Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

Addendum III

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

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

*IPEC **01** 00:21:36.1±0.1,50˚.23N×19˚.00E,h1km,ML2.3/4, Error ellipse: s-maj=2.4km s-min=0.7km az=170.0*
*DNK **01** 00:22:37.6±2.1,54˚.32N×15˚.84E,h0km,ML1.7, Suspected explosion*

PRU 01 00:21:36.3,50˚.21N×18˚.97E,h0km,6C-6D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.52**	**256**	*e*PG	Pb	00 21 48.3	+0.1
RAC				*e*SG	Sb	00 21 56.2	0.0
OJC	**Ojcow**	**0.53**	**89**	*e*Pg	Pg	00 21 45.7	-0.8
OJC				*e*Sg	Sg	00 21 53.0	-0.3
OKC	**Ostrava-Krasne**	**0.65**	**235**	*e*PG	Pg	00 21 49.1	+0.4
OKC				*e*SG	Sg	00 21 55.5	-1.6
MORC	**Moravsky Berou**	**1.02**	**245**	⇓P	Pg	00 21 56.2	+0.4
MORC				⇑S	Sb	00 22 10.3	-0.5
MORC	**Moravsky Berou**	**1.02**	**245**	*e*PG	Pg	00 21 56.0	+0.2
MORC				*e*SG	Sg	00 22 08.9	-0.1
MORC	**Moravsky Berou** baz=64	**1.02**	**245**	*e*Pg	Pg	00 21 56.0	+0.2
MORC	66nm,0.4s,baz=64			*e*Sg	Sg	00 22 08.8	-0.2
LANS	**Liptovska Anna**	**1.11**	**163**	*e*PG	Pg	00 21 57.5	0.0
LANS				*e*SG	Sb	00 22 13.0	-0.4
LANS				*e*LG	Lg	00 22 18.6	
NIE	**Niedzica**	**1.17**	**132**	*e*Pg	Pg	00 21 57.9	-0.8
NIE				*e*Sg	Sb	00 22 15.7	+0.5
KRLC	**Kraliky**	**1.41**	**265**	*e*PG	Pn	00 22 02.7	-0.6
KRLC				*e*SG	Sb	00 22 22.1	-0.1
JAVC	comp=Z,35nm,0.4s **Velka Javorina**	**1.59**	**213**	*e*PN	Pn	00 22 06.0	+0.2
JAVC	**Velka Javorina** baz=32	**1.59**	**213**	*e*Pn	Pn	00 22 05.9	+0.1
STHS	**Stebnicka Huta**	**1.67**	**117**	*e*PN	Pn	00 22 06.4	-0.5
STHS				*e*SN	Sb	00 22 29.6	0.0
STHS				*e*LG	Lg	00 22 33.4	
DPC	**Dobruska-Polom**	**1.70**	**276**	*e*PG	Pn	00 22 07.4	+0.1
DPC	comp=Z,22nm,0.6s			*e*SG	Sb	00 22 30.7	+0.2
VYHS	**Vyhne**	**1.72**	**183**	*e*PN	Pn	00 22 06.8	-0.7
VYHS				*e*SN	Sn	00 22 29.0	-1.2
VRAC	**Vranov**	**1.79**	**241**	⇑P	Pn	00 22 09.0	+0.6
VRAC				⇓S	Sn	00 22 32.2	+0.4
VRAC	**Vranov**	**1.79**	**241**	*e*PN	Pn	00 22 08.7	+0.3
VRAC				*e*SG	Sb	00 22 32.7	-0.1
VRAC	**Vranov** baz=58	**1.79**	**241**	*e*Pn	Pn	00 22 08.7	+0.3
VRAC	18nm,0.5s,baz=58			*e*Sg	Sb	00 22 32.6	-0.2
OSTC	**Ostas**	**1.80**	**282**	*e*PG	Pn	00 22 08.6	0.0
OSTC				*e*SG	Sb	00 22 33.2	0.0
CHVC	**Chvalec**	**1.90**	**283**	*e*PG	Pn	00 22 09.9	-0.1
UPC	**Upice**	**1.92**	**280**	*e*PG	Pn	00 22 10.1	-0.1
KRUC	**Moravsky**	**2.03**	**237**	*e*PN	Pn	00 22 11.8	+0.1
KRUC				*e*SG	Sg	00 22 40.7	-0.8
KRUC	**Moravsky** baz=54	**2.03**	**237**	*e*Pn	Pn	00 22 11.8	+0.1
KRUC	12nm,0.7s,baz=54			*e*Sg	Sg	00 22 40.7	-0.8
CRVS	**Cervenica-Dubn**	**2.08**	**128**	*e*PN	Pn	00 22 11.6	-0.9
PSZ	**Piszkesteto**	**2.27**	**165**	⇓P	Pn	00 22 14.8	-1.8
PSZ				⇑S	Sn	00 22 41.6	+4.8
KOLS	**Kolonicke sedl**	**2.50**	**119**	*e*PN	Pn	00 22 17.1	-1.1
KOLS				*e*SN	Sn	00 22 48.2	-1.2
KOLS				*e*LG	Lg	00 23 03.7	
GOPC	**GO Pecny, Ondr**	**2.71**	**265**	*e*PG	Pb	00 22 24.7	-1.0
GOPC				*e*SG	Sg	00 23 02.3	-1.1
PRU	comp=Z,6.1nm,0.4s **Pruhonice**	**2.86**	**267**	*e*SG	Sg	00 23 06.0	-2.1
BRG	**Berggiesshubel**	**3.27**	**284**	Pg	Pg	00 22 38.4	-0.7
BRG				Sg	Sg	00 23 22.4	+1.0
BRG				Amp		00 23 27.5	
CKRC	comp=Z,5.8nm,0.5s **Cesky Krumlov**	**3.34**	**247**	*e*PG	Pb	00 22 36.8	+0.4
CKRC				*e*SG	Sg	00 23 21.1	-2.5
KHC	**Kasperske Hory**	**3.67**	**255**	*e*PN	Pn	00 22 34.5	+0.2
KHC				*e*PG	Pb	00 22 40.9	-1.0
KHC				*e*SG	Sb	00 23 30.2	+3.3
MORH	comp=Z,5.2nm,0.5s **Mrgy, Hungar**	**4.00**	**183**	⇓P	Pn	00 22 36.8	-2.0
DRGR		**4.23**	**143**	⇑P	Pn	00 22 41.5	-0.6
MARR	**Marisel-Cluj**	**4.49**	**140**	⇑P	Pn	00 22 44.8	-0.8
BURAR	**Bucovina Array**	**4.87**	**120**	⇓P	Pn	00 22 49.9	-1.0
BZS	**Buzias**	**4.93**	**158**	⇓P	Pn	00 22 48.9	-2.6
SURR	**Surduc**	**4.94**	**153**	⇑P	Pn	00 22 50.8	-0.9
BSD	**Bornholm Skovb**	**5.50**	**335**	*i* P	Pn	00 22 58.3	-1.0
BSD				*i* S	Pb	00 23 07.6	-5.5
BSD				IAML		00 23 16.2	
LUNU	comp=Z,8.5nm,0.9s **Lund**	**6.37**	**331**	*i* P	Pn	00 23 10.8	-0.6
BLEU	**Blekinge**	**6.39**	**344**	*i* P	Pn	00 23 12.4	+0.8
DEL	**Delary**	**6.97**	**336**	*i* P	Pn	00 23 18.5	-1.0

*TEH **01** 00:34:49.6,34˚.59N×45˚.73E,h10km±149km,ML2.8*
*ISN **01** 00:34:49.5±1.0,34˚.60N×45˚.73E,h14km±35km,ML2.7*
ISC 01 00:34:50.1±1.2,34˚.58N±0˚.04×45˚.74E±0˚.04,h5km±11km, n10,σ0:86/15,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**240**	Pg	**Pg**	**00 34 52.7**	**-0.2**
KGS1				Sg	**Sg**	**00 34 56.1**	**+1.2**
IDHR	**Dehrash**	**0.55**	**77**	Pg	**Pg**	**00 35 00.8**	**0.0**
IGHG	**Ghaleghazi**	**0.73**	**110**	Pg	**Pb**	**00 35 04.7**	**-0.7**
ILBA	**Ilam Banvizeh**	**1.03**	**157**	Pg	**Pb**	**00 35 09.5**	**-1.0**
ILIN	**Lien**	**1.07**	**71**	Pg	**Pg**	**00 35 10.2**	**-0.4**
KCHF	**Cheshme Sefid,**	**1.12**	**105**	Pg	**Pg**	**00 35 11.3**	**-0.3**
IKRK	**Kirkuk**	**1.41**	**306**	*e*Pg	**Pb**	**00 35 15.9**	**-1.0**
IKRK				*e*Sg	**Sg**	**00 35 36.0**	**+0.6**
IBDR	**Badra**	**1.47**	**174**	*e*Pn	**Pg**	**00 35 17.8**	**-0.5**
IBDR				*e*Sn	**Sg**	**00 35 37.6**	**+0.2**
IBDR				AML	AML	00 35 43.8	
IBDR	comp=E,174nm,0.5s			AML	AML	00 35 43.9	
BHD	comp=N,88nm,0.5s **Baghdad**	**1.72**	**221**	*e*Pn	**Pb**	**00 35 21.0**	**-1.2**
BHD				*e*Sn	**Sb**	**00 35 44.0**	**-0.2**
RAFI	**Al-Rafai**	**2.86**	**174**	*e*Pn	**Pn**	**00 35 37.5**	**+1.1**
RAFI				*e*Sn	**Sn**	**00 36 12.0**	**+0.7**

SJA 01 00:39:13.5±0.5,23˚.60S×63˚.96W,h35km±13km,ML3.5, MW3.5,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.80**	**231**	*e*P	Pb	00 39 44.4	-1.6
SLA				*e*S	Sb	00 40 07.7	-0.6
SLA				IAML		00 40 09.2	
YJA	comp=Z,392nm,0.5s **Yavi**	**2.02**	**314**	*e*P	Pb	00 39 48.5	-1.3
YJA				*e*S	Sb	00 40 14.0	-0.8
YJA				IAML		00 40 14.9	
FSA	comp=Z,482nm,0.3s **Cafayete**	**3.10**	**216**	*e*P	Pn	00 40 03.0	+2.9
FSA				*e*S	Sn	00 40 39.8	+3.7
PB15	**IPOC Station P**	**5.08**	**273**	*e*P	Pb	00 40 39.2	-2.6
CYA	**Choya**	**5.10**	**199**	*e*P	Pn	00 40 31.5	+4.0
CYA				*e*P	Pb	00 40 46.5	+4.5
CYA				*e*S	Sb	00 41 46.5	+3.7

*SJA **01** 01:06:52.2±0.7,24˚.35S×67˚.07W,h201km±5km,ML3.9, MW3.9*
*IDC **01** 01:06:53.0±1.1,24˚.25S×66˚.87W,h175km±11km,mb3.5/8, mbtmp3.9/13,Error ellipse: s-maj=15.0km s-min=14.1km az=77.0*
*NEIC **01** 01:06:54.8±1.9,24˚.32S±0˚.06×67˚.4W±0˚.1,h206km±10km, mb4.1/9,Error ellipse: s-maj=15.8km s-min=8.8km az=100.0*
*GUC **01** 01:06:54.4±0.8,24˚.34S×67˚.33W,h215km±8km,ML4.2*
ISC 01 01:06:53.6±0.7,24˚.33S±0˚.03×67˚.17W±0˚.04,h194km±6km, n102,σ1:53/143,mb3.9/10,12C,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.56**	**105**	*e*P	**Pn**	**01 07 26.9**	**-0.7**
SLA				*e*S	**S**	**01 07 51.8**	**-2.0**
AF01	**San Pedro de A**	**1.65**	**326**	⇑*e*P	**Pn**	**01 07 29.6**	**+1.0**
AF01				*i* S	**S**	**01 07 57.8**	**+2.1**
AF01				IAML		01 08 00.1	
FSA	comp=E,745nm,0.7s **Cafayete**	**2.08**	**149**	*e*P	**Pn**	**01 07 31.6**	**-1.0**
FSA				*e*S	Sn	01 07 54.5	-8.7
LVC	**Limon Verde**	**2.34**	**317**	*e*P	**Pn**	**01 07 36.4**	**+0.6**
LVC				*e*S	**S**	**01 08 09.2**	**+0.7**
LVC				IAML		01 08 10.0	
LVC	comp=Z,265nm,1.0s **Limon Verde**	**2.34**	**317**	P	**Pn**	**01 07 36.8**	**+1.0**
LVC	comp=Z,32nm,0.4s,baz=136,slow=7.2,SNR=72			S	**S**	**01 08 08.7**	**+0.2**
LVC	comp=Z,171nm,0.3s,baz=166,slow=18,SNR=16 **Limon Verde**	**2.34**	**317**	*e*P	**Pn**	**01 07 36.7**	**+0.9**
LVC				*i* S	**S**	**01 08 08.6**	**+0.1**
GO02	**Mina Guanaco**	**2.36**	**249**		**Pn**	**01 07 36.2**	**+0.3**
GO02				Sn	**S**	**01 08 08.8**	**+0.2**
GO02	**Mina Guanaco**	**2.36**	**249**	*e*P	**Pn**	**01 07 36.5**	**+0.7**
GO02				*e*S	**S**	**01 08 04.1**	**-4.6**
GO02	**Mina Guanaco**	**2.36**	**249**	⇑*i*P	**Pn**	**01 07 36.6**	**+0.7**
GO02				*i* S	**S**	**01 08 09.1**	**+0.4**
PB15	**IPOC Station P**	**2.39**	**297**		**Pn**	**01 07 37.1**	**+1.0**
PB15				Sn	**S**	**01 08 08.6**	**-0.5**
PB15	**IPOC Station P**	**2.39**	**297**	*e*P	**Pn**	**01 07 37.0**	**+0.8**
PB15				*e*S	**S**	**01 08 09.7**	**+0.6**
PB15	**IPOC Station P**	**2.39**	**297**	⇑*i*P	**Pn**	**01 07 37.3**	**+1.2**
PB15				*i* S	**S**	**01 08 09.2**	**+0.1**
YJA	**Yavi**	**2.62**	**36**	*e*P	**Pn**	**01 07 38.9**	**-0.2**
YJA				*e*S	**S**	**01 08 13.4**	**-0.9**
PB06	**IPOC Station P**	**2.73**	**306**		**Pn**	**01 07 40.7**	**+0.6**
PB06	**IPOC Station P**	**2.73**	**306**	*e*P	**Pn**	**01 07 40.5**	**+0.5**
PB06				*e*S	**S**	**01 08 15.3**	**-0.8**
PB06	comp=Z,445nm,0.3s			IAML		01 08 21.2	
PB06	**IPOC Station P**	**2.73**	**306**	*e*P	**Pn**	**01 07 41.0**	**+0.9**
PB06				*i* S	**S**	**01 08 15.6**	**-0.6**
PB06	comp=N,756nm,0.2s			IAML		01 08 21.1	
PB14	**IPOC Station P**	**2.96**	**264**		**Pn**	**01 07 42.9**	**0.0**
PB14	**IPOC Station P**	**2.96**	**264**	*e*P	**Pn**	**01 07 43.4**	**+0.6**
PB14				*e*S	**S**	**01 08 18.6**	**-2.6**
PB14	comp=Z,303nm,0.3s			IAML		01 08 21.9	
PB14	**IPOC Station P**	**2.96**	**264**	⇑*i*P	**Pn**	**01 07 43.2**	**+0.4**
PB14				*i* S	**S**	**01 08 19.6**	**-1.6**
PB14	comp=E,210nm,0.3s			IAML		01 08 24.9	
AC02	**Maricunga**	**3.06**	**215**		**Pn**	**01 07 44.6**	**+0.5**
AC02	**Maricunga**	**3.06**	**215**	*e*P	**Pn**	**01 07 45.0**	**+0.8**
AC02				*e*S	**S**	**01 08 29.6**	**+5.9**
AC02	**Maricunga**	**3.06**	**215**	⇑*i*P	**Pn**	**01 07 44.9**	**+0.7**
PB05	**IPOC Station P**	**3.15**	**297**		**Pn**	**01 07 45.0**	**+0.2**
PB05	**IPOC Station P**	**3.15**	**297**	*e*P	**Pn**	**01 07 45.1**	**+0.2**
PB05				*e*S	**S**	**01 08 23.5**	**-1.3**
PB05	comp=Z,194nm,0.3s			IAML		01 08 26.2	
PB05	**IPOC Station P**	**3.15**	**297**	⇑*i*P	**Pn**	**01 07 45.7**	**+0.8**
PB05				*i* S	**S**	**01 08 23.0**	**-1.8**
PB05	comp=N,325nm,0.3s			IAML		01 08 26.9	
PB09	**IPOC Station P**	**3.16**	**322**		**Pn**	**01 07 46.7**	**+1.5**
PB09	**IPOC Station P**	**3.16**	**322**	*e*P	**Pn**	**01 07 46.6**	**+1.5**
PB09				*e*S	**S**	**01 08 25.7**	**+0.4**
PB09	comp=Z,101nm,0.2s			IAML		01 08 31.0	
PB09	**IPOC Station P**	**3.16**	**322**	⇑*i*P	**Pn**	**01 07 46.6**	**+1.5**
PB09				*i* S	**S**	**01 08 24.7**	**-0.6**
PB09	comp=N,220nm,0.4s			IAML		01 08 28.3	
PB10	**IPOC Station P**	**3.20**	**284**		**Pn**	**01 07 46.4**	**+1.0**
PB10	**IPOC Station P**	**3.20**	**284**	*e*P	**Pn**	**01 07 46.5**	**+1.0**
PB10				*e*S	**S**	**01 08 25.4**	**-0.5**
PB10	**IPOC Station P**	**3.20**	**284**	⇑*i*P	**Pn**	**01 07 46.3**	**+0.9**
PB10				*i* S	**S**	**01 08 24.2**	**-1.7**
PB10	comp=N,334nm,0.3s			IAML		01 08 29.5	
PB04	**IPOC Station P**	**3.38**	**305**		**Pn**	**01 07 48.7**	**+0.9**
PB04	**IPOC Station P**	**3.38**	**305**	*e*P	**Pn**	**01 07 48.4**	**+0.6**
PB04				*e*S	**S**	**01 08 29.1**	**-1.0**
PB04	comp=Z,310nm,0.5s			IAML		01 08 34.9	
PB04	**IPOC Station P**	**3.38**	**305**	*e*P	**Pn**	**01 07 48.5**	**+0.7**
PB04				*i* S	**S**	**01 08 28.2**	**-1.9**
AC01	**Pan de Azucar**	**3.60**	**239**		**Pn**	**01 07 50.0**	**-0.2**
AC01	**Pan de Azucar**	**3.60**	**239**	*e*P	**Pn**	**01 07 49.9**	**-0.4**
AC01				*e*S	**S**	**01 08 33.0**	**-1.6**
AC01	comp=Z,152nm,0.5s			IAML		01 08 33.6	
AC01	**Pan de Azucar**	**3.60**	**239**	⇑*i*P	**Pn**	**01 07 49.8**	**-0.4**
AC01				*i* S	**S**	**01 08 32.2**	**-2.3**
PB07	**IPOC Station P**	**3.60**	**315**		**Pn**	**01 07 51.1**	**+0.7**
PB07	**IPOC Station P**	**3.60**	**315**	*e*P	**Pn**	**01 07 50.8**	**+0.4**
PB07				*e*S	**S**	**01 08 33.1**	**-1.8**
PB07	comp=Z,412nm,0.4s			IAML		01 08 34.8	
PB07	**IPOC Station P**	**3.60**	**315**	⇑*e*P	**Pn**	**01 07 51.0**	**+0.5**
PB07				*i* S	**S**	**01 08 32.7**	**-2.3**
PB01	**IPOC Station P**	**3.91**	**326**		**Pn**	**01 07 54.1**	**0.0**
PB01	**IPOC Station P**	**3.91**	**326**	*e*P	**Pn**	**01 07 54.8**	**+0.6**
PB01				*e*S	**S**	**01 08 40.3**	**-1.4**
PB01	comp=Z,132nm,0.2s			IAML		01 08 41.9	
PB01	**IPOC Station P**	**3.91**	**326**	*e*P	**Pn**	**01 07 54.2**	**0.0**
PB01				*i* S	**S**	**01 08 39.9**	**-1.8**
PB02	**IPOC Station P**	**3.91**	**319**		**Pn**	**01 07 54.3**	**0.0**
PB02	**IPOC Station P**	**3.91**	**319**	*e*P	**Pn**	**01 07 55.2**	**+1.0**
PB02				*e*S	**S**	**01 08 39.9**	**-1.8**
PB02	comp=Z,412nm,0.3s			IAML		01 08 46.3	
PB02	**IPOC Station P**	**3.91**	**319**	⇑*e*P	**Pn**	**01 07 54.5**	**+0.2**
PB02				*i* S	**S**	**01 08 39.0**	**-2.7**
AC06	**Mina Casimiro**	**4.17**	**223**		**Pn**	**01 07 56.6**	**-0.7**
AC06	**Mina Casimiro**	**4.17**	**223**	⇑*e*P	**Pn**	**01 07 56.6**	**-0.7**
AC06				*i* S	**S**	**01 08 44.1**	**-3.2**
GO03	**Copiap**	**4.27**	**220**		**Pn**	**01 07 57.5**	**-1.1**
GO03	**Copiap**	**4.27**	**220**	*e*P	**Pn**	**01 07 58.1**	**-0.5**
GO03				*e*S	**S**	**01 08 48.1**	**-1.5**
GO03	**Copiap**	**4.27**	**220**	*e*P	**Pn**	**01 07 56.7**	**-1.9**
GO03				*i* S	**S**	**01 08 47.0**	**-2.7**
PATCX	**Punta Patache**	**4.45**	**321**	Pn	**Pn**	**01 08 01.1**	**+0.1**
PATCX	**Punta Patache**	**4.45**	**321**	*e*P	**Pn**	**01 08 01.3**	**+0.3**
PATCX				*e*S	Sn	01 08 42.2	-12
PATCX	comp=Z,74nm,0.4s			IAML		01 09 03.9	
PATCX	**Punta Patache**	**4.45**	**321**	*e*P	**Pn**	**01 08 01.2**	**+0.2**
PATCX				*i* S	**S**	**01 08 50.4**	**-3.5**
VCA	**Vinchina**	**4.49**	**192**	*e*P	**Pn**	**01 08 03.1**	**+1.6**
PB08	**IPOC Station P**	**4.55**	**336**		**Pn**	**01 08 03.1**	**+0.5**
PB08	**IPOC Station P**	**4.55**	**336**	*e*P	**Pn**	**01 08 03.6**	**+0.9**
PB08				*e*S	**S**	**01 08 56.5**	**-0.3**
PB08	comp=Z,30nm,0.9s			IAML		01 09 02.2	
TA01	**Diego Aracena**	**4.67**	**323**		**Pn**	**01 08 03.5**	**-0.2**
TA01	**Diego Aracena**	**4.67**	**323**	*e*P	**Pn**	**01 08 03.5**	**-0.2**
TA01				*e*S	**S**	**01 08 55.2**	**-3.5**
TA01	comp=Z,36nm,0.9s			IAML		01 09 01.4	
HMBC	**Humberstone**	**4.75**	**327**	Pn	**Pn**	**01 08 04.0**	**-0.9**
HMBC	**Humberstone**	**4.75**	**327**	*e*P	**Pn**	**01 08 05.7**	**+0.8**
HMBC				*e*S	**S**	**01 08 59.0**	**-1.9**
HMBC	comp=Z,86nm,0.3s			IAML		01 09 06.2	
GO01	**Chusmiza**	**5.00**	**338**		**Pn**	**01 08 08.9**	**+0.5**
PB11	**IPOC Station P**	**5.10**	**333**		**Pn**	**01 08 08.2**	**-1.1**
PB11	**IPOC Station P**	**5.10**	**333**	*e*S	**S**	**01 09 04.9**	**-4.0**
PB11				IAML		01 09 10.6	
AC04	comp=Z,40nm,0.3s **Llanos de Chal**	**5.22**	**221**		**Pn**	**01 08 09.2**	**-1.4**
AC04	**Llanos de Chal**	**5.22**	**221**	*e*P	**Pn**	**01 08 09.4**	**-1.2**
AC04				*e*S	Sn	01 08 59.0	-12
AC04				IAML		01 09 15.4	
AGUA	comp=Z,40nm,0.6s **GUANDACOL**	**5.27**	**193**	*e*P	**Pn**	**01 08 12.1**	**+0.6**
AC05	**El Transito**	**5.28**	**211**		**Pn**	**01 08 10.8**	**-0.8**
AC05	**El Transito**	**5.28**	**211**	*e*P	**Pn**	**01 08 11.0**	**-0.6**
AC05				*e*S	**S**	**01 09 10.9**	**-2.2**
AC05	comp=Z,32nm,1.7s			IAML		01 09 13.8	
LCO	**Las Campanas**	**5.63**	**213**	Pn	**Pn**	**01 08 14.9**	**-1.4**
CO01	**Juntas del Tor**	**6.20**	**204**		**Pn**	**01 08 23.3**	**-0.3**
CO03	**El Pedregal**	**7.20**	**205**		**Pn**	**01 08 34.4**	**-2.1**
LPAZ	**La Paz**	**8.05**	**353**	Pn	**Pn**	**01 08 48.5**	**+0.3**
LPAZ	**La Paz**	**8.05**	**353**	P	**Pn**	**01 08 48.3**	**+0.1**
LPAZ	comp=Z,1.8nm,0.4s,baz=182,slow=6.9,SNR=5.8			S	**S**	**01 10 17.0**	**-2.2**
CPUP	comp=Z,1.0nm,0.4s,baz=242,slow=12,SNR=1.5 **Villa Florida**	**9.12**	**105**	P	Pn	01 08 58.8	-2.7
SIV	comp=Z,1.7nm,0.6s,baz=276,slow=9.5,SNR=5.1 **San Ignacio**	**10.07**	**36**	P	**Pn**	**01 09 11.3**	**-2.7**
SIV	comp=Z,5.1nm,0.6s,baz=213,slow=12,SNR=31			S	S	01 10 59.7	-7.4
BO04	comp=Z,0.8nm,0.7s,baz=189,slow=14,SNR=1.5 **La Punta**	**10.09**	**197**	Pn	**Pn**	**01 09 13.3**	**-0.7**
PTLB	**Pontes e Lacer**	**11.62**	**42**	Pn	**Pn**	**01 09 37.2**	**+3.4**
TRQA	**Tornquist**	**14.38**	**163**		**P**	**01 10 09.5**	**-0.5**
SAML	**Samuel**	**15.76**	**15**		**P**	**01 10 24.1**	**-1.2**
PLCA	**Paso Flores**	**16.60**	**189**		**P**	**01 10 33.9**	**-0.7**
PLCA	comp=Z,10nm,1.4s			IAmb	IAmb	01 10 57.4	
BDFB	**Brasilia** comp=Z,1.0nm,0.4s,baz=207,slow=14,SNR=1.6	**19.95**	**68**	P	**P**	**01 11 08.4**	**-2.7**
MACA	**Manacapuru-AM**	**21.95**	**18**	P	**P**	**01 11 32.3**	**+0.3**
MACA	comp=Z,5.0nm,0.7s			IAmb	IAmb	01 11 33.0	
PAYG	**Puerto Ayora**	**32.47**	**313**	P	**P**	**01 13 01.6**	**-4.4**
PMSA	**Palmer Station**	**40.49**	**178**	P	**P**	**01 14 11.8**	**-1.3**
SNAA	**Sanae**	**59.09**	**161**	P	**P**	**01 16 34.3**	**+1.1**
SNAA	comp=Z,8.7nm,1.4s			IAmb	IAmb	01 16 51.2	
SNAA	**Sanae** comp=Z,1.7nm,0.7s,baz=270,slow=3.0,SNR=15	**59.09**	**161**	P	**P**	**01 16 34.3**	**+1.1**
TXAR	comp=Z,1.7nm,0.7s **Lajitas Array** comp=Z,0.2nm,0.7s,baz=119,slow=7.3,SNR=2.7	**63.85**	**325**	P	**P**	**01 17 07.7**	**+2.0**
QSPA	comp=Z,0.2nm,0.7s **South Pole Qui**	**65.88**	**180**	P	**P**	**01 17 20.3**	**+2.0**
QSPA	comp=Z,3.9nm,0.9s			IAmb	IAmb	01 17 21.8	
QSPA	**South Pole Qui** comp=Z,4.0nm,1.0s,baz=225,slow=1.4,SNR=23 comp=Z,4.0nm,1.0s	**65.88**	**180**	P	**P**	**01 17 20.1**	**+1.8**
TOA0	**Torodi Ar. Sit**	**76.83**	**69**	P	**P**	**01 18 24.8**	**+0.3**
TOA0	comp=Z,4.5nm,1.3s			IAmb	IAmb	01 18 58.1	
TORD	**Torodi Ar. Bea**	**76.83**	**69**	P	**P**	**01 18 24.7**	**+0.2**
TORD	**Torodi Ar. Bea** comp=Z,0.8nm,0.4s,baz=257,slow=4.7,SNR=21 comp=Z,0.8nm,0.4s	**76.83**	**69**	P	**P**	**01 18 23.5**	**-1.0**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.5s,baz=126,slow=5.9,SNR=2.3 comp=Z,0.2nm,0.5s	**77.35**	**329**	P	**P**	**01 18 27.7**	**+0.7**
MAW	**Mawson** comp=Z,3.0nm,0.7s,baz=232,slow=17,SNR=2.7 comp=Z,3.0nm,0.7s	**81.17**	**163**	P	**P**	**01 18 48.3**	**+1.2**
ESDC	**Sonseca Array** comp=Z,0.5nm,0.9s,baz=178,slow=13,SNR=2.1 comp=Z,0.5nm,0.9s	**86.74**	**44**	P	**P**	**01 19 17.2**	**+1.4**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.6s,baz=128,slow=4.5,SNR=7.7 comp=Z,0.3nm,0.6s	**94.38**	**340**	P	**P**	**01 19 53.0**	**+2.3**
WRA	**Warramunga Arr**	**131.27**	**207**	PKP	**PKiKP**	**01 25 45.6**	**+1.3**
BVAR	comp=Z,0.2nm,0.4s,baz=157,slow=1.5,SNR=7.1 **Borovoye Array**	**137.15**	**37**	PKP	**PKiKP**	**01 25 53.8**	**-1.4**
KURBB	comp=Z,0.4nm,0.4s,baz=298,slow=3.1,SNR=1.6 **Kurchatov Arra**	**142.73**	**36**	PKP	**PKPdf**	**01 26 02.6**	**-0.9**
ZALV	comp=Z,0.2nm,0.5s,baz=304,slow=4.4,SNR=7.3 **Zalesovo Beam**	**143.75**	**28**	PKP	**PKPdf**	**01 26 05.0**	**-0.1**
MKAR	comp=Z,1.2nm,0.5s,baz=304,slow=4.4,SNR=7.3 **Makanchi Array**	**146.87**	**40**	PKPbc	**PKiKP**	**01 26 15.1**	**-0.3**
	comp=Z,2.2nm,0.6s,baz=291,slow=1.8,SNR=22						

*CATAC **01** 01:18:53.7±0.6,13˚.26N×88˚.12W,h12km±4km,ML2.5*
*SNET **01** 01:18:54.6±0.5,13˚.36N×88˚.11W,h9km±19km,ML2.2*
ISC 01 01:18:54.5±1.3,13˚.3N±0˚.1×88˚.12W±0˚.04,h15km±8km,n15, σ0:36/18,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNRM	**Centro Naciona**	**0.15**	**341**	*i* P	**Pg**	**01 18 58.1**	**-0.4**
CNRM				IAML		01 19 07.8	
BLLM	comp=Z,5μm,1.0s **Bellamira**	**0.16**	**315**	*e*P	**Pg**	**01 18 58.5**	**-0.1**
BLLM				*e*S	**Sg**	**01 19 01.6**	**+0.3**
VSM	**San Miguel**	**0.18**	**304**	*i* P	**Pb**	**01 18 59.3**	**-0.4**
LCY	**Lacayo**	**0.20**	**299**	*e*P	**Pb**	**01 18 59.4**	**-0.6**
RANC	**El Ranchito**	**0.20**	**303**	*i* P	**Pb**	**01 18 59.5**	**-0.5**
RANC				IAML		01 19 05.2	
LCND	comp=Z,1μm,1.0s **La Caada**	**0.22**	**94**	*e*P	**Pb**	**01 18 59.9**	**-0.4**
LCND				*e*S	**Sg**	**01 19 03.2**	**+0.4**
LCND				IAML		01 19 08.1	
LCND	comp=Z,462nm,0.2s **La Caada**	**0.22**	**94**	*i* P	**Pb**	**01 18 59.9**	**-0.4**
LCND				IAML		01 19 07.8	
PACA	comp=Z,650nm,1.0s **Pacayal**	**0.24**	**305**	*e*P	**Pg**	**01 19 00.0**	**+0.1**
PACA	**Pacayal**	**0.24**	**305**	*i* P	**Pb**	**01 19 00.4**	**-0.4**
PACA				IAML		01 19 09.3	
CNCH	comp=Z,5μm,1.0s **Conchag

HNR	Honiara	14.37	105	Pn		Pn	01 31 37.2	+0.9
HNR	Honiara	14.37	105	P		Pn	01 31 33.4	-2.9
	696nm,0.3s,baz=209,slow=6.6,SNR=1.3							
KDU	Kakadu	14.81	242	P		Pn	01 31 42.3	+0.4
SWI	Sorong	15.43	289	P		Pn	01 31 48.6	-1.2
	191nm,0.9s,2µm							
QIS	Mount Isa	15.74	202	P		Pn	01 31 54.1	+0.6
MTN	Manton Dam	16.06	244	Pn		Pn	01 31 57.4	-0.2
DRS	Darwin Rock St	16.11	245	P		P	01 31 59.6	+0.3
WRAB	Tennant Creek	17.86	218	P		P	01 32 18.5	+0.1
WRA	Warramunga Arr	17.86	218	P		P	01 32 18.5	-0.1
	13nm,0.7s,baz=39,slow=12,SNR=80							
WRA				PcP		PcP	01 36 51.1	+1.0
	1.8nm,0.6s,baz=26,slow=1.8,SNR=1.5							
WRA				ScP		ScP	01 40 18.1	+2.8
	1.3nm,0.6s,baz=38,slow=2.3,SNR=0.9							
LBMI	Labuha	19.08	285	P		P	01 32 31.5	-0.5
	93nm,1.0s,2µm							
KNRA	Kununurra	19.37	239	P		P	01 32 35.2	+0.1
EIDS	Eidsvold	19.94	166	P		P	01 32 41.7	+0.5
SANI	Sanana	20.21	280	P		P	01 32 44.0	-0.2
	65nm,0.8s,731nm							
AS31	Alice Springs	21.04	212	P		P	01 32 53.3	+0.2
ASAR	Alice Springs	21.04	212	P		P	01 32 53.4	+0.2
	13nm,0.8s,baz=40,slow=9.3,SNR=70							
ASAR				S		S	01 36 38.1	-3.2
	3.9nm,0.7s,baz=27,slow=19,SNR=4.0							
	13nm,0.8s							
SOEI	Soe	21.73	259	P		P	01 33 00.9	+0.3
SOEI	Soe	21.73	259	P		P	01 33 00.0	-0.6
	69nm,0.7s							
BATI	Baumata	22.38	258	P		P	01 33 05.4	-2.0
	88nm,0.8s							
SGSI	Sangihe	22.46	295	P		P	01 33 05.9	-2.2
	177nm,0.7s,13µm							
FITZ	Fitzroy Crossi	23.14	237	P		P	01 33 14.3	-0.4
LUWI	Luwuk	23.56	281	P		P	01 33 19.4	+0.8
LUWI	Luwuk	23.56	281	P		P	01 33 18.2	-0.4
	185nm,0.8s,3µm							
MMRI	Maumere	23.59	262	P		P	01 33 18.6	-0.3
MMRI	Maumere	23.59	262	P		P	01 33 18.3	-0.6
MMRI	Maumere	23.59	262	P		P	01 33 16.9	-2.0
	182nm,0.4s,5µm							
GTOI	Gorontalo	23.74	285	P		P	01 33 20.4	+0.1
	169nm,0.7s,2µm							
OOD	Oodnadatta	23.78	203	P		P	01 33 20.4	0.0
EDFI	Ende, Flores	24.14	262	P		P	01 33 20.5	-3.5
	89nm,0.8s,999nm							
ARMA	Armidale	24.93	168	P		P	01 33 32.8	+1.8
ARMA	Armidale	24.93	168	P		P	01 33 32.7	+1.7
WRKA	Warakurna	25.37	220	P		P	01 33 34.2	-0.8
LCRK	Leigh Creek	25.41	196	P		P	01 33 35.9	+0.7
LIFNC	LIFOU	25.43	127	P		P	01 33 36.4	+0.9
LIFNC	LIFOU	25.43	127	P		P	01 33 35.2	-0.3
DZM	Mont Dzumac	25.54	131	P		P	01 33 35.8	-0.8
DZM	Mont Dzumac	25.54	131	P		P	01 33 36.0	-0.5
DZM				IAmb		IAmb	01 33 39.1	
	comp=Z,37nm,1.4s							
KAPI	Kappang	26.02	271	P		P	01 33 42.4	+1.5
KAPI				IAmb		IAmb	01 33 46.5	
	comp=Z,22nm,0.9s							
TOLI2	Tolitoli	26.02	285	P		P	01 33 40.4	-0.5
TOLI2	Tolitoli	26.02	285	P		P	01 33 40.0	-0.9
TOLI2				IAmb		IAmb	01 33 42.4	
	comp=Z,14nm,0.6s							
STKA	Stephens Creek	26.10	188	P		P	01 33 42.0	+0.6
STKA	Stephens Creek	26.10	188	P		P	01 33 41.7	+0.3
STKA	Stephens Creek	26.10	188	P		P	01 33 41.4	0.0
	comp=Z,19nm,0.7s,baz=344,slow=9.3,SNR=27							
	comp=Z,19nm,0.7s							
MARNC	Mare, Loyalty	26.43	128	P		P	01 33 45.1	+0.6
MULG	Mulgathing	26.63	203	P		P	01 33 46.2	0.0
HTT	Hallett	28.09	192	P		P	01 33 59.8	+0.5
BBOO	Buckleboo	28.24	198	P		P	01 34 01.4	+0.8
BBOO	Buckleboo	28.24	198	P		P	01 34 01.1	+0.6
BBOO				IAmb		IAmb	01 34 50.7	
	comp=Z,37nm,1.4s							
MBWA	Marble Bar	29.49	237	P		P	01 34 11.8	0.0
MBWA	Marble Bar	29.49	237	P		P	01 34 10.7	-1.1
PSA00	Pilbara Seismi	29.58	236	P		P	01 34 12.3	-0.3
PSA00	Pilbara Seismi	29.58	236	P		P	01 34 12.5	-0.2
PSA00	Pilbara Seismi	29.58	236	P		P	01 34 12.7	+0.1
PSA00				IAmb		IAmb	01 34 14.2	
	comp=Z,19nm,0.9s							
FORT	Forrest	29.83	212	P		P	01 34 14.8	+0.1
FORT	Forrest	29.83	212	P		P	01 34 15.2	+0.6
JAGI	Jajag, Banyuwa	31.56	264	P		P	01 34 27.3	-2.8
JCJ	Chichijima	33.05	354	P		P	01 34 41.2	-1.7
MEEK	Meekatharra	33.13	229	P		P	01 34 44.1	+0.3
MSVF	Nonsavu	33.53	113	P		P	01 34 49.4	+2.0
MSVF	Nonsavu	33.53	113	P		P	01 34 48.7	+1.3
KMBL	Kambalda	33.83	219	P		P	01 34 50.2	+0.5
SBUM	Sibu	34.63	283	P		P	01 34 56.9	0.0
SBUM				IAmb		IAmb	01 34 58.5	
	comp=Z,7.7nm,0.8s							
GIRL	Giralia	34.73	238	P		P	01 34 58.9	+1.3
GIRL	Giralia	34.73	238	P		P	01 34 58.7	+1.1
FUTU	Fugatoga	36.36	106	P		P	01 35 14.3	+2.6
FUTU				pP		pP	01 35 38.0	+0.7
KLBR	Kellerberrin	36.64	222	P		P	01 35 13.6	-0.3
BLDU	Ballidu	36.77	225	P		P	01 35 14.8	-0.2
YOJ	Yonaguni jima	37.55	324	P		P	01 35 21.8	+0.2
NWAO	Narrogin (SRO)	37.82	221	LR		LR	01 50 59.7	
	comp=Z,130nm,20.3s,baz=52,slow=36							
BBJI	Bungbulang	37.98	266	P		P	01 35 23.8	-1.7
NACB	Ninganchiao	38.17	323	P		P	01 35 26.9	+0.2
NACB				IAmb		IAmb	01 35 29.0	
	comp=Z,15nm,0.8s							
YHNB	Yeheng	38.67	323	P		P	01 35 31.3	+0.2
YHNB	Yeheng	38.67	323	P		P	01 35 31.2	+0.1
YHNB				IAmb		IAmb	01 35 34.8	
	comp=Z,23nm,1.0s							
JHJ	Hachijo jima 2	39.29	352	P		P	01 35 34.5	-1.4
	comp=Z,66nm,0.7s,baz=72,slow=16,SNR=2.1							
	comp=Z,66nm,0.7s							
XMIS	Christmas Isla	40.04	261	P		P	01 35 43.0	+0.5
JMN	Monobe	41.07	345	P		P	01 35 50.4	-0.3
JMN	Monobe	41.07	345	P		P	01 35 50.3	-0.4
JMN				IAmb		IAmb	01 35 51.3	
	comp=Z,32nm,1.3s							
JNU	Nakatsue	41.39	341	P		P	01 35 53.6	+0.3
JNU				IAmb		IAmb	01 36 24.7	
	comp=Z,12nm,1.0s							
JNU	Nakatsue	41.39	341	P		P	01 35 52.9	-0.5
	comp=Z,3.2nm,0.7s,baz=116,slow=18,SNR=1.8							
JNU				LR		LR	01 52 04.8	
	comp=Z,36nm,18.1s,baz=142,slow=34							
	comp=Z,3.2nm,0.7s							
JGF	Kuroka	42.10	350	P		P	01 35 58.0	-1.1
JGF	Kuroka	42.10	350	P		P	01 35 58.0	-1.1
JGF				IAmb		IAmb	01 36 01.3	
	comp=Z,9.0nm,0.9s							
MYKOM	Kota Tinggi	42.66	279	P		P	01 36 04.1	+0.2
URZ	Urewera	42.86	143	P		P	01 36 06.8	+1.6
URZ	Urewera	42.86	143	LR		LR	01 52 21.5	
	comp=Z,72nm,21.2s,baz=35,slow=34							
MJAR	Matsushiro Arr	42.88	351	P		P	01 36 03.6	-1.8
	comp=Z,4.6nm,0.7s,baz=172,slow=7.5,SNR=17							
	comp=Z,4.6nm,0.7s							
MAJO	Matsushiro	42.88	351	P		P	01 36 04.3	-1.1
MAJO	Matsushiro	42.88	351	P		P	01 36 04.0	-1.3
MJB9	Matsu-Tunnel	42.88	351	P		P	01 36 05.5	0.0
JCZ	Jackson Bay	42.96	156	P		P	01 36 08.3	+2.2
RPZ	Rata Peaks	43.64	153	P		P	01 36 12.5	+1.0
BFZ	Birch Farm	43.98	146	P		P	01 36 15.2	+1.0
UBPT	Khong Chiam	45.25	298	P		P	01 36 24.8	+0.2
NJ2	Nanjing	45.73	327	eP		P	01 36 28.0	-0.1
NJ2				sP		sP	01 37 13.7	+6.9
NJ2				pmax		pmax		
	comp=Z,14nm,0.8s							
NJ2				pmax		pmax		
	comp=Z,46nm,4.7s							
IPM	Ipoh	45.96	282	P		P	01 36 30.5	+0.1
IPM				IAmb		IAmb	01 36 31.6	
	comp=Z,22nm,0.9s							
KSRS	Korea Array	46.32	340	P		P	01 36 32.0	-0.7
	comp=Z,5.5nm,0.8s,baz=157,slow=9.0,SNR=26							
KSRS				LR		LR	01 54 27.1	
	comp=Z,38nm,19.6s,baz=155,slow=34							
	comp=Z,5.5nm,0.8s							
KSAR	Wonju Array Be	46.32	340	P		P	01 36 32.9	+0.2
JTM	Tenmabayashi	46.72	355	P		P	01 36 35.5	-0.2
WHN	Wuhan	47.20	322	P		P	01 36 40.8	+1.1
SRIT	Nakonsritamara	48.34	287	P		P	01 36 48.7	-0.1
SLVN	Son La	49.29	305	P		P	01 36 55.3	-0.6
SLVN				IAmb		IAmb	01 36 58.2	
	comp=Z,15nm,1.0s							
ASAJ	Asahikawa	49.93	357	P		P	01 37 00.1	-0.2
	comp=Z,4.0nm,0.4s,baz=203,slow=15,SNR=2.4							
	comp=Z,4.0nm,0.4s							
PHRA	Phrae	51.14	299	P		P	01 37 09.4	-0.5
LYN	LuoYang	51.16	324	eP		P	01 37 09.3	-0.4
LYN				pmax		pmax		
	comp=Z,21nm,0.7s							
USA0B	Ussuriysk Arra	51.47	347	P		P	01 37 11.2	-0.7
USA0B				IAmb		IAmb	01 37 12.2	
	comp=Z,11nm,0.7s							
USRK	Ussuriysk Ar.	51.47	347	P		P	01 37 11.2	-0.7
USRK	Ussuriysk Ar.	51.47	347	P		P	01 37 11.7	-0.2
	comp=Z,8.1nm,0.5s,baz=172,slow=7.3,SNR=25							
	comp=Z,8.1nm,0.5s							
CRAI	Chiangrai	51.73	301	P		P	01 37 14.3	0.0
HNS	HongShan	52.01	328	⇓P		P	01 37 15.6	-0.4
HNS				pmax		pmax		
	comp=Z,14nm,0.8s							
KMI	Kunming	52.08	308	⇑P		P	01 37 18.0	+0.9
KMI				pmax		pmax		
	comp=Z,20nm,0.9s							
CM31	Chiang Mai Arr	52.24	299	P		P	01 37 17.6	-0.5
CMAR	Chiang Mai Arr	52.24	299	P		P	01 37 18.1	0.0
CMAR	Chiang Mai Arr	52.24	299	P		P	01 37 19.6	+1.4
	comp=Z,28nm,0.8s,baz=122,slow=5.9,SNR=96							
	comp=Z,28nm,0.8s							
YSS	Yuzh-Sakhalins	52.75	357	P		P	01 37 21.3	0.0
CN2	Changchun	52.85	342	eP		P	01 37 25.2	+3.0
XAN	Xi'an	52.94	321	⇑P		P	01 37 23.0	-0.1
XAN				pmax		pmax		
	comp=Z,24nm,1.3s							
PZH	PanZhiHua	53.56	309	P		P	01 37 30.6	+2.8
PZH				pmax		pmax		
	comp=Z,40nm,0.5s							
PZH				pmax		pmax		
	comp=Z,120nm,5.2s							
BNX	BinXian	54.04	344	⇑P		P	01 37 30.1	-0.7
BNX				pmax		pmax		
	comp=Z,9.0nm,1.3s							
BNX				pmax		pmax		
	comp=Z,68nm,4.9s							
HHC	Hu-ho-hao-te	56.21	329	eP		P	01 37 50.0	+3.4
HHC				pmax		pmax		
	comp=Z,23nm,0.6s							
HHC				pmax		pmax		
	comp=Z,50nm,4.7s							
KLR	Kul'dur	56.32	349	P		P	01 37 46.9	-0.2
	comp=Z,5.3nm,0.8s,baz=177,slow=4.3,SNR=20							
KLR				LR		LR	02 01 32.6	
	comp=Z,20nm,18.1s,baz=256,slow=35							
	comp=Z,5.3nm,0.8s							
XLT	XiLinHaoTe	56.44	334	eP		P	01 37 51.0	+2.8
XLT				pP		sP	01 38 22.3	-5.3
XLT				sP		PcP	01 38 34.0	-10
XLT				pmax		pmax		
	comp=Z,11nm,0.8s							
XLT				pmax		pmax		
	comp=Z,140nm,4.9s							
BTO	Baotou	56.84	328	eP		P	01 37 51.0	-0.1
BTO				pP		pP	01 38 17.7	-0.5
BTO				sP		sP	01 38 33.2	+2.6
BTO				PP		PP	01 39 58.4	-0.3
BTO				S		S	01 45 34.5	-1.5
BTO				pmax		pmax		
	comp=Z,13nm,0.7s							
BTO				pmax		pmax		
	comp=Z,280nm,5.1s							
BTO				LR		LR		
	comp=Z,200nm,12.9s							
BTO				LR		LR		
	comp=Z,140nm,5.6s							
BTO				LR		LR		
	comp=Z,120nm,5.4s							
LZH	Lanzhou	57.45	320	eP		P	01 37 56.6	+1.0
LZH				pP		pP	01 38 27.0	+4.2
LZH				pmax		pmax		
	comp=Z,24nm,1.0s							
HEH	HeiHe	58.22	346	eP		P	01 37 59.6	-0.8
PETK	Petropavlovsk-	59.69	8	P		P	01 38 10.5	0.0
	comp=Z,12nm,0.7s,baz=147,slow=6.3,SNR=20							
	comp=Z,12nm,0.7s							
DRV	Dumont d'Urvil	60.74	183	P		P	01 38 18.3	+0.8
DRV				pP		pP	01 38 44.5	-0.9
SHL	Shillong	61.05	303	P		P	01 38 19.8	-0.9
GTA	Gaotai	61.99	321	P		P	01 38 27.2	+0.6
GTA				pmax		pmax		
	comp=Z,11nm,1.2s							
SHEM	Shemya Is, Ala	63.18	19	LR		LR	01 59 59.5	
	comp=Z,31nm,21.6s,baz=120,slow=30							
LSA	Lhasa	63.32	307	P		P	01 38 37.2	+1.2
ULN	Ulaanbaatar	63.53	332	P		P	01 38 35.6	-1.0
ULN				IAmb		IAmb	01 38 38.0	
	comp=Z,8.3nm,0.8s							
ULN	Ulaanbaatar	63.53	332	P		P	01 38 37.1	+0.4
SONM	Songino Array	63.82	331	P		P	01 38 37.6	-1.0
SONM				IAmb		IAmb	01 38 39.8	
	comp=Z,18nm,1.5s							
SONM	Songino Array	63.82	331	P		P	01 38 38.8	+0.2
	comp=Z,3.0nm,0.5s,baz=159,slow=6.6,SNR=20							
SONM				PKP2bc			02 07 38.0	
	comp=Z,1.4nm,0.8s,baz=303,slow=3.4,SNR=6.8							
	comp=Z,3.0nm,0.5s							
CASY	Casey	65.01	195	P		P	01 38 46.1	+0.4
CASY				IAmb		IAmb	01 38 47.1	
	comp=Z,11nm,0.7s							
CASY	Casey	65.01	195	P		P	01 38 46.2	+0.4
CASY				pP		pP	01 39 13.0	-1.0
MA2	Magadan	65.44	3	P		P	01 38 48.4	-0.2
MA2				IAmb		IAmb	01 38 49.4	
	comp=Z,8.8nm,0.8s							
MA2	Magadan	65.44	3	P		P	01 38 48.4	-0.2
MA2				pP		pP	01 39 16.1	-0.1
NIKH	Nikolski High	70.05	27	P		P	01 39 18.7	+1.0
	baz=229							
CCD	Concordia, Ant	70.30	186	P		P	01 39 20.0	+0.6
CCD				sP		sP	01 39 59.9	-0.4
UNV	Unalaska Valle	71.69	27	P		P	01 39 29.2	+1.7
	baz=231							
VNDA	Vanda	72.03	176	P		P	01 39 29.7	+0.4
VNDA	Vanda	72.03	176	P		P	01 39 29.6	+0.3
	comp=Z,4.9nm,0.8s,baz=330,slow=7.0,SNR=42							
VNDA				pP		pP	01 39 54.6	-3.3
	comp=Z,3.2nm,0.8s,baz=325,slow=6.4,SNR=4.4							
VNDA				LR		LR	02 10 22.8	
	comp=Z,60nm,18.7s,baz=226,slow=35							
	comp=Z,4.9nm,0.8s							
WMQ	Urumqi	72.03	320	eP		P	01 39 30.5	+0.5
WMQ				sP		sP	01 40 19.0	+8.8
WMQ				pmax		pmax		
	comp=Z,20nm,0.7s							
P08K	Saint George I	72.19	24	P		P	01 39 31.7	+1.2
	baz=227							
SPIA	Saint Paul Isl	72.30	23	P		P	01 39 31.8	+0.6
	baz=226							
FALS	False Pass	73.73	28	P		P	01 39 39.2	-0.4
	baz=233							
S12K	Black Hills	74.86	28	P		P	01 39 46.7	+0.4
	baz=234							
BILL	Bilibino	75.22	8	P		P	01 39 48.2	+0.2
SDPT	Sand Point	75.40	28	P		P	01 39 48.9	-0.3
	baz=236							
CHNA	Chernabura Isl	75.53	29	P		P	01 39 50.8	+0.8
	baz=237							
S14K	Fog Glacier	76.35	28	P		P	01 39 54.8	-0.1
	baz=236							
GAMB	Gambell	76.47	18	P		P	01 39 55.6	+0.5
	baz=224							
MK31	Makanchi Array	76.75	321	P		P	01 39 57.0	-0.2
MKAR	Makanchi Array	76.75	321	P		P	01 39 57.0	-0.2
MKAR	Makanchi Array	76.75	321	P		P	01 39 56.8	-0.4
	comp=Z,2.4nm,0.5s,baz=98,slow=8.3,SNR=46							
MKAR				pP		pP	01 40 24.1	-1.7
	comp=Z,1.5nm,0.6s,baz=93,slow=8.5,SNR=2.8							
	comp=Z,2.4nm,0.5s							
CHGN	Chignik	76.89	28	P		P	01 39 57.5	-0.2
	baz=238							
MAKZ	Makanchi	76.95	321	P		P	01 39 58.0	-0.3
M13K	Dall Lake	77.14	23	P		P	01 39 59.4	+0.4
	baz=232							
O14K	Tigyukauivet M	77.28	25	P		P	01 40 00.5	+0.6
	baz=234							
N14K	Kuskokwak Cree	77.51	24	P		P	01 40 01.2	+0.2
	baz=234							
K13K	Kusilvak Mount	77.59	22	P		P	01 40 02.3	+0.8
	baz=231							
O15K	Ungalikthiuk R	77.85	25	P		P	01 40 04.2	+1.2
	baz=236							
M14K	Bethel	77.89	23	P		P	01 40 03.9	+0.8
	baz=233							
L14K	Kuka Creek	77.96	23	P		P	01 40 04.0	+0.4
	baz=233							
TIXI	Tiksi	78.26	355	P		P	01 40 05.3	+0.3
N15K	Kwethluk River	78.30	24	P		P	01 40 05.5	0.0
	baz=235							
M15K	Kasigluk River	78.36	24	P		P	01 40 07.0	+1.2
	baz=235							
ZAA0	Zalesovo Array	78.38	328	P		P	01 40 04.7	-1.3
ZALV	Zalesovo Beam	78.38	328	P		P	01 40 05.0	-1.1
ZALV	Zalesovo Beam	78.38	328	P		P	01 40 04.8	-1.2
	comp=Z,3.3nm,0.6s,baz=110,slow=6.0,SNR=12							
ZALV				pP		pP	01 40 31.9	-2.8
	comp=Z,3.4nm,0.6s,baz=110,slow=6.6,SNR=5.1							
ZALV				LR		LR	02 15 08.4	
	comp=Z,14nm,19.4s,baz=59,slow=36							
	comp=Z,3.3nm,0.6s							
J14K	Nanvaranak Lak	78.50	21	P		P	01 40 07.5	+0.9
J14K	Nanvaranak Lak	78.50	21	P		P	01 40 07.4	+0.9
	baz=232							
KSH	Kashi	78.51	312	P		P	01 40 09.6	+2.3
KSH				pmax		pmax		
	comp=Z,13nm,0.9s							
L15K	Ungalak Mounta	78.62	23	P		P	01 40 07.9	+0.7
	baz=234							
O16K	Kokwok River B	78.82	25	P		P	01 40 08.3	-0.1
O16K				IAmb		IAmb	01 40 09.4	
	comp=Z,17nm,1.3s							
O16K	Kokwok River B	78.82	25	P		P	01 40 08.8	+0.4
	baz=237							
TNA	Tin City	78.89	18	P		P	01 40 08.8	+0.3
	baz=227							
Q16K	King Salmon	78.96	27	P		P	01 40 08.9	-0.1
	baz=239							
K15K	Wolf Creek Mou	78.97	22	P		P	01 40 09.7	+0.6
K15K				IAmb		IAmb	01 40 10.8	
	comp=Z,18nm,1.0s							
K15K	Wolf Creek Mou	78.97	22	P		P	01 40 09.0	-0.1
	baz=234							
N16K	Nishlik Lake	79.02	25	P		P	01 40 09.6	+0.2
	baz=236							
ANM	Nome	79.03	19	P		P	01 40 08.9	-0.5
	baz=230							
Q17K	Contact Creek	79.09	27	P		P	01 40 09.8	-0.2
	baz=239							
M16K	Timber Creek	79.24	24	P		P	01 40 11.2	+0.5
	baz=236							
P17K	Kvichak River	79.32	26	P		P	01 40 11.6	+0.5
	baz=239							
F14K	Arctic Creek	79.33	18	P		P	01 40 11.9	+0.9
	baz=228							
O17K	Koliganek Bris	79.34	26	P		P	01 40 11.4	+0.2
	baz=238							
L16K	Owhat River	79.42	23	P		P	01 40 11.9	+0.3
	baz=236							
N17K	Nushagak Hills	79.70	25	P		P	01 40 13.3	+0.2
	baz=238							
G15K	Niukluk	79.75	19	P		P	01 40 13.2	0.0
	baz=231							
OHAK	Old Harbor	79.80	29	P		P	01 40 14.7	+1.0
	baz=242							
J16K	Amvik River	79.90	22	P		P	01 40 14.7	+0.6
	baz=234							
F15K	North Star Dit	80.01	19	P		P	01 40 15.4	+0.7
	baz=230							
M17K	Holitna River	80.07	24	P		P	01 40 15.9	+0.8
	baz=238							
L17K	Donlin	80.12	23	P		P	01 40 16.3	+0.9
	baz=237							
H16K	Elim	80.13	20	P		P	01 40 16.1	+0.7
	baz=233							
O18K	Koktuh Hills	80.20	26	P		P	01 40 16.1	+0.2
	baz=240							
I17K	Unalakleet	80.22	21	P		P	01 40 16.4	+0.6
	baz=234							
KDAK	Kodiak Island	80.39	29	P		P	01 40 17.2	+0.3
	baz=242							
Q19K	Cape Douglas,	80.44	27	P		P	01 40 17.7	+0.5
	baz=241							
K17K	Iditarod	80.44	23	P		P	01 40 17.7	+0.6
	baz=236							
KURK	Kurchatov	80.50	324	P		P	01 40 17.7	+0.1
AAK	Ala-Archa	80.51	315	P		P	01 40 19.0	+0.9
AAK				IAmb		IAmb	01 40 19.7	
	comp=Z,32nm,1.9s							
KURBB	Kurchatov Arra	80.52	323	P		P	01 40 17.6	-0.2
	comp=Z,1.2nm,0.5s,baz=103,slow=7.8,SNR=26							
KURBB				pP		pP	01 40 44.6	-2.0
	comp=Z,2.3nm,0.6s,baz=120,slow=4.6,SNR=7.4							
	comp=Z,1.2nm,0.5s							
J17K	VABM Dome	80.53	22	P		P	01 40 17.8	+0.2
J17K				IAmb		IAmb	01 40 20.6	
	comp=Z,22nm,1.3s							
J17K	VABM Dome	80.53	22	P		P	01 40 18.3	+0.8
	baz=236							
G16K	Koyuk River	80.56	19	P		P	01 40 17.4	-0.2
G16K				IAmb		IAmb	01 40 19.1	
	comp=Z,14nm,0.9s							
G16K	Koyuk River	80.56	19	P		P	01 40 18.1	+0.5
	baz=232							
M18K	Stony River	80.78	24	P		P	01 40 19.2	+0.4
	baz=239							
L18K	Granite Mounta	80.81	24	P		P	01 40 19.6	+0.6
	baz=238							
Q20K	Shuyak Island	80.87	28	P		P	01 40 19.8	+0.4
	baz=242							
P19K	Oil Pt	80.97	27	P		P	01 40 20.1	0.0
	baz=242							
N19K	Bonanza Creek	80.99	25	P		P	01 40 19.8	-0.4
	baz=240							
H17K	Granite Mounta	81.11	20	P		P	01 40 20.9	+0.3
	baz=235							
G17K	Kiwalik Mounta	81.19	20	P		P	01 40 21.3	+0.3
	baz=234							
ARSB	Arslanbob	81.22	313	P		P	01 40 22.1	+0.2
TTA	Tatalina	81.45	23	P		P	01 40 22.7	+0.2
	baz=239

baz=238,SNR=5.5
G19K **Purcell Mounta** **82.77** **20** P **P** **01 40 28.8 -0.5**
G19K IAmb IAmb 01 40 30.5
comp=Z,13nm,1.1s
G19K **Purcell Mounta** **82.77** **20** P **P** **01 40 28.5 -0.8**
baz=237
SKT **Skwentna** **82.80** **25** P **P** **01 40 29.9 +0.4**
baz=243
J20K **Nowinta River** **82.80** **22** P **P** **01 40 28.8 -0.7**
J20K IAmb IAmb 01 40 33.9
comp=Z,23nm,1.6s
J20K **Nowinta River** **82.80** **22** P **P** **01 40 29.7 +0.2**
baz=240
SEW **Seward** **82.88** **27** P **P** **01 40 30.0 +0.1**
baz=245
C18K **Utukok River** **82.90** **17** P **P** **01 40 30.5 +0.6**
baz=233
SUA **Susitna One** **82.90** **26** P **P** **01 40 30.6 +0.4**
baz=244
F19K **Shaleruckik Mo** **82.91** **19** P **P** **01 40 29.1 -0.8**
F19K IAmb IAmb 01 40 30.8
comp=Z,21nm,1.6s
F19K **Shaleruckik Mo** **82.91** **19** P **P** **01 40 30.1 +0.2**
baz=236
PPLA **Purkeypile** **82.95** **24** P **P** **01 40 30.8 +0.4**
baz=242
I20K **Naaghedeneel** **82.99** **22** P **P** **01 40 30.0 -0.4**
baz=240
B18K **Kokolik River** **83.16** **16** P **P** **01 40 31.8 +0.6**
baz=232
RC01 **Rabbit Creek A** **83.17** **26** P **P** **01 40 30.9 -0.6**
baz=245
H20K **Anotleneega Mo** **83.20** **21** P **P** **01 40 31.1 -0.4**
baz=239
CAST **Castle Rocks** **83.24** **24** P **P** **01 40 30.6 -1.1**
CAST **Castle Rocks** **83.24** **24** P **P** **01 40 31.3 -0.5**
baz=242,SNR=5.6
CHUM **Lake Minchumin** **83.37** **23** P **P** **01 40 32.8 +0.4**
baz=242,SNR=5.7
E19K **Redstone River** **83.43** **19** P **P** **01 40 31.8 -0.9**
E19K IAmb IAmb 01 40 33.8
comp=Z,17nm,1.1s
E19K **Redstone River** **83.43** **19** P **P** **01 40 31.5 -1.1**
baz=237,SNR=11
KK31 **Karatay Array** **83.46** **314** P **P** **01 40 33.1 -0.2**
KK31 IAmb IAmb 01 40 34.6
comp=Z,23nm,1.4s
KKAR **Karatay Array** **83.46** **314** P **P** **01 40 33.0 -0.4**
KKAR IAmb IAmb 01 40 34.6
comp=Z,23nm,1.4s
C19K **Lookout Ridge** **83.64** **17** P **P** **01 40 32.8 -0.9**
C19K **Lookout Ridge** **83.64** **17** P **P** **01 40 33.8 +0.1**
baz=235
F20K **Avaraart Lake** **83.71** **20** P **P** **01 40 33.1 -1.0**
F20K **Avaraart Lake** **83.71** **20** P **P** **01 40 34.0 -0.1**
baz=238,SNR=7.0
D19K **Kuna River** **83.73** **18** P **P** **01 40 33.6 -0.6**
D19K IAmb IAmb 01 40 35.2
comp=Z,22nm,1.4s
D19K **Kuna River** **83.73** **18** P **P** **01 40 34.1 -0.1**
baz=236
P23K **Montague Islan** **83.78** **28** P **P** **01 40 34.6 0.0**
baz=247
IMAR **Indian Mountai** **83.85** **21** P **P** **01 40 33.6 -1.2**
KNK **Knik Glacier** **83.87** **26** P **P** **01 40 35.1 +0.1**
baz=246
TRF **Thorofare Moun** **83.97** **24** P **P** **01 40 34.4 -1.3**
TRF **Thorofare Moun** **83.97** **24** P **P** **01 40 34.5 -1.3**
baz=244
BPAW **Bear Paw Mtn.** **83.99** **23** P **P** **01 40 34.9 -0.7**
baz=243
QSPA **South Pole Qui** **84.01** **180** P **P** **01 40 35.4 -0.5**
comp=Z,9.5nm,0.6s,baz=311,slow=0.8,SNR=83
comp=Z,9.5nm,0.6s
H21K **Melozitna Rive** **84.03** **21** P **P** **01 40 35.6 -0.2**
baz=241
SML **Sawmill** **84.09** **26** P **P** **01 40 35.4 -0.8**
baz=246
G21K **Allakaket** **84.20** **21** P **P** **01 40 38.0 +1.4**
baz=241
E20K **Nigu River** **84.20** **19** P **P** **01 40 37.0 +0.3**
baz=238
D20K **Etivluk River** **84.31** **18** P **P** **01 40 37.3 +0.2**
baz=237
WAT1 **Susitna Watana** **84.42** **25** P **P** **01 40 36.6 -1.2**
baz=246
MLY **Manley** **84.50** **22** P **P** **01 40 36.9 -1.3**
MLY IAmb IAmb 01 40 38.7
comp=Z,10nm,0.8s
MLY **Manley** **84.50** **22** P **P** **01 40 38.0 -0.2**
baz=243
RND **Reindeer** **84.54** **24** P **P** **01 40 37.5 -0.9**
RND IAmb IAmb 01 40 38.0
comp=Z,15nm,0.9s
SCM **Sheep Creek Mo** **84.54** **26** P **P** **01 40 36.9 -1.5**
baz=247
F21K **Alatna River** **84.55** **20** P **P** **01 40 37.2 -1.1**
baz=240
MCK **McKinley** **84.64** **24** P **P** **01 40 37.3 -1.6**
baz=245,SNR=6.3
H22K **Ishtalitna Cre** **84.66** **22** P **P** **01 40 38.2 -0.7**
baz=243
WAT6 **Susitna Watana** **84.66** **25** P **P** **01 40 38.4 -0.8**
baz=246
EYAK **Cordova Ski Ar** **84.75** **27** P **P** **01 40 39.2 -0.2**
baz=248
B20K **Meade River** **84.85** **17** P **P** **01 40 39.6 -0.2**
baz=237
NEA2 **Nenana** **84.95** **23** P **P** **01 40 39.6 -0.8**
NEA2 **Nenana** **84.95** **23** P **P** **01 40 39.2 -1.2**
baz=245
E21K **Killik River** **85.00** **19** P **P** **01 40 40.9 +0.3**
E21K IAmb IAmb 01 40 41.5
comp=Z,7.2nm,0.8s
E21K **Killik River** **85.00** **19** P **P** **01 40 38.6 -2.0**
baz=240
DHY **Denali Highway** **85.01** **25** P **P** **01 40 40.1 -0.8**
DHY IAmb IAmb 01 40 41.3
comp=Z,8.4nm,0.8s
DHY **Denali Highway** **85.01** **25** P **P** **01 40 39.3 -1.6**
baz=246,SNR=7.4
KLU **Klutina** **85.02** **27** P **P** **01 40 40.9 -0.1**
KLU IAmb IAmb 01 41 11.8
comp=Z,14nm,1.3s
KLU **Klutina** **85.02** **27** P **P** **01 40 40.8 -0.1**
baz=248
I23K **Minto, Yukon-K** **85.08** **23** P **P** **01 40 40.5 -0.5**
I23K **Minto, Yukon-K** **85.08** **23** P **P** **01 40 40.5 -0.5**
baz=244
G22K **Bettles** **85.09** **21** P **P** **01 40 40.1 -0.9**
baz=242
C21K **Knifeblade Rid** **85.11** **18** P **P** **01 40 40.2 -0.9**
baz=239
F22K **John River** **85.13** **20** P **P** **01 40 39.9 -1.3**
baz=242
KAIM **Kayak Island** **85.14** **28** P **P** **01 40 40.1 -1.3**
baz=249
M24K **Tolsona, Glenn** **85.14** **26** P **P** **01 40 39.5 -1.9**
baz=248
WRH **Wood River Hil** **85.29** **23** P **P** **01 40 40.8 -1.2**
WRH IAmb IAmb 01 40 41.6
comp=Z,8.5nm,0.9s
H23K **Yukon River** **85.30** **22** P **P** **01 40 42.1 -0.1**
H23K **Yukon River** **85.30** **22** P **P** **01 40 42.0 -0.1**
baz=244
B21K **Ikpikpuk River** **85.40** **18** P **P** **01 40 41.2 -1.2**
baz=239,SNR=5.8
BMRM **Bremner River** **85.42** **27** P **P** **01 40 41.3 -1.6**
baz=249
G23K **Bananza Creek** **85.52** **21** P **P** **01 40 43.1 -0.1**
G23K IAmb IAmb 01 40 44.2
comp=Z,25nm,1.8s
G23K **Bananza Creek** **85.52** **21** P **P** **01 40 42.0 -1.2**
baz=244
COLA **College** **85.55** **23** P **P** **01 40 42.3 -0.9**
baz=246
E22K **Anaktuvuk Pass** **85.55** **19** P **P** **01 40 42.2 -1.2**
baz=242
D22K **Ayikyak River** **85.63** **19** P **P** **01 40 42.8 -0.9**
baz=241
N25K **Chitina, Valde** **85.66** **27** P **P** **01 40 43.7 -0.3**
baz=249
COLD **Coldfoot** **85.68** **21** P **P** **01 40 42.8 -1.1**
baz=244
HARP **HAARP** **85.70** **26** P **P** **01 40 44.1 0.0**
baz=249
HDA **Harding Lake** **85.72** **24** P **P** **01 40 43.0 -1.2**
HDA **Harding Lake** **85.72** **24** P **P** **01 40 43.8 -0.4**
baz=247
PAX **Paxson** **85.77** **25** P **P** **01 40 43.9 -0.7**
baz=248
POKR **Poker Plat Res** **85.81** **23** P **P** **01 40 43.2 -1.4**
baz=246
IL31 **85.88** **23** P **P** **01 40 43.4 -1.6**
IL31 IAmb IAmb 01 40 44.0
comp=Z,9.3nm,0.7s
ILAR **Eielson Array** **85.88** **23** P **P** **01 40 43.0 -2.0**
comp=Z,7.4nm,0.7s,baz=252,slow=5.0,SNR=98
ILAR pP **pP** **01 41 10.8 -3.4**
comp=Z,3.4nm,0.8s,baz=254,slow=4.2,SNR=4.4
comp=Z,7.4nm,0.7s
H24K **Noodor Dome** **85.93** **22** P **P** **01 40 45.1 -0.2**
baz=246
GLB **Gilahina Butte** **85.95** **27** P **P** **01 40 44.7 -0.8**
K24K **Donnelly Dome** **85.96** **24** P **P** **01 40 44.6 -0.9**
baz=248
A22K **Sinclair Lake** **86.01** **16** P **P** **01 40 44.6 -0.8**
baz=239
BVAR **Borovoye Array** **86.07** **324** P **P** **01 40 45.3 -0.9**
comp=Z,5.9nm,0.8s,baz=104,slow=6.3,SNR=29
BVAR pP **pP** **01 41 13.1 -2.3**
comp=Z,6.8nm,0.7s,baz=112,slow=6.3,SNR=8.9
comp=Z,5.9nm,0.8s
B22K **Teshekpuk Lake** **86.12** **17** P **P** **01 40 45.8 -0.2**
B22K **Teshekpuk Lake** **86.12** **17** P **P** **01 40 46.2 +0.2**
baz=240
BRVK **Borovoye** **86.14** **324** P **P** **01 40 46.0 -0.5**
E23K **Chandalar** **86.25** **20** P **P** **01 40 47.1 +0.2**
baz=244
MCARA **McCarthy VSAT** **86.29** **27** P **P** **01 40 47.1 0.0**
MCARA IAmb IAmb 01 41 56.3
comp=Z,8.2nm,1.0s
MCARA **McCarthy VSAT** **86.29** **27** P **P** **01 40 46.8 -0.3**
baz=246
D23K **Nanushuk River** **86.31** **19** P **P** **01 40 48.1 +1.1**
baz=243,SNR=11
MESA **MESA** **86.39** **28** P **P** **01 40 48.2 +0.3**
baz=252
J25K **Salcha River,** **86.42** **24** P **P** **01 40 46.8 -1.0**
J25K IAmb IAmb 01 40 47.8
comp=Z,11nm,0.8s
J25K **Salcha River,** **86.42** **24** P **P** **01 40 46.9 -1.0**
baz=248,SNR=14
G24K **Hadweenzic Riv** **86.43** **21** P **P** **01 40 47.7 +0.1**
baz=246
TOLK **Toolik Lake Re** **86.52** **19** P **P** **01 40 47.9 -0.2**
TOLK **Toolik Lake Re** **86.52** **19** P **P** **01 40 47.8 -0.4**
baz=244
F24K **Squaw Lake** **86.62** **21** P **P** **01 40 49.1 +0.5**
F24K **Squaw Lake** **86.62** **21** P **P** **01 40 48.2 -0.4**
baz=246
M26K **Nabesna, AK** **86.64** **26** P **P** **01 40 47.5 -1.4**
baz=250
E24K **Your Creek** **86.64** **20** P **P** **01 40 48.6 -0.2**
baz=245
C23K **Itkillik River** **86.72** **18** P **P** **01 40 49.7 +0.7**
C23K **Itkillik River** **86.72** **18** P **P** **01 40 47.9 -1.1**
baz=243,SNR=11
SCRK **Sand Creek** **86.76** **25** P **P** **01 40 49.0 -0.5**
SCRK **Sand Creek** **86.76** **25** P **P** **01 40 48.5 -1.0**
baz=250
BARN **Barnard Glacie** **86.81** **28** P **P** **01 40 50.1 +0.2**
BARN IAmb IAmb 01 40 50.9
comp=Z,11nm,0.7s
H25L **Birch Creek** **86.87** **22** P **P** **01 40 49.9 +0.1**
baz=248
CTG **Chitna Glacier** **86.93** **28** P **P** **01 40 49.7 -0.7**
baz=252
CTGM **Chitina Glacie** **86.93** **28** P **P** **01 40 50.4 0.0**
CTGM IAmb IAmb 01 40 51.5
comp=Z,8.9nm,0.8s
D24K **Happy Valley** **86.99** **19** P **P** **01 40 49.8 -0.5**
baz=245
LOGN **Logan Glacier** **87.04** **28** P **P** **01 40 51.2 +0.2**
J26L **Joseph Creek** **87.11** **24** P **P** **01 40 51.1 -0.1**
J26L **Joseph Creek** **87.11** **24** P **P** **01 40 50.9 -0.3**
baz=250,SNR=7.4
M27K **Edge Creek, AK** **87.12** **26** P **P** **01 40 51.4 +0.1**
M27K IAmb IAmb 01 40 52.0
comp=Z,8.4nm,0.9s
M27K **Edge Creek, AK** **87.12** **26** P **P** **01 40 50.8 -0.5**
baz=252
C24K **Franklin Bluff** **87.27** **19** P **P** **01 40 50.7 -0.9**
baz=245
L27K **Beaver Creek,** **87.36** **26** P **P** **01 40 52.2 -0.1**
L27K IAmb IAmb 01 40 53.4
comp=Z,8.2nm,1.2s
L27K **Beaver Creek,** **87.36** **26** P **P** **01 40 52.0 -0.3**
baz=252
O28M **Mount Upton** **87.41** **28** P **P** **01 40 53.0 +0.1**
baz=253
F25K **Christian Rive** **87.44** **21** P **P** **01 40 53.0 +0.4**
baz=248
PNL **Peninsula** **87.47** **29** P **P** **01 40 52.9 0.0**
baz=254
I26K **Coal Creek Min** **87.55** **23** P **P** **01 40 53.1 0.0**
baz=250
K27K **Chicken** **87.57** **25** P **P** **01 40 52.8 -0.5**
baz=251
YUK3 **Moose Creek** **87.58** **27** P **P** **01 40 53.0 -0.6**
baz=253
E25K **Arctic Village** **87.67** **20** P **P** **01 40 54.5 +0.8**
baz=248
YUK8 **Steele Glacier** **87.75** **28** P **P** **01 40 54.4 0.0**
baz=253
D25K **Kavik River** **87.86** **19** P **P** **01 40 54.7 +0.1**
D25K IAmb IAmb 01 40 55.4
comp=Z,21nm,1.4s
D25K **Kavik River** **87.86** **19** P **P** **01 40 54.6 +0.1**
baz=247,SNR=11
G26K **Porcupine Rive** **87.88** **22** P **P** **01 40 55.9 +1.3**
baz=250
F26K **Sheenjek River** **88.01** **21** P **P** **01 40 55.9 +0.6**
baz=249
HRA **Herat** **88.09** **305** P **P** **01 40 56.2 -0.5**
EGAK **Eagle** **88.18** **24** P **P** **01 40 56.0 -0.2**
EGAK **Eagle** **88.18** **24** P **P** **01 40 55.6 -0.5**
baz=252
I27K **Kandik River** **88.26** **23** P **P** **01 40 56.7 +0.2**
baz=252,SNR=9.6
P29M **Windy Craggy** **88.27** **30** P **P** **01 40 56.3 -0.4**
baz=255
YUK4 **Talbot Arm** **88.29** **28** P **P** **01 40 56.2 -0.7**
baz=254
YUK6 **Outpost Mounta** **88.31** **28** P **P** **01 40 56.0 -1.1**
baz=255
H27K **Steamboat Moun** **88.49** **23** P **P** **01 40 57.1 -0.5**
baz=252,SNR=6.8
C26K **Camden Bay** **88.56** **19** P **P** **01 40 57.4 -0.4**
baz=248,SNR=9.6
G27K **Doyon Strip** **88.62** **22** P **P** **01 40 58.3 +0.1**
baz=252
M29M **Somme Creek** **88.67** **27** P **P** **01 40 57.7 -0.9**
baz=255
HYT **Haines Junctio** **88.69** **28** P **P** **01 40 58.9 +0.2**
HYT IAmb IAmb 01 41 37.6
comp=Z,5.5nm,0.8s
HYT **Haines Junctio** **88.69** **28** P **P** **01 40 58.6 -0.1**
baz=255
DAWY **Dawson** **88.71** **25** P **P** **01 40 58.8 +0.1**
DAWY IAmb IAmb 01 40 59.8
comp=Z,5.9nm,0.9s
DAWY **Dawson** **88.71** **25** P **P** **01 40 58.1 -0.6**
baz=254
P30M **Million Dollar** **88.78** **29** P **P** **01 40 57.8 -1.3**
baz=256
C27K **Jago River** **88.84** **19** P **P** **01 40 58.1 -1.0**
baz=250,SNR=6.8
I28M **Miner Creek** **88.88** **24** P **P** **01 40 59.4 -0.1**
I28M IAmb IAmb 01 41 29.8
comp=Z,20nm,1.8s
I28M **Miner Creek** **88.88** **24** P **P** **01 40 58.3 -1.3**
baz=253,SNR=5.6
L29M **L29M** **88.99** **26** P **P** **01 41 00.2 +0.2**
baz=255
E27K **Coleen River** **89.08** **21** P **P** **01 41 00.1 -0.3**
E27K **Coleen River** **89.08** **21** P **P** **01 40 59.0 -1.3**
baz=252,SNR=5.0
K29M **Barlow Dome** **89.44** **26** P **P** **01 41 02.5 +0.3**
K29M IAmb IAmb 01 41 03.2
comp=Z,7.9nm,0.8s
K29M **Barlow Dome** **89.44** **26** P **P** **01 41 01.3 -0.9**
baz=255
F28M **Old Crow** **89.53** **22** P **P** **01 41 01.7 -0.7**
baz=253
D27M **Malcolm River** **89.63** **20** P **P** **01 41 03.2 +0.3**
baz=252
E28M **Babbage River** **89.94** **21** P **P** **01 41 04.9 +0.6**
baz=254
G29M **Pine Creek** **90.03** **23** P **P** **01 41 05.3 +0.5**
baz=255
J30M **Hart River** **90.13** **25** P **P** **01 41 05.6 +0.2**
J30M IAmb IAmb 01 41 06.3
comp=Z,3.4nm,0.7s
J30M **Hart River** **90.13** **25** P **P** **01 41 05.7 +0.3**
baz=256
P32M **Atlin** **90.26** **30** P **P** **01 41 05.7 -0.3**
baz=259
I30M **Mount Dempster** **90.26** **24** P **P** **01 41 05.3 -0.7**
baz=256
EPYK **Eagle Plains** **90.40** **23** P **P** **01 41 06.1 -0.4**
baz=256
D28M **Stokes Point** **90.42** **20** P **P** **01 41 07.1 +0.6**
baz=254
E29M **Blow River** **90.46** **21** P **P** **01 41 06.2 -0.5**
baz=255
V35K **Ketchikan** **90.60** **35** P **P** **01 41 06.7 -0.9**
baz=260
G30M **tAoh Zraii Nji** **90.73** **23** P **P** **01 41 06.9 -1.2**
baz=257
F30M **Barrier River** **91.04** **22** P **P** **01 41 09.1 -0.3**
baz=257
H31M **Peel River** **91.22** **24** P **P** **01 41 09.9 -0.4**
baz=258
G31M **Satah River** **91.47** **23** P **P** **01 41 10.8 -0.6**
G31M IAmb IAmb 01 41 11.0
comp=Z,4.3nm,0.8s
G31M **Satah River** **91.47** **23** P **P** **01 41 10.7 -0.7**
baz=258
ABKAR **Akbulak array** **91.81** **319** P **P** **01 41 12.2 -1.2**
ABKAR IAmb IAmb 01 41 13.6
comp=Z,5.1nm,0.8s
ABKAR **Akbulak array** **91.81** **319** P **P** **01 41 12.1 -1.2**
GEYT **Alibeck** **91.85** **308** P **P** **01 41 13.6 -0.3**
comp=Z,756nm,0.4s,baz=63,slow=10,SNR=16
GYA0B **ALIBECK ARRAY** **91.85** **308** P **P** **01 41 13.9 0.0**
GYA0B IAmb IAmb 01 41 14.5
comp=Z,6.2nm,0.8s
INK **Inuvik** **92.02** **22** P **P** **01 41 13.8 -0.1**
baz=259
INK **Inuvik** **92.02** **22** PKKP 01 58 29.9
comp=Z,0.6nm,0.5s,baz=26,slow=2.0,SNR=6.3
INK LR LR 02 19 21.5
comp=Z,30nm,20.3s,baz=201,slow=33
ARU **Arti** **93.43** **326** LR LR 02 26 04.6
comp=Z,11nm,18.2s,baz=162,slow=37
ELIB **Princess Elisa** **93.95** **195** *d*P **P** **01 41 23.4 +0.4**
comp=Z,4.4nm,0.7s
TOAD **Toad River Com** **94.48** **31** P **P** **01 41 25.6 +0.1**
baz=266
YBH **Yreka Blue Hor** **94.98** **49** LR LR 02 15 49.0
comp=Z,30nm,21.6s,baz=300,slow=30
NVAR **Mina Array Bea** **98.23** **52** P Pdif 01 41 43.6 +0.3
comp=Z,1.0nm,0.9s,baz=299,slow=3.1,SNR=4.4
comp=Z,1.0nm,0.9s
KIRV **Kirov** **98.42** **328** LR LR 02 28 08.9
comp=Z,9.7nm,19.9s,baz=102,slow=36
TROLL **Troll, Antarti** **98.63** **191** Pdiff **P** **01 41 44.0 -0.2**
comp=Z,125nm,0.7s
YKA **Yellowknife Ar** **99.65** **28** P **Pdif** **01 41 48.0 -0.7**
comp=Z,0.4nm,0.9s,baz=282,slow=5.3,SNR=6.1
YKA PKKPbc **PKKPbc** **01 58 08.8 -3.7**
comp=Z,0.3nm,0.7s,baz=81,slow=3.4,SNR=7.2
comp=Z,0.4nm,0.9s
ARCES **ARCESS Array B** **105.86** **342** PKKPbc PKKPbc 01 57 50.8 -3.7
comp=Z,0.9nm,0.4s,baz=250,slow=2.6,SNR=16
TXAR **Lajitas Array** **110.72** **61** PKKPbc PKKPbc 01 57 38.4 +0.5
comp=Z,0.1nm,0.5s,baz=91,slow=7.2,SNR=3.4
GERES **GERESS Array B** **121.23** **325** PKP **PKPdf** **01 46 57.6 -0.5**
comp=Z,0.8nm,0.7s,baz=48,slow=2.0,SNR=4.3
PLCA **Paso Flores** **122.77** **148** PKP **PKiKP** **01 47 02.0 +0.5**
comp=Z,2.7nm,0.7s,baz=275,slow=2.0,SNR=13
EKA **Eskdalemuir Ar** **124.88** **339** PKP **PKPdf** **01 47 03.8 -1.0**
comp=Z,0.2nm,0.4s,baz=23,slow=4.0,SNR=1.7
TIGA **Tifton** **127.31** **55** P **PKPdf** **01 47 09.9 -0.2**
baz=288
BLA **Blacksburg** **127.65** **47** P **PKiKP** **01 47 11.1 -0.1**
baz=295
KEST **Kesra** **130.33** **313** PKP **PKiKP** **01 47 17.1 +0.4**
comp=Z,2.9nm,0.7s,baz=106,slow=3.4,SNR=7.8
HRV **Adam Dziewonsk** **130.80** **36** P **PKPdf** **01 47 16.0 -0.5**
baz=307
ATAH **Atahualpa** **133.96** **106** PKP **PKiKP** **01 47 25.2 +0.1**
comp=Z,6.8nm,0.6s,baz=183,slow=11,SNR=6.1
LPAZ **La Paz** **139.75** **124** SKPbc **SKPbc** **01 51 00.7 +0.4**
comp=Z,0.8nm,0.5s,baz=296,slow=4.3,SNR=3.8
SDV **Santo Domingo** **143.69** **83** PKPdf PKPbc 01 47 39.3 +0.3
TORD **Torodi Ar. Bea** **143.99** **284** PKP PKPbc 01 47 39.7 +0.1
comp=Z,6.6nm,0.5s,baz=62,slow=3.1,SNR=62
SIV **San Ignacio** **145.55** **130** PKPbc **PKPdf** **01 47 44.5 +0.3**
comp=Z,34nm,0.7s,baz=231,slow=3.7,SNR=65
PTLB **Pontes e Lacer** **147.35** **131** **PKPbc** **01 47 49.1 -0.6**
KIC **Kosan Boka** **150.78** **272** ⇓*i*PKP1 **PKiKP** **01 47 59.0 -0.1**
comp=Z,32nm,0.4s
DBIC **Dimbokro** **150.90** **273** PKPbc **PKPbc** **01 47 59.1 +0.4**
comp=Z,24nm,0.5s,baz=80,slow=1.9,SNR=59
TIC **Toumodi** **151.06** **273** ⇓*i*PKP1 **PKPbc** **01 47 59.6 +0.5**
comp=Z,35nm,0.3s
LIC **Lamto** **151.06** **272** ⇓*i*PKP1 **PKiKP** **01 47 59.7 +0.1**
comp=Z,72nm,0.4s
BDFB **Brasilia** **154.51** **147** PKP **PKPdf** **01 47 58.4 +0.1**
comp=Z,5.9nm,1.0s,baz=269,slow=3.6,SNR=5.5
BDFB PKPbc **PKiKP** **01 48 07.1 +0.3**
comp=Z,9.5nm,0.8s,baz=156,slow=3.2,SNR=10

IDC ***01*** *01:32:57.0±1.2, 21°.43N×146°.29E, h0km, mb3.8/8, mbtmp3.9/10, ML3.9/2, Error ellipse: s-maj=31.8km s-min=28.8km az=64.0*
ISC 01 01:32:58.2±1.0, 21°.4N±0°.1×146°.3E±0°.2, h10km, n16,
σ1°35/11, mb3.8/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**6.81**	**327**	Pn	**Pn**	**01 34 36.4**	**-1.9**
JCJ	5.9nm,0.3s,baz=212,slow=19,SNR=5.2			Sn	**Sn**	**01 35 58.6**	**+2.6**
	2.5nm,0.3s,baz=128,slow=19,SNR=1.7						
	28nm,0.6s						
MJAR	**Matsushiro Arr**	**16.67**	**337**	Pn	**Pn**	**01 36 50.4**	**-1.6**
	0.1nm,0.3s,baz=177,slow=9.7,SNR=4.3						
	1.0nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**19.36**	**91**	T	T	01 57 24.6	
	baz=279						
H11N2	**WAKE ISLAND Hy**	**19.36**	**91**	T	T	01 57 18.0	
	baz=279						
H11N3	**WAKE ISLAND Hy**	**19.38**	**91**	T	T	01 57 18.7	
	baz=279						
H11S3	**WAKE ISLAND Hy**	**19.38**	**95**	T	T	01 57 15.4	
	baz=281						
H11S1	**WAKE ISLAND Hy**	**19.39**	**95**	T	T	01 57 14.0	
	baz=281						
H11S2	**WAKE ISLAND Hy**	**19.40**	**95**	T	T	01 57 20.5	
	baz=281						
WRA	**Warramunga Arr**	**42.70**	**197**	P	**P**	**01 40 55.8**	**+0.2**
	0.9nm,0.8s,baz=17,slow=8.4,SNR=1.3						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**57.04**	**313**	P	**P**	**01 42 44.6**	**+0.1**
	0.9nm,1.0s,baz=64,slow=6.6,SNR=2.2						
	0.9nm,1.0s						
KURBB	**Kurchatov Arra**	**59.73**	**317**	P	**P**	**01 43 03.7**	**+0.5**
	0.7nm,0.6s,baz=92,slow=7.8,SNR=4.8						
	0.7nm,0.6s						
ILAR	**Eielson Array**	**61.00**	**27**	P	**P**	**01 43 12.2**	**+0.6**
	0.7nm,0.8s,baz=261,slow=5.6,SNR=2.3						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**64.79**	**320**	P	**P**	**01 43 37.7**	**+0.6**
	1.1nm,0.5s,baz=85,slow=7.6,SNR=4.3						
	1.1nm,0.5s						
YKA	**Yellowknife Ar**	**75.37**	**28**	P	**P**	**01 44 41.6**	**-0.1**
	0.4nm,0.7s,baz=296,slow=5.8,SNR=9.3						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**81.06**	**52**	P	**P**	**01 45 14.4**	**+0.3**
	0.7nm,0.7s,baz=255,slow=6.2,SNR=6.0						
	0.7nm,0.7s						
FINES	**FINESS Array B**	**84.69**	**335**	P	**P**	**01 45 31.9**	**-0.2**
	0.7nm,0.4s,baz=60,slow=5.0,SNR=12						
	0.7nm,0.4s						

SNET ***01*** *01:39:58.9±0.6, 12°.62N×88°.29W, h31km±2km, ML2.6*
CATAC ***01*** *01:40:06.9±1.2, 13°.22N×87°.42W, h0km, mb4.9, MB6.2,*

ML2.9
ISC 01 01:39:54.7±1.8, 12°47.N±0°09×88°36W±0°06, h10km, n17, σ0961/17, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.95**	**33**	*eP*	**Pn**	**01 40 14.1**	**-0.1**
CNCH				*eS*	**Sg**	**01 40 26.0**	**+0.5**
CNCH				IAML		01 40 27.6	
	comp=Z,429nm,0.2s						
CNCH	**Conchagua**	**0.95**	**33**	*i* P	**Pb**	**01 40 13.9**	**+0.5**
CNCH				IAML		01 40 30.8	
	comp=Z,480nm,1.0s						
LCND	**La Caada**	**0.95**	**29**	IAML		01 40 26.4	
	comp=Z,156nm,0.2s						
RANC	**El Ranchito**	**0.96**	**4**	*eP*	**Pn**	**01 40 14.4**	**0.0**
PACA	**Pacayal**	**0.99**	**2**	*eP*	**Pn**	**01 40 15.2**	**+0.3**
COEB	**Comit de Eme**	**1.03**	**351**	*eP*	**Pn**	**01 40 15.6**	**+0.2**
COEB	**Comit de Eme**	**1.03**	**351**	*i* P	**Sb**	**01 40 28.1**	**-0.4**
COEB				IAML		01 40 30.5	
	comp=Z,150nm,1.0s						
AMPH	**Amapala**	**1.06**	**40**	*eP*	**Pn**	**01 40 15.5**	**-0.2**
AMPH				*eS*	**Sg**	**01 40 28.2**	**-0.8**
COEG	**Centro de Oper**	**1.25**	**336**	*eP*	**Pg**	**01 40 19.4**	**+0.6**
COEG				IAML		01 40 37.2	
	comp=Z,100nm,0.2s						
CRIN	**San Cristobal**	**1.30**	**80**	*eP*	**Pg**	**01 40 20.0**	**+0.3**
CRIN	**San Cristobal**	**1.30**	**80**	*i* P	**Pg**	**01 40 20.2**	**+0.5**
CRIN				IAML		01 40 40.8	
	comp=Z,590nm,1.0s						
PAVA	**Las Pavas**	**1.36**	**336**	*i* P	**Sb**	**01 40 36.1**	**-1.7**
PAVA				IAML		01 40 39.6	
	comp=Z,240nm,1.0s						
PKGN	**Cerro Pekin**	**1.36**	**82**	*i* P	**Pb**	**01 40 20.3**	**-0.1**
PKGN				IAML		01 40 39.4	
	comp=Z,460nm,1.0s						
LOMA	**Loma Larga**	**1.41**	**326**	*eP*	**Pb**	**01 40 21.4**	**+0.2**
POLN	**Al Sur del Vol**	**1.52**	**83**	*i* P	**Pn**	**01 40 21.9**	**-0.1**
POLN				IAML		01 40 40.8	
	comp=Z,120nm,1.0s						
JAYA	**Jayaque - finc**	**1.58**	**318**	*eP*	**Pb**	**01 40 24.2**	**0.0**
CDITO	**Canoas**	**6.64**	**125**	*i* P	Pb	01 41 42.5	-7.9
CDITO				IVmB_BB		01 41 48.7	
	comp=Z,18μm,1.0s						
CDITO				IAmb	IAmb	01 41 48.8	
	comp=Z,50nm,0.5s						
CDITO				IAML		01 41 55.1	
	comp=Z,520nm,1.0s						

*SJA **01** 01:44:59.9±0.7, 21°.06S×67°.47W, h228km±6km, ML4.0, MW3.8*
*IDC **01** 01:45:00.6±0.8, 21°.07S×67°.28W, h192km±9km, mb3.5/5, mbtmp3.9/10, Error ellipse: s-maj=18.3km s-min=10.5km az=103.0*
*NEIC **01** 01:45:01.4±1.4, 21°.13S±0°.05×67°.6W±0°.2, h229km±8km, mb4.2/8, Error ellipse: s-maj=21.8km s-min=7.7km az=95.0*
*GUC **01** 01:45:02.2±0.5, 21°.07S×67°.54W, h220km±5km, ML4.1*
ISC 01 01:45:01.4±0.7, 21°.11S±0°.04×67°.49W±0°.06, h213km±7km, n94, σ1°04/132, mb3.9/6, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.77**	**247**		**Pn**	**01 45 39.5**	**+0.8**
PB09				Sn	**S**	**01 46 08.1**	**+0.5**
PB09	**IPOC Station P**	**1.77**	**247**	*eP*	**Pn**	**01 45 39.6**	**+0.9**
PB09				*eS*	**S**	**01 46 08.9**	**+1.3**
PB09				IAML		01 46 11.7	
	comp=Z,246nm,0.3s						
PB09	**IPOC Station P**	**1.77**	**247**	*eP*	**Pn**	**01 45 39.8**	**+1.1**
PB09				*i* S	**S**	**01 46 08.7**	**+1.1**
PB09				IAML		01 46 09.6	
	comp=N,275nm,0.3s						
PB08	**IPOC Station P**	**1.83**	**302**		**Pn**	**01 45 40.1**	**+0.5**
PB08				Sn	**S**	**01 46 08.9**	**-0.2**
PB08	**IPOC Station P**	**1.83**	**302**	*eP*	**Pn**	**01 45 40.3**	**+0.6**
PB08				*eS*	**S**	**01 46 09.7**	**+0.6**
PB08				IAML		01 46 12.5	
	comp=Z,281nm,0.3s						
PB08	**IPOC Station P**	**1.83**	**302**	*eP*	**Pn**	**01 45 40.1**	**+0.5**
PB08				*i* S	**S**	**01 46 09.1**	**0.0**
PB08				IAML		01 46 11.7	
	comp=E,451nm,0.5s						
PB01	**IPOC Station P**	**1.86**	**272**		**Pn**	**01 45 39.9**	**+0.3**
PB01	**IPOC Station P**	**1.86**	**272**	*eP*	**Pn**	**01 45 39.4**	**-0.2**
PB01				*eS*	**S**	**01 46 09.4**	**+0.4**
PB01				IAML		01 46 12.0	
	comp=Z,490nm,0.1s						
PB01	**IPOC Station P**	**1.86**	**272**	*eP*	**Pn**	**01 45 40.1**	**+0.6**
PB01				*i* S	**S**	**01 46 08.7**	**-0.3**
PB01				IAML		01 46 10.8	
	comp=N,752nm,0.3s						
LVC	**Limon Verde**	**1.99**	**221**	Pn	**Pn**	**01 45 41.5**	**+0.4**
LVC	**Limon Verde**	**1.99**	**221**	*eP*	**Pn**	**01 45 41.5**	**+0.4**
LVC				*eS*	**S**	**01 46 12.3**	**+0.5**
LVC	**Limon Verde**	**1.99**	**221**	P	**Pn**	**01 45 41.4**	**+0.3**
	comp=N,32nm,0.2s,baz=32,slow=7.8,SNR=163						
LVC				S	**S**	**01 46 11.4**	**-0.4**
	comp=N,52nm,0.3s,baz=108,slow=20,SNR=50						
YJA	**Yavi**	**2.12**	**120**	*eP*	**Pn**	**01 45 41.4**	**-1.1**
YJA				*eS*	S	01 46 00.8	-14
GO01	**Chusmiza**	**2.15**	**312**		**Pn**	**01 45 42.7**	**-0.2**
GO01				Sn	**S**	**01 46 15.1**	**+0.2**
GO01	**Chusmiza**	**2.15**	**312**	*eP*	**Pn**	**01 45 42.4**	**-0.5**
GO01				*eS*	**S**	**01 46 17.0**	**+2.2**
GO01	**Chusmiza**	**2.15**	**312**	*eP*	**Pn**	**01 45 43.1**	**+0.2**
GO01				*i* S	**S**	**01 46 14.5**	**-0.3**
PB02	**IPOC Station P**	**2.25**	**264**		**Pn**	**01 45 43.5**	**0.0**
PB02	**IPOC Station P**	**2.25**	**264**	*eP*	**Pn**	**01 45 44.1**	**+0.6**
PB02				*eS*	**S**	**01 46 15.8**	**-0.3**
PB02				IAML		01 46 17.2	
	comp=Z,971nm,0.4s						
PB02	**IPOC Station P**	**2.25**	**264**	*eP*	**Pn**	**01 45 43.8**	**+0.3**
PB02				*i* S	**S**	**01 46 15.4**	**-0.6**
PB07	**IPOC Station P**	**2.31**	**254**	Pn	**Pn**	**01 45 44.5**	**+0.3**
PB07	**IPOC Station P**	**2.31**	**254**	*eP*	**Pn**	**01 45 44.5**	**+0.3**
PB07				*eS*	**S**	**01 46 17.0**	**-0.3**
PB07				IAML		01 46 19.1	
	comp=Z,494nm,0.4s						
PB07	**IPOC Station P**	**2.31**	**254**	*eP*	**Pn**	**01 45 44.7**	**+0.5**
PB07				*i* S	**S**	**01 46 16.9**	**-0.4**
PB07				IAML		01 46 18.3	
	comp=N,767nm,0.4s						
HMBC	**Humberstone**	**2.39**	**290**	*eP*	**Pn**	**01 45 44.8**	**-0.2**
HMBC				*eS*	**S**	**01 46 17.6**	**-1.1**
HMBC				IAML		01 46 23.0	
	comp=Z,634nm,0.3s						
HMBC	**Humberstone**	**2.39**	**290**	*eP*	**Pn**	**01 45 44.9**	**-0.2**
HMBC				*i* S	**S**	**01 46 17.7**	**-1.0**
HMBC				IAML		01 46 21.0	
	comp=N,928nm,0.2s						
PB11	**IPOC Station P**	**2.43**	**303**	Pn	**Pn**	**01 45 45.5**	**-0.1**
PB11	**IPOC Station P**	**2.43**	**303**	*eP*	**Pn**	**01 45 45.4**	**-0.1**
PB11				*eS*	**S**	**01 46 19.2**	**-0.4**
PB11				IAML		01 46 20.6	
	comp=Z,754nm,0.2s						
PB11	**IPOC Station P**	**2.43**	**303**	*eP*	**Pn**	**01 45 45.4**	**-0.1**
PB11				*i* S	**S**	**01 46 18.5**	**-1.1**
PB06	**IPOC Station P**	**2.50**	**230**		**Pn**	**01 45 46.6**	**+0.5**
PB06	**IPOC Station P**	**2.50**	**230**	*eP*	**Pn**	**01 45 46.7**	**+0.6**
PB06				*eS*	**S**	**01 46 21.6**	**+0.7**
PB06				IAML		01 46 22.4	
	comp=Z,190nm,0.2s						
PB06	**IPOC Station P**	**2.50**	**230**	*eP*	**Pn**	**01 45 46.8**	**+0.6**
PB06				*i* S	**S**	**01 46 21.2**	**+0.4**
PB06				IAML		01 46 22.3	
	comp=E,610nm,0.4s						
PATCX	**Punta Patache**	**2.50**	**276**	Pn	**Pn**	**01 45 46.3**	**+0.1**
PATCX	**Punta Patache**	**2.50**	**276**	*eP*	**Pn**	**01 45 46.2**	**+0.1**
PATCX				*eS*	**S**	**01 46 21.2**	**+0.5**
PATCX				IAML		01 46 23.1	
	comp=Z,505nm,0.4s						
PATCX	**Punta Patache**	**2.50**	**276**	*eP*	**Pn**	**01 45 46.5**	**+0.3**
PATCX				*i* S	**S**	**01 46 20.4**	**-0.3**
PATCX				IAML		01 46 22.5	
	comp=N,936nm,0.2s						
TA01	**Diego Aracena**	**2.57**	**282**		**Pn**	**01 45 46.6**	**-0.2**
TA01	**Diego Aracena**	**2.57**	**282**	*eP*	**Pn**	**01 45 46.7**	**-0.1**
TA01				*eS*	**S**	**01 46 21.0**	**-0.9**
TA01				IAML		01 46 22.9	
	comp=Z,261nm,0.2s						
TA01	**Diego Aracena**	**2.57**	**282**	*eP*	**Pn**	**01 45 46.6**	**-0.2**
TA01				*i* S	**S**	**01 46 20.6**	**-1.4**
TA02	**Huaiquique**	**2.61**	**288**		**Pn**	**01 45 46.8**	**-0.4**
TA02	**Huaiquique**	**2.61**	**288**	*eP*	**Pn**	**01 45 47.3**	**+0.1**
TA02				*eS*	**S**	**01 46 21.9**	**-0.8**
TA02				IAML		01 46 24.2	
	comp=Z,602nm,0.1s						
TA02	**Huaiquique**	**2.61**	**288**	*eP*	**Pn**	**01 45 46.9**	**-0.4**
TA02				*i* S	**S**	**01 46 21.0**	**-1.7**
PB04	**IPOC Station P**	**2.75**	**243**	Pn	**Pn**	**01 45 48.8**	**-0.2**
PB04	**IPOC Station P**	**2.75**	**243**	*eP*	**Pn**	**01 45 49.5**	**+0.5**
PB04				*eS*	**S**	**01 46 25.8**	**-0.1**
PB04				IAML		01 46 29.4	
	comp=Z,201nm,0.1s						
PB04	**IPOC Station P**	**2.75**	**243**	*eP*	**Pn**	**01 45 49.5**	**+0.5**
PB04				*i* S	**S**	**01 46 25.3**	**-0.7**
PB04				IAML		01 46 28.1	
	comp=N,298nm,0.2s						
PB15	**IPOC Station P**	**2.78**	**221**		**Pn**	**01 45 49.5**	**+0.2**
PB15	**IPOC Station P**	**2.78**	**221**	*eP*	**Pn**	**01 45 50.5**	**+1.2**
PB15				*eS*	**S**	**01 46 26.7**	**+0.2**
PB15				IAML		01 46 29.1	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**2.78**	**221**	*eP*	**Pn**	**01 45 50.2**	**+0.9**
PB15				*i* S	**S**	**01 46 26.8**	**+0.2**
PB05	**IPOC Station P**	**3.05**	**235**		**Pn**	**01 45 52.8**	**+0.4**
PB12	**IPOC Station P**	**3.65**	**312**	Pn	**Pn**	**01 45 58.0**	**-1.4**
PB12	**IPOC Station P**	**3.65**	**312**	*eP*	**Pn**	**01 45 58.2**	**-1.3**
PB12				*eS*	**S**	**01 46 43.3**	**-1.4**
PB12				IAML		01 46 49.4	
	comp=Z,82nm,0.4s						
PB10	**IPOC Station P**	**3.71**	**229**	Pn	**Pn**	**01 45 59.8**	**-0.3**
PB10	**IPOC Station P**	**3.71**	**229**	*eP*	**Pn**	**01 46 00.7**	**+0.7**
PB10				*eS*	**S**	**01 46 41.5**	**-4.3**
PB10				IAML		01 46 49.3	
	comp=Z,73nm,0.2s						
AP01	**Chacalluta**	**3.83**	**315**	*eP*	**Pn**	**01 46 00.9**	**-0.6**
AP01				IAML		01 46 49.2	
	comp=Z,169nm,0.5s						
PB18	**Visviri**	**3.98**	**332**		**Pn**	**01 46 03.6**	**-0.3**
SLA	**San Lorenzo**	**4.03**	**153**	*eP*	**Pn**	**01 46 04.3**	**+0.2**
SLA				*eS*	**S**	**01 46 54.2**	**+0.9**
PB14	**IPOC Station P**	**4.41**	**217**		**Pn**	**01 46 08.4**	**-0.6**
PB14	**IPOC Station P**	**4.41**	**217**	*eP*	**Pn**	**01 46 09.3**	**+0.4**
PB14				*eS*	**S**	**01 46 59.2**	**-2.7**
PB14				IAML		01 47 03.0	
	comp=Z,98nm,0.3s						
GO02	**Mina Guanaco**	**4.47**	**205**	Pn	**Pn**	**01 46 10.1**	**+0.4**
GO02	**Mina Guanaco**	**4.47**	**205**	*eP*	**Pn**	**01 46 10.1**	**+0.4**
GO02				*eS*	**S**	**01 47 02.0**	**-1.3**
LPAZ	**La Paz**	**4.84**	**353**	Pn	**Pn**	**01 46 14.8**	**+0.1**
LPAZ	**La Paz**	**4.84**	**353**	P	**Pn**	**01 46 14.6**	**-0.1**
	comp=Z,13nm,0.4s,baz=166,slow=8.6,SNR=76						
LPAZ				S	**S**	**01 47 11.3**	**-0.9**
	comp=Z,3.5nm,0.6s,baz=203,slow=13,SNR=1.0						
AC01	**Pan de Azucar**	**5.76**	**209**	Pn	**Pn**	**01 46 24.8**	**-0.9**
AC02	**Maricunga**	**5.89**	**194**	Pn	**Pn**	**01 46 27.8**	**-0.1**
AC06	**Mina Casimiro**	**6.74**	**202**	Pn	**Pn**	**01 46 36.8**	**-1.5**
GO03	**Copiap**	**6.92**	**201**		**Pn**	**01 46 39.1**	**-1.5**
AC04	**Llanos de Chal**	**7.77**	**204**	Pn	**Pn**	**01 46 48.8**	**-2.8**
SIV	**San Ignacio**	**7.94**	**51**	P	Pn	01 46 49.9	-4.0
	comp=Z,3.0nm,0.5s,baz=260,slow=9.2,SNR=16						
AC05	**El Transito**	**8.09**	**198**		**Pn**	**01 46 54.4**	**-1.5**
LCO	**Las Campanas**	**8.38**	**200**	Pn	**Pn**	**01 46 57.7**	**-2.1**
CO01	**Juntas del Tor**	**9.13**	**194**		**Pn**	**01 47 08.8**	**-0.7**
GO04	**Tololo Observa**	**9.50**	**198**	Pn	**Pn**	**01 47 12.8**	**-1.4**
CO03	**El Pedregal**	**10.10**	**196**		**Pn**	**01 47 19.8**	**-2.0**
CPUP	**Villa Florida**	**10.66**	**121**	P	**Pn**	**01 47 27.6**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=272,slow=13,SNR=4.0						
ETMB	**Extrema**	**11.30**	**6**	Pn	**Pn**	**01 47 36.3**	**-0.8**
VA03	**San Esteban**	**11.92**	**193**	Pn	**Pn**	**01 47 44.5**	**-0.5**
MT02	**Curacav**	**12.52**	**194**	Pn	**Pn**	**01 47 51.1**	**-1.3**
MT13	**San Alfonso**	**12.82**	**191**	Pn	**Pn**	**01 47 56.0**	**-0.3**
BO01	**Tunca**	**13.60**	**193**		**Pn**	**01 48 05.5**	**-0.3**
ITAB	**Concordia**	**15.28**	**116**		**P**	**01 48 26.0**	**-0.5**
PLTB	**Pedras Altas**	**16.33**	**133**		**P**	**01 48 37.0**	**-1.1**
TRQA	**Tornquist**	**17.55**	**165**	Pn	**P**	**01 48 51.7**	**+0.4**
TRQA				IAmb	IAmb	01 49 23.2	
	comp=Z,13nm,1.3s						
GO06	**Curarrehue**	**18.72**	**190**	P	**P**	**01 49 03.4**	**-0.8**
GO06				IAmb	IAmb	01 49 11.4	
	comp=Z,9.8nm,0.9s						
PLCA	**Paso Flores**	**19.73**	**187**	P	**P**	**01 49 13.8**	**-1.2**
PLCA				IAmb	IAmb	01 49 20.9	
	comp=Z,6.5nm,1.2s						
PLCA	**Paso Flores**	**19.73**	**187**	P	**P**	**01 49 17.0**	**+2.0**
	comp=Z,2.0nm,0.7s,baz=6.0,slow=11,SNR=7.3						
BOAV	**Boa Vista**	**24.34**	**17**	P	**P**	**01 49 57.9**	**-2.1**
BOAV				IAmb	IAmb	01 50 04.7	
	comp=Z,17nm,1.5s						
BBGH	**Gun Hill**	**34.92**	**14**	P	**P**	**01 51 30.8**	**-2.3**
TXAR	**Lajitas Array**	**61.08**	**324**	P	**P**	**01 54 54.9**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=146,slow=8.3,SNR=4.2						
	comp=Z,0.2nm,0.6s						
QSPA	**South Pole Qui**	**69.08**	**180**	P	**P**	**01 55 46.9**	**+2.8**
	comp=Z,1.3nm,1.1s,baz=198,slow=3.2,SNR=1.3						
	comp=Z,1.3nm,1.1s						
ULM	**Lac du Bonnet**	**75.36**	**342**	P	**P**	**01 56 22.4**	**+1.2**
	comp=Z,2.8nm,0.5s,baz=160,slow=5.6,SNR=8.9						
	comp=Z,2.8nm,0.5s						
TOA0	**Torodi Ar. Sit**	**75.98**	**70**	P	**P**	**01 56 25.2**	**-0.3**
TORD	**Torodi Ar. Bea**	**75.98**	**70**	P	**P**	**01 56 25.1**	**-0.3**
TORD	**Torodi Ar. Bea**	**75.98**	**70**	P	**P**	**01 56 25.3**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=257,slow=5.4,SNR=22						
	comp=Z,1.4nm,0.5s						
YKA	**Yellowknife Ar**	**91.27**	**340**	P	**P**	**01 57 44.0**	**+2.0**
	comp=Z,0.6nm,0.7s,baz=126,slow=3.8,SNR=19						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**133.94**	**209**	PKP	**PKiKP**	**02 03 56.5**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=152,slow=1.8,SNR=2.2						
ZALV	**Zalesovo Beam**	**141.04**	**26**	PKP	**PKPdf**	**02 04 05.0**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=247,slow=1.1,SNR=2.0						
MKAR	**Makanchi Array**	**144.54**	**37**	PKP	**PKPdf**	**02 04 13.5**	**+1.1**
	comp=Z,1.3nm,0.4s,baz=340,slow=2.7,SNR=20						

*NEIC **01** 01:45:53.7±1.1, 19°.34N±0°.02×155°.11W±0°.03, h6km±3km, Error ellipse: s-maj=4.3km s-min=1.4km az=126.0*
HVO 01 01:45:52.9±0.9, 19°.38N±0°.02×155°.09W±0°.02, h2km±6km, ML2.8/32, ML2.7/46(NEIC), Error ellipse: s-maj=3.8km s-min=1.2km az=119.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.01**	**305**		Pg	01 45 54.6	+1.1
NPOC	**North of Pu'u**	**0.03**	**311**		Pg	01 45 55.0	+1.3
STCH	**Steam Cracks**	**0.04**	**286**		Pg	01 45 55.4	+1.6
KNHH	**Kane Nui o Ham**	**0.08**	**273**		Pg	01 45 55.3	+0.8
JOKA	**Jonika Flow**	**0.10**	**54**		Pg	01 45 55.5	+0.6
PUH	**Pauahi**	**0.12**	**269**		Pg	01 45 56.1	+0.8
PUH	**Pauahi**	**0.12**	**269**	IAML		01 45 58.9	
	comp=N,2μm,0.7s						
PUH				IAML		01 45 59.3	
	comp=E,2μm,0.5s						
BYL	**Byron's Ledge**	**0.17**	**283**		Pg	01 45 56.8	+0.6
BYL	**Byron's Ledge**	**0.17**	**283**	IAML		01 46 00.3	
	comp=N,3μm,0.3s						
BYL				IAML		01 46 00.9	
	comp=E,2μm,0.7s						
KKO	**Keanakako`i**	**0.17**	**278**		Pg	01 45 57.0	+0.7
KKO	**Keanakako`i**	**0.17**	**278**	IAML		01 46 00.1	
	comp=E,3μm,0.5s						
KKO				IAML		01 46 01.1	
	comp=N,3μm,0.4s						
HATHI	**Halema'uma'u T**	**0.17**	**286**		Pg	01 45 56.9	+0.6
HATHI					Sg	01 45 59.7	+1.2
HATHI	**Halema'uma'u T**	**0.17**	**286**	IAML		01 46 02.2	
	comp=E,5μm,0.4s						
HATHI				IAML		01 46 02.2	
	comp=N,3μm,0.4s						
RIM	**Rim**	**0.18**	**277**		Pg	01 45 57.1	+0.7
RIM					Sg	01 46 00.1	+1.4
RIM	**Rim**	**0.18**	**277**	IAML		01 46 00.5	
	comp=E,5μm,0.3s						
RIM				IAML		01 46 02.8	
	comp=N,3μm,0.3s						
SBLHI	**Steaming Bluff**	**0.18**	**287**		Pg	01 45 57.0	+0.5
SBLHI					Sg	01 45 59.9	+1.2
SBLHI	**Steaming Bluff**	**0.18**	**287**	IAML		01 46 00.6	
	comp=N,3μm,0.4s						
SBLHI				IAML		01 46 02.2	
	comp=E,2μm,0.5s						
NPH	**North Pit**	**0.19**	**281**		Pg	01 45 57.2	+0.6
NPH	**North Pit**	**0.19**	**281**	IAML		01 46 01.2	
	comp=E,621nm,0.3s						
NPH				IAML		01 46 02.8	
	comp=N,2μm,0.5s						
UWB	**Uwekahuna B**	**0.19**	**285**		Pg	01 45 57.1	+0.6
UWB					Sg	01 46 00.0	+1.0
UWB	**Uwekahuna B**	**0.19**	**285**	IAML		01 46 03.0	
	comp=E,2μm,0.5s						
UWB				IAML		01 46 03.0	
	comp=N,1μm,0.4s						
OBL	**Observatory Le**	**0.19**	**283**		Pg	01 45 57.5	+0.8
OBL					Sg	01 46 00.8	+1.6
OBL	**Observatory Le**	**0.19**	**283**	IAML		01 46 01.6	
	comp=E,5μm,0.4s						
OBL				IAML		01 46 02.6	
	comp=N,4μm,0.4s						
SDHHI	**Sand Hill**	**0.20**	**274**		Pg	01 45 57.4	+0.6
SDHHI	**Sand Hill**	**0.20**	**274**	IAML		01 46 01.6	
	comp=E,2μm,0.4s						
SDHHI				IAML		01 46 03.1	
	comp=N,3μm,0.5s						
RSD	**Rainshed**	**0.20**	**296**		Pg	01 45 57.5	+0.7
RSD	**Rainshed**	**0.20**	**296**	IAML		01 46 03.5	
	comp=E,4μm,0.5s						
RSD				IAML		01 46 03.7	
	comp=N,4μm,0.5s						
UWE	**Uwekahuna**	**0.20**	**283**		Pg	01 45 57.5	+0.6
UWE				IAML		01 46 02.8	
	comp=N,2μm,0.4s						
UWE	**Uwekahuna**	**0.20**	**283**		Sg	01 46 00.8	+1.4
UWE	**Uwekahuna**	**0.20**	**283**	IAML		01 45 59.4	
	comp=E,1μm,1.4s						
WRMHI	**West Rim**	**0.20**	**279**		Pg	01 45 57.5	+0.6
WRMHI	**West Rim**	**0.20**	**279**	IAML		01 46 03.8	
	comp=N,2μm,0.5s						
WRMHI				IAML		01 46 03.9	
	comp=E,3μm,0.5s						
HLP	**Hilina Pali**	**0.22**	**249**		Pg	01 45 57.9	+0.7
HLP					Sg	01 46 01.1	+1.0
HLP	**Hilina Pali**	**0.22**	**249**	IAML		01 46 02.2	
	comp=E,739nm,0.5s						
HLP				IAML		01 46 05.0	
	comp=N,903nm,0.5s						
MLH	**Mauna Loa**	**0.30**	**293**		Pg	01 45 59.4	+0.6
MLH	**Mauna Loa**	**0.30**	**293**	IAML		01 46 04.3	
	comp=N,428nm,4.1s						
MLH				IAML		01 46 09.6	
	comp=E,464nm,0.4s						
HTC	**Hot Caves**	**0.32**	**245**		Pg	01 45 59.8	+0.6
HMH	**Humu'ula Sheep**	**0.44**	**301**		Pg	01 46 02.0	+0.7
HMH					Sb	01 46 09.4	-1.3
HMH	**Humu'ula Sheep**	**0.44**	**301**	IAML		01 46 09.7	
	comp=N,913nm,0.3s						
HMH				IAML		01 46 09.8	
	comp=E,1μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.49**	**289**		Pg	01 46 03.0	+0.7
MLOA					Sg	01 46 10.3	+1.7
MLOA	**Mauna Loa Obse**	**0.49**	**289**	IAML		01 46 10.8	
	comp=N,2μm,0.3s						
MLOA				IAML		01 46 10.9	
	comp=E,2μm,0.4s						
MWH	**Moku'aweowe**	**0.49**	**283**		Pg	01 46 03.0	+0.5
MWH					Sb	01 46 10.7	-1.8
KHU	**Kahuku**	**0.51**	**256**		Pg	01 46 03.0	+0.1
KHU					Sg	01 46 10.7	+1.2
KHU	**Kahuku**	**0.51**	**256**	IAML		01 46 16.3	
	comp=E,346nm,0.7s						
KHU				IAML		01 46 18.6	
	comp=N,557nm,4.0s						
ALEP	**Alea Permanent**	**0.55**	**288**		Pg	01 46 03.9	+0.3
ALEP					Sg	01 46 12.3	+1.6
POHA	**Pohakuloa**	**0.57**	**312**		Pg	01 46 03.8	-0.1
POHA					Sg	01 46 12.0	+0.8
POHA	**Pohakuloa**	**0.57**	**312**	IAML		01 46 20.3	
	comp=N,605nm,0.6s						
POHA				IAML		01 46 22.9	
	comp=N,852nm,0.9s						

*NEIC **01** 01:52:49.8±0.6, 19°.39N±0°.02×155°.087W±0°.008, h8km±1km, Error ellipse: s-maj=3.2km s-min=1.1km az=180.0*
HVO 01 01:52:49.5±0.8, 19°.379N±0°.008×155°.10W±0°.01, h3km±4km, ML2.6/13, ML2.5/36(NEIC), Error ellipse: s-maj=2.0km s-min=1.1km az=76.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.01**	**313**		Pg	01 52 51.1	+1.0
NPOC	**North of Pu'u**	**0.02**	**317**		Pg	01 52 51.5	+1.3
STCH	**Steam Cracks**	**0.03**	**282**	IAML		01 52 51.1	
	comp=E,8μm,0.1s						
STCH				IAML		01 52 51.3	
	comp=N,5μm,0.1s						
STCH	**Steam Cracks**	**0.03**	**282**		Pg	01 52 51.7	+1.5
KNHH	**Kane Nui o Ham**	**0.07**	**270**		Pg	01 52 51.6	+0.7
JOKA	**Jonika Flow**	**0.10**	**58**		Pg	01 52 52.0	+0.5
JOKA					Sg	01 52 54.2	+1.3
PUH	**Pauahi**	**0.11**	**267**		Pg	01 52 52.5	+0.7
PUH					Sg	01 52 54.6	+1.3
PUH	**Pauahi**	**0.11**	**267**	IAML		01 52 55.2	
	comp=N,2μm,0.5s						
PUH				IAML		01 52 55.4	
	comp=E,785nm,0.7s						

comp=N,455nm,2.1s
KHU **Kahuku** 0.51 255 Pg 01 52 59.4 +0.2
KHU Sb 01 53 07.6 -1.5
ALEP **Alea Permanent** 0.54 287 Pg 01 53 00.1 +0.2
ALEP Sg 01 53 08.4 +1.4
POHA **Pohakuloa** 0.56 313 Sg 01 53 08.0 +0.5
HUH **Hualalai** 0.76 294 Pg Pg 01 53 03.8 -0.3

*IDC **01** 01:58:23.8±0.9, 1°.74N×75°.89W, h0km, mb3.5/6, mbtmp3.8/10, ML3.5/4, MS3.2/11, Error ellipse: s-maj=26.5km s-min=17.7km az=103.0*
*VAO **01** 01:58:29.5±0.5, 1°.78N×75°.74W, h10km, mb4.3*
*RSNC **01** 01:58:29.6±0.0, 2°N±1°×7°.6W±°, h3km±3km, M4.1, mb4.8, mB5.1, ML3.8, Mw4.1, Mw(mB)4.4*
*IGQ **01** 01:58:30.1±0.8, 2°N±6°×7°.6W±°, h10km, M4.3/22*
*NEIC **01** 01:58:31.5±1.7, 1°.86N±0°.05×75°.78W±0°.06, h36km±6km, mb4.5/21, Error ellipse: s-maj=8.4km s-min=7.9km az=116.0*

ISC 01 01:58:29.5±0.9, **1°91N**±0°.02×**76°01W**±0°.02, **h31**km±7km, **n163**, σ2**°27**/183, **mb4.3**/13, **MS3.1**/7, **Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FLOC	**Florencia**	**0.49**	**132**	P	**Pb**	**01 58 39.5**	**-0.3**
FLOC				S	**Sn**	**01 58 47.4**	**-0.5**
FLOC	**Florencia**	**0.49**	**132**	P	**Pb**	**01 58 39.6**	**-0.2**
GARC	**Garzon, Huila**	**0.59**	**62**	P	**Pb**	**01 58 40.7**	**-0.9**
GARC				S	**Sb**	**01 58 49.6**	**-0.2**
POPC	**Popayan, Colom**	**0.91**	**313**	P	**Pn**	**01 58 44.2**	**-2.2**
POPC				S	**Sb**	**01 58 55.5**	**-3.3**
BETC	**Betania**	**0.95**	**37**	P	**Pb**	**01 58 47.1**	**-0.5**
BETC				S	**Sn**	**01 59 01.1**	**+1.6**
CRUC	**La Cruz**	**1.00**	**250**	P	**Pn**	**01 58 46.4**	**-1.3**
CRUC				S	**Sn**	**01 58 59.3**	**-1.6**
JAMC	**Jamundi, Valle**	**1.45**	**333**	P	**Pn**	**01 58 53.7**	**-0.2**
JAMC				S	**Sb**	**01 59 13.0**	**-1.3**
GCUF	**Volcan Galeras**	**1.50**	**243**	P	**Pn**	**01 58 55.3**	**+0.6**
GCUF				S	**Sb**	**01 59 15.5**	**-0.3**
ATLC	**Ecuador-Tulcan**	**2.01**	**238**	P	**Pb**	**01 59 05.1**	**-0.5**
CMBC	**Cumbal**	**2.05**	**242**	P	**Pb**	**01 59 05.4**	**-1.0**
CMBC				S	**Sb**	**01 59 34.2**	**+2.5**
CMBC	**Cumbal**	**2.05**	**242**	P	**Pb**	**01 59 05.7**	**-0.7**
PRAC	**Prado**	**2.11**	**32**	P	**Pn**	**01 59 03.8**	**+1.0**
PRAC				S	**Sb**	**01 59 34.4**	**+1.3**
PTLC	**Puerto Leguiza**	**2.11**	**145**	P	**Pb**	**01 59 08.5**	**+1.3**
PTLC				S	**Sb**	**01 59 38.7**	**+5.6**
PTLC	**Puerto Leguiza**	**2.11**	**145**	P	**Pb**	**01 59 08.7**	**+1.5**
ORTC	**Ortega, Tolima**	**2.13**	**21**	P	**Pn**	**01 59 04.1**	**+1.1**
ORTC				S	**Sb**	**01 59 34.1**	**+0.6**
TULM	**Tulcn-Chalpat**	**2.13**	**236**	Pn	**Pb**	**01 59 06.5**	**-1.3**
TULM				Sn	**Sb**	**01 59 34.1**	**0.0**
TULM	**Tulcn-Chalpat**	**2.13**	**236**	P	**Pb**	**01 59 06.4**	**-1.4**
TULM				S	**Sb**	**01 59 34.6**	**+0.5**
TULM	**Tulcn-Chalpat**	**2.13**	**236**	P	**Pb**	**01 59 07.0**	**-0.8**
TULM				S	**Sb**	**01 59 35.5**	**+1.4**
MACC	**Macarena, Meta**	**2.18**	**84**	P	**Pn**	**01 59 05.7**	**+2.0**
MACC				S	**Sb**	**01 59 34.9**	**0.0**
CHL2	**Volcn Chiles**	**2.20**	**240**	P	**Pb**	**01 59 07.5**	**-1.4**
CASC	**Dorado de Casc**	**2.21**	**217**	P	**Pn**	**01 59 04.6**	**+0.4**
CASC				S	**Sb**	**01 59 37.1**	**+1.3**
CHL1	**Volcn Chiles**	**2.23**	**240**	P	**Pb**	**01 59 08.8**	**-0.7**
ECEN	**Cerro Negro**	**2.24**	**241**	P	**Pb**	**01 59 08.8**	**-0.8**
LNGL	**El Angel-Carch**	**2.31**	**240**	P	**Pb**	**01 59 09.2**	**-1.5**
GR1C	**Gorgona, Isla**	**2.41**	**297**	P	**Pn**	**01 59 07.1**	**+0.3**
MALC	**Bahia Malaga**	**2.47**	**328**	P	**Pn**	**01 59 09.9**	**+2.2**
REVN	**San Rafael**	**2.55**	**219**	P	**Pn**	**01 59 09.4**	**+0.4**
YAHU	**Yahuarcocha**	**2.56**	**233**	P	**Pb**	**01 59 14.1**	**-1.0**
REVS	**Reventador Sur**	**2.57**	**219**	P	**Pn**	**01 59 09.9**	**+0.7**
AIB2	**Ibarra (Univer**	**2.61**	**233**	P	**Pb**	**01 59 15.9**	**+0.1**
URCU	**Urcuqui**	**2.68**	**237**	P	**Pb**	**01 59 17.3**	**+0.2**
CAYA	**Cayambe**	**2.69**	**227**	P	**Pn**	**01 59 13.2**	**+2.0**
TUMC	**Tumaco**	**2.71**	**268**	P	**Pn**	**01 59 12.6**	**+1.6**
TUMC	**Tumaco**	**2.71**	**268**	P	**Pb**	**01 59 15.3**	**-2.0**
ANGU	**Angureal**	**2.72**	**227**	P	**Pb**	**01 59 14.8**	**-3.1**
IMBA	**Imbabura, San**	**2.72**	**233**		**Pb**	**01 59 15.0**	**-2.8**
IMBA	**Imbabura, San**	**2.72**	**233**	P	**Pb**	**01 59 18.6**	**+0.8**
CAYR	**Refugio Cayamb**	**2.74**	**227**	P	**Pn**	**01 59 14.7**	**+2.7**
COTA	**Cotacachi**	**2.80**	**236**	P	**Pb**	**01 59 19.7**	**+0.5**
CUIC	**Cuicocha-Domo**	**2.84**	**236**	P	**Pb**	**01 59 19.9**	**+0.1**
CUSE	**Cuicocha Este**	**2.87**	**236**	P	**Pn**	**01 59 13.5**	**0.0**
CUSE	**Cuicocha Este**	**2.87**	**236**	P	**Pn**	**01 59 13.5**	**0.0**
SNLR	**San Lorenzo-Es**	**2.90**	**258**	P	**Pb**	**01 59 20.5**	**-0.1**
PLMC	**San Jos del P**	**2.98**	**355**	P	**Pn**	**01 59 17.2**	**+2.4**
PULU	**Pululahua**	**3.12**	**233**		**Pb**	**01 59 21.4**	**-3.1**
PULU	**Pululahua**	**3.12**	**233**	P	**Pb**	**01 59 25.0**	**+0.5**
NIZA	**Niza - Manizal**	**3.17**	**10**	P	**Pb**	**01 59 22.2**	**-3.2**
ANTI	**Antisana**	**3.18**	**222**	P	**Pn**	**01 59 20.0**	**+2.1**
VILC	**Villavicencio,**	**3.19**	**47**	P	**Pn**	**01 59 20.8**	**+3.2**
VILC				S	**Sb**	**02 00 08.7**	**+4.7**
ANTS	**Antisana-Sarah**	**3.22**	**222**	P	**Pn**	**01 59 20.5**	**+1.9**
PAC1	**Pacto, Paraso**	**3.22**	**240**	P	**Pb**	**01 59 26.8**	**+0.6**
PAC1				S	**Sb**	**02 00 11.7**	**+6.6**
PAC1	**Pacto, Paraso**	**3.22**	**240**	P	**Pb**	**01 59 26.9**	**+0.7**
YANA	**Yana**	**3.26**	**232**	P	**Pb**	**01 59 27.7**	**+0.7**
ANTG	**Antisana-Guama**	**3.28**	**223**	P	**Pn**	**01 59 21.6**	**+2.3**
ANTM	**Antisana-La Mi**	**3.29**	**222**	P	**Pn**	**01 59 22.2**	**+2.8**
PINO	**Pino**	**3.31**	**232**	P	**Pb**	**01 59 28.5**	**+0.6**
GGPC	**Guagua Pichinc**	**3.31**	**231**	P	**Pb**	**01 59 27.7**	**-0.3**
TERV	**Terraza Guagua**	**3.32**	**231**	P	**Pb**	**01 59 25.6**	**-2.4**
GGPT	**Toaza - Volcan**	**3.36**	**231**	P	**Pb**	**01 59 25.8**	**-2.9**
ROSC	**El Rosal**	**3.36**	**30**	Pn	**Pn**	**01 59 21.0**	**+0.7**
ROSC	**El Rosal**	**3.36**	**30**	Pn	**Pn**	**01 59 21.2**	**+0.9**
	40nm,0.3s,baz=190,slow=6.1,SNR=35						
ROSC				Pg	**Pb**	**01 59 31.0**	**+2.3**
	88nm,0.3s,baz=194,slow=8.3,SNR=18						
ROSC				Lg	Lg	02 00 12.9	
	75nm,0.3s,baz=260,slow=22,SNR=3.7						
	106nm,0.4s						
ROSC	**El Rosal**	**3.36**	**30**	P	**Pn**	**01 59 23.1**	**+2.8**
ROSC				S	**Sb**	**02 00 16.5**	**+7.1**
GUVC	**San Jose del G**	**3.44**	**79**	P	**Pb**	**01 59 26.3**	**-3.5**
GUVC				S	**Sb**	**02 00 12.4**	**+1.2**
PITA	**Cotopaxi Volc**	**3.45**	**225**	P	**Pb**	**01 59 32.5**	**+2.3**
VC1	**Cotopaxi 1**	**3.48**	**223**	P	**Pn**	**01 59 25.8**	**+3.7**
TAMB	**Tambo**	**3.50**	**222**	P	**Pn**	**01 59 26.2**	**+3.9**
BTAM	**Cotopaxi Volca**	**3.50**	**223**	P	**Pn**	**01 59 26.0**	**+3.6**
BREF	**Cotopaxi Volca**	**3.53**	**223**	P	**Pb**	**01 59 27.2**	**-4.5**
CHIC	**Chingaza**	**3.53**	**40**	P	**Pn**	**01 59 24.8**	**+2.1**
SUCR	**Mariscal Sucre**	**3.55**	**224**	P	**Pb**	**01 59 28.6**	**-3.3**
CAMI	**Rancho Maria**	**3.58**	**224**	P	**Pb**	**01 59 28.3**	**-4.1**
BMOR	**Cotopaxi Volca**	**3.59**	**223**	P	**Pn**	**01 59 27.5**	**+4.0**
VCES	**Cotopaxi**	**3.59**	**221**	P	**Pn**	**01 59 26.7**	**+3.1**
SLOR	**San Lorenzo -**	**3.61**	**223**		**Pn**	**01 59 27.5**	**+3.7**
SLOR	**San Lorenzo -**	**3.61**	**223**	P	**Pb**	**01 59 28.3**	**-4.7**
BRRN	**Barrancas-Volc**	**3.64**	**223**	P	**Pb**	**01 59 29.0**	**-4.4**
ILLI	**Illinizas Sur**	**3.77**	**226**	P	**Pb**	**01 59 36.9**	**+1.3**
PIS1	**Pisayambo**	**3.79**	**219**	P	**Pn**	**01 59 29.0**	**+2.8**
NORC	**Norcasia**	**3.80**	**17**	P	**Pn**	**01 59 27.3**	**+1.2**
NORC				S	**Sb**	**02 00 21.5**	**-0.2**
PUYO	**Puyo, Santa Ro**	**3.93**	**211**	P	**Pn**	**01 59 27.4**	**-0.5**
SPBC	**San Pablo de B**	**4.19**	**27**	P	**Pn**	**01 59 32.4**	**+1.0**
SPBC				S	**Sb**	**02 00 26.6**	**-6.2**
BMAS	**Trigal station**	**4.19**	**216**	P	**Pn**	**01 59 35.5**	**+3.7**
PORT	**Chimborazo Vol**	**4.34**	**219**	P	Pn	01 59 39.3	+5.3
CHSH	**Refugio Sur-Vo**	**4.43**	**220**		**Pn**	**01 59 37.8**	**+2.7**
CHSH	**Refugio Sur-Vo**	**4.43**	**220**	P	**Pb**	**01 59 49.9**	**+3.0**
PTGC	**Puerto Gaitan,**	**4.49**	**60**	P	**Pn**	**01 59 37.5**	**+2.0**
PTGC				S	**Sb**	**02 00 39.5**	**-1.9**
PTBC	**PUERTO BERRIO,**	**4.85**	**19**	P	**Pn**	**01 59 40.8**	**+0.3**
PTBC				S	**Sb**	**02 00 53.0**	**+1.2**
RUSC	**La Rusia**	**4.92**	**36**	P	**Pn**	**01 59 43.0**	**+1.2**
RUSC				S	**Sn**	**02 00 43.7**	**+5.8**
DBBC	**Dabeiba**	**5.08**	**358**	P	**Pn**	**01 59 48.0**	**+4.4**
BARC	**Barichara**	**5.44**	**31**	P	**Pn**	**01 59 49.3**	**+0.6**
ZARC	**Zaragoza, Cauc**	**5.66**	**12**	P	**Pn**	**01 59 53.8**	**+2.2**
	86nm,0.7s,1μm						
UREC	**San Jos de Ur**	**5.82**	**5**	P	**Pn**	**01 59 56.3**	**+2.5**
	84nm,0.8s,1μm						
APAC	**Apartado, Choc**	**5.97**	**355**	P	**Pn**	**02 00 00.0**	**+4.1**
TAMC	**Tame, Arauca**	**6.16**	**43**	P	**Pn**	**02 00 00.2**	**+1.8**
	69nm,0.6s,2μm						
PAMC	**Pamplona, Colo**	**6.32**	**31**	P	**Pn**	**02 00 02.9**	**+1.8**
OCAC	**Ocana**	**6.83**	**23**	P	**Pn**	**02 00 07.8**	**0.0**
	58nm,0.5s,921nm						
GMAL	**Guarumal, Vera**	**7.80**	**318**	P	**Pn**	**02 00 25.0**	**+4.1**
SJCC	**San Jacinto, C**	**7.98**	**6**	P	**Pn**	**02 00 25.9**	**+2.5**
	22nm,1.1s						
BCIP	**Isla Barro Col**	**8.15**	**332**	Pn	**Pn**	**02 00 28.8**	**+3.1**
BCIP	**Isla Barro Col**	**8.15**	**332**	P	**Pn**	**02 00 29.3**	**+3.5**
TBTG	**Tabatinga, AM**	**8.60**	**135**	Pn	**Pn**	**02 00 31.6**	**-0.3**
TBTG	**Tabatinga, AM**	**8.60**	**135**	*e*P	**Pn**	**02 00 30.2**	**-1.8**
TBTG				*e*S	**Sn**	**02 02 05.7**	**-2.3**
SDV	**Santo Domingo**	**8.76**	**37**	Pn	**Pn**	**02 00 34.1**	**-0.1**
SDV	**Santo Domingo**	**8.76**	**37**	Pn	**Pn**	**02 00 33.6**	**-0.6**
	8.1nm,0.3s,baz=246,slow=4.2,SNR=39						
SDV				Sn	**Sn**	**02 02 11.0**	**-1.1**
	5.9nm,0.3s,baz=246,slow=20,SNR=6.6						
SDV				LR	LR	02 04 33.0	
	comp=Z,87nm,20.2s,baz=243,slow=42						
	18nm,0.3s						
SDV	**Santo Domingo**	**8.76**	**37**	P	**Pn**	**02 00 35.1**	**+0.8**
SDV	**Santo Domingo**	**8.76**	**37**	*e*P	**Pn**	**02 00 34.2**	**-0.1**
ATAH	**Atahualpa**	**9.30**	**195**	Pn	**Pn**	**02 00 43.9**	**+2.0**
	1.0nm,0.3s,baz=57,slow=6.3,SNR=4.5						
ATAH				Sn	**Sn**	**02 02 23.6**	**-2.1**
	1.2nm,0.3s,baz=55,slow=18,SNR=4.2						
CZSB	**Cruzeiro do Su**	**10.13**	**161**	Pn	**Pn**	**02 00 52.5**	**-0.4**
CZSB	**Cruzeiro do Su**	**10.13**	**161**	*e*P	**Pn**	**02 00 52.5**	**-0.4**
BAUV	**El Baul**	**10.57**	**48**	Pn	**Pn**	**02 00 57.0**	**-1.9**
JTS	**Las Juntas de**	**12.17**	**314**	LR	LR	02 05 36.4	
	comp=Z,14nm,19.2s,baz=201,slow=35						
TEFE	**Tefe**	**12.58**	**115**	*e*P	**Pn**	**02 01 25.0**	**-1.5**
NNA	**Nana**	**13.83**	**183**	Sn	**Sn**	**02 04 10.6**	**-5.8**
	1.1nm,0.3s,baz=138,slow=23,SNR=1.4						
NNA				LR	LR	02 08 35.5	
	comp=Z,141nm,19.6s,baz=353,slow=45						
PCRV	**Puerto La Cruz**	**13.97**	**54**	Pn	**Pn**	**02 01 43.5**	**-2.1**
	0.3nm,0.3s,baz=180,slow=12,SNR=1.6						
	23nm,1.2s						
ETMB	**Extrema**	**15.20**	**140**	Pn	**Pn**	**02 01 59.2**	**-2.9**
ETMB				IAmb	IAmb	02 02 10.9	
	comp=Z,12nm,0.7s						
ETMB	**Extrema**	**15.20**	**140**	*e*P	**Pn**	**02 01 58.2**	**-3.8**
BOAV	**Boa Vista**	**15.49**	**88**	Pn	**Pn**	**02 02 03.3**	**-2.6**
BOAV	**Boa Vista**	**15.49**	**88**	*e*P	**Pn**	**02 02 04.8**	**-1.1**
MACA	**Manacapuru-AM**	**16.13**	**108**	Pn	**Pn**	**02 02 12.7**	**-1.4**
MACA	**Manacapuru-AM**	**16.13**	**108**	*e*P	**Pn**	**02 02 14.0**	**-0.2**
SAML	**Samuel**	**16.73**	**130**	Pn	**Pn**	**02 02 19.0**	**-2.8**
SAML	**Samuel**	**16.73**	**130**	*e*P	**Pn**	**02 02 18.9**	**-2.8**
SAML				*e*S	**Sn**	**02 05 24.7**	**-2.1**
OBIP	**Obispado Ponce**	**18.50**	**29**	P	**P**	**02 02 42.6**	**-0.7**
OBIP				IAmb	IAmb	02 02 51.8	
	comp=Z,29nm,1.2s						
HUMP	**Col San Antoni**	**18.96**	**31**	P	**Pn**	**02 02 49.0**	**-0.2**
HUMP				IAmb	IAmb	02 02 52.2	
	comp=Z,26nm,1.4s						
LPAZ	**La Paz**	**19.69**	**157**		**P**	**02 02 57.1**	**+0.1**
LPAZ	**La Paz**	**19.69**	**157**	P	**P**	**02 02 52.8**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=2.8,slow=9.8,SNR=1.6						
LPAZ				Lg	Lg	02 08 41.4	
	comp=Z,0.2nm,0.3s,baz=196,slow=2.4,SNR=3.8						
LPAZ				LR	LR	02 11 01.9	
	comp=Z,76nm,19.2s,baz=302,slow=39						
	comp=Z,1.0nm,0.6s						
LPAZ	**La Paz**	**19.69**	**157**	*e*P	**P**	**02 02 57.3**	**+0.3**
SABA	**Saba**	**20.03**	**38**	P	**P**	**02 02 59.2**	**-0.8**
PB12	**IPOC Station P**	**21.15**	**165**	P	**P**	**02 03 12.5**	**+0.2**
PB12				IAmb	IAmb	02 03 48.4	
	comp=Z,20nm,1.1s						
ITTB	**Itaituba**	**21.20**	**107**	*e*P	**P**	**02 03 12.7**	**-0.2**
ITTB				*e*S	**S**	**02 07 06.8**	**-0.4**
VILB	**Vilhena**	**21.55**	**134**	*e*P	**P**	**02 03 16.3**	**-0.3**
TEIG	**Tepich**	**21.79**	**328**	LR	LR	02 12 40.2	
	comp=Z,264nm,18.4s,slow=39						
PB11	**IPOC Station P**	**22.42**	**164**	P	**P**	**02 03 24.8**	**-1.3**
PB11				IAmb	IAmb	02 04 07.7	
	comp=Z,13nm,1.1s						
NPGB	**Novo Progresso**	**22.45**	**114**	*e*P	**P**	**02 03 26.0**	**-0.3**
HMBC	**Humberstone**	**22.86**	**165**	P	**P**	**02 03 30.5**	**-0.1**
HMBC				IAmb	IAmb	02 03 44.4	
	comp=Z,21nm,1.5s						
PDRB	**Porto dos Gac**	**23.41**	**125**	*e*P	**P**	**02 03 35.7**	**-0.4**
PTLB	**Pontes e Lacer**	**24.00**	**137**	*e*P	**P**	**02 03 41.4**	**-0.3**
BBSD	**Serra de San D**	**24.31**	**142**	*e*P	**P**	**02 03 45.2**	**+0.6**
LVC	**Limon Verde**	**25.34**	**165**	LR	LR	02 14 54.1	
	comp=Z,51nm,19.9s,baz=320,slow=39						
Y60A	**Bolivia**	**31.99**	**357**	P	**P**	**02 04 54.6**	**+1.5**
BDFB	**Brasilia**	**32.72**	**123**	LR	LR	02 18 48.8	
	comp=Z,74nm,18.8s,baz=52,slow=38						
CPUP	**Villa Florida**	**33.38**	**148**	LR	LR	02 20 59.6	
	comp=Z,35nm,18.0s,baz=211,slow=41						
735A	**Kenedy**	**33.90**	**324**	P	**P**	**02 05 11.6**	**+1.7**
SDBA	**SAO DESIDERIO**	**34.02**	**116**	*e*P	**P**	**02 05 11.5**	**+0.4**
TKL	**Tuckaleechee C**	**34.34**	**349**	LR	LR	02 21 26.6	
	comp=Z,14nm,18.7s,baz=180,slow=40						
VA03	**San Esteban**	**34.87**	**172**	P	**P**	**02 05 18.0**	**-0.3**
VA03				IAmb	IAmb	02 05 20.5	
	comp=Z,6.5nm,0.6s						
ITQB	**Itaqui**	**36.47**	**151**	*e*P	**P**	**02 05 33.3**	**+1.4**
TXAR	**Lajitas Array**	**37.89**	**319**	P	**P**	**02 05 44.7**	**+0.6**
	comp=Z,0.2nm,0.7s,baz=138,slow=6.8,SNR=3.1						
	comp=Z,0.2nm,0.7s						
APMT	**Aspermont**	**38.56**	**327**	P	**P**	**02 05 51.0**	**+1.3**
APMT				IAmb	IAmb	02 06 21.7	
	comp=Z,8.7nm,1.3s						
M57A	**Sunshine Farm,**	**39.26**	**359**	P	**P**	**02 05 57.2**	**+1.9**
M57A				IAmb	IAmb	02 06 03.1	
	comp=Z,7.7nm,1.1s						
LPIG	**La Paz**	**39.82**	**306**	LR	LR	02 21 14.0	
	comp=Z,28nm,18.3s,baz=190,slow=34						
PLCA	**Paso Flores**	**42.73**	**174**	LR	LR	02 23 59.6	
	comp=Z,30nm,18.1s,baz=190,slow=36						
EMMW	**East Machias**	**43.28**	**9**	P	**P**	**02 06 29.4**	**+1.1**
SDCO	**Great Sand Dun**	**44.78**	**326**	P	**P**	**02 06 42.3**	**+1.5**
VTX	**Valle De La Tr**	**47.61**	**312**	P	**P**	**02 07 05.1**	**+2.1**
VTX				IAmb	IAmb	02 07 08.0	
	comp=Z,11nm,1.2s						
PDAR	**Pinedale Array**	**50.52**	**328**	P	P	02 07 33.0	+7.8
	comp=Z,1.1nm,0.3s,baz=109,slow=13,SNR=1.9						
YKA	**Yellowknife Ar**	**66.92**	**342**	P	**P**	**02 09 18.7**	**+0.1**
	baz=55,slow=7.9,SNR=4.3						
ESDC	**Sonseca Array**	**75.00**	**49**	P	**P**	**02 10 06.9**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=286,slow=5.3,SNR=1.5						
	comp=Z,0.3nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.60**	**77**	P	**P**	**02 10 22.1**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=302,slow=6.2,SNR=7.3						
	comp=Z,0.5nm,0.8s						
ILAR	**Eielson Array**	**80.19**	**336**	P	**P**	**02 10 37.1**	**+0.4**
	comp=Z,0.1nm,0.5s,baz=141,slow=3.5,SNR=3.8						
	comp=Z,0.1nm,0.5s						
SNAA	**Sanae**	**86.56**	**162**	P	**P**	**02 11 09.1**	**-0.2**
	comp=Z,1.5nm,0.8s,baz=207,slow=11,SNR=2.7						
	comp=Z,1.5nm,0.8s						
ASAR	**Alice Springs**	**143.85**	**231**	PKP	PKPab	02 17 59.4	-0.4
	comp=Z,0.7nm,0.6s,baz=118,slow=3.6,SNR=5.2						
WRA	**Warramunga Arr**	**145.35**	**237**	PKPbc	**PKPbc**	**02 18 03.6**	**-1.6**
	comp=Z,0.6nm,0.6s,baz=110,slow=3.0,SNR=6.2						

*SNET **01** 02:03:04.5±1.2, 13°.50N×90°.84W, h14km±7km, ML2.9*
*GCG **01** 02:03:06.8±0.8, 13°.81N×91°.01W, h28km±5km, MD3.1*
*CATAC **01** 02:03:06.1±1.2, 13°.72N×90°.78W, h13km±10km, ML3.7*

ISC 01 02:03:05.4±1.7, **13.70N**±0°.08×**90.95W**±0°.06, **h30**km±16km, **n29**, σ1**°26**/42, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUG	**Fuego 3**	**0.75**	**8**	*e*P	**Pn**	**02 03 20.6**	**+0.5**
PCG	**Pacaya**	**0.76**	**26**	*e*P	**Pb**	**02 03 20.7**	**+0.3**
SULM	**Suchitepequez,**	**0.85**	**315**	*e*P	**Pn**	**02 03 22.2**	**+0.9**
SULM				*e*S	**Sb**	**02 03 30.9**	**-1.9**
NBG	**Las Nubes**	**1.06**	**33**	*e*P	**Pn**	**02 03 25.6**	**+1.2**
NBG				*e*S	**Sb**	**02 03 40.7**	**+1.8**
NUBE	**Las Nubes**	**1.15**	**80**	*e*P	**Pn**	**02 03 24.4**	**-1.2**
NUBE				*e*S	**Sn**	**02 03 39.2**	**-1.2**
NUBE	**Las Nubes**	**1.15**	**80**	*i* P	**Pn**	**02 03 24.8**	**-0.8**
NUBE				*i* S	**Sn**	**02 03 38.4**	**-2.0**
NUBE				IAML		02 03 39.9	
	comp=Z,840nm,1.0s						
LOAL	**Lomas de Alarc**	**1.17**	**75**	*e*P	**Pn**	**02 03 25.2**	**-0.5**
LOAL				*e*S	**Sn**	**02 03 41.1**	**+0.4**
LOAL	**Lomas de Alarc**	**1.17**	**75**	*i* P	**Pn**	**02 03 24.9**	**-0.9**
LOAL				IAML		02 04 11.0	
	comp=Z,6μm,1.0s						
STG3	**Santiaguito 3,**	**1.17**	**329**	*e*P	**Pb**	**02 03 26.3**	**-0.9**
RTR	**El Retiro**	**1.28**	**81**	*e*P	**Pn**	**02 03 26.7**	**-0.7**
CEVE	**Cerro Verde**	**1.29**	**84**	*e*P	**Pn**	**02 03 26.2**	**-1.4**
CEVE				*e*S	**Sn**	**02 03 44.0**	**-0.1**
CEVE	**Cerro Verde**	**1.29**	**84**	*i* P	**Pn**	**02 03 27.9**	**+0.3**
CEVE				*i* S	**Sn**	**02 03 44.1**	**+0.1**
CEVE				IAML		02 03 44.6	
	comp=Z,1μm,1.0s						
SBLS	**San Blas**	**1.29**	**84**	*e*P	**Pn**	**02 03 26.5**	**-1.2**
JAYA	**Jayaque - finc**	**1.46**	**92**	*e*P	**Pn**	**02 03 28.5**	**-1.3**
JAYA				*e*S	**Sn**	**02 03 46.5**	**-1.4**
JAYA				IAML		02 03 49.8	
	comp=Z,960nm,0.2s						
JAYA	**Jayaque - finc**	**1.46**	**92**	*i* P	**Pn**	**02 03 28.4**	**-1.4**
JAYA				*i* S	**Sn**	**02 03 46.1**	**-1.9**
JAYA				IAML		02 03 49.8	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**1.59**	**89**	*e*P	**Pn**	**02 03 29.9**	**-1.6**
PMON				*e*S	**Sn**	**02 03 52.0**	**+0.9**
PMON	**Piamonte**	**1.59**	**89**	*i* P	**Pn**	**02 03 31.3**	**-0.2**
PMON				IAML		02 03 58.5	
	comp=Z,810nm,1.0s						
LALI	**Alcalda de L**	**1.59**	**97**	*e*P	**Pn**	**02 03 30.3**	**-1.2**
LALI				*e*S	**Sn**	**02 03 50.6**	**-0.5**
LALI				IAML		02 03 53.2	
	comp=Z,64nm,0.3s						
BOQS	**Boqueron**	**1.62**	**89**	*e*P	**Pn**	**02 03 31.7**	**-0.4**
UEES	**Universidad Ev**	**1.66**	**89**	*i* P	**Pn**	**02 03 33.0**	**+0.5**
UEES				IAML		02 03 58.8	
	comp=Z,440nm,1.0s						
MTO3	**Montecristo**	**1.69**	**66**	IAML		02 03 58.6	
	comp=Z,31nm,0.4s						
MTO3	**Montecristo**	**1.69**	**66**	*i* P	**Pn**	**02 03 32.7**	**-0.3**
MTO3				IAML		02 03 34.3	
	comp=Z,220nm,1.0s						
LOMA	**Loma Larga**	**1.73**	**92**	*e*P	**Pn**	**02 03 33.2**	**-0.3**
LOMA				*e*S	**Sn**	**02 03 55.0**	**+0.4**
LOMA	**Loma Larga**	**1.73**	**92**	*i* P	**Pn**	**02 03 33.2**	**-0.3**
LOMA				*i* S	**Sn**	**02 03 53.7**	**-0.9**
LOMA				IAML		02 03 56.3	
	comp=Z,600nm,1.0s						
COEG	**Centro de Oper**	**2.01**	**92**	*e*P	**Pn**	**02 03 36.9**	**-0.5**
COEG				*e*S	**Sn**	**02 04 00.7**	**-0.8**
COEG				IAML		02 04 08.5	
	comp=Z,223nm,0.3s						
LCND	**La Caada**	**3.00**	**97**	*i* P	**Pn**	**02 03 51.8**	**+0.9**
LCND				IAML		02 04 42.1	
	comp=Z,94nm,1.0s						
CNCH	**Conchagua**	**3.06**	**98**	*i* P	**Pn**	**02 03 51.5**	**-0.3**
CNCH				IAML		02 04 40.7	
	comp=Z,200nm,1.0s						
PKGN	**Cerro Pekin**	**4.00**	**104**	*i* P	**Pn**	**02 04 05.5**	**+0.8**
PKGN				IAML		02 04 54.3	
	comp=Z,140nm,1.0s						
COVE	**Coope Vega, Sa**	**7.05**	**114**	*i* P	**Pn**	**02 04 51.0**	**+4.4**

**IDC 01 02:11:59.

comp=N,97nm,0.1s
PAPH Port-au-Prince 1.58 128 *e*Pg **Pn 02 20 41.5 +1.2**
PAPH ⇑*e*Sg **Sn 02 21 01.2 +1.3**
PAPH IAML 02 21 05.7
comp=N,232nm,0.2s
PAPH Port-au-Prince 1.58 128 *e*P **Pn 02 20 41.4 +1.2**
PAPH *e*S **Sn 02 21 01.0 +1.1**
PAPH IAML 02 21 02.4
comp=E,116nm,0.1s
PAPH IAML 02 21 04.0
comp=N,85nm,0.1s
PAPH Port-au-Prince 1.58 128 *i* P **Pn 02 20 41.5 +1.2**
PAPH *e*S **Sn 02 21 00.8 +0.9**
PAPH IAML 02 21 03.0
comp=Z,50nm,0.2s
MOAC Moa 1.71 313 *e*P **Pb 02 20 45.1 +0.3**
MOAC *e*S **Sb 02 21 07.5 +1.6**
MOAC IAML 02 21 08.3
comp=E,17nm,0.3s
MOAC IAML 02 21 12.3
comp=N,25nm,0.4s
SABCS La Quijada 1.82 299 *e*P **Pn 02 20 44.3 +0.7**
SABCS IAML 02 21 10.5
comp=N,25nm,0.2s
SABCS IAML 02 21 12.2
comp=E,25nm,0.3s
JIDR Jimani 1.95 121 *e*Pg **Pn 02 20 47.4 +2.1**
JIDR *e*Sg **Sb 02 21 12.7 +0.1**
JIDR IAML 02 21 15.4
comp=N,65nm,0.3s
RCC Rio Carpintero 2.02 284 *e*P **Pn 02 20 46.8 +0.4**
RCC *e*S **Sn 02 21 10.8 -0.1**
RCC IAML 02 21 16.3
comp=N,66nm,0.3s
RCC IAML 02 21 16.3
comp=E,75nm,0.2s
REDR Restauracion 2.12 99 *e*Pg **Pn 02 20 44.1 -3.7**
REDR *e*Sg **Sn 02 21 08.2 -5.1**
REDR IAML 02 21 11.5
comp=N,56nm,0.5s
MARVS Santiago de Cu 2.21 283 *e*P **Pn 02 20 49.4 +0.4**
MARVS *e*S **Sn 02 21 16.1 +0.6**
MARVS IAML 02 21 21.8
comp=E,60nm,0.4s
MARVS IAML 02 21 21.8
comp=N,66nm,0.4s
SDDR Presa de Saban 2.26 103 ⇓*e*Pg **Pb 02 20 53.0 -1.1**
SDDR *e*Sg **Sb 02 21 21.1 -0.5**
SDDR IAML 02 21 28.6
comp=N,27nm,0.7s
SDDR Presa de Saban 2.26 103 *e*P **Pb 02 20 53.0 -1.1**
SDDR *e*S **Sb 02 21 21.9 +0.3**
SDDR Presa de Saban 2.26 103 *i* P **Pn 02 20 52.8 +3.1**
SDDR *e*S **Sb 02 21 21.3 -0.3**
SDDR IAML 02 21 26.4
comp=Z,20nm,0.7s
PINC Pinares de May 2.27 296 *e*S **Sn 02 21 17.9 +0.9**
NEDR Neiba UASD 2.31 116 *e*Sg **Sb 02 21 23.2 +0.1**
NEDR IAML 02 21 30.5
comp=N,44nm,0.4s
PODR Polo 2.58 121 ⇑*e*Sg **Sb 02 21 33.7 +2.7**
PODR IAML 02 21 41.5
comp=N,32nm,0.5s
PODR Polo 2.58 121 *i* P **Pb 02 20 58.7 -0.9**
PODR *e*S **Sb 02 21 33.1 +2.1**
CHIV Chivirico 2.68 281 *e*P **Pn 02 20 55.1 -0.4**
CHIV *e*S **Sn 02 21 27.3 +0.2**
CHIV IAML 02 21 35.6
comp=N,11nm,0.1s
CHIV IAML 02 21 35.8
comp=E,14nm,0.1s
YAR Yar 2.73 289 *e*P **Pn 02 20 56.9 +0.8**
YAR *e*S **Sn 02 21 29.2 +0.9**
YAR IAML 02 21 41.5
comp=N,9.9nm,0.3s
YAR IAML 02 21 41.5
comp=E,12nm,0.7s
GRTK Grand Turk 3.07 49 *e*Pg **Pb 02 21 07.7 -0.2**
GRTK IAML 02 21 53.5
comp=N,78nm,0.1s
LMGC Las Mercedes 3.24 281 *e*P **Pn 02 21 02.8 -0.4**
LMGC *e*S **Sn 02 21 39.3 -1.7**
LMGC IAML 02 21 45.8
comp=E,16nm,0.1s
LMGC IAML 02 21 46.4
comp=N,24nm,0.0s
PILO Pilon 3.60 277 *e*P **Pn 02 21 06.5 -1.6**
PILO *e*S **Sn 02 21 46.5 -3.3**
PILO IAML 02 21 55.7
comp=N,19nm,0.4s
PILO IAML 02 21 55.7
comp=E,12nm,0.3s

RSNC 01 02:27:33.5±0.0,1°N±8′×7°8W±′,h0km±5km,M1.3,ML1.3,
Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULM	**Tulcn-Chalpat**	**0.07**	**102**	P	Pg	02 27 34.3	-0.5
TULM				S	Sg	02 27 36.4	+0.8
CMBC	**Cumbal**	**0.21**	**7**	P	Pg	02 27 37.4	-0.2
CMBC				S	Sg	02 27 41.4	+1.1
GCUF	**Volcan Galeras**	**0.70**	**46**	P	Pb	02 27 49.3	+0.3
GCUF				S	Sg	02 27 57.1	+0.9

RSNC 01 02:27:46.4±0.0,2°N±2′×7°6W±′,h0km±4km,M1.2,ML1.2,
Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POPC	**Popayan, Colom**	**0.68**	**318**	P	Pg	02 27 59.3	-0.2
POPC				S	Sb	02 28 10.3	-1.1
CRUC	**La Cruz**	**0.86**	**238**	P	Pg	02 28 01.8	-1.2
CRUC				S	Sg	02 28 15.2	+1.0
CRUC	**La Cruz**	**0.86**	**238**	P	Pg	02 28 01.8	-1.2
CRUC				S	Sg	02 28 15.3	+1.1
GCUF	**Volcan Galeras**	**1.38**	**235**	P	Pg	02 28 11.3	-1.6
GCUF				S	Sg	02 28 30.9	+0.1
ORTC	**Ortega, Tolima**	**2.10**	**28**	P	Pn	02 28 22.3	-0.7
ORTC				S	Sn	02 28 48.9	-1.0
PRAC	**Prado**	**2.14**	**39**	P	Pn	02 28 20.9	-2.5
PRAC				S	Sn	02 28 49.3	-1.4

*CATAC **01** 02:37:35.2±0.8,8°.15N×83°.45W,h7km±3km,ML3.2*
*UCR **01** 02:37:35.3±0.4,8°.09N×83°.47W,h8km±3km,MW3.6*
ISC 01 02:37:36.3±2.4,8°2N±0°.1×83°44W±0°.05,h14km±11km,n27,
σ0s80/34,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIRO	**Carate, Puerto**	**0.24**	**24**	*i* P	**Pg**	**02 37 41.0**	**-0.5**
PIRO				IAML		02 37 51.7	
	comp=Z,3μm,1.0s						
PIRO	**Carate, Puerto**	**0.24**	**24**	*e*P	**Pb**	**02 37 42.6**	**+0.1**
JIME	**Puerto Jimenez**	**0.37**	**17**	*e*P	**Pb**	**02 37 44.9**	**+0.2**
JIME				*e*S	**Sb**	**02 37 52.0**	**+1.6**
FITO	**Golfito**	**0.52**	**32**	*e*P	**Pg**	**02 37 46.8**	**+0.2**
EDAD	**Golfito**	**0.54**	**30**	*e*P	**Pg**	**02 37 47.1**	**+0.1**
PLAN	**Los Planes de**	**0.54**	**334**	*i* P	**Pg**	**02 37 46.8**	**-0.2**
PLAN				*i* S	**Sg**	**02 37 55.3**	**+1.0**
PLAN				IAML		02 37 57.6	
	comp=Z,2μm,1.0s						
CDITO	**Canoas**	**0.68**	**55**	*i* P	**Pg**	**02 37 49.1**	**-0.5**
CDITO				*i* S	**Sb**	**02 37 59.9**	**+0.6**
CDITO				IAML		02 38 06.9	
	comp=Z,510nm,1.0s						
CDITO	**Canoas**	**0.68**	**55**	*e*P	**Pg**	**02 37 49.3**	**-0.3**
EDPN	**Palmar Norte**	**0.78**	**359**	*e*P	**Pg**	**02 37 51.3**	**-0.1**
EDP2	**Potrero Grande**	**0.87**	**17**	*e*P	**Pg**	**02 37 53.1**	**-0.1**
OCHAL	**Ojochal**	**0.93**	**347**	*i* P	**Pg**	**02 37 53.4**	**-1.0**
OCHAL				*i* S	**Sg**	**02 38 06.8**	**+0.2**
OCHAL				IAML		02 38 07.5	
	comp=Z,410nm,1.0s						
OCHAL	**Ojochal**	**0.93**	**347**	*e*P	**Pg**	**02 37 53.4**	**-1.0**
BRU2	**Volcan**	**0.96**	**50**	*i* P	**Pg**	**02 37 54.3**	**-0.5**
BRU2				*i* S	**Sg**	**02 38 07.9**	**+0.5**
BRU2				IAML		02 38 09.3	
	comp=Z,510nm,1.0s						
BRU2	**Volcan**	**0.96**	**50**	*e*P	**Pg**	**02 37 54.4**	**-0.5**
DRK0	**Durika**	**1.09**	**10**	*e*P	**Pg**	**02 37 56.4**	**-1.0**
PEZE	**Perez Zeledon,**	**1.22**	**349**	*i* P	**Pn**	**02 37 58.4**	**-0.6**
PEZE				*i* S	**Sb**	**02 38 14.8**	**0.0**
PEZE				IAML		02 39 10.1	
	comp=Z,340nm,1.0s						
PEZE	**Perez Zeledon,**	**1.22**	**349**	*e*P	**Pn**	**02 37 58.5**	**-0.6**
BUS1	**Rivas**	**1.40**	**347**	*e*P	**Pn**	**02 38 01.5**	**-0.3**
CDM	**Cerro de Muert**	**1.40**	**347**	*i* P	**Pn**	**02 38 01.4**	**-0.5**
CDM				*i* S	**Sb**	**02 38 21.2**	**+0.7**
CDM				IAML		02 38 23.1	
	comp=Z,170nm,1.0s						
CDM	**Cerro de Muert**	**1.40**	**347**	*e*P	**Pn**	**02 38 01.5**	**-0.4**
LLNJ	**Naranjito**	**1.44**	**333**	*e*P	**Pn**	**02 38 01.8**	**-0.2**
LCR2	**La Lucha 2**	**1.65**	**340**	*e*P	**Pn**	**02 38 05.3**	**+0.2**
VTCV	**VTCV, Calle Va**	**1.81**	**351**	*i* P	**Pb**	**02 38 08.9**	**-0.5**
VTCV				IAML		02 38 34.3	
	comp=Z,350nm,1.0s						
JACO	**JACO, Garabito**	**1.90**	**321**	*i* P	**Pn**	**02 38 08.1**	**-0.3**
JACO				IAML		02 38 41.9	
	comp=Z,48nm,1.0s						
RIFO	**Rio Frio, Sara**	**2.18**	**347**	*i* P	**Pn**	**02 38 09.4**	**-2.7**
RIFO				IAML		02 38 32.4	
	comp=Z,290nm,1.0s						
JTS	**Las Juntas de**	**2.58**	**325**	*e*P	**Pn**	**02 38 18.5**	**+0.8**
ORTG	**Ortega, Santa**	**2.95**	**318**	*i* P	**Pn**	**02 38 23.6**	**+0.8**
ORTG				IAML		02 40 25.4	
	comp=Z,36nm,1.0s						

*TAP **01** 02:51:22.7,23°.87N×122°.67E,h22km,ML2.6,D*
*JMA **01** 02:51:23.5±0.2,23°.9N±0°.9×122°.6E±0°.7,h19km,MV2.1/9,*
NW OFF ISHIGAKIJIMA IS
ISC 01 02:51:23.5±1.2,23°.89N±0°.04×122°.65E±0°.03,h25km±12km,
n45,σ0s51/54,Taiwan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.38**	**307**	*i* P	**Pb**	**02 51 31.9**	**+0.5**
	baz=307						
EOS4				*e*S	**Sn**	**02 51 38.3**	**-1.0**
	baz=307						
EOS3	**EOS3**	**0.49**	**323**	*i* P	**Pb**	**02 51 33.8**	**+0.3**
	baz=321						
JYNG	**Yonaguni jima**	**0.62**	**26**	P	**Pb**	**02 51 35.4**	**-0.3**
JYNG				S	**Sb**	**02 51 43.9**	**-0.2**
EOS2	**EOS2**	**0.65**	**324**	P	**Pn**	**02 51 36.6**	**-0.3**
	baz=323						
EOS2				*e*S	**Sn**	**02 51 46.2**	**0.0**
	baz=323						
YOJ	**Yonaguni jima**	**0.66**	**30**	P	**Pb**	**02 51 36.2**	**-0.2**
YOJ	**Yonaguni jima**	**0.66**	**30**	*e*P	**Pb**	**02 51 36.0**	**-0.3**
YOJ	**Yonaguni jima**	**0.66**	**30**	*i* P	**Pb**	**02 51 36.1**	**-0.3**
	baz=26						
EWUT	**Wuta**	**0.96**	**305**	*e*P	**Pn**	**02 51 41.4**	**0.0**
	baz=305						
TWD	**Chiawan**	**0.98**	**281**	*e*P	**Pb**	**02 51 41.2**	**-0.5**
	baz=282						
ENA	**Nanau**	**0.98**	**303**	*e*P	**Pn**	**02 51 41.6**	**0.0**
	baz=303						
SHUL	**Shoufeng**	**1.00**	**264**	*e*P	**Pn**	**02 51 42.0**	**+0.2**
	baz=265						
NACB	**Ninganchiao**	**1.00**	**286**	P	**Pn**	**02 51 43.4**	**+1.5**
NACB	**Ninganchiao**	**1.00**	**286**	*e*P	**Pb**	**02 51 41.7**	**-0.4**
	baz=287						
TWC	**Suao**	**1.02**	**315**	P	**Pb**	**02 51 41.8**	**-0.7**
	baz=314						
TWC				*e*S	**Sn**	**02 51 56.8**	**+1.2**
	baz=314						
HATJ	**Hateruma jima**	**1.07**	**81**	*e*P	**Pb**	**02 51 44.0**	**+0.7**
ETLH	**Xiulin Townshi**	**1.11**	**287**	*e*P	**Pb**	**02 51 43.9**	**-0.2**
	baz=287						
ESL	**Shilin**	**1.11**	**266**	*e*P	**Pb**	**02 51 43.6**	**-0.5**
	baz=267						
LXIB	**Xiulin Townshi**	**1.13**	**277**	*e*P	**Pn**	**02 51 43.8**	**0.0**
	baz=277						
WARBT	**Fenglin Townsh**	**1.17**	**262**	*e*P	**Pn**	**02 51 44.0**	**-0.2**
	baz=262						
HGSD	**Ruisui**	**1.19**	**251**	*e*P	**Pb**	**02 51 44.9**	**-0.5**
	baz=251						
HGSD				*e*S	**Sb**	**02 51 59.9**	**-0.4**
	baz=251						
LATG	**Datong**	**1.21**	**302**	*e*P	**Pb**	**02 51 45.4**	**-0.3**
	baz=302						
TWE	**Neicheng**	**1.22**	**313**	*e*P	**Pb**	**02 51 45.3**	**-0.5**
	baz=313						
ENTT	**Nioudou**	**1.23**	**307**	*e*P	**Pb**	**02 51 45.8**	**-0.3**
	baz=307						
ECBN	**Changbin**	**1.24**	**243**	*e*S	**Sn**	**02 52 01.2**	**+0.2**
	baz=243						
NDT	**Datong Townshi**	**1.25**	**305**	*e*P	**Pb**	**02 51 46.9**	**+0.5**
	baz=304						
NNSB	**Datong**	**1.27**	**295**	*e*P	**Pn**	**02 51 45.9**	**+0.2**
	baz=295						
EHY	**Hungye**	**1.27**	**253**	*e*P	**Pn**	**02 51 45.7**	**+0.1**
	baz=253						
EHY				*e*S	**Sn**	**02 52 02.1**	**+0.2**
	baz=253						
NNS	**Nan Shan**	**1.28**	**295**	*e*P	**Pb**	**02 51 46.5**	**-0.6**
	baz=295						
WHF	**Hehuan Shan**	**1.29**	**282**	*e*P	**Pn**	**02 51 46.2**	**0.0**
	baz=282						
FUSB	**Fushanzhiwuyua**	**1.29**	**312**	*e*P	**Pb**	**02 51 47.0**	**-0.2**
	baz=311						
FUSS	**Fushou**	**1.33**	**286**	*e*P	**Pn**	**02 51 47.1**	**+0.5**
	baz=286						
YULB	**Yu-li**	**1.33**	**248**	P	**Pb**	**02 51 48.9**	**+1.1**
YULB	**Yu-li**	**1.33**	**248**	*e*P	**Pn**	**02 51 46.6**	**+0.1**
	baz=249						
YULB				*e*S	**Sn**	**02 52 03.7**	**+0.2**
	baz=249						
CHKH	**Chenggong**	**1.34**	**239**	*e*P	**Pn**	**02 51 46.4**	**-0.2**
	baz=240						
CHGB	**Renai**	**1.36**	**277**	*e*P	**Pn**	**02 51 47.2**	**+0.2**
	baz=277						
NWLT	**Wulai**	**1.36**	**310**	*e*P	**Pb**	**02 51 48.1**	**-0.3**
	baz=310						
VWDT	**VWDT**	**1.38**	**265**	*e*P	**Pn**	**02 51 47.6**	**+0.5**
	baz=265						
SXI1	**Grass Mountain**	**1.39**	**330**	P	**Pn**	**02 51 47.9**	**+0.6**
	baz=329						
YHNB	**Yeheng**	**1.39**	**304**	P	**Pb**	**02 51 49.4**	**+0.5**
YHNB	**Yeheng**	**1.39**	**304**	*e*P	**Pn**	**02 51 47.9**	**+0.5**
	baz=303						
WUSB	**Renai**	**1.40**	**274**	*e*P	**Pb**	**02 51 48.2**	**-0.8**
	baz=274						
WUSB				*e*S	**Sn**	**02 52 05.9**	**+0.6**
	baz=274						
NSK	**Sanguang**	**1.41**	**304**	*e*P	**Pn**	**02 51 48.0**	**+0.4**
	baz=303						
CHKT	**Chengkung**	**1.42**	**236**	*e*P	**Pn**	**02 51 47.2**	**-0.4**
	baz=237						
JIJ	**Ishigaki jima**	**1.45**	**71**	P	**Pb**	**02 51 49.3**	**-0.5**
JIJ				S	**Sb**	**02 52 07.4**	**-0.3**
EDH	**Donghe**	**1.54**	**234**	*e*P	**Pn**	**02 51 49.0**	**-0.2**
	baz=234						

*IDC **01** 02:59:42.9±2.9,36°.47N×71°.54E,h152km±25km,mb3.5/16,*
mbtmp3.9/22,Error ellipse: s-maj=19.8km s-min=14.5km
az=8.0
*NNC **01** 02:59:47.3±2.5,37°.04N×71°.09E,h124km±61km,mb3.1,*
mpv3.8,Error ellipse: s-maj=23.1km s-min=14.3km
az=155.0
ISC 01 02:59:43.3±0.5,36°.67N±0°.05×71°.45E±0°.06,h150km,n49,
σ2s15/62,mb3.7/16,7C-6D,Afghanistan-Tajikistan
border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMU	**Jammu**	**4.86**	**143**	*e*P	**Pn**	**03 00 57.0**	**+2.1**
JMU				*e*S	**Sn**	**03 01 50.7**	**+0.2**
JMU				IAML		03 01 53.8	
	comp=N,369nm,0.4s						
THN	**Thein Dam**	**5.50**	**139**	*e*P	**Pn**	**03 01 05.8**	**+2.5**
THN				*e*S	**Sn**	**03 02 06.2**	**+0.4**
THN				IAML		03 02 09.4	
	comp=N,182nm,0.2s						
THN				IAML		03 02 09.4	
	comp=E,170nm,0.3s						
DHRM	**DHARAMSHALA**	**5.96**	**136**	*e*P	**Pn**	**03 01 11.6**	**+2.0**
DHRM				IAML		03 02 20.0	
	comp=N,297nm,0.4s						
DHRM				IAML		03 02 20.4	
	comp=E,399nm,0.2s						
AAK	**Ala-Archa**	**6.41**	**21**	⇓P	**Pn**	**03 01 16.4**	**+0.8**
	comp=E,3.3nm,0.3s						
AAK				⇑S	**Sn**	**03 02 25.5**	**-2.3**
	comp=E,13nm,0.7s						
AAK	**Ala-Archa**	**6.41**	**21**	P	**Pn**	**03 01 16.7**	**+1.2**
	comp=E,7.0nm,0.3s,baz=178,slow=14,SNR=25						
AAK				S	**Sn**	**03 02 25.4**	**-2.3**
	comp=E,4.3nm,0.3s,baz=165,slow=23,SNR=18						
KK31	**Karatay Array**	**6.47**	**354**	⇑P	**Pn**	**03 01 16.6**	**+0.4**
	comp=E,4.6nm,0.4s,baz=177,slow=12,SNR=175						
KK31				⇑S	**Sn**	**03 02 24.3**	**-4.7**
	comp=E,17nm,0.5s,baz=175,slow=22,SNR=5.1						
BHK	**Bhakra**	**6.66**	**140**	*e*P	**Pn**	**03 01 19.8**	**+0.9**
BHK				*e*S	**Sn**	**03 02 32.0**	**-1.8**
BHK				IAML		03 02 35.1	
	comp=E,54nm,0.2s						
CHMS	**Chumysh**	**6.81**	**21**	⇓P	**Pn**	**03 01 21.3**	**+0.5**
	comp=E,2.9nm,0.3s						
CHMS				⇑S	**Sn**	**03 02 33.8**	**-3.5**
	comp=E,7.5nm,0.7s						
TKM2	**Tokmak 2**	**7.01**	**26**	⇑P	**Pn**	**03 01 24.4**	**+0.7**
	comp=E,1.1nm,0.4s						
TKM2				⇑S	**Sn**	**03 02 43.6**	**+1.3**
	comp=E,4.5nm,0.8s						
SMLA	**Simla**	**7.29**	**138**	*e*P	**Pn**	**03 01 28.3**	**+1.1**
SMLA				IAML		03 02 48.1	
	comp=E,176nm,0.6s						
SMLA				IAML		03 02 51.6	
	comp=N,152nm,0.3s						
KLP	**Kalpa**	**7.62**	**130**	*e*P	**Pn**	**03 01 33.2**	**+1.3**
KLP				*e*S	**Sn**	**03 02 54.1**	**-3.0**
KLP				IAML		03 02 58.0	
	comp=E,212nm,0.2s						
KLP				IAML		03 02 58.0	
	comp=N,90nm,0.4s						
JOSI	**Joshimath**	**9.10**	**130**	*e*S	**Sn**	**03 03 29.1**	**-3.6**
SONA	**Sohna**	**9.65**	**149**	*e*S	**Sn**	**03 03 38.0**	**-7.5**
GEYT	**Alibeck**	**10.70**	**281**	P	**Pn**	**03 02 13.7**	**+1.2**
	comp=N,38nm,0.5s,baz=115,slow=10,SNR=2.4						
GEYT				S	**Sn**	**03 04 12.5**	**+1.7**
	comp=N,58nm,0.6s,baz=100,slow=25,SNR=3.5						
GYA0B	**ALIBECK ARRAY**	**10.70**	**281**	⇑P	**Pn**	**03 02 10.6**	**-1.9**
GYA0B				⇓S	**Sn**	**03 04 07.5**	**-3.3**
MKAR	**Makanchi Array**	**12.95**	**35**	P	**Pn**	**03 02 42.7**	**+1.0**
	comp=N,0.4nm,0.6s,baz=217,slow=14,SNR=3.7						
BHPL	**Bhopal**	**14.34**	**157**	*e*P	**Pn**	**03 02 58.5**	**-1.1**
BHPL				*ex*	x	03 05 30.4	
KURBB	**Kurchatov Arra**	**14.85**	**18**	P	**P**	**03 03 08.4**	**+0.8**
	comp=N,1.0nm,0.6s,baz=207,slow=11,SNR=11						
AB31	**Akbulak array**	**15.12**	**330**	P	**Pn**	**03 03 10.0**	**+1.0**
	comp=N,0.4nm,0.3s,baz=149,slow=12,SNR=47						
AB31				⇓S	Sn	03 05 46.8	-10
	comp=N,4.9nm,0.8s,baz=153,slow=22,SNR=8.1						
BVAR	**Borovoye Array**	**16.37**	**358**	P	**P**	**03 03 26.3**	**+1.8**
	comp=N,2.5nm,0.5s,baz=168,slow=11,SNR=16						
AKTO	**Aktyubinsk**	**16.82**	**329**	⇓P	**Pn**	**03 03 30.7**	**+0.9**
	comp=N,0.7nm,0.3s						
AKTO				⇓S	**S**	**03 06 31.4**	**-5.3**
	comp=N,2.4nm,0.8s						
AKTO	**Aktyubinsk**	**16.82**	**329**	P	**Pn**	**03 03 31.8**	**+2.0**
	comp=N,3.1nm,0.4s,baz=140,slow=7.4,SNR=17						
AKTO				S	**S**	**03 06 30.8**	**-5.9**
	comp=N,1.9nm,0.7s,baz=90,slow=20,SNR=3.7						
ZALV	**Zalesovo Beam**	**19.61**	**24**	P	**P**	**03 04 00.3**	**+0.5**
	comp=N,2.8nm,0.3s,baz=214,slow=11,SNR=23						
ARU	**Arti**	**21.59**	**340**	P	**P**	**03 04 21.9**	**+0.9**
	comp=N,2.4nm,0.3s,baz=130,slow=7.9,SNR=5.8						
	comp=N,2.4nm,0.3s						
KBZ	**Khabaz**	**22.85**	**297**	P	**P**	**03 04 35.1**	**+1.6**
	comp=N,1.0nm,0.6s,baz=104,slow=6.2,SNR=3.6						
	comp=N,1.0nm,0.6s						
BRTR	**Keskin Array B**	**29.73**	**288**	P	**P**	**03 05 37.1**	**+1.6**
	comp=N,0.4nm,0.5s,baz=99,slow=8.3,SNR=4.6						
	comp=N,0.4nm,0.5s						
AKASG	**Malin Array Be**	**33.12**	**309**	P	**P**	**03 06 05.9**	**+1.0**
	comp=N,0.7nm,0.5s,baz=78,slow=8.6,SNR=3.1						
	comp=N,0.7nm,0.5s						
FINES	**FINESS Array B**	**37.55**	**326**	P	**P**	**03 06 43.7**	**+1.2**
	comp=N,1.5nm,0.3s,baz=119,slow=9.9,SNR=32						
	comp=N,1.5nm,0.3s						
KEV	**Kevo**	**40.78**	**338**	*e*P	**P**	**03 07 10.6**	**+1.3**
ARA0	**ARCESS Array S**	**41.13**	**337**	*e*P	**P**	**03 07 13.8**	**+1.7**
ARCES	**ARCESS Array B**	**41.13**	**337**	P	**P**	**03 07 13.3**	**+1.2**
	comp=N,1.4nm,0.4s,baz=104,slow=6.6,SNR=24						
	comp=N,1.4nm,0.4s						
KTK1	**Kautokeino**	**41.61**	**336**	*e*P	**P**	**03 07 17.2**	**+1.2**
JETT	**Jettan, Norway**	**42.75**	**336**	*e*P	**P**	**03 07 26.7**	**+1.3**
HFS	**Hagfors**	**43.16**	**322**	P	**P**	**03 07 29.6**	**+0.9**
	comp=N,4.8nm,0.3s,baz=97,slow=9.2,SNR=56						
	comp=N,4.8nm,0.3s						
TRO	**Tromso**	**43.26**	**336**	*e*P	**P**	**03 07 30.4**	**+1.0**
FAUS	**Fauske**	**43.82**	**332**	*e*P	**P**	**03 07 35.4**	**+1.5**
MOR8	**Moi Rana**	**43.85**	**331**	*e*P	**P**	**03 07 34.7**	**+0.6**
NC602	**NORSAR Array S**	**44.28**	**322**	*e*P	**P**	**03 07 38.4**	**+0.8**
NB2	**NORSAR Subarra**	**44.47**	**323**	P	**P**	**03 07 39.6**	**+0.4**
	comp=Z,1.1nm,0.4s,baz=94,slow=8.6						
NB2	**NORSAR Subarra**	**44.47**	**323**	P	**P**	**03 07 39.6**	**+0.4**
	baz=94,slow=8.6						
NOA	**NORSAR Array B**	**44.47**	**323**	P	**P**	**03 07 39.6**	**+0.4**
	comp=Z,1.2nm,0.4s,baz=101,slow=7.7,SNR=14						
	comp=Z,1.2nm,0.4s						
SPITS	**Spitsbergen Ar**	**47.41**	**347**	P	**P**	**03 08 03.7**	**+1.7**
	comp=Z,3.4nm,0.9s,baz=116,slow=9.8,SNR=12						
	comp=Z,3.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**52.42**	**316**	P	**P**	**03 08 40.4**	**+0.4**
	comp=Z,1.9nm,0.8s,baz=77,slow=6.7,SNR=2.7						
	comp=Z,1.9nm,0.8s						
ESDC	**Sonseca Array**	**57.70**	**298**	P	**P**	**03 09 19.1**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=57,slow=6.7,SNR=7.5						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**03 10 13.1**	**-1.4**
	comp=Z,0.5nm,0.4s,baz=47,slow=6.0,SNR=12						
	comp=Z,0.5nm,0.4s						
ILAR	**Eielson Array**	**74.52**	**16**	P	**P**	**03 11 05.0**	**0.0**
	comp=Z,0.4nm,0.9s,baz=310,slow=5.7,SNR=5.0						
	comp=Z,0.4nm,0.9s						
YKA	**Yellowknife Ar**	**81.06**	**3**	P	**P**	**03 11 41.2**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=349,slow=6.1,SNR=14						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**81.77**	**122**	P	**P**	**03 11 44.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=323,slow=4.9,SNR=12						
	comp=Z,0.4nm,0.5s						
ASAR	**Alice Springs**	**84.05**	**125**	P	**P**	**03 11 56.2**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=315,slow=4.8,SNR=4.5						
	comp=Z,0.4nm,0.6s						

*SOME **01** 03:14:13.2,43°.25N×87°.78E,h0km*
*IDC **01** 03:14:42.2±0.5,43°.74N×86°.73E,h0km,mb4.4/34,*
mbtmp4.5/39,ML3.9/6,MS4.1/50,Error ellipse:
s-maj=13.0km s-min=8.2km az=38.0
*NNC **01** 03:14:44.8±1.8,43°.80N×86°.64E,h7km±9km,mb5.2,*
mpv5.0,Error ellipse: s-maj=11.9km s-min=10.8km
az=86.0
*MOS **01** 03:14:46.5±1.2,43°.79N×86°.58E,h37km,mb5.0/48,*
MS4.3/17,Error ellipse: s-maj=5.2km s-min=3.7km
az=40.4
*BJI **01** 03:14:46.0±0.0,43°.64N×86°.70E,h20km,mb4.7/53,*
mB4.6/27,ML5.0/11,Ms4.4/50,Ms7 4.2/46
*GCMT **01** 03:14:47.6±0.4,44°.38N±0°.03×86°.94E±0°.03,h62km±3km,*
MW4.7/60,Moment Tensor Solution. s27,c28; s60,c83;
Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.31±.11;
*$M_{\theta\theta}$-1.54±.07; $M_{\phi\phi}$0.23±.07; $M

ZSN Zaisan 3.89 343 *e*Sn **Sn 03 16 29.3 -0.4**
baz=342
ZSN *e*Lg Lg 03 16 45.2
baz=342
ZSN Zaisan 3.89 343 *e*P **Pn 03 15 42.9 -1.0**
1.9nm,0.2s
ZSN *e*S **Sg 03 16 47.1 -1.9**
1µm,0.7s
MK31 Makanchi Array 4.29 317 ⇓Pn **Pn 03 15 51.7 +2.4**
59nm,0.4s,baz=134,slow=14,SNR=1506
MK31 ⇓Sn **Sn 03 16 42.6 +3.2**
372nm,0.5s,baz=133,slow=27,SNR=13
MK31 ⇓Lg Lg 03 17 01.7
1µm,0.6s,baz=126,slow=28,SNR=4.9
MK31 Makanchi Array 4.29 317 Pn **Pn 03 15 51.9 +2.6**
MK31 Makanchi Array 4.29 317 P **Pn 03 15 51.9 +2.6**
MKAR Makanchi Array 4.29 317 Pn **Pn 03 15 52.1 +2.7**
33nm,0.3s,baz=132,slow=15,SNR=1327
MKAR Sn **Sn 03 16 43.0 +3.6**
102nm,0.3s,baz=141,slow=25,SNR=6.5
MKAR Lg Lg 03 16 59.0
140nm,0.3s,baz=137,slow=30,SNR=8.5
MKAR LR LR 03 17 04.2
comp=Z,634nm,21.3s,baz=174,slow=32
186nm,0.6s
MKAR Makanchi Array 4.29 317 *i*P **Pn 03 15 52.0 +2.7**
MKAR pmax pmax
comp=Z,185nm,0.6s
MAKZ Makanchi 4.45 315 ⇓Pn **Pn 03 15 54.0 +2.3**
comp=Z,92nm,0.4s
MAKZ ⇑Sn **Sn 03 16 45.3 +1.8**
comp=Z,528nm,0.6s
MAKZ ⇓Lg Lg 03 17 04.8
comp=Z,2µm,0.8s
MAKZ Makanchi 4.45 315 **Pn 03 15 54.2 +2.5**
MAKZ Makanchi 4.45 315 P **Pn 03 15 54.2 +2.5**
KTMS Ketmen 4.51 268 *e*P **Pn 03 15 55.3 +2.7**
comp=Z,0.4nm,0.2s
KTMS *e*S **Sg 03 17 09.7 +0.7**
comp=Z,357nm,0.5s
DJR Jarkent 4.91 279 *e*P **Pn 03 16 01.9 +3.8**
comp=Z,14nm,0.1s
DJR *e*S **Sg 03 17 20.8 -0.9**
comp=Z,1µm,0.7s
PDGK Podgornoye 5.15 268 ⇓Pn **Pn 03 16 03.2 +1.8**
comp=Z,282nm,0.8s
PDGK ⇓Lg Lg 03 17 26.3
comp=Z,2µm,1.0s
PDGK Podgornoye 5.15 268 P **Pn 03 16 03.1 +1.8**
SHLS Shalkode 5.20 266 *e*Pn **Pn 03 16 00.1 -1.8**
comp=Z,9.8nm,0.6s,baz=264
SHLS *e*Pg **Pb 03 16 15.9 +0.8**
baz=264
SHLS *e*Sn **Sn 03 16 58.4 -3.6**
baz=264
SHLS Shalkode 5.20 266 *e*P **Pn 03 16 00.3 -1.6**
comp=Z,20nm,0.3s
SHLS *e*S **Sb 03 17 18.8 +1.2**
comp=Z,4µm,0.8s
SHLS Shalkode 5.20 266 *e*P **Pn 03 16 00.1 -1.8**
SHLS *e* 03 16 58.4
SHLS pmax pmax
comp=Z,10.0nm,0.6s
KAPS Kapalarasan 5.37 289 *e*P Pn 03 16 10.4 +6.1
comp=Z,17nm,0.2s
KAPS *e*S **Sg 03 17 36.1 -0.4**
comp=Z,849nm,0.5s
UZB Uzynbulak 5.52 266 *e*Pn **Pn 03 16 08.6 +2.2**
comp=Z,6.1nm,0.6s,baz=265
UZB *e*Sn **Sn 03 17 13.7 +3.8**
baz=265
UZB *e*Lg Lg 03 17 41.8
baz=265
UZB Uzynbulak 5.52 266 *e*P **Pn 03 16 10.8 +4.4**
comp=Z,30nm,0.4s
UZB *e*S **Sg 03 17 36.4 -4.7**
comp=Z,185nm,0.4s
UZB Uzynbulak 5.52 266 *e*P **Pn 03 16 08.6 +2.2**
UZB *e* 03 17 13.7
UZB pmax pmax
comp=Z,6.0nm,0.6s
ZHN Zhinishke 5.94 267 *e*Pn **Pn 03 16 14.3 +2.1**
comp=Z,7.7nm,0.7s,baz=266
ZHN Zhinishke 5.94 267 *e*P Pn 03 16 19.1 +7.0
comp=Z,24nm,0.2s
ZHN *e*S **Sg 03 17 50.3 -4.4**
comp=Z,344nm,0.4s
ZHN Zhinishke 5.94 267 *e*P **Pn 03 16 14.2 +2.1**
ZHN pmax pmax
comp=Z,8.0nm,0.7s
SATY Saty 5.97 266 *e*P **Pn 03 16 14.9 +2.3**
baz=265
SATY Saty 5.97 266 *e*P Pn 03 16 20.5 +7.9
comp=Z,44nm,0.5s
SATY *e*S **Sg 03 17 53.4 -2.4**
comp=Z,583nm,1.0s
SATY Saty 5.97 266 *e*P **Pn 03 16 14.9 +2.3**
TDK Taldyqorghan 5.97 285 *e*Pn **Pn 03 16 13.6 +1.0**
baz=284
TDK LR LR 03 18 22.6
baz=284
TDK Taldyqorghan 5.97 285 *e*P Pn 03 16 21.4 +8.8
comp=Z,24nm,0.2s
TDK *e*S **Sg 03 17 54.3 -1.5**
comp=Z,5µm,0.7s
TDK Taldyqorghan 5.97 285 *e*P **Pn 03 16 13.5 +1.0**
DGZ Jazzator, Alta 5.99 5 P **Pn 03 16 15.4 +2.5**
KURS Kuram 6.09 270 *e*P Pb 03 16 24.1 -6.2
comp=Z,37nm,0.6s
KURS *e*S **Sg 03 17 59.5 0.0**
comp=Z,306nm,0.8s
ARXS Arharly 6.32 277 *e*P Pb 03 16 28.3 -5.8
comp=Z,18nm,0.2s
ARXS *e*S **Sg 03 18 06.5 -0.2**
comp=Z,508nm,0.5s
ARXS Arharly 6.32 277 *i*P **Pn 03 16 19.3 +2.0**
CUR Chagan-Uzun 6.48 10 P **Pn 03 16 22.5 +3.0**
KOTS Kotyrbulak 6.89 269 *e*P Pb 03 16 37.3 -6.5
comp=Z,91nm,0.3s
KOTS *e*S **Sg 03 18 23.1 -1.9**
comp=Z,1µm,0.4s
CHKK Chushkaly 6.92 274 *e*P **Pn 03 16 27.1 +1.5**
baz=273
CHKK Chushkaly 6.92 274 *e*P Pb 03 16 37.9 -6.5
comp=Z,17nm,0.3s
CHKK *e*S **Sg 03 18 22.5 -3.7**
comp=Z,268nm,0.5s
CHKK Chushkaly 6.92 274 *e*P **Pn 03 16 27.0 +1.5**
MDOK Medeo 6.94 268 ⇓Pn **Pn 03 16 27.5 +1.6**
comp=Z,67nm,0.6s
MDOK ⇑Lg Lg 03 18 23.8
comp=Z,646nm,1.0s
MDOK Medeo 6.94 268 *e*P **Pn 03 16 28.0 +2.0**
baz=267
MDOK *e*Lg Lg 03 18 27.9
baz=267
MDOK LR LR 03 18 47.6
baz=267
MDOK Medeo 6.94 268 *e*P Pb 03 16 37.8 -7.1
comp=Z,31nm,0.5s
MDOK *e*S **Sg 03 18 23.6 -3.2**
comp=Z,292nm,0.7s
MDOK Medeo 6.94 268 *e*P **Pn 03 16 28.0 +2.0**
ULGR Ulagan, Altay 6.95 7 P **Pn 03 16 27.0 +1.0**
KNDC Almaty 7.00 269 ⇓Pg **Pg 03 16 55.7 -2.2**
comp=Z,176nm,0.7s
KNDC ⇑Lg Lg 03 18 30.1
comp=Z,1µm,0.8s
TNSS Tian-Shan 7.04 268 *e*P **Pn 03 16 29.6 +2.2**
baz=266
TNSS Tian-Shan 7.04 268 *e*P Pb 03 16 39.8 -6.7
comp=Z,18nm,0.2s
TNSS *e*S **Sg 03 18 25.9 -3.9**
comp=Z,102nm,0.7s
TNSS Tian-Shan 7.04 268 *e*P **Pn 03 16 29.6 +2.2**
KTBS Karatobe 7.15 273 *e*P Pb 03 16 44.8 -3.5
comp=Z,12nm,0.3s
KTBS *e*S **Sg 03 18 35.0 +1.5**
comp=Z,680nm,0.4s
IZV Izvestkoviy 7.28 268 *e*P Pb 03 16 43.1 -7.4
comp=Z,15nm,0.4s
IZV *e*S **Sg 03 18 31.8 -5.7**
comp=Z,164nm,0.5s
UKR Ust'-Kan 7.30 351 P **Pn 03 16 32.4 +1.6**
MTBS Maitube 7.40 269 *e*P Pb 03 16 47.4 -5.1
comp=Z,12nm,0.2s
MTBS *e*S **Sg 03 18 38.5 -2.9**
comp=Z,230nm,0.5s
DGS Degeres 7.86 270 *e*P Pb 03 16 54.3 -6.0
comp=Z,9.3nm,0.3s
DGS *e*S **Sg 03 18 51.2 -4.9**
comp=Z,112nm,0.6s
BOOM Boomskoye usch 7.87 264 Pn **Pn 03 16 40.4 +1.7**
BOOM Boomskoye usch 7.87 264 P **Pn 03 16 40.4 +1.7**
SEM Semipalatinsk 7.93 329 *e*P **Pn 03 16 39.9 +0.3**
baz=329
SEM *e*S **Sn 03 18 07.9 -1.6**
baz=329
SEM *e*Lg Lg 03 18 54.5
baz=329
SEM LR LR 03 19 57.9
baz=329
SEM Semipalatinsk 7.93 329 *e*P **Pn 03 16 39.9 +0.3**
SEM *e*S **Sn 03 18 07.8 -1.6**
TKM2 Tokmak 2 8.03 268 ⇑Pn **Pn 03 16 43.4 +2.4**
comp=Z,30nm,0.6s
TKM2 ⇓Lg Lg 03 19 01.7
comp=Z,246nm,0.8s
TKM2 Tokmak 2 8.03 268 P **Pn 03 16 43.3 +2.4**
CHMS Chumysh 8.63 269 ⇑Pg Pg 03 17 25.9 -3.4
comp=Z,13nm,0.7s
CHMS ⇑Lg Lg 03 19 21.7
comp=Z,173nm,1.0s
SGDS Sogindy 8.66 272 *e*P **Pn 03 16 51.6 +2.1**
baz=271
SGDS Sogindy 8.66 272 *e*P **Pn 03 16 51.5 +2.1**
KURBB Kurchatov Arra 8.78 324 ⇓Pn **Pn 03 16 51.2 +0.2**
comp=Z,150nm,0.7s
KURBB ⇑Lg Lg 03 19 24.1
comp=Z,1µm,0.8s
KURBB Kurchatov Arra 8.78 324 Pn **Pn 03 16 51.6 +0.6**
comp=Z,1.8nm,0.3s,baz=131,slow=13,SNR=230
KURBB Sn **Sn 03 18 29.5 -0.5**
comp=Z,4.7nm,0.3s,baz=133,slow=19,SNR=2.7
KURBB Lg Lg 03 19 20.9
comp=Z,5.4nm,0.3s,baz=141,slow=32,SNR=5.3
KURBB LR LR 03 20 47.9
comp=Z,2µm,21.3s,baz=155,slow=41
comp=Z,44nm,0.9s
KURBB Kurchatov Arra 8.78 324 P **Pn 03 16 51.2 +0.2**
KURK Kurchatov 8.82 325 ⇑Pn **Pn 03 16 51.3 -0.1**
comp=Z,83nm,0.7s
KURK ⇓Lg Lg 03 19 26.4
comp=Z,564nm,0.8s
KURK Kurchatov 8.82 325 **Pn 03 16 52.1 +0.6**
KURK Kurchatov 8.82 325*ce*P **Pn 03 16 52.2 +0.8**
KURK pmax pmax
comp=Z,83nm,1.0s
AAK Ala-Archa 8.88 267 ⇓Pg Pg 03 17 27.7 -6.3
comp=Z,9.9nm,0.6s
AAK ⇓Lg Lg 03 19 28.8
comp=Z,271nm,0.9s
AAK Ala-Archa 8.88 267 Pn **Pn 03 16 55.0 +2.5**
AAK Ala-Archa 8.88 267 Pn **Pn 03 16 55.0 +2.5**
comp=Z,0.9nm,0.3s,baz=96,slow=8.5,SNR=7.7
AAK Lg Lg 03 19 27.8
comp=Z,2.4nm,0.3s,baz=175,slow=22,SNR=3.7
comp=Z,8.2nm,0.7s
AAK Ala-Archa 8.88 267*ce*P **Pn 03 16 56.3 +3.8**
AAK pmax pmax
comp=Z,10.0nm,1.0s
BTLS Baital 9.05 283 *e*P **Pn 03 16 55.6 +0.8**
baz=282
BTLS *e*Lg Lg 03 19 32.7
baz=282
BTLS Baital 9.05 283 *e*P **Pn 03 16 55.5 +0.8**
ARLS Aral 9.19 262 P **Pn 03 17 01.5 +4.8**
ARLS pmax pmax
comp=Z,26nm,0.9s
GOMU GeErMu 9.84 137 P **Pn 03 17 05.0 -0.9**
GOMU pP 03 17 08.8
GOMU sP 03 17 12.9
GOMU pmax pmax
comp=Z,16nm,0.5s
GOMU LR LR
comp=Z,4µm,12.6s
GOMU LR LR
comp=Z,3µm,12.0s
GOMU LR LR
comp=Z,8µm,12.4s
ZAA0 Zalesovo Array 10.28 354 ⇑Pn **Pn 03 17 10.2 -1.2**
comp=Z,5.5nm,0.6s
ZAA0 ⇓Sn **Sn 03 19 06.6 0.0**
comp=Z,11nm,0.8s
ZAA0 Zalesovo Array 10.28 354 **Pn 03 17 10.2 -1.2**
ZALV Zalesovo Beam 10.28 354 **Pn 03 17 10.4 -1.0**
ZALV Zalesovo Beam 10.28 354 Pn **Pn 03 17 10.7 -0.8**
comp=Z,10nm,0.3s,baz=176,slow=13,SNR=285
ZALV Sn **Sn 03 19 03.4 -3.2**
comp=Z,10nm,0.3s,baz=165,slow=29,SNR=9.2
ZALV Lg Lg 03 20 08.9
comp=Z,1.5nm,0.3s,baz=196,slow=24,SNR=0.9
ZALV LR LR 03 21 45.6
comp=Z,2µm,18.8s,baz=178,slow=41
comp=Z,76nm,0.6s
ZALV Zalesovo Beam 10.28 354 *i*P **Pn 03 17 10.6 -0.9**
ZALV pmax pmax
comp=Z,76nm,0.6s
GTA Gaotai 10.83 109 P **Pn 03 17 20.0 +0.7**
GTA pP 03 17 25.2
GTA sP 03 17 28.9
GTA S **Sn 03 19 21.4 +0.8**
GTA sS 03 19 29.3
GTA pmax pmax
comp=Z,11nm,1.1s
GTA LR LR
comp=Z,1µm,11.6s
GTA LR LR
comp=Z,850nm,13.1s
GTA LR LR
comp=Z,940nm,11.3s
OTUK Ortayu 10.86 299 ⇑Pn **Pn 03 17 18.6 -1.0**
comp=Z,31nm,1.1s
OTUK ⇓Sn **Sn 03 19 24.5 +3.4**
comp=Z,67nm,0.7s
OTUK ⇑Lg Lg 03 20 33.7
comp=Z,208nm,1.2s
OTUK Ortayu 10.86 299 P **Pn 03 17 18.5 -1.0**
OTUK 03 19 15.8
DZA Taraz 11.13 271 *e*P **Pn 03 17 24.4 +1.2**
baz=270
DZA Taraz 11.13 271 *e*P **Pn 03 17 24.4 +1.2**
BRZS Berezniki 11.36 308 *e*P **Pn 03 17 26.8 +0.5**
baz=308
BRZS Berezniki 11.36 308 *e*P **Pn 03 17 26.8 +0.5**
KK31 Karatay Array 11.69 272 ⇓Lg Lg 03 20 54.0
comp=Z,34nm,0.6s,baz=74,slow=28,SNR=4.0
KKAR Karatay Array 11.69 272 P Pn 03 17 37.0 +6.2
BRLS Borolday 12.19 272 *e*P **Pn 03 17 41.0 +3.3**
baz=271
BRLS Borolday 12.19 272 *e*P **Pn 03 17 41.0 +3.3**
IUG luzhnay 12.22 268 *e*P **Pn 03 17 39.9 +1.7**
baz=268
IUG luzhnay 12.22 268 *e*P **Pn 03 17 39.8 +1.7**
MOY Mondy 12.53 46 *e*P **Pn 03 17 45.1 +2.7**
MOY *e*S **Sn 03 19 53.5 -8.5**
ZAK Zakamensk 13.18 54 *e*P **Pn 03 17 54.1 +2.8**
ZAK pmax pmax
comp=Z,8.0nm,1.6s
KLP Kalpa 13.84 211 *e*P **Pn 03 18 01.5 +0.9**
DHRM DHARAMSHALA 14.02 219 *e*P **Pn 03 18 03.5 +0.6**
DHRM IAML 03 18 11.0
comp=Z,130nm,0.4s
DHRM *e*S **Sn 03 20 32.8 -5.9**
BVAR Borovoye Array 14.17 317 Pn **Pn 03 18 04.4 -0.3**
comp=Z,0.2nm,0.3s,baz=122,slow=14,SNR=80
BVAR Sn **Sn 03 20 37.0 -4.8**
comp=Z,0.9nm,0.3s,baz=115,slow=21,SNR=8.7
BVAR Lg Lg 03 22 09.1
comp=Z,0.3nm,0.3s,baz=133,slow=21,SNR=4.1
BVAR LR LR 03 23 59.2
comp=Z,1µm,18.8s,baz=124,slow=39
comp=Z,12nm,0.7s
BRVK Borovoye 14.24 317 Pn **Pn 03 18 05.3 -0.3**
BRVK Borovoye 14.24 317*ce*P **Pn 03 18 05.5 -0.1**
BRVK pmax pmax
comp=Z,51nm,1.7s
JOSI Joshimath 14.29 205 *e*P **Pn 03 18 06.7 +0.1**
JMU Jammu 14.30 224 *e*P **Pn 03 18 07.3 +0.8**
JMU *e*S Sn 03 20 38.1 -7.1
SONM Songino Array 14.43 67 Pn **Pn 03 18 07.5 -0.8**
SONM Songino Array 14.43 67 Pn **Pn 03 18 06.9 -1.4**
comp=Z,0.3nm,0.3s,baz=255,slow=12,SNR=9.8
SONM Lg Lg 03 22 14.7
comp=Z,0.2nm,0.3s,baz=253,slow=26,SNR=5.1
SONM LR LR 03 24 03.6
comp=Z,957nm,19.6s,baz=274,slow=39
SONM Songino Array 14.43 67 P **Pn 03 18 07.5 -0.8**
LSA Lhasa 14.49 164 Pn **Pn 03 18 11.5 +1.9**
LSA Lhasa 14.49 164 P **Pn 03 18 11.5 +1.9**
IRK Irkutsk 14.57 48 *e*P **Pn 03 18 11.8 +1.7**
IRK pmax pmax
comp=Z,1µm,1.9s
SMLA Simla 14.62 214 *e*P **Pn 03 18 10.3 -0.6**
SMLA IAmb IAmb 03 18 11.3
comp=Z,64nm,0.9s
SMLA *e*S **Sn 03 20 45.8 -7.1**
BHK Bhakra 14.68 216 *e*P **Pn 03 18 12.2 +0.4**
BHK *e*S Sn 03 20 47.0 -7.5
ULN Ulaanbaatar 14.87 67 Pn **Pn 03 18 13.1 -1.3**
ULN Ulaanbaatar 14.87 67 *i*P **Pn 03 18 15.6 +1.2**
PTH Pithoragarh 15.04 202 ⇑*e*P **Pn 03 18 16.1 -0.7**
LGTI Lohaghat 15.13 202 *e*P **Pn 03 18 18.1 +0.3**
LZH Lanzhou 15.29 114 *e*P **Pn 03 18 21.6 +1.5**
LZH sP sP 03 18 34.3 +4.3
LZH S **Sn 03 21 09.8 +0.2**
LZH SS **SnSn 03 21 22.1 -0.1**
LZH pmax pmax
comp=Z,31nm,1.0s
LZH LR LR
comp=Z,930nm,9.6s
LZH LR LR
comp=Z,1µm,9.6s
LZH LR LR
comp=Z,770nm,11.5s
KBL Kabul 16.37 242 Pn **Pn 03 18 33.5 -0.7**
KBL Kabul 16.37 242 P **Pn 03 18 33.5 -0.7**
KBL pmax pmax
comp=Z,48nm,0.9s
GTK Tadong 16.47 174 *e*P **Pn 03 18 35.6 +0.2**
GTK IAmb IAmb 03 18 41.5
comp=Z,19nm,1.0s
NDI New Delhi 16.79 210 *e*P **Pn 03 18 37.6 -1.7**
NPLP NPLP New Delhi 16.85 210 *e*P **Pn 03 18 39.3 -0.7**
ZIRO ZIRO 17.22 158 *e*P **P 03 18 47.5 +1.1**
KUDL Kundal 17.55 211 *e*P **Pn 03 18 47.9 -0.7**
DIBR DIBRUGARH 17.59 155 *e*P **Pn 03 18 49.3 +0.1**
BTO Baotou 17.66 92 *e*P **Pn 03 18 47.7 -2.5**
BTO pP **P 03 18 52.5 +1.4**
BTO PP **PnPn 03 19 03.2 +2.7**
BTO S **Sn 03 22 03.0 -4.0**
BTO SS **SnSn 03 22 21.1 +0.9**
BTO pmax pmax
comp=Z,19nm,0.6s
BTO pmax pmax
comp=Z,200nm,4.5s
BTO LR LR
comp=Z,520nm,6.4s
BTO LR LR
comp=Z,500nm,7.6s
BTO LR LR
comp=Z,560nm,7.6s
MOKO MOKOCHONG 18.55 157 *e*P **P 03 19 01.1 +0.1**
MOKO IAmb IAmb 03 19 05.2
comp=Z,27nm,0.7s
SHL Shillong 18.65 165 **P 03 19 01.8 -0.3**
SHL Shillong 18.65 165 *e*P **P 03 19 02.0 -0.2**
SHL IAmb IAmb 03 19 03.1
comp=Z,26nm,0.8s
SHL Shillong 18.65 165 P **P 03 19 01.8 -0.3**
SHL pmax pmax
comp=Z,31nm,0.8s
CD2 Chengdu 18.70 128 P **P 03 19 02.9 +0.4**
CD2 pmax pmax
comp=Z,190nm,4.3s
CD2 LR LR
comp=Z,440nm,14.5s
CD2 LR LR
comp=Z,610nm,11.4s
CD2 LR LR
comp=Z,590nm,11.4s
HHC Hu-ho-hao-te 18.71 90 *e*P **Pn 03 19 04.9 +1.9**
HHC sP sP 03 19 16.1 +8.4
HHC S **Sn 03 22 30.0 -2.2**
HHC sS sS 03 22 40.1 -1.0
HHC SS **SnSn 03 22 51.0 +5.1**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,130nm,5.0s
HHC LR LR
comp=Z,320nm,8.4s
HHC LR LR
comp=Z,210nm,9.6s
HHC LR LR
comp=Z,460nm,10.3s
KOHI KOHIMA 19.00 159 *e*P **P 03 19 07.0 +0.9**
KOHI IAmb IAmb 03 19 09.4
comp=Z,50nm,0.7s
ABKAR Akbulak array 19.08 296 P **P 03 19 07.3 +0.8**
ABKAR Akbulak array 19.08 296 P **P 03 19 07.3 +0.8**
ABKAR IAmb IAmb 03 19 16.0
comp=Z,6.1nm,0.7s
JHNI Jhansi 19.37 202 *e*P **P 03 19 11.1 +1.2**
SILR SILCHAR 19.59 163 *e*P **Pn 03 19 14.5 +0.9**
AJM Ajmer 19.75 213 *e*P **P 03 19 14.7 +0.6**
AJM *ex* x 03 22 42.5
IMP Imphal 19.81 160 *e*P **P 03 19 14.7 -0.1**
IMP IAmb IAmb 03 19 17.9
comp=Z,44nm,0.8s
AKTO Aktyubinsk 20.47 299 P **P 03 19 23.1 +1.4**
comp=Z,6.8nm,0.7s,baz=94,slow=9.2,SNR=6.1
AKTO S **S 03 23 05.6 -5.1**
comp=Z,3.3nm,0.7s,baz=301,slow=19,SNR=1.7
AKTO Lg Lg 03 25 35.2
comp=Z,0.1nm,0.3s,baz=0.1,slow=17,SNR=1.6
AKTO LR LR 03 28 01.6
comp=Z,552nm,19.1s,baz=104,slow=39
comp=Z,6.8nm,0.7s
TIY Taiyuan 20.47 98 P **P 03 19 23.1 +1.2**
TIY S **S 03 23 08.4 -2.7**
TIY pmax pmax
comp=Z,35nm,0.5s
TIY LR LR
comp=Z,730nm,12.5s
TIY LR LR
comp=Z,290nm,7.7s
TIY LR LR
comp=Z,550nm,17.2s
GUNA GUNA 20.49 205 *e*P **P 03 19 21.9 -0.2**
AZL Aizawl 20.58 164 *e*P **P 03 19 23.6 +0.4**
AZL IAmb IAmb 03 19 27.0
comp=Z,60nm,0.8s
KNTI KHUNTI 20.66 183 *e*P **P 03 19 24.1 +0.2**
SVE Sverdlovsk 20.95 318 *e*P **P 03 19 27.9 +1.1**
SVE *e*S **S 03 23 19.2 -0.8**
SVE pmax pmax
comp=Z,78nm,0.9s
SVE MLR MLR
comp=Z,842nm,16.0s
HRA Herat 21.00 252 P **P 03 19 29.9 +2.1**
TNCH TengChong 21.08 148 P **P 03 19 30.4 +1.8**
TNCH pP sP 03 19 33.5 -0.1
TNCH S **S 03 23 27.0 +3.7**
TNCH pmax pmax
comp=Z,70nm,0.3s
TNCH pmax pmax
comp=Z,220nm,3.4s
TNCH LR LR
comp=Z,550nm,11.2s
TNCH LR LR
comp=Z,280nm,12.1s
TNCH LR LR
comp=Z,650nm,12.4s
PZH PanZhiHua 21.16 139 P **P 03 19 31.3 +1.9**
PZH pmax pmax
comp=Z,30nm,1.0s
PZH pmax pmax
comp=Z,210nm,5.7s
XLT XiLinHaoTe 21.26 79 *e*P **P 03 19 28.1 -2.3**
XLT PP **PnPn 03 19 50.8 +1.0**
XLT S **S 03 23 23.8 -2.8**
XLT sS Sn 03 23 33.2 -0.4
XLT SS **SnSn 03 23 53.2 +4.8**
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,80nm,3.6s

XLT LR LR
comp=Z,71nm,14.0s
XLT LR LR
comp=Z,240nm,8.5s
XLT LR LR
comp=Z,440nm,17.4s
BHPL Bhopal 21.79 203 *e*P **P** **03 19 36.8 +0.7**
BHPL IAmb IAmb 03 19 39.6
comp=Z,34nm,0.7s
ARU Arti 21.81 315 P **P** **03 19 36.7 +0.7**
ARU Arti 21.81 315 P **P** **03 19 37.0 +1.0**
comp=Z,17nm,0.5s,baz=117,slow=3.2,SNR=30
ARU S **S** **03 23 38.8 +1.8**
comp=Z,2.2nm,0.3s,baz=90,slow=20,SNR=2.2
ARU Lg Lg 03 26 11.0
baz=39,slow=8.0,SNR=3.2
ARU LR LR 03 29 28.8
comp=Z,118nm,21.5s,baz=108,slow=40
comp=Z,17nm,0.5s
ARU Arti 21.81 315*c i*P **P** **03 19 37.1 +1.0**
ARU 03 19 55.3
ARU PPP PPP 03 20 04.2
ARU S **S** **03 23 39.3 +2.3**
ARU SS **SnSn** **03 24 06.4 +4.8**
ARU pmax pmax
comp=Z,52nm,1.4s
ARU MLR MLR
comp=Z,841nm,15.0s
ARU Arti 21.81 315 P **P** **03 19 36.8 +0.7**
comp=Z,31nm,0.8s,comp=Z,438nm
BLSP Bilaspur 21.86 191 *e*P **P** **03 19 38.7 +1.8**
LYN LuoYang 22.02 106 *e*P **P** **03 19 40.3 +1.8**
LYN sP sP 03 19 48.5 +4.9
LYN PP **PnPn** **03 20 05.0 +4.8**
LYN S **S** **03 23 42.6 +1.2**
LYN sS pS 03 23 47.7 +0.2
LYN pmax pmax
comp=Z,19nm,0.7s
LYN LR LR
comp=Z,880nm,13.5s
LYN LR LR
comp=Z,680nm,13.6s
LYN LR LR
comp=Z,1μm,17.8s
BOD Bodaibo 22.15 41 *e*P **P** **03 19 39.8 +0.1**
BOD pmax pmax
comp=Z,21nm,1.6s
GEYT Alibeck 22.22 265 P **P** **03 19 43.0 +2.2**
comp=Z,123nm,0.8s,baz=74,slow=11,SNR=1.1
GEYT LR LR 03 29 27.6
comp=Z,454nm,21.4s,baz=72,slow=40
comp=Z,123nm,0.8s
GEYT Alibeck 22.22 265 P **P** **03 19 43.0 +2.2**
GYA0 ALIBECK ARRAY 22.22 265 P **P** **03 19 44.4 +3.7**
GYA0 pmax pmax
comp=Z,16nm,0.7s
GYA0B ALIBECK ARRAY 22.22 265 P **P** **03 19 41.7 +1.0**
HNS HongShan 22.24 97 ⇑P **P** **03 19 37.4 -3.5**
HNS S **S** **03 23 46.5 +1.0**
HNS LR LR
comp=Z,410nm,11.9s
HNS LR LR
comp=Z,380nm,14.3s
HNS LR LR
comp=Z,490nm,15.9s
ENH Enshi 22.63 119 P **P** **03 19 44.8 -0.3**
ENH IAmb IAmb 03 20 02.5
comp=Z,33nm,0.9s
KMI Kunming 22.80 139 ⇑P **P** **03 19 49.9 +2.8**
KMI pP sP 03 19 58.6 +6.5
KMI S **S** **03 23 52.9 -3.5**
KMI pmax pmax
comp=Z,23nm,1.0s
KMI LR LR
comp=Z,370nm,13.5s
KMI LR LR
comp=Z,370nm,14.4s
KMI LR LR
comp=Z,610nm,25.9s
GYA Guiyang 23.73 130 ⇓P **P** **03 19 57.3 +0.8**
GYA S **S** **03 24 07.1 -4.6**
GYA pmax pmax
comp=Z,22nm,0.8s
GYA pmax pmax
comp=Z,120nm,4.9s
GYA LR LR
comp=Z,430nm,11.4s
GYA LR LR
comp=Z,230nm,11.4s
GYA LR LR
comp=Z,490nm,13.2s
AKL Akola 24.31 202 *e*P **P** **03 20 02.8 +0.9**
TIA Tai'an 24.50 97 *e*P **P** **03 20 02.0 -1.5**
TIA LR LR
comp=Z,220nm,11.8s
TIA LR LR
comp=Z,260nm,16.2s
TIA LR LR
comp=Z,300nm,16.7s
WHN Wuhan 25.64 112 P **P** **03 20 14.0 +0.2**
WHN pmax pmax
comp=Z,34nm,0.6s
WHN LR LR
comp=Z,1μm,12.7s
WHN LR LR
comp=Z,1μm,9.8s
WHN LR LR
comp=Z,2μm,12.4s
CRAI Chiangrai 26.14 149 P **P** **03 20 19.0 +0.7**
CNSH ChangSha 26.25 118 ⇑P **P** **03 20 21.8 +2.5**
CNSH S **S** **03 24 51.8 +0.2**
CNSH pmax pmax
comp=Z,10.0nm,0.7s
CNSH LR LR
comp=Z,320nm,12.3s
CNSH LR LR
comp=Z,210nm,8.2s
CNSH LR LR
comp=Z,310nm,11.2s
SLVN Son La 26.60 142 P **P** **03 20 23.1 +0.5**
GULI GuiLin 26.75 126 *e*P **P** **03 20 26.5 +2.6**
GULI pmax pmax
comp=Z,10.0nm,0.7s
GULI LR LR
comp=Z,490nm,14.1s
GULI LR LR
comp=Z,280nm,17.3s
GULI LR LR
comp=Z,620nm,15.2s
BELG Belogornoye 27.13 302 P **P** **03 20 26.9 -0.1**
comp=Z,26nm,0.9s,baz=225,slow=4.8,SNR=4.2
BELG LR LR 03 31 24.9
comp=Z,95nm,21.8s,baz=128,slow=37
comp=Z,26nm,0.9s
BELG Belogornoye 27.13 302 *i*P **P** **03 20 29.9 +2.9**
BELG pmax pmax
comp=Z,5.0nm,0.9s
KIRV Kirov 27.18 316 LR LR 03 32 16.0
comp=Z,432nm,18.6s,baz=112,slow=39
KIRV Kirov 27.18 316*ce*P **P** **03 20 28.4 +1.0**
CMAR Chiang Mai Arr 27.28 154 P **P** **03 20 29.5 +0.8**
CMAR Chiang Mai Arr 27.28 154 P **P** **03 20 29.1 +0.4**
comp=Z,3.8nm,0.7s,baz=334,slow=9.1,SNR=18
comp=Z,3.8nm,0.7s
CMAR Chiang Mai Arr 27.28 154*ce*P **P** **03 20 29.7 +1.0**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
PHRA Phrae 27.68 151 P **P** **03 20 33.2 +1.0**
PHRA ScP **ScP** **03 27 23.2 -6.6**
NJ2 Nanjing 27.86 104 *e*P **P** **03 20 34.2 +0.4**
NJ2 pP **sP** **03 20 43.9 +4.9**
NJ2 sP pP 03 20 46.5 +9.0
NJ2 pmax pmax
comp=Z,12nm,0.6s
NJ2 pmax pmax
comp=Z,100nm,4.2s
NJ2 LR LR
comp=Z,620nm,16.0s
NJ2 LR LR
comp=Z,350nm,14.6s
NJ2 LR LR
comp=Z,550nm,13.2s
MAK Makhachkala 28.23 282 *e*P P 03 20 31.8 -5.2
MAK *e*S **S** **03 25 14.9 -7.7**
MAK pmax pmax
comp=Z,42nm,0.4s

MAK MLR MLR
comp=Z,390nm,15.0s
ZEA Zeya 28.28 55 *e*P **P** **03 20 39.1 +1.8**
ZEA MLR MLR
comp=E,500nm,15.0s
ZEA MLR MLR
comp=N,200nm,13.0s
ZEA MLR MLR
comp=Z,600nm,13.0s
HEH HeiHe 28.34 62 *e*P **P** **03 20 38.0 +0.1**
HEH pmax pmax
comp=Z,5.0nm,1.0s
HEH LR LR
comp=Z,320nm,13.9s
HEH LR LR
comp=Z,890nm,14.4s
HEH LR LR
comp=Z,1μm,13.7s
GROC Groznyy 29.38 283 *e*P **P** **03 20 48.0 +0.8**
GROC *e* 03 21 41.4
GROC *e*S **S** **03 25 41.5 +0.8**
GROC pmax pmax
comp=Z,6.0nm,0.5s
MDJ Mudanjiang 30.62 73 P **P** **03 20 58.9 +0.8**
MDJ pmax pmax
comp=Z,8.0nm,0.6s
MDJ pmax pmax
comp=Z,97nm,4.4s
WSAR Wadi Sarin 30.75 237 LR LR 03 36 37.6
comp=Z,205nm,21.5s,baz=86,slow=43
VRH Novokhopyorsk 30.80 300 *e*P P 03 21 07.3 +7.6
VRH pmax pmax
comp=Z,10.0nm,0.6s
YAK Yakutsk 31.02 39 LR LR 03 34 22.6
comp=Z,655nm,18.3s,baz=250,slow=38
YAK Yakutsk 31.02 39 *e*P **P** **03 21 00.1 -1.4**
YAK *e**PP **sP** **03 21 07.5 +1.1**
YAK *e* 03 22 00.4
YAK *e* 03 23 55.8
YAK *e*S **S** **03 26 05.5 -0.5**
YAK *e*SS **SnSn** **03 27 50.1 +3.8**
YAK pmax pmax
comp=Z,15nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.4s
YAK pmax pmax
comp=E,8.0nm,1.8s
YAK pmax pmax
comp=Z,149nm,4.8s
YAK pmax pmax
comp=N,61nm,6.4s
YAK pmax pmax
comp=E,119nm,5.9s
YAK smax smax
comp=E,89nm,6.4s
YAK smax smax
comp=N,85nm,7.1s
YAK MLR MLR
comp=Z,856nm,15.0s
YAK MLR MLR
comp=N,312nm,20.0s
YAK MLR MLR
comp=E,431nm,19.0s
GNI Garni 31.07 278 P **P** **03 21 03.0 +0.6**
GNI Garni 31.07 278 LR LR 03 35 10.2
comp=E,131nm,18.6s,baz=84,slow=39
GNI Garni 31.07 278*ce*P **P** **03 21 04.1 +1.7**
GNI pmax pmax
comp=Z,6.0nm,0.7s
ONI Oni 31.20 283 P **P** **03 21 04.9 +1.5**
ONI IAmb IAmb 03 21 07.0
comp=Z,15nm,0.6s
ONI Oni 31.20 283 P **P** **03 21 04.9 +1.5**
ONI pmax pmax
comp=Z,15nm,0.6s
KLR Kul'dur 31.23 64 LR LR 03 35 20.4
comp=Z,277nm,19.3s,baz=258,slow=40
KLR Kul'dur 31.23 64*ce*P **P** **03 21 04.4 +0.9**
KLR pmax pmax
comp=Z,2.0nm,1.0s
KBZ Khabaz 31.27 285 P **P** **03 21 04.7 +0.8**
comp=Z,4.3nm,0.8s,baz=78,slow=5.6,SNR=14
KBZ LR LR 03 36 17.3
comp=Z,472nm,18.3s,baz=67,slow=41
comp=Z,4.3nm,0.8s
KBZ Khabaz 31.27 285*ce*P **P** **03 21 04.9 +1.0**
KBZ pmax pmax
comp=Z,4.0nm,0.8s
KVAR Kislovodsk Arr 31.35 286 LR LR 03 33 41.4
comp=Z,317nm,21.2s,baz=238,slow=36
KIV Kislovodsk 31.36 286 *e*P **P** **03 21 05.1 +0.3**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,351nm,15.0s
SHA1 Shidzhatmaz 31.44 286*ce*P **P** **03 21 07.2 +1.5**
QIZ Qiongzhong 31.45 134 P **P** **03 21 05.2 -0.5**
QIZ pmax pmax
comp=Z,87nm,0.8s
QIZ pmax pmax
comp=Z,87nm,3.6s
QIZ LR LR
comp=Z,150nm,15.3s
QIZ LR LR
comp=Z,190nm,13.9s
QIZ LR LR
comp=Z,260nm,14.1s
KSRS Korea Array 31.78 87 P **P** **03 21 07.5 -0.9**
comp=Z,1.0nm,0.6s,baz=280,slow=8.8,SNR=6.2
KSRS LR LR 03 35 05.2
comp=Z,92nm,18.1s,baz=300,slow=39
comp=Z,1.0nm,0.6s
VORR Voronezh 32.34 301 *e*P **P** **03 21 11.8 -1.4**
VORR pmax pmax
comp=Z,50nm,0.5s
VORD Divnogorie 32.35 300 *e*P **P** **03 21 11.8 -1.5**
VORD pmax pmax
comp=Z,30nm,0.6s
USRK Usuriysk Ar. 32.38 73 LR LR 03 35 35.0
comp=Z,505nm,19.7s,baz=283,slow=39
VSR Storozhevoye 32.41 300 *e*P **P** **03 21 12.7 -1.1**
VSR pmax pmax
comp=Z,10.0nm,1.4s
LPSR Galich'ya Gora 32.44 303 *e*P **P** **03 21 13.7 -0.4**
LPSR pmax pmax
comp=Z,20nm,1.0s
KLMR Klimovskoe 32.58 318 *e*P **P** **03 21 13.8 -1.4**
KLMR pmax pmax
comp=Z,59nm,1.3s
KLMR MLR MLR
comp=Z,632nm,15.0s
UBPT Khong Chiam 32.63 145 P **P** **03 21 15.9 -0.2**
MOS Moscow 33.12 309 *e*P **P** **03 21 19.4 -0.6**
MOS *e* 03 21 36.6
MOS pmax pmax
comp=Z,30nm,1.0s
MOS MLR MLR
comp=Z,600nm,16.0s
OBN Obninsk 33.73 308 LR LR 03 35 56.6
comp=Z,706nm,19.0s,baz=122,slow=38
OBN Obninsk 33.73 308 *i*P **P** **03 21 24.4 -0.9**
OBN pmax pmax
comp=Z,27nm,1.3s
OBN MLR MLR
comp=Z,626nm,17.0s
TIXI Tiksi 34.59 22 P **P** **03 21 32.1 -0.4**
TIXI Tiksi 34.59 22 LR LR 03 36 27.5
comp=Z,1μm,20.7s,baz=247,slow=38
TIXI Tiksi 34.59 22*ce*P **P** **03 21 32.6 +0.1**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TIXI Tiksi 34.59 22 P **P** **03 21 32.6 +0.1**
ARPR Arapgir-MALATY 36.05 280 P **P** **03 21 47.5 +1.8**
LVZ Lovozero 36.20 330 P **P** **03 21 46.5 -0.1**
PALK Pallekele 36.69 190 LR LR 03 39 11.4
comp=Z,149nm,18.7s,baz=104,slow=40
JOF Joensuu 36.71 321 *e*P **P** **03 21 52.1 +1.2**
SIM Simferopol' 36.98 291 *e*P **P** **03 21 54.1 +0.7**
SIM pmax pmax
comp=Z,8.0nm,0.9s
JOW Kunigami 37.56 103 LR LR 03 38 56.3
comp=Z,260nm,19.4s,baz=348,slow=39
GAZ Gaziantep 37.65 277 P **P** **03 21 59.9 +0.6**
TYV Tymovskoe 37.90 59 *e*P P 03 22 10.7 +10
TYV pmax pmax
comp=Z,100nm,3.3s

TYV pmax pmax
comp=Z,5.0nm,1.0s
AK09 Malin Array Si 38.67 301 P **P** **03 22 08.1 +0.5**
AK08 Malin Array Si 38.69 301 P **P** **03 22 08.9 +1.2**
AKASG Malin Array Be 38.69 301 P **P** **03 22 08.3 +0.5**
comp=Z,0.7nm,0.4s,baz=65,slow=9.0,SNR=4.1
AKASG LR LR 03 39 14.6
comp=Z,226nm,18.3s,baz=81,slow=38
comp=Z,0.7nm,0.4s
AKBB Malin Array Si 38.69 301 P **P** **03 22 08.3 +0.5**
AKBB Malin Array Si 38.69 301*ce*P **P** **03 22 08.4 +0.7**
AKBB pmax pmax
comp=Z,8.0nm,1.1s
AKBB Malin Array Si 38.69 301 P **P** **03 22 08.5 +0.7**
AK10 Malin Array Si 38.70 301 P **P** **03 22 08.7 +0.9**
KIEV Kiev 38.70 301 ⇑P **P** **03 22 08.4 +0.6**
KIEV Kiev 38.70 301 P **P** **03 22 08.2 +0.4**
KIEV Kiev 38.70 301 P **P** **03 22 08.4 +0.6**
KIEV Kiev 38.70 301 P **P** **03 22 08.2 +0.4**
KIEV Kiev 38.70 301 P **P** **03 22 08.5 +0.6**
comp=Z,35nm,1.2s
AK02 Malin Array Si 38.71 301 P **P** **03 22 08.6 +0.7**
AK05 Malin Array Si 38.72 301 P **P** **03 22 08.7 +0.7**
AK07 Malin Array Si 38.74 301 P **P** **03 22 09.1 +0.9**
AK18 Malin Array Si 38.78 301 P **P** **03 22 08.7 +0.2**
MNK Minsk 38.79 307 *i*P **P** **03 22 09.5 +0.9**
comp=E,4.0nm,1.0s
MNK *i*P **P** **03 22 09.5 +0.9**
comp=N,8.0nm,1.1s
MNK *i*P **P** **03 22 09.5 +0.9**
comp=Z,17nm,0.9s,baz=81
MNK *i*PP **PP** **03 23 36.0 -1.2**
MNK *i*PPP PPP 03 23 56.1
MNK *i*S **S** **03 28 05.1 -0.6**
MNK *i*SS SnSn 03 30 28.6 -26
MNK *i*SSS SSS 03 31 32.2
MNK *i*LQ LQ 03 35 13.6
MNK *i*LR LR 03 37 33.6
MNK *i*LRM MLR 03 38 33.8
comp=N,63nm,15.2s
MNK *i*LRM MLR 03 38 50.5
comp=E,133nm,15.2s
MNK *i*LRM MLR 03 38 55.1
comp=Z,469nm,15.9s
MNK Minsk 38.79 307 *i*P **P** **03 22 09.4 +0.9**
MNK *i* 03 23 35.9
MNK *i* 03 24 18.5
MNK *i*S **S** **03 28 05.1 -0.6**
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=Z,17nm,0.9s
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK MLR MLR
comp=N,63nm,15.0s
MNK MLR MLR
comp=E,133nm,15.0s
MNK MLR MLR
comp=Z,469nm,16.0s
AK20 Malin Array Si 38.81 301 P **P** **03 22 09.5 +0.7**
YSS Yuzh-Sakhalins 38.91 65 *e*P **P** **03 22 08.6 -1.1**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=Z,400nm,14.0s
VSU Vasula 38.95 314*ce*P **P** **03 22 10.6 +0.7**
VSU pmax pmax
comp=Z,22nm,1.3s
FINES FINESS Array B 39.12 318 P **P** **03 22 11.8 +0.6**
comp=Z,7.6nm,0.8s,baz=88,slow=8.9,SNR=18
FINES LR LR 03 39 09.1
comp=Z,298nm,18.9s,baz=49,slow=37
comp=Z,7.6nm,0.8s
BR131 Keskin Array S 39.14 283 P **P** **03 22 12.5 +0.7**
BR131 Keskin Array S 39.14 283 P **P** **03 22 12.5 +0.7**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 39.14 283 P **P** **03 22 12.1 +0.2**
BRTR Keskin Array B 39.14 283 P **P** **03 22 13.3 +1.5**
comp=Z,3.6nm,0.8s,baz=87,slow=7.3,SNR=24
BRTR LR LR 03 41 54.1
comp=Z,104nm,18.1s,baz=72,slow=42
comp=Z,3.6nm,0.8s
BR104 Keskin Array S 39.14 283 P **P** **03 22 13.5 +1.6**
comp=Z,3.9nm,0.9s
BR106 Keskin Array S 39.15 283 P **P** **03 22 13.7 +1.8**
comp=Z,5.3nm,0.9s,comp=Z,36nm
BR105 Keskin Array S 39.16 283 P **P** **03 22 13.7 +1.7**
comp=Z,5.2nm,0.9s,comp=Z,34nm
RAYN Ar Rayn 39.18 253 P **P** **03 22 12.8 +0.5**
RAYN Ar Rayn 39.18 253 P **P** **03 22 13.3 +1.0**
RAYN Ar Rayn 39.18 253 P **P** **03 22 12.9 +0.7**
RAYN pP **sP** **03 22 22.5 +4.9**
OUL Oulu 39.23 324 P **P** **03 22 09.8 -2.3**
OUL pmax pmax
comp=Z,24nm,1.4s
ARBE Arbavere 39.27 315 *e*P **P** **03 22 13.8 +1.3**
KEV Kevo 39.31 332 P **P** **03 22 13.4 +0.7**
KEV pP **sP** **03 22 23.0 +5.3**
IDID Didziasalis 39.32 309 *e*P **P** **03 22 15.1 +2.2**
NACGM Naroch 39.36 308 ⇑*i*P **P** **03 22 14.7 +1.4**
comp=Z,31nm,0.8s,baz=81
MJAR Matsushiro Arr 39.60 82 P **P** **03 22 14.5 -1.1**
comp=Z,1.2nm,0.8s,baz=294,slow=7.8,SNR=4.6
comp=Z,1.2nm,0.8s
MI28 Mi28,Pidlybu 39.60 302 P **P** **03 22 16.4 +1.0**
ISAL Salakas 39.63 309 *e*P **P** **03 22 18.1 +2.6**
KEF Keuruu 39.67 320 *e*P **P** **03 22 15.9 +0.1**
ASAJ Asahikawa 39.69 69 LR LR 03 40 04.5
comp=Z,484nm,19.2s,baz=314,slow=38
ARA0 ARCESS Array S 39.79 331 *e*P **P** **03 22 17.4 +0.6**
ARCES ARCESS Array B 39.79 331 P **P** **03 22 17.4 +0.7**
ARCES IAmb IAmb 03 22 18.6
comp=Z,14nm,0.8s
ARCES ARCESS Array B 39.79 331 P **P** **03 22 17.5 +0.7**
comp=Z,13nm,0.7s,baz=90,slow=9.0,SNR=47
ARCES PcP **PcP** **03 24 22.1 -0.6**
comp=Z,4.7nm,1.1s,baz=94,slow=7.3,SNR=1.4
ARCES LR LR 03 41 00.3
comp=Z,595nm,18.5s,baz=108,slow=40
comp=Z,13nm,0.7s
MEF Metsahovi 40.01 317 *e*P **P** **03 22 19.8 +1.1**
KTK1 Kautokeino 40.54 330 *e*P **P** **03 22 23.7 +0.7**
HAMF Hammerfest 40.56 333 *e*P **P** **03 22 24.2 +1.1**
RNPP9 Sopachiv 40.58 303 P **P** **03 22 24.4 +0.9**
RNPP5 Staryi Chortor 40.62 303 P **P** **03 22 24.8 +0.9**
VAF Ylistaro 40.65 321 *e*P **P** **03 22 25.4 +1.5**
VSVD Vaisvydziai 40.78 310 *e*P **P** **03 22 26.8 +1.7**
PABE Paberze 40.85 309 *e*P **P** **03 22 27.9 +2.3**
MMAI Mount Meron Ar 40.92 273 P **P** **03 22 28.1 +1.5**
comp=Z,2.5nm,0.6s,baz=64,slow=11,SNR=3.9
MMAI LR LR 03 42 17.5
comp=Z,82nm,18.5s,baz=22,slow=40
comp=Z,2.5nm,0.6s
CFR Carcaliu 40.93 293 ⇑P **P** **03 22 27.5 +1.0**
CFR Carcaliu 40.93 293 P **P** **03 22 27.4 +1.0**
KMPD K-Podol'skiy 40.97 299 P **pP** **03 22 27.1 -3.2**
KMPD P **P** **03 22 26.3 -0.4**
MA2 Magadan 41.10 44 P **P** **03 22 27.5 -0.2**
MA2 Magadan 41.10 44 LR LR 03 40 10.2
comp=Z,313nm,18.1s,baz=279,slow=37
MA2 Magadan 41.10 44*ce*P **P** **03 22 28.4 +0.7**
MA2 pmax pmax
comp=Z,13nm,2.5s
MA2 Magadan 41.10 44 P **P** **03 22 27.6 -0.1**
MA2 pP **sP** **03 22 37.0 +4.4**
IPM Ipoh 41.14 158 P **P** **03 22 28.1 -0.4**
IPM IAmb IAmb 03 22 28.6
comp=Z,11nm,0.6s
HARR Harsova 41.23 292 ⇑P **P** **03 22 30.8 +1.8**
HARR Harsova 41.23 292 P **P** **03 22 30.7 +1.8**
HOPEN Hopen 41.34 342 *e*P **P** **03 22 31.1 +1.7**
TESR Tescani 41.47 296 ⇑P **P** **03 22 32.2 +1.3**
SEY Seymchan 41.55 39 LR LR 03 40 39.3
comp=Z,501nm,18.5s,baz=279,slow=38
SEY Seymchan 41.55 39 *e*P **P** **03 22 30.1 -1.2**
SEY pmax pmax
comp=Z,3.0nm,1.0s
JETT Jettan, Norway 41.58 331 *e*P **P** **03 22 32.7 +1.2**
SUW Suwalki 41.59 307 P **P** **03 22 32.9 +1.1**
SUW Suwalki 41.59 307 *e*P **P** **03 22 33.6 +1.8**
SUW Suwalki 41.59 307 P **P** **03 22 32.9 +1.1**
SUW pmax pmax
comp=Z,40nm,1.0s

VRI Vrincioaia 41.63 295 ⇓P **P** **03 22 33.8 +1.5**
VRI Vrincioaia 41.63 295 P **P** **03 22 33.8 +1.5**
PLOR5 Plostina Array 41.68 295 P **P** **03 22 34.0 +1.3**
comp=Z,10nm,1.7s
PLOR Plostina 41.69 295 ⇓P **P** **03 22 35.2 +2.5**
PLOR Plostina 41.69 295 P **P** **03 22 35.2 +2.5**
BURAR Bucovina Array 42.05 298 ⇑P **P** **03 22 37.0 +1.2**
BURAR Bucovina Array 42.05 298 P **P** **03 22 36.1 +0.3**
BURAR Bucovina Array 42.05 298 P **P** **03 22 36.9 +1.2**
BUR08 Bucovina Ar. S 42.05 298 P **P** **03 22 36.6 +0.8**
TRO Tromso 42.10 331 *eP* **P** **03 22 36.2 +0.5**
LVV L'vov 42.14 301 *eP* **P** **03 22 37.6 +1.3**
ISP Isparta 42.15 282 P **P** **03 22 37.7 +1.0**
ISP IAmb IAmb 03 22 39.2
comp=Z,15nm,0.8s
ISP Isparta 42.15 282 *ceP* **P** **03 22 38.2 +1.5**
ISP pmax pmax
comp=Z,13nm,0.8s
MLR Muntele Rosu 42.27 294 ⇓P **P** **03 22 40.2 +2.6**
MLR Muntele Rosu 42.27 294 P **P** **03 22 38.9 +1.2**
MLR Muntele Rosu 42.27 294 LR LR 03 44 08.8
comp=Z,190nm,18.2s,baz=60,slow=42
MLR Muntele Rosu 42.27 294 P **P** **03 22 40.2 +2.6**
BJO1 Bjornoya 42.44 338 *eP* **P** **03 22 39.2 +0.8**
DOPR Dopca 42.48 295 ⇑P **P** **03 22 41.3 +2.1**
ARCR ARCALIA 42.78 297 ⇓P **P** **03 22 44.0 +2.4**
KWP Kalwaria Pacla 43.02 301 *eP* **P** **03 22 45.5 +2.1**
KWP Kalwaria Pacla 43.02 301 P **P** **03 22 44.0 +0.5**
KWP IAmb IAmb 03 23 05.1
comp=Z,18nm,0.9s
KWP Kalwaria Pacla 43.02 301 P **P** **03 22 44.0 +0.5**
KWP pmax pmax
comp=Z,18nm,0.9s
EIL Elat 43.02 269 LR LR 03 43 25.2
comp=Z,102nm,20.3s,baz=58,slow=40
ELL Elmali 43.07 281 P **P** **03 22 44.9 +0.7**
ELL Elmali 43.07 281 P **P** **03 22 44.9 +0.7**
ELL pmax pmax
comp=Z,43nm,0.8s
ELND Elena 43.26 291 ⇑P **P** **03 22 47.2 +1.7**
STEI Steigen 43.48 329 *eP* **P** **03 22 47.6 +0.7**
FAUS Fauske 43.50 328 *eP* **P** **03 22 47.7 +0.6**
KOLS Kolonicke sedl 43.50 300 *eP* **P** **03 22 46.6 -0.8**
KOLS Kolonicke sedl 43.50 300 *eP* **P** **03 22 46.6 -0.8**
SPITS Spitsbergen Ar 43.54 344 P **P** **03 22 47.7 +0.3**
comp=Z,3.3nm,0.7s,baz=99,slow=9.0,SNR=9.6
SPITS LR LR 03 45 06.0
comp=Z,270nm,18.4s,baz=74,slow=42
comp=Z,3.3nm,0.7s
HSPB Hornsund (broa 43.58 342 *eP* **P** **03 22 49.1 +1.5**
MARR Marisel-Cluj 43.71 297 ⇑P **P** **03 22 50.9 +1.7**
LOT Lotru 43.72 295 ⇑P **P** **03 22 51.0 +1.7**
DRGR 43.94 297 ⇑P **P** **03 22 51.8 +0.7**
DRGR 43.94 297 P **P** **03 22 51.7 +0.7**
MOR8 Moi Rana 43.95 326 *eP* **P** **03 22 50.3 -0.5**
LOF Lofoten 44.10 329 *eP* **P** **03 22 51.5 -0.4**
KONS Konsvik 44.44 327 *eP* **P** **03 22 55.5 +0.9**
KBS Kingsbay 44.51 345 *eP* **P** **03 22 56.7 +1.6**
KBS Kingsbay 44.51 345 P **P** **03 22 56.2 +1.2**
KBS Kingsbay 44.51 345 *i* P **P** **03 22 55.6 +0.5**
NIE Niedzica 44.57 302 *eP* **P** **03 22 58.2 +2.2**
NIE Niedzica 44.57 302 P **P** **03 22 58.0 +2.0**
NIE pmax pmax
comp=Z,5.0nm,0.9s
OJC Ojcow 44.62 303 *eP* **P** **03 22 57.5 +1.1**
OJC Ojcow 44.62 303 P **P** **03 22 56.5 +0.1**
OJC IAmb IAmb 03 22 58.5
comp=Z,22nm,1.3s
OJC Ojcow 44.62 303 P **P** **03 22 56.5 +0.1**
OJC pmax pmax
comp=Z,22nm,1.3s
OJC Ojcow 44.62 303 P **P** **03 22 57.4 +1.0**
comp=Z,12nm,0.9s
SURR Surduc 44.69 296 ⇓P **P** **03 22 58.7 +1.7**
HERI Herculane 44.82 295 ⇑P **P** **03 23 00.0 +2.0**
BLKB Belogradchik 45.14 293 ⇑P **P** **03 23 02.0 +1.4**
NSS Namsos 45.21 324 *eP* **P** **03 23 01.8 +1.0**
HFS Hagfors 45.30 318 P **P** **03 23 02.2 +0.5**
comp=Z,5.7nm,0.7s,baz=91,slow=8.6,SNR=25
HFS LR LR 03 43 17.9
comp=Z,156nm,19.5s,baz=76,slow=38
comp=Z,5.7nm,0.7s
OKC Ostrava-Krasne 45.75 303 AMS AMS 03 43 10.0
comp=Z,300nm,16.8s
BOVS Bovan 45.78 294 ⇓P **P** **03 23 07.0 +1.4**
VYHS Vyhne 45.79 301 *eP* **P** **03 23 07.6 +1.9**
VYHS Vyhne 45.79 301 *eP* **P** **03 23 07.6 +1.9**
VYHS pmax pmax
comp=Z,7.0nm,1.5s
NC405 NORSAR Array S 46.02 319 P **P** **03 23 08.1 +0.8**
MORC Moravsky Berou 46.14 303 ⇑P **P** **03 23 09.9 +1.4**
MORC Moravsky Berou 46.14 303 P **P** **03 23 07.3 -1.2**
MORC IAmb IAmb 03 23 11.0
comp=Z,19nm,1.5s
MORC Moravsky Berou 46.14 303 *eP* **P** **03 23 09.6 +1.1**
MORC Moravsky Berou 46.14 303 P **P** **03 23 09.8 +1.4**
NC602 NORSAR Array S 46.20 319 P **P** **03 23 09.2 +0.5**
NC602 NORSAR Array S 46.20 319 *eP* **P** **03 23 09.3 +0.5**
NORES NORESS Array B 46.20 319 P **P** **03 23 09.1 +0.4**
NB2 NORSAR Subarra 46.28 319 P **P** **03 23 09.5 +0.1**
comp=Z,3.0nm,0.6s,baz=73,slow=7.9
NB2 NORSAR Subarra 46.28 319 P **P** **03 23 09.5 +0.1**
baz=73,slow=7.9
NB2 NORSAR Subarra 46.28 319 P **P** **03 23 07.0 -2.4**
NOA NORSAR Array B 46.28 319 P **P** **03 23 09.4 0.0**
comp=Z,8.7nm,0.8s,baz=76,slow=7.8,SNR=24
NOA LR LR 03 43 30.4
comp=Z,325nm,18.4s,baz=80,slow=37
comp=Z,8.7nm,0.8s
PETK Petropavlovsk- 46.30 52 LR LR 03 44 01.5
comp=Z,498nm,18.5s,baz=258,slow=38
SRO Srobarova 46.37 300 *eP* **P** **03 23 12.1 +1.9**
SRO Srobarova 46.37 300 *eP* **P** **03 23 12.1 +1.9**
SRO pmax pmax
comp=Z,8.0nm,0.8s
KRLC Kraliky 46.50 304 AMS AMS 03 43 40.0
comp=Z,300nm,14.4s
BILL Bilibino 46.60 31 ⇑*eP* **P** **03 23 13.9 +2.1**
BILL pmax pmax
comp=Z,15nm,2.5s
OSTC Ostas 46.67 304 AMS AMS 03 43 40.0
comp=Z,500nm,18.8s
DPC Dobruska-Polom 46.68 304 *eP* **P** **03 23 14.5 +1.8**
DPC AMS AMS 03 43 30.0
comp=Z,400nm,13.3s
DPC Dobruska-Polom 46.68 304 *eP* **P** **03 23 14.5 +1.8**
DPC MLR MLR
comp=Z,400nm,13.3s
CHVC Chvalec 46.76 304 *eP* **P** **03 23 15.6 +2.3**
CHVC AMS AMS 03 43 50.0
comp=Z,500nm,15.5s
CHVC Chvalec 46.76 304 *eP* **P** **03 23 15.6 +2.3**
CHVC MLR MLR
comp=Z,500nm,15.5s
MORH Mrgy, Hungar 46.76 298 ⇑P **P** **03 23 13.7 +0.4**
MORH Mrgy, Hungar 46.76 298 P **P** **03 23 14.2 +0.9**
comp=Z,4.2nm,1.1s
MODS Modra-Piesok 46.80 301 *eP* **P** **03 23 15.8 +2.1**
MODS Modra-Piesok 46.80 301 *eP* **P** **03 23 15.8 +2.1**
MODS pmax pmax
comp=Z,17nm,1.4s
UPC Upice 46.81 304 *eP* **P** **03 23 14.9 +1.2**
UPC AMS AMS 03 43 40.0
comp=Z,500nm,14.6s
UPC Upice 46.81 304 *eP* **P** **03 23 14.9 +1.2**
UPC MLR MLR
comp=Z,500nm,14.6s
PET Petropavlovsk 46.87 52 *eP* **P** **03 23 12.9 -1.2**
PET *eS* **S** **03 30 00.1 -4.4**
PET *eSS* **SS** **03 33 28.3 -2.3**
PET pmax pmax
comp=Z,20nm,1.5s
PET MLR MLR
comp=Z,500nm,16.0s
VRAC Vranov 46.88 303 ⇑P **P** **03 23 15.9 +1.6**
VRAC Vranov 46.88 303 *eP* **P** **03 23 16.0 +1.7**
VRAC Vranov 46.88 303 LR LR 03 43 28.4
comp=Z,107nm,20.4s,baz=81,slow=37
VRAC Vranov 46.88 303 P **P** **03 23 15.8 +1.6**
SBUM Sibu 47.01 144 P **P** **03 23 14.6 -1.0**
DOMB Dombas 47.03 321 *eP* **P** **03 23 15.7 +0.4**
KRUC Moravsky 47.10 302 *eP* **P** **03 23 17.6 +1.7**
FNA Florina 47.21 290 P **P** **03 23 17.5 +0.6**
FNA Florina 47.21 290 P **P** **03 23 17.5 +0.6**
FNA pmax pmax
comp=Z,1.0nm,0.7s
IDI Anoyia 47.34 282 P **P** **03 23 17.6 -0.4**
IDI IAmb IAmb 03 23 28.0
comp=Z,15nm,0.9s
SOP Sopron 47.51 301 P **P** **03 23 22.3 +3.1**
PUK Puka 47.66 292 P **P** **03 23 21.6 +1.1**
PVCC Panska Ves 47.66 305 *eP* **P** **03 23 23.1 +2.8**
PVCC *ex* x 03 23 29.0
PVCC AMS AMS 03 44 10.0
comp=Z,500nm,18.6s
PVCC Panska Ves 47.66 305 *eP* **P** **03 23 23.1 +2.8**
PVCC *e* 03 23 29.0
PVCC MLR MLR
comp=Z,500nm,18.6s
RONA Rosalia, Austr 47.67 301 *i* P **P** **03 23 22.2 +1.8**
comp=Z,3.4nm,0.7s
GOPC GO Pecny, Ondr 47.76 304 AMS AMS 03 44 10.0
comp=Z,400nm,17.2s
CONA Conrad Observa 47.85 301 *eP* **P** **03 23 23.8 +1.8**
comp=Z,6.1nm,1.0s
PRU Pruhonice 47.88 304 AMS AMS 03 44 30.0
comp=Z,500nm,16.6s
BRG Berggiesshubel 47.91 305 *eP* **P** **03 23 23.7 +1.5**
BRG Amp 03 23 26.2
comp=Z,4.4nm,1.1s
BRG Berggiesshubel 47.91 305 *eP* **P** **03 23 23.7 +1.5**
BRG pmax pmax
comp=Z,4.0nm,1.1s
PRA Prague 47.91 304 AMS AMS 03 44 30.0
comp=Z,500nm,15.4s
ZVC Zvikov 48.30 304 *eP* **P** **03 23 24.3 -0.9**
CLL Collm 48.30 306 *eP* **P** **03 23 26.0 +0.8**
comp=Z,11nm,1.3s
CLL *ePP* **PP** **03 25 17.0 -0.4**
CLL *ePPP* PPP 03 26 07.0
CLL *eS* **S** **03 30 24.0 -0.9**
CLL AMS AMS 03 44 00.0
comp=N,200nm,20.5s
CLL AMS AMS 03 44 00.0
comp=E,300nm,20.4s
CLL AMS AMS 03 44 00.0
comp=Z,400nm,18.2s
CLL Collm 48.30 306 *eP* **P** **03 23 26.0 +0.8**
CLL pmax pmax
comp=Z,11nm,1.3s
CLL MLR MLR
comp=Z,400nm,18.2s
HSKC Hora Svate Kat 48.31 305 AMS AMS 03 44 40.0
comp=Z,500nm,16.2s
ARSA Arzberg 48.33 300 *eP* **P** **03 23 26.9 +1.4**
comp=Z,1.7nm,0.7s
CKRC Cesky Krumlov 48.46 303 *eP* **P** **03 23 27.3 +0.8**
CKRC AMS AMS 03 44 50.0
comp=Z,200nm,13.8s
CKRC Cesky Krumlov 48.46 303 *eP* **P** **03 23 27.3 +0.8**
CKRC MLR MLR
comp=Z,200nm,13.8s
KHC Kasperske Hory 48.78 303 *eP* P 03 23 35.3 +6.3
KHC *ex* x 03 23 45.9
KHC AMS AMS 03 44 50.0
comp=Z,300nm,13.1s
KHC Kasperske Hory 48.78 303 *eP* P 03 23 35.3 +6.3
KHC *e* 03 23 45.9
KHC MLR MLR
comp=Z,300nm,13.1s
GERES GERESS Array B 48.82 303 P **P** **03 23 30.9 +1.5**
comp=Z,0.4nm,0.4s,baz=68,slow=8.5,SNR=3.7
GERES LR LR 03 44 38.4
comp=Z,131nm,20.9s,baz=74,slow=37
comp=Z,0.4nm,0.4s
NOR Nord 48.92 349 *i* P **P** **03 23 29.9 +0.3**
NOR IAmb IAmb 03 23 31.3
comp=Z,5.0nm,0.7s
NKC Novy Kostel 49.03 305 AMS AMS 03 45 10.0
comp=Z,600nm,18.7s
OBKA Obir 49.24 300 *i* P **P** **03 23 34.0 +1.4**
comp=Z,2.8nm,0.6s
BIOA Bad Ischl, Aus 49.32 302 *i* P **P** **03 23 34.9 +1.8**
comp=Z,2.3nm,0.7s
ATD Arta Tunnel 49.43 243 LR LR 03 47 13.7
comp=Z,6.1nm,21.9s,baz=24,slow=39
KBA Koenbreinsper 49.76 301 *i* P **P** **03 23 37.9 +1.3**
comp=Z,2.2nm,0.5s
MYKA Terra Mystica 49.76 300 *eP* **P** **03 23 38.1 +1.6**
comp=Z,5.2nm,1.3s
LESA Schwarzleotal 50.02 302 *i* P **P** **03 23 40.4 +1.8**
comp=Z,3.4nm,0.7s
ABTA Abfaltersbach 50.41 301 *eP* **P** **03 23 41.9 +0.3**
comp=Z,4.2nm,1.4s
WTTA Wattenberg 50.73 302 *eP* **P** **03 23 44.6 +0.5**
comp=Z,6.6nm,0.6s
WATA Walderalm 50.74 302 *eP* **P** **03 23 45.1 +1.1**
comp=Z,11nm,1.6s
JMIC Jan Mayen 50.95 335 LR LR 03 49 12.8
comp=Z,145nm,18.7s,baz=144,slow=41
SQTA Sankt Quirin 51.02 302 *eP* **P** **03 23 47.4 +1.2**
comp=Z,7.9nm,0.9s
MOTA Moosalm 51.03 302 *eP* **P** **03 23 47.4 +1.2**
comp=Z,12nm,1.4s
RETA Rettte 51.17 302 *i* P **P** **03 23 48.8 +1.6**
comp=Z,5.3nm,1.0s
DAG Danmarks Havn 51.19 343 P **P** **03 23 46.7 -0.1**
DAG Danmarks Havn 51.19 343 *i* P **P** **03 23 46.8 -0.1**
DAG IAmb IAmb 03 23 47.9
comp=Z,9.0nm,0.8s
CUC Castrocucco 51.34 292 P **P** **03 23 49.9 +1.4**
CUC IAmb IAmb 03 23 51.6
comp=Z,12nm,0.9s
FETA Feichten 51.40 302 *i* P **P** **03 23 50.3 +1.2**
comp=Z,5.9nm,1.0s
FDMO Fiordimonte 51.70 296 P **P** **03 23 51.9 +0.7**
FDMO IAmb IAmb 03 24 05.7
comp=Z,13nm,1.2s
NRCA Norcia 51.78 296 P **P** **03 23 52.7 +0.9**
DAVOX Davos/Dischmat 52.03 302 LR LR 03 46 44.4
comp=Z,126nm,21.1s,baz=60,slow=37
TUE Stuetta 52.49 302 P **P** **03 23 58.1 +0.8**
TUE Stuetta 52.49 302 P **P** **03 23 57.9 +0.6**
comp=Z,27nm,1.0s
DBG Daneborg 52.70 341 *i* P **P** **03 23 58.4 +0.3**
DBG IAmb IAmb 03 23 59.7
comp=Z,9.5nm,1.0s
EKA Eskdalemuir Ar 55.42 316 P **P** **03 24 18.6 +0.4**
comp=Z,2.4nm,0.4s,baz=61,slow=6.5,SNR=17
comp=Z,2.4nm,0.4s
ESK Eskdalemuir 55.45 316 P **P** **03 24 19.0 +0.5**
ESK sP sP 03 24 32.8 +9.2
C16K Lisburne Hills 56.25 25 P **P** **03 24 24.6 +0.7**
baz=304
NEEM North Greenlan 56.28 350 *i* P **P** **03 24 24.8 +0.4**
NEEM IAmb IAmb 03 24 25.7
comp=Z,24nm,0.7s
A19K Wainwright 56.37 22 P **P** **03 24 25.4 +0.6**
baz=306
EUNU Eureka 56.40 359 P **P** **03 24 25.4 +0.4**
B18K Kokolik River 56.67 23 P **P** **03 24 26.5 -0.5**
baz=306
C17K DeLong Mountai 56.79 24 P **P** **03 24 27.8 -0.1**
baz=306
TNA Tin City 56.92 29 P **P** **03 24 27.8 -1.0**
baz=304
RDOG Red Dog Mine 57.12 25 P **P** **03 24 30.3 0.0**
baz=306
C18K Utukok River 57.27 24 P **P** **03 24 31.6 +0.2**
baz=307
D17K Noatak River 57.28 25 P **P** **03 24 30.8 -0.5**
baz=306
C19K Lookout Ridge 57.46 23 P **P** **03 24 32.6 0.0**
baz=308
A22K Sinclair Lake 57.46 20 P **P** **03 24 32.5 -0.1**
baz=311
F14K Arctic Creek 57.52 28 P **P** **03 24 33.1 0.0**
baz=305
B20K Meade River 57.55 21 P **P** **03 24 33.5 +0.3**
baz=310
SUMG Summit 57.88 343 *i* P **P** **03 24 36.5 +0.5**
SUMG IAmb IAmb 03 24 38.8
comp=Z,58nm,1.9s
KEST Kesra 57.92 291 P **P** **03 24 37.2 +0.8**
comp=Z,2.2nm,0.7s,baz=341,slow=1.5,SNR=1.8
KEST LR LR 03 53 07.8
comp=Z,44nm,18.9s,baz=272,slow=40
comp=Z,2.2nm,0.7s
F15K North Star Dit 57.95 28 P **P** **03 24 35.5 -0.6**
baz=306
E17K Hotham Inlet 58.04 25 P **P** **03 24 37.0 +0.4**
baz=307
BORG Borgarnes 58.20 331 LR LR 03 49 53.3
comp=Z,130nm,21.2s,baz=47,slow=36
E18K Tukpahlearik C 58.20 25 P **P** **03 24 38.0 +0.2**
E18K IAmb IAmb 03 24 39.4
comp=Z,10nm,0.8s
E18K Tukpahlearik C 58.20 25 P **P** **03 24 38.0 +0.2**
baz=308,SNR=5.6
D19K Kuna River 58.26 23 P **P** **03 24 38.3 +0.1**
D19K IAmb IAmb 03 24 39.7
comp=Z,15nm,0.9s
D19K Kuna River 58.26 23 P **P** **03 24 38.6 +0.3**
baz=310,SNR=9.2
B22K Teshekpuk Lake 58.29 20 P **P** **03 24 38.7 +0.4**
B22K IAmb IAmb 03 24 39.9
comp=Z,15nm,0.9s
B22K Teshekpuk Lake 58.29 20 P **P** **03 24 38.9 +0.5**
baz=312,SNR=9.1
B21K Ikpikpuk River 58.47 21 P **P** **03 24 40.1 +0.5**
B21K Ikpikpuk River 58.47 21 P **P** **03 24 40.1 +0.5**
baz=312,SNR=7.8
D20K Etivluk River 58.54 22 P **P** **03 24 40.4 +0.2**
baz=311,SNR=9.1
F17K Baldwin Pennin 58.61 26 P **P** **03 24 41.9 +1.2**
F17K Baldwin Pennin 58.61 26 P **P** **03 24 41.3 +0.6**
baz=308
C21K Knifeblade Rid 58.74 22 P **P** **03 24 41.9 +0.4**
baz=312,SNR=8.2
G16K Koyuk River 58.90 27 P **P** **03 24 43.9 +1.2**
baz=308
E20K Nigu River 58.96 23 P **P** **03 24 43.2 +0.1**
baz=311,SNR=17
F18K Selawik 59.01 25 P **P** **03 24 43.9 +0.5**
baz=309,SNR=9.3
E19K Redstone River 59.19 24 P **P** **03 24 44.9 +0.2**
E19K IAmb IAmb 03 24 46.1
comp=Z,10nm,0.8s
E19K Redstone River 59.19 24 P **P** **03 24 45.0 +0.4**
baz=311,SNR=7.0
C23K Itkillik River 59.34 20 P **P** **03 24 45.8 +0.1**
C23K IAmb IAmb 03 24 47.5
comp=Z,16nm,1.1s
C23K Itkillik River 59.34 20 P **P** **03 24 46.3 +0.6**
baz=315,SNR=9.0
G17K Kiwalik Mounta 59.39 27 P **P** **03 24 47.0 +0.9**
baz=309
H16K Elim 59.41 28 P **P** **03 24 47.2 +0.9**
baz=308
F19K Shaleruckik Mo 59.43 24 P **P** **03 24 46.4 0.0**
F19K IAmb IAmb 03 24 57.0
comp=Z,11nm,1.3s
F19K Shaleruckik Mo 59.43 24 P **P** **03 24 47.0 +0.6**
baz=311
E21K Killik River 59.44 22 P **P** **03 24 47.3 +0.8**
baz=313
D22K Ayikyak River 59.48 21 P **P** **03 24 46.5 -0.2**
D22K IAmb IAmb 03 24 48.6
comp=Z,12nm,0.9s
D22K Ayikyak River 59.48 21 P **P** **03 24 47.1 +0.4**
baz=314,SNR=5.9
G18K Tagagawik 59.78 26 P **P** **03 24 49.3 +0.6**
baz=310
C24K Franklin Bluff 59.89 19 P **P** **03 24 50.1 +0.7**
baz=316
F20K Avaraart Lake 59.90 24 P **P** **03 24 49.7 +0.2**
baz=312
D23K Nanushuk River 59.94 21 P **P** **03 24 50.4 +0.5**
baz=315
H17K Granite Mounta 59.99 27 P **P** **03 24 50.7 +0.5**
H17K Granite Mounta 59.99 27 P **P** **03 24 50.2 -0.1**
baz=310,SNR=5.1
G19K Purcell Mounta 60.10 25 P **P** **03 24 51.3 +0.4**
G19K IAmb IAmb 03 24 52.6
comp=Z,21nm,1.4s
G19K Purcell Mounta 60.10 25 P **P** **03 24 51.3 +0.4**
baz=312,SNR=5.4
J14K Nanvaranak Lak 60.12 30 P **P** **03 24 52.1 +0.9**
baz=308
K13K Kusilvak Mount 60.22 31 P **P** **03 24 52.8 +0.9**
baz=308
E22K Anaktuvuk Pass 60.24 22 P **P** **03 24 52.1 +0.2**
baz=315
D24K Happy Valley 60.27 20 P **P** **03 24 51.9 -0.2**
baz=317
H18K Honhosa River 60.35 26 P **P** **03 24 53.1 +0.3**
baz=311
I17K Unalakleet 60.41 28 P **P** **03 24 53.7 +0.6**
baz=310
F21K Alatna River 60.42 23 P **P** **03 24 53.2 0.0**
F21K IAmb IAmb 03 24 54.7
comp=Z,14nm,1.1s
F21K Alatna River 60.42 23 P **P** **03 24 53.5 +0.3**
baz=314,SNR=15
TOLK Toolik Lake Re 60.45 20 P **P** **03 24 53.5 0.0**
TOLK Toolik Lake Re 60.45 20 P **P** **03 24 53.7 +0.3**
baz=316,SNR=14
M11K Mekoryuk 60.58 33 P **P** **03 24 54.7 +0.5**
baz=307
F22K John River 60.58 22 P **P** **03 24 54.7 +0.5**
baz=315,SNR=15
C26K Camden Bay 60.62 18 P **P** **03 24 55.0 +0.6**
baz=319,SNR=6.0
H19K Roundabout Mou 60.70 25 P **P** **03 24 55.7 +0.6**
H19K IAmb IAmb 03 24 57.1
comp=Z,11nm,0.8s
H19K Roundabout Mou 60.70 25 P **P** **03 24 55.5 +0.4**
baz=312,SNR=6.2
D25K Kavik River 60.73 19 P **P** **03 24 56.1 +0.8**
D25K IAmb IAmb 03 24 56.8
comp=Z,6.8nm,0.9s
D25K Kavik River 60.73 19 P **P** **03 24 55.7 +0.3**
baz=318,SNR=8.8
J16K Anvik River 60.83 28 P **P** **03 24 56.7 +0.7**
baz=310
E23K Chandalar 60.87 21 P **P** **03 24 56.3 0.0**
baz=316
G21K Allakaket 60.90 23 P **P** **03 24 57.4 +0.9**
baz=314
GCSA Galena City Sc 61.10 26 P **P** **03 24 58.2 +0.5**
baz=312
C27K Jago River 61.11 18 P **P** **03 24 58.2 +0.4**
baz=320,SNR=16
K15K Wolf Creek Mou 61.14 30 P **P** **03 24 58.4 +0.3**
baz=310
E24K Your Creek 61.15 21 P **P** **03 24 58.3 +0.2**
E24K IAmb IAmb 03 24 59.5
comp=Z,12nm,0.8s
E24K Your Creek 61.15 21 P **P** **03 24 58.0 -0.1**
baz=317,SNR=18
G22K Bettles 61.18 22 P **P** **03 24 58.5 +0.1**
baz=315,SNR=12
IMAR Indian Mountai 61.20 24 P **P** **03 24 58.4 -0.1**
H20K Anotleneega Mo 61.21 25 P **P** **03 24 58.7 +0.1**
baz=313,SNR=13
J17K VABM Dome 61.28 28 P **P** **03 24 59.5 +0.5**
J17K VABM Dome 61.28 28 P **P** **03 24 59.7 +0.7**
baz=311,SNR=6.3
COLD Coldfoot 61.32 22 P **P** **03 24 59.4 +0.1**
baz=316,SNR=23
L14K Kuka Creek 61.33 31 P **P** **03 25 00.2 +0.9**
L14K Kuka Creek 61.33 31 P **P** **03 24 59.6 +0.2**
baz=309
L15K Ungalak Mounta 61.55 30 P **P** **03 25 01.0 +0.1**
baz=310
F24K Squaw Lake 61.71 21 P **P** **03 25 02.3 +0.3**
F24K IAmb IAmb 03 25 03.3
comp=Z,8.1nm,0.7s
F24K Squaw Lake 61.71 21 P **P** **03 25 02.3 +0.3**
baz=318,SNR=16
H21K Melozitna Rive 61.71 24 P **P** **03 25 02.1 +0.2**
H21K IAmb IAmb 03 25 03.5
comp=Z,9.3nm,1.0s
H21K Melozitna Rive 61.71 24 P **P** **03 25 02.4 +0.5**
baz=315,SNR=8.0
G23K Bananza Creek 61.74 22 P **P** **03 25 02.6 +0.4**
G23K IAmb IAmb 03 25 03.7
comp=Z,8.0nm,1.1s
G23K Bananza Creek 61.74 22 P **P** **03 25 02.1 0.0**
baz=317,SNR=6.1
I20K Naaghedeneel 61.81 25 P **P** **03 25 03.2 +0.6**
I20K Naaghedeneel 61.81 25 P **P** **03 25 03.2 +0.6**
baz=314
E25K Arctic Village 61.84 20 P **P** **03 25 02.9 +0.1**
E25K IAmb IAmb 03 25 04.0
comp=Z,6.5nm,0.9s
E25K Arctic Village 61.84 20 P **P** **03 25 02.6 -0.2**
baz=320,SNR=8.2

RES Resolute Bay 61.86 0 LR LR 03 53 31.7
comp=Z,240nm,19.5s,baz=18,slow=38
H22K Ishtalitna Cre 61.96 23 P **P** **03 25 03.8 +0.2**
baz=316
M14K Bethel 61.98 31 P **P** **03 25 04.2 +0.5**
baz=310
K17K Iditarod 61.99 28 P **P** **03 25 04.8 +0.8**
K17K Iditarod 61.99 28 P **P** **03 25 04.7 +0.8**
baz=312,SNR=6.2
J19K Poorman 62.01 26 P **P** **03 25 04.4 +0.4**
J19K Poorman 62.01 26 P **P** **03 25 04.3 +0.4**
baz=313,SNR=10
D27M Malcolm River 62.02 17 P **P** **03 25 04.6 +0.5**
D27M IAmb IAmb 03 25 05.8
comp=Z,7.2nm,0.8s
D27M Malcolm River 62.02 17 P **P** **03 25 04.2 +0.2**
baz=323
J18K Innoko River 62.02 27 P **P** **03 25 04.8 +0.7**
J18K IAmb IAmb 03 25 05.8
comp=Z,11nm,0.8s
J18K Innoko River 62.02 27 P **P** **03 25 04.3 +0.2**
baz=313,SNR=8.0
F25K Christian Rive 62.22 20 P **P** **03 25 05.7 +0.3**
baz=320,SNR=30
L16K Owhat River 62.26 29 P **P** **03 25 06.0 +0.3**
baz=312
J20K Nowinta River 62.35 26 P **P** **03 25 06.9 +0.6**
J20K IAmb IAmb 03 25 08.3
comp=Z,11nm,0.8s
J20K Nowinta River 62.35 26 P **P** **03 25 07.0 +0.8**
baz=314,SNR=7.9
L17K Donlin 62.39 29 P **P** **03 25 07.1 +0.5**
baz=312,SNR=8.5
A36M Sachs Harbour 62.41 11 P **P** **03 25 06.5 0.0**
A36M Sachs Harbour 62.41 11 P **P** **03 25 06.8 +0.3**
baz=334,SNR=22
D28M Stokes Point 62.42 17 P **P** **03 25 07.0 +0.5**
baz=324
G24K Hadweenzic Riv 62.43 21 P **P** **03 25 07.2 +0.4**
G24K IAmb IAmb 03 25 08.5
comp=Z,13nm,0.9s
G24K Hadweenzic Riv 62.43 21 P **P** **03 25 07.4 +0.6**
baz=318,SNR=9.2
M15K Kasigluk River 62.49 31 P **P** **03 25 07.6 +0.4**
baz=311
F26K Sheenjek River 62.51 19 P **P** **03 25 07.7 +0.4**
baz=321,SNR=6.6
H23K Yukon River 62.52 23 P **P** **03 25 08.1 +0.7**
H23K IAmb IAmb 03 25 09.5
comp=Z,12nm,0.9s
H23K Yukon River 62.52 23 P **P** **03 25 08.3 +0.9**
baz=317,SNR=14
BMAR Burnt Mountain 62.61 20 P **P** **03 25 08.8 +0.8**
N14K Kuskokwak Cree 62.62 32 P **P** **03 25 08.5 +0.5**
baz=311
TTA Tatalina 62.62 27 P **P** **03 25 09.1 +0.9**
baz=314
E27K Coleen River 62.72 18 P **P** **03 25 08.9 +0.2**
E27K Coleen River 62.72 18 P **P** **03 25 08.8 +0.1**
baz=323,SNR=21
G25K Bearman Lake 62.74 21 P **P** **03 25 09.8 +1.0**
baz=320
MLY Manley 62.77 24 P **P** **03 25 09.5 +0.5**
MLY IAmb IAmb 03 25 10.8
comp=Z,12nm,1.0s
MLY Manley 62.77 24 P **P** **03 25 09.6 +0.5**
baz=317,SNR=11
E28M Babbage River 62.84 17 P **P** **03 25 10.1 +0.6**
E28M Babbage River 62.84 17 P **P** **03 25 09.8 +0.4**
baz=324,SNR=5.7
L18K Granite Mounta 62.88 28 P **P** **03 25 10.4 +0.6**
L18K IAmb IAmb 03 25 11.9
comp=Z,14nm,1.1s
L18K Granite Mounta 62.88 28 P **P** **03 25 10.8 +1.0**
baz=313
M16K Timber Creek 62.90 30 P **P** **03 25 11.2 +1.2**
M16K Timber Creek 62.90 30 P **P** **03 25 12.0 +2.0**
baz=312,SNR=5.7
K20K Telida 62.95 26 P **P** **03 25 10.9 +0.6**
K20K IAmb IAmb 03 25 12.5
comp=Z,9.6nm,0.8s
K20K Telida 62.95 26 P **P** **03 25 11.2 +0.9**
baz=315
H24K Noodor Dome 62.98 22 P **P** **03 25 10.8 +0.3**
H24K Noodor Dome 62.98 22 P **P** **03 25 10.7 +0.3**
baz=318,SNR=6.6
N15K Kwethluk River 63.06 31 P **P** **03 25 11.7 +0.6**
baz=312
I23K Minto, Yukon-K 63.08 23 P **P** **03 25 11.7 +0.7**
I23K IAmb IAmb 03 25 12.9
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 63.08 23 P **P** **03 25 11.7 +0.7**
baz=318,SNR=10.0
FYU Fort Yukon 63.12 21 P **P** **03 25 11.3 0.0**
CHUM Lake Minchumin 63.13 25 P **P** **03 25 12.2 +0.8**
baz=316
G26K Porcupine Rive 63.18 20 P **P** **03 25 12.7 +1.0**
baz=321,SNR=7.8
M17K Holitna River 63.19 29 P **P** **03 25 13.2 +1.3**
M17K Holitna River 63.19 29 P **P** **03 25 12.6 +0.7**
baz=313,SNR=8.3
H25L Birch Creek 63.20 21 P **P** **03 25 12.7 +0.8**
baz=320
O14K Tigyukauivet M 63.22 32 P **P** **03 25 12.5 +0.4**
baz=311
N16K Nishlik Lake 63.34 30 P **P** **03 25 14.0 +1.1**
baz=312
E29M Blow River 63.37 17 P **P** **03 25 13.5 +0.5**
E29M Blow River 63.37 17 P **P** **03 25 13.8 +0.8**
baz=325,SNR=36
BPAW Bear Paw Mtn. 63.38 24 P **P** **03 25 13.3 +0.2**
BPAW IAmb IAmb 03 25 14.5
comp=Z,13nm,0.9s
BPAW Bear Paw Mtn. 63.38 24 P **P** **03 25 13.5 +0.4**
baz=317,SNR=9.5
L19K White Mountain 63.53 27 P **P** **03 25 14.8 +0.6**
L19K IAmb IAmb 03 25 16.4
comp=Z,10nm,0.8s
L19K White Mountain 63.53 27 P **P** **03 25 15.3 +1.2**
baz=315,SNR=5.2
CAST Castle Rocks 63.54 25 P **P** **03 25 14.4 +0.2**
CAST IAmb IAmb 03 25 16.5
comp=Z,12nm,1.0s
CAST Castle Rocks 63.54 25 P **P** **03 25 14.6 +0.4**
baz=316,SNR=10
MDM Murphy Dome 63.54 23 P **P** **03 25 14.6 +0.4**
MDM IAmb IAmb 03 25 16.0
comp=Z,9.0nm,0.7s
F28M Old Crow 63.57 18 P **P** **03 25 14.8 +0.5**
F28M IAmb IAmb 03 25 16.0
comp=Z,10nm,0.9s
F28M Old Crow 63.57 18 P **P** **03 25 14.8 +0.5**
baz=324,SNR=15
NEA2 Nenana 63.58 23 P **P** **03 25 14.7 +0.2**
NEA2 IAmb IAmb 03 25 15.7
comp=Z,11nm,0.9s
NEA2 Nenana 63.58 23 P **P** **03 25 14.6 +0.2**
baz=318,SNR=10
L20K Farewell, AK 63.64 27 P **P** **03 25 15.4 +0.5**
baz=315
POKR Poker Plat Res 63.64 22 P **P** **03 25 14.0 -0.8**
baz=319
M18K Stony River 63.69 28 P **P** **03 25 15.7 +0.5**
baz=314
COLA College 63.71 23 P **P** **03 25 15.8 +0.5**
COLA College 63.71 23 P **P** **03 25 15.5 +0.2**
baz=319
COLA College 63.71 23 P **P** **03 25 15.8 +0.5**
COLA pmax pmax
comp=Z,16nm,0.7s
COLA College 63.71 23 P **P** **03 25 15.7 +0.5**
BWN Browne 63.77 24 P **P** **03 25 15.7 0.0**
KTH Kantishna Hill 63.80 25 P **P** **03 25 15.8 -0.2**
G27K Doyon Strip 63.81 19 P **P** **03 25 16.2 +0.3**
G27K IAmb IAmb 03 25 17.7
comp=Z,7.5nm,0.8s
G27K Doyon Strip 63.81 19 P **P** **03 25 16.6 +0.7**
baz=323,SNR=14
O15K Ungalikthiuk R 63.83 32 P **P** **03 25 16.4 +0.3**
baz=312
PRP Porcupine Dome 63.85 21 P **P** **03 25 15.2 -1.1**
PRP IAmb IAmb 03 25 18.2
comp=Z,8.8nm,1.0s
PRP Porcupine Dome 63.85 21 P **P** **03 25 16.4 0.0**
baz=320,SNR=5.4
N17K Nushagak Hills 63.88 30 P **P** **03 25 15.5 -0.9**
N17K IAmb IAmb 03 25 19.7
comp=Z,9.0nm,0.9s
N17K Nushagak Hills 63.88 30 P **P** **03 25 16.9 +0.4**
baz=314
M19K Big River Lodg 63.88 27 P **P** **03 25 17.2 +0.7**
baz=315
PPLA Purkeypile 63.88 26 P **P** **03 25 16.1 -0.6**
baz=316,SNR=8.1
WRH Wood River Hil 63.95 23 P **P** **03 25 16.4 -0.5**
WRH IAmb IAmb 03 25 17.7
comp=Z,8.9nm,1.0s
NIKH Nikolski High 64.01 41 P **P** **03 25 17.7 +0.3**
baz=309
IL31 64.06 23 P **P** **03 25 16.7 -0.8**
IL31 IAmb IAmb 03 25 18.2
comp=Z,8.6nm,0.8s
ILAR Eielson Array 64.06 23 P **P** **03 25 17.2 -0.4**
ILAR Eielson Array 64.06 23 P **P** **03 25 16.9 -0.6**
comp=Z,7.1nm,0.8s,baz=315,slow=5.2,SNR=77
ILAR LR LR 03 56 55.6
comp=Z,392nm,19.0s,baz=284,slow=40
comp=Z,7.1nm,0.8s
ILAR Eielson Array 64.06 23 P **P** **03 25 17.2 -0.4**
TRF Thorofare Moun 64.06 25 P **P** **03 25 17.4 -0.4**
TRF IAmb IAmb 03 25 19.7
comp=Z,13nm,1.1s
TRF Thorofare Moun 64.06 25 P **P** **03 25 18.3 +0.4**
baz=318
O16K Kokwok River B 64.19 31 P **P** **03 25 19.2 +0.7**
O16K IAmb IAmb 03 25 21.4
comp=Z,16nm,1.1s
O16K Kokwok River B 64.19 31 P **P** **03 25 18.5 0.0**
baz=313
N18K Kilae Creek 64.23 29 P **P** **03 25 19.4 +0.5**
N18K IAmb IAmb 03 25 21.4
comp=Z,12nm,0.9s
N18K Kilae Creek 64.23 29 P **P** **03 25 19.6 +0.8**
baz=314,SNR=5.3
MCK McKinley 64.26 24 P **P** **03 25 19.5 +0.6**
baz=318,SNR=5.6
MCK McKinley 64.26 24 P **P** **03 25 19.5 +0.6**
H27K Steamboat Moun 64.31 20 P **P** **03 25 19.4 +0.2**
baz=323
M20K Styx River 64.31 27 P **P** **03 25 19.7 +0.3**
baz=316
INK Inuvik 64.31 15 P **P** **03 25 19.4 +0.2**
INK IAmb IAmb 03 25 20.7
comp=Z,12nm,1.1s
INK Inuvik 64.31 15 P **P** **03 25 19.5 +0.3**
baz=329,SNR=13
INK Inuvik 64.31 15 LR LR 03 57 08.6
comp=Z,99nm,18.3s,baz=318,slow=40
INK Inuvik 64.31 15 P **P** **03 25 19.4 +0.2**
INK pmax pmax
comp=Z,12nm,1.1s
HDA Harding Lake 64.32 23 P **P** **03 25 17.7 -1.6**
HDA Harding Lake 64.32 23 P **P** **03 25 19.1 -0.1**
baz=320
DY2G Dye2 64.32 341 *i* P **P** **03 25 19.9 +0.3**
ESDC Sonseca Array 64.34 301 P **P** **03 25 20.4 +0.5**
comp=Z,1.7nm,0.8s,baz=53,slow=6.5,SNR=13
comp=Z,1.7nm,0.8s
O17K Koliganek Bris 64.44 30 P **P** **03 25 20.2 +0.1**
baz=314
F30M Barrier River 64.46 17 P **P** **03 25 20.4 +0.3**
baz=327,SNR=9.5
RND Reindeer 64.53 24 P **P** **03 25 20.4 -0.4**
RND Reindeer 64.53 24 P **P** **03 25 20.4 -0.4**
RND pmax pmax
comp=Z,5.0nm,1.0s
G29M Pine Creek 64.56 18 P **P** **03 25 21.2 +0.4**
G29M IAmb IAmb 03 25 22.5
comp=Z,13nm,0.9s
G29M Pine Creek 64.56 18 P **P** **03 25 20.9 0.0**
baz=326,SNR=11
J25K Salcha River, 64.60 22 P **P** **03 25 20.3 -0.9**
J25K Salcha River, 64.60 22 P **P** **03 25 21.2 0.0**
baz=321
N19K Bonanza Creek 64.63 28 P **P** **03 25 21.9 +0.4**
baz=315
I26K Coal Creek Min 64.64 21 P **P** **03 25 22.5 +1.1**
baz=322
SKT Skwentna 64.76 26 P **P** **03 25 21.8 -0.4**
SKT IAmb IAmb 03 25 23.8
comp=Z,15nm,1.2s
SKT Skwentna 64.76 26 P **P** **03 25 22.7 +0.5**
baz=317
I27K Kandik River 64.79 20 P **P** **03 25 22.7 +0.3**
baz=323,SNR=5.1
CUT Chulitna 64.85 26 P **P** **03 25 21.9 -0.8**
baz=318
SFJD Kangerlussuaq 64.87 343 LR LR 03 57 30.4
comp=Z,187nm,18.6s,baz=26,slow=40
G30M tAoh Zraii Nji 64.90 17 P **P** **03 25 23.2 +0.1**
G30M IAmb IAmb 03 25 24.2
comp=Z,15nm,1.4s
G30M tAoh Zraii Nji 64.90 17 P **P** **03 25 23.0 0.0**
baz=327
C36M Paulatuk 64.98 12 P **P** **03 25 23.1 -0.4**
C36M Paulatuk 64.98 12 P **P** **03 25 22.8 -0.7**
baz=336,SNR=44
F31M Tsiigehtchic 65.02 16 P **P** **03 25 23.5 -0.3**
F31M IAmb IAmb 03 25 24.8
comp=Z,9.7nm,1.0s
F31M Tsiigehtchic 65.02 16 P **P** **03 25 23.7 0.0**
baz=329,SNR=8.4
WAT1 Susitna Watana 65.06 25 P **P** **03 25 23.2 -1.0**
baz=319
O18K Koktuh Hills 65.06 29 P **P** **03 25 24.6 +0.5**
O18K Koktuh Hills 65.06 29 P **P** **03 25 24.0 -0.2**
baz=315,SNR=6.7
H29M Whitestone 65.06 18 P **P** **03 25 23.9 -0.2**
H29M IAmb IAmb 03 25 25.5
comp=Z,8.8nm,0.9s
H29M Whitestone 65.06 18 P **P** **03 25 23.9 -0.2**
baz=326,SNR=9.1
P17K Kvichak River 65.08 30 P **P** **03 25 24.3 0.0**
baz=315
K24K Donnelly Dome 65.11 23 P **P** **03 25 24.2 -0.3**
baz=321,SNR=6.9
N20K Mount Spurr 65.11 27 P **P** **03 25 24.7 +0.1**
baz=317
O19K Port Alsworth 65.13 29 P **P** **03 25 24.7 +0.1**
baz=316
J26L Joseph Creek 65.17 21 P **P** **03 25 24.7 -0.3**
J26L IAmb IAmb 03 25 25.9
comp=Z,10nm,0.9s
J26L Joseph Creek 65.17 21 P **P** **03 25 24.8 -0.2**
baz=322,SNR=12
DHY Denali Highway 65.22 24 P **P** **03 25 25.1 -0.2**
DHY Denali Highway 65.22 24 P **P** **03 25 25.0 -0.3**
baz=320,SNR=14
EPYK Eagle Plains 65.30 18 P **P** **03 25 25.9 +0.1**
EPYK IAmb IAmb 03 25 26.6
comp=Z,9.9nm,0.8s
EPYK Eagle Plains 65.30 18 P **P** **03 25 25.1 -0.6**
baz=327,SNR=9.4
I28M Miner Creek 65.33 19 P **P** **03 25 26.1 +0.1**
I28M IAmb IAmb 03 25 26.8
comp=Z,7.1nm,0.8s
I28M Miner Creek 65.33 19 P **P** **03 25 25.1 -0.8**
baz=325,SNR=12
G31M Satah River 65.36 16 P **P** **03 25 25.6 -0.3**
G31M Satah River 65.36 16 P **P** **03 25 25.1 -0.8**
baz=329,SNR=32
Q16K King Salmon 65.36 31 P **P** **03 25 25.9 -0.2**
baz=315
P18K Big Mountain, 65.38 30 P **P** **03 25 26.3 0.0**
baz=315
SUA Susitna One 65.40 26 P **P** **03 25 26.3 -0.2**
baz=318
RSO Redoubt South 65.47 28 P **P** **03 25 27.9 +0.8**
SCRK Sand Creek 65.47 22 P **P** **03 25 26.7 -0.3**
SCRK IAmb IAmb 03 25 27.7
comp=Z,9.3nm,0.9s
SCRK Sand Creek 65.47 22 P **P** **03 25 26.5 -0.4**
baz=322,SNR=9.6
WAT6 Susitna Watana 65.49 24 P **P** **03 25 26.6 -0.5**
baz=320,SNR=6.5
EGAK Eagle 65.57 20 P **P** **03 25 27.8 +0.4**
EGAK IAmb IAmb 03 25 28.6
comp=Z,11nm,1.1s
EGAK Eagle 65.57 20 P **P** **03 25 27.0 -0.4**
baz=324,SNR=7.3
PMR Palmer 65.81 26 P **P** **03 25 28.8 -0.2**
baz=319
PAX Paxson 65.85 23 P **P** **03 25 29.5 +0.1**
baz=321,SNR=6.8
P19K Oil Pt 65.90 29 P **P** **03 25 30.4 +0.7**
P19K Oil Pt 65.90 29 P **P** **03 25 29.6 -0.1**
baz=317,SNR=6.3
SML Sawmill 65.90 25 P **P** **03 25 29.7 0.0**
SML Sawmill 65.90 25 P **P** **03 25 29.4 -0.2**
baz=320,SNR=7.3
SML Sawmill 65.90 25 P **P** **03 25 29.7 0.0**
SML pmax pmax
comp=Z,19nm,0.8s
K27K Chicken 65.94 21 P **P** **03 25 29.7 -0.1**
baz=323
Q17K Contact Creek 65.94 31 P **P** **03 25 29.8 -0.3**
baz=315
M23K Glacier View 66.10 25 P **P** **03 25 30.0 -0.9**
baz=320,SNR=10
KNK Knik Glacier 66.16 26 P **P** **03 25 31.3 0.0**
baz=320
SCM Sheep Creek Mo 66.19 25 P **P** **03 25 31.5 -0.1**
SCM Sheep Creek Mo 66.19 25 P **P** **03 25 31.3 -0.3**
baz=320,SNR=11
SCM Sheep Creek Mo 66.19 25 P **P** **03 25 31.5 -0.1**
SCM pmax pmax
comp=Z,31nm,0.7s
Q19K Cape Douglas, 66.28 29 P **P** **03 25 31.6 -0.6**
baz=317
H31M Peel River 66.30 17 P **P** **03 25 31.8 -0.3**
H31M IAmb IAmb 03 25 34.0
comp=Z,6.4nm,0.8s
H31M Peel River 66.30 17 P **P** **03 25 31.7 -0.5**
baz=329,SNR=8.6
M24K Tolsona, Glenn 66.32 24 P **P** **03 25 32.8 +0.4**
M24K Tolsona, Glenn 66.32 24 P **P** **03 25 32.2 -0.1**
baz=321,SNR=6.6
I30M Mount Dempster 66.35 18 P **P** **03 25 32.2 -0.3**
I30M Mount Dempster 66.35 18 P **P** **03 25 32.0 -0.6**
baz=327,SNR=34
HARP HAARP 66.39 24 P **P** **03 25 32.9 +0.2**
baz=2
MBAR Mbarara 66.42 244 LR LR 03 57 20.4
comp=Z,155nm,20.9s,baz=28,slow=38
J29N Klondike Camp 66.56 19 P **P** **03 25 34.4 +0.5**
J29N IAmb IAmb 03 25 35.1
comp=Z,7.6nm,0.8s
J29N Klondike Camp 66.56 19 P **P** **03 25 33.6 -0.3**
baz=326,SNR=5.6
DAWY Dawson 66.60 20 P **P** **03 25 33.3 -0.8**
baz=325
CNPM China Poot 66.68 28 P **P** **03 25 35.4 +0.7**
BRSE Bradley Lake S 66.69 28 P **P** **03 25 34.4 -0.3**
baz=318
L27K Beaver Creek, 66.79 22 P **P** **03 25 35.9 +0.5**
L27K IAmb IAmb 03 25 37.2
comp=Z,12nm,0.9s
L27K Beaver Creek, 66.79 22 P **P** **03 25 35.9 +0.5**
baz=324,SNR=20
BCAR Beaver Creek A 66.80 22 P **P** **03 25 35.8 +0.4**
SEW Seward 66.84 27 P **P** **03 25 35.2 -0.3**
baz=319
KLU Klutina 66.88 24 P **P** **03 25 35.9 0.0**
KLU IAmb IAmb 03 25 37.2
comp=Z,12nm,1.1s
KLU Klutina 66.88 24 P **P** **03 25 35.7 -0.3**
baz=321
CHNA Chernabura Isl 66.90 35 P **P** **03 25 35.1 -0.9**
baz=314
J30M Hart River 66.91 19 P **P** **03 25 36.1 -0.1**
J30M Hart River 66.91 19 P **P** **03 25 36.0 -0.1**
baz=328,SNR=13
Q20K Shuyak Island 66.96 29 P **P** **03 25 35.2 -1.2**
baz=318
GLI Glacier Island 67.00 25 P **P** **03 25 35.7 -1.0**
baz=321
M26K Nabesna, AK 67.00 23 P **P** **03 25 37.1 +0.4**
M26K IAmb IAmb 03 25 38.4
comp=Z,10nm,0.9s
M26K Nabesna, AK 67.00 23 P **P** **03 25 36.8 +0.1**
baz=323,SNR=12
N25K Chitina, Valde 67.18 24 P **P** **03 25 38.0 +0.2**
N25K IAmb IAmb 03 25 40.1
comp=Z,16nm,0.9s
N25K Chitina, Valde 67.18 24 P **P** **03 25 37.8 0.0**
baz=322,SNR=10.0
K29M Barlow Dome 67.24 20 P **P** **03 25 38.1 -0.2**
K29M Barlow Dome 67.24 20 P **P** **03 25 38.1 -0.2**
baz=327,SNR=9.4
M27K Edge Creek, AK 67.35 22 P **P** **03 25 39.5 +0.4**
M27K Edge Creek, AK 67.35 22 P **P** **03 25 39.2 +0.2**
baz=324,SNR=27
KDAK Kodiak Island 67.50 30 P **P** **03 25 40.0 +0.2**
baz=316
KDAK Kodiak Island 67.50 30 LR LR 03 57 33.9
comp=Z,298nm,20.6s,baz=274,slow=38
KDAK Kodiak Island 67.50 30 P **P** **03 25 39.8 0.0**
KDAK sP sP 03 25 55.0 +10
GLB Gilahina Butte 67.54 24 P **P** **03 25 40.3 +0.2**
GLB IAmb IAmb 03 25 41.5
comp=Z,10nm,1.2s
P23K Montague Islan 67.58 26 P **P** **03 25 40.5 +0.2**
baz=321
OHAK Old Harbor 67.66 31 P **P** **03 25 41.0 +0.2**
baz=317
EYAK Cordova Ski Ar 67.67 25 P **P** **03 25 41.2 +0.3**
baz=322
BMRM Bremner River 67.68 24 P **P** **03 25 41.1 +0.1**
baz=322
L29M L29M 67.71 20 P **P** **03 25 41.6 +0.5**
L29M IAmb IAmb 03 25 42.7
comp=Z,14nm,1.1s
L29M L29M 67.71 20 P **P** **03 25 41.2 0.0**
baz=327,SNR=10
MCARA McCarthy VSAT 67.81 23 P **P** **03 25 42.7 +0.9**
MCARA McCarthy VSAT 67.81 23 P **P** **03 25 42.1 +0.3**
baz=323,SNR=12
VRDI Verde Repeater 67.81 24 P **P** **03 25 42.3 +0.3**
VRDI IAmb IAmb 03 25 43.4
comp=Z,9.4nm,0.8s
M29M Somme Creek 68.18 21 P **P** **03 25 44.7 +0.5**
M29M IAmb IAmb 03 25 46.0
comp=Z,9.3nm,0.8s
M29M Somme Creek 68.18 21 P **P** **03 25 44.2 -0.1**
baz=326,SNR=14
YUK3 Moose Creek 68.21 22 P **P** **03 25 45.5 +1.0**
baz=325,SNR=5.6
TAM Tamanrasset 68.31 281 P **P** **03 25 46.5 +0.8**
TAM Tamanrasset 68.31 281 P **P** **03 25 46.5 +0.8**
TAM pmax pmax
comp=Z,10.0nm,1.8s
TAM Tamanrasset 68.31 281 P **P** **03 25 46.7 +1.0**
BARN Barnard Glacie 68.46 23 P **P** **03 25 46.3 +0.2**
KAIM Kayak Island 68.57 25 P **P** **03 25 46.6 +0.1**
baz=323
CTG Chitna Glacier 68.63 23 P **P** **03 25 47.4 +0.3**
baz=325,SNR=13
CTGM Chitina Glacie 68.63 23 P **P** **03 25 47.7 +0.6**
BGLC Bering Glacier 68.75 24 P **P** **03 25 48.0 +0.3**
baz=324
YUK8 Steele Glacier 68.80 22 P **P** **03 25 48.9 +0.5**
baz=326
LOGN Logan Glacier 68.84 23 P **P** **03 25 49.0 +0.5**
LOGN IAmb IAmb 03 25 50.1
comp=Z,9.0nm,0.9s
YUK4 Talbot Arm 69.05 21 P **P** **03 25 49.9 +0.1**
baz=327,SNR=12
MESA MESA 69.10 24 P **P** **03 25 50.2 +0.1**
MESA MESA 69.10 24 P **P** **03 25 50.8 +0.7**
baz=324
O28M Mount Upton 69.11 22 P **P** **03 25 50.1 -0.2**
baz=326
N30M Aishikik Lake 69.36 21 P **P** **03 25 51.8 +0.2**
N30M Aishikik Lake 69.36 21 P **P** **03 25 51.5 0.0**
baz=328,SNR=7.0
M31M Drury Creek, Y 69.39 19 P **P** **03 25 51.9 +0.2**
M31M IAmb IAmb 03 25 53.0
comp=Z,9.7nm,0.9s
M31M Drury Creek, Y 69.39 19 P **P** **03 25 51.9 +0.2**
baz=330,SNR=11
YUK6 Outpost Mounta 69.47 22 P **P** **03 25 51.9 -0.5**
baz=327
FARO Faro, Yukon 69.62 19 P **P** **03 25 53.1 0.0**
FARO Faro, Yukon 69.62 19 P **P** **03 25 52.6 -0.4**
baz=330
N31M Braeburn, Yuko 69.67 20 P **P** **03 25 53.6 +0.2**
N31M IAmb IAmb 03 26 59.4
comp=Z,7.3nm,0.8s
N31M Braeburn, Yuko 69.67 20 P **P** **03 25 53.3 -0.1**

baz=329
MMPY Sheldon Lake, 69.75 18 P P 03 25 54.4 +0.5
MMPY IAmb IAmb 03 25 55.7
comp=Z,24nm,1.8s
MMPY Sheldon Lake, 69.75 18 P P 03 25 54.0 +0.1
baz=332,SNR=5.3
HYT Haines Junctio 69.79 21 P P 03 25 54.5 +0.2
HYT Haines Junctio 69.79 21 P P 03 25 54.5 +0.2
baz=328,SNR=29
O30N Mendenhall 70.21 21 P P 03 25 56.9 +0.1
O30N Mendenhall 70.21 21 P P 03 25 56.9 +0.1
baz=328,SNR=6.2
PNL Peninsula 70.25 23 P P 03 25 57.2 +0.3
baz=326
P30M Million Dollar 70.53 21 P P 03 25 58.7 0.0
baz=328
WHY Whitehorse 70.61 20 P P 03 25 58.9 -0.3
WHY Whitehorse 70.61 20 P P 03 25 59.1 -0.2
baz=329
N32M Quiet Lake 70.62 19 P P 03 25 58.6 -0.7
baz=331
WRGLY Wrigley 70.73 14 P P 03 26 00.3 +0.6
WRGLY IAmb IAmb 03 26 01.4
comp=Z,15nm,1.1s
WRGLY Wrigley 70.73 14 P P 03 26 00.1 +0.4
baz=337
P29M Windy Craggy 70.74 22 P P 03 25 59.0 -1.0
baz=328
FRB Frobisher Bay 71.05 349 LR LR 04 02 02.5
comp=Z,157nm,19.0s,baz=10,slow=40
PLBC Pleasant Camp 71.26 22 P P 03 26 02.1 -0.9
baz=329,SNR=6.2
TGTN Hyland Airport 71.36 17 P P 03 26 03.1 -0.7
baz=334
P33M Teslin, Yukon 71.51 20 P P 03 26 03.9 -0.8
P33M IAmb IAmb 03 26 05.8
comp=Z,8.9nm,0.9s
P33M Teslin, Yukon 71.51 20 P P 03 26 04.4 -0.3
baz=331,SNR=11
P32M Atlin 71.83 20 P P 03 26 06.8 +0.3
P32M IAmb IAmb 03 26 08.6
comp=Z,21nm,1.6s
P32M Atlin 71.83 20 P P 03 26 06.9 +0.3
baz=330
S31K Pelican 72.58 22 P P 03 26 10.3 -0.7
baz=329
R33M Jennings River 72.67 19 P P 03 26 12.0 +0.2
R33M IAmb IAmb 03 26 13.3
comp=Z,9.6nm,0.9s
R33M Jennings River 72.67 19 P P 03 26 11.7 0.0
baz=332,SNR=9.4
YKA Yellowknife Ar 72.76 10 P P 03 26 11.5 -0.5
comp=Z,5.6nm,0.7s,baz=340,slow=6.6,SNR=90
comp=Z,5.6nm,0.7s
R32K Eaglecrest 72.77 21 P P 03 26 13.2 +1.1
baz=330
S32K Killisnoo 73.45 22 P P 03 26 17.1 +0.9
baz=330
LIRD Liard River Hi 73.74 17 P P 03 26 18.2 +0.3
baz=336,SNR=5.9
DLBC Dease Lake 73.75 19 P P 03 26 18.6 +0.5
baz=333
DLBC Dease Lake 73.75 19 LR LR 04 03 22.6
comp=Z,220nm,19.7s,baz=275,slow=40
S34M Telegraph Cree 73.95 20 P P 03 26 19.5 +0.4
S34M IAmb IAmb 03 26 21.6
comp=Z,15nm,0.9s
S34M Telegraph Cree 73.95 20 P P 03 26 20.0 +0.9
baz=332,SNR=8.5
TOAD Toad River Com 74.44 17 P P 03 26 22.8 +0.8
baz=337,SNR=13
T35M Bob Quinn 75.00 20 P P 03 26 26.8 +1.5
baz=333
U33K Whale Pass 75.03 22 P P 03 26 26.2 +0.8
baz=331
CRAG Craig 75.60 22 P P 03 26 29.7 +1.0
baz=332
WRA Warramunga Arr 77.03 134 P P 03 26 36.6 -0.6
comp=Z,4.7nm,0.6s,baz=334,slow=5.1,SNR=9.8
comp=Z,4.7nm,0.6s
TOA0 Torodi Ar. Sit 77.35 276 P P 03 26 38.9 -0.4
TORD Torodi Ar. Bea 77.35 276 P P 03 26 38.6 -0.7
comp=Z,6.0nm,0.7s,baz=38,slow=5.6,SNR=44
comp=Z,6.0nm,0.7s
FCC Fort Churchill 77.86 0 P P 03 26 41.3 -0.1
FCC Fort Churchill 77.86 0 P P 03 26 41.3 -0.1
FCC pmax pmax
comp=Z,10.0nm,1.2s
SCHQ Schefferville 79.22 345 P P 03 26 48.3 -0.7
comp=Z,4.2nm,0.9s,baz=39,slow=6.5,SNR=4.6
comp=Z,4.2nm,0.9s
LSZ Lusaka 79.25 237 P P 03 26 49.6 -0.2
comp=Z,1.1nm,0.3s,baz=80,slow=6.1,SNR=4.8
comp=Z,1.1nm,0.3s
ASAR Alice Springs 79.91 137 P P 03 26 52.5 -0.6
comp=Z,1.8nm,0.6s,baz=332,slow=5.9,SNR=4.8
comp=Z,1.8nm,0.6s
FFC Flin Flon 81.64 5 P P 03 27 01.8 -0.2
FFC IAmb IAmb 03 27 02.5
comp=Z,11nm,0.8s
FFC Flin Flon 81.64 5 P P 03 27 01.8 -0.2
FFC pmax pmax
comp=Z,11nm,0.8s
EDM Edmonton 81.91 12 P P 03 27 03.6 +0.1
EDM IAmb IAmb 03 27 04.5
comp=Z,17nm,1.0s
EDM Edmonton 81.91 12 P P 03 27 03.6 +0.1
EDM pmax pmax
comp=Z,17nm,1.0s
MATP Matopo 83.07 233 P P 03 27 09.7 -0.3
comp=Z,0.9nm,0.7s,baz=352,slow=3.8,SNR=3.8
comp=Z,0.9nm,0.7s
NEW Newport 86.04 16 P P 03 27 24.9 +0.2
baz=343
ULM Lac du Bonnet 86.37 2 P P 03 27 24.4 -1.8
comp=Z,2.9nm,1.0s,baz=53,slow=5.1,SNR=4.8
comp=Z,2.9nm,1.0s
DBIC Dimbokro 86.46 276 P P 03 27 26.4 -0.8
comp=Z,5.9nm,0.7s,baz=53,slow=9.1,SNR=9.0
comp=Z,5.9nm,0.7s
EGMT Eagleton 87.50 11 P P 03 27 31.6 -0.3
baz=348
DGMT Dagmar 87.69 7 P P 03 27 32.8 +0.1
DGMT Dagmar 87.69 7 P P 03 27 33.0 +0.3
baz=352
OVMT Ovando 87.94 13 P P 03 27 33.6 -0.5
MSO Missoula 88.01 14 P P 03 27 34.5 +0.1
baz=345
LBTB Lobatse 88.31 233 P P 03 27 36.0 +0.1
comp=Z,5.2nm,0.8s,baz=24,slow=3.3,SNR=7.7
comp=Z,5.2nm,0.8s
AGMN Agassiz Nation 88.32 2 P P 03 27 35.0 -0.7
baz=358
MDND Maddock 88.63 4 P P 03 27 37.0 -0.2
baz=356
EYMN Ely 88.68 359 P P 03 27 36.5 -0.9
baz=1.3
PLID Pearl Lake 89.31 16 P P 03 27 40.3 -0.4
PLID IAmb IAmb 03 29 13.1
comp=Z,9.6nm,1.2s
I07A Izee 89.52 18 P P 03 27 41.0 -0.6
I07A IAmb IAmb 03 28 51.5
comp=Z,8.1nm,1.2s
BOZ Bozeman (W) 89.59 13 P P 03 27 42.1 +0.2
BOZ Bozeman (W) 89.59 13 P P 03 27 41.8 -0.1
baz=347
BOZ Bozeman (W) 89.59 13 P P 03 27 42.1 +0.2
BOZ pmax pmax
comp=Z,6.0nm,1.3s
LBNH Lisbon 90.32 345 P P 03 27 45.0 -0.2
baz=15
RLMT Red Lodge 90.41 11 P P 03 27 45.4 -0.4
baz=349
LONY Lake Ozonia 90.43 347 P P 03 27 46.3 +0.7
baz=13
STKA Stephens Creek 90.50 136 P P 03 27 44.1 -1.8
comp=Z,2.1nm,0.7s,baz=325,slow=8.7,SNR=3.2
comp=Z,2.1nm,0.7s
H17A Grant Village 90.93 12 P P 03 27 50.0 +1.7
baz=348
IMW Indian Meadow 91.36 13 P P 03 27 51.1 +0.7
IMW IAmb IAmb 03 27 52.4
comp=Z,6.5nm,1.4s
RSSD Black Hills 92.01 8 P P 03 27 52.0 -1.3
RSSD Black Hills 92.01 8 P P 03 27 52.0 -1.3
RSSD pmax pmax
comp=Z,17nm,1.8s
BW06 Boulder Array 92.67 12 P P 03 27 55.6 -0.8
baz=348
PDAR Pinedale Array 92.67 12 P P 03 27 55.6 -0.8
comp=Z,0.4nm,0.7s,baz=29,slow=2.1,SNR=4.4
comp=Z,0.4nm,0.7s
ECSD EROS Data Cent 92.86 2 P P 03 27 57.3 +0.3
baz=358
JFWS Jewell Farm 93.68 358 P P 03 28 00.6 -0.1
baz=2.2
NVAR Mina Array Bea 95.17 19 P P 03 28 08.6 +0.7
comp=Z,0.6nm,0.8s,baz=323,slow=1.4,SNR=4.2
comp=Z,0.6nm,0.8s
MONP2 Monument Peak 100.90 20 P Pdif 03 28 31.9 -1.8
baz=343
214A Organ Pipe Nat 102.61 17 P Pdif 03 28 40.2 -1.0
baz=346
TUC Tucson 102.67 15 P Pdif 03 28 40.0 -1.5
baz=347
GOGA Godfrey 102.68 351 P Pdif 03 28 39.7 -1.6
baz=7.3
SNAA Sanae 130.63 205 ⇑P Pdif 03 30 41.5 -3.0
comp=Z,142μm,0.1s
LPAZ La Paz 145.21 314 PKPbc PKPbc 03 34 21.5 -1.1
comp=Z,3.0nm,0.6s,baz=349,slow=5.1,SNR=14
CPUP Villa Florida 146.03 289 PKPbc PKPdf 03 34 23.1 -0.2
comp=Z,4.2nm,0.7s,baz=38,slow=5.5,SNR=14

*IDC **01** 03:15:36.4±0.4,29.°24S×177.°01W,h0km,mb4.8/15, mbtmp4.8/15,MS4.4/40,Error ellipse: s-maj=16.2km s-min=11.2km az=175.0*
*BJI **01** 03:15:38.5±0.0,28.°97S×176.°43W,h25km,mb5.4/36, mB5.4/23,Ms5.0/10,Ms7 4.7/12*
*NOU **01** 03:15:39.5,29.°75S×176.°55W,h38km,mb5.3/81, Kermadec Islands Region*
*NEIC **01** 03:15:40.3±2.0,29.°48S±0.°08×177.°08W±0.°08,h24km±4km, mb5.2/102,Error ellipse: s-maj=12.2km s-min=8.8km az=213.0*
*GCMT **01** 03:15:42.3±0.2,29.°32S±0.°02×176.°78W±0.°01,h22km, MW5.1/106,Moment Tensor Solution. s89,c138; s106,c158; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr4.93±.16; Mθθ0.43±.12; Mϕϕ-5.36±.12; Mrθ0.71±.20; Mθϕ-1.14±.09; Mϕr3.71±.19; Best double couple: M=6.47100×10^16^ NP1:ϕs11.00000°,δ63.00000°, λ90.00000°. NP2:ϕs191.00000°,δ27.00000°,λ90.00000°. Principal axes: T 6.1480, Plg72.0000°, Azm281.0000°; N 0.6450, Plg0.0000°, Azm191.0000°; P -6.7940, Plg18.0000°, Azm101.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*MOS **01** 03:15:42.2±1.3,29.°19S×177.°29W,h53km,mb5.5/27, MS4.7/9 Error ellipse: s-maj=19.9km s-min=15.2km az=172.7*

ISC 01 03:15:41.0±0.3,29.°64S±0.°04×176.°93W±0.°05,h35km, h36km:pP-P,n647,σ1§57/610,mb5.2/94,MS4.5/57, 50C-31D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**0.94**	**294**	P	**Pn**	**03 15 56.3**	**-1.5**
GLKZ				S	**Sn**	**03 16 10.9**	**+0.9**
RAO	**Raoul Island**	**0.94**	**294**	P	**Pn**	**03 15 56.9**	**-0.9**
RAO	**Raoul Island**	**0.94**	**294**		**Pn**	**03 15 55.9**	**-1.9**
RAO				Sn	**Sn**	**03 16 06.0**	**-4.1**
RAO	**Raoul Island**	**0.94**	**294**	Pn	**Pn**	**03 15 56.8**	**-1.0**
	6μm,0.3s,baz=137,slow=0.6,SNR=76						
RAO				Sn	**Sn**	**03 16 07.8**	**-2.3**
	9μm,0.3s,baz=107,slow=20,SNR=11						
RAO	**Raoul Island**	**0.94**	**294**	P	**Pn**	**03 15 55.9**	**-1.9**
RAO						03 16 06.0	
MXZ	**Matakaoa Point**	**8.84**	**205**	Pn	**Pn**	**03 17 47.5**	**+1.2**
WCZ	**Waipu Caves**	**9.66**	**227**	P	Pn	03 18 08.0	+10
OUZ	**Omahuta**	**9.74**	**233**	P	**Pn**	**03 18 00.8**	**+2.1**
OUZ	**Omahuta**	**9.74**	**233**	P	**Pn**	**03 18 02.2**	**+3.5**
URZ	**Urewera**	**9.91**	**208**	P	**Pn**	**03 17 59.1**	**-1.9**
URZ	**Urewera**	**9.91**	**208**	Pn	**Pn**	**03 17 58.5**	**-2.5**
	1.2nm,0.3s,baz=86,slow=15,SNR=12						
URZ				Sn	**Sn**	**03 19 50.9**	**-0.1**
	16nm,0.3s,baz=288,slow=19,SNR=11						
PRGZ	**Paritu Road**	**10.20**	**203**	P	**Pn**	**03 18 00.2**	**-4.7**
PRGZ				S	**Sn**	**03 19 56.0**	**-2.0**
TOZ	**Tahuroa Road**	**10.23**	**216**	Pn	**Pn**	**03 18 05.9**	**+0.5**
RTZ	**Ruatahuna**	**10.27**	**208**	Pn	**Pn**	**03 18 04.8**	**-1.2**
RAHZ	**Arahi**	**10.49**	**207**	P	**Pn**	**03 18 08.2**	**-0.7**
RAHZ				S	**Sn**	**03 20 04.8**	**-0.3**
NMHZ	**Naumai**	**10.75**	**207**	P	**Pn**	**03 18 08.9**	**-3.6**
NMHZ				S	**Sn**	**03 20 10.0**	**-1.7**
ARHZ	**Aropaoanui**	**10.82**	**206**	P	**Pn**	**03 18 12.2**	**-1.2**
ARHZ				S	**Sn**	**03 20 11.9**	**-1.3**
BKZ	**Black Stump Fm**	**10.94**	**208**	Pn	**Pn**	**03 18 16.9**	**+1.8**
MCNZ	**McNeill Hill**	**11.10**	**207**	P	**Pn**	**03 18 18.6**	**+1.4**
MCHZ				S	**Sn**	**03 20 18.9**	**-1.1**
HIZ	**Hauiti**	**11.16**	**215**	Pn	**Pn**	**03 18 18.9**	**+0.8**
KWHZ	**Kaweka Forest**	**11.19**	**208**	P	**Pn**	**03 18 13.8**	**-4.7**
KWHZ				S	**Sn**	**03 20 19.2**	**-3.1**
ETVZ	**East Tongariro**	**11.25**	**211**	P	**Pn**	**03 18 17.3**	**-2.1**
ETVZ				S	**Sn**	**03 20 23.8**	**-0.1**
KAHZ	**Kahuranaki**	**11.33**	**205**	P	Pn	03 18 14.4	-6.1
KAHZ				S	**Sn**	**03 20 23.5**	**-2.3**
KRHZ	**Kereru**	**11.39**	**207**	P	**Pn**	**03 18 19.8**	**-1.5**
KRHZ				S	**Sn**	**03 20 20.6**	**-6.8**
MOVZ	**Moawhango**	**11.45**	**210**	P	**Pn**	**03 18 22.1**	**-0.1**
MOVZ				S	**Sn**	**03 20 23.6**	**-5.2**
PXZ	**Pawanui**	**11.54**	**205**	P	**Pn**	**03 18 20.2**	**-3.1**
PXZ				S	**Sn**	**03 20 25.4**	**-5.5**
MRZ	**Mangatainoka R**	**12.58**	**207**		**Pn**	**03 18 33.5**	**-4.0**
MSVF	**Nonsavu**	**12.71**	**338**	P	**Pn**	**03 18 37.4**	**-2.1**
MSVF	**Nonsavu**	**12.71**	**338**	Pn	**Pn**	**03 18 36.6**	**-2.8**
MSVF	**Nonsavu**	**12.71**	**338**	*i* P	**Pn**	**03 18 35.6**	**-3.9**
TAVE	**Taveuni**	**13.16**	**347**	P	**Pn**	**03 18 48.3**	**+2.8**
PLWZ	**Palliser**	**13.48**	**206**	Pn	**Pn**	**03 18 48.7**	**-1.1**
BHW	**Baring Head**	**13.49**	**207**	Pn	**Pn**	**03 18 49.3**	**-0.7**
TCW	**Tory Channel**	**13.58**	**209**	Pn	**Pn**	**03 18 52.5**	**+1.5**
TUWZ	**Tuamarina**	**13.90**	**210**		**Pn**	**03 18 52.6**	**-2.8**
QRZ	**Quartz Range**	**14.08**	**215**	P	**Pn**	**03 18 56.5**	**-1.5**
QRZ	**Quartz Range**	**14.08**	**215**	Pn	**Pn**	**03 18 56.1**	**-1.9**
BSWZ	**Blackbirch Sta**	**14.16**	**209**	Pn	**Pn**	**03 18 57.7**	**-1.4**
THZ	**Tophouse**	**14.63**	**212**	Pn	**Pn**	**03 19 05.1**	**-0.4**
KHZ	**Kahutara**	**14.88**	**209**	P	**Pn**	**03 19 05.2**	**-3.6**
KHZ	**Kahutara**	**14.88**	**209**	Pn	Pn	03 19 02.4	-6.4
GVZ	**Greta Valley S**	**15.55**	**208**	P	**Pn**	**03 19 13.6**	**-4.0**
GVZ				IAmb	IAmb	03 19 25.6	
	comp=Z,98nm,0.6s						
PINNC	**Pines Island,**	**15.67**	**293**	P	**P**	**03 19 25.8**	**+2.8**
	comp=Z,172nm,1.0s						
PINNC	**Pines Island,**	**15.67**	**293**	P	**Pn**	**03 19 16.5**	**-2.8**
LTZ	**Lake Taylor**	**15.72**	**211**	P	**Pn**	**03 19 17.6**	**-2.3**
INZ	**Inchbonnie**	**16.05**	**212**	Pn	**Pn**	**03 19 22.6**	**-1.4**
OUENC	**Ouen Island, N**	**16.25**	**292**	P	**P**	**03 19 32.5**	**+3.1**
	comp=Z,144nm,1.1s						
OUENC	**Ouen Island, N**	**16.25**	**292**	Pn	**Pn**	**03 19 22.8**	**-3.9**
MQZ	**McQueen's Vall**	**16.31**	**208**	Pn	**Pn**	**03 19 23.8**	**-3.5**
YATNC	**Mamie plateau,**	**16.39**	**294**	P	**P**	**03 19 31.9**	**+0.9**
ONTNC	**Ouen Toro**	**16.62**	**292**	P	**P**	**03 19 34.9**	**+1.4**
ONTNC	**Ouen Toro**	**16.62**	**292**	Pn	**Pn**	**03 19 29.8**	**-1.6**
DZM	**Mont Dzumac**	**16.75**	**293**	P	**P**	**03 19 37.7**	**+2.7**
DZM	**Mont Dzumac**	**16.75**	**293**		**Pn**	**03 19 31.6**	**-1.4**
DZM	**Mont Dzumac**	**16.75**	**293**	Pn	**P**	**03 19 37.3**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=90,slow=13,SNR=16						
DZM				LR	LR	03 24 54.5	
	comp=Z,5μm,18.2s,baz=120,slow=34						
LIFNC	**LIFOU**	**16.81**	**298**		**Pn**	**03 19 32.4**	**-1.3**
LIFNC				IAmb	IAmb	03 19 37.7	
	comp=Z,116nm,0.8s						
NOUC	**Port Laguerre**	**16.84**	**293**	P	**P**	**03 19 38.4**	**+2.4**
RPZ	**Rata Peaks**	**17.00**	**211**	Pn	**P**	**03 19 36.7**	**-0.9**
RPZ	**Rata Peaks**	**17.00**	**211**	P	**Pn**	**03 19 35.9**	**-0.2**
	comp=Z,45nm,0.5s,baz=43,slow=2.0,SNR=12						
RPZ				S	Sn	03 22 30.2	-14
	comp=Z,22nm,0.5s,baz=118,slow=15,SNR=2.0						
RAR	**Rarotonga**	**17.61**	**65**	P	**Pn**	**03 19 40.1**	**-3.6**
RAR	**Rarotonga**	**17.61**	**65**	P	**Pn**	**03 19 39.4**	**-4.3**
	comp=Z,37nm,0.9s,baz=206,slow=4.7,SNR=8.8						
RAR				S	Sn	03 22 36.5	-22
	comp=Z,21nm,1.0s,baz=65,slow=17,SNR=4.6						
RAR				LR	LR	03 25 07.0	
	comp=Z,939nm,21.8s,baz=256,slow=33						
ODZ	**Otahua Downs**	**18.24**	**209**	P	**P**	**03 19 51.7**	**+0.5**
ODZ	**Otahua Downs**	**18.24**	**209**		**P**	**03 19 52.9**	**+1.6**
JCZ	**Jackson Bay**	**18.35**	**214**	P	**P**	**03 19 50.8**	**-1.7**
KOUNC	**Koumac, New Ca**	**19.25**	**294**	P	**Pn**	**03 20 04.9**	**+1.2**
	comp=Z,144nm,1.1s						
KOUNC	**Koumac, New Ca**	**19.25**	**294**		**Pn**	**03 20 02.8**	**-0.9**
KOUNC				IAmb	IAmb	03 20 06.1	
	comp=Z,150nm,1.1s						
LHI	**Lord Howe Isla**	**20.75**	**259**	P	Pn	03 20 21.2	-0.1
LHI	**Lord Howe Isla**	**20.75**	**259**	P	**P**	**03 20 17.1**	**-1.6**
ARMA	**Armidale**	**27.19**	**260**	P	**P**	**03 21 23.0**	**+1.5**
	baz=27,SNR=6.0						
ARMA	**Armidale**	**27.19**	**260**	P	**P**	**03 21 23.6**	**+2.0**
ARMA	**Armidale**	**27.19**	**260**	P	**P**	**03 21 21.3**	**-0.3**
PPT	**Papeete**	**27.72**	**70**	LR	LR	03 29 27.4	
	comp=Z,687nm,21.5s,baz=246,slow=30						
SYDH	**Sydney Hard Ro**	**27.75**	**253**	P	**P**	**03 21 27.9**	**+1.5**
EIDS	**Eidsvold**	**28.64**	**271**	P	**P**	**03 21 35.3**	**+0.9**
	baz=29,SNR=6.6						
EIDS	**Eidsvold**	**28.64**	**271**	P	**P**	**03 21 35.6**	**+1.2**
EIDS	**Eidsvold**	**28.64**	**271**	P	**P**	**03 21 34.3**	**-0.1**
EIDS				IAmb	IAmb	03 21 38.4	
	comp=Z,36nm,1.1s						
CNB	**Canberra Magne**	**28.90**	**250**	P	**P**	**03 21 38.7**	**+1.9**
	baz=29,SNR=12						
CNB	**Canberra Magne**	**28.90**	**250**	P	**P**	**03 21 40.0**	**+3.2**
MILA	**Mila**	**29.17**	**246**	P	**P**	**03 21 41.1**	**+2.1**
	baz=29						
CAN	**Canberra**	**29.20**	**250**	P	**P**	**03 21 42.9**	**+3.5**
CAN	**Canberra**	**29.20**	**250**	P	**P**	**03 21 38.8**	**-0.6**
CAN				IAmb	IAmb	03 21 43.6	
	comp=Z,35nm,0.9s						
CAN	**Canberra**	**29.20**	**250**	P	**P**	**03 21 38.8**	**-0.6**
CAN				pmax	pmax		
	comp=Z,35nm,0.9s						
AUDCS	**Dubbo College**	**29.58**	**256**	P	**P**	**03 21 44.3**	**+1.6**
YNG	**Young**	**29.69**	**252**	P	**P**	**03 21 45.6**	**+1.9**
	baz=30,SNR=15						
YNG	**Young**	**29.69**	**252**	P	**P**	**03 21 45.6**	**+1.9**
RK1H	**Rockhampton Ha**	**29.74**	**274**	P	**P**	**03 21 45.9**	**+1.7**
AULRC	**Lightning Ridg**	**30.46**	**262**	P	**P**	**03 21 52.6**	**+2.1**
GLAD	**Gladstone**	**30.57**	**239**	P	**P**	**03 21 53.7**	**+2.3**
CORO	**Coronation Par**	**31.30**	**238**	P	**P**	**03 22 01.3**	**+3.5**
MOO	**Moorlands**	**31.46**	**236**	P	**P**	**03 22 01.0**	**+1.7**
	baz=32,SNR=3.6						
MOO	**Moorlands**	**31.46**	**236**	P	**P**	**03 22 00.8**	**+1.6**
TOO	**Toolangi**	**32.12**	**246**	P	**P**	**03 22 07.1**	**+2.1**
	baz=32,SNR=10						
TOO	**Toolangi**	**32.12**	**246**	P	**P**	**03 22 06.8**	**+1.7**
TOO	**Toolangi**	**32.12**	**246**	P	**P**	**03 22 05.3**	**+0.2**
TOO				IAmb	IAmb	03 22 08.3	
	comp=Z,20nm,0.9s						
TOO	**Toolangi**	**32.12**	**246**	P	**P**	**03 22 05.3**	**+0.2**
TOO				pmax	pmax		
	comp=Z,20nm,0.9s						
CMSA	**Cobar Meteorol**	**32.13**	**257**	P	**P**	**03 22 06.4**	**+1.2**
	baz=32,SNR=20						
CMSA	**Cobar Meteorol**	**32.13**	**257**	P	**P**	**03 22 06.6**	**+1.3**
BRAT	**Ballarat**	**33.35**	**246**	P	**P**	**03 22 17.5**	**+1.7**
QLP	**Quilpie**	**34.28**	**265**	P	**P**	**03 22 24.5**	**+0.5**
	baz=34,SNR=6.3						
QLP	**Quilpie**	**34.28**	**265**	P	**P**	**03 22 24.4**	**+0.3**
TV1H	**Townsville Har**	**34.47**	**279**	P	**P**	**03 22 26.6**	**+0.9**
CTAO	**Charters Tower**	**34.61**	**277**	P	**P**	**03 22 28.2**	**+1.3**
CTAO	**Charters Tower**	**34.61**	**277**	P	**P**	**03 22 26.8**	**-0.1**
CTAO	**Charters Tower**	**34.61**	**277**	P	**P**	**03 22 26.8**	**-0.1**
CTAO				pmax	pmax		
	comp=Z,44nm,0.8s						
STKA	**Stephens Creek**	**35.56**	**256**	P	**P**	**03 22 35.8**	**+0.8**
	baz=36,SNR=51						
STKA	**Stephens Creek**	**35.56**	**256**	P	**P**	**03 22 35.8**	**+0.8**
STKA	**Stephens Creek**	**35.56**	**256**	P	**P**	**03 22 34.5**	**-0.5**
STKA	**Stephens Creek**	**35.56**	**256**	P	**P**	**03 22 35.5**	**+0.4**
	comp=Z,55nm,1.0s,baz=93,slow=12,SNR=52						
STKA				LR	LR	03 36 03.4	
	comp=Z,2μm,18.3s,baz=90,slow=34						
	comp=Z,55nm,1.0s						
STKA	**Stephens Creek**	**35.56**	**256**	*e*P	**P**	**03 22 35.8**	**+0.8**
STKA				pmax	pmax		
	comp=Z,55nm,1.0s						
MTSU	**Mount Surprise**	**37.08**	**279**	P	**P**	**03 22 48.2**	**+0.1**
	baz=37,SNR=8.6						
MTSU	**Mount Surprise**	**37.08**	**279**	P	**P**	**03 22 48.4**	**+0.3**
HTT	**Hallett**	**37.61**	**253**	P	**P**	**03 22 53.1**	**+0.5**
	baz=38,SNR=38						
HTT	**Hallett**	**37.61**	**253**	P	**P**	**03 22 53.0**	**+0.5**
LCRK	**Leigh Creek**	**38.64**	**257**	P	**P**	**03 23 01.0**	**-0.2**
BULU	**Kimbe**	**39.11**	**301**	P	**P**	**03 23 04.8**	**-0.5**
PMG	**Port Moresby**	**39.14**	**294**	LR	LR	03 36 16.3	
	comp=Z,1μm,21.4s,baz=134,slow=32						
COEN	**Coen**	**39.97**	**284**	P	**P**	**03 23 12.0**	**-0.5**
	baz=40,SNR=4.5						
COEN	**Coen**	**39.97**	**284**	P	**P**	**03 23 12.8**	**+0.4**
COEN	**Coen**	**39.97**	**284**	P	**P**	**03 23 10.1**	**-2.4**
BBOO	**Buckleboo**	**40.07**	**253**	P	**P**	**03 23 12.7**	**-0.4**
	baz=40,SNR=35						
BBOO	**Buckleboo**	**40.07**	**253**	P	**P**	**03 23 12.7**	**-0.4**
BBOO	**Buckleboo**	**40.07**	**253**	P	**P**	**03 23 12.3**	**-0.9**
BBOO				IAmb	IAmb	03 23 14.5	
	comp=Z,77nm,1.1s						
QIS	**Mount Isa**	**40.19**	**273**	P	**P**	**03 23 13.3**	**-0.9**
	baz=40,SNR=4.8						
QIS	**Mount Isa**	**40.19**	**273**	P	**P**	**03 23 14.0**	**-0.3**
KAVG	**Kavieng**	**40.76**	**305**	P	**P**	**03 23 18.1**	**-0.9**
OOD	**Oodnadatta**	**41.37**	**261**	P	**P**	**03 23 23.9**	**0.0**
MULG	**Mulgathing**	**42.20**	**256**	P	**P**	**03 23 29.7**	**-0.9**
AS31	**Alice Springs**	**44.08**	**266**	P	**P**	**03 23 45.0**	**-1.0**
ASAR	**Alice Springs**	**44.08**	**266**	P	**P**	**03 23 44.9**	**-1.2**
	comp=Z,40nm,0.9s,baz=109,slow=7.8,SNR=133						
ASAR				ScP	**ScP**	**03 29 23.6**	**+3.5**
	comp=Z,1.1nm,0.8s,baz=114,slow=3.8,SNR=3.5						
ASAR				S	**S**	**03 30 21.4**	**+5.0**
	comp=Z,2.5nm,1.0s,baz=104,slow=14,SNR=6.0						
	comp=Z,40nm,0.9s						
WRAB	**Tennant Creek**	**45.00**	**271**	P	**P**	**03 23 52.0**	**-1.3**
WRAB	**Tennant Creek**	**45.00**	**271**	*i* P	**P**	**03 23 51.9**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,57nm,0.9s						
WRA	**Warramunga Arr**	**45.00**	**271**	P	**P**	**03 23 52.2**	**-1.2**
	comp=Z,49nm,0.9s,baz=108,slow=7.9,SNR=89						
WRA				ScP	**ScP**	**03 29 26.2**	**+2.3**
	comp=Z,2.0nm,0.9s,baz=103,slow=3.7,SNR=6.4						
WRA				S	**S**	**03 30 33.9**	**+4.0**
	comp=Z,2.3nm,1.1s,baz=109,slow=12,SNR=4.4						
	comp=Z,49nm,0.9s						
WRA	**Warramunga Arr**	**45.00**	**271**	*e*P	**P**	**03 23 52.4**	**-1.0**
WRA				pmax	pmax		
	comp=Z,49nm,0.9s						
FORT	**Forrest**	**47.14**	**254**	P	**P**	**03 24 08.5**	**-1.5**
	baz=47,SNR=9.8						
FORT	**Forrest**	**47.14**	**254**	P	**P**	**03 24 08.6**	**-1.5**
FORT	**Forrest**	**47.14**	**254**	P	**P**	**03 24 09.1**	**-1.0**
WRKA	**Warakurna**	**48.50**	**262**	P	**P**	**03 24 19.2**	**-1.5**
	baz=49,SNR=13						
WRKA	**Warakurna**	**48.50**	**262**	P	**P**	**03 24 18.9**	**-1.8**
SBA	**Scott Base**	**48.86**	**185**	P	P	03 24 29.2	+6.5
SBA				pmax	pmax		
	comp=Z,42nm,1.6s						
VNDA	**Vanda**	**48.94**	**186**	P	**P**	**03 24 26.1**	**+2.8**
VNDA				IAmb	IAmb	03 24 51.6	
	comp=Z,28nm,1.6s						
VNDA	**Vanda**	**48.94**	**186**	P	**P**	**03 24 27.2**	**+4.0**
	comp=Z,3.4nm,1.1s,baz=1.1,slow=5.3,SNR=8.2						
VNDA				LR	LR	03 43 41.9	
	comp=Z,195nm,19.2s,baz=26,slow=34

KLBR Kellerberrin 55.47 250 P **P** **03 25 11.5 -1.0**
baz=56,SNR=11
KLBR Kellerberrin 55.47 250 P **P** **03 25 11.5 -1.0**
NWAO Narrogin (SRO) 55.53 249 P **P** **03 25 12.8 -0.1**
comp=Z,11nm,0.8s,baz=150,slow=4.2,SNR=1.8
NWAO LR LR 03 48 30.5
comp=Z,610nm,18.7s,baz=80,slow=36
comp=Z,11nm,0.8s
CASY Casey 56.24 208 P **P** **03 25 15.4 -2.0**
MEEK Meekatharra 56.26 256 P **P** **03 25 16.5 -1.8**
baz=56,SNR=4.4
GUMO Guam 56.61 314 LR LR 03 46 07.6
comp=Z,255nm,21.5s,baz=143,slow=32
BLDU Ballidu 56.61 251 P **P** **03 25 19.4 -1.3**
baz=57,SNR=7.2
MUN Mundaring 56.63 249 P **P** **03 25 20.1 -0.7**
baz=57,SNR=4.3
SWI Sorong 56.94 290 P **P** **03 25 19.6 -3.5**
PSA00 Pilbara Seismi 56.98 262 P **P** **03 25 21.9 -1.5**
PSA00 Pilbara Seismi 56.98 262 P **P** **03 25 21.8 -1.5**
PSA00 IAmb IAmb 03 25 22.7
comp=Z,44nm,1.2s
PSA00 Pilbara Seismi 56.98 262 P **P** **03 25 21.3 -2.1**
PSA00 IAmb IAmb 03 25 22.7
comp=Z,19nm,1.2s
MBWA Marble Bar 57.23 263 P **P** **03 25 23.6 -1.6**
MBWA Marble Bar 57.23 263 P **P** **03 25 23.6 -1.6**
MORW Morawa 57.64 253 P **P** **03 25 27.0 -1.0**
baz=58,SNR=4.1
MORW Morawa 57.64 253 P **P** **03 25 26.6 -1.3**
MORW IAmb IAmb 03 25 28.1
comp=Z,24nm,1.0s
SOEI Soe 58.17 277 P **P** **03 25 32.5 +0.5**
SOEI Soe 58.17 277 P **P** **03 25 30.6 -1.4**
BATI Baumata 58.48 276 LR LR 03 51 25.3
comp=Z,3μm,18.2s,baz=138,slow=37
RPN Rapa Nui 58.74 105 LR LR 03 44 29.2
comp=Z,246nm,19.4s,baz=246,slow=29
QSPA South Pole Qui 60.47 180 P **P** **03 25 50.1 +3.0**
QSPA South Pole Qui 60.47 180 P **P** **03 25 51.1 +4.0**
comp=Z,64nm,1.1s,baz=36,slow=4.3,SNR=94
QSPA LR LR 03 49 41.4
comp=Z,517nm,19.1s,baz=42,slow=34
QSPA PKPPKP **P'P'df** **03 55 10.8 -3.3**
comp=Z,1.0nm,0.9s,baz=280,slow=3.0,SNR=5.1
QSPA PKP2bc 03 55 17.9
comp=Z,2.7nm,1.0s,baz=315,slow=1.8,SNR=4.0
comp=Z,64nm,1.1s
GIRL Giralia 61.40 259 P **P** **03 25 54.2 +0.3**
baz=62,SNR=4.4
DAV Davao City (W) 66.16 294 LR LR 03 52 31.9
comp=Z,132nm,21.8s,baz=130,slow=34
TOLI2 Tolitoli 66.72 286 P **P** **03 26 26.3 -2.7**
TOLI2 Tolitoli 66.72 286 P **P** **03 26 27.6 -1.4**
PMSA Palmer Station 72.57 156 LR LR 03 50 55.5
comp=Z,251nm,20.6s,baz=251,slow=29
MAW Mawson 73.34 200 P **P** **03 27 10.0 +1.3**
baz=74,SNR=9.6
MAW Mawson 73.34 200 LR LR 03 59 21.2
comp=Z,349nm,19.0s,baz=107,slow=36
LEM Lembang 74.02 271 LR LR 04 02 01.5
comp=Z,206nm,18.0s,baz=200,slow=38
SBUM Sibu 74.67 282 P **P** **03 27 16.5 -0.9**
JHJ Hachijo jima 2 74.68 323 LR LR 03 54 19.9
comp=Z,140nm,21.1s,baz=92,slow=31
KSM Kuching 75.80 280 P **P** **03 27 23.5 -0.4**
KSM Kuching 75.80 280 P **P** **03 27 22.5 -1.4**
KSM IAmb IAmb 03 27 24.5
comp=Z,17nm,0.9s
JOW Kunigami 76.85 311 LR LR 03 56 02.7
comp=Z,268nm,21.2s,baz=111,slow=32
AY03 Cochrane 77.68 138 P **P** **03 27 35.5 +1.5**
ELIB Princess Elisa 77.70 186 *d*P **P** **03 27 36.6 +2.7**
comp=Z,17nm,0.6s
JGF Kuroka 77.87 323 P **P** **03 27 34.7 -0.4**
JGF Kuroka 77.87 323 P **P** **03 27 33.8 -1.3**
JMM Marumori 77.94 327 P **P** **03 27 35.0 -0.3**
JMM Marumori 77.94 327 P **P** **03 27 35.2 -0.2**
JMM IAmb IAmb 03 27 35.9
comp=Z,52nm,1.3s
MJA0 Matsu Arr-Jizo 78.14 325 *e*P **P** **03 27 35.2 -1.4**
MJA0 pmax pmax
comp=Z,11nm,0.9s
MJAR Matsushiro Arr 78.16 325 P **P** **03 27 35.2 -1.4**
comp=Z,10nm,0.8s,baz=160,slow=5.5,SNR=31
MJAR LR LR 03 56 04.1
comp=Z,143nm,22.0s,baz=146,slow=31
comp=Z,10nm,0.8s
MAJO Matsushiro 78.16 325 P **P** **03 27 35.4 -1.3**
MAJO Matsushiro 78.16 325 P **P** **03 27 34.9 -1.7**
MAJO IAmb IAmb 03 27 54.2
comp=Z,17nm,0.9s
MAJO Matsushiro 78.16 325 P **P** **03 27 34.9 -1.7**
MAJO pmax pmax
comp=Z,17nm,1.0s
MJB9 Matsu-Tunnel 78.16 325 P **P** **03 27 35.7 -1.0**
MJB9 IAmb IAmb 03 27 55.2
comp=Z,16nm,0.9s
TROLL Troll, Antarti 78.63 180 ⇑P **P** **03 27 41.2 +2.2**
comp=Z,986nm,0.8s
COYC Coyhaique 78.84 136 P **P** **03 27 41.6 +1.1**
COYC IAmb IAmb 03 27 45.2
comp=Z,21nm,0.9s
SNAA Sanae 78.88 178 P **P** **03 27 41.7 +1.4**
SNAA Sanae 78.88 178 ⇑P **P** **03 27 43.1 +2.7**
comp=Z,265nm,1.0s
SNAA Sanae 78.88 178 P **P** **03 27 44.2 +3.9**
comp=Z,3.0nm,0.9s,baz=222,slow=4.2,SNR=5.5
SNAA LR LR 04 00 06.4
comp=Z,201nm,20.0s,baz=251,slow=34
comp=Z,3.0nm,0.9s
SNAA Sanae 78.88 178 *i*P **P** **03 27 42.4 +2.1**
SNAA pmax pmax
comp=Z,10.0nm,1.3s
VNA3 Neumayer Olymp 78.99 176 ⇓P **P** **03 27 44.0 +3.2**
comp=Z,39nm,0.7s
VNA2 Neumayer--Watz 79.44 177 ⇑P **P** **03 27 45.5 +2.2**
comp=Z,23nm,0.8s,baz=190,slow=2.6
JNU Nakatsue 79.62 318 P **P** **03 27 44.5 -0.3**
JNU Nakatsue 79.62 318 P **P** **03 27 43.2 -1.5**
JNU IAmb IAmb 03 27 57.9
comp=Z,39nm,1.2s
VNA1 Neumayer--Stat 79.66 176 ⇑P **P** **03 27 47.1 +2.7**
comp=Z,12nm,0.8s
NVL N'lazarevskaya 79.68 183 *e*P P 03 27 53.7 +9.1
NVL *e*S **SKSac** **03 37 56.9 -1.4**
NVL pmax pmax
comp=Z,14nm,0.9s
NVL MLR MLR
comp=Z,564nm,21.0s
TPUB Ta-pu 79.82 304 P **P** **03 27 43.5 -2.6**
SSLB Suanglung 79.89 305 P **P** **03 27 44.3 -2.1**
SSLB Suanglung 79.89 305 P **P** **03 27 44.3 -2.1**
H03S2 Juan Fernandez 80.11 123 T T 04 57 42.8
baz=239,slow=74,SNR=17
H03S1 Juan Fernandez 80.12 123 T T 04 57 32.5
baz=239,slow=74,SNR=17
H03S3 Juan Fernandez 80.12 123 T T 04 57 31.1
baz=239,slow=74,SNR=19
JTM Tenmabayashi 80.15 329 P **P** **03 27 47.2 -0.2**
LL02 Futaleuf 80.22 134 P **P** **03 27 49.1 +1.0**
LL02 IAmb IAmb 03 27 52.4
comp=Z,18nm,0.8s
H03N3 Juan Fernandez 80.29 123 T T 04 57 47.1
baz=238
H03N2 Juan Fernandez 80.29 123 T T 04 57 50.4
baz=238
H03N1 Juan Fernandez 80.31 123 T T 04 57 45.0
baz=238
ADK Adak 81.17 0 P **P** **03 27 51.4 -1.2**
ADK Adak 81.17 0 P **P** **03 27 51.4 -1.2**
ADK pmax pmax
comp=Z,76nm,1.1s
LR03 Panguipulli 81.76 131 P **P** **03 27 56.2 -0.1**
JKA Kamikawa-asahi 82.20 332 P **P** **03 27 58.6 +0.3**
ASAJ Asahikawa 82.20 332 LR LR 03 58 35.6
comp=Z,333nm,21.3s,baz=142,slow=32
ASAJ Asahikawa 82.20 332 P **P** **03 27 58.6 +0.4**
ASAJ pmax pmax
comp=Z,48nm,0.9s
QZH Quanzhou 82.29 304 ⇑*i*P **P** **03 27 58.0 -1.1**
QZH *e*S **S** **03 38 09.1 -3.4**
QZH pmax pmax
comp=Z,110nm,4.6s
QZH LR LR
comp=Z,200nm,18.9s

PLCA Paso Flores 82.34 133 P **P** **03 28 00.3 +0.8**
PLCA IAmb IAmb 03 28 03.9
comp=Z,13nm,0.9s
PLCA Paso Flores 82.34 133 P **P** **03 28 02.3 +2.8**
comp=Z,10nm,1.0s,baz=224,slow=6.8,SNR=13
PLCA LR LR 03 55 48.0
comp=Z,203nm,21.6s,baz=250,slow=29
comp=Z,10nm,1.0s
GO06 Curarrehue 82.36 131 P **P** **03 28 00.2 +0.6**
GO06 IAmb IAmb 03 28 04.3
comp=Z,21nm,1.4s
SHEM Shemya Is, Ala 82.40 355 LR LR 04 00 15.4
comp=Z,369nm,19.2s,baz=142,slow=33
DLV T Lat 82.80 288 P **P** **03 28 02.5 +0.2**
DLV T Lat 82.80 288 P **P** **03 28 01.9 -0.4**
DLV IAmb IAmb 03 28 09.7
comp=Z,17nm,1.0s
LPIG La Paz 83.35 58 LR LR 04 00 37.3
comp=Z,211nm,18.0s,baz=196,slow=32
TJN Taejon 83.96 318 P **P** **03 28 09.4 +1.9**
KSRS Korea Array 84.38 319 P **P** **03 28 08.9 -0.6**
comp=Z,5.2nm,0.9s,baz=134,slow=5.6,SNR=19
comp=Z,5.2nm,0.9s
KSRS Korea Array 84.38 319 *e*P **P** **03 28 09.8 +0.2**
KSRS pmax pmax
comp=Z,7.0nm,0.9s
KSAR Wonju Array Be 84.39 319 P **P** **03 28 09.4 -0.3**
KSAR Wonju Array Be 84.39 319 P **P** **03 28 09.4 -0.3**
KS19 Wonju Array Si 84.44 319 P **P** **03 28 08.7 -1.2**
KS19 IAmb IAmb 03 28 14.9
comp=Z,15nm,1.1s
YSS Yuzh-Sakhalins 84.48 334 P **P** **03 28 10.5 +0.6**
YSS Yuzh-Sakhalins 84.48 334 P **P** **03 28 10.2 +0.4**
YSS Yuzh-Sakhalins 84.48 334 *e*P **P** **03 28 10.4 +0.6**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=Z,200nm,4.1s
PFO Pinyon Flats O 85.01 47 LR LR 03 59 42.2
comp=Z,182nm,18.6s,baz=218,slow=31
PET Petropavlovsk 85.03 345 *e*P **P** **03 28 15.6 +3.1**
PET *e*S **S** **03 38 43.9 +5.1**
PET *e*PS **PnS** **03 39 36.7 -1.1**
PET *e*PPS PPS 03 39 55.2
PET pmax pmax
comp=Z,100nm,11.2s
PET pmax pmax
comp=Z,7.0nm,0.7s
PET MLR MLR
comp=Z,200nm,18.0s
ISA Isabella, Lake 85.11 44 P **P** **03 28 13.8 +0.3**
ISA IAmb IAmb 03 29 21.9
comp=Z,14nm,1.4s
ISA Isabella, Lake 85.11 44 P **P** **03 28 13.8 +0.3**
ISA pmax pmax
comp=Z,14nm,1.4s
IPM Ipoh 85.30 278 P **P** **03 28 14.0 -0.9**
IPM Ipoh 85.30 278 P **P** **03 28 14.1 -0.7**
PETK Petropavlovsk- 85.32 345 P **P** **03 28 12.9 -1.1**
comp=Z,12nm,0.8s,baz=112,slow=6.9,SNR=18
PETK LR LR 04 00 41.1
comp=Z,136nm,20.9s,baz=157,slow=32
comp=Z,12nm,0.8s
BO02 Sierra Bellavi 85.40 128 P **P** **03 28 14.9 -0.3**
BO02 IAmb IAmb 03 28 18.7
comp=Z,12nm,0.8s
QIZ Qiongzhong 85.52 295 P **P** **03 28 16.1 +0.3**
QIZ S **S** **03 38 46.7 +1.5**
QIZ SS **SS** **03 44 22.2 +0.5**
QIZ LR LR
comp=Z,89nm,23.5s
QIZ LR LR
comp=Z,97nm,22.6s
QIZ LR LR
comp=Z,140nm,20.1s
VA01 Torpederas 85.75 126 P **P** **03 28 17.7 +0.8**
VA01 IAmb IAmb 03 28 20.1
comp=Z,17nm,0.8s
MT09 Talagante 85.81 127 IAmb IAmb 03 28 20.4
comp=Z,15nm,0.8s
MT02 Curacav 85.98 126 P **P** **03 28 18.9 +0.9**
MT02 IAmb IAmb 03 28 21.3
comp=Z,7.0nm,0.7s
LMEL Las Melosas 86.31 127 IAmb IAmb 03 28 25.6
comp=Z,9.2nm,0.9s
MT13 San Alfonso 86.31 127 IAmb IAmb 03 28 24.0
comp=Z,12nm,0.6s
PEL Peldehue 86.36 126 P **P** **03 28 20.6 +0.6**
PEL Peldehue 86.36 126 P **P** **03 28 20.6 +0.6**
PEL pmax pmax
comp=Z,23nm,0.8s
NJ2 Nanjing 86.46 310 *e*P **P** **03 28 21.0 +0.9**
NJ2 sP **pP** **03 28 30.2 +0.1**
NJ2 pmax pmax
comp=Z,21nm,1.0s
NJ2 pmax pmax
comp=Z,150nm,9.9s
PSTR Posyet 86.51 324 *i*P **P** **03 28 19.8 -0.3**
GSI Gunungsitoli 86.72 273 P **P** **03 28 22.2 +0.3**
GSI Gunungsitoli 86.72 273 P **P** **03 28 21.6 -0.3**
YBH Yreka Blue Hor 86.87 37 LR LR 04 04 11.5
comp=Z,130nm,18.1s,baz=260,slow=34
UBPT Khong Chiam 87.05 289 P **P** **03 28 23.8 +0.5**
UBPT Khong Chiam 87.05 289 IAmb IAmb 03 28 26.1
comp=Z,8.6nm,0.7s
USA0B Ussuriysk Arra 87.05 326 *i*P **P** **03 28 22.5 -0.2**
USRK Ussuriysk Ar. 87.05 326 P **P** **03 28 22.4 -0.3**
USRK Ussuriysk Ar. 87.05 326 P **P** **03 28 22.5 -0.2**
comp=Z,24nm,0.9s,baz=137,slow=3.1,SNR=4.4
USRK LR LR 04 03 28.8
comp=Z,172nm,20.1s,baz=144,slow=33
comp=Z,24nm,0.9s
NVAR Mina Array Bea 87.06 42 P **P** **03 28 23.1 -0.1**
NVAR Mina Array Bea 87.06 42 P **P** **03 28 23.3 +0.1**
comp=Z,1.6nm,0.9s,baz=218,slow=5.7,SNR=6.1
NVAR LR LR 04 03 37.6
comp=Z,381nm,18.1s,baz=233,slow=33
comp=Z,1.6nm,0.9s
CO02 Combarbal 87.19 124 IAmb IAmb 03 28 27.3
comp=Z,16nm,0.8s
CO03 El Pedregal 87.62 124 IAmb IAmb 03 28 29.2
comp=Z,7.4nm,0.8s
TYV Tymovskoe 87.74 336 *e*P **P** **03 28 26.4 +0.5**
TYV *e*S **S** **03 39 08.9 +3.6**
TYV pmax pmax
comp=Z,100nm,3.3s
TYV pmax pmax
comp=Z,15nm,1.1s
TYV smax smax
comp=N,100nm,6.5s
TYV smax smax
comp=E,200nm,6.5s
MDJ Mudanjiang 88.53 325 P **P** **03 28 30.3 +0.5**
MDJ Mudanjiang 88.53 325 P **P** **03 28 30.0 +0.2**
MDJ pmax pmax
comp=E,25nm,1.0s
MDJ pmax pmax
comp=E,80nm,5.3s
SRIT Nakonsritamara 88.57 281 IAmb IAmb 03 28 31.5
comp=Z,15nm,0.9s
WHN Wuhan 88.64 306 P **P** **03 28 31.6 +1.0**
WHN pmax pmax
comp=Z,64nm,1.2s
Q17K Contact Creek 89.33 11 P **P** **03 28 32.9 -0.4**
baz=198
U15A North Rim 89.44 47 IAmb IAmb 03 28 57.5
comp=Z,9.3nm,1.1s
Q16K King Salmon 89.60 10 P **P** **03 28 34.4 0.0**
baz=198
GRNR Gornyy 90.04 333 ⇑*i*P **P** **03 28 37.2 +0.5**
GRNR pmax pmax
comp=Z,30nm,1.0s
GRNR MLR MLR
comp=E,530nm,11.0s
GRNR MLR MLR
comp=N,790nm,16.0s
CN2 Changchun 90.11 322 *e*P **P** **03 28 36.9 -0.3**
CN2 *es*P pP 03 28 46.0 -1.0
CN2 *e*S **S** **03 39 27.4 -0.5**
CN2 pmax pmax
comp=N,40nm,1.3s
N14K Kuskokwak Cree 90.12 8 P **P** **03 28 37.7 +0.9**
baz=193
P17K Kvichak River 90.13 10 P **P** **03 28 36.4 -0.4**
baz=198
Q20K Shuyak Island 90.27 13 P **P** **03 28 38.5 +1.0**
baz=201
Q19K Cape Douglas, 90.34 12 P **P** **03 28 37.3 -0.6**
baz=200
ELK Elko 90.36 42 LR LR 04 05 32.8
comp=N,392nm,18.1s,slow=33
NONG Nongkai 90.39 290 P **P** **03 28 40.2 +1.1**
BNX BinXian 90.42 325 ⇑P **P** **03 28 37.5 -1.1**
BNX pmax pmax
comp=N,32nm,1.0s
BNX pmax pmax
comp=N,110nm,5.7s
P18K Big Mountain, 90.51 11 P **P** **03 28 38.0 -0.7**
P18K IAmb IAmb 03 28 38.9
comp=Z,11nm,1.1s
P18K Big Mountain, 90.51 11 P **P** **03 28 37.9 -0.9**
baz=199
KLR Kul'dur 90.86 329 LR LR 04 07 43.8
comp=Z,121nm,19.0s,baz=163,slow=35
KLR Kul'dur 90.86 329 *e*P **P** **03 28 38.2 -2.3**
KLR pmax pmax
comp=Z,19nm,0.9s
O18K Koktuh Hills 90.95 11 P **P** **03 28 40.1 -0.7**
baz=199
N16K Nishlik Lake 91.02 9 P **P** **03 28 41.8 +0.8**
baz=196
TXAR Lajitas Array 91.20 57 P **P** **03 28 43.2 +0.4**
comp=Z,0.2nm,0.8s,baz=193,slow=3.7,SNR=2.1
TXAR PKKPbc **PKKPbc** **03 46 07.1 +1.6**
comp=Z,0.6nm,1.0s,baz=2.5,slow=6.3,SNR=5.4
G08A Pilot Rock 91.30 37 IAmb IAmb 03 29 05.3
comp=Z,9.9nm,1.1s
O19K Port Alsworth 91.42 11 P **P** **03 28 42.2 -0.7**
baz=200
CMIG Matias Romero 91.64 71 LR LR 03 59 45.4
comp=Z,94nm,21.9s,baz=226,slow=29
BRSE Bradley Lake S 91.64 13 P **P** **03 28 44.2 +0.3**
baz=203
ENH Enshi 91.95 304 P **P** **03 28 46.9 +0.8**
M17K Holitna River 92.09 9 P **P** **03 28 46.6 +0.6**
M17K IAmb IAmb 03 28 47.1
comp=Z,20nm,1.2s
M17K Holitna River 92.09 9 P **P** **03 28 46.7 +0.6**
baz=197
LYN LuoYang 92.24 309 *e*P **P** **03 28 47.6 +0.2**
LYN pmax pmax
comp=Z,29nm,0.8s
ANMO Albuquerque 92.38 51 LR LR 04 03 48.8
comp=Z,134nm,18.7s,baz=34,slow=31
HNS HongShan 92.40 312 ⇓P **P** **03 28 49.1 +1.1**
HNS pmax pmax
comp=Z,15nm,1.1s
HNS LR LR
comp=Z,130nm,21.1s
HNS LR LR
comp=Z,180nm,21.1s
HNS LR LR
comp=Z,290nm,22.5s
HLID Hailey 92.63 40 P **P** **03 28 49.2 0.0**
HLID Hailey 92.63 40 P **P** **03 28 50.0 +0.8**
baz=231
F10A Beach Ranch, E 92.66 37 IAmb IAmb 03 29 02.4
comp=Z,7.3nm,0.8s
N20K Mount Spurr 92.73 12 P **P** **03 28 48.3 -0.7**
baz=202
NNA Nana 92.73 105 LR LR 04 00 57.7
comp=Z,97nm,21.0s,baz=299,slow=29
MA2 Magadan 92.81 344 P **P** **03 28 48.4 -1.0**
MA2 Magadan 92.81 344 P **P** **03 28 47.8 -1.6**
MA2 IAmb IAmb 03 28 49.4
comp=Z,8.0nm,1.0s
MA2 Magadan 92.81 344 LR LR 04 06 24.9
comp=Z,74nm,20.1s,baz=145,slow=33
MA2 Magadan 92.81 344 *i*P **P** **03 28 48.1 -1.3**
MA2 pmax pmax
comp=Z,8.0nm,0.9s
L18K Granite Mounta 92.98 9 IAmb IAmb 03 32 14.2
comp=Z,27nm,1.7s
L18K Granite Mounta 92.98 9 P **P** **03 28 50.4 +0.3**
baz=198
BJI Beijing 93.04 315 P **P** **03 28 51.2 +0.3**
BJI pmax pmax
comp=Z,6.0nm,1.3s
BJI pmax pmax
comp=Z,190nm,10.5s
L19K White Mountain 93.22 10 P **P** **03 28 51.2 -0.1**
L19K IAmb IAmb 03 28 52.2
comp=Z,16nm,1.2s
LVC Limon Verde 93.48 118 LR LR 04 02 08.9
comp=Z,134nm,20.5s,baz=290,slow=30
HEH HeiHe 93.56 328 *e*P **P** **03 28 52.6 -0.4**
HEH pmax pmax
comp=Z,14nm,0.9s
HEH LR LR
comp=Z,160nm,19.2s
HEH LR LR
comp=Z,230nm,20.1s
HEH LR LR
comp=Z,240nm,19.2s
KNK Knik Glacier 93.63 13 P **P** **03 28 52.2 -0.9**
baz=205
TTA Tatalina 93.76 9 P **P** **03 28 53.8 +0.1**
TTA Tatalina 93.76 9 IAmb IAmb 03 31 05.2
comp=Z,27nm,1.9s
TTA Tatalina 93.76 9 P **P** **03 28 54.2 +0.4**
baz=198
ATAH Atahualpa 93.87 100 LR LR 04 01 50.1
comp=Z,173nm,21.9s,baz=253,slow=30
CMAR Chiang Mai Arr 94.03 289 LR LR 04 10 49.3
comp=Z,58nm,21.3s,baz=125,slow=35
J18K Innoko River 94.17 9 IAmb IAmb 03 28 56.9
comp=Z,8.2nm,1.1s
J18K Innoko River 94.17 9 P **P** **03 28 55.2 -0.4**
baz=198
CHTO Chiang Mai 94.20 289 P **P** **03 28 56.1 -0.7**
CHTO IAmb IAmb 03 29 02.4
comp=Z,12nm,0.8s
CHTO Chiang Mai 94.20 289 P **P** **03 28 56.1 -0.7**
CHTO pmax pmax
comp=Z,12nm,0.9s
NEW Newport 94.22 35 LR LR 04 08 19.6
comp=Z,220nm,18.1s,baz=257,slow=34
APG El Apazote 94.29 75 LR LR 04 01 26.9
comp=Z,8.5nm,22.0s,baz=302,slow=29
XAN Xi'an 94.40 307 P **P** **03 28 57.7 +0.3**
XAN pmax pmax
comp=Z,9.0nm,1.3s
XAN LR LR
comp=Z,240nm,19.7s
XAN LR LR
comp=Z,250nm,19.7s
XAN LR LR
comp=Z,480nm,18.7s
K20K Telida 94.45 10 P **P** **03 28 56.9 +0.1**
baz=200
CAST Castle Rocks 94.82 11 IAmb IAmb 03 28 58.3
comp=Z,9.4nm,1.2s
CAST Castle Rocks 94.82 11 P **P** **03 28 57.0 -1.5**
baz=202
BARN Barnard Glacie 94.83 16 IAmb IAmb 03 29 00.6
comp=Z,9.1nm,1.1s
WAT6 Susitna Watana 94.84 13 P **P** **03 28 59.2 +0.4**
baz=205
PDAR Pinedale Array 94.95 43 P **P** **03 29 00.7 +0.7**
comp=Z,0.2nm,0.5s,baz=244,slow=3.9,SNR=2.4
PDAR PKKPbc **PKKPdf** **03 45 56.8 -0.3**
comp=Z,0.6nm,0.8s,baz=90,slow=4.5,SNR=6.4
PDAR LR LR 04 08 50.6
comp=Z,219nm,18.0s,baz=293,slow=34
comp=Z,0.2nm,0.5s
TRF Thorofare Moun 95.16 12 P **P** **03 28 59.4 -0.9**
baz=203
RND Reindeer 95.38 12 IAmb IAmb 03 29 02.2
comp=Z,11nm,1.1s
XLT XiLinHaoTe 95.39 318 *e*P **P** **03 29 04.2 +2.5**
XLT pP pP 03 29 10.2 -1.3
XLT sP pwP 03 29 15.8 -1.2
XLT pmax pmax
comp=Z,12nm,0.7s
XLT pmax pmax
comp=Z,200nm,7.2s
BOZ Bozeman (W) 95.45 40 IAmb IAmb 03 29 06.0
comp=Z,18nm,2.0s
SEY Seymchan 95.46 346 LR LR 04 07 52.9
comp=Z,114nm,19.1s,baz=176,slow=33
SEY Seymchan 95.46 346 *i*P **P** **03 29 00.8 -0.6**
SEY pmax pmax
comp=Z,12nm,1.0s

MCK **McKinley** 95.66 12 P P 03 29 02.5 +0.1
baz=204
PZH **PanZhiHua** 95.78 297 P P 03 29 06.0 +2.0
PZH pmax pmax
comp=Z,20nm,0.3s
PZH pmax pmax
comp=Z,140nm,4.7s
ZEA **Zeya** 96.04 330 *e*P P 03 29 04.4 +0.1
ZEA pmax pmax
comp=Z,10.0nm,1.1s
ZEA MLR MLR
comp=N,200nm,16.0s
ZEA MLR MLR
comp=Z,200nm,16.0s
H19K **Roundabout Mou** 96.18 8 P P 03 29 05.0 +0.3
baz=198
HHC **Hu-ho-hao-te** 96.38 314 *e*P P 03 29 07.0 +0.7
HHC S S 03 40 29.3 +5.3
HHC pmax pmax
comp=Z,12nm,0.9s
HHC pmax pmax
comp=Z,170nm,4.7s
HHC LR LR
comp=Z,150nm,17.6s
HHC LR LR
comp=Z,230nm,16.0s
HHC LR LR
comp=Z,380nm,18.3s
WRH **Wood River Hil** 96.49 12 P P 03 29 05.9 -0.2
WRH IAmb IAmb 03 29 16.9
comp=Z,8.4nm,1.1s
ILAR **Eielson Array** 96.99 12 P P 03 29 07.0 -1.3
comp=Z,1.4nm,0.9s,baz=224,slow=5.4,SNR=7.6
comp=Z,1.4nm,0.9s
ILAR **Eielson Array** 96.99 12 *e*P P 03 29 07.4 -1.0
ILAR pmax pmax
comp=Z,2.0nm,0.9s
BTO **Baotou** 97.23 313 *e*P Pdif 03 29 12.8 +2.5
BTO pP pP 03 29 18.7 -1.0
BTO sP sP 03 29 22.0 -1.2
BTO PP PP 03 33 10.3 +3.0
BTO S S 03 40 37.2 +5.9
BTO pmax pmax
comp=Z,9.0nm,0.6s
BTO pmax pmax
comp=Z,260nm,4.9s
BTO LR LR
comp=Z,340nm,18.0s
BTO LR LR
comp=Z,250nm,13.1s
BTO LR LR
comp=Z,260nm,14.2s
J26L **Joseph Creek** 97.41 14 IAmb IAmb 03 29 12.2
comp=Z,5.3nm,1.1s
J26L **Joseph Creek** 97.41 14 P Pdif 03 29 10.6 +0.1
baz=209
LPAZ **La Paz** 97.60 113 LR LR 04 05 08.5
comp=Z,96nm,21.6s,baz=280,slow=30
RDOG **Red Dog Mine** 97.96 5 P Pdif 03 29 12.9 +0.2
baz=192
BILL **Bilibino** 98.19 354 *i* P P 03 29 13.2 -0.5
BILL pmax pmax
comp=Z,4.0nm,0.9s
LZH **Lanzhou** 99.02 306 *e*P Pdif 03 29 19.1 +0.7
LZH pmax pmax
comp=Z,12nm,0.9s
YAK **Yakutsk** 100.91 337 *i* P Pdif 03 29 24.7 -1.2
YAK pmax pmax
comp=Z,6.0nm,0.8s
SONM **Songino Array** 103.20 318 P Pdif 03 29 37.2 +0.5
comp=Z,0.7nm,0.8s,baz=93,slow=5.8,SNR=2.2
YKA **Yellowknife Ar** 104.37 25 PKKPbc PKKPbc 03 45 29.6 -0.3
comp=Z,0.8nm,0.9s,baz=34,slow=2.8,SNR=12
WMQ **Urumqi** 113.49 308 *e*PKP PKiKP 03 34 16.2 +0.9
WMQ LR LR
comp=Z,460nm,17.3s
WMQ LR LR
comp=Z,530nm,19.9s
WMQ LR LR
comp=Z,140nm,23.5s
MKAR **Makanchi Array** 118.00 310 PKPdf PKiKP 03 34 23.8 -0.1
MKAR **Makanchi Array** 118.00 310 PKP PKPdf 03 34 23.4 -0.4
comp=Z,2.6nm,0.6s,baz=79,slow=4.0,SNR=8.9
MKAR **Makanchi Array** 118.00 310 *e*PKIKP PKPdf 03 34 22.9 -0.9
MKAR pmax pmax
comp=Z,3.0nm,0.6s
ZALV **Zalesovo Beam** 118.08 318 PKPdf 03 34 23.4 -0.3
ZALV **Zalesovo Beam** 118.08 318 PKP PKPdf 03 34 22.8 -0.9
comp=Z,2.3nm,0.8s,baz=350,slow=1.6,SNR=7.9
ZALV **Zalesovo Beam** 118.08 318 PKIKP PKPdf 03 34 23.4 -0.3
BOSA **Boshof** 118.31 202 PKP PKiKP 03 34 26.6 +1.3
comp=Z,3.3nm,0.9s,baz=218,slow=3.1,SNR=4.6
KURK **Kurchatov** 121.19 314 PKPdf PKiKP 03 34 29.7 -0.2
KURK **Kurchatov** 121.19 314 *i* PKIKP PKiKP 03 34 30.4 +0.5
KURBB **Kurchatov Arra** 121.23 314 PKP PKPdf 03 34 29.0 -0.9
comp=Z,7.3nm,0.9s,baz=106,slow=2.0,SNR=41
AAK **Ala-Archa** 122.46 304 *i* PKIKP PKiKP 03 34 32.8 -0.1
MATP **Matopo** 124.52 209 PKP PKiKP 03 34 38.8 +1.1
comp=Z,4.9nm,1.0s,baz=202,slow=3.8,SNR=9.3
KBL **Kabul** 124.77 293 PKPdf PKiKP 03 34 37.5 -0.3
KBL **Kabul** 124.77 293 PKIKP PKiKP 03 34 37.6 -0.3
SIMJ **Simiganj** 125.73 298 PKiKP 03 34 39.4 -0.1
BVAR **Borovoye Array** 126.51 316 PKP PKPdf 03 34 39.7 -0.3
comp=Z,7.5nm,0.7s,baz=80,slow=1.6,SNR=35
BRVK **Borovoye** 126.57 316 PKPdf PKiKP 03 34 40.4 -0.1
BRVK **Borovoye** 126.57 316 PKIKP PKiKP 03 34 40.4 -0.1
LSZ **Lusaka** 129.19 212 PKP PKiKP 03 34 48.6 +1.5
comp=Z,1.1nm,0.3s,baz=180,slow=3.0,SNR=4.7
SPITS **Spitsbergen Ar** 131.01 356 PKP PKPdf 03 34 47.8 -0.1
comp=Z,10.0nm,1.0s,baz=69,slow=4.8,SNR=6.0
ARU **Arti** 133.09 321 PKPdf PKiKP 03 34 53.5 0.0
ARU **Arti** 133.09 321 PKP PKiKP 03 34 53.0 -0.6
comp=Z,3.0nm,0.4s,baz=140,slow=4.0,SNR=6.7
ARU **Arti** 133.09 321 *i* PKIKP PKiKP 03 34 52.9 -0.6
ARU 03 37 16.0
ARU MLR MLR
comp=Z,238nm,20.0s
ABKAR **Akbulak array** 133.11 311 PKPdf PKiKP 03 34 53.6 -0.2
AKTO **Aktyubinsk** 134.27 313 PKP PKiKP 03 34 55.4 -0.7
comp=Z,5.3nm,0.8s,baz=135,slow=2.9,SNR=10
KIRV **Kirov** 137.22 326 *i* PKIKP PKPdf 03 35 00.5 +0.6
H10S3 **ASCENSION HYDR** 138.00 153 T T 06 10 20.9
baz=16,slow=74,SNR=30
H10S2 **ASCENSION HYDR** 138.00 153 T T 06 10 20.4
baz=204,slow=74,SNR=11
ARCES **ARCESS Array B** 138.04 348 PKhKP PKPpre 03 34 52.2
comp=Z,2.8nm,0.9s,baz=66,slow=2.9,SNR=7.5
ARCES PKP PKPdf 03 35 01.4 +0.2
comp=Z,6.1nm,0.9s,baz=75,slow=1.0,SNR=10
H10N3 **ASCENSION HYDR** 139.08 153 T T 06 11 13.5
baz=203,slow=75,SNR=26
H10N1 **ASCENSION HYDR** 139.08 153 T T 06 11 14.0
baz=203,slow=75,SNR=23
H10N2 **ASCENSION HYDR** 139.09 153 T T 06 11 15.0
baz=203,slow=75,SNR=26
BELG **Belogornoye** 140.26 318 *i* PKIKP PKPdf 03 35 06.1 +0.4
KLMR **Klimovskoe** 140.52 333 *e*PKHKP PKPpre 03 34 59.6
KLMR pmax pmax
comp=Z,20nm,1.8s
JOF **Joensuu** 142.05 339 *e*P PKiKP 03 35 11.6 +0.1
GROC **Groznyy** 143.44 304 *e*PKIKP PKPbc 03 35 09.6 +0.6
GROC *e* 03 38 22.8
GROC pmax pmax
comp=Z,23nm,1.1s
VRH **Novokhopyorsk** 144.12 318 PKIKP PKPdf 03 35 12.0 -0.6
VRH pmax pmax
comp=Z,15nm,0.8s
MOS **Moscow** 144.22 327 *i* PKHKP PKPpre 03 35 09.7
MOS *e* 03 38 23.3
MOS pmax pmax
comp=Z,39nm,0.8s
VAF **Ylistaro** 144.27 345 *e*P PKPbc 03 35 11.0 +0.2
KEF **Keuruu** 144.48 343 *e*P PKPab 03 35 10.6 -0.7
GNI **Garni** 144.53 299 PKPdf PKiKP 03 35 15.5 -2.1
GNI **Garni** 144.53 299 *i* PKIKP PKPdf 03 35 13.6 -0.4
FINES **FINESS Array B** 144.74 341 PKPdf PKPab 03 35 11.7 -0.6
FINES **FINESS Array B** 144.74 341 PKP PKPab 03 35 11.6 -0.7
comp=Z,38nm,0.8s,baz=64,slow=3.2,SNR=100
OBN **Obninsk** 145.07 326 ⇓P PKPab 03 35 13.5 -0.1
OBN **Obninsk** 145.07 326 PKPdf PKPdf 03 35 13.8 -0.3
OBN **Obninsk** 145.07 326 *i* PKIKP PKPbc 03 35 12.9 -0.7
OBN *i* 03 38 30.8
OBN pmax pmax
comp=Z,58nm,1.1s
GOF **Gofitskoye** 145.08 307 ⇑*i* PKIKP PKPdf 03 35 14.4 -0.1
LPSR **Galich'ya Gora** 145.11 321 *e*PKIKP PKPbc 03 35 12.7 -1.2
LPSR pmax pmax
comp=Z,60nm,1.0s
ONI **Oni** 145.24 303 PKPbc PKPdf 03 35 14.8 -0.2
ONI **Oni** 145.24 303 PKIKP PKPdf 03 35 14.8 -0.2
VORR **Voronezh** 145.37 320 *e*PKIKP PKPbc 03 35 13.2 -1.5
VORR pmax pmax
comp=Z,30nm,0.5s
KBZ **Khabaz** 145.45 305 PKPbc PKPab 03 35 15.2 -0.3
comp=Z,30nm,0.8s,baz=98,slow=2.1,SNR=71
KIV **Kislovodsk** 145.56 305 ⇑P PKPab 03 35 16.6 +0.5
KIV **Kislovodsk** 145.56 305 PKPab 03 35 16.0 -0.1
KIV **Kislovodsk** 145.56 305 *i* PKP2 PKPdf 03 35 14.8 -0.7
KIV pmax pmax
comp=Z,61nm,1.1s
KIV **Kislovodsk** 145.56 305 PKP PKPab 03 35 15.9 -0.1
VSR **Storozhevoye** 145.59 319 *e*PKP2 PKPdf 03 35 14.4 -0.8
VSR pmax pmax
comp=Z,70nm,0.8s
SHA1 **Shidzhatmaz** 145.62 305 *i* PKP2 PKPdf 03 35 15.4 -0.4
VORD **Divnogorie** 145.62 319 *e*PKP2 PKPdf 03 35 14.4 -0.8
VORD pmax pmax
comp=Z,60nm,0.8s
MEF **Metsahovi** 146.22 341 *e*P PKPbc 03 35 17.1 +0.1
RAF **Rauma** 146.24 344 *e*P PKPbc 03 35 16.4 -0.6
ARBE **Arbavere** 146.38 339 *e*P PKPbc 03 35 17.5 -0.1
ERBR **Yeremizino-Bor** 146.67 309 *e*PKP2 PKPab 03 35 19.8 -0.3
ERBR pmax pmax
comp=Z,432nm,1.1s
BCA **Borcka** 146.75 301 ⇓P PKPab 03 35 20.2 -0.3
LABN **Labinsk** 146.78 307 *e*PKP2 PKPab 03 35 20.3 -0.3
LABN pmax pmax
comp=Z,62nm,0.8s
VSU **Vasula** 146.90 337 *i* PKIKP PKPdf 03 35 17.6 +0.5
AAL **Aland** 147.40 344 *e*P PKPbc 03 35 19.2 -1.2
VSLR **Vesyoloye** 147.54 305 *i* PKP2 PKPbc 03 35 20.9 -0.5
MTSE **Matsula** 147.63 340 *e*P PKPbc 03 35 21.3 +0.2
SOC **Sochi** 147.74 306 *e*PKHKP PKPpre 03 35 17.8
SOC *e*SS SS 03 57 50.5 -1.2
SOC *e*SSS SSS 04 03 21.3
SOC MLR MLR
comp=Z,72nm,19.0s
NC405 **NORSAR Array S** 148.00 352 PKPbc 03 35 21.3 -0.9
NB2 **NORSAR Subarra** 148.13 352 PKP PKPbc 03 35 21.5 -1.0
comp=Z,24nm,1.0s,baz=18,slow=3.0
NOA **NORSAR Array B** 148.13 352 PKPbc PKPbc 03 35 21.8 -0.7
comp=Z,13nm,0.9s,baz=13,slow=4.5,SNR=27
KTUT **Trabzon** 148.20 301 ⇑P PKiKP 03 35 24.8 -0.1
UPP **Uppsala** 148.22 346 *e*P PKPbc 03 35 22.2 -0.5
HFS **Hagfors** 148.68 350 PKPbc PKPbc 03 35 23.0 -0.8
comp=Z,24nm,0.8s,baz=63,slow=3.6,SNR=22
ANN **Anapa** 149.00 309 *e*PKP2 PKPbc 03 35 24.9 -0.2
ANN pmax pmax
comp=Z,98nm,0.9s
IDID **Didziasalis** 149.26 333 *e*P PKPbc 03 35 24.8 -0.7
ISAL **Salakas** 149.31 334 *e*P PKiKP 03 35 26.8 +0.1
MNK **Minsk** 149.38 331 *i* PKP2 PKPbc 03 35 25.8 0.0
MNK *i* SS SS 03 58 06.7 -1.9
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,31nm,1.0s
MNK pmax pmax
comp=Z,116nm,1.0s
VIKU **Vikbolandet** 149.65 346 *e*P PKPbc 03 35 25.4 -0.9
KONO **Kongsberg** 149.67 353 ⇑PKP2 PKiKP 03 35 26.8 -0.6
VSVD **Vaisvydziai** 149.79 337 *e*P PKPbc 03 35 26.8 +0.1
STRU **Stroemstad** 150.09 352 *i* P PKPbc 03 35 27.0 -0.3
PABE **Paberze** 150.16 336 *e*P PKPbc 03 35 26.9 -0.7
PBUR **Paburge** 150.43 338 *e*P PKPbc 03 35 28.0 -0.3
SIM **Simferopol'** 151.18 311 *i* PKIKP PKiKP 03 35 31.5 +0.5
SIM pmax pmax
comp=Z,90nm,1.1s
BORU **Boraas** 151.21 349 *i* P PKPbc 03 35 28.7 -1.4
AKASG **Malin Array Be** 151.24 324 PKiKP 03 35 30.6 -0.3
AKASG **Malin Array Be** 151.24 324 PKPbc PKPbc 03 35 30.2 -0.1
comp=Z,31nm,0.9s,baz=48,slow=2.5,SNR=36
AKASG PKPab **sPKPdf** 03 35 37.8 -0.1
comp=Z,34nm,0.7s,baz=45,slow=3.1,SNR=22
KIEV **Kiev** 151.26 324 ⇓P PKiKP 03 35 30.5 -0.4
KIEV **Kiev** 151.26 324 PKPbc 03 35 30.2 -0.2
KIEV **Kiev** 151.26 324 PKIKP PKPbc 03 35 30.2 -0.2
DIKM **Dikmen** 151.39 304 ⇑P PKiKP 03 35 32.3 +0.8
SUW **Suwalki** 151.61 335 *e*PKP PKiKP 03 35 31.3 -0.2
SUW **Suwalki** 151.61 335 *e*P PKiKP 03 35 31.5 0.0
FABU **Falkenberg** 151.82 349 *i* P PKPbc 03 35 30.5 -1.0
BLEU **Bleking** 151.86 345 *i* P PKPbc 03 35 30.5 -1.1
DEL **Delary** 152.12 347 *e*P PKPbc 03 35 31.8 -0.4
DEL **Delary** 152.12 347 *i* P PKPbc 03 35 31.0 -1.2
MMAI **Mount Meron Ar** 152.24 285 PKPbc PKiKP 03 35 34.6 +1.0
comp=Z,138nm,1.0s,baz=72,slow=4.7,SNR=58
BRTR **Keskin Array B** 153.04 300 PKiKP 03 35 35.3 +0.1
BRTR **Keskin Array B** 153.04 300 PKP PKPdf 03 35 27.1 -0.6
comp=Z,1.5nm,0.6s,baz=128,slow=2.0,SNR=8.6
BRTR PKPbc PKiKP 03 35 34.9 -0.3
comp=Z,12nm,0.9s,baz=139,slow=2.9,SNR=39
BSD **Bornholm Skovb** 153.16 345 *i* P PKiKP 03 35 34.4 -0.2
SORM **Soroca** 153.21 321 ⇑P PKPbc 03 35 32.5 -2.4
SORM **Soroca** 153.21 321 ⇑PKIKP PKPbc 03 35 32.5 -2.4
ANTO **Ankara** 153.64 301 ⇑P PKiKP 03 35 37.3 +1.0
ANTO **Ankara** 153.64 301 PKiKP 03 35 36.7 +0.4
ANTO **Ankara** 153.64 301 PKIKP PKiKP 03 35 36.7 +0.4
EKA **Eskdalemuir Ar** 153.94 8 PKPab PKPab 03 35 50.3 +0.8
comp=Z,4.4nm,0.6s,baz=332,slow=2.9,SNR=15
LVV **L'vov** 154.35 328 *e*PKP2 PKPab 03 35 50.8 -0.7
TPGR **Topolog** 154.88 314 ⇓P PKPab 03 35 54.3 +0.3
CFR **Carcaliu** 154.90 315 ⇑P PKPab 03 35 48.2 -5.8
TESR **Tescani** 155.08 319 ⇓P PKPab 03 35 54.6 -0.2
KWP **Kalwaria Pacla** 155.09 329 *e*PKP PKPab 03 35 54.8 +0.1
PANC **Panciu** 155.14 317 ⇓P PKPab 03 35 55.7 +0.7
BURAR **Bucovina Array** 155.22 323 ⇑P PKPab 03 35 55.8 +0.4
BURAR **Bucovina Array** 155.22 323 PKPbc PKPdf 03 35 39.6 +9.2
BURAR **Bucovina Array** 155.22 323 ⇑PKP2 PKPab 03 35 55.8 +0.4
VRI **Vrincioaia** 155.39 318 ⇓P PKPab 03 35 57.4 +1.2
VRI **Vrincioaia** 155.39 318 ⇓PKP2 PKPab 03 35 57.4 +1.2
SPBR **Spulber** 155.44 317 ⇑P PKPab 03 35 57.0 +0.7
PLOR **Plostina** 155.45 318 ⇓P PKPab 03 35 56.4 0.0
PLOR **Plostina** 155.45 318 ⇓PKP2 PKPab 03 35 56.4 0.0
BISRR **Bisoca** 155.57 317 ⇓P PKPab 03 35 58.4 +1.4
TURR **Turia** 155.70 319 ⇓P PKPab 03 35 58.2 +0.7
COVR **Voineasa-Covas** 155.71 318 ⇑P PKPab 03 35 58.4 +0.9
KOLS **Kolonicke sedl** 155.79 328 *e*PKP PKPab 03 35 57.5 -0.2
KOLS **Kolonicke sedl** 155.79 328 *e*PKP2 PKPab 03 35 57.5 -0.2
OZUR 155.81 319 ⇓P PKPab 03 35 58.4 +0.4
STHS **Stebnicka Huta** 155.90 330 *e*PKP PKPab 03 35 57.3 -0.9
STHS **Stebnicka Huta** 155.90 330 *e*PKP2 PKPab 03 35 57.3 -0.9
DBIC **Dimbokro** 155.96 160 PKP PKPdf 03 35 35.3 +3.0
comp=Z,4.5nm,1.0s,baz=216,slow=5.5,SNR=3.1
MLR **Muntele Rosu** 156.06 318 ⇓P PKPab 03 35 59.7 +0.5
MLR **Muntele Rosu** 156.06 318 ⇓PKP2 PKPab 03 35 59.7 +0.5
DOPR **Dopca** 156.11 319 ⇑P PKPab 03 36 00.1 +0.8
CRVS **Cervenica-Dubn** 156.18 329 *e*PKP PKPab 03 35 59.2 -0.2
CRVS **Cervenica-Dubn** 156.18 329 *e*PKP2 PKPab 03 35 59.2 -0.2
NIE **Niedzica** 156.30 331 *e*PKP PKPab 03 35 59.5 -0.4
NEF **NEVSHA** 156.36 312 *e*P PKPab 03 36 00.7 +0.3
VOIR 156.61 318 ⇓P PKPab 03 36 02.8 +1.4
VOIR 156.61 318 ⇓PKP2 PKPab 03 36 02.8 +1.4
CJR **Cluj-Napoca** 156.64 323 ⇑P PKPab 03 36 00.3 -1.2
CJR **Cluj-Napoca** 156.64 323 ⇑PKP2 PKPab 03 36 00.3 -1.2
RAZG **Razgrad** 156.71 313 ⇓P PKPab 03 36 02.6 +0.7
LANS **Liptovska Anna** 156.85 332 *e*PKP PKPab 03 36 03.0 +0.7
LANS **Liptovska Anna** 156.85 332 *e*PKP2 PKPab 03 36 03.0 +0.7
OSTC **Ostas** 156.88 338 *e*PKPAB PKPab 03 36 02.0 -0.3
OSTC **Ostas** 156.88 338 *e*PKP2 PKPab 03 36 02.0 -0.3
CHVC **Chvalec** 156.91 339 *e*PKPAB PKPab 03 36 01.9 -0.6
CHVC **Chvalec** 156.91 339 *e*PKP2 PKPab 03 36 01.9 -0.6
MARR **Marisel-Cluj** 156.92 329 ⇑P PKPab 03 36 03.0 +0.2
KECS **Kecovo** 156.93 329 *e*PKP PKPab 03 36 02.9 +0.3
KECS **Kecovo** 156.93 329 *e*PKP2 PKPab 03 36 02.9 +0.3
UPC **Upice** 156.99 339 *e*PKPAB PKPab 03 36 02.4 -0.4
UPC **Upice** 156.99 339 *e*PKP2 PKPab 03 36 02.4 -0.4
DPC **Dobruska-Polom** 157.03 338 *e*PKPAB PKPab 03 36 02.2 -0.8
DPC **Dobruska-Polom** 157.03 338 *e*PKP2 PKPab 03 36 02.2 -0.8
DRGR 157.05 324 ⇑P PKPab 03 36 03.3 0.0
DRGR 157.05 324 ⇑PKP2 PKPab 03 36 03.3 0.0
MORC **Moravsky Berou** 157.09 335 ⇓P PKPab 03 36 03.2 -0.1
MORC **Moravsky Berou** 157.09 335 *e*PKP PKPab 03 36 03.0 -0.3
MORC **Moravsky Berou** 157.09 335 PKP2 PKPab 03 36 03.2 -0.1
KRLC **Kraliky** 157.11 337 *e*PKPAB PKPab 03 36 03.0 -0.4
KRLC **Kraliky** 157.11 337 *e*PKP2 PKPab 03 36 03.0 -0.4
CLL **Collm** 157.12 344 *e*PKPdf PKPdf 03 35 33.0 +0.4
CLL *i* PKPdif **pPKPdf** 03 35 43.4 +0.6
comp=Z,10.0nm,1.1s
CLL *ex* x 03 35 49.0
CLL *i* PKPab **PKPab** 03 36 02.2 -1.1
comp=Z,20nm,0.9s
CLL *ep*PKPab **pPKPab** 03 36 10.0 -3.2
CLL *es*PKPab **sPKPab** 03 36 13.0 -3.7
CLL AMS AMS 04 47 00.0
comp=Z,200nm,21.4s
CLL **Collm** 157.12 344 *e*PKIKP PKPdf 03 35 33.0 +0.4
CLL *i* 03 35 43.4
CLL *i* 03 36 02.2
CLL pmax pmax
comp=Z,10.0nm,1.1s
CLL pmax pmax
comp=Z,20nm,0.9s
SZH **Strazhitsa** 157.19 313 *e*P PKPab 03 36 04.5 +0.5
JMB **Yambol** 157.20 311 *e*P PKPab 03 36 03.9 -0.1
BRG **Berggiesshubel** 157.28 342 PKP2 PKPab 03 36 03.5 -0.4
BRG pmax pmax
comp=Z,14nm,1.0s
BRG **Berggiesshubel** 157.28 342 ⇓*e*PKPf sPKPdf 03 35 44.2 -2.3
BRG **Berggiesshubel** 157.28 342 Amp 03 35 45.1
comp=Z,5.5nm,1.1s
BRG **Berggiesshubel** 157.28 342 PKPab PKPab 03 36 03.6 -0.4
BRG **Berggiesshubel** 157.28 342 Amp 03 36 04.3
comp=Z,14nm,0.9s
BRG **Berggiesshubel** 157.28 342 Amp 03 44 42.0
comp=Z,0.5nm,15.7s
BRG **Berggiesshubel** 157.28 342 Amp 03 44 52.0
comp=N,0.1nm,14.0s
BRG **Berggiesshubel** 157.28 342 Amp 03 44 54.0
comp=E,0.3nm,16.5s
LOT **Lotru** 157.33 320 ⇑P PKPab 03 36 04.4 -0.2
ELND **Elena** 157.42 312 ⇑P PKPab 03 36 04.8 -0.2
RICC **Richard** 157.53 341 *e*PKPAB PKPab 03 36 04.8 -0.3
PSZ **Piszkesteto** 157.61 329 ⇑P PKPab 03 36 05.3 -0.4
PSZ **Piszkesteto** 157.61 329 ⇑PKP2 PKPab 03 36 05.3 -0.4
VYHS **Vyhne** 157.63 332 *e*PKP PKPab 03 36 05.4 -0.2
VYHS **Vyhne** 157.63 332 *e*PKP2 PKPab 03 36 05.4 -0.2
JAVC **Velka Javorina** 157.80 334 *e*PKP PKPab 03 36 06.8 +0.4
VRAC **Vranov** 157.82 336 ⇓P PKPab 03 36 06.5 +0.1
VRAC **Vranov** 157.82 336 *e*PKP PKPab 03 36 06.2 -0.2
VRAC **Vranov** 157.82 336 ⇓PKP2 PKPab 03 36 06.5 +0.1
PRU **Pruhonice** 157.90 340 *e*PKPAB PKPab 03 36 06.3 -0.4
PRU AMS AMS 04 44 20.0
comp=E,200nm,15.7s
PRU **Pruhonice** 157.90 340 *e*PKP2 PKPab 03 36 06.3 -0.4
PRU MLR MLR
comp=Z,200nm,15.7s
SURR **Surduc** 158.04 322 ⇑P PKPab 03 36 07.6 +0.1
KRUC **Moravsky** 158.10 336 *e*PKP PKPab 03 36 07.1 -0.5
SRE **Strehaia** 158.12 319 ⇑P PKPab 03 36 03.0 -4.9
SRE **Strehaia** 158.12 319 PKP2 PKPab 03 36 03.0 -4.9
ALN **Alexandroupoli** 158.20 307 PKPab PKPab 03 36 08.3 -0.1
ALN **Alexandroupoli** 158.20 307 PKP2 PKPab 03 36 08.3 -0.1
NKC **Novy Kostel** 158.25 344 *e*PKPAB PKPab 03 36 07.9 -0.3
NKC **Novy Kostel** 158.25 344 *e*PKP2 PKPab 03 36 07.9 -0.3
MODS **Modra-Piesok** 158.35 334 *e*PKP PKPab 03 36 08.6 -0.1
MODS **Modra-Piesok** 158.35 334 *e*PKP2 PKPab 03 36 08.6 -0.1
SRO **Srobarova** 158.38 331 *e*PKP PKPab 03 36 09.5 +0.7
SRO **Srobarova** 158.38 331 *e*PKP2 PKPab 03 36 09.5 +0.7
BZS **Buzias** 158.40 323 ⇓P PKPab 03 36 08.4 -0.6
BZS **Buzias** 158.40 323 ⇓PKP2 PKPab 03 36 08.4 -0.6
HERR **Herculane** 158.44 320 ⇑P PKPab 03 36 09.1 -0.2
MPEP **Malo Peshtene** 158.55 315 *e*P PKPab 03 36 10.0 +0.2
VALD **Valchedram** 158.55 316 *e*P PKPab 03 36 10.3 +0.5
RZN **Rozhen** 158.75 310 *e*P PKPab 03 36 10.8 -0.2
MDVR **Moldovita** 158.89 321 ⇓P PKPab 03 36 11.0 -0.3
KHC **Kasperske Hory** 158.95 341 *e*PKPDF PKPdf 03 35 35.6 +0.6
KHC *e*PKPAB PKPab 03 36 11.3 0.0
KHC **Kasperske Hory** 158.95 341 *e*PKIKP PKPdf 03 35 35.6 +0.6
KHC *e* 03 36 11.3
CKRC **Cesky Krumlov** 159.01 339 *e*PKPAB PKPab 03 36 09.8 -1.8
CKRC AMS AMS 04 47 10.0
comp=E,200nm,15.0s
CKRC **Cesky Krumlov** 159.01 339 *e*PKP2 PKPab 03 36 09.8 -1.8
CKRC MLR MLR
comp=Z,200nm,15.0s
BLKB **Belogradchik** 159.04 317 ⇓P PKPab 03 36 11.9 0.0
GRFO **Grafenberg** 159.04 345 PKPab PKPab 03 36 11.3 -0.3
GRFO **Grafenberg** 159.04 345 PKP2 PKPab 03 36 11.3 -0.3
GERES **GERESS Array B** 159.17 340 PKPab 03 36 11.8 -0.6
GERES **GERESS Array B** 159.17 340 PKP PKPdf 03 35 35.0 -0.4
comp=Z,0.5nm,0.6s,baz=107,slow=5.2,SNR=5.3
GERES PKPab PKPab 03 36 10.0 -2.4
comp=Z,3.2nm,1.0s,baz=5.7,slow=3.0,SNR=8.2
CONA **Conrad Observa** 159.25 335 *i* PKP PKPab 03 36 13.0 +0.2
comp=Z,25nm,1.1s,SNR=9.3
VTS **Vitosha** 159.26 314 *e*P PKPab 03 36 13.1 0.0
RONA **Rosalia, Austr** 159.28 334 *i* PKP PKPab 03 36 13.0 +0.2
comp=Z,27nm,1.0s,SNR=9.9
MORH **Mrgy, Hungar** 159.46 328 ⇓P PKPdf 03 35 35.6 0.0
MMB **Musomishta** 159.47 311 *e*P PKPab 03 36 13.8 -0.1
BOVS **Bovan** 159.60 318 ⇓P PKPab 03 36 14.1 -0.2
FRGS **Fruska Gora** 159.65 324 ⇑P PKPab 03 36 14.4 -0.1
FRGS **Fruska Gora** 159.65 324 ⇑*i*P PKPab 03 36 13.6 -0.9
KKB **Krupnik** 159.73 312 *e*P PKPab 03 36 15.0 0.0
MOA **Molln** 159.87 338 *i* PKP PKPab 03 36 15.4 +0.1
comp=Z,20nm,1.1s,SNR=5.8
ARSA **Arzberg** 159.94 335 *e*PKP PKPab 03 36 15.6 -0.1
comp=Z,11nm,1.1s
BIOA **Bad Ischl, Aus** 160.21 339 *i* PKP PKPab 03 36 17.0 +0.1
comp=Z,34nm,1.1s,SNR=16
TEKS **Tekeris** 160.21 323 ⇑*i*P PKPab 03 36 15.7 -1.3
KOGS **Kog** 160.32 332 *i* PKPab PKPab 03 36 16.2 -1.1
STIP **Stip** 160.41 313 *i* P PKPab 03 36 16.5 -1.4
SOKA **Soboth** 160.60 335 *i* PKP PKPab 03 36 18.2 -0.5
comp=Z,20nm,1.0s,SNR=6.6
SKO **Skopje** 160.73 315 *i* P PKPab 03 36 19.9 +0.6
BBLS **Lazi&#263i** 160.74 322 ⇑*i*P PKPab 03 36 18.6 -0.8
LESA **Schwarzleotal** 160.75 340 *e*PKP PKPab 03 36 19.2 0.0
comp=Z,20nm,1.0s
HAPS **Han Pijesak,Bl** 160.83 323 ⇑*i*P PKPab 03 36 19.1 -0.7
KBA **Koelnbreinsper** 160.85 338 *e*PKP PKPab 03 36 19.6 -0.3
comp=Z,5.9nm,1.0s
BFO **Black Forest** 160.91 349 PKPab PKPab 03 36 18.2 -1.6
BFO **Black Forest** 160.91 349 PKP2 PKPab 03 36 18.2 -1.6
OBKA **Obir** 160.93 335 *e*PKP PKPab 03 36 19.7 -0.4
comp=Z,11nm,0.9s
OBKA **Obir** 160.93 335 *e*P PKPab 03 36 13.3 -6.8
RUDO **Rudo** 160.93 321 ⇑*i*P PKPab 03 36 19.0 -1.1
PDKS **Podkum** 161.13 334 *i* PKPab PKPab 03 36 19.6 -1.3
MYKA **Terra Mystica** 161.14 337 *e*PKP PKPab 03 36 20.0 -1.0
comp=Z,14nm,1.1s
WATA **Walderalm** 161.14 342 *i* PKP PKPab 03 36 20.8 -0.3
comp=Z,19nm,1.1s,SNR=6.3
CRES **Cresnjev** 161.14 332 ⇑*i*P PKPab 03 36 18.9 -2.1
WTTA **Wattenberg** 161.19 342 *i* PKP PKPab 03 36 21.2 -0.2
comp=Z,27nm,1.3s,SNR=6.4
RETA **Reutte** 161.21 344 *e*PKP PKPab 03 36 20.9 -0.3
comp=Z,8.8nm,1.0s
BLY **Banja Luka** 161.23 327 *e*P PKPab 03 36 19.3 -2.1
MOTA **Moosalm** 161.26 343 *e*PKP PKPab 03 36 21.1 -0.4
comp=Z,12nm,0.9s
LJU **Ljubljana** 161.33 334 *i* PKPab PKPab 03 36 20.4 -1.4
SQTA **Sankt Quirin** 161.35 342 *e*PKP PKPab 03 36 21.4 -0.5
comp=Z,12nm,1.2s
ABTA **Abfaltersbach** 161.41 339 *i* PKP PKPab 03 36 21.2 -1.0
comp=Z,20nm,1.1s,SNR=7.2
BOJS **Bojanci** 161.49 332 ⇑*i*P PKPab 03 36 20.8 -1.7
MGRS **Mrkonjic Grad** 161.53 327 ⇑*i*P PKPab 03 36 22.9 +0.2
OHR **Ohrid** 161.60 313 *i* P PKPab 03 36 22.9 -0.4
DAVA **Damuels** 161.61 345 *e*PKP PKPab 03 36 22.7 -0.4
comp=Z,13nm,0.9s
CEY **Cerknica** 161.62 334 ⇑*i*P PKPab 03 36 21.5 -1.6
FETA **Feichten** 161.66 343 *e*PKP PKPab 03 36 23.1 -0.2
comp=Z,8.0nm,1.1s
A050A **Klekovaca** 161.74 328 *e*P PKPab 03 36 22.4 -1.3
PDG **Podgorica** 161.76 319 ⇑P PKPab 03 36 23.7 -0.1
PDG **Podgorica** 161.76 319 ⇑*i*P PKPab 03 36 22.8 -1.0
BRY **Bratogost** 161.86 321 ⇑*i*P PKPab 03 36 22.6 -1.8
SKDS **Skadanscina** 161.94 335 *e*P PKPab 03 36 18.3 -6.2
DRME **Dracevica, Mon** 161.95 318 ⇑*i*P PKPab 03 36 23.4 -1.3
STON **Ston** 162.33 322 *e*P PKPab 03 36 23.6 -2.6
TOA0 **Torodi Ar. Sit** 163.54 175 PKPdf 03 35 41.5 +0.7
TORD **Torodi Ar. Bea** 163.54 175 PKP PKPdf 03 35 41.4 +0.6
comp=Z,5.1nm,1.1s,baz=29,slow=2.1,SNR=14
TORD PKPab PKPab 03 36 33.5 +1.5
comp=Z,2.1nm,0.9s,baz=163,slow=2.9,SNR=6.3
MATE **Matera** 164.37 318 ⇑P PKPab 03 36 35.2 -0.1
TIP **Tingagrande** 165.25 314 ⇑P PKPab 03 36 39.2 -0.1
PAB **San Pablo** 168.39 30 ⇑PKIKP PKPdf 03 35 46.0 +1.9
ESDC **Sonseca Array** 168.44 28 PKP PKPdf 03 35 44.2 +0.1
comp=Z,2.7nm,1.1s,baz=332,slow=3.2,SNR=7.4

KEST	**Kesra**	**171.95**	**321**	PKPab	**PKPab**	**03**	**37**	**08.9 -0.1**
	comp=Z,11nm,1.0s,baz=198,slow=3.2,SNR=7.6							
TAM	**Tamanrasset**	**172.83**	**198**		**PKPdf**	**03**	**35**	**46.3 -0.8**
TAM	**Tamanrasset**	**172.83**	**198**	PKIKP	**PKPdf**	**03**	**35**	**46.3 -0.8**

*NEIC **01** 03:30:35.1±0.6,36.599N±0.005×97.76W±0.02,h2km±3km, Error ellipse: s-maj=1.8km s-min=0.8km az=87.0*
TUL 01 03:30:35.3±0.7,36.602N±0.008×97.76W±0.01,h1km±1km, ML2.8,mb_Lg2.4/49(NEIC),ML2.7/63(NEIC),Error ellipse: s-maj=1.5km s-min=0.8km az=57.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.20**	**242**	Pg	Pg	03 30 39.9	+0.7
CROK				Sg	Sg	03 30 43.0	+1.1
CROK				IAML		03 30 45.3	
	comp=E,2μm,0.2s						
GC02	**Grant County #**	**0.26**	**342**	Pg	Pg	03 30 41.1	+0.7
GC02				Sg	Sg	03 30 44.8	+1.0
KAN14	**Manchester OK**	**0.39**	**335**		Pg	03 30 43.3	+0.5
KAN14				Sg	Sg	03 30 49.2	+1.3
KAN14				IAML		03 30 54.8	
	comp=E,569nm,0.1s						
OK032	**Salt Plains WL**	**0.41**	**299**		Pg	03 30 43.8	+0.5
OK032				Sg	Sg	03 30 49.6	+1.0
OK032				IAML		03 30 49.9	
	comp=E,897nm,0.2s						
KAN17	**Caldwell West**	**0.44**	**359**		Pg	03 30 44.2	+0.5
KAN17				Sg	Sg	03 30 50.6	+1.1
KAN17				IAML		03 30 58.7	
	comp=N,441nm,0.3s						
KAN17				IAML		03 30 59.8	
	comp=E,511nm,0.3s						
BLOK	**Blackwell**	**0.47**	**70**	Pg	Pg	03 30 44.9	+0.7
BLOK				IAML		03 30 53.2	
	comp=E,567nm,0.2s						
BLOK				IAML		03 30 58.2	
	comp=N,596nm,0.2s						
KAN13	**South Haven SW**	**0.47**	**29**	Pg	Pg	03 30 44.9	+0.6
KAN13				Sg	Sg	03 30 51.5	+1.1
KAN13				IAML		03 30 51.8	
	comp=E,885nm,0.3s						
KAN13				IAML		03 30 57.1	
	comp=N,773nm,0.2s						
KAN05	**Bluff City Nor**	**0.51**	**350**	Pg	Pg	03 30 45.6	+0.5
KAN05				Sg	Sg	03 30 52.9	+1.1
KAN05				IAML		03 30 57.8	
	comp=N,374nm,0.2s						
KAN05				IAML		03 30 60.0	
	comp=E,440nm,0.4s						
KAN09	**Caldwell North**	**0.55**	**12**	Pg	Pg	03 30 46.3	+0.5
KAN09				Sg	Sg	03 30 54.0	+1.2
KAN01	**Argonia South**	**0.55**	**0**	Pg	Pg	03 30 46.4	+0.5
KAN01				Sg	Sg	03 30 54.2	+1.2
KAN08	**Anthony NE Sta**	**0.65**	**345**		Pg	03 30 48.1	+0.4
KAN06	**Argonia West S**	**0.65**	**353**	Pg	Pg	03 30 48.0	+0.2
KAN06				Sg	Sg	03 30 57.3	+1.1
OK048	**Pawnee Station**	**0.68**	**106**		Pg	03 30 48.9	+0.6
KAN12	**Harper NE Stat**	**0.72**	**345**		Pg	03 30 49.7	+0.6
KAN12				IAML		03 31 05.7	
	comp=N,408nm,0.4s						
KAN12				IAML		03 31 05.8	
	comp=E,399nm,0.3s						
OK051	**E0350 and S346**	**0.75**	**97**		Pg	03 30 50.1	+0.4
OK051				IAML		03 31 04.1	
	comp=E,429nm,0.2s						
OK051				IAML		03 31 04.5	
	comp=E,371nm,0.2s						
OK038	**West end E0370**	**0.80**	**261**		Pg	03 30 50.8	+0.1
OK038				IAML		03 31 12.0	
	comp=E,443nm,0.3s						
OK038				IAML		03 31 13.0	
	comp=E,413nm,0.3s						
OK029	**Liberty Lake**	**0.84**	**163**		Pg	03 30 51.7	+0.3
OK029				IAML		03 31 03.4	
	comp=E,171nm,0.2s						
QUOK	**Quay**	**0.95**	**117**		Pg	03 30 53.6	+0.1
QUOK				IAML		03 31 12.2	
	comp=E,297nm,0.2s						
OK052	**Battle Ridge R**	**0.98**	**128**		Pg	03 30 54.1	0.0
OK052				IAML		03 31 09.6	
	comp=E,331nm,0.2s						
OK052				IAML		03 31 11.3	
	comp=E,256nm,0.2s						
OK031	**S. Brethren Rd**	**0.99**	**131**	Pg	Pg	03 30 54.3	+0.1
OK031				IAML		03 31 07.8	
	comp=E,228nm,0.2s						
OK031				IAML		03 31 12.5	
	comp=E,195nm,0.1s						
ADOK	**Arcadia Dam**	**1.00**	**162**	Pg	Pg	03 30 54.5	0.0
U32A	**Winter Ranch,**	**1.02**	**258**	Pg	Pg	03 30 54.7	-0.2
U32A				IAML		03 31 14.5	
	comp=E,149nm,0.1s						
T35A	**Sooner Cattle**	**1.05**	**72**	Pg	Pg	03 30 55.5	0.0
OKCSW	**OKLAHOMA CITY**	**1.22**	**168**		Pg	03 30 58.5	-0.2
DEOK	**Depew**	**1.27**	**126**	Pg	Pg	03 30 59.2	-0.5
FNO	**Franklin**	**1.37**	**168**		Pn	03 31 00.9	-0.6
ELIS	**Ellis County**	**1.44**	**249**		Pn	03 31 02.1	-0.5
W35A	**Tecumseh**	**1.61**	**153**	Pg	Pn	03 31 04.8	-0.1
TUL3	**Leonard**	**1.73**	**113**		Pn	03 31 06.5	0.0
R32A	**Long Quarter,**	**1.97**	**338**		Pn	03 31 10.2	+0.4
R32A				IAmb_Lg		03 31 41.9	
	comp=Z,12nm,0.8s						
WMOK	**Wichita Mounta**	**2.04**	**204**	Pn	Pn	03 31 10.9	+0.2
RLO	**Rose Lookout**	**2.25**	**100**		Pn	03 31 13.8	+0.1
SMWD	**Samnorwood**	**2.51**	**234**	Pn	Pn	03 31 17.1	-0.2
LOOK	**Love County**	**2.65**	**170**	Pn	Pn	03 31 18.9	-0.2
KSU1	**Kansas State U**	**2.66**	**20**	Pn	Pn	03 31 19.1	-0.1
CBKS	**Cedar Bluff**	**2.71**	**325**	Pn	Pn	03 31 19.8	-0.2
U38A	**Gravette**	**2.72**	**92**	Pn	Pn	03 31 20.0	-0.2
X37A	**Clayton**	**2.80**	**135**	Pn	Pn	03 31 21.0	-0.1
X37A				IAmb_Lg		03 32 10.4	
	comp=Z,19nm,0.7s						
HHAR	**Hobbs**	**3.10**	**95**	Pn	Pn	03 31 25.3	0.0
AMTX	**Amarillo**	**3.62**	**243**	IAmb_Lg		03 32 37.8	
	comp=Z,12nm,0.8s						
S39A	**Bolivar**	**3.71**	**72**		Pn	03 31 34.7	+1.0
DKNS	**Dickens**	**3.91**	**222**	Pn	Pn	03 31 35.6	-0.9
DKNS				IAmb_Lg		03 32 42.8	
	comp=Z,7.0nm,0.8s						
MIAR	**Mount Ida**	**3.98**	**120**	Pn	Pn	03 31 37.1	-0.3
MIAR				IAmb_Lg		03 32 50.6	
	comp=Z,12nm,0.7s						
RTBA	**Rita Blanca**	**4.01**	**269**	Pn	Pn	03 31 38.5	+0.5
RTBA				IAmb_Lg		03 32 50.9	
	comp=Z,7.0nm,0.9s						
ABTX	**Abilene, Hawle**	**4.26**	**202**	IAmb_Lg		03 32 52.8	
	comp=Z,7.2nm,0.9s						
P38A	**Dawn**	**4.50**	**47**	Pn	Pn	03 31 45.5	+1.0
P38A				IAmb_Lg		03 32 56.9	
	comp=Z,11nm,0.8s						
X40A	**Basin Creek Fa**	**4.54**	**116**	IAmb_Lg		03 33 06.1	
	comp=Z,8.0nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.54**	**303**	IAmb_Lg		03 33 05.3	
	comp=Z,5.9nm,0.8s						
WHAR	**Wooly Hollow**	**4.63**	**105**	IAmb_Lg		03 33 04.5	
	comp=Z,12nm,0.7s						
POST	**Post**	**4.68**	**222**	IAmb_Lg		03 33 16.7	
	comp=Z,5.1nm,0.8s						
R40A	**Maddies Statio**	**4.68**	**67**	Pn	Pn	03 31 47.3	+0.3
UALR	**University of**	**4.77**	**111**	IAmb_Lg		03 33 13.2	
	comp=Z,9.5nm,0.7s						
WLAR	**White Oak Lake**	**4.79**	**126**	IAmb_Lg		03 33 15.4	
	comp=Z,9.3nm,1.0s						
Z41A	**Richland Creek**	**5.26**	**128**	IAmb_Lg		03 33 34.0	
	comp=Z,7.8nm,0.7s						
LCAR	**Lake Charles**	**5.36**	**94**	IAmb_Lg		03 33 25.4	
	comp=Z,4.3nm,0.9s						
T25A	**Trinidad**	**5.36**	**278**	IAmb_Lg		03 33 38.6	
	comp=Z,7.3nm,0.7s						
P40A	**Paris**	**5.37**	**55**	IAmb_Lg		03 33 35.1	
	comp=Z,8.2nm,0.8s						
CCM	**Cathedral Cave**	**5.39**	**72**	IAmb_Lg		03 33 37.8	
	comp=Z,9.2nm,0.9s						
PBMO	**Poplar Bluff**	**5.89**	**86**	IAmb_Lg		03 33 41.5	
	comp=Z,6.0nm,0.8s						
FVM	**French Village**	**6.01**	**75**	IAmb_Lg		03 33 49.4	
	comp=Z,5.1nm,0.9s						
Q24A	**Divide**	**6.31**	**294**	IAmb_Lg		03 34 06.6	
	comp=Z,6.7nm,0.8s						
JCT	**Junction City**	**6.34**	**196**	IAmb_Lg		03 34 10.1	
	comp=Z,6.6nm,0.8s						
S44A	**Carbondale**	**6.88**	**78**	IAmb_Lg		03 34 16.7	
	comp=Z,5.7nm,0.7s						
N23A	**Red Feather La**	**7.70**	**306**	IAmb_Lg		03 34 42.1	
	comp=Z,6.2nm,0.8s						

*SOME **01** 03:32:05.8,40.70N×78.33E,h0km*
*KRNET **01** 03:32:07.0±0.1,40.65N×78.32E,h18km,mb2.8*
*NNC **01** 03:32:06.5±1.7,40.66N×78.43E,h0km,mb3.7,mpv3.4, Error ellipse: s-maj=11.3km s-min=7.6km az=167.0*
ISC 01 03:32:09.3±1.9,40.65N±0.08×78.34E±0.04,h10km,n54, σ1s57/85,22C-12D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.15**	**340**	⇑*i*P	**Pb**	**03 32 28.9**	**-2.6**
TARG	baz=40			⇑*i*S	**Sg**	**03 32 45.1**	**-1.3**
KDJ	**Kajisay**	**1.71**	**330**	⇓*e*P	**Pn**	**03 32 39.0**	**-0.4**
KDJ	baz=30			⇓*e*S	**Sb**	**03 33 02.6**	**-0.1**
PRZ	**Przheval'sk**	**1.83**	**1**	⇑*e*P	**Pn**	**03 32 41.1**	**+0.1**
PRZ	baz=2.0			⇑*e*S	**Sb**	**03 33 06.7**	**+0.6**
NRN	**Naryn**	**1.93**	**295**	⇑*e*P	**Pb**	**03 32 43.0**	**-1.8**
NRN	baz=94			⇑*e*S	**Sb**	**03 33 09.3**	**+0.2**
ANVS	**Anan'yevo**	**2.19**	**347**	⇓*e*P	**Pb**	**03 32 47.0**	**-2.1**
ANVS	baz=47			⇓*e*S	**Sb**	**03 33 15.6**	**-0.8**
ULHL	**Ulahol**	**2.24**	**316**	⇑*i*P	**Pb**	**03 32 47.8**	**-2.2**
ULHL	baz=16			⇑*i*S	**Sb**	**03 33 16.9**	**-1.0**
SATY	**Saty**	**2.41**	**1**	Pg	**Pb**	**03 32 51.7**	**-1.1**
SATY	13nm,0.4s			Lg	Lg	03 33 25.0	
	92nm,0.9s						
SATY	**Saty**	**2.41**	**1**	*e*P	**Pb**	**03 32 51.7**	**-1.1**
SATY	13nm,0.4s			*e*S	**Sg**	**03 33 25.0**	**-1.6**
	92nm,0.9s						
ZHN	**Zhinishke**	**2.52**	**2**	Pg	**Pb**	**03 32 53.6**	**-1.0**
ZHN	15nm,0.1s			Lg	Lg	03 33 28.5	
	64nm,0.3s						
ZHN	**Zhinishke**	**2.52**	**2**	*e*P	**Pb**	**03 32 53.6**	**-1.0**
ZHN	15nm,0.1s			*e*S	**Sg**	**03 33 28.5**	**-1.7**
	64nm,0.3s						
UZB	**Uzynbulak**	**2.55**	**11**	Pg	**Pb**	**03 32 53.5**	**-1.6**
UZB	3.7nm,0.1s			Lg	Lg	03 33 28.3	
	26nm,0.3s						
UZB	**Uzynbulak**	**2.55**	**11**	*e*P	**Pb**	**03 32 53.5**	**-1.6**
UZB	3.7nm,0.1s			*e*S	**Sb**	**03 33 28.3**	**+1.7**
	26nm,0.3s						
BOOM	**Boomskoye usch**	**2.57**	**316**	⇑*i*P	**Pn**	**03 32 52.4**	**+1.2**
BOOM	baz=17			⇑*i*S	**Sn**	**03 33 24.8**	**+2.2**
TNSS	**Tian-Shan**	**2.60**	**337**	Pg	**Pb**	**03 32 55.3**	**-0.9**
TNSS	11nm,0.2s			Lg	Lg	03 33 31.1	
	5.6nm,0.5s						
TNSS	**Tian-Shan**	**2.60**	**337**	*e*P	**Pb**	**03 32 55.3**	**-0.9**
TNSS	11nm,0.2s			*e*S	**Sg**	**03 33 31.1**	**-1.8**
	5.6nm,0.5s						
SHLS	**Shalkode**	**2.64**	**18**	Pg	**Pb**	**03 32 54.8**	**-2.0**
SHLS	4.5nm,0.2s			Lg	Lg	03 33 31.2	
	20nm,0.5s						
SHLS	**Shalkode**	**2.64**	**18**	*e*P	**Pb**	**03 32 56.6**	**-0.2**
SHLS	4.1nm,0.2s			*e*S	**Sg**	**03 33 32.9**	**-1.3**
	70nm,0.4s						
MDOK	**Medeo**	**2.69**	**339**	Pg	**Pb**	**03 32 55.7**	**-1.9**
MDOK	5.0nm,0.4s			Pg	**Pb**	**03 32 56.3**	**-1.3**
	9.6nm,0.5s						
MDOK				Lg	Lg	03 33 31.8	
	35nm,0.8s						
MDOK				Lg	Lg	03 33 33.1	
	26nm,0.7s						
MDOK	**Medeo**	**2.69**	**339**	*e*P	**Pb**	**03 32 56.3**	**-1.3**
MDOK	9.6nm,0.5s			*e*S	**Sb**	**03 33 33.0**	**+2.4**
	26nm,0.7s						
IZV	**Izvestkoviy**	**2.71**	**332**	Pg	**Pg**	**03 32 59.2**	**-2.0**
IZV	3.3nm,0.2s			Lg	Lg	03 33 37.6	
	41nm,0.7s						
IZV	**Izvestkoviy**	**2.71**	**332**	*e*P	**Pb**	**03 32 56.6**	**-1.3**
IZV	0.9nm,0.2s			*e*S	**Sb**	**03 33 32.9**	**+1.6**
	4.7nm,0.2s						
KOTS	**Kotyrbulak**	**2.74**	**341**	Pg	**Pb**	**03 32 57.8**	**-0.7**
KOTS	12nm,0.2s			Lg	Lg	03 33 35.6	
	34nm,0.3s						
KOTS	**Kotyrbulak**	**2.74**	**341**	*e*P	**Pb**	**03 32 57.8**	**-0.7**
KOTS	12nm,0.2s			*e*S	**Sg**	**03 33 35.6**	**-1.6**
	34nm,0.3s						
PDGK	**Podgornoye**	**2.81**	**17**	Pg	**Pn**	**03 32 55.2**	**+0.8**
PDGK	2.2nm,0.4s			Lg	Lg	03 33 31.1	
	11nm,0.4s						
PDGK	**Podgornoye**	**2.81**	**17**	⇑Pg	**Pn**	**03 32 54.5**	**+0.1**
PDGK	2.0nm,0.4s			⇓Lg	Lg	03 33 31.9	
	19nm,0.6s						
KURS	**Kuram**	**2.84**	**358**	Pg	**Pb**	**03 32 59.1**	**-0.9**
KURS	6.2nm,0.2s			Lg	Lg	03 33 37.7	
	22nm,0.5s						
KURS	**Kuram**	**2.84**	**358**	*e*P	**Pb**	**03 32 59.1**	**-0.9**
KURS	6.2nm,0.2s			*e*S	**Sb**	**03 33 37.7**	**+2.8**
	22nm,0.5s						
MTBS	**Maitube**	**2.86**	**331**	Pg	**Pb**	**03 32 59.1**	**-1.3**
MTBS	4.1nm,0.2s			Lg	Lg	03 33 37.6	
	25nm,0.4s						
MTBS	**Maitube**	**2.86**	**331**	*e*P	**Pb**	**03 32 59.1**	**-1.3**
MTBS	4.1nm,0.2s			*e*S	**Sb**	**03 33 37.6**	**+2.2**
	25nm,0.4s						
KST	**Kastek**	**2.98**	**324**	Pg	**Pb**	**03 32 60.0**	**-2.5**
KST	6.9nm,0.3s			Lg	Lg	03 33 37.3	
	15nm,0.7s						
KST	**Kastek**	**2.98**	**324**	*e*P	**Pb**	**03 33 01.3**	**-1.2**
KST	6.9nm,0.3s			*e*S	**Sb**	**03 33 41.4**	**+2.4**
	16nm,0.5s						
TKM2	**Tokmak 2**	**3.06**	**319**	⇓Pg	**Pb**	**03 33 03.5**	**-0.4**
TKM2	2.1nm,0.4s			⇑Lg	Lg	03 33 44.5	
	7.7nm,0.6s						
TKM2	**Tokmak 2**	**3.06**	**319**	⇑*i*P	**Pn**	**03 32 58.9**	**+1.0**
TKM2	baz=19			⇑*i*S	**Sn**	**03 33 37.0**	**+2.4**
	baz=19						
KTMS	**Ketmen**	**3.17**	**28**	Pg	**Pb**	**03 33 05.6**	**-0.3**
KTMS	0.9nm,0.1s			Lg	Lg	03 33 48.7	
	6.2nm,0.2s						
KTMS	**Ketmen**	**3.17**	**28**	*e*P	**Pb**	**03 33 05.5**	**-0.3**
KTMS	0.9nm,0.1s			*e*S	**Sg**	**03 33 48.7**	**-2.5**
	6.2nm,0.2s						
DGS	**Degeres**	**3.22**	**324**	Pg	**Pb**	**03 33 05.7**	**-0.9**
DGS	5.3nm,0.3s			Lg	Lg	03 33 47.6	
	18nm,0.7s						
DGS	**Degeres**	**3.22**	**324**	*e*P	**Pb**	**03 33 05.7**	**-0.9**
DGS	5.9nm,0.5s			*e*S	**Sb**	**03 33 48.4**	**+2.5**
	18nm,0.7s						
KBK	**Karagaybulak**	**3.23**	**309**	⇑*i*P	**Pn**	**03 33 01.2**	**+0.9**
KBK	baz=10.0			⇑*i*S	**Sn**	**03 33 40.8**	**+1.9**
ARLS	**Aral**	**3.26**	**293**	⇑*i*P	**Pn**	**03 33 01.5**	**+0.9**
ARLS	baz=93			⇑*i*S	**Sn**	**03 33 41.1**	**+1.6**
UCH	**Uchtor**	**3.28**	**300**	⇑*i*P	**Pn**	**03 33 01.7**	**+0.6**
UCH	baz=0.0			⇑*i*S	**Sn**	**03 33 41.8**	**+1.4**
KTBS	**Karatobe**	**3.30**	**339**	Pg	**Pb**	**03 33 06.7**	**-1.2**
KTBS	5.2nm,0.3s			Lg	Lg	03 33 50.3	
	7.3nm,0.2s						
KTBS	**Karatobe**	**3.30**	**339**	*e*P	**Pb**	**03 33 06.7**	**-1.2**
KTBS	5.2nm,0.3s			*e*S	**Sb**	**03 33 50.3**	**+2.2**
	7.3nm,0.2s						
CHKK	**Chushkaly**	**3.35**	**343**	Pg	**Pb**	**03 33 08.3**	**-0.6**
CHKK	4.0nm,0.3s			Lg	Lg	03 33 53.3	
	14nm,0.6s						
CHKK	**Chushkaly**	**3.35**	**343**	*e*P	**Pb**	**03 33 08.3**	**-0.6**
CHKK	4.0nm,0.3s			*e*S	**Sb**	**03 33 53.3**	**+3.6**
	14nm,0.6s						
BLB	**Baldybastay**	**3.45**	**2**	Pg	**Pb**	**03 33 10.1**	**-0.4**
BLB	13nm,0.3s			Lg	Lg	03 33 56.1	
	11nm,0.3s						
AAK	**Ala-Archa**	**3.50**	**306**	⇓Pg	**Pb**	**03 33 10.9**	**-0.5**
AAK	2.5nm,0.4s			⇑Lg	Lg	03 33 57.3	
	17nm,1.1s						
AAK	**Ala-Archa**	**3.50**	**306**	⇓*i*P	**Pn**	**03 33 05.1**	**+1.2**
AAK	baz=6.0			⇓*i*S	**Sn**	**03 33 47.0**	**+1.6**
	baz=6.0						
CHMS	**Chumysh**	**3.56**	**312**	⇑Pg	**Pb**	**03 33 11.6**	**-0.8**
CHMS	2.2nm,0.5s			⇓Lg	Lg	03 33 59.1	
	6.0nm,0.6s						
CHMS	**Chumysh**	**3.56**	**312**	⇓*i*P	**Pn**	**03 33 05.6**	**+1.0**
CHMS	baz=12			⇓*i*S	**Sn**	**03 33 49.0**	**+2.2**
	baz=12						
KRBS	**Karabastau**	**3.63**	**328**	Pg	**Pb**	**03 33 12.6**	**-1.0**
KRBS	3.2nm,0.2s			Lg	Lg	03 34 00.7	
	12nm,0.6s						
KRBS	**Karabastau**	**3.63**	**328**	*e*P	**Pb**	**03 33 12.6**	**-1.0**
KRBS	3.2nm,0.2s			*e*S	**Sb**	**03 34 00.7**	**+3.0**
	12nm,0.6s						
KNOS	**Konyrlen**	**3.76**	**9**	Pg	**Pb**	**03 33 15.0**	**-0.8**
KNOS	3.1nm,0.3s			Lg	Lg	03 34 04.9	
	4.4nm,0.4s						
DJR	**Jarkent**	**3.83**	**16**	Pg	**Pb**	**03 33 16.1**	**-1.0**
DJR	1.7nm,0.3s			Lg	Lg	03 34 06.7	
	8.4nm,0.4s						
DJR	**Jarkent**	**3.83**	**16**	*e*P	**Pb**	**03 33 16.1**	**-1.0**
DJR	1.7nm,0.3s			*e*S	**Sb**	**03 34 06.7**	**+3.2**
	8.4nm,0.4s						

*NEIC **01** 03:44:31.3±1.0,19.5N±0.3×66.50W±0.02,h21km±45km, ML2.2/18,Md3.6/7(RSPR),Error ellipse: s-maj=41.8km s-min=3.1km az=178.0*
*RSPR **01** 03:44:33.4,19.49N×66.48W,h47km±14km,MD3.6/7*
ISC 01 03:44:33.3±4.2,19.4N±0.2×66.47W±0.09,h35km,n34, σ0s65/31,8C-2D,Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.96**	**183**	⇑*e*P	**Pn**	**03 44 49.9**	**-0.4**
EMPR	**Esperanza - Ma**	**0.96**	**183**	*e*S	**Sn**	**03 45 02.9**	**+0.2**
EMPR	**Esperanza - Ma**	**0.96**	**183**		**Pn**	**03 44 49.9**	**-0.4**
EMPR					**Sn**	**03 45 02.9**	**+0.2**
EMPR	**Esperanza - Ma**	**0.96**	**183**	IAML		03 45 14.1	
	comp=N,97nm,1.3s						
AOPR	**Arecibo Observ**	**1.12**	**194**	⇑*e*P	**Pn**	**03 44 51.9**	**-0.7**
AOPR	**Arecibo Observ**	**1.12**	**194**	*e*S	**Sn**	**03 45 07.6**	**+0.9**
AOPR	**Arecibo Observ**	**1.12**	**194**		**Pn**	**03 44 51.9**	**-0.7**
AOPR					**Sn**	**03 45 07.6**	**+0.9**
AOPR	**Arecibo Observ**	**1.12**	**194**	IAML		03 45 17.2	
	comp=N,81nm,0.6s						
GCPR	**Guaynabo City**	**1.18**	**162**	⇑*e*P	**Pn**	**03 44 53.5**	**+0.2**
GCPR	**Guaynabo City**	**1.18**	**162**	*e*S	**Sn**	**03 45 08.6**	**+0.3**
GCPR	**Guaynabo City**	**1.18**	**162**		**Pn**	**03 44 52.8**	**-0.6**
GCPR	**Guaynabo City**	**1.18**	**162**		**Sn**	**03 45 08.6**	**+0.3**
GCPR	**Guaynabo City**	**1.18**	**162**	IAML		03 45 24.1	
	comp=E,30nm,1.2s						
UUPR	**Utuado, UPR, P**	**1.21**	**191**	⇑*e*P	**Pn**	**03 44 52.7**	**-1.0**
UUPR	**Utuado, UPR, P**	**1.21**	**191**		**Pn**	**03 44 52.7**	**-1.0**
CELP	**Cerrillos**	**1.36**	**184**	⇓*e*P	**Pn**	**03 44 55.5**	**-0.4**
CELP	**Cerrillos**	**1.36**	**184**	*e*S	**Sn**	**03 45 11.2**	**-1.5**
CELP	**Cerrillos**	**1.36**	**184**		**Pn**	**03 44 55.5**	**-0.4**
LSP	**Las Mesas**	**1.39**	**205**	⇑*e*P	**Pn**	**03 44 56.5**	**+0.3**
LSP	**Las Mesas**	**1.39**	**205**		**Pn**	**03 44 56.5**	**+0.3**
OBIP	**Obispado Ponce**	**1.40**	**185**	⇑*e*P	**Pn**	**03 44 56.2**	**0.0**
OBIP	**Obispado Ponce**	**1.40**	**185**	*e*S	**Sn**	**03 45 14.1**	**+0.6**
OBIP	**Obispado Ponce**	**1.40**	**185**		**Pn**	**03 44 56.2**	**0.0**
OBIP	**Obispado Ponce**	**1.40**	**185**	IAML		03 45 17.5	
	comp=E,23nm,0.6s						
HUMP	**Col San Antoni**	**1.42**	**155**	⇑*e*P	**Pn**	**03 44 56.7**	**+0.1**
HUMP	**Col San Antoni**	**1.42**	**155**		**Pn**	**03 44 56.7**	**+0.1**
HUMP	**Col San Antoni**	**1.42**	**155**	IAML		03 45 16.9	
	comp=N,27nm,0.2s						
HUMP				IAML		03 45 22.7	
	comp=E,26nm,0.6s						
CRPR	**Cabo Rojo, PR**	**1.55**	**203**	⇓*e*P	**Pn**	**03 44 58.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.55**	**203**	*e*S	**Sn**	**03 45 18.9**	**+1.6**
CRPR	**Cabo Rojo, PR**	**1.55**	**203**		**Pn**	**03 44 58.0**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.55**	**203**	IAML		03 45 13.2	
	comp=N,29nm,2.6s						
CRPR				IAML		03 45 34.9	
	comp=E,22nm,1.9s						
MLPR	**Magueyes Islan**	**1.56**	**200**	⇑*e*P	**Pn**	**03 44 58.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.56**	**200**	*e*S	**Sn**	**03 45 17.5**	**0.0**
MLPR	**Magueyes Islan**	**1.56**	**200**		**Pn**	**03 44 58.1**	**-0.5**
MLPR				IAML		03 45 16.3	
	comp=E,26nm,1.8s						
MLPR					**Sn**	**03 45 17.3**	**-0.3**
MLPR				IAML		03 45 36.6	
	comp=N,32nm,2.3s						

*IDC **01** 03:44:44.6±1.2,43.72N×86.69E,h0km,mb3.6/7, mbtmp3.6/11,ML3.2/4,Error ellipse: s-maj=35.2km s-min=15.8km az=47.0*
*NNC **01** 03:44:46.1±2.7,43.76N×86.57E,h0km±10km,mb3.9, mpv3.6,Error ellipse: s-maj=19.6km s-min=13.0km az=129.0*
ISC 01 03:44:47.5±1.0,43.78N±0.08×86.80E±0.08,h20km,n18, σ1s35/25,mb3.5/7,8C-7D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.38**	**315**	⇓Pn	**Pn**	**03 45 54.3**	**+1.3**
MK31	2.6nm,0.3s,baz=137,slow=14,SNR=47			⇓Pg	**Pb**	**03 46 05.0**	**+1.1**
	4.6nm,0.3s,baz=132,slow=17,SNR=4.2						
MK31				Sn	**Sn**	**03 46 45.3**	**+1.9**
	9.9nm,0.5s,baz=132,slow=26,SNR=6.3						
MK31				⇓Lg	Lg	03 46 59.5	
	29nm,0.7s,baz=124,slow=28,SNR=6.3						
MKAR	**Makanchi Array**	**4.38**	**315**

PDGK				⇑Lg	Lg	03 47 29.4		
	20nm,0.7s							
MDOK	**Medeo**	**7.12**	**268**	Pg	**Pb**	**03 46 50.5**	**-0.1**	
	1.3nm,0.4s							
MDOK				Lg	Lg	03 48 27.3		
	15nm,0.9s							
KURBB	**Kurchatov Arra**	**8.86**	**323**	⇓Pn	**Pn**	**03 46 53.0**	**-1.3**	
	6.6nm,0.7s							
KURBB				⇑Lg	Lg	03 49 26.9		
	28nm,1.0s							
KURBB	**Kurchatov Arra**	**8.86**	**323**	Pn	**Pn**	**03 46 53.9**	**-0.4**	
	0.3nm,0.3s,baz=130,slow=13,SNR=17							
KURBB				Lg	Lg	03 49 25.7		
	0.3nm,0.3s,baz=148,slow=28,SNR=5.2							
	0.9nm,0.3s							
KURK	**Kurchatov**	**8.89**	**324**	⇑Pn	**Pn**	**03 46 53.1**	**-1.6**	
	2.1nm,0.5s							
KURK				⇓Lg	Lg	03 49 29.3		
	14nm,0.7s							
ZAA0	**Zalesovo Array**	**10.26**	**353**	⇑Pn	**Pn**	**03 47 12.6**	**-0.9**	
	0.2nm,0.5s							
ZAA0				⇓Sn	**Sn**	**03 49 07.6**	**-0.2**	
	0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**10.26**	**353**	Pn	**Pn**	**03 47 13.1**	**-0.4**	
	1.0nm,0.3s,baz=176,slow=14,SNR=17							
ZALV				Sn	**Sn**	**03 49 04.1**	**-3.7**	
	0.9nm,0.3s,baz=170,slow=26,SNR=7.5							
ZALV				Lg	Lg	03 50 14.6		
	0.2nm,0.3s,baz=186,slow=26,SNR=1.9							
	2.5nm,0.3s							
BVAR	**Borovoye Array**	**14.27**	**316**	Pn	**Pn**	**03 48 06.5**	**-1.7**	
	baz=128,slow=11,SNR=4.0							
BVAR				Lg	Lg	03 52 25.9		
	baz=134,slow=28,SNR=1.7							
	0.6nm,0.5s							
ARCES	**ARCESS Array B**	**39.85**	**331**	P	**P**	**03 52 19.3**	**+0.1**	
	2.3nm,0.9s,baz=88,slow=8.2,SNR=6.4							
	2.3nm,0.9s							
HFS	**Hagfors**	**45.39**	**318**	P	**P**	**03 53 04.3**	**0.0**	
	5.1nm,1.0s,baz=44,slow=8.6,SNR=2.1							
	5.1nm,1.0s							
NOA	**NORSAR Array B**	**46.37**	**319**	P	**P**	**03 53 12.3**	**+0.3**	
	0.3nm,0.5s,baz=221,slow=20,SNR=1.7							
	0.3nm,0.5s							
ILAR	**Eielson Array**	**63.95**	**23**	P	**P**	**03 55 19.3**	**+0.5**	
	0.3nm,0.8s,baz=316,slow=4.9,SNR=4.4							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	**72.69**	**10**	P	**P**	**03 56 13.6**	**+0.1**	
	0.2nm,0.6s,baz=339,slow=6.7,SNR=4.4							
	0.2nm,0.6s							
WRA	**Warramunga Arr**	**76.92**	**135**	P	**P**	**03 56 39.7**	**+1.2**	
	0.4nm,0.9s,baz=324,slow=4.2,SNR=2.1							
	0.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**77.53**	**276**	P	**P**	**03 56 41.0**	**-1.0**	
	0.1nm,0.4s,baz=50,slow=4.7,SNR=1.5							
	0.1nm,0.4s							

*NEIC **01** 03:55:04.4±0.6, 19°.47N±0°.06×155°.39W±0°.05, h34km±4km, Error ellipse: s-maj=9.5km s-min=7.3km az=169.0*

HVO 01 03:55:06.3±0.5, 19°.48N±0°.04×155°.37W±0°.04, h22km±2km, ML2.6/20, ML2.6/40(NEIC), Error ellipse: s-maj=5.4km s-min=5.0km az=123.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.02**	**320**		Pb	03 55 10.4	-0.1
MLH					Sb	03 55 13.1	-0.2
MLH	**Mauna Loa**	**0.02**	**320**	IAML		03 55 13.5	
	comp=N,9μm,0.3s						
MLH				IAML		03 55 14.4	
	comp=E,4μm,0.1s						
RSD	**Rainshed**	**0.09**	**101**		Pb	03 55 10.7	0.0
RSD					Sb	03 55 13.9	+0.3
RSD	**Rainshed**	**0.09**	**101**	IAML		03 55 14.4	
	comp=N,5μm,0.1s						
RSD				IAML		03 55 14.7	
	comp=E,4μm,0.1s						
UWE	**Uwekahuna**	**0.10**	**128**		Pb	03 55 10.5	-0.2
UWE					Sb	03 55 13.6	-0.2
UWE	**Uwekahuna**	**0.10**	**128**	IAML		03 55 13.9	
	comp=E,3μm,0.2s						
UWE				IAML		03 55 14.7	
	comp=N,2μm,0.1s						
WRMHI	**West Rim**	**0.10**	**136**		Pb	03 55 10.4	-1.5
WRMHI	**West Rim**	**0.10**	**136**	IAML		03 55 16.6	
	comp=E,1μm,0.3s						
WRMHI				IAML		03 55 16.9	
	comp=N,1μm,0.8s						
OBL	**Observatory Le**	**0.10**	**126**		Pb	03 55 10.5	-1.4
OBL					Sb	03 55 13.5	-2.3
OBL	**Observatory Le**	**0.10**	**126**	IAML		03 55 15.1	
	comp=N,2μm,0.5s						
OBL				IAML		03 55 15.8	
	comp=E,2μm,0.2s						
UWB	**Uwekahuna B**	**0.11**	**121**		Pb	03 55 10.4	-1.5
UWB					Sb	03 55 13.3	-2.5
NPH	**North Pit**	**0.11**	**128**		Pb	03 55 10.5	-1.5
NPH	**North Pit**	**0.11**	**128**	IAML		03 55 13.4	
	comp=E,296nm,0.2s						
NPH				IAML		03 55 19.1	
	comp=N,576nm,0.3s						
SBLHI	**Steaming Bluff**	**0.11**	**118**		Pb	03 55 10.5	-1.4
SBLHI	**Steaming Bluff**	**0.11**	**118**	IAML		03 55 13.9	
	comp=E,1μm,0.3s						
SBLHI				IAML		03 55 13.9	
	comp=N,1μm,0.3s						
SDHHI	**Sand Hill**	**0.12**	**140**		Pb	03 55 10.7	-1.3
SDHHI	**Sand Hill**	**0.12**	**140**	IAML		03 55 14.1	
	comp=E,1μm,0.4s						
SDHHI				IAML		03 55 14.7	
	comp=N,1μm,0.3s						
HATHI	**Halema'uma'u T**	**0.12**	**118**		Pb	03 55 10.6	-1.3
HATHI					Sb	03 55 13.4	-2.3
HATHI	**Halema'uma'u T**	**0.12**	**118**	IAML		03 55 14.1	
	comp=N,1μm,0.2s						
HATHI				IAML		03 55 16.8	
	comp=E,802nm,0.4s						
BYL	**Byron's Ledge**	**0.13**	**122**		Pb	03 55 10.7	-1.2
BYL					Sb	03 55 13.8	-1.9
BYL	**Byron's Ledge**	**0.13**	**122**	IAML		03 55 14.1	
	comp=N,866nm,0.4s						
BYL				IAML		03 55 14.4	
	comp=E,565nm,0.5s						
RIM	**Rim**	**0.13**	**132**		Pb	03 55 10.7	-1.2
RIM	**Rim**	**0.13**	**132**	IAML		03 55 15.7	
	comp=N,702nm,0.3s						
RIM				IAML		03 55 16.4	
	comp=E,450nm,0.4s						
KKO	**Keanakako`i**	**0.13**	**129**		Pb	03 55 10.8	-1.1
KKO	**Keanakako`i**	**0.13**	**129**	IAML		03 55 14.3	
	comp=E,597nm,0.7s						
KKO				IAML		03 55 14.7	
	comp=N,816nm,1.7s						
HMH	**Humu'ula Sheep**	**0.16**	**320**		Pb	03 55 11.3	-0.8
HMH					Sb	03 55 14.9	-1.3
HMH	**Humu'ula Sheep**	**0.16**	**320**	IAML		03 55 15.1	
	comp=E,5μm,0.3s						
HMH				IAML		03 55 15.3	
	comp=N,2μm,0.2s						
PUH	**Pauahi**	**0.18**	**125**		Pb	03 55 11.2	-0.8
PUH	**Pauahi**	**0.18**	**125**	IAML		03 55 14.0	
	comp=E,379nm,3.8s						
PUH				IAML		03 55 21.2	
	comp=N,414nm,1.6s						
HLP	**Hilina Pali**	**0.19**	**161**		Pb	03 55 11.6	-0.4
HLP	**Hilina Pali**	**0.19**	**161**	IAML		03 55 15.6	
	comp=N,1μm,0.1s						
HLP				IAML		03 55 15.7	
	comp=E,785nm,0.1s						
MLOA	**Mauna Loa Obse**	**0.20**	**286**		Pb	03 55 15.3	+2.8
MLOA	**Mauna Loa Obse**	**0.20**	**286**	IAML		03 55 15.4	
	comp=E,858nm,0.4s						
MLOA				IAML		03 55 15.5	
	comp=N,567nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.22**	**117**		Pb	03 55 11.8	-0.4
HTC	**Hot Caves**	**0.24**	**185**		Pb	03 55 12.1	-0.4
STCH	**Steam Cracks**	**0.25**	**112**		Pn	03 55 16.1	+1.3
STCH	**Steam Cracks**	**0.25**	**112**	IAML		03 55 16.5	
	comp=E,2μm,0.1s						
STCH				IAML		03 55 16.6	
	comp=N,2μm,0.1s						
ALEP	**Alea Permanent**	**0.26**	**283**		Pb	03 55 12.2	-0.8
ALEP					Sb	03 55 15.9	-1.6
POHA	**Pohakuloa**	**0.31**	**332**	Pg	Pb	03 55 12.7	-0.8
KHU	**Kahuku**	**0.33**	**224**		Pb	03 55 12.8	-0.9
KHU	**Kahuku**	**0.33**	**224**	IAML		03 55 17.6	
	comp=N,785nm,0.1s						
KHU				IAML		03 55 17.8	
	comp=E,969nm,0.1s						
HUH	**Hualalai**	**0.48**	**295**		Sb	03 55 22.8	-0.3

*SNET **01** 03:58:48.3±10.0, 12°.17N×90°.01W, h51km, ML3.7*
*CATAC **01** 03:58:58.0±0.5, 13°.00N×90°.07W, h12km±4km, ML3.7*
*GCG **01** 03:59:00.1±0.5, 13°.03N×90°.29W, h42km±201km, MD3.5*

ISC 01 03:58:56.8±2.1, 13°.00N±0°.08×90°.17W±0°.05, h17km±10km, n43, σ0°57/66, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.96**	**47**	*eP*	**Pb**	**03 59 15.5**	**+0.3**
JAYA				*eS*	**Sg**	**03 59 28.3**	**0.0**
JAYA	**Jayaque - finc**	**0.96**	**47**	*i* P	**Pn**	**03 59 15.7**	**0.0**
JAYA				*i* S	**Sb**	**03 59 26.5**	**-1.2**
JAYA				IAML		03 59 30.7	
	comp=Z,9μm,1.0s						
LALI	**Alcalda de L**	**0.96**	**59**	*eP*	**Pb**	**03 59 15.3**	**+0.1**
LALI	**Alcalda de L**	**0.96**	**59**	*i* P	**Pb**	**03 59 15.2**	**+0.1**
LALI				IAML		03 59 30.8	
	comp=Z,290nm,1.0s						
NUBE	**Las Nubes**	**0.98**	**23**	*i* P	**Pn**	**03 59 15.7**	**-0.3**
NUBE				IAML		03 59 31.2	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**0.98**	**33**	*eP*	**Pn**	**03 59 16.1**	**0.0**
CEVE				*eS*	**Sn**	**03 59 31.5**	**+1.6**
CEVE	**Cerro Verde**	**0.98**	**33**	*i* P	**Pn**	**03 59 16.1**	**0.0**
CEVE				IAML		03 59 35.2	
	comp=Z,2μm,1.0s						
LOAL	**Lomas de Alarc**	**1.07**	**21**	*eP*	**Pn**	**03 59 17.2**	**+0.1**
LOAL				*eS*	**Sg**	**03 59 32.0**	**+0.5**
LOAL	**Lomas de Alarc**	**1.07**	**21**	*i* P	**Pg**	**03 59 17.5**	**0.0**
LOAL				*i* S	**Sg**	**03 59 32.0**	**+0.5**
LOAL				IAML		03 59 33.2	
	comp=Z,4μm,1.0s						
PMON	**Piamonte**	**1.10**	**50**	*i* P	**Pn**	**03 59 17.7**	**+0.1**
PMON				*i* S	**Sg**	**03 59 33.1**	**+0.6**
PMON				IAML		03 59 36.7	
	comp=Z,4μm,1.0s						
ITCA	**Escuela Especi**	**1.10**	**52**	*i* P	**Pb**	**03 59 17.7**	**+0.2**
ITCA				*i* S	**Sg**	**03 59 32.9**	**+0.3**
ITCA				IAML		03 59 34.2	
	comp=Z,4μm,1.0s						
BOQS	**Boqueron**	**1.14**	**50**	*eP*	**Pb**	**03 59 18.4**	**+0.2**
PANCS	**Alcalda de**	**1.15**	**58**	*i* P	**Pn**	**03 59 17.8**	**-0.4**
PANCS				*i* S	**Sb**	**03 59 32.0**	**-0.9**
PANCS				IAML		03 59 33.3	
	comp=Z,3μm,1.0s						
SNET	**Serv Nac Est T**	**1.15**	**53**	*i* P	**Pn**	**03 59 18.1**	**-0.1**
SNET				*i* S	**Sb**	**03 59 32.7**	**-0.2**
SNET				IAML		03 59 35.4	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**1.15**	**32**	*i* P	**Pb**	**03 59 18.3**	**-0.1**
UNIC				IAML		03 59 18.5	
	comp=Z,570nm,1.0s						
UNIC				*i* S	**Sn**	**03 59 33.9**	**+0.2**
UEES	**Universidad Ev**	**1.16**	**52**	*i* P	**Pb**	**03 59 18.6**	**+0.1**
UEES				*i* S	**Sb**	**03 59 32.8**	**-0.5**
UEES				IAML		03 59 38.7	
	comp=Z,1μm,1.0s						
LOMA	**Loma Larga**	**1.17**	**56**	*eP*	**Pn**	**03 59 18.2**	**-0.4**
LOMA	**Loma Larga**	**1.17**	**56**	*i* P	**Pn**	**03 59 18.2**	**-0.4**
LOMA				IAML		03 59 21.0	
	comp=Z,1μm,1.0s						
LOMA				*i* S	**Sb**	**03 59 32.9**	**-0.7**
UTEC	**Universidad Te**	**1.18**	**53**	*i* P	**Pn**	**03 59 18.6**	**0.0**
UTEC				*i* S	**Sb**	**03 59 33.5**	**-0.3**
UTEC				IAML		03 59 38.2	
	comp=Z,790nm,1.0s						
IGN	**Direccin Gen**	**1.21**	**54**	*i* P	**Pb**	**03 59 19.6**	**+0.3**
IGN				IAML		03 59 22.9	
	comp=Z,5μm,1.0s						
IGN				*i* S	**Sb**	**03 59 34.2**	**-0.5**
QUEZ	**Alcaldia de Qu**	**1.21**	**46**	*i* P	**Pn**	**03 59 19.0**	**0.0**
QUEZ				IAML		03 59 19.9	
	comp=Z,5μm,1.0s						
UDBS	**Universidad Do**	**1.22**	**54**	*i* P	**Pn**	**03 59 19.4**	**+0.2**
UDBS				IAML		03 59 38.0	
	comp=Z,1μm,1.0s						
PAVA	**Las Pavas**	**1.40**	**59**	*i* P	**Pb**	**03 59 22.5**	**-0.1**
PAVA				IAML		03 59 24.3	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**1.40**	**64**	*eP*	**Pn**	**03 59 21.6**	**-0.1**
COEG	**Centro de Oper**	**1.40**	**64**	*i* P	**Pn**	**03 59 21.8**	**+0.1**
COEG				IAML		03 59 25.6	
	comp=Z,670nm,1.0s						
TECO	**Alcaldia de Te**	**1.46**	**68**	*i* P	**Pn**	**03 59 21.9**	**-0.5**
TECO				IAML		03 59 42.7	
	comp=Z,320nm,1.0s						
UESV	**Universidad de**	**1.49**	**65**	*i* P	**Pn**	**03 59 23.1**	**+0.2**
UESV				IAML		03 59 24.8	
	comp=Z,710nm,1.0s						
UESV				*i* S	**Sn**	**03 59 42.4**	**+0.3**
SCLA	**Alcaldia de Sa**	**1.57**	**63**	*i* P	**Pn**	**03 59 24.7**	**+0.7**
SCLA				*i* S	**Sb**	**03 59 45.9**	**+0.7**
SCLA				IAML		03 59 51.7	
	comp=Z,290nm,1.0s						
FUG	**Fuego 3**	**1.58**	**336**	*eP*	**Pb**	**03 59 25.0**	**-0.7**
NBG	**Las Nubes**	**1.59**	**354**	*eP*	**Pb**	**03 59 26.4**	**+0.5**
NBG				*eS*	**Sg**	**03 59 46.7**	**-1.6**
MTO3	**Montecristo**	**1.60**	**29**	*eP*	**Pn**	**03 59 25.1**	**+0.6**
MTO3				*eS*	**Sb**	**03 59 46.8**	**+0.6**
MTO3	**Montecristo**	**1.60**	**29**	*i* P	**Pn**	**03 59 25.2**	**+0.6**
MTO3				IAML		03 59 27.7	
	comp=Z,1μm,1.0s						
MTO3				*i* S	**Sb**	**03 59 46.6**	**+0.4**
LLGN	**La Laguna**	**1.67**	**46**	*i* P	**Pn**	**03 59 25.5**	**+0.1**
LLGN				IAML		03 59 56.1	
	comp=Z,820nm,1.0s						
COEB	**Comit de Eme**	**1.68**	**73**	*eP*	**Pn**	**03 59 25.3**	**-0.2**
COEB				*eS*	**Sn**	**03 59 46.7**	**0.0**
COEB	**Comit de Eme**	**1.68**	**73**	*i* P	**Pn**	**03 59 25.3**	**-0.2**
COEB				*i* S	**Sn**	**03 59 46.4**	**-0.3**
COEB				IAML		03 59 55.7	
	comp=Z,310nm,1.0s						
PACA	**Pacayal**	**1.86**	**75**	*i* P	**Pn**	**03 59 29.2**	**+1.1**
PACA				*i* S	**Sn**	**03 59 49.7**	**-1.6**
PACA				IAML		03 59 55.4	
	comp=Z,2μm,1.0s						
RANC	**El Ranchito**	**1.89**	**76**	*i* P	**Pn**	**03 59 28.5**	**+0.1**
RANC				IAML		03 59 58.6	
	comp=Z,300nm,1.0s						
BLLM	**Bellamira**	**1.94**	**77**	*eP*	**Pn**	**03 59 29.0**	**-0.1**
MRL	**Marmol**	**2.13**	**13**	*eP*	**Pb**	**03 59 33.9**	**-1.1**
STG3	**Santiaguito 3,**	**2.18**	**322**	*eP*	**Pn**	**03 59 33.5**	**+1.0**
STG3				*eS*	**Sn**	**03 59 59.3**	**+0.1**
LCND	**La Caada**	**2.25**	**82**	*i* P	**Pn**	**03 59 33.3**	**0.0**
LCND				IAML		04 00 08.1	
	comp=Z,230nm,1.0s						
CNCH	**Conchagua**	**2.30**	**83**	*i* P	**Pn**	**03 59 34.4**	**+0.3**
CNCH				IAML		04 00 10.7	
	comp=Z,630nm,1.0s						
PKGN	**Cerro Pekin**	**3.13**	**96**	*i* P	**Pn**	**03 59 46.0**	**+0.5**
PKGN				IAML		04 00 25.4	
	comp=Z,310nm,1.0s						

*IDC **01** 04:03:47.5±0.6, 36°.86N×27°.63E, h0km, mb4.1/16, mbtmp4.1/23, ML3.5/7, MS3.2/7, Error ellipse: s-maj=14.3km s-min=11.5km az=130.0*
*THE **01** 04:03:48.8, 36°.89N×27°.58E, h0km, ML4.1/7, Error ellipse: s-maj=1.3km s-min=0.6km az=59.0*
*HLW **01** 04:03:48.5, 36°.82N×27°.75E, h2km±10km, Md4.4, Ml4.1*
*AFAD **01** 04:03:48.2±0.0, 36°.88N×27°.54E, h16km, MW4.2*
*ISK **01** 04:03:48.5, 36°.90N×27°.56E, h7km, ML4.1/23*
*MOS **01** 04:03:48.9±1.1, 36°.93N×27°.57E, h12km, mb4.4/18, Error ellipse: s-maj=6.1km s-min=4.0km az=103.3*
*ATH **01** 04:03:49.3, 36°.92N×27°.60E, h7km±1km, ML3.9/13, Error ellipse: s-maj=1.7km s-min=0.9km az=114.0*
*MCSM **01** 04:03:50.6±0.3, 37°.N±3°×2°.8E±°, h10km, mb4.3, mB4.3, MLv4.0, Mw(mB)3.4*
*NEIC **01** 04:03:50.1±1.9, 36°.84N±0°.04×27°.55E±0°.06, h14km±4km, mb4.4/51, Error ellipse: s-maj=7.0km s-min=6.2km az=91.0*
*GII **01** 04:03:52.1±0.5, 36°.50N±0°.02×27°.44E±0°.02, h27km, Mws4.2, confirmed*
*NAO **01** 04:04:06.1, 36°.67N×27°.68E, h33km, mb4.2*

ISC 01 04:03:49.4±0.8, 36°.89N±0°.02×27°.58E±0°.01, h9km±5km, n432, σ1°57/477, mb4.4/54, MS3.0/3, 28C-13D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DATC	**Datca-Mugla**	**0.14**	**154**	Pg	**Pg**	**04 03 52.2**	**-0.3**
DATC				Sg	**Sg**	**04 03 55.2**	**+0.6**
DAT	**Datca**	**0.16**	**181**	Pg	**Pg**	**04 03 52.5**	**-0.3**
DAT				Sg	**Sg**	**04 03 55.4**	**+0.2**
DAT	**Datca**	**0.16**	**181**	P	**Pg**	**04 03 52.5**	**-0.3**
DAT				S	**Sg**	**04 03 55.6**	**+0.4**
DAT	**Datca**	**0.16**	**181**	P	**Pg**	**04 03 52.4**	**-0.3**
DAT				S	**Sg**	**04 03 55.5**	**+0.2**
DAT				*i* AML	AML	04 03 56.0	
	comp=N,3μm,0.4s						
DAT				*i* AML	AML	04 03 58.0	
	comp=E,4μm,0.2s						
BDRM	**Kayabasi**	**0.21**	**328**	P	**Pg**	**04 03 53.3**	**-0.4**
BDRM				S	**Sg**	**04 03 56.5**	**-0.2**
BDRM				*i* AML	AML	04 03 57.0	
	comp=E,2μm,1.0s						
BDRM				*i* AML	AML	04 04 06.0	
	comp=N,0.2nm,1.2s						
YAZI	**Mula-Dat§a-**	**0.23**	**207**	P	**Pg**	**04 03 53.7**	**-0.4**
YAZI				*i* AML	AML	04 03 57.0	
	comp=E,2μm,0.4s						
YAZI				S	**Sg**	**04 03 57.4**	**+0.2**
YAZI				*i* AML	AML	04 03 58.0	
	comp=N,1μm,0.2s						
BODT	**Bodrum**	**0.28**	**309**	Pg	**Pg**	**04 03 54.2**	**-0.8**
BODT				Sg	**Sg**	**04 03 59.2**	**+0.5**
BODT	**Bodrum**	**0.28**	**309**	P	**Pg**	**04 03 54.6**	**-0.4**
BODT				S	**Sg**	**04 03 59.3**	**+0.5**
YKAV	**Yalikavak-Bodr**	**0.34**	**315**	Pg	**Pg**	**04 03 55.2**	**-0.9**
YKAV				Sg	**Sg**	**04 04 00.3**	**-0.3**
MLSB	**Milas**	**0.44**	**21**	Pg	**Pg**	**04 03 57.3**	**-0.6**
MLSB				Sg	**Sg**	**04 04 03.8**	**+0.1**
NISR	**Nisiros**	**0.46**	**233**	P	**Pg**	**04 03 58.2**	**-0.1**
NISR				S	**Sb**	**04 04 05.7**	**-0.7**
	63μm,0.2s						
NISR	**Nisiros**	**0.46**	**233**	P	**Pg**	**04 03 58.2**	**-0.1**
NISR				S	**Sb**	**04 04 05.6**	**-0.9**
NISR				AML	AML	04 04 06.6	
NISR				AML	AML	04 04 06.9	
	comp=N,80698μm,0.2s						
KLNA	**Kalymnos**	**0.49**	**278**	P	**Pg**	**04 03 58.7**	**-0.3**
KLNA				S	**Sg**	**04 04 05.8**	**+0.4**
TURN	**Turunc**	**0.54**	**102**	Pg	**Pg**	**04 03 59.9**	**0.0**
TURN				Sg	**Sb**	**04 04 08.6**	**-0.3**
TURN	**Turunc**	**0.54**	**102**	P	**Pg**	**04 03 59.1**	**-0.8**
TURN				S	**Sb**	**04 04 08.6**	**-0.3**
TURN				*i* AML	AML	04 04 11.0	
	comp=N,6μm,0.4s						
TURN				*i* AML	AML	04 04 11.0	
	comp=N,7μm,0.2s						
DDIM	**Aydin, Didim**	**0.63**	**335**	P	**Pg**	**04 04 00.7**	**-0.9**
DDIM				S	**Sg**	**04 04 09.2**	**-0.7**
DDIM				*i* AML	AML	04 04 16.0	
	comp=N,2μm,0.6s						
DDIM				*i* AML	AML	04 04 17.0	
	comp=N,9μm,1.4s						
MULA	**Mugla, Merkez-**	**0.70**	**58**	P	**Pg**	**04 04 02.3**	**-0.5**
MULA				S	**Sg**	**04 04 11.7**	**-0.3**
MULA				*i* AML	AML	04 04 19.0	
	comp=N,3μm,1.1s						
MULA				*i* AML	AML	04 04 23.0	
	comp=N,6μm,1.2s						
ARG	**Arkhangelos**	**0.80**	**147**	Pg	**Pg**	**04 04 04.5**	**-0.3**
ARG	**Arkhangelos**	**0.80**	**147**	P	**Pg**	**04 04 04.2**	**-0.6**
ARG				S	**Sn**	**04 04 18.2**	**-0.6**
	comp=N,21μm,0.5s						
ARG	**Arkhangelos**	**0.80**	**147**		**Pg**	**04 04 04.5**	**-0.3**
ARG				Sg	**Sb**	**04 04 15.8**	**-0.5**
ARG	**Arkhangelos**	**0.80**	**147**	P	**Pg**	**04 04 04.5**	**-0.3**
ARG						04 04 15.8	
ARG	**Arkhangelos**	**0.80**	**147**	P	**Pg**	**04 04 04.6**	**-0.2**
ARG				S	**Sb**	**04 04 16.7**	**+0.4**
ARG				AML	AML	04 04 19.7	
	comp=E,46133μm,0.4s						
ARG				AML	AML	04 04 21.4	
	comp=N,39364μm,0.5s						
GCAM	**G?zelcaml?**	**0.86**	**341**	Pg	**Pg**	**04 04 04.8**	**-1.2**
GCAM	**G?zelcaml?**	**0.86**	**341**	P	**Pg**	**04 04 04.7**	**-1.2**
GCAM				S	**Sn**	**04 04 19.5**	**-0.8**
GCAM				*i* AML	AML	04 04 20.0	
	comp=N,3μm,0.5s						
GCAM				*i* AML	AML	04 04 27.0	
	comp=N,4μm,1.3s						
DALY	**Dalyan (Mula)**	**0.86**	**94**	Pg	**Pg**	**04 04 05.4**	**-0.6**
SMG	**Samos**	**1.01**	**324**	P	**Pg**	**04 04 07.5**	**-1.4**
SMG				S	**Sn**	**04 04 23.9**	**-0.3**
	comp=N,8μm,0.4s						
SMG	**Samos**	**1.01**	**324**	P	**Pg**	**04 04 07.8**	**-1.1**
SMG				S	**Sg**	**04 04 21.3**	**-0.8**
SMG				AML	AML	04 04 26.4	
	comp=N,15418μm,0.5s						
SMG				AML	AML	04 04 27.6	
	comp=E,17073μm,0.3s						
ESEN	**Aydn-Nazilli**	**1.10**	**34**	P	**Pg**	**04 04 09.2**	**-1.3**
ESEN				S	**Sg**	**04 04 24.3**	**-0.4**
ESEN				*i* AML	AML	04 04 28.0	
	comp=E,2μm,0.7s						
ESEN				*i* AML	AML	04 04 29.0	
	comp=E,3μm,0.5s						
SABU	**Mula-Dalaman**	**1.11**	**93**	P	**Pg**	**04 04 09.9**	**-0.9**
SABU				S	**Sn**	**04 04 26.7**	**+0.1**
SABU				*i* AML	AML	04 04 34.0	
	comp=E,2μm,0.7s						
SABU				*i* AML	AML	04 04 37.0	
	comp=E,3μm,0.8s						
TAVA	**DENIZLI_Tavas**	**1.21**	**61**	P	**Pb**	**04 04 11.3**	**-1.2**
TAVA				S	**Sn**	**04 04 30.2**	**+1.1**
TAVA				*i* AML	AML	04 04 31.0	
	comp=E,2μm,0.6s						
TAVA				*i* AML	AML	04 04 35.0	
	comp=E,2μm,0.5s						
DNZT	**Denizli-Tavas-**	**1.22**	**71**	P	**Pb**	**04 04 12.1**	**-0.5**
DNZT				S	**Sg**	**04 04 29.1**	**+0.5**
DNZT				*i* AML	AML	04 04 36.0	
	comp=E,2μm,0.9s						
DNZT				*i* AML	AML	04 04 36.0	
	comp=E,1μm,0.6s						
FETI	**Fethiye-Mugla**	**1.23**	**99**	Pn	**Pn**	**04 04 12.7**	**0.0**
FETY	**Fethiye**	**1.23**	**101**	Pn

KIRA *i* AML AML 04 04 36.0
comp=E,502nm,0.8s
APMY Acipayam-Deniz 1.49 66 Pn **Pn 04 04 16.8 +0.4**
KNIK Mula-Seydike 1.60 91 P **Pb 04 04 19.6 +0.5**
KNIK S **Sg 04 04 41.1 +0.4**
ZEYE Izmir, Urla-Ze 1.60 328 P **Pn 04 04 16.4 -1.4**
ZEYE *i* AML AML 04 04 37.0
comp=E,238nm,0.3s
ZEYE S **Sn 04 04 37.3 -1.3**
ZEYE *i* AML AML 04 04 38.0
comp=E,321nm,0.6s
GOLH Golhisar 1.62 77 P **Pg 04 04 20.8 +0.3**
GOLH S **Sg 04 04 41.5 0.0**
APE Apeiranthos 1.65 277 ⇑P **Pb 04 04 19.8 -0.3**
APE Apeiranthos 1.65 277 Pn **Pn 04 04 18.6 0.0**
APE Apeiranthos 1.65 277 P **Pn 04 04 17.7 -0.9**
APE S **Sn 04 04 39.7 -0.3**
comp=E,1µm,0.5s
APE Apeiranthos 1.65 277 P **Pn 04 04 17.9 -0.8**
APE S **Sg 04 04 44.8 +2.2**
APE Apeiranthos 1.65 277 *i* P **Pg 04 04 20.6 -0.5**
APE Apeiranthos 1.65 277 P **Pn 04 04 17.8 -0.8**
APE Apeiranthos 1.65 277 P **Pn 04 04 17.8 -0.8**
APE S **Sn 04 04 39.7 -0.3**
APE AML AML 04 04 47.5
comp=N,2564µm,0.5s
APE AML AML 04 04 48.0
comp=E,2374µm,0.5s
URLA Izmir 1.67 332 Pn **Pn 04 04 17.6 -1.2**
URLA Izmir 1.67 332 P **Pn 04 04 17.6 -1.2**
URLA S **Sg 04 04 43.8 +0.8**
AKAS Kas 1.75 111 Pn **Pn 04 04 20.5 +0.4**
THR8 Santorini-Mono 1.76 255 P **Pn 04 04 19.4 -0.5**
MANT Manisa 1.78 25 P **Pn 04 04 20.2 -0.3**
MANT S **Sn 04 04 42.0 -1.4**
INCE Denizli-Bozkur 1.79 62 P **Pb 04 04 22.2 -0.2**
INCE S **Sb 04 04 45.7 +0.7**
CMBO Columbo, Santo 1.80 257 P **Pn 04 04 20.8 +0.3**
CMBO S **Sn 04 04 42.8 -0.6**
CMBO AML AML 04 04 58.0
comp=N,6562µm,0.6s
CMBO AML AML 04 04 58.8
comp=E,6760µm,0.6s
THR3 Thira Island, 1.82 255 P **Pn 04 04 21.0 +0.2**
THR6 Thira Island, 1.83 254 P **Pn 04 04 21.9 +0.8**
KULA Kula-Manisa 1.84 27 Pn **Pn 04 04 21.4 +0.2**
KULA Kula-Manisa 1.84 27 P **Pn 04 04 20.8 -0.4**
THR9 Santorini-Faro 1.87 254 P **Pn 04 04 21.4 -0.1**
ELL Elmali 1.87 94 Pn **Pn 04 04 22.0 +0.3**
ELL Elmali 1.87 94 Pg **Pg 04 04 25.0 -0.3**
ELL Elmali 1.87 94 P **Pg 04 04 25.0 -0.3**
AKS Akhisar 2.00 5 Pn **Pn 04 04 23.4 +0.1**
KARB zmir-Karabur 2.00 333 P **Pn 04 04 22.5 -0.8**
EAG2 Marmaro, Chios 2.03 325 P **Pn 04 04 23.5 -0.2**
EAG2 S **Sn 04 04 47.2 -1.9**
TNSA Tinos 2.04 289 P **Pn 04 04 22.8 -1.0**
ZKR Zakros 2.09 212 Pn **Pn 04 04 24.9 +0.4**
ZKR Zakros 2.09 212 P **Pn 04 04 24.5 0.0**
ZKR S **Sn 04 04 50.4 -0.2**
comp=E,1µm,0.6s
ZKR Zakros 2.09 212 P **Pn 04 04 23.9 -0.7**
ZKR S **Sn 04 04 51.1 +0.5**
ZKR AML AML 04 05 01.7
comp=N,1240µm,0.7s
ZKR AML AML 04 05 03.0
comp=E,3053µm,0.6s
ZEDA zmir-Bergama 2.12 349 P **Pn 04 04 24.3 -0.6**
DKL Dikili 2.25 346 Pn **Pn 04 04 25.9 -0.8**
EAG3 Mitilini, Lesv 2.34 340 P **Pn 04 04 27.4 -0.6**
EAG3 S **Sn 04 04 54.2 -2.6**
FRMA Ierapetra Chan 2.40 219 P **Pn 04 04 28.5 -0.3**
FRMA S **Sn 04 04 58.9 +0.7**
FRMA Ierapetra Chan 2.40 219 P **Pn 04 04 28.2 -0.5**
FRMA S **Sn 04 04 56.9 -1.3**
FRMA AML AML 04 05 14.3
comp=N,2460µm,0.7s
FRMA AML AML 04 05 18.4
comp=E,2714µm,0.8s
ISP Isparta 2.52 67 Pn **Pn 04 04 31.3 +0.7**
ISP Isparta 2.52 67 *i* P **Pn 04 04 31.3 +0.7**
ISP Isparta 2.52 67 P **Pb 04 04 33.1 -1.8**
ISP Isparta 2.52 67 P **Pn 04 04 29.9 -0.7**
ISP AML AML 04 05 21.0
comp=N,3542µm,1.0s
ISP AML AML 04 05 25.1
comp=E,4228µm,0.7s
PRK Paraskevi 2.57 337 P **Pn 04 04 30.8 -0.4**
PRK Paraskevi 2.57 337 P **Pn 04 04 30.8 -0.4**
PRK Paraskevi 2.57 337 P **Pn 04 04 30.3 -0.9**
PRK S **Sn 04 04 59.0 -3.6**
PRK AML AML 04 05 28.7
comp=N,3208µm,0.9s
PRK AML AML 04 05 30.2
comp=E,2996µm,0.9s
KSTL Kastelli Herak 2.58 233 P **Pn 04 04 30.5 -0.7**
KSTL AML AML 04 05 05.0
comp=E,636µm,0.6s
KSTL AML AML 04 05 05.6
comp=N,1244µm,0.6s
SIGR SIGRI 2.69 330 P **Pn 04 04 32.2 -0.6**
SIGR SIGRI 2.69 330 P **Pn 04 04 32.2 -0.6**
SIGR S **Sn 04 05 03.6 -2.0**
IDI Anoyia 2.70 235 P **Pn 04 04 32.7 -0.3**
IDI Anoyia 2.70 235 Pn **Pn 04 04 32.2 -0.8**
IDI Anoyia 2.70 235 Pn **Pn 04 04 33.2 +0.2**
comp=N,5.0nm,0.3s,baz=52,slow=15,SNR=30
IDI Sn **Sn 04 05 03.1 -2.8**
comp=N,16nm,0.3s,baz=114,slow=14,SNR=5.0
IDI Anoyia 2.70 235 P **Pn 04 04 32.5 -0.6**
IDI AML AML 04 05 11.8
comp=N,568µm,0.6s
IDI AML AML 04 05 19.2
comp=E,462µm,1.0s
EZN Ezine 3.10 342 P **Pn 04 04 37.9 -0.5**
DION Dionisos Attik 3.14 293 P **Pn 04 04 39.9 +0.9**
DION Dionisos Attik 3.14 293 P **Pn 04 04 39.5 +0.5**
PTL Penteli 3.18 293 P **Pn 04 04 39.9 +0.4**
PTL Penteli 3.18 293 P **Pn 04 04 40.0 +0.4**
ATHU Athens Univers 3.21 291 P **Pn 04 04 40.0 0.0**
ATH Athens Observa 3.26 291 P **Pn 04 04 42.1 +1.4**
LIA Limnos Island 3.55 329 P **Pn 04 04 44.4 -0.2**
LIA Limnos Island 3.55 329 P **Pn 04 04 44.4 -0.2**
ANKY Antikythira Is 3.60 255 P **Pn 04 04 46.1 +0.8**
ANKY AML AML 04 05 07.8
comp=N,224µm,0.9s
ANKY AML AML 04 05 13.0
comp=E,286µm,0.8s
VILL Villia 3.63 292 P **Pn 04 04 45.9 +0.2**
VLI Veliai 3.73 269 P **Pn 04 04 46.8 -0.4**
SMTH Samothraki Isl 3.92 336 P **Pn 04 04 49.3 -0.5**
ALN Alexandroupoli 4.18 344 P **Pn 04 04 53.0 -0.3**
ALN Alexandroupoli 4.18 344 Pn **Pn 04 04 52.5 -0.8**
ALN Alexandroupoli 4.18 344 P **Pn 04 04 52.5 -0.8**
NEO Neokhori 4.20 306 P **Pn 04 04 53.9 +0.3**
THAS Thassos island 4.34 330 P **Pn 04 04 54.9 -0.5**
OUR Ouranopolis 4.45 322 P **Pn 04 04 57.6 +0.6**
RDO Rodhopi 4.54 340 P **Pn 04 04 58.3 0.0**
RDO Rodhopi 4.54 340 Pn **Pn 04 04 57.9 -0.4**
MDUB Mudurnu 4.56 37 Pn **Pn 04 04 58.8 +0.1**
AGG Agios Georgios 4.67 299 Pn **Pn 04 04 59.5 -0.5**
AGG Agios Georgios 4.67 299 P **Pn 04 04 59.5 -0.5**
BR231 Keskin MP Arra 5.04 53 Pn **Pn 04 05 06.6 +1.4**
CSS Mathiatis 5.04 111 Pn **Pn 04 05 04.3 -0.9**
CSS Mathiatis 5.04 111 P **Pn 04 05 08.5 +3.3**
CSS Mathiatis 5.04 111 P **Pn 04 05 05.8 +0.6**
CSS Mathiatis 5.04 111 S **Sn 04 06 02.7 -0.9**
CSS Mathiatis 5.04 111 P **Pn 04 05 05.4 +0.2**
CSS Mathiatis 5.04 111 P **Pn 04 05 06.9 +1.7**
comp=E,39nm,0.6s,comp=E,637nmcomp=E,0.3nm
KDZ Kurdzhali 5.05 341 *e*P **Pn 04 05 04.6 -0.6**
ANTO Ankara 5.06 52 ⇓P **Pn 04 05 07.7 +2.2**
ANTO Ankara 5.06 52 Pn **Pn 04 05 07.1 +1.6**
ANTO Ankara 5.06 52 P **Pn 04 05 07.1 +1.6**
ANTO Ankara 5.06 52 P **Pn 04 05 07.8 +2.3**
comp=E,26nm,0.8s,comp=E,244nmcomp=E,0.1nm
LIT Litokhoron 5.12 310 Pn **Pn 04 05 05.3 -0.9**
LIT Litokhoron 5.12 310 P **Pn 04 05 05.4 -0.9**
RZN Rozhen 5.28 336 *e*P **Pn 04 05 08.9 +0.3**
BR105 Keskin Array S 5.52 57 P **Pn 04 05 13.7 +1.8**
comp=E,26nm,0.9s,comp=E,196nmcomp=E,0.1nm
MMB Musomishta 5.52 329 *e*P **Pn 04 05 12.2 +0.4**
BR106 Keskin Array S 5.53 57 P **Pn 04 05 13.8 +1.8**
comp=E,31nm,0.8s,comp=E,217nmcomp=E,0.1nm
BR104 Keskin Array S 5.54 58 P **Pn 04 05 13.8 +1.7**
comp=E,38nm,0.9s,comp=E,228nmcomp=E,0.1nm
BRTR Keskin Array B 5.54 57 Pn **Pn 04 05 13.3 +1.1**
BRTR Keskin Array B 5.54 57 Pn **Pn 04 05 13.7 +1.5**
comp=E,1.8nm,0.3s,baz=238,slow=16,SNR=7.4
BRTR Sn **Sn 04 06 15.7 -0.4**
comp=E,1.2nm,0.3s,baz=180,slow=31,SNR=8.2
BRTR LR LR 04 08 00.5
comp=E,214nm,19.3s,baz=240,slow=46
comp=E,21nm,0.9s
BR131 Keskin Array S 5.54 57 Pn **Pn 04 05 13.5 +1.4**
BR131 Keskin Array S 5.54 57 *i* P **Pn 04 05 13.5 +1.4**
PLD Plovdiv 5.69 338 *e*P **Pn 04 05 14.4 +0.3**
PLD Plovdiv 5.69 338 P **Pn 04 05 14.4 +0.3**
PLD pmax pmax
comp=Z,86nm,0.8s
SLUM Salum 5.73 201 P **Pn 04 05 14.8 +0.2**
baz=203
SLUM S **Sn 04 06 16.9 -3.5**
baz=203
KKB Krupnik 6.03 326 *e*P **Pn 04 05 21.6 +2.8**
ELND Elena 6.18 348 ⇑P **Pn 04 05 21.0 +0.3**
FNA Florina 6.21 311 Pn **Pn 04 05 21.9 +0.6**
FNA Florina 6.21 311 P **Pn 04 05 21.9 +0.6**
STIP Stip 6.37 321 *i* Pn **Pn 04 05 23.5 +0.1**
STIP *e*Sg **Sn 04 06 38.5 +2.3**
NEF NEVSHA 6.38 358 *e*P **Pn 04 05 23.9 +0.4**
VTS Vitosha 6.63 331 *e*P **Pn 04 05 27.8 +0.7**
OHR Ohrid 6.76 311 *i* Pn **Pn 04 05 32.1 +3.3**
BNN Bunyan 6.83 71 Pn **Pn 04 05 29.8 0.0**
MPEP Malo Peshtene 7.10 337 *e*P **Pn 04 05 33.9 +0.5**
MMA0 Mount Meron ar 7.49 119 P **Pn 04 05 38.8 -0.1**
MMA0B Mount Meron ar 7.49 119 S **Sn 04 07 01.7 -2.3**
MMA0B Mount Meron ar 7.49 119 P **Pn 04 05 38.5 -0.4**
MMAI Mount Meron Ar 7.49 119 Pn **Pn 04 05 37.2 -1.7**
comp=Z,4.3nm,0.3s,baz=298,slow=13,SNR=9.8
MMAI Sn **Sn 04 06 58.8 -5.2**
comp=Z,4.4nm,0.3s,baz=310,slow=12,SNR=2.0
comp=Z,6.3nm,0.4s
VALD Valchedram 7.50 336 *e*P **Pn 04 05 41.2 +2.4**
GEM Giv'at Ha'Em 7.57 117 S **Sn 04 07 04.6 -1.3**
GEM Giv'at Ha'Em 7.57 117 P **Pn 04 05 40.0 +0.1**
NATI Neve Ativ 7.60 116 P **Pn** 04 05 47.5 +7.2
NATI Neve Ativ 7.60 116 S **Sn 04 07 04.3 -2.2**
NATI Neve Ativ 7.60 116 P **Pn 04 05 39.7 -0.6**
BLKB Belogradchik 7.70 332 ⇑P **Pn 04 05 42.6 +0.9**
SCTE Santa Cesarea 7.82 297 Pn **Pn 04 05 44.2 +0.9**
SWA2 7.83 194 P **Pn 04 05 42.6 -0.9**
baz=195
MMLI Mount Malkishu 7.83 122 P **Pn 04 05 43.8 +0.2**
MMLI Mount Malkishu 7.83 122 S **Sn 04 07 10.5 -1.9**
PUK Puka 7.87 313 Pn **Pn 04 05 44.7 +0.7**
SHMJ Saham 7.90 119 P **Pn 04 05 47.8 +3.3**
QRNJ Al-Qirein 8.00 122 P **Pn 04 05 49.3 +3.6**
HMDT Nahal Hemdat 8.02 123 P **Pn** 04 05 53.0 +7.0
HMDT Nahal Hemdat 8.02 123 S **Sn 04 07 14.0 -2.8**
HMDT Nahal Hemdat 8.02 123 P **Pn 04 05 45.3 -0.7**
BOVS Bovan 8.10 328 ⇑P **Pn 04 05 47.5 +0.4**
RYAN Fayoum 8.10 163 P **Pn 04 05 46.1 -1.1**
baz=163
BALJ Balqa 8.19 123 Pn **Pn 04 05 48.0 -0.4**
KZIT Kziot 8.22 135 P **Pn 04 05 47.6 -1.3**
KZIT Kziot 8.22 135 P **Pn 04 05 47.5 -1.3**
SUZ Suez 8.28 147 P **Pn 04 05 49.0 -0.7**
baz=147
CFR Carcaliu 8.29 3 ⇑P **Pn 04 05 49.3 -0.5**
CFR Carcaliu 8.29 3 ⇑P **Pn 04 05 49.3 -0.5**
YTIR Yattir 8.33 129 P **Pn 04 05 51.5 +1.1**
YTIR Yattir 8.33 129 S **Sn 04 07 21.1 -3.5**
YTIR Yattir 8.33 129 P **Pn 04 05 49.4 -1.0**
DSI Dead Sea 8.35 127 P **Pn 04 05 54.2 +3.6**
DSI Dead Sea 8.35 127 S **Sn 04 07 21.8 -3.3**
DSI Dead Sea 8.35 127 P **Pn 04 05 49.8 -0.8**
PDG Podgorica 8.48 313 ⇑P **Pn 04 05 55.0 +2.7**
PDG Podgorica 8.48 313 Pn **Pn 04 05 54.0 +1.7**
MSBI Mazada 8.51 129 P **Pn 04 05 54.0 +1.2**
MSBI Mazada 8.51 129 P **Pn 04 05 52.1 -0.7**
MSBI Mazada 8.51 129 S **Sn 04 07 25.8 -3.1**
LISJ El Lisan 8.64 128 P **Pn 04 05 57.2 +2.7**
GHAJ Ghor Haditha 8.65 128 Pn **Pn 04 05 55.5 +0.9**
GHAJ Ghor Haditha 8.65 128 P **Pn 04 05 58.9 +4.2**
GHAJ Ghor Haditha 8.65 128 P **Pn 04 05 53.6 -1.1**
GHAJ Ghor Haditha 8.65 128 S **Sn 04 07 29.1 -3.2**
ZAF Zafarana 8.65 150 P **Pn 04 05 53.9 -0.8**
baz=150
MLR Muntele Rosu 8.69 352 ⇓P **Pn 04 05 56.7 +1.4**
MLR Muntele Rosu 8.69 352 Pn **Pn 04 05 56.2 +0.9**
MLR Muntele Rosu 8.69 352 Pn **Pn 04 05 55.3 0.0**
comp=Z,0.1nm,0.3s,baz=190,slow=6.8,SNR=12
MLR Lg Lg 04 08 25.5
comp=Z,0.1nm,0.3s,baz=80,slow=24,SNR=1.9
comp=Z,6.6nm,0.8s
MLR Muntele Rosu 8.69 352 ⇓P **Pn 04 05 56.7 +1.4**
MLR Muntele Rosu 8.69 352 P **Pn 04 05 56.2 +0.9**
comp=Z,19nm,1.1s
ZNM Zenema 8.70 148 P **Pn 04 05 54.8 -0.6**
baz=148
TIP Timpagrande 8.84 288 ⇑P **Pn 04 05 59.4 +1.9**
TIP Timpagrande 8.84 288 Pn **Pn 04 05 58.3 +0.9**
TIP Timpagrande 8.84 288 P **Pn 04 05 59.3 +1.9**
comp=Z,43nm,0.8s
HERR Herculane 8.89 336 ⇓P **Pn 04 05 58.4 +0.5**
ZFRI Zfri 8.94 133 P **Pn 04 06 02.8 +4.2**
PLOR Plostina 8.98 356 ⇑P **Pn 04 06 01.5 +2.2**
PLOR Plostina 8.98 356 ⇑P **Pn 04 06 01.5 +2.2**
PRNI Paran 8.98 134 P **Pn 04 05 58.3 -1.0**
PRNI Paran 8.98 134 S **Sn 04 07 36.9 -3.7**
PRNI Paran 8.98 134 P **Pn 04 05 57.7 -1.6**
PLOR3 Plostina Array 8.99 356 P **Pn 04 06 01.7 +2.4**
comp=Z,18nm,1.1s
VRI Vrincioaia 8.99 356 ⇓P **Pn 04 06 00.8 +1.5**
VRI Vrincioaia 8.99 356 ⇓P **Pn 04 06 00.9 +1.5**
VRI Vrincioaia 8.99 356 P **Pn 04 06 02.2 +2.8**
comp=Z,12nm,1.0s
KRMI Paran Flat 9.01 137 S **Sn 04 07 35.7 -5.4**
KRMI Paran Flat 9.01 137 P **Pn 04 05 57.7 -2.0**
COVR Voineasa-Covas 9.01 354 ⇓P **Pn 04 06 00.9 +1.2**
MDVR Moldovita 9.05 332 ⇓P **Pn 04 06 01.0 +0.8**
DOPR Dopca 9.22 350 ⇓P **Pn 04 06 03.7 +1.2**
TURR Turia 9.24 353 ⇓P **Pn 04 06 04.1 +1.4**
HRFI Mount Harif 9.24 136 S **Sn 04 07 43.4 -3.5**
HRFI Mount Harif 9.24 136 P **Pn 04 06 01.3 -1.6**
MATE Matera 9.29 297 ⇑P **Pn 04 06 05.2 +1.8**
MBRI Mt Berech 9.36 137 P **Pn 04 06 03.4 -1.1**
SIM Simferopol' 9.45 29 *e*P **Pn 04 06 05.9 +0.3**
SIM pmax pmax
comp=Z,30nm,0.9s
EIL2 Elat 9.47 137 P **Pn 04 06 03.9 -2.1**
EIL2 Elat 9.47 137 S **Sn 04 07 48.5 -4.1**
EIL Elat 9.47 137 Pn **Pn 04 06 04.4 -1.6**
comp=Z,0.9nm,0.3s,baz=323,slow=11,SNR=9.4
EIL Sn **Sn 04 07 46.0 -6.7**
comp=Z,1.5nm,0.3s,baz=339,slow=18,SNR=4.6
comp=Z,7.5nm,0.4s
EIL Elat 9.47 137 P **Pn 04 06 05.5 -0.5**
EIL Elat 9.47 137 P **Pn 04 06 03.6 -2.4**
AQBJ Aqaba 9.48 137 P **Pn 04 06 06.2 +0.1**
TAMRE El Minia 9.60 162 P **Pn 04 06 06.7 -1.0**
baz=162
HBST Basata 9.72 140 P **Pn 04 06 08.1 -1.3**
baz=140
CUC Castrocucco 9.74 292 Pn **Pn 04 06 10.7 +1.1**
SURR Surduc 9.76 337 ⇓P **Pn 04 06 10.6 +0.8**
BZS Buzias 9.81 335 ⇑P **Pn 04 06 11.5 +1.0**
BZS Buzias 9.81 335 ⇑P **Pn 04 06 11.5 +1.0**
NUB Nuweibaa 9.83 141 P **Pn 04 06 10.0 -0.8**
baz=141
HKAT Jabal Katrina 9.93 145 P **Pn 04 06 10.7 -1.7**
baz=145
HDHB Dhahab 10.06 142 P **Pn 04 06 12.8 -1.2**
baz=142
DRGR 10.54 341 ⇑P **Pn 04 06 22.1 +1.4**
DRGR 10.54 341 ⇑P **Pn 04 06 22.1 +1.4**
BURAR Bucovina Array 10.86 351 Pn **Pn 04 06 25.8 +0.8**
SOC Sochi 11.43 50 *e*P **Pn 04 06 32.2 -0.5**
SOC *e* 04 08 40.0
SOC MLR MLR
comp=Z,68nm,17.0s
MORH Mrgy, Hungar 11.47 327 ⇓P **Pn 04 06 34.7 +1.5**
MORH Mrgy, Hungar 11.47 327 P **Pn 04 06 34.7 +1.5**
comp=Z,4.2nm,1.1s
CRVS Cervenica-Dubn 12.81 342 *e*PN Pn 04 06 57.6 +6.0
CRVS Cervenica-Dubn 12.81 342 *e*P Pn 04 06 57.6 +6.0
VYHS Vyhne 13.25 334 *e*PN **Pn 04 06 58.9 +1.3**
VYHS Vyhne 13.25 334 *e*P **Pn 04 06 58.9 +1.3**
KIV Kislovodsk 13.49 54 *e*P **Pn 04 07 01.1 +0.1**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,22nm,13.0s
KBZ Khabaz 13.53 55 Pn **Pn 04 07 03.4 +2.0**
baz=131,slow=23,SNR=1.5
comp=Z,1.0nm,0.7s
KBZ Khabaz 13.53 55 *i* P **Pn 04 07 03.1 +1.7**
ARSA Arzberg 13.68 323 *e*P **P 04 07 07.9 -4.4**
comp=Z,8.2nm,1.7s
GNI Garni 13.82 71 LR LR 04 13 25.7
comp=Z,88nm,18.4s,baz=292,slow=42
GNI Garni 13.82 71 *i* P **Pn 04 07 06.3 +0.7**
AKASG Malin Array Be 13.86 4 Pn **Pn 04 07 06.4 +0.5**
comp=Z,0.5nm,0.3s,baz=183,slow=13,SNR=4.1
AKASG LR LR 04 13 08.7
comp=Z,113nm,19.9s,baz=207,slow=40
comp=Z,1.0nm,0.6s
MYKA Terra Mystica 14.23 318 *i* P **P 04 07 16.4 -2.1**
comp=Z,4.3nm,1.0s
KRUC Moravsky 14.65 330 *e*PN **P 04 07 24.4 +1.4**
TATN Tataouine 14.66 258 Pn **Pn 04 07 17.3 +0.3**
KBA Koelnbreinsper 14.67 318 *i* P **P 04 07 23.8 +0.3**
comp=Z,7.8nm,0.9s
KEST Kesra 14.75 271 Pn **Pn 04 07 15.9 -2.4**
KEST Kesra 14.75 271 P **Pn 04 07 22.8 -1.6**
comp=Z,0.4nm,0.3s,baz=92,slow=1.8,SNR=9.7
VRAC Vranov 14.76 331 *e*PN **P 04 07 27.7 +3.4**
VRAC Vranov 14.76 331 Pn **P 04 07 23.0 -1.3**
comp=Z,0.1nm,0.3s,baz=135,slow=9.9,SNR=1.7
CTI Castel Tesino 15.03 312 Pn **Pn 04 07 20.6 -1.3**
CTI Castel Tesino 15.03 312 P **Pn 04 07 20.6 -1.3**
LESA Schwarzleotal 15.24 318 *i* P **P 04 07 30.8 +1.0**
comp=Z,4.0nm,0.8s
KRLC Kraliky 15.31 333 *e*P **P 04 07 32.9 +2.4**
KRLC AMS AMS 04 14 30.0
comp=Z,200nm,12.6s
KRLC Kraliky 15.31 333 *e*P **P 04 07 32.9 +2.4**
KRLC MLR MLR
comp=Z,200nm,12.6s
CKRC Cesky Krumlov 15.37 325 *e*P **P 04 07 35.9 +4.9**
CKRC AMS AMS 04 14 10.0
comp=Z,200nm,13.1s
CKRC Cesky Krumlov 15.37 325 *e*P **P 04 07 35.9 +4.9**
CKRC MLR MLR
comp=Z,200nm,13.1s
GEC2 GERESS Array S 15.67 324 **P 04 07 35.2 +0.7**
GERES GERESS Array B 15.67 324 Pn **P 04 07 33.0 -1.5**
baz=146,slow=12,SNR=5.2
comp=Z,1.1nm,0.8s
GERES GERESS Array B 15.67 324 P **P 04 07 33.0 -1.5**
WTTA Wattenberg 15.71 316 *i* pP pP 04 07 37.8 +0.2
comp=Z,6.6nm,1.3s
DPC Dobruska-Polom 15.71 332 AMS AMS 04 15 00.0
comp=Z,100nm,14.3s
WATA Walderalm 15.78 316 *e*pP pP 04 07 39.2 +0.8
comp=Z,7.1nm,0.9s
SQTA Sankt Quirin 15.92 316 *i* P **P 04 07 38.0 +0.7**
comp=Z,3.8nm,1.0s
KHC Kasperske Hory 15.93 325 Pn **Pn 04 07 33.6 +0.1**
KHC Kasperske Hory 15.93 325 *e*P **P 04 07 36.5 -0.8**
KHC *ex* x 04 07 40.7
KHC *ex* x 04 07 46.3
KHC Kasperske Hory 15.93 325 P **Pn 04 07 33.7 +0.1**
KHC pmax pmax
comp=Z,10.0nm,1.2s
GOPC GO Pecny, Ondr 15.97 329 P **P 04 07 39.9 +2.2**
GOPC pmax pmax
comp=Z,15nm,1.1s
CHVC Chvalec 16.00 332 *e*P **P 04 07 41.7 +3.6**
CHVC Chvalec 16.00 332 *e*P **P 04 07 41.7 +3.6**
MOTA Moosalm 16.05 316 *i* pP pP 04 07 42.0 +0.6
comp=Z,5.7nm,1.0s
FETA Feichten 16.08 314 *i* pP pP 04 07 42.3 +0.5
comp=Z,11nm,1.2s
PRU Pruhonice 16.13 328 AMS AMS 04 14 50.0
comp=Z,200nm,13.1s
PRU Pruhonice 16.13 328 P **P 04 07 41.1 +1.6**
PRU pmax pmax
comp=Z,8.0nm,1.1s
FUORN Ofenpass-Fuorn 16.14 312 Pn **Pn 04 07 37.3 +0.7**
WET Wettzell 16.26 323 P **P 04 07 42.9 +1.9**
WET pmax pmax
comp=Z,9.0nm,2.1s
RETA Reutte 16.32 316 *i* P **P 04 07 43.6 +1.9**
comp=Z,8.1nm,1.4s
MAK Makhachkala 16.43 62 *c i* P **Pn 04 07 35.3 -4.7**
MAK *e*S **Sn 04 10 36.2 -6.2**
MAK pmax pmax
comp=Z,91nm,0.9s
MAK MLR MLR
comp=Z,207nm,16.0s
BRG Berggiesshubel 17.05 329 Amp 04 15 47.0
comp=Z,0.2nm,11.4s
BRG Berggiesshubel 17.05 329 *e*P **P 04 07 56.2 +6.5**
BRG pmax pmax
comp=Z,6.0nm,0.9s
BRG MLR MLR
comp=Z,154nm,11.4s
BRG Berggiesshubel 17.05 329 *e*P **P 04 07 56.3 +6.5**
BRG Berggiesshubel 17.05 329 Amp 04 07 59.0
comp=Z,5.7nm,0.9s
SUW Suwalki 17.40 351 **Pn 04 07 52.6 +0.5**
SUW IAmb IAmb 04 07 58.4
comp=Z,29nm,1.2s
SUW Suwalki 17.40 351 P **Pn 04 07 52.6 +0.5**
SUW pmax pmax
comp=Z,29nm,1.2s
MBDF Montbardon 17.56 303 *e*P **P 04 07 59.4 +3.8**
MBDF pmax pmax
comp=Z,62nm,2.1s
CLL Collm 17.77 329 *e*SSS SSS 04 11 48.0
CLL Collm 17.77 329 *e*P **P 04 07 59.0 +1.4**
CLL pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 17.77 329 *e*P **P 04 07 59.0 +1.4**
comp=Z,7.0nm,1.3s
CLL Collm 17.77 329 *i* sP sP 04 08 03.2 +1.8
CLL Collm 17.77 329 *i* x x 04 08 05.6
comp=Z,6.0nm,0.8s
SENIN Lac Senin/Sane 17.84 308 **P 04 07 58.9 +0.2**
SENIN IAmb IAmb 04 08 09.7
comp=Z,32nm,1.0s
LPG La Plagne 17.84 305 *e*P **P 04 08 02.5 +3.7**
LPG pmax pmax
comp=Z,6.0nm,0.9s
LPL La Plagne 17.86 305 *e*P **P 04 08 02.8 +3.8**
LPL pmax pmax
comp=Z,13nm,1.2s
MOX Moxa 17.89 325 P **P 04 08 01.9 +2.9**
MOX pmax pmax
comp=Z,8.0nm,2.8s
KLNR Kaliningrad 18.43 346 *i* P **Pn 04 08 06.9 +2.0**
KLNR pmax pmax
comp=Z,57nm,1.1s
CABF La Chapelle 18.70 308 *e*P **Pn 04 08 09.2 +0.8**
CABF pmax pmax
comp=Z,18nm,1.2s
CDF Champ du Feu 18.80 314 *e*P **Pn 04 08 13.3 +3.8**
CDF pmax pmax
comp=Z,47nm,2.1s
VIVF Saint-Julien-l 19.02 302 *e*P **Pn 04 08 12.5 +0.2**
VIVF pmax pmax
comp=Z,57nm,2.1s
HAU Haudompre 19.14 312 *e*P **Pn 04 08 16.7 +3.0**
HAU pmax pmax
comp=Z,42nm,1.9s
OBN Obninsk 19.24 16 LR LR 04 16 34.7
comp=Z,100nm,19.3s,baz=117,slow=40
OBN Obninsk 19.24 16 *i* P **P 04 08 12.6 -1.1**
OBN pmax pmax
comp=Z,6.0nm,0.8s
OBN MLR MLR
comp=Z,57nm,17.0s
SMF Signal de Mont 20.15 306 *e*P Pn 04 08 25.6 0.0
SMF pmax pmax
comp=Z,15nm,1.1s
LOR Lormes 20.36 308 *e*P **P 04 08 26.7 +0.6**
LOR pmax pmax
comp=Z,15nm,1.2s
RAYN Ar Rayn 20.38 126 P **P 04 08 25.4 -1.1**
RAYN Ar Rayn 20.38 126 P **P 04 08 25.4 -1.1**

RAYN					pmax		pmax		
	comp=Z,4.0nm,1.2s								
SSF	**Saint Saulge**	**20.51**	**307**	*e*P		Pn		04 08 29.8	-0.1
SSF					pmax		pmax		
	comp=Z,30nm,1.4s								
AVF	**Avril sur Loir**	**20.51**	**306**	*e*P		**P**		**04 08 28.5**	**+0.8**
AVF					pmax		pmax		
	comp=Z,19nm,1.2s								
BELG	**Belogornoye**	**20.96**	**36**	P		**P**		**04 08 31.6**	**-0.8**
	comp=Z,28nm,0.9s,baz=230,slow=3.5,SNR=7.0								
	comp=Z,28nm,0.9s								
BELG	**Belogornoye**	**20.96**	**36**	*i* P		Pn		04 08 34.0	-1.0
BELG					pmax		pmax		
	comp=Z,6.0nm,1.0s								
VSU	**Vasula**	**21.60**	**359**	*ce*P		**P**		**04 08 41.3**	**+2.1**
VSU					pmax		pmax		
	comp=Z,20nm,1.3s								
FLN	**La Foliniere**	**23.62**	**309**	*e*P		**P**		**04 09 01.1**	**+0.6**
FLN					pmax		pmax		
	comp=Z,31nm,1.1s								
TAM	**Tamanrasset**	**23.66**	**240**	P		**P**		**04 09 01.2**	**-0.1**
TAM	**Tamanrasset**	**23.66**	**240**	P		**P**		**04 09 01.2**	**-0.1**
TAM					pmax		pmax		
	comp=Z,3.0nm,1.0s								
GRR	**Gorron**	**23.73**	**308**	*e*P		**P**		**04 09 02.0**	**+0.3**
GRR					pmax		pmax		
	comp=Z,51nm,1.4s								
FINES	**FINESS Array B**	**24.60**	**358**	P		**P**		**04 09 10.3**	**+0.8**
FINES	**FINESS Array B**	**24.60**	**358**	P		**P**		**04 09 09.3**	**-0.3**
	comp=Z,6.4nm,1.0s,baz=181,slow=11,SNR=5.2								
FINES					LR		LR	04 19 36.7	
	comp=Z,44nm,18.9s,baz=66,slow=38								
	comp=Z,6.4nm,1.0s								
ESDC	**Sonseca Array**	**24.85**	**286**	P		**P**		**04 09 12.0**	**-0.2**
ESDC	**Sonseca Array**	**24.85**	**286**	P		**P**		**04 09 12.2**	**0.0**
	comp=Z,2.9nm,0.8s,baz=81,slow=8.7,SNR=17								
	comp=Z,2.9nm,0.8s								
HFS	**Hagfors**	**24.91**	**343**	P		**P**		**04 09 12.6**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=168,slow=8.9,SNR=4.4								
HFS					LR		LR	04 19 25.9	
	comp=Z,62nm,18.6s,baz=124,slow=38								
	comp=Z,3.3nm,0.7s								
KLMR	**Klimovskoe**	**25.16**	**14**	*e*P		**P**		**04 09 13.9**	**-0.7**
KLMR					pmax		pmax		
	comp=Z,17nm,0.9s								
NB2	**NORSAR Subarra**	**26.30**	**342**	P		**P**		**04 09 25.9**	**+0.8**
	comp=Z,6.9nm,1.4s,baz=149,slow=9.3								
NOA	**NORSAR Array B**	**26.30**	**342**	P		**P**		**04 09 25.7**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=142,slow=9.4,SNR=4.1								
NOA					LR		LR	04 21 35.6	
	comp=Z,39nm,18.2s,baz=160,slow=41								
	comp=Z,1.4nm,0.8s								
NBO00	**NORSAR Array S**	**26.40**	**342**	P		**P**		**04 09 27.3**	**+1.4**
ABKAR	**Akbulak array**	**26.46**	**52**	P		**P**		**04 09 27.9**	**+1.3**
ARU	**Arti**	**28.50**	**37**	P		**P**		**04 09 46.0**	**+1.2**
ARU					IAmb		IAmb	04 09 54.3	
	comp=Z,3.4nm,0.9s								
ARU	**Arti**	**28.50**	**37**	*c i* P		**P**		**04 09 45.6**	**+0.8**
ARU								04 10 35.1	
ARU					S		**S**	**04 14 35.9**	**+3.6**
ARU					SS		**SnSn**	**04 15 51.2**	**+0.4**
ARU					pmax		pmax		
	comp=Z,3.0nm,0.9s								
TOA0	**Torodi Ar. Sit**	**33.10**	**231**	P		**P**		**04 10 25.1**	**-0.6**
TOA0					IAmb		IAmb	04 10 26.0	
	comp=Z,4.5nm,0.6s								
TORD	**Torodi Ar. Bea**	**33.10**	**231**	P		**P**		**04 10 24.9**	**-0.9**
TORD					IAmb		IAmb	04 10 31.8	
	comp=Z,3.7nm,1.0s								
TORD	**Torodi Ar. Bea**	**33.10**	**231**	P		**P**		**04 10 25.2**	**-0.5**
	comp=Z,4.3nm,0.7s,baz=34,slow=9.2,SNR=42								
	comp=Z,4.3nm,0.7s								
KK31	**Karatay Array**	**33.19**	**66**	P		**P**		**04 10 27.1**	**+0.8**
KK31	**Karatay Array**	**33.19**	**66**	P		**P**		**04 10 27.1**	**+0.8**
KK31					pmax		pmax		
	comp=Z,2.0nm,1.0s								
AAK	**Ala-Archa**	**36.15**	**66**	*ce*P		**P**		**04 10 54.7**	**+2.6**
AAK					pmax		pmax		
	comp=Z,5.0nm,2.5s								
KURBB	**Kurchatov Arra**	**38.51**	**53**	P		**P**		**04 11 12.2**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=276,slow=8.8,SNR=11								
	comp=Z,1.9nm,0.6s								
KURK	**Kurchatov**	**38.57**	**52**	P		**P**		**04 11 12.8**	**+0.5**
KURK					IAmb		IAmb	04 11 17.6	
	comp=Z,7.7nm,1.5s								
KURK	**Kurchatov**	**38.57**	**52**	*ce*P		**P**		**04 11 14.3**	**+2.0**
KURK					pmax		pmax		
	comp=Z,6.0nm,1.7s								
MK31	**Makanchi Array**	**41.19**	**58**	P		**P**		**04 11 33.7**	**-0.5**
MK31	**Makanchi Array**	**41.19**	**58**	*ce*P		**P**		**04 11 34.7**	**+0.5**
MKAR	**Makanchi Array**	**41.19**	**58**	P		**P**		**04 11 33.6**	**-0.6**
MKAR	**Makanchi Array**	**41.19**	**58**	P		**P**		**04 11 34.4**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=276,slow=7.0,SNR=12								
MKAR					PcP		**PcP**	**04 13 32.4**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=289,slow=4.4,SNR=3.0								
	comp=Z,1.8nm,0.9s								
MKAR	**Makanchi Array**	**41.19**	**58**	P		**P**		**04 11 33.6**	**-0.6**
DBIC	**Dimbokro**	**42.17**	**233**	P		**P**		**04 11 41.6**	**-0.9**
DBIC					IAmb		IAmb	04 11 41.9	
	comp=Z,4.8nm,0.7s								
DBIC	**Dimbokro**	**42.17**	**233**	P		**P**		**04 11 41.4**	**-1.1**
	comp=Z,3.4nm,0.6s,baz=36,slow=8.6,SNR=7.6								
	comp=Z,3.4nm,0.6s								
TIC	**Toumodi**	**42.30**	**233**	⇓ *i* P		**P**		**04 11 42.3**	**-1.3**
	comp=Z,2.1nm,0.2s								
KIC	**Kosan Boka**	**42.34**	**232**	⇑ *i* P		**P**		**04 11 43.0**	**-0.9**
	comp=Z,10nm,0.6s								
ZAA0	**Zalesovo Array**	**42.39**	**47**	P		**P**		**04 11 43.7**	**-0.2**
ZALV	**Zalesovo Beam**	**42.39**	**47**	P		**P**		**04 11 42.9**	**-1.0**
ZALV	**Zalesovo Beam**	**42.39**	**47**	P		**P**		**04 11 43.7**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=284,slow=12,SNR=4.7								
	comp=Z,1.1nm,0.7s								
LIC	**Lamto**	**42.62**	**232**	⇑ *e*P		**P**		**04 11 44.7**	**-1.5**
	comp=Z,13nm,0.7s								
SONM	**Songino Array**	**56.88**	**52**	P		**P**		**04 13 34.3**	**-0.3**
SONM	**Songino Array**	**56.88**	**52**	P		**P**		**04 13 34.3**	**-0.3**
SONM					pmax		pmax		
	comp=Z,2.0nm,1.4s								
TIXI	**Tiksi**	**58.86**	**21**	P		**P**		**04 13 47.8**	**-0.1**
TIXI					IAmb		IAmb	04 13 50.6	
	comp=Z,2.5nm,0.8s								
TIXI	**Tiksi**	**58.86**	**21**	*ce*P		**P**		**04 13 51.1**	**+3.2**
TIXI					pmax		pmax		
	comp=Z,6.0nm,1.7s								
LBTB	**Lobatse**	**61.60**	**182**	P		**P**		**04 14 07.8**	**+0.6**
LBTB	**Lobatse**	**61.60**	**182**	P		**P**		**04 14 07.8**	**+0.6**
LBTB					pmax		pmax		
	comp=Z,6.0nm,0.9s								
PZH	**PanZhiHua**	**62.52**	**76**	P		**P**		**04 14 16.6**	**+2.9**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,110nm,5.5s								
HHC	**Hu-ho-hao-te**	**63.05**	**58**	*e*P		**P**		**04 14 18.2**	**+1.2**
HHC					pmax		pmax		
	comp=Z,12nm,0.7s								
HHC					pmax		pmax		
	comp=Z,69nm,3.7s								
CMAR	**Chiang Mai Arr**	**64.45**	**85**	P		**P**		**04 14 26.5**	**+0.1**
CMAR	**Chiang Mai Arr**	**64.45**	**85**	P		**P**		**04 14 25.4**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=311,slow=8.2,SNR=5.3								
	comp=Z,0.7nm,0.3s								
CMAR	**Chiang Mai Arr**	**64.45**	**85**	*ce*P		**P**		**04 14 26.6**	**+0.1**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.3s								
XLT	**XiLinHaoTe**	**64.65**	**53**	*e*P		**P**		**04 14 26.6**	**-0.9**
XLT					PcP		**PcP**	**04 15 00.2**	**-1.1**
XLT					pmax		pmax		
	comp=Z,8.0nm,0.9s								
XLT					pmax		pmax		
	comp=Z,75nm,4.9s								
BOSA	**Boshof**	**65.19**	**182**	P		**P**		**04 14 31.1**	**+0.1**
BOSA	**Boshof**	**65.19**	**182**	P		**P**		**04 14 31.1**	**+0.1**
	comp=Z,2.6nm,0.7s,baz=6.7,slow=9.4,SNR=6.7								
	comp=Z,2.6nm,0.7s								
A36M	**Sachs Harbour**	**69.75**	**351**	P		**P**		**04 14 59.8**	**+0.5**
A36M					IAmb		IAmb	04 15 00.7	
	comp=Z,4.6nm,1.1s								
BILL	**Bilibino**	**70.90**	**15**	*i* P		**P**		**04 15 08.3**	**+2.0**
BILL					pmax		pmax		
	comp=Z,2.0nm,1.0s								
SEY	**Seymchan**	**71.21**	**23**	*ce*P		**P**		**04 15 09.1**	**+0.8**
SEY					pmax		pmax		
	comp=Z,5.0nm,1.7s								
MA2	**Magadan**	**73.08**	**26**	*ce*P		**P**		**04 15 22.6**	**+3.1**
MA2					pmax		pmax		

	comp=Z,9.0nm,1.7s								
D25K	**Kavik River**	**74.01**	**358**	P		**P**		**04 15 25.7**	**+0.7**
D25K					IAmb		IAmb	04 15 29.2	
	comp=Z,3.6nm,0.9s								
E29M	**Blow River**	**74.48**	**354**	P		**P**		**04 15 27.0**	**-0.6**
F31M	**Tsiigehtchic**	**75.03**	**353**	P		**P**		**04 15 31.3**	**+0.5**
F31M					IAmb		IAmb	04 15 32.9	
	comp=Z,3.7nm,0.8s								
E25K	**Arctic Village**	**75.18**	**357**	P		**P**		**04 15 31.8**	**0.0**
E25K					IAmb		IAmb	04 15 35.3	
	comp=Z,2.0nm,0.8s								
E24K	**Your Creek**	**75.31**	**358**	P		**P**		**04 15 33.1**	**+0.5**
E24K					IAmb		IAmb	04 15 48.0	
	comp=Z,4.5nm,1.4s								
G31M	**Satah River**	**75.59**	**353**	P		**P**		**04 15 32.7**	**-1.3**
G31M					IAmb		IAmb	04 15 38.4	
	comp=Z,3.5nm,1.1s								
BMAR	**Burnt Mountain**	**75.83**	**357**	P		**P**		**04 15 35.8**	**+0.3**
F24K	**Squaw Lake**	**75.86**	**358**	P		**P**		**04 15 35.4**	**-0.2**
F24K					IAmb		IAmb	04 15 39.6	
	comp=Z,3.3nm,0.8s								
E19K	**Redstone River**	**75.91**	**2**	P		**P**		**04 15 37.0**	**+1.1**
E19K					IAmb		IAmb	04 15 39.6	
	comp=Z,4.1nm,1.0s								
G27K	**Doyon Strip**	**76.30**	**356**	P		**P**		**04 15 38.2**	**+0.1**
YKA	**Yellowknife Ar**	**76.39**	**343**	P		**P**		**04 15 37.1**	**-1.6**
	comp=Z,0.6nm,0.9s,baz=33,slow=5.7,SNR=7.4								
	comp=Z,0.6nm,0.9s								
YKA	**Yellowknife Ar**	**76.39**	**343**	*ce*P		**P**		**04 15 39.4**	**+0.7**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.9s								
H29M	**Whitestone**	**76.65**	**354**	P		**P**		**04 15 39.5**	**-0.6**
H29M					IAmb		IAmb	04 15 42.6	
	comp=Z,2.4nm,0.7s								
H31M	**Peel River**	**76.68**	**352**	P		**P**		**04 15 39.5**	**-0.8**
I30M	**Mount Dempster**	**77.45**	**353**	P		**P**		**04 15 43.5**	**-1.3**
I30M					IAmb		IAmb	04 15 47.0	
	comp=Z,3.8nm,0.8s								
IMAR	**Indian Mountai**	**77.45**	**1**	P		**P**		**04 15 43.6**	**-1.1**
I28M	**Miner Creek**	**77.53**	**355**	P		**P**		**04 15 43.8**	**-1.5**
I28M					IAmb		IAmb	04 16 08.7	
	comp=Z,2.7nm,1.4s								
J30M	**Hart River**	**78.08**	**353**	P		**P**		**04 15 47.9**	**-0.5**
MDM	**Murphy Dome**	**78.43**	**358**	P		**P**		**04 15 50.0**	**-0.1**
MDM					IAmb		IAmb	04 15 53.3	
	comp=Z,3.2nm,0.8s								
ILAR	**Eielson Array**	**78.58**	**358**	P		**P**		**04 15 49.9**	**-1.0**
ILAR	**Eielson Array**	**78.58**	**358**	P		**P**		**04 15 49.2**	**-1.7**
	comp=Z,0.6nm,0.8s,baz=350,slow=4.3,SNR=8.3								
	comp=Z,0.6nm,0.8s								
ILAR	**Eielson Array**	**78.58**	**358**	P		**P**		**04 15 49.9**	**-1.0**
WRH	**Wood River Hil**	**78.92**	**358**	P		**P**		**04 15 52.5**	**-0.2**
WRH					IAmb		IAmb	04 15 55.4	
	comp=Z,5.0nm,0.8s								
K27K	**Chicken**	**79.09**	**355**	P		**P**		**04 15 53.7**	**0.0**
K27K					IAmb		IAmb	04 15 56.6	
	comp=Z,3.2nm,0.9s								
BCAR	**Beaver Creek A**	**80.02**	**355**	P		**P**		**04 15 58.9**	**0.0**
SABA	**Saba**	**80.28**	**285**	P		**P**		**04 16 00.0**	**-1.0**
DHY	**Denali Highway**	**80.30**	**358**	P		**P**		**04 16 01.8**	**+1.3**
DHY					IAmb		IAmb	04 16 05.4	
	comp=Z,6.4nm,1.0s								
M29M	**Somme Creek**	**80.37**	**353**	P		**P**		**04 16 00.7**	**-0.1**
L18K	**Granite Mounta**	**81.18**	**2**	P		**P**		**04 16 05.0**	**0.0**
M19K	**Big River Lodg**	**81.54**	**1**	P		**P**		**04 16 07.8**	**+0.8**
M19K					IAmb		IAmb	04 16 42.4	
	comp=Z,8.5nm,1.4s								
P33M	**Teslin, Yukon**	**81.91**	**350**	P		**P**		**04 16 09.3**	**+0.2**
P33M					IAmb		IAmb	04 16 38.8	
	comp=Z,4.1nm,1.4s								
M14K	**Bethel**	**82.40**	**5**	P		**P**		**04 16 10.3**	**-1.1**
R33M	**Jennings River**	**82.43**	**349**	P		**P**		**04 16 11.7**	**-0.1**
R33M					IAmb		IAmb	04 16 14.8	
	comp=Z,2.7nm,0.9s								
FID	**Port Fidalgo**	**82.59**	**357**	P		**P**		**04 16 12.2**	**-0.3**
P32M	**Atlin**	**82.63**	**351**	P		**P**		**04 16 12.5**	**-0.3**
P32M					IAmb		IAmb	04 16 24.9	
	comp=Z,5.2nm,1.3s								
CPCT	**Cooper Cave**	**84.33**	**311**	P		**P**		**04 16 21.6**	**-0.3**
W50A	**Signal Mountai**	**84.98**	**311**	P		**P**		**04 16 25.4**	**+0.1**
BDFB	**Brasilia**	**88.17**	**249**	P		**P**		**04 16 41.7**	**+0.6**
	comp=Z,1.7nm,0.7s,baz=99,slow=6.9,SNR=3.8								
	comp=Z,1.7nm,0.7s								
TXAR	**Lajitas Array**	**99.81**	**318**	P		**Pdif**		**04 17 35.5**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=63,slow=4.2,SNR=2.5								
	comp=Z,0.4nm,0.9s								

CATAC ***01*** *04:05:12.0±0.5, 14°.27N×91°.39W, h60km, ML4.2*
GCG ***01*** *04:05:13.2±1.2, 13°.91N×91°.38W, h77km±34km, MD3.8*
SNET ***01*** *04:05:14.2±1.0, 13°.88N×91°.27W, h64km±52km, ML3.9*

ISC 01 04:05:13.2±2.1, 13°.71N±0°.09×91°.36W±0°.10, h27km±19km, n44, σ0°.76/70, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
SULM	**Suchitepequez,**	**0.62**	**341**	*e*P		**Pb**	**04**	**05**	**26.4**	**+0.8**
FUG	**Fuego 3**	**0.89**	**34**	*e*P		**Pb**	**04**	**05**	**29.2**	**-0.9**
PCG	**Pacaya**	**0.99**	**47**	*e*P		**Pn**	**04**	**05**	**31.3**	**-0.4**
STG3	**Santiaguito 3,**	**1.02**	**348**	*e*P		**Pn**	**04**	**05**	**30.5**	**-1.4**
NBG	**Las Nubes**	**1.31**	**48**	*e*P		**Pn**	**04**	**05**	**36.5**	**+0.4**
NBG				*e*S		**Sn**	**04**	**05**	**53.4**	**+0.6**
NUBE	**Las Nubes**	**1.54**	**83**	*e*P		**Pn**	**04**	**05**	**38.3**	**-0.8**
NUBE	**Las Nubes**	**1.54**	**83**	*i* P		**Pn**	**04**	**05**	**38.1**	**-1.0**
NUBE				*i* S		**Sn**	**04**	**05**	**56.4**	**-1.9**
NUBE				IAML			04	05	59.7	
	comp=Z,2μm,1.0s									
LOAL	**Lomas de Alarc**	**1.56**	**79**	*e*P		**Pn**	**04**	**05**	**38.8**	**-0.4**
LOAL	**Lomas de Alarc**	**1.56**	**79**	*i* P		**Pn**	**04**	**05**	**38.5**	**-0.7**
LOAL				*i* S		**Sn**	**04**	**05**	**58.2**	**-0.3**
LOAL				IAML			04	06	00.1	
	comp=Z,4μm,1.0s									
RTR	**El Retiro**	**1.67**	**83**	*e*P		**Pn**	**04**	**05**	**41.0**	**+0.1**
CEVE	**Cerro Verde**	**1.69**	**86**	*e*P		**Pn**	**04**	**05**	**41.0**	**-0.2**
CEVE				IAML			04	06	04.4	
	comp=Z,3μm,0.4s									
CEVE	**Cerro Verde**	**1.69**	**86**	*i* P		**Pn**	**04**	**05**	**40.8**	**-0.4**
CEVE				*i* S		**Sn**	**04**	**06**	**01.4**	**-0.6**
CEVE				IAML			04	06	04.3	
	comp=Z,4μm,1.0s									
UNIC	**Universidad Ca**	**1.77**	**81**	*i* P		**Pn**	**04**	**05**	**41.8**	**-0.4**
UNIC				IAML			04	05	42.7	
	comp=Z,620nm,1.0s									
UNIC				*i* S		**Sn**	**04**	**06**	**03.9**	**-0.1**
JAYA	**Jayaque - finc**	**1.85**	**91**	*e*P		**Pn**	**04**	**05**	**42.4**	**-1.0**
JAYA				*e*S		**Sn**	**04**	**06**	**05.0**	**-1.0**
JAYA	**Jayaque - finc**	**1.85**	**91**	*i* P		**Pn**	**04**	**05**	**42.7**	**-0.7**
JAYA				*i* S		**Sn**	**04**	**06**	**05.3**	**-0.7**
JAYA				IAML			04	06	06.4	
	comp=Z,4μm,1.0s									
CEDA	**San Andres**	**1.91**	**87**	*e*P		**Pn**	**04**	**05**	**43.7**	**-0.3**
CEDA				*e*S		**Sn**	**04**	**06**	**07.4**	**+0.2**
CEDA				IAML			04	06	10.3	
	comp=Z,734nm,0.3s									
CEDA	**San Andres**	**1.91**	**87**	*i* P		**Pn**	**04**	**05**	**43.7**	**-0.3**
CEDA				IAML			04	06	19.9	
	comp=Z,2μm,1.0s									
PMON	**Piamonte**	**1.98**	**90**	*i* P		**Pn**	**04**	**05**	**45.4**	**+0.3**
PMON				*i* S		**Sn**	**04**	**06**	**08.7**	**-0.5**
PMON				IAML			04	06	15.5	
	comp=Z,2μm,1.0s									
LALI	**Alcalda de L**	**1.99**	**96**	*e*S		**Sn**	**04**	**06**	**08.9**	**-0.3**
LALI	**Alcalda de L**	**1.99**	**96**	*i* P		**Pn**	**04**	**05**	**44.2**	**-0.9**
LALI				IAML			04	05	45.8	
	comp=Z,290nm,1.0s									
LALI				*i* S		**Sn**	**04**	**06**	**09.6**	**+0.4**
BOQS	**Boqueron**	**2.02**	**89**	*e*P		**Pn**	**04**	**05**	**45.6**	**-0.1**
BOQS				*e*S		**Sn**	**04**	**06**	**10.4**	**+0.3**
ITCA	**Escuela Especi**	**2.02**	**91**	*i* P		**Pn**	**04**	**05**	**45.6**	**0.0**
ITCA				*i* S		**Sn**	**04**	**06**	**10.2**	**+0.2**
ITCA				IAML			04	06	15.0	
	comp=Z,3μm,1.0s									
QUEZ	**Alcaldia de Qu**	**2.03**	**86**	*i* P		**Pn**	**04**	**05**	**46.1**	**+0.4**
QUEZ				*i* S		**Sn**	**04**	**06**	**09.8**	**-0.4**
QUEZ				IAML			04	06	18.9	
	comp=Z,4μm,1.0s									
MTO3	**Montecristo**	**2.05**	**70**	*e*P		**Pn**	**04**	**05**	**45.2**	**-0.9**
MTO3	**Montecristo**	**2.05**	**70**	*i* P		**Pn**	**04**	**05**	**45.4**	**-0.8**
MTO3				*i* S		**Sn**	**04**	**06**	**12.1**	**+1.0**
MTO3				IAML			04	06	14.5	
	comp=Z,360nm,1.0s									
SNET	**Serv Nac Est T**	**2.06**	**90**	*i* P		**Pn**	**04**	**05**	**46.0**	**-0.2**
SNET				*i* S		**Sn**	**04**	**06**	**10.0**	**-1.1**
SNET				IAML			04	06	15.3	

	comp=Z,3μm,1.0s								
UTEC	**Universidad Te**	**2.09**	**90**	*i* P		**Pn**	**04**	**05**	**46.8**	**+0.2**
UTEC				*i* S		**Sn**	**04**	**06**	**12.1**	**+0.3**
UTEC				IAML			04	06	17.2	
	comp=Z,1μm,1.0s									
MRL	**Marmol**	**2.12**	**50**	*e*P		**Pn**	**04**	**05**	**49.6**	**+2.5**
PANCS	**Alcalda de**	**2.12**	**92**	*i* P		**Pn**	**04**	**05**	**46.9**	**0.0**
PANCS				*i* S		**Sn**	**04**	**06**	**11.8**	**-0.6**
PANCS				IAML			04	06	15.6	
	comp=Z,3μm,1.0s									
IGN	**Direccin Gen**	**2.12**	**90**	*i* P		**Pn**	**04**	**05**	**47.6**	**+0.6**
IGN				*i* S		**Sn**	**04**	**06**	**13.0**	**+0.4**
IGN				IAML			04	06	16.1	
	comp=Z,5μm,1.0s									
LOMA	**Loma Larga**	**2.12**	**92**	*e*P		**Pn**	**04**	**05**	**47.3**	**+0.2**
LOMA	**Loma Larga**	**2.12**	**92**	*i* P		**Pn**	**04**	**05**	**47.3**	**+0.2**
LOMA				*i* S		**Sn**	**04**	**06**	**12.5**	**-0.2**
LOMA				IAML			04	06	15.4	
	comp=Z,1μm,1.0s									
UDBS	**Universidad Do**	**2.14**	**90**	*i* P		**Pn**	**04**	**05**	**47.7**	**+0.5**
UDBS				*i* S		**Sn**	**04**	**06**	**13.9**	**+1.0**
UDBS				IAML			04	06	18.9	
	comp=Z,1μm,1.0s									
PAVA	**Las Pavas**	**2.35**	**90**	*i* P		**Pn**	**04**	**05**	**50.9**	**+0.7**
PAVA				IAML			04	06	29.8	
	comp=Z,890nm,1.0s									
LLGN	**La Laguna**	**2.38**	**79**	*i* P		**Pn**	**04**	**05**	**49.6**	**-1.0**
LLGN				IAML			04	06	22.4	
	comp=Z,850nm,1.0s									
COEG	**Centro de Oper**	**2.41**	**92**	*e*P		**Pn**	**04**	**05**	**51.5**	**+0.6**
COEG	**Centro de Oper**	**2.41**	**92**	*i* P		**Pn**	**04**	**05**	**51.6**	**+0.6**
COEG				IAML			04	05	52.7	
	comp=Z,650nm,1.0s									
COEG				*i* S		**Sn**	**04**	**06**	**20.8**	**+1.2**
UESV	**Universidad de**	**2.50**	**91**	*i* P		**Pn**	**04**	**05**	**52.6**	**+0.5**
UESV				*i* S		**Sn**	**04**	**06**	**23.3**	**+1.5**
UESV				IAML			04	06	29.9	
	comp=Z,390nm,1.0s									
TECO	**Alcaldia de Te**	**2.51**	**94**	*i* P		**Pn**	**04**	**05**	**52.4**	**+0.1**
TECO				*i* S		**Sn**	**04**	**06**	**22.1**	**+0.1**
TECO				IAML			04	06	29.4	
	comp=Z,300nm,1.0s									
SCLA	**Alcaldia de Sa**	**2.55**	**90**	*i* P		**Pn**	**04**	**05**	**53.4**	**+0.5**
SCLA				IAML			04	06	36.3	
	comp=Z,170nm,1.0s									
COEB	**Comit de Eme**	**2.75**	**94**	*e*P		**Pn**	**04**	**05**	**56.1**	**+0.3**
COEB				*e*S		**Sn**	**04**	**06**	**27.9**	**-0.4**
COEB				IAML			04	06	36.9	
	comp=Z,257nm,0.4s									
COEB	**Comit de Eme**	**2.75**	**94**	*i* P		**Pn**	**04**	**05**	**56.1**	**+0.3**
COEB				*i* S		**Sn**	**04**	**06**	**28.4**	**+0.2**
COEB				IAML			04	06	36.5	
	comp=Z,290nm,1.0s									
PACA	**Pacayal**	**2.96**	**94**	*i* P		**Pn**	**04**	**05**	**59.7**	**+1.1**
PACA				IAML			04	06	51.4	
	comp=Z,2μm,1.0s									
LCND	**La Caada**	**3.39**	**96**	*i* P		**Pn**	**04**	**06**	**04.7**	**+0.3**
LCND				*i* S		**Sn**	**04**	**06**	**44.9**	**+1.0**
LCND				IAML			04	06	51.0	
	comp=Z,240nm,1.0s									

ROM 01 04:05:58.7±0.1, 43°.064N±0°.004×13°.017E±0°.004, h5km, ML0.8/8, 2C-6D, Error ellipse: s-maj=0.4km s-min=0.1km az=161.0, Central Italy

| Code | Station Name | Δ° | AZ° | Phase | ID | | Time | | | Res |

az=109.7
*NEIC **01** 04:13:00.6±1.7,29°.83S±0°.08×177°.5W±0°.1, h35km±1km, mb5.1/44, Error ellipse: s-maj=18.9km s-min=9.7km az=56.0*
*IDC **01** 04:13:00.2±0.9,29°.32S×177°.22W, h55km±6km, mb4.2/16, mbtmp4.5/16, MS4.6/41, Error ellipse: s-maj=14.8km s-min=12.1km az=3.0*
ISC 01 04:12:59.0±0.3, 29.71S±0°.04×177.22W±0°.06, h39km±3km, h39km:pP-P, n408, σ2s40/412, mb5.0/59, MS4.8/71, 23C-23D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**0.76**	**306**	P		**Pn**		**04 13 12.7**	**-0.5**
GLKZ				S		**Sn**		**04 13 26.8**	**+3.3**
RAO	**Raoul Island**	**0.77**	**307**	P		**Pn**		**04 13 12.9**	**-0.4**
RAO	**Raoul Island**	**0.77**	**307**	Pn		**Pn**		**04 13 12.9**	**-0.4**
RAO				Sn		**Sn**		**04 13 24.7**	**+1.1**
RAO	**Raoul Island**	**0.77**	**307**	P		**Pn**		**04 13 12.1**	**-1.2**
	5μm,0.2s,baz=59,slow=12,SNR=93								
RAO				S		**Sn**		**04 13 24.7**	**+1.1**
	13μm,0.2s,baz=101,slow=22,SNR=12								
OUZ	**Omahuta**	**9.51**	**232**	P		Pn		04 15 21.1	+7.8
MWZ	**Matawai**	**9.64**	**205**	P		**Pn**		**04 15 13.7**	**-1.4**
MWZ				S		**Sn**		**04 17 04.7**	**+2.5**
URZ	**Urewera**	**9.74**	**207**	P		**Pn**		**04 15 14.8**	**-1.6**
URZ	**Urewera**	**9.74**	**207**	P		**Pn**		**04 15 14.9**	**-1.6**
	4.3nm,0.3s,baz=347,slow=3.4,SNR=9.7								
URZ				S		**Sn**		**04 17 04.5**	**+0.1**
	62nm,0.5s,baz=60,slow=22,SNR=10.0								
URZ	**Urewera**	**9.74**	**207**	P		**Pn**		**04 15 14.9**	**-1.6**
URZ				S		**Sn**		**04 17 05.4**	**+0.9**
MUGZ	**Murupara**	**10.06**	**208**	P		**Pn**		**04 15 19.1**	**-1.7**
MUGZ				S		**Sn**		**04 17 14.9**	**+2.4**
SNGZ	**Shannon Statio**	**10.10**	**205**	P		**Pn**		**04 15 20.7**	**-0.7**
SNGZ				S		**Sn**		**04 17 12.4**	**-1.1**
RAHZ	**Arahi**	**10.32**	**206**	P		**Pn**		**04 15 24.5**	**+0.1**
RAHZ				S		**Sn**		**04 17 18.5**	**-0.2**
MTHZ	**Maungataniwha**	**10.36**	**207**	P		**Pn**		**04 15 23.3**	**-1.7**
MTHZ				S		**Sn**		**04 17 20.3**	**+0.6**
NMHZ	**Naumai**	**10.58**	**206**	P		**Pn**		**04 15 26.9**	**-1.1**
NMHZ				S		**Sn**		**04 17 26.9**	**+1.7**
BKZ	**Black Stump Fm**	**10.76**	**207**	P		**Pn**		**04 15 31.7**	**+1.2**
BKZ	**Black Stump Fm**	**10.76**	**207**	P		**Pn**		**04 15 30.3**	**-0.2**
BKZ				S		**Sn**		**04 17 29.3**	**-0.4**
HIZ	**Hauiti**	**10.96**	**215**	P		**Pn**		**04 15 34.7**	**+1.5**
HIZ	**Hauiti**	**10.96**	**215**	P		Pn		04 15 41.9	+8.7
KWHZ	**Kaweka Forest**	**11.01**	**207**	P		**Pn**		**04 15 32.0**	**-2.0**
KWHZ				S		**Sn**		**04 17 36.5**	**+0.7**
ETVZ	**East Tongariro**	**11.06**	**210**	P		**Pn**		**04 15 35.9**	**+1.2**
ETVZ				S		**Sn**		**04 17 38.3**	**+1.1**
NNVZ	**North Ngauruho**	**11.10**	**210**	P		**Pn**		**04 15 37.6**	**+2.4**
OTVZ	**Oturere**	**11.11**	**210**	P		**Pn**		**04 15 33.4**	**-1.9**
OTVZ				S		**Sn**		**04 17 39.2**	**+0.9**
SNVZ	**South Ngauruho**	**11.13**	**210**	P		**Pn**		**04 15 34.0**	**-1.7**
SNVZ				S		**Sn**		**04 17 37.7**	**-1.3**
NGZ	**Ngauruhoe**	**11.14**	**210**	P		**Pn**		**04 15 37.1**	**+1.3**
NGZ				S		**Sn**		**04 17 41.8**	**+2.7**
KAHZ	**Kahuranaki**	**11.17**	**204**	P		Pn		04 15 27.1	-8.9
KAHZ				S		**Sn**		**04 17 40.6**	**+1.0**
BHHZ	**Black Hill Sta**	**11.21**	**208**	P		**Pn**		**04 15 37.9**	**+1.3**
BHHZ				S		**Sn**		**04 17 39.6**	**-1.1**
KRHZ	**Kereru**	**11.22**	**206**	P		**Pn**		**04 15 35.9**	**-0.9**
KRHZ				S		**Sn**		**04 17 37.6**	**-3.3**
VRZ	**Vera Road**	**11.49**	**213**	P		Pn		04 15 52.0	+12
WPHZ	**Waipukurau**	**11.56**	**205**	P		Pn		04 15 47.4	+6.0
WPHZ				S		**Sn**		**04 17 47.1**	**-2.1**
TSZ	**Takapari Road**	**11.74**	**207**	P		**Pn**		**04 15 43.9**	**+0.1**
TSZ				S		**Sn**		**04 17 50.7**	**-2.9**
BFZ	**Birch Farm**	**12.18**	**204**	P		**Pn**		**04 15 50.7**	**+0.9**
BFZ	**Birch Farm**	**12.18**	**204**	P		**Pn**		**04 15 46.3**	**-3.5**
BFZ				S		**Sn**		**04 18 00.1**	**-4.0**
MRZ	**Mangatainoka R**	**12.40**	**206**	P		**Pn**		**04 15 49.1**	**-3.8**
MRZ				S		**Sn**		**04 18 04.3**	**-5.5**
NIUE	**Niue**	**12.49**	**34**	P		Pn		04 15 39.3	-15
	baz=12,SNR=4.2								
NIUE	**Niue**	**12.49**	**34**	P		Pn		04 15 41.0	-13
HOWZ	**Holdsworth Sta**	**12.63**	**206**	P		**Pn**		**04 15 53.0**	**-3.1**
HOWZ				S		**Sn**		**04 18 08.8**	**-6.6**
MSVF	**Nonsavu**	**12.69**	**339**	Pn		**Pn**		**04 15 58.4**	**+1.4**
MSVF	**Nonsavu**	**12.69**	**339**	*i* P		**Pn**		**04 15 56.7**	**-0.2**
DUWZ	**D'Urville Isla**	**13.21**	**211**	P		**Pn**		**04 16 03.0**	**-1.0**
DUWZ				S		**Sn**		**04 18 25.5**	**-4.1**
SNZO	**South Karori**	**13.30**	**207**	P		**Pn**		**04 16 03.7**	**-1.5**
TCW	**Tory Channel**	**13.39**	**209**	P		Pn		04 16 01.6	-4.8
TCW				S		**Sn**		**04 18 28.6**	**-5.4**
TUWZ	**Tuamarina**	**13.72**	**209**			**Pn**		**04 16 06.4**	**-4.4**
TUWZ	**Tuamarina**	**13.72**	**209**	P		**Pn**		**04 16 06.6**	**-4.2**
TUWZ				S		**Sn**		**04 18 34.9**	**-6.9**
NNZ	**Nelson**	**13.79**	**211**	P		**Pn**		**04 16 09.5**	**-2.3**
NNZ				S		**Sn**		**04 18 39.1**	**-4.5**
QRZ	**Quartz Range**	**13.88**	**214**	P		**Pn**		**04 16 14.0**	**+0.9**
QRZ	**Quartz Range**	**13.88**	**214**	P		**Pn**		**04 16 14.5**	**+1.4**
QRZ				S		**Sn**		**04 18 41.4**	**-4.5**
BSWZ	**Blackbirch Sta**	**13.98**	**209**	Pn		**Pn**		**04 16 12.6**	**-1.8**
BSWZ	**Blackbirch Sta**	**13.98**	**209**	P		**Pn**		**04 16 11.9**	**-2.5**
BSWZ				S		**Sn**		**04 18 43.2**	**-5.1**
CTZ	**Chatham Island**	**14.01**	**178**	P		**Pn**		**04 16 11.7**	**-3.0**
MRNZ	**Matariki Terra**	**14.22**	**212**	P		**Pn**		**04 16 16.7**	**-1.0**
MRNZ				S		**Sn**		**04 18 48.3**	**-5.8**
THZ	**Tophouse**	**14.44**	**211**	Pn		**Pn**		**04 16 19.5**	**-1.2**
THZ	**Tophouse**	**14.44**	**211**	P		**Pn**		**04 16 19.5**	**-1.2**
THZ				S		**Sn**		**04 18 53.8**	**-5.7**
KHZ	**Kahutara**	**14.70**	**208**	P		**Pn**		**04 16 22.1**	**-2.1**
KHZ	**Kahutara**	**14.70**	**208**	Pn		**Pn**		**04 16 21.7**	**-2.4**
KHZ	**Kahutara**	**14.70**	**208**	P		**Pn**		**04 16 22.6**	**-1.6**
KHZ				S		**Sn**		**04 18 58.9**	**-6.9**
DSZ	**Denniston Nort**	**14.94**	**214**	P		**Pn**		**04 16 26.7**	**-0.6**
DSZ				S		**Sn**		**04 19 04.4**	**-7.2**
GVZ	**Greta Valley S**	**15.37**	**208**			**Pn**		**04 16 29.2**	**-3.8**
GVZ				IAmb		IAmb		04 16 40.5	
	comp=Z,56nm,0.5s								
GVZ	**Greta Valley S**	**15.37**	**208**	P		**Pn**		**04 16 30.3**	**-2.6**
GVZ				S		**Sn**		**04 19 12.0**	**-10**
LTZ	**Lake Taylor**	**15.54**	**210**	Pn		**Pn**		**04 16 31.5**	**-3.7**
LTZ	**Lake Taylor**	**15.54**	**210**	P		**Pn**		**04 16 32.1**	**-3.1**
LTZ				S		**Sn**		**04 19 15.5**	**-11**
INZ	**Inchbonnie**	**15.87**	**212**	Pn		**Pn**		**04 16 37.9**	**-1.4**
INZ	**Inchbonnie**	**15.87**	**212**	P		**Pn**		**04 16 38.2**	**-1.1**
INZ				S		**Sn**		**04 19 23.3**	**-11**
OUENC	**Ouen Island, N**	**16.05**	**293**	Pn		**Pn**		**04 16 41.5**	**-0.4**
OXZ	**Oxford**	**16.08**	**209**	Pn		**Pn**		**04 16 38.7**	**-3.4**
OXZ				IAmb		IAmb		04 16 48.1	
	comp=Z,190nm,1.5s								
OXZ	**Oxford**	**16.08**	**209**	P		**Pn**		**04 16 40.1**	**-2.0**
OXZ				S		Sn		04 19 26.9	-12
MHXZ	**Mount Hutt**	**16.45**	**210**	P		**Pn**		**04 16 45.9**	**-0.9**
MHCZ				S		Sn		04 19 36.0	-12
WVZ	**Waitaha Valley**	**16.46**	**213**	P		**Pn**		**04 16 47.3**	**+0.3**
WVZ				S		**Sn**		**04 19 38.7**	**-10**
DZM	**Mont Dzumac**	**16.55**	**294**			**Pn**		**04 16 48.9**	**+0.7**
DZM				IAmb		IAmb		04 16 54.8	
	comp=Z,228nm,1.7s								
DZM	**Mont Dzumac**	**16.55**	**294**	P		**P**		**04 16 50.7**	**+0.3**
	comp=Z,24nm,1.0s,baz=122,slow=9.0,SNR=9.6								
DZM				LR		LR		04 22 10.6	
	comp=Z,9μm,18.2s,baz=163,slow=34								
NOUC	**Port Laguerre**	**16.64**	**293**	P		**P**		**04 16 51.9**	**+0.5**
RPZ	**Rata Peaks**	**16.82**	**211**	P		**Pn**		**04 16 48.8**	**-2.6**
	comp=Z,10nm,0.5s,baz=18,slow=20,SNR=1.4								
RPZ				S		Sn		04 19 44.1	-13
	comp=Z,5.3nm,0.3s,baz=38,slow=17,SNR=1.3								
ARCZ	**Arundel**	**16.95**	**210**	P		**Pn**		**04 16 52.6**	**-0.5**
ARCZ				S		Sn		04 19 47.7	-13
FOZ	**Fox Glacier**	**17.25**	**213**	P		**P**		**04 16 57.1**	**-0.9**
FOZ				S		Sn		04 19 54.2	-13
RAR	**Rarotonga**	**17.86**	**66**	P		Pn		04 16 54.4	-10
	comp=Z,53nm,0.9s,baz=224,slow=6.1,SNR=13								
RAR				S		Sn		04 19 53.2	-30
	comp=Z,34nm,0.7s,baz=74,slow=23,SNR=8.0								
RAR				LR		LR		04 22 50.7	
	comp=Z,782nm,19.8s,baz=242,slow=33								
ODZ	**Otahua Downs**	**18.06**	**209**	P		**P**		**04 17 07.6**	**+0.8**
ODZ	**Otahua Downs**	**18.06**	**209**	P		**Pn**		**04 17 04.4**	**-2.3**
ODZ	**Otahua Downs**	**18.06**	**209**	P		**P**		**04 17 08.5**	**+1.6**
JCZ	**Jackson Bay**	**18.15**	**214**	P		**Pn**		**04 17 07.7**	**-0.3**
KOUNC	**Koumac, New Ca**	**19.05**	**294**	Pn		**Pn**		**04 17 19.3**	**+0.4**
KOUNC				IAmb		IAmb		04 17 24.2	
	comp=Z,145nm,1.5s								
ARMA	**Armidale**	**26.93**	**261**	P		**P**		**04 18 40.4**	**+3.6**
	baz=27								
ARMA	**Armidale**	**26.93**	**261**	P		**P**		**04 18 37.7**	**+0.9**
PPT	**Papeete**	**27.98**	**71**	LR		LR		04 26 43.6	
	comp=Z,1μm,21.5s,baz=246,slow=30								
EIDS	**Eidsvold**	**28.39**	**271**	P		**P**		**04 18 53.0**	**+3.2**
	baz=29,SNR=3.4								
EIDS	**Eidsvold**	**28.39**	**271**	P		**P**		**04 18 48.9**	**-0.9**
EIDS				IAmb		IAmb		04 18 58.9	
	comp=Z,44nm,1.2s								
CAN	**Canberra**	**28.94**	**250**	P		**P**		**04 18 55.4**	**+0.7**
CAN	**Canberra**	**28.94**	**250**	P		**P**		**04 18 55.4**	**+0.7**
CAN				pmax		pmax			
	comp=Z,23nm,1.2s								
YNG	**Young**	**29.43**	**252**	P		**P**		**04 19 02.0**	**+3.0**
	baz=30,SNR=5.2								
TOO	**Toolangi**	**31.86**	**246**	P		**P**		**04 19 18.7**	**-1.7**
TOO				IAmb		IAmb		04 19 35.8	
	comp=Z,24nm,1.2s								
TOO	**Toolangi**	**31.86**	**246**	P		**P**		**04 19 18.7**	**-1.7**
TOO				pmax		pmax			
	comp=Z,25nm,1.2s								
CMSA	**Cobar Meteorol**	**31.88**	**257**	P		**P**		**04 19 23.3**	**+2.8**
	baz=32,SNR=13								
CMSA	**Cobar Meteorol**	**31.88**	**257**	P		**P**		**04 19 23.5**	**+3.0**
ARPS	**Mount Arapiles**	**34.76**	**247**	P		**P**		**04 19 47.7**	**+2.1**
	baz=35								
STKA	**Stephens Creek**	**35.30**	**256**	P		**P**		**04 19 52.7**	**+2.4**
	baz=36,SNR=18								
STKA	**Stephens Creek**	**35.30**	**256**	P		**P**		**04 19 52.4**	**+2.1**
STKA	**Stephens Creek**	**35.30**	**256**	P		**P**		**04 19 50.1**	**-0.2**
STKA	**Stephens Creek**	**35.30**	**256**	P		**P**		**04 19 50.3**	**0.0**
	comp=Z,13nm,0.7s,baz=92,slow=9.9,SNR=18								
STKA				LR		LR		04 33 28.2	
	comp=Z,3μm,18.0s,baz=94,slow=35								
	comp=Z,13nm,0.7s								
STKA	**Stephens Creek**	**35.30**	**256**	*i* P		**P**		**04 19 52.0**	**+1.7**
MTSU	**Mount Surprise**	**36.84**	**279**	P		**P**		**04 20 05.6**	**+1.9**
	baz=37,SNR=4.8								
HTT	**Hallett**	**37.35**	**253**	P		**P**		**04 20 09.7**	**+1.8**
	baz=38,SNR=14								
HTT	**Hallett**	**37.35**	**253**	P		**P**		**04 20 08.7**	**+0.8**
LCRK	**Leigh Creek**	**38.38**	**257**	P		**P**		**04 20 17.1**	**+0.5**
PMG	**Port Moresby**	**38.94**	**294**	LR		LR		04 33 32.5	
	comp=Z,2μm,21.7s,baz=120,slow=32								
BBOO	**Buckleboo**	**39.81**	**253**	P		**P**		**04 20 29.7**	**+1.2**
	baz=40,SNR=12								
BBOO	**Buckleboo**	**39.81**	**253**	P		**P**		**04 20 27.9**	**-0.6**
BBOO				IAmb		IAmb		04 20 31.0	
	comp=Z,20nm,0.8s								
QIS	**Mount Isa**	**39.95**	**273**	P		**P**		**04 20 30.3**	**+0.5**
OOD	**Oodnadatta**	**41.11**	**261**	P		**P**		**04 20 39.6**	**+0.3**
AS31	**Alice Springs**	**43.83**	**266**	P		**P**		**04 21 02.2**	**+0.7**
ASAR	**Alice Springs**	**43.83**	**266**	P		**P**		**04 21 00.2**	**-1.3**
ASAR	**Alice Springs**	**43.83**	**266**	P		**P**		**04 21 00.8**	**-0.7**
	comp=Z,4.5nm,0.5s,baz=103,slow=6.2,SNR=46								
ASAR				PcP		**PcP**		**04 22 48.2**	**+0.7**
	comp=Z,1.6nm,0.7s,baz=132,slow=4.1,SNR=1.6								
ASAR				ScP		**ScP**		**04 26 35.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=108,slow=5.0,SNR=1.4								
ASAR				S		**S**		**04 27 29.0**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=101,slow=14,SNR=1.8								
ASAR				LR		LR		04 38 48.2	
	comp=Z,4μm,18.6s,baz=111,slow=35								
	comp=Z,4.5nm,0.5s								
WC3	**Warramunga Arr**	**44.72**	**271**	P		**P**		**04 21 08.2**	**-0.4**
	baz=45								
WRAB	**Tennant Creek**	**44.75**	**271**	P		**P**		**04 21 08.7**	**-0.2**
WRAB				IAmb		IAmb		04 21 27.3	
	comp=Z,21nm,0.9s								
WRAB	**Tennant Creek**	**44.75**	**271**	*i* P		**P**		**04 21 07.9**	**-0.9**
WRAB				pmax		pmax			
	comp=Z,24nm,1.3s								
WRA	**Warramunga Arr**	**44.76**	**271**	P		**P**		**04 21 07.8**	**-1.1**
WRA	**Warramunga Arr**	**44.76**	**271**	P		**P**		**04 21 07.6**	**-1.3**
	comp=Z,8.4nm,0.6s,baz=110,slow=7.7,SNR=39								
WRA				S		**S**		**04 27 41.3**	**-2.2**
	comp=Z,0.8nm,0.8s,baz=108,slow=15,SNR=1.7								
	comp=Z,8.4nm,0.6s								
WRA	**Warramunga Arr**	**44.76**	**271**	P		**P**		**04 21 07.8**	**-1.1**
WRA				pmax		pmax			
	comp=Z,1.0nm,0.9s								
DRV	**Dumont d'Urvil**	**45.03**	**202**	P		**P**		**04 21 12.1**	**+1.7**
DRV				pP		**pP**		**04 21 20.7**	**+0.5**
DRV				sP		**sP**		**04 21 23.8**	**-0.6**
FORT	**Forrest**	**46.88**	**254**	P		**P**		**04 21 25.6**	**+0.1**
	baz=47,SNR=7.0								
FORT	**Forrest**	**46.88**	**254**	P		**P**		**04 21 25.8**	**+0.3**
FORT	**Forrest**	**46.88**	**254**	P		**P**		**04 21 24.9**	**-0.7**
WRKA	**Warakurna**	**48.25**	**262**	P		**P**		**04 21 35.0**	**-1.3**
	baz=48,SNR=19								
WRKA	**Warakurna**	**48.25**	**262**	P		**P**		**04 21 34.9**	**-1.3**
SBA	**Scott Base**	**48.77**	**184**	P		P		04 21 44.9	+5.4
SBA				pmax		pmax			
	comp=Z,44nm,2.0s								
VNDA	**Vanda**	**48.85**	**186**	P		**P**		**04 21 41.8**	**+1.8**
VNDA				IAmb		IAmb		04 22 07.7	
	comp=Z,43nm,2.0s								
VNDA	**Vanda**	**48.85**	**186**	P		**P**		**04 21 42.6**	**+2.6**
	comp=Z,2.3nm,1.0s,baz=18,slow=5.5,SNR=11								
VNDA				LR		LR		04 39 29.7	
	comp=Z,395nm,20.1s,baz=28,slow=32								
	comp=Z,2.3nm,1.0s								
VNDA	**Vanda**	**48.85**	**186**	P		**P**		**04 21 43.8**	**+3.8**
VNDA				pP		**sP**		**04 21 52.1**	**-2.0**
VNDA				sP		**pwP**		**04 21 55.5**	**-0.2**
KDU	**Kakadu**	**49.48**	**279**	P		**P**		**04 21 46.0**	**+0.4**
	baz=50,SNR=3.8								
KNRA	**Kununurra**	**51.34**	**273**	P		**P**		**04 22 00.6**	**+0.9**
	baz=52,SNR=3.3								
KNRA				P		**P**		**04 22 00.6**	**+0.9**
	baz=52,SNR=3.3								
FITZ	**Fitzroy Crossi**	**53.05**	**269**	P		**P**		**04 22 11.8**	**-0.7**
	baz=53,SNR=9.3								
FITZ	**Fitzroy Crossi**	**53.05**	**269**	P		**P**		**04 22 11.5**	**-1.0**
CCD	**Concordia, Ant**	**53.80**	**196**	P		**P**		**04 22 20.1**	**+2.5**
CCD				pP		**pP**		**04 22 28.8**	**+1.1**
CCD				sP		**sP**		**04 22 32.5**	**+0.9**
FAKI	**Fak Fak**	**54.75**	**289**	P		**P**		**04 22 23.6**	**-1.3**
	comp=Z,16nm,1.5s								
KLBR	**Kellerberrin**	**55.22**	**250**	P		**P**		**04 22 26.5**	**-1.6**
NWAO	**Narrogin (SRO)**	**55.28**	**249**	LR		LR		04 45 55.7	
	comp=Z,1μm,18.8s,baz=87,slow=36								
CASY	**Casey**	**56.06**	**208**	P		**P**		**04 22 34.4**	**+0.8**
CASY	**Casey**	**56.06**	**208**	P		**P**		**04 22 34.9**	**+1.3**
CASY				pP		**pP**		**04 22 43.8**	**+0.1**
CASY				sP		**sP**		**04 22 47.8**	**0.0**
BLDU	**Ballidu**	**56.36**	**251**	P		**P**		**04 22 36.1**	**-0.2**
GUMO	**Guam**	**56.48**	**314**	LR		LR		04 43 23.3	
	comp=Z,443nm,21.8s,baz=146,slow=32								
MBWA	**Marble Bar**	**56.98**	**263**	P		**P**		**04 22 39.2**	**-1.6**
MBWA	**Marble Bar**	**56.98**	**263**	P		**P**		**04 22 39.2**	**-1.6**
MORW	**Morawa**	**57.38**	**253**	P		**P**		**04 22 43.6**	**0.0**
	baz=58,SNR=3.4								
MORW	**Morawa**	**57.38**	**253**	P		**P**		**04 22 43.6**	**0.0**
SOEI	**Soe**	**57.94**	**277**	P		**P**		**04 22 47.7**	**-0.1**
BATI	**Baumata**	**58.24**	**276**	LR		LR		04 48 50.2	
	comp=Z,6μm,18.0s,baz=140,slow=37								
RPN	**Rapa Nui**	**58.96**	**106**	LR		LR		04 41 45.5	
	comp=Z,469nm,20.1s,baz=226,slow=29								
QSPA	**South Pole Qui**	**60.40**	**180**	P		**P**		**04 23 06.3**	**+2.2**
QSPA	**South Pole Qui**	**60.40**	**180**	P		**P**		**04 23 06.8**	**+2.7**
	comp=Z,32nm,1.0s,baz=9.6,slow=1.3,SNR=54								
QSPA				LR		LR		04 46 47.5	
	comp=Z,980nm,19.4s,baz=40,slow=33								
	comp=Z,32nm,1.0s								
QSPA	**South Pole Qui**	**60.40**	**180**	P		**P**		**04 23 06.7**	**+2.5**
QSPA				sP		**sP**		**04 23 19.0**	**+0.9**
GIRL	**Giralia**	**61.14**	**259**	P		**P**		**04 23 09.7**	**0.0**
DAV	**Davao City (W)**	**65.96**	**294**	LR		LR		04 52 58.6	
	comp=Z,189nm,18.4s,baz=146,slow=36								
JCJ	**Chichijima**	**68.57**	**321**	LR		LR		04 48 42.0	
	comp=Z,238nm,21.6s,baz=126,slow=31								
PMSA	**Palmer Station**	**72.61**	**156**	LR		LR		04 48 12.4	
	comp=Z,378nm,21.6s,baz=256,slow=29								
MAW	**Mawson**	**73.19**	**200**	P		**P**		**04 24 27.9**	**+2.6**
	comp=Z,5.5nm,0.8s,baz=148,slow=8.5,SNR=7.0								
MAW				LR		LR		04 56 27.0	
	comp=Z,707nm,18.9s,baz=114,slow=35								
	comp=Z,5.5nm,0.8s								
JHJ	**Hachijo jima 2**	**74.59**	**324**	LR		LR		04 51 59.2	
	comp=Z,259nm,19.7s,baz=110,slow=32								
ELIB	**Princess Elisa**	**77.61**	**186**	*d*P		**P**		**04 24 51.1**	**+0.3**
	comp=Z,13nm,1.2s								
JGF	**Kuroka**	**77.78**	**324**	P		**P**		**04 24 53.7**	**+1.7**
AY03	**Cochrane**	**77.80**	**138**	P		**P**		**04 24 54.3**	**+2.2**
AY03				IAmb		IAmb		04 25 07.1	
	comp=Z,20nm,1.1s								
MJAR	**Matsushiro Arr**	**78.07**	**325**	P		**P**		**04 24 50.5**	**-3.1**
	comp=Z,2.3nm,0.7s,baz=164,slow=5.6,SNR=6.7								
	comp=Z,2.3nm,0.7s								
TROLL	**Troll, Antarti**	**78.56**	**180**	⇑P		**P**		**04 24 58.0**	**+1.9**
	comp=Z,230nm,0.8s								
SNAA	**Sanae**	**78.82**	**178**	⇑P		**P**		**04 24 58.9**	**+1.5**
	comp=Z,81nm,0.8s								
SNAA	**Sanae**	**78.82**	**178**	P		**P**		**04 24 57.7**	**+0.3**
	comp=Z,2.3nm,1.0s,baz=205,slow=12,SNR=2.8								
SNAA				LR		LR		04 57 11.3	
	comp=Z,336nm,20.3s,baz=181,slow=34								
	comp=Z,2.3nm,1.0s								
SNAA	**Sanae**	**78.82**	**178**	*i* P		**P**		**04 24 59.4**	**+2.0**
SNAA				pmax		pmax			
	comp=Z,19nm,2.0s								
VNA3	**Neumayer Olymp**	**78.94**	**176**	⇑P		**P**		**04 25 00.1**	**+2.0**
	comp=Z,8.5nm,0.8s								
COYC	**Coyhaique**	**78.96**	**136**	P		**P**		**04 25 00.7**	**+2.1**
COYC				IAmb		IAmb		04 25 18.1	
	comp=Z,36nm,1.1s								
VNA2	**Neumayer--Watz**	**79.39**	**177**	⇑P		**P**		**04 25 02.1**	**+1.6**
	comp=Z,8.0nm,0.8s,baz=167,slow=5.1								
NVL	**N'lazarevskaya**	**79.60**	**183**	*e*P		P		04 25 19.0	+17
NVL				*e*S		S		04 35 22.6	+22
NVL				pmax		pmax			
	comp=Z,8.0nm,0.7s								
NVL				MLR		MLR			
	comp=Z,660nm,18.0s								
VNA1	**Neumayer--Stat**	**79.61**	**176**	⇑P		**P**		**04 25 04.8**	**+3.2**
	comp=Z,4.9nm,0.7s								
H03S2	**Juan Fernandez**	**80.27**	**123**	T		T		05 54 47.8	
	baz=239,slow=74,SNR=13								
H03S1	**Juan Fernandez**	**80.29**	**123**	T		T		05 54 49.0	
	baz=239,slow=74,SNR=12								
H03S3	**Juan Fernandez**	**80.29**	**123**	T		T		05 54 51.7	
	baz=239,slow=74,SNR=12								
LL02	**Futaleuf**	**80.35**	**134**	P		**P**		**04 25 08.0**	**+1.9**
LL02				IAmb		IAmb		04 25 09.3	
	comp=Z,16nm,0.8s								
H03N3	**Juan Fernandez**	**80.46**	**123**	T		T		05 55 02.0	
	baz=241,slow=74,SNR=6.1								
H03N2	**Juan Fernandez**	**80.46**	**123**	T		T		05 55 03.4	
	baz=241,slow=74,SNR=7.3								
H03N1	**Juan Fernandez**	**80.48**	**123**	T		T		05 55 03.4	
	baz=241,slow=74,SNR=11								
LR05	**Currie**	**81.81**	**132**	P		**P**		**04 25 15.4**	**+1.4**
QZH	**Quanzhou**	**82.13**	**304**	⇑*i*P		**P**		**04 25 12.0**	**-3.7**
QZH				S		**SKSac**		**04 35 30.6**	**-2.7**
QZH				pmax		pmax			
	comp=Z,210nm,7.2s								
QZH				LR		LR			
	comp=Z,1μm,19.6s								
QZH	

MDJ pmax pmax
comp=E,250nm,6.2s
WHN Wuhan 88.48 307 P **P** **04 25 47.6 +0.3**
WHN sP **pP** **04 25 58.3 0.0**
WHN pmax pmax
comp=E,620nm,4.8s
DUN6 Lazy B Ranch 89.45 52 P **P** **04 25 54.7 +2.7**
U15A North Rim 89.67 47 P **P** **04 25 56.0 +2.8**
U15A IAmb IAmb 04 26 09.4
comp=Z,14nm,1.2s
GRNR Gornyy 89.98 333⇑ *i*P **P** **04 25 53.1 -0.8**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
TIA Tai'an 90.00 313 *e*P **P** **04 25 54.1 -0.3**
TIA S **S** **04 36 35.5 -8.9**
TIA pmax pmax
comp=Z,110nm,10.6s
TIA LR LR
comp=Z,130nm,21.4s
TIA LR LR
comp=Z,120nm,19.8s
TIA LR LR
comp=Z,260nm,25.0s
CN2 Changchun 90.01 322 *e*P **P** **04 25 53.0 -1.2**
CN2 *e*S **S** **04 36 43.7 -0.4**
CN2 pmax pmax
comp=Z,20nm,1.4s
BNX BinXian 90.34 325⇑P **P** **04 25 54.8 -0.8**
BNX pmax pmax
comp=Z,16nm,1.3s
BNX pmax pmax
comp=Z,140nm,5.5s
KLR Kul'dur 90.79 329 LR LR 05 02 27.9
comp=Z,249nm,20.8s,baz=151,slow=33
KLR Kul'dur 90.79 329*ce*P **P** **04 25 55.6 -2.1**
KLR pmax pmax
comp=Z,22nm,1.7s
TXAR Lajitas Array 91.44 57 P **P** **04 26 00.7 -0.6**
comp=Z,1.1nm,1.0s,baz=203,slow=5.4,SNR=5.8
TXAR LR LR 04 57 38.8
comp=Z,161nm,21.5s,baz=240,slow=29
comp=Z,1.1nm,1.0s
CMIG Matias Romero 91.89 72 LR LR 04 57 01.8
comp=Z,191nm,21.8s,baz=238,slow=29
LYN LuoYang 92.09 309 *e*P P 04 26 09.9 +5.8
LYN pmax pmax
comp=Z,11nm,0.8s
LYN pmax pmax
comp=Z,200nm,4.4s
LYN LR LR
comp=Z,600nm,18.3s
LYN LR LR
comp=Z,470nm,13.3s
LYN LR LR
comp=Z,770nm,13.0s
HNS HongShan 92.27 312⇓P **P** **04 26 04.3 -0.5**
HNS SKS **SKSac** **04 36 36.7 +1.8**
HNS S **S** **04 37 00.0 -4.9**
HNS pmax pmax
comp=Z,180nm,10.2s
HNS LR LR
comp=Z,260nm,20.7s
HNS LR LR
comp=Z,210nm,19.1s
HNS LR LR
comp=Z,420nm,20.6s
SRU San Rafael Swe 92.41 46 P **P** **04 26 08.9 +3.2**
SRU IAmb IAmb 04 26 21.0
comp=Z,10nm,1.4s
SRU San Rafael Swe 92.41 46 P **P** **04 26 08.9 +3.2**
SRU pmax pmax
comp=Z,10.0nm,1.4s
ANMO Albuquerque 92.62 51 *i* P **P** **04 26 10.2 +3.4**
ANMO pmax pmax
comp=Z,5.0nm,1.4s
MA2 Magadan 92.81 344 LR LR 05 03 31.7
comp=Z,148nm,20.6s,baz=152,slow=33
MA2 Magadan 92.81 344*ce*P **P** **04 26 07.1 +0.3**
MA2 pmax pmax
comp=Z,6.0nm,1.1s
NNA Nana 92.95 105 LR LR 04 57 52.4
comp=Z,201nm,21.2s,baz=233,slow=29
BSUT Blindstream Ca 93.12 44 P **P** **04 26 12.7 +3.5**
BSUT IAmb IAmb 04 26 24.4
comp=Z,15nm,1.8s
HEH HeiHe 93.48 328 *e*P **P** **04 26 08.9 -1.2**
HEH pmax pmax
comp=Z,8.0nm,0.9s
HEH LR LR
comp=Z,200nm,21.4s
HEH LR LR
comp=Z,250nm,21.2s
HEH LR LR
comp=Z,410nm,19.0s
LVC Limon Verde 93.67 118 LR LR 04 58 45.3
comp=Z,266nm,20.9s,baz=230,slow=29
CMAR Chiang Mai Arr 93.82 289 LR LR 05 08 16.2
comp=Z,116nm,21.3s,baz=120,slow=35
TTA Tatalina 93.87 10 P **P** **04 26 11.0 -0.7**
TIY Taiyuan 93.92 312 P P 04 26 17.2 +4.6
TIY pmax pmax
comp=Z,130nm,6.9s
TIY LR LR
comp=Z,440nm,13.7s
TIY LR LR
comp=Z,470nm,16.5s
TIY LR LR
comp=Z,370nm,15.8s
ATAH Atahualpa 94.10 101 LR LR 04 58 54.8
comp=Z,329nm,21.9s,baz=240,slow=29
NEW Newport 94.42 36 LR LR 05 05 35.9
comp=Z,471nm,18.0s,baz=228,slow=34
APG El Apazote 94.54 75 LR LR 04 58 43.1
comp=Z,17nm,21.7s,baz=258,slow=29
IMW Indian Meadow 95.03 42 P **P** **04 26 20.3 +2.5**
IMW IAmb IAmb 04 26 30.6
comp=Z,13nm,1.9s
PDAR Pinedale Array 95.17 43 P **P** **04 26 16.4 -2.0**
comp=Z,0.6nm,1.0s,baz=229,slow=5.5,SNR=4.0
PDAR PKKPbc **PKKPbc** **04 43 12.3 -1.0**
comp=Z,0.3nm,0.6s,baz=66,slow=3.6,SNR=4.2
PDAR LR LR 05 05 58.0
comp=Z,412nm,18.0s,baz=238,slow=34
comp=Z,0.6nm,1.0s
XLT XiLinHaoTe 95.28 318 *e*P **P** **04 26 21.6 +3.0**
XLT pP pP 04 26 25.7 -4.0
XLT sP sP 04 26 28.1 -5.7
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,90nm,4.6s
XLT LR LR
comp=Z,250nm,16.6s
XLT LR LR
comp=Z,260nm,20.4s
SEY Seymchan 95.47 347 LR LR 05 05 09.6
comp=Z,248nm,20.0s,baz=152,slow=33
SEY Seymchan 95.47 347*ce*P **P** **04 26 17.4 -1.5**
SEY pmax pmax
comp=Z,8.0nm,1.3s
RND Reindeer 95.50 12 P **P** **04 26 18.1 -1.0**
PZH PanZhiHua 95.59 297 P **P** **04 26 22.6 +2.0**
PZH S **S** **04 37 38.4 +3.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.7s
PZH LR LR
comp=Z,140nm,17.7s
PZH LR LR
comp=Z,140nm,17.2s
PZH LR LR
comp=Z,230nm,20.6s
ZEA Zeya 95.98 330 *e*P **P** **04 26 20.5 -1.0**
DLBC Dease Lake 96.22 23 LR LR 05 00 58.5
comp=Z,238nm,21.9s,baz=250,slow=30
HHC Hu-ho-hao-te 96.25 314 *e*P **P** **04 26 25.1 +1.9**
HHC pP pP 04 26 33.4 -0.8
HHC SKS **SKSac** **04 36 58.9 +2.3**
HHC S **ScS** **04 37 40.2 -0.3**
HHC sS pS 04 37 56.1 +1.9
HHC pmax pmax
comp=Z,12nm,0.7s
HHC pmax pmax
comp=Z,130nm,5.2s
HHC LR LR
comp=Z,260nm,17.6s
HHC LR LR
comp=Z,330nm,19.9s
HHC LR LR
comp=Z,520nm,16.8s
CD2 Chengdu 96.30 302 *e*P **P** **04 26 25.0 +1.4**
JTS Las Juntas de 96.97 82 LR LR 04 59 35.4
comp=Z,343nm,21.4s,baz=258,slow=29
BTO Baotou 97.09 313 *e*P Pdif 04 26 30.4 +3.3
BTO pP pP 04 26 35.8 -2.2
BTO sP sP 04 26 39.4 -2.8
BTO PP **PP** **04 30 28.9 +5.2**
BTO S S 04 37 56.3 +9.1
BTO pmax pmax
comp=Z,9.0nm,0.5s
BTO pmax pmax
comp=Z,190nm,4.2s
BTO LR LR
comp=Z,270nm,20.0s
BTO LR LR
comp=Z,280nm,14.9s
BTO LR LR
comp=Z,370nm,19.0s
ILAR Eielson Array 97.11 13 P **P** **04 26 23.4 -2.9**
comp=Z,1.2nm,1.0s,baz=223,slow=4.9,SNR=8.8
ILAR LR LR 05 08 23.6
comp=Z,108nm,18.1s,baz=186,slow=34
comp=Z,1.2nm,1.0s
LPAZ La Paz 97.80 114 LR LR 05 02 35.0
comp=Z,203nm,21.3s,baz=232,slow=30
BILL Bilibino 98.23 354 *i* P Pdif 04 26 34.7 +3.4
BILL pmax pmax
comp=Z,11nm,2.2s
LZH Lanzhou 98.86 306 *e*P Pdif 04 26 37.0 +1.9
LZH SKS **SKSac** **04 37 12.9 +2.6**
LZH pmax pmax
comp=Z,12nm,1.0s
LZH LR LR
comp=Z,440nm,16.0s
LZH LR LR
comp=Z,200nm,16.5s
LZH LR LR
comp=Z,480nm,16.5s
TEIG Tepich 98.88 72 LR LR 05 02 41.7
comp=Z,906nm,21.3s,slow=30
YKA Yellowknife Ar 104.53 25 PKKPbc PKKPbc 04 42 46.0 -0.7
comp=Z,0.3nm,0.8s,baz=29,slow=3.1,SNR=5.3
WMQ Urumqi 113.34 308 *e*PKP **PKiKP** **04 31 33.2 +0.8**
WMQ LR LR
comp=Z,290nm,24.0s
MK31 Makanchi Array 117.85 310*c i*PKIKP **PKiKP** **04 31 42.0 +1.0**
MKAR Makanchi Array 117.85 310 PKPdf **PKiKP** **04 31 41.5 +0.6**
MKAR Makanchi Array 117.85 310 PKP **PKPdf** **04 31 38.8 -2.2**
comp=Z,0.8nm,0.5s,baz=93,slow=2.4,SNR=6.4
MKAR Makanchi Array 117.85 310*c i*PKIKP **PKPdf** **04 31 39.5 -1.5**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 117.97 318 PKP **PKPdf** **04 31 38.5 -2.4**
comp=Z,0.4nm,0.4s,baz=90,slow=1.5,SNR=4.2
BOSA Boshof 118.16 202 PKP **PKPdf** **04 31 41.6 -0.8**
comp=Z,2.8nm,1.0s,baz=99,slow=4.2,SNR=2.4
KURK Kurchatov 121.06 314*c i*PKIKP **PKPdf** **04 31 46.4 -0.5**
KURK pmax pmax
comp=Z,5.0nm,1.0s
KURBB Kurchatov Arra 121.10 314 PKP **PKPdf** **04 31 44.9 -2.2**
comp=Z,2.0nm,0.7s,baz=107,slow=2.0,SNR=13
BVAR Borovoye Array 126.39 316 PKP **PKPdf** **04 31 55.6 -1.5**
comp=Z,3.7nm,0.8s,baz=112,slow=1.6,SNR=12
BRVK Borovoye 126.45 316*c i*PKIKP **PKiKP** **04 31 57.2 -0.5**
BRVK pmax pmax
comp=Z,5.0nm,1.0s
SPITS Spitsbergen Ar 131.06 356 PKP **PKPdf** **04 32 04.0 -1.4**
comp=Z,6.8nm,1.1s,baz=330,slow=9.7,SNR=14
ARU Arti 132.99 321 *i* PKIKP **PKiKP** **04 32 10.0 -0.7**
ARU 04 34 33.2
ARU MLR MLR
comp=Z,457nm,21.0s
KIRV Kirov 137.14 326 *i* PKIKP **PKiKP** **04 32 18.2 -0.8**
H10S3 ASCENSION HYDR 138.05 154 T T 07 07 48.3
baz=15,slow=74,SNR=5.8
H10S2 ASCENSION HYDR 138.05 154 T T 07 07 40.9
baz=205,slow=74,SNR=3.4
ARCES ARCESS Array B 138.06 348 PKhKP PKPpre 04 32 06.7
comp=Z,0.9nm,0.6s,baz=29,slow=2.8,SNR=6.8
ARCES PKP **PKPdf** **04 32 17.1 -1.6**
comp=Z,2.2nm,0.7s,baz=28,slow=1.0,SNR=7.8
H10N3 ASCENSION HYDR 139.13 153 T T 07 08 38.3
baz=203,slow=75,SNR=11
H10N1 ASCENSION HYDR 139.13 153 T T 07 08 37.4
baz=203,slow=75,SNR=14
H10N2 ASCENSION HYDR 139.14 153 T T 07 08 41.2
baz=203,slow=75,SNR=12
KLMR Klimovskoe 140.47 333 *e*PKIKP **PKPdf** **04 32 19.6 -3.6**
KLMR pmax pmax
comp=Z,8.0nm,0.8s
GROC Groznyy 143.28 303 *e*PKIKP PKPbc 04 32 26.0 0.0
GROC *e* 04 35 37.2
GROC pmax pmax
comp=Z,47nm,1.5s
VRH Novokhopyorsk 144.00 318 *e*PKIKP **PKPab** **04 32 26.2 -1.0**
VRH pmax pmax
comp=Z,6.0nm,0.4s
MOS Moscow 144.15 327 *i* PKHKP PKPpre 04 32 25.1
GNI Garni 144.35 298 PKPdf PKPbc 04 32 29.7 +0.2
GNI Garni 144.35 298 *i* PKIKP **PKPab** **04 32 28.1 -1.1**
FINES FINESS Array B 144.73 341 PKP **PKPab** **04 32 27.4 -2.3**
comp=Z,11nm,0.7s,baz=70,slow=3.1,SNR=68
OBN Obninsk 144.99 326 *i* PKIKP **PKPbc** **04 32 28.2 -2.6**
OBN *i* 04 32 43.9
OBN pmax pmax
comp=Z,24nm,1.1s
LPSR Galich'ya Gora 145.01 321 *e*PKIKP **PKPbc** **04 32 29.2 -1.7**
LPSR pmax pmax
comp=Z,50nm,1.5s
ONI Oni 145.06 303 **PKPbc** **04 32 31.2 -0.4**
ONI Oni 145.06 303 PKIKP **PKPbc** **04 32 31.2 -0.4**
VORR Voronezh 145.26 320 *e*PKIKP **PKPbc** **04 32 31.1 -0.7**
VORR pmax pmax
comp=Z,37nm,1.2s
KBZ Khabaz 145.28 305 PKPbc **PKPbc** **04 32 30.1 -1.9**
comp=Z,8.9nm,0.7s,baz=71,slow=3.7,SNR=20
KBZ Khabaz 145.28 305*c i*PKIKP **PKPbc** **04 32 31.1 -1.0**
KIV Kislovodsk 145.39 305 *i* PKIKP **PKPdf** **04 32 31.9 -0.7**
KIV pmax pmax
comp=Z,25nm,1.1s
SHA1 Shidzhatmaz 145.46 305*c i*PKIKP **PKPab** **04 32 33.0 -0.2**
VSR Storozhevoye 145.48 319 *e*PKHKP PKPpre 04 32 28.1
VSR pmax pmax
comp=Z,60nm,1.4s
VORD Divnogorie 145.51 318 *e*PKHKP PKPpre 04 32 28.6
VORD pmax pmax
comp=Z,20nm,0.8s
KARS Kars 145.58 299 **PKPab** **04 32 33.8 +0.1**
KARS Kars 145.58 299 PKIKP **PKPab** **04 32 33.8 +0.1**
ERBR Yeremizino-Bor 146.53 309 *e*PKP2 **PKPbc** **04 32 35.6 -0.3**
ERBR pmax pmax
comp=Z,297nm,1.5s
GURO Guroymak-BITLI 146.54 296 **PKPbc** **04 32 35.7 -0.7**
LABN Labinsk 146.63 307 *e*PKP2 **PKPbc** **04 32 35.1 -1.1**
LABN pmax pmax
comp=Z,24nm,0.4s
VSU Vasula 146.87 337 *i* PKP2 **PKPbc** **04 32 35.8 -0.6**
SOC Sochi 147.58 305 *e*PKIKP **PKPdf** **04 32 35.8 -0.4**
SOC *e* 04 36 09.8
SOC pmax pmax
comp=Z,12nm,0.5s
NC303 NORSAR Array S 147.97 352 **PKPdf** **04 32 37.4 +1.1**
KTUT Trabzon 148.03 301⇑P **PKPbc** **04 32 40.6 +0.4**
NC405 NORSAR Array S 148.04 352 **PKPbc** **04 32 38.6 -1.0**
NB201 NORSAR Array S 148.15 352 **PKPdf** **04 32 37.5 +0.9**
NB2 NORSAR Subarra 148.17 352 PKP **PKPdf** **04 32 37.5 +0.8**
comp=Z,36nm,1.4s,baz=13,slow=4.4
NOA NORSAR Array B 148.17 352 PKPbc **PKPdf** **04 32 37.2 +0.5**
comp=Z,4.3nm,1.1s,baz=27,slow=1.3,SNR=8.3
HFS Hagfors 148.70 349 PKPbc **PKPdf** **04 32 38.9 +1.4**
comp=Z,5.2nm,0.6s,baz=79,slow=3.1,SNR=5.4
ANN Anapa 148.85 309 *e*PKIKP **PKPdf** **04 32 38.4 +0.2**
MNK Minsk 149.32 331 *i* PKP2 **PKPbc** **04 32 42.0 -1.0**
MNK *i* 04 36 17.0
MNK *i* 04 39 41.8
MNK *i* SS SS 04 55 24.8 -0.3
MNK *i* SSS SSS 05 01 03.1
MNK pmax pmax
comp=E,8.0nm,1.0s
MNK pmax pmax
comp=Z,26nm,0.9s
MNK pmax pmax
comp=N,15nm,0.9s
MNK MLR MLR
comp=N,215nm,20.0s
MNK MLR MLR
comp=Z,267nm,20.0s
MNK MLR MLR
comp=E,107nm,20.0s
GAZ Gaziantep 150.44 294 **PKiKP** **04 32 46.7 -0.5**
SIM Simferopol' 151.03 310 *i* PKIKP **PKPdf** **04 32 43.0 +1.3**
SIM pmax pmax
comp=Z,30nm,0.8s
AKASG Malin Array Be 151.16 324 PKPbc **PKPbc** **04 32 46.1 -1.5**
comp=Z,8.3nm,0.7s,baz=44,slow=2.9,SNR=16
AKBB Malin Array Si 151.16 324 PKPdf **PKPbc** **04 32 45.6 -2.0**
AKBB Malin Array Si 151.16 324 PKIKP **PKPbc** **04 32 45.6 -2.0**
KIEV Kiev 151.17 324⇓P **PKPbc** **04 32 46.2 -1.4**
KIEV Kiev 151.17 324 PKPdf **PKPbc** **04 32 45.6 -2.0**
KIEV Kiev 151.17 324 PKIKP **PKPbc** **04 32 45.6 -2.0**
BORU Boraas 151.23 349 *i* P **PKPbc** **04 32 44.9 -2.7**
BNN Bunyan 151.33 297 **PKPbc** **04 32 45.4 -3.2**
FABU Falkenberg 151.84 348 *i* P **PKPbc** **04 32 46.3 -2.6**
BLEU Blekinge 151.86 345 *i* P **PKPbc** **04 32 46.3 -2.7**
MMAI Mount Meron Ar 152.01 285 PKPbc **PKiKP** **04 32 50.5 -0.1**
comp=Z,12nm,0.6s,baz=78,slow=4.4,SNR=16
DEL Delary 152.13 347 *i* P **PKPbc** **04 32 47.7 -1.9**
BRTR Keskin Array B 152.86 300 PKPbc **PKPbc** **04 32 50.8 -1.2**
comp=Z,3.2nm,0.7s,baz=131,slow=3.5,SNR=23
SORM Soroca 153.10 320⇓P **PKiKP** **04 32 53.4 +1.2**
ANTO Ankara 153.46 301 PKPdf **PKPdf** **04 32 47.3 +1.7**
ANTO Ankara 153.46 301 PKIKP **PKPdf** **04 32 47.3 +1.7**
EKA Eskdalemuir Ar 154.04 8 PKPab **PKPab** **04 33 04.2 -3.2**
comp=Z,1.5nm,0.6s,baz=329,slow=2.8,SNR=7.2
MDUB Mudurnu 154.50 303 PKPdf **PKPdf** **04 32 48.8 +1.8**
TPGR Topolog 154.75 314⇓P **PKPab** **04 33 10.0 -0.9**
CFR Carcaliu 154.78 315⇑P **PKPab** **04 33 03.7 -7.2**
TESR Tescani 154.97 319⇓P **PKPab** **04 33 10.1 -1.6**
BURAR Bucovina Array 155.12 322⇑P PKPab 04 33 00.6 -12
VRI Vrincioaia 155.28 317⇓P **PKPab** **04 33 13.5 +0.4**
VRI Vrincioaia 155.28 317⇓PKP2 **PKPab** **04 33 13.5 +0.4**
PLOR Plostina 155.33 317⇓P **PKPab** **04 33 13.5 +0.2**
PLOR Plostina 155.33 317⇓PKP2 **PKPab** **04 33 13.5 +0.2**
TURR Turia 155.59 318⇑P **PKPab** **04 33 14.2 -0.2**
OZUR 155.70 319⇓P **PKPab** **04 33 15.3 +0.4**
KOLS Kolonicke sedl 155.72 328 *e*PKP **PKPab** **04 33 14.8 0.0**
KOLS Kolonicke sedl 155.72 328 *e*PKP2 **PKPab** **04 33 14.8 0.0**
ARCR ARCALIA 155.91 322⇓P **PKPab** **04 33 16.2 +0.5**
DBIC Dimbokro 155.97 161 PKPab **PKPab** **04 33 17.5 +0.8**
comp=Z,4.0nm,0.9s,baz=176,slow=1.6,SNR=3.1
DOPR Dopca 156.00 319⇑P PKPab 04 33 03.7 -12
CRVS Cervenica-Dubn 156.11 329 *e*PKP **PKPab** **04 33 15.4 -1.1**
CRVS Cervenica-Dubn 156.11 329 *e*PKP2 **PKPab** **04 33 15.4 -1.1**
VOIR 156.50 318⇓P **PKPab** **04 33 18.6 +0.2**
MARR Marisel-Cluj 156.82 323⇓P **PKPab** **04 33 13.1 -6.7**
OSTC Ostas 156.86 338 AMS AMS 05 41 10.0
comp=Z,300nm,20.4s
CHVC Chvalec 156.88 338 *e*PKPAB **PKPab** **04 33 19.3 -0.5**
CHVC AMS AMS 05 45 20.0
comp=Z,300nm,18.5s
CHVC Chvalec 156.88 338 *e*PKP2 **PKPab** **04 33 19.3 -0.5**
CHVC MLR MLR
comp=Z,300nm,18.5s
UPC Upice 156.97 338 AMS AMS 05 45 30.0
comp=Z,300nm,22.1s
DPC Dobruska-Polom 157.00 337 *e*PKPAB **PKPab** **04 33 16.2 -4.1**
DPC AMS AMS 05 41 20.0
comp=Z,300nm,22.2s
DPC Dobruska-Polom 157.00 337 *e*PKP2 **PKPab** **04 33 16.2 -4.1**
DPC MLR MLR
comp=Z,300nm,22.2s
MORC Moravsky Berou 157.05 335⇑P PKPab 04 33 10.7 -10
MORC Moravsky Berou 157.05 335 *e*PKP **PKPab** **04 33 19.4 -1.1**
CLL Collm 157.12 343 *i* PKPab **PKPab** **04 33 16.6 -4.1**
comp=Z,11nm,1.1s
CLL *i* pPKPab **pPKPab** **04 33 23.5 -8.2**
comp=Z,16nm,1.5s
CLL *ex* x 04 33 32.0
CLL AMS AMS 05 44 00.0
comp=Z,300nm,21.4s
CLL Collm 157.12 343 *i* PKP2 **PKPab** **04 33 16.6 -4.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s
CLL MLR MLR
comp=Z,300nm,21.4s
BRG Berggiesshubel 157.26 342 *e*PKP **PKPab** **04 33 15.8 -5.6**
BRG Amp 04 33 21.9
comp=Z,5.1nm,0.9s
BRG Amp 04 46 06.0
comp=Z,0.3nm,26.7s
BRG Berggiesshubel 157.26 342 *e*PKP2 **PKPab** **04 33 15.7 -5.6**
BRG pmax pmax
comp=Z,5.0nm,0.9s
ELND Elena 157.28 312⇓P **PKPab** **04 33 20.8 -1.0**
PVCC Panska Ves 157.39 340 AMS AMS 05 45 50.0
comp=Z,300nm,21.1s
PSZ Piszkesteto 157.54 329⇓P **PKPab** **04 33 22.3 -0.5**
VYHS Vyhne 157.57 331 *e*PKP **PKPab** **04 33 21.9 -0.9**
VYHS Vyhne 157.57 331 *e*PKP2 **PKPab** **04 33 21.9 -0.9**
HSKC Hora Svate Kat 157.64 342 AMS AMS 05 48 40.0
comp=Z,300nm,23.3s
JAVC Velka Javorina 157.75 333 *e*PKP **PKPab** **04 33 23.6 0.0**
VRAC Vranov 157.78 336⇓P **PKPab** **04 33 23.7 +0.1**
VRAC Vranov 157.78 336 *e*PKP **PKPab** **04 33 22.6 -1.1**
PRA Prague 157.84 340 AMS AMS 05 41 30.0
comp=Z,300nm,22.2s
PRU Pruhonice 157.88 340 AMS AMS 05 56 20.0
comp=Z,300nm,21.1s
SURR Surduc 157.94 322⇓P **PKPab** **04 33 24.2 -0.3**
KRUC Moravsky 158.06 336 *e*PKP **PKPab** **04 33 23.7 -1.2**
SMOL Smolenice 158.12 333 *e*PKP2 **PKPab** **04 33 25.6 +0.4**
NKC Novy Kostel 158.24 343 AMS AMS 05 45 00.0
comp=Z,300nm,15.1s
MODS Modra-Piesok 158.30 333 *e*PKP **PKPab** **04 33 25.5 -0.4**
MODS Modra-Piesok 158.30 333 *e*PKP2 **PKPab** **04 33 25.5 -0.4**
HERR Herculane 158.33 320⇓P **PKPab** **04 33 25.8 -0.4**
BLKB Belogradchik 158.92 317⇓P **PKPab** **04 33 29.0 +0.1**
KHC Kasperske Hory 158.93 340 *e*PKPAB **PKPab** **04 33 26.9 -1.8**
KHC AMS AMS 05 56 30.0
comp=Z,300nm,23.4s
KHC Kasperske Hory 158.93 340 *e*PKP2 **PKPab** **04 33 26.9 -1.8**
KHC MLR MLR
comp=Z,300nm,23.4s
CKRC Cesky Krumlov 158.98 338 AMS AMS 05 49 10.0
comp=Z,200nm,17.0s
GERES GERESS Array B 159.15 339 PKPab **PKPab** **04 33 27.9 -1.8**
comp=Z,1.3nm,0.7s,baz=46,slow=5.8,SNR=6.4
CONA Conrad Observa 159.21 335 *i* PKP **PKPab** **04 33 29.4 -0.6**
comp=Z,14nm,1.2s,SNR=6.0
RONA Rosalia, Austr 159.23 334 *i* PKP **PKPab** **04 33 29.5 -0.6**
comp=Z,16nm,1.3s,SNR=8.4
MORH Mrgy, Hungar 159.38 327⇓P **PKPdf** **04 32 52.7 -0.2**
FRGS Fruska Gora 159.56 324⇓P **PKPab** **04 33 31.1 -0.5**
MOA Molln 159.84 337 *e*PKP **PKPab** **04 33 31.8 -0.8**
comp=Z,12nm,1.2s,SNR=7.7
ARSA Arzberg 159.90 334 *i* PKP **PKPab** **04 33 32.1 -0.9**
comp=Z,10nm,1.7s
BIOA Bad Ischl, Aus 160.19 338 *i* PKP **PKPab** **04 33 33.3 -0.9**
comp=Z,25nm,1.4s,SNR=8.7
SOKA Soboth 160.56 334 *i* PKP **PKPab** **04 33 34.5 -1.4**
comp=Z,13nm,1.2s
LESA Schwarzleotal 160.73 339 *e*PKP **PKPab** **04 33 35.5 -1.0**
comp=Z,22nm,1.4s
KBA Koelnbreinsper 160.82 338 *i* PKP **PKPab** **04 33 35.9 -1.2**
comp=Z,7.7nm,1.9s
OBKA Obir 160.88 335 *i* PKP **PKPab** **04 33 36.8 -0.5**
comp=Z,7.1nm,1.7s
MYKA Terra Mystica 161.11 336 *i* PKP **PKPab** **04 33 36.4 -1.9**
comp=Z,5.2nm,0.6s
WATA Walderalm 161.13 341 *i* PKP **PKPab** **04 33 37.1 -1.3**
comp=Z,17nm,1.3s
WTTA Wattenberg 161.18 341 *i* PKP **PKPab** **04 33 37.6 -1.1**
comp=Z,8.8nm,0.9s
RETA Reutte 161.21 343 *i* PKP **PKPab** **04 33 38.8 +0.2**
comp=Z,7.2nm,1.1s
MOTA Moosalm 161.25 342 *i* PKP **PKPab** **04 33 37.8 -1.2**
comp=Z,9.5nm,1.4s
SQTA Sankt Quirin 161.34 342 *i* PKP **PKPab** **04 33 38.1 -1.2**
comp=Z,7.8nm,1.1s
ABTA Abfaltersbach 161.38 339 *e*PKP **PKPab** **04 33 37.5 -2.0**
comp=Z,12nm,1.1s,SNR=5.5
DAVA Damuels 161.61 345 *i* PKP **PKPab** **04 33 39.0 -1.5**
comp=Z,6.0nm,1.3s
FETA Feichten 161.65 343 *i* PKP **PKPab** **04 33 39.5 -1.2**
comp=Z,12nm,1.5s

PDG	**Podgorica**	**161.65**	**318**	⇓P		**PKPab**	**04 33 40.4**	**-0.3**
TOA0	**Torodi Ar. Sit**	**163.49**	**176**			**PKPdf**	**04 32 58.7**	**+0.5**
TORD	**Torodi Ar. Bea**	**163.49**	**176**			**PKPdf**	**04 32 58.1**	**-0.1**
TORD	**Torodi Ar. Bea**	**163.49**	**176**	PKP		**PKPdf**	**04 32 57.3**	**-0.9**
	comp=Z,3.2nm,1.2s,baz=197,slow=1.5,SNR=8.8							
TORD				PKPab		**PKPab**	**04 33 49.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=181,slow=4.0,SNR=1.9							
ESDC	**Sonseca Array**	**168.62**	**27**			**PKPdf**	**04 33 01.6**	**0.0**
ESDC	**Sonseca Array**	**168.62**	**27**	PKP		**PKPdf**	**04 33 01.3**	**-0.3**
	comp=Z,1.0nm,1.1s,baz=318,slow=4.0,SNR=4.8							
ESDC				PKPab		**PKPab**	**04 34 08.0**	**-3.5**
	comp=Z,0.3nm,0.3s,baz=306,slow=4.3,SNR=2.2							
TAM	**Tamanrasset**	**172.68**	**200**			**PKPdf**	**04 33 04.9**	**+0.5**
TAM	**Tamanrasset**	**172.68**	**200**	PKIKP		**PKPdf**	**04 33 04.9**	**+0.5**

TIR ***01*** *04:14:49.0,42°.35N×19°.31E,h27km±1km, Md2.7, Ml3.0*
PDG ***01*** *04:14:50.9±0.1,42°.41N×19°.40E,h21km, MD2.7/7, ML2.6/13, Error ellipse: s-maj=0.0km s-min=0.1km az=0.0*
BEO ***01*** *04:14:51.4±0.3,42°.42N×19°.46E,h9km,2km, ML2.4/13*
RHSSO ***01*** *04:14:51.3±0.4,42°.39N×19°.48E,h9km,1km, ML2.6/15*

ISC 01 04:14:50.2±0.9,42°.39N±0°.02×19°.50E±0°.02,h14km±6km, n67,σ1°9/122,12C-8D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
PDG	**Podgorica**	**0.18**	**282**	*e*Pg	**Pb**	**04**	**14**	**54.7**	**-0.7**
PDG				*e*Sg	**Sg**	**04**	**14**	**58.0**	**+0.7**
PDG	**Podgorica**	**0.18**	**282**	*e*Pg	**Pb**	**04**	**14**	**55.0**	**-0.4**
PDG				*e*Sg	**Sg**	**04**	**14**	**58.2**	**+0.9**
PDG	**Podgorica**	**0.18**	**282**	⇓*i*Pg	**Pb**	**04**	**14**	**55.0**	**-0.4**
PDG				*i* Sg	**Sg**	**04**	**14**	**58.2**	**+0.9**
DRME	**Dracevica, Mon**	**0.31**	**228**	⇓*i*Pg	**Pb**	**04**	**14**	**56.9**	**-0.6**
DRME				*e*Sg	**Sb**	**04**	**15**	**02.7**	**+0.2**
DRME	**Dracevica, Mon**	**0.31**	**228**	⇑*i*Pg	**Pb**	**04**	**14**	**57.0**	**-0.6**
DRME				*i* Sg	**Sb**	**04**	**15**	**02.3**	**-0.2**
PVY	**Plav**	**0.40**	**59**	⇓*i*Pg	**Pn**	**04**	**15**	**00.1**	**-1.6**
PVY				*i* Sg	**Sb**	**04**	**15**	**07.8**	**+2.6**
BCI	**Bajram Curri**	**0.42**	**93**	P	**Pn**	**04**	**15**	**00.5**	**-1.5**
	baz=88								
BCI				S	**Sb**	**04**	**15**	**08.2**	**+2.3**
	baz=88								
BCI				AMP					
	comp=E,7.7nm,0.3s,baz=88								
CEME	**Cevo**	**0.45**	**290**	⇑*i*Pg	**Pg**	**04**	**14**	**58.8**	**-0.5**
CEME				*i* Sg	**Sg**	**04**	**15**	**05.4**	**0.0**
BUM	**Brajici-Budva**	**0.46**	**259**	⇓*i*Pg	**Pg**	**04**	**14**	**58.9**	**-0.4**
BUM				*i* Sg	**Sg**	**04**	**15**	**05.6**	**+0.1**
KOME	**Kolasin**	**0.46**	**2**	⇓*i*Pg	**Pb**	**04**	**14**	**59.9**	**-0.3**
KOME				*i* Sg	**Sb**	**04**	**15**	**07.6**	**+0.7**
PUK	**Puka**	**0.46**	**140**	P	**Pb**	**04**	**15**	**00.9**	**+0.7**
	baz=124								
PUK				S	**Sb**	**04**	**15**	**08.6**	**+1.7**
	baz=124								
PUK				AMP					
	comp=E,4.4nm,0.2s,baz=124								
ULC	**Ulcinj**	**0.47**	**204**	⇑*i*Pg	**Pb**	**04**	**14**	**59.7**	**-0.6**
ULC				*i* Sg	**Sb**	**04**	**15**	**07.8**	**+0.7**
NKME	**Niksic**	**0.55**	**313**	⇑*i*Pg	**Pg**	**04**	**15**	**00.5**	**-0.6**
NKME				*i* Sg	**Sg**	**04**	**15**	**08.5**	**+0.1**
IVA	**Berane**	**0.56**	**31**	⇑*i*Pg	**Pb**	**04**	**15**	**02.4**	**+0.4**
IVA				*i* Sg	**Sn**	**04**	**15**	**12.1**	**-1.0**
HCY	**Herceg Novi**	**0.74**	**275**	*e*Pg	**Pg**	**04**	**15**	**03.9**	**-0.8**
HCY				*e*Sg	**Sb**	**04**	**15**	**15.0**	**0.0**
HCY	**Herceg Novi**	**0.74**	**275**	⇓*i*Pg	**Pg**	**04**	**15**	**03.7**	**-1.0**
HCY				*i* Sg	**Sg**	**04**	**15**	**14.6**	**+0.1**
BRY	**Bratogost**	**0.87**	**306**	*e*Pg	**Pg**	**04**	**15**	**05.9**	**-1.2**
BRY				*e*Sg	**Sb**	**04**	**15**	**19.3**	**+0.5**
BRY	**Bratogost**	**0.87**	**306**	⇑*i*Pg	**Pg**	**04**	**15**	**06.1**	**-1.0**
BRY				*i* Sg	**Sb**	**04**	**15**	**18.9**	**+0.1**
TREB	**Trebinje**	**0.91**	**291**	*e*Pg	**Pg**	**04**	**15**	**06.8**	**-1.0**
TREB				*e*Sg	**Sb**	**04**	**15**	**20.4**	**+0.7**
TREB	**Trebinje**	**0.91**	**291**	⇑*i*Pg	**Pg**	**04**	**15**	**06.9**	**-0.9**
TREB				*e*Sg	**Sb**	**04**	**15**	**20.0**	**+0.3**
UPM	**Unac-Piva**	**0.92**	**332**	*e*Pg	**Pn**	**04**	**15**	**08.3**	**-0.7**
UPM				*e*Sg	**Sn**	**04**	**15**	**21.4**	**-0.7**
UPM	**Unac-Piva**	**0.92**	**332**	⇑*i*Pg	**Pg**	**04**	**15**	**07.3**	**-0.8**
UPM				*i* Sg	**Sn**	**04**	**15**	**21.4**	**-0.7**
PLE	**Pljevlja**	**0.94**	**355**	⇓*i*Pg	**Pb**	**04**	**15**	**08.3**	**-0.1**
PLE				*i* Sg	**Sn**	**04**	**15**	**23.0**	**+0.5**
KLINJ	**Klinje**	**1.03**	**320**	*e*Pg	**Pn**	**04**	**15**	**09.9**	**-0.4**
KLINJ				*e*Sg	**Sn**	**04**	**15**	**24.1**	**-0.5**
DBRK	**Dubrovnik**	**1.03**	**286**	*i* Pg	**Pb**	**04**	**15**	**09.4**	**-0.6**
DBRK				Sg	**Sn**	**04**	**15**	**24.3**	**-0.4**
RUDO	**Rudo**	**1.23**	**356**	*e*Pg	**Pg**	**04**	**15**	**13.1**	**-0.8**
RUDO				*e*Sg	**Sn**	**04**	**15**	**30.5**	**+1.0**
NEVS	**Nevesinje**	**1.37**	**312**	*e*Pg	**Pg**	**04**	**15**	**16.1**	**-0.5**
NEVS				*e*Sg	**Sg**	**04**	**15**	**34.8**	**+0.5**
STON	**Ston**	**1.41**	**290**	*e*Pg	**Pn**	**04**	**15**	**15.5**	**0.0**
STON				*e*Sg	**Sg**	**04**	**15**	**36.0**	**+0.3**
STON	**Ston**	**1.41**	**290**	*e*Pn	**Pn**	**04**	**15**	**15.5**	**0.0**
STON				Sg	**Sg**	**04**	**15**	**34.9**	**-0.8**
STON	**Ston**	**1.41**	**290**	⇑*i*Pg	**Pn**	**04**	**15**	**15.4**	**0.0**
STON				*e*Sg	**Sg**	**04**	**15**	**35.9**	**+0.3**
SELS	**Selova**	**1.45**	**55**	*e*Pg	**Pg**	**04**	**15**	**18.2**	**0.0**
SELS				*e*Sg	**Sg**	**04**	**15**	**38.7**	**+1.6**
BBLS	**Lazi&#263i**	**1.47**	**357**	*e*Pg	**Pg**	**04**	**15**	**18.4**	**-0.2**
BBLS				*e*Sg	**Sb**	**04**	**15**	**36.3**	**+0.2**
BBLS	**Lazi&#263i**	**1.47**	**357**	⇑*i*Pg	**Pg**	**04**	**15**	**18.4**	**-0.2**
BBLS				*e*Sg	**Sg**	**04**	**15**	**38.1**	**+0.3**
HAPS	**Han Pijesak,Bl**	**1.74**	**347**	*e*Pg	**Pb**	**04**	**15**	**21.8**	**-0.3**
HAPS				*e*Sg	**Sg**	**04**	**15**	**45.1**	**-1.1**
HAPS	**Han Pijesak,Bl**	**1.74**	**347**	⇓*i*Pn	**Pb**	**04**	**15**	**21.7**	**-0.3**
HAPS				*e*Sn	**Sb**	**04**	**15**	**43.7**	**-0.1**
GRUS	**Gruza**	**1.74**	**30**	*e*Pn	**Pb**	**04**	**15**	**21.7**	**-0.3**
GRUS				*e*Sn	**Sg**	**04**	**15**	**44.4**	**-1.9**
DIVS	**Divibare**	**1.74**	**12**	*e*Pg	**Pb**	**04**	**15**	**21.4**	**-0.7**
DIVS				*e*Sg	**Sg**	**04**	**15**	**44.7**	**-1.7**
BARS	**Barje**	**1.76**	**75**	*e*Pn	**Pg**	**04**	**15**	**22.6**	**-1.5**
BARS				*e*Sn	**Sg**	**04**	**15**	**45.4**	**-1.6**
PRVS	**Prvonek**	**1.91**	**86**	*e*Pg	**Pb**	**04**	**15**	**24.8**	**-0.2**
PRVS				*e*Sg	**Sg**	**04**	**15**	**52.6**	**+0.8**
TRUS	**Trudelj**	**1.95**	**20**	*e*Pn	**Pb**	**04**	**15**	**24.2**	**-1.3**
TRUS				*e*Sn	**Sb**	**04**	**15**	**49.2**	**-0.5**
LSTV	**Lastovo**	**1.96**	**282**	*e*Pn	**Pn**	**04**	**15**	**23.7**	**+0.6**
LSTV				Sn	**Sn**	**04**	**15**	**48.1**	**+0.6**
MAKA	**Makarska**	**2.03**	**297**	*e*Pn	**Pb**	**04**	**15**	**25.6**	**-1.2**
RICI	**Ricice**	**2.06**	**303**	*e*Pn	**Pb**	**04**	**15**	**25.9**	**-1.4**
RICI				Sn	**Sb**	**04**	**15**	**54.1**	**+1.4**
FNA	**Florina**	**2.14**	**138**	P	**Pb**	**04**	**15**	**27.9**	**-0.9**
	baz=134								
FNA				S	**Sg**	**04**	**15**	**57.0**	**-2.0**
	baz=134								
FNA				AMP					
	comp=E,0.2nm,0.4s,baz=134								
TEKS	**Tekeris**	**2.16**	**1**	*e*Pn	**Pn**	**04**	**15**	**26.8**	**+1.0**
TEKS				*e*Sn	**Sb**	**04**	**15**	**53.8**	**-1.9**
HVAR	**Hvar**	**2.38**	**290**	*i* Pn	**Pn**	**04**	**15**	**30.0**	**+1.2**
SRKY	**Kupres RS**	**2.39**	**315**	*e*Pn	**Pb**	**04**	**15**	**31.3**	**-1.8**
SRKY				*e*Sn	**Sn**	**04**	**16**	**00.0**	**+1.8**
LSK	**Leskovik**	**2.39**	**159**	P	**Pn**	**04**	**15**	**30.2**	**+1.1**
	baz=155								
SCTE	**Santa Cesarea**	**2.44**	**199**	P	**Pn**	**04**	**15**	**29.8**	**+0.1**
	baz=196								
ZAGS	**Zajecar**	**2.46**	**54**	*e*Pn	**Pn**	**04**	**15**	**31.4**	**+1.5**
ZAPS	**Zavoj**	**2.47**	**68**	*e*Pn	**Pb**	**04**	**15**	**32.6**	**-1.9**
MGRS	**Mrkonjic Grad**	**2.68**	**320**	*e*Pn	**Pn**	**04**	**15**	**34.6**	**+1.6**
MGRS				*e*Sn	**Sn**	**04**	**16**	**06.5**	**+1.2**
FRGS	**Fruska Gora**	**2.77**	**5**	*e*Pn	**Pn**	**04**	**15**	**35.4**	**+1.1**
FRGS				*e*Sn	**Sn**	**04**	**16**	**08.3**	**+0.7**
FRGS	**Fruska Gora**	**2.77**	**5**	*e*Pn	**Pn**	**04**	**15**	**35.7**	**+1.4**
FRGS				*e*Sn	**Sn**	**04**	**16**	**09.2**	**+1.6**
SGRT	**San Giovanni R**	**2.87**	**258**	P	**Pn**	**04**	**15**	**35.2**	**-0.4**
	baz=259								
BLY	**Banja Luka**	**2.89**	**325**	⇑*i*Pn	**Pn**	**04**	**15**	**38.1**	**+2.2**
BLY				*e*Sn	**Sn**	**04**	**16**	**12.0**	**+1.5**
IGT	**Igoumenitsa**	**2.93**	**167**	P	**Pn**	**04**	**15**	**37.3**	**+0.9**
	baz=164								
A050A	**Klekovaca**	**3.00**	**315**	*e*Pn	**Pn**	**04**	**15**	**38.9**	**+1.4**
A050A				*e*Sn	**Sn**	**04**	**16**	**14.4**	**+1.0**
MORI	**Morici**	**3.14**	**299**	*e*Pn	**Pn**	**04**	**15**	**41.0**	**+1.7**
A051A	**Mrakovica**	**3.22**	**325**	⇑*i*Pn	**Pn**	**04**	**15**	**42.6**	**+2.1**
A051A				*e*Sn	**Sn**	**04**	**16**	**19.9**	**+1.2**
UDBI	**Udbina**	**3.45**	**309**	*i* Pn	**Pn**	**04**	**15**	**46.9**	**+3.2**
DUGI	**Dugi Otok**	**3.62**	**298**	*i* Pn	**Pn**	**04**	**15**	**47.1**	**+1.3**
VIRC	**Vir**	**3.75**	**302**	*e*Pn	**Pn**	**04**	**15**	**49.3**	**+1.6**
BOJS	**Bojanci**	**4.37**	**317**	*e*Pn	**Pn**	**04**	**15**	**57.7**	**+1.6**
BOJS				*e*Sn	**Sn**	**04**	**16**	**47.2**	**+0.4**
CRES	**Cresnjev**	**4.50**	**321**	*e*Pn	**Pn**	**04**	**15**	**59.6**	**+1.6**
CRES				*e*Sn	**Sn**	**04**	**16**	**50.5**	**+0.4**
CEY	**Cerknica**	**4.95**	**314**	*e*Pn	**Pn**	**04**	**16**	**04.8**	**+0.6**
CEY				*e*Sn	**Sn**	**04**	**17**	**00.8**	**-0.5**
SKDS	**Skadanscina**	**5.06**	**310**	*e*Pn	**Pn**	**04**	**16**	**06.4**	**+0.7**
SKDS				*e*Sn	**Sn**	**04**	**17**	**03.1**	**-0.8**

NEIC ***01*** *04:24:38.6±1.2,19°.40N±0°.01×155°.10W±0°.01,h6km±1km, Error ellipse: s-maj=2.1km s-min=1.3km az=151.0*
HVO 01 04:24:37.4±1.5,19°.39N±0°.02×155°.05W±0°.02,h2km±7km, ML2.6/15,**ML2.5**/38(NEIC),**Error ellipse: s-maj=2.9km s-min=1.4km az=136.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JCUZ	**Jacuzzi**	**0.05**	**261**		Pg	04	24	40.3	+1.8
NPOC	**North of Pu'u**	**0.06**	**271**		Pg	04	24	40.4	+1.9
NPOC	**North of Pu'u**	**0.06**	**271**	IAML		04	24	40.5	
	comp=E,14μm,0.5s								
NPOC				IAML		04	24	40.5	
	comp=N,7μm,0.4s								
JOKA	**Jonika Flow**	**0.06**	**46**		Pg	04	24	40.8	+2.1
STCH	**Steam Cracks**	**0.07**	**264**		Pg	04	24	40.8	+1.9
STCH	**Steam Cracks**	**0.07**	**264**	IAML		04	24	41.0	
	comp=N,3μm,0.5s								
STCH				IAML		04	24	41.2	
	comp=E,7μm,0.4s								
KNHH	**Kane Nui o Ham**	**0.11**	**264**		Pg	04	24	40.5	+0.8
PUH	**Pauahi**	**0.16**	**263**		Pg	04	24	41.1	+0.6
PUH					Sg	04	24	44.0	+1.4
PUH	**Pauahi**	**0.16**	**263**	IAML		04	24	45.3	
	comp=E,649nm,0.9s								
PUH				IAML		04	24	45.8	
	comp=N,1μm,0.8s								
BYL	**Byron's Ledge**	**0.20**	**276**	Pg	Pg	04	24	41.5	+0.2
BYL				IAML		04	24	47.6	
	comp=E,957nm,0.8s								
KKO	**Keanakako`i**	**0.20**	**272**		Pg	04	24	42.0	+0.6
KKO	**Keanakako`i**	**0.20**	**272**	IAML		04	24	47.4	
	comp=E,852nm,0.4s								
KKO				IAML		04	24	48.1	
	comp=N,1μm,0.7s								
SBLHI	**Steaming Bluff**	**0.21**	**280**	Pg	Pg	04	24	41.3	-0.1
SBLHI				IAML		04	24	47.6	
	comp=E,980nm,0.5s								
SBLHI				IAML		04	24	48.0	
	comp=N,1μm,0.3s								
RIM	**Rim**	**0.21**	**271**		Pg	04	24	42.1	+0.6
RIM	**Rim**	**0.21**	**271**	IAML		04	24	46.3	
	comp=N,993nm,1.0s								
RIM				IAML		04	24	48.2	
	comp=E,1μm,0.3s								
UWB	**Uwekahuna B**	**0.22**	**279**		Pg	04	24	41.5	-0.2
RSD	**Rainshed**	**0.23**	**288**		Pg	04	24	42.4	+0.5
RSD	**Rainshed**	**0.23**	**288**	IAML		04	24	48.6	
	comp=N,823nm,0.4s								
RSD				IAML		04	24	49.2	
	comp=E,850nm,3.2s								
SDHHI	**Sand Hill**	**0.23**	**269**	Pg	Pg	04	24	41.5	-0.3
SDHHI				IAML		04	24	47.8	
	comp=E,785nm,0.4s								
SDHHI				IAML		04	24	47.9	
	comp=N,1μm,0.3s								
UWE	**Uwekahuna**	**0.23**	**277**	Pg	Pg	04	24	41.8	-0.1
UWE				IAML		04	24	47.4	
	comp=E,1μm,0.5s								
UWE				IAML		04	24	48.8	
	comp=N,1μm,0.9s								
WRMHI	**West Rim**	**0.24**	**273**		Pg	04	24	41.4	-0.6
WRMHI				IAML		04	24	49.7	
	comp=N,1μm,1.1s								
HLP	**Hilina Pali**	**0.26**	**249**	Pg	Pg	04	24	42.1	-0.4
HLP				IAML		04	24	47.5	
	comp=N,598nm,1.8s								
MLH	**Mauna Loa**	**0.33**	**288**		Pg	04	24	44.7	+0.8
MLH	**Mauna Loa**	**0.33**	**288**	IAML		04	24	45.1	
	comp=N,385nm,3.4s								
MLH				IAML		04	24	52.9	
	comp=E,338nm,3.3s								
HTC	**Hot Caves**	**0.36**	**245**		Pb	04	24	45.7	-1.0
HMH	**Humu'ula Sheep**	**0.46**	**297**		Sb	04	24	54.2	-1.7
MLOA	**Mauna Loa Obse**	**0.52**	**286**		Pg	04	24	47.7	+0.4
MLOA					Sg	04	24	55.5	+1.4
MLOA	**Mauna Loa Obse**	**0.52**	**286**	IAML		04	24	55.6	
	comp=N,393nm,1.3s								
MLOA				IAML		04	25	02.1	
	comp=E,332nm,3.7s								
MWH	**Moku'aweowe**	**0.53**	**280**		Pg	04	24	47.9	+0.4
MWH	**Moku'aweowe**	**0.53**	**280**	IAML		04	25	03.2	
	comp=E,374nm,3.1s								
KHU	**Kahuku**	**0.55**	**255**		Pg	04	24	47.9	-0.1
KHU					Sg	04	24	56.4	+1.1
KHU	**Kahuku**	**0.55**	**255**	IAML		04	24	59.7	
	comp=E,250nm,2.3s								
ALEP	**Alea Permanent**	**0.58**	**285**		Pg	04	24	48.5	-0.1
POHA	**Pohakuloa**	**0.58**	**309**		Pg	04	24	48.4	-0.2
POHA	**Pohakuloa**	**0.58**	**309**	IAML		04	24	52.4	
	comp=E,347nm,4.0s								
POHA				IAML		04	25	03.8	
	comp=E,316nm,2.0s								

NEIC ***01*** *04:33:16.4±1.4,19°.42N±0°.02×155°.14W±0°.02,h4km±5km, Error ellipse: s-maj=4.5km s-min=1.4km az=132.0*
HVO 01 04:33:14.2±0.7,19°.39N±0°.02×155°.05W±0°.02,h1km±9km, ML2.7/11,**ML2.4**/32(NEIC),**Error ellipse: s-maj=4.3km s-min=1.6km az=130.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
JCUZ	**Jacuzzi**	**0.05**	**266**		Pg	04	33	17.2	+2.0
NPOC	**North of Pu'u**	**0.06**	**275**		Pg	04	33	17.4	+2.0
JOKA	**Jonika Flow**	**0.06**	**43**		Pg	04	33	17.6	+2.1
STCH	**Steam Cracks**	**0.07**	**268**		Pg	04	33	16.6	+0.9
STCH	**Steam Cracks**	**0.07**	**268**	IAML		04	33	17.8	
	comp=N,2μm,0.3s								
STCH				IAML		04	33	18.0	
	comp=E,7μm,0.5s								
KNHH	**Kane Nui o Ham**	**0.11**	**266**		Pg	04	33	17.4	+0.9
PUH	**Pauahi**	**0.16**	**265**	IAML		04	33	21.3	
	comp=N,766nm,0.8s								
PUH				IAML		04	33	22.3	
	comp=E,893nm,0.9s								
PUH	**Pauahi**	**0.16**	**265**		Pg	04	33	18.1	+0.8
PUH					Sg	04	33	20.9	+1.6
BYL	**Byron's Ledge**	**0.20**	**277**		Pg	04	33	18.7	+0.6
BYL	**Byron's Ledge**	**0.20**	**277**	IAML		04	33	24.4	
	comp=E,753nm,0.6s								
BYL				IAML		04	33	24.7	
	comp=N,1μm,0.6s								
HATHI	**Halema'uma'u T**	**0.20**	**280**		Pg	04	33	18.8	+0.6
HATHI	**Halema'uma'u T**	**0.20**	**280**	IAML		04	33	24.5	
	comp=N,951nm,0.5s								
HATHI				IAML		04	33	24.7	
	comp=E,1μm,0.5s								
KKO	**Keanakako`i**	**0.20**	**273**		Pg	04	33	18.9	+0.6
KKO	**Keanakako`i**	**0.20**	**273**	IAML		04	33	25.2	
	comp=N,2μm,0.8s								
KKO				IAML		04	33	25.3	
	comp=E,770nm,0.4s								
SBLHI	**Steaming Bluff**	**0.21**	**281**	IAML		04	33	25.0	
	comp=E,959nm,0.3s								
SBLHI	**Steaming Bluff**	**0.21**	**281**		Pg	04	33	18.8	+0.5
SBLHI					Sg	04	33	22.0	+1.0
RIM	**Rim**	**0.21**	**272**		Pg	04	33	19.1	+0.7
RIM	**Rim**	**0.21**	**272**	IAML		04	33	24.8	
	comp=N,1μm,0.7s								
RIM				IAML		04	33	26.1	
	comp=E,1μm,0.5s								
UWB	**Uwekahuna B**	**0.22**	**280**		Pg	04	33	18.9	+0.4
UWB					Sg	04	33	22.1	+0.7
UWB	**Uwekahuna B**	**0.22**	**280**	IAML		04	33	23.3	
	comp=E,376nm,0.9s								
UWB				IAML		04	33	24.7	
	comp=N,429nm,0.3s								
RSD	**Rainshed**	**0.23**	**289**		Pg	04	33	19.4	+0.7
RSD	**Rainshed**	**0.23**	**289**	IAML		04	33	25.6	
	comp=N,991nm,0.4s								
RSD				IAML		04	33	26.6	
	comp=E,715nm,0.3s								
UWE	**Uwekahuna**	**0.23**	**278**		Sg	04	33	23.1	+1.4
MLH	**Mauna Loa**	**0.34**	**289**		Pg	04	33	21.3	+0.6
MLH	**Mauna Loa**	**0.34**	**289**	IAML		04	33	32.7	
	comp=N,341nm,0.7s								
HTC	**Hot Caves**	**0.36**	**246**		Pb	04	33	22.7	-0.8
HMH	**Humu'ula Sheep**	**0.46**	**298**		Pg	04	33	24.1	+1.0
HMH					Sb	04	33	31.3	-1.6
HMH	**Humu'ula Sheep**	**0.46**	**298**	IAML		04	33	31.4	
	comp=N,685nm,0.7s								
HMH				IAML		04	33	38.1	
	comp=E,289nm,1.1s								
MLOA	**Mauna Loa Obse**	**0.52**	**287**	IAML		04	33	33.5	
	comp=E,356nm,2.3s								
MLOA	**Mauna Loa Obse**	**0.52**	**287**		Pg	04	33	24.8	+0.6
MLOA					Sg	04	33	32.5	+1.5
KHU	**Kahuku**	**0.55**	**255**		Pg	04	33	24.9	+0.1
KHU	**Kahuku**	**0.55**	**255**	IAML		04	33	30.0	
	comp=N,667nm,4.0s								
KHU				IAML		04	33	32.1	
	comp=E,478nm,3.4s								
ALEP	**Alea Permanent**	**0.58**	**285**		Pg	04	33	25.7	+0.2
ALEP					Sg	04	33	34.0	+1.0
POHA	**Pohakuloa**	**0.59**	**309**		Pg	04	33	25.4	-0.1
POHA	**Pohakuloa**	**0.59**	**309**	IAML		04	33	28.9	
	comp=E,298nm,3.6s								
POHA				IAML		04	33	43.7	
	comp=E,282nm,1.1s								

IDC ***01*** *04:35:14.3±1.0,21°.81S×175°.03W,h0km,mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=40.3km s-min=30.0km az=141.0*
ISC 01 04:35:19.1±1.0,21°.8S±0°.3×175°.1W±0°.3,h33km,n7, σ0°16/7,mb3.9/5,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
ASAR	**Alice Springs**	**46.89**	**257**	P	**P**	**04**	**43**	**46.7**	**0.0**
	1.1nm,0.7s,baz=92,slow=7.5,SNR=12 1.1nm,0.7s								
WRA	**Warramunga Arr**	**47.13**	**263**	P	**P**	**04**	**43**	**48.5**	**-0.1**
	0.9nm,0.6s,baz=96,slow=8.1,SNR=4.5 0.9nm,0.6s								
QSPA	**South Pole Qui**	**68.32**	**180**	P	**P**	**04**	**46**	**17.0**	**0.0**
	3.3nm,0.9s,baz=43,slow=1.7,SNR=9.5 3.3nm,0.9s								
NVAR	**Mina Array Bea**	**80.10**	**42**	P	**P**	**04**	**47**	**26.1**	**0.0**
	0.9nm,1.0s,baz=212,slow=6.4,SNR=2.4 0.9nm,1.0s								
YKA	**Yellowknife Ar**	**96.53**	**24**	P	**P**	**04**	**48**	**44.7**	**-0.1**
	0.1nm,0.9s,baz=224,slow=4.3,SNR=2.6 0.1nm,0.9s								
AKASG	**Malin Array Be**	**145.40**	**333**	PKPbc	**PKPab**	**04**	**54**	**53.7**	**+0.1**
	0.2nm,0.3s,baz=38,slow=4.4,SNR=4.5								
BRTR	**Keskin Array B**	**149.69**	**313**	PKPbc	**PKiKP**	**04**	**55**	**07.2**	**+0.3**
	1.0nm,0.9s,baz=64,slow=3.4,SNR=5.5								

NEIC ***01*** *04:40:40.9±0.8,19°.33N±0°.03×155°.07W±0°.02,h5km±1km, Error ellipse: s-maj=5.4km s-min=2.8km az=329.0*
HVO 01 04:40:40.6±0.8,19°.34N±0°.03×155°.06W±0°.02,h8km±3km, ML3.0/26,**ML2.9**/44(NEIC),**Error ellipse: s-maj=4.9km s-min=1.5km az=143.0,Hawaiian Islands**

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

MHA	**Mahukona**	**1.16 317**	Pg	Pg	04 40 59.3	-3.5

*IDC **01** 04:43:52.2±6.0,20.6°65S×178.2°82W,h614^{km}×70^{km},mb3.1/5, mbtmp4.0/5,Error ellipse: s-maj=34.8km s-min=27.5km az=153.0*

ISC 01 04:43:54.7±0.8,20.6°S±0.2×178.9°W±0.2,h645^{km},n17, σ0.39/16,mb3.4/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.65**	**257**	P		**P**		**04 51 05.2**	**+0.2**
	2.8nm,0.7s,baz=95,slow=7.5,SNR=22								
ASAR				PcP		**PcP**		**04 52 37.6**	**+0.3**
	0.6nm,0.5s,baz=105,slow=3.4,SNR=5.6								
	2.8nm,0.7s								
QSPA	**South Pole Qui**	**69.45**	**180**	P		**P**		**04 53 59.7**	**-0.3**
	0.6nm,0.5s,baz=173,slow=0.8,SNR=5.0								
	0.6nm,0.5s								
TXAR	**Lajitas Array**	**87.85**	**58**	P		**P**		**04 55 38.5**	**+0.8**
	0.7nm,0.8s,baz=224,slow=7.0,SNR=7.8								
	0.7nm,0.8s								
ILAR	**Eielson Array**	**88.62**	**13**	P		**P**		**04 55 39.7**	**-0.7**
	0.3nm,0.5s,baz=215,slow=5.4,SNR=5.3								
	0.3nm,0.5s								
PDAR	**Pinedale Array**	**89.64**	**44**	P		**P**		**04 55 45.8**	**-0.2**
	0.5nm,0.6s,baz=206,slow=3.9,SNR=8.0								
	0.5nm,0.6s								
BVAR	**Borovoye Array**	**118.61**	**320**	PKP		**PKPdf**		**05 01 30.4**	**-0.3**
	0.9nm,0.4s,baz=94,slow=4.1,SNR=5.1								
FINES	**FINESS Array B**	**135.64**	**343**	PKP		**PKPdf**		**05 02 03.3**	**+0.5**
	1.7nm,0.8s,baz=18,slow=5.0,SNR=4.3								
HFS	**Hagfors**	**139.52**	**350**	PKhKP		PKPpre		05 02 02.3	
	0.7nm,0.3s,baz=72,slow=4.7,SNR=9.5								
AKASG	**Malin Array Be**	**142.69**	**330**	PKhKP		PKPpre		05 02 13.1	
	1.3nm,0.3s,baz=43,slow=4.3,SNR=10								
BRTR	**Keskin Array B**	**146.27**	**312**	PKPbc		**PKPbc**		**05 02 25.2**	**+0.1**
	0.7nm,0.5s,baz=153,slow=4.4,SNR=6.0								
MMAI	**Mount Meron Ar**	**147.12**	**299**	PKPbc		**PKiKP**		**05 02 28.7**	**-0.4**
	0.8nm,0.4s,baz=77,slow=5.2,SNR=3.5								
CONA	**Conrad Observa**	**150.25**	**340**	*i* PKiKP		**PKiKP**		**05 02 35.2**	**+0.1**
	0.9nm,0.5s								
RONA	**Rosalia, Austr**	**150.31**	**339**	*i* PKiKP		**PKiKP**		**05 02 35.4**	**+0.2**
	2.0nm,0.5s								
ARSA	**Arzberg**	**150.96**	**340**	*i* PKiKP		**PKiKP**		**05 02 36.6**	**+0.1**
	0.6nm,0.3s								
WTTA	**Wattenberg**	**152.07**	**345**	*i* PKiKP		**PKPbc**		**05 02 38.9**	**+0.1**
	1.0nm,0.3s								
MOTA	**Moosalm**	**152.12**	**345**	*i* PKiKP		**PKPbc**		**05 02 39.0**	**+0.1**
	0.6nm,0.4s								
FETA	**Feichten**	**152.51**	**346**	*i* PKiKP		**PKPbc**		**05 02 39.8**	**0.0**
	0.4nm,0.3s								

NNC 01 04:58:34.5±2.0,43.2°82N×86.3°43E,h0^{km},mb3.5,mpv3.2, 4C-6D,Error ellipse: s-maj=18.6km s-min=13.6km az=61.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.17**	**317**	⇓Pn			Pn	04 59 39.5	0.0
	0.8nm,0.3s,baz=136,slow=14,SNR=58								
MK31				⇑Sn			Sn	05 00 30.3	+1.4
	2.7nm,0.4s,baz=243,slow=22,SNR=5.5								
MK31				⇑Lg			Lg	05 00 46.8	
	14nm,0.8s,baz=130,slow=31,SNR=7.4								
MAKZ	**Makanchi**	**4.34**	**315**	⇓Pn			Pn	04 59 41.4	-0.3
	1.7nm,0.4s								
MAKZ				⇓Sn			Sn	05 00 33.6	+0.7
	2.4nm,0.5s								
MAKZ				⇓Lg			Lg	05 00 51.3	
	13nm,0.8s								
PDGK	**Podgornoye**	**5.07**	**267**	Pg			Pb	05 00 05.7	+1.5
	1.2nm,0.4s								
PDGK				Lg			Lg	05 01 19.3	
	7.0nm,0.6s								
KURBB	**Kurchatov Arra**	**8.67**	**324**	⇓Pn			Pn	05 00 43.1	+2.0
	0.8nm,0.5s								
KURBB				⇓Lg			Lg	05 03 09.9	
	9.2nm,0.7s								
KURK	**Kurchatov**	**8.70**	**325**	⇑Pn			Pn	05 00 41.2	-0.4
	0.6nm,0.4s								
KURK				⇑Lg			Lg	05 03 13.8	
	5.7nm,1.1s								

*IDC **01** 04:59:05.4±5.5,36.6°67N×72.3°39E,h65^{km}±45^{km},mb3.2/5, mbtmp3.6/10,ML3.3/5,Error ellipse: s-maj=35.6km s-min=29.8km az=14.0*

ISC 01 04:59:04.8±1.1,36.9°59N±0.10×72.4°4E±0.1,h63^{km},n12, σ19.30/15,mb3.4/5,3C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**6.25**	**14**	⇑P			**Pn**	**05 00 34.9**	**+0.4**
	2.5nm,0.5s								
AAK				⇑S			**Sn**	**05 01 46.6**	**+2.0**
	4.8nm,0.8s								
AAK	**Ala-Archa**	**6.25**	**14**	P			**Pn**	**05 00 35.2**	**+0.7**
	1.6nm,0.3s,baz=178,slow=7.2,SNR=12								
AAK				S			**Sn**	**05 01 44.4**	**-0.3**
	1.5nm,0.5s,baz=349,slow=16,SNR=1.1								
	3.5nm,0.4s								
KK31	**Karatay Array**	**6.67**	**348**	⇑P			**Pn**	**05 00 39.3**	**-0.7**
	3.3nm,0.5s,baz=164,slow=12,SNR=50								
KK31				⇓S			**Sn**	**05 01 56.0**	**+1.4**
	3.5nm,0.7s,baz=157,slow=24								
KURBB	**Kurchatov Arra**	**14.71**	**16**	P			**Pn**	**05 02 27.4**	**-1.7**
	0.1nm,0.3s,baz=206,slow=10,SNR=4.8								
	0.4nm,0.3s								
BVAR	**Borovoye Array**	**16.50**	**356**	P			**Pn**	**05 02 50.5**	**-1.4**
	baz=171,slow=12,SNR=3.6								
	0.4nm,0.3s								
AKTO	**Aktyubinsk**	**17.29**	**328**	P			**Pn**	**05 03 00.6**	**-1.1**
	0.6nm,0.3s,baz=140,slow=9.2,SNR=8.3								
	2.2nm,0.4s								
ZALV	**Zalesovo Beam**	**19.38**	**23**	P			**P**	**05 03 24.0**	**-1.3**
	0.2nm,0.3s,baz=203,slow=11,SNR=5.5								
	1.4nm,0.6s								
HFS	**Hagfors**	**43.70**	**322**	P			**P**	**05 07 04.7**	**+1.6**
	2.4nm,0.8s,baz=86,slow=10,SNR=4.5								
	2.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**66.85**	**269**	P			**P**	**05 09 49.5**	**-0.8**
	0.3nm,0.6s,baz=48,slow=5.5,SNR=1.8								
	0.3nm,0.6s								
ILAR	**Eielson Array**	**74.38**	**16**	P			**P**	**05 10 34.5**	**-0.9**
	0.2nm,0.9s,baz=290,slow=5.4,SNR=2.5								
	0.2nm,0.9s								
WRA	**Warramunga Arr**	**81.08**	**123**	P			**P**	**05 11 14.5**	**+1.2**
	0.3nm,0.6s,baz=312,slow=6.2,SNR=6.8								
	0.3nm,0.6s								
YKA	**Yellowknife Ar**	**81.10**	**3**	P			**P**	**05 11 13.1**	**+0.4**
	0.3nm,0.9s,baz=348,slow=5.8,SNR=5.8								
	0.3nm,0.9s								

*JMA **01** 05:07:50.9±0.1,24.8°8N±0.5°5×122.0°0E±0.3,h16^{km},MV2.9/10, TAIWAN REGION*
*TAP **01** 05:07:50.4,24.86°N×122.00°E,h9^{km},ML3.2,C*

ISC 01 05:07:50.4±0.9,24.85°N±0.02×122.04°E±0.02,h9^{km}±6^{km}, n107,σ0.72/192,20C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EGS				**0.10 267**	⇓P		**Pg**	**05 07 52.7**	**-0.2**
	baz=253								
EGS					*i* S		**Sg**	**05 07 54.4**	**-0.1**
	baz=253								
TWB1	**Santiao Chiao**			**0.16 344**	*i* P		**Pg**	**05 07 54.0**	**0.0**
	baz=357								
TWB1					*i* S		**Sg**	**05 07 56.5**	**+0.1**
	baz=357								
NTC	**Toucheng**			**0.19 271**	⇑*i*P		**Pg**	**05 07 54.5**	**+0.1**
	baz=268								
NTC					*i* S		**Sg**	**05 07 57.5**	**+0.5**
	baz=268								
ILA	**Ilan**			**0.28 252**	P		**Pg**	**05 07 55.8**	**-0.1**
	baz=248								
ILA					S		**Sg**	**05 08 00.1**	**+0.5**
	baz=248								
SXI1	**Grass Mountain**			**0.28 329**	⇑*i*P		**Pg**	**05 07 56.5**	**+0.3**
	baz=336								
SXI1					S		**Sg**	**05 08 01.1**	**+1.1**
	baz=336								
TWC	**Suao**			**0.29 215**	P		**Pg**	**05 07 56.2**	**-0.1**
	baz=209								
TWC					S		**Sg**	**05 08 00.6**	**+0.3**
	baz=209								
NWF	**Wu-fen Shan**			**0.32 314**	⇑*i*P		**Pg**	**05 07 57.1**	**+0.3**
	baz=316								
WFSB	**Wu-fen Shan**			**0.32 314**	⇑P		**Pg**	**05 07 57.1**	**+0.3**
	baz=306								
WFSB					S		**Sg**	**05 08 01.6**	**+0.5**
	baz=306								
TWE	**Neicheng**			**0.36 249**	*i* P		**Pg**	**05 07 57.3**	**-0.2**
	baz=245								
TWE					*i* S		**Sg**	**05 08 02.3**	**0.0**
	baz=245								
NDS	**Dongshan**			**0.36 234**	*i* P		**Pg**	**05 07 57.8**	**+0.2**
	baz=231								
NDS					S		**Sg**	**05 08 03.2**	**+0.8**
	baz=231								
TNOU	**National Taiwa**			**0.38 321**	⇑P		**Pg**	**05 07 58.3**	**+0.3**
	baz=315								
TNOU					*i* S		**Sg**	**05 08 03.3**	**+0.3**
	baz=315								
FUSB	**Fushanzhiwuyua**			**0.42 258**	⇑*e*P		**Pg**	**05 07 58.3**	**-0.3**
	baz=256								
FUSB					S		**Sg**	**05 08 04.8**	**+0.7**
	baz=256								
NHY	**Taipei**			**0.46 294**	⇓P		**Pg**	**05 08 00.1**	**+0.7**
	baz=285								
NHY					S		**Sg**	**05 08 06.5**	**+0.9**
	baz=285								
EOS2	**EOS2**			**0.47 157**	⇑*e*P		**Pb**	**05 08 00.4**	**-0.4**
	baz=158								
EWUT	**Wuta**			**0.47 210**	*e*P		**Pb**	**05 08 00.8**	**-0.1**
	baz=215								
EWUT					*e*S		**Sb**	**05 08 07.2**	**-0.7**
	baz=215								
ENTT	**Nioudou**			**0.48 244**	*e*P		**Pg**	**05 07 59.2**	**-0.5**
	baz=242								
ENTT					S		**Sg**	**05 08 06.6**	**+0.6**
	baz=242								
NHDH	**Xindian Distri**			**0.48 284**	P		**Pg**	**05 07 59.6**	**-0.1**
	baz=274								
NHDH					*i* S		**Sg**	**05 08 06.2**	**+0.1**
	baz=274								
NWLT	**Wulai**			**0.49 262**	⇑P		**Pg**	**05 07 59.6**	**-0.4**
	baz=260								
NWLT					*e*S		**Sg**	**05 08 05.6**	**-0.9**
	baz=260								
ENA	**Nanau**			**0.50 213**	*e*P		**Pb**	**05 08 01.1**	**-0.3**
	baz=216								
ENA					*e*S		**Sb**	**05 08 07.8**	**-1.1**
	baz=216								
YM01	**YM01**			**0.52 305**	⇑P		**Pg**	**05 08 01.0**	**+0.6**
	baz=305								
YM01					*i* S		**Sg**	**05 08 07.9**	**+0.6**
	baz=305								
TAP	**Taipei**			**0.52 291**	⇑P		**Pg**	**05 08 00.5**	**0.0**
	baz=291								
TAP					S		**Sg**	**05 08 07.6**	**+0.3**
	baz=291								
YM08	**YM08**			**0.53 310**	⇑P		**Pg**	**05 08 00.9**	**+0.2**
	baz=299								
YM08					*e*S		**Sg**	**05 08 07.7**	**+0.1**
	baz=299								
NDT	**Datong Townshi**			**0.54 243**	⇓P		**Pg**	**05 08 00.8**	**-0.1**
	baz=242								
NDT					*e*S		**Sg**	**05 08 08.5**	**+0.6**
	baz=242								
LATG	**Datong**			**0.56 236**	⇓*i*P		**Pg**	**05 08 01.4**	**+0.1**
	baz=235								
LATG					*e*S		**Sb**	**05 08 10.1**	**-0.5**
	baz=235								
ANP	**Anpu**			**0.58 306**	*e*P		**Pg**	**05 08 02.6**	**+0.9**
	baz=306								
ANP					S		**Sg**	**05 08 09.7**	**+0.4**
	baz=306								
TWY	**Chenhua**			**0.58 317**	⇑P		**Pg**	**05 08 02.3**	**+0.6**
	baz=318								
TWY					S		**Sg**	**05 08 10.1**	**+0.8**
	baz=318								
EAHA	**Aohua**			**0.58 208**	⇑*e*P		**Pb**	**05 08 02.6**	**-0.2**
	baz=211								
EAHA					*e*S		**Sb**	**05 08 10.7**	**-0.5**
	baz=211								
TWS1	**Kuangyinshan**			**0.61 294**	*i* P		**Pg**	**05 08 03.3**	**+0.9**
	baz=294								
TWS1					S		**Sg**	**05 08 11.2**	**+0.8**
	baz=294								
EOS3	**EOS3**			**0.62 155**	⇑*e*P		**Pb**	**05 08 03.2**	**-0.1**
	baz=161								
EOS3					S		**Sb**	**05 08 12.1**	**+0.1**
	baz=161								
NTST	**Danshui**			**0.62 301**	⇓P		**Pg**	**05 08 03.4**	**+1.0**
	baz=300								
NTST					*e*S		**Sb**	**05 08 12.2**	**0.0**
	baz=300								
YHNB	**Yeheng**			**0.63 253**	⇑P		**Pg**	**05 08 02.1**	**-0.5**
	baz=252								
YHNB					*e*S		**Sg**	**05 08 10.9**	**+0.1**
	baz=252								
NSK	**Sanguang**			**0.64 254**	P		**Pg**	**05 08 02.2**	**-0.7**
	baz=253								
NSK					*e*S		**Sg**	**05 08 12.3**	**+1.0**
	baz=253								
NNSB	**Datong**			**0.73 235**	⇑P		**Pg**	**05 08 04.2**	**-0.3**
	baz=234								
NNSB					*e*S		**Sg**	**05 08 13.8**	**-0.3**
	baz=234								
NNS	**Nan Shan**			**0.73 236**	*e*P		**Pg**	**05 08 04.7**	**+0.1**
	baz=235								
NNS					*i* S		**Sg**	**05 08 14.6**	**+0.5**
	baz=235								
EOS4	**EOS4**			**0.77 161**	*i* P		**Pb**	**05 08 06.1**	**+0.3**
	baz=161								
EOS4					*e*S		**Sn**	**05 08 17.6**	**-1.1**
	baz=161								
PCYT	**Pengchaiyu**			**0.78 2**	P		**Pg**	**05 08 06.2**	**+0.7**
	baz=357								
PCYT					S		**Sb**	**05 08 17.3**	**+0.4**
	baz=357								
NCUH	**Zhongli**			**0.78 279**	⇓P		**Pb**	**05 08 06.6**	**+0.4**
	baz=278								
NCUH					*e*S		**Sb**	**05 08 16.9**	**-0.1**
	baz=278								
ETL	**Fush Village**			**0.79 209**	*e*P		**Pb**	**05 08 06.4**	**+0.1**
	baz=209								
ETL					S		**Sb**	**05 08 17.1**	**0.0**
	baz=209								
NACB	**Ninganchiao**			**0.79 211**	⇑P		**Pg**	**05 08 05.6**	**0.0**
	baz=211								
NACB					S		**Sb**	**05 08 16.6**	**-0.4**
	baz=211								
ETLH	**Xiulin Townshi**			**0.82 218**	⇓P		**Pg**	**05 08 06.2**	**+0.1**
	baz=218								
ETLH					*i* S		**Sb**	**05 08 17.5**	**-0.5**
	baz=218								
NFF	**Wufeng Townshi**			**0.86 256**	*e*P		**Pb**	**05 08 08.1**	**+0.5**
	baz=255								
TWD	**Chiawan**			**0.87 208**	P		**Pg**	**05 08 06.6**	**-0.5**
	baz=208								
TWD					S		**Sg**	**05 08 18.3**	**0.0**
	baz=208								
NHW	**Xinwu Township**			**0.91 280**	*e*P		**Pb**	**05 08 08.8**	**+0.4**
	baz=271								
NHW					*e*S		**Sb**	**05 08 21.8**	**+1.1**
	baz=271								
JYNG	**Yonaguni jima**			**0.92 115**	P		**Pg**	**05 08 08.3**	**+0.2**
JYNG					S		**Sb**	**05 08 21.1**	**+0.3**
FUSS	**Fushou**			**0.94 230**	P		**Pb**	**05 08 09.1**	**+0.1**
	baz=230								
FUSS					S		**Sb**	**05 08 21.9**	**+0.1**
	baz=230								
LIOB	**Emei**			**0.95 258**	⇓P		**Pn**	**05 08 09.9**	**-0.1**
	baz=251								
LIOB					*e*S		**Sn**	**05 08 23.7**	**0.0**
	baz=251								
HWA	**Hwalien**			**0.95 204**	*e*P		**Pn**	**05 08 09.7**	**-0.3**
	baz=216								
HWA					S		**Sb**	**05 08 21.9**	**0.0**
	baz=216								
SBCB	**Hsinchu**			**0.96 267**	P		**Pg**	**05 08 08.8**	**-0.1**
	baz=260								
SBCB					*e*S		**Sg**	**05 08 20.9**	**-0.4**
	baz=260								
NSTT	**Nanjuang**			**0.97 257**	*e*P		**Pn**	**05 08 10.0**	**-0.2**
	baz=257								
NSTT					*e*S		**Sn**	**05 08 23.8**	**-0.3**
	baz=257								
YOJ	**Yonaguni jima**			**0.97 113**	P		**Pb**	**05 08 09.7**	**+0.3**
YOJ					S		**Sb**	**05 08 22.5**	**+0.2**
YOJ	**Yonaguni jima**			**0.97 113**	*e*P		**Pg**	**05 08 08.9**	**-0.1**
	baz=115								
YOJ					*e*S		**Sb**	**05 08 22.9**	**+0.6**
	baz=115								
HSN	**Hsinchu**			**0.97 267**	*e*P		**Pg**	**05 08 09.6**	**+0.5**
	baz=268								
HSN					S		**Sg**	**05 08 21.4**	**-0.4**
	baz=268								
TWT	**Tachien**			**0.98 233**	*e*P		**Pn**	**05 08 11.4**	**+0.8**
	baz=241								
TWT					S		**Sb**	**05 08 22.7**	**-0.3**
	baz=241								
WHF	**Hehuan Shan**			**0.99 225**	*e*P		**Pb**	**05 08 10.3**	**+0.2**
	baz=226								
WHF					S		**Sg**	**05 08 23.0**	**+0.5**
	baz=226								
TDCB	**Techi**			**1.00 234**	*e*P		**Pb**	**05 08 10.3**	**+0.3**
	baz=241								
TDCB					S		**Sg**	**05 08 22.2**	**-0.4**
	baz=241								
LXIB	**Xiulin Townshi**			**1.00 215**	⇑*e*P		**Pg**	**05 08 09.7**	**-0.1**
	baz=216								
LXIB					S		**Sb**	**05 08 23.4**	**-0.1**
	baz=216								
ETM	**Tongmen**			**1.01 209**	⇑*e*P		**Pg**	**05 08 09.7**	**-0.2**
	baz=211								
ETM					S		**Sb**	**05 08 23.8**	**+0.2**
	baz=211								
TEYL	**Yanliau Villag**			**1.06 202**	P		**Pg**	**05 08 11.0**	**+0.3**
	baz=215								
TEYL					S		**Sg**	**05 08 24.3**	**-0.2**
	baz=215								
CHGB	**Renai**			**1.11 225**	P		**Pg**	**05 08 12.2**	**+0.4**
	baz=226								
CHGB					*e*S		**Sn**	**05 08 29.1**	**+1.1**
	baz=226								
SHUL	**Shoufeng**			**1.14 202**	*e*P		**Pn**	**05 08 13.6**	**+1.0**
	baz=211								
SHUL					S		**Sn**	**05 08 29.0**	**+0.6**
	baz=211								
WHP	**Taichung City**			**1.15 240**	P		**Pn**	**05 08 12.9**	**+0.1**
	baz=241								
WHP					*e*S		**Sg**	**05 08 28.0**	**+0.7**
	baz=241								
ESL	**Shilin**			**1.17 208**	P		**Pb**	**05 08 12.0**	**-0.8**
	baz=210								
ESL					*e*S		**Sg**	**05 08 28.4**	**+0.3**
	baz=210								
NMLH	**Miaoli**			**1.18 255**	P		**Pg**	**05 08 14.1**	**+1.1**
	baz=254								
NMLH					S		**Sn**	**05 08 29.8**	**+0.5**
	baz=254								
OWD	**Renai**			**1.19 222**	*e*P		**Pg**	**05 08 14.1**	**+0.8**
	baz=228								
OWD					*e*S		**Sn**	**05 08 30.3**	**+0.5**
	baz=228								
WUSB	**Renai**			**1.20 225**	*i* P		**Pb**	**05 08 13.4**	**0.0**
	baz=226								
WUSB					S		**Sn**	**05 08 29.5**	**-0.5**
	baz=226								
NSY	**Sanyi**			**1.24 250**	*e*P		**Pg**	**05 08 16.8**	**+2.6**
	baz=249								
NSY					*e*S		**Sb**	**05 08 30.2**	**0.0**
	baz=249								
WARBT	**Fenglin Townsh**			**1.27 208**	P		**Pn**	**05 08 13.8**	**-0.7**
	baz=210								
WARBT					*e*S		**Sg**	**05 08 31.9**	**+0.5**
	baz=210								
WCS	**Beigang Elemen**			**1.29 233**	*e*P		**Pg**	**05 08 17.4**	**+2.1**
	baz=240								
EGFH	**Guangfu**			**1.30 205**	*e*P		**Pg**	**05 08 15.7**	**+0.3**
	baz=215								
EGFH					*e*S		**Sg**	**05 08 34.2**	**+1.9**
	baz=215								
VWDT	**VWDT**			**1.36 217**	P		**Pn**	**05 08 15.9**	**+0.2**
	baz=219								
VWDT					S		**Sn**	**05 08 33.7**	**-0.1**
	baz=219								
TCU	**Taichung**			**1.42 241**	*e*P		**Pg**	**05 08 20.5**	**+2.7**
	baz=241								
TCU					*e*S		**Sg**	**05 08 37.3**	**+1.1**
	baz=241								
SSLB	**Suanglung**			**1.45 223**	⇑P		**Pb**	**05 08 18.0**	**+0.3**
	baz=217								
SSLB					*e*S		**Sg**	**05 08 36.7**	**-0.4**
	baz=217								
HGSD	**Ruisui**			**1.46 203**	*e*P		**Pg**	**05 08 19.5**	**+0.9**
	baz=224								
HGSD					*e*S		**Sn**	**05 08 35.9**	**-0.5**
	baz=224								
EHY	**Hungye**			**1.49 206**	P		**Pg**	**05 08 18.2**	**-0.1**
	baz=214								
EHY					*e*S		**Sn**	**05 08 36.5**	**-0.5**
	baz=214								
WHYT	**Xinyi Township**			**1.58 223**	*e*P		**Pg**	**05 08 21.5**	**+0.8**
	baz=218								
WHYT					S		**Sg**	**05 08 40.9**	**-0.3**
	baz=218								
YULB	**Yu-li**			**1.60 205**	*e*P		**Pb**	**05 08 19.8**	**-0.4**
	baz=218								
YULB					*i* S		**Sb**	**05 08 40.1**	**-0.4**
	baz=218								
IRIF	**Iriomote-Funau**			**1.62 108**	*e*P		**Pn**	**05 08 18.7**	**-0.5**
TWF1	**Yuli**			**1.64 205**	*e*P		**Pb**	**05 08 21.0**	**+0.1**
	baz=218								
TWF1					*e*S		**Sg**	**05 08 42.4**	**-0.7**
	baz=218								
ALS	**Alishan**			**1.75 220**	*e*P		**Pg**	**05 08 24.6**	**+0.7**
	baz=212								
ALS					*e*S		**Sb**	**05 08 45.3**	**+0.3**
	baz=212								
CHKH	**Chenggong**			**1.75 200**	*e*P		**Pg**	**05 08 24.4**	**+0.4**
	baz=190								
CHKH					S		**Sb**	**05 08 44.9**	**0.0**
	baz=190								
CHN5	**Tsauling**			**1.76 225**	*e*P		**Pg**	**05 08 24.6**	**+0.3**
	baz=228								
CHN5					*e*S		**Sg**	**05 08 48.9**	**+1.9**
	baz=228								
WDLH	**Douliu**			**1.79 230**	*e*P		**Pg**	**05 08 25.2**	**+0.4**
	baz=231								
WDLH					*e*S		**Sb**	**05 08 46.5**	**+0.5**
	baz=231								
EHD	**Haiduan**			**1.86 204**	*e*P		**Pg**	**05 08 25.6**	**-0.5**
	baz=209								
JKRS	**Kuro-shima**			**1.90 108**	*e*P		**Pn**	**05 08 23.3**	**+0.3**
ELDTW	**Lidau**			**1.90 210**	*e*P		**Pg**	**05 08 27.1**	**+0.2**
	baz=215								
ELDTW					*e*S		**Sb**	**05 08 50.0**	**+0.7**
	baz=215								
WCKO	**Fanlu**			**1.92 223**	*e*P		**Pg**	**05 08 27.2**	**-0.1**
	baz=228								
JIJ	**Ishigaki jima**			**1.98 104**	*e*P		**Pn**	**05 08 24.8**	**+0.6**
EDH	**Donghe**			**1.99 200**	*e*P		**Pn**	**05 08 23.4**	**-0.8**
	baz=192								
EDH					S		**Sb**	**05 08 51.0**	**-0.7**

LYJJ	**Jianjiangzhen**	**2.66**	**310**	*eP*		**Pn**	**05 08 31.7**	**-1.8**
	baz=312							
LYJJ				*eS*		**Sn**	**05 09 05.3**	**-0.7**
	baz=312							
WDGT	**Dungji**	**2.69**	**234**	*eP*		**Pn**	**05 08 34.5**	**+0.6**
	baz=233							
SCZT	**Fangliau**	**2.79**	**208**	*eP*		**Pn**	**05 08 36.2**	**+0.9**
	baz=213							
VCHM	**Qimei**	**2.89**	**236**	*eP*		**Pn**	**05 08 37.1**	**+0.4**
	baz=247							
VCHM				*eS*		**Sn**	**05 09 10.9**	**-0.7**
	baz=247							
MHZQ	**Yeshan**	**2.99**	**295**	*eP*		**Pn**	**05 08 37.1**	**-1.0**
	baz=291							
SXFK	**Yanhouchang**	**4.25**	**292**	*eP*		**Pn**	**05 08 55.2**	**-0.3**
	baz=288							
SXFK				*eS*		**Sn**	**05 09 43.1**	**-2.2**
	baz=288							

*IDC **01** 05:13:04.4±2.1,29˚.28S×177˚.12W,h47$^{km}_{\pm}$15^{km},mb4.1/11, mbtmp4.4/11,MS3.6/11,Error ellipse: s-maj=27.4km s-min=17.9km az=64.0*

*NEIC **01** 05:13:05.3±1.6,29˚.53S±0˚.10×177˚.4W±0˚.1,h43$^{km}_{\pm}$7^{km}, mb4.7/20,Error ellipse: s-maj=17.0km s-min=12.0km az=53.0*

ISC 01 05:13:02.3±0.6,**29˚.50S**±0˚.07×**177˚.14W**±0˚.09,**h31**^{km},**n69**, σ1^{s}**58**/**60**,**mb4.7**/24,**MS3.6**/9,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
RAO	**Raoul Island**	**0.72**	**289**			**Pn**	**05 13 17.1**	**+0.8**
RAO	**Raoul Island**	**0.72**	**289**	P		**Pn**	**05 13 17.4**	**+1.0**
	2μm,0.2s,baz=131,slow=3.7,SNR=45							
RAO				S		**Sn**	**05 13 29.8**	**+3.4**
	5μm,0.4s,baz=356,slow=23,SNR=7.6							
URZ	**Urewera**	**9.96**	**207**	P		**Pn**	**05 15 20.0**	**-3.2**
	6.0nm,0.6s,baz=78,slow=19,SNR=2.1							
URZ				S		**Sn**	**05 17 10.7**	**-3.2**
	13nm,0.5s,baz=195,slow=22,SNR=9.4							
RTZ	**Ruatahuna**	**10.32**	**207**	Pn		**Pn**	**05 15 28.9**	**+0.6**
RTZ						**Sn**	**05 17 20.9**	**-2.0**
BFZ	**Birch Farm**	**12.40**	**204**	Pn		**Pn**	**05 15 57.3**	**+0.7**
BSWZ	**Blackbirch Sta**	**14.20**	**208**	Pn		**Pn**	**05 16 23.8**	**+2.6**
MRNZ	**Matariki Terra**	**14.44**	**212**	Pn		**Pn**	**05 16 25.7**	**+1.3**
GVZ	**Greta Valley S**	**15.59**	**208**	P		**Pn**	**05 16 40.3**	**+0.5**
GVZ				IAmb		IAmb	05 16 54.2	
	comp=Z,58nm,1.3s							
DZM	**Mont Dzumac**	**16.52**	**293**	P		**Pn**	**05 16 49.8**	**-2.1**
	comp=Z,4.8nm,0.9s,baz=335,slow=16,SNR=1.5							
DZM				LR		LR	05 22 15.4	
	comp=Z,623nm,18.5s,baz=180,slow=34							
RPZ	**Rata Peaks**	**17.04**	**210**	P		**Pn**	**05 16 56.0**	**-2.1**
	comp=Z,10nm,0.6s,baz=122,slow=2.5,SNR=6.7							
RAR	**Rarotonga**	**17.72**	**66**	P		Pn	05 16 53.1	-14
	comp=Z,4.4nm,0.5s,baz=131,slow=20,SNR=2.5							
RAR				S		Sn	05 19 58.4	-25
	comp=Z,6.3nm,0.6s,baz=55,slow=14,SNR=1.6							
RAR				LR		LR	05 22 03.9	
	comp=Z,247nm,21.5s,baz=250,slow=31							
PPT	**Papeete**	**27.84**	**71**	LR		LR	05 26 25.0	
	comp=Z,139nm,21.5s,baz=265,slow=29							
EIDS	**Eidsvold**	**28.45**	**271**	P		**P**	**05 18 53.1**	**-1.4**
EIDS				IAmb		IAmb	05 19 02.6	
	comp=Z,34nm,1.4s							
CTAO	**Charters Tower**	**34.41**	**277**	P		**P**	**05 19 46.8**	**-0.2**
CTAO				IAmb		IAmb	05 20 28.6	
	comp=Z,18nm,1.2s							
STKA	**Stephens Creek**	**35.42**	**256**	P		**P**	**05 19 55.1**	**-0.5**
STKA	**Stephens Creek**	**35.42**	**256**	P		**P**	**05 19 56.8**	**+1.2**
	comp=Z,8.1nm,0.9s,baz=74,slow=7.4,SNR=11							
	comp=Z,8.1nm,0.9s							
PMG	**Port Moresby**	**38.91**	**294**	LR		LR	05 34 37.3	
	comp=Z,167nm,18.5s,baz=127,slow=33							
BBOO	**Buckleboo**	**39.94**	**253**	P		**P**	**05 20 33.4**	**-0.4**
AS31	**Alice Springs**	**43.91**	**266**	P		**P**	**05 21 05.9**	**-0.5**
ASAR	**Alice Springs**	**43.91**	**266**	P		**P**	**05 21 06.1**	**-0.3**
ASAR	**Alice Springs**	**43.91**	**266**	P		**P**	**05 21 05.7**	**-0.7**
	comp=Z,4.7nm,0.8s,baz=107,slow=8.0,SNR=36							
	comp=Z,4.7nm,0.8s							
WR0	**Warramunga Arr**	**44.64**	**271**	P		**P**	**05 21 11.5**	**-0.7**
WR0				IAmb		IAmb	05 21 15.6	
	comp=Z,9.7nm,1.1s							
WB2	**Warramunga Ar**	**44.81**	**271**	P		**P**	**05 21 12.9**	**-0.7**
WB2				IAmb		IAmb	05 21 15.0	
	comp=Z,12nm,1.0s							
WRAB	**Tennant Creek**	**44.81**	**271**	P		**P**	**05 21 13.5**	**-0.1**
WRAB				IAmb		IAmb	05 21 14.9	
	comp=Z,11nm,1.0s							
WRA	**Warramunga Arr**	**44.82**	**271**	P		**P**	**05 21 12.9**	**-0.8**
WRA	**Warramunga Ar**	**44.82**	**271**	P		**P**	**05 21 12.8**	**-0.9**
	comp=Z,7.1nm,0.9s,baz=109,slow=7.9,SNR=22							
	comp=Z,7.1nm,0.9s							
WB0	**Warramunga Arr**	**44.84**	**271**	P		**P**	**05 21 13.7**	**-0.2**
WB0				IAmb		IAmb	05 21 17.1	
	comp=Z,10nm,1.1s							
FORT	**Forrest**	**47.01**	**254**	P		**P**	**05 21 29.7**	**-1.1**
SBA	**Scott Base**	**48.99**	**184**	P		**P**	**05 21 46.5**	**+1.0**
SBA				IAmb		IAmb	05 21 58.3	
	comp=Z,13nm,1.4s							
VNDA	**Vanda**	**49.07**	**186**	P		**P**	**05 21 48.3**	**+2.3**
VNDA	**Vanda**	**49.07**	**186**	P		**P**	**05 21 47.9**	**+1.8**
	comp=Z,0.9nm,0.9s,baz=2.8,slow=5.0,SNR=3.7							
	comp=Z,0.9nm,0.9s							
FITZ	**Fitzroy Crossi**	**53.12**	**269**	P		**P**	**05 22 16.6**	**-0.7**
FAKI	**Fak Fak**	**54.74**	**289**	P		**P**	**05 22 27.7**	**-1.5**
FAKI				IAmb		IAmb	05 22 56.7	
	comp=Z,18nm,1.2s							
CASY	**Casey**	**56.28**	**208**	P		**P**	**05 22 39.5**	**-0.1**
GUMO	**Guam**	**56.38**	**314**	LR		LR	05 43 28.7	
	comp=Z,28nm,21.1s,baz=110,slow=32							
RPN	**Rapa Nui**	**58.96**	**106**	LR		LR	05 43 46.6	
	comp=Z,28nm,19.7s,baz=304,slow=31							
QSPA	**South Pole Qui**	**60.61**	**180**	P		**P**	**05 23 11.8**	**+1.9**
QSPA	**South Pole Qui**	**60.61**	**180**	P		**P**	**05 23 11.5**	**+1.6**
	comp=Z,11nm,1.1s,baz=302,slow=0.5,SNR=28							
	comp=Z,11nm,1.1s							
JHJ	**Hachijo jima 2**	**74.45**	**323**	LR		LR	05 55 43.0	
	comp=Z,18nm,18.6s,baz=105,slow=34							
MJAR	**Matsushiro Arr**	**77.93**	**325**	P		**P**	**05 24 56.4**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=152,slow=3.8,SNR=4.9							
	comp=Z,1.2nm,0.6s							
SNAA	**Sanae**	**79.03**	**178**	P		**P**	**05 25 05.9**	**+2.9**
SNAA	**Sanae**	**79.03**	**178**	P		**P**	**05 25 05.7**	**+2.8**
	comp=Z,5.7nm,0.3s,baz=316,slow=12,SNR=118							
	comp=Z,5.7nm,0.3s							
PLCA	**Paso Flores**	**82.57**	**133**	P		**P**	**05 25 22.6**	**+0.1**
	comp=Z,2.8nm,1.0s,baz=42,slow=9.4,SNR=3.1							
PLCA				LR		LR	05 54 19.1	
	comp=Z,33nm,18.6s,baz=205,slow=30							
	comp=Z,2.8nm,1.0s							
LPIG	**La Paz**	**83.42**	**58**	LR		LR	05 57 55.5	
	comp=Z,24nm,18.1s,baz=302,slow=32							
KSRS	**Korea Array**	**84.15**	**319**	P		**P**	**05 25 31.3**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=131,slow=5.6,SNR=5.4							
	comp=Z,1.0nm,0.7s							
PETK	**Petropavlovsk-**	**85.13**	**345**	P		**P**	**05 25 34.0**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=108,slow=6.4,SNR=2.0							
	comp=Z,1.2nm,0.5s							
MT01	**Popeta**	**85.81**	**127**	P		**P**	**05 25 38.4**	**-0.6**
MT01				IAmb		IAmb	05 25 39.9	
	comp=Z,5.7nm,0.9s							
NJ2	**Nanjing**	**86.23**	**310**	*eP*		**P**	**05 25 43.2**	**+2.4**
NJ2				pP		**sP**	**05 25 52.2**	**-0.7**
NJ2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
NJ2				pmax		pmax		
	comp=Z,150nm,5.2s							
USRK	**Ussuriysk Ar.**	**86.83**	**326**	P		**P**	**05 25 43.9**	**+0.5**
	comp=Z,4.2nm,0.8s,baz=150,slow=3.4,SNR=8.1							
	comp=Z,4.2nm,0.8s							
MDJ	**Mudanjiang**	**88.31**	**325**	P		P	05 25 54.8	+4.2
MDJ				pmax		pmax		
	comp=Z,5.0nm,0.8s							
MDJ				pmax		pmax		
	comp=Z,100nm,5.0s							
KLR	**Kul'dur**	**90.64**	**329**	LR		LR	06 02 41.8	
	comp=Z,36nm,19.2s,baz=317,slow=33							
NNA	**Nana**	**92.95**	**105**	LR		LR	05 58 18.2	
	comp=Z,25nm,21.8s,baz=216,slow=29							
PZH	**PanZhiHua**	**95.56**	**297**	P		**P**	**05 26 26.6**	**+1.8**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.4s							
HHC	**Hu-ho-hao-te**	**96.15**	**314**	*eP*		**P**	**05 26 28.6**	**+1.5**
HHC				pmax		pmax		
	comp=Z,10.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,79nm,6.7s							
MKAR	**Makanchi Array**	**117.76**	**310**	PKP		**PKPdf**	**05 31 41.8**	**-3.4**
	comp=Z,0.3nm,0.5s,baz=112,slow=1.6,SNR=2.9							
KURBB	**Kurchatov Arra**	**121.00**	**314**	PKP		**PKPdf**	**05 31 49.2**	**-2.1**
	comp=Z,1.2nm,0.8s,baz=109,slow=1.7,SNR=6.9							
BVAR	**Borovoye Array**	**126.28**	**316**	PKP		**PKPdf**	**05 31 59.4**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=143,slow=5.2,SNR=4.8							
ARCES	**ARCESS Array B**	**137.86**	**348**	PKP		**PKPdf**	**05 32 21.9**	**-0.9**
	comp=Z,3.1nm,1.0s,baz=242,slow=2.6,SNR=3.8							
H10N3	**ASCENSION HYDR**	**139.29**	**153**	T		T	08 08 31.1	
	baz=203							
H10N1	**ASCENSION HYDR**	**139.29**	**153**	T		T	08 08 30.7	
	baz=203							
H10N2	**ASCENSION HYDR**	**139.31**	**153**	T		T	08 08 29.4	
	baz=203							
FINES	**FINESS Array B**	**144.55**	**341**	PKP		**PKPab**	**05 32 32.4**	**-1.0**
	comp=Z,5.6nm,0.6s,baz=59,slow=3.3,SNR=31							
KBZ	**Khabaz**	**145.22**	**305**	PKPbc		**PKPab**	**05 32 36.0**	**-0.4**
	comp=Z,4.5nm,0.8s,baz=153,slow=1.4,SNR=11							
NB2	**NORSAR Subarra**	**147.97**	**352**	PKP		**PKPbc**	**05 32 42.6**	**-1.3**
	comp=Z,7.8nm,1.4s,baz=11,slow=2.9							
NOA	**NORSAR Array B**	**147.97**	**352**	PKPbc		**PKPbc**	**05 32 42.9**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=15,slow=2.9,SNR=7.1							
HFS	**Hagfors**	**148.50**	**350**	PKPbc		**PKPbc**	**05 32 44.4**	**-0.9**
	comp=Z,3.4nm,0.6s,baz=62,slow=7.4,SNR=9.0							
AKASG	**Malin Array Be**	**151.02**	**324**	PKPbc		**PKPbc**	**05 32 50.6**	**-1.1**
	comp=Z,3.7nm,0.7s,baz=44,slow=2.6,SNR=8.2							
MMAI	**Mount Meron Ar**	**152.02**	**286**	PKPbc		**PKiKP**	**05 32 55.6**	**+0.5**
	comp=Z,8.1nm,0.7s,baz=107,slow=5.6,SNR=7.8							
BRTR	**Keskin Array B**	**152.81**	**300**	PKPbc		**PKPbc**	**05 32 55.6**	**-0.7**
	comp=Z,1.6nm,0.7s,baz=146,slow=3.5,SNR=9.2							

*STR **01** 05:16:57.4±1.2,43˚.N±8˚×1˚.1E±˚,h10^{km},MLv4.0/42,Error ellipse: s-maj=0.0km s-min=0.0km az=134.7,preliminary*

*ROM **01** 05:16:58.2±0.0,43˚.228N±0˚.002×10˚.931E±0˚.003, h7^{km},ML3.6/204,Mw3.7,Error ellipse: s-maj=0.2km s-min=0.2km az=225.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.31; $M_{\theta\theta}$1.17; $M_{\phi\phi}$-0.87; $M_{r\theta}$-3.88; $M_{\theta\phi}$-3.11; $M_{\phi r}$-0.78; Fault plane solution: M_o5.14228×10^{14} NP1:ϕ_s349.00000°,δ40.00000°, λ-4.00000°. NP2:ϕ_s82.00000°,δ88.00000°,λ-130.00000°.*

*MOS **01** 05:16:58.6±1.2,43˚.33N×11˚.01E,h11^{km},mb4.4/15 Error ellipse: s-maj=4.5km s-min=3.0km az=89.2*

*LDG **01** 05:16:58.7±0.1,43˚.23N×10˚.91E,h11^{km},Ml3.3/36,Error ellipse: s-maj=1.8km s-min=1.8km az=44.0*

*PDG **01** 05:16:58.1±0.9,43˚.21N×11˚.00E,h13$^{km}_{\pm}$1^{km}, ML4.1/10, Error ellipse: s-maj=0.8km s-min=1.1km az=0.0*

*IDC **01** 05:16:58.5±0.8,43˚.35N×11˚.03E,h0^{km},mb3.8/12, mbtmp3.8/20,ML3.9/7,MS3.1/5, Error ellipse: s-maj=15.4km s-min=11.2km az=111.0*

*NEIC **01** 05:16:59.3±2.2,43˚.23N±0˚.02×11˚.04E±0˚.06,h10$^{km}_{\pm}$1^{km}, mb4.1/7,Error ellipse: s-maj=7.7km s-min=3.0km az=276.0*

*MED_RC **01** 05:17:00.0±0.6,43˚.25N×10˚.96E,h10^{km},MW4.1/12, Moment Tensor Solution.Mantle waves: s12,c14; Duration: 1^{s}0 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.66±.15; $M_{\theta\theta}$0.87±.10; $M_{\phi\phi}$0.79±.16; $M_{r\theta}$-0.61±.29; $M_{\theta\phi}$-0.62±.10; $M_{\phi r}$0.42±.41; Best double couple: M_o1.72000×10^{15} NP1:ϕ_s130.00000°,δ58.00000°, λ-93.00000°. NP2:ϕ_s316.00000°,δ32.00000°, λ-85.00000°. Principal axes: T 1.6100, Plg13.0000°, Azm222.0000°; N 0.2200, Plg3.0000°, Azm132.0000°; P -1.8300, Plg77.0000°, Azm30.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*PRU **01** 05:17:02.0,43˚.37N×11˚.07E,h10^{km},M4.1*

ISC 01 05:16:58.7±0.8,**43˚.24N**±0˚.01×**10˚.93E**±0˚.02,**h7**$^{km}_{\pm}$5^{km}, **n426**,σ2^{s}**02**/**500**,**mb4.1**/24,**35C-4D**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TRIF	**Trifonti**	**0.12**	**188**	⇑P		**Pg**	**05 17 01.5**	**+0.1**
TRIF				S		**Sg**	**05 17 03.0**	**-0.2**
FROS	**Frosini**	**0.17**	**99**	⇓P		**Pg**	**05 17 02.2**	**0.0**
FROS				S		**Sg**	**05 17 04.6**	**0.0**
FROS				AML		AML		
FROS				AML		AML		
FROS				AML		AML		
FROS	**Frosini**	**0.17**	**99**	P		**Pg**	**05 17 02.2**	**0.0**
FROS				S		**Sg**	**05 17 04.6**	**0.0**
MAGO	**Bibbona**	**0.20**	**281**	⇑P		**Pg**	**05 17 03.3**	**+0.6**
MAGO				S		**Sg**	**05 17 06.0**	**+0.6**
A318A	**Donoratico (LI**	**0.28**	**246**	⇑P		**Pg**	**05 17 04.8**	**+0.5**
A318A				S		**Sg**	**05 17 08.7**	**+0.7**
RIBO	**Ribolla Roccas**	**0.30**	**163**	⇑P		**Pg**	**05 17 04.7**	**+0.1**
RIBO				S		**Sg**	**05 17 08.6**	**0.0**
A319A	**Santa Luce (PI**	**0.35**	**314**	⇑P		**Pg**	**05 17 06.0**	**+0.5**
A319A				S		**Sg**	**05 17 11.8**	**+1.6**
CSNT	**Castellina Chi**	**0.36**	**48**	⇑P		**Pb**	**05 17 05.9**	**-1.6**
CSNT				S		**Sb**	**05 17 11.2**	**-2.1**
CSNT				AML		AML		
	comp=E,22500μm,0.3s							
CSNT				AML		AML		
	comp=N,23950μm,0.7s							
CSNT	**Castellina Chi**	**0.36**	**48**	P		**Pb**	**05 17 05.9**	**-1.6**
CSNT				S		**Sb**	**05 17 10.6**	**-2.7**
OSSC	**Osservatorio P**	**0.37**	**39**			**Pb**	**05 17 06.2**	**-1.4**
OSSC				Sg		**Sg**	**05 17 10.2**	**-0.7**
OSSC	**Osservatorio P**	**0.37**	**39**	⇑P		**Pb**	**05 17 06.3**	**-1.4**
OSSC				S		**Sb**	**05 17 11.4**	**-2.2**
OSSC				AML		AML		
	comp=E,26500μm,0.4s							
OSSC				AML		AML		
	comp=N,42400μm,0.4s							
OSSC				AML		AML		
	comp=N,25900μm,0.4s							
OSSC				AML		AML		
	comp=E,42750μm,0.4s							
OSSC	**Osservatorio P**	**0.37**	**39**	P		**Pb**	**05 17 06.3**	**-1.4**
CASP	**Castiglione de**	**0.45**	**186**	Pg		**Pg**	**05 17 07.5**	**+0.1**
CASP				Sg		**Sg**	**05 17 13.3**	**+0.1**
CASP	**Castiglione de**	**0.45**	**186**	⇑P		**Pg**	**05 17 07.5**	**+0.1**
CASP				S		**Sg**	**05 17 13.4**	**+0.1**
CRMI	**Carmignano**	**0.56**	**3**	⇑P		**Pb**	**05 17 10.0**	**-0.8**
CRMI				S		**Sg**	**05 17 17.5**	**+0.7**
CRMI				AML		AML		
	comp=N,5350μm,0.3s							
CRMI				AML		AML		
	comp=E,11600μm,0.4s							
ARCI	**Arcidosso**	**0.56**	**133**	⇑P		**Pb**	**05 17 09.5**	**-1.4**
ARCI				S		**Sb**	**05 17 17.2**	**-1.9**
ARCI				AML		AML		
	comp=E,8930μm,0.4s							
ARCI				AML		AML		
	comp=N,11600μm,0.3s							
PII	**Pisa**	**0.57**	**329**	⇑P		**Pg**	**05 17 10.0**	**+0.3**
PII				S		**Sg**	**05 17 18.1**	**+1.0**
PII				AML		AML		
	comp=N,15450μm,0.3s							
PII				AML		AML		
	comp=E,18000μm,0.3s							
PII	**Pisa**	**0.57**	**329**	P		**Pg**	**05 17 10.0**	**+0.3**
PII				S		**Sg**	**05 17 18.5**	**+1.5**
PII	**Pisa**	**0.57**	**329**	P		**Pg**	**05 17 09.7**	**0.0**
FIR	**Firenze**	**0.59**	**24**	P		**Pb**	**05 17 10.4**	**-1.0**
FIR				S		**Sb**	**05 17 19.2**	**-0.7**
SF01	**Poggio Pratacc**	**0.63**	**132**	P		**Pb**	**05 17 11.1**	**-1.1**
SF01				S		**Sb**	**05 17 20.2**	**-1.0**
SF01				AML		AML		
	comp=N,16950μm,0.3s							
SF01				AML		AML		
	comp=E,21250μm,0.3s							
SF11	**Podere del Sol**	**0.66**	**123**	P		**Pb**	**05 17 11.5**	**-1.2**
SF11				S		**Sb**	**05 17 21.5**	**-0.6**
SF04	**Casetta**	**0.67**	**126**	P		**Pb**	**05 17 11.6**	**-1.2**
SF04				S		**Sb**	**05 17 20.8**	**-1.6**
SF04				AML		AML		
	comp=N,13510μm,0.4s							
SF04				AML		AML		
	comp=E,17600μm,0.3s							
MCIV	**Monte Civitell**	**0.72**	**129**	P		**Pb**	**05 17 12.4**	**-1.2**
MCIV				AML		AML		
	comp=E,4660μm,1.0s							
MCIV				AML		AML		
	comp=N,4135μm,1.1s							
MCIV				AML		AML		
	comp=N,4135μm,1.1s							
MCIV				AML		AML		
	comp=E,4660μm,1.0s							
CELB	**S.Piero in Cam**	**0.72**	**227**	P		**Pg**	**05 17 12.7**	**+0.1**
CELB	**S.Piero in Cam**	**0.72**	**227**	P		**Pg**	**05 17 12.8**	**+0.3**
MPPT	**Montemurlo**	**0.73**	**9**	⇑P		**Pg**	**05 17 12.9**	**+0.1**
MPPT				AML		AML		
	comp=E,6440μm,0.9s							
MPPT				AML		AML		
	comp=N,5255μm,0.5s							
RUFI	**Rufina**	**0.74**	**35**	⇑P		**Pb**	**05 17 12.9**	**-1.0**
RUFI				AML		AML		
	comp=N,8275μm,0.5s							
RUFI				AML		AML		
	comp=E,8615μm,0.4s							
RUFI				AML		AML		
	comp=N,8275μm,1.5s							
RUFI	**Rufina**	**0.74**	**35**	P		**Pb**	**05 17 13.0**	**-1.0**
RUFI				S		**Sb**	**05 17 23.4**	**-0.8**
MAIM	**Mastiano**	**0.75**	**335**	⇑P		**Pg**	**05 17 13.3**	**+0.1**
MAIM				AML		AML		
	comp=E,3795μm,0.4s							
MAIM				AML		AML		
	comp=N,3190μm,0.4s							
MAIM				AML		AML		
	comp=N,3190μm,1.6s							
MAIM	**Mastiano**	**0.75**	**335**	P		**Pg**	**05 17 13.2**	**+0.1**
MAIM				S		**Sg**	**05 17 22.6**	**-0.2**
CAFI	**Castiglion Fio**	**0.77**	**83**	P		**Pb**	**05 17 12.6**	**-1.8**
MOCL	**Monte Cuccoli**	**0.79**	**13**	⇓P		**Pg**	**05 17 13.9**	**-0.1**
MTCR	**Monte La Croce**	**0.79**	**4**	⇑P		**Pg**	**05 17 14.1**	**+0.1**
MTCR				AML		AML		
	comp=E,6090μm,0.4s							
MTCR				AML		AML		
	comp=N,11050μm,0.5s							
MTCR	**Monte La Croce**	**0.79**	**4**	P		**Pg**	**05 17 14.1**	**+0.1**
A317A	**Capraia (LI)**	**0.81**	**257**	P		**Pg**	**05 17 15.2**	**+0.9**
POPM	**Popiglio**	**0.82**	**352**	⇑P		**Pg**	**05 17 14.7**	**+0.3**
POPM				AML		AML		
	comp=E,5550μm,1.0s							
POPM				AML		AML		
	comp=N,7410μm,0.9s							
POPM				AML		AML		
	comp=E,5550μm,1.0s							
POPM				AML		AML		
	comp=N,7410μm,1.1s							
POPM	**Popiglio**	**0.82**	**352**	P		**Pg**	**05 17 14.7**	**+0.3**
POPM				S		**Sb**	**05 17 26.2**	**-0.3**
MAON	**Monte Argentar**	**0.82**	**169**	⇑P		**Pb**	**05 17 14.5**	**-0.8**
MAON	**Monte Argentar**	**0.82**	**169**	P		**Pb**	**05 17 14.7**	**-0.6**
MAON				S		**Sb**	**05 17 25.9**	**-0.7**
CRE	**Caprese Michel**	**0.84**	**62**	⇑P		**Pb**	**05 17 14.5**	**-1.2**
CRE				AML		AML		
	comp=E,4850μm,0.6s							
CRE				AML		AML		
	comp=N,6640μm,0.5s							
CRE				AML		AML		
	comp=E,4850μm,1.4s							
ASQU	**Asqua**	**0.84**	**48**	⇑P		**Pb**	**05 17 14.8**	**-0.9**
ASQU				AML		AML		
	comp=E,5350μm,0.4s							
ASQU				AML		AML		
	comp=N,4180μm,1.4s							
ASQU				AML		AML		
	comp=N,4180μm,0.6s							
ASQU	**Asqua**	**0.84**	**48**	P		**Pb**	**05 17 14.8**	**-0.9**
CARD	**Cardoso**	**0.85**	**338**	P		**Pg**	**05 17 15.0**	**-0.1**
CARD				AML		AML		
	comp=N,5470μm,0.4s							
CARD				AML		AML		
	comp=E,6985μm,0.7s							
CARD	**Cardoso**	**0.85**	**338**	P		**Pg**	**05 17 15.1**	**-0.1**
CARD				S		**Sg**	**05 17 25.8**	**-0.4**
BDI	**Bagni Di Lucca**	**0.86**	**344**	⇑P		**Pg**	**05 17 15.2**	**0.0**
BDI				AML		AML		
	comp=E,4205μm,0.7s							
BDI				AML		AML		
	comp=N,5490μm,1.0s							
BDI				AML		AML		
	comp=N,5525μm,0.9s							
BDI				AML		AML		
	comp=E,3870μm,0.6s							
BDI				AML		AML		
	comp=E,4205μm,1.3s							
BDI				AML		AML		
	comp=N,5490μm,1.0s							
BDI				AML		AML		
	comp=N,5525μm,1.1s							
BDI	**Bagni Di Lucca**	**0.86**	**344**	P		**Pg**	**05 17 15.2**	**0.0**
SEI	**Scarperia**	**0.88**	**21**	P		**Pb**	**05 17 15.7**	**-0.6**
SEI				AML		AML		
	comp=N,20350μm,0.4s							
SEI				AML		AML		
	comp=E,14000μm,0.4s							
SEI	**Scarperia**	**0.88**	**21**	P		**Pb**	**05 17 15.7**	**-0.6**
LATE	**Laterza**	**0.90**	**134**	P		**Pb**	**05 17 16.0**	**-0.7**
MGAB	**Montegabbione**	**0.93**	**110**	P		**Pb**	**05 17 16.3**	**-0.9**
MGAB				AML		AML		
	comp=E,2050μm,0.6s							
MGAB				AML		AML		
	comp=N,1795μm,0.6s							
MGAB				AML		AML		
	comp=E,2050μm,1.4s							
SSP9	**Sansepolcro**	**0.94**	**69**	P		Pn	**05 17 16.8**	**-1.6**
FNVD	**Fontana Vidola**	**0.94**	**9**	⇑P		**Pb**	**05 17 16.9**	**-0.5**
FNVD				AML		AML		
	comp=E,7670μm,0.8s							
FNVD				AML		AML		
	comp=N,14050μm,0.6s							
FNVD				AML		AML		
	com

comp=N,3700µm,0.5s
ATTE AVT- Monte Tez 1.04 92 P **Pb** 05 17 18.0 -1.2
EQUI Equi 1.08 329 P **Pb** 05 17 19.3 -0.6
ZCCA Zocca 1.11 2 **Pn** 05 17 20.9 +0.1
ZCCA Zocca 1.11 2 P **Pn** 05 17 21.1 +0.2
PLMA Palmaria, Port 1.13 317 P **Pb** 05 17 20.3 -0.2
GSCL Gusciola 1.14 348 P **Pb** 05 17 20.5 -0.3
MORSI Morsiglia 1.18 257 P **Pn** 05 17 19.9 -1.7
MTRZ Monterenzio 1.21 19 P **Pg** 05 17 21.9 0.0
IMOL Imola, Italy 1.27 28 P **Pg** 05 17 24.7 +1.6
ASSB Assisi San Ben 1.28 98 AML AML
comp=N,902µm,0.8s
ASSB AML AML
comp=E,880µm,0.9s
CESX Cesi 1.37 117 **Pn** 05 17 23.0 -1.2
T1221 Campello sul C 1.46 104 AML AML
comp=E,496µm,1.0s
T1221 AML AML
comp=N,534µm,0.8s
T1221 AML AML
comp=E,462µm,0.7s
T1221 AML AML
comp=N,530µm,0.8s
T1221 AML AML
comp=E,462µm,0.7s
T1221 AML AML
comp=N,530µm,0.8s
T1221 AML AML
comp=N,534µm,1.2s
T1221 AML AML
comp=E,462µm,1.3s
T1221 AML AML
comp=N,530µm,1.2s
MSSA Maissana 1.48 317 Pn **Pn** 05 17 25.9 0.0
MSSA Maissana 1.48 317 P **Pn** 05 17 26.1 +0.1
MML1 Montelago di S 1.50 94 AML AML
comp=E,786µm,0.8s
MML1 AML AML
comp=N,744µm,0.9s
MML1 AML AML
comp=E,786µm,1.2s
T1219 Muccia, Frazio 1.54 96 AML AML
comp=E,327µm,1.6s
T1219 AML AML
comp=E,595µm,1.6s
T1219 AML AML
comp=E,595µm,0.4s
T1219 AML AML
comp=E,327µm,0.4s
T1219 AML AML
comp=N,356µm,0.5s
T1219 AML AML
comp=N,696µm,0.5s
GAVE Gavelli 1.54 110 AML AML
comp=E,604µm,0.8s
GAVE AML AML
comp=E,591µm,0.4s
GAVE AML AML
comp=N,322µm,1.3s
GAVE AML AML
comp=E,867µm,0.4s
GAVE AML AML
comp=E,770µm,0.4s
GAVE AML AML
comp=N,638µm,0.5s
GAVE AML AML
comp=N,322µm,0.7s
GAVE AML AML
comp=E,867µm,1.6s
GAVE AML AML
comp=E,770µm,1.6s
PGF Pioggiola 1.57 245 *e*P **Pn** 05 17 26.7 -0.5
PGF *e*Sn **Sn** 05 17 43.9 -3.9
comp=E,134nm,0.3s
PGF Pioggiola 1.57 245 P **Pn** 05 17 27.9 +0.7
PGF Pioggiola 1.57 245 P **Pn** 05 17 26.6 -0.5
PRMA PARMA 1.59 344 Pn **Pg** 05 17 29.1 -0.1
FDMO Fiordimonte 1.60 96 **Pn** 05 17 26.3 -1.1
NRCA Norcia 1.66 103 Pn **Pn** 05 17 27.3 -1.0
SMPL Sampolo 1.66 227 P **Pn** 05 17 28.4 0.0
GUMA Gualdo di Mace 1.77 95 Pn **Pb** 05 17 29.4 -2.2
GORR Gorreto 1.81 320 P **Pn** 05 17 31.1 +0.7
CAMP Campotosto 1.96 110 Pn **Pn** 05 17 31.8 -0.6
TEOL Teolo 2.19 14 Pn **Pn** 05 17 35.1 -0.5
SALO Salr 2.40 353 Pn **Pn** 05 17 39.0 +0.5
GBOS Grotte di Boss 2.45 295 P **Pn** 05 17 39.2 0.0
MBAL Monte Baldo - 2.46 359 AML AML
comp=E,510µm,0.5s
MBAL AML AML
comp=N,498µm,0.6s
SAOF Saorge 2.56 288 P **Pn** 05 17 41.8 +1.1
SAOF Saorge 2.56 288 P **Pn** 05 17 39.8 -0.9
SBF Sospel 2.61 285 *e*P **Pn** 05 17 40.2 -1.2
SBF *e*Sn **Sn** 05 18 08.9 -4.5
comp=N,172nm,0.8s
SBF Sospel 2.61 285 P **Pn** 05 17 39.8 -1.6
BRJN Brijuni 2.63 50 *e*Pn **Pn** 05 17 41.5 -0.1
SPIF crte de Spivo 2.80 288 P **Pn** 05 17 43.9 -0.2
CTI Castel Tesino 2.86 10 Pn **Pn** 05 17 44.0 -0.8
CTI Castel Tesino 2.86 10 P **Pn** 05 17 44.0 -0.8
SMRN Sveta Marina 2.94 51 *i* Pn **Pn** 05 17 45.2 -0.7
CALF Calern 2.96 281 P **Pn** 05 17 47.2 +1.0
CALF S **Sn** 05 18 22.0 0.0
ISO Isola 2.96 290 P **Pn** 05 17 49.0 +2.7
PZZ Stroppo 3.03 296 P **Pn** 05 17 48.4 +1.1
BHB Bricherasio 3.09 303 P **Pn** 05 17 48.0 +0.1
DUGI Dugi Otok 3.10 74 *e*Pn **Pn** 05 17 47.6 -0.4
NVLJ Novalja 3.15 64 *e*Pn **Pn** 05 17 48.6 -0.1
SALSA La sagne 3.15 283 P **Pn** 05 17 48.4 -0.4
SALSA S **Sn** 05 18 25.0 -1.6
RABC Rab 3.17 60 *e*Pn **Pn** 05 17 48.9 -0.1
VIRC Vir 3.17 69 *e*Pn **Pn** 05 17 49.3 +0.3
SKDS Skadanscina 3.20 43 *i* Pn **Pn** 05 17 48.0 -1.5
SURF Saint Ours 3.22 294 P **Pn** 05 17 50.6 +0.6
SURF S **Sn** 05 18 29.9 +1.2
LMR La Mourre 3.23 273 *e*P **Pn** 05 17 48.2 -1.6
LMR *e*Sn **Sn** 05 18 23.9 -4.5
comp=N,36nm,0.4s
RSP Reno Superiore 3.25 307 P **Pb** 05 17 55.4 -1.5
RIY Rijeka 3.30 50 *e*Pn **Pn** 05 17 51.2 +0.5
SABO M.te Sabotino 3.34 34 Pn **Pn** 05 17 50.3 -1.1
SABO M.te Sabotino 3.34 34 AML AML
comp=N,1690µm,1.4s
SABO AML AML
comp=E,1235µm,0.7s
SABO AML AML
comp=N,1690µm,0.6s
SABO AML AML
comp=N,446µm,0.6s
SABO AML AML
comp=E,307µm,0.7s
SABO AML AML
comp=N,446µm,1.4s
MPRI Monte Prat 3.35 25 AML AML
comp=E,472µm,0.6s
MPRI AML AML
comp=N,563µm,1.2s
MPRI AML AML
comp=E,603µm,0.6s
MPRI AML AML
comp=N,722µm,1.3s
MPRI AML AML
comp=N,722µm,0.7s
MPRI AML AML
comp=N,563µm,0.8s
MBDF Montbardon 3.35 298 *e*P **Pn** 05 17 51.8 +0.2
MBDF *e*Sn **Sn** 05 18 26.6 -5.1
comp=N,37nm,0.6s
MBDF Montbardon 3.35 298 P **Pn** 05 17 51.8 +0.2
FLAF Flassans-sur-I 3.41 274 P **Pn** 05 17 51.3 -1.1
FUORN Ofenpass-Fuorn 3.42 352 Pn **Pn** 05 17 53.9 +1.2
RRL Rocca Remolon 3.42 301 P **Pn** 05 17 55.8 +3.1
RRL Rocca Remolon 3.42 301 P **Pn** 05 17 53.9 +1.2
TUE Stuetta 3.42 341 Pn **Pn** 05 17 53.7 +0.9
PAOL Paolisi 3.49 128 Pn **Pn** 05 17 52.9 -0.6
MMK Mattmark 3.52 324 P **Pn** 05 17 57.5 +3.5
CEY Cerknica 3.54 44 *e*Pn **Pn** 05 17 52.9 -1.2
BNI Bardonecchia 3.56 302 Pn **Pn** 05 17 54.7 +0.3
BNI Bardonecchia 3.56 302 P **Pn** 05 17 54.7 +0.3
CADS Cadrg 3.60 33 *i* Pn **Pn** 05 17 53.7 -1.3
BLAF les Blancs 3.62 283 P **Pn** 05 17 56.3 +1.1
DAVOX Davos/Dischmat 3.62 349 Pn **Pn** 05 17 56.9 +1.5
comp=N,14nm,0.3s,baz=171,slow=12,SNR=94
DAVOX Sn **Sn** 05 18 37.5 -0.9
comp=N,3.7nm,0.3s,baz=340,slow=22,SNR=1.0

DAVOX Lg Lg 05 18 49.8
comp=N,6.2nm,0.3s,baz=16,slow=22,SNR=4.0
comp=N,69nm,0.5s
ZOU Zoufplan 3.62 23 AML AML
comp=N,194µm,0.6s
ZOU AML AML
comp=N,226µm,1.4s
ZOU AML AML
comp=N,194µm,1.4s
ZOU AML AML
comp=E,318µm,0.9s
ZOU AML AML
comp=N,226µm,0.6s
ZOU AML AML
comp=E,304µm,0.9s
ABTA Abfaltersbach 3.69 17 *e*Pn **Pn** 05 17 56.6 +0.4
comp=E,60nm,0.5s,SNR=54
ABTA *i* Sn **Sn** 05 18 40.4 +0.5
comp=E,33nm,0.4s
PRED Cave del Predi 3.72 29 Pn **Pn** 05 17 56.2 -0.4
UDBI Udbina 3.73 68 *i* Pn **Pn** 05 17 57.8 +1.0
UDBI Sn **Sn** 05 18 41.3 +0.4
LPG La Plagne 3.75 309 *e*P **Pn** 05 17 58.9 +1.6
LPG *e*Sn **Sn** 05 18 36.5 -5.3
comp=E,14nm,0.3s
LPG La Plagne 3.75 309 P **Pn** 05 17 58.2 +0.9
PLIT Plitvice 3.76 63 *e*Pn **Pn** 05 17 56.8 -0.4
LPL La Plagne 3.77 309 *e*P **Pn** 05 17 59.3 +1.8
LPL *e*Sn **Sn** 05 18 37.5 -4.7
comp=E,14nm,0.4s
LPL La Plagne 3.77 309 P **Pn** 05 17 59.4 +1.9
FETA Feichten 3.79 358 *i* Pn **Pn** 05 17 59.1 +1.5
comp=E,28nm,0.5s,SNR=24
FETA *i* Sn **Sn** 05 18 45.3 +2.7
comp=E,33nm,0.8s
LJU Ljubljana 3.81 41 *i* Pn **Pn** 05 17 57.4 -0.4
BOJS Bojanci 3.84 52 *e*Pn **Pn** 05 17 59.4 +1.1
LLS Linth-Limmern 3.86 340 P **Pn** 05 18 01.0 +2.4
SGRT San Giovanni R 3.86 111 Pn **Pn** 05 17 59.4 +0.9
MYKA Terra Mystica 3.90 29 *e*Pn **Pn** 05 17 59.4 +0.2
comp=E,15nm,0.4s,SNR=13
VSL Villasalto 3.91 198 Pn **Pn** 05 17 58.9 -0.3
SMRF Simiane la Rot 3.96 283 *e*P **Pn** 05 18 00.6 +0.8
SMRF *e*Sn **Sn** 05 18 40.8 -5.7
comp=E,8.2nm,0.4s
SQTA Sankt Quirin 3.99 3 *i* Pn **Pn** 05 18 01.9 +1.5
comp=E,131nm,0.4s,SNR=110
SQTA *i* Sn **Sn** 05 18 49.3 +1.9
comp=E,44nm,0.4s
ORIF Oris-en-Rattie 4.00 297 *e*P **Pn** 05 18 03.0 +2.4
ORIF *e*Sn **Sn** 05 18 42.2 -5.6
comp=E,13nm,0.3s
ORIF Oris-en-Rattie 4.00 297 AML AML
comp=E,74µm,0.5s
ORIF AML AML
comp=N,74µm,0.5s
ORIF Oris-en-Rattie 4.00 297 P **Pn** 05 18 01.7 +1.1
OZLJ Ozalj 4.03 52 *i* Pn **Pn** 05 18 00.5 -0.3
KIJV Kijevo 4.05 77 *e*Pn **Pn** 05 18 00.5 -0.7
SENIN Lac Senin/Sane 4.05 322 Pn **Pn** 05 18 04.0 +2.6
WTTA Wattenberg 4.06 7 *i* Pn **Pn** 05 18 02.7 +1.3
comp=N,26nm,0.2s,SNR=25
WTTA *i* Sn **Sn** 05 18 50.6 +1.3
comp=N,70nm,0.5s
WTTA Wattenberg 4.06 7 P **Pn** 05 18 02.5 +1.1
MOTA Moosalm 4.11 2 *i* Pn **Pn** 05 18 03.9 +1.8
comp=N,55nm,0.5s,SNR=53
MOTA *e*Sn **Sn** 05 18 51.5 +1.0
comp=N,116nm,0.8s
DAVA Damuels 4.12 350 *i* Pn **Pn** 05 18 05.1 +2.9
comp=N,17nm,0.3s,SNR=19
DAVA *e*Sn **Sn** 05 18 52.1 +1.4
comp=N,87nm,0.5s
WATA Walderalm 4.13 6 *i* Pn **Pn** 05 18 03.6 +1.3
comp=N,123nm,0.6s,SNR=98
WATA *i* Sn **Sn** 05 18 52.2 +1.3
comp=N,56nm,0.4s
OBKA Obir 4.17 37 *i* Pn **Pn** 05 18 04.1 +1.4
comp=N,21nm,0.5s
OBKA Obir 4.17 37 *e*Pn **Pn** 05 18 01.8 -1.0
AIGLE Aigle 4.20 319 P **Pn** 05 18 05.8 +2.6
KBA Koelnbreinsper 4.21 23 *i* Pn **Pn** 05 18 03.9 +0.5
comp=N,13nm,0.3s,SNR=21
KBA *i* Sn **Sn** 05 18 53.5 +0.6
comp=N,24nm,0.4s
KBA Koelnbreinsper 4.21 23 P **Pn** 05 18 04.1 +0.7
A050A Klekovaca 4.24 71 *e*Pn **Pn** 05 18 04.6 +0.8
RETA Reutte 4.25 359 *i* Pn **Pn** 05 18 05.7 +1.7
comp=N,51nm,0.4s,SNR=32
RETA *i* Sn **Sn** 05 18 56.1 +2.3
comp=N,19nm,0.4s
SAUF chteau de Sau 4.29 281 P **Pn** 05 18 05.6 +1.3
LESA Schwarzleotal 4.37 16 *i* Pn **Pn** 05 18 06.8 +1.3
comp=N,109nm,0.5s
LESA *i* Sn **Sn** 05 18 58.3 +1.6
comp=N,40nm,0.6s
LSTV Lastovo 4.40 94 *e*Pn **Pn** 05 18 01.9 -4.1
OGSM Saint Maurice 4.43 304 P **Pn** 05 18 08.6 +2.2
ZUR Degenried 4.45 339 P **Pn** 05 18 09.0 +2.3
OGMY Moye 4.46 308 P **Pn** 05 18 08.8 +1.9
PTJ Puntijarka 4.49 52 P **Pn** 05 18 09.1 +1.9
SOKA Soboth 4.51 39 *e*Pn **Pn** 05 18 08.9 +1.4
comp=N,11nm,0.3s,SNR=9.4
RICI Ricice 4.53 85 *e*Pn **Pn** 05 18 05.3 -2.5
SRKY Kupres RS 4.60 77 *e*Pn **Pn** 05 18 10.1 +1.3
MGRS Mrkonjic Grad 4.61 73 *e*Pn **Pn** 05 18 08.6 -0.2
A051A Mrakovica 4.66 66 *e*Pn **Pn** 05 18 09.8 +0.3
BALST Balsthal 4.69 332 P **Pn** 05 18 11.1 +1.2
SULZ Cheisacher 4.73 336 P **Pn** 05 18 11.3 +0.9
OG35 Corcelles 4.74 308 P **Pn** 05 18 11.8 +1.2
BLY Banja Luka 4.76 69 *e*Pn **Pn** 05 18 14.4 +3.5
VIVF Saint-Julien-I 4.79 292 *e*P **Pn** 05 18 12.8 +1.5
VIVF *e*Sn **Sn** 05 19 00.8 -6.2
comp=N,9.6nm,0.6s
VIVF Saint-Julien-I 4.79 292 P **Pn** 05 18 11.9 +0.6
CABF La Chapelle 4.81 316 *e*P **Pn** 05 18 12.7 +1.0
CABF *e*Sn **Sn** 05 19 01.4 -6.3
comp=N,8.2nm,0.5s
CABF La Chapelle 4.81 316 P **Pn** 05 18 13.4 +1.7
SLE Schleitheim 4.84 340 P **Pn** 05 18 12.5 +0.5
BIOA Bad Ischl, Aus 4.85 22 *i* Pn **Pn** 05 18 12.9 +0.8
comp=N,7.4nm,0.3s,SNR=9.0
BIOA *e*Sn **Sn** 05 19 06.9 -1.6
comp=N,35nm,0.4s
CUC Castrocucco 4.89 130 Pn **Pn** 05 18 14.4 +1.7
BOURR Bourrignon 4.91 329 P **Pn** 05 18 14.6 +1.6
FUR Furstenfeldbru 4.94 3 P **Pn** 05 18 14.4 +1.1
STON Ston 4.98 92 *e*Pn **Pn** 05 18 12.1 -1.7
STON Ston 4.98 92 *e*Pn **Pn** 05 18 13.0 -0.8
GUT Gutenstein 5.00 346 P **Pn** 05 18 13.8 -0.3
RIVEL MONT RIVEL 5.00 317 P **Pn** 05 18 16.0 +1.8
ENDD Endenburg 5.01 335 P **Pn** 05 18 15.4 +1.1
SSB Saint Sauveur 5.02 296 Pn **Pn** 05 18 15.7 +1.2
SSB Saint Sauveur 5.02 296 P **Pn** 05 18 15.7 +1.2
SSB Saint Sauveur 5.02 296 P **Pn** 05 18 15.7 +1.2
SSB S **Sn** 05 19 09.7 -3.1
CHMF Charmoille 5.02 325 P **Pn** 05 18 15.9 +1.4
FELD Feldberg im Sc 5.07 337 P **Pn** 05 18 16.5 +1.2
ARSA Arzberg 5.16 37 *i* Pn **Pn** 05 18 17.4 +1.0
comp=N,26nm,0.5s,SNR=22
KIZ Kirchzarten 5.17 337 P **Pn** 05 18 16.8 +0.3
MOA Molln 5.18 26 *i* Pn **Pn** 05 18 17.3 +0.7
comp=N,15nm,0.5s,SNR=12
BOUC Bouclans 5.19 322 P **Pn** 05 18 17.3 +0.5
LASF Ste Croix 5.20 282 *e*P **Pn** 05 18 16.9 0.0
LASF *e*Sn **Sn** 05 19 10.6 -6.5
comp=N,2.1nm,0.4s
NEVS Nevesinje 5.24 87 *e*Pn **Pn** 05 18 18.8 +1.2
DBRK Dubrovnik 5.33 94 *e*Pn **Pn** 05 18 19.6 +0.9
VOGT Vogtsburg - To 5.36 336 P **Pn** 05 18 19.8 +0.8
WALT Westhalten 5.38 333 P **Pn** 05 18 20.4 +1.1
RONF Ronchamp 5.39 328 P **Pn** 05 18 20.4 +0.8
HINF Hinteralfeld 5.40 329 *e*P **Pn** 05 18 20.6 +0.9
HINF *e*Sn **Sn** 05 19 15.4 -6.7
comp=N,40nm,0.5s
BFO Black Forest 5.41 341 Pn **Pn** 05 18 19.9 +0.2
BFO Black Forest 5.41 341 P **Pn** 05 18 20.0 +0.2
TREB Trebinje 5.47 93 *e*Pn **Pn** 05 18 21.6 +0.9
BRY Bratogost 5.59 91 *e*Pn **Pn** 05 18 24.6 +2.2
BRY Bratogost 5.59 91 *e*Pn **Pn** 05 18 21.9 -0.5
BRY *i* Sn **Sn** 05 19 24.2 -2.7
OPP Oppenau 5.60 341 P **Pn** 05 18 22.5 +0.1
HCY Herceg Novi 5.62 95 *e*Pn **Pn** 05 18 25.5 +2.8
HCY Herceg Novi 5.62 95 *e*Pn **Pn** 05 18 22.3 -0.4

HCY *i* Sn **Sn** 05 19 25.1 -2.4
ECH Echery 5.63 333 Pn **Pn** 05 18 22.4 -0.5
ECH Echery 5.63 333 P **Pn** 05 18 22.4 -0.5
ECH Echery 5.63 333 P **Pn** 05 18 23.0 +0.1
COLF Collangettes 5.66 296 P **Pn** 05 18 23.7 +0.5
STU Stuttgart 5.67 348 Pn **Pn** 05 18 23.4 +0.1
STU Stuttgart 5.67 348 P **Pn** 05 18 23.4 +0.1
CLAF Gruissan 5.73 272 P **Pn** 05 18 22.7 -1.5
WLS Welschbruch 5.75 336 P **Pn** 05 18 25.4 +0.9
WLS pmax pmax
comp=Z,44nm,1.0s
HAU Haudompre 5.75 328 *e*P **Pn** 05 18 25.7 +1.2
HAU *e*Sn **Sn** 05 19 23.5 -7.1
comp=Z,36nm,0.5s
CDF Champ du Feu 5.77 335 *e*P **Pn** 05 18 24.7 -0.1
CDF Champ du Feu 5.77 335 *e*P **Pn** 05 18 25.1 +0.3
CDF *e*Sn **Sn** 05 19 24.0 -7.3
comp=Z,23nm,0.5s
MMGO Monte Magaggia 5.78 164 AML AML
comp=E,69µm,1.3s
MMGO AML AML
comp=N,105µm,0.4s
MMGO AML AML
comp=E,69µm,0.7s
STR Strasbourg 5.79 339 P **Pn** 05 18 28.8 +3.9
STR pmax pmax
comp=Z,92nm,0.6s
BABA Baden-Baden-Ne 5.80 342 P **Pn** 05 18 25.1 -0.1
CONA Conrad Observa 5.83 35 *i* Pn **Pn** 05 18 25.6 -0.1
comp=Z,9.4nm,0.5s,SNR=9.8
CONA *i* Sn **Sn** 05 19 30.3 -2.5
comp=Z,10.0nm,0.5s
UPM Unac-Piva 5.83 88 *e*Pn Pn 05 18 29.7 +3.9
UPM Unac-Piva 5.83 88 ⇑*i*Pn **Pn** 05 18 25.3 -0.5
UPM *i* Sn **Sn** 05 19 30.3 -2.7
RONA Rosalia, Austr 5.85 38 *e*Pn **Pn** 05 18 25.8 0.0
comp=Z,4.9nm,0.3s,SNR=7.9
RONA *i* Sn **Sn** 05 19 33.2 +0.1
comp=Z,4.7nm,0.3s
LBL Lubilhac 5.87 293 P **Pn** 05 18 26.9 +0.7
HAPS Han Pijesak,Bl 5.88 79 *e*Pn **Pn** 05 18 26.7 +0.3
PLDF La Plantade 5.89 300 P **Pn** 05 18 29.4 +3.0
PLDF pmax pmax
comp=Z,18nm,0.5s
NKME Niksic 5.91 92 *e*Pn **Pn** 05 18 26.3 -0.4
NKME *i* Sn **Sn** 05 19 32.2 -2.4
CEME Cevo 5.91 94 ⇓*i*Pn **Pn** 05 18 26.4 -0.4
CEME *i* Sn **Sn** 05 19 32.4 -2.4
CLTB Caltabellotta 5.92 162 Pn **Pn** 05 18 28.8 +2.0
GEC2 GERESS Array S 5.93 18 Pn **Pn** 05 18 25.5 -1.5
GERES GERESS Array B 5.93 18 **Pn** 05 18 26.1 -1.0
GERES GERESS Array B 5.93 18 Pn **Pn** 05 18 26.3 -0.8
comp=Z,6.4nm,0.3s,baz=190,slow=13,SNR=80
GERES Sn **Sn** 05 19 31.2 -4.1
comp=Z,1.5nm,0.3s,baz=92,slow=39,SNR=1.3
GERES LR LR 05 20 59.0
comp=Z,124nm,19.0s,baz=217,slow=42
comp=Z,13nm,0.5s
SOP Sopron 5.96 40 P **Pn** 05 18 29.0 +1.7
SOP pmax pmax
comp=Z,16nm,0.7s
SJAF Saint Jean de 5.96 266 P **Pn** 05 18 25.3 -2.0
TIP Timpagrande 5.98 131 Pn **Pn** 05 18 30.5 +2.8
XAFF Xaffevillers 5.98 331 P **Pn** 05 18 28.9 +1.2
MAHO Mahon 6.00 238 Pn **Pn** 05 18 29.5 +1.5
CKRC Cesky Krumlov 6.06 22 *e*PN **Pn** 05 18 28.4 -0.3
CKRC Cesky Krumlov 6.06 22 *e*P **Pn** 05 18 28.4 -0.3
WET Wettzell 6.06 12 P **Pn** 05 18 29.6 +0.8
WET pmax pmax
comp=Z,15nm,0.8s
SMF Signal de Mont 6.07 307 *e*P **Pn** 05 18 30.5 +1.6
SMF *e*Sn **Sn** 05 19 31.6 -7.0
comp=Z,8.4nm,0.4s
CIEL Dossenheim-sur 6.12 337 P **Pn** 05 18 29.8 +0.2
RUDO Rudo 6.16 84 *e*Pn **Pn** 05 18 30.2 +0.1
DRME Dracevica, Mon 6.17 97 *e*Pn **Pn** 05 18 30.5 +0.2
DRME Dracevica, Mon 6.17 97 ⇑*i*Pn **Pn** 05 18 30.3 0.0
DRME *i* Sn **Sn** 05 19 38.8 -2.3
KHC Kasperske Hory 6.18 16 Pn **Pn** 05 18 29.2 -1.2
KHC Kasperske Hory 6.18 16 *e*PN **Pn** 05 18 29.5 -0.8
KHC *e*SN **Sn** 05 19 37.4 -3.8
KHC Kasperske Hory 6.18 16*ce*P **Pn** 05 18 30.3 -0.1
KHC pmax pmax
comp=Z,27nm,0.6s
PDG Podgorica 6.18 95 Pn **Pn** 05 18 27.9 -2.4
PDG Podgorica 6.18 95 *e*Pn **Pn** 05 18 29.7 -0.6
PDG Podgorica 6.18 95 *e*Pn **Pn** 05 18 30.3 0.0
PDG *i* Sn **Sn** 05 19 39.0 -2.2
GRB1 Grafenberg Arr 6.18 4 P **Pn** 05 18 30.2 -0.1
GRB1 pmax pmax
comp=Z,26nm,0.7s
FILF Fillols 6.18 267 P **Pn** 05 18 30.1 -0.3
BBLS Lazi&#263i 6.20 81 *e*Pn **Pn** 05 18 32.1 +1.5
KOME Kolasin 6.31 91 *e*Pn **Pn** 05 18 32.1 -0.1
KOME *i* Sn **Sn** 05 19 42.1 -2.4
TEKS Tekeris 6.35 75 *e*Pn **Pn** 05 18 33.0 +0.2
MTLF Montolieu 6.36 274 *e*P **Pn** 05 18 33.0 +0.2
MTLF *e*Sn **Sn** 05 19 38.2 -7.4
comp=Z,2.4nm,0.6s
MTLF Montolieu 6.36 274 P **Pn** 05 18 34.4 +1.6
MTLF pmax pmax
comp=Z,25nm,0.9s
MTLF Montolieu 6.36 274 P **Pn** 05 18 32.5 -0.3
LOR Lormes 6.41 311 *e*P **Pn** 05 18 35.1 +1.5
baz=126
LOR *e*Sn **Sn** 05 19 39.6 -7.4
comp=Z,16nm,0.7s
LOR Lormes 6.41 311 P **Pn** 05 18 35.1 +1.5
LOR pmax pmax
comp=Z,23nm,0.7s
LOR Lormes 6.41 311 P **Pn** 05 18 34.9 +1.3
AVF Avril sur Loir 6.44 306 *e*P **Pn** 05 18 35.7 +1.8
AVF *e*Sn **Sn** 05 19 40.3 -7.2
comp=Z,1.5nm,0.4s
AVF Avril sur Loir 6.44 306 P **Pn** 05 18 35.0 +1.1
PAGF Fort de Pagny 6.44 328 *e*P **Pn** 05 18 35.4 +1.5
baz=144
PAGF *e*Sn **Sn** 05 19 40.1 -7.5
comp=Z,12nm,0.4s
SFTF Sexfontaines 6.45 322 *e*P **Pn** 05 18 34.6 +0.5
baz=138
SFTF *e*Sn **Sn** 05 19 40.6 -7.4
comp=Z,4.3nm,0.3s
GRFO Grafenberg 6.46 2 Pn **Pn** 05 18 33.3 -0.9
GRFO Grafenberg 6.46 2 P **Pn** 05 18 33.3 -0.9
GRA1 Grafenberg Arr 6.46 2 Pn **Pn** 05 18 32.0 -2.2
GRF Grafenberg Arr 6.46 2 P **Pn** 05 18 32.1 -2.2
FNEB Nbias 6.47 270 P **Pn** 05 18 34.5 +0.2
CARF Carcanieres 6.49 268 P **Pn** 05 18 33.6 -1.1
SSF Saint Saulge 6.49 309 *e*P **Pn** 05 18 35.8 +1.2
SSF *e*Sn **Sn** 05 19 41.5 -7.4
comp=Z,12nm,0.7s
SSF Saint Saulge 6.49 309 P **Pn** 05 18 36.5 +1.9
ZST Bratislava 6.58 39 *e*PN **Pn** 05 18 37.8 +2.0
ZST Bratislava 6.58 39 *e*P **Pn** 05 18 37.8 +2.0
IVA Berane 6.58 90 ⇓*i*Pn **Pn** 05 18 35.9 -0.1
IVA *i* Sn **Sn** 05 19 48.8 -2.5
CAF Calviac 6.60 288 *e*P **Pn** 05 18 36.4 +0.3
CAF *e*Sn **Sn** 05 19 44.1 -7.6
comp=Z,1.2nm,0.4s
CAF Calviac 6.60 288 P **Pn** 05 18 36.5 +0.3
ZVC Zvikov 6.60 19 *e*PN **Pn** 05 18 35.6 -0.6
BGF Bois d'Agland 6.63 303 *e*P **Pn** 05 18 38.0 +1.5
BGF *e*Sn **Sn** 05 19 44.6 -7.7
comp=Z,12nm,0.5s
BGF Bois d'Agland 6.63 303 P **Pn** 05 18 37.8 +1.3
PVY Plav 6.66 92 *e*Pn **Pn** 05 18 37.1 0.0
PVY *i* Sn **Sn** 05 19 51.2 -2.2
DUNF Dun 6.67 271 P **Pn** 05 18 37.0 -0.1
MEZF Maizieres J'vi 6.67 324 *e*P **Pn** 05 18 39.8 +2.7
MEZF *e*Sn **Sn** 05 19 53.1 -0.2
comp=Z,7.0nm,0.5s
PUK Puka 6.72 97 Pn **Pn** 05 18 38.6 +0.8
MODS Modra-Piesok 6.79 39 *e*PN **Pn** 05 18 39.8 +1.1
MODS Modra-Piesok 6.79 39 *e*P **Pn** 05 18 39.8 +1.1
TCF Toulx Ste Croi 6.91 299 *e*P **Pn** 05 18 42.3 +1.9
TCF *e*Sn **Sn** 05 19 51.6 -7.7
comp=Z,7.3nm,0.6s
PAND Andorre 6.93 267 P **Pn** 05 18 41.0 +0.2
KRUC Moravsky 6.95 31 *e*PN **Pn** 05 18 40.2 -0.8
KRUC Moravsky 6.95 31 P **Pn** 05 18 39.6 -1.4
KRUC pmax pmax
comp=Z,7.0nm,0.5s

SMOL	**Smolenice**	**6.96**	**38**	*e*P		**Pn**	**05 18 43.2**	**+2.1**
ABH	**Alteburg**	**7.04**	**342**	P		**Pn**	**05 18 42.3**	**+0.1**
NKC	**Novy Kostel**	**7.08**	**8**	*e*PN		**Pn**	**05 18 42.2**	**-0.5**
NKC	**Novy Kostel**	**7.08**	**8**	*e*P		**Pn**	**05 18 42.2**	**-0.5**
CEST	**Esterri de Car**	**7.13**	**268**	Pn		**Pn**	**05 18 45.4**	**+1.9**
MONQ	**Montcuq**	**7.13**	**282**	P		**Pn**	**05 18 44.8**	**+1.4**
GOPC	**GO Pecny, Ondr**	**7.19**	**20**	*e*PN		**Pn**	**05 18 43.5**	**-0.7**
GOPC	**GO Pecny, Ondr**	**7.19**	**20**	P		**Pn**	**05 18 45.1**	**+0.9**
GOPC				pmax	pmax			
	comp=Z,30nm,1.1s							
TNS	**Taunus Mts**	**7.19**	**347**	P		**Pn**	**05 18 44.9**	**+0.6**
TNS				pmax	pmax			
	comp=Z,24nm,0.6s							
PRU	**Pruhonice**	**7.20**	**19**	*e*PN		**Pn**	**05 18 43.0**	**-1.3**
PRU	**Pruhonice**	**7.20**	**19**	*e*P		**Pn**	**05 18 43.0**	**-1.3**
MLS	**Moulis**	**7.20**	**271**	P		**Pn**	**05 18 44.8**	**+0.4**
VRAC	**Vranov**	**7.23**	**31**	*e*PN		**Pn**	**05 18 43.2**	**-1.6**
VRAC	**Vranov**	**7.23**	**31**	Pn		**Pn**	**05 18 42.8**	**-1.9**
	comp=Z,0.3nm,0.3s,baz=229,slow=13,SNR=3.4							
VRAC				Sn		**Sn**	**05 20 02.9**	**-4.2**
	comp=Z,0.5nm,0.3s,baz=170,slow=12,SNR=1.6							
VRAC				LR		LR	05 22 11.1	
	comp=Z,172nm,21.6s,baz=198,slow=44							
	comp=Z,2.8nm,0.7s							
JAVC	**Velka Javorina**	**7.32**	**37**	*e*PN		**Pn**	**05 18 46.8**	**+0.7**
LFF	**La Frestale**	**7.53**	**287**	*e*P		**Pn**	**05 18 51.0**	**+2.1**
LFF				*e*Sn		**Sn**	**05 20 06.3**	**-8.1**
	comp=Z,1.3nm,0.3s							
KEST	**Kesra**	**7.59**	**190**	Pn		**Pn**	**05 18 52.3**	**+2.5**
KEST	**Kesra**	**7.59**	**190**	Pn		**Pn**	**05 18 53.1**	**+3.3**
	comp=Z,7.7nm,0.3s,baz=290,slow=4.4,SNR=65							
KEST				Sn		**Sn**	**05 20 17.2**	**+1.0**
	baz=18,slow=22							
	comp=Z,22nm,0.4s							
VYHS	**Vyhne**	**7.62**	**44**	*e*PN		**Pn**	**05 18 50.4**	**+0.2**
VYHS	**Vyhne**	**7.62**	**44**	*e*P		**Pn**	**05 18 50.4**	**+0.2**
PVCC	**Panska Ves**	**7.71**	**18**	P		**Pn**	**05 18 50.6**	**-0.7**
PVCC				pmax	pmax			
	comp=Z,15nm,0.7s							
CLF	**Chambon-Foret**	**7.73**	**311**	Pn		**Pn**	**05 18 52.1**	**+0.5**
EPF	**Esparros**	**7.75**	**272**	*e*P		**Pn**	**05 18 53.9**	**+2.0**
EPF				*e*Sn		**Sn**	**05 20 11.8**	**-8.1**
	comp=Z,1.2nm,0.4s							
EPF	**Esparros**	**7.75**	**272**	P		**Pn**	**05 18 52.5**	**+0.6**
PSZ	**Piszkesteto**	**7.84**	**50**	P		Pn	05 18 57.1	+3.9
PSZ				pmax	pmax			
	comp=Z,4.0nm,1.3s							
BRG	**Berggiesshubel**	**7.91**	**14**	*e*P		**Pn**	**05 18 52.9**	**-1.2**
BRG				Amp			05 19 00.9	
	comp=Z,8.7nm,0.5s							
BRG				r			05 20 21.4	
BRG				Amp			05 20 27.5	
	comp=Z,6.2nm,0.8s							
BRG				Amp			05 22 36.0	
	comp=Z,0.4nm,13.0s							
BRG				Amp			05 22 39.0	
	comp=N,0.3nm,13.1s							
BRG				Amp			05 22 41.0	
	comp=E,0.1nm,11.7s							
BRG				Amp			05 43 38.0	
	comp=E,0.1nm,24.3s							
BRG				Amp			05 43 44.0	
	comp=Z,0.3nm,24.4s							
BRG				Amp			05 43 48.0	
	comp=N,0.1nm,15.6s							
BRG	**Berggiesshubel**	**7.91**	**14**	*e*P		**Pn**	**05 18 52.9**	**-1.2**
BRG				*e*S		**Sn**	**05 20 21.4**	**-2.4**
BRG				pmax	pmax			
	comp=Z,9.0nm,0.5s							
BRG				smax	smax			
	comp=E,6.0nm,0.8s							
BRG				MLR	MLR			
	comp=Z,415nm,13.0s							
BRG				MLR	MLR			
	comp=N,274nm,13.1s							
BRG				MLR	MLR			
	comp=E,122nm,11.7s							
KRLC	**Kraliky**	**7.94**	**28**	*e*PN		**Pn**	**05 18 53.9**	**-0.6**
KRLC	**Kraliky**	**7.94**	**28**	*e*P		**Pn**	**05 18 53.9**	**-0.6**
MORC	**Moravsky Berou**	**7.97**	**33**	Pn		**Pn**	**05 18 53.5**	**-1.5**
MORC	**Moravsky Berou**	**7.97**	**33**	*e*PN		**Pn**	**05 18 52.8**	**-2.2**
MORC	**Moravsky Berou**	**7.97**	**33**	P		**Pn**	**05 18 53.5**	**-1.5**
BZS	**Buzias**	**8.02**	**69**	P		**Pn**	**05 18 57.7**	**+2.2**
BZS				pmax	pmax			
	comp=Z,5.0nm,0.6s							
GIVF	**Givet**	**8.05**	**331**	*e*P		**Pn**	**05 18 57.9**	**+2.0**
GIVF				*e*Sn		Sn	05 20 18.1	-9.0
	comp=Z,3.1nm,0.4s							
CHVC	**Chvalec**	**8.15**	**24**	*e*PN		**Pn**	**05 18 56.0**	**-1.4**
CHVC	**Chvalec**	**8.15**	**24**	*e*P		**Pn**	**05 18 56.0**	**-1.4**
CLL	**Collm**	**8.20**	**9**	Pn		**Pn**	**05 18 56.1**	**-1.9**
CLL	**Collm**	**8.20**	**9**	*e*Pn		**Pn**	**05 18 54.0**	**-4.0**
CLL				*ex*	x		05 18 57.0	
	comp=Z,9.0nm,0.9s							
CLL				*ex*	x		05 19 07.0	
CLL				*ex*	x		05 19 16.0	
CLL				*e*Pg		**Pg**	**05 19 34.0**	**-1.6**
CLL				*ex*	x		05 20 09.0	
CLL				*e*Sn		Sn	05 20 11.0	-20
CLL				*ex*	x		05 20 26.0	
CLL				*ex*	x		05 20 33.0	
CLL				*ex*	x		05 20 43.0	
CLL				*ex*	x		05 20 53.0	
CLL				*e*Sb		Sb	05 21 05.0	+6.3
CLL				*e*Sg		**Sg**	**05 21 18.0**	**-3.7**
	comp=Z,22nm,1.4s							
CLL	**Collm**	**8.20**	**9**	P		**Pn**	**05 18 56.1**	**-1.9**
BAIF	**Baives**	**8.24**	**328**	*e*P		**Pn**	**05 19 01.3**	**+2.7**
BAIF				*e*Sn		Sn	05 20 23.0	-8.8
	comp=Z,7.7nm,0.6s							
BAIF	**Baives**	**8.24**	**328**	P		Pn	05 19 03.6	+5.0
ETSF	**Etsaut**	**8.42**	**272**	*e*P		**Pn**	**05 19 04.6**	**+3.5**
ETSF				*e*Sn		Sn	05 20 27.5	-8.9
	comp=Z,1.0nm,0.3s							
MFF	**Saint Martin d**	**8.55**	**297**	*e*P		**Pn**	**05 19 04.8**	**+2.0**
MFF	**Saint Martin d**	**8.55**	**297**	P		**Pn**	**05 19 04.6**	**+1.8**
SJPF	**Ste Jean**	**8.88**	**273**	*e*P		**Pn**	**05 19 09.6**	**+2.2**
SJPF				*e*Sn		Sn	05 20 38.7	-9.0
	comp=Z,23nm,1.0s							
LDF	**La Druitiere**	**9.38**	**309**	*e*P		**Pn**	**05 19 16.4**	**+2.2**
LDF	**La Druitiere**	**9.38**	**309**	P		**Pn**	**05 19 14.1**	**-0.1**
FLN	**La Foliniere**	**9.67**	**309**	*e*P		**Pn**	**05 19 20.6**	**+2.4**
	baz=119							
GRR	**Gorron**	**9.70**	**306**	*e*P		**Pn**	**05 19 20.8**	**+2.1**
GRR	**Gorron**	**9.70**	**306**	P		**Pn**	**05 19 21.1**	**+2.4**
VOIR		**10.36**	**73**	P		**Pn**	**05 19 30.0**	**+2.3**
VOIR				pmax	pmax			
	comp=Z,5.0nm,1.2s							
QUIF	**Quistinic**	**10.93**	**300**	*e*P		**Pn**	**05 19 36.9**	**+1.5**
MLR	**Muntele Rosu**	**10.99**	**73**	Pn		**Pn**	**05 19 36.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=236,slow=14,SNR=1.4							
MLR				LR		LR	05 24 38.0	
	comp=Z,82nm,19.8s,baz=192,slow=42							
	comp=Z,0.7nm,0.6s							
ROSF	**Rostrenen**	**11.14**	**302**	*e*P		**Pn**	**05 19 40.5**	**+2.1**
ESDC	**Sonseca Array**	**11.72**	**257**	Pn		**Pn**	**05 19 46.0**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=67,slow=14,SNR=13							
ESDC				LR		LR	05 24 07.2	
	comp=Z,133nm,18.7s,baz=163,slow=36							
PAB	**San Pablo**	**12.05**	**257**	Pn		**Pn**	**05 19 50.9**	**0.0**
PAB	**San Pablo**	**12.05**	**257**	P		**Pn**	**05 19 50.9**	**0.0**
MILM	**Milestii Mici**	**13.16**	**68**	*e*P		**Pn**	**05 20 05.3**	**-0.7**
	comp=Z,4.0nm,0.2s							
MILM	**Milestii Mici**	**13.16**	**68**	*e*P		**Pn**	**05 20 05.3**	**-0.7**
MILM				pmax	pmax			
	comp=Z,4.0nm,0.3s							
AKASG	**Malin Array Be**	**14.53**	**53**	Pn		**Pn**	**05 20 23.5**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=243,slow=11,SNR=2.0							
	comp=Z,0.1nm,0.3s							
EKA	**Eskdalemuir Ar**	**15.16**	**328**	Pn		**Pn**	**05 20 34.4**	**+1.3**
	baz=127,slow=13							
	comp=Z,3.7nm,1.1s							
KONO	**Kongsberg**	**16.46**	**358**	*i* P		**P**	**05 20 52.3**	**-0.3**
KONO				pmax	pmax			
	comp=Z,17nm,1.1s							
HFS	**Hagfors**	**17.01**	**5**	Pn		**P**	**05 20 58.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=171,slow=13,SNR=2.8							
NOA	**NORSAR Array B**	**17.83**	**0**	P		**P**	**05 21 08.3**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=182,slow=11,SNR=6.0							
NOA				LR		LR	05 29 05.7	
	comp=Z,56nm,19.2s,baz=10.0,slow=41							
FINES	**FINESS Array B**	**20.36**	**21**	P		Pn	05 21 36.1	-1.3
FINES	**FINESS Array B**	**20.36**	**21**	P		**P**	**05 21 35.6**	**+0.2**
	comp=Z,1.9nm,0.6s,baz=208,slow=11,SNR=8.2							
	comp=Z,1.9nm,0.6s							

FINES	**FINESS Array B**	**20.36**	**21**	P		Pn	05 21 36.1	-1.4
FIA1	**FINESS Array S**	**20.36**	**21**	P		Pn	05 21 35.8	-1.7
OBN	**Obninsk**	**20.41**	**45**	*i* P		**P**	**05 21 35.5**	**-0.6**
OBN				*i*			05 21 59.4	
OBN				pmax	pmax			
	comp=Z,21nm,1.3s							
OBN				MLR	MLR			
	comp=Z,155nm,17.0s							
VSR	**Storozhevoye**	**20.68**	**57**	*e*P		**P**	**05 21 37.1**	**-1.9**
VSR				pmax	pmax			
	comp=Z,9.0nm,0.5s							
VORR	**Voronezh**	**20.80**	**56**	*e*P		**P**	**05 21 38.2**	**-2.1**
VORR				pmax	pmax			
	comp=Z,60nm,0.4s							
LPSR	**Galich'ya Gora**	**20.86**	**54**	*e*P		**P**	**05 21 40.1**	**-0.9**
LPSR				pmax	pmax			
	comp=Z,20nm,0.8s							
SOC	**Sochi**	**20.88**	**79**	*e*P		Pn	05 21 43.0	-0.8
SOC				*e*PPP		PPP	05 22 06.1	
SOC				*e*			05 25 37.6	
SOC				*e*SS		Sn	05 25 55.9	+16
SOC				*e*SSS		SSS	05 26 11.4	
SOC				MLR	MLR			
	comp=Z,44nm,17.0s							
MOS	**Moscow**	**21.23**	**45**	*e*P		**P**	**05 21 44.0**	**-0.9**
MOS				pmax	pmax			
	comp=Z,44nm,0.9s							
KIV	**Kislovodsk**	**22.95**	**77**	*e*P		**P**	**05 22 04.8**	**+1.3**
KIV				pmax	pmax			
	comp=Z,6.0nm,1.1s							
SHA1	**Shidzhatmaz**	**22.96**	**78**	*i* P		**P**	**05 22 05.0**	**+1.2**
KBZ	**Khabaz**	**23.13**	**78**	P		**P**	**05 22 05.7**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=313,slow=6.2,SNR=7.9							
	comp=Z,3.6nm,0.9s							
KBZ	**Khabaz**	**23.13**	**78**	*ce*P		**P**	**05 22 06.0**	**+0.7**
KLMR	**Klimovskoe**	**24.59**	**34**	*e*P		**P**	**05 22 16.8**	**-2.3**
KLMR				pmax	pmax			
	comp=Z,17nm,1.5s							
BELG	**Belogornoye**	**26.04**	**57**	*i* P		**P**	**05 22 33.8**	**+1.5**
BELG				pmax	pmax			
	comp=Z,4.0nm,0.9s							
ARCES	**ARCESS Array B**	**27.41**	**11**	P		**P**	**05 22 43.9**	**-0.7**
	comp=Z,0.6nm,0.8s,baz=226,slow=9.8,SNR=0.9							
	comp=Z,0.6nm,0.8s							
TOA0	**Torodi Ar. Sit**	**31.02**	**198**	P		**P**	**05 23 17.4**	**+0.4**
TOA0				IAmb	IAmb		05 23 42.7	
	comp=Z,4.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**31.02**	**198**	P		**P**	**05 23 18.0**	**+1.0**
TORD				IAmb	IAmb		05 23 24.7	
	comp=Z,3.1nm,1.3s							
TORD	**Torodi Ar. Bea**	**31.02**	**198**	P		**P**	**05 23 18.3**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=9.0,slow=10,SNR=7.1							
	comp=Z,1.2nm,0.8s							
ARU	**Arti**	**32.74**	**49**	P		**P**	**05 23 33.2**	**+1.4**
ARU							05 24 37.0	
ARU				S		**S**	**05 28 51.4**	**+2.9**
ARU				SS		**SnSn**	**05 30 43.6**	**+0.1**
ABKAR	**Akbulak array**	**33.94**	**62**	P		**P**	**05 23 41.4**	**-0.9**
BRVK	**Borovoye**	**39.73**	**54**	*ce*P		**P**	**05 24 32.8**	**+1.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
BVAR	**Borovoye Array**	**39.80**	**54**	P		**P**	**05 24 32.5**	**+0.3**
	comp=Z,0.5nm,0.4s,baz=255,slow=12,SNR=3.7							
	comp=Z,0.5nm,0.4s							
KK31	**Karatay Array**	**42.63**	**69**	P		**P**	**05 24 54.5**	**-1.1**
KK31				IAmb	IAmb		05 25 00.2	
	comp=Z,2.4nm,0.8s							
KK31	**Karatay Array**	**42.63**	**69**	P		**P**	**05 24 54.5**	**-1.1**
KK31				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KKAR	**Karatay Array**	**42.63**	**69**	P		**P**	**05 24 55.3**	**-0.3**
KKAR	**Karatay Array**	**42.63**	**69**	P		**P**	**05 24 55.3**	**-0.3**
KKAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KURBB	**Kurchatov Arra**	**45.29**	**56**	P		**P**	**05 25 17.3**	**+0.5**
	comp=Z,1.0nm,0.7s,baz=285,slow=8.4,SNR=5.4							
	comp=Z,1.0nm,0.7s							
KURK	**Kurchatov**	**45.31**	**56**	P		**P**	**05 25 17.3**	**+0.3**
AAK	**Ala-Archa**	**45.52**	**68**	*ce*P		**P**	**05 25 20.5**	**+1.6**
AAK				pmax	pmax			
	comp=Z,2.0nm,0.8s							
KSH	**Kashi**	**47.85**	**71**	P		**P**	**05 25 40.1**	**+2.9**
KSH				pmax	pmax			
	comp=Z,9.0nm,0.8s							
TARG	**Taragay, Kyrgy**	**48.13**	**68**	P		**P**	**05 25 38.3**	**-1.4**
TARG	**Taragay, Kyrgy**	**48.13**	**68**	P		**P**	**05 25 38.3**	**-1.4**
TARG				pmax	pmax			
	comp=Z,5.0nm,0.8s							
MK31	**Makanchi Array**	**48.98**	**60**	P		**P**	**05 25 45.9**	**+0.2**
MK31	**Makanchi Array**	**48.98**	**60**	*ce*P		**P**	**05 25 47.0**	**+1.3**
MKAR	**Makanchi Array**	**48.98**	**60**	P		**P**	**05 25 45.5**	**-0.2**
MKAR	**Makanchi Array**	**48.98**	**60**	P		**P**	**05 25 45.1**	**-0.6**
	comp=Z,3.3nm,0.6s,baz=292,slow=6.8,SNR=18							
	comp=Z,3.3nm,0.6s							
MKAR	**Makanchi Array**	**48.98**	**60**	*ce*P		**P**	**05 25 45.7**	**0.0**
MKAR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
SONM	**Songino Array**	**62.78**	**49**	P		**P**	**05 27 24.9**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=260,slow=6.9,SNR=4.1							
	comp=Z,0.7nm,0.7s							
YKA	**Yellowknife Ar**	**65.96**	**336**	P		**P**	**05 27 45.1**	**0.0**
	comp=Z,1.0nm,0.7s,baz=37,slow=6.4,SNR=22							
	comp=Z,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**65.96**	**336**	*ce*P		**P**	**05 27 46.2**	**+1.1**
YKA				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ULM	**Lac du Bonnet**	**67.19**	**318**	P		**P**	**05 27 52.6**	**-0.5**
	comp=Z,2.5nm,0.9s,baz=106,slow=3.4,SNR=4.5							
	comp=Z,2.5nm,0.9s							
BILL	**Bilibino**	**67.51**	**10**	*i* P		**P**	**05 27 55.4**	**+0.5**
BILL				pmax	pmax			
	comp=Z,10.0nm,2.3s							
ILAR	**Eielson Array**	**70.93**	**350**	P		**P**	**05 28 17.2**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=8.9,slow=6.4,SNR=6.8							
	comp=Z,0.6nm,0.8s							
KLR	**Kul'dur**	**74.34**	**36**	*ce*P		**P**	**05 28 38.8**	**+2.1**
KLR				pmax	pmax			
	comp=Z,5.0nm,2.5s							
TXAR	**Lajitas Array**	**86.15**	**307**	P		**P**	**05 29 41.8**	**+0.9**
	comp=Z,0.9nm,1.1s,baz=96,slow=3.8,SNR=5.0							
	comp=Z,0.9nm,1.1s							

*MDD **01** 05:21:33.8±0.4, 37°.66N×1°.72W, h0km, mb_Lg1.9/6, Error ellipse: s-maj=3.2km s-min=2.5km az=168.0*
*SFS **01** 05:21:33.8, 37°.62N×1°.65W, h0km, ML1.4/4, ML1.8/4, MLv1.2/4*

ISC 01 05:21:32.7±1.2, 37°.63N±0°.05×1°.73W±0°.03, h7km±5km, n16, σ0°59/27, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELOR	**Lorca, Murcia**	**0.02**	**310**	Pg	**Pg**	**05 21 33.5**	**-0.5**
ELOR				Sg	**Sg**	**05 21 34.2**	**-0.7**
ELOR				*i* Vmb_Lg		05 21 34.8	
TLOR	**Lorca, Murcia**	**0.04**	**44**	P	**Pg**	**05 21 35.4**	**+1.3**
TLOR	**Lorca, Murcia**	**0.04**	**44**	Sg	**Sg**	**05 21 35.2**	**0.0**
TLOR				Pg	**Pg**	**05 21 33.9**	**-0.3**
TLOR	**Lorca, Murcia**	**0.04**	**44**	Pg	**Pg**	**05 21 33.9**	**-0.3**
TLOR				Sg	**Sg**	**05 21 35.3**	**0.0**
EZAR	**Zarzadilla de**	**0.25**	**6**	Pg	**Pg**	**05 21 36.9**	**-0.7**
EZAR				Sg	**Sg**	**05 21 41.0**	**-0.1**
EZAR				*i* Vmb_Lg		05 21 42.1	
EMUR	**La Murta**	**0.44**	**61**	P	**Pg**	**05 21 41.2**	**0.0**
EMUR	**La Murta**	**0.44**	**61**	Pg	**Pg**	**05 21 41.3**	**+0.1**
EMUR				Sg	**Sg**	**05 21 45.8**	**-1.2**
EMUR	**La Murta**	**0.44**	**61**	Pg	**Pg**	**05 21 41.2**	**0.0**
EMUR				Sg	**Sg**	**05 21 47.0**	**0.0**
E001A	**Albudeite (Mur**	**0.47**	**34**	Pg	**Pg**	**05 21 41.7**	**-0.1**
E001A				Sg	**Sg**	**05 21 48.2**	**+0.2**
E1002	**Yechar (Murcia**	**0.50**	**27**	Pg	**Pg**	**05 21 42.1**	**-0.3**
E1002				Sg	**Sg**	**05 21 48.8**	**-0.1**
CART	**Cartagena**	**0.58**	**94**	P	**Pb**	**05 21 45.1**	**0.0**
CART	**Cartagena**	**0.58**	**94**	Pg	**Pg**	**05 21 43.9**	**+0.2**
CART				Sg	**Sg**	**05 21 50.0**	**-1.3**
ETOB	**Tobarra**	**1.03**	**8**	P	Pg	05 21 37.2	-15
ETOB	**Tobarra**	**1.03**	**8**	Pg	**Pb**	**05 21 53.0**	**+0.1**
ETOB				Sg	**Sb**	**05 22 07.0**	**+0.4**
ETOB	**Tobarra**	**1.03**	**8**	Pg	**Pb**	**05 21 53.0**	**+0.1**
ETOB				Sg	**Sg**	**05 22 05.2**	**-0.6**
ETOB				*i* Vmb_Lg		05 22 08.9	
EQES	**Quesada**	**1.08**	**280**	Pg	**Pg**	**05 21 53.3**	**-0.1**
EQES				Sg	**Sb**	**05 22 09.2**	**+1.0**
EQES				*i* Vmb_Lg		05 22 26.4	

*NOU **01** 05:25:52.0, 39°.28S×175°.29E, h135km, MLv3.9/13, North Island, New Zealand*
*WEL **01** 05:25:54.3±0.4, 39°.3S×17°.5E×, h108km±3km, M3.3/73, ML2.9/14, MLv3.3/73, Error ellipse: s-maj=0.0km s-min=0.0km az=118.0, confirmed*

ISC 01 05:25:51.2±1.5, 39°.25S±0°.04×175°.25E±0°.04, h134km±7km, n150, σ1°12/169, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	**Pokaka**	**0.09**	**116**	P	**Pn**	**05 26 10.1**	**+0.6**
PKVZ				S	Sn	**05 26 22.5**	**-0.9**
MTVZ	**Mangateitei**	**0.22**	**128**	P	Pn	**05 26 10.5**	**+0.7**
MTVZ				S	Sn	**05 26 23.1**	**-0.7**
TWVZ	**Taurewa**	**0.23**	**40**	P	Pn	**05 26 10.3**	**+0.4**
TWVZ				S	Sn	**05 26 22.8**	**-1.1**
COVZ	**Chateau Observ**	**0.24**	**78**	P	Pn	**05 26 10.4**	**+0.6**
COVZ				S	Sn	**05 26 22.4**	**-1.5**
FWVZ	**Far West T-bar**	**0.24**	**91**	P	Pn	**05 26 10.7**	**+0.7**
FWVZ				S	Sn	**05 26 23.1**	**-1.1**
TRVZ	**Turoa**	**0.24**	**102**	P	Pn	**05 26 10.8**	**+0.8**
TRVZ				S	Sn	**05 26 22.8**	**-1.4**
MAVZ	**Matarangi**	**0.24**	**94**	P	Pn	**05 26 10.8**	**+0.7**
MAVZ				S	Sn	**05 26 23.0**	**-1.4**
WHVZ	**Whangaehu Hut**	**0.27**	**97**	P	Pn	**05 26 10.9**	**+0.8**
WHVZ				S	Sn	**05 26 23.2**	**-1.1**
WNVZ	**Wahianoa**	**0.28**	**106**	P	Pn	**05 26 10.8**	**+0.7**
WNVZ				S	Sn	**05 26 23.4**	**-0.9**
NGZ	**Ngauruhoe**	**0.29**	**75**	P	Pn	**05 26 10.7**	**+0.6**
NGZ				S	Sn	**05 26 23.0**	**-1.3**
WTVZ	**West Tongariro**	**0.30**	**63**	P	Pn	**05 26 10.6**	**+0.5**
WTVZ				S	Sn	**05 26 23.3**	**-1.0**
NNVZ	**North Ngauruho**	**0.31**	**68**	P	Pn	**05 26 10.7**	**+0.5**
NNVZ				S	Sn	**05 26 23.4**	**-1.1**
SNVZ	**South Ngauruho**	**0.31**	**78**	P	Pn	**05 26 10.9**	**+0.7**
SNVZ				S	Sn	**05 26 23.6**	**-0.9**
TUVZ	**Tukino**	**0.32**	**93**	P	Pn	**05 26 11.0**	**+0.9**
TUVZ				S	Sn	**05 26 23.7**	**-0.7**
OTVZ	**Oturere**	**0.34**	**75**	P	Pn	**05 26 10.7**	**+0.5**
OTVZ				S	Sn	**05 26 24.4**	**-0.2**
KRVZ	**Karewarewa**	**0.34**	**63**	P	Pn	**05 26 10.6**	**+0.4**
KRVZ				S	Sn	**05 26 24.0**	**-0.6**
NTVZ	**North Tongariro**	**0.37**	**66**	P	Pn	**05 26 11.1**	**+0.7**
ETVZ	**East Tongariro**	**0.38**	**72**	P	Pn	**05 26 10.9**	**+0.5**
ETVZ				S	Sn	**05 26 24.2**	**-0.6**
TMVZ	**Te Maari**	**0.38**	**69**	P	Pn	**05 26 10.9**	**+0.5**
VRZ	**Vera Road**	**0.40**	**288**	P	Pn	**05 26 11.1**	**+0.8**
VRZ				S	Sn	**05 26 24.5**	**-0.2**
MOVZ	**Moawhango**	**0.42**	**112**	P	Pn	**05 26 11.0**	**+0.5**
MOVZ				S	Sn	**05 26 23.7**	**-1.4**
KATZ	**Kakaramea**	**0.45**	**52**	P	Pn	**05 26 11.1**	**+0.4**
WAZ	**Wanganui**	**0.54**	**202**	P	Pn	**05 26 12.5**	**+1.5**
RITZ	**Rihia Road**	**0.55**	**60**	P	Pn	**05 26 11.9**	**+0.8**
RATZ	**Rangitukua**	**0.56**	**47**	P	Pn	**05 26 11.7**	**+0.4**
WATZ	**Wairara**	**0.66**	**35**	P	Pn	**05 26 12.7**	**+0.8**
BHHZ	**Black Hill Sta**	**0.68**	**111**	P	Pn	**05 26 12.6**	**+0.7**
LREZ	**Lake Rotokare**	**0.69**	**252**	P	Pn	**05 26 13.6**	**+1.6**
MHEZ	**Mangahewa**	**0.74**	**283**	P	Pn	**05 26 13.8**	**+1.4**
HATZ	**Hinemaiaia**	**0.75**	**62**	P	Pn	**05 26 12.8**	**+0.3**
HIZ	**Hauiti**	**0.80**	**337**	P	Pn	**05 26 13.4**	**+0.6**
HIZ	**Hauiti**	**0.80**	**337**	P	Pn	**05 26 13.6**	**+0.7**
WHTZ	**Whakaora**	**0.81**	**44**	P	Pn	**05 26 13.9**	**+0.9**
DREZ	**Durham Road**	**0.81**	**274**	P	Pn	**05 26 14.3**	**+1.4**
PREZ	**Palmer Road**	**0.85**	**264**	P	Pn	**05 26 15.0**	**+1.7**
KUTZ	**Kaahu Road**	**0.88**	**31**	P	Pn	**05 26 14.4**	**+0.8**
NEZ	**North Egmont**	**0.89**	**268**	P	Pn	**05 26 15.3**	**+1.6**
KWHZ	**Kaweka Forest**	**0.93**	**101**	P	Pn	**05 26 15.4**	**+1.4**
TLZ	**Tolley Road**	**0.95**	**14**	P	Pn	**05 26 14.7**	**+0.5**
KRHZ	**Kereru**	**0.95**	**115**	P	Pn	**05 26 15.6**	**+1.4**
OHWZ	**Ohakea**	**0.95**	**177**	P	Pn	**05 26 16.4**	**+2.3**
KHEZ	**Kahui Hut**	**0.96**	**267**	P	Pn	**05 26 15.8**	**+1.6**

MRNZ	**Matariki Terra**	**2.87**	**221**	P		**Pn**	**05 26 37.1**	**+0.8**
WMGZ	**Waiomatatini S**	**2.87**	**61**	P		**Pn**	**05 26 36.5**	**+0.3**
MXZ	**Matakaoa Point**	**2.94**	**56**	P		**Pn**	**05 26 37.9**	**+0.8**
MXZ	**Matakaoa Point**	**2.94**	**56**	P		**Pn**	**05 26 37.9**	**+0.8**
THZ	**Tophouse**	**3.08**	**215**	P		**Pn**	**05 26 39.7**	**+0.6**
WCZ	**Waipu Caves**	**3.38**	**348**	P		**Pn**	**05 26 44.6**	**+1.6**
KHZ	**Kahutara**	**3.42**	**202**	P		**Pn**	**05 26 44.0**	**+0.7**
KHZ	**Kahutara**	**3.42**	**202**	P		**Pn**	**05 26 44.1**	**+0.7**
DSZ	**Denniston Nort**	**3.62**	**225**	P		**Pn**	**05 26 46.3**	**+0.2**
GVZ	**Greta Valley S**	**4.07**	**204**	P		**Pn**	**05 26 52.0**	**0.0**
LTZ	**Lake Taylor**	**4.18**	**212**	P		**Pn**	**05 26 53.0**	**-0.5**
OUZ	**Omahuta**	**4.23**	**341**	P		**Pn**	**05 26 56.5**	**+2.3**
INZ	**Inchbonnie**	**4.51**	**218**	P		**Pn**	**05 26 57.5**	**-0.2**
OXZ	**Oxford**	**4.73**	**210**	P		**Pn**	**05 26 59.8**	**-0.9**
AKCZ	**Akaroa Harbour**	**4.94**	**200**	P		**Pn**	**05 27 02.7**	**-0.8**
RACZ	**Rakaia**	**5.04**	**207**	P		**Pn**	**05 27 03.9**	**-0.9**
MHCZ	**Mount Hutt**	**5.09**	**212**	P		**Pn**	**05 27 05.3**	**-0.3**
WACZ	**Wakanui South**	**5.34**	**207**	P		**Pn**	**05 27 08.1**	**-0.7**
ARCZ	**Arundel**	**5.60**	**212**	P		**Pn**	**05 27 12.0**	**-0.3**
ODZ	**Otahua Downs**	**6.72**	**209**	P		**Pn**	**05 27 26.7**	**-0.7**
JCZ	**Jackson Bay**	**6.83**	**223**	P		**Pn**	**05 27 29.7**	**+0.8**

IDC 01 05:27:08.2±1.3, 49°72S×125°48E, h0km, mb4.1/4, mbtmp4.2/4, MS3.7/7, Error ellipse: s-maj=55.7km s-min=24.8km az=90.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**16.99**	**326**	T	T	05 48 32.5	
	baz=151,slow=74,SNR=43						
H01W2	**Cape Leeuwin H**	**16.99**	**326**	T	T	05 48 36.6	
	baz=151,slow=74,SNR=49						
H01W3	**Cape Leeuwin H**	**17.00**	**326**	T	T	05 48 33.8	
	baz=151,slow=74,SNR=42						
NWAO	**Narrogin (SRO)**	**17.86**	**337**	LR	LR	05 36 32.2	
	comp=Z,190nm,19.7s,baz=190,slow=32						
STKA	**Stephens Creek**	**21.52**	**40**	P	P	05 31 58.6	0.0
	2.0nm,0.6s,baz=190,slow=11,SNR=2.6						
STKA				LR	LR	05 38 29.3	
	comp=Z,169nm,21.9s,baz=201,slow=32						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**26.83**	**17**	P	P	05 32 49.8	-0.4
	5.7nm,0.8s,baz=191,slow=9.1,SNR=27						
	5.7nm,0.8s						
VNDA	**Vanda**	**31.11**	**166**	P	P	05 33 27.5	-0.2
	2.5nm,0.8s,baz=306,slow=9.5,SNR=17						
VNDA				LR	LR	05 45 07.7	
	comp=Z,88nm,18.3s,baz=316,slow=35						
	2.5nm,0.8s						
QSPA	**South Pole Qui**	**40.41**	**180**	LR	LR	05 50 52.6	
	comp=Z,118nm,18.5s,baz=316,slow=35						
DZM	**Mont Dzumac**	**42.37**	**64**	LR	LR	05 49 57.6	
	comp=Z,52nm,18.1s,baz=216,slow=32						
PMG	**Port Moresby**	**44.05**	**32**	LR	LR	05 55 21.3	
	comp=Z,43nm,18.8s,baz=138,slow=38						
HNR	**Honiara**	**49.32**	**47**	LR	LR	05 54 59.6	
	comp=Z,683nm,19.0s,baz=184,slow=34						
H08S2	**Diego Garcia H**	**60.80**	**295**	T	T	06 43 09.6	
	baz=144						
H08S1	**Diego Carcia H**	**60.81**	**295**	T	T	06 43 08.4	
	baz=144						
H08S3	**Diego Garcia H**	**60.82**	**295**	T	T	06 43 07.6	
	baz=144						
CMAR	**Chiang Mai Arr**	**71.83**	**333**	P	P	05 38 32.9	+0.3
	0.9nm,0.3s,baz=184,slow=5.9,SNR=5.3						
	0.9nm,0.3s						
YKA	**Yellowknife Ar**	**145.49**	**45**	PKPbc	PKPdf	05 46 46.4	-0.4
	0.5nm,0.8s,baz=276,slow=3.1,SNR=8.6						

*CATAC **01** 05:48:44.5±0.3, 13°.59N×89°.27W, h77km±3km, ML3.4*
*SNET **01** 05:48:44.5±1.1, 13°.24N×89°.45W, h46km, ML3.9*
*GCG **01** 05:48:47.6±0.6, 13°.43N×89°.59W, h65km±71km, MD3.7*
ISC 01 05:48:44.7±2.9, 13°17N±0°.05×89°46W±0°.04, h37km±2km, n60, σ0°78/91, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.34**	**23**	*e*P	**Pn**	**05 48 53.2**	**+0.1**
LALI	**Alcalda de L**	**0.34**	**23**	*i* P	**Pn**	**05 48 51.6**	**-1.5**
LALI				IAML		05 48 53.2	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**0.48**	**1**	*i* P	**Pn**	**05 48 54.6**	**-0.6**
JAYA				*i* S	**Sn**	**05 49 03.4**	**+0.9**
JAYA				IAML		05 49 03.5	
	comp=Z,13μm,1.0s						
PANCS	**Alcalda de**	**0.52**	**32**	*i* P	**Pn**	**05 48 54.9**	**-0.8**
PANCS				*i* S	**Sn**	**05 49 03.7**	**+0.4**
PANCS				IAML		05 49 06.4	
	comp=Z,10μm,1.0s						
ITCA	**Escuela Especi**	**0.53**	**19**	*e*P	**Pn**	**05 48 55.2**	**-0.7**
ITCA	**Escuela Especi**	**0.53**	**19**	*i* P	**Pn**	**05 48 55.1**	**-0.9**
ITCA				*i* S	**Sn**	**05 49 04.7**	**+1.0**
ITCA				IAML		05 49 06.2	
	comp=Z,8μm,1.0s						
MAGS	**Ministerio de**	**0.54**	**18**	*e*P	**Pn**	**05 48 55.3**	**-0.7**
LOMA	**Loma Larga**	**0.55**	**31**	*e*P	**Pn**	**05 48 55.5**	**-0.7**
LOMA	**Loma Larga**	**0.55**	**31**	*i* P	**Pn**	**05 48 55.6**	**-0.7**
LOMA				*i* S	**Sn**	**05 49 05.4**	**+1.2**
LOMA				IAML		05 49 06.3	
	comp=Z,7μm,1.0s						
PMON	**Piamonte**	**0.56**	**15**	*e*P	**Pn**	**05 48 55.6**	**-0.8**
PMON	**Piamonte**	**0.56**	**15**	*i* P	**Pn**	**05 48 55.6**	**-0.8**
PMON				IAML		05 49 09.9	
	comp=Z,6μm,1.0s						
SNET	**Serv Nac Est T**	**0.56**	**23**	*i* P	**Pn**	**05 48 55.6**	**-0.8**
SNET				*i* S	**Sn**	**05 49 05.0**	**+0.6**
SNET				IAML		05 49 07.2	
	comp=Z,18μm,1.0s						
UEES	**Universidad Ev**	**0.58**	**22**	*i* P	**Pn**	**05 48 56.1**	**-0.6**
UEES				*i* S	**Sn**	**05 49 05.9**	**+0.8**
UEES				IAML		05 49 08.3	
	comp=Z,7μm,1.0s						
UTEC	**Universidad Te**	**0.58**	**25**	*i* P	**Pn**	**05 48 56.0**	**-0.7**
UTEC				IAML		05 48 56.1	
	comp=Z,10μm,1.0s						
UTEC				*i* S	**Sn**	**05 49 05.5**	**+0.4**
BOQS	**Boqueron**	**0.59**	**17**	*i* P	**Pn**	**05 48 56.2**	**-0.7**
IGN	**Direccin Gen**	**0.61**	**28**	*e*P	**Pn**	**05 48 56.3**	**-0.7**
IGN	**Direccin Gen**	**0.61**	**28**	*i* P	**Pn**	**05 48 56.5**	**-0.6**
IGN				*i* S	**Sn**	**05 49 06.4**	**+0.7**
IGN				IAML		05 49 10.1	
	comp=Z,24μm,1.0s						
AEIL	**Aeropuerto Ilo**	**0.62**	**32**	*e*P	**Pn**	**05 48 56.7**	**-0.5**
CEDA	**San Andres**	**0.63**	**6**	*i* P	**Pn**	**05 48 56.5**	**-0.8**
CEDA				*e*S	**Sn**	**05 49 06.5**	**+0.3**
CEDA	**San Andres**	**0.63**	**6**	*i* P	**Pn**	**05 48 56.5**	**-0.8**
CEDA				IAML		05 48 56.7	
	comp=Z,11μm,1.0s						
CEDA				*i* S	**Sn**	**05 49 06.9**	**+0.7**
CEVE	**Cerro Verde**	**0.67**	**346**	*i* P	**Pn**	**05 48 57.4**	**-0.6**
CEVE				*i* S	**Sn**	**05 49 08.5**	**+1.1**
CEVE				IAML		05 49 10.2	
	comp=Z,5μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.69**	**15**	*e*P	**Pn**	**05 48 57.4**	**-0.6**
QUEZ	**Alcaldia de Qu**	**0.69**	**15**	*i* P	**Pn**	**05 48 57.4**	**-0.6**
QUEZ				*i* S	**Sn**	**05 49 08.9**	**+1.5**
QUEZ				IAML		05 49 11.1	
	comp=Z,8μm,1.0s						
COEG	**Centro de Oper**	**0.72**	**52**	*e*P	**Pn**	**05 48 57.6**	**-0.9**
COEG	**Centro de Oper**	**0.72**	**52**	*i* P	**Pn**	**05 48 57.6**	**-0.9**
COEG				*i* S	**Sn**	**05 49 08.8**	**+0.5**
COEG				IAML		05 49 09.5	
	comp=Z,4μm,1.0s						
PAVA	**Las Pavas**	**0.74**	**43**	*i* P	**Pn**	**05 48 58.3**	**-0.4**
PAVA				*i* S	**Sn**	**05 49 09.9**	**+1.1**
PAVA				IAML		05 49 11.3	
	comp=Z,7μm,1.0s						
RTR	**El Retiro**	**0.74**	**346**	*e*P	**Pn**	**05 48 58.2**	**-0.6**
TECO	**Alcaldia de Te**	**0.76**	**61**	*i* P	**Pn**	**05 48 57.9**	**-0.9**
TECO				*i* S	**Sn**	**05 49 08.4**	**-0.7**
TECO				IAML		05 49 13.7	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**0.79**	**337**	*e*P	**Pn**	**05 48 58.3**	**-1.2**
NUBE	**Las Nubes**	**0.79**	**337**	*i* P	**Pn**	**05 48 58.3**	**-1.2**
NUBE				*i* S	**Sn**	**05 49 09.9**	**-0.3**
NUBE				IAML		05 49 10.7	
	comp=Z,3μm,1.0s						
UESV	**Universidad de**	**0.80**	**55**	*i* P	**Pn**	**05 48 58.9**	**-0.6**
UESV				*i* S	**Sn**	**05 49 10.6**	**+0.3**
UESV				IAML		05 49 13.9	
	comp=Z,2μm,1.0s						
UNIC	**Universidad Ca**	**0.81**	**354**	*i* P	**Pn**	**05 48 59.0**	**-0.7**
UNIC				IAML		05 48 59.2	
	comp=Z,760nm,1.0s						
UNIC				*i* S	**Sn**	**05 49 10.6**	**0.0**
LOAL	**Lomas de Alarc**	**0.88**	**339**	*i* P	**Pn**	**05 49 00.0**	**-0.6**
LOAL				*i* S	**Sn**	**05 49 13.6**	**+1.3**
LOAL				IAML		05 49 18.6	
	comp=Z,3μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.89**	**53**	*e*P	**Pn**	**05 49 00.1**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.89**	**53**	*i* P	**Pn**	**05 49 00.4**	**-0.3**
SCLA				*i* S	**Sn**	**05 49 13.4**	**+1.0**
SCLA				IAML		05 49 16.4	
	comp=Z,590nm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.91**	**340**	*e*P	**Pn**	**05 49 00.1**	**-0.9**
COEB	**Comit de Eme**	**0.96**	**70**	*e*P	**Pn**	**05 49 00.6**	**-1.2**
COEB				*e*S	**Sn**	**05 49 13.8**	**-0.6**
COEB	**Comit de Eme**	**0.96**	**70**	*i* P	**Pn**	**05 49 00.9**	**-0.9**
COEB				*i* S	**Sn**	**05 49 13.7**	**-0.6**
COEB				IAML		05 49 16.1	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**0.99**	**63**	*e*P	**Pn**	**05 49 01.2**	**-0.8**
PQSS	**Presa 15 de Se**	**0.99**	**63**	*i* P	**Pn**	**05 49 01.1**	**-0.8**
PQSS				*i* S	**Sn**	**05 49 14.5**	**-0.2**
PQSS				IAML		05 49 15.2	
	comp=Z,2μm,1.0s						
LLGN	**La Laguna**	**1.11**	**27**	*i* P	**Sn**	**05 49 17.8**	**0.0**
LLGN				IAML		05 49 19.9	
	comp=Z,1μm,1.0s						
PACA	**Pacayal**	**1.15**	**75**	*e*S	**Sn**	**05 49 20.1**	**+1.2**
PACA	**Pacayal**	**1.15**	**75**	*i* P	**Pn**	**05 49 04.4**	**+0.1**
PACA				*i* S	**Sn**	**05 49 19.9**	**+1.1**
PACA				IAML		05 49 23.7	
	comp=Z,16μm,1.0s						
RANC	**El Ranchito**	**1.17**	**77**	*i* P	**Pn**	**05 49 04.8**	**+0.2**
RANC				*i* S	**Sn**	**05 49 20.4**	**+1.0**
RANC				IAML		05 49 22.6	
	comp=Z,3μm,1.0s						
MTO3	**Montecristo**	**1.23**	**5**	*e*P	**Pn**	**05 49 04.5**	**-1.0**
MTO3	**Montecristo**	**1.23**	**5**	*i* P	**Pn**	**05 49 04.8**	**-0.7**
MTO3				*i* S	**Sn**	**05 49 20.2**	**-0.7**
MTO3				IAML		05 49 21.5	
	comp=Z,810nm,1.0s						
CNRM	**Centro Naciona**	**1.29**	**76**	*i* P	**Pn**	**05 49 06.0**	**-0.2**
CNRM				*i* S	**Sn**	**05 49 23.3**	**+1.1**
CNRM				IAML		05 49 36.6	
	comp=Z,4μm,1.0s						
ESQI	**Esquipulas**	**1.39**	**5**	*e*P	**Pn**	**05 49 06.9**	**-0.7**
ESQI				*e*S	**Sn**	**05 49 24.8**	**+0.1**
LCND	**La Caada**	**1.54**	**85**	*i* P	**Pn**	**05 49 09.0**	**-0.5**
LCND				*i* S	**Sn**	**05 49 28.6**	**+0.4**
LCND				IAML		05 49 32.6	
	comp=Z,970nm,1.0s						
CNCH	**Conchagua**	**1.59**	**86**	*e*P	**Pn**	**05 49 09.7**	**-0.7**
CNCH	**Conchagua**	**1.59**	**86**	*i* P	**Pn**	**05 49 10.5**	**+0.1**
CNCH				*i* S	**Sn**	**05 49 30.6**	**+0.9**
CNCH				IAML		05 49 38.0	
	comp=Z,4μm,1.0s						
NBG	**Las Nubes**	**1.65**	**329**	*e*P	**Pn**	**05 49 11.3**	**-0.1**
FUG	**Fuego 3**	**1.85**	**314**	*e*P	**Pn**	**05 49 14.6**	**+0.6**
MRL	**Marmol**	**1.91**	**354**	*e*P	**Pn**	**05 49 15.4**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.30**	**67**	*i* S	**Pn**	**05 49 19.6**	**-0.6**
STG3	**Santiaguito 3,**	**2.56**	**307**	*e*P	**Pn**	**05 49 24.0**	**+0.2**
STG3				*e*S	**Sn**	**05 49 52.8**	**-1.0**
HERN	**Volcan Telica**	**2.62**	**102**	*i* P	**Pn**	**05 49 23.3**	**-1.3**
HERN				IAML		05 50 54.2	
	comp=Z,1μm,1.0s						
PLRN	**Geotermica Pol**	**2.69**	**102**	*i* P	**Pn**	**05 49 24.5**	**-0.9**
PLRN				IAML		05 50 01.0	
	comp=Z,320nm,1.0s						
MOMN	**Momotombo**	**2.95**	**105**	*i* P	**Pn**	**05 49 28.9**	**-0.1**
MOMN				IAML		05 50 05.8	
	comp=Z,8.8nm,1.0s						
COPN	**Copaltepe**	**2.97**	**109**	*i* P	**Pn**	**05 49 29.1**	**-0.1**
COPN				IAML		05 50 12.6	
	comp=Z,130nm,1.0s						

*NEIC **01** 05:49:10.7±0.6, 19°.36N±0°.03×155°.090W±0°.009, h5km±1km, Error ellipse: s-maj=4.7km s-min=2.6km az=168.0*
HVO 01 05:49:09.5±0.9, 19°33N±0°.03×155°06W±0°.01, h2km±7km, ML3.1/32, ML3.1/50(NEIC), Error ellipse: s-maj=3.9km s-min=1.4km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.07**	**325**	Pg	Pg	05 49 10.9	-0.1
NPOC	**North of Pu'u**	**0.08**	**324**	Pg	Pg	05 49 11.8	+0.6
NPOC				IAML		05 49 13.2	
	comp=N,9μm,0.3s						
NPOC				IAML		05 49 14.0	
	comp=E,8μm,0.2s						
STCH	**Steam Cracks**	**0.09**	**313**	Pg	Pg	05 49 11.9	+0.6
STCH				IAML		05 49 14.1	
	comp=E,15μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.12**	**297**		Pg	05 49 12.7	+0.9
JOKA	**Jonika Flow**	**0.12**	**25**		Pg	05 49 12.6	+0.7
JOKA					Sg	05 49 14.7	+1.2
PUH	**Pauahi**	**0.16**	**288**		Pg	05 49 13.3	+0.7
PUH	**Pauahi**	**0.16**	**288**	IAML		05 49 16.2	
	comp=E,3μm,0.6s						
PUH				IAML		05 49 16.6	
	comp=N,3μm,0.7s						
BYL	**Byron's Ledge**	**0.21**	**294**		Pg	05 49 14.1	+0.5
BYL	**Byron's Ledge**	**0.21**	**294**	IAML		05 49 17.7	
	comp=E,2μm,0.7s						
BYL				IAML		05 49 19.1	
	comp=N,3μm,0.3s						
KKO	**Keanakako'i**	**0.21**	**290**		Pg	05 49 13.4	-0.1
KKO				IAML		05 49 19.9	
	comp=N,2μm,0.5s						
HATHI	**Halema'uma'u T**	**0.21**	**297**		Pg	05 49 14.2	+0.5
HATHI	**Halema'uma'u T**	**0.21**	**297**	IAML		05 49 19.0	
	comp=E,3μm,0.4s						
HATHI				IAML		05 49 19.5	
	comp=N,4μm,0.4s						
RIM	**Rim**	**0.22**	**289**		Pg	05 49 14.3	+0.6
RIM	**Rim**	**0.22**	**289**	IAML		05 49 17.8	
	comp=E,2μm,0.3s						
RIM				IAML		05 49 19.8	
	comp=N,3μm,0.4s						
SBLHI	**Steaming Bluff**	**0.22**	**297**		Pg	05 49 14.2	+0.4
SBLHI	**Steaming Bluff**	**0.22**	**297**	IAML		05 49 18.6	
	comp=N,3μm,0.1s						
SBLHI				IAML		05 49 20.6	
	comp=E,2μm,0.3s						
NPH	**North Pit**	**0.23**	**292**	Pg	Pg	05 49 14.2	+0.3
UWB	**Uwekahuna B**	**0.23**	**295**		Pg	05 49 14.0	+0.1
OBL	**Observatory Le**	**0.23**	**293**	Pg	Pg	05 49 14.5	+0.5
OBL	**Observatory Le**	**0.23**	**293**		Sg	05 49 18.1	+1.0
OBL	**Observatory Le**	**0.23**	**293**	IAML		05 49 20.5	
	comp=N,4μm,0.5s						
OBL				IAML		05 49 21.1	
	comp=E,5μm,0.8s						
SDHHI	**Sand Hill**	**0.23**	**286**	Pg	Pg	05 49 13.5	-0.5
SDHHI				IAML		05 49 20.3	
	comp=E,3μm,0.3s						
SDHHI				IAML		05 49 20.5	
	comp=N,4μm,0.3s						
HLP	**Hilina Pali**	**0.24**	**263**		Pg	05 49 15.0	+0.9
HLP					Sg	05 49 17.8	+0.6
HLP	**Hilina Pali**	**0.24**	**263**	IAML		05 49 21.2	
	comp=E,4μm,0.2s						
HLP				IAML		05 49 21.6	
	comp=N,4μm,0.2s						
UWE	**Uwekahuna**	**0.24**	**293**		Pg	05 49 14.7	+0.5
UWE	**Uwekahuna**	**0.24**	**293**	IAML		05 49 20.2	
	comp=N,3μm,0.5s						
UWE				IAML		05 49 22.2	
	comp=E,5μm,0.5s						
WRMHI	**West Rim**	**0.24**	**289**	Pg	Pg	05 49 14.5	+0.3
WRMHI				IAML		05 49 21.6	
	comp=N,3μm,0.7s						
WRMHI				IAML		05 49 22.8	
	comp=E,4μm,0.5s						
RSD	**Rainshed**	**0.25**	**303**		Pg	05 49 14.8	+0.5
RSD					Sg	05 49 19.3	+1.8
RSD	**Rainshed**	**0.25**	**303**	IAML		05 49 19.4	
	comp=E,13μm,0.1s						
RSD				IAML		05 49 19.6	
	comp=N,10μm,0.1s						
HTC	**Hot Caves**	**0.33**	**255**		Pg	05 49 17.0	+1.1
MLH	**Mauna Loa**	**0.35**	**298**		Pg	05 49 16.6	+0.3
MLH					Sg	05 49 22.6	+1.7
MLH	**Mauna Loa**	**0.35**	**298**	IAML		05 49 22.9	
	comp=E,4μm,0.4s						
MLH				IAML		05 49 23.2	
	comp=N,3μm,0.3s						
HMH	**Humu'ula Sheep**	**0.49**	**305**		Pg	05 49 19.4	+0.5
HMH					Sg	05 49 26.7	+1.5
HMH	**Humu'ula Sheep**	**0.49**	**305**	IAML		05 49 27.3	
	comp=N,9μm,0.3s						
HMH				IAML		05 49 27.4	
	comp=E,8μm,0.4s						
KHU	**Kahuku**	**0.53**	**262**		Pg	05 49 19.8	0.0
KHU				IAML		05 49 30.0	
	comp=N,2μm,0.2s						
KHU				IAML		05 49 33.5	
	comp=E,2μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.53**	**293**		Pg	05 49 19.8	+0.1
MWH	**Moku'aweowe**	**0.53**	**287**		Pg	05 49 19.8	+0.1
POHA	**Pohakuloa**	**0.62**	**314**		Pg	05 49 20.7	-0.8
HUH	**Hualalai**	**0.82**	**296**		Pg	05 49 25.0	-0.2
HPAH	**Hawaii Prepara**	**0.93**	**319**		Pg	05 49 25.0	-2.3
HPAH				IAML		05 49 43.7	
	comp=E,781nm,0.6s						
HPAH				IAML		05 49 44.1	
	comp=N,429nm,0.3s						

*NEIC **01** 05:52:32.3±0.5, 36°.18N±0°.01×98°.70W±0°.02, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.8km az=254.0*
TUL 01 05:52:32.7±0.3, 36°20N±0°.02×98°68W±0°.02, h5km±5km, ML2.8, mb_Lg2.7/69(NEIC), ML2.9/29(NEIC), Error ellipse: s-maj=2.5km s-min=1.9km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.28**	**350**		Pg	05 52 38.6	+0.4
OK038				IAML		05 52 47.7	
	2μm,0.2s						
U32A	**Winter Ranch,**	**0.31**	**305**	Pg	Pg	05 52 39.3	+0.5
U32A				Sg	Sg	05 52 43.7	+0.7
U32A				IAML		05 52 44.1	
	comp=E,1μm,0.4s						
U32A				IAML		05 52 44.1	
	comp=N,1μm,0.5s						
OK035	**E0210 Rd and N**	**0.51**	**358**	Pg	Pg	05 52 42.7	+0.2
OK035				IAML		05 52 50.3	
	comp=N,720nm,0.3s						
OK035				IAML		05 52 54.0	
	comp=N,789nm,0.3s						
CSTR	**Hydro, Custer**	**0.55**	**180**		Pg	05 52 43.6	+0.2
ELIS	**Ellis County**	**0.61**	**257**	Pg	Pg	05 52 44.4	-0.1
ELIS				IAML		05 53 02.4	
	comp=E,740nm,0.3s						
ELIS				IAML		05 53 03.1	
	comp=N,583nm,0.3s						
CROK	**Carrier**	**0.64**	**62**		Pg	05 52 45.0	0.0
OK032	**Salt Plains WL**	**0.71**	**32**		Pg	05 52 46.2	-0.2
GC02	**Grant County #**	**0.93**	**45**		Pg	05 52 50.1	-0.4
KAN14	**Manchester OK**	**0.95**	**37**	Pg	Pg	05 52 50.6	-0.3
KAN14				Sg	Sg	05 53 03.6	+0.3
OK029	**Liberty Lake**	**1.07**	**112**		Pg	05 52 52.6	-0.7
KAN17	**Caldwell West**	**1.12**	**41**	Pg	Pg	05 52 53.9	-0.3
KAN08	**Anthony NE Sta**	**1.17**	**29**		Pg	05 52 54.4	-0.8
KAN08				IAML		05 53 11.5	
	comp=E,318nm,0.3s						
KAN08				IAML		05 53 11.7	
	comp=N,309nm,0.2s						
KAN06	**Argonia West S**	**1.24**	**32**		Pg	05 52 55.6	-0.9
KAN09	**Caldwell North**	**1.27**	**42**		Pg	05 52 56.2	-0.8
BLOK	**Blackwell**	**1.31**	**64**		Pn	05 52 57.0	-0.6
FNO	**Franklin**	**1.41**	**132**		Pn	05 52 58.6	-0.4
OK048	**Pawnee Station**	**1.42**	**81**		Pn	05 52 58.8	-0.4
WMOK	**Wichita Mounta**	**1.46**	**183**	Pg	Pn	05 52 58.5	-1.2
SMWD	**Samnorwood**	**1.68**	**230**	Pg	Pn	05 53 02.9	+0.2
W35A	**Tecumseh**	**1.81**	**125**		Pn	05 53 04.9	+0.4
DEOK	**Depew**	**1.81**	**101**	Pn	Pn	05 53 04.8	+0.3
T35A	**Sooner Cattle**	**1.89**	**67**	IAmb_Lg		05 53 32.8	
	comp=Z,40nm,0.8s						
R32A	**Long Quarter,**	**2.22**	**359**	IAmb_Lg		05 53 44.8	
	comp=Z,42nm,0.8s						
TUL3	**Leonard**	**2.36**	**96**		Pn	05 53 12.3	+0.2
TUL3				IAmb_Lg		05 53 46.5	
	comp=Z,27nm,1.0s						
WTFS	**Witchita Falls**	**2.44**	**176**		Pn	05 53 14.7	+1.6
LOOK	**Love County**	**2.52**	**150**		Pn	05 53 16.1	+1.8
X37A	**Clayton**	**3.15**	**120**	Pn	Pn	05 53 24.0	+1.1
X37A				IAmb_Lg		05 54 18.4	
	comp=Z,28nm,0.8s						
RTBA	**Rita Blanca**	**3.28**	**275**	Pn	Pn	05 53 25.9	+0.9
FW06	**Azle**	**3.35**	**164**	IAmb_Lg		05 54 25.6	
	comp=Z,19nm,0.9s						
PLPT	**Palo Pinto**	**3.39**	**175**		Pn	05 53 28.3	+2.0
SN07	**Snyder 07**	**3.60**	**211**	IAmb_Lg		05 54 34.2	
	comp=Z,28nm,0.7s						
SN05	**Snyder 5**	**3.78**	**209**	IAmb_Lg		05 54 38.6	
	comp=Z,28nm,0.9s						
KSCO	**Kaye Shedlock'**	**4.20**	**313**	IAmb_Lg		05 54 55.6	
	comp=Z,22nm,0.9s						
Z38A	**Mt. Pleasant**	**4.23**	**133**	IAmb_Lg		05 54 57.9	
	comp=Z,18nm,0.7s						
MIAR	**Mount Ida**	**4.49**	**110**	IAmb_Lg		05 54 59.9	
	comp=Z,11nm,0.8s						
S39A	**Bolivar**	**4.54**	**69**		Pn	05 53 44.0	+1.9
S39A				IAmb_Lg		05 55 06.5	
	comp=Z,14nm,0.7s						
T25A	**Trin

BASI	**Baing, Sumba**	**2.66**	**125**	P	**Pn**	06 14 13.4	-1.6	
SRBI	**Singaraja**	**3.19**	**280**	P	**Pn**	06 14 19.9	-1.8	
EDFI	**Ende, Flores**	**3.28**	**91**	P	**Pn**	06 14 21.6	-1.3	
EDFI				S	**Sn**	06 14 59.7	-2.8	
MMRI	**Maumere**	**3.82**	**90**	P	**Pn**	06 14 28.7	-1.1	
MMRI	**Maumere**	**3.82**	**90**	Pn	**Pn**	06 14 28.7	-1.1	
MMRI	**Maumere**	**3.82**	**90**	P	**Pn**	06 14 28.9	-0.9	
KAPI	**Kappang**	**3.89**	**21**		**Pn**	06 14 28.9	-1.8	
JAGI	**Jajag, Banyuwa**	**4.18**	**273**	P	**Pn**	06 14 32.1	-2.5	
JAGI	**Jajag, Banyuwa**	**4.18**	**273**		**Pn**	06 14 32.0	-2.6	
JAGI	**Jajag, Banyuwa**	**4.18**	**273**	P	**Pn**	06 14 31.6	-3.0	
ABJI	**Asem Bagus**	**4.19**	**282**	P	**Pn**	06 14 34.9	+0.2	
BLJI	**Banyuglugur**	**4.82**	**281**	P	**Pn**	06 14 43.9	+0.9	
BATI	**Baumata**	**5.43**	**107**	P	**Pn**	06 14 50.0	-1.1	
	738nm,0.4s,baz=311,slow=2.8,SNR=78							
BATI				S	**Sn**	06 15 48.6	-4.3	
	256nm,0.4s,baz=47,slow=22,SNR=6.3							
BATI	**Baumata**	**5.43**	**107**	P	**Pn**	06 14 49.9	-1.2	
	825nm,0.5s,12µm3.7nm							
TTSI	**Tana Toraja**	**5.78**	**14**	P	**Pn**	06 14 57.0	+1.3	
	69nm,0.9s,0.3nm							
SOEI	**Soe**	**5.91**	**101**	P	**Pn**	06 14 56.3	-1.3	
SOEI	**Soe**	**5.91**	**101**	Pn	**Pn**	06 14 56.0	-1.6	
SOEI	**Soe**	**5.91**	**101**	P	**Pn**	06 14 56.2	-1.3	
	492nm,0.7s,5µm1.9nm							
GRJI	**Gresik**	**6.10**	**286**	P	**Pn**	06 15 00.2	+0.2	
	198nm,0.8s,0.7nm							
PWJI	**Pagerwojo**	**6.54**	**275**	P	**Pn**	06 15 04.3	-1.5	
	75nm,0.7s,0.9nm							
UGM	**Wanagama**	**7.81**	**275**	P	**Pn**	06 15 23.3	+0.5	
UGM	**Wanagama**	**7.81**	**275**	Pn	**Pn**	06 15 21.9	-1.0	
UGM	**Wanagama**	**7.81**	**275**	P	**Pn**	06 15 22.5	-0.3	
	145nm,2.2s,1.3nm							
KPJI	**Karang Pucung**	**9.45**	**277**	P	**Pn**	06 15 45.0	+0.4	
	28nm,0.6s							
SANI	**Sanana**	**10.04**	**49**	P	**Pn**	06 15 54.7	+2.3	
	31nm,0.9s							
GTOI	**Gorontalo**	**10.34**	**27**	P	**Pn**	06 15 58.9	+2.5	
	5.6nm,0.6s							
BBJI	**Bungbulang**	**10.69**	**276**	P	**Pn**	06 15 59.1	-2.0	
FITZ	**Fitzroy Crossi**	**11.73**	**144**	Pn	**Pn**	06 16 13.2	-1.4	
KNRA	**Kununurra**	**12.30**	**125**	P	**Pn**	06 16 20.4	-1.7	
KNRA	**Kununurra**	**12.30**	**125**	Pn	**Pn**	06 16 20.6	-1.5	
MBWA	**Marble Bar**	**12.48**	**174**	P	**Pn**	06 16 23.0	-1.3	
MBWA	**Marble Bar**	**12.48**	**174**	Pn	**Pn**	06 16 23.2	-1.1	
DRS	**Darwin Rock St**	**12.86**	**108**	P	**Pn**	06 16 27.3	-2.0	
PSA00	**Pilbara Seismi**	**12.90**	**174**	P	**Pn**	06 16 28.8	-0.9	
PSA00	**Pilbara Seismi**	**12.90**	**174**	Pn	**Pn**	06 16 28.3	-1.4	
PSA00	**Pilbara Seismi**	**12.90**	**174**		**Pn**	06 16 27.4	-2.3	
MTN	**Manton Dam**	**13.20**	**109**	P	**Pn**	06 16 31.1	-2.5	
MTN	**Manton Dam**	**13.20**	**109**	Pn	**Pn**	06 16 31.1	-2.5	
KDU	**Kakadu**	**14.41**	**107**	P	**Pn**	06 16 48.4	-0.6	
GIRL	**Giralia**	**14.44**	**196**	P	**Pn**	06 16 50.6	+1.3	
GIRL	**Giralia**	**14.44**	**196**		**Pn**	06 16 49.6	+0.3	
FAKI	**Fak Fak**	**14.94**	**68**	P	**Pn**	06 16 55.5	0.0	
FAKI	**Fak Fak**	**14.94**	**68**		**Pn**	06 16 53.1	-2.4	
FAKI	**Fak Fak**	**14.94**	**68**	P	**Pn**	06 16 53.1	-2.4	
SWI	**Sorong**	**15.00**	**59**	P	**Pn**	06 16 57.2	+0.9	
MEEK	**Meekatharra**	**17.86**	**179**	P	**Pn**	06 17 32.0	+1.0	
WRKA	**Warakurna**	**18.82**	**151**	P	**Pn**	06 17 42.4	+0.1	
WB0	**Warramunga Arr**	**19.02**	**127**	P	**P**	06 17 42.4	+0.2	
WB0				IAmb	IAmb	06 17 45.3		
	comp=Z,30nm,0.7s							
WRA	**Warramunga Arr**	**19.07**	**128**	P	**P**	06 17 42.8	-0.1	
WRA	**Warramunga Arr**	**19.07**	**128**	P	**P**	06 17 43.4	+0.6	
	comp=Z,12nm,0.6s,baz=301,slow=13,SNR=56							
WRA				S	**S**	06 21 10.6	-0.7	
	comp=Z,7.8nm,0.8s,baz=298,slow=21,SNR=3.1							
WRA				ScP	**ScP**	06 25 23.9	+1.0	
	comp=Z,1.4nm,0.6s,baz=320,slow=2.2,SNR=4.2							
WRAB	**Tennant Creek**	**19.08**	**128**	P	**P**	06 17 43.3	+0.5	
WRAB				IAmb	IAmb	06 17 50.6		
	comp=Z,34nm,0.7s							
WB2	**Warramunga Arr**	**19.08**	**128**	P	**P**	06 17 43.3	+0.4	
WB2				IAmb	IAmb	06 17 50.3		
	comp=Z,36nm,0.8s							
WR0	**Warramunga Arr**	**19.24**	**127**	P	**P**	06 17 45.1	+0.5	
MORW	**Morawa**	**20.40**	**186**	P	**P**	06 17 58.5	+1.5	
AS31	**Alice Springs**	**21.05**	**137**	P	**P**	06 18 05.0	+1.0	
AS31				IAmb	IAmb	06 18 06.0		
	comp=Z,10nm,0.3s							
ASAR	**Alice Springs**	**21.05**	**137**	P	**P**	06 18 05.2	+1.2	
	comp=Z,14nm,0.5s,baz=309,slow=9.3,SNR=344							
ASAR				S	**S**	06 21 49.3	-0.6	
	comp=Z,4.5nm,0.9s,baz=319,slow=21,SNR=6.1							
ASAR				ScP	**ScP**	06 25 28.2	+0.6	
	comp=Z,1.6nm,0.6s,baz=312,slow=1.9,SNR=4.7							
	comp=Z,14nm,0.5s							
BLDU	**Ballidu**	**21.88**	**184**	P	**P**	06 18 13.6	+0.9	
KLBR	**Kellerberrin**	**22.80**	**181**	P	**P**	06 18 23.2	+1.5	
KMBL	**Kambalda**	**22.81**	**172**	P	**P**	06 18 23.2	+1.5	
QIS	**Mount Isa**	**23.66**	**122**	P	**P**	06 18 31.0	+1.4	
FORT	**Forrest**	**23.77**	**159**	P	**P**	06 18 31.6	+1.1	
FORT	**Forrest**	**23.77**	**159**	P	**P**	06 18 30.5	0.0	
NWAO	**Narrogin (SRO)**	**24.15**	**182**	P	**P**	06 18 35.9	+2.0	
NWAO	**Narrogin (SRO)**	**24.15**	**182**	P	**P**	06 18 35.4	+1.5	
NWAO				IAmb	IAmb	06 18 37.0		
	comp=Z,17nm,0.7s							
COEN	**Coen**	**24.86**	**104**	P	**P**	06 18 41.6	+1.0	
COEN	**Coen**	**24.86**	**104**	P	**P**	06 18 41.2	+0.6	
COEN				IAmb	IAmb	06 18 46.5		
	comp=Z,13nm,0.8s							
OOD	**Oodnadatta**	**25.07**	**142**	P	**P**	06 18 43.9	+1.5	
MULG	**Mulgathing**	**26.02**	**148**	P	**P**	06 18 52.9	+2.0	
LCRK	**Leigh Creek**	**28.51**	**142**	P	**P**	06 19 15.1	+2.0	
QIZ	**Qiongzhong**	**28.79**	**343**	P	**P**	06 19 16.1	+0.4	
QIZ				sP	**sP**	06 20 00.5	-4.2	
QIZ				S	**S**	06 23 56.0	+1.7	
QIZ				LR	LR			
	comp=N,160nm,9.5s							
QIZ				LR	LR			
	comp=E,160nm,12.7s							
QIZ				LR	LR			
	comp=Z,100nm,13.6s							
BBOO	**Buckleboo**	**29.06**	**148**	P	**P**	06 19 19.4	+1.4	
BBOO	**Buckleboo**	**29.06**	**148**	P	**P**	06 19 18.9	+0.9	
QLP	**Quilpie**	**30.29**	**129**	P	**P**	06 19 31.1	+2.2	
HTT	**Hallett**	**31.08**	**145**	P	**P**	06 19 37.4	+1.5	
STKA	**Stephens Creek**	**31.59**	**140**	P	**P**	06 19 42.3	+2.0	
STKA	**Stephens Creek**	**31.59**	**140**	P	**P**	06 19 41.2	+0.9	
STKA	**Stephens Creek**	**31.59**	**140**	P	**P**	06 19 41.7	+1.4	
	comp=Z,4.7nm,0.5s,baz=316,slow=8.0,SNR=13							
	comp=Z,4.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**33.09**	**325**	P	**P**	06 19 52.1	-1.4	
	comp=Z,1.1nm,0.4s,baz=156,slow=7.7,SNR=1.8							
CMAR				ScP	**ScP**	06 26 05.9	+2.3	
	comp=Z,0.6nm,0.4s,baz=149,slow=4.2,SNR=4.3							
	comp=Z,1.1nm,0.4s							
ARPS	**Mount Arapiles**	**35.15**	**146**	P	**P**	06 20 13.5	+2.4	
JOW	**Kunigami**	**36.58**	**15**	LR	LR	06 33 36.7		
	comp=Z,46nm,21.4s,baz=236,slow=33							
YNG	**Young**	**37.55**	**137**	P	**P**	06 20 34.4	+2.9	
PZH	**PanZhiHua**	**38.52**	**336**	P	**P**	06 20 40.7	+0.9	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.4s							
PZH				pmax	pmax			
	comp=Z,90nm,4.7s							
NJ2	**Nanjing**	**40.50**	**1**	*e*P	**P**	06 20 56.8	+0.9	
NJ2				pP	**pP**	06 21 28.4	-0.3	
NJ2				pmax	pmax			
	comp=Z,14nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,89nm,4.7s							
JCJ	**Chichijima**	**42.40**	**32**	P	**P**	06 21 10.6	-0.8	
LYN	**LuoYang**	**43.36**	**353**	*e*P	**P**	06 21 23.4	+4.3	
LYN				pmax	pmax			
	comp=Z,8.0nm,0.5s							
KSAR	**Wonju Array Be**	**46.73**	**10**	P	**P**	06 21 44.9	-0.8	
KSRS	**Korea Array**	**46.75**	**10**	P	**P**	06 21 44.4	-1.4	
	comp=Z,5.5nm,0.9s,baz=192,slow=8.1,SNR=22							
	comp=Z,5.5nm,0.9s							
MJAR	**Matsushiro Arr**	**48.69**	**21**	P	**P**	06 21 58.6	-2.2	
	comp=Z,2.6nm,0.8s,baz=195,slow=7.1,SNR=9.3							
	comp=Z,2.6nm,0.8s							
HHC	**Hu-ho-hao-te**	**49.68**	**353**	*e*P	**P**	06 22 12.3	+3.9	
HHC				pmax	pmax			
	comp=Z,13nm,0.9s							
HHC				pmax	pmax			
	comp=Z,47nm,6.2s							
XLT	**XiLinHaoTe**	**52.37**	**358**	*e*P	**P**	06 22 32.8	+4.4	
XLT				pP	pwP	06 23 04.7	-1.0	
XLT				sP	sP	06 23 24.7	+5.6	
XLT				pmax	pmax			
	comp=Z,10.0nm,0.8s							
XLT				pmax	pmax			
	comp=Z,81nm,5.1s							
MDJ	**Mudanjiang**	**54.01**	**10**	P	**P**	06 22 42.4	+2.2	
MDJ				pmax	pmax			
	comp=Z,7.0nm,0.5s							
MDJ				pmax	pmax			
	comp=Z,65nm,9.6s							
USA0B	**Ussuriysk Arra**	**54.06**	**12**	P	**P**	06 22 39.8	-0.8	
USA0B				IAmb	IAmb	06 22 42.0		
	comp=Z,5.1nm,0.7s							
USRK	**Ussuriysk Ar.**	**54.06**	**12**	P	**P**	06 22 38.9	-1.7	
USRK	**Ussuriysk Ar.**	**54.06**	**12**	P	**P**	06 22 39.6	-0.9	
	comp=Z,4.2nm,0.5s,baz=184,slow=7.2,SNR=12							
	comp=Z,4.2nm,0.5s							
SONM	**Songino Array**	**57.26**	**350**	P	**P**	06 23 02.8	-0.7	
	comp=Z,1.6nm,0.5s,baz=168,slow=8.3,SNR=9.1							
	comp=Z,1.6nm,0.5s							
HEH	**HeiHe**	**59.21**	**7**	*e*P	**P**	06 23 16.2	-0.7	
HEH				pmax	pmax			
	comp=Z,8.0nm,0.7s							
MKAR	**Makanchi Array**	**63.89**	**333**	P	**P**	06 23 47.2	-1.1	
	comp=Z,0.6nm,0.4s,baz=154,slow=6.0,SNR=8.2							
	comp=Z,0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**68.41**	**334**	P	**P**	06 24 15.0	-2.1	
	comp=Z,0.6nm,0.5s,baz=141,slow=5.8,SNR=6.6							
	comp=Z,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**68.53**	**339**	P	**P**	06 24 15.8	-1.9	
ZALV	**Zalesovo Beam**	**68.53**	**339**	P	**P**	06 24 15.6	-2.1	
	comp=Z,2.2nm,0.6s,baz=133,slow=5.2,SNR=10							
	comp=Z,2.2nm,0.6s							
PETK	**Petropavlovsk-**	**70.03**	**24**	P	**P**	06 24 26.6	-0.4	
	comp=Z,5.0nm,0.6s,baz=225,slow=2.1,SNR=17							
	comp=Z,5.0nm,0.6s							
VNDA	**Vanda**	**72.40**	**171**	P	**P**	06 24 43.4	+2.5	
	comp=Z,0.7nm,0.4s,baz=315,slow=6.8,SNR=16							
	comp=Z,0.7nm,0.4s							
BVAR	**Borovoye Array**	**73.73**	**332**	P	**P**	06 24 48.5	-0.6	
	comp=Z,0.5nm,0.4s,baz=149,slow=5.9,SNR=2.2							
	comp=Z,0.5nm,0.4s							
ABKAR	**Akbulak array**	**76.95**	**325**	P	**P**	06 25 05.9	-1.6	
TIXI	**Tiksi**	**80.46**	**3**	P	**P**	06 25 24.2	-2.0	
TIXI				IAmb	IAmb	06 25 25.4		
	comp=Z,3.0nm,0.8s							
QSPA	**South Pole Qui**	**81.31**	**180**	P	**P**	06 25 30.4	-0.8	
QSPA	**South Pole Qui**	**81.31**	**180**	P	**P**	06 25 33.8	+2.7	
	comp=Z,1.6nm,0.9s,baz=284,slow=3.2,SNR=1.8							
	comp=Z,1.6nm,0.9s							
YKA	**Yellowknife A**	**114.15**	**24**	PKiKP	PKPdf	06 31 52.1	-0.7	
	comp=Z,0.4nm,0.7s,baz=312,slow=2.4,SNR=11							
TORD	**Torodi Ar. Bea**	**117.80**	**280**	PKP	**PKPdf**	06 32 01.5	+0.3	
	comp=Z,1.5nm,0.6s,baz=40,slow=2.0,SNR=12							
NVAR	**Mina Array Bea**	**121.29**	**50**	PKP	**PKiKP**	06 32 08.2	+0.4	
	comp=Z,0.4nm,0.6s,baz=236,slow=3.1,SNR=4.1							
DBIC	**Dimbokro**	**123.75**	**272**	PKP	**PKPdf**	06 32 11.9	-0.8	
	comp=Z,1.8nm,0.7s,baz=284,slow=2.9,SNR=4.2							
SCHQ	**Schefferville**	**133.78**	**4**	PKP	**PKPdf**	06 32 30.2	-0.4	
	comp=Z,1.9nm,0.8s,baz=354,slow=2.4,SNR=5.3							
TXAR	**Lajitas Array**	**135.58**	**57**	PKhKP	PKPpre	06 32 26.8		
	comp=Z,0.1nm,0.5s,baz=312,slow=3.1,SNR=2.3							
TXAR				PKP	**PKiKP**	06 32 36.4	0.0	
	comp=Z,0.2nm,0.5s,baz=182,slow=2.5,SNR=2.0							
TXAR				SKPbc	**SKPbc**	06 35 53.3	+1.1	
	comp=Z,1.0nm,0.8s,baz=253,slow=2.0,SNR=10							
CPUP	**Villa Florida**	**144.95**	**187**	PKPbc	**PKPdf**	06 32 52.8	+1.1	
	comp=Z,3.8nm,1.0s,baz=182,slow=5.7,SNR=5.9							
BDFB	**Brasilia**	**152.33**	**209**	PKPbc	**PKiKP**	06 33 12.2	+1.0	
	comp=Z,2.6nm,1.0s,baz=26,slow=6.8,SNR=3.7							

*IDC **01** 06:20:45.1±1.4,31°.20N×99°.76E,h0km,mb3.5/5, mbtmp3.6/7,MS2.9/2,Error ellipse: s-maj=37.5km s-min=23.1km az=60.0*

ISC 01 06:20:46.8±1.1,31°.2N±0°.1×99°.8E±0°.2,h10km,n8,σ0s37/7, mb3.7/4,Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LZH	**Lanzhou**	**5.90**	**34**	*e*P		Pg		06 22 44.9	+5.1
LZH				pmax	pmax				
	comp=Z,12nm,1.0s								
LZH				pmax	pmax				
	comp=Z,23nm,1.4s								
CMAR	**Chiang Mai Arr**	**12.74**	**184**	Pn		**Pn**		06 23 48.4	+0.3
	comp=Z,0.7nm,0.3s,baz=353,slow=13,SNR=1.0								
CMAR				LR		LR		06 28 38.3	
	comp=Z,33nm,20.1s,baz=305,slow=37								
SONM	**Songino Array**	**17.33**	**15**	P		**Pn**		06 24 49.1	+0.2
	comp=Z,0.7nm,0.6s,baz=204,slow=13,SNR=4.7								
MKAR	**Makanchi Array**	**20.58**	**324**	P		**P**		06 25 25.7	-0.1
	comp=Z,0.8nm,0.6s,baz=135,slow=12,SNR=2.1								
	comp=Z,0.8nm,0.6s								
KSRS	**Korea Array**	**23.99**	**67**	P		**P**		06 26 01.8	+0.3
	comp=Z,1.8nm,0.9s,baz=263,slow=9.3,SNR=8.4								
	comp=Z,1.8nm,0.9s								
KURBB	**Kurchatov Arra**	**25.01**	**327**	P		**P**		06 26 10.8	0.0
	comp=Z,0.7nm,0.6s,baz=143,slow=8.1,SNR=3.9								
	comp=Z,0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**25.14**	**339**	P		**P**		06 26 11.6	-0.2
	comp=Z,1.4nm,0.7s,baz=151,slow=9.5,SNR=3.5								
ZALV				LR		LR		06 36 51.5	
	comp=Z,45nm,19.4s,baz=321,slow=38								
	comp=Z,1.4nm,0.7s								
ASAR	**Alice Springs**	**63.62**	**145**	P		**P**		06 31 17.5	-0.5
	comp=Z,0.4nm,0.8s,baz=325,slow=6.7,SNR=2.0								
	comp=Z,0.4nm,0.8s								

*IDC **01** 06:22:18.5±1.5,29°.85S×179°.51W,h347km±14km,mb3.5/6, mbtmp4.2/6,Error ellipse: s-maj=21.7km s-min=19.9km az=71.0*

ISC 01 06:22:16.7±0.6,30°.30S±0°.07×178°.9W±0°.1,h350km,n76, σ2s01/113,mb3.7/6,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.36**	**41**	P			**Pn**	06 23 05.4	+1.3
GLKZ				S			**S**	06 23 43.3	+1.1
RAO	**Raoul Island**	**1.37**	**41**	P			**Pn**	06 23 06.3	+2.1
	280nm,0.3s,baz=57,slow=23,SNR=2.8								
RAO				S			**S**	06 23 36.6	-5.6
	423nm,0.2s,baz=77,slow=22,SNR=2.6								
MXZ	**Matakaoa Point**	**7.60**	**197**	P			**Pn**	06 24 10.2	+4.3
MXZ				S			**S**	06 25 32.4	-2.6
WMGZ	**Waiomatatini S**	**7.81**	**196**	P			**Pn**	06 24 13.0	+4.5
WMGZ				S			**S**	06 25 40.6	+0.9
HAZ	**Te Kaha**	**7.92**	**199**	P			**Pn**	06 24 11.7	+2.0
HAZ				S			**S**	06 25 41.2	-0.7
WCZ	**Waipu Caves**	**7.96**	**223**	P			**Pn**	06 24 13.5	+3.2
PUZ	**Puketiti**	**8.09**	**196**	P			**P**	06 24 14.5	-0.3
PUZ				S			**S**	06 25 45.2	-0.5
RUGZ	**Raukumara Rang**	**8.14**	**199**	P			**P**	06 24 14.7	-0.8
RUGZ				S			**S**	06 25 45.7	-1.4
TWGZ	**Tauwhareparae**	**8.26**	**197**	P			**P**	06 24 18.8	+2.0
TWGZ				S			**S**	06 25 50.2	+0.7
OPRZ	**Ohinepanea**	**8.40**	**205**	P			**P**	06 24 20.2	+2.0
CNGZ	**Carnagh Statio**	**8.50**	**195**	P			**P**	06 24 21.3	+2.1
MWZ	**Matawai**	**8.53**	**199**	P			**P**	06 24 18.6	-1.1
MWZ				S			**S**	06 25 54.7	-0.6
TKGZ	**Te Karaka**	**8.54**	**197**	P			**P**	06 24 20.3	+0.5
TKGZ				S			**S**	06 25 54.4	-1.1
URZ	**Urewera**	**8.59**	**201**	P			**Pn**	06 24 17.5	-0.1
	17nm,0.3s,baz=346,slow=4.6,SNR=48								
URZ				S			**S**	06 25 55.0	-1.5
	55nm,0.3s,baz=165,slow=21,SNR=14								
URZ	**Urewera**	**8.59**	**201**	P			**Pn**	06 24 18.2	+0.6
URZ				S			**S**	06 25 54.4	-2.0
RAGZ	**Rawiri**	**8.71**	**199**	P			**Pn**	06 24 20.5	+1.3
RAGZ				S			**S**	06 25 59.7	+0.3
TOZ	**Tahuroa Road**	**8.73**	**210**	P			**P**	06 24 24.2	+2.4
RIGZ	**Rimuhau**	**8.82**	**197**	P			**Pn**	06 24 21.2	+0.7
RIGZ				S			**S**	06 25 59.8	-1.8
MUGZ	**Murupara**	**8.89**	**202**	P			**P**	06 24 24.2	+0.5
MUGZ				S			**S**	06 26 02.6	-0.6
RTZ	**Ruatahuna**	**8.95**	**201**	P			**P**	06 24 24.1	-0.3
RTZ				S			**S**	06 26 02.6	-2.0
SNGZ	**Shannon Statio**	**9.00**	**199**	P			**Pn**	06 24 22.6	0.0
SNGZ				S			**S**	06 26 04.5	-1.1
RAHZ	**Arahi**	**9.20**	**200**	P			**Pn**	06 24 25.4	+0.5
RAHZ				S			**S**	06 26 08.4	-1.5
MHGZ	**Mahia Peninsul**	**9.21**	**196**	P			**P**	06 24 29.0	+1.8
MTHZ	**Maungataniwha**	**9.21**	**201**	P			**Pn**	06 24 26.0	+0.9
MTHZ				S			**S**	06 26 10.2	-0.1
TLZ	**Tolley Road**	**9.22**	**208**	P			**P**	06 24 31.0	+3.7
KUTZ	**Kaahu Road**	**9.24**	**207**	P			**P**	06 24 30.8	+3.1
ARHZ	**Aropaoanui**	**9.54**	**199**	P			**P**	06 24 32.4	+1.5
ARHZ				S			**S**	06 26 15.9	-1.6
BKZ	**Black Stump Fm**	**9.61**	**202**	P			**Pn**	06 24 30.0	+0.1
BKZ				S			**S**	06 26 17.4	-1.6
HIZ	**Hauiti**	**9.66**	**210**	P			**P**	06 24 36.9	+4.6
KATZ	**Kakaramea**	**9.72**	**206**	P			**P**	06 24 35.2	+2.2
KATZ				S			**S**	06 26 25.0	+3.5
NTVZ	**North Tongarir**	**9.83**	**205**	P			**P**	06 24 35.5	+1.3
NTVZ				S			**S**	06 26 25.0	+1.0
TMVZ	**Te Maari**	**9.84**	**205**	P			**P**	06 24 34.2	-0.1
KWHZ	**Kaweka Forest**	**9.87**	**201**	P			**P**	06 24 34.1	-0.5
KWHZ				S			**S**	06 26 23.3	-1.4
WTVZ	**West Tongariro**	**9.88**	**206**	P			**P**	06 24 34.6	-0.1
NNVZ	**North Ngauruho**	**9.88**	**205**	P			**P**	06 24 35.8	+0.9
NNVZ				S			**S**	06 26 27.7	+2.5
OTVZ	**Oturere**	**9.89**	**205**	P			**P**	06 24 35.0	0.0
OTVZ				S			**S**	06 26 26.9	+1.5
TWVZ	**Taurewa**	**9.90**	**206**	P			**P**	06 24 35.2	+0.2
SNVZ	**South Ngauruho**	**9.92**	**205**	P			**P**	06 24 35.3	0.0
SNVZ				S			**S**	06 26 24.6	-1.5
FWVZ	**Far West T-bar**	**10.01**	**205**	P			**P**	06 24 36.1	-0.3
FWVZ				S			**S**	06 26 27.1	-1.1
BHHZ	**Black Hill Sta**	**10.04**	**203**	P			**P**	06 24 36.6	+0.1
BHHZ				S			**S**	06 26 27.4	-1.2
KAHZ	**Kahuranaki**	**10.07**	**199**	P			**Pn**	06 24 35.6	+0.2
KAHZ				S			**S**	06 26 27.1	-2.1
MOVZ	**Moawhango**	**10.08**	**204**	P			**P**	06 24 36.6	-0.3
MOVZ				S			**S**	06 26 24.1	-5.2
KRHZ	**Kereru**	**10.08**	**201**	P			**Pn**	06 24 35.2	-0.3
KRHZ				S			**S**	06 26 26.5	-2.9
PKVZ	**Pokaka**	**10.12**	**206**	P			**P**	06 24 37.0	-0.4
PXZ	**Pawanui**	**10.30**	**198**	P			**Pn**	06 24 38.0	0.0
PXZ				S			**S**	06 26 29.5	-4.5
PNHZ	**Pukenui**	**10.38**	**201**	P			**S**	06 24 40.5	0.0
PNHZ				S			**S**	06 26 30.8	-5.3
PRHZ	**Porangahau**	**10.58**	**199**	P			**P**	06 24 43.4	+1.0
PRHZ				S			**S**	06 26 39.3	-1.0
WAZ	**Wanganui**	**10.66**	**206**	P			**P**	06 24 44.6	+1.3
WAZ				S			**S**	06 26 40.3	-1.9
DVHZ	**Dannevirke**	**10.75**	**200**	P			**Pn**	06 24 43.8	+0.4
DVHZ				S			**S**	06 26 38.3	-5.7
ANWZ	**Angora Road**	**10.80**	**199**	P			**P**	06 24 46.7	+1.8
ANWZ				S			**S**	06 26 42.0	-3.2
POWZ	**Post Office Ro**	**10.96**	**202**	P			**P**	06 24 46.8	+0.2
POWZ				S			**S**	06 26 44.4	-4.2
PRWZ	**Pori Road**	**11.04**	**201**	P			**P**	06 24 47.4	-0.1
BFZ	**Birch Farm**	**11.07**	**199**	P			**Pn**	06 24 47.6	+0.3
TRWZ	**Traveller**	**11.90**	**200**	P			**P**	06 24 58.2	+1.2
DZM	**Mont Dzumac**	**15.46**	**299**	P			**P**	06 25 35.1	-1.4
	5.3nm,0.6s,baz=140,slow=19,SNR=2.5								
RPZ	**Rata Peaks**	**15.58**	**208**	S			**S**	06

	baz=290						
NNSH				S	Sg	06 37 16.6	+0.3
	baz=290						
NDT	**Datong Townshi**	0.34	326	⇑P	Pb	06 37 12.8	-1.3
	baz=328						
NDT				S	Sg	06 37 17.5	+0.8
	baz=328						
NNS	**Nan Shan**	0.34	291	⇑*i*P	Pg	06 37 12.4	+0.3
	baz=291						
NNS				*i*S	Sg	06 37 16.8	+0.2
	baz=291						
ENTT	**Nioudou**	0.35	336	⇑*i*P	Pb	06 37 12.9	-1.4
	baz=339						
ENTT				*i*S	Sg	06 37 17.9	+0.9
	baz=339						
HWA	**Hwalien**	0.35	198	⇓*i*P	Pb	06 37 13.1	-1.1
	baz=192						
HWA				*i*S	Sb	06 37 19.1	-1.0
	baz=192						
TWE	**Neicheng**	0.41	353	⇓*i*P	Pb	06 37 13.9	-1.2
	baz=357						
TWE				*i*S	Sg	06 37 19.3	+0.7
	baz=357						
ETM	**Tongmen**	0.41	211	⇓P	Pg	06 37 13.3	0.0
	baz=207						
ETM				S	Sg	06 37 19.1	+0.4
	baz=207						
LXIB	**Xiulin Townshi**	0.41	224	⇓P	Pg	06 37 13.4	0.0
	baz=220						
LXIB				S	Sg	06 37 19.8	+1.0
	baz=220						
FUSS	**Fushou**	0.44	261	P	Pg	06 37 14.4	+0.4
	baz=261						
FUSS				S	Sb	06 37 20.8	-2.1
	baz=261						
ILA	**Ilan**	0.45	3	*i*P	Pb	06 37 15.3	-0.5
	baz=6.0						
ILA				*i*S	Sb	06 37 21.4	-1.4
	baz=6.0						
WHF	**Hehuan Shan**	0.45	248	*i*P	Pg	06 37 14.4	+0.2
	baz=246						
WHF				S	Sb	06 37 21.5	-1.9
	baz=246						
FUSB	**Fushanzhiwuyua**	0.46	344	⇑P	Pb	06 37 15.0	-1.1
	baz=347						
FUSB				S	Sg	06 37 21.1	+0.8
	baz=347						
TEYL	**Yanliau Villag**	0.46	194	P	Pg	06 37 14.4	+0.1
	baz=191						
TEYL				*e*S	Sg	06 37 21.5	+1.1
	baz=191						
YHNB	**Yeheng**	0.47	318	P	Pb	06 37 15.3	-1.0
YHNB	**Yeheng**	0.47	318	⇑P	Pb	06 37 15.4	-1.0
	baz=320						
YHNB				S	Sb	06 37 21.9	-1.8
	baz=320						
EOS2	**EOS2**	0.47	78	*e*P	Pb	06 37 16.0	-0.2
	baz=76						
EOS2				*e*S	Sb	06 37 24.3	+0.9
	baz=76						
NSK	**Sanguang**	0.49	317	⇑*i*P	Pb	06 37 15.6	-1.0
	baz=320						
NSK				*i*S	Sb	06 37 22.6	-1.4
	baz=320						
NWLT	**Wulai**	0.50	336	P	Pb	06 37 15.8	-1.0
	baz=339						
NWLT				S	Sg	06 37 22.2	+0.5
	baz=339						
TWT	**Tachien**	0.50	263	*i*P	Pb	06 37 16.3	-0.6
	baz=263						
TWT				*i*S	Sb	06 37 23.0	-1.6
	baz=263						
TDCB	**Techi**	0.52	263	P	Pb	06 37 16.2	-1.0
	baz=263						
TDCB				S	Sg	06 37 22.5	+0.3
	baz=263						
EOS3	**EOS3**	0.54	93	*e*P	Pb	06 37 17.4	0.0
	baz=88						
EOS3				*e*S	Sb	06 37 26.5	+1.2
	baz=88						
NTC	**Toucheng**	0.54	10	P	Pb	06 37 17.6	+0.1
	baz=13						
NTC				S	Sb	06 37 24.8	-0.8
	baz=13						
SHUL	**Shoufeng**	0.55	196	⇓P	Pb	06 37 16.8	-0.7
	baz=191						
SHUL				*e*S	Sb	06 37 24.4	-1.3
	baz=191						
EGS		0.56	20	*i*P	Pb	06 37 16.9	-0.8
	baz=34						
EGS				*i*S	Sb	06 37 25.1	-0.9
	baz=34						
CHGB	**Renai**	0.56	243	P	Pg	06 37 16.6	+0.3
	baz=242						
CHGB				S	Sb	06 37 25.4	-1.0
	baz=242						
ESL	**Shilin**	0.57	208	⇓*i*P	Pg	06 37 16.2	-0.1
	baz=203						
ESL				S	Sb	06 37 25.2	-1.0
	baz=203						
EOS4	**EOS4**	0.58	110	P	Pb	06 37 17.7	-0.1
	baz=102						
EOS4				S	Sn	06 37 28.2	-1.4
	baz=102						
OWD	**Renai**	0.62	234	P	Pg	06 37 17.7	+0.4
	baz=220						
OWD				S	Sb	06 37 26.6	-1.2
	baz=220						
NFF	**Wufeng Townshi**	0.64	300	⇑P	Pb	06 37 18.6	-0.4
	baz=300						
NFF				S	Sb	06 37 27.2	-1.1
	baz=300						
WUSB	**Renai**	0.64	240	⇓P	Pg	06 37 18.0	+0.2
	baz=226						
WUSB				S	Sb	06 37 28.1	-0.5
	baz=226						
NHDH	**Xindian Distri**	0.67	344	P	Pb	06 37 19.1	-0.5
	baz=346						
NHDH				S	Sb	06 37 27.9	-1.3
	baz=346						
WARBT	**Fenglin Townsh**	0.67	207	⇓P	Pb	06 37 18.1	-0.3
	baz=205						
WARBT				*e*S	Sg	06 37 27.5	+0.5
	baz=205						
TWA	**Mucha**	0.67	349	P	Pg	06 37 18.2	-0.2
	baz=352						
TWA				S	Sg	06 37 27.0	-0.1
	baz=352						
TATO	**Taipei**	0.69	342	P	Pb	06 37 19.9	-0.1
TATO	**Taipei**	0.69	342	P	Pb	06 37 19.5	-0.5
	baz=344						
TATO				S	Sg	06 37 28.1	+0.4
	baz=344						
EGFH	**Guangfu**	0.70	203	⇓P	Pb	06 37 18.8	-0.1
	baz=211						
EGFH				S	Sb	06 37 30.0	-0.1
	baz=211						
WHP	**Taichung City**	0.71	267	P	Pn	06 37 21.1	-1.2
	baz=267						
WHP				S	Sb	06 37 29.3	-1.2
	baz=267						
NJD	**Zhudong**	0.71	306	P	Pb	06 37 20.3	-0.1
	baz=307						
NJD				*e*S	Sb	06 37 29.9	-0.6
	baz=307						
LIOB	**Emei**	0.72	297	⇑P	Pb	06 37 20.7	+0.1
	baz=298						
LIOB				S	Sb	06 37 31.0	+0.2
	baz=298						
NSTT	**Nanjuang**	0.73	296	⇑*i*P	Pb	06 37 20.6	0.0
	baz=297						
NSTT				*i*S	Sb	06 37 30.4	-0.5
	baz=297						
TWB1	**Santiao Chiao**	0.73	19	*i*P	Pg	06 37 19.6	+0.2
	baz=22						
TWB1				*i*S	Sg	06 37 29.3	+0.4
	baz=22						
TAP	**Taipei**	0.75	345	P	Pg	06 37 18.3	-1.5
	baz=347						
TAP				S	Sb	06 37 30.8	-0.6
	baz=347						
NWF	**Wu-fen Shan**	0.75	4	*i*P	Pb	06 37 21.1	0.0
	baz=6.0						
NWF				*i*S	Sb	06 37 30.6	-1.1
	baz=6.0						
WFSB	**Wu-fen Shan**	0.75	4	P	Pb	06 37 21.0	-0.1
	baz=6.0						
WFSB				S	Sb	06 37 30.5	-1.1

	baz=6.0						
WPL	**Puli Township**	0.76	247	P	Pb	06 37 20.9	-0.3
	baz=246						
WPL				S	Sb	06 37 31.3	-0.6
	baz=246						
VWDT	**VWDT**	0.77	224	⇓P	Pg	06 37 20.3	0.0
	baz=209						
VWDT				S	Sb	06 37 31.5	-0.7
	baz=209						
DPDB	**Guoxing**	0.78	249	P	Pb	06 37 21.1	-0.4
	baz=248						
DPDB				S	Sb	06 37 31.9	-0.6
	baz=248						
NTY	**Taoyuan**	0.78	330	*e*P	Pn	06 37 22.7	-0.4
	baz=343						
NTY				S	Sb	06 37 33.4	+0.9
	baz=343						
SXI1	**Grass Mountain**	0.79	10	P	Pb	06 37 21.3	-0.3
	baz=2.0						
SXI1				S	Sb	06 37 31.7	-1.0
	baz=2.0						
WCS	**Beigang Elemen**	0.79	251	P	Pb	06 37 21.2	-0.4
	baz=259						
WCS				*e*S	Sb	06 37 31.3	-1.3
	baz=259						
HSN1	**Hsinchu**	0.79	306	P	Pn	06 37 22.6	-0.6
	baz=307						
HSN1				*e*S	Sb	06 37 33.3	+0.6
	baz=307						
NCU	**National Centr**	0.81	323	*i*S	Sn	06 37 34.9	-1.2
	baz=325						
NCUH	**Zhongli**	0.81	323	⇑P	Pn	06 37 22.9	-0.7
	baz=325						
NCUH				*e*S	Sn	06 37 34.9	-1.2
	baz=325						
SBCB	**Hsinchu**	0.82	305	P	Pn	06 37 23.3	-0.4
	baz=307						
SBCB				*e*S	Sb	06 37 33.9	+0.3
	baz=307						
TWS1	**Kuangyinshan**	0.83	340	*i*P	Pn	06 37 23.0	-0.8
	baz=342						
TWS1				S	Sb	06 37 33.9	+0.1
	baz=342						
TNOU	**National Taiwa**	0.83	3	P	Pb	06 37 22.5	+0.1
	baz=5.0						
TNOU				S	Sg	06 37 32.6	+0.4
	baz=5.0						
YM01	**YM01**	0.84	350	P	Pb	06 37 22.6	+0.1
	baz=352						
YM01				S	Sb	06 37 33.6	-0.5
	baz=352						
HSN	**Hsinchu**	0.84	305	*i*P	Pn	06 37 23.1	-0.9
	baz=310						
HSN				S	Sb	06 37 34.0	-0.1
	baz=310						
NJN	**Zhunan**	0.86	295	P	Pn	06 37 23.6	-0.6
	baz=287						
NJN				*e*S	Sb	06 37 35.1	+0.4
	baz=287						
HGSD	**Ruisui**	0.87	199	P	Pb	06 37 22.6	-0.4
	baz=209						
HGSD				*e*S	Sb	06 37 35.4	+0.6
	baz=209						
SMLT	**Sun Moon Lake**	0.87	240	⇓*i*P	Pb	06 37 22.5	-0.6
	baz=227						
SMLT				*e*S	Sb	06 37 34.2	-0.8
	baz=227						
TWQ1	**Liyutan**	0.87	272	*i*P	Pn	06 37 23.9	-0.4
	baz=273						
TWQ1				*e*S	Sn	06 37 36.2	-1.2
	baz=273						
YM08	**YM08**	0.88	352	P	Pb	06 37 23.2	0.0
	baz=354						
YM08				*e*S	Sb	06 37 34.3	-0.9
	baz=354						
NMLH	**Miaoli**	0.88	285	P	Pn	06 37 24.2	-0.2
	baz=285						
NMLH				S	Sn	06 37 36.6	-1.0
	baz=285						
SSLB	**Suanglung**	0.88	233	P	Pb	06 37 22.4	-0.8
SSLB	**Suanglung**	0.88	233	⇓P	Pg	06 37 22.3	0.0
	baz=231						
SSLB				S	Sb	06 37 34.1	-1.2
	baz=231						
NTST	**Danshui**	0.88	344	P	Pn	06 37 24.0	-0.5
	baz=358						
NTST				S	Sb	06 37 35.9	+0.6
	baz=358						
NSY	**Sanyi**	0.88	277	*i*P	Pb	06 37 22.7	-0.6
	baz=277						
NSY				*e*S	Sb	06 37 36.0	+0.5
	baz=277						
ANP	**Anpu**	0.89	348	P	Pb	06 37 23.0	-0.4
	baz=351						
ANP				*e*S	Sg	06 37 33.9	0.0
	baz=351						
EHY	**Hungye**	0.89	205	*i*P	Pg	06 37 21.9	-0.6
	baz=201						
EHY				S	Sb	06 37 35.0	-0.5
	baz=201						
EHYH	**Wanrong**	0.89	203	*i*P	Pg	06 37 22.3	-0.2
	baz=200						
EHYH				*e*S	Sg	06 37 34.5	+0.4
	baz=200						
TYC	**Yuchr**	0.89	243	⇓*i*P	Pb	06 37 22.6	-0.8
	baz=241						
TYC				*e*S	Sn	06 37 36.4	-1.6
	baz=241						
TCU	**Taichung**	0.97	260	*i*P	Pn	06 37 26.6	+0.9
	baz=260						
TCU				S	Sn	06 37 40.0	+0.1
	baz=260						
WWF	**Wufeng**	0.98	254	*e*P	Pn	06 37 25.9	+0.1
	baz=254						
WWF				*e*S	Sn	06 37 38.9	-1.1
	baz=254						
WDJ	**Dajia District**	0.99	272	P	Pn	06 37 26.7	+0.7
	baz=273						
WDJ				S	Sn	06 37 39.7	-0.6
	baz=273						
YULB	**Yu-li**	1.00	203	P	Pg	06 37 24.2	-0.4
YULB	**Yu-li**	1.00	203	P	Pg	06 37 23.8	-0.8
	baz=199						
YULB				S	Sb	06 37 38.0	-0.8
	baz=199						
WHYT	**Xinyi Township**	1.01	232	P	Pb	06 37 24.8	-0.6
	baz=231						
WHYT				S	Sb	06 37 38.6	-0.4
	baz=231						
ECBN	**Changbin**	1.03	194	P	Pn	06 37 26.1	-0.4
	baz=210						
ECBN				*e*S	Sn	06 37 40.4	-0.9
	baz=210						
EYUL	**Yuli**	1.03	201	P	Pg	06 37 25.1	-0.2
	baz=210						
EYUL				S	Sg	06 37 38.8	+0.1
	baz=210						
WJS	**Zhushan**	1.03	242	*e*P	Pn	06 37 27.0	+0.4
	baz=233						
WJS				*e*S	Sn	06 37 41.4	-0.1
	baz=233						
TWF1	**Yuli**	1.04	202	*i*P	Pg	06 37 24.4	-0.9
	baz=210						
TWF1				*e*S	Sg	06 37 38.6	-0.2
	baz=210						
WNT1	**Nantou City**	1.04	247	P	Pn	06 37 27.0	+0.3
	baz=246						
WNT1				S	Sn	06 37 42.7	+1.2
	baz=246						
WNT	**Mingjian**	1.05	246	*i*P	Pn	06 37 27.2	+0.5
	baz=245						
WNT				*i*S	Sn	06 37 43.5	+1.7
	baz=245						
WCHH	**Zhanghua**	1.09	258	*e*P	Pn	06 37 28.5	+1.2
	baz=257						
WCHH				*e*S	Sn	06 37 43.2	+0.3
	baz=257						
JYNG	**Yonagunijimaku**	1.12	83	P	Pb	06 37 27.2	-0.1
JYNG				*e*S	Sb	06 37 42.5	+0.3
CHKH	**Chenggong**	1.16	195	P	Pg	06 37 26.9	-0.7
	baz=208						
CHKH				*e*S	Sn	06 37 44.8	+0.3
	baz=208						
ALS	**Alishan**	1.16	227	⇓*i*P	Pb	06 37 27.8	-0.4
	baz=209						
ALS				S	Sn	06 37 45.6	+0.5
	baz=209						
YOJ	**Yonaguni jima**	1.18	83	P	Pg	06 37 28.0	-0.1

YOJ	**Yonaguni jima**	1.18	83	*e*P	Pg	06 37 28.0	-0.1
YOJ				*e*S	Sn	06 37 45.0	-0.1
YOJ	**Yonaguni jima**	1.18	83	P	Pg	06 37 27.9	-0.1
	baz=71						
YOJ				S	Sn	06 37 45.0	-0.1
	baz=71						
CHN5	**Tsauling**	1.20	233	⇓*i*P	Pn	06 37 29.3	+0.4
	baz=230						
CHN5				*i*S	Sn	06 37 47.0	+1.5
	baz=230						
WGK	**Gukeng**	1.23	240	*i*P	Pn	06 37 30.2	+0.8
	baz=237						
WGK				*i*S	Sn	06 37 48.8	+2.4
	baz=237						
WDLH	**Douliu**	1.25	240	⇓P	Pn	06 37 30.4	+0.9
	baz=238						
WDLH				S	Sn	06 37 48.5	+1.7
	baz=238						
EHD	**Haiduan**	1.26	202	P	Pg	06 37 29.1	-0.5
	baz=198						
EHD				S	Sg	06 37 45.7	-0.1
	baz=198						
ELDTW	**Lidau**	1.30	210	*i*P	Pg	06 37 29.6	-0.7
	baz=205						
ELDTW				*i*S	Sb	06 37 47.2	-0.2
	baz=205						
WRL	**Guolierlin Hig**	1.30	252	P	Pb	06 37 30.8	+0.4
	baz=250						
WRL				S	Sn	06 37 49.3	+1.3
	baz=250						
ECS	**Chishang**	1.30	201	P	Pb	06 37 31.2	+0.8
	baz=197						
ECS				*e*S	Sn	06 37 48.8	+0.7
	baz=197						
PCYT	**Pengchaiyu**	1.34	13	*i*P	Pn	06 37 30.8	-0.1
	baz=16						
PCYT				*e*S	Sn	06 37 50.4	+1.3
	baz=16						
WCKO	**Fanlu**	1.35	230	P	Pg	06 37 31.4	+0.1
	baz=226						
WCKO				S	Sn	06 37 50.9	+1.7
	baz=226						
WTK	**Tuku**	1.37	243	P	Pg	06 37 32.1	+0.3
	baz=241						
WTK				S	Sn	06 37 52.2	+2.4
	baz=241						
CHN2	**Minshiung**	1.39	236	*e*P	Pg	06 37 33.9	+1.9
	baz=233						
CHN2				*e*S	Sn	06 37 52.0	+1.9
	baz=233						
EDH	**Donghe**	1.39	196	P	Pn	06 37 29.6	-1.9
	baz=192						
EDH				*e*S	Sn	06 37 50.8	+0.5
	baz=192						
CHN4	**Tsaushan**	1.41	227	*i*P	Pg	06 37 33.0	+0.5
	baz=207						
CHN4				S	Sn	06 37 53.1	+2.2
	baz=207						
TPUB	**Ta-pu**	1.42	225	P	Pg	06 37 32.9	+0.2
TPUB	**Ta-pu**	1.42	225	P	Pg	06 37 32.9	+0.2
	baz=206						
TPUB				S	Sn	06 37 52.0	+0.8
	baz=206						
STYH	**Taoyuan**	1.44	217	P	Pb	06 37 32.3	-0.3
	baz=201						
STYH				S	Sg	06 37 52.9	+1.4
	baz=201						
WTP	**Ta-pu**	1.47	224	*i*P	Pg	06 37 34.0	+0.3
	baz=205						
WTP				S	Sg	06 37 54.6	+1.8
	baz=205						
LONT	**Longtian**	1.51	201	P	Pn	06 37 33.0	-0.1
	baz=197						
LONT				*e*S	Sn	06 37 52.6	-0.5
	baz=197						
WSF	**Szhu**	1.53	244	P	Pg	06 37 35.3	+0.5
	baz=242						
WSF				*i*S	Sg	06 37 56.0	+1.3
	baz=242						
SNST	**Tainan City**	1.57	226	P	Pg	06 37 35.5	+0.1
	baz=205						
SNST				*e*S	Sg	06 37 56.8	+1.0
	baz=205						
CHN1	**Nanshi**	1.57	224	*i*P	Pg	06 37 35.6	0.0
	baz=203						
CHN1				S	Sg	06 37 56.7	+0.7
	baz=203						
WSL	**Shuilin Townsh**	1.58	240	P	Pg	06 37 36.6	+0.8
	baz=259						
WSL				S	Sg	06 37 58.0	+1.8
	baz=259						
TWG	**Pinlang**	1.60	202	*i*P	Pn	06 37 34.1	-0.3
	baz=197						
TWG				*e*S	Sg	06 37 57.2	+0.2
	baz=197						
TWGBT	**Beinan**	1.60	202	P	Pg	06 37 35.7	-0.5
TWGBT	**Beinan**	1.60	202	P	Pb	06 37 34.9	-0.7
	baz=197						
TWGBT				S	Sn	06 37 55.2	-0.4
	baz=197						
SGST	**Jiashian**	1.61	221	*i*P	Pb	06 37 35.4	-0.3
	baz=201						
SGST				*i*S	Sg	06 37 59.1	+1.8
	baz=201						
ICHU	**Yijhu**	1.63	235	P	Pg	06 37 36.7	+0.1
	baz=211						
ICHU				S	Sg	06 37 57.8	0.0
	baz=211						
SLGT	**Liugui**	1.65	217	P	Pg	06 37 36.4	-0.6
	baz=213						
SLGT				S	Sg	06 38 00.1	+1.7
	baz=213						
CHN8	**Yiju**	1.69	235	*e*P	Pn	06 37 35.7	+0.1
	baz=214						
CHN8				*e*S	Sg	06 37 59.2	-0.5
	baz=214						
SHHT	**Tainan City**	1.80	225	P	Pg	06 37 39.6	-0.4
	baz=220						
SHHT				*e*S	Sg	06 38 05.5	+2.0
	baz=220						
SCST	**Cishan**	1.82	219	P	Pb	06 37 39.0	-0.1
	baz=214						
SCST				*e*S	Sg	06 38 04.1	+0.3
	baz=214						
IRIF	**Iriomote-Funau**	1.83	89	*e*P	Pn	06 37 37.6	+0.1
IRIF				*e*S	Sn	06 38 01.6	+0.5
SSD	**Sandimen**	1.86	213	*i*P	Pg	06 37 40.5	-0.5
	baz=208						
SSD				S	Sg	06 38 04.9	-0.3
	baz=208						
TSMG	**Majia**	1.89	212	P	Pn	06 37 38.8	+0.5
	baz=208						
TSMG				S	Sg	06 38 07.1	+1.0
	baz=208						
TSCK	**Chigu Township**	1.90	233	P	Pb	06 37 40.1	-0.5
	baz=210						
TSCK				S	Sg	06 38 06.7	+0.2
	baz=210						
MASBT	**Mashibuluo**	1.97	211	P	Pb	06 37 40.9	-0.9
	baz=207						
MASBT				S	Sg	06 38 08.2	-0.6
	baz=207						
EAST	**Anshuo**	2.09	203	*i*P	Pn	06 37 41.2	+0.1
	baz=185						
EAST				*e*S	Sn	06 38 07.9	+0.4
	baz=185						
JKRS	**Kuro-shima**	2.09	92	*e*P	Pn	06 37 41.8	+0.7
JKRS				*e*S	Sn	06 38 08.8	+1.3
PNG	**Penghu**	2.12	250	*i*P	Pn	06 37 41.5	-0.1
	baz=247						
PNG				S	Sb	06 38 09.3	-1.7
	baz=247						
PHUB	**P'eng-hu**	2.13	248	P	Pb	06 37 43.9	-0.6
	baz=245						
PHUB				*e*S	Sn	06 38 09.2	+0.8
	baz=245						
WDGT	**Dungji**	2.16	241	*i*P	Pb	06 37 43.8	-1.3
	baz=237						
WDGT				S	Sb	06 38 12.1	-0.2
	baz=237						
VWUC	**VWUC**	2.18	288	P	Pn	06 37 42.5	+0.2
	baz=291						
VWUC				S	Sn	06 38 09.8	+0.1
	baz=291						
SCZT	**Fangliau**	2.19	208	P	Pb	06 37 44.7	-0.8
	baz=204						
SCZT				S	Sb	06 38 12.4	-0.5
	baz=204						

JIJ	**Ishigaki jima**	**2.21 88**	*eP*	**Pn**	**06 37 43.6**	**+0.8**		
JIJ			*eS*	**Sn**	**06 38 10.2**	**-0.2**		
SLIU	**Shizi**	**2.26 202**	P	**Pb**	**06 37 45.1**	**-1.6**		
	baz=183							
SLIU			*eS*	**Sb**	**06 38 13.7**	**-1.3**		
	baz=183							
LAY	**Lan-yu**	**2.27 184**	P	**Pn**	**06 37 43.8**	**+0.1**		
	baz=178							
LAY			*eS*	**Sn**	**06 38 11.1**	**-1.0**		
	baz=178							
LYUB	**Lan-yu**	**2.31 183**	P	**Pn**	**06 37 43.5**	**-0.6**		
	baz=178							
LYUB			*eS*	**Sn**	**06 38 10.8**	**-2.1**		
	baz=178							
JISG	**Ishigakijimahi**	**2.37 83**	*eP*	**Pn**	**06 37 44.9**	**-0.1**		
JISG			*eS*	**Sn**	**06 38 14.7**	**+0.2**		
VCHM	**Qimei**	**2.37 243**	*eP*	**Pn**	**06 37 46.5**	**+1.4**		
	baz=239							
VCHM			S	**Sb**	**06 38 17.9**	**-0.4**		
	baz=239							
MATB	**Ma-tsu**	**2.44 319**	P	**Pn**	**06 37 45.9**	**0.0**		
	baz=321							
MATB			*eS*	**Sn**	**06 38 17.2**	**+1.1**		
	baz=321							
PTMZ	**Houxiangcun**	**2.48 287**	*eP*	**Pn**	**06 37 46.6**	**+0.2**		
	baz=290							
PTMZ			*eS*	**Sn**	**06 38 17.4**	**+0.3**		
	baz=290							
TWKBT	**Hengchun**	**2.51 200**	*eP*	**Pn**	**06 37 48.5**	**+1.6**		
	baz=183							
TWKBT			*eS*	**Sn**	**06 38 18.8**	**+0.9**		
	baz=183							
LYJJ	**Jianjiangzhen**	**2.85 322**	*eP*	**Pn**	**06 37 53.2**	**+1.7**		
	baz=325							
LYJJ			*eS*	**Sn**	**06 38 27.8**	**+1.6**		
	baz=325							
XPSS	**Dashiqiu**	**2.95 332**	*eP*	**Pn**	**06 37 52.2**	**-0.7**		
	baz=335							
XPSS			*eS*	**Sn**	**06 38 28.2**	**-0.5**		
	baz=335							
MHZQ	**Yeshan**	**3.02 307**	*eP*	**Pn**	**06 37 56.0**	**+2.1**		
	baz=310							
MHZQ			*eS*	**Sn**	**06 38 30.4**	**-0.1**		
	baz=310							

IDC 01 07:09:52.3±1.3, 21°.85S×178°.02W, h0km, mb3.8/4, mbtmp3.8/4, MS3.8/1, Error ellipse: s-maj=51.4km s-min=33.2km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**23.62**	**200**	LR	LR	07 23 08.4	
	comp=Z,212nm,18.7s,baz=142,slow=34						
ASAR	**Alice Springs**	**44.21**	**258**	P	P	07 18 03.5	0.0
	0.7nm,0.4s,baz=95,slow=7.2,SNR=18						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**44.41**	**263**	P	P	07 18 05.0	-0.1
	1.3nm,0.4s,baz=92,slow=8.3,SNR=7.7						
	1.3nm,0.4s						
QSPA	**South Pole Qui**	**68.23**	**180**	P	P	07 20 54.1	-0.5
	1.1nm,0.9s,baz=9.4,slow=14,SNR=2.0						
	1.1nm,0.9s						
NVAR	**Mina Array Bea**	**82.01**	**43**	P	P	07 22 14.8	+0.2
	0.1nm,0.3s,baz=201,slow=4.5,SNR=1.9						
	0.1nm,0.3s						
HFS	**Hagfors**	**140.86**	**351**	PKP	PKPdf	07 29 22.8	-1.0
	0.9nm,0.3s,baz=23,slow=4.7,SNR=9.7						
AKASG	**Malin Array Be**	**144.17**	**330**	PKP	PKPdf	07 29 31.2	+1.3
	0.2nm,0.3s,baz=45,slow=3.6,SNR=1.8						
MMAI	**Mount Meron Ar**	**148.44**	**298**	PKPbc	PKPbc	07 29 40.4	-1.0
	0.8nm,0.2s,baz=65,slow=3.8,SNR=1.8						

GUC 01 07:29:08.4±0.7, 24°.27S×67°.44W, h219km±7km, ML3.5,7C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.47**	**332**	*eP*	Pn	07 29 43.3	-0.7
AF01				*i* S	S	07 30 09.9	-1.6
AF01				IAML		07 30 21.1	
	comp=N,93nm,0.4s						
LVC	**Limon Verde**	**2.13**	**320**	⇑*iP*	Pn	07 29 49.7	-0.4
LVC				*i* S	S	07 30 21.5	-0.8
LVC				IAML		07 30 24.9	
	comp=N,266nm,0.3s						
PB15	**IPOC Station P**	**2.14**	**299**	⇑*iP*	Pn	07 29 50.5	+0.5
PB15				*i* S	S	07 30 22.1	-0.1
GO02	**Mina Guanaco**	**2.15**	**245**	⇑*iP*	Pn	07 29 50.2	0.0
GO02				*i* S	S	07 30 22.8	+0.2
GO02				IAML		07 30 23.6	
	comp=N,276nm,0.2s						
PB06	**IPOC Station P**	**2.50**	**308**	⇑*eP*	Pn	07 29 53.7	0.0
PB06				*i* S	S	07 30 27.9	-0.9
PB06				IAML		07 30 30.2	
	comp=N,207nm,0.2s						
PB14	**IPOC Station P**	**2.73**	**262**	*eP*	Pn	07 29 56.8	+0.5
PB14				*i* S	S	07 30 32.9	-0.6
PB14				IAML		07 30 35.3	
	comp=E,40nm,0.2s						
PB05	**IPOC Station P**	**2.90**	**298**	*eP*	Pn	07 29 58.6	+0.5
PB05				*i* S	S	07 30 35.4	-1.3
PB05				IAML		07 30 38.2	
	comp=E,92nm,0.1s						
PB09	**IPOC Station P**	**2.97**	**326**	*eP*	Pn	07 29 59.5	+0.5
PB09				*i* S	S	07 30 37.8	-0.4
PB09				IAML		07 30 39.8	
PB04	**IPOC Station P**	**3.15**	**307**	⇑*eP*	Pn	07 30 00.4	-0.5
PB04				*i* S	S	07 30 39.4	-2.4
PB07	**IPOC Station P**	**3.39**	**318**	*eP*	Pn	07 30 01.4	-2.3
PB07				*i* S	S	07 30 44.5	-2.4
AC01	**Pan de Azucar**	**3.42**	**236**	⇑*iP*	Pn	07 30 03.6	-0.4
AC01				*eS*	S	07 30 46.6	-0.8
PB02	**IPOC Station P**	**3.71**	**322**	*eP*	Pn	07 30 07.0	-0.5
PB02				*i* S	S	07 30 51.5	-2.2
PB01	**IPOC Station P**	**3.72**	**329**	*eP*	Pn	07 30 07.1	-0.6
PB01				*i* S	S	07 30 51.7	-2.4
PB08	**IPOC Station P**	**4.40**	**339**	⇑*eP*	Pn	07 30 16.3	0.0
PB08				*i* S	S	07 31 07.3	-2.2

*IDC **01** 07:36:46.7±6.0, 60°.81S×27°.71W, h100km±54km, mb3.7/6, mbtmp4.0/7, MS3.4/12, Error ellipse: s-maj=35.4km s-min=22.6km az=29.0*

ISC 01 07:36:40.0±0.7, 60°.7S±0°.1×27°.7W±0°.2, h35km, n33, σ1°.60/16, mb4.1/6, MS3.6/10, 4C-1D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**12.74**	**150**	⇑P	**Pn**	**07 39 39.7**	**+1.4**
	comp=Z,1.1nm,0.2s						
VNA3	**Neumayer Olymp**	**12.83**	**153**	⇑P	**Pn**	**07 39 40.2**	**+0.6**
	comp=Z,2.6nm,0.3s						
VNA2	**Neumayer--Watz**	**13.14**	**150**	⇓P	**Pn**	**07 39 44.0**	**+0.2**
	comp=Z,0.3nm,0.2s,baz=309,slow=14						
SNAA	**Sanae**	**14.76**	**149**	⇑P	**Pn**	**07 40 08.0**	**+2.2**
	comp=Z,7.4nm,0.3s						
SNAA	**Sanae**	**14.76**	**149**	P	**Pn**	**07 40 07.7**	**+1.9**
	comp=Z,2.4nm,0.5s,baz=317,slow=17,SNR=19						
SNAA				LR	LR	07 44 34.4	
	comp=Z,134nm,18.2s,baz=326,slow=32						
TROLL	**Troll, Antarti**	**16.36**	**146**	⇑P	**P**	**07 40 28.8**	**-0.5**
	comp=Z,203nm,0.8s						
PMSA	**Palmer Station**	**16.99**	**240**	LR	LR	07 46 24.9	
	comp=Z,105nm,19.8s,baz=98,slow=34						
PLCA	**Paso Flores**	**32.85**	**288**	P	**P**	**07 43 11.0**	**+0.9**
	comp=Z,2.8nm,1.0s,baz=138,slow=12,SNR=3.1						
PLCA				LR	LR	07 55 27.4	
	comp=Z,23nm,18.2s,baz=176,slow=34						
	comp=Z,2.8nm,1.0s						
CPUP	**Villa Florida**	**39.82**	**316**	P	**P**	**07 44 09.5**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=179,slow=5.8,SNR=3.2						
	comp=Z,1.5nm,0.8s						
SUR	**Sutherland**	**42.28**	**70**	LR	LR	07 57 52.8	
	comp=Z,99nm,18.6s,baz=154,slow=30						
H04S2	**CROZET ISLANDS**	**46.05**	**110**	T	T	08 35 15.3	
	baz=222,slow=75,SNR=38						
H04S3	**CROZET ISLANDS**	**46.06**	**110**	T	T	08 35 11.0	
	baz=222,slow=75,SNR=64						
H04S1	**CROZET ISLANDS**	**46.07**	**110**	T	T	08 35 13.8	
	baz=222,slow=75,SNR=59						
BDFB	**Brasilia**	**47.30**	**333**	P	**P**	**07 45 12.1**	**+2.0**
	comp=Z,2.7nm,0.9s,baz=162,slow=6.4,SNR=3.6						
	comp=Z,2.7nm,0.9s						
BOSA	**Boshof**	**47.51**	**72**	P	**P**	**07 45 12.7**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=218,slow=4.2,SNR=4.9						
BOSA				LR	LR	08 00 47.7	
	comp=Z,62nm,18.0s,baz=194,slow=30						
	comp=Z,1.5nm,0.5s						
LVC	**Limon Verde**	**47.54**	**304**	LR	LR	08 04 15.4	
	comp=Z,14nm,21.9s,baz=190,slow=35						
LBTB	**Lobatse**	**50.73**	**70**	LR	LR	08 03 26.9	
	comp=Z,42nm,18.7s,baz=196,slow=32						
TSUM	**Tsumeb**	**52.27**	**58**	LR	LR	08 05 24.7	
	comp=Z,56nm,18.3s,baz=154,slow=33						
H10S2	**ASCENSION HYDR**	**52.52**	**16**	T	T	08 42 34.2	
	baz=189,slow=74,SNR=5.6						
H10S3	**ASCENSION HYDR**	**52.52**	**16**	T	T	08 42 34.5	
	baz=31,slow=74,SNR=15						
LPAZ	**La Paz**	**52.95**	**309**	LR	LR	08 11 18.7	
	comp=Z,13nm,19.6s,baz=158,slow=39						
H10N1	**ASCENSION HYDR**	**53.63**	**16**	T	T	08 43 58.4	
	baz=189,slow=76,SNR=5.4						
H10N3	**ASCENSION HYDR**	**53.64**	**16**	T	T	08 43 58.4	
	baz=189,slow=76,SNR=11						
H10N2	**ASCENSION HYDR**	**53.65**	**16**	T	T	08 43 59.7	
	baz=189,slow=76,SNR=8.5						
LSZ	**Lusaka**	**60.37**	**67**	LR	LR	08 09 19.6	
	comp=Z,46nm,18.5s,baz=164,slow=32						
DBIC	**Dimbokro**	**69.50**	**24**	LR	LR	08 14 29.5	
	comp=Z,30nm,18.1s,baz=114,slow=32						
MBAR	**Mbarara**	**74.53**	**62**	LR	LR	08 18 40.5	
	comp=Z,39nm,18.1s,baz=122,slow=34						
TORD	**Torodi Ar. Bea**	**77.22**	**29**	P	**P**	**07 48 29.6**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=198,slow=5.0,SNR=7.6						
	comp=Z,1.4nm,0.7s						
ASAR	**Alice Springs**	**94.64**	**163**	P	**P**	**07 49 56.3**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=165,slow=3.8,SNR=1.7						
	comp=Z,0.3nm,0.7s						
YKA	**Yellowknife Ar**	**139.33**	**315**	PKP	**PKPdf**	**07 55 59.1**	**-2.5**
	comp=Z,0.1nm,0.7s,baz=146,slow=0.4,SNR=1.5						
ZALV	**Zalesovo Beam**	**144.44**	**70**	PKP	**PKPab**	**07 56 08.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=207,slow=2.9,SNR=1.8						
SONM	**Songino Array**	**150.93**	**95**	PKPbc	**PKPbc**	**07 56 25.0**	**-2.9**
	comp=Z,0.2nm,0.4s,baz=217,slow=2.5,SNR=1.2						
ILAR	**Eielson Array**	**152.78**	**305**	PKPbc	**PKPbc**	**07 56 31.0**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=358,slow=0.7,SNR=5.5						

*NEIC **01** 07:40:01.0±1.5, 19°.33N±0°.02×155°.05W±0°.02, h5km±1km, Error ellipse: s-maj=4.9km s-min=2.9km az=319.0*

HVO 01 07:40:00.1±1.1, 19°.34N±0°.02×155°.02W±0°.02, h2km±8km, ML2.6/18, ML2.6/44(NEIC), Error ellipse: s-maj=4.2km s-min=1.3km az=135.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.09**	**302**	Pg	Pg	07 40 01.3	-0.5
JCUZ				IAML		07 40 04.9	
	comp=E,5μm,0.4s						
JOKA	**Jonika Flow**	**0.10**	**11**		Pg	07 40 02.9	+0.8
JOKA					Sg	07 40 04.8	+1.6
NPOC	**North of Pu'u**	**0.10**	**304**	Pg	Pg	07 40 02.1	0.0
NPOC				IAML		07 40 02.5	
	comp=E,4μm,0.6s						
NPOC				IAML		07 40 04.9	
	comp=N,4μm,0.4s						
STCH	**Steam Cracks**	**0.11**	**296**	Pg	Pg	07 40 01.9	-0.3
STCH				IAML		07 40 05.0	
	comp=E,3μm,0.2s						
STCH				IAML		07 40 05.5	
	comp=N,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.14**	**286**		Pg	07 40 03.6	+0.7
PUH	**Pauahi**	**0.18**	**281**		Pg	07 40 04.3	+0.6
PUH					Sg	07 40 07.2	+1.1
PHO	**Puu Honuaula**	**0.19**	**42**		Pg	07 40 07.6	+3.8
BYL	**Byron's Ledge**	**0.23**	**288**		Pg	07 40 05.5	+0.9
BYL					Sg	07 40 08.5	+0.8
BYL	**Byron's Ledge**	**0.23**	**288**	IAML		07 40 09.9	
	comp=E,703nm,0.3s						
BYL				IAML		07 40 10.4	
	comp=N,934nm,0.4s						
KKO	**Keanakako`i**	**0.24**	**284**		Pg	07 40 05.2	+0.5
KKO					Sg	07 40 09.7	+1.9
KKO	**Keanakako`i**	**0.24**	**284**	IAML		07 40 09.9	
	comp=N,895nm,0.3s						
KKO				IAML		07 40 10.9	
	comp=E,740nm,0.6s						
HATHI	**Halema'uma'u T**	**0.24**	**291**	IAML		07 40 12.1	
	comp=E,1μm,0.4s						
HATHI	**Halema'uma'u T**	**0.24**	**291**		Pg	07 40 05.1	+0.4
HATHI					Sg	07 40 09.6	+1.8
RIM	**Rim**	**0.24**	**283**		Pg	07 40 05.3	+0.5
RIM	**Rim**	**0.24**	**283**	IAML		07 40 10.0	
	comp=N,1μm,0.4s						
RIM				IAML		07 40 10.1	
	comp=E,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.25**	**291**	IAML		07 40 09.9	
	comp=N,968nm,0.3s						
SBLHI	**Steaming Bluff**	**0.25**	**291**		Pg	07 40 05.3	+0.5
SBLHI					Sg	07 40 09.5	+1.4
NPH	**North Pit**	**0.25**	**287**	Pg	Pg	07 40 04.4	-0.6
UWB	**Uwekahuna B**	**0.26**	**290**		Pg	07 40 05.5	+0.5
UWB					Sg	07 40 09.7	+1.3
OBL	**Observatory Le**	**0.26**	**288**		Sg	07 40 10.2	+1.7
OBL	**Observatory Le**	**0.26**	**288**	Pg	Pg	07 40 04.8	-0.3
OBL	**Observatory Le**	**0.26**	**288**	IAML		07 40 10.5	
	comp=E,2μm,0.6s						
OBL				IAML		07 40 14.1	
	comp=N,2μm,0.6s						
SDHHI	**Sand Hill**	**0.26**	**281**		Pg	07 40 05.9	+0.7
SDHHI	**Sand Hill**	**0.26**	**281**	IAML		07 40 11.3	
	comp=E,1μm,0.8s						
SDHHI				IAML		07 40 11.9	
	comp=N,994nm,0.4s						
UWE	**Uwekahuna**	**0.27**	**288**		Pg	07 40 06.2	+0.9
UWE					Sg	07 40 10.5	+1.8
UWE	**Uwekahuna**	**0.27**	**288**	IAML		07 40 12.8	
	comp=E,1μm,1.0s						
UWE				IAML		07 40 13.4	
	comp=N,1μm,0.3s						
WRMHI	**West Rim**	**0.27**	**285**		Pg	07 40 06.4	+1.1
WRMHI	**West Rim**	**0.27**	**285**	IAML		07 40 10.2	
	comp=N,1μm,0.8s						
WRMHI				IAML		07 40 13.2	
	comp=E,1μm,0.8s						
RSD	**Rainshed**	**0.27**	**297**		Pg	07 40 05.9	+0.6
RSD					Sg	07 40 10.5	+1.7
RSD	**Rainshed**	**0.27**	**297**	IAML		07 40 11.8	
	comp=E,2μm,0.1s						
RSD				IAML		07 40 11.9	
	comp=N,1μm,0.2s						
HLP	**Hilina Pali**	**0.27**	**261**	IAML		07 40 11.4	
	comp=E,1μm,1.1s						
HLP				IAML		07 40 11.8	
	comp=N,1μm,0.1s						
HLP	**Hilina Pali**	**0.27**	**261**		Pg	07 40 06.1	+0.8
HLP					Sb	07 40 11.3	-1.6
HTC	**Hot Caves**	**0.37**	**254**		Pg	07 40 08.1	+0.9
MLH	**Mauna Loa**	**0.38**	**294**		Pg	07 40 08.0	+0.6
MLH					Sg	07 40 13.9	+1.7
HMH	**Humu'ula Sheep**	**0.51**	**301**		Pg	07 40 10.2	+0.4
HMH					Sg	07 40 17.6	+1.1
MLOA	**Mauna Loa Obse**	**0.56**	**291**		Pg	07 40 10.8	-0.1
MLOA					Sg	07 40 18.7	+0.6
MWH	**Moku'aweowe**	**0.56**	**285**		Sg	07 40 16.4	-1.8
KHU	**Kahuku**	**0.57**	**261**		Pb	07 40 12.1	-0.9
KHU				IAML		07 40 29.3	
	comp=N,558nm,3.4s						
ALEP	**Alea Permanent**	**0.62**	**289**		Pg	07 40 11.7	-0.3
POHA	**Pohakuloa**	**0.64**	**311**		Pg	07 40 11.8	-0.5
POHA	**Pohakuloa**	**0.64**	**311**		Sg	07 40 11.9	-8.7
HUH	**Hualalai**	**0.84**	**294**		Pg	07 40 15.3	-1.0
HPAH	**Hawaii Prepara**	**0.94**	**317**		Sg	07 40 29.9	-0.3
HPAH	**Hawaii Prepara**	**0.94**	**317**		Pg	07 40 15.4	-2.7
MHA	**Mahukona**	**1.18**	**316**	Pg	Pg	07 40 20.9	-1.9

*HVO **01** 08:02:08.4±1.6, 19°.38N±0°.02×155°.081W±0°.005, h-0km±7km, ML2.6/19, ML2.3/46(NEIC), Error ellipse: s-maj=2.3km s-min=0.4km az=192.0*

NEIC 01 08:02:05.9±1.1, 19°.43N±0°.02×154°.90W±0°.04, h5km±2km, Error ellipse: s-maj=6.1km s-min=3.1km az=295.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.20**	**258**	Pg	Pg	08 02 07.3	-2.4
NPOC	**North of Pu'u**	**0.20**	**261**	Pg	Pg	08 02 07.6	-2.3
STCH	**Steam Cracks**	**0.22**	**259**		Pg	08 02 09.4	-0.8
KNHH	**Kane Nui o Ham**	**0.26**	**260**		Pb	08 02 12.4	-0.7
PUH	**Pauahi**	**0.30**	**260**		Pg	08 02 12.5	+0.7
BYL	**Byron's Ledge**	**0.34**	**268**		Pg	08 02 12.7	+0.2
BYL				IAML		08 02 16.7	
	comp=E,508nm,0.4s						
BYL				IAML		08 02 16.8	
	comp=N,705nm,1.2s						
HATHI	**Halema'uma'u T**	**0.34**	**270**		Pg	08 02 11.9	-0.6
HATHI				IAML		08 02 16.7	
	comp=N,1μm,0.6s						
HATHI				IAML		08 02 17.6	
	comp=E,861nm,0.7s						
KKO	**Keanakako`i**	**0.35**	**266**		Pg	08 02 13.0	+0.3
KKO				IAML		08 02 17.1	
	comp=E,822nm,0.8s						
KKO				IAML		08 02 17.6	
	comp=N,881nm,0.6s						
SBLHI	**Steaming Bluff**	**0.35**	**270**		Pg	08 02 12.5	-0.2
SBLHI				IAML		08 02 16.8	
	comp=N,570nm,1.0s						
SBLHI				IAML		08 02 18.3	
	comp=E,433nm,0.5s						
RIM	**Rim**	**0.35**	**265**		Pg	08 02 12.1	-0.8
RIM				IAML		08 02 18.1	
	comp=E,683nm,0.7s						
RIM				IAML		08 02 18.1	
	comp=N,956nm,0.7s						
UWB	**Uwekahuna B**	**0.36**	**270**		Pg	08 02 12.0	-0.9
UWB				IAML		08 02 17.4	
	comp=N,511nm,1.0s						
RSD	**Rainshed**	**0.36**	**276**		Pg	08 02 12.8	-0.1
RSD				IAML		08 02 18.6	
	comp=E,626nm,0.9s						
NPH	**North Pit**	**0.36**	**268**		Pg	08 02 10.5	-2.4
OBL	**Observatory Le**	**0.36**	**269**		Pg	08 02 12.7	-0.2
OBL				IAML		08 02 17.6	
	comp=E,864nm,0.6s						
OBL				IAML		08 02 17.8	
	comp=N,1μm,0.5s						
UWE	**Uwekahuna**	**0.37**	**269**		Pg	08 02 12.4	-0.7
UWE				IAML		08 02 18.7	
	comp=N,1μm,0.8s						
UWE				IAML		08 02 19.2	
	comp=E,1μm,0.5s						
SDHHI	**Sand Hill**	**0.37**	**265**		Pg	08 02 13.1	-0.1
SDHHI				IAML		08 02 18.1	
	comp=N,888nm,0.5s						
SDHHI				IAML		08 02 19.2	
	comp=E,795nm,0.7s						
WRMHI	**West Rim**	**0.38**	**267**		Pg	08 02 13.4	+0.1
WRMHI				IAML		08 02 17.7	
	comp=N,714nm,1.3s						
WRMHI				IAML		08 02 18.2	
	comp=E,724nm,0.6s						
HLP	**Hilina Pali**	**0.41**	**252**	Pg	Pg	08 02 13.8	0.0
HLP				IAML		08 02 16.6	
	comp=E,740nm,3.5s						
HLP				IAML		08 02 19.1	
	comp=N,917nm,3.9s						
MLH	**Mauna Loa**	**0.46**	**279**		Pg	08 02 15.1	+0.2
MLH				IAML		08 02 22.2	
	comp=E,657nm,0.4s						
MLH				IAML		08 02 22.7	
	comp=N,662nm,2.1s						
HTC	**Hot Caves**	**0.51**	**248**		Pg	08 02 16.3	+0.6
HMH	**Humu'ula Sheep**	**0.58**	**288**		Pg	08 02 17.2	+0.1
HMH					Sg	08 02 17.4	-7.2
MLOA	**Mauna Loa Obse**	**0.65**	**280**		Pg	08 02 18.2	-0.2
MWH	**Moku'aweowe**	**0.66**	**275**		Pg	08 02 18.1	-0.6
POHA	**Pohakuloa**	**0.68**	**299**		Pg	08 02 18.6	-0.4
KHU	**Kahuku**	**0.70**	**255**		Pg	08 02 18.5	-0.8
ALEP	**Alea Permanent**	**0.71**	**279**		Pg	08 02 19.5	-0.1
HUH	**Hualalai**	**0.92**	**286**		Pg	08 02 22.8	-0.8
HPAH	**Hawaii Prepara**	**0.96**	**309**		Pg	08 02 24.6	+0.2

*SCB **01** 08:22:33.9±0.8, 20°.97S×68°.36W, h189km±12km, ML2.9/2, Error ellipse: s-maj=12.1km s-min=7.7km az=1.0*
*GUC **01** 08:22:34.3±0.5, 20°.99S×68°.08W, h170km±5km, ML2.7*

ISC 01 08:22:34.4±2.2, 21°.01S±0°.06×68°.3W±0°.1, h176km±17km, n22, σ0°.76/34, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**1.16**	**268**	*eP*	**Pn**	**08 23 02.9**	**-0.1**
PB01				*i* S	**Sn**	**08 23 24.9**	**-0.1**
PB01				IAML		08 23 27.0	
	comp=N,84nm,0.2s						
PB01	**IPOC Station P**	**1.16**	**268**	Pg	**Pn**	**08 23 03.2**	**+0.2**
PB01				Sg	**Sn**	**08 23 25.7**	**+0.6**
PB01				IAML		08 23 27.1	
	comp=N,40nm,0.3s						
PB09	**IPOC Station P**	**1.21**	**230**	*eP*	**Pn**	**08 23 00.9**	**-2.7**
PB09				*i* S	**Sn**	**08 23 26.9**	**+0.7**
PB09				IAML		08 23 28.8	
	comp=E,28nm,0.3s						
PB09	**IPOC Station P**	**1.21**	**230**	Pg	**Pn**	**08 23 04.3**	**+0.7**
PB08	**IPOC Station P**	**1.21**	**316**	⇑*iP*	**Pn**	**08 23 03.9**	**0.0**
PB08				*i* S	**Sn**	**08 23 26.2**	**-0.3**
PB08				IAML		08 23 29.0	
	comp=E,30nm,0.3s						
PB08	**IPOC Station P**	**1.21**	**316**	Pg	**Pn**	**08 23 03.9**	**0.0**
PB02	**IPOC Station P**	**1.57**	**258**	⇑*eP*	**Pn**	**08 23 06.8**	**+0.1**
PB02				*i* S	**Sn**	**08 23 32.2**	**+0.5**
PB02				IAML		08 23 33.3	
	comp=N,160nm,0.5s						
PB02	**IPOC Station P**	**1.57**	**258**	Pg	**Pn**	**08 23 07.1**	**+0.3**
PB02				Sg	**Sn**	**08 23 32.4**	**+0.6**
PB02				IAML		08 23 33.1	
	comp=N,147nm,0.4s						
GO01	**Chusmiza**	**1.60**	**326**	⇑*eP*	**Pn**	**08 23 07.2**	**-0.4**
GO01	**Chusmiza**	**1.60**	**326**	Pg	**Pn**	**08 23 07.4**	**-0.2**
PB07	**IPOC Station P**	**1.68**	**245**	⇑*eP*	**Pn**	**08 23 06.0**	**-2.0**
PB07				*i* S	**Sn**	**08 23 34.4**	**+0.4**
PB07				IAML		08 23 36.0	
	comp=E,75nm,0.4s						
HMBC	**Humberstone**	**1.70**	**295**	⇑*iP*	**Pn**	**08 23 08.1**	**0.0**
HMBC				*i* S	**Sn**	**08 23 34.2**	**0.0**
HMBC				IAML		08 23 36.2	
	comp=N,72nm,0.6s						
PATCX	**Punta Patache**	**1.79**	**276**	*eP*	**Pn**	**08 23 09.7**	**+0.7**
PATCX				*i* S	**Sn**	**08 23 36.7**

	comp=N,528nm,1.0s						
BYL	**Byron's Ledge**	**0.30**	**295**		Pg	08 34 59.9	+0.1
BYL	**Byron's Ledge**	**0.30**	**295**	IAML		08 35 04.3	
	comp=N,507nm,0.5s						
BYL				IAML		08 35 05.2	
	comp=E,416nm,0.7s						
HATHI	**Halema'uma'u T**	**0.31**	**297**		Pg	08 34 59.7	-0.3
HATHI	**Halema'uma'u T**	**0.31**	**297**	IAML		08 35 04.9	
	comp=E,410nm,1.0s						
HATHI				IAML		08 35 06.5	
	comp=N,629nm,0.5s						
RIM	**Rim**	**0.31**	**291**		Pg	08 34 59.9	-0.1
RIM	**Rim**	**0.31**	**291**	IAML		08 35 04.4	
	comp=N,766nm,1.1s						
RIM				IAML		08 35 06.9	
	comp=E,579nm,1.0s						
SBLHI	**Steaming Bluff**	**0.32**	**297**		Pg	08 34 59.8	-0.3
SBLHI	**Steaming Bluff**	**0.32**	**297**	IAML		08 35 05.0	
	comp=E,436nm,1.8s						
SBLHI				IAML		08 35 06.8	
	comp=N,622nm,0.7s						
HLP	**Hilina Pali**	**0.32**	**272**		Pg	08 35 00.7	+0.6
HLP				IAML		08 35 06.4	
	comp=N,917nm,0.2s						
HLP				IAML		08 35 06.5	
	comp=E,778nm,0.2s						
NPH	**North Pit**	**0.32**	**293**	Pg	Pg	08 34 58.1	-2.1
SDHHI	**Sand Hill**	**0.33**	**289**		Pg	08 35 00.6	+0.4
SDHHI	**Sand Hill**	**0.33**	**289**	IAML		08 35 06.5	
	comp=N,634nm,0.7s						
SDHHI				IAML		08 35 06.7	
	comp=E,814nm,1.1s						
UWB	**Uwekahuna B**	**0.33**	**296**		Pg	08 35 00.7	+0.5
UWB	**Uwekahuna B**	**0.33**	**296**	IAML		08 35 03.8	
	comp=N,288nm,2.3s						
UWB				IAML		08 35 05.0	
	comp=E,401nm,4.1s						
OBL	**Observatory Le**	**0.33**	**294**	Pg	Pg	08 34 59.3	-1.0
OBL				IAML		08 35 05.8	
	comp=N,871nm,0.9s						
OBL				IAML		08 35 07.0	
	comp=E,1µm,0.9s						
UWE	**Uwekahuna**	**0.34**	**294**		Pg	08 35 00.7	+0.2
UWE	**Uwekahuna**	**0.34**	**294**	IAML		08 35 05.2	
	comp=N,818nm,1.6s						
UWE				IAML		08 35 05.8	
	comp=E,874nm,1.6s						
WRMHI	**West Rim**	**0.34**	**291**	IAML		08 35 00.7	
	comp=N,695nm,1.1s						
WRMHI				IAML		08 35 02.1	
	comp=E,790nm,1.0s						
WRMHI	**West Rim**	**0.34**	**291**		Pg	08 35 00.8	+0.3
RSD	**Rainshed**	**0.34**	**301**		Pg	08 35 00.5	-0.1
RSD				IAML		08 35 05.8	
	comp=E,805nm,0.2s						
RSD				IAML		08 35 07.8	
	comp=N,485nm,0.9s						
HTC	**Hot Caves**	**0.41**	**264**		Pg	08 35 02.7	+0.9
MLH	**Mauna Loa**	**0.45**	**298**		Pg	08 35 02.5	0.0
MLH				IAML		08 35 08.7	
	comp=E,458nm,0.4s						
MLH				IAML		08 35 09.7	
	comp=N,425nm,1.6s						
MLH	**Mauna Loa**	**0.45**	**298**		Sg	08 35 08.4	-0.1
HMH	**Humu'ula Sheep**	**0.58**	**303**		Pg	08 35 04.6	-0.5
HMH	**Humu'ula Sheep**	**0.58**	**303**		Sg	08 35 12.4	-0.3
KHU	**Kahuku**	**0.61**	**267**		Pg	08 35 05.5	-0.2
KHU	**Kahuku**	**0.61**	**267**	IAML		08 35 08.1	
	comp=N,425nm,4.4s						
KHU				IAML		08 35 14.9	
	comp=E,533nm,4.3s						
MLOA	**Mauna Loa Obse**	**0.63**	**294**		Pg	08 35 05.8	-0.2
MLOA				IAML		08 35 24.3	
	comp=E,552nm,1.1s						
MWH	**Moku'aweowe**	**0.63**	**289**	Pg	Pg	08 35 05.3	-0.7
MWH				IAML		08 35 19.4	
	comp=N,555nm,0.8s						
ALEP	**Alea Permanent**	**0.69**	**292**		Pg	08 35 06.3	-0.9
ALEP					Sg	08 35 15.8	-0.4
POHA	**Pohakuloa**	**0.71**	**312**		Pg	08 35 06.2	-1.4
POHA				IAML		08 35 24.1	
	comp=N,468nm,0.5s						
HUH	**Hualalai**	**0.91**	**296**	Pg	Pg	08 35 10.4	-1.0
HPAH	**Hawaii Prepara**	**1.01**	**317**	Pg	Pg	08 35 09.8	-3.5
HPAH				IAML		08 35 24.0	
	comp=N,201nm,4.2s						
MHA	**Mahukona**	**1.26**	**316**	Pg	Pg	08 35 16.0	-2.1

*NEIC **01** 08:48:57.7±1.9, 7.°06S±0.°10×125.°1E±0.°1, h515km±9km, mb4.4/28, Error ellipse: s-maj=16.9km s-min=14.0km az=77.0*

*IDC **01** 08:48:57.0±0.8, 7.°06S×125.°12E, h508km±9km, mb3.6/18, mbtmp4.5/20, Error ellipse: s-maj=18.0km s-min=7.3km az=74.0*

*DJA **01** 08:48:57.4±0.3, 7.°S±3.°×12.°5E±.°, h508km±5km, M4.4/19, mB4.9/14, mb4.7/19, MLv4.8/15, Mw(mB)4.2/14*

ISC 01 08:48:56.7±0.3, 7.°05S±0.°05×125.°14E±0.°07, h500km, n136, σ1°916/147, mb4.3/32, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.82**	**198**	P	**P**	**08 50 08.4**	**+1.7**
SOEI	**Soe**	**2.82**	**198**	P	**P**	**08 50 08.4**	**+1.7**
SOEI	**Soe**	**2.82**	**198**	P	**P**	**08 50 08.4**	**+1.7**
MMRI	**Maumere**	**3.28**	**241**	P	**P**	**08 50 10.8**	**+1.1**
MMRI	**Maumere**	**3.28**	**241**	P	**P**	**08 50 10.5**	**+0.9**
MMRI	**Maumere**	**3.28**	**241**	P	**P**	**08 50 10.6**	**+0.9**
BATI	**Baumata**	**3.46**	**205**	P	**P**	**08 50 12.2**	**+1.2**
	662nm,0.3s,baz=58,slow=1.2,SNR=49						
BATI				S	**S**	**08 51 12.5**	**+1.1**
	356nm,0.5s,baz=301,slow=0.7,SNR=6.8						
BATI	**Baumata**	**3.46**	**205**	P	**P**	**08 50 12.8**	**+1.8**
EDFI	**Ende, Flores**	**3.81**	**244**	P	**P**	**08 50 13.8**	**0.0**
SANI	**Sanana**	**5.04**	**10**	P	**P**	**08 50 25.7**	**+1.6**
SANI	**Sanana**	**5.04**	**10**	P	**P**	**08 50 25.5**	**+1.4**
	583nm,0.9s,5µm2.0nm						
BKSI	**Bulukumba**	**5.28**	**289**	P	**P**	**08 50 28.6**	**+2.3**
	54nm,0.8s,836nm0.2nm						
BASI	**Baing, Sumba**	**5.50**	**235**	P	**P**	**08 50 28.5**	**+0.2**
	739nm,0.4s,11µm3.8nm						
KAPI	**Kappang**	**5.73**	**290**	P	**P**	**08 50 33.7**	**+3.2**
LUWI	**Luwuk**	**6.42**	**338**	P	**P**	**08 50 39.7**	**+2.4**
LUWI	**Luwuk**	**6.42**	**338**	P	**P**	**08 50 39.6**	**+2.4**
LUWI	**Luwuk**	**6.42**	**338**	P	**P**	**08 50 39.5**	**+2.3**
	456nm,0.9s,4µm1.4nm						
TTSI	**Tana Toraja**	**6.63**	**307**	P	**P**	**08 50 42.3**	**+3.0**
	117nm,1.1s,2µm0.4nm						
LBMI	**Labuha**	**6.79**	**20**	P	**P**	**08 50 43.0**	**+2.1**
	91nm,0.8s,2µm0.4nm						
PLAI	**Plampang**	**7.51**	**256**	P	**P**	**08 50 48.5**	**+0.4**
KMSI	**Cibinong**	**7.66**	**351**	P	**P**	**08 50 51.9**	**+2.2**
	962nm,0.6s,9µm3.5nm						
DRS	**Darwin Rock St**	**7.79**	**134**	P	**P**	**08 50 52.2**	**+1.2**
FAKI	**Fak Fak**	**8.18**	**60**	P	**P**	**08 50 55.4**	**+0.3**
FAKI	**Fak Fak**	**8.18**	**60**	P	**P**	**08 50 54.9**	**-0.2**
FAKI	**Fak Fak**	**8.18**	**60**	P	**P**	**08 50 56.2**	**+1.1**
	22nm,0.7s						
MTN	**Manton Dam**	**8.24**	**135**	P	**P**	**08 50 56.8**	**+1.1**
MTN	**Manton Dam**	**8.24**	**135**	P	**P**	**08 50 56.8**	**+1.1**
TWSI	**Taliwang, Sumb**	**8.35**	**258**	P	**P**	**08 50 55.9**	**-0.9**
	41nm,0.6s						
SWI	**Sorong**	**8.66**	**45**	P	**P**	**08 51 01.3**	**+1.3**
	45nm,0.8s						
MPSI	**Mapaga**	**9.02**	**324**	P	**P**	**08 51 06.0**	**+2.2**
	83nm,0.7s,1µm						
KDU	**Kakadu**	**9.14**	**128**	P	**P**	**08 51 05.3**	**+0.3**
TOLI2	**Tolitoli**	**9.20**	**332**	P	**P**	**08 51 07.0**	**+1.2**
KNRA	**Kununurra**	**9.28**	**158**	P	**P**	**08 51 07.5**	**+1.1**
KNRA	**Kununurra**	**9.28**	**158**	P	**P**	**08 51 07.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**10.98**	**262**	P	**P**	**08 51 23.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**10.99**	**178**	P	**P**	**08 51 25.3**	**+0.7**
	2.7nm,0.9s						
FITZ	**Fitzroy Crossi**	**10.99**	**178**	P	**P**	**08 51 25.4**	**+0.9**
MYLDM	**Lahad Datu**	**13.84**	**331**	P	**P**	**08 51 56.3**	**+1.5**
MBWA	**Marble Bar**	**14.97**	**200**	P	**P**	**08 52 06.6**	**0.0**
MBWA	**Marble Bar**	**14.97**	**200**	P	**P**	**08 52 06.4**	**-0.2**
PSA00	**Pilbara Seismi**	**15.32**	**199**	P	**P**	**08 52 10.8**	**+0.6**
PSA00	**Pilbara Seismi**	**15.32**	**199**	P	**P**	**08 52 10.0**	**-0.2**
PSA00				IAmb	IAmb	08 52 10.9	
	comp=Z,16nm,0.9s						
PSA00	**Pilbara Seismi**	**15.32**	**199**	P	**P**	**08 52 10.4**	**+0.2**
PSA00				IAmb	IAmb	08 52 10.9	
	comp=Z,6.8nm,0.9s						
WB0	**Warramunga Arr**	**15.50**	**146**	P	**P**	**08 52 11.5**	**-0.7**
WRAB	**Tennant Creek**	**15.61**	**146**	P	**P**	**08 52 12.5**	**-0.8**
WRAB				IAmb	IAmb	08 52 13.2	
	comp=Z,16nm,0.7s						
WRA	**Warramunga Arr**	**15.62**	**146**	P	**P**	**08 52 12.1**	**-1.3**
WRA	**Warramunga Arr**	**15.62**	**146**	P	**P**	**08 52 12.6**	**-0.8**
	comp=Z,12nm,0.5s,baz=323,slow=11,SNR=79						
WRA				S	**S**	**08 54 54.5**	**-1.2**
WB2	**Warramunga Arr**	**15.62**	**146**	P	**P**	**08 52 12.8**	**-0.6**
WR0	**Warramunga Arr**	**15.74**	**146**	P	**P**	**08 52 14.1**	**-0.6**
SBUM	**Sibu**	**15.98**	**306**	P	**P**	**08 52 16.9**	**-0.4**
SBUM				IAmb	IAmb	08 52 18.1	
	comp=Z,6.5nm,0.6s						
KSM	**Kuching**	**17.05**	**299**	P	**P**	**08 52 28.1**	**-0.3**
WRKA	**Warakurna**	**18.14**	**171**	P	**P**	**08 52 39.2**	**+0.8**
AS31	**Alice Springs**	**18.54**	**154**	P	**P**	**08 52 42.4**	**+0.3**
AS31				IAmb	IAmb	08 52 45.9	
	comp=Z,14nm,1.2s						
ASAR	**Alice Springs**	**18.54**	**154**	P	**P**	**08 52 42.5**	**+0.4**
	comp=Z,24nm,0.6s,baz=327,slow=8.3,SNR=456						
ASAR				S	**S**	**08 55 45.8**	**-0.1**
	comp=Z,11nm,1.0s,baz=346,slow=23,SNR=18						
ASAR				PcP	**PcP**	**08 56 44.7**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=353,slow=1.5,SNR=1.2						
ASAR				ScP	**ScP**	**08 59 31.9**	**-2.0**
	comp=Z,1.1nm,0.7s,baz=9.0,slow=2.3,SNR=4.6						
GIRL	**Giralia**	**18.73**	**213**	P	**P**	**08 52 44.4**	**+0.6**
GIRL	**Giralia**	**18.73**	**213**	P	**P**	**08 52 44.5**	**+0.7**
COEN	**Coen**	**19.00**	**113**	P	**P**	**08 52 46.8**	**+0.4**
COEN	**Coen**	**19.00**	**113**	P	**P**	**08 52 46.4**	**0.0**
QIS	**Mount Isa**	**19.40**	**135**	P	**P**	**08 52 50.9**	**+0.9**
MEEK	**Meekatharra**	**20.45**	**197**	P	**P**	**08 52 59.7**	**+0.3**
OOD	**Oodnadatta**	**22.92**	**155**	P	**P**	**08 53 23.5**	**+1.8**
MORW	**Morawa**	**23.52**	**200**	P	**P**	**08 53 27.5**	**+0.4**
MORW	**Morawa**	**23.52**	**200**	P	**P**	**08 53 26.7**	**-0.4**
MORW				IAmb	IAmb	08 53 39.3	
	comp=Z,30nm,1.4s						
FORT	**Forrest**	**23.76**	**174**	P	**P**	**08 53 29.2**	**0.0**
FORT	**Forrest**	**23.76**	**174**	P	**P**	**08 53 29.2**	**0.0**
KMBL	**Kambalda**	**24.38**	**187**	P	**P**	**08 53 35.0**	**+0.3**
MULG	**Mulgathing**	**24.58**	**161**	P	**P**	**08 53 37.1**	**+0.6**
BLDU	**Ballidu**	**24.74**	**198**	P	**P**	**08 53 38.1**	**+0.2**
KLBR	**Kellerberrin**	**25.37**	**195**	P	**P**	**08 53 44.2**	**+0.7**
MUN	**Mundaring**	**26.16**	**197**	P	**P**	**08 53 50.8**	**+0.3**
LCRK	**Leigh Creek**	**26.31**	**154**	P	**P**	**08 53 52.4**	**+0.6**
QLP	**Quilpie**	**26.59**	**139**	P	**P**	**08 53 55.6**	**+1.3**
NWAO	**Narrogin (SRO)**	**26.78**	**195**	P	**P**	**08 53 56.0**	**+0.2**
NWAO	**Narrogin (SRO)**	**26.78**	**195**	P	**P**	**08 53 55.4**	**-0.4**
NWAO	**Narrogin (SRO)**	**26.78**	**195**	P	**P**	**08 53 55.9**	**0.0**
	comp=Z,5.0nm,0.3s,baz=18,slow=5.7,SNR=13						
	comp=Z,5.0nm,0.3s						
BBOO	**Buckleboo**	**27.57**	**160**	P	**P**	**08 54 03.0**	**+0.2**
BBOO	**Buckleboo**	**27.57**	**160**	P	**P**	**08 54 02.5**	**-0.3**
STKA	**Stephens Creek**	**29.08**	**150**	P	**P**	**08 54 16.7**	**+0.6**
STKA	**Stephens Creek**	**29.08**	**150**	P	**P**	**08 54 16.6**	**+0.5**
STKA				IAmb	IAmb	08 54 17.0	
	comp=Z,3.1nm,0.6s						
STKA	**Stephens Creek**	**29.08**	**150**	P	**P**	**08 54 16.6**	**+0.5**
	comp=Z,13nm,0.5s,baz=329,slow=8.9,SNR=56						
	comp=Z,13nm,0.5s						
HTT	**Hallett**	**29.19**	**156**	P	**P**	**08 54 18.0**	**+0.9**
CMSA	**Cobar Meteorol**	**31.01**	**144**	P	**P**	**08 54 34.0**	**+1.2**
ARPS	**Mount Arapiles**	**33.27**	**155**	P	**P**	**08 54 53.2**	**+1.2**
ARMA	**Armidale**	**34.02**	**136**	P	**P**	**08 55 00.3**	**+1.7**
YNG	**Young**	**34.58**	**145**	P	**P**	**08 55 04.7**	**+1.6**
TOO	**Toolangi**	**35.56**	**152**	P	**P**	**08 55 13.4**	**+2.1**
TOO	**Toolangi**	**35.56**	**152**	P	**P**	**08 55 13.1**	**+1.8**
TOO				IAmb	IAmb	08 55 13.5	
	comp=Z,7.8nm,0.6s						
CAN	**Canberra**	**35.66**	**145**	P	**P**	**08 55 14.4**	**+2.2**
CAN	**Canberra**	**35.66**	**145**	P	**P**	**08 55 13.8**	**+1.7**
CAN				IAmb	IAmb	08 55 14.5	
	comp=Z,12nm,0.7s						
CNB	**Canberra Magne**	**35.86**	**145**	P	**P**	**08 55 14.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**36.20**	**315**	P	**P**	**08 55 16.9**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=136,slow=6.8,SNR=8.8						
CMAR				PcP	**PcP**	**08 57 28.7**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=154,slow=2.2,SNR=5.9						
	comp=Z,2.0nm,0.7s						
NJ2	**Nanjing**	**39.34**	**352**	*e*P	**P**	**08 55 44.0**	**+1.7**
NJ2				pP	**pP**	**08 57 13.5**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,100nm,5.6s						
PZH	**PanZhiHua**	**40.35**	**327**	P	**P**	**08 55 50.9**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.3s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
KSRS	**Korea Array**	**44.35**	**3**	P	**P**	**08 56 21.7**	**-0.1**
	comp=Z,1.6nm,0.5s,baz=178,slow=9.2,SNR=16						
KSRS				PcP	**PcP**	**08 57 54.9**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=189,slow=3.5,SNR=5.5						
	comp=Z,1.6nm,0.5s						
MJAR	**Matsushiro Arr**	**45.06**	**15**	P	**P**	**08 56 26.0**	**-1.4**
	comp=Z,3.8nm,0.8s,baz=190,slow=8.2,SNR=14						
	comp=Z,3.8nm,0.8s						
HNS	**HongShan**	**45.28**	**348**	⇑P	**P**	**08 56 28.9**	**-0.1**
HNS				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC	**Hu-ho-hao-te**	**49.27**	**346**	*e*P	**P**	**08 57 00.8**	**+1.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,110nm,5.7s						
XLT	**XiLinHaoTe**	**51.37**	**352**	*e*P	**P**	**08 57 17.7**	**+3.2**
XLT				pP	pwP	08 58 56.7	+0.5
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,66nm,5.6s						
USRK	**Ussuriysk Ar.**	**51.39**	**6**	P	**P**	**08 57 14.5**	**0.0**
	comp=Z,3.7nm,0.6s,baz=187,slow=7.2,SNR=9.9						
	comp=Z,3.7nm,0.6s						
MDJ	**Mudanjiang**	**51.59**	**4**	P	**P**	**08 57 15.7**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,12nm,0.5s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.0s						
HEH	**HeiHe**	**57.10**	**2**	*e*P	**P**	**08 57 54.4**	**-0.3**
HEH				pmax	pmax		
	comp=Z,15nm,0.8s						
SONM	**Songino Array**	**57.10**	**345**	P	**P**	**08 57 55.1**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=162,slow=8.7,SNR=11						
SONM				PcP	**PcP**	**08 58 41.6**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=133,slow=4.8,SNR=2.8						
	comp=Z,3.0nm,0.8s						
MK31	**Makanchi Array**	**65.71**	**329**	P	**P**	**08 58 51.5**	**+0.1**
MKAR	**Makanchi Array**	**65.71**	**329**	P	**P**	**08 58 51.4**	**0.0**
	comp=Z,3.6nm,0.5s,baz=127,slow=7.7,SNR=51						
	comp=Z,3.6nm,0.5s						
MAKZ	**Makanchi**	**65.88**	**329**	P	**P**	**08 58 52.2**	**-0.2**
PEA0B	**Petropavlovsk-**	**65.98**	**21**	P	**P**	**08 58 53.5**	**+0.7**
PETK	**Petropavlovsk-**	**65.98**	**21**	P	**P**	**08 58 53.4**	**+0.5**
	comp=Z,6.8nm,0.7s,baz=197,slow=2.9,SNR=17						
PETK				PcP	**PcP**	**08 59 17.9**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=290,slow=1.9,SNR=1.5						
	comp=Z,6.8nm,0.7s						
AAK	**Ala-Archa**	**67.54**	**322**	P	**P**	**08 59 02.8**	**-0.2**
MA2	**Magadan**	**69.48**	**14**	P	**P**	**08 59 14.3**	**+0.1**
MA2				IAmb	IAmb	08 59 15.4	
	comp=Z,10nm,0.8s						
ZAA0	**Zalesovo Array**	**69.58**	**336**	P	**P**	**08 59 13.3**	**-1.5**
ZAA0				IAmb	IAmb	08 59 14.7	
	comp=Z,4.5nm,0.8s						
ZALV	**Zalesovo Beam**	**69.58**	**336**	P	**P**	**08 59 13.8**	**-1.0**
	comp=Z,5.4nm,0.6s,baz=129,slow=4.5,SNR=19						
	comp=Z,5.4nm,0.6s						
KURBB	**Kurchatov Arra**	**70.11**	**331**	P	**P**	**08 59 17.2**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=135,slow=5.0,SNR=24						
KURBB				PcP	**PcP**	**08 59 35.6**	**-0.7**
	comp=Z,0.3nm,0.2s,baz=127,slow=3.2,SNR=3.0						
	comp=Z,2.7nm,0.7s						
KURK	**Kurchatov**	**70.12**	**331**	P	**P**	**08 59 17.4**	**-0.7**
KURK				IAmb	IAmb	08 59 18.4	
	comp=Z,5.0nm,0.6s						
VNDA	**Vanda**	**73.02**	**172**	P	**P**	**08 59 34.2**	**-0.5**
VNDA	**Vanda**	**73.02**	**172**	P	**P**	**08 59 34.3**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=324,slow=8.9,SNR=6.5						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**75.59**	**329**	P	**P**	**08 59 49.4**	**-0.2**
	comp=Z,4.3nm,0.6s,baz=132,slow=6.6,SNR=22						
	comp=Z,4.3nm,0.6s						
BRVK	**Borovoye**	**75.67**	**329**	P	**P**	**08 59 48.5**	**-1.5**
TIXI	**Tiksi**	**78.58**	**1**	P	**P**	**09 00 04.7**	**-0.8**
TIXI				IAmb	IAmb	09 00 05.4	
	comp=Z,8.7nm,0.5s						
ABKAR	**Akbulak array**	**79.59**	**323**	P	**P**	**09 00 10.8**	**-0.6**
ABKAR	**Akbulak array**	**79.59**	**323**	P	**P**	**09 00 10.4**	**-1.0**
AKTO	**Aktyubinsk**	**81.20**	**323**	P	**P**	**09 00 19.5**	**-0.3**
	comp=Z,4.2nm,0.5s,baz=109,slow=6.7,SNR=11						
	comp=Z,4.2nm,0.5s						
QSPA	**South Pole Qui**	**82.93**	**180**	P	**P**	**09 00 27.5**	**-0.9**
QSPA	**South Pole Qui**	**82.93**	**180**	P	**P**	**09 00 27.7**	**-0.7**
	comp=Z,1.5nm,1.0s,baz=166,slow=2.4,SNR=7.5						
	comp=Z,1.5nm,1.0s						
ARU	**Arti**	**83.24**	**329**	P	**P**	**09 00 29.2**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=181,slow=4.1,SNR=3.4						
	comp=Z,1.8nm,0.4s						
E19K	**Redstone River**	**91.75**	**22**	P	**P**	**09 01 09.4**	**-0.7**
E19K				IAmb	IAmb	09 01 10.3	
	comp=Z,3.9nm,0.8s						
BRTR	**Keskin Array B**	**95.61**	**309**	P	**P**	**09 01 26.8**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=108,slow=1.8,SNR=2.4						
	comp=Z,0.3nm,0.6s						
ARCES	**ARCESS Array B**	**99.94**	**339**	P	**Pdif**	**09 01 45.6**	**-1.4**
	comp=Z,2.5nm,1.0s,baz=39,slow=19,SNR=1.4						
	comp=Z,2.5nm,1.0s						
SPITS	**Spitsbergen Ar**	**100.67**	**349**	P	**Pdif**	**09 01 49.0**	**-1.1**
	comp=Z,2.8nm,1.0s,baz=108,slow=5.4,SNR=1.4						
NVAR	**Mina Array Bea**	**115.08**	**51**	PKP	**PKPdf**	**09 06 40.7**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=251,slow=2.7,SNR=2.6						
EKA	**Eskdalemuir Ar**	**116.85**	**330**	PKP	**PKPdf**	**09 06 43.1**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=66,slow=8.6,SNR=1.6						
PDAR	**Pinedale Array**	**120.32**	**44**	PKP	**PKPdf**	**09 06 50.2**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=213,slow=2.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**124.09**	**281**	PKP	**PKPdf**	**09 06 58.5**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=55,slow=2.7,SNR=9.0						
ULM	**Lac du Bonnet**	**125.05**	**31**	PKP	**PKPdf**	**09 06 59.2**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=278,slow=3,SNR=4.8						
TXAR	**Lajitas Array**	**129.06**	**58**	PKP	**PKPdf**	**09 07 08.3**	**0.0**
	comp=Z,0.2nm,0.4s,baz=211,slow=2.1,SNR=7.4						
CPUP	**Villa Florida**	**146.73**	**176**	PKPbc	**PKPdf**	**09 07 42.0**	**+1.6**
	comp=Z,1.6nm,0.5s,baz=116,slow=1.5,SNR=5.9						
LPAZ	**La Paz**	**153.35**	**151**	PKPbc	**PKPbc**	**09 08 00.1**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=70,slow=10,SNR=3.0						

*NEIC **01** 09:03:50.1±1.6, 19.°38N±0.°01×155.°031W±0.°008, h3km±8km, Error ellipse: s-maj=1.6km s-min=1.1km az=177.0*

HVO 01 09:03:49.5±1.8, 19.°41N±0.°01×155.°004W±0.°007, h3km±6km, ML2.4/15, ML2.4/46(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=171.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.02**	**358**		Pg	09 03 51.2	+0.9
JCUZ	**Jacuzzi**	**0.10**	**254**	Pg	Pg	09 03 51.0	-0.5
JCUZ				Sg	Sg	09 03 53.0	+0.2
JCUZ				IAML		09 03 54.3	
	comp=E,2µm,0.6s						
NPOC	**North of Pu'u**	**0.10**	**260**	Pg	Pg	09 03 51.1	-0.5
NPOC				IAML		09 03 54.4	
	comp=E,2µm,0.8s						
NPOC				IAML		09 03 54.8	
	comp=N,2µm,0.5s						
STCH	**Steam Cracks**	**0.12**	**258**		Pg	09 03 51.5	-0.4
PHO	**Puu Honuaula**	**0.13**	**57**		Pg	09 03 52.9	+0.8
KNHH	**Kane Nui o Ham**	**0.16**	**259**		Pg	09 03 53.3	+0.6
PUH	**Pauahi**	**0.20**	**260**		Pg	09 03 53.0	-0.5
BYL	**Byron's Ledge**	**0.24**	**270**	Pg	Pg	09 03 54.1	-0.1
BYL				Sg	Sg	09 03 56.3	-1.1
BYL				IAML		09 04 01.8	
	comp=N,492nm,1.0s						
BYL				IAML		09 04 02.2	
	comp=E,442nm,0.5s						
HATHI	**Halema'uma'u T**	**0.24**	**273**		Pg	09 03 54.1	-0.1
HATHI				Sg	Sg	09 03 57.7	+0.3
HATHI				IAML		09 04 01.8	
	comp=N,575nm,0.9s						
HATHI				IAML		09 04 02.6	
	comp=E,730nm,0.7s						
KKO	**Keanakako'i**	**0.25**	**267**	Pg	Pg	09 03 53.8	-0.5
KKO				IAML		09 03 59.7	
	comp=E,539nm,1.0s						
KKO				IAML		09 04 00.1	
	comp=N,787nm,1.4s						
SBLHI	**Steaming Bluff**

13nm,0.3s,baz=349,slow=19,SNR=9.1
JCJ S **S** **09 07 53.9 -4.1**
45nm,0.7s,baz=262,slow=20,SNR=1.7
JTNC Tanabenakahech 5.11 329 P **P** **09 07 07.2 +1.3**
JKN2 Miekihoku 5.21 337 P **P** **09 07 08.2 +1.5**
JIE Ise 5.22 341 P **P** **09 07 09.6 +2.8**
BSO1 Boso 1 5.52 19 P **P** **09 07 10.7 +1.7**
BSO1 S **S** **09 08 23.2 -0.4**
JOD2 Odawara 2 5.80 3 P **P** **09 07 12.3 +0.1**
JAO Obara 5.93 348 P **P** **09 07 15.0 +1.4**
JMN Monobe 5.95 317 P **P** **09 07 15.2 +1.5**
JGF Kuroka 6.24 350 P **P** **09 07 17.8 +1.3**
JHU Hanno 6.39 4 P **P** **09 07 18.2 +0.2**
JRY Ryogami san 6.54 1 P **P** **09 07 20.3 +0.8**
JRY S **S** **09 08 40.2 -2.5**
JAG Ashikaga 6.97 5 P **P** **09 07 23.3 -0.5**
JAG S **S** **09 08 46.3 -4.3**
MJAR Matsushiro Arr 7.08 356 P **P** **09 07 24.6 -0.3**
3.4nm,0.5s,baz=172,slow=11,SNR=16
MAJO Matsushiro 7.08 356 P **P** **09 07 25.4 +0.5**
MJB9 Matsu-Tunnel 7.08 356 P **P** **09 07 26.3 +1.4**
JHO Hitachi 7.30 12 P **P** **09 07 27.7 +0.6**
JHO S **S** **09 08 54.0 -2.5**
JNU Nakatsue 7.66 300 P **P** **09 07 31.7 +0.8**
JNU Nakatsue 7.66 300 P **P** **09 07 30.4 -0.4**
2.5nm,0.4s,baz=101,slow=2.5,SNR=5.0
JMM Marumori 8.56 11 P **P** **09 07 42.3 +2.3**
KSRS Korea Array 12.05 314 P **P** **09 08 16.1 -0.8**
0.8nm,0.5s,baz=134,slow=10,SNR=5.0
USRK Ussuriysk Ar. 15.67 342 P **P** **09 08 56.3 +1.4**
1.7nm,0.5s,baz=148,slow=12,SNR=5.5
YULB Yu-li 16.75 253 P **P** **09 09 05.2 -1.4**
YULB IAmb IAmb 09 09 38.0
comp=Z,9.8nm,1.2s
SSLB Suanglung 16.88 255 P **P** **09 09 05.5 -2.4**
SSLB IAmb IAmb 09 09 31.1
comp=Z,7.0nm,1.0s
MK31 Makanchi Array 46.64 308 P **P** **09 13 20.5 -0.1**
MK31 IAmb IAmb 09 13 49.1
comp=Z,1.3nm,1.1s
MKAR Makanchi Array 46.64 308 P **P** **09 13 20.6 0.0**
MKAR Makanchi Array 46.64 308 P **P** **09 13 20.3 -0.3**
comp=Z,0.3nm,0.6s,baz=98,slow=9.2,SNR=2.8
comp=Z,0.3nm,0.6s
WB0 Warramunga Arr 49.12 185 P **P** **09 13 40.4 +1.0**
WB0 IAmb IAmb 09 14 19.1
comp=Z,4.9nm,1.1s
KURBB Kurchatov Arra 49.23 313 P **P** **09 13 39.3 -0.5**
comp=Z,1.2nm,0.4s,baz=91,slow=7.9,SNR=14
comp=Z,1.2nm,0.4s
WRAB Tennant Creek 49.28 185 P **P** **09 13 41.5 +0.8**
WRAB IAmb IAmb 09 14 10.1
comp=Z,9.0nm,1.4s
WB2 Warramunga Arr 49.29 185 P **P** **09 13 41.6 +0.9**
WB2 IAmb IAmb 09 14 10.2
comp=Z,7.5nm,1.2s
WRA Warramunga Arr 49.30 185 P **P** **09 13 41.5 +0.8**
comp=Z,0.5nm,0.5s,baz=0.3,slow=7.7,SNR=4.6
comp=Z,0.5nm,0.5s
WR0 Warramunga Arr 49.30 185 P **P** **09 13 41.8 +1.0**
WR0 IAmb IAmb 09 14 11.2
comp=Z,9.8nm,1.4s
ASAR Alice Springs 53.02 186 P **P** **09 14 09.4 +1.6**
comp=Z,0.2nm,0.5s,baz=18,slow=10,SNR=5.4
comp=Z,0.2nm,0.5s
BVAR Borovoye Array 54.25 316 P **P** **09 14 16.1 -0.1**
comp=Z,0.7nm,0.6s,baz=53,slow=5.7,SNR=2.9
comp=Z,0.7nm,0.6s
KK31 Karatay Array 55.25 304 P **P** **09 14 23.7 +0.3**
KKAR Karatay Array 55.25 304 P **P** **09 14 23.7 +0.3**
BWN Browne 56.00 30 P **P** **09 14 28.4 +0.2**
ABKAR Akbulak array 61.28 313 P **P** **09 15 04.0 -0.1**
S31K Pelican 62.98 37 P **P** **09 15 16.2 +1.3**
FINES FINESS Array B 74.48 333 P **P** **09 16 24.1 -0.3**
comp=Z,2.3nm,1.0s,baz=79,slow=7.2,SNR=1.2
comp=Z,2.3nm,1.0s
BRTR Keskin Array B 82.18 311 P **P** **09 17 06.1 -0.3**
comp=Z,0.5nm,0.6s,baz=45,slow=0.4,SNR=3.9
comp=Z,0.5nm,0.6s
EKA Eskdalemuir Ar 89.47 339 P **P** **09 17 42.9 +1.9**
comp=Z,0.3nm,0.4s,baz=3.0,slow=1.1,SNR=2.3
comp=Z,0.3nm,0.4s

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*IDC **01** 09:11:21.9±0.6, 16°.89N×147°.45E, h0km, mb4.3/21, mbtmp4.3/22, ML4.7/1, MS3.4/33, Error ellipse: s-maj=20.3km s-min=11.5km az=84.0*
*NEIC **01** 09:11:24.6±1.5, 16°.89N±0°.05×147°.46E±0°.08, h10km±1km, mb4.6/121, Error ellipse: s-maj=13.6km s-min=6.8km az=241.0*
ISC 01 09:11:23.8±0.4, **16°.86N**±0°.05×**147°.51E**±0°.08, **h10**km, **n215**, σ**0s95**/175, **mb4.6**/84, **MS3.4**/34, **1C, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.14**	**218**	P	**Pn**	**09 12 27.5**	**+0.5**
GUMO	**Guam**	**4.14**	**218**	Pn	**Pn**	**09 12 27.1**	**0.0**
GUMO	**Guam**	**4.14**	**218**	Pn	**Pn**	**09 12 27.0**	**0.0**
51nm,0.3s,baz=88,slow=2.3,SNR=14							
GUMO				Sn	**Sn**	**09 13 17.2**	**+1.7**
25nm,0.3s,baz=53,slow=24,SNR=1.4							
128nm,0.4s							
JCJ	**Chichijima**	**11.32**	**335**	P	**Pn**	**09 14 06.1**	**+0.5**
JCJ	**Chichijima**	**11.32**	**335**	Pn	**Pn**	**09 14 04.2**	**-1.4**
JCJ	**Chichijima**	**11.32**	**335**	Pn	Pn	09 14 00.2	-5.4
4.2nm,0.3s,baz=99,slow=23,SNR=5.8							
JCJ				Sn	Sn	09 16 02.5	-10
2.2nm,0.3s,baz=297,slow=19,SNR=1.4							
PATS	**Pohnpei**	**14.52**	**132**	Pn	Pn	09 14 43.7	-5.7
JMZ	**Minamidaito 2**	**17.58**	**303**		**P**	**09 15 29.3**	**-0.7**
JMZ				IAmb	IAmb	09 15 41.5	
comp=Z,94nm,1.3s							
H11S3	**WAKE ISLAND Hy**	**18.34**	**82**	T	T	09 34 38.9	
baz=269,slow=75,SNR=5.0							
H11S1	**WAKE ISLAND Hy**	**18.36**	**82**	T	T	09 34 29.2	
baz=269,slow=75,SNR=4.8							
H11S2	**WAKE ISLAND Hy**	**18.36**	**82**	T	T	09 34 35.2	
baz=269,slow=75,SNR=5.4							
H11N1	**WAKE ISLAND Hy**	**18.62**	**78**	T	T	09 34 48.4	
baz=264,slow=74,SNR=5.5							
H11N2	**WAKE ISLAND Hy**	**18.62**	**78**	T	T	09 34 50.5	
baz=264,slow=74,SNR=5.6							
H11N3	**WAKE ISLAND Hy**	**18.64**	**78**	T	T	09 34 49.0	
baz=264,slow=74,SNR=5.6							
JOW	**Kunigami**	**20.40**	**302**	P	**P**	**09 16 00.6**	**-0.4**
JOW				IAmb	IAmb	09 16 06.7	
comp=Z,37nm,1.2s							
JOW	**Kunigami**	**20.40**	**302**	LR	LR	09 23 25.8	
comp=Z,107nm,19.0s,baz=116,slow=36							
JGF	**Kuroka**	**20.74**	**336**	P	**P**	**09 16 05.0**	**+0.3**
JGF	**Kuroka**	**20.74**	**336**	P	**P**	**09 16 05.1**	**+0.5**
JGF				IAmb	IAmb	09 16 07.0	
comp=Z,28nm,0.7s							
JMN	**Monobe**	**20.79**	**326**	P	**P**	**09 16 05.5**	**+0.3**
MJAR	**Matsushiro Arr**	**21.27**	**339**	P	**P**	**09 16 09.3**	**-1.0**
comp=Z,7.2nm,0.5s,baz=168,slow=10,SNR=28							
MJAR				S	**S**	**09 20 08.3**	**+1.7**
comp=Z,0.4nm,0.6s,baz=101,slow=23,SNR=4.1							
comp=Z,7.2nm,0.5s							
MAJO	**Matsushiro**	**21.27**	**339**	P	**P**	**09 16 10.9**	**+0.6**
MAJO	**Matsushiro**	**21.27**	**339**	P	**P**	**09 16 10.9**	**+0.6**
MAJO				IAmb	IAmb	09 16 15.2	
comp=Z,17nm,0.7s							
MJB9	**Matsu-Tunnel**	**21.27**	**339**	P	**P**	**09 16 11.3**	**+0.9**
MJB9				IAmb	IAmb	09 16 16.1	
comp=Z,17nm,0.6s							
KRVT	**Keravat (AS076**	**21.50**	**168**	P	**P**	**09 16 13.2**	**+0.3**
comp=Z,4.7nm,0.7s,baz=191,slow=23,SNR=1.9							
comp=Z,4.7nm,0.7s							
JMM	**Marumori**	**21.74**	**346**	P	**P**	**09 16 16.1**	**+0.7**
JMM	**Marumori**	**21.74**	**346**	P	**P**	**09 16 15.5**	**+0.1**
JMM				IAmb	IAmb	09 16 41.2	
comp=Z,21nm,0.7s							
JNU	**Nakatsue**	**22.07**	**320**	P	**P**	**09 16 18.8**	**-0.2**
JNU	**Nakatsue**	**22.07**	**320**	LR	LR	09 23 56.1	
comp=Z,44nm,18.1s,baz=113,slow=34							
DAV	**Davao City (W)**	**23.54**	**248**	LR	LR	09 23 25.3	
comp=Z,36nm,21.1s,baz=78,slow=31							
FAKI	**Fak Fak**	**24.77**	**219**	P	**P**	**09 16 45.1**	**-0.9**
FAKI				IAmb	IAmb	09 17 04.4	
comp=Z,20nm,1.1s							
YULB	**Yu-li**	**25.43**	**289**	P	**P**	**09 16 51.8**	**-0.1**
YULB				IAmb	IAmb	09 17 11.7	
comp=Z,20nm,1.4s							
TNTI	**Ternate**	**25.48**	**233**	P	**P**	**09 16 51.7**	**-0.7**
YHNB	**Yeheng**	**25.61**	**292**	P	**P**	**09 16 53.4**	**-0.2**
YHNB				IAmb	IAmb	09 17 23.2	
comp=Z,15nm,0.8s							
SSLB	**Suanglung**	**25.81**	**290**	P	**P**	**09 16 54.8**	**-0.6**
KSRS	**Korea Array**	**26.81**	**324**	P	**P**	**09 17 03.2**	**-1.0**
comp=Z,1.3nm,0.5s,baz=135,slow=8.9,SNR=10.0							
KSRS				LR	LR	09 27 27.4	
comp=Z,76nm,20.5s,baz=135,slow=36							
comp=Z,1.3nm,0.5s							
KSAR	**Wonju Array Be**	**26.82**	**324**	P	**P**	**09 17 03.8**	**-0.5**
KS19	**Wonju Array Si**	**26.88**	**324**	P	**P**	**09 17 03.0**	**-1.8**
HNR	**Honiara**	**28.88**	**154**	LR	LR	09 27 50.9	
comp=Z,2μm,21.9s,baz=314,slow=34							
NJ2	**Nanjing**	**30.03**	**306**	*e*P	**P**	**09 17 34.4**	**+1.4**
NJ2				pP	**pwP**	**09 17 45.0**	**+3.0**
NJ2				sP	sP	09 17 51.3	+17
NJ2				pmax	pmax		
comp=Z,11nm,0.6s							
NJ2				pmax	pmax		
comp=Z,200nm,5.2s							
USRK	**Ussuriysk Ar.**	**30.25**	**338**	P	**P**	**09 17 34.4**	**-0.3**
comp=Z,1.0nm,0.6s,baz=62,slow=6.7,SNR=2.9							
comp=Z,1.0nm,0.6s							
COEN	**Coen**	**30.92**	**188**	P	**P**	**09 17 41.7**	**+0.7**
MDJ	**Mudanjiang**	**31.52**	**335**	P	**P**	**09 17 46.8**	**+0.8**
MDJ				pmax	pmax		
comp=Z,6.0nm,0.7s							
MDJ				pmax	pmax		
comp=Z,110nm,5.0s							
KDU	**Kakadu**	**32.91**	**208**	P	**P**	**09 17 58.5**	**+0.1**
BNX	**BinXian**	**33.33**	**334**	⇑P	**P**	**09 18 02.1**	**+0.3**
BNX				pmax	pmax		
comp=Z,6.0nm,1.0s							
BNX				pmax	pmax		
comp=Z,96nm,5.9s							
MTN	**Manton Dam**	**33.66**	**210**	P	**P**	**09 18 04.3**	**-0.7**
KLR	**Kul'dur**	**34.73**	**342**	LR	LR	09 32 41.3	
comp=Z,25nm,21.4s,baz=6.0,slow=37							
SOEI	**Soe**	**35.04**	**223**	P	**P**	**09 18 16.9**	**-0.3**
HEH	**HeiHe**	**37.03**	**339**	*e*P	**P**	**09 18 34.7**	**+1.0**
HEH				pmax	pmax		
comp=Z,6.0nm,0.9s							
PETK	**Petropavlovsk-**	**37.04**	**10**	LR	LR	09 33 54.3	
comp=Z,57nm,18.5s,baz=196,slow=36							
PET	**Petropavlovsk**	**37.13**	**11**	P	**P**	**09 18 34.2**	**-0.2**
KNRA	**Kununurra**	**37.25**	**211**	P	**P**	**09 18 35.9**	**0.0**
SBUM	**Sibu**	**37.52**	**251**	P	**P**	**09 18 38.1**	**-0.2**
XLT	**XiLinHaoTe**	**37.83**	**322**	*e*P	P	09 18 49.0	+8.3
XLT				pP	pwP	09 18 57.5	+7.8
XLT				sP	sP	09 19 03.3	+21
XLT				pmax	pmax		
comp=Z,11nm,0.8s							
XLT				pmax	pmax		
comp=Z,60nm,5.0s							
QIS	**Mount Isa**	**37.99**	**192**	P	**P**	**09 18 42.6**	**+0.5**
WB0	**Warramunga Arr**	**38.62**	**200**	P	**P**	**09 18 47.3**	**0.0**
WR0	**Warramunga Arr**	**38.75**	**200**	P	**P**	**09 18 48.6**	**+0.1**
WR0				IAmb	IAmb	09 18 48.8	
comp=Z,7.4nm,0.7s							
WRAB	**Tennant Creek**	**38.78**	**200**	P	**P**	**09 18 48.5**	**-0.3**
WRAB				IAmb	IAmb	09 18 49.5	
comp=Z,7.9nm,0.7s							
WB2	**Warramunga Arr**	**38.79**	**200**	P	**P**	**09 18 48.8**	**0.0**
WB2				IAmb	IAmb	09 18 49.6	
comp=Z,7.8nm,0.8s							
WRA	**Warramunga Arr**	**38.80**	**200**	P	**P**	**09 18 48.8**	**-0.1**
WRA	**Warramunga Arr**	**38.80**	**200**	P	**P**	**09 18 48.6**	**-0.3**
comp=Z,5.9nm,0.6s,baz=31,slow=9.2,SNR=7.6							
comp=Z,5.9nm,0.6s							
HHC	**Hu-ho-hao-te**	**39.11**	**315**	*e*P	**P**	**09 18 51.7**	**+0.2**
HHC				pmax	pmax		
comp=Z,9.0nm,1.0s							
HHC				pmax	pmax		
comp=Z,74nm,5.1s							
KSM	**Kuching**	**39.67**	**251**	P	**P**	**09 18 55.7**	**-0.7**
KSM				IAmb	IAmb	09 18 56.7	
comp=Z,30nm,1.4s							
FITZ	**Fitzroy Crossi**	**40.87**	**213**	P	**P**	**09 19 06.3**	**+0.1**
SHEM	**Shemya Is, Ala**	**41.44**	**24**	LR	LR	09 34 04.0	
comp=Z,42nm,20.9s,baz=241,slow=33							
AS31	**Alice Springs**	**42.42**	**199**	P	**P**	**09 19 17.0**	**-1.8**
ASAR	**Alice Springs**	**42.42**	**199**	P	**P**	**09 19 17.8**	**-1.0**
ASAR	**Alice Springs**	**42.42**	**199**	P	**P**	**09 19 18.9**	**+0.1**
comp=Z,0.9nm,0.4s,baz=15,slow=8.0,SNR=20							
comp=Z,0.9nm,0.4s							
MA2	**Madan**	**42.72**	**2**	LR	LR	09 34 36.6	
comp=Z,46nm,20.1s,baz=172,slow=33							
DZM	**Mont Dzumac**	**42.91**	**154**	*e*LR	LR	09 31 15.6	
comp=Z,203nm,23.9s							
DZM	**Mont Dzumac**	**42.91**	**154**	LR	LR	09 34 32.7	
comp=Z,105nm,19.9s,baz=7.0,slow=32							
PZH	**PanZhiHua**	**43.41**	**291**	P	**P**	**09 19 27.7**	**+0.6**
PZH				pmax	pmax		
comp=Z,10.0nm,0.4s							
PZH				pmax	pmax		
comp=Z,120nm,5.0s							
SONM	**Songino Array**	**45.65**	**322**	P	**P**	**09 19 45.6**	**+0.9**
SONM	**Songino Array**	**45.65**	**322**	P	**P**	**09 19 44.2**	**-0.4**
comp=Z,1.7nm,0.5s,baz=135,slow=7.4,SNR=12							
SONM				LR	LR	09 39 17.6	
comp=Z,48nm,18.2s,baz=114,slow=37							
comp=Z,1.7nm,0.5s							
WRKA	**Warakurna**	**45.66**	**205**	P	**P**	**09 19 45.1**	**+0.2**
OOD	**Oodnadatta**	**45.85**	**195**	P	**P**	**09 19 45.9**	**-0.3**
SEY	**Seymchan**	**46.15**	**3**	LR	LR	09 37 07.3	
comp=Z,58nm,21.6s,baz=290,slow=34							
CMAR	**Chiang Mai Arr**	**46.20**	**280**	P	**P**	**09 19 49.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**46.20**	**280**	P	**P**	**09 19 48.3**	**-1.0**
comp=Z,4.9nm,0.8s,baz=70,slow=6.9,SNR=17							
CMAR				LR	LR	09 37 17.4	
comp=Z,14nm,21.9s,baz=85,slow=34							
comp=Z,4.9nm,0.8s							
PSA00	**Pilbara Seismi**	**46.84**	**216**	P	**P**	**09 19 54.5**	**+0.3**
ARMA	**Armidale**	**47.17**	**175**	P	**P**	**09 19 57.1**	**+0.3**
KULM	**Kulim**	**47.28**	**262**	P	**P**	**09 19 57.6**	**-0.2**
SRIT	**Nakonsritamara**	**47.35**	**266**	P	**P**	**09 19 56.6**	**-1.8**
LCRK	**Leigh Creek**	**47.88**	**191**	P	**P**	**09 20 02.4**	**+0.3**
MULG	**Mulgathing**	**48.63**	**196**	P	**P**	**09 20 07.9**	**0.0**
STKA	**Stephens Creek**	**48.79**	**187**	P	**P**	**09 20 08.8**	**-0.3**
STKA	**Stephens Creek**	**48.79**	**187**	P	**P**	**09 20 08.3**	**-0.8**
comp=Z,1.8nm,0.7s,baz=336,slow=14,SNR=4.8							
STKA				LR	LR	09 39 34.6	
comp=Z,41nm,21.8s,baz=24,slow=35							
comp=Z,1.8nm,0.7s							
PTPS	**Port Pirie**	**50.58**	**190**	P	**P**	**09 20 22.4**	**-0.3**
BBOO	**Buckleboo**	**50.59**	**192**	P	**P**	**09 20 22.7**	**-0.1**
BBOO	**Buckleboo**	**50.59**	**192**	P	**P**	**09 20 22.4**	**-0.4**
HTT	**Hallett**	**50.68**	**189**	P	**P**	**09 20 24.4**	**+0.9**
FORT	**Forrest**	**50.93**	**202**	P	**P**	**09 20 24.8**	**-0.6**
GSI	**Gununguitoli**	**51.49**	**258**	P	**P**	**09 20 28.9**	**-1.1**
CAN	**Canberra**	**51.91**	**178**	P	**P**	**09 20 33.8**	**+1.0**
CAN	**Canberra**	**51.91**	**178**	P	**P**	**09 20 34.2**	**+1.5**
CAN				IAmb	IAmb	09 20 35.9	
comp=Z,11nm,1.2s							
TOO	**Toolangi**	**54.17**	**182**	P	**P**	**09 20 50.1**	**+0.7**
TOO				IAmb	IAmb	09 20 52.2	
comp=Z,6.6nm,1.1s							
HLP	**Hilina Pali**	**54.20**	**78**	P	**P**	**09 20 48.2**	**-1.8**
MORW	**Morawa**	**54.86**	**214**	P	**P**	**09 20 54.5**	**0.0**
MORW	**Morawa**	**54.86**	**214**	P	**P**	**09 20 54.2**	**-0.3**
BLDU	**Baliidu**	**55.74**	**212**	P	**P**	**09 21 00.5**	**-0.3**
TIXI	**Tiksi**	**55.89**	**353**	LR	LR	09 44 04.2	
comp=Z,23nm,21.7s,baz=188,slow=35							
MUN	**Mundaring**	**57.09**	**212**	P	**P**	**09 21 10.6**	**+0.2**
NWAO	**Narrogin (SRO)**	**57.35**	**210**	P	**P**	**09 21 12.9**	**+0.7**
KDAK	**Kodiak Island**	**59.96**	**32**	LR	LR	09 44 34.8	
comp=Z,25nm,21.3s,baz=259,slow=33							
ZAA0	**Zalesovo Array**	**60.52**	**323**	P	**P**	**09 21 33.6**	**-0.4**
ZAA0				IAmb	IAmb	09 21 35.6	
comp=Z,3.8nm,0.7s							
ZALV	**Zalesovo Beam**	**60.52**	**323**	P	**P**	**09 21 34.0**	**0.0**
ZALV	**Zalesovo Beam**	**60.52**	**323**	P	**P**	**09 21 32.2**	**-1.8**
comp=Z,3.4nm,0.7s,baz=102,slow=6.8,SNR=12							
ZALV				LR	LR	09 48 03.3	
comp=Z,32nm,19.5s,baz=79,slow=36							
comp=Z,3.4nm,0.7s							
C18K	**Utukok River**	**60.82**	**19**	P	**P**	**09 21 36.5**	**+0.6**
MK31	**Makanchi Array**	**60.97**	**314**	P	**P**	**09 21 35.3**	**-2.1**
MKAR	**Makanchi Array**	**60.97**	**314**	P	**P**	**09 21 37.0**	**-0.4**
comp=Z,1.3nm,0.6s,baz=88,slow=8.2,SNR=13							
MKAR				LR	LR	09 49 03.4	
comp=Z,33nm,19.5s,baz=146,slow=37							
comp=Z,1.3nm,0.6s							
H19K	**Roundabout Mou**	**60.99**	**23**	P	**P**	**09 21 35.2**	**-1.9**
H19K				IAmb	IAmb	09 21 55.9	
comp=Z,4.4nm,0.9s							
G19K	**Purcell Mounta**	**61.02**	**23**	P	**P**	**09 21 35.9**	**-1.3**
G19K				IAmb	IAmb	09 21 49.5	
comp=Z,5.0nm,0.9s							
K20K	**Telida**	**61.09**	**26**	P	**P**	**09 21 36.9**	**-0.9**
CNPM	**China Poot**	**61.13**	**31**	P	**P**	**09 21 36.2**	**-1.9**
MAKZ	**Makanchi**	**61.19**	**314**	P	**P**	**09 21 38.8**	**0.0**
MAKZ				IAmb	IAmb	09 21 50.2	
comp=Z,6.6nm,1.1s							
J20K	**Nowinta River**	**61.36**	**25**	P	**P**	**09 21 39.6**	**+0.1**
BRLK	**Bradley Lake**	**61.37**	**30**	P	**P**	**09 21 38.8**	**-1.0**
URZ	**Urewera**	**61.47**	**154**	LR	LR	09 47 18.8	
comp=Z,85nm,18.1s,baz=20,slow=35							
RTZ	**Ruatahuna**	**61.71**	**154**	P	**P**	**09 21 42.1**	**-0.3**
D19K	**Kuna River**	**61.73**	**20**	P	**P**	**09 21 43.0**	**+0.9**
D19K				IAmb	IAmb	09 22 09.4	
comp=Z,9.5nm,1.4s							
SKT	**Skwentna**	**61.73**	**28**	P	**P**	**09 21 42.8**	**+0.7**
SKT				IAmb	IAmb	09 22 09.0	
comp=Z,6.7nm,1.2s							
CAST	**Castle Rocks**	**61.95**	**26**	P	**P**	**09 21 44.3**	**+0.7**
CAST				IAmb	IAmb	09 22 02.1	
comp=Z,6.2nm,1.1s							
IMAR	**Indian Mountai**	**62.20**	**23**	P	**P**	**09 21 46.4**	**+1.2**
H21K	**Melozitna Rive**	**62.44**	**24**	P	**P**	**09 21 47.7**	**+0.9**
H21K				IAmb	IAmb	09 21 49.3	
comp=Z,4.7nm,0.9s							
KTH	**Kantishna Hill**	**62.49**	**26**	P	**P**	**09 21 47.0**	**-0.2**
BPAW	**Bear Paw Mtn.**	**62.63**	**26**	P	**P**	**09 21 49.8**	**+1.6**
BPAW				IAmb	IAmb	09 22 10.3	
comp=Z,5.0nm,0.9s							
TRF	**Thorofare Moun**	**62.73**	**27**	P	**P**	**09 21 48.7**	**-0.2**
TRF				IAmb	IAmb	09 22 06.6	
comp=Z,7.0nm,1.1s							
MLY	**Manley**	**63.04**	**25**	P	**P**	**09 21 51.8**	**+0.9**
MLY				IAmb	IAmb	09 22 13.1	
comp=Z,5.7nm,1.2s							
SCM	**Sheep Creek Mo**	**63.60**	**29**	P	**P**	**09 21 55.9**	**+1.2**
I23K	**Minto, Yukon-K**	**63.63**	**25**	P	**P**	**09 21 55.8**	**+1.1**
D22K	**Ayikyak River**	**63.69**	**20**	P	**P**	**09 21 55.8**	**+0.7**
KURK	**Kurchatov**	**63.78**	**319**	P	**P**	**09 21 55.7**	**-0.3**
KURBB	**Kurchatov Arra**	**63.83**	**319**	P	**P**	**09 21 55.2**	**-1.1**
comp=Z,6.4nm,0.8s,baz=99,slow=6.8,SNR=24							
KURBB				LR	LR	09 49 09.1	
comp=Z,47nm,21.8s,baz=178,slow=36							
comp=Z,6.4nm,0.8s							
G23K	**Bananza Creek**	**63.86**	**23**	P	**P**	**09 21 57.6**	**+1.3**
G23K				IAmb	IAmb	09 22 12.3	
comp=Z,8.3nm,1.5s							
DHY	**Denali Highway**	**63.89**	**27**	P	**P**	**09 21 56.3**	**-0.4**
DHY				IAmb	IAmb	09 22 20.2	
comp=Z,6.1nm,1.3s							
GVZ	**Greta Valley S**	**63.99**	**159**	P	**P**	**09 21 57.5**	**+0.1**
B22K	**Teshekpuk Lake**	**64.03**	**19**	P	**P**	**09 21 58.2**	**+1.0**
B22K				IAmb	IAmb	09 21 59.2	
comp=Z,6.1nm,0.9s							
ILAR	**Eielson Array**	**64.53**	**26**	P	**P**	**09 22 00.3**	**-0.4**
ILAR	**Eielson Array**	**64.53**	**26**	P	**P**	**09 21 59.6**	**-1.1**
comp=Z,1.2nm,0.9s,baz=257,slow=5.7,SNR=5.0							
comp=Z,1.2nm,0.9s							
TOLK	**Toolik Lake Re**	**64.66**	**21**	P	**P**	**09 22 03.6**	**+2.0**
TOLK				IAmb	IAmb	09 22 04.0	
comp=Z,5.3nm,1.2s							
C23K	**Itkillik River**	**64.73**	**20**	P	**P**	**09 22 02.5**	**+0.7**
C23K				IAmb	IAmb	09 22 22.2	
comp=Z,5.3nm,1.0s							
F24K	**Squaw Lake**	**64.91**	**23**	P	**P**	**09 22 04.9**	**+1.8**
J25K	**Salcha River,**	**65.12**	**26**	P	**P**	**09 22 05.4**	**+0.8**
SCRK	**Sand Creek**	**65.57**	**27**	P	**P**	**09 22 07.9**	**+0.3**
SCRK				IAmb	IAmb	09 22 25.1	
comp=Z,5.6nm,1.4s							
FYU	**Fort Yukon**	**65.65**	**24**	P	**P**	**09 22 10.0**	**+2.1**
J26L	**Joseph Creek**	**65.86**	**26**	P	**P**	**09 22 10.1**	**+0.7**
J26L				IAmb	IAmb	09 22 24.5	
comp=Z,6.7nm,1.4s							
E25K	**Arctic Village**	**65.92**	**22**	P	**P**	**09 22 10.8**	**+1.1**
E25K				IAmb	IAmb	09 22 12.4	
comp=Z,4.7nm,1.2s							
BMAR	**Burnt Mountain**	**66.11**	**23**	P	**P**	**09 22 12.7**	**+1.7**
AAK	**Ala-Archa**	**66.36**	**310**	LR	LR	09 52 58.5	
comp=Z,16nm,18.1s,baz=146,slow=38							
BCAR	**Beaver Creek A**	**66.37**	**28**	P	**P**	**09 22 10.4**	**-2.3**
G27K	**Doyon Strip**	**67.09**	**24**	P	**P**	**09 22 16.6**	**-0.6**
F28M	**Old Crow**	**67.92**	**23**	P	**P**	**09 22 22.8**	**+0.4**
F28M				IAmb	IAmb	09 22 41.2	
comp=Z,4.6nm,1.2s							
L29M	**L29M**	**68.03**	**28**	P	**P**	**09 22 24.8**	**+1.6**
L29M				IAmb	IAmb	09 22 43.9	
comp=Z,3.5nm,0.8s							
H29M	**Whitestone**	**68.30**	**25**	P	**P**	**09 22 25.8**	**+1.1**
H29M				IAmb	IAmb	09 22 45.0	
comp=Z,4.3nm,1.3s							
N30M	**Aishikik Lake**	**68.36**	**30**	P	**P**	**09 22 26.3**	**+1.0**
K29M	**Barlow Dome**	**68.38**	**27**	P	**P**	**09 22 26.2**	**+0.7**
G29M	**Pine Creek**	**68.53**	**24**	P	**P**	**09 22 27.1**	**+0.9**
G29M				IAmb	IAmb	09 22 51.5	
comp=Z,7.6nm,1.3s							
EPYK	**Eagle Plains**	**68.98**	**25**	P	**P**	**09 22 29.9**	**+0.9**
EPYK

KVN					IAmb	IAmb	09 23 52.7	
	comp=Z,4.5nm,1.2s							
NVAR	**Mina Array Bea**	**82.90**	**52**	P		**P**	**09 23 49.3**	**0.0**
NVAR	**Mina Array Bea**	**82.90**	**52**	P		**P**	**09 23 50.5**	**+1.1**
	comp=Z,1.3nm,0.6s,baz=270,slow=5.8,SNR=13							
	comp=Z,1.3nm,0.6s							
MFID	**Camas Ranch**	**83.31**	**47**	IAmb		IAmb	09 23 53.4	
	comp=Z,3.9nm,0.9s							
ELK	**Elko**	**84.51**	**49**	P		**P**	**09 23 57.2**	**-0.4**
ELK				IAmb		IAmb	09 23 59.8	
	comp=Z,3.8nm,1.1s							
ELK	**Elko**	**84.51**	**49**	LR		LR	09 55 59.3	
	comp=Z,21nm,19.0s,slow=32							
WCT	**Wildcat Mounta**	**84.64**	**53**	P		**P**	**09 23 58.4**	**+0.3**
ARCES	**ARCESS Array B**	**84.76**	**343**	P		**P**	**09 23 57.0**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=53,slow=6.5,SNR=10							
	comp=Z,1.1nm,0.5s							
SPR3	**Spring Creek 3**	**85.71**	**51**	P		**P**	**09 24 05.0**	**+1.3**
HVU	**Hansel Valley**	**85.95**	**48**	P		**P**	**09 24 06.0**	**+1.4**
HVU				IAmb		IAmb	09 24 29.8	
	comp=Z,6.4nm,1.4s							
PSUT	**Pine Spring**	**86.21**	**51**	IAmb		IAmb	09 24 08.2	
	comp=Z,3.7nm,1.0s							
DUG	**Dugway, Tooele**	**86.44**	**49**	IAmb		IAmb	09 24 09.1	
	comp=Z,3.1nm,0.9s							
IMW	**Indian Meadow**	**86.53**	**45**	P		**P**	**09 24 08.5**	**+0.9**
FXWY	**Fox Creek**	**86.55**	**45**	P		**P**	**09 24 09.1**	**+1.4**
FXWY				IAmb		IAmb	09 24 10.2	
	comp=Z,3.7nm,1.2s							
FLWY	**Flagg Ranch**	**86.62**	**45**	IAmb		IAmb	09 24 10.8	
	comp=Z,5.3nm,0.8s							
HWUT	**Hardware Ranch**	**86.87**	**48**	P		**P**	**09 24 10.4**	**+1.2**
RLMT	**Red Lodge**	**87.22**	**44**	IAmb		IAmb	09 24 14.8	
	comp=Z,4.0nm,1.1s							
PDAR	**Pinedale Array**	**87.86**	**46**	P		**P**	**09 24 14.6**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=194,slow=1.2,SNR=2.6							
	comp=Z,0.4nm,0.4s							
U15A	**North Rim**	**88.07**	**53**	P		**P**	**09 24 14.3**	**-0.9**
U15A				IAmb		IAmb	09 24 18.2	
	comp=Z,3.3nm,1.1s							
SRU	**San Rafael Swe**	**88.47**	**50**	P		**P**	**09 24 15.6**	**-1.3**
SRU				IAmb		IAmb	09 24 18.7	
	comp=Z,3.0nm,0.8s							
KBZ	**Khabaz**	**88.66**	**315**	LR		LR	10 06 22.1	
	comp=Z,20nm,21.6s,baz=86,slow=37							
FINES	**FINESS Array B**	**89.26**	**336**	P		**P**	**09 24 19.1**	**-0.7**
FINES	**FINESS Array B**	**89.26**	**336**	P		**P**	**09 24 18.8**	**-1.1**
	comp=Z,1.7nm,0.6s,baz=64,slow=4.7,SNR=15							
	comp=Z,1.7nm,0.6s							
AKASG	**Malin Array Be**	**93.79**	**326**	LR		LR	10 08 09.7	
	comp=Z,31nm,21.9s,baz=45,slow=36							
HFS	**Hagfors**	**94.72**	**339**	P		**P**	**09 24 44.7**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=79,slow=3.1,SNR=1.7							
HFS				LR		LR	10 10 51.0	
	comp=Z,10nm,20.2s,baz=36,slow=38							
	comp=Z,1.6nm,0.8s							
NOA	**NORSAR Array B**	**94.88**	**340**	LR		LR	10 15 10.4	
	comp=Z,5.6nm,18.2s,baz=15,slow=40							
SFJD	**Kangerlussuaq**	**95.31**	**7**	LR		LR	10 07 06.5	
	comp=Z,11nm,21.9s,baz=20,slow=35							
SNAA	**Sanae**	**122.47**	**191**	PKP		**PKiKP**	**09 30 19.3**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=90,slow=3.0,SNR=2.0							
TORD	**Torodi Ar. Bea**	**134.95**	**309**	PKP		**PKPdf**	**09 30 43.6**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=13,slow=2.8,SNR=2.1							
LPAZ	**La Paz**	**145.86**	**94**	PKPbc		**PKPab**	**09 31 07.0**	**+1.5**
	comp=Z,2.4nm,0.7s,baz=268,slow=3.0,SNR=13							

*NNC **01** 09:14:57.6±0.5,42.°62N×75.°51E,h4km±4km,mb3.1, mpv3.0,Error ellipse: s-maj=5.8km s-min=1.8km az=160.0, Suspected Mining explosion.*
*SOME **01** 09:14:57.8,42.°63N×75.°52E*
*KNET **01** 09:14:58.0±0.2,42.°61N×75.°54E,h0km,ml1.2,Error ellipse: s-maj=2.0km s-min=1.3km az=133.0*
ISC 01 09:14:56.9±0.9, 42.°57N±0.°05×75.°50E±0.°02, h0km, n21, σ0s60/34, 8C-9D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**0.36**	**11**	⇑P		**Pg**	**09 15 04.2**	**+0.3**
	21nm,0.2s,SNR=14							
TKM2				⇓S		**Sg**	**09 15 09.1**	**+0.5**
	94nm,0.2s							
TKM2	**Tokmak 2**	**0.36**	**11**	⇓P		**Pg**	**09 15 04.1**	**+0.2**
	5.4nm,0.2s							
TKM2				⇑S		**Sg**	**09 15 09.0**	**+0.4**
	26nm,0.5s							
KBK	**Karagaybulak**	**0.42**	**283**	⇓P		**Pb**	**09 15 07.0**	**-0.3**
	16nm,0.1s,SNR=11							
KST	**Kastek**	**0.59**	**35**	P		**Pg**	**09 15 08.3**	**+0.2**
	10nm,0.1s							
KST				S		**Sg**	**09 15 16.0**	**+0.3**
	16nm,0.3s							
ULHL	**Ulahol**	**0.64**	**120**	⇑P		**Pb**	**09 15 10.2**	**-0.8**
	6.1nm,0.1s							
CHMS	**Chumysh**	**0.70**	**308**	⇓P		**Pb**	**09 15 11.3**	**-0.8**
	4.0nm,0.2s							
CHMS	**Chumysh**	**0.70**	**308**	⇑P		**Pg**	**09 15 09.6**	**-0.8**
	1.3nm,0.2s							
CHMS				⇓S		**Sg**	**09 15 20.4**	**+0.9**
	2.2nm,0.3s							
DGS	**Degeres**	**0.70**	**16**	P		**Pg**	**09 15 10.6**	**+0.1**
	7.6nm,0.2s							
DGS				S		**Sg**	**09 15 20.2**	**+0.6**
	9.1nm,0.3s							
AAK	**Ala-Archa**	**0.75**	**276**	⇓P		**Pb**	**09 15 12.5**	**-0.4**
	23nm,0.1s,SNR=30							
AAK				⇑S		**Sb**	**09 15 24.0**	**+0.3**
	15nm,0.3s							
AAK	**Ala-Archa**	**0.75**	**276**	⇑P		**Pb**	**09 15 12.6**	**-0.4**
	8.3nm,0.3s							
AAK				⇓S		**Sb**	**09 15 23.6**	**-0.2**
	7.7nm,0.3s							
UCH	**Uchtor**	**0.81**	**246**	⇓P		**Pb**	**09 15 14.2**	**+0.1**
	2.1nm,0.2s,SNR=12							
MTBS	**Maitube**	**0.89**	**50**	P		**Pg**	**09 15 13.8**	**-0.1**
	6.3nm,0.1s							
MTBS				S		**Sg**	**09 15 25.9**	**+0.5**
	13nm,0.4s							
KRBS	**Karabastau**	**1.14**	**6**	P		**Pg**	**09 15 18.4**	**-0.4**
	2.9nm,0.1s							
KRBS				S		**Sg**	**09 15 32.6**	**-0.9**
	2.8nm,0.2s							
TNSS	**Tian-Shan**	**1.16**	**66**	P		**Pg**	**09 15 19.3**	**+0.1**
	2.0nm,0.2s							
TNSS				S		**Sg**	**09 15 34.8**	**+0.5**
	2.0nm,0.4s							
EKS2	**Erkin-Say**	**1.28**	**275**	⇑P		**Pn**	**09 15 23.0**	**+0.9**
	3.2nm,0.1s,SNR=12							
MDOK	**Medeo**	**1.28**	**62**	Pg		**Pg**	**09 15 21.1**	**-0.4**
	4.0nm,0.2s							
MDOK				Lg		Lg	09 15 37.9	
	2.6nm,0.4s							
KOTS	**Kotyrbulak**	**1.36**	**60**	P		**Pn**	**09 15 23.3**	**-0.1**
	3.9nm,0.1s							
KOTS				S		**Sb**	**09 15 41.9**	**+0.5**
	7.6nm,0.2s							
KTBS	**Karatobe**	**1.44**	**37**	P		**Pn**	**09 15 23.9**	**-0.4**
	7.7nm,0.2s							
KTBS				S		**Sg**	**09 15 42.1**	**-0.9**
	5.9nm,0.2s							
MRKS	**Merke**	**1.69**	**277**	P		**Pg**	**09 15 29.5**	**+0.2**
	7.7nm,0.3s							
MRKS				S		**Sg**	**09 15 52.3**	**+1.2**
	4.3nm,0.2s							
BLB	**Baldybastay**	**2.66**	**54**	Pg		**Pb**	**09 15 45.8**	**+0.4**
	10nm,0.1s							
BLB				Lg		Lg	09 16 19.8	
	6.6nm,0.3s							
KK31	**Karatay Array**	**3.71**	**280**	⇑Pg		**Pg**	**09 16 06.7**	**-1.3**
	0.3nm,0.3s,baz=95,slow=15,SNR=10							
KK31				⇓Lg		Lg	09 16 54.4	
	0.4nm,0.5s,baz=94,slow=25,SNR=3.5							

*NEIC **01** 09:22:20.3±0.7, 19.°41N±0.°01×155.°00W±0.°02, h3km±6km, Error ellipse: s-maj=2.7km s-min=1.5km az=129.0*
HVO 01 09:22:19.9±0.8, 19.°41N±0.°01×154.°99W±0.°02, h2km±6km, ML2.7/3, ML2.4/44(NEIC), Error ellipse: s-maj=3.2km s-min=1.5km az=119.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.02**	**332**			Pg	09 22 20.9	+0.4
JCUZ	**Jacuzzi**	**0.11**	**255**	Pg		Pg	09 22 21.9	0.0
JCUZ				IAML			09 22 24.5	
	comp=E,2μm,0.5s							
JCUZ						IAML	09 22 25.6	
	comp=N,2μm,0.3s							
NPOC	**North of Pu'u**	**0.11**	**260**	Pg		Pg	09 22 22.3	+0.3
PHO	**Puu Honuaula**	**0.12**	**55**			Pg	09 22 23.1	+0.9
STCH	**Steam Cracks**	**0.13**	**258**			Pg	09 22 22.9	+0.5
STCH				IAML			09 22 26.5	
	comp=E,1μm,0.5s							
KNHH	**Kane Nui o Ham**	**0.17**	**259**			Pg	09 22 23.6	+0.4
PUH	**Pauahi**	**0.21**	**260**			Pg	09 22 24.2	+0.2
BYL	**Byron's Ledge**	**0.25**	**270**			Pg	09 22 25.2	+0.4
BYL				IAML			09 22 27.9	
	comp=N,566nm,1.5s							
HATHI	**Halema'uma'u T**	**0.25**	**272**			Pg	09 22 24.9	+0.1
HATHI				IAML			09 22 31.2	
	comp=N,821nm,1.0s							
HATHI				IAML			09 22 32.4	
	comp=E,921nm,0.8s							
KKO	**Keanakako'i**	**0.26**	**267**			Pg	09 22 25.1	+0.2
KKO				IAML			09 22 26.5	
	comp=N,870nm,1.4s							
KKO				IAML			09 22 29.7	
	comp=E,548nm,1.3s							
SBLHI	**Steaming Bluff**	**0.26**	**273**			Pg	09 22 25.1	+0.2
SBLHI				IAML			09 22 25.8	
	comp=E,632nm,1.1s							
SBLHI				IAML			09 22 32.5	
	comp=N,533nm,1.3s							
RIM	**Rim**	**0.27**	**266**			Pg	09 22 25.2	+0.2
RIM				IAML			09 22 31.8	
	comp=E,525nm,1.2s							
RIM				IAML			09 22 31.9	
	comp=N,886nm,1.3s							
UWB	**Uwekahuna B**	**0.27**	**273**	Pg		Pg	09 22 24.6	-0.5
NPH	**North Pit**	**0.27**	**270**	Pg		Pg	09 22 25.3	+0.2
NPH				IAML			09 22 33.4	
	comp=N,523nm,1.8s							
RSD	**Rainshed**	**0.27**	**281**			Pg	09 22 25.5	+0.3
UWE	**Uwekahuna**	**0.28**	**272**			Pg	09 22 24.9	-0.5
UWE				IAML			09 22 27.4	
	comp=N,874nm,1.2s							
SDHHI	**Sand Hill**	**0.29**	**265**	Pg		Pg	09 22 25.7	+0.3
SDHHI				IAML			09 22 31.0	
	comp=E,719nm,0.9s							
WRMHI	**West Rim**	**0.29**	**269**	Pg		Pg	09 22 25.3	-0.2
HLP	**Hilina Pali**	**0.32**	**249**	Pg		Pg	09 22 26.1	+0.1
HLP				IAML			09 22 30.3	
	comp=N,646nm,3.5s							
MLH	**Mauna Loa**	**0.38**	**282**	Pg		Pg	09 22 27.7	+0.5
MLH				IAML			09 22 33.7	
	comp=N,565nm,3.8s							
HTC	**Hot Caves**	**0.42**	**246**			Pg	09 22 28.8	+0.8
HMH	**Humu'ula Sheep**	**0.50**	**292**			Pg	09 22 30.0	+0.5
MLOA	**Mauna Loa Obse**	**0.56**	**283**	Pg		Pg	09 22 30.7	-0.1
MLOA				IAML			09 22 35.1	
	comp=E,337nm,3.8s							
MLOA				IAML			09 22 39.0	
	comp=N,281nm,0.6s							
MWH	**Moku'aweowe**	**0.57**	**277**	Pg		Pg	09 22 30.9	-0.1
MWH				IAML			09 22 42.2	
	comp=N,264nm,2.1s							
KHU	**Kahuku**	**0.61**	**254**			Pg	09 22 31.4	-0.2
POHA	**Pohakuloa**	**0.61**	**304**	Pg		Pg	09 22 31.8	+0.1
POHA	**Pohakuloa**	**0.61**	**304**	IAML			09 22 51.1	
	comp=N,261nm,0.4s							
POHA				IAML			09 22 51.2	
	comp=N,185nm,1.3s							
ALEP	**Alea Permanent**	**0.63**	**282**			Pg	09 22 31.6	-0.3

*NEIC **01** 09:26:19.9±1.2, 19.°41N±0.°01×155.°00W±0.°03, h2km±12km, Error ellipse: s-maj=4.5km s-min=1.8km az=104.0*
HVO 01 09:26:19.6±1.1, 19.°41N±0.°01×155.°00W±0.°03, h2km±8km, ML2.7/7, ML2.5/46(NEIC), Error ellipse: s-maj=4.4km s-min=1.7km az=106.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.02**	**353**			Pg	09 26 20.4	+0.1
JCUZ	**Jacuzzi**	**0.10**	**253**			Pg	09 26 22.1	+0.5
JCUZ				Sg		Sg	09 26 23.3	+0.3
JCUZ				IAML			09 26 25.1	
	comp=N,2μm,0.6s							
JCUZ				IAML			09 26 25.2	
	comp=E,2μm,0.5s							
NPOC	**North of Pu'u**	**0.10**	**258**			Pg	09 26 22.3	+0.6
NPOC				Sg		Sg	09 26 23.0	-0.1
NPOC				IAML			09 26 24.3	
	comp=E,2μm,0.3s							
NPOC				IAML			09 26 25.2	
	comp=N,3μm,0.8s							
STCH	**Steam Cracks**	**0.12**	**256**			Pg	09 26 22.5	+0.5
STCH				Sg		Sg	09 26 23.6	-0.1
STCH				IAML			09 26 25.9	
	comp=E,1μm,0.5s							
KNHH	**Kane Nui o Ham**	**0.16**	**258**			Pg	09 26 23.2	+0.4
PUH	**Pauahi**	**0.21**	**259**			Pg	09 26 23.8	+0.1
PUH				Sg		Sg	09 26 27.3	+0.9
BYL	**Byron's Ledge**	**0.24**	**270**			Pg	09 26 24.3	-0.1
BYL				Sg		Sg	09 26 27.8	+0.3
BYL				IAML			09 26 30.7	
	comp=E,657nm,0.5s							
BYL				IAML			09 26 33.8	
	comp=N,857nm,0.6s							
HATHI	**Halema'uma'u T**	**0.24**	**272**	Pg		Pg	09 26 24.4	0.0
HATHI				Sg		Sg	09 26 28.3	+0.7
HATHI				IAML			09 26 32.6	
	comp=E,807nm,0.5s							
HATHI				IAML			09 26 32.9	
	comp=N,829nm,0.6s							
KKO	**Keanakako'i**	**0.25**	**266**	Pg		Pg	09 26 24.2	-0.3
KKO				Sg		Sg	09 26 29.2	+1.4
KKO				IAML			09 26 32.2	
	comp=N,1μm,0.9s							
KKO				IAML			09 26 32.8	
	comp=E,639nm,0.9s							
SBLHI	**Steaming Bluff**	**0.25**	**273**	Pg		Pg	09 26 24.3	-0.2
SBLHI				Sg		Sg	09 26 28.4	+0.6
SBLHI				IAML			09 26 31.4	
	comp=N,617nm,1.3s							
RIM	**Rim**	**0.26**	**266**			Pg	09 26 24.5	-0.1
RIM				IAML			09 26 29.3	
	comp=E,572nm,0.9s							
RIM				IAML			09 26 32.4	
	comp=N,842nm,0.7s							
UWB	**Uwekahuna B**	**0.26**	**272**	Pg		Pg	09 26 24.5	-0.2
NPH	**North Pit**	**0.26**	**270**	Pg		Pg	09 26 24.5	-0.3
RSD	**Rainshed**	**0.27**	**281**			Pg	09 26 24.9	+0.2
RSD				Sg		Sg	09 26 29.0	+0.7
RSD				IAML			09 26 31.8	
	comp=N,713nm,1.7s							
OBL	**Observatory Le**	**0.27**	**271**	Pg		Pg	09 26 24.5	-0.3
OBL				Sg		Sg	09 26 29.2	+0.9
OBL				IAML			09 26 34.0	
	comp=E,966nm,0.7s							
UWE	**Uwekahuna**	**0.28**	**272**			Pg	09 26 24.3	-0.7
UWE				IAML			09 26 32.3	
	comp=N,948nm,0.7s							
SDHHI	**Sand Hill**	**0.28**	**265**	Pg		Pg	09 26 24.4	-0.6
SDHHI				IAML			09 26 33.6	
	comp=E,1μm,0.7s							
WRMHI	**West Rim**	**0.28**	**269**	Pg		Pg	09 26 24.5	-0.6
WRMHI				Sg		Sb	09 26 31.3	-1.4
WRMHI				IAML			09 26 33.9	
	comp=E,1μm,1.0s							
WRMHI				IAML			09 26 34.5	
	comp=N,807nm,1.1s							
HLP	**Hilina Pali**	**0.31**	**248**	Pg		Pg	09 26 25.5	-0.1
HLP				IAML			09 26 27.3	
	comp=E,728nm,3.8s							
HLP				IAML			09 26 29.5	
	comp=N,708nm,3.8s							
MLH	**Mauna Loa**	**0.37**	**282**	Pg		Pg	09 26 27.0	+0.2
HTC	**Hot Caves**	**0.41**	**245**			Pg	09 26 28.3	+0.7
HMH	**Humu'ula Sheep**	**0.49**	**293**			Pg	09 26 29.4	+0.3
MLOA	**Mauna Loa Obse**	**0.56**	**283**			Pg	09 26 30.3	0.0
MLOA				Sg		Sg	09 26 38.4	+0.8
MWH	**Moku'aweowe**	**0.57**	**277**	Pg		Pg	09 26 30.5	-0.1
KHU	**Kahuku**	**0.60**	**254**			Pg	09 26 30.5	-0.7
POHA	**Pohakuloa**	**0.61**	**304**			Pg	09 26 30.9	-0.4
POHA				IAML			09 26 36.2	
	comp=N,275nm,3.8s							
POHA				IAML			09 26 47.1	
	comp=N,291nm,0.4s							
ALEP	**Alea Permanent**	**0.62**	**282**			Pg	09 26 31.2	-0.3

*NEIC **01** 09:34:10.6±0.8, 5.°24S±0.°07×151.°7E±0.°1, h10km±2km, mb4.2/10, Error ellipse: s-maj=24.3km s-min=10.8km az=74.0*
*IDC **01** 09:34:10.5±1.0, 5.°42S×151.°71E, h0km, mb3.9/6, mbtmp3.9/6, MS2.8/2, Error ellipse: s-maj=51.2km s-min=24.8km az=109.0*
ISC 01 09:34:11.4±0.8, 5.°34S±0.°09×151.°7E±0.°1, h10km, n22, σ1s09/20, mb4.0/9, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**5.38**	**307**	Pn		**Pn**	**09 35 30.6**	**-1.3**
PMG	**Port Moresby**	**6.01**	**228**	Pn		**Pn**	**09 35 40.3**	**-0.2**
FAKI	**Fak Fak**	**19.49**	**276**	P		**P**	**09 38 38.1**	**-0.8**
FAKI				IAmb		IAmb	09 38 41.9	
	comp=Z,19nm,1.4s							
EIDS	**Eidsvold**	**19.92**	**181**	P		**P**	**09 38 42.8**	**-0.7**
EIDS				IAmb		IAmb	09 38 44.9	
	comp=Z,19nm,1.3s							
DZM	**Mont Dzumac**	**21.95**	**141**	P		**P**	**09 39 04.0**	**-1.5**
DZM				IAmb		IAmb	09 39 14.6	
	comp=Z,27nm,1.4s							
ARMA	**Armidale**	**24.95**	**180**	P		**P**	**09 39 34.6**	**-0.5**
AS31	**Alice Springs**	**24.98**	**221**	P		**P**	**09 39 37.0**	**+1.5**
ASAR	**Alice Springs**	**24.98**	**221**	P		**P**	**09 39 36.9**	**+1.4**
ASAR	**Alice Springs**	**24.98**	**221**	P		**P**	**09 39 36.7**	**+1.2**
	comp=Z,2.8nm,0.8s,baz=56,slow=9.0,SNR=30							
	comp=Z,2.8nm,0.8s							
STKA	**Stephens Creek**	**28.03**	**198**	P		**P**	**09 40 01.8**	**-1.0**
STKA	**Stephens Creek**	**28.03**	**198**	P		**P**	**09 40 02.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=353,slow=14,SNR=2.9							
	comp=Z,1.3nm,0.7s							
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P		**P**	**09 40 06.8**	**+0.6**
FITZ				IAmb		IAmb	09 40 11.9	
	comp=Z,1.9nm,0.9s							
MJAR	**Matsushiro Arr**	**43.52**	**344**	LR		LR	09 57 13.6	
	comp=Z,22nm,20.7s,baz=142,slow=32							
MA2	**Magadan**	**64.72**	**360**	LR		LR	10 16 30.6	
	comp=Z,4.4nm,18.1s,baz=162,slow=39							
SONM	**Songino Array**	**66.17**	**328**	P		**P**	**09 45 00.4**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=134,slow=10,SNR=2.5							
	comp=Z,0.4nm,0.3s							
VNDA	**Vanda**	**72.34**	**178**	P		**P**	**09 45 36.6**	**-0.4**
VNDA				IAmb		IAmb	09 45 39.4	
	comp=Z,2.5nm,1.3s							
VNDA	**Vanda**	**72.34**	**178**	P		**P**	**09 45 36.5**	**-0.4**
	comp=Z,1.0nm,1.1s,baz=350,slow=6.4,SNR=3.7							
	comp=Z,1.0nm,1.1s							
L18K	**Granite Mounta**	**78.01**	**22**	P		**P**	**09 46 10.0**	**+0.1**
J18K	**Innoko River**	**78.76**	**21**	P		**P**	**09 46 12.1**	**-1.9**
J18K				IAmb		IAmb	09 46 29.3	
	comp=Z,3.3nm,1.1s							
ILAR	**Eielson Array**	**83.09**	**22**	P		**P**	**09 46 38.1**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=246,slow=3.8,SNR=3.3							
	comp=Z,0.3nm,0.6s							
NVAR	**Mina Array Bea**	**93.32**	**52**	P		**P**	**09 47 28.7**	**+1.5**
	comp=Z,0.7nm,0.7s,baz=265,slow=6.0,SNR=6.0							
	comp=Z,0.7nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.37**	**287**	PKPbc		**PKPbc**	**09 54 01.8**	**0.0**
	comp=Z,0.7nm,0.7s,baz=96,slow=2.9,SNR=5.6							

*NEIC **01** 09:34:50.2±2.3, 2.°93S±0.°08×77.°4W±0.°1, h239km±17km, mb4.3/8, Error ellipse: s-maj=17.8km s-min=11.8km az=103.0*
*RSNC **01** 09:34:53.9±0.5, 3.°3S±4.°×7.°6W±.°, h0km, M3.6, mB5.5, mb4.2, ML3.0, Mw(mB)5.0*
*IDC **01** 09:34:53.8±1.5, 2.°59S×76.°76W, h103km±15km, mb3.3/12, mbtmp3.8/18, Error ellipse: s-maj=20.5km s-min=10.3km az=96.0*
ISC 01 09:34:57.0±0.5, 2.°63S±0.°05×76.°73W±0.°06, h150km, n50, σ2s34/47, mb3.7/13, Peru-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CHSH	**Refugio Sur-Vo**	**2.42**	**298**	Pn		**Pn**	**09 35 34.1**	**-3.7**
CHSH				Sn		**Sn**	**09 36 04.1**	**-4.9**
SLOR	**San Lorenzo -**	**2.58**	**317**			**Pn**	**09 35 37.4**	**-2.3**
PULU	**Pululahua**	**3.17**	**326**			**Pn**	**09 35 45.2**	**-1.9**
IMBA	**Imbabura, San**	**3.24**	**333**			**Pn**	**09 35 45.0**	**-2.9**
CUSE	**Cuicocha Este**	**3.36**	**330**	P		**Pn**	**09 35 50.2**	**+0.7**
ARNL	**Arenillas**	**3.45**	**255**	Pn		Pn	09 35 43.1	-7.1
ARNL				Sn		Sn	09 36 17.5	-14
TULM	**Tulcn-Chalpat**	**3.49**	**342**			**Pn**	**09 35 49.8**	**-1.4**
TULM	**Tulcn-Chalpat**	**3.49**	**342**	P		**Pn**	**09 35 50.0**	**-1.2**
GCUF	**Volcan Galeras**	**3.88**	**351**	P		**Pn**	**09 35 57.8**	**+1.5**
CRUC	**La Cruz**	**4.18**	**357**	P		**Pn**	**09 36 58.9**	**-1.1**
FLOC	**Florencia**	**4.33**	**14**	P		**Pn**	**09 35 59.4**	**-2.2**
ATAH	**Atahualpa**	**4.77**	**200**	P		**Pn**	**09 36 05.2**	**-2.6**
	144nm,0.6s,baz=26,slow=10.0,SNR=98							
ATAH				S		**Sn**	**09 36 57.8**	**-5.2**
	34nm,0.4s,baz=202,slow=21,SNR=5.3							
GARC	**Garzon, Huila**	**4.95**	**15**	P		**Pn**	**09 36 08.2**	**-1.8**
POPC	**Popayan, Colom**	**5.14**	**1**	P		**Pn**	**09 36 12.0**	**-0.6**
	8.9nm,0.9s							
CZSB	**Cruzeiro do Su**	**6.46**	**142**	Pn		**Pn**	**09 36 28.6**	**-1.3**
CZSB	**Cruzeiro do Su**	**6.46**	**142**	P		**Pn**	**09 36 28.3**	**-1.6**
	9.0nm,0.6s							
CZSB				S		**Sn**	**09 37 39.8**	**-2.9**
	9.0nm,0.6s							
PRAC	**Prado**	**6.57**	**16**	P		**Pn**	**09 36 30.7**	**-0.8**
	13nm,0.6s							
GUVC	**San Jose del G**	**6.58**	**39**	P		**Pn**	**09 36 31.0**	**-0.6**
ORTC	**Ortega, Tolima**	**6.67**	**13**	P		**Pn**	**09 36 32.8**	**+0.1**
	19nm,1.0s							
TBTG	**T

comp=Z,0.2nm,0.3s
SNAA Sanae 82.47 162 P **P** 09 47 04.5 **+2.0**
comp=Z,0.8nm,0.5s,baz=272,slow=8.0,SNR=6.0
comp=Z,0.8nm,0.5s
ILAR Eielson Array 84.02 336 P **P** 09 47 13.2 **+2.8**
comp=Z,0.2nm,0.6s,baz=321,slow=34,SNR=2.0
comp=Z,0.2nm,0.6s
QSPA South Pole Qui 87.44 180 P **P** 09 47 30.0 **+2.7**
comp=Z,1.7nm,0.8s,baz=172,slow=1.6,SNR=6.6
comp=Z,1.7nm,0.8s
HFS Hagfors 92.48 30 P **P** 09 47 51.7 **+0.8**
comp=Z,1.5nm,0.8s,baz=317,slow=6.3,SNR=2.0
comp=Z,1.5nm,0.8s
ASAR Alice Springs 140.34 227 PKP **PKiKP** 09 54 10.7 **-1.0**
comp=Z,0.9nm,1.2s,baz=117,slow=2.3,SNR=2.5
WRA Warramunga Arr 142.14 232 PKhKP PKPpre 09 54 08.6
comp=Z,0.2nm,0.4s,baz=119,slow=2.6,SNR=7.7
WRA PKP **PKiKP** 09 54 13.3 **-2.2**
comp=Z,0.2nm,0.4s,baz=114,slow=2.2,SNR=11

*NEIC **01** 09:42:52.7±0.8, 19°.38N±0°.02×154°.99W±0°.03, h5km±2km, Error ellipse: s-maj=4.6km s-min=3.0km az=289.0*
HVO 01 09:42:53.6±1.1, 19°.33N±0°.03×155°.04W±0°.03, h8km±5km, Md2.6/29, ML2.8/46(NEIC), Error ellipse: s-maj=5.1km s-min=3.0km az=119.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.08**	**311**	Pg	Pg	09 42 55.5	-0.2
JCUZ				IAML		09 42 57.8	
	comp=E,5µm,0.2s						
JCUZ				IAML		09 42 57.8	
	comp=N,3µm,0.3s						
NPOC	**North of Pu'u**	**0.09**	**312**	Pg	Pg	09 42 55.7	-0.2
NPOC				IAML		09 42 56.6	
	comp=E,5µm,0.8s						
STCH	**Steam Cracks**	**0.10**	**303**	Pg	Pg	09 42 55.8	-0.2
STCH				IAML		09 42 57.8	
	comp=E,4µm,0.2s						
STCH				IAML		09 42 59.5	
	comp=N,3µm,0.2s						
PUH	**Pauahi**	**0.17**	**284**		Pg	09 42 57.1	-0.2
PUH					Sg	09 42 59.9	+0.1
BYL	**Byron's Ledge**	**0.23**	**291**		Pg	09 42 57.8	-0.4
BYL					Sg	09 43 01.0	-0.3
KKO	**Keanakako`i**	**0.23**	**287**		Pg	09 42 57.9	-0.3
KKO				Sg	Sg	09 43 01.5	+0.2
HATHI	**Halema'uma'u T**	**0.23**	**294**		Pg	09 42 57.9	-0.4
HATHI				IAML		09 43 02.5	
	comp=N,1µm,0.4s						
HATHI				IAML		09 43 06.3	
	comp=E,2µm,0.6s						
RIM	**Rim**	**0.23**	**286**		Pg	09 42 58.1	-0.3
RIM				IAML		09 43 04.5	
	comp=E,1µm,0.6s						
RIM				IAML		09 43 06.1	
	comp=N,1µm,0.6s						
SBLHI	**Steaming Bluff**	**0.24**	**294**	Pg	Pg	09 42 58.0	-0.5
SBLHI					Sg	09 43 01.9	+0.2
SBLHI				IAML		09 43 02.7	
	comp=N,1µm,0.3s						
NPH	**North Pit**	**0.24**	**289**	Pg	Pg	09 42 58.0	-0.5
UWB	**Uwekahuna B**	**0.25**	**292**		Pg	09 42 58.1	-0.5
UWB					Sg	09 43 02.3	+0.3
OBL	**Observatory Le**	**0.25**	**290**	Pg	Pg	09 42 58.5	-0.2
OBL				IAML		09 43 07.7	
	comp=N,2µm,0.4s						
SDHHI	**Sand Hill**	**0.25**	**284**	Pg	Pg	09 42 57.9	-0.8
SDHHI				IAML		09 43 05.7	
	comp=E,1µm,0.4s						
SDHHI				IAML		09 43 06.2	
	comp=N,2µm,0.5s						
HLP	**Hilina Pali**	**0.26**	**262**	Pg	Pg	09 42 58.2	-0.6
HLP				IAML		09 43 04.6	
	comp=N,2µm,0.2s						
HLP				IAML		09 43 04.7	
	comp=E,2µm,0.2s						
UWE	**Uwekahuna**	**0.26**	**290**		Pg	09 42 58.0	-0.8
UWE					Sg	09 43 02.5	+0.2
UWE				IAML		09 43 04.3	
	comp=N,1µm,0.5s						
UWE				IAML		09 43 06.8	
	comp=E,2µm,0.4s						
WRMHI	**West Rim**	**0.26**	**287**		Pg	09 42 58.2	-0.7
WRMHI				IAML		09 43 05.6	
	comp=E,2µm,0.6s						
WRMHI				IAML		09 43 06.8	
	comp=N,2µm,1.0s						
RSD	**Rainshed**	**0.26**	**300**	Pg	Pg	09 42 58.1	-0.8
RSD					Sg	09 43 02.7	+0.2
HTC	**Hot Caves**	**0.35**	**255**		Pg	09 43 00.9	+0.4
MLH	**Mauna Loa**	**0.37**	**296**	Pg	Pg	09 42 59.9	-1.0
MLH				IAML		09 43 08.1	
	comp=N,1µm,0.1s						
MLH				IAML		09 43 08.4	
	comp=E,1µm,0.2s						
HMH	**Humu'ula Sheep**	**0.50**	**303**		Pg	09 43 02.2	-1.2
HMH					Sg	09 43 10.3	+0.3
MLOA	**Mauna Loa Obse**	**0.55**	**292**		Pg	09 43 03.7	-0.6
MWH	**Moku'aweowe**	**0.55**	**286**	Pg	Pg	09 43 03.4	-1.0
MWH				IAML		09 43 12.8	
	comp=N,636nm,0.7s						
KHU	**Kahuku**	**0.55**	**261**		Pg	09 43 03.5	-0.8
KHU				IAML		09 43 13.4	
	comp=E,487nm,0.5s						
KHU				IAML		09 43 14.1	
	comp=N,513nm,0.6s						
ALEP	**Alea Permanent**	**0.61**	**290**		Pg	09 43 04.4	-1.0
POHA	**Pohakuloa**	**0.63**	**312**	Pg	Pg	09 43 04.3	-1.5

*IDC **01** 09:50:05.3±0.6, 52°.76S×26°.92E, h0km, mb4.2/12, mbtmp4.2/12, MS3.6/21, Error ellipse: s-maj=25.3km s-min=15.7km az=76.0*
*NEIC **01** 09:50:07.1±0.8, 52°.73S±0°.05×26°.9E±0°.2, h10km±1km, mb4.7/29, Error ellipse: s-maj=23.0km s-min=4.7km az=70.0*
ISC 01 09:50:06.8±0.5, 52°.71S±0°.10×26°.9E±0°.1, h10km, n69, σ0°.68/51, mb4.5/22, MS3.6/21, 3C, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04S2	**CROZET ISLANDS**	**17.12**	**80**	T	T	10 12 07.6	
	baz=241,slow=74,SNR=26						
H04S3	**CROZET ISLANDS**	**17.12**	**80**	T	T	10 12 17.2	
	baz=241,slow=74,SNR=23						
H04S1	**CROZET ISLANDS**	**17.14**	**80**	T	T	10 12 19.9	
	baz=241,slow=74,SNR=54						
SUR	**Sutherland**	**20.79**	**345**	P	**P**	**09 54 48.8**	**+0.6**
SUR				IAmb	IAmb	09 55 27.0	
	comp=Z,58nm,1.4s						
SUR	**Sutherland**	**20.79**	**345**	P	**P**	**09 54 49.8**	**+1.6**
	comp=Z,7.3nm,0.7s,baz=155,slow=11,SNR=11						
SUR				LR	LR	10 01 48.3	
	comp=Z,82nm,18.2s,baz=160,slow=34						
	comp=Z,7.3nm,0.7s						
TROLL	**Troll, Antarti**	**22.10**	**200**	⇑P	**P**	**09 55 02.4**	**+0.5**
	comp=Z,317nm,1.0s						
MAW	**Mawson**	**22.82**	**145**	LR	LR	10 01 15.0	
	comp=Z,87nm,20.9s,baz=252,slow=29						
SNAA	**Sanae**	**23.08**	**204**	P	**P**	**09 55 12.2**	**0.0**
SNAA				IAmb	IAmb	09 55 20.8	
	comp=Z,18nm,1.1s						
SNAA	**Sanae**	**23.08**	**204**	⇑P	**P**	**09 55 11.9**	**-0.3**
	comp=Z,106nm,0.8s						
SNAA	**Sanae**	**23.08**	**204**	P	**P**	**09 55 13.1**	**+0.9**
	comp=Z,6.9nm,0.9s,baz=69,slow=13,SNR=7.9						
SNAA				LR	LR	10 01 56.6	
	comp=Z,113nm,21.8s,baz=104,slow=31						
	comp=Z,6.9nm,0.9s						
VNA2	**Neumayer--Watz**	**23.83**	**207**	⇑P	**P**	**09 55 19.5**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=48,slow=12						
BOSA	**Boshof**	**24.10**	**356**	P	**P**	**09 55 23.2**	**+0.6**
BOSA				IAmb	IAmb	09 55 30.5	
	comp=Z,15nm,1.2s						
BOSA	**Boshof**	**24.10**	**356**	P	**P**	**09 55 24.0**	**+1.4**
	comp=Z,5.3nm,0.7s,baz=186,slow=9.8,SNR=9.7						
BOSA				LR	LR	10 03 33.0	
	comp=Z,101nm,18.6s,baz=200,slow=33						
	comp=Z,5.3nm,0.7s						
LBTB	**Lobatse**	**27.68**	**357**	P	**P**	**09 55 54.6**	**-0.3**
LBTB				IAmb	IAmb	09 56 18.5	
	comp=Z,12nm,1.2s						
LBTB	**Lobatse**	**27.68**	**357**	LR	LR	10 05 20.9	
	comp=Z,127nm,19.1s,baz=175,slow=33						

TSUM Tsumeb 34.22 344 LR LR 10 10 06.4
comp=Z,40nm,18.1s,baz=152,slow=35
LSZ Lusaka 37.36 2 LR LR 10 10 54.5
comp=Z,141nm,19.5s,baz=162,slow=33
QSPA South Pole Qui 37.51 180 P **P** 09 57 20.5 **0.0**
QSPA IAmb IAmb 09 57 37.4
comp=Z,16nm,1.1s
QSPA South Pole Qui 37.51 180 P **P** 09 57 20.4 **0.0**
comp=Z,8.2nm,0.7s,baz=252,slow=3.4,SNR=117
QSPA LR LR 10 11 55.0
comp=Z,118nm,19.8s,baz=248,slow=35
comp=Z,8.2nm,0.7s
CASY Casey 41.14 142 P **P** 09 57 51.7 **+1.2**
PMSA Palmer Station 44.55 218 LR LR 10 12 46.3
comp=Z,146nm,21.1s,baz=188,slow=31
VNDA Vanda 47.07 168 P **P** 09 58 38.0 **0.0**
VNDA Vanda 47.07 168 P **P** 09 58 38.0 **0.0**
comp=Z,1.3nm,0.6s,baz=231,slow=8.1,SNR=22
VNDA LR LR 10 18 29.2
comp=Z,80nm,18.1s,baz=230,slow=36
comp=Z,1.3nm,0.6s
MBAR Mbarara 52.02 5 LR LR 10 19 44.0
comp=Z,64nm,20.6s,baz=146,slow=34
MG05 Puerto Natales 56.01 228 P **P** 09 59 46.0 **+0.9**
TRQA Tornquist 60.23 245 P **P** 10 00 14.6 **-0.4**
PLCA Paso Flores 62.88 238 P **P** 10 00 32.4 **-0.5**
comp=Z,2.3nm,1.0s,baz=102,slow=3.2,SNR=3.0
comp=Z,2.3nm,1.0s
CPUP Villa Florida 66.11 258 P **P** 10 00 53.7 **-0.3**
CPUP IAmb IAmb 10 01 32.1
comp=Z,6.8nm,1.4s
CPUP Villa Florida 66.11 258 P **P** 10 00 53.4 **-0.7**
comp=Z,2.4nm,1.0s,baz=132,slow=6.3,SNR=3.4
comp=Z,2.4nm,1.0s
BO02 Sierra Bellavi 67.43 242 P **P** 10 01 02.4 **-0.1**
MT02 Curacav 68.79 243 P **P** 10 01 10.1 **-0.9**
MT02 IAmb IAmb 10 01 14.4
comp=Z,6.3nm,1.2s
TOA0 Torodi Ar. Sit 69.09 334 P **P** 10 01 12.8 **0.0**
TORD Torodi Ar. Bea 69.09 334 P **P** 10 01 12.8 **0.0**
TORD Torodi Ar. Bea 69.09 334 P **P** 10 01 13.4 **+0.6**
comp=Z,1.3nm,0.6s,baz=164,slow=5.9,SNR=12
comp=Z,1.3nm,0.6s
CO03 El Pedregal 70.39 245 P **P** 10 01 19.8 **-1.1**
CO03 IAmb IAmb 10 01 57.1
comp=Z,7.5nm,1.4s
CO01 Juntas del Tor 70.72 246 P **P** 10 01 23.5 **+0.4**
CO01 IAmb IAmb 10 01 26.9
comp=Z,5.1nm,0.8s
AC04 Llanos de Chal 72.63 246 P **P** 10 01 35.8 **+1.4**
AC06 Mina Casimiro 72.88 247 P **P** 10 01 34.8 **-1.1**
MBWA Marble Bar 75.12 105 P **P** 10 01 49.0 **-0.1**
MBWA IAmb IAmb 10 02 19.4
comp=Z,13nm,1.4s
PB11 IPOC Station P 78.39 253 P **P** 10 02 08.1 **+0.3**
PB11 IAmb IAmb 10 02 24.6
comp=Z,10.0nm,1.0s
STKA Stephens Creek 78.41 128 P **P** 10 02 06.9 **-0.6**
comp=Z,2.3nm,1.0s,baz=319,slow=5.6,SNR=3.2
comp=Z,2.3nm,1.0s
LPAZ La Paz 80.22 256 LR LR 10 31 44.8
comp=Z,13nm,20.4s,baz=148,slow=31
FITZ Fitzroy Crossi 80.96 108 P **P** 10 02 21.2 **-0.3**
ASAR Alice Springs 81.16 117 P **P** 10 02 22.8 **+0.2**
ASAR Alice Springs 81.16 117 P **P** 10 02 22.6 **0.0**
comp=Z,2.0nm,0.8s,baz=213,slow=4.8,SNR=26
comp=Z,2.0nm,0.8s
AS31 Alice Springs 81.16 117 P **P** 10 02 22.3 **-0.3**
EIL Eilat 82.33 7 LR LR 10 37 57.2
comp=Z,18nm,19.9s,baz=247,slow=35
SAML Samuel 83.01 264 P **P** 10 02 32.3 **0.0**
SAML IAmb IAmb 10 02 32.9
comp=Z,3.2nm,0.7s
WRA Warramunga Arr 84.40 116 P **P** 10 02 39.5 **0.0**
WRA Warramunga Arr 84.40 116 P **P** 10 02 39.5 **0.0**
comp=Z,2.4nm,0.8s,baz=213,slow=3.8,SNR=18
comp=Z,2.4nm,0.8s
WB2 Warramunga Arr 84.40 116 P **P** 10 02 39.3 **-0.1**
WB2 IAmb IAmb 10 02 44.1
comp=Z,5.2nm,1.1s
WRAB Tennant Creek 84.41 116 P **P** 10 02 39.6 **+0.2**
WRAB IAmb IAmb 10 02 41.8
comp=Z,8.0nm,1.3s
KULM Kulim 84.44 74 P **P** 10 02 39.0 **-0.6**
WR0 Warramunga Arr 84.49 116 P **P** 10 02 40.7 **+0.8**
WB0 Warramunga Arr 84.57 116 P **P** 10 02 40.1 **-0.1**
WB0 IAmb IAmb 10 03 00.5
comp=Z,7.6nm,1.3s
MMAI Mount Meron Ar 85.69 7 LR LR 10 40 09.9
comp=Z,22nm,19.1s,baz=138,slow=35
URZ Urewera 85.77 157 LR LR 10 39 49.5
comp=Z,64nm,18.8s,baz=221,slow=35
KEST Kesra 89.40 346 LR LR 10 44 22.8
comp=Z,45nm,18.8s,baz=213,slow=36
VAE Valguarnera 90.47 350 LR LR 10 43 52.9
comp=Z,65nm,19.9s,baz=156,slow=36
RPN Rapa Nui 91.82 218 LR LR 10 34 22.4
comp=Z,26nm,21.9s,baz=334,slow=29
BRTR Keskin Array B 92.25 5 P **P** 10 03 16.1 **-0.3**
comp=Z,0.8nm,0.9s,baz=211,slow=2.2,SNR=4.4
comp=Z,0.8nm,0.9s
ATAH Atahualpa 93.52 254 LR LR 10 46 00.6
comp=Z,17nm,18.2s,baz=77,slow=36
GNI Garni 93.77 14 LR LR 10 47 57.0
comp=Z,16nm,18.2s,baz=184,slow=37
MLR Muntele Rosu 97.83 359 LR LR 10 49 12.4
comp=Z,27nm,19.8s,baz=328,slow=36
TXAR Lajitas Array 137.09 257 PKP **PKPdf** 10 09 29.4 **-0.4**
comp=Z,0.7nm,1.1s,baz=186,slow=1.6,SNR=4.0
ULM Lac du Bonnet 145.08 289 PKPbc **PKPbc** 10 09 42.1 **-0.7**
comp=Z,1.8nm,0.4s,baz=108,slow=2.8,SNR=6.7
PDAR Pinedale Array 149.51 269 PKPbc **PKPbc** 10 09 53.9 **-1.9**
comp=Z,1.0nm,0.8s,baz=186,slow=0.9,SNR=7.9
NVAR Mina Array Bea 152.09 253 PKP **PKPdf** 10 09 56.1 **+0.7**
comp=Z,0.8nm,0.7s,baz=113,slow=5.3,SNR=3.7
NVAR PKPbc **PKiKP** 10 10 02.4 **+0.1**
comp=Z,1.0nm,0.7s,baz=142,slow=2.7,SNR=7.3
YKA Yellowknife Ar 157.52 311 PKPab **PKPab** 10 10 34.4 **+0.6**
comp=Z,1.8nm,0.7s,baz=74,slow=4.9,SNR=27

*WEL **01** 10:12:27.4, 39°.S±2°.×17°.5E±°, h24km±4km, M3.2/37, ML3.4/38, MLv3.2/37, Error ellipse: s-maj=0.0km s-min=0.0km az=130.3, confirmed*
ISC 01 10:12:26.5±1.0, 39°.11S±0°.02×175°.13E±0°.02, h10km, n110, σ0°.73/110, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWVZ	**Taurewa**	**0.24**	**81**	P	**Pg**	**10 12 33.5**	**+2.0**
PKVZ	**Pokaka**	**0.25**	**137**	P	**Pg**	**10 12 33.4**	**+1.8**
VRZ	**Vera Road**	**0.29**	**267**	P	**Pb**	**10 12 34.6**	**+0.8**
COVZ	**Chateau Observ**	**0.33**	**106**	P	**Pb**	**10 12 34.7**	**+0.1**
WTVZ	**West Tongariro**	**0.36**	**91**	P	**Pb**	**10 12 35.2**	**+0.2**
FWVZ	**Far West T-bar**	**0.36**	**114**	P	**Pb**	**10 12 35.1**	**0.0**
MAVZ	**Matarangi**	**0.37**	**115**	P	**Pb**	**10 12 35.4**	**0.0**
NGZ	**Ngauruhoe**	**0.37**	**100**	P	**Pb**	**10 12 35.4**	**+0.1**
TRVZ	**Turoa**	**0.38**	**120**	P	**Pb**	**10 12 35.3**	**-0.1**
NNVZ	**North Ngauruho**	**0.38**	**93**	P	**Pb**	**10 12 35.6**	**+0.2**
MTVZ	**Mangateitei**	**0.38**	**136**	P	**Pb**	**10 12 35.1**	**-0.3**
WHVZ	**Whangaehu Hut**	**0.40**	**116**	P	**Pb**	**10 12 35.6**	**-0.2**
KRVZ	**Karewarewa**	**0.40**	**88**	P	**Pb**	**10 12 35.8**	**+0.1**
SNVZ	**South Ngauruho**	**0.41**	**101**	P	**Pb**	**10 12 36.0**	**+0.1**
OTVZ	**Oturere**	**0.42**	**97**	P	**Pb**	**10 12 36.3**	**+0.1**
WNVZ	**Wahianoa**	**0.42**	**121**	P	**Pb**	**10 12 36.1**	**-0.1**
NTVZ	**North Tongarir**	**0.43**	**89**	P	**Pb**	**10 12 36.3**	**+0.1**
TUVZ	**Tukino**	**0.44**	**111**	P	**Pb**	**10 12 36.5**	**0.0**
TMVZ	**Te Maari**	**0.45**	**91**	P	**Pb**	**10 12 36.7**	**+0.1**
ETVZ	**East Tongariro**	**0.45**	**93**	P	**Pb**	**10 12 36.7**	**0.0**
KATZ	**Kakaramea**	**0.46**	**73**	P	**Pb**	**10 12 37.0**	**+0.2**
RATZ	**Rangitukua**	**0.56**	**64**	P	**Pb**	**10 12 38.6**	**+0.2**
MOVZ	**Moawhango**	**0.57**	**122**	P	**Pg**	**10 12 38.0**	**+0.4**
RITZ	**Rihia Road**	**0.58**	**77**	P	**Pb**	**10 12 39.1**	**+0.3**
WATZ	**Wairara**	**0.62**	**50**	P	**Pb**	**10 12 39.6**	**+0.1**
MHEZ	**Mangahewa**	**0.63**	**273**	P	**Pb**	**10 12 40.4**	**+0.8**
HIZ	**Hauiti**	**0.63**	**340**	P	**Pb**	**10 12 40.2**	**+0.5**
HIZ	**Hauiti**	**0.63**	**340**	P	**Pb**	**10 12 40.2**	**+0.5**
WAZ	**Wanganui**	**0.65**	**190**	P	**Pb**	**10 12 39.7**	**-0.4**
LREZ	**Lake Rotokare**	**0.66**	**238**	P	**Pb**	**10 12 40.3**	**+0.1**
DREZ	**Durham Road**	**0.73**	**264**	P	**Pb**	**10 12 41.7**	**+0.5**
WHTZ	**Whakaora**	**0.78**	**56**	P	**Pb**	**10 12 42.8**	**+0.5**
PREZ	**Palmer Road**	**0.79**	**253**	P	**Pb**	**10 12 42.7**	**+0.3**
BHHZ	**Black Hill Sta**	**0.82**	**118**	P	**Pg**	**10 12 41.9**	**-0.4**
NEZ	**North Egmont**	**0.82**	**258**	P	**Pb**	**10 12 43.1**	**+0.2**
KUTZ	**Kaahu Road**	**0.82**	**41**	P	**Pg**	**10 12 42.7**	**+0.3**
TLZ	**Tolley Road**	**0.84**	**22**	P	**Pg**	**10 12 42.7**	**-0.1**
KHEZ	**Kahui Hut**	**0.89**	**258**	P	**Pb**	**10 12 44.4**	**+0.4**
PKE	**Pukeiti**	**0.89**	**264**	P	**Pb**	**10 12 44.5**	**+0.4**
NBEZ	**Newall Road No**	**0.99**	**260**	P	**Pb**	**10 12 46.1**	**+0.3**
WPRZ	**Whakapapatarin**	**1.00**	**54**	P	**Pg**	**10 12 44.9**	**-0.8**
NMEZ	**Namu Road**	**1.02**	**252**	P	**Pg**	**10 12 46.2**	**+0.1**
MRHZ	**Matea Rd**	**1.04**	**75**	P	**Pg**	**10 12 45.6**	**-1.0**
KWHZ	**Kaweka Forest**	**1.05**	**108**	P	**Pg**	**10 12 45.7**	**-1.0**
BKZ	**Black Stump Fm**	**1.06**	**93**	P	**Pn**	**10 12 47.4**	**-0.1**
BKZ	**Black Stump Fm**	**1.06**	**93**	P	**Pg**	**10 12 46.9**	**0.0**
GRRZ	**Galatos Road**	**1.08**	**46**	P	**Pg**	**10 12 46.1**	**-1.2**
KRHZ	**Kereru**	**1.10**	**119**	P	**Pg**	**10 12 46.8**	**-0.8**
OHWZ	**Ohakea**	**1.10**	**173**	P	**Pb**	**10 12 46.8**	**-0.9**
TSZ	**Takapari Road**	**1.14**	**146**	P	**Pb**	**10 12 47.0**	**-1.4**
PNHZ	**Pukenui**	**1.15**	**134**	P	**Pb**	**10 12 47.4**	**-1.2**
HSRZ	**Hossack Road**	**1.18**	**48**	P	**Pb**	**10 12 48.9**	**-0.2**
UTU	**Utuhina**	**1.25**	**42**	P	**Pg**	**10 12 50.8**	**+0.2**
MCHZ	**McNeill Hill**	**1.26**	**106**	P	**Pg**	**10 12 50.9**	**+0.1**
HLRZ	**Highlands Stat**	**1.28**	**49**	P	**Pg**	**10 12 51.9**	**+0.7**
NMHZ	**Naumai**	**1.30**	**90**	P	**Pg**	**10 12 52.3**	**+0.7**
MTHZ	**Maungataniwha**	**1.36**	**80**	P	**Pn**	**10 12 51.7**	**+0.1**
POWZ	**Post Office Ro**	**1.37**	**159**	P	**Pn**	**10 12 51.6**	**-0.1**
WPHZ	**Waipukurau**	**1.39**	**134**	P	**Pn**	**10 12 52.1**	**+0.1**
KARZ	**Kaharoa**	**1.40**	**39**	P	**Pg**	**10 12 53.6**	**+0.2**
OMRZ	**Omania**	**1.40**	**45**	P	**Pg**	**10 12 53.4**	**+0.1**
TOZ	**Tahuroa Road**	**1.41**	**12**	P	**Pn**	**10 12 50.9**	**-1.4**
KMRZ	**Kaimai**	**1.42**	**27**	P	**Pb**	**10 12 53.0**	**-0.1**
DVHZ	**Dannevirke**	**1.43**	**146**	P	**Pn**	**10 12 52.5**	**-0.1**
KAHZ	**Kahuranaki**	**1.52**	**117**	P	**Pb**	**10 12 54.8**	**+0.1**
RTZ	**Ruatahuna**	**1.53**	**72**	P	**Pb**	**10 12 54.6**	**-0.4**
RAHZ	**Arahi**	**1.54**	**83**	P	**Pg**	**10 12 55.6**	**-0.4**
PRWZ	**Peri Road**	**1.58**	**156**	P	**Pb**	**10 12 55.5**	**-0.3**
MRZ	**Mangatainoka R**	**1.59**	**168**	P	**Pn**	**10 12 54.5**	**-0.2**
PXZ	**Pawanui**	**1.62**	**125**	P	**Pg**	**10 13 01.0**	**+3.3**
PRHZ	**Porangahau**	**1.64**	**135**	P	**Pb**	**10 12 57.0**	**+0.2**
TGRZ	**Tauranga**	**1.64**	**33**	P	**Pb**	**10 12 57.1**	**+0.2**
OPRZ	**Ohinepanea**	**1.69**	**42**	P	**Pb**	**10 12 58.2**	**+0.6**
ANWZ	**Angora Road**	**1.70**	**143**	P	**Pb**	**10 12 57.3**	**-0.6**
OGWZ	**Otaki Gorge**	**1.70**	**179**	P	**Pn**	**10 12 55.8**	**-0.5**
SNGZ	**Shannon Statio**	**1.75**	**80**	P	**Pb**	**10 12 58.4**	**-0.4**
KIW	**Kapiti Island**	**1.76**	**185**	P	**Pn**	**10 12 56.2**	**-0.9**
TIWZ	**Tintock**	**1.76**	**161**	P	**Pb**	**10 12 58.1**	**-0.9**
BFZ	**Birch Farm**	**1.79**	**152**	P	**Pb**	**10 12 59.9**	**+0.5**
BFZ	**Birch Farm**	**1.79**	**152**	P	**Pb**	**10 12 59.2**	**-0.2**
HOWZ	**Holdsworth Sta**	**1.81**	**171**	P	**Pn**	**10 12 58.4**	**+0.7**
DUWZ	**D'Urville Isla**	**1.93**	**208**	P	**Pn**	**10 12 58.7**	**-0.7**
CAW	**Cannon Point**	**2.00**	**181**	P	**Pn**	**10 13 00.7**	**+0.4**
MKAZ	**Moumakai**	**2.00**	**1**	P	**Pn**	**10 12 59.3**	**-1.1**
MWZ	**Matawai**	**2.03**	**68**	P	**Pn**	**10 13 02.0**	**+1.2**
MTW	**Mount Morrison**	**2.06**	**172**	P	**Pn**	**10 13 02.4**	**+1.1**
TMWZ	**Te Maipa**	**2.08**	**164**	P	**Pb**	**10 13 04.0**	**+0.3**
AWAZ	**Awhitu Peninsu**	**2.08**	**349**	P	**Pn**	**10 13 01.6**	**+0.2**
WEL	**Wellington**	**2.19**	**187**	P	**Pn**	**10 13 03.9**	**+1.0**
TCW	**Tory Channel**	**2.20**	**197**	P	**Pn**	**10 13 03.1**	**0.0**
RUGZ	**Raukumara Rang**	**2.30**	**61**	P	**Pn**	**10 13 05.5**	**+0.9**
BHW	**Baring Head**	**2.30**	**185**	P	**Pb**	**10 13 08.4**	**+0.2**
WIAZ	**Waiheke Island**	**2.31**	**0**	P	**Pn**	**10 13 03.9**	**-0.8**
MBAZ	**Motutapu North**	**2.34**	**355**	P	**Pn**	**10 13 04.4**	**-0.7**
RVAZ	**Riverhead Bore**	**2.38**	**349**	P	**Pn**	**10 13 05.5**	**-0.1**
HAZ	**Te Kaha**	**2.48**	**58**	P	**Pn**	**10 13 06.6**	**-0.4**
TUWZ	**Tuamarina**	**2.49**	**201**	P	**Pn**	**10 13 07.2**	**+0.2**
NNZ	**Nelson**	**2.50**	**212**	P	**Pn**	**10 13 06.9**	**-0.3**
TKNZ	**Takaka Hill**	**2.54**	**220**	P	**Pn**	**10 13 07.1**	**-0.8**
QRZ	**Quartz Range**	**2.63**	**229**	P	**Pn**	**10 13 07.7**	**-1.4**
QRZ	**Quartz Range**	**2.63**	**229**	P	**Pn**	**10 13 07.5**	**-1.5**
BSWZ	**Blackbirch Sta**	**2.77**	**200**	P	**Pn**	**10 13 12.1**	**+1.1**
MRWZ	**Matariki Terra**	**2.92**	**218**	P	**Pn**	**10 13 12.4**	**-0.7**
THZ	**Tophouse**	**3.15**	**212**	P	**Pn**	**10 13 16.5**	**+0.3**
WCZ	**Waipu Caves**	**3.23**	**349**	P	**Pn**	**10 13 17.2**	**-0.1**
KHZ	**Kahutara**	**3.52**	**200**	P	**Pn**	**10 13 20.3**	**-0.9**
DSZ	**Denniston Nort**	**3.66**	**223**	P	**Pn**	**10 13 22.0**	**-1.2**
GVZ	**Greta Valley S**	**4.17**	**202**	P	**Pn**	**10 13 29.0**	**-1.1**
LTZ	**Lake Taylor**	**4.26**	**210**	P	**Pn**	**10 13 30.9**	**-0.6**
INZ	**Inchbonnie**	**4.56**	**217**	P	**Pn**	**10 13 34.7**	**-0.9**

*NEIC **01** 10:26:44.6±2.1, 31°.52N±0°.01×115°.60W±0°.02, h10km±2km, Error ellipse: s-maj=3.3km s-min=3.1km az=261.0*
*ECX **01** 10:26:45.6±0.6, 31°.53N×115°.61W, h6km±2km, MD3.0, ML3.3*
*PAS **01** 10:26:45.3±1.8, 31°.52N±0°.02×115°.62W±0°.02, h13km±7km, ML3.3/92, ML3.1/44(NEIC), Error ellipse: s-maj=3.4km s-min=2.8km az=184.0*
ISC 01 10:26:45.2±0.9, 31°.53N±0°.02×115°.61W±0°.02, h13km±7km, n65, σ1°.09/94, 13C-8D, Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VTX	**Valle De La Tr**	**0.20**	**227**		**Pg**	**10 26 49.5**	**-0.3**
VTX					**Sg**	**10 26 53.0**	**+0.2**
VTX				IAML		10 26 53.2	
	comp=N,2µm,0.1s						
VTX				IAML		10 26 55.2	
	comp=E,2µm,0.1s						
VTX	**Valle De La Tr**	**0.20**	**227**	⇑*i*P	**Pg**	**10 26 49.5**	**-0.3**
VTX				*e*S	**Sg**	**10 26 52.8**	**0.0**
VTX				IAML		10 26 53.2	
	comp=N,3µm,0.1s						
VTX				⇑*e*		10 26 53.2	
VTX				⇑*e*		10 26 55.2	
VTX				I

JARAX				*e*S		Sg	10 27 17.1	-0.7	
JARAX				IAML			10 27 20.9		
	comp=E,843nm,0.6s								
JARAX				⇑*e*			10 27 20.9		
JARAX				⇓*e*			10 27 21.5		
JARAX				IAML			10 27 21.5		
	comp=N,922nm,0.5s								
UABX	**UABC, Campus M**	**1.11**	**7**			**Pg**	**10 27 06.6**	**-0.1**	
UABX						**Sb**	**10 27 22.0**	**+1.3**	
SGL	**Mount Signal**	**1.12**	**355**			**Pg**	**10 27 05.4**	**-1.5**	
SGL						**Sg**	**10 27 21.0**	**-0.5**	
5053	**Calexico**	**1.14**	**5**			**Pg**	**10 27 07.1**	**-0.1**	
5053						**Sb**	**10 27 22.9**	**+1.3**	
RMX	**La Rumorosa**	**1.14**	**340**			**Pg**	**10 27 05.8**	**-1.5**	
RMX						**Sg**	**10 27 19.9**	**-2.3**	
RMX				IAML			10 27 21.5		
	comp=E,484nm,0.2s								
RMX				IAML			10 27 21.9		
	comp=N,358nm,0.2s								
YUH	**Yuha Desert**	**1.15**	**347**			**Sg**	**10 27 21.0**	**-1.3**	
YUH	**Yuha Desert**	**1.15**	**347**			**Pg**	**10 27 05.8**	**-1.6**	
YUH	**Yuha Desert**	**1.15**	**347**	IAML			10 27 22.6		
	comp=N,242nm,0.1s								
YUH				IAML			10 27 22.8		
	comp=E,221nm,0.1s								
5054	**Holtville Bond**	**1.18**	**11**			**Pg**	**10 27 07.6**	**-0.5**	
5054						**Sb**	**10 27 24.2**	**+1.4**	
CBX	**Cerro Bola**	**1.19**	**311**			**Pg**	**10 27 07.0**	**-1.2**	
CBX						**Sg**	**10 27 22.7**	**-1.0**	
CBX				IAML			10 27 24.7		
	comp=N,561nm,0.4s								
CBX	**Cerro Bola**	**1.19**	**311**	*e*P		**Pg**	**10 27 06.8**	**-1.3**	
CBX				*e*S		**Sg**	**10 27 22.2**	**-1.4**	
IKP	**In-Ko-Pah, Jac**	**1.20**	**339**			**Pg**	**10 27 07.1**	**-1.2**	
IKP						**Sg**	**10 27 22.1**	**-1.7**	
WESC	**Westside Schoo**	**1.23**	**355**			**Pg**	**10 27 06.9**	**-2.0**	
WESC						**Sg**	**10 27 25.3**	**+0.3**	
TJIG	**Tijuana**	**1.28**	**315**	*e*P		**Pn**	**10 27 08.1**	**-0.7**	
TJIG				*e*S		**Sg**	**10 27 24.4**	**-2.0**	
TJIG				⇓*e*			10 27 25.2		
TJIG				IAML			10 27 25.2		
	comp=E,476nm,0.1s								
TJIG				⇓*e*			10 27 25.6		
TJIG				IAML			10 27 25.6		
	comp=N,419nm,0.2s								
TKX	**Tecate**	**1.34**	**321**			**Sb**	**10 27 26.5**	**-0.8**	
TKX	**Tecate**	**1.34**	**321**	Pn		**Pn**	**10 27 09.2**	**-0.5**	
TKX	**Tecate**	**1.34**	**321**	IAML			10 27 26.9		
	comp=N,824nm,0.2s								
TKX				IAML			10 27 27.7		
	comp=E,1μm,0.2s								
TKX	**Tecate**	**1.34**	**321**	*e*P		**Pn**	**10 27 09.1**	**-0.5**	
TKX				*e*S		**Sb**	**10 27 26.2**	**-1.1**	
BAR	**Barrett**	**1.46**	**322**	Pn		**Pn**	**10 27 11.2**	**-0.1**	
BAR				IAML			10 27 30.9		
	comp=E,292nm,0.2s								
BAR				IAML			10 27 31.0		
	comp=N,401nm,0.2s								
BAR	**Barrett**	**1.46**	**322**			**Sn**	**10 27 29.6**	**-0.7**	
BAR	**Barrett**	**1.46**	**322**	*e*P		**Pn**	**10 27 10.9**	**-0.4**	
BAR				*e*S		**Sn**	**10 27 29.6**	**-0.7**	
BAR				⇑*e*			10 27 30.9		
BAR				IAML			10 27 30.9		
	comp=E,298nm,0.1s								
BAR				IAML			10 27 31.0		
	comp=N,444nm,0.2s								
BAR				⇓*e*			10 27 31.0		
DUZA	**Dulzura**	**1.46**	**318**			**Pn**	**10 27 11.2**	**-0.1**	
OLP	**Otay Lakes Par**	**1.55**	**314**			**Pn**	**10 27 13.0**	**+0.4**	
OLP	**Otay Lakes Par**	**1.55**	**314**	*e*P		**Pn**	**10 27 12.5**	**-0.1**	
TJX	**Tijuana**	**1.57**	**309**			**Pn**	**10 27 13.6**	**+0.8**	
TJX				IAML			10 27 36.8		
	comp=E,458nm,0.8s								
SDRC	**San Diego Road**	**1.65**	**317**			**Pn**	**10 27 14.4**	**+0.5**	
EML	**El Monte Cty P**	**1.71**	**323**			**Pn**	**10 27 15.6**	**+0.8**	
JUEM	**Julian Eagle M**	**1.76**	**332**			**Pn**	**10 27 17.2**	**+1.6**	
PIX	**Pinacate**	**1.84**	**88**	Pn		**Pn**	**10 27 16.9**	**+0.4**	
DPP	**Dos Picos Cty**	**1.85**	**323**			**Pn**	**10 27 18.0**	**+1.3**	
109C	**Camp Elliot, M**	**1.85**	**317**			**Pn**	**10 27 17.4**	**+0.6**	
109C				IAML			10 27 43.0		
	comp=N,267nm,0.2s								
109C				IAML			10 27 43.3		
	comp=E,361nm,0.2s								
CPE	**Camp Elliot**	**1.85**	**317**			**Pn**	**10 27 18.0**	**+1.3**	
BORC	**Borrego Spring**	**1.86**	**339**			**Pb**	**10 27 19.8**	**+0.7**	
MATG	**Mataguay Scout**	**1.88**	**333**			**Pb**	**10 27 19.8**	**+0.2**	
113A	**Mohawk Valley,**	**2.00**	**51**	Pn		**Pn**	**10 27 17.4**	**-1.2**	
113A				IAML			10 27 42.5		
	comp=N,58nm,0.2s								
PLM	**Palomar**	**2.10**	**330**			**Pn**	**10 27 22.8**	**+2.5**	
FRD	**Ford Ranch, An**	**2.13**	**337**			**Pb**	**10 27 24.5**	**+0.7**	
PFO	**Pinyon Flats O**	**2.20**	**341**	Pn		**Pn**	**10 27 21.0**	**-0.6**	
CRY	**Cary Ranch**	**2.24**	**335**			**Pb**	**10 27 26.8**	**+1.2**	
BLYC	**Blythe**	**2.40**	**22**	Pn		**Pn**	**10 27 23.3**	**-0.9**	
POB	**Polly Butte**	**2.42**	**333**			**Pb**	**10 27 29.2**	**+0.5**	
214A	**Organ Pipe Nat**	**2.42**	**79**	Pn		**Pn**	**10 27 22.6**	**-2.0**	
214A				IAML			10 27 53.2		
	comp=N,80nm,0.2s								
214A				IAML			10 27 53.2		
	comp=E,104nm,0.4s								
ELS	**Elsinore Mount**	**2.61**	**325**	Pn		**Pn**	**10 27 27.7**	**+0.5**	
ELS				IAML			10 28 05.7		
	comp=N,53nm,0.5s								
ELS				IAML			10 28 07.8		
	comp=E,70nm,0.4s								
TUC	**Tucson**	**4.18**	**78**	Pn		**Pn**	**10 27 49.3**	**+0.5**	
X16A	**Lo Mia Camp, P**	**4.54**	**49**	Pn		**Pn**	**10 27 54.0**	**+0.2**	
LCMT	**Little Creek M**	**5.81**	**19**	Pn		**Pn**	**10 28 12.9**	**+1.6**	
KNB	**Kanab**	**5.94**	**22**	Pn		**Pn**	**10 28 14.7**	**+1.6**	

*IDC **01** 10:32:51.4±1.5,56˚19N×149˚92W,h0km,mb3.6/3, mbtmp3.5/8,ML3.3/5,MS3.0/12,Error ellipse: s-maj=26.8km s-min=23.6km az=156.0*

*NEIC **01** 10:32:52.9±1.9,56˚30N±0˚06×150˚11W±0˚10,h10km±2km, ML3.7/60,ML3.6(AEIC),Error ellipse: s-maj=10.0km s-min=9.1km az=152.0*

*AEIC **01** 10:32:57.1±1.7,56˚29N±0˚08×150˚0W±0˚1,h10km±7km, Error ellipse: s-maj=11.9km s-min=8.0km az=168.0*

ISC 01 10:32:52.7±0.9,56˚35N±0˚08×149˚97W±0˚05,h10km, n358,σ1$20/358,mb4.0/3,MS2.9/8,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
OHAK	**Old Harbor**	**2.03**	**297**	P	**Pn**	**10**	**33 25.4**	**-1.4**
OHAK	**Old Harbor**	**2.03**	**297**	Pn	**Pn**	**10**	**33 25.4**	**-1.4**
OHAK					**Sn**	**10**	**33 49.2**	**-3.0**
OHAK	**Old Harbor**	**2.03**	**297**	P	**Pn**	**10**	**33 25.5**	**-1.3**
	baz=117							
OHAK				S	**Sn**	**10**	**33 49.3**	**-2.8**
	baz=117							
KDAK	**Kodiak Island**	**2.03**	**316**	Pn	**Pn**	**10**	**33 26.5**	**-0.4**
KDAK					**Sn**	**10**	**33 50.1**	**-2.1**
KDAK	**Kodiak Island**	**2.03**	**316**	S	**Sn**	**10**	**33 50.3**	**-1.9**
	baz=136							
KDAK	**Kodiak Island**	**2.03**	**316**	Pn	**Pn**	**10**	**33 26.3**	**-0.6**
	9.9nm,0.3s,baz=141,slow=5.5,SNR=527							
KDAK				Sn	**Sn**	**10**	**33 50.0**	**-2.2**
	30nm,0.3s,baz=156,slow=19,SNR=21							
KDAK				LR	LR	10	34 33.6	
	comp=Z,209nm,20.8s,baz=154,slow=47 23nm,0.3s							
SYI	**Shuyak Island**	**2.62**	**331**		**Pn**	**10**	**33 35.4**	**+0.4**
SYI					**Sn**	**10**	**34 06.1**	**-0.7**
SYI				IAML		10	34 07.5	
	comp=N,178nm,0.8s							
Q20K	**Shuyak Island**	**2.62**	**331**	P	**Pn**	**10**	**33 35.2**	**+0.3**
	baz=150							
Q20K				S	**Sn**	**10**	**34 05.1**	**-1.7**
	baz=150							
Q19K	**Cape Douglas,**	**3.26**	**324**	Pn	**Pn**	**10**	**33 44.7**	**+0.9**
Q19K					**Sn**	**10**	**34 21.3**	**-1.3**
Q19K	**Cape Douglas,**	**3.26**	**324**	P	**Pn**	**10**	**33 44.5**	**+0.7**
	baz=142							
Q19K				S	**Sn**	**10**	**34 20.4**	**-2.2**
	baz=142							
CNPM	**China Poot**	**3.26**	**349**	Pn	**Pn**	**10**	**33 43.7**	**-0.1**
CNPM					**Sn**	**10**	**34 22.0**	**-0.6**
CNPM				IAML		10	34 23.9	
	comp=N,109nm,0.5s							
CNPM				IAML		10	34 25.2	
	comp=E,129nm,0.5s							
KCE	**Katmai Mt Cerb**	**3.41**	**306**		**Pn**	**10**	**33 46.7**	**+0.8**
BRSE	**Bradley Lake S**	**3.43**	**353**		**Pn**	**10**	**33 45.8**	**-0.3**
BRSE					**Sn**	**10**	**34 25.4**	**-1.4**
BRSE	**Bradley Lake S**	**3.43**	**353**	P	**Pn**	**10**	**33 45.8**	**-0.3**
	baz=173							
BRSE				S	**Sn**	**10**	**34 25.4**	**-1.4**
	baz=173							
HOM	**Homer**	**3.44**	**346**	Pn	**Pn**	**10**	**33 46.9**	**+0.7**
HOM				IAML		10	34 41.2	
	comp=N,231nm,0.7s							
HOM				IAML		10	34 42.9	
	comp=E,234nm,0.9s							
HOM	**Homer**	**3.44**	**346**	P	**Pn**	**10**	**33 47.1**	**+0.9**
	baz=164							
ACHA	**Angle Creek He**	**3.46**	**305**		**Pn**	**10**	**33 47.0**	**+0.4**
ACHA					**Sn**	**10**	**34 26.0**	**-1.5**
BRLK	**Bradley Lake**	**3.46**	**352**		**Pn**	**10**	**33 46.3**	**-0.3**
BRLK					**Sn**	**10**	**34 26.9**	**-0.7**
ANCK	**Angle Creek**	**3.53**	**304**		**Pn**	**10**	**33 48.2**	**+0.7**
AU22	**Augustine Moun**	**3.53**	**331**		**Pn**	**10**	**33 48.3**	**+0.8**
KVTA	**Katmai Vly 10**	**3.53**	**307**		**Pn**	**10**	**33 48.7**	**+1.2**
AUCH	**Augustine Cone**	**3.55**	**330**		**Pn**	**10**	**33 48.8**	**+1.0**
AUL	**Augustine Lava**	**3.56**	**330**		**Pn**	**10**	**33 49.2**	**+1.3**
KAHC	**Katmai Hardscr**	**3.57**	**312**		**Pn**	**10**	**33 48.9**	**+0.8**
KAHC	**Katmai Hardscr**	**3.57**	**312**	P	**Pn**	**10**	**33 48.9**	**+0.8**
	baz=129							
Q23K	**Middleton Isla**	**3.64**	**30**	Pn	**Pn**	**10**	**33 49.0**	**0.0**
Q23K				IAML		10	34 35.4	
	comp=N,88nm,1.2s							
Q23K				IAML		10	35 21.7	
	comp=E,98nm,1.4s							
Q23K	**Middleton Isla**	**3.64**	**30**	P	**Pn**	**10**	**33 49.1**	**0.0**
	baz=212							
MID	**Middleton Isla**	**3.64**	**31**	P	**Pn**	**10**	**33 49.0**	**0.0**
MID	**Middleton Isla**	**3.64**	**31**	Pn	**Pn**	**10**	**33 49.0**	**0.0**
MID				IAML		10	34 36.0	
	comp=E,109nm,1.4s							
MID				IAML		10	35 11.4	
	comp=N,82nm,1.2s							
PLK3	**Peulik 3**	**3.70**	**294**		**Pn**	**10**	**33 50.0**	**+0.1**
CNTC	**Contact Creek**	**3.74**	**303**		**Pn**	**10**	**33 50.7**	**+0.2**
P19K	**Oil Pt**	**3.74**	**334**	Pn	**Pn**	**10**	**33 50.9**	**+0.6**
P19K	**Oil Pt**	**3.74**	**334**	P	**Pn**	**10**	**33 51.0**	**+0.6**
	baz=152							
Q17K	**Contact Creek**	**3.74**	**303**	P	**Pn**	**10**	**33 50.7**	**+0.2**
	baz=120							
KELA	**Mount Kelaz**	**3.76**	**306**		**Pn**	**10**	**33 51.1**	**+0.3**
SEW	**Seward**	**3.78**	**4**		**Pn**	**10**	**33 50.4**	**-0.5**
SEW	**Seward**	**3.78**	**4**	P	**Pn**	**10**	**33 50.5**	**-0.3**
	baz=184							
P23K	**Montague Islan**	**3.90**	**19**		**Pn**	**10**	**33 52.7**	**+0.1**
P23K	**Montague Islan**	**3.90**	**19**	P	**Pn**	**10**	**33 52.7**	**+0.1**
	baz=201							
PLK1	**Peulik 1**	**3.91**	**295**		**Pn**	**10**	**33 52.9**	**+0.3**
O20K	**Slope Mountain**	**4.00**	**341**		**Pn**	**10**	**33 54.3**	**+0.3**
O20K	**Slope Mountain**	**4.00**	**341**	P	**Pn**	**10**	**33 54.3**	**+0.3**
	baz=159							
IVE	**Iliamna Volcan**	**4.02**	**338**		**Pn**	**10**	**33 54.6**	**+0.3**
O22K	**Cooper Landing**	**4.15**	**2**	Pn	**Pn**	**10**	**33 56.8**	**+0.8**
P18K	**Big Mountain,**	**4.15**	**320**	Pn	**Pn**	**10**	**33 55.9**	**-0.2**
P18K	**Big Mountain,**	**4.15**	**320**	P	**Pn**	**10**	**33 55.9**	**-0.2**
	baz=136							
SLKM	**Skilak Lake**	**4.17**	**358**		**Pn**	**10**	**33 56.0**	**-0.4**
Q16K	**King Salmon**	**4.30**	**306**		**Pn**	**10**	**33 58.4**	**+0.4**
Q16K	**King Salmon**	**4.30**	**306**	P	**Pn**	**10**	**33 58.5**	**+0.5**
	baz=121							
RED	**Redoubt Volcan**	**4.34**	**341**		**Pn**	**10**	**33 57.7**	**-1.0**
RDSO	**Redoubt South**	**4.37**	**342**		**Pn**	**10**	**33 58.2**	**-1.0**
RSO	**Redoubt South**	**4.38**	**342**	Pn	**Pn**	**10**	**33 58.7**	**-0.6**
RDWB	**Redoubt West**	**4.42**	**341**		**Pn**	**10**	**33 58.8**	**-1.0**
HIN	**Hinchinbrook I**	**4.45**	**23**	Pn	**Pn**	**10**	**34 01.3**	**+1.1**
HIN				IAML		10	34 55.5	
	comp=N,74nm,0.9s							
HIN				IAML		10	34 58.5	
	comp=E,93nm,1.0s							
O18K	**Koktuh Hills**	**4.48**	**324**		**Pn**	**10**	**34 00.6**	**0.0**
O18K				IAML		10	34 54.3	
	comp=N,72nm,0.7s							
O18K				IAML		10	35 06.9	
	comp=E,75nm,0.8s							
O18K	**Koktuh Hills**	**4.48**	**324**	P	**Pn**	**10**	**34 00.5**	**0.0**
	baz=140							
P17K	**Kvichak River**	**4.49**	**312**		**Pn**	**10**	**34 01.4**	**+0.7**
P17K	**Kvichak River**	**4.49**	**312**	P	**Pn**	**10**	**34 01.4**	**+0.7**
	baz=128							
O19K	**Port Alsworth**	**4.49**	**331**		**Pn**	**10**	**34 01.0**	**+0.4**
O19K	**Port Alsworth**	**4.49**	**331**	P	**Pn**	**10**	**34 00.6**	**-0.1**
	baz=148							
NCT	**North Crescent**	**4.50**	**341**		**Pn**	**10**	**34 00.4**	**-0.6**
KAIM	**Kayak Island**	**4.64**	**37**	Pn	**Pn**	**10**	**34 03.8**	**+1.1**
KAIM				IAML		10	34 59.5	
	comp=E,109nm,0.8s							
KAIM	**Kayak Island**	**4.64**	**37**	P	**Pn**	**10**	**34 03.1**	**+0.4**
	baz=221							
CHGN	**Chignik**	**4.70**	**273**		**Pn**	**10**	**34 03.1**	**-0.4**
CHGN				IAML		10	34 56.9	
	comp=E,57nm,0.8s							
CHGN				IAML		10	34 57.6	
	comp=N,54nm,0.6s							
CHGN	**Chignik**	**4.70**	**273**	P	**Pn**	**10**	**34 03.7**	**+0.1**
	baz=87							
RC01	**Rabbit Creek A**	**4.76**	**1**	Pn	**Pn**	**10**	**34 04.6**	**+0.3**
RC01				IAML		10	34 58.4	
	comp=N,46nm,0.5s							
RC01				IAML		10	35 02.6	
	comp=E,67nm,0.4s							
RC01	**Rabbit Creek A**	**4.76**	**1**	P	**Pn**	**10**	**34 04.2**	**-0.1**
	baz=181							
EYAK	**Cordova Ski Ar**	**4.76**	**26**	P	**Pn**	**10**	**34 04.9**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.76**	**26**		**Pn**	**10**	**34 04.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.76**	**26**	P	**Pn**	**10**	**34 04.8**	**+0.5**
	baz=209							
FID	**Port Fidalgo**	**4.78**	**21**		**Pn**	**10**	**34 05.2**	**+0.5**
FID				IAML		10	34 57.0	
	comp=E,70nm,0.6s							
FID				IAML		10	34 57.1	
	comp=N,50nm,0.3s							
GLI	**Glacier Island**	**4.79**	**17**	Pn	**Pn**	**10**	**34 04.9**	**+0.2**
GLI				IAML		10	35 00.2	
	comp=E,60nm,0.6s							
GLI				IAML		10	35 05.4	
	comp=N,41nm,0.6s							
GLI	**Glacier Island**	**4.79**	**17**	P	**Pn**	**10**	**34 05.2**	**+0.4**
	baz=199							
SUCK	**Suckling Hills**	**4.96**	**39**		**Pn**	**10**	**34 08.0**	**+0.8**
SUCK				IAML		10	35 07.4	
	comp=N,81nm,1.0s							
SUCK				IAML		10	35 12.8	
	comp=E,71nm,1.3s							
HMT	**Hamilton**	**5.00**	**35**	Pn	**Pn**	**10**	**34 07.3**	**-0.5**
N20K	**Mount Spurr**	**5.00**	**347**	P	**Pn**	**10**	**34 07.2**	**-0.6**
	baz=166							
SPCR	**Spurr Chakacha**	**5.00**	**347**		**Pn**	**10**	**34 07.2**	**-0.6**
NICHA	**Nichawak Mount**	**5.02**	**37**		**Pn**	**10**	**34 08.2**	**+0.2**
GOAT	**Goat Mountain**	**5.06**	**31**		**Pn**	**10**	**34 09.5**	**+1.0**
SPCP	**Crater Peak Br**	**5.06**	**348**		**Pn**	**10**	**34 08.8**	**+0.1**
N19K	**Bonanza Creek**	**5.06**	**334**	Pn	**Pn**	**10**	**34 08.4**	**-0.2**
N19K				IAML		10	35 27.9	
	comp=E,28nm,0.7s							
N19K	**Bonanza Creek**	**5.06**	**334**	P	**Pn**	**10**	**34 08.8**	**+0.1**
	baz=151							
SPCG	**Spurr Capps Gl**	**5.07**	**349**		**Pn**	**10**	**34 09.4**	**+0.6**
P16K	**Nushagak River**	**5.08**	**305**		**Pn**	**10**	**34 09.1**	**+0.4**
P16K	**Nushagak River**	**5.08**	**305**	P	**Pn**	**10**	**34 09.1**	**+0.4**
	baz=120							
O17K	**Koliganek Bris**	**5.11**	**315**		**Pn**	**10**	**34 09.3**	**+0.2**
O17K	**Koliganek Bris**	**5.11**	**315**	P	**Pn**	**10**	**34 09.3**	**+0.2**
	baz=130							
VNHG	**Veniaminof 1**	**5.13**	**272**		**Pn**	**10**	**34 09.6**	**+0.1**
KNK	**Knik Glacier**	**5.14**	**8**	Pn	**Pn**	**10**	**34 09.9**	**+0.3**
KNK				IAML		10	35 09.9	
	comp=E,31nm,0.4s							
KNK				IAML		10	35 17.8	
	comp=N,32nm,0.6s							
KNK	**Knik Glacier**	**5.14**	**8**	P	**Pn**	**10**	**34 09.7**	**0.0**
	baz=189							
SUA	**Susitna One**	**5.15**	**356**	Pn	**Pn**	**10**	**34 09.9**	**+0.1**
SUA				IAML		10	35 11.2	
	comp=E,32nm,1.0s							
SUA				IAML		10	35 17.9	
	comp=N,36nm,1.3s							
SUA	**Susitna One**	**5.15**	**356**	P	**Pn**	**10**	**34 09.6**	**-0.3**
	baz=175							
BERG	**Berg Lake**	**5.22**	**37**		**Pn**	**10**	**34 11.6**	**+0.8**
SPNN	**North Nagishla**	**5.23**	**345**		**Pn**	**10**	**34 11.0**	**0.0**
STLK	**Strandline Lak**	**5.25**	**350**		**Pn**	**10**	**34 11.2**	**-0.1**
DIV	**Divide**	**5.27**	**23**		**Pn**	**10**	**34 12.3**	**+0.9**
GRIN	**Grindle Hills**	**5.27**	**39**		**Pn**	**10**	**34 12.3**	**+0.8**
PMR	**Palmer**	**5.28**	**4**	P	**Pn**	**10**	**34 12.7**	**+1.2**
PMR	**Palmer**	**5.28**	**4**	Pn	**Pn**	**10**	**34 12.2**	**+0.8**
PMR				IAML		10	35 16.0	
	comp=N,20nm,0.7s							
PMR	**Palmer**	**5.28**	**4**	P	**Pn**	**10**	**34 11.8**	**+0.3**
	baz=185							
S14K	**Fog Glacier**	**5.34**	**273**	P	**Pn**	**10**	**34 12.3**	**-0.1**
	baz=87							
VNFG	**Fog Glacier, M**	**5.34**	**273**		**Pn**	**10**	**34 12.9**	**+0.5**
N18K	**Kilae Creek**	**5.34**	**327**	Pn	**Pn**	**10**	**34 12.2**	**-0.1**
N18K	**Kilae Creek**	**5.34**	**327**	P	**Pn**	**10**	**34 12.2**	**-0.1**
	baz=142							
SNH	**Sunshine Point**	**5.38**	**41**		**Pn**	**10**	**34 13.7**	**+0.8**
BMRM	**Bremner River**	**5.41**	**29**		**Pn**	**10**	**34 14.2**	**+0.9**
BMRM	**Bremner River**	**5.41**	**29**	P	**Pn**	**10**	**34 14.0**	**+0.6**
	baz=213							
O16K	**Kokwok River B**	**5.41**	**310**	Pn	**Pn**	**10**	**34 13.8**	**+0.5**
O16K	**Kokwok River B**	**5.41**	**310**	P	**Pn**	**10**	**34 13.7**	**+0.5**
	baz=124							
KHIT	**Khitrov Hills**	**5.42**	**38**		**Pn**	**10**	**34 13.8**	**+0.4**
GHO	**Glory Hole Cre**	**5.47**	**5**	Pn	**Pn**	**10**	**34 15.5**	**+1.3**
SML	**Sawmill**	**5.54**	**8**		**Pn**	**10**	**34 16.0**	**+0.8**
SML	**Sawmill**	**5.54**	**8**	P	**Pn**	**10**	**34 16.0**	**+0.8**
	baz=189							
WAX	**Waxell Ridge**	**5.56**	**39**		**Pn**	**10**	**34 15.9**	**+0.5**
KLU	**Klutina**	**5.57**	**20**		**Pn**	**10**	**34 16.4**	**+1.0**
KLU	**Klutina**	**5.57**	**20**	P	**Pn**	**10**	**34 16.5**	**+1.0**
	baz=203							
M23K	**Glacier View**	**5.58**	**11**		**Pn**	**10**	**34 16.7**	**+1.0**
M23K	**Glacier View**	**5.58**	**11**	P	**Pn**	**10**	**34 16.7**	**+1.0**
	baz=193							
N17K	**Nushagak Hills**	**5.65**	**321**	Pn	**Pn**	**10**	**34 16.9**	**+0.3**
N17K	**Nushagak Hills**	**5.65**	**321**	P	**Pn**	**10**	**34 16.7**	**+0.1**
	baz=135							
BARK	**Barkley Ridge**	**5.66**	**41**		**Pn**	**10**	**34 17.1**	**+0.4**
SCM	**Sheep Creek Mo**	**5.67**	**13**		**Pn**	**10**	**34 18.3**	**+1.4**
SCM	**Sheep Creek Mo**	**5.67**	**13**	P	**Pn**	**10**	**34 18.0**	**+1.1**
	baz=195							
CNBA	**Chernabura Isl**	**5.67**	**258**	Pn	**Pn**	**10**	**34 15.1**	**-1.8**
SKT	**Skwentna**	**5.71**	**353**	Pn	**Pn**	**10**	**34 17.7**	**+0.3**
SKT	**Skwentna**	**5.71**	**353**	P	**Pn**	**10**	**34 17.6**	**+0.3**
	baz=171							
MESA	**MESA**	**5.71**	**44**		**Pn**	**10**	**34 18.1**	**+0.5**
MESA	**MESA**	**5.71**	**44**	P	**Pn**	**10**	**34 17.9**	**+0.2**
	baz=230							
M20K	**Styx River**	**5.78**	**345**		**Pn**	**10**	**34 18.2**	**-0.3**
M20K	**Styx River**	**5.78**	**345**	P	**Pn**	**10**	**34 18.2**	**-0.3**
	baz=162							
ISLE	**Juniper Island**	**5.85**	**40**		**Pn**	**10**	**34 20.0**	**+0.6**
VRDI	**Verde Repeater**	**5.95**	**32**	Pn	**Pn**	**10**	**34 21.8**	**+0.9**
N25K	**Chitina, Valde**	**5.96**	**26**	Pn	**Pn**	**10**	**34 22.2**	**+1.3**
N25K	**Chitina, Valde**	**5.96**	**26**	P	**Pn**	**10**	**34 21.8**	**+0.9**
	baz=210							
M18K	**Stony River**	**5.98**	**332**		**Pn**	**10**	**34 20.6**	**-0.5**
M18K	**Stony River**	**5.98**	**332**	P	**Pn**	**10**	**34 20.8**	**-0.3**
	baz=147							
O15K	**Ungalikthiuk R**	**5.99**	**302**		**Pn**	**10**	**34 21.4**	**+0.2**
O15K	**Ungalikthiuk R**	**5.99**	**302**	P	**Pn**	**10**	**34 21.6**	**+0.3**
	baz=115							
SDPT	**Sand Point**	**6.00**	**265**	P	**Pn**	**10**	**34 20.7**	**-0.8**
SDPT	**Sand Point**	**6.00**	**265**	Pn	**Pn**	**10**	**34 20.4**	**-1.0**
SDPT	**Sand Point**	**6.00**	**265**	P	**Pn**	**10**	**34 20.6**	**-0.9**
	baz=77							
M19K	**Big River Lodg**	**6.02**	**340**		**Pn**	**10**	**34 21.6**	**-0.1**
M19K	**Big River Lodg**	**6.02**	**340**	P	**Pn**	**10**	**34 22.0**	**+0.3**
	baz=156							
GLB	**Gilahina Butte**	**6.02**	**29**	Pn	**Pn**	**10**	**34 22.7**	**+1.0**
KIAG	**Kiagna River**	**6.07**	**38**		**Pn**	**10**	**34 22.9**	**+0.4**
CUT	**Chulitna**	**6.08**	**359**	Pn	**Pn**	**10**	**34 23.8**	**+1.4**
M24K	**Tolsona, Glenn**	**6.09**	**17**	Pn	**Pn**	**10**	**34 24.6**	**+1.8**
M24K	**Tolsona, Glenn**	**6.09**	**17**	P	**Pn**	**10**	**34 23.9**	**+1.1**
	baz=200							
SAMH	**Samovar Hills**	**6.

	baz=248						
M27K	**Edge Creek, AK**	**7.30**	**31**		**Pn**	**Pn**	**10 34 40.5 +1.0**
M27K	**Edge Creek, AK**	**7.30**	**31**	P	**Pn**	**Pn**	**10 34 40.6 +1.2**
	baz=217						
YUK3	**Moose Creek**	**7.32**	**38**		**Pn**	**Pn**	**10 34 41.5 +1.8**
YUK3	**Moose Creek**	**7.32**	**38**	P	**Pn**	**Pn**	**10 34 41.5 +1.8**
	baz=226						
MENT	**Mentasta**	**7.33**	**23**		**Pn**	**Pn**	**10 34 42.0 +2.4**
K20K	**Telida**	**7.33**	**345**		**Pn**	**Pn**	**10 34 41.6 +2.0**
MCK	**McKinley**	**7.43**	**4**		**Pn**	**Pn**	**10 34 42.6 +1.6**
MCK	**McKinley**	**7.43**	**4**	P	**Pn**	**Pn**	**10 34 42.8 +1.8**
	baz=184						
L26K	**Log Cabin Wild**	**7.48**	**24**		**Pn**	**Pn**	**10 34 43.8 +2.0**
YUK7	**Dusty Glacier**	**7.49**	**51**		**Pn**	**Pn**	**10 34 43.2 +1.2**
YUK6	**Outpost Mounta**	**7.60**	**48**		**Pn**	**Pn**	**10 34 44.9 +1.3**
YUK6	**Outpost Mounta**	**7.60**	**48**	P	**Pn**	**Pn**	**10 34 44.9 +1.3**
	baz=237						
S31K	**Pelican**	**7.64**	**72**	Pn	**Pn**	**Pn**	**10 34 43.2 -0.7**
S31K	**Pelican**	**7.64**	**72**	P	**Pn**	**Pn**	**10 34 42.6 -1.3**
	baz=263						
K17K	**Iditarod**	**7.66**	**330**	Pn	**Pn**	**Pn**	**10 34 45.3 +1.2**
M14K	**Bethel**	**7.67**	**310**	Pn	**Pn**	**Pn**	**10 34 44.9 +0.7**
YUK4	**Talbot Arm**	**7.71**	**45**	P	**Pn**	**Pn**	**10 34 48.0 +2.9**
	baz=234						
FALS	**False Pass**	**7.76**	**265**	P	**Pn**	**Pn**	**10 34 44.8 -0.8**
FALS	**False Pass**	**7.76**	**265**		**Pn**	**Pn**	**10 34 44.2 -1.4**
FALS	**False Pass**	**7.76**	**265**	P	**Pn**	**Pn**	**10 34 44.6 -1.0**
	baz=74						
BPAW	**Bear Paw Mtn.**	**7.79**	**357**	Pn	**Pn**	**Pn**	**10 34 47.3 +1.3**
BPAW	**Bear Paw Mtn.**	**7.79**	**357**	P	**Pn**	**Pn**	**10 34 46.7 +0.6**
	baz=176						
L27K	**Beaver Creek,**	**7.88**	**28**	Pn	**Pn**	**Pn**	**10 34 48.5 +1.2**
J18K	**Innoko River**	**7.90**	**337**		**Pn**	**Pn**	**10 34 47.4 -0.1**
J18K	**Innoko River**	**7.90**	**337**	P	**Pn**	**Pn**	**10 34 47.5 +0.1**
	baz=152						
BCAR	**Beaver Creek A**	**7.90**	**28**	Pn	**Pn**	**Pn**	**10 34 49.6 +2.1**
HYT	**Haines Junctio**	**7.90**	**50**		**Pn**	**Pn**	**10 34 48.4 +0.8**
HYT	**Haines Junctio**	**7.90**	**50**	P	**Pn**	**Pn**	**10 34 48.1 +0.5**
	baz=240						
ISLZ	**Isanotski Laza**	**7.97**	**264**		**Pn**	**Pn**	**10 34 46.8 -1.6**
ISNN	**Isanotski Nort**	**7.97**	**265**		**Pn**	**Pn**	**10 34 47.6 -0.9**
L15K	**Ungalak Mounta**	**7.99**	**317**		**Pn**	**Pn**	**10 34 49.1 +0.4**
L15K	**Ungalak Mounta**	**7.99**	**317**	P	**Pn**	**Pn**	**10 34 48.8 +0.2**
	baz=127						
J20K	**Nowinta River**	**8.12**	**347**		**Pn**	**Pn**	**10 34 50.1 -0.4**
J20K	**Nowinta River**	**8.12**	**347**	P	**Pn**	**Pn**	**10 34 50.4 -0.1**
	baz=163						
SSLS	**Shishaldin Sou**	**8.13**	**264**		**Pn**	**Pn**	**10 34 49.5 -1.2**
J19K	**Poorman**	**8.17**	**342**	Pn	**Pn**	**Pn**	**10 34 49.8 -1.3**
WRH	**Wood River Hil**	**8.20**	**6**		**Pn**	**Pn**	**10 34 53.4 +1.8**
SCRK	**Sand Creek**	**8.21**	**19**	Pn	**Pn**	**Pn**	**10 34 53.8 +2.0**
HDA	**Harding Lake**	**8.22**	**9**		**Pn**	**Pn**	**10 34 53.3 +1.4**
L14K	**Kuka Creek**	**8.27**	**312**	Pn	**Pn**	**Pn**	**10 34 53.4 +0.9**
L14K	**Kuka Creek**	**8.27**	**312**	P	**Pn**	**Pn**	**10 34 53.3 +0.8**
	baz=122						
NEA2	**Nenana**	**8.28**	**3**		**Pn**	**Pn**	**10 34 54.9 +2.2**
NEA2	**Nenana**	**8.28**	**3**	P	**Pn**	**Pn**	**10 34 53.6 +0.9**
	baz=183						
K15K	**Wolf Creek Mou**	**8.39**	**320**		**Pn**	**Pn**	**10 34 55.1 +1.0**
K15K	**Wolf Creek Mou**	**8.39**	**320**	P	**Pn**	**Pn**	**10 34 55.2 +1.0**
	baz=131						
N30M	**Aishikik Lake**	**8.40**	**47**	Pn	**Pn**	**Pn**	**10 34 54.8 +0.5**
N30M	**Aishikik Lake**	**8.40**	**47**	P	**Pn**	**Pn**	**10 34 55.1 +0.7**
	baz=238						
M29M	**Somme Creek**	**8.46**	**39**	Pn	**Pn**	**Pn**	**10 34 56.7 +1.4**
M29M	**Somme Creek**	**8.46**	**39**	P	**Pn**	**Pn**	**10 34 56.5 +1.3**
	baz=228						
O30N	**Mendenhall**	**8.49**	**53**		**Pn**	**Pn**	**10 34 56.9 +1.2**
O30N	**Mendenhall**	**8.49**	**53**	P	**Pn**	**Pn**	**10 34 56.4 +0.8**
	baz=244						
R32K	**Eaglecrest**	**8.58**	**71**	Pn	**Pn**	**Pn**	**10 34 58.5 +1.6**
IL31		**8.59**	**9**	Pn	**Pn**	**Pn**	**10 34 59.2 +2.5**
ILAR	**Eielson Array**	**8.59**	**9**	Pn	**Pn**	**Pn**	**10 34 59.5 +2.7**
ILAR	**Eielson Array**	**8.59**	**9**	Pn	**Pn**	**Pn**	**10 34 57.2 +0.4**
	comp=N,0.3nm,0.3s,baz=196,slow=13,SNR=18						
ILAR					Sn	**Sn**	**10 36 29.2 -4.4**
	comp=N,0.6nm,0.3s,baz=194,slow=18,SNR=6.2						
ILAR					LR	LR	10 37 53.8
	comp=N,36nm,19.4s,baz=238,slow=35						
	comp=N,0.6nm,0.4s						
K27K	**Chicken**	**8.64**	**24**		**Pn**	**Pn**	**10 34 59.6 +2.0**
K27K	**Chicken**	**8.64**	**24**	P	**Pn**	**Pn**	**10 34 59.0 +1.4**
	baz=210						
JIS	**Juneau Island**	**8.65**	**71**	P	**Pn**	**Pn**	**10 34 58.0 +0.3**
JIS	**Juneau Island**	**8.65**	**71**	Pn	**Pn**	**Pn**	**10 35 00.2 +2.5**
MDM	**Murphy Dome**	**8.68**	**5**	Pn	**Pn**	**Pn**	**10 35 00.1 +1.9**
J26L	**Joseph Creek**	**8.77**	**18**		**Pn**	**Pn**	**10 35 00.5 +1.1**
J26L	**Joseph Creek**	**8.77**	**18**	P	**Pn**	**Pn**	**10 34 59.9 +0.5**
	baz=204						
J16K	**Anvik River**	**8.77**	**327**		**Pn**	**Pn**	**10 35 01.0 +1.7**
J16K	**Anvik River**	**8.77**	**327**	P	**Pn**	**Pn**	**10 34 59.5 +0.1**
	baz=138						
I23K	**Minto, Yukon-K**	**8.84**	**2**		**Pn**	**Pn**	**10 35 02.3 +2.1**
I23K	**Minto, Yukon-K**	**8.84**	**2**	P	**Pn**	**Pn**	**10 35 01.2 +1.0**
	baz=182						
N31M	**Braeburn, Yuko**	**8.96**	**49**		**Pn**	**Pn**	**10 35 03.1 +1.1**
N31M	**Braeburn, Yuko**	**8.96**	**49**	P	**Pn**	**Pn**	**10 35 03.0 +1.1**
	baz=241						
WHY	**Whitehorse**	**8.99**	**55**		**Pn**	**Pn**	**10 35 04.9 +2.4**
L29M	**L29M**	**9.03**	**36**		**Pn**	**Pn**	**10 35 04.2 +1.3**
L29M	**L29M**	**9.03**	**36**	P	**Pn**	**Pn**	**10 35 03.9 +1.0**
	baz=226						
P32M	**Atlin**	**9.22**	**63**		**Pn**	**Pn**	**10 35 06.8 +1.2**
P32M	**Atlin**	**9.22**	**63**	P	**Pn**	**Pn**	**10 35 05.9 +0.2**
	baz=256						
DAWY	**Dawson**	**9.35**	**30**		**Pn**	**Pn**	**10 35 09.3 +2.0**
DAWY	**Dawson**	**9.35**	**30**	P	**Pn**	**Pn**	**10 35 08.8 +1.5**
	baz=218						
K13K	**Kusilvak Mount**	**9.38**	**313**		**Pn**	**Pn**	**10 35 09.1 +1.3**
K13K	**Kusilvak Mount**	**9.38**	**313**	P	**Pn**	**Pn**	**10 35 08.8 +1.0**
	baz=120						
U33K	**Whale Pass**	**9.39**	**84**		**Pn**	**Pn**	**10 35 07.1 -0.7**
U33K	**Whale Pass**	**9.39**	**84**	P	**Pn**	**Pn**	**10 35 05.6 -2.2**
	baz=278						
H21K	**Melozitna Rive**	**9.44**	**353**		**Pn**	**Pn**	**10 35 10.4 +1.8**
H21K	**Melozitna Rive**	**9.44**	**353**	P	**Pn**	**Pn**	**10 35 08.7 +0.1**
	baz=170						
EGAK	**Eagle**	**9.49**	**23**		**Pn**	**Pn**	**10 35 12.0 +2.7**
CRAG	**Craig**	**9.50**	**88**	P	**Pn**	**Pn**	**10 35 06.9 -2.5**
I26K	**Coal Creek Min**	**9.58**	**17**	Pn	**Pn**	**Pn**	**10 35 13.1 +2.7**
H18K	**Honhosa River**	**9.73**	**339**	Pn	**Pn**	**Pn**	**10 35 14.2 +1.7**
K29M	**Barlow Dome**	**9.73**	**34**		**Pn**	**Pn**	**10 35 14.1 +1.4**
K29M	**Barlow Dome**	**9.73**	**34**	P	**Pn**	**Pn**	**10 35 13.0 +0.3**
	baz=225						
UNV	**Unalaska Valle**	**9.80**	**262**	P	**Pn**	**Pn**	**10 35 11.1 -2.4**
UNV	**Unalaska Valle**	**9.80**	**262**		**Pn**	**Pn**	**10 35 12.0 -1.6**
UNV	**Unalaska Valle**	**9.80**	**262**	P	**Pn**	**Pn**	**10 35 11.4 -2.1**
	baz=69						
P33M	**Teslin, Yukon**	**9.82**	**60**	Pn	**Pn**	**Pn**	**10 35 14.8 +1.0**
P33M	**Teslin, Yukon**	**9.82**	**60**	P	**Pn**	**Pn**	**10 35 13.8 0.0**
	baz=254						
IMAR	**Indian Mountai**	**9.84**	**351**	Pn	**Pn**	**Pn**	**10 35 15.6 +1.6**
M31M	**Drury Creek, Y**	**9.88**	**47**		**Pn**	**Pn**	**10 35 16.2 +1.6**
M31M	**Drury Creek, Y**	**9.88**	**47**	P	**Pn**	**Pn**	**10 35 15.8 +1.2**
	baz=240						
J29N	**Klondike Camp**	**9.97**	**31**		**Pn**	**Pn**	**10 35 16.8 +0.9**
FARO	**Faro, Yukon**	**10.32**	**48**	Pn	**Pn**	**Pn**	**10 35 22.7 +2.0**
I28M	**Miner Creek**	**10.34**	**24**	Pn	**Pn**	**Pn**	**10 35 23.1 +2.2**
G21K	**Allakaket**	**10.34**	**352**	Pn	**Pn**	**Pn**	**10 35 23.2 +2.4**
G23K	**Bananza Creek**	**10.40**	**360**	Pn	**Pn**	**Pn**	**10 35 23.7 +2.0**
FYU	**Fort Yukon**	**10.50**	**10**	Pn	**Pn**	**Pn**	**10 35 24.4 +1.5**
R33M	**Jennings River**	**10.56**	**65**	Pn	**Pn**	**Pn**	**10 35 25.7 +1.6**
J30M	**Hart River**	**10.62**	**34**		**Pn**	**Pn**	**10 35 26.3 +1.5**
DLBC	**Dease Lake**	**10.96**	**71**	Pn	**Pn**	**Pn**	**10 35 28.8 -0.5**
	comp=N,0.4nm,0.3s,baz=260,slow=5.8,SNR=9.4						
DLBC					Sn	**Sn**	**10 37 28.1 -3.8**
	comp=N,0.1nm,0.3s,baz=198,slow=20,SNR=1.2						
	comp=N,0.7nm,0.3s						
F21K	**Alatna River**	**11.04**	**353**	Pn	**Pn**	**Pn**	**10 35 32.3 +1.9**
I30M	**Mount Dempster**	**11.07**	**31**	Pn	**Pn**	**Pn**	**10 35 34.2 +3.2**
F19K	**Shaleruckik Mo**	**11.14**	**344**	Pn	**Pn**	**Pn**	**10 35 31.3 -0.6**
F24K	**Squaw Lake**	**11.25**	**4**	Pn	**Pn**	**Pn**	**10 35 34.2 +0.9**
H29M	**Whitestone**	**11.34**	**24**	Pn	**Pn**	**Pn**	**10 35 35.1 +0.6**
BMAR	**Burnt Mountain**	**11.40**	**11**	Pn	**Pn**	**Pn**	**10 35 37.4 +2.0**
F17K	**Baldwin Pennin**	**11.45**	**337**	Pn	**Pn**	**Pn**	**10 35 37.3 +1.2**
E19K	**Redstone River**	**11.65**	**346**	Pn	**Pn**	**Pn**	**10 35 40.6 +1.9**
E24K	**Your Creek**	**11.79**	**3**	Pn	**Pn**	**Pn**	**10 35 42.5 +1.8**
E25K	**Arctic Village**	**11.99**	**8**	Pn	**Pn**	**Pn**	**10 35 45.1 +1.7**
G29M	**Pine Creek**	**11.99**	**23**	Pn	**Pn**	**Pn**	**10 35 45.4 +2.0**
H31M	**Peel River**	**12.09**	**32**	Pn	**Pn**	**Pn**	**10 35 47.5 +2.8**
E21K	**Killik River**	**12.28**	**353**	Pn	**Pn**	**Pn**	**10 35 47.8 +0.4**
TOLK	**Toolik Lake Re**	**12.34**	**1**	Pn	**Pn**	**Pn**	**10 35 48.5 +0.2**
G31M	**Satah River**	**12.91**	**29**	Pn	**Pn**	**Pn**	**10 35 56.8 +0.9**
BBB	**Bella Bella**	**13.41**	**99**	LR	LR	LR	10 39 58.9
	comp=N,51nm,18.7s,baz=224,slow=32						
F31M	**Tsiigehtchic**	**13.44**	**28**	Pn	**Pn**	**Pn**	**10 36 04.7 +1.6**
C23K	**Itkillik River**	**13.54**	**359**	Pn	**Pn**	**Pn**	**10 36 06.7 +2.1**
B22K	**Teshekpuk Lake**	**14.13**	**355**	Pn	**Pn**	**Pn**	**10 36 14.9 +2.4**
INK	**Inuvik**	**14.15**	**26**	Pn	**Pn**	**Pn**	**10 36 14.3 +1.6**
INK	**Inuvik**	**14.15**	**26**	Pn	**Pn**	**Pn**	**10 36 14.1 +1.3**
	baz=221,slow=8.0,SNR=4.7						
INK					LR	LR	10 42 02.6
	comp=N,46nm,19.5s,baz=182,slow=39						
	comp=N,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**18.82**	**56**	P	**Pn**	**Pn**	**10 37 13.6 +0.9**
	comp=N,0.1nm,0.3s,baz=270,slow=11,SNR=7.7						
	comp=N,0.4nm,0.8s						
SHEM	**Shemya Is, Ala**	**21.00**	**275**	LR	LR	LR	10 45 20.1
	comp=N,18nm,19.8s,baz=180,slow=36						
NEW	**Newport**	**21.48**	**98**	LR	LR	LR	10 44 18.4
	comp=N,46nm,20.1s,baz=268,slow=32						
YBH	**Yreka Blue Hor**	**22.88**	**118**	LR	LR	LR	10 44 35.4
	comp=N,44nm,21.6s,baz=313,slow=31						
NVAR	**Mina Array Bea**	**27.58**	**117**	LR	LR	LR	10 47 21.7
	comp=N,37nm,20.7s,baz=160,slow=32						
SEY	**Seymchan**	**28.96**	**307**	LR	LR	LR	10 51 52.3
	comp=N,32nm,20.4s,baz=331,slow=39						
MA2	**Magadan**	**30.70**	**301**	LR	LR	LR	10 53 39.9
	comp=N,28nm,18.1s,baz=114,slow=40						
TKL	**Tuckaleechee C**	**48.31**	**86**	LR	LR	LR	11 01 45.6
	comp=N,34nm,18.8s,baz=322,slow=36						
H11N2	**WAKE ISLAND Hy**	**48.59**	**239**	T	T	T	11 34 27.2
	baz=32						
H11N3	**WAKE ISLAND Hy**	**48.59**	**239**	T	T	T	11 34 27.3
	baz=32						
H11N1	**WAKE ISLAND Hy**	**48.60**	**239**	T	T	T	11 34 32.2
	baz=32						
H11S1	**WAKE ISLAND Hy**	**49.73**	**239**	T	T	T	11 35 50.4
	baz=29,slow=76,SNR=5.1						
H11S2	**WAKE ISLAND Hy**	**49.74**	**239**	T	T	T	11 35 52.5
	baz=29,slow=76,SNR=6.9						
H11S3	**WAKE ISLAND Hy**	**49.75**	**239**	T	T	T	11 35 45.3
	baz=29,slow=76,SNR=5.2						
JNU	**Nakatsue**	**57.34**	**282**	LR	LR	LR	11 06 25.0
	comp=N,26nm,20.6s,baz=198,slow=35						
SONM	**Songino Array**	**58.30**	**310**	P	**P**		**10 42 48.7 +1.3**
	comp=N,1.0nm,0.8s,baz=48,slow=8.7,SNR=4.2						
	comp=N,1.0nm,0.8s						
BVAR	**Borovoye Array**	**66.06**	**335**	P	**P**		**10 43 41.7 +2.5**
	comp=N,0.4nm,0.4s,baz=20,slow=4.6,SNR=2.1						
	comp=N,0.4nm,0.4s						
MKAR	**Makanchi Array**	**68.32**	**324**	P	**P**		**10 43 53.4 -0.2**
	comp=N,0.2nm,0.6s,baz=31,slow=8.1,SNR=2.3						
	comp=N,0.2nm,0.6s						
QSPA	**South Pole Qui**	**146.14**	**180**	PKPbc	**PKPdf**		**10 52 31.1 +0.7**
	comp=N,1.2nm,0.9s,baz=338,slow=19,SNR=5.2						

*NEIC **01** 11:13:34.2±0.8, 19°.39N±0°.03×155°.00W±0°.02, h5km±1km, Error ellipse: s-maj=5.3km s-min=2.9km az=148.0*

HVO 01 11:13:33.6±0.9,**19°.41N**±0°.03×**154°.99W**±0°.02,**h3**km±6km, **ML2.8**/36,**ML2.9**/45(NEIC), **Error ellipse: s-maj=4.5km s-min=1.4km az=143.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.03**	**322**		**Pg**	11 13 35.5	+1.1
JCUZ	**Jacuzzi**	**0.11**	**256**	Pg	**Pg**	11 13 35.8	-0.1
JCUZ				IAML		11 13 39.4	
	comp=N,7µm,0.7s						
PHO	**Puu Honuaula**	**0.11**	**52**		**Pg**	11 13 36.6	+0.7
PHO					Sg	11 13 39.0	+1.6
NPOC	**North of Pu'u**	**0.12**	**261**		**Pg**	11 13 35.5	-0.5
NPOC				IAML		11 13 39.4	
	comp=E,7µm,0.7s						
STCH	**Steam Cracks**	**0.13**	**259**	Pg	**Pg**	11 13 36.4	+0.1
STCH				IAML		11 13 40.2	
	comp=N,4µm,1.0s						
STCH				IAML		11 13 40.8	
	comp=E,5µm,0.5s						
KNHH	**Kane Nui o Ham**	**0.18**	**260**		**Pg**	11 13 37.6	+0.5
PUH	**Pauahi**	**0.22**	**260**	Pg	**Pg**	11 13 38.3	+0.4
PUH				IAML		11 13 45.0	
	comp=E,2µm,0.6s						
BYL	**Byron's Ledge**	**0.26**	**270**	Pg	**Pg**	11 13 38.6	0.0
BYL				IAML		11 13 46.4	
	comp=N,2µm,1.1s						
HATHI	**Halema'uma'u T**	**0.26**	**273**	Pg	**Pg**	11 13 38.8	+0.1
HATHI				IAML		11 13 45.8	
	comp=N,2µm,0.8s						
KKO	**Keanakako'i**	**0.27**	**267**	Pg	**Pg**	11 13 39.1	+0.4
KKO				IAML		11 13 47.6	
	comp=E,2µm,0.6s						
SBLHI	**Steaming Bluff**	**0.27**	**274**	Pg	**Pg**	11 13 39.0	+0.2
RIM	**Rim**	**0.27**	**267**	Pg	**Pg**	11 13 39.2	+0.3
RIM				IAML		11 13 46.0	
	comp=E,2µm,0.7s						
RIM				IAML		11 13 46.5	
	comp=N,2µm,0.9s						
UWB	**Uwekahuna B**	**0.28**	**273**	Pg	**Pg**	11 13 39.2	+0.2
NPH	**North Pit**	**0.28**	**270**	Pg	**Pg**	11 13 39.2	+0.2
RSD	**Rainshed**	**0.28**	**281**		**Pg**	11 13 39.5	+0.4
RSD				IAML		11 13 47.2	
	comp=E,2µm,0.6s						
RSD				IAML		11 13 47.4	
	comp=N,2µm,0.8s						
OBL	**Observatory Le**	**0.28**	**271**	Pg	**Pg**	11 13 39.5	+0.4
OBL				IAML		11 13 48.4	
	comp=N,3µm,0.8s						
UWE	**Uwekahuna**	**0.29**	**272**	Pg	**Pg**	11 13 39.4	+0.1
UWE				IAML		11 13 46.7	
	comp=E,2µm,0.6s						
UWE				IAML		11 13 48.3	
	comp=N,2µm,1.0s						
SDHHI	**Sand Hill**	**0.29**	**266**	Pg	**Pg**	11 13 38.8	-0.5
SDHHI				IAML		11 13 48.1	
	comp=N,2µm,0.9s						
SDHHI				IAML		11 13 48.2	
	comp=E,2µm,0.9s						
WRMHI	**West Rim**	**0.30**	**269**	Pg	**Pg**	11 13 39.0	-0.4
WRMHI				IAML		11 13 48.8	
	comp=E,2µm,0.6s						
HLP	**Hilina Pali**	**0.33**	**249**	Pg	**Pg**	11 13 39.5	-0.4
HLP				IAML		11 13 50.5	
	comp=E,1µm,0.7s						
MLH	**Mauna Loa**	**0.39**	**282**		**Pg**	11 13 41.7	+0.6
MLH					Sb	11 13 48.0	-1.7
MLH				IAML		11 13 48.7	
	comp=E,1µm,0.4s						
MLH				IAML		11 13 51.5	
	comp=N,1µm,0.6s						
HTC	**Hot Caves**	**0.43**	**246**		**Pg**	11 13 42.6	+0.8
HMH	**Humu'ula Sheep**	**0.51**	**292**		**Pg**	11 13 43.9	+0.5
HMH					Sb	11 13 51.8	-1.5
MLOA	**Mauna Loa Obse**	**0.57**	**283**		**Pg**	11 13 44.8	+0.2
MLOA					Sg	11 13 53.1	+1.0
MWH	**Moku'aweowe**	**0.58**	**277**		**Pg**	11 13 44.9	0.0
MWH					Sg	11 13 53.5	+1.0
KHU	**Kahuku**	**0.62**	**255**		**Pg**	11 13 44.9	-0.6
KHU					Sg	11 13 53.4	-0.1
KHU				IAML		11 13 53.6	
	comp=N,591nm,4.6s						
POHA	**Pohakuloa**	**0.62**	**304**	Pg	**Pg**	11 13 45.2	-0.3
POHA				IAML		11 14 06.5	
	comp=N,767nm,0.5s						
CPH	**Captain Cook**	**0.88**	**275**		**Pg**	11 13 49.0	-1.6

*AFAD **01** 11:16:27.8±0.0, 36°.96N×36°.03E, h7km±2km, ML2.2*
*ISK **01** 11:16:27.3, 36°.96N×36°.02E, h13km, ML2.5/5*

ISC 01 11:16:27.8±0.9,**36°.97N**±0°.03×**36°.01E**±0°.03,**h14**km±8km, **n17**,σ**0°60**/30,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.22**	**282**	Pg	**Pg**	**11 16 32.4**	**-0.2**
CEYT				Sg	**Sg**	**11 16 36.5**	**+0.6**
YURE	**YUREGIR**	**0.33**	**246**	P	**Pg**	**11 16 34.8**	**+0.2**
YURE				*i* AML	AML	11 16 42.0	
	comp=E,103nm,0.4s						
YURE				*i* AML	AML	11 16 48.0	
	comp=N,85nm,0.4s						
HASA	**Hatay-Hassa-Ha**	**0.44**	**119**	P	**Pg**	**11 16 36.2**	**-0.4**
HASA				S	**Sg**	**11 16 42.3**	**-0.1**
HASA				*i* AML	AML	11 16 44.0	
	comp=N,484nm,0.3s						
HASA				*i* AML	AML	11 16 44.0	
	comp=E,553nm,0.3s						
KAMA	**Osmaniye**	**0.57**	**67**	P	**Pg**	**11 16 38.3**	**-0.7**
KAMA				*i* AML	AML	11 16 46.0	
	comp=N,77nm,0.1s						
KAMA				*i* AML	AML	11 16 46.0	
	comp=E,69nm,0.1s						
KAMA				S	**Sg**	**11 16 46.1**	**-0.5**
TAHT	**Tahtakopru-Hat**	**0.60**	**167**	Pg	**Pg**	**11 16 39.4**	**-0.2**
TAHT				Sg	**Sb**	**11 16 48.2**	**-0.2**
ANDN	**Andirin**	**0.67**	**23**	P	**Pg**	**11 16 40.6**	**-0.2**
ANDN				S	**Sb**	**11 16 50.7**	**+0.3**
ANDN				*i* AML	AML	11 16 51.0	
	comp=E,94nm,0.6s						
ANDN				*i* AML	AML	11 16 54.0	
	comp=N,81nm,0.9s						
AKO	**Adana**	**0.67**	**318**	P	**Pg**	**11 16 40.0**	**-0.9**
HCB	**Kahramanmara**	**0.81**	**62**	P	**Pn**	**11 16 44.7**	**-0.1**
HCB				S	**Sb**	**11 16 54.5**	**+0.1**
KHMR	**Kahramanmara**	**0.81**	**62**	P	**Pg**	**11 16 42.9**	**-0.6**
KHMR				S	**Sb**	**11 16 54.5**	**+0.1**
KHMR				*i* AML	AML	11 16 55.0	
	comp=E,87nm,0.4s						
KHMR				*i* AML	AML	11 16 57.0	
	comp=N,79nm,0.6s						
RHAN	**Hatay/Reyhanl**	**0.85**	**146**	P	**Pb**	**11 16 44.3**	**+0.1**
RHAN				S	**Sn**	**11 16 56.7**	**-0.7**
RHAN				*i* AML	AML	11 16 57.0	
	comp=N,282nm,0.4s						
RHAN				*i* AML	AML	11 16 57.0	
	comp=E,459nm,0.6s						
KUZU	**Kuzuini**	**0.87**	**102**	P	**Pb**	**11 16 44.8**	**+0.1**
KUZU				S	**Sb**	**11 16 56.5**	**+0.2**
KUZU				*i* AML	AML	11 16 59.0	
	comp=N,327nm,0.5s						
KUZU				*i* AML	AML	11 16 59.0	
	comp=E,298nm,0.7s						
KMRS	**Kahramanmaras**	**0.89**	**52**	Pg	**Pg**	**11 16 44.9**	**-0.2**
KMRS				Sg	**Sb**	**11 16 57.8**	**+1.0**
KAHM	**Kahramanmaras,**	**0.95**	**54**	P	**Pb**	**11 16 46.3**	**+0.2**
KAHM				S	**Sb**	**11 16 59.4**	**+0.8**
KAHM				*i* AML	AML	11 17 01.0	
	comp=N,74nm,0.8s						
KAHM				*i* AML	AML	11 17 01.0	
	comp=E,52nm,0.5s						
GAZ	**Gaziantep**	**0.98**	**77**	Pg	**Pb**	**11 16 46.6**	**0.0**
GAZ				Sg	**Sn**	**11 17 00.6**	**-0.3**
CMRD	**Camardi-Nigde**	**1.07**	**311**	Pg	**Pg**	**11 16 47.2**	**-1.3**
GZT	**Gaziantep**	**1.30**	**72**	P	**Pg**	**11 16 52.3**	**-0.5**
GZT				S	**Sn**	**11 17 10.2**	**+1.4**
GZT				*i* AML	AML	11 17 11.0	
	comp=N,66nm,0.4s						
GZT				*i* AML	AML	11 17 14.0	
	comp=E,79nm,0.4s						
SARI	**SarD1z-Kayseri**	**1.48**	**13**	Pn	**Pn**	**11 16 54.3**	**+0.2**

*NEIC **01** 11:22:21.0±2.2, 32°.78N±0°.02×118°.42W±0°.02, h10km±2km, Error ellipse: s-maj=3.8km s-min=3.0km az=204.0*
*PAS **01** 11:22:22.1±2.5, 32°.79N±0°.02×118°.44W±0°.02, h8km±8km, ML3.7/336, ML3.4/70(NEIC), Error ellipse: s-maj=3.4km s-min=2.1km az=212.0*
*ANF **01** 11:22:23.2±0.5, 32°.88N×118°.38W, h17km±3km, ML3.7/33, Error ellipse: s-maj=3.3km s-min=2.2km az=26.0*

ISC 01 11:22:21.8±1.1,**32°.80N**±0°.03×**118°.40W**±0°.02,**h9**km±9km, **n170**,σ**0°98**/219,**Off coast of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CIAC	**Catalina I. Ai**	**0.60**	**359**		**Pg**	**11 22 33.3**	**0.0**
CIAC					**Sb**	**11 22 42.

SSK	Sunset Peak	1.52	23			Pn	11 22 49.0	-0.3
MATG	Mataguay Scout	1.52	74			Pn	11 22 48.8	-0.5
MATG						Sn	11 23 07.7	-1.6
TKX	Tecate	1.53	98			Pn	11 22 49.3	0.0
TKX					IAML		11 23 10.7	
	comp=E,647nm,0.3s							
JUEM	Julian Eagle M	1.54	79			Pn	11 22 49.0	-0.5
CBX	Cerro Bola	1.54	108			Pn	11 22 49.6	0.0
CBX					IAML		11 23 14.8	
	comp=N,644nm,0.7s							
CBX					IAML		11 23 20.8	
	comp=E,646nm,0.4s							
OAT	Oat Mountain	1.55	353			Pn	11 22 49.0	-0.6
XTL	Crystal Lake,	1.56	17			Pn	11 22 49.0	-0.8
CHFC	Chilao Flat St	1.56	11			Pn	11 22 49.0	-0.8
BFSC	Mount Baldy Ra	1.56	23			Pn	11 22 49.2	-0.7
BFSC	Mount Baldy Ra	1.56	23	P		Pn	11 22 49.1	-0.7
	baz=204,SNR=84							
BFSC				S		Sn	11 23 07.7	-2.5
	baz=204							
CRY	Cary Ranch	1.59	61			Pn	11 22 49.7	-0.5
SS2	San Sevaine	1.59	28			Pn	11 22 49.9	-0.1
BZNA	Buzz No.'s Pla	1.61	64			Pn	11 22 50.1	-0.4
BBSC	Beaumont Base	1.63	46			Pg	11 22 52.8	-0.2
STCC	Santa Clara	1.64	337			Pn	11 22 50.5	-0.2
FRD	Ford Ranch, An	1.66	65			Pn	11 22 50.9	-0.2
FRD	Ford Ranch, An	1.66	65			Pn	11 22 50.9	-0.2
MONP2	Monument Peak	1.67	86	P		Pn	11 22 51.1	-0.2
	baz=267,SNR=28							
MONP2				S		Sn	11 23 11.7	-1.2
	baz=267							
DNR	Dunn Ranch,Anz	1.67	62			Pn	11 22 51.6	+0.3
SNDA	J Saunders Pla	1.68	63			Pn	11 22 51.3	-0.1
JNH	Juniper Hills	1.68	13			Pn	11 22 51.0	-0.5
CSP	Cedar Springs	1.73	30			Pn	11 22 52.2	+0.1
BORC	Borrego Spring	1.73	74			Pn	11 22 52.2	+0.2
CJV	Casa Juvan	1.74	7			Pb	11 22 54.5	+0.5
CCX	Cicese	1.74	122			Pn	11 22 52.6	+0.5
CCX						Sn	11 23 14.5	+0.1
LRRC	Littlerock Res	1.75	10			Pn	11 22 52.3	+0.1
PFO	Pinyon Flats O	1.82	63			Pn	11 22 53.5	+0.2
PFO					IAML		11 23 19.8	
	comp=E,234nm,0.6s							
PFO					IAML		11 23 20.0	
	comp=E,210nm,0.5s							
PFO	Pinyon Flats O	1.82	63	P		Pn	11 22 53.5	+0.2
	baz=244,SNR=15							
PFO				S		Sn	11 23 15.4	-1.1
	baz=244							
XPFO	Pion Flat	1.82	63			Pn	11 22 53.5	+0.2
OSI	Osito Audit: C	1.83	352			Pg	11 22 56.3	-0.5
OSI	Osito Audit: C	1.83	352	P		Pn	11 22 52.6	-0.8
	baz=172,SNR=7.6							
BBRC	Big Bear Solar	1.91	40	Pb		Pb	11 22 56.1	-0.8
	baz=221							
BBRC				Sb		Sb	11 23 21.1	+0.2
	baz=221							
IKP	In-Ko-Pah, Jac	1.94	94			Pn	11 22 55.6	+0.7
IKP	In-Ko-Pah, Jac	1.94	94	P		Pn	11 22 55.6	+0.7
	baz=275,SNR=24							
IKP				S		Sn	11 23 19.8	+0.4
	baz=275							
SBB	Saddle Back Bu	1.94	14			Pn	11 22 55.0	+0.1
RMX	La Rumorosa	1.97	95	Pn		Pn	11 22 56.1	+0.7
RMX					IAML		11 23 25.4	
	comp=E,250nm,0.4s							
RMX					IAML		11 23 27.5	
	comp=N,272nm,0.4s							
SBC	Santa Barbara	1.97	327	P		Pn	11 22 55.1	-0.2
	baz=147							
BSM	San Miguel Isl	2.04	308			Pn	11 22 55.5	-0.9
BSM						Sn	11 23 21.7	-0.3
CRR	Carrizo Plain	2.05	87			Pn	11 22 57.0	+0.6
TPO	Tropico Hills	2.08	4			Pn	11 22 57.6	+0.8
YUH	Yuha Desert	2.09	94			Pn	11 22 58.0	+1.0
YUH					IAML		11 23 32.3	
	comp=N,150nm,0.7s							
YUH					IAML		11 23 32.9	
	comp=E,142nm,0.7s							
EDW2	Edwards Air Fo	2.10	9			Pn	11 22 57.6	+0.4
EDW2	Edwards Air Fo	2.10	9	P		Pn	11 22 57.5	+0.3
	baz=190,SNR=61							
EDW2				Sb		Sb	11 23 27.5	+1.2
	baz=190							
HYS	Haystack Butte	2.17	18			Pn	11 22 58.7	+0.6
SWSC	Sam W. Stewart	2.19	86	P		Pn	11 22 58.3	-0.1
	baz=267,SNR=21							
ESJX	Sierra Juarez	2.22	110			Pn	11 22 59.8	+0.9
TJR	Tejon Ranch	2.24	353			Pn	11 22 59.2	+0.1
BCW	Bitter Crk WRg	2.29	339			Pn	11 22 60.0	+0.1
FIGC	Figueroa Mtn.	2.33	326			Pn	11 23 00.8	+0.4
BELC	Belle Mtn. Jos	2.34	59	P		Pn	11 23 00.4	-0.1
	baz=240							
BELC				Sb		Sb	11 23 33.8	+0.6
	baz=240							
ARVC	Arvin	2.35	351	P		Pn	11 23 00.6	+0.1
	baz=172,SNR=19							
ARVC				S		Sn	11 23 28.7	-0.8
	baz=172							
TPC	Twentynine Pal	2.36	56			Pn	11 23 02.0	+1.3
CCAC	Calif City Air	2.37	8			Pn	11 23 01.1	+0.3
RRX	Edison Barstow	2.38	29	P		Pn	11 23 01.1	+0.2
	baz=210,SNR=16							
RRX				Sb		Sb	11 23 35.0	+0.8
	baz=210							
PKM	Mcpherson Peak	2.39	331			Pn	11 23 01.3	0.0
PKM	Mcpherson Peak	2.39	331	P		Pn	11 23 01.2	-0.1
	baz=151,SNR=7.0							
PKM				S		Sn	11 23 29.7	-1.1
	baz=151							
GATR	Gnd/Air Tx Cnt	2.48	315			Sn	11 23 33.4	+0.8
DTP	Desert Tortois	2.50	10			Pn	11 23 03.0	+0.3
BC3	Big Chuckawall	2.61	70	P		Pn	11 23 04.4	+0.2
	baz=252,SNR=13							
BC3				Sb		Sb	11 23 40.8	-0.2
	baz=252							
VTX	Valle De La Tr	2.63	122			Pn	11 23 05.7	+1.2
HEC	Hector,Ludlow	2.65	40	P		Pn	11 23 05.4	+0.6
	baz=221							
HEC				Sb		Sb	11 23 43.8	+1.5
	baz=221							
LRMC	Laurel Mtn Rad	2.74	12	P		Pn	11 23 06.3	+0.4
	baz=193,SNR=16							
LRMC				S		Sn	11 23 36.8	-2.5
	baz=193							
GSC	Goldstone, Bar	2.82	28			Pn	11 23 07.8	+0.7
GSC					IAML		11 23 56.7	
	comp=N,224nm,0.6s							
GSC	Goldstone, Bar	2.82	28	P		Pn	11 23 08.0	+0.9
	baz=209,SNR=35							
GSC				S		Sn	11 23 41.1	-0.3
	baz=209							
SMMC	Simmler	2.83	333	P		Pn	11 23 07.6	+0.4
	baz=152							
SMMC				S		Sn	11 23 41.1	-0.4
	baz=152							
ISA	Isabella, Lake	2.85	359			Pn	11 23 08.2	+0.7
ISA	Isabella, Lake	2.85	359	P		Pn	11 23 07.9	+0.3
	baz=179,SNR=7.1							
GLA	Glamis	3.02	84			Pn	11 23 09.8	0.0
GLA					IAML		11 24 07.8	
	comp=E,114nm,0.7s							
GLA					IAML		11 24 08.5	
	comp=N,109nm,0.6s							
GLA	Glamis	3.02	84	P		Pn	11 23 10.1	+0.4
	baz=266							
GLA				Sb		Sb	11 23 53.4	+0.9
	baz=266							
GMRC	Granite Mounta	3.02	48	P		Pn	11 23 10.3	+0.4
	baz=230							
GMRC				Sb		Sb	11 23 54.6	+1.8
	baz=230							
IRM	Iron Mountain	3.04	63	P		Pn	11 23 11.1	+1.1
	baz=244							
IRM				Sb		Sb	11 23 54.3	+1.1
	baz=244							
VES	Vestal, Richgr	3.08	350	P		Pn	11 23 10.7	+0.1
	baz=170							
VES				S		Sn	11 23 47.0	-0.6
	baz=170							
MPMC	Manual Prospec	3.33	13	P		Pn	11 23 14.4	+0.1
	baz=194							
MPMC				Sb		Sb	11 24 03.8	+1.9
	baz=194							
TUQ	Turquoise Moun	3.33	37	Sb		Sb	11 24 03.7	+1.8
	baz=219							
BLYC	Blythe	3.38	73	Pn		Pn	11 23 15.0	+0.3
BLYC					IAML		11 24 16.3	
	comp=N,42nm,0.6s							
QSM	Queen of Sheba	3.40	21			Pn	11 23 15.8	+0.8
QSM					IAML		11 24 18.6	
	comp=E,108nm,0.8s							
QSM					IAML		11 24 19.7	
	comp=N,90nm,0.8s							
SHOC	Shoshone, Teco	3.56	29	P		Pn	11 23 17.8	+0.7
	baz=210							
SHOC				Sb		Sb	11 24 10.7	+2.6
	baz=210							
GWY	Greenwater Val	3.67	22			Pn	11 23 19.6	+0.8
GWY					IAML		11 24 19.6	
	comp=N,95nm,0.4s							
NEE2	Needles Airpor	3.71	57	Sb		Sb	11 24 15.0	+2.5
	baz=239							
113A	Mohawk Valley,	3.90	89	Pn		Pn	11 23 23.0	+1.1
PMPB	Monarch Peak	3.94	330	Pn		Pn	11 23 22.4	0.0
PMPB					IAML		11 24 31.6	
	comp=N,73nm,3.1s							
PMPB					IAML		11 24 48.9	
	comp=E,66nm,3.7s							
V12A	Nelson	4.14	44			Pn	11 23 26.3	+1.0
V12A					IAML		11 24 34.8	
	comp=E,29nm,0.6s							
V12A					IAML		11 24 35.2	
	comp=N,34nm,0.4s							
WCT	Wildcat Mounta	4.24	20			Pn	11 23 28.3	+1.7
WCT					IAML		11 24 37.3	
	comp=N,22nm,0.9s							
WCT					IAML		11 24 43.7	
	comp=E,30nm,0.7s							
GRAC	Grapevine Rang	4.27	11	Pn		Pn	11 23 29.2	+2.3
GRAC					IAML		11 25 53.8	
	comp=N,68nm,0.5s							
BBGB	Big Mountain B	4.35	331	Pn		Pn	11 23 28.6	+0.5
WTNK	Soaring Height	4.39	39	Pn		Pn	11 23 29.9	+1.3
W13A	Hualapai Mount	4.40	57			Pn	11 23 30.1	+1.3
LCH	Last Change Ra	4.46	8			Pn	11 23 31.2	+1.5
LCH					IAML		11 26 03.7	
	comp=E,21nm,0.7s							
SHPR	Sheep Range	4.56	35			Pn	11 23 33.4	+2.4
DSP	Deep Springs	4.57	4			Pn	11 23 33.1	+2.0
GMN	Gold Mountain	4.58	11			Pn	11 23 33.4	+1.9
SAO	San Andreas Ge	4.68	328	Pn		Pn	11 23 32.3	-0.2
214A	Organ Pipe Nat	4.80	99	Pn		Pn	11 23 35.3	+1.0
214A					IAML		11 25 16.9	
	comp=N,15nm,2.3s							
214A					IAML		11 26 39.3	
	comp=E,15nm,2.6s							
214A	Organ Pipe Nat	4.80	99	P		Pn	11 23 35.3	+1.0
	baz=281							
MDPB	Devils Postpil	4.85	354	Pn		Pn	11 23 37.6	+2.4
MZP	Montezuma Peak	4.96	9			Pn	11 23 38.0	+1.3
S11A	Rachel	5.30	23	Pn		Pn	11 23 41.6	+0.5
TPH	Tonopah	5.35	10	Pn		Pn	11 23 42.0	+0.1
LHV	Little Huntoon	5.44	359	Pn		Pn	11 23 42.2	-0.8
CMB	Columbia Colle	5.47	343	Pn		Pn	11 23 43.9	+0.5
NVAR	Mina Array Bea	5.62	1	Pn		Pn	11 23 45.4	-0.3
NV11	Mina Array Sit	5.62	2	Pn		Pn	11 23 46.7	+1.0
LCMT	Little Creek M	5.96	44			Pn	11 23 52.5	+2.1
R11B	Troy Canyon, C	5.99	22	P		Pn	11 23 51.4	+0.7
	baz=204							
X16A	Lo Mlia Camp, P	6.03	73			Pn	11 23 52.0	+0.8
YERR	Yerington	6.21	354	Pn		Pn	11 23 54.1	+0.4
KNB	Kanab	6.22	46			Pn	11 23 53.5	-0.4
KVN	Kaiserville	6.24	2	Pn		Pn	11 23 52.8	-1.4
CCUT	Cedar City	6.28	40	Pn		Pn	11 23 57.2	+2.4
EMB	Emerald Bay	6.31	348	Pn		Pn	11 23 57.5	+2.2
PNTR	Pine Nut	6.35	352	Pn		Pn	11 23 57.7	+2.0
PKCU	Pink Cliffs	6.81	45	Pn		Pn	11 24 03.4	+1.3
PSUT	Pine Spring	6.81	32	Pn		Pn	11 24 04.0	+1.9
SPR3	Spring Creek 3	7.01	27	Pn		Pn	11 24 05.4	+0.6
ORV	Oroville	7.19	340	Pn		Pn	11 24 07.5	+0.4
MTPU	Mount Pierson	7.28	42	Pn		Pn	11 24 09.8	+1.1
TCRU	Three Creeks R	7.55	38	Pn		Pn	11 24 14.4	+2.2
MVU	Marysvale	7.60	40	Pn		Pn	11 24 14.1	+1.3
MSU	Marysvale	7.62	40	Pn		Pn	11 24 14.5	+1.3
ELK	Elko	8.32	17	Pn		Pn	11 24 25.0	+2.2

*IDC **01** 11:24:08.4±0.9, 3°.68N×127°.18E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=63.2km s-min=17.2km az=69.0*

*NEIC **01** 11:24:09.9±2.1, 3°.57N±0°.06×127°.14E±0°.08, h10km±1km, mb4.3/14, Error ellipse: s-maj=15.4km s-min=8.2km az=304.0*

ISC 01 11:24:09.7±0.7, **3°.60N**±0°.09×**127°.2E**±0°.1, **h10**km, **n30,** σ0**§91**/30, **mb4.1**/15, **Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	2.82	176	Pn	Pn	11 24 53.5	-1.3
LUWI	Luwuk	6.36	224	Pn	Pn	11 25 43.4	-0.2
TOLI2	Tolitoli	6.84	249	Pn	Pn	11 25 50.0	-0.1
FAKI	Fak Fak	8.23	142	Pn	Pn	11 26 08.9	-0.4
TPUB	Ta-pu	20.58	343	P	P	11 28 47.0	-1.9
TPUB				IAmb	IAmb	11 28 58.6	
	comp=Z,17nm,1.3s						
FITZ	Fitzroy Crossi	21.61	184	P	P	11 28 58.7	-1.4
WB0	Warramunga Arr	24.28	163	P	P	11 29 28.3	+0.9
WB0				IAmb	IAmb	11 29 50.0	
	comp=Z,8.8nm,1.3s						
WRAB	Tennant Creek	24.43	163	P	P	11 29 27.1	-1.6
WRAB				IAmb	IAmb	11 29 55.1	
	comp=Z,11nm,1.5s						
WRA	Warramunga Arr	24.43	163	P	P	11 29 28.0	-0.8
WRA	Warramunga Arr	24.43	163	P	P	11 29 29.4	+0.6
	comp=Z,1.3nm,0.6s,baz=341,slow=10,SNR=17						
	comp=Z,1.3nm,0.6s						
WB2	Warramunga Arr	24.44	163	P	P	11 29 28.7	-0.2
WB2				IAmb	IAmb	11 29 45.1	
	comp=Z,7.8nm,1.3s						
WR0	Warramunga Arr	24.51	163	P	P	11 29 30.4	+0.9
WR0				IAmb	IAmb	11 29 44.2	
	comp=Z,5.3nm,1.2s						
ASAR	Alice Springs	27.89	167	P	P	11 30 00.9	+1.0
	comp=Z,0.2nm,0.4s,baz=348,slow=7.9,SNR=6.4						
	comp=Z,0.2nm,0.4s						
STKA	Stephens Creek	37.86	160	P	P	11 31 27.5	+0.7
	comp=Z,1.1nm,0.5s,baz=337,slow=10,SNR=4.2						
	comp=Z,1.1nm,0.5s						
PEA0B	Petropavlovsk-	55.39	22	P	P	11 33 42.8	-1.2
PETK	Petropavlovsk-	55.39	22	P	P	11 33 44.4	+0.4
PETK	Petropavlovsk-	55.39	22	P	P	11 33 43.8	-0.2
	comp=Z,1.3nm,0.7s,baz=218,slow=5.1,SNR=2.7						
	comp=Z,1.3nm,0.7s						
MK31	Makanchi Array	57.91	325	P	P	11 34 02.0	-0.1
MKAR	Makanchi Array	57.91	325	P	P	11 34 01.7	-0.4
MKAR	Makanchi Array	57.91	325	P	P	11 34 01.9	-0.2
	comp=Z,0.9nm,0.5s,baz=124,slow=8.7,SNR=14						
	comp=Z,0.9nm,0.5s						
MAKZ	Makanchi	58.09	325	P	P	11 34 03.0	-0.3
MAKZ				IAmb	IAmb	11 34 04.0	
	comp=Z,3.7nm,1.4s						
KURBB	Kurchatov Arra	62.08	327	P	P	11 34 30.1	-0.5
	comp=Z,1.5nm,0.6s,baz=128,slow=6.7,SNR=13						
	comp=Z,1.5nm,0.6s						
KURK	Kurchatov	62.08	327	P	P	11 34 29.7	-0.9
KURK				IAmb	IAmb	11 34 30.6	
	comp=Z,2.8nm,0.6s						
BVAR	Borovoye Array	67.66	327	P	P	11 35 07.0	0.0
	comp=Z,0.7nm,0.7s,baz=116,slow=6.6,SNR=3.9						
	comp=Z,0.7nm,0.7s						
IMAR	Indian Mountai	82.29	24	P	P	11 36 32.4	+1.2
B21K	Ikpikpuk River	82.55	20	P	P	11 36 31.8	-0.6
BMAR	Burnt Mountain	86.03	23	P	P	11 36 51.5	+1.2
BRTR	Keskin Array B	90.44	310	P	P	11 37 13.3	+1.2
	comp=Z,0.3nm,0.6s,baz=104,slow=6.1,SNR=1.9						
	comp=Z,0.3nm,0.6s						
FARO	Faro, Yukon	91.26	28	P	P	11 37 15.9	+0.7
FARO				IAmb	IAmb	11 37 27.7	
	comp=Z,1.7nm,1.0s						
N32M	Quiet Lake	91.58	29	P	P	11 37 16.5	-0.2

*IDC **01** 11:41:10.4±1.0, 5°.98S×143°.09E, h0km, mb3.8/6, mbtmp3.9/8, ML1.5/1, MS3.1/2, Error ellipse: s-maj=40.1km s-min=22.2km az=68.0*

ISC 01 11:41:14.9±0.8, **6°.30S**±0°.08×**142°.78E**±0°.10, **h35**km, **n10,** σ2**§44**/12, **mb3.7**/6, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.32	126	Pn	Pn	11 42 32.0	+0.1
	1.0nm,0.3s,baz=318,slow=16,SNR=1.9						
PMG				Sn	Sn	11 43 30.7	-1.3
	0.8nm,0.3s,baz=254,slow=20,SNR=2.2						
	7.4nm,0.6s						
WRA	Warramunga Arr	15.85	210	Pn	Pn	11 44 55.4	-0.1
	0.3nm,0.3s,baz=22,slow=14,SNR=16						
WRA				Sn	Sn	11 47 45.3	-4.9
	0.1nm,0.3s,baz=26,slow=23,SNR=1.8						
WRA				Lg	Lg	11 49 40.0	
	0.1nm,0.3s,baz=33,slow=27,SNR=5.2						
ASAR	Alice Springs	19.26	205	P	Pn	11 45 40.6	+2.8
	9.5nm,0.9s,baz=35,slow=10.0,SNR=38						
ASAR				Sn	S	11 49 13.8	+0.8
	baz=24,slow=25,SNR=1.3						
ASAR				Lg	Lg	11 51 27.0	
	baz=22,slow=28,SNR=3.1						
ASAR				LR	LR	11 52 40.4	
	comp=Z,42nm,18.7s,baz=38,slow=35						
BATI	Baumata	19.31	257	LR	LR	11 55 02.0	
	comp=Z,76nm,18.4s,baz=159,slow=42						
KSRS	Korea Array	45.69	343	P	P	11 49 30.3	-2.1
	0.7nm,0.9s,baz=164,slow=8.7,SNR=5.2						
	0.7nm,0.9s						
MKAR	Makanchi Array	75.10	322	P	P	11 52 53.5	+0.1
	0.4nm,0.8s,baz=127,slow=6.2,SNR=3.5						
	0.4nm,0.8s						
KURBB	Kurchatov Arra	78.99	324	P	P	11 53 16.8	+1.7
	0.5nm,0.7s,baz=99,slow=5.0,SNR=3.2						
	0.5nm,0.7s						
QSPA	South Pole Qui	83.67	180	P	P	11 53 42.7	+2.9
	0.9nm,1.0s,baz=343,slow=5.8,SNR=2.0						
	0.9nm,1.0s						
BVAR	Borovoye Array	84.56	325	P	P	11 53 45.9	+1.4
	2.1nm,0.8s,baz=123,slow=5.5,SNR=11						
	2.1nm,0.8s						
ILAR	Eielson Array	87.43	24	P	P	11 53 56.9	-1.5
	0.5nm,0.9s,baz=265,slow=5.3,SNR=5.5						
	0.5nm,0.9s						

*NOU **01** 11:47:45.1, 12°.02S×167°.44E, h174km, mb4.4/21, Santa Cruz Islands*

*NEIC **01** 11:47:54.6±1.1, 13°.1S±0°.1×167°.3E±0°.2, h189km±7km, mb4.4/23, Error ellipse: s-maj=24.9km s-min=17.3km az=135.0*

*IDC **01** 11:47:57.7±2.6, 13°.13S×166°.99E, h211km±22km, mb3.7/10, mbtmp4.2/11, Error ellipse: s-maj=20.6km s-min=16.4km az=95.0*

ISC 01 11:47:55.8±0.6, **13°.04S**±0°.08×**167°.1E**±0°.1, **h200**km, **n58,** σ1**§32**/62, **mb4.3**/22, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	LIFOU	7.70	179	Pn	Pn	11 49 43.5	-1.7
KOUNC	Koumac, New Ca	7.95	200	P	Pn	11 49 52.4	+4.0
KOUNC	Koumac, New Ca	7.95	200	Pn	Pn	11 49 47.5	-0.9
YATNC	Mamie plateau,	8.97	181	P	Pn	11 50 04.5	+2.7
DZM	Mont Dzumac	9.01	184	P	Pn	11 50 05.1	+2.8
DZM	Mont Dzumac	9.01	184	Pn	Pn	11 49 59.8	-2.5
DZM	Mont Dzumac	9.01	184	P	Pn	11 50 04.8	+2.5
	3.5nm,0.4s,baz=333,slow=19,SNR=1.1						
DZM				S	Sn	11 51 42.2	-1.2
	8.8nm,1.0s,baz=37,slow=23,SNR=1.9						
EIDS	Eidsvold	19.47	229	P	P	11 52 08.5	+0.9
EIDS	Eidsvold	19.47	229	P	P	11 52 08.6	+0.9
EIDS				IAmb	IAmb	11 52 11.9	
	comp=Z,17nm,1.2s						
LHI	Lord Howe Isla	19.84	201	P	P	11 52 13.4	+2.0
LHI	Lord Howe Isla	19.84	201	P	P	11 52 12.6	+1.2
TV1H	Townsville Har	20.48	250	P	P	11 52 16.4	-2.1
CTAO	Charters Tower	21.19	248	P	P	11 52 26.6	+0.5
CTAO				IAmb	IAmb	11 52 45.8	
	comp=Z,34nm,1.3s						
ARMA	Armidale	22.46	217	P	P	11 52 39.1	+0.6
ARMA	Armidale	22.46	217	P	P	11 52 39.1	+0.6
ARMA				IAmb	IAmb	11 52 59.2	
	comp=Z,22nm,1.4s						
MTSU	Mount Surprise	22.54	254	P	P	11 52 35.0	-4.3
NTLH	Newcastle Hard	24.28	213	P	P	11 52 54.4	-0.4
CMSA	Cobar Meteorol	26.97	223	P	P	11 53 19.0	-0.1
YNG	Young	27.15	216	P	P	11 53 20.8	+0.1
BKZ	Black Stump Fm	27.31	164	P	P	11 53 22.0	0.0
CNB	Canberra Magne	27.38	213	P	P	11 53 22.8	+0.1
CAN	Canberra	27.58	213	P	P	11 53 24.6	+0.1
CAN	Canberra	27.58	213	P	P	11 53 24.6	+0.1
CAN				IAmb	IAmb	11 53 25.0	
	comp=Z,6.6nm,0.7s						
STKA	Stephens Creek	30.01	227	P	P	11 53 46.2	+0.2
STKA	Stephens Creek	30.01	227	P	P	11 53 46.2	+0.2
STKA	Stephens Creek	30.01	227	P	P	11 53 45.9	-0.1
	comp=Z,7.4nm,0.5s,baz=46,slow=9.5,SNR=27						
	comp=Z,7.4nm,0.5s						
TOO	Toolangi	31.14	215	P	P	11 53 56.0	+0.1
TOO	Toolangi	31.14	215	P	P	11 53 56.0	+0.1
TOO				IAmb	IAmb	11 53 56.5	
	comp=Z,6.0nm,0.7s						
WB0	Warramunga Arr	32.07	254	P	P	11 54 03.8	-0.4
WB0				IAmb	IAmb	11 54 04.4	
	comp=Z,13nm,1.1s						
WB2	Warramunga Arr	32.13	253	P	P	11 54 04.5	-0.3
WB2				IAmb	IAmb	11 54 31.8	
	comp=Z,8.5nm,1.2s						
WRA	Warramunga Arr	32.14	253	P	P	11 54 03.0	-1.8
WRA	Warramunga Arr	32.14	253	P	P	11 54 04.0	-0.9
	comp=Z,2.3nm,0.5s,baz=86,slow=9.3,SNR=24						
WRA				PcP	PcP	11 56 49.3	+0.2
	comp=Z,0.4nm,0.9s,baz=87,slow=3.2,SNR=1.8						
	comp=Z,2.3nm,0.5s						
HTT	Hallett	32.74	227	P	P	11 54 09.7	-0.3
OOD	Oodnadatta	32.80	239	P	P	11 54 09.0	-1.4
AS31	Alice Springs	33.18	247	P	P	11 54 13.2	-0.7
ASAR	Alice Springs	33.18	247	P	P	11 54 12.9	-1.0
	comp=Z,4.9nm,0.6s,baz=75,slow=9.8,SNR=99						
ASAR				PcP	PcP	11 56 51.7	-0.3
	comp=Z,0.

comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 96.11 27 P **P** **12 01 00.4 +0.1**
comp=Z,0.1nm,0.6s,baz=277,slow=4.9,SNR=3.1
comp=Z,0.1nm,0.6s

*NEIC **01** 11:53:02.0±2.3, 32°.77N±0°.02×118°.41W±0°.02, h10km±2km, Error ellipse: s-maj=4.0km s-min=3.1km az=209.0*
*ANF **01** 11:53:03.3±0.3, 32°.85N×118°.38W, h15km, ML3.3/29, Error ellipse: s-maj=3.2km s-min=1.8km az=18.0*
*PAS **01** 11:53:03.2±2.6, 32°.80N±0°.02×118°.45W±0°.01, h8km±5km, ML3.4/311, ML3.1/60(NEIC), Error ellipse: s-maj=3.2km s-min=1.3km az=193.0*
ISC 01 11:53:01.9±1.1, 32°.77N±0°.03×118°.41W±0°.02, h10km±9km, n118, σ0995/156, Off coast of California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CIAC	**Catalina I. Ai**	**0.63**	**360**		**Pg**	**11 53 14.2**	**+0.1**
CIAC					**Sg**	**11 53 23.2**	**+0.8**
CIS	**Catalina Islan**	**0.63**	**359**	P	**Pg**	**11 53 14.2**	**+0.1**
	baz=182,SNR=44						
CIS				S	**Sg**	**11 53 21.6**	**-0.8**
	baz=182						
SBI	**Santa Barbara**	**0.88**	**324**		**Pg**	**11 53 18.7**	**-0.2**
SBI					**Sg**	**11 53 30.4**	**0.0**
FMP	**Fort Macarthur**	**0.95**	**6**		**Pg**	**11 53 20.2**	**0.0**
FMP					**Sg**	**11 53 32.4**	**-0.1**
FMP	**Fort Macarthur**	**0.95**	**6**	P	**Pg**	**11 53 20.2**	**0.0**
	baz=188,SNR=35						
FMP				S	**Sg**	**11 53 32.1**	**-0.3**
	baz=188						
RPV	**Rancho Palos V**	**0.97**	**0**		**Pg**	**11 53 20.7**	**+0.1**
RPV					**Sg**	**11 53 33.3**	**0.0**
SANC	**Santa Ana**	**1.03**	**25**		**Sb**	**11 53 36.2**	**+0.8**
SNCC	**San Nicolas Is**	**1.05**	**297**		**Pb**	**11 53 22.5**	**+0.3**
SNCC				Sg	**Sb**	**11 53 36.1**	**+0.1**
SNCC				IAML		11 53 38.6	
	comp=E,414nm,0.6s						
SNCC				IAML		11 53 39.7	
	comp=N,534nm,0.3s						
SNCC	**San Nicolas Is**	**1.05**	**297**	P	**Pg**	**11 53 22.2**	**+0.1**
	baz=116						
SNCC				S	**Sb**	**11 53 36.5**	**+0.4**
	baz=116						
GORC	**Green Oak Ranc**	**1.06**	**69**		**Pg**	**11 53 22.0**	**-0.3**
GORC					**Sg**	**11 53 35.7**	**-0.5**
SDMC	**San Diego Miss**	**1.07**	**89**		**Pn**	**11 53 23.0**	**+0.1**
SDMC					**Sb**	**11 53 37.0**	**+0.4**
BREC	**Barre Substati**	**1.10**	**19**		**Sn**	**11 53 38.8**	**+0.3**
109C	**Camp Elliot, M**	**1.10**	**83**		**Pn**	**11 53 23.5**	**0.0**
109C				Sg	**Sg**	**11 53 37.2**	**-0.2**
109C	**Camp Elliot, M**	**1.10**	**83**	P	**Pn**	**11 53 23.4**	**0.0**
	baz=266,SNR=40						
109C				S	**Sg**	**11 53 37.2**	**-0.2**
	baz=266						
CPE	**Camp Elliot**	**1.10**	**83**		**Pn**	**11 53 23.4**	**0.0**
DLAC	**Del Amo**	**1.11**	**14**		**Sn**	**11 53 39.2**	**+0.4**
MTRP	**Mission Trails**	**1.14**	**87**		**Pn**	**11 53 24.2**	**+0.3**
TJX	**Tijuana**	**1.17**	**102**		**Pg**	**11 53 25.2**	**+0.8**
TJX				IAML		11 53 45.1	
	comp=N,783nm,0.5s						
ELS	**Elsinore Mount**	**1.20**	**43**		**Pb**	**11 53 23.9**	**-0.9**
ELS	**Elsinore Mount**	**1.20**	**43**		**Sb**	**11 53 39.7**	**-0.7**
BHPC	**Baldwin Hills**	**1.22**	**2**		**Pg**	**11 53 26.1**	**+0.8**
SDRC	**San Diego Road**	**1.23**	**91**		**Pn**	**11 53 25.4**	**+0.2**
SDRC					**Sb**	**11 53 41.2**	**-0.1**
DPP	**Dos Picos Cty**	**1.25**	**79**		**Pn**	**11 53 25.4**	**-0.1**
DPP					**Sb**	**11 53 41.4**	**-0.6**
OLP	**Otay Lakes Par**	**1.26**	**97**		**Pg**	**11 53 26.1**	**+0.1**
OLP					**Sb**	**11 53 42.1**	**+0.2**
RHC	**Rose Hills Cem**	**1.27**	**15**		**Pn**	**11 53 25.5**	**-0.2**
GVRC	**Garvey Reservo**	**1.30**	**11**		**Pg**	**11 53 27.9**	**+1.1**
MURC	**Murrieta**	**1.31**	**50**		**Sb**	**11 53 43.4**	**-0.2**
MURC	**Murrieta**	**1.31**	**50**	P	**Pn**	**11 53 25.9**	**-0.4**
	baz=233,SNR=19						
MURC				S	**Sb**	**11 53 42.8**	**-0.7**
	baz=233						
DJJ	**Donna J Jenkin**	**1.33**	**358**		**Pn**	**11 53 25.9**	**-0.7**
DUZA	**Dulzura**	**1.39**	**96**		**Pn**	**11 53 27.8**	**+0.4**
DUZA					**Sg**	**11 53 46.9**	**+0.4**
PASC	**Pasadena Art C**	**1.41**	**8**		**Pn**	**11 53 26.9**	**-0.7**
PSRC	**Puddingstone R**	**1.41**	**21**		**Pn**	**11 53 27.3**	**-0.3**
BACC	**Bachelor Mtn.**	**1.42**	**53**		**Pn**	**11 53 27.4**	**-0.5**
PLM	**Palomar**	**1.42**	**65**		**Pn**	**11 53 27.5**	**-0.4**
DGR	**Domenigoni Val**	**1.47**	**53**		**Pn**	**11 53 28.4**	**0.0**
DGR					**Sn**	**11 53 47.8**	**+0.1**
PEM	**Pine Mountain**	**1.47**	**18**		**Pn**	**11 53 28.0**	**-0.4**
BAR	**Barrett**	**1.47**	**93**		**Pn**	**11 53 28.6**	**+0.2**
MWC	**Mount Wilson**	**1.48**	**11**		**Pn**	**11 53 28.1**	**-0.7**
DECC	**Green Verdugo**	**1.48**	**2**	P	**Pn**	**11 53 28.1**	**-0.6**
	baz=184,SNR=10.0						
BLCC	**Black Canyon**	**1.49**	**351**		**Pn**	**11 53 28.1**	**-0.7**
RVR	**Riverside**	**1.50**	**35**		**Pb**	**11 53 29.8**	**0.0**
HMTC	**Hemet**	**1.50**	**51**		**Pn**	**11 53 28.8**	**-0.2**
HMTC					**Sn**	**11 53 49.0**	**+0.4**
TKX	**Tecate**	**1.53**	**97**		**Pb**	**11 53 30.3**	**-0.1**
TKX					**Sb**	**11 53 49.9**	**0.0**
MATG	**Mataguay Scout**	**1.54**	**73**		**Pn**	**11 53 29.6**	**+0.1**
CBX	**Cerro Bola**	**1.54**	**107**		**Pb**	**11 53 30.4**	**-0.2**
CBX				IAML		11 53 59.1	
	comp=N,340nm,0.4s						
POB	**Polly Butte**	**1.54**	**53**		**Pg**	**11 53 31.5**	**0.0**
POB					**Sb**	**11 53 50.7**	**+0.4**
JUEM	**Julian Eagle M**	**1.55**	**78**		**Pn**	**11 53 29.8**	**+0.1**
JUEM					**Sn**	**11 53 49.0**	**-1.0**
SSK	**Sunset Peak**	**1.56**	**22**		**Pn**	**11 53 29.7**	**-0.2**
XTL	**Crystal Lake,**	**1.59**	**17**		**Pn**	**11 53 29.8**	**-0.5**
CHFC	**Chilao Flat St**	**1.59**	**11**		**Pn**	**11 53 29.9**	**-0.4**
BFSC	**Mount Baldy Ra**	**1.59**	**23**		**Pn**	**11 53 30.2**	**-0.1**
BFSC	**Mount Baldy Ra**	**1.59**	**23**	P	**Pn**	**11 53 30.0**	**-0.3**
	baz=205,SNR=37						
BFSC				S	**Sn**	**11 53 48.6**	**-2.5**
	baz=205						
CRY	**Cary Ranch**	**1.61**	**60**		**Pn**	**11 53 30.5**	**0.0**
BZNA	**Buzz No.'s Pla**	**1.63**	**63**		**Pn**	**11 53 30.9**	**+0.1**
MONP2	**Monument Peak**	**1.68**	**85**	P	**Pn**	**11 53 31.8**	**+0.3**
	baz=267,SNR=10						
MONP2				S	**Sn**	**11 53 52.5**	**-0.6**
	baz=267						
FRD	**Ford Ranch, An**	**1.68**	**64**		**Pn**	**11 53 31.7**	**+0.2**
FRD	**Ford Ranch, An**	**1.68**	**64**		**Pn**	**11 53 31.7**	**+0.2**
DNR	**Dunn Ranch,Anz**	**1.69**	**61**		**Pb**	**11 53 32.7**	**-0.4**
SNDA	**J Saunders Pla**	**1.70**	**62**		**Pn**	**11 53 32.3**	**+0.6**
CCX	**Cicese**	**1.73**	**121**	Pn	**Pb**	**11 53 33.3**	**-0.4**
CCX				IAML		11 54 02.4	
	comp=E,110nm,0.5s						
BORC	**Borrego Spring**	**1.75**	**73**		**Pn**	**11 53 33.1**	**+0.8**
PFO	**Pinyon Flats O**	**1.84**	**62**		**Pn**	**11 53 34.1**	**+0.5**
PFO				IAML		11 54 00.5	
	comp=E,115nm,0.3s						
PFO				IAML		11 54 00.7	
	comp=E,122nm,0.5s						
PFO	**Pinyon Flats O**	**1.84**	**62**	P	**Pn**	**11 53 33.9**	**+0.3**
	baz=244,SNR=11						
PFO				S	**Sn**	**11 53 56.2**	**-0.8**
	baz=244						
XPFO	**Pion Flat**	**1.84**	**62**		**Pn**	**11 53 34.4**	**+0.7**
OSI	**Osito Audit: C**	**1.86**	**352**	S	**Sn**	**11 53 57.1**	**-0.4**
	baz=173						
BBRC	**Big Bear Solar**	**1.94**	**39**	Pb	**Pb**	**11 53 37.0**	**-0.5**
	baz=221						
BBRC				Sb	**Sb**	**11 54 01.9**	**+0.1**
	baz=221						
IKP	**In-Ko-Pah, Jac**	**1.94**	**93**	P	**Pn**	**11 53 36.2**	**+1.2**
	baz=275,SNR=5.8						
IKP				Sb	**Sg**	**11 54 03.4**	**-0.9**
	baz=275						
CRR	**Carrizo Plain**	**2.06**	**86**		**Pb**	**11 53 38.9**	**-0.4**
BSM	**San Miguel Isl**	**2.06**	**308**		**Pn**	**11 53 34.1**	**-2.4**
YUH	**Yuha Desert**	**2.10**	**93**		**Pb**	**11 53 39.0**	**-1.1**
YUH				IAML		11 54 09.8	
	comp=E,108nm,0.3s						
EDW2	**Edwards Air Fo**	**2.13**	**9**	P	**Pn**	**11 53 38.2**	**+0.5**
	baz=190,SNR=30						
EDW2				S	**Sn**	**11 54 02.9**	**-1.3**
	baz=190						
SWSC	**Sam W. Stewart**	**2.20**	**85**	P	**Pn**	**11 53 39.3**	**+0.7**
	baz=267						
SWSC				Sb	**Sg**	**11 54 11.1**	**-1.5**
	baz=267						
HYS	**Haystack Butte**	**2.20**	**18**		**Pn**	**11 53 39.6**	**+1.0**
ESJX	**Sierra Juarez**	**2.22**	**109**		**Pb**	**11 53 40.9**	**-1.3**
BCW	**Bitter Crk WRg**	**2.32**	**339**		**Pn**	**11 53 41.1**	**+0.8**
BCW				IAML		11 54 10.4	
	comp=N,156nm,0.8s						
BELC	**Belle Mtn. Jos**	**2.36**	**58**	P	**Pn**	**11 53 40.8**	**0.0**
	baz=240						
BELC				Sb	**Sb**	**11 54 14.7**	**+0.9**
	baz=240						
ARVC	**Arvin**	**2.38**	**352**	P	**Pn**	**11 53 41.4**	**+0.4**
	baz=172,SNR=11						
ARVC				S	**Sn**	**11 54 09.5**	**-0.7**
	baz=172						
CCAC	**Calif City Air**	**2.40**	**8**		**Pn**	**11 53 42.2**	**+0.9**
CCAC				IAML		11 54 17.6	
	comp=E,171nm,1.0s						
CCAC				IAML		11 54 32.4	
	comp=N,173nm,1.3s						
CLI2	**Calipatria 2**	**2.40**	**81**		**Pn**	**11 53 40.7**	**-0.6**
RRX	**Edison Barstow**	**2.41**	**29**	Sb	**Sb**	**11 54 16.3**	**+1.3**
	baz=210						
PKM	**Mcpherson Peak**	**2.42**	**331**	P	**Pn**	**11 53 42.0**	**+0.4**
	baz=151						
PKM				S	**Sn**	**11 54 11.0**	**-0.4**
	baz=151						
DTP	**Desert Tortois**	**2.54**	**10**		**Pn**	**11 53 43.8**	**+0.6**
VTX	**Valle De La Tr**	**2.62**	**121**		**Pn**	**11 53 46.5**	**+2.2**
BC3	**Big Chuckawall**	**2.63**	**70**	Sb	**Sb**	**11 54 21.8**	**+0.2**
	baz=252						
HEC	**Hector,Ludlow**	**2.68**	**39**	Sb	**Sb**	**11 54 23.5**	**+0.4**
	baz=221						
LRMC	**Laurel Mtn Rad**	**2.77**	**12**	P	**Pn**	**11 53 47.2**	**+0.7**
	baz=194,SNR=15						
LRMC				S	**Sn**	**11 54 17.8**	**-2.3**
	baz=194						
CARC	**Carrizo Plain**	**2.80**	**335**		**Pb**	**11 53 50.4**	**-1.7**
GSC	**Goldstone, Bar**	**2.85**	**27**		**Pn**	**11 53 48.9**	**+1.3**
GSC				IAML		11 54 32.8	
	comp=E,92nm,1.1s						
GSC				IAML		11 54 35.7	
	comp=N,82nm,0.6s						
GSC	**Goldstone, Bar**	**2.85**	**27**	P	**Pn**	**11 53 48.8**	**+1.3**
	baz=209,SNR=19						
GSC				Sb	**Sb**	**11 54 29.2**	**+1.1**
	baz=209						
SMMC	**Simmler**	**2.86**	**333**	P	**Pn**	**11 53 48.5**	**+0.9**
	baz=152						
SMMC				S	**Sn**	**11 54 21.5**	**-0.7**
	baz=152						
ISA	**Isabella, Lake**	**2.89**	**359**	Pn	**Pn**	**11 53 49.0**	**+0.9**
ISA	**Isabella, Lake**	**2.89**	**359**	P	**Pn**	**11 53 48.6**	**+0.6**
	baz=180						
WHFM	**Hanning Flat**	**2.92**	**1**		**Pn**	**11 53 49.6**	**+1.1**
GLA	**Glamis**	**3.02**	**84**	Pn	**Pn**	**11 53 51.1**	**+1.3**
GLA				IAML		11 54 48.9	
	comp=E,45nm,0.7s						
GLA				IAML		11 54 49.2	
	comp=N,47nm,0.6s						
GMRC	**Granite Mounta**	**3.05**	**48**	Sb	**Sb**	**11 54 35.1**	**+1.5**
	baz=230						
IRM	**Iron Mountain**	**3.06**	**62**	Sb	**Sb**	**11 54 36.0**	**+2.1**
	baz=245						
TUQ	**Turquoise Moun**	**3.37**	**37**	Pg	**Pg**	**11 54 05.9**	**-0.5**
	baz=219						
TUQ				Sb	**Sb**	**11 54 44.7**	**+1.9**
	baz=219						
MPMC	**Manual Prospec**	**3.37**	**13**	P	**Pn**	**11 53 55.3**	**+0.6**
	baz=194,SNR=9.8						
MPMC				Sb	**Sb**	**11 54 45.9**	**+3.0**
	baz=194						
QSM	**Queen of Sheba**	**3.43**	**21**		**Pn**	**11 53 56.8**	**+1.3**
QSM				IAML		11 54 52.0	
	comp=E,45nm,0.5s						
QSM				IAML		11 54 57.6	
	comp=N,36nm,0.8s						
SHOC	**Shoshone, Teco**	**3.59**	**29**	P	**Pn**	**11 53 58.3**	**+0.7**
	baz=211						
SHOC				Sb	**Sb**	**11 54 51.9**	**+2.9**
	baz=211						
GWY	**Greenwater Val**	**3.70**	**22**		**Pn**	**11 54 00.6**	**+1.3**
GWY				IAML		11 55 05.4	
	comp=E,58nm,0.8s						
GWY				IAML		11 55 06.5	
	comp=N,44nm,0.7s						
PMPB	**Monarch Peak**	**3.97**	**331**	Pn	**Pn**	**11 54 03.3**	**+0.5**
V12A	**Nelson**	**4.17**	**44**	Pn	**Pn**	**11 54 07.9**	**+2.2**
V12A				IAML		11 55 16.4	
	comp=E,13nm,1.0s						
V12A				IAML		11 55 25.6	
	comp=N,13nm,1.6s						
WCT	**Wildcat Mounta**	**4.27**	**20**		**Pn**	**11 54 09.0**	**+1.9**
WCT				IAML		11 55 24.5	
	comp=E,14nm,0.6s						
GRAC	**Grapevine Rang**	**4.30**	**11**	Pn	**Pn**	**11 54 09.3**	**+1.9**
GRAC				IAML		11 55 27.1	
	comp=N,31nm,0.8s						
GRAC				IAML		11 55 27.8	
	comp=E,22nm,0.8s						
BBGB	**Big Mountain B**	**4.38**	**331**	Pn	**Pn**	**11 54 09.7**	**+1.2**
W13A	**Hualapai Mount**	**4.42**	**57**		**Pn**	**11 54 11.1**	**+1.8**
LCH	**Last Change Ra**	**4.50**	**8**		**Pn**	**11 54 12.1**	**+1.8**
SHPR	**Sheep Range**	**4.59**	**35**	Pn	**Pn**	**11 54 12.4**	**+0.9**
DSP	**Deep Springs**	**4.60**	**4**	Pn	**Pn**	**11 54 11.4**	**-0.1**
GMN	**Gold Mountain**	**4.62**	**11**	Pn	**Pn**	**11 54 12.5**	**+0.5**
SAO	**San Andreas Ge**	**4.71**	**329**	Pn	**Pn**	**11 54 16.4**	**+3.4**
MDPB	**Devils Postpil**	**4.88**	**354**	Pn	**Pn**	**11 54 14.4**	**-1.2**
MZP	**Montezuma Peak**	**4.99**	**9**	Pn	**Pn**	**11 54 17.3**	**+0.2**
S11A	**Rachel**	**5.33**	**23**	Pn	**Pn**	**11 54 21.5**	**-0.1**
TPH	**Tonopah**	**5.38**	**10**	Pn	**Pn**	**11 54 23.3**	**+0.9**
LCMT	**Little Creek M**	**5.99**	**44**	Pn	**Pn**	**11 54 30.9**	**+0.2**
R11B	**Troy Canyon, C**	**6.02**	**22**	Pn	**Pn**	**11 54 31.0**	**-0.2**

*IDC **01** 12:03:08.5±1.8, 19°.07S×168°.67E, h0km, mb3.9/5, mbtmp3.9/6, ML3.9/1, MS3.0/1, Error ellipse: s-maj=44.1km s-min=30.2km az=116.0*
*NOU **01** 12:03:11.4, 19°.22S×168°.70E, h0km, MLv4.1/11, Vanuatu Islands*
ISC 01 12:03:14.6±1.4, 19°.2S±0°.1×168°.7E±0°.1, h42km, n15, σ0884/16, mb3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.06**	**221**	P	**Pn**	**12 03 46.2**	**-0.5**
MARNC	**Mare, Loyalty**	**2.34**	**195**	P	**Pn**	**12 03 49.8**	**-0.7**
YATNC	**Mamie plateau,**	**3.29**	**210**	P	**Pn**	**12 04 02.9**	**-0.7**
DZM	**Mont Dzumac**	**3.53**	**216**	P	**Pn**	**12 04 08.0**	**+1.0**
DZM	**Mont Dzumac**	**3.53**	**216**	Pn	**Pn**	**12 04 07.4**	**+0.4**
	10nm,0.3s,baz=38,slow=8.0,SNR=142						
DZM				Sn	**Sn**	**12 04 47.3**	**-0.3**
	17nm,0.3s,baz=18,slow=20,SNR=7.2						
DZM				LR	LR	12 05 32.8	
	comp=Z,183nm,19.1s,baz=61,slow=40						
	25nm,0.2s						
PINNC	**Pines Island,**	**3.57**	**199**	P	**Pn**	**12 04 09.0**	**+1.5**
OUENC	**Ouen Island, N**	**3.62**	**208**	P	**Pn**	**12 04 09.2**	**+1.0**
NOUC	**Port Laguerre**	**3.63**	**217**	P	**Pn**	**12 04 09.2**	**+0.9**
ONTNC	**Ouen Toro**	**3.71**	**214**	P	**Pn**	**12 04 10.7**	**+1.2**
KOUNC	**Koumac, New Ca**	**4.34**	**251**	P	**Pn**	**12 04 18.7**	**+0.6**
STKA	**Stephens Creek**	**27.41**	**237**	P	**P**	**12 08 55.8**	**-0.5**
	1.2nm,0.6s,baz=58,slow=9.5,SNR=3.2						
	1.2nm,0.6s						
WRA	**Warramunga Arr**	**32.33**	**263**	P	**P**	**12 09 39.3**	**-0.8**
	0.2nm,0.4s,baz=88,slow=8.4,SNR=9.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**32.62**	**256**	P	**P**	**12 09 42.8**	**+0.2**
	1.3nm,0.5s,baz=82,slow=8.5,SNR=58						
	1.3nm,0.5s						
QSPA	**South Pole Qui**	**70.84**	**180**	P	**P**	**12 14 27.0**	**+0.1**
	0.9nm,0.8s,baz=338,slow=19,SNR=2.3						
	0.9nm,0.8s						
PETK	**Petropavlovsk-**	**72.64**	**353**	P	**P**	**12 14 37.7**	**+0.1**
	1.4nm,0.8s,baz=119,slow=6.1,SNR=4.2						
	1.4nm,0.8s						

*HVO **01** 12:38:20.0±1.7, 19°.36N±0°.03×155°.01W±0°.02, h-0km±9km, ML2.4/9, ML2.4/44(NEIC), Error ellipse: s-maj=5.1km s-min=1.1km az=142.0*
NEIC 01 12:38:21.4±1.4, 19°.37N±0°.03×155°.05W±0°.01, h5km±1km, Error ellipse: s-maj=5.3km s-min=2.9km az=156.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.06**	**284**	Pg	Pg	12 38 21.4	-1.5
JCUZ				IAML		12 38 22.8	
	comp=E,2μm,0.7s						
NPOC	**North of Pu'u**	**0.07**	**290**	Pg	Pg	12 38 21.6	-1.4
STCH	**Steam Cracks**	**0.08**	**281**	Pg	Pg	12 38 22.2	-1.0
KNHH	**Kane Nui o Ham**	**0.12**	**274**		Pg	12 38 24.6	+0.7
PUH	**Pauahi**	**0.16**	**271**		Pg	12 38 24.2	-0.4
PHO	**Puu Honuaula**	**0.18**	**53**		Pg	12 38 24.7	-0.4
PHO					Sg	12 38 28.0	+0.5
BYL	**Byron's Ledge**	**0.21**	**281**	Pg	Pg	12 38 24.7	-0.8
BYL				IAML		12 38 26.6	
	comp=N,548nm,1.5s						
HATHI	**Halema'uma'u T**	**0.21**	**284**		Pg	12 38 25.2	-0.3
HATHI				IAML		12 38 26.1	
	comp=E,839nm,1.1s						
KKO	**Keanakako`i**	**0.21**	**277**		Pg	12 38 25.0	-0.6
KKO				IAML		12 38 27.1	
	comp=E,517nm,1.2s						
KKO				IAML		12 38 33.3	
	comp=N,815nm,0.8s						
RIM	**Rim**	**0.22**	**276**		Pg	12 38 26.0	+0.3
RIM				IAML		12 38 29.5	
	comp=N,564nm,1.4s						
RIM				IAML		12 38 32.2	
	comp=E,556nm,1.7s						
SBLHI	**Steaming Bluff**	**0.22**	**285**	Pg	Pg	12 38 25.6	-0.1
UWB	**Uwekahuna B**	**0.23**	**284**		Pg	12 38 26.1	+0.2
OBL	**Observatory Le**	**0.23**	**282**	Pg	Pg	12 38 25.2	-0.7
SDHHI	**Sand Hill**	**0.24**	**275**	Pg	Pg	12 38 25.0	-1.1
SDHHI				IAML		12 38 33.5	
	comp=N,624nm,0.6s						
SDHHI				IAML		12 38 33.9	
	comp=E,760nm,1.2s						
RSD	**Rainshed**	**0.24**	**293**		Pg	12 38 26.5	+0.4
RSD				IAML		12 38 32.0	
	comp=E,675nm,0.1s						
UWE	**Uwekahuna**	**0.24**	**282**	Pg	Pg	12 38 25.2	-0.9
UWE				IAML		12 38 34.0	
	comp=N,917nm,1.6s						
UWE				IAML		12 38 34.6	
	comp=E,870nm,0.6s						
WRMHI	**West Rim**	**0.24**	**278**	Pg	Pg	12 38 25.4	-0.8
HLP	**Hilina Pali**	**0.26**	**253**		Pg	12 38 25.4	-1.1
HLP				IAML		12 38 34.9	
	comp=E,491nm,1.1s						
MLH	**Mauna Loa**	**0.34**	**291**		Pg	12 38 27.7	-0.4
MLH				IAML		12 38 31.2	
	comp=E,305nm,3.6s						
MLH				IAML		12 38 39.7	
	comp=N,360nm,1.7s						
HTC	**Hot Caves**	**0.36**	**248**		Pg	12 38 28.6	+0.3
HMH	**Humu'ula Sheep**	**0.47**	**299**		Pg	12 38 30.5	-0.1
HMH				IAML		12 38 41.9	
	comp=E,403nm,3.6s						
MLOA	**Mauna Loa Obse**	**0.53**	**288**	Pg	Pg	12 38 31.1	-0.5
MLOA				IAML		12 38 45.3	
	comp=E,288nm,3.5s						
MLOA				IAML		12 38 46.5	
	comp=N,272nm,4.6s						
MWH	**Moku'aweowe**	**0.53**	**282**	Pg	Pg	12 38 31.4	-0.3
MWH				IAML		12 38 45.9	
	comp=N,214nm,1.5s						
MWH				IAML		12 38 49.3	
	comp=E,286nm,1.3s						
KHU	**Kahuku**	**0.55**	**257**		Pg	12 38 31.8	-0.2
ALEP	**Alea Permanent**	**0.59**	**287**		Pg	12 38 32.6	-0.2
ALEP					Sg	12 38 41.8	+1.3
POHA	**Pohakuloa**	**0.60**	**310**	Pg	Pg	12 38 31.9	-1.1
POHA				IAML		12 38 52.0	
	comp=E,262nm,2.9s						
POHA				IAML		12 38 53.4	
	comp=E,216nm,1.9s						

*HVO **01** 12:39:11.9±1.8, 19°.27N±0°.02×155°.10W±0°.02, h6km±4km, ML4.2/43, mb4.4/43(NEIC), ML4.2/46(NEIC), Error ellipse: s-maj=3.9km s-min=2.3km az=131.0*
*IDC **01** 12:39:11.2±1.7, 19°.49N×155°.49W, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=80.5km s-min=33.7km az=145.0*
*NEIC **01** 12:39:11.1±1.4, 19°.21N±0°.02×155°.08W±0°.02, h5km±1km, Error ellipse: s-maj=3.6km s-min=2.8km az=313.0*
ISC 01 12:39:12.2±0.9, 19°.30N±0°.06×155°.12W±0°.03, h13km±5km, n90, σ1506/89, mb4.3/27, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.09**	**9**		**Pg**	**12 39 14.7**	**-0.4**
JCUZ				IAML		12 39 17.5	
	comp=N,139μm,0.9s						
JCUZ				IAML		12 39 17.6	
	comp=E,147μm,0.6s						
STCH	**Steam Cracks**	**0.09**	**355**		**Pg**	**12 39 14.8**	**-0.4**
KNHH	**Kane Nui o Ham**	**0.09**	**328**		**Pg**	**12 39 15.0**	**-0.3**
NPOC	**North of Pu'u**	**0.09**	**4**		**Pg**	**12 39 14.9**	**-0.3**
PUH	**Pauahi**	**0.12**	**308**		**Pg**	**12 39 15.3**	**-0.3**
PUH				IAML		12 39 18.8	
	comp=N,72μm,1.1s						
JOKA	**Jonika Flow**	**0.17**	**38**		**Pg**	**12 39 15.9**	**-0.4**
JOKA					**Sg**	**12 39 19.1**	**+0.1**
KKO	**Keanakako`i**	**0.17**	**305**		**Pg**	**12 39 16.2**	**-0.1**
KKO				IAML		12 39 20.1	
	comp=E,36μm,0.8s						
BYL	**Byron's Ledge**	**0.18**	**310**		**Pg**	**12 39 16.3**	**-0.1**
BYL				IAML		12 39 20.3	
	comp=E,78μm,0.6s						
BYL				IAML		12 39 20.3	
	comp=N,71μm,0.6s						
RIM	**Rim**	**0.18**	**303**		**Pg**	**12 39 16.3**	**-0.1**
RIM				IAML		12 39 20.5	
	comp=E,38μm,0.4s						
RIM				IAML		12 39 20.5	
	comp=N,59μm,0.7s						
HLP	**Hilina Pali**	**0.18**	**269**		**Pg**	**12 39 16.8**	**+0.4**
HLP				IAML		12 39 21.3	
	comp=N,42μm,0.5s						
HLP				IAML		12 39 21.4	
	comp=E,49μm,0.5s						
HATHI	**Halema'uma

MLOA				IAML			12 39 30.9		
	comp=E,23µm,0.6s								
ALEP	**Alea Permanent**	**0.55**	**296**			**Pg**	**12 39 22.4**	**-0.7**
ALEP						**Sb**	**12 39 31.9**	**0.0**
POHA	**Pohakuloa**	**0.60**	**319**			**Pg**	**12 39 23.1**	**-1.0**
POHA	**Pohakuloa**	**0.60**	**319**			**Sg**	**12 39 32.2**	**+0.2**
CPH	**Captain Cook**	**0.78**	**284**			**Pg**	**12 39 24.9**	**-2.5**
MHA	**Mahukona**	**1.15**	**320**			**Sg**	**12 39 49.1**	**-0.4**
H11N3	**WAKE ISLAND Hy**	**35.75**	**277**	T		T	13 23 27.4		
	baz=84,slow=73,SNR=57								
H11N2	**WAKE ISLAND Hy**	**35.76**	**277**	T		T	13 23 17.4		
	baz=84,slow=73,SNR=60								
H11N1	**WAKE ISLAND Hy**	**35.77**	**277**	T		T	13 23 24.2		
	baz=84,slow=73,SNR=57								
H11S2	**WAKE ISLAND Hy**	**36.08**	**275**	T		T	13 23 53.2		
	baz=82,slow=74,SNR=11								
H11S1	**WAKE ISLAND Hy**	**36.09**	**275**	T		T	13 23 48.2		
	baz=82,slow=74,SNR=8.0								
H11S3	**WAKE ISLAND Hy**	**36.10**	**275**	T		T	13 23 52.5		
	baz=82,slow=74,SNR=11								
E03A	**Lebam**	**37.51**	**36**	P		**P**	**12 46 25.4**	**-0.2**
O18K	**Koktuh Hills**	**40.51**	**360**	P		**P**	**12 46 49.7**	**-0.9**
BRLK	**Bradley Lake**	**40.53**	**3**	P		**P**	**12 46 50.3**	**-0.5**
LCMT	**Little Creek M**	**40.55**	**55**	P		**P**	**12 46 50.8**	**-0.7**
CCUT	**Cedar City**	**40.59**	**54**	P		**P**	**12 46 51.3**	**-0.7**
E09A	**Wood Farm, Sta**	**40.65**	**40**	P		**P**	**12 46 52.8**	**+0.8**
E09A				IAmb		IAmb	12 46 53.3		
	comp=Z,6.6nm,1.0s								
NIUE	**Niue**	**40.81**	**202**	P		**P**	**12 46 52.9**	**-0.6**
X16A	**Lo Mia Camp, P**	**41.45**	**60**	P		**P**	**12 46 59.1**	**+0.2**
N19K	**Bonanza Creek**	**41.47**	**0**	P		**P**	**12 47 00.6**	**+1.9**
N19K				IAmb		IAmb	12 47 01.0		
	comp=Z,7.0nm,1.0s								
R32K	**Eaglecrest**	**41.75**	**16**	P		**P**	**12 47 00.6**	**-0.2**
R32K				IAmb		IAmb	12 47 11.3		
	comp=Z,7.2nm,0.9s								
L19K	**White Mountain**	**42.84**	**0**	P		**P**	**12 47 11.1**	**+1.3**
L19K				IAmb		IAmb	12 47 30.9		
	comp=Z,6.9nm,1.3s								
L18K	**Granite Mounta**	**42.90**	**359**	P		**P**	**12 47 11.8**	**+1.7**
L18K				IAmb		IAmb	12 47 38.5		
	comp=Z,12nm,1.5s								
TTA	**Tatalina**	**43.60**	**359**	P		**P**	**12 47 17.1**	**+1.2**
K20K	**Telida**	**44.03**	**1**	P		**P**	**12 47 17.8**	**-1.5**
CAST	**Castle Rocks**	**44.13**	**2**	P		**P**	**12 47 20.4**	**+0.3**
KTH	**Kantishna Hill**	**44.31**	**3**	P		**P**	**12 47 22.9**	**+1.2**
KTH				IAmb		IAmb	12 47 23.4		
	comp=Z,7.6nm,0.9s								
J19K	**Poorman**	**44.66**	**360**	P		**P**	**12 47 26.0**	**+1.7**
J19K				IAmb		IAmb	12 47 31.9		
	comp=Z,5.8nm,1.4s								
BCAR	**Beaver Creek A**	**44.68**	**9**	P		**P**	**12 47 26.2**	**+1.7**
PDAR	**Pinedale Array**	**44.83**	**48**	P		**P**	**12 47 28.4**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=246,slow=6.8,SNR=2.1								
	comp=Z,0.2nm,0.7s								
BPAW	**Bear Paw Mtn.**	**44.86**	**3**	P		**P**	**12 47 26.1**	**+0.2**
BPAW				IAmb		IAmb	12 47 26.8		
	comp=Z,3.7nm,1.2s								
WRH	**Wood River Hil**	**45.39**	**4**	P		**P**	**12 47 30.8**	**+0.7**
WRH				IAmb		IAmb	12 47 32.2		
	comp=Z,6.3nm,1.2s								
J25K	**Salcha River,**	**45.76**	**6**	P		**P**	**12 47 34.2**	**+1.1**
MLY	**Manley**	**45.80**	**3**	P		**P**	**12 47 33.5**	**+0.1**
MLY				IAmb		IAmb	12 47 34.2		
	comp=Z,3.9nm,1.2s								
J26L	**Joseph Creek**	**45.84**	**7**	P		**P**	**12 47 31.7**	**-2.1**
SMCO	**Snowmass**	**45.85**	**54**	P		**P**	**12 47 31.5**	**-3.2**
MDM	**Murphy Dome**	**45.86**	**4**	P		**P**	**12 47 33.7**	**-0.2**
MDM				IAmb		IAmb	12 48 01.7		
	comp=Z,5.5nm,1.2s								
I23K	**Minto, Yukon-K**	**45.98**	**3**	P		**P**	**12 47 36.0**	**+1.3**
I23K				IAmb		IAmb	12 47 53.4		
	comp=Z,3.4nm,1.1s								
EGAK	**Eagle**	**46.40**	**8**	P		**P**	**12 47 38.3**	**+0.3**
EGAK				IAmb		IAmb	12 48 01.9		
	comp=Z,3.4nm,1.2s								
EGMT	**Eagleton**	**46.45**	**41**	P		**P**	**12 47 37.3**	**-1.5**
EGMT				IAmb		IAmb	12 47 44.0		
	comp=Z,2.8nm,1.0s								
PRP	**Porcupine Dome**	**46.63**	**5**	P		**P**	**12 47 39.7**	**-0.3**
PRP				IAmb		IAmb	12 47 42.2		
	comp=Z,5.7nm,1.4s								
H23K	**Yukon River**	**46.65**	**3**	P		**P**	**12 47 40.1**	**+0.1**
H23K				IAmb		IAmb	12 47 54.9		
	comp=Z,4.4nm,1.4s								
IMAR	**Indian Mountai**	**46.67**	**1**	P		**P**	**12 47 40.5**	**+0.4**
F19K	**Shaleruckik Mo**	**47.55**	**359**	P		**P**	**12 47 47.5**	**+0.5**
F19K				IAmb		IAmb	12 48 13.2		
	comp=Z,7.9nm,1.5s								
I30M	**Mount Dempster**	**47.56**	**11**	P		**P**	**12 47 49.3**	**+2.0**
I30M				IAmb		IAmb	12 47 50.0		
	comp=Z,4.3nm,1.3s								
TX31	**Lajitas Ar. Si**	**47.62**	**68**	P		**P**	**12 47 47.6**	**-0.7**
TX31				IAmb		IAmb	12 47 54.1		
	comp=Z,2.5nm,1.1s								
TXAR	**Lajitas Array**	**47.62**	**68**	P		**P**	**12 47 49.1**	**+0.8**
TXAR	**Lajitas Array**	**47.62**	**68**	P		**P**	**12 47 51.1**	**+2.9**
	comp=Z,0.9nm,0.8s,baz=250,slow=8.9,SNR=13								
	comp=Z,0.9nm,0.8s								
G24K	**Hadweenzic Riv**	**47.64**	**4**	P		**P**	**12 47 47.2**	**-0.6**
G24K				IAmb		IAmb	12 47 51.4		
	comp=Z,4.7nm,1.4s								
FYU	**Fort Yukon**	**47.68**	**5**	P		**P**	**12 47 49.6**	**+1.6**
H29M	**Whitestone**	**48.16**	**9**	P		**P**	**12 47 53.8**	**+2.0**
H29M				IAmb		IAmb	12 48 17.0		
	comp=Z,8.0nm,1.5s								
E19K	**Redstone River**	**48.16**	**359**	P		**P**	**12 47 53.4**	**+1.7**
E19K				IAmb		IAmb	12 48 09.4		
	comp=Z,2.7nm,1.0s								
E25K	**Arctic Village**	**49.18**	**5**	P		**P**	**12 48 01.1**	**+1.5**
D19K	**Kuna River**	**49.22**	**359**	P		**P**	**12 48 01.0**	**+1.1**
C18K	**Utukok River**	**49.48**	**357**	P		**P**	**12 48 03.2**	**+1.2**
D22K	**Ayikyak River**	**49.59**	**1**	P		**P**	**12 48 04.5**	**+1.8**
C23K	**Itkillik River**	**50.61**	**2**	P		**P**	**12 48 11.5**	**+1.1**
B20K	**Meade River**	**50.72**	**359**	P		**P**	**12 48 12.2**	**+1.0**
B22K	**Teshekpuk Lake**	**51.05**	**1**	P		**P**	**12 48 14.6**	**+0.9**
B22K				IAmb		IAmb	12 48 18.3		
	comp=Z,12nm,1.5s								
YKA	**Yellowknife Ar**	**51.36**	**23**	P		**P**	**12 48 16.8**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=236,slow=7.3,SNR=7.1								
	comp=Z,0.3nm,0.7s								
ASAR	**Alice Springs**	**81.31**	**241**	P		**P**	**12 51 28.8**	**+0.1**
	comp=Z,0.4nm,1.0s,baz=81,slow=5.7,SNR=2.0								
	comp=Z,0.4nm,1.0s								
H03N2	**Juan Fernandez**	**89.52**	**126**	T		T	14 31 07.2		
	baz=298,slow=76,SNR=11								
H03N3	**Juan Fernandez**	**89.53**	**126**	T		T	14 31 08.2		
	baz=298,slow=76,SNR=11								
H03N1	**Juan Fernandez**	**89.53**	**126**	T		T	14 31 08.6		
	baz=298,slow=76,SNR=12								

*IDC **01** 12:45:29.8±0.5, 16°.68S×176°.97E, h0km, mb4.5/22, mbtmp4.5/23, ML2.9/1, MS5.0/55, Error ellipse: s-maj=15.1km s-min=14.4km az=122.0*

*NEIC **01** 12:45:30.9, 16°.68S×177°.29E, h14km*

*NEIC **01** 12:45:30.9, 16°.68S×177°.29E, h14km, Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 10^17^Nm; Mrr0.01; Mθθ-0.17; Mφφ0.17; Mrθ1.27; Mθφ2.82; Mφr-0.70; Fault plane solution: M0 3.14000×10^17^ NP1: φs266.74000°, δ80.24000°, λ-22.03000°. NP2:φs0.66000°, δ68.30000°, λ-169.49000°. Principal axes: T 2.8748, Plg8.0000°, Azm315.0000°; N 0.5320, Plg66.0000°, Azm64.0000°; P -3.4068, Plg22.0000°, Azm222.0000°;*

*MOS **01** 12:45:31.2±1.1, 16°.72S×176°.96E, h16km, mb5.1/30, MS5.2/5 Error ellipse: s-maj=10.0km s-min=8.1km az=41.7*

*NEIC **01** 12:45:31.1±2.3, 16°.64S±0°.06×177°.15E±0°.07, h10km±1km, mb5.2/164, Ms_20 5.2/316, Mww5.6/25, Error ellipse: s-maj=12.0km s-min=9.9km az=64.0*

*NOU **01** 12:45:32.8, 16°.72S×177°.34E, h16km, mb5.0/72, Fiji Islands*

*BJI **01** 12:45:33.7±0.0, 16°.17S×177°.11E, h18km, mb4.8/51, mB5.3/42, Ms5.3/54, Ms7 5.2/51*

*GCMT **01** 12:45:37.0±0.1, 16°.49S±0°.01×177°.11E±0°.01, h17km, MW5.6/163, Moment Tensor Solution. s135,c259; s163,c337; Duration: 1s6 Moment tensor: Scale 10^17^ Nm; Mrr-0.17±.03; Mθθ0.05±.03; Mφφ0.11±.03; Mrθ0.67±.08; Mθφ3.18±.03; Mφr-0.49±.08; Best double couple: M0 3.28900×10^17^ NP1:φs269.00000°, δ81.00000°, λ-12.00000°. NP2:φs1.00000°, δ78.00000°, λ-171.00000°. Principal axes: T 3.2670, Plg2.0000°, Azm315.0000°; N 0.0430, Plg75.0000°, Azm53.0000°; P -3.3110, Plg15.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 12:45:32.3±0.5, 16.73S±0.05×177.23E±0.04, h17km±2km, h18km:pP-P, n932, σ1§53/752, mb5.1/158, MS5.2/245, 11C-3D, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSA	**Yasawairara**	**0.34**	**85**	P	**Pg**	**12 45 38.3**	**-1.1**
MSVF	**Nonsavu**	**1.27**	**142**	P	**Pn**	**12 45 55.5**	**+0.1**
MSVF	**Nonsavu**	**1.27**	**142**	Pn	**Pn**	**12 45 54.9**	**-0.5**
MSVF	**Nonsavu**	**1.27**	**142**	*e*P	**Pn**	**12 45 54.9**	**-0.5**
TAVE	**Taveuni**	**2.75**	**90**	P	**Pn**	**12 46 15.9**	**+0.3**
FUNA	**Funafuti**	**8.38**	**13**	Pn	**Pn**	**12 47 29.0**	**-4.0**
MARNC	**Mare, Loyalty**	**9.89**	**240**	P	**Pn**	**12 47 57.6**	**+3.7**
LIFNC	**LIFOU**	**10.28**	**245**	Pn	**Pn**	**12 47 55.8**	**-3.4**
PINNC	**Pines Island,**	**10.91**	**236**	P	**Pn**	**12 48 09.6**	**+1.8**
PINNC	**Pines Island,**	**10.91**	**236**		**Pn**	**12 48 04.4**	**-3.4**
AFI	**Afiamalu**	**10.97**	**77**	Pn	**Pn**	**12 48 06.3**	**-2.4**
OUENC	**Ouen Island, N**	**11.31**	**238**	P	**Pn**	**12 48 16.2**	**+3.0**
OUENC	**Ouen Island, N**	**11.31**	**238**	Pn	**Pn**	**12 48 11.0**	**-2.2**
DZM	**Mont Dzumac**	**11.48**	**241**	P	**Pn**	**12 48 18.1**	**+2.5**
DZM	**Mont Dzumac**	**11.48**	**241**	Pn	**Pn**	**12 48 11.8**	**-3.9**
DZM	**Mont Dzumac**	**11.48**	**241**	Pn	**Pn**	**12 48 13.8**	**-1.8**
	0.1nm,0.3s,baz=5.1,slow=22,SNR=3.3						
DZM				LR	LR	12 52 01.9	
	comp=Z,15µm,21.1s,baz=58,slow=35						
	17nm,0.9s						
ONTNC	**Ouen Toro**	**11.57**	**240**	P	**Pn**	**12 48 20.6**	**+3.8**
ONTNC	**Ouen Toro**	**11.57**	**240**		**Pn**	**12 48 13.7**	**-3.1**
NOUC	**Port Laguerre**	**11.61**	**241**	P	**Pn**	**12 48 20.7**	**+3.4**
NIUE	**Niue**	**12.45**	**103**	Pn	**Pn**	**12 48 27.6**	**-1.2**
KOUNC	**Koumac, New Ca**	**12.84**	**251**	P	**Pn**	**12 48 36.2**	**+2.0**
KOUNC	**Koumac, New Ca**	**12.84**	**251**	Pn	**Pn**	**12 48 32.8**	**-1.4**
RAO	**Raoul Island**	**13.24**	**161**	LR	LR	12 52 28.0	
	comp=Z,15µm,21.5s,baz=340,slow=31						
HNR	**Honiara**	**18.32**	**291**	P	**P**	**12 49 47.7**	**+1.8**
HNR	**Honiara**	**18.32**	**291**		**Pn**	**12 49 42.7**	**-3.2**
HNR	**Honiara**	**18.32**	**291**	P	**Pn**	**12 49 44.1**	**-1.8**
	949nm,0.8s,baz=207,slow=3.1,SNR=5.5						
TARA	**Tarawa**	**18.46**	**346**	P	**Pn**	**12 49 45.0**	**-2.5**
URZ	**Urewera**	**21.45**	**180**	P	**P**	**12 50 21.0**	**+1.3**
	12nm,0.8s,baz=308,slow=20,SNR=4.5						
URZ				LR	LR	12 57 20.1	
	comp=Z,4µm,20.0s,baz=82,slow=33						
	12nm,0.8s						
LHI	**Lord Howe Isla**	**22.12**	**225**	P	**P**	**12 50 25.8**	**-1.3**
LHI				IAmb	IAmb	12 50 35.9	
	comp=Z,129nm,1.1s						
RAR	**Rarotonga**	**22.19**	**105**	P	**P**	**12 50 30.2**	**+2.2**
	comp=Z,10nm,0.7s,baz=224,slow=4.7,SNR=3.0						
RAR				LR	LR	12 58 59.8	
	comp=Z,955nm,18.4s,baz=277,slow=36						
	comp=Z,10nm,0.7s						
THZ	**Tophouse**	**25.22**	**188**	IAMs_20	IAMs_20	13 01 29.4	
	comp=Z,5µm,19.0s						
EIDS	**Eidsvold**	**25.84**	**246**	P	**P**	**12 51 01.3**	**-1.8**
LTZ	**Lake Taylor**	**26.31**	**188**	P	**P**	**12 51 07.6**	**+0.4**
LTZ				IAmb	IAmb	12 51 26.9	
	comp=Z,89nm,1.4s						
OXZ	**Oxford**	**26.88**	**188**	P	**P**	**12 51 11.2**	**-1.1**
OXZ				IAmb	IAmb	12 51 46.1	
	comp=Z,41nm,1.0s						
ARMA	**Armidale**	**27.05**	**235**	P	**P**	**12 51 14.1**	**0.0**
	baz=27,SNR=3.8						
ARMA	**Armidale**	**27.05**	**235**	P	**P**	**12 51 15.6**	**+1.5**
ARMA	**Armidale**	**27.05**	**235**	P	**P**	**12 51 13.5**	**-0.6**
ARMA				IAmb	IAmb	12 51 39.2	
	comp=Z,53nm,1.4s						
RPZ	**Rata Peaks**	**27.41**	**190**	LR	LR	13 00 22.6	
	comp=Z,3µm,20.8s,baz=356,slow=33						
AUPHS	**Peel High Scho**	**27.91**	**234**	P	**P**	**12 51 22.9**	**+1.2**
SYDH	**Sydney Hard Ro**	**29.22**	**230**	P	**P**	**12 51 35.1**	**+1.8**
MLZ	**Mavora Lakes**	**29.56**	**193**	P	**P**	**12 51 36.4**	**+0.2**
MLZ				IAmb	IAmb	12 51 46.3	
	comp=Z,42nm,1.0s						
CTAO	**Charters Tower**	**29.56**	**259**	P	**P**	**12 51 38.5**	**+2.0**
CTAO	**Charters Tower**	**29.56**	**259**	P	**P**	**12 51 35.8**	**-0.7**
AULRC	**Lightning Ridg**	**29.64**	**240**	P	**P**	**12 51 38.0**	**+1.0**
PATS	**Pohnpei**	**29.97**	**320**	IAMs_20	IAMs_20	13 00 17.2	
	comp=Z,7µm,21.0s						
AUDCS	**Dubbo College**	**30.13**	**234**	P	**P**	**12 51 41.8**	**+0.4**
PMG	**Port Moresby**	**30.15**	**280**	IAMs_20	IAMs_20	13 02 57.3	
	comp=Z,4µm,18.0s						
PMG	**Port Moresby**	**30.15**	**280**	LR	LR	13 03 09.2	
	comp=Z,4µm,18.3s,baz=98,slow=35						
CNB	**Canberra Magne**	**30.97**	**228**	P	**P**	**12 51 49.3**	**+0.3**
	baz=31,SNR=4.8						
CNB	**Canberra Magne**	**30.97**	**228**	P	**P**	**12 51 50.0**	**+1.1**
YNG	**Young**	**31.20**	**230**	P	**P**	**12 51 51.4**	**+0.5**
	baz=31,SNR=7.7						
YNG	**Young**	**31.20**	**230**	P	**P**	**12 51 51.6**	**+0.8**
CAN	**Canberra**	**31.24**	**228**	P	**P**	**12 51 52.1**	**+0.9**
CAN	**Canberra**	**31.24**	**228**	P	**P**	**12 51 51.8**	**+0.6**
CAN				pmax	pmax		
	comp=Z,20nm,1.4s						
MTSU	**Mount Surprise**	**31.41**	**262**	P	**P**	**12 51 51.7**	**-1.2**
	baz=31,SNR=7.0						
MTSU	**Mount Surprise**	**31.41**	**262**	P	**P**	**12 51 53.9**	**+1.0**
PPT	**Papeete**	**31.71**	**96**	P	**P**	**12 51 57.4**	**+1.9**
	comp=Z,34nm,0.7s,baz=233,slow=20,SNR=6.7						
PPT				LR	LR	13 01 29.6	
	comp=Z,878nm,19.2s,baz=263,slow=30						
	comp=Z,34nm,0.7s						
PPTF	**Pamatai, Papee**	**31.72**	**96**	P	**P**	**12 51 57.0**	**+1.3**
MILA	**Mila**	**32.00**	**225**	P	**P**	**12 51 59.0**	**+1.1**
QLP	**Quilpie**	**32.11**	**247**	P	**P**	**12 51 58.0**	**-1.0**
	baz=32,SNR=6.4						
QLP	**Quilpie**	**32.11**	**247**	P	**P**	**12 51 58.6**	**-0.3**
CMSA	**Cobar Meteorol**	**32.20**	**237**	P	**P**	**12 51 59.1**	**-0.5**
	baz=32,SNR=26						
CMSA	**Cobar Meteorol**	**32.20**	**237**	P	**P**	**12 51 59.5**	**-0.1**
COEN	**Coen**	**32.93**	**270**	P	**P**	**12 52 07.0**	**+0.7**
COEN	**Coen**	**32.93**	**270**	P	**P**	**12 52 06.0**	**-0.2**
AUMAG	**Moama Anglican**	**34.67**	**230**	P	**P**	**12 52 22.2**	**+1.1**
TOO	**Toolangi**	**34.79**	**227**	P	**P**	**12 52 22.9**	**+0.6**
	baz=35,SNR=7.1						
TOO	**Toolangi**	**34.79**	**227**	P	**P**	**12 52 23.0**	**+0.7**
TOO	**Toolangi**	**34.79**	**227**	P	**P**	**12 52 23.0**	**+0.7**
TOO				IAmb	IAmb	12 52 34.5	
	comp=Z,70nm,1.4s						
TOO	**Toolangi**	**34.79**	**227**	P	**P**	**12 52 22.6**	**+0.4**
TOO				pmax	pmax		
	comp=Z,48nm,1.4s						
INKA	**Innaminka**	**35.38**	**246**	P	**P**	**12 52 29.1**	**+1.7**
STKA	**Stephens Creek**	**35.62**	**238**	P	**P**	**12 52 30.0**	**+0.6**
	baz=36,SNR=14						
STKA	**Stephens Creek**	**35.62**	**238**	P	**P**	**12 52 29.7**	**+0.3**
STKA	**Stephens Creek**	**35.62**	**238**	P	**P**	**12 52 29.6**	**+0.2**
STKA	**Stephens Creek**	**35.62**	**238**	P	**P**	**12 52 28.2**	**-1.1**
	comp=Z,39nm,1.2s,baz=70,slow=7.3,SNR=18						
STKA				LR	LR	13 05 55.4	
	comp=Z,4µm,19.1s,baz=69,slow=35						
	comp=Z,39nm,1.2s						
QIS	**Mount Isa**	**35.80**	**258**	P	**P**	**12 52 30.9**	**-0.2**
	baz=36,SNR=4.2						
QIS	**Mount Isa**	**35.80**	**258**	P	**P**	**12 52 31.1**	**0.0**
BRAT	**Ballarat**	**35.89**	**228**	P	**P**	**12 52 32.9**	**+1.3**
H11S2	**WAKE ISLAND Hy**	**36.50**	**343**	T	T	13 31 15.0	
	baz=162,slow=76,SNR=14						
H11S3	**WAKE ISLAND Hy**	**36.51**	**343**	T	T	13 31 15.0	
	baz=162,slow=76,SNR=9.4						
H11S1	**WAKE ISLAND Hy**	**36.52**	**343**	T	T	13 31 14.4	
	baz=162,slow=76						
ARPS	**Mount Arapiles**	**37.08**	**230**	P	**P**	**12 52 42.1**	**+0.3**
	baz=37,SNR=5.5						
ARPS	**Mount Arapiles**	**37.08**	**230**	P	**P**	**12 52 44.0**	**+2.2**
WAKE	**Wake Island**	**37.27**	**343**	IAMs_20	IAMs_20	13 04 23.2	
	comp=Z,3µm,19.0s						
H11N3	**WAKE ISLAND Hy**	**37.61**	**344**	T	T	13 32 36.0	
	baz=164,slow=76,SNR=12						
H11N1	**WAKE ISLAND Hy**	**37.61**	**344**	T	T	13 32 34.8	
	baz=164,slow=76,SNR=7.5						
H11N2	**WAKE ISLAND Hy**	**37.63**	**344**	T	T	13 32 36.0	
	baz=164,slow=76,SNR=4.5						
LCRK	**Leigh Creek**	**38.08**	**242**	P	**P**	**12 52 50.1**	**-0.2**
HTT	**Hallett**	**38.22**	**237**	P	**P**	**12 52 52.1**	**+0.6**
	baz=38,SNR=5.3						
HTT	**Hallett**	**38.22**	**237**	P	**P**	**12 52 52.8**	**+1.2**
JAY	**Jayapura**	**38.58**	**288**	P	**P**	**12 52 55.4**	**+0.6**
	comp=Z,18nm,1.0s						
WHYH	**Whyalla**	**39.20**	**238**	P	**P**	**12 53 00.1**	**+0.4**
OOD	**Oodnadatta**	**39.82**	**247**	P	**P**	**12 53 06.7**	**+1.8**
BBOO	**Buckleboo**	**40.39**	**239**	P	**P**	**12 53 11.7**	**+2.1**
BBOO	**Buckleboo**	**40.39**	**239**	P	**P**	**12 53 06.6**	**-3.0**
WR0	**Warramunga Arr**	**40.57**	**259**	P	**P**	**12 53 08.3**	**-3.0**
SMPI	**Sarmi**	**40.61**	**287**	P	**P**	**12 53 11.0**	**-0.7**
	comp=Z,87nm,1.2s,comp=Z,7µm						
WB0	**Warramunga Arr**	**40.72**	**259**	P	**P**	**12 53 09.8**	**-2.7**
WB2	**Warramunga Arr**	**40.75**	**259**	P	**P**	**12 53 09.9**	**-2.9**
WRAB	**Tennant Creek**	**40.75**	**259**	P	**P**	**12 53 09.8**	**-2.9**
WRAB	**Tennant Creek**	**40.75**	**259**	*i* P	**P**	**12 53 09.9**	**-2.9**
WRAB				pmax	pmax		
	comp=Z,18nm,1.0s						
WRA	**Warramunga Arr**	**40.76**	**259**	P	**P**	**12 53 09.7**	**-3.2**
	comp=Z,14nm,1.0s,baz=91,slow=8.7,SNR=33						
WRA				LR	LR	13 07 57.6	
	comp=Z,1µm,20.5s,baz=92,slow=33						
	comp=Z,14nm,1.0s						
WRA	**Warramunga Arr**	**40.76**	**259**	*e*P	**P**	**12 53 09.9**	**-3.0**
WRA				pmax	pmax		
	comp=Z,14nm,1.0s						
AS31	**Alice Springs**	**41.12**	**253**	P	**P**	**12 53 13.8**	**-2.0**
ASAR	**Alice Springs**	**41.12**	**253**	P	**P**	**12 53 14.2**	**-1.6**
ASAR	**Alice Springs**	**41.12**	**253**	P	**P**	**12 53 13.4**	**-2.4**
	comp=Z,16nm,1.0s,baz=82,slow=8.4,SNR=38						
ASAR				PcP	**PcP**	**12 55 15.9**	**+0.6**
	comp=Z,1.7nm,0.8s,baz=90,slow=5.6,SNR=1.4						
ASAR				LR	LR	13 08 54.1	
	comp=Z,3µm,21.4s,baz=90,slow=34						
	comp=Z,16nm,1.0s						
MULG	**Mulgathing**	**41.58**	**243**	P	**P**	**12 53 20.8**	**+1.3**
KDU	**Kakadu**	**43.41**	**269**	P	**P**	**12 53 34.7**	**+0.2**
	baz=43,SNR=4.0						
KDU	**Kakadu**	**43.41**	**269**	P	**P**	**12 53 36.2**	**+1.7**
GUMO	**Guam**	**43.93**	**311**	LR	LR	13 09 48.5	
	comp=Z,908nm,21.5s,baz=138,slow=33						
MTN	**Manton Dam**	**44.66**	**269**	P	**P**	**12 53 43.7**	**-0.9**
	baz=45,SNR=6.2						
MTN	**Manton Dam**	**44.66**	**269**	P	**P**	**12 53 44.9**	**+0.3**
MTN	**Manton Dam**	**44.66**	**269**	P	**P**	**12 53 42.6**	**-2.0**
MTN				IAmb	IAmb	12 53 46.8	
	comp=Z,29nm,1.0s						
DRS	**Darwin Rock St**	**44.97**	**269**	P	**P**	**12 53 47.6**	**+0.6**
WRKA	**Warakurna**	**46.26**	**251**	P	**P**	**12 53 55.8**	**-1.4**
	baz=46,SNR=16						
WRKA	**Warakurna**	**46.26**	**251**	P	**P**	**12 53 58.6**	**+1.4**
FAKI	**Fak Fak**	**46.26**	**282**	P	**P**	**12 53 58.7**	**+1.4**
FAKI	**Fak Fak**	**46.26**	**282**	P	**P**	**12 53 56.4**	**-0.9**
FAKI				IAmb	IAmb	12 54 13.4	
	comp=Z,26nm,1.0s						
KNRA	**Kununurra**	**46.46**	**264**	P	**P**	**12 53 58.6**	**-0.2**
KNRA	**Kununurra**	**46.46**	**264**	P	**P**	**12 53 56.4**	**-2.4**
SWI	**Sorong**	**47.92**	**284**	P	**P**	**12 54 09.7**	**-0.5**
SWI				pmax	pmax		
	comp=Z,44nm,1.4s						
BNDI	**Bandanaira**	**47.94**	**279**	P	**P**	**12 54 11.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**49.11**	**260**	P	**P**	**12 54 18.5**	**-0.9**
	baz=49,SNR=15						
FITZ	**Fitzroy Crossi**	**49.11**	**260**	P	**P**	**12 54 18.9**	**-0.5**
FITZ	**Fitzroy Crossi**	**49.11**	**260**	P	**P**	**12 54 18.5**	**-0.9**
SOEI	**Soe**	**51.90**	**271**	P	**P**	**12 54 42.4**	**+1.8**
SOEI	**Soe**	**51.90**	**271**	P	**P**	**12 54 39.5**	**-1.1**
SANI	**Sanana**	**52.43**	**281**	P	**P**	**12 54 45.0**	**+0.5**
SANI	**Sanana**	**52.43**	**281**	P	**P**	**12 54 42.8**	**-1.7**
	comp=Z,46nm,1.2s,comp=Z,776nm						
MMRI	**Maumere**	**54.11**	**271**	P	**P**	**12 54 55.1**	**-1.7**
PSA00	**Pilbara Seismi**	**54.17**	**255**	P	**P**	**12 54 57.2**	**0.0**
PSA00	**Pilbara Seismi**	**54.17**	**255**	P	**P**	**12 54 55.5**	**-1.7**
PSA00				IAmb	IAmb	12 55 05.0	
	comp=Z,41nm,1.3s						
PSA00	**

comp=Z,39nm,1.1s
TWG Pinlang 67.54 304 IAMs_20 IAMs_20 13 21 19.9
comp=Z,2μm,21.0s
YULB Yu-li 67.65 305 IAMs_20 IAMs_20 13 21 53.1
comp=Z,1μm,20.0s
RPN Rapa Nui 68.09 113 LR LR 13 19 06.2
comp=Z,1μm,21.8s,baz=261,slow=30
SSLB Suanglung 68.12 305 IAMs_20 IAMs_20 13 21 28.6
comp=Z,1μm,20.0s
TPUB Ta-pu 68.13 304 P **P** **12 56 30.2 -1.7**
YHNB Yeheng 68.25 306 IAMs_20 IAMs_20 13 23 08.9
comp=Z,1μm,20.0s
TATO Taipei 68.32 306 IAMs_20 IAMs_20 13 22 54.6
comp=Z,2μm,21.0s
ASAJ Asahikawa 68.32 334 LR LR 13 21 04.6
comp=Z,2μm,21.4s,baz=166,slow=31
KSM Kuching 68.39 278 P **P** **12 56 35.4 +1.7**
KSM Kuching 68.39 278 P **P** **12 56 31.0 -2.7**
LEM Lembang 68.58 269 P **P** **12 56 33.8 -1.2**
comp=Z,55nm,1.3s
LEM Lembang 68.58 269 P **P** **12 56 33.1 -1.9**
LEM pmax pmax
comp=Z,55nm,1.3s
ATKA Atka Island 69.04 6 P **P** **12 56 35.8 -1.1**
SHEM Shemya Is, Ala 69.22 358 LR LR 13 21 38.0
comp=Z,1μm,20.4s,baz=135,slow=31
NIKH Nikolski High 70.45 9 P **P** **12 56 46.6 +1.1**
baz=194
QZH Quanzhou 70.56 305 ⇑*i*P **P** **12 56 45.0 -1.8**
QZH S **S** **13 05 56.5 -3.5**
QZH LR LR
comp=Z,810nm,22.3s
QZH LR LR
comp=Z,1μm,19.2s
QZH LR LR
comp=Z,1μm,21.0s
YSS Yuzh-Sakhalins 70.57 336 IAMs_20 IAMs_20 13 21 23.7
comp=Z,2μm,21.0s
YSS Yuzh-Sakhalins 70.57 336 *e*P **P** **12 56 48.1 +1.7**
YSS *e* 12 59 25.4
YSS *e*S **S** **13 06 03.0 +3.8**
YSS *e*PS **PnS** **13 06 32.4 +4.8**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS smax smax
comp=N,200nm,8.5s
KSRS Korea Array 71.10 320 P **P** **12 56 48.5 -1.3**
comp=N,3.7nm,1.0s,baz=131,slow=6.8,SNR=13
KSRS LR LR 13 23 02.0
comp=N,885nm,21.8s,baz=125,slow=32
comp=N,3.7nm,1.0s
KSRS Korea Array 71.10 320 *e*P **P** **12 56 50.1 +0.3**
KSRS pmax pmax
comp=Z,4.0nm,1.0s
KSAR Wonju Array Be 71.11 320 P **P** **12 56 49.0 -0.9**
PET Petropavlovsk 71.30 348 *e*P **P** **12 56 50.0 -0.6**
PET *e*S **S** **13 06 07.8 +0.4**
PET *e*PPS PPS 13 06 44.6
PET *e*SS **SS** **13 10 49.6 +7.4**
PET pmax pmax
comp=Z,100nm,12.4s
PET pmax pmax
comp=Z,45nm,1.4s
PEA0B Petropavlovsk- 71.57 348 P **P** **12 56 52.4 +0.1**
PETK Petropavlovsk- 71.57 348 P **P** **12 56 52.5 +0.2**
PETK Petropavlovsk- 71.57 348 P **P** **12 56 52.8 +0.4**
comp=Z,5.6nm,0.9s,baz=128,slow=6.2,SNR=6.2
PETK LR LR 13 22 14.9
comp=Z,1μm,21.7s,baz=160,slow=31
comp=Z,5.6nm,0.9s
UNV Unalaska Valle 71.66 10 P **P** **12 56 53.3 +0.5**
baz=196
SSE Sheshan 71.81 312 P **P** **12 56 55.5 +1.2**
SSE S **S** **13 06 15.5 +1.2**
SSE pmax pmax
comp=Z,2.0nm,0.5s
SSE pmax pmax
comp=Z,79nm,4.1s
SSE LR LR
comp=Z,160nm,19.6s
SSE LR LR
comp=Z,240nm,19.6s
VLA Vladivostok 72.64 327 *i*P **P** **12 57 00.0 +1.0**
VLA pmax pmax
comp=Z,21nm,1.7s
PSTR Posyet 72.89 326 *i*P **P** **12 57 00.3 -0.2**
HKPS Hong Kong Po S 72.91 300 IAMs_20 IAMs_20 13 23 17.4
comp=Z,2μm,22.0s
FALS False Pass 73.18 12 P **P** **12 57 01.5 -0.3**
baz=199
QSPA South Pole Qui 73.32 180 P **P** **12 57 03.4 +0.4**
QSPA South Pole Qui 73.32 180 P **P** **12 57 03.5 +0.6**
comp=Z,10nm,1.0s,baz=37,slow=0.8,SNR=16
QSPA LR LR 13 25 45.4
comp=Z,521nm,19.9s,baz=46,slow=33
comp=Z,10nm,1.0s
USA0B Ussuriysk Arra 73.35 328 *i*P **P** **12 57 03.2 +0.1**
USRK Ussuriysk Ar. 73.35 328 P **P** **12 57 03.1 0.0**
comp=Z,3.1nm,0.9s,baz=130,slow=3.0,SNR=4.6
USRK LR LR 13 23 33.1
comp=Z,944nm,21.7s,baz=132,slow=31
comp=Z,3.1nm,0.9s
DLV T Lat 73.67 288 P **P** **12 57 07.8 +1.9**
DLV T Lat 73.67 288 P **P** **12 57 03.7 -2.3**
DLV IAmb IAmb 12 57 13.6
comp=Z,28nm,1.1s
TYV Tymovskoe 73.82 338 *e*P **P** **12 57 07.1 +1.4**
TYV *e*S **S** **13 06 40.6 +4.3**
TYV pmax pmax
comp=Z,100nm,3.5s
TYV pmax pmax
comp=Z,6.0nm,1.3s
TYV smax smax
comp=N,200nm,6.5s
TYV smax smax
comp=E,100nm,6.5s
P08K Saint George I 73.89 8 P **P** **12 57 06.6 +0.6**
baz=193
CHNA Chernabura Isl 73.96 14 P **P** **12 57 06.8 +0.4**
baz=203
NJ2 Nanjing 74.00 311 *e*P **P** **12 57 10.5 +3.2**
NJ2 pmax pmax
comp=E,6.0nm,0.6s
NJ2 pmax pmax
comp=E,190nm,5.6s
NJ2 LR LR
comp=E,390nm,16.0s
NJ2 LR LR
comp=E,260nm,20.7s
NJ2 LR LR
comp=E,710nm,22.1s
SDPT Sand Point 74.24 13 P **P** **12 57 08.8 +0.7**
baz=202
S12K Black Hills 74.25 12 P **P** **12 57 09.2 +1.1**
baz=200
MDJ Mudanjiang 74.88 327 P **P** **12 57 12.1 0.0**
MDJ S **S** **13 06 53.2 +4.7**
MDJ ScS **SKKSac** **13 07 20.7 +0.3**
MDJ pmax pmax
comp=E,7.0nm,1.1s
MDJ pmax pmax
comp=E,250nm,5.7s
MDJ LR LR
comp=E,650nm,20.1s
MDJ LR LR
comp=E,170nm,12.3s
MDJ LR LR
comp=E,810nm,21.5s
QIZ Qiongzhong 75.18 295 P **P** **12 57 16.6 +2.2**
QIZ S **S** **13 06 57.4 +4.6**
QIZ pmax pmax
comp=E,140nm,5.1s
QIZ LR LR
comp=E,75nm,17.6s
QIZ LR LR
comp=E,530nm,18.6s
QIZ LR LR
comp=E,730nm,18.6s
S14K Fog Glacier 75.31 13 P **P** **12 57 15.1 +0.7**
baz=203
CHGN Chignik 75.58 14 P **P** **12 57 15.4 -0.4**
baz=204
GRNR Gornyy 76.14 335 ⇑*i*P **P** **12 57 18.9 -0.3**
GRNR pmax pmax
comp=Z,3.0nm,0.9s
SNY Shenyang 76.44 322 ⇑P P 12 57 15.0 -6.1
SNY S **S** **13 07 07.6 +1.7**
SNY pmax pmax
comp=Z,6.0nm,0.4s
SNY pmax pmax
comp=Z,160nm,7.5s
SNY LR LR
comp=N,350nm,17.3s
SNY LR LR
comp=E,330nm,20.2s
SNY LR LR
comp=Z,470nm,18.2s
WHN Wuhan 76.57 308 P **P** **12 57 24.6 +2.5**
WHN S **S** **13 07 08.3 +0.5**
WHN LR LR
comp=Z,1μm,13.7s
WHN LR LR
comp=Z,2μm,16.3s
WHN LR LR
comp=Z,3μm,20.3s
CN2 Changchun 76.59 324 *e*P **P** **12 57 23.8 +1.9**
CN2 *e*S **S** **13 07 07.8 +0.3**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
CN2 LR LR
comp=Z,150nm,16.0s
CN2 LR LR
comp=Z,160nm,16.0s
BNX BinXian 76.78 327 ⇓P **P** **12 57 23.3 +0.4**
BNX pP **sP** **12 57 28.6 -1.2**
BNX PcP **PcP** **12 57 37.2 +3.1**
BNX S **S** **13 07 14.5 +5.1**
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,180nm,7.2s
BNX LR LR
comp=Z,440nm,16.3s
BNX LR LR
comp=Z,550nm,21.7s
BNX LR LR
comp=Z,590nm,22.0s
KLR Kul'dur 77.03 331 P **P** **12 57 24.6 +0.3**
comp=Z,1.0nm,0.8s,baz=119,slow=6.1,SNR=2.9
KLR LR LR 13 26 41.4
comp=Z,792nm,20.6s,baz=146,slow=32
comp=Z,1.0nm,0.8s
KLR Kul'dur 77.03 331 *e*P **P** **12 57 23.8 -0.5**
KLR pmax pmax
comp=Z,7.0nm,1.5s
GULI GuiLin 77.33 301 ⇑P **P** **12 57 25.9 -0.6**
GULI S **S** **13 07 17.5 +1.2**
GULI pmax pmax
comp=Z,10.0nm,1.1s
GULI pmax pmax
comp=Z,170nm,6.0s
GULI LR LR
comp=Z,340nm,24.9s
GULI LR LR
comp=Z,1μm,23.9s
GULI LR LR
comp=Z,2μm,23.1s
TIA Tai'an 77.41 314 *e*P **P** **12 57 25.9 -0.8**
TIA S **S** **13 07 21.4 +4.6**
TIA SS **SS** **13 12 14.0 -2.1**
TIA pmax pmax
comp=Z,5.0nm,1.0s
TIA pmax pmax
comp=Z,140nm,8.6s
TIA LR LR
comp=Z,210nm,21.6s
TIA LR LR
comp=Z,110nm,29.0s
TIA LR LR
comp=Z,340nm,20.6s
OHAK Old Harbor 77.66 16 P **P** **12 57 29.3 +1.8**
baz=209
O14K Tigyukauivet M 77.72 11 P **P** **12 57 29.2 +1.3**
baz=201
O15K Ungalikthiuk R 77.93 12 P **P** **12 57 29.3 +0.2**
baz=202
Q17K Contact Creek 77.94 14 P **P** **12 57 29.7 +0.4**
baz=206
IPM Ipoh 78.13 278 P **P** **12 57 33.1 +1.8**
IPM Ipoh 78.13 278 P **P** **12 57 29.2 -2.1**
SNCC San Nicolas Is 78.15 50 P **P** **12 57 30.3 -0.6**
baz=241
P16K Nushagak River 78.17 13 P **P** **12 57 30.7 +0.4**
baz=204
N14K Kuskokwak Cree 78.28 11 P **P** **12 57 31.4 +0.5**
baz=200
KDAK Kodiak Island 78.34 16 P **P** **12 57 32.2 +0.8**
baz=209
KDAK Kodiak Island 78.34 16 LR LR 13 28 53.3
comp=Z,461nm,19.1s,baz=226,slow=33
M13K Dall Lake 78.46 10 P **P** **12 57 32.1 +0.2**
baz=199
O16K Kokwok River B 78.66 13 P **P** **12 57 33.9 +0.8**
baz=204
N15K Kwethluk River 78.80 11 P **P** **12 57 34.7 +0.9**
baz=202
SMMC Simmler 78.82 48 P **P** **12 57 33.6 -1.1**
baz=240
JCC Jacoby Creek, 78.98 41 IAMs_20 IAMs_20 13 23 14.8
comp=Z,1μm,21.0s
M14K Bethel 79.01 10 P **P** **12 57 36.3 +1.4**
baz=200
MA2 Magadan 79.03 347 IAMs_20 IAMs_20 13 36 47.6
comp=Z,866nm,18.0s
MA2 Magadan 79.03 347 LR LR 13 26 42.1
comp=Z,569nm,21.5s,baz=167,slow=31
O17K Koliganek Bris 79.04 13 P **P** **12 57 36.4 +1.3**
baz=205
CIS Catalina Islan 79.04 50 P **P** **12 57 35.7 -0.1**
baz=242
Q19K Cape Douglas, 79.07 15 P **P** **12 57 37.1 +1.7**
baz=208
P18K Big Mountain, 79.11 14 P **P** **12 57 37.1 +1.5**
baz=207
M15K Kasigluk River 79.18 11 P **P** **12 57 37.7 +1.8**
baz=201
N16K Nishlik Lake 79.33 12 P **P** **12 57 38.3 +1.5**
baz=203
OSI Osito Audit: C 79.39 49 P **P** **12 57 38.2 +0.4**
baz=241
L14K Kuka Creek 79.44 10 P **P** **12 57 38.9 +1.6**
baz=200
O18K Koktuh Hills 79.53 14 P **P** **12 57 39.6 +1.7**
baz=207
ARVC Arvin 79.56 48 P **P** **12 57 38.6 0.0**
baz=241
PASC Pasadena Art C 79.57 50 IAMs_20 IAMs_20 13 24 47.2
comp=Z,2μm,22.0s
HNS HongShan 79.68 314 ⇑P **P** **12 57 41.0 +1.8**
HNS S **S** **13 07 45.6 +4.6**
HNS pmax pmax
comp=Z,8.0nm,1.0s
HNS LR LR
comp=Z,310nm,20.6s
HNS LR LR
comp=Z,730nm,19.1s
HNS LR LR
comp=Z,870nm,19.1s
N17K Nushagak Hills 79.70 13 P **P** **12 57 39.3 +0.5**
baz=205
K13K Kusilvak Mount 79.71 9 P **P** **12 57 39.3 +0.6**
baz=198
VES Vestal, Richgr 79.73 48 P **P** **12 57 39.2 -0.2**
baz=241
109C Camp Elliot, M 79.77 51 IAMs_20 IAMs_20 13 23 24.6
comp=Z,1μm,21.0s
HEH HeiHe 79.77 330 *e*P **P** **12 57 40.7 +1.3**
HEH pP **sP** **12 57 45.0 -1.2**
HEH SS SS 13 12 50.6 -0.4
HEH pmax pmax
comp=Z,10.0nm,1.3s
HEH pmax pmax
comp=Z,190nm,4.7s
HEH LR LR
comp=Z,510nm,20.4s
HEH LR LR
comp=Z,780nm,20.2s
HEH LR LR
comp=Z,970nm,18.6s
M16K Timber Creek 79.80 12 P **P** **12 57 40.2 +0.9**
baz=203
P19K Oil Pt 79.81 15 P **P** **12 57 40.3 +0.9**
baz=209
LYN LuoYang 79.88 311 *e*P **P** **12 57 42.2 +1.9**
LYN PcP **pwP** **12 57 53.6 +6.2**
LYN S **S** **13 07 47.4 +4.2**
LYN pmax pmax
comp=Z,33nm,0.9s
LYN pmax pmax
comp=Z,290nm,5.0s
LYN LR LR
comp=Z,520nm,18.7s
LYN LR LR
comp=Z,710nm,18.7s
LYN LR LR
comp=Z,1μm,21.8s
CMB Columbia Colle 79.91 45 P **P** **12 57 38.8 -1.7**
ORV Oroville 79.94 44 P **P** **12 57 39.1 -1.5**
ORV IAMs_20 IAMs_20 13 26 17.4
comp=Z,1μm,20.0s
L15K Ungalak Mounta 79.96 10 P **P** **12 57 40.5 +0.3**
baz=201
AFDM Forest Hills D 79.98 44 P **P** **12 57 39.8 -1.0**
MURC Murrieta 80.03 50 P **P** **12 57 40.4 -0.9**
baz=242
O19K Port Alsworth 80.03 14 P **P** **12 57 40.3 -0.2**
O19K IAmb IAmb 12 57 48.6
comp=Z,40nm,1.3s
O19K IAMs_20 IAMs_20 13 33 13.4
comp=Z,724nm,19.0s
O19K Port Alsworth 80.03 14 P **P** **12 57 40.7 +0.2**
baz=208
EDW2 Edwards Air Fo 80.05 49 P **P** **12 57 41.4 0.0**
baz=242
ISA Isabella, Lake 80.08 48 P **P** **12 57 40.4 -1.1**
ISA IAmb IAmb 12 57 56.5
comp=Z,57nm,1.8s
ISA Isabella, Lake 80.08 48 P **P** **12 57 41.9 +0.4**
baz=241
N18K Kilae Creek 80.12 13 P **P** **12 57 42.4 +1.4**
baz=206
ENH Enshi 80.18 306 P **P** **12 57 44.0 +1.9**
ENH Enshi 80.18 306 IAMs_20 IAMs_20 13 28 37.9
comp=Z,950nm,22.0s
CNPM China Poot 80.20 16 IAMs_20 IAMs_20 13 28 58.0
comp=Z,746nm,19.0s
MONP2 Monument Peak 80.28 51 P **P** **12 57 42.1 -0.7**
baz=243
YBH Yreka Blue Hor 80.31 41 P **P** **12 57 43.4 +0.7**
YBH IAMs_20 IAMs_20 13 24 11.0
comp=Z,958nm,21.0s
YBH Yreka Blue Hor 80.31 41 LR LR 13 26 09.6
comp=Z,693nm,20.8s,baz=243,slow=30
J01E Myrtle Point 80.34 39 P **P** **12 57 41.4 -1.2**
L16K Owhat River 80.34 11 P **P** **12 57 43.1 +0.9**
baz=202
IKP In-Ko-Pah, Jac 80.41 52 P **P** **12 57 41.8 -1.6**
baz=243
M17K Holitna River 80.45 12 P **P** **12 57 44.2 +1.4**
baz=204
GSI Gunungsitoli 80.47 274 P **P** **12 57 44.2 +0.2**
GSI Gunungsitoli 80.47 274 P **P** **12 57 42.8 -1.3**
GSI IAmb IAmb 12 57 45.6
comp=Z,22nm,1.1s
GSI Gunungsitoli 80.47 274 P **P** **12 57 42.3 -1.7**
comp=Z,19nm,1.2s
BRSE Bradley Lake S 80.52 16 P **P** **12 57 43.5 +0.3**
baz=211
K15K Wolf Creek Mou 80.53 10 P **P** **12 57 43.5 +0.3**
baz=200
PFO Pinyon Flats O 80.58 51 P **P** **12 57 44.0 -0.3**
baz=243
PFO Pinyon Flats O 80.58 51 LR LR 13 24 58.3
comp=Z,1μm,21.7s,baz=232,slow=29
TPFO Pinon Flats 80.58 51 P **P** **12 57 44.0 -0.3**
baz=243
MDPB Devils Postpil 80.61 46 P **P** **12 57 43.9 -0.7**
HUMO Hull Mountain 80.63 40 IAMs_20 IAMs_20 13 25 46.4
comp=Z,791nm,21.0s
J14K Nanvaranak Lak 80.65 9 IAMs_20 IAMs_20 13 31 03.6
comp=Z,826nm,20.0s
NONG Nongkai 80.69 292 P **P** **12 57 46.3 +1.3**
comp=Z,20nm,1.8s
CWC Cottonwood Cre 80.73 48 P **P** **12 57 44.5 -0.6**
baz=241
MPK Martis Peak 80.79 44 P **P** **12 57 44.3 -1.2**
WAKR Walker 80.79 45 P **P** **12 57 45.1 -0.3**
WAKR IAmb IAmb 12 58 09.5
comp=Z,27nm,1.4s
L04D Klamath Falls 80.83 41 P **P** **12 57 45.7 +0.2**
L04D IAmb IAmb 12 58 03.5
comp=Z,35nm,1.2s
GYA Guiyang 80.85 301 ⇓P **P** **12 57 46.5 +0.6**
GYA pmax pmax
comp=Z,12nm,1.0s
M18K Stony River 80.86 13 P **P** **12 57 45.7 +0.7**
baz=206
L17K Donlin 80.95 11 P **P** **12 57 46.3 +0.8**
baz=204
PNTR Pine Nut 80.97 45 P **P** **12 57 46.8 +0.4**
BELC Belle Mtn. Jos 81.10 51 P **P** **12 57 46.2 -0.9**
baz=243
GSC Goldstone, Bar 81.10 49 P **P** **12 57 46.8 -0.2**
baz=242
YERR Yerington 81.16 45 P **P** **12 57 46.6 -0.8**
SEW Seward 81.17 16 P **P** **12 57 47.9 +1.2**
baz=212
SLVN Son La 81.21 295 P **P** **12 57 46.5 -1.3**
HEC Hector,Ludlow 81.23 50 P **P** **12 57 47.7 0.0**
baz=243
DSP Deep Springs 81.25 47 P **P** **12 57 48.4 +0.8**
LHV Little Huntoon 81.31 46 P **P** **12 57 47.5 -0.4**
LHV IAmb IAmb 12 58 06.5
comp=Z,22nm,1.1s
L18K Granite Mounta 81.34 12 P **P** **12 57 47.9 +0.3**
L18K IAmb IAmb 12 58 06.5
comp=Z,28nm,1.2s
L18K Granite Mounta 81.34 12 P **P** **12 57 48.6 +1.1**
baz=205
BC3 Big Chuckawall 81.35 51 P **P** **12 57 47.3 -1.1**
baz=243
QSM Queen of Sheba 81.37 49 P **P** **12 57 48.8 +0.5**
LCH Last Change Ra 81.41 47 P **P** **12 57 49.0 +0.3**
LCH IAmb IAmb 12 58 11.4
comp=Z,46nm,1.9s
N20K Mount Spurr 81.42 14 P **P** **12 57 48.7 +0.7**
baz=209
O22K Cooper Landing 81.42 16 P **P** **12 57 48.3 +0.3**
baz=212
K17K Iditarod 81.49 11 P **P** **12 57 48.8 +0.5**
baz=204
GRAC Grapevine Rang 81.50 47 P **P** **12 57 48.2 -0.8**
GRAC Grapevine Rang 81.50 47 P **P** **12 57 48.8 -0.2**
baz=242
COR Corvallis 81.51 38 IAMs_20 IAMs_20 13 25 17.3
comp=Z,1μm,20.0s
LPIG La Paz 81.51 62 LR LR 13 28 06.0
comp=Z,2μm,18.0s,baz=246,slow=31
NVAR Mina Array Bea 81.53 46 P **P** **12 57 48.9 -0.5**
NVAR Mina Array Bea 81.53 46 P **P** **12 57 50.4 +1.0**
comp=Z,2.3nm,0.9s,baz=230,slow=9.1,SNR=11
NVAR LR LR 13 25 50.5
comp=Z,2μm,21.9s,baz=258,slow=30
comp=Z,2.3nm,0.9s
M19K Big River Lodg 81.54 13 P **P** **12 57 48.3 -0.4**
baz=207
J16K Anvik River 81.61 10 P **P** **12 57 48.6 -0.4**
baz=201
GWY Greenwater Val 81.61 48 P **P** **12 57 49.0 -0.8**
NV11 Mina Array Sit 81.63 46 P **P** **12 57 49.9 0.0**
P23K Montague Islan 81.64 17 P **P** **12 57 49.1 -0.1**
baz=214
L19K White Mountain 81.69 13 P **P** **12 57 48.6 -0.8**
L19K IAmb IAmb 12 58 07.9
comp=Z,23nm,1.1s
L19K IAMs_20 IAMs_20 13 32 32.0
comp=Z,710nm,19.0s
L19K White Mountain 81.69 13 P **P** **12 57 50.2 +0.7**
baz=207
GMN Gold Mountain 81.72 47 P **P** **12 57 49.8 -0.6**
SEY Seymchan 81.76 349 LR LR 13 32 30.0
comp=Z,316nm,19.0s,baz=163,slow=34
SEY Seymchan 81.76 349 *e*P **P** **12 57 48.0 -1.7**
SEY pmax pmax
comp=Z,19nm,1.0s
SHOC Shoshone, Teco 81.76 49 P **P** **12 57 49.8 -0.6**
baz=242
M20K Styx River 81.80 14 P **P** **12 57 50.9 +0.8**
baz=208
IRM Iron Mountain 81.80 51 P **P** **12 57 50.1 -0.6**
baz=243

WCT	**Wildcat Mounta**	**81.92**	**48**	P	**P**	**12 57 50.0**	**-1.4**	
WCT				IAmb	IAmb	12 58 14.3		
	comp=Z,58nm,1.9s							
RC01	**Rabbit Creek A**	**81.93**	**16**	P	**P**	**12 57 50.3**	**-0.4**	
	baz=212							
KVN	**Kaiserville**	**81.97**	**45**	P	**P**	**12 57 51.7**	**0.0**	
KVN				IAmb	IAmb	12 58 06.4		
	comp=Z,19nm,1.1s							
J17K	**VABM Dome**	**81.97**	**11**	P	**P**	**12 57 51.9**	**+1.1**	
	baz=203							
K05A	**Summer Lake**	**81.99**	**41**	P	**P**	**12 57 51.2**	**-0.5**	
K05A				IAmb	IAmb	12 58 07.4		
	comp=Z,30nm,1.0s							
SUA	**Susitna One**	**82.00**	**15**	P	**P**	**12 57 51.8**	**+0.6**	
	baz=211							
J05D	**Fort Rock, OR**	**82.06**	**40**	P	**P**	**12 57 52.8**	**+0.8**	
TTA	**Tatalina**	**82.12**	**12**	P	**P**	**12 57 52.2**	**+0.4**	
TTA	**Tatalina**	**82.12**	**12**	P	**P**	**12 57 51.8**	**0.0**	
	baz=206							
ANM	**Nome**	**82.14**	**7**	P	**P**	**12 57 52.4**	**+0.8**	
	baz=197							
XLT	**XiLinHaoTe**	**82.15**	**320**	*e*P	**P**	**12 57 54.5**	**+2.1**	
XLT				pP	sP	12 57 58.6	-0.6	
XLT				sP	pwP	12 58 01.7	+2.2	
XLT				S	**SKSac**	**13 08 11.1**	**-1.2**	
XLT				SS	**SS**	**13 13 21.2**	**-5.8**	
XLT				pmax	pmax			
	comp=Z,14nm,1.0s							
XLT				pmax	pmax			
	comp=Z,120nm,5.8s							
XLT				LR	LR			
	comp=Z,410nm,24.2s							
XLT				LR	LR			
	comp=Z,890nm,35.7s							
I17K	**Unalakleet**	**82.16**	**10**	P	**P**	**12 57 52.6**	**+0.8**	
	baz=201							
L20K	**Farewell, AK**	**82.16**	**13**	P	**P**	**12 57 52.5**	**+0.6**	
	baz=208							
ZEA	**Zeya**	**82.19**	**333**	*e*P	**P**	**12 57 53.1**	**+0.9**	
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
H04A	**Detroit Lake**	**82.23**	**39**	P	**P**	**12 57 53.3**	**+0.6**	
SKT	**Skwentna**	**82.26**	**14**	P	**P**	**12 57 53.1**	**+0.7**	
	baz=210							
XAN	**Xi'an**	**82.26**	**309**	P	**P**	**12 57 53.6**	**+0.5**	
XAN				S	**S**	**13 08 10.1**	**+1.9**	
XAN				pmax	pmax			
	comp=Z,20nm,1.2s							
XAN				pmax	pmax			
	comp=Z,290nm,8.9s							
XAN				LR	LR			
	comp=Z,880nm,18.4s							
XAN				LR	LR			
	comp=Z,1µm,19.7s							
XAN				LR	LR			
	comp=Z,2µm,20.0s							
M22K	**Willow**	**82.40**	**15**	IAMs_20	IAMs_20	13 31 48.1		
	comp=Z,776nm,19.0s							
M22K	**Willow**	**82.40**	**15**	P	**P**	**12 57 53.6**	**+0.6**	
	baz=211							
KAIM	**Kayak Island**	**82.45**	**18**	P	**P**	**12 57 52.5**	**-1.0**	
	baz=217							
GLI	**Glacier Island**	**82.46**	**17**	P	**P**	**12 57 52.2**	**-1.2**	
	baz=214							
J18K	**Innoko River**	**82.47**	**11**	P	**P**	**12 57 51.4**	**-2.0**	
J18K				IAmb	IAmb	12 58 07.7		
	comp=Z,38nm,1.6s							
J18K	**Innoko River**	**82.47**	**11**	P	**P**	**12 57 53.5**	**0.0**	
	baz=205							
PINE	**Pine Mountain**	**82.51**	**40**	P	**P**	**12 57 53.0**	**-1.4**	
PINE				IAmb	IAmb	12 58 16.4		
	comp=Z,31nm,1.2s							
PMR	**Palmer**	**82.52**	**15**	P	**P**	**12 57 53.9**	**+0.2**	
	baz=212							
KNK	**Knik Glacier**	**82.54**	**16**	P	**P**	**12 57 54.9**	**+1.0**	
	baz=213							
I05D	**Terrebonne, OR**	**82.56**	**39**	P	**P**	**12 57 52.0**	**-2.4**	
EYAK	**Cordova Ski Ar**	**82.57**	**17**	P	**P**	**12 57 54.6**	**+0.6**	
	baz=216							
PDMCI	**Parker Dam,Lak**	**82.61**	**51**	P	**P**	**12 57 54.3**	**-0.5**	
	baz=244							
214A	**Organ Pipe Nat**	**82.62**	**54**	P	**P**	**12 57 53.3**	**-1.7**	
	baz=245							
H16K	**Elim**	**82.63**	**9**	P	**P**	**12 57 55.2**	**+1.0**	
	baz=200							
G15K	**Niukluk**	**82.72**	**8**	P	**P**	**12 57 55.8**	**+1.1**	
	baz=198							
F14K	**Arctic Creek**	**82.90**	**7**	P	**P**	**12 57 56.6**	**+1.0**	
	baz=196							
K20K	**Telida**	**82.90**	**13**	P	**P**	**12 57 56.6**	**+0.8**	
	baz=208							
SML	**Sawmill**	**82.90**	**16**	P	**P**	**12 57 56.4**	**+0.6**	
	baz=213							
CUT	**Chulitna**	**82.93**	**15**	P	**P**	**12 57 55.8**	**-0.1**	
CUT				IAMs_20	IAMs_20	13 31 56.9		
	comp=Z,776nm,19.0s							
CUT	**Chulitna**	**82.93**	**15**	P	**P**	**12 57 57.4**	**+1.6**	
	baz=211							
HIA	**Hailar**	**83.04**	**326**	*i* P	**P**	**12 57 56.6**	**-0.2**	
HIA				pmax	pmax			
	comp=Z,7.0nm,1.2s							
M23K	**Glacier View**	**83.05**	**16**	P	**P**	**12 57 57.4**	**+0.9**	
	baz=214							
J19K	**Poorman**	**83.16**	**12**	P	**P**	**12 57 58.1**	**+1.1**	
	baz=206							
SCM	**Sheep Creek Mo**	**83.19**	**16**	P	**P**	**12 57 58.6**	**+1.2**	
	baz=214							
CRAG	**Craig**	**83.22**	**26**	P	**P**	**12 57 58.3**	**+0.8**	
	baz=227							
BMN	**Battle Mountai**	**83.23**	**44**	IAmb	IAmb	12 58 08.8		
	comp=Z,25nm,1.3s							
BMRM	**Bremner River**	**83.24**	**18**	P	**P**	**12 57 58.7**	**+1.1**	
	baz=216							
H17K	**Granite Mounta**	**83.27**	**10**	IAmb	IAmb	12 58 16.7		
	comp=Z,38nm,1.6s							
H17K	**Granite Mounta**	**83.27**	**10**	P	**P**	**12 57 58.4**	**+0.8**	
	baz=202							
WVOR	**Wild Horse Val**	**83.27**	**42**	IAMs_20	IAMs_20	13 31 32.4		
	comp=Z,1µm,19.0s							
WVOR	**Wild Horse Val**	**83.27**	**42**	P	**P**	**12 57 59.5**	**+1.2**	
KLU	**Klutina**	**83.29**	**17**	P	**P**	**12 57 58.2**	**+0.3**	
	baz=215							
G16K	**Koyuk River**	**83.33**	**8**	IAMs_20	IAMs_20	13 29 53.5		
	comp=Z,712nm,20.0s							
G16K	**Koyuk River**	**83.33**	**8**	P	**P**	**12 57 59.6**	**+1.8**	
	baz=200							
BBB	**Bella Bella**	**83.35**	**30**	LR	LR	13 26 40.9		
	comp=Z,1µm,21.9s,baz=243,slow=30							
R11B	**Troy Canyon, C**	**83.38**	**47**	IAMs_20	IAMs_20	13 28 15.7		
	comp=Z,1µm,20.0s							
R11B	**Troy Canyon, C**	**83.38**	**47**	P	**P**	**12 57 58.8**	**-0.2**	
	baz=243							
CAST	**Castle Rocks**	**83.38**	**13**	P	**P**	**12 57 58.4**	**+0.1**	
CAST				IAmb	IAmb	12 58 14.9		
	comp=Z,18nm,1.2s							
CAST	**Castle Rocks**	**83.38**	**13**	P	**P**	**12 57 58.8**	**+0.6**	
	baz=209							
MESA	**MESA**	**83.42**	**19**	P	**P**	**12 57 59.4**	**+0.7**	
	baz=219							
HHC	**Hu-ho-hao-te**	**83.50**	**316**	*e*P	**P**	**12 58 01.0**	**+1.5**	
HHC				sP	pwP	12 58 09.0	+2.4	
HHC				S	**SKSac**	**13 08 22.9**	**+1.4**	
HHC				sS	ScS	13 08 30.5	-3.5	
HHC				SS	**SS**	**13 13 38.3**	**-8.9**	
HHC				pmax	pmax			
	comp=Z,7.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,160nm,5.0s							
HHC				LR	LR			
	comp=Z,370nm,19.9s							
HHC				LR	LR			
	comp=Z,540nm,18.3s							
HHC				LR	LR			
	comp=Z,870nm,17.9s							
MAW	**Mawson**	**83.52**	**201**	LR	LR	13 32 10.5		
	comp=Z,543nm,18.9s,baz=100,slow=34							
I07A	**Izee**	**83.55**	**40**	IAmb	IAmb	12 58 21.6		
	comp=Z,22nm,1.3s							
KMI	**Kunming**	**83.60**	**298**	⇑P	**P**	**12 58 02.3**	**+1.8**	
KMI				S	**S**	**13 08 26.3**	**+3.8**	
KMI				LR	LR			
	comp=Z,180nm,17.8s							
KMI				LR	LR			
	comp=Z,650nm,22.7s							
KMI				LR	LR			
	comp=Z,1µm,32.4s							
GCSA	**Galena City Sc**	**83.61**	**11**	P	**P**	**12 57 59.7**	**+0.5**	
	baz=205							
J20K	**Nowinta River**	**83.62**	**12**	IAmb	IAmb	12 58 31.8		
	comp=Z,27nm,1.6s							
J20K				IAMs_20	IAMs_20	13 33 43.9		
	comp=Z,722nm,19.0s							
J20K	**Nowinta River**	**83.62**	**12**	P	**P**	**12 58 00.5**	**+1.2**	
	baz=207							
U33K	**Whale Pass**	**83.66**	**25**	IAMs_20	IAMs_20	13 32 32.0		
	comp=Z,754nm,19.0s							
U33K	**Whale Pass**	**83.66**	**25**	P	**P**	**12 57 59.8**	**+0.1**	
	baz=227							
G17K	**Kiwalik Mounta**	**83.68**	**9**	P	**P**	**12 58 00.4**	**+0.7**	
	baz=201							
WAT6	**Susitna Watana**	**83.70**	**16**	P	**P**	**12 58 00.4**	**+0.3**	
	baz=214							
WAT1	**Susitna Watana**	**83.71**	**15**	P	**P**	**12 58 00.8**	**+0.9**	
	baz=213							
H18K	**Honhosa River**	**83.72**	**10**	P	**P**	**12 58 01.1**	**+1.2**	
	baz=203							
M24K	**Tolsona, Glenn**	**83.72**	**16**	P	**P**	**12 58 00.9**	**+0.8**	
	baz=215							
S31K	**Pelican**	**83.72**	**23**	P	**P**	**12 58 00.9**	**+0.9**	
	baz=224							
CHUM	**Lake Minchumin**	**83.74**	**13**	P	**P**	**12 58 00.2**	**+0.2**	
	baz=209							
N25K	**Chitina, Valde**	**83.75**	**17**	P	**P**	**12 58 01.2**	**+0.9**	
	baz=216							
V35K	**Ketchikan**	**83.76**	**27**	IAMs_20	IAMs_20	13 38 48.9		
	comp=Z,949nm,18.0s							
V35K	**Ketchikan**	**83.76**	**27**	P	**P**	**12 58 00.3**	**+0.1**	
	baz=228							
TRF	**Thorofare Moun**	**83.82**	**14**	IAMs_20	IAMs_20	13 31 22.4		
	comp=Z,769nm,20.0s							
TRF	**Thorofare Moun**	**83.82**	**14**	P	**P**	**12 58 00.1**	**-0.5**	
	baz=211							
BELA	**Belgrano 2**	**83.83**	**174**	P	**P**	**12 58 00.0**	**-0.5**	
GLB	**Gilahina Butte**	**83.85**	**18**	P	**P**	**12 57 59.4**	**-1.3**	
GLB				IAmb	IAmb	12 58 10.1		
	comp=Z,41nm,1.8s							
PNL	**Peninsula**	**83.86**	**21**	P	**P**	**12 58 00.6**	**-0.2**	
	baz=221							
CRAI	**Chiangrai**	**83.90**	**293**	P	**P**	**12 57 59.5**	**-2.4**	
BCPM	**Bancas Point**	**83.99**	**20**	IAMs_20	IAMs_20	13 35 33.4		
	comp=Z,758nm,19.0s							
S32K	**Killisnoo**	**84.01**	**24**	IAMs_20	IAMs_20	13 32 17.1		
	comp=Z,858nm,18.0s							
S32K	**Killisnoo**	**84.01**	**24**	P	**P**	**12 58 02.4**	**+0.9**	
	baz=226							
MCARA	**McCarthy VSAT**	**84.03**	**18**	P	**P**	**12 58 02.3**	**+0.7**	
	baz=218							
I20K	**Naaghedeneel**	**84.10**	**12**	P	**P**	**12 58 01.7**	**-0.1**	
	baz=207							
RND	**Reindeer**	**84.12**	**15**	IAMs_20	IAMs_20	13 32 53.4		
	comp=Z,798nm,19.0s							
WRAK	**Wrangell Islan**	**84.18**	**26**	IAMs_20	IAMs_20	13 38 32.9		
	comp=Z,706nm,19.0s							
WRAK	**Wrangell Islan**	**84.18**	**26**	P	**P**	**12 58 02.8**	**+0.4**	
	baz=228							
BARN	**Barnard Glacie**	**84.19**	**19**	IAmb	IAmb	12 58 16.6		
	comp=Z,27nm,1.4s							
DHY	**Denali Highway**	**84.21**	**15**	P	**P**	**12 58 03.2**	**+0.6**	
	baz=214							
Q12A	**Willow Creek R**	**84.22**	**47**	P	**P**	**12 58 02.3**	**-0.9**	
CTG	**Chitna Glacier**	**84.22**	**19**	P	**P**	**12 58 03.2**	**+0.5**	
	baz=220							
BPAW	**Bear Paw Mtn.**	**84.22**	**13**	P	**P**	**12 58 02.6**	**+0.1**	
	baz=210							
HARP	**HAARP**	**84.24**	**17**	P	**P**	**12 58 03.6**	**+0.9**	
	baz=216							
TUC	**Tucson**	**84.33**	**54**	P	**P**	**12 58 02.6**	**-1.3**	
	baz=246							
TUC	**Tucson**	**84.33**	**54**	P	P	12 58 10.1	+6.2	
TUC				pmax	pmax			
	comp=Z,12nm,2.1s							
G18K	**Tagagawik**	**84.36**	**10**	IAmb	IAmb	12 58 11.0		
	comp=Z,27nm,1.6s							
G18K				IAMs_20	IAMs_20	13 32 59.3		
	comp=Z,702nm,20.0s							
G18K	**Tagagawik**	**84.36**	**10**	P	**P**	**12 58 04.0**	**+0.9**	
	baz=203							
MCK	**McKinley**	**84.38**	**14**	P	**P**	**12 58 02.1**	**-1.2**	
MCK				IAmb	IAmb	12 58 26.1		
	comp=Z,26nm,1.3s							
MCK	**McKinley**	**84.38**	**14**	P	**P**	**12 58 03.8**	**+0.5**	
	baz=212							
H19K	**Roundabout Mou**	**84.39**	**11**	IAmb	IAmb	12 58 32.2		
	comp=Z,17nm,1.2s							
H19K	**Roundabout Mou**	**84.39**	**11**	P	**P**	**12 58 04.4**	**+1.1**	
	baz=205							
P29M	**Windy Craggy**	**84.39**	**21**	IAMs_20	IAMs_20	13 32 22.2		
	comp=Z,836nm,19.0s							
P29M	**Windy Craggy**	**84.39**	**21**	P	**P**	**12 58 04.9**	**+1.4**	
	baz=223							
BTO	**Baotou**	**84.42**	**315**	*e*P	**P**	**12 58 06.2**	**+2.0**	
BTO				pP	**pwP**	**12 58 11.3**	**-0.1**	
BTO				sP	**sP**	**12 58 13.0**	**+1.9**	
BTO				S	**S**	**13 08 33.3**	**+3.3**	
BTO				pmax	pmax			
	comp=Z,13nm,0.5s							
BTO				LR	LR			
	comp=Z,650nm,18.0s							
BTO				LR	LR			
	comp=Z,770nm,18.3s							
BTO				LR	LR			
	comp=Z,1µm,20.2s							
O28M	**Mount Upton**	**84.43**	**19**	P	**P**	**12 58 04.8**	**+0.9**	
	baz=221							
F17K	**Baldwin Pennin**	**84.47**	**9**	P	**P**	**12 58 04.7**	**+1.1**	
	baz=201							
G08A	**Pilot Rock**	**84.50**	**40**	P	**P**	**12 58 03.5**	**-1.0**	
G08A				IAmb	IAmb	12 58 26.1		
	comp=Z,27nm,1.4s							
SPR3	**Spring Creek 3**	**84.54**	**47**	IAmb	IAmb	12 58 28.4		
	comp=Z,25nm,1.5s							
CMAR	**Chiang Mai Arr**	**84.57**	**291**	P	**P**	**12 58 03.6**	**-1.7**	
CMAR	**Chiang Mai Arr**	**84.57**	**291**	P	**P**	**12 58 04.8**	**-0.4**	
	comp=Z,3.7nm,0.9s,baz=117,slow=3.2,SNR=17							
CMAR				LR	LR	13 32 43.4		
	comp=Z,384nm,21.0s,baz=100,slow=34							
	comp=Z,3.7nm,0.9s							
CMAR	**Chiang Mai Arr**	**84.57**	**291**	*e*P	**P**	**12 58 05.5**	**+0.2**	
CMAR				pmax	pmax			
	comp=Z,4.0nm,0.9s							
R32K	**Eaglecrest**	**84.59**	**23**	P	**P**	**12 58 04.8**	**+0.3**	
	baz=226							
PAX	**Paxson**	**84.62**	**16**	P	**P**	**12 58 05.5**	**+0.8**	
	baz=216							
BWN	**Browne**	**84.63**	**14**	IAMs_20	IAMs_20	13 31 57.8		
	comp=Z,823nm,20.0s							
JIS	**Juneau Island**	**84.64**	**23**	IAMs_20	IAMs_20	13 33 27.9		
	comp=Z,702nm,20.0s							
H20K	**Anotleneega Mo**	**84.65**	**11**	P	**P**	**12 58 04.8**	**+0.1**	
	baz=207							
PSUT	**Pine Spring**	**84.67**	**47**	P	**P**	**12 58 05.2**	**-0.4**	
ELK	**Elko**	**84.71**	**45**	IAmb	IAmb	12 58 30.6		
	comp=Z,39nm,1.8s							
ELK	**Elko**	**84.71**	**45**	LR	LR	13 28 28.7		
	comp=Z,2µm,20.8s,slow=30							
ELK	**Elko**	**84.71**	**45**	P	**P**	**12 58 06.8**	**+1.0**	
HAWA	**Hanford**	**84.71**	**38**	IAMs_20	IAMs_20	13 30 45.1		
	comp=Z,863nm,19.0s							
PLBC	**Pleasant Camp**	**84.75**	**22**	P	**P**	**12 58 05.6**	**+0.4**	
	baz=224							
U35K	**Hyder**	**84.83**	**27**	IAMs_20	IAMs_20	13 34 43.1		
	comp=Z,1µm,18.0s							
G19K	**Purcell Mounta**	**84.84**	**10**	IAmb	IAmb	12 58 21.4		
	comp=Z,16nm,1.3s							
G19K	**Purcell Mounta**	**84.84**	**10**	P	**P**	**12 58 06.1**	**+0.5**	
	baz=205							
M26K	**Nabesna, AK**	**84.85**	**17**	P	**P**	**12 58 05.3**	**-0.4**	
M26K				IAmb	IAmb	12 58 24.4		
	comp=Z,19nm,1.2s							
M26K	**Nabesna, AK**	**84.85**	**17**	P	**P**	**12 58 06.3**	**+0.5**	
	baz=218							
F18K	**Selawik**	**84.85**	**9**	P	**P**	**12 58 06.4**	**+0.8**	
	baz=202							
U15A	**North Rim**	**84.89**	**50**	IAmb	IAmb	12 58 20.9		
	comp=Z,26nm,1.1s							
BILL	**Bilibino**	**84.91**	**356**	P	**P**	**12 58 04.3**	**-1.5**	
BILL	**Bilibino**	**84.91**	**356**	*i* P	**P**	**12 58 06.4**	**+0.6**	
BILL				pmax	pmax			
	comp=Z,9.0nm,1.4s							
PZH	**PanZhiHua**	**84.94**	**299**	P	**P**	**12 58 06.5**	**-0.6**	
PZH				S	**S**	**13 08 34.7**	**-1.0**	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,160nm,5.9s							
PZH				LR	LR			
	comp=Z,210nm,17.2s							
PZH				LR	LR			
	comp=Z,340nm,18.6s							
PZH				LR	LR			
	comp=Z,1µm,32.4s							
CD2	**Chengdu**	**84.95**	**304**	P	**P**	**12 58 08.9**	**+1.9**	
CD2				S	**S**	**13 08 39.2**	**+3.7**	
CD2				pmax	pmax			
	comp=Z,10.0nm,0.4s							
CD2				pmax	pmax			
	comp=Z,140nm,6.2s							
CD2				LR	LR			
	comp=Z,720nm,22.6s							
CD2				LR	LR			
	comp=Z,800nm,23.5s							
CD2				LR	LR			
	comp=Z,850nm,24.5s							
YUK8	**Steele Glacier**	**84.96**	**19**	P	**P**	**12 58 06.9**	**+0.3**	
	baz=221							
E17K	**Hotham Inlet**	**85.00**	**8**	P	**P**	**12 58 07.7**	**+1.4**	
	baz=200							
P30M	**Million Dollar**	**85.02**	**21**	P	**P**	**12 58 07.2**	**+0.5**	
	baz=224							
MENT	**Mentasta**	**85.07**	**17**	P	**P**	**12 58 05.6**	**-1.2**	
MENT				IAmb	IAmb	12 58 25.5		
	comp=Z,28nm,1.7s							
NEA2	**Nenana**	**85.08**	**14**	IAMs_20	IAMs_20	13 32 10.7		
	comp=Z,776nm,19.0s							
NEA2	**Nenana**	**85.08**	**14**	P	**P**	**12 58 07.8**	**+1.0**	
	baz=212							
MLY	**Manley**	**85.08**	**13**	P	**P**	**12 58 05.0**	**-1.9**	
MLY				IAmb	IAmb	12 58 57.7		
	comp=Z,26nm,1.9s							
MLY	**Manley**	**85.08**	**13**	P	**P**	**12 58 06.8**	**0.0**	
	baz=211							
YUK3	**Moose Creek**	**85.11**	**19**	P	**P**	**12 58 07.8**	**+0.5**	
	baz=220,SNR=6.6							
SKAG	**Skagway**	**85.12**	**22**	P	**P**	**12 58 07.9**	**+0.8**	
	baz=225							
M27K	**Edge Creek, AK**	**85.14**	**18**	IAmb	IAmb	12 58 26.2		
	comp=Z,19nm,1.1s							
M27K	**Edge Creek, AK**	**85.14**	**18**	P	**P**	**12 58 07.7**	**+0.4**	
	baz=219,SNR=6.9							
YUK6	**Outpost Mounta**	**85.15**	**20**	P	**P**	**12 58 07.1**	**-0.5**	
	baz=222							
WUAZ	**Wupatki**	**85.19**	**51**	IAmb	IAmb	12 58 22.8		
	comp=Z,21nm,1.2s							
WUAZ				IAMs_20	IAMs_20	13 27 42.0		
	comp=Z,1µm,21.0s							
WUAZ	**Wupatki**	**85.19**	**51**	P	**P**	**12 58 08.3**	**+0.1**	
	baz=246							
H21K	**Melozitna Rive**	**85.20**	**12**	P	**P**	**12 58 08.0**	**+0.6**	
	baz=209							
WRH	**Wood River Hil**	**85.20**	**14**	IAmb	IAmb	12 58 33.6		
	comp=Z,30nm,1.6s							
K24K	**Donnelly Dome**	**85.22**	**16**	P	**P**	**12 58 08.5**	**+1.0**	
	baz=215							
L26K	**Log Cabin Wild**	**85.24**	**17**	P	**P**	**12 58 08.6**	**+0.9**	
	baz=218							
BMO	**Blue Mountains**	**85.30**	**40**	P	**P**	**12 58 07.8**	**-0.7**	
BMO				IAmb	IAmb	12 58 33.0		
	comp=Z,23nm,1.6s							
BMO				IAMs_20	IAMs_20	13 28 50.9		
	comp=Z,908nm,20.0s							
HYT	**Haines Junctio**	**85.35**	**20**	P	**P**	**12 58 08.5**	**+0.1**	
	baz=223							
YUK4	**Talbot Arm**	**85.36**	**20**	P	**P**	**12 58 10.2**	**+1.7**	
	baz=222							
F19K	**Shaleruckik Mo**	**85.36**	**10**	IAMs_20	IAMs_20	13 33 39.9		
	comp=Z,772nm,20.0s							
F19K	**Shaleruckik Mo**	**85.36**	**10**	P	**P**	**12 58 09.6**	**+1.4**	
	baz=204							
D17K	**Noatak River**	**85.42**	**7**	P	**P**	**12 58 09.4**	**+1.0**	
	baz=199							
CCB	**Clear Creek Bu**	**85.42**	**14**	IAMs_20	IAMs_20	13 28 04.6		
	comp=Z,785nm,22.0s							
T35M	**Bob Quinn**	**85.42**	**26**	IAMs_20	IAMs_20	13 38 55.7		
	comp=Z,712nm,19.0s							
HDA	**Harding Lake**	**85.43**	**15**	IAmb	IAmb	12 58 16.7		
	comp=Z,37nm,1.5s							
HDA	**Harding Lake**	**85.43**	**15**	P	**P**	**12 58 09.6**	**+1.1**	
	baz=214							
E18K	**Tukpahlearik C**	**85.48**	**8**	IAmb	IAmb	12 58 16.3		
	comp=Z,15nm,1.1s							
E18K				IAMs_20	IAMs_20	13 32 42.4		
	comp=Z,804nm,20.0s							
E18K	**Tukpahlearik C**	**85.48**	**8**	P	**P**	**12 58 08.8**	**+0.1**	
	baz=201							
I23K	**Minto, Yukon-K**	**85.48**	**13**	P	**P**	**12 58 08.6**	**-0.2**	
	baz=212							
MFID	**Camas Ranch**	**85.55**	**42**	IAmb	IAmb	12 58 31.6		
	comp=Z,25nm,1.4s							
MFID				IAMs_20	IAMs_20	13 28 59.7		
	comp=Z,1µm,20.0s							
MDM	**Murphy Dome**	**85.58**	**14**	P	**P**	**12 58 08.7**	**-0.6**	
MDM				IAmb	IAmb	12 58 36.0		
	comp=Z,25nm,1.4s							
MDM				IAMs_20	IAMs_20	13 33 32.0		
	comp=Z,791nm,20.0s							
COLA	**College**	**85.60**	**14**	P	**P**	**12 58 09.3**	**0.0**	
COLA	**College**	**85.60**	**14**	P	**P**	**12 58 09.9**	**+0.5**	
COLA				IAmb	IAmb	12 58 35.4		
	comp=Z,26nm,1.3s							
COLA	**College**	**85.60**	**14**	IAMs_20	IAMs_20	13 32 07.4		
	comp=Z,752nm,20.0s							
COLA	**College**	**85.60**	**14**	P	**P**	**12 58 10.2**	**+0.9**	
	baz=213							
COLA	**College**	**85.60**	**14**	*i* P	**P**	**12 58 10.6**	**+1.3**	
COLA				pmax	pmax			
	comp=Z,21nm,1.4s							
S34M	**Telegraph Cree**	**85.67**	**25**	IAMs_20	IAMs_20	13 33 19.2		
	comp=Z,844nm,18.0s							
S34M	**Telegraph Cree**	**85.67**	**25**	P	**P**	**12 58 10.6**	**+0.7**	
	baz=229							
H22K	**Ishtalitna Cre**	**85.69**	**12**	P	**P**	**12 58 11.0**	**+1.1**	
	baz=210							
L27K	**Beaver Creek,**	**85.70**	**17**	P	**P**	**12 58 11.1**	**+1.1**	
	baz=219							
C16K	**Lisburne Hills**	**85.71**	**6**	IAMs_20	IAMs_20	13 33 04.4		
	comp=Z,696nm,20.0s							
C16K	**Lisburne Hills**	**85.71**	**6**	P	**P**	**12 58 11.5**	**+1.7**	
	baz=197							
BCAR	**Beaver Creek A**	**85.72**	**17**	P	**P**	**12 58 08.3**	**-1.8**	
IL31		**85.74**	**15**	P	**P**	**12 58 07.7**	**-2.3**	
IL31				IAmb	IAmb	12 58 30.4		
	comp=Z,25nm,1.5s							
ILAR	**Eielson Array**	**85.74**	**15**	P	**P**	**12 58 09.1**	**-1.0**	
ILAR	**Eielson Array**	**85.74**	**15**	P	**P**	**12 58 09.2**	**-0.9**	
	comp

baz=204
H23K Yukon River 86.02 13 P **P** 12 58 12.0 +0.5
baz=212
DUG Dugway, Tooele 86.12 46 IAmb IAmb 12 58 26.9
comp=Z,21nm,1.5s
DUG Dugway, Tooele 86.12 46 P **P** 12 58 12.5 -0.3
baz=244
DUG Dugway, Tooele 86.12 46 P **P** 12 58 15.2 +2.4
DUG pmax pmax
comp=Z,10.0nm,1.4s
WHY Whitehorse 86.13 21 P **P** 12 58 13.0 +0.8
baz=225
C17K DeLong Mountai 86.14 7 P **P** 12 58 13.5 +1.4
baz=199
PLID Pearl Lake 86.23 41 P **P** 12 58 12.3 -1.0
PLID IAmb IAmb 12 58 36.6
comp=Z,45nm,1.9s
PLID IAMs_20 IAMs_20 13 29 30.4
comp=Z,1µm,20.0s
M29M Somme Creek 86.24 19 IAmb IAmb 12 59 09.7
comp=Z,30nm,2.0s
M29M Somme Creek 86.24 19 P **P** 12 58 13.8 +1.0
baz=222
W18A Petrified Fore 86.25 52 P **P** 12 58 13.4 -0.2
baz=247
J26L Joseph Creek 86.36 16 P **P** 12 58 11.3 -1.9
J26L IAmb IAmb 12 58 40.6
comp=Z,19nm,1.3s
J26L Joseph Creek 86.36 16 P **P** 12 58 14.2 +0.9
baz=217
K27K Chicken 86.39 17 IAmb IAmb 12 58 32.5
comp=Z,19nm,1.4s
K27K Chicken 86.39 17 P **P** 12 58 14.1 +0.8
baz=219
H24K Noodor Dome 86.40 14 IAMs_20 IAMs_20 13 34 07.6
comp=Z,910nm,20.0s
H24K Noodor Dome 86.40 14 P **P** 12 58 14.0 +0.6
baz=213
N31M Braeburn, Yuko 86.41 21 IAMs_20 IAMs_20 13 33 47.4
comp=Z,679nm,19.0s
N31M Braeburn, Yuko 86.41 21 P **P** 12 58 14.4 +0.9
baz=224
F21K Alatna River 86.45 11 IAMs_20 IAMs_20 13 35 48.8
comp=Z,726nm,18.0s
F21K Alatna River 86.45 11 P **P** 12 58 14.5 +0.9
baz=208
DLBC Dease Lake 86.46 25 P **P** 12 58 14.7 +0.8
baz=230
DLBC Dease Lake 86.46 25 LR LR 13 33 00.8
comp=Z,852nm,18.4s,baz=246,slow=33
PMSA Palmer Station 86.50 158 LR LR 13 29 09.0
comp=Z,1µm,20.9s,baz=246,slow=30
HLID Hailey 86.53 43 IAMs_20 IAMs_20 13 29 30.7
comp=Z,1µm,21.0s
HLID Hailey 86.53 43 P **P** 12 58 14.6 -0.2
baz=243
C18K Utukok River 86.55 8 IAMs_20 IAMs_20 13 31 24.8
comp=Z,962nm,22.0s
C18K Utukok River 86.55 8 P **P** 12 58 14.8 +0.7
baz=201
G22K Bettles 86.56 12 P **P** 12 58 15.0 +0.9
baz=210
P33M Teslin, Yukon 86.56 23 P **P** 12 58 15.3 +1.0
baz=227
G23K Bananza Creek 86.68 12 P **P** 12 58 15.7 +1.0
baz=211
PRP Porcupine Dome 86.69 15 P **P** 12 58 15.0 +0.1
baz=215
R33M Jennings River 86.71 24 IAMs_20 IAMs_20 13 35 39.6
comp=Z,703nm,19.0s
R33M Jennings River 86.71 24 P **P** 12 58 15.4 +0.2
baz=229
121A Cookes Peak, D 86.76 55 P **P** 12 58 15.2 -0.9
baz=248
HVU Hansel Valley 86.83 45 P **P** 12 58 15.7 -0.5
HVU IAmb IAmb 12 58 31.2
comp=Z,25nm,1.4s
L29M L29M 86.83 19 IAmb IAmb 12 58 34.4
comp=Z,20nm,1.4s
L29M L29M 86.83 19 P **P** 12 58 16.0 +0.4
baz=222
D19K Kuna River 86.84 9 IAMs_20 IAMs_20 13 30 41.2
comp=Z,788nm,21.0s
D19K Kuna River 86.84 9 P **P** 12 58 15.4 0.0
baz=204
LZH Lanzhou 86.89 309 *e*P **P** 12 58 19.1 +2.4
LZH sP pwP 12 58 26.2 +2.3
LZH S **S** **13 08 50.5 -4.1**
LZH SS **SS** **13 14 38.8 +1.3**
LZH pmax pmax
comp=Z,28nm,1.1s
LZH pmax pmax
comp=Z,260nm,5.2s
LZH LR LR
comp=Z,530nm,18.6s
LZH LR LR
comp=Z,810nm,19.1s
LZH LR LR
comp=Z,1µm,19.5s
E20K Nigu River 86.92 10 P **P** 12 58 16.9 +1.0
baz=205
F22K John River 86.94 11 P **P** 12 58 16.9 +0.9
baz=209
YAK Yakutsk 86.98 340 IAMs_20 IAMs_20 13 30 33.9
comp=Z,1µm,22.0s
YAK Yakutsk 86.98 340 LR LR 13 31 26.4
comp=Z,1µm,21.7s,baz=136,slow=32
YAK Yakutsk 86.98 340 *i* P **P** 12 58 16.4 +0.2
YAK pmax pmax
comp=Z,4.0nm,0.5s
NEW Newport 87.07 38 IAMs_20 IAMs_20 13 31 27.3
comp=Z,1µm,20.0s
NEW Newport 87.07 38 P **P** 12 58 16.9 -0.2
baz=241
NEW Newport 87.07 38 LR LR 13 32 25.1
comp=Z,1µm,18.6s,baz=242,slow=32
COLD Coldfoot 87.08 12 P **P** 12 58 17.5 +0.9
baz=211
I26K Coal Creek Min 87.11 16 IAMs_20 IAMs_20 13 35 32.4
comp=Z,640nm,19.0s
I26K Coal Creek Min 87.11 16 P **P** 12 58 17.7 +0.9
baz=218
N32M Quiet Lake 87.11 22 IAMs_20 IAMs_20 13 33 49.2
comp=Z,660nm,18.0s
N32M Quiet Lake 87.11 22 P **P** 12 58 17.9 +0.9
baz=227
TNCH TengChong 87.14 297 *e*P **P** 12 58 18.4 +0.2
TNCH SKS **SKSac** **13 08 37.5 -7.9**
TNCH S **SKKSac** **13 08 54.5 +0.2**
TNCH SS **SS** **13 14 38.9 -2.7**
TNCH pmax pmax
comp=Z,170nm,4.3s
TNCH LR LR
comp=Z,230nm,16.0s
TNCH LR LR
comp=Z,310nm,18.0s
TNCH LR LR
comp=Z,870nm,20.0s
DAWY Dawson 87.17 18 P **P** 12 58 17.8 +0.6
baz=221
C19K Lookout Ridge 87.19 8 IAMs_20 IAMs_20 13 34 45.7
comp=Z,861nm,20.0s
C19K Lookout Ridge 87.19 8 P **P** 12 58 17.9 +0.6
baz=202
EGAK Eagle 87.22 17 P **P** 12 58 17.8 +0.4
baz=220
H25L Birch Creek 87.23 14 P **P** 12 58 18.4 +1.0
baz=215
D20K Etivluk River 87.26 9 P **P** 12 58 17.6 0.0
baz=205
SRU San Rafael Swe 87.27 48 IAmb IAmb 12 58 32.5
comp=Z,33nm,1.6s
M31M Drury Creek, Y 87.38 21 IAMs_20 IAMs_20 13 34 38.1
comp=Z,742nm,19.0s
M31M Drury Creek, Y 87.38 21 P **P** 12 58 17.6 -0.6
baz=226
E21K Killik River 87.45 10 P **P** 12 58 18.5 0.0
baz=207
EPT El Paso 87.48 56 IAMs_20 IAMs_20 13 29 03.3
comp=Z,1µm,20.0s
E22K Anaktuvuk Pass 87.56 11 IAmb IAmb 12 58 33.3
comp=Z,15nm,1.5s
E22K IAMs_20 IAMs_20 13 37 01.3
comp=Z,622nm,19.0s
E22K Anaktuvuk Pass 87.56 11 P **P** 12 58 19.1 +0.1
baz=210
K29M Barlow Dome 87.56 18 P **P** 12 58 17.8 -1.4
K29M Barlow Dome 87.56 18 P **P** 12 58 19.2 0.0
baz=223
HWUT Hardware Ranch 87.58 45 P **P** 12 58 19.1 -0.8
HWUT IAmb IAmb 12 58 51.0
comp=Z,30nm,1.7s
FYU Fort Yukon 87.61 14 IAMs_20 IAMs_20 13 29 20.6
comp=Z,829nm,22.0s
P18A Preston Nutter 87.68 47 P **P** 12 58 18.9 -1.7
BSUT Blindstream Ca 87.69 47 P **P** 12 58 19.0 -1.6
BSUT IAmb IAmb 12 58 43.7
comp=Z,24nm,1.4s
I27K Kandik River 87.74 16 P **P** 12 58 20.2 +0.2
baz=219
FARO Faro, Yukon 87.75 21 P **P** 12 58 20.0 0.0
baz=227
J29N Klondike Camp 87.81 18 P **P** 12 58 20.1 -0.2
baz=222
F24K Squaw Lake 87.81 13 P **P** 12 58 19.8 -0.4
baz=213
E23K Chandalar 87.92 12 P **P** 12 58 21.1 +0.4
baz=212
C21K Knifeblade Rid 87.95 10 P **P** 12 58 21.2 +0.4
baz=207
MVCO Mesa Verde 87.99 50 P **P** 12 58 21.2 -0.8
baz=247
Y22D IRIS PASSCAL I 88.00 54 IAMs_20 IAMs_20 13 31 37.7
comp=Z,1µm,19.0s
Y22D IRIS PASSCAL I 88.00 54 P **P** 12 58 20.4 -1.6
baz=248
Y22F Passcal Instru 88.00 54 P **P** 12 58 20.2 -1.9
baz=248
A19K Wainwright 88.03 7 P **P** 12 58 21.5 +0.4
baz=201
D22K Ayikyak River 88.06 10 P **P** 12 58 21.8 +0.5
baz=209
I28M Miner Creek 88.07 17 P **P** 12 58 21.2 -0.3
baz=221
E24K Your Creek 88.15 12 IAMs_20 IAMs_20 13 36 24.9
comp=Z,658nm,19.0s
E24K Your Creek 88.15 12 P **P** 12 58 22.0 +0.2
baz=213
H27K Steamboat Moun 88.25 16 P **P** 12 58 23.4 +1.1
baz=219
G26K Porcupine Rive 88.26 14 P **P** 12 58 23.2 +0.9
baz=217
MSO Missoula 88.30 40 IAMs_20 IAMs_20 13 29 26.3
comp=Z,732nm,22.0s
MSO Missoula 88.30 40 P **P** 12 58 23.2 +0.1
baz=243
MNTX Cornudas Mount 88.35 56 P **P** 12 58 22.8 -0.8
baz=249
F25K Christian Rive 88.36 13 P **P** 12 58 23.5 +0.7
baz=215
B20K Meade River 88.36 9 IAMs_20 IAMs_20 13 31 09.6
comp=Z,890nm,22.0s
B20K Meade River 88.36 9 P **P** 12 58 23.5 +0.8
baz=204
AHID Auburn Hatcher 88.38 44 IAMs_20 IAMs_20 13 34 03.6
comp=Z,888nm,19.0s
B21K Ikpikpuk River 88.40 10 IAMs_20 IAMs_20 13 36 00.1
comp=Z,667nm,19.0s
B21K Ikpikpuk River 88.40 10 P **P** 12 58 22.9 +0.1
baz=207
TOLK Toolik Lake Re 88.42 12 P **P** 12 58 22.8 -0.3
baz=212
BPMT Black Pine Rid 88.43 40 P **P** 12 58 22.8 -1.1
J30M Hart River 88.45 18 P **P** 12 58 23.4 -0.1
baz=224
D23K Nanushuk River 88.49 11 P **P** 12 58 24.8 +1.4
baz=210
LIRD Liard River Hi 88.66 25 P **P** 12 58 25.0 +0.7
baz=233
G27K Doyon Strip 88.67 15 P **P** 12 58 25.1 +0.8
baz=219
ANMO Albuquerque 88.67 53 IAMs_20 IAMs_20 13 30 24.5
comp=Z,924nm,21.0s
ANMO Albuquerque 88.67 53 P **P** 12 58 24.7 -0.6
baz=248
ANMO Albuquerque 88.67 53 LR LR 13 32 22.1
comp=Z,733nm,18.9s,baz=344,slow=32
ANMO Albuquerque 88.67 53 *i* P **P** 12 58 26.3 +1.0
ANMO pmax pmax
comp=Z,10.0nm,1.6s
TOAD Toad River Com 88.68 26 P **P** 12 58 25.5 +1.0
baz=234
TPAW Teton Pass 88.77 44 IAMs_20 IAMs_20 13 30 40.0
comp=Z,1µm,21.0s
F26K Sheenjek River 88.78 14 P **P** 12 58 25.5 +0.7
baz=217
FXWY Fox Creek 88.78 44 IAMs_20 IAMs_20 13 31 50.4
comp=Z,1µm,20.0s
LRM Limekiln Ridge 88.79 41 P **P** 12 58 25.2 -0.4
E25K Arctic Village 88.81 13 P **P** 12 58 25.2 +0.3
baz=215
SNOW Snow King Moun 88.89 44 IAMs_20 IAMs_20 13 30 54.3
comp=Z,1µm,21.0s
I30M Mount Dempster 88.91 18 P **P** 12 58 24.6 -1.0
I30M Mount Dempster 88.91 18 P **P** 12 58 25.9 +0.4
baz=224
TXAR Lajitas Array 88.93 59 P **P** 12 58 28.2 +1.7
comp=Z,0.7nm,0.8s,baz=214,slow=6.0,SNR=7.8
TXAR LR LR 13 32 25.1
comp=Z,842nm,18.0s,baz=250,slow=32
comp=Z,0.7nm,0.8s
IMW Indian Meadow 88.95 43 P **P** 12 58 26.8 +0.3
IMW IAMs_20 IAMs_20 13 31 07.6
comp=Z,948nm,21.0s
D24K Happy Valley 89.00 12 P **P** 12 58 27.0 +1.3
baz=212
MOOW Moose Ponds 89.02 44 IAMs_20 IAMs_20 13 31 09.5
comp=Z,1µm,20.0s
LOHW Long Hollow 89.05 44 IAMs_20 IAMs_20 13 30 59.5
comp=Z,1µm,21.0s
H29M Whitestone 89.08 16 P **P** 12 58 27.0 +0.8
H29M IAmb IAmb 12 58 29.8
comp=Z,20nm,1.6s
H29M Whitestone 89.08 16 P **P** 12 58 27.2 +1.0
baz=222
TGTN Hyland Airport 89.11 23 P **P** 12 58 27.5 +1.0
baz=231
FLWY Flagg Ranch 89.18 43 IAMs_20 IAMs_20 13 30 55.9
comp=Z,1µm,20.0s
BOZ Bozeman (W) 89.21 42 IAMs_20 IAMs_20 13 31 40.5
comp=Z,1µm,20.0s
BOZ Bozeman (W) 89.21 42 P **P** 12 58 27.6 +0.2
baz=245
B22K Teshekpuk Lake 89.23 10 P **P** 12 58 27.9 +1.1
baz=208
C23K Itkillik River 89.26 11 P **P** 12 58 28.2 +1.3
baz=211
O20A White River Ci 89.30 48 P **P** 12 58 28.1 0.0
baz=247
H17A Grant Village 89.39 43 P **P** 12 58 28.6 +0.1
baz=246
BW06 Boulder Array 89.41 45 P **P** 12 58 28.8 +0.2
baz=246
PD31 Pinedale Array 89.41 45 IAmb IAmb 12 58 51.0
comp=Z,33nm,1.8s
PDAR Pinedale Array 89.41 45 P **P** 12 58 28.7 +0.1
PDAR Pinedale Array 89.41 45 P **P** 12 58 29.4 +0.8
comp=Z,0.4nm,0.6s,baz=207,slow=2.9,SNR=4.0
PDAR LR LR 13 33 20.7
comp=Z,714nm,18.8s,baz=243,slow=32
comp=Z,0.4nm,0.6s
C24K Franklin Bluff 89.51 11 P **P** 12 58 29.6 +1.5
baz=212
ULN Ulaanbaatar 89.58 321 P **P** 12 58 27.9 -1.2
ULN Ulaanbaatar 89.58 321 IAMs_20 IAMs_20 13 33 06.8
comp=Z,728nm,22.0s
ULN Ulaanbaatar 89.58 321 *i* P **P** 12 58 28.7 -0.5
ULN pmax pmax
comp=Z,6.0nm,1.1s
A22K Sinclair Lake 89.58 9 P **P** 12 58 29.9 +1.5
baz=206
D25K Kavik River 89.62 12 P **P** 12 58 29.6 +0.8
baz=215
A21K Barrow 89.64 8 P **P** 12 58 29.9 +1.3
baz=205
EPYK Eagle Plains 89.64 17 IAmb IAmb 12 58 36.4
comp=Z,31nm,1.9s
EPYK Eagle Plains 89.64 17 P **P** 12 58 29.7 +0.9
baz=224
G29M Pine Creek 89.69 16 P **P** 12 58 30.2 +1.1
baz=222
F28M Old Crow 89.74 15 P **P** 12 58 30.9 +1.6
baz=221
E27K Coleen River 89.76 14 P **P** 12 58 30.4 +1.0
baz=219
ELIB Princess Elisa 89.80 188 *d*P **P** 12 58 29.2 -0.6
comp=Z,6.4nm,1.2s
SMCO Snowmass 89.84 49 P **P** 12 58 30.5 -0.4
SMCO IAmb IAmb 12 58 45.1
comp=Z,22nm,1.3s
SMCO IAMs_20 IAMs_20 13 33 57.1
comp=Z,825nm,20.0s
H31M Peel River 89.92 18 P **P** 12 58 31.0 +0.8
baz=226
KOTAN Kotaneelee Air 89.92 25 P **P** 12 58 30.8 +0.6
baz=235
SONM Songino Array 89.97 320 P **P** 12 58 29.7 -1.2
SONM IAmb IAmb 12 58 56.4
comp=Z,23nm,1.8s
SONM Songino Array 89.97 320 P **P** 12 58 29.5 -1.4
comp=Z,2.1nm,0.9s,baz=122,slow=3.3,SNR=10
SONM LR LR 13 40 16.6
comp=Z,537nm,18.0s,baz=113,slow=37
comp=Z,2.1nm,0.9s
SONM Songino Array 89.97 320 *e*P **P** 12 58 30.4 -0.5
SONM pmax pmax
comp=Z,2.0nm,1.0s
FLDN Fort Liard 90.22 25 P **P** 12 58 32.2 +0.6
baz=235
G30M tAoh Zraii Nji 90.22 17 IAmb IAmb 12 58 58.9
comp=Z,13nm,1.2s
G30M tAoh Zraii Nji 90.22 17 P **P** 12 58 32.2 +0.6
baz=224
SDCO Great Sand Dun 90.40 51 IAmb IAmb 12 58 56.9
comp=Z,16nm,1.6s
SDCO IAMs_20 IAMs_20 13 32 13.0
comp=Z,1µm,20.0s
SDCO Great Sand Dun 90.40 51 P **P** 12 58 32.9 -0.5
baz=249
C26K Camden Bay 90.41 12 P **P** 12 58 33.0 +0.7
baz=216
C27K Jago River 90.42 13 P **P** 12 58 33.3 +0.9
baz=217
RLMT Red Lodge 90.54 43 P **P** 12 58 33.5 -0.3
baz=247
E28M Babbage River 90.57 15 P **P** 12 58 33.9 +0.8
baz=221
BOD Bodaibo 90.61 331 *e*P **P** 12 58 32.5 -1.0
BOD pmax pmax
comp=Z,19nm,1.9s
G31M Satah River 90.72 17 P **P** 12 58 34.8 +1.0
baz=226
D27M Malcolm River 90.72 14 P **P** 12 58 35.3 +1.4
baz=220
F30M Barrier River 90.79 16 P **P** 12 58 35.3 +1.1
baz=224
E29M Blow River 90.81 15 P **P** 12 58 34.9 +0.7
baz=222
T25A Trinidad 91.00 52 P **P** 12 58 35.4 -0.8
baz=250
ISCO Idaho Springs 91.05 49 IAMs_20 IAMs_20 13 35 13.0
comp=Z,692nm,19.0s
ISCO Idaho Springs 91.05 49 P **P** 12 58 35.6 -0.8
baz=249
ISCO Idaho Springs 91.05 49 P **P** 12 58 41.0 +4.6
ISCO pmax pmax
comp=Z,6.0nm,2.3s
Q24A Divide 91.09 50 P **P** 12 58 36.4 -0.2
Q24A Divide 91.09 50 P **P** 12 58 36.7 +0.1
baz=249
GTA Gaotai 91.10 311 *e*P **P** 12 58 38.0 +1.6
GTA pP sP 12 58 42.9 -0.4
GTA S **S** **13 09 33.8 -0.1**
GTA sS sS 13 09 43.1 +0.6
GTA SS **SS** **13 15 32.8 -5.6**
GTA pmax pmax
comp=Z,5.0nm,1.3s
GTA LR LR
comp=Z,230nm,19.3s
GTA LR LR
comp=Z,310nm,19.6s
GTA LR LR
comp=Z,470nm,19.6s
N23A Red Feather La 91.20 48 P **P** 12 58 36.7 -0.4
baz=249
F31M Tsiigehtchic 91.23 17 P **P** 12 58 36.7 +0.6
baz=226
D28M Stokes Point 91.31 14 P **P** 12 58 36.5 +0.1
baz=222
EGMT Eagleton 91.38 40 IAMs_20 IAMs_20 13 31 44.8
comp=Z,771nm,22.0s
EGMT Eagleton 91.38 40 P **P** 12 58 37.4 0.0
baz=246
TROLL Troll, Antarti 91.41 182 ⇑P **P** 12 58 39.5 +2.2
comp=Z,728nm,0.7s
K22A Casper 91.44 46 P **P** 12 58 37.7 -0.3
baz=248
SNAA Sanae 91.82 180 P **P** 12 58 40.0 +0.8
SNAA Sanae 91.82 180 ⇑P **P** 12 58 41.2 +2.0
comp=Z,220nm,1.2s
SNAA Sanae 91.82 180 P **P** 12 58 38.1 -1.1
comp=Z,2.2nm,0.9s,baz=338,slow=20,SNR=3.0
SNAA LR LR 13 36 34.4
comp=Z,484nm,21.1s,baz=177,slow=33
comp=Z,2.2nm,0.9s
SNAA Sanae 91.82 180 *i* P **P** 12 58 40.4 +1.2
SNAA pmax pmax
comp=Z,24nm,1.2s
INK Inuvik 91.89 16 P **P** 12 58 40.4 +1.3
baz=226
INK Inuvik 91.89 16 LR LR 13 37 16.0
comp=Z,342nm,19.0s,baz=186,slow=34
VNA3 Neumayer Olymp 92.12 178 ⇑P **P** 12 58 41.8 +1.3
comp=Z,5.0nm,0.6s
833A Chaparral WMA, 92.16 61 P **P** 12 58 40.4 -0.9
baz=252
BRIGG Briggsdale 92.25 48 IAMs_20 IAMs_20 13 32 36.7
comp=Z,647nm,21.0s
AMTX Amarillo 92.34 54 IAMs_20 IAMs_20 13 31 26.8
comp=Z,938nm,22.0s
AMTX Amarillo 92.34 54 P **P** 12 58 41.9 -0.3
baz=251
JCT Junction City 92.47 59 P **P** 12 58 42.2 -0.7
baz=252
VNA2 Neumayer--Watz 92.51 178 ⇑P **P** 12 58 44.3 +2.0
comp=Z,7.8nm,0.8s,baz=200,slow=4.2
VNA1 Neumayer--Stat 92.76 178 ⇑P **P** 12 58 47.2 +3.8
comp=Z,15nm,1.0s
CMIG Matias Romero 92.85 73 LR LR 13 31 43.2
comp=Z,1µm,20.3s,baz=256,slow=30
KSCO Kaye Shedlock' 92.96 50 P **P** 12 58 44.0 -1.0
baz=251
SHL Shillong 93.01 296 P **P** 12 58 43.9 -1.7
SHL pmax pmax
comp=Z,8.0nm,1.1s
LAO LASA Array 93.10 42 P **P** 12 58 44.4 -1.0
baz=249
KVTX Kingsville 93.19 62 IAMs_20 IAMs_20 13 35 51.0
comp=Z,1µm,19.0s
ABTX Abilene, Hawle 93.25 57 P **P** 12 58 44.7 -1.7
baz=252
RSSD Black Hills 93.65 45 IAMs_20 IAMs_20 13 33 47.4
comp=Z,1µm,21.0s
RSSD Black Hills 93.65 45 P **P** 12 58 47.6 -0.6
baz=250
RSSD Black Hills 93.65 45 P **P** 12 58 50.9 +2.7
RSSD pmax pmax
comp=Z,13nm,1.5s
TIXI Tiksi 94.00 346 IAMs_20 IAMs_20 13 36 17.0
comp=Z,869nm,20.0s
TIXI Tiksi 94.00 346 LR LR 13 36 18.0
comp=Z,773nm,21.2s,baz=148,slow=32
TIXI Tiksi 94.00 346 *i* P **P** 12 58 49.2 +0.4
TIXI pmax pmax
comp=Z,4.0nm,1.1s
OGNE Ogallala 94.01 49 P **P** 12 58 48.6 -1.2
baz=251
WMOK Wichita Mounta 94.57 55 P **P** 12 58 51.1 -1.3
baz=253
WMOK Wichita Mounta 94.57 55 P **P** 12 58 58.7 +6.3
WMOK pmax pmax
comp=Z,3.0nm,1.4s
WHTX Lake Whitney, 94.84 58 P **P** 12 58 52.8 -0.9
baz=253
DGMT Dagmar 95.00 41 IAMs_20 IAMs_20 13 33 49.6
comp=Z,896nm,22.0s
YKA Yellowknife Ar 95.04 26 P **P** 12 58 54.9 +1.0
comp=Z,0.7nm,1.1s,baz=263,slow=4.5,SNR=6.7
YKA LR LR 13 37 02.3
comp=Z,413nm,18.7s,baz=243,slow=32
comp=Z,0.7nm,1.1s
YKA Yellowknife Ar 95.04 26 *e*P **P** 12 58 55.6 +1.8
YKA pmax pmax
comp=Z,1.0nm,1.1s

OK038 West end E0370 95.11 54 IAMs_20 IAMs_20 13 34 20.9
comp=Z,927nm,21.0s
PLCA Paso Flores 95.13 135 LR LR 13 31 57.0
comp=Z,396nm,20.6s,baz=242,slow=29
OK035 E0210 Rd and N 95.20 53 IAMs_20 IAMs_20 13 37 03.3
comp=Z,813nm,19.0s
C36M Paulatuk 95.21 18 P **P** **12 58 54.4 0.0**
baz=235
OK032 Salt Plains WL 95.61 53 IAMs_20 IAMs_20 13 35 05.2
comp=Z,909nm,21.0s
OK029 Liberty Lake 95.91 55 IAMs_20 IAMs_20 13 35 54.3
comp=Z,1µm,20.0s
APG El Apazote 96.37 76 LR LR 13 33 42.1
comp=Z,33nm,20.4s,baz=254,slow=30
A36M Sachs Harbour 96.42 15 IAmb IAmb 12 59 31.5
comp=Z,5.4nm,0.9s
A36M Sachs Harbour 96.42 15 P **P** **12 59 00.6 +0.7**
baz=234
OK052 Battle Ridge R 96.47 55 IAMs_20 IAMs_20 13 36 02.2
comp=Z,1µm,20.0s
BGNE Belgrade 96.95 49 P **P** **12 59 02.1 -1.0**
baz=254
SNET Serv Nac Est T 97.17 78 IAMs_20 IAMs_20 13 37 59.5
comp=Z,580nm,18.0s
TUL3 Leonard 97.24 55 P **P** **12 59 03.4 -1.1**
baz=255
KSU1 Kansas State U 97.46 52 IAMs_20 IAMs_20 13 37 02.9
comp=Z,950nm,21.0s
PALK Pallekele 98.28 275 LR LR 13 44 47.6
comp=Z,349nm,20.1s,baz=214,slow=36
MIAR Mount Ida 98.65 57 IAMs_20 IAMs_20 13 37 19.9
comp=Z,1µm,20.0s
TEIG Tepich 99.72 72 IAMs_20 IAMs_20 13 35 37.7
comp=Z,724nm,21.0s
TEIG Tepich 99.72 72 LR LR 13 36 00.3
comp=Z,6µm,21.6s,slow=30
VBMS Vicksburg 100.59 60 IAMs_20 IAMs_20 13 38 29.6
comp=Z,949nm,20.0s
HDC Heredia 101.04 83 IAMs_20 IAMs_20 13 35 23.1
comp=Z,655nm,20.0s
WMQ Urumqi 101.05 312 *e*P **Pdif** **12 59 22.9 +1.4**
WMQ LR LR
comp=Z,440nm,19.1s
WMQ LR LR
comp=Z,510nm,24.3s
WMQ LR LR
comp=Z,880nm,23.7s
OXF Oxford 101.99 57 IAMs_20 IAMs_20 13 38 45.5
comp=Z,1µm,20.0s
EYMN Ely 103.07 44 IAMs_20 IAMs_20 13 40 31.3
comp=Z,741nm,20.0s
BRAL Brewton 103.25 61 IAMs_20 IAMs_20 13 45 38.3
comp=Z,708nm,20.0s
HDIL Hopedale 103.27 51 IAMs_20 IAMs_20 13 45 17.7
comp=Z,831nm,18.0s
WVT Waverly 103.58 56 IAMs_20 IAMs_20 13 42 49.4
comp=Z,927nm,19.0s
LRAL Lakeview Retre 103.66 59 IAMs_20 IAMs_20 13 39 10.0
comp=Z,991nm,21.0s
LVC Limon Verde 104.41 119 IAMs_20 IAMs_20 13 36 50.8
comp=Z,893nm,20.0s
MKAR Makanchi Array 105.34 315 Pdiff **Pdif** **12 59 41.1 +0.7**
comp=Z,0.4nm,0.9s,baz=116,slow=6.6,SNR=2.2
O48B Farmland 106.34 52 IAMs_20 IAMs_20 13 43 58.1
comp=Z,780nm,20.0s
TZTN Tazewell 107.05 56 IAMs_20 IAMs_20 13 42 42.4
comp=Z,868nm,20.0s
AAM Ann Arbor 107.72 50 IAMs_20 IAMs_20 13 42 38.5
comp=Z,878nm,20.0s
M53A WI Miller and 109.85 51 IAMs_20 IAMs_20 13 44 30.9
comp=Z,701nm,20.0s
ERPA Erie 110.42 51 IAMs_20 IAMs_20 13 45 45.8
comp=Z,716nm,20.0s
BVAR Borovoye Array 113.31 321 PKiKP **PKiKP** **13 04 07.9 -1.1**
comp=Z,0.4nm,0.6s,baz=48,slow=2.1,SNR=2.1
BRVK Borovoye 113.37 321 *i* PKIKP **PKiKP** **13 04 10.2 +1.1**
SAML Samuel 115.04 109 IAMs_20 IAMs_20 13 45 54.5
comp=Z,444nm,20.0s
SDDR Presa de Saban 115.12 77 IAMs_20 IAMs_20 13 45 06.2
comp=Z,445nm,20.0s
LBNH Lisbon 116.36 49 IAMs_20 IAMs_20 13 49 44.7
comp=Z,792nm,20.0s
ILULI Iluliasat 119.65 18 IAMs_20 IAMs_20 14 02 10.5
comp=Z,646nm,20.0s
SFJD Kangerlussuaq 121.05 20 IAMs_20 IAMs_20 13 54 06.8
comp=Z,673nm,20.0s
SMRT St. Maarten 122.67 79 IAMs_20 IAMs_20 14 05 22.2
comp=Z,388nm,20.0s
KEV Kevo 123.89 348 IAMs_20 IAMs_20 13 55 14.2
comp=Z,638nm,22.0s
ARCES ARCESS Array B 124.37 348 PKP **PKPdf** **13 04 29.7 -0.1**
comp=Z,2.4nm,0.9s,baz=60,slow=5.3,SNR=2.4
KLMR Klimovskoe 126.62 336 ePKIKP **PKPdf** **13 04 34.4 +0.1**
KLMR pmax pmax
comp=Z,11nm,1.3s
BOSA Boshof 127.40 211 PKP **PKPdf** **13 04 37.8 +0.7**
comp=Z,1.0nm,0.3s,baz=273,slow=3.1,SNR=2.3
MAK Makhachkala 130.08 312 *i* P **Pdif** **13 01 27.4 -3.0**
MAK *e*PPP PPP 13 09 36.6
MAK *e* 13 11 43.7
FINES FINESS Array B 130.86 342 PKP **PKiKP** **13 04 43.7 +0.4**
comp=Z,3.0nm,1.0s,baz=338,slow=3.3,SNR=2.2
OBN Obninsk 131.29 331 *i* PKIKP **PKiKP** **13 04 45.0 +0.7**
OBN pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 133.10 315 *i* PKIKP **PKiKP** **13 04 48.5 0.0**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,620nm,23.0s
ERBR Yeremizino-Bor 133.87 318 *i* P **Pdif** **13 01 45.3 -2.0**
ERBR pmax pmax
comp=Z,13nm,0.7s
SOC Sochi 135.24 316 *e*PKIKP **PKPdf** **13 04 49.8 -1.4**
SOC *e* 13 07 26.4
SOC *e*PPP PPP 13 10 33.1
KIBK Kibwezi 135.48 249 IAMs_20 IAMs_20 14 01 19.4
comp=Z,588nm,19.0s
ATD Arta Tunnel 135.53 270 IAMs_20 IAMs_20 13 58 38.2
comp=Z,535nm,21.0s
ANN Anapa 136.21 318 *i* P **Pdif** **13 01 59.1 +1.4**
ANN pmax pmax
comp=Z,18nm,1.4s
KIEV Kiev 137.53 330 IAMs_20 IAMs_20 14 03 38.0
comp=Z,428nm,21.0s
SUW Suwalki 137.68 337 IAMs_20 IAMs_20 14 04 55.0
comp=Z,655nm,22.0s
ARPR Arapgir-MALATY 137.86 310 IAMs_20 IAMs_20 14 06 32.4
comp=Z,514nm,22.0s
FURI Furi 138.91 264 IAMs_20 IAMs_20 14 02 17.6
comp=Z,423nm,22.0s
LODK Lodwar 140.29 255 IAMs_20 IAMs_20 13 59 55.4
comp=Z,494nm,22.0s
RCBR Riachuelo 140.31 122 IAMs_20 IAMs_20 13 59 28.9
comp=Z,578nm,22.0s
BRTR Keskin Array B 140.97 313 PKhKP PKPpre 13 04 55.1
comp=Z,0.6nm,0.4s,baz=343,slow=3.0,SNR=3.9
TIRR Tirgusor 141.88 323 IAMs_20 IAMs_20 14 07 01.0
comp=Z,402nm,22.0s
OKC Ostrava-Krasne 142.90 337 AMS AMS 14 16 00.0
comp=Z,400nm,19.5s
OSTC Ostas 142.97 340 AMS AMS 14 10 30.0
comp=Z,600nm,21.2s
CHVC Chvalec 142.99 340 AMS AMS 14 10 20.0
comp=Z,500nm,22.2s
CSS Mathiatis 143.04 306 IAMs_20 IAMs_20 14 10 10.0
comp=Z,403nm,22.0s
UPC Upice 143.07 340 AMS AMS 14 10 40.0
comp=Z,600nm,17.8s
DPC Dobruska-Polom 143.11 340 *e*PKP **PKiKP** **13 05 10.8 +2.1**
DPC AMS AMS 14 10 50.0
comp=Z,500nm,24.0s
DPC Dobruska-Polom 143.11 340 *e*PKIKP **PKiKP** **13 05 10.8 +2.1**
DPC MLR MLR
comp=Z,500nm,24.0s
MORC Moravsky Berou 143.17 338 *e*PKP PKPbc 13 05 03.1 +0.7
KRLC Kraliky 143.18 339 AMS AMS 14 09 30.0
comp=Z,600nm,17.6s
CLL Collm 143.27 343 IAMs_20 IAMs_20 14 07 37.6
comp=Z,648nm,22.0s
CLL Collm 143.27 343 *e*PKPdf PKPbc 13 05 04.0 +1.4
CLL *i* PKiKP **PKiKP** **13 05 08.6 -0.3**
CLL *i* pPKiKP pPKPdf 13 05 10.7 -0.1
comp=Z,5.0nm,0.8s
CLL *i* x x 13 05 17.6
CLL *e*PP **PP** **13 08 16.0 +0.3**
CLL Collm 143.27 343 *e*PKIKP **PKiKP** **13 05 08.0 -0.9**
CLL *i* 13 05 10.7
CLL pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 143.40 342 *e*PKP **PKiKP** **13 05 09.8 +0.6**
BRG Amp 13 05 12.9
comp=Z,3.4nm,0.9s
BRG Berggiesshubel 143.40 342 *e*PKIKP **PKiKP** **13 05 09.8 +0.6**
BRG pmax pmax
comp=Z,3.0nm,0.9s
BRG MLR MLR
comp=E,439nm,21.0s
BRG MLR MLR
comp=Z,582nm,19.7s
PVCC Panska Ves 143.51 341 AMS AMS 14 04 20.0
comp=Z,600nm,23.1s
VYHS Vyhne 143.73 336 *e*PKP **PKPdf** **13 05 07.0 +0.5**
VYHS Vyhne 143.73 336 *e*PKIKP **PKPdf** **13 05 07.0 +0.5**
HSKC Hora Svate Kat 143.78 342 AMS AMS 14 09 50.0
comp=Z,500nm,19.0s
JAVC Velka Javorina 143.88 337 *e*PKP PKPbc 13 05 05.8 +1.3
VRAC Vranov 143.90 338 *e*PKP **PKPdf** **13 05 07.5 +0.7**
VRAC Vranov 143.90 338 PKP **PKPdf** **13 05 06.4 -0.4**
comp=Z,1.6nm,0.6s,baz=307,slow=20,SNR=1.8
PRA Prague 143.96 341 AMS AMS 14 04 30.0
comp=Z,600nm,17.9s
GOPC GO Pecny, Ondr 143.98 341 AMS AMS 14 04 40.0
comp=Z,700nm,22.0s
ISP Isparta 143.99 312 IAMs_20 IAMs_20 14 10 12.6
comp=Z,391nm,20.0s
PRU Pruhonice 144.00 341 AMS AMS 14 04 40.0
comp=Z,700nm,22.7s
JMB Yambol 144.15 322 *e*P **PKPdf** **13 05 07.7 +0.3**
KRUC Moravsky 144.18 338 *e*PKP PKPbc 13 05 06.2 +0.8
TREC Trest 144.29 339 AMS AMS 14 10 30.0
comp=Z,600nm,21.6s
NKC Novy Kostel 144.40 343 AMS AMS 14 15 50.0
comp=Z,500nm,19.1s
MODS Modra-Piesok 144.43 337 *e*PKP **PKPdf** **13 05 09.8 +2.0**
MODS Modra-Piesok 144.43 337 *e*PKIKP **PKPdf** **13 05 09.8 +2.0**
KHC Kasperske Hory 145.05 341 *e*PKP **PKPab** **13 05 08.0 -0.2**
KHC *ex* x 13 05 15.9
KHC AMS AMS 14 06 50.0
comp=Z,700nm,23.2s
KHC Kasperske Hory 145.05 341 *e*PKIKP **PKiKP** **13 05 15.9 +3.2**
KHC MLR MLR
comp=Z,700nm,23.2s
CKRC Cesky Krumlov 145.09 340 *e*PKP **PKPab** **13 05 08.2 -0.2**
CKRC AMS AMS 14 05 40.0
comp=Z,700nm,21.9s
CKRC Cesky Krumlov 145.09 340 *e*PKIKP **PKPab** **13 05 08.2 -0.2**
CKRC MLR MLR
comp=Z,700nm,21.9s
VALD Valchedram 145.14 326 *e*P **PKPdf** **13 05 11.3 +2.2**
MPEP Malo Peshtene 145.20 325 *e*P **PKPdf** **13 05 09.8 +0.6**
GRA1 Grafenberg Arr 145.22 344 IAMs_20 IAMs_20 14 15 22.1
comp=Z,373nm,20.0s
GRFO Grafenberg 145.22 344 IAMs_20 IAMs_20 14 15 32.3
comp=Z,390nm,19.0s
GEC2 GERESS Array S 145.26 341 PKPbc **PKPbc** **13 05 07.5 -1.5**
GERES GERESS Array B 145.26 341 **PKPbc** **13 05 08.0 -1.0**
GERES GERESS Array B 145.26 341 PKPbc **PKPbc** **13 05 08.7 -0.3**
comp=Z,5.7nm,1.0s,baz=45,slow=0.9,SNR=16
GERES GERESS Array B 145.26 341 *e*PKIKP **PKPbc** **13 05 09.0 0.0**
GERES pmax pmax
comp=Z,6.0nm,1.0s
CONA Conrad Observa 145.32 338 *ep*PKP **PKPdf** **13 05 10.0 +0.6**
comp=Z,13nm,0.9s,SNR=14
RONA Rosalia, Austr 145.35 337 *ep*PKP **PKPdf** **13 05 10.2 +0.8**
comp=Z,26nm,1.2s,SNR=8.9
KDZ Kurdzhali 145.38 322 *e*P **PKPdf** **13 05 10.1 +0.5**
ALN Alexandroupoli 145.39 320 PKPbc **PKPbc** **13 05 08.4 -1.1**
PLD Plovdiv 145.41 323 *e*P **PKPdf** **13 05 11.9 +2.3**
RDO Rodhopi 145.55 321 PKPbc **PKPbc** **13 05 08.9 -1.1**
MOA Molln 145.95 339 *ep*PKP **PKPab** **13 05 11.7 +0.1**
comp=Z,24nm,1.0s,SNR=12
VTS Vitosha 145.96 325 *e*P **PKPab** **13 05 13.2 +1.2**
ARSA Arzberg 146.02 338 *e*PKP **PKPbc** **13 05 11.8 +0.5**
comp=Z,16nm,1.2s,SNR=11
BIOA Bad Ischl, Aus 146.29 340 *e*PKP **PKPbc** **13 05 12.0 -0.2**
comp=Z,15nm,1.3s
WLF Walferdange 146.36 350 PKPbc **PKPbc** **13 05 12.5 +0.3**
WLF IAMs_20 IAMs_20 14 08 19.2
comp=Z,582nm,22.0s
MMB Musomishta 146.37 323 *e*P **PKPdf** **13 05 08.0 -3.3**
ARG Arkhangelos 146.43 311 PKPbc **PKPbc** **13 05 12.6 -0.3**
KKB Krupnik 146.53 324 *e*P **PKPab** **13 05 13.7 -0.3**
STU Stuttgart 146.58 346 IAMs_20 IAMs_20 14 14 15.0
comp=Z,349nm,19.0s
SOKA Soboth 146.68 337 *e*PKP **PKPbc** **13 05 13.4 +0.1**
comp=Z,15nm,0.9s,SNR=6.6
LESA Schwarzleotal 146.84 341 *i* pPKP **PKPbc** **13 05 13.7 -0.1**
comp=Z,14nm,1.2s
KBA Koelnbreinsper 146.93 340 *ep*PKP **PKPbc** **13 05 13.8 -0.4**
comp=Z,11nm,1.0s,SNR=8.3
OBKA Obir 147.00 338 *ep*PKP **PKPbc** **13 05 14.0 -0.3**
comp=Z,7.5nm,1.1s
BFO Black Forest 147.20 346 **PKPdf** **13 05 13.9 +1.4**
MYKA Terra Mystica 147.22 339 *ep*PKP **PKPbc** **13 05 14.9 0.0**
comp=Z,22nm,1.4s,SNR=7.5
WATA Walderalm 147.26 342 *ep*PKP **PKPbc** **13 05 15.3 +0.2**
comp=Z,18nm,1.3s,SNR=8.8
WTTA Wattenberg 147.31 342 *e*PKP **PKPbc** **13 05 15.7 +0.4**
comp=Z,25nm,1.1s,SNR=9.7
RETA Reutte 147.36 343 *ep*PKP **PKPbc** **13 05 15.2 -0.1**
comp=Z,13nm,1.1s,SNR=8.5
MOTA Moosalm 147.39 342 *e*PKP **PKPbc** **13 05 15.9 +0.4**
comp=Z,23nm,1.2s,SNR=8.5
PRED Cave del Predi 147.41 339 **PKPbc** **13 05 15.2 -0.2**
KARP Karpathos 147.43 311 IAMs_20 IAMs_20 14 16 28.7
comp=Z,376nm,22.0s
SQTA Sankt Quirin 147.47 342 *e*PKP **PKPbc** **13 05 16.2 +0.5**
comp=Z,21nm,1.3s,SNR=9.6
ABTA Abfaltersbach 147.49 340 *ep*PKP **PKPbc** **13 05 15.7 0.0**
comp=Z,17nm,1.2s,SNR=8.1
ECH Echery 147.56 348 PKPbc **PKPbc** **13 05 16.1 +0.3**
ECH IAMs_20 IAMs_20 14 14 09.9
comp=Z,476nm,20.0s
DAVA Damuels 147.78 344 *ep*PKP **PKPbc** **13 05 16.5 -0.1**
comp=Z,14nm,1.0s
FETA Feichten 147.79 343 *e*PKP **PKPbc** **13 05 17.1 +0.5**
comp=Z,18nm,1.1s,SNR=8.3
SABO M.te Sabotino 147.79 338 PKPbc **PKPbc** **13 05 16.7 +0.2**
PDG Podgorica 148.21 328 IAMs_20 IAMs_20 14 12 56.8
comp=Z,337nm,22.0s
FNA Florina 148.22 324 PKPbc **PKPbc** **13 05 16.7 -1.1**
DAVOX Davos/Dischmat 148.25 343 PKPbc **PKPbc** **13 05 17.1 -0.7**
comp=Z,14nm,1.0s,baz=331,slow=19,SNR=8.8
FUORN Ofenpass-Fuorn 148.29 343 IAMs_20 IAMs_20 14 26 33.5
comp=Z,301nm,20.0s
CTI Castel Tesino 148.39 341 PKPbc **PKPbc** **13 05 17.1 -1.0**
CLF Chambon-Foret 148.52 354 **PKiKP** **13 05 20.2 +0.5**
TUE Stuetta 148.68 344 IAMs_20 IAMs_20 14 19 18.7
comp=Z,454nm,18.0s
SALO Salr 149.12 342 **PKiKP** **13 05 20.9 -0.3**
IDI Anoyia 149.18 312 PKPbc **PKPbc** **13 05 18.8 -1.7**
comp=Z,0.1nm,1.0s,baz=71,slow=12,SNR=3.0
BNI Bardonecchia 150.67 346 **PKPbc** **13 05 23.4 -0.4**
CAMP Campotosto 150.79 335 PKPbc **PKPbc** **13 05 23.0 -1.2**
CAMP PKPab **sPKPbc** **13 05 30.9 -0.2**
SSB Saint Sauveur 150.88 349 **PKPbc** **13 05 23.6 -0.7**
SSB PKPab **sPKPbc** **13 05 30.8 -0.3**
SSB Saint Sauveur 150.88 349 IAMs_20 IAMs_20 14 16 40.8
comp=Z,340nm,19.0s
CESX Cesi 151.06 336 **PKPab** **13 05 29.1 -3.0**
CUC Castrocucco 151.75 329 IAMs_20 IAMs_20 14 22 02.5
comp=Z,527nm,20.0s
CEL Celeste 153.01 326 IAMs_20 IAMs_20 14 17 57.1
comp=Z,500nm,21.0s
VSL Villasalto 154.96 337 IAMs_20 IAMs_20 14 18 05.2
comp=Z,371nm,19.0s
WDD Wied Dalam 155.52 324 IAMs_20 IAMs_20 14 27 60.0
comp=Z,521nm,22.0s
ESDC Sonseca Array 157.11 2 PKPab **PKPab** **13 05 59.1 +1.2**
comp=Z,0.6nm,0.9s,baz=352,slow=5.2,SNR=2.6
MACI Morro de la Ar 162.91 45 PKPdf **PKPdf** **13 05 30.2 -4.4**
MACI PKPab **PKPab** **13 06 20.6 -3.2**
MBO M'Bour 166.14 98 PKPdf **PKPdf** **13 05 33.8 -3.7**
MBO PKPab **PKPab** **13 06 34.8 -3.4**
TORD Torodi Ar. Bea 174.41 231 PKP **PKPdf** **13 05 41.0 -1.1**
comp=Z,1.9nm,1.1s,baz=69,slow=4.1,SNR=3.6
TORD PKPab **PKPab** **13 07 14.8 +0.2**
comp=Z,1.9nm,1.0s,baz=112,slow=2.0,SNR=5.0

*NEIC **01** 12:53:09.9±2.2,32.75N±0.01×118.42W±0.01,h10km±2km,*
Error ellipse: s-maj=3.1km s-min=2.8km az=311.0
*PAS **01** 12:53:10.9±2.6,32.78N±0.02×118.45W±0.02,h8km±5km,*
ML3.3/126,ML3.0/57(NEIC),Error ellipse: s-maj=4.0km
s-min=2.0km az=211.0
*ANF **01** 12:53:12.0±0.5,32.89N×118.31W,h17km±2km,ML3.0/23,*
Error ellipse: s-maj=4.2km s-min=1.9km az=46.0
ISC 01 12:53:10.2±1.1,32.78N±0.03×118.39W±0.02,h12km±9km,
n98,σ0.93/125,Off coast of California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CIAC	**Catalina I. Ai**	**0.62**	**359**			**Pg**	**12 53 22.1**	**-0.2**
CIAC						**Sg**	**12 53 31.5**	**+0.9**
CIS	**Catalina Islan**	**0.62**	**358**	P		**Pg**	**12 53 22.2**	**-0.2**
	baz=182,SNR=28							
CIS				S		**Sg**	**12 53 29.7**	**-0.9**
	baz=182							
SBI	**Santa Barbara**	**0.88**	**323**			**Pg**	**12 53 26.6**	**-0.6**
SBI						**Sg**	**12 53 38.4**	**-0.4**
FMP	**Fort Macarthur**	**0.94**	**5**			**Pg**	**12 53 28.1**	**-0.2**
FMP						**Sg**	**12 53 40.4**	**-0.2**
FMP	**Fort Macarthur**	**0.94**	**5**	P		**Pg**	**12 53 28.1**	**-0.2**
	baz=188,SNR=18							
FMP				S		**Sg**	**12 53 40.3**	**-0.2**
	baz=188							
RPV	**Rancho Palos V**	**0.96**	**360**			**Pg**	**12 53 28.6**	**-0.2**
RPV						**Sg**	**12 53 41.3**	**-0.1**
SANC	**Santa Ana**	**1.02**	**25**			**Pb**	**12 53 30.4**	**+0.7**
SANC						**Sb**	**12 53 44.2**	**+1.1**
GORC	**Green Oak Ranc**	**1.05**	**69**			**Pg**	**12 53 30.0**	**-0.4**
GORC						**Sg**	**12 53 43.3**	**-0.8**
SNCC	**San Nicolas Is**	**1.06**	**297**	Pg		**Pb**	**12 53 30.3**	**-0.1**
SNCC	**San Nicolas Is**	**1.06**	**297**			**Sb**	**12 53 44.2**	**-0.1**
SNCC	**San Nicolas Is**	**1.06**	**297**	IAML			12 53 46.6	
	comp=E,335nm,0.6s							
SNCC				IAML			12 53 47.8	
	comp=N,345nm,0.3s							
SNCC	**San Nicolas Is**	**1.06**	**297**	P		**Pb**	**12 53 30.3**	**-0.1**
	baz=117							
SNCC				S		**Sb**	**12 53 44.7**	**+0.4**
	baz=117							
109C	**Camp Elliot, M**	**1.09**	**84**			**Pg**	**12 53 31.4**	**+0.2**
109C						**Sg**	**12 53 45.2**	**-0.2**
109C				IAML			12 53 48.0	
	comp=N,588nm,0.3s							
109C	**Camp Elliot, M**	**1.09**	**84**	P		**Pg**	**12 53 31.3**	**+0.2**
	baz=265,SNR=19							
109C				S		**Sg**	**12 53 45.2**	**-0.2**
	baz=265							
CPE	**Camp Elliot**	**1.09**	**84**			**Pg**	**12 53 31.4**	**+0.3**
CPE						**Sg**	**12 53 45.4**	**0.0**
TJX	**Tijuana**	**1.16**	**103**			**Pg**	**12 53 33.3**	**+0.8**
TJX						**Sn**	**12 53 49.1**	**+1.1**
TJX				IAML			12 53 51.0	
	comp=E,535nm,0.3s							
TJX				IAML			12 53 53.0	
	comp=N,452nm,0.6s							
ELS	**Elsinore Mount**	**1.19**	**43**			**Pn**	**12 53 31.9**	**-0.8**
ELS				Sg		**Sb**	**12 53 47.6**	**-0.4**
SDRC	**San Diego Road**	**1.22**	**92**			**Pn**	**12 53 33.4**	**+0.3**
SDRC						**Sb**	**12 53 49.3**	**+0.4**
DPP	**Dos Picos Cty**	**1.24**	**79**			**Pn**	**12 53 34.3**	**0.0**
OLP	**Otay Lakes Par**	**1.25**	**97**			**Pg**	**12 53 34.0**	**-0.1**
RHC	**Rose Hills Cem**	**1.26**	**15**			**Pn**	**12 53 33.5**	**-0.1**
GVRC	**Garvey Reservo**	**1.29**	**10**			**Pg**	**12 53 36.0**	**+1.0**
MURC	**Murrieta**	**1.30**	**50**			**Pb**	**12 53 35.0**	**+0.5**
MURC						**Sb**	**12 53 51.3**	**+0.2**
MURC	**Murrieta**	**1.30**	**50**	P		**Pn**	**12 53 33.9**	**-0.3**
	baz=232,SNR=14							
MURC				S		**Sb**	**12 53 50.2**	**-1.0**
	baz=232							
EML	**El Monte Cty P**	**1.31**	**85**			**Pn**	**12 53 34.3**	**+0.1**
DUZA	**Dulzura**	**1.38**	**97**			**Pn**	**12 53 35.7**	**+0.5**
PSRC	**Puddingstone R**	**1.40**	**20**			**Pn**	**12 53 35.3**	**-0.2**
PASC	**Pasadena Art C**	**1.40**	**7**			**Pn**	**12 53 35.3**	**-0.2**
PASC				Sg		**Sn**	**12 53 54.8**	**+0.8**
BACC	**Bachelor Mtn.**	**1.41**	**53**			**Pn**	**12 53 35.3**	**-0.3**
PLM	**Palomar**	**1.41**	**65**			**Pn**	**12 53 35.5**	**-0.3**
PLM						**Sn**	**12 53 53.0**	**-1.4**
DGR	**Domenigoni Val**	**1.45**	**53**			**Pb**	**12 53 37.4**	**+0.3**
BAR	**Barrett**	**1.46**	**93**			**Pn**	**12 53 36.9**	**+0.6**
PEM	**Pine Mountain**	**1.46**	**17**			**Pn**	**12 53 36.0**	**-0.3**
MWC	**Mount Wilson**	**1.47**	**11**			**Pn**	**12 53 36.2**	**-0.4**
DECC	**Green Verdugo**	**1.47**	**2**	P		**Pn**	**12 53 36.2**	**-0.3**
	baz=184							
DECC				S		**Sn**	**12 53 54.3**	**-1.4**
	baz=184							
HMTC	**Hemet**	**1.49**	**51**			**Pb**	**12 53 38.5**	**+0.6**
TKX	**Tecate**	**1.52**	**97**			**Pn**	**12 53 37.6**	**+0.4**
TKX				IAML			12 54 01.9	
	comp=E,254nm,0.3s							
MATG	**Mataguay Scout**	**1.53**	**74**			**Pn**	**12 53 37.5**	**+0.2**
MATG						**Sn**	**12 53 56.5**	**-0.7**
POB	**Polly Butte**	**1.53**	**53**			**Pn**	**12 53 37.2**	**-0.2**
CBX	**Cerro Bola**	**1.53**	**107**			**Pb**	**12 53 38.3**	**-0.2**
CBX				IAML			12 54 03.5	
	comp=N,224nm,0.7s							
JUEM	**Julian Eagle M**	**1.54**	**78**			**Pn**	**12 53 37.8**	**+0.2**
SSK	**Sunset Peak**	**1.55**	**22**			**Pn**	**12 53 37.7**	**0.0**
XTL	**Crystal Lake,**	**1.58**	**16**			**Pn**	**12 53 37.8**	**-0.3**
BFSC	**Mount Baldy Ra**	**1.58**	**23**	P		**Pn**	**12 53 38.1**	**0.0**
	baz=204,SNR=23							
BFSC				S		**Sn**	**12 53 56.5**	**-2.1**
	baz=204							
CHFC	**Chilao Flat St**	**1.58**	**11**			**Pn**	**12 53 37.9**	**-0.3**
SS2	**San Sevaine**	**1.61**	**27**			**Pn**	**12 53 39.2**	**+0.8**
BZNA	**Buzz No.'s Pla**	**1.61**	**63**			**Pn**	**12 53 38.8**	**+0.3**
MONP2	**Monument Peak**	**1.66**	**85**	P		**Pn**	**12 53 39.8**	**+0.4**
	baz=267							
MONP2				S		**Sn**	**12 54 00.3**	**-0.4**
	baz=267							
FRD	**Ford Ranch, An**	**1.67**	**64**			**Pn**	**12 53 39.6**	**+0.4**
DNR	**Dunn Ranch,Anz**	**1.68**	**61**			**Pg**	**12 53 42.6**	**+0.2**
CCX	**Cicese**	**1.72**	**121**	Pn		**Pb**	**12 53 41.4**	**-0.3**
CJV	**Casa Juvan**	**1.76**	**7**			**Pb**	**12 53 43.2**	**+0.7**
PFO	**Pinyon Flats O**	**1.82**	**62**	Pn		**Pn**	**12 53 42.1**	**+0.7**
PFO				IAML			12 54 08.0	
	comp=N,64nm,0.3s							
PFO	**Pinyon Flats O**	**1.82**	**62**	P		**Pn**	**12 53 42.2**	**+0.8**
	baz=244,SNR=11							
PFO				S		**Sn**	**12 54 04.3**	**-0.2**
	baz=244							
OSI	**Oeito Audit: C**	**1.85**	**352**	S		**Sn**	**12 54 04.3**	**-0.9**
	baz=173							
IKP	**In-Ko-Pah, Jac**	**1.93**	**93**			**Pn**	**12 53 39.8**	**-3.0**
IKP	**In-Ko-Pah, Jac**	**1.93**	**93**	P		**Pn**	**12 53 40.3**	**-2.6**
	baz=274							
RMX	**La Rumorosa**	**1.96**	**94**	Pn		**Pb**	**12 53 45.2**	**-0.6**
RMX				IAML			12 54 14.2	
	comp=E,145nm,0.7s							
RMX				IAML			12 54 16.0	
	comp=N,113nm,0.3s							
CRR	**Carrizo Plain**	**2.04**	**86**			**Pb**	**12 53 46.7**	**-0.5**
YUH	**Yuha Desert**	**2.09**	**93**			**Pb**	**12 53 47.1**	**-0.8**
YUH				IAML			12 54 17.6	
	comp=E,53nm,0.2s							
TPO	**Tropico Hills**	**2.10**	**4**			**Pn**	**12 53 46.4**	**+1.1**
EDW2	**Edwards Air Fo**	**2.13**	**9**	P		**Pn**	**12 53 46.1**	**+0.6**
	baz=190,SNR=10.0							
SWSC	**Sam W. Stewart**	**2.19**	**85**	P		**Pn**	**12 53 46.6**	**+0.2**
	baz=267							
ESJX	**Sierra Juarez**	**2.21**	**110**	Pn		**Pb**	**12 53 48.8**	**-1.3**
BCW	**Bitter Crk WRg**	**2.32**	**339**	Pn		**Pn**	**12 53 49.1**	**+0.9**
BCW				IAML			12 54 18.2	
	comp=N,109nm,0.5s							
BCW				IAML			12 54 25.1	
	comp=E,144nm,0.5s							
BELC	**Belle Mtn. Jos**	**2.35**	**58**	Pb		**Pb**	**12 53 51.3**	**-1.2**
	baz=240,SNR=14							
BELC				Sb		**Sb**	**12 54 22.0**	**+0.6**
	baz=240							
FIGC	**Figueroa Mtn.**	**2.36**	**326**			**Pn**	**12 53 49.6**	**+0.9**
TPC	**Twentynine Pal**	**2.37**	**55**			**Pb**	**12 53 54.1**	**+1.4**
ARVC	**Arvin**	**2.37**	**351**	P		**Pn**	**12 53 48.8**	**-0.1**
	baz=172							
ARVC				S		**Sn**	**12 54 16.9**	**-1.0**
	baz=172							
CCAC	**Calif City Air**	**2.39**	**7**			**Pn**	**12 53 50.2**	**+1.0**
CCAC				IAML			12 54 25.5	
	comp=E,107nm,1.2s							
CCAC				IAML			12 54 40.3	
	comp=N,103nm,1.3s							
PKM	**Mcpherson Peak**	**2.

PKM				S		**Sn**	**12 54 18.6**	**-0.6**
	baz=151							
VTX	**Valle De La Tr**	**2.61**	**121**	Pn		**Pn**	**12 53 54.3**	**+2.1**
BC3	**Big Chuckawall**	**2.62**	**70**	P		**Pn**	**12 53 50.8**	**-1.5**
	baz=252							
HEC	**Hector,Ludlow**	**2.67**	**39**	Pb		**Pb**	**12 53 58.2**	**+0.3**
	baz=221							
LRMC	**Laurel Mtn Rad**	**2.76**	**12**	P		**Pn**	**12 53 54.4**	**+0.1**
	baz=193							
LRMC				S		**Sn**	**12 54 25.4**	**-2.2**
	baz=193							
GUVIX	**Guadalupe Vict**	**2.84**	**99**	Pn		**Pn**	**12 53 56.9**	**+1.6**
GSC	**Goldstone, Bar**	**2.84**	**27**	Pn		**Pn**	**12 53 56.8**	**+1.4**
GSC				IAML			12 54 40.8	
	comp=E,62nm,1.2s							
GSC				IAML			12 54 45.4	
	comp=N,54nm,0.7s							
GSC	**Goldstone, Bar**	**2.84**	**27**	P		**Pn**	**12 53 55.3**	**-0.1**
	baz=209,SNR=7.6							
SMMC	**Simmler**	**2.86**	**333**	S		**Sn**	**12 54 30.0**	**0.0**
	baz=153							
ISA	**Isabella, Lake**	**2.88**	**359**	Pn		**Pn**	**12 53 56.8**	**+0.9**
ISA	**Isabella, Lake**	**2.88**	**359**	P		**Pn**	**12 53 56.7**	**+0.7**
	baz=180							
GLA	**Glamis**	**3.01**	**84**	Pn		**Pn**	**12 53 59.0**	**+1.3**
GLA				IAML			12 54 57.2	
	comp=N,37nm,0.8s							
GLA				IAML			12 54 59.3	
	comp=E,33nm,1.6s							
WNMM	**Nine Mile Cany**	**3.09**	**7**			**Pn**	**12 54 01.9**	**+3.3**
TUQ	**Turquoise Moun**	**3.35**	**37**	Pb		**Pb**	**12 54 09.5**	**-0.1**
	baz=219							
MPMC	**Manual Prospec**	**3.36**	**13**	Pb		**Pb**	**12 54 10.0**	**+0.3**
	baz=194							
QSM	**Queen of Sheba**	**3.42**	**21**	Pn		**Pn**	**12 54 05.6**	**+2.3**
QSM				IAML			12 55 01.7	
	comp=E,28nm,0.8s							
QSM				IAML			12 55 05.5	
	comp=N,24nm,0.9s							
GWY	**Greenwater Val**	**3.69**	**22**			**Pn**	**12 54 06.8**	**-0.3**
GWY				IAML			12 55 13.3	
	comp=E,37nm,1.6s							
GWY				IAML			12 55 14.4	
	comp=N,26nm,0.6s							
PMPB	**Monarch Peak**	**3.96**	**331**	Pn		**Pn**	**12 54 10.9**	**+0.1**
WCT	**Wildcat Mounta**	**4.26**	**19**	Pn		**Pn**	**12 54 16.8**	**+1.8**
WCT				IAML			12 55 32.8	
	comp=E,10nm,0.7s							
BBGB	**Big Mountain B**	**4.37**	**331**	Pn		**Pn**	**12 54 17.6**	**+1.1**
W13A	**Hualapai Mount**	**4.41**	**57**	Pn		**Pn**	**12 54 18.7**	**+1.6**
LCH	**Last Change Ra**	**4.49**	**8**	Pn		**Pn**	**12 54 19.1**	**+1.1**
SHPR	**Sheep Range**	**4.58**	**35**	Pn		**Pn**	**12 54 21.6**	**+2.2**
DSP	**Deep Springs**	**4.60**	**4**	Pn		**Pn**	**12 54 19.6**	**+0.1**
SAO	**San Andreas Ge**	**4.71**	**329**	Pn		**Pn**	**12 54 21.0**	**+0.1**
MDPB	**Devils Postpil**	**4.88**	**354**	Pn		**Pn**	**12 54 24.1**	**+0.6**
MZP	**Montezuma Peak**	**4.98**	**9**	Pn		**Pn**	**12 54 25.0**	**0.0**
Q09A	**Carvers**	**6.12**	**9**			**Pn**	**12 54 40.7**	**+0.1**

*JMA **01** 12:53:27.1±0.3,33˚N±3˚×13˚8E±˚, h345km, MV2.7/22, FAR S OFF TOKAI DISTRICT*
*IDC **01** 12:53:30.7±1.0,33˚19N×138˚23E, h33km±18km, mb2.7/1, mbtmp3.2/3, Error ellipse: s-maj=51.6km s-min=14.4km az=64.0*

ISC 01 12:53:29.3±1.1,33˚22N±0˚09×138˚21E±0˚08, h350km, n18, σ1s59/21, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TTO4	**TONANKAI O.B.S**	**0.96**	**325**	P			**Pn**	**12 54 13.9**	**-0.6**
TTO2	**TONANKAI O.B.S**	**1.11**	**298**	P			**Pn**	**12 54 14.5**	**-0.6**
TTO1	**TONANKAI O.B.S**	**1.25**	**289**	*e*P			**Pn**	**12 54 14.7**	**-1.0**
JHJ	**Hachijo jima 2**	**1.33**	**94**	P			**Pn**	**12 54 16.8**	**+0.3**
	25nm,0.6s,baz=323,slow=20,SNR=1.1								
JHJ				S			**S**	**12 54 52.6**	**-1.8**
	34nm,0.4s,baz=180,slow=20,SNR=8.1								
JIE	**Ise**	**1.71**	**313**	*e*P			**Pn**	**12 54 17.7**	**-0.9**
JOD2	**Odawara 2**	**2.16**	**20**	*e*P			**Pn**	**12 54 22.5**	**+0.8**
JTNC	**Tanabenakahech**	**2.25**	**286**	P			**Pn**	**12 54 20.7**	**-1.7**
JYTA	**Yamagatataniai**	**2.66**	**333**	*e*P			**Pn**	**12 54 25.8**	**+0.2**
BSO1	**Boso 1**	**2.71**	**58**	P			**Pn**	**12 54 24.5**	**-0.9**
BSO1				*e*S			**S**	**12 55 07.1**	**-3.5**
JRY	**Ryogami san**	**2.84**	**11**	*e*S			**S**	**12 55 14.8**	**+0.9**
JWT	**Wachi**	**3.10**	**312**	*e*P			**Pn**	**12 54 29.4**	**-0.1**
MJAR	**Matsushiro Arr**	**3.31**	**0**	P			**Pn**	**12 54 32.2**	**+0.8**
	0.8nm,0.3s,baz=178,slow=9.6,SNR=10								
MJAR				S			**S**	**12 55 21.2**	**-0.3**
	1.8nm,0.8s,baz=179,slow=21,SNR=5.8								
MAT	**Matsushiro**	**3.31**	**0**	*e*S			**S**	**12 55 21.6**	**+0.1**
JAG	**Ashikaga**	**3.35**	**17**	P			**Pn**	**12 54 31.9**	**+0.1**
JAG				*e*S			**S**	**12 55 18.7**	**-3.5**
JMN	**Monobe**	**3.65**	**279**	P			**Pn**	**12 54 33.7**	**-1.1**
JCJ	**Chichijima**	**7.01**	**150**	P			Pn	12 55 01.6	-10
	43nm,0.8s,baz=352,slow=21,SNR=10								
JCJ				S			S	12 56 19.6	-16
	16nm,0.3s,baz=318,slow=22,SNR=6.5								
KSRS	**Korea Array**	**9.40**	**300**	P			**P**	**12 55 41.7**	**-0.2**
	1.1nm,0.6s,baz=117,slow=13,SNR=7.7								
ASAR	**Alice Springs**	**56.72**	**185**	P			**P**	**13 02 40.4**	**+2.7**
	0.3nm,0.8s,baz=15,slow=9.0,SNR=8.2								
	0.3nm,0.8s								

*IDC **01** 12:59:29.5±5.1,25˚96S×179˚64E, h505km±54km, mb3.1/8, mbtmp4.0/9, Error ellipse: s-maj=34.0km s-min=19.8km az=59.0*

ISC 01 12:59:29.1±1.0,26˚02S±0˚10×179˚7E±0˚2, h503km, n14, σ0s90/15, mb3.5/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**12.39**	**189**	P			**P**	**13 02 12.1**	**+0.5**
	8.4nm,1.0s,baz=337,slow=2.5,SNR=8.1								
URZ				S			**S**	**13 04 23.4**	**-2.1**
	11nm,0.9s,baz=269,slow=7.2,SNR=2.4								
STKA	**Stephens Creek**	**33.69**	**251**	P			**P**	**13 05 28.4**	**+0.5**
	1.2nm,0.7s,baz=99,slow=5.7,SNR=5.5								
	1.2nm,0.7s								
ASAR	**Alice Springs**	**41.42**	**263**	P			**P**	**13 06 31.6**	**+0.1**
	1.4nm,0.5s,baz=93,slow=7.5,SNR=53								
	1.4nm,0.5s								
WRA	**Warramunga Arr**	**42.00**	**269**	P			**P**	**13 06 35.7**	**-0.3**
	1.0nm,0.4s,baz=102,slow=7.6,SNR=12								
WRA				PcP			**PcP**	**13 08 19.0**	**-0.7**
	0.6nm,0.9s,baz=116,slow=1.9,SNR=3.2								
	1.0nm,0.4s								
VNDA	**Vanda**	**52.24**	**185**	P			**P**	**13 07 53.0**	**+0.6**
	0.4nm,0.4s,baz=27,slow=6.8,SNR=6.0								
	0.4nm,0.4s								
QSPA	**South Pole Qui**	**64.07**	**180**	P			**P**	**13 09 13.9**	**+1.0**
	0.8nm,0.9s,baz=109,slow=2.4,SNR=3.1								
	0.8nm,0.9s								
MJAR	**Matsushiro Arr**	**73.47**	**326**	P			**P**	**13 10 09.4**	**-0.6**
	1.2nm,0.6s,baz=158,slow=5.4,SNR=6.3								
	1.2nm,0.6s								
KSRS	**Korea Array**	**79.67**	**321**	P			**P**	**13 10 45.0**	**+1.0**
	0.8nm,0.7s,baz=133,slow=5.7,SNR=5.2								
	0.8nm,0.7s								
PETK	**Petropavlovsk-**	**81.09**	**347**	P			**P**	**13 10 51.0**	**0.0**
	1.1nm,0.7s,baz=143,slow=8.8,SNR=7.7								
	1.1nm,0.7s								
FINES	**FINESS Array B**	**140.34**	**340**	PKhKP			PKPpre	13 17 52.9	
	1.3nm,0.8s,baz=85,slow=4.2,SNR=4.3								
NB2	**NORSAR Subarra**	**144.12**	**350**	PKP			**PKPab**	**13 18 05.6**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=13,slow=3.0								
NOA	**NORSAR Array B**	**144.12**	**350**	PKP			**PKPab**	**13 18 05.7**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=16,slow=4.6,SNR=4.9								
HFS	**Hagfors**	**144.55**	**348**	PKP			**PKPdf**	**13 18 06.6**	**-0.7**
	comp=Z,1.5nm,0.3s,baz=72,slow=2.9,SNR=24								
MMAI	**Mount Meron Ar**	**148.23**	**291**	PKPbc			**PKPbc**	**13 18 18.1**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=100,slow=6.0,SNR=1.8								

IDC 01 13:08:27.7±2.1,7˚40S×143˚42E, h0km, mb3.5/1, mbtmp3.9/4, ML3.7/1, Error ellipse: s-maj=38.8km s-min=33.8km az=150.0, Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.21**	**119**	Pn			Pn	13 09 32.2	-0.9
	4.1nm,0.3s,baz=4.3,slow=6.8,SNR=6.3								
PMG				Sn			Sn	13 10 24.0	+1.0
	1.3nm,0.3s,baz=228,slow=15,SNR=1.7								
WRA	**Warramunga Arr**	**15.27**	**214**	Pn			Pn	13 12 02.6	-2.1
	0.4nm,0.3s,baz=31,slow=13,SNR=15								
WRA				Sn			Sn	13 14 51.3	-3.3
	0.2nm,0.3s,baz=38,slow=24,SNR=2.9								
WRA				Lg			Lg	13 16 26.4	
	baz=22,slow=28								
	1.2nm,0.8s								
ASAR	**Alice Springs**	**18.58**	**208**	P			Pn	13 12 47.0	+0.4
	12nm,0.7s,baz=32,slow=11,SNR=135								
ASAR				S			Sn	13 16 13.2	-1.8
	0.3nm,0.8s,baz=22,slow=26,SNR=2.0								
ILAR	**Eielson Array**	**88.17**	**24**	P			P	13 21 20.6	+0.4
	0.2nm,0.7s,baz=248,slow=4.8,SNR=2.5								
	0.2nm,0.7s								

TRN 01 13:14:11.2,17˚92N×63˚67W, h10km, MD3.8, South-west of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MBFL	**Flemmings, Mon**	**1.82**	**130**	*e*P			Pb	13 14 44.2	-0.4
MBFL				*e*S			Sg	13 15 10.1	+0.3
ANBD	**Bethesda, Anti**	**2.02**	**115**	*e*P			Pb	13 14 47.3	-0.7
ANBD				*e*S			Sb	13 15 12.9	-0.2
ABD	**La Joyeuse, An**	**2.54**	**124**	*e*P			Pb	13 14 55.9	-0.9
ABD				*e*S			Sb	13 15 26.8	-1.2
ABD	**La Joyeuse, An**	**2.54**	**124**	*e*P			Pb	13 14 55.6	-1.2
CBE	**Ff, Capester**	**2.70**	**133**	*e*P			Pb	13 14 57.3	-2.4
CBE				*e*S			Sb	13 15 31.8	-1.1
AOPR	**Arecibo Observ**	**2.96**	**279**	*e*P			Pn	13 15 00.0	+1.7
AOPR				*e*S			Sn	13 15 36.8	+2.9

*IDC **01** 13:14:25.8±1.4,38˚74N×27˚73E, h0km, mb3.7/1, mbtmp3.6/7, ML3.5/6, MS4.0/3, Error ellipse: s-maj=17.5km s-min=15.5km az=85.0*
*ISK **01** 13:14:27.0,38˚75N×27˚75E, h6km, ML3.9/89*
*AFAD **01** 13:14:27.6±0.0,38˚74N×27˚78E, h7km±2km, MW3.7*
*NEIC **01** 13:14:28.7±2.2,38˚73N±0˚05×27˚77E±0˚08, h10km±2km, mb4.4/3, Error ellipse: s-maj=10.4km s-min=8.7km az=67.0*
*ATH **01** 13:14:28.9,38˚79N×27˚69E, h10km±1km, ML3.5/17, Error ellipse: s-maj=2.3km s-min=1.2km az=65.0*
*THE **01** 13:14:29.6,38˚77N×27˚87E, h31km±24km, ML3.7/9, Error ellipse: s-maj=24.9km s-min=0.8km az=135.0*
*SOF **01** 13:14:37.5,39˚54N±0˚06×27˚39E±0˚05, h10km, MD3.5/3*

ISC 01 13:14:27.6±0.8,38˚76N±0˚02×27˚77E±0˚02, h10km±5km, n196,σ1s39/236, mb4.1/4, 14C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GOMA	**Golmarmara-Man**	**0.12**	**112**	Pg			**Pg**	**13 14 30.4**	**-0.1**
GOMA				Sg			**Sg**	**13 14 32.7**	**+0.2**
AKS	**Akhisar**	**0.13**	**14**	Pg			**Pg**	**13 14 29.9**	**-0.7**
AKS				Sg			**Sg**	**13 14 32.5**	**-0.3**
ZEDA	**zmir-Bergama**	**0.58**	**292**	P			**Pg**	**13 14 39.5**	**+0.6**
ZEDA				S			**Sb**	**13 14 47.9**	**-0.3**
ZEDA				*i* AML			AML	13 14 49.0	
	comp=N,2μm,0.4s								
ZEDA				*i* AML			AML	13 14 49.0	
	comp=E,3μm,0.4s								
STEP	**BALIKESIR_Sava**	**0.62**	**356**	P			**Pg**	**13 14 39.7**	**0.0**
STEP				*i* AML			AML	13 14 49.0	
	comp=N,9μm,0.6s								
STEP				*i* AML			AML	13 14 49.0	
	comp=E,1μm,0.5s								
STEP				S			**Sg**	**13 14 49.2**	**+1.4**
IZMR	**zmir-demi**	**0.63**	**167**	P			**Pg**	**13 14 40.0**	**+0.2**
IZMR				S			**Sg**	**13 14 48.2**	**+0.1**
IZMR				*i* AML			AML	13 14 52.0	
	comp=N,1μm,0.4s								
IZMR				*i* AML			AML	13 14 55.0	
	comp=E,1μm,0.8s								
MANT	**Manisa**	**0.67**	**113**	P			**Pg**	**13 14 40.7**	**+0.1**
MANT				S			**Sg**	**13 14 49.5**	**+0.2**
MANT				*i* AML			AML	13 14 51.0	
	comp=N,1μm,0.3s								
MANT				*i* AML			AML	13 14 51.0	
	comp=E,1μm,0.2s								
IZMD	**zmir-Dikili-**	**0.70**	**289**	P			**Pg**	**13 14 41.8**	**+0.8**
IZMD				S			**Sb**	**13 14 52.2**	**+0.6**
IZMD				*i* AML			AML	13 14 54.0	
	comp=E,980nm,0.3s								
IZMD				*i* AML			AML	13 14 55.0	
	comp=N,693nm,0.3s								
KULA	**Kula-Manisa**	**0.74**	**109**	Pg			**Pg**	**13 14 41.7**	**-0.1**
KULA	**Kula-Manisa**	**0.74**	**109**	P			**Pg**	**13 14 41.6**	**-0.2**
KULA				S			**Sg**	**13 14 50.8**	**-0.6**
KIRA	**zmir-Kiraz**	**0.74**	**138**	P			**Pg**	**13 14 42.5**	**+0.6**
KIRA				S			**Sg**	**13 14 52.5**	**+0.9**
KIRA				*i* AML			AML	13 14 53.0	
	comp=N,2μm,0.2s								
KIRA				*i* AML			AML	13 14 53.0	
	comp=E,3μm,0.2s								
DKL	**Dikili**	**0.75**	**295**	Pg			**Pg**	**13 14 42.4**	**+0.4**
CAND	**Candarli**	**0.78**	**285**	Pg			**Pg**	**13 14 41.9**	**-0.8**
CAND				Sg			**Sb**	**13 14 54.1**	**+0.2**
FOCM	**Foa**	**0.82**	**267**	Pg			**Pg**	**13 14 42.6**	**-0.7**
BUHA	**Balikesir, Bur**	**0.92**	**324**	P			**Pg**	**13 14 45.6**	**+0.3**
BUHA				S			**Sb**	**13 14 59.1**	**+1.1**
BUHA				*i* AML			AML	13 15 00.0	
	comp=N,3μm,1.1s								
BUHA				*i* AML			AML	13 15 00.0	
	comp=E,6μm,0.5s								
GMLD	**Gumuldur**	**0.95**	**225**	Pg			**Pb**	**13 14 45.9**	**-0.3**
KUSD	**Kusadasi-Aydin**	**0.97**	**203**	Pg			**Pb**	**13 14 45.1**	**-1.4**
BKES	**Balkesir-Mer**	**0.98**	**7**	P			**Pb**	**13 14 46.1**	**-0.6**
BKES				S			**Sg**	**13 15 00.7**	**+1.4**
BKES				*i* AML			AML	13 15 01.0	
	comp=E,2μm,0.6s								
BKES				*i* AML			AML	13 15 04.0	
	comp=N,2μm,0.5s								
DGB	**zmir**	**0.99**	**225**	P			**Pb**	**13 14 46.5**	**-0.3**
DGB				S			**Sb**	**13 14 59.9**	**+0.1**
DGB				*i* AML			AML	13 15 02.0	
	comp=E,3μm,0.7s								
DGB				*i* AML			AML	13 15 03.0	
	comp=N,2μm,0.4s								
BALY	**Balya**	**0.99**	**353**	P			**Pb**	**13 14 46.8**	**0.0**
BALY				S			**Sb**	**13 15 00.2**	**+0.2**
BALY				*i* AML			AML	13 15 02.0	
	comp=N,5μm,0.7s								
BALY				*i* AML			AML	13 15 02.0	
	comp=E,4μm,0.5s								
EAG3	**Mitilini, Lesv**	**0.99**	**290**	P			**Pb**	**13 14 46.5**	**-0.4**
EAG3				S			**Sb**	**13 14 58.6**	**-1.5**
SMAA	**Simav-Kutahya**	**1.00**	**69**	Pg			**Pb**	**13 14 46.9**	**-0.2**
URLA	**Izmir**	**1.00**	**247**	Pg			**Pb**	**13 14 46.5**	**-0.5**
URLA	**Izmir**	**1.00**	**247**	P			**Pb**	**13 14 46.3**	**-0.3**
URLA				S			**Sg**	**13 15 00.7**	**+0.8**
URLA				*i* AML			AML	13 15 03.0	
	comp=N,2μm,0.5s								
URLA				*i* AML			AML	13 15 03.0	
	comp=E,2μm,0.8s								
AYVA	**Ayvalik**	**1.01**	**304**	P			**Pb**	**13 14 47.1**	**0.0**
AYVA				S			**Sg**	**13 15 01.2**	**+1.2**
AYVA				*i* AML			AML	13 15 03.0	
	comp=N,3μm,0.6s								
AYVA				*i* AML			AML	13 15 03.0	
	comp=E,2μm,0.9s								
LESV	**Lesvos island,**	**1.01**	**291**	P			**Pb**	**13 14 47.0**	**-0.1**
LESV				S			**Sg**	**13 15 01.1**	**+1.0**
	30μm,0.8s								
KARB	**zmir-Karabur**	**1.07**	**266**	P			**Pb**	**13 14 48.3**	**+0.2**
KARB				S			**Sn**	**13 15 03.0**	**-0.4**
KARB				*i* AML			AML	13 15 04.0	
	comp=E,2μm,0.3s								
KARB				*i* AML			AML	13 15 05.0	
	comp=N,3μm,0.8s								
DST	**Dursunbey**	**1.07**	**38**	Pn			**Pb**	**13 14 47.9**	**-0.4**
ZEYE	**Izmir, Urla-Ze**	**1.12**	**243**	P			**Pb**	**13 14 49.0**	**-0.1**
ZEYE				S			**Sn**	**13 15 04.6**	**-0.2**
ZEYE				*i* AML			AML	13 15 06.0	
	comp=N,4μm,0.6s								
ZEYE				*i* AML			AML	13 15 10.0	
	comp=E,3μm,0.6s								
GCAM	**G?zelcaml?**	**1.14**	**202**	Pn			**Pb**	**13 14 49.1**	**-0.1**
GCAM	**G?zelcaml?**	**1.14**	**202**	P			**Pb**	**13 14 48.9**	**-0.3**
GCAM				S			**Sb**	**13 15 04.1**	**+0.1**
GCAM				*i* AML			AML	13 15 08.0	
	comp=N,2μm,0.6s								
GCAM				*i* AML			AML	13 15 10.0	
	comp=E,1μm,0.6s								
CESE	**eme**	**1.23**	**250**	Pn			**Pn**	**13 14 50.5**	**-0.3**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YENI	**Yenice-Canakka**	**1.25**	**341**	Pn			**Pn**	**13 14 51.3**	**+0.2**
PRK	**Paraskevi**	**1.27**	**293**	P			**Pn**	**13 14 51.2**	**-0.1**
PRK				S			**Sn**	**13 15 08.3**	**-0.1**
	4μm,0.9s								
PRK	**Paraskevi**	**1.27**	**293**	P			**Pn**	**13 14 51.1**	**-0.1**
PRK				S			**Sb**	**13 15 06.6**	**-1.3**
PRK				AML			AML	13 15 11.1	
	comp=N,6503μm,0.5s								
PRK				AML			AML	13 15 15.3	
	comp=E,7796μm,0.7s								
SMG	**Samos**	**1.28**	**216**	P			**Pn**	**13 14 51.4**	**-0.1**
SMG				S			**Sn**	**13 15 08.6**	**0.0**
	comp=E,7μm,0.6s								
SMG	**Samos**	**1.28**	**216**	P			**Pn**	**13 14 51.3**	**-0.1**
SMG				S			**Sn**	**13 15 08.6**	**0.0**
SMG				AML			AML	13 15 12.0	
	comp=E,12505μm,0.6s								
SMG				AML			AML	13 15 12.6	
	comp=N,15348μm,0.7s								
GONE	**Gonen-Balikesi**	**1.29**	**357**	Pn			**Pn**	**13 14 52.3**	**+0.7**
GEDZ	**Gediz**	**1.31**	**77**	Pn			**Pn**	**13 14 52.9**	**+0.9**
EAG2	**Marmaro, Chios**	**1.32**	**261**	P			**Pn**	**13 14 52.2**	**+0.1**
EAG2				S			**Sb**	**13 15 08.8**	**-0.5**
CANM	**Can-anakkale**	**1.37**	**336**	Pn			**Pn**	**13 14 50.6**	**-2.2**
CHOS	**Chios island**	**1.40**	**255**	Pn			**Pn**	**13 14 53.4**	**+0.3**
CHOS	**Chios island**	**1.40**	**255**	P			**Pn**	**13 14 52.9**	**-0.2**
CHOS				S			**Sn**	**13 15 11.3**	**-0.4**
	comp=N,3μm,0.6s								
CHOS	**Chios island**	**1.40**	**255**	P			**Pn**	**13 14 53.2**	**0.0**
CHOS				S			**Sn**	**13 15 10.9**	**-0.8**
CHOS				AML			AML	13 15 15.5	
	comp=E,6948μm,0.4s								
CHOS				AML			AML	13 15 16.1	
	comp=N,3777μm,0.9s								
KHL	**Karahalli**	**1.44**	**107**	Pn			**Pn**	**13 14 54.6**	**+0.9**
GPNR	**Gulpinar-Canak**	**1.46**	**299**	Pn			**Pn**	**13 14 53.9**	**0.0**
MLSB	**Milas**	**1.46**	**180**	Pn			**Pn**	**13 14 54.5**	**+0.6**
EZNE	**Ezine-Canakkal**	**1.48**	**313**	Pn			**Pn**	**13 14 54.3**	**+0.1**
EZN	**Ezine**	**1.55**	**314**	Pn			**Pn**	**13 14 54.9**	**-0.3**
EZN	**Ezine**	**1.55**	**314**	P			**Pn**	**13 14 55.1**	**-0.1**
EZN				S			**Sn**	**13 15 14.2**	**-1.2**
	comp=N,1μm,0.7s								
ORLT	**Orhaneli**	**1.56**	**34**	Pn			**Pn**	**13 14 56.2**	**+0.9**
SIGR	**SIGRI**	**1.56**	**288**	Pn			**Pn**	**13 14 55.6**	**+0.2**
SIGR	**SIGRI**	**1.56**	**288**	P			**Pn**	**13 14 55.2**	**-0.1**
SIGR				S			**Sn**	**13 15 14.8**	**-0.8**
	comp=N,2μm,0.6s								
SIGR	**SIGRI**	**1.56**	**288**	P			**Pn**	**13 14 55.3**	**-0.1**
SIGR				S			**Sn**	**13 15 14.2**	**-1.4**
SIGR				AML			AML	13 15 20.0	
	comp=E,4022μm,0.7s								
SIGR				AML			AML	13 15 21.3	
	comp=N,5025μm,0.4s								
KCTX	**Karacabey (Bur**	**1.57**	**16**	Pn			**Pn**	**13 14 56.4**	**+0.8**
EDC	**Edincik**	**1.59**	**2**	Pn			**Pn**	**13 14 55.6**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.67**	**194**	Pn			**Pn**	**13 14 57.3**	**+0.4**
KRBG	**Karabiga-Canak**	**1.68**	**348**	Pn			**Pn**	**13 14 56.8**	**-0.1**
COMU	**Canakkale**	**1.68**	**324**	Pn			**Pn**	**13 14 57.5**	**+0.5**
BODT	**Bodrum**	**1.73**	**192**	Pn			**Pn**	**13 14 58.3**	**+0.6**
PSRA	**Psara**	**1.74**	**264**	P			**Pn**	**13 14 57.6**	**-0.2**
PSRA				AML			AML	13 15 24.9	
	comp=N,3243μm,0.6s								
PSRA				AML			AML	13 15 25.2	
	comp=E,4385μm,0.5s								
APMY	**Acipayam-Deniz**	**1.76**	**136**	Pn			**Pn**	**13 14 58.6**	**+0.4**
LPK	**Lapseki**	**1.80**	**334**	Pn			**Pn**	**13 14 59.3**	**+0.7**
MDNY	**Mudanya-Bursa**	**1.83**	**28**	Pn			**Pn**	**13 14 58.8**	**-0.2**
MRMT	**Marmara Adasi**	**1.85**	**356**	Pn			**Pn**	**13 15 00.1**	**+0.7**
KLNA	**Kalymnos**	**1.90**	**200**	P			**Pb**	**13 15 01.9**	**-0.4**
KLNA				AML			AML	13 15 36.9	
	comp=E,3145μm,0.5s								
KLNA				AML			AML	13 15 37.1	
	comp=N,2775μm,0.7s								
GELI	**Tayfur-Gelibol**	**1.92**	**329**	Pn			**Pn**	**13 15 01.1**	**+0.8**
BASM	**Basmaki-Afyon**	**1.98**	**114**	Pn			**Pn**	**13 15 00.9**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.98**	**347**	Pn			**Pn**	**13 15 02.1**	**+0.9**
ARMT	**Armutlu**	**1.99**	**25**	Pn			**Pn**	**13 15 01.5**	**+0.2**
GEMT	**Gemlik**	**2.00**	**33**	Pn			**Pn**	**13 15 02.7**	**+1.3**
TURN	**Turunc**	**2.01**	**169**	Pn			**Pn**	**13 15 01.8**	**+0.3**
DAT	**Datca**	**2.03**	**184**	Pn			**Pn**	**13 15 02.9**	**+1.0**
GADA	**Gvkge

AKAS	**Kas**	**2.91**	**149**	Pn		**Pn**	**13 15 15.0**	**+1.0**
RDO	**Rodhopi**	**2.94**	**325**	Pn		**Pn**	**13 15 15.6**	**+1.3**
RDO	**Rodhopi**	**2.94**	**325**	P		**Pn**	**13 15 14.3**	**0.0**
RDO				S		**Sn**	**13 15 48.1**	**-1.6**
	comp=E,330nm,0.8s							
RDO	**Rodhopi**	**2.94**	**325**			**Pn**	**13 15 14.8**	**+0.5**
RDO	**Rodhopi**	**2.94**	**325**	P		**Pn**	**13 15 14.7**	**+0.3**
RDO				S		**Sn**	**13 15 48.3**	**-1.4**
RDO				AML	AML		13 16 03.3	
	comp=E,492μm,0.4s							
RDO				AML	AML		13 16 08.6	
	comp=N,555μm,0.7s							
THAS	**Thassos island**	**3.00**	**309**	P		**Pn**	**13 15 14.8**	**-0.3**
THAS				S		**Sn**	**13 15 49.0**	**-2.0**
THAS				AML	AML		13 16 10.3	
	comp=N,239μm,0.6s							
THAS				AML	AML		13 16 17.5	
	comp=E,197μm,0.7s							
SVRH	**Sivrihisar-ESK**	**3.00**	**75**	Pn		**Pn**	**13 15 17.1**	**+1.9**
MDUB	**Mudurnu**	**3.15**	**56**	Pn		**Pn**	**13 15 19.8**	**+2.5**
MDUB	**Mudurnu**	**3.15**	**56**	Pn		**Pn**	**13 15 19.4**	**+2.1**
EDRB	**Edirne**	**3.19**	**346**	Pn		**Pn**	**13 15 19.3**	**+1.6**
KARP	**Karpathos**	**3.24**	**189**			**Pn**	**13 15 19.1**	**+0.7**
KARP	**Karpathos**	**3.24**	**189**	P		**Pn**	**13 15 19.1**	**+0.7**
KARP				AML	AML		13 16 23.0	
	comp=N,383μm,0.9s							
KARP				AML	AML		13 16 32.7	
	comp=E,346μm,0.8s							
OUR	**Ouranopolis**	**3.33**	**299**	P		**Pn**	**13 15 19.6**	**0.0**
OUR				AML	AML		13 16 19.3	
	comp=N,277μm,0.7s							
OUR				AML	AML		13 16 34.5	
	comp=E,213μm,0.8s							
KAVA	**Kavala**	**3.36**	**313**	P		**Pn**	**13 15 20.2**	**+0.1**
KDZ	**Kurdzhali**	**3.42**	**328**	*i* P		**Pn**	**13 15 21.3**	**+0.3**
KDZ				S		**Sn**	**13 15 58.7**	**-2.9**
KOKK	**Kokkinochori,**	**3.56**	**307**	P		**Pn**	**13 15 22.5**	**-0.4**
KOKK				AML	AML		13 16 20.2	
	comp=E,174μm,0.6s							
KOKK				AML	AML		13 16 28.7	
	comp=N,257μm,0.8s							
RZN	**Rozhen**	**3.74**	**323**	*i* P		**Pn**	**13 15 26.2**	**+0.7**
RZN				S		**Sn**	**13 16 02.9**	**-6.8**
ZKR	**Zakros**	**3.84**	**199**	P		**Pn**	**13 15 29.0**	**+2.3**
ZKR				AML	AML		13 16 38.8	
	comp=E,203μm,0.8s							
ZKR				AML	AML		13 16 47.3	
	comp=N,107μm,0.8s							
NVR	**Nevrokopi**	**3.97**	**312**	P		**Pn**	**13 15 29.3**	**+0.8**
SRS	**Serrai**	**3.99**	**308**	P		**Pn**	**13 15 29.1**	**+0.4**
PLD	**Plovdiv**	**4.10**	**327**	*e*P		**Pn**	**13 15 30.9**	**+0.7**
MMB	**Musomishta**	**4.16**	**313**	*i* P		**Pn**	**13 15 33.3**	**+2.2**
IDI	**Anoyia**	**4.16**	**215**	Pn		**Pn**	**13 15 31.6**	**+0.5**
	comp=N,0.7nm,0.3s,baz=28,slow=11,SNR=12							
IDI				Sn		**Sn**	**13 16 17.5**	**-2.3**
	comp=N,3.3nm,0.3s,baz=110,slow=14,SNR=5.7							
IDI				Lg	Lg		13 16 38.8	
	comp=N,0.9nm,0.3s,baz=32,slow=20,SNR=2.1							
AGG	**Agios Georgios**	**4.25**	**275**	Pn		**Pn**	**13 15 34.7**	**+2.2**
LIT	**Litokhoron**	**4.31**	**290**	Pn		**Pn**	**13 15 34.7**	**+1.6**
PRD	**Provadia**	**4.41**	**357**	*e*P		**Pb**	**13 15 43.0**	**-2.1**
ELND	**Elena**	**4.41**	**342**	⇑P		**Pn**	**13 15 38.9**	**+4.4**
NEF	**NEVSHA**	**4.52**	**355**	*i* P		**Pn**	**13 15 37.0**	**+1.0**
BR131	**Keskin Array S**	**4.66**	**76**			**Pn**	**13 15 39.3**	**+1.2**
BRTR	**Keskin Array B**	**4.66**	**76**			**Pn**	**13 15 38.3**	**+0.3**
BRTR	**Keskin Array B**	**4.66**	**76**	Pn		**Pn**	**13 15 39.5**	**+1.5**
	comp=N,0.6nm,0.3s,baz=253,slow=14,SNR=13							
BRTR				Sn		**Sn**	**13 16 30.7**	**-1.5**
	comp=N,1.2nm,0.3s,baz=255,slow=23,SNR=6.4							
BRTR				Lg	Lg		13 16 56.5	
	baz=255,slow=28							
	comp=N,2.1nm,0.4s							
KKB	**Krupnik**	**4.70**	**312**	*i* P		**Pn**	**13 15 39.5**	**+0.9**
RAZG	**Razgrad**	**4.90**	**349**	⇑P		**Pn**	**13 15 42.2**	**+0.9**
BLKB	**Belogradchik**	**6.20**	**323**	⇑P		**Pn**	**13 15 59.8**	**+0.7**
CFR	**Carcaliu**	**6.42**	**2**	⇓P		**Pn**	**13 16 02.5**	**+0.4**
ISR	**Istrita**	**6.42**	**352**	⇑P		**Pn**	**13 16 04.0**	**+1.7**
BOVS	**Bovan**	**6.69**	**319**	⇓P		**Pn**	**13 16 06.7**	**+0.9**
PUK	**Puka**	**6.85**	**301**			**Pn**	**13 16 10.9**	**+2.8**
MLR	**Muntele Rosu**	**6.87**	**349**	⇑P		**Pn**	**13 16 10.6**	**+2.2**
MLR	**Muntele Rosu**	**6.87**	**349**			**Pn**	**13 16 09.9**	**+1.6**
MLR	**Muntele Rosu**	**6.87**	**349**	Pn		**Pn**	**13 16 09.7**	**+1.3**
	comp=N,0.2nm,0.3s,baz=168,slow=15,SNR=2.6							
MLR				Sn		**Sn**	**13 17 24.2**	**-2.4**
	comp=N,0.4nm,0.3s,baz=220,slow=11,SNR=1.3							
MLR				Lg	Lg		13 18 06.1	
	comp=N,0.5nm,0.3s,baz=229,slow=9.3,SNR=4.6							
	comp=N,2.4nm,0.8s							
VOIR		**6.98**	**344**	⇑P		**Pn**	**13 16 12.3**	**+2.5**
PLOR	**Plostina**	**7.14**	**354**	⇑P		**Pn**	**13 16 16.3**	**+4.3**
VRI	**Vrincioaia**	**7.15**	**354**	⇑P		**Pn**	**13 16 16.6**	**+4.5**
SEV	**Sevastopol'**	**7.28**	**35**	*e*P		**Pn**	**13 16 13.6**	**-0.2**
SEV				Pm			13 16 18.3	
	comp=Z,2.0nm,0.6s							
SEV				*e*S		**Sn**	**13 17 31.4**	**-5.0**
SEV				Sm			13 17 35.8	
	comp=N,4.0nm,0.4s							
SEV				Sm			13 17 35.8	
	comp=E,3.0nm,0.4s							
TURR	**Turia**	**7.41**	**350**	⇑P		**Pn**	**13 16 19.8**	**+4.0**
YAL	**Yalta**	**7.46**	**38**	*e*S		**Sn**	**13 17 37.9**	**-3.0**
YAL				Sm			13 17 38.9	
	comp=N,5.0nm,0.4s							
YAL				Sm			13 17 38.9	
	comp=E,11nm,0.3s							
MDVR	**Moldovita**	**7.53**	**325**	⇓P		**Pn**	**13 16 18.5**	**+1.1**
SIM	**Simferopol'**	**7.79**	**35**	*e*S		**Sn**	**13 17 48.3**	**-0.8**
SIM				Sm			13 17 48.7	
	comp=N,22nm,0.7s							
SIM				Sm			13 17 48.7	
	comp=E,17nm,0.6s							
SIM				Sm			13 17 48.7	
	comp=E,67nm,1.2s							
TESR	**Tescani**	**7.80**	**354**	⇑P		Pn	13 16 26.9	+5.9
SURR	**Surduc**	**8.15**	**331**	⇑P		**Pn**	**13 16 29.1**	**+3.2**
SUDU	**Sudak**	**8.16**	**39**	*e*S		**Sn**	**13 17 54.5**	**-3.8**
SUDU				Sm			13 17 59.3	
	comp=N,55nm,0.9s							
SUDU				Sm			13 17 59.3	
	comp=E,35nm,0.9s							
BZS	**Buzias**	**8.24**	**328**	⇑P		**Pn**	**13 16 29.3**	**+2.3**
MMAI	**Mount Meron Ar**	**8.43**	**130**	Pn		**Pn**	**13 16 28.8**	**-1.0**
	comp=E,3.3nm,0.3s,baz=312,slow=12,SNR=2.5							
	comp=E,0.9nm,0.3s							
TIP	**Timpagrande**	**8.59**	**276**	Pn		**Pn**	**13 16 33.8**	**+1.8**
SIRR	**Siria**	**8.76**	**331**	⇑P		**Pn**	**13 16 35.8**	**+1.6**
EIL	**Elat**	**10.83**	**145**	Pn		**Pn**	**13 17 01.3**	**-1.3**
	comp=E,0.4nm,0.3s,baz=88,slow=17,SNR=1.9							
	comp=E,1.0nm,0.3s							
WDD	**Wied Dalam**	**10.95**	**259**	Pn		**Pn**	**13 17 05.7**	**+1.5**
AKASG	**Malin Array Be**	**11.99**	**4**	LR		LR	13 21 27.5	
	comp=E,105nm,20.8s,baz=294,slow=35							
GERES	**GERESS Array B**	**14.29**	**319**	Pn		**Pn**	**13 17 48.2**	**-1.7**
	comp=E,0.1nm,0.3s,baz=125,slow=12,SNR=1.4							
	comp=E,0.2nm,0.3s							
DAVOX	**Davos/Dischmat**	**15.37**	**307**	Pn		**Pn**	**13 18 03.1**	**-1.5**
	comp=E,0.5nm,0.3s,baz=33,slow=11,SNR=1.9							
	comp=E,1.5nm,0.4s							
FINES	**FINESS Array B**	**22.74**	**358**	P		**P**	**13 19 29.9**	**+0.4**
	comp=E,2.9nm,0.9s,baz=162,slow=9.7,SNR=2.1							
	comp=E,2.9nm,0.9s							
TOA0	**Torodi Ar. Sit**	**34.41**	**229**	P		**P**	**13 21 15.4**	**+0.3**
TOA0				IAmb		IAmb	13 21 27.6	
	comp=Z,1.8nm,1.1s							
ZALV	**Zalesovo Beam**	**41.04**	**49**	LR		LR	13 43 12.1	
	comp=Z,442nm,21.5s,baz=95,slow=42							
LBTB	**Lobatse**	**63.47**	**182**	LR		LR	13 54 42.1	
	comp=Z,403nm,18.3s,baz=139,slow=38							
C18K	**Utukok River**	**72.71**	**3**	P		**P**	**13 25 56.4**	**+1.1**
C18K				IAmb		IAmb	13 26 29.4	
	comp=Z,15nm,1.5s							
D19K	**Kuna River**	**72.98**	**2**	P		**P**	**13 25 58.0**	**+1.2**
D19K				IAmb		IAmb	13 26 00.9	
	comp=Z,4.4nm,1.4s							
IMAR	**Indian Mountai**	**75.59**	**1**	P		**P**	**13 26 12.7**	**+0.7**

*AZER **01** 13:14:52.1,41.17N×46.40E,h23km,ml3.0*
*MOS **01** 13:14:52.5,41.17N×46.51E,h20km,MPVA4.0*
*TIF **01** 13:14:53.5,41.12N×46.42E,h33km*
*NORS **01** 13:14:54.0,41.21N×46.58E,h27km,MPVA3.9*
*DRS **01** 13:14:56.2,41.06N×46.37E,h23km*
ISC 01 13:14:54.6±0.9,41.17N±0.02×46.40E±0.02,h34km±6km,
n85,σ1.52/154,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSHL	**Vashlovani**	**0.06**	**358**	P	**Pb**	**13 14 59.6**	**-0.8**
VSHL				S	**Sb**	**13 15 04.5**	**+0.2**
ZKTA	**Zakatala**	**0.50**	**19**	P	**Pb**	**13 15 04.1**	**-1.1**
ZKTA				S	**Sn**	**13 15 11.8**	**-1.1**
ZKTA	**Zakatala**	**0.50**	**19**	PG	**Pb**	**13 15 04.1**	**-1.1**
GANJ	**Ganja**	**0.53**	**187**	P	**Pb**	**13 15 04.5**	**-1.1**
GANJ				S	**Sb**	**13 15 12.3**	**-0.9**
GANJ	**Ganja**	**0.53**	**187**	PG	**Pb**	**13 15 04.5**	**-1.1**
SEKA	**Sheki**	**0.60**	**86**	Pg	**Pb**	**13 15 05.3**	**-1.6**
SEKA				Sg	**Sn**	**13 15 14.5**	**-0.9**
SEKA	**Sheki**	**0.60**	**86**	PG	**Pb**	**13 15 05.3**	**-1.6**
MNGR	**Mingechevir, A**	**0.65**	**127**	P	**Pn**	**13 15 07.2**	**-0.2**
MNGR				S	**Sn**	**13 15 18.3**	**+1.9**
MNGR	**Mingechevir, A**	**0.65**	**127**	PG	**Pn**	**13 15 07.1**	**-0.2**
GDB	**GEDABAY**	**0.66**	**228**	P	**Pb**	**13 15 06.6**	**-1.4**
GDB				S	**Sb**	**13 15 16.1**	**-1.0**
LGD	**Lagodekhi**	**0.68**	**350**	P	**Pb**	**13 15 07.2**	**-0.9**
LGD				S	**Sn**	**13 15 18.9**	**+1.6**
LGD	**Lagodekhi**	**0.68**	**350**	PG	**Pb**	**13 15 07.2**	**-0.9**
LGD				S	**Sn**	**13 15 18.9**	**+1.6**
QZX	**Qazax, Azerbai**	**0.79**	**262**	P	**Pn**	**13 15 09.2**	**-0.2**
QZX				S	**Sn**	**13 15 20.6**	**+0.6**
AKT	**Akhty**	**1.05**	**72**	*e*Pg	**Pn**	**13 15 12.7**	**-0.3**
AKT				*e*Sg	**Sn**	**13 15 26.8**	**+0.3**
AKT	**Akhty**	**1.05**	**72**	*e*PG	**Pn**	**13 15 12.7**	**-0.3**
AKT				*e*S	**Sn**	**13 15 26.8**	**+0.3**
BRDA	**Brd**	**1.08**	**147**	P	**Pb**	**13 15 14.2**	**-0.6**
BRDA				S	**Sn**	**13 15 31.1**	**+4.0**
KMKR	**Kumukh**	**1.09**	**28**	*e*Pg	**Pb**	**13 15 14.2**	**-1.1**
KMKR				*e*Sg	**Sn**	**13 15 29.4**	**+1.6**
KMKR	**Kumukh**	**1.09**	**28**	*e*PG	**Pb**	**13 15 14.1**	**-1.1**
KMKR				*e*S	**Sn**	**13 15 29.5**	**+1.6**
QBL	**Gabala**	**1.11**	**101**	P	**Pb**	**13 15 13.9**	**-1.4**
QBL				S	**Sn**	**13 15 29.7**	**+1.8**
AGDM	**Agdam**	**1.19**	**153**	P	**Pb**	**13 15 15.6**	**-1.0**
AGDM				S	**Sb**	**13 15 31.7**	**0.0**
GNBR	**Gunib**	**1.29**	**19**	*i* Pg	**Pb**	**13 15 17.9**	**-0.5**
GNBR				*e*Sg	**Sb**	**13 15 35.0**	**+0.4**
GNBR	**Gunib**	**1.29**	**19**	*i* PG	**Pb**	**13 15 17.7**	**-0.7**
GNBR				pmax	pmax		
	comp=Z,142nm,0.2s						
XNQ	**Khinaliq**	**1.31**	**89**	Pn	**Pb**	**13 15 17.0**	**-1.8**
XNQ				Sn	**Sb**	**13 15 35.0**	**-0.5**
ZRD	**Zardab**	**1.32**	**132**	Pg	**Pb**	**13 15 17.9**	**-0.9**
ZRD				Sg	**Sb**	**13 15 36.2**	**+0.9**
URKR	**Urkarakh**	**1.36**	**42**	*e*Pg	**Pb**	**13 15 18.6**	**-1.0**
URKR				*e*Sg	**Sb**	**13 15 36.6**	**-0.1**
URKR	**Urkarakh**	**1.36**	**42**	*e*PG	**Pb**	**13 15 18.6**	**-1.0**
URKR				*e*S	**Sb**	**13 15 36.6**	**-0.1**
XNZR	**Khunzakh**	**1.39**	**9**	*e*Pg	**Pb**	**13 15 19.2**	**-1.0**
XNZR				*e*Sg	**Sb**	**13 15 38.9**	**+1.3**
IML	**Ismayilli**	**1.40**	**105**	Pn	**Pb**	**13 15 18.7**	**-1.5**
IML				Sn	**Sb**	**13 15 38.0**	**+0.3**
HNZR	**Khunzah**	**1.41**	**9**	*e*PG	**Pb**	**13 15 19.1**	**-1.4**
HNZR				*e*S	**Sb**	**13 15 39.8**	**+1.6**
HNZR				pmax	pmax		
	comp=Z,27nm,0.3s						
HNZR				smax	smax		
	comp=E,39nm,0.6s						
QSAR	**Qusar**	**1.44**	**75**	P	**Pb**	**13 15 20.0**	**-0.9**
QSAR				Sn	**Sb**	**13 15 39.6**	**+0.7**
ARKR	**Arakani**	**1.50**	**17**	*e*Pg	**Pb**	**13 15 21.0**	**-0.9**
ARKR				*e*Sg	**Sb**	**13 15 41.9**	**+1.3**
ARKR	**Arakani**	**1.50**	**17**	*e*PG	**Pb**	**13 15 21.0**	**-0.9**
ARKR				*e*S	**Sb**	**13 15 41.9**	**+1.3**
BTLR	**Botlikh**	**1.50**	**355**	*e*Pg	**Pb**	**13 15 20.9**	**-1.1**
BTLR				*e*Sg	**Sb**	**13 15 41.8**	**+1.1**
BTLR	**Botlikh**	**1.50**	**355**	*e*PG	**Pb**	**13 15 20.8**	**-1.1**
BTLR				*e*S	**Sb**	**13 15 42.8**	**+2.1**
BTLR				pmax	pmax		
	comp=Z,29nm,0.5s						
BTLR				smax	smax		
	comp=E,69nm,0.6s						
UNCR	**Uncukul**	**1.57**	**11**	*e*Pg	**Pb**	**13 15 22.3**	**-0.8**
UNCR				*e*Sg	**Sb**	**13 15 43.9**	**+1.2**
UNCR	**Uncukul**	**1.57**	**11**	*e*PG	**Pb**	**13 15 22.3**	**-0.8**
UNCR				*e*S	**Sb**	**13 15 43.9**	**+1.2**
QUBA	**Quba, Azerbaij**	**1.59**	**83**	Pn	**Pb**	**13 15 22.3**	**-1.1**
QUBA				Sn	**Sb**	**13 15 43.8**	**+0.7**
SGKR	**Sergokala**	**1.60**	**36**	*e*Pg	**Pb**	**13 15 21.7**	**-1.9**
SGKR				*e*Sg	**Sb**	**13 15 43.9**	**+0.6**
SGKR	**Sergokala**	**1.60**	**36**	*e*PG	**Pb**	**13 15 21.6**	**-1.9**
SGKR				*e*S	**Sb**	**13 15 45.6**	**+2.3**
SGKR				pmax	pmax		
	comp=Z,32nm,0.7s						
SGKR				smax	smax		
	comp=N,101nm,0.5s						
CHRG	**Chargali**	**1.60**	**317**	P	**Pb**	**13 15 22.1**	**-1.6**
CHRG				S	**Sb**	**13 15 43.1**	**-0.5**
GNI	**Garni**	**1.62**	**232**	*e*Pg	**Pb**	**13 15 24.3**	**+0.3**
GNI				*e*Sg	**Sb**	**13 15 47.0**	**+2.8**
GNI	**Garni**	**1.62**	**232**	*i* PN	**Pb**	**13 15 23.8**	**-0.2**
GNI				pmax	pmax		
	comp=Z,17nm,0.7s						
DMNI	**Dmanisi**	**1.68**	**276**	P	**Pb**	**13 15 23.3**	**-1.6**
DMNI				S	**Sb**	**13 15 45.2**	**-0.5**
DMNI	**Dmanisi**	**1.68**	**276**	PN	**Pb**	**13 15 23.3**	**-1.6**
DRN	**Derbent**	**1.68**	**59**	*e*Pg	**Pb**	**13 15 22.7**	**-2.2**
DRN				*e*Sg	**Sb**	**13 15 45.5**	**-0.2**
DRN	**Derbent**	**1.68**	**59**	*e*PN	**Pb**	**13 15 22.7**	**-2.2**
DRN				*e*S	**Sb**	**13 15 45.5**	**-0.2**
BLQ	**Beylaqan**	**1.69**	**148**	Pn	**Pb**	**13 15 23.5**	**-1.7**
BLQ				Sn	**Sb**	**13 15 45.7**	**-0.4**
PQL	**Pirkuli**	**1.70**	**102**	Pn	**Pb**	**13 15 23.7**	**-1.7**
PQL				Sn	**Sb**	**13 15 46.5**	**0.0**
BUJR	**Buynaksk**	**1.74**	**17**	*e*Pg	**Pb**	**13 15 23.8**	**-2.2**
BUJR				*e*Sg	**Sb**	**13 15 47.4**	**+0.1**
BUJR	**Buynaksk**	**1.74**	**17**	*e*PN	**Pb**	**13 15 23.7**	**-2.2**
BUJR				*e*S	**Sb**	**13 15 48.0**	**+0.6**
BUJR				pmax	pmax		
	comp=Z,30nm,0.4s						
BUJR				smax	smax		
	comp=N,206nm,0.8s						
SHTL	**Shatili**	**1.76**	**328**	P	**Pb**	**13 15 24.5**	**-1.8**
SHTL				S	**Sb**	**13 15 47.9**	**-0.1**
SHTL	**Shatili**	**1.76**	**328**	PN	**Pb**	**13 15 24.5**	**-1.8**
TRLG	**Trialeti**	**1.77**	**283**	P	**Pb**	**13 15 24.6**	**-1.9**
TRLG				S	**Sb**	**13 15 46.9**	**-1.0**
TRLG	**Trialeti**	**1.77**	**283**	PN	**Pb**	**13 15 24.6**	**-1.9**
DVE	**Vedeno**	**1.80**	**354**	*e*Pg	**Pb**	**13 15 26.4**	**-0.6**
DVE				*e*Sg	**Sb**	**13 15 50.2**	**+1.0**
DVE	**Vedeno**	**1.80**	**354**	*e*PN	**Pb**	**13 15 26.4**	**-0.6**
DVE				pmax	pmax		
	comp=Z,23nm,0.4s						
QRD	**Qoradiz**	**1.84**	**157**	Pn	**Pn**	**13 15 24.8**	**+0.9**
QRD				Sn	**Sb**	**13 15 49.5**	**-0.9**
DBC	**Dubki**	**1.88**	**10**	*e*Pg	**Pb**	**13 15 26.6**	**-1.7**
DBC				*e*Sg	**Sb**	**13 15 51.8**	**+0.3**
DBC	**Dubki**	**1.88**	**10**	*e*PN	**Pb**	**13 15 26.9**	**-1.4**
SBZ	**Shahbuz**	**1.89**	**200**	Pn	**Pn**	**13 15 25.9**	**+1.3**
SBZ				Sn	**Sb**	**13 15 51.5**	**-0.2**
SIZA	**Siyzn**	**1.89**	**92**	Pn	**Sb**	**13 15 26.5**	**-2.0**
SIZA				Sn	**Sb**	**13 15 50.8**	**-1.0**
DLMR	**Dylym**	**1.91**	**5**	*e*Pg	**Pb**	**13 15 26.8**	**-2.1**
DLMR				*e*Sg	**Sb**	**13 15 53.1**	**+0.8**
DLMR	**Dylym**	**1.91**	**5**	*e*PN	**Pb**	**13 15 26.7**	**-2.1**
DLMR				*e*S	**Sb**	**13 15 54.2**	**+1.9**
DLMR				pmax	pmax		
	comp=Z,58nm,0.4s						
DLMR				smax	smax		
	comp=N,124nm,0.4s						
ATGJ	**Altiaghaj**	**1.94**	**98**	Pn	**Pb**	**13 15 26.5**	**-2.9**
ATGJ				Sn	**Sb**	**13 15 53.6**	**+0.2**
MAK	**Makhachkala**	**1.97**	**24**	*e*PN	**Pn**	**13 15 24.5**	**-1.1**
MAK				pmax	pmax		
	comp=Z,64nm,0.3s						
MTEO	**Meteo**	**2.06**	**318**	P	**Pb**	**13 15 29.1**	**-2.5**
MTEO				S	**Sb**	**13 15 56.0**	**-1.0**
MTEO	**Meteo**	**2.06**	**318**	PN	**Pb**	**13 15 29.1**	**-2.5**
GROC	**Groznyy**	**2.08**	**348**	*e*PN	**Pb**	**13 15 29.2**	**-2.5**
GROC				*e*		13 15 57.1	
GROC				*e*		13 16 04.6	
GROC				pmax	pmax		
	comp=Z,33nm,0.4s						
GROC				smax	smax		
	comp=N,39nm,0.2s						
GROC				smax	smax		
	comp=N,35nm,0.3s						
GROC				smax	smax		
	comp=E,54nm,0.4s						
GROC				smax	smax		
	comp=E,51nm,0.5s						
NAX	**Nakhchivan**	**2.11**	**200**	Pn	**Pn**	**13 15 29.2**	**+1.6**
NAX				Sn	**Sb**	**13 15 56.9**	**-1.1**
NAX	**Nakhchivan**	**2.11**	**200**	PN	**Pb**	**13 15 29.8**	**-2.4**
ORD	**Ordubad**	**2.26**	**188**	Pn	**Pn**	**13 15 31.5**	**+1.8**
ORD				Sn	**Sb**	**13 16 01.8**	**-0.6**
ALIG	**Mtskhetisjvari**	**2.27**	**295**	P	**Pb**	**13 15 33.3**	**-1.6**
ALIG				S	**Sb**	**13 16 00.4**	**-2.1**
ALIG	**Mtskhetisjvari**	**2.27**	**295**	PN	**Pb**	**13 15 33.3**	**-1.6**
ALIG				S	**Sb**	**13 16 00.4**	**-2.1**
LACR	**Lac**	**2.28**	**317**	*e*Pn	**Pb**	**13 15 34.0**	**-1.2**
LACR				*e*Sn	**Sb**	**13 16 04.1**	**+1.0**
LACR	**Lac**	**2.28**	**317**	*e*PN	**Pb**	**13 15 34.0**	**-1.2**
LACR				*e*S	**Sb**	**13 16 04.1**	**+1.0**
GLBA	**Clilabad**	**2.45**	**141**	Pn	**Pb**	**13 15 34.4**	**-3.6**
GLBA				Sn	**Sb**	**13 16 04.1**	**-3.8**
ARNR	**Ardon**	**2.55**	**323**	*e*Pn	**Pb**	**13 15 37.2**	**-2.5**
ARNR				*e*Sn	**Sb**	**13 16 10.4**	**-0.4**
ARNR	**Ardon**	**2.55**	**323**	*e*PN	**Pb**	**13 15 37.2**	**-2.5**
ARNR				*e*S	**Sb**	**13 16 10.4**	**-0.4**
KORR	**Kora**	**2.59**	**319**	*e*Pn	**Pb**	**13 15 39.1**	**-1.2**
KORR				*e*Sn	**Sb**	**13 16 11.8**	**+0.1**
KORR	**Kora**	**2.59**	**319**	*e*PN	**Pb**	**13 15 39.1**	**-1.2**
KORR				*e*S	**Sb**	**13 16 11.8**	**+0.1**
YRD	**Yardimli**	**2.66**	**147**	Pn	**Pn**	**13 15 37.0**	**+1.8**
YRD				Sn	**Sn**	**13 16 09.0**	**+2.7**
LSNR	**Lesken**	**2.85**	**319**	*e*Pn	**Pb**	**13 15 43.3**	**-1.5**
LSNR				*e*Sn	**Sb**	**13 16 21.1**	**+1.9**
LSNR	**Lesken**	**2.85**	**319**	*e*PN	**Pb**	**13 15 43.3**	**-1.5**
LSNR				*e*S	**Sb**	**13 16 21.1**	**+1.9**
LRK	**Lerik**	**2.93**	**149**	Pn	**Pn**	**13 15 40.5**	**+1.6**
LRK				Sn	**Sn**	**13 16 16.2**	**+3.1**
NCK	**Nalchik**	**3.12**	**319**	*i* PN	**Pb**	**13 15 45.4**	**-4.0**

NNC 01 13:18:32.2±2.8,43.76N×86.50E,h6km±11km,mb3.5,
mpv3.3,6C-5D,Error ellipse: s-maj=20.2km
s-min=16.2km az=114.0,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.87**	**343**	Pg	Pg	13 19 44.7	-1.5
	12nm,0.6s						
ZSN				Lg	Lg	13 20 41.3	
	27nm,0.6s						
MK31	**Makanchi Array**	**4.25**	**317**	⇓Pn	Pn	13 19 38.1	+0.6
	0.5nm,0.3s,baz=134,slow=14,SNR=51						
MK31				⇑Sn	Sn	13 20 28.6	+1.2
	3.2nm,0.4s,baz=121,slow=18,SNR=5.0						
MK31				⇑Lg	Lg	13 20 46.8	
	12nm,0.6s,baz=132,slow=30,SNR=6.6						
MAKZ	**Makanchi**	**4.41**	**315**	⇑Pn	Pn	13 19 37.2	-2.5
	2.3nm,0.4s						
MAKZ				⇓Lg	Lg	13 20 48.8	
	15nm,0.7s						
DJR	**Jarkent**	**4.87**	**279**	Pg	Pb	13 20 00.6	+2.6
	1.8nm,0.1s						
DJR				Lg	Lg	13 21 08.5	
	14nm,0.5s						
PDGK	**Podgornoye**	**5.12**	**268**	Pg	Pb	13 20 04.4	+2.3
	0.7nm,0.3s						
PDGK				Lg	Lg	13 21 15.0	
	5.6nm,0.6s						
PDGK	**Podgornoye**	**5.12**	**268**	⇑Pg	Pg	13 20 07.2	-2.9
	0.9nm,0.3s						
PDGK				⇓Lg	Lg	13 21 16.5	
	15nm,0.9s						
KAPS	**Kapalarasan**	**5.33**	**289**	Pg	Pg	13 20 11.5	-2.8
	0.7nm,0.1s						
KAPS				Lg	Lg	13 21 27.2	
	12nm,0.5s						
KURBB	**Kurchatov Arra**	**8.75**	**324**	⇑Pn	Pn	13 20 41.1	+2.0
	0.6nm,0.4s		

RLS AML AML 14 05 08.3
comp=N,3057µm,0.2s
RLS AML AML 14 05 08.7
comp=E,3209µm,0.3s
EVR Evrytania 0.53 351 P **Pb** **14 05 01.3 +0.2**
EVR S **Sb** **14 05 09.3 +0.6**
comp=E,2µm,0.3s
EVR Evrytania 0.53 351 P **Pb** **14 05 01.3 +0.2**
EVR S **Sb** **14 05 08.5 -0.2**
EVR AML AML 14 05 12.3
comp=E,2990µm,0.2s
EVR AML AML 14 05 13.2
comp=N,3689µm,0.4s
GUR Goura 0.57 143 P **Pg** **14 05 00.1 -0.8**
GUR Goura 0.57 143 P **Pg** **14 05 00.2 -0.8**
GUR S **Sg** **14 05 07.9 -0.5**
GUR AML AML 14 05 10.0
comp=N,6516µm,0.6s
GUR AML AML 14 05 10.3
comp=E,4442µm,0.2s
MAKR Makrakomi, Fth 0.64 15 P **Pb** **14 05 02.9 -0.1**
MAKR S **Sn** **14 05 13.1 -1.8**
comp=E,3µm,0.3s
MAKR Makrakomi, Fth 0.64 15 P **Pb** **14 05 02.7 -0.3**
MAKR S **Sn** **14 05 12.3 -2.6**
MAKR AML AML 14 05 15.6
comp=E,7273µm,0.4s
MAKR AML AML 14 05 16.3
comp=N,3732µm,0.3s
THAL Thalero 0.69 121 P **Pg** **14 05 03.1 -0.1**
AXAR Agios Charalam 0.69 57 P **Pb** **14 05 03.0 -0.8**
AXAR Agios Charalam 0.69 57 P **Pb** **14 05 03.0 -0.8**
AXAR S **Sb** **14 05 13.0 -0.4**
AXAR AML AML 14 05 15.8
comp=E,7731µm,0.3s
AXAR AML AML 14 05 17.9
comp=N,7498µm,0.3s
AGG Agios Georgios 0.71 27 P **Pb** **14 05 03.2 -0.9**
AGG S **Sn** **14 05 15.2 -1.3**
comp=N,922nm,0.3s
AGG Agios Georgios 0.71 27 P **Pb** **14 05 03.7 -0.4**
AGG S **Sn** **14 05 14.7 -1.8**
AGG AML AML 14 05 19.6
comp=N,3284µm,0.4s
AGG AML AML 14 05 19.6
comp=E,1816µm,0.3s
LTK Loutraki 0.91 114 P **Pb** **14 05 07.0 -0.5**
LTK AML AML 14 05 26.4
comp=E,769µm,0.3s
LTK AML AML 14 05 28.3
comp=N,733µm,0.3s
LOUT Loutraki 0.93 116 P **Pg** **14 05 07.8 +0.1**
NYDR Nydri-Lefkada 1.00 289 P **Pb** **14 05 08.8 -0.3**
EVGI Lefkada island 1.01 283 P **Pb** **14 05 08.6 -0.7**
LKD2 Lefkada island 1.06 292 P **Pn** **14 05 12.5 +2.0**
baz=292
LKD2 S **Sn** **14 05 26.8 +1.6**
baz=292
LKD2 AMP
comp=E,1.3nm,0.6s,baz=292
LKD2 Lefkada island 1.06 292 P **Pb** **14 05 09.7 -0.4**
LKD2 Lefkada island 1.06 292 P **Pb** **14 05 09.5 -0.6**
LKD2 AML AML 14 05 33.6
comp=E,921µm,0.7s
LKD2 AML AML 14 05 34.0
comp=N,939µm,0.5s
FSK Fiskardo 1.06 274 P **Pb** **14 05 09.1 -1.1**
FSK S **Sg** **14 05 24.2 +0.1**
FSK AML AML 14 05 30.5
comp=E,1099µm,0.2s
FSK AML AML 14 05 31.2
comp=N,742µm,0.4s
VLS Valsamata 1.06 259 P **Pb** **14 05 08.9 -1.3**
VLS S **Sn** **14 05 25.9 +0.6**
comp=N,768nm,0.1s
VLS Valsamata 1.06 259 P **Pb** **14 05 09.1 -1.1**
VLS S **Sg** **14 05 24.7 +0.5**
VLS AML AML 14 05 26.9
comp=E,1236µm,0.1s
VLS AML AML 14 05 26.9
comp=N,1773µm,0.2s
TSLK Tsoukalades, L 1.08 294 P **Pg** **14 05 11.0 +0.5**
TSLK Tsoukalades, L 1.08 294 P **Pn** **14 05 10.2 -0.5**
TSLK AML AML 14 05 35.8
comp=E,682µm,0.6s
TSLK AML AML 14 05 37.6
comp=N,772µm,0.5s
VIL2 Platees 1.08 99 P **Pg** **14 05 11.4 +0.7**
VIL2 S **Sn** **14 05 26.3 +0.6**
VIL2 AML AML 14 05 31.2
comp=E,879µm,0.5s
VIL2 AML AML 14 05 33.6
comp=N,845µm,0.4s
PSDA Pessada-Kefalo 1.08 255 P **Pb** **14 05 09.2 -1.3**
PSDA S **Sn** **14 05 26.2 +0.5**
comp=N,1µm,0.2s
DRAG Dragano-Lefkad 1.09 286 P **Pb** **14 05 09.8 -0.8**
LTHK Lithakia 1.09 232 P **Pb** **14 05 09.4 -1.2**
LTHK S **Sb** **14 05 24.5 -0.3**
LTHK AML AML 14 05 33.3
comp=E,2156µm,0.3s
LTHK AML AML 14 05 35.3
comp=N,1373µm,0.3s
VILL Villia 1.12 101 P **Pg** **14 05 11.3 -0.2**
VILL S **Sn** **14 05 28.4 +1.6**
comp=N,492nm,0.4s
THL Klokotos Trika 1.17 4 P **Pg** **14 05 12.2 -0.2**
THL Klokotos Trika 1.17 4 P **Pg** **14 05 11.8 -0.6**
THL AML AML 14 05 32.0
comp=E,604µm,0.7s
THL AML AML 14 05 32.5
comp=N,376µm,0.6s
NEO Neokhori 1.37 48 P **Pg** **14 05 16.0 -0.2**
NEO Neokhori 1.37 48 P **Pg** **14 05 15.2 -0.9**
NEO AML AML 14 05 39.4
comp=N,490µm,0.3s
NEO AML AML 14 05 45.3
comp=E,402µm,0.4s
KRND KRANIDI 1.41 136 P **Pn** **14 05 15.0 -0.2**
KRND AML AML 14 05 39.5
comp=N,705µm,0.6s
KRND AML AML 14 05 49.4
comp=E,745µm,0.5s
ATH Athens Observa 1.48 106 P **Pn** **14 05 16.1 -0.2**
ATH AML AML 14 05 40.2
comp=E,616µm,0.3s
ATH AML AML 14 05 45.4
comp=N,379µm,0.5s
PYL PYLOS 1.50 185 P **Pn** **14 05 16.5 -0.1**
JAN Janina 1.51 327 P **Pb** **14 05 17.0 -0.7**
JAN AML AML 14 05 51.4
comp=E,360µm,0.6s
JAN AML AML 14 05 53.5
comp=N,315µm,0.5s
KPRO Kipourio 1.62 345 P **Pb** **14 05 19.2 -0.5**
KPRO AML AML 14 05 54.8
comp=E,289µm,0.9s
KPRO AML AML 14 05 56.2
comp=N,305µm,0.7s
IGT Igoumenitsa 1.68 313 P **Pg** **14 05 22.1 0.0**
baz=315
IGT S **Sg** **14 05 42.6 -1.1**
baz=315
IGT AMP
comp=E,0.3nm,0.4s,baz=315
VLI Veliai 1.86 154 P **Pn** **14 05 22.3 +0.8**
VLI Veliai 1.86 154 P **Pn** **14 05 21.3 -0.2**
VLI S **Sn** **14 05 43.2 -1.7**
VLI AML AML 14 05 56.7
comp=E,333µm,0.6s
VLI AML AML 14 05 59.3
comp=N,347µm,0.9s
PENT Pentalofos 1.90 342 P **Pb** **14 05 23.2 -1.2**
LSK Leskovik 2.03 330 P **Pg** **14 05 27.5 -1.2**
baz=333
HORT Hortiatis 2.38 22 P **Pn** **14 05 29.5 +0.7**
HORT AML AML 14 06 12.8
comp=N,29µm,0.3s
HORT AML AML 14 06 14.3
comp=E,28µm,0.4s
FNA Florina 2.42 350 P **Pb** **14 05 33.8 +0.4**
baz=353
FNA S **Sb** **14 06 00.9 -2.3**
baz=353
FNA AMP
comp=N,0.1nm,0.5s,baz=353

FNA Florina 2.42 350 P **Pn** **14 05 28.7 -0.6**
FNA AML AML 14 06 08.7
comp=E,170µm,0.5s
FNA AML AML 14 06 16.0
comp=N,120µm,0.4s
ANKY Antikythira Is 2.75 156 P **Pn** **14 05 33.9 +0.2**
FINES FINESS Array B 23.22 5 P **P** **14 09 55.5 -0.9**
comp=N,2.5nm,0.9s,baz=170,slow=12,SNR=3.7
comp=N,2.5nm,0.9s
TORD Torodi Ar. Bea 30.90 221 P **P** **14 11 06.8 +0.5**
comp=N,0.2nm,0.5s,baz=27,slow=9.7,SNR=1.6
comp=N,0.2nm,0.5s
MKAR Makanchi Array 44.25 59 P **P** **14 13 00.3 +1.3**
comp=N,0.4nm,0.4s,baz=283,slow=7.4,SNR=7.0
comp=N,0.4nm,0.4s
ZALV Zalesovo Beam 44.73 48 P **P** **14 13 05.3 +2.7**
comp=N,0.4nm,0.4s,baz=284,slow=9.7,SNR=1.8
comp=N,0.4nm,0.4s

*DJA **01** 14:06:08.9±0.6,6°S±3°×14°7E±°, h172km±6km, M4.5/26, mB5.2/6, mb4.5/26, MLv4.4/1, Mw(mB)4.6/6*
*IDC **01** 14:06:08.9±1.3,5°54S×147°28E, h174km±12km, mb4.1/17, mbtmp4.7/21, MS3.4/6, Error ellipse: s-maj=15.4km s-min=8.7km az=95.0*
*NEIC **01** 14:06:09.8±1.1,5°51S±0°08×147°4E±0°1, h182km±8km, mb4.5/27, Error ellipse: s-maj=14.8km s-min=12.1km az=94.0*
ISC 01 14:06:09.1±0.7, 5°58S±0°05×147°32E±0°06, h179km±6km, n421, σ0§98/428, mb4.5/43, 2C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MANU	**Manus Island**	**3.52**	**1**	P	P	**Pn**	**14 07 03.9**	**-0.3**
MANU	**Manus Island**	**3.52**	**1**			**Pn**	**14 07 03.4**	**-0.8**
PMG	**Port Moresby**	**3.80**	**182**	P		**Pn**	**14 07 06.1**	**-1.6**
	265nm,0.3s,baz=355,slow=5.7,SNR=435							
PMG				S		**Sn**	**14 07 48.8**	**-4.9**
	645nm,0.4s,baz=274,slow=19,SNR=9.5							
KAVG	**Kavieng**	**4.58**	**50**	P		**Pn**	**14 07 18.2**	**+0.5**
KRVT	**Keravat (AS076**	**4.86**	**75**	P		**Pn**	**14 07 20.9**	**-0.4**
	22nm,0.5s,baz=193,slow=23,SNR=19							
TABU	**Tabubil**	**6.07**	**273**	P		**Pn**	**14 07 36.7**	**-0.5**
JAY	**Jayapura**	**7.26**	**295**	P		**Pn**	**14 07 50.6**	**-2.2**
	14nm,2.2s,0.1nm							
COEN	**Coen**	**9.27**	**206**	P		**Pn**	**14 08 20.1**	**+0.9**
	baz=9.4,SNR=114							
COEN	**Coen**	**9.27**	**206**	P		**Pn**	**14 08 20.1**	**+0.9**
COEN	**Coen**	**9.27**	**206**	Pn		**Pn**	**14 08 19.9**	**+0.7**
MTSU	**Mount Surprise**	**12.81**	**193**	P		**Pn**	**14 09 06.8**	**+1.7**
	baz=13,SNR=28							
MTSU	**Mount Surprise**	**12.81**	**193**	P		**Pn**	**14 09 06.7**	**+1.7**
HNR	**Honiara**	**13.09**	**108**	Pn		**Pn**	**14 09 08.0**	**-0.6**
HNR	**Honiara**	**13.09**	**108**	P		**Pn**	**14 09 08.6**	**0.0**
	358nm,0.5s,baz=343,slow=18,SNR=1.8							
TV1H	**Townsville Har**	**13.61**	**182**	P		**Pn**	**14 09 16.3**	**+1.3**
CTAO	**Charters Tower**	**14.46**	**184**	Pn		**Pn**	**14 09 26.2**	**+0.5**
KDU	**Kakadu**	**16.26**	**243**	P		**P**	**14 09 45.8**	**-1.6**
	baz=16,SNR=73							
KDU	**Kakadu**	**16.26**	**243**	P		**P**	**14 09 47.2**	**-0.2**
QIS	**Mount Isa**	**16.66**	**206**	P		**Pn**	**14 09 52.9**	**+0.4**
	baz=17,SNR=90							
QIS	**Mount Isa**	**16.66**	**206**	P		**Pn**	**14 09 53.4**	**+0.9**
MTN	**Manton Dam**	**17.52**	**245**	P		**P**	**14 10 00.2**	**-1.1**
	baz=18,SNR=18							
MTN	**Manton Dam**	**17.52**	**245**	P		**P**	**14 10 02.1**	**+0.9**
MTN	**Manton Dam**	**17.52**	**245**			**P**	**14 10 01.5**	**+0.3**
MTN					IAmb	IAmb	14 10 03.1	
	comp=Z,24nm,0.7s							
WRAB	**Tennant Creek**	**19.04**	**220**	P		**P**	**14 10 18.5**	**+0.8**
WRA	**Warramunga Arr**	**19.05**	**220**	P		**P**	**14 10 18.8**	**+0.9**
WRA					IAmb	IAmb	14 10 19.8	
	comp=Z,10nm,0.6s							
WRA	**Warramunga Arr**	**19.05**	**220**	P		**P**	**14 10 18.9**	**+0.9**
	comp=Z,52nm,0.5s,baz=45,slow=11,SNR=543							
WRA				S		**S**	**14 13 41.4**	**-3.3**
	comp=Z,5.9nm,0.9s,baz=41,slow=19,SNR=13							
WRA				ScP		**ScP**	**14 17 54.5**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=35,slow=2.9,SNR=3.2							
GUMO	**Guam**	**19.20**	**353**	LR	LR		14 17 31.2	
	comp=Z,54nm,18.5s,baz=108,slow=36							
EIDS	**Eidsvold**	**20.00**	**170**	P		**P**	**14 10 30.2**	**+2.2**
	baz=20,SNR=5.6							
LBMI	**Labuha**	**20.38**	**283**	P		**P**	**14 10 31.7**	**-0.5**
	comp=Z,13nm,0.7s,comp=Z,2µm							
KNRA	**Kununurra**	**20.79**	**240**	P		**P**	**14 10 35.5**	**-1.0**
	baz=21,SNR=12							
KNRA				P		**P**	**14 10 35.5**	**-1.0**
	baz=21,SNR=12							
KNRA	**Kununurra**	**20.79**	**240**	P		**P**	**14 10 36.6**	**+0.1**
KNRA	**Kununurra**	**20.79**	**240**	P		**P**	**14 10 35.9**	**-0.6**
QLP	**Quilpie**	**21.09**	**188**	P		**P**	**14 10 41.0**	**+1.4**
	baz=21,SNR=11							
QLP	**Quilpie**	**21.09**	**188**	P		**P**	**14 10 41.6**	**+2.0**
AS31	**Alice Springs**	**22.14**	**214**	P		**P**	**14 10 51.3**	**+0.8**
ASAR	**Alice Springs**	**22.14**	**214**	P		**P**	**14 10 51.4**	**+0.9**
ASAR	**Alice Springs**	**22.14**	**214**	P		**P**	**14 10 51.5**	**+1.0**
	comp=Z,66nm,0.8s,baz=44,slow=8.6,SNR=1176							
ASAR				S		**S**	**14 14 42.2**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=32,slow=18,SNR=6.5							
ASAR				ScP		**ScP**	**14 18 02.9**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=46,slow=2.7,SNR=3.2							
ASAR				LR	LR		14 20 39.8	
	comp=Z,124nm,18.5s,baz=61,slow=39							
	comp=Z,66nm,0.8s							
INKA	**Innaminka**	**22.91**	**195**	P		**P**	**14 10 59.0**	**+1.5**
AULRC	**Lightning Ridg**	**23.73**	**179**	P		**P**	**14 11 07.3**	**+2.4**
BATI	**Baumata**	**23.87**	**257**	P		**P**	**14 11 07.0**	**+0.6**
	comp=Z,26nm,2.0s							
FITZ	**Fitzroy Crossi**	**24.55**	**238**	P		**P**	**14 11 13.3**	**+0.8**
	baz=25,SNR=103							
OOD	**Oodnadatta**	**24.70**	**205**	P		**P**	**14 11 16.3**	**+2.5**
ARMA	**Armidale**	**25.04**	**171**	P		**P**	**14 11 19.6**	**+2.7**
	baz=25,SNR=5.3							
EDFI	**Ende, Flores**	**25.61**	**261**	P		**P**	**14 11 20.5**	**-1.9**
	comp=Z,16nm,0.8s							
LCRK	**Leigh Creek**	**26.18**	**198**	P		**P**	**14 11 28.3**	**+1.2**
WRKA	**Warakurna**	**26.59**	**221**	P		**P**	**14 11 31.6**	**+0.7**
	baz=27,SNR=234							
WRKA	**Warakurna**	**26.59**	**221**	P		**P**	**14 11 32.3**	**+1.4**
STKA	**Stephens Creek**	**26.70**	**191**	P		**P**	**14 11 33.1**	**+1.3**
	baz=27,SNR=12							
STKA	**Stephens Creek**	**26.70**	**191**	P		**P**	**14 11 33.3**	**+1.5**
STKA	**Stephens Creek**	**26.70**	**191**	P		**P**	**14 11 33.1**	**+1.3**
	comp=Z,1.4nm,0.6s,baz=30,slow=10,SNR=5.9							
STKA				LR	LR		14 24 15.4	
	comp=Z,62nm,20.3s,baz=13,slow=41							
	comp=Z,1.4nm,0.6s							
MULG	**Mulgathing**	**27.56**	**205**	P		**P**	**14 11 40.2**	**+0.8**
HTT	**Hallett**	**28.79**	**195**	P		P	14 11 56.9	+6.6
	baz=29,SNR=35							
MEEK	**Meekatharra**	**34.46**	**229**	P		**P**	**14 12 40.8**	**+0.8**
	baz=35,SNR=4.0							
MEEK	**Meekatharra**	**34.46**	**229**	P		**P**	**14 12 41.0**	**+0.9**
KMBL	**Kambalda**	**35.02**	**220**	P		**P**	**14 12 45.4**	**+0.6**
	baz=35,SNR=9.4							
JOW	**Kunigami**	**37.12**	**331**	LR	LR		14 26 11.1	
	comp=Z,80nm,20.1s,baz=32,slow=32							
MORW	**Morawa**	**37.68**	**228**	P		**P**	**14 13 07.7**	**+0.4**
	baz=38,SNR=12							
KLBR	**Kellerberrin**	**37.89**	**223**	P		**P**	**14 13 09.4**	**+0.4**
	baz=38,SNR=6.4							
KLBR	**Kellerberrin**	**37.89**	**223**	P		**P**	**14 13 11.4**	**+2.4**
BLDU	**Ballidu**	**38.05**	**225**	P		**P**	**14 13 11.0**	**+0.6**
	baz=38,SNR=16							
YULB	**Yu-li**	**38.40**	**320**	P		**P**	**14 13 13.9**	**+0.5**
YULB	**Yu-li**	**38.40**	**320**	P		**P**	**14 13 13.0**	**-0.4**
TPUB	**Ta-pu**	**38.77**	**319**	P		**P**	**14 13 16.5**	**0.0**
TPUB	**Ta-pu**	**38.77**	**319**	P		**P**	**14 13 15.6**	**-0.9**
SSLB	**Suanglung**	**38.91**	**320**	P		**P**	**14 13 18.9**	**+1.3**
SSLB	**Suanglung**	**38.91**	**320**	P		**P**	**14 13 17.6**	**0.0**
SSLB					IAmb	IAmb	14 13 20.7	
	comp=Z,12nm,0.5s							
NWAO	**Narrogin (SRO)**	**39.05**	**222**	P		**P**	**14 13 20.9**	**+2.2**
	baz=39,SNR=6.3							
NWAO				P		**P**	**14 13 20.9**	**+2.2**
	baz=39,SNR=6.3							
NWAO	**Narrogin (SRO)**	**39.05**	**222**	P		**P**	**14 13 19.8**	**+1.1**
	comp=Z,7.0nm,1.0s,baz=74,slow=14,SNR=2.1							
NWAO				LR	LR		14 30 35.6	
	comp=Z,108nm,19.0s,baz=202,slow=38							
	comp=Z,7.0nm,1.0s							
MUN	**Mundaring**	**39.18**	**224**	P		**P**	**14 13 21.8**	**+2.0**
	baz=39,SNR=7.2							

YHNB	**Yeheng**	**39.27**	**321**	P		**P**	**14 13 21.3 +0.6**
YHNB	**Yeheng**	**39.27**	**321**	P		**P**	**14 13 20.8 +0.2**
JGF	**Kuroka**	**42.02**	**348**	P		**P**	**14 13 43.0 0.0**
JGF	**Kuroka**	**42.02**	**348**	P		**P**	**14 13 42.3 -0.7**
JGF				IAmb		IAmb	14 13 43.5
	comp=Z,6.0nm,0.6s						
URZ	**Urewera**	**42.31**	**144**	P		**P**	**14 13 46.5 +1.3**
	comp=Z,4.0nm,0.3s,baz=41,slow=3.3,SNR=10						
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	**42.76**	**349**	P		Pb	14 13 49.4 +0.1
MJAR	**Matsushiro Arr**	**42.76**	**349**	P		**P**	**14 13 48.5 -0.4**
	comp=Z,2.3nm,0.4s,baz=175,slow=8.4,SNR=20						
MJAR				PcP		**PcP**	**14 15 37.2 +0.1**
	comp=Z,2.5nm,0.8s,baz=158,slow=2.9,SNR=7.8						
	comp=Z,2.3nm,0.4s						
MAJO	**Matsushiro**	**42.76**	**349**	P		**P**	**14 13 48.7 -0.3**
MAJO				IAmb		IAmb	14 13 49.4
	comp=Z,9.0nm,0.7s						
MJB9	**Matsu-Tunnel**	**42.77**	**349**	P		**P**	**14 13 49.3 +0.4**
MJB9				IAmb		IAmb	14 13 50.4
	comp=Z,8.6nm,0.7s						
NJ2	**Nanjing**	**46.21**	**326**	*e*P		**P**	**14 14 17.3 +1.0**
NJ2				pP		**pwP**	**14 15 00.7 +3.1**
NJ2				pmax		pmax	
	comp=Z,13nm,0.8s						
NJ2				pmax		pmax	
	comp=Z,170nm,7.5s						
KSRS	**Korea Array**	**46.48**	**339**	P		**P**	**14 14 18.8 +0.5**
	comp=Z,2.9nm,0.8s,baz=158,slow=9.6,SNR=20						
KSRS				PcP		**PcP**	**14 15 50.5 +0.6**
	comp=Z,1.5nm,0.8s,baz=163,slow=3.2,SNR=6.5						
	comp=Z,2.9nm,0.8s						
KSAR	**Wonju Array Be**	**46.48**	**339**	P		**P**	**14 14 17.5 -0.8**
WHN	**Wuhan**	**47.81**	**321**	P		**P**	**14 14 30.0 +1.3**
WHN				pmax		pmax	
	comp=Z,36nm,0.6s						
JKA	**Kamikawa-asahi**	**49.65**	**356**	P		**P**	**14 14 41.9 -0.6**
JKA				IAmb		IAmb	14 14 47.3
	comp=Z,11nm,1.1s						
ENH	**Enshi**	**50.83**	**317**	P		**P**	**14 14 51.5 -0.2**
ENH				IAmb		IAmb	14 14 52.7
	comp=Z,10nm,0.9s						
USRK	**Ussuriysk Ar.**	**51.44**	**346**	P		**P**	**14 14 56.1 +0.2**
	comp=Z,2.6nm,0.6s,baz=173,slow=9.3,SNR=6.5						
USRK				PcP		**PcP**	**14 16 07.8 0.0**
	comp=Z,1.0nm,0.4s,baz=172,slow=4.3,SNR=6.0						
	comp=Z,2.6nm,0.6s						
LYN	**LuoYang**	**51.71**	**323**	*e*P		**P**	**14 14 58.2 +0.1**
LYN				pmax		pmax	
	comp=Z,25nm,0.9s						
MDJ	**Mudanjiang**	**52.45**	**344**	P		**P**	**14 15 03.3 0.0**
MDJ				pmax		pmax	
	comp=Z,6.0nm,1.2s						
MDJ				pmax		pmax	
	comp=Z,81nm,10.3s						
HNS	**HongShan**	**52.46**	**327**	⇑P		**P**	**14 15 04.0 +0.4**
HNS				pmax		pmax	
	comp=Z,22nm,1.0s						
CMAR	**Chiang Mai Arr**	**53.33**	**298**	P		**P**	**14 15 09.0 -1.3**
	comp=Z,0.6nm,0.6s,baz=122,slow=5.4,SNR=4.0						
CMAR				PcP		**PcP**	**14 16 15.8 +0.3**
	comp=Z,1.6nm,0.9s,baz=118,slow=3.4,SNR=5.3						
	comp=Z,0.6nm,0.6s						
BNX	**BinXian**	**54.10**	**343**	⇑P		**P**	**14 15 15.4 +0.1**
BNX				pmax		pmax	
	comp=Z,5.0nm,1.1s						
BNX				pmax		pmax	
	comp=Z,71nm,5.8s						
PZH	**PanZhiHua**	**54.45**	**308**	P		**P**	**14 15 20.1 +1.7**
PZH				pmax		pmax	
	comp=Z,10.0nm,0.5s						
PZH				pmax		pmax	
	comp=Z,110nm,4.9s						
KLR	**Kul'dur**	**56.25**	**348**	LR	LR		14 36 21.8
	comp=Z,35nm,21.3s,baz=352,slow=32						
HHC	**Hu-ho-hao-te**	**56.65**	**328**	*e*P		**P**	**14 15 37.1 +3.3**
HHC				pmax		pmax	
	comp=Z,16nm,0.8s						
HHC				pmax		pmax	
	comp=Z,68nm,5.8s						
XLT	**XiLinHaoTe**	**56.74**	**333**	*e*P		**P**	**14 15 37.3 +2.9**
XLT				pP		pP	14 16 09.7 -5.2
XLT				PcP		**PcP**	**14 16 27.8 -0.4**
XLT				sP		sP	14 16 41.5 +7.2
XLT				pmax		pmax	
	comp=Z,9.0nm,0.9s						
XLT				pmax		pmax	
	comp=Z,89nm,4.4s						
LZH	**Lanzhou**	**58.10**	**319**	*e*P		**P**	**14 15 45.6 +1.5**
LZH				sP		sP	14 16 47.1 +2.4
LZH				pmax		pmax	
	comp=Z,22nm,1.2s						
HEH	**HeiHe**	**58.22**	**345**	*e*P		**P**	**14 15 44.5 +0.1**
HEH				PcP		**PcP**	**14 16 32.9 -0.8**
PETK	**Petropavlovsk-**	**59.13**	**7**	P		**P**	**14 15 51.1 +0.4**
	comp=Z,4.1nm,0.6s,baz=163,slow=6.1,SNR=24						
PETK				PcP		**PcP**	**14 16 37.6 +0.3**
	comp=Z,1.3nm,0.7s,baz=189,slow=1.8,SNR=5.9						
	comp=Z,4.1nm,0.6s						
GTA	**Gaotai**	**62.62**	**320**	*e*P		**P**	**14 16 16.1 +1.4**
GTA				pmax		pmax	
	comp=Z,12nm,1.0s						
ULN	**Ulaanbaatar**	**63.90**	**331**	P		**P**	**14 16 23.2 +0.2**
ULN				IAmb		IAmb	14 16 24.9
	comp=Z,11nm,0.9s						
SONM	**Songino Array**	**64.19**	**331**	P		**P**	**14 16 24.9 +0.1**
SONM				IAmb		IAmb	14 16 27.4
	comp=Z,5.8nm,0.8s						
SONM	**Songino Array**	**64.19**	**331**	P		**P**	**14 16 25.6 +0.7**
	comp=Z,4.7nm,0.6s,baz=153,slow=5.9,SNR=31						
	comp=Z,4.7nm,0.6s						
NIKH	**Nikolski High**	**69.07**	**27**	P		**P**	**14 16 55.4 0.0**
	baz=228						
UNV	**Unalaska Valle**	**70.70**	**27**	P		**P**	**14 17 06.0 +0.7**
	baz=230						
SPIA	**Saint Paul Isl**	**71.40**	**23**	P		**P**	**14 17 10.4 +1.0**
	baz=225						
VNDA	**Vanda**	**72.31**	**177**	P		**P**	**14 17 15.8 +1.2**
S12K	**Black Hills**	**73.87**	**27**	P		**P**	**14 17 24.5 +0.4**
	baz=233						
SDPT	**Sand Point**	**74.39**	**28**	P		**P**	**14 17 26.8 -0.3**
	baz=235						
M11K	**Mekoryuk**	**75.14**	**22**	P		**P**	**14 17 31.6 +0.3**
	baz=228						
CHGN	**Chignik**	**75.89**	**28**	P		**P**	**14 17 36.9 +1.2**
	baz=236						
M13K	**Dall Lake**	**76.23**	**23**	P		**P**	**14 17 39.2 +1.7**
	baz=231						
O14K	**Tigyukauivet M**	**76.35**	**24**	P		**P**	**14 17 39.0 +0.8**
	baz=233						
N14K	**Kuskokwak Cree**	**76.58**	**24**	P		**P**	**14 17 40.0 +0.6**
	baz=233						
K13K	**Kusilvak Mount**	**76.72**	**21**	P		**P**	**14 17 40.4 +0.1**
	baz=229						
O15K	**Ungalikthiuk R**	**76.90**	**25**	P		**P**	**14 17 41.7 +0.4**
	baz=234						
M14K	**Bethel**	**76.98**	**23**	P		**P**	**14 17 42.1 +0.4**
	baz=232						
L14K	**Kuka Creek**	**77.07**	**22**	P		**P**	**14 17 43.1 +0.9**
	baz=231						
N15K	**Kwethluk River**	**77.37**	**24**	P		**P**	**14 17 43.9 0.0**
	baz=234						
MK31	**Makanchi Array**	**77.38**	**320**	P		**P**	**14 17 44.0 -0.2**
MKAR	**Makanchi Array**	**77.38**	**320**	P		**P**	**14 17 43.6 -0.7**
MKAR	**Makanchi Array**	**77.38**	**320**	P		**P**	**14 17 44.5 +0.2**
	comp=Z,3.9nm,0.7s,baz=98,slow=8.0,SNR=24						
	comp=Z,3.9nm,0.7s						
M15K	**Kasigluk River**	**77.45**	**23**	P		**P**	**14 17 45.5 +1.2**
	baz=233						
MAKZ	**Makanchi**	**77.58**	**320**	P		**P**	**14 17 45.3 -0.1**
MAKZ				IAmb		IAmb	14 17 46.3
	comp=Z,7.5nm,0.9s						
J14K	**Nanvaranak Lak**	**77.64**	**21**	P		**P**	**14 17 46.6 +1.3**
	baz=230						
L15K	**Ungalak Mounta**	**77.73**	**22**	P		**P**	**14 17 45.8 0.0**
	baz=232						
O16K	**Kokwok River B**	**77.87**	**25**	P		**P**	**14 17 47.1 +0.5**
	baz=236						
TIXI	**Tiksi**	**78.03**	**354**	P		**P**	**14 17 46.9 -0.4**
N16K	**Nishlik Lake**	**78.09**	**24**	P		**P**	**14 17 48.5 +0.6**
	baz=235						
K15K	**Wolf Creek Mou**	**78.09**	**22**	P		**P**	**14 17 47.4 -0.4**
	baz=232						
TNA	**Tin City**	**78.10**	**17**	P		**P**	**14 17 48.7 +0.9**
	baz=226						
Q17K	**Contact Creek**	**78.11**	**27**	P		**P**	**14 17 48.3 +0.2**
	baz=238						

ANM	Nome baz=228	78.21	19	P	P	14 17 48.7	+0.3
M16K	Timber Creek baz=235	78.33	24	P	P	14 17 49.6	+0.5
P17K	Kvichak River baz=238	78.36	26	P	P	14 17 50.5	+1.1
O17K	Koliganek Bris baz=237	78.39	25	P	P	14 17 50.3	+0.8
L16K	Owhat River baz=234	78.52	23	P	P	14 17 50.7	+0.5
N17K	Nushagak Hills baz=237	78.77	25	P	P	14 17 51.7	+0.1
OHAK	Old Harbor baz=241	78.78	29	P	P	14 17 51.9	+0.2
ZAA0	Zalesovo Array	78.83	328	P	P	14 17 50.9	-1.2
ZAA0	comp=Z,8.8nm,0.6s			IAmb	IAmb	14 17 52.0	
ZALV	Zalesovo Beam	78.83	328	P	P	14 17 50.9	-1.2
ZALV	Zalesovo Beam comp=Z,11nm,0.6s,baz=112,slow=5.8,SNR=38	78.83	328	P	P	14 17 51.3	-0.7
	comp=Z,11nm,0.6s						
G15K	Niukluk baz=230	78.93	19	P	P	14 17 52.3	0.0
P18K	Big Mountain, baz=239	78.99	26	P	P	14 17 52.9	0.0
J16K	Anvik River baz=233	79.03	21	P	P	14 17 53.6	+0.7
M17K	Holitna River baz=236	79.15	24	P	P	14 17 53.3	-0.3
F15K	North Star Dit baz=229	79.20	18	P	P	14 17 54.6	+0.8
L17K	Donlin baz=235	79.22	23	P	P	14 17 54.4	+0.4
O18K	Koktuh Hills baz=239	79.24	26	P	P	14 17 54.3	0.0
H16K	Elim baz=231	79.29	20	P	P	14 17 54.5	+0.1
KSH	Kashi	79.33	312	P	P	14 17 57.0	+1.7
KSH	comp=Z,4.0nm,0.9s			pmax	pmax		
I17K	Unalakleet baz=233	79.36	21	P	P	14 17 55.5	+0.8
KDAK	Kodiak Island baz=241	79.39	28	P	P	14 17 56.3	+1.3
N18K	Kilae Creek baz=238	79.39	25	P	P	14 17 56.6	+1.6
Q19K	Cape Douglas, baz=240	79.46	27	P	P	14 17 56.0	+0.6
K17K	Iditarod baz=235	79.55	22	P	P	14 17 56.7	+0.9
J17K	VABM Dome baz=234	79.65	22	P	P	14 17 57.6	+1.3
G16K	Koyuk River baz=231	79.73	19	P	P	14 17 58.2	+1.5
O19K	Port Alsworth baz=239	79.80	26	P	P	14 17 58.5	+1.4
M18K	Stony River baz=238	79.85	24	P	P	14 17 58.8	+1.4
L18K	Granite Mounta baz=237	79.90	23	P	P	14 17 58.6	+0.9
P19K	Oil Pt baz=240	80.00	26	P	P	14 17 59.4	+1.1
N19K	Bonanza Creek baz=239	80.05	25	P	P	14 17 59.1	+0.5
H17K	Granite Mounta baz=234	80.27	20	P	P	14 18 00.6	+1.0
G17K	Kiwalik Mounta baz=233	80.36	19	P	P	14 18 01.7	+1.6
O20K	Slope Mountain baz=241	80.48	26	P	P	14 18 02.1	+1.2
TTA	Tatalina baz=237	80.55	23	P	P	14 18 02.0	+0.8
J18K	Innoko River baz=237	80.57	22	P	P	14 18 03.1	+1.9
L19K	White Mountain baz=239	80.60	24	P	P	14 18 01.7	+0.2
M19K	Big River Lodg baz=239	80.65	24	P	P	14 18 02.5	+0.8
F17K	Baldwin Pennin baz=232	80.74	19	P	P	14 18 03.6	+1.5
H18K	Honhosa River baz=235	80.93	20	P	P	14 18 03.6	+0.5
E17K	Hotham Inlet baz=231	80.96	18	P	P	14 18 03.9	+0.7
D17K	Noatak River baz=230	80.97	17	P	P	14 18 04.3	+1.1
KURK	Kurchatov	81.07	323	P	P	14 18 03.5	-0.6
KURBB	Kurchatov Arra comp=Z,1.5nm,0.3s,baz=114,slow=4.2,SNR=6.6	81.09	323	P	P	14 18 03.2	-1.0
	comp=Z,1.5nm,0.3s						
L20K	Farewell, AK baz=239	81.15	24	P	P	14 18 05.3	+1.0
M20K	Styx River baz=240	81.15	24	P	P	14 18 05.0	+0.6
BRSE	Bradley Lake S baz=243	81.16	27	P	P	14 18 05.4	+1.0
N20K	Mount Spurr baz=241	81.20	25	P	P	14 18 05.7	+0.9
RDOG	Red Dog Mine baz=230	81.25	17	P	P	14 18 07.0	+2.3
G18K	Tagagawik baz=234	81.26	20	P	P	14 18 06.0	+1.2
J19K	Poorman baz=238	81.27	22	P	P	14 18 05.7	+0.8
AAK	Ala-Archa	81.27	314	P	P	14 18 05.3	-0.3
F18K	Selawik baz=234	81.35	19	P	P	14 18 05.5	+0.2
C17K	DeLong Mountai baz=230	81.45	16	P	P	14 18 06.7	+0.9
K20K	Telida baz=239	81.52	23	P	P	14 18 07.1	+0.8
E18K	Tukpahlearik C baz=232	81.54	18	P	P	14 18 07.1	+0.9
H19K	Roundabout Mou baz=237,SNR=6.2	81.80	20	P	P	14 18 07.1	-0.6
SKT	Skwentna baz=242	81.86	25	P	P	14 18 07.8	-0.3
SEW	Seward baz=244	81.90	27	P	P	14 18 08.3	0.0
J20K	Nowinta River baz=239	81.92	22	P	P	14 18 08.4	+0.1
G19K	Purcell Mounta baz=236	81.93	20	P	P	14 18 08.7	+0.3
O22K	Cooper Landing baz=244	81.94	26	P	P	14 18 08.5	0.0
SUA	Susitna One baz=242	81.95	25	P	P	14 18 09.0	+0.3
PPLA	Purkeypile baz=241	82.03	24	P	P	14 18 08.9	-0.3
F19K	Shaleruckik Mo baz=235	82.09	19	P	P	14 18 09.0	-0.1
I20K	Naaghedeneel baz=239	82.11	22	P	P	14 18 09.1	-0.1
CAST	Castle Rocks baz=241,SNR=8.7	82.33	23	P	P	14 18 11.2	+0.7
H20K	Anotleneega Mo baz=238	82.33	21	P	P	14 18 11.1	+0.6
CHUM	Lake Minchumin baz=241,SNR=8.5	82.46	23	P	P	14 18 11.2	+0.1
E19K	Redstone River baz=236,SNR=12	82.62	19	P	P	14 18 12.2	+0.3
PMR	Palmer baz=244	82.70	26	P	P	14 18 13.2	+0.8
P23K	Montague Islan baz=246	82.78	27	P	P	14 18 13.3	+0.4
C19K	Lookout Ridge baz=233	82.86	17	P	P	14 18 13.7	+0.5
F20K	Avaraart Lake baz=237	82.88	19	P	P	14 18 13.6	+0.3
KNK	Knik Glacier baz=244	82.91	26	P	P	14 18 13.7	+0.1
D19K	Kuna River baz=235	82.94	18	P	P	14 18 13.9	+0.3
Q23K	Middleton Isla baz=247	83.04	28	P	P	14 18 14.3	+0.2
TRF	Thorofare Moun baz=243	83.06	24	P	P	14 18 13.9	-0.5
BPAW	Bear Paw Mtn. baz=242	83.08	23	P	P	14 18 14.1	-0.3
SML	Sawmill baz=245	83.13	26	P	P	14 18 15.0	+0.2
H21K	Melozitna Rive baz=240	83.16	21	P	P	14 18 15.8	+1.1
G21K	Allakaket baz=239	83.35	20	P	P	14 18 16.5	+0.8
M23K	Glacier View baz=245	83.39	26	P	P	14 18 16.6	+0.6
E20K	Nigu River baz=237,SNR=7.1	83.39	18	P	P	14 18 15.4	-0.5
WAT1	Susitna Watana baz=244	83.48	25	P	P	14 18 16.7	+0.2
D20K	Etivluk River baz=236	83.52	18	P	P	14 18 16.6	+0.1
SCM	Sheep Creek Mo baz=246	83.58	26	P	P	14 18 17.6	+0.6
MLY	Manley	83.62	22	P	P	14 18 17.3	+0.1
MLY	comp=Z,7.0nm,0.6s			IAmb	IAmb	14 18 18.7	
MLY	Manley baz=242,SNR=17	83.62	22	P	P	14 18 17.4	+0.3
WAT6	Susitna Watana baz=245	83.72	25	P	P	14 18 17.8	0.0
F21K	Alatna River baz=239	83.72	20	P	P	14 18 17.0	-0.5
MCK	McKinley baz=244,SNR=7.9	83.72	24	P	P	14 18 17.0	-0.6
EYAK	Cordova Ski Ar baz=247	83.76	27	P	P	14 18 17.6	-0.2
H22K	Ishtalitna Cre baz=241	83.79	21	P	P	14 18 18.5	+0.5
NEA2	Nenana baz=244	84.05	23	P	P	14 18 20.3	+1.0
KLU	Klutina baz=247	84.05	26	P	P	14 18 19.6	+0.1
DHY	Denali Highway baz=245,SNR=8.8	84.08	25	P	P	14 18 19.7	+0.1
B20K	Meade River baz=236	84.09	17	P	P	14 18 19.8	+0.5
M24K	Tolsona, Glenn baz=246	84.19	26	P	P	14 18 20.4	+0.3
E21K	Killik River baz=239	84.19	19	P	P	14 18 20.8	+0.8
I23K	Minto, Yukon-K baz=243,SNR=10	84.19	22	P	P	14 18 20.9	+0.9
KK31	Karatay Array	84.22	314	P	P	14 18 20.4	-0.2
KK31	comp=Z,7.2nm,1.1s			IAmb	IAmb	14 18 22.1	
G22K	Bettles baz=241	84.24	20	P	P	14 18 20.9	+0.7
F22K	John River baz=240	84.30	20	P	P	14 18 21.0	+0.5
C21K	Knifeblade Rid baz=238	84.31	18	P	P	14 18 21.1	+0.6
WRH	Wood River Hil	84.38	23	P	P	14 18 20.5	-0.5
QSPA	South Pole Qui comp=Z,3.3nm,0.5s,baz=192,slow=0.7,SNR=77	84.38	180	P	P	14 18 21.6	+0.4
	comp=Z,3.3nm,0.5s						
H23K	Yukon River baz=243	84.43	22	P	P	14 18 21.5	+0.3
BMRM	Bremner River baz=248	84.44	27	P	P	14 18 22.3	+0.9
B21K	Ikpikpuk River baz=238	84.61	17	P	P	14 18 22.9	+1.0
COLA	College	84.64	23	P	P	14 18 21.8	-0.4
COLA	comp=Z,10nm,0.6s			IAmb	IAmb	14 18 22.6	
COLA	College baz=245	84.64	23	P	P	14 18 23.5	+1.3
G23K	Bananza Creek baz=243,SNR=11	84.66	21	P	P	14 18 23.8	+1.5
N25K	Chitina, Valde baz=248	84.68	26	P	P	14 18 22.9	+0.3
E22K	Anaktuvuk Pass baz=241	84.73	19	P	P	14 18 23.0	+0.3
HDA	Harding Lake baz=246,SNR=7.1	84.80	23	P	P	14 18 23.3	+0.2
D22K	Ayikyak River baz=240,SNR=9.0	84.82	18	P	P	14 18 23.3	+0.2
PAX	Paxson baz=247	84.83	25	P	P	14 18 23.6	+0.3
COLD	Coldfoot baz=242,SNR=8.3	84.84	20	P	P	14 18 23.8	+0.7
POKR	Poker Plat Res baz=245	84.91	23	P	P	14 18 23.6	0.0
ILAR	Eielson Array	84.98	23	P	P	14 18 22.8	-1.1
ILAR	Eielson Array comp=Z,6.5nm,0.6s,baz=253,slow=4.8,SNR=130	84.98	23	P	P	14 18 23.2	-0.7
	comp=Z,6.5nm,0.6s						
K24K	Donnelly Dome baz=247	85.03	24	P	P	14 18 23.8	-0.4
H24K	Noodor Dome baz=245	85.05	22	P	P	14 18 24.3	-0.1
A22K	Sinclair Lake baz=238	85.25	16	P	P	14 18 25.5	+0.4
MCARA	McCarthy VSAT baz=249	85.31	27	P	P	14 18 26.1	+0.5
B22K	Teshekpuk Lake baz=239	85.34	17	P	P	14 18 25.9	+0.3
E23K	Chandalar baz=243,SNR=7.4	85.42	20	P	P	14 18 26.9	+0.7
D23K	Nanushuk River baz=242	85.49	19	P	P	14 18 27.7	+1.3
J25K	Salcha River, baz=247,SNR=18	85.51	24	P	P	14 18 27.1	+0.4
G24K	Hadweenzic Riv baz=245	85.56	21	P	P	14 18 27.1	+0.3
M26K	Nabesna, AK baz=249	85.68	26	P	P	14 18 27.9	+0.4
TOLK	Toolik Lake Re baz=243	85.70	19	P	P	14 18 28.3	+0.8
L26K	Log Cabin Wild baz=249	85.75	25	P	P	14 18 28.5	+0.6
F24K	Squaw Lake baz=244,SNR=16	85.77	20	P	P	14 18 28.4	+0.6
PRP	Porcupine Dome baz=247	85.81	23	P	P	14 18 28.8	+0.6
E24K	Your Creek baz=244	85.81	20	P	P	14 18 29.5	+1.5
SCRK	Sand Creek baz=248	85.83	24	P	P	14 18 27.8	-0.5
C23K	Itkillik River baz=242,SNR=11	85.93	18	P	P	14 18 30.2	+1.7
CTG	Chitna Glacier baz=251	85.93	28	P	P	14 18 29.2	+0.3
H25L	Birch Creek baz=246	85.99	22	P	P	14 18 29.8	+1.0
G25K	Bearman Lake baz=246	86.09	21	P	P	14 18 29.8	+0.5
M27K	Edge Creek, AK baz=250,SNR=8.8	86.15	26	P	P	14 18 30.4	+0.5
D24K	Happy Valley baz=244	86.17	19	P	P	14 18 30.3	+0.5
J26L	Joseph Creek baz=249,SNR=5.7	86.19	24	P	P	14 18 30.2	+0.1
O28M	Mount Upton baz=245	86.40	28	P	P	14 18 30.4	-1.0
L27K	Beaver Creek, baz=250	86.41	26	P	P	14 18 32.7	+1.6
PNL	Peninsula baz=253	86.44	29	P	P	14 18 30.0	-1.3
C24K	Franklin Bluff baz=244	86.47	18	P	P	14 18 32.0	+0.9
F25K	Christian Rive baz=247	86.58	21	P	P	14 18 32.5	+0.7
YUK3	Moose Creek baz=252	86.59	27	P	P	14 18 32.9	+0.6
BVAR	Borovoye Array comp=Z,4.5nm,0.7s,baz=117,slow=5.2,SNR=17	86.62	324	P	P	14 18 31.5	-0.8
	comp=Z,4.5nm,0.7s						
K27K	Chicken baz=250	86.63	25	P	P	14 18 32.9	+0.8
I26K	Coal Creek Min baz=249	86.64	23	P	P	14 18 33.6	+1.5
YUK8	Steele Glacier baz=252	86.76	28	P	P	14 18 33.2	+0.1
E25K	Arctic Village baz=247	86.82	20	P	P	14 18 33.1	+0.1
G26K	Porcupine Rive baz=248	87.00	22	P	P	14 18 33.9	+0.1
D25K	Kavik River baz=246,SNR=8.4	87.04	19	P	P	14 18 34.2	+0.3
F26K	Sheenjek River baz=248	87.15	21	P	P	14 18 34.2	-0.4
P29M	Windy Craggy baz=254	87.24	29	P	P	14 18 35.0	-0.1
EGAK	Eagle baz=251	87.26	24	P	P	14 18 35.0	-0.1
YUK4	Talbot Arm baz=253	87.29	28	P	P	14 18 36.4	+0.8
YUK6	Outpost Mounta baz=254	87.31	28	P	P	14 18 34.6	-1.1
I27K	Kandik River baz=250,SNR=7.8	87.35	23	P	P	14 18 36.2	+0.6
H27K	Steamboat Moun baz=250,SNR=10	87.60	23	P	P	14 18 37.5	+0.8
HYT	Haines Junctio baz=254	87.68	28	P	P	14 18 38.2	+0.8
M29M	Somme Creek baz=253	87.69	27	P	P	14 18 36.5	-0.8
G27K	Doyon Strip baz=250	87.74	22	P	P	14 18 38.5	+1.1
C26K	Camden Bay baz=247,SNR=5.8	87.74	19	P	P	14 18 37.6	+0.3
P30M	Million Dollar baz=255	87.75	29	P	P	14 18 38.5	+0.9
DAWY	Dawson baz=252	87.76	25	P	P	14 18 38.8	+1.3
PLBC	Pleasant Camp baz=255	87.87	30	P	P	14 18 38.7	+0.7
I28M	Miner Creek baz=252	87.96	24	P	P	14 18 38.6	+0.1
C27K	Jago River baz=248,SNR=13	88.02	19	P	P	14 18 39.3	+0.8
L29M	L29M baz=254	88.03	26	P	P	14 18 39.2	+0.4
N30M	Aishikik Lake baz=255	88.04	28	P	P	14 18 39.4	+0.5
E27K	Coleen River baz=250,SNR=10	88.23	21	P	P	14 18 39.8	+0.2
S32K	Killisnoo baz=257	88.31	32	P	P	14 18 41.4	+1.2
O30N	Mendenhall baz=256	88.33	29	P	P	14 18 40.8	+0.5
K29M	Barlow Dome baz=254,SNR=9.4	88.49	25	P	P	14 18 41.7	+0.6
R32K	Eaglecrest baz=257	88.52	31	P	P	14 18 41.0	-0.2
N31M	Braeburn, Yuko baz=256	88.66	28	P	P	14 18 41.8	0.0
F28M	Old Crow baz=252	88.66	21	P	P	14 18 41.5	-0.1
CRAG	Craig baz=258	88.67	34	P	P	14 18 41.7	-0.2
D27M	Malcolm River baz=251	88.80	20	P	P	14 18 42.0	-0.3
U33K	Whale Pass baz=258	88.80	33	P	P	14 18 41.8	-0.6
H29M	Whitestone baz=253	88.81	23	P	P	14 18 41.9	-0.5
E28M	Babbage River baz=252	89.08	21	P	P	14 18 43.4	-0.3
G29M	Pine Creek baz=254	89.14	22	P	P	14 18 44.2	+0.3
J30M	Hart River baz=255	89.19	25	P	P	14 18 44.8	+0.4
P32M	Atlin baz=258	89.22	30	P	P	14 18 44.6	+0.1
WRAK	Wrangell Islan baz=259	89.28	33	P	P	14 18 44.2	-0.5
I30M	Mount Dempster baz=255	89.33	24	P	P	14 18 45.2	+0.2
M31M	Drury Creek, Y baz=257	89.47	27	P	P	14 18 45.4	-0.1
EPYK	Eagle Plains baz=255,SNR=6.9	89.49	23	P	P	14 18 45.4	-0.2
D28M	Stokes Point baz=253	89.58	20	P	P	14 18 46.1	+0.3
E29M	Blow River baz=254	89.60	21	P	P	14 18 46.1	+0.1
P33M	Teslin, Yukon baz=258	89.79	29	P	P	14 18 46.1	-1.0
G30M	tAoh Zraii Nji baz=255	89.84	22	P	P	14 18 47.3	+0.1
N32M	Quiet Lake baz=258	89.85	28	P	P	14 18 47.7	+0.3
FARO	Faro, Yukon baz=256	89.95	27	P	P	14 18 47.8	0.0
F30M	Barrier River baz=256,SNR=5.2	90.16	22	P	P	14 18 49.4	+0.7
S34M	Telegraph Cree baz=260	90.21	32	P	P	14 18 49.6	+0.6
H31M	Peel River baz=257,SNR=5.9	90.30	24	P	P	14 18 50.1	+0.8
R33M	Jennings River baz=260	90.55	30	P	P	14 18 50.9	+0.1
G31M	Satah River baz=257,SNR=9.6	90.57	23	P	P	14 18 51.1	+0.6
DLBC	Dease Lake baz=261	90.88	31	P	P	14 18 53.3	+1.0
F31M	Tsiigehtchic baz=258	90.89	22	P	P	14 18 52.3	+0.4
INK	Inuvik baz=258	91.15	21	P	P	14 18 53.2	0.0
TGTN	Hyland Airport baz=262	92.20	29	P	P	14 18 58.8	+0.6
ABKAR	Akbulak array	92.47	319	P	P	14 18 57.7	-2.0
TOAD	Toad River Com baz=265	93.41	31	P	P	14 19 04.4	+0.5
A36M	Sachs Harbour baz=266	94.47	18	P	P	14 19 08.7	+0.3
C36M	Paulatuk baz=267	94.69	21	P	P	14 19 09.7	+0.2
PKM	Mcpherson Peak baz=267	95.51	56	P	P	14 19 12.4	-1.9
SNCC	San Nicolas Is baz=267	95.67	57	P	P	14 19 13.3	-1.5
ARVC	Arvin baz=268	96.33	55	P	P	14 19 17.5	-0.2
OSI	Osito Audit: C baz=268	96.39	56	P	P	14 19 17.6	-0.6
ISA	Isabella, Lake baz=268	96.64	55	P	P	14 19 18.9	-0.3
BFSC	Mount Baldy Ra baz=268	97.26	56	P	P	14 19 21.3	-0.8
LRMC	Laurel Mtn Rad baz=268	97.28	55	P	Pdif	14 19 22.5	+0.3
MPMC	Manual Prospec baz=269	97.45	54	P	P	14 19 22.3	-0.8
MURC	Murrieta baz=268	97.62	57	P	P	14 19 22.8	-0.9
NEW	Newport baz=270	97.84	42	P	P	14 19 24.0	-0.3
BBRC	Big Bear Solar baz=269	97.87	56	P	P	14 19 23.4	-1.6
FURC	Furnace Creek, baz=269	97.97	54	P	P	14 19 23.8	-1.2
GSC	Goldstone, Bar baz=269	97.99	55	P	P	14 19 24.6	-0.8
PFO	Pinyon Flats O baz=269	98.24	57	P	P	14 19 25.2	-1.3
TPFO	Pinon Flats baz=269	98.24	57	P	P	14 19 25.5	-1.0
MONP2	Monument Peak baz=269	98.25	58	P	P	14 19 26.1	-0.6
HEC	Hector,Ludlow baz=269	98.37	56	P	P	14 19 26.2	-0.8
BELC	Belle Mtn. Jos baz=269	98.63	57	P	P	14 19 26.8	-1.5
YKA	Yellowknife Ar comp=Z,0.3nm,0.8s,baz=283,slow=5.1,SNR=5.9	98.66	28	P	P	14 19 27.7	+0.2
	comp=Z,0.3nm,0.8s						
GMRC	Granite Mounta baz=269	98.92	56	P	P	14 19 27.5	-2.0
R11B	Troy Canyon, C baz=270	99.00	52	P	Pdif	14 19 27.6	-2.3
BC3	Big Chuckawall baz=269	99.08	57	P	Pdif	14 19 28.2	-2.0
IRM	Iron Mountain baz=270	99.34	56	P	Pdif	14 19 29.5	-1.9
GLA	Glamis baz=270	99.60	58	P	Pdif	14 19 31.8	-0.7
HLID	Hailey baz=272	99.81	47	P	Pdif	14 19 32.5	-0.9
MSO	Missoula baz=273	100.03	44	P	Pdif	14 19 33.4	-0.8
PDMCI	Parker Dam,Lak baz=270	100.17	56	P	Pdif	14 19 34.1	-0.9
SNAA	Sanae comp=Z,1.1nm,0.9s,baz=117,slow=11,SNR=1.9	100.45	189	P	Pdif	14 19 37.3	+1.7
DUG	Dugway, Tooele baz=272	101.12	50	P	Pdif	14 19 38.0	-1.2
214A	Organ Pipe Nat baz=270	101.30	59	P	Pdif	14 19 38.6	-1.5
H17A	Grant Village baz=274	102.54	46	P	Pdif	14 19 44.5	-1.1
EGMT	Eagleton baz=276	102.78	42	P	Pdif	14 19 45.6	-0.8
TUC	Tucson baz=272	103.01	58	P	Pdif	14 19 45.9	-1.8
RLMT	Red Lodge baz=276	103.40	45	P	Pdif	14 19 48.4	-1.0
W18A	Petrified Fore baz=273	103.78	55	P	Pdif	14 19 50.1	-1.2
O20A	White River Ci baz=275	104.62	50	P	Pdif	14 19 54.0	-0.9

MVCO	**Mesa Verde** baz=274	104.65	53	P		Pdif	14 19 54.2	-0.9
LAO	**LASA Array** baz=278	105.32	43	P		PKiKP	14 24 11.2	+0.4
121A	**Cookes Peak, D** baz=273	105.54	58	P		PKiKP	14 24 11.1	-0.6
K22A	**Casper** baz=277	105.64	47	P		PKiKP	14 24 09.3	-2.3
ARCES	**ARCESS Array B** comp=Z,0.9nm,0.8s,baz=97,slow=2.5,SNR=7.9	105.96	342	PKiKP		PKiKP	14 24 10.4	-0.8
N23A	**Red Feather La** baz=277	106.28	49	P		PKiKP	14 24 11.8	-1.1
DGMT	**Dagmar** baz=280	106.39	41	P		PKiKP	14 24 11.4	-1.2
SDCO	**Great Sand Dun** baz=276	106.98	52	P		PKiKP	14 24 13.6	-0.8
MNTX	**Cornudas Mount** baz=274	107.63	59	P		PKiKP	14 24 14.7	-0.7
T25A	**Trinidad** baz=277	107.91	53	P		PKiKP	14 24 14.8	-1.2
FINES	**FINESS Array B** comp=Z,2.6nm,1.0s,baz=28,slow=6.3,SNR=4.2	109.44	334	Pdiff		Pdif	14 20 14.9	-0.6
CBKS	**Cedar Bluff** baz=280	111.31	51	P		PKiKP	14 24 22.0	-0.2
AGMN	**Agassiz Nation** baz=287	111.83	40	P		PKiKP	14 24 22.9	+0.1
ABTX	**Abilene, Hawle** baz=278	112.37	57	P		PKiKP	14 24 23.5	-0.9
ECSD	**EROS Data Cent** baz=285	112.56	45	P		PKiKP	14 24 24.1	-0.3
WMOK	**Wichita Mounta** baz=279	112.77	55	P		PKiKP	14 24 24.0	-1.1
833A	**Chaparral WMA,** baz=276	113.11	62	P		PKiKP	14 24 25.2	-0.7
WHTX	**Lake Whitney,** baz=279	114.30	57	P		PKPdf	14 24 27.1	-0.9
EYMN	**Ely** baz=290	114.71	39	P		PKPdf	14 24 28.4	0.0
TUL3	**Leonard** baz=282	114.95	53	P		PKiKP	14 24 28.7	-0.5
SCIA	**State Center** baz=286	115.46	46	P		PKPdf	14 24 29.3	-0.6
JFWS	**Jewell Farm** baz=289	117.24	44	P		PKPdf	14 24 32.7	-0.6
CCM	**Cathedral Cave** baz=286	117.98	50	P		PKPdf	14 24 34.2	-0.8
GERES	**GERESS Array B** comp=Z,1.2nm,0.6s,baz=243,slow=0.3,SNR=7.5	121.74	326	PKP		PKPdf	14 24 41.5	-0.4
PLCA	**Paso Flores** comp=Z,1.1nm,0.5s,baz=249,slow=3.4,SNR=13	122.30	147	PKP		PKiKP	14 24 43.5	0.0
P52A	**Corning** baz=294	124.13	45	P		PKPdf	14 24 45.8	-0.9
TZTN	**Tazewell** baz=291	124.28	49	P		PKPdf	14 24 45.8	-1.3
EKA	**Eskdalemuir Ar** comp=Z,2.1nm,0.5s,baz=21,slow=2.8,SNR=6.8	125.04	340	PKP		PKPdf	14 24 47.5	-0.4
GOGA	**Godfrey** baz=289	125.40	53	P		PKPdf	14 24 48.3	-1.0
MCWV	**Mont Chateau** baz=296	125.72	44	P		PKPdf	14 24 49.1	-0.6
BINY	**Binghamton** baz=301	127.08	40	P		PKPdf	14 24 51.4	-0.9
LBNH	**Lisbon** baz=307	128.41	35	P		PKPdf	14 24 52.9	-1.8
L61B	**Northampton** baz=305	129.00	38	P		PKPdf	14 24 54.7	-1.2
PAL	**Palisades** baz=302	129.03	40	P		PKPdf	14 24 55.6	-0.4
PKME	**Peaks-Kenny Pk** baz=310	129.25	33	P		PKPdf	14 24 55.5	-0.8
HRV	**Adam Dziewonsk** baz=306	129.65	37	P		PKPdf	14 24 56.1	-1.1
ESDC	**Sonseca Array** comp=Z,0.2nm,0.3s,baz=77,slow=5.5,SNR=1.6	137.32	327	PKP		PKPdf	14 25 12.2	+0.5
LPAZ	**La Paz** comp=Z,0.8nm,0.4s,baz=210,slow=7.5,SNR=4.6	138.75	122	PKP		PKPdf	14 25 14.3	-1.3
TORD	**Torodi Ar. Bea** comp=Z,13nm,0.5s,baz=66,slow=4.7,SNR=84	145.29	285	PKPbc		PKPdf	14 25 26.3	-0.2
DBIC	**Dimbokro** comp=Z,3.2nm,0.7s,baz=106,slow=2.6,SNR=4.8	152.31	274	PKPbc		PKPbc	14 25 44.0	-0.8
BDFB	**Brasilia** comp=Z,2.1nm,0.4s,baz=142,slow=1.7,SNR=6.9	154.02	144	PKPbc		PKPbc	14 25 48.1	-0.5

JMA 01 14:13:29.3±0.0, 36°3N±0°1×137°0E±0°2, h4km±1km, MV-0.2/10, TOYAMA GIFU BORDER REG, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JGN	**Niukaw**	0.28	105	*i* P		Pg	14 13 34.9	+0.1
JGN				*e*S		Sg	14 13 38.9	+0.4

NNC 01 15:28:09.6±1.7, 44°00N×86°65E, h0km, mb3.6, mpv3.2, 5C-6D, Error ellipse: s-maj=16.1km s-min=11.4km az=54.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MK31	**Makanchi Array** 0.5nm,0.3s,baz=132,slow=14,SNR=47	4.15	314	⇓Pn		Pn	15 29 14.6	+0.4
MK31	5.7nm,0.5s,baz=121,slow=16,SNR=6.8			Sn		Sn	15 30 04.5	+1.1
MK31	9.8nm,0.7s,baz=128,slow=31,SNR=6.6			⇓Lg		Lg	15 30 22.3	
MAKZ	**Makanchi** 1.5nm,0.3s	4.33	312	⇑Pn		Pn	15 29 15.5	-1.1
MAKZ	3.4nm,0.6s			⇑Sn		Sn	15 30 08.4	+0.6
MAKZ	12nm,0.8s			⇑Lg		Lg	15 30 28.0	
PDGK	**Podgornoye** 1.9nm,0.5s	5.23	265	⇑Pg		Pb	15 29 45.8	+3.8
PDGK	7.4nm,0.6s			⇓Lg		Lg	15 30 56.0	
KURBB	**Kurchatov Arra** 1.2nm,0.3s	8.62	323	⇓Pn		Pn	15 30 16.8	+1.3
KURBB	10nm,0.7s			⇓Lg		Lg	15 32 45.6	
KURK	**Kurchatov** 0.6nm,0.4s	8.65	324	⇓Pn		Pn	15 30 16.1	+0.3
KURK	7.8nm,1.0s			⇑Lg		Lg	15 32 48.0	

*SCB **01** 15:42:40.9±0.8, 18°51S×65°16W, h22km±3km, ML3.8/2, MW3.9, Error ellipse: s-maj=2.5km s-min=2.4km az=0.0*
*IDC **01** 15:42:45.9±2.4, 18°63S×65°17W, h52km±19km, mb3.2/4, mbtmp3.5/6, ML3.3/3, MS3.3/6, Error ellipse: s-maj=26.8km s-min=13.3km az=1.0*
ISC 01 15:42:46.0±0.8, 18°43S±0°05×65°19W±0°05, h35km, n26, σ2s56/24, mb3.5/4, MS3.1/4, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AOEA	**Aiquile**	0.25	351	Pg		Pn	15 42 48.5	-5.2
AOEA				Sg		**Sn**	**15 42 54.1**	**-4.8**
AOEA	8μm,0.3s			IAML			15 42 55.9	
SOTI	**Planta Incahua**	2.01	134	Pn		**Pn**	**15 43 18.6**	**+1.0**
SOEO	**Opoqueri**	2.56	267	Pn		**Pn**	**15 43 27.1**	**+1.6**
MOCB	**Mochara**	2.84	188	Pn		**Pn**	**15 43 29.6**	**+0.3**
MOCB				Sn		**Sn**	**15 44 06.2**	**+3.7**
MOCB	446nm,0.6s			IAML			15 44 20.9	
BBOE	**La Paz, Chanca**	3.11	301	Pn		**Pn**	**15 43 35.5**	**+2.4**
SOEJ	**Jacaque**	3.20	296	Pn		**Pn**	**15 43 36.8**	**+2.4**
LPAZ	**La Paz** 2.9nm,0.3s,baz=130,slow=12,SNR=34	3.52	307	P		**Pn**	**15 43 40.4**	**+1.5**
LPAZ	33nm,0.3s,baz=164,slow=14,SNR=1.5			S		**Sn**	**15 44 23.9**	**+4.3**
LPAZ	**La Paz**	3.52	307	Pn		**Pn**	**15 43 41.0**	**+2.2**
BBOD	**La Paz, Gloria**	3.71	298	Pn		**Pn**	**15 43 43.8**	**+2.5**
PB11	**IPOC Station P**	4.42	252	Pn		**Pn**	**15 43 52.0**	**+1.2**
BBSD	**Serra de San D**	4.54	75	Pn		**Pn**	**15 43 53.2**	**+1.0**
BBSD				Sn		**Sn**	**15 44 48.5**	**+4.7**
SIV	**San Ignacio** 0.7nm,0.3s,baz=248,slow=14,SNR=111	4.62	59	P		**Pn**	**15 43 54.5**	**+1.1**
SIV	16nm,0.4s,baz=239,slow=13,SNR=3.8 37nm,0.6s			S		**Sn**	**15 44 48.5**	**+2.5**
SIV	**San Ignacio**	4.62	59	Pn		**Pn**	**15 43 54.6**	**+1.1**
LVC	**Limon Verde** 0.1nm,0.3s,baz=45,slow=7.1,SNR=1.3	5.43	219	P		**Pn**	**15 44 02.5**	**-2.3**
LVC	comp=Z,22nm,21.5s,baz=30,slow=35			LR		LR	15 45 53.2	
PTLB	**Pontes e Lacer** 1.1nm,0.6s	6.51	64	Pn		**Pn**	**15 44 20.5**	**+1.2**
VILB	**Vilhena**	7.26	42	Pn		**Pn**	**15 44 31.7**	**+2.0**
CPUP	**Villa Florida** comp=Z,52nm,19.9s,baz=5.5,slow=38	10.71	139	LR		LR	15 49 28.8	
NNA	**Nana** comp=Z,93nm,20.1s,baz=174,slow=40	12.94	298	LR		LR	15 51 29.1	
PLCA	**Paso Flores** comp=Z,72nm,20.2s,baz=192,slow=41	22.70	191	LR		LR	15 58 16.6	
ROSC	**El Rosal** comp=Z,53nm,18.2s,baz=223,slow=38	24.81	338	LR		LR	15 58 45.7	
MDP	**Montagnes des** comp=Z,62nm,18.4s,baz=359,slow=37	26.45	29	LR		LR	15 59 20.6	
TEIG	**Tepich** comp=Z,168nm,18.8s,slow=38	44.59	328	LR		LR	16 10 44.4	
TXAR	**Lajitas Array** 0.2nm,0.7s,baz=139,slow=8.4,SNR=1.8 0.2nm,0.7s	60.27	321	P		**P**	**15 52 48.9**	**-2.4**
TORD	**Torodi Ar. Bea** 1.0nm,0.9s,baz=244,slow=5.6,SNR=2.5 1.0nm,0.9s	73.02	70	P		**P**	**15 54 11.3**	**-1.6**
PDAR	**Pinedale Array** 0.2nm,0.5s,baz=122,slow=8.1,SNR=4.7 0.2nm,0.5s	73.31	327	P		**P**	**15 54 14.2**	**-0.1**
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=117,slow=3.9,SNR=3.3 0.2nm,0.6s	89.51	339	P		**P**	**15 55 38.1**	**-1.1**

IDC 01 15:46:12.1±0.9, 4°98S×151°88E, h147km±9km, mb3.2/2, mbtmp3.7/3, Error ellipse: s-maj=24.2km s-min=15.8km az=160.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KRVT	**Keravat (AS076** 71nm,0.3s,baz=191,slow=23,SNR=86	0.68	13	P		Pn	15 46 35.2	+1.1
KRVT	25nm,0.3s,baz=200,slow=3.1,SNR=5.5			S		Sn	15 46 51.6	+0.7
PMG	**Port Moresby** 13nm,1.0s,baz=90,slow=13,SNR=1.7	6.42	226	P		Pn	15 47 46.2	+1.8
PMG	32nm,0.8s,baz=318,slow=12,SNR=4.8			S		Sn	15 48 56.2	-0.5
WRA	**Warramunga Arr** 1.7nm,0.4s,baz=52,slow=9.1,SNR=44 1.7nm,0.4s	22.64	227	P		P	15 51 00.8	-0.2
ASAR	**Alice Springs** 0.4nm,0.6s,baz=52,slow=8.9,SNR=24 0.4nm,0.6s	25.41	221	P		P	15 51 26.2	+0.1
TORD	**Torodi Ar. Bea** 0.3nm,0.3s,baz=98,slow=3.2,SNR=4.4	149.48	287	PKPbc		PKPbc	16 05 44.0	-1.0

*NEIC **01** 15:52:11.3±0.7, 19°40N±0°02×155°078W±0°009, h5km±1km, Error ellipse: s-maj=3.9km s-min=2.1km az=168.0*
HVO 01 15:52:09.9±1.1, 19°34N±0°04×155°02W±0°02, h1km±8km, ML3.5/42, ML3.5/46(NEIC), Error ellipse: s-maj=6.1km s-min=1.2km az=150.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCUZ	**Jacuzzi**	0.09	300			Sg	15 52 14.5	+1.6
JCUZ	**Jacuzzi**	0.09	300	Pg		Pg	15 52 12.4	+0.7
JCUZ	comp=N,10μm,0.3s			IAML			15 52 14.6	
JCUZ	comp=E,18μm,0.4s			IAML			15 52 14.6	
JOKA	**Jonika Flow**	0.10	8			Pg	15 52 14.7	+2.9
NPOC	**North of Pu'u**	0.10	302			Pg	15 52 12.6	+0.8
NPOC	comp=E,26μm,0.3s			IAML			15 52 14.9	
STCH	**Steam Cracks**	0.11	295			Sg	15 52 14.9	+1.5
STCH	**Steam Cracks**	0.11	295	Pg		Pg	15 52 12.8	+0.8
STCH	comp=E,22μm,0.3s			IAML			15 52 15.1	
STCH	comp=N,13μm,0.3s			IAML			15 52 15.5	
KNHH	**Kane Nui o Ham**	0.15	286			Pg	15 52 13.7	+0.9
PHO	**Puu Honuaula**	0.19	41			Pg	15 52 14.3	+0.8
PUH	**Pauahi**	0.19	281			Pg	15 52 14.3	+0.8
PUH	**Pauahi** comp=E,4μm,0.6s	0.19	281	IAML			15 52 17.6	
PUH	comp=N,6μm,0.8s			IAML			15 52 18.1	
BYL	**Byron's Ledge**	0.24	288			Pg	15 52 14.6	+0.1
BYL	comp=N,8μm,0.4s			IAML			15 52 19.9	
BYL	comp=E,7μm,0.3s			IAML			15 52 20.7	
KKO	**Keanakako'i** comp=N,7μm,0.5s	0.24	284			Pg	15 52 14.9	+0.4
KKO				IAML			15 52 20.6	
HATHI	**Halema'uma'u T**	0.24	290			Pg	15 52 14.6	+0.1
HATHI	comp=E,8μm,0.5s			IAML			15 52 22.8	
HATHI	comp=N,9μm,0.4s			IAML			15 52 23.0	
RIM	**Rim**	0.25	283			Pg	15 52 15.0	+0.3
RIM	comp=E,9μm,0.4s			IAML			15 52 22.4	
RIM	comp=N,9μm,0.6s			IAML			15 52 22.6	
SBLHI	**Steaming Bluff**	0.25	291			Pg	15 52 14.9	+0.2
SBLHI	comp=N,7μm,0.3s			IAML			15 52 19.9	
NPH	**North Pit**	0.26	286			Pg	15 52 14.9	+0.1
UWB	**Uwekahuna B**	0.26	289			Pg	15 52 15.0	+0.2
OBL	**Observatory Le**	0.26	287			Pg	15 52 15.2	+0.3
OBL	comp=E,13μm,0.4s			IAML			15 52 21.2	
SDHHI	**Sand Hill**	0.27	281			Pg	15 52 14.9	0.0
SDHHI	comp=N,8μm,0.3s			IAML			15 52 22.7	
SDHHI	comp=E,7μm,0.3s			IAML			15 52 22.7	
UWE	**Uwekahuna**	0.27	288			Pg	15 52 15.3	+0.2
UWE	comp=N,12μm,0.4s			IAML			15 52 21.8	
UWE	comp=E,13μm,0.3s			IAML			15 52 22.0	
RSD	**Rainshed**	0.27	297			Pg	15 52 15.4	+0.3
RSD	**Rainshed**	0.27	297			Sg	15 52 20.6	+1.8
WRMHI	**West Rim**	0.27	284			Pg	15 52 15.5	+0.3
WRMHI	comp=E,10μm,0.4s			IAML			15 52 22.8	
WRMHI	comp=N,7μm,0.7s			IAML			15 52 23.7	
HLP	**Hilina Pali** comp=N,8μm,0.2s	0.28	261			Pg	15 52 15.9	+0.8
HLP	comp=E,8μm,0.2s			IAML			15 52 21.9	
HLP				IAML			15 52 22.1	
MLH	**Mauna Loa** comp=E,7μm,0.4s	0.38	294			Pg	15 52 17.4	+0.3
MLH				IAML			15 52 24.2	
HMH	**Humu'ula Sheep**	0.51	301			Pg	15 52 20.0	+0.3
MLOA	**Mauna Loa Obse**	0.56	291			Pg	15 52 20.6	-0.1
MLOA	comp=N,5μm,0.2s			IAML			15 52 30.4	
MWH	**Moku'aweowe**	0.56	285			Pg	15 52 20.6	-0.2
KHU	**Kahuku**	0.57	261			Pg	15 52 20.5	-0.3
KHU	comp=N,3μm,0.6s			IAML			15 52 31.2	
KHU	comp=E,3μm,0.7s			IAML			15 52 38.0	
POHA	**Pohakuloa**	0.64	311			Pg	15 52 21.4	-0.8
HUH	**Hualalai**	0.84	294			Pg	15 52 24.6	-1.4
HPAH	**Hawaii Prepara**	0.94	317			Pg	15 52 25.2	-2.7
MHA	**Mahukona**	1.19	316			Pg	15 52 29.2	-3.5
HLK	**Haleakala**	1.82	321	Pn		Pn	15 52 37.8	-4.8
KHLH	**Kahului Airpor**	2.04	320	Pn		Pn	15 52 39.7	-5.6
HON	**Honolulu**	3.42	306	Pn		Pn	15 52 59.8	-4.6

*IDC **01** 16:02:32.7±4.9, 4°74S×151°53E, h197km±36km, mb3.1/4, mbtmp3.7/5, Error ellipse: s-maj=126.5km s-min=23.4km az=119.0*
ISC 01 16:02:31.4±2.2, 5°1S±0°5×152°0E±0°6, h200km, n6, σ0s78/7, mb3.4/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby** 11nm,0.9s,baz=17,slow=17,SNR=1.8	6.46	228	P		**Pn**	**16 04 04.0**	**-0.6**
PMG				S		**Sn**	**16 05 18.5**	**+0.1**
WRA	**Warramunga Arr** 0.9nm,0.3s,baz=50,slow=10,SNR=50 0.9nm,0.3s	22.68	228	P		**P**	**16 07 16.8**	**+0.8**
ASAR	**Alice Springs** 0.3nm,0.7s,baz=52,slow=9.2,SNR=16 0.3nm,0.7s	25.42	222	P		**P**	**16 07 41.7**	**+0.9**
PETK	**Petropavlovsk-** 4.9nm,1.2s,baz=159,slow=4.3,SNR=3.0 4.9nm,1.2s	58.18	4	P		**P**	**16 12 04.7**	**+0.4**
ILAR	**Eielson Array** 0.2nm,0.6s,baz=258,slow=4.5,SNR=2.0 0.2nm,0.6s	82.72	22	P		**P**	**16 14 32.0**	**-0.4**
TORD	**Torodi Ar. Bea** 0.2nm,0.6s,baz=84,slow=4.5,SNR=2.0	149.66	287	PKPbc		**PKPbc**	**16 21 57.9**	**-0.5**

*IDC **01** 16:08:23.2±5.3, 17°09S×177°56W, h434km±55km, mb3.2/8, mbtmp3.9/8, Error ellipse: s-maj=29.7km s-min=23.8km az=25.0*
ISC 01 16:08:20.3±0.8, 17°0S±0°1×177°6W±0°2, h403km, n10, σ0s86/12, mb3.6/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island** 400nm,0.3s,baz=342,slow=20,SNR=4.1	12.24	181	P		**P**	**16 11 03.5**	**+1.0**
STKA	**Stephens Creek** 2.9nm,0.7s,baz=95,slow=12,SNR=6.0 2.9nm,0.7s	39.80	240	P		**P**	**16 15 16.8**	**+0.3**
WRA	**Warramunga Arr** 1.5nm,0.5s,baz=95,slow=7.3,SNR=20	45.61	259	P		**P**	**16 16 02.8**	**+0.1**
WRA	0.2nm,0.4s,baz=88,slow=3.2,SNR=1.4 1.5nm,0.5s			PcP		**PcP**	**16 17 32.3**	**-1.0**
ASAR	**Alice Springs** 5.5nm,0.6s,baz=88,slow=8.6,SNR=160	45.83	253	P		**P**	**16 16 04.4**	**-0.1**
ASAR	0.5nm,0.6s,baz=93,slow=3.3,SNR=4.4 5.5nm,0.6s			PcP		**PcP**	**16 17 32.7**	**-1.4**
VNDA	**Vanda** 0.3nm,0.6s,baz=10,slow=4.6,SNR=2.0 0.3nm,0.6s	61.45	185	P		**P**	**16 17 54.8**	**-0.5**
QSPA	**South Pole Qui** 1.4nm,0.8s,baz=4.8,slow=4.1,SNR=7.9 1.4nm,0.8s	73.09	180	P		**P**	**16 19 06.9**	**-0.8**
ILAR	**Eielson Array** 0.4nm,1.0s,baz=194,slow=3.4,SNR=1.9 0.4nm,1.0s	84.79	13	P		**P**	**16 20 09.8**	**-0.3**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=267,slow=5.2,SNR=2.1 0.1nm,0.3s	84.80	57	P		**P**	**16 20 11.5**	**+0.3**
SONM	**Songino Array** 0.2nm,0.3s,baz=98,slow=6.1,SNR=1.4 0.2nm,0.3s	93.37	319	P		**P**	**16 20 51.5**	**+0.6**
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=42,slow=2.3,SNR=2.1	144.68	316	PKP		**PKPab**	**16 27 11.4**	**+1.0**

*IDC **01** 16:12:17.2±5.4, 21°93S×179°42W, h574km±65km, mb3.2/8, mbtmp4.2/10, Error ellipse: s-maj=30.5km s-min=21.9km az=63.0*
*NEIC **01** 16:12:18.8±1.0, 21°9S±0°2×179°4W±0°2, h597km±6km, mb4.3/24, Error ellipse: s-maj=23.4km s-min=21.2km az=122.0*
ISC 01 16:12:18.2±0.7, 22°04S±0°10×179°4W±0°1, h592km, n40, σ1s33/41, mb4.2/20, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	4.90	331	P		**P**	**16 13 49.3**	**-0.7**
MARNC	**Mare, Loyalty**	11.66	270	P		**P**	**16 14 53.1**	**-0.5**
PINNC	**Pines Island,**	12.16	265	P		**P**	**16 14 58.4**	**-0.1**
LIFNC	**LIFOU**	12.48	273	P		**P**	**16 15 01.1**	**-0.7**
DZM	**Mont Dzumac**	13.10	267	P		**P**	**16 15 11.4**	**+3.2**
DZM	**Mont Dzumac** 5.2nm,0.6s,baz=94,slow=18,SNR=7.7	13.10	267	P		**P**	**16 15 07.9**	**-0.4**
URZ	**Urewera** 8.3nm,1.0s,baz=65,slow=19,SNR=2.4	16.43	190	P		**P**	**16 15 38.5**	**-1.2**
URZ	4.5nm,0.7s,baz=308,slow=19,SNR=1.4			S		**S**	**16 18 18.1**	**-5.7**
EIDS	**Eidsvold**	27.17	257	P		**P**	**16 17 16.6**	**+0.5**
ARMA	**Armidale**	27.21	246	P		**P**	**16 17 18.0**	**+1.6**
CAN	**Canberra**	30.55	237	P		**P**	**16 17 46.3**	**+1.2**
CAN	comp=Z,17nm,1.4s			IAmb		IAmb	16 17 58.7	
CTAO	**Charters Tower**	32.04	267	P		**P**	**16 17 58.7**	**+0.7**
CTAO	comp=Z,16nm,1.2s			IAmb		IAmb	16 18 26.9	
TOO	**Toolangi**	33.91	235	P		**P**	**16 18 14.3**	**+0.8**
TOO	comp=Z,12nm,1.4s			IAmb		IAmb	16 18 41.5	
PMG	**Port Moresby** comp=Z,8.7nm,0.7s,baz=120,slow=20,SNR=1.4 comp=Z,8.7nm,0.7s	34.43	286	P		**P**	**16 18 18.1**	**0.0**
STKA	**Stephens Creek**	35.93	246	P		**P**	**16 18 30.9**	**+0.7**
STKA	**Stephens Creek** comp=Z,3.8nm,0.5s,baz=78,slow=12,SNR=9.8 comp=Z,3.8nm,0.5s	35.93	246	P		**P**	**16 18 31.4**	**+1.1**
COEN	**Coen**	36.38	276	P		**P**	**16 18 35.0**	**+0.8**
BBOO	**Buckleboo**	40.67	245	P		**P**	**16 19 08.7**	**+0.1**
AS31	**Alice Springs**	42.88	259	P		**P**	**16 19 26.2**	**+0.1**
ASAR	**Alice Springs**	42.88	259	P		**P**	**16 19 25.8**	**-0.3**
ASAR	**Alice Springs** comp=Z,6.6nm,0.6s,baz=99,slow=8.1,SNR=86 comp=Z,6.6nm,0.6s	42.88	259	P		**P**	**16 19 26.3**	**+0.2**
WR0	**Warramunga Arr**	42.90	264	P		**P**	**16 19 26.1**	**-0.2**
WR0	comp=Z,4.1nm,0.8s			IAmb		IAmb	16 19 26.7	
WB0	**Warramunga Arr**	43.07	264	P		**P**	**16 19 27.2**	**-0.4**
WB0	comp=Z,7.1nm,0.6s			IAmb		IAmb	16 19 27.9	
WB2	**Warramunga Arr**	43.08	264	P		**P**	**16 19 27.4**	**-0.3**
WB2	comp=Z,8.7nm,0.9s			IAmb		IAmb	16 19 28.6	
WRA	**Warramunga Arr** comp=Z,4.3nm,0.5s,baz=98,slow=8.0,SNR=48 comp=Z,4.3nm,0.5s	43.09	264	P		**P**	**16 19 27.3**	**-0.4**
FORT	**Forrest**	47.47	248	P		**P**	**16 20 00.9**	**0.0**
MTN	**Manton Dam**	47.87	272	P		**P**	**16 20 03.5**	**-0.6**
MTN	comp=Z,11nm,1.1s			IAmb		IAmb	16 20 16.0	
FITZ	**Fitzroy Crossi**	51.52	264	P		**P**	**16 20 31.0**	**+0.3**
PSA00	**Pilbara Seismi**	56.03	258	P		**P**	**16 21 01.9**	**-0.5**
PSA00	comp=Z,10nm,1.2s			IAmb		IAmb	16 21 24.4	
MBWA	**Marble Bar**	56.23	259	P		**P**	**16 21 03.4**	**-0.3**
MBWA	comp=Z,19nm,1.4s			IAmb		IAmb	16 21 33.1	
VNDA	**Vanda**	56.26	185	P		**P**	**16 21 05.2**	**+2.2**
VNDA	**Vanda** comp=Z,0.3nm,0.5s,baz=37,slow=5.1,SNR=5.6 comp=Z,0.3nm,0.5s	56.26	185	P		**P**	**16 21 04.9**	**+1.8**
QSPA	**South Pole Qui**	68.03	180	P		**P**	**16 22 20.4**	**+1.0**
QSPA	**South Pole Qui** comp=Z,1.3nm,0.6s,baz=50,slow=7.9,SNR=16 comp=Z,1.3nm,0.6s	68.03	180	P		**P**	**16 22 20.3**	**+0.9**
MAJO	**Matsushiro**	70.68	325	P		**P**	**16 22 33.9**	**-1.5**
MJB9	**Matsu-Tunnel**	70.68	325	P		**P**	**16 22 34.8**	**-0.7**
MJB9	comp=Z,5.7nm,1.3s			IAmb		IAmb	16 23 11.0	
K20K	**Telida**	87.43	11	P		**P**	**16 24 03.0**	**-0.1**
K20K	comp=Z,6.7nm,1.4s			IAmb		IAmb	16 24 06.6	
SCM	**Sheep Creek Mo**	87.45	15	P		**P**	**16 24 03.3**	**-0.1**
SCM	comp=Z,13nm,1.2s			IAmb		IAmb	16 24 04.1	
BCPM	**Bancas Point**	87.92	19	P		**P**	**16 24 05.2**	**-0.3**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.3s,baz=249,slow=4.7,SNR=5.4 comp=Z,0.2nm,0.3s	89.01	58	P		**P**	**16 24 11.6**	**+0.2**
PDAR	**Pinedale Array** comp=Z,0.3nm,0.8s,baz=270,slow=0.3,SNR=2.2 comp=Z,0.3nm,0.8s	91.00	44	P		**P**	**16 24 20.6**	**+0.2**
PRZ	**Przheval'sk**	0.05	272	⇑*e*P		**Pg**	**16 15 11.7**	**+0.4**

*KRNET **01** 16:15:08.9±0.1, 42°42N×78°45E, h20km, mb2.1*
*SOME **01** 16:15:08.4, 42°50N×78°42E, h5km*
*NNC **01** 16:15:08.8±0.8, 42°54N×78°52E, h0km, mb2.9, mpv3.1, Error ellipse: s-maj=6.6km s-min=2.4km az=166.0*
ISC 01 16:15:09.0±0.9, 42°48N±0°03×78°47E±0°02, h10km±6km, n44, σ1s30/84, 9C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PRZ	**Przheval'sk**	0.05	272	⇑*e*P	

	baz=34								
PRZ				⇑*e*S		**Sg**	**16 15 14.0**	**+1.0**
	baz=34								
SATY	**Saty**	**0.58**	**356**	P		**Pg**	**16 15 19.4**	**-0.9**
	3.8nm,0.2s								
SATY				S		**Sg**	**16 15 27.5**	**-0.5**
	51nm,0.2s								
SATY	**Saty**	**0.58**	**356**	*e*P		**Pg**	**16 15 19.4**	**-0.9**
	3.8nm,0.2s								
SATY				*e*S		**Sg**	**16 15 27.5**	**-0.5**
	51nm,0.2s								
ANVS	**Anan'yevo**	**0.66**	**297**	⇓*e*P		**Pb**	**16 15 22.0**	**-0.8**
	baz=3.0								
ANVS				⇓*e*S		**Sb**	**16 15 31.8**	**-0.4**
	baz=3.0								
ZHN	**Zhinishke**	**0.69**	**358**	P		**Pg**	**16 15 21.7**	**-0.7**
	7.1nm,0.1s								
ZHN				S		**Sg**	**16 15 31.1**	**-0.3**
	58nm,0.2s								
ZHN	**Zhinishke**	**0.69**	**358**	*e*P		**Pg**	**16 15 21.7**	**-0.7**
	7.1nm,0.1s								
ZHN				*e*S		**Sg**	**16 15 31.1**	**-0.3**
	58nm,0.2s								
UZB	**Uzynbulak**	**0.78**	**31**	P		**Pg**	**16 15 22.7**	**-1.5**
	1.6nm,0.1s								
UZB				S		**Sg**	**16 15 33.0**	**-1.4**
	30nm,0.1s								
UZB	**Uzynbulak**	**0.78**	**31**	*e*P		**Pg**	**16 15 22.7**	**-1.5**
	1.6nm,0.1s								
UZB				*e*S		**Sg**	**16 15 33.0**	**-1.4**
	30nm,0.1s								
TARG	**Taragay, Kyrgy**	**0.90**	**213**	⇓*i*P		**Pg**	**16 15 25.0**	**-1.4**
	baz=15								
TARG				⇓*i*S		**Sg**	**16 15 36.5**	**-1.7**
	baz=15								
SHLS	**Shalkode**	**1.00**	**47**	P		**Pn**	**16 15 31.2**	**+2.0**
	3.2nm,0.1s								
SHLS				S		**Sn**	**16 15 47.7**	**+4.4**
	13nm,0.1s								
SHLS	**Shalkode**	**1.00**	**47**	*e*P		**Pn**	**16 15 31.2**	**+2.0**
	3.2nm,0.1s								
SHLS				*e*S		**Sn**	**16 15 47.7**	**+4.4**
	13nm,0.1s								
KDJ	**Kajisay**	**1.02**	**250**	⇓*e*P		**Pg**	**16 15 27.3**	**-1.3**
	baz=53								
KDJ				⇓*e*S		**Sg**	**16 15 40.5**	**-1.4**
	baz=53								
PDGK	**Podgornoye**	**1.13**	**41**	P		**Pg**	**16 15 28.8**	**-2.0**
	0.4nm,0.1s								
PDGK				S		**Sg**	**16 15 43.3**	**-2.3**
	3.3nm,0.2s								
PDGK	**Podgornoye**	**1.13**	**41**	⇓P		**Pg**	**16 15 29.4**	**-1.4**
	0.3nm,0.3s								
PDGK				⇓S		**Sg**	**16 15 43.3**	**-2.3**
	1.9nm,0.8s								
MDOK	**Medeo**	**1.25**	**304**	⇓P		**Pg**	**16 15 31.7**	**-1.3**
	6.4nm,0.4s								
MDOK				Pg		**Pg**	**16 15 31.7**	**-1.3**
	12nm,0.3s								
MDOK				⇑S		**Sb**	**16 15 48.6**	**-0.3**
	5.3nm,0.8s								
MDOK				Lg		Lg	16 15 48.6	
	7.9nm,0.3s								
MDOK	**Medeo**	**1.25**	**304**	*e*P		**Pg**	**16 15 31.7**	**-1.3**
	12nm,0.3s								
MDOK				*e*S		**Sb**	**16 15 48.6**	**-0.3**
	7.9nm,0.3s								
KOTS	**Kotyrbulak**	**1.25**	**307**	P		**Pg**	**16 15 31.8**	**-1.2**
	21nm,0.2s								
KOTS				S		**Sg**	**16 15 48.4**	**-0.9**
	7.2nm,0.3s								
KOTS	**Kotyrbulak**	**1.25**	**307**	*e*P		**Pg**	**16 15 31.8**	**-1.2**
	21nm,0.2s								
KOTS				*e*S		**Sb**	**16 15 48.7**	**-0.3**
	7.2nm,0.3s								
TNSS	**Tian-Shan**	**1.25**	**297**	P		**Pg**	**16 15 31.8**	**-1.3**
	10nm,0.2s								
TNSS				S		**Sg**	**16 15 48.6**	**-0.7**
	7.4nm,0.2s								
TNSS	**Tian-Shan**	**1.25**	**297**	*e*P		**Pg**	**16 15 31.8**	**-1.3**
	10nm,0.2s								
TNSS				*e*S		**Sg**	**16 15 48.6**	**-0.7**
	7.4nm,0.2s								
IZV	**Izvestkoviy**	**1.47**	**293**	P		**Pg**	**16 15 38.9**	**+1.5**
	3.2nm,0.2s								
IZV				S		**Sg**	**16 15 59.0**	**+2.5**
	20nm,0.2s								
IZV	**Izvestkoviy**	**1.47**	**293**	*e*P		**Pn**	**16 15 35.8**	**0.0**
	0.6nm,0.1s								
IZV				*e*S		**Sn**	**16 15 55.4**	**+0.2**
	20nm,0.2s								
BLB	**Baldybastay**	**1.61**	**0**	P		**Pn**	**16 15 38.2**	**+0.5**
	18nm,0.2s								
BLB				S		**Sb**	**16 15 59.6**	**+0.1**
	33nm,0.3s								
MTBS	**Maitube**	**1.63**	**294**	P		**Pb**	**16 15 38.7**	**-0.6**
	3.6nm,0.2s								
MTBS				S		**Sg**	**16 16 00.3**	**-1.3**
	9.5nm,0.2s								
MTBS	**Maitube**	**1.63**	**294**	*e*P		**Pb**	**16 15 38.7**	**-0.6**
	3.6nm,0.2s								
MTBS				*e*S		**Sg**	**16 16 00.3**	**-1.3**
	9.5nm,0.2s								
ULHL	**Ulahol**	**1.67**	**263**	⇑*i*P		**Pn**	**16 15 39.0**	**+0.5**
	baz=65								
ULHL				⇑*i*S		**Sb**	**16 16 01.1**	**+0.1**
	baz=65								
CHKK	**Chushkaly**	**1.75**	**322**	P		**Pb**	**16 15 40.8**	**-0.5**
	20nm,0.3s								
CHKK				S		**Sg**	**16 16 04.5**	**-0.7**
	23nm,0.3s								
CHKK	**Chushkaly**	**1.75**	**322**	*e*P		**Pb**	**16 15 40.7**	**-0.5**
	20nm,0.3s								
CHKK				*e*S		**Sg**	**16 16 03.9**	**-1.3**
	23nm,0.3s								
ARXS	**Arharly**	**1.79**	**345**	P		**Pb**	**16 15 41.4**	**-0.6**
	5.8nm,0.2s								
ARXS				S		**Sg**	**16 16 05.5**	**-1.2**
	22nm,0.4s								
ARXS	**Arharly**	**1.79**	**345**	*e*P		**Pb**	**16 15 41.4**	**-0.6**
	5.8nm,0.2s								
ARXS				*e*S		**Sg**	**16 16 05.5**	**-1.2**
	22nm,0.4s								
KTBS	**Karatobe**	**1.79**	**314**	P		**Pb**	**16 15 41.6**	**-0.4**
	15nm,0.2s								
KTBS				S		**Sg**	**16 16 05.6**	**-1.2**
	10nm,0.4s								
KTBS	**Karatobe**	**1.79**	**314**	*e*P		**Pb**	**16 15 41.6**	**-0.4**
	15nm,0.2s								
KTBS				*e*S		**Sg**	**16 16 05.6**	**-1.2**
	10nm,0.4s								
BOOM	**Boomskoye usch**	**1.87**	**271**	⇓*i*P		**Pb**	**16 15 42.6**	**-0.8**
	baz=73								
BOOM				⇓*i*S		**Sb**	**16 16 07.1**	**+0.2**
	baz=73								
KST	**Kastek**	**1.93**	**288**	Pg		**Pb**	**16 15 43.7**	**-0.6**
	4.4nm,0.2s								
KST				Lg		Lg	16 16 09.1	
	7.2nm,0.4s								
KST	**Kastek**	**1.93**	**288**	*e*P		**Pb**	**16 15 43.8**	**-0.6**
	4.4nm,0.2s								
KST				*e*S		**Sb**	**16 16 09.1**	**+0.6**
	7.2nm,0.4s								
KNOS	**Konyrlen**	**1.95**	**15**	Pg		**Pb**	**16 15 43.8**	**-0.8**
	1.2nm,0.1s								
KNOS				Lg		Lg	16 16 09.2	
	13nm,0.2s								
DJR	**Jarkent**	**2.09**	**27**	Pg		**Pb**	**16 15 45.9**	**-1.1**
	1.2nm,0.1s								
DJR				Lg		Lg	16 16 13.0	
	13nm,0.2s								
DJR	**Jarkent**	**2.09**	**27**	*e*P		**Pb**	**16 15 45.9**	**-1.1**
	1.2nm,0.1s								
DJR				*e*S		**Sb**	**16 16 13.0**	**0.0**
	13nm,0.2s								
DGS	**Degeres**	**2.12**	**292**	Pg		**Pb**	**16 15 47.2**	**-0.5**
	2.1nm,0.2s								
DGS				Lg		Lg	16 16 15.0	
	6.9nm,0.2s								
DGS	**Degeres**	**2.12**	**292**	*e*P		**Pb**	**16 15 47.2**	**-0.5**
	2.1nm,0.2s								
DGS				*e*S		**Sb**	**16 16 15.0**	**+0.9**
	6.9nm,0.2s								
TKM2	**Tokmak 2**	**2.16**	**283**	⇑Pn		**Pb**	**16 15 47.7**	**-0.7**
	0.7nm,0.4s								
TKM2				⇑Sn		**Sg**	**16 16 17.0**	**-1.5**
	2.2nm,0.5s								
TKM2	**Tokmak 2**	**2.16**	**283**	⇑*i*P		**Pn**	**16 15 46.8**	**+1.5**
	baz=84								
TKM2				⇑*i*S		**Sb**	**16 16 14.7**	**-0.6**
	baz=84								
KRBS	**Karabastau**	**2.38**	**302**	Pg		**Pb**	**16 15 51.0**	**-1.0**
	2.3nm,0.3s								
KRBS				Lg		Lg	16 16 21.6	
	14nm,0.3s								
KRBS	**Karabastau**	**2.38**	**302**	*e*P		**Pb**	**16 15 51.0**	**-1.0**
	2.3nm,0.3s								
KRBS				*e*S		**Sb**	**16 16 21.6**	**+0.2**
	14nm,0.3s								

*IDC **01** 16:15:31.1±4.4, 18°.83S×177°.58W, h514km±48km, mb3.3/11, mbtmp4.1/12, Error ellipse: s-maj=23.8km s-min=16.0km az=72.0*
*NEIC **01** 16:15:35.8±1.1, 18°.8S±0°.1×177°.7W±0°.1, h567km±8km, mb4.2/61, Error ellipse: s-maj=20.0km s-min=15.6km az=163.0*
ISC 01 16:15:35.7±0.4, **18°.85S**±0°.09×**177°.65W**±0°.08, **h570**km, **n104**, σ0°**76**/105, **mb4.2**/42, **1D**, **Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.24**	**285**	P	**P**	**16 17 01.5**	**+0.7**
NIUE	**Niue**	**7.31**	**93**	P	**P**	**16 17 27.9**	**+0.5**
AFI	**Afiamalu**	**7.48**	**50**	P	**P**	**16 17 26.2**	**-2.9**
PINNC	**Pines Island,**	**14.44**	**252**	P	**P**	**16 18 38.6**	**-0.6**
DZM	**Mont Dzumac**	**15.25**	**255**	P	**P**	**16 18 48.9**	**+1.6**
URZ	**Urewera**	**19.87**	**192**	P	**P**	**16 19 27.3**	**-2.1**
	3.4nm,0.3s,baz=13,slow=3.9,SNR=9.7						
WHZ	**Wether Hill Ro**	**29.48**	**201**	P	**P**	**16 20 54.3**	**-0.1**
WHZ				IAmb	IAmb	16 21 12.1	
	comp=Z,7.0nm,0.8s						
EIDS	**Eidsvold**	**29.64**	**252**	P	**P**	**16 20 55.3**	**-0.7**
ARMA	**Armidale**	**30.11**	**242**	P	**P**	**16 21 00.7**	**+0.5**
CTAO	**Charters Tower**	**34.02**	**262**	P	**P**	**16 21 33.2**	**-0.1**
TOO	**Toolangi**	**37.15**	**232**	P	**P**	**16 21 59.3**	**+0.3**
TOO				IAmb	IAmb	16 22 27.4	
	comp=Z,16nm,1.5s						
COEN	**Coen**	**37.84**	**271**	P	**P**	**16 22 05.6**	**+0.7**
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**16 22 13.2**	**+0.6**
STKA	**Stephens Creek**	**38.82**	**242**	P	**P**	**16 22 12.9**	**+0.3**
	comp=Z,3.5nm,0.5s,baz=86,slow=11,SNR=9.3						
	comp=Z,3.5nm,0.5s						
BBOO	**Buckleboo**	**43.59**	**242**	P	**P**	**16 22 50.1**	**-0.2**
PTCN	**Pitcairn Islan**	**44.36**	**107**	P	**P**	**16 22 56.3**	**0.0**
WR0	**Warramunga Arr**	**44.99**	**260**	P	**P**	**16 23 00.5**	**-0.8**
WR0				IAmb	IAmb	16 23 32.0	
	comp=Z,7.1nm,1.1s						
WB0	**Warramunga Arr**	**45.15**	**261**	P	**P**	**16 23 01.8**	**-0.7**
WB2	**Warramunga Arr**	**45.17**	**260**	P	**P**	**16 23 02.0**	**-0.6**
WB2				IAmb	IAmb	16 23 02.7	
	comp=Z,6.5nm,0.6s						
WRAB	**Tennant Creek**	**45.17**	**260**	P	**P**	**16 23 01.7**	**-0.9**
WRAB				IAmb	IAmb	16 23 02.6	
	comp=Z,5.9nm,0.7s						
WRA	**Warramunga Arr**	**45.18**	**260**	P	**P**	**16 23 01.9**	**-0.8**
	comp=Z,5.7nm,0.6s,baz=96,slow=8.4,SNR=55						
WRA				PcP	**PcP**	**16 24 31.3**	**+0.5**
	comp=Z,0.5nm,0.7s,baz=91,slow=3.7,SNR=4.8						
	comp=Z,5.7nm,0.6s						
AS31	**Alice Springs**	**45.24**	**255**	P	**P**	**16 23 02.9**	**-0.3**
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**16 23 02.5**	**-0.7**
ASAR	**Alice Springs**	**45.24**	**255**	P	**P**	**16 23 02.8**	**-0.3**
	comp=Z,7.2nm,0.5s,baz=88,slow=7.9,SNR=75						
ASAR				PcP	**PcP**	**16 24 30.8**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=102,slow=4.3,SNR=6.6						
	comp=Z,7.2nm,0.5s						
FORT	**Forrest**	**50.27**	**245**	P	**P**	**16 23 40.0**	**-0.5**
PSA00	**Pilbara Seismi**	**58.38**	**256**	P	**P**	**16 24 37.0**	**-0.5**
MBWA	**Marble Bar**	**58.55**	**256**	P	**P**	**16 24 38.1**	**-0.6**
VNDA	**Vanda**	**59.57**	**185**	P	**P**	**16 24 45.3**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=17,slow=9.9,SNR=1.7						
	comp=Z,0.3nm,0.4s						
MJAR	**Matsushiro Arr**	**69.09**	**323**	P	**P**	**16 25 45.6**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=158,slow=6.0,SNR=8.5						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**71.21**	**180**	P	**P**	**16 25 57.9**	**+0.4**
QSPA	**South Pole Qui**	**71.21**	**180**	P	**P**	**16 25 57.8**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=9.2,slow=0.7,SNR=14						
	comp=Z,1.0nm,0.6s						
SSLB	**Suanglung**	**73.35**	**303**	P	**P**	**16 26 09.5**	**-1.0**
SSLB				IAmb	IAmb	16 26 10.2	
	comp=Z,8.2nm,1.2s						
TPUB	**Ta-pu**	**73.37**	**302**	P	**P**	**16 26 09.7**	**-0.9**
TPUB				IAmb	IAmb	16 26 10.5	
	comp=Z,9.1nm,0.7s						
PEA0B	**Petropavlovsk-**	**74.77**	**345**	P	**P**	**16 26 18.2**	**+0.4**
PEA0B				IAmb	IAmb	16 26 19.0	
	comp=Z,14nm,1.1s						
PETK	**Petropavlovsk-**	**74.77**	**345**	P	**P**	**16 26 17.5**	**-0.3**
	comp=Z,2.3nm,0.6s,baz=116,slow=9.8,SNR=17						
	comp=Z,2.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**77.80**	**325**	P	**P**	**16 26 36.1**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=154,slow=3.6,SNR=5.8						
	comp=Z,0.7nm,0.6s						
M16K	**Timber Creek**	**81.01**	**9**	P	**P**	**16 26 52.5**	**+1.4**
L16K	**Owhat River**	**81.59**	**9**	P	**P**	**16 26 55.0**	**+0.9**
L16K				IAmb	IAmb	16 27 03.3	
	comp=Z,12nm,1.4s						
M17K	**Holitna River**	**81.60**	**10**	P	**P**	**16 26 55.4**	**+1.3**
K15K	**Wolf Creek Mou**	**81.88**	**8**	P	**P**	**16 26 56.8**	**+1.2**
L18K	**Granite Mounta**	**82.50**	**10**	P	**P**	**16 26 59.8**	**+1.1**
L18K				IAmb	IAmb	16 27 00.5	
	comp=Z,8.9nm,1.2s						
M19K	**Big River Lodg**	**82.59**	**11**	P	**P**	**16 26 59.6**	**+0.4**
M19K				IAmb	IAmb	16 27 06.3	
	comp=Z,9.3nm,1.4s						
K17K	**Iditarod**	**82.72**	**9**	P	**P**	**16 27 00.8**	**+1.0**
K17K				IAmb	IAmb	16 27 16.0	
	comp=Z,13nm,1.4s						
SUA	**Susitna One**	**82.89**	**13**	P	**P**	**16 27 01.2**	**+0.4**
J16K	**Anvik River**	**82.95**	**8**	P	**P**	**16 27 01.9**	**+1.0**
J16K				IAmb	IAmb	16 27 38.6	
	comp=Z,8.5nm,1.1s						
TTA	**Tatalina**	**83.27**	**10**	P	**P**	**16 27 03.2**	**+0.6**
GHO	**Glory Hole Cre**	**83.55**	**13**	P	**P**	**16 27 04.2**	**+0.1**
GHO				IAmb	IAmb	16 27 05.2	
	comp=Z,6.3nm,0.8s						
J18K	**Innoko River**	**83.67**	**9**	P	**P**	**16 27 05.4**	**+0.9**
J18K				IAmb	IAmb	16 27 49.1	
	comp=Z,7.3nm,1.2s						
SCM	**Sheep Creek Mo**	**83.96**	**14**	P	**P**	**16 27 06.2**	**+0.2**
SCM				IAmb	IAmb	16 27 07.0	
	comp=Z,6.9nm,0.8s						
K20K	**Telida**	**84.00**	**10**	P	**P**	**16 27 06.9**	**+0.7**
K20K				IAmb	IAmb	16 27 26.6	
	comp=Z,9.4nm,1.4s						
CAST	**Castle Rocks**	**84.41**	**11**	P	**P**	**16 27 07.4**	**-0.7**
N25K	**Chitina, Valde**	**84.42**	**15**	P	**P**	**16 27 08.7**	**+0.3**
N25K				IAmb	IAmb	16 27 31.3	
	comp=Z,13nm,1.5s						
GLB	**Gilahina Butte**	**84.47**	**16**	P	**P**	**16 27 08.9**	**+0.3**
GLB				IAmb	IAmb	16 27 41.9	
	comp=Z,8.7nm,1.4s						
J20K	**Nowinta River**	**84.74**	**10**	P	**P**	**16 27 10.4**	**+0.6**
TRF	**Thorofare Moun**	**84.78**	**12**	P	**P**	**16 27 10.2**	**+0.1**
TRF				IAmb	IAmb	16 27 10.4	
	comp=Z,4.1nm,0.8s						
RND	**Reindeer**	**85.03**	**13**	P	**P**	**16 27 11.7**	**+0.5**
RND				IAmb	IAmb	16 27 12.1	
	comp=Z,4.7nm,0.8s						
ENH	**Enshi**	**85.40**	**304**	P	**P**	**16 27 14.5**	**+0.8**
ENH				IAmb	IAmb	16 27 15.7	
	comp=Z,4.9nm,0.9s						
M27K	**Edge Creek, AK**	**85.74**	**16**	P	**P**	**16 27 15.6**	**+0.9**
M27K				IAmb	IAmb	16 27 38.2	
	comp=Z,6.2nm,1.4s						
TXAR	**Lajitas Array**	**85.89**	**57**	P	**P**	**16 27 18.1**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=216,slow=4.5,SNR=3.1						
	comp=Z,0.1nm,0.5s						
MLY	**Manley**	**86.12**	**11**	P	**P**	**16 27 16.0**	**-0.4**
WRH	**Wood River Hil**	**86.13**	**12**	P	**P**	**16 27 15.8**	**-0.6**
WRH				IAmb	IAmb	16 27 18.0	
	comp=Z,7.5nm,1.4s						
CCB	**Clear Creek Bu**	**86.34**	**12**	P	**P**	**16 27 17.0**	**-0.4**
CCB				IAmb	IAmb	16 27 17.6	
	comp=Z,6.4nm,1.4s						
I23K	**Minto, Yukon-K**	**86.48**	**12**	P	**P**	**16 27 17.5**	**-0.5**
ILAR	**Eielson Array**	**86.64**	**13**	P	**P**	**16 27 19.1**	**+0.3**
ILAR	**Eielson Array**	**86.64**	**13**	P	**P**	**16 27 18.4**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=222,slow=4.7,SNR=9.5						
	comp=Z,0.5nm,0.5s						
F19K	**Shaleruckik Mo**	**86.71**	**8**	P	**P**	**16 27 19.4**	**+0.4**
J25K	**Salcha River,**	**86.83**	**13**	P	**P**	**16 27 20.0**	**+0.2**
G21K	**Allakaket**	**87.02**	**9**	P	**P**	**16 27 20.8**	**+0.3**
J26L	**Joseph Creek**	**87.14**	**14**	P	**P**	**16 27 22.1**	**+0.9**
J26L				IAmb	IAmb	16 27 27.4	
	comp=Z,4.8nm,1.4s						
E19K	**Redstone River**	**87.37**	**8**	P	**P**	**16 27 22.4**	**+0.2**
E19K				IAmb	IAmb	16 27 48.1	
	comp=Z,3.8nm,1.1s						
I26K	**Coal Creek Min**	**87.91**	**14**	P	**P**	**16 27 25.4**	**+0.6**
SDCO	**Great Sand Dun**	**88.03**	**49**	P	**P**	**16 27 26.2**	**-0.1**
K29M	**Barlow Dome**	**88.11**	**17**	P	**P**	**16 27 26.3**	**+0.5**
ELIB	**Princess Elisa**	**88.31**	**186**	*d*P	**P**	**16 27 26.3**	**-0.6**
	comp=Z,3.1nm,0.3s						
E22K	**Anaktuvuk Pass**	**88.77**	**9**	P	**P**	**16 27 29.2**	**+0.5**
E22K				IAmb	IAmb	16 27 29.9	
	comp=Z,4.2nm,1.1s						
F24K	**Squaw Lake**	**88.87**	**11**	P	**P**	**16 27 29.9**	**+0.7**
F24K				IAmb	IAmb	16 27 50.1	
	comp=Z,4.3nm,1.5s						
D22K	**Ayikyak River**	**89.32**	**9**	P	**P**	**16 27 31.9**	**+0.7**
D22K				IAmb	IAmb	16 28 04.9	
	comp=Z,5.8nm,1.4s						
BMAR	**Burnt Mountain**	**89.42**	**12**	P	**P**	**16 27 32.6**	**+0.9**
I30M	**Mount Dempster**	**89.50**	**16**	P	**P**	**16 27 33.0**	**+0.6**
H29M	**Whitestone**	**89.79**	**15**	P	**P**	**16 27 34.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**89.88**	**289**	P	**P**	**16 27 36.5**	**+1.5**
	comp=Z,1.0nm,0.9s,baz=101,slow=2.8,SNR=6.4						
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**127.37**	**350**	PKP	**PKPdf**	**16 33 35.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=0.0,slow=1.9,SNR=7.7						
NOA	**NORSAR Array B**	**137.39**	**354**	PKP	**PKiKP**	**16 33 56.3**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=6.3,slow=4.0,SNR=1.6						
EKA	**Eskdalemuir Ar**	**143.34**	**5**	PKhKP	PKPpre	16 34 03.1	
	comp=Z,1.2nm,0.5s,baz=328,slow=2.9,SNR=4.7						
BR131	**Keskin Array S**	**145.96**	**314**	PKPbc	**PKPbc**	**16 34 12.0**	**-0.5**
BRTR	**Keskin Array B**	**145.96**	**314**	PKPbc	**PKPbc**	**16 34 12.5**	**0.0**
	comp=Z,1.3nm,0.7s,baz=89,slow=0.9,SNR=8.6						
MMAI	**Mount Meron Ar**	**147.26**	**302**	PKPbc	**PKiKP**	**16 34 17.1**	**-0.7**
	comp=Z,1.1nm,0.4s,baz=66,slow=4.9,SNR=4.2						
GERES	**GERESS Array B**	**148.70**	**346**	PKPbc	**PKPbc**	**16 34 19.7**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=21,slow=3.6,SNR=6.4						
CONA	**Conrad Observa**	**148.98**	**342**	*i* PKP	**PKiKP**	**16 34 20.6**	**-0.3**
	comp=Z,2.5nm,0.7s						
RONA	**Rosalia, Austr**	**149.06**	**342**	*e*PKP	**PKiKP**	**16 34 20.7**	**-0.3**
	comp=Z,3.9nm,0.7s						
MOA	**Molln**	**149.49**	**344**	*e*PKP	**PKPbc**	**16 34 21.3**	**+0.1**
	comp=Z,1.5nm,0.7s						
BIOA	**Bad Ischl, Aus**	**149.79**	**345**	*e*PKP	**PKiKP**	**16 34 22.5**	**0.0**
	comp=Z,2.8nm,0.9s						
LESA	**Schwarzleotal**	**150.28**	**346**	*e*PKP	**PKPbc**	**16 34 23.3**	**+0.2**
	comp=Z,2.3nm,0.5s						
KBA	**Koelnbreinsper**	**150.44**	**345**	*i* PKP	**PKPbc**	**16 34 23.8**	**+0.2**
	comp=Z,2.2nm,0.5s						
WATA	**Walderalm**	**150.60**	**347**	*e*PKP	**PKPbc**	**16 34 23.7**	**-0.3**
	comp=Z,2.3nm,0.5s						
WTTA	**Wattenberg**	**150.66**	**347**	*e*PKP	**PKPbc**	**16 34 24.1**	**0.0**
	comp=Z,5.2nm,0.5s						
MOTA	**Moosalm**	**150.69**	**348**	*e*PKP	**PKPbc**	**16 34 23.9**	**-0.3**
	comp=Z,1.0nm,0.4s						
MYKA	**Terra Mystica**	**150.78**	**344**	*i* PKP	**PKPbc**	**16 34 23.7**	**-0.5**
	comp=Z,3.0nm,0.5s						
SQTA	**Sankt Quirin**	**150.79**	**348**	*e*PKP	**PKPbc**	**16 34 24.5**	**+0.2**
	comp=Z,2.7nm,0.6s						
ABTA	**Abfaltersbach**	**150.95**	**346**	*e*PKP	**PKPbc**	**16 34 24.3**	**-0.4**
	comp=Z,4.8nm,0.5s						
PRED	**Cave del Predi**	**150.97**	**344**		**PKPab**	**16 34 33.2**	**-1.6**
DAVA	**Damuels**	**150.98**	**349**	*e*PKP	**PKiKP**	**16 34 25.5**	**+0.4**
	comp=Z,12nm,1.6s						
FETA	**Feichten**	**151.08**	**348**	*i* PKP	**PKPbc**	**16 34 25.1**	**+0.1**
	comp=Z,1.3nm,0.5s						
FUORN	**Ofenpass-Fuorn**	**151.55**	**349**		**PKPbc**	**16 34 26.2**	**0.0**

*IDC **01** 16:21:32.0±2.1, 7°.34S×128°.54E, h142km±18km, mb3.8/14, mbtmp4.2/15, Error ellipse: s-maj=20.2km s-min=11.3km az=82.0*
*DJA **01** 16:21:33.5±0.2, 7°.5±3°×12°.9E±°, h160km±5km, M4.7/21, mB5.2/9, mb4.6/21, MLv4.8/13, Mw(mB)4.5/9*
*NEIC **01** 16:21:33.5±1.0, 7°.39S±0°.08×128°.51E±0°.07, h151km±7km, mb4.5/43, Error ellipse: s-maj=11.4km s-min=9.8km az=159.0*
ISC 01 16:21:32.8±0.3, **7°.45S**±0°.05×**128°.55E**±0°.05, **h151**km, **n128**, σ1°**52**/138, **mb4.4**/38, **1D**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.78**	**101**	P	**Pn**	**16 22 19.5**	**+2.0**
SAUI	**Saumlaki**	**2.78**	**101**	Pn	**Pn**	**16 22 18.9**	**+1.4**
SAUI	**Saumlaki**	**2.78**	**101**	P	**Pn**	**16 22 19.3**	**+1.8**
BNDI	**Bandanaira**	**3.20**	**25**	P	**Pn**	**16 22 24.4**	**+1.5**
BNDI	**Bandanaira**	**3.20**	**25**	P	**Pn**	**16 22

PMG				S		**S**	**16 29 00.8**	**-0.4**
	comp=Z,12nm,0.9s,baz=250,slow=15,SNR=2.0							
SBUM	**Sibu**	**19.03**	**301**	P		**P**	**16 25 43.2**	**-0.2**
SBUM				IAmb		IAmb	16 25 47.6	
	comp=Z,22nm,1.5s							
KSM	**Kuching**	**20.24**	**295**	P		**P**	**16 25 56.4**	**0.0**
GIRL	**Giralia**	**20.45**	**221**	P		**P**	**16 25 59.9**	**+1.3**
GIRL	**Giralia**	**20.45**	**221**	P		**P**	**16 25 59.2**	**+0.6**
MEEK	**Meekatharra**	**21.30**	**205**	P		**P**	**16 26 08.6**	**+0.9**
OOD	**Oodnadatta**	**21.34**	**162**	P		**P**	**16 26 11.0**	**+2.9**
FORT	**Forrest**	**23.22**	**181**	P		**P**	**16 26 29.3**	**+2.8**
FORT	**Forrest**	**23.22**	**181**	P		**P**	**16 26 27.8**	**+1.3**
QLP	**Quilpie**	**24.18**	**144**	P		**P**	**16 26 39.2**	**+3.8**
MORW	**Morawa**	**24.53**	**207**	P		**P**	**16 26 40.9**	**+2.4**
MORW	**Morawa**	**24.53**	**207**	P		**P**	**16 26 39.1**	**+0.6**
MORW				IAmb		IAmb	16 27 11.3	
	comp=Z,25nm,1.3s							
LCRK	**Leigh Creek**	**24.61**	**160**	P		**P**	**16 26 41.8**	**+2.6**
BLDU	**Ballidu**	**25.58**	**204**	P		**P**	**16 26 50.1**	**+2.1**
BBOO	**Buckleboo**	**26.18**	**166**	P		**P**	**16 26 55.1**	**+1.7**
BBOO	**Buckleboo**	**26.18**	**166**	P		**P**	**16 26 54.0**	**+0.6**
BBOO				IAmb		IAmb	16 27 30.7	
	comp=Z,10nm,1.0s							
MYKOM	**Kota Tinggi**	**26.29**	**289**	P		**P**	**16 26 54.8**	**+0.2**
MYKOM				IAmb		IAmb	16 26 57.5	
	comp=Z,18nm,1.3s							
STKA	**Stephens Creek**	**27.18**	**155**	P		**P**	**16 27 02.6**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=330,slow=14,SNR=3.1							
	comp=Z,1.0nm,0.4s							
NWAO	**Narrogin (SRO)**	**27.44**	**201**	P		**P**	**16 27 05.3**	**+0.6**
HTT	**Hallett**	**27.59**	**161**	P		**P**	**16 27 09.0**	**+3.0**
KULM	**Kulim**	**30.57**	**294**	P		**P**	**16 27 32.3**	**-0.3**
KULM				IAmb		IAmb	16 27 32.8	
	comp=Z,4.9nm,0.7s							
HNR	**Honiara**	**31.12**	**96**	P		**P**	**16 27 37.4**	**0.0**
QIZ	**Qiongzhong**	**32.12**	**325**	P		**P**	**16 27 45.1**	**-1.0**
QIZ				IAmb		IAmb	16 28 23.8	
	comp=Z,8.8nm,1.2s							
UBPT	**Khong Chiam**	**32.14**	**315**	P		**P**	**16 27 46.0**	**-0.3**
UBPT				IAmb		IAmb	16 27 47.2	
	comp=Z,8.4nm,0.7s							
SLVN	**Son La**	**37.46**	**320**	P		**P**	**16 28 30.7**	**-1.3**
PHRA	**Phrae**	**38.01**	**313**	P		**P**	**16 28 35.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**38.93**	**312**	P		**P**	**16 28 43.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**38.93**	**312**	P		**P**	**16 28 44.1**	**-0.2**
	comp=Z,2.8nm,0.9s,baz=137,slow=7.9,SNR=4.8							
	comp=Z,2.8nm,0.9s							
CRAI	**Chiangrai**	**39.04**	**315**	P		**P**	**16 28 45.1**	**-0.1**
CRAI				IAmb		IAmb	16 28 46.3	
	comp=Z,7.1nm,0.9s							
NJ2	**Nanjing**	**40.35**	**347**	*e*P		**P**	**16 28 57.4**	**+1.6**
NJ2				pP		**pP**	**16 29 28.4**	**+1.0**
NJ2				sP		**sP**	**16 29 51.0**	**+7.1**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,91nm,4.7s							
PZH	**PanZhiHua**	**42.61**	**323**	P		**P**	**16 29 13.2**	**-1.2**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,4.3s							
KSRS	**Korea Array**	**44.67**	**359**	P		**P**	**16 29 30.2**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=181,slow=11,SNR=2.4							
	comp=Z,0.5nm,0.6s							
MJAR	**Matsushiro Arr**	**44.69**	**11**	P		**P**	**16 29 29.0**	**-1.7**
	comp=Z,0.7nm,0.5s,baz=194,slow=8.8,SNR=8.0							
	comp=Z,0.7nm,0.5s							
HNS	**HongShan**	**46.45**	**345**	∥P		**P**	**16 29 44.0**	**-0.6**
HNS				pmax		pmax		
	comp=Z,10.0nm,0.6s							
SHL	**Shillong**	**48.45**	**314**	P		**P**	**16 29 59.9**	**-0.6**
SHL				IAmb		IAmb	16 30 02.5	
	comp=Z,12nm,0.9s							
LZH	**Lanzhou**	**49.14**	**333**	*e*P		**P**	**16 30 02.0**	**-3.5**
LZH				pmax		pmax		
	comp=Z,18nm,1.3s							
HHC	**Hu-ho-hao-te**	**50.53**	**343**	*e*P		**P**	**16 30 16.4**	**+0.5**
HHC				pmax		pmax		
	comp=Z,21nm,0.8s							
HHC				pmax		pmax		
	comp=Z,81nm,6.2s							
USRK	**Ussuriysk Ar.**	**51.50**	**3**	P		**P**	**16 30 22.1**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=188,slow=7.6,SNR=10							
	comp=Z,0.9nm,0.5s							
XLT	**XiLinHaoTe**	**52.34**	**349**	*e*P		**P**	**16 30 29.0**	**-0.2**
XLT				pP		pwP	16 31 06.3	-2.3
XLT				PcP		PcP	16 31 48.2	+10
XLT				pmax		pmax		
	comp=Z,9.0nm,0.9s							
XLT				pmax		pmax		
	comp=Z,81nm,5.4s							
XLT				LR		LR		
	comp=N,22nm,17.9s							
XLT				LR		LR		
	comp=E,460nm,17.4s							
XLT				LR		LR		
	comp=Z,270nm,19.6s							
JKA	**Kamikawa-asahi**	**52.87**	**13**	P		**P**	**16 30 32.9**	**-0.1**
JKA				IAmb		IAmb	16 31 14.7	
	comp=Z,13nm,1.5s							
GTA	**Gaotai**	**53.68**	**332**	*e*P		**P**	**16 30 39.6**	**+0.4**
GTA				pmax		pmax		
	comp=Z,9.0nm,0.8s							
SONM	**Songino Array**	**58.42**	**343**	P		**P**	**16 31 13.6**	**+0.9**
	comp=Z,4.4nm,0.9s,baz=162,slow=7.1,SNR=20							
SONM				PcP		**PcP**	**16 32 00.8**	**-1.1**
	comp=Z,0.6nm,0.8s,baz=147,slow=6.2,SNR=1.5							
	comp=Z,4.4nm,0.9s							
PETK	**Petropavlovsk-**	**65.20**	**19**	P		**P**	**16 31 57.5**	**-0.3**
	comp=Z,4.5nm,0.8s,baz=188,slow=3.9,SNR=12							
PETK				PcP		**PcP**	**16 32 27.5**	**-1.5**
	comp=Z,0.6nm,0.6s,baz=213,slow=2.6,SNR=5.7							
	comp=Z,4.5nm,0.8s							
MK31	**Makanchi Array**	**67.82**	**328**	P		**P**	**16 32 14.2**	**-0.5**
MK31				IAmb		IAmb	16 32 15.6	
	comp=Z,5.4nm,0.9s							
MKAR	**Makanchi Array**	**67.82**	**328**	P		**P**	**16 32 14.2**	**-0.4**
MKAR	**Makanchi Array**	**67.82**	**328**	P		**P**	**16 32 14.4**	**-0.2**
	comp=Z,4.1nm,0.9s,baz=126,slow=7.9,SNR=20							
MKAR				PcP		**PcP**	**16 32 39.3**	**-0.9**
	comp=Z,1.2nm,0.5s,baz=120,slow=6.9,SNR=4.9							
	comp=Z,4.1nm,0.9s							
MAKZ	**Makanchi**	**67.99**	**327**	P		**P**	**16 32 15.0**	**-0.7**
AAK	**Ala-Archa**	**69.96**	**321**	P		**P**	**16 32 28.2**	**+0.1**
AAK				IAmb		IAmb	16 32 29.6	
	comp=Z,3.7nm,0.9s							
ARSB	**Arslanbob**	**70.26**	**319**	P		**P**	**16 32 30.0**	**0.0**
ZALV	**Zalesovo Beam**	**71.35**	**334**	P		**P**	**16 32 35.0**	**-1.0**
	comp=Z,2.8nm,0.5s,baz=141,slow=4.5,SNR=13							
	comp=Z,2.8nm,0.5s							
KURBB	**Kurchatov Arra**	**72.14**	**329**	P		**P**	**16 32 40.6**	**-0.3**
	comp=Z,6.1nm,0.7s,baz=125,slow=5.0,SNR=60							
	comp=Z,6.1nm,0.7s							
KURK	**Kurchatov**	**72.15**	**329**	P		**P**	**16 32 40.5**	**-0.4**
KURK				IAmb		IAmb	16 32 42.4	
	comp=Z,13nm,1.2s							
VNDA	**Vanda**	**72.19**	**173**	P		**P**	**16 32 41.2**	**+0.5**
VNDA	**Vanda**	**72.19**	**173**	P		**P**	**16 32 41.9**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=320,slow=8.8,SNR=5.8							
	comp=Z,0.4nm,0.5s							
KK31	**Karatay Array**	**72.73**	**319**	P		**P**	**16 32 44.2**	**-0.3**
KKAR	**Karatay Array**	**72.73**	**319**	P		**P**	**16 32 44.1**	**-0.5**
SBA	**Scott Base**	**73.09**	**172**	P		**P**	**16 32 47.1**	**+1.1**
UOSS	**Minazif**	**77.34**	**298**	P		**P**	**16 33 11.0**	**-0.4**
UOSS				IAmb		IAmb	16 33 23.1	
	comp=Z,6.7nm,1.1s							
BVAR	**Borovoye Array**	**77.68**	**328**	P		**P**	**16 33 12.2**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=124,slow=7.7,SNR=11							
	comp=Z,1.3nm,0.5s							
BRVK	**Borovoye**	**77.75**	**328**	P		**P**	**16 33 12.2**	**-0.8**
TIXI	**Tiksi**	**78.93**	**0**	P		**P**	**16 33 18.2**	**-0.9**
WRMHI	**West Rim**	**79.54**	**69**	P		**P**	**16 33 23.6**	**-0.1**
VOI	**Vohitsoka**	**79.64**	**249**	P		**P**	**16 33 24.1**	**-0.1**
VOI				IAmb		IAmb	16 33 25.1	
	comp=Z,17nm,1.2s							
ABKAR	**Akbulak array**	**81.96**	**322**	P		**P**	**16 33 34.9**	**-0.8**
QSPA	**South Pole Qui**	**82.53**	**180**	P		**P**	**16 33 39.1**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=270,slow=4.0,SNR=28							
	comp=Z,1.2nm,0.5s							
K13K	**Kusilvak Mount**	**85.91**	**26**	P		**P**	**16 33 55.3**	**-0.2**
K13K				IAmb		IAmb	16 34 08.5	
	comp=Z,16nm,1.4s							
RAYN	**Ar Rayn**	**86.61**	**294**	P		**P**	**16 33 59.5**	**-0.3**
RAYN				IAmb		IAmb	16 34 01.4	
	comp=Z,2.1nm,0.5s							

L16K	**Owhat River**	**88.11**	**27**	P		**P**	**16 34 06.3**	**+0.3**
L18K	**Granite Mounta**	**89.52**	**27**	P		**P**	**16 34 13.1**	**+0.4**
TTA	**Tatalina**	**90.03**	**26**	P		**P**	**16 34 15.1**	**-0.1**
TTA				IAmb		IAmb	16 34 22.4	
	comp=Z,5.8nm,1.5s							
ILAR	**Eielson Array**	**94.36**	**25**	P		**P**	**16 34 33.1**	**-1.9**
	comp=Z,0.4nm,0.8s,baz=243,slow=4.0,SNR=3.5							
	comp=Z,0.4nm,0.8s							
YKA	**Yellowknife Ar**	**108.78**	**26**	PKiKP		**PKiKP**	**16 39 43.7**	**0.0**
	comp=Z,0.1nm,0.5s,baz=304,slow=2.3,SNR=4.5							
PDAR	**Pinedale Array**	**118.23**	**45**	PKP		**PKPdf**	**16 40 02.0**	**-0.7**
	comp=Z,0.3nm,0.6s,baz=261,slow=3.6,SNR=2.4							
TXAR	**Lajitas Array**	**126.39**	**59**	PKP		**PKiKP**	**16 40 19.7**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=256,slow=3.6,SNR=4.3							
TORD	**Torodi Ar. Bea**	**127.48**	**281**	PKP		**PKPdf**	**16 40 20.8**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=49,slow=3.0,SNR=5.8							
SCHQ	**Schefferville**	**131.16**	**12**	PKP		**PKiKP**	**16 40 27.7**	**-0.1**
	comp=Z,1.7nm,0.8s,baz=344,slow=15,SNR=1.9							
SCHQ				SKPbc		**SKPbc**	**16 43 37.2**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=325,slow=4.7,SNR=7.2							
DBIC	**Dimbokro**	**133.76**	**272**	PKP		**PKiKP**	**16 40 33.8**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=111,slow=8.6,SNR=3.4							
CPUP	**Villa Florida**	**145.94**	**171**	PKPbc		**PKPbc**	**16 40 55.6**	**+0.1**
	comp=Z,3.1nm,0.9s,baz=185,slow=3.7,SNR=5.0							
LPAZ	**La Paz**	**151.22**	**145**	PKPbc		**PKiKP**	**16 41 11.0**	**+0.3**
	comp=Z,1.9nm,0.8s,baz=238,slow=12,SNR=7.0							
LPAZ				PKPab		**PKPab**	**16 41 19.1**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=240,slow=13,SNR=8.1							

*IDC **01** 16:26:12.9±1.0, 27.7°16S×67.7°19E, h0km, mb3.8/10, mbtmp3.8/10, Error ellipse: s-maj=38.1km s-min=22.2km az=82.0*

ISC 01 16:26:14.8±0.9, 27°2S±0.2×67°3E±0.3, h10km, n20, σ0.9s96/11, mb3.9/10, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**20.05**	**15**	T		T	T	16 51 40.2	
	baz=195,slow=76,SNR=7.3								
H08S2	**Diego Garcia H**	**20.05**	**15**	T		T	T	16 51 23.9	
	baz=195,slow=76,SNR=7.1								
H08S3	**Diego Garcia H**	**20.07**	**15**	T		T	T	16 51 35.2	
	baz=195,slow=76,SNR=5.5								
H04N2	**CROZET ISLANDS**	**22.57**	**209**	T		T	T	16 54 31.4	
	baz=38,slow=73,SNR=126								
H04N1	**CROZET ISLANDS**	**22.58**	**209**	T		T	T	16 54 38.2	
	baz=38,slow=73,SNR=70								
H04N3	**CROZET ISLANDS**	**22.59**	**209**	T		T	T	16 54 35.1	
	baz=38,slow=73,SNR=134								
H01W2	**Cape Leeuwin H**	**40.59**	**113**	T		T	T	17 17 10.4	
	baz=268								
H01W3	**Cape Leeuwin H**	**40.60**	**113**	T		T	T	17 17 22.7	
	baz=268								
H01W1	**Cape Leeuwin H**	**40.61**	**113**	T		T	T	17 17 17.4	
	baz=268								
CMAR	**Chiang Mai Arr**	**54.79**	**38**	P		P	**P**	**16 35 45.4**	**+0.4**
	1.2nm,0.7s,baz=222,slow=8.0,SNR=10								
	1.2nm,0.7s								
ASAR	**Alice Springs**	**59.66**	**103**	P		P	**P**	**16 36 19.7**	**+0.1**
	0.9nm,0.9s,baz=251,slow=6.5,SNR=4.3								
	0.9nm,0.9s								
WRA	**Warramunga Arr**	**61.28**	**99**	P		P	**P**	**16 36 31.1**	**+0.4**
	1.1nm,0.9s,baz=250,slow=6.3,SNR=5.7								
	1.1nm,0.9s								
QSPA	**South Pole Qui**	**62.96**	**180**	P		P	**P**	**16 36 41.3**	**-0.1**
	2.7nm,1.0s,baz=225,slow=4.3,SNR=5.1								
	2.7nm,1.0s								
VNDA	**Vanda**	**64.66**	**166**	P		P	**P**	**16 36 52.3**	**0.0**
	0.7nm,0.9s,baz=279,slow=10,SNR=4.4								
	0.7nm,0.9s								
BRTR	**Keskin Array B**	**73.57**	**334**	P		P	**P**	**16 37 49.5**	**+1.4**
	0.5nm,0.9s,baz=188,slow=4.4,SNR=2.5								
	0.5nm,0.9s								
KURBB	**Kurchatov Arra**	**78.10**	**7**	P		P	**P**	**16 38 12.2**	**-1.3**
	0.1nm,0.3s,baz=216,slow=6.3,SNR=2.5								
	0.1nm,0.3s								
BVAR	**Borovoye Array**	**79.91**	**2**	P		P	**P**	**16 38 22.5**	**-0.9**
	0.2nm,0.4s,baz=197,slow=4.4,SNR=1.9								
	0.2nm,0.4s								
ZALV	**Zalesovo Beam**	**82.21**	**10**	P		P	**P**	**16 38 34.6**	**-1.1**
	0.4nm,0.3s,baz=193,slow=12,SNR=1.5								
	0.4nm,0.3s								
SONM	**Songino Array**	**82.54**	**25**	P		P	**P**	**16 38 38.2**	**+0.4**
	0.2nm,0.4s,baz=186,slow=6.7,SNR=1.6								
	0.2nm,0.4s								
YKA	**Yellowknife Ar**	**144.67**	**1**	PKP		**PKPab**	**PKPab**	**16 45 48.5**	**-1.2**
	0.8nm,0.6s,baz=346,slow=4.3,SNR=20								

*IDC **01** 16:28:52.0±3.3, 28.7°79N×97.7°85W, h0km, mb3.2/1, mbtmp3.3/3, ML4.0/2, MS2.9/8, Error ellipse: s-maj=45.6km s-min=22.1km az=160.0*

*NEIC **01** 16:28:54, 28.7°97N×98.1°01W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr0.30; Mθθ-0.95; Mφφ0.65; Mrθ0.34; Mrφ0.29; Mθφ0.46; Fault plane solution: Mo1.06000×10^15^ NP1:φ8±320.00000°, δ56.00000°, λ162.00000°. NP2:φ8±60.00000°, δ75.00000°, λ35.00000°. Principal axes: T 1.0598, Plg35.0000°, Azm285.0000°; N -0.0004, Plg52.0000°, Azm80.0000°; P -1.0595, Plg12.0000°, Azm186.0000°;*

*NEIC **01** 16:28:56.1±1.3, 28.7°95N±0.7°05×98.0°00W±0.7°04, h5km±2km, mb_Lg3.4/78, ML3.5/6, Mwr4.0/15(SLM) Error ellipse: s-maj=9.1km s-min=3.2km az=31.0*

ISC 01 16:28:55.4±1.0, 28.7°94N±0.7°05×98.0°02W±0.7°04, h13km±9km, n71, σ1.8s04/44, Southern Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
735A	**Kenedy**	**0.20**	**114**			**Pg**		**16 29 00.1**	**+0.2**
735A				Sg		**Sg**		**16 29 02.5**	**-0.4**
735A				IAML				16 29 06.2	
	comp=N,9μm,1.3s								
735A				IAML				16 29 06.3	
	comp=E,12μm,1.5s								
EF01	**Eagle Ford 01**	**0.37**	**301**			**Pg**		**16 29 03.5**	**+0.6**
EF01				IAML				16 29 12.1	
	comp=E,5μm,0.4s								
MLDN	**Muldoon**	**1.18**	**44**	Pg		**Pb**		**16 29 17.2**	**-0.5**
MLDN				IAML				16 29 36.6	
	comp=E,763nm,1.1s								
HNDO	**Hondo**	**1.25**	**298**			**Pn**		**16 29 18.5**	**-0.2**
833A	**Chaparral WMA,**	**1.36**	**244**			**Pg**		**16 29 21.2**	**-0.3**
833A				IAmb_Lg				16 29 42.9	
	comp=Z,306nm,1.0s								
KVTX	**Kingsville**	**1.39**	**175**			**Pb**		**16 29 22.8**	**+1.5**
KVTX				IAmb_Lg				16 29 42.6	
	comp=Z,344nm,1.0s								
435B	**Jarrell**	**1.88**	**11**	Pn		**Pn**		**16 29 27.0**	**-0.2**
HBVL	**Hebbronville**	**1.95**	**197**	Pn		**Pb**		**16 29 29.1**	**-1.8**
JCT	**Junction City**	**2.19**	**315**			**Pn**		**16 29 32.6**	**+1.1**
JCT				IAmb_Lg				16 30 03.9	
	comp=Z,311nm,0.8s								
DRIO	**Del Rio**	**2.33**	**283**			**Pn**		**16 29 34.4**	**+1.0**
DRIO				IAmb_Lg				16 30 13.5	
	comp=Z,140nm,0.8s								
BRDY	**Brady**	**2.49**	**340**	Pn		**Pn**		**16 29 36.7**	**+1.0**
BRDY				IAmb_Lg				16 30 21.7	
	comp=Z,190nm,1.0s								
WHTX	**Lake Whitney,**	**3.08**	**9**			**Pn**		**16 29 44.6**	**+0.8**
OZNA	**Ozona**	**3.35**	**307**			**Pn**		**16 29 47.3**	**-0.2**
FW13	**Cleburne**	**3.44**	**8**			**Pn**		**16 29 49.3**	**+0.6**
FW14	**Alvarado**	**3.52**	**11**	IAmb_Lg				16 30 51.0	
	comp=Z,117nm,1.2s								
FW16	**Waxahatchie**	**3.66**	**15**	Pn		**Pn**		**16 29 51.6**	**-0.2**
FW16				IAmb_Lg				16 30 58.4	
	comp=Z,112nm,1.1s								
SAND	**Sanderson**	**3.72**	**287**	Pn		**Pn**		**16 29 53.3**	**+0.7**
SAND				IAmb_Lg				16 31 04.5	
	comp=Z,118nm,0.9s								
FW07	**Weatherford**	**3.76**	**3**	Pn		**Pn**		**16 29 54.6**	**+1.5**
FW07				IAmb_Lg				16 31 04.5	
	comp=Z,73nm,0.9s								
PLPT	**Palo Pinto**	**3.87**	**356**			**Pn**		**16 29 55.9**	**+1.2**
PLPT				IAmb_Lg				16 31 03.4	
	comp=Z,88nm,0.9s								
ABTX	**Abilene, Hawle**	**3.93**	**340**			**Pn**		**16 29 57.0**	**+1.4**
ABTX				IAmb_Lg				16 31 03.3	
	comp=Z,104nm,0.8s								
SGCY	**Sterling City**	**4.00**	**319**			**Pn**		**16 29 57.8**	**+1.3**
FW06	**Azle**	**4.04**	**5**	Pn		**Pn**		**16 29 58.6**	**+1.6**
FW03	**Perrin-Whitt E**	**4.09**	**359**			**Pn**		**16 29 58.9**	**+1.2**
FW03				IAmb_Lg				16 31 13.2	
	comp=Z,100nm,1.1s								
Z35A	**Perchaven, San**	**4.43**	**8**	Pn		**Pn**		**16 30 03.6**	**+1.3**
Z35A				IAmb_Lg				16 31 29.1	
	comp=Z,96nm,1.1s								
SN05	**Snyder 5**	**4.64**	**329**	IAmb_Lg				16 31 36.3	
	comp=Z,131nm,0.9s								
APMT	**Aspermont**	**4.73**	**338**	IAmb_Lg				16 31 30.8	
	comp=Z,105nm,1.0s								
MNHN	**Monahans**	**4.76**	**301**			**Pn**		**16 30 07.7**	**+0.8**
SN07	**Snyder 07**	**4.82**	**330**			**Pn**		**16 30 08.2**	**+0.5**
WTFS	**Wichita Falls**	**4.83**	**356**			**Pn**		**16 30 08.9**	**+1.1**
TXAR	**Lajitas Array**	**4.96**	**276**	Pn		**Pn**		**16 30 11.1**	**+1.3**
	comp=Z,1.1nm,0.3s,baz=98,slow=13,SNR=28								
TXAR				Lg		Lg		16 31 31.0	
	comp=Z,2.4nm,0.3s,baz=99,slow=22,SNR=2.2								
	comp=Z,2.9nm,0.3s								
TX31	**Lajitas Ar. Si**	**4.96**	**276**			**Pn**		**16 30 10.7**	**+1.0**
ODSA	**Odessa**	**5.04**	**310**			**Pn**		**16 30 11.2**	**+0.5**
ODSA				IAmb_Lg				16 31 34.4	
	comp=Z,68nm,1.0s								
POST	**Post**	**5.09**	**325**	IAmb_Lg				16 31 42.8	
	comp=Z,100nm,0.8s								
LOOK	**Love County**	**5.09**	**8**			**Pn**		**16 30 12.3**	**+0.9**
ALPN	**Alpine**	**5.10**	**288**	Pn		**Pn**		**16 30 12.5**	**+0.9**
DKNS	**Dickens**	**5.33**	**333**	Pn		**Pn**		**16 30 15.8**	**+1.0**
PECS	**Pecos**	**5.62**	**297**	Pn		**Pn**		**16 30 19.1**	**+0.3**
WMOK	**Wichita Mounta**	**5.82**	**354**			**Pn**		**16 30 22.2**	**+0.7**
WMOK				IAmb_Lg				16 32 02.0	
	comp=Z,40nm,0.7s								
X37A	**Clayton**	**6.07**	**21**			**Pn**		**16 30 24.1**	**-0.8**
FNO	**Franklin**	**6.32**	**5**	IAmb_Lg				16 32 32.9	
	comp=Z,37nm,0.7s								
VHRN	**Van Horn**	**6.33**	**289**	IAmb_Lg				16 32 23.7	
	comp=Z,71nm,1.0s								
SMWD	**Samnorwood**	**6.43**	**343**			**Pn**		**16 30 28.7**	**-1.2**
AMTX	**Amarillo**	**6.70**	**333**			**Pn**		**16 30 30.9**	**-2.6**
MIAR	**Mount Ida**	**6.75**	**33**	Pn		**Pn**		**16 30 34.2**	**0.0**
OK029	**Liberty Lake**	**6.86**	**4**	IAmb_Lg				16 32 38.6	
	comp=Z,36nm,1.0s								
HPIG		**7.05**	**255**	IAmb_Lg				16 32 53.1	
	comp=Z,44nm,0.9s								
OK052	**Battle Ridge R**	**7.11**	**8**	IAmb_Lg				16 32 39.9	
	comp=Z,33nm,1.1s								
ELIS	**Ellis County**	**7.21**	**351**	IAmb_Lg				16 32 55.5	
	comp=Z,40nm,0.7s								
U32A	**Winter Ranch,**	**7.47**	**354**	IAmb_Lg				16 33 12.0	
	comp=Z,48nm,1.0s								
OK048	**Pawnee Station**	**7.51**	**7**	IAmb_Lg				16 32 59.2	
	comp=Z,26nm,0.9s								
OK038	**West end E0370**	**7.54**	**356**	IAmb_Lg				16 33 06.9	
	comp=Z,59nm,1.1s								
CROK	**Carrier**	**7.55**	**0**	IAmb_Lg				16 32 57.6	
	comp=Z,26nm,0.9s								
OK051	**E0350 and S346**	**7.61**	**7**	IAmb_Lg				16 33 08.1	
	comp=Z,63nm,0.9s								
OK035	**E0210 Rd and N**	**7.77**	**356**	IAmb_Lg				16 33 24.9	
	comp=Z,35nm,0.9s								
EPT	**El Paso**	**7.86**	**293**	IAmb_Lg				16 33 15.0	
	comp=Z,38nm,1.2s								
WHAR	**Wooly Hollow**	**7.98**	**36**	Pn		**Pn**		**16 30 51.0**	**-0.1**
RTBA	**Rita Blanca**	**8.47**	**333**	Pn		**Pn**		**16 30 57.4**	**-0.5**
121A	**Cookes Peak, D**	**9.14**	**296**	IAmb_Lg				16 34 11.7	
	comp=Z,31nm,0.9s								
ANMO	**Albuquerque**	**9.34**	**312**	IAmb_Lg				16 33 56.2	
	comp=Z,45nm,1.1s								
ANMO	**Albuquerque**	**9.34**	**312**	LR		LR		16 35 06.1	
	comp=Z,119nm,21.8s,baz=241,slow=39								
R32A	**Long Quarter,**	**9.48**	**357**	IAmb_Lg				16 34 09.9	
	comp=Z,48nm,1.3s								
T25A	**Trinidad**	**9.78**	**328**	Pn		**Pn**		**16 31 15.2**	**-0.8**
CBKS	**Cedar Bluff**	**9.96**	**352**	IAmb_Lg				16 34 17.2	
	comp=Z,41nm,1.2s								
CMIG	**Matias Romero**	**12.14**	**166**	LR		LR

comp=Z,64nm,1.0s,comp=Z,903nmcomp=Z,2µm
SANI Sanana 11.17 279 P **Pn** **16 36 05.0 +0.1**
SANI Sanana 11.17 279 P **Pn** **16 36 03.5 -1.4**
comp=Z,273nm,0.8s,comp=Z,3µmcomp=Z,2µm
PMG Port Moresby 11.47 119 Pn **Pn** **16 36 09.3 +0.2**
comp=Z,6.5nm,0.3s,baz=299,slow=7.6,SNR=20
PMG Sn **Sn** **16 38 15.8 -0.8**
comp=Z,1.9nm,0.3s,baz=288,slow=20,SNR=1.2
PMG LR LR 16 42 30.6
comp=Z,5µm,19.6s,baz=314,slow=47
comp=Z,87nm,0.9s
COEN Coen 11.72 149 P **Pn** **16 36 12.4 -0.1**
baz=12,SNR=56
COEN Coen 11.72 149 P **Pn** **16 36 12.4 -0.1**
COEN Coen 11.72 149 Pn **Pn** **16 36 12.1 -0.4**
SGSI Sangihe 13.72 303 P **Pn** **16 36 40.6 +0.8**
comp=Z,103nm,0.4s,comp=Z,4µmcomp=Z,4µm
KMSI Cibinong 13.76 288 P **Pn** **16 36 40.6 +0.3**
comp=Z,693nm,0.8s,comp=Z,5µmcomp=Z,2µm
KAVG Kavieng 13.82 85 P **Pn** **16 36 42.5 +1.3**
SOEI Soe 13.95 245 P **Pn** **16 36 45.3 +2.2**
SOEI Soe 13.95 245 Pn **Pn** **16 36 42.8 -0.3**
SOEI Soe 13.95 245 P **Pn** **16 36 42.9 -0.2**
comp=Z,400nm,1.0s,comp=Z,3µm
KNRA Kununurra 14.28 214 P **Pn** **16 36 45.5 -2.0**
baz=14,SNR=19
KNRA P **Pn** **16 36 45.5 -2.0**
baz=14,SNR=19
KNRA Kununurra 14.28 214 P **Pn** **16 36 47.2 -0.2**
KNRA Kununurra 14.28 214 Pn **Pn** **16 36 45.3 -2.1**
BBSI Bau Bau 14.49 263 P **Pn** **16 36 52.9 +2.5**
comp=Z,164nm,1.1s,comp=Z,2µm
LUWI Luwuk 14.51 281 P **Pn** **16 36 52.3 +1.7**
LUWI Luwuk 14.51 281 Pn **Pn** **16 36 49.7 -0.9**
LUWI Luwuk 14.51 281 P **Pn** **16 36 50.4 -0.2**
comp=Z,209nm,1.4s,comp=Z,3µm
BATI Baumata 14.68 244 Pn **Pn** **16 36 51.0 -1.9**
comp=Z,48nm,0.5s,baz=101,slow=5.2,SNR=16
BATI Sn **Sn** **16 39 34.6 -0.2**
comp=Z,1.6nm,0.3s,baz=63,slow=16,SNR=1.7
BATI Baumata 14.68 244 P **Pn** **16 36 52.7 -0.2**
comp=Z,427nm,0.9s,comp=Z,3µm
GTOI Gorontalo 14.70 287 P **Pn** **16 36 55.0 +1.8**
comp=Z,98nm,1.0s,comp=Z,1µm
KRVT Keravat (AS076 14.97 92 Pn **Pn** **16 36 57.2 +0.3**
comp=Z,0.3nm,0.3s,baz=323,slow=20,SNR=18
comp=Z,24nm,1.1s
MMRI Maumere 15.44 251 P **Pn** **16 37 04.2 +1.2**
MMRI Maumere 15.44 251 Pn **Pn** **16 37 03.5 +0.4**
MMRI Maumere 15.44 251 P **Pn** **16 37 05.3 +2.3**
comp=Z,120nm,1.1s,comp=Z,1µm
MRSI Marisa 15.68 286 P **Pn** **16 37 05.5 -0.6**
comp=Z,158nm,0.8s,comp=Z,1µm
MTSU Mount Surprise 15.88 154 P **Pn** **16 37 08.6 -0.1**
baz=16,SNR=29
MTSU Mount Surprise 15.88 154 P **Pn** **16 37 08.8 +0.1**
EDFI Ende, Flores 15.99 252 P **Pn** **16 37 10.4 +0.1**
comp=Z,82nm,1.0s,comp=Z,793nm
WRAB Tennant Creek 16.18 189 *i* P **Pn** **16 37 08.4 -4.2**
WRA Warramunga Arr 16.20 189 Pn **Pn** **16 37 09.3 -3.5**
comp=Z,1.2nm,0.3s,baz=11,slow=13,SNR=35
WRA Sn **Sn** **16 40 04.1 -7.7**
comp=Z,2.3nm,0.3s,baz=11,slow=22,SNR=4.8
WRA Lg Lg 16 41 57.1
comp=Z,2.7nm,0.3s,baz=11,slow=29,SNR=4.8
WRA LR LR 16 44 06.5
comp=Z,3µm,18.1s,baz=10.0,slow=40
WRA Warramunga Arr 16.20 189 *i* P **Pn** **16 37 08.6 -4.2**
WRA pmax pmax
comp=Z,3.0nm,0.3s
QIS Mount Isa 16.79 172 P **Pn** **16 37 16.6 -3.6**
baz=17,SNR=30
BKSI Bulukumba 16.91 264 P **Pn** **16 37 21.7 -0.1**
comp=Z,52nm,1.0s,comp=Z,654nm
TOLI2 Tolitoli 16.97 287 P **P** **16 37 24.8 +0.5**
TOLI2 Tolitoli 16.97 287 **Pn** **16 37 23.7 +1.1**
TTSI Tana Toraja 17.19 272 P **P** **16 37 27.1 +0.3**
comp=Z,59nm,1.0s,comp=Z,1µm
KAPI Kappang 17.26 266 **Pn** **16 37 26.2 0.0**
KAPI Kappang 17.26 266 *i* P **Pn** **16 37 26.0 -0.2**
KAPI pmax pmax
comp=Z,60nm,1.6s
MPSI Mapaga 17.61 283 P **Pn** **16 37 31.0 +0.4**
comp=Z,105nm,1.7s,comp=Z,3µmcomp=Z,2µm
TV1H Townsville Har 18.04 149 P **P** **16 37 37.0 +0.9**
CTAO Charters Tower 18.47 152 P **Pn** **16 37 42.5 +1.4**
CTAO Charters Tower 18.47 152 P **Pn** **16 37 42.0 +0.9**
CTAO Charters Tower 18.47 152 P **Pn** **16 37 42.0 +0.9**
CTAO pmax pmax
comp=Z,84nm,1.0s
AUAYR Ayr State High 18.62 148 P **Pn** **16 37 44.6 +1.7**
GUMO Guam 19.01 24 LR LR 16 44 54.2
comp=Z,1µm,20.1s,baz=203,slow=36
AS31 Alice Springs 19.92 188 P **Pn** **16 37 57.9 -0.6**
ASAR Alice Springs 19.92 188 P **P** **16 37 57.7 +0.9**
comp=Z,44nm,0.8s,baz=14,slow=9.1,SNR=275
ASAR S **S** **16 41 40.0 +0.2**
comp=Z,18nm,0.7s,baz=5.7,slow=29,SNR=4.9
ASAR Lg Lg 16 43 52.8
baz=52,slow=36
ASAR LR LR 16 46 13.5
comp=Z,2µm,18.2s,baz=16,slow=39
SMKI Samarinda 20.09 279 P Pn 16 38 01.5 +1.0
comp=Z,269nm,0.9s,comp=Z,4µmcomp=Z,3µm
BKB Balikpapan 20.27 277 P Pn 16 38 03.4 +0.7
BKB Balikpapan 20.27 277 Pn Pn 16 38 02.1 -0.6
BKB IAmb IAmb 16 38 16.5
comp=Z,191nm,1.0s
BKB Balikpapan 20.27 277 P Pn 16 38 02.4 -0.3
comp=Z,198nm,1.2s,comp=Z,4µmcomp=Z,3µm
TWSI Taliwang, Sumb 20.59 255 P **P** **16 38 05.1 +1.0**
comp=Z,39nm,0.8s,comp=Z,1µm
SRBI Singaraja 22.09 258 P **P** **16 38 21.4 +1.2**
comp=Z,62nm,1.9s
MTKI Muara Teweh, K 22.29 277 P **P** **16 38 23.2 +0.7**
comp=Z,69nm,1.0s
WRKA Warakurna 22.67 201 P **P** **16 38 25.9 -0.5**
baz=23,SNR=125
WRKA Warakurna 22.67 201 P **P** **16 38 27.8 +1.4**
JAGI Jajag, Banyuwa 23.19 258 P **P** **16 38 34.9 +3.0**
JAGI Jajag, Banyuwa 23.19 258 P **P** **16 38 30.1 -1.7**
JAGI Jajag, Banyuwa 23.19 258 P **P** **16 38 30.3 -1.6**
comp=Z,46nm,1.4s
HNR Honiara 23.42 105 P **P** **16 38 36.0 +1.8**
HNR Honiara 23.42 105 P **P** **16 38 33.2 -1.0**
HNR Honiara 23.42 105 LR LR 16 48 34.6
comp=Z,23µm,20.8s,baz=285,slow=39
HNR Honiara 23.42 105 P **P** **16 38 33.2 -1.0**
HNR pmax pmax
comp=Z,242nm,1.1s
QLP Quilpie 23.62 164 P **P** **16 38 36.6 +0.6**
baz=24,SNR=23
QLP Quilpie 23.62 164 P **P** **16 38 38.5 +2.5**
OOD Oodnadatta 23.83 183 P **P** **16 38 39.6 +1.6**
INKA Innaminka 24.01 172 P **P** **16 38 42.0 +2.4**
MBWA Marble Bar 24.05 223 P **P** **16 38 41.1 +1.1**
MBWA Marble Bar 24.05 223 P **P** **16 38 39.8 -0.2**
MBWA IAmb IAmb 16 38 49.8
comp=Z,97nm,1.0s
PSA00 Pilbara Seismi 24.25 222 P **P** **16 38 42.9 +0.9**
PSA00 Pilbara Seismi 24.25 222 P **P** **16 38 41.3 -0.7**
PSA00 IAmb IAmb 16 39 01.8
comp=Z,114nm,1.2s
EIDS Eidsvold 25.30 149 P **P** **16 38 51.7 +0.3**
baz=25,SNR=4.0
EIDS Eidsvold 25.30 149 P **P** **16 38 53.7 +2.3**
EIDS Eidsvold 25.30 149 P **P** **16 38 50.1 -1.2**
EIDS IAmb IAmb 16 39 09.4
comp=Z,56nm,1.2s
PWJI Pagerwojo 25.41 259 P **P** **16 38 52.7 +0.1**
comp=Z,26nm,1.7s
SBUM Sibu 25.57 284 P **P** **16 38 53.3 -0.7**
STKI Sintang 25.82 278 P **P** **16 38 57.4 +1.1**
MULG Mulgathing 26.43 186 P **P** **16 39 04.0 +2.4**
LCRK Leigh Creek 26.47 178 P **P** **16 39 04.5 +2.6**
KSM Kuching 27.22 281 P **P** **16 39 11.0 +2.1**
KSM Kuching 27.22 281 P **P** **16 39 09.2 +0.3**
AULRC Lightning Ridg 27.47 159 P **P** **16 39 13.4 +2.4**
FORT Forrest 28.08 197 P **P** **16 39 16.9 +0.5**
baz=28,SNR=9.9
FORT Forrest 28.08 197 P **P** **16 39 18.7 +2.3**
FORT Forrest 28.08 197 P **P** **16 39 16.2 -0.2**
KPJI Karang Pucung 28.16 262 P **P** **16 39 18.0 +0.6**
comp=Z,24nm,1.4s
STKA Stephens Creek 28.20 172 P **P** **16 39 18.6 +1.1**
baz=28,SNR=5.1
STKA Stephens Creek 28.20 172 P **P** **16 39 19.5 +2.0**
STKA Stephens Creek 28.20 172 P **P** **16 39 17.7 +0.3**
comp=Z,4.2nm,0.6s,baz=344,slow=11,SNR=11
STKA LR LR 16 51 31.4
comp=Z,1µm,18.1s,baz=347,slow=39
comp=Z,4.2nm,0.6s
CMSA Cobar Meteorol 28.71 164 P **P** **16 39 24.4 +2.4**
GIRL Giralia 28.91 228 P **P** **16 39 24.7 +0.9**
baz=29,SNR=6.4
ARMA Armidale 29.80 154 P **P** **16 39 33.8 +1.9**
ARMA Armidale 29.80 154 P **P** **16 39 32.2 +0.3**
AUPHS Peel High Scho 30.08 156 P **P** **16 39 36.3 +2.1**
KMBL Kambalda 30.85 206 P **P** **16 39 41.4 +0.4**
baz=31,SNR=5.0
KMBL Kambalda 30.85 206 P **P** **16 39 41.4 +0.4**
SSLB Suanglung 31.63 331 P **P** **16 39 48.2 +0.2**
NACB Ninganchiao 31.66 332 P **P** **16 39 48.3 +0.1**
NACB Ninganchiao 31.66 332 IAmb IAmb 16 39 50.7
comp=Z,81nm,1.4s
JOW Kunigami 31.66 345 P **P** **16 39 49.1 +0.9**
JOW Kunigami 31.66 345 P **P** **16 39 48.0 -0.2**
JOW IAmb IAmb 16 39 51.9
comp=Z,60nm,1.1s
YNG Young 32.08 162 P **P** **16 39 53.6 +1.9**
baz=32,SNR=5.8
YNG Young 32.08 162 P **P** **16 39 54.1 +2.3**
YHNB Yeheng 32.18 333 P **P** **16 39 54.4 +1.5**
PMBI Palembang 32.21 271 P **P** **16 39 55.5 +2.3**
DLV T Lat 32.43 299 P **P** **16 39 57.2 +1.9**
DLV T Lat 32.43 299 P **P** **16 39 54.8 -0.5**
KLBR Kellerberrin 33.00 211 P **P** **16 40 00.2 +0.2**
baz=33,SNR=11
KLBR Kellerberrin 33.00 211 P **P** **16 40 00.0 +0.1**
ARPS Mount Arapiles 33.05 173 P **P** **16 40 01.6 +1.4**
CAN Canberra 33.21 162 P P 16 40 08.1 +6.3
CAN pP sP 16 40 16.7 +2.8
CNB Canberra Magne 33.32 161 P **P** **16 40 05.1 +2.4**
QZH Quanzhou 33.77 329 ⇑ *i* P **P** **16 40 08.6 +1.9**
QZH S **S** **16 45 27.7 -1.3**
QZH LR LR
comp=Z,880nm,17.5s
QZH LR LR
comp=Z,480nm,15.1s
QZH LR LR
comp=Z,930nm,20.3s
DZM Mont Dzumac 33.78 125 LR LR 16 53 56.3
comp=Z,1µm,21.9s,baz=334,slow=36
NWAO Narrogin (SRO) 34.33 210 P **P** **16 40 12.0 +0.6**
baz=34,SNR=4.1
NWAO P **P** **16 40 12.0 +0.6**
baz=34,SNR=4.1
NWAO Narrogin (SRO) 34.33 210 LR LR 16 54 46.3
comp=Z,1µm,20.0s,baz=22,slow=37
MILA Mila 34.86 163 P **P** **16 40 16.4 +0.4**
baz=35,SNR=3.5
QIZ Qiongzhong 35.12 311 P **P** **16 40 20.0 +1.6**
QIZ Qiongzhong 35.12 311 P **P** **16 40 18.4 0.0**
QIZ S **S** **16 45 51.3 +1.3**
QIZ pmax pmax
comp=Z,26nm,1.0s
QIZ LR LR
comp=Z,460nm,13.9s
QIZ LR LR
comp=Z,280nm,14.7s
QIZ LR LR
comp=Z,460nm,18.4s
QIZ Qiongzhong 35.12 311 IAmb IAmb 16 40 21.6
comp=Z,24nm,0.9s
BKNI Bangkinang 36.20 276 P **P** **16 40 28.8 +1.0**
UBPT Khong Chiam 36.58 302 P **P** **16 40 32.6 +1.6**
UBPT Khong Chiam 36.58 302 IAmb IAmb 16 40 34.8
comp=Z,64nm,1.6s
JHJ Hachijo jima 2 36.87 4 LR LR 16 53 20.9
comp=Z,650nm,20.0s,baz=184,slow=32
JNU Nakatsue 37.24 351 P **P** **16 40 38.1 +1.7**
JNU Nakatsue 37.24 351 P **P** **16 40 35.3 -1.2**
JNU IAmb IAmb 16 40 37.0
comp=Z,46nm,1.0s
JNU Nakatsue 37.24 351 LR LR 16 54 03.6
comp=Z,552nm,20.1s,baz=168,slow=33
JMN Monobe 37.51 356 P **P** **16 40 40.0 +1.3**
JMN Monobe 37.51 356 P **P** **16 40 37.0 -1.6**
JMN IAmb IAmb 16 40 39.9
comp=Z,30nm,0.9s
SSE Sheshan 37.90 338 P **P** **16 40 42.0 0.0**
SSE S **S** **16 46 32.1 -0.1**
SSE pmax pmax
comp=Z,18nm,1.2s
SSE pmax pmax
comp=Z,67nm,3.7s
SSE LR LR
comp=Z,220nm,21.0s
SSE LR LR
comp=Z,160nm,21.0s
SSE Sheshan 37.90 338 P **P** **16 40 41.8 -0.2**
GULI GuiLin 38.85 320 ⇑ P **P** **16 40 49.9 -0.2**
GULI S **S** **16 46 39.9 -6.8**
GULI pmax pmax
comp=Z,30nm,1.0s
GULI LR LR
comp=Z,330nm,20.6s
GULI LR LR
comp=Z,370nm,17.3s
GULI LR LR
comp=Z,320nm,18.4s
JGF Kuroka 39.26 0 P **P** **16 40 53.8 +0.4**
JGF Kuroka 39.26 0 P **P** **16 40 52.1 -1.3**
SRIT Nakonsritamara 39.31 288 P **P** **16 40 55.9 +1.8**
SRIT Nakonsritamara 39.31 288 IAmb IAmb 16 41 00.5
comp=Z,80nm,1.2s
CNSH ChangSha 39.41 325 ⇑ P **P** **16 40 55.0 +0.3**
CNSH S **S** **16 46 56.6 +1.6**
CNSH pmax pmax
comp=Z,37nm,1.3s
CNSH LR LR
comp=Z,300nm,19.6s
CNSH LR LR
comp=Z,190nm,17.8s
CNSH LR LR
comp=Z,370nm,20.1s
NJ2 Nanjing 39.67 335 *e* P **P** **16 40 59.2 +2.4**
NJ2 S **S** **16 47 01.0 +2.1**
NJ2 pmax pmax
comp=Z,18nm,1.1s
NJ2 pmax pmax
comp=Z,230nm,5.2s
NJ2 LR LR
comp=Z,480nm,20.2s
NJ2 LR LR
comp=Z,450nm,14.1s
NJ2 LR LR
comp=Z,610nm,17.9s
GSI Gunungsitoli 39.76 277 P **P** **16 40 59.8 +1.9**
GSI Gunungsitoli 39.76 277 P **P** **16 40 55.6 -2.3**
NONG Nongkai 39.88 304 P **P** **16 41 00.7 +2.0**
MJAR Matsushiro Arr 40.21 1 P **P** **16 40 58.3 -3.0**
comp=Z,4.2nm,0.9s,baz=178,slow=9.1,SNR=19
comp=Z,4.2nm,0.9s
MAJO Matsushiro 40.21 1 P **P** **16 41 02.9 +1.6**
MAJO Matsushiro 40.21 1 P **P** **16 40 59.8 -1.5**
MAJO Matsushiro 40.21 1 *i* P **P** **16 41 00.0 -1.3**
MAJO pmax pmax
comp=Z,11nm,0.8s
MAJO Matsushiro 40.21 1 P **P** **16 41 00.9 -0.4**
MAJO sP **sP** **16 41 14.4 +1.2**
WHN Wuhan 40.50 329 ⇑ *i* P **P** **16 41 07.1 +3.4**
WHN S **S** **16 47 14.8 +3.6**
WHN pmax pmax
comp=Z,130nm,1.3s
WHN pmax pmax
comp=Z,600nm,2.8s
WHN LR LR
comp=Z,980nm,15.8s
WHN LR LR
comp=Z,1µm,13.6s
WHN LR LR
comp=Z,1µm,18.8s
SLVN Son La 40.98 309 P **P** **16 41 07.2 -0.7**
TJN Taejon 41.04 348 P **P** **16 41 10.0 +2.0**
TJN Taejon 41.04 348 P **P** **16 41 07.5 -0.6**
TJN Taejon 41.04 348 *ce* P **P** **16 41 07.7 -0.3**
JMM Marumori 41.66 4 P **P** **16 41 15.3 +2.1**
JMM Marumori 41.66 4 IAmb IAmb 16 41 18.3
comp=Z,76nm,1.1s
KSAR Wonju Array Be 41.96 349 P **P** **16 41 14.2 -1.4**
KSAR Wonju Array Be 41.96 349 P **P** **16 41 14.2 -1.4**
KSRS Korea Array 41.97 349 P **P** **16 41 14.8 -0.9**
comp=Z,6.3nm,1.1s,baz=169,slow=9.3,SNR=27
KSRS LR LR 16 56 31.1
comp=Z,321nm,21.2s,baz=195,slow=33
comp=Z,6.3nm,1.1s
GYA Guiyang 42.09 317 ⇓ P **P** **16 41 20.6 +3.6**
GYA S **S** **16 47 36.7 +1.4**
GYA SS **SS** **16 50 43.4 +0.1**
GYA pmax pmax
comp=Z,25nm,0.9s
GYA pmax pmax
comp=Z,150nm,8.8s
GYA LR LR
comp=Z,370nm,17.1s
GYA LR LR
comp=Z,280nm,17.6s
GYA LR LR
comp=Z,390nm,17.0s
PHRA Phrae 42.51 303 P **P** **16 41 19.5 -1.0**
ENH Enshi 42.96 324 P **P** **16 41 26.5 +2.6**
ENH Enshi 42.96 324 IAmb IAmb 16 41 27.7
comp=Z,34nm,0.9s
ENH Enshi 42.96 324 P **P** **16 41 24.0 +0.1**
ENH pP **sP** **16 41 34.1 -1.7**
CRAI Chiangrai 43.22 305 P **P** **16 41 25.5 -0.7**
CMAR Chiang Mai Arr 43.58 302 P **P** **16 41 28.3 -0.8**
CMAR Chiang Mai Arr 43.58 302 P **P** **16 41 28.7 -0.4**
comp=Z,5.8nm,0.8s,baz=120,slow=5.9,SNR=20
comp=Z,5.8nm,0.8s
TIA Tai'an 44.00 337 *e* P **P** **16 41 29.6 -2.6**
TIA pmax pmax
comp=Z,8.0nm,1.5s
TIA pmax pmax
comp=Z,57nm,6.9s
TIA LR LR
comp=Z,250nm,21.1s
TIA LR LR
comp=Z,98nm,20.1s
TIA LR LR
comp=Z,350nm,22.1s
KMI Kunming 44.02 313 ⇑ P **P** **16 41 33.7 +0.9**
KMI S **S** **16 47 59.7 -4.2**
KMI pmax pmax
comp=Z,21nm,1.3s
KMI LR LR
comp=Z,290nm,25.9s
KMI LR LR
comp=Z,330nm,23.3s
KMI LR LR
comp=Z,340nm,20.2s
JTM Tenmabayashi 44.59 4 IAmb IAmb 16 41 48.0
comp=Z,53nm,1.1s
LYN LuoYang 44.66 331 *e* P **P** **16 41 37.9 +0.4**
LYN pP sP 16 41 48.7 -0.7
LYN sP pP 16 41 55.4 +9.4
LYN S **S** **16 48 11.1 -1.4**
LYN sS sS 16 48 33.2 +6.7
LYN pmax pmax
comp=Z,23nm,0.9s
LYN pmax pmax
comp=Z,240nm,3.8s
LYN LR LR
comp=Z,430nm,13.3s
LYN LR LR
comp=Z,390nm,17.4s
LYN LR LR
comp=Z,500nm,16.7s
PZH PanZhiHua 45.56 314 P **P** **16 41 44.9 0.0**
PZH S **S** **16 48 29.5 +3.5**
PZH SS **ScS** **16 51 45.8 +5.5**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,150nm,7.1s
PZH LR LR
comp=Z,200nm,16.2s
PZH LR LR
comp=Z,270nm,17.2s
PZH LR LR
comp=Z,350nm,19.1s
HNS HongShan 46.00 335 ⇑ P **P** **16 41 47.7 -0.4**
HNS S **S** **16 48 30.8 -0.9**
HNS pmax pmax
comp=Z,27nm,1.4s
HNS LR LR
comp=Z,490nm,21.6s
HNS LR LR
comp=Z,580nm,20.7s
XAN Xi'an 46.09 327 ⇑ P **P** **16 41 49.7 +0.8**
XAN pP pP 16 41 57.1 -0.3
XAN S **S** **16 48 37.6 +4.4**
XAN pmax pmax
comp=Z,38nm,1.0s
XAN LR LR
comp=Z,440nm,18.4s
XAN LR LR
comp=Z,530nm,19.7s
XAN LR LR
comp=Z,720nm,18.1s
CD2 Chengdu 46.93 320 P **P** **16 41 58.2 +2.6**
CD2 pP sP 16 42 05.9 -1.6
CD2 PP **PP** **16 43 47.4 +1.1**
CD2 S **S** **16 48 51.6 +6.1**
CD2 pmax pmax
comp=Z,30nm,0.6s
CD2 LR LR
comp=Z,290nm,15.6s
CD2 LR LR
comp=Z,300nm,16.0s
VLA Vladivostok 46.99 355 *i* P **P** **16 41 54.9 -0.8**
VLA pmax pmax
comp=Z,24nm,1.2s
TNCH TengChong 47.14 310 P **P** **16 41 57.5 0.0**
TNCH S **S** **16 48 48.5 -0.4**
TNCH SS **SS** **16 52 08.8 -7.6**
TNCH pmax pmax
comp=Z,16nm,1.3s
TNCH pmax pmax
comp=Z,130nm,2.7s
TNCH LR LR
comp=Z,93nm,17.3s
TNCH LR LR
comp=Z,140nm,15.2s
TNCH LR LR
comp=Z,180nm,24.3s
BJT Baijiatuau 47.69 338 P **P** **16 42 03.2 +2.0**
BJT Baijiatuau 47.69 338 IAmb IAmb 16 42 03.9
comp=Z,65nm,1.5s
BJI Beijing 47.70 338 P **P** **16 42 01.5 +0.2**
BJI S **S** **16 48 55.4 -0.6**
BJI pmax pmax
comp=Z,13nm,1.5s
BJI pmax pmax
comp=Z,86nm,3.7s
BJI LR LR
comp=Z,260nm,18.9s
BJI LR LR
comp=Z,120nm,17.8s
BJI LR LR
comp=Z,300nm,18.1s
ASAJ Asahikawa 48.02 5 P **P** **16 42 02.9 -0.9**
ASAJ pmax pmax
comp=Z,16nm,1.0s
JKA Kamikawa-asahi 48.02 5 P **P** **16 42 02.9 -0.9**
JKA IAmb IAmb 16 42 13.7
comp=Z,16nm,1.0s
USRK Ussuriysk Ar. 48.06 355 P **P** **16 42 03.4 -0.6**
comp=Z,12nm,0.6s,baz=173,slow=6.8,SNR=26
USRK LR LR 16 58 56.0
comp=Z,609nm,21.5s,baz=169,slow=32
comp=Z,12nm,0.6s
USA0B Ussuriysk Arra 48.06 355 *i* P **P** **16 42 03.5 -0.5**
CN2 Changchun 48.58 349 *e* P **P** **16 42 08.7 +0.7**
CN2 eS **S** **16 49 07.4 -0.8**
CN2 *es*S sS 16 49 28.5 +6.0
CN2 *e*SS **SS** **16 52 33.6 -5.1**
CN2 pmax pmax
comp=Z,10.0nm,1.3s
CN2 LR LR
comp=Z,120nm,17.0s
CN2 LR LR
comp=Z,90nm,17.0s
MDJ Mudanjiang 48.72 353 P **P** **16 42 11.3 +2.2**
MDJ Mudanjiang 48.72 353 P **P** **16 42 08.6 -0.5**
MDJ S **S** **16 49 15.9 +5.7**

MDJ pmax pmax
comp=Z,14nm,0.9s
MDJ pmax pmax
comp=Z,150nm,3.8s
MDJ LR LR
comp=Z,260nm,18.3s
MDJ LR LR
comp=Z,220nm,20.3s
MDJ LR LR
comp=Z,370nm,19.1s
MDJ Mudanjiang 48.72 353 IAmb IAmb 16 42 22.7
comp=Z,19nm,1.0s
MDJ Mudanjiang 48.72 353 P **P** **16 42 08.7 -0.5**
MDJ pP **pP** **16 42 18.0 +0.3**
MDJ sP **sP** **16 42 22.0 +0.9**
RPZ Rata Peaks 49.79 148 LR LR 17 00 46.8
comp=Z,717nm,20.3s,baz=308,slow=33
URZ Urewera 50.05 139 LR LR 17 05 00.3
comp=Z,882nm,18.4s,baz=35,slow=38
BNX BinXian 50.12 351 ⇑P **P** **16 42 19.2 -0.6**
BNX sP sP 16 42 36.3 +4.5
BNX PcP **PcP** **16 43 37.3 -1.8**
BNX S **S** **16 49 30.2 +0.4**
BNX pmax pmax
comp=Z,40nm,1.4s
BNX pmax pmax
comp=Z,270nm,3.8s
BNX LR LR
comp=Z,230nm,20.1s
BNX LR LR
comp=Z,140nm,15.4s
BNX LR LR
comp=Z,340nm,21.1s
HHC Hu-ho-hao-te 50.22 335 *e*P **P** **16 42 22.6 +1.8**
HHC S **S** **16 49 32.7 +1.0**
HHC SS **SS** **16 53 05.8 +0.3**
HHC pmax pmax
comp=Z,26nm,1.1s
HHC pmax pmax
comp=Z,190nm,5.7s
HHC LR LR
comp=Z,250nm,19.0s
HHC LR LR
comp=Z,150nm,19.1s
HHC LR LR
comp=Z,460nm,19.1s
LZH Lanzhou 50.42 325 ⇑P **P** **16 42 25.6 +3.1**
LZH S **S** **16 49 42.0 +7.3**
LZH pmax pmax
comp=Z,37nm,1.1s
LZH LR LR
comp=Z,170nm,14.9s
LZH LR LR
comp=Z,460nm,16.8s
LZH LR LR
comp=Z,480nm,20.6s
BTO Baotou 50.69 333 *e*P **P** **16 42 26.8 +2.4**
BTO pP sP 16 42 38.4 +2.0
BTO sP pP 16 42 44.3 +11
BTO PP **PP** **16 44 20.9 +0.2**
BTO S **S** **16 49 41.9 +3.7**
BTO SS **SS** **16 53 08.2 -4.8**
BTO pmax pmax
comp=Z,26nm,0.7s
BTO pmax pmax
comp=Z,180nm,4.7s
BTO LR LR
comp=Z,350nm,15.2s
BTO LR LR
comp=Z,470nm,19.0s
BTO LR LR
comp=Z,680nm,23.1s
YSS Yuzh-Sakhalins 50.85 5 P **P** **16 42 25.6 +0.3**
YSS Yuzh-Sakhalins 50.85 5 P **P** **16 42 24.3 -1.0**
YSS Yuzh-Sakhalins 50.85 5 *e*P **P** **16 42 25.6 +0.3**
YSS *e* 16 43 44.5
YSS *e*S **S** **16 49 38.0 -1.9**
YSS *e*SS **SS** **16 53 13.3 -1.7**
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS pmax pmax
comp=Z,200nm,5.5s
YSS Yuzh-Sakhalins 50.85 5 P **P** **16 42 25.9 +0.6**
XLT XiLinHaoTe 51.14 341 *e*P **P** **16 42 27.0 -0.7**
XLT pP sP 16 42 39.2 -0.5
XLT sP pP 16 42 44.6 +8.3
XLT PcP **PcP** **16 43 41.0 -2.1**
XLT S **S** **16 49 48.4 +4.1**
XLT sS sS 16 50 06.6 +8.2
XLT ScS **ScS** **16 52 11.3 -5.5**
XLT SS **SS** **16 53 14.9 -5.1**
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,85nm,4.3s
XLT LR LR
comp=Z,440nm,15.7s
XLT LR LR
comp=Z,270nm,18.7s
KLR Kul'dur 53.08 356 LR LR 17 02 33.7
comp=Z,622nm,21.5s,baz=172,slow=33
KLR Kul'dur 53.08 356 *e*P **P** **16 42 39.9 -1.9**
KLR pmax pmax
comp=Z,8.0nm,0.7s
GRNR Gornyy 54.42 360 ⇑*i*P **P** **16 42 51.9 +0.2**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
HEH HeiHe 54.53 352 *e*P **P** **16 42 51.5 -1.0**
HEH S **S** **16 50 30.2 +0.1**
HEH pmax pmax
comp=Z,12nm,1.2s
HEH pmax pmax
comp=Z,190nm,5.2s
HEH LR LR
comp=Z,170nm,19.4s
HEH LR LR
comp=Z,270nm,20.6s
HEH LR LR
comp=Z,410nm,18.4s
TYV Tymovskoe 54.73 4 *e*P **P** **16 42 54.8 +1.0**
TYV *e*S **S** **16 50 36.7 +4.0**
TYV pmax pmax
comp=Z,100nm,3.2s
TYV pmax pmax
comp=Z,4.0nm,0.9s
TYV smax smax
comp=E,100nm,6.2s
GTA Gaotai 55.02 325 P **P** **16 42 58.2 +1.8**
GTA pP pP 16 43 05.1 0.0
GTA S **S** **16 50 36.6 -0.7**
GTA pmax pmax
comp=E,11nm,1.5s
GTA LR LR
comp=E,170nm,21.1s
GTA LR LR
comp=E,190nm,18.2s
GTA LR LR
comp=E,260nm,19.3s
PALK Pallekele 57.28 281 LR LR 17 10 40.4
comp=E,144nm,21.8s,baz=207,slow=39
ULN Ulaanbaatar 57.82 337 P **P** **16 43 16.2 0.0**
ULN Ulaanbaatar 57.82 337 *ce*P **P** **16 43 16.7 +0.4**
ULN pmax pmax
comp=Z,23nm,1.6s
ULN Ulaanbaatar 57.82 337 P **P** **16 43 18.0 +1.7**
ULN pP **sP** **16 43 27.9 -0.4**
ZEA Zeya 57.97 353 *e*P **P** **16 43 16.5 -0.5**
ZEA pmax pmax
comp=N,10.0nm,1.1s
ZEA pmax pmax
comp=Z,200nm,1.2s
SONM Songino Array 58.06 336 P **P** **16 43 18.1 +0.2**
comp=Z,3.0nm,0.6s,baz=156,slow=7.3,SNR=16
SONM LR LR 17 07 18.9
comp=Z,505nm,21.4s,baz=141,slow=35
comp=Z,3.0nm,0.6s
CIT Chita 59.14 343 *e*P **P** **16 43 26.2 +1.0**
CIT *e* 16 43 43.6
CIT *e* 16 44 09.0
CIT *e* 16 51 34.2
CIT pmax pmax
comp=Z,84nm,2.1s
PEA0B Petropavlovsk- 59.38 14 *i*P **P** **16 43 26.5 -0.3**
PETK Petropavlovsk- 59.38 14 P **P** **16 43 26.5 -0.2**
comp=Z,9.9nm,1.0s,baz=180,slow=5.5,SNR=13

PETK PcP **PcP** **16 44 15.6 +1.1**
comp=Z,4.0nm,0.7s,baz=192,slow=4.0,SNR=2.5
PETK LR LR 17 06 21.0
comp=Z,166nm,21.9s,baz=200,slow=33
comp=Z,9.9nm,1.0s
PET Petropavlovsk 59.54 15 *e*P **P** **16 43 29.9 +2.0**
PET *e*S **S** **16 51 39.3 +3.3**
PET pmax pmax
comp=Z,26nm,1.2s
PET pmax pmax
comp=Z,100nm,12.4s
ZAK Zakamensk 61.33 336 *e*P **P** **16 43 41.4 +1.1**
ZAK pmax pmax
comp=Z,12nm,1.4s
DRV Dumont d'Urvil 62.72 179 P **P** **16 43 48.7 -0.5**
DRV pP **pP** **16 43 58.2 -0.3**
MOY Mondy 63.24 336 *e*P **P** **16 43 54.9 +1.8**
MOY pmax pmax
comp=Z,25nm,1.6s
MA2 Magadan 64.17 8 P **P** **16 44 01.2 +2.3**
MA2 Magadan 64.17 8 P **P** **16 43 58.0 -1.0**
MA2 Magadan 64.17 8 LR LR 17 17 15.6
comp=Z,36nm,18.6s,baz=186,slow=41
MA2 Magadan 64.17 8 *i*P **P** **16 43 57.6 -1.3**
MA2 pmax pmax
comp=Z,21nm,1.5s
SHEM Shemya Is, Ala 64.47 24 LR LR 17 07 09.8
comp=Z,403nm,21.9s,baz=255,slow=31
WMQ Urumqi 64.88 323 *e*P **P** **16 44 05.2 +1.2**
WMQ S **S** **16 52 45.5 +1.6**
WMQ pmax pmax
comp=Z,32nm,1.1s
WMQ pmax pmax
comp=Z,77nm,3.6s
WMQ LR LR
comp=Z,240nm,18.9s
WMQ LR LR
comp=Z,110nm,18.9s
YAK Yakutsk 65.95 356 P **P** **16 44 09.7 -0.7**
YAK Yakutsk 65.95 356 LR LR 17 10 15.2
comp=Z,550nm,21.1s,baz=166,slow=34
YAK Yakutsk 65.95 356 *e*P **P** **16 44 09.5 -0.9**
YAK *e* 16 44 40.8
YAK *e*S **S** **16 52 57.1 +1.0**
YAK *e* 16 54 04.3
YAK *e*SS **SS** **16 57 12.5 +0.8**
YAK pmax pmax
comp=Z,22nm,0.9s
YAK pmax pmax
comp=N,11nm,1.7s
YAK pmax pmax
comp=E,3.0nm,1.3s
YAK smax smax
comp=E,329nm,7.3s
YAK smax smax
comp=N,188nm,7.1s
YAK MLR MLR
comp=E,143nm,28.0s
YAK Yakutsk 65.95 356 P **P** **16 44 10.6 +0.2**
SEY Seymchan 67.63 8 LR LR 17 12 47.1
comp=E,91nm,22.0s,baz=192,slow=35
SEY Seymchan 67.63 8 *e*P **P** **16 44 20.2 -0.9**
SEY pmax pmax
comp=Z,10.0nm,1.0s
MK31 Makanchi Array 69.68 323 *ce*P **P** **16 44 34.0 -0.3**
MKAR Makanchi Array 69.68 323 P **P** **16 44 33.4 -1.0**
MKAR Makanchi Array 69.68 323 P **P** **16 44 33.5 -0.9**
comp=Z,14nm,0.9s,baz=118,slow=7.4,SNR=25
MKAR LR LR 17 15 51.2
comp=Z,123nm,20.8s,baz=102,slow=37
comp=Z,14nm,0.9s
MKAR Makanchi Array 69.68 323 *i*P **P** **16 44 33.7 -0.6**
MKAR pmax pmax
comp=Z,10.0nm,0.7s
SHLS Shalkode 69.75 319 *e*P **P** **16 44 33.1 -1.9**
comp=Z,8.2nm,0.8s,baz=319
SHLS Shalkode 69.75 319 *e*P **P** **16 44 33.1 -1.9**
SHLS pmax pmax
comp=Z,8.0nm,0.8s
MAKZ Makanchi 69.88 323 P **P** **16 44 35.3 -0.3**
MAKZ IAmb IAmb 16 44 39.5
comp=Z,19nm,0.8s
MAKZ Makanchi 69.88 323 P **P** **16 44 35.3 -0.3**
MAKZ pmax pmax
comp=Z,19nm,0.9s
MAKZ Makanchi 69.88 323 P **P** **16 44 35.2 -0.3**
UZB Uzunbulak 70.04 319 *e*P **P** **16 44 36.6 -0.1**
comp=Z,12nm,0.8s,baz=319
UZB Uzunbulak 70.04 319 *e*P **P** **16 44 36.6 -0.1**
UZB pmax pmax
comp=Z,12nm,0.8s
SATY Saty 70.41 318 *e*P **P** **16 44 39.1 0.0**
comp=Z,7.9nm,0.7s,baz=318
SATY Saty 70.41 318 *e*P **P** **16 44 39.0 0.0**
SATY pmax pmax
comp=Z,8.0nm,0.7s
KSH Kashi 70.66 314 P **P** **16 44 42.6 +2.0**
KSH pmax pmax
comp=Z,9.0nm,1.1s
KSH LR LR
comp=Z,2μm,17.7s
KSH LR LR
comp=Z,490nm,15.3s
KSH LR LR
comp=Z,230nm,19.2s
TDK Taldyqorghan 71.25 320 *e*P **P** **16 44 43.7 -0.3**
comp=Z,13nm,0.8s,baz=320
TDK Taldyqorghan 71.25 320 *e*P **P** **16 44 43.6 -0.3**
TDK pmax pmax
comp=Z,13nm,0.8s
ARXS Arharly 71.28 319 *i*P **P** **16 44 43.4 -0.8**
MDOK Medeo 71.36 318 *e*P **P** **16 44 44.6 -0.3**
baz=318
MDOK Medeo 71.36 318 *e*P **P** **16 44 44.5 -0.3**
AAA Alma-Ata 71.46 318 *e*P **P** **16 44 45.4 0.0**
comp=Z,13nm,0.6s,baz=318
AAA Alma-Ata 71.46 318 *e*P **P** **16 44 45.3 0.0**
AAA pmax pmax
comp=Z,13nm,0.6s
CCD Concordia, Ant 71.62 184 P **P** **16 44 47.5 +1.4**
CCD pP **sP** **16 44 57.1 -1.8**
CHKK Chushkaly 71.68 319 *e*P **P** **16 44 46.7 +0.1**
baz=319
CHKK Chushkaly 71.68 319 *e*P **P** **16 44 46.6 +0.1**
ZALV Zalesovo Beam 72.09 331 P **P** **16 44 47.4 -1.4**
comp=Z,11nm,0.7s,baz=122,slow=6.3,SNR=24
ZALV LR LR 17 15 50.0
comp=Z,11nm,0.7s
comp=Z,162nm,21.5s,baz=132,slow=35
NIKH Nikolski High 72.52 31 P **P** **16 44 52.9 +1.5**
baz=238
SEM Semipalatinsk 72.64 326 *e*P **P** **16 44 51.5 -0.9**
baz=326
SEM Semipalatinsk 72.64 326 *e*P **P** **16 44 51.5 -0.9**
AAK Ala-Archa 72.87 317 LR LR 17 18 52.5
comp=Z,176nm,20.7s,baz=117,slow=38
AAK Ala-Archa 72.87 317 *ce*P **P** **16 44 54.7 +0.8**
AAK pmax pmax
comp=Z,17nm,1.6s
SGDS Sogindy 73.09 318 *e*P **P** **16 44 54.6 -0.5**
baz=318
SGDS Sogindy 73.09 318 *e*P **P** **16 44 54.6 -0.5**
KURK Kurchatov 73.70 326 P **P** **16 44 57.7 -0.6**
KURK IAmb IAmb 16 45 01.3
comp=Z,31nm,1.4s
KURK Kurchatov 73.70 326 *ce*P **P** **16 44 58.2 -0.2**
KURK pmax pmax
comp=Z,23nm,1.4s
KURBB Kurchatov Arra 73.71 326 P **P** **16 44 57.1 -1.3**
comp=Z,11nm,1.1s,baz=116,slow=5.8,SNR=23
comp=Z,11nm,1.1s
BTLS Baital 74.08 319 *e*P **P** **16 45 00.5 -0.3**
baz=319
BTLS Baital 74.08 319 *e*P **P** **16 45 00.5 -0.3**
UNV Unalaska Valle 74.18 31 P **P** **16 45 00.9 -0.2**
baz=240
KBL Kabul 74.27 307 P **P** **16 45 00.8 -1.6**
KBL Kabul 74.27 307 P **P** **16 45 00.8 -1.6**
KBL pmax pmax
comp=Z,8.0nm,0.7s
BTK Batken 74.57 313 IAmb IAmb 16 45 33.0
comp=Z,33nm,1.8s
BILL Bilibino 74.61 11 P **P** **16 45 02.2 -1.2**
BILL Bilibino 74.61 11 ⇑*e*P **P** **16 45 02.1 -1.2**
BILL pmax pmax
comp=Z,8.0nm,1.2s

VNDA Vanda 74.79 175 P **P** **16 45 03.9 -0.4**
VNDA Vanda 74.79 175 P **P** **16 45 04.4 +0.1**
comp=Z,3.7nm,0.7s,baz=325,slow=8.3,SNR=27
comp=Z,3.7nm,0.7s
DZA Taraz 75.14 316 *e*P **P** **16 45 06.6 -0.4**
baz=316
DZA Taraz 75.14 316 *e*P **P** **16 45 06.6 -0.4**
TIXI Tiksi 75.56 357 P **P** **16 45 07.2 -1.5**
TIXI IAmb IAmb 16 45 12.7
comp=Z,25nm,1.5s
TIXI Tiksi 75.56 357 *ce*P **P** **16 45 08.0 -0.7**
TIXI pmax pmax
comp=Z,19nm,1.5s
SBA Scott Base 75.59 174 P **P** **16 45 09.3 +0.4**
SBA Scott Base 75.59 174 P **P** **16 45 09.3 +0.4**
SBA pmax pmax
comp=Z,13nm,1.1s
KK31 Karatay Array 75.78 316 P **P** **16 45 10.0 -0.6**
KK31 Karatay Array 75.78 316 P **P** **16 45 10.0 -0.6**
KK31 pmax pmax
comp=Z,6.0nm,0.7s
KKAR Karatay Array 75.78 316 P **P** **16 45 09.7 -0.9**
KKAR Karatay Array 75.78 316 P **P** **16 45 09.7 -0.9**
KKAR pmax pmax
comp=Z,6.0nm,0.7s
IUG luzhnay 75.80 315 *e*P **P** **16 45 10.5 -0.4**
baz=315
IUG luzhnay 75.80 315 *e*P **P** **16 45 10.5 -0.4**
CHM Chimkent 76.16 315 *e*P **P** **16 45 12.8 0.0**
baz=315
CHM Chimkent 76.16 315 *e*P **P** **16 45 12.8 0.0**
BRLS Boroldaу 76.22 316 *e*P **P** **16 45 12.8 -0.4**
baz=316
BRLS Boroldaу 76.22 316 *e*P **P** **16 45 12.8 -0.4**
FALS False Pass 76.25 31 P **P** **16 45 12.1 -0.9**
baz=242
BRZS Berezniki 76.83 323 *e*P **P** **16 45 15.5 -1.0**
baz=323
BRZS Berezniki 76.83 323 *e*P **P** **16 45 15.4 -1.0**
S12K Black Hills 77.33 30 P **P** **16 45 19.0 -0.1**
baz=243
GAMB Gambell 77.44 21 P **P** **16 45 18.7 -0.9**
baz=233
SDPT Sand Point 77.98 31 P **P** **16 45 22.5 -0.2**
baz=245
CHNA Chernabura Isl 78.23 32 P **P** **16 45 23.8 -0.3**
baz=246
S14K Fog Glacier 78.85 31 P **P** **16 45 27.5 -0.2**
baz=245
M13K Dall Lake 78.92 26 P **P** **16 45 28.7 +0.9**
baz=241
K13K Kusilvak Mount 79.11 24 P **P** **16 45 29.1 +0.2**
baz=240
BVAR Borovoye Array 79.30 326 P **P** **16 45 28.9 -1.2**
comp=Z,9.5nm,0.7s,baz=114,slow=6.4,SNR=31
comp=Z,9.5nm,0.7s
O14K Tigyukauivet M 79.31 27 IAmb IAmb 16 45 34.0
comp=Z,45nm,1.2s
O14K Tigyukauivet M 79.31 27 P **P** **16 45 30.0 +0.1**
baz=243
BRVK Borovoye 79.37 326 P **P** **16 45 28.2 -2.2**
BRVK Borovoye 79.37 326 *ce*P **P** **16 45 29.4 -1.0**
BRVK pmax pmax
comp=Z,15nm,0.9s
N14K Kuskokwak Cree 79.42 27 P **P** **16 45 30.9 +0.4**
baz=243
CHGN Chignik 79.44 31 P **P** **16 45 30.2 -0.5**
baz=246
L14K Kuka Creek 79.65 25 IAmb IAmb 16 45 37.0
comp=Z,36nm,1.1s
L14K Kuka Creek 79.65 25 P **P** **16 45 32.5 +0.8**
baz=242
M14K Bethel 79.68 26 IAmb IAmb 16 45 40.9
comp=Z,28nm,0.9s
M14K Bethel 79.68 26 P **P** **16 45 32.7 +0.8**
baz=242
TNA Tin City 79.81 20 P **P** **16 45 33.5 +1.0**
baz=236
O15K Ungalikthiuk R 79.94 28 P **P** **16 45 33.9 +0.5**
baz=245
J14K Nanvaranak Lak 79.97 24 P **P** **16 45 34.1 +0.7**
baz=241
ANM Nome 80.18 22 P **P** **16 45 35.0 +0.4**
baz=239
M15K Kasigluk River 80.21 26 P **P** **16 45 35.0 +0.2**
baz=244
N15K Kwethluk River 80.25 27 IAmb IAmb 16 45 39.2
comp=Z,29nm,1.1s
N15K Kwethluk River 80.25 27 P **P** **16 45 34.9 -0.1**
baz=244
L15K Ungalak Mounta 80.31 25 P **P** **16 45 35.6 +0.3**
baz=243
F14K Arctic Creek 80.32 21 P **P** **16 45 34.8 -0.5**
baz=238
K15K Wolf Creek Mou 80.58 25 IAmb IAmb 16 45 42.3
comp=Z,23nm,1.1s
K15K Wolf Creek Mou 80.58 25 P **P** **16 45 36.5 -0.3**
baz=243
P16K Nushagak River 80.74 28 P **P** **16 45 38.3 +0.6**
baz=246
WSAR Wadi Sarin 80.89 294 LR LR 17 25 29.9
comp=Z,43nm,19.5s,baz=112,slow=39
G15K Niukluk 80.89 22 P **P** **16 45 38.9 +0.5**
baz=240
O16K Kokwok River B 80.92 28 IAmb IAmb 16 45 42.1
comp=Z,30nm,1.2s
O16K Kokwok River B 80.92 28 P **P** **16 45 39.2 +0.5**
baz=246,SNR=5.5
N16K Nishlik Lake 80.97 27 P **P** **16 45 40.2 +1.2**
baz=245
F15K North Star Dit 81.04 21 P **P** **16 45 39.2 0.0**
baz=239
M16K Timber Creek 81.12 26 IAmb IAmb 16 45 44.1
comp=Z,44nm,1.2s
M16K Timber Creek 81.12 26 P **P** **16 45 40.7 +1.0**
baz=245
L16K Owhat River 81.19 26 IAmb IAmb 16 45 43.5
comp=Z,37nm,1.4s
L16K Owhat River 81.19 26 P **P** **16 45 40.3 +0.3**
baz=245
Q16K King Salmon 81.24 29 P **P** **16 45 41.1 +0.8**
baz=248
H16K Elim 81.39 22 P **P** **16 45 41.8 +0.8**
baz=242
J16K Anvik River 81.41 24 P **P** **16 45 41.6 +0.4**
baz=243
O17K Koliganek Bris 81.46 28 P **P** **16 45 41.6 +0.1**
baz=247,SNR=22
Q17K Contact Creek 81.46 29 P **P** **16 45 41.7 0.0**
baz=248
P17K Kvichak River 81.54 29 P **P** **16 45 42.4 +0.4**
baz=248
I17K Unalakleet 81.64 23 P **P** **16 45 42.8 +0.4**
baz=243
N17K Nushagak Hills 81.71 27 IAmb IAmb 16 45 49.1
comp=Z,23nm,1.1s
N17K Nushagak Hills 81.71 27 P **P** **16 45 42.7 -0.2**
baz=247
G16K Koyuk River 81.71 22 P **P** **16 45 41.9 -0.8**
baz=242
L17K Donlin 81.87 25 P **P** **16 45 42.4 -1.3**
baz=246
M17K Holitna River 81.94 26 IAmb IAmb 16 45 49.9
comp=Z,50nm,1.1s
M17K Holitna River 81.94 26 P **P** **16 45 42.9 -1.2**
baz=246,SNR=6.6
J17K VABM Dome 82.08 24 IAmb IAmb 16 45 50.8
comp=Z,20nm,1.0s
J17K VABM Dome 82.08 24 P **P** **16 45 42.9 -1.8**
baz=245
K17K Iditarod 82.11 25 P **P** **16 45 43.2 -1.7**
baz=246
C16K Lisburne Hills 82.14 19 P **P** **16 45 44.7 -0.2**
baz=238
P18K Big Mountain, 82.19 29 IAmb IAmb 16 45 47.5
comp=Z,16nm,1.1s
P18K Big Mountain, 82.19 29 P **P** **16 45 45.3 -0.1**
baz=249
N18K Kilae Creek 82.36 27 IAmb IAmb 16 45 50.9
comp=Z,21nm,1.1s
N18K Kilae Creek 82.36 27 P **P** **16 45 46.4 +0.1**
baz=248
O18K Koktuh Hills 82.37 28 P **P** **16 45 45.0 -1.3**
baz=249
G17K Kiwalik Mounta 82.39 22 P **P** **16 45 45.9 -0.4**
baz=243,SNR=8.0
OHAK Old Harbor 82.40 31 P **P** **16 45 49.2 +2.7**
OHAK Old Harbor 82.40 31 P **P** **16 45 45.9 -0.6**

	baz=251							
H17K	**Granite Mounta**	82.42	23	P	P	16 45 45.5	-1.0	
	baz=244							
D17K	**Noatak River**	82.58	19	P	P	16 45 47.1	-0.2	
	baz=240,SNR=7.1							
L18K	**Granite Mounta**	82.59	26	IAmb	IAmb	16 45 53.5		
	comp=Z,27nm,1.1s							
L18K	**Granite Mounta**	82.59	26	P	P	16 45 46.8	-0.7	
	baz=247,SNR=7.4							
F17K	**Baldwin Pennin**	82.61	21	P	P	16 45 45.3	-2.0	
	baz=242							
M18K	**Stony River**	82.69	26	P	P	16 45 46.9	-1.1	
	baz=248							
E17K	**Hotham Inlet**	82.70	20	P	P	16 45 46.4	-1.5	
	baz=242							
Q19K	**Cape Douglas,**	82.79	29	P	P	16 45 47.2	-1.4	
	baz=250							
RDOG	**Red Dog Mine**	82.81	19	P	P	16 45 47.7	-0.8	
	baz=241							
C17K	**DeLong Mountai**	82.93	19	P	P	16 45 49.1	0.0	
	baz=240							
KDAK	**Kodiak Island**	82.94	31	P	P	16 45 48.5	-0.8	
	baz=251							
N19K	**Bonanza Creek**	83.05	27	IAmb	IAmb	16 45 55.8		
	comp=Z,28nm,1.1s							
N19K	**Bonanza Creek**	83.05	27	P	P	16 45 47.6	-2.4	
	baz=249,SNR=7.4							
J18K	**Innoko River**	83.07	24	P	P	16 45 46.8	-3.1	
	baz=247,SNR=7.5							
H18K	**Honhosa River**	83.10	23	P	P	16 45 47.3	-2.7	
	baz=245							
TTA	**Tatalina**	83.16	25	P	P	16 45 53.2	+2.7	
TTA	**Tatalina**	83.16	25	IAmb	IAmb	16 45 58.6		
	comp=Z,29nm,1.3s							
TTA	**Tatalina**	83.16	25	P	P	16 45 48.7	-1.7	
	baz=248,SNR=7.6							
P19K	**Oil Pt**	83.24	29	P	P	16 45 48.6	-2.3	
	baz=250							
F18K	**Selawik**	83.25	21	P	P	16 45 49.9	-0.8	
	baz=244							
E18K	**Tukpahlearik C**	83.28	20	IAmb	IAmb	16 45 56.3		
	comp=Z,19nm,0.9s							
E18K	**Tukpahlearik C**	83.28	20	P	P	16 45 50.1	-0.8	
	baz=243,SNR=8.2							
Q20K	**Shuyak Island**	83.30	30	P	P	16 45 50.2	-1.0	
	baz=251							
G18K	**Tagagawik**	83.31	22	IAmb	IAmb	16 45 56.0		
	comp=Z,23nm,0.9s							
G18K	**Tagagawik**	83.31	22	P	P	16 45 50.8	-0.3	
	baz=245,SNR=6.7							
L19K	**White Mountain**	83.38	26	IAmb	IAmb	16 45 57.8		
	comp=Z,32nm,1.1s							
L19K	**White Mountain**	83.38	26	P	P	16 45 50.2	-1.3	
	baz=249,SNR=18							
M19K	**Big River Lodg**	83.48	26	P	P	16 45 50.0	-2.1	
	baz=249							
GCSA	**Galena City Sc**	83.51	23	P	P	16 45 49.6	-2.5	
	baz=247							
C18K	**Utukok River**	83.66	19	P	P	16 45 51.3	-1.6	
	baz=242							
O20K	**Slope Mountain**	83.67	28	P	P	16 45 51.5	-1.6	
	baz=251							
J19K	**Poorman**	83.72	24	IAmb	IAmb	16 46 02.2		
	comp=Z,22nm,1.1s							
J19K	**Poorman**	83.72	24	P	P	16 45 52.6	-0.7	
	baz=248,SNR=7.3							
B18K	**Kokolik River**	83.80	18	P	P	16 45 53.3	-0.2	
	baz=242							
L20K	**Farewell, AK**	83.91	26	P	P	16 45 52.7	-1.5	
	baz=250,SNR=11							
H19K	**Roundabout Mou**	83.99	23	IAmb	IAmb	16 45 59.9		
	comp=Z,28nm,0.9s							
H19K	**Roundabout Mou**	83.99	23	P	P	16 45 53.2	-1.4	
	baz=247,SNR=12							
G19K	**Purcell Mounta**	83.99	22	P	P	16 45 55.3	+0.7	
	baz=246,SNR=28							
HOM	**Homer**	84.00	29	P	P	16 45 53.9	-0.8	
	baz=252							
F19K	**Shaleruckim Mo**	84.02	21	P	P	16 45 53.0	-1.7	
	baz=246,SNR=5.7							
M20K	**Styx River**	84.03	27	IAmb	IAmb	16 45 59.7		
	comp=Z,30nm,0.9s							
M20K	**Styx River**	84.03	27	P	P	16 45 53.6	-1.4	
	baz=250,SNR=15							
K20K	**Telida**	84.14	25	P	P	16 45 54.6	-0.8	
	baz=249							
N20K	**Mount Spurr**	84.23	27	P	P	16 45 55.3	-0.7	
	baz=251							
C19K	**Lookout Ridge**	84.38	19	P	P	16 45 56.1	-0.5	
	baz=244,SNR=7.0							
J20K	**Nowinta River**	84.40	24	IAmb	IAmb	16 46 02.2		
	comp=Z,33nm,1.1s							
J20K	**Nowinta River**	84.40	24	P	P	16 45 55.4	-1.3	
	baz=249,SNR=21							
BRLK	**Bradley Lake**	84.40	29	IAmb	IAmb	16 46 05.0		
	comp=Z,30nm,1.0s							
A19K	**Wainwright**	84.42	18	P	P	16 45 56.8	+0.2	
	baz=242							
BRSE	**Bradley Lake S**	84.46	29	P	P	16 45 56.3	-0.9	
	baz=253							
E19K	**Redstone River**	84.47	21	P	P	16 45 55.6	-1.4	
	baz=246							
I20K	**Naaghedeneel**	84.48	24	P	P	16 45 55.6	-1.4	
	baz=249							
ABKAR	**Akbulak array**	84.51	320	P	P	16 45 56.0	-1.6	
ABKAR	**Akbulak array**	84.51	320	IAmb	IAmb	16 46 01.7		
	comp=Z,9.1nm,1.1s							
H20K	**Anotleneega Mo**	84.58	23	P	P	16 45 56.7	-0.9	
	baz=248,SNR=6.0							
D19K	**Kuna River**	84.60	20	P	P	16 45 57.1	-0.5	
	baz=245							
SKT	**Skwentna**	84.78	27	IAmb	IAmb	16 46 01.1		
	comp=Z,27nm,1.4s							
SKT	**Skwentna**	84.78	27	P	P	16 45 58.0	-0.7	
	baz=252							
PPLA	**Purkeypile**	84.78	26	P	P	16 45 58.3	-0.6	
	baz=251							
F20K	**Avaraart Lake**	84.85	21	P	P	16 45 59.5	+0.7	
	baz=248,SNR=26							
SUA	**Susitna One**	84.98	27	P	P	16 45 59.2	-0.6	
	baz=252							
CAST	**Castle Rocks**	85.00	25	IAmb	IAmb	16 46 04.2		
	comp=Z,28nm,1.3s							
CAST	**Castle Rocks**	85.00	25	P	P	16 45 59.3	-0.4	
	baz=251,SNR=14							
CHUM	**Lake Minchumin**	85.05	25	P	P	16 45 59.4	-0.5	
	baz=251,SNR=32							
E20K	**Nigu River**	85.16	20	P	P	16 46 00.3	-0.2	
	baz=247							
O22K	**Cooper Landing**	85.17	28	P	P	16 45 59.8	-0.8	
	baz=254							
SEW	**Seward**	85.19	29	P	P	16 45 59.9	-0.8	
	baz=254							
D20K	**Etivluk River**	85.19	20	P	P	16 45 59.4	-1.2	
	baz=246							
IMAR	**Indian Mountai**	85.19	23	P	P	16 45 59.7	-0.9	
RC01	**Rabbit Creek A**	85.33	28	P	P	16 46 00.1	-1.4	
	baz=253							
M22K	**Willow**	85.35	27	P	P	16 46 00.8	-0.6	
	baz=253							
H21K	**Melozitna Rive**	85.45	23	IAmb	IAmb	16 46 10.4		
	comp=Z,22nm,1.4s							
H21K	**Melozitna Rive**	85.45	23	P	P	16 46 00.6	-1.3	
	baz=250,SNR=7.1							
G21K	**Allakaket**	85.47	22	P	P	16 46 00.6	-1.5	
	baz=250							
CUT	**Chulitna**	85.47	26	P	P	16 46 00.8	-1.3	
	baz=253							
KTH	**Kantishna Hill**	85.54	25	IAmb	IAmb	16 46 06.4		
	comp=Z,25nm,1.0s							
B20K	**Meade River**	85.54	18	P	P	16 46 00.9	-1.3	
	baz=246							
I21K	**Tanana**	85.61	24	P	P	16 46 02.2	-0.5	
	baz=251							
BPAW	**Bear Paw Mtn.**	85.68	25	P	P	16 46 02.8	-0.3	
	baz=252							
F21K	**Alatna River**	85.73	21	IAmb	IAmb	16 46 09.0		
	comp=Z,24nm,1.4s							
F21K	**Alatna River**	85.73	21	P	P	16 46 02.6	-0.7	
	baz=250,SNR=11							
PMR	**Palmer**	85.76	27	P	P	16 46 05.5	+2.0	
PMR	**Palmer**	85.76	27	P	P	16 46 02.5	-1.0	
	baz=254							
TRF	**Thorofare Moun**	85.78	25	IAmb	IAmb	16 46 26.0		
	comp=Z,20nm,1.3s							
TRF	**Thorofare Moun**	85.78	25	P	P	16 46 02.1	-1.8	
	baz=253							
GHO	**Glory Hole Cre**	85.90	27	IAmb	IAmb	16 46 15.5		
	comp=Z,16nm,1.0s							
C21K	**Knifeblade Rid**	85.98	19	P	P	16 46 01.9	-2.5	
	baz=248							
E21K	**Killik River**	85.99	20	P	P	16 46 02.9	-1.7	
	baz=249							
KNK	**Knik Glacier**	86.02	28	P	P	16 46 03.4	-1.4	
	baz=255,SNR=19							
MLY	**Manley**	86.07	24	P	P	16 46 03.7	-1.4	
	baz=252,SNR=16							
H22K	**Ishtalitna Cre**	86.08	23	P	P	16 46 04.3	-0.8	
	baz=252,SNR=8.0							
QSPA	**South Pole Qui**	86.09	180	P	P	16 46 05.0	-0.3	
	comp=Z,2.6nm,0.6s,baz=322,slow=15,SNR=23							
	comp=Z,2.6nm,0.6s							
P23K	**Montague Islan**	86.15	29	P	P	16 46 04.4	-1.1	
	baz=256							
SML	**Sawmill**	86.18	27	P	P	16 46 04.2	-1.5	
	baz=255,SNR=15							
B21K	**Ikpikpuk River**	86.20	19	P	P	16 46 05.1	-0.5	
	baz=248,SNR=7.5							
A21K	**Barrow**	86.24	17	P	P	16 46 04.7	-1.0	
	baz=246							
F22K	**John River**	86.30	21	P	P	16 46 05.2	-0.9	
	baz=251							
WAT1	**Susitna Watana**	86.36	26	P	P	16 46 04.0	-2.6	
	baz=254							
RND	**Reindeer**	86.38	26	P	P	16 46 05.8	-0.9	
MCK	**McKinley**	86.44	25	P	P	16 46 04.7	-2.2	
	baz=254,SNR=10							
MCK	**McKinley**	86.44	25	P	P	16 46 05.5	-1.4	
M23K	**Glacier View**	86.46	27	P	P	16 46 05.0	-2.0	
	baz=255,SNR=9.0							
GLI	**Glacier Island**	86.52	28	P	P	16 46 06.6	-0.8	
	baz=256							
Q23K	**Middleton Isla**	86.53	30	P	P	16 46 06.7	-0.7	
	baz=257							
D22K	**Ayikyak River**	86.58	20	IAmb	IAmb	16 46 12.3		
	comp=Z,37nm,1.4s							
D22K	**Ayikyak River**	86.58	20	P	P	16 46 06.8	-0.7	
	baz=250,SNR=6.7							
A22K	**Sinclair Lake**	86.61	18	P	P	16 46 05.8	-1.7	
	baz=248							
NEA2	**Nenana**	86.62	25	IAmb	IAmb	16 46 12.8		
	comp=Z,21nm,1.2s							
NEA2	**Nenana**	86.62	25	P	P	16 46 06.0	-1.7	
	baz=254							
E22K	**Anaktuvuk Pass**	86.64	21	P	P	16 46 06.5	-1.4	
	baz=251							
SCM	**Sheep Creek Mo**	86.65	27	P	P	16 46 06.3	-1.7	
	baz=256,SNR=7.3							
WAT6	**Susitna Watana**	86.65	27	P	P	16 46 06.2	-2.0	
	baz=255							
I23K	**Minto, Yukon-K**	86.66	24	P	P	16 46 05.8	-2.0	
	baz=254,SNR=35							
H23K	**Yukon River**	86.78	23	IAmb	IAmb	16 46 13.0		
	comp=Z,28nm,1.1s							
H23K	**Yukon River**	86.78	23	P	P	16 46 07.0	-1.6	
	baz=253,SNR=24							
ARU	**Arti**	86.83	327	P	P	16 46 07.2	-1.8	
ARU	**Arti**	86.83	327	LR	LR	17 26 58.6		
	comp=Z,95nm,20.3s,baz=91,slow=37							
ARU	**Arti**	86.83	327	*d* P	P	16 46 08.2	-0.7	
ARU						16 49 28.2		
ARU				S	SKSac	16 56 31.0	-3.2	
ARU				pmax	pmax			
	comp=Z,8.0nm,1.2s							
B22K	**Teshekpuk Lake**	86.85	19	IAmb	IAmb	16 46 12.8		
	comp=Z,26nm,1.2s							
G23K	**Bananza Creek**	86.85	22	IAmb	IAmb	16 46 15.0		
	comp=Z,31nm,1.1s							
G23K	**Bananza Creek**	86.85	22	P	P	16 46 07.7	-1.2	
	baz=253,SNR=34							
COLD	**Coldfoot**	86.94	22	P	P	16 46 08.7	-0.6	
	baz=253,SNR=49							
DHY	**Denali Highway**	86.94	26	P	P	16 46 08.1	-1.4	
	baz=255,SNR=28							
MDM	**Murphy Dome**	87.07	24	IAmb	IAmb	16 46 12.1		
	comp=Z,37nm,1.6s							
EYAK	**Cordova Ski Ar**	87.09	29	P	P	16 46 09.0	-1.1	
	baz=257							
COLA	**College**	87.20	24	P	P	16 46 13.6	+3.1	
COLA	**College**	87.20	24	*i* P	P	16 46 09.7	-0.8	
COLA				pmax	pmax			
	comp=Z,35nm,1.3s							
KLU	**Klutina**	87.22	28	IAmb	IAmb	16 46 16.3		
	comp=Z,21nm,1.1s							
KLU	**Klutina**	87.22	28	P	P	16 46 09.1	-1.7	
	baz=257							
M24K	**Tolsona, Glenn**	87.24	27	P	P	16 46 09.0	-1.9	
	baz=257							
D23K	**Nanushuk River**	87.30	20	P	P	16 46 10.6	-0.4	
	baz=252							
E23K	**Chandalar**	87.40	21	P	P	16 46 10.7	-0.9	
	baz=253,SNR=68							
POKR	**Poker Plat Res**	87.44	24	P	P	16 46 10.7	-1.0	
	baz=255							
H24K	**Noodor Dome**	87.44	23	P	P	16 46 10.3	-1.4	
	baz=255,SNR=37							
HDA	**Harding Lake**	87.46	25	P	P	16 46 09.9	-2.0	
	baz=256,SNR=22							
ILAR	**Eielson Array**	87.57	25	P	P	16 46 10.7	-1.7	
ILAR	**Eielson Array**	87.57	25	P	P	16 46 10.5	-1.9	
	comp=Z,31nm,1.0s,baz=261,slow=4.9,SNR=61							
	comp=Z,31nm,1.0s							
ILAR	**Eielson Array**	87.57	25	P	P	16 46 10.7	-1.7	
TOLK	**Toolik Lake Re**	87.58	21	IAmb	IAmb	16 46 17.2		
	comp=Z,30nm,1.2s							
TOLK	**Toolik Lake Re**	87.58	21	P	P	16 46 11.6	-0.8	
	baz=253,SNR=13							
C23K	**Itkillik River**	87.59	19	IAmb	IAmb	16 46 21.6		
	comp=Z,16nm,0.9s							
C23K	**Itkillik River**	87.59	19	P	P	16 46 12.0	-0.3	
	baz=252,SNR=9.9							
BMRM	**Bremner River**	87.72	29	P	P	16 46 11.9	-1.4	
	baz=258,SNR=5.8							
PAX	**Paxson**	87.76	27	P	P	16 46 11.8	-1.6	
	baz=257,SNR=10.0							
E24K	**Your Creek**	87.81	21	IAmb	IAmb	16 46 18.1		
	comp=Z,14nm,1.2s							
E24K	**Your Creek**	87.81	21	P	P	16 46 12.3	-1.2	
	baz=254,SNR=13							
K24K	**Donelly Dome**	87.81	26	P	P	16 46 11.9	-1.7	
	baz=257,SNR=15							
G24K	**Hadweenzic Riv**	87.82	23	P	P	16 46 12.5	-1.0	
	baz=255,SNR=24							
N25K	**Chitina, Valde**	87.86	28	P	P	16 46 14.2	+0.3	
	baz=258,SNR=5.4							
F24K	**Squaw Lake**	87.88	22	P	P	16 46 14.9	+1.1	
	baz=255,SNR=40							
D24K	**Happy Valley**	87.99	20	IAmb	IAmb	16 46 19.2		
	comp=Z,30nm,1.2s							
D24K	**Happy Valley**	87.99	20	P	P	16 46 13.5	-0.8	
	baz=254							
J25K	**Salcha River,**	88.17	25	P	P	16 46 14.8	-0.5	
	baz=257,SNR=37							
PRP	**Porcupine Dome**	88.31	24	P	P	16 46 15.5	-0.5	
	baz=257							
VRDI	**Verde Repeater**	88.33	28	IAmb	IAmb	16 46 24.1		
	comp=Z,30nm,1.3s							
H25L	**Birch Creek**	88.36	23	P	P	16 46 14.7	-1.4	
	baz=257,SNR=28							
G25K	**Bearman Lake**	88.37	23	P	P	16 46 14.9	-1.2	
	baz=256,SNR=18							
MENT	**Mentasta**	88.53	27	P	P	16 46 20.0	+3.0	
MENT	**Mentasta**	88.53	27	IAmb	IAmb	16 46 25.7		
	comp=Z,24nm,1.1s							
MCARA	**McCarthy VSAT**	88.56	28	P	P	16 46 15.8	-1.3	
	baz=259							
SCRK	**Sand Creek**	88.62	26	IAmb	IAmb	16 46 20.6		
	comp=Z,37nm,1.6s							
SCRK	**Sand Creek**	88.62	26	P	P	16 46 15.9	-1.6	
	baz=258,SNR=14							
L26K	**Log Cabin Wild**	88.72	27	IAmb	IAmb	16 46 26.2		
	comp=Z,29nm,1.1s							
L26K	**Log Cabin Wild**	88.72	27	P	P	16 46 17.8	-0.1	
	baz=259							
F25K	**Christian Rive**	88.73	22	P	P	16 46 17.0	-0.9	
	baz=257,SNR=25							
M26K	**Nabesna, AK**	88.76	27	IAmb	IAmb	16 46 25.6		
	comp=Z,23nm,1.2s							
M26K	**Nabesna, AK**	88.76	27	P	P	16 46 15.6	-2.5	
	baz=259							
D25K	**Kavik River**	88.88	20	P	P	16 46 17.3	-1.2	
	baz=256							
E25K	**Arctic Village**	88.88	21	IAmb	IAmb	16 46 23.7		
	comp=Z,19nm,1.1s							
E25K	**Arctic Village**	88.88	21	P	P	16 46 17.3	-1.2	
	baz=257,SNR=21							
J26L	**Joseph Creek**	88.91	25	P	P	16 46 16.9	-2.0	
	baz=259,SNR=57							
BMAR	**Burnt Mountain**	89.10	22	P	P	16 46 19.4	-0.2	
I26K	**Coal Creek Min**	89.24	24	P	P	16 46 18.0	-2.2	
	baz=259							
M27K	**Edge Creek, AK**	89.27	27	P	P	16 46 18.4	-2.3	
	baz=260,SNR=12							
CTG	**Chitna Glacier**	89.29	29	P	P	16 46 19.4	-1.4	
	baz=261,SNR=16							
G26K	**Porcupine Rive**	89.30	23	P	P	16 46 19.6	-0.8	
	baz=259,SNR=27							
F26K	**Sheenjek River**	89.32	22	P	P	16 46 18.2	-2.4	
	baz=258,SNR=26							
L27K	**Beaver Creek,**	89.41	27	P	P	16 46 19.4	-1.7	
	baz=260,SNR=30							
BCAR	**Beaver Creek A**	89.43	27	P	P	16 46 21.3	0.0	
K27K	**Chicken**	89.46	26	P	P	16 46 19.8	-1.5	
	baz=260,SNR=64							
C26K	**Camden Bay**	89.51	20	P	P	16 46 21.1	-0.3	
	baz=258							
O28M	**Mount Upton**	89.82	29	P	P	16 46 21.7	-1.8	
	baz=262,SNR=5.3							
YUK3	**Moose Creek**	89.83	28	P	P	16 46 21.4	-2.0	
	baz=262,SNR=6.7							
C27K	**Jago River**	89.86	20	P	P	16 46 21.5	-1.6	
	baz=259							
I27K	**Kandik River**	89.92	24	P	P	16 46 22.0	-1.5	
	baz=261,SNR=34							
EGAK	**Eagle**	89.98	25	IAmb	IAmb	16 46 32.6		
	comp=Z,20nm,1.1s							
EGAK	**Eagle**	89.98	25	P	P	16 46 23.0	-0.7	
	baz=261,SNR=11							
H27K	**Steamboat Moun**	90.06	24	P	P	16 46 22.6	-1.5	
	baz=261,SNR=17							
YUK8	**Steele Glacier**	90.09	29	P	P	16 46 21.6	-3.0	
	baz=262,SNR=5.2							
G27K	**Doyon Drlg**	90.10	23	P	P	16 46 21.3	-3.0	
	baz=260							
E27K	**Coleen River**	90.35	22	IAmb	IAmb	16 46 32.5		
	comp=Z,15nm,1.4s							
E27K	**Coleen River**	90.35	22	P	P	16 46 22.9	-2.6	
	baz=261,SNR=5.9							
I28M	**Miner Creek**	90.59	25	P	P	16 46 24.3	-2.4	
	baz=262,SNR=12							
DAWY	**Dawson**	90.64	26	IAmb	IAmb	16 46 32.0		
	comp=Z,20nm,0.9s							
DAWY	**Dawson**	90.64	26	P	P	16 46 26.0	-0.9	
	baz=263,SNR=7.9							
YUK4	**Talbot Arm**	90.64	29	P	P	16 46 25.7	-1.4	
	baz=263,SNR=5.4							
YUK6	**Outpost Mounta**	90.73	29	P	P	16 46 25.1	-2.5	
	baz=263							
D27M	**Malcolm River**	90.75	21	P	P	16 46 25.6	-1.7	
	baz=261							
M29M	**Somme Creek**	90.85	28	IAmb	IAmb	16 46 34.1		
	comp=Z,19nm,1.2s							
M29M	**Somme Creek**	90.85	28	P	P	16 46 25.3	-2.6	
	baz=263,SNR=8.3							
P29M	**Windy Craggy**	90.89	30	IAmb	IAmb	16 46 32.0		
	comp=Z,19nm,1.2s							
P29M	**Windy Craggy**	90.89	30	P	P	16 46 24.0	-4.1	
	baz=264							
F28M	**Old Crow**	90.91	22	IAmb	IAmb	16 46 30.9		
	comp=Z,16nm,1.7s							
F28M	**Old Crow**	90.91	22	P	P	16 46 25.6	-2.4	
	baz=262							
L29M	**L29M**	91.08	27	P	P	16 46 26.0	-2.9	
	baz=264,SNR=6.5							
HYT	**Haines Junctio**	91.13	29	IAmb	IAmb	16 46 35.3		
	comp=Z,20nm,1.2s							
HYT	**Haines Junctio**	91.13	29	P	P	16 46 25.9	-3.4	
	baz=264							
E28M	**Babbage River**	91.17	21	P	P	16 46 26.4	-2.8	
	baz=262							
H29M	**Whitestone**	91.33	24	P	P	16 46 26.8	-3.2	
	baz=264							
P30M	**Million Dollar**	91.33	30	P	P	16 46 28.1	-2.1	
	baz=265							
N30M	**Aishikik Lake**	91.39	29	P	P	16 46 28.6	-1.9	
	baz=265							
K29M	**Barlow Dome**	91.43	26	P	P	16 46 29.3	-1.4	
	baz=264,SNR=7.2							
G29M	**Pine Creek**	91.54	23	IAmb	IAmb	16 46 35.5		
	comp=Z,8.4nm,0.9s							
G29M	**Pine Creek**	91.54	23	P	P	16 46 29.1	-1.9	
	baz=264							
D28M	**Stokes Point**	91.55	21	P	P	16 46 28.9	-2.0	
	baz=263							
PLBC	**Pleasant Camp**	91.57	31	P	P	16 46 28.8	-2.4	
	baz=265							
E29M	**Blow River**	91.75	22	P	P	16 46 30.6	-1.3	
	baz=264							
O30N	**Mendenhall**	91.82	29	P	P	16 46 31.4	-1.0	
	baz=265							
EPYK	**Eagle Plains**	92.00	24	P	P	16 46 32.3	-0.8	
	baz=265							
J30M	**Hart River**	92.02	26	IAmb	IAmb	16 46 38.2		
	comp=Z,30nm,1.8s							
J30M	**Hart River**	92.02	26	P	P	16 46 32.2	-1.2	
	baz=265							
N31M	**Braeburn, Yuko**	92.02	29	P	P	16 46 32.6	-0.8	
	baz=266							
I30M	**Mount Dempster**	92.05	25	IAmb	IAmb	16 46 38.0		
	comp=Z,14nm,1.6s							
I30M	**Mount Dempster**	92.05	25	P	P	16 46 32.1	-1.4	
	baz=265							
G30M	**tAoh Zraii Nji**	92.25	23	P	P	16 46 32.7	-1.6	
	baz=266							
S32K	**Killisnoo**	92.36	33	P	P	16 46 33.2	-1.7	
	baz=267							
WHY	**Whitehorse**	92.40	30	IAmb	IAmb	16 46 41.0		
	comp=Z,8.8nm,1.1s							
WHY	**Whitehorse**	92.40	30	P	P	16 46 33.6	-1.6	
	baz=266							
R32K	**Eaglecrest**	92.44	32	P	P	16 46 32.8	-2.5	
	baz=267							
F30M	**Barrier River**	92.47	23	P	P	16 46 33.5	-1.7	
	baz=266							
BELG	**Belogonoye**	92.66	322	LR	LR	17 31 14.8		
	comp=Z,125nm,20.8s,baz=92,slow=38							
BELG	**Belogornoye**	92.66	322	*i* P	P	16 46 35.0	-1.4	
BELG				pmax	pmax			
	comp=Z,2.0nm,1.0s							
M31M	**Drury Creek, Y**	92.73	28	P	P	16 46 34.5	-2.1	
	baz=267							
RAYN	**Ar Rayn**	92.91	293	P	P	16 46 41.3	+3.0	
P32M	**Atlin**	92.93	31	P	P	16 46 35.4	-2.1	
	baz=267							
H31M	**Peel River**	92.93	24	P	P	16 46 35.3	-2.2	
	baz=267							
G31M	**Satah River**	93.02	23	P	P	16 46 35.8	-1.9	
	baz=267							
CRAG	**Craig**	93.07	35	P	P	16 46 36

KIV					pmax	pmax		
	comp=Z,3.0nm,1.1s							
BBB	**Bella Bella**	**96.02**	**38**		LR	LR	17 23 02.7	
	comp=Z,315nm,21.7s,baz=272,slow=31							
A36M	**Sachs Harbour**	**96.05**	**18**		IAmb	IAmb	16 46 57.8	
	comp=Z,12nm,0.9s							
A36M	**Sachs Harbour**	**96.05**	**18**		P	**P**	**16 46 49.6**	**-1.9**
	baz=276							
C36M	**Paulatuk**	**96.74**	**21**		IAmb	IAmb	16 46 56.3	
	comp=Z,21nm,1.6s							
C36M	**Paulatuk**	**96.74**	**21**		P	**P**	**16 46 53.0**	**-1.7**
	baz=277							
KOTAN	**Kotaneelee Air**	**97.78**	**30**		P	**P**	**16 46 58.1**	**-1.6**
	baz=276							
SOC	**Sochi**	**97.94**	**313**	*e*	P	**P**	**16 46 57.5**	**-3.2**
SOC				*e*	S	**SKSac**	**16 57 32.5**	**-4.5**
SOC				*e*	SS	**SS**	**17 05 06.7**	**-1.0**
SOC				*e*	SSS	SSS	17 08 49.4	
BELA	**Belgrano 2**	**98.24**	**182**		P	**P**	**16 47 00.7**	**-0.7**
OBN	**Obninsk**	**99.14**	**325**	*i*	P	**Pdif**	**16 47 04.7**	**-1.1**
OBN				*i*			16 47 16.4	
OBN				*i*			16 51 07.7	
OBN					pmax	pmax		
	comp=Z,7.0nm,1.2s							
OBN					MLR	MLR		
	comp=Z,176nm,19.0s							
ARCES	**ARCESS Array B**	**101.03**	**341**		P	**Pdif**	**16 47 12.9**	**-1.0**
	comp=Z,2.5nm,0.9s,baz=81,slow=5.6,SNR=2.3							
YKA	**Yellowknife Ar**	**101.84**	**27**		P	**Pdif**	**16 47 16.6**	**-1.1**
	comp=Z,2.2nm,1.1s,baz=292,slow=5.3,SNR=7.1							
YKA	**Yellowknife Ar**	**101.84**	**27**	*i*	P	**Pdif**	**16 47 19.0**	**+1.3**
YKA					pmax	pmax		
	comp=Z,2.0nm,1.1s							
BRTR	**Keskin Array B**	**102.75**	**310**		P	**Pdif**	**16 47 21.6**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=90,slow=7.2,SNR=1.8							
SMMC	**Simmler**	**102.81**	**55**		P	**Pdif**	**16 47 20.3**	**-2.5**
	baz=274							
PKM	**Mcpherson Peak**	**103.00**	**55**		P	**Pdif**	**16 47 21.1**	**-2.7**
	baz=274							
OSTC	**Ostas**	**112.18**	**324**		AMS	AMS	17 40 30.0	
	comp=Z,300nm,18.0s							
DPC	**Dobruska-Polom**	**112.19**	**323**		AMS	AMS	17 43 40.0	
	comp=Z,200nm,20.8s							
UPC	**Upice**	**112.32**	**324**		AMS	AMS	17 41 50.0	
	comp=Z,300nm,16.6s							
PVCC	**Panska Ves**	**113.16**	**324**		AMS	AMS	17 42 50.0	
	comp=Z,200nm,20.9s							
PRU	**Pruhonice**	**113.39**	**324**		AMS	AMS	17 42 30.0	
	comp=Z,300nm,23.0s							
CLL	**Collm**	**113.73**	**325**	*e*	PKiKP	**PKiKP**	**16 52 03.0**	**-0.1**
CLL				*e*	SS	SS	17 08 30.0	-12
CLL				*ex*		x	17 09 42.0	
CLL					AMS	AMS	17 43 00.0	
	comp=Z,200nm,21.9s							
CLL	**Collm**	**113.73**	**325**	*e*	PKIKP	**PKiKP**	**16 52 03.0**	**-0.1**
HSKC	**Hora Svate Kat**	**113.78**	**325**		AMS	AMS	17 43 20.0	
	comp=Z,300nm,23.0s							
KHC	**Kasperske Hory**	**114.31**	**323**		AMS	AMS	17 43 30.0	
	comp=Z,300nm,24.2s							
TXAR	**Lajitas Array**	**117.33**	**59**		PKP	**PKPdf**	**16 52 10.5**	**-0.4**
	comp=Z,0.2nm,0.7s,baz=202,slow=1.0,SNR=2.6							
PLCA	**Paso Flores**	**128.95**	**153**		PKP	**PKiKP**	**16 52 33.9**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=228,slow=7.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**134.94**	**285**		PKP	**PKPdf**	**16 52 44.3**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=83,slow=3.5,SNR=7.1							
DBIC	**Dimbokro**	**141.94**	**276**		PKP	**PKPdf**	**16 52 58.1**	**+0.5**
	comp=Z,6.1nm,1.0s,baz=94,slow=4.0,SNR=4.1							
CPUP	**Villa Florida**	**146.93**	**156**		PKPbc	**PKPbc**	**16 53 08.1**	**+0.3**
	comp=Z,2.8nm,0.6s,baz=214,slow=12,SNR=11							
ITAB	**Concordia**	**147.85**	**165**			**PKPbc**	**16 53 11.2**	**+0.8**
LPAZ	**La Paz**	**148.07**	**129**			**PKPdf**	**16 53 10.1**	**+1.3**
LPAZ	**La Paz**	**148.07**	**129**		PKPbc	**PKPdf**	**16 53 10.6**	**+1.8**
	comp=Z,7.3nm,0.7s,baz=248,slow=14,SNR=15							
LPAZ	**La Paz**	**148.07**	**129**		PKP2	**PKPdf**	**16 53 10.1**	**+1.3**
ROSC	**El Rosal**	**148.73**	**87**		PKPbc	**PKPbc**	**16 53 13.9**	**+0.3**
	comp=Z,9.4nm,0.6s,baz=226,slow=16,SNR=2.7							
SDV	**Santo Domingo**	**152.08**	**78**			**PKPbc**	**16 53 19.5**	**-1.8**

WEL 01 16:39:06.4±0.7, 45.˚S±3.˚×16.˚8E±.˚, h77km±6km, M3.4/6, ML3.5/20, MLv3.4/6, Error ellipse: s-maj=0.0km s-min=0.0km az=104.4, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSZ	**Milford Sound**	**0.22**	**30**	P	Pn	16 39 18.7	+0.8
MSZ				S	Sn	16 39 27.7	+1.3
MLZ	**Mavora Lakes**	**0.56**	**154**	P	Pn	16 39 20.9	+0.4
MLZ				S	Sn	16 39 31.6	+0.7
DCZ	**Deep Cove**	**0.74**	**216**	P	Pn	16 39 21.7	-0.6
WKZ	**Wanaka**	**0.89**	**88**	P	Pn	16 39 25.3	+1.3
WKZ				S	Sn	16 39 39.1	+2.0
WHZ	**Wether Hill Ro**	**1.04**	**173**	P	Pn	16 39 25.7	0.0
WHZ				S	Sn	16 39 40.7	+0.5
JCZ	**Jackson Bay**	**1.07**	**43**	P	Pn	16 39 26.8	+0.5
JCZ				S	Sn	16 39 43.2	+2.1
EAZ	**Earnscleugh**	**1.15**	**109**	P	Pn	16 39 28.4	+1.2
EAZ				S	Sn	16 39 43.4	+0.7
PYZ	**Puysegur Point**	**1.51**	**210**	P	Pn	16 39 33.7	+1.9
TUZ	**Tuapeka**	**1.71**	**130**	P	Pn	16 39 35.3	+1.0
TUZ				S	Sn	16 39 54.8	-0.6
LBZ	**Lake Benmore**	**1.79**	**75**	P	Pn	16 39 35.8	+0.4
SYZ	**Scrubby Hill**	**1.93**	**151**	P	Pn	16 39 37.9	+0.6
SYZ				S	Sn	16 40 00.2	-0.5
APZ	**The Paps**	**1.97**	**176**	P	Pn	16 39 38.1	+0.2
APZ				S	Sn	16 40 02.0	+0.2
FOZ	**Fox Glacier**	**1.98**	**49**	P	Pn	16 39 38.4	+0.4
ODZ	**Otahua Downs**	**2.05**	**96**	P	Pn	16 39 39.1	+0.2
HHSZ	**Highcliff Hill**	**2.24**	**118**	P	Pn	16 39 41.7	+0.3
TMZ	**Timaru**	**2.36**	**79**	P	Pn	16 39 42.7	-0.4
GCSZ	**Gaunt Creek Bo**	**2.41**	**55**	P	Pn	16 39 43.4	-0.2
ARCZ	**Arundel**	**2.61**	**71**	P	Pn	16 39 45.8	-0.6
RPZ	**Rata Peaks**	**2.62**	**65**	P	Pn	16 39 46.3	-0.3
WVZ	**Waitaha Valley**	**2.79**	**51**	P	Pn	16 39 48.6	-0.2
MHCZ	**Mount Hutt**	**3.04**	**65**	P	Pn	16 39 51.6	-0.7
OXZ	**Oxford**	**3.44**	**65**	P	Pn	16 39 57.7	0.0
LTZ	**Lake Taylor**	**3.87**	**59**	P	Pn	16 40 01.8	-1.7
DSZ	**Denniston Nort**	**4.29**	**45**	P	Pn	16 40 08.9	-0.3
MRNZ	**Matariki Terra**	**5.03**	**48**	P	Pn	16 40 19.3	-0.1
TKNZ	**Takaka Hill**	**5.40**	**47**	P	Pn	16 40 23.9	-0.5

*JMA **01** 16:47:28.6±0.1, 24.˚4N±0.˚5×122.˚1E±0.˚3, h66km±1km, MV3.9/19, TAIWAN REGION*
*IDC **01** 16:47:29.7±4.0, 24.˚43N×122.˚21E, h76km±36km, mb3.5/11, mbtmp3.8/13, ML3.6/2, MS4.1/4, Error ellipse: s-maj=28.7km s-min=20.9km az=32.0*
*TAP **01** 16:47:29.1, 24.˚48N×122.˚06E, h60km, ML4.4, B*
*NEIC **01** 16:47:29.4±1.1, 24.˚47N±0.˚04×122.˚08E±0.˚05, h62km±7km, mb4.2/21, Error ellipse: s-maj=6.1km s-min=5.9km az=224.0*

ISC 01 16:47:29.0±0.6, 24.˚48N±0.˚02×122.˚09E±0.˚02, h63km±4km, n246, σ1s37/429, mb4.1/22, 28C-17D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.14**	**115**	⇓P	**Pn**	**16 47 39.1**	**+0.8**
	baz=126						
EOS2				S	**Sn**	**16 47 46.6**	**+1.6**
	baz=126						
TWC	**Suao**	**0.26**	**300**	⇑*i*P	**Pn**	**16 47 39.2**	**+0.1**
	baz=310						
TWC				*i* S	**Sn**	**16 47 46.3**	**-0.2**
	baz=310						
EOS3	**EOS3**	**0.28**	**133**	⇑P	**Pn**	**16 47 40.0**	**+0.9**
	baz=147						
EOS3				S	**Sn**	**16 47 47.7**	**+1.3**
	baz=147						
EWUT	**Wuta**	**0.29**	**264**	⇑P	**Pn**	**16 47 39.4**	**+0.1**
	baz=256						
EWUT				S	**Sn**	**16 47 46.9**	**0.0**
	baz=256						
ENA	**Nanau**	**0.33**	**261**	⇑*i*P	**Pn**	**16 47 39.6**	**0.0**
	baz=259						
ENA				*i* S	**Sn**	**16 47 47.4**	**+0.1**
	baz=259						
EAHA	**Aohua**	**0.35**	**245**	⇑P	**Pn**	**16 47 39.9**	**0.0**
	baz=242						
EAHA				S	**Sn**	**16 47 47.9**	**+0.2**
	baz=242						
EHP	**Heping Village**	**0.36**	**243**	P	**Pn**	**16 47 40.1**	**+0.2**
	baz=246						
EHP				S	**Sn**	**16 47 48.4**	**+0.6**
	baz=246						
NDS	**Dongshan**	**0.38**	**294**	⇑P	**Pn**	**16 47 40.3**	**+0.3**
	baz=299						
NDS				S	**Sn**	**16 47 48.3**	**+0.2**
	baz=299						
EGS		**0.39**	**338**	⇑*i*P	**Pn**	**16 47 40.1**	**-0.1**
	baz=352						
EGS				*e*S	**Sn**	**16 47 49.1**	**+0.8**
	baz=352						
EOS4	**EOS4**	**0.41**	**150**	P	**Pn**	**16 47 40.6**	**+0.7**
	baz=155						
EOS4				S	**Sn**	**16 47 48.6**	**+0.8**
	baz=155						
ILA	**Ilan**	**0.43**	**312**	*i* P	**Pn**	**16 47 41.0**	**+0.6**
	baz=319						
ILA				*i* S	**Sn**	**16 47 49.6**	**+0.8**
	baz=319						
NTC	**Toucheng**	**0.45**	**327**	P	**Pn**	**16 47 40.7**	**+0.1**
	baz=334						
NTC				S	**Sn**	**16 47 49.4**	**+0.3**
	baz=334						
TWE	**Neicheng**	**0.46**	**302**	⇑*i*P	**Pn**	**16 47 41.3**	**+0.5**
	baz=304						
TWE				*i* S	**Sn**	**16 47 49.8**	**+0.5**
	baz=304						
ENTT	**Nioudou**	**0.51**	**289**	⇑*i*P	**Pn**	**16 47 41.7**	**+0.4**
	baz=283						
ENTT				*i* S	**Sn**	**16 47 50.6**	**+0.3**
	baz=283						
LATG	**Datong**	**0.52**	**276**	⇑P	**Pn**	**16 47 41.8**	**+0.2**
	baz=270						
LATG				S	**Sn**	**16 47 50.7**	**0.0**
	baz=270						
ETL	**Fush Village**	**0.53**	**234**	P	**Pn**	**16 47 41.3**	**-0.3**
	baz=231						
ETL				S	**Sn**	**16 47 50.7**	**-0.1**
	baz=231						
TWB1	**Santiao Chiao**	**0.54**	**350**	⇑*i*P	**Pn**	**16 47 41.3**	**-0.3**
	baz=354						
TWB1				*i* S	**Sn**	**16 47 49.8**	**-1.0**
	baz=354						
FUSB	**Fushanzhiwuyua**	**0.54**	**301**	P	**Pn**	**16 47 42.3**	**+0.6**
	baz=308						
FUSB				S	**Sn**	**16 47 51.5**	**+0.5**
	baz=308						
NDT	**Datong Townshi**	**0.54**	**283**	⇑P	**Pn**	**16 47 42.2**	**+0.5**
	baz=278						
NDT				S	**Sn**	**16 47 51.1**	**+0.2**
	baz=278						
NACB	**Ninganchiao**	**0.55**	**236**	P	**Pn**	**16 47 41.6**	**-0.1**
NACB	**Ninganchiao**	**0.55**	**236**		**Pn**	**16 47 41.2**	**-0.5**
NACB					Sn	**16 47 50.5**	**-0.5**
NACB	**Ninganchiao**	**0.55**	**236**	⇑P	**Pn**	**16 47 41.2**	**-0.5**
	baz=227						
NACB				S	**Sn**	**16 47 50.5**	**-0.5**
	baz=227						
TWD	**Chiawan**	**0.60**	**229**	⇑*i*P	**Pn**	**16 47 42.0**	**-0.4**
	baz=226						
TWD				*i* S	**Sn**	**16 47 52.1**	**+0.1**
	baz=226						
NWLT	**Wulai**	**0.61**	**299**	⇓P	**Pn**	**16 47 43.1**	**+0.6**
	baz=300						
NWLT				S	**Sn**	**16 47 52.9**	**+0.5**
	baz=300						
ETLH	**Xiulin Townshi**	**0.62**	**244**	⇑P	**Pn**	**16 47 42.5**	**-0.1**
	baz=236						
ETLH				S	**Sn**	**16 47 52.0**	**-0.6**
	baz=236						
SXI1	**Grass Mountain**	**0.65**	**342**	P	**Pn**	**16 47 42.7**	**-0.2**
	baz=353						
SXI1				*e*S	**Sn**	**16 47 52.5**	**-0.5**
	baz=353						
NNSB	**Datong**	**0.65**	**266**	*i* P	**Pn**	**16 47 43.1**	**+0.1**
	baz=258						
NNSB				S	**Sn**	**16 47 53.1**	**-0.1**
	baz=258						
NWF	**Wu-fen Shan**	**0.66**	**334**	*i* P	**Pn**	**16 47 43.0**	**0.0**
	baz=337						
NWF				S	**Sn**	**16 47 52.7**	**-0.5**
	baz=337						
WFSB	**Wu-fen Shan**	**0.66**	**334**	P	**Pn**	**16 47 43.1**	**+0.1**
	baz=345						
WFSB				S	**Sn**	**16 47 52.7**	**-0.4**
	baz=345						
NNS	**Nan Shan**	**0.66**	**267**	*i* P	**Pn**	**16 47 43.4**	**+0.3**
	baz=259						
NNS				*i* S	**Sn**	**16 47 53.3**	**0.0**
	baz=259						
HWA	**Hwalien**	**0.67**	**222**	⇑*i*P	**Pn**	**16 47 43.3**	**+0.2**
	baz=218						
HWA				*i* S	**Sn**	**16 47 54.8**	**+1.4**
	baz=218						
YHNB	**Yeheng**	**0.68**	**286**	P	**Pn**	**16 47 43.9**	**+0.6**
YHNB	**Yeheng**	**0.68**	**286**		**Pn**	**16 47 43.6**	**+0.3**
YHNB					Sn	**16 47 53.9**	**+0.1**
YHNB	**Yeheng**	**0.68**	**286**	⇓P	**Pn**	**16 47 43.7**	**+0.4**
	baz=279						
YHNB				S	**Sn**	**16 47 53.9**	**+0.1**
	baz=279						
TWA	**Mucha**	**0.68**	**317**	*i* P	**Pn**	**16 47 42.4**	**-0.9**
	baz=329						
TWA				S	**Sn**	**16 47 53.8**	**+0.1**
	baz=329						
NSK	**Sanguang**	**0.70**	**287**	⇓*i*P	**Pn**	**16 47 43.9**	**+0.4**
	baz=279						
NSK				*i* S	**Sn**	**16 47 54.0**	**-0.1**
	baz=279						
NHDH	**Xindian Distri**	**0.71**	**313**	P	**Pn**	**16 47 44.1**	**+0.6**
	baz=325						
NHDH				S	**Sn**	**16 47 55.0**	**+0.9**
	baz=325						
TNOU	**National Taiwa**	**0.73**	**337**	P	**Pn**	**16 47 43.6**	**-0.2**
	baz=346						
TNOU				*e*S	**Sn**	**16 47 54.3**	**-0.3**
	baz=346						
NHY	**Taipei**	**0.73**	**320**	P	**Pn**	**16 47 44.8**	**+1.0**
	baz=333						
NHY				S	**Sn**	**16 47 55.3**	**+0.6**
	baz=333						
TATO	**Taipei**	**0.74**	**312**	P	**Pn**	**16 47 44.6**	**+0.7**
TATO	**Taipei**	**0.74**	**312**		**Pn**	**16 47 44.2**	**+0.3**
TATO					Sn	**16 47 54.3**	**-0.6**
TATO	**Taipei**	**0.74**	**312**	P	**Pn**	**16 47 44.5**	**+0.5**
	baz=324						
TATO				S	**Sn**	**16 47 55.5**	**+0.6**
	baz=324						
ETM	**Tongmen**	**0.75**	**227**	P	**Pn**	**16 47 43.8**	**-0.2**
	baz=225						
ETM				S	**Sn**	**16 47 54.7**	**-0.3**
	baz=225						
TEYL	**Yanliau Villag**	**0.76**	**217**	⇑P	**Pn**	**16 47 43.8**	**-0.3**
	baz=215						
TEYL				S	**Sn**	**16 47 54.6**	**-0.6**
	baz=215						
LXIB	**Xiulin Townshi**	**0.77**	**234**	⇑P	**Pn**	**16 47 44.1**	**-0.3**
	baz=232						
LXIB				S	**Sn**	**16 47 55.4**	**-0.3**
	baz=232						
TAP	**Taipei**	**0.77**	**316**	*i* P	**Pn**	**16 47 44.7**	**+0.4**
	baz=330						
TAP				*i* S	**Sn**	**16 47 56.8**	**+1.3**
	baz=330						
JYNG	**Yonagunijimaku**	**0.78**	**92**	P	**Pn**	**16 47 44.7**	**+0.4**
JYNG				*e*S	**Sn**	**16 47 55.9**	**+0.2**
BACT	**New Taipei Cit**	**0.79**	**311**	P	**Pn**	**16 47 45.3**	**+0.8**
	baz=323						
BACT				S	**Sn**	**16 47 56.6**	**+0.7**
	baz=323						
FUSS	**Fushou**	**0.81**	**254**	P	**Pn**	**16 47 45.4**	**+0.3**
	baz=247						
FUSS				S	**Sn**	**16 47 56.3**	**-0.4**
	baz=247						
YM01	**YM01**	**0.82**	**325**	P	**Pn**	**16 47 44.9**	**0.0**
	baz=336						
YM01				*e*S	**Sn**	**16 47 56.4**	**-0.3**
	baz=336						
NWRT	**Kuosheng**	**0.82**	**331**	*e*P	**Pn**	**16 47 45.5**	**+0.6**
	baz=334						
NWRT				*e*S	**Sn**	**16 47 56.6**	**0.0**
	baz=334						
WHF	**Hehuan Shan**	**0.83**	**247**	*i* P	**Pn**	**16 47 45.5**	**+0.1**
	baz=237						
WHF				*i* S	**Sn**	**16 47 57.1**	**-0.3**
	baz=237						
YOJ	**Yonaguni jima**	**0.84**	**91**	P	**Pn**	**16 47 45.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.84**	**91**		**Pn**	**16 47 45.1**	**0.0**
YOJ	**Yonaguni jima**	**0.84**	**91**	P	**Pn**	**16 47 45.4**	**+0.3**
YOJ				S	**Sn**	**16 47 57.4**	**+0.5**
YOJ	**Yonaguni jima**	**0.84**	**91**	⇓P	**Pn**	**16 47 45.4**	**+0.3**
	baz=83						
YOJ				S	**Sn**	**16 47 57.3**	**+0.4**
	baz=83						
SHUL	**Shoufeng**	**0.84**	**215**	⇑P	**Pn**	**16 47 45.2**	**+0.1**
	baz=212						
SHUL				S	**Sn**	**16 47 57.8**	**+0.7**
	baz=212						
YM08	**YM08**	**0.84**	**327**	P	**Pn**	**16 47 44.8**	**-0.5**
	baz=337						
YM08				S	**Sn**	**16 47 55.9**	**-1.2**
	baz=337						
TWT	**Tachien**	**0.87**	**255**	*i* P	**Pn**	**16 47 46.8**	**+1.2**
	baz=250						
TWT				*i* S	**Sn**	**16 47 58.4**	**+0.5**
	baz=250						
TWS1	**Kuangyinshan**	**0.87**	**315**	*i* P	**Pn**	**16 47 46.0**	**+0.4**
	baz=325						
TWS1				*i* S	**Sn**	**16 47 59.0**	**+1.2**
	baz=325						
ANP	**Anpu**	**0.88**	**324**	*i* P	**Pn**	**16 47 45.7**	**-0.1**
	baz=335						
ANP				*e*S	**Sn**	**16 47 57.5**	**-0.5**
	baz=335						
TDCB	**Techi**	**0.88**	**255**	P	**Pn**	**16 47 46.7**	**+0.8**
	baz=249						
TDCB				S	**Sn**	**16 47 58.2**	**0.0**
	baz=249						
NTY	**Taoyuan**	**0.89**	**306**	P	**Pn**	**16 47 46.7**	**+0.9**
	baz=315						
NTY				S	**Sn**	**16 47 59.5**	**+1.4**
	baz=315						
ESL	**Shilin**	**0.90**	**223**	⇑*i*P	**Pn**	**16 47 45.4**	**-0.5**
	baz=230						
ESL				*i* S	**Sn**	**16 47 57.3**	**-1.0**
	baz=230						
NTST	**Danshui**	**0.90**	**320**	P	**Pn**	**16 47 46.1**	**+0.2**
	baz=330						
NTST				S	**Sn**	**16 48 00.2**	**+1.8**
	baz=330						
NFF	**Wufeng Townshi**	**0.90**	**280**	P	**Pn**	**16 47 46.6**	**+0.6**
	baz=289						
NFF				S	**Sn**	**16 47 59.1**	**+0.6**
	baz=289						
TWY	**Chenhua**	**0.91**	**331**	*i* P	**Pn**	**16 47 47.2**	**+1.1**
	baz=333						
TWY				S	**Sn**	**16 47 60.0**	**+1.3**
	baz=333						
NSM	**Shimen**	**0.93**	**330**	*e*P	**Pn**	**16 47 47.1**	**+0.9**
	baz=333						
NSM				*e*S	**Sn**	**16 47 59.2**	**+0.3**
	baz=333						
CHGB	**Renai**	**0.94**	**244**	P	**Pn**	**16 47 47.1**	**+0.5**
	baz=234						
CHGB				S	**Sn**	**16 47 59.7**	**+0.2**
	baz=234						
NJD	**Zhudong**	**0.95**	**286**	P	**Pn**	**16 47 47.6**	**+1.0**
	baz=286						
NJD				S	**Sn**	**16 48 01.4**	**+1.9**
	baz=286						
NCU	**National Centr**	**0.96**	**301**	⇓*i*P	**Pn**	**16 47 46.2**	**-0.5**
	baz=302						
NCU				*i* S	**Sn**	**16 47 59.5**	**-0.2**
	baz=302						
NCUH	**Zhongli**	**0.96**	**301**	⇓P	**Pn**	**16 47 47.3**	**+0.6**
	baz=302						
NCUH				S	**Sn**	**16 48 00.4**	**+0.7**
	baz=302						
OWD	**Renai**	**0.99**	**238**	P	**Pn**	**16 47 47.5**	**+0.3**
	baz=229						
OWD				S	**Sn**	**16 47 59.9**	**-0.7**
	baz=229						
WARBT	**Fenglin Townsh**	**0.99**	**221**	⇑P	**Pn**	**16 47 46.5**	**-0.7**
	baz=226						
WARBT				S	**Sn**	**16 47 58.8**	**-1.7**
	baz=226						
LIOB	**Emei**	**1.00**	**280**	P	**Pn**	**16 47 47.9**	**+0.8**
	baz=280						
LIOB				S	**Sn**	**16 48 01.8**	**+1.2**
	baz=280						
NSTT	**Nanjuang**	**1.01**	**279**	⇓*i*P	**Pn**	**16 47 48.0**	**+0.7**
	baz=279						
NSTT				*i* S	**Sn**	**16 48 01.6**	**+0.8**
	baz=279						
EGFH	**Guangfu**	**1.01**	**217**	P	**Pn**	**16 47 46.9**	**-0.4**
	baz=225						
EGFH				S	**Sn**	**16 47 59.8**	**-1.0**
	baz=225						
WUSB	**Renai**	**1.01**	**242**	⇑P	**Pn**	**16 47 48.0**	**+0.5**
	baz=233						
WUSB				S	**Sn**	**16 48 01.1**	**0.0**
	baz=233						
HSN1	**Hsinchu**	**1.02**	**287**	P	**Pn**	**16 47 48.2**	**+0.8**
	baz=287						
HSN1				S	**Sn**	**16 48 02.2**	**+1.0**
	baz=287						
SBCB	**Hsinchu**	**1.06**	**287**	⇓P	**Pn**	**16 47 48.6**	**+0.7**
	baz=288						
SBCB				S	**Sn**	**16 48 02.9**	**+0.9**
	baz=288						
WHP	**Taichung City**	**1.07**	**259**	⇓P	**Pn**	**16 47 50.5**	**+2.3**
	baz=255						
WHP				S	**Sn**	**16 48 04.1**	**+1.8**
	baz=255						
HSN	**Hsinchu**	**1.07**	**288**	*i* P	**Pn**	**16 47 48.4**	**+0.3**
	baz=290						
HSN				*i* S	**Sn**	**16 48 02.4**	**+0.1**
	baz=290						
NHW	**Xinwu Township**	**1.09**	**299**	*i* P	**Pn**	**16 47 48.8**	**+0.5**
	baz=300						
NHW				S	**Sn**	**16 48 02.7**	**+0.1**
	baz=300						
VWDT	**VWDT**	**1.13**	**231**	⇑P	**Pn**	**16 47 49.5**	**+0.6**
	baz=221						
VWDT				S	**Sn**	**16 48 03.4**	**-0.2**
	baz=221						
NJN	**Zhunan**	**1.13**	**281**	P	**Pn**	**16 47 49.3**	**+0.4**
	baz=290						
NJN				S	**Sn**	**16 48 05.4**	**+1.8**
	baz=290						
WPL	**Puli Township**	**1.14**	**246**	P	**Pn**	**16 47 50.1**	**+1.1**
	baz=240						
WPL				S	**Sn**	**16 48 04.8**	**+1.0**
	baz=240						
PCYT	**Pengchaiyu**	**1.15**	**359**	*i* P	**Pn**	**16 47 49.2**	**+0.1**
	baz=354						
PCYT				S	**Sn**	**16 48 04.5**	**+0.4**
	baz=354						
DPDB	**Guoxing**	**1.15**	**248**	P	**Pn**	**16 47 50.5**	**+1.3**
	baz=242						
DPDB				S	**Sn**	**16 48 05.2**	**+0.9**
	baz=242						
HGSD	**Ruisui**	**1.16**	**212**	⇑P	**Pn**	**16 47 49.0**	**-0.2**
	baz=201						
HGSD				*e*S	**Sn**	**16 48 04.8**	**+0.5**
	baz=201						
WCS	**Beigang Elemen**	**1.16**	**249**	P	**Pn**	**16 47 50.6**	**+1.4**
	baz=248						
WCS				S	**Sn**	**16 48 05.8**	**+1.6**
	baz=248						
NMLH	**Miaoli**	**1.19**	**273**	P	**Pn**	**16 47 50.6**	**+0.9**
	baz=272						
NMLH				S	**Sn**	**16 48 06.8**	**+1.8**
	baz=272						
EHYH	**Wanrong**	**1.20**	**215**	P	**Pn**	**16 47 49.3**	**-0.4**
	baz=223						
EHY

	baz=230								
TYC	**Yuchr**	**1.27 243**	*i*	P		**Pn**	**16 47 51.8**	**+1.1**
	baz=235								
TYC			*i*	S		**Sn**	**16 48 07.8**	**+1.0**
	baz=235								
ECBN	**Changbin**	**1.30 207**		P		**Pn**	**16 47 50.8**	**-0.3**
	baz=198								
ECBN				S		**Sn**	**16 48 06.8**	**-0.8**
	baz=198								
YULB	**Yu-li**	**1.30 214**		P		**Pn**	**16 47 50.6**	**-0.6**
YULB	**Yu-li**	**1.30 214**				**Pn**	**16 47 50.4**	**-0.8**
YULB	**Yu-li**	**1.30 214**		P		**Pn**	**16 47 50.4**	**-0.8**
	baz=220								
YULB				S		**Sn**	**16 48 06.1**	**-1.6**
	baz=220								
EYUL	**Yuli**	**1.33 212**		P		**Pn**	**16 47 51.2**	**-0.4**
	baz=220								
EYUL				S		**Sn**	**16 48 08.9**	**+0.5**
	baz=220								
WDJ	**Dajia District**	**1.33 265**		P		**Pn**	**16 47 52.8**	**+1.2**
	baz=264								
WDJ				S		**Sn**	**16 48 09.5**	**+1.1**
	baz=264								
TCU	**Taichung**	**1.33 256** ⇓	*i*	P		**Pn**	**16 47 52.8**	**+1.2**
	baz=254								
TCU			*i*	S		**Sn**	**16 48 10.8**	**+2.4**
	baz=254								
TWF1	**Yuli**	**1.34 213**	*i*	P		**Pn**	**16 47 50.9**	**-0.7**
	baz=220								
TWF1				S		**Sn**	**16 48 09.3**	**+0.7**
	baz=220								
WHYT	**Xinyi Township**	**1.38 236**		P		**Pn**	**16 47 53.8**	**+1.6**
	baz=227								
WHYT				S		**Sn**	**16 48 11.9**	**+2.4**
	baz=227								
WJS	**Zhushan**	**1.41 243**		P		**Pn**	**16 47 54.3**	**+1.7**
	baz=253								
WJS				S		**Sn**	**16 48 13.1**	**+2.9**
	baz=253								
WNT1	**Nantou City**	**1.41 247**		P		**Pn**	**16 47 54.3**	**+1.7**
	baz=258								
WNT1				S		**Sn**	**16 48 13.3**	**+3.0**
	baz=258								
WNT	**Mingjian**	**1.42 245** ⇓	*i*	P		**Pn**	**16 47 54.3**	**+1.6**
	baz=256								
WNT			*i*	S		**Sn**	**16 48 13.6**	**+3.1**
	baz=256								
CHKH	**Chenggong**	**1.43 207**		P		**Pn**	**16 47 52.1**	**-0.8**
	baz=195								
CHKH				S		**Sn**	**16 48 09.3**	**-1.4**
	baz=195								
WCHH	**Zhanghua**	**1.46 255**		P		**Pn**	**16 47 54.4**	**+1.2**
	baz=253								
WCHH				S		**Sn**	**16 48 13.4**	**+2.1**
	baz=253								
IRIF	**Iriomote-Funau**	**1.50 95**		P		**Pn**	**16 47 54.0**	**+0.3**
IRIF				S		**Sn**	**16 48 12.7**	**+0.3**
ALS	**Alishan**	**1.52 231**	*i*	P		**Pn**	**16 47 55.7**	**+1.3**
	baz=220								
ALS				S		**Sn**	**16 48 13.7**	**+0.3**
	baz=220								
CHKT	**Chengkung**	**1.53 206** ⇑	*i*	P		**Pn**	**16 47 53.3**	**-0.8**
	baz=195								
CHKT			*i*	S		**Sn**	**16 48 11.2**	**-1.8**
	baz=195								
EHD	**Haiduan**	**1.55 212**		P		**Pn**	**16 47 53.6**	**-0.9**
	baz=218								
EHD				S		**Sn**	**16 48 12.6**	**-1.1**
	baz=218								
CHN5	**Tsauling**	**1.56 236**	*i*	P		**Pn**	**16 47 56.4**	**+1.7**
	baz=246								
CHN5			*i*	S		**Sn**	**16 48 16.3**	**+2.2**
	baz=246								
ECS	**Chishang**	**1.59 210**		P		**Pn**	**16 47 55.1**	**0.0**
	baz=217								
ECS				S		**Sn**	**16 48 15.2**	**+0.5**
	baz=217								
WGK	**Gukeng**	**1.61 241** ⇑	*i*	P		**Pn**	**16 47 57.2**	**+2.0**
	baz=250								
WGK			*i*	S		**Sn**	**16 48 18.4**	**+3.4**
	baz=250								
HATJ	**Hateruma jima**	**1.62 105**		P		**Pn**	**16 47 56.5**	**+1.1**
HATJ				S		**Sn**	**16 48 16.4**	**+1.2**
ELDTW	**Lidau**	**1.62 218**	*i*	P		**Pn**	**16 47 55.1**	**-0.4**
	baz=215								
ELDTW			*i*	S		**Sn**	**16 48 15.0**	**-0.5**
	baz=215								
WDLH	**Douliu**	**1.62 241** ⇓		P		**Pn**	**16 47 57.1**	**+1.7**
	baz=251								
WDLH				S		**Sn**	**16 48 17.8**	**+2.4**
	baz=251								
EDH	**Donghe**	**1.66 206**		P		**Pn**	**16 47 54.1**	**-1.9**
	baz=197								
EDH				S		**Sn**	**16 48 13.2**	**-3.2**
	baz=197								
WRL	**Guolierlin Hig**	**1.67 250** ⇓		P		**Pn**	**16 47 56.8**	**+0.7**
	baz=260								
WRL				S		**Sn**	**16 48 17.2**	**+0.7**
	baz=260								
WCKO	**Fanlu**	**1.71 233**		P		**Pn**	**16 47 59.0**	**+2.3**
	baz=224								
WCKO				S		**Sn**	**16 48 20.6**	**+3.1**
	baz=224								
WTK	**Tuku**	**1.75 244**		P		**Pn**	**16 47 58.7**	**+1.6**
	baz=255								
WTK				S		**Sn**	**16 48 20.9**	**+2.5**
	baz=255								
CHN2	**Minshiung**	**1.75 238**	*i*	P		**Pn**	**16 47 59.5**	**+2.3**
	baz=249								
CHN2			*i*	S		**Sn**	**16 48 21.6**	**+3.0**
	baz=249								
JKRS	**Kuro-shima**	**1.76 97**		P		**Pn**	**16 47 57.8**	**+0.5**
JKRS				S		**Sn**	**16 48 19.9**	**+1.1**
WTCT	**Ta-ch'eng**	**1.77 250**	*i*	P		**Pn**	**16 47 58.1**	**+0.8**
	baz=260								
WTCT			*i*	S		**Sn**	**16 48 20.2**	**+1.4**
	baz=260								
CHN4	**Tsaushan**	**1.77 231**	*i*	P		**Pn**	**16 47 59.4**	**+1.9**
	baz=220								
CHN4			*i*	S		**Sn**	**16 48 20.3**	**+1.2**
	baz=220								
STYH	**Taoyuan**	**1.77 223**		P		**Pn**	**16 47 58.8**	**+1.3**
	baz=216								
STYH				S		**Sn**	**16 48 20.4**	**+1.3**
	baz=216								
TPUB	**Ta-pu**	**1.78 229**		P		**Pn**	**16 47 59.5**	**+1.9**
TPUB	**Ta-pu**	**1.78 229**				**Pn**	**16 47 58.9**	**+1.3**
TPUB	**Ta-pu**	**1.78 229**		P		**Pn**	**16 47 59.2**	**+1.6**
	baz=219								
TPUB				S		**Sn**	**16 48 21.8**	**+2.5**
	baz=219								
STYT	**Tauyuan**	**1.79 223**	*e*	P		**Pn**	**16 47 58.5**	**+0.7**
	baz=216								
STYT			*e*	S		**Sn**	**16 48 20.4**	**+0.8**
	baz=216								
LONT	**Longtian**	**1.80 210**		P		**Pn**	**16 47 57.0**	**-0.8**
	baz=207								
LONT				S		**Sn**	**16 48 19.3**	**-0.3**
	baz=207								
CHY	**Chiayi**	**1.81 238**	*e*	P		**Pn**	**16 47 59.9**	**+1.9**
	baz=249								
CHY				S		**Sn**	**16 48 23.2**	**+3.2**
	baz=249								
WTP	**Ta-pu**	**1.83 228**	*i*	P		**Pn**	**16 48 00.1**	**+1.8**
	baz=218								
WTP			*i*	S		**Sn**	**16 48 21.8**	**+1.4**
	baz=218								
JIJ	**Ishigaki jima**	**1.87 93**		P		**Pn**	**16 47 58.8**	**0.0**
JIJ				S		**Sn**	**16 48 21.3**	**-0.1**
TWGBT	**Beinan**	**1.90 210**		P		**Pn**	**16 47 58.5**	**-0.7**
TWGBT	**Beinan**	**1.90 210**	⇑	P		**Pn**	**16 47 58.1**	**-1.1**
	baz=201								
TWGBT				S		**Sn**	**16 48 20.3**	**-1.8**
	baz=201								
TWG	**Pinlang**	**1.90 210**				**Pn**	**16 47 58.0**	**-1.2**
TWG	**Pinlang**	**1.90 210**	*i*	P		**Pn**	**16 47 58.2**	**-1.0**
	baz=201								
TWG			*i*	S		**Sn**	**16 48 20.5**	**-1.5**
	baz=201								
WSF	**Szhu**	**1.90 244** ⇓	*i*	P		**Pn**	**16 48 00.2**	**+1.0**
	baz=253								
WSF			*i*	S		**Sn**	**16 48 22.6**	**+0.4**
	baz=253								
TTN	**Taitung**	**1.92 207**		P		**Pn**	**16 47 59.9**	**+0.4**
	baz=205								
TTN			*i*	S		**Sn**	**16 48 23.6**	**+1.0**
	baz=205								
SNST	**Tainan City**	**1.93 230**		P		**Pn**	**16 48 01.5**	**+2.0**
	baz=228								
SNST				S		**Sn**	**16 48 25.4**	**+2.7**
	baz=228								
CHN1	**Nanshi**	**1.93 228**	*i*	P		**Pn**	**16 48 01.3**	**+1.7**
	baz=226								
CHN1			*i*	S		**Sn**	**16 48 23.5**	**+0.7**
	baz=226								
WSL	**Shuilin Townsh**	**1.95 241**		P		**Pn**	**16 48 01.4**	**+1.5**
	baz=250								
WSL				S		**Sn**	**16 48 26.2**	**+2.8**
	baz=250								
SGST	**Jiashian**	**1.96 225**	*i*	P		**Pn**	**16 48 01.1**	**+1.1**
	baz=223								
SGST			*i*	S		**Sn**	**16 48 25.2**	**+1.6**
	baz=223								
SLGT	**Liugui**	**1.99 222**		P		**Pn**	**16 48 02.6**	**+2.3**
	baz=220								
SLGT				S		**Sn**	**16 48 26.4**	**+2.2**
	baz=220								
ICHU	**Yijhu**	**2.00 237**		P		**Pn**	**16 48 02.5**	**+1.9**
	baz=248								
ICHU				S		**Sn**	**16 48 27.6**	**+3.2**
	baz=248								
JISG	**Ishigakijimahi**	**2.02 86**		P		**Pn**	**16 48 01.1**	**+0.3**
JISG				S		**Sn**	**16 48 24.9**	**-0.2**
CHN8	**Yiju**	**2.06 237**	*i*	P		**Pn**	**16 48 03.0**	**+1.6**
	baz=248								
CHN8			*i*	S		**Sn**	**16 48 28.9**	**+3.0**
	baz=248								
CHN3	**Shinhua**	**2.11 229**	*i*	P		**Pn**	**16 48 04.7**	**+2.6**
	baz=227								
CHN3			*i*	S		**Sn**	**16 48 32.0**	**+4.8**
	baz=227								
SSHA	**Shanhua**	**2.13 231**		P		**Pn**	**16 48 04.0**	**+1.8**
	baz=229								
SSHA			*i*	S		**Sn**	**16 48 31.4**	**+3.9**
	baz=229								
ECL	**Taimali**	**2.15 209**	*i*	P		**Pn**	**16 48 01.9**	**-0.7**
	baz=202								
ECL			*i*	S		**Sn**	**16 48 27.1**	**-0.9**
	baz=202								
SHHT	**Tainan City**	**2.16 228**		P		**Pn**	**16 48 05.4**	**+2.7**
	baz=226								
SHHT			*e*	S		**Sn**	**16 48 31.8**	**+3.4**
	baz=226								
SCST	**Cishan**	**2.16 223**		P		**Pn**	**16 48 05.5**	**+2.8**
	baz=221								
SCST				S		**Sn**	**16 48 33.0**	**+4.6**
	baz=221								
SCLT	**Jiali**	**2.17 234**	*i*	P		**Pn**	**16 48 04.5**	**+1.6**
	baz=221								
SCLT			*i*	S		**Sn**	**16 48 31.4**	**+2.8**
	baz=221								
SSD	**Sandimen**	**2.18 218**	*i*	P		**Pn**	**16 48 04.3**	**+1.3**
	baz=216								
SSD			*i*	S		**Sn**	**16 48 32.3**	**+3.2**
	baz=216								
TSMG	**Majia**	**2.21 217**		P		**Pn**	**16 48 05.8**	**+2.4**
	baz=215								
TSMG				S		**Sn**	**16 48 32.0**	**+2.4**
	baz=215								
TWM1	**Shoushan**	**2.25 223**	*i*	P		**Pn**	**16 48 07.3**	**+3.4**
	baz=221								
TWM1			*e*	S		**Sn**	**16 48 34.2**	**+3.6**
	baz=221								
TSCK	**Chigu Township**	**2.27 235**		P		**Pn**	**16 48 05.1**	**+0.9**
	baz=246								
TSCK				S		**Sn**	**16 48 32.5**	**+1.5**
	baz=246								
SGLT	**Jiouru**	**2.28 220**	*i*	P		**Pn**	**16 48 08.0**	**+3.6**
	baz=218								
SGLT			*e*	S		**Sn**	**16 48 36.2**	**+4.8**
	baz=218								
MASBT	**Mashibuluo**	**2.29 216**		P		**Pn**	**16 48 05.9**	**+1.4**
	baz=228								
MASBT				S		**Sn**	**16 48 33.8**	**+2.2**
	baz=228								
EAST	**Anshuo**	**2.38 209**	*i*	P		**Pn**	**16 48 05.6**	**-0.2**
	baz=202								
EAST				S		**Sn**	**16 48 32.4**	**-1.4**
	baz=202								
JTJ	**Tarama**	**2.38 86**		P		**Pn**	**16 48 07.0**	**+1.3**
JTJ				S		**Sn**	**16 48 34.5**	**+0.7**
TAW	**Tawu**	**2.38 208**	*i*	P		**Pn**	**16 48 06.0**	**+0.2**
	baz=205								
TAW			*i*	S		**Sn**	**16 48 31.8**	**-1.9**
	baz=205								
TAWH	**Dawu Township**	**2.40 208**		P		**Pn**	**16 48 06.8**	**+0.8**
	baz=205								
TAWH				S		**Sn**	**16 48 32.2**	**-2.0**
	baz=205								
VWUC	**VWUC**	**2.46 283**		P		**Pn**	**16 48 06.5**	**-0.3**
	baz=282								
VWUC				S		**Sn**	**16 48 33.1**	**-2.6**
	baz=282								
LAY	**Lan-yu**	**2.48 192**	*i*	P		**Pn**	**16 48 06.0**	**-1.1**
	baz=190								
LAY			*i*	S		**Sn**	**16 48 32.4**	**-3.8**
	baz=190								
WSSB	**Gushan**	**2.48 223**		P		**Pn**	**16 48 08.8**	**+1.7**
	baz=220								
WSSB				S		**Sn**	**16 48 40.8**	**+4.5**
	baz=220								
PNG	**Penghu**	**2.49 249**	*i*	P		**Pn**	**16 48 06.8**	**-0.4**
	baz=248								
PNG			*i*	S		**Sn**	**16 48 35.4**	**-1.1**
	baz=248								
SCZT	**Fangliau**	**2.50 213**	*i*	P		**Pn**	**16 48 08.6**	**+1.3**
	baz=210								
SCZT			*i*	S		**Sn**	**16 48 39.1**	**+2.5**
	baz=210								
PHUB	**P'eng-hu**	**2.50 248**		P		**Pn**	**16 48 07.0**	**-0.3**
	baz=258								
PHUB				S		**Sn**	**16 48 35.2**	**-1.4**
	baz=258								
LYUB	**Lan-yu**	**2.51 191**		P		**Pn**	**16 48 05.8**	**-1.6**
	baz=189								
LYUB				S		**Sn**	**16 48 33.8**	**-3.2**
	baz=189								
WDGT	**Dungji**	**2.54 242** ⇑	*i*	P		**Pn**	**16 48 08.3**	**+0.5**
	baz=240								
WDGT			*i*	S		**Sn**	**16 48 37.5**	**-0.1**
	baz=240								
SLIU	**Shizi**	**2.55 208**		P		**Pn**	**16 48 08.0**	**0.0**
	baz=203								
SLIU				S		**Sn**	**16 48 37.5**	**-0.3**
	baz=203								
MATB	**Ma-tsu**	**2.56 311**		P		**Pn**	**16 48 07.9**	**-0.3**
	baz=313								
MATB				S		**Sn**	**16 48 37.2**	**-0.9**
	baz=313								
VCHM	**Qimei**	**2.75 243**		P		**Pn**	**16 48 10.1**	**-0.6**
	baz=242								
VCHM				S		**Sn**	**16 48 41.9**	**-0.8**
	baz=242								
HEN	**Hengchun**	**2.76 207**	*i*	P		**Pn**	**16 48 12.3**	**+1.5**
	baz=217								
HEN			*i*	S		**Sn**	**16 48 43.9**	**+0.9**
	baz=217								
PTMZ	**Houxiangcun**	**2.76 282**		P		**Pn**	**16 48 10.6**	**-0.3**
	baz=281								
PTMZ				S		**Sn**	**16 48 40.8**	**-2.3**
	baz=281								
TWK1	**Hengchun**	**2.79 205**	*i*	P		**Pn**	**16 48 12.0**	**+0.7**
	baz=199								
TWK1			*i*	S		**Sn**	**16 48 43.5**	**-0.2**
	baz=199								
TWKBT	**Hengchun**	**2.79 205**		P		**Pn**	**16 48 10.0**	**-1.3**
	baz=200								
TWKBT				S		**Sn**	**16 48 43.7**	**0.0**
	baz=200								
JIRB	**Irabujima**	**2.82 82**		P		**Pn**	**16 48 12.4**	**+0.7**
JIRB				S		**Sn**	**16 48 46.0**	**+1.4**
JIKM	**Ikemajima**	**2.90 81**		P		**Pn**	**16 48 14.3**	**+1.5**
JIKM				S		**Sn**	**16 48 47.9**	**+1.4**
JMJ	**Miyako jima 2**	**2.93 83**		P		**Pn**	**16 48 15.8**	**+2.6**
LYJJ	**Jianjiangzhen**	**2.95 315**		P		**Pn**	**16 48 13.3**	**-0.1**
	baz=317								
LYJJ				S		**Sn**	**16 48 46.7**	**-1.0**
	baz=317								
JMJ2	**Miyako jima3**	**2.96 84**		P		**Pn**	**16 48 15.2**	**+1.7**
JMJ2				S		**Sn**	**16 48 50.4**	**+2.6**
XPSS	**Dashiqiu**	**2.98 325**		P		**Pn**	**16 48 14.0**	**0.0**
	baz=336								
XPSS			*e*	S		**Sn**	**16 48 47.5**	**-1.1**
	baz=336								
JOGS	**Gusukube**	**3.03 84**		P		**Pn**	**16 48 16.3**	**+1.7**
JOGS				S		**Sn**	**16 48 51.2**	**+1.6**
MHZQ	**Yeshan**	**3.21 301**		P		**Pn**	**16 48 16.4**	**-0.6**
	baz=303								
MHZQ			*e*	S		**Sn**	**16 48 53.4**	**-0.6**
	baz=303								
QZH	**Quanzhou**	**3.22 279** ⇓	*i*	Pn		**Pn**	**16 48 16.7**	**-0.4**
QZH				Sn		**Sn**	**16 48 50.8**	**-3.5**
QZH				smax		smax		
	comp=N,60nm,0.6s								
QZH				smax		smax		
	comp=E,93nm,0.3s								
KNM	**Kinmen**	**3.34 270**	*i*	P		**Pn**	**16 48 19.9**	**+1.2**
	baz=268								
KNM			*i*	S		**Sn**	**16 48 57.6**	**+0.5**
	baz=268								
KNMB	**Chin-men Tao**	**3.38 271**				**Pn**	**16 48 18.4**	**-0.9**
KNMB	**Chin-men Tao**	**3.38 271**		P		**Pn**	**16 48 18.8**	**-0.5**
	baz=269								
KNMB				S		**Sn**	**16 48 55.4**	**-2.8**
	baz=269								
ZPLA	**Ao Xicun**	**4.00 263**		P		**Pn**	**16 48 26.2**	**-1.7**
	baz=261								
ZPLA				S		**Sn**	**16 49 09.8**	**-3.8**
	baz=261								
DSXP	**Dongshan**	**4.33 261**		P		**Pn**	**16 48 32.2**	**-0.2**
	baz=259								
DSXP				S		**Sn**	**16 49 18.7**	**-3.0**
	baz=259								
JOW	**Kunigami**	**6.05 66**		P		**Pn**	**16 48 59.5**	**+3.6**
JOW	**Kunigami**	**6.05 66**		Pn		**Pn**	**16 48 56.0**	**+0.1**
JOW	**Kunigami**	**6.05 66**		P		**Pn**	**16 48 55.5**	**-0.4**
	comp=E,4.3nm,0.3s,baz=211,slow=20,SNR=18								
JOW				S		**Sn**	**16 50 03.0**	**-0.8**
	comp=E,6.2nm,0.3s,baz=211,slow=20,SNR=1.7								
	comp=E,12nm,0.3s								
HKPS	**Hong Kong Po S**	**7.63 255**		Pn		**Pn**	**16 49 17.7**	**+0.2**
JMZ	**Minamidaito 2**	**8.38 79**		Pn		**Pn**	**16 49 27.6**	**-0.1**
ENH	**Enshi**	**12.60 300**		Pn		**Pn**	**16 50 24.2**	**-1.2**
KSAR	**Wonju Array Be**	**13.84 20**		Pn		**Pn**	**16 50 42.1**	**-0.1**
KSRS	**Korea Array**	**13.86 20**		P		**Pn**	**16 50 43.2**	**+0.7**
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=6.0								
	comp=E,1.5nm,0.9s								
USRK	**Ussuriysk Ar.**	**21.27 20**		P		**P**	**16 52 10.7**	**+0.6**
	comp=E,0.8nm,0.6s,baz=211,slow=11,SNR=6.0								
	comp=E,0.8nm,0.6s								
HEH	**HeiHe**	**26.06 8**	*e*	P		**P**	**16 52 56.8**	**+0.4**
SONM	**Songino Array**	**26.43 336**		P		**P**	**16 52 59.7**	**-0.3**
	comp=E,1.4nm,0.8s,baz=153,slow=9.7,SNR=6.2								
	comp=E,1.4nm,0.8s								
MKAR	**Makanchi Array**	**38.71 315**		P		**P**	**16 54 47.3**	**+0.4**
	comp=E,0.5nm,0.4s,baz=104,slow=9.2,SNR=7.6								
	comp=E,0.5nm,0.4s								
ZALV	**Zalesovo Beam**	**40.45 327**		P		**P**	**16 55 00.2**	**-1.0**
	comp=E,1.2nm,0.4s,baz=116,slow=7.9,SNR=5.1								
	comp=E,1.2nm,0.4s								
KURBB	**Kurchatov Arra**	**42.42 319**		P		**P**	**16 55 17.5**	**+0.1**
	comp=E,0.4nm,0.4s,baz=111,slow=9.4,SNR=6.5								
	comp=E,0.4nm,0.4s								
WRA	**Warramunga Arr**	**45.73 164**		P		**P**	**16 55 42.9**	**-1.3**
	comp=E,0.6nm,0.7s,baz=344,slow=8.1,SNR=3.2								
	comp=E,0.6nm,0.7s								
BVAR	**Borovoye Array**	**47.98 320**		P		**P**	**16 56 01.3**	**-0.1**
	comp=E,1.3nm,0.5s,baz=111,slow=8.0,SNR=10								
	comp=E,1.3nm,0.5s								
BILL	**Bilibino**	**51.13 20**		P		**P**	**16 56 26.0**	**+0.8**
ABKAR	**Akbulak array**	**53.83 314**		P		**P**	**16 56 45.6**	**+0.2**
GEYT	**Alibeck**	**55.37 300**		LR		LR	17 25 26.5	
	comp=E,110nm,20.3s,baz=100,slow=41								
D19K	**Kuna River**	**63.73 24**		P		**P**	**16 57 53.8**	**-0.1**
TTA	**Tatalina**	**64.84 30**		P		**P**	**16 58 01.3**	**0.0**
TTA				IAmb		IAmb	16 58 15.5	
	comp=Z,5.6nm,1.3s								
J19K	**Poorman**	**64.93 29**		P		**P**	**16 58 02.0**	**+0.3**
B21K	**Ikpikpuk River**	**64.96 23**		P		**P**	**16 58 02.6**	**+0.8**
B21K				IAmb		IAmb	16 58 04.1	
	comp=Z,3.8nm,1.1s								
GNI	**Garni**	**65.32 305**		LR		LR	17 32 23.2	
	comp=Z,73nm,19.2s,baz=108,slow=41								
B22K	**Teshekpuk Lake**	**65.33 22**		P		**P**	**16 58 04.0**	**-0.2**
B22K				IAmb		IAmb	16 58 05.8	
	comp=Z,3.5nm,0.9s								
D22K	**Ayikyak River**	**65.70 23**		P		**P**	**16 58 06.9**	**+0.2**
I21K	**Tanana**	**66.37 27**		P		**P**	**16 58 11.7**	**+0.8**
I21K				IAmb		IAmb	16 58 28.8	
	comp=Z,4.8nm,1.4s								
BPAW	**Bear Paw Mtn.**	**66.94 28**		P		**P**	**16 58 15.1**	**+0.5**
BPAW				IAmb		IAmb	16 58 50.1	
	comp=Z,5.3nm,1.4s								
D24K	**Happy Valley**	**67.05 23**		P		**P**	**16 58 15.7**	**+0.5**
D24K				IAmb		IAmb	16 58 16.7	
	comp=Z,2.0nm,0.6s								
H23K	**Yukon River**	**67.28 27**		P		**P**	**16 58 17.3**	**+0.5**
E24K	**Your Creek**	**67.33 24**		P		**P**	**16 58 17.9**	**+0.8**
I23K	**Minto, Yukon-K**	**67.47 27**		P		**P**	**16 58 18.4**	**+0.5**
I23K				IAmb		IAmb	16 58 29.2	
	comp=Z,4.6nm,1.4s								
D25K	**Kavik River**	**67.88 23**		P		**P**	**16 58 19.9**	**-0.7**
D25K				IAmb		IAmb	16 58 22.4	
	comp=Z,4.0nm,1.5s								
RND	**Reindeer**	**67.99 29**		P		**P**	**16 58 20.5**	**-0.9**
ILAR	**Eielson Array**	**68.57 27**		P		**P**	**16 58 23.8**	**-1.1**
	comp=Z,0.2nm,0.6s,baz=278,slow=5.1,SNR=5.3								
	comp=Z,0.2nm,0.6s								
BMAR	**Burnt Mountain**	**68.92 24**		P		**P**	**16 58 27.8**	**+0.7**
SCM	**Sheep Creek Mo**	**69.00 31**		P		**P**	**16 58 28.2**	**+0.5**
SPITS	**Spitsbergen Ar**	**69.37 348**		LR		LR	17 31 42.4	
	comp=Z,205nm,21.9s,baz=16,slow=38								
ARCES	**ARCESS Array B**	**69.58 338**		P		**P**	**16 58 31.2**	**+0.1**
	comp=Z,5.9nm,1.3s,baz=62,slow=8.3,SNR=1.5								
	comp=Z,5.9nm,1.3s								
E27K	**Coleen River**	**69.83 23**		P		**P**	**16 58 33.6**	**+1.0**
I26K	**Coal Creek Min**	**69.99 26**		P		**P**	**16 58 32.9**	**-0.7**
I26K				IAmb		IAmb	16 58 45.4	
	comp=Z,3.5nm,1.3s								
E28M	**Babbage River**	**70.45 23**		P		**P**	**16 58 36.8**	**+0.4**
M26K	**Nabesna, AK**	**70.83 29**		P		**P**	**16 58 38.8**	**-0.1**
M26K				IAmb		IAmb	16 58 39.1	
	comp=Z,2.5nm,0.9s								
L27K	**Beaver Creek,**	**71.16 29**		P		**P**	**16 58 41.3**	**+0.5**
L27K				IAmb		IAmb	16 59 08.8	
	comp=Z,4.0nm,1.5s								
FINES	**FINESS Array B**	**71.61 330**		P		**P**	**16 58 43.4**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=54,slow=7.1,SNR=4.4								
FINES				LR		LR	17 34 44.6	
	comp=Z,259nm,21.1s,baz=53,slow=40								
	comp=Z,1.1nm,0.8s								
YKA	**Yellowknife Ar**	**82.38 23**		P		**P**	**16 59 43.0**	**-0.9**
	comp=Z,0

URZ Urewera 9.72 206 Pn **Pn** **16 51 32.2 -3.3**
0.6nm,0.3s,baz=0.0,slow=13,SNR=2.0
URZ Sn **Sn** **16 53 24.1 +0.9**
6.5nm,0.3s,baz=90,slow=20,SNR=9.8
URZ Urewera 9.72 206 P **Pn** **16 51 33.2 -2.4**
RIGZ Rimuhau 9.88 202 P **Pn** **16 51 36.9 -0.9**
RIGZ S **Sn** **16 53 26.6 -0.7**
TOZ Tahuroa Road 9.98 214 P Pn 16 51 46.4 +7.2
RTZ Ruatahuna 10.08 206 Pn **Pn** **16 51 39.0 -1.6**
SNGZ Shannon Statio 10.09 204 P **Pn** **16 51 40.9 +0.1**
SNGZ S **Sn** **16 53 31.5 -1.0**
BKZ Black Stump Fm 10.74 206 Pn **Pn** **16 51 48.0 -1.7**
MRZ Mangatainoka R 12.39 206 Pn **Pn** **16 52 07.4 -4.7**
TUWZ Tuamarina 13.69 208 Pn **Pn** **16 52 26.4 -3.4**
NNZ Nelson 13.76 210 P **P** **16 52 38.8 +1.0**
NNZ S **Sn** **16 54 55.2 -6.6**
BSWZ Blackbirch Sta 13.96 208 Pn **Pn** **16 52 32.1 -1.3**
THZ Tophouse 14.40 210 Pn **Pn** **16 52 37.8 -1.7**
THZ Tophouse 14.40 210 P **Pn** **16 52 37.9 -1.6**
THZ S **Sn** **16 55 11.1 -6.7**
KHZ Kahutara 14.68 207 P **Pn** **16 52 38.4 -4.6**
DSZ Denniston Nort 14.89 213 P **P** **16 52 48.1 -2.4**
DSZ S **Sn** **16 55 22.4 -7.2**
GVZ Greta Valley S 15.34 207 P **Pn** **16 52 49.7 -2.0**
LTZ Lake Taylor 15.51 209 P **Pn** **16 52 51.4 -2.3**
LTZ S **Sn** **16 55 34.4 -10**
INZ Inchbonnie 15.82 211 P **Pn** **16 52 56.3 -1.5**
INZ S Sn 16 55 40.4 -12
OXZ Oxford 16.05 209 P **Pn** **16 52 57.1 -3.6**
OXZ S Sn 16 55 45.4 -12
MQZ McQueen's Vall 16.11 207 P **Pn** **16 52 58.1 -3.4**
MQZ S Sn 16 56 46.4 -13
MHCZ Mount Hutt 16.42 209 P **Pn** **16 53 05.5 +0.1**
WVZ Waitaha Valley 16.42 212 P **Pn** **16 53 04.9 -0.5**
RPZ Rata Peaks 16.79 210 Pn **Pn** **16 53 08.1 -1.8**
RPZ IAmb IAmb 16 53 19.7
comp=Z,195nm,1.9s
RPZ Rata Peaks 16.79 210 P **Pn** **16 53 09.6 -0.3**
comp=Z,7.9nm,0.4s,baz=56,slow=15,SNR=10
RPZ S **Sn** **16 56 05.0 -10**
comp=Z,5.4nm,0.5s,baz=30,slow=17,SNR=1.5
RPZ Rata Peaks 16.79 210 P **P** **16 53 10.1 -1.3**
ARCZ Arundel 16.92 209 P **P** **16 53 12.2 -0.7**
ODZ Otahua Downs 18.03 208 P **P** **16 53 23.1 -2.0**
ODZ IAmb IAmb 16 53 28.3
comp=Z,76nm,1.6s
WHZ Wether Hill Ro 19.87 211 P **P** **16 53 44.8 -0.4**
WHZ IAmb IAmb 16 54 02.5
comp=Z,96nm,1.7s
CTAO Charters Tower 34.16 278 P **P** **16 56 02.3 +3.4**
STKA Stephens Creek 35.12 256 P **P** **16 56 08.3 +1.3**
STKA Stephens Creek 35.12 256 P **P** **16 56 09.7 +2.6**
comp=Z,5.8nm,0.5s,baz=98,slow=12,SNR=14
STKA S S 17 01 46.6 +10
comp=Z,0.7nm,0.6s,baz=105,slow=20,SNR=1.1
STKA LR LR 17 08 14.3
comp=Z,127nm,21.5s,baz=45,slow=32
comp=Z,5.8nm,0.5s
COEN Coen 39.53 285 P **P** **16 56 44.4 -0.2**
COEN IAmb IAmb 16 57 31.3
comp=Z,22nm,1.2s
BBOO Buckleboo 39.64 253 P **P** **16 56 45.6 +0.3**
BBOO IAmb IAmb 16 57 46.1
comp=Z,67nm,1.9s
AS31 Alice Springs 43.63 266 P **P** **16 57 18.2 0.0**
ASAR Alice Springs 43.63 266 P **P** **16 57 18.0 -0.2**
ASAR Alice Springs 43.63 266 P **P** **16 57 18.9 +0.8**
comp=Z,4.4nm,0.5s,baz=104,slow=7.0,SNR=55
comp=Z,4.4nm,0.5s
WR0 Warramunga Arr 44.37 271 P **P** **16 57 24.1 0.0**
WRAB Tennant Creek 44.55 271 P **P** **16 57 25.6 +0.2**
WRAB IAmb IAmb 16 57 28.9
comp=Z,10nm,0.9s
WRA Warramunga Arr 44.55 271 P **P** **16 57 26.4 +0.9**
comp=Z,11nm,0.9s,baz=108,slow=7.8,SNR=21
comp=Z,11nm,0.9s
WB0 Warramunga Arr 44.57 271 P **P** **16 57 26.1 +0.5**
WB0 IAmb IAmb 16 57 27.6
comp=Z,9.4nm,0.9s
DRV Dumont d'Urvil 45.03 202 P **P** **16 57 30.5 +1.9**
FORT Forrest 46.71 254 P **P** **16 57 43.1 +0.7**
SBA Scott Base 48.84 184 P **P** **16 58 02.0 +3.8**
SBA IAmb IAmb 16 58 11.7
comp=Z,17nm,1.4s
SBA Scott Base 48.84 184 P P 16 58 02.7 +4.5
SBA pP **sP** 16 58 18.8 +2.4
VNDA Vanda 48.90 186 P **P** **16 58 01.7 +3.0**
VNDA IAmb IAmb 16 59 10.0
comp=Z,25nm,2.0s
VNDA Vanda 48.90 186 P **P** **16 58 01.4 +2.7**
comp=Z,0.8nm,0.9s,baz=8.6,slow=7.2,SNR=4.0
comp=Z,0.8nm,0.9s
FITZ Fitzroy Crossi 52.84 269 P **P** **16 58 30.0 +0.9**
CCD Concordia, Ant 53.82 196 P **P** **16 58 38.4 +2.4**
CCD pP **sP** **16 58 54.3 -0.2**
CASY Casey 56.04 208 P **P** **16 58 53.0 +1.4**
CASY Casey 56.04 208 P **P** **16 58 53.5 +1.8**
MBWA Marble Bar 56.79 263 P **P** **16 58 57.4 -0.3**
MBWA IAmb IAmb 16 59 00.1
comp=Z,34nm,1.6s
MBWA Marble Bar 56.79 263 P **P** **16 58 58.1 +0.4**
MBWA pP **pwP** **16 59 15.1 +0.4**
MORW Morawa 57.21 253 P **P** **16 59 00.8 +0.2**
QSPA South Pole Qui 60.47 180 P **P** **16 59 25.0 +2.2**
QSPA IAmb IAmb 16 59 27.1
comp=Z,11nm,0.8s
QSPA South Pole Qui 60.47 180 P **P** **16 59 24.9 +2.2**
comp=Z,11nm,0.8s,baz=27,slow=4.7,SNR=44
comp=Z,11nm,0.8s
QSPA South Pole Qui 60.47 180 P **P** **16 59 25.1 +2.2**
BELA Belgrano 2 70.48 172 P **P** **17 00 27.6 +0.5**
MAW Mawson 73.19 200 P **P** **17 00 44.3 +0.9**
comp=Z,2.9nm,0.7s,baz=59,slow=18,SNR=4.5
comp=Z,2.9nm,0.7s
ELIB Princess Elisa 77.66 187 *d*P **P** **17 01 10.3 +1.1**
comp=Z,3.8nm,0.7s
MJAR Matsushiro Arr 77.89 325 P **P** **17 01 09.1 -1.6**
comp=Z,1.8nm,0.8s,baz=144,slow=4.4,SNR=8.6
comp=Z,1.8nm,0.8s
TROLL Troll, Antarti 78.64 180 ⇑P **P** **17 01 15.2 +0.6**
comp=Z,249nm,0.8s
SNAA Sanae 78.91 178 ⇓P **P** **17 01 15.6 -0.3**
comp=Z,17nm,0.6s
VNA3 Neumayer Olymp 79.03 176 ⇑P **P** **17 01 16.8 +0.2**
comp=Z,10nm,0.7s
VNA2 Neumayer--Watz 79.48 177 ⇑P **P** **17 01 18.1 -0.9**
comp=Z,5.1nm,0.6s,baz=176,slow=4.8
VNA1 Neumayer--Stat 79.70 176 ⇑P **P** **17 01 17.7 -2.5**
comp=Z,6.1nm,0.8s
H03S2 Juan Fernandez 80.49 123 T T 18 31 12.4
baz=239,slow=74,SNR=3.9
H03S1 Juan Fernandez 80.50 123 T T 18 31 09.2
baz=239,slow=74,SNR=4.6
H03S3 Juan Fernandez 80.50 123 T T 18 31 11.5
baz=239,slow=74,SNR=4.0
JKA Kamikawa-asahi 81.98 332 P **P** **17 01 33.1 +0.5**
JKA IAmb IAmb 17 01 34.1
comp=Z,8.3nm,0.9s
KSAR Wonju Array Be 84.09 319 P **P** **17 01 45.6 +2.0**
YSS Yuzh-Sakhalins 84.27 334 P **P** **17 01 44.4 +0.1**
YSS IAmb IAmb 17 01 46.0
comp=Z,19nm,0.9s
PETK Petropavlovsk- 85.19 345 P **P** **17 01 46.9 -1.9**
comp=Z,3.6nm,0.8s,baz=148,slow=8.5,SNR=18
comp=Z,3.6nm,0.8s
KULM Kulim 85.58 279 P **P** **17 01 51.5 -0.2**
GSI Gunungsitoli 86.27 274 P **P** **17 01 54.6 -0.6**
USRK Ussuriysk Ar. 86.79 326 P **P** **17 01 56.9 0.0**
comp=Z,4.6nm,0.9s,baz=147,slow=3.4,SNR=14
comp=Z,4.6nm,0.9s
NVAR Mina Array Bea 87.35 42 P **P** **17 01 56.8 -3.3**
comp=Z,0.8nm,0.8s,baz=225,slow=6.2,SNR=4.1
comp=Z,0.8nm,0.8s
ILAR Eielson Array 97.08 13 P **P** **17 02 41.2 -3.0**
comp=Z,0.6nm,0.9s,baz=220,slow=5.4,SNR=4.9
comp=Z,0.6nm,0.9s
MKAR Makanchi Array 117.64 310 PKP **PKPdf** **17 07 57.7 -0.9**
comp=Z,0.4nm,0.6s,baz=96,slow=1.4,SNR=4.7
ZALV Zalesovo Beam 117.78 319 PKP **PKPdf** **17 07 57.5 -1.0**
comp=Z,0.4nm,0.4s,baz=132,slow=6.0,SNR=1.8
KURBB Kurchatov Arra 120.90 314 PKP **PKPdf** **17 08 03.4 -1.2**
comp=Z,1.1nm,0.7s,baz=108,slow=1.8,SNR=14
BVAR Borovoye Array 126.19 316 PKP **PKPdf** **17 08 14.3 -0.4**
comp=Z,2.5nm,0.8s,baz=85,slow=3.0,SNR=13
ARCES ARCESS Array B 137.94 348 PKP **PKPdf** **17 08 35.5 -0.9**
comp=Z,2.2nm,1.0s,baz=28,slow=4.1,SNR=5.6
H10N3 ASCENSION HYDR 139.29 154 T T 19 44 39.5
baz=203,slow=75,SNR=13
H10N1 ASCENSION HYDR 139.29 154 T T 19 44 39.9
baz=203,slow=75,SNR=12
H10N2 ASCENSION HYDR 139.31 154 T T 19 44 40.8
baz=203,slow=75,SNR=14
FINES FINESS Array B 144.59 341 PKP **PKPab** **17 08 45.9 -1.2**
comp=Z,12nm,0.8s,baz=47,slow=2.7,SNR=43
KBZ Khabaz 145.07 305 PKPbc **PKPdf** **17 08 50.0 +0.1**
comp=Z,5.5nm,0.8s,baz=85,slow=0.9,SNR=13
NC303 NORSAR Array S 147.87 352 **PKPbc** **17 08 55.7 -1.4**
NB2 NORSAR Subarra 148.06 352 PKP **PKPdf** **17 08 55.9 +1.4**
comp=Z,2.0nm,0.7s,baz=14,slow=3.0
NOA NORSAR Array B 148.06 352 PKPbc **PKPbc** **17 08 56.4 -1.3**
comp=Z,3.3nm,0.8s,baz=13,slow=4.4,SNR=14
HFS Hagfors 148.59 349 PKPbc **PKPbc** **17 08 57.4 -1.6**
comp=Z,7.2nm,0.8s,baz=0.0,slow=0.7,SNR=14
AKASG Malin Array Be 150.97 324 PKPbc **PKPbc** **17 09 04.5 -0.7**
comp=Z,3.5nm,0.6s,baz=46,slow=2.8,SNR=11
AKASG PKPab **PKPab** **17 09 11.3 -1.4**
comp=Z,8.8nm,0.8s,baz=46,slow=3.5,SNR=12
MMAI Mount Meron Ar 151.80 285 PKPbc **PKiKP** **17 09 08.8 +0.7**
comp=Z,11nm,0.7s,baz=75,slow=6.3,SNR=15
MMAI PKPab **PKPab** **17 09 16.5 -0.4**
comp=Z,3.2nm,0.4s,baz=75,slow=6.1,SNR=8.4
BRTR Keskin Array B 152.64 300 PKPbc **PKPbc** **17 09 08.9 -0.6**
comp=Z,2.0nm,0.7s,baz=120,slow=2.8,SNR=16
GERES GERESS Array B 159.00 339 PKPab **PKPab** **17 09 45.8 -1.3**
comp=Z,0.3nm,0.5s,baz=15,slow=8.1,SNR=3.4
CONA Conrad Observa 159.05 334 *e*PKP **PKPab** **17 09 47.1 -0.2**
comp=Z,4.8nm,1.1s
RONA Rosalia, Austr 159.07 333 *e*PKP **PKPab** **17 09 47.1 -0.2**
comp=Z,6.3nm,0.9s
BIOA Bad Ischl, Aus 160.04 338 *i* PKP **PKPab** **17 09 51.1 -0.5**
comp=Z,2.8nm,0.5s
SOKA Soboth 160.40 334 *e*PKP **PKPab** **17 09 52.3 -1.0**
comp=Z,3.8nm,1.0s
LESA Schwarzleotal 160.58 339 *e*PKP **PKPab** **17 09 53.6 -0.4**
comp=Z,4.3nm,1.0s
OBKA Obir 160.72 334 *e*PKP **PKPab** **17 09 53.6 -1.0**
comp=Z,4.1nm,1.1s
MYKA Terra Mystica 160.95 336 *i* PKP **PKPab** **17 09 54.3 -1.4**
comp=Z,1.6nm,0.4s
WATA Walderalm 160.99 341 *e*PKP **PKPab** **17 09 55.2 -0.7**
comp=Z,11nm,1.6s
WTTA Wattenberg 161.04 341 *e*PKP **PKPab** **17 09 55.4 -0.8**
comp=Z,1.8nm,0.5s
MOTA Moosalm 161.11 342 *e*PKP **PKPab** **17 09 55.2 -1.3**
comp=Z,2.4nm,0.9s
SQTA Sankt Quirin 161.20 341 *e*PKP **PKPab** **17 09 56.5 -0.2**
comp=Z,4.4nm,1.1s
ABTA Abfaltersbach 161.23 338 *e*PKP **PKPab** **17 09 55.8 -1.1**
comp=Z,5.8nm,0.8s
DAVA Damuels 161.48 344 *e*PKP **PKPab** **17 09 56.9 -1.1**
comp=Z,5.9nm,1.1s
TORD Torodi Ar. Bea 163.58 177 PKP **PKPdf** **17 09 15.4 -0.8**
comp=Z,1.3nm,1.0s,baz=153,slow=4.8,SNR=4.7
TORD PKPab **PKPab** **17 10 09.0 +1.3**
comp=Z,0.7nm,0.6s,baz=204,slow=3.0,SNR=2.7

*IDC **01** 17:15:35.2±0.5,56.˙58S×142.˙58W,h0km,mb4.3/14, mbtmp4.3/14,MS5.2/43,Error ellipse: s-maj=19.7km s-min=15.9km az=2.0*
*NEIC **01** 17:15:37.9,56.˙62S×142.˙21W,h26km,Moment Tensor Solution. Duration: 4s5 Moment tensor: Scale 10^17Nm; Mrr=1.27; Mθθ7.76; Mϕϕ-6.49; Mrθ-1.70; Mθϕ4.24; Mϕr3.28; Fault plane solution: M0 9.14000×10^17 NP1: ϕs117.12000°,δ76.47000°,λ-21.02000°. NP2: ϕs212.25000°,δ69.59000°,λ-165.55000°. Principal axes: T 8.9920, Plg5.0000°, Azm166.0000°; N 0.3016, Plg65.0000°, Azm266.0000°; P -9.2936, Plg24.0000°, Azm74.0000°;*
*IPGP **01** 17:15:37.0,56˙.73S×142˙.01W,h16km,Mw6.0,Fault plane solution: NP1:ϕs293.00000°,δ83.00000°,λ-10.00000°. NP2:ϕs25.00000°,δ80.00000°,λ-172.00000°.*
*NEIC **01** 17:15:37.8±2.2,56˙.6S±0˙.1×142˙.0W±0˙.2,h10km±1km, mb5.2/69,Ms_20 5.6/474,Mww5.9/27,Error ellipse: s-maj=20.5km s-min=17.4km az=3.0*
*NEIC **01** 17:15:37.9,56˙.72S×142˙.02W,h26km*
*GCMT **01** 17:15:43.8±0.1,56˙.72S×142˙.45W,h20km,MW5.9/157, Moment Tensor Solution. s155,c338; s157,c553; Duration: 2s2 Moment tensor: Scale 10^18Nm; Mrr-0.05±.01; Mθθ0.80±.01; Mϕϕ-0.75±.01; Mrθ-0.02±.01; Mθϕ0.59±.01; Mϕr-0.09±.01; Best double couple: M0 0.98100×10^18 NP1:ϕs26.00000°,δ89.00000°, λ-175.00000°. NP2:ϕs296.00000°,δ85.00000°, λ-1.00000°. Principal axes: T 1.0030, Plg3.0000°, Azm161.0000°; N -0.0440, Plg85.0000°, Azm42.0000°; P -0.9600, Plg5.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 01 17:15:38.0±0.7,56˙.70S±0˙.09×141˙.98W±0˙.07,h15km±3km, h15km:pP-P,n480,c2s54/227,mb5.1/49,MS5.6/288,7C-6D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s		Res ISC
CTZ	**Chatham Island**	**25.37**	**286**	IAMs_20	IAMs_20	17 28 12.8		
	comp=Z,15um,19.0s							
SBA	**Scott Base**	**27.34**	**201**	P	**P**	**17 21 21.6**	**-0.2**	
VNDA	**Vanda**	**28.24**	**202**	P	**P**	**17 21 29.1**	**-0.7**	
VNDA	**Vanda**	**28.24**	**202**	P	**P**	**17 21 28.2**	**-1.6**	
	comp=Z,0.4nm,0.8s,baz=317,slow=4.1,SNR=2.2							
VNDA				LR	LR	17 29 13.8		
	comp=Z,5um,21.7s,baz=76,slow=29							
	comp=Z,0.4nm,0.8s							
BFZ	**Birch Farm**	**31.30**	**283**	IAMs_20	IAMs_20	17 30 58.8		
	comp=Z,15um,19.0s							
ODZ	**Otahua Downs**	**31.45**	**271**	IAMs_20	IAMs_20	17 31 06.6		
	comp=Z,15um,19.0s							
BHW	**Baring Head**	**31.54**	**280**	IAMs_20	IAMs_20	17 31 04.9		
	comp=Z,10um,20.0s							
KHZ	**Kahutara**	**31.57**	**278**	IAMs_20	IAMs_20	17 30 30.7		
	comp=Z,16um,22.0s							
MRZ	**Mangatainoka R**	**31.67**	**282**	IAMs_20	IAMs_20	17 31 22.7		
	comp=Z,14um,21.0s							
SNZO	**South Karori**	**31.69**	**280**	IAMs_20	IAMs_20	17 31 09.1		
	comp=Z,16um,20.0s							
RPZ	**Rata Peaks**	**32.08**	**274**	LR	LR	17 31 47.7		
	comp=Z,12um,20.8s,baz=126,slow=31							
LBZ	**Lake Benmore**	**32.12**	**272**	IAMs_20	IAMs_20	17 32 06.3		
	comp=Z,17um,18.0s							
THZ	**Tophouse**	**32.36**	**278**	IAMs_20	IAMs_20	17 32 02.5		
	comp=Z,10um,21.0s							
RTZ	**Ruatahuna**	**32.40**	**286**	IAMs_20	IAMs_20	17 32 18.9		
	comp=Z,16um,19.0s							
WHZ	**Wether Hill Ro**	**32.41**	**268**	IAMs_20	IAMs_20	17 31 27.1		
	comp=Z,12um,20.0s							
NNZ	**Nelson**	**32.48**	**279**	IAMs_20	IAMs_20	17 31 22.8		
	comp=Z,11um,22.0s							
WKZ	**Wanaka**	**32.48**	**270**	IAMs_20	IAMs_20	17 31 30.0		
	comp=Z,12um,21.0s							
MXZ	**Matakaoa Point**	**32.49**	**289**	IAMs_20	IAMs_20	17 31 14.1		
	comp=Z,9um,19.0s							
INZ	**Inchbonnie**	**32.51**	**275**	IAMs_20	IAMs_20	17 31 47.6		
	comp=Z,12um,20.0s							
URZ	**Urewera**	**32.59**	**287**	LR	LR	17 32 03.1		
	comp=Z,12um,21.9s,baz=218,slow=31							
FOZ	**Fox Glacier**	**32.88**	**273**	IAMs_20	IAMs_20	17 32 01.3		
	comp=Z,18um,20.0s							
DSZ	**Denniston Nort**	**32.98**	**277**	IAMs_20	IAMs_20	17 31 36.8		
	comp=Z,13um,19.0s							
DCZ	**Deep Cove**	**33.11**	**268**	IAMs_20	IAMs_20	17 31 06.2		
	comp=Z,10um,18.0s							
QSPA	**South Pole Qui**	**33.45**	**180**	P	**P**	**17 22 16.6**	**+0.6**	
QSPA				IAmb	IAmb	17 22 31.6		
	comp=Z,31nm,1.0s							
QSPA	**South Pole Qui**	**33.45**	**180**	P	**P**	**17 22 18.1**	**+2.1**	
	comp=Z,8.6nm,0.8s,baz=76,slow=3.6,SNR=16							
QSPA				LR	LR	17 34 05.0		
	comp=Z,5um,19.2s,baz=67,slow=33							
	comp=Z,8.6nm,0.8s							
TOZ	**Tahuroa Road**	**33.84**	**286**	IAMs_20	IAMs_20	17 32 43.9		
	comp=Z,12um,21.0s							
SMAI	**San Martin Ant**	**34.18**	**140**	P	**P**	**17 22 22.3**	**+0.2**	
PMSA	**Palmer Station**	**36.57**	**135**	LR	LR	17 33 46.0		
	comp=Z,3um,19.0s,baz=244,slow=30							
OUZ	**Omahuta**	**36.73**	**287**	IAMs_20	IAMs_20	17 34 35.6		
	comp=Z,13um,18.0s							
RAO	**Raoul Island**	**37.27**	**302**	LR	LR	17 34 18.5		
	comp=Z,1um,20.7s,baz=154,slow=30							

RPN Rapa Nui 37.61 52 LR LR 17 34 55.3
comp=Z,2um,18.2s,baz=209,slow=31
RAR Rarotonga 37.81 332 IAMs_20 IAMs_20 17 33 41.1
comp=Z,11um,19.0s
RAR Rarotonga 37.81 332 LR LR 17 33 39.6
comp=Z,5um,19.4s,baz=174,slow=29
BELA Belgrano 2 38.69 161 P **P** **17 23 00.3 -0.2**
PPTF Pamatai, Papee 39.47 349 IAMs_20 IAMs_20 17 35 10.0
comp=Z,8um,20.0s
PPT Papeete 39.49 349 P **P** **17 23 05.0 -2.7**
PPT comp=Z,14nm,0.8s,baz=203,slow=22,SNR=1.9 LR LR 17 35 30.4
comp=Z,6um,19.2s,baz=192,slow=30
comp=Z,14nm,0.8s
COYC Coyhaique 43.38 106 P **P** **17 23 40.1 +0.7**
COYC IAmb IAmb 17 24 08.4
comp=Z,70nm,1.5s
TAU Tasmania Unive 45.59 256 IAMs_20 IAMs_20 17 38 03.9
comp=Z,6um,21.0s
CASY Casey 45.91 212 P **P** **17 23 59.2 -0.2**
CASY IAmb IAmb 17 24 17.7
comp=Z,37nm,1.3s
CASY Casey 45.91 212 IAMs_20 IAMs_20 17 40 06.3
comp=Z,6um,20.0s
ORCD Orcadas 46.18 138 P **P** **17 24 01.9 +0.3**
LHI Lord Howe Isla 47.40 276 IAMs_20 IAMs_20 17 39 34.7
comp=Z,6um,20.0s
PLCA Paso Flores 47.49 102 P **P** **17 24 10.5 -1.7**
PLCA IAmb IAmb 17 25 00.2
comp=Z,53nm,1.6s
TAOE Nuku Hiva Isla 47.75 2 IAMs_20 IAMs_20 17 38 52.0
comp=Z,5um,20.0s
H03S2 Juan Fernandez 47.91 89 T T 18 16 12.7
baz=220,slow=74,SNR=166
H03S1 Juan Fernandez 47.91 89 T T 18 16 13.8
baz=220,slow=74,SNR=177
H03S3 Juan Fernandez 47.92 89 T T 18 16 13.0
baz=220,slow=74,SNR=157
VNA3 Neumayer Olymp 48.00 161 ⇑P **P** **17 24 15.4 -0.2**
comp=Z,11nm,0.7s
VNA3 ⇑S S 17 31 28.1 +16
comp=Z,0.2nm,0.3s
H03N3 Juan Fernandez 48.19 89 T T 18 16 32.2
baz=223,slow=72,SNR=1373
H03N2 Juan Fernandez 48.20 89 T T 18 16 31.1
baz=223,slow=72,SNR=1996
H03N1 Juan Fernandez 48.21 89 T T 18 16 35.2
baz=223,slow=72,SNR=1133
VNA2 Neumayer--Watz 48.66 162 ⇑P **P** **17 24 20.0 -0.7**
comp=Z,13nm,0.7s,baz=218,slow=7.7
VNA2 ⇓S S 17 31 34.8 +13
comp=Z,1.2nm,1.0s,baz=317,slow=18
VNA1 Neumayer--Stat 48.75 161 ⇑P **P** **17 24 21.1 -0.3**
comp=Z,18nm,0.9s
SNAA Sanae 48.75 164 P **P** **17 24 21.1 -0.4**
SNAA IAmb IAmb 17 25 02.1
comp=Z,36nm,1.4s
SNAA Sanae 48.75 164 ⇑P **P** **17 24 20.7 -0.8**
comp=Z,127nm,0.9s
SNAA ⇑S S 17 31 34.8 +12
comp=Z,15nm,1.1s
SNAA Sanae 48.75 164 P **P** **17 24 21.6 0.0**
comp=Z,5.7nm,0.7s,baz=208,slow=7.4,SNR=16
SNAA LR LR 17 42 09.1
comp=Z,2um,21.4s,baz=245,slow=33
comp=Z,5.7nm,0.7s
TROLL Troll, Antarti 49.21 166 ⇑P **P** **17 24 25.2 +0.1**
comp=Z,175nm,0.7s
TROLL ⇓S S 17 31 41.4 +12
comp=Z,12nm,0.6s
PINNC Pines Island, 50.02 291 P **P** **17 24 29.6 -2.0**
PINNC IAMs_20 IAMs_20 17 41 59.8
comp=Z,6um,19.0s
CAN Canberra 50.09 265 P **P** **17 24 32.3 +0.2**
CAN IAmb IAmb 17 24 42.2
comp=Z,55nm,1.6s
CAN IAMs_20 IAMs_20 17 40 57.1
comp=Z,5um,19.0s
TOO Toolangi 50.35 260 P **P** **17 24 35.3 +1.1**
TOO IAmb IAmb 17 24 58.2
comp=Z,49nm,1.7s
TOO IAMs_20 IAMs_20 17 40 27.1
comp=Z,5um,20.0s
OUENC Ouen Island, N 50.49 291 IAMs_20 IAMs_20 17 42 21.3
comp=Z,6um,19.0s
ML02 Panimavida 50.61 97 P **P** **17 24 36.7 +0.7**
ML02 IAmb IAmb 17 25 02.5
comp=Z,54nm,1.4s
ONTNC Ouen Toro 50.78 291 P **P** **17 24 39.0 +1.6**
DZM Mont Dzumac 50.98 291 IAMs_20 IAMs_20 17 42 44.4
comp=Z,5um,18.0s
DZM Mont Dzumac 50.98 291 LR LR 17 42 54.9
comp=Z,4um,18.2s,baz=147,slow=32
ELIB Princess Elisa 51.23 174 *d*P **P** **17 24 40.9 +0.5**
comp=Z,17nm,1.3s
ELIB *d*S S 17 32 08.1 +10
LIFNC LIFOU 51.65 292 P **P** **17 24 44.3 +0.4**
BO02 Sierra Bellavi 51.68 97 P **P** **17 24 42.7 -1.5**
BO01 Tunca 51.81 96 P **P** **17 24 44.7 -0.3**
BO01 IAmb IAmb 17 25 13.0
comp=Z,32nm,1.4s
MT01 Popeta 52.11 96 P **P** **17 24 47.4 +0.1**
MT01 IAmb IAmb 17 25 23.5
comp=Z,40nm,1.6s
MT09 Talagante 52.32 96 P **P** **17 24 48.5 -0.5**
ARMA Armidale 52.34 271 P **P** **17 24 49.0 -0.2**
ARMA IAmb IAmb 17 24 59.7
comp=Z,55nm,1.8s
ARMA IAMs_20 IAMs_20 17 42 57.4
comp=Z,6um,19.0s
BO04 La Punta 52.37 96 P **P** **17 24 48.9 -0.4**
BO04 IAmb IAmb 17 25 00.8
comp=Z,42nm,1.8s
VA01 Torpederas 52.53 95 P **P** **17 24 50.8 +0.4**
MT02 Curacav 52.63 95 P **P** **17 24 51.6 +0.4**
LMEL Las Melosas 52.70 96 P **P** **17 24 52.5 +0.6**
LMEL IAmb IAmb 17 26 53.5
comp=Z,16nm,0.6s
MT13 San Alfonso 52.73 96 P **P** **17 24 51.8 -0.3**
MT13 IAmb IAmb 17 25 34.9
comp=Z,51nm,1.6s
MT05 Renca 52.75 96 P **P** **17 24 52.7 +0.6**
PEL Peldehue 52.97 95 P **P** **17 24 53.2 -0.5**
PEL IAmb IAmb 17 25 21.7
comp=Z,37nm,1.3s
VA06 Catapilco 53.07 94 P **P** **17 24 54.7 +0.3**
VA06 IAmb IAmb 17 25 22.0
comp=Z,32nm,1.4s
VA03 San Esteban 53.33 95 P **P** **17 24 56.4 0.0**
KOUNC Koumac, New Ca 53.36 290 IAMs_20 IAMs_20 17 43 59.9
comp=Z,5um,20.0s
TRQA Tornquist 54.01 106 P **P** **17 25 01.6 +0.3**
CO02 Combarbal 54.26 94 P **P** **17 25 03.9 +0.6**
CO02 IAmb IAmb 17 25 26.6
comp=Z,18nm,1.0s
MAW Mawson 54.64 191 P **P** **17 25 06.2 +0.9**
comp=Z,3.4nm,0.8s,baz=146,slow=7.3,SNR=4.3
MAW LR LR 17 45 29.8
comp=Z,4um,21.8s,baz=157,slow=33
comp=Z,3.4nm,0.8s
CO03 El Pedregal 54.71 94 P **P** **17 25 08.0 +1.4**
CO03 IAmb IAmb 17 25 42.4
comp=Z,25nm,1.4s
GO04 Tololo Observa 55.16 93 P **P** **17 25 10.9 +0.9**
GO04 IAmb IAmb 17 25 18.0
comp=Z,29nm,0.9s
CO01 Juntas del Tor 55.70 93 P **P** **17 25 14.8 +0.8**
LCO Las Campanas 56.12 92 P **P** **17 25 17.8 +0.9**
EIDS Eidsvold 56.57 274 P **P** **17 25 20.2 +0.3**
EIDS IAmb IAmb 17 25 27.3
comp=Z,37nm,1.4s
EIDS IAMs_20 IAMs_20 17 45 28.6
comp=Z,6um,19.0s
STKA Stephens Creek 56.73 262 P **P** **17 25 18.9 -2.0**
comp=Z,3.0nm,0.8s,baz=144,slow=17,SNR=5.7
STKA LR LR 17 44 56.6
comp=Z,5um,21.3s,baz=129,slow=31
comp=Z,3.0nm,0.8s
AC02 Maricunga 58.68 92 P **P** **17 25 35.8 +0.5**
AC02 IAmb IAmb 17 26 02.7
comp=Z,46nm,1.6s
BBOO Buckleboo 59.02 257 IAMs_20 IAMs_20 17 47 41.4
comp=Z,5um,18.0s
PB14 IPOC Station P 59.72 89 P **P** **17 25 43.1 +0.8**
PB14 IAmb IAmb 17 26 04.5
comp=Z,26nm,1.2s
GO02 Mina Guanaco 59.74 90 P **P** **17 25 43.1 +0.7**

GO02 IAmb IAmb 17 25 58.2
comp=Z,22nm,1.3s
PB05 IPOC Station P 61.24 88 P P 17 25 53.4 +1.0
PB05 IAmb IAmb 17 26 14.8
comp=Z,32nm,1.5s
PB15 IPOC Station P 61.36 89 P P 17 25 53.6 +0.3
PB15 IAmb IAmb 17 26 16.0
comp=Z,17nm,1.1s
PB04 IPOC Station P 61.68 88 P P 17 25 56.4 +0.9
PB04 IAmb IAmb 17 26 28.8
comp=Z,31nm,1.2s
PB06 IPOC Station P 61.70 89 P P 17 25 55.8 +0.2
PB06 IAmb IAmb 17 26 13.3
comp=Z,21nm,1.0s
LVC Limon Verde 62.14 89 P P 17 25 59.0 +0.2
LVC IAmb IAmb 17 26 22.6
comp=Z,19nm,1.2s
LVC Limon Verde 62.14 89 P P 17 26 01.7 +2.9
comp=Z,5.4nm,0.8s,baz=235,slow=17,SNR=5.2
LVC LR LR 17 47 35.4
comp=Z,440nm,19.9s,baz=224,slow=31
comp=Z,5.4nm,0.8s
PB07 IPOC Station P 62.31 88 P P 17 26 00.8 +1.0
PATCX Punta Patache 62.89 87 P P 17 26 02.0 -1.5
PB01 IPOC Station P 63.08 88 P P 17 26 04.2 -0.6
PB01 IAmb IAmb 17 26 32.3
comp=Z,20nm,1.3s
PLTB Pedras Altas 63.24 108 P 17 26 04.5 -1.1
ITQB Itaqui 63.28 104 P P 17 26 05.0 -0.9
CTAO Charters Tower 63.45 274 P P 17 26 05.5 -1.7
CTAO Charters Tower 63.45 274 IAMs_20 IAMs_20 17 49 49.8
comp=Z,3µm,19.0s
PB08 IPOC Station P 63.99 87 P P 17 26 10.5 -0.6
GO01 Chusmiza 64.35 87 P P 17 26 13.7 0.0
CPUP Villa Florida 65.53 101 P P 17 26 21.2 +0.5
CPUP IAmb IAmb 17 26 47.3
comp=Z,35nm,1.6s
CPUP Villa Florida 65.53 101 P P 17 26 23.2 +2.5
comp=Z,2.3nm,0.9s,baz=212,slow=17,SNR=3.4
CPUP LR LR 17 50 52.8
comp=Z,910nm,19.6s,baz=218,slow=32
comp=Z,2.3nm,0.9s
PB18 Visviri 65.88 85 P P 17 26 21.8 -1.8
NNA Nana 66.48 76 LR LR 17 48 57.7
comp=Z,2µm,20.0s,baz=215,slow=30
AS31 Alice Springs 67.37 261 P P 17 26 29.3 -3.2
ASAR Alice Springs 67.37 261 P P 17 26 29.6 -2.9
ASAR Alice Springs 67.37 261 P P 17 26 30.0 -2.5
comp=Z,4.2nm,0.6s,baz=142,slow=6.6,SNR=50
ASAR LR LR 17 51 28.1
comp=Z,4µm,21.7s,baz=146,slow=32
comp=Z,4.2nm,0.6s
LPAZ La Paz 67.68 86 P P 17 26 33.3 -1.9
LPAZ La Paz 67.68 86 P P 17 26 36.9 +1.7
comp=Z,1.1nm,0.7s,baz=199,slow=6.3,SNR=3.4
comp=Z,1.1nm,0.7s
TARA Tarawa 68.31 310 IAMs_20 IAMs_20 17 48 09.3
comp=Z,3µm,20.0s
H01W1 Cape Leeuwin H 68.51 239 T T 18 41 49.0
baz=144,slow=76,SNR=1440
H01W2 Cape Leeuwin H 68.51 239 T T 18 41 52.9
baz=144,slow=76,SNR=1612
H01W3 Cape Leeuwin H 68.53 239 T T 18 41 53.7
baz=144,slow=76,SNR=1215
NWAO Narrogin (SRO) 68.62 243 IAMs_20 IAMs_20 17 49 25.3
comp=Z,3µm,21.0s
NWAO Narrogin (SRO) 68.62 243 LR LR 17 49 47.8
comp=Z,3µm,19.9s,baz=133,slow=30
ATAH Atahualpa 69.73 71 LR LR 17 50 32.1
comp=Z,2µm,21.8s,baz=221,slow=30
WRA Warramunga Arr 70.13 264 P P 17 26 47.0 -2.7
comp=Z,3.0nm,0.6s,baz=145,slow=5.6,SNR=30
WRA LR LR 17 53 11.5
comp=Z,3µm,21.3s,baz=128,slow=32
comp=Z,3.0nm,0.6s
COEN Coen 70.13 275 IAMs_20 IAMs_20 17 55 22.8
comp=Z,3µm,18.0s
WRAB Tennant Creek 70.13 264 P P 17 26 46.4 -3.3
AQDB Aquidauana 71.12 99 P P 17 26 52.9 -2.8
AQDB IAmb IAmb 17 27 16.7
comp=Z,30nm,1.6s
PMG Port Moresby 71.71 281 IAMs_20 IAMs_20 17 52 52.2
comp=Z,3µm,20.0s
PMG Port Moresby 71.71 281 LR LR 17 54 15.0
comp=Z,3µm,20.3s,baz=155,slow=32
SIV San Ignacio 71.81 91 P P 17 26 60.0 0.0
comp=Z,1.4nm,0.8s,baz=247,slow=12,SNR=5.5
SIV LR LR 17 54 27.1
comp=Z,152nm,18.7s,baz=232,slow=32
comp=Z,1.4nm,0.8s
PTLB Pontes e Lacer 73.32 93 P P 17 27 08.8 0.0
ETMB Extrema 74.04 84 P P 17 27 12.9 -0.2
ETMB IAmb IAmb 17 27 33.7
comp=Z,40nm,1.9s
VILB Vilhena 74.77 90 P P 17 27 16.4 -1.1
VILB IAmb IAmb 17 27 39.3
comp=Z,31nm,1.1s
SAML Samuel 76.42 86 P P 17 27 26.0 -0.9
PSAD2 Pilbara Seismi 76.49 251 IAMs_20 IAMs_20 17 56 31.2
comp=Z,4µm,20.0s
PSAD3 Pilbara Seismi 76.56 251 IAMs_20 IAMs_20 17 55 26.2
comp=Z,2µm,20.0s
PSAB3 Pilbara Seismi 76.57 251 IAMs_20 IAMs_20 17 58 11.2
comp=Z,3µm,19.0s
PSAC2 Pilbara Seismi 76.57 251 IAMs_20 IAMs_20 17 58 47.2
comp=Z,2µm,19.0s
PSAA3 Pilbara Seismi 76.58 251 IAMs_20 IAMs_20 17 59 29.5
comp=Z,3µm,18.0s
PSA00 Pilbara Seismi 76.59 251 P P 17 27 26.9 -0.9
PSA00 IAMs_20 IAMs_20 18 00 10.8
comp=Z,3µm,20.0s
PSA00 Pilbara Seismi 76.59 251 P P 17 27 26.5 -1.3
PSA00 IAmb IAmb 17 27 47.8
comp=Z,23nm,1.7s
PSAA1 Pilbara Seismi 76.59 251 IAMs_20 IAMs_20 17 58 13.8
comp=Z,3µm,18.0s
PSAB2 Pilbara Seismi 76.59 251 IAMs_20 IAMs_20 17 58 03.0
comp=Z,3µm,22.0s
PSAC1 Pilbara Seismi 76.64 251 IAMs_20 IAMs_20 17 58 49.1
comp=Z,3µm,18.0s
KNRA Kununurra 76.65 262 P 17 27 26.8 -1.3
PSAD1 Pilbara Seismi 76.69 251 IAMs_20 IAMs_20 17 59 25.6
comp=Z,3µm,20.0s
MBWA Marble Bar 76.99 251 IAMs_20 IAMs_20 17 58 59.4
comp=Z,3µm,18.0s
MTN Manton Dam 77.67 265 P P 17 27 32.2 -1.7
MTN IAmb IAmb 17 27 42.5
comp=Z,41nm,1.3s
MTN IAMs_20 IAMs_20 17 59 05.7
comp=Z,4µm,19.0s
GIRL Giralia 78.59 246 IAMs_20 IAMs_20 17 56 29.4
comp=Z,3µm,20.0s
BDFB Brasilia 79.24 102 P P 17 27 42.5 -0.1
comp=Z,1.5nm,0.8s,baz=203,slow=7.7,SNR=1.9
BDFB LR LR 17 59 48.9
comp=Z,649nm,18.6s,baz=208,slow=33
comp=Z,1.5nm,0.8s
JTS Las Juntas de 81.53 57 LR LR 17 54 38.1
comp=Z,425nm,21.8s,baz=202,slow=29
ROSC El Rosal 82.01 69 LR LR 17 57 34.6
comp=Z,1µm,22.0s,baz=224,slow=31
MTO3 Montecristo 83.20 51 P P 17 28 04.0 +0.3
MTO3 IAmb IAmb 17 28 52.9
comp=Z,6.6nm,0.5s
CMIG Matias Romero 83.37 45 LR LR 17 56 56.8
comp=Z,634nm,20.1s,baz=206,slow=30
RUSC La Rusia 83.54 69 P P 17 28 05.6 -0.3
BATI Baumata 83.94 261 LR LR 18 02 06.1
comp=Z,4µm,20.8s,baz=154,slow=33
LPIG La Paz 84.82 29 LR LR 17 57 05.3
comp=Z,1µm,19.3s,baz=204,slow=29
FAKI Fak Fak 85.25 272 IAMs_20 IAMs_20 18 04 13.5
comp=Z,3µm,20.0s
MMRI Maumere 86.02 260 IAMs_20 IAMs_20 18 04 19.7
comp=Z,3µm,20.0s
SDV Santo Domingo 87.35 70 LR LR 18 01 25.0
comp=Z,822nm,20.4s,baz=206,slow=31
SUR Sutherland 90.07 166 LR LR 18 02 32.7
comp=Z,1µm,21.8s,baz=179,slow=31
JAGI Jajag, Banyuwa 90.50 254 IAMs_20 IAMs_20 18 05 32.4
comp=Z,2µm,21.0s
PCRV Puerto La Cruz 91.57 74 LR LR 18 05 24.0
comp=Z,2µm,18.6s,slow=32
TXAR Lajitas Array 91.64 33 P P 17 28 45.9 +1.7
comp=Z,0.2nm,0.5s,baz=192,slow=8.1,SNR=2.9
TXAR LR LR 18 00 39.8
comp=Z,456nm,21.1s,baz=201,slow=30
comp=Z,0.2nm,0.5s
109C Camp Elliot, M 91.71 21 IAMs_20 IAMs_20 17 59 21.6
comp=Z,2µm,21.0s
GUMO Guam 92.25 291 LR LR 18 03 49.8
comp=Z,298nm,21.4s,baz=148,slow=32
TUC Tucson 92.53 26 IAMs_20 IAMs_20 18 01 20.5
comp=Z,2µm,19.0s
PFO Pinyon Flats O 92.54 21 LR LR 18 01 56.4
comp=Z,2µm,18.6s,baz=206,slow=30
PASC Pasadena Art C 92.75 20 IAMs_20 IAMs_20 17 59 49.1
comp=Z,3µm,21.0s
BCW Bitter Crk WRg 93.28 18 IAMs_20 IAMs_20 18 00 25.8
comp=Z,3µm,21.0s
RCBR Riachuelo 93.89 107 LR LR 18 08 05.8
comp=Z,465nm,20.2s,baz=216,slow=33
BOSA Boshof 94.33 169 LR LR 18 08 06.8
comp=Z,2µm,19.6s,baz=190,slow=33
SAO San Andreas Ge 94.72 16 IAMs_20 IAMs_20 18 01 50.3
comp=Z,2µm,20.0s
BKB Balikpapan 95.06 260 IAMs_20 IAMs_20 18 10 54.6
comp=Z,2µm,19.0s
Y22D IRIS PASSCAL I 95.19 29 IAMs_20 IAMs_20 18 01 51.9
comp=Z,2µm,22.0s
LEM Lembang 95.30 249 LR LR 18 08 24.5
comp=Z,594nm,19.2s,baz=144,slow=33
WUAZ Wupatki 95.46 25 IAMs_20 IAMs_20 18 02 27.0
comp=Z,2µm,21.0s
MCCM Marconi Confer 95.86 15 IAMs_20 IAMs_20 18 03 15.5
comp=Z,2µm,20.0s
CMB Columbia Colle 96.13 17 IAMs_20 IAMs_20 18 02 16.7
comp=Z,2µm,20.0s
ANMO Albuquerque 96.14 29 IAMs_20 IAMs_20 18 02 34.0
comp=Z,2µm,22.0s
ANMO Albuquerque 96.14 29 LR LR 18 03 40.8
comp=Z,1µm,21.4s,baz=299,slow=30
HOPS Hoplard Field 96.67 15 IAMs_20 IAMs_20 18 03 58.8
comp=Z,2µm,19.0s
NVAR Mina Array Bea 96.87 19 LR LR 18 02 55.0
comp=Z,2µm,21.0s,baz=190,slow=29
DAV Davao City (W) 97.20 272 LR LR 18 11 41.1
comp=Z,724nm,19.8s,baz=136,slow=35
R11B Troy Canyon, C 97.29 21 IAMs_20 IAMs_20 18 03 29.5
comp=Z,2µm,21.0s
AMTX Amarillo 97.42 32 IAMs_20 IAMs_20 18 03 41.0
comp=Z,2µm,22.0s
ORV Oroville 97.45 16 IAMs_20 IAMs_20 18 03 58.5
comp=Z,1µm,19.0s
LBTB Lobatse 97.93 169 LR LR 18 10 42.8
comp=Z,1µm,19.1s,baz=180,slow=34
FOMA Nahampoana Res 98.29 188 IAMs_20 IAMs_20 18 10 22.1
comp=Z,2µm,19.0s
JCC Jacoby Creek, 98.33 14 IAMs_20 IAMs_20 18 02 28.8
comp=Z,3µm,22.0s
SDCO Great Sand Dun 99.03 29 IAMs_20 IAMs_20 18 05 42.5
comp=Z,2µm,19.0s
WIN Windhoek 99.09 160 IAMs_20 IAMs_20 18 09 23.4
comp=Z,3µm,19.0s
YBH Yreka Blue Hor 99.41 14 IAMs_20 IAMs_20 18 03 21.3
comp=Z,3µm,22.0s
YBH Yreka Blue Hor 99.41 14 LR LR 18 03 43.4
comp=Z,3µm,21.9s,baz=176,slow=29
DUG Dugway, Tooele 99.63 22 IAMs_20 IAMs_20 18 05 28.4
comp=Z,2µm,19.0s
ELK Elko 99.68 20 IAMs_20 IAMs_20 18 04 04.6
comp=Z,2µm,22.0s
ELK Elko 99.68 20 LR LR 18 04 38.1
comp=Z,2µm,21.2s,slow=30
HUMO Hull Mountain 100.23 14 IAMs_20 IAMs_20 18 03 45.2
comp=Z,2µm,22.0s
WVOR Wild Horse Val 100.71 17 IAMs_20 IAMs_20 18 05 14.9
comp=Z,2µm,21.0s
ISCO Idaho Springs 100.93 28 IAMs_20 IAMs_20 18 07 09.0
comp=Z,2µm,18.0s
HWUT Hardware Ranch 101.25 23 IAMs_20 IAMs_20 18 05 54.3
comp=Z,1µm,21.0s
VOI Vohitsoka 101.35 188 IAMs_20 IAMs_20 18 08 28.1
comp=Z,3µm,22.0s
CBKS Cedar Bluff 101.64 32 IAMs_20 IAMs_20 18 07 19.7
comp=Z,2µm,20.0s
BRIGG Briggsdale 102.00 28 IAMs_20 IAMs_20 18 07 28.3
comp=Z,2µm,19.0s
COR Corvallis 102.13 14 IAMs_20 IAMs_20 18 05 39.4
comp=Z,2µm,20.0s
MFID Camas Ranch 102.15 19 IAMs_20 IAMs_20 18 05 41.0
comp=Z,2µm,21.0s
RWWY Rawlins 102.32 26 IAMs_20 IAMs_20 18 06 52.6
comp=Z,2µm,21.0s
TSUM Tsumeb 102.46 160 IAMs_20 IAMs_20 18 09 11.8
comp=Z,2µm,21.0s
AHID Auburn Hatcher 102.46 23 IAMs_20 IAMs_20 18 06 42.2
comp=Z,1µm,20.0s
H10N3 ASCENSION HYDR 102.68 126 T T 19 25 37.5
baz=206,slow=75,SNR=51
H10N1 ASCENSION HYDR 102.68 126 T T 19 25 47.3
baz=206,slow=75,SNR=69
H10N2 ASCENSION HYDR 102.69 126 T T 19 25 39.1
baz=206,slow=75,SNR=50
OGNE Ogallala 102.96 30 IAMs_20 IAMs_20 18 07 01.6
comp=Z,2µm,22.0s
TPAW Teton Pass 103.18 23 IAMs_20 IAMs_20 18 07 42.4
comp=Z,1µm,19.0s
SNOW Snow King Moun 103.20 23 IAMs_20 IAMs_20 18 07 43.8
comp=Z,1µm,20.0s
BMO Blue Mountains 103.29 18 IAMs_20 IAMs_20 18 07 48.0
comp=Z,2µm,19.0s
FXWY Fox Creek 103.31 23 IAMs_20 IAMs_20 18 08 23.7
comp=Z,1µm,19.0s
LOHW Long Hollow 103.38 23 IAMs_20 IAMs_20 18 07 59.5
comp=Z,1µm,20.0s
MOOW Moose Ponds 103.47 23 IAMs_20 IAMs_20 18 08 02.1
comp=Z,2µm,19.0s
IMW Indian Meadow 103.58 23 IAMs_20 IAMs_20 18 08 32.6
comp=Z,1µm,20.0s
FLWY Flagg Ranch 103.80 23 IAMs_20 IAMs_20 18 08 20.8
comp=Z,1µm,19.0s
HAWA Hanford 104.43 16 IAMs_20 IAMs_20 18 07 09.3
comp=Z,2µm,21.0s
NLWA Nelton Lookou 104.83 13 IAMs_20 IAMs_20 18 07 36.4
comp=Z,2µm,20.0s
MSO Missoula 105.80 20 IAMs_20 IAMs_20 18 08 51.4
comp=Z,2µm,20.0s
NEW Newport 106.63 17 IAMs_20 IAMs_20 18 08 20.5
comp=Z,2µm,21.0s
ECSD EROS Data Cent 107.08 33 IAMs_20 IAMs_20 18 09 33.8
comp=Z,3µm,22.0s
LAO LASA Array 107.27 25 IAMs_20 IAMs_20 18 10 06.6
comp=Z,2µm,20.0s
LSZ Lusaka 107.82 170 IAMs_20 IAMs_20 18 17 07.8
comp=Z,1µm,19.0s
DGMT Dagmar 109.42 26 IAMs_20 IAMs_20 18 12 13.5
comp=Z,2µm,19.0s
AGMN Agassiz Nation 111.45 31 IAMs_20 IAMs_20 18 13 51.2
comp=Z,2µm,20.0s
GLMI Grayling 111.98 40 IAMs_20 IAMs_20 18 24 04.7
comp=Z,1µm,20.0s
EYMN Ely 112.43 34 IAMs_20 IAMs_20 18 13 57.4
comp=Z,2µm,20.0s
U35K Hyder 112.68 7 IAMs_20 IAMs_20 18 11 23.3
comp=Z,1µm,20.0s
U33K Whale Pass 112.69 5 IAMs_20 IAMs_20 18 12 02.4
comp=Z,2µm,21.0s
WRAK Wrangell Islan 113.04 6 IAMs_20 IAMs_20 18 10 58.5
comp=Z,2µm,20.0s
S12K Black Hills 113.23 348 IAMs_20 IAMs_20 18 09 52.7
comp=Z,2µm,20.0s
T35M Bob Quinn 113.73 7 IAMs_20 IAMs_20 18 13 20.0
comp=Z,2µm,20.0s
S31K Pelican 114.41 3 IAMs_20 IAMs_20 18 12 39.0
comp=Z,2µm,19.0s
JIS Juneau Island 114.79 4 IAMs_20 IAMs_20 18 12 04.1
comp=Z,2µm,20.0s
UBPT Khong Chiam 115.00 260 IAMs_20 IAMs_20 18 18 52.2
comp=Z,1µm,22.0s
QIZ Qiongzhong 115.67 266 PKP PKiKP 17 34 19.8 +0.4
QIZ PP PP 17 35 21.0 -1.2
QIZ SS SS 17 51 24.7 +3.0
QIZ LR LR
comp=Z,430nm,22.2s
QIZ LR LR
comp=Z,360nm,22.6s
QIZ LR LR
comp=Z,710nm,23.5s
BCPM Bancas Point 116.33 1 IAMs_20 IAMs_20 18 17 13.7
comp=Z,2µm,19.0s
SUCK Suckling Hills 116.44 359 IAMs_20 IAMs_20 18 12 22.7
comp=Z,3µm,22.0s
O14K Tigyukauivet M 116.63 349 IAMs_20 IAMs_20 18 27 43.5
comp=Z,1µm,20.0s
O16K Kokwok River B 116.66 351 IAMs_20 IAMs_20 18 24 22.4
comp=Z,1µm,18.0s
HMT Hamilton 116.71 359 IAMs_20 IAMs_20 18 25 38.8
comp=Z,2µm,19.0s
BERG Berg Lake 116.76 359 IAMs_20 IAMs_20 18 12 45.2
comp=Z,2µm,22.0s
RAGM Ragged Mountai 116.77 359 PKiKP 17 34 20.8 +0.6
P33M Teslin, Yukon 116.80 5 IAMs_20 IAMs_20 18 15 14.2
GLI Glacier Island 117.31 357 IAMs_20 IAMs_20 18 15 58.7
comp=Z,2µm,20.0s
CTGM Chitina Glacie 117.33 0 IAMs_20 IAMs_20 18 12 45.2
comp=Z,2µm,22.0s
N15K Kwethluk River 117.41 350 IAMs_20 IAMs_20 18 27 28.2
comp=Z,2µm,20.0s
BARN Barnard Glacie 117.42 0 IAMs_20 IAMs_20 18 20 22.4
comp=Z,2µm,18.0s
N17K Nushagak Hills 117.50 352 IAMs_20 IAMs_20 18 21 55.8
comp=Z,2µm,18.0s
VRDI Verde Repeater 117.60 359 IAMs_20 IAMs_20 18 13 21.3
comp=Z,2µm,22.0s
MCARA McCarthy VSAT 117.75 359 IAMs_20 IAMs_20 18 13 39.3
comp=Z,2µm,22.0s
GLB Gilahina Butte 117.82 359 IAMs_20 IAMs_20 18 11 49.0
N30M Aishikik Lake 117.89 3 IAMs_20 IAMs_20 18 14 36.9
comp=Z,2µm,20.0s
KLU Klutina 117.90 358 IAMs_20 IAMs_20 18 14 52.2
comp=Z,2µm,20.0s
M13K Dall Lake 117.99 348 IAMs_20 IAMs_20 18 28 39.6
comp=Z,2µm,20.0s
N25K Chitina, Valde 117.99 359 IAMs_20 IAMs_20 18 14 04.6
comp=Z,1µm,21.0s
M16K Timber Creek 118.14 351 IAMs_20 IAMs_20 18 27 37.7
comp=Z,2µm,18.0s
M14K Bethel 118.17 349 IAMs_20 IAMs_20 18 13 01.3
comp=Z,2µm,22.0s
SCM Sheep Creek Mo 118.27 357 IAMs_20 IAMs_20 18 13 07.1
comp=Z,2µm,22.0s
M17K Holitna River 118.39 352 IAMs_20 IAMs_20 18 18 34.2
comp=Z,2µm,19.0s
M24K Tolsona, Glenn 118.52 358 IAMs_20 IAMs_20 18 15 21.6
comp=Z,2µm,21.0s
PBA Port Blair 118.65 246 IAMs_20 IAMs_20 18 22 58.3
comp=Z,1µm,20.0s
M27K Edge Creek, AK 118.73 0 IAMs_20 IAMs_20 18 14 02.1
comp=Z,2µm,21.0s
M26K Nabesna, AK 118.77 359 IAMs_20 IAMs_20 18 23 03.3
comp=Z,2µm,18.0s
L14K Kuka Creek 118.82 349 IAMs_20 IAMs_20 18 13 29.7
comp=Z,1µm,22.0s
L16K Owhat River 118.87 351 IAMs_20 IAMs_20 18 24 34.8
comp=Z,2µm,18.0s
SSE Sheshan 119.01 283 PKP PKiKP 17 34 26.2 +0.7
SSE PP PP 17 35 51.3 +5.7
SSE LR LR
comp=Z,260nm,20.8s
SSE LR LR
comp=Z,190nm,20.7s
SSE LR LR
comp=Z,360nm,21.8s
L26K Log Cabin Wild 119.40 359 IAMs_20 IAMs_20 18 14 11.9
comp=Z,2µm,21.0s
L27K Beaver Creek, 119.43 0 IAMs_20 IAMs_20 18 19 57.8
comp=Z,2µm,19.0s
L29M L29M 119.52 2 IAMs_20 IAMs_20 18 19 43.0
comp=Z,2µm,19.0s
DHY Denali Highway 119.52 357 IAMs_20 IAMs_20 18 18 16.1
comp=Z,2µm,19.0s
K15K Wolf Creek Mou 119.64 350 IAMs_20 IAMs_20 18 28 32.2
comp=Z,2µm,18.0s
K17K Iditarod 119.76 351 IAMs_20 IAMs_20 18 17 33.2
comp=Z,2µm,20.0s
TJN Taejon 119.85 292 IAMs_20 IAMs_20 18 18 29.8
comp=Z,2µm,21.0s
PETK Petropavlovsk- 120.06 323 PKP PKPdf 17 34 26.3 -0.5
comp=Z,1.5nm,0.7s,baz=110,slow=4.9,SNR=4.2
J14K Nanvaranak Lak 120.29 349 IAMs_20 IAMs_20 18 14 39.5
comp=Z,2µm,22.0s
SCRK Sand Creek 120.36 359 IAMs_20 IAMs_20 18 14 29.3
comp=Z,2µm,22.0s
J18K Innoko River 120.38 352 IAMs_20 IAMs_20 18 16 12.7
comp=Z,2µm,20.0s
K27K Chicken 120.41 360 IAMs_20 IAMs_20 18 14 54.2
comp=Z,1µm,21.0s
PALK Pallekele 120.47 231 IAMs_20 IAMs_20 18 16 26.6
comp=Z,1µm,21.0s
J17K VABM Dome 120.50 351 IAMs_20 IAMs_20 18 23 16.9
comp=Z,2µm,18.0s
J16K Anvik River 120.52 350 IAMs_20 IAMs_20 18 28 40.5
comp=Z,2µm,18.0s
BWN Browne 120.69 356 IAMs_20 IAMs_20 18 15 16.7
comp=Z,2µm,22.0s
YKA Yellowknife Ar 120.76 14 PKP PKiKP 17 34 27.5 -0.4
comp=Z,0.1nm,0.4s,baz=231,slow=3.8,SNR=1.6
YKA PKKPbc PKKPbc 17 44 31.6 -0.5
comp=Z,0.2nm,0.8s,baz=8.9,slow=5.0,SNR=4.2
HDA Harding Lake 120.85 357 IAMs_20 IAMs_20 18 15 13.1
comp=Z,2µm,21.0s
J29N Klondike Camp 120.86 2 IAMs_20 IAMs_20 18 20 52.6
comp=Z,2µm,18.0s
J26L Joseph Creek 120.89 359 IAMs_20 IAMs_20 18 14 36.1
comp=Z,2µm,21.0s
WRH Wood River Hil 120.94 357 IAMs_20 IAMs_20 18 18 33.6
comp=Z,2µm,20.0s
NJ2 Nanjing 121.01 282 ePKP PKiKP 17 34 31.4 +2.0
J25K Salcha River, 121.02 358 IAMs_20 IAMs_20 18 17 01.7
comp=Z,2µm,20.0s
NEA2 Nenana 121.09 356 PKPdf PKiKP 17 34 28.6 0.0
NEA2 IAMs_20 IAMs_20 18 17 38.6
comp=Z,2µm,20.0s
CCB Clear Creek Bu 121.11 357 IAMs_20 IAMs_20 18 37 21.0
comp=Z,2µm,22.0s
I17K Unalakleet 121.12 350 IAMs_20 IAMs_20 18 29 08.4
comp=Z,2µm,18.0s
CMAR Chiang Mai Arr 121.13 256 PKiKP 17 34 29.9 -0.2
EGAK Eagle 121.16 0 IAMs_20 IAMs_20 18 21 11.1
comp=Z,2µm,19.0s
IL31 121.21 358 PKiKP 17 34 28.7 0.0
ILAR Eielson Array 121.21 358 PKPdf 17 34 27.9 -0.8
ILAR Eielson Array 121.21 358 PKP PKiKP 17 34 28.4 -0.3
comp=Z,3.3nm,0.9s,baz=165,slow=1.3,SNR=12
MDM Murphy Dome 121.43 357 PKiKP 17 34 30.4 +1.2
MDM IAMs_20 IAMs_20 18 19 07.6
comp=Z,2µm,20.0s
MLY Manley 121.59 356 PKiKP 17 34 31.2 +1.6
I23K Minto, Yukon-K 121.66 356 IAMs_20 IAMs_20 18 22 47.6
comp=Z,2µm,18.0s
I26K Coal Creek Min 121.69 359 IAMs_20 IAMs_20 18 15 43.2
comp=Z,2µm,22.0s
PRP Porcupine Dome 121.93 358 PKPdf PKiKP 17 34 31.6 +1.3
PRP IAMs_20 IAMs_20 18 15 26.7
comp=Z,2µm,22.0s
I27K Kandik River 121.99 0 P PKiKP 17 34 36.7 +6.3
baz=180
H18K Honhosa River 122.17 352 IAMs_20 IAMs_20 18 18 49.1
comp=Z,2µm,20.0s
ANM Nome 122.26 348 IAMs_20 IAMs_20 18 15 05.5
comp=Z,2µm,22.0s
H31M Peel River 122.33 4 PKiKP 17 34 32.9 +2.0
H31M Peel River 122.33 4 P PKiKP 17 34 36.5 +5.5
baz=185
H23K Yukon River 122.34 356 IAMs_20 IAMs_20 18 20 34.4
comp=Z,2µm,20.0s
H22K Ishtalitna Cre 122.48 355 P PKiKP 17 34 36.4 +5.1
baz=174
H29M Whitestone 122.63 2 PKPdf PKiKP 17 34 33.9 +2.4
H25L Birch Creek 122.69 358 P PKiKP 17 34 37.5 +5.9
baz=178
G16K Koyuk River 122.75 350 IAMs_20 IAMs_20 18 30 18.5
comp=Z,1µm,18.0s
FYU Fort Yukon 122.98 358 IAMs_20 IAMs_20 18 22 28.4
comp=Z,2µm,18.0s
G19K Purcell Mounta 123.06 353 PKiKP 17 34 33.5 +1.2
G19K IAMs_20 IAMs_20 18 17 56.5
comp=Z,2µm,20.0s
G24K Hadweenzic Riv 123.16 357 PKPdf PKiKP 17 34 34.4 +1.8
G24K Hadweenzic Riv 123.16 357 P PKiKP 17 34 38.0 +5.5
baz=176
G27K Doyon Strip 123.20 0 PKiKP 17 34 33.9 +1.2
G27K IAMs_20 IAMs_20 18 20 24.3
comp=Z,2µm,19.0s
G27K Doyon Strip 123.20 0 P PKiKP 17 34 38.8 +6.2
baz=180
G21K Allakaket 123.21 355 P PKiKP 17 34 38.6 +6.0
baz=172
G23K Bananza Creek 123.25 356 PKiKP 17 34 34.7 +1.9

G23K IAMs_20 IAMs_20 18 21 38.5
comp=Z,2µm,19.0s
F15K North Star Dit 123.29 349 IAMs_20 IAMs_20 18 30 33.7
comp=Z,1µm,18.0s
G29M Pine Creek 123.33 2 PKiKP 17 34 34.2 +1.2
G29M IAMs_20 IAMs_20 18 21 02.9
comp=Z,2µm,19.0s
G29M Pine Creek 123.33 2 P **PKiKP 17 34 38.7 +5.8**
baz=183
GYA Guiyang 123.35 268 ||PKP **PKiKP 17 34 35.0 +0.6**
GYA PP **PP 17 36 18.6 +3.3**
GYA AMB AMB
comp=Z,150nm,11.7s
GYA LR LR
comp=Z,290nm,19.8s
GYA LR LR
comp=Z,270nm,19.4s
GYA LR LR
comp=Z,530nm,21.3s
G30M tAoh Zraii Nji 123.44 3 PKPdf **PKiKP 17 34 33.5 +0.4**
G31M Satah River 123.45 4 IAMs_20 IAMs_20 18 18 22.6
comp=Z,2µm,20.0s
F17K Baldwin Pennin 123.68 351 IAMs_20 IAMs_20 18 30 13.0
comp=Z,2µm,18.0s
BMAR Burnt Mountain 123.83 359 PKPdf **PKiKP 17 34 34.9 +1.0**
F21K Alatna River 123.91 355 PKPdf **PKiKP 17 34 34.9 +0.8**
F21K Alatna River 123.91 355 P **PKiKP 17 34 40.2 +6.1**
baz=172
F24K Squaw Lake 123.99 357 PKPdf **PKiKP 17 34 34.0 -0.2**
F25K Christian Rive 124.02 358 P **PKiKP 17 34 39.7 +5.4**
baz=178
F28M Old Crow 124.02 1 PKPdf **PKiKP 17 34 34.6 +0.4**
F28M IAMs_20 IAMs_20 18 19 26.7
comp=Z,2µm,20.0s
E24K Your Creek 124.56 357 PKiKP 17 34 36.1 +0.7
E24K Your Creek 124.56 357 P **PKiKP 17 34 38.0 +2.6**
baz=176
E27K Coleen River 124.58 0 PKPdf **PKiKP 17 34 36.8 +1.4**
E27K IAMs_20 IAMs_20 18 25 00.8
comp=Z,2µm,18.0s
E27K Coleen River 124.58 0 P **PKiKP 17 34 39.3 +3.9**
baz=180
E29M Blow River 124.82 2 PKPdf **PKiKP 17 34 37.0 +1.2**
E29M IAMs_20 IAMs_20 18 19 26.2
comp=Z,2µm,20.0s
E29M Blow River 124.82 2 P **PKiKP 17 34 39.9 +4.1**
baz=183
MDJ Mudanjiang 124.96 299 P **PKiKP 17 34 43.4 +6.6**
MDJ pmax pmax
comp=Z,5.0nm,1.5s
MDJ pmax pmax
comp=Z,160nm,5.4s
MDJ Mudanjiang 124.96 299 IAMs_20 IAMs_20 18 18 09.9
comp=Z,1µm,22.0s
E28M Babbage River 125.01 1 PKiKP 17 34 37.4 +1.2
E21K Killik River 125.15 355 P **PKiKP 17 34 41.9 +5.4**
baz=172
TOLK Toolik Lake Re 125.16 357 PKPdf **PKiKP 17 34 38.2 +1.7**
TOLK Toolik Lake Re 125.16 357 P **PKiKP 17 34 42.7 +6.2**
baz=175
RDOG Red Dog Mine 125.40 351 IAMs_20 IAMs_20 18 31 19.6
comp=Z,1µm,18.0s
D22K Ayikyak River 125.52 355 PKPdf **PKiKP 17 34 37.6 +0.5**
D22K Ayikyak River 125.52 355 P **PKiKP 17 34 42.6 +5.4**
baz=173
D23K Nanushuk River 125.53 356 P **PKiKP 17 34 43.4 +6.2**
baz=174
D20K Etivluk River 125.57 353 P **PKiKP 17 34 44.2 +6.9**
baz=170
D27M Malcolm River 125.64 0 P **PKiKP 17 34 43.0 +5.5**
baz=181
D24K Happy Valley 125.65 357 PKiKP 17 34 38.4 +1.0
D24K IAMs_20 IAMs_20 18 19 37.9
comp=Z,2µm,20.0s
D24K Happy Valley 125.65 357 P **PKiKP 17 34 44.1 +6.7**
baz=175
D28M Stokes Point 125.75 1 P **PKiKP 17 34 43.3 +5.8**
baz=182
C16K Lisburne Hills 125.85 350 IAMs_20 IAMs_20 18 33 01.4
comp=Z,2µm,18.0s
C27K Jago River 126.03 359 P **PKiKP 17 34 44.4 +6.3**
baz=179
PZH PanZhiHua 126.09 264 PKP **PKiKP 17 34 40.7 +0.9**
PZH PP **PP 17 36 38.5 +4.9**
PZH AMB AMB
comp=Z,120nm,7.5s
PZH LR LR
comp=Z,420nm,20.6s
PZH LR LR
comp=Z,370nm,19.8s
PZH LR LR
comp=Z,760nm,22.6s
C24K Franklin Bluff 126.22 357 P **PKiKP 17 34 44.3 +5.8**
baz=175
C26K Camden Bay 126.34 359 P **PKiKP 17 34 44.5 +5.8**
baz=178
CN2 Changchun 126.39 296 *e*PKP **PKPdf 17 34 33.7 -5.5**
CN2 *e*PP **PP 17 36 34.2 -1.2**
CN2 SKKS 17 43 22.2
CN2 *e*SS SS 17 53 34.4 -4.5
CN2 AMB AMB
comp=Z,80nm,5.0s
CN2 LR LR
comp=Z,110nm,20.0s
CN2 LR LR
comp=Z,90nm,20.0s
C23K Itkillik River 126.39 356 P **PKiKP 17 34 44.8 +5.9**
baz=174
C36M Paulatuk 126.42 8 IAMs_20 IAMs_20 18 20 47.5
comp=Z,2µm,20.0s
TNCH TengChong 126.68 260 PKP **PKPdf 17 34 39.5 -1.1**
TNCH PP **PP 17 36 39.8 +2.2**
TNCH SKS **SKSac 17 41 43.3 -2.5**
TNCH SS **SS 17 53 40.5 -2.4**
TNCH AMB AMB
comp=Z,70nm,4.1s
TNCH LR LR
comp=Z,240nm,19.5s
TNCH LR LR
comp=Z,340nm,22.8s
TNCH LR LR
comp=Z,890nm,21.6s
HNS HongShan 127.27 283 ||PKP PKiKP 17 34 49.9 +8.3
HNS HongShan 127.27 283 SS SS 17 53 56.6 +6.6
HNS LR LR
comp=N,690nm,20.2s
HNS LR LR
comp=E,700nm,20.4s
HNS LR LR
comp=Z,1µm,21.1s
XAN Xi'an 127.92 276 PKP PKiKP 17 34 50.6 +7.5
CD2 Chengdu 128.40 269 PKP **PKiKP 17 34 44.0 -0.2**
CD2 PP PP 17 36 56.6 +7.8
CD2 AMB AMB
comp=Z,110nm,7.4s
CD2 LR LR
comp=Z,760nm,25.5s
CD2 LR LR
comp=Z,970nm,28.9s
TORD Torodi Ar. Bea 128.42 133 PKP **PKiKP 17 34 44.7 +0.1**
comp=Z,0.6nm,0.9s,baz=222,slow=1.9,SNR=2.1
A36M Sachs Harbour 128.93 7 IAMs_20 IAMs_20 18 25 34.0
comp=Z,2µm,18.0s
HEH HeiHe 130.04 303 PKP **PKiKP 17 34 48.8 +2.1**
HEH PP **PP 17 37 04.0 +4.7**
HEH AMB AMB
comp=Z,170nm,8.5s
HEH LR LR
comp=Z,410nm,21.3s
HEH LR LR
comp=Z,300nm,20.5s
HEH LR LR
comp=Z,810nm,23.9s
XLT XiLinHaoTe 131.21 290 *e*PKP **PKPdf 17 34 44.7 -3.8**
XLT sPKP 17 34 57.9
XLT PKS **PKSdf 17 38 20.0 -4.9**
XLT AMB AMB
comp=Z,67nm,8.5s
XLT LR LR
comp=Z,37nm,22.1s
XLT LR LR
comp=Z,350nm,18.7s
XLT LR LR
comp=Z,790nm,29.8s
HHC Hu-ho-hao-te 131.45 284 *e*PKP **PKPdf 17 34 45.9 -3.2**
HHC SS SS 17 54 36.3 -5.5
HHC LR LR
comp=Z,430nm,20.6s
HHC LR LR
comp=Z,410nm,22.9s
HHC LR LR
comp=Z,980nm,21.4s
BTO Baotou 132.11 283 *e*PKP **PKPdf 17 34 48.4 -2.0**
BTO LR LR
comp=Z,890nm,15.1s
BTO LR LR
comp=Z,810nm,14.1s
BTO LR LR
comp=Z,870nm,15.5s
LZH Lanzhou 132.23 274 *e*PKP **PKPdf 17 34 47.7 -3.1**
LZH PP **PP 17 37 16.1 +2.3**
LZH AMB AMB
comp=Z,130nm,4.5s
LZH LR LR
comp=Z,550nm,15.6s
LZH LR LR
comp=Z,370nm,16.5s
LZH LR LR
comp=Z,830nm,18.5s
FURI Furi 132.31 181 IAMs_20 IAMs_20 18 29 54.6
comp=Z,2µm,20.0s
ATD Arta Tunnel 134.77 187 IAMs_20 IAMs_20 18 29 52.9
comp=Z,1µm,21.0s
YAK Yakutsk 136.73 317 IAMs_20 IAMs_20 18 24 23.4
comp=Z,992nm,21.0s
GTA Gaotai 136.84 274 *e*PKP **PKiKP 17 35 07.5 +6.4**
GTA PP **PP 17 37 50.1 +7.1**
SONM Songino Array 138.88 288 PKP **PKPdf 17 35 03.3 +0.5**
comp=Z,0.3nm,0.4s,baz=102,slow=2.1,SNR=2.1
TULEG Thule 140.67 21 IAMs_20 IAMs_20 18 39 46.4
comp=Z,2µm,21.0s
TIXI Tiksi 142.06 329 PKPpre 17 35 04.2
TIXI Tiksi 142.06 329 IAMs_20 IAMs_20 18 29 49.9
comp=Z,1µm,21.0s
MESJ Messejana 144.25 102 *e*PKP **PKiKP 17 35 15.5 -0.6**
MESJ Messejana 144.25 102 *e*PKPdf **PKiKP 17 35 14.2 -1.9**
MESJ *e*SS SS 17 57 16.8 +3.7
MESJ IAMs_20 IAMs_20 18 55 38.6
comp=Z,646nm,26.4s
PBEJ Beja 144.58 102 *e*PKP **PKPdf 17 35 14.1 +1.0**
NEEM North Greenlan 144.67 22 *i* P **PKiKP 17 35 16.5 +0.2**
EVO Evora 144.87 101 *e*PKP **PKPdf 17 35 15.0 +1.4**
PMTG Montargil 145.14 100 *e*PKP **PKPbc 17 35 13.3 -0.3**
UOSS Minazif 145.64 210 PKPab 17 35 15.7 -0.3
PCAS Casmilo, Conde 145.69 99 *e*PKP **PKiKP 17 35 17.8 -1.2**
PMRV Marv??o 145.85 101 *e*PKP **PKPdf 17 35 14.8 -0.5**
PCBR Castelo Branco 146.09 100 *e*PKP **PKPdf 17 35 15.7 +0.1**
RAYN Ar Rayn 146.41 192 PKPdf **PKPdf 17 35 17.1 +0.3**
RAYN Ar Rayn 146.41 192 IAMs_20 IAMs_20 18 33 38.1
comp=Z,1µm,22.0s
MTE Manteigas 146.45 99 *e*PKP **PKPbc 17 35 17.5 -0.2**
PVIS Viseu 146.48 99 *e*PKP **PKPab 17 35 19.4 +0.6**
WMQ Urumqi 146.50 269 *e*PKPbc **PKiKP 17 35 21.6 +0.9**
WMQ LR LR
comp=Z,280nm,19.3s
WMQ LR LR
comp=Z,500nm,20.5s
WMQ LR LR
comp=Z,610nm,20.5s
SUMG Summit 146.54 32 IAMs_20 IAMs_20 18 32 43.9
comp=Z,1µm,20.0s
MVO Moncorvo 147.26 99 *e*PKP **PKiKP 17 35 22.7 +0.4**
PBRG Braganca 147.86 98 *e*PKP **PKPdf 17 35 16.6 -2.0**
ESDC Sonseca Array 147.87 104 PKPbc **PKPbc 17 35 21.4 -0.3**
comp=Z,3.0nm,0.8s,baz=244,slow=2.6,SNR=16
TATN Tataouine 149.33 130 IAMs_20 IAMs_20 18 52 33.0
comp=Z,708nm,19.0s
KBL Kabul 149.43 237 PKiKP 17 35 27.7 +0.5
KSH Kashi 149.89 251 PKPbc **PKPbc 17 35 26.1 -0.8**
KSH LR LR
comp=Z,1µm,22.3s
KSH LR LR
comp=Z,710nm,21.6s
KSH LR LR
comp=Z,880nm,21.6s
TARG Taragay, Kyrgy 150.50 257 PKPdf **PKPdf 17 35 21.8 -1.6**
TARG **sPKPdf 17 35 28.6 -0.1**
NOR Nord 150.69 14 *i* P **PKiKP 17 35 30.4 +2.3**
MK31 Makanchi Array 151.33 269 PKPdf **PKPdf 17 35 24.1 +0.1**
MK31 PKPbc **sPKPdf 17 35 29.2 -0.1**
MKAR Makanchi Array 151.33 269 PKPdf **PKPdf 17 35 24.3 +0.4**
MKAR PKPbc **sPKPdf 17 35 29.1 -0.2**
MKAR Makanchi Array 151.33 269 PKPbc **PKPbc 17 35 27.9 -2.1**
comp=Z,2.3nm,0.9s,baz=96,slow=2.9,SNR=9.8
MKAR PKPab **sPKPbc 17 35 35.3 0.0**
comp=Z,11nm,0.9s,baz=106,slow=4.7,SNR=22
KEST Kesra 151.49 125 IAMs_20 IAMs_20 18 37 56.4
comp=Z,1µm,22.0s
MAKZ Makanchi 151.51 269 PKPdf 17 35 24.0 -0.2
MAKZ PKPbc **PKiKP 17 35 30.7 -0.1**
DAG Danmarks Havn 151.82 24 *i* P **PKPab 17 35 35.0 -4.4**
HRA Herat 152.24 227 PKPdf **PKPdf 17 35 24.3 -1.7**
MAHO Mahon 152.34 113 IAMs_20 IAMs_20 18 52 47.4
comp=Z,1µm,21.0s
CEST Esterri de Car 152.72 105 IAMs_20 IAMs_20 18 56 39.8
comp=Z,918nm,22.0s
ARSB Arslanbob 152.77 251 PKPdf **PKPdf 17 35 24.5 -1.9**
ARSB **PKiKP 17 35 33.8 0.0**
AAK Ala-Archa 152.90 254 PKPdf **PKPdf 17 35 25.9 -0.8**
BTK Batken 152.94 246 PKPdf **PKPdf 17 35 26.3 -0.4**
BTK IAMs_20 IAMs_20 18 43 13.9
comp=Z,831nm,22.0s
ZALV Zalesovo Beam 153.64 284 PKPbc **PKPbc 17 35 33.3 -1.6**
comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=2.0
WDD Wied Dalam 153.79 133 IAMs_20 IAMs_20 18 49 55.2
comp=Z,877nm,19.0s
GHAJ Ghor Haditha 154.55 175 IAMs_20 IAMs_20 18 40 23.7
comp=Z,1µm,20.0s
VSL Villasalto 154.55 120 IAMs_20 IAMs_20 18 50 42.7
comp=Z,844nm,22.0s
BALJ Balqa 155.33 175 IAMs_20 IAMs_20 18 42 04.5
comp=Z,827nm,20.0s
KURBB Kurchatov Arra 155.52 273 PKP **PKPdf 17 35 30.4 +0.7**
comp=Z,0.2nm,0.3s,baz=128,slow=1.1,SNR=1.6
KURBB PKPbc sPKPbc 17 35 44.3 0.0
comp=Z,1.5nm,0.8s,baz=123,slow=1.4,SNR=7.7
KURBB PKPab **PKPab 17 35 54.1 -1.7**
comp=Z,0.6nm,0.6s,baz=282,slow=25,SNR=3.3
KBS Kingsbay 156.09 12 IAMs_20 IAMs_20 18 40 20.4
comp=Z,1µm,20.0s
SSB Saint Sauveur 156.28 104 IAMs_20 IAMs_20 18 58 49.0
comp=Z,998nm,22.0s
CEL Celeste 156.43 132 IAMs_20 IAMs_20 18 49 43.1
comp=Z,1µm,21.0s
BNI Bandonecchia 157.26 107 IAMs_20 IAMs_20 18 58 22.0
comp=Z,887nm,21.0s
TIP Timpagrande 157.57 132 IAMs_20 IAMs_20 18 49 09.2
comp=Z,1µm,21.0s
KARP Karpathos 157.59 156 IAMs_20 IAMs_20 18 46 09.9
comp=Z,1µm,21.0s
CUC Castrocucco 157.86 130 IAMs_20 IAMs_20 18 52 12.1
comp=Z,861nm,22.0s
CSS Mathiatis 158.02 170 IAMs_20 IAMs_20 18 51 07.8
comp=Z,738nm,21.0s
PAOL Paolisi 158.17 126 IAMs_20 IAMs_20 18 52 11.3
comp=Z,1µm,21.0s
MSSA Maissana 158.23 113 IAMs_20 IAMs_20 19 03 02.4
comp=Z,803nm,22.0s
CESX Cesi 158.49 120 IAMs_20 IAMs_20 18 53 11.1
comp=Z,778nm,21.0s
OSSC Osservatorio P 158.53 116 IAMs_20 IAMs_20 18 56 08.1
comp=Z,898nm,22.0s
CAMP Campotosto 158.83 122 IAMs_20 IAMs_20 18 54 02.9
comp=Z,1µm,22.0s
PRMA PARMA 158.95 113 IAMs_20 IAMs_20 18 40 10.4
comp=Z,1µm,22.0s
ZCCA Zocca 158.99 115 IAMs_20 IAMs_20 19 04 05.5
comp=Z,1µm,22.0s
SCTE Santa Cesarea 159.02 134 IAMs_20 IAMs_20 18 48 42.4
comp=Z,1µm,22.0s
FDMO Fiordimonte 159.06 120 IAMs_20 IAMs_20 18 56 16.0
comp=Z,950nm,20.0s
GUMA Gualdo di Mace 159.19 120 IAMs_20 IAMs_20 18 52 41.7
comp=Z,1µm,22.0s
SGRT San Giovanni R 159.28 127 IAMs_20 IAMs_20 19 03 22.6
comp=Z,784nm,19.0s
ECH Echery 159.52 101 IAMs_20 IAMs_20 18 55 57.7
comp=Z,708nm,20.0s
TUE Stuetta 159.60 108 IAMs_20 IAMs_20 18 56 47.9
comp=Z,1µm,22.0s
SALO Salr 159.65 111 IAMs_20 IAMs_20 18 58 37.9
comp=Z,983nm,19.0s
VLO Vlora 159.76 136 IAMs_20 IAMs_20 18 47 00.0
comp=Z,1µm,22.0s
WLF Walferdange 159.79 97 IAMs_20 IAMs_20 18 50 49.9
comp=Z,868nm,20.0s
BVAR Borovoye Array 161.11 272 PKPab **PKPab 17 36 17.7 -2.3**
comp=Z,2.3nm,0.8s,baz=123,slow=5.3,SNR=4.0
BNN Bunyan 162.08 174 PKPdf **PKPdf 17 35 38.3 +0.2**
BRTR Keskin Array B 162.77 169 PKPdf 17 35 38.4 -0.4
BRTR Keskin Array B 162.77 169 PKP **PKPdf 17 35 39.1 +0.3**
comp=Z,0.1nm,0.3s,baz=172,slow=5.5,SNR=1.8
BRTR PKPab **PKPab 17 36 27.7 +0.1**
comp=Z,0.2nm,0.3s,baz=177,slow=3.9,SNR=1.5
KHC Kasperske Hory 163.49 107 *e*SS SS 18 00 46.4 +3.5
KHC AMS AMS 19 02 40.0
comp=Z,1µm,22.1s
NKC Novy Kostel 163.52 102 AMS AMS 18 55 30.0
comp=Z,900nm,23.3s
CKRC Cesky Krumlov 163.69 109 *e*SS SS 18 00 46.1 +1.3
CKRC AMS AMS 19 03 30.0
comp=Z,900nm,18.7s
HSKC Hora Svate Kat 164.25 102 AMS AMS 18 56 30.0
comp=Z,1µm,22.1s
PRA Prague 164.49 105 AMS AMS 19 01 50.0
comp=Z,1µm,21.3s
PRU Pruhonice 164.50 106 *e*SS SS 18 01 02.3 +9.1
PRU AMS AMS 18 57 20.0
comp=Z,1µm,20.6s
GOPC GO Pecny, Ondr 164.59 106 *e*SS SS 18 01 00.6 +6.5
GOPC AMS AMS 18 54 30.0
comp=Z,1µm,22.5s
PVCC Panska Ves 164.82 104 AMS AMS 19 01 30.0
comp=Z,900nm,19.8s
ABKAR Akbulak array 164.88 250 PKPdf 17 35 40.3 +0.1
ABKAR PKPab **PKPab 17 36 37.0 +0.4**
ABKAR Akbulak array 164.88 250 PKPdf **PKPdf 17 35 40.7 +0.4**
ABKAR **pPKPab 17 36 39.3 -1.3**
KRUC Moravsky 164.92 111 *e*PKP **PKPdf 17 35 41.9 +1.6**
VRAC Vranov 165.17 111 *e*PKP **PKPdf 17 35 42.9 +2.4**
UPC Upice 165.57 106 AMS AMS 18 55 00.0
comp=Z,1µm,19.2s
DPC Dobruska-Polom 165.65 107 *e*SS SS 18 01 10.4 +5.4
DPC AMS AMS 18 55 40.0
comp=Z,1µm,18.4s
OSTC Ostas 165.71 106 *e*SS SS 18 01 08.9 +3.3
OSTC AMS AMS 18 55 30.0
comp=Z,1µm,20.8s
KRLC Kraliky 165.73 109 *e*SS SS 18 01 11.9 +6.1
KRLC AMS AMS 19 02 50.0
comp=Z,800nm,19.5s
OKC Ostrava-Krasne 166.30 112 AMS AMS 19 02 20.0
comp=Z,800nm,20.0s
MILM Milestii Mici 168.68 146 *e*PKP **PKPdf 17 35 39.0 -4.2**
MILM eL L 18 47 10.0
MILM LRM MLR 19 01 07.0
comp=Z,900nm,19.0s
AKASG Malin Array Be 172.04 135 PKPab **PKPab 17 37 09.1 +0.9**
comp=Z,0.2nm,0.3s,baz=223,slow=1.9,SNR=1.6

*IDC **01** 18:01:27.0±0.7,0°.20N×126°.01E,h0km,mb4.0/12, mbtmp4.0/12,Error ellipse: s-maj=40.3km s-min=14.6km az=74.0*
*DJA **01** 18:01:30.4±0.3,0°N±5°×12°6E±°,h10km,M3.8/9,mb4.0/2, MLv3.7/9*
*NEIC **01** 18:01:33.8±2.5,0°.3N±0°.1×125°.98E±0°.07,h38km±9km, mb4.4/16,Error ellipse: s-maj=16.2km s-min=9.2km az=163.0*

ISC 01 18:01:33.2±0.5,0°.14N±0°.06×125°.97E±0°.05,h44km,n44, σ1f28/45,mb4.1/20,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.53**	**66**		**Pn**		**18 01 58.9**	**+0.8**
TNTI	**Ternate**	**1.53**	**66**	P	**Pn**		**18 01 59.4**	**+1.2**
LBMI	**Labuha**	**1.72**	**117**	P	**Pn**		**18 01 59.6**	**-1.1**
KMSI	**Cibinong**	**2.03**	**282**	P	**Pn**		**18 02 02.9**	**-2.1**
SANI	**Sanana**	**2.18**	**179**	P	**Pn**		**18 02 06.2**	**-0.8**
GTOI	**Gorontalo**	**3.00**	**279**	P	**Pn**		**18 02 19.6**	**+1.4**
LUWI	**Luwuk**	**3.40**	**250**	Pn	**Pn**		**18 02 27.1**	**+3.2**
TOLI2	**Tolitoli**	**5.27**	**281**	Pn	**Pn**		**18 02 50.4**	**+0.8**
SWI	**Sorong**	**5.39**	**101**	P	**Pn**		**18 02 53.4**	**+2.3**
	13nm,0.9s,0.1nm							
TTSI	**Tana Toraja**	**6.91**	**243**	P	**Pn**		**18 03 11.1**	**-1.0**
WB0	**Warramunga Arr**	**21.44**	**158**	P	**P**		**18 06 16.7**	**-1.2**
WB0				IAmb	IAmb		18 06 21.7	
	comp=Z,11nm,0.8s							
WRAB	**Tennant Creek**	**21.58**	**158**	P	**P**		**18 06 17.6**	**-1.8**
WRAB				IAmb	IAmb		18 06 23.3	
	comp=Z,10nm,0.9s							
WRA	**Warramunga Arr**	**21.58**	**158**	P	**P**		**18 06 18.2**	**-1.2**
	comp=Z,9.0nm,0.9s,baz=337,slow=11,SNR=38							
	comp=Z,9.0nm,0.9s							
WR0	**Warramunga Arr**	**21.67**	**158**	P	**P**		**18 06 19.1**	**-1.2**
WR0				IAmb	IAmb		18 06 23.9	
	comp=Z,16nm,1.2s							
COEN	**Coen**	**22.06**	**130**	P	**P**		**18 06 25.7**	**+1.1**
COEN				IAmb	IAmb		18 06 30.0	
	comp=Z,19nm,1.1s							
TPUB	**Ta-pu**	**23.59**	**348**	P	**P**		**18 06 37.4**	**-2.8**
TPUB				IAmb	IAmb		18 06 37.9	
	comp=Z,12nm,1.1s							
AS31	**Alice Springs**	**24.89**	**162**	P	**P**		**18 06 51.7**	**-0.5**
ASAR	**Alice Springs**	**24.89**	**162**	P	**P**		**18 06 52.2**	**0.0**
ASAR	**Alice Springs**	**24.89**	**162**	P	**P**		**18 06 52.0**	**-0.2**
	comp=Z,2.9nm,0.6s,baz=347,slow=14,SNR=56							
ASAR				PcP	**PcP**		**18 10 27.8**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=340,slow=1.3,SNR=5.8							
	comp=Z,2.9nm,0.6s							
FORT	**Forrest**	**30.82**	**176**	P	**P**		**18 07 45.9**	**+0.9**
STKA	**Stephens Creek**	**35.12**	**157**	P	**P**		**18 08 23.2**	**+0.7**
STKA	**Stephens Creek**	**35.12**	**157**	P	**P**		**18 08 22.9**	**+0.4**
	comp=Z,3.0nm,0.9s,baz=338,slow=9.4,SNR=4.7							
	comp=Z,3.0nm,0.9s							
KSRS	**Korea Array**	**37.17**	**3**	P	**P**		**18 08 40.1**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=181,slow=9.3,SNR=12							
	comp=Z,1.9nm,0.8s							
MJAR	**Matsushiro Arr**	**37.95**	**16**	P	**P**		**18 08 45.3**	**-1.4**
	comp=Z,0.9nm,0.8s,baz=174,slow=9.5,SNR=5.5							
	comp=Z,0.9nm,0.8s							
USRK	**Ussuriysk Ar.**	**44.19**	**6**	P	**P**		**18 09 37.3**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=188,slow=8.7,SNR=1.9							
	comp=Z,2.0nm,0.8s							
SONM	**Songino Array**	**50.46**	**343**	P	**P**		**18 10 25.7**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=151,slow=6.7,SNR=4.7							
	comp=Z,0.8nm,0.7s							
PEA0B	**Petropavlovsk-**	**59.02**	**22**	P	**P**		**18 11 27.5**	**-1.0**
PETK	**Petropavlovsk-**	**59.02**	**22**	P	**P**		**18 11 28.4**	**-0.2**
PETK	**Petropavlovsk-**	**59.02**	**22**	P	**P**		**18 11 27.6**	**-0.9**
	comp=Z,0.7nm,0.6s,baz=177,slow=4.9,SNR=6.6							
	comp=Z,0.7nm,0.6s							
MK31	**Makanchi Array**	**60.08**	**327**	P	**P**		**18 11 36.1**	**+0.1**
MK31				IAmb	IAmb		18 11 42.2	
	comp=Z,2.3nm,1.1s							
MKAR	**Makanchi Array**	**60.08**	**327**	P	**P**		**18 11 35.2**	**-0.8**
MKAR	**Makanchi Array**	**60.08**	**327**	P	**P**		**18 11 35.6**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=116,slow=7.4,SNR=10							
	comp=Z,1.1nm,0.6s							
ZALV	**Zalesovo Beam**	**63.44**	**334**	P	**P**		**18 11 58.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=128,slow=9.3,SNR=2.6							
	comp=Z,0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**64.36**	**329**	P	**P**		**18 12 03.6**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=132,slow=6.5,SNR=16							
	comp=Z,1.1nm,0.6s							
KURK	**Kurchatov**	**64.36**	**329**	P	**P**		**18 12 04.8**	**+0.3**
KURK				IAmb	IAmb		18 12 08.8	
	comp=Z,3.1nm,0.8s							
BVAR	**Borovoye Array**	**69.91**	**328**	P	**P**		**18 12 40.6**	**+0.9**
	comp=Z,1.7nm,0.7s,baz=140,slow=9.1,SNR=8.0							
	comp=Z,1.7nm,0.7s							
ABKAR	**Akbulak array**	**74.45**	**322**	P	**P**		**18 13 07.1**	**+0.2**
ABKAR	**Akbulak array**	**74.45**	**322**	P	**P**		**18 13 07.8**	**+1.0**
ABKAR				IAmb	IAmb		18 13 08.8	
	comp=Z,3.0nm,1.4s							
K17K	**Iditarod**	**83.35**	**27**	P	**P**		**18 13 58.2**	**+2.7**
C18K	**Utukok River**	**83.66**	**21**	P	**P**		**18 13 58.0**	**+1.0**
L18K	**Granite Mounta**	**83.98**	**27**	P	**P**		**18 14 00.4**	**+1.7**
D19K	**Kuna River**	**84.72**	**21**	P	**P**		**18 14 02.7**	**+0.3**
D19K				IAmb	IAmb		18 14 06.5	
	comp=Z,6.0nm,1.1s							
TORD	**Torodi Ar. Bea**	**123.23**	**286**	PKP	**PKiKP**		**18 20 28.1**	**+1.5**
	comp=Z,0.4nm,0.8s,baz=169,slow=1.8,SNR=2.6							
TXAR	**Lajitas Array**	**124.36**	**54**	PKP	**PKiKP**		**18 20 29.1**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=250,slow=2.6,SNR=1.6							

*AFAD **01** 18:10:41.5±0.0,36°.96N×36°.12E,h7km±3km,ML2.6*
*ISK **01** 18:10:41.7,36°.98N×36°.11E,h9km,ML2.4/12*
ISC 01 18:10:42.1±1.0,**36°.98N**±0°.03×**36°.12E**±0°.03,**h10**km±10km, **n22**,σ0°.48/37,**Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASA	**Hatay-Hassa-Ha**	**0.37**	**129**	P	**Pg**	**18 10 49.5**	**+0.1**
HASA				S	**Sg**	**18 10 54.2**	**-0.1**
HASA				*i* AML	AML	18 10 56.0	
	comp=N,958nm,0.2s						
HASA				*i* AML	AML	18 10 56.0	
	comp=E,870nm,0.2s						
YURE	**YUREGİR**	**0.42**	**248**	P	**Pg**	**18 10 49.8**	**-0.6**
YURE				S	**Sg**	**18 10 56.0**	**0.0**
KAMA	**Osmaniye**	**0.48**	**65**	P	**Pg**	**18 10 51.1**	**-0.3**
KAMA				S	**Sg**	**18 10 57.8**	**0.0**
TAHT	**Tahtakopru-Hat**	**0.61**	**175**	Pg	**Pg**	**18 10 53.7**	**-0.2**
TAHT				Sg	**Sg**	**18 11 02.7**	**+0.9**
ANDN	**Andirin**	**0.62**	**16**	P	**Pb**	**18 10 54.1**	**0.0**
ANDN				S	**Sb**	**18 11 03.7**	**-0.2**
HCB	**Kahramanmara**	**0.72**	**60**	P	**Pg**	**18 10 55.9**	**-0.1**
HCB				S	**Sb**	**18 11 05.8**	**-0.9**
KHMR	**Kahramanmara**	**0.72**	**60**	P	**Pg**	**18 10 56.0**	**0.0**
KHMR				P	**Pb**	**18 10 56.2**	**-0.6**
KHMR				S	**Sg**	**18 11 05.7**	**+0.3**
KHMR				S	**Sg**	**18 11 05.8**	**+0.3**
KUZU	**Kuzuini**	**0.79**	**105**	P	**Pb**	**18 10 57.7**	**-0.2**
KUZU				S	**Sg**	**18 11 07.8**	**+0.1**
KUZU				*i* AML	AML	18 11 11.0	
	comp=E,348nm,0.2s						
KUZU				*i* AML	AML	18 11 12.0	
	comp=N,488nm,0.3s						
KUZU				*i* AML	AML	18 11 15.0	
	comp=Z,238nm,0.2s						
KMRS	**Kahramanmaras**	**0.81**	**50**	Pg	**Pb**	**18 10 58.1**	**-0.2**
KMRS				Sg	**Sb**	**18 11 09.4**	**+0.1**
RHAN	**Hatay/Reyhanl**	**0.82**	**152**	P	**Pg**	**18 10 57.4**	**-0.4**
RHAN				S	**Sg**	**18 11 08.7**	**+0.2**
KAHM	**Kahramanmaras,**	**0.87**	**52**	P	**Pb**	**18 10 59.3**	**0.0**
KAHM				S	**Sb**	**18 11 10.9**	**-0.1**
GAZ	**Gaziantep**	**0.89**	**77**	Pg	**Pb**	**18 10 59.5**	**-0.2**
GAZ				Sg	**Sn**	**18 11 12.3**	**-1.4**
KHMN	**Narli-Kahraman**	**0.92**	**63**	Pg	**Pb**	**18 11 00.2**	**0.0**
CMRD	**Camardi-Nigde**	**1.13**	**307**	Pn	**Pb**	**18 11 03.6**	**-0.2**
NZIP	**Nizip/Gaziante**	**1.24**	**87**	P	**Pg**	**18 11 06.1**	**+0.1**
NZIP				S	**Sn**	**18 11 23.2**	**+0.8**
NZIP				*i* AML	AML	18 11 25.0	
	comp=E,119nm,0.3s						
SARI	**SarD1z-Kayseri**	**1.44**	**9**	Pn	**Pn**	**18 11 08.9**	**+0.5**
BNN	**Bunyan**	**1.88**	**353**	Pn	**Pn**	**18 11 15.1**	**+0.7**
KEBE	**Keben-Mersin**	**2.01**	**255**	Pn	**Pn**	**18 11 16.9**	**+0.8**
IKL	**Isikli**	**2.10**	**250**	Pn	**Pn**	**18 11 17.6**	**+0.3**
URFA	**Urfa**	**2.20**	**77**	Pn	**Pn**	**18 11 19.1**	**+0.3**
BERE	**Bereket-Mersin**	**2.42**	**256**	Pn	**Pn**	**18 11 22.2**	**+0.4**
TEKE	**Tekeli-Mersin**	**2.56**	**252**	Pn	**Pn**	**18 11 24.3**	**+0.6**

*AEIC **01** 18:22:57.6±1.4,56°.31N±0°.09×148°.7W±0°.1,h11km±7km, Error ellipse: s-maj=13.0km s-min=9.6km az=170.0*
NEIC 01 18:22:52.5±1.3,**56°.29N**±0°.08×**148°.8W**±0°.1,**h10**km±2km, **ML3.8**/12,**ML3.6**(AEIC),**Error ellipse: s-maj=13.0km s-min=9.9km az=166.0**,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.54**	**308**		Pn	18 23 34.0	+0.2
KDAK	**Kodiak Island**	**2.54**	**308**		Sn	18 24 02.2	-2.5
OHAK	**Old Harbor**	**2.63**	**293**		Pn	18 23 34.8	-0.2
OHAK					Sn	18 24 03.5	-3.4
OHAK	**Old Harbor**	**2.63**	**293**	IAML		18 24 30.8	
	comp=E,237nm,0.4s						
SYI	**Shuyak Island**	**3.02**	**322**		Pn	18 23 40.8	+0.5
SYI				IAML		18 24 32.0	
	comp=E,321nm,0.6s						
SYI				IAML		18 24 32.2	
	comp=N,230nm,0.8s						
MID	**Middleton Isla**	**3.41**	**22**		Pn	18 23 45.0	-0.7
MID	**Middleton Isla**	**3.41**	**22**	IAML		18 24 45.8	
	comp=E,258nm,0.9s						
Q23K	**Middleton Isla**	**3.41**	**22**		Pn	18 23 45.1	-0.6
CNPM	**China Poot**	**3.49**	**339**		Pn	18 23 47.0	+0.2
BRSE	**Bradley Lake S**	**3.61**	**344**		Pn	18 23 48.7	+0.3
BRLK	**Bradley Lake**	**3.65**	**343**		Pn	18 23 49.1	0.0
BRLK					Sn	18 24 29.9	-2.3
Q19K	**Cape Douglas,**	**3.70**	**318**		Pn	18 23 50.8	+1.1
P23K	**Montague Islan**	**3.79**	**11**		Pn	18 23 50.5	-0.5
SEW	**Seward**	**3.84**	**355**		Pn	18 23 50.9	-0.6
ACHA	**Angle Creek He**	**4.02**	**301**		Pn	18 23 55.7	+1.5
ANCK	**Angle Creek**	**4.09**	**301**		Pn	18 23 57.3	+2.2
P19K	**Oil Pt**	**4.11**	**327**	Pn	Pn	18 23 54.7	-0.6
O22K	**Cooper Landing**	**4.23**	**354**	Pn	Pn	18 23 57.5	+0.6
SLKM	**Skilak Lake**	**4.29**	**351**		Pn	18 23 57.8	-0.1
HIN	**Hinchinbrook I**	**4.29**	**16**		Pn	18 23 57.5	-0.4
CNTC	**Contact Creek**	**4.31**	**300**		Pn	18 23 59.6	+1.4
KAIM	**Kayak Island**	**4.33**	**31**		Pn	18 23 57.9	-0.4
ILSW	**Iliamna Southw**	**4.35**	**330**		Pn	18 23 58.4	-0.4
EYAK	**Cordova Ski Ar**	**4.56**	**19**		Pn	18 24 01.3	-0.2
P18K	**Big Mountain,**	**4.62**	**315**		Pn	18 24 02.2	-0.2
FID	**Port Fidalgo**	**4.64**	**14**		Pn	18 24 02.1	-0.4
SUCK	**Suckling Hills**	**4.64**	**33**	Pn	Pn	18 24 02.4	-0.2
RAGM	**Ragged Mountai**	**4.65**	**26**	Pn	Pn	18 24 02.6	-0.2
RSO	**Redoubt South**	**4.66**	**335**	Pn	Pn	18 24 02.9	-0.3
RDT	**Redoubt**	**4.69**	**338**		Pn	18 24 03.0	-0.3
GLI	**Glacier Island**	**4.69**	**10**		Pn	18 24 03.2	-0.1
NICHA	**Nichawak Mount**	**4.71**	**31**		Pn	18 24 03.8	+0.2
HMT	**Hamilton**	**4.71**	**29**	Pn	Pn	18 24 04.3	+0.7
GOAT	**Goat Mountain**	**4.81**	**25**		Pn	18 24 04.9	-0.1
BERG	**Berg Lake**	**4.92**	**31**	Pn	Pn	18 24 05.0	-1.4
O18K	**Koktuh Hills**	**4.92**	**319**	Pn	Pn	18 24 05.9	-0.6
GRIN	**Grindle Hills**	**4.94**	**34**		Pn	18 24 06.8	+0.1
R16K	**Pilot Point**	**4.96**	**289**	Pn	Pn	18 24 06.0	-0.9
SNH	**Sunshine Point**	**5.02**	**37**	Pn	Pn	18 24 07.3	-0.6
KHIT	**Khitrov Hills**	**5.09**	**33**		Pn	18 24 08.2	-0.6
KNK	**Knik Glacier**	**5.14**	**2**	Pn	Pn	18 24 07.5	-2.0
BMRM	**Bremner River**	**5.18**	**23**		Pn	18 24 09.6	-0.4
WAX	**Waxell Ridge**	**5.22**	**35**		Pn	18 24 10.2	-0.4
SPCR	**Spurr Chakacha**	**5.23**	**342**		Pn	18 24 11.3	+0.6
SPCP	**Crater Peak Br**	**5.28**	**342**		Pn	18 24 12.8	+1.2
SUA	**Susitna One**	**5.28**	**350**	Pn	Pn	18 24 11.4	-0.1
BARK	**Barkley Ridge**	**5.30**	**36**		Pn	18 24 11.4	-0.3
PMR	**Palmer**	**5.32**	**358**	Pn	Pn	18 24 12.1	+0.2
MESA	**MESA**	**5.33**	**40**	Pn	Pn	18 24 11.8	-0.4
CHGN	**Chignik**	**5.34**	**274**	Pn	Pn	18 24 11.3	-0.9
N19K	**Bonanza Creek**	**5.41**	**329**	Pn	Pn	18 24 13.3	0.0
KLU	**Klutina**	**5.43**	**15**		Pn	18 24 13.8	+0.3
GHO	**Glory Hole Cre**	**5.50**	**360**	Pn	Pn	18 24 15.1	+0.7
ISLE	**Juniper Island**	**5.50**	**36**		Pn	18 24 14.2	-0.3
SML	**Sawmill**	**5.54**	**2**	Pn	Pn	18 24 15.0	0.0
SCM	**Sheep Creek Mo**	**5.61**	**7**	Pn	Pn	18 24 16.1	+0.2
VRDI	**Verde Repeater**	**5.68**	**27**	Pn	Pn	18 24 16.2	-0.9
SAMH	**Samovar Hills**	**5.73**	**45**		Pn	18 24 18.1	+0.5
KIAG	**Kiagna River**	**5.74**	**33**		Pn	18 24 17.4	-0.5
N18K	**Kilae Creek**	**5.75**	**323**	Pn	Pn	18 24 16.4	-1.5
N25K	**Chitina, Valde**	**5.76**	**21**		Pn	18 24 18.1	0.0
GLB	**Gilahina Butte**	**5.78**	**25**		Pn	18 24 18.0	-0.3
SKT	**Skwentna**	**5.87**	**347**	Pn	Pn	18 24 20.0	+0.5
PTPK	**Patty Peak**	**5.92**	**31**		Pn	18 24 20.3	0.0
MCARA	**McCarthy VSAT**	**5.93**	**28**		Pn	18 24 20.5	+0.2
O16K	**Kokwok River B**	**5.94**	**308**	Pn	Pn	18 24 21.5	+1.0
M24K	**Tolsona, Glenn**	**5.99**	**12**	Pn	Pn	18 24 21.7	+0.6
M20K	**Styx River**	**6.00**	**340**	Pn	Pn	18 24 21.8	0.0
PNL	**Peninsula**	**6.05**	**52**		Pn	18 24 22.1	+0.1
BARN	**Barnard Glacie**	**6.07**	**35**		Pn	18 24 22.1	-0.2
BCPM	**Bancas Point**	**6.10**	**49**	Pn	Pn	18 24 22.4	-0.2
CTGM	**Chitina Glacie**	**6.10**	**37**	Pn	Pn	18 24 22.2	-0.6
N17K	**Nushagak Hills**	**6.11**	**317**	Pn	Pn	18 24 23.1	+0.3
LOGN	**Logan Glacier**	**6.11**	**39**	Pn	Pn	18 24 22.4	-0.5
WASW	**Wrangell South**	**6.14**	**21**		Pn	18 24 23.2	-0.1
WACK	**Wrangell Chich**	**6.16**	**20**		Pn	18 24 24.6	+0.9
CNBA	**Chernabura Isl**	**6.28**	**261**	Pn	Pn	18 24 25.8	+0.6
M19K	**Big River Lodg**	**6.31**	**335**	Pn	Pn	18 24 24.4	-1.2
O28M	**Mount Upton**	**6.37**	**42**		Pn	18 24 26.7	+0.1
HARP	**HAARP**	**6.41**	**15**		Pn	18 24 28.3	+1.5
O15K	**Ungalikthiuk R**	**6.56**	**301**		Pn	18 24 30.8	+1.9
WAT7	**Susitna Watana**	**6.56**	**360**		Pn	18 24 29.9	+0.9
SDPT	**Sand Point**	**6.63**	**267**	Pn	Pn	18 24 29.7	-0.2
L19K	**White Mountain**	**6.66**	**335**	Pn	Pn	18 24 30.0	-0.4
P29M	**Windy Craggy**	**6.78**	**56**		Pn	18 24 31.4	-0.6
M17K	**Holitna River**	**6.79**	**322**	Pn	Pn	18 24 31.9	-0.2
M26K	**Nabesna, AK**	**6.81**	**24**	Pn	Pn	18 24 32.6	+0.2
DHY	**Denali Highway**	**6.84**	**6**	Pn	Pn	18 24 33.8	+0.8
M27K	**Edge Creek, AK**	**7.04**	**27**	Pn	Pn	18 24 35.9	+0.3
S31K	**Pelican**	**7.06**	**71**	Pn	Pn	18 24 33.5	-2.2
M16K	**Timber Creek**	**7.10**	**316**	Pn	Pn	18 24 37.6	+1.3
N15K	**Kwethluk River**	**7.10**	**308**	Pn	Pn	18 24 38.0	+1.6
RND	**Reindeer**	**7.14**	**360**	Pn	Pn	18 24 37.4	+0.5
MENT	**Mentasta**	**7.15**	**19**	Pn	Pn	18 24 37.5	+0.4
L18K	**Granite Mounta**	**7.18**	**329**	Pn	Pn	18 24 37.2	-0.2
O14K	**Tigyukauivet M**	**7.28**	**299**	Pn	Pn	18 24 39.5	+0.7
CAST	**Castle Rocks**	**7.33**	**348**	Pn	Pn	18 24 40.4	+0.9
KTH	**Kantishna Hill**	**7.36**	**353**	Pn	Pn	18 24 39.3	-0.7
HYT	**Haines Junctio**	**7.46**	**48**	Pn	Pn	18 24 40.5	-0.9
K20K	**Telida**	**7.56**	**342**	Pn	Pn	18 24 42.0	-0.7
TTA	**Tatalina**	**7.58**	**334**	Pn	Pn	18 24 42.8	-0.3
L27K	**Beaver Creek,**	**7.65**	**25**	Pn	Pn	18 24 43.3	-0.7
BCAR	**Beaver Creek A**	**7.67**	**25**	Pn	Pn	18 24 44.0	-0.1
L16K	**Owhat River**	**7.72**	**319**	Pn	Pn	18 24 45.3	+0.5
BPAW	**Bear Paw Mtn.**	**7.91**	**353**	Pn	Pn	18 24 47.6	+0.2
N30M	**Aishikik Lake**	**7.98**	**45**	Pn	Pn	18 24 48.5	0.0
O30N	**Mendenhall**	**8.03**	**51**	Pn	Pn	18 24 48.6	-0.5
K17K	**Iditarod**	**8.04**	**327**	Pn	Pn	18 24 48.9	-0.3
SCRK	**Sand Creek**	**8.08**	**15**	Pn	Pn	18 24 49.4	-0.4
M29M	**Somme Creek**	**8.12**	**36**	Pn	Pn	18 24 50.8	+0.4
HDA	**Harding Lake**	**8.20**	**6**	Pn	Pn	18 24 50.8	-0.5
J18K	**Innoko River**	**8.21**	**334**	Pn	Pn	18 24 52.5	+1.0
J20K	**Nowinta River**	**8.34**	**344**	Pn	Pn	18 24 53.6	+0.3
J19K	**Poorman**	**8.43**	**339**	Pn	Pn	18 24 54.3	-0.3
K27K	**Chicken**	**8.45**	**21**	Pn	Pn	18 24 54.4	-0.4
WHY	**Whitehorse**	**8.51**	**53**	Pn	Pn	18 24 56.1	+0.4
J25K	**Salcha River,**	**8.52**	**10**	Pn	Pn	18 24 57.1	+1.3
N31M	**Braeburn, Yuko**	**8.52**	**47**	Pn	Pn	18 24 56.4	+0.5
ILAR	**Eielson Array**	**8.56**	**6**	Pn	Pn	18 24 56.8	+0.4
J26L	**Joseph Creek**	**8.63**	**15**	Pn	Pn	18 24 58.0	+0.6
P32M	**Atlin**	**8.69**	**61**	Pn	Pn	18 24 57.5	-0.7
L29M	**L29M**	**8.71**	**34**	Pn	Pn	18 24 58.9	+0.5
U33K	**Whale Pass**	**8.76**	**85**	Pn	Pn	18 24 59.0	0.0
P33M	**Teslin, Yukon**	**9.30**	**58**	Pn	Pn	18 25 05.5	-1.1
K29M	**Barlow Dome**	**9.43**	**32**	Pn	Pn	18 25 08.4	0.0
I26K	**Coal Creek Min**	**9.45**	**15**	Pn	Pn	18 25 07.5	-1.0
M31M	**Drury Creek, Y**	**9.46**	**45**		Pn	18 25 09.2	+0.5
H21K	**Melozitna Rive**	**9.59**	**350**	Pn	Pn	18 25 10.1	-0.4
IMAR	**Indian Mountai**	**10.01**	**348**	Pn	Pn	18 25 16.2	+0.1
J30M	**Hart River**	**10.33**	**31**	Pn	Pn	18 25 19.6	-1.1
MMPY	**Sheldon Lake,**	**10.93**	**47**	Pn	Pn	18 25 28.7	-0.2
B21K	**Ikpikpuk River**	**13.62**	**351**	Pn	Pn	18 26 07.7	+2.2
B22K	**Teshekpuk Lake**	**14.24**	**354**	Pn	Pn	18 26 13.9	0.0

*IDC **01** 18:23:06.2±0.7,56°.30N×148°.71W,h0km,mb4.0/25, mbtmp4.1/30,ML3.7/5,MS4.1/8,Error ellipse: s-maj=17.3km s-min=11.3km az=23.0*
*NEIC **01** 18:23:07.3±1.6,56°.26N±0°.07×148°.68W±0°.09,h22km±4km, mb4.5/54,ML4.2/58,ML4.1(AEIC),Error ellipse: s-maj=10.7km s-min=7.4km az=176.0*
*AEIC **01** 18:23:11.1±1.6,56°.29N±0°.07×148°.70W±0°.08,h12km±5km, Error ellipse: s-maj=10.8km s-min=6.2km az=171.0*
ISC 01 18:23:07.2±0.4,**56°.36N**±0°.06×**148°.68W**±0°.04,**h10**km, **n585**,σ1°.12/564,**mb4.4**/63,**MS4.0**/6,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.57**	**305**		Pn	**18 23 47.5**	**-1.3**
KDAK	**Kodiak Island**	**2.57**	**305**		Sn	**18 24 16.9**	**-3.1**
KDAK	**Kodiak Island**	**2.57**	**305**	P	Pn	**18 23 47.6**	**-1.2**
	baz=124						
KDAK	**Kodiak Island**	**2.57**	**305**	Pn	Pn	**18 23 47.5**	**-1.3**
	14nm,0.3s,baz=136,slow=5.2,SNR=18						
KDAK				Sn	**Sn**	**18 24 17.2**	**-2.8**
	30nm,0.3s,baz=97,slow=22,SNR=7.5						
KDAK				LR	LR	18 24 27.6	
	comp=Z,2µm,18.4s,baz=144,slow=31 39nm,0.4s						
OHAK	**Old Harbor**	**2.68**	**291**		Pn	**18 23 48.4**	**-1.9**
OHAK	**Old Harbor**	**2.68**	**291**		Sn	**18 24 18.0**	**-4.8**
OHAK	**Old Harbor**	**2.68**	**291**	P	Pn	**18 23 48.5**	**-1.8**
	baz=109,SNR=13						
SYI	**Shuyak Island**	**3.02**	**320**		Pn	**18 23 54.4**	**-0.6**
Q20K	**Shuyak Island**	**3.02**	**320**	P	Pn	**18 23 54.4**	**-0.7**
	baz=138						
MID	**Middleton Isla**	**3.32**	**21**	P	Pn	**18 23 58.5**	**-0.6**
MID	**Middleton Isla**	**3.32**	**21**		Pn	**18 23 58.5**	**-0.6**
MID				IAML		18 24 51.6	
	comp=N,324nm,0.8s						
MID	**Middleton Isla**	**3.32**	**21**		Sn	**18 24 34.5**	**-4.1**
Q23K	**Middleton Isla**	**3.32**	**21**	Pn	Pn	**18 23 58.2**	**-0.9**
Q23K	**Middleton Isla**	**3.32**	**21**	P	Pn	**18 23 58.6**	**-0.6**
	baz=202,SNR=6.0						
CNPM	**China Poot**	**3.46**	**338**		Pn	**18 24 00.3**	**-0.7**
CNPM	**China Poot**	**3.46**	**338**		Sn	**18 24 40.0**	**-2.1**
CNPM	**China Poot**	**3.46**	**338**	IAML		18 24 45.6	
	comp=N,234nm,0.9s						
CNPM				IAML		18 24 49.1	
	comp=E,198nm,0.5s						
BRSE	**Bradley Lake S**	**3.57**	**343**		Pn	**18 24 02.4**	**-0.1**
BRSE	**Bradley Lake S**	**3.57**	**343**	P	Pn	**18 24 02.3**	**-0.2**
	baz=162,SNR=17						
BRLK	**Bradley Lake**	**3.61**	**342**		Pn	**18 24 02.4**	**-0.8**
BRLK	**Bradley Lake**	**3.61**	**342**		Sn	**18 24 42.6**	**-3.3**
BRLK	**Bradley Lake**	**3.61**	**342**	IAML		18 24 48.7	
	comp=E,296nm,0.5s						
BRLK				IAML		18 24 50.2	
	comp=N,251nm,0.4s						
HOM	**Homer**	**3.67**	**336**		Pn	**18 24 03.8**	**-0.1**
HOM				IAML		18 24 59.2	
	comp=E,660nm,0.9s						
HOM	**Homer**	**3.67**	**336**		Sn	**18 24 45.7**	**-1.4**
HOM	**Homer**	**3.67**	**336**	P	Pn	**18 24 03.5**	**-0.3**
	baz=154						
Q19K	**Cape Douglas,**	**3.71**	**316**		Pn	**18 24 04.1**	**-0.5**
Q19K	**Cape Douglas,**	**3.71**	**316**	P	Pn	**18 24 04.3**	**-0.2**
	baz=133,SNR=10						
P23K	**Montague Islan**	**3.71**	**10**		Pn	**18 24 04.1**	**-0.4**
P23K					Sn	**18 24 45.5**	**-2.8**
P23K	**Montague Islan**	**3.71**	**10**	P	Pn	**18 24 04.0**	**-0.5**
	baz=191,SNR=11						
SEW	**Seward**	**3.78**	**354**		Pn	**18 24 04.9**	**-0.5**
SEW	**Seward**	**3.78**	**354**	P	Pn	**18 24 05.1**	**-0.3**
	baz=174,SNR=15						
AUL	**Augustine Lava**	**3.96**	**322**		Pn	**18 24 08.7**	**+0.8**
KCE	**Katmai Mt Cerb**	**4.00**	**301**		Pn	**18 24 08.8**	**+0.3**
ACHA	**Angle Creek He**	**4.06**	**300**		Pn	**18 24 09.6**	**+0.2**
P19K	**Oil Pt**	**4.10**	**326**		Pn	**18 24 09.4**	**-0.4**
P19K				IAML		18 25 03.8	
	comp=N,503nm,0.8s						
P19K				IAML		18 25 12.4	
	comp=E,357nm,0.6s						
P19K	**Oil Pt**	**4.10**	**326**	P	Pn	**18 24 09.7**	**-0.2**
	baz=143						
KAHC	**Katmai Hardscr**	**4.12**	**307**		Pn	**18 24 10.2**	**0.0**
ANCK	**Angle Creek**	**4.13**	**299**		Pn	**18 24 11.0**	**+0.6**
O22K	**Cooper Landing**	**4.17**	**353**		Pn	**18 24 10.2**	**-0.6**
O22K	**Cooper Landing**	**4.17**	**353**	P	Pn	**18 24 10.6**	**-0.2**
	baz=172,SNR=8.4						
HIN	**Hinchinbrook I**	**4.21**	**15**		Pn	**18 24 11.1**	**-0.2**
HIN				IAML		18 25 01.7	
	comp=N,456nm,1.0s						
HIN				IAML		18 25 02.0	
	comp=E,372nm,1.1s						
KAIM	**Kayak Island**	**4.23**	**30**		Pn	**18 24 11.3**	**-0.3**
KAIM				IAML		18 25 03.0	
	comp=N,385nm,1.7s						
KAIM				IAML		18 25 12.0	
	comp=E,451nm,1.4s						
KAIM	**Kayak Island**	**4.23**	**30**	P	Pn	**18 24 11.4**	**-0.3**
	baz=213,SNR=6.6						
SLKM	**Skilak Lake**	**4.24**	**350**		Pn	**18 24 11.6**	**-0.2**
O20K	**Slope Mountain**	**4.28**	**332**		Pn	**18 24 11.9**	**-0.5**
O20K	**Slope Mountain**	**4.28**	**332**	P	Pn	**18 24 11.9**	**-0.5**
	baz=150						
IVE	**Iliamna Volcan**	**4.33**	**330**		Pn	**18 24 12.3**	**-0.7**
CNTC	**Contact Creek**	**4.35**	**299**		Pn	**18 24 13.6**	**+0.2**
Q17K	**Contact Creek**	**4.35**	**299**	P	Pn	**18 24 12.7**	**-0.7**
	baz=114,SNR=14						
KELA	**Mount Kelaz**	**4.36**	**302**		Pn	**18 24 13.6**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.47**	**19**	P	Pn	**18 24 15.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.47**	**19**		Pn	**18 24 15.1**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.47**	**19**	P	Pn	**18 24 15.0**	**0.0**
	baz=201,SNR=17						
SUCK	**Suckling Hills**	**4.54**	**33**		Pn	**18 24 15.8**	**0.0**
SUCK				IAML		18 25 30.7	
	comp=N,303nm,0.9s						
SUCK				IAML		18 25 31.7	
	comp=E,274nm,1.2s						
FID	**Port Fidalgo**	**4.55**	**14**		Pn	**18 24 15.5**	**-0.6**
FID				IAML		18 25 08.9	
	comp=N,162nm,0.5s						
FID				IAML		18 25 18.1	
	comp=E,178nm,0.5s						
RAGM	**Ragged Mountai**	**4.56**	**26**		Pn	**18 24 15.7**	**-0.4**
CAPN	**Captain Cook N**	**4.61**	**345**	Pn	Pn	**18 24 17.4**	**+0.6**
GLI	**Glacier Island**	**4.61**	**10**		Pn	**18 24 16.6**	**-0.3**
GLI				IAML		18 25 16.8	
	comp=E,208nm,0.5s						
GLI				IAML		18 25 24.7	
	comp=N,136nm,1.0s						
GLI	**Glacier Island**	**4.61**	**10**	P	Pn	**18 24 16.8**	**0.0**
	baz=191						
HMT	**Hamilton**	**4.62**	**28**		Pn	**18 24 17.0**	**0.0**
RDSO	**Redoubt South**	**4.63**	**334**		Pn	**18 24 16.6**	**-0.6**
P18K	**Big Mountain,**	**4.64**	**314**	Pn	Pn	**18 24 16.0**	**-1.2**
P18K	**Big Mountain,**	**4.64**	**314**	P	Pn	**18 24 16.3**	**-0.9**
	baz=129,SNR=6.8						
RSO	**Redoubt South**	**4.64**	**334**		Pn	**18 24 16.6**	**-0.9**
RDT	**Redoubt**	**4.66**	**337**		Pn	**18 24 16.6**	**-0.9**
RDWB	**Redoubt West**	**4.69**	**334**		Pn	**18 24 17.5**	**-0.5**
GOAT	**Goat Mountain**	**4.71**	**24**		Pn	**18 24 18.6**	**+0.3**
BGLC	**Bering Glacier**	**4.73**	**35**		Pn	**18 24 19.0**	**+0.6**
BGLC	**Bering Glacier**	**4.73**	**35**	P	Pn	**18 24 18.4**	**0.0**
	baz=219						
RDJH	**Redoubt Jeurge**	**4.77**	**335**		Pn	**18 24 18.7**	**-0.4**
NCT	**North Crescent**	**4.77**	**334**		Pn	**18 24 18.5**	**-0.6**
RC01	**Rabbit Creek A**	**4.78**	**354**		Pn	**18 24 18.6**	**-0.5**
RC01				IAML		18 25 13.9	
	comp=N,193nm,1.0s						
RC01				IAML		18 25 14.0	
	comp=E,298nm,0.5s						
RC01	**Rabbit Creek A**	**4.78**	**354**	P	Pn	**18 24 19.3**	**+0.1**
	baz=173						
BERG	**Berg Lake**	**4.82**	**31**		Pn	**18 24 19.5**	**-0.2**
BERG				IAML		18 25 27.2	
	comp=E,276nm,0.5s						
GRIN	**Grindle Hills**	**4.84**	**33**		Pn	**18 24 20.5**	**+0.4**
Q16K	**King Salmon**	**4.89**	**302**	P	Pn	**18 24 20.3**	**-0.4**
	baz=116,SNR=7.6						
SNH	**Sunshine Point**	**4.92**	**36**		Pn	**18 24 21.1**	**0.0**
SNH				IAML		18 25 29.4	
	comp=E,167nm,1.1s						
SNH				IAML		18 25 40.8	
	comp=N,165nm,2.3s						
O18K	**Koktuh Hills**	**4.93**	**318**	Pn	Pn	**18 24 20.1**	**-1.2**
O18K				IAML		18 25 28.6	
	comp=E,94nm,1.1s						
O18K	**Koktuh Hills**	**4.93**	**318**	P	Pn	**18 24 20.5**	**-0.7**
	baz=133,SNR=11						
CYK	**Cape Yakataga**	**4.97**	**39**		Pn	**18 24 21.7**	**0.0**
KHIT	**Khitrov Hills**	**4.99**	**33**		Pn	**18 24 22.0**	**-0.2**
DIV	**Divide**	**5.02**	**16**		Pn	**18 24 22.3**	**-0.2**
P17K	**Kvichak River**	**5.04**	**308**	P	Pn	**18 24 22.8**	**+0.1**
	baz=122,SNR=16						
KNK	**Knik Glacier**	**5.07**	**1**		Pn	**18 24 22.6**	**-0.6**
KNK				IAML

baz=185,SNR=9.1
O28M Mount Upton 6.27 42 Pn 18 24 39.9 0.0
O28M Mount Upton 6.27 42 P Pn 18 24 39.9 0.0
baz=228,SNR=27
M19K Big River Lodg 6.29 335 Pn 18 24 38.7 -1.2
M19K Big River Lodg 6.29 335 P Pn 18 24 39.2 -0.7
baz=150
HARP HAARP 6.32 15 Pn 18 24 39.9 -0.4
HARP HAARP 6.32 15 P Pn 18 24 41.5 +1.1
baz=198,SNR=15
M18K Stony River 6.34 327 P Pn 18 24 39.2 -1.3
baz=142,SNR=12
CHNA Chernabura Isl 6.37 261 P Pn 18 24 38.8 -2.2
baz=72
CNBA Chernabura Isl 6.38 261 Pn Pn 18 24 38.9 -2.1
WAT1 Susitna Watana 6.49 1 Pn 18 24 43.8 +1.1
WAT1 Susitna Watana 6.49 1 P Pn 18 24 42.9 +0.2
baz=181
WAT7 Susitna Watana 6.50 359 Pn 18 24 43.3 +0.5
O15K Ungalikthiuk R 6.60 300 P Pn 18 24 44.1 0.0
baz=111,SNR=9.4
L19K White Mountain 6.64 334 Pn Pn 18 24 43.5 -1.3
L19K White Mountain 6.64 334 P Pn 18 24 43.9 -0.8
baz=149,SNR=14
P29M Windy Craggy 6.67 56 Pn Pn 18 24 45.3 +0.1
P29M Windy Craggy 6.67 56 P Pn 18 24 45.0 -0.2
baz=245,SNR=23
L20K Farewell, AK 6.69 339 Pn 18 24 46.1 +0.7
L20K Farewell, AK 6.69 339 P Pn 18 24 44.8 -0.6
baz=155
N16K Nishlik Lake 6.72 312 P Pn 18 24 45.3 -0.5
baz=124,SNR=14
M26K Nabesna, AK 6.72 23 Pn 18 24 45.7 -0.1
M26K Nabesna, AK 6.72 23 P Pn 18 24 45.0 -0.8
baz=208,SNR=8.4
SDPT Sand Point 6.72 266 P Pn 18 24 44.8 -1.0
SDPT Sand Point 6.72 266 Pn Pn 18 24 44.1 -1.7
SDPT Sand Point 6.72 266 P Pn 18 24 44.5 -1.3
baz=77,SNR=9.5
YUK8 Steele Glacier 6.76 39 P Pn 18 24 48.0 +1.3
baz=226,SNR=21
DHY Denali Highway 6.77 5 Pn Pn 18 24 47.2 +0.6
DHY Denali Highway 6.77 5 P Pn 18 24 47.4 +0.8
baz=186,SNR=13
M17K Holitna River 6.79 322 Pn Pn 18 24 45.4 -1.4
M17K Holitna River 6.79 322 P Pn 18 24 46.5 -0.3
baz=135,SNR=12
PPLA Purkeypile 6.80 346 P Pn 18 24 47.8 +0.8
baz=164
PAX Paxson 6.83 12 P Pn 18 24 48.4 +1.1
baz=195,SNR=14
YUK3 Moose Creek 6.88 35 P Pn 18 24 48.9 +0.6
baz=221,SNR=14
M27K Edge Creek, AK 6.95 27 Pn 18 24 49.6 +0.6
M27K Edge Creek, AK 6.95 27 P Pn 18 24 49.9 +0.9
baz=213,SNR=14
S31K Pelican 6.96 71 Pn Pn 18 24 47.0 -2.0
S31K Pelican 6.96 71 P Pn 18 24 47.0 -2.0
baz=261,SNR=9.3
MENT Mentasta 7.06 19 Pn 18 24 51.0 +0.5
RND Reindeer 7.07 359 Pn Pn 18 24 51.0 +0.3
YUK6 Outpost Mounta 7.07 45 P Pn 18 24 51.6 +0.8
baz=233,SNR=25
M16K Timber Creek 7.11 315 Pn 18 24 50.0 -1.1
M16K Timber Creek 7.11 315 P Pn 18 24 50.9 -0.2
baz=127
N15K Kwethluk River 7.13 307 Pn Pn 18 24 50.8 -0.7
N15K Kwethluk River 7.13 307 P Pn 18 24 51.7 +0.3
baz=118,SNR=13
TRF Thorofare Moun 7.16 354 Pn Pn 18 24 52.5 +0.5
TRF Thorofare Moun 7.16 354 P Pn 18 24 52.4 +0.5
baz=173,SNR=17
L18K Granite Mounta 7.17 328 Pn 18 24 51.1 -0.8
L18K Granite Mounta 7.17 328 P Pn 18 24 51.3 -0.6
baz=142
L26K Log Cabin Wild 7.21 20 Pn 18 24 52.8 +0.3
YUK4 Talbot Arm 7.21 42 P Pn 18 24 55.1 +2.4
baz=230,SNR=25
P30M Million Dollar 7.24 54 P Pn 18 24 52.7 -0.3
baz=243
PLBC Pleasant Camp 7.26 60 P Pn 18 24 53.1 0.0
baz=249,SNR=31
CAST Castle Rocks 7.29 348 Pn Pn 18 24 54.2 +0.6
CAST Castle Rocks 7.29 348 P Pn 18 24 54.9 +1.4
baz=165,SNR=9.3
R31K City Hall, Gus 7.29 68 P Pn 18 24 53.3 -0.3
baz=258
KTH Kantishna Hill 7.31 352 Pn 18 24 55.0 +1.1
O14K Tigyukauivet M 7.32 299 Pn 18 24 54.0 -0.1
O14K Tigyukauivet M 7.32 299 P Pn 18 24 54.0 -0.1
baz=109
HYT Haines Junctio 7.35 48 Pn Pn 18 24 54.8 +0.2
HYT Haines Junctio 7.35 48 P Pn 18 24 55.2 +0.6
baz=237,SNR=14
MCK McKinley 7.40 359 Pn 18 24 55.6 +0.5
MCK McKinley 7.40 359 P Pn 18 24 56.0 +0.8
baz=179,SNR=7.7
PS1A Pavlof South-1 7.41 268 Pn 18 24 54.3 -1.0
HAG Hague Volcano 7.52 268 Pn 18 24 55.2 -1.6
K20K Telida 7.53 341 Pn Pn 18 24 56.3 -0.6
K20K Telida 7.53 341 P Pn 18 24 55.6 -1.2
baz=157
S12K Black Hills 7.53 271 Pn Pn 18 24 55.6 -1.3
S12K Black Hills 7.53 271 P Pn 18 24 55.4 -1.6
baz=80
L27K Beaver Creek, 7.56 24 Pn Pn 18 24 56.8 -0.5
L27K Beaver Creek, 7.56 24 P Pn 18 24 57.1 -0.2
baz=210,SNR=9.5
TTA Tatalina 7.56 334 Pn 18 24 55.9 -1.6
TTA Tatalina 7.56 334 P Pn 18 24 56.4 -1.0
baz=148,SNR=7.9
BCAR Beaver Creek A 7.57 24 Pn 18 24 57.1 -0.4
L17K Donlin 7.60 324 P Pn 18 24 56.8 -1.0
baz=136
K24K Donnelly Dome 7.61 10 Pn 18 24 59.0 +1.0
K24K Donnelly Dome 7.61 10 P Pn 18 24 59.4 +1.4
baz=192,SNR=13
M15K Kasigluk River 7.64 310 Pn 18 24 58.5 +0.1
M15K Kasigluk River 7.64 310 P Pn 18 24 57.9 -0.5
baz=120
L16K Owhat River 7.73 318 Pn 18 24 58.8 -0.8
L16K Owhat River 7.73 318 P Pn 18 24 59.0 -0.6
baz=130,SNR=7.9
N14K Kuskokwak Cree 7.75 303 P Pn 18 24 59.5 -0.4
baz=112,SNR=7.1
SKAG Skagway 7.76 61 Pn 18 25 00.7 +0.7
SKAG Skagway 7.76 61 P Pn 18 24 59.3 -0.7
baz=252
CHUM Lake Minchumin 7.76 348 P Pn 18 25 00.3 +0.2
baz=165,SNR=13
S32K Killisnoo 7.80 76 Pn 18 24 58.4 -2.2
S32K Killisnoo 7.80 76 P Pn 18 24 58.9 -1.7
baz=267
BWN Browne 7.85 357 Pn 18 25 00.4 -0.9
BPAW Bear Paw Mtn. 7.85 353 Pn Pn 18 25 01.7 +0.4
BPAW Bear Paw Mtn. 7.85 353 P Pn 18 25 01.8 +0.4
baz=171,SNR=10
N30M Aishikik Lake 7.88 45 Pn 18 25 01.9 +0.1
N30M Aishikik Lake 7.88 45 P Pn 18 25 02.3 +0.6
baz=234,SNR=29
R32K Eaglecrest 7.90 70 Pn 18 25 01.1 -1.0
R32K Eaglecrest 7.90 70 P Pn 18 25 01.0 -1.0
baz=261
O30N Mendenhall 7.92 51 Pn 18 25 02.2 -0.1
O30N Mendenhall 7.92 51 P Pn 18 25 02.2 -0.1
baz=241,SNR=12
JIS Juneau Island 7.97 70 Pn 18 25 02.4 -0.6
SCRK Sand Creek 7.99 15 Pn Pn 18 25 03.3 -0.1
SCRK Sand Creek 7.99 15 P Pn 18 25 04.0 +0.7
baz=199
M29M Somme Creek 8.02 36 Pn Pn 18 25 04.1 +0.4
M29M Somme Creek 8.02 36 P Pn 18 25 04.4 +0.7
baz=225,SNR=19
K17K Iditarod 8.03 327 Pn 18 25 02.6 -1.1
K17K Iditarod 8.03 327 P Pn 18 25 02.6 -1.1
baz=139
HDA Harding Lake 8.12 5 Pn 18 25 05.4 +0.4
HDA Harding Lake 8.12 5 P Pn 18 25 06.1 +1.1
baz=187
WRH Wood River Hil 8.15 2 Pn Pn 18 25 06.0 +0.6
J18K Innoko River 8.19 334 Pn Pn 18 25 04.8 -1.1
J18K Innoko River 8.19 334 P Pn 18 25 05.9 -0.1
baz=147
M14K Bethel 8.22 308 Pn Pn 18 25 05.4 -0.9
M14K Bethel 8.22 308 P Pn 18 25 06.7 +0.4
baz=117
NEA2 Nenana 8.27 359 Pn 18 25 05.8 -1.2
NEA2 Nenana 8.27 359 P Pn 18 25 08.0 +1.1
baz=178,SNR=6.8
J20K Nowinta River 8.30 343 Pn Pn 18 25 07.4 0.0
J20K Nowinta River 8.30 343 P Pn 18 25 07.5 +0.1
baz=159
CCB Clear Creek Bu 8.33 3 Pn Pn 18 25 08.6 +0.7
K27K Chicken 8.36 20 Pn 18 25 08.6 +0.2
K27K Chicken 8.36 20 P Pn 18 25 08.7 +0.4
baz=206
J19K Poorman 8.40 339 Pn Pn 18 25 07.3 -1.5
J19K Poorman 8.40 339 P Pn 18 25 07.5 -1.3
baz=153
WHY Whitehorse 8.41 53 Pn Pn 18 25 09.1 +0.1
WHY Whitehorse 8.41 53 P Pn 18 25 09.7 +0.7
baz=245,SNR=27
N31M Braeburn, Yuko 8.41 47 Pn 18 25 09.2 +0.2
N31M Braeburn, Yuko 8.41 47 P Pn 18 25 09.5 +0.4
baz=238,SNR=21
J25K Salcha River, 8.44 10 Pn 18 25 09.2 -0.2
J25K Salcha River, 8.44 10 P Pn 18 25 08.8 -0.6
baz=192,SNR=7.8
FALS False Pass 8.48 266 P Pn 18 25 09.8 -0.1
FALS False Pass 8.48 266 P Pn 18 25 08.3 -1.7
baz=74,SNR=9.6
L15K Ungalak Mounta 8.48 314 P Pn 18 25 09.7 -0.3
baz=124
IL31 8.49 5 Pn 18 25 10.5 +0.6
ILAR Eielson Array 8.49 5 Pn 18 25 10.1 +0.1
ILAR Eielson Array 8.49 5 Pn Pn 18 25 08.8 -1.2
comp=E,1.2nm,0.3s,baz=191,slow=14,SNR=26
ILAR Sn Sn 18 26 42.8 -3.0
comp=E,0.9nm,0.3s,baz=205,slow=15,SNR=4.6
comp=E,1.9nm,0.4s
J26L Joseph Creek 8.55 15 Pn Pn 18 25 11.7 +0.8
J26L Joseph Creek 8.55 15 P Pn 18 25 11.4 +0.5
baz=199,SNR=21
COLA College 8.55 2 P Pn 18 25 11.0 +0.1
baz=183
P32M Atlin 8.58 62 Pn 18 25 10.9 -0.5
P32M Atlin 8.58 62 P Pn 18 25 11.0 -0.5
baz=254,SNR=11
L29M L29M 8.61 34 Pn Pn 18 25 12.2 +0.5
L29M L29M 8.61 34 P Pn 18 25 12.2 +0.5
baz=222,SNR=18
MDM Murphy Dome 8.63 1 Pn Pn 18 25 12.4 +0.4
U33K Whale Pass 8.67 85 P Pn 18 25 09.9 -2.6
baz=278
ISNN Isanotski Nort 8.69 266 Pn 18 25 11.5 -1.3
M13K Dall Lake 8.71 304 Pn 18 25 13.0 0.0
M13K Dall Lake 8.71 304 P Pn 18 25 13.2 +0.2
baz=112
MLY Manley 8.76 354 Pn Pn 18 25 14.1 +0.3
MLY Manley 8.76 354 P Pn 18 25 14.1 +0.3
baz=172
J17K VABM Dome 8.78 328 Pn Pn 18 25 12.7 -1.2
J17K VABM Dome 8.78 328 P Pn 18 25 12.5 -1.4
baz=139
CRAG Craig 8.78 89 Pn Pn 18 25 09.8 -4.3
CRAG Craig 8.78 89 P Pn 18 25 11.3 -2.8
baz=282
L14K Kuka Creek 8.80 310 Pn 18 25 14.5 +0.2
L14K Kuka Creek 8.80 310 P Pn 18 25 13.6 -0.7
baz=119
POKR Poker Plat Res 8.81 3 Pn Pn 18 25 14.8 +0.4
POKR Poker Plat Res 8.81 3 P Pn 18 25 14.4 0.0
baz=184
I23K Minto, Yukon-K 8.83 358 Pn 18 25 14.2 -0.4
I23K Minto, Yukon-K 8.83 358 P Pn 18 25 15.7 +1.1
baz=178,SNR=9.1
K15K Wolf Creek Mou 8.85 318 Pn Pn 18 25 14.4 -0.6
K15K Wolf Creek Mou 8.85 318 P Pn 18 25 15.3 +0.2
baz=127
I20K Naaghedeneel 8.93 344 Pn Pn 18 25 15.6 -0.5
DAWY Dawson 9.00 27 Pn 18 25 13.9 -3.1
DAWY Dawson 9.00 27 P Pn 18 25 17.1 0.0
baz=215,SNR=6.9
I21K Tanana 9.00 351 Pn 18 25 17.3 +0.3
I21K Tanana 9.00 351 P Pn 18 25 17.8 +0.8
baz=168
J16K Anvik River 9.17 324 Pn 18 25 18.1 -1.3
J16K Anvik River 9.17 324 P Pn 18 25 19.1 -0.2
baz=134
P33M Teslin, Yukon 9.20 59 Pn Pn 18 25 19.1 -0.7
P33M Teslin, Yukon 9.20 59 P Pn 18 25 19.8 -0.1
baz=252,SNR=25
EGAK Eagle 9.21 20 Pn 18 25 19.5 -0.5
EGAK Eagle 9.21 20 P Pn 18 25 21.1 +1.2
baz=207
PRP Porcupine Dome 9.32 8 Pn 18 25 21.6 +0.1
PRP Porcupine Dome 9.32 8 P Pn 18 25 22.1 +0.6
baz=191
K29M Barlow Dome 9.33 32 Pn Pn 18 25 22.3 +0.6
K29M Barlow Dome 9.33 32 P Pn 18 25 22.4 +0.7
baz=221,SNR=21
M31M Drury Creek, Y 9.36 45 Pn Pn 18 25 22.7 +0.8
M31M Drury Creek, Y 9.36 45 P Pn 18 25 23.1 +1.2
baz=237,SNR=26
I26K Coal Creek Min 9.37 14 P Pn 18 25 23.2 +1.1
baz=199
N32M Quiet Lake 9.41 53 P Pn 18 25 23.1 +0.4
baz=246
H23K Yukon River 9.51 358 P Pn 18 25 25.1 +1.1
baz=177
H24K Noodor Dome 9.52 2 Pn Pn 18 25 24.2 0.0
H24K Noodor Dome 9.52 2 P Pn 18 25 25.1 +0.9
baz=183,SNR=5.3
H21K Melozitna Rive 9.54 350 Pn 18 25 24.1 -0.3
H21K Melozitna Rive 9.54 350 P Pn 18 25 24.8 +0.3
baz=166,SNR=16
J29N Klondike Camp 9.61 28 Pn 18 25 25.8 +0.2
J29N Klondike Camp 9.61 28 P Pn 18 25 25.7 +0.2
baz=217,SNR=6.3
I17K Unalakleet 9.63 327 Pn Pn 18 25 25.3 -0.3
I17K Unalakleet 9.63 327 P Pn 18 25 26.2 +0.6
baz=136
H20K Anotleneega Mo 9.64 344 P Pn 18 25 27.0 +1.1
baz=159
V35K Ketchikan 9.65 89 Pn Pn 18 25 23.8 -2.2
V35K Ketchikan 9.65 89 P Pn 18 25 24.3 -1.6
baz=283
H22K Ishtalitna Cre 9.66 353 P Pn 18 25 26.7 +0.7
baz=171
S34M Telegraph Cree 9.66 73 Pn Pn 18 25 24.6 -1.6
S34M Telegraph Cree 9.66 73 P Pn 18 25 25.7 -0.4
baz=269
FARO Faro, Yukon 9.79 47 Pn 18 25 28.7 +0.8
FARO Faro, Yukon 9.79 47 P Pn 18 25 28.6 +0.8
baz=240,SNR=15
I27K Kandik River 9.88 17 P Pn 18 25 30.4 +1.2
baz=203,SNR=7.6
J14K Nanvaranak Lak 9.88 316 Pn Pn 18 25 30.6 +1.5
J14K Nanvaranak Lak 9.88 316 P Pn 18 25 29.6 +0.5
baz=124
R33M Jennings River 9.91 65 Pn Pn 18 25 29.1 -0.5
R33M Jennings River 9.91 65 P Pn 18 25 29.6 0.0
baz=255,SNR=9.6
K13K Kusilvak Mount 9.91 311 Pn Pn 18 25 30.1 +0.6
K13K Kusilvak Mount 9.91 311 P Pn 18 25 30.7 +1.1
baz=118
H19K Roundabout Mou 9.94 341 Pn Pn 18 25 29.7 -0.1
H19K Roundabout Mou 9.94 341 P Pn 18 25 30.2 +0.4
baz=154
IMAR Indian Mountai 9.96 348 Pn 18 25 30.5 +0.3
H18K Honhosa River 10.00 336 P Pn 18 25 30.9 +0.1
baz=148
H25L Birch Creek 10.04 7 P Pn 18 25 32.3 +1.1
baz=189
I28M Miner Creek 10.05 21 Pn Pn 18 25 32.4 +0.8
I28M Miner Creek 10.05 21 P Pn 18 25 32.5 +1.0
baz=209,SNR=6.9
T35M Bob Quinn 10.16 79 Pn Pn 18 25 32.2 -0.8
J30M Hart River 10.23 31 Pn Pn 18 25 34.3 +0.3
J30M Hart River 10.23 31 P Pn 18 25 35.2 +1.2
baz=222,SNR=15
DLBC Dease Lake 10.27 71 Pn Pn 18 25 33.0 -1.5
DLBC Dease Lake 10.27 71 P Pn 18 25 34.5 0.0
baz=266,SNR=5.5
DLBC Dease Lake 10.27 71 Pn Pn 18 25 35.2 +0.6
comp=E,1.0nm,0.3s,baz=271,slow=5.7,SNR=9.8
DLBC Sn Sn 18 27 27.6 -2.1
comp=E,0.7nm,0.3s,baz=227,slow=19,SNR=1.5
comp=E,3.5nm,0.5s
FYU Fort Yukon 10.37 8 Pn 18 25 35.2 -0.6
G24K Hadweenzic Riv 10.40 3 Pn Pn 18 25 35.7 -0.4
baz=184
G24K Hadweenzic Riv 10.40 3 P Pn 18 25 36.1 0.0
baz=184
G23K Bananza Creek 10.41 357 Pn Pn 18 25 36.7 +0.3
G23K Bananza Creek 10.41 357 P Pn 18 25 37.5 +1.2
baz=176,SNR=6.6
G21K Allakaket 10.45 349 Pn Pn 18 25 36.5 -0.3
G21K Allakaket 10.45 349 P Pn 18 25 37.5 +0.7
baz=165
H27K Steamboat Moun 10.48 16 P Pn 18 25 37.8 +0.5
baz=202
G25K Bearman Lake 10.52 6 P Pn 18 25 38.0 +0.3
baz=188
UNV Unalaska Valle 10.52 264 P Pn 18 25 35.1 -2.7
baz=70
G19K Purcell Mounta 10.61 341 Pn Pn 18 25 38.5 -0.5
G22K Bettles 10.69 354 P Pn 18 25 40.8 +0.7
baz=172
G18K Tagagawik 10.70 337 Pn 18 25 39.2 -1.0
G18K Tagagawik 10.70 337 P Pn 18 25 41.8 +1.5
baz=149
I30M Mount Dempster 10.71 29 Pn 18 25 39.3 -1.2
I30M Mount Dempster 10.71 29 P Pn 18 25 41.9 +1.4
baz=219,SNR=11
MMPY Sheldon Lake, 10.83 47 Pn Pn 18 25 43.2 +1.1
MMPY Sheldon Lake, 10.83 47 P Pn 18 25 43.2 +1.1
baz=242,SNR=24
G17K Kiwalik Mounta 10.84 333 P Pn 18 25 42.3 +0.1
baz=142
G26K Porcupine Rive 10.88 10 P Pn 18 25 43.2 +0.6
baz=194
COLD Coldfoot 10.93 357 P Pn 18 25 42.6 -0.8
baz=176
HG4B Hotspring 10.98 104 Pn Pn 18 25 42.6 -1.6
G27K Doyon Strip 11.00 15 Pn 18 25 44.8 +0.4
G27K Doyon Strip 11.00 15 P Pn 18 25 44.2 -0.1
baz=201
GRNB Grenville Isla 11.01 95 Pn Pn 18 25 42.8 -1.8
H29M Whitestone 11.04 22 Pn 18 25 45.0 0.0
H29M Whitestone 11.04 22 P Pn 18 25 45.6 +0.6
baz=211
F21K Alatna River 11.13 350 Pn Pn 18 25 45.7 -0.5
F21K Alatna River 11.13 350 P Pn 18 25 46.1 -0.1
baz=166,SNR=9.1
F24K Squaw Lake 11.21 2 Pn 18 25 46.0 -1.3
F24K Squaw Lake 11.21 2 P Pn 18 25 46.5 -0.7
baz=182
G16K Koyuk River 11.22 329 Pn Pn 18 25 47.6 +0.2
F20K Avaraart Lake 11.23 346 Pn Pn 18 25 46.0 -1.5
F20K Avaraart Lake 11.23 346 P Pn 18 25 47.2 -0.2
baz=160
BMAR Burnt Mountain 11.28 8 Pn 18 25 48.9 +0.8
F22K John River 11.31 353 P Pn 18 25 48.2 -0.4
baz=170
F19K Shaleruckik Mo 11.35 341 Pn 18 25 48.3 -0.8
F19K Shaleruckik Mo 11.35 341 P Pn 18 25 47.6 -1.5
baz=154
F25K Christian Rive 11.37 6 P Pn 18 25 48.0 -1.4
baz=189
EPYK Eagle Plains 11.54 25 Pn Pn 18 25 51.8 0.0
EPYK Eagle Plains 11.54 25 P Pn 18 25 51.5 -0.3
baz=215
F26K Sheenjek River 11.57 9 P Pn 18 25 52.8 +0.6
baz=193,SNR=7.7
ANM Nome 11.61 322 Pn Pn 18 25 52.7 0.0
H31M Peel River 11.71 30 Pn Pn 18 25 52.8 -1.3
H31M Peel River 11.71 30 P Pn 18 25 54.8 +0.7
baz=222,SNR=5.2
G29M Pine Creek 11.71 21 Pn Pn 18 25 53.8 -0.3
G29M Pine Creek 11.71 21 P Pn 18 25 55.0 +0.8
baz=210,SNR=7.3
TGTN Hyland Airport 11.71 55 P Pn 18 25 55.1 +0.9
baz=252,SNR=9.9
F17K Baldwin Pennin 11.74 335 Pn Pn 18 25 54.7 +0.2
F17K Baldwin Pennin 11.74 335 P Pn 18 25 56.0 +1.5
baz=144
E23K Chandalar 11.75 358 P Pn 18 25 55.5 +0.8
baz=177
E24K Your Creek 11.76 0 Pn Pn 18 25 54.9 +0.1
E24K Your Creek 11.76 0 P Pn 18 25 56.7 +1.9
baz=180,SNR=9.8
E19K Redstone River 11.83 344 Pn 18 25 55.0 -0.7
E19K Redstone River 11.83 344 P Pn 18 25 55.7 0.0
baz=156
E25K Arctic Village 11.89 6 Pn 18 25 55.9 -0.7
E25K Arctic Village 11.89 6 P Pn 18 25 56.6 0.0
baz=188
E22K Anaktuvuk Pass 11.91 354 P Pn 18 25 57.0 +0.2
baz=172
F28M Old Crow 12.01 16 P Pn 18 25 58.6 +0.4
baz=204
F15K North Star Dit 12.11 327 P Pn 18 26 00.3 +0.7
baz=133
G30M tAoh Zraii Nji 12.15 24 Pn Pn 18 25 59.5 -0.7
G30M tAoh Zraii Nji 12.15 24 P Pn 18 25 59.4 -0.7
baz=215
E27K Coleen River 12.31 12 Pn Pn 18 26 00.9 -1.4
E27K Coleen River 12.31 12 P Pn 18 26 03.5 +1.2
baz=199,SNR=6.6
TOLK Toolik Lake Re 12.34 358 Pn Pn 18 26 02.3 -0.3
TOLK Toolik Lake Re 12.34 358 P Pn 18 26 02.1 -0.6
baz=178
E21K Killik River 12.37 351 P Pn 18 26 03.8 +0.8
baz=166
E17K Hotham Inlet 12.40 335 P Pn 18 26 04.7 +1.3
baz=144
E18K Tukpahlearik C 12.41 338 P Pn 18 26 04.6 +1.0
baz=148
E20K Nigu River 12.43 347 P Pn 18 26 05.4 +1.5
baz=160
G31M Satah River 12.57 27 P Pn 18 26 07.4 +1.6
baz=219
D23K Nanushuk River 12.69 357 P Pn 18 26 09.0 +1.6
baz=175
D22K Ayikyak River 12.70 353 Pn 18 26 06.2 -1.4
D22K Ayikyak River 12.70 353 P Pn 18 26 09.4 +1.8
baz=170
BBB Bella Bella 12.71 101 LR LR 18 29 52.8
comp=E,674nm,18.4s,baz=298,slow=32
F30M Barrier River 12.77 23 P Pn 18 26 08.8 +0.2
baz=214,SNR=10
D24K Happy Valley 12.85 360 P Pn 18 26 10.8 +1.3
baz=180
D20K Etivluk River 12.91 347 P Pn 18 26 11.5 +1.0
baz=160
D19K Kuna River 12.92 344 P Pn 18 26 11.6 +1.0
baz=156
E28M Babbage River 12.97 15 Pn Pn 18 26 10.8 -0.6
E28M Babbage River 12.97 15 P Pn 18 26 13.9 +2.6
baz=203,SNR=13
E29M Blow River 13.04 18 Pn Pn 18 26 11.7 -0.5
E29M Blow River 13.04 18 P Pn 18 26 13.6 +1.5
baz=207,SNR=6.9
D25K Kavik River 13.05 4 Pn Pn 18 26 13.1 +0.6
D25K Kavik River 13.05 4 P Pn 18 26 14.1 +1.7
baz=186
C21K Knifeblade Rid 13.14 350 P Pn 18 26 15.4 +1.8
baz=165
D27M Malcolm River 13.39 12 Pn 18 26 16.5 -0.5
D27M Malcolm River 13.39 12 P Pn 18 26 19.2 +2.2
baz=199,SNR=8.2
C24K Franklin Bluff 13.41 360 P Pn 18 26 17.9 +0.7
baz=180,SNR=6.3
RDOG Red Dog Mine 13.43 337 P Pn 18 26 18.6 +1.1
baz=144
C27K Jago River 13.50 7 P Pn 18 26 19.7 +1.2
baz=192,SNR=7.9
C23K Itkillik River 13.56 357 P Pn 18 26 19.7 +0.5
baz=175,SNR=7.3
B21K Ikpikpuk River 13.57 351 Pn Pn 18 26 19.1 -0.3
B21K Ikpikpuk River 13.57 351 P Pn 18 26 20.4 +0.9
baz=166
C18K Utukok River 13.58 340 P Pn 18 26 20.3 +0.8
baz=149
C26K Camden Bay 13.71 5 P Pn 18 26 20.6 -0.8
baz=189
D28M Stokes Point 13.76 15 P Pn 18 26 26.1 +4.1
baz=204,SNR=7.6
INK Inuvik 13.84 24 Pn Pn 18 26 22.1 -1.0
INK Inuvik 13.84 24 P Pn 18 26 24.0 +0.9
baz=217,SNR=16
INK Inuvik 13.84 24 Pn Pn 18 26 25.0 +2.0
comp=E,0.1nm,0.3s,baz=210,slow=11,SNR=4.5
comp=E,13nm,1.0s
C16K Lisburne Hills 14.17 334 P Pn 18 26 26.2 -1.4
baz=140
B22K Teshekpuk Lake 14.19 353 P Pn 18 26 27.1 -0.8
baz=169

B18K Kokolik River 14.31 341 P Pn 18 26 30.7 +1.2
baz=149
WRGLY **Wrigley** 14.36 51 Pn Pn 18 26 30.2 -0.1
WRGLY **Wrigley** 14.36 51 P Pn 18 26 31.4 +1.1
baz=253,SNR=17
A22K Sinclair Lake 14.95 352 P Pn 18 26 36.6 -1.6
baz=166
A21K Barrow 15.40 350 P Pn 18 26 43.8 -0.3
baz=163
C36M Paulatuk 17.00 30 Pn 18 27 04.3 -0.4
C36M IAmb IAmb 18 27 08.6
comp=Z,28nm,0.9s
C36M Paulatuk 17.00 30 P Pn 18 27 04.0 -0.7
baz=232,SNR=24
GNW Green Mountain 18.11 108 P Pn 18 27 16.8 -1.7
YKA Yellowknife Ar 18.22 56 P Pn 18 27 19.2 -0.6
YKA Yellowknife Ar 18.22 56 P P 18 27 20.8 +0.7
comp=Z,0.2nm,0.3s,baz=265,slow=11,SNR=47
YKA LR LR 18 34 29.2
comp=Z,495nm,18.2s,baz=246,slow=37
comp=Z,4.8nm,0.8s
A36M Sachs Harbour 18.48 23 P P 18 27 22.2 -0.6
A36M IAmb IAmb 18 27 25.3
comp=Z,39nm,1.0s
A36M Sachs Harbour 18.48 23 P P 18 27 21.5 -1.3
baz=224,SNR=17
D05A Enumclaw 18.78 108 P 18 27 24.5 -1.9
LTY Liberty 19.44 106 P P 18 27 33.1 -0.6
LTY IAmb IAmb 18 27 38.9
comp=Z,40nm,1.5s
MXC Moxie City 20.07 107 P P 18 27 40.3 -0.2
MXC IAmb IAmb 18 27 44.8
comp=Z,30nm,1.2s
NEW Newport 20.77 100 P P 18 27 45.4 -2.7
baz=305
NEW Newport 20.77 100 P P 18 27 49.2 +1.1
comp=Z,2.9nm,0.6s,baz=318,slow=7.3,SNR=5.8
comp=Z,2.9nm,0.6s
I04A Tendick Farm, 20.87 116 P P 18 27 47.5 -1.7
I04A IAmb IAmb 18 27 58.8
comp=Z,29nm,1.2s
DBO Dodson Butte 20.95 118 P P 18 27 46.9 -3.2
DBO IAmb IAmb 18 28 04.8
comp=Z,19nm,1.1s
HUMO Hull Mountain 21.48 119 P P 18 27 54.3 -1.4
HUMO IAmb IAmb 18 27 58.4
comp=Z,18nm,0.9s
L02F Cave Junction 21.55 121 IAmb IAmb 18 28 09.8
comp=Z,19nm,1.1s
PINE Pine Mountain 21.61 114 IAmb IAmb 18 28 07.3
comp=Z,24nm,1.1s
L04D Klamath Falls 22.09 119 P P 18 28 01.4 -0.9
YBH Yreka Blue Hor 22.26 120 P P 18 28 01.9 -2.3
YBH Yreka Blue Hor 22.26 120 LR LR 18 34 08.2
comp=Z,371nm,18.9s,baz=313,slow=30
J08A Circle Bar Ran 23.19 111 IAmb IAmb 18 28 39.1
comp=Z,20nm,1.3s
PLID Pearl Lake 23.33 105 P P 18 28 14.0 -1.5
BILL Bilibino 23.41 318 P P 18 28 15.2 -0.7
BILL IAmb IAmb 18 28 26.2
comp=Z,18nm,1.1s
WVOR Wild Horse Val 23.76 113 P P 18 28 17.1 -2.6
WVOR IAmb IAmb 18 28 32.8
comp=Z,20nm,1.2s
LYMT Lyon Mountain 24.18 97 P P 18 28 21.0 -2.7
HLID Hailey 25.19 106 P P 18 28 30.8 -2.0
baz=312
PAHR Pah Rah Range 25.43 118 P P 18 28 31.7 -3.3
PAHR IAmb IAmb 18 28 39.3
comp=Z,22nm,1.5s
YERR Yerington 26.06 119 IAmb IAmb 18 28 44.9
comp=Z,10nm,1.1s
YHH Holmes Hill 26.32 100 P P 18 28 40.2 -3.0
KVN Kaiserville 26.57 118 IAmb IAmb 18 28 57.7
comp=Z,8.3nm,1.0s
ELK Elko 26.74 111 LR LR 18 37 01.9
comp=Z,270nm,21.7s,slow=31
NVAR Mina Array Bea 26.95 119 P P 18 28 46.8 -2.1
NVAR Mina Array Bea 26.95 119 P P 18 28 49.5 +0.6
comp=Z,3.4nm,0.8s,baz=305,slow=8.3,SNR=16
comp=Z,3.4nm,0.8s
MDPB Devils Postpil 27.21 121 P P 18 28 47.3 -3.9
MDPB IAmb IAmb 18 28 52.5
comp=Z,11nm,0.8s
RES Resolute Bay 27.34 28 P P 18 28 50.0 -1.7
PDAR Pinedale Array 28.35 102 P P 18 29 01.9 +0.5
comp=Z,0.4nm,0.6s,baz=310,slow=7.6,SNR=4.8
comp=Z,0.4nm,0.6s
R11B Troy Canyon, C 28.36 115 IAmb IAmb 18 29 11.4
comp=Z,7.3nm,1.2s
R11B Troy Canyon, C 28.36 115 P P 18 29 02.5 +1.1
baz=320,SNR=7.5
SPR3 Spring Creek 3 28.50 113 IAmb IAmb 18 29 14.2
comp=Z,9.6nm,1.4s
CWC Cottonwood Cre 28.64 121 P P 18 29 04.6 +0.8
baz=324
WCT Wildcat Mounta 29.06 119 P P 18 29 06.2 -1.3
WCT IAmb IAmb 18 29 17.5
comp=Z,6.6nm,1.0s
GWY Greenwater Val 29.52 120 IAmb IAmb 18 29 26.7
comp=Z,16nm,1.5s
QSM Queen of Sheba 29.60 120 P P 18 29 08.3 -4.0
QSM IAmb IAmb 18 29 22.2
comp=Z,11nm,1.1s
CCUT Cedar City 30.10 114 pP 18 29 22.2 +3.6
SRU San Rafael Swe 30.40 108 IAmb IAmb 18 29 29.4
comp=Z,8.8nm,1.0s
PETK Petropavlovsk- 30.48 287 P P 18 29 20.4 +0.6
comp=Z,2.2nm,0.9s,baz=68,slow=13,SNR=9.5
comp=Z,2.2nm,0.9s
V12A Nelson 30.77 118 P P 18 29 19.9 -2.9
V12A IAmb IAmb 18 29 33.0
comp=Z,6.5nm,0.9s
HMU Henry Mountain 31.16 110 IAmb IAmb 18 29 36.0
comp=Z,7.7nm,1.1s
MA2 Magadan 31.31 301 LR LR 18 43 21.3
comp=Z,520nm,18.0s,baz=66,slow=39
ULM Lac du Bonnet 31.46 78 P P 18 29 29.7 +1.2
comp=Z,0.5nm,0.3s,baz=229,slow=3.9,SNR=1.4
comp=Z,0.5nm,0.3s
BELC Belle Mtn. Jos 31.61 121 P P 18 29 27.9 -2.2
baz=325
IRM Iron Mountain 31.89 120 P P 18 29 31.7 -0.7
baz=324
MONP2 **Monument Peak** 32.32 123 P P 18 29 36.9 +0.4
baz=326
ANMO Albuquerque 35.67 109 LR LR 18 43 46.3
comp=Z,153nm,18.3s,baz=44,slow=35
TIXI Tiksi 35.79 328 P P 18 30 05.3 -0.6
TIXI IAmb IAmb 18 30 18.5
comp=Z,5.7nm,1.1s
KULLO Kullorsuaq 37.18 26 *i* P P 18 30 18.3 +0.6
KULLO IAmb IAmb 18 30 20.0
comp=Z,14nm,1.1s
NEEM North Greenlan 37.39 21 *i* P P 18 30 19.9 0.0
NEEM IAmb IAmb 18 30 21.9
comp=Z,7.2nm,0.9s
YAK Yakutsk 39.57 313 P P 18 30 37.7 -0.3
TXAR Lajitas Array 41.54 111 P P 18 30 54.8 +0.1
comp=Z,0.3nm,0.4s,baz=345,slow=4.3,SNR=5.1
comp=Z,0.3nm,0.4s
SUMG Summit 42.76 25 P P 18 31 03.5 -1.0
SUMG Summit 42.76 25 *i* P P 18 31 05.0 +0.5
SUMG IAmb IAmb 18 31 06.9
comp=Z,19nm,1.1s
DAG Danmarks Havn 43.45 15 *i* P P 18 31 09.5 0.0
DAG IAmb IAmb 18 31 11.7
comp=Z,5.0nm,0.9s
SCHQ Scheffervill 43.67 56 P P 18 31 13.1 +1.4
comp=Z,3.9nm,0.8s,baz=307,slow=9.9,SNR=6.2
comp=Z,3.9nm,0.8s
ICESG Greenland Ices 44.74 29 *i* P P 18 31 20.4 0.0
ICESG IAmb IAmb 18 31 22.7
comp=Z,14nm,1.1s
SPITS Spitsbergen Ar 45.41 4 P P 18 31 28.1 +2.8
comp=Z,9.7nm,1.1s,baz=284,slow=5.8,SNR=1.4
comp=Z,9.7nm,1.1s
HEH HeiHe 47.55 300 *e*P P 18 31 42.9 +0.5
HEH pmax pmax
comp=Z,5.0nm,1.4s
H11N2 WAKE ISLAND Hy 49.21 241 T T 19 25 38.7
baz=29,slow=76,SNR=65
H11N3 WAKE ISLAND Hy 49.22 241 T T 19 25 39.1
baz=29,slow=76,SNR=34
H11N1 WAKE ISLAND Hy 49.23 241 T T 19 25 40.0
baz=29,slow=76,SNR=70
H11S1 WAKE ISLAND Hy 50.35 240 T T 19 27 10.7
baz=29,slow=76,SNR=102
H11S2 WAKE ISLAND Hy 50.37 240 T T 19 27 15.7
baz=29,slow=76,SNR=73
H11S3 WAKE ISLAND Hy 50.37 240 T T 19 27 09.6
baz=29,slow=76,SNR=72
MJAR Matsushiro Arr 51.49 280 P P 18 32 13.2 +0.6
comp=Z,0.4nm,0.6s,baz=34,slow=5.9,SNR=2.6
comp=Z,0.4nm,0.6s
ARCES ARCESS Array B 54.34 3 P P 18 32 33.2 0.0
comp=Z,1.1nm,0.7s,baz=10,slow=7.5,SNR=6.8
comp=Z,1.1nm,0.7s
ULN Ulaanbaatar 58.55 310 P P 18 33 03.0 -0.7
ULN IAmb IAmb 18 33 13.9
comp=Z,2.7nm,0.8s
SONM Songino Array 58.85 310 P P 18 33 06.9 +1.2
comp=Z,3.6nm,0.9s,baz=42,slow=6.1,SNR=21
comp=Z,3.6nm,0.9s
ZALV Zalesovo Beam 61.68 327 P P 18 33 23.9 -0.9
ZALV Zalesovo Beam 61.68 327 P P 18 33 25.7 +0.9
comp=Z,1.5nm,0.8s,baz=32,slow=8.7,SNR=6.3
comp=Z,1.5nm,0.8s
NB2 NORSAR Subarra 61.88 11 P P 18 33 26.7 +0.6
comp=Z,0.8nm,0.7s,baz=347,slow=6.9
NOA NORSAR Array B 61.88 11 P P 18 33 26.7 +0.6
comp=Z,2.3nm,1.0s,baz=348,slow=6.8,SNR=5.6
comp=Z,2.3nm,1.0s
HHC Hu-ho-hao-te 61.98 302 *e*P P 18 33 26.1 -1.1
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,160nm,5.8s
FINES FINESS Array B 62.47 3 P P 18 33 30.6 +0.6
comp=Z,3.3nm,0.7s,baz=2.9,slow=9.6,SNR=12
comp=Z,3.3nm,0.7s
HFS Hagfors 63.02 10 P P 18 33 34.0 +0.3
comp=Z,0.9nm,0.5s,baz=63,slow=6.6,SNR=1.8
comp=Z,0.9nm,0.5s
ARU Arti 65.43 344 P P 18 33 48.7 -0.9
BVAR Borovoye Array 66.36 335 P P 18 33 56.7 +1.1
comp=Z,1.4nm,0.7s,baz=38,slow=7.5,SNR=11
comp=Z,1.4nm,0.7s
KURBB Kurchatov Arra 66.45 329 P P 18 33 57.1 +0.9
comp=Z,0.5nm,0.6s,baz=29,slow=6.5,SNR=6.1
comp=Z,0.5nm,0.6s
LYN LuoYang 66.53 297 *e*P P 18 33 58.2 +1.2
LYN pmax pmax
comp=Z,24nm,0.4s
LYN pmax pmax
comp=Z,220nm,5.4s
GTA Gaotai 68.45 309 P P 18 34 10.5 +1.2
GTA sP PcP 18 34 26.1 -8.4
GTA pmax pmax
comp=Z,3.0nm,1.6s
MKAR Makanchi Array 68.73 325 P P 18 34 11.3 +0.6
comp=Z,0.2nm,0.4s,baz=22,slow=5.5,SNR=5.0
comp=Z,0.2nm,0.4s
WMQ Urumqi 69.51 320 *e*P P 18 34 16.4 +0.8
WMQ LR LR
comp=Z,490nm,15.3s
ABKAR Akbulak array 72.09 341 P P 18 34 30.5 -0.7
ABKAR Akbulak array 72.09 341 IAmb IAmb 18 34 40.8
comp=Z,2.3nm,0.7s
AKASG Malin Array Be 73.29 1 P P 18 34 38.7 +0.4
comp=Z,3.3nm,0.6s,baz=0.4,slow=5.9,SNR=6.2
comp=Z,3.3nm,0.6s
AKBB Malin Array Si 73.29 1 P P 18 34 37.8 -0.4
KIEV Kiev 73.30 1 P P 18 34 37.7 -0.6
VRAC Vranov 73.99 10 *e*P P 18 34 43.8 +1.4
GERES GERESS Array B 74.14 12 P P 18 34 44.5 +1.0
comp=Z,0.6nm,0.6s,baz=2.3,slow=6.7,SNR=4.4
comp=Z,0.6nm,0.6s
STHS Stebnicka Huta 74.26 7 *e*P P 18 34 45.7 +1.7
MODS Modra-Piesok 74.98 10 *e*P P 18 34 51.3 +3.1
VYHS Vyhne 75.00 9 *e*P P 18 34 49.8 +1.5
CONA Conrad Observa 75.28 11 *e*P P 18 34 51.3 +1.2
comp=Z,3.8nm,1.0s
WATA Walderalm 75.36 14 *e*P P 18 34 52.0 +1.5
comp=Z,3.9nm,1.2s
SQTA Sankt Quirin 75.43 14 *e*P P 18 34 52.2 +1.2
comp=Z,6.4nm,1.0s
WTTA Wattenberg 75.44 14 *e*P P 18 34 52.2 +1.1
comp=Z,3.1nm,0.8s
FETA Feichten 75.56 14 *e*P P 18 34 53.3 +1.6
comp=Z,3.0nm,1.0s
KBA Koelnbreinsper 75.84 13 *e*P P 18 34 54.6 +1.3
comp=Z,4.7nm,1.1s
BUR08 Bucovina Ar. S 76.24 4 P P 18 34 54.9 -0.7
SOKA Soboth 76.43 11 *e*P P 18 34 58.0 +1.4
comp=Z,6.8nm,1.2s
OBKA Obir 76.54 12 *e*P P 18 34 58.4 +1.1
comp=Z,4.1nm,0.7s
ROSC El Rosal 77.34 100 P P 18 35 04.2 +1.7
comp=Z,0.0nm,0.3s,baz=239,slow=12,SNR=2.2
comp=Z,4.0nm,0.3s
PZH PanZhiHua 78.37 300 P P 18 35 08.3 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.6s
ESDC Sonseca Array 79.77 27 P P 18 35 16.5 +1.3
comp=Z,2.2nm,1.0s,baz=328,slow=5.5,SNR=8.7
ESDC LR LR 19 11 27.7
comp=Z,367nm,20.3s,baz=42,slow=36
comp=Z,2.2nm,1.0s
KBZ Khabaz 79.81 352 P P 18 35 17.0 +1.8
comp=Z,2.0nm,0.8s,baz=344,slow=7.4,SNR=5.1
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 84.26 358 P P 18 35 39.9 +0.9
comp=Z,1.6nm,0.9s,baz=347,slow=2.4,SNR=10
comp=Z,1.6nm,0.9s
CMAR Chiang Mai Arr 86.54 298 P P 18 35 51.9 +1.4
comp=Z,1.1nm,0.9s,baz=8.8,slow=4.3,SNR=5.6
comp=Z,1.1nm,0.9s
QSPA South Pole Qui 146.15 180 PKPbc **PKPbc** 18 42 45.9 -0.2
comp=Z,2.4nm,0.8s,baz=129,slow=0.8,SNR=16
BOSA Boshof 151.94 11 PKPbc **PKPbc** 18 43 01.6 -0.5
comp=Z,1.3nm,0.6s,baz=58,slow=4.9,SNR=5.0

*DJA **01** 18:26:33.8±0.7, 4˚N±8˚×12˚4E±˚, h331km±4km, M3.8/9, mb4.0/7, mB4.7/3, MLv3.7/9, Mw(mB)3.9/3*
*IDC **01** 18:26:36.5±21.0, 3˚84N×124˚29E, h421km±262km, mb2.8/6, mbtmp3.6/6, Error ellipse: s-maj=173.3km s-min=20.0km az=52.0*
ISC 01 18:26:30.6±0.9, **4˚03N**±0˚10×**124˚47E**±0˚09, **h339**km, **n18, σ1§34/19, mb3.2/6, Celebes Sea**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.11**	**108**	P	**Pn**		**18 27 16.9**	**+1.2**
SGSI				S	**S**		**18 27 53.7**	**+2.0**
KMSI	**Cibinong**	**3.47**	**188**	P	**Pn**		**18 27 34.9**	**+1.2**
GTOI	**Gorontalo**	**3.67**	**203**	P	**Pn**		**18 27 36.1**	**+0.4**
MRSI	**Marisa**	**4.34**	**216**	P	**Pn**		**18 27 44.0**	**+1.4**
TNTI	**Ternate**	**4.35**	**138**	P	**Pn**		**18 27 42.8**	**+0.1**
LUWI	**Luwuk**	**5.32**	**199**	P	**Pn**		**18 27 54.3**	**+0.9**
67nm,1.0s,0.2nm								
LBMI	**Labuha**	**5.54**	**147**	P	**Pn**		**18 27 56.0**	**+0.1**
62nm,0.7s,1μm0.3nm								
SANI	**Sanana**	**6.23**	**166**	P	**Pn**		**18 28 01.9**	**-1.9**
27nm,0.5s,1μm0.2nm								
FAKI	**Fak Fak**	**10.40**	**131**	P	**P**		**18 28 56.5**	**+1.4**
22nm,1.4s								
EDFI	**Ende, Flores**	**13.00**	**192**	P	**Pn**		**18 29 25.1**	**+0.5**
6.8nm,0.9s								
SOEI	**Soe**	**13.70**	**181**	P	**P**		**18 29 31.6**	**-0.1**
20nm,1.5s								
SMPI	**Sarmi**	**15.44**	**113**	P	**P**		**18 29 52.9**	**+2.2**
WRA	**Warramunga Arr**	**25.73**	**158**	P	**P**		**18 31 29.6**	**-1.8**
0.5nm,0.5s,baz=334,slow=11,SNR=11								
0.5nm,0.5s								
CMAR	**Chiang Mai Arr**	**28.78**	**302**	P	**P**		**18 31 58.6**	**+0.1**
0.5nm,0.8s,baz=135,slow=7.2,SNR=2.3								
0.5nm,0.8s								
ASAR	**Alice Springs**	**29.03**	**162**	P	**P**		**18 31 59.5**	**-1.1**
0.2nm,0.7s,baz=342,slow=7.4,SNR=8.2								
0.2nm,0.7s								
STKA	**Stephens Creek**	**39.26**	**157**	P	**P**		**18 33 27.2**	**-0.4**
0.9nm,0.4s,baz=342,slow=9.3,SNR=2.8								
0.9nm,0.4s								
MKAR	**Makanchi Array**	**56.03**	**326**	P	**P**		**18 35 34.1**	**-1.1**
0.6nm,0.4s,baz=120,slow=8.6,SNR=8.8								
0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**60.28**	**328**	P	**P**		**18 36 02.7**	**-1.5**
0.5nm,0.5s,baz=129,slow=6.5,SNR=8.1								
0.5nm,0.5s								

*HVO **01** 18:28:51.3±1.1, 19˚.33N±0˚.02×155˚.05W±0˚.02, h-0km±9km, ML2.6/18, ML2.5/48(NEIC), Error ellipse: s-maj=3.5km s-min=1.9km az=126.0*
NEIC 01 18:28:52.5±0.9, **19˚37N**±0˚02×**155˚05W**±0˚03, **h5**km±2km, **Error ellipse: s-maj=4.8km s-min=2.9km az=302.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**289**		**Pg**		**18 28 54.2**	**+0.3**
NPOC	**North of Pu'u**	**0.06**	**295**	IAML			**18 28 53.4**	
comp=N,3μm,0.5s								
NPOC					Pg		18 28 54.5	+0.4
STCH	**Steam Cracks**	**0.07**	**284**		**Pg**		**18 28 54.5**	**+0.3**
STCH				IAML			18 28 55.1	
comp=N,2μm,0.1s								
STCH				IAML			18 28 55.8	
comp=E,2μm,0.1s								
JOKA	**Jonika Flow**	**0.08**	**34**		**Pg**		**18 28 54.9**	**+0.6**
KNHH	**Kane Nui o Ham**	**0.11**	**276**		**Pg**		**18 28 55.0**	**+0.1**
PUH	**Pauahi**	**0.15**	**272**		**Pg**		**18 28 55.6**	**-0.1**
BYL	**Byron's Ledge**	**0.20**	**283**		**Sg**		**18 28 59.3**	**+0.1**
BYL				IAML			18 28 59.9	
comp=N,895nm,0.7s								
BYL	**Byron's Ledge**	**0.20**	**283**		**Pg**		**18 28 56.4**	**-0.1**
KKO	**Keanakako`i**	**0.20**	**279**		**Pg**		**18 28 56.6**	**0.0**
KKO	**Keanakako`i**	**0.20**	**279**	Sg	**Sg**		**18 28 60.0**	**+0.7**
KKO				IAML			18 29 01.5	
comp=N,1μm,1.3s								
KKO				IAML			18 29 02.6	
comp=E,793nm,0.8s								
HATHI	**Halema'uma'u T**	**0.20**	**286**	Pg	**Pg**		**18 28 56.5**	**-0.1**
HATHI				Sg	**Sg**		**18 29 00.3**	**+1.0**
HATHI				IAML			18 29 00.8	
comp=N,876nm,0.6s								
HATHI				IAML			18 29 02.8	
comp=E,935nm,0.8s								
RIM	**Rim**	**0.21**	**278**		**Pg**		**18 28 56.6**	**-0.2**
RIM	**Rim**	**0.21**	**278**	IAML			**18 28 59.8**	
comp=N,1μm,1.3s								
RIM				IAML			18 29 00.6	
comp=E,796nm,1.4s								
SBLHI	**Steaming Bluff**	**0.21**	**286**	Pg	**Pg**		**18 28 56.5**	**-0.3**
SBLHI				Sg	**Sg**		**18 28 59.6**	**+0.1**
NPH	**North Pit**	**0.22**	**282**		**Pg**		**18 28 56.6**	**-0.3**
UWB	**Uwekahuna B**	**0.22**	**285**		**Pg**		**18 28 56.6**	**-0.3**
UWB				Sg	**Sg**		**18 29 00.5**	**+0.6**
OBL	**Observatory Le**	**0.23**	**283**	Pg	**Pg**		**18 28 56.4**	**-0.6**
OBL				IAML			18 29 03.7	
comp=N,1μm,0.5s								
OBL				IAML			18 29 04.0	
comp=E,1μm,0.5s								
SDHHI	**Sand Hill**	**0.23**	**276**	Pg	**Pg**		**18 28 56.8**	**-0.3**
SDHHI				IAML			18 28 58.7	
comp=N,1μm,0.8s								
SDHHI				IAML			18 29 00.7	
comp=E,1μm,1.3s								
RSD	**Rainshed**	**0.23**	**294**		**Pg**		**18 28 57.2**	**0.0**
RSD				Sg	**Sg**		**18 29 01.4**	**+1.2**
UWE	**Uwekahuna**	**0.23**	**283**		**Pg**		**18 28 57.0**	**-0.2**
UWE					**Sg**		**18 29 00.5**	**+0.3**
UWE				IAML			18 29 02.2	
comp=N,1μm,1.5s								
UWE				IAML			18 29 02.3	
comp=E,1μm,1.4s								
WRMHI	**West Rim**	**0.24**	**279**		**Pg**		**18 28 56.9**	**-0.3**
WRMHI				IAML			18 29 01.4	
comp=N,1μm,1.1s								
HLP	**Hilina Pali**	**0.25**	**254**		**Pg**		**18 28 57.3**	**-0.2**
HLP				Sg	**Sg**		**18 29 01.0**	**+0.2**
HLP				IAML			18 29 02.8	
comp=N,1μm,0.5s								
HLP				IAML			18 29 03.5	
comp=E,1μm,0.2s								
MLH	**Mauna Loa**	**0.34**	**292**		**Pg**		**18 28 59.0**	**-0.2**
MLH					**Sg**		**18 29 04.2**	**+0.5**
MLH				IAML			18 29 05.2	
comp=E,626nm,0.4s								
MLH				IAML			18 29 05.5	
comp=N,496nm,0.3s								
HTC	**Hot Caves**	**0.35**	**248**		**Pg**		**18 28 59.4**	**0.0**
HMH	**Humu'ula Sheep**	**0.47**	**300**		**Pg**		**18 29 01.2**	**-0.4**
HMH				Sg	**Sg**		**18 29 08.8**	**+1.0**
MLOA	**Mauna Loa Obse**	**0.52**	**289**		**Pg**		**18 29 02.3**	**-0.4**
MLOA				Sg	**Sg**		**18 29 09.6**	**+0.1**
MWH	**Moku'aweowe**	**0.53**	**283**		**Pg**		**18 29 02.2**	**-0.6**
MWH				Sg	**Sg**		**18 29 10.8**	**+1.1**
MWH				IAML			18 29 13.2	
comp=E,443nm,1.3s								
KHU	**Kahuku**	**0.55**	**257**	Pg	**Pg**		**18 29 01.9**	**-1.2**
KHU				IAML			18 29 10.1	
comp=N,328nm,3.7s								
KHU				Sg	**Sg**		**18 29 10.5**	**+0.3**
KHU				IAML			18 29 16.3	
comp=E,398nm,1.9s								
ALEP	**Alea Permanent**	**0.58**	**287**		**Pg**		**18 29 03.2**	**-0.7**
ALEP					**Sg**		**18 29 11.9**	**+0.4**
POHA	**Pohakuloa**	**0.60**	**311**		**Pg**		**18 29 02.9**	**-1.2**
POHA				Sg	**Sg**		**18 29 11.4**	**-0.5**
HUH	**Hualalai**	**0.80**	**293**		**Pg**		**18 29 06.3**	**-1.7**
MHA	**Mahukona**	**1.14**	**316**	Pg	**Pg**		**18 29 10.7**	**-3.8**

*IDC **01** 18:43:54.3±0.9, 52˚.36N×169˚.39W, h0km, mb4.2/26, mbtmp4.2/28, ML4.0/2, MS3.1/1, Error ellipse: s-maj=24.5km s-min=13.0km az=166.0*
*AEIC **01** 18:43:57.8±2.9, 52˚.21N±0˚.04×169˚.26W±0˚.07, h22km±4km, Error ellipse: s-maj=7.1km s-min=5.8km az=135.0*
*NEIC **01** 18:43:58.6±2.6, 52˚.19N±0˚.05×169˚.29W±0˚.07, h39km±7km, mb4.1/130, ML4.4/6, ML4.0(AEIC), Error ellipse: s-maj=7.7km s-min=6.5km az=154.0*
ISC 01 18:43:59.5±1.3, **52˚25N**±0˚09×**169˚27W**±0˚04, **h44**km±10km, **n293, σ1§29/288, mb4.2**/70, **1C-1D, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**0.61**	**333**		**Pn**		**18 44 10.7**	**-1.1**
CLCO					**Sn**		**18 44 20.2**	**-0.4**
CLES	**Cleveland East**	**0.69**	**327**		**Pn**		**18 44 11.8**	**-1.1**
CLES				Sn	**Sn**		**18 44 21.2**	**-1.4**
CLES				IAML			18 44 25.2	
comp=N,26μm,0.3s								
NIKH	**Nikolski High**	**0.77**	**19**		**Pn**		**18 44 12.5**	**-1.4**
NIKH					**Sn**		**18 44 25.7**	**+1.4**
OKCE	**Okmok Cone E**	**1.36**	**29**		**Pn**		**18 44 21.5**	**-0.4**
OKCE					**Sn**		**18 44 40.5**	**+1.7**
OKNC	**Okmok New Cone**	**1.40**	**29**		**Pn**		**18 44 22.0**	**0.0**
OKFG	**Magazine Ridge**	**1.43**	**35**		**Pn**		**18 44 22.0**	**-0.9**
OKFG					**Sn**		**18 44 42.5**	**+2.1**
MAPS	**Pakushin South**	**2.10**	**41**		**Pn**		**18 44 32.0**	**-0.1**
MAPS					**Sn**		**18 44 58.5**	**+1.5**
MSW	**Makushin Switc**	**2.24**	**41**		**Pn**		**18 44 34.2**	**+0.1**
MSW					**Sn**		**18 45 02.6**	**+2.1**
MNAT	**Makushin Natee**	**2.26**	**43**		**Pn**		**18 44 34.2**	**-0.1**
UNV	**Unalaska Valle**	**2.31**	**45**		**Pn**		**18 44 34.8**	**-0.2**
UNV					**Sn**		**18 45 03.3**	**+1.2**
AKRB	**Akutan Reef Bi**	**2.69**	**44**		**Pn**		**18 44 41.7**	**+1.5**
ZRO	**Akutan Zero**	**2.71**	**46**		**Pn**		**18 44 41.8**	**+1.4**
AKBBA	**Akutan Broad B**	**2.73**	**46**		**Pn**		**18 44 42.4**	**+1.7**
AHB	**Akutan Harbor**	**2.79**	**47**		**Pn**		**18 44 43.2**	**+1.5**
ATKA	**Atka Island**	**3.03**	**271**	Pn	**Pn**		**18 44 44.0**	**-0.9**
ATKA				Sn	**Sn**		**18 45 19.9**	**0.0**
ATKA				IAML			18 45 35.0	
comp=E,594nm,0.8s								
KOWE	**Korovin West**	**3.06**	**274**		**Pn**		**18 44 46.6**	**+1.2**
WECS	**Westdahl Cape**	**3.53**	**48**		**Pn**		**18 44 53.0**	**+1.3**
ISLZ	**Isanotski Laza**	**4.14**	**51**		**Pn**		**18 45 01.1**	**+0.9**
GSTR	**Great Sitkin T**	**4.18**	**271**	Pn	**Pn**		**18 45 01.2**	**+0.5**
GSCK	**Great Sitkin C**	**4.26**	**270**		**Pn**		**18 45 02.3**	**+0.6**
P08K	**Saint George I**	**4.37**	**358**		**Pn**		**18 45 04.3**	**+1.2**
ADK	**Adak**	**4.59**	**268**	Pn	**Pn**		**18 45 06.0**	**-0.2**
ADK				Sn	**Sn**		**18 45 58.1**	**-0.2**
ADK				IAML			18 46 20.1	
comp=E,368nm,0.6s								
ADK				IAML			18 46 20.8	
comp=E,349nm,1.1s								
KIRH	**Kanaga Island**	**4.84**	**269**		**Pn**		**18 45 10.3**	**+0.6**
KIWB	**Kanaga Island**	**4.88**	**268**	Pn	**Pn**		**18 45 10.8**	**+0.5**
TAFP	**Tanaga Falls P**	**5.39**	**270**		**Pn**		**18 45 18.0**	**+0.8**
TASE	**Tanaga Southea**	**5.43**	**269**		**Pn**		**18 45 19.0**	**+1.1**
S12K	**Black Hills**	**5.48**	**48**	Pn	**Pn**		**18 45 19.0**	**+0.6**
GAEA	**Gareloi East**	**5.87**	**269**		**Pn**		**18 45 24.8**	**+0.9**

GANE Gareloi Northe 5.89 270 Pn Pn 18 45 25.3 +1.2
SDPT Sand Point 6.06 56 Pn Pn 18 45 26.4 -0.1
CNBA Chernabura Isl 6.32 62 Pn 18 45 28.2 -1.7
CESW Semis' Southwe 6.90 272 Pn 18 45 39.1 +1.3
AMKA Amchitka 7.14 268 Pn Pn 18 45 41.2 -0.1
CHGN Chignik 7.54 53 Pn Pn 18 45 47.9 +1.2
O14K Tigyukauivet M 8.34 30 Pn Pn 18 45 59.3 +1.7
M13K Dall Lake 8.82 19 Pn 18 46 06.3 +2.2
M14K Bethel 9.43 22 Pn Pn 18 46 13.9 +1.4
N15K Kwethluk River 9.43 29 Pn Pn 18 46 14.7 +2.1
O16K Kokwok River B 9.66 36 Pn Pn 18 46 17.2 +1.6
L14K Kuka Creek 9.80 19 Pn 18 46 19.2 +1.6
K13K Kusilvak Mount 10.03 13 Pn Pn 18 46 22.7 +2.1
SHEM Shemya Is, Ala 10.16 279 LR LR 18 49 52.3
comp=E,114nm,19.0s,baz=88,slow=36
M16K Timber Creek 10.45 29 Pn Pn 18 46 27.7 +1.1
OHAK Old Harbor 10.49 55 Pn Pn 18 46 25.7 -1.3
P18K Big Mountain, 10.64 42 Pn Pn 18 46 30.0 +0.9
N17K Nushagak Hills 10.64 34 Pn 18 46 29.6 +0.5
L16K Owhat River 10.87 25 Pn 18 46 34.1 +1.9
K15K Wolf Creek Mou 10.90 19 Pn Pn 18 46 35.3 +2.7
O18K Koktuh Hills 10.93 40 Pn Pn 18 46 33.7 +0.6
J14K Nanvaranak Lak 10.96 14 Pn Pn 18 46 34.9 +1.5
KDAK Kodiak Island 11.05 53 Pn Pn 18 46 32.5 -2.2
KDAK Kodiak Island 11.05 53 Pn Pn 18 46 32.7 -1.9
comp=E,0.6nm,0.3s,baz=199,slow=17,SNR=1.5
KDAK Sn Sn 18 48 32.1 -4.6
comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=2.0
Q19K Cape Douglas, 11.07 47 Pn Pn 18 46 33.6 -1.3
N18K Kilae Creek 11.21 36 Pn Pn 18 46 36.2 -0.6
M17K Holitna River 11.21 30 Pn Pn 18 46 38.6 +1.7
SYI Shuyak Island 11.49 50 Pn Pn 18 46 39.3 -1.4
P19K Oil Pt 11.63 44 Pn Pn 18 46 43.2 +0.6
N19K Bonanza Creek 11.81 38 Pn Pn 18 46 45.5 +0.3
J16K Anvik River 11.98 19 Pn Pn 18 46 47.4 +0.1
K17K Iditarod 12.02 25 Pn Pn 18 46 48.6 +0.7
L18K Granite Mounta 12.07 29 Pn Pn 18 46 49.6 +1.1
RSO Redoubt South 12.28 41 Pn 18 46 50.3 -1.4
J17K VABM Dome 12.40 22 Pn Pn 18 46 51.9 -1.2
CNPM China Poot 12.44 47 Pn Pn 18 46 52.1 -1.6
ANM Nome 12.52 8 Pn Pn 18 46 55.2 +0.5
M19K Big River Lodg 12.58 34 Pn Pn 18 46 55.7 +0.2
L19K White Mountain 12.62 32 Pn Pn 18 46 56.2 +0.1
BRLK Bradley Lake 12.71 46 Pn Pn 18 46 54.7 -2.7
TTA Tatalina 12.82 28 Pn 18 46 59.5 +0.6
M20K Styx River 13.01 36 Pn Pn 18 47 02.0 +0.5
J18K Innoko River 13.05 26 Pn 18 47 02.7 +0.8
O22K Cooper Landing 13.57 45 Pn 18 47 08.2 -0.8
G16K Koyuk River 13.65 12 Pn Pn 18 47 12.4 +2.3
SUA Susitna One 13.65 40 Pn Pn 18 47 10.2 -0.1
SKT Skwentna 13.66 38 Pn Pn 18 47 11.2 +0.9
F15K North Star Dit 13.70 8 Pn Pn 18 47 10.7 -0.2
K20K Telida 13.72 30 Pn Pn 18 47 12.0 +0.8
J19K Poorman 13.76 26 Pn Pn 18 47 12.3 +0.7
RC01 Rabbit Creek A 13.87 43 Pn Pn 18 47 11.8 -1.3
H18K Honhosa River 14.09 19 Pn 18 47 17.6 +1.5
J20K Nowinta River 14.31 28 Pn Pn 18 47 19.5 +0.4
CAST Castle Rocks 14.40 32 Pn 18 47 21.6 +1.4
GHO Glory Hole Cre 14.55 41 Pn Pn 18 47 21.0 -1.4
KNK Knik Glacier 14.56 43 Pn Pn 18 47 20.5 -1.9
F17K Baldwin Pennin 14.79 13 P 18 47 28.7 -1.8
SML Sawmill 14.81 42 Pn Pn 18 47 24.1 -1.7
H19K Roundabout Mou 14.82 21 Pn Pn 18 47 24.5 -1.4
KTH Kantishna Hill 14.87 33 Pn Pn 18 47 25.8 -0.8
GLI Glacier Island 14.90 46 Pn Pn 18 47 25.4 -1.5
HIN Hinchinbrook I 14.97 48 Pn Pn 18 47 25.3 -2.5
FID Port Fidalgo 15.12 47 Pn Pn 18 47 26.7 -3.1
FID IAmb IAmb 18 47 28.3
comp=Z,24nm,1.0s
BPAW Bear Paw Mtn. 15.22 32 Pn Pn 18 47 31.0 -0.1
BPAW IAmb IAmb 18 47 36.3
comp=Z,9.4nm,0.8s
SCM Sheep Creek Mo 15.24 42 Pn 18 47 29.0 -2.4
SCM IAmb IAmb 18 47 44.1
comp=Z,9.4nm,0.6s
RND Reindeer 15.51 36 Pn Pn 18 47 33.8 -1.1
RND IAmb IAmb 18 47 51.3
comp=Z,15nm,1.4s
KLU Klutina 15.68 45 Pn 18 47 34.4 -2.7
KLU IAmb IAmb 18 47 48.2
comp=Z,10nm,0.9s
I21K Tanana 15.69 28 P P 18 47 39.2 -1.3
F19K Shaleruckik Mo 15.70 17 P P 18 47 38.9 -1.7
E18K Tukpahlearik C 15.80 12 P P 18 47 41.6 -0.2
E18K IAmb IAmb 18 47 48.9
comp=Z,6.8nm,0.9s
RAGM Ragged Mountai 15.81 49 P Pn 18 47 37.5 -1.2
H21K Melozitna Rive 15.82 26 P P 18 47 41.9 -0.1
IMAR Indian Mountai 15.84 24 P P 18 47 41.1 -1.0
M24K Tolsona, Glenn 15.85 42 P Pn 18 47 37.9 -1.4
M24K IAmb IAmb 18 48 11.8
comp=Z,26nm,1.2s
DHY Denali Highway 15.86 38 P Pn 18 47 38.4 -1.1
MLY Manley 15.94 29 Pn 18 47 41.1 +0.7
MLY IAmb IAmb 18 47 45.4
comp=Z,8.4nm,1.0s
NEA2 Nenana 16.17 32 P Pn 18 47 43.1 -0.2
BERG Berg Lake 16.27 50 P Pn 18 47 42.6 -1.9
BERG IAmb IAmb 18 48 17.9
comp=Z,45nm,1.3s
F20K Avaraart Lake 16.28 19 P Pn 18 47 45.0 +0.4
N25K Chitina, Valde 16.30 45 P Pn 18 47 42.7 -2.3
N25K IAmb IAmb 18 48 26.4
comp=Z,9.5nm,1.2s
G21K Allakaket 16.32 23 P Pn 18 47 44.5 -0.7
E19K Redstone River 16.36 17 P Pn 18 47 45.9 +0.3
WRH Wood River Hil 16.42 34 P Pn 18 47 45.8 -0.6
I23K Minto, Yukon-K 16.45 31 P Pn 18 47 47.0 +0.2
I23K IAmb IAmb 18 48 16.7
comp=Z,11nm,1.4s
GLB Gilahina Butte 16.59 46 P Pn 18 47 46.5 -2.0
GLB IAmb IAmb 18 47 51.5
comp=Z,8.9nm,1.1s
VRDI Verde Repeater 16.67 47 P Pn 18 47 47.6 -2.1
VRDI IAmb IAmb 18 48 00.8
comp=Z,9.7nm,1.1s
MDM Murphy Dome 16.68 32 P Pn 18 47 47.8 -2.0
WAX Waxell Ridge 16.68 50 P Pn 18 47 48.2 -1.6
WAX IAmb IAmb 18 48 30.6
comp=Z,25nm,1.0s
HDA Harding Lake 16.78 35 P Pn 18 47 49.2 -1.7
H23K Yukon River 16.86 29 P Pn 18 47 52.0 0.0
H23K IAmb IAmb 18 48 19.2
comp=Z,12nm,1.4s
C18K Utukok River 16.90 10 P Pn 18 47 50.9 -1.6
C18K IAmb IAmb 18 48 26.0
comp=Z,20nm,1.4s
F21K Alatna River 16.90 21 P P 18 47 53.4 -0.6
MCARA McCarthy VSAT 16.91 47 P Pn 18 47 52.0 -0.7
MCARA IAmb IAmb 18 48 29.2
comp=Z,10nm,1.0s
ISLE Juniper Island 16.97 50 P Pn 18 47 51.5 -2.0
ISLE IAmb IAmb 18 48 29.3
comp=Z,12nm,1.0s
IL31 17.02 34 Pn 18 47 51.9 -1.9
ILAR Eielson Array 17.02 34 P Pn 18 47 54.2 +0.3
ILAR Eielson Array 17.02 34 Pn Pn 18 47 52.4 -1.5
comp=Z,0.2nm,0.3s,baz=225,slow=9.6,SNR=11
comp=Z,0.8nm,0.6s
MESA MESA 17.04 52 P Pn 18 47 53.4 -0.9
MESA IAmb IAmb 18 48 16.2
comp=Z,38nm,1.1s
D19K Kuna River 17.16 14 P Pn 18 47 54.6 -1.0
D19K IAmb IAmb 18 48 14.4
comp=Z,16nm,1.5s
MENT Mentasta 17.24 42 P Pn 18 47 55.0 -1.7
M26K Nabesna, AK 17.32 44 P Pn 18 47 55.6 -2.0
G23K Bananza Creek 17.36 26 P Pn 18 47 58.3 +0.1
H24K Noodor Dome 17.37 30 Pn 18 47 56.9 -1.4
BARN Barnard Glacie 17.43 49 P Pn 18 47 57.0 -2.2
BARN IAmb IAmb 18 48 11.2
comp=Z,16nm,1.3s
J25K Salcha River, 17.46 36 Pn 18 47 57.4 -2.0
C19K Lookout Ridge 17.52 12 P Pn 18 47 59.6 -0.6
C19K IAmb IAmb 18 48 32.6
comp=Z,22nm,1.4s
CTGM Chitina Glacie 17.55 49 P Pn 18 47 59.6 -1.1
CTGM IAmb IAmb 18 48 07.0
comp=Z,11nm,1.2s
SCRK Sand Creek 17.63 38 Pn Pn 18 48 00.3 -1.3
LOGN Logan Glacier 17.67 50 P Pn 18 48 01.2 -0.8
LOGN IAmb IAmb 18 48 28.9
comp=Z,10nm,0.9s
M27K Edge Creek, AK 17.78 45 P Pn 18 48 02.8 -0.7
J26L Joseph Creek 18.06 37 P Pn 18 48 05.3 -1.4
J26L IAmb IAmb 18 48 16.3
comp=Z,5.2nm,0.6s
G24K Hadweenzic Riv 18.07 28 P P 18 48 05.6 -1.3
G24K IAmb IAmb 18 48 22.4
comp=Z,10nm,1.4s
K27K Chicken 18.40 40 P P 18 48 09.0 -1.4
D22K Ayikyak River 18.45 19 P P 18 48 09.6 -1.4
I26K Coal Creek Min 18.63 35 P P 18 48 11.3 -1.6
I26K IAmb IAmb 18 48 21.6
comp=Z,5.0nm,0.5s
FYU Fort Yukon 18.66 31 PcP 18 52 37.3 -2.5
B21K Ikpikpuk River 18.73 16 P P 18 48 13.7 -0.2
B21K IAmb IAmb 18 48 51.2
comp=Z,14nm,1.4s
E24K Your Creek 18.77 24 P P 18 48 13.8 -0.7
TOLK Toolik Lake Re 18.93 22 P P 18 48 15.8 -0.6
TOLK IAmb IAmb 18 48 32.8
comp=Z,7.1nm,1.2s
P29M Windy Craggy 18.99 55 P 18 48 16.9 -0.2
P29M IAmb IAmb 18 48 30.2
comp=Z,10nm,0.8s
EGAK Eagle 19.10 38 P P 18 48 16.8 -1.3
M29M Somme Creek 19.30 46 P P 18 48 20.2 -0.3
M29M IAmb IAmb 18 48 25.1
comp=Z,4.1nm,0.7s
HYT Haines Junctio 19.33 51 P Pn 18 48 21.5 -0.6
HYT IAmb IAmb 18 48 28.4
comp=Z,11nm,0.6s
PET Petropavlovsk 19.41 285 P 18 48 21.1 -0.4
D24K Happy Valley 19.50 22 P P 18 48 22.7 +0.2
E25K Arctic Village 19.58 27 P P 18 48 22.5 -0.8
C23K Itkillik River 19.66 19 P P 18 48 24.6 +0.4
C23K IAmb IAmb 18 48 32.3
comp=Z,5.3nm,0.9s
L29M L29M 19.66 44 P P 18 48 23.9 -0.5
L29M IAmb IAmb 18 49 02.8
comp=Z,5.7nm,0.9s
N30M Aishikik Lake 19.66 49 P P 18 48 24.6 +0.2
N30M IAmb IAmb 18 48 29.0
comp=Z,16nm,0.8s
BILL Bilibino 19.74 333 P 18 48 24.4 -0.6
BILL IAmb IAmb 18 48 48.0
comp=Z,6.5nm,0.9s
I28M Miner Creek 19.87 37 P P 18 48 25.2 -1.4
I28M IAmb IAmb 18 48 33.7
comp=Z,11nm,1.2s
PEA0B Petropavlovsk- 19.95 286 P 18 48 27.5 -0.1
PETK Petropavlovsk- 19.95 286 P P 18 48 26.8 -0.8
PETK Petropavlovsk- 19.95 286 P P 18 48 26.9 -0.6
comp=Z,5.3nm,0.3s,baz=85,slow=13,SNR=172
comp=Z,15nm,0.4s
G27K Doyon Strip 19.96 33 P P 18 48 25.7 -1.8
O30N Mendenhall 20.00 52 P P 18 48 27.0 -1.0
K29M Barlow Dome 20.17 43 P P 18 48 28.5 -1.4
SKAG Skagway 20.19 56 P P 18 48 29.2 -0.8
D25K Kavik River 20.21 24 P P 18 48 29.1 -1.1
D25K IAmb IAmb 18 48 35.8
comp=Z,5.8nm,0.9s
N31M Braeburn, Yuko 20.28 50 P P 18 48 29.5 -1.6
N31M IAmb IAmb 18 48 48.7
comp=Z,8.8nm,0.8s
WHY Whitehorse 20.57 52 P P 18 48 34.7 +0.5
WHY IAmb IAmb 18 48 40.0
comp=Z,12nm,0.8s
E27K Coleen River 20.77 29 P P 18 48 34.4 -1.9
J30M Hart River 20.91 41 P P 18 48 36.4 -1.6
J30M IAmb IAmb 18 48 45.2
comp=Z,7.4nm,1.4s
M31M Drury Creek, Y 21.08 48 IAmb IAmb 18 49 10.1
comp=Z,8.0nm,1.1s
I30M Mount Dempster 21.13 39 P P 18 48 38.6 -1.7
EPYK Eagle Plains 21.46 36 P P 18 48 42.4 -1.3
EPYK IAmb IAmb 18 48 48.8
comp=Z,10nm,0.9s
N32M Quiet Lake 21.51 51 P P 18 48 43.8 -0.4
P33M Teslin, Yukon 21.52 54 IAmb IAmb 18 48 51.6
comp=Z,7.5nm,0.9s
FARO Faro, Yukon 21.56 48 IAmb IAmb 18 49 01.5
comp=Z,6.0nm,1.0s
D27M Malcolm River 21.59 27 IAmb IAmb 18 48 49.0
comp=Z,4.0nm,0.6s
E28M Babbage River 21.64 30 P P 18 48 44.1 -1.5
E29M Blow River 22.02 31 IAmb IAmb 18 48 52.5
comp=Z,3.1nm,0.7s
H31M Peel River 22.13 39 IAmb IAmb 18 49 06.6
comp=Z,4.7nm,0.9s
G31M Satah River 22.58 36 IAmb IAmb 18 49 11.5
comp=Z,4.4nm,0.8s
MMPY Sheldon Lake, 22.59 48 P P 18 48 54.3 -1.5
MMPY IAmb IAmb 18 49 00.7
comp=Z,4.9nm,1.1s
F31M Tsiigehtchic 22.98 35 IAmb IAmb 18 49 00.8
comp=Z,3.1nm,0.8s
MA2 Magadan 23.26 304 P P 18 49 00.8 -1.8
MA2 IAmb IAmb 18 49 04.7
comp=Z,7.0nm,0.8s
INK Inuvik 23.41 33 P P 18 49 01.8 -2.2
INK IAmb IAmb 18 49 05.1
comp=Z,3.5nm,0.7s
WRGLY Wrigley 26.20 47 P P 18 49 30.5 +1.0
WRGLY IAmb IAmb 18 50 05.2
comp=Z,8.0nm,1.0s
C36M Paulatuk 26.99 34 IAmb IAmb 18 49 47.0
comp=Z,1.7nm,0.5s
YKA Yellowknife Ar 30.27 49 P P 18 50 06.2 +0.4
YKA Yellowknife Ar 30.27 49 P P 18 50 07.4 +1.5
comp=Z,0.9nm,0.6s,baz=278,slow=10,SNR=22
YKA PcP PcP 18 53 06.0 +0.8
comp=Z,0.3nm,0.8s,baz=293,slow=3.0,SNR=4.4
comp=Z,0.9nm,0.6s
JKA Kamikawa-asahi 32.58 275 P P 18 50 28.0 +1.7
LYMT Lyon Mountain 36.47 75 P P 18 50 59.8 -0.4
H11N2 WAKE ISLAND Hy 37.40 219 T T 19 32 07.3
baz=24
H11N3 WAKE ISLAND Hy 37.40 219 T T 19 31 40.9
baz=24
H11N1 WAKE ISLAND Hy 37.42 219 T T 19 31 10.6
baz=24
HEH HeiHe 38.56 293 eP P 18 51 15.8 -1.7
HEH pmax pmax
comp=Z,6.0nm,0.8s
H11S1 WAKE ISLAND Hy 38.59 218 T T 19 32 29.7
baz=22,slow=76,SNR=83
H11S2 WAKE ISLAND Hy 38.60 218 T T 19 32 30.5
baz=22,slow=76,SNR=117
H11S3 WAKE ISLAND Hy 38.60 218 T T 19 32 32.1
baz=22,slow=76,SNR=74
USRK Ussuriysk Ar. 38.98 282 P P 18 51 20.2 -0.9
comp=Z,1.6nm,0.7s,baz=60,slow=10.0,SNR=2.0
comp=Z,1.6nm,0.7s
MJAR Matsushiro Arr 39.76 268 P P 18 51 27.7 0.0
comp=Z,1.3nm,0.7s,baz=50,slow=6.6,SNR=9.2
comp=Z,1.3nm,0.7s
PD31 Pinedale Array 40.36 79 P P 18 51 33.0 +0.1
PD31 IAmb IAmb 18 51 57.0
comp=Z,6.2nm,1.5s
PDAR Pinedale Array 40.36 79 P P 18 51 32.3 -0.6
PDAR Pinedale Array 40.36 79 P P 18 51 34.1 +1.2
comp=Z,1.1nm,0.7s,baz=307,slow=3.9,SNR=12
comp=Z,1.1nm,0.7s
BNX BinXian 40.87 287 ⇓P P 18 51 35.6 -1.1
BNX pmax pmax
comp=Z,7.0nm,0.7s
NEEM North Greenlan 45.09 16 i P P 18 52 11.2 +0.3
NEEM IAmb IAmb 18 52 12.5
comp=Z,2.5nm,0.6s
KSRS Korea Array 45.48 277 P P 18 52 15.4 +1.4
comp=Z,1.7nm,0.6s,baz=55,slow=8.0,SNR=11
comp=Z,1.7nm,0.6s
SPITS Spitsbergen Ar 49.79 358 P P 18 52 47.2 +0.1
comp=Z,1.2nm,0.3s,baz=48,slow=6.8,SNR=44
comp=Z,1.2nm,0.3s
DAG Danmarks Havn 49.90 8 i P P 18 52 47.1 -0.7
DAG IAmb IAmb 18 52 48.7
comp=Z,4.0nm,0.8s
SUMG Summit 50.88 17 P P 18 52 55.0 -0.7
SUMG Summit 50.88 17 i P P 18 52 55.7 0.0
SUMG IAmb IAmb 18 52 57.6
comp=Z,5.3nm,0.7s
ULN Ulaanbaatar 51.05 301 P P 18 52 56.3 -0.8
ULN IAmb IAmb 18 52 58.0
comp=Z,5.0nm,1.1s
SONM Songino Array 51.42 301 P P 18 53 00.7 +0.9
comp=Z,1.0nm,0.4s,baz=49,slow=6.5,SNR=9.8
SONM PcP PcP 18 54 16.7 +2.9
comp=Z,0.6nm,0.6s,baz=54,slow=1.6,SNR=2.6
comp=Z,1.0nm,0.4s
WMOK Wichita Mounta 51.94 80 P P 18 53 03.0 -0.7
WMOK IAmb IAmb 18 53 06.0
comp=Z,2.8nm,0.8s
DBG Daneborg 52.02 10 i P P 18 53 03.3 -0.5
TXAR Lajitas Array 52.69 89 P P 18 53 10.4 +1.0
comp=Z,0.7nm,0.6s,baz=299,slow=5.2,SNR=4.9
comp=Z,0.7nm,0.6s
ICESG Greenland Ices 53.46 20 i P P 18 53 14.6 -0.3
ICESG IAmb IAmb 18 53 16.0
comp=Z,9.4nm,0.9s
DY2G Dye2 53.99 25 i P P 18 53 19.6 +1.0
SCHQ Schefferville 55.48 43 P P 18 53 29.2 -0.1
SCHQ Schefferville 55.48 43 P P 18 53 29.9 +0.5
comp=Z,5.3nm,0.9s,baz=316,slow=9.0,SNR=7.8
comp=Z,5.3nm,0.9s
ZALV Zalesovo Beam 57.56 318 P P 18 53 43.6 -0.4
comp=Z,0.8nm,0.5s,baz=39,slow=5.9,SNR=4.8
ZALV PcP PcP 18 54 38.2 +1.2
comp=Z,1.1nm,0.5s,baz=28,slow=6.7,SNR=3.8
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 58.05 354 P P 18 53 46.7 -0.6
comp=Z,1.2nm,0.5s,baz=20,slow=8.7,SNR=19
comp=Z,1.2nm,0.5s
GTA Gaotai 60.59 297 P P 18 54 05.8 +0.3
GTA pmax pmax
comp=Z,3.0nm,0.9s
ENH Enshi 61.54 283 P P 18 54 11.6 -0.3
HODGE Hodges 62.08 69 P P 18 54 12.1 -3.3
KURK Kurchatov 62.51 318 P P 18 54 17.5 -0.5
KURBB Kurchatov Arra 62.62 318 P P 18 54 19.2 +0.5
comp=Z,2.2nm,0.7s,baz=45,slow=7.2,SNR=24
comp=Z,2.2nm,0.7s
LMN Caledonia Moun 62.82 50 P P 18 54 20.5 +0.3
BVAR Borovoye Array 63.84 324 P P 18 54 27.0 +0.2
comp=Z,4.5nm,0.5s,baz=52,slow=6.5,SNR=60
comp=Z,4.5nm,0.5s
BRVK Borovoye 63.85 325 P P 18 54 26.5 -0.4
BRVK IAmb IAmb 18 54 28.4
comp=Z,2.1nm,0.7s
MKAR Makanchi Array 63.94 313 P P 18 54 26.6 -1.0
MKAR Makanchi Array 63.94 313 P P 18 54 27.0 -0.6
comp=Z,1.3nm,0.7s,baz=54,slow=7.4,SNR=11
comp=Z,1.3nm,0.7s
MAKZ Makanchi 64.06 314 P P 18 54 27.5 -0.9
MAKZ IAmb IAmb 18 54 52.7
comp=Z,4.6nm,1.1s
FIA1 FINESS Array S 66.00 352 P P 18 54 39.2 -1.5
FINES FINESS Array B 66.00 352 P P 18 54 39.8 -0.9
FINES FINESS Array B 66.00 352 P P 18 54 40.6 0.0
comp=Z,3.4nm,0.7s,baz=16,slow=8.9,SNR=28
comp=Z,3.4nm,0.7s
NC204 NORSAR Array S 66.83 360 P P 18 54 45.9 -0.2
NB201 NORSAR Array S 67.05 360 P P 18 54 47.9 +0.4
NB2 NORSAR Subarra 67.06 360 P P 18 54 48.1 +0.5
comp=Z,1.2nm,0.5s,baz=359,slow=6.2
NOA NORSAR Array B 67.06 360 P P 18 54 47.8 +0.2
comp=Z,1.9nm,0.7s,baz=0.2,slow=6.3,SNR=10
comp=Z,1.9nm,0.7s
HFS Hagfors 67.95 358 P P 18 54 53.3 +0.2
comp=Z,4.7nm,0.5s,baz=35,slow=3.6,SNR=42
comp=Z,4.7nm,0.5s
KONO Kongsberg 68.45 1 P P 18 54 56.9 +0.6
KMI Kunming 69.36 285 ⇑P P 18 55 04.0 +1.3
KMI pmax pmax
comp=Z,8.0nm,0.7s
ABKAR Akbulak array 70.57 328 P P 18 55 09.2 -0.3
ABKAR Akbulak array 70.57 328 P P 18 55 09.5 0.0
ABKAR IAmb IAmb 18 55 10.9
comp=Z,3.0nm,0.9s
AAK Ala-Archa 70.63 315 P P 18 55 11.0 +0.8
comp=Z,2.9nm,0.4s,baz=77,slow=4.4,SNR=1.9
comp=Z,2.9nm,0.4s
SLVN Son La 71.52 281 P P 18 55 16.4 +0.6
EKA Eskdalemuir Ar 72.17 8 P P 18 55 19.9 +0.9
comp=Z,1.0nm,0.3s,baz=357,slow=5.0,SNR=8.1
comp=Z,1.0nm,0.3s
CRAI Chiangrai 74.49 283 P P 18 55 33.9 +0.6
SHL Shillong 75.34 293 P 18 55 37.7 -0.6
SHL IAmb IAmb 18 55 39.0
comp=Z,4.0nm,0.7s
PHRA Phrae 75.90 282 P P 18 55 41.1 -0.2
AKASG Malin Array Be 76.24 348 P P 18 55 42.9 +0.1
comp=Z,3.1nm,0.5s,baz=14,slow=5.6,SNR=7.2
comp=Z,3.1nm,0.5s
AKBB Malin Array Si 76.24 348 P P 18 55 42.2 -0.6
KIEV Kiev 76.25 348 P P 18 55 42.0 -0.9
CM31 Chiang Mai Arr 76.71 283 P P 18 55 45.8 -0.2
CMAR Chiang Mai Arr 76.71 283 P P 18 55 45.3 -0.7
CMAR Chiang Mai Arr 76.71 283 P P 18 55 47.0 +1.0
comp=Z,2.8nm,0.7s,baz=23,slow=6.0,SNR=25
comp=Z,2.8nm,0.7s
MORC Moravsky Berou 78.19 355 eP P 18 55 54.7 +0.9
GRA1 Grafenberg Arr 78.44 360 P P 18 55 56.4 +1.2
GRFO Grafenberg 78.44 360 P P 18 55 55.9 +0.7
VRAC Vranov 78.70 356 eP P 18 55 57.9 +1.3
LANS Liptovska Anna 78.71 354 eP P 18 55 58.8 +2.1
JAVC Velka Javorina 79.10 355 eP P 18 56 00.8 +1.9
GERES GERESS Array B 79.25 358 P P 18 56 00.5 +0.7
GERES GERESS Array B 79.25 358 P P 18 56 01.0 +1.3
comp=Z,1.0nm,0.6s,baz=1.1,slow=6.7,SNR=6.5
comp=Z,1.0nm,0.6s
VYHS Vyhne 79.40 355 eP P 18 56 01.8 +1.3
MODS Modra-Piesok 79.60 356 eP P 18 56 03.6 +2.0
BUR08 Bucovina Ar. S 79.72 350 P P 18 56 02.8 +0.5
BUR08 IAmb IAmb 18 56 38.4
comp=Z,4.8nm,1.5s
BURAR Bucovina Array 79.75 350 P P 18 56 02.6 +0.1
BURAR IAmb IAmb 18 56 04.1
comp=Z,5.1nm,1.5s
CONA Conrad Observa 80.11 357 epP P 18 56 06.2 +1.8
comp=Z,3.1nm,0.7s
MOA Molln 80.24 358 epP P 18 56 06.1 +1.1
comp=Z,1.3nm,0.7s
RONA Rosalia, Austr 80.32 356 epP P 18 56 06.9 +1.4
comp=Z,1.4nm,0.7s
KBZ Khabaz 80.45 337 P P 18 56 07.8 +1.6
comp=Z,3.9nm,1.0s,baz=76,slow=4.2,SNR=7.5
comp=Z,3.9nm,1.0s
MOTA Moosalm 80.79 360 epP P 18 56 10.4 +2.2
comp=Z,4.2nm,1.0s
WATA Walderalm 80.79 359 epP P 18 56 09.6 +1.4
comp=Z,1.6nm,0.5s
ARSA Arzberg 80.80 357 epP P 18 56 09.9 +1.9
comp=Z,3.2nm,0.7s
WTTA Wattenberg 80.86 359 epP P 18 56 10.4 +1.8
comp=Z,2.5nm,0.7s
SQTA Sankt Quirin 80.91 360 epP P 18 56 10.4 +1.7
comp=Z,5.1nm,0.8s
KBA Koelnbreinsper 81.03 358 epP P 18 56 11.4 +1.9
comp=Z,4.5nm,0.5s
FETA Feichten 81.11 0 epP P 18 56 11.7 +1.8
comp=Z,2.2nm,0.7s
ABTA Abfaltersbach 81.37 359 epP P 18 56 13.4 +2.2
comp=Z,4.4nm,1.3s
SOKA Soboth 81.39 357 i pP P 18 56 13.0 +1.7
comp=Z,5.6nm,0.9s
FUORN Ofenpass-Fuorn 81.51 0 P P 18 56 13.9 +1.8
FUORN IAmb IAmb 18 56 22.6
comp=Z,4.6nm,1.1s
OBKA Obir 81.57 357 epP P 18 56 14.1 +1.9
comp=Z,2.7nm,0.8s
TEOL Teolo 82.77 359 P P 18 56 19.4 +1.0
BNI Bardonecchia 83.02 3 P P 18 56 21.8 +1.9
NRCA Norcia 85.28 358 P P 18 56 31.9 +0.6
BRTR Keskin Array B 86.26 342 P P 18 56 36.9 +0.5
comp=Z,0.5nm,0.8s,baz=67,slow=3.4,SNR=4.2
comp=Z,0.5nm,0.8s
ESDC Sonseca Array 87.56 11 P P 18 56 43.1 +0.6
comp=Z,1.7nm,0.8s,baz=338,slow=4.9,SNR=9.4
comp=Z,1.7nm,0.8s
ASAR Alice Springs 90.36 230 P P 18 56 56.4 +0.7
comp=Z,0.5nm,0.7s,baz=31,slow=4.3,SNR=4.8
comp=Z,0.5nm,0.7s
H03N2 Juan Fernandez 115.82 112 T T 21 09 37.8
baz=309
H03N1 Juan Fernandez 115.83 112 T T 21 09 43.4
baz=309,slow=74
H03N3 Juan Fernandez 115.84 112 T T 21 09 38.8
baz=309,slow=74

NEIC ***01*** *18:51:50.6±2.1, 36.41N±0.07×71.5E±0.1, h86km±11km,*

mb4.0/6,Error ellipse: s-maj=12.5km s-min=9.8km az=108.0

*IDC **01** 18:51:50.9±4.8,36˚.42N×71˚.34E,h81$^{km}_{\pm}$30^{km},mb3.4/7, mbtmp3.8/13,Error ellipse: s-maj=56.0km s-min=22.5km az=144.0*

*NNC **01** 18:51:53.7±4.0,36˚.72N×70˚.95E,h103$^{km}_{\pm}$86^{km},mb3.4, mpv3.9,Error ellipse: s-maj=29.9km s-min=26.5km az=172.0*

ISC 01 18:51:51.7±0.6,**36˚.41N**±0˚.05×**71˚.42E**±0˚.06,**h114**km,**n54,** σ2**s01**/69,**mb3.8**/8,**8C-3D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.69**	**227**			**Pn**		**18 52 34.3**	**+0.4**
SIMJ	**Simiganj**	**2.95**	**320**			**Pn**		**18 52 35.2**	**-2.1**
SIMJ					Sn	**Sn**		**18 53 06.8**	**-5.5**
DRK	**Karamyk**	**3.08**	**6**			**Pn**		**18 52 39.1**	**0.0**
DRK					Sn	**Sn**		**18 53 15.4**	**-0.2**
BTK	**Batken**	**3.67**	**353**	Pn		**Pn**		**18 52 47.3**	**+0.6**
BTK					Sn	**Sn**		**18 53 26.4**	**-3.0**
JMU	**Jammu**	**4.67**	**141**	*eP*		**Pn**		**18 53 00.4**	**+0.3**
JMU				*eS*		**Sn**		**18 53 51.6**	**-1.7**
ARSB	**Arslanbob**	**5.06**	**14**			**Pn**		**18 53 03.8**	**-1.6**
ARSB					Sn	**Sn**		**18 54 00.1**	**-2.6**
THN	**Thein Dam**	**5.33**	**137**	*eP*		**Pn**		**18 53 10.3**	**+1.3**
THN				*eS*		**Sn**		**18 54 08.3**	**-0.8**
DHRM	**DHARAMSHALA**	**5.79**	**134**	*eP*		**Pn**		**18 53 15.3**	**-0.2**
DHRM				*eS*		**Sn**		**18 54 17.8**	**-3.0**
DHRM					IAML			18 54 23.8	
	comp=N,84nm,0.4s								
DHRM					IAML			18 54 24.1	
	comp=E,120nm,0.5s								
UCH	**Uchtor**	**6.29**	**22**	P		**Pn**		**18 53 22.7**	**+0.5**
	SNR=17								
BHK	**Bhakra**	**6.49**	**139**	*eS*		**Sn**		**18 54 35.6**	**-1.7**
BHK					IAML			18 54 38.5	
	comp=N,54nm,0.2s								
BHK					IAML			18 54 38.7	
	comp=E,56nm,0.3s								
EKS2	**Erkin-Say**	**6.50**	**16**	P		**Pn**		**18 53 25.3**	**+0.4**
	SNR=14								
AAK	**Ala-Archa**	**6.66**	**20**	P		**Pn**		**18 53 27.9**	**+0.8**
	SNR=16								
AAK	**Ala-Archa**	**6.66**	**20**	⇓P		**Pn**		**18 53 27.4**	**+0.3**
	comp=E,4.7nm,0.4s								
AAK				⇓S		**Sn**		**18 54 39.6**	**-2.0**
	comp=E,11nm,0.8s								
AAK	**Ala-Archa**	**6.66**	**20**			**Pn**		**18 53 27.7**	**+0.6**
AAK					Sn	**Sn**		**18 54 37.9**	**-3.6**
AAK	**Ala-Archa**	**6.66**	**20**	P		**Pn**		**18 53 27.6**	**+0.5**
	comp=E,8.9nm,0.3s,baz=163,slow=6.5,SNR=42								
AAK				S		**Sn**		**18 54 40.3**	**-1.2**
	comp=E,4.8nm,0.7s,baz=331,slow=22,SNR=10								
KK31	**Karatay Array**	**6.72**	**354**	⇑P		**Pn**		**18 53 26.4**	**-1.4**
	comp=E,11nm,0.5s,baz=178,slow=13,SNR=82								
KK31				⇑S		**Sn**		**18 54 39.4**	**-3.4**
	comp=E,4.8nm,0.5s,baz=178,slow=22,SNR=5.9								
KK31	**Karatay Array**	**6.72**	**354**			**Pn**		**18 53 26.7**	**-1.0**
KKAR	**Karatay Array**	**6.72**	**354**			**Pn**		**18 53 26.7**	**-1.1**
KKAR					Sn	**Sn**		**18 54 36.8**	**-6.1**
KBK	**Karagaybulak**	**6.81**	**23**	P		**Pn**		**18 53 29.9**	**+0.8**
	SNR=5.7								
FRU1	**Bishkek**	**6.86**	**20**			**Pn**		**18 53 27.8**	**-1.8**
BOOM	**Boomskoye usch**	**7.01**	**29**	Pn		**Pn**		**18 53 30.2**	**-1.6**
CHMS	**Chumysh**	**7.06**	**20**	P		**Pn**		**18 53 32.7**	**+0.2**
	SNR=12								
CHMS	**Chumysh**	**7.06**	**20**	⇑P		**Pn**		**18 53 31.5**	**-0.9**
	comp=E,2.5nm,0.3s								
CHMS				⇑S		**Sn**		**18 54 50.4**	**-0.7**
	comp=E,5.9nm,0.7s								
SMLA	**Simla**	**7.12**	**136**	*eP*		**Pn**		**18 53 33.0**	**-0.1**
SMLA				*eS*		**Sn**		**18 54 49.0**	**-3.5**
SMLA					IAML			18 54 52.5	
	comp=E,41nm,0.3s								
SMLA					IAML			18 54 57.3	
	comp=N,37nm,0.4s								
USP	**Ospenovka**	**7.25**	**18**	P		**Pn**		**18 53 34.5**	**-0.4**
	SNR=7.7								
TKM2	**Tokmak 2**	**7.26**	**25**	P		**Pn**		**18 53 35.8**	**+0.6**
	SNR=17								
TKM2	**Tokmak 2**	**7.26**	**25**	⇑P		**Pn**		**18 53 34.8**	**-0.4**
	comp=N,2.1nm,0.5s								
TKM2				⇑S		**Sn**		**18 54 56.1**	**0.0**
	comp=N,2.7nm,0.7s								
TARG	**Taragay, Kyrgy**	**7.27**	**41**	Pn		**Pn**		**18 53 33.0**	**-2.6**
HRA	**Herat**	**7.76**	**258**	Pn		**Pn**		**18 53 41.0**	**-1.0**
LGTI	**Lohaghat**	**10.16**	**131**	*eP*		**Pn**		**18 54 13.0**	**-1.3**
LGTI				*eS*		Sn		18 55 56.7	-10
LGTI					IAML			18 55 60.0	
	comp=E,7.0nm,0.0s								
LGTI					IAML			18 56 00.9	
	comp=N,5.6nm,0.6s								
GEYT	**Alibeck**	**10.72**	**282**	Pn		**Pn**		**18 54 20.0**	**-2.0**
GEYT	**Alibeck**	**10.72**	**282**	P		**Pn**		**18 54 20.9**	**-1.1**
	comp=N,1.1nm,0.3s,baz=94,slow=10,SNR=2.8								
GEYT				S		Sn		18 56 10.7	-9.3
	comp=N,0.8nm,0.3s,baz=79,slow=15,SNR=3.5								
MAKZ	**Makanchi**	**13.04**	**34**	Pn		**Pn**		**18 54 50.8**	**-1.7**
MKAR	**Makanchi Array**	**13.17**	**35**	P		**Pn**		**18 54 55.8**	**+1.6**
	comp=N,0.4nm,0.5s,baz=215,slow=12,SNR=3.5								
KURBB	**Kurchatov Arra**	**15.10**	**18**	P		**P**		**18 55 20.9**	**-0.4**
	comp=N,1.3nm,0.8s,baz=207,slow=10,SNR=9.0								
AB31	**Akbulak array**	**15.32**	**330**	⇑P		**Pn**		**18 55 18.4**	**-3.3**
	comp=N,0.6nm,0.3s,baz=170,slow=10.0,SNR=16								
AB31				S		Sn		18 58 00.0	-11
	comp=N,0.7nm,0.5s,baz=152,slow=23,SNR=4.8								
ABKAR	**Akbulak array**	**15.32**	**330**	Pn		**Pn**		**18 55 19.5**	**-2.2**
ABKAR	**Akbulak array**	**15.32**	**330**	Pn		**Pn**		**18 55 19.1**	**-2.6**
ABKAR					IAmb	IAmb		18 55 27.8	
	comp=Z,1.9nm,0.7s								
BVAR	**Borovoye Array**	**16.63**	**358**	P		**Pn**		**18 55 37.6**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=152,slow=16,SNR=2.3								
BRVK	**Borovoye**	**16.66**	**358**	P		**Pn**		**18 55 37.7**	**-0.5**
AKTO	**Aktyubinsk**	**17.03**	**330**	⇓P		**P**		**18 55 43.0**	**+0.4**
	comp=Z,1.3nm,0.5s								
AKTO				⇑S		Sn		18 58 40.3	-12
	comp=Z,0.6nm,0.8s								
ZAA0	**Zalesovo Array**	**19.86**	**24**	P		**P**		**18 56 12.8**	**-0.7**
ZAA0					IAmb	IAmb		18 56 15.1	
	comp=Z,6.1nm,0.4s								
ZALV	**Zalesovo Beam**	**19.86**	**24**	P		**P**		**18 56 13.2**	**-0.3**
ZALV	**Zalesovo Beam**	**19.86**	**24**	P		**P**		**18 56 14.0**	**+0.5**
	comp=Z,6.7nm,0.4s,baz=211,slow=10,SNR=36								
FINES	**FINESS Array B**	**37.74**	**326**	P		**P**		**18 58 58.2**	**+2.1**
	comp=Z,1.3nm,0.8s,baz=128,slow=8.5,SNR=7.5								
	comp=Z,1.3nm,0.8s								
ARCES	**ARCESS Array B**	**41.35**	**338**	P		**P**		**18 59 28.1**	**+2.2**
	comp=Z,1.4nm,0.9s,baz=110,slow=10,SNR=3.7								
	comp=Z,1.4nm,0.9s								
HFS	**Hagfors**	**43.34**	**322**	P		**P**		**18 59 44.3**	**+2.1**
	comp=Z,1.7nm,0.7s,baz=103,slow=13,SNR=5.4								
	comp=Z,1.7nm,0.7s								
NB2	**NORSAR Subarra**	**44.65**	**323**	P		**P**		**18 59 54.8**	**+2.2**
	comp=Z,0.5nm,0.5s,baz=97,slow=7.9								
NOA	**NORSAR Array B**	**44.65**	**323**	P		**P**		**18 59 55.0**	**+2.4**
	comp=Z,0.4nm,0.5s,baz=97,slow=7.8,SNR=4.0								
	comp=Z,0.4nm,0.5s								
NBO00	**NORSAR Array S**	**44.86**	**323**	P		**P**		**18 59 56.8**	**+2.5**
NC204	**NORSAR Array S**	**44.89**	**323**	P		**P**		**18 59 56.6**	**+2.1**
NC204					IAmb	IAmb		19 00 15.3	
	comp=Z,10nm,1.1s								
SPITS	**Spitsbergen Ar**	**47.66**	**347**	P		**P**		**19 00 18.5**	**+2.6**
	comp=Z,3.4nm,1.0s,baz=350,slow=9.3,SNR=7.3								
	comp=Z,3.4nm,1.0s								
TORD	**Torodi Ar. Bea**	**66.05**	**269**	P		**P**		**19 02 27.9**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=44,slow=6.3,SNR=1.8								
	comp=Z,0.2nm,0.4s								
YKA	**Yellowknife Ar**	**81.32**	**3**	P		**P**		**19 03 58.8**	**+3.8**
	comp=Z,0.1nm,0.3s,baz=72,slow=16,SNR=1.9								
	comp=Z,0.1nm,0.3s								

*IDC **01** 19:07:25.7±6.8,13˚.29N×91˚.25W,h76$^{km}_{\pm}$41^{km},mb3.3/5, mbtmp3.6/6,ML4.1/1,Error ellipse: s-maj=65.2km s-min=39.0km az=154.0*

*GCG **01** 19:07:25.5±0.8,13˚.97N×91˚.88W,h84$^{km}_{\pm}$19^{km},MD4.1*

*CATAC **01** 19:07:27.6±2.0,13˚.69N×91˚.64W,h23$^{km}_{\pm}$29^{km},ML3.9*

*SNET **01** 19:07:28.3±1.4,13˚.90N×91˚.50W,h103$^{km}_{\pm}$58^{km},ML3.6*

ISC 01 19:07:26.2±2.3,**13˚.72N**±0˚.09×**91˚.8W**±0˚.1,**h55**km±19km, **n42,**σ1s**03**/47,**mb3.7**/5,**Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.63**	**22**	*eP*		**Pn**		**19 07 39.4**	**+0.1**
STG3	**Santiaguito 3,**	**1.01**	**13**	*eP*		**Pn**		**19 07 43.2**	**-1.3**
FUG	**Fuego 3**	**1.18**	**52**	*eP*		**Pn**		**19 07 46.1**	**-0.5**
PCG	**Pacaya**	**1.34**	**60**	*eP*		**Pn**		**19 07 49.3**	**+0.5**
NBG	**Las Nubes**	**1.66**	**58**	*eP*		**Pn**		**19 07 54.0**	**+0.8**
NBG					*eS*	**Sn**		**19 08 15.4**	**+1.8**
APG	**El Apazote**	**1.82**	**45**	P		**Pn**		**19 07 55.8**	**+0.4**
	14nm,0.3s,baz=136,slow=10,SNR=205								
APG					S	**Sn**		**19 08 19.4**	**+1.9**
	17nm,0.2s,baz=234,slow=22,SNR=13								
NUBE	**Las Nubes**	**1.97**	**84**	*i* P		**Pn**		**19 07 56.8**	**-0.6**
NUBE					IAML			19 08 26.3	
	comp=Z,590nm,1.0s								
LOAL	**Lomas de Alarc**	**1.98**	**82**	*i* P		**Pn**		**19 07 57.7**	**+0.3**
LOAL					IAML			19 08 25.5	
	comp=Z,2μm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.98**	**81**	*eP*		**Pn**		**19 07 58.0**	**+0.6**
SLOZ				*eS*		**Sn**		**19 08 19.5**	**-1.7**
CEVE	**Cerro Verde**	**2.12**	**87**	*eP*		**Pn**		**19 07 59.7**	**+0.3**
CEVE				*eS*		**Sn**		**19 08 23.6**	**-1.3**
CEVE	**Cerro Verde**	**2.12**	**87**	*i* P		**Pn**		**19 07 59.8**	**+0.3**
CEVE				*i* S		**Sn**		**19 08 24.8**	**0.0**
CEVE					IAML			19 08 28.9	
	comp=Z,1μm,1.0s								
SNJE	**San Jose**	**2.14**	**86**	*eP*		**Pn**		**19 07 59.9**	**+0.2**
SNJE				*eS*		**Sn**		**19 08 24.8**	**-0.5**
SNJE					IAML			19 08 37.1	
	comp=Z,428nm,0.5s								
UNIC	**Universidad Ca**	**2.21**	**83**	*i* P		**Pn**		**19 08 00.6**	**+0.1**
UNIC				*i* S		**Sn**		**19 08 26.7**	**0.0**
UNIC					IAML			19 08 34.4	
	comp=Z,310nm,1.0s								
JAYA	**Jayaque - finc**	**2.29**	**91**	*eP*		**Pn**		**19 08 00.6**	**-1.1**
JAYA				*eS*		**Sn**		**19 08 28.2**	**-0.6**
JAYA	**Jayaque - finc**	**2.29**	**91**	*i* P		**Pn**		**19 08 00.6**	**-1.1**
JAYA				*i* S		**Sn**		**19 08 28.4**	**-0.4**
JAYA					IAML			19 08 32.7	
	comp=Z,2μm,1.0s								
PMON	**Piamonte**	**2.42**	**90**	*eP*		**Pn**		**19 08 03.3**	**-0.1**
PMON				*eS*		**Sn**		**19 08 30.6**	**-1.4**
PMON	**Piamonte**	**2.42**	**90**	*i* P		**Pn**		**19 08 03.4**	**-0.1**
PMON					IAML			19 08 37.7	
	comp=Z,1μm,1.0s								
LALI	**Alcalda de L**	**2.42**	**95**	*i* P		**Pn**		**19 08 04.7**	**+1.3**
LALI					IAML			19 08 39.3	
	comp=Z,190nm,1.0s								
MRL	**Marmol**	**2.46**	**56**	*eP*		**Pn**		**19 08 06.3**	**+2.2**
MTO3	**Montecristo**	**2.46**	**74**	*eP*		**Pn**		**19 08 03.9**	**-0.3**
MTO3	**Montecristo**	**2.46**	**74**	*i* P		**Pn**		**19 08 03.9**	**-0.3**
MTO3				*i* S		**Sn**		**19 08 34.0**	**+0.8**
MTO3					IAML			19 08 43.0	
	comp=Z,210nm,1.0s								
LOMA	**Loma Larga**	**2.56**	**91**	*eP*		**Pn**		**19 08 05.3**	**-0.1**
LOMA				*eS*		**Sn**		**19 08 34.0**	**-1.4**
LOMA	**Loma Larga**	**2.56**	**91**	*i* P		**Pn**		**19 08 05.4**	**0.0**
LOMA					IAML			19 08 38.8	
	comp=Z,520nm,1.0s								
CCIG	**Comitan**	**2.57**	**353**	*i* P		Pn		19 08 09.0	+3.4
CCIG				*i* S		Sn		19 08 41.3	+5.5
CCIG					IAML			19 08 50.2	
	comp=Z,480nm,1.0s								
PAVA	**Las Pavas**	**2.79**	**90**	*i* P		**Pn**		**19 08 08.4**	**-0.1**
PAVA					IAML			19 08 14.5	
	comp=Z,530nm,1.0s								
COEG	**Centro de Oper**	**2.84**	**92**	*i* P		**Pn**		**19 08 10.0**	**+0.8**
COEG					IAML			19 08 53.8	
	comp=Z,240nm,1.0s								
SCLA	**Alcaldia de Sa**	**2.99**	**90**	*eP*		**Pn**		**19 08 11.2**	**0.0**
SCLA	**Alcaldia de Sa**	**2.99**	**90**	*i* P		**Pn**		**19 08 11.7**	**+0.5**
SCLA					IAML			19 09 03.5	
	comp=Z,110nm,1.0s								
COEB	**Comit de Eme**	**3.19**	**94**	*i* P		**Pn**		**19 08 14.0**	**0.0**
COEB					IAML			19 09 25.3	
	comp=Z,170nm,1.0s								
PACA	**Pacayal**	**3.39**	**94**	*i* P		**Pn**		**19 08 17.9**	**+1.1**
PACA					IAML			19 09 22.6	
	comp=Z,1μm,1.0s								
LCND	**La Caada**	**3.83**	**96**	*i* P		**Pn**		**19 08 23.4**	**+0.8**
LCND					IAML			19 09 12.3	
	comp=Z,150nm,1.0s								
CMIG	**Matias Romero**	**4.48**	**319**	P		Pn		19 08 32.7	+1.1
	comp=Z,11nm,0.4s,baz=140,slow=9.8,SNR=26								
CMIG					S	Sn		19 09 26.1	+3.6
	comp=Z,44nm,0.6s,baz=93,slow=22,SNR=9.4								
HZTE	**Horizontes, Gu**	**6.76**	**116**	*i* P		**Pn**		**19 09 04.6**	**+1.7**
SAJU	**San Juanillo,**	**6.98**	**121**	*i* P		**Pn**		**19 09 06.8**	**+0.9**
ORTG	**Ortega, Santa**	**7.04**	**118**	*i* P		**Pn**		**19 09 08.2**	**+1.3**
CDM	**Cerro de Muert**	**8.90**	**117**	*i* P		**Pn**		**19 09 35.1**	**+2.5**
TXAR	**Lajitas Array**	**19.04**	**327**	P		Pn		19 11 48.1	+2.9
	comp=Z,0.1nm,0.3s,baz=161,slow=13,SNR=10								
	comp=Z,1.0nm,0.7s								
PDAR	**Pinedale Array**	**32.76**	**335**	P		P		19 13 57.2	+3.0
	comp=Z,0.1nm,0.4s,baz=131,slow=9.7,SNR=1.5								
	comp=Z,0.1nm,0.4s								
NVAR	**Mina Array Bea**	**34.01**	**321**	P		P		19 14 09.1	+3.9
	comp=Z,0.9nm,0.6s,baz=136,slow=8.0,SNR=6.5								
	comp=Z,0.9nm,0.6s								
SCHQ	**Schefferville**	**45.42**	**20**	P		**P**		**19 15 38.4**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=211,slow=8.1,SNR=4.1								
	comp=Z,1.0nm,0.4s								
YKA	**Yellowknife Ar**	**51.34**	**347**	P		P		19 16 25.6	+0.8
	comp=Z,0.3nm,0.7s,baz=143,slow=7.1,SNR=6.9								
	comp=Z,0.3nm,0.7s								
ILAR	**Eielson Array**	**63.17**	**337**	P		P		19 17 49.5	+1.2
	comp=Z,0.7nm,1.0s,baz=152,slow=6.5,SNR=6.2								
	comp=Z,0.7nm,1.0s								

*IDC **01** 19:19:45.0±0.7,3˚.25N×74˚.24W,h0^{km}, mb3.8/11, mbtmp3.9/14,ML3.7/3,MS3.5/1,Error ellipse: s-maj=20.9km s-min=12.5km az=94.0*

*RSNC **01** 19:19:49.6±0.0,3˚.N±2˚×74˚.4W±˚, h4$^{km}_{\pm}$2^{km},M4.3,mB5.0, mb4.7,mBc6.5,Mjma4.6,ML4.9,ML3.9,MLh4.5,MLv4.6, Ms(BB)4.5,Mw(mB)4.4*

*NEIC **01** 19:19:51.5±1.8,3˚.32N±0˚.05×74˚.11W±0˚.07,h47$^{km}_{\pm}$11^{km}, mb4.4/38,Error ellipse: s-maj=10.2km s-min=7.1km az=101.0*

*VAO **01** 19:20:00.0±1.4,2˚.39N×73˚.41W,h10^{km},mb4.3*

ISC 01 19:19:46.9±0.8,**3˚.29N**±0˚.02×**74˚.38W**±0˚.02,**h11**km±5km, **n128,**σ1s**94**/163,**mb4.3**/26,**Colombia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URMC	**La Uribe, Meta**	**0.05**	**179**	P		**Pg**		**19 19 49.8**	**+0.6**
URMC					S	**Sg**		**19 19 51.8**	**+0.9**
PRAC	**Prado**	**0.66**	**310**	P		**Pg**		**19 19 59.5**	**-0.2**
PRAC					S	**Sg**		**19 20 08.1**	**-0.3**
ORTC	**Ortega, Tolima**	**1.06**	**305**	P		**Pb**		**19 20 06.7**	**-0.6**
ORTC					S	**Sb**		**19 20 21.2**	**0.0**
VILC	**Villavicencio,**	**1.06**	**40**	P		**Pb**		**19 20 06.8**	**-0.6**
VILC					S	**Sg**		**19 20 20.9**	**-0.4**
BETC	**Betania**	**1.22**	**240**	P		**Pb**		**19 20 10.1**	**0.0**
BETC					S	**Sn**		**19 20 26.7**	**+0.1**
MACC	**Macarena, Meta**	**1.26**	**155**	P		**Pn**		**19 20 09.8**	**-0.7**
MACC					S	**Sb**		**19 20 26.2**	**-0.7**
CHIC	**Chingaza**	**1.48**	**26**	P		**Pn**		**19 20 14.0**	**+0.2**
CHIC					S	**Sn**		**19 20 32.4**	**-0.9**
ROSC	**El Rosal**	**1.54**	**2**	P		**Pb**		**19 20 15.5**	**-0.2**
ROSC					Sn	**Sb**		**19 20 36.0**	**+0.7**
ROSC	**El Rosal**	**1.54**	**2**	Pn		**Pb**		**19 20 15.9**	**+0.3**
	329nm,0.3s,baz=176,slow=16,SNR=286								
ROSC					Sn	**Sg**		**19 20 37.1**	**+0.6**
	194nm,0.3s,baz=26,slow=22,SNR=9.6								
ROSC	**El Rosal**	**1.54**	**2**	P		**Pb**		**19 20 16.0**	**+0.3**
ROSC					S	**Sg**		**19 20 37.8**	**+1.3**
GARC	**Garzon, Huila**	**1.56**	**225**	P		**Pb**		**19 20 16.1**	**+0.1**
GARC					S	**Sb**		**19 20 36.1**	**+0.2**
ANIL	**Santa Ana**	**1.57**	**319**	P		**Pn**		**19 20 15.7**	**+0.7**
ANIL					S	**Sn**		**19 20 35.6**	**+0.2**
GUVC	**San Jose del G**	**1.90**	**113**	P		**Pb**		**19 20 20.8**	**-0.9**
GUVC					S	**Sb**		**19 20 44.4**	**-1.0**
RECRC	**Villamaria, Ca**	**1.92**	**330**	P		**Pb**		**19 20 21.5**	**-0.8**
RECRC					S	**Sb**		**19 20 46.7**	**+0.2**
NIZA	**Niza - Manizal**	**2.06**	**328**	P		**Pb**		**19 20 25.5**	**+0.9**
NIZA					S	**Sb**		**19 20 51.2**	**+0.8**
FLOC	**Florencia**	**2.12**	**217**	P		**Pb**		**19 20 24.9**	**-0.6**
FLOC					S	**Sb**		**19 20 52.4**	**+0.6**
JAMC	**Jamundi, Valle**	**2.29**	**268**	P		**Pb**		**19 20 27.9**	**-0.5**
JAMC					S	**Sg**		**19 21 00.1**	**-0.6**
NORC	**Norcasia**	**2.31**	**348**	P		**Pn**		**19 20 26.6**	**+1.7**
NORC					S	**Sn**		**19 20 54.5**	**+1.1**
SPBC	**San Pablo de B**	**2.36**	**7**	P		**Pb**		**19 20 29.1**	**-0.5**
SPBC					S	**Sb**		**19 21 00.3**	**+1.5**
POPC	**Popayan, Colom**	**2.41**	**252**	P		**Pb**		**19 20 30.9**	**+0.4**
POPC					S	**Sg**		**19 21 03.3**	**-1.3**
PTGC	**Puerto Gaitan,**	**2.42**	**68**	P		**Pb**		**19 20 29.0**	**-1.4**
PTGC					S	**Sb**		**19 20 59.7**	**-0.5**
PLMC	**San Jos del P**	**2.48**	**310**	P		**Pn**		**19 20 29.2**	**+1.8**
PLMC					S	**Sb**		**19 21 04.2**	**+1.9**
RUSC	**La Rusia**	**2.89**	**27**	Pn		**Pn**		**19 20 35.6**	**+2.3**
RUSC	**La Rusia**	**2.89**	**27**	P		**Pb**		**19 20 36.9**	**-1.9**
RUSC					S	**Sn**		**19 21 10.8**	**+2.5**
MALC	**Bahia Malaga**	**3.04**	**284**	P		**Pb**		**19 20 38.2**	**-2.8**
MALC					S	**Sg**		**19 21 23.8**	**-0.7**
PTLC	**Puerto Leguiza**	**3.13**	**188**	P		**Pb**		**19 20 42.9**	**+0.3**
PTLC					S	**Sg**		**19 21 33.3**	**+5.7**
PTBC	**PUERTO BERRIO,**	**3.23**	**359**	P		**Pn**		**19 20 40.0**	**+2.5**
PTBC					S	**Sb**		**19 21 20.8**	**-2.8**
PIZC	**Pizarro, Choco**	**3.41**	**299**	P		**Pb**		**19 20 44.1**	**-3.2**
BARC	**Barichara**	**3.49**	**20**	P		**Pn**		**19 20 45.1**	**+3.8**
BARC					S	**Sb**		**19 21 31.1**	**-0.2**
GCUF	**Volcan Galeras**	**3.60**	**235**	P		**Pb**		**19 20 52.5**	**+1.5**
GCUF					S	**Sg**		**19 21 39.1**	**-3.8**
GR1C	**Gorgona, Isla**	**3.79**	**266**	P		**Pn**		**19 20 46.7**	**+1.4**
TAMC	**Tame, Arauca**	**4.05**	**39**	P		**Pn**		**19 20 52.3**	**+3.4**
TAMC					S	**Sn**		**19 21 40.1**	**+3.7**
ZARC	**Zaragoza, Cauc**	**4.20**	**354**	P		**Pn**		**19 20 54.4**	**+3.5**
ZARC					S	**Sb**		**19 21 48.2**	**-3.4**
TULM	**Tulcn-Chalpat**	**4.26**	**233**			**Pb**		**19 20 57.8**	**-4.4**
TULM					Sn	**Sb**		**19 21 48.5**	**-5.3**
PAMC	**Pamplona, Colo**	**4.35**	**23**	P		**Pn**		**19 20 56.7**	**+3.2**
IMBA	**Imbabura, San**	**4.85**	**232**	Pn		Pn		19 21 06.2	+5.9
OCAC	**Ocana**	**5.03**	**12**	P		**Pn**		**19 21 06.6**	**+4.2**
OCAC					S	**Sn**		**19 22 05.4**	**+4.8**
PULU	**Pululahua**	**5.25**	**232**			Pn		19 21 11.6	+5.9
SLOR	**San Lorenzo -**	**5.74**	**226**	Pn		Pn		**19 21 16.3**	**+3.8**
CHSH	**Refugio Sur-Vo**	**6.54**	**223**	Pn		Pn		19 21 28.4	+4.8
SJCC	**San Jacinto, C**	**6.61**	**353**	P		**Pn**		**19 21 24.1**	**0.0**
	25nm,1.0s,0.3nm								
SJCC					S	**Sn**		**19 22 42.3**	**+2.8**
	25nm,1.0s,0.3nm								
SDV	**Santo Domingo**	**6.69**	**34**			**Pn**		**19 21 25.0**	**-0.4**
SDV					Sn	**Sn**		**19 22 37.1**	**-4.6**
SDV	**Santo Domingo**	**6.69**	**34**	Pn		**Pn**		**19 21 26.0**	**+0.7**
	14nm,0.3s,baz=217,slow=5.0,SNR=45								
SDV					Sn	**Sn**		**19 22 40.8**	**-0.9**
	8.2nm,0.3s,baz=262,slow=19,SNR=2.4								
SDV					Lg	Lg		19 23 17.4	
	8.8nm,0.3s,baz=78,slow=21,SNR=2.4								
	31nm,0.3s								
SDV	**Santo Domingo**	**6.69**	**34**	P		**Pn**		**19 21 26.9**	**+1.6**
	82nm,0.6s,1μm0.7nm								
SDV					S	**Sn**		**19 22 42.1**	**+0.4**
	82nm,0.6s,1μm0.7nm								
CRJC	**Cerrejon, Guaj**	**7.82**	**11**	P		**Pn**		**19 21 42.5**	**+1.7**
	51nm,0.7

IMW	**Indian Meadow**	**51.75 327**	P	**P**	**19 28 54.5**	**-0.3**
IMW			IAmb	IAmb	19 28 55.6	
	comp=Z,4.8nm,1.2s					
TPH	**Tonopah**	**52.21 317**	P	**P**	**19 28 59.7**	**+1.4**
YHH	**Holmes Hill**	**52.28 328**	P	**P**	**19 28 59.9**	**+1.1**
NVAR	**Mina Array Bea**	**53.12 317**	P	**P**	**19 29 05.8**	**+0.8**
NVAR	**Mina Array Bea**	**53.12 317**	P	**P**	**19 29 06.1**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=131,slow=7.6,SNR=7.1					
	comp=Z,1.0nm,0.7s					
BOZ	**Bozeman (W)**	**53.23 328**	P	**P**	**19 29 05.7**	**0.0**
BOZ			IAmb	IAmb	19 29 06.7	
	comp=Z,2.0nm,0.8s					
BMN	**Battle Mountai**	**53.44 320**	P	**P**	**19 29 07.4**	**+0.1**
BMN			IAmb	IAmb	19 29 08.6	
	comp=Z,2.8nm,1.0s					
HLID	**Hailey**	**53.50 324**	P	**P**	**19 29 07.3**	**-0.4**
HLID			IAmb	IAmb	19 29 12.4	
	comp=Z,2.4nm,1.1s					
LYMT	**Lyon Mountain**	**54.48 329**	P	**P**	**19 29 14.8**	**0.0**
BPMT	**Black Pine Rid**	**54.74 328**	P	**P**	**19 29 15.8**	**-1.0**
PLID	**Pearl Lake**	**55.32 325**	P	**P**	**19 29 20.2**	**-0.8**
PLID			IAmb	IAmb	19 29 21.9	
	comp=Z,3.3nm,0.9s					
WVOR	**Wild Horse Val**	**55.41 321**	P	**P**	**19 29 21.8**	**+0.2**
WVOR			IAmb	IAmb	19 29 23.4	
	comp=Z,4.1nm,0.9s					
J08A	**Circle Bar Ran**	**55.80 322**	P	**P**	**19 29 23.3**	**-1.1**
J08A			IAmb	IAmb	19 29 26.9	
	comp=Z,6.2nm,1.3s					
G08A	**Pilot Rock**	**57.15 324**	P	**P**	**19 29 34.2**	**+0.3**
G08A			IAmb	IAmb	19 29 35.6	
	comp=Z,5.1nm,0.8s					
PINE	**Pine Mountain**	**57.56 321**	P	**P**	**19 29 37.0**	**+0.1**
YKA	**Yellowknife Ar**	**66.14 341**	P	**P**	**19 30 33.0**	**-1.1**
	comp=Z,0.2nm,0.8s,baz=129,slow=5.8,SNR=5.2					
	comp=Z,0.2nm,0.8s					
TORD	**Torodi Ar. Bea**	**75.70 77**	P	**P**	**19 31 31.3**	**-1.8**
	comp=Z,1.0nm,1.1s,baz=276,slow=2.6,SNR=4.1					
	comp=Z,1.0nm,1.1s					
ILAR	**Eielson Array**	**79.62 335**	P	**P**	**19 31 53.3**	**-0.8**
	comp=Z,0.2nm,0.7s,baz=104,slow=3.8,SNR=2.6					
	comp=Z,0.2nm,0.7s					
SNAA	**Sanae**	**87.37 163**	P	**P**	**19 32 33.4**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=264,slow=9.2,SNR=6.3					
	comp=Z,2.6nm,0.8s					
QSPA	**South Pole Qui**	**93.33 180**	P	**P**	**19 33 02.2**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=144,slow=3.2,SNR=5.1					
	comp=Z,2.2nm,0.9s					

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*DJA **01** 19:33:27.0±0.4,2˚N±4˚×12˚7E±˚, h10km, M4.6/24, mb5.0/24, mB5.1/15, MLv4.8/15, Mw(mB)4.5/15, MwMwp4.8/1, Mwp5.1/1*

*NEIC **01** 19:33:28.5±2.0, 2˚.32N±0˚.05×126˚.84E±0˚.07, h52km±6km, mb4.9/192, Error ellipse: s-maj=10.3km s-min=7.4km az=65.0*

*GCMT **01** 19:33:28.5±0.5, 2˚.34N±0˚.03×126˚.72E±0˚.04, h42km±1km, MW5.0/48, Moment Tensor Solution. s34,c42; s48,c65; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 4.62±.36; Mθθ-1.45±.20; Mϕϕ-3.17±.25; Mrθ-0.68±.15; Mθϕ-1.58±1.17; Mϕr~1.38±.17; Best double couple: M◎4.62800×10^16 NP1:ϕs209.00000°, δ55.00000°, λ89.00000°. NP2: ϕs32.00000°, δ35.00000°, λ92.00000°. Principal axes: T 4.8840, Plg80.0000°, Azm113.0000°; N -0.5140, Plg1.0000°, Azm210.0000°; P -4.3710, Plg10.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **01** 19:33:30.1±1.9, 2˚.22N×126˚.81E, h71km±16km, mb4.4/30, mbtmp4.6/31, MS3.7/7 Error ellipse: s-maj=18.3km s-min=8.2km az=73.0*

ISC 01 19:33:29.0±0.5, 2˚.24N±0˚.04×126˚.83E±0˚.05, h62km±4km, n563, σ1§32/580, mb4.8/127, 2C, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.55**	**160**	P	**Pn**	**19 33 54.0**	**-0.5**
TNTI	**Ternate**	**1.55**	**160**		**Pn**	**19 33 53.9**	**-0.5**
TNTI				Sn	**Sn**	**19 34 13.7**	**+0.1**
TNTI	**Ternate**	**1.55**	**160**	P	**Pn**	**19 33 53.9**	**-0.5**
SGSI	**Sangihe**	**1.94**	**318**	P	**Pn**	**19 33 57.6**	**-2.1**
LBMI	**Labuha**	**2.93**	**167**	P	**Pn**	**19 34 14.1**	**+0.8**
KMSI	**Cibinong**	**3.29**	**240**	P	**Pn**	**19 34 20.3**	**+2.1**
GTOI	**Gorontalo**	**4.14**	**247**	P	**Pn**	**19 34 32.3**	**+2.6**
SANI	**Sanana**	**4.34**	**191**	P	**Pn**	**19 34 32.6**	**+0.1**
SANI	**Sanana**	**4.34**	**191**	P	**Pn**	**19 34 32.1**	**-0.4**
DAV	**Davao City (W)**	**4.96**	**345**	Pn	**Pn**	**19 34 37.7**	**-3.3**
DAV	**Davao City (W)**	**4.96**	**345**	P	**Pn**	**19 34 44.2**	**+3.2**
	93nm,0.4s,baz=132,slow=3.2,SNR=4.7						
DAV				S	**Sn**	**19 35 39.1**	**+2.0**
	257nm,0.4s,baz=336,slow=23,SNR=3.6						
MRSI	**Marisa**	**5.19**	**250**	P	**Pn**	**19 34 45.9**	**+1.7**
	271nm,0.7s,2μm0.9nm						
LUWI	**Luwuk**	**5.21**	**231**	P	**Pn**	**19 34 47.3**	**+2.9**
LUWI	**Luwuk**	**5.21**	**231**		**Pn**	**19 34 46.8**	**+2.5**
LUWI	**Luwuk**	**5.21**	**231**	P	**Pn**	**19 34 46.3**	**+1.9**
	376nm,0.9s,4μm2.4nm						
SWI	**Sorong**	**5.39**	**125**	P	**Pn**	**19 34 47.9**	**+1.0**
	97nm,0.7s,1μm4μm0.4nm						
TOLI2	**Tolitoli**	**6.15**	**260**	P	**Pn**	**19 34 57.3**	**0.0**
TOLI2	**Tolitoli**	**6.15**	**260**	Pn	**Pn**	**19 34 56.6**	**-0.7**
MPSI	**Mapaga**	**7.18**	**255**	P	**Pn**	**19 35 13.9**	**+2.4**
	53nm,0.7s,554nm0.2nm						
FAKI	**Fak Fak**	**7.45**	**133**	P	**Pn**	**19 35 14.2**	**-1.0**
FAKI	**Fak Fak**	**7.45**	**133**		**Pn**	**19 35 15.9**	**+0.7**
FAKI	**Fak Fak**	**7.45**	**133**	P	**Pn**	**19 35 17.3**	**+2.1**
	50nm,0.8s,971nm0.2nm						
TTSI	**Tana Toraja**	**8.76**	**233**	P	**Pn**	**19 35 33.8**	**+0.8**
	77nm,1.1s,941nm						
BBSI	**Bau Bau**	**8.78**	**209**	P	**Pn**	**19 35 34.7**	**+1.4**
	123nm,0.9s,1μm						
BKSI	**Bulukumba**	**10.06**	**222**	P	**Pn**	**19 35 53.3**	**+2.4**
	26nm,0.8s,364nm						
KAPI	**Kappang**	**10.10**	**224**	Pn	**Pn**	**19 35 51.1**	**-0.2**
MMRI	**Maumere**	**11.73**	**203**	P	**Pn**	**19 36 16.2**	**+2.5**
	38nm,0.9s						
EDFI	**Ende, Flores**	**12.06**	**205**	P	**Pn**	**19 36 20.1**	**+1.8**
	32nm,0.9s,395nm						
SOEI	**Soe**	**12.19**	**192**	P	**Pn**	**19 36 21.7**	**+1.7**
SOEI	**Soe**	**12.19**	**192**	Pn	**Pn**	**19 36 19.2**	**-0.8**
SOEI	**Soe**	**12.19**	**192**	P	**Pn**	**19 36 23.4**	**+3.4**
	110nm,0.9s,1μm						
MTKI	**Muara Teweh, K**	**12.35**	**255**	P	**Pn**	**19 36 23.9**	**+1.8**
	25nm,0.9s,2μm						
SMPI	**Sarmi**	**12.60**	**109**	P	**Pn**	**19 36 26.8**	**+1.3**
	48nm,1.0s						
BATI	**Baumata**	**12.76**	**194**	P	**P**	**19 36 33.8**	**-3.0**
	28nm,0.6s,baz=37,slow=3.3,SNR=6.1						
BATI				LR	LR	19 42 30.7	
	comp=Z,219nm,20.7s,baz=354,slow=42						
BATI	**Baumata**	**12.76**	**194**	P	**P**	**19 36 33.2**	**-3.5**
	46nm,0.7s						
GENI	**Genyem**	**14.17**	**110**	P	Pn	19 36 43.0	-3.7
GENI	**Genyem**	**14.17**	**110**	P	**Pn**	**19 36 49.7**	**+3.0**
	235nm,1.0s,2μm						
SBUM	**Sibu**	**14.60**	**271**	P	**P**	**19 36 55.5**	**-1.7**
JAY	**Jayapura**	**14.65**	**109**	P	**Pn**	**19 36 56.2**	**+3.1**
	67nm,0.9s						
TWSI	**Taliwang, Sumb**	**14.74**	**222**	P	**P**	**19 36 57.3**	**-1.4**
	275nm,0.8s,2μm						
DRS	**Darwin Rock St**	**15.12**	**165**	P	**Pn**	**19 37 01.1**	**+2.0**
SRBI	**Singaraja**	**15.47**	**228**	P	**P**	**19 37 07.7**	**+0.8**
MTN	**Manton Dam**	**15.58**	**164**	P	**Pn**	**19 36 59.1**	**-5.8**
	baz=16,SNR=10.0						
MTN	**Manton Dam**	**15.58**	**164**	Pn	**Pn**	**19 36 58.8**	**-6.2**
MTN				IAmb	IAmb	19 37 12.9	
	comp=Z,42nm,0.5s						
KDU	**Kakadu**	**15.85**	**159**	P	**Pn**	**19 37 04.7**	**-3.7**
	baz=16,SNR=5.4						
KDU	**Kakadu**	**15.85**	**159**	P	**Pn**	**19 37 10.4**	**+2.0**
TABU	**Tabubil**	**16.19**	**117**	P	**Pn**	**19 37 10.4**	**-2.4**
JAGI	**Jajag, Banyuwa**	**16.52**	**230**	P	**P**	**19 37 20.8**	**+2.2**
JAGI	**Jajag, Banyuwa**	**16.52**	**230**		**Pn**	**19 37 17.1**	**+0.2**
KSM	**Kuching**	**16.53**	**268**	P	**P**	**19 37 20.0**	**+1.3**
KSM	**Kuching**	**16.53**	**268**	P	**Pn**	**19 37 17.8**	**+0.7**
KNRA	**Kununurra**	**17.90**	**174**	P	**P**	**19 37 33.2**	**-0.5**
	baz=18,SNR=12						
KNRA				P	**P**	**19 37 33.2**	**-0.5**
	baz=18,SNR=12						
KNRA	**Kununurra**	**17.90**	**174**	P	**P**	**19 37 32.7**	**-1.0**
KNRA	**Kununurra**	**17.90**	**174**		**P**	**19 37 32.3**	**-1.4**
UGM	**Wanagama**	**19.14**	**238**	P	**P**	**19 37 47.4**	**0.0**

FITZ	**Fitzroy Crossi**	**20.24**	**183**	P	**P**	**19 37 59.5**	**+0.2**
	baz=20,SNR=17						
FITZ	**Fitzroy Crossi**	**20.24**	**183**	P	**P**	**19 37 59.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**20.24**	**183**	P	**P**	**19 37 58.9**	**-0.4**
DLV	**T Lat**	**20.58**	**299**	P	**P**	**19 38 03.0**	**-0.3**
DLV	**T Lat**	**20.58**	**299**	P	**P**	**19 38 02.1**	**-1.2**
MANU	**Manus Island**	**20.96**	**102**	P	**P**	**19 38 06.6**	**-0.6**
GUMO	**Guam**	**21.10**	**57**	LR	LR	19 45 36.7	
	comp=Z,109nm,21.0s,baz=210,slow=34						
LEM	**Lembang**	**21.19**	**245**	P	**P**	**19 38 09.7**	**-0.1**
	comp=Z,10nm,0.6s,baz=110,slow=21,SNR=1.8						
LEM				LR	LR	19 46 30.5	
	comp=Z,221nm,18.7s,baz=1.5,slow=37						
	comp=Z,10nm,0.6s						
TWGBT	**Beinan**	**21.21**	**345**	P	**P**	**19 38 05.9**	**-3.8**
TWG	**Pinlang**	**21.21**	**345**	P	**P**	**19 38 04.9**	**-4.9**
TWG				IAmb	IAmb	19 38 07.2	
	comp=Z,43nm,0.6s						
YULB	**Yu-li**	**21.70**	**346**	P	**P**	**19 38 10.8**	**-4.2**
YULB	**Yu-li**	**21.70**	**346**	P	**P**	**19 38 10.3**	**-4.7**
YULB				IAmb	IAmb	19 38 12.0	
	comp=Z,23nm,0.7s						
TPUB	**Ta-pu**	**21.78**	**344**	P	**P**	**19 38 12.8**	**-3.1**
TPUB	**Ta-pu**	**21.78**	**344**	P	**P**	**19 38 11.9**	**-4.0**
TPUB				IAmb	IAmb	19 38 13.7	
	comp=Z,52nm,0.7s						
SSLB	**Suanglung**	**22.17**	**346**	P	**P**	**19 38 16.7**	**-3.3**
SSLB	**Suanglung**	**22.17**	**346**	P	**P**	**19 38 16.2**	**-3.8**
SSLB				IAmb	IAmb	19 38 20.3	
	comp=Z,45nm,0.9s						
NACB	**Ninganchiao**	**22.39**	**347**	P	**P**	**19 38 18.9**	**-3.5**
YOJ	**Yonaguni jima**	**22.40**	**351**	P	**P**	**19 38 22.5**	**0.0**
YOJ				IAmb	IAmb	19 38 33.7	
	comp=Z,67nm,1.1s						
COEN	**Coen**	**22.83**	**135**	P	**P**	**19 38 26.0**	**-1.2**
	baz=23,SNR=8.5						
COEN	**Coen**	**22.83**	**135**	P	**P**	**19 38 26.7**	**-0.5**
COEN	**Coen**	**22.83**	**135**	P	**P**	**19 38 26.2**	**-1.0**
YHNB	**Yeheng**	**22.91**	**347**	P	**P**	**19 38 25.5**	**-2.5**
MYKOM	**Kota Tinggi**	**22.97**	**269**	P	**P**	**19 38 28.9**	**+0.2**
WB0	**Warramunga Arr**	**23.09**	**162**	P	**P**	**19 38 28.7**	**-1.1**
WB0				IAmb	IAmb	19 38 52.0	
	comp=Z,44nm,0.9s						
WRAB	**Tennant Creek**	**23.24**	**162**	P	**P**	**19 38 30.1**	**-1.1**
WRAB				IAmb	IAmb	19 38 37.8	
	comp=Z,42nm,0.8s						
WRA	**Warramunga Arr**	**23.24**	**162**	P	**P**	**19 38 29.9**	**-1.3**
	comp=Z,20nm,0.6s,baz=340,slow=11,SNR=97						
WRA				PcP	**PcP**	**19 42 17.4**	**0.0**
	comp=Z,1.1nm,0.5s,baz=327,slow=2.2,SNR=4.2						
WRA				S	**S**	**19 42 37.7**	**-1.0**
	comp=Z,2.0nm,1.0s,baz=332,slow=20,SNR=3.4						
	comp=Z,20nm,0.6s						
WB2	**Warramunga Arr**	**23.25**	**162**	P	**P**	**19 38 30.1**	**-1.1**
WB2				IAmb	IAmb	19 38 37.8	
	comp=Z,42nm,0.8s						
WR0	**Warramunga Arr**	**23.32**	**161**	P	**P**	**19 38 30.8**	**-1.1**
WR0				IAmb	IAmb	19 38 34.3	
	comp=Z,47nm,1.0s						
PMG	**Port Moresby**	**23.32**	**120**	P	**P**	**19 38 33.0**	**+1.0**
	comp=Z,21nm,0.9s,baz=223,slow=19,SNR=3.8						
PMG				LR	LR	19 48 53.3	
	comp=Z,388nm,19.0s,baz=304,slow=40						
	comp=Z,21nm,0.9s						
HKPS	**Hong Kong Po S**	**23.43**	**329**	P	**P**	**19 38 30.0**	**-2.9**
KNMB	**Chin-men Tao**	**23.55**	**340**	P	**P**	**19 38 33.0**	**-1.1**
QIZ	**Qiongzhong**	**23.56**	**316**	P	**P**	**19 38 32.0**	**-2.1**
JMZ	**Minamidaito 2**	**23.82**	**10**	P	**P**	**19 38 34.3**	**-2.2**
MBWA	**Marble Bar**	**24.27**	**196**	P	**P**	**19 38 41.7**	**+1.1**
MBWA	**Marble Bar**	**24.27**	**196**	P	**P**	**19 38 40.2**	**-0.4**
JOW	**Kunigami**	**24.49**	**3**	P	**P**	**19 38 40.6**	**-2.0**
JOW	**Kunigami**	**24.49**	**3**	P	**P**	**19 38 40.9**	**-1.7**
JOW				IAmb	IAmb	19 38 50.7	
	comp=Z,48nm,1.0s						
JOW	**Kunigami**	**24.49**	**3**	P	**P**	**19 38 44.4**	**+1.9**
	comp=Z,14nm,0.7s,baz=188,slow=7.1,SNR=6.9						
	comp=Z,14nm,0.7s						
XMIS	**Christmas Isla**	**24.58**	**239**	P	**P**	**19 38 42.5**	**-0.9**
PSA00	**Pilbara Seismi**	**24.63**	**196**	P	**P**	**19 38 44.7**	**+0.8**
PSA00	**Pilbara Seismi**	**24.63**	**196**	P	**P**	**19 38 44.1**	**+0.2**
PSA00	**Pilbara Seismi**	**24.63**	**196**	P	**P**	**19 38 43.8**	**0.0**
PSA00				IAmb	IAmb	19 38 46.5	
	comp=Z,41nm,1.9s						
UBPT	**Khong Chiam**	**24.73**	**303**	P	**P**	**19 38 44.1**	**-0.8**
UBPT	**Khong Chiam**	**24.73**	**303**	P	**P**	**19 38 42.9**	**-2.0**
MNAI	**Manna**	**24.74**	**255**	P	**P**	**19 38 44.7**	**-0.3**
QIS	**Mount Isa**	**25.89**	**152**	P	**P**	**19 38 55.4**	**+0.1**
	baz=26,SNR=50						
QIS	**Mount Isa**	**25.89**	**152**	P	**P**	**19 38 55.5**	**+0.2**
KULM	**Kulim**	**26.30**	**277**	P	**P**	**19 38 58.7**	**-0.5**
MTSU	**Mount Surprise**	**26.58**	**140**	P	**P**	**19 39 01.2**	**-0.4**
	baz=27,SNR=5.6						
MTSU	**Mount Surprise**	**26.58**	**140**	P	**P**	**19 39 01.7**	**+0.1**
AS31	**Alice Springs**	**26.65**	**165**	P	**P**	**19 39 01.1**	**-1.1**
ASAR	**Alice Springs**	**26.65**	**165**	P	**P**	**19 39 01.7**	**-0.5**
ASAR					**PcP**	**19 42 25.0**	**+0.1**
ASAR	**Alice Springs**	**26.65**	**165**	P	**P**	**19 39 02.1**	**-0.1**
	comp=Z,2.8nm,0.5s,baz=342,slow=8.0,SNR=38						
ASAR				PcP	**PcP**	**19 42 25.1**	**+0.1**
	comp=Z,2.8nm,0.7s,baz=354,slow=2.6,SNR=6.8						
ASAR				S	**S**	**19 43 32.9**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=345,slow=18,SNR=2.2						
	comp=Z,2.8nm,0.5s						
WRKA	**Warakurna**	**27.15**	**177**	P	**P**	**19 39 06.8**	**+0.1**
	baz=27,SNR=50						
WRKA	**Warakurna**	**27.15**	**177**	P	**P**	**19 39 07.3**	**+0.6**
GIRL	**Giralia**	**27.62**	**206**	P	**P**	**19 39 10.9**	**0.0**
SRIT	**Nakonsritamara**	**27.82**	**284**	P	**P**	**19 39 10.6**	**-2.2**
NONG	**Nongkai**	**28.06**	**306**	P	**P**	**19 39 14.0**	**-0.8**
GSI	**Gunungsitoli**	**29.26**	**269**	P	**P**	**19 39 24.6**	**-1.0**
SLVN	**Son La**	**29.30**	**312**	P	**P**	**19 39 23.9**	**-2.1**
MEEK	**Meekatharra**	**29.78**	**195**	P	**P**	**19 39 30.4**	**+0.3**
	baz=30,SNR=8.8						
MEEK	**Meekatharra**	**29.78**	**195**	P	**P**	**19 39 30.5**	**+0.4**
WHN	**Wuhan**	**30.54**	**338**	P	P	19 39 43.3	+6.7
PHRA	**Phrae**	**30.67**	**304**	P	**P**	**19 39 37.2**	**-0.8**
JNU	**Nakatsue**	**30.96**	**7**	P	**P**	**19 39 39.6**	**-0.8**
JNU				IAmb	IAmb	19 39 50.2	
	comp=Z,30nm,1.2s						
CRAI	**Chiangrai**	**31.42**	**307**	P	**P**	**19 39 43.5**	**-1.1**
CM31	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**19 39 45.9**	**-1.5**
CM31				IAmb	IAmb	19 39 48.7	
	comp=Z,17nm,0.8s						
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**19 39 46.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**31.73**	**302**	P	**P**	**19 39 47.0**	**-0.3**
	comp=Z,12nm,0.8s,baz=116,slow=6.7,SNR=64						
CMAR				LR	LR	19 54 21.8	
	comp=Z,66nm,18.0s,baz=115,slow=40						
	comp=Z,12nm,0.8s						
JMN	**Monobe**	**32.02**	**11**	P	**P**	**19 39 49.4**	**-0.3**
JMN				IAmb	IAmb	19 39 51.1	
	comp=Z,13nm,0.8s						
ENH	**Enshi**	**32.37**	**331**	P	**P**	**19 39 52.4**	**-0.5**
ENH	**Enshi**	**32.37**	**331**	P	**P**	**19 39 51.0**	**-1.8**
ENH	**Enshi**	**32.37**	**331**	P	**P**	**19 39 52.4**	**-0.5**
KMI	**Kunming**	**32.51**	**316**	⇑P	**P**	**19 39 54.6**	**+0.2**
KMI				pmax	pmax		
	comp=Z,12nm,1.2s						
KMI				LR	LR		
	comp=Z,91nm,25.5s						
KMI				LR	LR		
	comp=Z,150nm,24.1s						
KMI				LR	LR		
	comp=Z,210nm,25.5s						
INKA	**Innaminka**	**32.68**	**157**	P	**P**	**19 39 55.8**	**+0.3**
MORW	**Morawa**	**32.80**	**198**	P	**P**	**19 39 57.0**	**+0.4**
	baz=33,SNR=6.9						
MORW	**Morawa**	**32.80**	**198**	P	**P**	**19 39 56.4**	**-0.2**
MORW				IAmb	IAmb	19 40 02.6	
	comp=Z,20nm,1.1s						
FORT	**Forrest**	**32.85**	**178**	P	**P**	**19 39 57.3**	**+0.3**
	baz=33,SNR=23						
FORT	**Forrest**	**32.85**	**178**	P	**P**	**19 39 57.7**	**+0.7**
FORT	**Forrest**	**32.85**	**178**	P	**P**	**19 39 56.6**	**-0.4**
QLP	**Quilpie**	**33.22**	**151**	P	**P**	**19 40 00.1**	**-0.2**
KMBL	**Kambalda**	**33.75**	**188**	P	**P**	**19 40 05.5**	**+0.7**
	baz=34,SNR=20						
KMBL	**Kambalda**	**33.75**	**188**	P	**P**	**19 40 05.6**	**+0.7**
LCRK	**Leigh Creek**	**34.27**	**162**	P	**P**	**19 40 09.8**	**+0.5**
RK1H	**Rockhampton Ha**	**34.35**	**139**	P	**P**	**19 40 10.3**	**+0.2**
JGF	**Kuroka**	**34.60**	**15**	P	**P**	**19 40 09.9**	**-2.3**
JGF	**Kuroka**	**34.60**	**15**	P	**P**	**19 40 11.2**	**-1.1**
JGF				IAmb	IAmb	19 40 13.5	
	comp=Z,6.4nm,0.6s						
KLBR	**Kellerberrin**	**34.73**	**194**	P	**P**	**19 40 14.1**	**+0.8**

	baz=35,SNR=9.2					
LYN	**LuoYang**	**34.83**	**339**	*e*P	**P**	**19 40 14.7**	**+0.6**
LYN				pmax	pmax		
	comp=Z,39nm,0.5s					
KSAR	**Wonju Array Be**	**35.05**	**1**	P	**P**	**19 40 15.6**	**-0.4**
KSRS	**Korea Array**	**35.06**	**2**	P	**P**	**19 40 16.8**	**+0.8**
	comp=Z,6.5nm,0.8s,baz=178,slow=9.9,SNR=22						
	comp=Z,6.5nm,0.8s						
KS19	**Wonju Array Si**	**35.11**	**1**	P	**P**	**19 40 16.2**	**-0.3**
KS19				IAmb	IAmb	19 40 22.0	
	comp=Z,12nm,1.0s						
TNCH	**TengChong**	**35.48**	**312**	P	**P**	**19 40 19.3**	**-0.8**
TNCH				pP	pwP	19 40 38.7	+1.4
TNCH				sP	sP	19 40 48.9	+7.0
TNCH				PP	**PP**	**19 41 44.7**	**+3.1**
TNCH				S	S	19 45 41.5	-10
TNCH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,56nm,4.2s						
TNCH				LR	LR		
	comp=Z,75nm,4.6s						
TNCH				LR	LR		
	comp=Z,68nm,8.5s						
TNCH				LR	LR		
	comp=Z,150nm,19.5s						
MUN	**Mundaring**	**35.49**	**196**	P	**P**	**19 40 21.5**	**+1.7**
	baz=36,SNR=4.0						
MAJO	**Matsushiro**	**35.72**	**16**	P	**P**	**19 40 20.8**	**-1.0**
MAJO	**Matsushiro**	**35.72**	**16**	P	**P**	**19 40 20.3**	**-1.5**
MAJO				IAmb	IAmb	19 40 22.6	
	comp=Z,8.9nm,0.6s						
MJAR	**Matsushiro Arr**	**35.72**	**16**	P	**P**	**19 40 20.4**	**-1.4**
	comp=Z,3.9nm,0.6s,baz=198,slow=8.3,SNR=23						
MJAR				PcP	**PcP**	**19 42 48.8**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=183,slow=3.0,SNR=3.8						
	comp=Z,3.9nm,0.6s						
MJB9	**Matsu-Tunnel**	**35.72**	**16**	P	**P**	**19 40 20.9**	**-0.9**
MJB9				IAmb	IAmb	19 40 23.6	
	comp=Z,8.4nm,0.6s						
BBOO	**Buckleboo**	**35.94**	**167**	P	**P**	**19 40 23.6**	**0.0**
	baz=36,SNR=14						
BBOO	**Buckleboo**	**35.94**	**167**	P	**P**	**19 40 23.1**	**-0.5**
BBOO				IAmb	IAmb	19 40 24.4	
	comp=Z,18nm,0.8s						
EIDS	**Eidsvold**	**36.13**	**141**	P	**P**	**19 40 25.5**	**+0.1**
	baz=36,SNR=5.3						
EIDS	**Eidsvold**	**36.13**	**141**	P	**P**	**19 40 25.3**	**-0.1**
EIDS	**Eidsvold**	**36.13**	**141**	P	**P**	**19 40 25.0**	**-0.4**
NWAO	**Narrogin (SRO)**	**36.13**	**194**	P	**P**	**19 40 27.1**	**+1.8**
	baz=36,SNR=8.6						
NWAO				P	**P**	**19 40 27.1**	**+1.8**
	baz=36,SNR=8.6						
NWAO	**Narrogin (SRO)**	**36.13**	**194**	P	**P**	**19 40 26.3**	**+0.9**
NWAO	**Narrogin (SRO)**	**36.13**	**194**	LR	LR	19 57 27.2	
	comp=Z,327nm,18.2s,baz=43,slow=40						
STKA	**Stephens Creek**	**36.71**	**159**	P	**P**	**19 40 30.5**	**+0.2**
	baz=37,SNR=47						
STKA	**Stephens Creek**	**36.71**	**159**	P	**P**	**19 40 30.6**	**+0.3**
STKA	**Stephens Creek**	**36.71**	**159**	P	**P**	**19 40 30.1**	**-0.1**
STKA				IAmb	IAmb	19 40 32.2	
	comp=Z,8.8nm,0.8s						
STKA	**Stephens Creek**	**36.71**	**159**	P	**P**	**19 40 30.2**	**-0.1**
	comp=Z,41nm,0.8s,baz=333,slow=8.8,SNR=55						
STKA				PcP	**PcP**	**19 42 51.7**	**-0.1**
	comp=Z,7.7nm,0.8s,baz=334,slow=7.5,SNR=4.3						
	comp=Z,41nm,0.8s						
HTT	**Hallett**	**37.27**	**163**	P	**P**	**19 40 35.5**	**+0.5**
	baz=38,SNR=4.9						
AULRC	**Lightning Ridg**	**37.44**	**149**	P	**P**	**19 40 36.1**	**-0.4**
JMM	**Marumori**	**37.70**	**18**	P	**P**	**19 40 38.3**	**-0.3**
CMSA	**Cobar Meteorol**	**38.07**	**153**	P	**P**	**19 40 42.1**	**+0.3**
	baz=38,SNR=15						
CMSA	**Cobar Meteorol**	**38.07**	**153**	P	**P**	**19 40 42.4**	**+0.6**
BJT	**Baijiatuau**	**38.83**	**347**	P	**P**	**19 40 47.6**	**-0.5**
BJT	**Baijiatuau**	**38.83**	**347**	P	**P**	**19 40 46.6**	**-1.5**
BJT				IAmb	IAmb	19 40 56

GTA LR LR
comp=Z,190nm,18.5s
DZM Mont Dzumac 45.61 124 P **P** **19 41 43.8 +0.2**
PALK Pallekele 46.22 278 LR LR 20 03 43.7
comp=Z,80nm,18.7s,baz=199,slow=39
HEH HeiHe 47.84 1 *eP* **P** **19 42 00.5 0.0**
HEH pmax pmax
comp=Z,10.0nm,0.9s
ULN Ulaanbaatar 48.56 342 P **P** **19 42 06.1 -0.2**
ULN IAmb IAmb 19 42 09.9
comp=Z,21nm,1.3s
SONM Songino Array 48.74 342 P **P** **19 42 07.7 +0.1**
comp=Z,3.1nm,0.6s,baz=156,slow=7.9,SNR=25
comp=Z,3.1nm,0.6s
PETK Petropavlovsk- 56.77 22 P **P** **19 43 07.1 +0.5**
comp=Z,1.6nm,0.5s,baz=192,slow=3.4,SNR=10
comp=Z,1.6nm,0.5s
MK31 Makanchi Array 58.84 326 P **P** **19 43 20.8 -0.5**
MKAR Makanchi Array 58.84 326 P **P** **19 43 20.6 -0.7**
MKAR Makanchi Array 58.84 326 P **P** **19 43 20.9 -0.4**
comp=Z,4.4nm,0.6s,baz=124,slow=8.6,SNR=45
MKAR ScP **ScP** **19 48 04.4 -1.2**
comp=Z,1.4nm,0.9s,baz=115,slow=2.0,SNR=4.4
comp=Z,4.4nm,0.6s
MAKZ Makanchi 59.02 326 P **P** **19 43 21.4 -1.2**
MAKZ IAmb IAmb 19 43 23.3
comp=Z,4.7nm,0.8s
MAKZ Makanchi 59.02 326 P **P** **19 43 21.8 -0.7**
YAK Yakutsk 59.69 2 P **P** **19 43 26.6 -0.1**
YAK Yakutsk 59.69 2 P **P** **19 43 27.1 +0.4**
MA2 Magadan 60.12 14 P **P** **19 43 30.3 +0.5**
MA2 IAmb IAmb 19 43 42.6
comp=Z,6.0nm,0.8s
MA2 Magadan 60.12 14 P **P** **19 43 31.0 +1.2**
MA2 pP **pP** **19 43 41.8 -3.8**
MA2 PcP **PcP** **19 44 16.1 +1.1**
LBZ Lake Benmore 60.40 146 P **P** **19 43 32.4 +0.3**
THZ Tophouse 60.47 142 P **P** **19 43 32.0 -0.6**
RPZ Rata Peaks 60.49 144 P **P** **19 43 32.3 -0.4**
TUWZ Tuamarina 60.93 141 P **P** **19 43 35.5 -0.2**
KHZ Kahutara 61.23 142 P **P** **19 43 37.0 -0.6**
AAK Ala-Archa 61.53 318 P **P** **19 43 37.4 -2.5**
ZAA0 Zalesovo Array 61.96 333 P **P** **19 43 41.2 -1.1**
ZALV Zalesovo Beam 61.96 333 P **P** **19 43 41.4 -1.0**
comp=Z,1.3nm,0.4s,baz=138,slow=5.2,SNR=9.7
comp=Z,1.3nm,0.4s
ARSB Arslanbob 62.00 316 P **P** **19 43 41.9 -1.2**
DRK Karamyk 62.11 314 P **P** **19 43 43.2 -0.9**
DRK IAmb IAmb 19 43 47.6
comp=Z,7.5nm,0.6s
KBL Kabul 62.51 308 P **P** **19 43 45.1 -1.6**
KBL IAmb IAmb 19 43 47.9
comp=Z,9.9nm,0.8s
BTK Batken 63.03 314 P **P** **19 43 49.0 -0.9**
BTK IAmb IAmb 19 43 54.6
comp=Z,4.9nm,0.8s
KURBB Kurchatov Arra 63.05 328 P **P** **19 43 49.4 -0.3**
comp=Z,9.5nm,0.7s,baz=131,slow=6.4,SNR=135
comp=Z,9.5nm,0.7s
KURK Kurchatov 63.05 328 P **P** **19 43 48.8 -0.9**
KURK Kurchatov 63.05 328 P **P** **19 43 49.5 -0.2**
KURK sP **pP** **19 44 06.7 +1.1**
SIMJ Simiganj 63.85 312 P **P** **19 43 54.2 -1.3**
SIMJ IAmb IAmb 19 43 57.0
comp=Z,6.6nm,0.8s
KK31 Karatay Array 64.39 317 P **P** **19 43 58.3 -0.5**
KKAR Karatay Array 64.39 317 P **P** **19 43 57.9 -0.8**
BVAR Borovoye Array 68.62 327 P **P** **19 44 25.2 -0.4**
comp=Z,5.3nm,0.7s,baz=121,slow=7.6,SNR=30
comp=Z,5.3nm,0.7s
BRVK Borovoye 68.69 327 P **P** **19 44 25.8 -0.1**
BRVK IAmb IAmb 19 44 27.3
comp=Z,7.2nm,0.8s
TIXI Tiksi 69.32 1 P **P** **19 44 28.5 -1.0**
TIXI IAmb IAmb 19 44 37.3
comp=Z,11nm,1.1s
TIXI Tiksi 69.32 1 P **P** **19 44 29.3 -0.2**
CASY Casey 69.36 187 P **P** **19 44 30.6 +0.9**
CASY IAmb IAmb 19 46 56.8
comp=Z,39nm,1.9s
DRV Dumont d'Urvil 69.39 174 P **P** **19 44 30.3 +0.3**
ATKA Atka Island 69.66 34 P **P** **19 44 31.2 -0.7**
GEYT Alibeck 71.91 309 P **P** **19 44 45.4 -0.6**
comp=Z,2.1nm,0.6s,baz=60,slow=3.8,SNR=2.0
comp=Z,2.1nm,0.6s
ABKAR Akbulak array 73.36 321 P **P** **19 44 53.7 -0.6**
ABKAR Akbulak array 73.36 321 P **P** **19 44 53.5 -0.9**
ABKAR IAmb IAmb 19 44 58.2
comp=Z,28nm,1.8s
AKTO Aktyubinsk 74.89 322 P **P** **19 45 03.6 +0.4**
comp=Z,12nm,0.7s,baz=103,slow=6.4,SNR=25
comp=Z,12nm,0.7s
ARU Arti 76.25 328 P **P** **19 45 09.9 -1.0**
ARU IAmb IAmb 19 45 11.9
comp=Z,9.9nm,0.7s
S12K Black Hills 77.58 33 P **P** **19 45 20.0 +1.7**
baz=256
TNA Tin City 77.92 23 P **P** **19 45 20.7 +0.7**
baz=248
K13K Kusilvak Mount 78.04 27 P **P** **19 45 21.6 +0.8**
baz=252
SDPT Sand Point 78.37 34 P **P** **19 45 21.9 -0.8**
SDPT Sand Point 78.37 34 P **P** **19 45 22.9 +0.2**
baz=257
ANM Nome 78.58 24 P **P** **19 45 24.9 +1.2**
baz=251
CHNA Chernabura Isl 78.75 34 P **P** **19 45 26.6 +1.8**
baz=258
L14K Kuka Creek 78.76 28 P **P** **19 45 25.8 +1.1**
L14K IAmb IAmb 19 45 27.5
comp=Z,14nm,1.1s
L14K Kuka Creek 78.76 28 P **P** **19 45 26.6 +1.8**
baz=254
J14K Nanvaranak Lak 78.78 26 P **P** **19 45 26.2 +1.4**
baz=253
O14K Tigyukauivet M 78.89 30 P **P** **19 45 25.7 +0.2**
M14K Bethel 78.94 28 P **P** **19 45 26.7 +0.9**
M14K IAmb IAmb 19 45 50.7
comp=Z,15nm,0.9s
M14K Bethel 78.94 28 P **P** **19 45 27.4 +1.7**
baz=255
S14K Fog Glacier 79.08 33 P **P** **19 45 29.1 +2.3**
baz=258
L15K Ungalak Mounta 79.41 27 P **P** **19 45 28.9 +0.7**
baz=255
M15K Kasigluk River 79.53 28 P **P** **19 45 29.6 +0.6**
baz=256
K15K Wolf Creek Mou 79.55 27 P **P** **19 45 29.6 +0.6**
K15K IAmb IAmb 19 45 32.0
comp=Z,28nm,1.4s
K15K Wolf Creek Mou 79.55 27 P **P** **19 45 30.8 +1.8**
baz=255
O15K Ungalikthiuk R 79.59 30 P **P** **19 45 30.6 +1.3**
baz=257
N15K Kwethluk River 79.69 29 P **P** **19 45 30.8 +0.9**
baz=256
C16K Lisburne Hills 79.84 21 P **P** **19 45 31.5 +1.0**
baz=250
G16K Koyuk River 80.05 24 P **P** **19 45 33.4 +1.6**
baz=253
J16K Anvik River 80.22 26 P **P** **19 45 34.4 +1.7**
baz=255
L16K Owhat River 80.34 28 P **P** **19 45 34.4 +1.1**
L16K IAmb IAmb 19 46 02.7
comp=Z,19nm,1.5s
L16K Owhat River 80.34 28 P **P** **19 45 34.2 +0.9**
baz=257
N16K Nishlik Lake 80.40 29 P **P** **19 45 34.4 +0.7**
baz=258
M16K Timber Creek 80.43 28 P **P** **19 45 34.6 +0.8**
M16K IAmb IAmb 19 46 53.5
comp=Z,27nm,1.6s
M16K Timber Creek 80.43 28 P **P** **19 45 35.5 +1.7**
baz=257
D17K Noatak River 80.46 21 P **P** **19 45 35.8 +1.9**
baz=252
P16K Nushagak River 80.48 30 P **P** **19 45 34.6 +0.5**
baz=258
O16K Kokwok River B 80.54 30 P **P** **19 45 35.0 +0.6**
O16K IAmb IAmb 19 45 52.2
comp=Z,40nm,1.9s
O16K Kokwok River B 80.54 30 P **P** **19 45 35.4 +0.9**
baz=258
C17K DeLong Mountai 80.66 21 P **P** **19 45 36.1 +1.1**
baz=252
E17K Hotham Inlet 80.74 22 P **P** **19 45 36.4 +1.0**
baz=254
G17K Kiwalik Mounta 80.77 24 P **P** **19 45 36.4 +0.8**
baz=255
F17K Baldwin Pennin 80.78 23 P **P** **19 45 37.3 +1.8**
F17K IAmb IAmb 19 45 56.9
comp=Z,22nm,1.4s
F17K Baldwin Pennin 80.78 23 P **P** **19 45 36.8 +1.2**
baz=254
ABPO Ambohimpanom 80.91 250 P **P** **19 45 37.1 -0.3**
ABPO IAmb IAmb 19 48 10.9
comp=Z,26nm,1.4s
J17K VABM Dome 80.91 26 P **P** **19 45 37.8 +1.4**
J17K IAmb IAmb 19 47 56.7
comp=Z,36nm,1.9s
J17K VABM Dome 80.91 26 P **P** **19 45 38.0 +1.7**
baz=257
H17K Granite Mounta 80.93 24 P **P** **19 45 37.9 +1.4**
H17K Granite Mounta 80.93 24 P **P** **19 45 37.7 +1.2**
baz=256
K17K Iditarod 81.10 27 P **P** **19 45 37.1 -0.3**
K17K IAmb IAmb 19 47 45.5
comp=Z,35nm,1.6s
K17K Iditarod 81.10 27 P **P** **19 45 38.7 +1.3**
baz=258
RAYN Ar Rayn 81.16 293 P **P** **19 45 38.2 -0.5**
N17K Nushagak Hills 81.17 29 P **P** **19 45 38.8 +0.9**
N17K IAmb IAmb 19 46 44.1
comp=Z,18nm,1.4s
M17K Holitna River 81.23 28 P **P** **19 45 39.8 +1.7**
baz=258
E18K Tukpahlearik C 81.29 22 P **P** **19 45 39.6 +1.3**
E18K Tukpahlearik C 81.29 22 P **P** **19 45 40.1 +1.8**
baz=255
C18K Utukok River 81.41 21 P **P** **19 45 40.2 +1.2**
C18K Utukok River 81.41 21 P **P** **19 45 39.9 +0.8**
baz=254
Q17K Contact Creek 81.42 31 P **P** **19 45 39.4 0.0**
baz=260
F18K Selawik 81.44 23 P **P** **19 45 39.3 +0.2**
baz=256
VOI Vohitsoka 81.60 248 P **P** **19 45 41.1 0.0**
H18K Honhosa River 81.61 24 P **P** **19 45 40.7 +0.6**
H18K IAmb IAmb 19 45 42.1
comp=Z,14nm,1.2s
H18K Honhosa River 81.61 24 P **P** **19 45 39.9 -0.2**
baz=257
G18K Tagagawik 81.67 24 P **P** **19 45 39.8 -0.5**
G18K IAmb IAmb 19 46 03.1
comp=Z,16nm,1.6s
L18K Granite Mounta 81.74 27 P **P** **19 45 41.5 +0.7**
L18K IAmb IAmb 19 46 05.7
comp=Z,15nm,1.4s
L18K Granite Mounta 81.74 27 P **P** **19 45 42.5 +1.7**
baz=259
P18K Big Mountain, 81.94 30 P **P** **19 45 43.0 +1.1**
P18K Big Mountain, 81.94 30 P **P** **19 45 43.5 +1.5**
baz=261
VNDA Vanda 81.94 173 P **P** **19 45 41.9 +0.4**
VNDA IAmb IAmb 19 45 43.3
comp=Z,7.8nm,0.9s
VNDA Vanda 81.94 173 P **P** **19 45 42.1 +0.6**
comp=Z,6.7nm,0.9s,baz=318,slow=6.5,SNR=48
comp=Z,6.7nm,0.9s
J18K Innoko River 81.97 26 P **P** **19 45 42.2 +0.2**
J18K Innoko River 81.97 26 P **P** **19 45 43.6 +1.6**
baz=259
M18K Stony River 82.01 28 P **P** **19 45 44.0 +1.8**
baz=260
O18K Koktuh Hills 82.03 30 P **P** **19 45 42.3 -0.1**
C19K Lookout Ridge 82.09 20 P **P** **19 45 44.4 +1.8**
C19K Lookut Ridge 82.09 20 P **P** **19 45 44.1 +1.5**
baz=255
TTA Tatalina 82.18 27 P **P** **19 45 44.4 +1.2**
TTA IAmb IAmb 19 45 54.4
comp=Z,11nm,1.4s
TTA Tatalina 82.18 27 P **P** **19 45 44.4 +1.2**
baz=260
G19K Purcell Mounta 82.35 23 P **P** **19 45 44.9 +1.0**
G19K Purcell Mounta 82.35 23 P **P** **19 45 45.5 +1.6**
baz=258
MAW Mawson 82.40 200 P **P** **19 45 45.8 +1.7**
baz=83,SNR=5.5
MAW Mawson 82.40 200 P **P** **19 45 45.2 +1.1**
comp=Z,4.6nm,0.6s,baz=71,slow=5.8,SNR=7.1
comp=Z,4.6nm,0.6s
D19K Kuna River 82.47 21 P **P** **19 45 45.6 +1.1**
D19K IAmb IAmb 19 45 48.1
comp=Z,11nm,0.8s
D19K Kuna River 82.47 21 P **P** **19 45 45.8 +1.3**
baz=257
H19K Roundabout Mou 82.48 24 P **P** **19 45 45.4 +0.8**
H19K IAmb IAmb 19 45 47.7
comp=Z,15nm,1.1s
H19K Roundabout Mou 82.48 24 P **P** **19 45 46.2 +1.7**
baz=259,SNR=7.0
N19K Bonanza Creek 82.54 29 P **P** **19 45 46.5 +1.4**
N19K IAmb IAmb 19 46 43.4
comp=Z,19nm,1.4s
N19K Bonanza Creek 82.54 29 P **P** **19 45 45.8 +0.6**
baz=261
J19K Poorman 82.54 26 P **P** **19 45 45.7 +0.7**
J19K IAmb IAmb 19 46 10.4
comp=Z,14nm,1.2s
J19K Poorman 82.54 26 P **P** **19 45 46.3 +1.4**
baz=260,SNR=5.9
E19K Redstone River 82.56 22 P **P** **19 45 45.8 +0.8**
E19K IAmb IAmb 19 45 59.6
comp=Z,12nm,1.0s
E19K Redstone River 82.56 22 P **P** **19 45 46.7 +1.7**
baz=258
L19K White Mountain 82.58 28 P **P** **19 45 45.9 +0.7**
L19K IAmb IAmb 19 45 57.3
comp=Z,13nm,1.3s
L19K White Mountain 82.58 28 P **P** **19 45 46.3 +1.1**
baz=261
OHAK Old Harbor 82.64 33 P **P** **19 45 46.7 +1.1**
OHAK Old Harbor 82.64 33 P **P** **19 45 46.4 +0.8**
baz=263
Q19K Cape Douglas, 82.68 31 P **P** **19 45 47.1 +1.2**
baz=262
M19K Big River Lodg 82.75 28 P **P** **19 45 46.7 +0.6**
M19K IAmb IAmb 19 46 11.6
comp=Z,13nm,1.3s
SBA Scott Base 82.85 172 P **P** **19 45 47.8 +1.6**
SBA IAmb IAmb 19 46 08.5
comp=Z,11nm,1.2s
P19K Oil Pt 82.99 30 P **P** **19 45 48.3 +0.9**
baz=262
D20K Etivluk River 83.05 21 P **P** **19 45 48.2 +0.6**
baz=258
F20K Avaraart Lake 83.06 23 P **P** **19 45 48.5 +0.9**
F20K IAmb IAmb 19 45 51.4
comp=Z,17nm,1.5s
F20K Avaraart Lake 83.06 23 P **P** **19 45 48.2 +0.7**
baz=259,SNR=7.0
L20K Farewell, AK 83.07 27 P **P** **19 45 48.6 +0.8**
baz=262
KDAK Kodiak Island 83.09 32 P **P** **19 45 48.7 +0.8**
E20K Nigu River 83.11 21 P **P** **19 45 49.2 +1.2**
baz=259
H20K Anneeega Mo 83.12 24 P **P** **19 45 48.9 +0.9**
baz=260
K20K Telida 83.12 26 P **P** **19 45 49.2 +1.2**
K20K IAmb IAmb 19 46 13.6
comp=Z,14nm,1.4s
K20K Telida 83.12 26 P **P** **19 45 48.8 +0.8**
baz=261
B20K Meade River 83.14 20 P **P** **19 45 48.9 +1.0**
B20K Meade River 83.14 20 P **P** **19 45 49.6 +1.7**
baz=258
J20K Nowinta River 83.21 26 P **P** **19 45 48.7 +0.3**
J20K Nowinta River 83.21 26 P **P** **19 45 48.9 +0.5**
baz=261
Q20K Shuyak Island 83.29 31 P **P** **19 45 49.3 +0.4**
baz=263
M20K Styx River 83.33 28 P **P** **19 45 50.4 +1.2**
M20K IAmb IAmb 19 46 05.1
comp=Z,20nm,1.4s
M20K Styx River 83.33 28 P **P** **19 45 49.3 +0.1**
baz=262
IMAR Indian Mountai 83.66 24 P **P** **19 45 51.9 +1.3**
N20K Mount Spurr 83.69 29 P **P** **19 45 52.3 +1.2**
baz=263
C21K Knifeblade Rid 83.79 21 P **P** **19 45 51.7 +0.4**
baz=260
KARS Kars 83.81 310 P **P** **19 45 53.2 +1.0**
G21K Allakaket 83.83 23 P **P** **19 45 52.7 +1.1**
G21K IAmb IAmb 19 45 54.4
comp=Z,28nm,1.9s
G21K Allakaket 83.83 23 P **P** **19 45 51.8 +0.3**
baz=261
PPLA Purkeypile 83.90 27 P **P** **19 45 52.3 +0.1**
baz=263
B21K Ikpikpuk River 83.93 20 P **P** **19 45 53.0 +1.0**
B21K IAmb IAmb 19 46 06.0
comp=Z,12nm,0.9s
B21K Ikpikpuk River 83.93 20 P **P** **19 45 51.2 -0.8**
baz=260,SNR=6.5
F21K Alatna River 83.95 23 P **P** **19 45 52.6 +0.4**
F21K Alatna River 83.95 23 P **P** **19 45 52.4 +0.2**
baz=261
E21K Killik River 83.96 21 P **P** **19 45 52.6 +0.5**
E21K IAmb IAmb 19 46 29.2
comp=Z,10nm,1.1s
E21K Killik River 83.96 21 P **P** **19 45 52.7 +0.5**
baz=261
CHUM Lake Minchumin 83.97 26 P **P** **19 45 51.9 -0.3**
baz=263
H21K Melozitna Rive 83.99 24 P **P** **19 45 53.3 +0.9**
H21K IAmb IAmb 19 45 56.1
comp=Z,30nm,1.9s
H21K Melozitna Rive 83.99 24 P **P** **19 45 52.9 +0.4**
baz=262,SNR=5.9
CAST Castle Rocks 84.01 27 P **P** **19 45 52.8 +0.2**
CAST IAmb IAmb 19 46 37.1
comp=Z,11nm,1.4s
CAST Castle Rocks 84.01 27 P **P** **19 45 53.7 +1.1**
baz=263
A22K Sinclair Lake 84.05 19 P **P** **19 45 52.9 +0.4**
baz=260
KBZ Khabaz 84.07 314 P **P** **19 45 53.1 -0.1**
comp=Z,4.3nm,0.8s,baz=105,slow=7.2,SNR=9.4
comp=Z,4.3nm,0.8s
SKT Skwentna 84.10 28 P **P** **19 45 53.1 +0.1**
SKT Skwentna 84.10 28 P **P** **19 45 54.1 +1.1**
baz=264
KVAR Kislovodsk Arr 84.23 314 P **P** **19 45 55.8 +1.6**
comp=Z,2.7nm,0.7s,baz=72,slow=9.6,SNR=1.5
comp=Z,2.7nm,0.7s
KIV Kislovodsk 84.24 314 P **P** **19 45 54.1 -0.1**
KIV IAmb IAmb 19 45 59.0
comp=Z,12nm,0.7s
BRSE Bradley Lake S 84.25 30 P **P** **19 45 54.8 +0.9**
baz=265
I21K Tanana 84.27 25 P **P** **19 45 53.7 -0.1**
I21K Tanana 84.27 25 P **P** **19 45 54.5 +0.7**
baz=263
B22K Teshekpuk Lake 84.45 20 P **P** **19 45 55.6 +1.0**
B22K Teshekpuk Lake 84.45 20 P **P** **19 45 55.8 +1.2**
baz=261,SNR=5.5
F22K John River 84.49 22 P **P** **19 45 55.9 +1.0**
baz=262,SNR=6.3
D22K Ayikyak River 84.49 21 P **P** **19 45 55.6 +0.7**
D22K IAmb IAmb 19 46 03.1
comp=Z,29nm,1.8s
D22K Ayikyak River 84.49 21 P **P** **19 45 56.6 +1.7**
baz=262
GURO Guroymak-BITLI 84.54 308 P **P** **19 45 56.3 +0.3**
BPAW Bear Paw Mtn. 84.58 26 P **P** **19 45 56.9 +1.5**
baz=264
H22K Ishtalitna Cre 84.61 24 P **P** **19 45 57.7 +2.1**
baz=263
G22K Bettles 84.68 23 P **P** **19 45 57.2 +1.4**
baz=263
E22K Anaktuvuk Pass 84.71 22 P **P** **19 45 56.6 +0.5**
E22K IAmb IAmb 19 46 16.4
comp=Z,12nm,1.1s
E22K Anaktuvuk Pass 84.71 22 P **P** **19 45 57.5 +1.5**
baz=263
M22K Willow 84.74 28 P **P** **19 45 56.4 +0.2**
M22K Willow 84.74 28 P **P** **19 45 57.6 +1.4**
baz=265
MLY Manley 84.78 25 P **P** **19 45 57.4 +0.9**
MLY Manley 84.78 25 P **P** **19 45 57.8 +1.4**
baz=264
TRF Thorofare Moun 84.82 27 P **P** **19 45 57.9 +1.1**
baz=265
RC01 Rabbit Creek A 84.87 29 P **P** **19 45 57.3 +0.4**
SEW Seward 84.93 30 P **P** **19 45 58.6 +1.4**
baz=266
COLD Coldfoot 85.22 23 P **P** **19 45 60.0 +1.4**
baz=264
D23K Nanushuk River 85.22 21 P **P** **19 45 60.0 +1.5**
baz=264
G23K Bananza Creek 85.24 23 P **P** **19 45 59.6 +0.9**
G23K Bananza Creek 85.24 23 P **P** **19 46 00.6 +1.9**
baz=265
C23K Itkillik River 85.34 20 P **P** **19 45 59.6 +0.5**
C23K IAmb IAmb 19 46 13.1
comp=Z,11nm,1.1s
C23K Itkillik River 85.34 20 P **P** **19 46 00.7 +1.6**
baz=264,SNR=5.8
H23K Yukon River 85.35 24 P **P** **19 45 59.7 +0.4**
H23K Yukon River 85.35 24 P **P** **19 46 00.8 +1.6**
baz=265
I23K Minto, Yukon-K 85.37 25 P **P** **19 45 59.9 +0.6**
I23K IAmb IAmb 19 46 23.0
comp=Z,15nm,1.5s
I23K Minto, Yukon-K 85.37 25 P **P** **19 46 00.8 +1.5**
baz=265
MCK McKinley 85.44 26 P **P** **19 46 00.5 +0.7**
baz=266
NEA2 Nenana 85.45 25 P **P** **19 46 01.0 +1.2**
baz=266
RND Reindeer 85.46 27 P **P** **19 45 59.5 -0.4**
RND IAmb IAmb 19 46 22.4
comp=Z,12nm,1.4s
KNK Knik Glacier 85.51 29 P **P** **19 46 00.4 +0.2**
KNK IAmb IAmb 19 46 39.8
comp=Z,14nm,1.1s
KNK Knik Glacier 85.51 29 P **P** **19 46 01.0 +0.9**
baz=266
E23K Chandalar 85.52 22 P **P** **19 46 01.7 +1.6**
baz=265
WAT1 Susitna Watana 85.56 27 P **P** **19 46 00.8 +0.4**
baz=266
TOLK Toolik Lake Re 85.59 21 P **P** **19 46 00.8 +0.3**
TOLK IAmb IAmb 19 46 16.2
comp=Z,6.7nm,1.1s
TOLK Toolik Lake Re 85.59 21 P **P** **19 46 00.2 -0.3**
baz=265
SML Sawmill 85.59 28 P **P** **19 46 01.0 +0.4**
SML Sawmill 85.59 28 P **P** **19 46 01.5 +0.9**
baz=266
M23K Glacier View 85.88 28 P **P** **19 46 02.4 +0.4**
baz=267
D24K Happy Valley 85.90 21 P **P** **19 46 03.5 +1.6**
D24K IAmb IAmb 19 46 20.6
comp=Z,6.0nm,0.9s
D24K Happy Valley 85.90 21 P **P** **19 46 03.2 +1.3**
baz=266
WAT6 Susitna Watana 85.91 28 P **P** **19 46 03.1 +0.8**
baz=267
E24K Your Creek 85.94 22 P **P** **19 46 03.0 +0.7**
E24K IAmb IAmb 19 46 35.0
comp=Z,18nm,2.0s
E24K Your Creek 85.94 22 P **P** **19 46 03.7 +1.5**
baz=266
P23K Montague Islan 85.95 30 P **P** **19 46 03.6 +1.2**
baz=268
C24K Franklin Bluff 85.99 20 P **P** **19 46 02.7 +0.4**
baz=266
H24K Noodor Dome 86.04 24 P **P** **19 46 03.6 +0.9**
H24K Noodor Dome 86.04 24 P **P** **19 46 03.3 +0.6**
baz=267
SCM Sheep Creek Mo 86.07 28 P **P** **19 46 03.2 +0.2**
SCM Sheep Creek Mo 86.07 28 P **P** **19 46 03.2 +0.2**
baz=267
DHY Denali Highway 86.11 27 P **P** **19 46 03.4 +0.2**
DHY IAmb IAmb 19 48 35.0
comp=Z,10nm,1.4s
F24K Squaw Lake 86.13 23 P **P** **19 46 03.2 +0.1**
F24K IAmb IAmb 19 46 07.0
comp=Z,13nm,1.6s
F24K Squaw Lake 86.13 23 P **P** **19 46 04.1 +1.0**
baz=266
GLI Glacier Island 86.14 29 P **P** **19 46 03.6 +0.3**
baz=268
POKR Poker Plat Res 86.18 25 P **P** **19 46 02.9 -0.5**
POKR IAmb IAmb 19 47 09.7
comp=Z,6.5nm,0.8s
POKR Poker Plat Res 86.18 25 P **P** **19 46 04.4 +1.0**
baz=267

G24K	**Hadweenzic Riv**	**86.25**	**23**	P	**P**	**19 46 04.3**	**+0.6**
	baz=267						
ILAR	**Eielson Array**	**86.40**	**25**	P	**P**	**19 46 03.2**	**-1.2**
	comp=Z,0.3nm,0.7s,baz=252,slow=5.1,SNR=4.9						
KLU	**Klutina**	**86.73**	**29**	P	**P**	**19 46 06.4**	**+0.2**
KLU	**Klutina**	**86.73**	**29**	P	**P**	**19 46 07.7**	**+1.4**
	baz=269						
D25K	**Kavik River**	**86.78**	**21**	P	**P**	**19 46 06.4**	**+0.1**
D25K	**Kavik River**	**86.78**	**21**	P	**P**	**19 46 07.1**	**+0.8**
	baz=268						
EYAK	**Cordova Ski Ar**	**86.79**	**30**	P	**P**	**19 46 07.3**	**+0.9**
	baz=269						
G25K	**Bearman Lake**	**86.80**	**23**	P	**P**	**19 46 07.4**	**+1.1**
	baz=268						
H25L	**Birch Creek**	**86.89**	**24**	P	**P**	**19 46 08.5**	**+1.7**
	baz=268						
F25K	**Christian Rive**	**87.00**	**23**	P	**P**	**19 46 08.1**	**+0.7**
	baz=269						
E25K	**Arctic Village**	**87.04**	**22**	P	**P**	**19 46 07.9**	**+0.3**
E25K	**Arctic Village**	**87.04**	**22**	P	**P**	**19 46 08.4**	**+0.8**
	baz=269						
J25K	**Salcha River,**	**87.05**	**26**	P	**P**	**19 46 06.2**	**-1.5**
J25K				IAmb	IAmb	19 48 43.5	
	comp=Z,15nm,1.9s						
J25K	**Salcha River,**	**87.05**	**26**	P	**P**	**19 46 08.6**	**+0.9**
	baz=269						
C26K	**Camden Bay**	**87.31**	**20**	P	**P**	**19 46 10.0**	**+1.2**
	baz=269						
BMRM	**Bremner River**	**87.36**	**29**	P	**P**	**19 46 10.6**	**+1.3**
	baz=270						
BMAR	**Burnt Mountain**	**87.40**	**23**	P	**P**	**19 46 10.6**	**+1.2**
ARPR	**Arapgir-MALATY**	**87.44**	**309**	P	**P**	**19 46 09.8**	**-0.5**
F26K	**Sheenjek River**	**87.57**	**22**	P	**P**	**19 46 10.5**	**+0.4**
	baz=270						
SCRK	**Sand Creek**	**87.64**	**26**	P	**P**	**19 46 10.6**	**-0.1**
SCRK				IAmb	IAmb	19 47 30.4	
	comp=Z,16nm,1.9s						
SCRK	**Sand Creek**	**87.64**	**26**	P	**P**	**19 46 10.9**	**+0.3**
	baz=270						
G26K	**Porcupine Rive**	**87.71**	**23**	P	**P**	**19 46 11.9**	**+1.2**
	baz=270						
C27K	**Jago River**	**87.73**	**21**	P	**P**	**19 46 11.8**	**+1.0**
	baz=270						
J26L	**Joseph Creek**	**87.83**	**26**	P	**P**	**19 46 11.2**	**-0.2**
J26L				IAmb	IAmb	19 46 31.4	
	comp=Z,15nm,1.9s						
J26L	**Joseph Creek**	**87.83**	**26**	P	**P**	**19 46 11.7**	**+0.3**
	baz=271						
VRDI	**Verde Repeater**	**87.92**	**29**	P	**P**	**19 46 12.0**	**-0.1**
I26K	**Coal Creek Min**	**87.99**	**25**	P	**P**	**19 46 11.9**	**-0.2**
	baz=271						
BGLC	**Bering Glacier**	**88.02**	**30**	P	**P**	**19 46 12.3**	**0.0**
	baz=271						
M26K	**Nabesna, AK**	**88.11**	**28**	P	**P**	**19 46 12.8**	**0.0**
	baz=271						
MCARA	**McCarthy VSAT**	**88.12**	**29**	P	**P**	**19 46 12.8**	**-0.1**
	baz=271						
WAX	**Waxell Ridge**	**88.23**	**30**		**P**	**19 46 14.6**	**+1.1**
GAZ	**Gaziantep**	**88.36**	**307**	P	**P**	**19 46 15.1**	**+0.6**
K27K	**Chicken**	**88.48**	**26**	P	**P**	**19 46 14.7**	**+0.2**
K27K				IAmb	IAmb	19 46 37.6	
	comp=Z,6.6nm,1.1s						
K27K	**Chicken**	**88.48**	**26**	P	**P**	**19 46 15.5**	**+1.0**
	baz=272						
E27K	**Coleen River**	**88.53**	**22**	P	**P**	**19 46 15.0**	**+0.4**
E27K	**Coleen River**	**88.53**	**22**	P	**P**	**19 46 14.7**	**+0.1**
	baz=272						
G27K	**Doyon Strip**	**88.56**	**23**	P	**P**	**19 46 15.3**	**+0.5**
	baz=272						
I27K	**Kandik River**	**88.62**	**25**	P	**P**	**19 46 16.3**	**+1.1**
	baz=272						
L27K	**Beaver Creek,**	**88.63**	**27**	P	**P**	**19 46 16.7**	**+1.4**
	baz=272						
H27K	**Steamboat Moun**	**88.63**	**24**	P	**P**	**19 46 15.5**	**+0.3**
	baz=272						
M27K	**Edge Creek, AK**	**88.64**	**28**	P	**P**	**19 46 16.4**	**+1.0**
	baz=272						
MESA	**MESA**	**88.68**	**30**	P	**P**	**19 46 16.4**	**+0.7**
	baz=272						
D27M	**Malcolm River**	**88.71**	**21**	P	**P**	**19 46 16.3**	**+0.8**
	baz=273						
CTG	**Chitna Glacier**	**88.95**	**29**	P	**P**	**19 46 17.2**	**+0.3**
	baz=273						
F28M	**Old Crow**	**89.21**	**22**	P	**P**	**19 46 18.2**	**+0.4**
F28M	**Old Crow**	**89.21**	**22**	P	**P**	**19 46 18.4**	**+0.5**
	baz=274						
E28M	**Babbage River**	**89.26**	**21**	P	**P**	**19 46 18.0**	**-0.1**
E28M	**Babbage River**	**89.26**	**21**	P	**P**	**19 46 19.1**	**+1.0**
	baz=274						
I28M	**Miner Creek**	**89.33**	**25**	P	**P**	**19 46 19.3**	**+0.7**
I28M				IAmb	IAmb	19 46 51.5	
	comp=Z,4.4nm,1.1s						
I28M	**Miner Creek**	**89.33**	**25**	P	**P**	**19 46 19.4**	**+0.9**
	baz=274						
YUK3	**Moose Creek**	**89.33**	**28**	P	**P**	**19 46 20.0**	**+1.3**
	baz=274						
D28M	**Stokes Point**	**89.49**	**21**	P	**P**	**19 46 20.1**	**+1.1**
	baz=275						
DAWY	**Dawson**	**89.66**	**26**	P	**P**	**19 46 21.2**	**+1.1**
	baz=274						
YUK8	**Steele Glacier**	**89.70**	**29**	P	**P**	**19 46 21.1**	**+0.6**
	baz=274						
E29M	**Blow River**	**89.88**	**22**	P	**P**	**19 46 21.9**	**+1.0**
	baz=276						
H29M	**Whitestone**	**89.91**	**24**	P	**P**	**19 46 21.9**	**+0.8**
	baz=275						
G29M	**Pine Creek**	**89.98**	**23**	P	**P**	**19 46 22.3**	**+0.8**
	baz=276						
MMAI	**Mount Meron Ar**	**90.00**	**303**	P	**P**	**19 46 22.7**	**+0.4**
	comp=Z,2.0nm,0.6s,baz=91,slow=8.6,SNR=4.2						
	comp=Z,2.0nm,0.6s						
PNL	**Peninsula**	**90.00**	**30**	P	**P**	**19 46 21.8**	**+0.1**
	baz=274						
M29M	**Somme Creek**	**90.22**	**28**	P	**P**	**19 46 23.6**	**+0.8**
	baz=275						
YUK4	**Talbot Arm**	**90.23**	**29**	P	**P**	**19 46 23.7**	**+0.7**
	baz=275						
L29M	**L29M**	**90.31**	**27**	P	**P**	**19 46 23.8**	**+0.7**
	baz=276						
YUK6	**Outpost Mounta**	**90.40**	**29**	P	**P**	**19 46 24.1**	**+0.2**
	baz=275						
K29M	**Barlow Dome**	**90.50**	**26**	P	**P**	**19 46 24.0**	**-0.1**
	baz=276						
F30M	**Barrier River**	**90.77**	**22**	P	**P**	**19 46 24.8**	**-0.3**
	baz=278						
I30M	**Mount Dempster**	**90.84**	**25**	P	**P**	**19 46 25.6**	**-0.1**
	baz=277						
P29M	**Windy Craggy**	**90.84**	**30**	P	**P**	**19 46 25.4**	**-0.2**
	baz=276						
J30M	**Hart River**	**90.94**	**25**	P	**P**	**19 46 26.8**	**+0.7**
	baz=277						
N30M	**Aishikik Lake**	**90.96**	**29**	P	**P**	**19 46 26.9**	**+0.7**
	baz=276						
BR131	**Keskin Array S**	**91.05**	**310**	P	**P**	**19 46 26.2**	**-0.9**
BR131				IAmb	IAmb	19 46 31.6	
	comp=Z,3.4nm,0.8s						
BRTR	**Keskin Array B**	**91.05**	**310**	P	**P**	**19 46 26.1**	**-1.0**
BRTR	**Keskin Array B**	**91.05**	**310**	P	**P**	**19 46 26.5**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=85,slow=4.8,SNR=12						
	comp=Z,2.1nm,0.8s						
P30M	**Million Dollar**	**91.18**	**30**	P	**P**	**19 46 28.2**	**+1.0**
	baz=276						
G31M	**Satah River**	**91.45**	**23**	P	**P**	**19 46 28.4**	**+0.2**
	baz=279						
INK	**Inuvik**	**91.50**	**22**	P	**P**	**19 46 28.8**	**+0.4**
	baz=280						
O30N	**Mendenhall**	**91.53**	**29**	P	**P**	**19 46 28.6**	**-0.2**
	baz=277						
F31M	**Tsiigehtchic**	**91.57**	**22**	P	**P**	**19 46 28.4**	**-0.4**
	baz=280						
N31M	**Braeburn, Yuko**	**91.58**	**28**	P	**P**	**19 46 28.2**	**-0.9**
	baz=278						
ARCES	**ARCESS Array B**	**91.88**	**340**	P	**P**	**19 46 29.0**	**-1.2**
	comp=Z,2.1nm,0.7s,baz=74,slow=5.4,SNR=7.4						
	comp=Z,2.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**91.95**	**349**	P	**P**	**19 46 29.5**	**-0.9**
	comp=Z,6.6nm,1.0s,baz=90,slow=1.4,SNR=5.9						
	comp=Z,6.6nm,1.0s						
QSPA	**South Pole Qui**	**92.15**	**180**	P	**P**	**19 46 31.1**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=284,slow=1.5,SNR=11						
	comp=Z,2.5nm,1.0s						
P32M	**Atlin**	**92.87**	**30**	P	**P**	**19 46 35.6**	**+0.5**
	baz=279						
N32M	**Quiet Lake**	**92.92**	**29**	P	**P**	**19 46 36.0**	**+0.7**
	baz=280						
AKASG	**Malin Array Be**	**93.11**	**321**	P	**P**	**19 46 36.8**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=68,slow=4.4,SNR=3.5						
	comp=Z,1.2nm,0.6s						
FINES	**FINESS Array B**	**93.19**	**332**	P	**P**	**19 46 38.0**	**+1.6**
	comp=Z,1.6nm,0.7s,baz=99,slow=8.6,SNR=10						
	comp=Z,1.6nm,0.7s						
MMPY	**Sheldon Lake,**	**93.49**	**27**	P	**P**	**19 46 38.9**	**+1.1**
	baz=282						
C36M	**Paulatuk**	**94.57**	**20**	P	**P**	**19 46 41.6**	**-0.9**
C36M				IAmb	IAmb	19 46 47.9	
	comp=Z,3.1nm,0.7s						
C36M	**Paulatuk**	**94.57**	**20**	P	**P**	**19 46 42.8**	**+0.2**
	baz=289						
TGTN	**Hyland Airport**	**95.11**	**28**	P	**P**	**19 46 46.0**	**+0.7**
	baz=284						
MLR	**Muntele Rosu**	**96.04**	**316**	P	**P**	**19 46 48.8**	**-1.2**
MLR				IAmb	IAmb	19 47 00.3	
	comp=Z,8.2nm,1.5s						
BURAR	**Bucovina Array**	**96.17**	**318**	P	**P**	**19 46 49.8**	**-0.7**
BUR08	**Bucovina Ar. S**	**96.18**	**318**	P	**P**	**19 46 49.6**	**-1.0**
BUR08				IAmb	IAmb	19 46 56.2	
	comp=Z,3.7nm,0.8s						
TOAD	**Toad River Com**	**97.29**	**30**	P	**P**	**19 46 55.4**	**+0.2**
	baz=287						
RES	**Resolute Bay**	**99.25**	**10**		**Pdif**	**19 47 03.4**	**-0.2**
RES				IAmb	IAmb	19 47 04.9	
	comp=Z,2.2nm,0.7s						
HFS	**Hagfors**	**99.38**	**332**	P	**Pdif**	**19 47 05.1**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=107,slow=9.7,SNR=2.4						
	comp=Z,2.0nm,0.8s						
NB2	**NORSAR Subarra**	**100.16**	**334**	P	**Pdif**	**19 47 06.2**	**-1.8**
	comp=Z,2.5nm,1.1s,baz=63,slow=4.6						
NOA	**NORSAR Array B**	**100.16**	**334**	P	**Pdif**	**19 47 07.2**	**-0.9**
	comp=Z,0.8nm,0.8s,baz=65,slow=4.6,SNR=4.0						
YKA	**Yellowknife Ar**	**100.81**	**25**	P	**Pdif**	**19 47 11.3**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=300,slow=5.1,SNR=5.9						
MPMC	**Manual Prospec**	**109.16**	**51**	P	**PKiKP**	**19 51 52.6**	**-0.2**
	baz=288						
RSSD	**Black Hills**	**115.30**	**38**	P	**PKiKP**	**19 52 04.5**	**+0.3**
	baz=301						
SDCO	**Great Sand Dun**	**117.41**	**45**	P	**PKPdf**	**19 52 07.9**	**-0.7**
	baz=297						
EYMN	**Ely**	**119.89**	**29**	P	**PKPdf**	**19 52 13.2**	**+0.5**
	baz=314						
ECSD	**EROS Data Cent**	**119.94**	**35**	P	**PKPdf**	**19 52 13.4**	**+0.5**
	baz=308						
SCHQ	**Schefferville**	**122.01**	**9**	PKP	**PKPdf**	**19 52 16.9**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=0.0,slow=11,SNR=8.6						
TXAR	**Lajitas Array**	**122.42**	**53**	PKP	**PKiKP**	**19 52 19.8**	**+1.4**
	comp=Z,0.4nm,0.7s,baz=304,slow=2.3,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.47**	**287**	PKP	**PKPdf**	**19 52 20.5**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=54,slow=2.1,SNR=6.5						
DBIC	**Dimbokro**	**130.97**	**281**	PKP	**PKiKP**	**19 52 36.0**	**+0.4**
	comp=Z,3.4nm,0.9s,baz=98,slow=5.9,SNR=2.5						
PLCA	**Paso Flores**	**138.58**	**160**	PKP	**PKPdf**	**19 52 49.2**	**+0.8**
	comp=Z,2.5nm,0.9s,baz=180,slow=2.8,SNR=5.5						
ROC1	**El Roble**	**145.14**	**153**	*i* P	**PKPdf**	**19 53 01.3**	**+0.8**
AAGR	**Agrelo**	**145.98**	**156**	*i* P	**PKPab**	**19 53 04.2**	**+1.1**
ARCO	**CERRO ARCO**	**146.15**	**156**	*i* P	**PKPab**	**19 53 04.7**	**+0.8**
ASAL	**Salagasta**	**146.41**	**156**	*i* P	**PKPab**	**19 53 05.3**	**+0.6**
AUSP	**Uspallata**	**146.49**	**155**	*i* P	**PKPab**	**19 53 06.2**	**+0.9**
RTLS	**Leoncito**	**146.90**	**154**	*i* P	**PKPab**	**19 53 07.2**	**+0.3**
ACCO	**Cerro Coronel**	**148.03**	**154**	*i* P	**PKiKP**	**19 53 10.1**	**-0.4**
ACDV	**Cuesta del Vie**	**148.37**	**153**	*i* P	**PKPdf**	**19 53 07.9**	**+2.0**
ACHE	**Chepes**	**148.53**	**157**	*i* P	**PKiKP**	**19 53 11.1**	**-0.3**
AVFE	**Valle Fertil**	**148.66**	**156**	*i* P	**PKiKP**	**19 53 11.3**	**-0.2**
AGUA	**GUANDACOL**	**149.23**	**153**	*e*P	**PKiKP**	**19 53 13.2**	**+0.4**
APLL	**PUNTA DE LOS L**	**149.26**	**157**	*i* P	**PKiKP**	**19 53 12.8**	**0.0**
ACLC	**CERRO LA CRUZ**	**149.95**	**155**	*i* P	**PKPbc**	**19 53 14.2**	**+0.7**
AC02	**Maricunga**	**151.15**	**149**	*i* P	**PKiKP**	**19 53 18.8**	**+1.6**
CYA	**Choya**	**151.29**	**156**	*i* P	**PKiKP**	**19 53 17.3**	**+0.4**
LPAZ	**La Paz**	**159.71**	**134**	PKP	**PKPdf**	**19 53 24.1**	**+1.4**
	comp=Z,1.3nm,0.8s,baz=236,slow=1.6,SNR=4.3						

KRSC 01 19:35:22.7±1.0,**55.07N**×**164.70E**,**h60**km±**23**km,**MI4.0,**
Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**0.74**	**79**	*e*P	Pn	19 35 38.6	+1.1
BKI				*e*S	Sn	19 35 49.1	+0.8
KBTR	**Krutoberegovo**	**1.56**	**318**	*e*P	Pn	19 35 48.2	0.0
MKZ	**Mys Kozlova**	**1.79**	**255**	*e*P	Pn	19 35 53.4	+2.0
ZLN	**Zelenaya**	**2.41**	**295**	*e*P	Pn	19 36 03.1	+3.3
TUMD	**Tumrok D**	**2.47**	**275**	*e*P	Pn	19 36 03.0	+2.4
TUMD				*e*S	Sn	19 36 32.6	+3.0
CIRR	**Tsirk**	**2.48**	**297**	*e*P	Pn	19 36 04.7	+3.9
LGNR	**Loginova**	**2.49**	**296**	*e*P	Pn	19 36 04.3	+3.2
SRKR	**Sorokina**	**2.55**	**310**	*e*S	Sn	19 36 33.6	+2.1
BZWR	**Bezymyannyi-We**	**2.55**	**292**	*e*P	Pn	19 36 04.9	+3.1
KLY	**Klyuchi**	**2.61**	**300**	*e*P	Pn	19 36 03.8	+1.4
KRSR	**Krestovskiy**	**2.61**	**298**	*e*P	Pn	19 36 04.7	+2.1
TUMR	**Tumrok**	**2.62**	**277**	*e*P	Pn	19 36 05.9	+3.2
KIRR	**Kirishev**	**2.63**	**291**	*e*P	Pn	19 36 06.0	+3.1
KIRR				*e*S	Sn	19 36 37.3	+3.6
KMNR	**Kamenistaya**	**2.63**	**287**	*e*P	Pn	19 36 06.4	+3.5
KPT	**Kopyto**	**2.70**	**291**	*e*P	Pn	19 36 06.7	+3.0
KPT				*e*S	Sn	19 36 38.8	+3.5
KOZ	**Kozyrevsk**	**2.91**	**292**	*e*P	Pn	19 36 10.3	+3.7
SRDR	**Sredinnyy**	**3.08**	**296**	*e*P	Pn	19 36 12.3	+3.3
SRDR				*e*S	Sn	19 36 48.7	+4.1
KII	**Karymskiy**	**3.23**	**253**	*e*P	Pn	19 36 14.1	+3.1
KII				*e*S	Sn	19 36 50.9	+2.8
SPN	**Mys Shipunski**	**3.39**	**236**	*e*P	Pn	19 36 16.3	+3.2
SPN				*e*S	Sn	19 36 52.9	+0.9
ESO	**Esso**	**3.52**	**287**	*e*P	Pn	19 36 18.0	+3.1
NLC	**Nalytchevo**	**3.68**	**241**	*e*P	Pn	19 36 20.0	+3.0
NLC				*e*S	Sn	19 37 00.5	+1.4
SMAR	**Somma**	**3.91**	**245**	*e*P	Pn	19 36 24.4	+4.0
KRER	**Koryakskii**	**3.92**	**246**	*e*P	Pn	19 36 24.7	+4.2
UGLR	**Uglovaya**	**3.92**	**244**	*e*P	Pn	19 36 24.6	+4.1
AVH	**Avacha**	**3.94**	**245**	*e*P	Pn	19 36 25.0	+4.3
KRX	**Arik**	**3.94**	**247**	*e*P	Pn	19 36 24.9	+4.1
KOK	**Koryaka**	**3.98**	**246**	*e*P	Pn	19 36 25.4	+4.1
DALK	**Dalny**	**4.05**	**242**	*e*P	Pn	19 36 25.6	+3.4
PET	**Petropavlovsk**	**4.11**	**243**	*e*P	Pn	19 36 26.6	+3.7
PET				*e*S	Sn	19 37 11.5	+1.8
GNL	**Ganaly**	**4.18**	**254**	*e*P	Pn	19 36 28.3	+4.2
OSSR	**Ossora**	**4.29**	**349**	*e*P	Pn	19 36 27.1	+1.8
KRMR	**Karymshinskiy**	**4.48**	**243**	*e*P	Pn	19 36 32.0	+4.0
KRMR				*e*S	Sn	19 37 20.8	+2.0
RUS	**Russkaya**	**4.52**	**237**	*e*P	Pn	19 36 31.9	+3.3
MTVR	**Mutnovka**	**4.65**	**239**	*e*P	Pn	19 36 34.4	+3.9
MTVR				*e*S	Sn	19 37 25.1	+1.9
ASAK	**Asacha**	**4.85**	**239**	*e*P	Pn	19 36 37.6	+4.4
ASAK				*e*S	Sn	19 37 30.2	+2.2
APC	**Apacha**	**4.94**	**247**	*e*P	Pn	19 36 38.8	+4.5
KDTR	**Khodutka, Kamc**	**5.13**	**233**	*e*P	Pn	19 36 40.0	+3.1
TILK	**Tilichiki**	**5.45**	**8**	*e*P	Pn	19 36 44.6	+3.4
SKR	**Severo-Kuril's**	**6.80**	**233**	*e*P	Pn	19 37 03.3	+3.5

NEIC ***01*** *19:37:39.6*±*1.8,36.46N*±*0.01*×*98.79W*±*0.02,h5*km±*1km,*
Error ellipse: s-maj=2.9km s-min=2.1km az=306.0
TUL 01 19:37:40.1±1.6,**36.46N**±**0.01**×**98.80W**±**0.01**,**h5**km±**2**km,
ML2.4,mb_Lg2.5/40(NEIC),**ML2.6**/14(NEIC),**Error**
ellipse: s-maj=1.6km s-min=1.3km az=187.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.05**	**67**	Pg	Pg	19 37 41.9	+0.5
OK038				Sg	Sg	19 37 43.3	+0.8
U32A	**Winter Ranch,**	**0.18**	**244**	Pg	Pg	19 37 44.0	+0.3
U32A				Sg	Sg	19 37 46.6	+0.4
U32A				IAML		19 37 47.5	
	comp=E,2μm,0.1s						
OK035	**E0210 Rd and N**	**0.26**	**16**	Pg	Pg	19 37 45.6	+0.4
OK035				Sg	Sg	19 37 49.6	+1.0
OK035				IAML		19 37 49.9	
	comp=E,1μm,0.4s						
OK032	**Salt Plains WL**	**0.58**	**54**		Pg	19 37 51.3	0.0
OK032				Sg	Sg	19 37 59.3	+0.3
OK032				IAML		19 38 05.7	
	comp=E,317nm,0.2s						
OK032				IAML		19 38 10.4	
	comp=E,388nm,0.1s						
ELIS	**Ellis County**	**0.64**	**232**		Pg	19 37 50.9	-1.5
ELIS				Sg	Sg	19 38 01.5	+0.9
ELIS				IAML		19 38 08.3	
	comp=E,457nm,0.3s						
ELIS				IAML		19 38 11.4	
	comp=N,406nm,0.3s						
CROK	**Carrier**	**0.66**	**86**		Pg	19 37 52.6	-0.2
CROK				Sg	Sg	19 38 01.0	-0.3
CROK				IAML		19 38 09.7	
	comp=N,280nm,0.2s						
CROK				IAML		19 38 12.2	
	comp=E,249nm,0.3s						
CSTR	**Hydro, Custer**	**0.82**	**174**		Pg	19 37 55.5	-0.2
CSTR				Sg	Sg	19 38 06.9	+0.5
KAN14	**Manchester OK**	**0.83**	**53**	Pg	Pg	19 37 55.9	-0.2
KAN14				Sg	Sg	19 38 07.2	+0.2
GC02	**Grant County #**	**0.85**	**62**		Pg	19 37 56.0	-0.4
GC02				Sg	Sg	19 38 07.9	+0.5
KAN05	**Bluff City Nor**	**0.99**	**49**	Pg	Pg	19 37 58.6	-0.4
KAN05				Sg	Sg	19 38 12.0	+0.2
KAN08	**Anthony NE Sta**	**1.01**	**41**	Pg	Pg	19 37 59.5	-0.1
KAN08				Sg	Sg	19 38 12.8	+0.1
KAN17	**Caldwell West**	**1.01**	**55**	Pg	Pg	19 37 58.4	-1.2
KAN17				Sg	Sg	19 38 10.2	-2.6
KAN12	**Harper NE Stat**	**1.05**	**37**	Pg	Pg	19 37 58.9	-1.4
KAN01	**Argonia South**	**1.08**	**50**	Pg	Pg	19 37 59.7	-1.2
KAN06	**Argonia West S**	**1.09**	**43**	Pg	Pg	19 37 59.1	-1.9
KAN09	**Caldwell North**	**1.16**	**54**	Pg	Pg	19 38 00.7	-1.7
KAN13	**South Haven SW**	**1.20**	**62**	Pg	Pg	19 38 01.1	-1.9
KS21	**Milan North St**	**1.23**	**47**		Pg	19 38 02.7	-1.0
OK029	**Liberty Lake**	**1.27**	**121**		Pg	19 38 03.3	-1.2
ADOK	**Arcadia Dam**	**1.41**	**124**		Pn	19 38 05.4	-1.0
OK048	**Pawnee Station**	**1.50**	**91**		Pn	19 38 07.1	-0.5
OK033	**Mehan**	**1.56**	**105**		Pn	19 38 07.1	-1.3
OK051	**E0350 and S346**	**1.58**	**88**		Pn	19 38 07.5	-1.3
OK051				IAmb_Lg		19 38 29.1	
	comp=Z,35nm,0.8s						
FNO	**Franklin**	**1.65**	**136**		Pn	19 38 08.5	-1.2
OK031	**S. Brenen Rd**	**1.66**	**107**		Pn	19 38 08.9	-1.0
OK052	**Battle Ridge R**	**1.68**	**105**		Pn	19 38 09.3	-0.8
QUOK	**Quay**	**1.71**	**99**		Pn	19 38 08.8	-1.7
WMOK	**Wichita Mounta**	**1.72**	**180**	Pg	Pn	19 38 10.3	-0.3
SMWD	**Samnorwood**	**1.79**	**221**		Pn	19 38 11.4	-0.3
T35A	**Sooner Cattle**	**1.89**	**75**		Pn	19 38 13.8	+0.7
T35A				IAmb_Lg		19 38 42.5	
	comp=Z,32nm,1.2s						
DEOK	**Depew**	**1.96**	**108**		Pn	19 38 13.6	-0.3
R32A	**Long Quarter,**	**1.96**	**2**	Pn	Pn	19 38 14.4	+0.4
W35A	**Tecumseh**	**2.04**	**129**		Pn	19 38 15.3	+0.4
CBKS	**Cedar Bluff**	**2.47**	**343**		Pn	19 38 20.9	0.0
TUL3	**Leonard**	**2.49**	**102**	Pn	Pn	19 38 21.2	-0.1
WTFS	**Witchita Falls**	**2.70**	**174**		Pn	19 38 23.6	-0.6
LOOK	**Love County**	**2.79**	**151**	Pn	Pn	19 38 24.1	-1.3
AMTX	**Amarillo**	**2.83**	**237**	Pn	Pn	19 38 24.2	-1.7
AMTX				IAmb_Lg		19 39 16.5	
	comp=Z,19nm,0.9s						
RLO	**Rose Lookout**	**3.06**	**94**	Pn	Pn	19 38 29.3	+0.2
RTBA	**Rita Blanca**	**3.18**	**271**		Pn	19 38 28.0	-2.8
RTBA				IAmb_Lg		19 39 25.5	
	comp=Z,9.8nm,0.9s						
DKNS	**Dickens**	**3.29**	**213**	Pn	Pn	19 38 31.3	-1.0
APMT	**Aspermont**	**3.31**	**200**		Pn	19 38 32.2	-0.4
X37A	**Clayton**	**3.36**	**123**	Pn	Pn	19 38 31.3	-1.9
FW03	**Perrin-Whitt E**	**3.46**	**170**		Pn	19 38 33.7	-0.9
U38A	**Gravette**	**3.56**	**89**	IAmb_Lg		19 39 38.3	
	comp=Z,10nm,0.7s						
PLPT	**Palo Pinto**	**3.66**	**174**	Pn	Pn	19 38 35.7	-1.6
SN07	**Snyder 07**	**3.78**	**208**		Pn	19 38 37.6	-1.3
ABTX	**Abilene, Hawle**	**3.89**	**191**	Pn	Pn	19 38 39.0	-1.5
ABTX				IAmb_Lg		19 39 47.7	
	comp=Z,9.8nm,0.9s						
HHAR	**Hobbs**	**3.92**	**91**	Pn	Pn	19 38 38.5	-2.5
HHAR				IAmb_Lg		19 39 47.5	
	comp=Z,14nm,1.0s						
KSCO	**Kaye Shedlock'**	**3.96**	**311**		Pn	19 38 39.4	-2.2
SN05	**Snyder 5**	**3.96**	**206**	Pn	Pn	19 38 39.5	-2.0
POST	**Post**	**4.05**	**214**	Pn	Pn	19 38 40.4	-2.4
POST				IAmb_Lg		19 39 50.6	
	comp=Z,9.6nm,0.8s						
S39A	**Bolivar**	**4.55**	**73**	Pn	Pn	19 38 47.7	-1.9
S39A				IAmb_Lg		19 40 04.2	
	comp=Z,7.7nm,0.9s						

RIM				IAML		19 48 01.8	
	comp=N,981nm,1.0s						
RSD	**Rainshed**	**0.32 274**			Pg	19 47 56.1	+0.3
RSD				IAML		19 48 03.1	
	comp=E,658nm,0.9s						
RSD				IAML		19 48 04.0	
	comp=N,740nm,1.0s						
UWB	**Uwekahuna B**	**0.32 268**			Pg	19 47 55.4	-0.3
OBL	**Observatory Le**	**0.33 266**	Pg		Pg	19 47 55.3	-0.5
OBL				IAML		19 48 07.3	
	comp=N,1µm,0.6s						
UWE	**Uwekahuna**	**0.33 267**			Pg	19 47 55.9	-0.1
UWE				IAML		19 48 00.3	
	comp=N,825nm,1.2s						
SDHHI	**Sand Hill**	**0.34 262**	Pg		Pg	19 47 55.9	-0.2
WRMHI	**West Rim**	**0.34 265**	Pg		Pg	19 47 56.1	-0.1
HLP	**Hilina Pali**	**0.38 248**			Pg	19 47 56.7	-0.1
HLP				IAML		19 47 58.0	
	comp=N,736nm,3.6s						
HLP				IAML		19 47 59.9	
	comp=E,610nm,3.4s						
MLH	**Mauna Loa**	**0.42 278**			Pg	19 47 58.2	+0.4
MLH					Sg	19 48 04.2	+0.9
MLH				IAML		19 48 05.5	
	comp=N,547nm,1.5s						
HTC	**Hot Caves**	**0.48 245**			Pg	19 47 59.2	+0.5
HMH	**Humu'ula Sheep**	**0.54 288**			Pg	19 47 59.9	0.0
HMH					Sg	19 48 07.5	+0.6
HMH				IAML		19 48 14.0	
	comp=E,542nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.61 279**			Pg	19 48 00.9	-0.4
MLOA					Sg	19 48 08.5	-0.7
MLOA				IAML		19 48 10.6	
	comp=N,384nm,0.4s						
MWH	**Moku'aweowe**	**0.62 274**			Pg	19 48 01.2	-0.4
MWH				IAML		19 48 03.6	
	comp=E,390nm,3.5s						
MWH				IAML		19 48 18.7	
	comp=N,325nm,3.6s						
KHU	**Kahuku**	**0.67 253**	Pg		Pg	19 48 01.2	-1.1
KHU				IAML		19 48 12.7	
	comp=N,278nm,3.4s						
KHU				IAML		19 48 18.6	
	comp=E,455nm,3.7s						
ALEP	**Alea Permanent**	**0.67 279**			Pg	19 48 02.1	-0.3
ALEP					Sg	19 48 12.2	+1.0
HUH	**Hualalai**	**0.88 286**			Pg	19 48 05.6	-0.8
MHA	**Mahukona**	**1.17 310**	Pg		Pg	19 48 10.5	-1.6
MHA					Sg	19 48 25.0	-2.3
HLK	**Haleakala**	**1.80 317**	Pn		Pn	19 48 20.1	-1.5

*MOS **01** 19:47:51.7±1.0, 17°.94S×178°.07W, h568km, mb5.6/24, Error ellipse: s-maj=7.7km s-min=6.7km az=84.1*

*NEIC **01** 19:47:53.6±2.1, 18°.02S±0°.08×177°.94W±0°.08, h585km±1km, mb5.3/403, Mwb5.9/51, Mww5.9/35, Error ellipse: s-maj=13.9km s-min=12.7km az=143.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=7.11; Mθθ=4.24; Mϕϕ=2.87; Mrθ=-0.18; Mrϕ=3.91; Mθϕ=-6.72; Fault plane solution: M0=9.94000×10¹⁷ NP1:ϕs=22.60000°, δ=66.42000°, λ=-113.58000°. NP2:ϕs=250.09000°, δ=32.86000°, λ=-47.50000°. Principal axes: T 9.0041, Plg18.0000°, Azm130.0000°; N 1.6681, Plg22.0000°, Azm33.0000°; P -10.6722, Plg61.0000°, Azm257.0000°;*

*BJI **01** 19:47:54.2±0.0, 17°.83S×177°.99W, h590km, mb5.4/87, mB5.6/59*

*NOU **01** 19:47:54.1, 18°.03S×177°.96W, h583km, ML5.7/182, Fiji Islands Region*

*IDC **01** 19:47:54.5±0.3, 17°.97S×178°.00W, h589km±3km, mb4.7/23, mbtmp5.6/25, Error ellipse: s-maj=8.7km s-min=6.8km az=171.0*

*NEIC **01** 19:47:54, 17°.95S×178°.00W, h610km*

*NEIC **01** 19:47:54, 17°.75S×178°.00W, h610km, Moment Tensor Solution. Duration: 4s3 Moment tensor: Scale 10¹⁷Nm; Mrr=4.03; Mθθ=1.87; Mϕϕ=2.16; Mrθ=-0.56; Mrϕ=3.28; Mθϕ=-6.60; Fault plane solution: M0=8.17000×10¹⁷ NP1:ϕs=13.80000°, δ=74.62000°, λ=-111.63000°. NP2:ϕs=250.02000°, δ=26.33000°, λ=-36.74000°. Principal axes: T 7.9358, Plg26.0000°, Azm121.0000°; N 0.4607, Plg21.0000°, Azm20.0000°; P -8.3966, Plg55.0000°, Azm257.0000°;*

*NEIC **01** 19:47:54, 17°.96S×178°.00W, h581km*

*GCMT **01** 19:47:56.6±0.1, 18°.00S±0°.01×178°.03W±0°.01, h598km, MW5.9/158, Moment Tensor Solution. s158,c340; s111,c117; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr=4.50±.06; Mθθ=2.88±.09; Mϕϕ=1.62±.09; Mrθ=0.40±.09; Mrϕ=3.53±.09; Mθϕ=-6.26±.09; Best double couple: M0=8.17200×10¹⁷ NP1:ϕs=18.00000°, δ=72.00000°, λ=-116.00000°. NP2:ϕs=256.00000°, δ=31.00000°, λ=-36.00000°. Principal axes: T 7.7180, Plg23.0000°, Azm128.0000°; N 0.9070, Plg24.0000°, Azm27.0000°; P -8.6250, Plg55.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*

ISC 01 19:47:53.4±0.2, 18°.10S±0°.03×177°.85W±0°.03, h592km±1km, h593km; pP-P, n1889, σ1s33/2102, mb5.4/357, 98C-139D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**2.40**	**305**	P	**P**	**P**	**19 49 10.2**	**+1.4**
MSVF	**Nonsavu**	**3.92**	**275**	P	**P**	**P**	**19 49 18.7**	**+0.8**
MSVF	**Nonsavu**	**3.92**	**275**	P	**P**	**P**	**19 49 19.2**	**+1.3**
MSVF				S		**S**	**19 50 29.0**	**+2.4**
MSVF	**Nonsavu**	**3.92**	**275**	P	**P**	**P**	**19 49 19.2**	**+1.3**
YSA	**Yasawairara**	**4.58**	**287**	P	**P**	**P**	**19 49 23.1**	**+0.5**
AFI	**Afiamalu**	**7.18**	**55**	P	**P**	**P**	**19 49 44.0**	**-0.9**
AFI	**Afiamalu**	**7.18**	**55**		**P**	**P**	**19 49 43.6**	**-1.3**
AFI	**Afiamalu**	**7.18**	**55**	P	**P**	**P**	**19 49 43.6**	**-1.3**
AFI				S		**S**	**19 51 13.3**	**-2.8**
NIUE	**Niue**	**7.58**	**99**	P	**P**	**P**	**19 49 49.0**	**+0.5**
NIUE				S		**S**	**19 51 23.9**	**+1.2**
FUNA	**Funafuti**	**9.94**	**343**	P	**P**	**P**	**19 50 11.2**	**-0.4**
FUNA	**Funafuti**	**9.94**	**343**	P	**P**	**P**	**19 50 09.4**	**-2.2**
RIZ	**Raoul Island**	**11.09**	**180**	P	**P**	**P**	**19 50 22.0**	**-0.8**
RIZ				S		**S**	**19 52 23.1**	**-2.6**
RAO	**Raoul Island**	**11.10**	**180**	P	**P**	**P**	**19 50 22.9**	**-0.1**
RAO	**Raoul Island**	**11.10**	**180**	P	**P**	**P**	**19 50 22.2**	**-0.7**
RAO	**Raoul Island**	**11.10**	**180**	P	**P**	**P**	**19 50 22.8**	**-0.1**
	574nm,0.3s,baz=79,slow=24,SNR=6.4							
RAO				S		**S**	**19 52 24.6**	**-1.3**
	2µm,0.6s,baz=85,slow=23,SNR=16							
RAO	**Raoul Island**	**11.10**	**180**	P	**P**	**P**	**19 50 22.3**	**-0.7**
GLKZ	**Green Lake**	**11.11**	**180**	P	**P**	**P**	**19 50 22.2**	**-0.8**
GLKZ				S		**S**	**19 52 18.0**	**-8.0**
MARNC	**Mare, Loyalty**	**13.71**	**253**	P	**P**	**P**	**19 50 48.6**	**-0.9**
MARNC	**Mare, Loyalty**	**13.71**	**253**	P	**P**	**P**	**19 50 47.2**	**-2.4**
LIFNC	**LIFOU**	**14.31**	**257**	P	**P**	**P**	**19 50 53.6**	**-1.9**
LIFNC	**LIFOU**	**14.31**	**257**	P	**P**	**P**	**19 50 53.1**	**-2.4**
PINNC	**Pines Island,**	**14.50**	**250**	P	**P**	**P**	**19 50 56.9**	**-0.3**
PINNC	**Pines Island,**	**14.50**	**250**	P	**P**	**P**	**19 50 55.8**	**-1.4**
YATNC	**Mamie plateau,**	**14.86**	**252**	P	**P**	**P**	**19 51 00.0**	**-0.6**
OUENC	**Ouen Island, N**	**14.99**	**251**	P	**P**	**P**	**19 51 01.5**	**-0.3**
OUENC	**Ouen Island, N**	**14.99**	**251**	P	**P**	**P**	**19 51 00.6**	**-1.2**
DZM	**Mont Dzumac**	**15.27**	**252**	*e*Pn	**P**	**P**	**19 51 02.7**	**-1.8**
	1µm,1.1s							
DZM				*e*Sn		**S**	**19 53 41.2**	**+0.6**
	493nm,1.2s							
DZM	**Mont Dzumac**	**15.27**	**252**	P	**P**	**P**	**19 51 03.5**	**-1.0**
DZM	**Mont Dzumac**	**15.27**	**252**	P	**P**	**P**	**19 51 03.8**	**-0.7**
	261nm,0.8s,baz=75,slow=17,SNR=105							
DZM				S		**S**	**19 53 40.7**	**+0.1**
	94nm,0.9s,baz=182,slow=21,SNR=2.4							
DZM				ScP		**ScP**	**19 58 12.0**	**+5.0**
	12nm,0.8s,baz=57,slow=2.3,SNR=3.3							
ONTNC	**Ouen Toro**	**15.31**	**252**	P	**P**	**P**	**19 51 03.5**	**-1.3**
NFK	**Norfolk Island**	**16.96**	**227**	P	**P**	**P**	**19 51 22.7**	**+2.8**
	baz=17,SNR=3.2							
KOUNC	**Koumac, New Ca**	**17.03**	**259**	P	**P**	**P**	**19 51 20.6**	**-0.1**
RAR	**Rarotonga**	**17.31**	**103**	P	**P**	**P**	**19 51 25.6**	**+2.5**
RAR	**Rarotonga**	**17.31**	**103**		**P**	**P**	**19 51 24.4**	**+1.3**
RAR	**Rarotonga**	**17.31**	**103**	P	**P**	**P**	**19 51 24.8**	**+1.6**
	166nm,0.9s,baz=245,slow=6.4,SNR=40							
OUZ	**Omahuta**	**18.67**	**202**	P	**P**	**P**	**19 51 38.6**	**+3.2**
WCZ	**Waipu Caves**	**19.07**	**200**	P	**P**	**P**	**19 51 40.5**	**+1.6**
KUZ	**Kuaotunu**	**19.42**	**196**	P	**P**	**P**	**19 51 44.8**	**+2.7**
KUZ	**Kuaotunu**	**19.42**	**196**	P	**P**	**P**	**19 51 44.2**	**+2.1**
WIAZ	**Waiheke Island**	**19.62**	**197**	P	**P**	**P**	**19 51 46.4**	**+2.4**
MXZ	**Matakaoa Point**	**19.68**	**189**	P	**P**	**P**	**19 51 45.0**	**+0.5**
TOZ	**Tahuroa Road**	**20.41**	**195**	P	**P**	**P**	**19 51 52.1**	**+1.1**
URZ	**Urewera**	**20.56**	**191**	P	**P**	**P**	**19 51 51.3**	**-1.1**
URZ	**Urewera**	**20.56**	**191**	P	**P**	**P**	**19 51 51.6**	**-0.8**
	168nm,0.8s,baz=352,slow=2.7,SNR=68							
URZ				S		**S**	**19 55 00.2**	**-5.2**
	137nm,0.7s,baz=112,slow=20,SNR=10							
URZ	**Urewera**	**20.56**	**191**	P	**P**	**P**	**19 51 51.2**	**-1.2**
URZ				S		**S**	**19 54 59.6**	**-5.8**
URZ				ScP		ScP	19 58 02.3	-16
RTZ	**Ruatahuna**	**20.93**	**191**	P	**P**	**P**	**19 51 54.3**	**-1.6**
TARA	**Tarawa**	**21.36**	**334**	P	**P**	**P**	**19 51 59.2**	**-0.7**
BKZ	**Black Stump Fm**	**21.56**	**192**	P	**P**	**P**	**19 52 01.3**	**-0.2**
MRZ	**Mangatainoka R**	**23.18**	**193**	P	**P**	**P**	**19 52 14.8**	**-1.1**
HNR	**Honiara**	**23.20**	**289**	P	**P**	**P**	**19 52 15.6**	**-0.7**
HNR	**Honiara**	**23.20**	**289**	P	**P**	**P**	**19 52 13.3**	**-3.0**
HNR	**Honiara**	**23.20**	**289**	P	**P**	**P**	**19 52 13.3**	**-3.0**
DUWZ	**D'Urville Isla**	**23.71**	**196**	P	**P**	**P**	**19 52 20.4**	**-0.1**
DUWZ				S		**S**	**19 55 50.8**	**-4.1**
SNZO	**South Karori**	**24.00**	**194**	P	**P**	**P**	**19 52 23.0**	**0.0**
SNZO	**South Karori**	**24.00**	**194**	P	**P**	**P**	**19 52 22.6**	**-0.3**
SNZO						**S**	**19 55 56.7**	**-2.6**
TCW	**Tory Channel**	**24.00**	**195**	P	**P**	**P**	**19 52 22.6**	**-0.5**
TCW						**S**	**19 55 54.2**	**-5.3**
TCW	**Tory Channel**	**24.00**	**195**	P	**P**	**P**	**19 52 23.7**	**+0.7**
TCW				S		**S**	**19 55 54.9**	**-4.6**
BHW	**Baring Head**	**24.05**	**194**	P	**P**	**P**	**19 52 23.0**	**-0.5**
QRZ	**Quartz Range**	**24.11**	**198**	P	**P**	**P**	**19 52 25.2**	**+1.2**
QRZ	**Quartz Range**	**24.11**	**198**	P	**P**	**P**	**19 52 25.2**	**+1.2**
QRZ				S		**S**	**19 56 00.5**	**-0.8**
TKNZ	**Takaka Hill**	**24.18**	**197**	P	**P**	**P**	**19 52 25.2**	**+0.5**
TKNZ				S		**S**	**19 55 59.5**	**-2.9**
NNZ	**Nelson**	**24.24**	**196**	P	**P**	**P**	**19 52 25.1**	**0.0**
NNZ				S		**S**	**19 55 58.8**	**-4.4**
TUWZ	**Tuamarina**	**24.29**	**195**	P	**P**	**P**	**19 52 25.2**	**-0.4**
TUWZ	**Tuamarina**	**24.29**	**195**	P	**P**	**P**	**19 52 25.9**	**+0.3**
TUWZ				S		**S**	**19 55 59.3**	**-4.8**
MRNZ	**Matariki Terra**	**24.58**	**197**	P	**P**	**P**	**19 52 27.7**	**-0.5**
MRNZ	**Matariki Terra**	**24.58**	**197**	P	**P**	**P**	**19 52 28.3**	**+0.2**
MRNZ				S		**S**	**19 56 06.0**	**-2.5**
BSWZ	**Blackbirch Sta**	**24.58**	**195**	P	**P**	**P**	**19 52 27.0**	**-1.1**
BSWZ	**Blackbirch Sta**	**24.58**	**195**	P	**P**	**P**	**19 52 28.4**	**+0.3**
BSWZ				S		**S**	**19 56 06.0**	**-2.5**
LHI	**Lord Howe Isla**	**24.78**	**233**	P	**P**	**P**	**19 52 32.2**	**+2.1**
LHI	**Lord Howe Isla**	**24.78**	**233**	P	**P**	**P**	**19 52 28.0**	**-2.1**
THZ	**Tophouse**	**24.87**	**197**	P	**P**	**P**	**19 52 30.3**	**-0.5**
THZ	**Tophouse**	**24.87**	**197**	P	**P**	**P**	**19 52 30.8**	**0.0**
THZ				S		**S**	**19 56 10.3**	**-3.0**
DSZ	**Denniston Nort**	**25.17**	**198**	P	**P**	**P**	**19 52 33.0**	**-0.4**
DSZ				S		**S**	**19 56 16.5**	**-1.5**
DSZ	**Denniston Nort**	**25.17**	**198**	P	**P**	**P**	**19 52 34.1**	**+0.7**
KHZ	**Kahutara**	**25.32**	**195**	P	**P**	**P**	**19 52 34.3**	**-0.4**
KHZ	**Kahutara**	**25.32**	**195**	P	**P**	**P**	**19 52 33.7**	**-0.9**
KHZ	**Kahutara**	**25.32**	**195**	P	**P**	**P**	**19 52 34.4**	**-0.2**
KHZ				S		**S**	**19 56 17.1**	**-3.0**
CTZ	**Chatham Island**	**25.58**	**178**	P	**P**	**P**	**19 52 40.3**	**+3.4**
CTZ	**Chatham Island**	**25.58**	**178**	P	**P**	**P**	**19 52 37.7**	**+0.8**
GVZ	**Greta Valley S**	**25.97**	**195**	P	**P**	**P**	**19 52 39.2**	**-1.1**
GVZ	**Greta Valley S**	**25.97**	**195**	P	**P**	**P**	**19 52 40.1**	**-0.3**
LTZ	**Lake Taylor**	**25.99**	**197**	P	**P**	**P**	**19 52 39.1**	**-1.6**
INZ	**Inchbonnie**	**26.18**	**198**	P	**P**	**P**	**19 52 41.4**	**-0.8**
AMCZ	**Amberley**	**26.26**	**196**	P	**P**	**P**	**19 52 41.8**	**-1.1**
AMCZ	**Amberley**	**26.26**	**196**	P	**P**	**P**	**19 52 43.5**	**+0.6**
OXZ	**Oxford**	**26.56**	**197**	P	**P**	**P**	**19 52 44.8**	**-0.8**
MQZ	**McQueen's Vall**	**26.75**	**195**	P	**P**	**P**	**19 52 46.5**	**-0.7**
PAE	**Paea**	**26.90**	**93**	*e*P	**P**	**P**	**19 52 49.7**	**+0.8**
	235nm,1.4s							
PPT2	**Papeete2**	**26.91**	**93**	*e*P	**P**	**P**	**19 52 46.0**	**-3.1**
	947nm,42.5s							
PPT2	**Papeete2**	**26.91**	**93**	*e*P	**P**	**P**	**19 52 48.3**	**-0.8**
	489nm,1.4s							
PPT2				*e*pP		pP	19 54 12.9	-7.9
	432nm,31.5s							
PPT2				*e*S		**S**	**19 56 50.5**	**+4.7**
	273nm,25.2s							
PPT2				*es*S		**sS**	**19 59 38.9**	**-0.4**
	4µm,25.8s							
PPT	**Papeete**	**26.91**	**93**	P	**P**	**P**	**19 52 50.9**	**+1.9**
	143nm,0.6s,baz=240,slow=5.9,SNR=37							
	143nm,0.6s							
PPTF	**Pamatai, Papee**	**26.92**	**93**	P	**P**	**P**	**19 52 51.3**	**+2.1**
PPTF	**Pamatai, Papee**	**26.92**	**93**	P	**P**	**P**	**19 52 48.4**	**-0.8**
TBI	**Tubuai**	**27.04**	**106**	*e*P	**P**	**P**	**19 52 51.7**	**+1.7**
	335nm,1.1s							
TBI	**Tubuai**	**27.04**	**106**	*e*P	**P**	**P**	**19 52 51.8**	**+1.7**
	3µm,40.0s							
TBI				*e*pP		**pP**	**19 54 17.4**	**-4.3**
	585nm,1.5s							
TBI				*e*pP		**PP**	**19 54 23.3**	**-4.9**
	3µm,31.2s							
TBI				*e*S		**S**	**19 56 44.2**	**-3.3**
	3µm,28.8s							
TBI				*es*S		**SS**	**19 59 47.0**	**-4.8**
	8µm,24.0s							
RPZ	**Rata Peaks**	**27.20**	**198**	P	**P**	**P**	**19 52 50.3**	**-0.8**
TVO	**Taravao**	**27.20**	**94**	*e*P	**P**	**P**	**19 52 52.5**	**+0.9**
	80nm,0.9s							
FOZ	**Fox Glacier**	**27.41**	**200**	P	**P**	**P**	**19 52 51.8**	**-1.2**
LBZ	**Lake Benmore**	**28.07**	**198**	P	**P**	**P**	**19 52 57.5**	**-1.2**
GC1S	**Gold Coast 1 S**	**28.11**	**244**	P	**P**	**P**	**19 53 00.4**	**+1.1**
JCZ	**Jackson Bay**	**28.23**	**201**	P	**P**	**P**	**19 53 01.0**	**+0.7**
AUWSH	**Wavell State H**	**28.34**	**246**	P	**P**	**P**	**19 53 02.2**	**+0.9**
XMAS	**Kiritimati**	**28.37**	**47**	P	**P**	**P**	**19 53 03.5**	**+1.8**
XMAS	**Kiritimati**	**28.37**	**47**	P	**P**	**P**	**19 52 59.9**	**-1.8**
ODZ	**Otahua Downs**	**28.53**	**197**	P	**P**	**P**	**19 53 02.8**	**+0.1**
ODZ	**Otahua Downs**	**28.53**	**197**	P	**P**	**P**	**19 53 02.2**	**-0.5**
ODZ					IAmb	IAmb	19 53 03.9	
	comp=Z,121nm,1.2s							
WKZ	**Wanaka**	**28.83**	**200**	P	**P**	**P**	**19 53 04.7**	**-0.6**
PMOR	**Pomariorio Ree**	**28.87**	**88**	*e*P	**P**	**P**	**19 53 04.0**	**-2.0**
	comp=Z,1µm,1.4s							
VAH	**Vaihoa**	**29.08**	**89**	*e*P	**P**	**P**	**19 53 08.0**	**+0.1**
	comp=Z,492nm,1.3s							
GD1S	**Gladstone Soft**	**29.45**	**253**	P	**P**	**P**	**19 53 11.2**	**+0.3**
MLZ	**Mavora Lakes**	**29.60**	**200**	P	**P**	**P**	**19 53 12.3**	**+0.3**
EIDS	**Eidsvold**	**29.70**	**250**	P	**P**	**P**	**19 53 13.0**	**-0.2**
	baz=30,SNR=113							
EIDS	**Eidsvold**	**29.70**	**250**	P	**P**	**P**	**19 53 13.1**	**0.0**
EIDS	**Eidsvold**	**29.70**	**250**	P	**P**	**P**	**19 53 12.7**	**-0.4**
DCZ	**Deep Cove**	**30.01**	**201**	P	**P**	**P**	**19 53 16.0**	**+0.6**
RK1H	**Rockhampton Ha**	**30.03**	**254**	P	**P**	**P**	**19 53 15.8**	**-0.1**
WHZ	**Wether Hill Ro**	**30.12**	**200**	P	**P**	**P**	**19 53 16.9**	**+0.5**
ARMA	**Armidale**	**30.30**	**240**	P	**P**	**P**	**19 53 19.6**	**+1.2**
	baz=30,SNR=207							
ARMA	**Armidale**	**30.30**	**240**	P	**P**	**P**	**19 53 19.5**	**+1.2**
ARMA	**Armidale**	**30.30**	**240**	P	**P**	**P**	**19 53 19.2**	**+0.8**
SYZ	**Scrubby Hill**	**30.33**	**198**	P	**P**	**P**	**19 53 19.3**	**+1.2**
PYZ	**Puysegur Point**	**30.78**	**201**	P	**P**	**P**	**19 53 23.2**	**+1.1**
PYZ	**Puysegur Point**	**30.78**	**201**	P	**P**	**P**	**19 53 22.6**	**+0.5**
NTLH	**Newcastle Hard**	**31.04**	**236**	P	**P**	**P**	**19 53 26.3**	**+1.8**
RIV	**Riverview**	**31.80**	**234**	P	**P**	**P**	**19 53 32.2**	**+1.2**
	baz=32,SNR=31							
RIV	**Riverview**	**31.80**	**234**	P	**P**	**P**	**19 53 32.4**	**+1.4**
RIV	**Riverview**	**31.80**	**234**	P	**P**	**P**	**19 53 32.3**	**+1.3**
RIV					pmax	pmax		
	comp=Z,829nm,1.2s							
RMQ	**Roma**	**31.93**	**249**	P	**P**	**P**	**19 53 33.4**	**+1.2**
	baz=32,SNR=6.4							
RMQ	**Roma**	**31.93**	**249**	P	**P**	**P**	**19 53 33.4**	**+1.2**
SYDH	**Sydney Hard Ro**	**32.10**	**235**	P	**P**	**P**	**19 53 35.1**	**+1.6**
KRVT	**Keravat (AS076**	**32.49**	**291**	P	**P**	**P**	**19 53 36.0**	**-1.1**
	comp=Z,86nm,1.2s,baz=193,slow=2.6,SNR=29							
KRVT				S		**S**	**19 58 10.5**	**-1.2**
	comp=Z,16nm,0.8s,baz=5.0,slow=5.3,SNR=5.5							
	comp=Z,86nm,1.2s							
AUAYR	**Ayr State High**	**32.88**	**262**	P	**P**	**P**	**19 53 40.7**	**+0.5**
AUUHS	**Ulladulla High**	**32.91**	**232**	P	**P**	**P**	**19 53 41.3**	**+1.0**
AULRC	**Lightning Ridg**	**33.12**	**244**	P	**P**	**P**	**19 53 42.7**	**+0.5**
AUDCS	**Dubbo College**	**33.28**	**239**	P	**P**	**P**	**19 53 44.9**	**+1.4**
TV1H	**Townsville Har**	**33.48**	**262**	P	**P**	**P**	**19 53 45.0**	**-0.3**
BULU	**Kimbe**	**33.49**	**288**	P	**P**	**P**	**19 53 46.1**	**+0.6**
CNB	**Canberra Magne**	**33.73**	**233**	P	**P**	**P**	**19 53 48.8**	**+1.5**
	baz=34,SNR=796							
CNB	**Canberra Magne**	**33.73**	**233**	P	**P**	**P**	**19 53 48.6**	**+1.3**
CTAO	**Charters Tower**	**33.94**	**261**	P	**P**	**P**	**19 53 49.0**	**-0.2**
CTAO	**Charters Tower**	**33.94**	**261**	P	**P**	**P**	**19 53 48.5**	**-0.6**
CTAO	**Charters Tower**	**33.94**	**261**	P	**P**	**P**	**19 53 48.5**	**-0.6**
CTAO					pmax	pmax		
	comp=Z,923nm,1.2s							
CTAO	**Charters Tower**	**33.94**	**261**	‖P	**P**	**P**	**19 53 49.1**	**0.0**
CTAO					pP	**pP**	**19 55 23.0**	**-2.4**
CTAO					PcP	**PcP**	**19 56 11.1**	**+1.1**
CTAO					ScP	**ScP**	**19 59 03.1**	**+3.7**
CAN	**Canberra**	**34.01**	**233**	P	**P**	**P**	**19 53 50.5**	**+0.9**
CAN	**Canberra**	**34.01**	**233**	P	**P**	**P**	**19 53 49.9**	**+0.3**
CAN	**Canberra**	**34.01**	**233**	P	**P**	**P**	**19 53 49.9**	**+0.3**
CAN				pmax	pmax			
	comp=Z,1µm,1.0s							
CAN	**Canberra**	**34.01**	**233**	‖P	**P**	**P**	**19 53 50.8**	**+1.2**
CAN				ScP	**ScP**		**19 59 00.0**	**+0.6**
YNG	**Young**	**34.12**	**235**	P	**P**	**P**	**19 53 51.4**	**+1.0**
	baz=34,SNR=99							
YNG	**Young**	**34.12**	**235**	P	**P**	**P**	**19 53 51.2**	**+0.7**
KAVG	**Kavieng**	**34.38**	**293**	P	**P**	**P**	**19 53 52.6**	**-0.3**
MILA	**Mila**	**34.56**	**230**	P	**P**	**P**	**19 53 55.3**	**+1.1**
	baz=35,SNR=15							
MILA	**Mila**	**34.56**	**230**	P	**P**	**P**	**19 53 55.5**	**+1.3**
AUCSH	**Cairns State H**	**34.68**	**266**	P	**P**	**P**	**19 53 55.5**	**+0.2**
AUSMG	**Snowy Mountain**	**34.72**	**231**	P	**P**	**P**	**19 53 56.7**	**+1.2**
PMG	**Port Moresby**	**35.01**	**280**	P	**P**	**P**	**19 53 58.5**	**+0.4**
	comp=Z,1µm,0.9s,baz=81,slow=5.4,SNR=121							
PMG				S		**S**	**19 58 49.8**	**+0.2**
	comp=Z,42nm,1.0s,baz=255,slow=21,SNR=14							
	comp=Z,1µm,0.9s							
PMG	**Port Moresby**	**35.01**	**280**	P	**P**	**P**	**19 53 58.9**	**+0.8**
PMG				PcP		**PcP**	**19 56 13.3**	**+0.2**
CMSA	**Cobar Meteorol**	**35.52**	**241**	P	**P**	**P**	**19 54 02.8**	**+0.7**
	baz=36,SNR=549							
CMSA	**Cobar Meteorol**	**35.52**	**241**	P	**P**	**P**	**19 54 02.7**	**+0.6**
MTSU	**Mount Surprise**	**35.91**	**264**	P	**P**	**P**	**19 54 05.5**	**-0.1**
	baz=36,SNR=93							
MTSU	**Mount Surprise**	**35.91**	**264**	P	**P**	**P**	**19 54 05.6**	**0.0**
QLP	**Quilpie**	**35.96**	**250**	P	**P**	**P**	**19 54 06.1**	**+0.3**
	baz=36,SNR=266							
QLP	**Quilpie**	**35.96**	**250**	P	**P**	**P**	**19 54 06.1**	**+0.3**
GLAD	**Gladstone**	**37.09**	**225**	P	**P**	**P**	**19 54 15.7**	**+0.9**
TOO	**Toolangi**	**37.46**	**231**	P	**P**	**P**	**19 54 19.2**	**+1.2**
	baz=38,SNR=684							
TOO	**Toolangi**	**37.46**	**231**	P	**P**	**P**	**19 54 18.8**	**+0.9**
TOO	**Toolangi**	**37.46**	**231**	P	**P**	**P**	**19 54 18.9**	**+0.9**
TOO	**Toolangi**	**37.46**	**231**	P	**P**	**P**	**19 54 18.9**	**+0.9**
TOO				pmax	pmax			
	comp=Z,2µm,1.1s							
AUMAG	**Moama Anglican**	**37.52**	**234**	P	**P**	**P**	**19 54 19.9**	**+1.5**
COEN	**Coen**	**37.63**	**270**	P	**P**	**P**	**19 54 20.2**	**+0.6**
	baz=38,SNR=652							
COEN	**Coen**	**37.63**	**270**	P	**P**	**P**	**19 54 20.3**	**+0.6**
COEN	**Coen**	**37.63**	**270**	P	**P**	**P**	**19 54 19.6**	**0.0**
MANU	**Manus Island**	**37.66**	**291**	P	**P**	**P**	**19 54 20.5**	**+0.6**
MANU	**Manus Island**	**37.66**	**291**	P	**P**	**P**	**19 54 19.9**	**0.0**
TAOE	**Nuku Hiva Isla**	**37.73**	**81**	*e*P	**P**	**P**	**19 54 17.1**	**-3.5**
	comp=Z,228nm,24.5s							
TAOE				*e*S		**S**	**19 59 30.2**	**+0.1**
	comp=Z,228nm,24.5s							
TAOE				*e*SS		**SS**	**20 02 38.9**	**-12**
	comp=Z,455nm,22.7s							
TAOE	**Nuku Hiva Isla**	**37.73**	**81**	P	**P**	**P**	**19 54 22.1**	**+1.5**
CORO	**Coronation Par**	**37.88**	**225**	P	**P**	**P**	**19 54 23.

WB2 PcP **PcP** 19 56 45.5 -0.8
WRAB Tennant Creek 45.11 260 P **P** 19 55 17.7 -0.7
WRAB PcP **PcP** 19 56 45.6 -0.6
WRAB Tennant Creek 45.11 260 *i* P **P** 19 55 17.6 -0.9
WRAB pmax pmax
comp=Z,1µm,1.3s
WRA Warramunga Arr 45.12 260 P **P** 19 55 17.9 -0.6
comp=Z,313nm,0.7s,baz=94,slow=7.2,SNR=635
WRA PcP **PcP** 19 56 47.2 +0.9
comp=Z,97nm,1.1s,baz=97,slow=4.7,SNR=6.6
WRA ScP **ScP** 19 59 45.6 +2.5
comp=Z,6.5nm,0.9s,baz=94,slow=4.9,SNR=5.8
WRA S **S** 20 01 13.4 -2.6
WRA P4KPbc 20 33 00.8
comp=Z,1.7nm,1.1s,baz=92,slow=4.1,SNR=6.8
comp=Z,313nm,0.7s
MULG Mulgathing 45.21 245 P **P** 19 55 19.4 +0.3
AS31 Alice Springs 45.25 254 P **P** 19 55 19.4 -0.1
AS31 PcP **PcP** 19 56 46.9 +0.2
ASAR Alice Springs 45.25 254 P **P** 19 55 19.3 -0.2
ASAR PcP **PcP** 19 56 47.1 +0.4
ASAR Alice Springs 45.25 254 P **P** 19 55 19.6 +0.1
comp=Z,1µm,0.7s,baz=86,slow=8.9,SNR=7496
ASAR PcP **PcP** 19 56 47.6 +0.9
comp=Z,56nm,0.5s,baz=102,slow=4.1,SNR=7.8
ASAR ScP **ScP** 19 59 45.6 +1.9
comp=Z,10nm,0.9s,baz=108,slow=5.9,SNR=2.8
ASAR S **S** 20 01 15.6 -2.2
comp=Z,131nm,0.9s,baz=91,slow=15,SNR=51
ASAR P4KPbc 20 33 01.6
comp=Z,0.6nm,0.6s,baz=98,slow=3.8,SNR=9.9
ASAR Alice Springs 45.25 254 P **P** 19 55 19.3 -0.2
ASAR 19 56 47.1
SMPI Sarmi 45.50 286 P **P** 19 55 21.1 -0.4
comp=Z,645nm,1.4s,comp=Z,7µmcomp=Z,3µm
MIDW Midway 46.05 1 P **P** 19 55 25.2 -0.1
MIDW IAmb IAmb 19 55 53.5
comp=Z,92nm,1.1s
KDU Kakadu 48.08 269 P **P** 19 55 40.4 -0.5
baz=48,SNR=102
KDU Kakadu 48.08 269 P **P** 19 55 40.5 -0.4
GUMO Guam 48.41 308 P **P** 19 55 43.2 0.0
GUMO Guam 48.41 308 P **P** 19 55 43.4 +0.2
GUMO Guam 48.41 308 pP pP 19 57 29.7 -0.1
MTN Manton Dam 49.32 268 P **P** 19 55 49.3 -0.8
baz=49,SNR=180
MTN Manton Dam 49.32 268 P **P** 19 55 49.1 -0.9
MTN Manton Dam 49.32 268 P **P** 19 55 49.2 -0.8
MTN PcP **PcP** 19 57 01.3 -0.2
DRS Darwin Rock St 49.64 269 P **P** 19 55 51.7 -0.6
WRKA Warakurna 50.29 252 P **P** 19 55 57.2 +0.1
baz=50,SNR=1000
WRKA Warakurna 50.29 252 P **P** 19 55 57.1 +0.1
SAUI Saumlaki 50.40 275 P **P** 19 55 58.3 +0.3
SAUI Saumlaki 50.40 275 P **P** 19 55 58.2 +0.2
SAUI Saumlaki 50.40 275 P **P** 19 55 58.4 +0.4
comp=Z,1µm,1.5s,comp=Z,19µmcomp=Z,5µm
FORT Forrest 50.40 245 P **P** 19 55 57.5 -0.2
baz=50,SNR=208
FORT Forrest 50.40 245 P **P** 19 55 57.3 -0.4
FORT Forrest 50.40 245 P **P** 19 55 57.3 -0.4
FORT pP **pP** 19 57 45.6 -0.3
KNRA Kununurra 50.99 264 P **P** 19 56 01.9 -0.3
KNRA P **P** 19 56 01.9 -0.3
baz=51,SNR=86
KNRA Kununurra 50.99 264 P **P** 19 56 02.0 -0.2
KNRA Kununurra 50.99 264 P **P** 19 56 01.4 -0.8
KNRA pP **pP** 19 57 50.0 -0.4
FAKI Fak Fak 51.13 281 P **P** 19 56 02.9 -0.4
FAKI Fak Fak 51.13 281 P **P** 19 56 02.4 -0.8
FAKI pP **pP** 19 57 50.8 -1.7
FAKI Fak Fak 51.13 281 P **P** 19 56 02.7 -0.6
comp=Z,373nm,1.6s,comp=Z,6µmcomp=Z,3µm
BNDI Bandanaira 52.79 278 P **P** 19 56 15.2 +0.1
BNDI Bandanaira 52.79 278 P **P** 19 56 14.9 -0.2
comp=Z,1µm,1.2s,comp=Z,16µmcomp=Z,7µm
SWI Sorong 52.80 283 P **P** 19 56 15.2 0.0
comp=Z,2µm,1.1s,comp=Z,15µmcomp=Z,3µm
FITZ Fitzroy Crossi 53.52 261 P **P** 19 56 20.1 -0.1
baz=53,SNR=126
FITZ Fitzroy Crossi 53.52 261 P **P** 19 56 19.9 -0.3
FITZ IAmb IAmb 19 56 21.9
comp=Z,200nm,1.6s
DRV Dumont d'Urvil 55.65 199 P **P** 19 56 35.9 +1.7
DRV ScP **ScP** 20 00 29.6 +2.1
KMBL Kambalda 55.70 244 P **P** 19 56 34.8 -0.5
baz=56,SNR=90
KMBL Kambalda 55.70 244 P **P** 19 56 34.8 -0.5
NLAI Namlea 55.85 279 P **P** 19 56 35.5 -1.0
comp=Z,618nm,1.3s,comp=Z,19µm
LBMI Labuha 56.38 282 P **P** 19 56 40.5 +0.3
comp=Z,870nm,1.3s,comp=Z,10µm
SOEI Soe 56.60 270 P **P** 19 56 43.0 +1.2
SOEI Soe 56.60 270 P **P** 19 56 42.6 +0.8
SOEI Soe 56.60 270 P **P** 19 56 43.1 +1.2
comp=Z,2µm,1.2s,comp=Z,17µm
TNTI Ternate 57.02 283 P **P** 19 56 44.8 +0.3
TNTI Ternate 57.02 283 P **P** 19 56 44.3 -0.2
TNTI Ternate 57.02 283 P **P** 19 56 44.5 0.0
comp=Z,735nm,1.3s,comp=Z,7µmcomp=Z,2µm
BATI Baumata 57.06 269 P **P** 19 56 46.2 +1.4
comp=Z,330nm,0.7s,baz=198,slow=0.6,SNR=74
comp=Z,330nm,0.7s
BATI Baumata 57.06 269 P **P** 19 56 46.1 +1.3
comp=Z,603nm,1.1s,comp=Z,7µmcomp=Z,4µm
SANI Sanana 57.30 279 P **P** 19 56 46.2 -0.2
SANI Sanana 57.30 279 P **P** 19 56 45.9 -0.5
comp=Z,837nm,1.2s,comp=Z,8µmcomp=Z,3µm
PSA00 Pilbara Seismi 58.37 255 P **P** 19 56 53.2 -0.4
PSA00 Pilbara Seismi 58.37 255 P **P** 19 56 52.7 -0.9
PSA00 PcP **PcP** 19 57 36.7 +0.2
PSA00 pP **pP** 19 58 47.0 +0.4
PSA00 Pilbara Seismi 58.37 255 P **P** 19 56 52.4 -1.2
PSA00 IAmb IAmb 19 56 54.7
comp=Z,405nm,1.1s
PSA00 PcP **PcP** 19 57 36.7 +0.2
MBWA Marble Bar 58.54 256 P **P** 19 56 54.3 -0.4
MBWA Marble Bar 58.54 256 P **P** 19 56 54.1 -0.6
MBWA Marble Bar 58.54 256 P **P** 19 56 54.8 +0.1
MBWA S **S** 20 04 13.5 -1.0
MBWA Marble Bar 58.54 256 ⇓P **P** 19 56 54.5 -0.2
MMRI Maumere 58.83 271 P **P** 19 56 56.2 -0.6
MMRI Maumere 58.83 271 P **P** 19 56 55.8 -0.9
MMRI Maumere 58.83 271 P **P** 19 56 56.1 -0.7
comp=Z,879nm,1.1s,comp=Z,10µmcomp=Z,4µm
MEEK Meekatharra 58.86 249 P **P** 19 56 56.5 -0.3
baz=59,SNR=107
MEEK Meekatharra 58.86 249 P **P** 19 56 56.3 -0.5
AUALB St Joseph's Co 58.96 240 P **P** 19 56 57.8 +0.5
KLBR Kellerberrin 59.22 244 P **P** 19 56 59.0 -0.2
baz=59,SNR=205
KLBR Kellerberrin 59.22 244 P **P** 19 56 58.9 -0.2
EDFI Ende, Flores 59.32 270 P **P** 19 56 59.2 -1.0
comp=Z,831nm,1.2s,comp=Z,8µmcomp=Z,3µm
JCJ Chichijima 59.34 318 P **P** 19 56 58.9 -0.9
BBSI Bau Bau 59.42 274 P **P** 19 57 01.2 +0.5
comp=Z,375nm,1.3s,comp=Z,6µmcomp=Z,3µm
NWAO Narrogin (SRO) 59.59 242 P **P** 19 57 01.7 +0.2
baz=60,SNR=46
NWAO P **P** 19 57 01.7 +0.2
baz=60,SNR=46
NWAO Narrogin (SRO) 59.59 242 P **P** 19 57 01.7 +0.2
NWAO Narrogin (SRO) 59.59 242 P **P** 19 57 01.6 +0.1
NWAO Narrogin (SRO) 59.59 242 P **P** 19 57 01.4 -0.1
NWAO Narrogin (SRO) 59.59 242 P **P** 19 57 01.8 +0.2
NWAO Narrogin (SRO) 59.59 242 P **P** 19 57 01.4 -0.1
NWAO pmax pmax
comp=Z,754nm,1.4s
NWAO Narrogin (SRO) 59.59 242 ⇓P **P** 19 57 01.8 +0.2
RKGY Rocky Gully 59.73 240 P **P** 19 57 03.5 +1.0
baz=60,SNR=30
RKGY Rocky Gully 59.73 240 P **P** 19 57 03.4 +1.0
SGSI Sangihe 59.83 285 P **P** 19 57 02.7 -0.7
comp=Z,980nm,1.3s,comp=Z,10µm
BASI Baing, Sumba 59.99 268 P **P** 19 57 04.9 +0.4
comp=Z,1µm,1.5s,comp=Z,19µmcomp=Z,4µm
KMSI Cibinong 60.09 281 P **P** 19 57 04.6 -0.6
comp=Z,1µm,0.9s,comp=Z,9µmcomp=Z,2µm
BLDU Ballidu 60.18 245 P **P** 19 57 05.4 -0.1
baz=60,SNR=135
BLDU Ballidu 60.18 245 P **P** 19 57 05.3 -0.1
SBA Scott Base 60.26 184 P **P** 19 57 07.9 +2.8
SBA IAmb IAmb 19 57 10.4
comp=Z,174nm,1.1s
SBA Scott Base 60.26 184 P **P** 19 57 07.9 +2.8
SBA pmax pmax
comp=Z,174nm,1.1s
SBA Scott Base 60.26 184 ⇓P **P** 19 57 08.9 +3.8
VNDA Vanda 60.30 185 P **P** 19 57 07.3 +1.8
VNDA IAmb IAmb 19 57 09.7
comp=Z,150nm,1.4s
VNDA PcP **PcP** 19 57 44.2 +1.0
VNDA pP **pwP** 19 59 02.8 +0.2
VNDA Vanda 60.30 185 P **P** 19 57 08.2 +2.7
comp=Z,38nm,1.0s,baz=2.5,slow=6.8,SNR=111
VNDA PcP **PcP** 19 57 45.8 +2.7
comp=Z,23nm,1.1s,baz=140,slow=4.5,SNR=4.7
comp=Z,38nm,1.0s
VNDA Vanda 60.30 185 ⇓P **P** 19 57 08.3 +2.9
VNDA PcP **PcP** 19 57 45.1 +2.0
MUN Mundaring 60.51 243 P **P** 19 57 07.6 0.0
baz=60,SNR=69
MUN Mundaring 60.51 243 P **P** 19 57 07.9 +0.3
MUN Mundaring 60.51 243 P **P** 19 57 08.0 +0.3
LUWI Luwuk 60.66 279 P **P** 19 57 09.5 +0.6
LUWI Luwuk 60.66 279 P **P** 19 57 08.5 -0.3
LUWI Luwuk 60.66 279 P **P** 19 57 09.2 +0.3
comp=Z,1µm,1.4s,comp=Z,16µmcomp=Z,3µm
MTKN Mount Kenneth 60.88 243 P **P** 19 57 11.7 +1.7
MORW Morawa 60.89 246 P **P** 19 57 09.9 -0.2
baz=61,SNR=44
MORW Morawa 60.89 246 P **P** 19 57 10.0 -0.2
MORW Morawa 60.89 246 P **P** 19 57 09.2 -1.0
MORW PcP **PcP** 19 57 45.5 -1.0
GTOI Gorontalo 61.02 281 P **P** 19 57 11.7 +0.5
comp=Z,150nm,1.1s,comp=Z,2µm
DAV Davao City (W) 61.16 289 P **P** 19 57 12.9 +0.7
DAV Davao City (W) 61.16 289 P **P** 19 57 11.4 -0.7
DAV Davao City (W) 61.16 289 P **P** 19 57 12.7 +0.6
comp=Z,288nm,0.8s,baz=100,slow=2.1,SNR=18
comp=Z,288nm,0.8s
DAV Davao City (W) 61.16 289 ⇓*i* P **P** 19 57 12.0 -0.2
DAV Davao City (W) 61.16 289 P **P** 19 57 12.2 0.0
BKSI Bulukumba 61.79 274 P **P** 19 57 15.3 -1.0
comp=Z,169nm,1.8s,comp=Z,3µmcomp=Z,2µm
MRSI Marisa 61.96 281 P **P** 19 57 16.4 -1.0
comp=Z,300nm,1.1s,comp=Z,2µmcomp=Z,2µm
KAPI Kappang 62.23 274 P **P** 19 57 19.9 +0.8
KAPI Kappang 62.23 274 P **P** 19 57 18.4 -0.7
KAPI Kappang 62.23 274 P **P** 19 57 19.3 +0.1
KAPI Kappang 62.23 274 *i* P **P** 19 57 19.0 -0.1
KAPI pmax pmax
comp=Z,337nm,1.3s
KAPI Kappang 62.23 274 P **P** 19 57 19.0 -0.1
TTSI Tana Toraja 62.78 276 P **P** 19 57 22.2 -0.5
comp=Z,187nm,1.8s,comp=Z,2µmcomp=Z,2µm
PLAI Plampang 63.02 269 P **P** 19 57 23.8 -0.4
comp=Z,1µm,1.2s
TOLI2 Tolitoli 63.27 281 P **P** 19 57 25.8 0.0
TOLI2 Tolitoli 63.27 281 P **P** 19 57 24.6 -1.1
TOLI2 pP **pP** 19 59 22.3 +0.1
GIRL Giralia 63.35 253 P **P** 19 57 27.6 +1.5
baz=63,SNR=27
GIRL Giralia 63.35 253 P **P** 19 57 27.3 +1.2
GIRL Giralia 63.35 253 P **P** 19 57 26.5 +0.4
MPSI Mapaga 63.83 280 P **P** 19 57 28.9 -0.4
comp=Z,487nm,1.1s,comp=Z,5µmcomp=Z,2µm
TWSI Taliwang, Sumb 63.90 269 P **P** 19 57 29.3 -0.5
comp=Z,1µm,1.3s,comp=Z,11µmcomp=Z,3µm
CCD Concordia, Ant 64.81 194 P **P** 19 57 36.7 +1.8
CCD PcP **PcP** 19 58 04.0 +1.6
CCD pP **pP** 19 59 33.8 +1.9
JHJ2 Mitsune 65.02 321 P **P** 19 57 36.8 +0.4
JHJ2 Mitsune 65.02 321 P **P** 19 57 36.1 -0.4
DNP Denpasar 65.50 269 P **P** 19 57 39.6 -0.3
comp=Z,704nm,0.4s,comp=Z,15µm
SRBI Singaraja 65.66 269 P **P** 19 57 40.3 -0.6
comp=Z,690nm,1.4s,comp=Z,10µm
JMZ Minamidaito 2 66.01 310 P **P** 19 57 44.1 +1.4
JMZ Minamidaito 2 66.01 310 P **P** 19 57 43.0 +0.3
SMKI Samarinda 66.09 278 P **P** 19 57 45.5 +1.9
comp=Z,698nm,1.2s,comp=Z,8µmcomp=Z,4µm
BKB Balikpapan 66.12 277 P **P** 19 57 45.5 +1.8
BKB Balikpapan 66.12 277 P **P** 19 57 44.4 +0.7
BKB Balikpapan 66.12 277 P **P** 19 57 45.6 +1.8
comp=Z,409nm,1.9s,comp=Z,6µmcomp=Z,4µm
CASY Casey 66.19 205 P **P** 19 57 44.2 +1.1
CASY Casey 66.19 205 ⇓P **P** 19 57 44.5 +1.3
JAGI Jajag, Banyuwa 66.56 268 P **P** 19 57 45.5 -1.0
JAGI Jajag, Banyuwa 66.56 268 P **P** 19 57 44.9 -1.6
JAGI Jajag, Banyuwa 66.56 268 P **P** 19 57 45.1 -1.4
comp=Z,1µm,1.1s,comp=Z,9µm
ABJI Asem Bagus 66.67 269 P **P** 19 57 47.0 -0.1
comp=Z,681nm,1.4s,comp=Z,8µm
JSG Sagara 67.08 322 P **P** 19 57 50.6 +1.4
JSG Sagara 67.08 322 P **P** 19 57 49.3 +0.1
BLJI Banyuglugur 67.29 269 P **P** 19 57 50.7 -0.2
comp=Z,895nm,1.3s,comp=Z,9µm
JMM Marumori 67.89 326 P **P** 19 57 54.2 +0.2
JMM Marumori 67.89 326 P **P** 19 57 54.0 0.0
JMM IAmb IAmb 19 57 55.4
comp=Z,64nm,1.0s
MTKI Muara Teweh, K 68.11 276 P **P** 19 57 56.0 +0.1
comp=Z,285nm,1.2s,comp=Z,4µmcomp=Z,3µm
JGF Kuroka 68.22 322 P **P** 19 57 56.5 +0.4
JGF Kuroka 68.22 322 P **P** 19 57 55.2 -0.9
JGF pP **pP** 19 59 55.0 +0.7
MJAR Matsushiro Arr 68.38 323 P **P** 19 57 56.5 -0.5
comp=Z,40nm,0.6s,baz=155,slow=5.7,SNR=192
MJAR PcP **PcP** 19 58 18.7 +1.4
comp=Z,16nm,0.9s,baz=164,slow=3.8,SNR=7.1
MJAR pP **pP** 19 59 54.9 -0.5
comp=Z,12nm,1.2s,baz=157,slow=6.8,SNR=3.4
comp=Z,40nm,0.6s
MAJO Matsushiro 68.38 323 P **P** 19 57 57.1 +0.1
MAJO Matsushiro 68.38 323 P **P** 19 57 56.4 -0.6
MAJO IAmb IAmb 19 57 58.1
comp=Z,119nm,1.1s
MAJO Matsushiro 68.38 323 *i* P **P** 19 57 56.4 -0.6
MAJO pmax pmax
comp=Z,185nm,1.6s
MJB9 Matsu-Tunnel 68.38 323 P **P** 19 57 57.4 +0.3
MJB9 IAmb IAmb 19 57 59.1
comp=Z,116nm,1.1s
MJB9 pP **pP** 19 59 56.1 +0.8
GRJI Gresik 68.59 270 P **P** 19 57 59.0 +0.2
comp=Z,782nm,1.6s,comp=Z,13µmcomp=Z,4µm
JOW Kunigami 68.75 309 P **P** 19 58 00.8 +1.3
JOW Kunigami 68.75 309 P **P** 19 57 59.8 +0.3
JOW pP **pP** 19 59 58.1 0.0
PWJI Pagerwojo 68.92 268 P **P** 19 58 00.6 -0.2
comp=Z,533nm,1.0s,comp=Z,6µm
JMN Monobe 69.09 318 P **P** 19 58 02.5 +1.1
JMN Monobe 69.09 318 P **P** 19 58 01.9 +0.5
JMN pP **pP** 20 00 00.4 +0.4
AMKA Amchitka 69.22 358 P **P** 19 58 01.5 -0.2
NGJI Ngawi 69.43 269 P **P** 19 58 05.2 +1.4
comp=Z,346nm,1.0s,comp=Z,6µm
KIWB Kanaga Island 69.66 1 P **P** 19 58 03.8 -0.5
ADK Adak 69.69 1 P **P** 19 58 04.7 +0.2
ADK Adak 69.69 1 P **P** 19 58 03.3 -1.2
ADK IAmb IAmb 19 58 05.4
comp=Z,298nm,1.6s
ADK Adak 69.69 1 P **P** 19 58 03.3 -1.2
ADK pmax pmax
comp=Z,298nm,1.7s
GSTR Great Sitkin T 69.91 1 P **P** 19 58 05.4 -0.4
ATKA Atka Island 70.08 2 P **P** 19 58 06.5 -0.2
ATKA IAmb IAmb 19 58 07.4
comp=Z,195nm,1.2s
UGM Wanagama 70.17 268 P **P** 19 58 08.5 +0.2
UGM Wanagama 70.17 268 P **P** 19 58 07.3 -0.9
UGM Wanagama 70.17 268 P **P** 19 58 08.0 -0.3
comp=Z,1µm,1.2s,comp=Z,10µmcomp=Z,3µm
SZP Santa 70.26 297 P **P** 19 58 09.9 +1.3
KUR Kuril'sk 70.32 335 *e*P **P** 19 58 08.4 +0.1
KUR *e*S **S** 20 06 34.9 +0.7
KUR pmax pmax
comp=Z,371nm,1.3s
KUR pmax pmax
comp=Z,1µm,5.0s
YOGI Yogyakarta 70.41 268 P **P** 19 58 09.5 -0.2
comp=Z,737nm,1.1s,comp=Z,7µm
SMRI Semarang 70.49 269 P **P** 19 58 10.9 +0.8
SMRI Semarang 70.49 269 P **P** 19 58 09.8 -0.3
SMRI Semarang 70.49 269 P **P** 19 58 10.5 +0.4
comp=Z,873nm,1.3s,comp=Z,10µm
JNU Nakatsue 70.64 316 P **P** 19 58 10.9 +0.3
JNU Nakatsue 70.64 316 P **P** 19 58 10.1 -0.6
JNU IAmb IAmb 19 58 12.1
comp=Z,255nm,1.5s
NIKH Nikolski High 71.20 6 P **P** 19 58 12.7 -0.7
baz=189
YOJ Yonaguni jima 71.49 304 P **P** 19 58 16.1 +0.4
YOJ Yonaguni jima 71.49 304 P **P** 19 58 15.2 -0.5
YOJ Yonaguni jima 71.49 304 P **P** 19 58 15.2 -0.5
YOJ pmax pmax
comp=Z,913nm,1.3s
STKI Sintang 71.67 276 P **P** 19 58 17.6 +0.6
comp=Z,746nm,1.4s,comp=Z,8µm
JKA Kamikawa-asahi 71.70 331 P **P** 19 58 17.1 +0.7
ASAJ Asahikawa 71.70 331 P **P** 19 58 17.1 +0.6
ASAJ pmax pmax
comp=Z,807nm,2.0s
SBUM Sibu 71.76 279 IAmb IAmb 19 58 19.8
comp=Z,162nm,1.3s
KPJI Karang Pucung 71.84 268 P **P** 19 58 17.9 -0.1
comp=Z,458nm,1.5s,comp=Z,5µmcomp=Z,122µm
QSPA South Pole Qui 71.95 180 P **P** 19 58 19.4 +1.6
QSPA South Pole Qui 71.95 180 P **P** 19 58 19.8 +1.9
comp=Z,128nm,0.8s,baz=42,slow=3.1,SNR=578
QSPA pP **pwP** 20 00 19.9 -1.0
comp=Z,37nm,1.0s,baz=214,slow=3.6,SNR=3.4
comp=Z,128nm,0.8s
QSPA South Pole Qui 71.95 180 ⇓P **P** 19 58 20.3 +2.4
QSPA pP **pwP** 20 00 20.4 -0.6
CMJI Cimerak 72.18 267 P **P** 19 58 18.8 -1.1
comp=Z,569nm,1.2s,comp=Z,6µm
TWGBT Beinan 72.21 302 P **P** 19 58 19.2 -0.7
TWG Pinlang 72.22 302 P **P** 19 58 18.0 -2.0
TWG IAmb IAmb 19 58 19.5
comp=Z,90nm,0.6s
UNV Unalaska Valle 72.31 7 P **P** 19 58 19.1 -0.6
baz=191
YULB Yu-li 72.32 303 P **P** 19 58 19.9 -0.6
YULB Yu-li 72.32 303 IAmb IAmb 19 58 20.5
comp=Z,139nm,1.2s
NACB Ninganchiao 72.46 303 P **P** 19 58 21.1 -0.2
NACB Ninganchiao 72.46 303 P **P** 19 58 20.1 -1.2
JCJI Jatiwangi 72.71 269 P **P** 19 58 22.8 -0.2
comp=Z,1µm,1.6s,comp=Z,15µm
SSLB Suanglung 72.78 303 P **P** 19 58 22.6 -0.6
TPUB Ta-pu 72.81 302 P **P** 19 58 22.3 -1.1
YHNB Yeheng 72.88 304 P **P** 19 58 24.0 +0.2
TATO Taipei 72.94 304 P **P** 19 58 24.9 +0.8
TATO Taipei 72.94 304 P **P** 19 58 23.3 -0.8
TATO Taipei 72.94 304 P **P** 19 58 24.0 0.0
TATO S **S** 20 07 03.8 -0.5
BBJI Bungbulang 73.03 268 P **P** 19 58 24.2 -0.7
KSM Kuching 73.23 277 P **P** 19 58 26.9 +0.9
KSM Kuching 73.23 277 P **P** 19 58 26.0 0.0
LEM Lembang 73.24 268 P **P** 19 58 26.5 +0.3
comp=Z,1µm,1.3s,comp=Z,11µmcomp=Z,4µm
CNJI Cibinong 73.56 268 P **P** 19 58 27.0 -0.9
comp=Z,331nm,1.1s,comp=Z,3µm
PET Petropavlovsk 73.69 345 P **P** 19 58 26.5 -1.2
PET Petropavlovsk 73.69 345 *e*P **P** 19 58 27.9 +0.3
PET *e**PP **sP** 20 01 28.9 -0.1
PET *e*S **S** 20 07 12.3 +0.9
PET *e*SP **ScS** 20 07 45.0 +3.2
PET *e*SS **SS** 20 12 15.1 +2.7
PET pmax pmax
comp=Z,46nm,1.6s
PET pmax pmax
comp=Z,100nm,12.8s
FALS False Pass 73.70 9 P **P** 19 58 26.2 -1.5
baz=194
YSS Yuzh-Sakhalins 73.83 333 P **P** 19 58 30.1 +1.6
YSS Yuzh-Sakhalins 73.83 333 P **P** 19 58 28.8 +0.3
YSS IAmb IAmb 19 58 31.0
comp=Z,151nm,1.2s
YSS Yuzh-Sakhalins 73.83 333 *k*eP **P** 19 58 29.5 +1.0
YSS *e**PP **pP** 20 00 31.0 +1.4
YSS *e**SP **sP** 20 01 31.0 +1.0
YSS *e*S **S** 20 07 17.3 +4.2
YSS *e* 20 07 32.3
YSS *e* 20 07 48.0
YSS *e*SS **SS** 20 12 21.5 +6.9
YSS pmax pmax
comp=Z,1µm,3.2s
YSS pmax pmax
comp=N,300nm,3.5s
YSS pmax pmax
comp=Z,100nm,1.1s
YSS smax smax
comp=N,200nm,7.6s
YSS smax smax
comp=E,1µm,7.1s
PETK Petropavlovsk- 74.00 345 P **P** 19 58 28.7 -0.7
comp=E,57nm,0.8s,baz=113,slow=6.1,SNR=112
PETK pP **pP** 20 00 31.0 +0.5
comp=E,7.1nm,1.0s,baz=112,slow=6.6,SNR=3.0
comp=E,57nm,0.8s
PETK Petropavlovsk- 74.00 345 P **P** 19 58 28.6 -0.8
PETK *PP **pP** 20 00 31.2 +0.7
XMIS Christmas Isla 74.08 264 P **P** 19 58 31.7 +0.9
XMIS Christmas Isla 74.08 264 P **P** 19 58 30.3 -0.5
CBJI Citeko 74.08 268 P **P** 19 58 29.8 -1.0
comp=E,883nm,1.2s,comp=E,9µm
SKJI Sukabumi 74.19 268 P **P** 19 58 30.5 -0.9
comp=E,1µm,1.0s,comp=E,11µmcomp=E,2µm
CHNA Chernabura Isl 74.29 11 P **P** 19 58 30.1 -0.9
baz=198
TNG Tangerang 74.35 269 P **P** 19 58 32.3 0.0
comp=E,595nm,0.5s,comp=E,12µm
TNG P **P** 19 58 32.3 0.0
comp=E,886nm,0.5s,comp=E,18µmcomp=E,4µm
SDPT Sand Point 74.64 10 P **P** 19 58 32.5 -0.4
SDPT IAmb IAmb 19 58 33.6
comp=Z,44nm,0.7s
SDPT Sand Point 74.64 10 P **P** 19 58 31.9 -1.0
baz=197
S12K Black Hills 74.72 9 P **P** 19 58 31.7 -1.8
baz=196
P08K Saint George I 74.74 5 P **P** 19 58 32.1 -1.4
baz=188
SBJI Serang 74.86 268 P **P** 19 58 34.8 -0.3
comp=Z,1µm,1.3s,comp=Z,14µm
TJN Taejon 74.91 317 P **P** 19 58 35.8 +0.9
TJN Taejon 74.91 317 P **P** 19 58 34.5 -0.4
TJN Taejon 74.91 317 *ce*P **P** 19 58 36.1 +1.2
KSRS Korea Array 75.20 318 P **P** 19 58 37.5 +1.0
comp=Z,29nm,1.0s,baz=137,slow=5.9,SNR=85
KSRS pP **pwP** 20 00 39.6 +1.0
comp=Z,0.5nm,0.7s,baz=328,slow=22,SNR=1.5
comp=Z,29nm,1.0s
KSAR Wonju Array Be 75.21 318 P **P** 19 58 36.1 -0.5
KSAR pP **pP** 20 00 38.9 +0.1
KSAR Wonju Array Be 75.21 318 P **P** 19 58 36.1 -0.5
KSAR *PP **pP** 20 00 38.9 +0.1
QZH Quanzhou 75.23 303 ⇓*i* P **P** 19 58 37.6 +0.7
QZH pP **pP** 20 00 40.8 +1.5
QZH sP **sP** 20 01 39.0 -0.9
QZH S **S** 20 07 30.5 +1.3
QZH pmax pmax
comp=Z,210nm,1.3s
QZH pmax pmax
comp=Z,990nm,4.6s
TEY Ternei 75.25 328 *e*P **P** 19 58 36.9 +0.3
SPIA Saint Paul Isl 75.26 4 P **P** 19 58 36.4 +0.1
baz=188
KS19 Wonju Array Si 75.26 318 IAmb IAmb 19 58 39.3
comp=Z,330nm,1.7s
SNCC San Nicolas Is 75.52 47 P **P** 19 58 37.8 -0.7
baz=237
S14K Fog Glacier 75.69 10 P **P** 19 58 38.6 -0.3
baz=198
UGL Uglegorsk 75.77 334 ⇓*i* P **P** 19 58 39.6 +0.3
UGL *e*S **S** 20 07 35.7 +1.8
UGL pmax pmax
comp=Z,80nm,1.4s
UGL pmax pmax
comp=Z,750nm,4.0s
CHGN Chignik 75.90 11 P **P** 19 58 39.0 -0.9
CHGN Chignik 75.90 11 P **P** 19 58 39.7 -0.2
baz=199
PPBI Pangkal Pinang 76.03 272 P **P** 19 58 42.3 +0.6
comp=Z,440nm,1.3s,comp=Z,6µmcomp=Z,2µm
INCN Inchon 76.04 317 P **P** 19 58 42.5 +1.3
INCN Inchon 76.04 317 P **P** 19 58 41.1 -0.1
INCN IAmb IAmb 19 58 43.7
comp=Z,270nm,1.5s

INCN Inchon 76.04 317 P P 19 58 41.9 +0.7
INCN S S 20 07 40.3 +2.8
INCN Inchon 76.04 317 P P 19 58 41.1 -0.1
INCN pmax pmax
comp=Z,270nm,1.5s
SSE Sheshan 76.27 309 P P 19 58 42.4 -0.1
SSE S S 20 07 41.4 +1.3
SSE pmax pmax
comp=Z,29nm,1.2s
SSE pmax pmax
comp=Z,310nm,5.0s
VLA Vladivostok 76.42 325 i P P 19 58 43.9 +0.9
VLA pmax pmax
comp=Z,143nm,1.6s
BCW Bitter Crk WRg 76.53 46 P P 19 58 44.9 +0.8
BCW pP 20 00 46.6 +0.3
BCW IAmb IAmb 20 00 52.3
comp=Z,232nm,2.0s
KCPM Cahto Peak 76.58 40 P P 19 58 45.2 +1.0
KCPM pP pP 20 00 46.9 +0.4
KASI Kota Agung 76.58 269 P P 19 58 43.6 -1.1
comp=Z,841nm,1.3s,comp=Z,7µm
PSTR Posyet 76.71 324⇑iP P 19 58 45.9 +1.2
OSI Osito Audit: C 76.83 47 P P 19 58 44.6 -1.0
baz=237
DECC Green Verdugo 76.90 47 P P 19 58 45.8 -0.2
baz=237
TYV Tymovskoe 76.92 336 eP P 19 58 46.2 +0.6
TYV eS S 20 07 44.8 -1.4
TYV pmax pmax
comp=Z,72nm,1.7s
TYV pmax pmax
comp=Z,500nm,2.9s
TYV smax smax
comp=N,400nm,5.2s
TYV smax smax
comp=E,600nm,5.2s
JCC Jacoby Creek, 77.00 39 P P 19 58 46.2 -0.1
JCC IAmb IAmb 19 59 49.0
comp=Z,107nm,1.3s
ARVC Arvin 77.03 46 P P 19 58 47.2 +0.5
baz=237
CBX Cerro Bola 77.06 50 P P 19 58 47.6 +0.5
USA0B Ussuriysk Arra 77.07 325 P P 19 58 46.8 +0.2
USA0B IAmb IAmb 19 58 49.4
comp=Z,307nm,1.7s
USA0B pP pP 20 00 49.9 +1.1
USA0B Ussuriysk Arra 77.07 325 i P P 19 58 47.6 +1.0
USRK Ussuriysk Ar. 77.07 325 P P 19 58 46.4 -0.2
USRK pP 20 00 49.4 +0.6
USRK Ussuriysk Ar. 77.07 325 P P 19 58 47.3 +0.7
comp=Z,14nm,0.7s,baz=113,slow=4.4,SNR=66
USRK pP pP 20 00 49.3 +0.5
comp=Z,1.0nm,0.8s,baz=252,slow=39,SNR=1.7
comp=Z,14nm,0.7s
USRK Ussuriysk Ar. 77.07 325 P P 19 58 46.4 -0.2
USRK *PP pP 20 00 49.4 +0.6
PMBI Palembang 77.10 271 P P 19 58 48.7 +1.2
PMBI Palembang 77.10 271 P P 19 58 47.4 0.0
PMBI Palembang 77.10 271 P P 19 58 48.1 +0.6
comp=Z,921nm,1.2s,comp=Z,9µmcomp=Z,3µm
LWLI Liwa 77.15 269 P P 19 58 47.2 -0.7
comp=Z,838nm,1.2s,comp=Z,7µm
VTX Valle De La Tr 77.24 51 P P 19 58 48.5 +0.6
TKX Tecate 77.24 49 P P 19 58 48.6 +0.8
TKX IAmb IAmb 19 58 51.4
comp=Z,140nm,1.7s
TKX pP pP 20 00 50.8 +0.4
MURC Murrieta 77.36 48 P P 19 58 48.4 -0.1
baz=238
BFSC Mount Baldy Ra 77.37 47 P P 19 58 49.4 +0.8
baz=238
EDW2 Edwards Air Fo 77.48 47 P P 19 58 49.7 +0.5
baz=237,SNR=8.6
MONP2 Monument Peak 77.54 49 P P 19 58 47.6 -2.1
baz=239,SNR=5.6
ISA Isabella, Lake 77.57 46 P P 19 58 50.1 +0.5
ISA pP 20 00 51.9 -0.5
ISA Isabella, Lake 77.57 46 P P 19 58 48.7 -1.0
baz=237,SNR=7.3
IKP In-Ko-Pah, Jac 77.64 50 P P 19 58 49.6 -0.5
baz=239
HKPS Hong Kong Po S 77.67 298 P P 19 58 51.9 +1.6
HKPS Hong Kong Po S 77.67 298 P P 19 58 50.5 +0.1
HKPS pP pP 20 00 54.8 +0.9
AFDM Forest Hills D 77.77 42 P P 19 58 51.8 +1.2
AFDM pP 20 00 53.1 -0.2
OHAK Old Harbor 77.80 13 P P 19 58 50.9 +0.7
OHAK Old Harbor 77.80 13 P P 19 58 50.0 -0.2
OHAK Old Harbor 77.80 13 P P 19 58 50.1 0.0
baz=204
PFO Pinyon Flats O 77.88 49 P P 19 58 50.7 -0.7
baz=239
TPFO Pinon Flats 77.89 49 P P 19 58 51.0 -0.4
baz=239
BBRC Big Bear Solar 77.90 48 P P 19 58 50.8 -0.9
baz=238
LRMC Laurel Mtn Rad 78.01 46 P P 19 58 51.3 -0.8
baz=238,SNR=6.1
SWSC Sam W. Stewart 78.02 49 P P 19 58 51.8 -0.1
baz=239
DSRI Dabo 78.04 273 P P 19 58 53.2 +0.7
comp=Z,397nm,1.3s,comp=Z,6µmcomp=Z,3µm
RRX Edison Barstow 78.17 47 P P 19 58 52.2 -0.6
baz=238
SLBS Sierra La Lagu 78.20 60 P P 19 58 54.2 +0.9
SLBS IAmb IAmb 19 58 57.7
comp=Z,143nm,1.7s
SLBS pP 20 00 55.6 -0.7
Q17K Contact Creek 78.22 12 P P 19 58 52.9 +0.3
baz=201
CWC Cottonwood Cre 78.26 45 P P 19 58 51.8 -1.7
baz=237
O14K Tigyukauivet M 78.26 9 P P 19 58 53.1 +0.5
baz=196
YBH Yreka Blue Hor 78.34 39 P P 19 58 54.7 +1.0
YBH pP 20 00 56.8 +0.1
YBH IAmb IAmb 20 01 02.7
comp=Z,129nm,1.8s
MNAI Manna 78.39 269 P P 19 58 55.1 +0.6
MNAI Manna 78.39 269 P P 19 58 53.9 -0.6
MNAI Manna 78.39 269 P P 19 58 53.8 -0.6
comp=Z,927nm,1.7s,comp=Z,12µm
O15K Ungalikthiuk R 78.40 9 P P 19 58 53.5 0.0
baz=198
BELC Belle Mtn. Jos 78.41 48 P P 19 58 54.9 +0.6
baz=239,SNR=9.0
MPMC Manual Prospec 78.45 46 P P 19 58 55.4 +0.9
baz=238,SNR=12
KDAK Kodiak Island 78.46 13 P P 19 58 54.2 +0.4
baz=204
KDAK Kodiak Island 78.46 13 i P P 19 58 54.1 +0.4
KDAK pmax pmax
comp=Z,104nm,1.6s
Q16K King Salmon 78.47 11 P P 19 58 54.6 +0.8
baz=201
NJ2 Nanjing 78.47 309⇓iP P 19 58 55.4 +1.0
NJ2 pP pP 20 00 58.0 -0.1
NJ2 sP sP 20 01 57.7 -0.7
NJ2 S S 20 08 06.3 +3.1
NJ2 pmax pmax
comp=Z,100nm,1.0s
NJ2 pmax pmax
comp=Z,980nm,4.0s
GSC Goldstone, Bar 78.52 47 P P 19 58 55.0 +0.3
GSC pP 20 00 58.3 +0.3
GSC Goldstone, Bar 78.52 47 P P 19 58 55.8 +1.0
baz=238
DLV T Lat 78.56 287 P P 19 58 57.0 +1.5
DLV T Lat 78.56 287 P P 19 58 55.4 -0.1
DLV pP 20 00 58.8 -0.1
P16K Nushagak River 78.56 10 P P 19 58 54.3 +0.1
baz=199
JMBI JAMBI 78.57 272 P P 19 58 57.1 +1.7
comp=Z,612nm,1.3s,comp=Z,8µm
HEC Hector,Ludlow 78.61 48 P P 19 58 55.8 +0.6
baz=238
BC3 Big Chuckawall 78.63 49 P P 19 58 57.8 +2.4
baz=239
MDJ Mudanjiang 78.65 325 P P 19 58 57.0 +1.9
MDJ Mudanjiang 78.65 325 P P 19 58 56.1 +1.0
MDJ PcP PcP 19 59 01.6 +0.2
MDJ pP pwP 20 01 00.8 -0.4
MDJ PP PP 20 02 01.3 -3.2
MDJ S S 20 08 08.9 +4.4
MDJ SS SS 20 13 32.4 +5.7
MDJ pmax pmax
comp=Z,160nm,1.2s
MDJ pmax pmax
comp=Z,1µm,3.9s
MDJ Mudanjiang 78.65 325 P P 19 58 55.5 +0.4
MDJ IAmb IAmb 19 58 57.8
comp=Z,166nm,1.0s
MDJ pwP 20 01 00.0 -1.2
GZH Guangzhou 78.68 299 P P 19 58 56.2 +0.5
GZH pP pP 20 01 00.3 +0.6
GZH sP sP 20 02 00.3 +0.4
GZH S S 20 08 04.8 -0.9
GZH pmax pmax
comp=Z,2µm,1.5s
HUMO Hull Mountain 78.72 38 IAmb IAmb 20 01 03.2
comp=Z,150nm,1.9s
GLA Glamis 78.77 50 P P 19 58 55.2 -0.9
baz=240
M11K Mekoryuk 78.78 6 P P 19 58 55.5 +0.2
baz=191
QSM Queen of Sheba 78.83 46 P P 19 58 57.5 +1.2
QSM pP 20 00 59.6 +0.1
DSP Deep Springs 78.84 45 P P 19 58 58.0 +1.8
DSP pP 20 00 59.9 +0.4
N14K Kuskokwak Cree 78.85 8 P P 19 58 56.1 +0.3
baz=196,SNR=9.1
LCH Last Change Ra 78.98 45 P P 19 58 55.6 -1.7
LCH pP pP 20 01 00.1 -0.4
P17K Kvichak River 78.99 11 P P 19 58 56.9 +0.4
baz=201,SNR=8.8
GRAC Grapevine Rang 79.04 45 IAmb IAmb 20 01 06.6
comp=Z,225nm,1.9s
GRAC Grapevine Rang 79.04 45 P P 19 58 58.4 +1.0
baz=238
GMRC Granite Mounta 79.06 48 P P 19 58 59.0 +1.3
baz=239,SNR=6.5
O16K Kokwok River B 79.08 10 P P 19 58 56.5 -0.5
baz=199,SNR=11
IRM Iron Mountain 79.10 49 P P 19 58 59.0 +1.2
baz=239,SNR=9.7
M13K Dall Lake 79.11 7 P P 19 58 58.7 +1.6
baz=194
NVAR Mina Array Bea 79.20 44 P P 19 58 59.7 +1.2
NVAR pP 20 01 01.2 -0.7
NVAR Mina Array Bea 79.20 44 P P 19 59 00.1 +1.7
comp=Z,3.6nm,0.5s,baz=226,slow=8.7,SNR=37
NVAR pP pP 20 01 02.5 +0.6
comp=Z,5.7nm,0.9s,baz=227,slow=8.5,SNR=5.1
comp=Z,3.6nm,0.5s
SHOC Shoshone, Teco 79.21 47 P P 19 59 00.0 +1.7
baz=238
Q19K Cape Douglas, 79.29 13 P P 19 58 57.8 -0.4
baz=203
N15K Kwethluk River 79.31 9 P P 19 58 58.5 +0.3
baz=197,SNR=7.4
P18K Big Mountain, 79.40 12 P P 19 58 58.4 -0.3
baz=202,SNR=9.9
O17K Koliganek Bris 79.42 11 P P 19 58 58.7 -0.1
baz=200,SNR=10
MYKOM Kota Tinggi 79.44 275 P P 19 58 60.0 0.0
MYKOM pP pP 20 01 03.4 -0.4
GRNR Gornyy 79.45 332⇑iP P 19 59 00.2 +1.0
GRNR e 20 02 00.1
GRNR pmax pmax
comp=E,20nm,1.2s
GRNR pmax pmax
comp=Z,90nm,1.2s
NKL Nikolayevsk 79.47 336 eP P 19 58 56.7 -2.4
NKL eS S 20 08 10.2 -2.3
NKL pmax pmax
comp=E,117nm,1.4s
NKL pmax pmax
comp=N,45nm,1.2s
NKL pmax pmax
comp=Z,301nm,1.6s
NKL smax smax
comp=E,150nm,2.5s
NKL smax smax
comp=N,283nm,3.0s
M14K Bethel 79.62 8 IAmb IAmb 20 01 06.1
comp=Z,263nm,1.9s
M14K Bethel 79.62 8 P P 19 59 00.8 +1.1
baz=195,SNR=5.5
214A Organ Pipe Nat 79.72 52 P P 19 59 01.8 +0.7
baz=241
M15K Kasigluk River 79.73 8 P P 19 59 01.3 +0.9
baz=197,SNR=14
HSIG 79.76 55 P P 19 59 01.0 -0.3
HSIG pP 20 01 03.5 -1.5
I04A Tendick Farm, 79.76 37 IAmb IAmb 20 01 09.9
comp=Z,135nm,1.7s
NEE2 Needles Airpor 79.79 48 P P 19 59 03.0 +1.6
baz=240
N16K Nishlik Lake 79.81 9 P P 19 59 01.7 +0.9
baz=198,SNR=8.5
O18K Koktuh Hills 79.84 11 P P 19 59 01.3 +0.3
baz=202,SNR=17
PDMCI Parker Dam,Lak 79.89 49 P P 19 59 03.9 +2.0
baz=240,SNR=5.9
QIZ Qiongzhong 80.01 294 P P 19 59 04.7 +1.9
QIZ Qiongzhong 80.01 294 P P 19 59 02.8 0.0
QIZ pP pP 20 01 03.9 -3.0
QIZ sP sP 20 02 02.8 -3.7
QIZ S S 20 08 21.9 +2.3
QIZ SS SS 20 13 49.2 +1.5
QIZ pmax pmax
comp=Z,76nm,1.4s
QIZ pmax pmax
comp=Z,730nm,4.1s
QIZ Qiongzhong 80.01 294 IAmb IAmb 19 59 05.3
comp=Z,256nm,1.7s
K05A Summer Lake 80.02 39 IAmb IAmb 20 01 12.2
comp=Z,219nm,1.7s
P19K Oil Pt 80.04 12 P P 19 59 02.4 +0.3
baz=204
DL2 Dalian 80.09 316 P P 19 59 02.9 +0.1
DL2 sP sP 20 02 09.4 +2.2
DL2 S S 20 08 19.4 -0.2
DL2 pmax pmax
comp=Z,140nm,1.4s
DL2 pmax pmax
comp=Z,990nm,4.5s
L14K Kuka Creek 80.10 7 P P 19 59 03.1 +0.8
baz=195
N17K Nushagak Hills 80.11 10 P P 19 59 02.8 +0.4
baz=200,SNR=5.8
J05D Fort Rock, OR 80.14 38 P P 19 59 03.6 +0.4
J05D pP 20 01 07.6 +0.7
J05D IAmb IAmb 20 01 12.8
comp=Z,112nm,1.4s
M16K Timber Creek 80.30 9 IAmb IAmb 19 59 06.4
comp=Z,183nm,1.3s
M16K Timber Creek 80.30 9 P P 19 59 05.0 +1.6
baz=198,SNR=26
CNPM China Poot 80.34 13 P P 19 59 04.0 +0.3
CNPM IAmb IAmb 19 59 05.5
comp=Z,126nm,1.5s
CNPM pP pP 20 01 07.7 0.0
K13K Kusilvak Mount 80.45 6 P P 19 59 05.2 +1.1
baz=193,SNR=5.2
SNY Shenyang 80.47 320 ⇓P P 19 59 05.2 +0.5
SNY pP pwP 20 01 10.0 -1.0
SNY S SKSac 20 08 27.1 +0.3
SNY pmax pmax
comp=Z,71nm,1.8s
SNY pmax pmax
comp=Z,700nm,3.5s
S11A Rachel 80.48 45 IAmb IAmb 20 01 11.1
comp=Z,115nm,1.8s
N18K Kilae Creek 80.48 11 P P 19 59 04.2 -0.1
baz=201
CN2 Changchun 80.50 322 eP P 19 59 05.1 +0.3
CN2 epP pP 20 01 12.5 +3.2
CN2 esP sP 20 02 11.4 +2.7
CN2 SKS S 20 08 22.9 -0.6
CN2 esS sS 20 12 06.3 +2.0
CN2 eSS SS 20 13 56.1 +2.1
CN2 pmax pmax
comp=Z,160nm,1.2s
KLR Kul'dur 80.55 329ceP P 19 59 05.6 +0.7
KLR pmax pmax
comp=Z,85nm,1.5s
O20K Slope Mountain 80.56 13 P P 19 59 04.9 +0.2
baz=204
BNX BinXian 80.56 325 ⇓P P 19 59 05.3 +0.3
BNX S SKSac 20 08 26.9 -0.3
BNX pmax pmax
comp=Z,140nm,1.1s
BNX pmax pmax
comp=Z,1µm,3.0s
L15K Ungalak Mounta 80.57 8 P P 19 59 05.0 +0.3
baz=196,SNR=12
PINE Pine Mountain 80.61 38 P P 19 59 06.7 +1.1
PINE pP 20 01 09.7 +0.1
PINE IAmb IAmb 20 01 15.5
comp=Z,112nm,1.4s
BRLK Bradley Lake 80.64 13 IAmb IAmb 19 59 06.9
comp=Z,120nm,1.5s
BRSE Bradley Lake S 80.65 14 P P 19 59 05.4 +0.2
baz=206
N19K Bonanza Creek 80.86 11 IAmb IAmb 19 59 07.6
comp=Z,122nm,1.8s
N19K Bonanza Creek 80.86 11 P P 19 59 06.2 -0.2
baz=202,SNR=7.7
L16K Owhat River 80.88 9 IAmb IAmb 19 59 09.0
comp=Z,106nm,1.3s
L16K Owhat River 80.88 9 P P 19 59 07.2 +0.9
baz=198,SNR=17
M17K Holitna River 80.90 10 IAmb IAmb 19 59 09.4
comp=Z,116nm,1.1s
M17K Holitna River 80.90 10 P P 19 59 07.9 +1.4
baz=200,SNR=15
R11B Troy Canyon, C 80.96 45 P P 19 59 08.6 +1.1
baz=238,SNR=8.9
BMN Battle Mountai 80.99 42 IAmb IAmb 20 01 18.3
comp=Z,109nm,1.9s
WHN Wuhan 81.14 306⇓iP P 19 59 09.4 +1.0
WHN pP pP 20 01 15.3 +1.9
WHN sP sP 20 02 15.6 +2.4
WHN S SKSac 20 08 32.9 +1.1
WHN pmax pmax
comp=Z,2µm,1.9s
K15K Wolf Creek Mou 81.16 8 IAmb IAmb 19 59 10.6
comp=Z,138nm,1.0s
K15K Wolf Creek Mou 81.16 8 P P 19 59 08.9 +1.1
baz=196,SNR=29
CNSH ChangSha 81.21 303 ⇓P P 19 59 09.8 +1.0
CNSH sP sP 20 02 14.6 +1.0
CNSH S S 20 08 31.2 -0.1
CNSH pmax pmax
comp=Z,150nm,1.3s
CNSH pmax pmax
comp=Z,960nm,3.1s
WVOR Wild Horse Val 81.21 40 IAmb IAmb 20 01 18.4
comp=Z,114nm,1.8s
WVOR Wild Horse Val 81.21 40 P P 19 59 10.7 +2.0
M18K Stony River 81.25 10 P P 19 59 08.8 +0.5
baz=201,SNR=7.3
SEW Seward 81.27 14 P P 19 59 08.4 +0.1
baz=207
J14K Nanvaranak Lak 81.37 7 P P 19 59 09.6 +0.8
baz=194
TUC Tucson 81.40 52 P P 19 59 11.9 +2.0
baz=242
TUC Tucson 81.40 52 P P 19 59 13.1 +3.3
L17K Donlin 81.46 9 P P 19 59 11.0 +1.7
baz=199,SNR=29
MA2 Magadan 81.52 344 P P 19 59 09.5 -0.2
MA2 Magadan 81.52 344 P P 19 59 08.7 -0.9
MA2 IAmb IAmb 19 59 10.6
comp=Z,139nm,1.5s
MA2 pP 20 01 14.0 -0.1
MA2 Magadan 81.52 344ceP P 19 59 09.0 -0.7
MA2 pmax pmax
comp=Z,113nm,1.6s
MA2 Magadan 81.52 344 P P 19 59 08.0 -1.7
comp=Z,89nm,1.6s,comp=Z,2µm
O22K Cooper Landing 81.54 14 P P 19 59 09.5 -0.2
baz=207
I07A Izee 81.63 38 IAmb IAmb 20 01 20.8
comp=Z,130nm,1.8s
BKNI Bangkinang 81.65 273 P P 19 59 12.4 +1.0
BKNI Bangkinang 81.65 273 P P 19 59 11.7 +0.3
comp=Z,753nm,1.5s,comp=Z,9µmcomp=Z,4µm
N20K Mount Spurr 81.66 12 P P 19 59 09.9 -0.6
baz=205,SNR=7.7
PPSI Pulau Pagai 81.68 270 P P 19 59 12.3 +0.8
comp=Z,554nm,1.8s,comp=Z,7µm
TIA Tai'an 81.77 312 ⇓P P 19 59 11.9 +0.4
TIA pP pP 20 01 16.0 -0.6
TIA S S 20 08 40.0 +3.4
TIA sS sS 20 12 23.5 +5.1
TIA SS SS 20 14 19.0 +6.0
TIA pmax pmax
comp=Z,34nm,1.7s
TIA pmax pmax
comp=Z,500nm,12.3s
L18K Granite Mounta 81.79 10 P P 19 59 11.4 +0.4
L18K IAmb IAmb 19 59 13.7
comp=Z,160nm,1.6s
L18K pP 20 01 17.0 +1.1
L18K Granite Mounta 81.79 10 P P 19 59 11.6 +0.7
baz=200,SNR=22
PDSI Padang 81.81 272 P P 19 59 10.6 -1.7
comp=Z,241nm,1.3s,comp=Z,3µmcomp=Z,2µm
GNW Green Mountain 81.84 34 IAmb IAmb 20 01 20.1
comp=Z,119nm,1.9s
M19K Big River Lodg 81.89 11 P P 19 59 11.8 +0.3
baz=203
COCO West Island 81.91 260 P P 19 59 13.6 +0.9
COCO West Island 81.91 260 P P 19 59 12.2 -0.5
COCO West Island 81.91 260 P P 19 59 13.8 +1.1
COCO West Island 81.91 260 P P 19 59 12.2 -0.5
COCO pmax pmax
comp=Z,677nm,1.4s
BELA Belgrano 2 81.91 173 IAmb IAmb 19 59 14.9
comp=Z,131nm,0.9s
K17K Iditarod 82.01 9 IAmb IAmb 19 59 14.8
comp=Z,151nm,1.6s
K17K Iditarod 82.01 9 P P 19 59 12.9 +0.8
baz=199,SNR=10
D05A Enumclaw 82.06 35 IAmb IAmb 20 01 21.6
comp=Z,252nm,1.8s
L19K White Mountain 82.07 11 IAmb IAmb 19 59 14.7
comp=Z,120nm,1.6s
L19K White Mountain 82.07 11 P P 19 59 13.5 +1.1
baz=202,SNR=18
GULI GuiLin 82.07 300 ⇓P P 19 59 14.5 +1.2
GULI pP pP 20 01 19.9 +1.4
GULI sP sP 20 02 20.3 +2.0
GULI S SKSac 20 08 35.9 -2.2
GULI SS SS 20 14 17.0 -0.7
GULI pmax pmax
comp=Z,210nm,1.3s
RC01 Rabbit Creek A 82.08 13 P P 19 59 12.5 +0.1
RC01 IAmb IAmb 19 59 14.1
comp=Z,84nm,1.3s
RC01 pP pP 20 01 17.8 +0.6
RC01 Rabbit Creek A 82.08 13 P P 19 59 12.9 +0.4
baz=207,SNR=5.4
M20K Styx River 82.11 12 P P 19 59 11.9 -0.8
baz=204
SUA Susitna One 82.20 13 P P 19 59 13.4 +0.2
baz=206
PSUT Pine Spring 82.22 45 P P 19 59 14.8 +0.8
PSUT pP pP 20 01 18.9 +0.2
J16K Anvik River 82.24 8 IAmb IAmb 19 59 15.8
comp=Z,129nm,1.6s
J16K Anvik River 82.24 8 P P 19 59 13.8 +0.5
baz=197,SNR=8.1
U15A North Rim 82.25 48 IAmb IAmb 20 01 26.7
comp=Z,102nm,1.5s
KAIM Kayak Island 82.36 16 P P 19 59 14.9 +1.0
baz=212
ELK Elko 82.44 43 P P 19 59 15.6 +0.5
WUAZ Wupatki 82.47 49 P P 19 59 15.0 -0.3
baz=242
CRAG Craig 82.48 24 P P 19 59 15.2 +0.7
baz=222
UBPT Khong Chiam 82.49 289 P P 19 59 16.7 +1.1
GLI Glacier Island 82.50 15 P P 19 59 12.7 -1.9
baz=209
SKT Skwentna 82.51 12 P P 19 59 13.5 -1.1
baz=205,SNR=5.2
L20K Farewell, AK 82.52 11 P P 19 59 15.0 +0.3
baz=203,SNR=15
EYAK Cordova Ski Ar 82.55 15 P P 19 59 14.6 -0.2
baz=211
J17K VABM Dome 82.55 8 P P 19 59 13.9 -0.8
J17K IAmb IAmb 19 59 17.2
comp=Z,120nm,1.7s

J17K pP 20 01 20.8 +1.0
J17K VABM Dome 82.55 8 P P 19 59 15.5 +0.8
baz=198,SNR=8.0
TTA Tatalina 82.57 10 P P 19 59 15.9 +0.9
TTA Tatalina 82.57 10 lAmb lAmb 20 01 26.5
comp=Z,125nm,1.5s
TTA Tatalina 82.57 10 P P 19 59 15.5 +0.5
baz=201,SNR=16
M22K Willow 82.59 13 lAmb lAmb 19 59 16.4
comp=Z,154nm,1.4s
M22K Willow 82.59 13 P P 19 59 14.8 -0.2
baz=207
G08A Pilot Rock 82.64 38 lAmb lAmb 20 01 26.1
comp=Z,113nm,1.9s
KNK Knik Glacier 82.66 14 P P 19 59 15.6 +0.2
baz=208
PMR Palmer 82.66 13 P P 19 59 16.6 +1.2
PMR Palmer 82.66 13 P P 19 59 15.1 -0.2
PMR lAmb lAmb 19 59 17.1
comp=Z,104nm,1.4s
PMR pP pP 20 01 20.4 +0.1
PMR Palmer 82.66 13 P P 19 59 15.0 -0.4
baz=208
I17K Unalakleet 82.80 8 P P 19 59 16.6 +0.6
baz=196
BGLC Bering Glacier 82.83 17 P P 19 59 16.6 +0.4
baz=213
GHO Glory Hole Cre 82.87 13 lAmb lAmb 19 59 18.1
comp=Z,39nm,0.6s
HAWA Hanford 82.94 36 P P 19 59 17.8 +0.7
HAWA pP 20 01 23.4 +1.3
U33K Whale Pass 82.95 23 P P 19 59 17.7 +0.8
baz=222
J18K Innoko River 82.96 9 lAmb lAmb 20 01 28.4
comp=Z,144nm,1.6s
J18K Innoko River 82.96 9 P P 19 59 17.5 +0.6
baz=200,SNR=28
V35K Ketchikan 82.96 25 P P 19 59 17.4 +0.5
baz=224
ANM Nome 82.96 5 P P 19 59 17.2 +0.3
baz=192
SISI Saibi 82.99 271 P P 19 59 18.7 +0.5
comp=Z,245nm,1.6s,comp=Z,4µm
SML Sawmill 83.03 14 lAmb lAmb 19 59 19.0
comp=Z,162nm,1.9s
SML Sawmill 83.03 14 P P 19 59 17.0 -0.3
baz=208,SNR=6.9
CUT Chulitna 83.15 13 P P 19 59 15.7 -2.1
CUT lAmb lAmb 19 59 19.1
comp=Z,233nm,1.4s
CUT pP 20 01 23.0 +0.1
CUT Chulitna 83.15 13 P P 19 59 17.7 -0.1
baz=206,SNR=14
M23K Glacier View 83.16 14 P P 19 59 17.8 -0.1
baz=209
BMRM Bremner River 83.20 16 P P 19 59 18.4 +0.2
baz=212,SNR=8.7
PPLA Purkeypile 83.21 12 P P 19 59 17.1 -1.2
baz=205
WAX Waxell Ridge 83.22 17 lAmb lAmb 19 59 20.6
comp=Z,44nm,0.8s
S31K Pelican 83.24 21 P P 19 59 18.9 +0.6
baz=220
MESA MESA 83.25 17 lAmb lAmb 20 01 37.5
comp=Z,238nm,1.8s
MESA MESA 83.25 17 P P 19 59 19.4 +0.8
baz=214
SCM Sheep Creek Mo 83.28 14 lAmb lAmb 19 59 20.3
comp=Z,37nm,0.6s
SCM Sheep Creek Mo 83.28 14 P P 19 59 19.0 +0.4
baz=209,SNR=9.2
K20K Telida 83.30 11 lAmb lAmb 19 59 20.4
comp=Z,166nm,1.6s
K20K Telida 83.30 11 P P 19 59 18.9 +0.4
baz=203
MVU Marysvale 83.32 46 P P 19 59 20.5 +0.9
MVU pP 20 01 24.8 +0.1
MVU lAmb lAmb 20 01 29.7
comp=Z,204nm,1.6s
KLU Klutina 83.32 15 P P 19 59 18.9 +0.1
baz=210,SNR=7.6
MSU Marysvale 83.35 46 P P 19 59 20.3 +0.6
MSU pP 20 01 24.6 -0.3
H16K Elim 83.35 7 P P 19 59 19.6 +0.9
baz=195
HEH HeiHe 83.35 328 *e*P P 19 59 19.4 +0.3
HEH pP pwP 20 01 26.1 -1.1
HEH sP sP 20 02 26.0 +2.0
HEH S S 20 08 55.0 +3.4
HEH pmax pmax
comp=Z,110nm,1.4s
HEH pmax pmax
comp=Z,990nm,4.4s
S32K Killisnoo 83.44 22 P P 19 59 20.7 +1.4
baz=221
W18A Petrified Fore 83.47 50 P P 19 59 21.3 +1.1
baz=243
G15K Niukluk 83.51 6 P P 19 59 19.8 +0.3
baz=193,SNR=5.2
PNL Peninsula 83.57 19 P P 19 59 20.8 +0.8
baz=217
KULM Kulim 83.58 278 P P 19 59 21.1 0.0
KULM pP pP 20 01 27.9 +1.3
J19K Poorman 83.63 10 lAmb lAmb 20 01 32.5
comp=Z,155nm,1.9s
J19K Poorman 83.63 10 P P 19 59 21.1 +0.9
baz=201,SNR=9.3
CAST Castle Rocks 83.71 11 lAmb lAmb 19 59 21.0
comp=Z,65nm,1.3s
CAST Castle Rocks 83.71 11 P P 19 59 19.6 -1.0
baz=205,SNR=26
VRDI Verde Repeater 83.72 16 lAmb lAmb 19 59 22.8
comp=Z,88nm,1.5s
TNA Tin City 83.74 4 P P 19 59 20.0 -0.7
baz=190
N25K Chitina, Valde 83.75 15 P P 19 59 21.6 +0.7
baz=212,SNR=17
DUG Dugway, Tooele 83.75 44 P P 19 59 21.9 +0.4
baz=240
121A Cookes Peak, D 83.76 53 lAmb lAmb 20 01 29.6
comp=Z,96nm,2.0s
121A Cookes Peak, D 83.76 53 P P 19 59 23.7 +1.9
baz=244
F14K Arctic Creek 83.78 5 P P 19 59 21.8 +1.0
baz=191
M24K Tolsona, Glenn 83.79 14 lAmb lAmb 19 59 23.4
comp=Z,71nm,1.0s
M24K Tolsona, Glenn 83.79 14 P P 19 59 21.6 +0.5
baz=210,SNR=10
GLB Gilahina Butte 83.81 16 P P 19 59 20.8 -0.4
GLB lAmb lAmb 19 59 23.0
comp=Z,100nm,1.6s
GLB pP 20 01 26.5 0.0
WAT6 Susitna Watana 83.85 14 P P 19 59 21.2 -0.3
baz=209,SNR=30
MAW Mawson 83.86 200 P P 19 59 23.1 +1.6
baz=84,SNR=22
MAW Mawson 83.86 200 P P 19 59 23.0 +1.6
comp=Z,116nm,1.1s,baz=118,slow=6.0,SNR=64
comp=Z,116nm,1.1s
MAW Mawson 83.86 200 P P 19 59 23.0 +1.6
WAT1 Susitna Watana 83.89 13 P P 19 59 21.6 +0.1
baz=208
H17K Granite Mounta 83.91 8 P P 19 59 21.8 +0.3
baz=197
MCARA McCarthy VSAT 83.96 16 lAmb lAmb 19 59 23.9
comp=Z,60nm,1.3s
MCARA McCarthy VSAT 83.96 16 P P 19 59 22.3 +0.5
baz=213,SNR=8.0
HNS HongShan 84.04 312 ⇓P P 19 59 23.9 +1.1
HNS pP pP 20 01 32.4 +3.6
HNS sP sP 20 02 27.7 -0.6
HNS S S 20 09 02.9 +4.0
HNS SS SS 20 14 41.6 -4.4
HNS pmax pmax
comp=Z,160nm,1.4s
J20K Nowinta River 84.04 10 lAmb lAmb 20 01 34.1
comp=Z,116nm,1.6s
J20K Nowinta River 84.04 10 P P 19 59 22.7 +0.5
baz=203,SNR=24
LOGN Logan Glacier 84.05 17 lAmb lAmb 19 59 23.7
comp=Z,65nm,1.4s
P29M Windy Craggy 84.05 19 lAmb lAmb 19 59 25.1
comp=Z,83nm,1.6s
P29M Windy Craggy 84.05 19 P P 19 59 23.7 +1.3
baz=218,SNR=6.4
BARN Barnard Glacie 84.06 17 P P 19 59 22.6 0.0
BARN pP 20 01 27.7 -0.3
R32K Eaglecrest 84.07 21 P P 19 59 22.6 +0.2
baz=221
CTG Chitna Glacier 84.07 17 P P 19 59 23.0 +0.4
baz=215,SNR=9.9
CTGM Chitina Glacie 84.07 17 lAmb lAmb 20 01 30.1
comp=Z,85nm,1.7s
G16K Koyuk River 84.07 6 P P 19 59 22.5 +0.2
baz=195
SEY Seymchan 84.08 347 *ce*P P 19 59 22.2 -0.2
SEY pmax pmax
comp=Z,193nm,1.5s
TRF Thorofare Moun 84.09 12 lAmb lAmb 19 59 23.7
comp=Z,273nm,1.9s
TRF Thorofare Moun 84.09 12 P P 19 59 22.4 -0.2
baz=206,SNR=15
CHUM Lake Minchumin 84.09 11 P P 19 59 22.0 -0.4
baz=204,SNR=22
GCSA Galena City Sc 84.14 9 P P 19 59 23.1 +0.5
baz=200,SNR=5.2
F15K North Star Dit 84.15 5 P P 19 59 23.0 +0.3
baz=193
PBSI Pulau Batu 84.15 272 P P 19 59 24.6 +0.7
comp=Z,252nm,1.6s,comp=Z,5µm
O28M Mount Upton 84.23 18 P P 19 59 24.0 +0.4
baz=216,SNR=9.7
BJT Baijiatuau 84.29 315 P P 19 59 24.7 +0.8
HARP HAARP 84.29 15 P P 19 59 24.0 +0.6
baz=211
BJI Beijing 84.29 315 P P 19 59 24.6 +0.7
BJI pP pP 20 01 33.5 +3.4
BJI SKS SKSac 20 08 50.0 -1.6
BJI S S 20 09 01.6 +0.4
BJI sS sS 20 12 47.1 +1.9
BJI pmax pmax
comp=Z,58nm,1.5s
BJI pmax pmax
comp=Z,570nm,3.9s
H18K Honhosa River 84.32 8 P P 19 59 23.2 -0.4
baz=199
RND Reindeer 84.34 13 lAmb lAmb 19 59 25.3
comp=Z,182nm,1.4s
RND Reindeer 84.34 13 P P 19 59 23.3 -0.5
PLBC Pleasant Camp 84.35 20 P P 19 59 25.2 +1.4
baz=219,SNR=8.8
LYN LuoYang 84.36 309 ⇓P P 19 59 25.8 +1.4
LYN sP sP 20 02 29.2 -1.0
LYN pmax pmax
comp=Z,340nm,0.9s
LYN pmax pmax
comp=Z,990nm,5.3s
DHY Denali Highway 84.36 13 P P 19 59 23.4 -0.6
DHY lAmb lAmb 19 59 25.6
comp=Z,116nm,1.7s
DHY pP 20 01 29.0 -0.5
DHY Denali Highway 84.36 13 P P 19 59 24.1 +0.1
baz=209,SNR=14
G17K Kiwalik Mounta 84.36 7 P P 19 59 24.1 +0.4
baz=196
HLID Hailey 84.43 41 P P 19 59 26.6 +1.8
baz=239,SNR=7.1
BPAW Bear Paw Mtn. 84.54 12 P P 19 59 23.6 -1.0
baz=206,SNR=9.6
I20K Naaghedeneel 84.56 10 lAmb lAmb 20 01 37.0
comp=Z,130nm,1.5s
I20K Naaghedeneel 84.56 10 P P 19 59 25.2 +0.5
baz=202,SNR=5.3
MCK McKinley 84.61 12 P P 19 59 25.0 0.0
baz=208,SNR=21
MCK McKinley 84.61 12 P P 19 59 24.4 -0.6
T35M Bob Quinn 84.68 24 P P 19 59 26.7 +1.2
baz=225
P30M Million Dollar 84.68 19 P P 19 59 26.7 +1.2
baz=219
SKAG Skagway 84.69 20 P P 19 59 26.6 +1.1
baz=220
PAX Paxson 84.70 14 P P 19 59 25.5 0.0
baz=211,SNR=10
YUK8 Steele Glacier 84.77 17 P P 19 59 27.0 +0.9
baz=216,SNR=12
ENH Enshi 84.82 304 P P 19 59 28.0 +1.2
ENH Enshi 84.82 304 P P 19 59 27.6 +0.8
ENH pP 20 01 34.1 +0.9
M26K Nabesna, AK 84.82 16 lAmb lAmb 19 59 28.2
comp=Z,74nm,1.3s
M26K Nabesna, AK 84.82 16 P P 19 59 26.9 +0.7
baz=213,SNR=25
YUK6 Outpost Mounta 84.90 18 P P 19 59 27.2 +0.5
baz=217
H19K Roundabout Mou 84.94 9 lAmb lAmb 20 01 39.0
comp=Z,153nm,1.6s
H19K Roundabout Mou 84.94 9 P P 19 59 27.0 +0.5
baz=200,SNR=9.6
YUK3 Moose Creek 84.98 17 P P 19 59 27.6 +0.5
baz=216,SNR=18
G18K Tagagawik 84.99 8 lAmb lAmb 20 01 38.6
comp=Z,78nm,1.6s
G18K Tagagawik 84.99 8 P P 19 59 26.7 -0.1
baz=198
S34M Telegraph Cree 85.01 23 P P 19 59 27.3 +0.3
S34M pP 20 01 32.6 -0.3
S34M Telegraph Cree 85.01 23 P P 19 59 28.3 +1.3
baz=224,SNR=10
HYT Haines Junctio 85.07 19 P P 19 59 28.9 +1.5
baz=218,SNR=7.5
M27K Edge Creek, AK 85.08 16 lAmb lAmb 19 59 29.9
comp=Z,80nm,1.4s
M27K Edge Creek, AK 85.08 16 P P 19 59 28.4 +1.0
baz=214,SNR=7.5
Y22D IRIS PASSCAL I 85.08 52 P P 19 59 26.5 -1.7
baz=244
Y22F Passcal Instru 85.08 52 P P 19 59 26.1 -2.1
baz=244
MENT Mentasta 85.10 15 P P 19 59 28.3 +0.9
YUK4 Talbot Arm 85.14 18 P P 19 59 28.8 +1.0
baz=217
H20K Anotleneega Mo 85.15 9 P P 19 59 28.2 +0.7
baz=202,SNR=12
F17K Baldwin Pennin 85.20 7 lAmb lAmb 20 01 39.1
comp=Z,81nm,1.5s
F17K Baldwin Pennin 85.20 7 P P 19 59 27.9 +0.2
baz=196
GSI Gunungsitoli 85.24 273 P P 19 59 30.4 +1.2
GSI Gunungsitoli 85.24 273 P P 19 59 30.5 +1.2
comp=Z,697nm,1.5s,comp=Z,8µm
MNTX Cornudas Mount 85.25 55 P P 19 59 30.3 +1.4
baz=246
L26K Log Cabin Wild 85.26 15 P P 19 59 28.2 +0.1
L26K pP pP 20 01 35.2 +1.2
L26K Log Cabin Wild 85.26 15 P P 19 59 29.0 +0.8
baz=213,SNR=12
MVCO Mesa Verde 85.31 49 P P 19 59 28.5 -0.8
baz=243
P32M Atlin 85.33 21 P P 19 59 30.2 +1.5
baz=222
I21K Tanana 85.34 11 lAmb lAmb 19 59 30.1
comp=Z,107nm,1.5s
I21K Tanana 85.34 11 P P 19 59 28.7 +0.3
baz=205
NEA2 Nenana 85.35 12 lAmb lAmb 20 01 38.9
comp=Z,98nm,1.9s
NEA2 Nenana 85.35 12 P P 19 59 27.9 -0.6
baz=207,SNR=6.0
K24K Donnelly Dome 85.36 14 P P 19 59 29.2 +0.6
baz=210,SNR=18
NEW Newport 85.36 36 P P 19 59 30.0 +1.0
baz=236
MG03 Isla Dawson 85.39 145 P P 19 59 30.9 +1.8
MG03 lAmb lAmb 19 59 32.8
comp=Z,64nm,0.7s
MLY Manley 85.43 11 lAmb lAmb 20 01 39.3
comp=Z,60nm,1.5s
MLY Manley 85.43 11 P P 19 59 28.3 -0.7
baz=206,SNR=23
G19K Purcell Mounta 85.43 8 lAmb lAmb 20 01 40.4
comp=Z,154nm,1.8s
G19K Purcell Mounta 85.43 8 P P 19 59 29.4 +0.6
baz=200,SNR=7.7
WRH Wood River Hil 85.44 12 lAmb lAmb 19 59 30.3
comp=Z,146nm,1.4s
O30N Mendenhall 85.46 19 lAmb lAmb 19 59 31.8
comp=Z,95nm,1.7s
O30N Mendenhall 85.46 19 P P 19 59 30.0 +0.8
baz=220,SNR=18
F18K Selawik 85.54 7 P P 19 59 29.4 +0.1
baz=197
NONG Nongkai 85.56 291 P P 19 59 31.3 +0.7
GYA Guiyang 85.59 299 ⇓*i*P P 19 59 31.7 +1.0
GYA SKS SKSac 20 09 01.6 +1.0
GYA S S 20 09 15.7 +1.2
GYA SS SS 20 15 09.4 +0.2
GYA pmax pmax
comp=Z,140nm,1.2s
GYA pmax pmax
comp=Z,1µm,5.1s
ZEA Zeya 85.61 331 *e*P P 19 59 30.9 +0.9
ZEA *e* 20 01 38.3
ZEA pmax pmax
comp=E,100nm,3.5s
ZEA pmax pmax
comp=N,200nm,1.9s
ZEA pmax pmax
comp=Z,400nm,2.3s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,10.0nm,1.0s
HDA Harding Lake 85.63 13 lAmb lAmb 19 59 31.3
comp=Z,137nm,1.8s
HDA Harding Lake 85.63 13 P P 19 59 29.8 -0.1
baz=209,SNR=19
SRIT Nakonsritamara 85.63 280 P P 19 59 33.3 +2.3
SRIT Nakonsritamara 85.63 280 P P 19 59 32.2 +1.2
SRIT pP 20 01 37.3 +0.4
H21K Melozitna Rive 85.63 10 lAmb lAmb 20 01 42.5
comp=Z,124nm,1.6s
H21K Melozitna Rive 85.63 10 P P 19 59 30.3 +0.4
baz=204,SNR=23
TXAR Lajitas Array 85.65 57 P P 19 59 31.8 +0.9
TXAR pP 20 01 37.5 +0.6
TXAR Lajitas Array 85.65 57 P P 19 59 33.8 +2.8
comp=Z,14nm,0.8s,baz=220,slow=6.6,SNR=112
TXAR pP pP 20 01 38.5 +1.6
comp=Z,7.2nm,1.2s,baz=225,slow=5.1,SNR=3.3
TXAR PKKPbc PKKPbc 20 17 29.8 0.0
comp=Z,0.2nm,0.4s,baz=131,slow=6.8,SNR=3.5
comp=Z,14nm,0.8s
L27K Beaver Creek, 85.67 16 P P 19 59 30.5 +0.4
baz=214,SNR=9.1
BCAR Beaver Creek A 85.69 16 P P 19 59 29.8 -0.4
BCAR pP 20 01 36.8 +0.5
N30M Aishikik Lake 85.69 18 lAmb lAmb 19 59 32.9
comp=Z,84nm,2.0s
N30M Aishikik Lake 85.69 18 P P 19 59 31.0 +0.7
baz=219,SNR=6.8
KCSI Kotacane, Aceh 85.75 275 P P 19 59 31.6 0.0
comp=Z,217nm,1.7s,comp=Z,3µm
WHY Whitehorse 85.76 20 lAmb lAmb 19 59 33.4
comp=Z,84nm,1.8s
WHY Whitehorse 85.76 20 P P 19 59 31.3 +0.6
baz=221,SNR=8.6
E17K Hotham Inlet 85.76 6 P P 19 59 30.9 +0.5
baz=195,SNR=5.9
IMAR Indian Mountai 85.78 10 P P 19 59 29.8 -0.7
IMAR pP 20 01 37.1 +0.5
TIY Taiyuan 85.79 312 ⇓P P 19 59 32.4 +1.0
TIY pP pP 20 01 38.8 +0.8
TIY sP sP 20 02 40.6 +3.1
TIY SKS SKSac 20 09 05.2 +4.0
TIY sS sS 20 13 02.0 +1.2
TIY pmax pmax
comp=Z,85nm,0.9s
TIY pmax pmax
comp=Z,880nm,5.3s
I23K Minto, Yukon-K 85.79 12 lAmb lAmb 20 01 42.2
comp=Z,177nm,1.9s
I23K Minto, Yukon-K 85.79 12 P P 19 59 30.4 -0.2
baz=207,SNR=9.6
DLBC Dease Lake 85.80 23 lAmb lAmb 20 01 48.6
comp=Z,74nm,1.9s
DLBC Dease Lake 85.80 23 P P 19 59 32.6 +1.7
baz=225,SNR=6.1
ANMO Albuquerque 85.80 51 P P 19 59 32.4 +0.8
ANMO lAmb lAmb 20 01 40.8
comp=Z,99nm,1.9s
ANMO Albuquerque 85.80 51 P P 19 59 33.2 +1.6
baz=245
ANMO Albuquerque 85.80 51 *i*P P 19 59 33.2 +1.6
ANMO pmax pmax
comp=Z,9.0nm,1.1s
MDM Murphy Dome 85.84 12 lAmb lAmb 20 01 42.4
comp=Z,204nm,1.7s
COLA College 85.85 12 P P 19 59 30.8 0.0
COLA College 85.85 12 P P 19 59 30.0 -0.9
COLA lAmb lAmb 19 59 31.9
comp=Z,41nm,0.8s
COLA pP 20 01 37.6 +0.8
COLA College 85.85 12 P P 19 59 30.4 -0.4
baz=208
COLA College 85.85 12 *i*P P 19 59 30.6 -0.2
COLA pmax pmax
comp=Z,98nm,1.5s
SCRK Sand Creek 85.92 14 lAmb lAmb 19 59 34.6
comp=Z,116nm,2.0s
SCRK Sand Creek 85.92 14 P P 19 59 31.9 +0.6
baz=212,SNR=12
IL31 85.96 13 lAmb lAmb 19 59 32.6
comp=Z,115nm,1.7s
ILAR Eielson Array 85.96 13 P P 19 59 30.8 -0.6
ILAR pP 20 01 37.4 -0.1
ILAR Eielson Array 85.96 13 P P 19 59 31.2 -0.2
comp=Z,4.4nm,0.4s,baz=222,slow=5.1,SNR=84
ILAR pP pP 20 01 37.9 +0.4
comp=Z,18nm,1.1s,baz=228,slow=6.1,SNR=5.5
ILAR PKKPbc PKKPbc 20 17 28.0 -2.6
comp=Z,0.4nm,0.4s,baz=326,slow=2.8,SNR=5.8
comp=Z,4.4nm,0.4s
F19K Shaleruckik Mo 86.00 8 lAmb lAmb 20 01 43.0
comp=Z,170nm,1.9s
F19K Shaleruckik Mo 86.00 8 P P 19 59 31.6 +0.1
baz=199,SNR=9.3
SLVN Son La 86.04 294 lAmb lAmb 19 59 35.9
comp=Z,96nm,1.2s
M29M Somme Creek 86.07 17 P P 19 59 33.1 +0.9
baz=217,SNR=15
H22K Ishtalina Cre 86.09 11 P P 19 59 32.5 +0.4
baz=205,SNR=21
P33M Teslin, Yukon 86.10 21 P P 19 59 33.1 +0.8
baz=222,SNR=5.7
N31M Braeburn, Yuko 86.11 19 lAmb lAmb 19 59 34.8
comp=Z,71nm,1.4s
N31M Braeburn, Yuko 86.11 19 P P 19 59 33.4 +1.1
baz=220,SNR=12
R33M Jennings River 86.14 22 lAmb lAmb 20 01 49.7
comp=Z,61nm,1.6s
R33M Jennings River 86.14 22 P P 19 59 33.9 +1.3
baz=224,SNR=17
J25K Salcha River, 86.14 13 lAmb lAmb 19 59 34.1
comp=Z,66nm,1.4s
J25K Salcha River, 86.14 13 P P 19 59 32.7 +0.3
baz=211,SNR=25
POKR Poker Plat Res 86.15 12 P P 19 59 32.2 -0.1
baz=209
E18K Tukpahlearik C 86.22 7 P P 19 59 32.2 -0.4
E18K pP 20 01 39.9 +0.9
E18K lAmb lAmb 20 01 44.3
comp=Z,111nm,1.6s
E18K Tukpahlearik C 86.22 7 P P 19 59 32.9 +0.3
baz=196
D17K Noatak River 86.24 6 P P 19 59 32.9 +0.3
baz=194
XLT XiLinHaoTe 86.24 319 *e*P P 19 59 33.9 +0.5
XLT pP pP 20 01 41.4 +1.1
XLT sP sP 20 02 40.9 +1.6
XLT SKS SKSac 20 09 04.8 +1.1
XLT S S 20 09 18.7 -1.2
XLT sS sS 20 13 03.8 -1.0
XLT SS SS 20 15 14.2 -3.7
XLT pmax pmax
comp=Z,150nm,1.2s
XLT pmax pmax
comp=Z,740nm,7.1s
PECS Pecos 86.30 55 lAmb lAmb 20 01 48.5
comp=Z,84nm,2.0s
G21K Allakaket 86.31 10 lAmb lAmb 20 01 44.8
comp=Z,186nm,1.8s
G21K Allakaket 86.31 10 P P 19 59 33.3 +0.2
baz=203
H23K Yukon River 86.36 11 P P 19 59 32.8 -0.6
H23K pP 20 01 40.0 +0.3
H23K lAmb lAmb 20 01 45.2

comp=Z,62nm,1.8s
H23K Yukon River 86.36 11 P P 19 59 33.1 -0.2
baz=207
MSO Missoula 86.41 38 P P 19 59 34.8 +0.7
baz=239
K27K Chicken 86.42 15 IAmb IAmb 19 59 36.2
comp=Z,55nm,1.4s
K27K Chicken 86.42 15 P P 19 59 34.9 +1.3
baz=214
J26L Joseph Creek 86.46 14 IAmb IAmb 19 59 36.4
comp=Z,138nm,1.6s
J26L Joseph Creek 86.46 14 P P 19 59 34.9 +1.0
baz=212,SNR=37
F20K Avaraart Lake 86.48 9 IAmb IAmb 20 01 45.6
comp=Z,96nm,1.9s
F20K Avaraart Lake 86.48 9 P P 19 59 34.3 +0.5
baz=201,SNR=9.0
BPMT Black Pine Rid 86.50 39 P P 19 59 33.8 -0.9
BPMT pP 20 01 40.0 -1.1
RDOG Red Dog Mine 86.60 6 P P 19 59 34.5 +0.1
baz=194
C16K Lisburne Hills 86.61 5 P P 19 59 34.5 +0.2
baz=192
E19K Redstone River 86.66 8 IAmb IAmb 20 01 46.5
comp=Z,133nm,1.8s
E19K Redstone River 86.66 8 P P 19 59 35.2 +0.5
baz=200
BILL Bilibino 86.68 354 P P 19 59 34.4 -0.3
BILL IAmb IAmb 19 59 36.6
comp=Z,107nm,1.6s
BILL pP pP 20 01 41.3 +0.1
BILL Bilibino 86.68 354 ⇓eP P 19 59 34.8 +0.1
BILL pmax pmax
comp=Z,71nm,1.6s
H24K Noodor Dome 86.69 12 P P 19 59 34.6 -0.3
baz=208
L29M L29M 86.70 17 IAmb IAmb 19 59 37.7
comp=Z,137nm,1.5s
L29M L29M 86.70 17 P P 19 59 36.2 +1.2
baz=218,SNR=35
N32M Quiet Lake 86.71 20 IAmb IAmb 19 59 37.8
comp=Z,64nm,1.5s
N32M Quiet Lake 86.71 20 P P 19 59 36.7 +1.6
baz=222
SNSI Sinabang, Aceh 86.77 274 P P 19 59 37.9 +1.5
comp=Z,569nm,1.6s,comp=Z,8µm
XAN Xi'an 86.80 307 ⇓P P 19 59 37.2 +1.0
XAN pP pP 20 01 46.0 +2.6
XAN sP sP 20 02 45.5 +2.8
XAN S S 20 09 27.7 +2.3
XAN sS sS 20 13 13.6 +1.6
XAN pmax pmax
comp=Z,460nm,1.3s
XAN pmax pmax
comp=Z,2µm,6.4s
O20A White River Ci 86.80 46 P P 19 59 37.9 +1.6
baz=243
MOOW Moose Ponds 86.83 42 P P 19 59 35.2 -1.1
MOOW pP 20 01 42.2 -0.5
HIA Hailar 86.83 324 P P 19 59 36.8 +0.9
HIA Hailar 86.83 324 IAmb IAmb 19 59 38.1
comp=Z,150nm,1.6s
PRP Porcupine Dome 86.89 13 IAmb IAmb 20 01 47.2
comp=Z,194nm,2.0s
PRP Porcupine Dome 86.89 13 P P 19 59 35.9 -0.1
baz=211,SNR=13
F21K Alatna River 86.97 9 IAmb IAmb 20 01 47.8
comp=Z,93nm,1.8s
F21K Alatna River 86.97 9 P P 19 59 36.4 +0.2
baz=203,SNR=9.7
C17K DeLong Mountai 86.99 5 P P 19 59 36.5 +0.3
baz=194
G22K Bettles 87.01 10 P P 19 59 36.6 +0.3
baz=205
LHMI Lhok Sumawe 87.06 276 P P 19 59 39.4 +1.6
LHMI Lhok Sumawe 87.06 276 P P 19 59 38.8 +1.0
comp=Z,485nm,1.4s,comp=Z,6µm
G23K Bananza Creek 87.07 11 P P 19 59 36.4 -0.2
G23K pP 20 01 43.9 +0.6
G23K IAmb IAmb 20 01 48.6
comp=Z,201nm,2.0s
G23K Bananza Creek 87.07 11 P P 19 59 37.1 +0.4
baz=206,SNR=18
M31M Drury Creek, Y 87.08 19 P P 19 59 36.6 -0.2
baz=221,SNR=9.1
DAWY Dawson 87.13 16 IAmb IAmb 19 59 39.2
comp=Z,59nm,1.5s
DAWY Dawson 87.13 16 P P 19 59 37.8 +0.8
baz=216,SNR=12
PDAR Pinedale Array 87.13 43 P P 19 59 37.8 +0.1
comp=Z,4.0nm,0.7s,baz=282,slow=7.4,SNR=4.3
PDAR pP pP 20 01 45.2 +1.0
comp=Z,2.2nm,0.8s,baz=241,slow=1.5,SNR=4.0
PDAR PKKPbc PKKPbc 20 17 26.4 -0.7
comp=Z,1.0nm,0.6s,baz=76,slow=6.3,SNR=12
comp=Z,4.0nm,0.7s
BOZ Bozeman (W) 87.17 40 P P 19 59 38.0 +0.2
BOZ pP 20 01 44.2 -0.2
BOZ IAmb IAmb 20 01 50.1
comp=Z,66nm,1.6s
BOZ Bozeman (W) 87.17 40 P P 19 59 38.2 +0.4
baz=241,SNR=6.3
BOZ Bozeman (W) 87.17 40 P P 19 59 38.0 +0.2
BOZ *PP pP 20 01 44.2 -0.2
BOZ pmax pmax
comp=Z,66nm,1.7s
I26K Coal Creek Min 87.23 14 IAmb IAmb 20 01 49.3
comp=Z,191nm,1.9s
I26K Coal Creek Min 87.23 14 P P 19 59 38.0 +0.6
baz=213
H17A Grant Village 87.24 41 P P 19 59 40.0 +1.7
H17A pP 20 01 45.6 +0.6
H17A Grant Village 87.24 41 P P 19 59 41.1 +2.8
baz=242
EGAK Eagle 87.26 15 IAmb IAmb 19 59 39.6
comp=Z,64nm,1.5s
EGAK Eagle 87.26 15 P P 19 59 38.1 +0.6
baz=215,SNR=20
MLSI Meulaboh, Aceh 87.27 275 P P 19 59 39.3 +0.5
comp=Z,417nm,1.1s,comp=Z,4µm
C18K Utukok River 87.34 6 P P 19 59 38.3 +0.3
baz=196
FARO Faro, Yukon 87.43 19 IAmb IAmb 19 59 40.7
comp=Z,64nm,1.9s
FARO Faro, Yukon 87.43 19 P P 19 59 39.3 +0.9
baz=222
WTLY Watson Lake, Y 87.43 22 P P 19 59 39.3 +0.8
baz=226
F22K John River 87.43 10 P P 19 59 38.7 +0.4
baz=204,SNR=11
K29M Barlow Dome 87.45 17 IAmb IAmb 19 59 41.2
comp=Z,96nm,1.6s
K29M Barlow Dome 87.45 17 P P 19 59 39.6 +1.0
baz=218,SNR=31
H25L Birch Creek 87.48 12 P P 19 59 38.0 -0.5
baz=210
COLD Coldfoot 87.50 10 P P 19 59 39.2 +0.5
baz=206,SNR=30
G24K Hadweenzic Riv 87.53 12 IAmb IAmb 20 01 50.1
comp=Z,85nm,1.9s
G24K Hadweenzic Riv 87.53 12 P P 19 59 38.5 -0.3
baz=209,SNR=7.6
D19K Kuna River 87.53 7 P P 19 59 37.6 -1.2
D19K pP 20 01 46.0 +0.3
D19K IAmb IAmb 20 01 50.6
comp=Z,51nm,1.5s
D19K Kuna River 87.53 7 P P 19 59 38.6 -0.2
baz=199
E20K Nigu River 87.55 8 P P 19 59 39.1 +0.2
baz=201
SDCO Great Sand Dun 87.69 49 P P 19 59 41.3 +0.7
baz=245
MAYO Mayo, Yukon 87.71 17 P P 19 59 41.0 +1.3
baz=220
HHC Hu-ho-hao-te 87.78 314 eP P 19 59 39.7 -1.0
HHC pP pP 20 01 50.3 +2.3
HHC sP sP 20 02 48.0 +0.7
HHC SKS SKSac 20 09 09.0 -4.1
HHC S S 20 09 31.0 -3.5
HHC sS sS 20 13 18.8 -0.2
HHC SS SS 20 15 37.2 -3.1
HHC pmax pmax
comp=Z,100nm,1.3s
HHC pmax pmax
comp=Z,810nm,7.1s
COYC Coyhaique 87.81 137 P P 19 59 41.4 +0.7
COYC IAmb IAmb 19 59 45.6
comp=Z,47nm,0.8s
COYC pP 20 01 47.9 +0.5
I27K Kandik River 87.84 14 P P 19 59 40.3 0.0
baz=214,SNR=13
G25K Bearman Lake 87.86 12 P P 19 59 40.2 -0.1
baz=210,SNR=6.9
FYU Fort Yukon 87.86 12 P P 19 59 39.5 -0.7
FYU pP pP 20 01 48.3 +1.1
TOAD Toad River Com 87.92 24 P P 19 59 42.0 +1.2
baz=229
D20K Etivluk River 87.92 8 P P 19 59 41.2 +0.6
baz=200
C19K Lookout Ridge 87.95 6 IAmb IAmb 19 59 42.8
comp=Z,109nm,1.8s
C19K Lookout Ridge 87.95 6 P P 19 59 41.4 +0.7
baz=197,SNR=6.7
E21K Killik River 88.02 9 IAmb IAmb 20 01 53.0
comp=Z,77nm,1.5s
E21K Killik River 88.02 9 P P 19 59 41.3 +0.2
baz=203,SNR=14
E22K Anaktuvuk Pass 88.06 9 IAmb IAmb 20 01 53.5
comp=Z,152nm,1.6s
E22K Anaktuvuk Pass 88.06 9 P P 19 59 41.8 +0.5
baz=205
I28M Miner Creek 88.11 15 IAmb IAmb 20 01 53.3
comp=Z,56nm,1.5s
I28M Miner Creek 88.11 15 P P 19 59 41.4 -0.3
baz=216,SNR=16
DRIO Del Rio 88.14 58 IAmb IAmb 19 59 46.3
comp=Z,30nm,0.9s
F24K Squaw Lake 88.18 11 IAmb IAmb 20 01 54.3
comp=Z,110nm,1.8s
F24K Squaw Lake 88.18 11 P P 19 59 42.8 +0.9
baz=208,SNR=23
T25A Trinidad 88.23 50 P P 19 59 42.3 -0.7
T25A pP 20 01 50.4 +0.4
T25A IAmb IAmb 20 01 56.5
comp=Z,58nm,1.9s
T25A Trinidad 88.23 50 P P 19 59 42.6 -0.4
baz=246
OZNA Ozona 88.29 57 IAmb IAmb 20 01 58.3
comp=Z,66nm,1.6s
J30M Hart River 88.35 17 IAmb IAmb 19 59 45.1
comp=Z,50nm,1.6s
J30M Hart River 88.35 17 P P 19 59 42.8 0.0
baz=219,SNR=12
E23K Chandalar 88.35 10 P P 19 59 43.0 +0.3
baz=207
MMPY Sheldon Lake, 88.37 20 IAmb IAmb 19 59 45.6
comp=Z,46nm,1.3s
MMPY Sheldon Lake, 88.37 20 P P 19 59 44.1 +1.3
baz=224,SNR=25
H27K Steamboat Moun 88.38 14 P P 19 59 43.6 +0.8
baz=214,SNR=21
KMI Kunming 88.39 297 ⇓P P 19 59 45.8 +1.8
KMI pP pP 20 01 52.0 +0.7
KMI sP sP 20 02 54.0 +3.3
KMI SKS SKSac 20 09 16.5 -1.1
KMI S ScS 20 09 42.9 -1.4
KMI pmax pmax
comp=Z,170nm,1.4s
KMI pmax pmax
comp=Z,920nm,4.9s
RLMT Red Lodge 88.41 41 P P 19 59 44.9 +1.2
baz=242
Q24A Divide 88.45 48 P P 19 59 43.7 -0.4
baz=245
G26K Porcupine Rive 88.49 13 P P 19 59 44.1 +0.9
baz=212,SNR=31
E24K Your Creek 88.56 11 IAmb IAmb 20 01 56.3
comp=Z,81nm,1.9s
E24K Your Creek 88.56 11 P P 19 59 44.3 +0.7
baz=208,SNR=14
C21K Knifeblade Rid 88.58 8 P P 19 59 44.5 +0.9
baz=202,SNR=19
TGTN Hyland Airport 88.60 21 P P 19 59 44.9 +1.0
baz=226,SNR=12
D22K Ayikyak River 88.61 9 IAmb IAmb 19 59 46.0
comp=Z,94nm,1.6s
D22K Ayikyak River 88.61 9 P P 19 59 44.8 +1.0
baz=204,SNR=24
F25K Christian Rive 88.66 12 P P 19 59 44.7 +0.5
baz=210,SNR=17
N23A Red Feather La 88.71 46 P P 19 59 46.4 +1.2
baz=245
BMAR Burnt Mountain 88.73 12 P P 19 59 44.9 +0.4
BMAR pP 20 01 51.8 +0.3
BTO Baotou 88.74 314 eP P 19 59 47.0 +1.9
BTO pP pP 20 01 54.1 +1.2
BTO sP sP 20 02 50.8 -1.3
BTO S S 20 09 36.9 -6.3
BTO pmax pmax
comp=Z,100nm,1.3s
BTO pmax pmax
comp=Z,2µm,7.5s
833A Chaparral WMA, 88.74 60 P P 19 59 45.3 0.0
baz=249
CRAI Chiangrai 88.76 292 P P 19 59 45.3 -0.3
CRAI pP pP 20 01 52.4 -0.4
POST Post 88.81 55 IAmb IAmb 20 02 05.1
comp=Z,91nm,1.9s
G27K Doyon Strip 88.83 14 IAmb IAmb 20 01 56.4
comp=Z,78nm,1.9s
G27K Doyon Strip 88.83 14 P P 19 59 45.5 +0.7
baz=214,SNR=11
I30M Mount Dempster 88.84 16 IAmb IAmb 19 59 47.1
comp=Z,56nm,1.4s
I30M Mount Dempster 88.84 16 P P 19 59 45.6 +0.5
baz=219,SNR=30
TOLK Toolik Lake Re 88.88 10 IAmb IAmb 20 01 57.5
comp=Z,111nm,1.8s
TOLK Toolik Lake Re 88.88 10 P P 19 59 45.6 +0.5
baz=207,SNR=16
LL02 Futaleuf 88.92 135 P P 19 59 47.1 +1.2
LL02 IAmb IAmb 19 59 50.2
comp=Z,31nm,0.8s
LL02 pP pP 20 01 53.4 +0.4
D23K Nanushuk River 89.00 9 P P 19 59 46.5 +0.9
baz=206
ELIB Princess Elisa 89.03 186 dP P 19 59 47.3 +1.2
comp=Z,114nm,1.1s
ELIB dpP pwP 20 01 58.6 +3.2
B21K Ikpikpuk River 89.03 8 IAmb IAmb 19 59 47.6
comp=Z,69nm,1.6s
B21K Ikpikpuk River 89.03 8 P P 19 59 46.3 +0.6
baz=202,SNR=9.5
F26K Sheenjek River 89.05 12 P P 19 59 47.0 +1.2
baz=212,SNR=18
B20K Meade River 89.08 7 IAmb IAmb 19 59 47.8
comp=Z,98nm,1.5s
B20K Meade River 89.08 7 P P 19 59 46.2 +0.3
baz=200,SNR=8.5
H29M Whitestone 89.12 15 IAmb IAmb 19 59 48.2
comp=Z,58nm,1.3s
H29M Whitestone 89.12 15 P P 19 59 46.9 +0.7
baz=217,SNR=32
E25K Arctic Village 89.14 12 IAmb IAmb 20 01 59.0
comp=Z,60nm,1.6s
E25K Arctic Village 89.14 12 P P 19 59 47.1 +0.9
baz=211,SNR=19
RTBA Rita Blanca 89.17 51 IAmb IAmb 20 02 00.3
comp=Z,34nm,1.5s
JCT Junction City 89.19 58 P P 19 59 48.9 +1.5
baz=248
KOTAN Kotaneelee Air 89.21 24 P P 19 59 47.2 +0.5
baz=230
HNDO Hondo 89.27 59 IAmb IAmb 20 02 17.9
comp=Z,63nm,1.3s
AMTX Amarillo 89.36 53 P P 19 59 46.7 -1.5
baz=248
CM31 Chiang Mai Arr 89.45 290 P P 19 59 50.6 +1.8
CMAR Chiang Mai Arr 89.45 290 P P 19 59 49.6 +0.8
CMAR pwP 20 01 57.9 -1.2
CMAR Chiang Mai Arr 89.45 290 P P 19 59 50.2 +1.4
comp=Z,85nm,1.0s,baz=108,slow=2.9,SNR=226
CMAR pP pP 20 01 57.5 +1.4
comp=Z,6.0nm,1.1s,baz=117,slow=2.9,SNR=3.5
CMAR PKKPbc PKKPbc 20 17 21.2 +1.0
comp=Z,1.5nm,0.6s,baz=281,slow=4.3,SNR=10.0
comp=Z,85nm,1.0s
LL04 Puerto Octay 89.46 133 P P 19 59 49.0 +0.5
LL04 pP pP 20 01 56.5 +0.8
D24K Happy Valley 89.46 10 IAmb IAmb 19 59 49.9
comp=Z,47nm,1.5s
D24K Happy Valley 89.46 10 P P 19 59 48.7 +1.0
baz=208
EGMT Eagleton 89.47 39 P P 19 59 49.2 +0.8
baz=242
CD2 Chengdu 89.62 303 P P 19 59 50.6 +1.2
CD2 pP pP 20 01 54.3 -3.4
CD2 sP sP 20 02 57.1 +0.5
CD2 SKS SKSac 20 09 24.2 +0.1
CD2 sS sS 20 13 32.0 -6.8
CD2 pmax pmax
comp=Z,40nm,0.8s
CD2 pmax pmax
comp=Z,640nm,3.2s
EPYK Eagle Plains 89.65 15 IAmb IAmb 19 59 50.5
comp=Z,53nm,1.2s
EPYK Eagle Plains 89.65 15 P P 19 59 49.3 +0.6
baz=219,SNR=10
PZH PanZhiHua 89.71 298 P P 19 59 51.1 +1.1
PZH pP pP 20 02 01.3 +3.5
PZH sP sP 20 02 56.4 -0.8
PZH SKS SKSac 20 09 23.8 -1.2
PZH S ScS 20 09 54.4 -0.7
PZH SS SS 20 16 08.2 -0.3
PZH pmax pmax
comp=Z,100nm,1.4s
PZH pmax pmax
comp=Z,760nm,5.7s
G29M Pine Creek 89.75 15 IAmb IAmb 19 59 51.0
comp=Z,42nm,1.4s
G29M Pine Creek 89.75 15 P P 19 59 49.5 +0.4
baz=218,SNR=13
C23K Itkillik River 89.80 9 IAmb IAmb 19 59 51.4
comp=Z,92nm,1.5s
C23K Itkillik River 89.80 9 P P 19 59 50.1 +0.9
baz=206,SNR=24
H31M Peel River 89.83 16 IAmb IAmb 19 59 51.1
comp=Z,33nm,1.4s
H31M Peel River 89.83 16 P P 19 59 49.8 +0.3
baz=221,SNR=10.0
B22K Teshekpuk Lake 89.86 8 IAmb IAmb 19 59 51.4
comp=Z,63nm,1.4s
B22K Teshekpuk Lake 89.86 8 P P 19 59 50.1 +0.7
baz=203,SNR=9.5
F28M Old Crow 89.89 14 IAmb IAmb 19 59 51.8
comp=Z,36nm,1.5s
F28M Old Crow 89.89 14 P P 19 59 50.4 +0.6
baz=216,SNR=19
YAK Yakutsk 89.95 338 eP P 19 59 48.8 -1.3
YAK e*PP pP 20 01 51.0 -6.4
YAK e 20 03 31.5
YAK ePPP PPP 20 05 34.2
YAK eS SKSac 20 09 23.1 -1.3
YAK e 20 09 49.3
YAK eSS SS 20 16 07.5 -2.6
YAK eSSS SSS 20 19 53.1
YAK pmax pmax
comp=Z,61nm,1.6s
YAK pmax pmax
comp=N,12nm,1.9s
YAK pmax pmax
comp=E,20nm,1.5s
YAK pmax pmax
comp=Z,258nm,5.9s
YAK pmax pmax
comp=N,84nm,4.8s
YAK pmax pmax
comp=E,92nm,3.7s
YAK smax smax
comp=N,129nm,5.3s
YAK smax smax
comp=E,101nm,7.1s
APMT Aspermont 89.98 55 IAmb IAmb 20 02 10.8
comp=Z,47nm,1.6s
E27K Coleen River 89.99 13 IAmb IAmb 19 59 52.7
comp=Z,65nm,1.6s
E27K Coleen River 89.99 13 P P 19 59 51.1 +0.9
baz=214,SNR=22
C24K Franklin Bluff 89.99 10 P P 19 59 50.8 +0.7
baz=208
LR03 Panguipulli 90.01 132 P P 19 59 52.9 +1.8
LR03 pP pP 20 01 59.1 +0.8
LR03 IAmb IAmb 20 02 04.5
comp=Z,77nm,1.4s
LR05 Currie 90.01 133 P P 19 59 53.3 +2.3
LR05 IAmb IAmb 19 59 55.2
comp=Z,41nm,0.8s
LR05 pP 20 01 59.3 +1.0
D25K Kavik River 90.03 11 P P 19 59 50.4 0.0
baz=210,SNR=13
ABTX Abilene, Hawle 90.10 56 IAmb IAmb 19 59 54.2
comp=Z,17nm,0.8s
ABTX Abilene, Hawle 90.10 56 P P 19 59 51.5 -0.1
baz=249
TROLL Troll, Antarti 90.12 180 ⇓P P 19 59 52.4 +1.3
comp=Z,4µm,0.9s
BRDY Brady 90.12 57 IAmb IAmb 20 02 04.9
comp=Z,40nm,1.5s
G30M tAoh Zraii Nji 90.25 15 IAmb IAmb 19 59 53.2
comp=Z,97nm,1.4s
G30M tAoh Zraii Nji 90.25 15 P P 19 59 51.9 +0.4
baz=219,SNR=27
KSCO Kaye Shedlock' 90.27 49 P P 19 59 53.0 +0.7
baz=247
A22K Sinclair Lake 90.28 7 P P 19 59 51.8 +0.4
baz=202
SNAA Sanae 90.39 178 P P 19 59 52.9 +0.7
SNAA IAmb IAmb 19 59 54.7
comp=Z,68nm,1.0s
SNAA Sanae 90.39 178 ⇓P P 19 59 53.2 +1.0
comp=Z,574nm,0.6s
SNAA Sanae 90.39 178 P P 19 59 53.2 +1.0
comp=Z,72nm,1.1s,baz=202,slow=9.8,SNR=86
SNAA pP pwP 20 02 02.5 -0.3
comp=Z,5.3nm,1.0s,baz=234,slow=4.8,SNR=2.1
comp=Z,72nm,1.1s
SNAA Sanae 90.39 178 P P 19 59 52.9 +0.7
SNAA pmax pmax
comp=Z,68nm,1.0s
VNA3 Neumayer Olymp 90.51 176 ⇓P P 19 59 54.3 +1.5
comp=Z,78nm,0.7s
GO06 Curarrehue 90.65 132 P P 19 59 55.7 +1.5
GO06 IAmb IAmb 19 59 58.3
comp=Z,23nm,1.1s
G31M Satah River 90.70 16 P P 19 59 53.9 +0.4
baz=221,SNR=36
E28M Babbage River 90.77 13 IAmb IAmb 19 59 55.9
comp=Z,42nm,1.3s
E28M Babbage River 90.77 13 P P 19 59 54.5 +0.7
baz=216,SNR=48
C27K Jago River 90.78 11 P P 19 59 54.5 +0.7
baz=212,SNR=22
C26K Camden Bay 90.81 11 P P 19 59 55.0 +1.1
baz=211,SNR=34
PLCA Paso Flores 90.82 133 P P 19 59 56.9 +2.0
PLCA IAmb IAmb 19 59 58.5
comp=Z,16nm,0.8s
PLCA pP 20 02 02.4 +0.2
PLCA Paso Flores 90.82 133 P P 19 59 57.5 +2.6
comp=Z,9.4nm,0.7s,baz=233,slow=4.8,SNR=42
PLCA pP pwP 20 02 04.8 -1.0
comp=Z,4.1nm,1.0s,baz=267,slow=9.7,SNR=4.5
PLCA PKKPbc PKKPbc 20 17 17.3 -0.3
comp=Z,0.7nm,0.5s,baz=59,slow=3.1,SNR=6.2
comp=Z,9.4nm,0.7s
PLCA Paso Flores 90.82 133 eP P 19 59 57.8 +2.9
PLCA epP pP 20 02 02.4 +0.2
F30M Barrier River 90.84 15 P P 19 59 54.5 +0.4
baz=220,SNR=12
VNA2 Neumayer--Watz 90.96 177 ⇓P P 19 59 56.3 +1.5
comp=Z,59nm,0.6s,baz=184,slow=4.8
E29M Blow River 90.96 14 IAmb IAmb 19 59 56.2
comp=Z,27nm,1.4s
E29M Blow River 90.96 14 P P 19 59 54.6 0.0
baz=218,SNR=22
D27M Malcolm River 90.99 12 IAmb IAmb 19 59 57.3
comp=Z,68nm,1.6s
D27M Malcolm River 90.99 12 P P 19 59 55.9 +1.0
baz=215,SNR=14
LAO LASA Array 91.01 41 P P 19 59 57.4 +1.9
baz=245
CCIG Comitan 91.02 73 P P 19 59 56.2 -0.1
NVL N'lazarevskaya 91.11 183 ⇓P P 19 59 55.7 +0.3
NVL eS SKSac 20 09 30.8 -0.2
NVL pmax pmax
comp=Z,97nm,1.0s
VNA1 Neumayer--Stat 91.18 177 ⇓P P 19 59 57.3 +1.5
comp=Z,126nm,1.0s
PLPT Palo Pinto 91.21 56 IAmb IAmb 20 02 18.1
comp=Z,32nm,1.1s
F31M Tsiigehtchic 91.23 16 P P 19 59 56.4 +0.5

baz=222,SNR=79
RSSD Black Hills 91.34 44 P P 19 59 58.1 +0.9
baz=246
WRGLY Wrigley 91.41 22 P P 19 59 57.4 +0.6
baz=231
LZH Lanzhou 91.43 307 ⇓P P 19 59 59.3 +1.5
LZH pP pP 20 02 09.8 +3.7
LZH sP sP 20 03 08.7 +3.8
LZH PP PP **20 03 44.4 -2.3**
LZH SKS **SKSac 20 09 34.6 +0.3**
LZH pmax pmax
comp=Z,140nm,1.2s
LZH pmax pmax
comp=Z,630nm,4.6s
OGNE Ogallala 91.44 47 P P 19 59 58.3 +0.7
baz=247
D28M Stokes Point 91.53 13 P P 19 59 57.2 +0.1
baz=217,SNR=6.7
WMOK Wichita Mounta 91.53 54 P P 20 00 00.0 +1.9
baz=249
WHTX Lake Whitney, 91.60 57 P P 19 59 59.1 +0.7
baz=250
CIT Chita 91.62 325 *e*P P 19 59 58.8 +0.7
CIT *e* 20 03 52.2
CIT *e* 20 10 14.4
CIT pmax pmax
comp=Z,198nm,2.1s
INK Inuvik 91.93 15 IAmb IAmb 20 00 00.5
comp=Z,27nm,1.1s
INK Inuvik 91.93 15 P P 19 59 59.1 0.0
baz=222,SNR=20
INK Inuvik 91.93 15 P P 19 59 58.1 -1.0
TNCH TengChong 91.96 296 P P **20 00 00.3 -0.2**
TNCH pP pP 20 02 11.1 +2.4
TNCH PP **PP 20 03 51.4 +0.4**
TNCH SKS **SKSac 20 09 40.6 +2.9**
TNCH S **S 20 10 09.7 -3.0**
TNCH SS **SS 20 16 37.2 -3.3**
TNCH pmax pmax
comp=Z,72nm,1.6s
TNCH pmax pmax
comp=Z,460nm,4.4s
R32A Long Quarter, 92.89 51 IAmb IAmb 20 00 07.5
comp=Z,31nm,1.1s
MTO3 Montecristo 92.98 76 P P **20 00 06.0 +0.6**
MTO3 **pP 20 02 12.5 -0.6**
MTO3 IAmb IAmb 20 02 17.8
comp=Z,64nm,1.9s
PBA Port Blair 93.00 281 P P **20 00 04.4 -0.8**
PBA pP **pP 20 02 12.7 -0.1**
PBA Port Blair 93.00 281 P P **20 00 05.6 +0.4**
DGMT Dagmar 93.00 40 P P **20 00 05.7 +1.2**
baz=246
BO02 Sierra Bellavi 93.12 128 P P **20 00 07.1 +1.6**
BO02 **pP 20 02 13.7 +0.4**
MT01 Popeta 93.14 127 P P **20 00 06.6 +0.9**
MT01 **pP 20 02 14.0 +0.8**
MT01 IAmb IAmb 20 02 22.3
comp=Z,34nm,1.4s
MT09 Talagante 93.38 127 P P **20 00 08.1 +1.2**
MT09 **pP 20 02 15.0 +0.5**
MT09 IAmb IAmb 20 02 19.9
comp=Z,23nm,1.3s
ULN Ulaanbaatar 93.64 319 P P **20 00 07.5 -0.1**
ULN **pP 20 02 15.3 -0.8**
ULN Ulaanbaatar 93.64 319 P P **20 00 07.8 +0.1**
ULN S **SKSac 20 09 46.7 +0.9**
ULN Ulaanbaatar 93.64 319 *ce*P P **20 00 07.6 -0.1**
ULN pmax pmax
comp=Z,65nm,1.2s
SONM Songino Array 94.04 319 P P **20 00 09.3 -0.1**
comp=Z,13nm,1.1s,baz=132,slow=3.4,SNR=63
SONM pP **pP 20 02 19.3 +1.3**
comp=Z,4.3nm,1.1s,baz=130,slow=1.5,SNR=5.2
SONM PKKPbc **PKKPbc 20 17 09.9 +0.1**
comp=Z,1.2nm,0.9s,baz=229,slow=3.2,SNR=4.4
comp=Z,13nm,1.1s
YKA Yellowknife Ar 94.28 25 P P **20 00 10.1 +0.2**
YKA **pP 20 02 17.2 -0.6**
YKA Yellowknife Ar 94.28 25 P P **20 00 10.2 +0.2**
comp=Z,1.1nm,0.5s,baz=243,slow=4.5,SNR=30
YKA pP **pP 20 02 19.3 +1.5**
comp=Z,5.0nm,1.2s,baz=250,slow=4.2,SNR=4.7
YKA PKKPbc **PKKPdf 20 17 07.9 -0.6**
comp=Z,0.6nm,0.4s,baz=24,slow=2.3,SNR=11
comp=Z,1.1nm,0.5s
YKA Yellowknife Ar 94.28 25 P P **20 00 10.1 +0.2**
YKA *PP **pP 20 02 17.2 -0.6**
CO02 Combarbal 94.42 125 P P **20 00 11.9 +0.3**
CO02 IAmb IAmb 20 00 15.8
comp=Z,56nm,1.6s
KSU1 Kansas State U 94.66 50 P P **20 00 11.9 -0.4**
baz=251
C36M Paulatuk 95.13 17 IAmb IAmb 20 00 15.3
comp=Z,47nm,1.6s
C36M Paulatuk 95.13 17 P P **20 00 13.4 -0.2**
baz=230
MIAR Mount Ida 95.51 56 P P **20 00 16.3 +0.1**
MIAR **pP 20 02 24.2 +0.1**
MIAR IAmb IAmb 20 02 31.1
comp=Z,46nm,1.9s
MIAR Mount Ida 95.51 56 P P **20 00 15.6 -0.6**
baz=252
LCO Las Campanas 95.55 123 P P **20 00 16.2 -0.8**
LCO **pP 20 02 24.0 -0.9**
LCO IAmb IAmb 20 02 31.0
comp=Z,40nm,1.5s
GTA Gaotai 95.56 310 ⇓P P **20 00 16.8 +0.3**
GTA pP pP 20 02 27.6 +2.5
GTA sP sP 20 03 24.5 +0.7
GTA PP **PP 20 04 24.0 +5.7**
GTA SKS **SKSac 20 09 55.7 -0.6**
GTA pmax pmax
comp=Z,20nm,1.2s
GTA pmax pmax
comp=Z,250nm,5.1s
AC05 El Transito 95.96 123 P P **20 00 18.8 +0.1**
AC05 IAmb IAmb 20 02 36.9
comp=Z,48nm,1.5s
ECSD EROS Data Cent 96.18 46 P P **20 00 19.2 +0.2**
baz=251
TIXI Tiksi 96.47 345 P P **20 00 18.8 -0.9**
TIXI IAmb IAmb 20 00 20.3
comp=Z,16nm,1.1s
TIXI **pP 20 02 27.9 +0.2**
TIXI Tiksi 96.47 345 *ce*P P **20 00 18.8 -0.9**
TIXI pmax pmax
comp=Z,21nm,1.4s
ZAK Zakamensk 96.87 321 *e*P P **20 00 21.7 -0.4**
ZAK pmax pmax
comp=Z,13nm,1.5s
SHL Shillong 97.84 294 P Pdif 20 00 25.4 -1.7
T42A Van Buren 98.17 54 Pdif Pdif 20 00 26.9 -1.1
T42A pP 20 02 36.7 +0.2
T42A IAmb IAmb 20 02 42.4
comp=Z,32nm,1.9s
GOMU GeErMu 98.38 305 P P **20 00 30.7 +1.2**
GOMU pmax pmax
comp=Z,30nm,1.5s
LSA Lhasa 99.59 298 P **Pdif 20 00 36.1 +1.0**
LSA pmax pmax
comp=Z,8.0nm,1.6s
LSA Lhasa 99.59 298 P **Pdif 20 00 34.9 -0.2**
LPAZ La Paz 102.84 112 Pdiff **Pdif 20 00 53.1 +3.1**
comp=Z,1.2nm,0.6s,baz=243,slow=1.4,SNR=8.1
LPAZ PKKPbc **PKKPbc 20 16 44.7 -0.7**
comp=Z,1.7nm,0.9s,baz=48,slow=5.5,SNR=5.0
HYB Hyderabad 107.78 283 *e*PKiKP **PKiKP 20 05 14.9 -0.3**
HYB *e*PP **PP 20 05 46.8 -2.0**
HYB *e*SKSac **SKSac 20 10 54.3 0.0**
HYB *e*SKKSac **SKKSac 20 11 45.6 -5.1**
HYB *e*PKKPbc **PKKPbc 20 16 27.8 -2.0**
ZSN Zaisan 107.97 315 *e*PKiKP **PKiKP 20 05 14.2 -0.4**
baz=315
ZALV Zalesovo Beam 108.71 322 Pdiff **Pdif 20 01 14.3 -0.1**
comp=Z,0.4nm,0.3s,baz=56,slow=11,SNR=6.6
ZALV PKiKP **PKiKP 20 05 15.4 -0.3**
comp=Z,3.8nm,0.5s,baz=92,slow=0.6,SNR=15
SIV San Ignacio 109.13 115 PP **PP 20 05 58.9 +0.9**
comp=Z,4.0nm,0.9s,baz=242,slow=11,SNR=3.0
MKAR Makanchi Array 109.65 314 Pdiff **Pdif 20 01 19.8 +1.0**
comp=Z,1.0nm,0.5s,baz=85,slow=6.2,SNR=9.2
MKAR PKiKP **PKiKP 20 05 17.4 -0.5**
comp=Z,5.6nm,0.5s,baz=164,slow=0.6,SNR=80
MKAR PKKPbc **PKKPbc 20 16 24.2 -0.4**

comp=Z,2.5nm,0.8s,baz=280,slow=3.4,SNR=10
SEM Semipalatinsk 111.27 318 *e*PKiKP **PKiKP 20 05 20.1 -1.0**
baz=318
SEM Semipalatinsk 111.27 318 *i* PKiKP **PKiKP 20 05 20.0 -1.0**
SHLS Shalkode 111.30 310 *e*PKiKP **PKiKP 20 05 20.5 -0.8**
baz=310
SHLS *e*PP **PP 20 06 09.1 -4.3**
baz=310
SHLS Shalkode 111.30 310 *i* PKiKP **PKiKP 20 05 20.4 -0.8**
SHLS *e* 20 06 09.1
UZB Uzynbulak 111.62 310 *e*PKiKP **PKiKP 20 05 21.6 -0.3**
baz=310
UZB *e*PP **PP 20 06 13.6 -2.1**
baz=310
UZB Uzynbulak 111.62 310 *i* PKiKP **PKiKP 20 05 21.6 -0.3**
UZB *e* 20 06 13.6
ZHN Zhinishke 112.05 310 *e*PKiKP **PKiKP 20 05 22.4 -0.3**
baz=310
ZHN Zhinishke 112.05 310 *i* PKiKP **PKiKP 20 05 22.3 -0.3**
SATY Saty 112.06 310 *e*PKiKP **PKiKP 20 05 22.4 -0.3**
baz=310
SATY *e*PP **PP 20 06 16.5 -2.2**
baz=310
SATY Saty 112.06 310 *i* PKiKP **PKiKP 20 05 22.3 -0.3**
SATY *e* 20 06 16.5
TDK Taldyqorghan 112.20 312 *e*PKiKP **PKiKP 20 05 22.3 -0.5**
baz=312
TDK Taldyqorghan 112.20 312 *i* PKiKP **PKiKP 20 05 22.2 -0.5**
KURK Kurchatov 112.32 318 P **PKiKP 20 05 22.3 -0.4**
KURK Kurchatov 112.32 318 *c* iPKiKP **PKiKP 20 05 22.4 -0.3**
KURK pmax pmax
comp=Z,32nm,1.7s
KURBB Kurchatov Arra 112.38 318 PKiKP **PKiKP 20 05 22.3 -0.5**
comp=Z,8.5nm,0.8s,baz=95,slow=1.8,SNR=44
KURBB PKKPbc **PKKPbc 20 16 16.5 +0.6**
comp=Z,1.7nm,0.6s,baz=273,slow=4.2,SNR=16
MDOK Medeo 113.06 310 *e*PKiKP **PKiKP 20 05 24.3 -0.4**
baz=310
MDOK *e*PP **PP 20 06 24.1 -1.7**
baz=310
MDOK Medeo 113.06 310 *i* PKiKP **PKiKP 20 05 24.2 -0.4**
MDOK *e* 20 06 24.0
TNSS Tian-Shan 113.13 310 *e*PKiKP **PKiKP 20 05 24.3 -0.8**
baz=310
TNSS Tian-Shan 113.13 310 *i* PKiKP **PKiKP 20 05 24.2 -0.8**
CHKK Chushkaly 113.15 311 *e*PKiKP **PKiKP 20 05 24.3 -0.3**
baz=311
CHKK Chushkaly 113.15 311 *i* PKiKP **PKiKP 20 05 24.2 -0.3**
KSH Kashi 113.62 306 PKP **PKiKP 20 05 26.8 +1.0**
KSH PP **PP 20 06 31.7 +2.0**
KSH AMB AMB
comp=Z,330nm,5.4s
TKM2 Tokmak 2 114.11 310 P PKPdf 20 05 26.5 -0.2
SNR=17
KBK Karagaybulak 114.58 309 P **PKiKP 20 05 27.6 0.0**
SNR=13
CHMS Chumysh 114.74 310 P PKPdf 20 05 27.6 -0.1
SNR=14
FRU1 Bishkek 114.82 309 PKPdf 20 05 26.3 -1.6
FRU1 Bishkek 114.82 309 PKiKP PKPdf 20 05 26.3 -1.6
SGDS Sogindy 114.84 310 *e*PKP PKPdf 20 05 27.6 -0.3
baz=310
SGDS Sogindy 114.84 310 *e*PKiKP PKPdf 20 05 27.6 -0.3
UCH Uchtor 114.88 309 P **PKiKP 20 05 29.1 +0.6**
SNR=20
AAK Ala-Archa 114.91 309 P **PKiKP 20 05 28.3 +0.1**
SNR=7.8
AAK Ala-Archa 114.91 309 PKPdf 20 05 27.7 -0.5
AAK Ala-Archa 114.91 309 *i* PKPdf PKPdf 20 05 27.9 -0.3
SNR=8.2
AAK Ala-Archa 114.91 309 PKiKP PKPdf 20 05 27.9 -0.3
comp=Z,9.2nm,0.9s,baz=76,slow=4.2,SNR=7.3
AAK Ala-Archa 114.91 309 *c* iPKiKP **PKiKP 20 05 29.0 +0.8**
AAK pmax pmax
comp=Z,14nm,1.3s
USP Ospenovka 114.93 310 P PKPdf 20 05 27.9 -0.1
SNR=12
NEEM North Greenlan 115.21 11 *i* P **PKPdf 20 05 27.5 -0.5**
BTLS Baital 115.30 312 *e*PKP **PKPdf 20 05 28.4 -0.2**
baz=312
BTLS *e*PP **PP 20 06 39.2 -1.8**
baz=312
BTLS Baital 115.30 312 *e*PKiKP **PKPdf 20 05 28.4 -0.2**
BTLS *e* 20 06 39.2
EKS2 Erkin-Say 115.44 309 P **PKiKP 20 05 29.8 +0.6**
SNR=12
BRZS Berezniki 116.14 317 *e*PKP **PKPdf 20 05 29.5 -0.7**
baz=317
BRZS Berezniki 116.14 317 *e*PKiKP **PKPdf 20 05 29.4 -0.7**
SCHQ Schefferville 116.70 37 PKP **PKPdf 20 05 30.7 -0.3**
comp=Z,2.3nm,0.5s,baz=272,slow=6.5,SNR=7.4
DZA Taraz 117.25 309 *e*PKP **PKPdf 20 05 32.2 -0.3**
baz=310
DZA Taraz 117.25 309 *e*PKiKP **PKPdf 20 05 32.2 -0.3**
BVAR Borovoye Array 117.33 321 PKP **PKPdf 20 05 32.0 -0.3**
comp=Z,13nm,0.4s,baz=93,slow=2.9,SNR=99
BVAR PKKPbc **PKKPbc 20 15 59.0 -0.2**
comp=Z,1.2nm,0.8s,baz=283,slow=1.1,SNR=2.9
BRVK Borovoye 117.39 321 **PKPdf 20 05 31.9 -0.5**
BRVK PP **PP 20 06 47.9 -7.1**
BRVK Borovoye 117.39 321 P **PKPdf 20 05 32.2 -0.2**
BRVK Borovoye 117.39 321 *c* iPKiKP **PKPdf 20 05 32.2 -0.2**
BRVK pmax pmax
comp=Z,56nm,1.7s
KK31 Karatay Array 117.85 310 **PKPdf 20 05 33.1 -0.5**
KK31 PP **PP 20 06 53.7 -4.8**
KK31 Karatay Array 117.85 310 PKiKP **PKPdf 20 05 33.1 -0.5**
KK31 20 06 53.7
NPGB Novo Progresso 118.00 109 *e*P **PKiKP 20 05 36.4 +1.6**
IUG luzhnay 118.21 309 *e*PKP **PKPdf 20 05 34.4 -0.2**
baz=309
IUG *e*PP **PP 20 06 59.6 -1.6**
baz=309
IUG luzhnay 118.21 309 *e*PKiKP **PKPdf 20 05 34.3 -0.2**
IUG *e* 20 06 59.6
BRLS Borolday 118.34 310 *e*PKP **PKiKP 20 05 34.7 0.0**
baz=309
BRLS Borolday 118.34 310 *e*PKiKP **PKiKP 20 05 34.6 0.0**
CHM Chimkent 118.53 309 *e*PKP **PKPdf 20 05 34.8 -0.2**
baz=309
CHM Chimkent 118.53 309 *e*PKiKP **PKPdf 20 05 34.7 -0.2**
ITTB Itaituba 118.74 106 *e*P **PKiKP 20 05 36.9 +0.6**
LMN Caledonia Moun 118.76 47 **PKiKP 20 05 35.6 +0.2**
KBL Kabul 118.84 300 **PKPdf 20 05 35.8 -0.3**
KBL PP **PP 20 06 59.0 -6.8**
KBL Kabul 118.84 300 P **PKiKP 20 05 36.5 +0.4**
KBL Kabul 118.84 300 PKiKP **PKPdf 20 05 35.8 -0.3**
SIMJ Simiganj 119.00 305 **PKPdf 20 05 35.3 -0.8**
SIMJ PP **PP 20 07 00.8 -5.8**
SNDB Serra Nova Dou 119.39 116 *e*P **PKiKP 20 05 38.4 +0.9**
SPITS Spitsbergen Ar 119.49 357 PKP **PKiKP 20 05 35.9 0.0**
comp=Z,3.9nm,0.5s,baz=62,slow=3.4,SNR=37
SPITS PKKPbc **PKKPbc 20 15 50.9 -1.1**
comp=Z,7.3nm,1.0s,baz=159,slow=5.2,SNR=4.5
BSCB Bom Sucesso 119.80 128 *e*P **PKiKP 20 05 38.4 +0.1**
BDFB Brasilia 120.28 121 PKP **PKiKP 20 05 39.5 +0.2**
comp=Z,1.5nm,0.6s,baz=288,slow=3.2,SNR=4.1
BDFB PKKPbc **PKKPbc 20 15 48.4 -0.1**
comp=Z,4.9nm,0.6s,baz=66,slow=4.5,SNR=8.4
DAG Danmarks Havn 120.35 5 *i* P **PKPdf 20 05 35.7 -1.7**
SUMG Summit 120.80 13 **PKPdf 20 05 38.9 -0.1**
SUMG Summit 120.80 13 PKiKP **PKPdf 20 05 38.9 -0.1**
SUMG Summit 120.80 13 *i* P **PKPdf 20 05 38.8 -0.1**
VOI Voi Mwatsoka 120.92 230 **PKPdf 20 05 39.8 -0.5**
CAM01 Campos-RJ 121.58 131 *e*P **PKiKP 20 05 42.4 +0.8**
DY2G Dye2 122.43 21 *i* P **PKPdf 20 05 41.7 -0.3**
DBG Daneborg 122.45 7 *i* P **PKPdf 20 05 41.1 -0.4**
MSEY Mahe Island 122.76 252 PKPdf **PKPdf 20 05 41.6 -2.4**
ICESG Greenland Ices 122.87 17 *i* P **PKPdf 20 05 42.0 -0.9**
DRLN Deer Lake 123.24 43 **PKPdf 20 05 42.4 -1.3**
ARU Arti 123.30 326 **PKPdf 20 05 42.8 -0.9**
ARU Arti 123.30 326 *i* PKiKP **PKPdf 20 05 43.6 0.0**
ARU 20 07 30.6
ARU PPP PPP 20 10 20.7
ARU 20 12 00.5
ARU Arti 123.30 326 PKP **PKPdf 20 05 43.6 0.0**
JANB Januaria 123.59 123 *e*P **PKiKP 20 05 45.9 0.0**
MCPB Macapa, AP 123.67 103 *e*P **PKiKP 20 05 46.8 +0.8**
SJMB Sao Joao De Ma 123.87 128 *e*P **PKiKP 20 05 46.5 +0.3**
SMTB Santa Maria do 124.07 114 *e*P **PKiKP 20 05 47.6 +0.8**
RIB01 Linhares ES 124.08 130 *e*P **PKiKP 20 05 46.8 +0.1**
ABKAR Akbulak array 124.43 318 **PKPdf 20 05 45.0 -1.0**
ABKAR PP PP 20 07 33.8 -8.5
SDBA SAO DESIDERIO 124.55 120 *e*P **PKiKP 20 05 47.9 +0.2**

LVZ Lovozero 126.11 345 PKPpre 20 05 41.8
LVZ Lovozero 126.11 345 PKIKP **PKPdf 20 05 41.8 -7.0**
KEV Kevo 126.15 350 **PKPdf 20 05 47.9 -0.8**
KEV Kevo 126.15 350 PKIKP **PKPdf 20 05 47.9 -0.8**
GUA01 Guaratinga, BA 126.21 127 *e*P **PKiKP 20 05 51.5 +0.5**
JLN Jalan Bani Buh 126.34 285 P **PKiKP 20 05 53.0 +1.9**
SNR=5.9
ARCES ARCESS Array B 126.60 350 **PKPdf 20 05 49.0 -0.6**
ARCES ARCESS Array B 126.60 350 PKP **PKPdf 20 05 49.7 +0.1**
comp=Z,6.7nm,0.5s,baz=48,slow=1.3,SNR=42
ARCES pPKP **pPKPdf 20 08 05.8 0.0**
comp=Z,5.6nm,1.0s,baz=134,slow=3.5,SNR=3.4
ARCES ARCESS Array B 126.60 350 PKIKP **PKPdf 20 05 49.0 -0.6**
APA Apatity 126.67 346 ⇓*i* PKIKP **PKPdf 20 05 49.0 -0.8**
APA pmax pmax
comp=Z,13nm,1.1s
SUR Sutherland 126.72 200 **PKPdf 20 05 49.8 -1.5**
SUR PP **PP 20 07 54.6 -1.8**
SUR Sutherland 126.72 200 PKP **PKiKP 20 05 52.3 +0.4**
comp=Z,20nm,0.7s,baz=128,slow=1.9,SNR=31
WBK Wadi Bani Khal 126.80 285 P **PKPdf 20 05 51.2 -0.2**
KIRV Kirov 126.95 331 *c* iPKIKP **PKiKP 20 05 51.1 0.0**
CMC01 Camacan, BA 127.17 126 *e*P **PKiKP 20 05 53.1 +0.2**
WSAR Wadi Sarin 127.17 286 P **PKPdf 20 05 52.2 +0.1**
MHTO MHTO 127.54 283 P **PKiKP 20 05 54.0 +0.5**
SNR=10
JMDO Jabal Madar 127.57 285 P **PKiKP 20 05 55.0 +1.5**
SNR=5.5
GEYT Alibeck 127.58 304 **PKPdf 20 05 52.3 -0.2**
GEYT **PP 20 07 57.5 -5.9**
GEYT Alibeck 127.58 304 PKP **PKiKP 20 05 53.1 -0.1**
comp=Z,43nm,1.1s,baz=116,slow=3.4,SNR=32
GEYT Alibeck 127.58 304 PKIKP **PKPdf 20 05 52.3 -0.2**
GEYT 20 07 57.5
GYA0B ALIBECK ARRAY 127.58 304 PP 20 07 58.6 -4.8
BIDO Bidbid 127.66 286 P **PKiKP 20 05 55.0 +1.3**
SNR=7.9
SMDO Samad 127.69 285 P **PKiKP 20 05 55.0 +1.2**
SNR=11
DQM DQM 127.80 281 P **PKiKP 20 05 54.6 +0.6**
SNR=9.5
ADZR Andozero 128.06 341 *e*PKIKP **PKPdf 20 05 50.4 -2.1**
ADZR pmax pmax
comp=Z,55nm,1.4s
JASK Jask - Hormozg 128.07 289 P **PKiKP 20 05 55.7 +1.3**
SNR=7.5
GDU01 Guandu, BA 128.11 125 *e*P **PKiKP 20 05 54.9 +0.1**
HOQ Hoqain 128.41 286 P **PKiKP 20 05 56.0 +0.8**
SNR=9.3
BSY Bisya 128.44 285 P **PKPdf 20 05 54.8 +0.2**
SNR=6.1
BOSA Boshof 128.46 206 PP 20 08 03.5 -4.3
BOSA Boshof 128.46 206 PKP **PKiKP 20 05 55.6 +0.2**
comp=Z,27nm,1.1s,baz=155,slow=2.4,SNR=13
ARQ Araqi 129.11 286 P **PKiKP 20 05 58.1 +1.5**
SNR=7.4
SOHO SOHO 129.16 287 *i* PKPdf **PKPdf 20 05 55.3 -0.5**
SNR=30
SOHO SOHO 129.16 287 P **PKiKP 20 05 56.5 -0.1**
MDH Madha 129.45 288 *i* PKPdf **PKPdf 20 05 55.5 -0.9**
SNR=6.0
MDH Madha 129.45 288 P **PKPdf 20 05 56.3 -0.1**
UOSS Minazif 129.52 288 **PKPdf 20 05 55.4 -1.1**
UOSS Minazif 129.52 288 *i* PKPdf **PKPdf 20 05 55.7 -0.8**
SNR=7.5
HATD Hatta, Dubai 129.58 288 *i* PKPdf **PKPdf 20 05 56.6 0.0**
SNR=8.9
HATD Hatta, Dubai 129.58 288 P **PKiKP 20 05 57.8 +0.3**
SNR=9.1
MSFE Esma-Masafi 129.58 288 *i* PKPdf **PKPdf 20 05 56.5 -0.2**
SNR=7.2
MASF Masafi 129.58 288 P **PKiKP 20 05 57.6 0.0**
SNR=5.5
SHME Shamm 129.63 289 P **PKiKP 20 05 57.4 -0.1**
ASHO Ashiyiah 129.63 287 *i* PKPdf **PKPdf 20 05 56.2 -0.6**
SNR=14
ASHO Ashiyiah 129.63 287 P **PKPdf 20 05 57.2 +0.4**
SNR=9.8
ALNE Al Ain 129.87 287 *i* PKPdf **PKPdf 20 05 56.9 -0.3**
SNR=9.5
ALNE Al Ain 129.87 287 P **PKiKP 20 05 58.0 -0.1**
SNR=13
NAZ Nazwa, Dubai 130.01 288 *i* PKPdf **PKPdf 20 05 57.1 -0.3**
SNR=5.8
NAZ Nazwa, Dubai 130.01 288 P **PKiKP 20 05 59.0 +0.6**
SNR=5.6
UMQ Umm Al-Quwin 130.04 288 PKPdf **PKPdf 20 05 57.9 +0.4**
FAQ Al Faqa, Dubai 130.06 287 *i* PKPdf **PKPdf 20 05 57.0 -0.5**
SNR=8.6
FAQ Al Faqa, Dubai 130.06 287 P **PKiKP 20 05 59.0 +0.5**
ASUD Al Ashush, Dub 130.29 287 *i* PKPdf **PKPdf 20 05 58.0 0.0**
SNR=6.5
ASUD Al Ashush, Dub 130.29 287 P **PKPdf 20 05 58.4 +0.5**
UMZA Um Al Zommool 130.31 285 P **PKiKP 20 05 59.4 +0.4**
RBK Rabkut 130.57 278 P **PKiKP 20 06 01.0 +1.3**
SNR=7.6
DOK Doka 130.81 279 P **PKPdf 20 05 59.4 +0.3**
SNR=5.8
WHFO Wadi Hawf 131.04 278 P **PKiKP 20 06 00.4 -0.3**
SNR=6.0
ABTO Aybut 131.40 277 P **PKiKP 20 06 01.1 -0.3**
SNR=7.2
LBTB Lobatse 131.44 209 PKP **PKPdf 20 06 00.8 +0.5**
comp=Z,8.7nm,0.8s,baz=147,slow=3.6,SNR=8.8
LBTB SKPbc **SKPab 20 08 34.0 +1.8**
comp=Z,19nm,1.1s,baz=139,slow=6.9,SNR=7.5
MZWR Madinat Zayed 131.56 286 P **PKiKP 20 06 01.4 0.0**
MZR Muzera 131.88 285 *i* PKPdf **PKPdf 20 06 00.5 -0.5**
SNR=13
MZR Muzera 131.88 285 P **PKiKP 20 06 02.5 +0.3**
SNR=12
GHWR Ruwais 132.49 286 P **PKiKP 20 06 02.9 -0.5**
JRN Qarnain Island 132.56 287 P **PKiKP 20 06 03.1 -0.3**
FINES FINESS Array B 133.52 344 PKPpre 20 05 57.2
FINES FINESS Array B 133.52 344 PKhKP PKPpre 20 05 48.8
comp=Z,1.0nm,0.6s,baz=38,slow=1.7,SNR=11
FINES PKP **PKPdf 20 06 03.2 +0.3**
comp=Z,4.7nm,0.5s,baz=56,slow=3.5,SNR=7.8
FINES SKPbc **SKPab 20 08 38.5 -1.4**
comp=Z,3.1nm,0.6s,baz=0.0,slow=0.6,SNR=5.2
SLWR Sila 133.58 286 P **PKiKP 20 06 05.5 0.0**
MATP Matopo 133.81 215 PKhKP PKPpre 20 05 50.2
comp=Z,0.7nm,0.4s,baz=172,slow=3.0,SNR=4.1
MATP PKP **PKPdf 20 06 05.6 +0.7**
comp=Z,12nm,1.0s,baz=128,slow=2.5,SNR=16
MATP SKPbc **SKPab 20 08 42.2 -0.5**
comp=Z,5.3nm,1.0s,baz=147,slow=5.6,SNR=6.2
MOS Moscow 133.85 333 *i* PKIKP **PKPdf 20 06 02.3 -1.4**
MOS pmax pmax
comp=Z,96nm,1.6s
TRNA Turayna 134.04 287 P **PKiKP 20 06 06.4 0.0**
SHMA Al-Shehemyia 134.29 289 P **PKPdf 20 06 05.5 +0.1**
NBCL Cascavel-CE 134.38 115 *e*P **PKiKP 20 06 07.1 -0.4**
MAK Makhachkala 134.45 313 *i* P **Pdif 20 03 05.9 -3.3**
MAK *i* 20 06 04.4
MAK *e* 20 08 41.5
MAK *e* 20 12 18.9
MAK *e*SS SS 20 25 50.6 -1.2
MAK *e*SSS SSS 20 31 01.8
MAK pmax pmax
comp=Z,160nm,1.0s
VRH Novokhopyorsk 134.53 326 *e*PKIKP **PKPdf 20 06 04.0 -1.1**
VRH pmax pmax
comp=Z,20nm,0.6s
SAKB Bahrain 134.67 289 P **PKiKP 20 06 07.5 -0.2**
OBN Obninsk 134.71 333 **PKPdf 20 06 05.0 -0.3**
OBN Obninsk 134.71 333 SKPbc **SKPbc 20 08 42.6 +1.9**
comp=Z,11nm,0.5s,baz=68,slow=5.4,SNR=7.4
OBN Obninsk 134.71 333 *i* PKIKP **PKPdf 20 06 04.8 -0.5**
OBN *i* SS SS 20 25 50.7 -2.9
OBN pmax pmax
comp=Z,29nm,1.2s
OBN Obninsk 134.71 333 PKP **PKiKP 20 06 07.3 +0.4**
LPSR Galich'ya Gora 135.18 329 *e*PKIKP **PKPdf 20 06 06.0 -0.3**
LPSR pmax pmax
comp=Z,100nm,1.4s
GROC Groznyy 135.55 314 *e*PKiKP **PKPdf 20 06 05.9 -1.4**
GROC *e* 20 08 51.5
GROC *e* 20 09 16.5
GROC *e* 20 12 25.4
GROC pmax pmax
comp=Z,48nm,0.6s
VORR Voronezh 135.58 328 *e*PKIKP **PKPdf 20 06 06.4 -0.7**
VORR pmax pmax
comp=Z,150nm,1.2s

VSR	Storozhevoye	135.87	327	*e*PKIKP	PKPdf	20 06 06.8	-0.8
VSR				pmax	pmax			
	comp=Z,60nm,1.2s							
NB2	NORSAR Subarra	136.63	354	PKPdf	PKPpre	20 05 58.2		
	comp=Z,29nm,1.4s,baz=14,slow=1.8							
NB2				SKPa	SKPbc	20 08 49.4	+2.9	
	comp=Z,1.0nm,0.7s,baz=10,slow=2.9							
NB2	NORSAR Subarra	136.63	354	PKPdf	PKPpre	20 05 58.2		
	baz=14,slow=1.8							
NOA	NORSAR Array B	136.63	354	PKhKP	PKPpre	20 05 58.4		
	comp=Z,2.4nm,0.9s,baz=11,slow=4.2,SNR=11							
NOA				PKP	PKPdf	20 06 09.5	+0.7	
	comp=Z,0.3nm,0.5s,baz=14,slow=3.8,SNR=12							
NOA				SKPbc	SKPbc	20 08 48.0	+1.6	
	comp=Z,1.0nm,0.7s,baz=15,slow=4.5,SNR=4.3							
GOF	Gofitskoye	136.67	317	*e*PKIKP	PKPdf	20 06 10.0	+0.7	
KBD	Kabd	137.08	294	P	PKPdf	20 06 10.5	0.0	
HFS	Hagfors	137.20	352	PKhKP	PKPpre	20 05 59.7		
	comp=Z,5.5nm,0.5s,baz=67,slow=3.9,SNR=53							
HFS				SKPbc	SKiKP	20 08 50.6	-1.8	
	comp=Z,2.9nm,0.7s,baz=0.0,slow=1.5,SNR=3.8							
GNI	Garni	137.31	310	PKPdf	PKPdf	20 06 11.6	+0.7	
GNI	Garni	137.31	310	P	PKPdf	20 06 11.3	+0.4	
GNI	Garni	137.31	310*c*	*i*PKIKP	PKiKP	20 06 13.5	+0.6	
GNI				pmax	pmax			
	comp=Z,48nm,1.3s							
GNI	Garni	137.31	310	PKPdf	PKPdf	20 06 11.9	+1.0	
KBZ	Khabaz	137.31	316	PKhKP	PKPpre	20 06 01.1		
	comp=Z,3.8nm,0.9s,baz=47,slow=3.2,SNR=6.2							
KBZ				PKP	PKPdf	20 06 10.7	+0.2	
	comp=Z,8.0nm,1.0s,baz=79,slow=7.1,SNR=9.6							
KBZ	Khabaz	137.31	316*c*	*i*PKIKP	PKPdf	20 06 11.3	+0.8	
KIV	Kislovodsk	137.36	316	PKPpre	PKPpre	20 06 02.3		
KIV					PKPdf	20 06 08.8	-1.9	
KIV	Kislovodsk	137.36	316	*i* PKPdf	PKPdf	20 06 11.2	+0.5	
	SNR=5.9							
KIV	Kislovodsk	137.36	316	P	PKPdf	20 06 10.6	-0.2	
KIV	Kislovodsk	137.36	316	*i* PKIKP	PKiKP	20 06 11.9	-0.9	
KIV				*e*		20 09 02.5		
KIV				*e*SS	SS	20 26 24.3	-1.8	
KIV				*e*SSS	SSS	20 31 37.1		
KIV				pmax	pmax			
	comp=Z,19nm,1.1s							
KIV	Kislovodsk	137.36	316	PKPdf	PKPdf	20 06 10.2	-0.5	
SHA1	Shidzhatmaz	137.47	316*c*	*i*PKIKP	PKiKP	20 06 12.5	-0.7	
ERBR	Yeremizino-Bor	137.99	320	*i* PKHKP	PKPpre	20 06 06.4		
ERBR				*e*		20 12 23.9		
ERBR				pmax	pmax			
	comp=Z,158nm,1.4s							
LSZ	Lusaka	138.06	219		PKPpre	20 06 02.4		
LSZ				PKPdf	PKPdf	20 06 12.1	-0.8	
LSZ	Lusaka	138.06	219	PKhKP	PKPpre	20 06 05.2		
	comp=Z,2.4nm,0.3s,baz=175,slow=4.1,SNR=7.8							
LSZ				PKP	PKiKP	20 06 14.4	-0.7	
	comp=Z,8.9nm,0.4s,baz=164,slow=1.1,SNR=4.4							
LSZ	Lusaka	138.06	219	PKiKP	PKPdf	20 06 12.1	-0.8	
KONO	Kongsberg	138.16	354*c*	*i*PKIKP	PKiKP	20 06 13.8	0.0	
KONO				pmax	pmax			
	comp=Z,30nm,1.3s							
LABN	Labinsk	138.34	318	*i* PKIKP	PKPdf	20 06 12.4	0.0	
LABN				pmax	pmax			
	comp=Z,20nm,0.2s							
MNK	Minsk	138.64	337	*i* PKIKP	PKiKP	20 06 14.9	0.0	
MNK				*i*		20 08 24.8		
MNK				*i* SS	SS	20 26 41.2	+1.8	
MNK				pmax	pmax			
	comp=E,8.0nm,1.0s							
MNK				pmax	pmax			
	comp=N,10.0nm,1.0s							
MNK				pmax	pmax			
	comp=Z,41nm,1.1s							
KIBK	Kibwezi	139.23	244		PKPpre	20 06 06.8		
RAYN	Ar Rayn	139.23	285		PKPpre	20 06 06.5		
RAYN	Ar Rayn	139.23	285	P	PKPdf	20 06 14.6	-0.1	
RAYN	Ar Rayn	139.23	285	⇓PKHKP	PKPpre	20 06 09.5		
SOC	Sochi	139.46	317	*e*PKIKP	PKPdf	20 06 13.5	-0.9	
SOC				*e*		20 09 15.8		
SOC				*e*SSS	SSS	20 32 07.5		
BORU	Boraas	139.74	351	*i* P	PKPdf	20 06 06.9	-7.6	
TSUM	Tsumeb	139.95	203	PKhKP	PKPpre	20 06 09.7		
	comp=Z,12nm,1.2s,baz=143,slow=6.8,SNR=5.8							
TSUM				PKP	PKiKP	20 06 18.0	-0.9	
	comp=Z,17nm,1.0s,baz=140,slow=8.4,SNR=11							
ANN	Anapa	140.32	320	*i* PKHKP	PKPpre	20 06 09.7		
ANN				*e*		20 09 21.8		
ANN				*e*		20 12 27.1		
ANN				pmax	pmax			
	comp=Z,33nm,1.1s							
FABU	Falkenberg	140.36	351	*i* P	PKPdf	20 06 11.5	-4.2	
BLEU	Blekinge	140.49	348	*i* P	PKPdf	20 06 09.2	-6.7	
SUW	Suwalki	140.65	340	*e*PKP	PKPdf	20 06 12.5	-3.7	
DEL	Delary	140.69	350	*i* P	PKPdf	20 06 09.8	-6.4	
AKASG	Malin Array Be	140.97	333		PKPpre	20 06 11.0		
AKASG	Malin Array Be	140.97	333	PKhKP	PKPpre	20 06 11.3		
	comp=Z,6.3nm,0.5s,baz=39,slow=3.5,SNR=12							
AKASG	Malin Array Be	140.97	333	PKHKP	PKPpre	20 06 11.0		
AKBB	Malin Array Si	140.97	333	PKPdf	PKPdf	20 06 10.4	-6.5	
KIEV	Kiev	140.99	333		PKPpre	20 06 10.6		
KIEV	Kiev	140.99	333	*i* PKPdf	PKPdf	20 06 11.6	-5.4	
	SNR=17							
KIEV	Kiev	140.99	333	PKHKP	PKPpre	20 06 10.6		
KIEV	Kiev	140.99	333	PKPdf	PKPdf	20 06 10.8	-6.1	
MI30	MI30,Zelenitsa	141.39	333	PKPdf	PKPdf	20 06 11.9	-5.8	
MI28	MI28,Pidlybu	141.47	334	PKPdf	PKPdf	20 06 12.7	-5.1	
LAWE	Loch Awe, Argy	141.48	7	*e*P	PKPdf	20 06 13.2	-4.4	
LUNU	Lund	141.58	350	*i* P	PKPdf	20 06 13.8	-4.0	
PTK	Pertek	141.62	310	P	PKPdf	20 06 15.7	-3.1	
MI29	MI29, Kamyanyy	141.78	333	PKPdf	PKPdf	20 06 12.4	-6.0	
BSD	Bornholm Skovb	141.78	348	*i* P	PKPdf	20 06 12.6	-5.6	
RNPP9	Sopachiv	141.81	336	PKPdf	PKPdf	20 06 13.7	-4.7	
RNPP8	Varash	141.89	336	PKPdf	PKPdf	20 06 14.3	-4.2	
RNPP5	Staryi Chortor	141.96	336	PKPdf	PKPdf	20 06 14.4	-4.3	
PGBU	Glenifferbraes	142.02	6	*e*P	PKPdf	20 06 15.0	-3.6	
LUBAR	Lubar, Ukraine	142.19	333	PKPdf	PKPdf	20 06 13.6	-5.5	
SIM	Simferopol'	142.22	322	*i* PKIKP	PKPdf	20 06 17.0	-2.4	
SIM				pmax	pmax			
	comp=Z,190nm,1.2s							
EKA	Eskdalemuir Ar	142.61	5	PKhKP	PKPpre	20 06 16.6		
	comp=Z,3.3nm,0.4s,baz=330,slow=3.1,SNR=16							
NEWG	New Galloway	142.73	6	*e*P	PKPdf	20 06 17.3	-2.6	
SVSK	Karacayir	142.91	313	P	PKPdf	20 06 18.5	-2.2	
NE56	Odesa	142.95	327	PKPdf	PKPdf	20 06 16.8	-3.7	
GKP	Gorka Klasztor	142.98	345	*e*PKP	PKPdf	20 06 18.5	-1.9	
KVT	Kavak	143.03	315	P	PKPdf	20 06 20.3	-0.7	
TOKT	Tokat	143.04	314	P	PKPbc	20 06 20.0	+0.7	
EDMD	Edmundbyers	143.20	4	*e*P	PKPbc	20 06 19.6	+0.3	
SORM	Soroca	143.22	330	⇑P	PKPbc	20 06 19.5	0.0	
SORM	Soroca	143.22	330	⇑PKIKP	PKPbc	20 06 19.5	0.0	
SORM	Soroca	143.22	330	PKPdf	PKPab	20 06 18.3	-0.9	
BEL	Belsk	143.26	341	*e*PKP	PKPbc	20 06 20.2	+0.7	
DIKM	Dikmen	143.27	317	⇓P	PKPdf	20 06 20.8	-0.5	
DIKM	Dikmen	143.27	317	P	PKPab	20 06 17.6	-2.0	
DIKM	Dikmen	143.27	317	PKPdf	PKPab	20 06 18.4	-1.2	
HORU	Horodok	143.29	333	PKPdf	PKPab	20 06 18.6	-0.8	
NDNU	Novodnistrovsk	143.34	332	PKPdf	PKPab	20 06 19.0	-0.6	
KESW	Keswick, Cumbr	143.36	5	*e*P	PKPbc	20 06 20.0	+0.3	
PURM	Purcari	143.58	327	⇓P	PKPdf	20 06 21.2	-0.5	
PURM	Purcari	143.58	327	PKPdf	PKPdf	20 06 21.2	-0.5	
KMPD	K-Podol'skiy	143.77	332	PKPdf	PKPab	20 06 20.4	-0.8	
KMPD				PKPdf	PKPbc	20 06 20.2	-0.9	
KIS	Kishinev	143.79	329	⇓*i*PKP	PKPbc	20 06 21.3	0.0	
	comp=Z,500nm,1.8s							
KIS	Kishinev	143.79	329*d*	*i*PKIKP	PKPbc	20 06 21.0	-0.3	
KIS				pmax	pmax			
	comp=Z,500nm,1.8s							
KIS	Kishinev	143.79	329	PKPdf	PKPbc	20 06 20.4	-0.9	
LVV	L'vov	143.80	336	*e*PKIKP	PKPab	20 06 21.4	0.0	
LVV				pmax	pmax			
	comp=Z,850nm,1.4s							
LVV	L'vov	143.80	336	PKPdf	PKPbc	20 06 20.3	-0.9	
MILM	Milestii Mici	143.85	329	⇑P	PKPbc	20 06 21.3	-0.1	
MILM	Milestii Mici	143.85	329	⇓*i*PKP	PKPbc	20 06 21.0	-0.5	
	comp=Z,1μm,2.1s							
MILM	Milestii Mici	143.85	329*d*	*i*PKIKP	PKPbc	20 06 21.0	-0.5	
MILM				pmax	pmax			
	comp=Z,450nm,2.1s							
SARI	SarD1z-Kayseri	143.96	311	P	PKPbc	20 06 20.9	-1.4	
DRBR	Darabani	143.97	332	⇑P	PKPbc	20 06 21.8	0.0	
HPK	Haverah Park	144.09	4	*e*P	PKPbc	20 06 22.1	+0.1	
BNN	Bunyan	144.17	312	P	PKPab	20 06 23.7	+0.4	
CHRU	Chernivtsi	144.20	333	PKPdf	PKPbc	20 06 21.0	-1.5	
DSB	Dublin	144.30	9		PKPbc	20 06 21.1	-1.5	
LODK	Lodwar	144.35	250	P	PKPab	20 06 25.9	+1.3	
WPS	Cemaes, Angles	144.39	7	*e*P	PKPdf	20 06 22.5	-0.4	
MORS	Morshin	144.40	335	PKPdf	PKPab	20 06 23.9	+0.2	
CORM	Corum	144.41	315	P	PKPdf	20 06 22.9	-0.6	
WME	Myndd Eilian	144.42	7	*e*P	PKPdf	20 06 22.8	-0.1	
KWP	Kalwaria Pacla	144.46	337	*e*PKP	PKPab	20 06 24.2	+0.4	
KWP	Kalwaria Pacla	144.46	337	PKPdf	PKPab	20 06 23.8	-0.1	
STNU	Starunia	144.49	334	PKPdf	PKPab	20 06 23.8	-0.2	
WLF1	Llynfaes	144.51	7	*e*P	PKPbc	20 06 23.2	0.0	
SHIU	Shidnytsya	144.54	336	PKPdf	PKPdf	20 06 23.3	0.0	
VASR	Vaslui	144.55	329	⇓P	PKPab	20 06 24.6	+0.3	
KSV	Kosov	144.56	333	PKPdf	PKPdf	20 06 23.1	-0.3	
KURC	Kurucasile-Bar	144.78	319	P	PKPdf	20 06 23.7	-0.2	
BIR	Birlad	144.89	329	⇑P	PKPab	20 06 26.4	+0.7	
BIR	Birlad	144.89	329	⇑PKIKP	PKPab	20 06 26.4	+0.7	
STNC	Stoke	144.91	5	*e*P	PKPbc	20 06 24.3	-0.3	
VLDR	Vladesti	144.96	328	⇑P	PKPab	20 06 26.1	+0.1	
OJC	Ojcow	144.97	340	*e*PKP	PKPbc	20 06 24.5	-0.3	
OJC	Ojcow	144.97	340	PKPdf	PKPdf	20 06 24.1	+0.1	
CEYT	Ceyhan	145.01	309	P	PKPbc	20 06 25.5	+0.2	
TLCR		145.03	326	⇑P	PKPbc	20 06 25.5	+0.4	
TLCR		145.03	326	⇑PKIKP	PKPbc	20 06 25.5	+0.4	
BURAR	Bucovina Array	145.03	332	⇓P	PKPab	20 06 26.1	-0.2	
BURAR	Bucovina Array	145.03	332		PKPdf	20 06 24.5	+0.2	
BURAR	Bucovina Array	145.03	332	⇓PKIKP	PKPab	20 06 26.1	-0.2	
FOEL	Foel Wylfa	145.03	6	*e*P	PKPbc	20 06 25.1	+0.2	
VARL	Varlezi	145.04	328	⇓P	PKPab	20 06 26.1	-0.1	
MEZ	Mezhgor'ye	145.05	335	PKPdf	PKPbc	20 06 25.3	+0.2	
SCTR	Scanteiesti	145.12	328	⇑P	PKPab	20 06 26.4	-0.1	
TATR	Tatarca	145.14	328	⇓P	PKPab	20 06 26.6	-0.1	
GHRR		145.14	329	⇑P	PKPab	20 06 26.9	+0.3	
GHRR		145.14	329	PKPdf	PKPbc	20 06 25.8	+0.4	
RAKU	Rahkiv	145.16	334	PKPdf	PKPbc	20 06 24.5	+0.1	
STHS	Stebnicka Huta	145.17	338	*e*PKP	PKPbc	20 06 25.7	+0.2	
STHS				*e*		20 08 44.1		
STHS	Stebnicka Huta	145.17	338	*e*PKIKP	PKPbc	20 06 25.7	+0.2	
TESR	Tescani	145.19	330	⇑P	PKPbc	20 06 25.2	-0.4	
TESR	Tescani	145.19	330	PKPdf	PKPbc	20 06 25.2	-0.4	
KOLS	Kolonicke sedl	145.19	337	*e*PKP	PKPbc	20 06 26.0	+0.5	
KOLS				*e*		20 08 44.2		
KOLS	Kolonicke sedl	145.19	337	*e*PKIKP	PKPbc	20 06 26.0	+0.5	
JURR	Jurilovca	145.27	326	⇑P	PKPab	20 06 26.3	+0.5	
NEGRR	Negrea	145.27	328	⇓P	PKPab	20 06 26.9	-0.2	
CMRD	Camardi-Nigde	145.29	311	P	PKPdf	20 06 25.7	+0.6	
SLCR	Slobozia Conac	145.29	328	⇑P	PKPab	20 06 27.4	+0.1	
BR131	Keskin Array S	145.29	315		PKPdf	20 06 24.4	-0.7	
BR131					pPKPbc	20 08 40.6	0.0	
BR131	Keskin Array S	145.29	315	P	PKPbc	20 06 25.7	-0.6	
BRTR	Keskin Array B	145.29	315		PKPdf	20 06 24.4	-0.7	
BRTR	Keskin Array B	145.29	315	PKPbc	PKPbc	20 06 26.0	-0.3	
	comp=Z,49nm,0.6s,baz=98,slow=2.9,SNR=236							
BRTR				pPKPbc	pPKPbc	20 08 40.4	-0.3	
	comp=Z,20nm,1.1s,baz=130,slow=1.9,SNR=7.9							
BRTR	Keskin Array B	145.29	315	PKIKP	PKPbc	20 06 26.0	-0.3	
BR104	Keskin Array S	145.30	315	PKPdf	PKPbc	20 06 26.0	-0.3	
BR106	Keskin Array S	145.30	315	PKPdf	PKPbc	20 06 25.8	-0.5	
BR105	Keskin Array S	145.31	315	PKPdf	PKPbc	20 06 25.9	-0.5	
SCHL	Schela	145.32	328	⇓P	PKPab	20 06 27.8	+0.5	
IZVR	Izvoarele	145.32	328	⇑P	PKPab	20 06 27.5	+0.1	
TUDR		145.34	328	⇑P	PKPab	20 06 27.6	+0.2	
SCHLR	Schela	145.34	328	⇑P	PKPab	20 06 27.4	0.0	
BRIU	Brid	145.38	335	PKPdf	PKPbc	20 06 25.6	-0.5	
CFR	Carcaliu	145.38	327	⇑P	PKPab	20 06 27.5	-0.1	
CFR	Carcaliu	145.38	327	⇑PKP2	PKPab	20 06 27.5	-0.1	
PANC	Panciu	145.41	329	⇑P	PKPab	20 06 27.3	-0.4	
KAMT	Kaman	145.41	314	P	PKPdf	20 06 25.9	+0.7	
MUKU	Mukachevo	145.42	336	PKPdf	PKPbc	20 06 26.5	+0.3	
WACR	West Acre	145.43	2	*e*P	PKPbc	20 06 26.0	0.0	
UZHM	Uzhgorod	145.43	336	PKPdf	PKPab	20 06 27.1	-0.6	
TPGR	Topolog	145.45	326	⇑P	PKPab	20 06 27.7	-0.2	
HOLU	Holmets	145.48	336	PKPdf	PKPab	20 06 27.2	-0.7	
KORU	Korolevo	145.48	335	PKPdf	PKPbc	20 06 26.8	+0.5	
NIE	Niedzica	145.50	339	*e*PKP	PKPbc	20 06 26.4	0.0	
NIE	Niedzica	145.50	339	PKPdf	PKPbc	20 06 26.1	-0.3	
FKH	Fakeheh	145.50	305	*e*P	PKPdf	20 06 26.1	+0.6	
CRVS	Cervenica-Dubn	145.52	337	*e*PKP	PKPdf	20 06 25.7	+0.7	
CRVS				*e*		20 06 27.8		
CRVS	Cervenica-Dubn	145.52	337	*e*PKIKP	PKPdf	20 06 25.7	+0.7	
CRVS				*e*		20 06 27.8		
ODBI	Odobesti	145.53	329	⇓P	PKPab	20 06 28.3	+0.2	
ODBI	Odobesti	145.53	329	PKPdf	PKPbc	20 06 27.1	+0.5	
GULA	Gulagac	145.53	312	P	PKPdf	20 06 25.1	-0.4	
VAYX	Vaiak	145.55	314	P	PKPdf	20 06 24.9	-0.6	
BEIL	Beino	145.58	305	*e*P	PKPdf	20 06 26.2	+0.6	
TRSU	Trosnyk	145.60	335	PKPdf	PKPbc	20 06 26.2	-0.5	
VRI	Vrincioaia	145.62	329	⇓P	PKPbc	20 06 26.2	-0.7	
VRI	Vrincioaia	145.62	329	P	PKPdf	20 06 23.5	-1.7	
VRI	Vrincioaia	145.62	329	⇓PKIKP	PKPbc	20 06 26.2	-0.7	
VRI	Vrincioaia	145.62	329	PKPdf	PKPdf	20 06 26.0	+0.8	
PLOR5	Plostina Array	145.66	329	PKPdf	PKPdf	20 06 26.0	+0.6	
PLOR	Plostina	145.66	329	⇑P	PKPbc	20 06 26.7	-0.3	
PLOR	Plostina	145.66	329	⇑PKIKP	PKPbc	20 06 26.7	-0.3	
PLOR3	Plostina Array	145.66	329	PKPdf	PKPdf	20 06 26.0	+0.6	
SERE	Sereflikochisa	145.72	314	P	PKPdf	20 06 26.2	+0.4	
BMR	Baia Mare	145.72	334	⇑P	PKPbc	20 06 27.9	+0.8	
BMR	Baia Mare	145.72	334	⇑PKP2	PKPbc	20 06 27.9	+0.8	
OSTC	Ostas	145.72	344	*e*PKP	PKPab	20 06 28.0	-0.8	
OSTC				*ex*	x	20 26 47.8		
OSTC				*ex*	x	20 31 35.9		
OST	Ostas	145.72	344	*e*PKP2	PKPab	20 06 28.0	-0.8	
CHVC	Chvalec	145.74	344	⇑*e*PKP	PKPab	20 06 28.2	-0.7	
CHVC	Chvalec	145.74	344	*e*PKP2	PKPab	20 06 28.2	-0.7	
CLL	Collm	145.76	348	⇓*e*PKIKP	PKPdf	20 06 26.0	+0.7	
CLL				*i*		20 06 27.5		
CLL				pmax	pmax			
	comp=Z,285nm,1.2s							
CLL	Collm	145.76	348	PKPdf	PKPbc	20 06 26.2	-0.8	
ANTO	Ankara	145.78	316	⇓P	PKPdf	20 06 26.4	+0.6	
ANTO	Ankara	145.78	316		PKPdf	20 06 25.8	0.0	
ANTO					pPKPbc	20 08 42.1	+0.1	
ANTO	Ankara	145.78	316	P	PKPdf	20 06 25.9	+0.1	
ANTO	Ankara	145.78	316	⇓PKIKP	PKPdf	20 06 26.4	+0.6	
ANTO	Ankara	145.78	316	PKPdf	PKPdf	20 06 26.5	+0.7	
RSBS	Rosebush, Pemb	145.78	8	*e*P	PKPbc	20 06 27.2	+0.1	
AFSR	Afar-Bala (An	145.81	315	P	PKPdf	20 06 26.4	+0.5	
ARCR	ARCALIA	145.81	333	⇑P	PKPbc	20 06 27.1	+0.3	
HARR	Harsova	145.82	326	⇑P	PKPbc	20 06 28.4	+1.0	
HARR	Harsova	145.82	326	⇑PKP2	PKPbc	20 06 28.4	+1.0	
OKC	Ostrava-Krasne	145.82	341	⇑*e*PKP	PKPbc	20 06 27.6	+0.3	
OKC	Ostrava-Krasne	145.82	341	*e*PKP2	PKPbc	20 06 27.6	+0.3	
TURR	Turia	145.82	330	⇑P	PKPbc	20 06 27.9	+0.5	
BISRR	Bisoca	145.85	329	⇑P	PKPab	20 06 28.9	-0.7	
BISRR	Bisoca	145.85	329	PKPdf	PKPbc	20 06 26.9	-0.7	
HWQ	Hawqa	145.85	305	*e*P	PKPdf	20 06 24.0	-2.1	
TLBR	Topalu	145.86	326	⇓P	PKPab	20 06 28.6	-0.9	
DPC	Dobruska-Polom	145.88	344	⇑*e*PKP	PKPab	20 06 28.6	-0.9	
DPC				*ex*	x	20 31 35.6		
DPC	Dobruska-Polom	145.88	344	*e*PKP2	PKPab	20 06 28.6	-0.9	
DPC	Dobruska-Polom	145.88	344	PKPdf	PKPbc	20 06 27.0	-0.5	
COVR	Voineasa-Covas	145.88	329	⇓P	PKPbc	20 06 28.2	+0.5	
OZUR		145.90	330	⇓P	PKPbc	20 06 27.1	-0.6	
MFTR	Murfatlar	145.90	325	⇑P	PKPbc	20 06 27.8	+0.1	
MOH1	Michaelchurch	145.93	6	*e*P	PKPdf	20 06 25.8	+0.3	
BRG	Berggiesshubel	145.98	347	*i* PKP	PKPdf	20 06 26.6	+0.9	
BRG				Amp		20 06 28.2		
	comp=Z,74nm,1.4s							
BRG	Berggiesshubel	145.98	347	P	PKPab	20 06 29.0	-0.8	
BRG				Amp		20 06 30.8		
	comp=Z,258nm,1.4s							
BRG	Berggiesshubel	145.98	347	*i* PKIKP	PKPdf	20 06 26.5	+0.9	
BRG						20 06 28.9		
BRG				pmax	pmax			
	comp=Z,74nm,1.4s							
BRG				pmax	pmax			
	comp=Z,258nm,1.4s							
LANS	Liptovska Anna	146.00	340	*e*PKP	PKPbc	20 06 27.6	-0.3	
LANS				*e*		20 08 44.0		
LANS	Liptovska Anna	146.00	340	*e*PKIKP	PKPbc	20 06 27.6	-0.3	
KRLC	Kraliky	146.01	343	⇑*e*PKP	PKPbc	20 06 28.4	+0.5	
KRLC				*ex*	x	20 31 32.1		
KRLC	Kraliky	146.01	343	*e*PKP2	PKPbc	20 06 28.4	+0.5	
ZAHL	Zahle	146.04	304	*e*P	PKPdf	20 06 26.8	+0.3	
MANR	Mangalia	146.05	325	⇑P	PKPab	20 06 29.5	-0.7	
KULU	Kulu	146.06	314	P	PKPdf	20 06 26.9	+0.6	
MORC	Moravsky Berou	146.06	342	⇑P	PKPdf	20 06 26.9	+1.0	
MORC	Moravsky Berou	146.06	342	*e*PKP	PKPdf	20 06 26.4	+0.5	
MORC				*e*		20 06 29.4		
MORC				*e*		20 08 42.9		
MORC	Moravsky Berou	146.06	342	⇑PKIKP	PKPdf	20 06 26.9	+1.0	
SULT	Sultanhani-AKS	146.10	313	P	PKPdf	20 06 25.9	-0.5	
MONM	Monmouth	146.11	6	*e*P	PKPdf	20 06 26.8	+1.0	
YESY	Yesilyurt	146.13	312	P	PKPdf	20 06 26.5	0.0	
CEI	Carei	146.13	335	⇑P	PKPab	20 06 29.4	-1.1	
CEI	Carei	146.13	335	⇑PKP2	PKPab	20 06 29.4	-1.1	
NEHR	Nehoiu	146.14	329	⇓P	PKPbc	20 06 27.4	-1.0	
PVCC	Panska Ves	146.16	346	⇑*e*PKP	PKPbc	20 06 29.3	+1.1	
PVCC	Panska Ves	146.16	346	*e*PKP2	PKPbc	20 06 29.3	+1.1	
DOPR	Dopca	146.19	330	⇑P	PKiKP	20 06 30.2	-0.5	
AMRR	Amara	146.19	327	⇑P	PKiKP	20 06 29.6	-1.1	
AMRR	Amara	146.19	327	⇑PKP2	PKiKP	20 06 29.6	-1.1	
RCY	Rachaya	146.19	304	*e*P	PKPdf	20 06 26.9	+0.1	
BHL	Bhannes	146.21	304	*e*P	PKPdf	20 06 23.2	-3.5	
STRD	Stroud	146.22	5	*e*P	PKPbc	20 06 28.0	-0.3	
YUVA	Yuva-Kibriscik	146.24	317	P	PKPdf	20 06 26.2	-0.4	
ISR	Istrita	146.24	328	⇓P	PKPbc	20 06 29.8	+1.1	
ISR	Istrita	146.24	328	⇓PKP2	PKPbc	20 06 29.8	+1.1	
ISR	Istrita	146.24	328	PKPdf	PKPdf	20 06 27.2	+0.8	
RICC	Richard	146.25	346	⇑*e*PKP	PKPbc	20 06 29.5	+1.1	
MLR	Muntele Rosu	146.27	329	⇓P	PKPdf	20 06 27.2	+0.7	
MLR	Muntele Rosu	146.27	329	PKPbc	PKPbc	20 06 29.4	+0.6	
	baz=46,slow=2.6							
MLR				pPKPbc	pPKPdf	20 08 43.4	+0.2	
	comp=Z,106nm,1.5s,baz=31,slow=2.2,SNR=2.9							
MLR	Muntele Rosu	146.27	329	PKPdf	PKPdf	20 06 27.0	+0.5	
MBAR	Mbarara	146.29	240		PKPdf	20 06 27.8	+0.3	
MBAR					pPKPab	20 08 43.1	-0.1	
MBAR	Mbarara	146.29	240	P	PKPbc	20

KHC			⇑*e*PKP	**PKiKP**	**20 06 33.3**	**-0.5**
KHC			*ex*	x	20 08 47.5	
KHC			*ex*	x	20 26 56.8	
KHC	**Kasperske Hory**	**147.69 346**	*e*PKIKP	**PKPdf**	**20 06 29.2**	**+0.6**
KHC	**Kasperske Hory**	**147.69 346**	PKPdf	**PKPdf**	**20 06 29.3**	**+0.6**
BGES	**Gesves**	**147.71 356**	*d*PKP	**PKPbc**	**20 06 32.7**	**+0.5**
BGES			*dp*PKP	**pPKPbc**	**20 08 47.2**	**+0.4**
CTYL	**Yalikoy Yolu**	**147.71 322**	P	**PKPdf**	**20 06 28.8**	**0.0**
CTKS	**Kestanelik-??a**	**147.73 321**	P	**PKPdf**	**20 06 28.8**	**0.0**
GEMT	**Gemlik**	**147.79 319**	P	**PKPdf**	**20 06 28.8**	**-0.2**
BMRD	**Maredsous**	**147.81 357**	*d*PKiKP	**PKPbc**	**20 06 33.2**	**+0.7**
BMRD			*dp*PKP	**pPKPbc**	**20 08 46.3**	**-0.8**
CKRC	**Cesky Krumlov**	**147.81 345**	*e*PKPDF	**PKPdf**	**20 06 29.2**	**+0.4**
CKRC			⇑*e*PKP	**PKiKP**	**20 06 33.6**	**-0.4**
CKRC			*ex*	x	20 32 03.6	
CKRC	**Cesky Krumlov**	**147.81 345**	*e*PKIKP	**PKPdf**	**20 06 29.2**	**+0.4**
SURR	**Surduc**	**147.82 333**	⇑P	**PKPdf**	**20 06 29.3**	**+0.5**
HRFI	**Mount Harif**	**147.82 298**	P	**PKPdf**	**20 06 28.8**	**-0.6**
SZH	**Strazhitsa**	**147.83 326**	P	**PKiKP**	**20 06 33.6**	**-0.6**
GAZI	**Gazipasa**	**147.84 310**	P	**PKPdf**	**20 06 28.4**	**-0.8**
LEF	**Lefka**	**147.88 308**	P	**PKPdf**	**20 06 29.3**	**0.0**
SLVT	**Silivri**	**147.91 321**	P	**PKPdf**	**20 06 29.0**	**-0.2**
AMBH	**Ambrzfalva**	**147.91 335**	⇑P	**PKiKP**	**20 06 34.2**	**-0.1**
ARMT	**Armutlu**	**147.92 320**	P	**PKPdf**	**20 06 28.5**	**-0.7**
RCHB	**Rochefort**	**147.93 356**	*d*PKiKP	**PKPbc**	**20 06 33.5**	**+0.6**
RCHB			*dp*PKP	**pPKPab**	**20 08 48.6**	**+0.5**
GERES	**GERESS Array B**	**147.93 346**		**PKPdf**	**20 06 28.3**	**-0.8**
GERES	**GERESS Array B**	**147.93 346**	PKPbc	**PKiKP**	**20 06 33.8**	**-0.6**
	comp=Z,26nm,0.5s,baz=18,slow=4.8,SNR=178					
GERES			pPKPbc	**pPKPbc**	**20 08 47.4**	**-0.4**
	comp=Z,7.1nm,1.1s,baz=45,slow=4.0,SNR=3.3					
GERES	**GERESS Array B**	**147.93 346**	PKHKP	PKPpre	20 06 28.3	
SHUT	**Suhut-Afyon**	**147.96 315**	P	**PKPdf**	**20 06 30.1**	**+0.6**
EIL	**Elat**	**147.98 297**	P	**PKPdf**	**20 06 29.6**	**0.0**
MDNY	**Mudanya-Bursa**	**148.02 320**	P	**PKPdf**	**20 06 29.9**	**+0.5**
DOU	**Dourbes**	**148.02 357**	*d*PKiKP	**PKPbc**	**20 06 33.5**	**+0.5**
DOU			*dp*PKP	**pPKPbc**	**20 08 48.0**	**+0.3**
PHSR	**Pinarhisar**	**148.06 323**	P	**PKPdf**	**20 06 31.3**	**+1.9**
VLAD	**Vladila**	**148.11 329**	⇓P	**PKiKP**	**20 06 34.7**	**-0.1**
ELND	**Elena**	**148.11 326**	⇑P	**PKPdf**	**20 06 31.2**	**+1.8**
BZS	**Buzias**	**148.14 334**	⇓P	**PKPdf**	**20 06 29.8**	**+0.4**
BZS	**Buzias**	**148.14 334**	⇓PKHKP	PKPpre	20 06 29.8	
SRE	**Strehaia**	**148.18 331**	⇑P	**PKPdf**	**20 06 30.3**	**+0.8**
SRE	**Strehaia**	**148.18 331**	⇑PKHKP	PKPpre	20 06 30.3	
CONA	**Conrad Observa**	**148.21 342**	*i* PKP	**PKPdf**	**20 06 30.0**	**+0.4**
	comp=Z,3.9nm,0.9s,SNR=95					
CONA			*i* PKiKP	**PKiKP**	**20 06 34.9**	**-0.1**
	comp=Z,22nm,0.5s					
CONA			*ep*PKiKP	**pPKPab**	**20 08 49.8**	**+0.4**
	comp=Z,64nm,1.5s,SNR=8.7					
CRLT	**Corlu**	**148.25 322**	P	**PKPdf**	**20 06 30.4**	**+0.7**
RONA	**Rosalia, Austr**	**148.29 342**	*e*PKP	**PKPdf**	**20 06 30.1**	**+0.4**
	comp=Z,1.5nm,0.5s,SNR=72					
RONA			*i* PKiKP	**PKiKP**	**20 06 34.9**	**-0.2**
	comp=Z,20nm,0.5s					
RONA			*ep*PKiKP	**pPKPab**	**20 08 49.6**	**0.0**
	comp=Z,53nm,1.5s,SNR=7.4					
PVL	**Pavlikeni**	**148.35 327**	P	**PKiKP**	**20 06 35.1**	**-0.2**
WLF	**Walferdange**	**148.35 355**		**PKPdf**	**20 06 29.6**	**0.0**
WLF	**Walferdange**	**148.35 355**	*d*PKP	**PKPdf**	**20 06 30.2**	**+0.6**
WLF			*d*PKiKP	**PKiKP**	**20 06 35.2**	**+0.1**
WLF			*dp*PKP	**pPKPab**	**20 08 50.2**	**+0.5**
WLF	**Walferdange**	**148.35 355**	PKIKP	**PKPdf**	**20 06 29.6**	**0.0**
EDRB	**Edirne**	**148.36 324**	P	**PKPdf**	**20 06 29.8**	**-0.1**
MPLH	**Magyarpolny**	**148.37 340**	PKPdf	**PKPdf**	**20 06 30.5**	**+0.8**
HERR	**Herculane**	**148.37 332**	⇑P	**PKPbc**	**20 06 33.8**	**-0.4**
KCTX	**Karacabey (Bur**	**148.41 320**	P	**PKPdf**	**20 06 29.9**	**-0.1**
GEDZ	**Gediz**	**148.44 317**	P	**PKPdf**	**20 06 30.4**	**+0.2**
BCK	**Bucak**	**148.49 314**	P	**PKPdf**	**20 06 28.8**	**-1.5**
DJES	**Dierdap**	**148.49 332**	⇑P	**PKPbc**	**20 06 35.0**	**+0.5**
BANR	**Banloc**	**148.53 334**	⇑P	**PKiKP**	**20 06 36.3**	**+0.7**
PUNG	**Punghina**	**148.60 331**	⇑P	**PKiKP**	**20 06 35.4**	**-0.3**
EDC	**Edincik**	**148.66 320**	P	**PKPdf**	**20 06 30.1**	**-0.3**
MRMT	**Marmara Adasi**	**148.66 321**	P	**PKPdf**	**20 06 30.1**	**-0.4**
MOA	**Molln**	**148.72 344**	*e*PKP	**PKPdf**	**20 06 30.4**	**+0.1**
	comp=Z,2.6nm,0.7s,SNR=44					
MOA			*i* PKP	**PKiKP**	**20 06 35.5**	**-0.4**
	comp=Z,13nm,0.7s					
MOA			*ep*PKiKP	**pPKPbc**	**20 08 50.1**	**+0.2**
	comp=Z,41nm,1.4s,SNR=5.1					
MDVR	**Moldovita**	**148.76 333**	⇓P	**PKiKP**	**20 06 35.7**	**-0.4**
JSA	**Saint Aubin**	**148.79 5**	*e*P	**PKPbc**	**20 06 34.6**	**-0.3**
MORH	**Mrgy, Hungar**	**148.81 338**	⇑P	**PKPdf**	**20 06 31.2**	**+0.7**
MORH	**Mrgy, Hungar**	**148.81 338**	PKPdf	**PKPdf**	**20 06 30.9**	**+0.5**
RKY	**Sarkoy-Tekirda**	**148.86 322**	P	**PKPdf**	**20 06 30.4**	**-0.4**
KORT	**Korkueli**	**148.88 313**	P	**PKPdf**	**20 06 31.0**	**-0.1**
UKOP	**Uzunkopru-Edir**	**148.90 323**	P	**PKPdf**	**20 06 31.3**	**+0.6**
ARSA	**Arzberg**	**148.92 342**	*i* PKP	**PKPdf**	**20 06 30.2**	**-0.4**
	comp=Z,0.7nm,0.5s,SNR=43					
ARSA			*e*PKP	**PKPbc**	**20 06 35.8**	**+0.4**
	comp=Z,6.3nm,0.6s					
ARSA			*ep*PKP	**pPKPbc**	**20 08 49.8**	**-0.7**
	comp=Z,31nm,1.5s,SNR=10					
KRBG	**Karabiga-Canak**	**148.97 321**	P	**PKPdf**	**20 06 30.4**	**-0.5**
BIOA	**Bad Ischl, Aus**	**149.02 345**	*i* PKP	**PKPdf**	**20 06 30.6**	**-0.2**
	comp=Z,5.3nm,1.0s,SNR=44					
BIOA			*i* PKP	**PKPbc**	**20 06 36.0**	**+0.4**
	comp=Z,20nm,0.8s					
BIOA			*ep*PKP	**pPKPbc**	**20 08 50.1**	**-0.7**
	comp=Z,22nm,1.6s					
BLKB	**Belogradchik**	**149.22 330**	⇓P	**PKiKP**	**20 06 36.8**	**-0.4**
KULA	**Kula-Manisa**	**149.22 317**	P	**PKPdf**	**20 06 31.3**	**-0.2**
FRGS	**Fruska Gora**	**149.25 335**	⇓P	**PKiKP**	**20 06 36.9**	**-0.2**
FRGS	**Fruska Gora**	**149.25 335**	⇓*i*P	**PKPdf**	**20 06 31.4**	**+0.2**
FRGS	**Fruska Gora**	**149.25 335**	PKPdf	**PKPdf**	**20 06 31.7**	**+0.5**
PLD	**Plovdiv**	**149.25 326**	P	**PKPdf**	**20 06 32.1**	**+0.8**
ERIK	**Erikli-Kesan**	**149.26 322**	P	**PKPdf**	**20 06 30.9**	**-0.4**
KDZ	**Kurdzhali**	**149.29 325**	P	**PKPdf**	**20 06 31.4**	**0.0**
KDZ	**Kurdzhali**	**149.29 325**	P	**PKPbc**	**20 06 36.6**	**+0.1**
PGB	**Panagyurishte**	**149.30 327**	P	**PKPbc**	**20 06 36.9**	**+0.4**
LPK	**Lapseki**	**149.30 321**	P	**PKPdf**	**20 06 31.3**	**-0.1**
ELL	**Elmali**	**149.31 313**	P	**PKPdf**	**20 06 31.5**	**-0.2**
CANM	**Can-anakkale**	**149.35 321**	P	**PKPdf**	**20 06 32.9**	**+1.4**
APMY	**Acipayam-Deniz**	**149.36 315**	P	**PKPdf**	**20 06 32.4**	**+0.7**
ALN	**Alexandroupoli**	**149.38 323**	P	**PKPdf**	**20 06 30.4**	**-1.1**
ENEZ	**Enez**	**149.43 323**	P	**PKPdf**	**20 06 30.7**	**-0.9**
BFO	**Black Forest**	**149.43 352**		**PKPdf**	**20 06 30.6**	**-0.8**
BFO			PKPbc	**PKPbc**	**20 06 35.4**	**-1.2**
BFO	**Black Forest**	**149.43 352**	PKIKP	**PKPdf**	**20 06 30.6**	**-0.8**
BFO					20 06 35.4	
GELI	**Tayfur-Gelibol**	**149.46 322**	P	**PKPdf**	**20 06 31.3**	**-0.4**
LESA	**Schwarzleotal**	**149.50 346**	*i* PKP	**PKPdf**	**20 06 31.4**	**-0.2**
	comp=Z,40nm,1.4s					
LESA			*i* PKP	**PKPbc**	**20 06 37.1**	**+0.2**
	comp=Z,30nm,0.6s					
LESA			*ep*PKP	**pPKPbc**	**20 08 52.4**	**+0.2**
	comp=Z,26nm,1.4s					
RDO	**Rodhopi**	**149.51 324**	P	**PKPdf**	**20 06 31.5**	**-0.2**
RZN	**Rozhen**	**149.57 325**	P	**PKiKP**	**20 06 37.8**	**-0.3**
SOKA	**Soboth**	**149.58 342**	*e*PKP	**PKPdf**	**20 06 31.4**	**-0.3**
	comp=Z,28nm,1.5s,SNR=41					
SOKA			*e*PKP	**PKPbc**	**20 06 37.1**	**0.0**
	comp=Z,169nm,1.4s					
SOKA			*ep*PKP	**pPKPbc**	**20 08 52.6**	**+0.4**
	comp=Z,28nm,1.4s,SNR=8.3					
CAME	**Cameli-Denizli**	**149.63 314**	P	**PKPdf**	**20 06 32.9**	**+0.6**
COMU	**Canakkale**	**149.65 321**	P	**PKPdf**	**20 06 31.8**	**-0.2**
BOVS	**Bovan**	**149.66 331**	⇓P	**PKPbc**	**20 06 37.1**	**-0.1**
KBA	**Koelnbreinsper**	**149.67 345**	*i* PKP	**PKPdf**	**20 06 31.4**	**-0.6**
	comp=Z,19nm,1.4s,SNR=28					
KBA			*i* PKP	**PKPbc**	**20 06 37.3**	**-0.2**
	comp=Z,34nm,0.6s					
KBA			*ep*PKP	**pPKPbc**	**20 08 52.9**	**0.0**
	comp=Z,17nm,1.4s					
VTS	**Vitosha**	**149.70 328**	P	**PKiKP**	**20 06 38.7**	**+0.4**
AKAS	**Kas**	**149.78 312**	P	**PKPdf**	**20 06 32.6**	**+0.1**
WATA	**Walderalm**	**149.83 347**	*i* PKP	**PKPdf**	**20 06 32.3**	**+0.1**
	comp=Z,36nm,1.5s,SNR=34					
WATA			*i* PKP	**PKiKP**	**20 06 38.1**	**-0.3**
	comp=Z,58nm,0.6s					
WATA			*ep*PKP	**pPKPbc**	**20 08 53.9**	**+0.8**
	comp=Z,33nm,1.5s,SNR=7.0					
RETA	**Reutte**	**149.85 348**	*i* PKP	**PKPdf**	**20 06 32.2**	**0.0**
	comp=Z,28nm,2.1s,SNR=29					
RETA			*e*PKP	**PKiKP**	**20 06 38.2**	**-0.1**
	comp=Z,38nm,0.6s					
RETA			*i* PKP	**pPKPbc**	**20 08 54.1**	**+1.0**
	comp=Z,29nm,1.4s					
TEKS	**Tekeris**	**149.87 335**	⇓*i*P	**PKPdf**	**20 06 32.0**	**-0.2**
OBKA	**Obir**	**149.87 343**	*e*PKP	**PKPdf**	**20 06 31.8**	**-0.4**
	comp=Z,16nm,1.5s,SNR=28					
OBKA			*i* PKP	**PKPbc**	**20 06 37.6**	**-0.2**
	comp=Z,91nm,1.5s					
OBKA			*ep*PKiKP	**pPKPbc**	**20 08 53.1**	**+0.1**
	comp=Z,11nm,1.3s					
OBKA	**Obir**	**149.87 343**	⇓*i*P	**PKPdf**	**20 06 31.2**	**-1.1**
WTTA	**Wattenberg**	**149.89 347**	*i* PKP	**PKPdf**	**20 06 32.5**	**+0.1**
	comp=Z,53nm,1.5s,SNR=29					
WTTA			*i* PKP	**PKiKP**	**20 06 38.5**	**-0.1**
	comp=Z,87nm,0.5s					
WTTA			*ep*PKP	**pPKPbc**	**20 08 54.0**	**+0.8**
	comp=Z,54nm,1.5s,SNR=5.7					
EZN	**Ezine**	**149.91 321**	P	**PKPdf**	**20 06 31.5**	**-0.9**
MOTA	**Moosalm**	**149.92 348**	*i* PKP	**PKPdf**	**20 06 32.5**	**+0.1**
	comp=Z,43nm,1.4s,SNR=20					
MOTA			*i* PKP	**PKiKP**	**20 06 38.4**	**-0.2**
	comp=Z,160nm,1.3s					
MOTA			*ep*PKP	**pPKPbc**	**20 08 53.6**	**+0.2**
	comp=Z,34nm,1.4s,SNR=6.4					
GADA	**Gvkgeada**	**149.93 322**	P	**PKPdf**	**20 06 32.4**	**0.0**
FETY	**Fethiye**	**149.94 313**	P	**PKPdf**	**20 06 32.6**	**0.0**
MYKA	**Terra Mystica**	**150.01 344**	*i* PKP	**PKPdf**	**20 06 31.8**	**-0.6**
	comp=Z,22nm,1.3s,SNR=37					
MYKA			*i* PKP	**PKPbc**	**20 06 37.9**	**-0.2**
	comp=Z,36nm,0.6s					
MYKA			*ep*PKiKP	**pPKPbc**	**20 08 53.4**	**+0.1**
	comp=Z,28nm,1.4s,SNR=6.0					
DKL	**Dikili**	**150.02 319**	P	**PKPdf**	**20 06 32.4**	**-0.2**
SQTA	**Sankt Quirin**	**150.02 348**	*i* PKP	**PKPdf**	**20 06 32.7**	**+0.2**
	comp=Z,33nm,1.6s,SNR=22					
SQTA			*i* PKP	**PKiKP**	**20 06 38.7**	**0.0**
	comp=Z,59nm,0.6s					
SQTA			*ep*PKP	**pPKPbc**	**20 08 53.8**	**+0.4**
	comp=Z,25nm,1.3s,SNR=8.3					
DALY	**Dalyan (Mula)**	**150.14 314**	P	**PKPdf**	**20 06 33.4**	**+0.6**
ABTA	**Abfaltersbach**	**150.18 346**	*e*PKP	**PKPdf**	**20 06 32.4**	**-0.3**
	comp=Z,68nm,1.3s,SNR=31					
ABTA			*i* PKP	**PKPbc**	**20 06 38.5**	**0.0**
	comp=Z,100nm,0.6s					
ABTA			*ep*PKiKP	**pPKPbc**	**20 08 53.9**	**+0.1**
	comp=Z,40nm,1.5s,SNR=7.0					
DAVA	**Damuels**	**150.21 349**	*e*PKP	**PKPdf**	**20 06 33.2**	**+0.3**
	comp=Z,33nm,1.9s,SNR=39					
DAVA			*e*PKP	**PKiKP**	**20 06 39.2**	**0.0**
	comp=Z,131nm,1.3s					
DAVA			*ep*PKP	**pPKPbc**	**20 08 54.8**	**+0.8**
	comp=Z,52nm,1.7s,SNR=6.7					
MMB	**Musomishta**	**150.21 326**	P	**PKPbc**	**20 06 38.8**	**+0.1**
CRES	**Cresnjev**	**150.22 341**	⇓*i*P	**PKPdf**	**20 06 32.5**	**-0.2**
LJU	**Ljubljana**	**150.30 342**	*i* PKPdf	**PKPdf**	**20 06 33.3**	**+0.5**
LJU			*i* PKPbc	**PKiKP**	**20 06 39.1**	**-0.1**
LJU			*i* pPKPbc	**pPKPbc**	**20 08 55.0**	**+1.0**
FETA	**Feichten**	**150.30 348**	*i* PKP	**PKPdf**	**20 06 33.5**	**+0.5**
	comp=Z,40nm,1.2s,SNR=17					
FETA			*i* PKiKP	**PKiKP**	**20 06 39.6**	**+0.2**
	comp=Z,147nm,1.2s					
FETA			*ep*PKiKP	**pPKPbc**	**20 08 54.5**	**+0.3**
	comp=Z,37nm,1.5s					
KKB	**Krupnik**	**150.32 327**	P	**PKiKP**	**20 06 39.7**	**+0.3**
ROBS	**Robic**	**150.40 344**	*i* PKPdf	**PKPdf**	**20 06 32.5**	**-0.4**
ROBS			*i* PKPbc	**PKPbc**	**20 06 38.5**	**-0.4**
ROBS			*i* PKPab	**PKPab**	**20 06 47.6**	**-0.4**
ROBS			*ep*PKPbc	**pPKPbc**	**20 08 54.2**	**0.0**
TURN	**Turunc**	**150.45 314**	P	**PKPdf**	**20 06 33.8**	**+0.5**
A051	**Mrakovica**	**150.47 338**	⇓*i*P	**PKPdf**	**20 06 33.2**	**0.0**
MLSB	**Milas**	**150.48 316**	P	**PKPdf**	**20 06 33.8**	**+0.4**
BBLS	**Lazi&#263i**	**150.48 334**	⇓*i*P	**PKPdf**	**20 06 33.6**	**+0.3**
SIGR	**SIGRI**	**150.57 321**	P	**PKPdf**	**20 06 33.8**	**+0.4**
BOJS	**Bojanci**	**150.57 341**	⇓*i*P	**PKPdf**	**20 06 33.9**	**+0.7**
BLY	**Banja Luka**	**150.60 338**	⇓*i*P	**PKPdf**	**20 06 33.5**	**+0.2**
CEY	**Cerknica**	**150.61 342**	*i* PKPdf	**PKPdf**	**20 06 33.5**	**+0.2**
CEY			*i* PKPbc	**PKiKP**	**20 06 39.8**	**-0.1**
CEY			*i* PKPab	**PKPab**	**20 06 49.1**	**+0.1**
CEY			*i* pPKPbc	**pPKPbc**	**20 08 55.2**	**+0.3**
CEY	**Cerknica**	**150.61 342**	⇓*i*P	**PKPdf**	**20 06 33.6**	**+0.2**
GCAM	**G?zelcaml?**	**150.61 317**	P	**PKPdf**	**20 06 33.2**	**-0.3**
URLA	**Izmir**	**150.64 318**	P	**PKPdf**	**20 06 34.4**	**+0.8**
DAVOX	**Davos/Dischmat**	**150.69 349**	PKP	**PKPdf**	**20 06 33.9**	**+0.2**
	comp=Z,14nm,0.9s,baz=54,slow=3.8,SNR=18					
DAVOX			PKPbc	**PKiKP**	**20 06 40.8**	**+0.5**
	comp=Z,76nm,0.5s,baz=4.0,slow=4.0,SNR=66					
RUDO	**Rudo**	**150.70 334**	*e*P	**PKPbc**	**20 06 39.3**	**-0.4**
FUORN	**Ofenpass-Fuorn**	**150.78 349**		**PKPdf**	**20 06 33.2**	**-0.7**
FUORN			PKPbc	**PKiKP**	**20 06 40.4**	**-0.1**
FUORN			PKPab	**PKPab**	**20 06 48.2**	**-1.8**
ARG	**Arkhangelos**	**150.82 313**	P	**PKPdf**	**20 06 34.0**	**+0.1**
STIP	**Stip**	**150.91 328**	*i* P	**PKPdf**	**20 06 33.6**	**-0.3**
BODT	**Bodrum**	**150.92 316**	P	**PKPdf**	**20 06 33.8**	**-0.3**
MGRS	**Mrkonjic Grad**	**150.92 338**	*e*P	**PKiKP**	**20 06 40.8**	**+0.2**
DAT	**Datca**	**150.92 315**	P	**PKPdf**	**20 06 33.3**	**-0.9**
OUR	**Ouranopolis**	**150.93 324**	P	**PKPdf**	**20 06 33.3**	**-0.6**
PLE	**Pljevlja**	**150.93 334**	⇓*i*PKP	**PKPdf**	**20 06 34.0**	**0.0**
KNT	**Kendrikon**	**150.93 327**	P	**PKPdf**	**20 06 33.5**	**-0.4**
CHOS	**Chios island**	**150.96 319**	P	**PKPdf**	**20 06 33.8**	**-0.4**
VAY	**Valandovo**	**150.99 327**	*i* P	**PKPdf**	**20 06 34.1**	**+0.1**
A009A	**Klekovaca**	**151.06 338**	⇓*i*P	**PKPdf**	**20 06 33.8**	**-0.3**
SKO	**Skopje**	**151.07 329**	*i* P	**PKPdf**	**20 06 35.0**	**+0.9**
IVA	**Beranje**	**151.08 332**	⇓*i*PKP	**PKPdf**	**20 06 33.9**	**-0.3**
TUE	**Stuetta**	**151.09 350**	PKPdf	**PKPdf**	**20 06 34.9**	**+0.6**
SRKY	**Kupres RS**	**151.19 337**	*e*P	**PKPbc**	**20 06 40.1**	**-0.8**
HORT	**Hortiatis**	**151.22 326**	P	**PKPdf**	**20 06 33.2**	**-1.3**
UPM	**Unac-Piva**	**151.23 334**	⇓*i*PKP	**PKPdf**	**20 06 33.4**	**-1.2**
KOME	**Kolasin**	**151.26 333**	⇓*i*PKP	**PKPdf**	**20 06 34.4**	**-0.1**
NEVS	**Nevesinje**	**151.48 335**	*e*P	**PKPbc**	**20 06 40.7**	**-0.9**
NKME	**Niksic**	**151.57 333**	⇓*i*PKP	**PKPdf**	**20 06 34.7**	**-0.2**
BRY	**Bratogost**	**151.63 334**	*e*P	**PKPdf**	**20 06 35.3**	**+0.2**
BRY	**Bratogost**	**151.63 334**	⇓*i*PKP	**PKPdf**	**20 06 34.9**	**-0.2**
SALO	**Salr**	**151.69 348**		**PKPdf**	**20 06 34.1**	**-0.9**
SALO			PKPbc	**PKPbc**	**20 06 41.7**	**-0.2**
SALO			PKPab	**PKPab**	**20 06 52.8**	**-0.7**
PDG	**Podgorica**	**151.71 333**	⇑P	**PKPdf**	**20 06 35.3**	**+0.3**
PDG	**Podgorica**	**151.71 333**	⇓*i*P	**PKPdf**	**20 06 34.6**	**-0.4**
PDG	**Podgorica**	**151.71 333**	⇓*i*PKP	**PKPdf**	**20 06 34.9**	**-0.1**
CEME	**Cevo**	**151.77 333**	⇓*i*PKP	**PKPdf**	**20 06 34.8**	**-0.4**
KARP	**Karpathos**	**151.84 313**	P	**PKPdf**	**20 06 35.2**	**-0.3**
TREB	**Trebinje**	**151.87 334**	*e*P	**PKPbc**	**20 06 42.2**	**-0.1**
DRME	**Dracevica, Mon**	**151.94 332**	⇓*i*P	**PKPdf**	**20 06 34.7**	**-0.7**
DRME	**Dracevica, Mon**	**151.94 332**	⇓*i*PKP	**PKPdf**	**20 06 35.4**	**0.0**
BUM	**Brajici-Budva**	**151.98 333**	⇓*i*PKP	**PKPdf**	**20 06 35.3**	**-0.2**
FNA	**Florina**	**151.99 328**	P	**PKPdf**	**20 06 34.9**	**-0.7**
STON	**Ston**	**152.00 335**	⇓*i*P	**PKPdf**	**20 06 34.8**	**-0.6**
HCY	**Herceg Novi**	**152.03 334**	*e*P	**PKPdf**	**20 06 35.6**	**+0.1**
HCY	**Herceg Novi**	**152.03 334**	⇓*i*PKP	**PKPdf**	**20 06 35.2**	**-0.3**
OHR	**Ohrid**	**152.03 329**	*i* P	**PKPdf**	**20 06 36.5**	**+0.9**
APE	**Apeiranthos**	**152.08 317**	P	**PKPdf**	**20 06 34.3**	**-1.5**
ULC	**Ulcinj**	**152.09 332**	⇓*i*PKP	**PKPdf**	**20 06 34.9**	**-0.8**
SSB	**Saint Sauveur**	**152.83 356**		**PKPdf**	**20 06 35.9**	**-0.8**
SSB				**PKPbc**	**20 06 44.4**	**0.0**
SSB			PKPab	**PKPab**	**20 06 58.3**	**0.0**
SSB	**Saint Sauveur**	**152.83 356**	PKIKP	**PKPdf**	**20 06 35.9**	**-0.8**
SSB					20 06 44.4	
SSB					20 06 58.3	
IDI	**Anoyia**	**153.53 315**	PKP	**PKPdf**	**20 06 37.5**	**-0.5**
	comp=Z,0.1nm,1.1s,baz=93,slow=1.9,SNR=7.8					
IDI			PKPbc	**PKiKP**	**20 06 46.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=99,slow=4.1,SNR=52					
NRCA	**Norcia**	**153.65 342**		**PKPdf**	**20 06 36.5**	**-1.4**
NRCA			PKPbc	**PKiKP**	**20 06 46.7**	**+0.4**
NRCA			PKPab	**PKPab**	**20 07 02.8**	**+0.7**
CESX	**Cesi**	**154.01 342**		**PKPdf**	**20 06 37.3**	**-1.1**
CESX			PKPbc	**PKiKP**	**20 06 47.0**	**0.0**
CESX				**PKPab**	**20 07 02.8**	**-0.7**
PGAV	**Gavieira, Arco**	**154.60 18**	*e*PKPdf	**PKPdf**	**20 06 40.3**	**+1.0**
PBRG	**Braganca**	**155.18 16**	*e*PKPab	**PKPab**	**20 07 09.6**	**+1.0**
CUC	**Castrocucco**	**155.19 334**		**PKPdf**	**20 06 38.1**	**-2.0**
CUC				**PKPab**	**20 07 07.3**	**-1.4**
PVRL	**Vila Real**	**155.40 18**	*e*PKPdf	**PKPdf**	**20 06 42.1**	**+1.8**
PVRL	**Vila Real**	**155.40 18**	*e*PKPab	**PKPab**	**20 07 10.7**	**+1.1**
TIP	**Timpagrande**	**155.46 332**	PKPdf	**PKPdf**	**20 06 41.0**	**+0.5**
MVO	**Moncorvo**	**155.70 17**	*e*PKPdf	**PKPdf**	**20 06 41.8**	**+1.0**
MVO	**Moncorvo**	**155.70 17**	*e*PKPab	**PKPab**	**20 07 12.0**	**+1.1**
PVIS	**Viseu**	**155.86 19**	*e*PKPdf	**PKPdf**	**20 06 40.0**	**-1.0**
PVIS	**Viseu**	**155.86 19**	*e*PKPab	**PKPab**	**20 07 11.0**	**-0.6**
MTE	**Manteigas**	**156.26 19**	*e*PKPdf	**PKPdf**	**20 06 42.3**	**+0.8**
PCAS	**Casmilo, Conde**	**156.27 21**	*e*PKPdf	**PKPdf**	**20 06 40.9**	**-0.6**
PCAS	**Casmilo, Conde**	**156.27 21**	*e*PKPab	**PKPab**	**20 07 11.9**	**-1.4**
PSBE	**So Bento**	**156.65 22**	*e*PKPdf	**PKPdf**	**20 06 42.5**	**+0.5**
PSBE	**So Bento**	**156.65 22**	*e*PKPab	**PKPab**	**20 07 15.3**	**+0.3**
PCBR	**Castelo Branco**	**156.79 19**	*e*PKPdf	**PKPdf**	**20 06 42.6**	**+0.5**
PMRV	**Marv??o**	**157.19 19**	*e*PKPdf	**PKPdf**	**20 06 43.5**	**+0.8**
PMRV	**Marv??o**	**157.19 19**	*e*PKPab	**PKPab**	**20 07 17.8**	**+0.5**
PMTG	**Montargil**	**157.24 21**	*e*PKPdf	**PKPdf**	**20 06 43.5**	**+0.8**
PMAR	**Madeira**	**157.51 46**	*e*PKPdf	**PKPdf**	**20 06 45.0**	**+1.5**
PESTR	**Estremoz**	**157.64 20**	*e*PKPdf	**PKPdf**	**20 06 43.7**	**+0.5**
PESTR	**Estremoz**	**157.64 20**	*e*PKPab	**PKPab**	**20 07 19.8**	**+0.5**
PMPS	**Porto Santo**	**157.70 45**	*e*PKPab	**PKPab**	**20 07 18.6**	**-1.2**
EVO	**Evora**	**157.80 21**	*e*PKPdf	**PKPdf**	**20 06 44.8**	**+1.4**
EVO	**Evora**	**157.80 21**	*e*PKPab	**PKPab**	**20 07 20.4**	**+0.4**
ESDC	**Sonseca Array**	**157.86 13**		**PKPdf**	**20 06 43.1**	**-0.4**
ESDC				**PKPab**	**20 07 20.2**	**0.0**
ESDC	**Sonseca Array**	**157.86 13**	PKP	**PKPdf**	**20 06 43.6**	**+0.1**
	comp=Z,7.2nm,1.2s,baz=340,slow=2.1,SNR=20					
ESDC			PKPab	**PKPab**	**20 07 20.2**	**0.0**
	comp=Z,9.1nm,1.2s,baz=339,slow=4.0,SNR=12					
PNCL	**Nicolau / Gran**	**157.98 23**	*e*PKPdf	**PKPdf**	**20 06 45.4**	**+1.8**
PNCL	**Nicolau / Gran**	**157.98 23**	*e*PKPab	**PKPab**	**20 07 21.0**	**+0.2**
PBEJ	**Beja**	**158.30 22**	*e*PKPdf	**PKPdf**	**20 06 45.6**	**+1.6**
MESJ	**Messejana**	**158.34

h584km,5km,**n1022**,∘0:**89**/1013,**mb4.8**/175,**58C-46D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**2.28**	**304**	**P**	**P**	**19 58 13.4**	**+2.7**
MSVF	**Nonsavu**	**3.84**	**273**	**P**	**P**	**19 58 22.6**	**+2.7**
MSVF	**Nonsavu**	**3.84**	**273**	**P**	**P**	**19 58 22.4**	**+2.5**
YSA	**Yasawairara**	**4.48**	**286**	**P**	**P**	**19 58 26.1**	**+1.6**
AFI	**Afiamalu**	**7.17**	**56**	**P**	**P**	**19 58 47.2**	**-0.5**
AFI	**Afiamalu**	**7.17**	**56**	**P**	**P**	**19 58 46.2**	**-1.5**
NIUE	**Niue**	**7.66**	**99**	**P**	**P**	**19 58 52.1**	**-0.1**
FUNA	**Funafuti**	**9.82**	**343**	**P**	**P**	**19 59 11.8**	**-1.6**
MARNC	**Mare, Loyalty**	**13.67**	**253**	**P**	**P**	**19 59 53.8**	**+1.4**
LIFNC	**LIFOU**	**14.27**	**256**	**P**	**P**	**19 59 56.5**	**-1.8**
PINNC	**Pines Island,**	**14.47**	**249**	**P**	**P**	**19 59 59.5**	**-0.8**
YATNC	**Mamie plateau,**	**14.83**	**252**	**P**	**P**	**20 00 03.9**	**+0.2**
OUENC	**Ouen Island, N**	**14.96**	**250**	**P**	**P**	**20 00 03.6**	**-1.3**
DZM	**Mont Dzumac**	**15.24**	**252**	**P**	**P**	**20 00 08.0**	**+0.3**
DZM	**Mont Dzumac**	**15.24**	**252**	**P**	**P**	**20 00 06.5**	**-1.2**
DZM	**Mont Dzumac**	**15.24**	**252**	**P**	**P**	**20 00 07.0**	**-0.7**
	30nm,0.6s,baz=85,slow=18,SNR=24						
ONTNC	**Ouen Toro**	**15.28**	**251**	**P**	**P**	**20 00 09.2**	**+1.2**
ONTNC	**Ouen Toro**	**15.28**	**251**	**P**	**P**	**20 00 07.8**	**-0.2**
NOUC	**Port Laguerre**	**15.37**	**252**	**P**	**P**	**20 00 09.4**	**+0.6**
KOUNC	**Koumac, New Ca**	**16.99**	**259**	**P**	**P**	**20 00 24.3**	**+0.5**
RAR	**Rarotonga**	**17.40**	**104**	**P**	**P**	**20 00 27.2**	**-0.3**
RAR	**Rarotonga**	**17.40**	**104**	**P**	**P**	**20 00 28.3**	**+0.8**
	53nm,0.8s,baz=249,slow=7.6,SNR=15						
OUZ	**Omahuta**	**18.74**	**202**	**P**	**P**	**20 00 40.3**	**+0.8**
MXZ	**Matakaoa Point**	**19.78**	**189**	**P**	**P**	**20 00 48.3**	**-0.6**
TOZ	**Tahuroa Road**	**20.50**	**195**	**P**	**P**	**20 00 55.4**	**0.0**
URZ	**Urewera**	**20.66**	**191**	**P**	**P**	**20 00 56.3**	**-0.5**
URZ	**Urewera**	**20.66**	**191**	**P**	**P**	**20 00 55.1**	**-1.7**
	58nm,0.8s,baz=21,slow=2.6,SNR=24						
URZ				S	**S**	**20 04 06.1**	**-4.6**
	14nm,0.7s,baz=116,slow=20,SNR=4.1						
	58nm,0.8s						
RTZ	**Ruatahuna**	**21.03**	**191**	**P**	**P**	**20 00 58.9**	**-1.4**
HIZ	**Hauiti**	**21.40**	**196**	**P**	**P**	**20 01 02.8**	**-0.7**
BKZ	**Black Stump Fm**	**21.65**	**192**	**P**	**P**	**20 01 06.0**	**+0.2**
BKZ	**Black Stump Fm**	**21.65**	**192**	**P**	**P**	**20 01 04.1**	**-1.7**
HNR	**Honiara**	**23.10**	**289**	**P**	**P**	**20 01 17.4**	**-1.6**
BFZ	**Birch Farm**	**23.16**	**191**	**P**	**P**	**20 01 20.0**	**+0.8**
BFZ	**Birch Farm**	**23.16**	**191**	**P**	**P**	**20 01 18.3**	**-0.9**
SNZO	**South Karori**	**24.09**	**194**	**P**	**P**	**20 01 27.5**	**+0.2**
TCW	**Tory Channel**	**24.09**	**195**	**P**	**P**	**20 01 26.8**	**-0.6**
BHW	**Baring Head**	**24.14**	**193**	**P**	**P**	**20 01 26.6**	**-1.2**
QRZ	**Quartz Range**	**24.20**	**198**	**P**	**P**	**20 01 29.2**	**+0.9**
QRZ	**Quartz Range**	**24.20**	**198**	**P**	**P**	**20 01 28.2**	**-0.1**
PLWZ	**Palliser**	**24.22**	**193**	**P**	**P**	**20 01 27.5**	**-1.1**
TKNZ	**Takaka Hill**	**24.27**	**197**	**P**	**P**	**20 01 27.9**	**-1.1**
NNZ	**Nelson**	**24.32**	**196**	**P**	**P**	**20 01 28.4**	**-1.0**
TUWZ	**Tuamarina**	**24.38**	**195**	**P**	**P**	**20 01 28.6**	**-1.4**
MRNZ	**Matariki Terra**	**24.66**	**197**	**P**	**P**	**20 01 31.1**	**-1.3**
DSZ	**Denniston Nort**	**25.25**	**198**	**P**	**P**	**20 01 37.8**	**+0.1**
KHZ	**Kahutara**	**25.41**	**195**	**P**	**P**	**20 01 38.3**	**-0.7**
LTZ	**Lake Taylor**	**26.08**	**197**	**P**	**P**	**20 01 43.5**	**-1.5**
PPT	**Papeete**	**26.99**	**94**	**P**	**P**	**20 01 54.5**	**+1.2**
	58nm,0.6s,baz=92,slow=3.6,SNR=16						
	58nm,0.6s						
PPTF	**Pamatai, Papee**	**27.00**	**94**	**P**	**P**	**20 01 54.3**	**+0.9**
PPTF	**Pamatai, Papee**	**27.00**	**94**	**P**	**P**	**20 01 53.1**	**-0.3**
RPZ	**Rata Peaks**	**27.28**	**198**	**P**	**P**	**20 01 57.0**	**+1.5**
LBZ	**Lake Benmore**	**28.15**	**198**	**P**	**P**	**20 02 00.9**	**-2.1**
JCZ	**Jackson Bay**	**28.31**	**200**	**P**	**P**	**20 02 04.6**	**+0.1**
ODZ	**Otahua Downs**	**28.62**	**197**	**P**	**P**	**20 02 06.6**	**-0.5**
WKZ	**Wanaka**	**28.91**	**199**	**P**	**P**	**20 02 08.8**	**-0.8**
EIDS	**Eidsvold**	**29.67**	**250**	**P**	**P**	**20 02 16.9**	**+0.4**
EIDS	**Eidsvold**	**29.67**	**250**	**P**	**P**	**20 02 15.5**	**-1.0**
MLZ	**Mavora Lakes**	**29.68**	**200**	**P**	**P**	**20 02 15.6**	**-0.6**
WHZ	**Wether Hill Ro**	**30.20**	**200**	**P**	**P**	**20 02 20.4**	**-0.3**
ARMA	**Armidale**	**30.30**	**240**	**P**	**P**	**20 02 23.0**	**+1.1**
ARMA	**Armidale**	**30.30**	**240**	**P**	**P**	**20 02 21.3**	**-0.6**
KRVT	**Keravat (AS076**	**32.39**	**291**	**P**	**P**	**20 02 39.2**	**-0.6**
	8.0nm,0.6s,baz=190,slow=24,SNR=3.2						
	8.0nm,0.6s						
TV1H	**Townsville Har**	**33.42**	**262**	**P**	**P**	**20 02 48.5**	**+0.1**
CNB	**Canberra Magne**	**33.74**	**233**	**P**	**P**	**20 02 52.1**	**+1.1**
CTAO	**Charters Tower**	**33.89**	**261**	**P**	**P**	**20 02 52.6**	**+0.2**
CTAO	**Charters Tower**	**33.89**	**261**	**P**	**P**	**20 02 51.6**	**-0.7**
CTAO	**Charters Tower**	**33.89**	**261**	**P**	**P**	**20 02 52.5**	**+0.2**
CTAO				PcP	**PcP**	**20 05 13.8**	**+0.1**
CTAO				sP	**sP**	**20 05 29.3**	**-5.5**
CAN	**Canberra**	**34.02**	**233**	**P**	**P**	**20 02 54.1**	**+0.8**
CAN	**Canberra**	**34.02**	**233**	**P**	**P**	**20 02 52.9**	**-0.4**
CAN	**Canberra**	**34.02**	**233**	**P**	**P**	**20 02 54.1**	**+0.8**
YNG	**Young**	**34.12**	**235**	**P**	**P**	**20 02 55.1**	**+1.0**
PMG	**Port Moresby**	**34.93**	**279**	**P**	**P**	**20 03 02.0**	**+1.0**
	215nm,0.8s,baz=71,slow=6.0,SNR=40						
	215nm,0.8s						
PMG	**Port Moresby**	**34.93**	**279**	**P**	**P**	**20 03 02.4**	**+1.3**
CMSA	**Cobar Meteorol**	**35.51**	**241**	**P**	**P**	**20 03 06.4**	**+0.7**
QLP	**Quilpie**	**35.94**	**249**	**P**	**P**	**20 03 10.1**	**+0.8**
GLAD	**Gladstone**	**37.12**	**225**	**P**	**P**	**20 03 19.1**	**+0.4**
TOO	**Toolangi**	**37.48**	**231**	**P**	**P**	**20 03 23.1**	**+1.4**
TOO	**Toolangi**	**37.48**	**231**	**P**	**P**	**20 03 22.2**	**+0.4**
MANU	**Manus Island**	**37.56**	**291**	**P**	**P**	**20 03 23.3**	**+0.6**
COEN	**Coen**	**37.57**	**270**	**P**	**P**	**20 03 23.9**	**+1.2**
COEN	**Coen**	**37.57**	**270**	**P**	**P**	**20 03 23.4**	**+0.6**
TAOE	**Nuku Hiva Isla**	**37.78**	**81**	**P**	**P**	**20 03 25.5**	**+0.9**
TAU	**Tasmania Unive**	**38.49**	**222**	**P**	**P**	**20 03 29.8**	**0.0**
STKA	**Stephens Creek**	**38.99**	**241**	**P**	**P**	**20 03 34.9**	**+0.8**
STKA				IAmb	IAmb	20 03 36.1	
	comp=Z,28nm,1.0s						
STKA	**Stephens Creek**	**38.99**	**241**	**P**	**P**	**20 03 35.1**	**+1.0**
	comp=Z,87nm,0.8s,baz=94,slow=8.1,SNR=56						
	comp=Z,87nm,0.8s						
HTT	**Hallett**	**41.50**	**240**	**P**	**P**	**20 03 54.6**	**+0.5**
LCRK	**Leigh Creek**	**41.63**	**244**	**P**	**P**	**20 03 55.9**	**+0.8**
WHYH	**Whyalla**	**42.54**	**241**	**P**	**P**	**20 04 02.8**	**+0.7**
KHU	**Kahuku**	**43.01**	**32**	**P**	**P**	**20 04 06.0**	**-0.2**
JAY	**Jayapura**	**43.37**	**286**	**P**	**P**	**20 04 09.7**	**+0.8**
	comp=Z,178nm,1.0s,comp=Z,2μm						
OOD	**Oodnadatta**	**43.62**	**248**	**P**	**P**	**20 04 11.8**	**+1.2**
BBOO	**Buckleboo**	**43.77**	**241**	**P**	**P**	**20 04 12.2**	**+0.5**
BBOO	**Buckleboo**	**43.77**	**241**	**P**	**P**	**20 04 11.7**	**0.0**
BBOO				PcP	**PcP**	**20 05 45.0**	**-0.2**
GENI	**Genyem**	**43.83**	**286**	**P**	**P**	**20 04 14.2**	**+1.8**
GENI	**Genyem**	**43.83**	**286**	**P**	**P**	**20 04 13.7**	**+1.3**
	comp=Z,252nm,1.2s,comp=Z,4μm						
WR0	**Warramunga Arr**	**44.88**	**260**	**P**	**P**	**20 04 19.7**	**-0.7**
WB0	**Warramunga Arr**	**45.04**	**260**	**P**	**P**	**20 04 21.2**	**-0.4**
WB0				PcP	**PcP**	**20 05 50.0**	**+0.1**
WB2	**Warramunga Arr**	**45.06**	**260**	**P**	**P**	**20 04 21.4**	**-0.4**
WB2				PcP	**PcP**	**20 05 50.0**	**0.0**
WRA	**Warramunga Arr**	**45.07**	**260**	**P**	**P**	**20 04 21.3**	**-0.6**
	comp=Z,59nm,0.6s,baz=96,slow=7.3,SNR=187						
WRA				PcP	**PcP**	**20 05 50.5**	**+0.5**
	comp=Z,15nm,0.9s,baz=96,slow=3.6,SNR=5.6						
WRA				ScP	**ScP**	**20 08 49.5**	**+2.0**
	comp=Z,1.8nm,0.9s,baz=92,slow=3.4,SNR=3.6						
WRA				S	**S**	**20 10 17.6**	**-1.9**
	comp=Z,0.9nm,0.8s,baz=99,slow=17,SNR=2.0						
	comp=Z,59nm,0.6s						
MULG	**Mulgathing**	**45.19**	**245**	**P**	**P**	**20 04 22.7**	**0.0**
AS31	**Alice Springs**	**45.21**	**254**	**P**	**P**	**20 04 23.0**	**+0.1**
ASAR	**Alice Springs**	**45.21**	**254**	**P**	**P**	**20 04 22.9**	**-0.1**
ASAR				PcP	**PcP**	**20 05 50.5**	**0.0**
ASAR	**Alice Springs**	**45.21**	**254**	**P**	**P**	**20 04 23.1**	**+0.2**
	comp=Z,151nm,0.6s,baz=88,slow=8.4,SNR=276						
ASAR				PcP	**PcP**	**20 05 50.8**	**+0.3**
	comp=Z,14nm,0.5s,baz=104,slow=3.8,SNR=9.5						
ASAR				ScP	**ScP**	**20 08 50.5**	**+2.5**
	comp=Z,2.0nm,0.9s,baz=94,slow=3.7,SNR=3.7						
ASAR				S	**S**	**20 10 19.4**	**-2.0**
	comp=Z,5.5nm,0.8s,baz=92,slow=16,SNR=14						
	comp=Z,151nm,0.6s						
SMPI	**Sarmi**	**45.41**	**285**	**P**	**P**	**20 04 24.9**	**+0.4**
	comp=Z,132nm,0.9s						
KDU	**Kakadu**	**48.02**	**269**	**P**	**P**	**20 04 44.2**	**+0.1**
GUMO	**Guam**	**48.29**	**308**	**P**	**P**	**20 04 45.5**	**-0.5**
GUMO	**Guam**	**48.29**	**308**	**P**	**P**	**20 04 46.6**	**+0.5**
	comp=Z,259nm,1.0s,baz=169,slow=18,SNR=4.7						
	comp=Z,259nm,1.0s						
MTN	**Manton Dam**	**49.26**	**268**		**P**	**20 04 52.3**	**-1.0**
DRS	**Darwin Rock St**	**49.57**	**269**	**P**	**P**	**20 04 55.2**	**-0.4**
WRKA	**Warakurna**	**50.26**	**252**	**P**	**P**	**20 05 00.7**	**+0.2**
FORT	**Forrest**	**50.39**	**245**	**P**	**P**	**20 05 01.2**	**-0.1**
FORT	**Forrest**	**50.39**	**245**	**P**	**P**	**20 05 00.6**	**-0.8**
FORT				PcP	**PcP**	**20 06 09.7**	**+0.5**
KNRA	**Kununurra**	**50.94**	**264**	**P**	**P**	**20 05 06.0**	**+0.5**
KNRA	**Kununurra**	**50.94**	**264**	**P**	**P**	**20 05 04.4**	**-1.1**
FAKI	**Fak Fak**	**51.05**	**281**	**P**	**P**	**20 05 07.0**	**+0.6**
FAKI	**Fak Fak**	**51.05**	**281**		**P**	**20 05 06.0**	**-0.3**
FAKI				IAmb	IAmb	20 05 07.6	
	comp=Z,69nm,1.2s						
FAKI	**Fak Fak**	**51.05**	**281**	**P**	**P**	**20 05 06.5**	**+0.1**
	comp=Z,53nm,1.4s						
SWI	**Sorong**	**52.71**	**283**	**P**	**P**	**20 05 18.8**	**+0.5**
	comp=Z,365nm,0.8s,comp=Z,3μm						
FITZ	**Fitzroy Crossi**	**53.47**	**261**	**P**	**P**	**20 05 23.5**	**-0.1**
KMBL	**Kambalda**	**55.69**	**244**	**P**	**P**	**20 05 38.5**	**-0.4**
DRV	**Dumont d'Urvil**	**55.73**	**199**	**P**	**P**	**20 05 39.2**	**+0.7**
LBMI	**Labuha**	**56.29**	**282**	**P**	**P**	**20 05 44.2**	**+0.9**
	comp=Z,146nm,1.0s						
SOEI	**Soe**	**56.53**	**270**	**P**	**P**	**20 05 46.3**	**+1.2**
SOEI	**Soe**	**56.53**	**270**	**P**	**P**	**20 05 46.6**	**+1.5**
SOEI	**Soe**	**56.53**	**270**	**P**	**P**	**20 05 46.7**	**+1.6**
	comp=Z,260nm,0.9s						
TNTI	**Ternate**	**56.93**	**283**	**P**	**P**	**20 05 47.4**	**-0.3**
TNTI	**Ternate**	**56.93**	**283**	**P**	**P**	**20 05 48.1**	**+0.4**
	comp=Z,143nm,1.2s,comp=Z,1μm						
BATI	**Baumata**	**56.99**	**269**	**P**	**P**	**20 05 49.2**	**+1.1**
	comp=Z,71nm,0.6s,baz=107,slow=8.9,SNR=13						
	comp=Z,71nm,0.6s						
BATI	**Baumata**	**56.99**	**269**	**P**	**P**	**20 05 49.3**	**+1.1**
	comp=Z,95nm,0.8s						
SANI	**Sanana**	**57.21**	**279**	**P**	**P**	**20 05 49.3**	**-0.3**
	comp=Z,156nm,0.9s,comp=Z,2μm						
PSA00	**Pilbara Seismi**	**58.33**	**255**	**P**	**P**	**20 05 56.8**	**-0.3**
PSA00	**Pilbara Seismi**	**58.33**	**255**	**P**	**P**	**20 05 55.9**	**-1.2**
PSA00				IAmb	IAmb	20 05 57.9	
	comp=Z,37nm,1.0s						
PSA00				PcP	**PcP**	**20 06 40.4**	**+0.1**
PSA00	**Pilbara Seismi**	**58.33**	**255**	**P**	**P**	**20 05 56.5**	**-0.6**
PSA00				IAmb	IAmb	20 05 57.8	
	comp=Z,76nm,0.9s						
MBWA	**Marble Bar**	**58.50**	**256**	**P**	**P**	**20 05 58.0**	**-0.3**
MBWA	**Marble Bar**	**58.50**	**256**	**P**	**P**	**20 05 57.5**	**-0.7**
MBWA	**Marble Bar**	**58.50**	**256**	**P**	**P**	**20 05 57.9**	**-0.3**
MMRI	**Maumere**	**58.76**	**271**	**P**	**P**	**20 06 00.3**	**+0.2**
MMRI	**Maumere**	**58.76**	**271**	**P**	**P**	**20 05 59.3**	**-0.7**
MMRI	**Maumere**	**58.76**	**271**	**P**	**P**	**20 05 59.7**	**-0.4**
	comp=Z,158nm,0.8s,comp=Z,2μm						
MEEK	**Meekatharra**	**58.84**	**249**	**P**	**P**	**20 05 59.6**	**-0.8**
KLBR	**Kellerberrin**	**59.20**	**244**	**P**	**P**	**20 06 02.7**	**-0.1**
JCJ	**Chichijima**	**59.21**	**318**	**P**	**P**	**20 06 03.1**	**+0.3**
JCJ	**Chichijima**	**59.21**	**318**	**P**	**P**	**20 06 03.3**	**+0.5**
EDFI	**Ende, Flores**	**59.25**	**270**	**P**	**P**	**20 06 03.1**	**-0.4**
	comp=Z,111nm,0.9s,comp=Z,1μm						
NWAO	**Narrogin (SRO)**	**59.58**	**242**	**P**	**P**	**20 06 05.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**59.58**	**242**	**P**	**P**	**20 06 04.9**	**-0.4**
NWAO				IAmb	IAmb	20 06 06.2	
	comp=Z,101nm,1.4s						
SGSI	**Sangihe**	**59.74**	**285**	**P**	**P**	**20 06 06.7**	**+0.1**
	comp=Z,195nm,0.9s						
KMSI	**Cibinong**	**60.01**	**281**	**P**	**P**	**20 06 08.4**	**+0.1**
	comp=Z,325nm,0.8s,comp=Z,3μm						
BLDU	**Ballidu**	**60.16**	**245**	**P**	**P**	**20 06 09.1**	**0.0**
SBA	**Scott Base**	**60.37**	**184**	**P**	**P**	**20 06 12.3**	**+2.7**
VNDA	**Vanda**	**60.40**	**185**	**P**	**P**	**20 06 11.7**	**+1.8**
VNDA	**Vanda**	**60.40**	**185**	**P**	**P**	**20 06 11.7**	**+1.8**
	comp=Z,3.2nm,0.8s,baz=350,slow=6.3,SNR=11						
	comp=Z,3.2nm,0.8s						
MUN	**Mundaring**	**60.50**	**243**	**P**	**P**	**20 06 11.7**	**+0.4**
LUWI	**Luwuk**	**60.57**	**279**	**P**	**P**	**20 06 12.4**	**+0.4**
LUWI	**Luwuk**	**60.57**	**279**	**P**	**P**	**20 06 13.0**	**+0.9**
	comp=Z,155nm,1.1s,comp=Z,2μm						
MORW	**Morawa**	**60.87**	**246**	**P**	**P**	**20 06 13.4**	**-0.4**
MORW	**Morawa**	**60.87**	**246**	**P**	**P**	**20 06 13.1**	**-0.8**
MORW				IAmb	IAmb	20 06 14.0	
	comp=Z,28nm,0.8s						
MRSI	**Marisa**	**61.88**	**281**	**P**	**P**	**20 06 20.8**	**+0.2**
	comp=Z,54nm,0.9s						
TTSI	**Tana Toraja**	**62.70**	**276**	**P**	**P**	**20 06 26.1**	**+0.2**
	comp=Z,27nm,1.0s						
TOLI2	**Tolitoli**	**63.18**	**281**	**P**	**P**	**20 06 29.2**	**+0.2**
TOLI2	**Tolitoli**	**63.18**	**281**	**P**	**P**	**20 06 28.6**	**-0.5**
TOLI2				IAmb	IAmb	20 06 30.1	
	comp=Z,41nm,0.8s						
GIRL	**Giralia**	**63.31**	**253**	**P**	**P**	**20 06 29.6**	**-0.1**
GIRL	**Giralia**	**63.31**	**253**	**P**	**P**	**20 06 30.3**	**+0.6**
MPSI	**Mapaga**	**63.74**	**280**	**P**	**P**	**20 06 32.6**	**0.0**
	comp=Z,85nm,0.9s,comp=Z,809nm						
TWSI	**Taliwang, Sumb**	**63.83**	**269**	**P**	**P**	**20 06 33.1**	**0.0**
	comp=Z,176nm,0.9s,comp=Z,1μm						
JHJ2	**Mitsune**	**64.90**	**321**	**P**	**P**	**20 06 39.8**	**+0.4**
JHJ2	**Mitsune**	**64.90**	**321**	**P**	**P**	**20 06 39.3**	**-0.2**
CCD	**Concordia, Ant**	**64.90**	**194**	**P**	**P**	**20 06 40.4**	**+1.0**
DNP	**Denpasar**	**65.44**	**269**	**P**	**P**	**20 06 43.6**	**+0.4**
	comp=Z,152nm,0.4s						
SRBI	**Singaraja**	**65.59**	**269**	**P**	**P**	**20 06 44.0**	**-0.2**
	comp=Z,115nm,1.6s						
BKB	**Balikpapan**	**66.04**	**277**	**P**	**P**	**20 06 49.3**	**+2.3**
	comp=Z,70nm,1.1s						
CASY	**Casey**	**66.25**	**205**	**P**	**P**	**20 06 47.6**	**+0.3**
CASY				IAmb	IAmb	20 06 55.4	
	comp=Z,32nm,1.6s						
CASY	**Casey**	**66.25**	**205**	**P**	**P**	**20 06 47.7**	**+0.3**
CASY				PcP	**PcP**	**20 07 12.0**	**+0.2**
JAGI	**Jajag, Banyuwa**	**66.50**	**268**	**P**	**P**	**20 06 49.2**	**-0.7**
JAGI	**Jajag, Banyuwa**	**66.50**	**268**	**P**	**P**	**20 06 48.6**	**-1.3**
JAGI	**Jajag, Banyuwa**	**66.50**	**268**	**P**	**P**	**20 06 48.7**	**-1.2**
	comp=Z,177nm,0.9s,comp=Z,2μm						
BLJI	**Banyuglugur**	**67.23**	**269**	**P**	**P**	**20 06 54.4**	**+0.1**
	comp=Z,149nm,0.8s						
MTKI	**Muara Teweh, K**	**68.03**	**276**	**P**	**P**	**20 07 00.0**	**+0.8**
	comp=Z,48nm,1.2s,comp=Z,2μm						
JGF	**Kuroka**	**68.09**	**322**	**P**	**P**	**20 07 00.1**	**+1.0**
JGF	**Kuroka**	**68.09**	**322**	**P**	**P**	**20 06 58.7**	**-0.4**
JGF				IAmb	IAmb	20 07 00.2	
	comp=Z,11nm,0.6s						
MJAR	**Mausuhiro Arr**	**68.25**	**323**	**P**	**P**	**20 07 00.2**	**+0.1**
	comp=Z,23nm,0.8s,baz=156,slow=5.8,SNR=73						
	comp=Z,23nm,0.8s						
MAJO	**Matsushiro**	**68.25**	**323**	**P**	**P**	**20 07 00.8**	**+0.7**
MAJO	**Matsushiro**	**68.25**	**323**	**P**	**P**	**20 06 60.0**	**-0.1**
MAJO				IAmb	IAmb	20 07 01.3	
	comp=Z,40nm,1.1s						
MAJO	**Matsushiro**	**68.25**	**323**	**P**	**P**	**20 07 00.3**	**+0.3**
MAJO				PcP	**PcP**	**20 07 22.0**	**+1.2**
MJB9	**Matsu-Tunnel**	**68.25**	**323**	**P**	**P**	**20 07 00.0**	**-0.1**
MJB9				IAmb	IAmb	20 07 02.3	
	comp=Z,38nm,1.1s						
PWJI	**Pagerwojo**	**68.86**	**268**	**P**	**P**	**20 07 04.1**	**-0.1**
	comp=Z,82nm,0.8s						
JMN	**Monobe**	**68.96**	**318**	**P**	**P**	**20 07 05.1**	**+0.7**
JMN				IAmb	IAmb	20 07 06.9	
	comp=Z,55nm,1.1s						
AMKA	**Amchitka**	**69.11**	**358**	**P**	**P**	**20 07 05.0**	**+0.1**
KIWB	**Kanaga Island**	**69.55**	**1**	**P**	**P**	**20 07 07.5**	**+0.1**
ADK	**Adak**	**69.58**	**1**	**P**	**P**	**20 07 08.1**	**+0.5**
ADK	**Adak**	**69.58**	**1**	**P**	**P**	**20 07 07.8**	**+0.2**
GSTR	**Great Sitkin T**	**69.80**	**1**	**P**	**P**	**20 07 09.2**	**+0.2**
ATKA	**Atka Island**	**69.97**	**2**	**P**	**P**	**20 07 10.0**	**+0.1**
ATKA	**Atka Island**	**69.97**	**2**	**P**	**P**	**20 07 09.8**	**-0.2**
UGM	**Wanagama**	**70.10**	**268**	**P**	**P**	**20 07 12.1**	**+0.4**
UGM	**Wanagama**	**70.10**	**268**	**P**	**P**	**20 07 11.8**	**+0.1**
UGM	**Wanagama**	**70.10**	**268**	**P**	**P**	**20 07 11.9**	**+0.2**
	comp=Z,281nm,1.1s						
JNU	**Nakatsue**	**70.52**	**316**	**P**	**P**	**20 07 14.1**	**+0.4**
JNU	**Nakatsue**	**70.52**	**316**	**P**	**P**	**20 07 13.8**	**+0.1**
JNU				IAmb	IAmb	20 07 15.2	
	comp=Z,20nm,0.9s						
NIKH	**Nikolski High**	**71.10**	**6**	**P**	**P**	**20 07 16.6**	**0.0**
NIKH	**Nikolski High**	**71.10**	**6**	**P**	**P**	**20 07 17.7**	**+1.1**
	baz=189						
YOJ	**Yonaguni jima**	**71.37**	**304**	**P**	**P**	**20 07 19.8**	**+1.0**
YOJ	**Yonaguni jima**	**71.37**	**304**	**P**	**P**	**20 07 19.2**	**+0.4**
JKA	**Kamikawa-asahi**	**71.57**	**331**	**P**	**P**	**20 07 21.1**	**+1.6**
JKA				IAmb	IAmb	20 07 23.6	
	comp=Z,26nm,0.9s						
STKI	**Sintang**	**71.59**	**276**	**P**	**P**	**20 07 21.8**	**+1.4**
	comp=Z,131nm,0.9s,comp=Z,3μm						
SBUM	**Sibu**	**71.67**	**279**	**P**	**P**	**20 07 21.8**	**+0.9**
KPJI	**Karang Pucung**	**71.78**	**268**	**P**	**P**	**20 07 21.7**	**+0.3**
	comp=Z,68nm,1.2s						
QSPA	**South Pole Qui**	**72.06**	**180**	**P**	**P**	**20 07 23.6**	**+1.3**
QSPA				IAmb	IAmb	20 07 32.3	
	comp=Z,59nm,1.5s						
QSPA	**South Pole Qui**	**72.06**	**180**	**P**	**P**	**20 07 23.3**	**+1.0**
	comp=Z,16nm,0.7s,baz=356,slow=0.5,SNR=25						
	comp=Z,16nm,0.7s						
TWGBT	**Beinan**	**72.10**	**302**	**P**	**P**	**20 07 21.4**	**-1.7**
TWG	**Pinlang**	**72.11**	**302**	**P**	**P**	**20 07 21.1**	**-2.1**
TWG				IAmb	IAmb	20 07 22.7	
	comp=Z,34nm,0.7s						
YULB	**Yu-li**	**72.20**	**303**	**P**	**P**	**20 07 23.9**	**+0.2**
YULB	**Yu-li**	**72.20**	**303**	**P**	**P**	**20 07 23.1**	**-0.6**
YULB				IAmb	IAmb	20 07 24.1	
	comp=Z,24nm,0.7s						
UNV	**Unalaska Valle**	**72.21**	**7**	**P**	**P**	**20 07 24.9**	**+1.9**
	baz=191						
TPUB	**Ta-pu**	**72.69**	**302**	**P**	**P**	**20 07 26.4**	**-0.1**
TPUB	**Ta-pu**	**72.69**	**302**	**P**	**P**	**20 07 25.4**	**-1.1**
YHNB	**Yeheng**	**72.76**	**304**	**P**	**P**	**20 07 27.3**	**+0.3**
YHNB	**Yeheng**	**72.76**	**304**	**P**	**P**	**20 07 26.3**	**-0.6**
TATO	**Taipei**	**72.83**	**304**	**P**	**P**	**20 07 26.9**	**-0.3**
BBJI	**Bungbulang**	**72.96**	**268**	**P**	**P**	**20 07 28.3**	**-0.1**
KSM	**Kuching**	**73.15**	**277**	**P**	**P**	**20 07 29.5**	**+0.2**
LEM	**Lembang**	**73.17**	**268**	**P**	**P**	**20 07 30.3**	**+0.6**
	comp=Z,167nm,1.1s						
PET	**Petropavlovsk**	**73.57**	**346**	**P**	**P**	**20 07 30.1**	**-0.7**
PET				IAmb	IAmb	20 09 02.9	
	comp=Z,24nm,0.9s						
YSS	**Yuzh-Sakhalins**	**73.70**	**333**	**P**	**P**	**20 07 31.6**	**-0.1**
YSS				IAmb	IAmb	20 07 34.2	
	comp=Z,26nm,1.0s						
PEA0B	**Petropavlovsk-**	**73.88**	**345**	**P**	**P**	**20 07 32.4**	**-0.2**
PEA0B				IAmb	IAmb	20 07 34.1	
	comp=Z,35nm,0.9s						
PETK	**Petropavlovsk-**	**73.88**	**345**	**P**	**P**	**20 07 32.1**	**-0.5**
PETK	**Petropavlovsk-**	**73.88**	**345**	**P**	**P**	**20 07 32.7**	**+0.2**
	comp=Z,21nm,0.7s,baz=117,slow=8.3,SNR=52						
	comp=Z,21nm,0.7s						
CBJI	**Citeko**	**74.02**	**268**	**P**	**P**	**20 07 33.6**	**-0.7**
	comp=Z,115nm,0.9s				

baz=205
SYI Shuyak Island 79.17 13 P P 20 08 02.6 +1.3
SHOC Shoshone, Teco 79.18 47 P P 20 08 01.8 -0.2
baz=238
TUQ Turquoise Moun 79.18 47 P P 20 08 02.1 -0.1
baz=239
Q19K Cape Douglas, 79.19 13 P P 20 08 01.8 +0.2
baz=203
N15K Kwethluk River 79.22 9 P P 20 08 02.3 +0.7
N15K Kwethluk River 79.22 9 P P 20 08 01.9 +0.3
baz=197
P18K Big Mountain, 79.31 12 P P 20 08 02.1 0.0
P18K IAmb IAmb 20 08 03.2
comp=Z,28nm,0.9s
P18K Big Mountain, 79.31 12 P P 20 08 01.9 -0.2
baz=202
O17K Koliganek Bris 79.32 11 P P 20 08 02.0 -0.1
baz=200
MYKOM Kota Tinggi 79.36 275 P P 20 08 03.3 -0.1
MYKOM IAmb IAmb 20 08 04.8
comp=Z,20nm,0.8s
M14K Bethel 79.52 8 P P 20 08 04.0 +0.9
M14K IAmb IAmb 20 08 06.4
comp=Z,35nm,1.2s
M14K Bethel 79.52 8 P P 20 08 03.4 +0.3
baz=195
M15K Kasigluk River 79.64 9 P P 20 08 03.6 -0.1
baz=197
KVN Kaiserville 79.64 43 P P 20 08 05.5 +0.9
214A Organ Pipe Nat 79.70 52 P P 20 08 03.7 -1.1
baz=241
N16K Nishlik Lake 79.71 10 P P 20 08 05.0 +0.9
baz=198
O18K Koktuh Hills 79.74 11 P P 20 08 04.3 0.0
O18K IAmb IAmb 20 08 05.7
comp=Z,45nm,0.9s
O18K Koktuh Hills 79.74 11 P P 20 08 04.3 0.0
baz=202
PDMCI Parker Dam,Lak 79.87 49 P P 20 08 04.7 -0.9
baz=240
P19K Oil Pt 79.94 12 P P 20 08 05.8 +0.3
P19K IAmb IAmb 20 08 21.1
comp=Z,80nm,1.5s
P19K Oil Pt 79.94 12 P P 20 08 06.1 +0.7
baz=204
K05A Summer Lake 79.97 39 P P 20 08 07.6 +1.4
L14K Kuka Creek 80.00 7 P P 20 08 06.7 +1.1
L14K Kuka Creek 80.00 7 P P 20 08 06.0 +0.4
baz=195
N17K Nushagak Hills 80.02 10 P P 20 08 06.0 +0.3
N17K Nushagak Hills 80.02 10 P P 20 08 05.6 -0.2
baz=200
J05D Fort Rock, OR 80.10 38 P P 20 08 07.9 +1.1
Q09A Carvers 80.12 44 P P 20 08 06.9 -0.1
Q09A IAmb IAmb 20 10 39.1
comp=Z,38nm,0.8s
M16K Timber Creek 80.20 9 P P 20 08 07.9 +1.2
M16K IAmb IAmb 20 08 09.5
comp=Z,44nm,1.1s
M16K Timber Creek 80.20 9 P P 20 08 07.1 +0.4
baz=198
O19K Port Alsworth 80.23 12 P P 20 08 06.9 +0.1
O19K IAmb IAmb 20 08 08.0
comp=Z,36nm,0.8s
O19K Port Alsworth 80.23 12 P P 20 08 07.5 +0.7
baz=203
CNPM China Poot 80.25 13 P P 20 08 07.6 +0.6
CNPM IAmb IAmb 20 08 11.1
comp=Z,55nm,1.3s
HOM Homer 80.28 13 P P 20 08 07.6 +0.5
baz=205
K13K Kusilvak Mount 80.35 6 P P 20 08 07.3 -0.1
baz=193
N18K Kilae Creek 80.39 11 P P 20 08 07.2 -0.5
N18K IAmb IAmb 20 08 19.1
comp=Z,45nm,1.8s
N18K Kilae Creek 80.39 11 P P 20 08 07.5 -0.2
baz=201
BNX BinXian 80.43 325 ⇓P P 20 08 09.0 +0.8
BNX pmax pmax
comp=Z,47nm,0.9s
BNX pmax pmax
comp=Z,150nm,7.4s
O20K Slope Mountain 80.46 13 P P 20 08 08.0 -0.2
baz=204
L15K Ungalak Mounta 80.47 8 P P 20 08 08.9 +0.8
baz=196
BRLK Bradley Lake 80.55 13 P P 20 08 08.7 +0.1
BRSE Bradley Lake S 80.56 14 P P 20 08 09.3 +0.7
baz=206
PINE Pine Mountain 80.57 38 P P 20 08 10.6 +1.3
N19K Bonanza Creek 80.77 11 P P 20 08 09.6 -0.2
N19K Bonanza Creek 80.77 11 P P 20 08 10.5 +0.7
baz=202
L16K Owhat River 80.78 9 P P 20 08 10.3 +0.7
L16K IAmb IAmb 20 08 12.1
comp=Z,20nm,1.0s
L16K Owhat River 80.78 9 P P 20 08 11.0 +1.3
baz=198
M17K Holitna River 80.80 10 P P 20 08 10.7 +0.9
M17K IAmb IAmb 20 08 12.6
comp=Z,41nm,1.0s
M17K Holitna River 80.80 10 P P 20 08 11.2 +1.4
baz=200
R11B Troy Canyon, C 80.93 45 P P 20 08 10.5 -0.7
baz=238
WHN Wuhan 81.03 306 P P 20 08 12.2 +0.6
WHN pmax pmax
comp=Z,54nm,0.9s
K15K Wolf Creek Mou 81.06 8 P P 20 08 12.6 +1.5
K15K IAmb IAmb 20 08 13.8
comp=Z,48nm,0.9s
K15K Wolf Creek Mou 81.06 8 P P 20 08 12.3 +1.2
baz=196
M18K Stony River 81.16 11 P P 20 08 12.8 +1.2
baz=201
WVOR Wild Horse Val 81.17 40 P P 20 08 13.3 +1.0
SEW Seward 81.18 14 P P 20 08 11.8 +0.1
baz=207
J14K Nanvaranak Lak 81.27 7 P P 20 08 12.4 +0.3
baz=194
L17K Donlin 81.36 9 P P 20 08 12.9 +0.3
baz=199
MA2 Magadan 81.40 344 P P 20 08 12.2 -0.6
MA2 IAmb IAmb 20 08 13.7
comp=Z,18nm,1.0s
MA2 Magadan 81.40 344 P P 20 08 12.5 -0.4
comp=Z,26nm,1.0s
N20K Mount Spurr 81.57 12 P P 20 08 13.7 -0.1
baz=205
L18K Granite Mounta 81.70 10 P P 20 08 15.5 +1.1
L18K IAmb IAmb 20 08 16.3
comp=Z,14nm,0.7s
L18K Granite Mounta 81.70 10 P P 20 08 15.3 +0.9
baz=200
M19K Big River Lodg 81.80 11 P P 20 08 16.4 +1.5
baz=202
K17K Iditarod 81.91 9 P P 20 08 16.6 +1.2
baz=199
L19K White Mountain 81.97 11 P P 20 08 15.8 0.0
L19K IAmb IAmb 20 08 17.9
comp=Z,29nm,1.5s
L19K White Mountain 81.97 11 P P 20 08 17.2 +1.4
baz=202
RC01 Rabbit Creek A 81.99 13 P P 20 08 17.0 +1.1
baz=207
M20K Styx River 82.01 12 P P 20 08 16.3 +0.2
baz=204
BELA Belgrano 2 82.03 173 P P 20 08 16.3 +0.3
BELA IAmb IAmb 20 08 17.5
comp=Z,14nm,0.8s
SUA Susitna One 82.11 13 P P 20 08 16.2 -0.4
baz=206
J16K Anvik River 82.14 8 P P 20 08 15.7 -0.9
baz=197
UBPT Khong Chiam 82.39 289 P P 20 08 18.4 -0.5
UBPT IAmb IAmb 20 08 20.9
comp=Z,35nm,1.2s
ELK Elko 82.40 43 P P 20 08 19.3 +0.5
CRAG Craig 82.40 24 P P 20 08 17.6 -0.4
baz=222
L20K Farewell, AK 82.42 11 P P 20 08 17.9 -0.2
baz=203
WUAZ Wupatki 82.45 49 P P 20 08 17.8 -1.2
baz=242
J17K VABM Dome 82.45 8 P P 20 08 18.5 +0.4
J17K VABM Dome 82.45 8 P P 20 08 17.8 -0.3
baz=198
EYAK Cordova Ski Ar 82.46 15 P P 20 08 18.1 -0.2
baz=211
TTA Tatalina 82.47 10 P P 20 08 19.5 +1.1
TTA Tatalina 82.47 10 P P 20 08 18.9 +0.6
TTA Tatalina 82.47 10 P P 20 08 18.1 -0.3
baz=201
KNK Knik Glacier 82.57 14 P P 20 08 18.3 -0.6
baz=208
PMR Palmer 82.57 13 IAmb IAmb 20 08 20.1
comp=Z,32nm,1.4s
PMR Palmer 82.57 13 P P 20 08 18.6 -0.1
baz=208
GHO Glory Hole Cre 82.78 13 P P 20 08 20.1 +0.2
GHO IAmb IAmb 20 08 20.8
comp=Z,23nm,0.6s
ANM Nome 82.86 5 P P 20 08 20.8 +0.6
baz=192
J18K Innoko River 82.86 9 P P 20 08 20.6 +0.4
J18K IAmb IAmb 20 08 22.1
comp=Z,21nm,0.9s
J18K Innoko River 82.86 9 P P 20 08 20.6 +0.4
baz=200
U33K Whale Pass 82.88 23 P P 20 08 20.3 -0.1
baz=222
SML Sawmill 82.94 14 P P 20 08 20.7 0.0
baz=208
CUT Chulitna 83.06 13 P P 20 08 21.2 0.0
CUT Chulitna 83.06 13 P P 20 08 21.5 +0.3
baz=206
M23K Glacier View 83.07 14 P P 20 08 21.7 +0.3
baz=209
BMRM Bremner River 83.11 16 P P 20 08 21.5 -0.1
baz=212
PPLA Purkeypile 83.12 12 P P 20 08 21.9 +0.2
baz=205
WAX Waxell Ridge 83.14 17 IAmb IAmb 20 08 23.3
comp=Z,28nm,0.7s
MESA MESA 83.16 17 P P 20 08 21.6 -0.4
baz=214
SCM Sheep Creek Mo 83.19 14 P P 20 08 22.1 +0.1
SCM IAmb IAmb 20 08 23.3
comp=Z,24nm,0.8s
SCM Sheep Creek Mo 83.19 14 P P 20 08 22.5 +0.5
baz=209
K20K Telida 83.20 11 IAmb IAmb 20 08 23.5
comp=Z,17nm,0.8s
K20K Telida 83.20 11 P P 20 08 22.0 +0.1
baz=203
HEH HeiHe 83.22 328 eP P 20 08 23.0 +0.7
HEH pP **pwP 20 10 31.0 +1.7**
HEH S **S 20 17 58.0 +3.2**
HEH pmax pmax
comp=Z,20nm,0.9s
HEH pmax pmax
comp=Z,140nm,6.2s
KLU Klutina 83.23 15 P P 20 08 21.8 -0.4
baz=210
H16K Elim 83.25 7 P P 20 08 22.2 +0.2
baz=195
ISLE Juniper Island 83.41 17 IAmb IAmb 20 08 24.7
comp=Z,23nm,1.0s
PNL Peninsula 83.49 19 P P 20 08 23.8 +0.3
baz=217
J19K Poorman 83.53 10 P P 20 08 24.1 +0.5
baz=201
CAST Castle Rocks 83.62 11 P P 20 08 23.2 -0.8
CAST IAmb IAmb 20 08 24.5
comp=Z,20nm,0.7s
CAST Castle Rocks 83.62 11 P P 20 08 23.7 -0.3
baz=205
VRDI Verde Repeater 83.63 16 P P 20 08 24.6 +0.3
N25K Chitina, Valde 83.66 15 P P 20 08 24.7 +0.3
baz=212
F14K Arctic Creek 83.67 5 P P 20 08 23.8 -0.4
baz=191
M24K Tolsona, Glenn 83.70 14 IAmb IAmb 20 08 26.6
comp=Z,25nm,0.8s
M24K Tolsona, Glenn 83.70 14 P P 20 08 24.9 +0.4
baz=210
GLB Gilahina Butte 83.72 16 IAmb IAmb 20 08 26.0
comp=Z,15nm,0.7s
WAT6 Susitna Watana 83.76 14 P P 20 08 24.5 -0.4
baz=209
WAT1 Susitna Watana 83.80 13 P P 20 08 25.3 +0.3
baz=208
H17K Granite Mounta 83.81 8 P P 20 08 24.7 -0.2
baz=197
MCARA McCarthy VSAT 83.88 16 IAmb IAmb 20 08 27.1
comp=Z,22nm,1.2s
MCARA McCarthy VSAT 83.88 16 P P 20 08 25.9 +0.7
baz=213
HNS HongShan 83.92 312 ⇓P P 20 08 26.3 +0.3
HNS pmax pmax
comp=Z,24nm,1.4s
MAW Mawson 83.94 200 P P 20 08 26.2 +0.6
comp=Z,3.7nm,0.7s,baz=140,slow=3.4,SNR=4.1
comp=Z,3.7nm,0.7s
J20K Nowinta River 83.95 10 P P 20 08 26.1 +0.6
J20K IAmb IAmb 20 08 27.2
comp=Z,11nm,0.7s
J20K Nowinta River 83.95 10 P P 20 08 26.1 +0.6
baz=203
KTH Kantishna Hill 83.96 12 P P 20 08 25.0 -0.7
KTH IAmb IAmb 20 08 27.3
comp=Z,13nm,0.8s
LOGN Logan Glacier 83.96 17 P P 20 08 25.9 -0.1
LOGN IAmb IAmb 20 08 27.2
comp=Z,15nm,0.8s
G16K Koyuk River 83.97 6 P P 20 08 26.4 +0.8
baz=195
BARN Barnard Glacie 83.97 17 IAmb IAmb 20 08 27.8
comp=Z,17nm,0.8s
P29M Windy Craggy 83.97 19 P P 20 08 26.4 +0.5
baz=218
CTG Chitna Glacier 83.98 17 P P 20 08 26.5 +0.5
baz=215
CTGM Chitina Glacie 83.98 17 IAmb IAmb 20 08 27.7
comp=Z,14nm,0.8s
TRF Thorofare Moun 83.99 12 P P 20 08 25.7 -0.4
TRF IAmb IAmb 20 08 27.1
comp=Z,24nm,0.6s
TRF Thorofare Moun 83.99 12 P P 20 08 25.9 -0.2
baz=206
CHUM Lake Minchumin 84.00 11 P P 20 08 25.5 -0.3
baz=204
O28M Mount Upton 84.15 18 P P 20 08 26.9 -0.1
baz=216
BJT Baijiatuau 84.16 315 IAmb IAmb 20 08 29.5
comp=Z,34nm,1.3s
BJI Beijing 84.17 315 P P 20 08 28.5 +1.3
BJI S **S 20 18 04.2 -0.2**
BJI pmax pmax
comp=Z,9.0nm,1.0s
HARP HAARP 84.20 15 P P 20 08 27.4 +0.5
baz=211
H18K Honhosa River 84.22 8 P P 20 08 26.9 0.0
baz=199
LYN LuoYang 84.24 309 eP P 20 08 29.3 +1.6
LYN pmax pmax
comp=Z,86nm,0.8s
RND Reindeer 84.25 13 P P 20 08 27.4 +0.2
RND IAmb IAmb 20 08 28.5
comp=Z,28nm,0.7s
G17K Kiwalik Mounta 84.27 7 P P 20 08 27.9 +0.8
baz=196
DHY Denali Highway 84.27 13 IAmb IAmb 20 11 50.6
comp=Z,12nm,0.3s
PLBC Pleasant Camp 84.27 20 P P 20 08 27.8 +0.6
baz=219
HLID Hailey 84.39 41 P P 20 08 28.5 0.0
baz=239
BPAW Bear Paw Mtn. 84.44 12 P P 20 08 28.4 +0.3
baz=206
I20K Naaghedeneel 84.47 10 P P 20 08 28.4 +0.3
baz=202
MCK McKinley 84.52 13 P P 20 08 28.9 +0.4
baz=208
P30M Million Dollar 84.60 19 P P 20 08 31.0 +2.1
baz=219
T35M Bob Quinn 84.61 24 P P 20 08 29.3 +0.3
baz=225
PAX Paxson 84.62 14 P P 20 08 29.6 +0.6
baz=211
YUK8 Steele Glacier 84.69 17 P P 20 08 29.8 +0.1
baz=216
ENH Enshi 84.70 304 P P 20 08 31.2 +1.1
M26K Nabesna, AK 84.74 16 IAmb IAmb 20 08 31.4
comp=Z,17nm,0.9s
M26K Nabesna, AK 84.74 16 P P 20 08 30.2 +0.7
baz=213
YUK6 Outpost Mounta 84.82 18 P P 20 08 31.2 +1.0
baz=217
H19K Roundabout Mou 84.84 9 P P 20 08 30.3 +0.4
baz=200
G18K Tagagawik 84.89 8 P P 20 08 31.2 +1.1
baz=198
YUK3 Moose Creek 84.89 17 P P 20 08 30.4 -0.1
baz=216
S34M Telegraph Cree 84.94 23 IAmb IAmb 20 08 33.2
comp=Z,13nm,0.8s
S34M Telegraph Cree 84.94 23 P P 20 08 31.0 +0.5
baz=224
HYT Haines Junctio 84.99 19 P P 20 08 32.0 +1.1
HYT Haines Junctio 84.99 19 P P 20 08 31.5 +0.6
baz=218
M27K Edge Creek, AK 84.99 16 IAmb IAmb 20 08 33.0
comp=Z,26nm,1.1s
M27K Edge Creek, AK 84.99 16 P P 20 08 31.8 +0.9
baz=214
MENT Mentasta 85.01 15 P P 20 08 31.3 +0.5
H20K Anotleneega Mo 85.05 9 P P 20 08 31.7 +0.7
baz=202
YUK4 Talbot Arm 85.06 18 P P 20 08 31.9 +0.6
baz=217
F17K Baldwin Pennin 85.10 7 P P 20 08 31.9 +0.8
baz=196
GSI Gunungsitoli 85.17 273 P P 20 08 33.3 +0.6
GSI Gunungsitoli 85.17 273 P P 20 08 33.7 +1.0
L26K Log Cabin Wild 85.17 15 IAmb IAmb 20 08 33.4
comp=Z,23nm,1.5s
L26K Log Cabin Wild 85.17 15 P P 20 08 31.9 +0.3
baz=213
I21K Tanana 85.24 11 IAmb IAmb 20 08 33.2
comp=Z,22nm,1.4s
I21K Tanana 85.24 11 P P 20 08 32.2 +0.4
baz=205
MNTX Cornudas Mount 85.25 55 P P 20 08 31.4 -1.3
baz=246
P32M Atlin 85.25 21 P P 20 08 32.7 +0.5
baz=222
NEA2 Nenana 85.26 12 P P 20 08 31.6 -0.3
baz=207
K24K Donnelly Dome 85.26 14 P P 20 08 31.8 -0.2
baz=210,SNR=7.7
MVCO Mesa Verde 85.29 49 P P 20 08 32.1 -0.9
baz=243
NEW Newport 85.31 36 P P 20 08 32.6 0.0
baz=236
MLY Manley 85.33 11 IAmb IAmb 20 08 32.3
comp=Z,35nm,2.0s
MLY Manley 85.33 11 P P 20 08 32.2 -0.2
baz=206,SNR=7.6
G19K Purcell Mounta 85.34 8 P P 20 08 32.3 0.0
G19K Purcell Mounta 85.34 8 P P 20 08 31.9 -0.4
baz=200
WRH Wood River Hil 85.35 12 P P 20 08 32.0 -0.3
WRH IAmb IAmb 20 08 33.5
comp=Z,35nm,1.3s
O30N Mendenhall 85.38 19 P P 20 08 32.4 -0.3
baz=220,SNR=5.4
GYA Guiyang 85.48 300 ⇓iP P 20 08 35.2 +1.1
GYA pmax pmax
comp=Z,22nm,0.7s
HDA Harding Lake 85.53 13 IAmb IAmb 20 08 34.3
comp=Z,11nm,0.8s
HDA Harding Lake 85.53 13 P P 20 08 32.7 -0.6
baz=209,SNR=9.6
H21K Melozitna Rive 85.54 10 IAmb IAmb 20 08 36.1
comp=Z,25nm,1.8s
H21K Melozitna Rive 85.54 10 P P 20 08 33.3 0.0
baz=204
L27K Beaver Creek, 85.59 16 P P 20 08 34.1 +0.5
L27K Beaver Creek, 85.59 16 P P 20 08 33.8 +0.2
baz=214
N30M Aishikik Lake 85.61 18 IAmb IAmb 20 08 35.1
comp=Z,31nm,1.9s
N30M Aishikik Lake 85.61 18 P P 20 08 33.8 0.0
baz=219
TXAR Lajitas Array 85.65 57 P P 20 08 36.9 +2.1
comp=Z,1.8nm,0.9s,baz=220,slow=6.9,SNR=9.3
comp=Z,1.8nm,0.9s
E17K Nothan Inlet 85.66 6 P P 20 08 33.8 -0.1
baz=195
WHY Whitehorse 85.68 20 P P 20 08 33.1 -1.1
baz=221
IMAR Indian Mountai 85.68 10 P P 20 08 33.9 -0.1
I23K Minto, Yukon-K 85.70 12 P P 20 08 33.5 -0.5
I23K IAmb IAmb 20 08 34.9
comp=Z,19nm,1.4s
I23K Minto, Yukon-K 85.70 12 P P 20 08 32.9 -1.1
baz=207
DLBC Dease Lake 85.73 23 P P 20 08 34.2 -0.2
baz=225
MDM Murphy Dome 85.75 12 IAmb IAmb 20 08 35.1
comp=Z,14nm,1.0s
COLA College 85.75 12 P P 20 08 34.5 +0.2
COLA College 85.75 12 P P 20 08 33.8 -0.5
COLA IAmb IAmb 20 08 35.0
comp=Z,14nm,0.6s
COLA College 85.75 12 P P 20 08 33.8 -0.5
baz=208
ANMO Albuquerque 85.79 51 P P 20 08 32.7 -2.8
baz=245
SCRK Sand Creek 85.83 14 P P 20 08 34.4 -0.5
baz=212,SNR=5.4
IL31 85.86 13 P P 20 08 34.5 -0.3
ILAR Eielson Array 85.86 13 P P 20 08 34.6 -0.2
comp=Z,3.3nm,0.4s,baz=222,slow=5.2,SNR=60
comp=Z,3.3nm,0.4s
F19K Shaleruckik Mo 85.90 8 P P 20 08 34.5 -0.4
baz=199,SNR=5.1
SLVN Son La 85.94 294 IAmb IAmb 20 08 39.0
comp=Z,17nm,1.2s
M29M Somme Creek 85.99 17 P P 20 08 36.1 +0.5
M29M Somme Creek 85.99 17 P P 20 08 35.0 -0.6
baz=217,SNR=6.8
H22K Ishtalitna Cre 86.00 11 P P 20 08 34.4 -1.1
baz=205
P33M Teslin, Yukon 86.02 21 P P 20 08 35.1 -0.7
baz=222
N31M Braeburn, Yuko 86.03 19 P P 20 08 35.6 -0.1
baz=220
POKR Poker Plat Res 86.05 12 P P 20 08 36.0 +0.3
baz=209
J25K Salcha River, 86.06 13 P P 20 08 36.0 +0.2
J25K IAmb IAmb 20 08 37.2
comp=Z,38nm,1.8s
J25K Salcha River, 86.06 13 P P 20 08 35.0 -0.8
baz=211,SNR=8.9
R33M Jennings River 86.07 22 IAmb IAmb 20 08 38.7
comp=Z,19nm,1.4s
R33M Jennings River 86.07 22 P P 20 08 35.0 -1.1
baz=224,SNR=5.5
E18K Tukpahlearik C 86.12 7 P P 20 08 36.0 0.0
baz=196
D17K Noatak River 86.14 6 P P 20 08 35.1 -0.9
baz=194
G21K Allakaket 86.21 10 P P 20 08 36.5 0.0
baz=203
H23K Yukon River 86.27 11 P P 20 08 37.4 +0.6
baz=207
K27K Chicken 86.33 15 P P 20 08 37.6 +0.6
baz=214
MSO Missoula 86.36 38 P P 20 08 37.9 +0.1
baz=239
J26L Joseph Creek 86.37 14 IAmb IAmb 20 08 39.4
comp=Z,39nm,1.6s
J26L Joseph Creek 86.37 14 P P 20 08 37.8 +0.5
baz=212,SNR=12
F20K Avaraart Lake 86.38 9 P P 20 08 37.4 +0.2
F20K Avaraart Lake 86.38 9 P P 20 08 38.6 +1.4
baz=201
RDOG Red Dog Mine 86.50 6 P P 20 08 39.2 +1.4
baz=194
C16K Lisburne Hills 86.51 5 P P 20 08 38.2 +0.4
baz=192
E19K Redstone River 86.56 8 IAmb IAmb 20 08 39.5
comp=Z,8.3nm,0.7s
E19K Redstone River 86.56 8 P P 20 08 38.6 +0.6
baz=200
BILL Bilibino 86.56 354 P P 20 08 38.3 +0.3
BILL IAmb IAmb 20 08 39.9
comp=Z,15nm,1.2s
H24K Noodor Dome 86.60 12 P P 20 08 39.6 +1.2

baz=208
L29M **L29M** **86.61** 17 IAmb IAmb 20 08 40.9
comp=Z,23nm,1.2s
L29M **L29M** **86.61** 17 P **P** **20 08 39.1 +0.6**
baz=218,SNR=11
N32M **Quiet Lake** **86.63** 20 P **P** **20 08 39.0 +0.4**
baz=222
XAN **Xi'an** **86.68** 307 P **P** **20 08 40.2 +0.7**
XAN pmax pmax
comp=Z,86nm,1.1s
IMW **Indian Meadow** **86.74** 42 P **P** **20 08 39.3 -0.6**
O20A **White River Ci** **86.78** 46 P **P** **20 08 40.0 0.0**
baz=243
PRP **Porcupine Dome** **86.80** 13 P **P** **20 08 39.4 -0.1**
PRP IAmb IAmb 20 09 27.0
comp=Z,26nm,1.7s
PRP **Porcupine Dome** **86.80** 13 P **P** **20 08 39.5 +0.1**
baz=211
F21K **Alatna River** **86.87** 9 P **P** **20 08 40.2 +0.7**
baz=203,SNR=5.5
C17K **DeLong Mountai** **86.89** 5 P **P** **20 08 39.9 +0.3**
baz=194
G22K **Bettles** **86.91** 10 P **P** **20 08 40.1 +0.3**
baz=205
G23K **Bananza Creek** **86.98** 11 P **P** **20 08 40.3 +0.2**
baz=206
M31M **Drury Creek, Y** **87.00** 19 P **P** **20 08 40.4 +0.1**
baz=221
DAWY **Dawson** **87.04** 16 IAmb IAmb 20 08 42.4
comp=Z,14nm,1.2s
DAWY **Dawson** **87.04** 16 P **P** **20 08 41.1 +0.6**
baz=216
PDAR **Pinedale Array** **87.09** 43 P **P** **20 08 42.5 +1.0**
comp=Z,1.3nm,0.7s,baz=208,slow=2.9,SNR=12
comp=Z,1.3nm,0.7s
BOZ **Bozeman (W)** **87.13** 40 P **P** **20 08 41.8 +0.3**
baz=241
I26K **Coal Creek Min** **87.14** 14 P **P** **20 08 41.7 +0.8**
I26K IAmb IAmb 20 08 42.7
comp=Z,18nm,1.4s
I26K **Coal Creek Min** **87.14** 14 P **P** **20 08 41.2 +0.4**
baz=213
EGAK **Eagle** **87.17** 15 IAmb IAmb 20 08 42.7
comp=Z,12nm,1.1s
EGAK **Eagle** **87.17** 15 P **P** **20 08 40.9 -0.1**
baz=215
H17A **Grant Village** **87.21** 41 P **P** **20 08 42.2 +0.2**
baz=242
C18K **Utukok River** **87.24** 6 P **P** **20 08 41.8 +0.5**
baz=196
F22K **John River** **87.34** 10 P **P** **20 08 42.5 +0.7**
baz=204,SNR=7.7
FARO **Faro, Yukon** **87.35** 19 P **P** **20 08 42.4 +0.4**
baz=222
WTLY **Watson Lake, Y** **87.35** 22 P **P** **20 08 42.8 +0.8**
baz=226
K29M **Barlow Dome** **87.36** 17 P **P** **20 08 42.1 0.0**
baz=218,SNR=6.7
H25L **Birch Creek** **87.39** 12 P **P** **20 08 41.5 -0.5**
baz=210
COLD **Coldfoot** **87.41** 10 P **P** **20 08 42.4 +0.3**
baz=206,SNR=18
D19K **Kuna River** **87.43** 7 P **P** **20 08 42.5 +0.3**
baz=199
G24K **Hadweenzic Riv** **87.44** 12 IAmb IAmb 20 10 35.5
comp=Z,24nm,1.8s
G24K **Hadweenzic Riv** **87.44** 12 P **P** **20 08 42.1 -0.1**
baz=209
E20K **Nigu River** **87.45** 8 P **P** **20 08 42.6 +0.2**
baz=201
MAYO **Mayo, Yukon** **87.62** 17 P **P** **20 08 43.4 +0.3**
baz=220
HHC **Hu-ho-hao-te** **87.66** 314 *e*P **P** **20 08 45.6 +1.6**
HHC pmax pmax
comp=Z,27nm,0.9s
HHC pmax pmax
comp=Z,110nm,4.4s
SDCO **Great Sand Dun** **87.67** 49 P **P** **20 08 41.8 -2.5**
baz=245
I27K **Kandik River** **87.75** 14 P **P** **20 08 43.8 0.0**
baz=214
G25K **Bearman Lake** **87.76** 12 P **P** **20 08 43.2 -0.5**
baz=210
D20K **Etivluk River** **87.82** 8 P **P** **20 08 43.4 -0.6**
baz=200
TOAD **Toad River Com** **87.84** 24 P **P** **20 08 43.9 -0.4**
baz=229
C19K **Lookout Ridge** **87.85** 6 P **P** **20 08 43.8 -0.3**
baz=197
B18K **Kokolik River** **87.88** 6 P **P** **20 08 43.9 -0.3**
baz=195
E21K **Killik River** **87.92** 9 P **P** **20 08 44.5 0.0**
E21K IAmb IAmb 20 08 45.7
comp=Z,12nm,1.1s
E21K **Killik River** **87.92** 9 P **P** **20 08 44.3 -0.2**
baz=203,SNR=7.0
COYC **Coyhaique** **87.94** 137 P **P** **20 08 45.5 +0.3**
E22K **Anaktuvuk Pass** **87.97** 9 IAmb IAmb 20 08 46.3
comp=Z,17nm,1.1s
E22K **Anaktuvuk Pass** **87.97** 9 P **P** **20 08 44.3 -0.4**
baz=205
I28M **Miner Creek** **88.02** 15 P **P** **20 08 44.8 -0.3**
baz=216,SNR=7.3
F24K **Squaw Lake** **88.08** 11 IAmb IAmb 20 08 47.0
comp=Z,8.1nm,0.7s
F24K **Squaw Lake** **88.08** 11 P **P** **20 08 45.2 0.0**
baz=208,SNR=11
T25A **Trinidad** **88.21** 50 P **P** **20 08 46.0 -0.8**
baz=246
E23K **Chandalar** **88.26** 10 P **P** **20 08 46.3 +0.2**
baz=207
J30M **Hart River** **88.26** 17 P **P** **20 08 46.6 +0.4**
baz=219
KMI **Kunming** **88.28** 297 ⇓P **P** **20 08 49.4 +2.0**
KMI pmax pmax
comp=Z,23nm,1.2s
H27K **Steamboat Moun** **88.29** 14 P **P** **20 08 46.4 +0.2**
baz=214,SNR=7.4
MMPY **Sheldon Lake,** **88.29** 20 P **P** **20 08 46.7 +0.3**
MMPY IAmb IAmb 20 08 48.7
comp=Z,11nm,0.9s
MMPY **Sheldon Lake,** **88.29** 20 P **P** **20 08 46.5 +0.1**
baz=224,SNR=11
RLMT **Red Lodge** **88.37** 41 P **P** **20 08 46.5 -0.8**
baz=242
G26K **Porcupine Rive** **88.40** 13 P **P** **20 08 46.8 +0.2**
baz=212,SNR=13
BRLDA **Berland Lookou** **88.41** 31 IAmb IAmb 20 08 49.7
comp=Z,18nm,0.9s
Q24A **Divide** **88.43** 48 P **P** **20 08 46.5 -1.4**
baz=245
ISCO **Idaho Springs** **88.45** 47 P **P** **20 08 47.4 -0.6**
baz=245
E24K **Your Creek** **88.47** 11 P **P** **20 08 46.9 -0.2**
baz=208,SNR=5.3
C21K **Knifeblade Rid** **88.48** 8 P **P** **20 08 47.1 +0.1**
baz=202,SNR=6.7
D22K **Ayikyak River** **88.52** 9 IAmb IAmb 20 08 49.0
comp=Z,11nm,0.7s
D22K **Ayikyak River** **88.52** 9 P **P** **20 08 47.1 -0.1**
baz=204,SNR=11
TGTN **Hyland Airport** **88.52** 21 P **P** **20 08 47.8 +0.3**
baz=226,SNR=5.4
F25K **Christian Rive** **88.57** 12 P **P** **20 08 47.8 +0.3**
baz=210,SNR=5.7
BMAR **Burnt Mountain** **88.64** 12 P **P** **20 08 48.4 +0.6**
N23A **Red Feather La** **88.68** 46 P **P** **20 08 48.3 -0.7**
baz=245
G27K **Doyon Strip** **88.74** 14 P **P** **20 08 48.8 +0.5**
baz=214
833A **Chaparral WMA,** **88.74** 60 P **P** **20 08 49.0 -0.2**
baz=249
I30M **Mount Dempster** **88.75** 16 P **P** **20 08 49.0 +0.4**
I30M IAmb IAmb 20 08 50.1
comp=Z,11nm,1.1s
I30M **Mount Dempster** **88.75** 16 P **P** **20 08 48.3 -0.2**
baz=219,SNR=8.0
A19K **Wainwright** **88.76** 6 P **P** **20 08 48.6 +0.4**
baz=196
TOLK **Toolik Lake Re** **88.79** 10 P **P** **20 08 48.7 +0.2**
baz=207,SNR=5.4
D23K **Nanushuk River** **88.90** 10 P **P** **20 08 49.3 +0.3**
baz=206
B21K **Ikpikpuk River** **88.93** 8 P **P** **20 08 49.4 +0.3**
baz=202
F26K **Sheenjek River** **88.96** 12 P **P** **20 08 49.5 +0.2**
baz=212,SNR=5.1
B20K **Meade River** **88.98** 7 P **P** **20 08 49.3 0.0**
baz=200
H29M **Whitestone** **89.03** 15 IAmb IAmb 20 08 51.3
comp=Z,12nm,0.8s
H29M **Whitestone** **89.03** 15 P **P** **20 08 49.7 +0.1**
baz=217,SNR=10
E25K **Arctic Village** **89.04** 12 P **P** **20 08 49.9 +0.2**
baz=211,SNR=6.2
LL02 **Futaleuf** **89.05** 135 P **P** **20 08 52.2 +1.8**
LL02 IAmb IAmb 20 08 53.4
comp=Z,14nm,0.8s
ELIB **Princess Elisa** **89.13** 186 *d*P **P** **20 08 50.8 +0.4**
comp=Z,9.8nm,0.7s
KOTAN **Kotaneelee Air** **89.13** 24 P **P** **20 08 50.8 +0.6**
baz=230
JCT **Junction City** **89.19** 58 P **P** **20 08 50.5 -0.7**
baz=249
CM31 **Chiang Mai Arr** **89.35** 290 P **P** **20 08 53.9 +1.7**
CMAR **Chiang Mai Arr** **89.35** 290 P **P** **20 08 53.1 +0.9**
CMAR **Chiang Mai Arr** **89.35** 290 P **P** **20 08 53.9 +1.6**
comp=Z,15nm,0.9s,baz=107,slow=2.8,SNR=47
comp=Z,15nm,0.9s
D24K **Happy Valley** **89.37** 10 P **P** **20 08 51.7 +0.6**
baz=208
EGMT **Eagleton** **89.42** 39 P **P** **20 08 50.4 -1.6**
baz=242
EPYK **Eagle Plains** **89.56** 15 IAmb IAmb 20 08 53.7
comp=Z,11nm,0.9s
EPYK **Eagle Plains** **89.56** 15 P **P** **20 08 51.8 -0.3**
baz=219,SNR=7.6
G29M **Pine Creek** **89.67** 15 IAmb IAmb 20 08 54.1
comp=Z,7.8nm,0.9s
G29M **Pine Creek** **89.67** 15 P **P** **20 08 53.5 +0.9**
baz=218,SNR=5.1
C23K **Itkillik River** **89.70** 9 P **P** **20 08 53.3 +0.7**
C23K IAmb IAmb 20 08 54.6
comp=Z,11nm,1.0s
C23K **Itkillik River** **89.70** 9 P **P** **20 08 53.7 +1.1**
baz=206,SNR=7.6
H31M **Peel River** **89.75** 17 P **P** **20 08 54.1 +1.1**
baz=221
B22K **Teshekpuk Lake** **89.76** 8 P **P** **20 08 53.0 +0.1**
baz=203
F28M **Old Crow** **89.80** 14 P **P** **20 08 53.6 +0.4**
baz=216
C24K **Franklin Bluff** **89.89** 10 P **P** **20 08 53.9 +0.4**
baz=208
E27K **Colleen River** **89.90** 13 P **P** **20 08 53.7 0.0**
baz=214
D25K **Kavik River** **89.94** 11 P **P** **20 08 54.1 +0.3**
baz=210
G30M **tAoh Zraii Nji** **90.16** 15 P **P** **20 08 54.9 0.0**
baz=219,SNR=10
A22K **Sinclair Lake** **90.18** 7 P **P** **20 08 55.2 +0.4**
baz=202
TROLL **Troll, Antarti** **90.23** 180 ⇑P **P** **20 08 55.6 +0.2**
comp=Z,179nm,0.5s
SNAA **Sanae** **90.50** 178 ⇑P **P** **20 08 55.9 -0.8**
comp=Z,22nm,0.6s
SNAA **Sanae** **90.50** 178 P **P** **20 08 57.0 +0.4**
comp=Z,2.2nm,0.6s,baz=210,slow=10,SNR=8.7
comp=Z,2.2nm,0.6s
G31M **Satah River** **90.61** 16 P **P** **20 08 57.3 +0.4**
G31M **Satah River** **90.61** 16 P **P** **20 08 57.0 +0.1**
baz=221,SNR=15
VNA3 **Neumayer Olymp** **90.63** 176 ⇑P **P** **20 08 57.4 +0.2**
comp=Z,10.0nm,0.7s
E28M **Babbage River** **90.68** 13 IAmb IAmb 20 08 59.0
comp=Z,7.9nm,0.9s
E28M **Babbage River** **90.68** 13 P **P** **20 08 57.7 +0.5**
baz=216,SNR=10
C27K **Jago River** **90.68** 11 P **P** **20 08 57.6 +0.4**
baz=212,SNR=7.1
C26K **Camden Bay** **90.71** 11 P **P** **20 08 57.7 +0.4**
baz=211,SNR=5.3
F30M **Barrier River** **90.76** 15 P **P** **20 08 57.5 -0.1**
baz=220,SNR=5.8
E29M **Blow River** **90.87** 14 P **P** **20 08 58.0 -0.1**
baz=218
D27M **Malcolm River** **90.90** 12 IAmb IAmb 20 09 00.5
comp=Z,18nm,1.6s
D27M **Malcolm River** **90.90** 12 P **P** **20 08 58.7 +0.4**
baz=215
PLCA **Paso Flores** **90.94** 134 P **P** **20 09 01.0 +1.7**
comp=Z,5.8nm,1.0s,baz=233,slow=6.7,SNR=10
comp=Z,5.8nm,1.0s
LAO **LASA Array** **90.97** 41 P **P** **20 08 59.9 +0.7**
baz=245
VNA2 **Neumayer--Watz** **91.07** 177 ⇑P **P** **20 09 00.3 +1.1**
comp=Z,9.3nm,0.8s,baz=184,slow=3.8
F31M **Tsiigehtchic** **91.14** 16 P **P** **20 08 59.5 +0.2**
F31M **Tsiigehtchic** **91.14** 16 P **P** **20 08 59.5 +0.2**
baz=222,SNR=19
LZH **Lanzhou** **91.31** 308 *e*P **P** **20 09 02.8 +1.7**
LZH pP pP 20 11 12.9 +4.9
LZH pmax pmax
comp=Z,35nm,1.1s
OGNE **Ogallala** **91.41** 47 P **P** **20 09 00.5 -0.9**
baz=247
D28M **Stokes Point** **91.44** 13 P **P** **20 09 00.9 +0.2**
baz=217
INK **Inuvik** **91.84** 15 IAmb IAmb 20 09 03.6
comp=Z,10nm,1.0s
INK **Inuvik** **91.84** 15 P **P** **20 09 02.4 -0.2**
baz=222,SNR=5.5
DGMT **Dagmar** **92.96** 40 P **P** **20 09 06.2 -2.0**
baz=246
ULN **Ulaanbaatar** **93.52** 319 P **P** **20 09 10.3 -0.6**
ULN IAmb IAmb 20 09 12.4
comp=Z,7.1nm,0.8s
SONM **Songino Array** **93.91** 319 P **P** **20 09 13.2 +0.4**
comp=Z,2.4nm,0.9s,baz=130,slow=4.5,SNR=6.6
comp=Z,2.4nm,0.9s
YKA **Yellowknife Ar** **94.21** 25 P **P** **20 09 13.7 +0.2**
comp=Z,1.6nm,0.8s,baz=250,slow=4.3,SNR=17
comp=Z,1.6nm,0.8s
TUL3 **Leonard** **94.22** 54 P **P** **20 09 14.4 +0.2**
baz=251
C36M **Paulatuk** **95.04** 17 P **P** **20 09 17.1 0.0**
baz=230
GTA **Gaetai** **95.44** 310 *e*P **P** **20 09 21.0 +1.2**
AGMN **Agassiz Nation** **98.09** 42 P **P** **20 09 31.7 +0.3**
baz=252
CCM **Cathedral Cave** **98.33** 53 P Pdif 20 09 32.4 -0.2
baz=254
OXF **Oxford** **98.79** 57 P Pdif 20 09 33.8 -0.9
baz=254
LRAL **Lakeview Retre** **100.34** 59 P **Pdif** **20 09 41.1 -0.5**
baz=255
JFWS **Jewell Farm** **100.37** 48 P **Pdif** **20 09 41.8 +0.3**
baz=255
WVT **Waverly** **100.46** 55 P **Pdif** **20 09 41.8 -0.3**
baz=255
EYMN **Ely** **100.80** 43 P **Pdif** **20 09 43.1 -0.3**
baz=255
SFIN **Lafayette** **102.04** 51 P **Pdif** **20 09 48.5 -0.5**
baz=257
WCI **Wyandotte Cave** **102.15** 54 P **Pdif** **20 09 49.7 +0.1**
baz=257
GOGA **Godfrey** **103.31** 59 P **Pdif** **20 09 53.7 -1.1**
baz=257
O48B **Farmland** **103.46** 52 P **Pdif** **20 09 54.5 -0.9**
baz=258
TZTN **Tazewell** **103.92** 56 P **Pdif** **20 09 55.9 -1.6**
baz=258
P52A **Corning** **105.62** 53 P **PKiKP** **20 14 12.7 -1.7**
baz=259
O53A **New Philadelph** **106.42** 52 P **PKiKP** **20 14 14.8 -1.1**
baz=260
M53A **WI Miller and** **107.02** 51 P **PKiKP** **20 14 15.7 -1.3**
baz=261
ZALV **Zalesovo Beam** **108.58** 322 PKiKP **PKiKP** **20 14 18.9 -0.6**
comp=Z,2.0nm,0.5s,baz=117,slow=1.0,SNR=7.2
SSPA **Standing Stone** **108.99** 52 P **PKiKP** **20 14 19.1 -1.6**
baz=262
MKAR **Makanchi Array** **109.52** 314 PKiKP **PKiKP** **20 14 20.9 -0.6**
comp=Z,2.0nm,0.5s,baz=190,slow=0.6,SNR=38
BINY **Binghamton** **110.59** 51 P **PKiKP** **20 14 22.3 -1.4**
baz=264
LONY **Lake Ozonia** **111.82** 48 P **PKiKP** **20 14 24.3 -1.7**
baz=266
PAL **Palisades** **112.03** 52 P **PKiKP** **20 14 24.6 -1.8**
baz=265
KURBB **Kurchatov Arra** **112.25** 318 PKiKP **PKiKP** **20 14 25.8 -0.7**
comp=Z,3.5nm,0.7s,baz=90,slow=1.7,SNR=31
L61B **Northampton** **113.06** 51 P **PKiKP** **20 14 26.8 -1.5**
baz=266
KSH **Kashi** **113.50** 306 PKP **PKiKP** **20 14 30.7 +1.2**
LBNH **Lisbon** **113.70** 49 P **PKiKP** **20 14 28.2 -1.4**
baz=268
HRV **Adam Dziewonsk** **113.89** 51 P **PKiKP** **20 14 29.3 -0.6**
baz=267
PKME **Peaks-Kenny Pk** **115.60** 48 P **PKPdf** **20 14 32.5 -0.6**
baz=270
BVAR **Borovoye Array** **117.20** 321 PKP **PKPdf** **20 14 35.7 -0.3**
comp=Z,4.9nm,0.4s,baz=112,slow=1.8,SNR=45
BRVK **Borovoye** **117.26** 321 **PKPdf** **20 14 35.1 -0.9**
BTK **Batken** **117.49** 306 **PKPdf** **20 14 36.2 -0.9**
KK31 **Karatay Array** **117.72** 310 **PKPdf** **20 14 36.7 -0.6**
KBL **Kabul** **118.73** 300 **PKPdf** **20 14 38.9 -0.9**
SIMJ **Simiganj** **118.88** 305 **PKPdf** **20 14 38.8 -1.0**
SPITS **Spitsbergen Ar** **119.38** 357 PKP **PKPdf** **20 14 39.3 -0.3**
comp=Z,2.1nm,0.5s,baz=72,slow=6.2,SNR=13
ARU **Arti** **123.17** 326 **PKPdf** **20 14 47.0 -0.4**
ABKAR **Akbulak array** **124.30** 318 **PKPdf** **20 14 49.0 -0.7**
ARCES **ARCESS Array B** **126.48** 350 **PKPdf** **20 14 53.1 -0.3**
ARCES **ARCESS Array B** **126.48** 350 PKP **PKiKP** **20 14 53.8 -0.1**
comp=Z,3.0nm,0.4s,baz=94,slow=1.3,SNR=45
SUR **Sutherland** **126.80** 200 PKP **PKiKP** **20 14 56.1 +0.2**
comp=Z,2.9nm,0.7s,baz=166,slow=7.2,SNR=7.4
GEYT **Alibeck** **127.47** 304 **PKPdf** **20 14 55.6 -0.6**
GEYT **Alibeck** **127.47** 304 PKP **PKPdf** **20 14 56.4 +0.2**
comp=Z,10nm,0.9s,baz=54,slow=7.3,SNR=8.7
BOSA **Boshof** **128.53** 206 PKP **PKiKP** **20 14 59.5 0.0**
comp=Z,4.4nm,1.0s,baz=225,slow=2.9,SNR=3.4
FINES **FINESS Array B** **133.39** 344 PKhKP PKPpre 20 14 52.4
comp=Z,4.1nm,1.0s,baz=28,slow=4.5,SNR=5.0
FINES PKP **PKPdf** **20 15 05.8 -0.8**
comp=Z,4.4nm,0.8s,baz=54,slow=2.5,SNR=7.9
FINES SKPbc **SKPab** **20 17 42.6 -1.3**
comp=Z,4.1nm,0.8s,baz=61,slow=4.8,SNR=7.9
MATP **Matopo** **133.85** 215 PKP **PKPdf** **20 15 08.7 -0.3**
comp=Z,0.7nm,0.6s,baz=118,slow=0.5,SNR=4.2
MATP SKPbc **SKPab** **20 17 46.3 -1.2**
comp=Z,1.8nm,0.9s,baz=232,slow=4.0,SNR=4.4
OBN **Obninsk** **134.58** 333 PKP **PKPdf** **20 15 08.9 -0.1**
comp=Z,6.2nm,0.5s,baz=32,slow=13,SNR=3.3
OBN SKPbc **SKPab** **20 17 47.0 -2.4**
comp=Z,6.5nm,0.4s,baz=130,slow=11,SNR=4.3
NB2 **NORSAR Subarra** **136.51** 354 PKPdf PKPpre 20 15 02.0
comp=Z,0.5nm,0.4s,baz=14,slow=1.8
NB2 SKPa **SKPdf** **20 17 53.2 +0.5**
comp=Z,1.0nm,0.8s,baz=13,slow=2.9
NOA **NORSAR Array B** **136.51** 354 PKP **PKPdf** **20 15 12.8 +0.3**
comp=Z,0.9nm,0.5s,baz=14,slow=3.8,SNR=6.7
NOA SKPbc **SKiKP** **20 17 52.5 -3.1**
comp=Z,2.8nm,1.0s,baz=16,slow=4.4,SNR=4.7
HFS **Hagfors** **137.08** 351 PKhKP PKPpre 20 15 01.2
comp=Z,1.9nm,0.4s,baz=72,slow=4.8,SNR=16
KBZ **Khabaz** **137.19** 316 PKP **PKPdf** **20 15 14.7 +0.5**
comp=Z,2.8nm,0.8s,baz=116,slow=4.6,SNR=5.7
LSZ **Lusaka** **138.10** 220 PKP **PKPdf** **20 15 17.1 +0.2**
comp=Z,2.3nm,0.2s,baz=135,slow=1.4,SNR=5.2
RAYN **Ar Rayn** **139.13** 285 **PKPdf** **20 15 13.4 -5.1**
GURO **Guroymak-BITLI** **139.69** 309 PKPpre 20 15 12.6
AKASG **Malin Array Be** **140.85** 333 PKhKP PKPpre 20 15 15.1
comp=Z,1.6nm,0.4s,baz=42,slow=3.9,SNR=5.2
AKASG PKP **PKiKP** **20 15 23.3 -0.2**
comp=Z,3.0nm,0.5s,baz=44,slow=3.0,SNR=4.9
KIEV **Kiev** **140.86** 333 PKPdf **PKPdf** **20 15 14.0 -6.7**
RNPP9 **Sopachiv** **141.69** 336 PKPdf **PKPdf** **20 15 17.7 -4.4**
LUBAR **Lubar, Ukraine** **142.06** 333 PKPdf **PKPdf** **20 15 17.0 -5.9**
ARPR **Arapgir-MALATY** **142.18** 311 **PKPdf** **20 15 20.9 -2.7**
RSDY **Resadiye-TOKAT** **142.35** 314 *e*P **PKPdf** **20 15 22.4 -1.3**
EKA **Eskdalemuir Ar** **142.51** 5 PKhKP PKPpre 20 15 20.8
comp=Z,1.0nm,0.4s,baz=344,slow=3.5,SNR=6.5
SVSK **Karacayir** **142.78** 313 *e*P **PKPdf** **20 15 24.0 -0.4**
KVT **Kavak** **142.90** 316 *e*P **PKPdf** **20 15 24.0 -0.7**
TOKT **Tokat** **142.92** 314 *e*P **PKPdf** **20 15 23.7 -1.1**
DARE **Darende-Malaty** **143.00** 311 *e*P **PKPdf** **20 15 25.2 +0.2**
SORM **Soroca** **143.09** 330 ⇓P **PKPbc** **20 15 23.0 0.0**
SORM **Soroca** **143.09** 330 PKPdf PKPab 20 15 22.5 -0.1
BEL **Belsk** **143.13** 341 *e*PKP **PKPdf** **20 15 23.9 -0.8**
DIKM **Dikmen** **143.15** 317 ⇑P **PKPdf** **20 15 24.7 -0.3**
DIKM **Dikmen** **143.15** 317 PKPdf PKPbc 20 15 23.7 +0.3
HORU **Horodok** **143.16** 333 PKPdf PKPab 20 15 22.7 -0.1
NDNU **Novodnistrovsk** **143.21** 332 PKPdf PKPab 20 15 22.7 -0.3
PURM **Purcari** **143.45** 327 ⇑P **PKPdf** **20 15 24.9 -0.4**
PURM **Purcari** **143.45** 327 PKPdf PKPab 20 15 24.0 0.0
KMPD **K-Podol'skiy** **143.64** 332 PKPdf PKPbc 20 15 23.7 -1.0
KIS **Kishinev** **143.66** 329 *i* PKP PKPab 20 15 24.9 +0.1
comp=Z,56nm,0.7s
LVV **L'vov** **143.67** 336 PKPdf PKPbc 20 15 24.6 -0.2
MILM **Milestii Mici** **143.72** 329 ⇑P PKPab 20 15 25.3 +0.3
MILM **Milestii Mici** **143.72** 329 ⇓*i*PKP PKPbc 20 15 24.8 -0.2
comp=Z,27nm,0.5s
GAZ **Gaziantep** **143.74** 309 *e*P **PKPdf** **20 15 26.6 +0.3**
GAZ **Gaziantep** **143.74** 309 PKPbc 20 15 25.3 -0.2
SARI **SarD1z-Kayseri** **143.83** 311 *e*P **PKPdf** **20 15 27.1 +0.5**
KMRS **Kahramanmaras** **143.84** 310 *e*P **PKPdf** **20 15 26.7 +0.2**
BNN **Bunyan** **144.05** 312 *e*P **PKPdf** **20 15 27.6 +0.7**
CHRU **Chernivtsi** **144.07** 333 PKPdf PKPbc 20 15 25.4 -0.6
MORS **Morshin** **144.27** 335 PKPdf **PKPab** **20 15 27.4 +0.3**
LEOM **Leova** **144.31** 328 ⇑P **PKPab** **20 15 27.8 +0.6**
KWP **Kalwaria Pacla** **144.33** 337 *e*PKP **PKPab** **20 15 28.0 +0.7**
KWP **Kalwaria Pacla** **144.33** 337 PKPdf **PKPab** **20 15 27.8 +0.5**
STNU **Starunia** **144.36** 334 PKPdf **PKPab** **20 15 27.3 -0.1**
SHIU **Shidnytsya** **144.41** 336 PKPdf **PKPab** **20 15 27.6 -0.1**
VASR **Vaslui** **144.42** 329 ⇓P **PKPab** **20 15 28.2 +0.4**
KSV **Kosov** **144.43** 333 PKPdf PKPbc 20 15 27.1 -0.1
PRAR **RASCA** **144.64** 331 ⇓P **PKPab** **20 15 28.4 -0.2**
BIR **Birlad** **144.76** 329 ⇑P **PKPab** **20 15 30.1 +1.1**
TAHT **Tahtakopru-Hat** **144.81** 308 *e*P **PKPab** **20 15 29.5 -0.1**
VLDR **Vladesti** **144.83** 328 ⇑P **PKPab** **20 15 29.9 +0.6**
OJC **Ojcow** **144.85** 340 *e*PKP **PKPab** **20 15 29.0 -0.3**
OJC **Ojcow** **144.85** 340 **PKPdf** **20 15 27.9 +0.2**
OJC **Ojcow** **144.85** 340 PKPdf PKPbc 20 15 28.6 +0.2
CEYT **Ceyhan** **144.88** 310 *e*P **PKPab** **20 15 30.1 +0.3**
TLCR **144.90** 326 ⇑P **PKPab** **20 15 29.6 0.0**
BURAR **Bucovina Array** **144.90** 332 ⇓P **PKPab** **20 15 29.8 +0.1**
BURAR **Bucovina Array** **144.90** 332 PKPbc 20 15 28.6 -0.1
VARL **Varlezi** **144.91** 328 ⇓P **PKPab** **20 15 29.9 +0.3**
MEZ **Mezhgor'ye** **144.92** 335 PKPdf **PKPab** **20 15 29.1 -0.5**
SCTR **Scanteiesti** **144.99** 328 ⇓P **PKPab** **20 15 30.4 +0.4**
GHRR **145.01** 329 ⇓P **PKPab** **20 15 30.6 +0.6**
GHRR **145.01** 329 PKPdf **PKPab** **20 15 30.2 +0.2**
RAKU **Rahkiv** **145.03** 334 PKPdf **PKPbc** **20 15 29.3 +0.3**
STHS **Stebnicka Huta** **145.04** 338 *e*PKP **PKPbc** **20 15 29.3 +0.3**
TESR **Tescani** **145.06** 330 ⇓P **PKPab** **20 15 29.7 -0.5**
TESR **Tescani** **145.06** 330 PKPdf **PKPab** **20 15 29.2 +0.1**
KOLS **Kolonicke sedl** **145.06** 337 *e*PKP **PKPab** **20 15 30.0 -0.2**
JURR **Jurilovca** **145.14** 326 ⇑P **PKPab** **20 15 30.4 -0.2**
NEGRR **Negrea** **145.14** 328 ⇑P **PKPab** **20 15 30.0 -0.5**
SLCR **Slobozia Conac** **145.16** 328 ⇑P **PKPab** **20 15 30.7 +0.1**
BR131 **Keskin Array S** **145.17** 315 **PKPdf** **20 15 28.4 -0.4**
BRTR **Keskin Array B** **145.17** 315 **PKPdf** **20 15 28.0 -0.8**
BRTR **Keskin Array B** **145.17** 315 PKPbc **PKPab** **20 15 30.6 -0.5**
comp=Z,23nm,0.7s,baz=134,slow=4.6,SNR=87
CMRD **Camardi-Nigde** **145.17** 311 *e*P **PKPab** **20 15 30.8 -0.3**
BR104 **Keskin Array S** **145.17** 315 PKPdf **PKPdf** **20 15 29.2 +0.4**
IZVR **Izvoarele** **145.20** 328 ⇑P **PKPab** **20 15 30.9 +0.2**
BRIU **Brid** **145.26** 335 PKPdf **PKPbc** **20 15 30.0 +0.4**
CFR **Carcaliu** **145.26** 327 ⇑P **PKPab** **20 15 30.7 -0.3**
PANC **Panciu** **145.28** 329 ⇓P **PKPbc** **20 15 30.3 +0.5**
MUKU **Mukachevo** **145.29** 336 PKPdf **PKPbc** **20 15 30.2 +0.5**
UZHM **Uzhgorod** **145.31** 336 PKPdf **PKPab** **20 15 30.6 -0.5**
TPGR **Topolog** **145.32** 326 ⇑P **PKPab** **20 15 30.8 -0.6**
HOLU **Holmets** **145.35** 336 PKPdf **PKPab** **20 15 30.7 -0.5**
KORU **Korolevo** **145.35** 335 PKPdf **PKPbc** **20 15 30.3 +0.4**
NIE **Niedzica** **145.37** 339 *e*PKP **PKPab** **20 15 31.3 -0.1**
NIE **Niedzica** **145.37** 339 PKPdf **PKPbc** **20 15 30.0 0.0**
CRVS **Cervenica-Dubn** **145.39** 337 *e*PKP **PKPab** **20 15 31.0 -0.4**
ODBI **Odobesti** **145.40** 329 ⇓P **PKPab** **20 15 31.8 +0.3**
ODBI **Odobesti** **145.40** 329 PKPdf **PKPab** **20 15 31.7 +0.2**
BEIL **Beino** **145.46** 305 *e*P **PKPab** **20 15 31.6 -0.7**
VRI **Vrincioaia** **145.49** 329 ⇑P **PKPab** **20 15 31.2 -0.7**
VRI **Vrincioaia** **145.49** 329 PKPdf **PKPbc** **20 15 30.6 +0.2**
BERU **Beregovo** **145.49** 336 PKPdf **PKPdf** **20 15 29.0 +0.2**
PLOR **Plostina** **145.54** 329 ⇑P **PKPbc** **20 15 31.2 +0.6**
BMR **Baia Mare** **145.59** 334 ⇑P **PKPab** **20 15 31.6 -0.7**
SERE **Sereflikochisa** **145.59** 314 *e*P **PKPbc** **20 15 31.6 +0.5**
OSTC **Ostas** **145.60** 344 *e*PKPDF **PKPbc** **20 15 30.2 -0.4**
OSTC ⇑*e*PKP **PKPab** **20 15 32.2 0.0**
CHVC **Chvalec** **145.61** 344 ⇑*e*PKP **PKPab** **20 15 31.6 -0.7**
CLL **Collm** **145.64** 348 **PKPdf** **20 15 28.9 -0.1**
CLL **Collm** **145.64** 348 ⇓*i*PKPbc **PKPab** **20 15 31.4 -0.9**
comp=Z,75nm,1.0s
CLL *ex* x 20 17 49.0
CLL *e*SKPdf **SKPdf** **20 18 09.0 +0.5**
CLL *ex* x 20 18 50.0
ANTO **Ankara** **145.66** 316 ⇑P **PKPbc** **20 15 31.8 +0.6**

ANTO	Ankara	145.66	316			PKPdf	20 15 29.4	-0.1
ANTO	Ankara	145.66	316		PKPdf	PKPdf	20 15 30.1	+0.6
ARCR	ARCALIA	145.68	333	⇓P		PKPab	20 15 32.1	-0.5
AFSR	Afar-Bala (An	145.69	315	eP		PKPbc	20 15 31.9	+0.6
HARR	Harsova	145.69	327	⇑P		PKPab	20 15 32.2	-0.5
TURR	Turia	145.69	330	⇓P		PKPab	20 15 32.3	-0.5
UPC	Upice	145.70	344	⇑ePKP		PKPab	20 15 31.9	-0.7
OKC	Ostrava-Krasne	145.70	341	⇑ePKP		PKPab	20 15 31.8	-0.8
TLBR	Topalu	145.73	326	⇑P		PKPab	20 15 32.3	-0.6
HWQ	Hawqa	145.74	305	eP		PKPbc	20 15 32.0	+0.4
COVR	Voineasa-Covas	145.76	329	⇑P		PKPbc	20 15 31.9	+0.7
DPC	Dobruska-Polom	145.76	344	⇑ePKP		PKPab	20 15 32.2	-0.7
MFTR	Murfatlar	145.78	325	⇓P		PKPbc	20 15 30.4	-0.8
OZUR		145.78	330	⇓P		PKPbc	20 15 32.0	+0.7
BRG	Berggiesshubel	145.85	347	/ PKP		PKPbc	20 15 30.4	-0.9
BRG				Amp			20 15 31.2	
	comp=Z,5.2nm,1.0s							
BRG	Berggiesshubel	145.85	347	P		PKPab	20 15 32.2	-1.0
BRG				Amp			20 15 33.1	
	comp=Z,26nm,0.8s							
BRG	Berggiesshubel	145.85	347	P		PKiKP	20 15 36.8	+3.0
BRG				Amp			20 15 39.8	
	comp=Z,8.5nm,0.9s							
LANS	Liptovska Anna	145.88	340	ePKP		PKPab	20 15 33.4	0.0
KRLC	Kraliky	145.88	343	ePKPDF		PKPdf	20 15 30.1	+0.5
KRLC			⇑	ePKP		PKPab	20 15 32.4	-1.0
MANR	Mangalia	145.92	325	⇑P		PKPbc	20 15 32.9	-0.8
ZAHL	Zahle	145.92	304	eP		PKPbc	20 15 32.8	+0.7
KULU	Kulu	145.93	314	eP		PKPbc	20 15 32.9	+0.9
MORC	Moravsky Berou	145.93	342	⇑P		PKPab	20 15 32.8	-0.8
MORC	Moravsky Berou	145.93	342			PKPdf	20 15 30.0	+0.4
MORC	Moravsky Berou	145.93	342	ePKP		PKPbc	20 15 32.5	+0.9
MORC				e			20 17 06.4	
PVCC	Panska Ves	146.03	346	⇑ePKP		PKPab	20 15 32.9	-1.0
DOPR	Dopca	146.06	330	⇑P		PKPab	20 15 33.7	-0.5
RCY	Rachaya	146.08	304	eP		PKPbc	20 15 33.1	+0.5
BHL	Bhannes	146.09	304	eP		PKPbc	20 15 33.2	+0.6
ISR	Istrita	146.11	328	⇓P		PKPbc	20 15 33.0	+0.7
YUVA	Yuva-Kibriscik	146.11	317	eP		PKPbc	20 15 33.1	+0.6
RICC	Richard	146.13	346	⇑ePKP		PKPab	20 15 33.2	-1.1
MLR	Muntele Rosu	146.14	329	⇑P		PKPbc	20 15 33.1	+0.6
MLR	Muntele Rosu	146.14	329	PKPbc		PKPbc	20 15 32.7	+0.3
	comp=Z,15nm,0.6s,baz=63,slow=2.1,SNR=29							
MLR	Muntele Rosu	146.14	329	PKPdf		PKPbc	20 15 32.2	-0.2
QRWL	Qaraoun	146.18	304	eP		PKPbc	20 15 33.6	+0.7
MAUC	Maruska	146.21	341	⇑ePKP		PKPbc	20 15 33.4	+1.0
HSKC	Hora Svate Kat	146.22	347	⇑ePKP		PKPbc	20 15 33.1	+0.8
DQRL	Deir Qamar	146.22	304	eP		PKPbc	20 15 33.8	+0.8
CHBY	Cihanbeyli	146.23	314	eP		PKPbc	20 15 33.7	+0.8
MESR	Meseseni	146.23	334	⇑P		PKiKP	20 15 33.8	-0.9
CBBR	Cluj-Babes-Bol	146.28	333	⇑P		PKPdf	20 15 30.2	-0.1
MBAR	Mbarara	146.29	240	PKPdf		PKPdf	20 15 29.4	-2.1
MBAR						PKPbc	20 15 34.3	+0.5
CJR	Cluj-Napoca	146.30	333	⇓P		PKPbc	20 15 33.7	+0.9
MDUB	Mudurnu	146.38	318	eP		PKPbc	20 15 33.8	+0.6
MDUB	Mudurnu	146.38	318			PKPdf	20 15 29.8	-0.9
MDUB				PKPbc		PKPbc	20 15 33.5	+0.2
LTVH	Ltavrtes, Hu	146.47	335	⇑P		PKiKP	20 15 34.7	-0.4
PRA	Prague	146.49	346	⇑ePKP		PKiKP	20 15 34.2	-0.9
MARR	Marisel-Cluj	146.53	303	⇑P		PKiKP	20 15 34.5	+1.0
PRU	Pruhonice	146.54	345	⇑ePKP		PKiKP	20 15 34.1	+0.9
GOPC	GO Pecny, Ondr	146.55	345	⇑ePKP		PKiKP	20 15 34.2	-1.1
MMAI	Mount Meron Ar	146.57	303	PKPbc		PKPbc	20 15 34.9	+0.9
	comp=Z,42nm,0.6s,baz=67,slow=6.4,SNR=112							
KEBE	Keben-Mersin	146.61	310	eP		PKPbc	20 15 34.6	+0.7
VOIR		146.61	330	⇓P		PKPbc	20 15 34.3	+0.6
VOIR		146.61	330	PKPdf		PKPbc	20 15 34.1	+0.5
DRGR		146.62	334	⇑P		PKiKP	20 15 34.6	-1.1
VRAC	Vranov	146.63	343	⇓P		PKPbc	20 15 34.2	+0.7
VRAC	Vranov	146.63	343	ePKP		PKPbc	20 15 34.0	+0.5
VRAC				e			20 15 37.7	
VRAC				e			20 17 02.8	
VRAC	Vranov	146.63	343	PKPbc		PKPbc	20 15 34.2	+0.7
	comp=Z,12nm,0.8s,baz=4.5,slow=2.4,SNR=9.5							
EREN	Erenkoy	146.64	308	eP		PKPbc	20 15 33.9	0.0
VYHS	Vyhne	146.66	340	ePKP		PKiKP	20 15 34.6	-1.0
VYHS				e			20 15 37.8	
JAVC	Velka Javorina	146.71	341	ePKP		PKiKP	20 15 35.6	-0.1
JAVC				e			20 17 03.7	
IKL	Isikli	146.71	309	eP		PKPbc	20 15 34.3	+0.2
MMLI	Mount Malkishu	146.74	302	eP		PKiKP	20 15 35.7	-0.6
NKC	Novy Kostel	146.77	348	⇑ePKP		PKiKP	20 15 34.9	-0.9
LADK	Ladik-KONYA	146.78	314	eP		PKPbc	20 15 34.4	0.0
SAUV	Serdivan-Sakar	146.78	319	eP		PKPbc	20 15 34.9	+0.8
PSZ	Piszkesteto	146.79	338	⇓P		PKPbc	20 15 34.1	0.0
GULT	Gulveren	146.84	318	eP		PKPbc	20 15 34.8	+0.4
AKKU	Akkuyu-Mersin	146.85	309	eP		PKPbc	20 15 34.5	+0.1
KONT	Konya--Tatoy	146.90	313	eP		PKPbc	20 15 34.6	0.0
KRUC	Moravsky	146.91	343	ePKP		PKPbc	20 15 34.9	+0.7
KRUC				e			20 15 38.5	
KRUC				e			20 17 01.6	
GHAJ	Ghor Haditha	146.94	300	PKPdf		PKPdf	20 15 29.9	-1.9
GHAJ						PKPbc	20 15 34.8	0.0
TREC	Trest	146.94	344	⇑ePKP		PKPbc	20 15 34.6	+0.3
SILT	Sile	146.96	320	eP		PKPbc	20 15 35.3	+0.7
SRCK	Saricakaya, Es	146.98	318	eP		PKPbc	20 15 34.9	+0.2
PRD	Provadia	147.00	325	P		PKiKP	20 15 35.7	-0.7
BERE	Bereket-Mersin	147.01	310	eP		PKPbc	20 15 35.6	+0.5
CIFT	Cifteler, Eski	147.07	316	eP		PKPbc	20 15 35.4	+0.4
ZVC	Zvikov	147.14	345	⇑ePKP		PKiKP	20 15 35.8	-0.7
ZVC				ePKPAB		PKPab	20 15 39.5	+1.1
HRT	Hereke	147.14	320	eP		PKPbc	20 15 35.5	+0.3
LOT	Lotru	147.20	331	⇑P		PKPbc	20 15 34.8	-0.4
RAZG	Razgrad	147.21	326	⇓P		PKPbc	20 15 35.6	+0.5
LFK	Lefkose	147.22	308	eP		PKPbc	20 15 36.0	+0.5
MODS	Modra-Piesok	147.26	341	ePKP		PKiKP	20 15 36.9	+0.1
HDMB	Hadim	147.27	311	eP		PKPbc	20 15 35.8	0.0
KLYT	Kilyos	147.27	321	eP		PKPbc	20 15 35.5	+0.1
MEM	Membach	147.31	355	dPKiKP		PKPbc	20 15 35.7	+0.5
BTNL	Ternell	147.32	355	dPKiKP		PKPbc	20 15 35.8	+0.6
ADVT	Abdulvahap	147.32	319	eP		PKPbc	20 15 35.8	+0.2
BSTI	Sart Tilman	147.36	356	dPKiKP		PKiKP	20 15 36.1	-0.8
ISK	Istanbul-Kandi	147.37	320	eP		PKPbc	20 15 35.8	+0.2
SRO	Srobarova	147.42	340	ePKP		PKPbc	20 15 37.0	-0.1
SRO				e			20 15 41.2	
SIRR	Siria	147.47	334	⇓P		PKiKP	20 15 36.6	-0.8
BGKT	Bogazkoy	147.47	321	eP		PKiKP	20 15 36.6	-0.8
CSS	Mathiatis	147.50	308	eP		PKiKP	20 15 36.9	-0.8
CSS	Mathiatis	147.50	308	PKPdf		PKPbc	20 15 36.1	-0.1
BCLA	Clavier	147.54	356	dPKiKP		PKPbc	20 15 36.4	+0.6
BHOU	Houvegnez	147.56	355	dPKiKP		PKiKP	20 15 37.0	-0.4
KHC	Kasperske Hory	147.57	346	ePKPDF		PKPdf	20 15 33.5	+1.1
KHC			⇑	ePKP		PKiKP	20 15 37.0	-0.5
KHC				ePKPAB		PKPab	20 15 41.7	+1.5
KHC	Kasperske Hory	147.57	346	PKPdf		PKPbc	20 15 36.4	+0.4
BGES	Gesves	147.59	356	dPKiKP		PKPbc	20 15 36.1	+0.2
CTKS	Kestanelik-??a	147.60	321	eP		PKPbc	20 15 36.7	+0.5
CKRC	Cesky Krumlov	147.68	345	⇑ePKP		PKiKP	20 15 37.1	-0.6
SURR	Surduc	147.69	333	⇓P		PKPbc	20 15 36.7	+0.4
BMRD	Maredsous	147.69	357	dPKiKP		PKPbc	20 15 36.7	+0.5
SZH	Strazhitsa	147.70	326	P		PKPbc	20 15 36.9	+0.5
GAZI	Gazipasa	147.72	310	eP		PKPbc	20 15 36.2	-0.5
LEF	Lefka	147.76	308	eP		PKPbc	20 15 37.2	+0.4
ARMT	Armutlu	147.79	320	eP		PKPbc	20 15 37.0	+0.2
GERES	GERESS Array B	147.81	346	PKPdf		PKPdf	20 15 31.6	-1.2
GERES						PKPbc	20 15 36.8	+0.1
GERES	GERESS Array B	147.81	346	PKPbc		PKPbc	20 15 37.3	-0.7
	comp=Z,14nm,0.5s,baz=29,slow=4.1,SNR=97							
RCHB	Rochefort	147.81	356	dPKiKP		PKPbc	20 15 36.8	+0.3
SHUT	Suhut-Afyon	147.83	315	eP		PKiKP	20 15 37.8	-0.7
DOU	Dourbes	147.91	357	dPKiKP		PKPbc	20 15 37.5	-0.6
VLAD	Vladila	147.98	329	⇑P		PKiKP	20 15 38.2	-0.2
ELND	Elena	147.98	326	⇑P		PKiKP	20 15 38.1	-0.4
BZS	Buzias	147.98	331	⇓P		PKiKP	20 15 37.9	-0.6
CONA	Conrad Observa	148.08	342	ePKiKP		PKiKP	20 15 38.4	-0.2
	comp=Z,14nm,0.6s,SNR=12							
RONA	Rosalia, Austr	148.16	342	ePKiKP		PKiKP	20 15 38.5	-0.2
	comp=Z,14nm,0.7s,SNR=11							
WLF	Walferdange	148.23	355	dPKiKP		PKiKP	20 15 38.8	0.0
HERR	Herculane	148.25	332	⇓P		PKPbc	20 15 38.1	+0.4
KCTX	Karacabey (Bur	148.28	320	eP		PKPbc	20 15 38.1	+0.1
GEDZ	Gediz	148.32	317	eP		PKPbc	20 15 38.7	+0.5
BANR	Banloc	148.40	334	⇓P		PKiKP	20 15 39.4	+0.1
EDC	Edincik	148.53	320	eP		PKPbc	20 15 38.9	+0.3
MRMT	Marmara Adasi	148.53	321	eP		PKPbc	20 15 38.7	0.0
MOA	Molln	148.59	344	ePKiKP		PKiKP	20 15 39.2	-0.4
	comp=Z,16nm,1.3s,SNR=5.2							
MDVR	Moldovita	148.63	333	⇑P		PKiKP	20 15 39.5	-0.3
MORH	Mrgy, Hungar	148.69	338	⇑P		PKPdf	20 15 34.4	+0.2
DIM	Dimitrovgrad	148.75	325	P		PKiKP	20 15 39.9	-0.2
KORT	Korkueli	148.75	313	eP		PKPbc	20 15 39.6	+0.1
UKOP	Uzunkopru-Edir	148.77	323	eP		PKiKP	20 15 39.8	-0.3
ARSA	Arzberg	148.79	342	ePKiKP		PKiKP	20 15 39.5	-0.5
	comp=Z,3.0nm,0.6s							
KRBG	Karabiga-Canak	148.84	321	eP		PKiKP	20 15 40.2	-0.1
BIOA	Bad Ischl, Aus	148.90	345	ePKiKP		PKiKP	20 15 39.7	-0.5
	comp=Z,19nm,1.2s,SNR=8.1							
BLKB	Belogradchik	149.09	330	⇑P		PKiKP	20 15 40.3	-0.5
FRGS	Fruska Gora	149.13	335	⇓P		PKiKP	20 15 40.8	+0.1
ERIK	Erikli-Kesan	149.13	322	eP		PKiKP	20 15 40.4	-0.5
KDZ	Kurdzhali	149.16	325	eP		PKiKP	20 15 40.6	-0.4
KDZ	Kurdzhali	149.16	325	P		PKiKP	20 15 40.7	-0.3
PGB	Panagyurishte	149.17	327	P		PKiKP	20 15 40.6	-0.4
ALN	Alexandroupoli	149.25	323	eP		PKPbc	20 15 40.2	-0.1
BFO	Black Forest	149.31	352	PKPdf		PKPdf	20 15 33.9	-1.3
BFO						PKPbc	20 15 40.2	-0.1
GELI	Tayfur-Gelibol	149.33	322	eP		PKPbc	20 15 40.7	+0.2
RDO	Rodhopi	149.38	324	eP		PKiKP	20 15 41.1	-0.3
RDO	Rodhopi	149.38	324			PKPdf	20 15 34.7	-0.7
RDO					PKPbc	PKPbc	20 15 40.6	0.0
LESA	Schwarzleotal	149.38	346	/ PKP		PKPbc	20 15 40.5	-0.1
	comp=Z,15nm,0.7s							
SOKA	Soboth	149.46	342	/ PKiKP		PKiKP	20 15 41.1	-0.4
	comp=Z,17nm,0.9s,SNR=10							
CAME	Cameli-Denizli	149.51	314	eP		PKiKP	20 15 41.7	-0.3
COMU	Canakkale	149.52	321	eP		PKiKP	20 15 41.6	-0.2
BOVS	Bovan	149.53	331	⇓P		PKPbc	20 15 40.4	-0.5
KBA	Koelnbreinsper	149.54	345	/ PKP		PKPbc	20 15 40.7	-0.4
	comp=Z,10nm,0.5s,SNR=9.9							
VTS	Vitosha	149.57	328	P		PKiKP	20 15 42.0	0.0
AKAS	Kas	149.66	312	eP		PKPbc	20 15 41.6	0.0
WATA	Walderalm	149.71	347	/ PKiKP		PKPbc	20 15 41.5	+0.1
	comp=Z,20nm,0.6s,SNR=11							
RETA	Reutte	149.73	348	/ PKiKP		PKPbc	20 15 41.5	+0.2
	comp=Z,8.2nm,0.6s,SNR=5.4							
OBKA	Obir	149.75	343	/ PKP		PKPbc	20 15 41.0	-0.4
	comp=Z,8.0nm,0.8s,SNR=5.3							
WTTA	Wattenberg	149.76	347	/ PKiKP		PKiKP	20 15 42.7	+0.4
	comp=Z,45nm,0.6s,SNR=18							
EZN	Ezine	149.78	321	eP		PKiKP	20 15 41.9	-0.3
MOTA	Moosalm	149.80	348	/ PKiKP		PKiKP	20 15 42.2	-0.1
	comp=Z,27nm,0.9s,SNR=6.8							
FETY	Fethiye	149.82	313	eP		PKiKP	20 15 42.9	+0.4
MYKA	Terra Mystica	149.88	344	/ PKP		PKPbc	20 15 41.2	-0.5
	comp=Z,20nm,0.5s,SNR=8.7							
SQTA	Sankt Quirin	149.90	348	/ PKiKP		PKiKP	20 15 42.2	-0.2
	comp=Z,30nm,0.6s,SNR=12							
DALY	Dalyan (Mula)	150.02	314	eP		PKPbc	20 15 42.3	+0.1
CLF	Chambon-Foret	150.04	360	PKPbc		PKiKP	20 15 42.4	-0.1
CLF						PKPab	20 15 50.6	+0.3
ABTA	Abfaltersbach	150.06	346	/ PKP		PKPbc	20 15 41.7	-0.5
	comp=Z,40nm,0.6s,SNR=13							
PRED	Cave del Predi	150.08	344			PKPbc	20 15 41.4	-0.8
PRED					PKPab	PKPab	20 15 50.3	-0.4
MMB	Musomishta	150.08	326	P		PKPbc	20 15 42.3	0.0
DAVA	Damuels	150.09	349	/ PKiKP		PKiKP	20 15 42.6	-0.3
	comp=Z,35nm,1.1s,SNR=7.0							
LJU	Ljubljana	150.18	342	/ PKPbc		PKiKP	20 15 42.8	-0.2
FETA	Feichten	150.18	348	/ PKiKP		PKiKP	20 15 43.0	-0.1
	comp=Z,23nm,0.8s,SNR=6.6							
KKB	Krupnik	150.19	327	P		PKiKP	20 15 42.9	-0.2
ROBS	Robic	150.27	344	/ PKPbc		PKPbc	20 15 42.0	-0.5
TURN	Turunc	150.32	314	eP		PKiKP	20 15 43.6	+0.1
MLSB	Milas	150.35	316	eP		PKiKP	20 15 43.8	+0.2
CEY	Cerknica	150.48	342	/ PKPdf		PKPdf	20 15 37.0	-0.1
CEY				/ PKPbc		PKiKP	20 15 43.4	-0.2
CEY				/ PKPab		PKPab	20 15 52.3	-0.1
GCAM	G?zelcaml?	150.49	317	eP		PKiKP	20 15 43.8	0.0
SABO	M.te Sabotino	150.49	344			PKPdf	20 15 36.2	-0.9
URLA	Izmir	150.51	318	eP		PKPbc	20 15 43.5	+0.1
DAVOX	Davos/Dischmat	150.57	349	PKP		PKPdf	20 15 37.8	+0.4
	comp=Z,4.6nm,0.8s,baz=37,slow=5.1,SNR=7.5							
DAVOX				PKPbc		PKiKP	20 15 44.0	0.0
	comp=Z,44nm,0.6s,baz=333,slow=6.8,SNR=71							
FUORN	Ofenpass-Fuorn	150.66	348			PKPdf	20 15 36.7	-0.9
FUORN				PKPbc		PKiKP	20 15 44.4	+0.2
STIP	Stip	150.78	328	/ P		PKPbc	20 15 43.3	-0.6
BODT	Bodrum	150.79	316	eP		PKPbc	20 15 43.8	-0.3
DAT	Datca	150.80	315	eP		PKPbc	20 15 43.8	-0.4
CHOS	Chios island	150.83	319	eP		PKiKP	20 15 44.4	-0.2
VAY	Valandovo	150.86	327	/ P		PKPbc	20 15 42.1	-1.9
SKO	Skopje	150.94	329	/ P		PKiKP	20 15 44.7	+0.1
TUE	Stuetta	150.97	350			PKPdf	20 15 37.2	-0.9
TUE				PKPbc		PKiKP	20 15 45.1	+0.3
TEOL	Teolo	151.56	346	PKPdf		PKPdf	20 15 37.8	-0.9
TEOL						PKPbc	20 15 44.6	-0.9
TEOL				PKPab		PKPab	20 15 56.5	-0.3
PDG	Podgorica	151.59	333	⇑P		PKPbc	20 15 45.1	-0.5
KARP	Karpathos	151.71	313	eP		PKiKP	20 15 46.5	0.0
LIT	Litokhoron	151.78	326	PKPdf		PKPdf	20 15 37.5	-1.7
LIT						PKPbc	20 15 44.7	-1.5
LIT				PKPab		PKPab	20 15 57.3	-0.7
OHR	Ohrid	151.90	329	/ P		PKiKP	20 15 46.8	+0.1
APE	Apeiranthos	151.96	317	eP		PKPbc	20 15 45.5	-1.2
AGG	Agios Georgios	152.62	324			PKPdf	20 15 38.8	-1.7
AGG				PKPbc		PKPbc	20 15 47.2	-0.9
AGG				PKPab		PKPab	20 16 00.9	-0.8
SSB	Saint Sauveur	152.71	356			PKPbc	20 15 48.1	-0.1
BNI	Bardonecchia	152.74	353			PKPbc	20 15 48.1	-0.2
IDI	Anoyia	153.41	315	PKPdf		PKPdf	20 15 39.8	-2.0
IDI						PKPbc	20 15 49.7	-0.2
IDI	Anoyia	153.41	315	PKPbc		PKiKP	20 15 50.9	+0.9
	comp=Z,0.2nm,0.5s,baz=20,slow=12,SNR=28							
ESDC	Sonseca Array	157.77	12	PKPab		PKPab	20 16 23.4	-0.4
	comp=Z,3.1nm,1.0s,baz=342,slow=4.6,SNR=7.3							
KEST	Kesra	161.19	341	PKPab		PKPab	20 16 39.1	+0.2
	comp=Z,9.0nm,0.8s,baz=45,slow=16,SNR=8.8							
MDT	Midelt	164.06	21	PKP		PKPdf	20 15 55.5	+1.3
	comp=Z,3.4nm,0.9s,baz=328,slow=3.8,SNR=3.2							
TAM	Tamanrasset	174.23	326			PKPdf	20 15 58.7	-2.1
TORD	Torodi Ar. Bea	175.17	176	PKP		PKPdf	20 16 00.4	-0.7
	comp=Z,2.6nm,1.0s,baz=169,slow=2.3,SNR=2.6							
TORD				PKPab		PKPab	20 17 41.1	+0.1
	comp=Z,1.0nm,0.7s,baz=180,slow=3.0,SNR=2.2							

*KRNET **01** 20:01:47.9±0.1, 40°.21N×77°.47E, h13km, mb2.9*
*SOME **01** 20:01:48.0, 40°.23N×77°.45E, h5km*
*NNC **01** 20:01:50.0±1.4, 40°.27N×77°.47E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=9.7km s-min=7.2km az=167.0

ISC 01 20:01:53.0±1.9, 40°.36N±0°.09×77°.39E±0°.04, h10km, n61,
σ1§28/94, 10C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	Taragay, Kyrgy	1.40	13	⇓	iP	Pn	20 02 16.9		-2.1
	baz=9.0								
TARG				⇓	iS	Sg	20 02 38.4		+0.2
	baz=9.0								
NRN	Naryn	1.50	316	⇓	eP	Pn	20 02 19.3		-1.0
	baz=17								
NRN				⇓	eS	Sg	20 02 42.1		+0.8
	baz=17								
KDJ	Kajisay	1.77	355	⇓	eP	Pn	20 02 24.1		+0.2
	baz=54								
KDJ				⇓	eS	Sg	20 02 50.1		+0.1
	baz=54								
PRZ	Przheval'sk	2.25	19	⇑	eP	Pn	20 02 30.8		+0.3
	baz=17								
PRZ				⇑	eS	Sb	20 03 01.9		0.0
	baz=17								
BOOM	Boomskoye usch	2.39	333	⇓	iP	Pn	20 02 32.9		+0.6
	baz=34								
BOOM				⇓	iS	Sb	20 03 05.7		-0.1
	baz=34								
ANVS	Anan'yevo	2.43	5	⇑	eP	Pn	20 02 32.9		0.0
	baz=3.0								
ANVS				⇑	eS	Sb	20 03 06.3		-0.6
	baz=3.0								
TNSS	Tian-Shan	2.69	353	Pg		Pb	20 02 41.0		-0.5
	32nm,0.5s								
TNSS				Lg		Lg	20 03 19.5		
	26nm,0.5s								
TNSS	Tian-Shan	2.69	353	eP		Pb	20 02 41.0		-0.5
	32nm,0.5s								
TNSS				eS		Sg	20 03 19.5		-0.1
	26nm,0.5s								
IZV	Izvestkoviy	2.73	348	Pg		Pg	20 02 44.8		-0.6
	7.7nm,0.5s								
IZV				Lg		Lg	20 03 24.2		
	39nm,0.4s								
IZV	Izvestkoviy	2.73	348	eP		Pb	20 02 41.9		-0.1
	1.7nm,0.2s								
IZV				eS		Sg	20 03 20.6		-0.2
	31nm,0.5s								
ARLS	Aral	2.76	304	⇑	iP	Pn	20 02 37.4		0.0
	baz=6.0								
ARLS				⇑	iS	Sn	20 03 13.9		+3.1
	baz=6.0								
SATY	Saty	2.80	16	Pg		Pb	20 02 42.8		-0.4
	7.9nm,0.6s								
SATY				Lg		Lg	20 03 22.3		
	19nm,0.4s								
SATY	Saty	2.80	16	eP		Pb	20 02 42.8		-0.4
	7.9nm,0.6s								
SATY				eS		Sg	20 03 22.3		-0.7
	19nm,0.4s								
MDOK	Medeo	2.81	355	Pg		Pb	20 02 42.8		-0.6
	7.8nm,0.5s								
MDOK				Pg		Pb	20 02 43.1		-0.3
	12nm,0.4s								
MDOK				Lg		Lg	20 03 22.6		
	31nm,0.7s								
MDOK				Lg		Lg	20 03 23.2		
	28nm,0.6s								
MDOK	Medeo	2.81	355	eP		Pb	20 02 43.1		-0.3
	12nm,0.4s								
MDOK				eS		Sg	20 03 22.6		-0.7
	31nm,0.7s								
UCH	Uchtor	2.85	312	⇓	iP	Pn	20 02 39.2		+0.2
	baz=13								
UCH				⇓	iS	Sn	20 03 16.4		+2.7
	baz=13								
MTBS	Maitube	2.86	346	Pg		Pb	20 02 44.1		0.0
	4.8nm,0.2s								
MTBS				Lg		Lg	20 03 24.5		
	38nm,0.4s								
MTBS	Maitube	2.86	346	eP		Pb	20 02 44.1		0.0
	4.8nm,0.2s								
MTBS				eS		Sg	20 03 24.5		-0.2
	38nm,0.4s								
AAA	Alma-Ata	2.87	353	Pg		Pb	20 02 44.6		+0.4
	37nm,0.4s								
AAA				Lg		Lg	20 03 25.6		
	6.7nm,0.4s								
AAA	Alma-Ata	2.87	353	eP		Pb	20 02 44.6		+0.4
	37nm,0.4s								
AAA				eS		Sg	20 03 25.6		+0.6
	6.7nm,0.4s								
KNDC	Almaty	2.87	354	Pg		Pb	20 02 44.0		-0.3

SGDS	**Sogindy**	**3.71**	**327**	Pg	**Pb**	**20 02 59.4**	**+0.8**
	2.4nm,0.5s						
SGDS				Lg	Lg	20 03 50.8	
	13nm,0.5s						
BLB	**Baldybastay**	**3.82**	**12**	Pg	**Pb**	**20 03 00.5**	**0.0**
	11nm,0.5s						
BLB				Lg	Lg	20 03 52.8	
	21nm,0.6s						
ARXS	**Arharly**	**3.86**	**5**	Pg	**Pb**	**20 03 02.1**	**+0.9**
	3.1nm,0.4s						
ARXS				Lg	Lg	20 03 55.3	
	12nm,0.7s						
ARXS	**Arharly**	**3.86**	**5**	*e*P	**Pb**	**20 03 02.1**	**+0.9**
	3.1nm,0.4s						
ARXS				*e*S	**Sg**	**20 03 55.3**	**-1.7**
	12nm,0.7s						
MRKS	**Merke**	**3.92**	**309**	Pg	**Pb**	**20 03 02.8**	**+0.5**
	3.0nm,0.6s						
MRKS				Lg	Lg	20 03 56.2	
	6.9nm,0.7s						
MRKS	**Merke**	**3.92**	**309**	*e*P	**Pb**	**20 03 02.8**	**+0.5**
	3.0nm,0.6s						
MRKS				*e*S	**Sg**	**20 03 56.2**	**-2.8**
	6.9nm,0.7s						
KNOS	**Konyrlen**	**4.21**	**18**	Pg	**Pb**	**20 03 08.2**	**+1.0**
	2.9nm,0.4s						
KNOS				Lg	Lg	20 04 05.9	
	4.8nm,0.6s						
DJR	**Jarkent**	**4.35**	**23**	Pg	**Pb**	**20 03 10.5**	**+0.9**
	1.3nm,0.1s						
DJR				Lg	Lg	20 04 09.7	
	9.8nm,0.5s						
DJR	**Jarkent**	**4.35**	**23**	*e*P	**Pb**	**20 03 10.5**	**+0.9**
	1.3nm,0.1s						
DJR				*e*S	**Sg**	**20 04 09.7**	**-2.9**
	9.8nm,0.5s						
KK31	**Karatay Array**	**5.83**	**300**	Pg	**Pg**	**20 03 42.1**	**-2.4**
	0.1nm,0.3s,baz=62,slow=12						
KK31				Lg	Lg	20 04 55.2	
	2.0nm,0.8s,baz=106,slow=25,SNR=3.8						

TAP 01 20:07:07.6, 24°.09N×121°.46E, h7km, ML1.1, 4C, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LXIB	**Xiulin Townshi**	**0.08**	**210**	⇑*i*P	Pg	20 07 10.4	+0.6
	baz=209						
LXIB				*i* S	Sg	20 07 12.0	+0.6
	baz=209						
ETLH	**Xiulin Townshi**	**0.11**	**11**	⇑*i*P	Pg	20 07 11.0	+0.7
	baz=10.0						
ETLH				S	Sg	20 07 12.9	+0.8
	baz=10.0						
TWD	**Chiawan**	**0.13**	**96**	⇑*i*P	Pg	20 07 11.6	+1.2
	baz=95						
TWD				*i* S	Sg	20 07 13.7	+1.5
	baz=95						
ETM	**Tongmen**	**0.13**	**166**	P	Pg	20 07 11.6	+1.2
	baz=166						
ETM				*i* S	Sg	20 07 13.7	+1.3
	baz=166						
NACB	**Ninganchiao**	**0.15**	**57**	P	Pg	20 07 11.7	+0.9
	baz=57						
NACB				S	Sg	20 07 14.2	+1.3
	baz=57						
ETL	**Fush Village**	**0.16**	**67**	P	Pg	20 07 12.1	+1.1
	baz=66						
ETL				S	Sg	20 07 14.8	+1.5
	baz=66						
HWA	**Hwalien**	**0.18**	**131**	*e*P	Pg	20 07 13.3	+2.0
	baz=129						
WHF	**Hehuan Shan**	**0.18**	**286**	*i* P	Pg	20 07 12.5	+1.0
	baz=286						
WHF				*i* S	Sg	20 07 15.2	+1.0
	baz=286						
FUSS	**Fushou**	**0.25**	**308**	P	Pg	20 07 14.1	+1.4
	baz=307						
FUSS				S	Sg	20 07 17.8	+1.7
	baz=307						
CHGB	**Renai**	**0.26**	**263**	⇑P	Pb	20 07 14.2	-0.6
	baz=262						
ESL	**Shilin**	**0.28**	**185**	*e*P	Pb	20 07 14.5	-0.5
	baz=183						
ESL				*e*S	Sb	20 07 18.8	-1.1
	baz=183						
OWD	**Renai**	**0.29**	**242**	*e*P	Pb	20 07 14.9	-0.4
	baz=241						
OWD				*e*S	Sg	20 07 18.5	+1.1
	baz=241						
WUSB	**Renai**	**0.33**	**252**	P	Pb	20 07 15.5	-0.4
	baz=251						
WUSB				S	Sb	20 07 20.1	-1.3
	baz=251						
NNSB	**Datong**	**0.34**	**348**	P	Pb	20 07 15.6	-0.5
	baz=348						
NNSB				S	Sg	20 07 20.3	+1.4
	baz=348						
WARBT	**Fenglin Townsh**	**0.38**	**190**	P	Pb	20 07 16.1	-0.7
	baz=190						
WARBT				*e*S	Sg	20 07 21.4	+1.3
	baz=190						
EGFH	**Guangfu**	**0.42**	**184**	P	Pb	20 07 17.1	-0.4
	baz=183						
VWDT	**VWDT**	**0.45**	**221**	P	Pb	20 07 17.4	-0.5
	baz=220						
DPDB	**Guoxing**	**0.49**	**263**	P	Pb	20 07 19.0	+0.4
	baz=262						
WCS	**Beigang Elemen**	**0.50**	**266**	P	Pb	20 07 18.8	+0.1
	baz=265						
WCS				S	Sb	20 07 26.6	+0.3
	baz=265						
SMLT	**Sun Moon Lake**	**0.55**	**248**	P	Pb	20 07 19.4	-0.3
	baz=247						
SMLT				*e*S	Sb	20 07 27.2	-0.7
	baz=247						
SSLB	**Suanglung**	**0.55**	**237**	P	Pn	20 07 26.4	+4.4
SSLB	**Suanglung**	**0.55**	**237**	P	Pb	20 07 19.6	-0.1
	baz=236						
SSLB				*e*S	Sg	20 07 26.4	+0.8
	baz=236						
SSLB	**Suanglung**	**0.55**	**237**	P	Pn	20 07 25.9	+3.9
YHNB	**Yeheng**	**0.58**	**352**	P	Pb	20 07 20.0	-0.1
	baz=352						

*IDC **01** 20:28:43.2±0.8, 28°.47N×102°.66E, h0km, mb3.9/10, mbtmp3.8/12, ML3.5/2, MS3.7/3, Error ellipse: s-maj=31.0km s-min=15.5km az=61.0*
*NEIC **01** 20:28:46.0±1.3, 28°.58N±0°.04×102°.8E±0°.1, h10km±1km, mb4.3/19, Error ellipse: s-maj=17.5km s-min=4.7km az=253.0*
ISC 01 20:28:45.0±0.6, **28°.56N**±0°.08×**102°.7E**±0°.1, **h10**km, **n39,** σ**1**§**11**/38, **mb4.1**/18, **MS3.7**/3, **Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENH	**Enshi**	**6.19**	**72**		**Pn**	**20 30 17.1**	**+0.6**
SLVN	**Son La**	**7.28**	**171**		**Pn**	**20 30 32.9**	**+1.4**
CRAI	**Chiangrai**	**8.55**	**195**	Pn	**Pn**	**20 30 50.2**	**+1.3**
CMAR	**Chiang Mai Arr**	**10.62**	**200**	Pn	**Pn**	**20 31 16.8**	**-0.4**
	baz=11,slow=12,SNR=1.2						
	0.2nm,0.6s						
SONM	**Songino Array**	**19.47**	**8**	P	**Pn**	**20 33 13.6**	**+0.4**
	0.5nm,0.3s,baz=189,slow=10,SNR=26						
	3.0nm,0.6s						
ULN	**Ulaanbaatar**	**19.58**	**9**	P	**P**	**20 33 13.8**	**+0.6**
KSRS	**Korea Array**	**22.91**	**61**	P	**P**	**20 33 49.2**	**+0.2**
	1.5nm,1.0s,baz=251,slow=10,SNR=5.2						
	1.5nm,1.0s						
MK31	**Makanchi Array**	**24.20**	**324**	P	**P**	**20 34 02.5**	**+0.7**
MKAR	**Makanchi Array**	**24.20**	**324**	P	**P**	**20 34 02.5**	**+0.8**
	2.8nm,0.8s,baz=129,slow=9.6,SNR=15						
	2.8nm,0.8s						
MAKZ	**Makanchi**	**24.38**	**324**	P	**P**	**20 34 04.5**	**+1.2**
MAKZ				IAmb	IAmb	20 34 14.3	
	comp=Z,4.7nm,1.1s						
ZALV	**Zalesovo Beam**	**28.54**	**338**	P	**P**	**20 34 41.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=147,slow=10,SNR=5.7						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**28.61**	**327**	P	**P**	**20 34 41.9**	**+0.5**
	comp=Z,1.0nm,0.6s,baz=134,slow=9.4,SNR=15						
KURBB				PcP	**PcP**	**20 37 49.0**	**-3.2**
	comp=Z,0.2nm,0.6s,baz=119,slow=3.1,SNR=1.7						
	comp=Z,1.0nm,0.6s						
KURK	**Kurchatov**	**28.63**	**327**	P	**P**	**20 34 41.5**	**0.0**
KURK				IAmb	IAmb	20 34 43.7	
	comp=Z,2.2nm,0.7s						
DAV	**Davao City (W)**	**30.41**	**130**	LR	LR	20 46 55.0	
	comp=Z,93nm,19.3s,baz=123,slow=36						
BVAR	**Borovoye Array**	**34.09**	**325**	P	**P**	**20 35 30.3**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=144,slow=10.0,SNR=3.4						
BVAR				PcP	**PcP**	**20 38 05.7**	**-1.2**
	comp=Z,0.5nm,0.5s,baz=104,slow=3.7,SNR=4.8						
	comp=Z,0.5nm,0.5s						
ABKAR	**Akbulak array**	**38.50**	**314**	P	**P**	**20 36 08.4**	**+1.2**
ABKAR	**Akbulak array**	**38.50**	**314**	P	**P**	**20 36 08.1**	**+0.8**
TIXI	**Tiksi**	**45.49**	**11**	P	**P**	**20 37 03.4**	**-0.7**
TIXI				IAmb	IAmb	20 37 09.1	
	comp=Z,6.1nm,1.4s						
TIXI	**Tiksi**	**45.49**	**11**	LR	LR	20 57 38.5	
	comp=Z,87nm,18.4s,baz=192,slow=38						
LVZ	**Lovozero**	**55.61**	**335**	P	**P**	**20 38 18.2**	**-2.5**
WB0	**Warramunga Arr**	**56.98**	**144**		**P**	**20 38 29.0**	**-2.0**
WB0				IAmb	IAmb	20 38 31.4	
	comp=Z,5.8nm,1.0s						
WRAB	**Tennant Creek**	**57.10**	**144**	P	**P**	**20 38 31.2**	**-0.6**
WRAB				IAmb	IAmb	20 38 52.2	
	comp=Z,4.2nm,1.1s						
WRA	**Warramunga Arr**	**57.10**	**144**	P	**P**	**20 38 31.4**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=332,slow=8.1,SNR=16						
	comp=Z,1.9nm,0.7s						
WB2	**Warramunga Arr**	**57.11**	**144**	P	**P**	**20 38 31.5**	**-0.4**
WB2				IAmb	IAmb	20 39 06.6	
	comp=Z,5.6nm,1.2s						
FINES	**FINESS Array B**	**59.00**	**327**	P	**P**	**20 38 44.8**	**+0.2**
	comp=Z,2.0nm,1.1s,baz=95,slow=8.6,SNR=3.8						
	comp=Z,2.0nm,1.1s						
AS31	**Alice Springs**	**60.01**	**147**	P	**P**	**20 38 52.2**	**+0.1**
AS31				IAmb	IAmb	20 39 15.5	
	comp=Z,1.7nm,1.4s						
ASAR	**Alice Springs**	**60.01**	**147**	P	**P**	**20 38 52.4**	**+0.3**
ASAR	**Alice Springs**	**60.01**	**147**	P	**P**	**20 38 51.8**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=328,slow=7.0,SNR=17						
	comp=Z,1.0nm,0.6s						
SPA0	**Spitsbergen Ar**	**61.51**	**346**	P	**P**	**20 39 02.0**	**+0.4**
SPB5	**Spitsbergen Ar**	**61.51**	**346**	P	**P**	**20 39 02.8**	**+1.2**
C16K	**Lisburne Hills**	**64.53**	**24**	P	**P**	**20 39 21.6**	**-0.1**
HFS	**Hagfors**	**65.19**	**327**	P	**P**	**20 39 27.0**	**+0.8**
	comp=Z,1.9nm,1.0s,baz=74,slow=11,SNR=1.0						
	comp=Z,1.9nm,1.0s						
C19K	**Lookout Ridge**	**66.34**	**23**	P	**P**	**20 39 32.6**	**-0.9**
F17K	**Baldwin Pennin**	**66.55**	**26**	P	**P**	**20 39 33.3**	**-1.5**
B20K	**Meade River**	**66.85**	**22**	P	**P**	**20 39 37.2**	**+0.5**
E19K	**Redstone River**	**67.71**	**24**	P	**P**	**20 39 42.6**	**+0.4**
E19K				IAmb	IAmb	20 40 20.8	
	comp=Z,11nm,1.3s						
OPO	**Ambohidratompo**	**71.20**	**236**	LR	LR	21 09 10.6	
	comp=Z,55nm,21.8s,baz=310,slow=34						
YKA	**Yellowknife Ar**	**84.48**	**16**	P	**P**	**20 41 17.8**	**0.0**
	comp=Z,0.2nm,0.6s,baz=326,slow=5.0,SNR=5.6						
	comp=Z,0.2nm,0.6s						
TXAR	**Lajitas Array**	**117.17**	**26**	PKP	**PKPdf**	**20 47 29.3**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=320,slow=2.7,SNR=2.7						

*NEIC **01** 20:36:21.2±1.5, 19°.38N±0°.03×155°.05W±0°.03, h5km±2km, Error ellipse: s-maj=6.0km s-min=3.0km az=317.0*
HVO 01 20:36:19.7±1.3, **19°.36N**±0°.02×**155°.00W**±0°.03, **h1**km±9km, **ML2.4**/15, **ML2.5**/34(NEIC), **Error ellipse: s-maj=4.6km s-min=1.4km az=130.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.08**	**357**		Pg	20 36 23.7	+2.5
KNHH	**Kane Nui o Ham**	**0.16**	**278**		Pg	20 36 23.4	+0.6
PUH	**Pauahi**	**0.20**	**275**		Pg	20 36 24.1	+0.4
PUH					Sg	20 36 29.1	+2.7
PUH	**Pauahi**	**0.20**	**275**	IAML		20 36 30.0	
	comp=E,305nm,0.2s						
PUH				IAML		20 36 30.5	
	comp=N,295nm,0.4s						
BYL	**Byron's Ledge**	**0.25**	**283**		Sb	20 36 30.4	-1.6
BYL	**Byron's Ledge**	**0.25**	**283**		Pg	20 36 25.3	+0.7
BYL				IAML		20 36 30.9	
	comp=N,747nm,0.2s						
BYL				IAML		20 36 31.6	
	comp=E,749nm,0.4s						
KKO	**Keanakako'i**	**0.25**	**279**		Pg	20 36 25.4	+0.8
KKO				IAML		20 36 31.6	
	comp=N,830nm,0.5s						
HATHI	**Halema'uma'u T**	**0.26**	**285**	Pg	Pg	20 36 25.3	+0.7
HATHI					Sb	20 36 30.1	-2.0
HATHI				IAML		20 36 33.1	
	comp=E,843nm,0.2s						
RIM	**Rim**	**0.26**	**279**	IAML		20 36 30.8	
	comp=E,768nm,0.4s						
RIM				IAML		20 36 32.7	
	comp=N,809nm,1.2s						
RIM	**Rim**	**0.26**	**279**		Pg	20 36 25.5	+0.8
RIM					Sb	20 36 30.6	-1.7
SBLHI	**Steaming Bluff**	**0.26**	**286**		Pg	20 36 25.4	+0.7
SBLHI				IAML		20 36 31.4	
	comp=N,804nm,0.2s						
UWB	**Uwekahuna B**	**0.27**	**285**		Pg	20 36 25.7	+0.7
UWB	**Uwekahuna B**	**0.27**	**285**	IAML		20 36 30.9	
	comp=E,271nm,1.0s						
UWB				IAML		20 36 31.4	
	comp=N,326nm,0.8s						
SDHHI	**Sand Hill**	**0.28**	**277**		Pg	20 36 25.9	+0.8
SDHHI	**Sand Hill**	**0.28**	**277**	IAML		20 36 32.9	
	comp=E,1μm,0.8s						
SDHHI				IAML		20 36 33.5	
	comp=N,1μm,0.2s						
RSD	**Rainshed**	**0.28**	**292**		Pg	20 36 26.0	+0.8
RSD					Sb	20 36 31.2	-1.8
RSD	**Rainshed**	**0.28**	**292**	IAML		20 36 32.9	
	comp=N,793nm,2.7s						
UWE	**Uwekahuna**	**0.28**	**283**	IAML		20 36 34.7	
	comp=E,1μm,0.3s						
UWE	**Uwekahuna**	**0.28**	**283**		Pg	20 36 26.0	+0.8
UWE					Sb	20 36 31.5	-1.5
WRMHI	**West Rim**	**0.29**	**280**		Pg	20 36 26.0	+0.7
WRMHI	**West Rim**	**0.29**	**280**	IAML		20 36 33.8	
	comp=E,1μm,0.6s						
WRMHI				IAML		20 36 33.9	
	comp=N,1μm,1.2s						
HLP	**Hilina Pali**	**0.30**	**258**		Pg	20 36 26.0	+0.6
HLP				IAML		20 36 30.9	
	comp=N,638nm,1.4s						
MLH	**Mauna Loa**	**0.39**	**291**		Pg	20 36 27.6	+0.4
MLH	**Mauna Loa**	**0.39**	**291**	IAML		20 36 35.5	
	comp=E,447nm,0.2s						
MLH				IAML		20 36 38.2	
	comp=N,485nm,0.2s						
HTC	**Hot Caves**	**0.39**	**253**		Pg	20 36 27.6	+0.4
HMH	**Humu'ula Sheep**	**0.52**	**298**		Pg	20 36 29.7	0.0
HMH	**Humu'ula Sheep**	**0.52**	**298**		Sg	20 36 38.0	+1.6
MLOA	**Mauna Loa Obse**	**0.57**	**288**		Sg	20 36 38.8	+0.7
MLOA	**Mauna Loa Obse**	**0.57**	**288**	Pg	Pg	20 36 30.3	-0.4
MLOA				IAML		20 36 41.4	
	comp=N,255nm,0.3s						
MLOA				IAML		20 36 42.0	
	comp=E,427nm,0.2s						
MWH	**Moku'aweowe**	**0.58**	**283**	Pg	Pg	20 36 30.5	-0.3
MWH				IAML		20 36 45.4	
	comp=E,336nm,1.6s						
MWH				IAML		20 36 51.3	
	comp=N,236nm,0.6s						
KHU	**Kahuku**	**0.59**	**259**		Sb	20 36 41.9	0.0
KHU	**Kahuku**	**0.59**	**259**	Pg	Pg	20 36 30.1	-0.9
KHU	**Kahuku**	**0.59**	**259**	IAML		20 36 46.8	
	comp=E,322nm,3.2s						
KHU				IAML		20 36 50.0	
	comp=N,332nm,3.7s						
ALEP	**Alea Permanent**	**0.64**	**287**		Pg	20 36 32.0	+0.1
ALEP					Sb	20 36 42.7	-0.6
POHA	**Pohakuloa**	**0.64**	**309**		Sb	20 36 42.0	-1.4
HUH	**Hualalai**	**0.85**	**293**	Pg	Pg	20 36 35.1	-1.0
MHA	**Mahukona**	**1.19**	**314**	Pg	Pg	20 36 40.6	-1.9

*SDD **01** 20:37:53.5±1.2, 19°.57N×67°.64W, h22km±137km, MD3.6, ML2.7, MW3.4*
*RSPR **01** 20:37:56.4, 19°.59N×67°.67W, h47km±7km, MD3.1/8*
*NEIC **01** 20:37:56.5±1.1, 19°.37N±0°.06×67°.73W±0°.03, h32km±15km, ML2.8/26, Md3.2/8(RSPR), Error ellipse: s-maj=9.6km s-min=2.1km az=205.0*
ISC 01 20:37:55.8±1.8, **19°.4N**±0°.1×**67°.70W**±0°.04, **h21**km, **n45,** σ**0**§**73**/50, **9C-6D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.10**	**150**	⇑*e*P	**Pn**	**20 38 14.8**	**-1.2**
AGPR	**Aguadilla, PR**	**1.10**	**150**	*e*S	**Sb**	**20 38 30.1**	**0.0**
AGPR	**Aguadilla, PR**	**1.10**	**150**		**Pn**	**20 38 14.3**	**-1.7**
AGPR				IAML		20 38 30.5	
	comp=N,222nm,1.1s						
AGPR				IAML		20 38 32.2	
	comp=E,230nm,0.4s						
AGPR	**Aguadilla, PR**	**1.10**	**150**		**Sb**	**20 38 30.1**	**0.0**
AGPR	**Aguadilla, PR**	**1.10**	**150**	⇑*e*Pg	**Pn**	**20 38 14.8**	**-1.2**
AGPR				IAML		20 38 33.5	
	comp=N,178nm,0.2s						
AGPR				IAML		20 38 33.8	
	comp=E,213nm,0.3s						
PRSN	**Puerto Rico Se**	**1.31**	**156**		**Pn**	**20 38 17.1**	**-1.7**
MIDR	**Miches**	**1.35**	**251**	⇑*e*Pg	**Pn**	**20 38 18.9**	**-0.5**
MIDR				⇓*e*Sg	**Sn**	**20 38 37.3**	**+0.6**
MIDR				IAML		20 38 37.7	
	comp=E,65nm,0.7s						
MIDR				IAML		20 38 37.7	
	comp=N,39nm,0.6s						
AOPR	**Arecibo Observ**	**1.40**	**140**	⇓*i*P	**Pn**	**20 38 20.3**	**+0.2**
AOPR	**Arecibo Observ**	**1.40**	**140**	*e*S	**Sb**	**20 38 38.7**	**+0.1**
AOPR	**Arecibo Observ**	**1.40**	**140**		**Pn**	**20 38 18.6**	**-1.5**
AOPR				IAML		20 38 44.5	
	comp=N,143nm,0.4s						
AOPR	**Arecibo Observ**	**1.40**	**140**		**Sb**	**20 38 38.7**	**+0.1**
AOPR	**Arecibo Observ**	**1.40**	**140**	⇓*e*Pg	**Pn**	**20 38 19.1**	**-0.9**
AOPR				IAML		20 38 49.4	
	comp=N,133nm,0.2s						
AOPR				IAML		20 38 49.4	
	comp=E,248nm,0.3s						
EMPR	**Esperanza - Ma**	**1.45**	**130**	⇓*i*P	**Pn**	**20 38 20.6**	**-0.2**
EMPR	**Esperanza - Ma**	**1.45**	**130**	*e*S	**Sb**	**20 38 40.8**	**+0.6**
EMPR	**Esperanza - Ma**	**1.45**	**130**		**Pn**	**20 38 20.3**	**-0.5**
EMPR				IAML		20 38 47.3	
	comp=E,166nm,0.8s						
EMPR				IAML		20 38 56.5	
	comp=N,160nm,0.9s						
EMPR	**Esperanza - Ma**	**1.45**	**130**		**Sb**	**20 38 40.8**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.49**	**141**		**Pn**	**20 38 20.4**	**-0.9**
CRPR	**Cabo Rojo, PR**	**1.52**	**158**	⇑*e*P	**Pb**	**20 38 22.5**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.52**	**158**	*e*S	**Sb**	**20 38 42.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.52**	**158**		**Pn**	**20 38 20.5**	**-1.1**
CRPR				IAML		20 38 43.9	
	comp=E,96nm,0.7s						
CRPR	**Cabo Rojo, PR**	**1.52**	**158**		**Sb**	**20 38 42.2**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.52**	**158**	*e*Pg	**Pn**	**20 38 21.2**	**-0.5**
CRPR				⇑*e*Sg	**Sb**	**20 38 42.4**	**+0.4**
CRPR				IAML		20 38 43.7	
	comp=E,127nm,0.5s						
CRPR				IAML		20 38 44.9	
	comp=N,97nm,0.8s						
MLPR	**Magueyes Islan**	**1.57**	**157**	⇑*e*P	**Pn**	**20 38 22.4**	**-0.1**
MLPR	**Magueyes Islan**	**1.57**	**157**	*e*S	**Sb**	**20 38 43.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.57**	**157**		**Pn**	**20 38 22.0**	**-0.5**
MLPR				IAML		20 38 47.7	
	comp=E,99nm,0.3s						
MLPR				IAML		20 38 49.9	
	comp=N,112nm,0.5s						
MLPR	**Magueyes Islan**	**1.57**	**157**		**Sb**	**20 38 43.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.57**	**157**	*e*Pg	**Pn**	**20 38 22.3**	**-0.1**
MLPR				IAML		20 38 46.7	
	comp=E,92nm,0.3s						
MLPR				IAML		20 38 49.8	
	comp=N,102nm,0.5s						
SADR	**Isla Saona**	**1.60**	**220**	*e*Pg	**Pb**	**20 38 24.4**	**-0.2**
SADR				⇓*e*Sg	**Sb**	**20 38 45.7**	**+1.4**
SADR				IAML		20 38 55.7	
	comp=N,152nm,1.4s						
SADR				IAML		20 38 56.6	
	comp=E,88nm,0.7s						
GBPR	**Guanica, Bosqu**	**1.64**	**152**	⇑*e*P	**Pn**	**20 38 23.2**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.64**	**152**	*e*S	**Sb**	**20 38 45.4**	**-0.1**
GBPR	**Guanica, Bosqu**	**1.64**	**152**		**Pn**	**20 38 23.2**	**-0.1**
GBPR					**Sb**	**20 38 45.4**	**-0.1**
CELP	**Cerrillos**	**1.71**	**142**	⇑*e*P	**Pn**	**20 38 24.5**	**+0.1**
CELP	**Cerrillos**	**1.71**	**142**	*e*S	**Sn**	**20 38 46.6**	**+1.0**
CELP	**Cerrillos**	**1.71**	**142**		**Pn**	**20 38 23.5**	**-0.9**
CELP				IAML		20 38 52.3	
	comp=N,77nm,0.6s						
CELP				IAML		20 38 52.8	
	comp=E,66nm,0.6s						
CELP	**Cerrillos**	**1.71**	**142**		**Sn**	**20 38 46.6**	**+1.0**
CELP	**Cerrillos**	**1.71**	**142**	⇑*e*Pg	**Pn**	**20 38 24.2**	**-0.2**
CELP				*e*Sg	**Sb**	**20 38 48.3**	**+0.7**
CELP				IAML		20 38 57.8	
	comp=N,62nm,0.6s						
HATOM	**Hato Mayor del**	**1.71**	**249**	*e*Pg	**Pn**	**20 38 24.5**	**+0.1**
HATOM				IAML		20 38 52.9	
	comp=N,26nm,0.5s						
HATOM				IAML		20 38 54.6	
	comp=E,27nm,0.5s						
OBIP	**Obispado Ponce**	**1.72**	**143**	⇓*e*P	**Pn**	**20 38 24.7**	**+0.2**
OBIP	**Obispado Ponce**	**1.72**	**143**	*e*S	**Sn**	**20 38 46.6**	**+0.7**
OBIP	**Obispado Ponce**	**1.72**	**143**		**Pn**	**20 38 23.7**	**-0.7**
OBIP				IAML		20 38 53.0	
	comp=N,66nm,0.7s						
OBIP	**Obispado Ponce**	**1.72**	**143**		**Sn**	**20 38 46.6**	**+0.7**
GCPR	**Guaynabo City**	**1.89**	**126**	Pn	**Pn**	**20 38 26.9**	**+0.1**
IGPR	**InterUniversit**	**2.09**	**134**	Pn	**Pn**	**20 38 29.8**	**+0.2**
IGPR				IAML		20 39 08.9	
	comp=N,73nm,0.3s						
IGPR				IAML		20 39 09.5	
	comp=E,74nm,0.3s						
HUMP	**Col San Antoni**	**2.17**	**126**	Pn	**Pn**	**20 38 30.4**	**-0.2**
SDDR	**Presa de Saban**	**3.42**	**263**	Pn	**Pn**	**20 38 46.6**	**-1.3**
SDDR				IAML		20 39 56.2	
	comp=E,18nm,0.9s						

*NAO **01** 20:50:32.1, 35°.79N×22°.49E, h33km, mb3.8*
*AFAD **01** 20:50:44.8±0.0, 38°.29N×23°.94E, h7km±5km, MW4.0*
*TIR **01** 20:50:45.0, 38°.28N×24°.04E, h23km±1km, Ml4.0*
*ISK **01** 20:50:45.6, 38°.25N×23°.89E, h5km, ML3.7/43*
*NEIC **01** 20:50:47.0±1.5, 38°.21N±0°.05×23°.85E±0°.06, h4km±1km, mb4.3/32, Error ellipse: s-maj=8.0km s-min=5.7km az=51.0*
*ATH **01** 20:50:47.8, 38°.22N×23°.89E, h5km, ML3.9/26, Error ellipse: s-maj=1.0km s-min=0.4km az=216.0*
*PDG **01** 20:50:48.3±1.2, 38°.28N×23°.92E, h0km±11km, ML4.0/7, Error ellipse: s-maj=1.3km s-min=1.3km az=0.0*
*THE **

ATH AML AML 20 50 57.4
comp=E,86348µm,0.2s
ATH AML AML 20 50 57.5
LTK Loutraki 0.75 255 P **Pg** **20 51 02.0 -0.5**
LTK S **Sg** **20 51 12.3 0.0**
LTK AML AML 20 51 15.0
comp=E,34638µm,0.3s
LTK AML AML 20 51 15.4
comp=N,23720µm,0.2s
LOUT Loutraki 0.76 253 P **Pg** **20 51 01.4 -1.2**
LOUT S **Sg** **20 51 12.5 +0.1**
comp=N,21µm,0.3s
LOUT Loutraki 0.76 253 P **Pg** **20 51 02.0 -0.5**
LOUT S **Sg** **20 51 12.6 +0.1**
LOUT AML AML 20 51 15.4
comp=N,7880µm,0.4s
LOUT AML AML 20 51 15.8
comp=E,8104µm,0.4s
SKY Skiros Island 0.84 38 P **Pg** **20 51 04.1 0.0**
SKY S **Sn** **20 51 17.7 -0.3**
comp=E,16µm,0.5s
SKY Skiros Island 0.84 38 P **Pg** **20 51 03.9 -0.2**
SKY S **Sb** **20 51 15.2 -0.5**
SKY AML AML 20 51 19.6
comp=N,25898µm,0.4s
SKY AML AML 20 51 21.2
comp=E,37621µm,0.5s
YDRA Hydra 0.93 201 P **Pg** **20 51 05.0 -0.8**
YDRA S **Sg** **20 51 18.0 0.0**
YDRA AML AML 20 51 20.1
comp=N,39342µm,0.7s
YDRA AML AML 20 51 20.4
comp=E,48172µm,0.4s
THAL Thalero 0.98 260 P **Pg** **20 51 06.0 -0.9**
THAL S **Sb** **20 51 20.0 +0.1**
comp=E,35µm,0.3s
KRND KRANIDI 1.02 215 P **Pg** **20 51 06.2 -1.3**
KRND S **Sb** **20 51 21.2 +0.3**
comp=E,12µm,0.8s
KRND KRANIDI 1.02 215 P **Pg** **20 51 06.3 -1.2**
KRND S **Sb** **20 51 21.3 +0.3**
KRND AML AML 20 51 22.5
comp=N,19554µm,0.7s
KRND AML AML 20 51 22.9
comp=E,27748µm,0.9s
AXAR Agios Charalam 1.11 300 P **Pb** **20 51 08.0 -1.1**
AXAR S **Sn** **20 51 24.4 -0.2**
comp=E,11µm,0.4s
AXAR Agios Charalam 1.11 300 P **Pb** **20 51 08.1 -1.0**
AXAR S **Sb** **20 51 23.6 0.0**
AXAR AML AML 20 51 27.7
comp=E,18021µm,0.4s
AXAR AML AML 20 51 29.6
comp=N,24192µm,0.4s
DLFA Delphi 1.12 284 P **Pb** **20 51 08.7 -0.7**
DLFA S **Sg** **20 51 24.4 +0.2**
DLFA AML AML 20 51 29.1
comp=E,10727µm,0.5s
DLFA AML AML 20 51 29.3
comp=N,7571µm,0.5s
NEO Neokhori 1.20 335 P **Pb** **20 51 10.2 -0.5**
NEO S **Sg** **20 51 26.5 -0.3**
comp=N,12µm,0.4s
NEO Neokhori 1.20 335 P **Pb** **20 51 10.3 -0.5**
NEO S **Sg** **20 51 26.4 -0.3**
NEO AML AML 20 51 29.4
comp=N,25533µm,0.4s
NEO AML AML 20 51 29.9
comp=E,23597µm,0.3s
TNSA Tinos 1.22 124 P **Pn** **20 51 10.4 -0.4**
TNSA S **Sb** **20 51 26.3 -0.3**
TNSA AML AML 20 51 27.4
comp=E,3319µm,0.3s
TNSA AML AML 20 51 27.6
comp=N,4178µm,0.3s
GUR Goura 1.25 257 P **Pn** **20 51 10.8 -0.6**
GUR S **Sb** **20 51 27.0 -0.7**
comp=N,15µm,0.6s
GUR Goura 1.25 257 P **Pn** **20 51 10.8 -0.6**
GUR S **Sb** **20 51 27.5 -0.2**
GUR AML AML 20 51 29.9
comp=E,25726µm,0.8s
GUR AML AML 20 51 31.3
comp=N,31649µm,0.5s
XOR Xorichti 1.27 335 P **Pn** **20 51 11.2 -0.4**
XOR S **Sb** **20 51 27.7 -0.5**
comp=N,5µm,0.5s
XOR Xorichti 1.27 335 P **Pn** **20 51 11.4 -0.2**
XOR S **Sb** **20 51 28.1 0.0**
XOR AML AML 20 51 28.3
comp=E,7793µm,0.4s
XOR AML AML 20 51 32.7
comp=N,13669µm,0.5s
PSRA Psara 1.36 76 P **Pn** **20 51 12.5 -0.2**
PSRA S **Sb** **20 51 30.0 -0.6**
KLV Kalavryta, Ach 1.38 263 P **Pn** **20 51 12.6 -0.6**
KLV S **Sb** **20 51 30.8 -0.6**
comp=N,2µm,0.9s
KLV Kalavryta, Ach 1.38 263 P **Pn** **20 51 12.7 -0.4**
KLV S **Sb** **20 51 31.0 -0.4**
KLV AML AML 20 51 33.9
comp=E,2862µm,0.6s
KLV AML AML 20 51 34.0
comp=N,4608µm,0.5s
ALIK Aliki, Aigiali 1.40 272 P **Pn** **20 51 13.5 +0.2**
ALIK S **Sn** **20 51 31.7 0.0**
AGG Agios Georgios 1.46 304 Pn **Pn** **20 51 13.9 -0.3**
AGG Sn **Sg** **20 51 34.5 -0.4**
AGG Agios Georgios 1.46 304 P **Pn** **20 51 14.4 +0.2**
AGG S **Sb** **20 51 33.5 -0.2**
comp=N,2µm,0.6s
AGG Agios Georgios 1.46 304 Pn **Pn** **20 51 14.2 0.0**
AGG Sn **Sn** **20 51 32.6 -0.7**
AGG Agios Georgios 1.46 304 P **Pn** **20 51 14.5 +0.3**
AGG S **Sn** **20 51 32.4 -1.0**
AGG Agios Georgios 1.46 304 P **Pn** **20 51 14.5 +0.3**
EFP Efpalio 1.57 278 P **Pn** **20 51 15.9 +0.2**
EFP S **Sb** **20 51 37.0 +0.1**
comp=N,2µm,0.7s
EFP Efpalio 1.57 278 P **Pn** **20 51 15.9 +0.2**
EFP S **Sn** **20 51 36.1 0.0**
EFP AML AML 20 51 41.2
comp=N,4026µm,0.6s
EFP AML AML 20 51 41.8
comp=E,4847µm,0.6s
EFSA Agios Efstrati 1.57 33 P **Pn** **20 51 15.2 -0.5**
EFSA S **Sn** **20 51 35.7 -0.4**
EFSA AML AML 20 51 42.1
comp=E,3677µm,0.5s
EFSA AML AML 20 51 46.6
comp=N,3996µm,0.7s
MHLO Agia Marina, M 1.58 165 P **Pn** **20 51 15.6 -0.2**
MHLO Agia Marina, M 1.58 165 P **Pn** **20 51 15.9 +0.1**
MHLO AML AML 20 51 39.8
comp=E,11342µm,0.7s
MHLO AML AML 20 51 42.6
comp=N,10920µm,0.7s
MAKR Makrakomi, Fth 1.59 301 P **Pb** **20 51 16.7 -0.6**
MAKR S **Sb** **20 51 37.1 -0.2**
comp=N,3µm,0.5s
MAKR Makrakomi, Fth 1.59 301 P **Pb** **20 51 16.7 -0.6**
MAKR S **Sn** **20 51 35.6 -0.9**
MAKR AML AML 20 51 43.4
comp=N,6060µm,0.5s
MAKR AML AML 20 51 44.4
comp=E,3949µm,0.6s
ANX Ano Chora 1.59 284 P **Pn** **20 51 16.4 +0.3**
ANX S **Sn** **20 51 36.5 -0.1**
comp=E,4µm,0.8s
ANX Ano Chora 1.59 284 P **Pn** **20 51 15.8 -0.3**
ANX S **Sn** **20 51 36.7 +0.1**
ANX AML AML 20 51 43.7
comp=E,6353µm,0.4s
ANX AML AML 20 51 45.9
comp=N,9352µm,1.1s
UPR University Cam 1.66 273 P **Pn** **20 51 17.2 +0.3**
UPR S **Sn** **20 51 37.8 -0.3**
MNVA Monemvasia 1.67 204 P **Pn** **20 51 17.5 +0.4**
MNVA S **Sn** **20 51 38.5 0.0**
MNVA AML AML 20 51 45.2
comp=E,7208µm,0.7s
MNVA AML AML 20 51 45.4
comp=N,3131µm,1.4s
VLI Veliai 1.68 207 P **Pn** **20 51 16.6 -0.6**
VLI Veliai 1.68 207 P **Pn** **20 51 16.8 -0.4**
VLI S **Sn** **20 51 38.0 -0.7**
VLI AML AML 20 51 44.5
comp=N,4496µm,0.6s
VLI AML AML 20 51 49.0
comp=E,4118µm,0.7s
PAIG Paliouri 1.71 355 Pn **Pn** **20 51 17.5 -0.2**
PAIG Paliouri 1.71 355 P **Pn** **20 51 17.3 -0.4**
CHOS Chios island 1.71 84 Pn **Pn** **20 51 17.5 -0.3**
CHOS Sn **Sb** **20 51 41.4 +0.4**
CHOS Chios island 1.71 84 P **Pn** **20 51 17.7 -0.1**
CHOS Chios island 1.71 84 P **Pn** **20 51 17.9 +0.1**
APE Apeiranthos 1.74 131 ⇑P **Pn** **20 51 17.7 -0.4**
APE Apeiranthos 1.74 131 Pn **Pn** **20 51 18.4 +0.3**
APE Sn **Sb** **20 51 42.1 +0.4**
APE Apeiranthos 1.74 131 P **Pn** **20 51 17.6 -0.4**
APE Apeiranthos 1.74 131 P **Pn** **20 51 17.8 -0.4**
APE S **Sb** **20 51 41.6 -0.1**
APE Apeiranthos 1.74 131 P **Pn** **20 51 17.6 -0.4**
APE AML AML 20 51 43.3
comp=N,3615µm,0.5s
APE AML AML 20 51 48.8
comp=E,2515µm,0.4s
DRO Drossia 1.74 262 P **Pn** **20 51 18.1 +0.1**
DRO Drossia 1.74 262 P **Pn** **20 51 18.3 +0.3**
DRO S **Sn** **20 51 38.8 -1.4**
DRO AML AML 20 51 44.9
comp=N,8837µm,0.6s
DRO AML AML 20 51 47.9
comp=E,9229µm,0.5s
EVR Evrytania 1.77 294 P **Pb** **20 51 19.8 -0.6**
EAG2 Marmaro, Chios 1.77 79 P **Pn** **20 51 18.7 +0.2**
SIGR SIGRI 1.83 57 Pn **Pn** **20 51 19.1 -0.2**
SIGR SIGRI 1.83 57 P **Pn** **20 51 18.7 -0.6**
SIGR SIGRI 1.83 57 P **Pn** **20 51 18.7 -0.6**
LRSO Larissa Observ 1.86 322 P **Pn** **20 51 20.2 +0.5**
PVO Paravola 1.90 283 P **Pn** **20 51 20.8 +0.6**
CESE eme 1.90 86 Pn **Pn** **20 51 19.9 -0.3**
RLS Riolos of Patr 1.92 266 P **Pn** **20 51 20.6 +0.2**
RLS S **Sn** **20 51 45.4 +0.9**
comp=E,1µm,0.6s
RLS Riolos of Patr 1.92 266 P **Pn** **20 51 21.0 +0.6**
LIA Limnos Island 1.96 31 P **Pn** **20 51 20.3 -0.7**
LIA Limnos Island 1.96 31 P **Pn** **20 51 20.3 -0.7**
TYRN Tyrnavos 1.97 320 P **Pn** **20 51 21.4 +0.2**
TYRN S **Sn** **20 51 45.6 -0.3**
comp=E,642nm,0.6s
TYRN Tyrnavos 1.97 320 P **Pn** **20 51 21.3 +0.2**
THL Klokotos Trika 1.98 313 P **Pn** **20 51 21.6 +0.2**
THL Klokotos Trika 1.98 313 P **Pn** **20 51 21.6 +0.2**
THL S **Sn** **20 51 46.0 -0.2**
THL AML AML 20 51 58.4
comp=E,738µm,0.6s
THL AML AML 20 52 00.8
comp=N,595µm,0.8s
KARB zmir-Karabur 2.03 77 P **Pn** **20 51 22.4 +0.3**
ZEYE Izmir, Urla-Ze 2.06 89 P **Pn** **20 51 22.3 -0.1**
ZEYE S **Sg** **20 51 54.6 +0.5**
OUR Ouranopolis 2.11 2 Pn **Pn** **20 51 23.1 -0.1**
OUR Ouranopolis 2.11 2 P **Pn** **20 51 23.0 -0.1**
OUR Ouranopolis 2.11 2 P **Pn** **20 51 23.0 -0.1**
CMBO Columbo, Santo 2.12 145 P **Pn** **20 51 23.9 +0.6**
PRK Paraskevi 2.13 60 P **Pn** **20 51 22.8 -0.5**
PRK Paraskevi 2.13 60 P **Pn** **20 51 22.9 -0.5**
URLA Izmir 2.14 85 Pn **Pn** **20 51 23.9 +0.4**
URLA Izmir 2.14 85 P **Pn** **20 51 23.6 +0.1**
URLA S **Sn** **20 51 47.8 -2.2**
PYL PYLOS 2.16 233 P **Pn** **20 51 24.8 +1.0**
PYL S **Sn** **20 51 50.5 0.0**
comp=N,1µm,0.6s
PYL PYLOS 2.16 233 P **Pn** **20 51 24.8 +1.0**
LIT Litokhoron 2.17 330 P **Pn** **20 51 24.0 0.0**
LIT Litokhoron 2.17 330 Pn **Pn** **20 51 23.7 -0.3**
LIT Sn **Sn** **20 51 49.2 -1.7**
LIT Litokhoron 2.17 330 P **Pn** **20 51 23.6 -0.4**
LIT S **Sn** **20 51 49.4 -1.5**
KOCA Canakkale, Ayv 2.17 53 P **Pn** **20 51 22.9 -1.1**
KOCA S **Sg** **20 51 57.4 -0.4**
SNT5 Nea Kammeni, S 2.17 146 P **Pn** **20 51 25.1 +1.1**
THR6 Thira Island, 2.21 147 P **Pn** **20 51 24.5 -0.1**
FOCM Foa 2.29 77 Pn **Pn** **20 51 25.8 +0.3**
BOZC Bozcaada 2.34 45 P **Pn** **20 51 24.7 -1.6**
BOZC S **Sg** **20 52 01.8 -1.3**
SMG Samos 2.39 101 P **Pn** **20 51 27.0 +0.1**
SMG Samos 2.39 101 P **Pn** **20 51 27.0 +0.1**
ANKY Antikythira Is 2.39 191 P **Pn** **20 51 26.6 -0.5**
CAND Candarli 2.40 71 Pn **Pn** **20 51 27.4 +0.3**
AYVA Ayvalik 2.45 63 P **Pn** **20 51 27.2 -0.6**
AYVA S **Sg** **20 52 05.8 -0.7**
HORT Hortiatis 2.45 346 Pn **Pn** **20 51 28.4 +0.5**
HORT Hortiatis 2.45 346 P **Pn** **20 51 28.1 +0.2**
HORT Hortiatis 2.45 346 P **Pn** **20 51 28.1 +0.2**
LTHK Lithakia 2.46 259 P **Pn** **20 51 29.9 +1.9**
EZNE Ezine-Canakkal 2.47 51 Pn **Pn** **20 51 28.3 +0.3**
THAS Thassos island 2.47 15 P **Pn** **20 51 27.2 -0.9**
THAS Thassos island 2.47 15 P **Pn** **20 51 27.1 -1.0**
EZN Ezine 2.49 49 Pn **Pn** **20 51 28.7 +0.4**
EZN Ezine 2.49 49 P Pn 20 51 23.4 -4.9
EZN S **Sg** **20 52 07.5 -0.3**
GOAD anakkale-G¶ 2.50 38 P **Pn** **20 51 25.7 -2.7**
GOAD S **Sg** **20 52 06.9 -1.2**
DKL Dikili 2.51 69 Pn **Pn** **20 51 28.9 +0.3**
DKL Dikili 2.51 69 P **Pn** **20 51 28.4 -0.3**
GADA Gvkgeada 2.51 38 Pn **Pn** **20 51 29.4 +0.7**
THE Thessaloniki 2.51 344 P **Pn** **20 51 28.1 -0.6**
ECEA Canakkale, Ece 2.55 44 P **Pb** **20 51 32.8 -0.8**
ECEA S **Sb** **20 52 05.4 +0.5**
NYDR Nydri-Lefkada 2.55 282 P **Pn** **20 51 31.1 +2.0**
BAYC CANAKKALE_Bayr 2.57 53 P **Pn** **20 51 28.7 -0.7**
BAYC S **Sg** **20 52 09.6 -0.9**
EVGI Lefkada island 2.57 280 P **Pn** **20 51 31.6 +2.1**
KOKK Kokkinochori, 2.60 2 P **Pn** **20 51 29.6 -0.2**
LKD2 Lefkada island 2.60 284 P **Pb** **20 51 32.2 -2.2**
VLS Valsamata 2.60 270 P **Pn** **20 51 31.5 +1.6**
PSDA Pessada-Kefalo 2.61 269 P **Pn** **20 51 31.0 +1.1**
TSLK Tsoukalades, L 2.61 284 P **Pn** **20 51 31.6 +1.7**
KPRO Kipourio 2.62 312 P **Pn** **20 51 30.8 +0.6**
FSK Fiskardo 2.62 276 P **Pn** **20 51 32.0 +1.8**
SOH Sokhos 2.63 351 P **Pn** **20 51 30.5 +0.1**
DRAG Dragano-Lefkad 2.64 281 P **Pn** **20 51 32.1 +1.7**
GCAM G?zelcaml? 2.69 100 Pn **Pn** **20 51 32.4 +1.2**
CHAN Chania 2.70 177 P **Pn** **20 51 31.4 +0.2**
COMU Canakkale 2.75 46 Pn **Pn** **20 51 32.7 +0.7**
IMMV Iera Moni Meta 2.75 178 Pn **Pn** **20 51 32.8 +0.8**
IMMV Iera Moni Meta 2.75 178 P **Pn** **20 51 32.2 +0.2**
DMLN Damoulianata-K 2.77 271 P **Pn** **20 51 33.4 +1.2**
KEF3 Kipouria, Keph 2.79 271 P **Pn** **20 51 32.4 0.0**
BUHA Balikesir, Bur 2.80 62 P **Pn** **20 51 32.3 -0.3**
KAVA Kavala 2.82 10 P **Pn** **20 51 32.2 -0.6**
SRS Serrai 2.90 356 P **Pn** **20 51 34.1 0.0**
SRS Serrai 2.90 356 P **Pn** **20 51 34.1 0.0**
PENT Pentalofos 2.91 314 P **Pn** **20 51 35.1 +0.9**
BODT Bodrum 2.95 112 Pn **Pn** **20 51 35.5 +0.8**
ENZZ Sultanice-Enez 2.96 35 Pn **Pn** **20 51 35.1 +0.4**
GELI Tayfur-Gelibol 2.96 42 Pn **Pn** **20 51 34.7 -0.1**
GRG Griva 2.96 338 Pn **Pn** **20 51 35.1 +0.2**
GRG Griva 2.96 338 P **Pn** **20 51 35.1 +0.2**
KNDR Palaiochora Ch 2.98 183 Pn **Pn** **20 51 36.5 +1.4**
KNDR Palaiochora Ch 2.98 183 P **Pn** **20 51 36.5 +1.4**
IDI Anoyia 3.03 164 Pn **Pn** **20 51 36.9 +1.0**
IDI Anoyia 3.03 164 P **Pn** **20 51 36.3 +0.4**
IDI Anoyia 3.03 164 Pn **Pn** **20 51 35.6 -0.3**
IDI Sn **Sn** **20 52 09.9 -2.4**
IDI Anoyia 3.03 164 Pn **Pn** **20 51 37.0 +1.1**
comp=N,5.0nm,0.3s,baz=325,slow=11,SNR=49
IDI Sn **Sn** **20 52 08.2 -4.0**
comp=N,12nm,0.3s,baz=270,slow=21,SNR=6.3
IDI Anoyia 3.03 164 P **Pn** **20 51 36.1 +0.2**
CAVK Edirne/Enez-Ca 3.04 35 P **Pn** **20 51 39.8 -2.2**
CAVK S **Sb** **20 52 20.6 +1.7**
KNT Kendrikon 3.04 346 Pn **Pn** **20 51 36.5 +0.6**
CANM Can-anakkale 3.04 53 Pn **Pn** **20 51 36.7 +0.7**
ENEZ Enez 3.06 34 Pn **Pn** **20 51 37.2 +1.0**
LPK Lapseki 3.10 45 Pn **Pn** **20 51 37.9 +1.2**
NEST Nestorio 3.11 316 P **Pn** **20 51 38.4 +1.4**
NVR Nevrokopi 3.13 360 P **Pn** **20 51 38.1 +0.9**
ALN Alexandroupoli 3.15 31 Pn **Pn** **20 51 36.5 -0.9**
ALN Alexandroupoli 3.15 31 Pn **Pn** **20 51 36.7 -0.7**
ALN Alexandroupoli 3.15 31 P **Pn** **20 51 36.3 -1.1**
ALN S **Sg** **20 52 25.5 -3.7**
ALN Alexandroupoli 3.15 31 P **Pn** **20 51 36.1 -1.3**
ERIK Erikli-Kesan 3.18 39 Pn **Pn** **20 51 38.5 +0.7**
ERIK Erikli-Kesan 3.18 39 P **Pn** **20 51 37.2 -0.6**
RDO Rodhopi 3.19 23 Pn **Pn** **20 51 37.5 -0.4**
RDO Rodhopi 3.19 23 Pn **Pn** **20 51 36.9 -1.1**
LSK Leskovik 3.20 308 P **Pn** **20 51 40.0 +1.8**
baz=307
LSK S **Sn** **20 52 19.9 +3.6**
baz=307
LSK AMP
comp=N,2.2nm,0.7s,baz=307
FNA Florina 3.21 324 P **Pn** **20 51 39.9 +1.5**
baz=322
FNA S **Sn** **20 52 19.7 +3.0**
baz=322
FNA AMP
comp=E,0.2nm,0.5s,baz=322
FNA Florina 3.21 324 Pn **Pn** **20 51 38.8 +0.4**
FNA Florina 3.21 324 P **Pn** **20 51 39.1 +0.7**
FNA Florina 3.21 324 Pn **Pn** **20 51 38.8 +0.4**
FNA Florina 3.21 324 P **Pn** **20 51 39.5 +1.1**
FNA S **Sb** **20 52 24.8 +0.6**
FNA Florina 3.21 324 P **Pn** **20 51 39.1 +0.7**
MLSB Milas 3.22 105 Pn **Pn** **20 51 39.4 +1.0**
VAY Valandovo 3.26 342 *i* Pn **Pn** **20 51 40.3 +1.3**
DAT Datca 3.29 116 Pn **Pn** **20 51 39.9 +0.4**
GVDS Gavdos 3.37 177 Pn **Pn** **20 51 41.9 +1.4**
GVD Gavdhos 3.38 177 Pn **Pn** **20 51 42.1 +1.6**
GVD Gavdhos 3.38 177 P **Pn** **20 51 42.7 +2.2**
KRBG Karabiga-Canak 3.42 50 Pn **Pn** **20 51 40.9 -0.2**
SRN Sarande 3.45 300 P **Pn** **20 51 43.2 +1.6**
baz=299
SRN S **Sb** **20 52 27.2 -3.7**
baz=299
SRN AMP
comp=N,0.6nm,0.9s,baz=299
FRMA Ierapetra Chan 3.53 155 P **Pn** **20 51 45.3 +2.7**
RKY Sarkoy-Tekirda 3.54 45 Pn **Pn** **20 51 43.3 +0.4**
KDZ Kurdzhali 3.58 18 Pn **Pn** **20 51 43.3 -0.1**
UKOP Uzunkopru-Edir 3.60 35 Pn **Pn** **20 51 43.6 +0.1**
ZKR Zakros 3.62 148 Pn **Pn** **20 51 45.3 +1.4**
STIP Stip 3.71 340 *i* Pn **Pn** **20 51 46.0 +0.9**
KARP Karpathos 3.74 134 Pn **Pn** **20 51 45.7 +0.1**
KARP Karpathos 3.74 134 P **Pn** **20 51 46.3 +0.7**
OHR Ohrid 3.75 321 *i* Pn **Pn** **20 51 48.1 +2.5**
EDC Edincik 3.75 54 Pn **Pn** **20 51 46.3 +0.7**
KULA Kula-Manisa 3.76 84 Pn **Pn** **20 51 47.2 +1.3**
ARG Arkhangelos 3.93 119 Pn **Pn** **20 51 48.1 -0.1**
DALY Dalyan (Mula) 4.04 109 Pn **Pn** **20 51 51.1 +1.5**
VLO Vlora 4.08 305 P **Pn** **20 51 52.5 +2.4**
baz=304
VLO Vlora 4.08 305 Pn **Pn** **20 51 48.6 -1.6**
EDRB Edirne 4.24 30 Pn **Pn** **20 51 53.3 +1.0**
SCTE Santa Cesarea 4.60 295 Pn **Pn** **20 51 56.5 -0.8**
CTKS Kestanelik-??a 4.67 48 Pn **Pn** **20 51 58.4 +0.2**
PUK Puka 4.89 323 P **Pn** **20 52 04.0 +2.5**
baz=322
PUK S **Sn** **20 53 03.1 +5.0**
baz=322
PUK AMP
comp=N,0.2nm,0.9s,baz=322
PUK Puka 4.89 323 Pn **Pn** **20 52 03.0 +1.5**
ELND Elena 4.94 17 ⇑P **Pn** **20 52 02.2 +0.1**
ELL Elmali 5.01 105 Pn **Pn** **20 52 06.0 -0.9**
BCI Bajram Curri 5.07 326 P **Pn** **20 52 05.8 +2.0**
baz=325
BCI S **Sn** **20 53 06.1 +3.8**
baz=325
BCI AMP
comp=N,0.4nm,1.1s,baz=325
ULC Ulcinj 5.16 318 ⇑*i* Pn **Pn** **20 52 07.1 +2.0**
ISP Isparta 5.25 92 Pn **Pn** **20 52 08.1 +1.6**
PVY Plav 5.30 327 ⇓*i* Pn **Pn** **20 52 09.6 +2.5**
DRME Dracevica, Mon 5.35 319 *e*Pn **Pn** **20 52 09.5 +1.8**
DRME Dracevica, Mon 5.35 319 ⇓*i* Pn **Pn** **20 52 09.5 +1.8**
DRME *i* Sn **Sn** **20 53 12.7 +3.4**
BLKB Belogradchik 5.48 351 ⇑P **Pn** **20 52 10.1 +0.6**
PDG Podgorica 5.50 321 ⇓P **Pn** **20 52 11.3 +1.7**
PDG Podgorica 5.50 321 Pn **Pn** **20 52 10.4 +0.7**
PDG Podgorica 5.50 321 *e*Pn **Pn** **20 52 11.5 +1.9**
PDG Podgorica 5.50 321 ⇑*i* Pn **Pn** **20 52 10.4 +0.7**
PDG *i* Sn **Sn** **20 53 15.1 +2.3**
IVA Berane 5.55 328 ⇑*i* Pn **Pn** **20 52 12.7 +2.2**
IVA *i* Sn **Sn** **20 53 09.5 -4.9**
BUM Brajici-Budva 5.59 318 ⇓*i* Pn **Pn** **20 52 10.8 -0.2**
BUM *i* Sn **Sn** **20 53 16.4 +1.3**
BOVS Bovan 5.66 344 ⇑P **Pn** **20 52 12.6 +0.8**
TIP Timpagrande 5.66 282 ⇑P **Pn** **20 52 12.7 +0.7**
TIP Timpagrande 5.66 282 Pn **Pn** **20 52 12.1 +0.2**
RAZG Razgrad 5.70 20 ⇓P **Pn** **20 52 12.8 +0.3**
CEME Cevo 5.75 320 ⇑*i* Pn **Pn** **20 52 14.2 +1.0**
CEME *i* Sn **Sn** **20 53 20.9 +1.7**
HCY Herceg Novi 5.90 317 *e*Pn **Pn** **20 52 15.5 +0.3**
MATE Matera 6.07 296 ⇑P **Pn** **20 52 18.1 +0.6**
MDUB Mudurnu 6.10 66 Pn **Pn** **20 52 19.2 +1.2**
TREB Trebinje 6.16 319 *e*Pn **Pn** **20 52 19.4 +0.6**
BRY Bratogost 6.20 321 *e*Pn **Pn** **20 52 20.7 +1.2**
BRY Bratogost 6.20 321 ⇓*i* Pn **Pn** **20 52 19.5 0.0**
BRY *i* Sn **Sn** **20 53 32.2 +1.8**
UPM Unac-Piva 6.25 324 *e*Pn **Pn** **20 52 22.2 +2.0**
UPM Unac-Piva 6.25 324 ⇑*i* Pn **Pn** **20 52 21.8 +1.6**
UPM *i* Sn **Sn** **20 53 33.4 +1.7**
CEL Celeste 6.29 273 Pn **Pn** **20 52 21.4 +0.8**
RUDO Rudo 6.39 329 *e*Pn **Pn** **20 52 22.4 +0.5**
CUC Castrocucco 6.52 288 Pn **Pn** **20 52 24.6 +0.8**
BBLS Lazi&#263i 6.58 330 *e*Pn **Pn** **20 52 26.1 +1.5**
STON Ston 6.62 317 *e*Pn **Pn** **20 52 24.0 -1.0**
SULR 6.69 15 ⇓P **Pn** **20 52 28.3 +2.2**
NEVS Nevesinje 6.71 321 *e*Pn **Pn** **20 52 27.9 +1.5**
HERR Herculane 6.75 351 ⇑P **Pn** **20 52 27.3 +0.2**
TEKS Tekeris 7.12 334 *e*Pn **Pn** **20 52 33.4 +1.4**
SGRT San Giovanni R 7.18 302 Pn **Pn** **20 52 31.0 -1.9**
LOT Lotru 7.22 359 ⇑P **Pn** **20 52 34.4 +0.9**
VOIR 7.26 6 ⇑P **Pn** **20 52 34.7 +0.7**
MLR Muntele Rosu 7.43 11 ⇓P **Pn** **20 52 37.7 +1.4**
MLR Muntele Rosu 7.43 11 Pn **Pn** **20 52 37.0 +0.7**
MLR Muntele Rosu 7.43 11 Pn **Pn** **20 52 37.5 +1.2**
comp=N,0.8nm,0.3s,baz=222,slow=4.5,SNR=28
MLR Sn **Sn** **20 53 59.0 -1.5**
comp=N,0.7nm,0.3s,baz=41,slow=17,SNR=1.4
comp=N,9.1nm,0.6s
TPGR Topolog 7.45 26 ⇑P **Pn** **20 52 37.9 +1.4**
VAE Valguarnera 7.53 267 Pn **Pn** **20 52 39.5 +1.8**
comp=N,6.0nm,0.6s,baz=21,slow=16,SNR=1.8
VAE Sn **Sn** **20 54 04.3 +1.2**
comp=N,2.4nm,0.3s,baz=228,slow=0.8,SNR=3.8
FRGS Fruska Gora 7.57 338 ⇑P **Pn** **20 52 39.8 +1.6**
FRGS Fruska Gora 7.57 338 *e*Pn **Pn** **20 52 40.4 +2.2**
BZS Buzias 7.58 348 ⇑P **Pn** **20 52 39.2 +0.9**
RAFF Raffo Rosso 7.62 265 Pn **Pn** **20 52 37.8 -0.9**
SURR Surduc 7.64 351 ⇑P **Pn** **20 52 39.8 +0.7**
PAOL Paolisi 7.72 294 Pn **Pn** **20 52 39.2 -1.1**
SRKY Kupres RS 7.74 321 *e*Pn **Pn** **20 52 41.8 +1.3**
BR131 Keskin Array S 7.75 76 Pn **Pn** **20 52 40.8 +0.2**
BRTR Keskin Array B 7.75 76 Pn **Pn** **20 52 40.9 +0.2**
BRTR Keskin Array B 7.75 76 Pn **Pn** **20 52 42.6 +1.9**
comp=N,0.2nm,0.3s,baz=257,slow=12,SNR=12
comp=N,1.3nm,0.6s
SPBR Spulber 7.82 15 ⇑P **Pn** **20 52 43.4 +1.8**
DOPR Dopca 7.82 8 ⇑P **Pn** **20 52 42.5 +0.9**
PLOR Plostina 7.90 14 ⇓P **Pn** **20 52 44.3 +1.7**
VRI Vrincioaia 7.93 15 ⇑P **Pn** **20 52 44.8 +1.7**
TURR Turia 7.99 11 ⇓P **Pn** **20 52 45.1 +1.2**
OZUR 8.00 10 ⇑P **Pn** **20 52 45.4 +1.4**
SCTR Scanteiesti 8.05 21 ⇑P **Pn** **20 52 46.0 +1.3**
SIRR Siria 8.21 349 ⇑P **Pn** **20 52 47.4 +0.5**
VLDR Vladesti 8.23 21 ⇓P **Pn** **20 52 48.5 +1.3**
BLY Banja Luka 8.24 325 *e*Pn **Pn** **20 52 46.5 -0.8**
A050A Klekovaca 8.35 321 *e*Pn **Pn** **20 52 49.7 +0.8**
MARR Marisel-Cluj 8.47 356 ⇑P **Pn** **20 52 51.2 +0.6**
TESR Tescani 8.54 13 ⇑P **Pn** **20 52 52.0 +0.7**
A051A Mrakovica 8.56 325 *e*Pn **Pn** **20 52 51.7 -0.1**
DRGR 8.61 355 ⇑P **Pn** **20 52 53.9 +1.4**
CAMP Campotosto 9.08 302 Pn **Pn** **20 52 58.5 -0.5**
GUMA Gualdo di Mace 9.36 304 Pn **Pn** **20 53 02.1 -0.6**
BNN Bunyan 9.39 82 Pn **Pn** **20 53 04.5 +1.3**
NRCA Norcia 9.41 303 Pn **Pn** **20 53 02.7 -0.7**
BURAR Bucovina Array 9.44 5 ⇑P **Pn** **20 53 05.1 +1.2**
BURAR Bucovina Array 9.44 5 Pn **Pn** **20 53 03.7 -0.2**
BUR08 Bucovina Ar. S 9.47 5 Pn **Pn** **20 53 04.7 +0.4**
FDMO Fiordimonte 9.51 304 Pn **Pn** **20 53 03.7 -1.1**
CESX Cesi 9.67 301 Pn **Pn** **20 53 07.9 +0.9**
BOJS Bojanci 9.71 321 *e*Pn **Pn** **20 53 07.3 -0.2**
CRES Cresnjev 9.85 323 *e*Pn **Pn** **20 53 08.2 -1.2**

PSZ	**Piszkesteto**	**10.12**	**345**	Pn		**Pn**	**20 53 12.6**	**-0.6**
CEY	**Cerknica**	**10.29**	**320**	*e*Pn		**Pn**	**20 53 15.0**	**-0.5**
SORM	**Soroca**	**10.43**	**17**	⇑P		**Pn**	**20 53 17.1**	**-0.2**
SOKA	**Soboth**	**10.68**	**325**	*i* Pn		**Pn**	**20 53 20.7**	**-0.2**
	comp=N,1.3nm,0.5s							
MMAI	**Mount Meron Ar**	**10.71**	**116**	Pn		**Pn**	**20 53 23.6**	**+2.3**
	comp=N,0.6nm,0.3s,baz=310,slow=11,SNR=2.1							
	comp=N,2.2nm,0.7s							
KOLS	**Kolonicke sedl**	**10.77**	**354**	*e*PN		Pn	20 53 28.3	+6.3
OBKA	**Obir**	**10.78**	**323**	*e*Pn		**Pn**	**20 53 22.4**	**+0.2**
	comp=N,3.6nm,1.2s							
OBKA	**Obir**	**10.78**	**323**	*e*Pn		**Pn**	**20 53 21.6**	**-0.6**
CRVS	**Cervenica-Dubn**	**10.82**	**351**	*e*PN		**Pn**	**20 53 26.5**	**+3.8**
SABO	**M.te Sabotino**	**10.88**	**319**	Pn		**Pn**	**20 53 22.1**	**-1.5**
VYHS	**Vyhne**	**10.90**	**342**	*e*PN		**Pn**	**20 53 27.0**	**+3.2**
ARSA	**Arzberg**	**10.91**	**328**	*e*Pn		**Pn**	**20 53 24.1**	**+0.1**
	comp=N,1.3nm,0.4s							
RONA	**Rosalia, Austr**	**10.98**	**332**	*e*Pn		**Pn**	**20 53 25.0**	**+0.1**
	comp=N,2.1nm,0.9s							
PRED	**Cave del Predi**	**11.21**	**320**	Pn		**Pn**	**20 53 28.1**	**0.0**
TEOL	**Teolo**	**11.57**	**312**	Pn		**Pn**	**20 53 30.3**	**-2.6**
KBA	**Koelnbreinsper**	**11.76**	**322**	*e*Pn		**Pn**	**20 53 35.1**	**-0.6**
	comp=N,5.7nm,1.0s							
GHAJ	**Ghor Haditha**	**11.82**	**122**	Pn		**Pn**	**20 53 36.3**	**-0.1**
KEST	**Kesra**	**11.89**	**262**	Pn		**Pn**	**20 53 37.5**	**0.0**
KEST	**Kesra**	**11.89**	**262**	Pn		**Pn**	**20 53 38.2**	**+0.8**
	comp=N,0.1nm,0.3s,baz=5.8,slow=20,SNR=2.2							
	comp=N,3.3nm,0.8s							
MOA	**Molln**	**11.91**	**327**	*e*Pn		**Pn**	**20 53 37.4**	**-0.2**
	comp=N,3.0nm,1.3s							
ABTA	**Abfaltersbach**	**11.95**	**319**	*e*Pn		**Pn**	**20 53 37.7**	**-0.5**
	comp=N,3.0nm,0.6s							
CTI	**Castel Tesino**	**11.98**	**315**	Pn		**Pn**	**20 53 37.6**	**-1.0**
BIOA	**Bad Ischl, Aus**	**12.07**	**325**	*e*Pn		**Pn**	**20 53 39.5**	**-0.3**
	comp=N,0.7nm,0.5s							
WTTA	**Wattenberg**	**12.74**	**319**	*e*Pn		**Pn**	**20 53 49.3**	**+0.1**
	comp=N,3.3nm,1.1s							
WATA	**Walderalm**	**12.82**	**319**	*e*Pn		**Pn**	**20 53 50.0**	**-0.1**
	comp=N,6.3nm,1.3s							
GERES	**GERESS Array B**	**12.93**	**329**	Pn		**Pn**	**20 53 52.3**	**+0.8**
GERES	**GERESS Array B**	**12.93**	**329**	Pn		**Pn**	**20 53 52.9**	**+1.3**
	comp=N,0.1nm,0.3s,baz=126,slow=20,SNR=3.3							
	comp=N,0.6nm,0.6s							
SQTA	**Sankt Quirin**	**12.94**	**318**	*e*Pn		**Pn**	**20 53 51.4**	**-0.4**
	comp=N,4.2nm,1.1s							
FETA	**Feichten**	**13.07**	**316**	*e*Pn		**Pn**	**20 53 53.1**	**-0.4**
	comp=N,2.5nm,1.1s							
MOTA	**Moosalm**	**13.07**	**318**	*e*Pn		**Pn**	**20 53 53.4**	**-0.2**
	comp=N,5.0nm,1.5s							
FUORN	**Ofenpass-Fuorn**	**13.09**	**314**	Pn		**Pn**	**20 53 54.4**	**+0.4**
DAVA	**Damuels**	**13.69**	**316**	*e*Pn		**Pn**	**20 54 01.8**	**-0.2**
	comp=N,2.4nm,0.6s							
GRA1	**Grafenberg Arr**	**14.63**	**326**	Pn		**Pn**	**20 54 13.8**	**-0.9**
GRFO	**Grafenberg**	**14.63**	**326**	Pn		**Pn**	**20 54 14.2**	**-0.5**
SENIN	**Lac Senin/Sane**	**14.71**	**309**	Pn		**Pn**	**20 54 14.0**	**-2.0**
CLL	**Collm**	**15.18**	**333**	P		**P**	**20 54 25.4**	**-1.7**
CLL	**Collm**	**15.18**	**333**	*i* PP		**P**	**20 54 28.8**	**+1.7**
	comp=Z,7.0nm,1.0s							
ESBB	**Sonseca Array**	**21.68**	**283**	P		**P**	**20 55 37.9**	**-0.8**
ESBB				IAmb	IAmb		20 55 42.5	
	comp=Z,7.6nm,0.9s							
ESDC	**Sonseca Array**	**21.68**	**283**	P		**P**	**20 55 37.7**	**-0.9**
ESDC	**Sonseca Array**	**21.68**	**283**	P		**P**	**20 55 37.8**	**-0.9**
	comp=Z,5.3nm,0.8s,baz=76,slow=11,SNR=32							
	comp=Z,5.3nm,0.8s							
PAB	**San Pablo**	**21.99**	**282**	P		**P**	**20 55 41.2**	**-0.8**
HFS	**Hagfors**	**22.87**	**347**	P		**P**	**20 55 50.4**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=152,slow=11,SNR=2.0							
	comp=Z,1.6nm,0.8s							
FINES	**FINESS Array B**	**23.29**	**3**	P		**P**	**20 55 55.7**	**+0.3**
FINES	**FINESS Array B**	**23.29**	**3**	P		**P**	**20 55 55.8**	**+0.5**
	comp=Z,4.0nm,1.0s,baz=256,slow=7.7,SNR=3.4							
FINES				PcP		**PcP**	**20 59 41.2**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=198,slow=3.8,SNR=5.0							
	comp=Z,4.0nm,1.0s							
PBRG	**Braganca**	**23.67**	**288**	*e*P		**P**	**20 55 58.4**	**-1.0**
NC602	**NORSAR Array S**	**23.84**	**345**	P		**P**	**20 56 00.5**	**-0.3**
NC602				IAmb	IAmb		20 56 36.6	
	comp=Z,17nm,1.3s							
MVO	**Moncorvo**	**23.91**	**287**	*e*P		**P**	**20 56 01.6**	**-0.1**
NB2	**NORSAR Subarra**	**24.18**	**345**	P		**P**	**20 56 03.8**	**-0.3**
	comp=Z,2.1nm,1.0s,baz=159,slow=9.3							
NOA	**NORSAR Array B**	**24.18**	**345**	P		**P**	**20 56 04.2**	**+0.1**
	comp=Z,0.4nm,0.7s,baz=96,slow=16,SNR=4.3							
	comp=Z,0.4nm,0.7s							
PMRV	**Marv??o**	**24.34**	**283**	*e*P		**P**	**20 56 05.3**	**-0.4**
MTE	**Manteigas**	**24.35**	**285**	*e*P		**P**	**20 56 08.0**	**+2.1**
PCBR	**Castelo Branco**	**24.36**	**284**	*e*P		**P**	**20 56 06.0**	**+0.2**
PESTR	**Estremoz**	**24.57**	**281**	*e*P		**P**	**20 56 07.8**	**0.0**
PESTR	**Estremoz**	**24.57**	**281**	P		**P**	**20 56 06.0**	**-1.8**
PESTR				IAmb	IAmb		20 56 34.4	
	comp=Z,17nm,1.3s							
EKA	**Eskdalemuir Ar**	**24.98**	**322**	P		**P**	**20 56 11.1**	**-0.2**
	comp=Z,3.0nm,0.7s,baz=111,slow=9.0,SNR=7.2							
	comp=Z,3.0nm,0.7s							
PMTG	**Montargil**	**25.03**	**282**	*e*P		**P**	**20 56 11.9**	**0.0**
MESJ	**Messejana**	**25.23**	**279**	*e*P		**P**	**20 56 13.9**	**+0.2**
MESJ	**Messejana**	**25.23**	**279**	P		**P**	**20 56 13.5**	**-0.2**
LVZ	**Lovozero**	**30.33**	**8**	P		**P**	**20 57 00.2**	**+1.0**
TOA0	**Torodi Ar. Sit**	**31.82**	**224**	P		**P**	**20 57 11.9**	**-0.8**
TOA0				IAmb	IAmb		20 57 13.4	
	comp=Z,1.9nm,0.7s							
TORD	**Torodi Ar. Bea**	**31.82**	**224**	P		**P**	**20 57 12.1**	**-0.6**
TORD	**Torodi Ar. Bea**	**31.82**	**224**	P		**P**	**20 57 12.5**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=31,slow=10,SNR=14							
	comp=Z,1.8nm,0.6s							
KURBB	**Kurchatov Arra**	**40.07**	**54**	P		**P**	**20 58 23.4**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=281,slow=8.4,SNR=8.3							
	comp=Z,0.9nm,0.5s							
DBIC	**Dimbokro**	**40.79**	**227**	P		**P**	**20 58 28.9**	**-0.4**
DBIC				IAmb	IAmb		20 58 30.1	
	comp=Z,6.1nm,0.9s							
DBIC	**Dimbokro**	**40.79**	**227**	P		**P**	**20 58 29.3**	**0.0**
	comp=Z,4.1nm,0.7s,baz=16,slow=7.9,SNR=5.7							
	comp=Z,4.1nm,0.7s							
MAKZ	**Makanchi**	**42.80**	**59**	P		**P**	**20 58 46.5**	**+0.9**
MAKZ				IAmb	IAmb		20 58 47.3	
	comp=Z,4.8nm,1.2s							
MK31	**Makanchi Array**	**43.01**	**59**	P		**P**	**20 58 46.3**	**-1.0**
MKAR	**Makanchi Array**	**43.01**	**59**	P		**P**	**20 58 47.4**	**+0.2**
MKAR	**Makanchi Array**	**43.01**	**59**	P		**P**	**20 58 47.8**	**+0.5**
	comp=Z,1.3nm,0.6s,baz=276,slow=6.5,SNR=13							
	comp=Z,1.3nm,0.6s							
ZALV	**Zalesovo Beam**	**43.68**	**48**	P		**P**	**20 58 51.9**	**-0.6**
ZALV	**Zalesovo Beam**	**43.68**	**48**	P		**P**	**20 58 51.6**	**-1.0**
	comp=Z,1.4nm,0.7s,baz=273,slow=8.0,SNR=6.9							
	comp=Z,1.4nm,0.7s							
SONM	**Songino Array**	**58.37**	**52**	P		**P**	**21 00 42.5**	**-0.7**
	comp=Z,0.5nm,0.9s,baz=316,slow=8.1,SNR=2.0							
	comp=Z,0.5nm,0.9s							
SCHQ	**Schefferville**	**60.21**	**318**	P		**P**	**21 00 55.4**	**-0.3**
SCHQ	**Schefferville**	**60.21**	**318**	P		**P**	**21 00 55.4**	**-0.3**
	comp=Z,2.6nm,0.5s,baz=50,slow=6.3,SNR=13							
	comp=Z,2.6nm,0.5s							
HHC	**Hu-ho-hao-te**	**64.81**	**57**	*e*P		**P**	**21 01 27.6**	**+0.8**
HHC				pmax	pmax			
	comp=Z,7.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,92nm,5.7s							
PZH	**PanZhiHua**	**65.04**	**75**	P		**P**	**21 01 29.9**	**+1.4**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,110nm,5.9s							
G65A	**Princeton**	**65.06**	**309**	P		**P**	**21 01 26.9**	**-1.3**
BOSA	**Boshof**	**66.50**	**179**	P		**P**	**21 01 37.2**	**-0.4**
BOSA	**Boshof**	**66.50**	**179**	P		**P**	**21 01 38.1**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=360,slow=9.9,SNR=6.1							
	comp=Z,2.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**67.25**	**84**	P		**P**	**21 01 43.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=300,slow=9.2,SNR=2.3							
	comp=Z,0.5nm,0.8s							
SUR	**Sutherland**	**70.30**	**183**	P		**P**	**21 02 01.4**	**0.0**
C23K	**Itkillik River**	**72.18**	**358**	P		**P**	**21 02 13.9**	**+1.7**
C23K				IAmb	IAmb		21 02 49.4	
	comp=Z,1.9nm,1.2s							
B21K	**Ikpikpuk River**	**72.47**	**359**	P		**P**	**21 02 15.7**	**+1.8**
B21K				IAmb	IAmb		21 02 17.9	
	comp=Z,2.9nm,1.0s							
E28M	**Babbage River**	**72.78**	**354**	P		**P**	**21 02 16.2**	**+0.4**
E28M				IAmb	IAmb		21 02 17.0	
	comp=Z,2.9nm,1.4s							
E29M	**Blow River**	**72.84**	**353**	P		**P**	**21 02 15.8**	**-0.4**
E29M				IAmb	IAmb		21 02 17.6	
	comp=Z,3.7nm,1.0s							
C18K	**Utukok River**	**73.38**	**2**	P		**P**	**21 02 20.7**	**+1.3**
D19K	**Kuna River**	**73.59**	**1**	P		**P**	**21 02 20.6**	**0.0**
YKA	**Yellowknife Ar**	**74.23**	**341**	P		**P**	**21 02 24.1**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=33,slow=6.0,SNR=8.0							
	comp=Z,0.5nm,0.8s							
BMAR	**Burnt Mountain**	**74.31**	**355**	P		**P**	**21 02 25.0**	**+0.1**
E18K	**Tukpahlearik C**	**74.63**	**2**	P		**P**	**21 02 26.7**	**0.0**
E18K				IAmb	IAmb		21 02 28.2	
	comp=Z,3.7nm,0.9s							
E19K	**Redstone River**	**74.64**	**0**	P		**P**	**21 02 27.4**	**+0.6**
E19K				IAmb	IAmb		21 02 28.7	
	comp=Z,2.3nm,0.7s							
F21K	**Alatna River**	**74.86**	**359**	P		**P**	**21 02 29.1**	**+1.0**
H29M	**Whitestone**	**74.99**	**353**	P		**P**	**21 02 28.9**	**+0.1**
H29M				IAmb	IAmb		21 03 04.9	
	comp=Z,3.0nm,1.2s							
I30M	**Mount Dempster**	**75.74**	**352**	P		**P**	**21 02 33.4**	**+0.1**
I30M				IAmb	IAmb		21 02 34.3	
	comp=Z,1.5nm,0.7s							
G19K	**Purcell Mounta**	**75.96**	**0**	P		**P**	**21 02 34.2**	**-0.1**
G19K				IAmb	IAmb		21 02 35.5	
	comp=Z,5.2nm,1.2s							
IMAR	**Indian Mountai**	**76.11**	**359**	P		**P**	**21 02 35.5**	**+0.3**
J30M	**Hart River**	**76.36**	**351**	P		**P**	**21 02 37.5**	**+0.7**
J30M				IAmb	IAmb		21 02 57.7	
	comp=Z,3.6nm,1.4s							
BCAR	**Beaver Creek A**	**78.41**	**353**	P		**P**	**21 02 49.0**	**+0.7**
R33M	**Jennings River**	**80.53**	**347**	P		**P**	**21 03 01.3**	**+1.3**
R33M				IAmb	IAmb		21 03 02.1	
	comp=Z,6.0nm,1.2s							
PDAR	**Pinedale Array**	**88.97**	**328**	P		**P**	**21 03 42.1**	**-0.8**
	comp=Z,0.3nm,0.9s,baz=45,slow=9.0,SNR=1.9							
	comp=Z,0.3nm,0.9s							

*IDC **01** 21:09:17.8±2.8, 1°.75N×126°.44E, h20km±16km, mb4.8/28, mbtmp4.9/28, MS4.1/49, Error ellipse: s-maj=19.8km s-min=9.5km az=76.0*

*NEIC **01** 21:09:19.4, 1°.93N×126°.64E, h36km, Moment Tensor Solution. Duration: 1s9 Moment tensor: Scale 10^{16}Nm; M_{rr}7.42; $M_{\theta\theta}$-0.84; $M_{\phi\phi}$-6.58; $M_{r\theta}$-0.13; $M_{\theta\phi}$-3.80; $M_{\phi r}$-0.78; Fault plane solution: $M_0$7.99000×10^{16} NP1: ϕ_s204.40000°, δ47.76000°, λ87.18000°. NP2:ϕ_s28.59000°, δ42.32000°, λ93.10000°. Principal axes: T 7.4684, Plg87.0000°, Azm79.0000°; N 1.0415, Plg2.0000°, Azm206.0000°; P -8.5099, Plg3.0000°, Azm296.0000°;*

*NEIC **01** 21:09:19.6±1.6, 1°.81N±0°.06×126°.49E±0°.06, h30km±3km, mb5.3/160, Mww5.2/18 Error ellipse: s-maj=9.7km s-min=7.6km az=53.0*

*NEIC **01** 21:09:19.4, 1°.83N×126°.54E, h36km*

*BJI **01** 21:09:20.3±0.0, 1°.72N×126°.39E, h62km, mb5.0/83, mB5.1/48, Ms4.4/79, Ms7 4.4/75*

*MOS **01** 21:09:20.1±1.0, 1°.78N×126°.40E, h52km, mb5.5/67, MS4.3/13, Error ellipse: s-maj=7.6km s-min=3.9km az=113.8*

*DJA **01** 21:09:21.9±0.2, 2°N±2°×12°7E±°, h54km±2km, M5.0/103, mb5.3/103, mB5.5/48, MLv5.2/18, Mw5.2/123, Mw(mB)5.0/48, MwMwp5.1/11, Mwp5.4/11*

*GCMT **01** 21:09:22.6±0.1, 1°.91N±0°.01×126°.59E±0°.01, h36km, MW5.3/121, Moment Tensor Solution. s120,c189; s121,c198; Duration: 1s1 Moment tenso: Scale 10^{17} Nm; M_{rr}1.08±.02; $M_{\theta\theta}$-0.24±.01; $M_{\phi\phi}$-0.84±.02; $M_{r\theta}$0.11±.02; $M_{\theta\phi}$-0.55±.01; $M_{\phi r}$-0.12±.02; Best double couple: Mo1.13600×10^{17} NP1:ϕ_s202.00000°, δ47.00000°, λ78.00000°. NP2:ϕ_s39.00000°, δ44.00000°, λ102.00000°. Principal axes: T 1.1040, Plg81.0000°, Azm39.0000°; N 0.0650, Plg9.0000°, Azm210.0000°; P -1.1670, Plg1.0000°, Azm301.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 01 21:09:21.2±0.3, 1°.81N±0°.03×126°.48E±0°.04, h50km±2km, h50km:pP-P, n990, σ1s39/1026, mb5.2/195, MS4.2/86, 50C-21D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.36**	**139**	P		**Pn**	**21 09 42.4**	**-1.4**
TNTI	**Ternate**	**1.36**	**139**	Pn		**Pn**	**21 09 42.2**	**-1.6**
TNTI				Sn		**Sn**	**21 09 58.3**	**-2.4**
TNTI	**Ternate**	**1.36**	**139**	P		**Pn**	**21 09 42.1**	**-1.7**
SGSI	**Sangihe**	**2.09**	**333**	P		**Pn**	**21 09 53.9**	**+0.1**
LBMI	**Labuha**	**2.64**	**157**	P		**Pn**	**21 10 00.8**	**-0.5**
KMSI	**Cibinong**	**2.79**	**244**	P		**Pn**	**21 10 05.2**	**+1.8**
GTOI	**Gorontalo**	**3.66**	**251**	P		**Pn**	**21 10 17.4**	**+2.0**
SANI	**Sanana**	**3.87**	**187**	P		**Pn**	**21 10 19.3**	**+1.1**
SANI	**Sanana**	**3.87**	**187**	P		**Pn**	**21 10 17.7**	**-0.5**
LUWI	**Luwuk**	**4.67**	**233**	P		**Pn**	**21 10 31.8**	**+2.6**
LUWI	**Luwuk**	**4.67**	**233**	Pn		**Pn**	**21 10 28.5**	**-0.7**
LUWI	**Luwuk**	**4.67**	**233**	P		**Pn**	**21 10 31.4**	**+2.2**
MRSI	**Marisa**	**4.73**	**254**	P		**Pn**	**21 10 32.2**	**+2.2**
NLAI	**Namlea**	**5.05**	**173**	P		**Pn**	**21 10 35.3**	**+0.8**
	266nm,0.8s,6μm1.1nm							
DAV	**Davao City (W)**	**5.30**	**350**	Pn		**Pn**	**21 10 36.3**	**-1.6**
DAV	**Davao City (W)**	**5.30**	**350**	Pn		**Pn**	**21 10 41.1**	**+3.2**
	42nm,0.3s,baz=62,slow=5.7,SNR=10							
DAV				Sn		**Sn**	**21 11 41.4**	**+3.7**
	15nm,0.3s,baz=90,slow=20,SNR=3.8							
DAV				LR		LR	21 12 57.7	
	comp=Z,4μm,20.8s,baz=127,slow=41							
DAV	**Davao City (W)**	**5.30**	**350**	‖*e*P		**Pn**	**21 10 42.0**	**+4.1**
SWI	**Sorong**	**5.47**	**119**	P		**Pn**	**21 10 39.9**	**-0.2**
	210nm,1.0s,2μm14μm0.8nm							
TOLI2	**Tolitoli**	**5.74**	**263**	P		**Pn**	**21 10 44.8**	**+0.9**
TOLI2	**Tolitoli**	**5.74**	**263**	Pn		**Pn**	**21 10 44.2**	**+0.3**
MPSI	**Mapaga**	**6.74**	**258**	P		**Pn**	**21 10 59.8**	**+2.1**
	316nm,1.0s,3μm12μm1.3nm							
FAKI	**Fak Fak**	**7.44**	**129**	P		**Pn**	**21 11 08.0**	**+0.8**
FAKI	**Fak Fak**	**7.44**	**129**	Pn		**Pn**	**21 11 06.9**	**-0.4**
FAKI	**Fak Fak**	**7.44**	**129**	P		**Pn**	**21 11 08.3**	**+1.1**
	204nm,1.2s,3μm9μm0.8nm							
TTSI	**Tana Toraja**	**8.22**	**234**	P		**Pn**	**21 11 19.8**	**+1.8**
	271nm,0.7s,3μm5μm							
BBSI	**Bau Bau**	**8.24**	**208**	P		**Pn**	**21 11 20.7**	**+2.5**
	273nm,0.9s,2μm							
SMKI	**Samarinda**	**9.54**	**256**	P		**Pn**	**21 11 39.0**	**+3.0**
	242nm,1.0s,7μm							
KAPI	**Kappang**	**9.55**	**225**	P		**Pn**	**21 11 39.1**	**+2.9**
KAPI	**Kappang**	**9.55**	**225**	Pn		**Pn**	**21 11 37.7**	**+1.6**
KAPI	**Kappang**	**9.55**	**225**	*i* P		**Pn**	**21 11 38.5**	**+2.3**
BKB	**Balikpapan**	**10.06**	**252**	P		**Pn**	**21 11 44.0**	**+0.9**
BKB	**Balikpapan**	**10.06**	**252**	Pn		**Pn**	**21 11 44.2**	**+1.0**
BKB	**Balikpapan**	**10.06**	**252**	P		**Pn**	**21 11 44.9**	**+1.8**
	191nm,0.9s,2μm6μm							
MMRI	**Maumere**	**11.21**	**202**	P		**Pn**	**21 12 00.1**	**+1.2**
MMRI	**Maumere**	**11.21**	**202**	Pn		**Pn**	**21 11 59.9**	**+1.0**
MMRI	**Maumere**	**11.21**	**202**	P		**Pn**	**21 12 00.4**	**+1.5**
	61nm,1.2s							
EDFI	**Ende, Flores**	**11.53**	**204**	P		**Pn**	**21 12 04.6**	**+1.3**
	66nm,0.9s							
SOEI	**Soe**	**11.70**	**191**	Pn		**Pn**	**21 12 07.1**	**+1.4**
SOEI	**Soe**	**11.70**	**191**	P		**Pn**	**21 12 09.9**	**+4.2**
	152nm,0.9s,2μm							
MTKI	**Muara Teweh, K**	**11.90**	**257**	P		**Pn**	**21 12 11.8**	**+3.4**
BATI	**Baumata**	**12.26**	**193**	Pn		**Pn**	**21 12 16.7**	**+3.4**
	1.0nm,0.3s,baz=354,slow=9.2,SNR=2.7							
SMPI	**Sarmi**	**12.79**	**107**	P		**Pn**	**21 12 23.4**	**+2.9**
	145nm,1.4s,3μm5μm							
TGY	**Tagaytay City**	**13.39**	**336**	Pn		**P**	**21 12 35.6**	**-1.2**
	28nm,0.3s,baz=188,slow=7.1,SNR=1.4							
TGY				LR		LR	21 18 01.7	
	comp=Z,961nm,21.5s,baz=144,slow=39							
PLAI	**Plampang**	**13.67**	**219**	P		**Pn**	**21 12 31.3**	**-1.3**
TWSI	**Taliwang, Sumb**	**14.19**	**222**	P		**Pn**	**21 12 42.1**	**+2.5**
	351nm,1.1s,3μm							
SBUM	**Sibu**	**14.27**	**273**	Pn		**Pn**	**21 12 41.8**	**+1.3**
GENI	**Genyem**	**14.36**	**108**	P		**Pn**	**21 12 44.1**	**+2.2**
	355nm,0.8s,5μm							
DRS	**Darwin Rock St**	**14.81**	**163**	P		**Pn**	**21 12 49.3**	**+1.5**
JAY	**Jayapura**	**14.85**	**107**	P		**Pn**	**21 12 49.1**	**+0.7**
	124nm,0.8s,1μm							
JAY	**Jayapura**	**14.85**	**107**	P		**Pn**	**21 12 50.1**	**+1.7**
JAY				pmax	pmax			
	comp=Z,125nm,1.0s							
SRBI	**Singaraja**	**14.93**	**229**	P		**P**	**21 12 52.9**	**-1.0**
	comp=Z,138nm,1.1s							
STKI	**Sintang**	**15.10**	**264**	P		**P**	**21 12 54.0**	**-1.9**
	comp=Z,125nm,1.2s,comp=Z,3μm							
MTN	**Manton Dam**	**15.27**	**163**	P		**Pn**	**21 12 53.3**	**-0.5**
	baz=15,SNR=8.2							
MTN	**Manton Dam**	**15.27**	**163**	P		**Pn**	**21 12 52.3**	**-1.5**
MTN	**Manton Dam**	**15.27**	**163**	Pn		**Pn**	**21 12 51.3**	**-2.5**
DNP	**Denpasar**	**15.32**	**227**	P		**P**	**21 12 57.6**	**-0.7**
	comp=Z,752nm,1.2s							
ABJI	**Asem Bagus**	**15.50**	**232**	P		**P**	**21 13 00.1**	**-0.2**
	comp=Z,146nm,1.2s,comp=Z,2μm							
KDU	**Kakadu**	**15.58**	**158**	P		**Pn**	**21 12 57.0**	**-0.7**
	baz=16,SNR=16							
KDU	**Kakadu**	**15.58**	**158**	P		**P**	**21 12 59.7**	**-1.5**
BLJI	**Banyuglugur**	**15.98**	**233**	P		**P**	**21 13 06.7**	**+1.1**
	comp=Z,174nm,0.8s,comp=Z,2μm							
JAGI	**Jajag, Banyuwa**	**15.98**	**230**	P		**Pn**	**21 13 03.9**	**+1.1**
JAGI				IAmb	IAmb		21 13 10.7	
	comp=Z,133nm,0.9s							
JAGI	**Jajag, Banyuwa**	**15.98**	**230**	P		**P**	**21 13 06.1**	**+0.5**
	comp=Z,270nm,1.0s,comp=Z,2μm							
KSM	**Kuching**	**16.17**	**269**	Pn		**Pn**	**21 13 05.2**	**0.0**
TABU	**Tabubil**	**16.32**	**116**	P		**Pn**	**21 13 07.4**	**+0.2**
SZP	**Santa**	**16.73**	**340**	P		**P**	**21 13 13.8**	**0.0**
MMPI	**Merauke**	**17.21**	**127**	P		**P**	**21 13 21.3**	**+2.0**
	comp=Z,434nm,0.5s							
KNRA	**Kununurra**	**17.52**	**173**	P		**Pn**	**21 13 22.1**	**+0.1**
KNRA	baz=18,SNR=15							
KNRA				P		**Pn**	**21 13 22.1**	**+0.1**
	baz=18,SNR=15							
KNRA	**Kununurra**	**17.52**	**173**	P		**Pn**	**21 13 21.2**	**-0.9**
KNRA	**Kununurra**	**17.52**	**173**	Pn		**Pn**	**21 13 20.5**	**-1.5**
NGJI	**Ngawi**	**17.54**	**239**	P		**P**	**21 13 24.5**	**+1.6**
	comp=Z,101nm,1.1s							
PWJI	**Pagerwojo**	**17.60**	**236**	P		**P**	**21 13 24.2**	**+0.7**
	comp=Z,146nm,0.8s,comp=Z,1μm							
SMRI	**Semarang**	**18.27**	**241**	P		**Pn**	**21 13 31.7**	**+0.4**
SMRI	**Semarang**	**18.27**	**241**	P		**P**	**21 13 30.3**	**-0.6**
SMRI	**Semarang**	**18.27**	**241**	P		**P**	**21 13 31.1**	**+0.1**
	comp=Z,105nm,0.9s							
UGM	**Wanagama**	**18.62**	**239**	P		**P**	**21 13 34.6**	**-0.2**
UGM				IAmb	IAmb		21 13 37.6	
	comp=Z,158nm,1.4s							
UGM	**Wanagama**	**18.62**	**239**	P		**P**	**21 13 34.8**	**0.0**
	comp=Z,105nm,1.8s							
KPJI	**Karang Pucung**	**19.73**	**242**	P		**P**	**21 13 46.7**	**-0.2**
	comp=Z,149nm,0.9s,comp=Z,2μm							
FITZ	**Fitzroy Crossi**	**19.80**	**182**	P		**P**	**21 13 47.2**	**-0.5**
	baz=20,SNR=20							
FITZ	**Fitzroy Crossi**	**19.80**	**182**	P		**P**	**21 13 46.7**	**-1.0**
FITZ	**Fitzroy Crossi**	**19.80**	**182**	P		**P**	**21 13 46.5**	**-1.2**
DLV	**T Lat**	**20.49**	**300**	P		**P**	**21 13 56.6**	**+1.2**
DLV	**T Lat**	**20.49**	**300**	P		**P**	**21 13 55.9**	**+0.5**
LEM	**Lembang**	**20.69**	**245**	P		**P**	**21 13 57.0**	**-0.6**
	comp=Z,22nm,0.5s,baz=77,slow=14,SNR=7.2							
LEM				LR		LR	21 24 07.5	
	comp=Z,762nm,18.4s,baz=58,slow=43							
	comp=Z,22nm,0.5s							
LEM	**Lembang**	**20.69**	**245**	P		**P**	**21 13 56.5**	**-1.1**
	comp=Z,74nm,0.9s							
PPBI	**Pangkal Pinang**	**20.72**	**259**	P		**P**	**21 13 58.9**	**+1.2**
	comp=Z,89nm,1.1s,comp=Z,3μm							
BBJI	**Bungbulang**	**20.93**	**244**	P		**P**	**21 14 00.9**	**+0.9**
CBJI	**Citeko**	**21.24**	**247**	P		**P**	**21 14 02.2**	**-1.1**
	comp=Z,142nm,1.1s							
CNJI	**Cibinong**	**21.33**	**245**	P		**P**	**21 14 02.9**	**-1.3**
	comp=Z,39nm,1.2

QZH LR LR
comp=Z,1μm,30.9s
MNAI Manna 24.30 255 P **P** **21 14 32.8 -1.5**
JMZ Minamidaito 2 24.30 10 P **P** **21 14 33.6 -0.5**
UBPT Khong Chiam 24.67 304 P **P** **21 14 38.4 +0.7**
UBPT Khong Chiam 24.67 304 P **P** **21 14 38.0 +0.4**
JOW Kunigami 24.94 4 P **P** **21 14 41.7 +1.8**
JOW Kunigami 24.94 4 P **P** **21 14 40.5 +0.6**
JOW IAmb IAmb 21 14 43.3
comp=Z,132nm,0.9s
BKNI Bangkinang 25.48 267 P **P** **21 14 45.4 +0.4**
BKNI Bangkinang 25.48 267 P **P** **21 14 43.0 -2.1**
BKNI IAmb IAmb 21 14 52.8
comp=Z,77nm,0.6s
BKNI Bangkinang 25.48 267 P **P** **21 14 45.5 +0.4**
comp=Z,140nm,0.5s,comp=Z,2μm
IPM Ipoh 25.55 277 P **P** **21 14 45.2 -0.5**
QIS Mount Isa 25.68 151 P **P** **21 14 46.8 0.0**
baz=26,SNR=29
QIS Mount Isa 25.68 151 P **P** **21 14 47.1 +0.3**
KULM Kulim 26.01 278 P **P** **21 14 48.3 -1.5**
PDSI Padang 26.16 264 P **P** **21 14 51.7 +0.5**
comp=Z,40nm,0.8s
AS31 Alice Springs 26.33 165 P **P** **21 14 51.9 -0.8**
ASAR Alice Springs 26.33 165 P **P** **21 14 51.8 -0.9**
comp=Z,16nm,0.6s,baz=347,slow=7.2,SNR=59
ASAR PcP **PcP** **21 18 18.6 +0.7**
comp=Z,2.9nm,0.5s,baz=345,slow=2.4,SNR=4.5
ASAR S **S** **21 19 25.0 +2.7**
comp=Z,3.1nm,0.8s,baz=343,slow=19,SNR=4.6
ASAR ScP **ScP** **21 21 57.9 +4.1**
comp=Z,1.6nm,0.8s,baz=339,slow=5.0,SNR=4.5
comp=Z,16nm,0.6s
MTSU Mount Surprise 26.48 139 P **P** **21 14 54.5 +0.5**
baz=26,SNR=11
MTSU Mount Surprise 26.48 139 P **P** **21 14 54.9 +0.9**
WRKA Warakurna 26.75 176 P **P** **21 14 56.1 -0.2**
baz=27,SNR=92
WRKA Warakurna 26.75 176 P **P** **21 14 57.0 +0.6**
PPSI Pulau Pagai 26.85 260 P **P** **21 14 57.1 -0.3**
comp=Z,135nm,0.8s
GIRL Giralia 27.08 205 P **P** **21 15 00.9 +1.5**
baz=27,SNR=7.3
GIRL Giralia 27.08 205 P **P** **21 14 59.4 0.0**
GIRL IAmb IAmb 21 15 05.0
comp=Z,135nm,0.8s
SISI Saibi 27.57 264 P **P** **21 15 04.4 +0.6**
comp=Z,46nm,0.8s
SISI pP **pP** **21 15 17.2 +1.0**
comp=Z,46nm,0.8s
SRIT Nakonsritamara 27.59 285 P **P** **21 15 04.6 +0.6**
SRIT Nakonsritamara 27.59 285 P **P** **21 15 03.0 -1.0**
NONG Nongkai 28.02 307 P **P** **21 15 08.0 +0.1**
GULI GuiLin 28.04 328 ⇑P **P** **21 15 07.8 -0.2**
GULI S **S** **21 19 47.3 -2.0**
GULI pmax pmax
comp=Z,10.0nm,1.0s
GULI pmax pmax
comp=Z,100nm,6.0s
GULI LR LR
comp=Z,430nm,20.0s
GULI LR LR
comp=Z,400nm,19.5s
GULI LR LR
comp=Z,740nm,21.2s
PBSI Pulau Batu 28.26 267 P **P** **21 15 10.3 +0.3**
comp=Z,40nm,1.2s
KCSI Kotacane, Aceh 28.73 274 P **P** **21 15 12.6 -1.6**
comp=Z,22nm,0.7s
GSI Gunungsitoli 28.90 269 P **P** **21 15 15.0 -0.8**
GSI Gunungsitoli 28.90 269 P **P** **21 15 14.5 -1.3**
GSI IAmb IAmb 21 15 15.9
comp=Z,58nm,0.9s
GSI Gunungsitoli 28.90 269 P **P** **21 15 14.5 -1.3**
comp=Z,70nm,0.9s
TV1H Townsville Har 28.93 137 P **P** **21 15 18.1 +2.2**
CTAO Charters Tower 29.15 139 P **P** **21 15 20.1 +2.2**
CTAO Charters Tower 29.15 139 P **P** **21 15 16.4 -1.5**
CTAO IAmb IAmb 21 15 27.7
comp=Z,42nm,1.1s
CTAO Charters Tower 29.15 139 P **P** **21 15 16.4 -1.5**
CTAO pmax pmax
comp=Z,42nm,1.1s
CNSH ChangSha 29.25 335 ⇑P **P** **21 15 17.9 -0.7**
CNSH S **S** **21 20 07.2 -0.9**
CNSH pmax pmax
comp=Z,12nm,1.2s
CNSH LR LR
comp=Z,320nm,19.0s
CNSH LR LR
comp=Z,410nm,20.6s
CNSH LR LR
comp=Z,310nm,21.0s
MEEK Meekatharra 29.29 195 P **P** **21 15 19.6 +0.6**
baz=29,SNR=19
MEEK Meekatharra 29.29 195 P **P** **21 15 19.8 +0.8**
JCJ Chichijima 29.31 30 P **P** **21 15 19.2 0.0**
JCJ Chichijima 29.31 30 P **P** **21 15 18.1 -1.0**
JCJ Chichijima 29.31 30 LR LR 21 25 57.4
comp=Z,323nm,21.7s,baz=223,slow=34
SLVN Son La 29.33 313 P **P** **21 15 19.1 -0.5**
MLSI Meulaboh, Aceh 30.13 275 P **P** **21 15 27.2 +0.5**
comp=Z,22nm,0.6s
SNSI Sinabang, Aceh 30.14 272 P **P** **21 15 26.6 -0.1**
comp=Z,68nm,1.5s
OOD Oodnadatta 30.74 164 P **P** **21 15 31.4 -0.4**
WHN Wuhan 30.80 339 ⇓P **P** **21 15 33.2 +0.9**
WHN S **S** **21 20 32.7 +0.2**
WHN pmax pmax
comp=Z,88nm,0.8s
WHN LR LR
comp=Z,690nm,15.7s
WHN LR LR
comp=Z,2μm,21.9s
WHN LR LR
comp=Z,2μm,26.1s
NJ2 Nanjing 30.93 347 ⇓P **P** **21 15 34.6 +1.2**
NJ2 pP **pP** **21 15 45.1 -0.7**
NJ2 pmax pmax
comp=Z,17nm,0.7s
NJ2 pmax pmax
comp=Z,100nm,4.2s
NJ2 LR LR
comp=Z,390nm,21.1s
NJ2 LR LR
comp=Z,390nm,20.2s
NJ2 LR LR
comp=Z,630nm,20.6s
GYA Guiyang 31.04 324 ⇓P **P** **21 15 35.3 +0.7**
GYA pmax pmax
comp=Z,26nm,1.0s
CRAI Chiangrai 31.39 307 P **P** **21 15 37.7 0.0**
JNU Nakatsue 31.42 7 P **P** **21 15 38.6 +0.8**
JNU Nakatsue 31.42 7 P **P** **21 15 37.3 -0.5**
JNU IAmb IAmb 21 15 39.5
comp=Z,47nm,0.9s
JNU Nakatsue 31.42 7 LR LR 21 30 26.3
comp=Z,77nm,20.2s,baz=180,slow=40
CM31 Chiang Mai Arr 31.67 303 P **P** **21 15 40.2 +0.1**
CMAR Chiang Mai Arr 31.67 303 P **P** **21 15 39.7 -0.4**
CMAR Chiang Mai Arr 31.67 303 P **P** **21 15 40.6 +0.5**
comp=Z,7.9nm,0.9s,baz=121,slow=7.1,SNR=38
CMAR PcP **PcP** **21 18 33.7 +2.3**
comp=Z,4.0nm,1.0s,baz=134,slow=3.2,SNR=7.1
CMAR LR LR 21 27 35.2
comp=Z,379nm,21.9s,baz=115,slow=35
comp=Z,7.9nm,0.9s
MORW Morawa 32.29 197 P **P** **21 15 46.0 +0.5**
baz=32,SNR=16
MORW Morawa 32.29 197 P **P** **21 15 45.8 +0.3**
MORW Morawa 32.29 197 P **P** **21 15 45.2 -0.3**
MORW IAmb IAmb 21 15 51.4
comp=Z,30nm,1.1s
FORT Forrest 32.44 177 P **P** **21 15 46.6 -0.1**
baz=33,SNR=24
FORT Forrest 32.44 177 P **P** **21 15 46.9 +0.1**
FORT Forrest 32.44 177 P **P** **21 15 45.7 -1.0**
JMN Monobe 32.50 12 P **P** **21 15 49.0 +1.7**
JMN Monobe 32.50 12 P **P** **21 15 47.8 +0.5**
ENH Enshi 32.58 332 P **P** **21 15 47.9 -0.1**
ENH Enshi 32.58 332 P **P** **21 15 47.4 -0.6**
ENH IAmb IAmb 21 15 49.4
comp=Z,70nm,1.0s
ENH Enshi 32.58 332 P **P** **21 15 47.8 -0.3**
KMI Kunming 32.58 317 ⇑P **P** **21 15 49.2 +0.8**
KMI PP **PP** **21 17 02.8 +0.1**
KMI S **S** **21 20 57.1 -3.8**
KMI pmax pmax
comp=Z,20nm,1.3s
KMI pmax pmax
comp=Z,130nm,7.2s
KMI LR LR
comp=Z,380nm,22.4s
KMI LR LR
comp=Z,620nm,20.3s
KMI LR LR
comp=Z,1μm,21.9s
MULG Mulgathing 32.72 168 P **P** **21 15 49.4 +0.2**
QLP Quilpie 33.02 150 P **P** **21 15 52.4 +0.5**
KMBL Kambalda 33.28 187 P **P** **21 15 54.2 +0.1**
baz=33,SNR=9.1
KMBL Kambalda 33.28 187 P **P** **21 15 53.9 -0.2**
JHJ Hachijo jima 2 33.55 20 LR LR 21 27 55.9
comp=Z,219nm,20.4s,baz=220,slow=33
BLDU Ballidu 33.56 195 P **P** **21 15 56.9 +0.3**
baz=34,SNR=26
LCRK Leigh Creek 33.98 162 P **P** **21 16 01.1 +1.0**
KLBR Kellerberrin 34.24 193 P **P** **21 16 02.6 +0.2**
baz=34,SNR=23
KLBR Kellerberrin 34.24 193 P **P** **21 16 03.2 +0.8**
RK1H Rockhampton Ha 34.26 138 P **P** **21 16 03.6 +0.9**
TJN Taejon 34.40 1 P **P** **21 16 05.0 +1.2**
TJN Taejon 34.40 1 *ce*P **P** **21 16 06.5 +2.7**
MUN Mundaring 34.99 195 P **P** **21 16 09.2 +0.3**
baz=35,SNR=14
LYN LuoYang 35.10 340 *e*P **P** **21 16 10.2 +0.4**
LYN pP pwP 21 16 24.7 +0.1
LYN S **S** **21 21 36.2 -2.9**
LYN pmax pmax
comp=Z,27nm,0.9s
LYN pmax pmax
comp=Z,190nm,3.7s
LYN LR LR
comp=Z,470nm,23.8s
LYN LR LR
comp=Z,500nm,20.7s
LYN LR LR
comp=Z,560nm,22.7s
JGF Kuroka 35.10 16 P **P** **21 16 10.5 +0.6**
JGF Kuroka 35.10 16 P **P** **21 16 09.4 -0.5**
HNR Honiara 35.16 109 LR LR 21 32 51.8
comp=Z,2μm,18.6s,baz=284,slow=40
TIA Tai'an 35.31 347 ⇑P **P** **21 16 11.3 -0.3**
TIA S **S** **21 21 34.6 -7.7**
TIA pmax pmax
comp=Z,10.0nm,0.8s
TIA LR LR
comp=Z,120nm,20.6s
TIA LR LR
comp=Z,200nm,21.6s
TIA LR LR
comp=Z,300nm,26.0s
KSAR Wonju Array Be 35.48 2 P **P** **21 16 13.2 +0.1**
KSAR Wonju Array Be 35.48 2 P **P** **21 16 13.2 +0.1**
KSRS Korea Array 35.49 2 P **P** **21 16 14.4 +1.3**
comp=Z,7.3nm,0.7s,baz=181,slow=9.9,SNR=28
KSRS PcP **PcP** **21 18 43.1 +1.4**
comp=Z,2.7nm,0.9s,baz=193,slow=2.2,SNR=3.8
comp=Z,7.3nm,0.7s
TNCH TengChong 35.50 313 ⇑*i*P **P** **21 16 13.8 +0.1**
TNCH pP pP 21 16 26.2 0.0
TNCH sP sP 21 16 31.1 -0.8
TNCH PP **PP** **21 17 36.9 +1.9**
TNCH S **S** **21 21 44.4 -1.6**
TNCH sS sS 21 22 04.3 -2.9
TNCH SS **SnSn** **21 24 07.4 -2.2**
TNCH pmax pmax
comp=Z,24nm,0.8s
TNCH LR LR
comp=Z,190nm,20.7s
TNCH LR LR
comp=Z,220nm,20.0s
TNCH LR LR
comp=Z,600nm,22.9s
KS19 Wonju Array Si 35.54 2 P **P** **21 16 13.1 -0.5**
KS19 IAmb IAmb 21 16 20.5
comp=Z,23nm,0.8s
BBOO Buckleboo 35.61 166 P **P** **21 16 13.7 -0.5**
baz=36,SNR=23
BBOO Buckleboo 35.61 166 P **P** **21 16 14.1 -0.1**
BBOO Buckleboo 35.61 166 P **P** **21 16 13.4 -0.8**
NWAO Narrogin (SRO) 35.64 193 P **P** **21 16 15.4 +1.0**
baz=36,SNR=6.7
NWAO P **P** **21 16 15.4 +1.0**
baz=36,SNR=6.7
NWAO Narrogin (SRO) 35.64 193 P **P** **21 16 14.2 -0.3**
NWAO IAmb IAmb 21 16 22.7
comp=Z,66nm,1.2s
NWAO Narrogin (SRO) 35.64 193 LR LR 21 32 17.0
comp=Z,193nm,21.6s,baz=20,slow=39
NWAO Narrogin (SRO) 35.64 193 P **P** **21 16 14.2 -0.3**
NWAO pmax pmax
comp=Z,66nm,1.2s
XAN Xi'an 36.02 335 P **P** **21 16 17.1 -0.7**
XAN S **S** **21 21 52.0 -1.4**
XAN pmax pmax
comp=Z,62nm,1.3s
XAN LR LR
comp=Z,520nm,21.6s
XAN LR LR
comp=Z,410nm,20.3s
XAN LR LR
comp=Z,730nm,20.3s
EIDS Eidsvold 36.02 140 P **P** **21 16 17.6 -0.3**
baz=36,SNR=6.9
EIDS Eidsvold 36.02 140 P **P** **21 16 18.4 +0.5**
EIDS Eidsvold 36.02 140 P **P** **21 16 17.2 -0.7**
EIDS IAmb IAmb 21 16 26.0
comp=Z,36nm,0.9s
CD2 Chengdu 36.06 326 P **P** **21 16 17.6 -0.6**
CD2 S **S** **21 21 50.4 -3.6**
CD2 pmax pmax
comp=Z,50nm,1.0s
CD2 LR LR
comp=Z,440nm,18.2s
CD2 LR LR
comp=Z,460nm,22.0s
WHYH Whyalla 36.21 164 P **P** **21 16 19.2 -0.1**
MAJO Matsushiro 36.22 16 P **P** **21 16 19.4 0.0**
MAJO Matsushiro 36.22 16 P **P** **21 16 18.6 -0.8**
MAJO Matsushiro 36.22 16 ⇑*i*P **P** **21 16 19.3 -0.1**
MAJO pmax pmax
comp=Z,91nm,1.8s
MAJO Matsushiro 36.22 16 P **P** **21 16 19.1 -0.3**
MAJO pP **pP** **21 16 27.5 -4.3**
MJAR Matsushiro Arr 36.22 16 P **P** **21 16 19.1 -0.4**
comp=Z,18nm,0.8s,baz=189,slow=8.0,SNR=50
MJAR PcP **PcP** **21 18 45.1 +1.1**
comp=Z,3.4nm,0.9s,baz=210,slow=3.6,SNR=2.8
MJAR LR LR 21 29 46.5
comp=Z,289nm,21.6s,baz=235,slow=34
comp=Z,18nm,0.8s
STKA Stephens Creek 36.44 158 P **P** **21 16 21.2 -0.2**
baz=37,SNR=37
STKA Stephens Creek 36.44 158 P **P** **21 16 21.0 -0.4**
STKA Stephens Creek 36.44 158 P **P** **21 16 20.8 -0.6**
STKA Stephens Creek 36.44 158 P **P** **21 16 20.6 -0.8**
comp=Z,15nm,0.7s,baz=329,slow=9.2,SNR=35
STKA LR LR 21 33 19.5
comp=Z,301nm,21.3s,baz=346,slow=40
comp=Z,15nm,0.7s
STKA Stephens Creek 36.44 158 ⇑*i*P **P** **21 16 20.9 -0.4**
HTT Hallett 36.97 163 P **P** **21 16 28.1 +2.2**
baz=37,SNR=12
HNS HongShan 37.04 344 ⇓P **P** **21 16 26.8 +0.5**
HNS pmax pmax
comp=Z,36nm,1.0s
HNS LR LR
comp=Z,460nm,21.5s
HNS LR LR
comp=Z,340nm,21.6s
HNS LR LR
comp=Z,760nm,21.6s
AULRC Lightning Ridg 37.26 148 P **P** **21 16 31.0 +2.7**
RKGY Rocky Gully 37.31 193 P **P** **21 16 30.2 +1.5**
baz=38,SNR=7.2
CMSA Cobar Meteorol 37.85 153 P **P** **21 16 33.8 +0.5**
baz=38,SNR=16
CMSA Cobar Meteorol 37.85 153 P **P** **21 16 34.1 +0.8**
JMM Marumori 38.22 18 P **P** **21 16 37.2 +0.9**
JMM Marumori 38.22 18 P **P** **21 16 36.5 +0.2**
JMM IAmb IAmb 21 16 53.9
comp=Z,84nm,0.8s
AUWSH Wavell State H 38.69 141 P **P** **21 16 42.7 +2.2**
BJT Baijiatuau 39.17 347 P **P** **21 16 45.1 +0.8**
BJT Baijiatuau 39.17 347 P **P** **21 16 44.0 -0.3**
BJT IAmb IAmb 21 17 10.1
comp=Z,32nm,0.9s
BJT Baijiatuau 39.17 347 P **P** **21 16 44.0 -0.3**
BJT pmax pmax
comp=Z,32nm,0.9s
BJI Beijing 39.19 347 P **P** **21 16 44.8 +0.4**
BJI pP **pP** **21 16 56.2 -0.8**
BJI sP **sP** **21 17 02.5 -0.1**
BJI S **S** **21 22 43.0 +1.9**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI pmax pmax
comp=Z,63nm,4.8s
BJI LR LR
comp=Z,82nm,24.2s
BJI LR LR
comp=Z,98nm,23.0s
BJI LR LR
comp=Z,150nm,24.7s
AUDCS Dubbo College 39.83 150 P **P** **21 16 51.0 +1.1**
ARMA Armidale 40.03 145 P **P** **21 16 53.1 +1.4**
baz=40,SNR=5.3
ARMA Armidale 40.03 145 P **P** **21 16 53.2 +1.5**
ARMA Armidale 40.03 145 P **P** **21 16 51.2 -0.5**
ARMA IAmb IAmb 21 16 58.3
comp=Z,46nm,0.8s
LZH Lanzhou 40.04 331 ⇑P **P** **21 16 52.3 +0.5**
LZH pP pP 21 17 05.1 +0.7
LZH sP sP 21 17 11.4 +1.4
LZH PcP **PcP** **21 18 58.3 +2.3**
LZH S **S** **21 22 54.4 +0.1**
LZH pmax pmax
comp=Z,70nm,1.1s
LZH LR LR
comp=Z,480nm,15.1s
LZH LR LR
comp=Z,400nm,17.3s
LZH LR LR
comp=Z,920nm,18.9s
SHL Shillong 40.84 308 P **P** **21 16 57.5 -1.1**
SHL IAmb IAmb 21 16 59.6
comp=Z,59nm,0.8s
SHL Shillong 40.84 308 P **P** **21 16 57.5 -1.1**
SHL pmax pmax
comp=Z,59nm,0.8s
PSTR Posyet 40.84 5 ⇓*i*P **P** **21 17 00.2 +2.1**
ARPS Mount Arapiles 40.96 161 P **P** **21 17 00.0 +0.9**
baz=41,SNR=15
ARPS Mount Arapiles 40.96 161 P **P** **21 16 59.8 +0.7**
JTM Tenmabayashi 40.98 17 P **P** **21 17 00.1 +0.8**
HHC Hu-ho-hao-te 41.14 343 *e*P **P** **21 17 01.3 +0.6**
HHC pP pP 21 17 13.3 -0.1
HHC S **S** **21 23 10.0 -0.5**
HHC sS sS 21 23 32.7 +0.7
HHC SS **SS** **21 26 10.8 -4.0**
HHC pmax pmax
comp=Z,26nm,0.8s
HHC pmax pmax
comp=Z,92nm,5.5s
HHC LR LR
comp=Z,480nm,20.6s
HHC LR LR
comp=Z,250nm,19.9s
HHC LR LR
comp=Z,850nm,22.2s
BTO Baotou 41.40 341 *e*P P 21 17 08.3 +5.5
BTO pP sP 21 17 20.3 -0.9
BTO sP pwP 21 17 30.7 +13
BTO PP **PnPn** **21 18 49.8 +5.6**
BTO S **S** **21 23 22.7 +8.4**
BTO SS SS 21 26 06.6 -13
BTO pmax pmax
comp=Z,21nm,0.6s
BTO pmax pmax
comp=Z,140nm,4.1s
BTO LR LR
comp=N,830nm,21.4s
BTO LR LR
comp=E,730nm,20.4s
BTO LR LR
comp=Z,1μm,22.9s
YNG Young 41.40 152 P **P** **21 17 04.3 +1.4**
baz=42,SNR=24
YNG Young 41.40 152 P **P** **21 17 04.3 +1.4**
CN2 Changchun 41.82 359 *e*P **P** **21 17 09.7 +3.6**
CN2 *ep*P sP 21 17 25.1 +0.8
CN2 *e*S **S** **21 23 23.9 +3.6**
CN2 *es*S sS 21 23 50.2 +8.4
CN2 *e*SS **SS** **21 26 26.9 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,1.2s
CN2 LR LR
comp=Z,100nm,17.0s
CN2 LR LR
comp=Z,90nm,17.0s
BRAT Ballarat 42.37 159 P **P** **21 17 12.3 +1.6**
USA0B Ussuriysk Arra 42.49 6 P **P** **21 17 12.2 +0.7**
USA0B Ussuriysk Arra 42.49 6 ⇑*i*P **P** **21 17 13.0 +1.5**
USRK Ussuriysk Ar. 42.49 6 P **P** **21 17 11.9 +0.4**
USRK Ussuriysk Ar. 42.49 6 P **P** **21 17 12.8 +1.3**
comp=Z,19nm,0.8s,baz=192,slow=7.3,SNR=35
USRK LR LR 21 33 05.5
comp=Z,133nm,21.1s,baz=180,slow=34
comp=Z,19nm,0.8s
CAN Canberra 42.53 152 P **P** **21 17 13.6 +1.5**
CAN Canberra 42.53 152 P **P** **21 17 11.9 -0.2**
CAN IAmb IAmb 21 17 18.5
comp=Z,40nm,0.9s
CAN Canberra 42.53 152 P **P** **21 17 11.9 -0.2**
CAN pmax pmax
comp=Z,40nm,0.9s
CAN Canberra 42.53 152 P **P** **21 17 13.3 +1.2**
CAN pP **pP** **21 17 21.4 -3.2**
CNB Canberra Magne 42.69 152 P **P** **21 17 15.4 +2.0**
MDJ Mudanjiang 42.71 3 P **P** **21 17 14.9 +1.5**
MDJ Mudanjiang 42.71 3 P **P** **21 17 14.5 +1.1**
MDJ S **S** **21 23 37.3 +3.9**
MDJ pmax pmax
comp=Z,28nm,1.4s
MDJ pmax pmax
comp=Z,180nm,8.2s
MDJ LR LR
comp=Z,370nm,24.2s
MDJ LR LR
comp=Z,210nm,14.4s
MDJ LR LR
comp=Z,330nm,23.8s
MDJ Mudanjiang 42.71 3 P **P** **21 17 13.9 +0.5**
H11S3 WAKE ISLAND Hy 42.75 64 T T 22 03 03.5
baz=252,slow=74,SNR=46
H11S2 WAKE ISLAND Hy 42.77 64 T T 22 03 05.1
baz=252,slow=74,SNR=23
H11S1 WAKE ISLAND Hy 42.77 64 T T 22 03 04.9
baz=252,slow=74,SNR=16
XLT XiLinHaoTe 42.92 349 *e*P **P** **21 17 15.7 +0.6**
XLT pP pwP 21 17 30.8 +0.4
XLT sP sP 21 17 37.4 +4.0
XLT PP **PP** **21 18 53.3 -2.3**
XLT PcP **PcP** **21 19 06.4 +1.2**
XLT S **S** **21 23 32.9 -3.7**
XLT sS sS 21 23 58.4 +0.1
XLT pmax pmax
comp=Z,59nm,0.8s
XLT pmax pmax
comp=Z,150nm,4.2s
XLT LR LR
comp=Z,32nm,23.0s
XLT LR LR
comp=Z,290nm,20.0s
XLT LR LR
comp=Z,400nm,24.2s
TOO Toolangi 42.96 158 P **P** **21 17 17.1 +1.6**
TOO Toolangi 42.96 158 P **P** **21 17 15.9 +0.4**
TOO Toolangi 42.96 158 P **P** **21 17 15.9 +0.4**
TOO pmax pmax
comp=Z,61nm,1.9s
AUSMG Snowy Mountain 43.26 154 P **P** **21 17 20.0 +2.0**
H11N1 WAKE ISLAND Hy 43.32 63 T T 22 03 38.8
baz=262,slow=75,SNR=5.6
H11N3 WAKE ISLAND Hy 43.34 63 T T 22 03 41.0

baz=251,slow=75,SNR=4.8
LSA Lhasa 43.54 313 P **P** **21 17 21.1 +0.2**
LSA IAmb IAmb 21 17 22.7
comp=Z,27nm,0.7s
LSA Lhasa 43.54 313 P **P** **21 17 21.1 +0.2**
LSA pmax pmax
comp=Z,27nm,0.7s
LSA Lhasa 43.54 313 P **P** **21 17 21.7 +0.9**
BNX BinXian 43.76 1 ⇑P **P** **21 17 21.8 +0.1**
BNX pP **pwP** **21 17 37.0 0.0**
BNX S **S** **21 23 47.6 -1.0**
BNX pmax pmax
comp=Z,16nm,1.1s
BNX pmax pmax
comp=Z,140nm,6.7s
BNX LR LR
comp=Z,230nm,23.8s
BNX LR LR
comp=Z,140nm,21.6s
BNX LR LR
comp=Z,430nm,21.8s
TEY Ternei 43.96 10 *e*P **P** **21 17 25.0 +1.6**
ASAJ Asahikawa 44.49 17 LR LR 21 35 25.5
comp=Z,195nm,21.6s,baz=212,slow=35
ASAJ Asahikawa 44.49 17 P **P** **21 17 28.0 +0.3**
ASAJ pmax pmax
comp=Z,172nm,1.9s
JKA Kamikawa-asahi 44.49 17 P **P** **21 17 28.0 +0.4**
JKA IAmb IAmb 21 17 30.5
comp=Z,172nm,1.9s
GTA Gaotai 44.62 330 P **P** **21 17 29.1 +0.1**
GTA PcP **PP** **21 19 13.3 -0.6**
GTA S **S** **21 24 00.1 -1.6**
GTA pmax pmax
comp=Z,10.0nm,0.9s
GTA LR LR
comp=Z,300nm,22.9s
GTA LR LR
comp=Z,280nm,19.6s
GTA LR LR
comp=Z,550nm,22.5s
GOMU GeErMu 45.05 323 P **P** **21 17 33.3 +0.6**
GOMU pmax pmax
comp=Z,27nm,1.3s
GOMU LR LR
comp=Z,510nm,13.7s
GOMU LR LR
comp=Z,280nm,13.9s
GOMU LR LR
comp=Z,720nm,13.3s
DZM Mont Dzumac 45.66 124 P **P** **21 17 38.7 +1.2**
DZM Mont Dzumac 45.66 124 P **P** **21 17 37.0 -0.5**
DZM IAmb IAmb 21 17 47.0
comp=Z,25nm,0.9s
DZM Mont Dzumac 45.66 124 LR LR 21 38 05.9
comp=Z,354nm,20.6s,baz=347,slow=38
LIFNC LIFOU 45.78 122 P **P** **21 17 37.3 -1.0**
PALK Pallekele 45.93 278 P **P** **21 17 39.6 -0.1**
PALK Pallekele 45.93 278 LR LR 21 38 08.0
comp=Z,332nm,21.6s,baz=212,slow=38
PALK Pallekele 45.93 278 P **P** **21 17 39.6 -0.1**
PALK pmax pmax
comp=Z,23nm,1.2s
YATNC Mamie plateau, 46.03 123 P **P** **21 17 42.2 +2.0**
comp=Z,42nm,1.1s
YSS Yuzh-Sakhalins 47.15 15 P **P** **21 17 49.7 +1.2**
YSS Yuzh-Sakhalins 47.15 15 P **P** **21 17 48.2 -0.3**
YSS Yuzh-Sakhalins 47.15 15⇑ *e*P **P** **21 17 49.4 +0.9**
YSS *e* 21 19 39.9
YSS *e*S **S** **21 24 36.8 -0.7**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=Z,100nm,4.3s
KLR Kul'dur 47.46 5*ce*P **P** **21 17 51.6 +0.7**
KLR pmax pmax
comp=Z,19nm,0.8s
HIA Hailar 47.63 354 P **P** **21 17 53.9 +1.6**
HIA Hailar 47.63 354 P **P** **21 17 52.6 +0.3**
HIA IAmb IAmb 21 18 01.1
comp=Z,53nm,1.2s
HIA Hailar 47.63 354 P **P** **21 17 52.6 +0.3**
HIA pmax pmax
comp=Z,53nm,1.2s
HEH HeiHe 48.27 1 *e*P **P** **21 17 57.7 +0.5**
HEH pP **pP** **21 18 10.1 0.0**
HEH PcP **PcP** **21 19 24.7 +1.1**
HEH S **S** **21 24 51.3 -2.1**
HEH sS **sS** **21 25 15.6 +0.3**
HEH pmax pmax
comp=Z,41nm,1.2s
HEH pmax pmax
comp=Z,280nm,6.5s
HEH LR LR
comp=Z,300nm,23.3s
HEH LR LR
comp=Z,260nm,23.7s
HEH LR LR
comp=Z,600nm,23.6s
ULN Ulaanbaatar 48.86 343 P **P** **21 18 02.1 +0.1**
ULN IAmb IAmb 21 18 06.1
comp=Z,18nm,0.8s
ULN Ulaanbaatar 48.86 343*ce*P **P** **21 18 02.9 +0.9**
ULN pmax pmax
comp=Z,24nm,1.0s
ULN Ulaanbaatar 48.86 343 P **P** **21 18 02.6 +0.6**
UGL Uglegorsk 48.95 14 *e*P **P** **21 18 04.0 +1.6**
UGL pmax pmax
comp=Z,50nm,1.3s
UGL pmax pmax
comp=Z,260nm,2.5s
SONM Songino Array 49.03 342 P **P** **21 18 03.8 +0.5**
comp=Z,20nm,0.8s,baz=156,slow=8.9,SNR=80
SONM LR LR 21 40 38.8
comp=Z,203nm,21.8s,baz=152,slow=38
comp=Z,20nm,0.8s
GRNR Gornyy 49.50 8⇑ *i*P **P** **21 18 08.2 +1.5**
GRNR pmax pmax
comp=N,4.0nm,0.9s
GRNR pmax pmax
comp=Z,10.0nm,1.1s
GRNR MLR MLR
comp=E,80nm,14.0s
GRNR MLR MLR
comp=N,130nm,15.0s
HYB Hyderabad 49.55 291 *e*P **P** **21 18 07.8 +0.2**
TYV Tymovskoe 50.76 13 *e*P **P** **21 18 18.1 +2.0**
TYV *e*S **S** **21 25 34.9 +6.8**
TYV pmax pmax
comp=Z,10.0nm,1.7s
TYV pmax pmax
comp=Z,100nm,3.0s
TYV smax smax
comp=N,100nm,6.2s
TYV smax smax
comp=E,100nm,6.2s
CIT Chita 51.20 350 *e*P **P** **21 18 21.0 +1.5**
CIT *e* 21 18 36.8
CIT *e* 21 18 40.6
CIT *e* 21 19 36.0
CIT pmax pmax
comp=Z,153nm,1.5s
ZEA Zeya 51.76 1 *e*P **P** **21 18 23.6 0.0**
ZEA pmax pmax
comp=Z,20nm,0.8s
ZAK Zakamensk 52.25 341 *e*P **P** **21 18 27.2 -0.3**
ZAK pmax pmax
comp=Z,6.0nm,1.4s
FUNA Funafuti 53.54 102 P **P** **21 18 38.9 +1.4**
FUNA Funafuti 53.54 102 P **P** **21 18 36.6 -0.8**
IRK Irkutsk 53.58 343 *e*P **P** **21 18 38.2 +1.1**
IRK pmax pmax
comp=Z,13nm,0.2s
MOY Mondy 54.09 341 *e*P **P** **21 18 42.1 +1.1**
MOY pmax pmax
comp=Z,23nm,1.5s
WMQ Urumqi 54.16 326 *e*P **P** **21 18 42.5 +0.9**
WMQ PcP **PcP** **21 19 46.5 +0.8**
WMQ pmax pmax
comp=Z,25nm,1.7s
WMQ pmax pmax
comp=Z,100nm,3.8s
WMQ LR LR
comp=Z,550nm,23.7s
WMQ LR LR
comp=Z,620nm,24.0s
WMQ LR LR
comp=Z,630nm,23.7s
MSVF Nonsavu 54.37 113 P **P** **21 18 45.7 +2.2**
BOD Bodaibo 56.72 352 *e*P **P** **21 19 00.6 +1.0**
BOD pmax pmax
comp=Z,26nm,0.8s
PEA0B Petropavlovsk- 57.29 22 P **P** **21 19 04.7 +0.9**
PEA0B IAmb IAmb 21 19 09.5
comp=Z,15nm,0.7s
PEA0B Petropavlovsk- 57.29 22*ce*P **P** **21 19 05.2 +1.4**
PETK Petropavlovsk- 57.29 22 P **P** **21 19 04.3 +0.5**
PETK Petropavlovsk- 57.29 22 P **P** **21 19 04.8 +1.1**
comp=Z,7.1nm,0.6s,baz=186,slow=4.3,SNR=29
comp=Z,7.1nm,0.6s
PET Petropavlovsk 57.58 22 P **P** **21 19 05.1 -0.7**
PET IAmb IAmb 21 19 08.5
comp=Z,68nm,1.3s
PET Petropavlovsk 57.58 22 *e*P **P** **21 19 07.4 +1.6**
PET *e**PP **sP** **21 19 23.4 -1.0**
PET *e*S **S** **21 26 57.3 -2.8**
PET pmax pmax
comp=Z,44nm,1.4s
PET MLR MLR
comp=Z,100nm,17.0s
WUS Wushi 57.83 319 P **P** **21 19 08.1 +0.1**
WUS pP **pP** **21 19 17.3 -3.9**
ZSN Zaisan 57.98 328 *e*P **P** **21 19 09.5 +0.7**
baz=328
ZSN Zaisan 57.98 328 *e*P **P** **21 19 09.5 +0.7**
SHLS Shalkode 58.67 321 *e*P **P** **21 19 12.1 -1.8**
baz=321
SHLS Shalkode 58.67 321 *e*P **P** **21 19 12.0 -1.8**
UZB Uzynbulak 58.94 321 *e*P **P** **21 19 15.6 -0.1**
baz=321
UZB Uzynbulak 58.94 321 *e*P **P** **21 19 15.6 -0.1**
MK31 Makanchi Array 58.99 326*ce*P **P** **21 19 16.0 +0.2**
MKAR Makanchi Array 58.99 326 P **P** **21 19 15.7 -0.2**
MKAR Makanchi Array 58.99 326 P **P** **21 19 15.9 0.0**
comp=Z,22nm,0.5s,baz=120,slow=7.5,SNR=280
MKAR S **S** **21 27 18.6 -0.2**
comp=Z,0.6nm,0.9s,baz=122,slow=16,SNR=3.0
MKAR LR LR 21 45 21.0
comp=Z,452nm,21.4s,baz=126,slow=37
MKAR PKP2bc 21 49 01.1
comp=Z,0.7nm,0.8s,baz=277,slow=2.5,SNR=4.5
comp=Z,22nm,0.5s
TARG Taragay, Kyrgy 59.02 319 P **P** **21 19 16.8 +0.2**
TARG IAmb IAmb 21 19 29.1
comp=Z,23nm,0.8s
TARG Taragay, Kyrgy 59.02 319 P **P** **21 19 16.8 +0.2**
TARG pmax pmax
comp=Z,23nm,0.8s
MAKZ Makanchi 59.17 326 P **P** **21 19 16.9 -0.2**
MAKZ IAmb IAmb 21 19 20.2
comp=Z,32nm,0.8s
MAKZ Makanchi 59.17 326 P **P** **21 19 16.9 -0.2**
MAKZ pmax pmax
comp=Z,32nm,0.8s
MAKZ Makanchi 59.17 326 P **P** **21 19 17.0 -0.2**
KSH Kashi 59.23 316 P **P** **21 19 19.1 +1.3**
KSH pmax pmax
comp=Z,17nm,1.0s
KSH LR LR
comp=Z,870nm,17.3s
KSH LR LR
comp=Z,490nm,19.8s
KSH LR LR
comp=Z,340nm,21.9s
SATY Saty 59.28 321 *e*P **P** **21 19 18.2 +0.2**
comp=Z,20nm,0.8s,baz=321
SATY Saty 59.28 321 *e*P **P** **21 19 18.2 +0.2**
SATY pmax pmax
comp=Z,21nm,0.8s
ZHN Zhinishke 59.32 321 *e*P **P** **21 19 18.1 -0.2**
baz=321
ZHN Zhinishke 59.32 321 *e*P **P** **21 19 18.1 -0.2**
QRZ Quartz Range 59.60 141 P **P** **21 19 20.1 -0.1**
YAK Yakutsk 60.12 2 P **P** **21 19 23.3 +0.1**
YAK Yakutsk 60.12 2 LR LR 21 48 01.8
comp=Z,116nm,19.6s,baz=178,slow=39
YAK Yakutsk 60.12 2 *e*P **P** **21 19 23.5 +0.3**
YAK *e**PP **pwP** **21 19 38.3 -0.7**
YAK *e* 21 20 05.4
YAK *e* 21 21 35.9
YAK *e*S **S** **21 27 33.0 +0.3**
YAK *e**SS **sS** **21 27 58.6 +3.7**
YAK *e* 21 29 08.0
YAK *e*SS **SS** **21 31 28.9 -1.5**
YAK pmax pmax
comp=Z,89nm,1.5s
YAK pmax pmax
comp=N,33nm,1.5s
YAK pmax pmax
comp=E,21nm,1.9s
YAK pmax pmax
comp=Z,96nm,5.0s
YAK pmax pmax
comp=N,77nm,4.4s
YAK pmax pmax
comp=E,55nm,5.1s
YAK smax smax
comp=E,193nm,3.7s
YAK smax smax
comp=N,127nm,3.4s
MDOK Medeo 60.20 320 *e*P **P** **21 19 24.5 +0.1**
baz=320
MDOK Medeo 60.20 320 *e*P **P** **21 19 24.5 +0.1**
TNSS Tian-Shan 60.20 320 *e*P **P** **21 19 24.1 -0.6**
baz=320
TNSS Tian-Shan 60.20 320 *e*P **P** **21 19 24.1 -0.6**
ARXS Arharly 60.22 322 *e*P **P** **21 19 23.5 -1.0**
LBZ Lake Benmore 60.25 145 P **P** **21 19 24.3 -0.2**
LBZ IAmb IAmb 21 19 30.2
comp=Z,42nm,0.9s
TDK Taldyqorghan 60.27 323 *e*P **P** **21 19 24.8 +0.1**
comp=Z,15nm,0.7s,baz=323
TDK Taldyqorghan 60.27 323 *e*P **P** **21 19 24.7 +0.1**
TDK pmax pmax
comp=Z,15nm,0.7s
AAA Alma-Ata 60.30 320 *e*P **P** **21 19 25.0 -0.1**
comp=Z,14nm,0.7s,baz=320
AAA Alma-Ata 60.30 320 *e*P **P** **21 19 24.9 -0.1**
AAA pmax pmax
comp=Z,14nm,0.7s
RPZ Rata Peaks 60.35 144 LR LR 21 45 50.7
comp=Z,272nm,21.2s,baz=327,slow=36
CHKK Chushkaly 60.57 321 *e*P **P** **21 19 26.5 -0.3**
baz=321
CHKK Chushkaly 60.57 321 *e*P **P** **21 19 26.5 -0.3**
BOOM Boomskoye usch 60.60 319 P **P** **21 19 27.2 +0.1**
BOOM IAmb IAmb 21 19 35.6
comp=Z,36nm,1.2s
BOOM Boomskoye usch 60.60 319 P **P** **21 19 27.3 +0.1**
BOOM pmax pmax
comp=Z,36nm,1.2s
MA2 Magadan 60.61 14 P **P** **21 19 28.3 +1.6**
MA2 Magadan 60.61 14 P **P** **21 19 27.6 +0.9**
MA2 IAmb IAmb 21 19 29.7
comp=Z,56nm,1.2s
MA2 Magadan 60.61 14 LR LR 21 42 23.0
comp=Z,55nm,20.9s,baz=218,slow=33
MA2 Magadan 60.61 14*ce*P **P** **21 19 28.7 +2.0**
MA2 pmax pmax
comp=Z,114nm,2.5s
MA2 Magadan 60.61 14 P **P** **21 19 28.4 +1.6**
MA2 Magadan 60.61 14 P **P** **21 19 28.3 +1.6**
comp=Z,57nm,1.5s,comp=Z,694nm
TKM2 Tokmak 2 61.02 319 P **P** **21 19 30.4 +0.3**
SNR=15
KBK Karagaybulak 61.32 319 P **P** **21 19 32.7 +0.6**
SNR=14
URZ Urewera 61.33 136 LR LR 21 48 37.9
comp=Z,163nm,18.5s,baz=28,slow=38
RTZ Ruatahuna 61.41 136 P **P** **21 19 32.0 -0.6**
UCH Uchtor 61.42 318 P **P** **21 19 33.7 +0.6**
SNR=32
CHMS Chumysh 61.61 319 P **P** **21 19 34.0 +0.2**
SNR=10.0
AAK Ala-Archa 61.62 319 P **P** **21 19 35.6 +1.6**
SNR=10.0
AAK Ala-Archa 61.62 319 P **P** **21 19 34.1 +0.1**
AAK Ala-Archa 61.62 319*ce*P **P** **21 19 35.4 +1.4**
AAK pmax pmax
comp=Z,18nm,1.7s
AAK Ala-Archa 61.62 319 P **P** **21 19 34.4 +0.3**
SGDS Sogindy 61.89 320 *e*P **P** **21 19 35.4 -0.4**
baz=320
SGDS Sogindy 61.89 320 *e*P **P** **21 19 35.3 -0.4**
USP Ospenovka 61.89 319 P **P** **21 19 35.9 +0.2**
SNR=16
ARSB Arslanbob 62.07 317 P **P** **21 19 36.9 -0.2**
ARSB Arslanbob 62.07 317 P **P** **21 19 36.9 -0.2**
ARSB pmax pmax
comp=Z,6.0nm,0.9s
EKS2 Erkin-Say 62.10 318 P **P** **21 19 37.9 +0.6**
SNR=15
DRK Karamyk 62.16 314 P **P** **21 19 37.8 -0.1**
DRK IAmb IAmb 21 19 40.5
comp=Z,23nm,0.7s
DRK Karamyk 62.16 314 P **P** **21 19 37.8 -0.1**
DRK pmax pmax
comp=Z,23nm,0.7s
ZAA0 Zalesovo Array 62.18 334 P **P** **21 19 36.6 -0.8**
ZAA0 IAmb IAmb 21 20 03.3
comp=Z,34nm,1.4s
ZALV Zalesovo Beam 62.18 334 P **P** **21 19 36.6 -0.7**
ZALV Zalesovo Beam 62.18 334 P **P** **21 19 36.9 -0.5**
comp=Z,6.6nm,0.7s,baz=131,slow=6.3,SNR=25
ZALV LR LR 21 47 14.5
comp=Z,148nm,21.1s,baz=107,slow=37
ZALV PKP2bc 21 48 53.4
comp=Z,0.4nm,0.2s,baz=358,slow=3.5,SNR=4.4
comp=Z,6.6nm,0.7s
KBL Kabul 62.50 308 P **P** **21 19 39.1 -1.1**
KBL IAmb IAmb 21 19 45.3
comp=Z,26nm,0.9s
KBL Kabul 62.50 308 P **P** **21 19 39.1 -1.1**
KBL pmax pmax
comp=Z,26nm,0.9s
BTLS Baital 62.99 321 *e*P **P** **21 19 42.7 -0.3**
baz=321
BTLS Baital 62.99 321 *e*P **P** **21 19 42.7 -0.3**
BTK Batken 63.08 315 P **P** **21 19 43.4 -0.4**
BTK IAmb IAmb 21 19 46.3
comp=Z,73nm,1.7s
BTK Batken 63.08 315 P **P** **21 19 43.4 -0.4**
BTK pmax pmax
comp=Z,73nm,1.7s
KURBB Kurchatov Arra 63.22 328 P **P** **21 19 44.3 -0.1**
comp=Z,30nm,0.7s,baz=130,slow=6.3,SNR=394
comp=Z,30nm,0.7s
KURK Kurchatov 63.22 328 P **P** **21 19 44.3 0.0**
KURK Kurchatov 63.22 328*ce*P **P** **21 19 44.4 0.0**
KURK pmax pmax
comp=Z,57nm,0.7s
KURK Kurchatov 63.22 328 P **P** **21 19 44.5 +0.2**
DZA Taraz 63.83 318 *e*P **P** **21 19 48.1 -0.5**
baz=318
DZA Taraz 63.83 318 *e*P **P** **21 19 48.1 -0.5**
SIMJ Simiganj 63.88 313 P **P** **21 19 48.7 -0.4**
SIMJ IAmb IAmb 21 19 50.7
comp=Z,24nm,1.0s
SIMJ Simiganj 63.88 313 P **P** **21 19 48.7 -0.4**
SEY Seymchan 63.95 13 LR LR 21 43 53.0
comp=Z,76nm,21.9s,baz=235,slow=32
SEY Seymchan 63.95 13 *e*P **P** **21 19 48.7 -0.2**
SEY pmax pmax
comp=Z,36nm,1.3s
SHEM Shemya Is, Ala 64.24 30 LR LR 21 43 52.8
comp=Z,158nm,21.6s,baz=286,slow=32
IUG Iuzhnay 64.42 317 *e*P **P** **21 19 52.4 -0.3**
comp=Z,13nm,0.6s,baz=317
IUG Iuzhnay 64.42 317 *e*P **P** **21 19 52.3 -0.3**
IUG pmax pmax
comp=Z,13nm,0.6s
KK31 Karatay Array 64.47 318 P **P** **21 19 52.1 -0.7**
KK31 IAmb IAmb 21 20 19.9
comp=Z,14nm,1.0s
KK31 Karatay Array 64.47 318 P **P** **21 19 52.1 -0.7**
KK31 pmax pmax
comp=Z,14nm,1.0s
KKAR Karatay Array 64.47 318 P **P** **21 19 52.1 -0.7**
KKAR IAmb IAmb 21 20 19.9
comp=Z,14nm,1.0s
KKAR Karatay Array 64.47 318 P **P** **21 19 52.1 -0.7**
KKAR pmax pmax
comp=Z,14nm,1.0s
CHM Chimkent 64.78 317 *e*P **P** **21 19 54.6 -0.3**
baz=317
CHM Chimkent 64.78 317 *e*P **P** **21 19 54.5 -0.3**
BRLS Borolday 64.89 317 *e*P **P** **21 19 55.4 -0.2**
baz=317
BRLS Borolday 64.89 317 *e*P **P** **21 19 55.4 -0.2**
ROCAM Rodrigues Isla 65.47 247 P **P** **21 20 00.1 +0.4**
BRZS Berezniki 66.11 325 *e*P **P** **21 20 03.3 0.0**
baz=325
BRZS Berezniki 66.11 325 *e*P **P** **21 20 03.2 0.0**
HRA Herat 67.86 306 P **P** **21 20 13.7 -1.3**
HRA IAmb IAmb 21 20 44.4
comp=Z,29nm,1.6s
BVAR Borovoye Array 68.79 327 P **P** **21 20 20.3 +0.2**
comp=Z,8.9nm,0.5s,baz=124,slow=7.2,SNR=54
BVAR S **S** **21 29 19.2 -0.8**
comp=Z,1.1nm,1.0s,baz=119,slow=12,SNR=3.9
BVAR LR LR 21 51 03.9
comp=Z,186nm,20.6s,baz=121,slow=36
comp=Z,8.9nm,0.5s
BRVK Borovoye 68.86 327 P **P** **21 20 20.5 0.0**
BRVK IAmb IAmb 21 20 48.0
comp=Z,46nm,1.3s
BRVK Borovoye 68.86 327*ce*P **P** **21 20 20.7 +0.1**
BRVK pmax pmax
comp=Z,36nm,1.3s
BRVK Borovoye 68.86 327 P **P** **21 20 20.7 +0.1**
BRVK pP **pP** **21 20 29.3 -4.8**
CASY Casey 68.89 187 P **P** **21 20 21.1 +0.6**
CASY IAmb IAmb 21 20 23.9
comp=Z,14nm,0.8s
CASY Casey 68.89 187 P **P** **21 20 21.5 +1.1**
CASY pP **pP** **21 20 30.6 -3.5**
WSAR Wadi Sarin 68.97 294 LR LR 21 50 47.6
comp=Z,226nm,21.9s,baz=102,slow=36
DRV Dumont d'Urvil 69.00 174 P **P** **21 20 21.2 +0.1**
TIXI Tiksi 69.75 1 P **P** **21 20 25.3 -0.4**
TIXI IAmb IAmb 21 20 31.9
comp=Z,29nm,1.1s
TIXI Tiksi 69.75 1 LR LR 21 52 55.2
comp=Z,143nm,20.9s,baz=196,slow=38
TIXI Tiksi 69.75 1*ce*P **P** **21 20 25.8 +0.1**
TIXI pmax pmax
comp=Z,31nm,1.3s
TIXI Tiksi 69.75 1 P **P** **21 20 25.6 -0.1**
ATKA Atka Island 70.21 34 P **P** **21 20 27.9 -1.0**
UOSS Minazif 71.38 296 P **P** **21 20 35.7 -0.8**
BILL Bilibino 71.46 15 P **P** **21 20 36.8 +0.6**
GEYT Alibeck 71.90 309 P **P** **21 20 40.0 +0.5**
comp=Z,24nm,0.5s,baz=115,slow=8.1,SNR=0.1
comp=Z,24nm,0.5s
GYA0 ALIBECK ARRAY 71.90 309 P **P** **21 20 39.1 -0.4**
GYA0B ALIBECK ARRAY 71.90 309 P **P** **21 20 39.1 -0.4**
ABKAR Akbulak array 73.47 321 P **P** **21 20 48.3 -0.3**
ABKAR Akbulak array 73.47 321 P **P** **21 20 48.2 -0.4**
ABKAR IAmb IAmb 21 20 52.5
comp=Z,11nm,0.8s
SPIA Saint Paul Isl 74.27 30 P **P** **21 20 52.6 -0.3**
baz=248
P08K Saint George I 74.41 31 P **P** **21 20 53.4 -0.4**
baz=249
AKTO Aktyubinsk 75.00 322 LR LR 21 56 18.0
comp=Z,176nm,20.9s,baz=106,slow=38
UNV Unalaska Valle 75.13 34 P **P** **21 20 57.2 -0.8**
baz=252
ARU Arti 76.42 328 P **P** **21 21 05.1 -0.3**
ARU IAmb IAmb 21 21 12.3
comp=Z,53nm,0.9s
ARU Arti 76.42 328 LR LR 21 55 12.5
comp=Z,101nm,21.1s,baz=106,slow=36
ARU Arti 76.42 328*c i*P **P** **21 21 05.2 -0.2**
ARU *PP **pP** **21 21 20.5 +1.4**
ARU PPP PPP 21 25 41.6
ARU S **S** **21 30 47.5 +0.6**
ARU SS **SS** **21 35 41.9 -0.3**
ARU pmax pmax
comp=Z,81nm,1.5s
ARU Arti 76.42 328 P **P** **21 21 05.2 -0.2**
comp=Z,71nm,1.0s,comp=Z,616nm
FALS False Pass 77.15 34 P **P** **21 21 09.2 -0.3**
baz=254
M11K Mekoryuk 77.37 28 P **P** **21 21 10.5 -0.1**
baz=251
S12K Black Hills 78.12 33 P **P** **21 21 14.4 -0.6**
baz=256

TNA	**Tin City**	**78.44**	**23**	P	**P**	**21 21 15.5**	**-1.0**
	baz=248							
K13K	**Kusilvak Mount**	**78.57**	**27**	P	**P**	**21 21 19.1**	**+1.9**
K13K				IAmb	IAmb	21 21 20.7		
	comp=Z,35nm,1.1s							
K13K	**Kusilvak Mount**	**78.57**	**27**	P	**P**	**21 21 17.1**	**-0.1**
	baz=252							
M13K	**Dall Lake**	**78.72**	**28**	P	**P**	**21 21 17.9**	**-0.2**
	baz=253							
SDPT	**Sand Point**	**78.91**	**34**	P	**P**	**21 21 18.7**	**-0.5**
	baz=257							
F14K	**Arctic Creek**	**79.03**	**23**	P	**P**	**21 21 19.0**	**-0.7**
	baz=250							
CHNA	**Chernabura Isl**	**79.30**	**34**	P	**P**	**21 21 20.0**	**-1.4**
	baz=258							
L14K	**Kuka Creek**	**79.30**	**28**	P	**P**	**21 21 23.1**	**+1.8**
L14K				IAmb	IAmb	21 21 24.8		
	comp=Z,48nm,1.1s							
L14K	**Kuka Creek**	**79.30**	**28**	P	**P**	**21 21 20.6**	**-0.6**
	baz=254,SNR=7.9							
J14K	**Nanvaranak Lak**	**79.31**	**26**	P	**P**	**21 21 21.2**	**-0.1**
	baz=253							
N14K	**Kuskokwak Cree**	**79.39**	**29**	P	**P**	**21 21 21.7**	**-0.1**
	baz=255							
O14K	**Tigyukauivet M**	**79.43**	**30**	P	**P**	**21 21 21.9**	**-0.1**
	baz=256							
M14K	**Bethel**	**79.48**	**28**	P	**P**	**21 21 23.2**	**+1.0**
M14K	**Bethel**	**79.48**	**28**	P	**P**	**21 21 21.3**	**-0.9**
	baz=255,SNR=6.3							
S14K	**Fog Glacier**	**79.63**	**33**	P	**P**	**21 21 22.1**	**-1.3**
	baz=258							
F15K	**North Star Dit**	**79.77**	**23**	P	**P**	**21 21 22.9**	**-0.9**
	baz=251							
G15K	**Niukluk**	**79.78**	**24**	P	**P**	**21 21 23.3**	**-0.6**
	baz=252							
L15K	**Ungalak Mounta**	**79.94**	**27**	P	**P**	**21 21 24.8**	**0.0**
	baz=255							
M15K	**Kasigluk River**	**80.07**	**29**	P	**P**	**21 21 25.5**	**0.0**
	baz=256							
K15K	**Wolf Creek Mou**	**80.08**	**27**	P	**P**	**21 21 25.5**	**-0.1**
	baz=255							
O15K	**Ungalikthiuk R**	**80.13**	**30**	P	**P**	**21 21 25.9**	**+0.1**
	baz=257							
N15K	**Kwethluk River**	**80.23**	**29**	P	**P**	**21 21 26.2**	**-0.1**
	baz=256							
CHGN	**Chignik**	**80.25**	**33**	P	**P**	**21 21 27.1**	**+0.6**
	baz=258							
C16K	**Lisburne Hills**	**80.36**	**21**	P	**P**	**21 21 26.8**	**-0.1**
	baz=250,SNR=5.4							
H16K	**Elim**	**80.42**	**24**	P	**P**	**21 21 27.4**	**+0.1**
	baz=254							
ABPO	**Ambohimpanom**	**80.44**	**250**	P	**P**	**21 21 29.0**	**+0.4**
ABPO				IAmb	IAmb	21 21 40.8		
	comp=Z,14nm,0.8s							
ABPO	**Ambohimpanom**	**80.44**	**250**	P	**P**	**21 21 29.0**	**+0.4**
ABPO				pmax	pmax			
	comp=Z,14nm,0.8s							
G16K	**Koyuk River**	**80.58**	**24**	P	**P**	**21 21 28.1**	**-0.1**
	baz=254							
MAK	**Makhachkala**	**80.70**	**313**	*e*P	**P**	**21 21 29.8**	**+0.6**
MAK				*e*		21 24 31.0		
MAK				*e*PPP	PPP	21 26 24.2		
MAK				*e*S	**S**	**21 31 36.4**	**+3.2**
MAK				*e*SS	**SS**	**21 36 52.8**	**+5.7**
MAK				pmax	pmax			
	comp=Z,190nm,1.3s							
MAK				MLR	MLR			
	comp=Z,150nm,20.0s							
J16K	**Anvik River**	**80.75**	**26**	P	**P**	**21 21 29.1**	**0.0**
	baz=255							
I17K	**Unalakleet**	**80.86**	**25**	P	**P**	**21 21 29.7**	**0.0**
	baz=255							
L16K	**Owhat River**	**80.88**	**28**	P	**P**	**21 21 31.4**	**+1.6**
L16K	**Owhat River**	**80.88**	**28**	P	**P**	**21 21 29.9**	**+0.1**
	baz=257,SNR=8.2							
N16K	**Nishlik Lake**	**80.94**	**29**	P	**P**	**21 21 29.8**	**-0.4**
	baz=258,SNR=5.8							
M16K	**Timber Creek**	**80.97**	**28**	P	**P**	**21 21 31.9**	**+1.6**
M16K				IAmb	IAmb	21 21 33.6		
	comp=Z,115nm,1.9s							
M16K	**Timber Creek**	**80.97**	**28**	P	**P**	**21 21 30.3**	**0.0**
	baz=257,SNR=6.8							
D17K	**Noatak River**	**80.98**	**21**	P	**P**	**21 21 30.5**	**+0.3**
	baz=252,SNR=8.9							
RAYN	**Ar Rayn**	**81.01**	**293**	P	**P**	**21 21 31.2**	**-0.2**
RAYN				IAmb	IAmb	21 21 38.5		
	comp=Z,16nm,0.8s							
RAYN	**Ar Rayn**	**81.01**	**293**	P	**P**	**21 21 31.2**	**-0.2**
RAYN				pmax	pmax			
	comp=Z,16nm,0.8s							
P16K	**Nushagak River**	**81.02**	**30**	P	**P**	**21 21 29.4**	**-1.2**
	baz=258							
O16K	**Kokwok River B**	**81.08**	**30**	P	**P**	**21 21 29.5**	**-1.4**
	baz=258,SNR=7.4							
VOI	**Vohitsoka**	**81.11**	**248**	P	**P**	**21 21 35.0**	**+2.9**
VOI	**Vohitsoka**	**81.11**	**248**	P	**P**	**21 21 32.1**	**0.0**
VOI				IAmb	IAmb	21 21 33.1		
	comp=Z,74nm,1.5s							
RDOG	**Red Dog Mine**	**81.15**	**21**	P	**P**	**21 21 31.1**	**-0.1**
	baz=253							
C17K	**DeLong Mountai**	**81.18**	**21**	P	**P**	**21 21 31.9**	**+0.6**
	baz=252							
E17K	**Hotham Inlet**	**81.27**	**22**	P	**P**	**21 21 32.2**	**+0.4**
	baz=254,SNR=9.1							
G17K	**Kiwalik Mounta**	**81.30**	**24**	P	**P**	**21 21 31.0**	**-0.9**
	baz=255,SNR=6.7							
F17K	**Baldwin Pennin**	**81.31**	**23**	P	**P**	**21 21 31.4**	**-0.5**
	baz=254							
J17K	**VABM Dome**	**81.45**	**26**	P	**P**	**21 21 33.7**	**+0.9**
J17K	**VABM Dome**	**81.45**	**26**	P	**P**	**21 21 32.7**	**-0.1**
	baz=257,SNR=6.3							
H17K	**Granite Mounta**	**81.46**	**24**	P	**P**	**21 21 33.5**	**+0.6**
	baz=256,SNR=6.4							
L17K	**Donlin**	**81.52**	**27**	P	**P**	**21 21 33.7**	**+0.5**
	baz=258,SNR=8.1							
VNDA	**Vanda**	**81.57**	**173**	P	**P**	**21 21 33.6**	**+0.4**
VNDA	**Vanda**	**81.57**	**173**	P	**P**	**21 21 33.6**	**+0.4**
	comp=Z,9.5nm,0.8s,baz=320,slow=6.9,SNR=28							
	comp=Z,9.5nm,0.8s							
O17K	**Koliganek Bris**	**81.62**	**30**	P	**P**	**21 21 33.9**	**+0.2**
	baz=259,SNR=5.7							
K17K	**Iditarod**	**81.64**	**27**	P	**P**	**21 21 34.4**	**+0.6**
	baz=258,SNR=14							
N17K	**Nushagak Hills**	**81.72**	**29**	P	**P**	**21 21 34.7**	**+0.4**
	baz=259							
KIRV	**Kirov**	**81.72**	**329**	LR	LR	22 01 48.1		
	comp=Z,103nm,19.1s,baz=101,slow=38							
KIRV	**Kirov**	**81.72**	**329**	*ce*P	**P**	**21 21 35.1**	**+0.8**
M17K	**Holitna River**	**81.77**	**28**	P	**P**	**21 21 34.5**	**0.0**
	baz=259							
BELG	**Belogornoye**	**81.77**	**323**	LR	LR	22 00 31.7		
	comp=Z,94nm,22.0s,baz=83,slow=38							
BELG	**Belogornoye**	**81.77**	**323**	⇑*i*P	**P**	**21 21 35.1**	**+0.4**
BELG				pmax	pmax			
	comp=Z,14nm,0.9s							
E18K	**Tukpahlearik C**	**81.82**	**22**	P	**P**	**21 21 35.3**	**+0.6**
	baz=255,SNR=8.9							
P17K	**Kvichak River**	**81.84**	**30**	P	**P**	**21 21 35.2**	**+0.3**
	baz=260							
MAW	**Mawson**	**81.88**	**200**	P	**P**	**21 21 36.2**	**+1.2**
	baz=82,SNR=5.9							
MAW	**Mawson**	**81.88**	**200**	P	**P**	**21 21 35.1**	**+0.2**
	comp=Z,8.0nm,0.8s,baz=55,slow=7.8,SNR=11							
MAW				LR	LR	21 56 44.5		
	comp=Z,66nm,21.4s,baz=55,slow=35							
	comp=Z,8.0nm,0.8s							
B18K	**Kokolik River**	**81.92**	**20**	P	**P**	**21 21 36.0**	**+0.9**
	baz=253							
C18K	**Utukok River**	**81.93**	**21**	P	**P**	**21 21 36.1**	**+0.8**
	baz=254							
Q17K	**Contact Creek**	**81.96**	**31**	P	**P**	**21 21 35.9**	**+0.2**
	baz=260							
F18K	**Selawik**	**81.97**	**23**	P	**P**	**21 21 35.6**	**+0.2**
	baz=256,SNR=5.5							
GROC	**Groznyy**	**81.97**	**313**	*e*P	**P**	**21 21 35.3**	**-0.7**
GROC				*e**PP	**pwP**	**21 21 51.6**	**-0.4**
GROC				*e**SP	**sP**	**21 21 57.7**	**+2.5**
GROC				*e*		21 24 42.1		
GROC				pmax	pmax			
	comp=Z,60nm,1.3s							
H18K	**Honhosa River**	**82.14**	**24**	P	**P**	**21 21 37.4**	**+0.9**
	baz=257							
G18K	**Tagagawik**	**82.19**	**24**	P	**P**	**21 21 36.7**	**0.0**
	baz=257,SNR=11							
L18K	**Granite Mounta**	**82.27**	**27**	P	**P**	**21 21 37.7**	**+0.6**
	baz=259,SNR=12							
N18K	**Kilae Creek**	**82.37**	**29**	P	**P**	**21 21 38.0**	**+0.2**
	baz=260,SNR=6.7							
A19K	**Wainwright**	**82.40**	**19**	P	**P**	**21 21 38.8**	**+1.2**
	baz=254,SNR=5.2							
SBA	**Scott Base**	**82.48**	**172**	P	**P**	**21 21 39.0**	**+1.1**
SBA				IAmb	IAmb	21 21 59.0		
	comp=Z,17nm,1.1s							
SBA	**Scott Base**	**82.48**	**172**	P	**P**	**21 21 39.0**	**+1.1**
SBA				pmax	pmax			
	comp=Z,17nm,1.1s							
P18K	**Big Mountain,**	**82.48**	**30**	P	**P**	**21 21 38.6**	**+0.2**
	baz=261							
J18K	**Innoko River**	**82.50**	**26**	P	**P**	**21 21 39.1**	**+0.8**
	baz=259,SNR=24							
GNI	**Garni**	**82.52**	**310**	P	**P**	**21 21 40.0**	**+0.8**
GNI				IAmb	IAmb	21 22 10.8		
	comp=Z,28nm,1.1s							
GNI	**Garni**	**82.52**	**310**	*i* P	**P**	**21 21 38.7**	**-0.5**
GNI				pmax	pmax			
	comp=Z,15nm,0.9s							
M18K	**Stony River**	**82.54**	**28**	P	**P**	**21 21 39.3**	**+0.8**
	baz=260,SNR=14							
O18K	**Koktuh Hills**	**82.57**	**30**	P	**P**	**21 21 40.1**	**+1.4**
	baz=261							
C19K	**Lookout Ridge**	**82.61**	**20**	P	**P**	**21 21 40.6**	**+1.7**
	baz=256							
GCSA	**Galena City Sc**	**82.68**	**25**	P	**P**	**21 21 40.6**	**+1.5**
	baz=259,SNR=8.7							
TTA	**Tatalina**	**82.71**	**27**	P	**P**	**21 21 41.3**	**+1.8**
TTA	**Tatalina**	**82.71**	**27**	P	**P**	**21 21 41.0**	**+1.5**
TTA				IAmb	IAmb	21 21 42.9		
	comp=Z,86nm,1.6s							
TTA	**Tatalina**	**82.71**	**27**	P	**P**	**21 21 40.6**	**+1.0**
	baz=260,SNR=17							
TTA	**Tatalina**	**82.71**	**27**	P	**P**	**21 21 41.0**	**+1.5**
TTA				pmax	pmax			
	comp=Z,86nm,1.6s							
F19K	**Shaleruckik Mo**	**82.75**	**23**	P	**P**	**21 21 39.9**	**+0.4**
	baz=258,SNR=11							
G19K	**Puco Mounta**	**82.87**	**23**	P	**P**	**21 21 41.3**	**+1.1**
	baz=258,SNR=33							
D19K	**Kuna River**	**82.99**	**21**	P	**P**	**21 21 41.5**	**+0.6**
	baz=257							
H19K	**Roundabout Mou**	**83.01**	**24**	P	**P**	**21 21 43.0**	**+2.1**
H19K	**Roundabout Mou**	**83.01**	**24**	P	**P**	**21 21 42.1**	**+1.2**
	baz=259,SNR=43							
J19K	**Poorman**	**83.08**	**26**	P	**P**	**21 21 42.4**	**+1.1**
	baz=260,SNR=23							
N19K	**Bonanza Creek**	**83.08**	**29**	P	**P**	**21 21 42.4**	**+0.9**
	baz=261,SNR=17							
E19K	**Redstone River**	**83.09**	**22**	P	**P**	**21 21 42.7**	**+1.3**
	baz=258							
L19K	**White Mountain**	**83.11**	**28**	P	**P**	**21 21 42.7**	**+1.2**
	baz=261,SNR=16							
OHAK	**Old Harbor**	**83.19**	**33**	P	**P**	**21 21 41.4**	**-0.6**
	baz=263							
Q19K	**Cape Douglas,**	**83.22**	**31**	P	**P**	**21 21 40.2**	**-2.0**
	baz=262							
M19K	**Big River Lodg**	**83.29**	**28**	P	**P**	**21 21 43.2**	**+0.7**
	baz=261							
P19K	**Oil Pt**	**83.53**	**30**	P	**P**	**21 21 44.4**	**+0.6**
	baz=262							
D20K	**Etivluk River**	**83.57**	**21**	P	**P**	**21 21 44.6**	**+0.8**
	baz=258							
F20K	**Avaraart Lake**	**83.58**	**23**	P	**P**	**21 21 44.7**	**+0.9**
	baz=259,SNR=36							
NCK	**Nalchik**	**83.59**	**313**	*i* P	**P**	**21 21 44.0**	**-0.4**
NCK				pmax	pmax			
	comp=Z,18nm,0.7s							
L20K	**Farewell, AK**	**83.61**	**27**	P	**P**	**21 21 45.2**	**+1.0**
	baz=262,SNR=8.3							
KDAK	**Kodiak Island**	**83.63**	**32**	P	**P**	**21 21 45.8**	**+1.5**
KDAK	**Kodiak Island**	**83.63**	**32**	P	**P**	**21 21 45.0**	**+0.8**
	baz=263							
KDAK	**Kodiak Island**	**83.63**	**32**	LR	LR	21 54 34.7		
	comp=Z,78nm,19.6s,baz=251,slow=32							
KDAK	**Kodiak Island**	**83.63**	**32**	P	**P**	**21 21 45.8**	**+1.5**
KDAK				pmax	pmax			
	comp=Z,110nm,1.7s							
E20K	**Nigu River**	**83.64**	**21**	P	**P**	**21 21 45.6**	**+1.4**
	baz=259							
H20K	**Anotleneega Mo**	**83.65**	**24**	P	**P**	**21 21 46.4**	**+2.2**
	baz=260,SNR=16							
B20K	**Meade River**	**83.65**	**20**	P	**P**	**21 21 45.7**	**+1.6**
	baz=258,SNR=12							
K20K	**Telida**	**83.65**	**26**	P	**P**	**21 21 46.3**	**+2.0**
	baz=261							
I20K	**Naaghedeneel**	**83.70**	**25**	P	**P**	**21 21 46.2**	**+1.8**
	baz=261,SNR=5.3							
J20K	**Nowinta River**	**83.74**	**26**	P	**P**	**21 21 47.1**	**+2.4**
	baz=261,SNR=24							
KARS	**Kars**	**83.81**	**310**	P	**P**	**21 21 46.6**	**+0.8**
KARS	**Kars**	**83.81**	**310**	P	**P**	**21 21 46.6**	**+0.8**
KARS				pmax	pmax			
	comp=Z,103nm,0.9s							
Q20K	**Shuyak Island**	**83.83**	**31**	P	**P**	**21 21 45.9**	**+0.7**
	baz=263							
M20K	**Styx River**	**83.87**	**28**	P	**P**	**21 21 46.6**	**+1.0**
	baz=262,SNR=17							
A21K	**Barrow**	**84.11**	**18**	P	**P**	**21 21 47.0**	**+0.6**
	baz=258							
KBZ	**Khabaz**	**84.11**	**314**	P	**P**	**21 21 47.7**	**+0.7**
	comp=Z,6.2nm,0.7s,baz=110,slow=7.4,SNR=14							
	comp=Z,6.2nm,0.7s							
KBZ	**Khabaz**	**84.11**	**314**	*ce*P	**P**	**21 21 48.0**	**+1.0**
KBZ				pmax	pmax			
	comp=Z,17nm,1.1s							
IMAR	**Indian Mountai**	**84.19**	**24**	P	**P**	**21 21 48.2**	**+1.2**
KIV	**Kislovodsk**	**84.28**	**314**	P	**P**	**21 21 49.0**	**+1.0**
KIV				IAmb	IAmb	21 21 52.8		
	comp=Z,24nm,0.7s							
KIV	**Kislovodsk**	**84.28**	**314**	*e*P	**P**	**21 21 49.0**	**+1.0**
KIV				*e*		21 32 07.1		
KIV				pmax	pmax			
	comp=Z,26nm,1.0s							
KIV	**Kislovodsk**	**84.28**	**314**	P	**P**	**21 21 48.8**	**+0.8**
	comp=Z,31nm,1.2s,comp=Z,346nm							
C21K	**Kneblade Rid**	**84.31**	**21**	P	**P**	**21 21 48.7**	**+1.2**
	baz=260,SNR=11							
HOM	**Homer**	**84.33**	**30**	P	**P**	**21 21 47.6**	**-0.2**
	baz=264							
G21K	**Allakaket**	**84.36**	**23**	P	**P**	**21 21 48.4**	**+0.6**
	baz=262							
PPLA	**Purkeypile**	**84.44**	**27**	P	**P**	**21 21 48.1**	**-0.4**
	baz=263,SNR=5.8							
B21K	**Ikpikpuk River**	**84.45**	**20**	P	**P**	**21 21 48.0**	**-0.2**
	baz=260,SNR=38							
F21K	**Alatna River**	**84.48**	**23**	P	**P**	**21 21 48.6**	**+0.1**
	baz=262,SNR=6.2							
E21K	**Killik River**	**84.48**	**21**	P	**P**	**21 21 49.0**	**+0.6**
	baz=261,SNR=16							
CHUM	**Lake Minchumin**	**84.50**	**26**	P	**P**	**21 21 49.0**	**+0.4**
	baz=263,SNR=9.4							
CNPM	**China Poot**	**84.52**	**30**	P	**P**	**21 21 49.6**	**+0.8**
H21K	**Melozitna Rive**	**84.52**	**24**	P	**P**	**21 21 49.7**	**+1.0**
	baz=262,SNR=16							
GURO	**Guroymak-BITLI**	**84.53**	**308**	P	**P**	**21 21 50.7**	**+1.2**
GURO				IAmb	IAmb	21 21 52.2		
	comp=Z,35nm,0.9s							
CAST	**Castle Rocks**	**84.55**	**27**	P	**P**	**21 21 48.8**	**-0.1**
	baz=263,SNR=7.1							
A22K	**Sinclair Lake**	**84.57**	**19**	P	**P**	**21 21 49.6**	**+0.9**
	baz=260							
SKT	**Skwentna**	**84.64**	**28**	P	**P**	**21 21 50.0**	**+0.6**
SKT	**Skwentna**	**84.64**	**28**	P	**P**	**21 21 49.9**	**+0.6**
	baz=264,SNR=6.5							
BRSE	**Bradley Lake S**	**84.80**	**30**	P	**P**	**21 21 50.3**	**+0.1**
	baz=265							
BCA	**Borcka**	**84.95**	**311**	⇑P	**P**	**21 21 52.2**	**+0.8**
SUA	**Susitna One**	**84.95**	**29**	P	**P**	**21 21 52.0**	**+0.9**
SUA				IAmb	IAmb	21 21 58.8		
	comp=Z,41nm,1.0s							
SUA	**Susitna One**	**84.95**	**29**	P	**P**	**21 21 51.1**	**+0.1**
	baz=264							
B22K	**Teshekpuk Lake**	**84.97**	**20**	P	**P**	**21 21 52.1**	**+1.3**
	baz=261,SNR=22							
D22K	**Ayikyak River**	**85.01**	**21**	P	**P**	**21 21 52.5**	**+1.4**
	baz=262,SNR=6.6							
F22K	**John River**	**85.02**	**22**	P	**P**	**21 21 52.0**	**+0.9**
	baz=263,SNR=24							
KTH	**Kantishna Hill**	**85.08**	**26**	P	**P**	**21 21 51.5**	**-0.1**
KTH				IAmb	IAmb	21 21 54.8		
	comp=Z,49nm,1.8s							
BPAW	**Bear Paw Mtn.**	**85.11**	**26**	P	**P**	**21 21 52.2**	**+0.6**
	baz=264							
H22K	**Ishtalitna Cre**	**85.14**	**24**	P	**P**	**21 21 51.7**	**0.0**
	baz=264,SNR=10							
G22K	**Bettles**	**85.20**	**23**	P	**P**	**21 21 52.6**	**+0.6**
	baz=263,SNR=13							
E22K	**Anaktuvuk Pass**	**85.23**	**22**	P	**P**	**21 21 53.1**	**+0.9**
	baz=263							
CUT	**Chulitna**	**85.27**	**28**	P	**P**	**21 21 52.8**	**+0.4**
	baz=265							
M22K	**Willow**	**85.28**	**28**	P	**P**	**21 21 52.3**	**-0.2**
	baz=265							
VRH	**Novokhopyorsk**	**85.31**	**321**	⇑*i*P	**P**	**21 21 53.2**	**+0.3**
VRH				pmax	pmax			
	comp=Z,154nm,1.4s							
MLY	**Manley**	**85.31**	**25**	P	**P**	**21 21 53.5**	**+0.8**
MLY				IAmb	IAmb	21 21 55.7		
	comp=Z,23nm,1.5s							
MLY	**Manley**	**85.31**	**25**	P	**P**	**21 21 52.2**	**-0.5**
	baz=264,SNR=7.7							
TRF	**Thorofare Moun**	**85.35**	**27**	P	**P**	**21 21 52.3**	**-0.8**
	baz=265							
O22K	**Cooper Landing**	**85.37**	**30**	P	**P**	**21 21 52.0**	**-0.9**
	baz=266							
RC01	**Rabbit Creek A**	**85.41**	**29**	P	**P**	**21 21 51.9**	**-1.3**
	baz=265							
SEW	**Seward**	**85.47**	**30**	P	**P**	**21 21 53.1**	**-0.4**
	baz=266							
LABN	**Labinsk**	**85.71**	**314**	*e*P	**P**	**21 21 56.2**	**+1.1**
LABN				*e**PP	**pwP**	**21 22 10.7**	**-0.5**
LABN				*e*		21 32 21.2		
LABN				pmax	pmax			
	comp=Z,69nm,1.5s							
PMR	**Palmer**	**85.74**	**29**	P	**P**	**21 21 56.4**	**+1.6**
PMR	**Palmer**	**85.74**	**29**	P	**P**	**21 21 53.7**	**-1.0**
	baz=266							
D23K	**Nanushuk River**	**85.74**	**21**	P	**P**	**21 21 54.1**	**-0.6**
	baz=264,SNR=15							
COLD	**Coldfoot**	**85.74**	**23**	P	**P**	**21 21 53.8**	**-0.9**
	baz=264,SNR=20							
G23K	**Bananza Creek**	**85.77**	**23**	P	**P**	**21 21 53.9**	**-1.0**
	baz=265,SNR=14							
GHO	**Glory Hole Cre**	**85.85**	**28**	P	**P**	**21 21 56.6**	**+1.1**
GHO				IAmb	IAmb	21 22 15.3		
	comp=Z,16nm,0.9s							
C23K	**Itkillik River**	**85.86**	**20**	P	**P**	**21 21 54.6**	**-0.6**
	baz=264,SNR=15							
H23K	**Yukon River**	**85.88**	**24**	P	**P**	**21 21 55.2**	**-0.3**
	baz=265,SNR=7.9							
I23K	**Minto, Yukon-K**	**85.90**	**25**	P	**P**	**21 21 54.9**	**-0.6**
	baz=265							
ERBR	**Yeremizino-Bor**	**85.91**	**316**	*e*P	**P**	**21 21 56.5**	**+0.5**
ERBR				*e**PP	**pP**	**21 22 11.3**	**+1.3**
ERBR				*e*		21 32 16.5		
ERBR				pmax	pmax			
	comp=Z,102nm,1.3s							
MCK	**McKinley**	**85.98**	**26**	P	**P**	**21 21 55.7**	**-0.4**
	baz=266							
NEA2	**Nenana**	**85.98**	**25**	P	**P**	**21 21 55.9**	**-0.1**
	baz=266							
E23K	**Chandalar**	**86.04**	**22**	P	**P**	**21 21 56.9**	**+0.6**
	baz=265							
KNK	**Knik Glacier**	**86.05**	**29**	P	**P**	**21 21 57.7**	**+1.3**
KNK	**Knik Glacier**	**86.05**	**29**	P	**P**	**21 21 56.2**	**-0.2**
	baz=266							
WAT1	**Susitna Watana**	**86.09**	**27**	P	**P**	**21 21 55.9**	**-0.7**
	baz=266							
TOLK	**Toolik Lake Re**	**86.11**	**21**	P	**P**	**21 21 55.6**	**-1.0**
	baz=265,SNR=10							
SML	**Sawmill**	**86.13**	**28**	P	**P**	**21 21 56.1**	**-0.7**
	baz=267							
VSLR	**Vesyoloye**	**86.18**	**313**	⇓*i*P	**P**	**21 21 58.4**	**+1.0**
VSLR				pmax	pmax			
	comp=Z,78nm,0.7s							
KTUT	**Trabzon**	**86.34**	**311**	⇑P	**P**	**21 21 59.9**	**+1.6**
SOC	**Sochi**	**86.41**	**313**	*e*P	**P**	**21 21 56.0**	**-2.6**
SOC				*e*		21 25 14.3		
SOC				*e*S	**SKSac**	**21 32 16.9**	**-4.2**
SOC				*e*SSS	SSS	21 41 44.7		
SOC				pmax	pmax			
	comp=Z,39nm,1.0s							
SOC				MLR	MLR			
	comp=Z,110nm,19.0s							
M23K	**Glacier View**	**86.42**	**28**	P	**P**	**21 21 57.7**	**-0.5**
	baz=267							
D24K	**Happy Valley**	**86.42**	**21**	P	**P**	**21 21 57.9**	**-0.2**
	baz=266							
WAT6	**Susitna Watana**	**86.45**	**28**	P	**P**	**21 21 58.0**	**-0.6**
	baz=267							
E24K	**Your Creek**	**86.47**	**22**	P	**P**	**21 21 57.5**	**-0.9**
	baz=266,SNR=11							
P23K	**Montague Islan**	**86.49**	**30**	P	**P**	**21 21 58.4**	**-0.2**
	baz=268							
C24K	**Franklin Bluff**	**86.51**	**20**	P	**P**	**21 21 58.1**	**-0.4**
	baz=266							
COLA	**College**	**86.52**	**25**	P	**P**	**21 21 58.3**	**-0.3**
	baz=267							
H24K	**Noodor Dome**	**86.57**	**24**	P	**P**	**21 21 58.8**	**-0.1**
	baz=267							
SCM	**Sheep Creek Mo**	**86.61**	**28**	P	**P**	**21 21 58.6**	**-0.6**
	baz=268							
F24K	**Squaw Lake**	**86.66**	**23**	P	**P**	**21 21 59.0**	**-0.3**
	baz=267,SNR=9.5							
GLI	**Glacier Island**	**86.68**	**29**	P	**P**	**21 21 59.4**	**-0.1**
	baz=268							
G24K	**Hadweenzic Riv**	**86.78**	**23**	P	**P**	**21 22 00.1**	**+0.3**
	baz=267,SNR=7.4							
HDA	**Harding Lake**	**86.89**	**26**	P	**P**	**21 22 00.4**	**0.0**
	baz=268,SNR=5.7							
VORR	**Voronezh**	**86.89**	**321**	*e*P	**P**	**21 22 02.1**	**+1.4**
VORR				pmax	pmax			
	comp=Z,132nm,1.4s							
VSR	**Storozhevoye**	**86.91**	**321**	*e*P	**P**	**21 21 59.6**	**-1.2**
VSR				pmax	pmax			
	comp=Z,50nm,1.1s							
ILAR	**Eielson Array**	**86.93**	**25**	P	**P**	**21 22 00.8**	**+0.1**
ILAR	**Eielson Array**	**86.93**	**25**	P	**P**	**21 22 00.3**	**-0.4**
	comp=Z,1.5nm,0.7s,baz=252,slow=4.3,SNR=14							
ILAR				LR	LR	21 59 37.9		
	comp=Z,29nm,19.3s,baz=261,slow=35							
	comp=Z,1.5nm,0.7s							
ILAR	**Eielson Array**	**86.93**	**25**	P

ANN pmax pmax
comp=Z,76nm,0.7s
F26K Sheenjek River 88.10 22 P **P** **21 22 05.0 -1.3**
baz=270,SNR=6.2
SCRK Sand Creek 88.18 26 P **P** **21 22 05.7 -1.1**
baz=270
G26K Porcupine Rive 88.24 23 P **P** **21 22 06.7 -0.2**
baz=270,SNR=8.4
C27K Jago River 88.25 21 P **P** **21 22 06.7 -0.2**
baz=270,SNR=22
MENT Mentasta 88.31 27 P **P** **21 22 08.4 +1.1**
GAZ Gaziantep 88.33 307 P **P** **21 22 08.4 +0.3**
J26L Joseph Creek 88.36 26 P **P** **21 22 07.1 -0.5**
baz=271,SNR=8.2
L26K Log Cabin Wild 88.48 27 P **P** **21 22 07.9 -0.2**
baz=271
OBN Obninsk 88.48 325 P **P** **21 22 07.8 -0.3**
OBN Obninsk 88.48 325 LR LR 22 05 20.7
comp=Z,101nm,20.2s,baz=12,slow=38
OBN Obninsk 88.48 325 *i* P **P** **21 22 08.0 -0.2**
OBN pmax pmax
comp=Z,33nm,0.8s
OBN MLR MLR
comp=Z,286nm,23.0s
OBN Obninsk 88.48 325 P **P** **21 22 07.7 -0.5**
comp=Z,48nm,0.8s
KIBK Kibwezi 88.51 268 P **P** **21 22 08.7 -0.6**
I26K Coal Creek Min 88.52 25 P **P** **21 22 08.0 -0.3**
baz=271
M26K Nabesna, AK 88.65 28 P **P** **21 22 09.0 0.0**
baz=271
MCARA McCarthy VSAT 88.66 29 P **P** **21 22 08.7 -0.3**
baz=271
K27K Chicken 89.02 26 P **P** **21 22 10.4 -0.2**
baz=272
E27K Coleen River 89.05 22 P **P** **21 22 10.9 +0.2**
baz=272,SNR=12
G27K Doyon Strip 89.08 23 P **P** **21 22 11.0 +0.1**
baz=272,SNR=6.1
I27K Kandik River 89.15 25 P **P** **21 22 10.5 -0.8**
baz=272,SNR=13
H27K Steamboat Moun 89.16 24 P **P** **21 22 11.2 -0.1**
baz=272,SNR=8.9
L27K Beaver Creek, 89.17 27 P **P** **21 22 11.5 +0.2**
baz=272,SNR=8.5
M27K Edge Creek, AK 89.17 28 P **P** **21 22 10.7 -0.9**
baz=272
BCAR Beaver Creek A 89.19 27 P **P** **21 22 12.6 +1.1**
MESA MESA 89.22 30 P **P** **21 22 09.9 -2.0**
baz=272
D27M Malcolm River 89.23 21 P **P** **21 22 10.0 -1.6**
baz=273
BNN Bunyan 89.37 309 P **P** **21 22 13.3 +0.3**
EGAK Eagle 89.39 25 P **P** **21 22 12.7 +0.4**
EGAK Eagle 89.39 25 P **P** **21 22 11.3 -1.0**
baz=273
CTG Chitna Glacier 89.49 29 P **P** **21 22 11.7 -1.4**
baz=273
CTGM Chitina Glacie 89.50 29 P **P** **21 22 13.9 +0.9**
CTGM IAmb IAmb 21 22 20.4
comp=Z,15nm,1.0s
APA Apatity 89.52 337 ⇓ *i* P **P** **21 22 14.7 +1.9**
APA pmax pmax
comp=Z,9.0nm,0.9s
DIKM Dikmen 89.73 311 ⇑P **P** **21 22 17.1 +2.7**
F28M Old Crow 89.73 22 P **P** **21 22 13.2 -0.7**
baz=274,SNR=9.1
E28M Babbage River 89.79 21 P **P** **21 22 13.0 -1.1**
baz=274,SNR=13
GHAJ Ghor Haditha 89.85 301 P **P** **21 22 15.7 +0.5**
I28M Miner Creek 89.86 25 P **P** **21 22 14.1 -0.5**
baz=274,SNR=14
YUK3 Moose Creek 89.87 28 P **P** **21 22 13.1 -1.8**
baz=274
MMAI Mount Meron Ar 89.93 303 P **P** **21 22 16.9 +1.3**
comp=Z,4.9nm,0.6s,baz=92,slow=7.2,SNR=10
MMAI LR LR 22 06 55.1
comp=Z,87nm,21.9s,baz=48,slow=38
comp=Z,4.9nm,0.6s
D28M Stokes Point 90.01 21 P **P** **21 22 14.1 -0.9**
baz=275
O28M Mount Upton 90.06 29 P **P** **21 22 14.6 -1.4**
baz=274
DAWY Dawson 90.20 26 P **P** **21 22 16.5 +0.3**
DAWY IAmb IAmb 21 22 18.4
comp=Z,14nm,1.3s
DAWY Dawson 90.20 26 P **P** **21 22 15.3 -0.9**
baz=274
YUK8 Steele Glacier 90.23 29 P **P** **21 22 15.0 -1.7**
baz=274
E29M Blow River 90.41 22 P **P** **21 22 15.0 -1.9**
baz=276,SNR=7.2
SIM Simferopol' 90.41 315 *e*P **P** **21 22 17.2 -0.3**
SIM pmax pmax
comp=Z,19nm,0.9s
H29M Whitestone 90.44 24 P **P** **21 22 16.5 -0.7**
baz=275
EIL Elat 90.45 300 LR LR 22 05 53.1
comp=Z,91nm,22.0s,baz=102,slow=38
G29M Pine Creek 90.51 23 P **P** **21 22 16.5 -1.0**
baz=276,SNR=8.9
PNL Peninsula 90.54 30 P **P** **21 22 16.3 -1.5**
baz=274
M29M Somme Creek 90.75 28 P **P** **21 22 17.2 -1.7**
baz=275,SNR=5.3
JOF Joensuu 90.76 333 *e*P **P** **21 22 18.3 -0.5**
YUK4 Talbot Arm 90.77 29 P **P** **21 22 17.7 -1.4**
baz=275
L29M L29M 90.84 27 P **P** **21 22 17.6 -1.6**
baz=276,SNR=13
YUK6 Outpost Mounta 90.94 29 P **P** **21 22 18.2 -1.8**
baz=275
K29M Barlow Dome 91.04 26 P **P** **21 22 19.1 -1.1**
baz=276,SNR=6.5
BR104 Keskin Array S 91.05 310 P **P** **21 22 20.3 -0.5**
comp=Z,5.2nm,0.8s,comp=Z,42nm
BR131 Keskin Array S 91.05 310 P **P** **21 22 20.2 -0.6**
BR131 Keskin Array S 91.05 310 *i* P **P** **21 22 20.0 -0.8**
BRTR Keskin Array B 91.05 310 P **P** **21 22 20.1 -0.8**
BRTR Keskin Array B 91.05 310 P **P** **21 22 20.6 -0.2**
comp=Z,3.4nm,0.8s,baz=123,slow=5.3,SNR=17
comp=Z,3.4nm,0.8s
BRTR Keskin Array B 91.05 310 *i* P **P** **21 22 23.3 +2.5**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BR106 Keskin Array S 91.06 310 P **P** **21 22 20.8 -0.1**
comp=Z,5.2nm,1.0s,comp=Z,39nm
BR105 Keskin Array S 91.06 310 P **P** **21 22 20.5 -0.4**
comp=Z,8.2nm,0.9s,comp=Z,55nm
EPYK Eagle Plains 91.09 24 P **P** **21 22 18.7 -1.5**
baz=277,SNR=7.2
G30M tAoh Zraii Nji 91.21 23 P **P** **21 22 19.8 -1.0**
baz=277
F30M Barrier River 91.29 22 P **P** **21 22 20.3 -0.9**
baz=278,SNR=6.3
I30M Mount Sempster 91.37 25 P **P** **21 22 20.3 -1.4**
baz=277
HYT Haines Junctio 91.37 29 P **P** **21 22 19.5 -2.3**
baz=276
P29M Windy Craggy 91.38 30 P **P** **21 22 20.0 -1.8**
baz=276
J30M Hart River 91.47 25 P **P** **21 22 21.5 -0.7**
baz=277,SNR=6.0
N30M Aishikik Lake 91.50 29 P **P** **21 22 21.4 -0.9**
baz=276
CSS Mathiatis 91.56 305 P **P** **21 22 23.4 +0.3**
CSS IAmb IAmb 21 22 32.9
comp=Z,14nm,0.8s
CSS Mathiatis 91.56 305 P **P** **21 22 23.4 +0.3**
comp=Z,20nm,0.8s
P30M Million Dollar 91.72 30 P **P** **21 22 22.0 -1.4**
baz=277
QSPA South Pole Qui 91.73 180 P **P** **21 22 24.0 +0.7**
QSPA South Pole Qui 91.73 180 P **P** **21 22 24.0 +0.7**
comp=Z,2.6nm,0.7s,baz=23,slow=6.4,SNR=14
comp=Z,2.6nm,0.7s
G31M Satah River 91.97 23 P **P** **21 22 23.4 -0.8**
baz=279,SNR=7.2
INK Inuvik 92.03 21 P **P** **21 22 24.7 +0.2**
INK IAmb IAmb 21 22 26.2
comp=Z,33nm,1.6s
INK Inuvik 92.03 21 P **P** **21 22 23.6 -0.8**
baz=280,SNR=5.8
INK Inuvik 92.03 21 P **P** **21 22 24.7 +0.2**
INK pmax pmax
comp=Z,33nm,1.6s
O30N Mendenhall 92.07 29 P **P** **21 22 23.9 -1.0**
baz=277
F31M Tsiigehtchic 92.09 22 P **P** **21 22 24.1 -0.7**
baz=280,SNR=12
PLBC Pleasant Camp 92.10 30 P **P** **21 22 23.4 -1.6**
baz=277
N31M Braeburn, Yuko 92.12 28 P **P** **21 22 24.2 -1.0**
baz=278
H31M Peel River 92.12 24 P **P** **21 22 24.5 -0.5**
baz=279
ARCES ARCESS Array B 92.15 340 P **P** **21 22 24.6 -0.5**
ARCES IAmb IAmb 21 22 25.9
comp=Z,19nm,1.2s
ARCES ARCESS Array B 92.15 340 P **P** **21 22 24.6 -0.5**
comp=Z,10nm,1.0s,baz=83,slow=7.4,SNR=14
ARCES LR LR 22 08 13.4
comp=Z,78nm,21.4s,baz=93,slow=38
comp=Z,10nm,1.0s
SPB2 Spitsbergen Ar 92.30 349 P **P** **21 22 28.1 +2.4**
SPITS Spitsbergen Ar 92.30 349 P **P** **21 22 28.0 +2.4**
comp=Z,10.0nm,0.8s,baz=121,slow=7.4,SNR=16
SPITS LR LR 22 11 32.6
comp=Z,51nm,19.1s,baz=31,slow=40
comp=Z,10.0nm,0.8s
S31K Pelican 92.35 32 P **P** **21 22 25.7 -0.4**
baz=277
SKAG Skagway 92.62 30 P **P** **21 22 26.8 -0.6**
baz=278
M31M Drury Creek, Y 92.67 28 P **P** **21 22 26.2 -1.4**
baz=279,SNR=5.6
WHY Whitehorse 92.67 29 P **P** **21 22 28.7 +0.9**
WHY Whitehorse 92.67 29 P **P** **21 22 26.1 -1.7**
baz=278,SNR=9.7
FARO Faro, Yukon 93.15 27 P **P** **21 22 28.9 -1.0**
baz=280,SNR=25
AK10 Malin Array Si 93.21 321 P **P** **21 22 30.0 -0.3**
AKASG Malin Array Be 93.21 321 P **P** **21 22 30.1 -0.2**
comp=Z,1.9nm,0.6s,baz=71,slow=4.3,SNR=4.7
AKASG LR LR 22 08 20.8
comp=Z,180nm,21.5s,baz=86,slow=38
comp=Z,1.9nm,0.6s
AKBB Malin Array Si 93.21 321 *i* P **P** **21 22 29.3 -1.0**
AKBB pmax pmax
comp=Z,17nm,2.0s
KIEV Kiev 93.22 321 P **P** **21 22 27.3 -3.1**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
AK07 Malin Array Si 93.24 321 P **P** **21 22 30.2 -0.3**
PURM Purcari 93.25 317 ⇓P **P** **21 22 30.8 +0.2**
S32K Killisnoo 93.30 32 P **P** **21 22 28.7 -1.8**
baz=278
FINES FINESS Array B 93.39 332 P **P** **21 22 31.9 +1.0**
comp=Z,2.9nm,0.6s,baz=69,slow=5.1,SNR=20
FINES LR LR 22 07 58.1
comp=Z,131nm,21.9s,baz=58,slow=38
comp=Z,2.9nm,0.6s
FINES FINESS Array B 93.39 332 *i* P **P** **21 22 32.2 +1.3**
FINES pmax pmax
comp=Z,3.0nm,0.6s
P32M Atlin 93.41 30 P **P** **21 22 29.7 -1.5**
baz=279
N32M Quiet Lake 93.46 29 P **P** **21 22 30.1 -1.3**
baz=280
MNK Minsk 93.53 325 *i* P **P** **21 22 31.5 -0.2**
MNK *i* *PP **sP** **21 22 52.0 +0.9**
MNK *i* S **SKSac** **21 32 58.1 -4.0**
MNK *i* *SS **S** **21 33 31.5 -4.8**
MNK *i* PS **PS** **21 34 58.4 +2.5**
MNK pmax pmax
comp=E,4.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,0.9s
MNK pmax pmax
comp=N,5.0nm,0.8s
MNK MLR MLR
comp=Z,169nm,18.0s
MNK MLR MLR
comp=E,53nm,18.0s
MNK MLR MLR
comp=N,72nm,19.0s
P33M Teslin, Yukon 93.75 29 P **P** **21 22 31.2 -1.6**
baz=280
ARBE Arbavere 93.79 330 *e*P **P** **21 22 31.9 -0.8**
MI30 MI30,Zelenitsa 93.86 321 P **P** **21 22 33.2 -0.1**
A36M Sachs Harbour 93.88 17 P **P** **21 22 33.2 +0.3**
A36M IAmb IAmb 21 26 14.0
comp=Z,5.4nm,0.7s
A36M Sachs Harbour 93.88 17 P **P** **21 22 32.7 -0.2**
baz=288
MILM Milestii Mici 93.93 317 *e*P **P** **21 22 33.0 -0.7**
comp=Z,130nm,0.8s
MILM Milestii Mici 93.93 317 *e*P **P** **21 22 33.0 -0.7**
MILM pmax pmax
comp=Z,130nm,0.8s
MMPY Sheldon Lake, 94.03 27 P **P** **21 22 32.8 -1.2**
baz=282,SNR=11
SORM Soroca 94.09 318 ⇑P **P** **21 22 34.0 -0.4**
SORM Soroca 94.09 318 ⇑P **P** **21 22 34.0 -0.4**
SORM Soroca 94.09 318 P **P** **21 22 34.0 -0.4**
comp=Z,11nm,1.2s
U33K Whale Pass 94.30 34 P **P** **21 22 34.2 -1.0**
baz=280
CRAG Craig 94.41 34 P **P** **21 22 34.8 -0.9**
baz=280
VLDR Vladesti 94.57 316 ⇑P **P** **21 22 37.2 +0.5**
CFR Carcaliu 94.61 315 ⇑P **P** **21 22 37.4 +0.5**
CFR Carcaliu 94.61 315 ⇑P **P** **21 22 37.4 +0.5**
VAF Ylistaro 94.63 334 *e*P **P** **21 22 36.3 -0.3**
NDNU Novodnistrovsk 94.68 319 P **P** **21 22 36.8 -0.4**
R33M Jennings River 94.83 30 P **P** **21 22 37.2 -0.6**
baz=282
S34M Telegraph Cree 95.04 32 P **P** **21 22 38.1 -0.5**
baz=282
C36M Paulatuk 95.09 20 P **P** **21 22 37.4 -1.1**
baz=289
RNPP9 Sopachiv 95.20 322 P **P** **21 22 38.8 -0.6**
V35K Ketchikan 95.28 34 P **P** **21 22 38.0 -1.7**
baz=281
KMPD K-Podol'skiy 95.28 319 P **PcP** **21 22 39.4 -0.7**
KMPD P **P** **21 22 38.6 -1.3**
TESR Tescani 95.46 317 ⇑P **P** **21 22 40.3 -0.5**
TESR Tescani 95.46 317 P **P** **21 22 40.8 0.0**
comp=Z,27nm,0.9s
VRI Vrincioaia 95.50 316 ⇑P **P** **21 22 41.3 +0.3**
VRI Vrincioaia 95.50 316 ⇑P **P** **21 22 41.3 +0.3**
DLBC Dease Lake 95.51 31 P **P** **21 22 39.5 -1.3**
baz=282
DLBC Dease Lake 95.51 31 P **P** **21 22 41.3 +0.5**
comp=Z,3.0nm,1.0s,baz=304,slow=3.6,SNR=3.8
DLBC LR LR 22 01 34.8
comp=Z,132nm,21.3s,baz=289,slow=33
comp=Z,3.0nm,1.0s
VSVD Vaisvydziai 95.52 327 *e*P **P** **21 22 41.1 +0.3**
PLOR5 Plostina Array 95.55 316 P **P** **21 22 41.5 +0.3**
comp=Z,10nm,0.7s
PLOR Plostina 95.56 316 ⇑P **P** **21 22 41.7 +0.4**
PLOR Plostina 95.56 316 ⇑P **P** **21 22 41.7 +0.4**
BISRR Bisoca 95.56 316 ⇑P **P** **21 22 41.4 0.0**
PABE Paberze 95.59 326 P **P** **21 22 41.6 +0.5**
PABE Paberze 95.59 326 *e*P **P** **21 22 40.9 -0.2**
TGTN Hyland Airport 95.65 28 P **P** **21 22 39.9 -1.5**
baz=284,SNR=9.9
T35M Bob Quinn 95.70 32 P **P** **21 22 40.9 -0.8**
baz=282
WTLY Watson Lake, Y 95.74 29 P **P** **21 22 41.1 -0.7**
baz=284,SNR=8.1
MBAR Mbarara 95.76 270 LR LR 22 04 45.3
comp=Z,71nm,20.5s,baz=58,slow=35
COVR Voineasa-Covas 95.87 316 ⇓P **P** **21 22 40.7 -2.0**
TURR Turia 95.96 316 ⇑P **P** **21 22 43.5 +0.4**
MLR Muntele Rosu 96.10 316 ⇓P **P** **21 22 44.2 +0.3**
MLR Muntele Rosu 96.10 316 P **P** **21 22 43.3 -0.6**
MLR Muntele Rosu 96.10 316 LR LR 22 13 58.1
comp=Z,70nm,19.6s,baz=74,slow=40
MLR Muntele Rosu 96.10 316 ⇓P **P** **21 22 44.2 +0.3**
MLR Muntele Rosu 96.10 316 P **P** **21 22 43.2 -0.6**
BURAR Bucovina Array 96.26 318 ⇑P **P** **21 22 45.0 +0.5**
BURAR Bucovina Array 96.26 318 P **P** **21 22 44.4 -0.1**
BURAR IAmb IAmb 21 22 54.5
comp=Z,13nm,0.9s
BURAR Bucovina Array 96.26 318 ⇑P **P** **21 22 45.0 +0.5**
BUR08 Bucovina Ar. S 96.26 318 P **P** **21 22 44.8 +0.3**
BUR08 IAmb IAmb 21 22 54.7
comp=Z,9.1nm,0.8s
SUW Suwalki 96.34 325 P **P** **21 22 44.1 -0.5**
SUW Suwalki 96.34 325 P **P** **21 22 44.1 -0.5**
SUW pmax pmax
comp=Z,21nm,0.8s
ELND Elena 96.54 313 ⇓P **P** **21 22 45.9 +0.2**
KARP Karpathos 96.54 306 P **P** **21 22 45.7 -0.2**
KARP IAmb IAmb 21 22 54.0
comp=Z,14nm,0.8s
BMR Baia Mare 97.39 318 ⇓P Pdif 21 22 50.1 +0.5
BMR Baia Mare 97.39 318 ⇓P Pdif 21 22 50.1 +0.5
CJR Cluj-Napoca 97.50 317 ⇓P Pdif 21 22 51.6 +1.4
CJR Cluj-Napoca 97.50 317 ⇓P Pdif 21 22 51.6 +1.4
MARR Marisel-Cluj 97.83 317 ⇑P Pdif 21 22 52.1 +0.4
KOLS Kolonicke sedl 97.94 320 *i* P Pdif 21 22 53.9 +1.9
KOLS Kolonicke sedl 97.94 320 *e*PDIFF Pdif 21 22 53.9 +1.9
BBB Bella Bella 97.97 37 LR LR 22 01 54.9
comp=Z,27nm,19.5s,baz=302,slow=32
DRGR 98.09 318 ⇓P Pdif 21 22 52.9 +0.2
DRGR 98.09 318 ⇓P Pdif 21 22 52.9 +0.1
CRVS Cervenica-Dubn 98.47 320 *i* P Pdif 21 22 54.8 +0.4
CRVS Cervenica-Dubn 98.47 320 *e*PDIFF Pdif 21 22 54.8 +0.4
LSZ Lusaka 98.47 255 LR LR 22 03 20.3
comp=Z,110nm,19.9s,baz=116,slow=33
LSZ Lusaka 98.47 255 P Pdif 21 22 55.5 +0.3
SURR Surduc 98.69 317 ⇓P **P** **21 22 54.3 -1.1**
SIRR Siria 98.90 317 ⇑P Pdif 21 22 56.6 +0.2
BZS Buzias 99.07 317 ⇑P **Pdif** **21 22 56.5 -0.6**
BZS Buzias 99.07 317 ⇑P **Pdif** **21 22 56.5 -0.6**
LIT Litokhoron 99.51 311 **Pdif** **21 22 57.7 -1.5**
LIT IAmb IAmb 21 22 59.0
comp=Z,22nm,1.6s
LIT Litokhoron 99.51 311 P **Pdif** **21 22 57.7 -1.5**
LIT pmax pmax
comp=Z,22nm,1.6s
HFS Hagfors 99.59 332 P **Pdif** **21 22 58.4 -0.6**
comp=Z,1.9nm,0.8s,baz=119,slow=5.1,SNR=4.6
HFS LR LR 22 11 37.5
comp=Z,209nm,22.0s,baz=68,slow=38
comp=Z,1.9nm,0.8s
RES Resolute Bay 99.73 10 LR LR 22 10 11.4
comp=Z,20nm,21.8s,baz=16,slow=37
NB2 NORSAR Subarra 100.38 333 P **Pdif** **21 23 01.4 -1.2**
comp=Z,4.2nm,1.0s,baz=68,slow=4.6
NOA NORSAR Array B 100.38 333 P **Pdif** **21 23 01.4 -1.2**
comp=Z,1.7nm,0.8s,baz=68,slow=4.6,SNR=8.8
MORH Mrgy, Hungar 100.95 318 ⇓P **Pdif** **21 23 05.8 +0.4**
KRLC Kraliky 101.13 322 AMS AMS 22 12 30.0
comp=Z,200nm,19.6s
YKA Yellowknife Ar 101.34 24 P **Pdif** **21 23 07.5 +0.8**
comp=Z,1.2nm,0.9s,baz=302,slow=5.2,SNR=13
YKA Yellowknife Ar 101.34 24 *i* P **Pdif** **21 23 06.5 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.9s
DPC Dobruska-Polom 101.34 322 *e*PDIFF **Pdif** **21 23 11.4 +4.3**
DPC AMS AMS 22 10 10.0
comp=Z,200nm,23.0s
DPC Dobruska-Polom 101.34 322 *i* P **Pdif** **21 23 11.4 +4.3**
DPC MLR MLR
comp=Z,200nm,23.0s
UPC Upice 101.48 322 AMS AMS 22 10 30.0
comp=Z,200nm,21.9s
GOPC GO Pecny, Ondr 102.41 322 AMS AMS 22 13 30.0
comp=Z,200nm,22.9s
PRU Pruhonice 102.54 322 AMS AMS 22 13 30.0
comp=Z,200nm,19.0s
BRG Berggiesshubel 102.62 323 *e*P **Pdif** **21 23 13.6 +0.8**
BRG Amp 21 23 15.3
comp=Z,4.5nm,1.0s
BRG Berggiesshubel 102.62 323 *e*P **Pdif** **21 23 13.5 +0.8**
BRG pmax pmax
comp=Z,5.0nm,1.0s
BRG MLR MLR
comp=Z,236nm,23.0s
BRG MLR MLR
comp=N,193nm,23.9s
BRG MLR MLR
comp=E,99nm,23.5s
CLL Collm 103.03 324 *e*Pdif **Pdif** **21 23 17.0 +2.4**
CLL *e*PP **PKiKP** **21 27 33.0 -1.3**
CLL *e*SS SS 21 42 06.0 -1.3
CLL *ex* x 21 50 30.0
CLL Collm 103.03 324 *e*P **Pdif** **21 23 17.0 +2.4**
CKRC Cesky Krumlov 103.05 321 *e*PDIFF **Pdif** **21 23 20.1 +5.4**
CKRC Cesky Krumlov 103.05 321 *i* P **Pdif** **21 23 20.1 +5.4**
KHC Kasperske Hory 103.41 322 *e*PDIFF **Pdif** **21 23 19.9 +3.5**
KHC AMS AMS 22 18 30.0
comp=E,200nm,24.0s
KHC Kasperske Hory 103.41 322 *i* P **Pdif** **21 23 19.9 +3.5**
KHC MLR MLR
comp=Z,200nm,24.0s
GERES GERESS Array B 103.42 321 Pdiff **Pdif** **21 23 20.4 +3.8**
comp=Z,0.4nm,0.6s,baz=66,slow=4.7,SNR=3.7
NKC Novy Kostel 103.73 323 AMS AMS 22 13 40.0
comp=Z,200nm,22.8s
PKM Mcpherson Peak 108.21 52 P **PKiKP** **21 27 42.6 -2.0**
baz=286
NVAR Mina Array Bea 108.36 48 Pdiff **Pdif** **21 23 43.1 +4.2**
comp=Z,0.2nm,0.4s,baz=260,slow=5.4,SNR=2.4
NVAR PP **PP** **21 28 08.8 -0.6**
comp=Z,1.5nm,1.0s,baz=256,slow=7.3,SNR=5.6
MSO Missoula 108.42 39 P **PKiKP** **21 27 42.8 -1.8**
baz=294
IRM Iron Mountain 112.11 52 P **PKiKP** **21 27 49.3 -2.5**
baz=288
PDAR Pinedale Array 112.95 42 PKiKP **PKiKP** **21 27 53.8 +0.4**
comp=Z,0.1nm,0.4s,baz=288,slow=0.9,SNR=2.1
PDAR PP **PP** **21 28 48.0 +5.8**
comp=Z,0.3nm,0.8s,baz=286,slow=7.4,SNR=4.2
PDAR PKKPbc **PKKPbc** **21 38 41.0 -0.8**
comp=Z,0.4nm,0.5s,baz=101,slow=4.7,SNR=3.6
LAO LASA Array 113.21 37 P **PKiKP** **21 27 51.2 -2.4**
baz=300
DGMT Dagmar 113.46 34 P **PKiKP** **21 27 52.6 -1.4**
baz=303
214A Organ Pipe Nat 114.67 54 P PKPdf 21 27 55.6 -1.2
baz=289
RSSD Black Hills 115.84 38 P **PKiKP** **21 27 57.8 -1.1**
baz=301
MVCO Mesa Verde 116.04 47 P **PKPdf** **21 27 57.1 -2.4**
baz=294
TUC Tucson 116.17 53 P **PKPdf** **21 27 57.3 -2.4**
baz=291
Q24A Divide 117.65 44 P **PKPdf** **21 28 00.3 -2.4**
baz=298
ESDC Sonseca Array 118.72 318 PP **PP** **21 29 18.8 -3.6**
comp=Z,1.3nm,1.1s,baz=41,slow=8.5,SNR=4.2
OGNE Ogallala 118.75 40 P **PKPdf** **21 28 02.6 -1.9**
baz=301
F33A 5 Mile Ranch, 119.37 33 **PKPdf** **21 28 04.9 -0.5**
ECSD EROS Data Cent 120.49 35 PKPdf **PKPdf** **21 28 07.6 0.0**
ECSD EROS Data Cent 120.49 35 P **PKPdf** **21 28 05.7 -1.9**
baz=308
MNTX Cornudas Mount 120.64 51 P **PKPdf** **21 28 06.4 -1.9**
baz=294
AMTX Amarillo 122.02 46 P **PKPdf** **21 28 08.9 -2.1**
baz=299
SCHQ Schefferville 122.49 9 PKP **PKiKP** **21 28 11.8 +0.5**
comp=Z,1.5nm,0.4s,baz=23,slow=3.0,SNR=14
TXAR Lajitas Array 122.95 53 PKiKP **PKiKP** **21 28 13.0 -0.1**
TXAR Lajitas Array 122.95 53 PKP **PKiKP** **21 28 14.1 +1.0**
comp=Z,1.4nm,0.8s,baz=248,slow=1.8,SNR=9.9
TXAR PKKPbc **PKKPbc** **21 38 05.2 0.0**
comp=Z,0.9nm,1.0s,baz=130,slow=2.8,SNR=5.8
TXAR Lajitas Array 122.95 53 PKIKP **PKiKP** **21 28 13.0 -0.1**
TOA0 Torodi Ar. Sit 123.26 287 **PKPdf** **21 28 13.2 -0.5**
TORD Torodi Ar. Bea 123.26 287 **PKPdf** **21 28 13.5 -0.2**
TORD Torodi Ar. Bea 123.26 287 PKP **PKiKP** **21 28 13.9 0.0**
comp=Z,2.3nm,0.7s,baz=36,slow=1.2,SNR=12
TORD PKKPbc **PKKPab** **21 38 04.4 +0.5**
comp=Z,2.2nm,0.7s,baz=293,slow=3.4,SNR=16
SCIA State Center 123.58 35 P **PKPdf** **21 28 12.3 -1.3**
baz=310
WMOK Wichita Mounta 124.16 45 P **PKPdf** **21 28 12.5 -2.5**
baz=301
JFWS Jewell Farm 124.56 32 P **PKPdf** **21 28 13.8 -1.7**
baz=314
JCT Junction City 125.48 50 P **PKPdf** **21 28 15.1 -2.5**
baz=298
WHTX Lake Whitney, 126.51 47 P **PKPdf** **21 28 17.4 -2.1**
baz=300
833A Chaparral WMA, 126.77 52 P **PKPdf** **21 28 18.2 -1.9**
baz=296
CCM Cathedral Cave 127.21 37 PKPdf **PKPdf** **21 28 20.7 0.0**
CCM Cathedral Cave 127.21 37 P **PKPdf** **21 28 18.3 -2.4**
baz=310
CCM Cathedral Cave 127.21 37 PKIKP **PKPdf** **21 28 20.7 0.0**
FVM French Village 127.75 37 **PKPdf** **21 28 21.4 -0.3**
FVM French Village 127.75 37 PKIKP **PKPdf** **21 28 21.4 -0.3**
MIAR Mount Ida 127.86 42 PKPdf **PKiKP** **21 28 23.0 +0.4**

MIAR	**Mount Ida**	**127.86**	**42**	P		**PKPdf**	**21 28 20.5**	**-1.5**
	baz=306,SNR=5.6							
MIAR	**Mount Ida**	**127.86**	**42**	PKIKP		**PKiKP**	**21 28 23.0**	**+0.4**
O48B	**Farmland**	**129.13**	**31**	P		**PKPdf**	**21 28 23.1**	**-1.2**
	baz=318							
P49A	**Miami Univ. Ec**	**129.89**	**31**	P		**PKPdf**	**21 28 24.2**	**-1.5**
	baz=318							
LONY	**Lake Ozonia**	**130.10**	**20**	P		**PKPdf**	**21 28 24.6**	**-1.4**
	baz=332							
ERPA	**Erie**	**130.14**	**26**	P		**PKPdf**	**21 28 24.1**	**-2.0**
	baz=324							
ACSO	**Alum Creek Sta**	**130.24**	**30**	P		**PKPdf**	**21 28 24.1**	**-2.3**
	baz=320							
M53A	**WI Miller and**	**130.39**	**27**	P		**PKPdf**	**21 28 24.0**	**-2.6**
	baz=323							
WVT	**Waverly**	**130.54**	**37**	P		**PKPdf**	**21 28 24.5**	**-2.5**
	baz=312							
OXF	**Oxford**	**130.61**	**40**	P		**PKPdf**	**21 28 24.8**	**-2.4**
	baz=310							
DBIC	**Dimbokro**	**130.70**	**280**	PKP		**PKiKP**	**21 28 29.1**	**+0.3**
	comp=Z,5.8nm,1.1s,baz=0.0,slow=1.0,SNR=3.6							
PKME	**Peaks-Kenny Pk**	**131.08**	**15**	P		**PKPdf**	**21 28 25.8**	**-1.9**
	baz=339							
O53A	**New Philadelph**	**131.08**	**28**	P		**PKPdf**	**21 28 25.2**	**-2.8**
	baz=322							
P52A	**Corning**	**131.12**	**29**	P		**PKPdf**	**21 28 25.1**	**-2.9**
	baz=321							
LBNH	**Lisbon**	**131.29**	**18**	P		**PKPdf**	**21 28 26.2**	**-2.0**
	baz=335							
BINY	**Binghamton**	**131.71**	**22**	P		**PKPdf**	**21 28 27.7**	**-1.4**
	baz=329							
SSPA	**Standing Stone**	**132.26**	**25**	P		**PKPdf**	**21 28 28.6**	**-1.6**
	baz=326							
HRV	**Adam Dziewonsk**	**132.97**	**18**	P		**PKPdf**	**21 28 30.7**	**-0.7**
	baz=335							
LRAL	**Lakeview Retre**	**133.10**	**39**	P		**PKPdf**	**21 28 31.5**	**-0.5**
	baz=311							
TKL	**Tuckaleechee C**	**133.22**	**34**	PKP		**PKiKP**	**21 28 33.6**	**+0.2**
	comp=Z,5.4nm,0.8s,baz=236,slow=3.6,SNR=6.3							
PAL	**Palisades**	**133.51**	**21**	P		**PKPdf**	**21 28 31.0**	**-1.5**
	baz=331							
BLA	**Blacksburg**	**133.84**	**30**	P		**PKPdf**	**21 28 31.8**	**-1.5**
	baz=321							
KMSC	**Kings Mountain**	**134.95**	**33**	P		**PKPdf**	**21 28 34.1**	**-1.3**
	baz=319							
GOGA	**Godfrey**	**135.01**	**36**	P		**PKPdf**	**21 28 34.4**	**-1.2**
	baz=315							
PLCA	**Paso Flores**	**138.30**	**160**	PKP		**PKiKP**	**21 28 43.5**	**-0.1**
	comp=Z,4.5nm,0.8s,baz=219,slow=4.7,SNR=9.3							
BO02	**Sierra Bellavi**	**143.45**	**156**			PKPbc	21 28 49.5	+1.3
MT01	**Popeta**	**144.05**	**154**			PKPbc	21 28 50.5	+0.6
BO04	**La Punta**	**144.22**	**155**			PKPbc	21 28 51.2	+0.6
LMEL	**Las Melosas**	**144.51**	**156**			PKPbc	21 28 51.9	+0.3
MT02	**Curacav**	**144.62**	**154**			**PKPab**	**21 28 51.4**	**-0.1**
MT16	**CCHEN**	**144.74**	**155**			PKPbc	21 28 52.3	+0.1
PEL	**Peldehue**	**144.91**	**154**			**PKPab**	**21 28 52.2**	**-0.5**
PEL	**Peldehue**	**144.91**	**154**	PKIKP		**PKPab**	**21 28 52.2**	**-0.5**
CO02	**Combarbal**	**146.41**	**152**			**PKPbc**	**21 28 56.9**	**-0.7**
SRBA	**San Rafael, Bu**	**148.31**	**69**			**PKPbc**	**21 29 01.8**	**-1.5**
BRU2	**Volcan**	**149.07**	**70**			**PKPbc**	**21 29 04.0**	**-1.3**
PLTB	**Pedras Altas**	**150.21**	**180**	PKPdf		**PKPdf**	**21 29 00.6**	**-1.7**
CPSB	**Cacapava Do Su**	**151.56**	**180**	*e*P		**PKPdf**	**21 29 02.6**	**-1.9**
LPAZ	**La Paz**	**159.65**	**136**	PKP		**PKPdf**	**21 29 18.2**	**+1.9**
	comp=Z,3.2nm,0.9s,baz=207,slow=2.3,SNR=7.4							
LPAZ				PKPab		**PKPab**	**21 29 56.6**	**+1.8**
	comp=Z,5.8nm,1.0s,baz=235,slow=3.8,SNR=5.1							
BAUV	**El Baul**	**162.01**	**53**	PKPdf		**PKPdf**	**21 29 17.5**	**-0.7**
BAUV				PKPab		**PKPab**	**21 30 03.7**	**-0.8**
ETMB	**Extrema**	**165.08**	**123**	PKPdf		**PKPdf**	**21 29 20.8**	**-0.3**
ETMB				PKPab		**PKPab**	**21 30 18.0**	**0.0**
PDRB	**Porto dos Gac**	**169.75**	**162**	*e*P		**PKPdf**	**21 29 22.5**	**-2.0**

*IDC **01** 21:11:18.7±2.0, 13°.68N×93°.13W, h0km, mb3.7/4, mbtmp3.7/8, ML3.5/4, MS2.8/1, Error ellipse: s-maj=46.9km s-min=23.3km az=19.0*
*CATAC **01** 21:11:25.8±0.9, 13°.77N×92°.80W, h15km, ML4.4*
*MEX **01** 21:11:25.5±0.6, 13°.87N×93°.31W, h16km±215km, MD4.4*
*GCG **01** 21:11:32.2±0.3, 14°.41N×92°.62W, h50km, MD3.6*

ISC 01 21:11:19.9±1.8, 13°.91N±0°.06×93°.08W±0°.04, h4km±11km, n55, σ2s32/76, mb3.8/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**1.53**	**75**	*e*P	**Pg**	**21 11 50.2**	**+0.9**
STG3	**Santiaguito 3,**	**1.67**	**61**	*e*P	**Pg**	**21 11 51.3**	**-0.7**
PCIG		**1.79**	**356**	*e*P	**Pn**	**21 11 52.1**	**+0.5**
PCIG				*e*S	**Sn**	**21 12 14.1**	**-0.7**
FUG	**Fuego 3**	**2.24**	**76**	*e*P	**Pn**	**21 11 58.8**	**+0.8**
CCIG	**Comitan**	**2.53**	**21**	*e*P	**Pb**	**21 12 05.4**	**-0.7**
CCIG				*e*S	**Sb**	**21 12 37.3**	**-0.3**
CCIG	**Comitan**	**2.53**	**21**	*i* P	**Pb**	**21 12 06.1**	**0.0**
CCIG				*i* S	**Sg**	**21 12 39.8**	**-1.6**
CCIG				IAML		21 12 45.3	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**2.74**	**75**	*e*P	**Pb**	**21 12 07.5**	**-2.2**
APG	**El Apazote**	**2.76**	**66**	Pn	**Pb**	**21 12 07.0**	**-3.0**
	comp=Z,2.0nm,0.3s,baz=217,slow=18,SNR=172						
APG				Sn	**Sb**	**21 12 42.6**	**-1.8**
	comp=Z,3.5nm,0.3s,baz=79,slow=18,SNR=6.9						
	comp=Z,22nm,0.7s						
TGIG		**2.85**	**359**	*e*P	**Pn**	**21 12 08.8**	**+2.5**
TGIG				*e*S	**Sn**	**21 12 42.3**	**+1.2**
LOAL	**Lomas de Alarc**	**3.21**	**88**	*i* P	**Pn**	**21 12 12.0**	**+0.8**
LOAL				IAML		21 12 14.0	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**3.21**	**90**	*i* P	**Pn**	**21 12 11.2**	**-0.1**
NUBE				IAML		21 12 12.7	
	comp=Z,590nm,1.0s						
CEVE	**Cerro Verde**	**3.36**	**91**	*i* P	**Pn**	**21 12 13.7**	**+0.2**
CEVE				IAML		21 12 59.3	
	comp=Z,530nm,1.0s						
UNIC	**Universidad Ca**	**3.43**	**88**	*i* P	**Pn**	**21 12 15.1**	**+0.8**
UNIC				IAML		21 12 15.3	
	comp=Z,320nm,1.0s						
HUIG	**Huatulco**	**3.46**	**303**	*e*P	**Pn**	**21 12 13.5**	**-1.1**
HUIG				*e*S	Sn	21 12 48.1	-7.9
MRL	**Marmol**	**3.49**	**70**	*e*P	**Pb**	**21 12 18.6**	**-3.9**
JAYA	**Jayaque - finc**	**3.54**	**94**	*i* P	**Pn**	**21 12 15.6**	**-0.3**
JAYA				IAML		21 13 01.7	
	comp=Z,1μm,1.0s						
UXUV	**UXUV**	**3.54**	**343**	*e*P	**Pn**	**21 12 18.6**	**+2.9**
UXUV				*e*S	**Sn**	**21 12 56.7**	**-1.4**
CMIG	**Matias Romero**	**3.61**	**331**	Pn	**Pn**	**21 12 17.8**	**+1.1**
	comp=Z,4.7nm,0.3s,baz=165,slow=11,SNR=49						
CMIG				Sn	**Sn**	**21 12 57.8**	**-1.9**
	comp=Z,13nm,0.3s,baz=97,slow=12,SNR=8.1						
CMIG				LR	LR	21 13 43.1	
	comp=Z,140nm,21.8s,baz=201,slow=38						
	comp=Z,9.8nm,0.3s						
CMIG	**Matias Romero**	**3.61**	**331**	*e*P	**Pn**	**21 12 17.5**	**+0.9**
CMIG				*e*S	**Sn**	**21 12 54.2**	**-5.6**
MTO3	**Montecristo**	**3.65**	**82**	*i* P	**Pn**	**21 12 17.6**	**+0.3**
MTO3				*i* S	**Sn**	**21 13 02.9**	**+2.0**
MTO3				IAML		21 13 07.8	
	comp=Z,92nm,1.0s						
PMON	**Piamonte**	**3.67**	**93**	*i* P	**Pn**	**21 12 18.0**	**+0.4**
PMON				IAML		21 12 20.7	
	comp=Z,380nm,1.0s						
PMON				*i* S	**Sn**	**21 12 59.4**	**-1.9**
LOMA	**Loma Larga**	**3.81**	**93**	*i* P	**Pn**	**21 12 20.2**	**+0.6**
LOMA				*i* S	**Sn**	**21 13 03.0**	**-1.9**
LOMA				IAML		21 13 09.1	
	comp=Z,240nm,1.0s						
COEG	**Centro de Oper**	**4.09**	**94**	*i* P	**Pn**	**21 12 24.5**	**+1.1**
COEG				IAML		21 13 16.2	
	comp=Z,180nm,1.0s						
PEIG	**Puerto Escondi**	**4.44**	**298**	*e*P	**Pn**	**21 12 27.2**	**-1.0**
PEIG				*e*S	Sn	21 13 11.3	-9.0
NEUV	**Arroyo Zacate**	**4.60**	**326**	*e*P	**Pn**	**21 12 31.6**	**+1.4**
NEUV				*e*S	**Sn**	**21 13 17.6**	**-6.6**
PACA	**Pacayal**	**4.65**	**95**	*i* P	**Pn**	**21 12 32.2**	**+1.1**
PACA				*i* S	**Sn**	**21 13 24.4**	**-1.2**
PACA				IAML		21 13 34.7	
	comp=Z,780nm,1.0s						
VHO	**Vista Hermosa**	**4.72**	**312**	*e*P	**Pn**	**21 12 34.2**	**+2.1**
VHO				*e*S	**Sn**	**21 13 25.6**	**-1.8**
JUCU	**Jucuarįn**	**4.75**	**97**	*i* P	**Pn**	**21 12 33.2**	**+0.8**
JUCU				IAML		21 13 27.3	
	comp=Z,86nm,1.0s						
PMUV	**Sontecomapan**	**5.01**	**337**	*e*P	**Pb**	**21 12 46.9**	**-1.3**
PMUV				*e*S	Sn	21 13 25.2	-9.1
CNCH	**Conchagua**	**5.14**	**96**	*i* P	**Pn**	**21 12 38.3**	**+0.4**
CNCH				IAML		21 12 40.4	
	comp=Z,330nm,1.0s						
YOIG	**Yosondua**	**5.21**	**305**	*e*P	**Pn**	**21 12 41.0**	**+2.1**
YOIG				*e*S	**Sn**	**21 13 33.9**	**-5.6**
SCIG	**Sabancuy**	**5.35**	**20**	*e*P	**Pn**	**21 12 40.5**	**-0.1**
SCIG				*e*S	**Sn**	**21 13 40.6**	**-2.1**
PNIG	**Pinotepa**	**5.46**	**298**	*e*P	**Pn**	**21 12 42.3**	**+0.1**
PNIG				*e*S	Sn	21 13 36.2	-9.3
TXIG	**Tlaxiaco**	**5.61**	**307**	*e*P	**Pn**	**21 12 46.5**	**+2.1**
TXIG				*e*S	**Sn**	**21 13 43.8**	**-5.6**
TOIG	**Toxpalan**	**5.66**	**318**	*e*P	**Pn**	**21 12 47.8**	**+2.9**
TOIG				*e*S	**Sn**	**21 13 50.0**	**-0.4**
FTIG	**Fresnillo de T**	**6.28**	**310**	*e*P	**Pn**	**21 12 56.9**	**+3.4**
FTIG				*e*S	**Sn**	**21 14 01.2**	**-4.5**
MGIG	**Malinaltepec**	**6.29**	**302**	*e*P	**Pn**	**21 12 56.3**	**+2.6**
MGIG				*e*S	**Sn**	**21 14 00.0**	**-6.0**
CRIG	**Cruz Grande**	**6.48**	**296**	*e*P	**Pn**	**21 12 56.3**	**+0.2**
CRIG				*e*S	Sn	21 13 57.7	-13
JAUV	**Jalcomulco**	**6.49**	**327**	*e*P	**Pn**	**21 12 56.1**	**-0.2**
JAUV				*e*S	Sn	21 13 58.6	-12
MOMN	**Momotombo**	**6.55**	**102**	*i* P	**Pn**	**21 12 57.7**	**+0.6**
COPN	**Copaltepe**	**6.56**	**104**	*i* P	**Pn**	**21 12 58.0**	**+0.8**
DAIG	**Los Arroyos**	**7.05**	**297**	*e*P	Pn	21 12 58.8	-5.1
DAIG				*e*S	Sn	21 14 13.9	-11
PPM	**Popocatepetl**	**7.39**	**315**	*e*P	**Pn**	**21 13 12.5**	**+3.4**
PPM				*e*S	**Sn**	**21 14 34.6**	**+1.0**
CAIG	**El Cayaco**	**7.59**	**295**	*e*P	**Pn**	**21 13 12.2**	**+0.8**
CAIG				*e*S	Sn	21 14 25.1	-13
HZTE	**Horizontes, Gu**	**7.98**	**113**	*i* P	**Pn**	**21 13 19.0**	**+2.3**
SAJU	**San Juanillo,**	**8.16**	**117**	*i* P	**Pn**	**21 13 20.9**	**+1.7**
ORTG	**Ortega, Santa**	**8.25**	**114**	*i* P	**Pn**	**21 13 22.6**	**+2.1**
JTS	**Las Juntas de**	**8.73**	**113**	Pn	**Pn**	**21 13 27.5**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=306,slow=17,SNR=2.6						
	comp=Z,3.9nm,0.3s						
CDM	**Cerro de Muert**	**10.10**	**114**	*i* P	**Pn**	**21 13 50.0**	**+3.7**
TXAR	**Lajitas Array**	**18.21**	**329**	P	**P**	**21 15 37.0**	**+2.8**
	baz=144,slow=11,SNR=6.1						
	comp=Z,0.7nm,0.7s						
PDAR	**Pinedale Array**	**32.08**	**337**	P	**P**	**21 17 49.8**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=162,slow=9.0,SNR=3.8						
	comp=Z,0.4nm,0.7s						
NVAR	**Mina Array Bea**	**33.09**	**322**	P	**P**	**21 17 59.6**	**+2.4**
	comp=Z,1.9nm,0.8s,baz=141,slow=8.9,SNR=11						
	comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**50.88**	**347**	P	**P**	**21 20 21.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=142,slow=7.5,SNR=12						
YKA				PcP	**PcP**	**21 21 37.0**	**-1.2**
	comp=Z,0.2nm,0.6s,baz=156,slow=3.0,SNR=3.2						
	comp=Z,0.7nm,0.8s						
ILAR	**Eielson Array**	**62.51**	**337**	P	**P**	**21 21 44.6**	**+0.2**
	comp=Z,0.9nm,0.9s,baz=123,slow=3.3,SNR=7.0						
	comp=Z,0.9nm,0.9s						
CMAR	**Chiang Mai Arr**	**145.72**	**339**	PKPbc	**PKPdf**	**21 30 59.8**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=354,slow=4.3,SNR=11						

*IDC **01** 21:34:00.7±2.9, 25°.83S×127°.83E, h0km, mbtmp3.6/4, ML3.3/3, Error ellipse: s-maj=36.3km s-min=21.9km az=142.0*
*NOU **01** 21:34:00.5, 25°.46S×127°.44E, h0km, mb4.2/10, Western Australia*
*AUST **01** 21:34:00.0±0.4, 25°.60S×127°.56E, h10km, Error ellipse: s-maj=4.4km s-min=3.9km az=164.0*

ISC 01 21:33:59.5±0.7, 25°.60S±0°.05×127°.50E±0°.04, h10km, n31, σ2s47/49, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	**Warakurna**	**0.92**	**52**	P	**Pb**	**21 34 17.5**	**-0.1**
	baz=0.9						
WRKA				S	**Sg**	**21 34 28.2**	**-1.0**
	baz=0.9						
WRKA	**Warakurna**	**0.92**	**52**	P	**Pb**	**21 34 17.4**	**-0.1**
FORT	**Forrest**	**5.18**	**175**	P	**Pn**	**21 35 20.7**	**+3.5**
	baz=5.2						
FORT				S	**Sn**	**21 36 18.8**	**+1.8**
	baz=5.2						
FORT	**Forrest**	**5.18**	**175**	P	**Pn**	**21 35 21.9**	**+4.7**
ASAR	**Alice Springs**	**6.14**	**73**	Pn	**Pn**	**21 35 31.9**	**+1.4**
	0.6nm,0.3s,baz=252,slow=11,SNR=42						
ASAR				Sn	**Sn**	**21 36 38.2**	**-2.5**
	0.6nm,0.3s,baz=253,slow=22,SNR=4.6						
ASAR				Lg	Lg	21 37 10.5	
	1.6nm,0.3s,baz=245,slow=24,SNR=7.2						
	2.4nm,0.6s						
MULG	**Mulgathing**	**7.45**	**130**	P	**Pn**	**21 35 50.4**	**+2.1**
	baz=7.4						
MULG				S	**Sn**	**21 37 14.0**	**+1.2**
	baz=7.4						
MULG	**Mulgathing**	**7.45**	**130**	P	**Pn**	**21 35 52.7**	**+4.4**
KMBL	**Kambalda**	**7.58**	**219**	P	**Pn**	**21 35 50.1**	**+0.1**
	baz=7.6						
KMBL				S	**Sn**	**21 37 16.8**	**+0.8**
	baz=7.6						
OOD	**Oodnadatta**	**7.65**	**108**	P	**Pn**	**21 35 53.8**	**+2.8**
	baz=7.6						
OOD				S	**Sn**	**21 37 17.8**	**+0.1**
	baz=7.6						
OOD	**Oodnadatta**	**7.65**	**108**	P	**Pn**	**21 35 54.1**	**+3.1**
FITZ	**Fitzroy Crossi**	**7.66**	**347**	P	**Pn**	**21 35 51.1**	**-0.1**
	baz=7.7						
FITZ				S	**Sn**	**21 37 17.3**	**-0.9**
	baz=7.7						
MEEK	**Meekatharra**	**8.05**	**261**	P	**Pn**	**21 35 58.8**	**+2.2**
	baz=8.1						
MEEK				S	**Sn**	**21 37 26.3**	**-1.5**
	baz=8.1						
MEEK	**Meekatharra**	**8.05**	**261**	P	**Pn**	**21 35 58.7**	**+2.1**
WRA	**Warramunga Arr**	**8.46**	**50**	Pn	**Pn**	**21 36 02.7**	**+0.5**
	0.2nm,0.3s,baz=223,slow=12,SNR=13						
WRA				Sn	**Sn**	**21 37 37.4**	**-0.4**
	0.5nm,0.3s,baz=223,slow=24,SNR=8.2						
WRA				Lg	Lg	21 38 24.8	
	0.7nm,0.3s,baz=218,slow=28,SNR=6.9						
	0.4nm,0.5s						
WB2	**Warramunga Arr**	**8.47**	**50**	P	**Pn**	**21 36 02.1**	**-0.3**
	baz=8.4						
WB2				S	**Sn**	**21 37 34.9**	**-3.2**
	baz=8.4						
KNRA	**Kununurra**	**9.94**	**7**	P	**Pn**	**21 36 24.4**	**+1.8**
	baz=10.0						
KNRA				P	**Pn**	**21 36 24.4**	**+1.8**
	baz=10.0						
BBOO	**Buckleboo**	**10.37**	**136**	P	**Pn**	**21 36 28.3**	**-0.1**
	baz=10						
BBOO				S	**Sn**	**21 38 20.5**	**-4.2**
	baz=10						
BBOO	**Buckleboo**	**10.37**	**136**	P	**Pn**	**21 36 31.3**	**+2.9**
KLBR	**Kellerberrin**	**10.43**	**233**	P	**Pn**	**21 36 28.7**	**-0.5**
	baz=10						
KLBR				S	**Sn**	**21 38 21.4**	**-4.8**
	baz=10						
KLBR	**Kellerberrin**	**10.43**	**233**	P	**Pn**	**21 36 31.7**	**+2.4**
LCRK	**Leigh Creek**	**10.63**	**119**	P	**Pn**	**21 36 31.5**	**-0.4**
	baz=11						
LCRK				S	**Sn**	**21 38 29.8**	**-1.3**
	baz=11						
LCRK	**Leigh Creek**	**10.63**	**119**	P	**Pn**	**21 36 35.3**	**+3.4**
BLDU	**Ballidu**	**10.75**	**240**	P	**Pn**	**21 36 34.2**	**+0.6**
	baz=11						
BLDU				S	**Sn**	**21 38 27.9**	**-6.2**
	baz=11						
MORW	**Morawa**	**10.76**	**249**	P	**Pn**	**21 36 35.2**	**+1.5**
	baz=11						
MORW				S	**Sn**	**21 38 29.7**	**-4.5**
	baz=11						
MORW	**Morawa**	**10.76**	**249**	P	**Pn**	**21 36 35.1**	**+1.5**
NWAO	**Narrogin (SRO)**	**11.55**	**228**	P	**Pn**	**21 36 43.9**	**-0.7**
	baz=12						
NWAO				P	**Pn**	**21 36 43.9**	**-0.7**
	baz=12						
NWAO	**Narrogin (SRO)**	**11.55**	**228**	Pn	**Pn**	**21 36 46.5**	**+2.0**
	8.7nm,0.9s,baz=266,slow=21,SNR=1.4						
MUN	**Mundaring**	**11.76**	**235**	P	**Pn**	**21 36 48.8**	**+1.3**
	baz=12						
QIS	**Mount Isa**	**12.22**	**68**	P	**Pn**	**21 36 55.8**	**+2.0**
GIRL	**Giralia**	**12.46**	**281**	P	**Pn**	**21 36 58.1**	**+1.0**
	baz=12						
STKA	**Stephens Creek**	**13.86**	**120**	Pn	**Pn**	**21 37 14.8**	**-1.2**
	0.2nm,0.3s,baz=293,slow=15,SNR=3.3						
STKA				Sn	**Sn**	**21 39 45.8**	**-4.2**
	0.2nm,0.3s,baz=142,slow=19,SNR=1.6						
	1.0nm,0.6s						

*NEIC **01** 22:04:29.7±1.2, 29°.41S±0°.05×177°.15W±0°.09, h45km±6km, mb4.8/27, Error ellipse: s-maj=12.6km s-min=2.4km az=59.0*
*IDC **01** 22:04:30.8±1.3, 29°.31S×177°.27W, h55km±7km, mb4.3/10, mbtmp4.6/10, MS3.8/30, Error ellipse: s-maj=19.0km s-min=16.9km az=53.0*

ISC 01 22:04:30.6±0.7, 29°.47S±0°.06×177°.27W±0°.09, h52km±4km, h53km:pP-P, n163, σ1s14/142, mb4.8/35, MS3.9/30, 11C-12D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.60**	**291**		**Pn**	**22 04 42.7**	**-0.5**
RAO				Sn	**Sn**	**22 04 53.8**	**+1.4**
RAO	**Raoul Island**	**0.60**	**291**	P	**Pn**	**22 04 42.9**	**-0.3**
	4μm,0.2s,baz=112,slow=2.8,SNR=74						
RAO				S	**Sn**	**22 04 54.4**	**+2.0**
	12μm,0.3s,baz=72,slow=19,SNR=20						
URZ	**Urewera**		**9.93**	**207**	P	Pn	22 06 43.9	-6.6
	4.3nm,0.3s,baz=15,slow=12,SNR=8.5						
URZ				S	**Sn**	**22 08 36.1**	**-4.4**
	20nm,0.5s,baz=27,slow=21,SNR=8.2						
MSVF	**Nonsavu**	**12.44**	**339**	Pn	**Pn**	**22 07 23.2**	**-1.9**
DZM	**Mont Dzumac**	**16.40**	**293**		**P**	**22 08 18.8**	**-0.7**
DZM	**Mont Dzumac**	**16.40**	**293**	LR	LR	22 13 41.0	
	comp=Z,1μm,18.3s,baz=115,slow=34						
RPZ	**Rata Peaks**	**17.00**	**210**	P	**Pn**	**22 08 23.5**	**-1.2**
	22nm,0.7s,baz=141,slow=15,SNR=5.9						
RAR	**Rarotonga**	**17.81**	**67**	LR	LR	22 14 25.7	
	comp=Z,174nm,18.5s,baz=274,slow=34						
ARMA	**Armidale**	**26.92**	**260**	P	**P**	**22 10 07.6**	**+0.5**
ARMA				IAmb	IAmb	22 10 32.1	
	comp=Z,18nm,1.2s						
PPT	**Papeete**	**27.95**	**71**	LR	LR	22 18 22.4	
	comp=Z,148nm,19.6s,baz=224,slow=30						
EIDS	**Eidsvold**	**28.34**	**271**	P	**P**	**22 10 20.4**	**+0.7**
EIDS				IAmb	IAmb	22 10 26.5	
	comp=Z,21nm,1.3s						
HNR	**Honiara**	**29.20**	**308**	LR	LR	22 20 13.5	
	comp=Z,2μm,20.0s,baz=154,slow=32						
CTAO	**Charters Tower**	**34.29**	**277**	P	**P**	**22 11 13.1**	**+1.1**
CTAO				IAmb	IAmb	22 11 28.6	
	comp=Z,20nm,1.1s						
STKA	**Stephens Creek**	**35.31**	**256**	P	**P**	**22 11 21.4**	**+0.7**
STKA	**Stephens Creek**	**35.31**	**256**	P	**P**	**22 11 21.8**	**+1.0**
	comp=Z,15nm,0.9s,baz=86,slow=8.4,SNR=20						
STKA				LR	LR	22 24 58.6	
	comp=Z,320nm,18.1s,baz=63,slow=35						
	comp=Z,15nm,0.9s						
PMG	**Port Moresby**	**38.80**	**294**	LR	LR	22 25 12.9	
	comp=Z,269nm,19.8s,baz=126,slow=32						
BBOO	**Buckleboo**	**39.83**	**253**	P	**P**	**22 11 58.4**	**-0.6**
AS31	**Alice Springs**	**43.80**	**266**	P	**P**	**22 12 30.7**	**-0.8**
ASAR	**Alice Springs**	**43.80**	**266**	P	**P**	**22 12 30.3**	**-1.2**
ASAR	**Alice Springs**	**43.80**	**266**	P	**P**	**22 12 31.1**	**-0.4**
	comp=Z,9.2nm,0.9s,baz=104,slow=6.5,SNR=60						
ASAR				PcP	**PcP**	**22 14 17.3**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=98,slow=5.7,SNR=1.7						
ASAR				LR	LR	22 30 09.2	
	comp=Z,585nm,19.2s,baz=116,slow=35						
	comp=Z,9.2nm,0.9s						
WR0	**Warramunga Arr**	**44.52**	**271**	P	**P**	**22 12 37.0**	**-0.3**
WR0				IAmb	IAmb	22 12 39.6	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**44.70**	**271**	P	**P**	**22 12 37.4**	**-1.4**
WRA	**Warramunga Arr**	**44.70**	**271**	P	**P**	**22 12 38.5**	**-0.2**
	comp=Z,15nm,0.9s,baz=109,slow=8.0,SNR=55						
WRA				PcP	**PcP**	**22 14 20.5**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=114,slow=3.7,SNR=7.8						
WRA				S	**S**	**22 19 11.1**	**-0.8**
	comp=Z,0.4nm,0.8s,baz=106,slow=15,SNR=2.8						
	comp=Z,15nm,0.9s						
DRV	**Dumont d'Urvil**	**45.23**	**202**	P	**P**	**22 12 42.5**	**+0.2**
DRV				pP	**pP**	**22 12 56.5**	**+1.5**
FORT	**Forrest**	**46.90**	**254**	P	**P**	**22 12 55.2**	**-0.7**
SBA	**Scott Base**	**49.01**	**184**	P	**P**	**22 13 12.8**	**+1.3**
SBA				IAmb	IAmb	22 13 30.1	
	comp=Z,11nm,1.1s						
SBA	**Scott Base**	**49.01**	**184**	P	**P**	**22 13 14.2**	**+2.6**
VNDA	**Vanda**	**49.08**	**186**	P	**P**	**22 13 12.6**	**+0.5**
VNDA	**Vanda**	**49.08**	**186**	P	**P**	**22 13 14.5**	**+2.4**
	comp=Z,1.3nm,1.0s,baz=16,slow=6.8,SNR=5.4						
VNDA				LR	LR	22 30 08.8	
	comp=Z,52nm,21.4s,baz=34,slow=31						
	comp=Z,1.3nm,1.0s						
VNDA	**Vanda**	**49.08**	**186**	P	**P**

KSRS Korea Array 84.06 319 P P 22 16 55.7 +0.2
comp=Z,1.6nm,0.9s,baz=132,slow=5.4,SNR=6.6
KSRS LR LR 22 53 02.5
comp=Z,19nm,18.3s,baz=140,slow=35
comp=Z,1.6nm,0.9s
KSAR Wonju Array Be 84.07 319 P P 22 16 54.5 -1.0
YSS Yuzh-Sakhalins 84.19 334 P P 22 16 55.9 -0.1
PEA0B Petropavlovsk- 85.08 345 P P 22 16 60.0 -0.3
PETK Petropavlovsk- 85.08 345 P P 22 16 59.9 -0.4
PETK Petropavlovsk- 85.08 345 P P 22 16 59.7 -0.6
comp=Z,3.1nm,0.8s,baz=117,slow=8.3,SNR=6.0
PETK LR LR 22 49 38.4
comp=Z,27nm,21.2s,baz=141,slow=32
comp=Z,3.1nm,0.8s
MT01 Popeta 85.92 127 P P 22 17 04.2 -1.0
MT01 IAmb IAmb 22 17 10.5
comp=Z,17nm,1.2s
NJ2 Nanjing 86.12 310 *e*P P **22 17 08.0 +2.0**
NJ2 sP **pwP 22 17 23.2 -0.9**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,130nm,5.6s
MT02 Curacav 86.32 126 P P 22 17 06.5 -0.7
MT02 IAmb IAmb 22 17 25.3
comp=Z,15nm,1.2s
USA0B Ussuriysk Arra 86.74 326 P P 22 17 08.6 -0.1
USA0B IAmb IAmb 22 17 10.1
comp=Z,11nm,1.0s
USRK Ussuriysk Ar. 86.74 326 P P 22 17 08.5 -0.2
USRK Ussuriysk Ar. 86.74 326 P P 22 17 08.9 +0.1
comp=Z,6.3nm,0.8s,baz=144,slow=3.9,SNR=14
comp=Z,6.3nm,0.8s
YBH Yreka Blue Hor 86.92 38 LR LR 22 52 11.6
comp=Z,41nm,18.4s,baz=192,slow=33
NVAR Mina Array Bea 87.13 42 LR LR 22 52 50.3
comp=Z,96nm,18.2s,baz=276,slow=33
CN2 Changchun 89.79 322 *e*P **P 22 17 23.5 +0.3**
CN2 *e*pP pP 22 17 34.1 -3.4
CN2 *e*S **S 22 28 11.9 +0.9**
CN2 *e*sS pS 22 28 29.3 0.0
CN2 *e*SS **SS 22 34 14.0 +4.2**
CN2 pmax pmax
comp=Z,20nm,1.3s
CN2 LR LR
comp=Z,130nm,17.0s
CN2 LR LR
comp=Z,140nm,17.0s
TIA Tai'an 89.81 313 *e*P **P 22 17 23.9 +0.4**
TIA pmax pmax
comp=Z,5.0nm,1.1s
BNX BinXian 90.11 325 ||P **P 22 17 24.2 -0.5**
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,49nm,4.6s
ELK Elko 90.43 42 LR LR 22 55 38.6
comp=Z,97nm,18.0s,slow=34
KLR Kul'dur 90.56 329 LR LR 22 54 29.1
comp=Z,39nm,19.5s,baz=138,slow=33
ANMO Albuquerque 92.51 51 LR LR 22 57 00.1
comp=Z,42nm,18.2s,baz=222,slow=34
MA2 Magadan 92.57 344 LR LR 22 51 45.0
comp=Z,22nm,21.7s,baz=164,slow=31
BJI Beijing 92.71 315 P P 22 17 37.0 +0.1
BJI pmax pmax
comp=Z,2.0nm,1.0s
HEH HeiHe 93.25 328 *e*P **P 22 17 38.8 -0.3**
HEH pmax pmax
comp=Z,5.0nm,0.9s
CMAR Chiang Mai Arr 93.69 289 LR LR 23 02 21.3
comp=Z,13nm,19.6s,baz=125,slow=37
LVC Limon Verde 93.83 118 LR LR 22 51 45.3
comp=Z,40nm,19.0s,baz=330,slow=30
NEW Newport 94.25 36 LR LR 22 57 05.4
comp=Z,61nm,18.6s,baz=180,slow=34
PDAR Pinedale Array 95.03 43 LR LR 22 56 33.7
comp=Z,50nm,18.1s,baz=264,slow=33
XLT XiLinHaoTe 95.07 318 *e*P **P 22 17 50.6 +2.8**
XLT pP pP 22 17 57.8 -4.2
XLT sP pwP 22 18 02.3 -3.7
XLT pmax pmax
comp=Z,8.0nm,0.6s
XLT pmax pmax
comp=Z,69nm,4.9s
PZH PanZhiHua 95.44 297 P P 22 17 51.7 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.9s
HHC Hu-ho-hao-te 96.05 314 *e*P **P 22 17 53.8 +1.5**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,69nm,4.7s
YKA Yellowknife Ar 104.34 25 PKKPbc PKKPbc 22 34 14.0 -3.5
comp=Z,0.2nm,0.8s,baz=53,slow=4.1,SNR=4.4
MKAR Makanchi Array 117.66 310 PKP **PKPdf 22 23 09.2 -1.4**
comp=Z,1.2nm,0.9s,baz=96,slow=1.2,SNR=7.2
KURBB Kurchatov Arra 120.90 314 PKP **PKPdf 22 23 15.8 -0.9**
comp=Z,1.9nm,0.9s,baz=110,slow=2.0,SNR=18
BVAR Borovoye Array 126.18 316 PKP **PKPdf 22 23 26.2 -0.6**
comp=Z,3.2nm,0.9s,baz=79,slow=0.7,SNR=15
H10N3 ASCENSION HYDR 139.36 153 T T 01 00 12.1
baz=205,slow=74
H10N1 ASCENSION HYDR 139.37 153 T T 01 00 34.3
baz=205,slow=74
H10N2 ASCENSION HYDR 139.38 153 T T 01 00 36.9
baz=205,slow=74
FINES FINESS Array B 144.49 341 PKP **PKPab 22 23 57.7 -1.1**
comp=Z,11nm,0.8s,baz=44,slow=4.2,SNR=30
KBZ Khabaz 145.11 305 PKPbc **PKPdf 22 24 01.9 -0.1**
comp=Z,7.5nm,0.9s,baz=108,slow=3.2,SNR=14
KIV Kislovodsk 145.21 306 ||P **PKPbc 22 24 01.7 -0.3**
NB2 NORSAR Subarra 147.93 352 PKP **PKPbc 22 24 07.9 -1.5**
comp=Z,10nm,1.4s,baz=14,slow=4.6
NOA NORSAR Array B 147.93 352 PKPbc **PKPbc 22 24 08.2 -1.1**
comp=Z,4.6nm,1.0s,baz=15,slow=4.7,SNR=8.5
HFS Hagfors 148.46 350 PKPbc **PKPbc 22 24 09.3 -1.4**
comp=Z,6.1nm,0.9s,baz=33,slow=3.4,SNR=8.4
MNK Minsk 149.09 331 *i* PKiKP **PKPbc 22 24 11.4 -1.1**
comp=E,4.0nm,1.0s
MNK *i* PKiKP **PKPbc 22 24 11.4 -1.1**
comp=N,8.0nm,1.1s
MNK *i* PKiKP **PKPbc 22 24 11.4 -1.1**
comp=Z,17nm,1.0s,baz=46
MNK *i* PPP PPP 22 31 15.0
MNK *i* SSS SSS 22 52 44.1
NACGM Naroch 149.26 333 *e*PKP **PKPbc 22 24 13.2 +0.3**
comp=Z,21nm,1.0s,baz=42
AKASG Malin Array Be 150.93 324 PKPbc **PKPbc 22 24 16.6 -0.5**
comp=Z,7.3nm,0.8s,baz=45,slow=2.6,SNR=7.1
AKASG PKPab **PKPab 22 24 24.7 +0.1**
comp=Z,5.3nm,0.6s,baz=44,slow=2.9,SNR=7.8
KIEV Kiev 150.94 324 ||P **PKPbc 22 24 16.7 -0.4**
MMAI Mount Meron Ar 151.90 286 PKPbc **PKiKP 22 24 21.7 +1.3**
comp=Z,19nm,0.9s,baz=74,slow=5.2,SNR=20
MMAI PKPab **pPKPdf 22 24 27.8 -0.4**
comp=Z,4.8nm,0.5s,baz=64,slow=6.6,SNR=14
BRTR Keskin Array B 152.69 300 PKPbc **PKPbc 22 24 21.0 -0.7**
comp=Z,3.1nm,0.8s,baz=125,slow=2.9,SNR=4.0
BRTR PKPab **pPKPdf 22 24 29.4 +0.1**
comp=Z,1.5nm,0.6s,baz=137,slow=4.4,SNR=7.5
TPGR Topolog 154.55 314 ||P **PKPab 22 24 40.5 +0.4**
TESR Tescani 154.76 319 ||P **PKPab 22 24 39.7 -1.2**
KWP Kalwaria Pacla 154.79 329 *e*PKP **PKPab 22 24 41.5 +0.6**
BURAR Bucovina Array 154.90 322 ||P **PKPab 22 24 40.0 -1.6**
VRI Vrincioaia 155.07 318 ||P **PKPab 22 24 41.5 -0.8**
PLOR Plostina 155.12 318 ||P **PKPab 22 24 42.8 +0.3**
TURR Turia 155.38 319 ||P **PKPab 22 24 43.6 +0.1**
KOLS Kolonicke sedl 155.49 328 *e*PKP **PKPab 22 24 43.7 -0.2**
STKS Stebnicka Huta 155.61 330 *e*PKP **PKPab 22 24 44.3 -0.1**
MLR Muntele Rosu 155.73 318 ||P **PKPab 22 24 44.9 -0.3**
DOPR Dopca 155.79 319 ||P **PKPab 22 24 44.8 -0.6**
CRVS Cervenica-Dubn 155.88 329 *e*PKP **PKPab 22 24 45.7 +0.1**
MARR Marisel-Cluj 156.60 323 ||P **PKPab 22 24 48.1 -0.8**
DRGR 156.74 324 ||P **PKPab 22 24 48.8 -0.6**
DPC Dobruska-Pobon 156.76 338 *e*PKPAB **PKPab 22 24 49.7 +0.4**
MORC Moravsky Berou 156.81 335 *e*PKP **PKPab 22 24 49.4 -0.2**
KRLC Kraliky 156.84 337 *e*PKPAB **PKPab 22 24 49.0 -0.7**
CLL Collm 156.87 343 *i* PKPab **PKPab 22 24 48.5 -1.2**
comp=Z,4.0nm,1.0s
PSZ Piszkesteto 157.31 329 ||P **PKPab 22 24 51.4 -0.5**
VYHS Vyhne 157.33 331 *e*PKP **PKPab 22 24 51.8 -0.1**
JAVC Velka Javorina 157.51 334 *e*PKP **PKPab 22 24 53.7 +1.0**
VRAC Vranov 157.55 336 ||P **PKPab 22 24 52.5 -0.2**

VRAC Vranov 157.55 336 *e*PKP **PKPab 22 24 52.8 +0.1**
SURR Surduc 157.72 322 ||P **PKPab 22 24 53.3 -0.4**
KRUC Moravsky 157.82 336 *e*PKP **PKPab 22 24 53.5 -0.4**
MODS Modra-Piesok 158.06 333 *e*PKP **PKPab 22 24 55.4 +0.4**
BZS Buzias 158.08 322 ||P **PKPab 22 24 54.2 -1.0**
KHC Kasperske Hory 158.69 340 ||*e*PKP PKPab 22 24 46.5 -11
KHC *e*PKPAB **PKPab 22 24 58.0 +0.3**
GERES GERESS Array B 158.91 340 PKPab **PKPab 22 24 56.3 -2.5**
comp=Z,0.8nm,0.9s,baz=64,slow=6.7,SNR=3.7
CONA Conrad Observa 158.97 335 *e*PKP **PKPab 22 24 59.0 0.0**
comp=Z,6.9nm,1.0s
RONA Rosalia, Austr 158.99 334 *e*PKP **PKPab 22 24 59.1 0.0**
comp=Z,7.8nm,1.0s
FRGS Fruska Gora 159.34 324 ||P **PKPab 22 25 00.3 -0.3**
MOA Molln 159.60 337 *i* PKP **PKPab 22 25 01.4 -0.2**
comp=Z,6.3nm,1.2s
BIOA Bad Ischl, Aus 159.94 338 *e*PKP **PKPab 22 25 03.2 0.0**
comp=Z,8.8nm,1.2s
SOKA Soboth 160.32 334 *e*PKP **PKPab 22 25 04.2 -0.8**
comp=Z,6.0nm,1.1s
LESA Schwarzleotal 160.49 339 *e*PKP **PKPab 22 25 05.2 -0.5**
comp=Z,5.3nm,1.2s
OBKA Obir 160.65 335 *e*PKP **PKPab 22 25 05.2 -1.2**
comp=Z,3.5nm,1.2s
MYKA Terra Mystica 160.87 337 *e*PKP **PKPab 22 25 05.9 -1.4**
comp=Z,3.5nm,1.0s
WATA Walderalm 160.89 341 *e*PKP **PKPab 22 25 06.9 -0.5**
comp=Z,4.9nm,0.7s
WTTA Wattenberg 160.94 341 *e*PKP **PKPab 22 25 07.2 -0.5**
comp=Z,9.2nm,1.4s
MOTA Moosalm 161.01 342 *e*PKP **PKPab 22 25 07.0 -0.9**
comp=Z,6.4nm,1.3s
SQTA Sankt Quirin 161.09 342 *e*PKP **PKPab 22 25 07.7 -0.6**
comp=Z,5.2nm,1.5s
ABTA Abfaltersbach 161.14 339 *e*PKP **PKPab 22 25 07.1 -1.4**
comp=Z,5.5nm,1.0s
DAVA Damuels 161.37 345 *e*PKP **PKPab 22 25 09.2 -0.4**
comp=Z,5.6nm,1.1s
FETA Feichten 161.41 343 *e*PKP **PKPab 22 25 08.3 -1.5**
comp=Z,5.0nm,1.4s
TORD Torodi Ar. Bea 163.73 176 PKP **PKPdf 22 24 27.2 -1.2**
comp=Z,1.9nm,1.2s,baz=349,slow=2.9,SNR=4.7
TORD PKPab **PKPab 22 25 19.8 -0.6**
comp=Z,0.5nm,0.7s,baz=168,slow=1.9,SNR=1.3

NEIC ***01*** *22:07:41.0±0.6, 19°.35N±0°.04×154°.893W±0°.009, h5km±2km, Error ellipse: s-maj=6.0km s-min=3.1km az=191.0*
HVO 01 22:07:42.1±0.9, 19°.34N±0°.03×154°.99W±0°.03, h1km±9km, ML3.7/44, **ML3.8**/48(NEIC), **Error ellipse: s-maj=4.4km s-min=3.2km az=222.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.12**	**294**			Pg		22 07 45.4	+1.1
JCUZ				Sg		Sg		22 07 47.4	+1.6
NPOC	**North of Pu'u**	**0.12**	**296**			Pg		22 07 45.6	+1.0
NPOC				Sg		Sg		22 07 47.7	+1.5
STCH	**Steam Cracks**	**0.14**	**291**			Pg		22 07 45.7	+0.9
KNHH	**Kane Nui o Ham**	**0.17**	**284**			Pg		22 07 46.4	+0.9
PUH	**Pauahi**	**0.22**	**280**			Pg		22 07 47.0	+0.7
PUH				Sg		Sg		22 07 51.0	+1.9
BYL	**Byron's Ledge**	**0.27**	**286**			Pg		22 07 47.8	+0.6
BYL				Sg		Sb		22 07 52.9	-2.1
BYL				IAML				22 07 53.7	
	comp=N,19μm,0.2s								
BYL				IAML				22 07 54.4	
	comp=E,14μm,0.4s								
KKO	**Keanakako`i**	**0.27**	**283**			Pg		22 07 47.8	+0.5
KKO				IAML				22 07 54.1	
	comp=E,10μm,0.4s								
KKO				IAML				22 07 54.8	
	comp=N,10μm,0.3s								
HATHI	**Halema'uma'u T**	**0.27**	**288**			Pg		22 07 47.7	+0.4
HATHI				Sg		Sg		22 07 52.9	+2.1
HATHI				IAML				22 07 54.0	
	comp=N,14μm,0.4s								
HATHI				IAML				22 07 55.6	
	comp=E,14μm,0.4s								
RIM	**Rim**	**0.27**	**282**			Pg		22 07 48.0	+0.6
RIM						Sg		22 07 53.0	+2.0
RIM				IAML				22 07 53.6	
	comp=E,17μm,0.3s								
RIM				IAML				22 07 54.5	
	comp=N,10μm,0.4s								
SBLHI	**Steaming Bluff**	**0.28**	**289**			Pg		22 07 47.9	+0.5
SBLHI				IAML				22 07 53.7	
	comp=N,12μm,0.2s								
NPH	**North Pit**	**0.28**	**285**			Pg		22 07 48.1	+0.5
NPH				IAML				22 07 54.3	
	comp=N,8μm,0.5s								
UWB	**Uwekahuna B**	**0.28**	**288**			Pg		22 07 48.1	+0.5
OBL	**Observatory Le**	**0.29**	**286**			Pg		22 07 48.4	+0.7
OBL				IAML				22 07 55.9	
	comp=N,20μm,0.4s								
SDHHI	**Sand Hill**	**0.29**	**280**			Pg		22 07 48.4	+0.7
SDHHI						Sg		22 07 53.4	+1.9
SDHHI				IAML				22 07 55.8	
	comp=E,16μm,0.2s								
UWE	**Uwekahuna**	**0.30**	**286**			Pg		22 07 48.3	+0.5
UWE						Sg		22 07 53.3	+1.6
UWE				IAML				22 07 55.6	
	comp=E,18μm,0.3s								
RSD	**Rainshed**	**0.30**	**295**			Pg		22 07 48.5	+0.6
RSD						Sg		22 07 53.7	+1.9
RSD				IAML				22 07 54.6	
	comp=N,13μm,0.2s								
WRMHI	**West Rim**	**0.30**	**283**			Pg		22 07 48.5	+0.6
WRMHI				IAML				22 07 54.7	
	comp=N,16μm,0.6s								
HLP	**Hilina Pali**	**0.30**	**262**			Pg		22 07 48.8	+0.9
HLP						Sb		22 07 54.1	-1.8
HLP				IAML				22 07 58.9	
	comp=E,16μm,0.5s								
HTC	**Hot Caves**	**0.40**	**256**			Pg		22 07 50.7	+0.9
MLH	**Mauna Loa**	**0.40**	**293**			Pg		22 07 50.4	+0.4
MLH						Sg		22 07 56.5	+1.4
MLH				IAML				22 07 57.6	
	comp=E,10μm,0.3s								
MLH				IAML				22 08 00.6	
	comp=N,10μm,0.2s								
HMH	**Humu'ula Sheep**	**0.53**	**300**			Pg		22 07 52.8	+0.4
HMH						Sg		22 08 00.5	+1.1
MLOA	**Mauna Loa Obse**	**0.59**	**290**			Pg		22 07 53.4	0.0
MLOA						Sg		22 08 01.6	+0.6
MLOA				IAML				22 08 03.7	
	comp=N,8μm,0.3s								
MWH	**Moku'aweowe**	**0.59**	**284**			Pg		22 07 53.3	-0.2
MWH				IAML				22 08 11.2	
	comp=N,7μm,0.8s								
MWH				IAML				22 08 13.0	
	comp=E,8μm,0.7s								
KHU	**Kahuku**	**0.60**	**261**			Pg		22 07 53.0	-0.5
KHU						Sg		22 08 01.4	0.0
KHU				IAML				22 08 11.9	
	comp=N,3μm,0.6s								
KHU				IAML				22 08 13.9	
	comp=E,5μm,0.7s								
POHA	**Pohakuloa**	**0.66**	**309**			Pg		22 07 54.1	-0.7
POHA				IAML				22 08 13.8	
	comp=E,6μm,0.4s								
HUH	**Hualalai**	**0.87**	**294**			Pg		22 07 57.4	-1.4
HPAH	**Hawaii Prepara**	**0.96**	**316**			Pg		22 07 58.0	-2.6
MHA	**Mahukona**	**1.21**	**315**			Pg		22 08 02.0	-3.3
KHLH	**Kahului Airpor**	**2.06**	**319**	Pn		Pn		22 08 15.2	-2.7
HON	**Honolulu**	**3.45**	**305**	Pn		Pn		22 08 32.2	-4.8
KEKH	**Kekaha**	**5.14**	**302**	Pn		Pn		22 08 56.8	-3.6

NEIC ***01*** *22:12:49.6±1.2, 19°.35N±0°.02×155°.03W±0°.02, h9km±4km, Error ellipse: s-maj=3.7km s-min=1.2km az=148.0*
HVO 01 22:12:49.1±0.6, 19°.35N±0°.02×155°.023W±0°.007, h14km±2km, ML2.6/9, **ML2.3**/33(NEIC), **Error ellipse: s-maj=2.4km s-min=0.9km az=176.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.08**	**297**			Pg		22 12 52.5	+0.4
JCUZ	**Jacuzzi**	**0.08**	**297**	IAML				22 12 56.5	
	comp=N,260nm,0.3s								
JCUZ				IAML				22 12 57.1	
	comp=E,380nm,0.3s								
JOKA	**Jonika Flow**	**0.09**	**12**			Pg		22 12 54.5	+2.3
STCH	**Steam Cracks**	**0.10**	**292**			Pg		22 12 52.7	+0.3
STCH	**Steam Cracks**	**0.10**	**292**	IAML				22 12 56.2	
	comp=N,334nm,0.3s								
STCH				IAML				22 12 57.4	
	comp=E,420nm,0.3s								
PHO	**Puu Honuaula**	**0.18**	**43**			Pg		22 12 53.8	+0.3
PUH	**Pauahi**	**0.18**	**278**			Pg		22 12 53.2	-0.3
PUH				Sg		Sb		22 12 58.0	+0.1
BYL	**Byron's Ledge**	**0.23**	**286**	Pg		Pg		22 12 54.4	+0.1
BYL				IAML				22 12 57.5	
	comp=E,426nm,1.2s								
BYL				IAML				22 12 58.6	
	comp=N,425nm,0.9s								
KKO	**Keanakako`i**	**0.23**	**282**	Pg		Pg		22 12 54.4	+0.1
KKO				IAML				22 12 56.1	
	comp=E,602nm,0.9s								
HATHI	**Halema'uma'u T**	**0.24**	**289**			Pg		22 12 54.5	+0.1
HATHI						Sg		22 12 59.4	-0.1
HATHI				IAML				22 13 03.3	
	comp=N,736nm,1.0s								
RIM	**Rim**	**0.24**	**282**			Pg		22 12 54.6	+0.2
RIM				IAML				22 12 57.4	
	comp=E,592nm,1.0s								
SBLHI	**Steaming Bluff**	**0.24**	**289**			Pg		22 12 54.6	+0.1
SBLHI						Sg		22 12 59.3	-0.4
SBLHI				IAML				22 13 01.6	
	comp=E,414nm,1.4s								
SBLHI				IAML				22 13 03.3	
	comp=N,433nm,0.9s								
SDHHI	**Sand Hill**	**0.26**	**279**	Pg		Pg		22 12 54.9	+0.1
RSD	**Rainshed**	**0.27**	**296**	Pg		Pg		22 12 55.1	+0.2
RSD				IAML				22 13 01.4	
	comp=E,464nm,0.8s								
HLP	**Hilina Pali**	**0.27**	**259**			Pg		22 12 55.3	+0.3
HLP						Sg		22 13 00.4	-0.1
HLP				IAML				22 13 02.2	
	comp=E,360nm,1.5s								
HLP				IAML				22 13 05.3	
	comp=N,366nm,1.4s								
HTC	**Hot Caves**	**0.37**	**253**			Pg		22 12 56.9	+0.2
MLH	**Mauna Loa**	**0.37**	**293**	Pg		Pg		22 12 56.8	0.0
MLH				IAML				22 13 10.7	
	comp=N,286nm,0.3s								
HMH	**Humu'ula Sheep**	**0.50**	**300**			Pg		22 12 58.9	-0.3
HMH				IAML				22 13 13.9	
	comp=E,334nm,0.7s								
MLOA	**Mauna Loa Obse**	**0.55**	**290**			Pg		22 12 59.7	-0.5
MLOA				IAML				22 13 12.3	
	comp=E,212nm,0.8s								
MLOA				IAML				22 13 15.2	
	comp=N,235nm,1.4s								
KHU	**Kahuku**	**0.57**	**260**	Pg		Pg		22 12 59.2	-1.2
KHU				IAML				22 13 10.3	
	comp=E,176nm,1.1s								
POHA	**Pohakuloa**	**0.63**	**310**			Pb		22 13 02.8	+0.7
POHA				IAML				22 13 20.3	
	comp=E,220nm,0.9s								
POHA				IAML				22 13 20.7	
	comp=E,183nm,0.6s								
HUH	**Hualalai**	**0.84**	**294**			Pn		22 13 07.0	+0.2

IDC 01 22:45:59.4±2.2, 7.76S×155°.15E, h0km, mb3.6/5, **mbtmp3.6**/5, **Error ellipse: s-maj=78.4km s-min=26.2km az=125.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.52**	**237**			P	P	22 51 10.4	-0.9
	1.9nm,0.8s,baz=61,slow=9.3,SNR=19								
	1.9nm,0.8s								
ASAR	**Alice Springs**	**25.80**	**230**			P	P	22 51 32.2	-0.2
	0.6nm,0.5s,baz=59,slow=9.6,SNR=7.6								
	0.6nm,0.5s								
SONM	**Songino Array**	**70.06**	**327**			P	P	22 57 14.0	+0.6
	0.3nm,0.5s,baz=116,slow=6.1,SNR=2.3								
	0.3nm,0.5s								
ILAR	**Eielson Array**	**84.02**	**21**			P	P	22 58 31.6	+0.2
	0.4nm,0.7s,baz=249,slow=5.3,SNR=5.9								
	0.4nm,0.7s								
MKAR	**Makanchi Array**	**84.07**	**319**			P	P	22 58 32.5	+0.3
	0.4nm,0.8s,baz=104,slow=6.1,SNR=2.5								
	0.4nm,0.8s								

NEIC ***01*** *23:07:19.6±1.2, 19°.44N±0°.03×154°.98W±0°.03, h5km±2km, Error ellipse: s-maj=6.8km s-min=3.0km az=129.0*
HVO 01 23:07:18.5±1.4, 19°.43N±0°.03×154°.93W±0°.04, h3km±2km, ML2.4/9, **ML2.4**/24(NEIC), **Error ellipse: s-maj=6.8km s-min=3.0km az=306.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.07**	**37**			Pg		23 07 22.0	+2.1
JOKA	**Jonika Flow**	**0.07**	**273**			Pg		23 07 21.7	+1.7
KNHH	**Kane Nui o Ham**	**0.23**	**258**			Pg		23 07 24.9	+1.9
PUH	**Pauahi**	**0.27**	**258**	Pg		Pg		23 07 23.7	-0.1
BYL	**Byron's Ledge**	**0.31**	**267**	Pg		Pg		23 07 23.7	-0.8
BYL				IAML				23 07 29.6	
	comp=E,518nm,0.8s								
BYL				IAML				23 07 29.8	
	comp=N,680nm,0.8s								
HATHI	**Halema'uma'u T**	**0.31**	**269**	Pg		Pg		23 07 24.4	-0.1
HATHI				IAML				23 07 26.1	
	comp=N,603nm,0.8s								
HATHI						Sg	Sg	23 07 28.9	+0.2
KKO	**Keanakako`i**	**0.32**	**264**			Pg	Pg	23 07 24.0	-0.7
KKO				IAML				23 07 27.4	
	comp=E,576nm,1.3s								
SBLHI	**Steaming Bluff**	**0.32**	**270**			Pg	Pg	23 07 24.0	-0.7
SBLHI				IAML				23 07 30.9	
	comp=E,571nm,0.8s								
SBLHI				IAML				23 07 34.0	
	comp=N,492nm,0.6s								
RSD	**Rainshed**	**0.33**	**276**			Pg	Pg	23 07 25.1	+0.2
HLP	**Hilina Pali**	**0.38**	**250**			Pg	Pg	23 07 26.0	+0.2
HLP				IAML				23 07 36.9	
	comp=E,312nm,1.1s								
MLH	**Mauna Loa**	**0.43**	**279**			Pg	Pg	23 07 27.3	+0.4
MLH				IAML				23 07 34.6	
	comp=N,405nm,0.7s								
HTC	**Hot Caves**	**0.48**	**247**			Pg		23 07 28.2	+0.5
HMH	**Humu'ula Sheep**	**0.55**	**288**	Pg		Pg		23 07 29.0	-0.1
HMH				IAML				23 07 47.9	
	comp=E,310nm,0.7s								
MLOA	**Mauna Loa Obse**	**0.62**	**280**	Pg		Pg		23 07 29.9	-0.5
MLOA				IAML				23 07 39.6	
	comp=N,217nm,0.5s								
MWH	**Moku'aweowe**	**0.63**	**275**	Pg		Pg		23 07 30.4	-0.2
MWH				IAML				23 07 45.0	
	comp=N,262nm,1.2s								
KHU	**Kahuku**	**0.67**	**254**	Pg		Pg		23 07 30.1	-1.2
KHU				IAML				23 07 49.9	
	comp=E,169nm,1.4s								
ALEP	**Alea Permanent**	**0.68**	**280**			Pg		23 07 31.4	-0.2
HUH	**Hualalai**	**0.89**	**287**	Pg		Pg		23 07 34.4	-1.1

IDC ***01*** *23:10:51.2±0.8, 32°.36N×105°.37E, h0km, mb3.7/10, mbtmp3.7/13, ML4.2/2, MS2.8/3, Error ellipse: s-maj=29.5km s-min=16.7km az=55.0*
ISC 01 23:10:52.6±0.8, 32°.4N±0°.1×105°.4E±0°.1, h11km, n13, σ0s67/13, mb3.9/10, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.01**	**204**	Pn		**Pn**	**Pn**	**23 14 24.3**	**-0.5**
	0.7nm,0.3s,baz=20,slow=13,SNR=2.3								
CMAR				LR		LR		23 21 03.7	
	comp=Z,28nm,19.9s,baz=15,slow=41								
	1.0nm,0.3s								
SONM	**Songino Array**	**15.48**	**3**	Pn		**Pn**	**Pn**	**23 14 30.4**	**-0.5**
	1.0nm,1.0s,baz=183,slow=13,SNR=2.6								
SONM				LR		LR		23 20 58.1	
	comp=Z,48nm,21.0s,baz=221,slow=39								
KSRS	**Korea Array**	**19.16**	**68**	P		**P**	**P**	**23 15 15.7**	**-0.4**
	0.3nm,0.3s,baz=251,slow=11,SNR=5.1								
KSRS				LR		LR		23 22 56.4	
	comp=Z,32nm,18.0s,baz=10.0,slow=38								
	1.4nm,0.6s								
MKAR	**Makanchi Array**	**22.79**	**316**	P		**P**	**P**	**23

KURBB	**Kurchatov Arra**	**26.92**	**321**	P		**P**	**23 16 34.8**	**+1.0**
	0.4nm,0.6s,baz=126,slow=10,SNR=2.5								
	0.4nm,0.6s								
ARCES	**ARCESS Array B**	**56.56**	**335**	P		**P**	**23 20 35.7**	**+0.8**
	3.6nm,1.1s,baz=90,slow=8.0,SNR=3.8								
	3.6nm,1.1s								
FINES	**FINESS Array B**	**57.13**	**326**	P		**P**	**23 20 40.0**	**+1.1**
	1.4nm,0.8s,baz=77,slow=7.3,SNR=5.7								
	1.4nm,0.8s								
AKASG	**Malin Array Be**	**57.32**	**313**	P		**P**	**23 20 39.8**	**-0.7**
	0.4nm,0.4s,baz=65,slow=7.8,SNR=4.2								
	0.4nm,0.4s								
WRA	**Warramunga Arr**	**58.94**	**148**	P		**P**	**23 20 52.4**	**+0.3**
	1.1nm,0.8s,baz=340,slow=7.6,SNR=16								
	1.1nm,0.8s								
ASAR	**Alice Springs**	**62.02**	**150**	P		**P**	**23 21 13.6**	**+0.4**
	0.5nm,0.3s,baz=336,slow=6.6,SNR=6.8								
	0.5nm,0.3s								
HFS	**Hagfors**	**63.34**	**326**	P		**P**	**23 21 21.1**	**-0.4**
	1.6nm,0.9s,baz=90,slow=12,SNR=2.0								
	1.6nm,0.9s								
NOA	**NORSAR Array B**	**64.19**	**327**	P		**P**	**23 21 27.2**	**0.0**
	0.2nm,0.5s,baz=71,slow=6.6,SNR=1.8								
	0.2nm,0.5s								

*IDC **01** 23:10:55.8±1.6, 47.°10N×155.°35E, h0km, mb3.7/13, mbtmp3.7/17, ML3.0/4, MS3.0/3, Error ellipse: s-maj=38.6km s-min=17.6km az=152.0*

ISC 01 23:10:58.4±1.2, 47.°1N±0.°1×155.°3E±0.°1, h18km, n26, σ0s92/18, mb3.7/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.20**	**13**	Pn		**Pn**	**Pn**	**23 12 27.6**	**-1.4**
	0.3nm,0.3s,baz=199,slow=11,SNR=6.9								
PETK					Sn		**Sn**	**23 13 40.0**	**+0.6**
	0.1nm,0.3s,baz=185,slow=16,SNR=1.2								
	1.5nm,0.6s								
ASAJ	**Asahikawa**	**9.42**	**256**	Pn		**Pn**	**Pn**	**23 13 13.3**	**+0.2**
	0.3nm,0.3s,baz=1.6,slow=21,SNR=3.7								
	3.5nm,0.5s								
MA2	**Magadan**	**12.78**	**349**	LR		LR	LR	23 18 45.5	
	comp=Z,29nm,19.3s,baz=256,slow=37								
MJAR	**Matsushiro Arr**	**16.53**	**236**	Pn		**Pn**	**Pn**	**23 14 48.9**	**-0.4**
	0.1nm,0.3s,baz=323,slow=19,SNR=1.2								
	1.0nm,0.3s								
USRK	**Ussuriysk Ar.**	**16.57**	**268**	Pn		**Pn**	**Pn**	**23 14 48.6**	**-1.1**
	0.2nm,0.3s,baz=78,slow=11,SNR=4.0								
	2.4nm,0.7s								
KSRS	**Korea Array**	**22.36**	**254**	P		**P**	**P**	**23 15 55.8**	**+0.5**
	1.3nm,0.7s,baz=56,slow=11,SNR=5.7								
	1.3nm,0.7s								
JNU	**Nakatsue**	**23.22**	**242**	LR		LR	LR	23 27 11.5	
	comp=Z,37nm,18.1s,baz=232,slow=42								
H11N2	**WAKE ISLAND Hy**	**28.89**	**157**	T		T	T	23 49 10.8	
	baz=342								
H11N1	**WAKE ISLAND Hy**	**28.91**	**157**	T		T	T	23 49 04.4	
	baz=342								
H11N3	**WAKE ISLAND Hy**	**28.91**	**157**	T		T	T	23 49 09.1	
	baz=342								
H11S1	**WAKE ISLAND Hy**	**30.01**	**158**	T		T	T	23 50 27.8	
	baz=343								
H11S3	**WAKE ISLAND Hy**	**30.02**	**158**	T		T	T	23 50 20.9	
	baz=343,slow=74								
H11S2	**WAKE ISLAND Hy**	**30.03**	**158**	T		T	T	23 50 20.9	
	baz=343,slow=74								
SONM	**Songino Array**	**32.65**	**290**	P		**P**	**P**	**23 17 28.8**	**-0.5**
	0.6nm,0.6s,baz=74,slow=11,SNR=3.6								
	0.6nm,0.6s								
ILAR	**Eielson Array**	**35.32**	**39**	P		**P**	**P**	**23 17 51.8**	**-0.3**
	0.2nm,0.6s,baz=254,slow=7.5,SNR=2.4								
	0.2nm,0.6s								
ZALV	**Zalesovo Beam**	**43.64**	**306**	P		**P**	**P**	**23 19 00.0**	**-1.4**
	0.5nm,0.4s,baz=64,slow=6.6,SNR=2.5								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**48.13**	**298**	P		**P**	**P**	**23 19 36.5**	**-0.5**
	0.6nm,0.7s,baz=71,slow=7.8,SNR=5.5								
	0.6nm,0.7s								
KURBB	**Kurchatov Arra**	**48.52**	**304**	P		**P**	**P**	**23 19 40.0**	**0.0**
	1.8nm,0.7s,baz=66,slow=8.6,SNR=9.7								
	1.8nm,0.7s								
YKA	**Yellowknife Ar**	**49.72**	**37**	P		**P**	**P**	**23 19 49.6**	**+0.6**
	0.1nm,0.6s,baz=298,slow=7.3,SNR=2.4								
	0.1nm,0.6s								
BVAR	**Borovoye Array**	**51.80**	**310**	P		**P**	**P**	**23 20 05.9**	**+1.0**
	1.8nm,0.5s,baz=59,slow=6.9,SNR=9.8								
	1.8nm,0.5s								
FINES	**FINESS Array B**	**64.36**	**336**	P		**P**	**P**	**23 21 33.2**	**+0.7**
	1.3nm,0.7s,baz=32,slow=8.2,SNR=10								
	1.3nm,0.7s								
NOA	**NORSAR Array B**	**68.37**	**342**	P		**P**	**P**	**23 21 58.6**	**+0.3**
	0.3nm,0.6s,baz=43,slow=8.3,SNR=1.4								
	0.3nm,0.6s								
HFS	**Hagfors**	**68.64**	**341**	P		**P**	**P**	**23 22 01.0**	**+1.0**
	0.6nm,0.4s,baz=58,slow=3.6,SNR=6.3								
	0.6nm,0.4s								
AKASG	**Malin Array Be**	**72.09**	**327**	P		**P**	**P**	**23 22 22.9**	**+1.7**
	1.1nm,0.5s,baz=34,slow=6.8,SNR=2.8								
	1.1nm,0.5s								
TXAR	**Lajitas Array**	**75.98**	**62**	P		**P**	**P**	**23 22 44.0**	**-0.5**
	0.2nm,0.7s,baz=318,slow=2.4,SNR=2.8								
	0.2nm,0.7s								
IDI	**Anoyia**	**86.71**	**321**	LR		LR	LR	00 06 01.0	
	comp=Z,13nm,18.2s,baz=286,slow=38								

*IDC **01** 23:26:39.2±1.2, 34.°40N×23.°39E, h0km, mb3.9/11, mbtmp3.7/20, ML3.8/6, Error ellipse: s-maj=22.1km s-min=15.4km az=4.0*

*GII **01** 23:26:44.6±0.5, 34.°215N±0.°001×24.°187E±0.°003, h3km, Mws3.8, confirmed*

*ISK **01** 23:26:44.4, 34.°57N×23.°45E, h66km, ML3.2/16*

*ATH **01** 23:26:46.3, 34.°55N×23.°42E, h22km±2km, ML3.1/11, Error ellipse: s-maj=5.4km s-min=1.3km az=25.0*

*THE **01** 23:26:48.3, 34.°60N×23.°63E, h15km±3km, ML3.1/3, Error ellipse: s-maj=4.2km s-min=1.1km az=85.0*

ISC 01 23:26:42.3±1.6, 34.°26N±0.°06×23.°53E±0.°04, h27km±11km, n134, σ1s41/144, mb3.8/12, Crete

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.74**	**38**	Pg		**Pb**	**Pb**	**23 26 58.1**	**+1.5**
GVD				Sg		**Sn**	**Sn**	**23 27 08.2**	**+0.8**
GVD	**Gavdhos**	**0.74**	**38**	P		**Pn**	**Pn**	**23 26 57.8**	**+0.8**
GVD				S		**Sb**	**Sb**	**23 27 04.3**	**-2.2**
	3µm,0.6s								
GVD	**Gavdhos**	**0.74**	**38**	P		**Pn**	**Pn**	**23 26 57.8**	**+0.8**
GVD				S		**Sb**	**Sb**	**23 27 06.7**	**+0.3**
GVD				AML		AML	AML	23 27 18.7	
	comp=E,6627µm,0.7s								
GVD				AML		AML	AML	23 27 20.7	
	comp=N,6861µm,0.5s								
GVDS	**Gavdos**	**0.75**	**38**	Pg		**Pn**	**Pn**	**23 26 57.9**	**+0.8**
GVDS				Sg		**Sn**	**Sn**	**23 27 08.9**	**+1.4**
GVDS	**Gavdos**	**0.75**	**38**	P		**Pn**	**Pn**	**23 26 57.3**	**+0.2**
GVDS				S		**Sb**	**Sb**	**23 27 02.9**	**-3.7**
	comp=N,2µm,0.6s								
KNDR	**Palaiochora Ch**	**0.98**	**8**	Pg		**Pn**	**Pn**	**23 26 59.4**	**-0.9**
KNDR				Sg		**Sn**	**Sn**	**23 27 10.1**	**-3.2**
KNDR	**Palaiochora Ch**	**0.98**	**8**	P		**Pn**	**Pn**	**23 26 59.7**	**-0.6**
KNDR				AML		AML	AML	23 27 18.3	
	comp=N,8109µm,0.7s								
KNDR				AML		AML	AML	23 27 22.3	
	comp=E,6228µm,0.5s								
IMMV	**Iera Moni Meta**	**1.26**	**17**	Pg		**Pn**	**Pn**	**23 27 03.8**	**-0.3**
IMMV	**Iera Moni Meta**	**1.26**	**17**	P		**Pn**	**Pn**	**23 27 04.8**	**+0.7**
IMMV	**Iera Moni Meta**	**1.26**	**17**	P		**Pn**	**Pn**	**23 27 04.6**	**+0.5**
IMMV				AML		AML	AML	23 27 34.5	
	comp=E,3236µm,1.0s								
IMMV				AML		AML	AML	23 27 35.0	
	comp=N,3262µm,0.6s								
TMBK	**Timbaki Herakl**	**1.31**	**51**	P		**Pb**	**Pb**	**23 27 08.0**	**+1.8**
CHAN	**Chania**	**1.33**	**19**	P		**Pn**	**Pn**	**23 27 05.9**	**+0.8**
CHAN				AML		AML	AML	23 27 40.7	
	comp=E,3345µm,1.0s								
CHAN				AML		AML	AML	23 27 43.0	
	comp=N,3323µm,1.5s								
IDI	**Anoyia**	**1.52**	**47**	Pn		**Pn**	**Pn**	**23 27 08.7**	**+0.9**
IDI	**Anoyia**	**1.52**	**47**	P		**Pb**	**Pb**	**23 27 10.5**	**+0.6**
IDI	**Anoyia**	**1.52**	**47**	Pg		**Pn**	**Pn**	**23 27 08.5**	**+0.7**
	comp=N,10.0nm,0.3s,baz=238,slow=12,SNR=44								
IDI				Lg		Lg	Lg	23 27 33.2	
	comp=N,22nm,0.3s,baz=342,slow=19,SNR=6.8								
IDI	**Anoyia**	**1.52**	**47**	P		**Pb**	**Pb**	**23 27 10.5**	**+0.6**
IDI				AML		AML	AML	23 27 48.4	
	comp=E,542µm,0.5s								
IDI				AML		AML	AML	23 27 48.5	
	comp=N,800µm,1.0s								
ANKY	**Antikythira Is**	**1.62**	**354**	P		**Pn**	**Pn**	**23 27 10.0**	**+1.0**
ANKY				S		**Sn**	**Sn**	**23 27 29.0**	**0.0**
	comp=N,765nm,0.6s								
ANKY	**Antikythira Is**	**1.62**	**354**	P		**Pn**	**Pn**	**23 27 08.0**	**-1.0**
ANKY				AML		AML	AML	23 27 47.2	
	comp=E,1659µm,0.7s								
ANKY				AML		AML	AML	23 27 49.7	
	comp=N,1434µm,1.2s								
KSTL	**Kastelli Herak**	**1.65**	**50**	P		**Pb**	**Pb**	**23 27 14.6**	**+2.6**
KSTL				AML		AML	AML	23 28 10.2	
	comp=N,801µm,0.9s								
KSTL				AML		AML	AML	23 28 13.4	
	comp=E,577µm,1.1s								
FRMA	**Ierapetra Chan**	**1.97**	**67**	P		**Pb**	**Pb**	**23 27 18.4**	**+0.9**
ZKR	**Zakros**	**2.38**	**68**	Pn		**Pn**	**Pn**	**23 27 22.1**	**+2.6**
ZKR	**Zakros**	**2.38**	**68**	P		**Pb**	**Pb**	**23 27 23.8**	**-0.6**
ZKR	**Zakros**	**2.38**	**68**	P		**Pb**	**Pb**	**23 27 23.9**	**-0.5**
VLI	**Veliai**	**2.50**	**349**	P		**Pn**	**Pn**	**23 27 22.9**	**+1.7**
VLI	**Veliai**	**2.50**	**349**	P		**Pn**	**Pn**	**23 27 20.8**	**-0.4**
VLI				AML		AML	AML	23 28 08.6	
	comp=N,435µm,0.9s								
VLI				AML		AML	AML	23 28 15.3	
	comp=E,435µm,1.2s								
THR9	**Santorini-Faro**	**2.58**	**35**	P		**Pn**	**Pn**	**23 27 23.4**	**+1.2**
THR9	**Santorini-Faro**	**2.58**	**35**	P		**Pn**	**Pn**	**23 27 23.6**	**+1.4**
THR6	**Thira Island,**	**2.60**	**36**	P		**Pn**	**Pn**	**23 27 24.1**	**+1.7**
THR6	**Thira Island,**	**2.60**	**36**	P		**Pn**	**Pn**	**23 27 24.2**	**+1.8**
SNT5	**Nea Kammeni, S**	**2.63**	**35**	P		**Pn**	**Pn**	**23 27 24.1**	**+1.1**
SNT5				AML		AML	AML	23 27 57.5	
	comp=E,456µm,0.3s								
SNT5				AML		AML	AML	23 27 58.2	
	comp=N,255µm,0.4s								
THR3	**Thira Island,**	**2.64**	**35**	P		**Pn**	**Pn**	**23 27 24.1**	**+1.1**
THR3	**Thira Island,**	**2.64**	**35**	P		**Pn**	**Pn**	**23 27 24.4**	**+1.3**
THR8	**Santorini-Mono**	**2.68**	**36**	P		**Pn**	**Pn**	**23 27 24.5**	**+1.0**
THR8	**Santorini-Mono**	**2.68**	**36**	P		**Pn**	**Pn**	**23 27 24.7**	**+1.2**
THR2	**Thira island,**	**2.69**	**35**	P		**Pn**	**Pn**	**23 27 25.3**	**+1.6**
CMBO	**Columbo, Santo**	**2.69**	**34**	P		**Pn**	**Pn**	**23 27 24.9**	**+1.1**
CMBO	**Columbo, Santo**	**2.69**	**34**	P		**Pn**	**Pn**	**23 27 25.1**	**+1.4**
PYL	**PYLOS**	**3.01**	**332**	P		**Pn**	**Pn**	**23 27 28.3**	**+0.1**
PYL				AML		AML	AML	23 28 23.4	
	comp=E,170µm,0.4s								
PYL				AML		AML	AML	23 28 27.1	
	comp=N,156µm,1.3s								
YDRA	**Hydra**	**3.09**	**359**	P		**Pn**	**Pn**	**23 27 30.3**	**+1.2**
KRND	**KRANIDI**	**3.13**	**355**	P		**Pn**	**Pn**	**23 27 30.7**	**+0.8**
KRND	**KRANIDI**	**3.13**	**355**	P		**Pn**	**Pn**	**23 27 30.1**	**+0.3**
KRND				AML		AML	AML	23 28 29.7	
	comp=N,252µm,1.3s								
KRND				AML		AML	AML	23 28 33.0	
	comp=E,286µm,0.8s								
APE	**Apeiranthos**	**3.25**	**30**	Pn		**Pn**	**Pn**	**23 27 31.5**	**0.0**
APE	**Apeiranthos**	**3.25**	**30**	P		**Pn**	**Pn**	**23 27 32.3**	**+0.9**
KARP	**Karpathos**	**3.25**	**66**	Pn		**Pn**	**Pn**	**23 27 34.0**	**+2.5**
KARP	**Karpathos**	**3.25**	**66**	P		**Pn**	**Pn**	**23 27 35.3**	**+3.8**
ATH	**Athens Observa**	**3.71**	**2**	P		**Pn**	**Pn**	**23 27 37.9**	**+0.1**
LTK	**Loutraki**	**3.79**	**353**	P		**Pn**	**Pn**	**23 27 39.4**	**+0.6**
PTL	**Lonteli**	**3.79**	**4**	P		**Pn**	**Pn**	**23 27 39.9**	**+0.9**
GUR	**Goura**	**3.80**	**346**	P		**Pn**	**Pn**	**23 27 39.6**	**+0.6**
DION	**Dionisos Attik**	**3.83**	**5**	P		**Pn**	**Pn**	**23 27 40.5**	**+1.1**
DION	**Dionisos Attik**	**3.83**	**5**	P		**Pn**	**Pn**	**23 27 40.2**	**+0.8**
KLV	**Kalavryta, Ach**	**3.94**	**344**	P		**Pn**	**Pn**	**23 27 41.6**	**+0.6**
DRO	**Drossia**	**3.97**	**339**	P		**Pn**	**Pn**	**23 27 42.3**	**+0.9**
LTHK	**Lithakia**	**4.08**	**328**	P		**Pn**	**Pn**	**23 27 41.9**	**-0.9**
DAT	**Datca**	**4.13**	**52**	Pn		**Pn**	**Pn**	**23 27 45.4**	**+1.8**
RLS	**Riolos of Patr**	**4.14**	**337**	P		**Pn**	**Pn**	**23 27 44.6**	**+0.8**
BODT	**Bodrum**	**4.16**	**47**	Pn		**Pn**	**Pn**	**23 27 45.5**	**+1.5**
ARG	**Arkhangelos**	**4.24**	**61**	Pn		**Pn**	**Pn**	**23 27 47.8**	**+2.7**
ARG	**Arkhangelos**	**4.24**	**61**	P		**Pn**	**Pn**	**23 27 48.0**	**+2.9**
EFP	**Efpalio**	**4.36**	**343**	P		**Pn**	**Pn**	**23 27 46.9**	**+0.2**
SMG	**Samos**	**4.37**	**37**	P		**Pn**	**Pn**	**23 27 48.3**	**+1.4**
ANX	**Ano Chora**	**4.52**	**344**	P		**Pn**	**Pn**	**23 27 49.1**	**+0.2**
GCAM	**G?zelcaml?**	**4.57**	**40**	Pn		**Pn**	**Pn**	**23 27 50.7**	**+1.2**
VLS	**Valsamata**	**4.58**	**330**	P		**Pn**	**Pn**	**23 27 48.6**	**-1.1**
TURN	**Turunc**	**4.60**	**56**	Pn		**Pn**	**Pn**	**23 27 51.9**	**+2.0**
CHOS	**Chios island**	**4.60**	**26**	Pn		**Pn**	**Pn**	**23 27 50.4**	**+0.3**
CHOS	**Chios island**	**4.60**	**26**	P		**Pn**	**Pn**	**23 27 50.4**	**+0.3**
PVO	**Paravola**	**4.64**	**340**	P		**Pn**	**Pn**	**23 27 51.2**	**+0.6**
DMLN	**Damoulianata-K**	**4.72**	**328**	P		**Pn**	**Pn**	**23 27 51.1**	**-0.6**
URLA	**Izmir**	**4.79**	**30**	Pn		**Pn**	**Pn**	**23 27 53.3**	**+0.7**
FSK	**Fiskardo**	**4.83**	**331**	P		**Pn**	**Pn**	**23 27 53.3**	**+0.2**
AGG	**Agios Georgios**	**4.85**	**349**	Pn		**Pn**	**Pn**	**23 27 52.8**	**-0.7**
AGG	**Agios Georgios**	**4.85**	**349**	P		**Pn**	**Pn**	**23 27 54.2**	**+0.7**
NEO	**Neokhori**	**5.05**	**357**	P		**Pn**	**Pn**	**23 27 56.6**	**+0.5**
OHR	**Ohrid**	**7.18**	**343**	*i* Pn		**Pn**	**Pn**	**23 28 26.5**	**+1.1**
STIP	**Stip**	**7.50**	**352**	*i* Pn		**Pn**	**Pn**	**23 28 31.0**	**+1.2**
VAE	**Valguarnera**	**8.06**	**296**	Pn		**Pn**	**Pn**	**23 28 36.2**	**-1.5**
	comp=E,7.9nm,0.7s,baz=175,slow=11,SNR=1.7								
VAE					Sn		**Sn**	**23 30 07.9**	**-0.1**
	comp=E,2.9nm,0.3s,baz=240,slow=14,SNR=2.2								
BRTR	**Keskin Array B**	**9.76**	**53**	Pn		**Pn**	**Pn**	**23 29 03.1**	**+2.2**
	comp=E,0.8nm,0.9s,baz=233,slow=13,SNR=5.4								
KZIT	**Kziot**	**9.76**	**107**	S		**Sn**	**Sn**	**23 30 47.7**	**-1.9**
KZIT	**Kziot**	**9.76**	**107**	P		**Pn**	**Pn**	**23 29 01.4**	**+0.5**
SLTI	**Sal'it**	**9.85**	**99**	P		**Pn**	**Pn**	**23 29 01.9**	**-0.2**
SLTI	**Sal'it**	**9.85**	**99**	S		**Sn**	**Sn**	**23 30 49.7**	**-2.1**
AMAZ	**Amatzia**	**9.95**	**103**	S		**Sn**	**Sn**	**23 30 53.2**	**-1.2**
AMAZ	**Amatzia**	**9.95**	**103**	P		**Pn**	**Pn**	**23 29 03.7**	**+0.2**
MMC7	**Mount Meron ar**	**9.97**	**94**	P		**Pn**	**Pn**	**23 29 03.3**	**-0.5**
MMA0B	**Mount Meron ar**	**9.98**	**94**	S		**Sn**	**Sn**	**23 30 53.2**	**-1.9**
MMA0B	**Mount Meron ar**	**9.98**	**94**	P		**Pn**	**Pn**	**23 29 03.3**	**-0.6**
MMAI	**Mount Meron Ar**	**9.98**	**94**	Pn		**Pn**	**Pn**	**23 29 06.2**	**+2.3**
	comp=E,0.7nm,0.3s,baz=274,slow=11,SNR=7.1								
MMAI					Sn		**Sn**	**23 30 53.8**	**-1.3**
	comp=E,1.4nm,0.3s,baz=284,slow=19,SNR=3.3								
	comp=E,0.7nm,0.4s								
MMLI	**Mount Malkishu**	**10.12**	**97**	S		**Sn**	**Sn**	**23 30 55.2**	**-3.2**
MMLI	**Mount Malkishu**	**10.12**	**97**	P		**Pn**	**Pn**	**23 29 05.3**	**-0.4**
GEM	**Giv'at Ha'Em**	**10.16**	**92**	S		**Sn**	**Sn**	**23 30 57.9**	**-1.5**
GEM	**Giv'at Ha'Em**	**10.16**	**92**	P		**Pn**	**Pn**	**23 29 06.3**	**0.0**
YTIR	**Yattir**	**10.17**	**103**	S		**Sn**	**Sn**	**23 30 57.9**	**-1.9**
YTIR	**Yattir**	**10.17**	**103**	P		**Pn**	**Pn**	**23 29 06.9**	**+0.4**
HMDT	**Nahal Hemdat**	**10.25**	**98**	S		**Sn**	**Sn**	**23 30 58.7**	**-2.8**
HMDT	**Nahal Hemdat**	**10.25**	**98**	P		**Pn**	**Pn**	**23 29 06.3**	**-1.2**
DSI	**Dead Sea**	**10.32**	**102**	S		**Sn**	**Sn**	**23 31 01.4**	**-1.8**
DSI	**Dead Sea**	**10.32**	**102**	P		**Pn**	**Pn**	**23 29 08.4**	**-0.1**
KRMI	**Paran Flat**	**10.35**	**110**	S		**Sn**	**Sn**	**23 31 02.2**	**-1.8**
KRMI	**Paran Flat**	**10.35**	**110**	P		**Pn**	**Pn**	**23 29 09.6**	**+0.7**
MSBI	**Mazada**	**10.38**	**103**	P		**Pn**	**Pn**	**23 29 09.3**	**0.0**
MSBI	**Mazada**	**10.38**	**103**	S		**Sn**	**Sn**	**23 31 02.2**	**-2.6**
PRNI	**Paran**	**10.46**	**109**	S		**Sn**	**Sn**	**23 31 05.2**	**-1.7**
PRNI	**Paran**	**10.46**	**109**	P		**Pn**	**Pn**	**23 29 11.1**	**+0.6**
HRFI	**Mount Harif**	**10.62**	**110**	S		**Sn**	**Sn**	**23 31 08.9**	**-1.9**
HRFI	**Mount Harif**	**10.62**	**110**	P		**Pn**	**Pn**	**23 29 13.3**	**+0.6**
MBRI	**Mt Berech**	**10.64**	**112**	P		**Pn**	**Pn**	**23 29 14.1**	**+1.1**
MBRI	**Mt Berech**	**10.64**	**112**	S		**Sn**	**Sn**	**23 31 09.7**	**-1.6**
EIL	**Elat**	**10.73**	**112**	Pn		**Pn**	**Pn**	**23 29 17.2**	**+3.1**
	comp=E,0.4nm,0.3s,baz=25,slow=6.4,SNR=9.7								
EIL					Sn		**Sn**	**23 31 11.3**	**-1.9**
	comp=E,0.9nm,0.3s,baz=4.3,slow=11,SNR=4.9								
	comp=E,1.2nm,0.4s								
EIL	**Elat**	**10.73**	**112**	P		**Pn**	**Pn**	**23 29 14.9**	**+0.8**
EIL	**Elat**	**10.73**	**112**	S		**Sn**	**Sn**	**23 31 11.2**	**-2.1**
MLR	**Muntele Rosu**	**11.37**	**9**	Pn		**Pn**	**Pn**	**23 29 23.6**	**+0.6**
	comp=E,0.9nm,0.8s,baz=243,slow=16								
MAUC	**Maruska**	**15.68**	**346**	*e*P		**P**	**P**	**23 30 27.8**	**+2.8**
VRAC	**Vranov**	**15.89**	**343**	Pn		**Pn**	**Pn**	**23 30 23.6**	**-0.3**
	comp=E,0.2nm,0.3s,baz=169,slow=8.8,SNR=2.9								
	comp=E,1.6nm,0.7s								
CKRC	**Cesky Krumlov**	**16.08**	**338**	*e*P		**P**	**P**	**23 30 29.7**	**+0.2**
TREC	**Trest**	**16.16**	**341**	*e*P		**P**	**P**	**23 30 32.9**	**+2.5**
DAVOX	**Davos/Dischmat**	**16.22**	**325**	Pn		**Pn**	**Pn**	**23 30 28.2**	**-0.2**
	comp=E,0.1nm,0.3s,baz=162,slow=20,SNR=1.4								
	comp=E,0.4nm,0.3s								
GERES	**GERESS Array B**	**16.30**	**336**	Pn		**Pn**	**Pn**	**23 30 29.1**	**-0.2**
	comp=E,0.3nm,0.3s,baz=156,slow=12,SNR=4.8								
	comp=E,0.7nm,0.5s								
KHC	**Kasperske Hory**	**16.59**	**337**	*e*P		**P**	**P**	**23 30 36.4**	**+1.2**
ZVC	**Zvikov**	**16.67**	**338**	*e*P		**P**	**P**	**23 30 37.0**	**+1.0**
DPC	**Dobruska-Polom**	**16.93**	**344**	*e*P		**P**	**P**	**23 30 41.8**	**+2.9**
AKASG	**Malin Array Be**	**16.95**	**13**	Pn		**Pn**	**Pn**	**23 30 36.6**	**-0.8**
	comp=E,9nm,0.3s,baz=208,slow=9.7,SNR=1.8								
	comp=E,0.2nm,0.3s								
ESDC	**Sonseca Array**	**22.57**	**292**	P		**P**	**P**	**23 31 39.4**	**-1.1**
	comp=E,0.3nm,0.8s,baz=83,slow=10,SNR=1.6								
HFS	**Hagfors**	**26.68**	**349**	P		**P**	**P**	**23 32 17.8**	**-0.9**
	comp=E,0.8nm,0.4s,baz=158,slow=9.3,SNR=2.6								
	comp=E,0.8nm,0.4s								
FINES	**FINESS Array B**	**27.25**	**3**	P		**P**	**P**	**23 32 22.9**	**-1.0**
	comp=E,2.2nm,0.9s,baz=163,slow=10,SNR=3.5								
	comp=E,2.2nm,0.9s								
NOA	**NORSAR Array B**	**27.95**	**347**	P		**P**	**P**	**23 32 30.1**	**-0.2**
	comp=E,0.3nm,0.8s,baz=150,slow=9.7,SNR=1.4								
	comp=E,0.3nm,0.8s								
EKA	**Eskdalemuir Ar**	**28.03**	**327**	P		**P**	**P**	**23 32 30.5**	**-0.4**
	comp=E,1.1nm,0.5s,baz=124,slow=7.8,SNR=3.3								
	comp=E,1.1nm,0.5s								
TORD	**Torodi Ar. Bea**	**28.88**	**229**	P		**P**	**P**	**23 32 40.4**	**+1.6**
	comp=E,0.4nm,0.7s,baz=34,slow=9.2,SNR=2.7								
	comp=E,0.4nm,0.7s								
ARCES	**ARCESS Array B**	**35.35**	**1**	P		**P**	**P**	**23 33 34.6**	**-0.3**
	comp=E,2.1nm,1.0s,baz=182,slow=8.4,SNR=2.4								
	comp=E,2.1nm,1.0s								
KURBB	**Kurchatov Arra**	**42.73**	**50**	P		**P**	**P**	**23 34 37.5**	**+0.6**
	comp=E,0.6nm,0.4s,baz=273,slow=8.8,SNR=6.5								
	comp=E,0.6nm,0.4s								
SPITS	**Spitsbergen Ar**	**44.13**	**358**	P		**P**	**P**	**23 34 48.2**	**+0.3**
	comp=E,9.4nm,1.1s,baz=163,slow=10,SNR=2.1								
	comp=E,9.4nm,1.1s								
MKAR	**Makanchi Array**	**45.40**	**56**	P		**P**	**P**	**23 34 59.4**	**+1.0**
	comp=E,1.0nm,0.4s,baz=270,slow=7.3,SNR=23								
	comp=E,1.0nm,0.4s								
ZALV	**Zalesovo Beam**	**46.60**	**46**	P		**P**	**P**	**23 35 07.3**	**-0.4**
	comp=E,0.6nm,0.3s,baz=274,slow=8.1,SNR=2.5								
	comp=E,0.6nm,0.3s								
SONM	**Songino Array**	**61.10**	**50**	P		**P**	**P**	**23 36 54.3**	**+0.3**
	comp=E,0.3nm,0.3s,baz=283,slow=7.2,SNR=2.3								
	comp=E,0.3nm,0.3s								

*IDC **01** 23:36:24.7±4.9, 6.°31S×145.°96E, h128km±60km, mb3.1/3, mbtmp3.5/5, Error ellipse: s-maj=64.2km s-min=18.7km az=121.0*

ISC 01 23:36:24.2±1.1, 6.°27S±0.°10×145.°9E±0.°2, h122km, n6, σ0s68/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.37**	**158**	P	

JYNG eS Sb 23 47 28.2 -0.4
JYNG Yonagunijimaku 0.70 47 A A 23 47 18.7
comp=E,228nm,1.3s,comp=N,541nm,0.5s
HWA Hwalien 0.71 271 ⇑*i*P Pb 23 47 18.3 -1.0
baz=253
HWA *i*S Sb 23 47 28.7 -0.1
baz=253
ETL Fush Village 0.72 286 P Pb 23 47 18.1 -1.3
baz=267
ETL eS Sb 23 47 28.2 -0.9
baz=267
TEYL Yanliau Villag 0.73 262 P Pb 23 47 18.2 -1.2
baz=249
TEYL S Sb 23 47 28.2 -0.9
baz=249
TWD Chiawan 0.73 279 *i*P Pb 23 47 18.1 -1.5
baz=275
TWD *i*S Sb 23 47 27.9 -1.4
baz=275
EWUT Wuta 0.73 311 ⇓P Pb 23 47 17.8 -1.8
baz=308
EWUT S Sb 23 47 27.1 -2.2
baz=308
ENA Nanau 0.74 308 *i*P Pb 23 47 18.1 -1.7
baz=313
ENA S Sb 23 47 28.7 -1.1
baz=313
NACB Ninganchiao 0.75 286 P Pb 23 47 18.0 -1.9
NACB Ninganchiao 0.75 286 Pg Pb 23 47 17.7 -2.2
NACB Sg Sb 23 47 25.3 -4.6
NACB Ninganchiao 0.75 286 ⇑P Pb 23 47 18.4 -1.5
baz=268
NACB eS Sb 23 47 27.3 -2.6
baz=268
YOJ Yonaguni jima 0.76 49 P Pb 23 47 19.7 -0.3
YOJ Yonaguni jima 0.76 49 Pb 23 47 19.3 -0.7
YOJ Sg Sb 23 47 28.6 -1.5
YOJ Yonaguni jima 0.76 49 P Pb 23 47 19.7 -0.3
YOJ eS Sb 23 47 29.4 -0.7
YOJ Yonaguni jima 0.76 49 A A 23 47 19.7
comp=E,295nm,0.8s,comp=N,393nm,1.8s
YOJ Yonaguni jima 0.76 49 P Pb 23 47 19.8 -0.3
baz=61
YOJ S Sb 23 47 29.3 -0.7
baz=61
YOJ Yonaguni jima 0.76 49 P Pb 23 47 19.3 -0.7
YOJ 23 47 28.6
SHUL Shoufeng 0.77 257 ⇑P Pb 23 47 19.1 -1.2
baz=253
SHUL S Sb 23 47 29.7 -0.8
baz=253
ETM Tongmen 0.81 270 ⇑P Pb 23 47 19.3 -1.7
baz=256
ETM S Sb 23 47 29.1 -2.6
baz=256
ETLH Xiulin Townshi 0.86 286 ⇑P Pb 23 47 20.2 -1.6
baz=271
ETLH S Sb 23 47 31.4 -1.6
baz=271
ESL Shilin 0.88 260 *i*P Pn 23 47 20.1 -1.3
baz=247
ESL S Sb 23 47 30.0 -3.6
baz=247
LXIB Xiulin Townshi 0.89 274 ⇑P Pb 23 47 20.4 -1.9
baz=270
LXIB S Sb 23 47 32.6 -1.3
baz=270
NDS Dongshan 0.90 318 P Pn 23 47 20.9 -0.7
baz=315
NDS S Sb 23 47 32.0 -2.1
baz=315
EGFH Guangfu 0.93 251 P Pn 23 47 21.5 -0.5
baz=248
EGFH S Sb 23 47 33.8 -1.0
baz=248
WARBT Fenglin Townsh 0.95 255 P Pn 23 47 21.0 -1.3
baz=243
WARBT eS Sb 23 47 31.4 -4.0
baz=243
EGS 0.97 335 *i*P Pn 23 47 22.4 -0.1
baz=324
EGS *i*S Sb 23 47 35.4 -0.6
baz=324
LATG Datong 0.97 306 ⇑P Pn 23 47 22.2 -0.5
baz=303
LATG S Sb 23 47 35.5 -0.6
baz=303
ILA Ilan 0.98 324 *i*P Pn 23 47 22.8 0.0
baz=322
ILA *i*S Sb 23 47 35.2 -1.3
baz=322
HGSD Ruisui 1.00 242 P Pn 23 47 22.2 -0.8
baz=239
HGSD eS Sb 23 47 35.5 -1.4
baz=239
ENTT Nioudou 1.00 312 ⇑*i*P Pn 23 47 23.1 0.0
baz=309
ENTT S Sb 23 47 35.2 -1.9
baz=309
NDT Datong Townshi 1.02 309 ⇑P Pn 23 47 23.2 0.0
baz=305
NDT S Sb 23 47 35.7 -1.7
baz=305
NTC Toucheng 1.02 330 P Pn 23 47 23.6 +0.3
baz=328
NTC S Sb 23 47 36.6 -0.9
baz=328
NNSB Datong 1.02 297 ⇑P Pn 23 47 23.1 -0.4
baz=281
NNSB S Sb 23 47 36.9 -0.8
baz=281
NNSH Datong 1.02 297 ⇑P Pn 23 47 23.1 -0.4
baz=282
NNSH S Sb 23 47 36.6 -1.2
baz=282
NNS Nan Shan 1.04 297 ⇑*i*P Pn 23 47 23.2 -0.4
baz=282
NNS eS Sb 23 47 36.8 -1.4
baz=282
WHF Hehuan Shan 1.04 280 *i*P Pn 23 47 23.2 -0.7
baz=265
WHF eS Sb 23 47 36.2 -2.3
baz=265
EHYH Wanrong 1.06 244 P Pn 23 47 24.2 +0.4
baz=241
EHYH S Sn 23 47 37.3 -0.2
baz=241
FUSB Fushanzhiwuyua 1.07 318 ⇑P Pn 23 47 24.3 +0.2
baz=314
FUSB S Sb 23 47 38.8 -0.3
baz=314
ECBN Changbin 1.07 233 P Pn 23 47 23.9 -0.1
baz=231
ECBN S Sn 23 47 37.9 +0.1
baz=231
EHY Hungye 1.08 245 *i*P Pn 23 47 23.5 -0.5
baz=257
EHY *i*S Sn 23 47 37.4 -0.5
baz=257
FUSS Fushou 1.08 285 ⇑P Pn 23 47 23.9 -0.4
baz=282
FUSS S Sn 23 47 38.6 +0.4
baz=282
TWB1 Santiao Chiao 1.10 341 ⇑*i*P Pn 23 47 24.0 -0.3
baz=324
TWB1 *i*S Sb 23 47 39.8 +0.1
baz=324
CHGB Renai 1.11 275 ⇑P Pn 23 47 24.3 -0.4
baz=260
CHGB S Sn 23 47 38.0 -1.0
baz=260
NWLT Wulai 1.14 315 ⇑P Pn 23 47 25.1 +0.2
baz=312
NWLT S Sn 23 47 40.0 +0.6
baz=312
TWT Tachien 1.14 285 ⇓*i*P Pn 23 47 25.3 +0.2
baz=271
TWT S Sb 23 47 40.7 -0.4
baz=271
YULB Yu-li 1.15 240 P Pn 23 47 24.6 -0.4
YULB Yu-li 1.15 240 Pn Pn 23 47 23.7 -1.4
YULB Yu-li 1.15 240 ⇑P Pn 23 47 24.6 -0.4
baz=254
YULB S Sn 23 47 38.4 -1.3
baz=254
EYUL Yuli 1.16 238 P Pn 23 47 25.0 -0.2
baz=236
EYUL S Sn 23 47 38.6 -1.2
baz=236
TDCB Techi 1.16 285 ⇑P Pn 23 47 25.1 -0.1
baz=271
TDCB S Sn 23 47 40.8 +0.7
baz=271
YHNB Yeheng 1.16 307 P Pn 23 47 25.7 +0.5
YHNB Yeheng 1.16 307 Pn 23 47 24.7 -0.5
YHNB Yeheng 1.16 307 ⇑P Pn 23 47 25.1 -0.1
baz=304
YHNB eS Sb 23 47 42.0 +0.6
baz=304
VWDT VWDT 1.16 260 ⇑P Pn 23 47 25.0 -0.1
baz=257
VWDT S Sn 23 47 39.3 -0.6
baz=257
WUSB Renai 1.16 271 ⇑P Pn 23 47 25.0 -0.3
baz=268
WUSB S Sn 23 47 39.0 -1.0
baz=268
TWF1 Yuli 1.17 239 ⇑*i*P Pn 23 47 25.0 -0.3
baz=236
TWF1 *i*S Sn 23 47 40.0 -0.2
baz=236
NSK Sanguang 1.17 307 ⇑*i*P Pn 23 47 25.4 -0.1
baz=304
NSK *i*S Sb 23 47 41.2 -0.7
baz=304
CHKH Chenggong 1.19 230 P Pn 23 47 25.0 -0.6
baz=216
CHKH S Sn 23 47 39.0 -1.7
baz=216
SXI1 Grass Mountain 1.21 338 ⇑P Pn 23 47 25.9 -0.1
baz=335
SXI1 S Sb 23 47 42.6 -0.6
baz=335
NWF Wu-fen Shan 1.23 334 *i*P Pn 23 47 26.4 +0.2
baz=330
NWF *i*S Sn 23 47 42.1 +0.3
baz=330
WFSB Wu-fen Shan 1.23 334 ⇑P Pn 23 47 26.4 +0.2
baz=331
WFSB S Sn 23 47 42.2 +0.5
baz=331
TWA Mucha 1.25 324 ⇑*i*P Pn 23 47 26.1 -0.3
baz=321
TWA *i*S Sb 23 47 43.5 -0.4
baz=321
NHDH Xindian Distri 1.26 322 ⇑P Pb 23 47 27.6 -0.9
baz=319
NHDH eS Sb 23 47 43.9 -0.6
baz=319
CHKT Chengkung 1.27 227 *i*P Pn 23 47 25.8 -0.9
baz=226
CHKT *i*S Sn 23 47 41.5 -1.2
baz=226
IRIF Iriomote-Funau 1.28 73 P Pb 23 47 28.4 -0.4
IRIF eS Sb 23 47 46.4 +1.4
IRIF Iriomote-Funau 1.28 73 A A 23 47 28.4
comp=E,163nm,2.7s,comp=N,203nm,1.8s
TATO Taipei 1.29 321 P Pb 23 47 28.2 -0.8
TATO Taipei 1.29 321 Pn 23 47 27.3 +0.3
TATO Taipei 1.29 321 P Pb 23 47 28.1 -0.9
TATO S Sb 23 47 44.4 -0.9
TATO Taipei 1.29 321 ⇑P Pn 23 47 27.7 +0.7
baz=318
TATO S Sb 23 47 45.3 -0.1
baz=318
NHY Taipei 1.30 325 P Pb 23 47 28.6 -0.6
baz=322
NHY S Sb 23 47 45.3 -0.2
baz=322
HATJ Hateruma jima 1.30 86 P Pb 23 47 29.2 0.0
HATJ eS Sb 23 47 47.1 +1.6
HATJ Hateruma jima 1.30 86 A A 23 47 29.2
comp=E,174nm,3.4s,comp=N,175nm,3.4s
TNOU National Taiwa 1.30 335 P Pn 23 47 27.0 -0.2
baz=332
TNOU S Sn 23 47 44.2 +0.8
baz=332
WPL Puli Township 1.31 272 P Pn 23 47 27.4 +0.2
baz=260
WPL S Sn 23 47 43.5 0.0
baz=260
SSLB Suanglung 1.32 263 P Pn 23 47 27.4 0.0
SSLB Suanglung 1.32 263 Pn Pn 23 47 27.1 -0.4
SSLB Suanglung 1.32 263 ⇑P Pn 23 47 27.2 -0.2
baz=260
SSLB S Sn 23 47 43.5 -0.5
baz=260
NFF Wufeng Townshi 1.33 300 ⇑P Pn 23 47 28.2 +0.6
baz=297
NFF S Sb 23 47 45.6 -0.9
baz=297
DPDB Guoxing 1.33 273 P Pn 23 47 27.9 +0.2
baz=261
DPDB S Sn 23 47 44.4 +0.1
baz=261
TAP Taipei 1.33 323 *i*P Pn 23 47 28.6 +1.1
baz=320
TAP *i*S Sb 23 47 46.2 -0.3
baz=320
BACT New Taipei Cit 1.34 320 P Pn 23 47 28.7 +1.1
baz=317
BACT S Sb 23 47 47.5 +1.0
baz=317
WCS Beigang Elemen 1.35 274 ⇑P Pn 23 47 28.0 +0.2
baz=264
WCS S Sn 23 47 44.7 +0.1
baz=264
WHP Taichung City 1.35 284 ⇑P Pb 23 47 29.3 -0.7
baz=270
WHP eS Sn 23 47 44.1 -0.7
baz=270
EHD Haiduan 1.35 233 P Pn 23 47 27.5 -0.4
baz=247
EHD S Sn 23 47 44.3 -0.5
baz=247
SMLT Sun Moon Lake 1.36 267 ⇑*i*P Pn 23 47 28.2 +0.1
baz=254
SMLT *i*S Sn 23 47 45.0 0.0
baz=254
ECS Chishang 1.38 231 P Pn 23 47 28.9 +0.7
baz=219
ECS S Sn 23 47 45.5 +0.2
baz=219
YM01 YM01 1.39 328 ⇑P Pn 23 47 28.4 0.0
baz=340
YM01 S Sb 23 47 47.7 -0.4
baz=340
TYC Yuchr 1.40 268 ⇑*i*P Pn 23 47 28.7 +0.2
baz=265
TYC *i*S Sn 23 47 46.6 +0.8
baz=265
EDH Donghe 1.40 225 ⇓P Pn 23 47 28.4 -0.2
baz=215
EDH S Sn 23 47 44.9 -1.0
baz=215
NJD Zhudong 1.41 303 P Pb 23 47 30.0 -0.9
baz=300
NJD eS Sb 23 47 48.9 +0.3
baz=300
YM08 YM08 1.41 329 ⇑P Pn 23 47 28.4 -0.3
baz=326
YM08 eS Sn 23 47 47.2 +0.9
baz=326
LIOB Emei 1.42 299 ⇑P Pb 23 47 30.1 -1.1
baz=296
LIOB S Sb 23 47 48.2 -0.7
baz=296
WHYT Xinyi Township 1.43 259 P Pn 23 47 29.4 +0.5
baz=245
WHYT S Sn 23 47 46.2 -0.4
baz=245
TWS1 Kuangyinshan 1.43 322 *i*P Pn 23 47 29.9 +1.0
baz=319
TWS1 S Sb 23 47 49.3 +0.1
baz=319
ANP Anpu 1.45 327 *i*P Pn 23 47 29.5 +0.3
baz=324
ANP eS Sb 23 47 48.6 -1.1
baz=324
NTST Danshui 1.47 325 ⇑P Pn 23 47 30.0 +0.6
baz=337
NTST S Sb 23 47 49.3 -0.9
baz=337
ELDTW Lidau 1.47 239 ⇑*i*P Pn 23 47 29.1 -0.6
baz=237
ELDTW *i*S Sn 23 47 47.0 -0.8
baz=237
NCU National Centr 1.48 313 *i*P Pn 23 47 29.0 -0.6
baz=309
NCU *i*S Sb 23 47 49.8 -0.8
baz=309
NCUH Zhongli 1.48 313 ⇑P Pn 23 47 30.2 +0.6
baz=309
NCUH S Sb 23 47 50.7 +0.1
baz=309
HSN1 Hsinchu 1.48 303 P Pn 23 47 30.7 +1.0
baz=300
HSN1 S Sb 23 47 51.1 +0.4
baz=300
TWY Chenhua 1.49 331 ⇓*i*P Pn 23 47 30.2 +0.5
baz=328
TWY S Sb 23 47 49.7 -1.1
baz=328
JKRS Kuro-shima 1.51 79 P Pb 23 47 31.8 -0.8
JKRS S Sb 23 47 52.3 +0.8
JKRS Kuro-shima 1.51 79 A A 23 47 31.8
comp=E,226nm,3.0s,comp=N,358nm,2.0s
ALS Alishan 1.52 253 *i*P Pn 23 47 31.0 +0.6
baz=251
ALS S Sn 23 47 49.9 +0.8
baz=251
SBCB Hsinchu 1.52 303 ⇑P Pn 23 47 31.2 +1.1
baz=299
SBCB eS Sb 23 47 51.9 +0.2
baz=299
TWQ1 Liyutan 1.52 285 *i*P Pb 23 47 31.7 -1.1
baz=281
TWQ1 *i*S Sb 23 47 51.2 -0.5
baz=281
WJS Zhushan 1.52 265 P Pb 23 47 31.9 -1.0
baz=262
WJS S Sb 23 47 52.4 +0.5
baz=262
HSN Hsinchu 1.53 303 *i*P Pn 23 47 31.1 +0.8
baz=301
HSN *i*S Sb 23 47 52.1 0.0
baz=301
WWF Wufeng 1.54 273 P Pb 23 47 32.3 -1.0
baz=266
WWF S Sb 23 47 54.1 +1.7
baz=266
NSY Sanyi 1.55 287 *i*P Pb 23 47 32.3 -1.1
baz=284
NSY *i*S Sb 23 47 52.4 -0.2
baz=284
NJN Zhunan 1.55 298 P Pb 23 47 32.2 -1.2
baz=294
NJN S Sb 23 47 53.5 +0.8
baz=294
WNT Mingjian 1.56 267 *i*P Pb 23 47 32.5 -1.0
baz=264
WNT *i*S Sb 23 47 52.3 -0.6
baz=264
WNT1 Nantou City 1.56 268 P Pb 23 47 32.7 -0.8
baz=265
WNT1 S Sb 23 47 52.7 -0.2
baz=265
NMLH Miaoli 1.56 292 ⇑P Pb 23 47 32.2 -1.3
baz=288
NMLH S Sb 23 47 52.6 -0.4
baz=288
LONT Longtian 1.56 228 P Pn 23 47 30.6 -0.2
baz=239
LONT S Sn 23 47 50.6 +0.8
baz=239
TCU Taichung 1.57 277 ⇑P Pb 23 47 32.6 -1.1
baz=274
TCU S Sb 23 47 52.9 -0.4
baz=274
NHW Xinwu Township 1.60 311 *i*P Pn 23 47 31.8 +0.6
baz=307
NHW S Sb 23 47 54.0 0.0
baz=307
CHN5 Tsauling 1.60 257 *i*P Pn 23 47 32.6 +1.2
baz=244
CHN5 S Sb 23 47 54.5 +0.2
baz=244
WDJ Dajia District 1.64 284 P Pn 23 47 33.2 +1.5
baz=280
WDJ S Sb 23 47 54.3 -0.9
baz=280
JIJ Ishigaki jima 1.66 76 P Pn 23 47 33.1 +1.1
JIJ eS Sb 23 47 55.0 -0.6
JIJ Ishigaki jima 1.66 76 A A 23 47 33.1
comp=E,45nm,2.0s,comp=N,52nm,5.2s
TWGBT Beinan 1.66 227 P Pn 23 47 32.4 +0.4
TWGBT Beinan 1.66 227 ⇓P Pn 23 47 31.7 -0.3
baz=238
TWGBT S Sn 23 47 52.0 -0.2
baz=238
TTN Taitung 1.66 224 *i*P Pn 23 47 32.9 +0.8
baz=223
TTN *i*S Sn 23 47 53.4 +1.2
baz=223
TWG Pinlang 1.66 227 Pn 23 47 31.5 -0.5
TWG Pinlang 1.66 227 *i*P Pn 23 47 31.7 -0.4
baz=238
TWG *i*S Sn 23 47 51.3 -1.0
baz=238
WCHH Zhanghua 1.67 274 P Pb 23 47 34.0 -1.4
baz=271
WCHH S Sb 23 47 56.2 +0.1
baz=271
STYH Taoyuan 1.68 242 P Pn 23 47 33.0 +0.7
baz=231
STYH S Sn 23 47 53.6 +1.0
baz=231
PCYT Pengchaiyu 1.68 350 ⇑*i*P Pn 23 47 32.4 0.0
baz=332
PCYT *i*S Sn 23 47 54.0 +1.3
baz=332
WGK Gukeng 1.69 261 *i*P Pn 23 47 34.1 +1.6
baz=258
WGK *i*S Sb 23 47 55.4 -1.3
baz=258
STYT Tauyuan 1.69 242 *i*P Pn 23 47 33.3 +0.7
baz=231
STYT *i*S Sn 23 47 54.1 +0.9
baz=231
WCKO Fanlu 1.71 252 P Pb 23 47 35.1 -1.0
baz=251
WCKO S Sb 23 47 56.9 -0.4
baz=251
WDLH Douliu 1.71 261 P Pn 23 47 34.4 +1.6
baz=259
WDLH S Sb 23 47 57.0 -0.2
baz=259
TPUB Ta-pu 1.74 248 P Pn 23 47 35.0 +1.8
TPUB Ta-pu 1.74 248 Pn 23 47 33.3 +0.1
TPUB Ta-pu 1.74 248 P Pn 23 47 34.8 +1.6
baz=246
TPUB S Sb 23 47 57.3 -0.8
baz=246
CHN4 Tsaushan 1.75 250 *i*P Pb 23 47 35.4 -1.4
baz=248
CHN4 S Sb 23 47 57.3 -1.1
baz=248
WTP Ta-pu 1.77 247 *i*P Pn 23 47 35.1 +1.4
baz=245
WTP *i*S Sb 23 47 58.0 -1.1
baz=245
CHN2 Minshiung 1.80 256 *i*P Pb 23 47 36.8 -0.8
baz=254
CHN2 *i*S Sb 23 48 00.1 +0.3
baz=254
WRL Guolierlin Hig 1.84 268 P Pn 23 47 36.1 +1.6
baz=266
WRL S Sb 23 48 00.6 -0.3
baz=266
WTK Tuku 1.85 262 P Pb 23 47 36.8 -1.6
baz=259
WTK S Sb 23 48 01.2 +0.1
baz=259
CHY Chiayi 1.86 256 P Pb 23 47 37.4 -1.1
baz=254
CHY S Sb 23 48 01.0 -0.4
baz=254
JISG Ishigakijimahi 1.86 70 P Pn 23 47 35.8 +0.9
JISG eS Sb 23 47 59.8 -1.8
JISG Ishigakijimahi 1.86 70 A A 23 47 35.8
comp=E,43nm,2.9s,comp=N,56nm,2.1s
SLGT Liugui 1.87 239 P Pn 23 47 36.8 +1.9
baz=229
SLGT S Sb 23 48 00.3 -1.3

baz=229
CHN1 Nanshi 1.87 246 *i* P **Pb 23 47 37.2 -1.6**
baz=244
CHN1 *i* S **Sb 23 48 01.4 -0.5**
baz=244
SGST Jiashian 1.87 242 *i* P **Pn 23 47 36.1 +1.1**
baz=232
SGST *i* S **Sb 23 48 00.2 -1.7**
baz=232
SNST Tainan City 1.88 247 P **Pb 23 47 37.5 -1.5**
baz=246
SNST S **Sb 23 48 01.9 -0.3**
baz=246
ECL Taimali 1.89 224 P **Pn 23 47 35.1 -0.2**
baz=224
ECL S **Sn 23 47 58.2 +0.1**
baz=224
WTCT Ta-ch'eng 1.93 267 *i* P **Pn 23 47 37.5 +1.7**
baz=278
WTCT *i* S **Sb 23 48 02.8 -0.6**
baz=278
WSF Szhu 2.01 261 *i* P **Pn 23 47 38.6 +1.8**
baz=259
WSF *i* S **Sb 23 48 04.9 -0.8**
baz=259
SSD Sandimen 2.02 233 *i* P **Pn 23 47 38.6 +1.6**
baz=226
SSD S **Sn 23 48 03.5 +2.5**
baz=226
ICHU Yijhu 2.02 253 P **Pn 23 47 38.5 +1.4**
baz=251
ICHU S **Sn 23 48 03.0 +1.8**
baz=251
WSL Shuilin Townsh 2.02 258 P **Pn 23 47 38.8 +1.7**
baz=256
WSL S **Sb 23 48 05.3 -0.9**
baz=256
TSMG Majia 2.03 232 P **Pb 23 47 39.7 -1.9**
baz=226
TSMG S **Sn 23 48 02.8 +1.3**
baz=226
SCST Cishan 2.04 239 P **Pb 23 47 40.0 -1.7**
baz=226
SCST S **Sb 23 48 07.0 +0.3**
baz=226
CHN3 Shinhua 2.05 245 *i* P **Pb 23 47 41.6 -0.3**
baz=244
CHN3 *i* S **Sb 23 48 07.8 +0.7**
baz=244
LAY Lan-yu 2.07 202 *i* P **Pn 23 47 36.7 -1.0**
baz=211
LAY S **Sn 23 48 02.0 -0.4**
baz=211
CHN8 Yiju 2.09 253 *i* P **Pn 23 47 39.5 +1.6**
baz=251
CHN8 *i* S **Sb 23 48 05.8 -2.2**
baz=251
LYUB Lan-yu 2.09 201 P **Pn 23 47 36.4 -1.6**
baz=210
LYUB S **Sn 23 48 00.9 -1.9**
baz=210
SHHT Tainan City 2.09 244 P **Pb 23 47 41.2 -1.4**
baz=242
SHHT S **Sb 23 48 09.5 +1.4**
baz=242
SSHA Shanhua 2.09 247 P **Pb 23 47 40.6 -2.0**
baz=246
SSHA S **Sb 23 48 07.9 -0.3**
baz=246
MASBT Mashibuluo 2.10 230 P **Pn 23 47 39.2 +1.1**
baz=224
MASBT *e*S **Sn 23 48 05.0 +1.8**
baz=224
TAW Tawu 2.11 221 *i* P **Pn 23 47 39.0 +0.7**
baz=230
TAW S **Sn 23 48 03.0 -0.3**
baz=230
EAST Anshuo 2.12 222 *i* P **Pn 23 47 38.6 +0.2**
baz=222
EAST S **Sn 23 48 03.5 -0.2**
baz=222
TAWH Dawu Township 2.13 221 P **Pn 23 47 38.7 +0.2**
baz=230
TAWH S **Sn 23 48 03.3 -0.4**
baz=230
TWM1 Shoushan 2.13 238 *i* P **Pb 23 47 42.2 -1.0**
baz=236
TWM1 S **Sb 23 48 09.0 -0.3**
baz=236
SGLT Jiouru 2.13 235 *i* P **Pb 23 47 41.6 -1.6**
baz=234
SGLT S **Sb 23 48 09.0 -0.3**
baz=234
SCLT Jiali 2.16 249 *i* P **Pn 23 47 39.9 +1.0**
baz=247
SCLT *i* S **Sn 23 48 07.6 +3.0**
baz=247
TSPT Pingtung City 2.16 234 *e*P **Pb 23 47 43.1 -0.6**
baz=233
TSPT S **Sb 23 48 11.6 +1.5**
baz=233
TAI1 Yung-k'ang 2.18 245 *i* P **Pn 23 47 41.4 +2.2**
baz=244
TAI1 *i* S **Sb 23 48 10.4 -0.3**
baz=244
JTJ Tarama 2.22 72 P **Pn 23 47 41.3 +1.5**
JTJ *e*S **Sn 23 48 08.5 +2.4**
JTJ Tarama 2.22 72 A A 23 47 41.3
comp=E,83nm,2.5s,comp=N,93nm,5.1s
TAI Tainan 2.23 245 *e*P **Pb 23 47 43.5 -1.3**
baz=257
TAI S **Sb 23 48 10.7 -1.4**
baz=257
SNJT Kaohsiung City 2.24 238 *e*P **Pb 23 47 44.5 -0.5**
baz=237
SNJT S **Sb 23 48 12.5 +0.2**
baz=237
TSCK Chigu Township 2.26 249 P **Pn 23 47 41.6 +1.3**
baz=248
TSCK S **Sb 23 48 10.5 -2.5**
baz=248
SCZT Fangliau 2.27 226 *i* P **Pn 23 47 42.1 +1.6**
baz=219
SCZT *i* S **Sb 23 48 11.9 -1.3**
baz=219
SLIU Shizi 2.27 220 P **Pn 23 47 40.7 +0.2**
baz=221
SLIU S **Sn 23 48 08.2 +0.8**
baz=221
WSSB Gushan 2.35 236 P **Pb 23 47 44.7 -2.3**
baz=236
WSSB S **Sb 23 48 13.3 -2.4**
baz=236
KAU Kaohsiung 2.36 234 *e*P **Pb 23 47 45.3 -1.8**
baz=234
KAU S **Sb 23 48 14.5 -1.4**
baz=234
SMST Manzhou Townsh 2.41 217 P **Pn 23 47 42.6 +0.3**
baz=217
SMST *e*S **Sn 23 48 12.6 +2.0**
baz=217
TWP Hsiaoliuchiu 2.46 229 *i* P **Pb 23 47 47.4 -1.4**
baz=230
TWP S **Sb 23 48 18.8 +0.1**
baz=230
HEN Hengchun 2.47 218 P **Pn 23 47 45.9 +2.7**
baz=219
HEN S **Sn 23 48 14.2 +1.9**
baz=219
TWKBT Hengchun 2.48 216 P **Pn 23 47 43.7 +0.3**
baz=217
TWKBT S **Sn 23 48 14.9 +2.3**
baz=217
TWK1 Hengchun 2.48 216 *i* P **Pn 23 47 43.9 +0.5**
baz=217
TWK1 *i* S **Sn 23 48 14.0 +1.3**
baz=217
SNW Nanwan 2.50 217 P **Pn 23 47 45.0 +1.3**
baz=218
SNW S **Sn 23 48 15.7 +2.6**
baz=218
WDGT Dungji 2.59 255 *i* P **Pn 23 47 45.5 +0.6**
baz=242
WDGT *i* S **Sn 23 48 15.3 0.0**
baz=242
PHUB P'eng-hu 2.62 261 P **Pn 23 47 45.8 +0.6**
baz=258
PHUB S **Sn 23 48 16.4 +0.5**
baz=258
PNG Penghu 2.62 262 ⇑*i* P **Pn 23 47 45.9 +0.6**
baz=259
PNG *i* S **Sn 23 48 17.0 +1.0**
baz=259
JIRB Irabujima 2.68 71 P **Pn 23 47 49.1 +2.9**
JIRB *e*S **Sn 23 48 21.2 +3.7**
JIRB Irabujima 2.68 71 A A 23 47 49.1
comp=E,44nm,2.5s,comp=N,44nm,2.4s
JIKM Ikemajima 2.78 69 P **Pn 23 47 50.1 +2.7**
JIKM *e*S **Sb 23 48 24.7 -3.1**
JIKM Ikemajima 2.78 69 A A 23 47 50.1
comp=E,42nm,3.8s,comp=N,55nm,2.9s
JMJ Miyako jima 2 2.78 72 P **Pb 23 47 51.6 -2.7**
JMJ2 Miyako jima3 2.79 73 *e*P **Pn 23 47 50.1 +2.5**
JMJ2 *e*S **Sn 23 48 23.9 +3.7**
JMJ2 Miyako jima3 2.79 73 A A 23 47 50.1
comp=E,82nm,3.6s,comp=N,101nm,3.0s
VCHM Qimei 2.81 255 ⇑P **Pn 23 47 48.5 +0.6**
baz=253
VCHM S **Sn 23 48 23.0 +2.3**
baz=253
VWUC VWUC 2.86 291 ⇑P **Pn 23 47 48.3 -0.3**
baz=287
VWUC S **Sn 23 48 20.8 -1.2**
baz=287
JOGS Gusukube 2.87 73 P **Pn 23 47 51.8 +3.1**
JOGS *e*S **Sb 23 48 26.9 -3.5**
JOGS Gusukube 2.87 73 A A 23 47 51.8
comp=E,69nm,2.8s,comp=N,125nm,4.3s
MATB Ma-tsu 3.10 315 ⇑P **Pn 23 47 51.1 -0.8**
baz=310
MATB *e*S **Sn 23 48 28.7 +0.8**
baz=310
MSUT Lienchiang 3.13 315 P **Pn 23 47 51.9 -0.4**
baz=311
MSUT *e*S **Sn 23 48 27.8 -0.7**
baz=311
PTMZ Houxiangcun 3.16 290 ⇑P **Pn 23 47 52.4 -0.3**
baz=286
PTMZ S **Sn 23 48 28.1 -1.2**
baz=286
LYJJ Jianjiangzhen 3.50 318 ⇑P **Pn 23 47 56.8 -0.6**
baz=313
LYJJ *e*S **Sn 23 48 39.2 +1.5**
baz=313
XPSS Dashiqiu 3.56 327 P **Pn 23 47 57.4 -0.7**
baz=332
XPSS *e*S **Sn 23 48 40.5 +1.5**
baz=332
QZH Quanzhou 3.59 286 ⇑*i* Pn **Pn 23 47 58.2 -0.4**
QZH Sn **Sn 23 48 38.6 -1.3**
QZH smax smax
comp=N,5μm,0.9s
QZH smax smax
comp=N,3μm,0.8s
QZH LR LR
comp=N,34μm,11.7s
QZH LR LR
comp=N,38μm,12.2s
QZH LR LR
comp=N,44μm,12.8s
KNM Kinmen 3.63 278 ⇑*i* P **Pn 23 48 00.7 +1.5**
baz=274
KNM S **Sn 23 48 42.8 +1.8**
baz=274
KNMB Chin-men Tao 3.68 279 Pn **Pn 23 47 59.0 -0.8**
KNMB Chin-men Tao 3.68 279 P **Pn 23 47 59.5 -0.3**
baz=275
KNMB *e*S **Sn 23 48 43.3 +1.1**
baz=275
MHZQ Yeshan 3.71 306 P **Pn 23 47 59.3 -1.0**
baz=301
MHZQ *e*S **Sn 23 48 44.2 +1.3**
baz=301
ZPLA Ao Xicun 4.24 270 P **Pn 23 48 06.0 -1.5**
baz=267
ZPLA *e*S **Sn 23 48 52.9 -3.0**
baz=267
DSXP Dongshan 4.55 268 P **Pn 23 48 11.8 0.0**
baz=265
DSXP *e*S **Sn 23 49 03.4 -0.1**
baz=265
JKE Kume jima 2 4.63 59 A A 23 48 16.2
comp=E,3.0nm,8.1s,comp=N,3.0nm,7.1s
SXFK Yanhouchang 4.93 300 P **Pn 23 48 16.1 -1.0**
baz=296
SXFK *e*S **Sn 23 49 13.3 +0.3**
baz=296
JAGN Aguni-jima 5.11 58 A A 23 48 23.0
comp=E,9.0nm,4.0s,comp=N,8.0nm,4.1s
JJT3 Tamagusuku3 5.36 65 A A 23 48 26.4
comp=E,21nm,3.3s,comp=N,26nm,3.0s
JOW Kunigami 6.04 61 P **Pn 23 48 32.7 +0.3**
JOW Kunigami 6.04 61 Pn **Pn 23 48 31.9 -0.4**
comp=N,24nm,0.3s,baz=171,slow=11,SNR=42
JOW Sn **Sn 23 49 38.0 -2.4**
baz=37,slow=20
comp=N,39nm,0.3s
SSE Sheshan 7.18 352 Pn **Pn 23 48 47.4 -0.5**
SSE Sn **Sn 23 50 09.0 +0.6**
SSE LR LR
comp=N,7μm,15.1s
SSE LR LR
comp=N,3μm,15.1s
HKPS Hong Kong Po S 7.77 259 Pn **Pn 23 48 56.0 -0.1**
JMZ Minamidaito 2 8.24 75 P **Pn 23 49 04.2 +1.7**
JMZ Minamidaito 2 8.24 75 Pn **Pn 23 49 02.7 +0.3**
MCO Taipa Grande 8.33 259 P **Pn 23 49 05.0 +1.2**
NJ2 Nanjing 8.64 340 *e*P **Pn 23 49 06.2 -1.7**
NJ2 sP 23 49 13.2
NJ2 S **Sn 23 50 44.1 -0.1**
NJ2 sS 23 50 49.2
NJ2 pmax pmax
comp=N,72nm,0.7s
NJ2 smax smax
comp=N,790nm,1.1s
NJ2 smax smax
comp=N,740nm,1.0s
NJ2 LR LR
comp=N,21μm,9.9s
NJ2 LR LR
comp=N,11μm,6.6s
NJ2 LR LR
comp=N,25μm,12.2s
CNSH ChangSha 9.48 298 ⇑P **Pn 23 49 17.6 -1.9**
CNSH smax smax
comp=N,2μm,1.3s
CNSH smax smax
comp=N,2μm,1.3s
CNSH LR LR
comp=N,10μm,9.6s
CNSH LR LR
comp=N,16μm,13.0s
WHN Wuhan 9.69 314 P **Pn 23 49 22.1 -0.3**
WHN S **Sn 23 51 12.9 +2.7**
WHN pmax pmax
comp=N,130nm,0.9s
WHN LR LR
comp=N,26μm,7.6s
WHN LR LR
comp=N,12μm,5.6s
WHN LR LR
comp=N,48μm,13.4s
TGY Tagaytay City 9.91 188 Pn **Pn 23 49 29.3 +3.8**
comp=N,36nm,0.3s,baz=293,slow=13,SNR=1.8
TGY LR LR 23 53 26.3
comp=N,4μm,21.4s,baz=51,slow=38
comp=N,83nm,0.3s
GULI GuiLin 11.01 279 ⇑P **Pn 23 49 39.7 -0.8**
GULI pmax pmax
comp=N,30nm,1.3s
GULI pmax pmax
comp=N,560nm,8.7s
GULI LR LR
comp=N,5μm,9.2s
GULI LR LR
comp=N,11μm,9.2s
GULI LR LR
comp=N,14μm,9.8s
JNU Nakatsue 11.78 37 P **Pn 23 49 54.8 +3.7**
JNU Nakatsue 11.78 37 Pn **Pn 23 49 50.8 -0.3**
JNU Nakatsue 11.78 37 Pn **Pn 23 49 51.6 +0.6**
comp=N,0.4nm,0.3s,baz=63,slow=22,SNR=4.1
JNU LR LR 23 54 43.3
comp=N,4μm,19.5s,baz=218,slow=40
QIZ Qiongzhong 12.66 250 P **Pn 23 50 03.7 +0.6**
QIZ S **Sn 23 52 25.6 +2.5**
QIZ pmax pmax
comp=N,16nm,1.5s
QIZ LR LR
comp=N,3μm,15.7s
QIZ LR LR
comp=N,2μm,12.2s
QIZ LR LR
comp=N,2μm,18.0s
QIZ Qiongzhong 12.66 250 Pn **Pn 23 50 04.1 +0.9**
TIA Tai'an 13.02 341 *e*P **Pn 23 50 10.0 +2.0**
TIA pmax pmax
comp=N,26nm,1.1s
TIA pmax pmax
comp=N,430nm,8.2s
TIA LR LR
comp=N,6μm,14.7s
TIA LR LR
comp=N,4μm,14.3s
TIA LR LR
comp=N,10μm,14.2s
ENH Enshi 13.09 301 Pn **Pn 23 50 08.5 -0.4**
TJN Taejon 13.09 18 Pn **Pn 23 50 09.5 +0.6**
TJN Taejon 13.09 18 *ce*P **Pn 23 50 11.2 +2.3**
LYN LuoYang 13.63 323 ⇓P **Pn 23 50 16.5 +0.2**
LYN pP P 23 50 21.6 -3.1
LYN PP **PnPn 23 50 27.3 +3.0**
LYN PcP **PcP 23 55 43.4 +2.8**
LYN pmax pmax
comp=N,20nm,0.7s
LYN pmax pmax
comp=N,1μm,8.5s
LYN LR LR
comp=N,19μm,15.9s
LYN LR LR
comp=N,7μm,11.4s
LYN LR LR
comp=N,24μm,15.3s
INCN Inchon 13.96 14 **Pn 23 50 22.5 +1.8**
INCN Inchon 13.96 14 P **P 23 50 25.3 -3.0**
INCN S **Sn 23 52 52.2 -2.3**
INCN Inchon 13.96 14 P **Pn 23 50 22.5 +1.8**
JMN Monobe 13.99 43 P **Pn 23 50 23.9 +2.7**
KSAR Wonju Array Be 14.24 18 Pn **Pn 23 50 26.2 +1.8**
KSAR Wonju Array Be 14.24 18 P **Pn 23 50 26.3 +1.8**
KSRS Korea Array 14.26 18 Pn **Pn 23 50 26.1 +1.4**
comp=N,1.4nm,0.3s,baz=202,slow=12,SNR=38
KSRS LR LR 23 56 36.1
comp=N,4μm,18.3s,baz=200,slow=41
KS19 Wonju Array Si 14.29 18 **Pn 23 50 25.5 +0.3**
GYA Guiyang 14.44 283 ⇓P **Pn 23 50 28.5 +0.9**
GYA S **Sn 23 53 08.7 +2.0**
GYA pmax pmax
comp=N,48nm,0.8s
GYA pmax pmax
comp=N,490nm,4.4s
GYA LR LR
comp=N,5μm,7.1s
GYA LR LR
comp=N,2μm,9.6s
GYA LR LR
comp=N,12μm,19.4s
DL2 Dalian 14.91 358 P **Pn 23 50 34.3 +0.7**
DL2 S **Sn 23 53 19.7 +2.1**
DL2 pmax pmax
comp=N,130nm,1.9s
DL2 pmax pmax
comp=N,1μm,6.0s
DL2 LR LR
comp=N,9μm,13.6s
DL2 LR LR
comp=N,2μm,10.6s
DL2 LR LR
comp=N,12μm,13.1s
HNS HongShan 14.92 336 ⇓P **Pn 23 50 33.5 -0.2**
HNS S **Sn 23 53 21.0 +3.1**
HNS pmax pmax
comp=N,87nm,1.8s
HNS pmax pmax
comp=N,1μm,5.2s
HNS LR LR
comp=N,15μm,13.6s
HNS LR LR
comp=N,9μm,13.1s
HNS LR LR
comp=N,17μm,14.1s
XAN Xi'an 15.46 314 ⇑P **Pn 23 50 40.9 -0.1**
XAN pP P 23 50 47.2 +2.1
XAN pmax pmax
comp=N,48nm,1.2s
XAN pmax pmax
comp=N,1μm,5.1s
XAN LR LR
comp=N,7μm,12.4s
XAN LR LR
comp=N,11μm,13.7s
XAN LR LR
comp=N,15μm,13.0s
TIY Taiyuan 16.13 330 *e*P **Pn 23 50 51.5 +1.9**
TIY S **Sn 23 53 45.4 -2.1**
TIY pmax pmax
comp=N,34nm,0.6s
TIY pmax pmax
comp=N,1μm,4.4s
TIY LR LR
comp=N,12μm,12.6s
TIY LR LR
comp=N,6μm,12.0s
TIY LR LR
comp=N,12μm,12.6s
BJT Baijiatuau 16.84 343 P **Pn 23 50 59.9 +1.4**
BJT Baijiatuau 16.84 343 P **Pn 23 50 59.9 +1.4**
BJT pmax pmax
comp=Z,44nm,1.1s
BJI Beijing 16.86 343 P **Pn 23 50 59.8 +1.1**
BJI sP **pP 23 51 07.1 -1.5**
BJI S **Sn 23 54 05.3 +0.3**
BJI pmax pmax
comp=Z,19nm,1.6s
BJI pmax pmax
comp=Z,550nm,5.6s
BJI LR LR
comp=Z,4μm,12.6s
BJI LR LR
comp=Z,890nm,13.8s
BJI LR LR
comp=Z,4μm,13.0s
DAV Davao City (W) 17.08 169 LR LR 23 57 39.1
comp=Z,3μm,20.2s,baz=3.5,slow=37
DAV Davao City (W) 17.08 169 ⇓*e*P **Pn 23 51 02.0 +0.4**
DAV Davao City (W) 17.08 169 P **P 23 51 03.9 +0.8**
DAV S **S 23 54 28.3 +8.8**
SLVN Son La 17.26 265 **Pn 23 51 03.8 -0.1**
JGF Kuroka 17.39 45 Pn **Pn 23 51 03.5 -1.9**
JHJ Hachijo jima 2 17.78 55 P **P 23 51 12.6 +1.8**
comp=Z,150nm,0.8s,baz=242,slow=5.2,SNR=7.6
JHJ LR LR 23 57 27.4
comp=Z,1μm,20.5s,baz=274,slow=35
JHJ2 Mitsune 17.80 55 Pn **Pn 23 51 09.2 -1.3**
JHJ2 IAmb IAmb 23 51 16.5
comp=Z,200nm,1.0s
DLV T Lat 17.81 230 Pn **Pn 23 51 09.5 -1.4**
SNY Shenyang 17.84 3 ⇓P **P 23 51 11.8 +0.5**
SNY S **Sn 23 54 29.0 +0.3**
SNY pmax pmax
comp=Z,20nm,1.1s
SNY pmax pmax
comp=Z,730nm,7.0s
SNY LR LR
comp=Z,2μm,20.9s
SNY LR LR
comp=Z,3μm,12.1s
SNY LR LR
comp=Z,7μm,12.3s
CD2 Chengdu 17.91 297 P **Pn 23 51 12.4 +0.5**
CD2 pmax pmax
comp=Z,210nm,0.8s
CD2 pmax pmax
comp=Z,1μm,6.2s
CD2 LR LR
comp=Z,8μm,16.5s
CD2 LR LR
comp=Z,12μm,14.7s
KMI Kunming 17.91 278 ⇑P **P 23 51 13.0 +0.5**
KMI PP **PnPn 23 51 29.3 +6.1**
KMI S **Sn 23 54 32.3 +1.2**

KMI pmax pmax
comp=Z,50nm,1.9s
KMI pmax pmax
comp=Z,880nm,9.1s
KMI LR LR
comp=Z,2µm,19.8s
KMI LR LR
comp=Z,10µm,14.3s
KMI LR LR
comp=Z,10µm,16.1s
UBPT Khong Chiam 18.11 245 P **Pn** **23 51 14.7 +0.3**
JCJ Chichijima 18.14 76 P **P** **23 51 18.5 +3.7**
JCJ Chichijima 18.14 76 **P** **23 51 15.7 +1.0**
JCJ IAmb IAmb 23 51 24.5
comp=Z,322nm,1.8s
JCJ Chichijima 18.14 76 P **Pn** **23 51 12.3 -2.4**
comp=Z,2.6nm,0.3s,baz=270,slow=18,SNR=2.0
JCJ LR LR 23 57 41.6
comp=Z,2µm,20.4s,baz=250,slow=35
comp=Z,43nm,0.7s
MAJO Matsushiro 18.51 44 P **P** **23 51 17.3 -1.6**
MAJO Matsushiro 18.51 44 *i* P **P** **23 51 17.9 -1.0**
MJB9 Matsu-Tunnel 18.51 44 P **P** **23 51 17.8 -1.0**
MJAR Matsushiro Arr 18.51 44 P **P** **23 51 16.4 -2.4**
comp=Z,1.3nm,0.3s,baz=236,slow=9.9,SNR=8.0
MJAR S **Sn** **23 54 43.4 -1.8**
comp=Z,1.6nm,0.4s,baz=161,slow=35,SNR=4.2
MJAR LR LR 23 59 04.4
comp=Z,856nm,19.9s,baz=224,slow=39
PZH PanZhiHua 18.84 282 P **Pn** **23 51 25.1 +1.7**
PZH sP **sP** **23 51 31.4 -2.8**
PZH S **Sn** **23 54 50.4 -3.0**
PZH SS **SnSn** **23 55 18.2 +11**
PZH pmax pmax
comp=Z,70nm,1.4s
PZH pmax pmax
comp=Z,1µm,10.0s
PZH LR LR
comp=Z,6µm,15.3s
PZH LR LR
comp=Z,8µm,14.7s
PZH LR LR
comp=Z,10µm,17.2s
HHC Hu-ho-hao-te 19.12 334 *e*P **Pn** **23 51 27.6 +1.0**
HHC sP pwP 23 51 39.2 +1.9
HHC sS sS 23 55 07.6 -6.0
HHC SS **SnSn** **23 55 22.1 +7.7**
HHC pmax pmax
comp=Z,120nm,1.1s
HHC pmax pmax
comp=Z,940nm,6.0s
HHC LR LR
comp=Z,10µm,13.4s
HHC LR LR
comp=Z,5µm,13.4s
HHC LR LR
comp=Z,12µm,13.4s
BTO Baotou 19.57 331 *e*P **Pn** **23 51 33.7 +1.7**
BTO pP **pwP** **23 51 42.2 0.0**
BTO sP **sP** **23 51 45.1 +3.0**
BTO PP **PnPn** **23 51 53.7 +7.8**
BTO pmax pmax
comp=Z,170nm,1.1s
BTO LR LR
comp=Z,24µm,13.2s
BTO LR LR
comp=Z,12µm,13.5s
BTO LR LR
comp=Z,33µm,12.6s
PSTR Posyet 19.90 19⇓ *i* P **P** **23 51 33.8 -0.1**
CN2 Changchun 19.95 7 *e*P **P** **23 51 33.8 -0.6**
CN2 *es*P pwP 23 51 46.8 +4.1
CN2 *e*S **S** **23 55 10.7 -6.3**
CN2 *es*S Sn 23 55 22.4 +2.9
CN2 pmax pmax
comp=Z,30nm,1.2s
CN2 LR LR
comp=Z,5µm,13.0s
CN2 LR LR
comp=Z,1µm,13.0s
CN2 LR LR
comp=Z,4µm,13.0s
LZH Lanzhou 20.05 311⇑ *i* P Pn 23 51 38.0 +0.3
LZH sP pwP 23 51 48.6 +1.0
LZH SS **SnSn** **23 55 42.1 +5.0**
LZH pmax pmax
comp=Z,120nm,1.0s
LZH pmax pmax
comp=Z,2µm,5.5s
LZH LR LR
comp=Z,6µm,9.1s
LZH LR LR
comp=Z,7µm,11.3s
LZH LR LR
comp=Z,11µm,14.6s
SGSI Sangihe 20.39 171 P Pn 23 51 43.2 +1.5
comp=Z,151nm,1.1s,comp=Z,12µmcomp=Z,4µm
XLT XiLinHaoTe 20.55 347⇑ *i* P **P** **23 51 41.0 -0.1**
XLT pP sP 23 51 50.2 -2.4
XLT sP pwP 23 51 54.7 +3.0
XLT PP **PnPn** **23 52 05.4 +6.2**
XLT S **S** **23 55 28.3 -0.9**
XLT sS Sn 23 55 39.8 +5.6
XLT SS **SnSn** **23 55 52.1 +2.9**
XLT pmax pmax
comp=Z,73nm,1.0s
XLT pmax pmax
comp=Z,840nm,5.2s
XLT LR LR
comp=Z,660nm,15.3s
XLT LR LR
comp=Z,3µm,14.0s
XLT LR LR
comp=Z,9µm,13.6s
CRAI Chiangrai 20.73 264 P Pn 23 51 45.1 -0.6
MDJ Mudanjiang 21.43 14 P **P** **23 51 50.3 -0.1**
MDJ pP pP 23 51 53.2 -5.0
MDJ SS **SnSn** **23 56 20.7 +10**
MDJ PcS **PcS** **23 59 29.6 -1.5**
MDJ pmax pmax
comp=Z,12nm,0.9s
MDJ pmax pmax
comp=Z,510nm,10.7s
MDJ LR LR
comp=Z,5µm,14.0s
MDJ LR LR
comp=Z,3µm,13.5s
MDJ LR LR
comp=Z,7µm,12.4s
MDJ Mudanjiang 21.43 14 P **P** **23 51 50.5 +0.1**
USA0B Ussuriysk Arra 21.66 19 P **P** **23 51 51.6 -1.3**
USA0B Ussuriysk Arra 21.66 19 *i* P **P** **23 51 52.1 -0.9**
USRK Ussuriysk Ar. 21.66 19 P **P** **23 51 51.7 -1.3**
USRK Ussuriysk Ar. 21.66 19 P **P** **23 51 50.8 -2.2**
comp=Z,15nm,0.7s,baz=206,slow=11,SNR=42
USRK LR LR 00 00 57.6
comp=Z,3µm,18.2s,baz=196,slow=39
comp=Z,15nm,0.7s
USRK Ussuriysk Ar. 21.66 19 P **P** **23 51 51.7 -1.3**
TNCH TengChong 21.74 278⇑ *i* P **P** **23 51 56.5 +2.3**
TNCH pP pP 23 51 59.5 -2.6
TNCH sP sP 23 52 01.7 -4.0
TNCH PP **PnPn** **23 52 21.0 +5.3**
TNCH S **S** **23 55 49.3 -3.9**
TNCH sS Sn 23 55 57.9 -5.4
TNCH SS **SnSn** **23 56 24.2 +5.6**
TNCH pmax pmax
comp=Z,120nm,1.1s
TNCH pmax pmax
comp=Z,640nm,3.2s
TNCH LR LR
comp=Z,1µm,9.9s
TNCH LR LR
comp=Z,6µm,15.4s
TNCH LR LR
comp=Z,9µm,14.7s
BNX BinXian 22.10 9⇑ P **P** **23 51 57.6 0.0**
BNX pP **sP** **23 52 06.4 -2.8**
BNX sP **pwP** **23 52 11.0 +1.1**
BNX S **S** **23 55 59.2 -0.2**
BNX sS Sn 23 56 12.0 +0.7
BNX pmax pmax
comp=Z,8.0nm,1.1s
BNX pmax pmax
comp=Z,530nm,13.0s

BNX LR LR
comp=Z,2µm,14.7s
BNX LR LR
comp=Z,2µm,14.4s
BNX LR LR
comp=Z,5µm,14.0s
CM31 Chiang Mai Arr 22.52 260 P **P** **23 52 03.2 +0.9**
CM31 IAmb IAmb 23 52 06.5
comp=Z,109nm,1.6s
CM31 Chiang Mai Arr 22.52 260 P **P** **23 52 04.8 +2.4**
SNR=10
CMAR Chiang Mai Arr 22.52 260 P **P** **23 52 02.7 +0.3**
CMAR Chiang Mai Arr 22.52 260 P **P** **23 52 03.6 +1.3**
comp=Z,16nm,1.1s,baz=65,slow=7.5,SNR=49
CMAR PcP **PcP** **23 55 56.0 +0.4**
comp=Z,2.4nm,0.4s,baz=83,slow=1.0,SNR=6.0
CMAR ScP **ScP** **23 59 30.7 -0.3**
comp=Z,0.8nm,0.3s,baz=46,slow=2.6,SNR=4.2
CMAR LR LR 00 01 24.2
comp=Z,1µm,20.7s,baz=75,slow=38
comp=Z,16nm,1.1s
CMAR Chiang Mai Arr 22.52 260 *i* P **P** **23 52 04.4 +2.0**
CMAR pmax pmax
comp=Z,17nm,1.1s
TOLI2 Tolitoli 22.77 184 P **P** **23 52 05.9 +0.9**
TOLI2 IAmb IAmb 23 52 14.3
comp=Z,72nm,1.1s
GTOI Gorontalo 23.20 178 P **P** **23 52 08.0 -1.4**
comp=Z,51nm,1.4s,comp=Z,864nm
KMSI Cibinong 23.30 176 P **P** **23 52 11.3 +0.8**
comp=Z,156nm,0.6s
MRSI Marisa 23.35 181 P **P** **23 52 13.4 +2.5**
comp=Z,44nm,1.3s
SBUM Sibu 23.54 206 P **P** **23 52 12.4 -0.4**
TNTI Ternate 23.56 167 P **P** **23 52 14.5 +1.5**
TNTI Ternate 23.56 167 P **P** **23 52 15.7 +2.8**
comp=Z,152nm,0.9s,comp=Z,9µmcomp=Z,2µm
MPSI Mapaga 23.61 186 P **P** **23 52 15.3 +1.9**
comp=Z,33nm,1.9s,comp=Z,642nm
GUMO Guam 23.62 112 LR LR 00 01 18.2
GTA Gaotai 24.52 314⇑ P **P** **23 52 21.8 -0.1**
GTA pP sP 23 52 31.8 -1.9
GTA PcP **PcP** **23 56 01.1 +1.4**
GTA ScP **ScP** **23 59 37.9 +1.8**
GTA pmax pmax
comp=Z,55nm,1.9s
GTA pmax pmax
comp=Z,670nm,4.5s
GTA LR LR
comp=Z,1µm,16.0s
GTA LR LR
comp=Z,4µm,16.0s
GTA LR LR
comp=Z,5µm,15.6s
SMKI Samarinda 24.78 192 P **P** **23 52 27.5 +3.2**
comp=Z,114nm,0.6s,comp=Z,10µm
LUWI Luwuk 24.86 179 P **P** **23 52 25.9 +1.0**
LUWI Luwuk 24.86 179 P **P** **23 52 27.0 +2.0**
comp=Z,113nm,1.3s
LBMI Labuha 24.96 168 P **P** **23 52 27.7 +1.8**
comp=Z,317nm,1.2s,comp=Z,4µm
KSM Kuching 25.23 209 P **P** **23 52 28.3 -0.1**
KSM IAmb IAmb 23 52 44.8
comp=Z,62nm,1.3s
HIA Hailar 25.34 356 *i* P **P** **23 52 29.0 -0.1**
HIA pmax pmax
comp=Z,41nm,1.0s
MTKI Muara Teweh, K 25.81 197 P **P** **23 52 35.4 +1.8**
comp=Z,142nm,1.3s,comp=Z,12µm
STKI Sintang 26.01 206 P **P** **23 52 37.9 +2.5**
comp=Z,34nm,0.9s
ASAJ Asahikawa 26.04 35 LR LR 00 03 01.3
comp=Z,2µm,19.8s,baz=241,slow=37
SANI Sanana 26.10 172 P **P** **23 52 37.1 +0.9**
comp=Z,42nm,1.3s,comp=Z,1µm
SWI Sorong 26.14 160 P **P** **23 52 38.4 +1.8**
comp=Z,46nm,1.0s
KLR Kul'dur 26.27 14 LR LR 00 04 02.3
comp=Z,3µm,18.1s,baz=197,slow=39
KLR Kul'dur 26.27 14 *e*P **P** **23 52 35.8 -1.7**
KLR pmax pmax
comp=Z,14nm,0.9s
HEH HeiHe 26.53 7 *e*P **P** **23 52 37.6 -2.2**
HEH PcP **PcP** **23 56 03.2 -0.6**
HEH S **S** **23 57 06.9 -5.0**
HEH pmax pmax
comp=Z,12nm,1.4s
HEH pmax pmax
comp=Z,460nm,5.6s
HEH LR LR
comp=Z,5µm,15.0s
HEH LR LR
comp=Z,3µm,13.0s
HEH LR LR
comp=Z,6µm,14.5s
SRIT Nakonsritamara 26.61 239 P **P** **23 52 41.9 +1.0**
SRIT IAmb IAmb 23 52 58.2
comp=Z,79nm,1.7s
GOMU GeErMu 26.69 304 P **P** **23 52 42.8 +0.9**
GOMU pP pP 23 52 46.5 -3.9
GOMU sP sP 23 52 49.8 -3.9
GOMU pmax pmax
comp=Z,39nm,0.9s
GOMU LR LR
comp=Z,2µm,14.4s
GOMU LR LR
comp=Z,4µm,14.1s
GOMU LR LR
comp=Z,6µm,14.6s
ULN Ulaanbaatar 26.79 337 P **P** **23 52 41.4 -0.9**
ULN Ulaanbaatar 26.79 337 S **S** **23 57 13.8 -2.5**
ULN Ulaanbaatar 26.79 337 *ce*P **P** **23 52 41.7 -0.6**
ULN pmax pmax
comp=Z,246nm,1.3s
TTSI Tana Toraja 26.96 186 P **P** **23 52 47.3 +3.3**
comp=Z,23nm,1.1s,comp=Z,1µm
SONM Songino Array 27.00 336 P **P** **23 52 43.8 -0.4**
comp=Z,280nm,1.0s,baz=151,slow=9.2,SNR=559
SONM PcP **PcP** **23 56 05.3 +0.1**
comp=Z,6.8nm,1.1s,baz=145,slow=5.3,SNR=4.2
SONM ScP **ScP** **23 59 42.0 -1.2**
comp=Z,4.4nm,1.1s,baz=159,slow=4.4,SNR=10
SONM LR LR 00 04 35.9
comp=Z,7µm,18.1s,baz=153,slow=39
SHL Shillong 27.71 280 P **P** **23 52 50.8 -0.1**
SHL IAmb IAmb 23 53 24.1
comp=Z,128nm,1.3s
SHL Shillong 27.71 280 P **P** **23 52 52.0 +1.0**
SNR=28
SHL Shillong 27.71 280 P **P** **23 52 50.8 -0.1**
SHL pmax pmax
comp=Z,128nm,1.3s
KULM Kulim 27.97 232 P **P** **23 52 53.1 0.0**
YSS Yuzh-Sakhalins 28.15 30 P **P** **23 52 54.1 -0.2**
YSS IAmb IAmb 23 53 16.7
comp=Z,44nm,1.1s
YSS Yuzh-Sakhalins 28.15 30 *e*P **P** **23 52 56.1 +1.8**
YSS *e* 23 53 53.8
YSS *e*S **S** **23 57 38.0 +0.6**
YSS pmax pmax
comp=Z,100nm,7.6s
YSS pmax pmax
comp=Z,30nm,1.1s
FAKI Fak Fak 28.40 159 P **P** **23 52 57.2 +0.3**
FAKI IAmb IAmb 23 53 11.8
comp=Z,45nm,1.0s
FAKI Fak Fak 28.40 159 P **P** **23 52 58.1 +1.3**
comp=Z,55nm,1.1s,comp=Z,784nm
LSA Lhasa 28.40 288 P **P** **23 52 57.8 +0.4**
LSA Lhasa 28.40 288 P **P** **23 52 59.5 +2.1**
LSA Lhasa 28.40 288 P **P** **23 52 57.8 +0.4**
LSA pmax pmax
comp=Z,24nm,0.8s
MYKOM Kota Tinggi 28.42 222 P **P** **23 52 57.5 +0.4**
MYKOM IAmb IAmb 23 53 11.1
comp=Z,69nm,1.5s
CIT Chita 28.82 349 *e*P **P** **23 52 59.4 -0.9**
CIT *e* 23 53 14.6
CIT *e* 23 53 19.8
ZEA Zeya 29.96 6 *e*P **P** **23 53 09.4 -0.9**
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA MLR MLR
comp=E,400nm,11.0s
ZEA MLR MLR
comp=N,2µm,15.0s
ZEA MLR MLR
comp=Z,2µm,15.0s
ZAK Zakamensk 30.27 335 *e*P **P** **23 53 11.6 -1.6**
ZAK pmax pmax
comp=Z,36nm,1.1s
LHMI Lhok Sumawe 30.76 237 P **P** **23 53 20.3 +2.4**
comp=Z,36nm,1.4s
TYV Tymovskoe 31.10 25 *e*P P 23 53 30.1 +10
TYV pmax pmax
comp=Z,100nm,4.6s
TYV pmax pmax
comp=Z,5.0nm,1.1s
TYV MLR MLR
comp=Z,800nm,13.0s
BKNI Bangkinang 31.32 224 P **P** **23 53 23.3 +0.6**
MLSI Meulaboh, Aceh 31.79 236 P **P** **23 53 27.7 +0.8**
comp=Z,25nm,0.6s
MOY Mondy 32.17 335 *e*P **P** **23 53 28.8 -1.2**
MOY pmax pmax
comp=Z,98nm,2.8s
MMRI Maumere 32.40 180 P **P** **23 53 33.1 +0.9**
EDFI Ende, Flores 32.52 181 P **P** **23 53 33.4 0.0**
comp=Z,51nm,1.5s,comp=Z,570nm
PDSI Padang 32.63 224 P **P** **23 53 35.6 +1.3**
NGJI Ngawi 32.92 200 P **P** **23 53 39.8 +3.1**
comp=Z,67nm,1.2s
GSI Gunungsitoli 32.94 230 P **P** **23 53 37.0 0.0**
TWSI Taliwang, Sumb 32.95 190 P **P** **23 53 37.7 +0.7**
PWJI Pagerwojo 33.43 199 P **P** **23 53 42.0 +0.8**
comp=Z,61nm,0.9s
SOEI Soe 33.57 177 P **P** **23 53 44.2 +1.7**
SOEI IAmb IAmb 23 54 29.5
comp=Z,31nm,0.8s
SOEI Soe 33.57 177 P **P** **23 53 45.1 +2.6**
comp=Z,23nm,1.0s,comp=Z,4µm
UGM Wanagama 33.74 202 P **P** **23 53 44.2 +0.3**
comp=Z,178nm,1.4s
KPJI Karang Pucung 33.77 205 P **P** **23 53 46.6 +2.5**
comp=Z,19nm,1.0s
SISI Saibi 33.83 225 P **P** **23 53 45.5 +0.8**
comp=Z,52nm,1.5s
LWLI Liwa 33.90 214 P **P** **23 53 47.8 +2.4**
comp=Z,87nm,0.7s,comp=Z,10µm
BATI Baumata 33.99 178 LR LR 00 09 06.0
comp=Z,458nm,19.4s,baz=350,slow=39
KASI Kota Agung 34.11 213 P **P** **23 53 48.7 +1.6**
comp=Z,28nm,1.2s
WMQ Urumqi 34.60 313⇑ *i* P **P** **23 53 51.8 +0.6**
WMQ sP pwP 23 54 05.7 +1.5
WMQ pmax pmax
comp=Z,51nm,1.7s
WMQ pmax pmax
comp=Z,300nm,3.7s
WMQ LR LR
comp=Z,2µm,14.9s
WMQ LR LR
comp=Z,3µm,11.9s
WMQ LR LR
comp=Z,1µm,13.9s
MTN Manton Dam 37.57 166 P **P** **23 54 16.9 +0.2**
MTN IAmb IAmb 23 54 18.2
comp=Z,64nm,0.7s
ZSN Zaisan 37.90 318⇑ *i* P **P** **23 54 19.2 -0.2**
baz=318
ZSN *e*S **S** **00 00 08.0 -0.7**
baz=318
ZSN Zaisan 37.90 318 *c i* P **P** **23 54 19.1 -0.2**
ZSN *e*S **S** **00 00 08.0 -0.7**
YAK Yakutsk 38.37 6 P **P** **23 54 20.7 -2.3**
YAK IAmb IAmb 23 54 49.1
comp=Z,36nm,0.5s
YAK Yakutsk 38.37 6 LR LR 00 11 18.1
comp=Z,1µm,19.6s,baz=190,slow=38
YAK Yakutsk 38.37 6 *e*P **P** **23 54 20.9 -2.1**
YAK *e* 23 55 48.3
YAK *e* 23 56 33.8
YAK *e*S **S** **00 00 15.3 0.0**
YAK *e* 00 04 30.2
YAK pmax pmax
comp=Z,59nm,1.5s
YAK pmax pmax
comp=N,35nm,1.8s
YAK pmax pmax
comp=E,8.0nm,1.8s
YAK pmax pmax
comp=Z,173nm,5.9s
YAK pmax pmax
comp=N,86nm,2.8s
YAK pmax pmax
comp=E,107nm,7.3s
YAK smax smax
comp=N,145nm,3.5s
YAK smax smax
comp=E,124nm,5.2s
YAK MLR MLR
comp=Z,1µm,25.0s
YAK MLR MLR
comp=N,646nm,16.0s
YAK MLR MLR
comp=E,453nm,12.0s
MK31 Makanchi Array 39.26 316 P **P** **23 54 30.7 0.0**
MK31 IAmb IAmb 23 54 32.2
comp=Z,90nm,1.1s
MK31 Makanchi Array 39.26 316 *ce*P **P** **23 54 30.8 0.0**
MKAR Makanchi Array 39.26 316 P **P** **23 54 30.8 0.0**
comp=Z,33nm,0.6s,baz=103,slow=9.9,SNR=304
MKAR PcP **PcP** **23 56 39.8 +0.5**
comp=Z,5.4nm,0.8s,baz=89,slow=6.1,SNR=3.9
MKAR ScP **ScP** **00 00 25.5 0.0**
comp=Z,1.9nm,0.9s,baz=132,slow=3.6,SNR=6.1
MKAR LR LR 00 12 13.7
comp=Z,3µm,18.5s,baz=114,slow=38
comp=Z,33nm,0.6s
PETK Petropavlovsk- 39.44 33 P **P** **23 54 29.3 -2.9**
comp=Z,0.8nm,0.4s,baz=203,slow=3.2,SNR=5.1
PETK LR LR 00 11 38.7
comp=Z,1µm,18.9s,baz=227,slow=38
PETK Petropavlovsk- 39.44 33 P **P** **23 54 29.3 -2.9**
PETK 23 56 44.3
MAKZ Makanchi 39.46 316 P **P** **23 54 32.1 -0.4**
MAKZ Makanchi 39.46 316 P **P** **23 54 32.1 -0.4**
MAKZ pmax pmax
comp=Z,131nm,1.1s
PET Petropavlovsk 39.88 34 *e*P **P** **23 54 33.3 -2.4**
PET *e* 23 56 42.6
PET *e*S **S** **00 00 36.1 -2.1**
PET *e* 00 04 37.3
PET pmax pmax
comp=Z,16nm,0.7s
PET pmax pmax
comp=Z,100nm,18.8s
PET MLR MLR
comp=Z,900nm,17.0s
PET MLR MLR
comp=Z,900nm,15.0s
KNRA Kununurra 39.89 170 P **P** **23 54 36.1 -0.1**
SHLS Shalkode 40.05 309 *e*P **P** **23 54 35.5 -2.1**
comp=Z,37nm,1.0s,baz=309
SHLS Shalkode 40.05 309 *e*P **P** **23 54 35.4 -2.1**
SHLS pmax pmax
comp=Z,37nm,1.0s
UZB Uzynbulak 40.36 309 *e*P **P** **23 54 40.6 +0.5**
comp=Z,50nm,1.1s,baz=309
UZB Uzynbulak 40.36 309 *e*P **P** **23 54 40.6 +0.5**
UZB pmax pmax
comp=Z,50nm,1.1s
MA2 Magadan 40.77 22 LR LR 00 12 26.7
comp=Z,2µm,19.3s,baz=222,slow=38
SATY Saty 40.77 309 *e*P **P** **23 54 44.0 +0.4**
comp=Z,48nm,1.2s,baz=309
SATY Saty 40.77 309 *e*P **P** **23 54 43.9 +0.4**
SATY pmax pmax
comp=Z,48nm,1.2s
ZHN Zhinishke 40.78 309 *e*P **P** **23 54 43.7 +0.1**
baz=309
ZHN Zhinishke 40.78 309 *e*P **P** **23 54 43.6 +0.1**
ZAA0 Zalesovo Array 41.02 327 P **P** **23 54 43.8 -1.4**
ZALV Zalesovo Beam 41.02 327 P **P** **23 54 43.4 -1.8**
ZALV Zalesovo Beam 41.02 327 P **P** **23 54 44.0 -1.2**
comp=Z,141nm,0.8s,baz=114,slow=7.6,SNR=323
ZALV PcP **PcP** **23 56 44.3 -0.4**
comp=Z,3.8nm,0.5s,baz=99,slow=3.9,SNR=5.5
ZALV ScP **ScP** **00 00 30.8 -1.3**

comp=Z,0.4nm,0.3s,baz=98,slow=4.5,SNR=4.5
ZALV LR LR 00 13 51.9
comp=Z,851nm,19.6s,baz=124,slow=39
comp=Z,141nm,0.8s
PMG Port Moresby 41.06 141 LR LR 00 11 51.9
comp=Z,1µm,18.4s,baz=310,slow=36
TDK Taldyqorghan 41.26 312 *e*P **P 23 54 47.8 +0.4**
comp=Z,59nm,0.8s,baz=312
TDK Taldyqorghan 41.26 312 *e*P **P 23 54 47.7 +0.4**
TDK pmax pmax
comp=Z,59nm,0.8s
H11N1 WAKE ISLAND Hy 41.40 87 T T 00 40 44.7
baz=283,slow=75
H11N2 WAKE ISLAND Hy 41.41 87 T T 00 40 45.0
baz=283,slow=75
H11N3 WAKE ISLAND Hy 41.42 87 T T 00 40 29.5
baz=283,slow=75
ARXS Arharly 41.46 310 *e*P **P 23 54 49.5 +0.4**
H11S3 WAKE ISLAND Hy 41.53 89 T T 00 40 30.4
baz=284,slow=75
H11S1 WAKE ISLAND Hy 41.54 89 T T 00 40 31.4
baz=284,slow=75
H11S2 WAKE ISLAND Hy 41.55 89 T T 00 40 45.2
baz=284,slow=75
MDOK Medeo 41.77 309 *e*P **P 23 54 52.2 +0.4**
baz=308
MDOK LR LR 00 12 38.5
comp=Z,696nm,13.4s,baz=308
MDOK Medeo 41.77 309 *e*P **P 23 54 52.1 +0.4**
MDOK MLR MLR
comp=Z,696nm,13.0s
TNSS Tian-Shan 41.81 308 *e*P **P 23 54 52.2 -0.2**
baz=308
TNSS Tian-Shan 41.81 308 *e*P **P 23 54 52.2 -0.2**
AAA Alma-Ata 41.87 309 *e*P **P 23 54 52.7 +0.2**
comp=Z,39nm,0.9s,baz=308
AAA Alma-Ata 41.87 309 *e*P **P 23 54 52.6 +0.2**
AAA pmax pmax
comp=Z,39nm,0.9s
KSH Kashi 41.94 303 P **P 23 54 56.8 +3.7**
KSH sP pwP 23 55 07.0 +0.9
KSH ScS ScS 00 04 55.3 +1.7
KSH pmax pmax
comp=Z,51nm,1.2s
KSH pmax pmax
comp=Z,330nm,5.9s
KSH LR LR
comp=Z,1µm,13.2s
KSH LR LR
comp=Z,3µm,18.7s
KSH LR LR
comp=Z,4µm,17.4s
CHKK Chushkaly 41.96 310 *e*P **P 23 54 53.5 +0.3**
baz=310
CHKK Chushkaly 41.96 310 *e*P **P 23 54 53.4 +0.3**
ULHL Ulahol 42.17 307 P **P 23 54 57.0 +2.0**
SNR=7.7
TKM2 Tokmak 2 42.76 308 P **P 23 55 01.3 +1.4**
SNR=77
COEN Coen 42.82 150 P **P 23 55 02.2 +1.9**
COEN IAmb IAmb 23 55 04.0
comp=Z,49nm,0.8s
KURK Kurchatov 42.96 320 P **P 23 55 00.3 -0.8**
KURK Kurchatov 42.96 320 P **P 23 55 00.8 -0.3**
KURK Kurchatov 42.96 320*ce*P **P 23 55 00.6 -0.5**
KURK pmax pmax
comp=Z,153nm,1.3s
KURBB Kurchatov Arra 42.98 320 P **P 23 55 00.9 -0.3**
comp=Z,48nm,1.0s,baz=114,slow=7.5,SNR=142
KURBB PcP **PcP 23 56 50.5 -0.8**
comp=Z,5.8nm,0.2s,baz=117,slow=3.5,SNR=5.2
KURBB ScP **ScP 00 00 40.0 0.0**
comp=Z,1.6nm,0.2s,baz=93,slow=4.6,SNR=6.3
KURBB LR LR 00 15 24.1
comp=Z,537nm,18.0s,baz=160,slow=40
comp=Z,48nm,1.0s
KBK Karagaybulak 43.18 307 P **P 23 55 04.7 +1.5**
SNR=50
PALK Pallekele 43.23 254 LR LR 00 13 28.8
comp=Z,655nm,20.8s,baz=165,slow=36
CHMS Chumysh 43.38 308 P **P 23 55 05.6 +0.9**
SNR=51
UCH Uchtor 43.43 307 P **P 23 55 07.4 +1.9**
SNR=97
FRU1 Bishkek 43.44 308 IAmb IAmb 23 55 07.7
comp=Z,74nm,1.0s
AAK Ala-Archa 43.51 307 P **P 23 55 07.2 +1.4**
SNR=30
AAK Ala-Archa 43.51 307 P **P 23 55 06.0 +0.1**
AAK IAmb IAmb 23 55 08.3
comp=Z,32nm,0.9s
AAK Ala-Archa 43.51 307 *i* P **P 23 55 07.3 +1.4**
SNR=30
AAK Ala-Archa 43.51 307 LR LR 00 16 12.0
comp=Z,3µm,18.5s,baz=90,slow=40
AAK Ala-Archa 43.51 307 P **P 23 55 06.6 +0.7**
AAK Ala-Archa 43.51 307*ce*P **P 23 55 07.3 +1.4**
AAK pmax pmax
comp=Z,34nm,0.8s
SGDS Sogindy 43.55 309⇑*i*P **P 23 55 06.7 +0.6**
baz=308
SGDS Sogindy 43.55 309*c i*P **P 23 55 06.7 +0.6**
USP Ospenovka 43.61 308 P **P 23 55 07.3 +0.8**
SNR=24
SEY Seymchan 43.81 19 LR LR 00 15 21.0
comp=Z,2µm,18.1s,baz=212,slow=39
SEY Seymchan 43.81 19 *e*P **P 23 55 05.2 -2.6**
SEY pmax pmax
comp=Z,6.0nm,1.3s
EKS2 Erkin-Say 44.03 307 P **P 23 55 11.3 +1.2**
SNR=19
BTLS Baital 44.27 311⇑*i*P **P 23 55 12.3 +0.5**
comp=Z,35nm,1.1s,baz=310
BTLS Baital 44.27 311*c i*P **P 23 55 12.2 +0.5**
BTLS pmax pmax
comp=Z,35nm,1.1s
ARSB Arslanbob 44.43 305 P **P 23 55 13.7 +0.4**
ARSB Arslanbob 44.43 305 P **P 23 55 13.7 +0.4**
ARSB pmax pmax
comp=Z,14nm,1.0s
MBWA Marble Bar 44.93 184 P **P 23 55 17.5 +0.4**
MBWA IAmb IAmb 23 55 24.2
comp=Z,23nm,1.0s
WB0 Warramunga Arr 45.02 164 IAmb IAmb 23 55 20.6
comp=Z,37nm,0.9s
WRAB Tennant Creek 45.17 164 P **P 23 55 19.6 +0.6**
WRAB IAmb IAmb 23 55 33.0
comp=Z,52nm,1.1s
WRAB Tennant Creek 45.17 164 *i* P **P 23 55 20.5 +1.4**
WRAB pmax pmax
comp=Z,47nm,0.9s
WRA Warramunga Arr 45.17 164 P **P 23 55 19.5 +0.4**
WRA Warramunga Arr 45.17 164 P **P 23 55 20.5 +1.4**
comp=Z,27nm,0.8s,baz=346,slow=8.6,SNR=115
comp=Z,27nm,0.8s
WRA Warramunga Arr 45.17 164 *i* P **P 23 55 20.5 +1.4**
WRA pmax pmax
comp=Z,28nm,0.8s
WB2 Warramunga Arr 45.18 164 IAmb IAmb 23 55 21.9
comp=Z,42nm,0.8s
WR0 Warramunga Arr 45.24 164 IAmb IAmb 23 55 41.4
comp=Z,34nm,0.8s
PSA00 Pilbara Seismi 45.33 183 P **P 23 55 20.7 +0.4**
PSA00 IAmb IAmb 23 55 32.1
comp=Z,64nm,1.4s
DZA Taraz 45.85 307 *e*P **P 23 55 24.9 +0.5**
comp=Z,21nm,0.7s,baz=307
DZA Taraz 45.85 307 *e*P **P 23 55 24.8 +0.5**
DZA pmax pmax
comp=Z,21nm,0.7s
BTK Batken 45.94 303 IAmb IAmb 23 55 27.6
comp=Z,54nm,1.1s
BRZS Berezniki 46.34 317 *e*P **P 23 55 28.2 +0.1**
comp=Z,20nm,0.7s,baz=317
BRZS Berezniki 46.34 317 *e*P **P 23 55 28.1 +0.1**
BRZS pmax pmax
comp=Z,20nm,0.7s
KK31 Karatay Array 46.47 307 IAmb IAmb 23 55 31.4
comp=Z,59nm,1.2s
KKAR Karatay Array 46.47 307 IAmb IAmb 23 55 31.4
comp=Z,59nm,1.2s
IUG Iuzhnay 46.72 306 *e*P **P 23 55 31.6 +0.3**
comp=Z,36nm,0.8s,baz=306
IUG Iuzhnay 46.72 306 *e*P **P 23 55 31.6 +0.3**
IUG pmax pmax
comp=Z,36nm,0.8s
BRLS Boroldaу 46.96 307⇑*i*P **P 23 55 34.2 +1.2**
baz=307
BRLS Boroldaу 46.96 307*c i*P **P 23 55 34.2 +1.2**
CHM Chimkent 47.05 306 *e*P **P 23 55 34.1 +0.3**
comp=Z,23nm,0.9s,baz=306
CHM LR LR 00 16 20.6
comp=Z,276nm,17.7s,baz=306
CHM Chimkent 47.05 306 *e*P **P 23 55 34.1 +0.3**
CHM pmax pmax
comp=Z,23nm,0.9s
CHM MLR MLR
comp=Z,276nm,18.0s
KBL Kabul 47.25 296 P **P 23 55 36.1 +0.4**
KBL Kabul 47.25 296 P **P 23 55 37.0 +1.3**
SNR=47
KBL Kabul 47.25 296 P **P 23 55 36.1 +0.4**
KBL pmax pmax
comp=Z,99nm,1.2s
TIXI Tiksi 47.85 3 P **P 23 55 37.5 -2.1**
TIXI IAmb IAmb 23 56 04.7
comp=Z,32nm,1.0s
TIXI Tiksi 47.85 3 LR LR 00 18 04.4
comp=Z,3µm,19.3s,baz=198,slow=39
TIXI Tiksi 47.85 3*ce*P **P 23 55 37.4 -2.1**
TIXI pmax pmax
comp=Z,64nm,2.5s
SHEM Shemya Is, Ala 48.29 40 LR LR 00 14 48.9
comp=Z,409nm,21.9s,baz=259,slow=35
BVAR Borovoye Array 48.54 321 P **P 23 55 44.8 -0.3**
comp=Z,31nm,0.6s,baz=107,slow=8.9,SNR=209
BVAR PcP **PcP 23 57 10.3 -0.3**
comp=Z,13nm,0.8s,baz=101,slow=3.5,SNR=6.1
BVAR ScP **ScP 00 01 01.3 -1.8**
comp=Z,4.1nm,0.9s,baz=137,slow=3.0,SNR=7.4
BVAR LR LR 00 18 43.8
comp=Z,966nm,18.7s,baz=102,slow=39
comp=Z,31nm,0.6s
BRVK Borovoye 48.61 321 P **P 23 55 45.2 -0.4**
BRVK Borovoye 48.61 321 P **P 23 55 45.6 0.0**
BRVK Borovoye 48.61 321*ce*P **P 23 55 45.3 -0.4**
BRVK pmax pmax
comp=Z,79nm,0.8s
ASAR Alice Springs 48.65 166 P **P 23 55 47.8 +1.5**
ASAR Alice Springs 48.65 166 P **P 23 55 48.2 +1.9**
comp=Z,21nm,0.9s,baz=344,slow=6.4,SNR=94
ASAR ScP **ScP 00 01 03.5 -0.4**
comp=Z,2.4nm,1.1s,baz=343,slow=3.9,SNR=5.3
ASAR LR LR 00 16 22.1
comp=Z,325nm,20.3s,baz=338,slow=36
comp=Z,21nm,0.9s
ASAR Alice Springs 48.65 166 P **P 23 55 47.8 +1.5**
HNR Honiara 49.48 128 LR LR 00 15 30.7
comp=Z,7µm,20.1s,baz=292,slow=34
BILL Bilibino 51.52 19 P **P 23 56 06.8 -0.7**
BILL Bilibino 51.52 19 *i* P **P 23 56 07.0 -0.5**
BILL pmax pmax
comp=Z,5.0nm,1.1s
ABKAR Akbulak array 54.38 314 P **P 23 56 28.8 0.0**
AKTO Aktyubinsk 55.69 316 LR LR 00 22 26.1
comp=Z,1µm,18.3s,baz=83,slow=38
GEYT Ailbeck 55.85 301 P **P 23 56 41.2 +1.5**
comp=Z,64nm,0.6s,baz=85,slow=3.5,SNR=2.2
GEYT LR LR 00 25 38.1
comp=Z,1µm,18.4s,baz=102,slow=41
comp=Z,64nm,0.6s
ARU Arti 55.94 323 P **P 23 56 39.0 -1.0**
ARU Arti 55.94 323 LR LR 00 22 18.0
comp=Z,1µm,21.9s,baz=93,slow=38
ARU Arti 55.94 323*c i*P **P 23 56 39.0 -1.0**
ARU 23 57 38.5
ARU S **S 00 04 23.4 -2.2**
ARU pmax pmax
comp=Z,75nm,1.2s
ARU MLR MLR
comp=Z,754nm,15.0s
ARU Arti 55.94 323 P **P 23 56 38.7 -1.3**
comp=Z,68nm,1.3s,comp=Z,641nm
NWAO Narrogin (SRO) 56.79 185 LR LR 00 24 06.0
comp=Z,122nm,19.0s,baz=69,slow=39
WBK Wadi Bani Khal 57.81 282 P **P 23 56 54.1 +0.3**
WSAR Wadi Sarin 57.95 283 LR LR 00 27 20.2
comp=Z,533nm,18.1s,baz=99,slow=42
WSAR Wadi Sarin 57.95 283 P **P 23 56 56.4 +1.5**
JASK Jask - Hormozg 58.00 286 P **P 23 56 55.7 +0.5**
JASK P **P 23 56 56.3 +1.2**
GAMB Gambell 58.15 29 P **P 23 56 55.0 -0.5**
baz=260
P08K Saint George I 58.30 37 P **P 23 56 56.3 -0.3**
baz=266
BIDO Bidbid 58.33 284 P **P 23 56 58.5 +1.1**
STKA Stephens Creek 58.49 161 P **P 23 56 59.4 +1.2**
comp=Z,7.2nm,0.8s,baz=353,slow=6.8,SNR=11
STKA LR LR 00 24 26.7
comp=Z,380nm,19.3s,baz=349,slow=38
comp=Z,7.2nm,0.8s
SMDO Samad 58.52 283 P **P 23 56 60.0 +1.1**
NIKH Nikolski High 58.53 41 P **P 23 56 57.7 -0.6**
baz=269
JMDO Jabal Madar 58.65 282 P **P 23 57 00.7 +1.0**
HOQ Hoqain 59.04 284 P **P 23 57 03.4 +0.9**
SNR=9.2
MHTO MHTO 59.14 281 P **P 23 57 03.2 +0.1**
BSY Bisya 59.35 283 P **P 23 57 05.4 +0.8**
SHME Shamm 59.47 287 P **P 23 57 05.6 +0.2**
MDH Madha 59.51 286 P **P 23 57 05.9 +0.2**
SOHO SOHO 59.59 285 *i* P **P 23 57 08.0 +1.8**
SNR=5.2
SOHO SOHO 59.59 285 P **P 23 57 07.0 +0.8**
MASF Masafi 59.62 286 P **P 23 57 07.8 +1.4**
MSFE Esma-Masafi 59.62 286 P **P 23 57 08.1 +1.7**
HATD Hatta, Dubai 59.77 286 *i* P **P 23 57 10.0 +2.5**
SNR=5.4
ARQ Araqi 59.80 284 P **P 23 57 08.8 +1.1**
ASHO Ashiyiah 59.87 286 P **P 23 57 09.6 +1.4**
UNV Unalaska Valle 59.94 40 P **P 23 57 07.1 -1.0**
baz=270
UMQ Umm Al-Quwin 60.02 287 P **P 23 57 09.8 +0.7**
TNA Tin City 60.04 27 P **P 23 57 07.1 -1.5**
baz=262
NAZ Nazwa, Dubai 60.15 286 P **P 23 57 11.3 +1.3**
NAZ Nazwa, Dubai 60.15 286 P **P 23 57 11.1 +1.1**
FAQ Al Faqa, Dubai 60.27 286 P **P 23 57 12.1 +1.2**
ALNE Al Ain 60.30 285 *i* P **P 23 57 11.9 +0.8**
SNR=14
ALNE Al Ain 60.30 285 P **P 23 57 12.4 +1.2**
SNR=8.8
M11K Mekoryuk 60.30 33 P **P 23 57 08.9 -1.5**
baz=267
ASUD Al Ashush, Dub 60.53 286 P **P 23 57 14.0 +1.4**
ASUD Al Ashush, Dub 60.53 286 P **P 23 57 13.8 +1.1**
AJN Ajban 60.85 286 P **P 23 57 15.5 +0.8**
ANM Nome 61.00 28 P **P 23 57 14.2 -0.9**
baz=265
KIRV Kirov 61.02 325 LR LR 00 25 32.6
comp=Z,2µm,20.7s,baz=95,slow=38
KIRV Kirov 61.02 325*ce*P **P 23 57 14.9 -0.5**
K13K Kusilvak Mount 61.14 31 P **P 23 57 16.1 0.0**
baz=267
UMZA Um Al Zommool 61.18 284 P **P 23 57 17.4 +0.3**
C16K Lisburne Hills 61.41 24 P **P 23 57 17.9 +0.1**
baz=263
F15K North Star Dit 61.41 27 P **P 23 57 18.3 +0.4**
baz=265
G15K Niukluk 61.60 28 P **P 23 57 19.6 +0.3**
baz=266
J14K Nanvaranak Lak 61.69 30 P **P 23 57 18.9 -0.9**
baz=268
M13K Dall Lake 61.72 33 P **P 23 57 20.3 +0.2**
baz=269
FALS False Pass 61.73 39 P **P 23 57 19.5 -0.8**
baz=272
L14K Kuka Creek 62.06 32 IAmb IAmb 23 57 57.3
comp=Z,38nm,1.4s
L14K Kuka Creek 62.06 32 P **P 23 57 21.0 -1.4**
baz=269
BELG Belogornoye 62.19 318 LR LR 00 25 40.0
comp=Z,507nm,21.6s,baz=77,slow=37
BELG Belogornoye 62.19 318 *i* P **P 23 57 22.9 -0.4**
BELG pmax pmax
comp=Z,22nm,1.1s
D17K Noatak River 62.20 25 P **P 23 57 22.5 -0.7**
baz=266
C17K DeLong Mountai 62.23 24 P **P 23 57 22.4 -1.0**
baz=265
RDOG Red Dog Mine 62.29 24 P **P 23 57 23.5 -0.4**
baz=266
G16K Koyuk River 62.34 27 P **P 23 57 24.2 0.0**
baz=267
H16K Elim 62.35 28 P **P 23 57 24.5 +0.2**
baz=268
M14K Bethel 62.41 32 P **P 23 57 24.7 0.0**
baz=270
S12K Black Hills 62.47 38 P **P 23 57 24.9 -0.3**
baz=273
N14K Kuskokwak Cree 62.55 33 P **P 23 57 25.3 -0.4**
baz=271
MZR Muzera 62.59 284 *i* P **P 23 57 27.0 +0.4**
SNR=19
MZR Muzera 62.59 284 P **P 23 57 27.2 +0.6**
SNR=6.6
K15K Wolf Creek Mou 62.62 31 P **P 23 57 25.6 -0.5**
baz=270
JRN Qarnain Island 62.63 287 P **P 23 57 27.4 +0.6**
SNR=6.3
E17K Hotham Inlet 62.64 25 P **P 23 57 26.1 0.0**
baz=267
DZM Mont Dzumac 62.69 133 *e*P **P 23 57 25.4 -1.8**
comp=Z,103nm,24.5s
DZM *e*S **S 00 05 51.2 -2.6**
comp=Z,488nm,27.1s
DZM *e*SS **SS 00 09 50.7 -8.4**
comp=Z,439nm,24.9s
DZM *e*LR LR 00 16 10.8
comp=Z,2µm,25.1s
DZM Mont Dzumac 62.69 133 LR LR 00 20 17.7
comp=Z,759nm,21.4s,baz=274,slow=32
B18K Kokolik River 62.80 23 P **P 23 57 27.0 -0.1**
baz=266
F17K Baldwin Pennin 62.84 26 P **P 23 57 27.0 -0.4**
baz=268
C18K Utukok River 62.97 24 P **P 23 57 28.9 +0.5**
baz=267
I17K Unalakleet 63.01 29 P **P 23 57 27.9 -0.8**
baz=270
M15K Kasigluk River 63.03 33 P **P 23 57 28.2 -0.6**
baz=271
J16K Anvik River 63.05 30 P **P 23 57 28.1 -0.8**
baz=270
G17K Kiwalik Mounta 63.05 27 P **P 23 57 29.2 +0.3**
baz=269,SNR=5.1
A19K Wainwright 63.11 22 P **P 23 57 29.2 0.0**
baz=266
E18K Tukpahlearik C 63.13 25 P **P 23 57 29.3 -0.1**
baz=268
MAK Makhachkala 63.29 308*d i*P **P 23 57 28.9 -2.0**
MAK *e* 23 59 49.1
MAK *e*S **S 00 05 57.6 -3.2**
MAK *e*SS **SS 00 10 08.0 +0.8**
MAK pmax pmax
comp=Z,137nm,1.0s
MAK MLR MLR
comp=Z,742nm,16.0s
URKR Urkarakh 63.32 307⇑*e*P **P 23 57 32.2 +0.9**
URKR *e* 23 59 51.6
URKR *e*S **S 00 06 03.4 +1.9**
URKR *e*SS **SS 00 10 09.3 +1.3**
N15K Kwethluk River 63.34 33 IAmb IAmb 23 57 39.0
comp=Z,14nm,0.8s
N15K Kwethluk River 63.34 33 P **P 23 57 30.6 -0.3**
baz=272
AKT Akhty 63.36 306⇑*i*P **P 23 57 32.2 +0.7**
AKT *e* 23 58 08.9
AKT *e* 23 59 52.2
AKT *e*PPP PPP 00 01 19.2
AKT *e*S **S 00 06 01.8 -0.1**
AKT *e*SS **SS 00 10 10.5 +1.9**
H17K Granite Mounta 63.36 28 P **P 23 57 32.0 +1.1**
H17K IAmb IAmb 23 57 34.6
comp=Z,14nm,1.1s
H17K Granite Mounta 63.36 28 P **P 23 57 31.8 +0.8**
baz=270
SDPT Sand Point 63.39 39 P **P 23 57 30.5 -0.8**
baz=274
F18K Selawik 63.48 26 P **P 23 57 31.7 0.0**
baz=269,SNR=8.0
O15K Ungalikthiuk R 63.52 34 P **P 23 57 32.9 +0.8**
baz=273
C19K Lookout Ridge 63.57 23 IAmb IAmb 23 58 14.0
comp=Z,18nm,1.2s
C19K Lookout Ridge 63.57 23 P **P 23 57 32.5 +0.1**
baz=268
L16K Owhat River 63.60 31 P **P 23 57 32.4 -0.2**
baz=272
KMKR Kumukh 63.72 307⇑*i*P **P 23 57 35.4 +1.4**
KMKR *e* 23 58 10.6
KMKR *e* 23 59 55.7
KMKR *e*PPP PPP 00 01 23.1
KMKR *e*S **S 00 06 09.2 +2.6**
KMKR *e*SS **SS 00 10 18.6 +4.2**
ARKR Arakani 63.72 307⇑*i*P **P 23 57 33.9 +0.1**
ARKR *e* 23 58 12.3
ARKR *e* 23 59 55.3
ARKR *e*PPP PPP 00 01 26.2
ARKR *e*S **S 00 06 08.0 +1.7**
ARKR *e*SS **SS 00 10 16.3 +2.2**
J17K VABM Dome 63.73 29 IAmb IAmb 23 57 57.1
comp=Z,33nm,1.4s
J17K VABM Dome 63.73 29 P **P 23 57 33.4 -0.1**
baz=271
DBC Dubki 63.77 308⇑*i*P **P 23 57 34.3 +0.1**
DBC *e* 23 58 12.5
DBC *e* 23 59 58.2
DBC *e*PPP PPP 00 01 25.6
DBC *e*S **S 00 06 10.3 +3.3**
DBC *e*SS **SS 00 10 21.0 +6.1**
S14K Fog Glacier 63.84 37 P **P 23 57 34.0 -0.4**
baz=274
M16K Timber Creek 63.87 32 IAmb IAmb 23 58 15.5
comp=Z,28nm,1.4s
M16K Timber Creek 63.87 32 P **P 23 57 35.2 +0.8**
baz=273
SLWR Sila 63.88 286 P **P 23 57 35.8 +0.7**
G18K Tagagawik 63.88 27 P **P 23 57 33.8 -0.6**
baz=270
CHNA Chernabura Isl 63.94 39 P **P 23 57 34.4 -0.6**
baz=275
N16K Nishlik Lake 63.99 33 P **P 23 57 35.4 +0.1**
baz=273
H18K Honhosa River 64.01 28 P **P 23 57 35.5 +0.2**
baz=271
SHMA Al-Shehemyia 64.03 288 P **P 23 57 36.5 +0.4**
D19K Kuna River 64.09 24 IAmb IAmb 23 57 40.4
comp=Z,17nm,0.8s
D19K Kuna River 64.09 24 P **P 23 57 35.5 -0.3**
baz=270,SNR=17
K17K Iditarod 64.11 30 IAmb IAmb 23 58 13.3
comp=Z,9.9nm,0.8s
K17K Iditarod 64.11 30 P **P 23 57 36.3 +0.4**
baz=272
TRNA Turayna 64.12 287 P **P 23 57 37.1 +0.5**
L17K Donlin 64.14 31 P **P 23 57 34.9 -1.2**
baz=273
F19K Shaleruckik Mo 64.23 26 P **P 23 57 36.3 -0.4**
baz=271
BTLR Botlikh 64.27 307⇓*i*P **P 23 57 38.5 +1.0**
BTLR *e* 23 58 14.5
BTLR *e* 23 59 59.3
BTLR *e*PPP PPP 00 01 29.3
BTLR *e*S **S 00 06 15.9 +2.7**
BTLR *e*SS **SS 00 10 26.1 +3.4**
SAKB Bahrain 64.37 288 P **P 23 57 38.7 +0.4**
O16K Kokwok River B 64.38 34 P **P 23 57 37.7 -0.1**
baz=274
E19K Redstone River 64.43 25 IAmb IAmb 23 58 19.0
comp=Z,10nm,0.8s
E19K Redstone River 64.43 25 P **P 23 57 38.0 0.0**
baz=271,SNR=9.2
ABTO Aybut 64.43 279 P **P 23 57 39.0 +0.1**
B20K Meade River 64.44 22 P **P 23 57 38.5 +0.5**
B20K IAmb IAmb 23 58 12.4
comp=Z,13nm,0.9s
B20K Meade River 64.44 22 P **P 23 57 38.6 +0.7**
baz=270
SMRA Abu-Samra 64.45 287 P **P 23 57 40.0 +1.2**
SNR=5.7
GROC Groznyy 64.49 308 *e*P **P 23 57 39.6 +0.8**
GROC *e* 23 58 14.0
GROC pmax pmax
comp=Z,129nm,1.3s
G19K Purcell Mounta 64.52 26 IAmb IAmb 23 58 15.6
comp=Z,39nm,1.6s
G19K Purcell Mounta 64.52 26 P **P 23 57 38.7 +0.2**
baz=272,SNR=5.7

M17K	**Holitna River**	64.58	32	P		P		23 57 39.2	+0.1
	baz=274								
D20K	**Etivluk River**	64.64	24	P		P		23 57 39.5	+0.1
	baz=271,SNR=8.4								
N17K	**Nushagak Hills**	64.77	33	IAmb		IAmb		23 58 19.7	
	comp=Z,23nm,1.4s								
N17K	**Nushagak Hills**	64.77	33	P		P		23 57 40.9	+0.6
	baz=274								
J18K	**Innoko River**	64.79	29	P		P		23 57 40.7	+0.2
	baz=273								
H19K	**Roundabout Mou**	64.80	27	IAmb		IAmb		23 57 44.1	
	comp=Z,26nm,1.1s								
H19K	**Roundabout Mou**	64.80	27	P		P		23 57 40.6	+0.2
	baz=273,SNR=14								
E20K	**Nigu River**	64.81	24	P		P		23 57 40.2	-0.4
	baz=272,SNR=21								
O17K	**Koliganek Bris**	64.87	33	P		P		23 57 40.2	-0.8
	baz=275								
L18K	**Granite Mounta**	64.89	31	P		P		23 57 40.6	-0.4
	baz=274								
TOO	**Toolangi**	64.96	160	P		P		23 57 42.4	+0.6
TOO				IAmb		IAmb		23 58 21.7	
	comp=Z,20nm,1.1s								
TOO	**Toolangi**	64.96	160	P		P		23 57 42.4	+0.6
TOO				pmax		pmax			
	comp=Z,20nm,1.1s								
F20K	**Avaraart Lake**	65.03	25	P		P		23 57 41.7	-0.2
	baz=273								
TTA	**Tatalina**	65.15	30	P		P		23 57 41.9	-0.9
	baz=274								
A22K	**Sinclair Lake**	65.16	21	P		P		23 57 42.3	-0.3
	baz=272								
J19K	**Poorman**	65.25	29	P		P		23 57 42.9	-0.4
	baz=274,SNR=10								
P17K	**Kvichak River**	65.26	34	P		P		23 57 42.5	-1.0
	baz=276								
C21K	**Knifeblade Rid**	65.29	23	P		P		23 57 43.5	-0.1
	baz=272,SNR=13								
B21K	**Ikpikpuk River**	65.33	22	IAmb		IAmb		23 58 06.1	
	comp=Z,24nm,0.9s								
B21K	**Ikpikpuk River**	65.33	22	P		P		23 57 43.6	-0.1
	baz=272,SNR=12								
M18K	**Stony River**	65.35	31	P		P		23 57 44.2	+0.1
	baz=275								
N18K	**Kilae Creek**	65.39	32	P		P		23 57 44.4	0.0
	baz=275								
H20K	**Anotleneega Mo**	65.46	27	P		P		23 57 44.7	0.0
	baz=274,SNR=6.7								
E21K	**Killik River**	65.62	24	IAmb		IAmb		23 57 48.8	
	comp=Z,16nm,0.8s								
E21K	**Killik River**	65.62	24	P		P		23 57 45.8	0.0
	baz=274,SNR=12								
Q17K	**Contact Creek**	65.64	35	P		P		23 57 46.0	-0.1
	baz=276								
I20K	**Naaghedeneel**	65.68	28	IAmb		IAmb		23 57 55.3	
	comp=Z,31nm,0.9s								
I20K	**Naaghedeneel**	65.68	28	P		P		23 57 46.5	+0.4
	baz=275								
B22K	**Teshekpuk Lake**	65.71	22	IAmb		IAmb		23 58 08.2	
	comp=Z,20nm,0.9s								
B22K	**Teshekpuk Lake**	65.71	22	P		P		23 57 46.9	+0.7
	baz=273,SNR=12								
L19K	**White Mountain**	65.75	31	IAmb		IAmb		23 58 10.6	
	comp=Z,20nm,1.2s								
L19K	**White Mountain**	65.75	31	P		P		23 57 47.3	+0.7
	baz=276								
O18K	**Koktuh Hills**	65.81	33	P		P		23 57 47.3	+0.2
	baz=276								
GNI	**Garni**	65.83	305	P		P		23 57 48.2	+0.5
GNI	**Garni**	65.83	305	P		P		23 57 49.3	+1.6
GNI	**Garni**	65.83	305	LR		LR		00 30 36.7	
	comp=Z,518nm,19.2s,baz=92,slow=40								
GNI	**Garni**	65.83	305	P		P		23 57 49.3	+1.6
GNI	**Garni**	65.83	305	*ce*P		P		23 57 49.1	+1.3
GNI				pmax		pmax			
	comp=Z,100nm,1.3s								
P18K	**Big Mountain,**	65.85	34	P		P		23 57 48.1	+0.7
	baz=277								
J20K	**Nowinta River**	65.88	28	P		P		23 57 48.5	+1.1
	baz=275,SNR=5.3								
IMAR	**Indian Mountai**	65.89	26	P		P		23 57 47.7	+0.3
F21K	**Alatna River**	65.89	25	IAmb		IAmb		23 58 21.2	
	comp=Z,20nm,1.4s								
F21K	**Alatna River**	65.89	25	P		P		23 57 48.4	+0.9
	baz=275,SNR=5.7								
G21K	**Allakaket**	65.94	26	IAmb		IAmb		23 57 51.3	
	comp=Z,20nm,1.2s								
G21K	**Allakaket**	65.94	26	P		P		23 57 47.9	+0.1
	baz=275,SNR=17								
VRH	**Novokhopyorsk**	65.96	317	*e*P		P		23 57 48.0	-0.2
VRH				pmax		pmax			
	comp=Z,144nm,1.2s								
KBD	**Kabd**	65.97	293	P		P		23 57 49.1	+0.4
K20K	**Telida**	65.99	29	P		P		23 57 48.9	+0.7
	baz=276								
M19K	**Big River Lodg**	65.99	31	P		P		23 57 48.3	+0.1
	baz=276								
D22K	**Ayikyak River**	66.06	23	IAmb		IAmb		23 58 10.5	
	comp=Z,38nm,1.1s								
D22K	**Ayikyak River**	66.06	23	P		P		23 57 48.9	+0.4
	baz=275,SNR=12								
N19K	**Bonanza Creek**	66.06	32	P		P		23 57 48.8	0.0
	baz=277								
GOF	**Gofitskoye**	66.12	310	⇑*i*P		P		23 57 49.9	+0.6
L20K	**Farewell, AK**	66.17	30	P		P		23 57 50.0	+0.6
	baz=276								
ADZR	**Andozero**	66.18	331	⇓*i*P		P		23 57 49.1	-0.2
ADZR				pmax		pmax			
	comp=Z,45nm,1.0s								
H21K	**Melozitna Rive**	66.30	27	IAmb		IAmb		23 58 24.8	
	comp=Z,13nm,0.8s								
H21K	**Melozitna Rive**	66.30	27	P		P		23 57 50.8	+0.7
	baz=276,SNR=16								
F22K	**John River**	66.37	25	P		P		23 57 51.2	+0.7
	baz=276,SNR=24								
E22K	**Anaktuvuk Pass**	66.45	24	P		P		23 57 51.5	+0.4
	baz=276								
KBZ	**Khabaz**	66.47	309	P		P		23 57 51.8	+0.2
	comp=Z,42nm,0.9s,baz=82,slow=4.7,SNR=67								
KBZ				LR		LR		00 30 31.4	
	comp=Z,957nm,19.4s,baz=67,slow=39								
	comp=Z,42nm,0.9s								
KBZ	**Khabaz**	66.47	309	*ce*P		P		23 57 52.5	+1.0
KBZ				pmax		pmax			
	comp=Z,95nm,1.1s								
KVAR	**Kislovodsk Arr**	66.57	309	LR		LR		00 30 29.0	
	comp=Z,766nm,19.0s,baz=262,slow=39								
KIV	**Kislovodsk**	66.58	309	⇑P		P		23 57 53.3	+1.0
KIV	**Kislovodsk**	66.58	309	P		P		23 57 52.8	+0.4
KIV	**Kislovodsk**	66.58	309	*i* P		P		23 57 53.0	+0.6
	SNR=26								
KIV	**Kislovodsk**	66.58	309	P		P		23 57 53.4	+1.0
KIV	**Kislovodsk**	66.58	309	*e*P		P		23 57 53.2	+0.8
KIV				*e*				00 00 20.1	
KIV				*e*S		S		00 06 41.9	+0.5
KIV				*e*SS		SS		00 11 01.2	+2.7
KIV				pmax		pmax			
	comp=Z,127nm,1.0s								
KIV				pmax		pmax			
	comp=Z,40nm,3.3s								
KIV				MLR		MLR			
	comp=Z,610nm,17.0s								
KIV	**Kislovodsk**	66.58	309	P		P		23 57 52.6	+0.2
	comp=Z,137nm,1.5s,comp=Z,2µm								
M20K	**Styx River**	66.58	31	P		P		23 57 52.9	+0.8
	baz=277								
SHA1	**Shidzhatmaz**	66.64	309	*ce*P		P		23 57 54.0	+1.0
G22K	**Bettles**	66.69	25	P		P		23 57 53.0	+0.4
	baz=276								
C23K	**Itkillik River**	66.71	22	IAmb		IAmb		23 58 24.4	
	comp=Z,22nm,1.2s								
C23K	**Itkillik River**	66.71	22	P		P		23 57 53.1	+0.5
	baz=276,SNR=13								
CHUM	**Lake Minchumin**	66.71	29	P		P		23 57 53.7	+1.0
	baz=277								
D23K	**Nanushuk River**	66.78	23	P		P		23 57 53.6	+0.5
	baz=276,SNR=28								
P19K	**Oil Pt**	66.83	33	P		P		23 57 53.3	-0.4
	baz=278								
H22K	**Ishtalitna Cre**	66.86	26	P		P		23 57 54.7	+0.9
	baz=277								
CAST	**Castle Rocks**	66.87	29	IAmb		IAmb		23 58 32.7	
	comp=Z,19nm,1.4s								
CAST	**Castle Rocks**	66.87	29	P		P		23 57 54.4	+0.5
	baz=278,SNR=6.9								
PPLA	**Purkeypile**	66.89	30	P		P		23 57 54.2	0.0
	baz=278								
O20K	**Slope Mountain**	67.07	33	P		P		23 57 54.7	-0.6
	baz=278								
N20K	**Mount Spurr**	67.11	32	P		P		23 57 55.3	-0.2
	baz=278								
COLD	**Coldfoot**	67.16	25	P		P		23 57 55.7	+0.1
	baz=278								
OHAK	**Old Harbor**	67.16	36	P		P		23 57 56.3	+0.6
	baz=279								
TOLK	**Toolik Lake Re**	67.21	23	IAmb		IAmb		23 57 59.2	
	comp=Z,12nm,0.8s								
TOLK	**Toolik Lake Re**	67.21	23	P		P		23 57 55.6	-0.4
	baz=278,SNR=13								
MLY	**Manley**	67.24	27	P		P		23 57 56.4	+0.3
	baz=278,SNR=8.2								
BPAW	**Bear Paw Mtn.**	67.26	28	IAmb		IAmb		23 58 25.2	
	comp=Z,32nm,1.5s								
BPAW	**Bear Paw Mtn.**	67.26	28	P		P		23 57 56.0	-0.3
	baz=278								
E23K	**Chandalar**	67.27	24	P		P		23 57 56.2	-0.2
	baz=278								
G23K	**Bananza Creek**	67.30	26	P		P		23 57 56.7	+0.2
	baz=278,SNR=18								
SKT	**Skwentna**	67.32	31	P		P		23 57 56.2	-0.5
	baz=279								
C24K	**Franklin Bluff**	67.38	22	P		P		23 57 56.5	-0.4
	baz=278								
D24K	**Happy Valley**	67.41	23	P		P		23 57 56.5	-0.6
	baz=278								
Q20K	**Shuyak Island**	67.41	34	P		P		23 57 56.9	-0.4
	baz=279								
VORR	**Voronezh**	67.43	318	*e*P		P		23 57 57.7	+0.1
VORR				pmax		pmax			
	comp=Z,89nm,0.8s								
LPSR	**Galich'ya Gora**	67.44	319	*e*P		P		23 57 56.2	-1.4
LPSR				pmax		pmax			
	comp=Z,120nm,1.1s								
LPSR				MLR		MLR			
	comp=Z,390nm,16.0s								
KDAK	**Kodiak Island**	67.45	35	P		P		23 57 56.4	-1.1
	baz=279								
KDAK	**Kodiak Island**	67.45	35	LR		LR		00 27 24.6	
	comp=Z,274nm,21.8s,baz=279,slow=36								
VSR	**Storozhevoye**	67.54	317	*e*P		P		23 57 56.6	-1.7
VSR				pmax		pmax			
	comp=Z,90nm,1.1s								
VSR				MLR		MLR			
	comp=Z,640nm,15.0s								
H23K	**Yukon River**	67.62	26	IAmb		IAmb		23 58 26.2	
	comp=Z,12nm,0.8s								
H23K	**Yukon River**	67.62	26	P		P		23 57 57.7	-0.9
	baz=279								
MOS	**Moscow**	67.64	322	*e*P		P		23 57 55.8	-3.0
MOS				*e*				23 58 24.3	
MOS				*e*S		S		00 06 48.4	-5.2
MOS				pmax		pmax			
	comp=Z,300nm,2.4s								
MOS				pmax		pmax			
	comp=Z,105nm,1.5s								
MOS				MLR		MLR			
	comp=E,1µm,18.0s								
MOS				MLR		MLR			
	comp=Z,1µm,18.0s								
TRF	**Thorofare Moun**	67.67	29	P		P		23 58 00.7	+1.7
TRF				IAmb		IAmb		23 58 34.0	
	comp=Z,13nm,1.0s								
TRF	**Thorofare Moun**	67.67	29	P		P		23 57 57.8	-1.3
	baz=279								
E24K	**Your Creek**	67.69	24	IAmb		IAmb		23 58 02.4	
	comp=Z,12nm,0.8s								
E24K	**Your Creek**	67.69	24	P		P		23 57 58.4	-0.6
	baz=279,SNR=24								
APA	**Apatity**	67.71	336	⇓*i*P		P		23 57 58.2	-0.8
APA				pmax		pmax			
	comp=Z,26nm,0.9s								
APA				MLR		MLR			
	comp=Z,2µm,16.0s								
ERBR	**Yeremizino-Bor**	67.76	311	*e*P		P		23 58 00.0	+0.3
ERBR				*e*S		S		00 06 56.4	+1.0
ERBR				pmax		pmax			
	comp=Z,220nm,1.0s								
ERBR				MLR		MLR			
	comp=Z,730nm,14.0s								
ERBR				MLR		MLR			
	comp=E,1µm,14.0s								
ERBR				MLR		MLR			
	comp=N,2µm,19.0s								
SUA	**Susitna One**	67.77	31	IAmb		IAmb		23 58 01.4	
	comp=Z,30nm,1.1s								
SUA	**Susitna One**	67.77	31	P		P		23 57 59.3	-0.4
	baz=280								
I23K	**Minto, Yukon-K**	67.80	27	P		P		23 58 00.9	+1.3
I23K				IAmb		IAmb		23 58 31.4	
	comp=Z,33nm,1.6s								
I23K	**Minto, Yukon-K**	67.80	27	P		P		23 57 59.5	-0.1
	baz=279								
LABN	**Labinsk**	67.82	310	*e*P		P		23 58 00.9	+0.8
LABN				pmax		pmax			
	comp=Z,47nm,0.8s								
LABN				MLR		MLR			
	comp=E,644nm,17.0s								
LABN				MLR		MLR			
	comp=N,1µm,18.0s								
LABN				MLR		MLR			
	comp=Z,1µm,17.0s								
F24K	**Squaw Lake**	68.00	25	IAmb		IAmb		23 58 04.4	
	comp=Z,18nm,0.8s								
F24K	**Squaw Lake**	68.00	25	P		P		23 58 00.8	-0.2
	baz=280,SNR=34								
NEA2	**Nenana**	68.01	28	IAmb		IAmb		23 58 49.5	
	comp=Z,31nm,1.4s								
NEA2	**Nenana**	68.01	28	P		P		23 58 00.2	-0.8
	baz=280,SNR=7.4								
M22K	**Willow**	68.02	31	P		P		23 58 01.6	+0.6
M22K				IAmb		IAmb		23 58 28.8	
	comp=Z,31nm,0.8s								
BRSE	**Bradley Lake S**	68.06	33	P		P		23 58 00.3	-1.1
	baz=280								
MCK	**McKinley**	68.22	29	P		P		23 58 01.4	-0.9
	baz=280								
D25K	**Kavik River**	68.25	22	IAmb		IAmb		23 58 05.1	
	comp=Z,12nm,0.8s								
D25K	**Kavik River**	68.25	22	P		P		23 58 02.0	-0.5
	baz=280,SNR=22								
H24K	**Noodor Dome**	68.29	26	P		P		23 58 03.1	+0.3
	baz=280,SNR=8.3								
G24K	**Hadweenzic Riv**	68.30	25	P		P		23 58 02.9	+0.1
	baz=280,SNR=12								
MDM	**Murphy Dome**	68.30	27	IAmb		IAmb		23 58 41.5	
	comp=Z,17nm,1.0s								
RND	**Reindeer**	68.31	29	IAmb		IAmb		23 58 25.5	
	comp=Z,20nm,0.8s								
RC01	**Rabbit Creek A**	68.32	32	P		P		23 58 02.9	-0.1
	baz=280								
OBN	**Obninsk**	68.35	322	P		P		23 58 02.0	-1.1
OBN	**Obninsk**	68.35	322	LR		LR		00 30 51.6	
	comp=Z,1µm,19.5s,baz=64,slow=38								
OBN	**Obninsk**	68.35	322	*c i*P		P		23 58 02.5	-0.7
OBN				*i*				23 58 25.8	
OBN				*i*				00 00 30.7	
OBN				*i* S		S		00 07 00.2	-1.8
OBN				pmax		pmax			
	comp=Z,69nm,1.3s								
OBN				MLR		MLR			
	comp=Z,1µm,18.0s								
OBN	**Obninsk**	68.35	322	P		P		23 58 02.1	-1.1
	comp=Z,51nm,1.4s,comp=Z,838nm								
PMR	**Palmer**	68.51	31	P		P		23 58 03.3	-0.8
	baz=281								
WAT1	**Susitna Watana**	68.55	30	P		P		23 58 03.1	-1.3
	baz=281								
VSLR	**Vesyoloye**	68.56	309	*i* P		P		23 58 05.4	+0.6
VSLR				pmax		pmax			
	comp=Z,150nm,0.9s								
HOPEN	**Hopen**	68.59	346	*e*P		P		23 58 04.4	0.0
POKR	**Poker Plat Res**	68.61	27	P		P		23 58 03.4	-1.3
	baz=281								
SEW	**Seward**	68.64	33	P		P		23 58 04.2	-0.8
	baz=281								
C26K	**Camden Bay**	68.64	22	P		P		23 58 04.5	-0.3
	baz=281,SNR=13								
VADS	**Vadso**	68.71	338	*e*P		P		23 58 05.2	-0.1
SOC	**Sochi**	68.76	309	*e*P		P		23 58 04.0	-2.0
SOC				*e*				00 00 36.7	
SOC				*e*PPP		PPP		00 02 17.4	
SOC				*e*S		S		00 07 04.8	-2.5
SOC				*e*SS		SS		00 11 33.1	+1.0
SOC				pmax		pmax			
	comp=Z,44nm,0.9s								
SOC				MLR		MLR			
	comp=Z,761nm,18.0s								
E25K	**Arctic Village**	68.76	24	P		P		23 58 05.9	+0.2
	baz=281,SNR=7.5								
G25K	**Bearman Lake**	68.83	25	P		P		23 58 06.0	0.0
	baz=281,SNR=9.9								
F25K	**Christian Rive**	68.84	24	P		P		23 58 05.8	-0.4
	baz=282,SNR=18								
SML	**Sawmill**	68.84	31	P		P		23 58 06.6	+0.2
	baz=281								
KNK	**Knik Glacier**	68.86	31	P		P		23 58 06.1	-0.3
	baz=281								
ILAR	**Eielson Array**	68.90	27	P		P		23 58 05.7	-0.9
	comp=Z,1.6nm,0.8s,baz=294,slow=8.1,SNR=16								
ILAR				LR		LR		00 30 49.4	
	comp=Z,242nm,18.4s,baz=276,slow=38								
	comp=Z,1.6nm,0.8s								
HDA	**Harding Lake**	68.95	28	P		P		23 58 07.2	+0.3
	baz=282								
WAT6	**Susitna Watana**	68.96	30	P		P		23 58 06.8	-0.4
	baz=282								
DHY	**Denali Highway**	69.03	29	P		P		23 58 07.0	-0.6
	baz=282								
H25L	**Birch Creek**	69.04	26	P		P		23 58 07.5	+0.1
	baz=282								
C27K	**Jago River**	69.11	22	P		P		23 58 07.6	-0.2
	baz=282,SNR=22								
M23K	**Glacier View**	69.13	31	P		P		23 58 07.8	-0.3
	baz=282								
BMAR	**Burnt Mountain**	69.27	24	P		P		23 58 09.1	+0.2
SCM	**Sheep Creek Mo**	69.31	30	P		P		23 58 08.6	-0.6
	baz=282								
PRP	**Porcupine Dome**	69.31	26	P		P		23 58 08.7	-0.5
	baz=282								
KTUT	**Trabzon**	69.33	307	⇑P		P		23 58 10.5	+0.8
F26K	**Sheenjek River**	69.38	24	P		P		23 58 09.6	+0.1
	baz=283,SNR=20								
JOF	**Joensuu**	69.43	331	*e*P		P		23 58 09.5	-0.3
RAYN	**Ar Rayn**	69.46	287	P		P		23 58 10.3	-0.5
RAYN	**Ar Rayn**	69.46	287	*i* P		P		23 58 11.2	+0.4
	SNR=54								
RAYN	**Ar Rayn**	69.46	287	P		P		23 58 11.3	+0.5
J25K	**Salcha River,**	69.57	27	P		P		23 58 10.6	-0.2
	baz=283								
K24K	**Donnelly Dome**	69.58	28	P		P		23 58 10.8	0.0
	baz=283,SNR=6.7								
KEV	**Kevo**	69.58	338	P		P		23 58 09.9	-0.8
KEV				IAmb		IAmb		23 58 11.8	
	comp=Z,27nm,0.8s								
KEV	**Kevo**	69.58	338	P		P		23 58 09.9	-0.8
KEV				pmax		pmax			
	comp=Z,27nm,0.8s								
GLI	**Glacier Island**	69.62	31	P		P		23 58 11.1	+0.1
	baz=283								
P23K	**Montague Islan**	69.67	32	P		P		23 58 11.7	+0.3
	baz=283								
G26K	**Porcupine Rive**	69.68	25	P		P		23 58 11.4	+0.1
	baz=283,SNR=17								
M24K	**Tolsona, Glenn**	69.78	30	P		P		23 58 12.1	0.0
	baz=283								
PAX	**Paxson**	69.90	29	P		P		23 58 12.5	-0.4
	baz=283								
SPA0	**Spitsbergen Ar**	69.93	348	*e*P		P		23 58 12.5	-0.2
SPITS	**Spitsbergen Ar**	69.93	348	P		P		23 58 11.5	-1.2
	comp=Z,19nm,0.5s,baz=80,slow=9.4,SNR=140								
SPITS				LR		LR		00 33 03.0	
	comp=Z,1µm,18.4s,baz=24,slow=40								
	comp=Z,19nm,0.5s								
SPITS	**Spitsbergen Ar**	69.93	348	P		P		23 58 12.0	-0.7
SPITS				pmax		pmax			
	comp=Z,58nm,1.1s								
KLU	**Klutina**	70.03	31	P		P		23 58 13.1	-0.6
	baz=284								
ANN	**Anapa**	70.06	311	*c i*P		P		23 58 13.7	-0.3
ANN				*e*				23 58 37.0	
ANN				*e*S		S		00 07 22.5	-0.1
ANN				*e*				00 08 11.8	
ANN				pmax		pmax			
	comp=E,38nm,1.0s								
ANN				pmax		pmax			
	comp=N,58nm,0.9s								
ANN				pmax		pmax			
	comp=Z,209nm,0.9s								
ANN				MLR		MLR			
	comp=E,556nm,18.0s								
ANN				MLR		MLR			
	comp=N,253nm,16.0s								
ANN				MLR		MLR			
	comp=Z,604nm,15.0s								
D27M	**Malcolm River**	70.15	22	P		P		23 58 14.6	+0.4
	baz=285								
ARA0	**ARCESS Array S**	70.15	338	*e*P		P		23 58 14.5	+0.3
ARCES	**ARCESS Array B**	70.15	338	P		P		23 58 13.2	-1.0
ARCES				IAmb		IAmb		23 58 15.9	
	comp=Z,32nm,1.1s								
ARCES	**ARCESS Array B**	70.15	338	P		P		23 58 12.1	-2.1
	comp=Z,16nm,0.9s,baz=54,slow=6.2,SNR=26								
ARCES				LR		LR		00 33 52.5	
	comp=Z,701nm,18.0s,baz=83,slow=40								
	comp=Z,16nm,0.9s								
ARCES	**ARCESS Array B**	70.15	338	P		P		23 58 13.2	-1.0
ARCES				pmax		pmax			
	comp=Z,31nm,1.2s								
HARP	**HAARP**	70.17	30	P		P		23 58 13.9	-0.5
	baz=284								
E27K	**Coleen River**	70.20	23	IAmb		IAmb		23 58 38.0	
	comp=Z,24nm,1.6s								
E27K	**Coleen River**	70.20	23	P		P		23 58 15.0	+0.5
	baz=285,SNR=13								
SCRK	**Sand Creek**	70.31	28	P		P		23 58 15.1	-0.3
	baz=284								
I26K	**Coal Creek Min**	70.33	26	P		P		23 58 15.2	-0.1
	baz=284								
EYAK	**Cordova Ski Ar**	70.34	32	P		P		23 58 14.8	-0.7
	baz=284								
J26L	**Joseph Creek**	70.36	27	P		P		23 58 15.5	-0.2
	baz=284,SNR=12								
KBS	**Kingsbay**	70.45	349	P		P		23 58 15.0	-0.9
KBS				IAmb		IAmb		23 58 16.3	
	comp=Z,17nm,0.7s								
KBS	**Kingsbay**	70.45	349	*e*P		P		23 58 15.7	-0.2
KBS	**Kingsbay**	70.45	349	*ce*P		P		23 58 16.1	+0.2
KBS				pmax		pmax			
	comp=Z,18nm,1.3s								
KBS	**Kingsbay**	70.45	349	*i* P		P		23 58 15.5	-0.4
HSPB	**Hornsund (broa**	70.52	347	*e*P		P		23 58 15.5	-0.8
HSPB	**Hornsund (broa**	70.52	347	*e*P		P		23 58 16.3	0.0
G27K	**Doyon Strip**	70.53	25	P		P		23 58 16.9	+0.3
	baz=285,SNR=7.9								
N25K	**Chitina, Valde**	70.62	30	P		P		23 58 17.5	+0.2
	baz=285								
MENT	**Mentasta**	70.68	29	IAmb		IAmb		23 58

baz=288,SNR=7.7
L27K **Beaver Creek,** 71.48 29 IAmb IAmb 23 58 57.2
comp=Z,14nm,0.8s
L27K **Beaver Creek,** 71.48 29 P P 23 58 22.6 +0.1
baz=286,SNR=9.9
BCAR **Beaver Creek A** 71.50 29 P P 23 58 22.5 -0.1
I28M **Miner Creek** 71.58 26 P P 23 58 23.1 0.0
baz=287,SNR=6.9
M27K **Edge Creek, AK** 71.66 29 P P 23 58 23.3 -0.3
baz=287
JETT **Jettan, Norway** 71.85 339 *e*P P 23 58 25.0 +0.5
G29M **Pine Creek** 71.88 24 IAmb IAmb 23 58 26.6
comp=Z,17nm,0.9s
G29M **Pine Creek** 71.88 24 P P 23 58 24.9 +0.1
baz=288,SNR=14
H29M **Whitestone** 71.96 25 P P 23 58 25.1 -0.1
baz=288
FINES **FINESS Array B** 72.18 330 P P 23 58 25.7 -0.9
FINES **FINESS Array B** 72.18 330 P P 23 58 25.5 -1.1
comp=Z,8.7nm,0.6s,baz=55,slow=6.2,SNR=125
FINES LR LR 00 33 26.1
comp=Z,3μm,18.8s,baz=74,slow=39
comp=Z,8.7nm,0.6s
FINES **FINESS Array B** 72.18 330 *i* P P 23 58 26.3 -0.3
FINES pmax pmax
comp=Z,9.0nm,0.6s
DAWY **Dawson** 72.23 27 P P 23 58 26.9 0.0
baz=288,SNR=6.3
MESA **MESA** 72.26 31 P P 23 58 26.9 -0.4
baz=287
SIM **Simferopol'** 72.30 312 *e*P P 23 58 27.8 +0.2
SIM *e*S S 00 07 43.0 -5.6
SIM pmax pmax
comp=Z,19nm,0.9s
TRO **Tromso** 72.31 339 *e*P P 23 58 27.0 -0.2
CTG **Chitna Glacier** 72.31 31 P P 23 58 26.9 -0.7
baz=288
CTGM **Chitina Glacie** 72.32 31 IAmb IAmb 23 59 02.1
comp=Z,17nm,0.9s
DIKM **Dikmen** 72.43 308 ⇓P P 23 58 29.7 +1.2
DIKM **Dikmen** 72.43 308 P P 23 58 28.2 -0.3
comp=Z,65nm,1.0s,comp=Z,748nm
F30M **Barrier River** 72.47 23 P P 23 58 28.1 -0.1
baz=290,SNR=22
YUK3 **Moose Creek** 72.47 30 P P 23 58 28.6 0.0
baz=288
KEF **Keuruu** 72.51 331 *e*P P 23 58 28.3 -0.2
LOGN **Logan Glacier** 72.51 31 IAmb IAmb 23 59 03.8
comp=Z,34nm,1.4s
G30M **tAoh Zraii Nji** 72.52 24 IAmb IAmb 23 58 34.6
comp=Z,19nm,1.1s
G30M **tAoh Zraii Nji** 72.52 24 P P 23 58 28.0 -0.6
baz=290,SNR=12
EPYK **Eagle Plains** 72.55 25 P P 23 58 28.6 -0.1
baz=290,SNR=14
J29N **Klondike Camp** 72.59 27 IAmb IAmb 23 58 31.4
comp=Z,16nm,0.5s
NOR **Nord** 72.67 354 *i* P P 23 58 27.4 -1.8
NOR IAmb IAmb 23 58 29.6
comp=Z,16nm,1.1s
VSU **Vasula** 72.76 327 *ce*P P 23 58 30.8 +0.7
VSU pmax pmax
comp=Z,133nm,2.5s
ARBE **Arbavere** 72.84 328 *e*P P 23 58 30.4 -0.1
O28M **Mount Upton** 72.91 31 P P 23 58 31.4 +0.1
baz=288
YUK8 **Steele Glacier** 72.94 30 P P 23 58 31.6 +0.1
baz=289
INK **Inuvik** 73.01 22 P P 23 58 30.6 -0.8
INK **Inuvik** 73.01 22 P P 23 58 31.3 -0.1
baz=292,SNR=18
INK **Inuvik** 73.01 22 LR LR 00 33 21.7
comp=Z,470nm,19.5s,baz=314,slow=38
INK **Inuvik** 73.01 22 P P 23 58 30.6 -0.8
INK pmax pmax
comp=Z,10.0nm,0.8s
L29M **L29M** 73.07 28 IAmb IAmb 23 58 37.2
comp=Z,18nm,1.1s
L29M **L29M** 73.07 28 P P 23 58 32.7 +0.8
baz=290,SNR=12
I30M **Mount Dempster** 73.07 26 P P 23 58 31.6 -0.4
baz=290,SNR=15
K29M **Barlow Dome** 73.08 27 P P 23 58 32.4 +0.3
baz=290,SNR=9.5
M29M **Somme Creek** 73.15 29 P P 23 58 32.1 -0.3
baz=289,SNR=20
VAF **Ylistaro** 73.19 332 *e*P P 23 58 32.6 +0.1
F31M **Tsiigehtchic** 73.26 23 IAmb IAmb 23 58 38.6
comp=Z,14nm,0.8s
F31M **Tsiigehtchic** 73.26 23 P P 23 58 33.0 +0.2
baz=292,SNR=20
G31M **Satah River** 73.26 24 P P 23 58 32.8 -0.1
baz=292
J30M **Hart River** 73.32 26 P P 23 58 33.2 -0.2
baz=291,SNR=5.2
MEF **Metsahovi** 73.35 329 *e*P P 23 58 34.2 +0.7
MNK **Minsk** 73.37 323 *i* P P 23 58 33.1 -0.6
MNK *i* 23 58 48.0
MNK *i* S S 00 08 00.2 -0.2
MNK *i* SS SS 00 12 40.2 -2.0
MNK pmax pmax
comp=E,24nm,1.0s
MNK pmax pmax
comp=Z,103nm,0.9s
MNK pmax pmax
comp=N,16nm,1.0s
MNK MLR MLR
comp=Z,464nm,16.0s
MNK MLR MLR
comp=E,220nm,17.0s
MNK MLR MLR
comp=N,228nm,17.0s
YUK4 **Talbot Arm** 73.43 30 P P 23 58 33.7 -0.6
baz=290
PNL **Peninsula** 73.64 32 P P 23 58 34.7 -0.6
baz=290
H31M **Peel River** 73.65 25 P P 23 58 35.3 0.0
baz=292,SNR=8.1
YUK6 **Outpost Mounta** 73.70 30 P P 23 58 34.7 -1.2
baz=290
IDID **Didziasalis** 73.74 324 *e*P P 23 58 36.7 +0.8
AK09 **Malin Array Si** 73.75 318 P P 23 58 35.1 -1.0
AK03 **Malin Array Si** 73.75 319 P P 23 58 35.3 -0.8
AKASG **Malin Array Be** 73.76 319 P P 23 58 35.2 -0.9
comp=N,32nm,0.9s,baz=59,slow=5.9,SNR=42
AKASG LR LR 00 34 19.4
comp=N,581nm,18.8s,baz=72,slow=38
comp=N,32nm,0.9s
AKBB **Malin Array Si** 73.76 319 IAmb IAmb 23 58 36.6
comp=Z,47nm,0.9s
AKBB **Malin Array Si** 73.76 319 *ce*P P 23 58 35.6 -0.5
AKBB pmax pmax
comp=Z,56nm,0.9s
AKBB **Malin Array Si** 73.76 319 P P 23 58 34.6 -1.5
AK08 **Malin Array Si** 73.76 319 P P 23 58 35.1 -1.0
KIEV **Kiev** 73.77 319 ⇑P P 23 58 36.1 -0.1
KIEV **Kiev** 73.77 319 P P 23 58 35.0 -1.2
KIEV IAmb IAmb 23 58 36.6
comp=Z,42nm,0.9s
KIEV **Kiev** 73.77 319 *i* P P 23 58 35.8 -0.4
SNR=7.5
KIEV **Kiev** 73.77 319 P P 23 58 36.1 -0.1
KIEV **Kiev** 73.77 319 P P 23 58 34.9 -1.2
comp=Z,201nm,1.3s,comp=Z,3μm
ISAL **Salakas** 73.99 324 *e*P P 23 58 38.3 +0.9
A36M **Sachs Harbour** 74.00 17 P P 23 58 36.7 -0.5
baz=298
N30M **Aishikik Lake** 74.10 29 P P 23 58 37.8 -0.2
N30M **Aishikik Lake** 74.10 29 P P 23 58 37.6 -0.4
baz=291
MTSE **Matsula** 74.13 328 *e*P P 23 58 38.1 0.0
HYT **Haines Junctio** 74.13 30 IAmb IAmb 23 58 40.7
comp=Z,30nm,1.6s
HYT **Haines Junctio** 74.13 30 P P 23 58 37.6 -0.7
baz=291
BR131 **Keskin Array S** 74.18 307 P P 23 58 39.4 +0.4
SNR=100
BR131 **Keskin Array S** 74.18 307 *i* P P 23 58 39.0 0.0
BRTR **Keskin Array B** 74.18 307 P P 23 58 39.1 +0.1
comp=Z,58nm,0.9s,baz=104,slow=5.2,SNR=264
BRTR LR LR 00 36 28.9
comp=Z,382nm,19.0s,baz=84,slow=40
comp=Z,58nm,0.9s
BR106 **Keskin Array S** 74.19 307 P P 23 58 39.4 +0.3
comp=Z,102nm,1.0s,comp=Z,823nm
STEI **Steigen** 74.21 338 *e*P P 23 58 38.0 -0.4
RAF **Rauma** 74.29 330 *e*P P 23 58 38.9 -0.1

MI30 **MI30,Zelenitsa** 74.37 319 P P 23 58 38.6 -1.1
FAUS **Fauske** 74.43 337 *e*P P 23 58 39.8 +0.1
P29M **Windy Craggy** 74.44 31 IAmb IAmb 23 58 43.2
comp=Z,22nm,1.1s
P29M **Windy Craggy** 74.44 31 P P 23 58 40.1 +0.1
baz=291,SNR=5.4
MI28 **MI28,Pidlybu** 74.62 319 P P 23 58 40.6 -0.6
P30M **Million Dollar** 74.64 31 P P 23 58 40.7 -0.4
baz=291
PURM **Purcari** 74.66 314 ⇑P P 23 58 41.8 +0.3
PURM **Purcari** 74.66 314 P P 23 58 40.7 -0.7
comp=Z,108nm,1.0s,comp=Z,1μm
N31M **Braeburn, Yuko** 74.67 29 P P 23 58 41.3 0.0
baz=292
MI29 **MI29, Kamyanyy** 74.68 319 P P 23 58 40.8 -0.7
ANTO **Ankara** 74.75 307 ⇑P P 23 58 42.7 +0.4
ANTO **Ankara** 74.75 307 P P 23 58 42.3 +0.1
ANTO **Ankara** 74.75 307 P P 23 58 42.9 +0.7
ANTO **Ankara** 74.75 307 P P 23 58 42.6 +0.4
ANTO **Ankara** 74.75 307 P P 23 58 42.0 -0.3
comp=Z,80nm,0.9s,comp=Z,706nm
BR231 **Keskin MP Arra** 74.78 307 P P 23 58 42.5 0.0
O30N **Mendenhall** 74.80 30 P P 23 58 42.8 +0.8
baz=292
MMAI **Mount Meron Ar** 74.96 300 P P 23 58 43.6 +0.1
comp=Z,14nm,0.8s,baz=70,slow=7.2,SNR=21
MMAI LR LR 00 37 58.6
comp=Z,745nm,18.3s,baz=7.5,slow=41
comp=Z,14nm,0.8s
M31M **Drury Creek, Y** 75.01 28 P P 23 58 43.1 -0.1
baz=293,SNR=6.0
VSVD **Vaisvydziai** 75.02 325 *e*P P 23 58 43.4 +0.1
SORM **Soroca** 75.12 316 ⇑P P 23 58 44.0 -0.1
SORM **Soroca** 75.12 316 P P 23 58 44.0 -0.1
SORM **Soroca** 75.12 316 P P 23 58 43.0 -1.1
comp=Z,50nm,1.0s,comp=Z,538nm
PLBC **Pleasant Camp** 75.16 31 P P 23 58 44.4 +0.2
baz=292
PABE **Paberze** 75.17 324 P P 23 58 44.4 +0.2
PABE **Paberze** 75.17 324 *e*P P 23 58 43.6 -0.5
KIS **Kishinev** 75.19 315 ⇑*i*P P 23 58 43.4 -1.1
comp=Z,60nm,2.3s
KIS *e*L L 00 31 03.0
KIS LRM MLR 00 35 36.0
comp=Z,200nm,18.0s
KIS **Kishinev** 75.19 315 *c i*P P 23 58 43.4 -1.1
KIS pmax pmax
comp=Z,60nm,2.3s
MILM **Milestii Mici** 75.22 315 ⇑P P 23 58 44.8 0.0
MILM **Milestii Mici** 75.22 315 ⇑*i*P P 23 58 43.1 -1.6
comp=Z,200nm,2.8s
MILM **Milestii Mici** 75.22 315 *c i*P P 23 58 43.1 -1.6
MILM pmax pmax
comp=Z,200nm,2.8s
MOR8 **Moi Rana** 75.25 336 *e*P P 23 58 43.5 -1.1
WHY **Whitehorse** 75.39 30 IAmb IAmb 23 59 07.3
comp=Z,24nm,1.3s
WHY **Whitehorse** 75.39 30 P P 23 58 45.7 +0.1
baz=293,SNR=5.1
FARO **Faro, Yukon** 75.45 28 P P 23 58 45.6 -0.2
FARO **Faro, Yukon** 75.45 28 P P 23 58 45.6 -0.2
baz=294,SNR=11
RNPP9 **Sopachiv** 75.52 320 P P 23 58 45.6 -0.7
RNPP8 **Varash** 75.56 320 P P 23 58 45.8 -0.8
C36M **Paulatuk** 75.64 20 IAmb IAmb 23 58 47.2
comp=Z,11nm,0.7s
C36M **Paulatuk** 75.64 20 P P 23 58 45.8 -0.8
baz=300
MDUB **Mudurnu** 75.72 308 P P 23 58 47.9 +0.1
LEOM **Leova** 75.74 315 ⇓P P 23 58 48.4 +0.7
LEOM **Leova** 75.74 315 P P 23 58 48.3 +0.7
S31K **Pelican** 75.79 33 P P 23 58 47.3 -0.4
baz=292
JURR **Jurilovca** 75.90 313 ⇑P P 23 58 49.4 +0.8
ATD **Arta Tunnel** 75.93 276 P P 23 58 49.2 -0.2
ATD IAmb IAmb 23 58 52.2
comp=Z,37nm,1.1s
ATD **Arta Tunnel** 75.93 276 LR LR 00 32 34.1
comp=Z,5.1nm,19.1s,baz=38,slow=36
ATD **Arta Tunnel** 75.93 276 P P 23 58 50.9 +1.5
IAS **Iasi** 75.94 316 P P 23 58 45.4 -3.4
CSS **Mathiatis** 75.95 302 P P 23 58 48.9 -0.2
comp=Z,116nm,1.0s,comp=Z,1μm
N32M **Quiet Lake** 76.00 29 P P 23 58 48.9 -0.1
baz=294
PBUR **Paburge** 76.05 325 *e*P P 23 58 50.0 +0.7
SUW **Suwalki** 76.13 323 *e*P P 23 58 50.1 +0.3
SUW **Suwalki** 76.13 323 *e*P P 23 58 50.0 +0.3
KMPD **K-Podol'skiy** 76.16 317 P P 23 58 48.9 -1.1
MMPY **Sheldon Lake,** 76.17 27 IAmb IAmb 23 59 31.9
comp=Z,32nm,2.0s
MMPY **Sheldon Lake,** 76.17 27 P P 23 58 49.9 0.0
baz=295
TPGR **Topolog** 76.17 313 ⇑P P 23 58 51.2 +0.9
SCTR **Scanteiesti** 76.18 314 ⇓P P 23 58 51.0 +0.8
CFR **Carcaliu** 76.25 313 ⇓P P 23 58 51.0 +0.4
CFR **Carcaliu** 76.25 313 P P 23 58 51.0 +0.4
P32M **Atlin** 76.35 31 P P 23 58 51.0 0.0
baz=294
GHRR 76.43 314 ⇑P P 23 58 52.9 +1.3
EIL **Elat** 76.43 297 LR LR 00 37 36.3
comp=Z,290nm,21.4s,baz=74,slow=40
R32K **Eaglecrest** 76.50 32 P P 23 58 52.4 +0.6
baz=294
P33M **Teslin, Yukon** 76.51 30 IAmb IAmb 23 58 54.0
comp=Z,34nm,1.5s
P33M **Teslin, Yukon** 76.51 30 P P 23 58 52.2 +0.3
baz=295,SNR=7.1
TLBR **Topalu** 76.53 313 ⇓P P 23 58 52.9 +0.6
HARR **Harsova** 76.56 313 ⇓P P 23 58 53.8 +1.4
HARR **Harsova** 76.56 313 P P 23 58 53.8 +1.4
UPP **Uppsala** 76.64 330 *e*P P 23 58 53.2 +0.8
DAG **Danmarks Havn** 76.75 351 *i* P P 23 58 51.1 -1.8
DAG IAmb IAmb 23 58 52.6
comp=Z,16nm,0.9s
TESR **Tescani** 76.76 315 ⇓P P 23 58 53.8 +0.3
TESR **Tescani** 76.76 315 P P 23 58 52.9 -0.6
comp=Z,65nm,1.9s,comp=Z,954nm
S32K **Killisnoo** 76.80 33 P P 23 58 54.0 +0.6
baz=294
ICOR **Ion Corvin** 76.85 312 ⇓P P 23 58 55.0 +1.0
NSS **Namsos** 76.92 335 *e*P P 23 58 53.5 -0.5
VRI **Vrincioaia** 76.94 314 ⇓P P 23 58 55.5 +1.0
VRI **Vrincioaia** 76.94 314 P P 23 58 55.5 +1.0
VRI **Vrincioaia** 76.94 314 P P 23 58 54.8 +0.2
comp=Z,92nm,1.3s,comp=Z,923nm
BIZ **Bicaz** 76.96 316 ⇑P P 23 58 56.2 +1.5
SPBR **Spulber** 76.97 314 ⇑P P 23 58 56.2 +1.5
PLOR5 **Plostina Array** 76.99 314 P P 23 58 55.2 +0.3
comp=Z,50nm,1.4s
PLOR **Plostina** 77.00 314 ⇑P P 23 58 55.5 +0.5
PLOR **Plostina** 77.00 314 P P 23 58 55.4 +0.5
PLOR3 **Plostina Array** 77.00 314 P P 23 58 54.4 -0.5
comp=Z,28nm,1.3s,comp=Z,626nm
ISK **Istanbul-Kandi** 77.04 309 P P 23 58 55.2 0.0
BISRR **Bisoca** 77.06 314 ⇓P P 23 58 56.9 +1.6
BISRR **Bisoca** 77.06 314 P P 23 58 55.8 +0.5
comp=Z,178nm,1.0s,comp=Z,2μm
ISP **Isparta** 77.11 306 *ce*P P 23 58 55.8 0.0
ISP pmax pmax
comp=Z,89nm,0.8s
LVV **L'vov** 77.19 319 *e*P P 23 58 55.7 -0.2
LVV *e*S S 00 08 41.1 -1.9
LVV *e*PS PnS 00 09 38.6 +14
LVV pmax pmax
comp=Z,110nm,1.3s
LVV MLR MLR
comp=N,200nm,19.0s
LVV MLR MLR
comp=E,600nm,19.0s
LVV MLR MLR
comp=Z,700nm,19.0s
BUR08 **Bucovina Ar. S** 77.28 317 IAmb IAmb 23 58 57.9
comp=Z,28nm,1.0s
BURAR **Bucovina Array** 77.28 317 ⇓P P 23 58 56.9 +0.4
BURAR **Bucovina Array** 77.28 317 P P 23 58 55.8 -0.8
BURAR IAmb IAmb 23 58 58.2
comp=Z,29nm,0.9s
BURAR **Bucovina Array** 77.28 317 P P 23 58 56.9 +0.4
COVR **Voineasa-Covas** 77.29 315 ⇑P P 23 58 57.4 +0.9
ISR **Istrita** 77.33 314 ⇓P P 23 58 58.1 +1.2
ISR **Istrita** 77.33 314 P P 23 58 58.0 +1.2
ISR **Istrita** 77.33 314 P P 23 58 57.6 +0.8
comp=Z,45nm,0.9s
TURR **Turia** 77.34 315 ⇑P P 23 58 57.8 +1.0

NEHR **Nehoiu** 77.38 314 ⇓P P 23 58 58.3 +1.2
CTYL **Yalikoy Yolu** 77.44 310 P P 23 58 56.5 -0.9
comp=Z,72nm,1.0s,comp=Z,803nm
OZUR 77.47 315 ⇓P P 23 58 58.4 +0.9
MLR **Muntele Rosu** 77.59 314 ⇓P P 23 58 58.8 +0.4
MLR **Muntele Rosu** 77.59 314 IAmb IAmb 23 58 59.9
comp=Z,56nm,1.2s
MLR **Muntele Rosu** 77.59 314 LR LR 00 37 27.6
comp=Z,799nm,19.3s,baz=64,slow=39
MLR **Muntele Rosu** 77.59 314 P P 23 58 58.7 +0.4
MLR **Muntele Rosu** 77.59 314 P P 23 58 57.9 -0.4
comp=Z,42nm,0.9s,comp=Z,571nm
VIKU **Vikbolandet** 77.65 329 *e*P P 23 58 58.5 +0.4
SULR 77.68 313 ⇓P P 23 58 59.3 +0.7
R33M **Jennings River** 77.70 30 IAmb IAmb 23 59 01.3
comp=Z,28nm,1.4s
R33M **Jennings River** 77.70 30 P P 23 58 59.1 +0.4
baz=296,SNR=8.8
DOPR **Dopca** 77.77 315 ⇓P P 23 58 59.6 +0.4
RAZG **Razgrad** 77.92 312 ⇑P P 23 59 01.0 +0.9
TGTN **Hyland Airport** 77.92 28 P P 23 58 59.9 +0.1
baz=298,SNR=8.0
ARCR **ARCALIA** 78.02 316 ⇑P P 23 59 01.4 +0.9
KWP **Kalwaria Pacla** 78.06 319 *e*P P 23 59 01.4 +0.6
KWP **Kalwaria Pacla** 78.06 319 P P 23 59 01.3 +0.6
comp=Z,127nm,1.1s,comp=Z,1μm
U33K **Whale Pass** 78.09 34 P P 23 59 00.8 +0.1
baz=295
EDC **Edincik** 78.15 309 P P 23 59 01.5 +0.1
VOIR 78.19 314 ⇑P P 23 59 02.2 +0.5
VOIR 78.19 314 P P 23 59 02.1 +0.5
VOIR 78.19 314 P P 23 59 00.5 -1.1
comp=Z,9.7nm,1.0s,comp=Z,2μm
TBLU **Trondheim** 78.21 335 *e*P P 23 59 00.6 -0.7
S34M **Telegraph Cree** 78.29 32 P P 23 59 02.0 +0.2
S34M **Telegraph Cree** 78.29 32 P P 23 59 01.8 0.0
baz=296
HFS **Hagfors** 78.29 331 P P 23 59 01.0 -0.8
comp=Z,9.0nm,0.7s,baz=95,slow=6.4,SNR=21
HFS PP PP 00 01 57.6 -0.8
comp=Z,4.3nm,0.9s,baz=173,slow=39,SNR=4.3
HFS LR LR 00 36 56.7
comp=Z,3μm,20.0s,baz=64,slow=38
comp=Z,9.0nm,0.7s
HFS **Hagfors** 78.29 331 P P 23 59 01.0 -0.8
JMB **Yambol** 78.30 311 P P 23 59 02.2 0.0
BEL **Belsk** 78.31 322 *e*P P 23 59 02.2 +0.2
BMR **Baia Mare** 78.33 317 ⇑P P 23 59 03.5 +1.3
BMR **Baia Mare** 78.33 317 P P 23 59 03.5 +1.3
WRAK **Wrangell Islan** 78.35 33 P P 23 59 02.2 0.0
baz=296
WTLY **Watson Lake, Y** 78.36 29 P P 23 59 02.3 +0.1
baz=298
CRAG **Craig** 78.36 34 P P 23 59 01.1 -1.2
baz=295
BRIU **Brid** 78.37 318 P P 23 59 02.3 -0.1
SZH **Strazhitsa** 78.39 312 P P 23 59 02.9 +0.2
TRSU **Trosnyk** 78.50 318 P P 23 59 03.7 +0.5
DLBC **Dease Lake** 78.57 31 IAmb IAmb 23 59 06.0
comp=Z,36nm,1.4s
DLBC **Dease Lake** 78.57 31 P P 23 59 03.5 +0.1
baz=297,SNR=8.7
HUMR **Humele** 78.58 314 ⇓P P 23 59 04.0 +0.3
ELND **Elena** 78.58 312 ⇑P P 23 59 04.7 +1.0
KOLS **Kolonicke sedl** 78.59 319 *e*P P 23 59 04.5 +0.8
KOLS **Kolonicke sedl** 78.59 319 *e*P P 23 59 04.5 +0.8
KOLS pmax pmax
comp=Z,14nm,0.8s
CJR **Cluj-Napoca** 78.64 316 ⇑P P 23 59 05.5 +1.5
CJR **Cluj-Napoca** 78.64 316 P P 23 59 05.5 +1.5
NC405 **NORSAR Array S** 78.68 332 IAmb IAmb 23 59 04.7
comp=Z,36nm,0.8s
RES **Resolute Bay** 78.70 9 LR LR 00 38 01.0
comp=Z,678nm,19.2s,baz=352,slow=39
NEEM **North Greenlan** 78.74 359 *i* P P 23 59 04.0 -0.4
NC303 **NORSAR Array S** 78.77 333 IAmb IAmb 23 59 05.2
comp=Z,32nm,1.0s
NB201 **NORSAR Array S** 78.89 332 P P 23 59 04.3 -0.8
NB201 IAmb IAmb 23 59 05.6
comp=Z,24nm,0.8s
NB2 **NORSAR Subarra** 78.92 332 P P 23 59 04.5 -0.8
comp=Z,58nm,1.4s,baz=56,slow=5.6
NB2 **NORSAR Subarra** 78.92 332 P P 23 59 04.5 -0.8
baz=56,slow=5.6
NOA **NORSAR Array B** 78.92 332 P P 23 59 04.4 -0.9
comp=Z,13nm,0.9s,baz=57,slow=5.6,SNR=32
NOA PP PP 00 02 03.4 -0.4
comp=Z,1.4nm,0.8s,baz=79,slow=6.4,SNR=4.8
NOA LR LR 00 37 48.1
comp=Z,2μm,18.3s,baz=70,slow=39
comp=Z,13nm,0.9s
NC602 **NORSAR Array S** 78.94 332 IAmb IAmb 00 00 10.4
comp=Z,96nm,2.0s
MARR **Marisel-Cluj** 78.96 316 ⇓P P 23 59 06.7 +0.9
DBG **Daneborg** 79.00 350 *i* P P 23 59 03.6 -1.8
DBG IAmb IAmb 23 59 05.5
comp=Z,17nm,0.9s
NC204 **NORSAR Array S** 79.00 333 IAmb IAmb 23 59 06.4
comp=Z,28nm,1.1s
WRGLY **Wrigley** 79.01 25 P P 23 59 05.9 +0.2
baz=302,SNR=8.0
STHS **Stebnicka Huta** 79.02 319 *e*P P 23 59 06.2 +0.2
STHS **Stebnicka Huta** 79.02 319 *e*P P 23 59 06.2 +0.2
STHS pmax pmax
comp=Z,17nm,1.0s
CRVS **Cervenica-Dubn** 79.10 319 *e*P P 23 59 07.2 +0.7
CRVS *e* 00 13 30.8
CRVS **Cervenica-Dubn** 79.10 319 *e*P P 23 59 07.2 +0.7
CRVS pmax pmax
comp=Z,219nm,2.3s
NBO00 **NORSAR Array S** 79.11 333 IAmb IAmb 23 59 07.6
comp=Z,24nm,1.1s
T35M **Bob Quinn** 79.13 32 P P 23 59 06.0 -0.6
baz=297
NAO01 **NORSAR Array S** 79.16 332 IAmb IAmb 23 59 06.9
comp=Z,30nm,1.2s
DRGR 79.17 316 ⇓P P 23 59 07.9 +0.9
DRGR 79.17 316 P P 23 59 07.9 +0.9
V35K **Ketchikan** 79.20 34 P P 23 59 06.6 -0.2
baz=297
ALN **Alexandroupoli** 79.23 310 P P 23 59 06.8 -0.5
ALN IAmb IAmb 23 59 08.5
comp=Z,42nm,1.0s
ALN **Alexandroupoli** 79.23 310 P P 23 59 06.8 -0.5
ALN pmax pmax
comp=Z,42nm,1.0s
DOMB **Dombas** 79.30 334 *e*P P 23 59 06.9 -0.4
JMIC **Jan Mayen** 79.32 345 LR LR 00 38 16.5
comp=Z,910nm,18.6s,baz=84,slow=39
DEV **Deva** 79.41 315 ⇑P P 23 59 08.9 +0.7
DEV **Deva** 79.41 315 P P 23 59 08.9 +0.7
KDZ **Kurdzhali** 79.44 311 P P 23 59 08.5 0.0
RDO **Rodhopi** 79.49 310 IAmb IAmb 23 59 09.9
comp=Z,53nm,1.1s
OJC **Ojcow** 79.54 320 *e*P P 23 59 09.1 +0.2
OJC **Ojcow** 79.54 320 P P 23 59 08.2 -0.6
comp=Z,67nm,1.4s,comp=Z,693nm
NIE **Niedzica** 79.58 320 *e*P P 23 59 09.9 +0.8
NIE **Niedzica** 79.58 320 P P 23 59 09.1 0.0
comp=Z,19nm,1.6s,comp=Z,287nm
MOL **Molde** 79.63 335 *e*P P 23 59 09.9 +0.9
GKP **Gorka Klasztor** 79.67 324 *e*P P 23 59 09.4 0.0
OSL **Oslo** 79.69 332 *e*P P 23 59 09.7 +0.3
KECS **Kecovo** 79.86 319 *e*P P 23 59 11.3 +0.7
KECS **Kecovo** 79.86 319 *e*P P 23 59 11.3 +0.7
KECS pmax pmax
comp=Z,43nm,1.5s
LIRD **Liard River Hi** 79.89 29 P P 23 59 10.7 +0.1
baz=300,SNR=7.2
PGB **Panagyurishte** 79.90 312 P P 23 59 11.7 +0.7
SURR **Surduc** 79.96 316 ⇑P P 23 59 12.1 +0.9
PUNG **Punghina** 80.03 314 ⇑P P 23 59 12.8 +1.3
SIRR **Siria** 80.05 316 ⇓P P 23 59 12.3 +0.6
AKN **Aaknes** 80.05 335 *e*P P 23 59 11.7 +0.3
HERR **Herculane** 80.12 315 ⇑P P 23 59 13.1 +1.0
DJES **Djerdap** 80.14 314 ⇑P P 23 59 13.0 +0.7
LANS **Liptovska Anna** 80.19 319 *e*P P 23 59 13.6 +1.2
LANS **Liptovska Anna** 80.19 319 *e*P P 23 59 13.6 +1.2
LANS pmax pmax
comp=Z,9.0nm,1.1s
BZS **Buzias** 80.34 316 ⇑P P 23 59 13.6 +0.3
BZS **Buzias** 80.34 316 P P 23 59 13.5 +0.3
KARP **Karpathos** 80.45 305 P P 23 59 13.1 -1.0
comp=Z,238nm,1.1s,comp=Z,2μm
PSZ **Piszkesteto** 80.45 318 ⇓P P 23 59 14.7 +0.7

PSZ	**Piszkesteto**	**80.45**	**318**	P		**P**	**23 59 13.6**	**-0.3**
PSZ				IAmb		IAmb	23 59 15.5		
	comp=Z,42nm,1.1s								
PSZ	**Piszkesteto**	**80.45**	**318**	P		**P**	**23 59 13.6**	**-0.3**
PSZ				pmax		pmax			
	comp=Z,42nm,1.1s								
BLKB	**Belogradchik**	**80.46**	**313**	⇑P		**P**	**23 59 14.5**	**+0.5**
BSZH	**Besenyszg**	**80.49**	**318**	⇑P		**P**	**23 59 15.5**	**+1.5**
VTS	**Vitosha**	**80.49**	**312**	P		**P**	**23 59 14.7**	**+0.4**
MMB	**Musomishta**	**80.57**	**311**	P		**P**	**23 59 14.6**	**0.0**
MDVR	**Moldovita**	**80.62**	**315**	⇑P		**P**	**23 59 15.0**	**+0.2**
OKC	**Ostrava-Krasne**	**80.67**	**321**	*e*P		**P**	**23 59 15.9**	**+1.0**
OKC				AMS		AMS	00 40 30.0		
	comp=Z,600nm,12.1s								
OKC	**Ostrava-Krasne**	**80.67**	**321**	*e*P		**P**	**23 59 15.9**	**+1.0**
OKC				MLR		MLR			
	comp=Z,600nm,12.1s								
VYHS	**Vyhne**	**80.85**	**319**	*e*P		**P**	**23 59 16.5**	**+0.6**
VYHS	**Vyhne**	**80.85**	**319**	*e*P		**P**	**23 59 16.5**	**+0.6**
VYHS				pmax		pmax			
	comp=Z,71nm,1.1s								
KKB	**Krupnik**	**80.88**	**312**	P		**P**	**23 59 16.2**	**0.0**
MORC	**Moravsky Berou**	**81.05**	**321**	⇑P		**P**	**23 59 16.1**	**+1.1**
MORC	**Moravsky Berou**	**81.05**	**321**	P		**P**	**23 59 16.4**	**-0.6**
MORC				IAmb		IAmb	23 59 18.8		
	comp=Z,32nm,1.2s								
MORC	**Moravsky Berou**	**81.05**	**321**	*e*P		**P**	**23 59 16.9**	**-0.1**
MORC	**Moravsky Berou**	**81.05**	**321**	P		**P**	**23 59 16.4**	**-0.6**
MORC				pmax		pmax			
	comp=Z,32nm,1.2s								
MAUC	**Maruska**	**81.06**	**320**	*e*P		**P**	**23 59 17.5**	**+0.4**
BOVS	**Bovan**	**81.10**	**314**	⇓P		**P**	**23 59 17.4**	**0.0**
BUD	**Budapest**	**81.17**	**318**	P		**P**	**23 59 17.8**	**+0.2**
KRLC	**Kraliky**	**81.35**	**321**	*e*P		**P**	**23 59 19.0**	**+0.4**
KRLC				AMS		AMS	00 38 50.0		
	comp=Z,700nm,15.8s								
KRLC	**Kraliky**	**81.35**	**321**	*e*P		**P**	**23 59 19.0**	**+0.4**
KRLC				MLR		MLR			
	comp=Z,700nm,15.8s								
JAVC	**Velka Javorina**	**81.38**	**320**	*e*P		**P**	**23 59 19.9**	**+1.1**
OSTC	**Ostas**	**81.45**	**322**	*e*P		**P**	**23 59 19.7**	**+0.6**
OSTC	**Ostas**	**81.45**	**322**	*e*P		**P**	**23 59 19.7**	**+0.6**
SRO	**Srobarova**	**81.46**	**319**	*e*P		**P**	**23 59 19.9**	**+0.7**
SRO	**Srobarova**	**81.46**	**319**	*e*P		**P**	**23 59 19.9**	**+0.7**
SRO				pmax		pmax			
	comp=Z,19nm,1.0s								
VAY	**Valandovo**	**81.47**	**311**	*i* P		**P**	**23 59 18.7**	**-0.7**
DPC	**Dobruska-Polom**	**81.49**	**322**	*e*P		**P**	**23 59 19.9**	**+0.6**
DPC				AMS		AMS	00 39 00.0		
	comp=Z,1µm,16.6s								
DPC	**Dobruska-Polom**	**81.49**	**322**	*e*P		**P**	**23 59 19.9**	**+0.6**
DPC				MLR		MLR			
	comp=Z,1µm,16.6s								
DPC	**Dobruska-Polom**	**81.49**	**322**	P		**P**	**23 59 19.3**	**0.0**
	comp=Z,21nm,1.6s,comp=Z,427nm								
CHVC	**Chvalec**	**81.53**	**322**	AMS		AMS	00 38 50.0		
	comp=Z,1µm,17.8s								
UPC	**Upice**	**81.59**	**322**	*e*P		**P**	**23 59 21.0**	**+1.2**
UPC				AMS		AMS	00 38 50.0		
	comp=Z,1µm,20.8s								
UPC	**Upice**	**81.59**	**322**	*e*P		**P**	**23 59 21.0**	**+1.2**
UPC				MLR		MLR			
	comp=Z,1µm,20.8s								
SMOL	**Smolenice**	**81.68**	**320**	*e*P		**P**	**23 59 21.6**	**+1.3**
SMOL				pmax		pmax			
	comp=Z,19nm,1.1s								
FRGS	**Fruska Gora**	**81.69**	**316**	⇓P		**P**	**23 59 20.4**	**-0.1**
FRGS	**Fruska Gora**	**81.69**	**316**	⇑*i*P		**P**	**23 59 20.4**	**-0.1**
FRGS	**Fruska Gora**	**81.69**	**316**	P		**P**	**23 59 19.8**	**-0.7**
	comp=Z,91nm,1.4s,comp=Z,760nm								
KULLO	**Kullorsuaq**	**81.69**	**360**	*i* P		**P**	**23 59 19.3**	**-0.6**
VRAC	**Vranov**	**81.81**	**320**	⇓P		**P**	**23 59 22.1**	**+1.1**
VRAC	**Vranov**	**81.81**	**320**	*e*P		**P**	**23 59 21.7**	**+0.7**
VRAC	**Vranov**	**81.81**	**320**	LR		LR	00 39 00.7		
	comp=Z,332nm,18.7s,baz=60,slow=38								
VRAC	**Vranov**	**81.81**	**320**	P		**P**	**23 59 22.1**	**+1.1**
MODS	**Modra-Piesok**	**81.83**	**319**	*e*P		**P**	**23 59 21.8**	**+0.6**
MODS	**Modra-Piesok**	**81.83**	**319**	*e*P		**P**	**23 59 21.8**	**+0.6**
MODS				pmax		pmax			
	comp=Z,66nm,1.3s								
MORH	**Mrgy, Hungar**	**81.96**	**317**	⇓P		**P**	**23 59 22.3**	**+0.4**
MORH	**Mrgy, Hungar**	**81.96**	**317**	P		**P**	**23 59 21.2**	**-0.6**
	comp=Z,38nm,1.5s,comp=Z,1µm								
SKO	**Skopje**	**81.97**	**312**	*i* P		**P**	**23 59 22.2**	**+0.2**
ZST	**Bratislava**	**82.02**	**319**	*e*P		**P**	**23 59 23.2**	**+1.1**
ZST	**Bratislava**	**82.02**	**319**	*e*P		**P**	**23 59 23.2**	**+1.1**
LIT	**Litokhoron**	**82.03**	**310**	P		**P**	**23 59 21.1**	**-1.3**
LIT				IAmb		IAmb	23 59 22.8		
	comp=Z,33nm,1.0s								
LIT	**Litokhoron**	**82.03**	**310**	P		**P**	**23 59 21.1**	**-1.3**
LIT				pmax		pmax			
	comp=Z,33nm,1.0s								
KRUC	**Moravsky**	**82.04**	**320**	*e*P		**P**	**23 59 22.0**	**-0.2**
TEKS	**Tekeris**	**82.13**	**315**	⇑*i*P		**P**	**23 59 22.3**	**-0.5**
MPLH	**Magyarpolny**	**82.22**	**318**	P		**P**	**23 59 22.6**	**-0.6**
	comp=Z,102nm,1.3s,comp=Z,1µm								
IDI	**Anoyia**	**82.26**	**305**	IAmb		IAmb	23 59 41.6		
	comp=Z,40nm,0.9s								
PVCC	**Panska Ves**	**82.39**	**322**	AMS		AMS	00 40 40.0		
	comp=Z,2µm,16.9s								
PVCC	**Panska Ves**	**82.39**	**322**	P		**P**	**23 59 24.4**	**+0.4**
TREC	**Trest**	**82.46**	**321**	AMS		AMS	00 39 40.0		
	comp=Z,900nm,15.8s								
BBLS	**Lazi&#263i**	**82.51**	**315**	⇑*i*P		**P**	**23 59 25.0**	**+0.1**
FNA	**Florina**	**82.52**	**311**	IAmb		IAmb	23 59 25.1		
	comp=Z,26nm,1.0s								
GOPC	**GO Pecny, Ondr**	**82.56**	**322**	*e*P		**P**	**23 59 26.0**	**+1.0**
GOPC				AMS		AMS	00 40 50.0		
	comp=Z,900nm,17.1s								
GOPC	**GO Pecny, Ondr**	**82.56**	**322**	*e*P		**P**	**23 59 26.0**	**+1.0**
GOPC				MLR		MLR			
	comp=Z,900nm,17.1s								
SOP	**Sopron**	**82.58**	**319**	P		**P**	**23 59 25.3**	**+0.3**
BRG	**Berggiesshubel**	**82.58**	**323**	*i* P		**P**	**23 59 25.4**	**+0.4**
BRG				Amp			23 59 28.3		
	comp=Z,18nm,1.3s								
BRG	**Berggiesshubel**	**82.58**	**323**	*i* P		**P**	**23 59 25.4**	**+0.4**
BRG							23 59 40.4		
BRG				pmax		pmax			
	comp=Z,18nm,1.3s								
AGG	**Agios Georgios**	**82.59**	**309**	IAmb		IAmb	23 59 25.4		
	comp=Z,28nm,0.9s								
RUDO	**Rudo**	**82.64**	**314**	⇑*i*P		**P**	**23 59 25.1**	**-0.4**
PRU	**Pruhonice**	**82.67**	**322**	*e*P		**P**	**23 59 26.0**	**+0.5**
PRU				AMS		AMS	00 39 30.0		
	comp=Z,1µm,17.6s								
PRU	**Pruhonice**	**82.67**	**322**	*e*P		**P**	**23 59 26.0**	**+0.5**
PRU				MLR		MLR			
	comp=Z,1µm,17.6s								
PRA	**Prague**	**82.69**	**322**	AMS		AMS	00 39 30.0		
	comp=Z,1µm,20.7s								
RONA	**Rosalia, Austr**	**82.73**	**319**	*e*P		**P**	**23 59 26.0**	**+0.1**
	comp=Z,5.4nm,0.9s,SNR=7.3								
RONA				*e*PP		**PP**	**00 02 34.3**	**-1.2**
	comp=Z,5.9nm,1.6s								
YKA	**Yellowknife Ar**	**82.74**	**23**	P		**P**	**23 59 25.5**	**-0.1**
	comp=Z,8.6nm,0.8s,baz=316,slow=5.3,SNR=123								
	comp=Z,8.6nm,0.8s								
OHR	**Ohrid**	**82.78**	**312**	*i* P		**P**	**23 59 25.6**	**-0.7**
SUMG	**Summit**	**82.83**	**354**	IAmb		IAmb	23 59 27.3		
	comp=Z,30nm,1.0s								
SUMG	**Summit**	**82.83**	**354**	*i* P		**P**	**23 59 25.1**	**-1.3**
SUMG				IAmb		IAmb	23 59 27.1		
	comp=Z,36nm,1.1s								
CONA	**Conrad Observa**	**82.88**	**319**	*e*P		**P**	**23 59 26.9**	**+0.2**
	comp=Z,10nm,1.1s,SNR=20								
CONA				*e*PP		**PP**	**00 02 35.5**	**-1.4**
	comp=Z,7.9nm,1.4s								
CLL	**Collm**	**82.88**	**323**	IAmb		IAmb	23 59 27.7		
	comp=Z,34nm,1.3s								
CLL	**Collm**	**82.88**	**323**	*i* P		**P**	**23 59 26.0**	**-0.5**
CLL				*e**PP		**sP**	**23 59 37.0**	**-2.1**
CLL				*e*S		**S**	**00 09 42.0**	**-0.9**
CLL				pmax		pmax			
	comp=Z,33nm,1.3s								
CLL				MLR		MLR			
	comp=Z,2µm,18.1s								
PUK	**Puka**	**82.98**	**313**	P		**P**	**23 59 26.7**	**-0.7**
PUK				IAmb		IAmb	23 59 28.8		
	comp=Z,40nm,1.5s								
HSKC	**Hora Svate Kat**	**82.99**	**323**	*e*P		**P**	**23 59 28.2**	**+1.0**
HSKC				AMS		AMS	00 41 30.0		
	comp=Z,2µm,14.8s								
ZVC	**Zvikov**	**83.13**	**321**	*e*P		**P**	**23 59 28.5**	**+0.6**
PDG	**Podgorica**	**83.24**	**313**	⇑P		**P**	**23 59 29.2**	**+0.6**
PDG	**Podgorica**	**83.24**	**313**	⇑*i*P		**P**	**23 59 28.1**	**-0.5**
KOGS	**Kog**	**83.33**	**318**	*i* P		**P**	**23 59 28.4**	**-0.6**
CKRC	**Cesky Krumlov**	**83.36**	**321**	*e*P		**P**	**23 59 29.7**	**+0.6**
CKRC				*e*S		**S**	**00 09 48.1**	**+0.2**
CKRC				AMS		AMS	00 39 30.0		
	comp=Z,900nm,20.0s								
CKRC	**Cesky Krumlov**	**83.36**	**321**	*e*P		**P**	**23 59 29.7**	**+0.6**
CKRC				*e*			00 09 48.1		
CKRC				MLR		MLR			
	comp=Z,900nm,20.0s								
DRME	**Dracevica, Mon**	**83.39**	**313**	⇑*i*P		**P**	**23 59 29.1**	**-0.3**
ARSA	**Arzberg**	**83.40**	**319**	*e*P		**P**	**23 59 29.2**	**-0.2**
	comp=Z,18nm,1.4s,SNR=8.7								
ARSA				*e*PP		**PP**	**00 02 39.8**	**-1.2**
	comp=Z,3.3nm,1.0s								
UPNV	**Upernavik**	**83.50**	**360**	*i* P		**P**	**23 59 29.1**	**-0.2**
UPNV				IAmb		IAmb	23 59 30.0		
	comp=Z,30nm,0.8s								
BRY	**Bratogost**	**83.50**	**314**	⇑*i*P		**P**	**23 59 29.6**	**-0.5**
BLY	**Banja Luka**	**83.54**	**316**	⇑*i*P		**P**	**23 59 30.2**	**+0.1**
A051A	**Mrakovica**	**83.59**	**317**	⇑*i*P		**P**	**23 59 30.3**	**-0.2**
KHC	**Kasperske Hory**	**83.63**	**321**	IAmb		IAmb	23 59 32.2		
	comp=Z,37nm,1.2s								
KHC	**Kasperske Hory**	**83.63**	**321**	*e*P		**P**	**23 59 31.1**	**+0.6**
KHC				*e*S		**S**	**00 09 51.1**	**+0.4**
KHC				AMS		AMS	00 40 30.0		
	comp=Z,1µm,15.5s								
KHC	**Kasperske Hory**	**83.63**	**321**	*ce*P		**P**	**23 59 30.4**	**-0.1**
KHC				pmax		pmax			
	comp=Z,84nm,1.3s								
KHC	**Kasperske Hory**	**83.63**	**321**	P		**P**	**23 59 30.2**	**-0.3**
	comp=Z,26nm,1.6s,comp=Z,488nm								
GEC2	**GERESS Array S**	**83.70**	**321**	IAmb		IAmb	23 59 32.4		
	comp=Z,43nm,1.1s								
GERES	**GERESS Array B**	**83.70**	**321**	P		**P**	**23 59 31.4**	**+0.4**
	comp=Z,16nm,0.9s,baz=59,slow=4.7,SNR=42								
GERES				PP		**PP**	**00 02 42.8**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=46,slow=8.7,SNR=4.5								
GERES				LR		LR	00 40 56.5		
	comp=Z,1µm,18.5s,baz=66,slow=39								
	comp=Z,16nm,0.9s								
TREB	**Trebinje**	**83.71**	**314**	⇑*i*P		**P**	**23 59 30.9**	**-0.1**
NKC	**Novy Kostel**	**83.72**	**323**	AMS		AMS	00 41 30.0		
	comp=Z,1µm,15.4s								
MGRS	**Mrkonjic Grad**	**83.76**	**316**	⇓*i*P		**P**	**23 59 32.3**	**+1.0**
MOA	**Molln**	**83.86**	**320**	*e*P		**P**	**23 59 32.0**	**+0.3**
	comp=Z,40nm,1.0s,SNR=16								
MOA				*e*PP		**PP**	**00 02 44.7**	**-0.1**
	comp=Z,0.1nm,0.3s								
SRKY	**Kupres RS**	**83.86**	**316**	⇑*i*P		**P**	**23 59 31.6**	**-0.3**
SOKA	**Soboth**	**83.97**	**319**	*e*P		**P**	**23 59 32.1**	**-0.2**
	comp=Z,28nm,1.1s,SNR=27								
SOKA				*e*PP		**PP**	**00 02 45.5**	**-0.3**
	comp=Z,5.4nm,1.4s								
STON	**Ston**	**84.07**	**314**	⇑*i*P		**P**	**23 59 31.8**	**-1.0**
A050A	**Klekovaca**	**84.08**	**316**	⇑*i*P		**P**	**23 59 32.9**	**-0.1**
CRES	**Cresnjev**	**84.11**	**318**	⇑*i*P		**P**	**23 59 32.9**	**-0.1**
BIOA	**Bad Ischl, Aus**	**84.31**	**320**	*e*P		**P**	**23 59 34.1**	**+0.1**
	comp=Z,21nm,1.1s,SNR=14								
OBKA	**Obir**	**84.34**	**319**	*e*P		**P**	**23 59 34.0**	**-0.3**
	comp=Z,26nm,1.2s,SNR=19								
OBKA				*e*PP		**PP**	**00 02 49.7**	**+0.8**
	comp=Z,6.9nm,1.4s								
OBKA	**Obir**	**84.34**	**319**	⇑*i*P		**P**	**23 59 33.8**	**-0.5**
BOJS	**Bojanci**	**84.39**	**318**	⇑*i*P		**P**	**23 59 34.6**	**+0.2**
LJU	**Ljubljana**	**84.58**	**318**	*i* P		**P**	**23 59 35.2**	**-0.2**
GRFO	**Grafenberg**	**84.68**	**323**	P		**P**	**23 59 35.9**	**+0.1**
GRFO	**Grafenberg**	**84.68**	**323**	P		**P**	**23 59 35.9**	**+0.1**
GRFO				pmax		pmax			
	comp=Z,63nm,1.3s								
NUUG	**Nuugaatsiaq**	**84.70**	**359**	*i* P		**P**	**23 59 34.9**	**-0.5**
NUUG				IAmb		IAmb	23 59 36.3		
	comp=Z,33nm,1.0s								
KBA	**Koelnbreinsper**	**84.78**	**320**	*e*PP		**PP**	**00 02 51.6**	**-0.9**
	comp=Z,9.5nm,1.0s								
CEY	**Cerknica**	**84.79**	**318**	*i* P		**P**	**23 59 36.2**	**-0.3**
CEY	**Cerknica**	**84.79**	**318**	⇑*i*P		**P**	**23 59 36.1**	**-0.3**
MYKA	**Terra Mystica**	**84.83**	**319**	*e*P		**P**	**23 59 36.1**	**-0.6**
	comp=Z,10nm,0.9s,SNR=6.1								
PRED	**Cave del Predi**	**84.97**	**319**	IAmb		IAmb	23 59 37.9		
	comp=Z,26nm,1.4s								
LESA	**Schwarzleotal**	**85.00**	**320**	*e*P		**P**	**23 59 37.2**	**-0.4**
	comp=Z,28nm,1.1s								
LESA				*e*PP		**PP**	**00 02 53.3**	**-0.9**
	comp=Z,11nm,1.3s								
ROBS	**Robic**	**85.10**	**319**	*i* P		**P**	**23 59 36.9**	**-1.1**
SABO	**M.te Sabotino**	**85.17**	**319**	IAmb		IAmb	23 59 39.0		
	comp=Z,78nm,1.3s								
ABTA	**Abfaltersbach**	**85.44**	**320**	*e*P		**P**	**23 59 38.5**	**-1.3**
	comp=Z,30nm,1.0s,SNR=17								
UMMG	**Uummannaq**	**85.54**	**358**	*i* P		**P**	**23 59 38.3**	**-1.3**
UMMG				IAmb		IAmb	23 59 40.4		
	comp=Z,22nm,1.0s								
WATA	**Walderalm**	**85.69**	**320**	*e*P		**P**	**23 59 40.4**	**-0.7**
	comp=Z,31nm,1.2s,SNR=13								
WATA				*e*PP		**PP**	**00 02 59.2**	**-0.7**
	comp=Z,6.9nm,1.2s								
WTTA	**Wattenberg**	**85.70**	**320**	*e*P		**P**	**23 59 40.7**	**-0.5**
	comp=Z,36nm,1.0s,SNR=19								
WTTA				*e*PP		**PP**	**00 02 59.1**	**-0.8**
	comp=Z,11nm,1.6s								
MATE	**Matera**	**85.75**	**313**	⇑P		**P**	**23 59 41.7**	**+0.4**
KIBK	**Kibwezi**	**85.77**	**266**	P		**P**	**23 59 41.7**	**-0.2**
KIBK				IAmb		IAmb	23 59 45.1		
	comp=Z,31nm,1.2s								
KIBK	**Kibwezi**	**85.77**	**266**	P		**P**	**23 59 44.0**	**+2.1**
	SNR=6.7								
LODK	**Lodwar**	**85.91**	**272**	P		**P**	**23 59 42.7**	**+0.1**
LODK				IAmb		IAmb	23 59 45.7		
	comp=Z,20nm,1.1s								
LODK	**Lodwar**	**85.91**	**272**	P		**P**	**23 59 44.4**	**+1.8**
	SNR=10								
MOTA	**Moosalm**	**85.96**	**321**	*i* P		**P**	**23 59 41.7**	**-0.8**
	comp=Z,25nm,1.2s,SNR=7.7								
MOTA				PP		**PP**	**00 03 01.8**	**-0.2**
	comp=Z,5.4nm,0.9s								
SQTA	**Sankt Quirin**	**85.97**	**320**	*e*P		**P**	**23 59 41.8**	**-0.7**
	comp=Z,38nm,1.2s,SNR=17								
SQTA				PP		**PP**	**00 03 01.2**	**-0.8**
	comp=Z,8.9nm,1.5s								
SOEG	**Soedalen**	**86.09**	**350**	*i* P		**P**	**23 59 41.7**	**-0.7**
SOEG				IAmb		IAmb	23 59 43.2		
	comp=Z,18nm,0.7s								
RETA	**Reutte**	**86.09**	**321**	*e*P		**P**	**23 59 42.0**	**-0.9**
	comp=Z,5.1nm,1.1s								
RETA				*e*PP		**PP**	**00 03 02.3**	**-0.6**
	comp=Z,6.6nm,1.1s								
ICESG	**Greenland Ices**	**86.30**	**354**	*i* P		**P**	**23 59 42.6**	**-1.3**
ICESG				IAmb		IAmb	23 59 44.9		
	comp=Z,30nm,0.9s								
STU	**Stuttgart**	**86.30**	**322**	IAmb		IAmb	23 59 45.2		
	comp=Z,21nm,1.2s								
CTI	**Castel Tesino**	**86.31**	**319**	IAmb		IAmb	23 59 44.6		
	comp=Z,22nm,1.2s								
FETA	**Feichten**	**86.35**	**320**	*e*P		**P**	**23 59 43.7**	**-0.7**
	comp=Z,31nm,1.3s,SNR=9.4								
FETA				*e*PP		**PP**	**00 03 04.7**	**-0.5**
	comp=Z,10.0nm,1.1s								
TIP	**Timpagrande**	**86.41**	**311**	⇑P		**P**	**23 59 45.9**	**+1.2**
TIP	**Timpagrande**	**86.41**	**311**	P		**P**	**23 59 44.6**	**-0.1**
	comp=Z,37nm,1.6s,comp=Z,493nm								
CUC	**Castrocucco**	**86.66**	**312**	IAmb		IAmb	00 00 00.7		
	comp=Z,28nm,1.4s								
DAVA	**Damuels**	**86.70**	**321**	*e*P		**P**	**23 59 45.6**	**-0.6**
	comp=Z,22nm,1.4s								
DAVA				*e*PP		**PP**	**00 03 07.0**	**-1.0**
	comp=Z,9.9nm,1.1s								
GUMA	**Gualdo di Mace**	**86.79**	**316**	IAmb		IAmb	23 59 48.4		
	comp=Z,94nm,1.2s								
BRLDA	**Berland Lookou**	**86.83**	**31**	P		**P**	**23 59 45.7**	**-0.9**
FUORN	**Ofenpass-Fuorn**	**86.83**	**320**	IAmb		IAmb	23 59 48.3		
	comp=Z,42nm,1.3s								
BTNL	**Ternell**	**86.95**	**325**	*d*P		**P**	**23 59 47.0**	**-0.1**
	comp=Z,11nm,1.4s								
DAVOX	**Davos/Dischmat**	**86.97**	**321**	LR		LR	00 43 03.8		
	comp=Z,1µm,18.7s,baz=39,slow=39								
PAOL	**Paolisi**	**87.00**	**314**	IAmb		IAmb	23 59 48.1		
	comp=Z,17nm,1.3s								
MEM	**Membach**	**87.00**	**325**	*d*P		**P**	**23 59 47.2**	**0.0**
	comp=Z,11nm,1.3s								
BFO	**Black Forest**	**87.02**	**322**	P		**P**	**23 59 46.7**	**-0.8**
BFO				IAmb		IAmb	23 59 48.5		
	comp=Z,42nm,1.6s								
BFO	**Black Forest**	**87.02**	**322**	P		**P**	**23 59 46.7**	**-0.8**
BFO				pmax		pmax			
	comp=Z,42nm,1.6s								
BHOU	**Houvegnez**	**87.14**	**325**	*d*P		**P**	**23 59 48.0**	**0.0**
	comp=Z,14nm,1.3s								
SALO	**Salr**	**87.21**	**319**	IAmb		IAmb	23 59 49.5		
	comp=Z,33nm,1.0s								
BORG	**Borgarnes**	**87.22**	**345**	LR		LR	00 43 16.5		
	comp=Z,902nm,18.3s,baz=29,slow=39								
BSTI	**Sart Tilman**	**87.24**	**325**	*d*P		**P**	**23 59 48.8**	**+0.4**
	comp=Z,5.6nm,1.2s								
TUE	**Stuetta**	**87.45**	**320**	P		**P**	**23 59 49.0**	**-0.8**
	comp=Z,93nm,1.7s,comp=Z,2µm								
WLF	**Walferdange**	**87.46**	**324**	*d*P		**P**	**23 59 50.3**	**+0.8**
	comp=Z,30nm,1.2s								
BCLA	**Clavier**	**87.47**	**325**	*d*P		**P**	**23 59 49.6**	**+0.1**
	comp=Z,10nm,1.2s								
ZCCA	**Zocca**	**87.60**	**318**	P		**P**	**23 59 50.9**	**+0.5**
BGES	**Gesves**	**87.61**	**325**	*d*P		**P**	**23 59 49.8**	**-0.4**
RCHB	**Rochefort**	**87.67**	**325**	*d*P		**P**	**23 59 50.4**	**-0.1**
	comp=Z,19nm,1.1s								
ECH	**Echery**	**87.73**	**323**	IAmb		IAmb	23 59 51.9		
	comp=Z,34nm,1.4s								
ECH	**Echery**	**87.73**	**323**	P		**P**	**23 59 50.9**	**0.0**
BMRD	**Maredsous**	**87.82**	**325**	*d*P		**P**	**23 59 51.2**	**0.0**
	comp=Z,16nm,1.1s								
GNW	**Green Mountain**	**87.86**	**38**	IAmb		IAmb	23 59 54.8		
	comp=Z,21nm,1.0s								
OSSC	**Osservatorio P**	**87.87**	**317**	IAmb		IAmb	23 59 52.3		
	comp=Z,24nm,1.3s								
DOU	**Dourbes**	**88.03**	**325**	*d*P		**P**	**23 59 50.9**	**-1.3**
	comp=Z,10nm,1.0s								
EKA	**Eskdalemuir Ar**	**88.42**	**332**	P		**P**	**23 59 53.2**	**-0.7**
	comp=Z,2.9nm,0.7s,baz=30,slow=4.2,SNR=8.5								
	comp=Z,2.9nm,0.7s								
LON	**Longmire**	**88.89**	**38**	IAmb		IAmb	23 59 59.2		
	comp=Z,16nm,1.0s								
SFJD	**Kangerlussuaq**	**89.17**	**357**	P		**P**	**23 59 56.6**	**-0.6**
SFJD				IAmb		IAmb	23 59 57.6		
	comp=Z,20nm,0.7s								
SFJD	**Kangerlussuaq**	**89.17**	**357**	P		**P**	**23 59 56.6**	**-0.6**
SFJD				pmax		pmax			
	comp=Z,20nm,0.7s								
LTY	**Liberty**	**89.23**	**37**	IAmb		IAmb	00 00 00.1		
	comp=Z,17nm,0.8s								
EDM	**Edmonton**	**89.25**	**30**	P		**P**	**23 59 57.7**	**-0.3**
EDM	**Edmonton**	**89.25**	**30**	P		**P**	**23 59 57.7**	**-0.3**
EDM				pmax		pmax			
	comp=Z,49nm,1.2s								
B08A	**Colville Reser**	**89.32**	**36**	IAmb		IAmb	00 00 01.2		
	comp=Z,15nm,0.8s								
H04D	**Lebanon**	**89.60**	**40**	IAmb		IAmb	00 00 03.4		
	comp=Z,26nm,1.1s								
BNI	**Bardonecchia**	**89.79**	**320**	IAmb		IAmb	00 00 02.3		
	comp=Z,19nm,1.1s								
H04A	**Detroit Lake**	**89.84**	**40**	IAmb		IAmb	00 00 03.1		
	comp=Z,39nm,1.4s								
I04A	**Tendick Farm,**	**90.20**	**41**	IAmb		IAmb	00 00 05.0		
	comp=Z,24nm,1.1s								
C09A	**Chrisman Ranch**	**90.22**	**36**	P		**P**	**00 00 03.2**	**+0.6**
C09A				IAmb		IAmb	00 00 05.1		
	comp=Z,40nm,1.2s								
NEW	**Newport**	**90.55**	**35**	IAmb		IAmb	00 00 07.1		
	comp=Z,26nm,0.9s								
NEW	**Newport**	**90.55**	**35**	P		**P**	**00 00 03.8**	**-0.3**
	baz=308								
NEW	**Newport**	**90.55**	**35**	P		**P**	**00 00 05.3**	**+1.1**
L04D	**Klamath Falls**	**91

baz=307
ARVC Arvin 97.45 46 P P 00 00 35.3 -0.8
baz=306
R11B Troy Canyon, C 97.58 42 IAmb IAmb 00 01 26.1
comp=Z,9.2nm,1.8s
R11B Troy Canyon, C 97.58 42 P P 00 00 35.3 -1.5
baz=309
TBI Tubual 97.59 112 *e*S S 00 11 57.2 -2.7
comp=Z,525nm,29.8s
TBI *e*SS SS 00 18 42.0 +1.5
comp=Z,443nm,28.5s
MPMC Manual Prospec 97.78 45 P P 00 00 36.7 -1.1
baz=307
PDAR Pinedale Array 98.16 36 P P 00 00 38.8 -0.6
comp=Z,0.2nm,0.5s,baz=149,slow=3.1,SNR=4.1
comp=Z,0.2nm,0.5s
HEC Hector,Ludlow 99.27 45 P Pdif 00 00 43.9 -0.4
baz=306
ESDC Sonseca Array 99.30 321 LR LR 00 50 59.0
comp=Z,576nm,18.2s,baz=26,slow=39
GMRC Granite Mounta 99.74 45 P Pdif 00 00 45.6 -0.9
baz=308
K22A Casper 99.84 34 P Pdif 00 00 45.0 -1.8
baz=316
PFO Pinyon Flats O 99.93 46 P Pdif 00 00 46.3 -1.0
baz=308
109C Camp Elliot, M 99.93 47 P Pdif 00 00 46.2 -1.0
baz=307
TPFO Pinon Flats 99.94 46 P Pdif 00 00 46.5 -0.9
baz=308
TAOE Nuku Hiva Isla 100.33 95 *e*LR LR 00 33 40.8
comp=Z,347nm,22.6s
214A Organ Pipe Nat 103.36 46 P Pdif 00 01 00.9 -1.6
baz=310
ECSD EROS Data Cent 103.72 28 P Pdif 00 01 02.2 -1.6
baz=324
SDCO Great Sand Dun 103.89 37 P Pdif 00 01 03.3 -1.8
baz=316
BGNE Belgrade 104.88 30 P Pdif 00 01 07.4 -1.6
baz=322
T25A Trinidad 104.93 37 P Pdif 00 01 08.0 -1.6
baz=317
121A Cookes Peak, D 106.19 42 P PKiKP 00 05 26.2 -0.8
baz=313
SCIA State Center 106.64 27 P PKiKP 00 05 26.9 -0.4
baz=326
JFWS Jewell Farm 106.97 24 P PKiKP 00 05 27.9 0.0
baz=329
KSU1 Kansas State U 107.43 31 P PKiKP 00 05 28.2 -0.6
baz=323
WMOK Wichita Mounta 109.76 35 P PKiKP 00 05 32.5 -0.8
baz=320
LONY Lake Ozonia 110.00 13 P PKiKP 00 05 32.7 -0.8
baz=344
PKME Peaks-Kenny Pk 110.28 9 P PKiKP 00 05 32.6 -1.3
baz=349
SFIN Lafayette 110.34 24 P PKiKP 00 05 33.2 -1.0
baz=332
TUL3 Leonard 110.36 32 P PKiKP 00 05 34.2 -0.2
baz=323
CCM Cathedral Cave 110.69 28 P PKiKP 00 05 33.8 -1.2
baz=327
LBNH Lisbon 110.87 11 P PKiKP 00 05 34.1 -1.1
baz=346
TXAR Lajitas Array 110.95 42 PKiKP PKiKP 00 05 35.9 +0.1
comp=Z,0.4nm,0.6s,baz=192,slow=1.5,SNR=6.3
TORD Torodi Ar. Bea 111.32 296 PKiKP PKiKP 00 05 35.7 -1.0
comp=Z,1.1nm,0.7s,baz=47,slow=3.5,SNR=6.6
M53A WI Miller and 111.50 18 P PKiKP 00 05 35.3 -1.1
baz=338
P49A Miami Univ. Ec 111.94 22 P PKiKP 00 05 36.3 -1.0
baz=334
JCT Junction City 112.41 39 P PKiKP 00 05 37.4 -1.1
baz=319
L61B Northampton 112.47 12 P PKiKP 00 05 37.9 -0.3
baz=345
WCI Wyandotte Cave 112.53 24 P PKiKP 00 05 37.5 -0.9
baz=332
MIAR Mount Ida 112.53 32 P PKiKP 00 05 38.1 -0.5
baz=325
WHTX Lake Whitney, 112.58 36 P PKiKP 00 05 37.8 -0.9
baz=321
HRV Adam Dziewonsk 112.62 11 P PKiKP 00 05 38.0 -0.5
baz=346
SSPA Standing Stone 113.02 17 P PKiKP 00 05 38.4 -0.9
baz=340
PAL Palisades 113.61 13 P PKiKP 00 05 39.3 -1.1
baz=344
QSPA South Pole Qui 113.76 180 PKiKP PKiKP 00 05 40.2 +0.4
comp=Z,1.0nm,0.9s,baz=235,slow=3.1,SNR=1.8
833A Chaparral WMA, 114.25 40 P PKiKP 00 05 40.8 -1.2
baz=318
OXF Oxford 114.47 29 P PKiKP 00 05 41.4 -0.8
baz=328
TZTN Tazewell 115.03 23 P PKiKP 00 05 42.0 -1.3
baz=334
DBIC Dimbokro 120.22 294 PKP PKPdf 00 05 53.5 -0.3
comp=Z,2.6nm,0.6s,baz=353,slow=3.1,SNR=6.0
SDV Santo Domingo 144.96 23 PKPab 00 06 38.8 -0.6
ROSC El Rosal 147.06 32 PKPbc 00 06 46.0 -0.1
ROSC El Rosal 147.06 32 PKPbc PKPdf 00 06 45.8 +1.7
comp=Z,15nm,0.6s,baz=17,slow=6.5,SNR=9.6
ROSC El Rosal 147.06 32 PKP2 PKPbc 00 06 46.0 -0.1
TULM Tulcn-Chalpat 148.61 41 PKPbc PKPdf 00 06 48.3 +1.6
SLOR San Lorenzo - 149.29 44 PKPdf PKPdf 00 06 46.1 -1.7
ETMB Extrema 163.71 32 PKPdf PKPdf 00 07 05.6 -0.1
ETMB PKPab PKPab 00 07 56.0 -1.7
LPAZ La Paz 167.52 54 PKP PKPdf 00 07 10.4 +0.8
comp=Z,8.7nm,1.2s,baz=326,slow=2.0,SNR=18
BDFB Brasilia 167.75 311 PKPab PKPab 00 08 14.9 -0.7
BDFB Brasilia 167.75 311 PKP PKPdf 00 07 10.0 +0.9
comp=Z,2.8nm,0.8s,baz=355,slow=5.3,SNR=4.6
BDFB PKPab PKPab 00 08 15.6 0.0
comp=Z,4.4nm,0.8s,baz=76,slow=6.6,SNR=7.0
SIV San Ignacio 171.43 23 PKP PKPdf 00 07 11.9 +0.7
comp=Z,4.0nm,0.9s,baz=173,slow=0.7,SNR=16
SIV PKPab PKPab 00 08 30.9 -0.7
comp=Z,1.0nm,0.5s,baz=301,slow=5.3,SNR=5.2
AQDB Aquidauana 176.10 333 PKPab PKPab 00 08 50.4 -1.8

IDC ***02*** *00:02:01.0±0.8, 15°.92S×15°.54W, h0km, mb4.4/14, mbtmp4.4/14, MS3.6/5, Error ellipse: s-maj=33.5km s-min=19.4km az=110.0*

NEIC ***02*** *00:02:02.5±1.1, 16°.0S±0°.1×15°.6W±0°.1, h10km±1km, mb4.8/22, Error ellipse: s-maj=25.7km s-min=18.1km az=148.0*

ISC 02 00:02:02.4±0.6, 16°.0S±0°.1×15°.6W±0°.2, h10km, n66, σ1ᵍ31°/57°, mb4.6/34, MS3.7/5, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10S2	**ASCENSION HYDR**	**7.01**	**8**	T	T	00 11 43.5	
	baz=20,slow=74,SNR=13						
H10S3	**ASCENSION HYDR**	**7.02**	**7**	T	T	00 11 28.9	
	baz=200,slow=74,SNR=20						
H10N1	**ASCENSION HYDR**	**8.13**	**8**	T	T	00 13 05.8	
	baz=199,slow=75,SNR=82						
H10N3	**ASCENSION HYDR**	**8.13**	**8**	T	T	00 13 05.6	
	baz=199,slow=75,SNR=30						
H10N2	**ASCENSION HYDR**	**8.15**	**8**	T	T	00 13 06.8	
	baz=199,slow=75,SNR=78						
RCBR	**Riachuelo**	**22.33**	**295**	P	**P**	**00 06 59.6**	**-1.0**
RCBR				IAmb	IAmb	00 07 02.1	
	comp=Z,27nm,0.9s						
RCBR	**Riachuelo**	**22.33**	**295**	P	**P**	**00 06 60.0**	**-0.6**
	comp=Z,22nm,0.9s,baz=33,slow=5.0,SNR=10						
RCBR				LR	LR	00 14 52.3	
	comp=Z,107nm,18.9s,baz=64,slow=34						
	comp=Z,22nm,0.9s						
DBIC	**Dimbokro**	**24.86**	**26**	P	**P**	**00 07 24.5**	**-0.9**
DBIC	**Dimbokro**	**24.86**	**26**	P	**P**	**00 07 24.4**	**-0.9**
	comp=Z,8.4nm,1.0s,baz=229,slow=7.8,SNR=5.2						
	comp=Z,8.4nm,1.0s						
BDFB	**Brasilia**	**31.20**	**266**	LR	LR	00 19 00.8	
	comp=Z,201nm,20.0s,baz=121,slow=33						
TSUM	**Tsumeb**	**31.75**	**101**	LR	LR	00 18 19.2	
	comp=Z,52nm,20.9s,baz=288,slow=31						
TOA0	**Torodi Ar. Sit**	**33.59**	**32**	P	**P**	**00 08 41.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**33.59**	**32**	P	**P**	**00 08 41.4**	**-1.6**
TORD	**Torodi Ar. Bea**	**33.59**	**32**	P	**P**	**00 08 41.9**	**-1.2**
	comp=Z,4.2nm,0.7s,baz=212,slow=7.6,SNR=22						
	comp=Z,4.2nm,0.7s						
SUR	**Sutherland**	**36.79**	**123**	LR	LR	00 19 26.8	
	comp=Z,128nm,21.6s,baz=268,slow=28						
BOSA	**Boshof**	**39.64**	**116**	LR	LR	00 23 14.3	
	comp=Z,96nm,18.2s,baz=46,slow=32						
TRQA	**Tornquist**	**46.26**	**232**	P	**P**	**00 10 27.4**	**-0.8**
TRQA				IAmb	IAmb	00 11 04.5	
	comp=Z,24nm,1.6s						
ESDC	**Sonseca Array**	**56.39**	**11**	P	**P**	**00 11 45.2**	**+1.2**
	comp=Z,0.7nm,0.8s,baz=186,slow=6.4,SNR=3.9						
	comp=Z,0.7nm,0.8s						
BELA	**Belgrano 2**	**62.66**	**184**	P	**P**	**00 12 26.1**	**-0.7**
CUC	**Castrocucco**	**62.88**	**27**	P	**P**	**00 12 28.9**	**+0.1**
CUC				IAmb	IAmb	00 13 59.9	
	comp=Z,8.3nm,1.1s						
IDI	**Anoyia**	**63.80**	**36**	P	**P**	**00 12 34.0**	**-1.0**
KARP	**Karpathos**	**65.29**	**38**	P	**P**	**00 12 44.3**	**-0.4**
LIT	**Litokhoron**	**66.07**	**31**	P	**P**	**00 12 49.1**	**-0.6**
LIT				IAmb	IAmb	00 12 50.5	
	comp=Z,8.6nm,0.8s						
PUK	**Puka**	**66.34**	**28**	P	**P**	**00 12 51.9**	**+0.5**
PUK				IAmb	IAmb	00 12 53.6	
	comp=Z,4.3nm,0.7s						
SKDS	**Skadanscina**	**66.83**	**22**	*i* P	**P**	**00 12 56.3**	**+1.9**
DAVA	**Damuels**	**66.97**	**19**	*e*P	**P**	**00 12 57.1**	**+1.7**
	comp=Z,2.8nm,0.6s						
FETA	**Feichten**	**67.00**	**19**	*e*P	**P**	**00 12 57.3**	**+1.7**
	comp=Z,4.4nm,0.8s						
ABTA	**Abfaltersbach**	**67.34**	**21**	*e*P	**P**	**00 12 59.5**	**+1.8**
	comp=Z,0.9nm,0.4s						
VISS	**Visnje**	**67.35**	**23**	*i* P	**P**	**00 12 59.8**	**+2.1**
RETA	**Reutte**	**67.42**	**19**	*e*P	**P**	**00 12 59.9**	**+1.7**
	comp=Z,0.9nm,0.4s						
LJU	**Ljubljana**	**67.44**	**22**	*i* P	**P**	**00 13 00.5**	**+2.3**
WTTA	**Wattenberg**	**67.50**	**20**	*e*P	**P**	**00 13 01.1**	**+2.3**
	comp=Z,1.7nm,0.5s						
ELL	**Elmali**	**67.73**	**38**	P	**P**	**00 12 59.3**	**-1.2**
OBKA	**Obir**	**67.85**	**22**	*e*P	**P**	**00 13 02.9**	**+2.0**
	comp=Z,0.5nm,0.2s						
SOKA	**Soboth**	**68.17**	**22**	*e*P	**P**	**00 13 05.2**	**+2.3**
	comp=Z,3.7nm,0.6s						
ARSA	**Arzberg**	**68.83**	**22**	*e*P	**P**	**00 13 08.9**	**+1.9**
	comp=Z,4.7nm,0.7s						
MMAI	**Mount Meron Ar**	**68.86**	**44**	P	**P**	**00 13 06.7**	**-0.8**
	comp=Z,2.2nm,0.7s,baz=276,slow=4.1,SNR=4.3						
	comp=Z,2.2nm,0.7s						
MOA	**Molln**	**68.90**	**21**	*i* P	**P**	**00 13 08.5**	**+1.1**
	comp=Z,3.2nm,0.8s,SNR=7.3						
RONA	**Rosalia, Austr**	**69.49**	**22**	*i* P	**P**	**00 13 13.9**	**+2.9**
	SNR=4.0						
CONA	**Conrad Observa**	**69.53**	**22**	*i* P	**P**	**00 13 13.4**	**+2.0**
	comp=Z,2.2nm,0.5s,SNR=6.4						
GERES	**GERESS Array B**	**69.56**	**20**	P	**P**	**00 13 12.3**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=189,slow=3.5,SNR=4.9						
	comp=Z,1.3nm,0.7s						
VRAC	**Vranov**	**70.95**	**22**	P	**P**	**00 13 20.4**	**+0.4**
	comp=Z,1.2nm,0.2s,baz=306,slow=3.0,SNR=4.7						
	comp=Z,1.2nm,0.2s						
JAVC	**Velka Javorina**	**70.97**	**23**	*e*P	**P**	**00 13 21.8**	**+1.7**
PSZ	**Piszkesteto**	**71.05**	**24**	P	**P**	**00 13 19.7**	**-0.9**
PSZ				IAmb	IAmb	00 13 22.9	
	comp=Z,6.5nm,0.9s						
BR231	**Keskin MP Arra**	**71.47**	**37**	P	**P**	**00 13 23.3**	**-0.1**
BR231				IAmb	IAmb	00 13 24.8	
	comp=Z,8.2nm,1.1s						
ANTO	**Ankara**	**71.50**	**37**	P	**P**	**00 13 23.5**	**-0.1**
ANTO				IAmb	IAmb	00 13 24.9	
	comp=Z,5.7nm,0.8s						
MORC	**Moravsky Berou**	**71.68**	**22**	*e*P	**P**	**00 13 25.7**	**+1.3**
MLR	**Muntele Rosu**	**71.80**	**29**	P	**P**	**00 13 24.9**	**-0.4**
MLR				IAmb	IAmb	00 13 28.2	
	comp=Z,14nm,1.0s						
MLR	**Muntele Rosu**	**71.80**	**29**	P	**P**	**00 13 25.3**	**0.0**
	comp=Z,12nm,1.0s,baz=153,slow=11,SNR=16						
	comp=Z,12nm,1.0s						
BRTR	**Keskin Array B**	**71.90**	**38**	P	**P**	**00 13 25.4**	**-0.7**
BRTR	**Keskin Array B**	**71.90**	**38**	P	**P**	**00 13 25.9**	**-0.2**
	comp=Z,3.8nm,0.8s,baz=209,slow=6.5,SNR=29						
	comp=Z,3.8nm,0.8s						
BR131	**Keskin Array S**	**71.90**	**38**	P	**P**	**00 13 25.6**	**-0.4**
BNN	**Bunyan**	**72.68**	**40**	P	**P**	**00 13 30.1**	**-0.7**
BURAR	**Bucovina Array**	**73.05**	**28**	P	**P**	**00 13 32.9**	**+0.2**
QSPA	**South Pole Qui**	**74.21**	**180**	P	**P**	**00 13 39.5**	**+0.1**
QSPA	**South Pole Qui**	**74.21**	**180**	P	**P**	**00 13 39.9**	**+0.5**
	comp=Z,2.8nm,0.6s,baz=222,slow=1.7,SNR=27						
	comp=Z,2.8nm,0.6s						
ARPR	**Arapgir-MALATY**	**74.38**	**41**	P	**P**	**00 13 40.3**	**-0.4**
ARPR				IAmb	IAmb	00 13 41.8	
	comp=Z,13nm,0.8s						
KIEV	**Kiev**	**77.09**	**27**	P	**P**	**00 13 55.7**	**-0.1**
KIEV				IAmb	IAmb	00 13 56.8	
	comp=Z,7.5nm,0.8s						
AKASG	**Malin Array Be**	**77.10**	**27**	P	**P**	**00 13 55.7**	**-0.2**
	comp=Z,2.6nm,0.8s,baz=223,slow=5.2,SNR=6.4						
	comp=Z,4.6nm,0.8s						
AKBB	**Malin Array Si**	**77.10**	**27**	P	**P**	**00 13 56.5**	**+0.6**
AKBB				IAmb	IAmb	00 13 56.8	
	comp=Z,8.3nm,0.8s						
HFS	**Hagfors**	**79.43**	**14**	P	**P**	**00 14 08.5**	**-0.1**
	comp=Z,2.0nm,0.8s,baz=187,slow=8.7,SNR=2.6						
	comp=Z,2.0nm,0.8s						
KBZ	**Khibiny**	**79.84**	**39**	P	**P**	**00 14 11.1**	**0.0**
	comp=Z,3.9nm,0.8s,baz=274,slow=5.7,SNR=9.3						
	comp=Z,3.9nm,0.8s						
VNDA	**Vanda**	**86.70**	**179**	P	**P**	**00 14 46.6**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=210,slow=5.8,SNR=5.2						
	comp=Z,1.2nm,1.0s						
BMAR	**Burnt Mountain**	**119.06**	**340**	PKPdf	**PKiKP**	**00 20 54.0**	**+2.9**
BCAR	**Beaver Creek A**	**120.13**	**335**	PKPdf	**PKiKP**	**00 20 55.1**	**+1.8**
MJAR	**Matsushiro Arr**	**148.98**	**44**	PKPbc	**PKPbc**	**00 21 50.5**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=297,slow=2.8,SNR=4.5						

ATH 02 00:04:27.8, 37°.84N×22°.06E, h10km±3km, ML1.8/7, Error ellipse: s-maj=3.4km s-min=0.9km az=29.0, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLV	**Kalavryta, Ach**	**0.22**	**20**	P	Pg	00 04 32.2	-0.3
KLV				S	Sg	00 04 35.5	-0.2
KLV				AML	AML	00 04 35.7	
	comp=N,374μm,0.2s						
KLV				AML	AML	00 04 35.8	
	comp=E,305μm,0.1s						
GUR	**Goura**	**0.25**	**66**	P	Pg	00 04 32.9	-0.1
GUR				S	Sg	00 04 36.1	-0.4
GUR				AML	AML	00 04 37.7	
	comp=N,1370μm,0.2s						
GUR				AML	AML	00 04 38.3	
	comp=E,1156μm,0.3s						
DRO	**Drossia**	**0.30**	**293**	P	Pg	00 04 33.8	-0.1
DRO				S	Sg	00 04 38.4	+0.5
DRO				AML	AML	00 04 40.8	
	comp=E,1381μm,0.2s						
DRO				AML	AML	00 04 41.9	
	comp=N,1105μm,0.2s						
RLS	**Riolos of Patr**	**0.52**	**296**	P	Pg	00 04 37.2	-0.7
RLS				S	Sg	00 04 44.8	+0.1
RLS				AML	AML	00 04 45.6	
	comp=E,401μm,0.2s						
RLS				AML	AML	00 04 45.6	
	comp=N,369μm,0.1s						
EFP	**Efpalio**	**0.60**	**349**	P	Pg	00 04 39.3	-0.2
EFP				S	Sg	00 04 48.1	+0.6
EFP				AML	AML	00 04 49.8	
	comp=E,101μm,0.2s						
EFP				AML	AML	00 04 49.8	
	comp=N,270μm,0.2s						
LTK	**Loutraki**	**0.74**	**75**	P	Pg	00 04 42.0	-0.2
LTK				S	Sb	00 04 52.6	-0.5
ANX	**Ano Chora**	**0.76**	**352**	P	Pg	00 04 42.0	-0.6
ANX				S	Sg	00 04 53.0	+0.4
ANX				AML	AML	00 04 54.3	
	comp=N,130μm,0.4s						
ANX				AML	AML	00 04 54.6	
	comp=E,88μm,0.3s						
PVO	**Paravola**	**0.88**	**332**	P	Pg	00 04 44.4	-0.4
PYL	**PYLOS**	**0.97**	**195**	P	Pg	00 04 46.4	-0.1
LTHK	**Lithakia**	**0.97**	**263**	P	Pg	00 04 46.2	-0.4
LTHK				AML	AML	00 05 10.0	
	comp=N,53μm,0.5s						
LTHK				AML	AML	00 05 12.3	
	comp=E,62μm,0.4s						
AGG	**Agios Georgios**	**1.20**	**10**	P	Pb	00 04 49.6	-1.1

MOS ***02*** *00:04:49.8±1.3, 35°.05N×22°.98E, h11km, mb4.5/18, Error ellipse: s-maj=6.5km s-min=3.1km az=83.9*

NAO ***02*** *00:04:51.7, 35°.08N×24°.47E, h33km, mb3.8*

ISK ***02*** *00:04:52.6, 35°.18N×23°.09E, h12km, ML4.0/15*

NEIC ***02*** *00:04:52.3±2.0, 35°.17N±0°.07×23°.04E±0°.07, h10km±1km, mb4.5/83, Error ellipse: s-maj=13.0km s-min=9.3km az=200.0*

THE ***02*** *00:04:53.3, 35°.12N×23°.03E, h0km±1km, ML3.9/6, Error ellipse: s-maj=2.0km s-min=0.7km az=232.0*

ATH ***02*** *00:04:53.7, 35°.13N×23°.14E, h4km±1km, ML3.9/7, Manual Solution by S.Liakopoulos This location: 2020/07/14 05:15:56 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*

TIR ***02*** *00:04:53.5, 35°.87N×23°.02E, h0km±47km, Ml4.4*

MCSM ***02*** *00:04:54.0±0.9, 35°.N±9°×2°.3E±°, h10km, mb4.3, mB4.3, MLv4.2, Mw(mB)3.4*

IDC ***02*** *00:04:54.1±2.2, 35°.23N×23°.12E, h24km±14km, mb4.0/23, mbtmp4.1/32, ML3.9/8, MS3.7/7, Error ellipse: s-maj=12.3km s-min=10.8km az=0.0*

PDG ***02*** *00:04:55.4±1.0, 34°.86N×22°.93E, h50km±18km, ML4.5/12, Error ellipse: s-maj=4.0km s-min=2.3km az=90.0*

MED_RC ***02*** *00:04:56.0±0.6, 35°.10N×22°.97E, h40km±3km, MW4.3/6, Moment Tensor Solution.Mantle waves: s6,c9; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr-0.97±.72; Mθθ0.42±.43; Mφφ0.54±.43; Mrθ0.90±.27; Mθφ3.17±.27; Mφr0.04±.25; Best double couple: Mo3.32000×10¹⁵ NP1:ϕs268.00000°, δ83.00000°, λ-19.00000°. NP2: ϕs0.00000°, δ71.00000°, λ-173.00000°. Principal axes: T 3.7500, Plg8.0000°, Azm315.0000°; N -0.8600, Plg70.0000°, Azm68.0000°; P -2.8900, Plg18.0000°, Azm223.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

ISC 02 00:04:52.4±0.7, 35°.16N±0°.03×23°.05E±0°.03, h15km±3km, n511, σ1ᵍ77°/548, mb4.5/79, MS4.3/5, 34C-21D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.52**	**81**	Pg	**Pg**	**00 05 01.8**	**-1.0**
KNDR	**Palaiochora Ch**	**0.52**	**81**	P	**Pg**	**00 05 02.0**	**-0.8**
KNDR				S	Sg	00 05 07.0	-2.9
ANKY	**Antikythira Is**	**0.74**	**16**	P	**Pn**	**00 05 08.0**	**-0.4**
ANKY				S	**Sn**	**00 05 19.9**	**+0.5**
	25μm,0.7s						
ANKY	**Antikythira Is**	**0.74**	**16**	P	**Pn**	**00 05 08.0**	**-0.4**
ANKY				S	**Sb**	**00 05 18.3**	**+1.4**
IMMV	**Iera Moni Meta**	**0.82**	**68**	Pg	**Pg**	**00 05 08.3**	**-0.1**
IMMV	**Iera Moni Meta**	**0.82**	**68**	P	**Pb**	**00 05 08.8**	**+0.4**
IMMV				S	**Sn**	**00 05 22.5**	**+1.2**
	12μm,0.8s						
IMMV	**Iera Moni Meta**	**0.82**	**68**	P	**Pg**	**00 05 08.2**	**-0.1**
IMMV				S	**Sg**	**00 05 18.4**	**-0.7**
CH01	**Chania**	**0.87**	**65**	P	**Pb**	**00 05 09.7**	**+0.5**
CH01				S	**Sg**	**00 05 20.4**	**-0.3**
CHAN	**Chania**	**0.89**	**66**	P	**Pb**	**00 05 09.8**	**+0.3**
CHAN				S	**Sg**	**00 05 21.5**	**+0.2**
GVD	**Gavdhos**	**0.91**	**110**	Pg	**Pg**	**00 05 09.8**	**-0.2**
GVD				Sg	**Sb**	**00 05 22.9**	**+1.1**
GVD	**Gavdhos**	**0.91**	**110**	P	**Pb**	**00 05 10.4**	**+0.5**
GVD				S	**Sn**	**00 05 24.4**	**+0.9**
	7μm,0.4s						
GVD	**Gavdhos**	**0.91**	**110**	P	**Pg**	**00 05 09.8**	**-0.2**
GVD				S	**Sg**	**00 05 20.9**	**-1.0**
GVDS	**Gavdos**	**0.91**	**110**	Pg	**Pg**	**00 05 09.8**	**-0.2**
GVDS				Sg	**Sb**	**00 05 22.3**	**+0.5**
GVDS	**Gavdos**	**0.91**	**110**	P	**Pg**	**00 05 09.9**	**-0.1**
GVDS				S	**Sn**	**00 05 24.0**	**+0.5**
	5μm,0.6s						
GVDS	**Gavdos**	**0.91**	**110**	P	**Pg**	**00 05 09.8**	**-0.1**
PRNS	**Prines Rethymn**	**1.20**	**80**	P	**Pn**	**00 05 15.0**	**+0.3**
PRNS				S	**Sg**	**00 05 33.1**	**+1.8**
	2μm,1.1s						
PRNS	**Prines Rethymn**	**1.20**	**80**	P	**Pn**	**00 05 13.7**	**-1.0**
PRNS				S	**Sb**	**00 05 28.1**	**-2.2**
NPS1	**Neapolis Lacon**	**1.35**	**0**	P	**Pg**	**00 05 19.4**	**+0.9**
NPS1				S	**Sg**	**00 05 38.1**	**+2.0**
TMBK	**Timbaki Herakl**	**1.41**	**93**	P	**Pg**	**00 05 19.8**	**+0.3**
TMBK				S	**Sg**	**00 05 39.4**	**+1.6**
TMBK	**Timbaki Herakl**	**1.41**	**93**	P	**Pb**	**00 05 18.7**	**+0.3**
IDI	**Anoyia**	**1.51**	**84**	Pn	**Pn**	**00 05 19.8**	**+0.8**
IDI	**Anoyia**	**1.51**	**84**	P	**Pb**	**00 05 20.9**	**+0.7**
IDI	**Anoyia**	**1.51**	**84**	Pn	**Pn**	**00 05 19.8**	**+0.8**
IDI	**Anoyia**	**1.51**	**84**	Pg	**Pb**	**00 05 20.1**	**-0.1**
	35nm,0.3s,baz=262,slow=15,SNR=202						
IDI				Lg	Lg	00 05 41.2	
	65nm,0.3s,baz=347,slow=20,SNR=7.8						
IDI	**Anoyia**	**1.51**	**84**	P	**Pb**	**00 05 20.1**	**-0.1**
MNVA	**Monemvasia**	**1.53**	**360**	P	**Pg**	**00 05 23.2**	**+1.4**
VLI	**Veliai**	**1.56**	**357**	P	**Pg**	**00 05 22.4**	**-0.1**
VLI				S	**Sg**	**00 05 44.5**	**+1.7**
	5μm,0.6s						
VLI	**Veliai**	**1.56**	**357**	P	**Pg**	**00 05 23.0**	**+0.5**
VLI				S	**Sg**	**00 05 43.9**	**+1.1**
IACM	**Heraklion**	**1.66**	**84**	P	**Pb**	**00 05 23.2**	**+0.5**
IACM				S	**Sn**	**00 05 42.5**	**+0.4**
KSTL	**Kastelli Herak**	**1.66**	**84**	P	**Pg**	**00 05 26.7**	**+2.4**
KSTL	**Kastelli Herak**	**1.66**	**84**	P	**Pg**	**00 05 25.8**	**+1.6**
MHLO	**Agia Marina, M**	**1.88**	**35**	P	**Pb**	**00 05 27.0**	**+0.5**
MHLO	**Agia Marina, M**	**1.88**	**35**	P	**Pb**	**00 05 26.4**	**-0.1**
PYL	**PYLOS**	**2.04**	**329**	P	**Pb**	**00 05 28.3**	**-0.8**
PYL	**PYLOS**	**2.04**	**329**	P	**Pb**	**00 05 29.2**	**+0.1**
FRMA	**Ierapetra Chan**	**2.20**	**93**	P	**Pb**	**00 05 32.4**	**+0.4**
FRMA	**Ierapetra Chan**	**2.20**	**93**	P	**Pb**	**00 05 32.3**	**+0.3**
YDRA	**Hydra**	**2.21**	**9**	P	**Pb**	**00 05 32.6**	**+0.4**
KRND	**KRANIDI**	**2.23**	**2**	P	**Pb**	**00 05 32.8**	**+0.4**
THR9	**Santorini-Faro**	**2.23**	**57**	P	**Pb**	**00 05 31.3**	**-1.1**
THR6	**Thira Island,**	**2.25**	**57**	P	**Pb**	**00 05 31.5**	**-1.3**
SNT5	**Nea Kammeni, S**	**2.28**	**56**	P	**Pn**	**00 05 31.4**	**+1.9**
THR3	**Thira Island,**	**2.28**	**56**	P	**Pn**	**00 05 31.7**	**+2.1**
CMBO	**Columbo, Santo**	**2.32**	**55**	P	**Pn**	**00 05 32.0**	**+1.9**
THR2	**Thira island,**	**2.33**	**56**	P	**Pb**	**00 05 32.5**	**-1.6**
THR8	**Santorini-Mono**	**2.33**	**57**	P	**Pn**	**00 05 32.4**	**+2.1**
ZKR	**Zakros**	**2.59**	**90**	Pn	**Pn**	**00 05 35.3**	**+1.4**
ZKR	**Zakros**	**2.59**	**90**	P	**Pn**	**00 05 36.5**	**+2.6**
ZKR	**Zakros**	**2.59**	**90**	P	**Pn**	**00 05 36.3**	**+2.4**
APE	**Apeiranthos**	**2.77**	**46**	Pn	**Pn**	**00 05 37.7**	**+1.4**
APE	**Apeiranthos**	**2.77**	**46**	P	**Pn**	**00 05 38.8**	**+2.5**
APE	**Apeiranthos**	**2.77**	**46**	*i* P	**Pn**	**00 05 38.1**	**+1.7**
APE	**Apeiranthos**	**2.77**	**46**	P	**Pn**	**00 05 38.0**	**+1.7**
ATH	**Athens Observa**	**2.86**	**11**	P	**Pn**	**00 05 40.3**	**+2.7**
ATH	**Athens Observa**	**2.86**	**11**	P	**Pb**	**00 05 41.0**	**-2.2

baz=331
IGT AMP
comp=N,0.3nm,0.9s,baz=331
IGT Igoumenitsa 4.88 334 P **Pn** **00 06 06.8 +1.5**
LIT Litokhoron 4.96 355 Pn **Pn** **00 06 06.2 -0.2**
LIT Litokhoron 4.96 355 P **Pn** **00 06 06.2 -0.2**
OUR Ouranopolis 5.22 8 P **Pn** **00 06 13.9 +3.9**
SRN Sarande 5.30 334 P **Pn** **00 06 12.0 +0.9**
baz=331
SRN S **Sn** **00 07 10.1 -1.8**
baz=331
SRN AMP
comp=N,0.3nm,0.5s,baz=331
EZN Ezine 5.34 28 P **Pn** **00 06 13.6 +2.0**
EZN Ezine 5.34 28 P **Pn** **00 06 13.6 +2.0**
comp=N,22nm,0.7s,comp=N,0.1nm
LSK Leskovik 5.35 339 P **Pn** **00 06 14.6 +2.8**
baz=337
LSK S **Sn** **00 07 09.9 -3.4**
baz=337
LSK AMP
comp=E,1.0nm,0.7s,baz=337
THE Thessaloniki 5.47 359 P **Pn** **00 06 15.0 +1.6**
SOH Sokhos 5.66 2 P **Pn** **00 06 20.4 +4.3**
FNA Florina 5.77 347 P **Pn** **00 06 19.4 +1.8**
baz=346
FNA Florina 5.77 347 Pn **Pn** **00 06 18.7 +1.1**
FNA Florina 5.77 347 P **Pn** **00 06 18.7 +1.1**
ELL Elmali 5.78 72 Pn **Pn** **00 06 18.9 +1.0**
ELL Elmali 5.78 72 P **Pn** **00 06 18.9 +1.0**
GRG Griva 5.81 355 P **Pn** **00 06 20.1 +1.9**
KNT Kendrikon 6.00 359 P **Pn** **00 06 23.2 +2.5**
VLO Vlora 6.00 333 P **Pn** **00 06 20.6 -0.1**
baz=330
VLO S **Sn** **00 07 30.8 +1.6**
baz=330
VLO AMP
comp=N,0.9nm,0.4s,baz=330
VLO Vlora 6.00 333 Pn **Pn** **00 06 20.3 -0.4**
VLO Vlora 6.00 333 P **Pn** **00 06 20.3 -0.4**
SCTE Santa Cesarea 6.11 325 Pn **Pn** **00 06 22.3 +0.1**
VAY Valandovo 6.17 357 *i* Pn **Pn** **00 06 21.6 -1.4**
ALN Alexandroupoli 6.20 22 Pn **Pn** **00 06 25.1 +1.7**
ALN Alexandroupoli 6.20 22 P **Pn** **00 06 25.1 +1.7**
OHR Ohrid 6.21 344 *i* Pn **Pn** **00 06 25.8 +2.3**
OHR Ohrid 6.21 344 P **Pn** **00 06 25.9 +2.3**
RDO Rodhopi 6.29 17 Pn **Pn** **00 06 25.6 +0.9**
MMB Musomishta 6.41 5 P **Pn** **00 06 28.5 +2.2**
TIP Timpagrande 6.43 310 ⇓P **Pn** **00 06 26.9 +0.2**
TIP Timpagrande 6.43 310 Pn **Pn** **00 06 26.7 0.0**
TIP Timpagrande 6.43 310 P **Pn** **00 06 27.3 +0.6**
comp=N,15nm,0.7s,comp=N,272nmcomp=N,0.1nm
CEL Celeste 6.53 300 Pn **Pn** **00 06 27.8 -0.2**
CEL Celeste 6.53 300 P **Pn** **00 06 28.2 +0.2**
comp=N,36nm,0.7s,comp=N,536nmcomp=N,0.1nm
RZN Rozhen 6.66 11 P **Pn** **00 06 32.8 +2.9**
KRB Krupnik 6.68 3 P **Pn** **00 06 33.4 +3.6**
KDZ Kurdzhali 6.71 15 P **Pn** **00 06 32.4 +2.0**
PLD Plovdiv 7.11 10 P **Pn** **00 06 38.4 +2.5**
PLD pmax pmax
comp=Z,112nm,1.1s
PUK Puka 7.31 341 P **Pn** **00 06 38.9 +0.2**
baz=340
PUK S **Sn** **00 07 59.6 -1.8**
baz=340
PUK AMP
comp=N,0.3nm,0.5s,baz=340
PUK Puka 7.31 341 Pn **Pn** **00 06 38.3 -0.4**
RAFF Raffo Rosso 7.32 289 Pn **Pn** **00 06 38.6 -0.2**
VAE Valguarnera 7.35 291 Pn **Pn** **00 06 40.9 +1.6**
comp=N,5.6nm,0.3s,baz=117,slow=4.5,SNR=1.5
VAE Sn **Sn** **00 08 06.8 +4.3**
comp=N,5.0nm,0.3s,baz=160,slow=15,SNR=4.3
ULC Ulcinj 7.42 337 ⇑*i* Pn **Pn** **00 06 40.6 +0.4**
ULC *i* Sn **Sn** **00 07 56.9 -7.3**
VTS Vitosha 7.45 1 P **Pn** **00 06 45.3 +4.5**
CUC Castrocucco 7.50 312 Pn **Pn** **00 06 41.4 0.0**
CTYL Yalikoy Yolu 7.53 32 P **Pn** **00 06 44.8 +3.1**
comp=N,29nm,0.9s,comp=N,0.1nm
BCI Bajram Curri 7.57 343 P **Pn** **00 06 43.4 +1.1**
baz=342
BCI S **Sn** **00 08 07.1 -0.7**
baz=342
DRME Dracevica, Mon 7.64 338 *e*Pn **Pn** **00 06 43.2 -0.1**
DRME Dracevica, Mon 7.64 338 ⇑*i* Pn **Pn** **00 06 43.0 -0.3**
DRME *i* Sn Sn 00 08 00.6 -9.0
PVY Plav 7.81 343 ⇓*i* Pn **Pn** **00 06 46.3 +0.7**
PVY *i* Sn **Sn** **00 08 12.5 -1.4**
BUM Brajici-Budva 7.84 337 ⇑*i* Pn **Pn** **00 06 45.0 -1.0**
BUM *i* Sn **Sn** **00 08 11.6 -2.9**
PDG Podgorica 7.84 339 ⇑P **Pn** **00 06 46.9 +0.9**
PDG Podgorica 7.84 339 Pn **Pn** **00 06 45.9 -0.1**
PDG Podgorica 7.84 339 *e*Pn **Pn** **00 06 45.8 -0.1**
PDG Podgorica 7.84 339 ⇑*i* Pn **Pn** **00 06 46.1 +0.1**
PDG *i* Sn **Sn** **00 08 13.2 -1.3**
CEME Cevo 8.05 338 ⇓*i* Pn **Pn** **00 06 47.3 -1.6**
CEME *i* Sn **Sn** **00 08 17.9 -1.9**
ELND Elena 8.07 15 ⇑P **Pn** **00 06 51.9 +2.8**
HCY Herceg Novi 8.10 335 *e*Pn **Pn** **00 06 48.0 -1.5**
HCY Herceg Novi 8.10 335 ⇑*i* Pn **Pn** **00 06 46.8 -2.7**
HCY *i* Sn **Sn** **00 08 18.8 -2.1**
KOME Kolasin 8.16 341 ⇑*i* Pn **Pn** **00 06 51.1 +0.7**
KOME *i* Sn **Sn** **00 08 20.7 -1.8**
MPEP Malo Peshtene 8.21 4 P Pn 00 06 56.9 +5.9
NKME Niksic 8.24 338 ⇓*i* Pn **Pn** **00 06 52.3 +0.8**
NKME *i* Sn **Sn** **00 08 22.2 -2.2**
MDUB Mudurnu 8.35 48 Pn **Pn** **00 06 54.1 +1.1**
TREB Trebinje 8.39 336 *e*Pn **Pn** **00 06 51.7 -1.8**
CSS Mathiatis 8.43 88 Pn **Pn** **00 06 53.7 -0.4**
BLKB Belogradchik 8.46 358 ⇑P **Pn** **00 06 56.3 +1.8**
BRY Bratogost 8.49 337 *e*Pn **Pn** **00 06 52.7 -2.3**
BRY Bratogost 8.49 337 ⇑*i* Pn **Pn** **00 06 56.3 +1.3**
BRY *i* Sn **Sn** **00 08 28.2 -2.5**
BOVS Bovan 8.53 353 ⇑P **Pn** **00 06 55.3 -0.2**
PLE Pljevlja 8.64 342 ⇑*i* Pn Pn 00 06 48.8 -8.3
PLE *i* Sn **Sn** **00 08 32.3 -2.0**
UPM Unac-Piva 8.66 339 *e*Pn **Pn** **00 06 58.2 +0.9**
UPM Unac-Piva 8.66 339 ⇑*i* Pn **Pn** **00 06 52.9 -4.4**
UPM *i* Sn **Sn** **00 08 32.2 -2.6**
SGRT San Giovanni R 8.73 321 Pn **Pn** **00 06 57.0 -1.2**
STON Ston 8.76 333 *e*Pn **Pn** **00 06 56.6 -1.9**
PAOL Paolisi 8.89 314 Pn **Pn** **00 07 00.4 0.0**
RUDO Rudo 8.92 342 *e*Pn **Pn** **00 06 59.2 -1.5**
NEVS Nevesinje 8.99 336 *e*Pn **Pn** **00 07 00.7 -1.1**
BR231 Keskin MP Arra 9.03 56 Pn **Pn** **00 07 03.5 +1.1**
ANTO Ankara 9.05 56 Pn **Pn** **00 07 05.8 +3.1**
ANTO Ankara 9.05 56 P **Pn** **00 07 05.8 +3.1**
ANTO Ankara 9.05 56 P **Pn** **00 07 06.9 +4.2**
comp=N,12nm,1.0s
BBLS Lazi&#263i 9.14 343 *e*Pn **Pn** **00 07 02.5 -1.4**
BR105 Keskin Array S 9.55 58 P **Pn** **00 07 13.4 +3.8**
comp=N,13nm,0.9s,comp=N,93nm
BR106 Keskin Array S 9.56 58 P **Pn** **00 07 13.3 +3.6**
comp=N,11nm,0.9s,comp=N,74nm
BR104 Keskin Array S 9.57 59 P **Pn** **00 07 13.8 +4.0**
comp=N,15nm,1.0s,comp=N,115nm
BR131 Keskin Array S 9.57 58 Pn **Pn** **00 07 12.6 +2.8**
BR131 Keskin Array S 9.57 58 *i* P **Pn** **00 07 13.4 +3.6**
BRTR Keskin Array B 9.57 58 Pn **Pn** **00 07 12.7 +2.8**
comp=N,0.2nm,0.3s,baz=233,slow=13,SNR=23
BRTR LR LR 00 10 59.1
comp=N,105nm,19.3s,baz=269,slow=38
comp=N,4.9nm,0.9s
BRTR Keskin Array B 9.57 58 *e*P **Pn** **00 07 13.9 +4.1**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
HERR Herculane 9.73 357 ⇓P **Pn** **00 07 12.6 +0.8**
TEKS Tekeris 9.76 345 *e*Pn **Pn** **00 07 10.2 -2.1**
SRKV Kupres RS 9.99 335 *e*Pn **Pn** **00 07 14.7 -0.8**
HARR Harsova 10.23 20 ⇑P **Pn** **00 07 22.9 +4.2**
HARR Harsova 10.23 20 ⇑P **Pn** **00 07 22.9 +4.2**
FRGS Fruska Gora 10.29 347 ⇓P **Pn** **00 07 18.4 -1.2**
FRGS Fruska Gora 10.29 347 *e*Pn **Pn** **00 07 17.9 -1.7**
LOT Lotru 10.30 3 ⇑P **Pn** **00 07 24.4 +4.7**
ISR Istrita 10.30 14 ⇑P **Pn** **00 07 22.3 +2.6**
ISR Istrita 10.30 14 ⇑P **Pn** **00 07 22.3 +2.6**
MGRS Mrkonjic Grad 10.32 335 *e*Pn **Pn** **00 07 18.5 -1.5**
VOIR 10.38 8 ⇑P **Pn** **00 07 24.7 +3.8**
VOIR 10.38 8 ⇑P **Pn** **00 07 24.7 +3.8**
KZIT Kziot 10.42 111 P **Pn** **00 07 19.1 -2.3**
MMAI Mount Meron Ar 10.46 98 Pn **Pn** **00 07 22.6 +0.6**
comp=Z,1.8nm,0.3s,baz=278,slow=12,SNR=15
MMAI Sn **Sn** **00 09 16.5 -2.5**
comp=Z,1.6nm,0.3s,baz=285,slow=22,SNR=2.3
comp=Z,1.0nm,0.3s
BZS Buzias 10.51 354 P **Pn** **00 07 23.6 +1.1**
MLR Muntele Rosu 10.56 11 ⇑P Pn 00 07 28.8 +5.5
MLR Muntele Rosu 10.56 11 Pn **Pn** **00 07 26.2 +2.9**
MLR Muntele Rosu 10.56 11 Pn **Pn** **00 07 26.0 +2.7**
comp=Z,0.1nm,0.3s,baz=177,slow=11,SNR=7.4
MLR LR LR 00 11 10.2
comp=Z,82nm,21.3s,baz=170,slow=36
MLR Muntele Rosu 10.56 11 P **Pn** **00 07 26.2 +2.9**
A050A Klekovaca 10.57 334 *e*Pn **Pn** **00 07 22.8 -0.7**
BLY Banja Luka 10.58 337 *e*Pn **Pn** **00 07 21.6 -1.9**
CFR Carcaliu 10.74 20 ⇑P **Pn** **00 07 28.9 +3.3**
CFR Carcaliu 10.74 20 ⇑P **Pn** **00 07 28.9 +3.3**
YTIR Yattir 10.78 107 P **Pn** **00 07 29.3 +2.9**
SHMJ Saham 10.83 99 P **Pn** **00 07 26.3 -0.7**
NRCA Norcia 10.88 318 Pn **Pn** **00 07 29.2 +1.5**
A051A Mrakovica 10.91 336 *e*Pn **Pn** **00 07 26.3 -1.7**
DSI Dead Sea 10.91 106 P **Pn** **00 07 27.3 -0.7**
COVR Voineasa-Covas 10.94 12 ⇑P **Pn** **00 07 32.5 +4.0**
DOPR Dopca 10.95 9 ⇑P Pn 00 07 34.5 +6.0
PLOR Plostina 11.03 13 ⇑P **Pn** **00 07 32.1 +2.5**
PLOR Plostina 11.03 13 ⇑P **Pn** **00 07 32.1 +2.5**
PLOR3 Plostina Array 11.03 13 P **Pn** **00 07 31.9 +2.2**
comp=Z,9.4nm,1.0s
FDMO Fiordimonte 11.03 318 Pn **Pn** **00 07 31.3 +1.5**
VRI Vrincioaia 11.06 14 ⇓P Pn 00 07 36.5 +6.5
VRI Vrincioaia 11.06 14 ⇓P Pn 00 07 36.5 +6.5
TURR Turia 11.12 11 ⇓P **Pn** **00 07 34.3 +3.4**
OZUR 11.12 10 ⇓P **Pn** **00 07 30.5 -0.5**
KEST Kesra 11.20 277 Sn **Sn** **00 09 33.2 -3.8**
comp=Z,0.1nm,0.3s,baz=254,slow=23,SNR=0.8
KEST LR LR 00 12 58.2
comp=Z,101nm,18.1s,baz=234,slow=43
KARJ KARJ 11.30 107 P **Pn** **00 07 29.1 -4.3**
EIL Elat 11.44 115 Pn **Pn** **00 07 36.7 +1.3**
comp=Z,1.1nm,0.3s,baz=248,slow=6.3,SNR=11
EIL Sn **Sn** **00 09 34.6 -8.3**
comp=Z,0.5nm,0.3s,baz=320,slow=19,SNR=1.6
comp=Z,2.6nm,0.3s
AQBJ Aqaba 11.49 115 P **Pn** **00 07 37.4 +1.5**
MORH Mrgy, Hungar 11.54 345 ⇓P **Pn** **00 07 34.5 -2.1**
GAZ Gaziantep 11.62 76 Pn **Pn** **00 07 40.5 +2.7**
TESR Tescani 11.67 12 ⇓P **Pn** **00 07 42.6 +4.3**
ASF Jabal al Asfar 11.91 101 Pn **Pn** **00 07 42.5 +0.6**
comp=Z,0.2nm,0.3s,baz=254,slow=0.7,SNR=3.9
comp=Z,2.3nm,0.7s
BOJS Bojanci 11.92 332 *i* Pn **Pn** **00 07 40.4 -1.4**
BOJS Bojanci 11.92 332 *e*Pn **Pn** **00 07 40.1 -1.7**
CRES Cresnjev 12.12 334 *e*Pn **Pn** **00 07 42.8 -1.7**
CEY Cerknica 12.44 331 *e*Pn **Pn** **00 07 47.1 -1.8**
BURAR Bucovina Array 12.55 7 ⇑P P 00 07 57.2 -5.0
BURAR Bucovina Array 12.55 7 ⇑P P 00 07 57.2 -5.0
LJU Ljubljana 12.65 332 *e*Pn **Pn** **00 07 50.3 -1.5**
CRNS Crni Vrh 12.78 331 *i* Pn **Pn** **00 07 52.0 -1.6**
SABO M.te Sabotino 12.97 329 Pn **Pn** **00 07 53.8 -2.4**
SOKA Soboth 13.00 335 *e*Pn **Pn** **00 07 55.2 -1.5**
comp=Z,1.7nm,0.4s
OBKA Obir 13.03 333 *e*Pn **Pn** **00 07 56.3 -0.7**
comp=Z,2.7nm,0.6s
OBKA Obir 13.03 333 *e*Pn **Pn** **00 07 55.6 -1.5**
PRED Cave del Predi 13.36 330 Pn **Pn** **00 08 01.0 -0.5**
VYHS Vyhne 13.69 348 *e*P **P** **00 08 13.9 -0.8**
VYHS *e* 00 13 22.4
VYHS Vyhne 13.69 348 *e*P **P** **00 08 13.9 -0.8**
KOLS Kolonicke sedl 13.78 358 *e*P **P** **00 08 12.8 -2.9**
KOLS Kolonicke sedl 13.78 358 *e*P **P** **00 08 12.8 -2.9**
NDNU Novodnistrovsk 13.80 12 P **Pn** **00 08 09.3 +1.8**
CONA Conrad Observa 13.84 339 *e*Pn **P** **00 08 15.6 -0.9**
comp=Z,0.8nm,0.4s
MODS Modra-Piesok 13.89 344 *e*P **P** **00 08 18.9 +2.0**
MODS *e* 00 13 18.8
MODS Modra-Piesok 13.89 344 *e*P **P** **00 08 18.9 +2.0**
CTI Castel Tesino 13.89 325 Pn **Pn** **00 08 07.0 -1.8**
CTI Castel Tesino 13.89 325 P **Pn** **00 08 07.0 -1.8**
ABTA Abtaltersbach 14.04 329 *e*Pg **P** **00 08 21.6 +3.0**
comp=Z,2.9nm,0.5s
LANS Liptovska Anna 14.23 350 *e*P **P** **00 08 22.9 +2.1**
LANS Liptovska Anna 14.23 350 *e*P **P** **00 08 22.9 +2.1**
MOA Molln 14.28 335 *e*Pn **Pn** **00 08 12.7 -1.3**
comp=Z,3.3nm,0.7s
STHS Stebnicka Huta 14.31 355 *e*P **P** **00 08 24.6 +3.0**
STHS Stebnicka Huta 14.31 355 *e*P **P** **00 08 24.6 +3.0**
ANN Anapa 14.62 44 *e*P **P** **00 08 24.7 -0.3**
ANN pmax pmax
comp=Z,14nm,0.9s
MAUC Maruska 14.71 346 *e*P **P** **00 08 28.2 +2.1**
WTTA Wattenberg 14.82 328 *e*Pn **Pn** **00 08 24.5 +2.9**
comp=Z,1.9nm,0.6s
WTTA Wattenberg 14.82 328 P **P** **00 08 29.6 +2.2**
WATA Walderalm 14.90 328 *e*Pn **P** **00 08 26.2 -2.1**
comp=Z,1.1nm,0.4s
VRAC Vranov 14.92 343 *e*P **P** **00 08 28.9 +0.5**
VRAC Vranov 14.92 343 Pn **Pn** **00 08 22.5 -0.3**
comp=Z,0.3nm,0.3s,baz=131,slow=10.0,SNR=7.6
comp=Z,1.6nm,0.6s
FUORN Ofenpass-Fuorn 14.97 324 Pn **Pn** **00 08 22.5 -1.1**
SQTA Sankt Quirin 14.97 327 *e*Pn **Pn** **00 08 26.0 +2.4**
comp=Z,1.9nm,0.5s
FETA Feichten 15.04 326 *e*Pn **P** **00 08 29.8 -0.1**
comp=Z,0.6nm,0.4s
CKRC Cesky Krumlov 15.11 337 *e*P **P** **00 08 32.2 +1.8**
CKRC Cesky Krumlov 15.11 337 *e*P **P** **00 08 32.2 +1.8**
OKC Ostrava-Krasne 15.11 348 *e*P **Pn** **00 08 24.9 -0.3**
OKC *e*pP **pP** **00 08 32.0 -1.6**
OKC Ostrava-Krasne 15.11 348 *e*P **Pn** **00 08 24.9 -0.3**
MOTA Moosalm 15.11 327 *e*Pn **P** **00 08 28.9 -1.8**
comp=Z,0.5nm,0.3s
MORC Moravsky Berou 15.16 346 ⇑P **P** **00 08 32.2 +1.1**
MORC Moravsky Berou 15.16 346 P **P** **00 08 31.2 +0.1**
MORC Moravsky Berou 15.16 346 *e*P **P** **00 08 32.3 +1.2**
MORC Moravsky Berou 15.16 346 P **P** **00 08 31.2 +0.1**
MORC pmax pmax
comp=Z,4.0nm,0.7s
TREC Trest 15.19 341 *e*P **P** **00 08 32.6 +1.3**
TREC Trest 15.19 341 *e*P **P** **00 08 32.6 +1.3**
OJC Ojcow 15.24 352 P **Pn** **00 08 27.8 +0.8**
comp=Z,9.3nm,1.3s
DAVOX Davos/Dischmat 15.27 324 Pn **P** **00 08 31.7 -0.7**
comp=Z,0.4nm,0.3s,baz=125,slow=14,SNR=12
DAVOX Sn **Sn** **00 11 15.8 -0.7**
comp=Z,0.2nm,0.3s,baz=342,slow=22,SNR=1.9
TUE Stuetta 15.32 322 Pn **Pn** **00 08 28.2 -0.1**
TUE IAmb IAmb 00 08 36.9
comp=Z,17nm,1.1s
GEC2 GERESS Array S 15.33 336 Pn **Pn** **00 08 27.9 -0.4**
GERES GERESS Array B 15.33 336 Pn **Pn** **00 08 27.5 -0.7**
comp=Z,0.2nm,0.3s,baz=157,slow=13,SNR=4.0
comp=Z,0.7nm,0.6s
RETA Reutte 15.37 327 *e*Pg **P** **00 08 36.4 +3.0**
comp=Z,2.9nm,0.5s
GURO Guroymak-BITLI 15.57 72 Pn **Pn** **00 08 32.7 +1.2**
KRLC Kraliky 15.60 345 *e*P **P** **00 08 37.4 +1.5**
KRLC AMS AMS 00 16 20.0
comp=Z,200nm,17.1s
KRLC Kraliky 15.60 345 *e*P **P** **00 08 37.4 +1.5**
KRLC MLR MLR
comp=Z,200nm,17.1s
KHC Kasperske Hory 15.61 336 Pn **Pn** **00 08 31.6 -0.3**
KHC Kasperske Hory 15.61 336 *e*P **P** **00 08 37.9 +1.8**
KHC *ex* x 00 08 48.1
KHC AMS AMS 00 15 20.0
comp=Z,200nm,16.1s
KHC Kasperske Hory 15.61 336 *i* P **Pn** **00 08 31.4 -0.5**
DAVA Damuels 15.63 325 *i* Pn **P** **00 08 36.0 -0.4**
comp=Z,4.3nm,0.7s,SNR=5.4
ZVC Zvikov 15.69 338 *e*P **Pn** **00 08 32.7 -0.2**
WET Wettzell 15.86 335 P **P** **00 08 40.4 +1.6**
WET pmax pmax
comp=Z,10.0nm,1.7s
GOPC GO Pecny, Ondr 15.94 340 *e*P **P** **00 08 41.0 +1.3**
GOPC GO Pecny, Ondr 15.94 340 *e*P **P** **00 08 41.0 +1.3**
DPC Dobruska-Polom 15.96 344 *e*P **P** **00 08 40.7 +0.8**
DPC Dobruska-Polom 15.96 344 *e*P **P** **00 08 40.7 +0.8**
AK07 Malin Array Si 16.02 14 P **P** **00 08 39.7 -0.9**
AK13 Malin Array Si 16.05 14 P **P** **00 08 39.8 -1.1**
PRU Pruhonice 16.08 340 *e*P **P** **00 08 42.2 +1.0**
PRU AMS AMS 00 16 10.0
comp=Z,200nm,14.1s
PRU Pruhonice 16.08 340 *e*P **P** **00 08 42.2 +1.0**
PRU MLR MLR
comp=Z,200nm,14.1s
AK10 Malin Array Si 16.08 14 P **P** **00 08 40.3 -0.9**
AK09 Malin Array Si 16.10 14 P **P** **00 08 40.4 -1.0**
MI28 Mi28,Pidlybu 16.12 11 P **P** **00 08 41.6 0.0**
KIEV Kiev 16.16 14 ⇑P **Pn** **00 08 37.0 -1.9**
KIEV Kiev 16.16 14 Pn **Pn** **00 08 38.8 -0.1**
KIEV Kiev 16.16 14 P **Pn** **00 08 38.8 -0.1**
KIEV pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 16.17 14 Pn **Pn** **00 08 37.8 -1.2**
comp=Z,1.7nm,0.3s,baz=204,slow=9.0,SNR=2.8
AKASG LR LR 00 15 20.7
comp=Z,70nm,21.9s,baz=307,slow=39
comp=Z,2.7nm,0.7s
AKBB Malin Array Si 16.17 14 Pn **Pn** **00 08 38.4 -0.6**
AKBB Malin Array Si 16.17 14 *i* P **Pn** **00 08 39.9 +0.9**
AKBB pmax pmax
comp=Z,5.0nm,0.6s
UPC Upice 16.18 344 *e*P **P** **00 08 43.8 +1.5**
UPC AMS AMS 00 15 50.0
comp=Z,300nm,23.5s
UPC Upice 16.18 344 *e*P **P** **00 08 43.8 +1.5**
UPC MLR MLR
comp=Z,300nm,23.5s
PRA Prague 16.18 340 *e*P **P** **00 08 43.4 +1.1**
PRA *ex* x 00 08 52.4
PRA Prague 16.18 340 *e*P **P** **00 08 43.4 +1.1**
CHVC Chvalec 16.24 344 *e*P **P** **00 08 44.5 +1.5**
CHVC Chvalec 16.24 344 *e*P **P** **00 08 44.5 +1.5**
SENIN Lac Senin/Sane 16.33 318 Pn **Pn** **00 08 42.0 +0.6**
SENIN IAmb IAmb 00 09 00.8
comp=Z,20nm,0.7s
PVCC Panska Ves 16.56 341 P **P** **00 08 46.7 +0.2**
PVCC pmax pmax
comp=Z,10.0nm,1.4s
KARS Kars 16.71 65 P **P** **00 08 48.9 +0.4**
KARS IAmb IAmb 00 08 58.7
comp=Z,52nm,1.1s
KARS Kars 16.71 65 P **P** **00 08 48.9 +0.4**
KARS pmax pmax
comp=Z,52nm,1.1s
ERBR Yeremizino-Bor 16.91 46 *e*P **Pn** **00 08 47.6 -0.9**
ERBR pmax pmax
comp=Z,4.0nm,0.4s
GRA1 Grafenberg Arr 16.92 333 Pn **Pn** **00 08 49.1 +0.5**
GRA1 IAmb IAmb 00 08 53.3
comp=Z,20nm,0.9s
GRF Grafenberg Arr 16.92 333 P **Pn** **00 08 49.1 +0.5**
GRF pmax pmax
comp=Z,20nm,0.9s
GRFO Grafenberg 16.92 333 Pn **Pn** **00 08 49.1 +0.5**
GRFO IAmb IAmb 00 08 53.2
comp=Z,20nm,0.9s
GRFO Grafenberg 16.92 333 P **Pn** **00 08 49.1 +0.5**
GRFO pmax pmax
comp=Z,20nm,0.9s
BRG Berggiesshubel 17.04 340 *e*P **P** **00 08 52.9 +1.0**
BRG Amp 00 08 58.4
comp=Z,4.1nm,1.0s
BRG Berggiesshubel 17.04 340 *e*P **P** **00 08 52.8 +1.0**
BRG pmax pmax
comp=Z,4.0nm,1.0s
KIV Kislovodsk 17.47 54 P **00 08 56.7 -0.1**
KIV Kislovodsk 17.47 54 *e*P **P** **00 08 56.7 -0.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
KVAR Kislovodsk Arr 17.48 54 P **P** **00 08 57.2 +0.3**
baz=285,slow=20
comp=Z,1.4nm,0.7s
KBZ Khabaz 17.53 55 P **P** **00 08 59.1 +1.9**
comp=Z,4.5nm,0.8s,baz=267,slow=6.9,SNR=8.5
KBZ Khabaz 17.53 55 *i* P **P** **00 09 01.2 +4.0**
KBZ pmax pmax
comp=Z,7.0nm,0.9s
ECH Echery 17.59 323 **Pn** **00 08 56.8 -0.2**
ECH Echery 17.59 323 P **Pn** **00 08 56.8 -0.2**
ECH pmax pmax
comp=Z,7.0nm,1.1s
GNI Garni 17.87 67 P **P** **00 09 03.2 +1.9**
comp=Z,4.3nm,1.0s,baz=238,slow=16,SNR=3.1
NCK Nalchik 17.91 56 *i* P **P** **00 09 04.0 +2.5**
NCK pmax pmax
comp=Z,9.0nm,0.8s
SUW Suwalki 18.86 0 P **P** **00 09 10.8 -1.0**
SUW IAmb IAmb 00 09 27.7
comp=Z,22nm,0.9s
SUW Suwalki 18.86 0 P **P** **00 09 10.8 -1.0**
SUW pmax pmax
comp=Z,23nm,0.9s
WLF Walferdange 19.06 325 *d*P **Pn** **00 09 21.7 +6.7**
comp=Z,7.3nm,0.9s
MNK Minsk 19.64 8 *i* P **P** **00 09 19.3 -1.1**
MNK comp=E,5.0nm,1.1s *i* P **P** **00 09 19.3 -1.1**
MNK comp=N,8.0nm,1.0s *i* P **P** **00 09 19.3 -1.1**
MNK comp=Z,12nm,0.8s,baz=192
MNK *i* PP **PnPn** **00 09 34.1 -1.3**
MNK *i* S **S** **00 13 01.1 -0.2**
MNK *i* SS **SnSn** **00 13 13.3 -2.9**
MNK *i* LQ LQ 00 15 13.8
MNK *i* LR LR 00 16 43.4
MNK *i* LRM MLR 00 17 35.2
MNK comp=N,101nm,20.8s *i* LRM MLR 00 17 49.9
MNK comp=Z,95nm,15.8s *i* LRM MLR 00 18 56.3
comp=E,61nm,15.8s
MNK Minsk 19.64 8 *i* P **P** **00 09 19.2 -1.1**
MNK *i* S **S** **00 13 01.1 -0.2**
MNK pmax pmax
comp=E,5.0nm,1.1s
MNK pmax pmax
comp=N,8.0nm,1.0s
MNK pmax pmax
comp=Z,12nm,0.8s
MNK MLR MLR
comp=N,101nm,21.0s
MNK MLR MLR
comp=Z,95nm,16.0s
MNK MLR MLR
comp=E,61nm,16.0s
BTNL Ternell 19.72 327 *d*P **Pn** **00 09 23.1 +0.3**
comp=Z,7.1nm,0.7s
MEM Membach 19.79 327 *d*P **Pn** **00 09 25.1 +1.5**
comp=Z,10nm,0.7s
VSR Storozhevoye 19.82 31 *e*P **Pn** **00 09 24.6 +0.6**
VSR pmax pmax
comp=Z,7.0nm,0.5s
NACGM Naroch 19.92 6 *e*P **P** **00 09 23.0 -0.4**
BSTI Sart Tilman 19.97 326 *d*P **Pn** **00 09 27.2 +1.4**
comp=Z,2.7nm,0.9s
BCLA Clavier 19.98 325 *d*P **Pn** **00 09 27.1 +1.2**
BGES Gesves 20.06 325 *d*P Pn 00 09 27.1 +0.3
DOU Dourbes 20.10 324 *d*P Pn 00 09 26.6 -0.7
comp=Z,13nm,0.9s
IDID Didziasalis 20.32 6 *e*P **P** **00 09 27.4 -0.3**
PABE Paberze 20.36 1 P **P** **00 09 27.2 -1.0**
PABE Paberze 20.36 1 *e*P **P** **00 09 27.0 -1.2**
MAK Makhachkala 20.48 60 *e*P **P** **00 09 29.0 -0.6**
MAK *e*S **S** **00 13 17.6 -0.7**
MAK pmax pmax
comp=Z,168nm,1.1s
MAK MLR MLR
comp=Z,95nm,15.0s
BSD Bornholm Skovb 20.74 347 *e*P **P** **00 09 32.5 +0.2**
PBUR Paburge 20.89 358 *e*P **P** **00 09 32.7 -1.1**
VRH Novokhopyorsk 20.94 34 *e*P Pn 00 09 39.5 +2.4
VRH pmax pmax
comp=Z,8.0nm,0.5s
LUNU Lund 21.52 345 *i* P **P** **00 09 42.1 +1.4**
BLEU Blekinge 21.72 349 *i* P **P** **00 09 41.7 -1.1**
ESDC Sonseca Array 21.89 290 P **P** **00 09 45.7 +0.8**
comp=Z,1.5nm,0.9s,baz=86,slow=9.8,SNR=10
comp=Z,1.5nm,0.9s
OBN Obninsk 22.04 21 P **P** **00 09 46.2 -0.1**
comp=Z,8.2nm,0.4s,baz=172,slow=1.2,SNR=3.7
comp=Z,8.2nm,0.4s
OBN Obninsk 22.04 21 *ce*P **P** **00 09 46.6 +0.3**
OBN *e*PP **pP** **00 09 49.7 +0.1**
OBN *e*SP **sP** **00 09 51.1 +0.1**

OBN ePPP PPP 00 10 13.7
OBN eS **S** **00 13 53.1 +4.2**
OBN SS **SnSn** **00 14 19.0 +3.9**
OBN SSS SSS 00 14 42.0
OBN pmax pmax
comp=Z,25nm,1.1s
OBN MLR MLR
comp=Z,82nm,15.0s
PAB San Pablo 22.18 290 P **P** **00 09 49.9 +1.8**
PAB San Pablo 22.18 290 P **P** **00 09 49.9 +1.8**
PAB pmax pmax
comp=Z,8.0nm,1.2s
DEL Delary 22.22 346 eP **P** **00 09 49.0 +0.8**
DEL Delary 22.22 346 i P **P** **00 09 50.6 +2.4**
SLIT Slitere, Latvi 22.49 359 eP **P** **00 09 50.1 -1.0**
MOS Moscow 22.89 21 eP **P** **00 09 54.2 -1.2**
MDT Midelt 23.03 272 P **P** **00 09 58.5 +1.3**
comp=Z,2.7nm,0.9s,baz=82,slow=9.8,SNR=3.9
comp=Z,2.7nm,0.9s
VSU Vasula 23.44 5 i P **P** **00 09 59.0 -1.9**
VSU pmax pmax
comp=Z,15nm,0.9s
BORU Boraas 23.52 346 i P **P** **00 10 01.2 -0.6**
MTSE Matsula 23.57 1 eP **P** **00 10 01.3 -0.9**
VIKU Vikbolandet 23.73 352 eP **P** **00 10 02.7 -1.1**
ARBE Arbavere 24.37 4 eP **P** **00 10 12.5 +2.8**
MEF Metsahovi 25.09 2 eP **P** **00 10 15.5 -0.7**
AAL Aland 25.12 356 eP **P** **00 10 16.4 0.0**
STRU Stroemstad 25.14 346 i P **P** **00 10 15.9 -0.8**
HFS Hagfors 25.72 349 P **P** **00 10 21.5 -0.5**
comp=Z,3.8nm,0.4s,baz=156,slow=11,SNR=21
comp=Z,3.8nm,0.4s
RAF Rauma 25.90 359 eP **P** **00 10 27.1 +3.6**
KONO Kongsberg 26.04 344 P **P** **00 10 25.4 +0.5**
KONO IAmb IAmb 00 11 02.2
comp=Z,20nm,1.3s
KONO Kongsberg 26.04 344 P **P** **00 10 25.4 +0.5**
KONO pmax pmax
comp=Z,20nm,1.3s
FINES FINESS Array B 26.38 3 P **P** **00 10 25.5 -2.3**
FINES FINESS Array B 26.38 3 P **P** **00 10 26.7 -1.2**
comp=Z,1.4nm,0.4s,baz=161,slow=11,SNR=24
comp=Z,1.4nm,0.4s
FINES FINESS Array B 26.38 3 eP **P** **00 10 25.0 -2.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FIA1 FINESS Array S 26.38 3 P **P** **00 10 25.8 -2.1**
NC602 NORSAR Array S 26.65 347 P **P** **00 10 29.4 -1.0**
NC602 IAmb IAmb 00 10 41.9
comp=Z,18nm,1.5s
NORES NORESS Array B 26.65 347 P **P** **00 10 32.8 +2.4**
NAO01 NORSAR Array S 26.87 347 P **P** **00 10 31.8 -0.6**
NAO01 IAmb IAmb 00 10 45.3
comp=Z,21nm,1.4s
NB2 NORSAR Subarra 26.99 347 P **P** **00 10 32.9 -0.6**
comp=Z,1.0nm,0.6s,baz=156,slow=9.3
NOA NORSAR Array B 26.99 347 P **P** **00 10 33.1 -0.4**
comp=Z,1.1nm,0.6s,baz=157,slow=9.1,SNR=6.1
comp=Z,1.1nm,0.6s
KEF Keuruu 27.06 2 eP **P** **00 10 32.1 -1.9**
EKA Eskdalemuir Ar 27.07 326 P **P** **00 10 34.4 +0.2**
comp=Z,3.2nm,0.8s,baz=118,slow=10,SNR=5.7
comp=Z,3.2nm,0.8s
NC204 NORSAR Array S 27.30 347 P **P** **00 10 35.9 -0.4**
NC204 IAmb IAmb 00 11 08.3
comp=Z,12nm,1.2s
VAF Ylistaro 27.91 360 eP **P** **00 10 41.2 -0.5**
GYA0 ALIBECK ARRAY 28.21 74 P **P** **00 10 45.5 +0.8**
GYA0B ALIBECK ARRAY 28.21 74 P **P** **00 10 45.5 +0.8**
GYA0B IAmb IAmb 00 11 14.5
comp=Z,3.8nm,0.7s
TOA0 Torodi Ar. Sit 29.20 227 P **P** **00 10 54.0 +0.5**
TORD Torodi Ar. Bea 29.20 227 P **P** **00 10 54.6 +1.1**
comp=Z,1.3nm,0.5s,baz=34,slow=9.6,SNR=26
comp=Z,1.3nm,0.5s
UOSS Minazif 30.32 100 P **P** **00 11 03.4 -0.1**
UOSS IAmb IAmb 00 11 40.0
comp=Z,8.6nm,0.9s
ABKAR Akbulak array 30.41 51 P **P** **00 11 04.4 +0.4**
ARU Arti 32.09 37 P **P** **00 11 17.9 -0.8**
ARCES ARCESS Array B 34.46 2 P **P** **00 11 37.7 -1.5**
ARCES IAmb IAmb 00 11 43.3
comp=Z,6.9nm,1.2s
ARCES ARCESS Array B 34.46 2 P **P** **00 11 38.1 -1.1**
comp=Z,1.7nm,0.5s,baz=180,slow=8.2,SNR=15
comp=Z,1.7nm,0.5s
ARCES ARCESS Array B 34.46 2 eP **P** **00 11 37.9 -1.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
KEV Kevo 34.72 2 P **P** **00 11 41.0 -0.5**
KEV Kevo 34.72 2 P **P** **00 11 41.0 -0.5**
KEV pmax pmax
comp=Z,18nm,1.5s
KK31 Karatay Array 37.25 63 P **P** **00 12 04.0 +0.5**
KK31 Karatay Array 37.25 63 P **P** **00 12 04.0 +0.5**
KK31 pmax pmax
comp=Z,2.0nm,0.9s
KKAR Karatay Array 37.25 63 P **P** **00 12 04.1 +0.6**
KKAR Karatay Array 37.25 63 P **P** **00 12 04.1 +0.6**
KKAR pmax pmax
comp=Z,2.0nm,0.9s
BRVK Borovoye 37.55 47 P **P** **00 12 07.1 +1.3**
BRVK Borovoye 37.55 47 i P **P** **00 12 06.3 +0.5**
BRVK pmax pmax
comp=Z,7.0nm,2.1s
BVAR Borovoye Array 37.60 47 P **P** **00 12 06.5 +0.2**
comp=Z,0.5nm,0.4s,baz=264,slow=7.1,SNR=6.0
comp=Z,0.5nm,0.4s
BTK Batken 37.80 68 P **P** **00 12 07.7 -0.5**
BTK IAmb IAmb 00 12 25.7
comp=Z,6.9nm,0.5s
BTK Batken 37.80 68 P **P** **00 12 07.7 -0.5**
BTK pmax pmax
comp=Z,7.0nm,0.5s
DBIC Dimbokro 38.24 229 P **P** **00 12 12.7 +0.7**
DBIC IAmb IAmb 00 12 13.3
comp=Z,6.8nm,1.1s
DBIC Dimbokro 38.24 229 P **P** **00 12 13.0 +0.9**
comp=Z,2.3nm,0.4s,baz=26,slow=9.4,SNR=13
comp=Z,2.3nm,0.4s
TIC Toumodi 38.36 229⇓ i P **P** **00 12 13.9 +0.8**
comp=Z,4.0nm,0.2s
KIC Kosan Boka 38.41 228⇓ i P **P** **00 12 14.6 +1.1**
comp=Z,13nm,0.8s
LIC Lamto 38.70 228⇑ i P **P** **00 12 16.4 +0.5**
comp=Z,11nm,0.4s
AAK Ala-Archa 40.20 63 i P **P** **00 12 32.4 +3.9**
AAK pmax pmax
comp=Z,5.0nm,1.0s
BOOM Boomskoye usch 41.28 63 P **P** **00 12 38.6 +1.2**
BOOM Boomskoye usch 41.28 63 P **P** **00 12 38.6 +1.2**
BOOM pmax pmax
comp=Z,26nm,1.3s
KURBB Kurchatov Arra 42.47 51 P **P** **00 12 46.1 -0.6**
comp=Z,1.3nm,0.5s,baz=277,slow=8.6,SNR=8.8
comp=Z,1.3nm,0.5s
KURK Kurchatov 42.52 51 P **P** **00 12 48.6 +1.4**
KURK Kurchatov 42.52 51 P **P** **00 12 48.6 +1.4**
KURK pmax pmax
comp=Z,3.0nm,0.8s
SCO Scoresbysund 42.73 339 P **P** **00 12 46.8 -1.8**
SCO Scoresbysund 42.73 339 P **P** **00 12 46.8 -1.8**
SCO pmax pmax
comp=Z,26nm,1.4s
SPB2 Spitsbergen Ar 43.22 358 P **P** **00 12 51.4 -1.1**
SPB2 IAmb IAmb 00 13 09.2
comp=Z,16nm,1.1s
SPITS Spitsbergen Ar 43.22 358 P **P** **00 12 52.3 -0.2**
comp=Z,1.7nm,0.5s,baz=149,slow=12,SNR=15
comp=Z,1.7nm,0.5s
KBS Kingsbay 44.12 357 P **P** **00 12 59.4 -0.3**
KBS Kingsbay 44.12 357 P **P** **00 12 59.4 -0.3**
KBS pmax pmax
comp=Z,15nm,1.1s
MAKZ Makanchi 45.00 56 P **P** **00 13 06.2 -1.0**
MAKZ Makanchi 45.00 56 P **P** **00 13 06.2 -1.0**
MAKZ pmax pmax
comp=Z,2.0nm,1.1s
MK31 Makanchi Array 45.22 56 P **P** **00 13 07.8 -1.2**
MK31 IAmb IAmb 00 13 18.7
comp=Z,2.4nm,0.8s
MK31 Makanchi Array 45.22 56 i P **P** **00 13 08.2 -0.7**
MKAR Makanchi Array 45.22 56 P **P** **00 13 07.8 -1.2**
MKAR Makanchi Array 45.22 56 P **P** **00 13 08.4 -0.5**
comp=Z,1.7nm,0.6s,baz=269,slow=8.2,SNR=21
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 45.22 56 eP **P** **00 13 08.7 -0.2**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
ZAA0 Zalesovo Array 46.25 46 P **P** **00 13 15.0 -2.0**
ZAA0 IAmb IAmb 00 13 24.6
comp=Z,3.6nm,1.0s
ZALV Zalesovo Beam 46.25 46 P **P** **00 13 15.3 -1.7**
ZALV Zalesovo Beam 46.25 46 P **P** **00 13 15.8 -1.2**
comp=Z,2.6nm,0.3s,baz=270,slow=7.6,SNR=16
comp=Z,2.6nm,0.3s
ZALV Zalesovo Beam 46.25 46 eP **P** **00 13 15.6 -1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.3s
DRLN Deer Lake 58.59 311 P **P** **00 14 48.0 -0.6**
FRB Frobisher Bay 59.79 329 LR LR 00 42 29.9
comp=Z,512nm,21.3s,baz=357,slow=38
LBTB Lobatse 59.89 177 LR LR 00 43 55.9
comp=Z,246nm,21.7s,baz=77,slow=39
SONM Songino Array 60.82 50 P **P** **00 15 03.9 -0.2**
comp=Z,1.0nm,0.7s,baz=276,slow=7.2,SNR=6.1
comp=Z,1.0nm,0.7s
SONM Songino Array 60.82 50 eP **P** **00 15 06.3 +2.2**
SONM pmax pmax
comp=Z,1.0nm,0.7s
TIXI Tiksi 61.77 20 P **P** **00 15 09.9 -0.1**
TIXI IAmb IAmb 00 15 11.7
comp=Z,2.3nm,0.7s
TIXI Tiksi 61.77 20 i P **P** **00 15 09.4 -0.6**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
SCHQ Schefferville 62.06 319 P **P** **00 15 11.5 -0.8**
SCHQ IAmb IAmb 00 15 25.8
comp=Z,4.2nm,0.8s
SCHQ Schefferville 62.06 319 P **P** **00 15 12.8 +0.5**
comp=Z,3.8nm,0.6s,baz=52,slow=9.1,SNR=5.4
comp=Z,3.8nm,0.6s
GBN Guysborough 62.52 308 P **P** **00 15 16.5 +1.1**
BOSA Boshof 63.46 178 P **P** **00 15 21.2 -0.6**
BOSA Boshof 63.46 178 P **P** **00 15 22.6 +0.8**
comp=Z,2.7nm,0.8s,baz=12,slow=8.4,SNR=6.4
comp=Z,2.7nm,0.8s
LZH Lanzhou 63.74 63 eP **P** **00 15 21.5 -2.4**
LZH sP sP 00 15 28.8 -0.2
LZH pmax pmax
comp=Z,15nm,1.0s
LMN Caledonia Moun 64.45 309 P **P** **00 15 29.4 +1.2**
PZH PanZhiHua 66.52 73 P **P** **00 15 44.0 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.4s
HHC Hu-ho-hao-te 67.07 55 eP **P** **00 15 45.1 -0.2**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,230nm,7.3s
FRNY Flat Rock 70.41 311 P **P** **00 16 07.3 +1.4**
FRNY IAmb IAmb 00 16 26.1
comp=Z,3.1nm,0.8s
LYN LuoYang 70.70 61 eP **P** **00 16 07.6 -0.3**
LYN pmax pmax
comp=Z,10.0nm,0.7s
A36M Sachs Harbour 70.86 350 P **P** **00 16 08.8 +0.6**
A36M IAmb IAmb 00 16 10.3
comp=Z,4.7nm,0.8s
HEH HeiHe 72.00 41 eP **P** **00 16 15.3 -0.1**
C36M Paulatuk 73.04 348 P **P** **00 16 21.7 +0.4**
C36M IAmb IAmb 00 16 22.6
comp=Z,2.9nm,0.7s
BNX BinXian 74.52 45⇑ P **P** **00 16 30.2 -0.2**
BNX pmax pmax
comp=Z,5.0nm,0.9s
BNX pmax pmax
comp=Z,370nm,9.2s
KLR Kul'dur 74.89 40 eP **P** **00 16 31.2 -1.3**
KLR pmax pmax
comp=Z,2.0nm,0.8s
B20K Meade River 75.14 0 P **P** **00 16 34.8 +1.2**
INK Inuvik 75.37 351 P **P** **00 16 35.2 +0.3**
INK IAmb IAmb 00 17 01.7
comp=Z,4.6nm,1.5s
INK Inuvik 75.37 351 P **P** **00 16 35.2 +0.3**
INK pmax pmax
comp=Z,5.0nm,1.5s
E28M Babbage River 75.74 353 P **P** **00 16 38.0 +0.9**
E29M Blow River 75.79 353 P **P** **00 16 37.6 +0.3**
C18K Utukok River 76.46 2 P **P** **00 16 41.9 +0.7**
NJ2 Nanjing 76.56 60 eP **P** **00 16 42.1 -0.2**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
D19K Kuna River 76.66 0 P **P** **00 16 42.6 +0.3**
D19K IAmb IAmb 00 16 55.5
comp=Z,3.8nm,0.9s
F28M Old Crow 76.73 353 P **P** **00 16 43.5 +0.8**
F28M IAmb IAmb 00 16 44.2
comp=Z,2.6nm,0.9s
E24K Your Creek 76.89 357 P **P** **00 16 45.0 +1.3**
YKA Yellowknife Ar 76.91 341 P **P** **00 16 44.3 +0.6**
comp=Z,1.7nm,0.8s,baz=31,slow=5.9,SNR=28
comp=Z,1.7nm,0.8s
BMAR Burnt Mountain 77.30 355 P **P** **00 16 47.8 +1.9**
EPYK Eagle Plains 77.61 352 P **P** **00 16 47.8 +0.2**
EPYK IAmb IAmb 00 16 48.9
comp=Z,2.9nm,0.7s
E19K Redstone River 77.70 0 P **P** **00 16 48.5 +0.3**
H29M Whitestone 77.94 352 P **P** **00 16 49.8 +0.3**
H29M IAmb IAmb 00 16 50.8
comp=Z,3.0nm,0.7s
USRK Ussuriysk Ar. 78.05 44 P **P** **00 16 49.7 -0.8**
comp=Z,2.9nm,0.7s,baz=285,slow=6.4,SNR=6.2
comp=Z,2.9nm,0.7s
F19K Shaleruckik Mo 78.33 0 P **P** **00 16 51.7 +0.1**
F19K IAmb IAmb 00 17 04.1
comp=Z,4.0nm,1.0s
I30M Mount Dempster 78.67 351 P **P** **00 16 54.1 +0.4**
I30M IAmb IAmb 00 16 55.3
comp=Z,4.0nm,0.7s
FFC Flin Flon 78.81 331 P **P** **00 16 55.2 +0.7**
FFC IAmb IAmb 00 17 08.1
comp=Z,4.4nm,0.8s
FFC Flin Flon 78.81 331 P **P** **00 16 55.2 +0.7**
FFC pmax pmax
comp=Z,4.0nm,0.8s
I28M Miner Creek 78.85 353 P **P** **00 16 54.7 +0.1**
I28M IAmb IAmb 00 16 56.1
comp=Z,2.7nm,1.1s
IMAR Indian Mountai 79.16 359 P **P** **00 16 57.1 +1.0**
J30M Hart River 79.28 351 P **P** **00 16 58.2 +1.1**
ULM Lac du Bonnet 79.34 325 P **P** **00 16 57.9 +0.4**
comp=Z,2.6nm,0.8s,baz=25,slow=7.1,SNR=4.7
comp=Z,2.6nm,0.8s
ULM Lac du Bonnet 79.34 325 eP **P** **00 16 57.2 -0.3**
ULM pmax pmax
comp=Z,1.0nm,0.6s
H21K Melozitna Rive 79.46 358 P **P** **00 16 58.7 +0.8**
H21K IAmb IAmb 00 17 00.0
comp=Z,8.0nm,1.4s
H19K Roundabout Mou 79.64 360 P **P** **00 16 59.7 +0.9**
H19K IAmb IAmb 00 17 39.5
comp=Z,9.5nm,1.5s
KSRS Korea Array 79.64 51 P **P** **00 16 59.0 -0.3**
comp=Z,1.1nm,0.6s,baz=321,slow=3.8,SNR=2.8
comp=Z,1.1nm,0.6s
MLY Manley 80.02 357 P **P** **00 17 02.3 +1.3**
MLY IAmb IAmb 00 17 05.9
comp=Z,2.9nm,1.0s
ILAR Eielson Array 80.09 356 P **P** **00 17 01.9 +0.7**
comp=Z,0.4nm,0.7s,baz=0.2,slow=4.7,SNR=5.0
comp=Z,0.4nm,0.7s
MMPY Sheldon Lake, 80.40 348 P **P** **00 17 05.0 +2.0**
MMPY IAmb IAmb 00 17 17.8
comp=Z,4.5nm,0.9s
WRH Wood River Hil 80.46 356 P **P** **00 17 03.6 +0.4**
WRH IAmb IAmb 00 17 05.0
comp=Z,3.3nm,0.7s
BPAW Bear Paw Mtn. 80.97 357 P **P** **00 17 06.1 0.0**
BPAW IAmb IAmb 00 17 18.8
comp=Z,3.8nm,1.0s
J20K Nowinta River 80.97 359 P **P** **00 17 07.2 +1.2**
J20K IAmb IAmb 00 17 31.0
comp=Z,6.7nm,1.4s
M31M Drury Creek, Y 81.28 350 P **P** **00 17 09.5 +1.7**
M31M IAmb IAmb 00 17 21.0
comp=Z,7.2nm,1.4s
BCAR Beaver Creek A 81.36 353 P **P** **00 17 09.4 +1.2**
M29M Somme Creek 81.60 351 P **P** **00 17 10.9 +1.4**
N31M Braeburn, Yuko 82.17 350 P **P** **00 17 13.3 +0.9**
N31M IAmb IAmb 00 17 32.5
comp=Z,5.3nm,1.0s
PCRV Puerto La Cruz 82.35 277 LR LR 00 49 56.0
comp=Z,442nm,22.0s,slow=33
N30M Aishikik Lake 82.38 351 P **P** **00 17 13.9 +0.3**
N30M IAmb IAmb 00 17 45.6
comp=Z,5.2nm,1.2s
L18K Granite Mounta 82.97 360 P **P** **00 17 17.9 +1.3**
L18K IAmb IAmb 00 17 34.5
comp=Z,5.5nm,1.2s
SKT Skwentna 83.11 357 P **P** **00 17 17.3 0.0**
R33M Jennings River 83.36 347 P **P** **00 17 20.6 +1.8**
P29M Windy Craggy 84.23 350 P **P** **00 17 24.3 +1.1**
WRA Warramunga Arr 118.31 95 PKP **PKPdf** **00 23 38.3 -1.3**
comp=Z,0.2nm,0.4s,baz=311,slow=1.7,SNR=5.4
ASAR Alice Springs 119.75 99 PKP **PKPdf** **00 23 41.8 -0.6**
comp=Z,0.6nm,0.5s,baz=329,slow=1.4,SNR=7.5
QSPA South Pole Qui 125.01 180 PKP **PKPdf** **00 23 51.0 -0.2**
comp=Z,1.2nm,0.7s,baz=268,slow=0.7,SNR=10
STKA Stephens Creek 129.37 105 PKP **PKPdf** **00 23 59.9 -0.6**
comp=Z,3.2nm,0.9s,baz=338,slow=4.4,SNR=3.8

JMA ***02*** *00:05:04.8±0.2,24°N±1°×122°.3E±0°.5,h18km±4km,*
MV3.3/12,TAIWAN REGION
TAP ***02*** *00:05:04.7,23°.95N×122°.37E,h17km,ML3.1,C*
ISC 02 00:05:04.7±1.1,23°.97N±0°.03×122°.34E±0°.02,h17km±9km,
n86,σ0°66/113,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.15**	**354**	eP		**Pb**	**00 05 09.2**	**+0.3**
	baz=343							
EOS4				eS		**Sb**	**00 05 12.6**	**+0.8**
	baz=343							
EOS3	**EOS3**	**0.32**	**357**	i P		**Pg**	**00 05 11.7**	**+0.2**
	baz=351							
EOS3				eS		**Sb**	**00 05 16.8**	**+0.1**
	baz=351							
EOS2	**EOS2**	**0.46**	**348**	i P		**Pg**	**00 05 14.2**	**+0.2**
	baz=344							
EOS2				S		**Sb**	**00 05 21.0**	**+0.2**
	baz=344							
TWD	**Chiawan**	**0.69**	**280**	eP		**Pb**	**00 05 18.1**	**-0.1**
	baz=280							
TWD				S		**Sb**	**00 05 28.1**	**+0.8**
	baz=280							
EWUT	**Wuta**	**0.70**	**313**	P		**Pb**	**00 05 17.5**	**-0.9**
	baz=312							
NACB	**Ninganchiao**	**0.71**	**287**	i P		**Pb**	**00 05 18.2**	**-0.3**
	baz=287							
ENA	**Nanau**	**0.71**	**310**	eP		**Pb**	**00 05 18.1**	**-0.6**
	baz=309							
SHUL	**Shoufeng**	**0.73**	**256**	eP		**Pb**	**00 05 19.1**	**+0.1**
	baz=257							
SHUL				eS		**Sn**	**00 05 30.9**	**0.0**
	baz=257							
JYNG	**Yonaguni jima**	**0.74**	**49**	P		**Pb**	**00 05 18.5**	**-0.5**
JYNG				eS		**Sb**	**00 05 28.0**	**-0.9**
ETM	**Tongmen**	**0.77**	**270**	i P		**Pb**	**00 05 19.2**	**-0.5**
	baz=271							
TWC	**Suao**	**0.78**	**325**	P		**Pb**	**00 05 18.4**	**-1.4**
	baz=324							
YOJ	**Yonaguni jima**	**0.79**	**51**	P		**Pb**	**00 05 19.8**	**-0.2**
YOJ				eS		**Sb**	**00 05 29.2**	**-1.2**
YOJ	**Yonaguni jima**	**0.79**	**51**	eP		**Pb**	**00 05 19.8**	**-0.2**
	baz=47							
ETLH	**Xiulin Townshi**	**0.82**	**287**	i P		**Pb**	**00 05 20.1**	**-0.4**
	baz=287							
ETLH				eS		**Sb**	**00 05 31.5**	**+0.3**
	baz=287							
ESL	**Shilin**	**0.84**	**260**	eP		**Pb**	**00 05 20.3**	**-0.5**
	baz=260							
ESL				eS		**Sb**	**00 05 31.8**	**0.0**
	baz=260							
LXIB	**Xiulin Townshi**	**0.84**	**274**	P		**Pb**	**00 05 20.6**	**-0.4**
	baz=274							
NDS	**Dongshan**	**0.87**	**320**	eP		**Pb**	**00 05 20.6**	**-0.8**
	baz=318							
WARBT	**Fenglin Townsh**	**0.90**	**254**	P		**Pb**	**00 05 21.1**	**-0.8**
	baz=255							
WARBT				i S		**Sb**	**00 05 33.8**	**+0.2**
	baz=255							
LATG	**Datong**	**0.93**	**308**	eP		**Pb**	**00 05 22.1**	**-0.4**
	baz=307							
EGS		**0.95**	**337**	eP		**Pb**	**00 05 22.7**	**0.0**
	baz=336							
HGSD	**Ruisui**	**0.96**	**241**	P		**Pb**	**00 05 22.3**	**-0.6**
	baz=242							
HGSD				eS		**Sb**	**00 05 35.8**	**+0.5**
	baz=242							
TWE	**Neicheng**	**0.97**	**321**	i P		**Pb**	**00 05 23.0**	**0.0**
	baz=320							
ENTT	**Nioudou**	**0.97**	**314**	P		**Pb**	**00 05 22.8**	**-0.3**
	baz=313							
NDT	**Datong Townshi**	**0.98**	**310**	eP		**Pb**	**00 05 23.4**	**+0.1**
	baz=309							
NDT				eS		**Sb**	**00 05 35.2**	**-0.8**
	baz=309							
NNSB	**Datong**	**0.98**	**298**	i P		**Pb**	**00 05 23.0**	**-0.4**
	baz=297							
WHF	**Hehuan Shan**	**0.99**	**281**	P		**Pb**	**00 05 23.1**	**-0.6**
	baz=280							
NNS	**Nan Shan**	**1.00**	**298**	P		**Pb**	**00 05 23.2**	**-0.4**
	baz=298							
EHY	**Hungye**	**1.03**	**244**	eP		**Pb**	**00 05 23.6**	**-0.6**
	baz=245							
EHY				eS		**Sb**	**00 05 37.7**	**+0.2**
	baz=245							
FUSS	**Fushou**	**1.04**	**286**	eP		**Pb**	**00 05 24.0**	**-0.3**
	baz=286							
ECBN	**Changbin**	**1.04**	**232**	eS		**Sb**	**00 05 37.6**	**+0.1**
	baz=233							
FUSB	**Fushanzhiwuyua**	**1.04**	**319**	P		**Pb**	**00 05 23.9**	**-0.5**
	baz=318							
OWD	**Renai**	**1.06**	**270**	eP		**Pb**	**00 05 24.1**	**-0.6**
	baz=270							
CHGB	**Renai**	**1.07**	**275**	eP		**Pb**	**00 05 24.2**	**-0.6**
	baz=275							
TWB1	**Santiao Chiao**	**1.08**	**343**	eP		**Pb**	**00 05 24.3**	**-0.7**
	baz=342							
TWT	**Tachien**	**1.10**	**285**	eP		**Pb**	**00 05 25.4**	**0.0**
	baz=285							
NWLT	**Wulai**	**1.11**	**317**	eP		**Pb**	**00 05 25.2**	**-0.3**
	baz=316							
YULB	**Yu-li**	**1.11**	**239**	P		**Pn**	**00 05 24.6**	**-0.8**
	baz=240							
YULB				eS		**Sb**	**00 05 39.9**	**+0.3**
	baz=240							
VWDT	**VWDT**	**1.11**	**259**	eP		**Pn**	**00 05 25.1**	**-0.4**
	baz=260							
WUSB	**Renai**	**1.11**	**272**	P		**Pn**	**00 05 25.1**	**-0.6**
	baz=272							
EYUL	**Yuli**	**1.12**	**237**	eP		**Pn**	**00 05 25.3**	**-0.3**
	baz=238							
EYUL				eS		**Sb**	**00 05 40.5**	**+0.8**
	baz=238							
YHNB	**Yeheng**	**1.12**	**309**	eP		**Pn**	**00 05 25.4**	**-0.3**
	baz=308							
TWF1	**Yuli**	**1.13**	**238**	P		**Pn**	**00 05 25.3**	**-0.4**
	baz=238							
TWF1				eS		**Sb**	**00 05 40.6**	**+0.4**
	baz=238							
NSK	**Sanguang**	**1.14**	**309**	eP		**Pn**	**00 05 25.9**	**0.0**
	baz=308							
CHKH	**Chenggong**	**1.16**	**228**	eP		**Pn**	**00 05 25.7**	**-0.4**
	baz=229							
SXI1	**Grass Mountain**	**1.20**	**340**	eP		**Pn**	**00 05 25.7**	**-1.0**
	baz=338							
WFSB	**Wu-fen Shan**	**1.21**	**335**	eP		**Pn**	**00 05 26.8**	**0.0**
	baz=334							
CHKT	**Chengkung**	**1.24**	**226**	eP		**Pn**	**00 05 26.2**	**-1.0**
	baz=227							
CHKT				eS		**Sb**	**00 05 41.4**	**-1.9**
	baz=227							
SSLB	**Suanglung**	**1.28**	**262**	eP		**Pn**	**00 05 27.1**	**-0.6**
	baz=262							
NFF	**Wufeng Townshi**	**1.29**	**301**	eP		**Pb**	**00 05 29.0**	**+0.4**
	baz=300							
WHP	**Taichung City**	**1.31**	**284**	eP		**Pg**	**00 05 30.7**	**+0.7**
	baz=284							
SMLT	**Sun Moon Lake**	**1.32**	**267**	eP		**Pn**	**00 05 28.4**	**0.0**
	baz=267							
EHD	**Haiduan**	**1.32**	**232**	eP		**Pn**	**00 05 27.7**	**-0.6**
	baz=233							
EHD				eS		**Sn**	**00 05 44.9**	**-0.6**
	baz=233							
IRIF	**Iriomote-Funau**	**1.33**	**74**	P		**Pb**	**00 05 28.9**	**-0.2**

IRIF				*e*S		**Sg**	**00 05 46.9**	**-0.8**
TYC	**Yuchr**	**1.35**	**268**	*e*P		**Pn**	**00 05 28.6**	**-0.2**
	baz=268							
YM01	**YM01**	**1.37**	**330**	*e*P		**Pb**	**00 05 30.1**	**+0.3**
	baz=328							
EDH	**Donghe**	**1.37**	**224**	*e*P		**Pn**	**00 05 28.2**	**-0.8**
	baz=225							
EDH				*e*S		**Sn**	**00 05 45.4**	**-1.3**
	baz=225							
LIOB	**Emei**	**1.38**	**300**	*e*P		**Pb**	**00 05 30.5**	**+0.4**
	baz=299							
WHYT	**Xinyi Township**	**1.38**	**259**	*e*P		**Pb**	**00 05 30.1**	**0.0**
	baz=259							
NSTT	**Nanjuang**	**1.39**	**299**	*e*P		**Pb**	**00 05 30.2**	**+0.1**
	baz=298							
YM08	**YM08**	**1.39**	**331**	*e*P		**Pb**	**00 05 30.3**	**0.0**
	baz=329							
ELDTW	**Lidau**	**1.44**	**238**	*e*S		**Sn**	**00 05 46.8**	**-1.7**
	baz=238							
TWY	**Chenhua**	**1.47**	**333**	*e*P		**Pn**	**00 05 30.6**	**+0.2**
	baz=332							
ALS	**Alishan**	**1.47**	**252**	*e*P		**Pn**	**00 05 31.3**	**+0.5**
	baz=252							
ALS				*e*S		**Sn**	**00 05 50.1**	**+0.3**
	baz=252							
LONT	**Longtian**	**1.53**	**227**	*e*P		**Pn**	**00 05 31.8**	**+0.6**
	baz=227							
JKRS	**Kuro-shima**	**1.55**	**80**	P		**Pb**	**00 05 33.5**	**+0.5**
JKRS				*e*S		**Sb**	**00 05 52.8**	**+0.4**
CHN5	**Tsauling**	**1.56**	**257**	*e*P		**Pb**	**00 05 33.3**	**+0.1**
	baz=257							
CHN5				*e*S		**Sb**	**00 05 53.6**	**+0.9**
	baz=257							
STYH	**Taoyuan**	**1.64**	**241**	*e*P		**Pn**	**00 05 33.2**	**+0.5**
	baz=242							
STYH				*e*S		**Sn**	**00 05 53.9**	**+0.6**
	baz=242							
WCKO	**Fanlu**	**1.67**	**252**	*e*P		**Pn**	**00 05 34.1**	**+0.9**
	baz=252							
PCYT	**Pengchaiyu**	**1.67**	**352**	*e*P		**Pn**	**00 05 33.4**	**+0.2**
	baz=350							
JIJ	**Ishigaki jima**	**1.70**	**76**	P		**Pn**	**00 05 34.3**	**+0.8**
JIJ				*e*S		**Sb**	**00 05 55.7**	**-0.8**
TPUB	**Ta-pu**	**1.70**	**247**	*e*P		**Pn**	**00 05 34.5**	**+1.0**
	baz=248							
CHN4	**Tsaushan**	**1.71**	**249**	*e*P		**Pn**	**00 05 34.8**	**+1.1**
	baz=249							
WTP	**Ta-pu**	**1.73**	**246**	*e*P		**Pn**	**00 05 34.8**	**+0.7**
	baz=246							
SLGT	**Liugui**	**1.83**	**238**	*e*P		**Pb**	**00 05 36.9**	**-0.8**
	baz=239							
CHN1	**Nanshi**	**1.83**	**245**	*e*P		**Pn**	**00 05 36.6**	**+1.2**
	baz=245							
ECL	**Taimali**	**1.86**	**223**	*e*P		**Pn**	**00 05 36.2**	**+0.4**
	baz=223							
JISG	**Ishigakijimahi**	**1.91**	**71**	P		**Pn**	**00 05 36.3**	**-0.1**
JISG				S		**Sn**	**00 05 59.6**	**-0.3**
SSD	**Sandimen**	**1.98**	**233**	*e*P		**Pn**	**00 05 38.5**	**+1.0**
	baz=233							
LAY	**Lan-yu**	**2.05**	**201**	*e*P		**Pn**	**00 05 38.5**	**+0.1**
	baz=201							
MASBT	**Mashibuluo**	**2.06**	**230**	*e*P		**Pn**	**00 05 39.7**	**+1.1**
	baz=230							
LYUB	**Lan-yu**	**2.07**	**200**	*e*P		**Pn**	**00 05 38.8**	**+0.1**
	baz=200							
SLIU	**Shizi**	**2.24**	**219**	*e*P		**Pn**	**00 05 41.9**	**+0.8**
	baz=220							
JTJ	**Tarama**	**2.26**	**72**	*e*P		**Pn**	**00 05 42.2**	**+0.9**
JTJ				*e*S		**Sn**	**00 06 09.8**	**+1.0**
TWKBT	**Hengchun**	**2.46**	**215**	*e*P		**Pn**	**00 05 45.2**	**+1.2**
	baz=215							
TWK1	**Hengchun**	**2.46**	**215**	*e*P		**Pn**	**00 05 45.4**	**+1.4**
	baz=215							
WDGT	**Dungji**	**2.55**	**255**	*e*P		**Pn**	**00 05 46.0**	**+0.7**
	baz=254							

BEO 02 00:05:16.2±0.2, **43°.93N**×**20°.85E**, **h2**km±2km, **ML1.4**/13,
Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GRUS	**Gruza**	**0.11**	**248**	*e*Pg		Pg	00 05 17.9	-0.4
GRUS				*e*Sg		Sg	00 05 19.7	0.0
SVIS	**Svilajnac**	**0.43**	**38**	*e*Pg		Pg	00 05 24.5	+0.1
SVIS				*e*Sg		Sg	00 05 30.5	+0.6
TRUS	**Trudelj**	**0.44**	**313**	*e*Pg		Pg	00 05 23.8	-0.8
TRUS				*e*Sg		Sg	00 05 30.4	+0.1
DIVS	**Divibare**	**0.64**	**286**	*e*Pg		Pg	00 05 27.3	-1.2
DIVS				*e*Sg		Sg	00 05 37.7	+0.8
BOVS	**Bovan**	**0.68**	**115**	*e*Pg		Pg	00 05 28.6	-0.7
BOVS				*e*Sg		Sg	00 05 37.5	-0.7
SELS	**Selova**	**0.73**	**165**	*e*Pg		Pg	00 05 29.6	-0.7
SELS				*e*Sg		Sg	00 05 39.7	-0.1
KUBS	**Kucevo**	**0.77**	**50**	*e*Pg		Pg	00 05 29.0	-1.9
KUBS				*e*Sg		Sg	00 05 39.5	-1.3
ZAGS	**Zajecar**	**1.00**	**96**	*e*Pg		Pg	00 05 34.5	-1.0
BBLS	**Lazi&#263i**	**1.05**	**267**	*e*Pg		Pg	00 05 35.4	-0.9
BBLS				*e*Sg		Sg	00 05 48.9	-1.0
TEKS	**Tekeris**	**1.14**	**304**	*e*Pg		Pg	00 05 36.5	-1.5
TEKS				*e*Sg		Sg	00 05 52.1	-0.6
BARS	**Barje**	**1.31**	**147**	*e*Pg		Pg	00 05 39.5	-1.9
BARS				*e*Sg		Sg	00 05 57.7	-0.7
FRGS	**Fruska Gora**	**1.44**	**329**	*e*Pn		Pn	00 05 42.3	-1.0
FRGS				*e*Sg		Sg	00 06 02.4	0.0
ZAPS	**Zavoj**	**1.45**	**116**	*e*Pg		Pn	00 05 43.1	-0.4
ZAPS				*e*Sg		Sg	00 06 02.6	-0.2
PRVS	**Prvonek**	**1.68**	**147**	*e*Pn		Pn	00 05 46.6	0.0
PRVS				*e*Sg		Sg	00 06 10.7	+0.6

JMA ***02*** *00:08:33.2±0.2,24°.1×122°.3E±0°.4, h14km±3km,*
MD4.0/14,MV3.7/14,TAIWAN REGION
TAP ***02*** *00:08:34.4,24°.06N×122°.29E, h21km, ML3.5, C*
ISC 02 00:08:34.1±0.9, **23°.98N**±0°.02×**122°.34E**±0°.02, **h23**km±7km,
n130, σ0**80**/162, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EOS4	**EOS4**	**0.14**	**354**	*i* P		**Pb**	**00 08 38.0**	**-0.5**
	baz=19							
EOS4				*e*S		**Sb**	**00 08 41.4**	**-0.1**
	baz=19							
EOS3	**EOS3**	**0.30**	**357**	*i* P		**Pb**	**00 08 40.4**	**-0.5**
	baz=346							
EOS3				S		**Sb**	**00 08 45.5**	**-0.1**
	baz=346							
EOS2	**EOS2**	**0.45**	**348**	*i* P		**Pb**	**00 08 43.0**	**-0.3**
	baz=337							
EOS2				*e*S		**Sb**	**00 08 49.7**	**+0.2**
	baz=337							
EAHA	**Aohua**	**0.65**	**303**	*e*P		**Pb**	**00 08 45.9**	**-0.8**
	baz=310							
EAHA				*e*S		**Sb**	**00 08 54.8**	**-0.5**
	baz=310							
ETL	**Fush Village**	**0.67**	**285**	*e*P		**Pb**	**00 08 47.0**	**-0.3**
	baz=263							
TWD	**Chiawan**	**0.68**	**278**	P		**Pb**	**00 08 46.8**	**-0.6**
	baz=273							
TWD				*e*S		**Sb**	**00 08 56.3**	**-0.1**
	baz=273							
TEYL	**Yanliau Villag**	**0.68**	**261**	*e*P		**Pb**	**00 08 47.0**	**-0.3**
	baz=242							
EWUT	**Wuta**	**0.69**	**312**	*e*P		**Pb**	**00 08 46.1**	**-1.3**
	baz=319							
EWUT				*e*S		**Sb**	**00 08 54.6**	**-1.9**
	baz=319							
ENA	**Nanau**	**0.70**	**309**	P		**Pb**	**00 08 46.5**	**-1.2**
	baz=314							
NACB	**Ninganchiao**	**0.70**	**286**	P		**Pb**	**00 08 47.1**	**-0.6**
NACB	**Ninganchiao**	**0.70**	**286**	*e*P		**Pb**	**00 08 46.9**	**-0.8**
	baz=264							
JYNG	**Yonagunijimaku**	**0.73**	**50**	P		**Pb**	**00 08 47.2**	**-0.9**
JYNG				S		**Sb**	**00 08 56.6**	**-1.0**
JYNG	**Yonagunijimaku**	**0.73**	**50**	A		A	00 08 47.2	
	comp=E,15nm,0.6s,comp=N,6.0nm,0.6s							
SHUL	**Shoufeng**	**0.73**	**255**	*e*P		**Pb**	**00 08 47.8**	**-0.4**
	baz=249							
TWC	**Suao**	**0.77**	**325**	P		**Pb**	**00 08 47.2**	**-1.6**
	baz=331							
ETM	**Tongmen**	**0.77**	**269**	*e*P		**Pb**	**00 08 47.9**	**-0.9**
	baz=251							
YOJ	**Yonaguni jima**	**0.78**	**52**	P		**Pb**	**00 08 48.3**	**-0.7**
YOJ	**Yonaguni jima**	**0.78**	**52**	P		**Pb**	**00 08 48.4**	**-0.6**
YOJ				S		**Sb**	**00 08 57.6**	**-1.5**
YOJ	**Yonaguni jima**	**0.78**	**52**	A		A	00 08 48.4	
	comp=E,10.0nm,1.4s,comp=N,5.0nm,0.6s							
YOJ	**Yonaguni jima**	**0.78**	**52**	*e*P		**Pb**	**00 08 48.2**	**-0.7**
	baz=56							
YOJ				*e*S		**Sn**	**00 09 00.6**	**0.0**
	baz=56							
ETLH	**Xiulin Townshi**	**0.81**	**286**	*e*P		**Pb**	**00 08 48.8**	**-0.7**
	baz=268							
ESL	**Shilin**	**0.84**	**259**	*e*P		**Pb**	**00 08 48.9**	**-1.1**
	baz=241							
LXIB	**Xiulin Townshi**	**0.84**	**273**	*e*P		**Pb**	**00 08 49.2**	**-1.0**
	baz=268							
NDS	**Dongshan**	**0.86**	**319**	P		**Pb**	**00 08 49.4**	**-1.0**
	baz=323							
WARBT	**Fenglin Townsh**	**0.91**	**253**	*e*P		**Pb**	**00 08 49.8**	**-1.4**
	baz=238							
WARBT				*e*S		**Sb**	**00 09 02.6**	**-0.2**
	baz=238							
LATG	**Datong**	**0.92**	**307**	P		**Pb**	**00 08 50.7**	**-0.8**
	baz=304							
EGS		**0.94**	**337**	*e*P		**Pn**	**00 08 51.1**	**-0.6**
	baz=346							
TWE	**Neicheng**	**0.96**	**321**	*e*P		**Pn**	**00 08 51.0**	**-1.0**
	baz=328							
ENTT	**Nioudou**	**0.96**	**313**	*e*P		**Pn**	**00 08 51.5**	**-0.7**
	baz=319							
HGSD	**Ruisui**	**0.97**	**240**	P		**Pn**	**00 08 51.1**	**-1.2**
	baz=235							
NDT	**Datong Townshi**	**0.97**	**310**	*e*P		**Pn**	**00 08 52.0**	**-0.3**
	baz=314							
NDT				*e*S		**Sb**	**00 09 03.6**	**-1.1**
	baz=314							
NNSB	**Datong**	**0.98**	**297**	*e*P		**Pn**	**00 08 51.7**	**-0.8**
	baz=294							
NNS	**Nan Shan**	**0.99**	**298**	*e*P		**Pn**	**00 08 51.9**	**-0.8**
	baz=295							
NNS				*e*S		**Sb**	**00 09 05.2**	**-0.1**
	baz=295							
WHF	**Hehuan Shan**	**0.99**	**280**	P		**Pn**	**00 08 51.9**	**-1.1**
	baz=261							
EHYH	**Wanrong**	**1.03**	**242**	*e*P		**Pn**	**00 08 53.3**	**+0.2**
	baz=238							
FUSB	**Fushanzhiwuyua**	**1.03**	**319**	*e*P		**Pn**	**00 08 52.6**	**-0.6**
	baz=317							
FUSB				*e*S		**Sb**	**00 09 06.9**	**+0.4**
	baz=317							
FUSS	**Fushou**	**1.03**	**285**	*e*P		**Pn**	**00 08 52.7**	**-0.7**
	baz=281							
EHY	**Hungye**	**1.04**	**243**	P		**Pn**	**00 08 52.4**	**-0.9**
	baz=239							
ECBN	**Changbin**	**1.05**	**231**	*e*P		**Pn**	**00 08 53.1**	**-0.3**
	baz=227							
OWD	**Renai**	**1.06**	**269**	P		**Pn**	**00 08 52.9**	**-0.8**
	baz=265							
CHGB	**Renai**	**1.06**	**274**	P		**Pn**	**00 08 53.0**	**-0.8**
	baz=258							
TWB1	**Santiao Chiao**	**1.07**	**343**	*e*P		**Pn**	**00 08 53.2**	**-0.4**
	baz=343							
TWT	**Tachien**	**1.09**	**285**	*e*P		**Pn**	**00 08 54.2**	**+0.1**
	baz=267							
NWLT	**Wulai**	**1.10**	**316**	*e*P		**Pn**	**00 08 53.9**	**-0.2**
	baz=314							
TDCB	**Techi**	**1.11**	**284**	*e*P		**Pn**	**00 08 54.0**	**-0.3**
	baz=267							
YHNB	**Yeheng**	**1.11**	**308**	P		**Pn**	**00 08 54.2**	**-0.1**
YHNB	**Yeheng**	**1.11**	**308**	P		**Pn**	**00 08 53.9**	**-0.4**
	baz=306							
WUSB	**Renai**	**1.11**	**271**	*e*P		**Pn**	**00 08 53.7**	**-0.6**
	baz=267							
VWDT	**VWDT**	**1.12**	**259**	P		**Pn**	**00 08 53.8**	**-0.4**
	baz=245							
YULB	**Yu-li**	**1.12**	**239**	P		**Pn**	**00 08 53.5**	**-0.9**
YULB	**Yu-li**	**1.12**	**239**	P		**Pn**	**00 08 53.4**	**-0.9**
	baz=223							
YULB				*e*S		**Sn**	**00 09 08.4**	**-0.5**
	baz=223							
EYUL	**Yuli**	**1.12**	**236**	*e*P		**Pn**	**00 08 54.0**	**-0.5**
	baz=220							
EYUL				*e*S		**Sn**	**00 09 09.0**	**-0.1**
	baz=220							
NSK	**Sanguang**	**1.13**	**308**	*e*P		**Pn**	**00 08 54.4**	**-0.1**
	baz=306							
TWF1	**Yuli**	**1.14**	**237**	*e*P		**Pn**	**00 08 54.0**	**-0.6**
	baz=221							
TWF1				*e*S		**Sn**	**00 09 09.6**	**0.0**
	baz=221							
CHKH	**Chenggong**	**1.17**	**228**	*e*P		**Pn**	**00 08 54.4**	**-0.6**
	baz=212							
SXI1	**Grass Mountain**	**1.18**	**339**	*e*P		**Pn**	**00 08 54.6**	**-0.7**
	baz=344							
WFSB	**Wu-fen Shan**	**1.20**	**335**	*e*P		**Pn**	**00 08 55.2**	**-0.2**
	baz=334							
WFSB				*e*S		**Sn**	**00 09 10.5**	**-0.4**
	baz=334							
NHDH	**Xindian Distri**	**1.23**	**323**	*e*P		**Pb**	**00 08 56.5**	**-0.1**
	baz=321							
CHKT	**Chengkung**	**1.25**	**226**	*e*P		**Pn**	**00 08 54.6**	**-1.5**
	baz=210							
CHKT				*e*S		**Sn**	**00 09 09.8**	**-2.4**
	baz=210							
TATO	**Taipei**	**1.25**	**322**	P		**Pn**	**00 08 57.2**	**+0.1**
TNOU	**National Taiwa**	**1.27**	**336**	*e*P		**Pn**	**00 08 56.6**	**+0.2**
	baz=350							
SSLB	**Suanglung**	**1.28**	**262**	P		**Pn**	**00 08 57.1**	**+0.5**
SSLB	**Suanglung**	**1.28**	**262**	*e*P		**Pn**	**00 08 56.2**	**-0.3**
	baz=259							
NFF	**Wufeng Townshi**	**1.29**	**300**	*e*P		**Pb**	**00 08 57.4**	**-0.2**
	baz=298							
WHP	**Taichung City**	**1.30**	**283**	*e*P		**Pb**	**00 08 58.7**	**+0.7**
	baz=269							
WCS	**Beigang Elemen**	**1.30**	**274**	*e*P		**Pn**	**00 08 56.8**	**-0.1**
	baz=271							
SMLT	**Sun Moon Lake**	**1.32**	**266**	*e*P		**Pn**	**00 08 57.1**	**-0.1**
	baz=263							
SMLT				*e*S		**Sn**	**00 09 13.7**	**-0.3**
	baz=263							
IRIF	**Iriomote-Funau**	**1.32**	**74**	P		**Pn**	**00 08 57.7**	**+0.6**
IRIF				S		**Sb**	**00 09 15.0**	**+0.3**
EHD	**Haiduan**	**1.33**	**232**	*e*P		**Pn**	**00 08 56.2**	**-1.0**
	baz=217							
HATJ	**Hateruma jima**	**1.35**	**87**	P		**Pn**	**00 08 57.5**	**+0.1**
YM01	**YM01**	**1.35**	**329**	*e*P		**Pn**	**00 08 58.4**	**+0.8**
	baz=327							
YM01				*e*S		**Sb**	**00 09 16.0**	**+0.3**
	baz=327							
TYC	**Yuchr**	**1.35**	**267**	*e*P		**Pn**	**00 08 57.6**	**+0.1**
	baz=264							
LIOB	**Emei**	**1.37**	**299**	*e*P		**Pb**	**00 08 58.7**	**-0.4**
	baz=296							
NSTT	**Nanjuang**	**1.38**	**298**	*e*P		**Pb**	**00 08 58.9**	**-0.3**
	baz=296							
YM08	**YM08**	**1.38**	**331**	*e*P		**Pb**	**00 08 58.8**	**-0.4**
	baz=345							
EDH	**Donghe**	**1.38**	**224**	*e*P		**Pn**	**00 08 57.1**	**-0.8**
	baz=211							
EDH				*e*S		**Sn**	**00 09 14.0**	**-1.4**
	baz=211							
WHYT	**Xinyi Township**	**1.39**	**258**	*e*P		**Pn**	**00 08 58.4**	**+0.3**
	baz=247							
TWS1	**Kuangyinshan**	**1.39**	**323**	*e*P		**Pn**	**00 08 58.8**	**+0.7**
	baz=321							
ANP	**Anpu**	**1.41**	**328**	*e*P		**Pn**	**00 08 59.2**	**+0.8**
	baz=327							
NTST	**Danshui**	**1.43**	**326**	*e*P		**Pn**	**00 08 59.2**	**+0.7**
	baz=342							
ELDTW	**Lidau**	**1.44**	**237**	*e*P		**Pn**	**00 08 58.0**	**-0.9**
	baz=235							
ELDTW				*e*S		**Sn**	**00 09 15.7**	**-1.5**
	baz=235							
TWY	**Chenhua**	**1.45**	**333**	*e*P		**Pn**	**00 08 59.8**	**+0.9**
	baz=347							
TWQ1	**Liyutan**	**1.47**	**285**	*e*P		**Pb**	**00 09 00.5**	**-0.3**
	baz=282							
ALS	**Alishan**	**1.48**	**252**	*e*P		**Pn**	**00 08 59.8**	**+0.2**
	baz=249							
ALS				*e*S		**Sn**	**00 09 18.5**	**+0.2**
	baz=249							
NSY	**Sanyi**	**1.50**	**287**	*e*S		**Sb**	**00 09 20.6**	**+0.7**
	baz=272							
LONT	**Longtian**	**1.54**	**226**	*e*S		**Sn**	**00 09 19.0**	**-0.4**
	baz=215							
JKRS	**Kuro-shima**	**1.55**	**80**	P		**Pn**	**00 09 00.7**	**+0.4**
CHN5	**Tsauling**	**1.57**	**256**	*e*P		**Pb**	**00 09 01.8**	**-0.7**
	baz=243							
CHN5				*e*S		**Sb**	**00 09 21.8**	**-0.1**
	baz=243							
TWGBT	**Beinan**	**1.64**	**225**	P		**Pb**	**00 09 02.7**	**-0.9**
TWGBT	**Beinan**	**1.64**	**225**	*e*P		**Pn**	**00 09 01.8**	**+0.3**
	baz=223							
TWG	**Pinlang**	**1.64**	**225**	*e*P		**Pn**	**00 09 01.6**	**+0.1**
	baz=223							
TTN	**Taitung**	**1.64**	**222**	*e*P		**Pn**	**00 09 01.1**	**-0.4**
	baz=220							
STYH	**Taoyuan**	**1.64**	**241**	*e*S		**Sn**	**00 09 22.9**	**+0.9**
	baz=228							
PCYT	**Pengchaiyu**	**1.66**	**352**	*e*P		**Pn**	**00 09 01.4**	**-0.3**
	baz=351							
WDLH	**Douliu**	**1.67**	**260**	*e*P		**Pb**	**00 09 03.6**	**-0.6**
	baz=258							
WCKO	**Fanlu**	**1.68**	**252**	*e*P		**Pn**	**00 09 03.0**	**+1.0**
	baz=238							
WCKO				*e*S		**Sb**	**00 09 25.1**	**+0.2**
	baz=238							
JIJ	**Ishigaki jima**	**1.69**	**77**	P		**Pn**	**00 09 02.0**	**-0.2**
JIJ				S		**Sn**	**00 09 24.3**	**+1.1**
TPUB	**Ta-pu**	**1.71**	**247**	P		**Pb**	**00 09 04.5**	**-0.3**
TPUB	**Ta-pu**	**1.71**	**247**	*e*P		**Pb**	**00 09 04.2**	**-0.6**
	baz=245							
TPUB				*e*S		**Sb**	**00 09 26.0**	**+0.2**
	baz=245							
CHN4	**Tsaushan**	**1.72**	**249**	*e*P		**Pb**	**00 09 04.5**	**-0.5**
	baz=247							
CHN4				*e*S		**Sb**	**00 09 26.3**	**+0.2**
	baz=247							
WTP	**Ta-pu**	**1.74**	**245**	*e*P		**Pb**	**00 09 04.3**	**-1.0**
	baz=243							
WRL	**Guolierlin Hig**	**1.79**	**268**	*e*P		**Pn**	**00 09 05.0**	**+1.4**
	baz=266							
WRL				*e*S		**Sb**	**00 09 28.1**	**-0.2**
	baz=266							
WTK	**Tuku**	**1.81**	**261**	*e*S		**Sb**	**00 09 28.8**	**+0.1**
	baz=259							
SLGT	**Liugui**	**1.84**	**238**	*e*P		**Pn**	**00 09 05.7**	**+1.5**
	baz=225							
CHN1	**Nanshi**	**1.84**	**245**	*e*P		**Pb**	**00 09 06.6**	**-0.4**
	baz=243							
CHN1				*e*S		**Sb**	**00 09 29.6**	**0.0**
	baz=243							
SGST	**Jiashian**	**1.84**	**241**	*e*P		**Pb**	**00 09 06.3**	**-0.8**
	baz=228							
SGST				*e*S		**Sb**	**00 09 29.3**	**-0.4**
	baz=228							
SNST	**Tainan City**	**1.85**	**246**	*e*P		**Pn**	**00 09 05.5**	**+1.1**
	baz=244							
ECL	**Taimali**	**1.87**	**223**	*e*P		**Pn**	**00 09 06.1**	**+1.4**
	baz=232							
JISG	**Ishigakijimahi**	**1.90**	**71**	P		**Pn**	**00 09 04.8**	**-0.2**
JISG				*e*S		**Sn**	**00 09 28.1**	**-0.2**
ICHU	**Yijhu**	**1.98**	**252**	*e*S		**Sb**	**00 09 32.8**	**-1.0**
	baz=251							
SSD	**Sandimen**	**1.99**	**232**	*e*P		**Pn**	**00 09 07.8**	**+1.5**
	baz=221							
TSMG	**Majia**	**2.01**	**231**	*e*P		**Pn**	**00 09 07.6**	**+1.1**
	baz=220							
SCST	**Cishan**	**2.01**	**238**	*e*S		**Sb**	**00 09 35.4**	**+0.8**
	baz=227							
SHHT	**Tainan City**	**2.06**	**243**	*e*S		**Sb**	**00 09 37.5**	**+1.5**
	baz=242							
LAY	**Lan-yu**	**2.06**	**201**	*e*P		**Pn**	**00 09 08.1**	**+0.7**
	baz=200							
MASBT	**Mashibuluo**	**2.08**	**229**	*e*P		**Pn**	**00 09 09.0**	**+1.5**
	baz=218							
LYUB	**Lan-yu**	**2.09**	**200**	*e*P		**Pn**	**00 09 08.1**	**+0.4**
	baz=199							
EAST	**Anshuo**	**2.10**	**221**	*e*P		**Pn**	**00 09 08.8**	**+1.0**
	baz=220							
SCZT	**Fangliau**	**2.25**	**225**	*e*P		**Pn**	**00 09 11.6**	**+1.8**
	baz=217							
SLIU	**Shizi**	**2.26**	**219**	*e*P		**Pn**	**00 09 10.8**	**+0.9**
	baz=218							
TWKBT	**Hengchun**	**2.47**	**215**	*e*P		**Pn**	**00 09 13.1**	**+0.2**
	baz=216							
TWKBT				*e*S		**Sn**	**00 09 42.9**	**+0.6**
	baz=216							
TWK1	**Hengchun**	**2.47**	**215**	*e*P		**Pn**	**00 09 14.2**	**+1.2**
	baz=214							
WDGT	**Dungji**	**2.56**	**254**	*e*P		**Pn**	**00 09 14.8**	**+0.8**
	baz=253							
PHUB	**P'eng-hu**	**2.57**	**260**	*e*P		**Pn**	**00 09 15.3**	**+1.0**
	baz=259							
PNG	**Penghu**	**2.58**	**261**	*e*P		**Pn**	**00 09 15.4**	**+1.0**
	baz=260							
VCHM	**Qimei**	**2.77**	**254**	*e*P		**Pn**	**00 09 18.8**	**+1.7**
	baz=253							
VWUC	**VWUC**	**2.81**	**292**	*e*P		**Pn**	**00 09 17.8**	**+0.1**
	baz=289							
MATB	**Ma-tsu**	**3.06**	**315**	*e*P		**Pn**	**00 09 22.3**	**+1.3**
	baz=313							
PTMZ	**Houxiangcun**	**3.11**	**290**	*e*P		**Pn**	**00 09 22.0**	**+0.3**
	baz=288							
XPSS	**Dashiqiu**	**3.52**	**327**	*e*P		**Pn**	**00 09 28.4**	**+1.0**
	baz=335							

NEIC ***02*** *00:12:24.9±1.6, 19°.42N±0°.03×154°.98W±0°.04, h5km±2km,*
Error ellipse: s-maj=7.1km s-min=3.0km az=308.0
HVO 02 00:12:24.0±1.9, **19°.44N**±0°.02×**154°.93W**±0°.03, **h4**km±6km,
ML2.2/8, **ML2.4**/34(NEIC), **Error ellipse: s-maj=4.3km**
s-min=1.8km az=118.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.06**	**38**			Pg	00 12 27.3	+1.9
JOKA	**Jonika Flow**	**0.07**	**269**			Pg	00 12 27.3	+1.7
KNHH	**Kane Nui o Ham**	**0.23**	**256**			Pg	00 12 30.5	+1.9
PUH	**Pauahi**	**0.28**	**257**			Pg	00 12 29.2	-0.2
BYL	**Byron's Ledge**	**0.31**	**266**	Pg		Pg	00 12 30.0	-0.1
BYL				IAML			00 12 35.0	
	comp=N,413nm,1.3s							
BYL				IAML			00 12 39.8	
	comp=E,334nm,1.4s							
HATHI	**Halema'uma'u T**	**0.31**	**268**	Pg

mb5.2/336,Ms_20 5.0/252,Mwb5.4/20,Mww5.5/19,Error ellipse: s-maj=23.2km s-min=14.3km az=249.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.05; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$1.61; $M_{r\theta}$-0.29; $M_{\theta\phi}$0.70; $M_{\phi r}$-0.18; Fault plane solution: $M_0$1.77000×10^{17} NP1:ϕ_s56.88000°, δ89.29000°,λ-11.31000°. NP2:ϕ_s147.02000°,δ78.69000°, λ-179.28000°. Principal axes: T 1.7890, Plg7.0000°, Azm103.0000°; N -0.0476, Plg79.0000°, Azm233.0000°; P -1.7414, Plg8.0000°, Azm11.0000°;

*NEIC **02** 00:17:12.7,24.2̓55S×111.2̓83W,h20km*

*NEIC **02** 00:17:12.7,24.2̓55S×111.2̓83W,h10km*

*NEIC **02** 00:17:12.7,24.1̓55S×111.1̓94W,h20km,Moment Tensor Solution. Duration: 2s9 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.19; $M_{\theta\theta}$-1.72; $M_{\phi\phi}$1.91; $M_{r\theta}$-0.51; $M_{\theta\phi}$0.97; $M_{\phi r}$-0.26; Fault plane solution: $M_0$2.14000×10^{17} NP1:ϕ_s58.55000°, δ87.07000°,λ-15.95000°. NP2:ϕ_s149.39000°,δ74.07000°, λ-176.95000°. Principal axes: T 2.2102, Plg9.0000°, Azm105.0000°; N -0.1490, Plg74.0000°, Azm228.0000°; P -2.0612, Plg13.0000°, Azm13.0000°;*

*MOS **02** 00:17:13.9±1.3,23.7̓1S×111.3̓9W,h10km,mb5.1/32 Error ellipse: s-maj=15.5km s-min=8.6km az=87.2*

*GCMT **02** 00:17:15.7±0.1,24.1̓30S±0.0̓01×111.1̓82W±0.0̓01,h15km, MW5.4/157,Moment Tensor Solution. s130,c214; s157,c295; Duration: 1s3 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.05±.02; $M_{\theta\theta}$-1.46±.02; $M_{\phi\phi}$1.51±.02; $M_{r\theta}$-0.29±.05; $M_{\theta\phi}$0.89±.02; $M_{\phi r}$0.27±.06; Best double couple: $M_0$1.77500×10^{17} NP1:ϕ_s151.00000°,δ86.00000°, λ-168.00000°. NP2:ϕ_s60.00000°,δ78.00000°,λ-4.00000°. Principal axes: T 1.7730, Plg6.0000°, Azm285.0000°; N 0.0030, Plg77.0000°, Azm168.0000°; P -1.7760, Plg12.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 00:17:12.2±0.3,24.2̓55S±0.0̓07×111.2̓81W±0.0̓06,h8km,n723, σ1s24/464,mb5.2/182,MS5.0/182,12C-3D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.60**	**144**		**Pn**	**00 18 04.9**	**-3.5**
RPN	**Rapa Nui**	**3.63**	**143**	Pn	**Pn**	**00 18 05.8**	**-2.9**
	12nm,0.3s,baz=142,slow=21,SNR=6.9						
RPN				Sn	**Sn**	**00 18 55.4**	**+3.6**
	3.0nm,0.3s,baz=108,slow=18,SNR=6.9						
H03N2	**Juan Fernandez**	**30.12**	**115**	T	T	00 55 30.1	
	baz=283,slow=75,SNR=83						
H03N3	**Juan Fernandez**	**30.13**	**115**	T	T	00 55 13.5	
	baz=283,slow=75,SNR=130						
H03N1	**Juan Fernandez**	**30.14**	**115**	T	T	00 55 31.2	
	baz=283,slow=75,SNR=140						
TAOE	**Nuku Hiva Isla**	**31.08**	**295**	*e*P	**P**	**00 23 27.0**	**-4.2**
	74nm,24.6s						
TAOE	**Nuku Hiva Isla**	**31.08**	**295**	*e*PP	**PP**	**00 24 42.3**	**+0.9**
	91nm,23.0s						
TAOE				*e*S	**S**	**00 28 36.0**	**-1.0**
	396nm,32.0s						
TAOE				*e*LR	LR	00 31 30.2	
	8μm,26.0s						
TBI	**Tubuai**	**34.39**	**264**	*e*PP	PP	00 25 11.8	-6.1
	412nm,24.5s						
TBI				*e*S	**S**	**00 29 24.5**	**-3.8**
	1μm,24.0s						
TBI				*e*SS	**SnSn**	**00 31 45.1**	**+7.0**
	12μm,28.5s						
TBI				*e*LR	LR	00 33 02.1	
	6μm,27.8s						
TBI				*e*LR	LR	00 33 12.6	
	14μm,25.0s						
PPT2	**Papeete2**	**35.81**	**273**	*e*P	P	00 24 07.7	-4.7
	77nm,27.5s						
PPT2	**Papeete2**	**35.81**	**273**	*e*PP	PP	00 25 30.5	-3.2
	118nm,24.8s						
PPT2				*e*SS	SS	00 32 19.0	-7.3
	1μm,22.8s						
PPT2				*e*LR	LR	00 33 42.1	
	4μm,35.0s						
PPT2				*e*LR	LR	00 33 48.5	
	5μm,31.8s						
GO05	**Huala**	**36.08**	**117**	P	**P**	**00 24 13.7**	**-0.8**
ATAH	**Atahualpa**	**36.25**	**68**	LR	LR	00 35 09.4	
	comp=Z,3μm,21.7s,baz=239,slow=30						
ML02	**Panimavida**	**36.58**	**118**	P	**P**	**00 24 17.7**	**-1.0**
ML02				IAmb	IAmb	00 24 26.7	
	comp=Z,38nm,1.1s						
MT02	**Curacav**	**36.58**	**114**	P	**P**	**00 24 17.5**	**-1.3**
BO01	**Tunca**	**36.71**	**115**	P	**P**	**00 24 19.9**	**0.0**
MT09	**Talagante**	**36.74**	**114**	P	**P**	**00 24 19.2**	**-1.1**
ARNL	**Arenillas**	**36.88**	**61**	P	**P**	**00 24 20.4**	**-1.1**
LR05	**Currie**	**36.91**	**125**	P	**P**	**00 24 21.4**	**-0.1**
LR05				IAmb	IAmb	00 24 39.7	
	comp=Z,56nm,1.2s						
BO02	**Sierra Bellavi**	**36.99**	**116**	P	**P**	**00 24 21.7**	**-0.7**
BO04	**La Punta**	**37.07**	**115**	P	**P**	**00 24 22.5**	**-0.5**
MT16	**COHEN**	**37.11**	**114**	P	**P**	**00 24 22.5**	**-0.9**
LL01	**San Ignacio de**	**37.16**	**129**	P	**P**	**00 24 23.6**	**0.0**
AC05	**El Transito**	**37.30**	**106**	P	**P**	**00 24 24.6**	**-0.5**
AC05				IAmb	IAmb	00 24 49.2	
	comp=Z,63nm,1.6s						
MT13	**San Alfonso**	**37.32**	**114**	P	**P**	**00 24 25.5**	**+0.3**
AC06	**Mina Casimiro**	**37.33**	**104**	P	**P**	**00 24 24.4**	**-0.9**
AC06				IAmb	IAmb	00 24 28.9	
	comp=Z,71nm,1.6s						
LMEL	**Las Melosas**	**37.40**	**115**	P	**P**	**00 24 26.1**	**+0.2**
LMEL				IAmb	IAmb	00 24 34.2	
	comp=Z,53nm,1.2s						
MT08	**Bocatoma Ro**	**37.53**	**114**	P	**P**	**00 24 27.7**	**+0.6**
PLCA	**Paso Flores**	**38.10**	**126**	P	**P**	**00 24 31.8**	**+0.1**
PLCA	**Paso Flores**	**38.10**	**126**	P	**P**	**00 24 33.2**	**+1.6**
	comp=Z,8.9nm,1.2s,baz=265,slow=9.2,SNR=4.5						
PLCA				LR	LR	00 36 07.3	
	comp=Z,3μm,21.4s,baz=279,slow=30						
	comp=Z,8.9nm,1.2s						
PLCA	**Paso Flores**	**38.10**	**126**	*e*P	**P**	**00 24 34.7**	**+3.0**
GO02	**Mina Guanaco**	**38.25**	**100**	P	**P**	**00 24 33.8**	**+0.4**
GO02				IAmb	IAmb	00 24 37.0	
	comp=Z,66nm,1.5s						
COYC	**Coyhaique**	**38.39**	**134**	P	**P**	**00 24 35.0**	**+1.1**
COYC				IAmb	IAmb	00 24 50.8	
	comp=Z,52nm,1.4s						
AC02	**Maricunga**	**38.47**	**103**		**P**	**00 24 35.1**	**-0.3**
PATCX	**Punta Patache**	**38.53**	**93**	P	**P**	**00 24 34.9**	**-0.6**
PATCX				IAmb	IAmb	00 24 38.6	
	comp=Z,78nm,1.4s						
TA01	**Diego Aracena**	**38.56**	**93**	P	**P**	**00 24 34.8**	**-0.9**
PB07	**IPOC Station P**	**38.58**	**95**	P	**P**	**00 24 35.5**	**-0.5**
PB07				IAmb	IAmb	00 24 39.2	
	comp=Z,68nm,1.5s						
PB06	**IPOC Station P**	**38.67**	**97**	P	**P**	**00 24 34.4**	**-2.3**
CHSH	**Refugio Sur-Vo**	**39.07**	**60**	P	**P**	**00 24 40.9**	**+0.2**
PB01	**IPOC Station P**	**39.09**	**94**	P	**P**	**00 24 40.2**	**0.0**
PB09	**IPOC Station P**	**39.15**	**95**	P	**P**	**00 24 40.6**	**-0.2**
PB09				IAmb	IAmb	00 24 58.7	
	comp=Z,55nm,1.4s						
LVC	**Limon Verde**	**39.29**	**97**	P	**P**	**00 24 41.9**	**-0.3**
LVC	**Limon Verde**	**39.29**	**97**	IAMs_20	IAMs_20	00 36 19.8	
	comp=Z,3μm,21.0s						
LVC	**Limon Verde**	**39.29**	**97**	P	**P**	**00 24 43.8**	**+1.7**
	comp=Z,12nm,1.1s,baz=246,slow=7.1,SNR=7.1						
LVC				LR	LR	00 36 41.8	
	comp=Z,2μm,19.1s,baz=262,slow=30						
	comp=Z,12nm,1.1s						
LVC	**Limon Verde**	**39.29**	**97**	*e*P	**P**	**00 24 42.8**	**+0.6**
PB08	**IPOC Station P**	**39.60**	**93**	P	**P**	**00 24 43.5**	**-1.3**
PB08				IAmb	IAmb	00 24 52.5	
	comp=Z,81nm,1.7s						
GO01	**Chusmiza**	**39.68**	**92**	P	**P**	**00 24 45.7**	**+0.2**
SLOR	**San Lorenzo -**	**39.83**	**59**	P	**P**	**00 24 46.8**	**-0.1**
CZSB	**Cruzeiro do Su**	**40.84**	**73**	P	**P**	**00 24 54.6**	**-0.1**
CZSB	**Cruzeiro do Su**	**40.84**	**73**	*e*P	**P**	**00 24 55.3**	**+0.6**
TULM	**Tulcn-Chalpat**	**41.29**	**58**	P	**P**	**00 24 58.6**	**-0.4**
LPAZ	**La Paz**	**41.60**	**87**	P	**P**	**00 25 01.6**	**-0.1**
LPAZ				IAmb	IAmb	00 25 05.2	
	comp=Z,57nm,1.5s						
LPAZ	**La Paz**	**41.60**	**87**	P	**P**	**00 25 03.0**	**+1.3**
	comp=Z,26nm,1.3s,baz=260,slow=5.1,SNR=30						
LPAZ				LR	LR	00 38 42.8	
	comp=Z,1μm,18.8s,baz=252,slow=31						
	comp=Z,26nm,1.3s						
LPAZ	**La Paz**	**41.60**	**87**	*e*P	**P**	**00 25 03.7**	**+2.0**
LPAZ				pmax	pmax		
	comp=Z,26nm,1.3s						
LPAZ	**La Paz**	**41.60**	**87**	*e*P	**P**	**00 25 02.6**	**+1.0**
JTS	**Las Juntas de**	**43.20**	**40**	LR	LR	00 38 28.2	
	comp=Z,2μm,21.4s,baz=216,slow=30						
JTS	**Las Juntas de**	**43.20**	**40**	*i* P	**P**	**00 25 16.4**	**+2.4**
JTS				pmax	pmax		
	comp=Z,34nm,1.7s						
TLIG	**Tlapa**	**43.52**	**19**	IAmb	IAmb	00 25 35.4	
	comp=Z,85nm,1.5s						
RAR	**Rarotonga**	**44.17**	**264**	LR	LR	00 38 32.9	
	comp=Z,2μm,19.9s,baz=97,slow=29						
USHA	**Ushuaia**	**44.20**	**145**	LR	LR	00 40 45.4	
	comp=Z,3μm,18.4s,baz=12,slow=32						
MTO3	**Montecristo**	**44.23**	**32**	P	**P**	**00 25 21.7**	**-0.7**
MTO3				IAmb	IAmb	00 25 39.3	
	comp=Z,38nm,1.3s						
APG	**El Apazote**	**44.23**	**30**	LR	LR	00 39 14.4	
	comp=Z,108nm,20.8s,baz=262,slow=30						
CMIG	**Matias Romero**	**44.29**	**24**	LR	LR	00 39 27.3	
	comp=Z,2μm,20.6s,baz=196,slow=30						
TRQA	**Tornquist**	**44.31**	**120**	P	**P**	**00 25 22.9**	**+0.1**
TRQA				IAMs_20	IAMs_20	00 39 52.5	
	comp=Z,2μm,20.0s						
TRQA	**Tornquist**	**44.31**	**120**	P	**P**	**00 25 22.9**	**+0.1**
TRQA				pmax	pmax		
	comp=Z,18nm,1.1s						
TBTG	**Tabatinga, AM**	**44.99**	**70**	*e*P	**P**	**00 25 27.2**	**-1.2**
ESPN	**Las Esperanzas**	**45.10**	**40**	P	**P**	**00 25 28.5**	**-0.6**
ESPN				IAmb	IAmb	00 25 33.5	
	comp=Z,29nm,1.1s						
ETMB	**Extrema**	**45.68**	**80**	P	**P**	**00 25 32.6**	**-1.3**
ETMB	**Extrema**	**45.68**	**80**	*e*P	**P**	**00 25 34.2**	**+0.3**
TICA	**Tres Isletas**	**46.29**	**104**	*e*P	**P**	**00 25 40.3**	**+1.8**
ROSC	**El Rosal**	**46.57**	**57**	P	**P**	**00 25 41.5**	**+0.2**
ROSC	**El Rosal**	**46.57**	**57**	P	P	00 25 46.4	+5.1
	comp=Z,6.0nm,0.5s,baz=277,slow=21,SNR=4.7						
ROSC				LR	LR	00 42 12.8	
	comp=Z,593nm,19.1s,baz=233,slow=32						
ROSC	**El Rosal**	**46.57**	**57**	P	**P**	**00 25 41.5**	**+0.2**
ROSC				pmax	pmax		
	comp=Z,12nm,0.9s						
FDPY	**Filadelfia**	**47.47**	**99**	*e*P	**P**	**00 25 49.9**	**+2.1**
ZAIG	**Zacatecas**	**47.59**	**12**	P	**P**	**00 25 48.8**	**-0.2**
LPIG	**La Paz**	**48.09**	**2**	LR	LR	00 41 19.3	
	comp=Z,2μm,19.7s,baz=191,slow=30						
PSAL	**Palomas, Salto**	**48.10**	**111**	*e*P	**P**	**00 25 53.3**	**+0.7**
SIV	**San Ignacio**	**48.13**	**90**	LR	LR	00 43 30.0	
	comp=Z,893nm,19.4s,baz=268,slow=33						
BBSD	**Serra de San D**	**48.19**	**92**	*e*P	**P**	**00 25 53.9**	**+0.4**
SAML	**Samuel**	**48.76**	**80**	IAMs_20	IAMs_20	00 43 43.2	
	comp=Z,1μm,18.0s						
SAML	**Samuel**	**48.76**	**80**	*e*P	**P**	**00 25 57.5**	**-0.4**
CPUP	**Villa Florida**	**49.00**	**105**	IAmb	IAmb	00 26 00.8	
	comp=Z,31nm,1.6s						
CPUP	**Villa Florida**	**49.00**	**105**	P	**P**	**00 25 58.5**	**-1.1**
	comp=Z,10nm,1.3s,baz=250,slow=8.3,SNR=5.7						
CPUP				LR	LR	00 42 57.9	
	comp=Z,1μm,21.2s,baz=258,slow=32						
	comp=Z,10nm,1.3s						
CPUP	**Villa Florida**	**49.00**	**105**	*e*P	**P**	**00 26 00.1**	**+0.5**
ITQB	**Itaqui**	**49.10**	**109**	P	**P**	**00 25 59.2**	**-1.2**
ITQB	**Itaqui**	**49.10**	**109**	*e*P	**P**	**00 26 00.2**	**-0.1**
TBOT	**Tacuaremb**	**49.45**	**112**	*e*P	**P**	**00 26 03.8**	**+0.8**
TEIG	**Tepich**	**49.80**	**29**	LR	LR	00 43 29.6	
	comp=Z,9μm,18.4s,slow=32						
TEFE	**Tefe**	**49.90**	**73**	*e*P	**P**	**00 26 06.5**	**0.0**
VILB	**Vilhena**	**49.94**	**87**	P	**P**	**00 26 06.0**	**-0.9**
VILB	**Vilhena**	**49.94**	**87**	*e*P	**P**	**00 26 06.7**	**-0.3**
PTLB	**Pontes e Lacer**	**50.07**	**90**	IAmb	IAmb	00 26 10.1	
	comp=Z,42nm,1.5s						
PTLB	**Pontes e Lacer**	**50.07**	**90**	*e*P	**P**	**00 26 08.3**	**+0.4**
RODS	**Rosario do Sul**	**50.24**	**110**	*e*P	**P**	**00 26 09.2**	**+0.1**
UNIS	**Unistalda (Bra**	**50.53**	**109**	*e*P	**P**	**00 26 11.4**	**+0.1**
BDQN	**Bodoquena, MS**	**50.80**	**97**	*e*P	**P**	**00 26 13.2**	**-0.1**
PMSA	**Palmer Station**	**50.80**	**156**	LR	LR	00 43 11.3	
	comp=Z,1μm,18.1s,baz=238,slow=31						
PLTB	**Pedras Altas**	**51.42**	**112**	P	**P**	**00 26 18.3**	**+0.3**
PLTB				IAmb	IAmb	00 26 26.4	
	comp=Z,36nm,1.3s						
PLTB	**Pedras Altas**	**51.42**	**112**	*e*P	**P**	**00 26 19.2**	**+1.3**
CRSM	**Crissiumal (Br**	**51.68**	**107**	*e*P	**P**	**00 26 21.0**	**+1.0**
AQDB	**Aquidauana**	**51.74**	**98**	IAmb	IAmb	00 26 22.6	
	comp=Z,50nm,1.5s						
AQDB	**Aquidauana**	**51.74**	**98**	*e*P	**P**	**00 26 21.4**	**+1.0**
CPSB	**Cacapava Do Su**	**51.74**	**110**	*e*P	**P**	**00 26 20.7**	**+0.4**
AMBA	**Amambai (Brazi**	**51.78**	**101**	*e*P	**P**	**00 26 21.0**	**+0.3**
SDV	**Santo Domingo**	**51.96**	**56**	LR	LR	00 45 34.0	
	comp=Z,606nm,21.7s,baz=214,slow=33						
SDV	**Santo Domingo**	**51.96**	**56**	*e*P	**P**	**00 26 21.4**	**-0.9**
ALGR	**Alto Alegre (B**	**52.34**	**109**	*e*P	**P**	**00 26 25.9**	**+1.0**
HSIG		**52.97**	**1**	IAmb	IAmb	00 26 41.2	
	comp=Z,56nm,2.0s						
SALV	**Santo Antonio**	**53.07**	**92**	*e*P	**P**	**00 26 30.3**	**0.0**
MACA	**Manacapuru-AM**	**53.53**	**75**	*e*P	**P**	**00 26 33.2**	**-0.5**
PDRB	**Porto dos Gac**	**53.59**	**87**	*e*P	**P**	**00 26 33.2**	**-1.0**
833A	**Chaparral WMA,**	**53.62**	**14**	P	**P**	**00 26 34.9**	**+0.8**
	baz=194						
MTDJ	**Mount Denham**	**53.85**	**42**	IAMs_20	IAMs_20	00 44 54.0	
	comp=Z,1μm,19.0s						
TX31	**Lajitas Ar. Si**	**53.85**	**9**	P	**P**	**00 26 35.2**	**-0.6**
TXAR	**Lajitas Array**	**53.85**	**9**	P	**P**	**00 26 35.5**	**-0.3**
	comp=Z,4.4nm,1.2s,baz=186,slow=8.8,SNR=16						
TXAR				LR	LR	00 45 23.2	
	comp=Z,904nm,18.2s,baz=171,slow=31						
	comp=Z,4.4nm,1.2s						
LDASE	**Londrina, Braz**	**55.13**	**102**	*e*P	**P**	**00 26 45.9**	**+0.5**
319A	**Douglas**	**55.36**	**3**	IAmb	IAmb	00 27 06.8	
	comp=Z,27nm,1.2s						
PCMB	**Pacaembu**	**55.45**	**100**	*e*P	**P**	**00 26 48.6**	**+0.9**
JCT	**Junction City**	**55.62**	**13**	P	**P**	**00 26 49.3**	**+0.7**
	baz=193						
214A	**Organ Pipe Nat**	**55.90**	**359**	IAmb	IAmb	00 26 54.2	
	comp=Z,27nm,1.4s						
214A	**Organ Pipe Nat**	**55.90**	**359**	P	**P**	**00 26 51.5**	**+0.9**
	baz=179						
MNTX	**Cornudas Mount**	**55.97**	**7**	P	**P**	**00 26 51.5**	**+0.5**
	baz=187						
HKT	**Hockley**	**56.03**	**17**	IAMs_20	IAMs_20	00 48 51.8	
	comp=Z,1μm,19.0s						
HKT	**Hockley**	**56.03**	**17**	*i* P	**P**	**00 26 51.1**	**-0.3**
HKT				pmax	pmax		
	comp=Z,15nm,1.4s						
TUC	**Tucson**	**56.25**	**1**	P	**P**	**00 26 53.4**	**+0.2**
TUC				IAmb	IAmb	00 27 16.1	
	comp=Z,37nm,1.9s						
TUC	**Tucson**	**56.25**	**1**	P	**P**	**00 26 53.9**	**+0.8**
	baz=181						
TUC	**Tucson**	**56.25**	**1**	P	**P**	**00 26 53.4**	**+0.2**
TUC				pmax	pmax		
	comp=Z,37nm,2.0s						
435B	**Jarrell**	**56.39**	**15**	IAMs_20	IAMs_20	00 47 35.1	
	comp=Z,2μm,21.0s						
435B	**Jarrell**	**56.39**	**15**	P	**P**	**00 26 55.0**	**+0.9**
	baz=196						
BOAV	**Boa Vista**	**56.40**	**69**	P	**P**	**00 26 53.4**	**-1.1**
BOAV	**Boa Vista**	**56.40**	**69**	*e*P	**P**	**00 26 54.1**	**-0.4**
FRTB	**Fartura**	**56.52**	**103**	*e*P	**P**	**00 26 55.2**	**-0.2**
DUN6	**Lazy B Ranch**	**56.55**	**3**	P	**P**	**00 26 54.5**	**-0.8**
121A	**Cookes Peak, D**	**56.59**	**4**	IAmb	IAmb	00 27 15.6	
	comp=Z,28nm,1.2s						
121A	**Cookes Peak, D**	**56.59**	**4**	P	**P**	**00 26 56.6**	**+0.9**
	baz=184						
NPGB	**Novo Progresso**	**56.60**	**82**	*e*P	**P**	**00 26 54.7**	**-1.3**
GTBY	**Guantanamo Bay**	**56.62**	**42**	IAMs_20	IAMs_20	00 46 44.4	
	comp=Z,999nm,19.0s						
ARAG	**Araguaiana, MT**	**56.67**	**93**	*e*P	**P**	**00 26 56.4**	**0.0**
113A	**Mohawk Valley,**	**56.73**	**358**	P	**P**	**00 26 56.4**	**0.0**
IKP	**In-Ko-Pah, Jac**	**56.73**	**356**	P	**P**	**00 26 58.2**	**+1.7**
	baz=175						
ODSA	**Odessa**	**56.75**	**9**	IAmb	IAmb	00 26 59.2	
	comp=Z,39nm,1.4s						
ITRB	**Iturama**	**56.78**	**98**	*e*P	**P**	**00 26 58.0**	**+0.7**
MONP2	**Monument Peak**	**56.99**	**355**	P	**P**	**00 26 58.9**	**+0.4**
	baz=175						
109C	**Camp Elliot, M**	**57.04**	**355**	IAMs_20	IAMs_20	00 45 21.1	
	comp=Z,1μm,20.0s						
109C	**Camp Elliot, M**	**57.04**	**355**	P	**P**	**00 26 59.2**	**+0.5**
	baz=174						
GLA	**Glamis**	**57.05**	**357**	P	**P**	**00 26 59.6**	**+0.8**
	baz=177						
ITTB	**Itaituba**	**57.40**	**79**	*e*P	**P**	**00 27 01.0**	**-0.6**
WHTX	**Lake Whitney,**	**57.58**	**14**	P	**P**	**00 27 02.7**	**+0.2**
	baz=196						
SNCC	**San Nicolas Is**	**57.65**	**352**	P	**P**	**00 27 03.3**	**+0.4**
	baz=172						
BC3	**Big Chuckawall**	**57.69**	**356**	P	**P**	**00 27 03.5**	**+0.2**
	baz=176						
TPFO	**Pinon Flats**	**57.70**	**355**	P	**P**	**00 27 04.5**	**+1.1**
	baz=175						
PFO	**Pinyon Flats O**	**57.71**	**355**	LR	LR	00 46 31.5	
	comp=Z,995nm,18.1s,baz=197,slow=30						
PFO	**Pinyon Flats O**	**57.71**	**355**	*i* P	**P**	**00 27 03.4**	**-0.1**
PFO				pmax	pmax		
	comp=Z,1.1nm,1.1s						
ABTX	**Abilene, Hawle**	**57.73**	**12**	IAmb	IAmb	00 27 24.5	
	comp=Z,42nm,1.6s						
ABTX	**Abilene, Hawle**	**57.73**	**12**	P	**P**	**00 27 03.8**	**+0.2**
	baz=193						
BLYC	**Blythe**	**57.74**	**357**	P	**P**	**00 27 03.5**	**0.0**
MURC	**Murrieta**	**57.76**	**355**	P	**P**	**00 27 05.2**	**+1.5**
	baz=174						
POST	**Post**	**57.84**	**10**	IAmb	IAmb	00 27 23.1	
	comp=Z,38nm,1.5s						
BB19B	**Bebedouro**	**58.05**	**101**	*e*P	**P**	**00 27 07.1**	**+0.9**
NATX	**Nacogdoches**	**58.06**	**17**	P	**P**	**00 27 06.5**	**+0.7**
	baz=186						
BELC	**Belle Mtn. Jos**	**58.06**	**356**	P	**P**	**00 27 07.6**	**+1.6**
	baz=176						
IRM	**Iron Mountain**	**58.17**	**357**	P	**P**	**00 27 08.3**	**+1.6**
	baz=176						
PLPT	**Palo Pinto**	**58.19**	**13**	IAmb	IAmb	00 27 25.7	
	comp=Z,46nm,1.4s						
PDMCI	**Parker Dam,Lak**	**58.27**	**358**	P	**P**	**00 27 08.8**	**+1.5**
	baz=178						
PET01	**Itanhaem-SP**	**58.32**	**105**	*e*P	**P**	**00 27 07.8**	**-0.2**
APMT	**Aspermont**	**58.33**	**11**	P	**P**	**00 27 07.3**	**-0.5**
SPB	**Sao Paulo**	**58.36**	**104**	IAMs_20	IAMs_20	00 48 57.0	
	comp=Z,2μm,21.0s						
SPB	**Sao Paulo**	**58.36**	**104**	*e*P	**P**	**00 27 09.2**	**+0.9**
SNDB	**Serra Nova Dou**	**58.41**	**89**	*e*P	**P**	**00 27 07.6**	**-1.1**
PASC	**Pasadena Art C**	**58.41**	**354**	IAMs_20	IAMs_20	00 46 09.4	
	comp=Z,2μm,21.0s						
BFSC	**Mount Baldy Ra**	**58.43**	**354**	P	**P**	**00 27 09.7**	**+1.2**
	baz=174						
X18A	**Snowflake**	**58.48**	**2**	IAmb	IAmb	00 27 12.0	
	comp=Z,26nm,1.3s						
MSTX	**Muleshoe**	**58.53**	**9**	P	**P**	**00 27 09.5**	**+0.3**
	baz=190						
RAO	**Raoul Island**	**58.56**	**249**	LR	LR	00 45 59.9	
	comp=Z,606nm,20.4s,baz=128,slow=30						
GMRC	**Granite Mounta**	**58.82**	**356**	P	**P**	**00 27 11.9**	**+0.6**
	baz=176,SNR=8.1						
SBC	**Santa Barbara**	**58.85**	**352**	P	**P**	**00 27 13.2**	**+1.9**
	baz=172						
OSI	**Osito Audit: C**	**58.91**	**353**	P	**P**	**00 27 13.3**	**+1.5**
	baz=173						
HEC	**Hector,Ludlow**	**58.91**	**356**	P	**P**	**00 27 13.7**	**+1.8**
	baz=175						
VAO	**Valinhos**	**58.92**	**103**	*e*P	**P**	**00 27 12.6**	**+0.2**
RRX	**Edison Barstow**	**59.01**	**355**	P	**P**	**00 27 13.6**	**+1.2**
	baz=174						
W13A	**Hualapai Mount**	**59.06**	**358**	IAmb	IAmb	00 27 33.2	
	comp=Z,38nm,2.0s						
W18A	**Petrified Fore**	**59.08**	**2**	P	**P**	**00 27 14.1**	**+1.0**
	baz=182						
ANMO	**Albuquerque**	**59.09**	**5**	P	**P**	**00 27 12.5**	**-0.8**
ANMO	**Albuquerque**	**59.09**	**5**	P	**P**	**00 27 13.4**	**+0.2**
	baz=186						
ANMO	**Albuquerque**	**59.09**	**5**	LR	LR	00 48 13.2	
	comp=Z,2μm,18.6s,baz=288,slow=32						
ANMO	**Albuquerque**	**59.09**	**5**	*i* P	**P**	**00 27 12.4**	**-0.8**
ANMO				pmax	pmax		
	comp=Z,30nm,3.2s						
EDW2	**Edwards Air Fo**	**59.10**	**354**	P	**P**	**00 27 13.3**	**+0.2**
	baz=174						
IPMB	**Ipameri, GO**	**59.23**	**97**	*e*P	**P**	**00 27 14.9**	**+0.4**
PKM	**Mcpherson Peak**	**59.30**	**352**	P	**P**	**00 27 15.3**	**+0.6**
	baz=172						
GSC	**Goldstone, Bar**	**59.41**	**355**	IAmb	IAmb	00 27 18.8	
	comp=Z,17nm,1.1s						
GSC	**Goldstone, Bar**	**59.41**	**355**	P	**P**	**00 27 15.1**	**-0.2**
	baz=175,SNR=6.6						
ARVC	**Arvin**	**59.42**	**353**	P	**P**	**00 27 15.3**	**0.0**
	baz=173						
TUQ	**Turquoise Moun**	**59.49**	**356**	P	**P**	**00 27 16.5**	**+0.6**
	baz=176,SNR=6.8						
LOOK	**Love County**	**59.57**	**14**	IAmb	IAmb	00 27 36.7	
	comp=Z,30nm,1.2s						
AMTX	**Amarillo**	**59.59**	**10**	IAMs_20	IAMs_20	00 48 46.6	
	comp=Z,1μm,18.

comp=Z,29nm,1.6s
DSP Deep Springs 61.56 354 IAmb IAmb 00 27 47.0
comp=Z,21nm,1.3s
OK038 West end E0370 61.65 12 IAMs_20 IAMs_20 00 50 05.2
comp=Z,1µm,19.0s
S11A Rachel 61.67 356 P **P** **00 27 31.6 +0.8**
LRAL Lakeview Retre 61.68 24 IAmb IAmb 00 27 43.7
comp=Z,28nm,1.4s
LRAL Lakeview Retre 61.68 24 P **P** **00 27 30.6 -0.2**
baz=206
TUL3 Leonard 61.72 15 P **P** **00 27 30.5 -0.4**
baz=197,SNR=6.2
MZP Montezuma Peak 61.84 355 IAmb IAmb 00 27 35.7
comp=Z,20nm,1.4s
OK035 E0210 Rd and N 61.88 12 IAMs_20 IAMs_20 00 50 14.2
comp=Z,2µm,20.0s
SDCO Great Sand Dun 61.95 6 IAmb IAmb 00 27 52.0
comp=Z,31nm,1.8s
SDCO Great Sand Dun 61.95 6 P **P** **00 27 32.8 0.0**
baz=186
WHAR Wooly Hollow 62.04 18 IAmb IAmb 00 27 45.1
comp=Z,16nm,1.1s
OXF Oxford 62.19 21 P **P** **00 27 33.9 -0.2**
baz=203
TPH Tonopah 62.20 355 P **P** **00 27 34.8 +0.4**
TPH Tonopah 62.20 355 P **P** **00 27 34.8 +0.4**
TPH pmax pmax
comp=Z,185nm,1.4s
R11B Troy Canyon, C 62.37 357 IAMs_20 IAMs_20 00 48 39.1
comp=Z,996nm,20.0s
R11B Troy Canyon, C 62.37 357 P **P** **00 27 36.3 +0.8**
baz=176,SNR=13
MCPB Macapa, AP 62.46 77 *e*P **P** **00 27 36.5 0.0**
CMB Columbia Colle 62.48 352 P **P** **00 27 36.6 +0.5**
CMB IAmb IAmb 00 27 39.4
comp=Z,32nm,1.7s
CMB Columbia Colle 62.48 352 P **P** **00 27 36.6 +0.5**
CMB pmax pmax
comp=Z,32nm,1.7s
PSUT Pine Spring 62.48 358 P **P** **00 27 35.9 -0.3**
U38A Gravette 62.56 16 IAmb IAmb 00 27 55.2
comp=Z,30nm,1.8s
NV11 Mina Array Sit 62.63 354 IAmb IAmb 00 27 40.9
comp=Z,30nm,1.3s
Y49A Blount Mountai 62.63 24 IAmb IAmb 00 27 55.1
comp=Z,33nm,1.6s
NVAR Mina Array Bea 62.65 354 P **P** **00 27 37.1 -0.3**
NVAR Mina Array Bea 62.65 354 P **P** **00 27 38.3 +0.9**
comp=Z,10.0nm,0.7s,baz=183,slow=9.8,SNR=54
NVAR LR LR 00 49 19.0
comp=Z,1µm,18.1s,baz=170,slow=31
comp=Z,10.0nm,0.7s
WAKR Walker 62.83 353 IAmb IAmb 00 27 54.9
comp=Z,24nm,1.5s
RYN Ryan 62.86 354 IAmb IAmb 00 27 58.8
comp=Z,35nm,1.6s
MCCM Marconi Confer 62.93 350 IAMs_20 IAMs_20 00 48 55.9
comp=Z,1µm,18.0s
SMTB Santa Maria do 62.95 88 *e*P **P** **00 27 39.5 -0.2**
SPR3 Spring Creek 3 62.96 358 IAmb IAmb 00 27 54.8
comp=Z,24nm,1.6s
PLAL Pickwick Lake 63.06 22 IAmb IAmb 00 27 55.7
comp=Z,18nm,1.4s
LCAR Lake Charles 63.09 19 P **P** **00 27 39.9 -0.2**
LCAR IAmb IAmb 00 27 47.1
comp=Z,29nm,1.7s
Q24A Divide 63.19 6 P **P** **00 27 41.8 +0.7**
baz=187
DIAM Diamantina, MG 63.23 99 *e*P **P** **00 27 43.0 +1.2**
KVN Kaiserville 63.24 355 IAmb IAmb 00 27 45.0
comp=Z,30nm,1.3s
YERR Yerington 63.29 354 IAmb IAmb 00 27 45.3
comp=Z,28nm,1.3s
GOGA Godfrey 63.38 26 IAmb IAmb 00 27 59.9
comp=Z,18nm,1.2s
GOGA Godfrey 63.38 26 IAMs_20 IAMs_20 00 50 23.2
comp=Z,1µm,22.0s
GOGA Godfrey 63.38 26 P **P** **00 27 42.5 +0.4**
baz=209
GOGA Godfrey 63.38 26 P **P** **00 27 42.4 +0.4**
PNTR Pine Nut 63.43 353 P **P** **00 27 41.5 -1.1**
PNTR IAmb IAmb 00 27 46.3
comp=Z,21nm,1.1s
AFDM Forest Hills D 63.45 352 P **P** **00 27 42.8 +0.4**
AFDM IAmb IAmb 00 28 02.1
comp=Z,23nm,1.5s
KSCO Kaye Shedlock' 63.51 8 P **P** **00 27 43.6 +0.5**
baz=189
Y52A Lilburn 63.53 26 IAmb IAmb 00 27 55.5
comp=Z,24nm,1.3s
FPAL Fort Paine 63.54 24 IAmb IAmb 00 27 44.2
comp=Z,17nm,1.3s
P18A Preston Nutter 63.56 1 IAmb IAmb 00 28 02.6
comp=Z,30nm,1.6s
MPK Martis Peak 63.68 353 IAmb IAmb 00 27 48.0
comp=Z,29nm,1.2s
JANB Januaria 63.71 95 *e*P **P** **00 27 43.6 -1.2**
CBKS Cedar Bluff 63.74 10 P **P** **00 27 44.8 +0.4**
baz=192
NLU North Lily Min 63.87 360 IAmb IAmb 00 27 48.9
comp=Z,23nm,1.4s
MPU Maple Canyon 63.93 0 IAmb IAmb 00 27 49.1
comp=Z,20nm,1.4s
ISCO Idaho Springs 63.98 5 P **P** **00 27 46.3 0.0**
ISCO IAmb IAmb 00 28 05.4
comp=Z,34nm,1.9s
ISCO Idaho Springs 63.98 5 P **P** **00 27 47.0 +0.7**
baz=186,SNR=6.6
ISCO Idaho Springs 63.98 5 P **P** **00 27 46.3 0.0**
ISCO pmax pmax
comp=Z,34nm,2.0s
S39A Bolivar 64.02 16 IAmb IAmb 00 27 48.5
comp=Z,15nm,1.1s
SWET Sewanee 64.03 23 IAmb IAmb 00 27 58.4
comp=Z,19nm,1.2s
SDBA SAO DESIDERIO 64.09 92 *e*P **P** **00 27 47.6 +0.3**
ORV Oroville 64.11 352 IAMs_20 IAMs_20 00 48 38.3
comp=Z,1µm,20.0s
DUG Dugway, Tooele 64.12 359 IAmb IAmb 00 27 50.3
comp=Z,22nm,1.3s
DUG IAMs_20 IAMs_20 00 50 51.4
comp=Z,965nm,18.0s
DUG Dugway, Tooele 64.12 359 P **P** **00 27 47.3 +0.3**
baz=179,SNR=16
DUG Dugway, Tooele 64.12 359 P **P** **00 27 48.4 +1.4**
DUG pmax pmax
comp=Z,14nm,1.3s
O20A White River Ci 64.14 3 P **P** **00 27 47.8 +0.6**
baz=184
V48A Smith Brothers 64.18 22 IAmb IAmb 00 27 59.3
comp=Z,24nm,1.4s
WVT Waverly 64.19 21 P **P** **00 27 46.5 -0.8**
WVT IAmb IAmb 00 28 04.6
comp=Z,25nm,1.6s
WVT Waverly 64.19 21 IAMs_20 IAMs_20 00 54 15.5
comp=Z,799nm,20.0s
WVT Waverly 64.19 21 P **P** **00 27 46.7 -0.7**
baz=204
WVT Waverly 64.19 21 P **P** **00 27 47.3 -0.1**
WVT pmax pmax
comp=Z,27nm,1.6s
BSUT Blindstream Ca 64.46 1 IAmb IAmb 00 27 52.4
comp=Z,14nm,1.1s
MDP Montagnes des 64.54 71 LR LR 00 53 01.4
comp=Z,1µm,18.5s,baz=250,slow=33
HODGE Hodges 64.58 27 IAmb IAmb 00 28 08.0
comp=Z,20nm,1.4s
CTU Camp Tracy 64.61 0 IAmb IAmb 00 28 09.6
comp=Z,41nm,1.7s
SBA Scott Base 64.66 193 P **P** **00 27 50.2 +0.2**
SBA IAmb IAmb 00 28 00.6
comp=Z,28nm,1.6s
SBA Scott Base 64.66 193 P **P** **00 27 51.5 +1.5**
SBA pmax pmax
comp=Z,28nm,1.5s
CLTN Cedars of Leba 64.67 23 IAmb IAmb 00 28 02.4
comp=Z,24nm,1.6s
W52A Murphy 64.67 25 IAmb IAmb 00 28 08.6
comp=Z,22nm,1.1s
ELK Elko 64.74 357 IAmb IAmb 00 27 54.5
comp=Z,17nm,1.4s
ELK IAMs_20 IAMs_20 00 51 16.8
comp=Z,955nm,18.0s
ELK Elko 64.74 357 P **P** **00 27 52.1 +0.9**
CPCT Cooper Cave 64.75 24 IAmb IAmb 00 28 08.9
comp=Z,27nm,1.4s
BGU Big Grassy Mou 64.85 359 IAmb IAmb 00 28 11.2
comp=Z,30nm,1.5s
CCM Cathedral Cave 64.92 18 P **P** **00 27 51.1 -1.0**
CCM IAmb IAmb 00 27 53.1
comp=Z,17nm,1.1s
CCM Cathedral Cave 64.92 18 IAMs_20 IAMs_20 00 53 14.8
comp=Z,923nm,18.0s
CCM Cathedral Cave 64.92 18 P **P** **00 27 51.8 -0.2**
baz=201
CCM Cathedral Cave 64.92 18 P **P** **00 27 51.1 -1.0**
CCM pmax pmax
comp=Z,17nm,1.1s
BG3 Lake Jocassee 64.97 26 IAmb IAmb 00 28 05.1
comp=Z,23nm,1.2s
N23A Red Feather La 65.04 5 P **P** **00 27 53.7 +0.5**
baz=186,SNR=5.2
JSC Jenkinsville 65.05 28 IAmb IAmb 00 28 11.2
comp=Z,19nm,1.3s
ALF01 Guarapari-ES 65.16 102 *e*P **P** **00 27 54.8 +0.7**
SIUC Southern Illin 65.19 20 IAmb IAmb 00 28 06.2
comp=Z,30nm,1.2s
T47A Sharon Grove 65.21 22 IAmb IAmb 00 28 11.5
comp=Z,19nm,1.2s
TKL Tuckaleechee C 65.22 25 P **P** **00 27 53.6 -0.5**
TKL IAmb IAmb 00 28 11.6
comp=Z,36nm,1.8s
TKL Tuckaleechee C 65.22 25 LR LR 00 52 41.4
comp=Z,896nm,21.3s,baz=218,slow=33
TKL Tuckaleechee C 65.22 25 P **P** **00 27 53.6 -0.5**
TKL pmax pmax
comp=Z,36nm,1.8s
SPUT South Promonto 65.23 359 IAmb IAmb 00 28 13.2
comp=Z,20nm,1.4s
U49A Red Boiling Sp 65.24 23 IAmb IAmb 00 28 11.7
comp=Z,21nm,1.4s
PAULI Pauline 65.28 27 IAmb IAmb 00 28 07.0
comp=Z,20nm,1.3s
SJMB Sao Joao De Ma 65.34 100 *e*P **P** **00 27 56.8 +1.4**
OGNE Ogallala 65.49 8 IAmb IAmb 00 27 58.4
comp=Z,26nm,1.1s
OGNE Ogallala 65.49 8 P **P** **00 27 56.3 +0.4**
baz=190
HWUT Hardware Ranch 65.52 0 IAmb IAmb 00 28 14.8
comp=Z,28nm,1.6s
HWUT IAMs_20 IAMs_20 00 50 49.6
comp=Z,891nm,22.0s
V53A Saluda 65.61 26 IAmb IAmb 00 28 13.1
comp=Z,28nm,1.4s
BIRD Birdtown, Kers 65.70 28 IAmb IAmb 00 27 59.6
comp=Z,21nm,1.2s
VNDA Vanda 65.71 194 P **P** **00 27 57.4 +0.6**
VNDA Vanda 65.71 194 P **P** **00 27 57.7 +0.9**
comp=Z,1.6nm,1.0s,baz=85,slow=6.0,SNR=6.2
VNDA LR LR 00 51 11.8
comp=Z,1µm,18.1s,baz=90,slow=31
comp=Z,1.6nm,1.0s
KMSC Kings Mountain 65.75 27 P **P** **00 27 58.0 +0.4**
baz=210
QSPA South Pole Qui 65.91 180 P **P** **00 27 58.1 -0.4**
QSPA IAmb IAmb 00 28 20.1
comp=Z,24nm,1.1s
QSPA South Pole Qui 65.91 180 P **P** **00 27 58.6 +0.1**
comp=Z,9.4nm,1.0s,baz=107,slow=2.3,SNR=10
QSPA LR LR 00 51 57.7
comp=Z,2µm,21.2s,baz=104,slow=32
comp=Z,9.4nm,1.0s
P40A Paris 66.08 17 IAmb IAmb 00 28 01.8
comp=Z,22nm,1.4s
TZTN Tazewell 66.09 25 IAMs_20 IAMs_20 00 53 07.9
comp=Z,817nm,20.0s
TZTN Tazewell 66.09 25 P **P** **00 27 58.8 -0.9**
baz=208
YBH Yreka Blue Hor 66.42 351 IAMs_20 IAMs_20 00 50 09.3
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 66.42 351 LR LR 00 50 50.4
comp=Z,1µm,18.3s,baz=171,slow=30
WCI Wyandotte Cave 66.61 22 P **P** **00 28 02.5 -0.4**
baz=205
WVOR Wild Horse Val 66.65 355 IAmb IAmb 00 28 19.4
comp=Z,20nm,1.1s
WVOR Wild Horse Val 66.65 355 P **P** **00 28 05.1 +1.8**
WVOR pmax pmax
comp=Z,19nm,2.0s
AHID Auburn Hatcher 66.68 1 IAmb IAmb 00 28 12.4
comp=Z,10nm,0.8s
AHID IAMs_20 IAMs_20 00 51 51.3
comp=Z,897nm,20.0s
PD31 Pinedale Array 66.71 2 IAmb IAmb 00 28 05.7
comp=Z,18nm,1.5s
PDAR Pinedale Array 66.71 2 P **P** **00 28 02.0 -1.9**
PDAR Pinedale Array 66.71 2 P **P** **00 28 02.9 -1.0**
comp=Z,3.4nm,0.8s,baz=172,slow=6.8,SNR=22
PDAR LR LR 00 52 03.9
comp=Z,821nm,21.0s,baz=180,slow=31
comp=Z,3.4nm,0.8s
K22A Casper 66.74 4 IAmb IAmb 00 28 15.1
comp=Z,18nm,1.1s
K22A Casper 66.74 4 P **P** **00 28 03.8 -0.1**
baz=185,SNR=7.3
R49A Shelbyville 67.05 23 IAmb IAmb 00 28 21.4
comp=Z,14nm,0.9s
V58A Windy Hill, Pi 67.25 28 IAmb IAmb 00 28 09.7
comp=Z,16nm,1.1s
GUA01 Itatinga, BA 67.28 99 *e*P **P** **00 28 08.7 +0.9**
HUMO Hull Mountain 67.31 351 IAmb IAmb 00 28 10.6
comp=Z,28nm,1.4s
CNNC Cliffs of the 67.33 30 IAMs_20 IAMs_20 00 59 35.9
comp=Z,697nm,19.0s
R50A Paris 67.34 23 P **P** **00 28 05.6 -2.1**
R50A IAmb IAmb 00 28 24.8
comp=Z,18nm,1.1s
SNOW Snow King Moun 67.38 1 IAMs_20 IAMs_20 00 52 00.8
comp=Z,1µm,21.0s
TPAW Teton Pass 67.41 1 IAmb IAmb 00 28 23.0
comp=Z,12nm,1.0s
TPAW IAMs_20 IAMs_20 00 51 50.5
comp=Z,1µm,21.0s
MFID Camas Ranch 67.43 357 IAmb IAmb 00 28 11.2
comp=Z,17nm,1.2s
HLID Hailey 67.52 358 IAmb IAmb 00 28 28.4
comp=Z,36nm,1.5s
HLID IAMs_20 IAMs_20 00 51 56.4
comp=Z,849nm,22.0s
HLID Hailey 67.52 358 P **P** **00 28 09.4 +0.5**
baz=178
LOHW Long Hollow 67.53 1 IAmb IAmb 00 28 27.6
comp=Z,14nm,1.1s
LOHW IAMs_20 IAMs_20 00 52 28.9
comp=Z,917nm,21.0s
J08A Circle Bar Ran 67.55 355 IAmb IAmb 00 28 12.9
comp=Z,29nm,1.3s
FXWY Fox Creek 67.56 1 IAmb IAmb 00 28 28.0
comp=Z,15nm,1.2s
HDIL Hopedale 67.79 18 P **P** **00 28 10.0 -0.5**
HDIL IAMs_20 IAMs_20 00 55 10.9
comp=Z,1µm,18.0s
HDIL Hopedale 67.79 18 P **P** **00 28 10.4 -0.1**
baz=202
IMW Indian Meadow 67.81 1 IAmb IAmb 00 28 29.5
comp=Z,17nm,1.3s
BLA Blacksburg 67.91 27 IAmb IAmb 00 28 23.7
comp=Z,23nm,1.2s
BLA Blacksburg 67.91 27 P **P** **00 28 10.7 -0.7**
baz=211
FLWY Flagg Ranch 68.00 1 IAmb IAmb 00 28 21.5
comp=Z,9.9nm,0.8s
FLWY IAMs_20 IAMs_20 00 52 44.3
comp=Z,888nm,21.0s
SCIA State Center 68.04 15 P **P** **00 28 12.3 +0.3**
baz=198
T57A Hurt 68.21 28 IAmb IAmb 00 28 15.3
comp=Z,24nm,1.4s
PINE Pine Mountain 68.22 353 IAmb IAmb 00 28 17.0
comp=Z,22nm,1.2s
P49A Miami Univ. Ec 68.32 22 IAmb IAmb 00 28 25.2
comp=Z,30nm,1.3s
P49A IAMs_20 IAMs_20 00 56 18.8
comp=Z,758nm,19.0s
P49A Miami Univ. Ec 68.32 22 P **P** **00 28 13.4 -0.3**
baz=206
H17A Grant Village 68.32 1 P **P** **00 28 13.4 -0.6**
baz=181
I07A Izee 68.36 354 IAmb IAmb 00 28 30.2
comp=Z,27nm,1.3s
RSSD Black Hills 68.41 6 P **P** **00 28 13.0 -1.6**
RSSD Black Hills 68.41 6 P **P** **00 28 14.3 -0.2**
baz=188
RSSD Black Hills 68.41 6 P **P** **00 28 13.0 -1.6**
RSSD pmax pmax
comp=Z,10.0nm,1.0s
LKWY Lake 68.49 1 IAMs_20 IAMs_20 00 53 24.2
comp=Z,1µm,20.0s
Q52A Bidwell 68.69 24 IAmb IAmb 00 28 17.4
comp=Z,18nm,1.1s
O48B Farmland 68.81 22 P **P** **00 28 15.9 -1.0**
baz=206
BMO Blue Mountains 68.95 356 IAmb IAmb 00 28 20.9
comp=Z,28nm,1.7s
BMO IAMs_20 IAMs_20 00 52 37.2
comp=Z,842nm,20.0s
ECSD EROS Data Cent 69.07 12 P **P** **00 28 17.2 -1.3**
baz=195
RLMT Red Lodge 69.07 2 IAMs_20 IAMs_20 00 53 40.6
comp=Z,740nm,19.0s
RLMT Red Lodge 69.07 2 P **P** **00 28 17.7 -1.0**
baz=182
Q54A Coxs Mills 69.26 25 P **P** **00 28 18.6 -1.1**
DLMT Dillon 69.28 359 IAMs_20 IAMs_20 00 53 48.0
comp=Z,890nm,20.0s
P52A Corning 69.33 24 P **P** **00 28 18.8 -1.3**
baz=209
HQIL Hanson Quary C 69.36 19 IAMs_20 IAMs_20 00 55 48.4
comp=Z,1µm,18.0s
SUSD Miller 69.36 10 P **P** **00 28 20.5 +0.2**
baz=192
BOZ Bozeman (W) 69.51 0 IAMs_20 IAMs_20 00 54 33.1
comp=Z,986nm,18.0s
BOZ Bozeman (W) 69.51 0 P **P** **00 28 20.8 -0.5**
baz=180
ACSO Alum Creek Sta 69.55 23 IAMs_20 IAMs_20 00 58 18.4
comp=Z,640nm,18.0s
L44A Lake County Fo 69.69 19 IAMs_20 IAMs_20 00 56 04.1
comp=Z,1µm,19.0s
JFWS Jewell Farm 69.72 17 IAMs_20 IAMs_20 00 55 50.0
comp=Z,942nm,19.0s
JFWS Jewell Farm 69.72 17 P **P** **00 28 22.1 -0.3**
baz=201
CBN Corbin Frederi 70.03 28 IAMs_20 IAMs_20 00 56 43.3
comp=Z,619nm,18.0s
O53A New Philadelph 70.22 24 IAMs_20 IAMs_20 00 54 54.1
comp=Z,997nm,22.0s
O53A New Philadelph 70.22 24 P **P** **00 28 25.4 -0.2**
baz=210
MCWV Mont Chateau 70.23 26 IAmb IAmb 00 28 28.8
comp=Z,18nm,1.1s
MCWV Mont Chateau 70.23 26 P **P** **00 28 25.6 -0.1**
baz=211
MSO Missoula 70.77 358 P **P** **00 28 27.9 -1.0**
MSO IAMs_20 IAMs_20 00 54 40.4
comp=Z,1µm,19.0s
MSO Missoula 70.77 358 P **P** **00 28 29.7 +0.7**
baz=178
LAO LASA Array 70.78 4 IAmb IAmb 00 28 38.4
comp=Z,15nm,0.8s
LAO LASA Array 70.78 4 P **P** **00 28 29.7 +0.8**
baz=185
VNA3 Neumayer Olymp 71.07 160 ⇑P **P** **00 28 29.8 -0.7**
comp=Z,9.0nm,0.7s
AAM Ann Arbor 71.14 22 IAMs_20 IAMs_20 00 57 03.7
comp=Z,698nm,20.0s
F33A 5 Mile Ranch, 71.17 11 IAmb IAmb 00 28 49.8
comp=Z,24nm,1.4s
SPMN Marine on St. 71.28 14 IAmb IAmb 00 28 50.8
comp=Z,29nm,1.2s
SPMN Marine on St. 71.28 14 P **P** **00 28 32.3 +0.4**
baz=198
M53A WI Miller and 71.45 24 P **P** **00 28 32.2 -0.8**
M53A WI Miller and 71.45 24 P **P** **00 28 32.7 -0.3**
baz=210
NBPB Pedra_Branca-C 71.55 88 *e*P **P** **00 28 31.3 -3.0**
LTY Liberty 71.62 354 IAmb IAmb 00 28 53.2
comp=Z,20nm,1.3s
SSPA Standing Stone 71.85 27 P **P** **00 28 35.3 -0.2**
SSPA Standing Stone 71.85 27 IAMs_20 IAMs_20 00 58 35.5
comp=Z,1µm,19.0s
SSPA Standing Stone 71.85 27 P **P** **00 28 35.7 +0.2**
baz=212
VNA2 Neumayer--Watz 71.88 160 ⇓P **P** **00 28 35.9 +0.6**
comp=Z,1.2nm,0.4s,baz=247,slow=8.6
C09A Chrisman Ranch 71.95 355 IAmb IAmb 00 28 39.2
comp=Z,29nm,1.2s
EGMT Eagleton 71.96 1 IAmb IAmb 00 28 55.5
comp=Z,28nm,1.1s
EGMT IAMs_20 IAMs_20 00 54 50.0
comp=Z,871nm,21.0s
EGMT Eagleton 71.96 1 P **P** **00 28 36.6 +0.5**
baz=182
M55A Ridgway 72.21 25 IAmb IAmb 00 28 47.1
comp=Z,34nm,1.4s
ERPA Erie 72.29 24 IAMs_20 IAMs_20 00 55 21.1
comp=Z,866nm,22.0s
ERPA Erie 72.29 24 P **P** **00 28 38.4 +0.3**
baz=210
NEW Newport 72.34 356 IAmb IAmb 00 28 57.5
comp=Z,31nm,1.3s
NEW Newport 72.34 356 P **P** **00 28 38.7 +0.5**
baz=175
NEW Newport 72.34 356 P **P** **00 28 38.8 +0.5**
comp=Z,15nm,1.2s,baz=149,slow=5.9,SNR=9.4
NEW LR LR 00 55 33.6
comp=Z,734nm,18.1s,baz=189,slow=32
comp=Z,15nm,1.2s
MDND Maddock 72.60 9 P **P** **00 28 39.6 -0.2**
baz=192
DGMT Dagmar 72.71 5 IAMs_20 IAMs_20 00 56 13.7
comp=Z,1µm,21.0s
DGMT Dagmar 72.71 5 P **P** **00 28 40.6 +0.1**
baz=187
SNAA Sanae 72.93 162 P **P** **00 28 41.8 +0.1**
SNAA IAmb IAmb 00 28 59.1
comp=Z,41nm,1.7s
SNAA Sanae 72.93 162 ⇑P **P** **00 28 41.1 -0.6**
comp=Z,102nm,0.8s
SNAA Sanae 72.93 162 P **P** **00 28 41.0 -0.6**
comp=Z,2.5nm,0.8s,baz=254,slow=2.7,SNR=3.8
SNAA LR LR 00 55 05.9
comp=Z,292nm,20.3s,baz=264,slow=31
comp=Z,2.5nm,0.8s
SNAA Sanae 72.93 162 *i*P **P** **00 28 42.0 +0.3**
SNAA pmax pmax
comp=Z,25nm,1.7s
COWI Conover 72.98 16 IAmb IAmb 00 29 01.4
comp=Z,38nm,1.3s
WVNY West Valley, N 73.07 25 IAmb IAmb 00 29 00.9
comp=Z,30nm,1.4s
GLMI Grayling 73.09 20 P **P** **00 28 43.4 +0.6**
baz=206
AGMN Agassiz Nation 73.62 11 IAmb IAmb 00 29 05.0
comp=Z,27nm,1.4s
AGMN Agassiz Nation 73.62 11 P **P** **00 28 45.9 +0.1**
baz=195
E43A Lone Tree Farm 73.80 18 IAmb IAmb 00 28 49.5
comp=Z,25nm,1.2s
PAL Palisades 73.85 29 P **P** **00 28 46.6 -0.8**
baz=216
BINY Binghamton 73.94 27 IAmb IAmb 00 28 51.0
comp=Z,30nm,1.3s
BINY IAMs_20 IAMs_20 00 59 04.8
comp=Z,658nm,20.0s
BINY Binghamton 73.94 27 P **P** **00 28 47.7 -0.2**
baz=214
DZM Mont Dzumac 74.09 253 *e*S **SKiKP** **00 38 20.1 +1.9**
comp=Z,177nm,26.1s
DZM Mont Dzumac 74.09 253 *e*LR LR 00 51 27.9
comp=Z,2µm,23.1s
DZM Mont Dzumac 74.09 253 LR LR 00 53 37.8
comp=Z,688nm,21.2s,baz=163,slow=30
EYMN Ely 74.15 14 P **P** **00 28 48.9 -0.1**
baz=199
K57A Scipio Center 74.17 26 IAmb IAmb 00 28 52.0
comp=Z,40nm,1.3s
WSPT Westport, CT 74.24 29 IAMs_20 IAMs_20 00 59 09.8
comp=Z,747nm,18.0s
TROLL Troll, Antarti 74.26 163 ⇑P **P** **00 28 49.0 -0.6**
comp=Z,415nm,0.9s
L59A Walton 74.33 28 P **P** **00 28 50.1 0.0**
YLE Yale 74.53 29 IAMs_20 IAMs_20 01 01 03.8
comp=Z,676nm,19.0s
RCBR Riachuelo 74.80 90 IAMs_20 IAMs_20 00 58 43.9
comp=Z,865nm,21.0s
RCBR Riachuelo 74.80 90 LR LR 00 59 17.0
comp=Z,743nm,20.6s,baz=250,slow=34
SADO Sadowa 74.89 23 LR LR 00 58 44.4
comp=Z,771nm,20.1s,baz=256,slow=33
DELO Deloro Mine 75.24 25 IAmb IAmb 00 29 16.3
comp=Z,26nm,1.4s
ULM Lac du Bonnet 75.50 10 P **P** **00 28 56.4 -0.3**

comp=Z,2.7nm,0.6s,baz=212,slow=6.3,SNR=6.3
ULM LR LR 00 58 42.9
comp=Z,691nm,18.7s,baz=220,slow=33
comp=Z,2.7nm,0.6s
ULM Lac du Bonnet 75.50 10 *e*P **P 00 28 55.7 -1.0**
ULM pmax pmax
comp=Z,3.0nm,0.6s
L61B Northampton 75.56 29 P **P 00 28 57.7 +0.5**
baz=216
ACCN Adirondack Com 75.89 28 IAmb IAmb 00 29 09.1
comp=Z,46nm,1.8s
HRV Adam Dziewonsk 76.10 29 P **P 00 28 60.0 -0.4**
baz=217
BCX Boston College 76.14 30 IAMs_20 IAMs_20 00 56 49.1
comp=Z,881nm,20.0s
LONY Lake Ozonia 76.52 26 IAmb IAmb 00 29 20.9
comp=Z,56nm,1.9s
LONY IAMs_20 IAMs_20 00 57 19.0
comp=Z,724nm,22.0s
LONY Lake Ozonia 76.52 26 P **P 00 29 02.7 0.0**
baz=214
VT1 Waterbury 77.04 28 IAMs_20 IAMs_20 00 56 29.7
comp=Z,699nm,20.0s
LBNH Lisbon 77.32 28 P **P 00 29 07.3 +0.1**
baz=217
NVL N'lazarevskaya 77.42 164 *e*P P 00 29 14.5 +7.0
NVL *e*S S 00 39 10.6 +13
NVL pmax pmax
comp=Z,8.0nm,0.8s
BBB Bella Bella 77.43 350 LR LR 00 58 21.4
comp=Z,200nm,18.3s,baz=182,slow=32
FFC Flin Flon 79.10 6 P **P 00 29 15.0 -1.8**
FFC IAmb IAmb 00 29 35.4
comp=Z,41nm,1.9s
FFC Flin Flon 79.10 6 P **P 00 29 15.0 -1.8**
FFC pmax pmax
comp=Z,41nm,1.9s
ELIB Princess Elisa 79.27 167 *d*P **P 00 29 15.6 -2.3**
comp=Z,5.1nm,1.4s
PKME Peaks-Kenny Pk 79.28 29 P **P 00 29 18.6 +0.7**
baz=219
E62A Clayton Lake 80.24 28 IAmb IAmb 00 29 32.5
comp=Z,26nm,1.1s
V35K Ketchikan 81.05 349 P **P 00 29 28.6 +1.4**
baz=162
CRAG Craig 81.46 348 P **P 00 29 30.6 +1.1**
baz=160
TOAD Toad River Com 83.53 353 P **P 00 29 41.8 +1.5**
baz=168
DLBC Dease Lake 83.76 350 IAmb IAmb 00 30 01.1
comp=Z,30nm,1.4s
DLBC Dease Lake 83.76 350 P **P 00 29 42.2 +0.7**
baz=163
DLBC Dease Lake 83.76 350 P **P 00 29 41.7 +0.2**
comp=Z,9.0nm,1.0s,baz=214,slow=3.6,SNR=8.5
DLBC LR LR 01 00 40.6
comp=Z,306nm,20.4s,baz=124,slow=31
comp=Z,9.0nm,1.0s
LIRD Liard River Hi 84.18 353 P **P 00 29 44.4 +0.8**
baz=167
JIS Juneau Island 84.34 348 IAMs_20 IAMs_20 00 59 32.4
comp=Z,543nm,19.0s
R32K Eaglecrest 84.36 348 IAMs_20 IAMs_20 00 58 11.0
comp=Z,543nm,21.0s
HNR Honiara 84.60 262 LR LR 00 59 10.3
comp=Z,11µm,21.8s,baz=122,slow=30
R33M Jennings River 84.82 350 IAmb IAmb 00 30 06.4
comp=Z,36nm,1.6s
R33M Jennings River 84.82 350 P **P 00 29 47.2 +0.3**
baz=162
WTLY Watson Lake, Y 85.20 352 P **P 00 29 49.2 +0.5**
baz=164
P32M Atlin 85.46 349 IAMs_20 IAMs_20 01 00 38.9
comp=Z,729nm,18.0s
P32M Atlin 85.46 349 P **P 00 29 50.0 0.0**
baz=160
PLBC Pleasant Camp 85.82 348 P **P 00 29 52.1 +0.4**
baz=158
P33M Teslin, Yukon 85.89 350 IAmb IAmb 00 30 11.3
comp=Z,30nm,1.4s
P33M IAMs_20 IAMs_20 01 03 12.4
comp=Z,630nm,18.0s
P33M Teslin, Yukon 85.89 350 P **P 00 29 52.6 +0.4**
baz=161
P29M Windy Craggy 86.25 347 P **P 00 29 53.1 -0.8**
baz=156
YKA Yellowknife Ar 86.47 359 P **P 00 29 54.6 -0.2**
comp=Z,5.5nm,0.9s,baz=172,slow=3.9,SNR=33
YKA LR LR 01 04 20.1
comp=Z,1µm,19.2s,baz=178,slow=33
comp=Z,5.5nm,0.9s
TGTN Hyland Airport 86.50 352 P **P 00 29 54.4 -0.8**
baz=165
PNL Peninsula 86.64 346 P **P 00 29 55.2 -0.6**
baz=155
WHY Whitehorse 86.67 349 P **P 00 29 55.4 -0.7**
baz=159
N32M Quiet Lake 86.83 350 IAMs_20 IAMs_20 01 02 04.1
comp=Z,629nm,18.0s
N32M Quiet Lake 86.83 350 P **P 00 29 57.1 +0.3**
baz=161
O30N Mendenhall 86.99 348 P **P 00 29 58.9 +1.3**
baz=158
HYT Haines Junctio 87.31 348 P **P 00 30 00.5 +1.3**
baz=157
N31M Braeburn, Yuko 87.60 349 IAMs_20 IAMs_20 01 01 44.5
comp=Z,624nm,19.0s
MESA MESA 87.66 345 IAMs_20 IAMs_20 01 00 59.2
comp=Z,505nm,20.0s
MESA MESA 87.66 345 P **P 00 30 01.4 +0.4**
baz=153
SCHQ Schefferville 87.68 24 P **P 00 30 00.7 -0.3**
comp=Z,2.2nm,0.9s,baz=239,slow=5.9,SNR=2.6
SCHQ LR LR 01 07 51.0
comp=Z,353nm,18.6s,baz=246,slow=35
comp=Z,2.2nm,0.9s
O28M Mount Upton 87.81 346 P **P 00 30 01.9 +0.1**
baz=154
N30M Aishikik Lake 87.81 348 P **P 00 30 02.9 +1.4**
baz=157
FARO Faro, Yukon 87.89 350 P **P 00 30 03.3 +1.4**
baz=160
M31M Drury Creek, Y 88.03 350 IAMs_20 IAMs_20 01 02 20.9
comp=Z,649nm,20.0s
ISLE Juniper Island 88.13 345 IAMs_20 IAMs_20 01 01 13.5
comp=Z,515nm,20.0s
YUK8 Steele Glacier 88.18 347 P **P 00 30 03.4 -0.2**
baz=155
MAW Mawson 88.34 178 LR LR 01 06 51.1
comp=Z,2µm,18.1s,baz=182,slow=34
RAGM Ragged Mountai 88.49 344 IAMs_20 IAMs_20 01 01 54.2
comp=Z,780nm,19.0s
KDAK Kodiak Island 88.54 340 LR LR 01 00 04.7
comp=Z,260nm,22.0s,baz=168,slow=29
CHNA Chernabura Isl 88.75 335 P **P 00 30 07.5 +1.5**
baz=138
YUK3 Moose Creek 88.77 347 P **P 00 30 07.1 +0.9**
baz=154
M29M Somme Creek 88.98 348 IAMs_20 IAMs_20 01 05 09.9
comp=Z,443nm,18.0s
M29M Somme Creek 88.98 348 P **P 00 30 07.6 +0.5**
baz=156
Q20K Shuyak Island 89.15 340 P **P 00 30 07.8 +0.1**
baz=144
FID Port Fidalgo 89.26 344 IAMs_20 IAMs_20 01 02 07.7
comp=Z,580nm,18.0s
SDPT Sand Point 89.48 335 P **P 00 30 10.0 +0.6**
baz=137
L29M L29M 89.53 348 IAmb IAmb 00 30 27.6
comp=Z,15nm,1.4s
L29M IAMs_20 IAMs_20 01 01 55.4
comp=Z,481nm,21.0s
L29M L29M 89.53 348 P **P 00 30 12.0 +2.5**
baz=156
GLI Glacier Island 89.53 344 IAMs_20 IAMs_20 01 01 11.5
comp=Z,464nm,20.0s
N25K Chitina, Valde 89.54 345 IAMs_20 IAMs_20 01 02 47.8
comp=Z,423nm,18.0s
M27K Edge Creek, AK 89.59 346 P **P 00 30 12.2 +2.2**
baz=153
KLU Klutina 89.76 344 IAMs_20 IAMs_20 01 02 37.6
comp=Z,590nm,20.0s
S14K Fog Glacier 89.81 336 P **P 00 30 12.7 +1.6**
baz=138
Q17K Contact Creek 90.00 338 P **P 00 30 13.4 +1.4**
baz=141
H11S2 WAKE ISLAND Hy 90.03 290 T T 02 09 47.7
baz=116,slow=75,SNR=240
H11S1 WAKE ISLAND Hy 90.04 290 T T 02 09 44.9
baz=116,slow=75,SNR=218
H11S3 WAKE ISLAND Hy 90.04 290 T T 02 10 05.8
baz=116,slow=75,SNR=182
K29M Barlow Dome 90.09 349 P **P 00 30 14.2 +1.9**
baz=157
KNK Knik Glacier 90.33 343 P **P 00 30 15.8 +2.4**
baz=147
H11N3 WAKE ISLAND Hy 90.38 291 T T 02 10 20.5
baz=117,slow=76,SNR=72
H11N1 WAKE ISLAND Hy 90.39 291 T T 02 10 19.4
baz=117,slow=76,SNR=27
H11N2 WAKE ISLAND Hy 90.39 291 T T 02 10 16.9
baz=117,slow=76,SNR=107
STKA Stephens Creek 90.41 235 LR LR 01 04 30.2
comp=Z,212nm,19.4s,baz=98,slow=31
J30M Hart River 90.57 350 P **P 00 30 14.1 -0.4**
J30M IAmb IAmb 00 33 46.1
comp=Z,7.8nm,0.4s
J30M IAMs_20 IAMs_20 01 06 32.0
comp=Z,513nm,18.0s
J29N Klondike Camp 90.77 349 IAMs_20 IAMs_20 01 07 07.4
comp=Z,495nm,18.0s
I30M Mount Dempster 91.18 350 IAMs_20 IAMs_20 01 04 30.1
comp=Z,482nm,19.0s
H31M Peel River 91.41 351 IAmb IAmb 00 30 36.6
comp=Z,13nm,1.2s
H31M IAMs_20 IAMs_20 01 06 40.3
comp=Z,518nm,18.0s
DHY Denali Highway 91.47 345 IAMs_20 IAMs_20 01 03 49.8
comp=Z,526nm,18.0s
CTA Charters Tower 92.18 247 P **P 00 30 23.1 +0.1**
comp=Z,0.4nm,0.6s,baz=194,slow=13,SNR=11
comp=Z,0.4nm,0.6s
EPYK Eagle Plains 92.30 350 IAMs_20 IAMs_20 01 06 38.6
comp=Z,463nm,18.0s
H29M Whitestone 92.42 350 IAMs_20 IAMs_20 01 07 38.0
comp=Z,543nm,18.0s
G31M Satah River 92.45 351 IAMs_20 IAMs_20 01 07 16.8
comp=Z,496nm,19.0s
N16K Nishlik Lake 92.65 339 P **P 00 30 25.6 +1.5**
baz=138
L20K Farewell, AK 92.69 342 P **P 00 30 25.5 +1.2**
baz=142
L19K White Mountain 92.74 341 P **P 00 30 26.1 +1.6**
baz=142
KTH Kantishna Hill 92.75 344 IAmb IAmb 00 30 30.7
comp=Z,15nm,1.1s
G30M tAoh Zraii Nji 92.79 351 IAMs_20 IAMs_20 01 07 28.6
comp=Z,456nm,20.0s
ILAR Eielson Array 92.80 346 P **P 00 30 24.1 -0.5**
comp=Z,0.7nm,0.9s,baz=191,slow=4.6,SNR=4.7
ILAR LR LR 01 04 24.7
comp=Z,266nm,19.3s,baz=110,slow=31
comp=Z,0.7nm,0.9s
WRH Wood River Hil 92.82 345 IAmb IAmb 00 30 30.7
comp=Z,9.4nm,1.2s
WRH IAMs_20 IAMs_20 01 04 00.6
comp=Z,501nm,19.0s
F31M Tsiigehtchic 92.87 352 IAMs_20 IAMs_20 01 07 39.8
comp=Z,490nm,18.0s
F31M Tsiigehtchic 92.87 352 P **P 00 30 26.6 +1.7**
baz=160
COLA College 93.11 345 *i*P **P 00 30 29.5 +3.5**
COLA pmax pmax
comp=Z,9.0nm,1.3s
PRP Porcupine Dome 93.14 347 P **P 00 30 26.5 +0.1**
PRP IAmb IAmb 00 30 45.2
comp=Z,16nm,1.8s
PRP Porcupine Dome 93.14 347 P **P 00 30 28.1 +1.7**
baz=150
NEA2 Nenana 93.16 345 IAMs_20 IAMs_20 01 04 45.4
comp=Z,480nm,18.0s
NEA2 Nenana 93.16 345 P **P 00 30 27.7 +1.4**
baz=146
POKR Poker Plat Res 93.22 346 P **P 00 30 28.2 +1.6**
baz=148
BPAW Bear Paw Mtn. 93.22 344 P **P 00 30 26.9 +0.2**
baz=145
MDM Murphy Dome 93.27 345 IAmb IAmb 00 30 32.9
comp=Z,7.5nm,1.0s
F30M Barrier River 93.31 351 P **P 00 30 28.0 +1.0**
baz=158
L18K Granite Mounta 93.31 341 P **P 00 30 28.5 +1.4**
baz=140
CHUM Lake Minchumin 93.39 343 P **P 00 30 28.9 +1.6**
baz=144
G27K Doyon Strip 93.52 349 IAMs_20 IAMs_20 01 14 58.1
comp=Z,546nm,18.0s
INK Inuvik 93.66 352 P **P 00 30 29.9 +1.4**
baz=160
INK Inuvik 93.66 352 P **P 00 30 27.8 -0.7**
comp=Z,2.9nm,1.1s,baz=166,slow=5.1,SNR=6.4
INK LR LR 01 07 56.2
comp=Z,436nm,18.4s,baz=179,slow=32
comp=Z,2.9nm,1.1s
I23K Minto, Yukon-K 93.69 345 IAMs_20 IAMs_20 01 05 30.5
comp=Z,461nm,18.0s
I23K Minto, Yukon-K 93.69 345 P **P 00 30 30.6 +1.9**
baz=146
L17K Donlin 93.74 340 P **P 00 30 31.1 +2.0**
baz=138
L16K Owhat River 93.80 339 P **P 00 30 31.2 +1.9**
baz=138
MLY Manley 93.92 344 IAMs_20 IAMs_20 01 05 17.7
comp=Z,538nm,18.0s
MLY Manley 93.92 344 P **P 00 30 31.7 +1.8**
baz=145
H24K Hoodoo Dome 93.93 346 P **P 00 30 31.7 +1.8**
baz=147
F28M Old Crow 93.94 350 IAmb IAmb 00 30 47.9
comp=Z,22nm,2.0s
F28M IAMs_20 IAMs_20 01 08 11.1
comp=Z,383nm,18.0s
F28M Old Crow 93.94 350 P **P 00 30 30.5 +0.6**
baz=154
FRB Frobisher Bay 94.03 18 LR LR 01 10 21.6
comp=Z,1µm,18.3s,baz=212,slow=34
M13K Dall Lake 94.18 337 P **P 00 30 31.4 +0.3**
baz=134
J18K Innoko River 94.27 341 P **P 00 30 32.7 +1.2**
baz=140
E29M Blow River 94.34 351 IAMs_20 IAMs_20 01 06 14.6
comp=Z,482nm,19.0s
E29M Blow River 94.34 351 P **P 00 30 31.9 +0.2**
baz=156
J19K Poorman 94.37 342 P **P 00 30 32.8 +0.8**
baz=141
E27K Coleen River 94.75 349 P **P 00 30 34.3 +0.7**
baz=153
F26K Sheenjek River 94.77 348 P **P 00 30 34.4 +0.7**
baz=151
H22K Ishtalitna Cre 94.78 345 P **P 00 30 34.2 +0.4**
baz=144
E28M Babbage River 94.79 350 P **P 00 30 34.6 +0.8**
baz=155
H21K Melozitna Rive 94.94 344 IAMs_20 IAMs_20 01 05 31.6
comp=Z,412nm,19.0s
H21K Melozitna Rive 94.94 344 P **P 00 30 34.6 0.0**
baz=143
F25K Christian Rive 94.96 348 P **P 00 30 34.7 0.0**
baz=149
G23K Bananza Creek 95.14 346 P **P 00 30 35.7 +0.2**
baz=146
H20K Anotleneega Mo 95.34 343 P **P 00 30 36.1 -0.2**
baz=141
F24K Squaw Lake 95.35 347 IAMs_20 IAMs_20 01 16 39.5
comp=Z,513nm,19.0s
F24K Squaw Lake 95.35 347 P **P 00 30 36.7 +0.3**
baz=147
E25K Arctic Village 95.41 348 IAMs_20 IAMs_20 01 09 19.8
comp=Z,390nm,18.0s
E25K Arctic Village 95.41 348 P **P 00 30 37.5 +0.9**
baz=149
D27M Malcolm River 95.59 350 IAMs_20 IAMs_20 01 11 39.7
comp=Z,415nm,18.0s
COLD Coldfoot 95.61 346 P **P 00 30 38.6 +1.1**
baz=145
G21K Allakaket 95.80 344 IAMs_20 IAMs_20 01 06 35.3
comp=Z,438nm,18.0s
PMG Port Moresby 96.08 257 LR LR 01 07 46.7
comp=Z,863nm,19.5s,baz=132,slow=32
F22K John River 96.28 345 P **P 00 30 41.2 +0.6**
baz=144
F21K Alatna River 96.36 345 IAMs_20 IAMs_20 01 08 13.0
comp=Z,465nm,19.0s
F21K Alatna River 96.36 345 P **P 00 30 42.4 +1.4**
baz=142
C27K Jago River 96.38 349 P **P 00 30 42.2 +1.2**
baz=151
G19K Purcell Mounta 96.42 343 P **P 00 30 42.8 +1.6**
baz=139
A36M Sachs Harbour 96.43 356 IAMs_20 IAMs_20 01 07 43.8
comp=Z,633nm,22.0s
A36M Sachs Harbour 96.43 356 P **P 00 30 42.7 +1.6**
baz=168
D25K Kavik River 96.59 348 P **P 00 30 43.1 +1.1**
baz=149
TOLK Toolik Lake Re 96.64 347 IAMs_20 IAMs_20 01 11 41.5
comp=Z,400nm,18.0s
E22K Anaktuvuk Pass 96.70 346 IAMs_20 IAMs_20 01 06 29.2
comp=Z,426nm,19.0s
F20K Avaraart Lake 96.77 344 P **P 00 30 43.3 +0.6**
baz=140
H16K Elim 96.79 340 P **P 00 30 44.1 +1.2**
baz=135
C26K Camden Bay 96.84 349 P **P 00 30 44.6 +1.6**
baz=150
E21K Killik River 97.44 346 IAMs_20 IAMs_20 01 07 34.6
comp=Z,400nm,19.0s
D22K Ayikyak River 97.50 346 IAMs_20 IAMs_20 01 08 00.2
comp=Z,454nm,18.0s
C19K Lookout Ridge 99.27 344 IAMs_20 IAMs_20 01 09 34.2
comp=Z,414nm,19.0s
RES Resolute Bay 99.30 4 P **Pdif 00 30 54.4 +0.3**
comp=Z,1.1nm,1.0s,baz=216,slow=7.2,SNR=3.9
RES LR LR 01 12 18.1
comp=Z,414nm,21.6s,baz=192,slow=33
comp=Z,1.1nm,1.0s
C18K Utukok River 99.35 344 IAMs_20 IAMs_20 01 20 05.1
comp=Z,462nm,19.0s
SHEM Shemya Is, Ala 99.91 324 LR LR 01 06 27.3
comp=Z,263nm,20.7s,baz=120,slow=30
FAKI Fak Fak 112.22 256 IAMs_20 IAMs_20 01 19 44.2
comp=Z,339nm,20.0s
MA2 Magadan 114.30 326 *c i*PKIKP PKPdf 00 35 49.3 -2.6
MA2 pmax pmax
comp=Z,5.0nm,1.0s
MAJO Matsushiro 119.56 300 IAMs_20 IAMs_20 01 18 32.0
comp=Z,405nm,20.0s
YAK Yakutsk 124.44 330 IAMs_20 IAMs_20 01 37 09.9
comp=Z,258nm,19.0s
HEH HeiHe 127.81 316 PKP **PKiKP 00 36 21.2 +2.5**
HEH LR LR
comp=Z,260nm,19.8s
HEH LR LR
comp=Z,330nm,20.0s
HEH LR LR
comp=Z,450nm,19.2s
KEV Kevo 128.46 17 IAMs_20 IAMs_20 01 30 02.7
comp=Z,314nm,20.0s
FUORN Jienpass-Fuorn 129.05 49 IAMs_20 IAMs_20 01 33 44.9
comp=Z,339nm,20.0s
CLL Collm 130.17 42 *e*PKIKP **PKiKP 00 36 24.0 +0.6**
BRG Berggiesshubel 130.84 43 *e*PKP **PKiKP 00 36 29.6 +4.9**
BRG Amp 00 36 34.1
comp=Z,4.4nm,1.1s
BRG Berggiesshubel 130.84 43 *e*PKIKP **PKiKP 00 36 29.6 +4.9**
BRG pmax pmax
comp=Z,4.0nm,1.2s
KHC Kasperske Hory 130.93 45 *e*PKP **PKiKP 00 36 25.0 -0.1**
KHC Kasperske Hory 130.93 45 *e*PKIKP **PKiKP 00 36 25.0 -0.1**
WDD Wied Dalam 132.65 63 IAMs_20 IAMs_20 01 35 50.4
comp=Z,419nm,20.0s
CUC Castrocucco 133.60 57 IAMs_20 IAMs_20 01 39 44.0
comp=Z,364nm,20.0s
TIP Timpagrande 134.37 58 IAMs_20 IAMs_20 01 40 52.5
comp=Z,376nm,20.0s
KNMB Chin-men Tao 134.48 281 IAMs_20 IAMs_20 01 22 02.8
comp=Z,430nm,22.0s
NJ2 Nanjing 134.99 292 *e*PKP **PKPdf 00 36 32.6 +0.3**
BJT Baijiatuau 136.96 303 IAMs_20 IAMs_20 01 28 22.1
comp=Z,305nm,21.0s
MNK Minsk 137.54 34 *i* PKIKP **PKPdf 00 36 37.4 +1.1**
MNK *i* 00 39 23.4
MNK *i* 00 49 45.0
MNK *i* SSS SSS 01 02 39.0
MNK pmax pmax
comp=N,7.0nm,0.9s
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.9s
MNK MLR MLR
comp=E,105nm,19.0s
MNK MLR MLR
comp=Z,286nm,18.0s
MNK MLR MLR
comp=N,145nm,18.0s
DLV T Lat 139.93 260 IAMs_20 IAMs_20 01 28 08.2
comp=Z,312nm,22.0s
MLR Muntele Rosu 139.96 47 IAMs_20 IAMs_20 01 41 45.5
comp=Z,303nm,19.0s
AK11 Malin Array Si 140.02 39 PKP **PKPdf 00 36 41.0 0.0**
KIEV Kiev 140.04 39 IAMs_20 IAMs_20 01 37 09.7
comp=Z,340nm,21.0s
AKASG Malin Array Be 140.04 39 PKP **PKPdf 00 36 40.8 -0.2**
comp=Z,0.7nm,0.4s,baz=289,slow=2.8,SNR=2.2
AKASG Malin Array Be 140.04 39 *c i*PKIKP **PKiKP 00 36 46.7 +3.2**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 140.04 39 *c i*PKIKP **PKiKP 00 36 45.8 +2.3**
AKBB Malin Array Si 140.04 39 PKP **PKPdf 00 36 39.8 -1.2**
AK02 Malin Array Si 140.05 39 PKP **PKPdf 00 36 41.5 +0.5**
HHC Hu-ho-hao-te 140.30 305 *e*PKP **PKPdf 00 36 36.2 -5.8**
HHC LR LR
comp=Z,140nm,18.3s
HHC LR LR
comp=Z,390nm,19.1s
HHC LR LR
comp=Z,530nm,21.4s
QIZ Qiongzhong 141.04 271 PKP **PKPdf 00 36 43.5 -0.3**
QIZ PP **PP 00 39 44.1 -1.2**
QIZ SS SS 00 58 14.7 +0.5
QIZ LR LR
comp=Z,100nm,18.8s
QIZ LR LR
comp=Z,260nm,18.1s
QIZ LR LR
comp=Z,370nm,17.6s
QIZ Qiongzhong 141.04 271 IAMs_20 IAMs_20 01 33 02.6
comp=Z,383nm,20.0s
ULN Ulaanbaatar 141.31 317 *c i*PKIKP **PKPdf 00 36 43.7 +0.1**
ULN pmax pmax
comp=Z,2.0nm,1.0s
OBN Obninsk 141.34 29 *de*PKIKP **PKPdf 00 36 43.1 -0.1**
OBN *i* 00 36 46.0
OBN *e* 00 36 48.8
OBN 00 43 50.0
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN pmax pmax
comp=Z,17nm,1.5s
OBN MLR MLR
comp=E,251nm,17.0s
BTO Baotou 141.50 305 *e*PKP **PKPdf 00 36 40.3 -3.8**
BTO LR LR
comp=E,280nm,14.5s
BTO LR LR
comp=E,460nm,15.7s
BTO LR LR
comp=E,620nm,18.0s
SONM Songino Array 141.73 318 PKP **PKPdf 00 36 45.1 +0.7**
comp=E,1.8nm,0.8s,baz=117,slow=3.6,SNR=7.8
KARP Karpathos 142.93 63 IAMs_20 IAMs_20 01 47 31.6
comp=Z,322nm,19.0s
KIRV Kirov 143.19 16 *c i*PKIKP **PKPdf 00 36 47.7 +1.3**
LPSR Galich'ya Gora 144.03 31 *e*PKIKP **PKiKP 00 36 53.3 +1.7**
LPSR pmax pmax
comp=Z,20nm,1.0s
VORR Voronezh 144.77 32 *e*PKIKP **PKPdf 00 36 49.7 +0.3**
VORR pmax pmax
comp=Z,42nm,1.7s
VSR Storozhevoye 145.04 32 *e*PKIKP **PKPbc 00 36 48.6 -0.6**
VSR pmax pmax
comp=Z,40nm,1.1s
SIM Simferopol' 145.53 45 *e*PKIKP **PKiKP 00 36 58.0 +3.1**
SIM *e* 00 37 01.1
SIM pmax pmax
comp=Z,48nm,1.1s
SIM pmax pmax
comp=Z,39nm,1.3s
VRH Novokhopyorsk 146.26 30 *e*PKIKP **PKPdf 00 36 52.3 +0.4**
VRH pmax pmax
comp=Z,50nm,0.9s

SLVN	**Son La**	**147.00**	**272**		IAMs_20	IAMs_20	01 32 01.5		
	comp=Z,290nm,20.0s								
ARU	**Arti**	**147.09**	**10**		PKPdf	**PKPdf**	**00 36 53.9**	**+0.7**	
ARU	**Arti**	**147.09**	**10**	*i*	PKP2	**PKPbc**	**00 36 55.3**	**0.0**	
ARU							00 40 16.1		
ARU					SS	SS	00 59 23.0	+2.9	
ARU					MLR	MLR			
	comp=Z,276nm,18.0s								
ARU	**Arti**	**147.09**	**10**		PKP	**PKPdf**	**00 36 54.1**	**+0.9**	
BR105	**Keskin Array S**	**147.10**	**54**		PKP	**PKPbc**	**00 36 55.7**	**-0.4**	
BR131	**Keskin Array S**	**147.12**	**54**			**PKPbc**	**00 36 56.4**	**+0.2**	
BR131	**Keskin Array S**	**147.12**	**54**		PKP2	**PKPbc**	**00 36 56.4**	**+0.2**	
BRTR	**Keskin Array B**	**147.12**	**54**		PKPbc	**PKPdf**	**00 36 55.1**	**+1.1**	
BRTR	**Keskin Array B**	**147.12**	**54**		PKPbc	**PKPbc**	**00 36 56.0**	**-0.2**	
	comp=Z,3.0nm,0.9s,baz=271,slow=1.5,SNR=13								
BRTR	**Keskin Array B**	**147.12**	**54**	*e*	PKP2	**PKPbc**	**00 36 56.8**	**+0.6**	
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.9s								
BR104	**Keskin Array S**	**147.13**	**54**		PKP	**PKPdf**	**00 36 54.6**	**+0.6**	
LZH	**Lanzhou**	**147.17**	**299**	*e*	PKPbc	**PKPbc**	**00 36 56.7**	**+0.3**	
LZH					LR	LR			
	comp=Z,260nm,19.9s								
LZH					LR	LR			
	comp=Z,430nm,19.6s								
LZH					LR	LR			
	comp=Z,740nm,21.6s								
ANN	**Anapa**	**147.70**	**43**	*i*	PKP2	**PKPdf**	**00 36 56.1**	**+1.5**	
ANN					pmax	pmax			
	comp=Z,23nm,1.0s								
ZAA0	**Zalesovo Array**	**147.82**	**341**		PKPbc	**PKPdf**	**00 36 55.6**	**+1.1**	
ZALV	**Zalesovo Beam**	**147.82**	**341**		PKPbc	**PKPdf**	**00 36 55.3**	**+0.8**	
ZALV	**Zalesovo Beam**	**147.82**	**341**		PKPbc	**PKPdf**	**00 36 55.6**	**+1.1**	
	comp=Z,4.0nm,0.6s,baz=16,slow=3.0,SNR=26								
ZALV	**Zalesovo Beam**	**147.82**	**341**	*e*	PKIKP	**PKPbc**	**00 36 56.4**	**-1.0**	
ZALV					pmax	pmax			
	comp=Z,4.0nm,0.6s								
CD2	**Chengdu**	**147.88**	**290**		PKPbc	**PKPdf**	**00 36 54.7**	**-0.7**	
CD2					PP	**PP**	**00 40 25.8**	**-0.3**	
CD2					SKS	**SKSdf**	**00 44 03.3**	**-1.2**	
CD2					LR	LR			
	comp=Z,300nm,18.9s								
CD2					LR	LR			
	comp=Z,430nm,23.5s								
CD2					LR	LR			
	comp=Z,400nm,23.0s								
CSS	**Mathiatis**	**148.01**	**62**		PKPbc	**PKPbc**	**00 36 59.4**	**+0.8**	
CSS					IAMs_20	IAMs_20	01 54 35.1		
	comp=Z,190nm,19.0s								
KMI	**Kunming**	**148.64**	**279**	⇑	PKPbc	**PKPab**	**00 37 05.3**	**+0.9**	
KMI					LR	LR			
	comp=N,200nm,21.7s								
KMI					LR	LR			
	comp=E,250nm,19.4s								
KMI					LR	LR			
	comp=Z,250nm,19.2s								
ERBR	**Yeremizino-Bor**	**149.05**	**39**	*i*	PKP2	**PKiKP**	**00 37 02.0**	**-0.2**	
ERBR					pmax	pmax			
	comp=Z,37nm,1.1s								
GTA	**Gaotai**	**149.36**	**307**	*e*	PKPbc	**PKPbc**	**00 37 02.3**	**+0.3**	
GTA					PKPab	**sPKPab**	**00 37 12.2**	**+3.0**	
PZH	**PanZhiHua**	**149.65**	**281**		PKPbc	**PKPdf**	**00 36 58.2**	**-0.3**	
PZH					PP	**PP**	**00 40 39.1**	**+2.5**	
PZH					SS	SS	00 59 48.2	-4.5	
PZH					AMB	AMB			
	comp=Z,130nm,14.7s								
PZH					LR	LR			
	comp=Z,200nm,19.1s								
PZH					LR	LR			
	comp=Z,240nm,21.1s								
PZH					LR	LR			
	comp=Z,470nm,28.4s								
SOC	**Sochi**	**149.73**	**43**	*i*	PKP2	**PKPab**	**00 37 06.6**	**-1.3**	
SOC				*e*			00 40 42.0		
SOC				*e*	SS	SS	00 59 53.6	+2.2	
SOC				*e*	SSS	SSS	01 05 32.4		
SOC					MLR	MLR			
	comp=Z,290nm,20.0s								
LABN	**Labinsk**	**149.79**	**41**	*i*	PKP2	**PKPbc**	**00 37 02.8**	**+0.1**	
LABN					pmax	pmax			
	comp=Z,20nm,1.4s								
MMAI	**Mount Meron Ar**	**150.02**	**66**		PKPbc	**PKPbc**	**00 37 04.0**	**+0.2**	
	comp=Z,0.9nm,0.5s,baz=321,slow=3.7,SNR=2.4								
GAZ	**Gaziantep**	**150.56**	**57**		PKPbc	**PKPbc**	**00 37 04.3**	**-0.7**	
CMAR	**Chiang Mai Arr**	**150.82**	**265**		PKPbc	**PKPbc**	**00 37 06.2**	**+0.2**	
	comp=Z,5.9nm,0.8s,baz=99,slow=0.6,SNR=21								
CHTO	**Chiang Mai**	**150.92**	**265**		IAMs_20	IAMs_20	01 41 47.4		
	comp=Z,198nm,20.0s								
BRVK	**Borovoye**	**151.19**	**357**		PKPbc	**PKPbc**	**00 37 04.3**	**-1.5**	
BRVK	**Borovoye**	**151.19**	**357**		PKIKP	**PKPbc**	**00 37 04.3**	**-1.5**	
BVAR	**Borovoye Array**	**151.22**	**357**		PKPbc	**PKPbc**	**00 37 05.8**	**-0.1**	
	comp=Z,5.1nm,0.9s,baz=11,slow=1.5,SNR=17								
KIV	**Kislovodsk**	**151.34**	**40**	*e*	PKIKP	**PKPdf**	**00 36 59.8**	**-0.8**	
KIV					pmax	pmax			
	comp=Z,4.0nm,1.0s								
SHA1	**Shidzhatmaz**	**151.45**	**41**	*c i*	PKIKP	**PKiKP**	**00 37 10.6**	**+3.1**	
KBZ	**Khabaz**	**151.60**	**41**		PKPbc	**PKPbc**	**00 37 06.3**	**-0.7**	
	comp=Z,4.3nm,0.7s,baz=34,slow=1.4,SNR=9.7								
KBZ	**Khabaz**	**151.60**	**41**	*e*	PKIKP	**PKiKP**	**00 37 08.1**	**+0.7**	
KBZ					pmax	pmax			
	comp=Z,4.0nm,0.7s								
KURK	**Kurchatov**	**152.37**	**346**		PKPbc	**PKPbc**	**00 37 06.3**	**-2.2**	
KURK	**Kurchatov**	**152.37**	**346**	*c i*	PKIKP	**PKPbc**	**00 37 07.4**	**-1.1**	
KURK					pmax	pmax			
	comp=Z,13nm,1.3s								
KURBB	**Kurchatov Arra**	**152.48**	**346**		PKPbc	**PKPbc**	**00 37 07.9**	**-0.9**	
	comp=Z,3.3nm,0.7s,baz=11,slow=1.5,SNR=15								
ATD	**Arta Tunnel**	**152.83**	**113**		IAMs_20	IAMs_20	01 43 19.6		
	comp=Z,297nm,20.0s								
GURO	**Guroymak-BITLI**	**153.62**	**51**		PKPbc	**PKPdf**	**00 37 07.6**	**+3.4**	
GOMU	**GeErMu**	**154.18**	**304**		PKPbc	**PKPbc**	**00 37 13.2**	**-0.3**	
ABKAR	**Akbulak array**	**154.21**	**12**		PKPbc	**PKPdf**	**00 37 08.7**	**+4.3**	
WMQ	**Urumqi**	**154.77**	**325**	*e*	PKPbc	**PKPdf**	**00 37 05.6**	**+0.1**	
WMQ					LR	LR			
	comp=Z,470nm,24.2s								
MK31	**Makanchi Array**	**154.82**	**337**		PKPdf	**PKPdf**	**00 37 02.8**	**-2.6**	
MK31	**Makanchi Array**	**154.82**	**337**		PKIKP	**PKPdf**	**00 37 02.8**	**-2.6**	
MKAR	**Makanchi Array**	**154.82**	**337**		PKPdf	**PKPdf**	**00 37 04.6**	**-0.8**	
MKAR	**Makanchi Array**	**154.82**	**337**		PKPbc	**PKPbc**	**00 37 11.9**	**-2.2**	
	comp=Z,1.2nm,0.8s,baz=39,slow=5.0,SNR=6.5								
MKAR					PP	**PP**	**00 41 01.3**	**-3.0**	
	comp=Z,0.8nm,1.0s,baz=86,slow=1.7,SNR=3.8								
MKAR	**Makanchi Array**	**154.82**	**337**	*c i*	PKIKP	**PKPbc**	**00 37 11.3**	**-2.8**	
MKAR					pmax	pmax			
	comp=Z,1.0nm,0.8s								
MAKZ	**Makanchi**	**154.92**	**337**		PKPdf	**PKPdf**	**00 37 05.3**	**-0.3**	
MAKZ	**Makanchi**	**154.92**	**337**		PKIKP	**PKPdf**	**00 37 05.3**	**-0.3**	
LSA	**Lhasa**	**158.84**	**290**		IAMs_20	IAMs_20	01 40 51.1		
	comp=Z,241nm,21.0s								
HYB	**Hyderabad**	**168.17**	**237**	*e*	PKPdf	**PKPdf**	**00 37 18.6**	**-1.6**	

IDC 02 00:29:41.8±3.6, 4°30S×140°30E, h0km, mb3.6/3, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=139.7km s-min=30.7km az=90.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.60**	**200**	Pn	Pn	00 33 36.8	+0.7
	0.8nm,0.3s,baz=23,slow=12,SNR=32						
WRA				Sn	Sn	00 36 35.0	-6.2
	0.1nm,0.3s,baz=358,slow=24,SNR=2.9						
	3.6nm,0.6s						
ASAR	**Alice Springs**	**20.22**	**197**	P	P	00 34 18.3	-0.3
	1.8nm,0.7s,baz=22,slow=9.4,SNR=24						
	1.8nm,0.7s						
MKAR	**Makanchi Array**	**72.01**	**322**	P	P	00 41 07.6	0.0
	0.4nm,0.6s,baz=110,slow=4.7,SNR=3.1						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**81.52**	**325**	P	P	00 42 01.3	+0.1
	0.5nm,0.6s,baz=101,slow=7.5,SNR=2.9						
	0.5nm,0.6s						

IDC 02 00:30:44.9±1.6, 22°.99S×112°.43W, h0km, mb3.7/3, mbtmp3.7/3, MS4.1/3, Error ellipse: s-maj=101.6km s-min=51.5km az=103.0

ISC 02 00:30:45.4±1.8, 23°.2S±0°.4×111°.9W±0°.7, h10km, n21, σ1s05/9, mb3.8/3, MS4.0/3, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**30.64**	**117**	T	T	01 08 38.6	
	baz=283,slow=75,SNR=6.8						
H03N3	**Juan Fernandez**	**30.65**	**117**	T	T	01 08 55.0	
	baz=283,slow=75,SNR=7.6						
H03N1	**Juan Fernandez**	**30.66**	**117**	T	T	01 08 47.6	
	baz=283,slow=75,SNR=7.0						
PLCA	**Paso Flores**	**38.77**	**127**	LR	LR	00 49 09.4	
	comp=Z,219nm,19.4s,baz=343,slow=28						
RAR	**Rarotonga**	**44.21**	**263**	LR	LR	00 52 39.1	
	comp=Z,262nm,19.1s,baz=280,slow=30						
LPIG	**La Paz**	**47.06**	**2**	LR	LR	00 54 23.3	
	comp=Z,188nm,21.7s,baz=170,slow=30						
NVAR	**Mina Array Bea**	**61.61**	**354**	P	**P**	**00 41 03.6**	**+0.2**
	0.8nm,0.6s,baz=170,slow=9.0,SNR=3.4						
	0.8nm,0.6s						
PDAR	**Pinedale Array**	**65.69**	**2**	P	**P**	**00 41 28.3**	**-1.9**
	0.4nm,0.6s,baz=150,slow=6.2,SNR=4.9						
	0.4nm,0.6s						
YKA	**Yellowknife Ar**	**85.44**	**359**	P	**P**	**00 43 24.2**	**+1.5**
	0.7nm,1.0s,baz=174,slow=3.5,SNR=3.5						
	0.7nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**89.60**	**290**	T	T	02 23 08.7	
	baz=116,slow=75,SNR=14						
H11S1	**WAKE ISLAND Hy**	**89.61**	**290**	T	T	02 23 09.7	
	baz=116,slow=75,SNR=8.0						
H11S3	**WAKE ISLAND Hy**	**89.62**	**290**	T	T	02 23 10.2	
	baz=116,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**89.93**	**291**	T	T	02 23 43.7	
	baz=117,slow=74,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**89.94**	**291**	T	T	02 24 03.9	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**89.95**	**291**	T	T	02 23 40.7	
	baz=117,slow=74,SNR=7.7						
BRTR	**Keskin Array B**	**146.56**	**52**	PKPbc	**PKPab**	**00 50 28.8**	**+0.3**
	0.8nm,0.9s,baz=215,slow=1.5,SNR=6.6						
ZALV	**Zalesovo Beam**	**146.82**	**342**	PKPbc	**PKPbc**	**00 50 27.1**	**-0.5**
	1.5nm,0.8s,baz=42,slow=2.5,SNR=8.1						
BVAR	**Borovoye Array**	**150.19**	**357**	PKPbc	**PKPbc**	**00 50 36.3**	**-0.1**
	1.2nm,0.6s,baz=180,slow=0.3,SNR=6.2						
CMAR	**Chiang Mai Arr**	**150.82**	**266**	PKPbc	**PKPbc**	**00 50 38.5**	**-0.5**
	1.4nm,0.6s,baz=148,slow=0.7,SNR=8.8						
KURBB	**Kurchatov Arra**	**151.46**	**346**	PKPbc	**PKPbc**	**00 50 39.2**	**-0.2**
	1.1nm,0.8s,baz=21,slow=1.8,SNR=7.0						
MKAR	**Makanchi Array**	**153.85**	**338**	PKPbc	**PKiKP**	**00 50 45.1**	**+0.1**
	0.1nm,0.4s,baz=83,slow=4.5,SNR=2.0						

IDC 02 00:36:33.2±1.5, 20°.70S×175°.96W, h0km, mb4.2/4, mbtmp4.2/4, MS4.7/5, Error ellipse: s-maj=43.4km s-min=37.2km az=15.0

ISC 02 00:36:58.5±1.4, 21°.0S±0°.3×176°.4W±0°.3, h200km, n14, σ0s87/8, mb3.8/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.95**	**245**	P	**P**	**00 44 06.3**	**+1.0**
	0.9nm,0.4s,baz=106,slow=7.4,SNR=4.2						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**45.89**	**257**	P	**P**	**00 45 01.1**	**-0.2**
	3.1nm,0.5s,baz=94,slow=7.9,SNR=34						
	3.1nm,0.5s						
WRA	**Warramunga Arr**	**46.04**	**262**	P	**P**	**00 45 01.3**	**-1.2**
	1.1nm,0.3s,baz=97,slow=7.4,SNR=103						
	1.1nm,0.3s						
NWAO	**Narrogin (SRO)**	**59.51**	**243**	LR	LR	01 10 39.3	
	comp=Z,535nm,19.6s,baz=72,slow=34						
QSPA	**South Pole Qui**	**69.09**	**180**	P	**P**	**00 47 42.3**	**-0.4**
	1.3nm,0.7s,baz=338,slow=0.8,SNR=12						
	1.3nm,0.7s						
ASAJ	**Asahikawa**	**74.88**	**331**	LR	LR	01 15 56.1	
	comp=Z,540nm,21.2s,baz=156,slow=32						
USRK	**Ussuriysk Ar.**	**80.22**	**325**	LR	LR	01 20 52.7	
	comp=Z,272nm,20.1s,baz=102,slow=33						
KLR	**Kul'dur**	**83.72**	**329**	LR	LR	01 22 27.3	
	comp=Z,373nm,20.4s,baz=92,slow=33						
SONM	**Songino Array**	**97.11**	**310**	LR	LR	01 30 49.6	
	comp=Z,576nm,21.9s,baz=82,slow=34						
BVAR	**Borovoye Array**	**120.42**	**320**	PKP	**PKiKP**	**00 55 26.9**	**+1.0**
	0.4nm,0.3s,baz=168,slow=1.3,SNR=2.8						
HFS	**Hagfors**	**140.24**	**352**	PKhKP	PKPpre	00 56 00.2	
	1.8nm,0.9s,baz=111,slow=2.1,SNR=4.3						
AKASG	**Malin Array Be**	**144.16**	**332**	PKP	**PKPdf**	**00 56 10.2**	**0.0**
	0.9nm,0.3s,baz=45,slow=3.7,SNR=3.1						
BRTR	**Keskin Array B**	**148.28**	**313**	PKPbc	**PKPbc**	**00 56 21.1**	**-0.3**
	0.5nm,0.7s,baz=152,slow=5.6,SNR=4.1						
MMAI	**Mount Meron Ar**	**149.37**	**300**	PKPbc	**PKiKP**	**00 56 25.1**	**-0.2**
	0.6nm,0.4s,baz=54,slow=7.3,SNR=2.3						

TAP 02 00:46:17.8, 24°.04N×122°.31E, h23km, ML2.7, C
JMA 02 00:46:17.4±0.1, 23°.97N±0°.02×122°.31E±0°.02, h26km±2km, MV2.7/12, TAIWAN REGION

ISC 02 00:46:17.3±1.0, 23°.97N±0°.02×122°.31E±0°.02, h23km±7km, n63, σ0s73/108, 1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.15**	**3**	*i* P	**Pb**	**00 46 21.7**	**-0.2**
	baz=5.0						
EOS4				S	**Sb**	**00 46 24.9**	**0.0**
	baz=5.0						
EOS3	**EOS3**	**0.31**	**1**	*i* P	**Pb**	**00 46 24.2**	**-0.1**
	baz=343						
EOS3				S	**Sb**	**00 46 29.3**	**+0.3**
	baz=343						
EOS2	**EOS2**	**0.45**	**351**	⇓ *i* P	**Pb**	**00 46 26.8**	**+0.2**
	baz=336						
EOS2				S	**Sb**	**00 46 33.5**	**+0.7**
	baz=336						
TWD	**Chiawan**	**0.66**	**279**	*e* S	**Sb**	**00 46 39.9**	**+0.9**
	baz=273						
EWUT	**Wuta**	**0.68**	**314**	P	**Pb**	**00 46 30.0**	**-0.5**
	baz=318						
EWUT				S	**Sb**	**00 46 39.3**	**-0.2**
	baz=318						
NACB	**Ninganchiao**	**0.68**	**287**	P	**Pb**	**00 46 30.6**	**-0.1**
	baz=266						
ENA	**Nanau**	**0.69**	**311**	P	**Pb**	**00 46 30.2**	**-0.5**
	baz=316						
ENA				*e* S	**Sb**	**00 46 38.5**	**-1.3**
	baz=316						
ETM	**Tongmen**	**0.75**	**270**	P	**Pb**	**00 46 31.5**	**-0.2**
	baz=253						
ETM				*e* S	**Sn**	**00 46 43.1**	**0.0**
	baz=253						
JYNG	**Yonagunijimaku**	**0.75**	**51**	P	**Pb**	**00 46 31.9**	**+0.1**
JYNG				*e* S	**Sn**	**00 46 42.4**	**-0.7**
TWC	**Suao**	**0.76**	**326**	P	**Pb**	**00 46 31.0**	**-0.9**
	baz=323						
TWC				*e* S	**Sb**	**00 46 40.3**	**-1.6**
	baz=323						
ETLH	**Xiulin Townshi**	**0.79**	**287**	P	**Pb**	**00 46 32.4**	**-0.2**
	baz=268						
ETLH				*e* S	**Sn**	**00 46 43.8**	**-0.6**
	baz=268						
YOJ	**Yonaguni jima**	**0.80**	**53**	P	**Pb**	**00 46 32.7**	**+0.1**
YOJ				S	**Sb**	**00 46 43.4**	**+0.3**
YOJ	**Yonaguni jima**	**0.80**	**53**	*e* P	**Pb**	**00 46 31.9**	**-0.7**
	baz=67						
ESL	**Shilin**	**0.82**	**259**	*e* P	**Pb**	**00 46 32.6**	**-0.3**
	baz=244						
ESL				*e* S	**Sb**	**00 46 44.0**	**+0.4**
	baz=244						
LXIB	**Xiulin Townshi**	**0.82**	**273**	P	**Pb**	**00 46 32.9**	**-0.1**
	baz=258						
LXIB				*e* S	**Sb**	**00 46 44.3**	**+0.5**
	baz=258						
NDS	**Dongshan**	**0.85**	**321**	P	**Pb**	**00 46 33.2**	**-0.3**
	baz=323						
NDS				*e* S	**Sb**	**00 46 43.0**	**-1.5**
	baz=323						
WARBT	**Fenglin Townsh**	**0.88**	**253**	*e* P	**Pb**	**00 46 33.2**	**-0.8**
	baz=240						
WARBT				*e* S	**Sb**	**00 46 45.7**	**+0.3**
	baz=240						
LATG	**Datong**	**0.91**	**308**	*i* P	**Pb**	**00 46 34.5**	**0.0**
	baz=304						
EGS		**0.93**	**338**	*e* P	**Pb**	**00 46 34.7**	**-0.2**
	baz=326						
EGS				*e* S	**Sb**	**00 46 45.4**	**-1.4**
	baz=326						
HGSD	**Ruisui**	**0.94**	**240**	*e* P	**Pn**	**00 46 34.2**	**-1.0**
	baz=236						
HGSD				*e* S	**Sb**	**00 46 47.4**	**+0.2**
	baz=236						
TWE	**Neicheng**	**0.95**	**322**	P	**Pb**	**00 46 34.8**	**-0.3**
	baz=327						
TWE				*e* S	**Sb**	**00 46 46.1**	**-1.1**
	baz=327						
ENTT	**Nioudou**	**0.95**	**314**	*i* P	**Pb**	**00 46 35.2**	**0.0**
	baz=317						
ENTT				S	**Sb**	**00 46 47.4**	**0.0**
	baz=317						
NDT	**Datong Townshi**	**0.96**	**311**	P	**Pn**	**00 46 35.8**	**+0.4**
	baz=313						
NDT				*e* S	**Sb**	**00 46 47.4**	**-0.2**
	baz=313						
NNSB	**Datong**	**0.96**	**298**	P	**Pb**	**00 46 35.2**	**-0.2**
	baz=294						
NNSB				*e* S	**Sn**	**00 46 48.5**	**0.0**
	baz=294						
WHF	**Hehuan Shan**	**0.97**	**280**	*e* P	**Pb**	**00 46 35.5**	**-0.3**
	baz=263						
WHF				*e* S	**Sb**	**00 46 48.6**	**+0.2**
	baz=263						
NNS	**Nan Shan**	**0.97**	**299**	P	**Pn**	**00 46 35.4**	**-0.3**
	baz=294						
NNS				*e* S	**Sn**	**00 46 48.6**	**-0.2**
	baz=294						
FUSS	**Fushou**	**1.01**	**286**	*e* P	**Pn**	**00 46 36.0**	**-0.4**
	baz=282						
FUSS				*e* S	**Sn**	**00 46 50.1**	**+0.1**
	baz=282						
EHY	**Hungye**	**1.02**	**243**	*e* P	**Pn**	**00 46 35.7**	**-0.5**
	baz=240						
EHY				*e* S	**Sb**	**00 46 49.1**	**-0.1**
	baz=240						
FUSB	**Fushanzhiwuyua**	**1.02**	**320**	P	**Pn**	**00 46 36.3**	**0.0**
	baz=316						
FUSB				*e* S	**Sb**	**00 46 49.1**	**-0.4**
	baz=316						
CHGB	**Renai**	**1.04**	**275**	P	**Pn**	**00 46 36.5**	**-0.2**
	baz=259						
CHGB				*e* S	**Sn**	**00 46 50.8**	**+0.1**
	baz=259						
TWB1	**Santiao Chiao**	**1.07**	**344**	P	**Pb**	**00 46 37.4**	**+0.1**
	baz=329						
TWB1				*e* S	**Sb**	**00 46 50.0**	**-0.8**
	baz=329						
NWLT	**Wulai**	**1.09**	**318**	P	**Pb**	**00 46 37.6**	**+0.1**
	baz=323						
NWLT				*e* S	**Sn**	**00 46 51.8**	**+0.2**
	baz=323						
WUSB	**Renai**	**1.09**	**271**	*e* P	**Pn**	**00 46 37.4**	**+0.1**
	baz=267						
VWDT	**VWDT**	**1.09**	**259**	*e* P	**Pn**	**00 46 37.4**	**+0.2**
	baz=255						
VWDT				*e* S	**Sn**	**00 46 52.4**	**+0.8**
	baz=255						
YULB	**Yu-li**	**1.09**	**238**	*e* P	**Pn**	**00 46 36.8**	**-0.5**
	baz=225						
YULB				*e* S	**Sb**	**00 46 51.2**	**-0.3**
	baz=225						
YHNB	**Yeheng**	**1.10**	**309**	*e* P	**Pn**	**00 46 37.5**	**+0.1**
	baz=305						
YHNB				*e* S	**Sb**	**00 46 51.2**	**-0.5**
	baz=305						
EYUL	**Yuli**	**1.10**	**236**	*e* P	**Pn**	**00 46 36.6**	**-0.8**
	baz=234						
EYUL				*e* S	**Sn**	**00 46 52.0**	**+0.1**
	baz=234						
NSK	**Sanguang**	**1.11**	**309**	P	**Pb**	**00 46 38.3**	**+0.3**
	baz=305						
NSK				*e* S	**Sb**	**00 46 51.5**	**-0.7**
	baz=305						
TWF1	**Yuli**	**1.12**	**237**	*e* P	**Pn**	**00 46 37.4**	**-0.1**
	baz=222						
TWF1				*e* S	**Sn**	**00 46 52.3**	**+0.1**
	baz=222						
CHKH	**Chenggong**	**1.15**	**227**	*e* P	**Pn**	**00 46 37.8**	**-0.1**
	baz=213						
SXI1	**Grass Mountain**	**1.18**	**341**	P	**Pn**	**00 46 38.2**	**-0.4**
	baz=337						
SXI1				*e* S	**Sb**	**00 46 54.5**	**+0.3**
	baz=337						
NWF	**Wu-fen Shan**	**1.19**	**336**	*e* P	**Pb**	**00 46 39.6**	**+0.3**
	baz=333						
NWF				*e* S	**Sn**	**00 46 53.6**	**-0.7**
	baz=333						
WFSB	**Wu-fen Shan**	**1.19**	**336**	*e* P	**Pb**	**00 46 39.6**	**+0.3**
	baz=333						
WFSB				*e* S	**Sn**	**00 46 53.9**	**-0.2**
	baz=333						
NFF	**Wufeng Townshi**	**1.27**	**301**	*e* P	**Pn**	**00 46 40.2**	**+0.5**
	baz=297						
NFF				*e* S	**Sb**	**00 46 58.3**	**+1.7**
	baz=297						
WHP	**Taichung City**	**1.28**	**284**	*e* P	**Pb**	**00 46 42.8**	**+1.9**
	baz=269						
EHD	**Haiduan**	**1.30**	**231**	*e* P	**Pn**	**00 46 39.2**	**-0.9**
	baz=218						
EHD				*e* S	**Sn**	**00 46 56.0**	**-0.8**
	baz=218						
TYC	**Yuchr**	**1.33**	**267**	*e* P	**Pn**	**00 46 40.5**	**0.0**
	baz=264						
IRIF	**Iriomote-Funau**	**1.34**	**74**	P	**Pn**	**00 46 41.3**	**+0.7**
IRIF				S	**Sb**	**00 46 58.9**	**+0.2**
LIOB	**Emei**	**1.36**	**300**	*e* P	**Pn**	**00 46 41.4**	**+0.5**
	baz=296						
EDH	**Donghe**	**1.36**	**223**	P	**Pn**	**00 46 39.2**	**-1.6**
	baz=212						
EDH				*e* S	**Sn**	**00 46 55.1**	**-3.1**
	baz=212						
NSTT	**Nanjuang**	**1.36**	**299**	*e* S	**Sb**	**00 46 59.7**	**+0.5**
	baz=295						
ELDTW	**Lidau**	**1.42**	**237**	*e* P	**Pn**	**00 46 41.3**	**-0.5**
	baz=235						
TWY	**Chenhua**	**1.45**	**334**	*e* P	**Pb**	**00 46 44.5**	**+0.8**
	baz=346						
ALS	**Alishan**	**1.46**	**252**	*e* P	**Pb**	**00 46 43.5**	**-0.4**
	baz=249						
ALS				*e* S	**Sn**	**00 47 01.7**	**+0.7**
	baz=249						
CHN5	**Tsauling**	**1.54**	**256**	P	**Pb**	**00 46 45.1**	**-0.2**
	baz=243						
CHN5				*e* S	**S

HMMJ S S 00 56 42.9 -0.2
JIE Ise 1.64 312 P Pn 00 56 06.5 +0.1
JIE S S 00 56 42.9 -0.5
JOD2 Odawara 2 2.11 21 P Pn 00 56 10.1 +0.3
JOD2 S S 00 56 50.1 +0.5
JTNC Tanabenakahech 2.20 285 P Pn 00 56 10.1 -0.3
JTNC S S 00 56 49.9 -0.9
JWY Kouya 2.33 294 *i* P Pn 00 56 11.9 +0.3
JGF Kuroka 2.40 344 Pn Pn 00 56 11.9 -0.1
JYTA Yamagatataniai 2.58 333 P Pn 00 56 13.9 +0.3
BSO1 Boso 1 2.70 59 P Pn 00 56 12.3 -1.7
BSO1 S S 00 56 55.6 -1.9
JRY Ryogami san 2.78 12 P Pn 00 56 16.0 +0.6
JRY S S 00 57 00.0 +0.1
JWT Wachi 3.03 312 *i* P Pn 00 56 17.8 +0.1
JWT S S 00 57 03.5 -0.4
JAI Aioi 3.14 280 P Pn 00 56 18.6 -0.2
JAI *eS* S 00 57 04.4 -1.5
MAJO Matsushiro 3.24 1 Pn Pn 00 56 19.2 -0.5
MAT Matsushiro 3.24 1 P Pn 00 56 19.5 -0.2
MAT S S 00 57 07.2 -0.5
MJAR Matsushiro Arr 3.24 1 P Pn 00 56 19.8 +0.1
4.7nm,0.3s,baz=183,slow=10.0,SNR=18
MJAR S S 00 57 07.7 0.0
4.7nm,0.7s,baz=212,slow=15,SNR=5.2
MJB9 Matsu-Tunnel 3.25 1 Pn Pn 00 56 20.3 +0.5
JAG Ashikaga 3.30 18 P Pn 00 56 19.4 -0.8
JAG S S 00 57 05.0 -3.7
JMN Monobe 3.61 278 Pn Pn 00 56 23.2 -0.2
JMN Monobe 3.61 278 *i* P Pn 00 56 23.4 0.0
JMN S S 00 57 12.9 -1.5
JHS Saijyo 4.52 294 P Pn 00 56 33.3 +0.2
JHS S S 00 57 32.1 +0.1
JTO Tosashimizu 4.52 266 P Pn 00 56 32.7 -0.4
JMM Marumori 5.04 24 Pn Pn 00 56 38.2 -0.5
JNU Nakatsue 6.11 270 Pn Pn 00 56 50.5 -0.8
JNU Nakatsue 6.11 270 P Pn 00 56 51.1 -0.1
26nm,0.8s,baz=85,slow=3.5,SNR=14
JCJ Chichijima 7.09 150 Pn Pn 00 56 56.1 -6.7
JCJ Chichijima 7.09 150 P Pn 00 56 52.6 -10
91nm,0.4s,baz=9.6,slow=19,SNR=39
JCJ S S 00 58 10.7 -16
100nm,0.3s,baz=287,slow=23,SNR=14
KSRS Korea Array 9.34 299 P Pn 00 57 30.7 +0.9
19nm,0.8s,baz=113,slow=12,SNR=59
KSAR Wonju Array Be 9.36 299 Pn Pn 00 57 29.6 -0.5
KS19 Wonju Array Si 9.40 299 Pn Pn 00 57 30.1 -0.4
INCN Inchon 10.30 297 Pn Pn 00 57 41.4 -0.1
ASAJ Asahikawa 11.35 16 P P 00 57 54.9 -0.3
6.7nm,0.4s,baz=237,slow=14,SNR=3.0
ASAJ S S 00 59 58.9 -1.9
7.7nm,0.8s,baz=233,slow=20,SNR=1.8
JKA Kamikawa-asahi 11.35 16 Pn Pn 00 57 52.4 -1.6
USA0B Ussuriysk Arra 11.90 338 Pn Pn 00 57 60.0 -0.8
USRK Ussuriysk Ar. 11.90 338 P Pn 00 58 00.6 -0.1
7.8nm,0.4s,baz=152,slow=8.9,SNR=27
MDJ Mudanjiang 13.12 332 P P 00 58 14.6 -0.2
MDJ pmax pmax
comp=Z,46nm,0.8s
MDJ pmax pmax
comp=Z,97nm,5.0s
MDJ Mudanjiang 13.12 332 P P 00 58 14.7 -0.1
YSS Yuzh-Sakhalins 14.09 13 P P 00 58 25.9 +0.5
BNX BinXian 14.93 329 ⇓P P 00 58 34.5 -0.2
BNX pmax pmax
comp=Z,44nm,0.8s
BNX pmax pmax
comp=Z,74nm,4.2s
KLR Kul'dur 16.63 345 P P 00 58 53.1 -0.1
comp=Z,8.4nm,0.4s,baz=168,slow=9.3,SNR=33
TIA Tai'an 17.53 285 P P 00 59 02.5 -0.6
TIA pmax pmax
comp=Z,8.0nm,0.6s
HEH HeiHe 18.71 338 *eP* P 00 59 14.7 -0.8
HEH pmax pmax
comp=Z,11nm,0.7s
BJT Baijiatuau 18.86 297 P P 00 59 14.9 -2.3
BJT lAmb lAmb 00 59 17.8
comp=Z,11nm,0.5s
XLT XiLinHaoTe 20.19 308 *eP* P 00 59 28.3 -2.9
XLT pmax pmax
comp=Z,9.0nm,0.6s
XLT pmax pmax
comp=Z,59nm,4.4s
XLT LR LR
comp=N,10.0nm,14.1s
XLT LR LR
comp=E,240nm,21.0s
XLT LR LR
comp=Z,320nm,26.4s
HIA Hailar 21.04 325 P P 00 59 37.9 -1.1
HIA lAmb lAmb 00 59 40.2
comp=Z,30nm,1.3s
LYN LuoYang 21.35 281 *eP* P 00 59 46.2 +4.2
LYN pmax pmax
comp=Z,23nm,0.5s
HHC Hu-ho-hao-te 22.47 297 *eP* P 00 59 52.0 -0.3
HHC pmax pmax
comp=Z,13nm,0.9s
HHC pmax pmax
comp=Z,96nm,5.0s
ENH Enshi 24.53 271 P P 01 00 08.9 -2.0
ULN Ulaanbaatar 27.53 311 P P 01 00 37.7 +0.1
ULN lAmb lAmb 01 00 41.3
comp=Z,6.3nm,0.8s
SONM Songino Array 27.94 311 P P 01 00 42.0 +0.8
comp=Z,7.8nm,0.8s,baz=123,slow=9.4,SNR=26
comp=Z,7.8nm,0.8s
PZH PanZhiHua 32.18 268 P P 01 01 18.4 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.9s
GOMU GeErMu 35.52 287 P P 01 01 47.3 0.0
GOMU pmax pmax
comp=Z,17nm,0.8s
TIXI Tiksi 38.74 355 P P 01 02 13.0 -0.2
TIXI lAmb lAmb 01 02 14.0
comp=Z,5.9nm,0.4s
WMQ Urumqi 40.29 300 *eP* P 01 02 27.2 +0.9
WMQ pmax pmax
comp=Z,15nm,0.7s
ZAA0 Zalesovo Array 42.59 316 P P 01 02 43.6 -1.0
ZALV Zalesovo Beam 42.59 316 P P 01 02 43.5 -1.2
ZALV Zalesovo Beam 42.59 316 P P 01 02 44.2 -0.4
comp=Z,2.9nm,0.4s,baz=96,slow=8.4,SNR=24
ZALV PcP PcP 01 04 29.8 -0.3
comp=Z,2.6nm,0.5s,baz=96,slow=2.3,SNR=10
comp=Z,2.9nm,0.4s
MK31 Makanchi Array 43.96 305 P P 01 02 55.1 -0.6
MKAR Makanchi Array 43.96 305 P P 01 02 55.2 -0.5
MKAR Makanchi Array 43.96 305 P P 01 02 55.6 -0.1
comp=Z,3.3nm,0.4s,baz=86,slow=9.8,SNR=50
comp=Z,3.3nm,0.4s
MAKZ Makanchi 44.18 305 P P 01 02 56.5 -0.9
MAKZ lAmb lAmb 01 02 57.7
comp=Z,6.3nm,0.5s
KURK Kurchatov 46.24 311 P P 01 03 12.4 -0.9
KURK lAmb lAmb 01 03 13.8
comp=Z,9.6nm,0.8s
KURBB Kurchatov Arra 46.30 311 P P 01 03 13.4 -0.4
comp=Z,4.6nm,0.5s,baz=91,slow=8.1,SNR=77
comp=Z,4.6nm,0.5s
N15K Kwethluk River 47.82 36 P P 01 03 26.8 +1.5
N15K lAmb lAmb 01 03 37.7
comp=Z,23nm,1.5s
CNBA Chernabura Isl 47.83 44 P P 01 03 26.2 +0.8
F17K Baldwin Pennin 48.27 28 P P 01 03 30.1 +1.6
F17K lAmb lAmb 01 04 04.6
comp=Z,11nm,1.2s
M16K Timber Creek 48.46 35 P P 01 03 31.8 +1.7
M16K lAmb lAmb 01 03 41.7
comp=Z,17nm,1.5s
C18K Utukok River 48.79 25 P P 01 03 34.4 +1.8
C18K lAmb lAmb 01 03 57.2
comp=Z,9.7nm,1.4s
KSH Kashi 49.57 296 P P 01 03 42.4 +3.4
KSH pmax pmax
comp=Z,7.0nm,0.7s
D19K Kuna River 49.87 26 P P 01 03 42.4 +1.8
B20K Meade River 50.49 24 P P 01 03 46.8 +1.7
B20K lAmb lAmb 01 03 50.4
comp=Z,17nm,1.5s
F20K Avaraart Lake 50.53 28 P P 01 03 43.1 -2.4
BVAR Borovoye Array 51.19 314 P P 01 03 50.6 0.0
comp=Z,3.1nm,0.4s,baz=98,slow=6.8,SNR=29
BVAR PcP PcP 01 05 00.4 -0.5
comp=Z,1.4nm,0.4s,baz=86,slow=3.3,SNR=5.9
comp=Z,3.1nm,0.4s
BRVK Borovoye 51.25 314 P P 01 03 50.7 -0.4
B21K Ikpikpuk River 51.29 24 P P 01 03 53.2 +2.1
B21K lAmb lAmb 01 03 58.5
comp=Z,5.9nm,1.1s
KDAK Kodiak Island 51.66 40 P P 01 03 54.9 +0.9
WB0 Warramunga Arr 52.88 184 P P 01 04 02.3 -1.1
WB0 lAmb lAmb 01 04 21.6
comp=Z,7.9nm,1.3s
WB2 Warramunga Arr 53.06 184 P P 01 04 03.4 -1.2
WB2 lAmb lAmb 01 04 46.1
comp=Z,8.9nm,1.3s
WRA Warramunga Arr 53.06 185 P P 01 04 02.6 -2.0
WRA Warramunga Arr 53.06 185 P P 01 04 03.5 -1.2
comp=Z,1.5nm,0.6s,baz=360,slow=7.5,SNR=31
comp=Z,1.5nm,0.6s
WR0 Warramunga Arr 53.07 184 P P 01 04 03.1 -1.6
WR0 lAmb lAmb 01 04 13.2
comp=Z,10nm,1.4s
GHO Glory Hole Cre 53.30 35 P P 01 04 06.4 +0.4
GHO lAmb lAmb 01 04 07.2
comp=Z,14nm,1.2s
MDM Murphy Dome 53.49 31 P P 01 04 09.0 +1.7
SCM Sheep Creek Mo 54.05 34 P P 01 04 12.8 +1.4
SCM lAmb lAmb 01 04 42.1
comp=Z,23nm,1.4s
ILAR Eielson Array 54.07 31 P P 01 04 11.2 -0.1
ILAR Eielson Array 54.07 31 P P 01 04 11.5 +0.2
comp=Z,0.2nm,0.3s,baz=280,slow=6.2,SNR=3.5
comp=Z,0.2nm,0.3s
D25K Kavik River 54.17 25 P P 01 04 13.6 +1.5
BMAR Burnt Mountain 54.88 27 P P 01 04 20.2 +3.1
J26L Joseph Creek 55.51 31 P P 01 04 22.6 +0.8
K27K Chicken 56.21 31 P P 01 04 26.4 -0.2
ISLE Juniper Island 56.59 36 P P 01 04 29.3 -0.1
ISLE lAmb lAmb 01 05 06.3
comp=Z,24nm,1.3s
E28M Babbage River 56.67 26 P P 01 04 31.5 +1.8
ASAR Alice Srings 56.79 185 P P 01 04 30.8 -0.3
comp=Z,0.4nm,0.5s,baz=17,slow=10,SNR=4.6
comp=Z,0.4nm,0.5s
ARU Arti 57.44 320 P P 01 04 34.8 -0.4
ARU lAmb lAmb 01 04 35.6
comp=Z,9.7nm,1.0s
ABKAR Akbulak array 58.35 311 P P 01 04 40.4 -1.3
INK Inuvik 58.91 26 P P 01 04 46.4 +1.3
G31M Satah River 58.93 27 P P 01 04 46.3 +1.1
H31M Peel River 59.14 29 P P 01 04 48.8 +2.0
C36M Paulatuk 61.92 23 P P 01 05 06.4 +1.2
SPB2 Spitsbergen Ar 63.67 349 P P 01 05 17.3 +0.6
SPITS Spitsbergen Ar 63.67 349 P P 01 05 17.7 +1.1
comp=Z,2.1nm,0.7s,baz=91,slow=7.5,SNR=16
comp=Z,2.1nm,0.7s
EUNU Eureka 64.26 8 P P 01 05 21.2 +0.7
LVZ Lovozero 64.43 336 P P 01 05 21.6 -0.1
KEV Kevo 65.99 339 P P 01 05 31.0 -0.6
KEV lAmb lAmb 01 05 32.9
comp=Z,7.7nm,0.8s
ARCES ARCESS Array B 66.55 339 P P 01 05 34.7 -0.5
ARCES lAmb lAmb 01 05 36.2
comp=Z,4.3nm,0.8s
ARCES ARCESS Array B 66.55 339 P P 01 05 35.6 +0.5
comp=Z,2.8nm,0.5s,baz=67,slow=8.6,SNR=42
comp=Z,2.8nm,0.5s
RES Resolute Bay 66.86 13 P P 01 05 37.8 +0.8
RES lAmb lAmb 01 05 38.7
comp=Z,2.6nm,0.5s
JOF Joensuu 68.00 332 *eP* P 01 05 44.5 +0.2
YKA Yellowknife Ar 68.36 28 P P 01 05 47.8 +1.3
comp=Z,0.1nm,0.4s,baz=290,slow=5.6,SNR=2.1
DAG Danmarks Havn 69.25 354 *i* P P 01 05 50.8 -0.9
DAG lAmb lAmb 01 05 53.1
comp=Z,4.1nm,0.9s
NEEM North Greenlan 69.38 2 *i* P P 01 05 53.0 +0.1
NEEM lAmb lAmb 01 05 54.9
comp=Z,2.9nm,0.6s
FIA1 FINESS Array S 70.86 332 P P 01 06 01.5 -0.1
FINES FINESS Array B 70.86 332 P P 01 06 01.3 -0.4
FINES FINESS Array B 70.86 332 P P 01 06 01.7 0.0
comp=Z,8.9nm,0.7s,baz=58,slow=6.2,SNR=89
comp=Z,8.9nm,0.7s
KEF Keuruu 70.92 333 *eP* P 01 06 01.7 -0.3
VAF Ylistaro 71.22 334 *eP* P 01 06 04.1 +0.4
KBZ Khabaz 71.30 310 P P 01 06 05.1 +0.5
comp=Z,3.4nm,0.8s,baz=79,slow=4.8,SNR=8.8
comp=Z,3.4nm,0.8s
KIV Kislovodsk 71.33 311 P P 01 06 04.6 -0.3
KIV lAmb lAmb 01 06 07.0
comp=Z,5.5nm,0.6s
DBG Daneborg 71.71 354 *i* P P 01 06 04.5 -2.1
DBG lAmb lAmb 01 06 07.2
comp=Z,15nm,1.2s
MEF Metsahovi 72.25 331 *eP* P 01 06 08.9 -0.9
RAF Rauma 72.79 333 *eP* P 01 06 12.5 -0.6
AAL Aland 74.00 333 *eP* P 01 06 19.5 -0.5
SUMG Summit 74.39 359 P P 01 06 22.6 0.0
SUMG lAmb lAmb 01 06 25.2
comp=Z,3.1nm,0.8s
SUMG Summit 74.39 359 *i* P P 01 06 22.4 -0.2
SUMG lAmb lAmb 01 06 25.1
comp=Z,2.8nm,0.7s
AKASG Malin Array Be 75.60 322 P P 01 06 28.9 -0.5
comp=Z,1.8nm,0.4s,baz=52,slow=5.5,SNR=6.7
comp=Z,1.8nm,0.4s
AKBB Malin Array Si 75.60 322 P P 01 06 28.4 -0.9
AKBB lAmb lAmb 01 06 29.3
comp=Z,5.6nm,0.6s
KIEV Kiev 75.61 322 P P 01 06 28.5 -0.9
KIEV lAmb lAmb 01 06 29.3
comp=Z,5.0nm,0.6s
NC405 NORSAR Array S 76.35 336 P P 01 06 32.9 -0.5
HFS Hagfors 76.37 335 P P 01 06 33.4 -0.1
comp=Z,4.9nm,0.4s,baz=90,slow=4.4,SNR=46
comp=Z,4.9nm,0.4s
VIKU Vikbolandet 76.38 333 *eP* P 01 06 33.6 +0.1
NC303 NORSAR Array S 76.39 337 P P 01 06 33.2 -0.4
NB201 NORSAR Array S 76.54 336 P P 01 06 34.6 +0.1
NC204 NORSAR Array S 76.55 337 P P 01 06 34.4 -0.2
NB2 NORSAR Subarra 76.57 336 P P 01 06 34.7 0.0
comp=Z,2.1nm,0.5s,baz=43,slow=5.6
NOA NORSAR Array B 76.57 336 P P 01 06 34.6 -0.1
comp=Z,3.6nm,0.5s,baz=44,slow=5.6,SNR=25
comp=Z,3.6nm,0.5s
NC602 NORSAR Array S 76.68 336 P P 01 06 33.2 -2.0
NBO00 NORSAR Array S 76.72 337 P P 01 06 34.9 -0.6
DEL Delary 78.90 332 *eP* P 01 06 48.9 +1.5
KVN Kaiserville 79.17 50 P P 01 06 50.5 +1.0
KVN lAmb lAmb 01 06 52.0
comp=Z,1.8nm,0.8s
BR131 Keskin Array S 79.30 311 P P 01 06 49.2 -0.9
BR131 lAmb lAmb 01 06 51.0
comp=Z,3.4nm,0.8s
BRTR Keskin Array B 79.30 311 P P 01 06 49.8 -0.3
BRTR Keskin Array B 79.30 311 P P 01 06 50.2 +0.1
comp=Z,2.3nm,0.8s,baz=130,slow=4.7,SNR=17
comp=Z,2.3nm,0.8s
NVAR Mina Array Bea 79.38 51 P P 01 06 52.4 +1.7
comp=Z,0.7nm,0.6s,baz=284,slow=5.6,SNR=6.0
comp=Z,0.7nm,0.6s
BUR08 Bucovina Ar. S 79.54 321 P P 01 06 51.2 0.0
BUR08 lAmb lAmb 01 06 52.8
comp=Z,3.8nm,1.2s
BURAR Bucovina Array 79.55 321 P P 01 06 50.9 -0.4
BURAR lAmb lAmb 01 06 52.2
comp=Z,1.7nm,0.7s
RAYN Ar Rayn 79.57 291 P P 01 06 51.2 -0.6
RAYN lAmb lAmb 01 06 52.4
comp=Z,7.9nm,0.9s
KWP Kalwaria Pacla 79.57 323 P P 01 06 51.7 +0.5
R11B Troy Canyon, C 81.18 50 P P 01 07 01.1 +0.9
MMAI Mount Meron Ar 81.91 304 P P 01 07 04.2 +0.3
comp=Z,0.7nm,0.5s,baz=20,slow=2.7,SNR=1.8
comp=Z,0.7nm,0.5s
MORC Moravsky Berou 81.99 326 P P 01 07 03.8 -0.2
MORC lAmb lAmb 01 07 06.2
comp=Z,2.8nm,1.0s
PDAR Pinedale Array 82.19 43 P P 01 07 06.3 +0.9
comp=Z,0.3nm,0.7s,baz=316,slow=3.8,SNR=0.9
comp=Z,0.3nm,0.7s
VYHS Vyhne 82.24 324 *eP* P 01 07 06.0 +0.7
VYHS *e* 01 28 10.3
CLL Collm 82.96 329 *i* P P 01 07 08.6 -0.2
RDO Rodhopi 83.41 315 P P 01 07 11.0 -0.4
RDO lAmb lAmb 01 07 38.4
comp=Z,3.1nm,1.1s
ELL Elmali 83.41 310 P P 01 07 11.9 +0.2
KHC Kasperske Hory 84.28 327 P P 01 07 15.0 -0.6
KHC lAmb lAmb 01 07 15.9
comp=Z,4.1nm,1.3s
GERES GERESS Array B 84.43 327 P P 01 07 16.1 -0.3
comp=Z,0.7nm,0.5s,baz=46,slow=9.9,SNR=4.2
comp=Z,0.7nm,0.5s
EKA Eskdalemuir Ar 85.71 339 P P 01 07 22.5 +0.1
comp=Z,0.5nm,0.4s,baz=39,slow=4.6,SNR=4.3
comp=Z,0.5nm,0.4s
FUORN Ofenpass-Fuorn 87.64 327 P P 01 07 31.4 -0.9
TXAR Lajitas Array 94.53 51 P P 01 08 05.8 +1.6
comp=Z,0.1nm,0.4s,baz=288,slow=3.4,SNR=2.6
comp=Z,0.1nm,0.4s
TORD Torodi Ar. Bea 117.91 311 PKP PKPdf 01 13 27.7 -1.0
comp=Z,0.2nm,0.4s,baz=39,slow=1.5,SNR=9.0

*IDC **02** 00:55:52.4±0.8,29°.20S×176°.96W,h0km,mb4.2/5, mbtmp4.2/6,ML3.8/1,MS3.3/1,Error ellipse: s-maj=28.3km s-min=17.9km az=169.0*
ISC 02 00:55:58.2±0.8,29°.2S±0°.1×177°.0W±0°.1,h36km,n19,
σ1§69/20,mb4.3/5,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.78**	**266**	Pn	**Pn**		**Pn**	**00 56 12.2**	**-0.6**
	753nm,0.3s,baz=83,slow=9.9,SNR=57								
RAO				LR		LR	LR	00 56 19.2	
	comp=Z,544nm,18.3s,baz=135,slow=32								
RAO				Sn		Sn	**Sn**	**00 56 25.6**	**+2.3**
	2μm,0.3s,baz=51,slow=23,SNR=9.1								
URZ	**Urewera**	**10.26**	**207**	Pn		**Pn**	**Pn**	**00 58 21.4**	**-1.5**
	0.7nm,0.3s,baz=290,slow=23,SNR=1.3								
URZ				Sn		Sn	Sn	01 00 07.6	-9.1
	1.9nm,0.3s,baz=125,slow=20,SNR=2.2								
	11nm,0.9s								
STKA	**Stephens Creek**	**35.59**	**255**	P		**P**	**P**	**01 02 52.6**	**+0.2**
	2.7nm,0.7s,baz=97,slow=12,SNR=4.0								
	2.7nm,0.7s								
ASAR	**Alice Springs**	**44.04**	**265**	P		**P**	**P**	**01 04 01.1**	**-1.6**
	0.9nm,0.5s,baz=101,slow=6.4,SNR=10.0								
	0.9nm,0.5s								
WRA	**Warramunga Arr**	**44.92**	**270**	P		**P**	**P**	**01 04 09.1**	**-0.7**
	1.9nm,0.7s,baz=112,slow=6.6,SNR=10								
	1.9nm,0.7s								
RPN	**Rapa Nui**	**58.94**	**106**	LR		LR	LR	01 25 35.7	
	comp=Z,30nm,21.6s,baz=339,slow=30								
QSPA	**South Pole Qui**	**60.90**	**180**	P		**P**	**P**	**01 06 07.0**	**-0.1**
	3.9nm,0.9s,baz=296,slow=0.4,SNR=13								
	3.9nm,0.9s								
KLR	**Kul'dur**	**90.44**	**329**	P		**P**	**P**	**01 08 56.3**	**+0.6**
	0.6nm,0.4s,baz=325,slow=3.4,SNR=3.6								
	0.6nm,0.4s								
KURBB	**Kurchatov Arra**	**120.88**	**314**	PKP		**PKPdf**	**PKPdf**	**01 14 45.6**	**-0.7**
	0.2nm,0.3s,baz=108,slow=1.9,SNR=4.8								
BVAR	**Borovoye Array**	**126.14**	**316**	PKP		**PKiKP**	**PKiKP**	**01 14 56.3**	**-0.4**
	0.3nm,0.3s,baz=45,slow=0.6,SNR=2.4								
FINES	**FINESS Array B**	**144.31**	**341**	PKP		**PKPab**	**PKPab**	**01 15 27.5**	**-0.2**
	2.2nm,0.6s,baz=68,slow=2.5,SNR=16								
KBZ	**Khabaz**	**145.13**	**306**	PKPbc		**PKPdf**	**PKPdf**	**01 15 31.5**	**-0.2**
	1.3nm,0.7s,baz=147,slow=5.0,SNR=2.6								
NB2	**NORSAR Subarra**	**147.69**	**353**	PKP		**PKPbc**	**PKPbc**	**01 15 37.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=6.5,slow=2.9								
NOA	**NORSAR Array B**	**147.69**	**353**	PKPbc		**PKPbc**	**PKPbc**	**01 15 38.0**	**-0.4**
	comp=Z,1.0nm,0.9s,baz=3.5,slow=2.3,SNR=3.6								
HFS	**Hagfors**	**148.23**	**350**	PKPbc		**PKPbc**	**PKPbc**	**01 15 39.3**	**-0.5**
	comp=Z,1.7nm,0.7s,baz=343,slow=3.1,SNR=5.0								
AKASG	**Malin Array Be**	**150.84**	**325**	PKPbc		**PKPbc**	**PKPbc**	**01 15 46.2**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=49,slow=2.5,SNR=4.7								
AKASG				PKPab		**PKPab**	**PKPab**	**01 15 53.5**	**-0.3**
	comp=Z,0.8nm,0.4s,baz=45,slow=3.5,SNR=6.2								
MMAI	**Mount Meron Ar**	**152.04**	**286**	PKPbc		**PKiKP**	**PKiKP**	**01 15 50.2**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=68,slow=5.3,SNR=7.2								
BRTR	**Keskin Array B**	**152.75**	**301**	PKPbc		**PKiKP**	**PKiKP**	**01 15 51.4**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=97,slow=2.9,SNR=6.0								
TORD	**Torodi Ar. Bea**	**163.98**	**175**	PKPab		**PKPab**	**PKPab**	**01 16 57.0**	**+5.9**
	comp=Z,0.2nm,0.6s,baz=158,slow=3.0,SNR=4.1								

*IDC **02** 01:03:48.9±1.2,55°.90N×166°.24E,h0km,mb3.5/8, mbtmp3.7/10,ML3.8/2,MS4.3/1,Error ellipse: s-maj=40.6km s-min=16.9km az=160.0*
*KRSC **02** 01:03:48.6±1.5,55°.25N×166°.38E,h42km±8km,Ml4.2*
*MOS **02** 01:03:50.8±0.7,55°.32N×166°.38E,h45km,mb3.8/1,Error ellipse: s-maj=11.5km s-min=6.6km az=158.2*
ISC 02 01:03:50.3±0.8,55°.32N±0°.06×166°.49E±0°.06,h20km,n81,
σ1§07/118,mb3.6/8,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.32**	**249**	*eP*		**Pb**	**Pb**	**01 03 56.9**	**-0.4**
BKI				*eS*			**Sb**	**01 04 02.5**	**+0.5**
BKI	**Bering**	**0.32**	**249**	PN		**Pb**	**Pb**	**01 03 56.9**	**-0.4**
ZLN	**Zelenaya**	**3.30**	**285**	*eP*		**Pn**	**Pn**	**01 04 40.2**	**-0.6**
ZLN				*eS*			**Sn**	**01 05 18.4**	**-1.0**
ZLN	**Zelenaya**	**3.30**	**285**	PN		**Pn**	**Pn**	**01 04 40.2**	**-0.6**
ZLN				S			**Sn**	**01 05 18.4**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**3.34**	**283**	*eP*		**Pn**	**Pn**	**01 04 41.2**	**-0.3**
BZGR				*eS*			**Sn**	**01 05 20.5**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**3.34**	**283**	PN		**Pn**	**Pn**	**01 04 41.2**	**-0.3**
BZGR				S			**Sn**	**01 05 20.5**	**-0.1**
CIRR	**Tsirk**	**3.34**	**286**	*eP*		**Pn**	**Pn**	**01 04 41.8**	**+0.3**
CIRR				*eS*			**Sn**	**01 05 21.2**	**+0.5**
CIRR	**Tsirk**	**3.34**	**286**	PN		**Pn**	**Pn**	**01 04 41.8**	**+0.3**
CIRR				S			**Sn**	**01 05 21.2**	**+0.5**
LGNR	**Loginova**	**3.37**	**285**	*eP*		**Pn**	**Pn**	**01 04 42.4**	**+0.3**
LGNR	**Loginova**	**3.37**	**285**	PN		**Pn**	**Pn**	**01 04 42.4**	**+0.3**
BZP	**Bezymyannyi-Pe**	**3.43**	**282**	*eP*		**Pn**	**Pn**	**01 04 43.8**	**+1.1**
BZMR	**Bezymyannaya**	**3.46**	**283**	*eP*		**Pn**	**Pn**	**01 04 43.6**	**+0.5**
BZMR	**Bezymyannaya**	**3.46**	**283**	PN		**Pn**	**Pn**	**01 04 43.6**	**+0.5**
BZWR	**Bezymyannyi-We**	**3.46**	**283**	*eP*		**Pn**	**Pn**	**01 04 42.7**	**-0.4**
BZWR				*eS*			**Sn**	**01 05 23.2**	**-0.3**
BZWR	**Bezymyannyi-We**	**3.46**	**283**	PN		**Pn**	**Pn**	**01 04 42.7**	**-0.4**
BZWR				S			**Sn**	**01 05 23.2**	**-0.3**
KRSR	**Krestovskiy**	**3.47**	**287**	*eP*		**Pn**	**Pn**	**01 04 41.5**	**-1.7**
KRSR	**Krestovskiy**	**3.47**	**287**	PN		**Pn**	**Pn**	**01 04 41.5**	**-1.7**
TJMD	**Tumrok D**	**3.49**	**271**	*eP*		**Pn**	**Pn**	**01 04 42.9**	**-0.5**
TJMD				*eS*			**Sn**	**01 05 22.4**	**-1.7**
KIRR	**Kirishev**	**3.54**	**283**	*eP*		**Pn**	**Pn**	**01 04 43.2**	**-1.1**
KIRR				*eS*			**Sn**	**01 05 24.7**	**-0.9**
KIRR	**Kirishev**	**3.54**	**283**	PN		**Pn**	**Pn**	**01 04 43.2**	**-1.1**
KIRR				S			**Sn**	**01 05 24.7**	**-0.9**
KMNR	**Kamenistaya**	**3.58**	**280**	*eP*		**Pn**	**Pn**	**01 04 44.7**	**0.0**
KMNR				*eS*			**Sn**	**01 05 26.3**	**-0.1**
KMNR	**Kamenistaya**	**3.58**	**280**	PN		**Pn**	**Pn**	**01 04 44.7**	**0.0**
KMNR				S			**Sn**	**01 05 26.3**	**-0.1**
KPT	**Kopyto**	**3.61**	**283**	*eP*		**Pn**	**Pn**	**01 04 45.1**	**-0.1**
KPT				*eS*			**Sn**	**01 05 25.5**	**-1.7**
KPT	**Kopyto**	**3.61**	**283**	PN		**Pn**	**Pn**	**01 04 45.1**	**-0.1**
KPT				S			**Sn**	**01 05 25.5**	**-1.7**
TUMR	**Tumrok**	**3.63**	**272**	*eP*		**Pn**	**Pn**	**01 04 45.6**	**+0.2**
TUMR				*eS*			**Sn**	**01 05 28.0**	**+0.4**
TUMR	**Tumrok**	**3.63**	**272**	PN		**Pn**	**Pn**	**01 04 45.6**	**+0.2**
TUMR				S			**Sn**	**01 05 28.0**	**+0.4**
SRDR	**Sredinnyy**	**3.95**	**287**	*eP*		**Pn**	**Pn**	**01 04 49.1**	**-0.7**
SRDR				*eS*			**Sn**	**01 05 35.3**	**-0.2**
SRDR	**Sredinnyy**	**3.95**	**287**	PN		**Pn**	**Pn**	**01 04 49.1**	**-0.7**
SRDR				S			**Sn**	**01 05 35.3**	**-0.2**
KII	**Karymskiy**	**4.29**	**255**	*eP*		**Pn**	**Pn**	**01 04 54.5**	**+0.1**
KII				*eS*			**Sn**	**01 05 43.0**	**-0.8**
KII	**Karymskiy**	**4.29**	**255**	PN		**Pn**	**Pn**	**01 04 54.5**	**+0.1**
KII				S			**Sn**	**01 05 43.0**	**-0.8**
SPN	**Mys Shipunski**	**4.40**	**242**	*eP*		**Pn**	**Pn**	**01 04 55.2**	**-0.7**
SPN				*eS*			**Sn**	**01 05 43.7**	**-2.9**
SPN	**Mys Shipunski**	**4.40**	**242**	PN		**Pn**	**Pn**	**01 04 55.2**	**-0.7**
NLC	**Nalytchevo**	**4.71**	**246**	*eP*		**Pn**	**Pn**	**01 04 59.9**	**-0.3**
NLC				*eS*			**Sn**	**01 05 52.4**	**-1.8**
NLC	**Nalytchevo**	**4.71**	**246**	PN		**Pn**	**Pn**	**01 04 59.9**	**-0.3**
NLC				S			**Sn**	**01 05 52.4**	**-1.8**
SMAR	**Somma**	**4.95**	**249**	*eP*		**Pn**	**Pn**	**01 05 04.0**	**+0.3**
SMAR				*eS*			**Sn**	**01 05 59.5**	**-1.0**
SMAR	**Somma**	**4.95**	**249**	PN		**Pn**	**Pn**	**01 05 04.0**	**+0.3**
SMAR				S			**Sn**	**01 05 59.5**	**-1.0**
KRER	**Koryakskii**	**4.96**	**249**	*eP*		**Pn**	**Pn**	**01 05 04.6**	**+0.8**
KRER				*eS*			**Sn**	**01 05 59.8**	**-0.9**
KRER	**Koryakskii**	**4.96**	**249**	PN		**Pn**	**Pn**	**01

UGLR				S	Sn	01 05 59.3	-1.4
AVH	**Avacha**	**4.99**	**249**	*e*P	Pn	01 05 04.8	+0.8
AVH				*e*S	Sn	01 06 00.2	-0.9
AVH	**Avacha**	**4.99**	**249**	PN	Pn	01 05 04.8	+0.8
AVH				S	Sn	01 06 00.2	-0.9
KRX	**Arik**	**4.99**	**250**	*e*P	Pn	01 05 04.8	+0.6
KRX				*e*S	Sn	01 06 00.3	-1.0
KRX	**Arik**	**4.99**	**250**	PN	Pn	01 05 04.8	+0.6
KRX				S	Sn	01 06 00.3	-1.0
KOK	**Koryaka**	**5.03**	**249**	*e*P	Pn	01 05 05.4	+0.8
KOK				*e*S	Sn	01 06 02.1	0.0
KOK	**Koryaka**	**5.03**	**249**	PN	Pn	01 05 05.4	+0.8
KOK				S	Sn	01 06 02.1	0.0
PET	**Petropavlovsk**	**5.15**	**247**	*e*P	Pn	01 06 08.8	+0.7
PET				*e*S	Sn	01 06 03.1	-1.8
PET	**Petropavlovsk**	**5.15**	**247**	*e*PN	Pn	01 05 07.1	+1.0
PET				*e*S	Sn	01 06 03.5	-1.4
PET				pmax	pmax		
	comp=Z,59nm,0.8s						
PET				smax	smax		
	comp=N,91nm,0.6s						
PET				smax	smax		
	comp=E,71nm,0.5s						
GNL	**Ganaly**	**5.24**	**255**	*e*P	Pn	01 05 08.5	+0.9
GNL	**Ganaly**	**5.24**	**255**	PN	Pn	01 05 08.5	+0.9
KRMR	**Karymshinskiy**	**5.52**	**247**	*e*P	Pn	01 05 11.6	+0.3
KRMR				*e*S	Sn	01 06 12.9	-1.1
KRMR	**Karymshinskiy**	**5.52**	**247**	PN	Pn	01 05 11.6	+0.3
RUS	**Russkaya**	**5.54**	**242**	*e*P	Pn	01 05 11.2	-0.3
RUS				*e*S	Sn	01 06 11.9	-2.5
RUS	**Russkaya**	**5.54**	**242**	PN	Pn	01 05 11.2	-0.3
PETK	**Petropavlovsk-**	**5.62**	**250**	Pn	Pn	01 05 13.1	+0.5
	comp=E,8.4nm,0.3s,baz=70,slow=17,SNR=97						
PETK				Sn	Sn	01 06 17.8	+1.3
	comp=E,1.8nm,0.3s,baz=235,slow=26,SNR=4.1						
	comp=E,33nm,0.6s						
MTVR	**Mutnovka**	**5.67**	**243**	*e*P	Pn	01 05 13.9	+0.3
MTVR				*e*S	Sn	01 06 15.4	-2.7
MTVR	**Mutnovka**	**5.67**	**243**	PN	Pn	01 05 13.9	+0.3
ASAK	**Asacha**	**5.87**	**243**	*e*P	Pn	01 05 17.1	+0.9
ASAK				*e*S	Sn	01 06 21.7	-1.2
ASAK	**Asacha**	**5.87**	**243**	PN	Pn	01 05 17.1	+0.9
APC	**Apacha**	**5.99**	**250**	*e*P	Pn	01 05 18.8	+1.1
APC	**Apacha**	**5.99**	**250**	PN	Pn	01 05 18.8	+1.1
KDTR	**Khodutka, Kamc**	**6.12**	**238**	*e*P	Pn	01 05 19.0	-0.6
KDTR	**Khodutka, Kamc**	**6.12**	**238**	PN	Pn	01 05 19.0	-0.6
ASAJ	**Asahikawa**	**18.98**	**244**	P	Pn	01 08 12.6	+1.5
	comp=E,0.7nm,0.3s,baz=35,slow=5.3,SNR=5.0						
	comp=E,5.2nm,0.5s						
ILAR	**Eielson Array**	**24.55**	**49**	P	**P**	01 09 07.5	-0.8
	comp=E,1.5nm,0.9s,baz=250,slow=8.7,SNR=14						
	comp=E,1.5nm,0.9s						
MJAR	**Matsushiro Arr**	**26.90**	**237**	P	**P**	01 09 35.0	+5.2
	comp=E,0.9nm,0.3s,baz=16,slow=9.4,SNR=2.1						
	comp=E,0.9nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**35.53**	**179**	T	T	01 48 17.1	
	baz=359,slow=76,SNR=231						
H11N3	**WAKE ISLAND Hy**	**35.55**	**179**	T	T	01 48 29.7	
	baz=359,slow=76,SNR=183						
H11N1	**WAKE ISLAND Hy**	**35.55**	**179**	T	T	01 48 28.8	
	baz=359,slow=76,SNR=179						
H11S1	**WAKE ISLAND Hy**	**36.75**	**180**	T	T	01 49 50.5	
	baz=357,slow=74,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**36.76**	**180**	T	T	01 49 49.8	
	baz=357						
H11S2	**WAKE ISLAND Hy**	**36.77**	**180**	T	T	01 49 50.9	
	baz=357,slow=74,SNR=6.4						
SONM	**Songino Array**	**37.03**	**284**	P	**P**	01 10 58.3	-0.2
	comp=E,0.3nm,0.6s,baz=59,slow=11,SNR=2.2						
	comp=E,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**38.94**	**46**	P	**P**	01 11 14.0	-0.3
	comp=E,0.4nm,0.8s,baz=301,slow=8.2,SNR=6.0						
	comp=E,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**38.94**	**46**	P	**P**	01 11 14.0	-0.3
KURK	**Kurchatov**	**49.69**	**304**	P	**P**	01 12 39.5	-0.9
KURBB	**Kurchatov Arra**	**49.80**	**304**	P	**P**	01 12 39.5	-1.7
	comp=E,0.4nm,0.6s,baz=55,slow=7.5,SNR=5.7						
	comp=E,0.4nm,0.6s						
MKAR	**Makanchi Array**	**50.51**	**298**	P	**P**	01 12 44.6	-2.1
	comp=E,0.3nm,0.6s,baz=56,slow=7.4,SNR=6.1						
	comp=E,0.3nm,0.6s						
BVAR	**Borovoye Array**	**51.88**	**310**	P	**P**	01 12 55.2	-1.7
	comp=E,0.5nm,0.6s,baz=63,slow=6.6,SNR=3.0						
	comp=E,0.5nm,0.6s						
KIRV	**Kirov**	**55.76**	**326**	LR	LR	01 37 54.8	
	comp=E,325nm,21.9s,baz=338,slow=37						
TXAR	**Lajitas Array**	**66.34**	**72**	P	**P**	01 14 38.3	+0.8
	comp=E,0.2nm,0.5s,baz=310,slow=6.6,SNR=5.6						
	comp=E,0.2nm,0.5s						

WEL ***02*** *01:13:24.8±0.4,42°S±3°×17°4E±°, h12km±3km, M3.1/19, ML3.4/19, MLv3.1/19, Error ellipse: s-maj=0.0km s-min=0.0km az=145.3, confirmed*

NOU ***02*** *01:13:24.9, 42.07°S×174.04°E, h102km, MLv3.9/6, Off E. Coast of S. Island, N.Z.*

ISC 02 01:13:24.4±0.9, 41°67S±0.02×174°25E±0.02, h18km±3km, n92, σ1s15/102, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNS	**Seddon**	**0.08**	**271**	P	**Pg**	**01 13 28.7**	**+0.7**
SDNS				S	**Sg**	**01 13 31.7**	**+1.4**
CMWZ	**Cape Campbell**	**0.09**	**197**	P	**Pg**	**01 13 28.0**	**0.0**
CMWZ				S	**Sg**	**01 13 31.2**	**+0.7**
SEDS	**Seddon Fire St**	**0.13**	**267**	P	**Pg**	**01 13 28.9**	**+0.5**
WDFS	**Ward Fire Stat**	**0.18**	**207**	P	**Pg**	**01 13 29.0**	**-0.1**
MGCS	**Blenheim Marlb**	**0.28**	**305**	P	**Pg**	**01 13 30.2**	**-0.4**
MGCS				S	**Sg**	**01 13 35.4**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.28**	**260**	P	**Pb**	**01 13 31.1**	**+0.2**
BSWZ				S	**Sb**	**01 13 36.0**	**+0.8**
TUWZ	**Tuamarina**	**0.33**	**316**	P	**Pb**	**01 13 32.6**	**+0.9**
TUWZ				S	**Sb**	**01 13 38.2**	**+1.5**
BWRS	**Waikakaho Road**	**0.34**	**311**	P	**Pb**	**01 13 32.9**	**+0.9**
BWRS				S	**Sn**	**01 13 38.7**	**-2.2**
KEKS	**Kekerengu Vall**	**0.35**	**214**	P	**Pb**	**01 13 32.2**	**0.0**
KEKS				S	**Sb**	**01 13 38.7**	**+1.3**
QCCS	**Picton Queen C**	**0.42**	**336**	S	**Sb**	**01 13 39.3**	**-0.1**
TCW	**Tory Channel**	**0.46**	**3**	P	**Pn**	**01 13 34.8**	**-1.2**
TCW				S	**Sb**	**01 13 41.7**	**+1.4**
HAVS	**Havelock**	**0.53**	**318**	P	**Pn**	**01 13 36.0**	**-0.9**
MKVS	**Makara Village**	**0.53**	**41**	P	**Pg**	**01 13 34.7**	**-0.3**
BHW	**Baring Head**	**0.54**	**61**	P	**Pg**	**01 13 36.2**	**+1.0**
BHW				S	**Sn**	**01 13 44.4**	**-1.2**
WNAS	**Wellington Int**	**0.54**	**51**	S	**Sb**	**01 13 43.4**	**+0.7**
WEL	**Wellington**	**0.55**	**46**	P	**Pn**	**01 13 36.5**	**-0.7**
WEL				S	**Sn**	**01 13 45.5**	**-0.4**
PLWZ	**Palliser**	**0.76**	**83**	P	**Pn**	**01 13 40.2**	**-0.1**
NNZ	**Nelson**	**0.79**	**304**	P	**Pn**	**01 13 40.5**	**-0.1**
MSWZ	**Moikau Station**	**0.79**	**72**	P	**Pn**	**01 13 41.2**	**+0.5**
CAW	**Cannon Point**	**0.83**	**48**	P	**Pn**	**01 13 41.3**	**+0.1**
DUWZ	**D'Urville Isla**	**0.90**	**344**	P	**Pn**	**01 13 42.6**	**+0.4**
KHZ	**Kahutara**	**0.92**	**215**	P	**Pn**	**01 13 42.2**	**-0.2**
KHZ	**Kahutara**	**0.92**	**215**	P	**Pn**	**01 13 42.2**	**-0.2**
PAWZ	**Paruwai Farm**	**0.93**	**73**	P	**Pg**	**01 13 42.7**	**+0.2**
KIW	**Kapiti Island**	**0.95**	**32**	P	**Pg**	**01 13 43.3**	**+0.5**
THZ	**Tophouse**	**1.01**	**264**	P	**Pg**	**01 13 44.0**	**0.0**
MTW	**Mount Morrison**	**1.07**	**62**	P	**Pn**	**01 13 44.7**	**+0.2**
OGWZ	**Otaki Gorge**	**1.10**	**40**	P	**Pg**	**01 13 45.9**	**+0.2**
TRWZ	**Traveller**	**1.11**	**77**	P	**Pn**	**01 13 44.8**	**-0.3**
MRNZ	**Matariki Terra**	**1.15**	**283**	P	**Pg**	**01 13 47.0**	**+0.3**
TKNZ	**Takaka Hill**	**1.16**	**303**	P	**Pg**	**01 13 47.0**	**+0.2**
HOWZ	**Holdsworth Sta**	**1.23**	**52**	P	**Pb**	**01 13 47.2**	**+0.2**
TMWZ	**Te Maipa**	**1.36**	**66**	P	**Pn**	**01 13 48.3**	**-0.1**
MRZ	**Mangatainoka R**	**1.42**	**45**	P	**Pb**	**01 13 50.1**	**-0.2**
TIWZ	**Tintock**	**1.52**	**55**	P	**Pn**	**01 13 51.0**	**+0.3**
QRZ	**Quartz Range**	**1.54**	**302**	P	**Pg**	**01 13 53.5**	**-0.6**
QRZ	**Quartz Range**	**1.54**	**302**	P	**Pg**	**01 13 53.4**	**-0.8**
GVZ	**Greta Valley S**	**1.58**	**214**	P	**Pn**	**01 13 50.9**	**-0.6**
PRWZ	**Pori Road**	**1.71**	**50**	P	**Pn**	**01 13 53.6**	**+0.3**
POWZ	**Post Office Ro**	**1.72**	**43**	P	**Pn**	**01 13 54.2**	**+0.9**
BFZ	**Birch Farm**	**1.80**	**58**	P	**Pg**	**01 13 59.6**	**+0.6**
BFZ	**Birch Farm**	**1.80**	**58**	P	**Pn**	**01 13 54.0**	**-0.5**
DSZ	**Denniston Nort**	**1.83**	**267**	P	**Pb**	**01 13 56.9**	**-0.4**
LTZ	**Lake Taylor**	**1.84**	**232**	P	**Pn**	**01 13 55.1**	**0.0**
AMCZ	**Amberley**	**1.92**	**218**	P	**Pg**	**01 14 02.1**	**+0.9**
WAZ	**Wanganui**	**1.99**	**17**	P	**Pg**	**01 14 01.9**	**-0.7**
DVHZ	**Dannevirke**	**1.99**	**47**	P	**Pn**	**01 13 57.2**	**0.0**
TSZ	**Takapari Road**	**2.07**	**40**	P	**Pn**	**01 13 58.9**	**+0.6**
ANWZ	**Angora Road**	**2.07**	**55**	P	**Pn**	**01 13 58.0**	**-0.3**
PNHZ	**Pukenui**	**2.29**	**41**	P	**Pg**	**01 14 08.2**	**-0.2**
WPHZ	**Waipukurau**	**2.31**	**47**	P	**Pg**	**01 14 09.4**	**+0.7**
PREZ	**Palmer Road**	**2.32**	**358**	P	**Pb**	**01 14 07.2**	**+1.4**
OXZ	**Oxford**	**2.33**	**224**	P	**Pn**	**01 14 00.3**	**-1.5**
INZ	**Inchbonnie**	**2.34**	**242**	P	**Pn**	**01 14 03.2**	**+1.3**
KHEZ	**Kahui Hut**	**2.38**	**356**	P	**Pb**	**01 14 07.6**	**+0.9**
KHEZ	**Kahui Hut**	**2.38**	**356**	P	**Pb**	**01 14 08.0**	**+1.3**
NEZ	**North Egmont**	**2.40**	**357**	P	**Pb**	**01 14 07.6**	**+0.6**
NBEZ	**Newall Road No**	**2.41**	**353**	P	**Pg**	**01 14 09.3**	**-1.4**
AKCZ	**Akaroa Harbour**	**2.42**	**204**	P	**Pn**	**01 14 01.3**	**-1.7**
PKE	**Pukeiti**	**2.48**	**355**	P	**Pb**	**01 14 07.6**	**-0.8**
MOVZ	**Moawhango**	**2.53**	**27**	P	**Pb**	**01 14 07.0**	**-2.3**
WNVZ	**Wahianoa**	**2.55**	**24**	P	**Pb**	**01 14 07.3**	**-2.4**
TRVZ	**Turoa**	**2.56**	**23**	P	**Pb**	**01 14 11.0**	**+1.0**
VRZ	**Vera Road**	**2.57**	**9**	P	**Pb**	**01 14 08.5**	**-1.4**
BHHZ	**Black Hill Sta**	**2.58**	**33**	P	**Pn**	**01 14 06.6**	**+1.3**
KRHZ	**Kereru**	**2.59**	**39**	P	**Pn**	**01 14 05.5**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.59**	**24**	P	**Pb**	**01 14 11.5**	**+1.0**
FWVZ	**Far West T-bar**	**2.61**	**23**	P	**Pb**	**01 14 11.4**	**+0.7**
TUVZ	**Tukino**	**2.62**	**25**	P	**Pb**	**01 14 09.2**	**-1.8**
COVZ	**Chateau Observ**	**2.65**	**22**	P	**Pb**	**01 14 12.6**	**+1.1**
NGZ	**Ngauruhoe**	**2.69**	**23**	P	**Pb**	**01 14 13.3**	**+1.1**
SNVZ	**South Ngauruho**	**2.69**	**24**	P	**Pb**	**01 14 09.6**	**-2.6**
MHCZ	**Mount Hutt**	**2.72**	**226**	P	**Pn**	**01 14 06.0**	**-1.1**
OTVZ	**Oturere**	**2.72**	**24**	P	**Pn**	**01 14 09.8**	**+2.4**
NNVZ	**North Ngauruho**	**2.74**	**23**	P	**Pn**	**01 14 10.1**	**+2.5**
WTVZ	**West Tongariro**	**2.75**	**22**	P	**Pb**	**01 14 12.2**	**-0.8**
TWVZ	**Taurewa**	**2.75**	**20**	P	**Pb**	**01 14 12.3**	**-0.8**
KRVZ	**Karewarewa**	**2.78**	**23**	P	**Pb**	**01 14 14.5**	**+0.9**
TMVZ	**Te Maari**	**2.78**	**24**	P	**Pb**	**01 14 13.8**	**+0.2**
KWHZ	**Kaweka Forest**	**2.79**	**37**	P	**Pg**	**01 14 16.6**	**-1.3**
NTVZ	**North Tongarir**	**2.79**	**24**	P	**Pb**	**01 14 13.4**	**-0.3**
WACZ	**Wakanui South**	**2.88**	**217**	P	**Pn**	**01 14 08.1**	**-1.3**
KATZ	**Kakaramea**	**2.91**	**23**	P	**Pg**	**01 14 18.3**	**-1.9**
WVZ	**Waitahia Valley**	**2.96**	**240**	P	**Pb**	**01 14 15.5**	**-1.1**
BKZ	**Black Stump Fm**	**3.03**	**35**	P	**Pb**	**01 14 16.6**	**-1.2**
BKZ	**Black Stump Fm**	**3.03**	**35**	P	**Pb**	**01 14 19.2**	**+1.4**
HIZ	**Hauiti**	**3.18**	**9**	P	**Pb**	**01 14 18.8**	**-1.6**
HIZ	**Hauiti**	**3.18**	**9**	P	**Pb**	**01 14 17.2**	**-3.2**
ARCZ	**Arundel**	**3.21**	**224**	P	**Pn**	**01 14 12.7**	**-1.2**
TLZ	**Tolley Road**	**3.48**	**17**	P	**Pb**	**01 14 23.3**	**-2.2**
ODZ	**Otahua Downs**	**4.28**	**217**	P	**Pn**	**01 14 27.1**	**-1.5**
JCZ	**Jackson Bay**	**4.68**	**237**	P	**Pn**	**01 14 37.0**	**+2.8**

ISU ***02*** *01:19:25.6, 41°.14N×69°.70E, h5km*

SOME ***02*** *01:19:25.7, 41°.22N×69°.85E, h10km*

NNC ***02*** *01:19:25.7±3.1, 41°.22N×69°.64E, h0km, mb2.9, mpv3.0, Error ellipse: s-maj=19.4km s-min=14.3km az=32.0*

KRNET ***02*** *01:19:25.1±0.1, 41°.17N×69°.67E, h21km, mb2.6*

ISC 02 01:19:21.8±1.8, 41°10N±0.05×69°40E±0.08, h16km±11km, n22, σ1s30/42, 6C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGS	**TashGRES**	**0.33**	**16**	P	**Pn**	**01 19 33.3**	**+1.2**
TGS				S	**Sn**	**01 19 39.0**	**+0.4**
CHMG	**Chimgan**	**0.64**	**46**	P	**Pb**	**01 19 35.7**	**+0.9**
CHMG				S	**Sb**	**01 19 43.2**	**-0.4**
CHRV	**Charvak**	**0.68**	**38**	P	**Pn**	**01 19 36.9**	**0.0**
CHRV				S	**Sb**	**01 19 45.3**	**+0.7**
CHDK	**Chadak**	**1.03**	**97**	P	**Pb**	**01 19 41.9**	**+0.5**
CHDK				S	**Sb**	**01 19 54.0**	**-0.7**
IUG	**Iuzhnay**	**1.15**	**24**	P	**Pg**	**01 19 44.5**	**+0.5**
	12nm,0.1s						
IUG				S	**Sb**	**01 19 57.9**	**-0.2**
	47nm,0.3s						
IUG	**Iuzhnay**	**1.15**	**24**	*e*P	**Pg**	**01 19 44.5**	**+0.5**
	12nm,0.1s						
IUG				*e*S	**Sb**	**01 19 57.9**	**-0.2**
	47nm,0.3s						
IUG	**Iuzhnay**	**1.15**	**24**	*e*P	**Pg**	**01 19 44.5**	**+0.5**
	baz=15						
IUG				*e*S	**Sb**	**01 19 57.9**	**-0.2**
	baz=15						
TRKS	**Terek-Say**	**1.38**	**71**	⇓*e*P	**Pn**	**01 19 46.8**	**+0.2**
	baz=75						
TRKS				⇓*e*S	**Sb**	**01 20 02.3**	**-2.5**
	baz=75						
BTK	**Batken**	**1.50**	**133**	⇑*e*P	**Pg**	**01 19 51.0**	**+0.3**
	baz=41						
BTK				⇑*e*S	**Sg**	**01 20 10.2**	**-0.1**
	baz=41						
CHMI	**Chimion**	**1.82**	**117**	P	**Pg**	**01 19 56.8**	**+0.1**
CHMI				S	**Sg**	**01 20 19.9**	**-0.5**
FRG	**Fergana**	**1.95**	**111**	P	**Pg**	**01 19 59.1**	**-0.2**
FRG				S	**Sg**	**01 20 23.7**	**-1.0**
BRLS	**Borolday**	**1.96**	**9**	P	**Pn**	**01 19 54.9**	**+0.5**
	4.0nm,0.2s						
BRLS				S	**Sn**	**01 20 15.9**	**-2.7**
	36nm,0.2s						
BRLS	**Borolday**	**1.96**	**9**	*e*P	**Pn**	**01 19 54.9**	**+0.5**
	4.0nm,0.2s						
BRLS				*e*S	**Sn**	**01 20 15.9**	**-2.7**
	36nm,0.2s						
BRLS	**Borolday**	**1.96**	**9**	*e*P	**Pn**	**01 19 54.9**	**+0.5**
	baz=3.0						
BRLS				*e*S	**Sn**	**01 20 16.0**	**-2.7**
	baz=3.0						
ARK	**Arkit**	**2.05**	**69**	⇓*e*P	**Pb**	**01 19 58.6**	**-0.2**
	baz=69						
ARK				⇓*e*S	**Sb**	**01 20 22.5**	**-1.6**
	baz=69						
KK31	**Karatay Array**	**2.17**	**22**	Pg	**Pb**	**01 20 02.1**	**+1.4**
	0.7nm,0.4s,baz=202,slow=16,SNR=8.1						
KK31				Lg	Lg	01 20 28.7	
	6.5nm,0.3s,baz=202,slow=28,SNR=44						
KKAR	**Karatay Array**	**2.17**	**22**	⇓*e*P	**Pb**	**01 20 00.8**	**+0.1**
	baz=18						
KKAR				⇓*e*S	**Sb**	**01 20 27.2**	**-0.1**
	baz=18						
OHH	**Osh**	**2.63**	**102**	⇑*e*P	**Pb**	**01 20 06.9**	**-1.8**
	baz=4.0						
OHH				⇑*e*S	**Sn**	**01 20 37.6**	**+2.2**
	baz=4.0						
MNAS	**Manas**	**2.70**	**58**	⇑*e*P	**Pb**	**01 20 07.8**	**-2.1**
	baz=57						
MNAS				⇑*e*S	**Sn**	**01 20 39.4**	**+2.2**
	baz=57						
ARSB	**Arslanbob**	**2.71**	**84**	⇓*e*P	**Pn**	**01 20 07.4**	**+2.5**
	baz=85						
ARSB				⇓*e*S	**Sn**	**01 20 38.6**	**+1.1**
	baz=85						
MRKS	**Merke**	**3.29**	**59**	Pg	**Pb**	**01 20 20.2**	**+0.2**
	1.0nm,0.2s						
MRKS				Lg	Lg	01 20 59.2	
	2.8nm,0.4s						
MRKS	**Merke**	**3.29**	**59**	*e*P	**Pb**	**01 20 20.2**	**+0.2**
	1.0nm,0.2s						
MRKS				*e*S	**Sb**	**01 20 59.2**	**-0.7**
	2.8nm,0.4s						

IDC 02 01:19:47.2±2.1, 6°06S×143°11E, h0km, mb3.8/2, mbtmp3.8/4, ML3.4/2, Error ellipse: s-maj=102.9km s-min=31.9km az=109.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.22**	**211**	Pn	Pn	01 23 35.6	-1.1
	0.1nm,0.3s,baz=30,slow=13,SNR=6.5						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**19.62**	**206**	P	P	01 24 17.8	+0.3
	0.1nm,0.3s,baz=33,slow=10,SNR=22						
	3.8nm,0.8s						
BVAR	**Borovoye Array**	**84.56**	**325**	P	P	01 32 22.7	+0.3
	1.0nm,0.8s,baz=103,slow=6.4,SNR=5.7						
	1.0nm,0.8s						
ILAR	**Eielson Array**	**87.08**	**24**	P	P	01 32 34.2	-0.4
	0.3nm,0.7s,baz=234,slow=4.0,SNR=3.2						
	0.3nm,0.7s						

IDC ***02*** *01:20:42.5±2.7, 34°.72N×96°.62E, h0km, mb3.3/3, mbtmp3.5/6, ML3.4/2, Error ellipse: s-maj=70.3km s-min=35.9km az=74.0*

ISC 02 01:20:46.6±1.4, 34°.7N±0°.1×96°.5E±0°.2, h35km, n6, σ1s29/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**15.06**	**26**	Pn	**Pn**	**01 24 16.8**	**0.0**
	0.2nm,0.3s,baz=213,slow=15,SNR=5.3						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**16.14**	**323**	Pn	**Pn**	**01 24 29.6**	**-1.1**
	0.1nm,0.3s,baz=127,slow=14,SNR=5.6						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**16.33**	**172**	Pn	**Pn**	**01 24 33.0**	**-0.3**
	1.1nm,0.4s,baz=345,slow=10,SNR=4.7						
KURBB	**Kurchatov Arra**	**20.59**	**326**	P	**P**	**01 25 22.5**	**+0.2**
	1.2nm,0.6s,baz=132,slow=11,SNR=12						
	1.2nm,0.6s						
ZALV	**Zalesovo Beam**	**20.92**	**340**	P	**P**	**01 25 26.0**	**+0.1**
	0.7nm,0.5s,baz=146,slow=11,SNR=3.7						
	0.7nm,0.5s						
BVAR	**Borovoye Array**	**26.02**	**323**	P	**P**	**01 26 18.2**	**+1.9**
	0.3nm,0.5s,baz=101,slow=7.5,SNR=1.7						
	0.3nm,0.5s						

IDC ***02*** *01:20:55.3±2.6, 23°.58S×111°.32W, h0km, mb3.7/4, mbtmp3.7/4, MS3.9/14, Error ellipse: s-maj=92.6km s-min=38.7km az=34.0*

GCMT ***02*** *01:20:55.0±0.5, 24°.20S±0°.03×111°.89W±0°.03, h31km±2km, MW4.8/74, Moment Tensor Solution. s20,c23; s74,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.04±.19; $M_{\theta\theta}$-1.79±.14; $M_{\phi\phi}$1.83±.14; $M_{r\theta}$-0.38±.21; $M_{r\phi}$1.31±.13; $M_{\theta\phi}$0.22±.21; Best double couple: $M_0$2.27700×10^{16} NP1:φs153.00000°, δ84.00000°, λ-171.00000°. NP2: φs62.00000°, δ81.00000°, λ-6.00000°. Principal axes: T 2.2580, Plg2.0000°, Azm288.0000°; N 0.0380, Plg79.0000°, Azm186.0000°; P -2.2950, Plg11.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 02 01:20:57.4±2.6, 23°.58S±0°.6×111°.2W±0°.4, h10km, n30, σ0s49/7, mb3.6/4, MS3.9/14, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**29.93**	**117**	T	T	01 58 46.6	
	baz=283,slow=75,SNR=13						
H03N3	**Juan Fernandez**	**29.93**	**117**	T	T	01 58 51.6	
	baz=283,slow=75,SNR=15						
H03N1	**Juan Fernandez**	**29.94**	**117**	T	T	01 58 49.8	
	baz=283,slow=75,SNR=26						
NNA	**Nana**	**34.55**	**77**	LR	LR	01 38 18.3	
	comp=Z,168nm,18.5s,baz=317,slow=30						
PPT	**Papeete**	**36.36**	**272**	LR	LR	01 39 21.8	
	comp=Z,139nm,18.7s,baz=214,slow=30						
LVC	**Limon Verde**	**38.80**	**97**	LR	LR	01 40 31.3	
	comp=Z,153nm,19.3s,baz=296,slow=30						
LPAZ	**La Paz**	**40.99**	**88**	P	**P**	**01 28 41.6**	**0.0**
	2.0nm,1.1s,baz=250,slow=3.9,SNR=5.1						
	2.0nm,1.1s						
CMIG	**Matias Romero**	**43.36**	**23**	LR	LR	01 42 55.7	
	comp=Z,143nm,21.1s,baz=166,slow=30						
RAR	**Rarotonga**	**44.84**	**263**	LR	LR	01 42 41.9	
	comp=Z,92nm,19.0s,baz=122,slow=29						
LPIG	**La Paz**	**47.32**	**1**	LR	LR	01 44 36.6	
	comp=Z,125nm,19.5s,baz=198,slow=30						
CPUP	**Villa Florida**	**48.63**	**105**	LR	LR	01 46 35.5	
	comp=Z,138nm,19.2s,baz=277,slow=32						
ANMO	**Albuquerque**	**58.29**	**5**	LR	LR	01 51 23.3	
	comp=Z,101nm,19.2s,baz=333,slow=31						
BDFB	**Brasilia**	**59.63**	**95**	LR	LR	01 54 59.9	
	comp=Z,116nm,18.0s,baz=191,slow=34						
NVAR	**Mina Array Bea**	**61.96**	**354**	P	**P**	**01 31 17.9**	**+0.2**
	1.5nm,0.8s,baz=170,slow=10,SNR=5.1						
	1.5nm,0.8s						
MDP	**Montagnes des**	**63.75**	**71**	LR	LR	01 56 29.9	
	comp=Z,79nm,18.5s,baz=217,slow=33						
ELK	**Elko**	**64.02**	**357**	LR	LR	01 54 51.5	
	comp=Z,117nm,18.6s,slow=32						
YBH	**Yreka Blue Hor**	**65.77**	**351**	LR	LR	01 56 18.7	
	comp=Z,107nm,18.4s,baz=242,slow=32						
PDAR	**Pinedale Array**	**65.94**	**1**	P	**P**	**01 31 43.6**	**-0.2**
	0.2nm,0.5s,baz=153,slow=8.1,SNR=3.7						
	0.2nm,0.5s						
VNDA	**Vanda**	**66.58**	**194**	LR	LR	01 52 27.7	
	comp=Z,74nm,20.3s,baz=142,slow=28						
QSPA	**South Pole Qui**	**66.67**	**180**	LR	LR	01 57 18.9	
	comp=Z,66

HUH Hualalai 0.89 289 Pg 01 24 53.3 -2.5

*JMA **02** 01:30:11.3±0.2,24.0°N±1.0°×122.3°E±0.4,h20km±3km, MV3.5/14,TAIWAN REGION*
*TAP **02** 01:30:12.0,24.04°N×122.33°E,h25km,ML3.7,C*
*ASIES **02** 01:30:12.0,24.04°N×122.33°E,h25km,ML3.7,Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr0.27; Mθθ-1.37; Mφφ1.11; Mrθ4.34; Mθφ-0.16; Mφr4.39; Fault plane solution: M₀6.29741×10²¹ NP1:φs44.87000°, δ88.72000°,λ78.63000°. NP2:φs308.55000°,δ11.44000°, λ173.55000°. Principal axes: T Plg45.1380°, Azm303.4750°; N Plg11.3670°, Azm45.1300°; P Plg42.6330°, Azm145.7950°;*
ISC 02 01:30:11.6±0.9,23.99N±0.02×122.34E±0.02,h25km±7km, n121,σ0s77/194,11C-4D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.14**	**353**	*i*	P		**Pb**	**01 30 16.1**	**-0.1**
	baz=353								
EOS4				*i*	S		**Sb**	**01 30 19.4**	**+0.1**
	baz=353								
EOS3	**EOS3**	**0.30**	**357**	⇑*i*	P		**Pb**	**01 30 18.6**	**+0.1**
EOS3	baz=340				S		**Sb**	**01 30 23.4**	**+0.1**
	baz=340								
EOS2	**EOS2**	**0.44**	**348**	⇓*i*	P		**Pn**	**01 30 21.2**	**-1.1**
EOS2	baz=333				S		**Sn**	**01 30 27.3**	**-2.1**
	baz=333								
EAHA	**Aohua**	**0.64**	**302**	*i*	P		**Pb**	**01 30 24.2**	**0.0**
EAHA	baz=297				S		**Sn**	**01 30 33.6**	**-0.9**
	baz=297								
HWA	**Hwalien**	**0.67**	**269**	*i*	P		**Pb**	**01 30 25.2**	**+0.6**
HWA	baz=250				S		**Sn**	**01 30 36.4**	**+1.3**
	baz=250								
ETL	**Fush Village**	**0.67**	**285**	*i*	P		**Pb**	**01 30 24.8**	**+0.1**
ETL	baz=265				S		**Sn**	**01 30 34.7**	**-0.6**
	baz=265								
TWD	**Chiawan**	**0.68**	**278**	⇑*i*	P		**Pb**	**01 30 24.6**	**-0.2**
TWD	baz=273				S		**Sb**	**01 30 34.4**	**+0.5**
	baz=273								
EWUT	**Wuta**	**0.68**	**312**		P		**Pb**	**01 30 24.3**	**-0.6**
EWUT	baz=316				S		**Sb**	**01 30 33.1**	**-0.9**
	baz=316								
TEYL	**Yanliau Villag**	**0.69**	**260**		P		**Pb**	**01 30 24.8**	**-0.1**
TEYL	baz=247				S		**Sb**	**01 30 35.0**	**+1.0**
	baz=247								
ENA	**Nanau**	**0.70**	**309**	*i*	P		**Pb**	**01 30 24.6**	**-0.6**
	baz=312								
NACB	**Ninganchiao**	**0.70**	**286**		P		**Pb**	**01 30 25.1**	**-0.1**
NACB	**Ninganchiao**	**0.70**	**286**	⇑*i*	P		**Pb**	**01 30 25.0**	**-0.1**
	baz=266								
NACB				*i*	S		**Sb**	**01 30 35.0**	**+0.5**
	baz=266								
JYNG	**Yonagunijimaku**	**0.72**	**50**		P		**Pb**	**01 30 25.4**	**-0.1**
JYNG					S		**Sb**	**01 30 34.5**	**-0.7**
SHUL	**Shoufeng**	**0.73**	**255**		P		**Pb**	**01 30 25.5**	**-0.2**
	baz=250								
SHUL				*e*	S		**Sb**	**01 30 36.2**	**+0.8**
	baz=250								
TWC	**Suao**	**0.76**	**325**	⇓*i*	P		**Pb**	**01 30 25.4**	**-0.9**
TWC	baz=322			*i*	S		**Sb**	**01 30 34.8**	**-1.4**
	baz=322								
ETM	**Tongmen**	**0.77**	**269**		P		**Pb**	**01 30 26.0**	**-0.4**
ETM	baz=253				S		**Sb**	**01 30 35.9**	**-0.5**
	baz=253								
YOJ	**Yonaguni jima**	**0.78**	**52**		P		**Pb**	**01 30 26.5**	**0.0**
YOJ	**Yonaguni jima**	**0.78**	**52**		P		**Pb**	**01 30 26.5**	**0.0**
YOJ					S		**Sb**	**01 30 36.0**	**-0.7**
YOJ	**Yonaguni jima**	**0.78**	**52**	*i*	P		**Pb**	**01 30 26.3**	**-0.1**
	baz=63								
YOJ				*i*	S		**Sb**	**01 30 35.9**	**-0.7**
	baz=63								
ETLH	**Xiulin Townshi**	**0.81**	**286**	*i*	P		**Pb**	**01 30 26.9**	**-0.2**
ETLH	baz=270				S		**Sn**	**01 30 38.2**	**-0.6**
	baz=270								
ESL	**Shilin**	**0.84**	**258**	*i*	P		**Pb**	**01 30 26.9**	**-0.7**
ESL	baz=246			*i*	S		**Sb**	**01 30 37.9**	**-0.6**
	baz=246								
LXIB	**Xiulin Townshi**	**0.84**	**273**	*i*	P		**Pb**	**01 30 27.4**	**-0.3**
LXIB	baz=258			*i*	S		**Sb**	**01 30 38.5**	**-0.2**
	baz=258								
NDS	**Dongshan**	**0.86**	**319**		P		**Pb**	**01 30 27.2**	**-0.6**
NDS	baz=321			*e*	S		**Sb**	**01 30 38.3**	**-0.7**
	baz=321								
EGFH	**Guangfu**	**0.89**	**249**	*e*	P		**Pb**	**01 30 27.3**	**-1.0**
EGFH	baz=246			*e*	S		**Sb**	**01 30 39.5**	**-0.4**
	baz=246								
WARBT	**Fenglin Townsh**	**0.91**	**253**	*i*	P		**Pb**	**01 30 27.7**	**-1.0**
WARBT	baz=240			*i*	S		**Sb**	**01 30 39.5**	**-0.9**
	baz=240								
LATG	**Datong**	**0.92**	**307**	*i*	P		**Pb**	**01 30 28.6**	**-0.3**
LATG	baz=303				S		**Sn**	**01 30 41.2**	**-0.3**
	baz=303								
EGS		**0.93**	**337**	*i*	P		**Pn**	**01 30 28.9**	**-0.2**
EGS	baz=325				S		**Sn**	**01 30 41.0**	**-0.6**
	baz=325								
TWE	**Neicheng**	**0.95**	**320**	*i*	P		**Pn**	**01 30 29.6**	**+0.2**
ENTT	baz=318 **Nioudou**	**0.96**	**313**	*i*	P		**Pn**	**01 30 29.6**	**+0.1**
ENTT	baz=320				S		**Sn**	**01 30 41.5**	**-0.8**
	baz=320								
HGSD	**Ruisui**	**0.97**	**240**		P		**Pn**	**01 30 29.4**	**-0.2**
HGSD	baz=237				S		**Sb**	**01 30 41.8**	**-0.3**
	baz=237								
NDT	**Datong Townshi**	**0.97**	**309**		P		**Pn**	**01 30 29.7**	**0.0**
NDT	baz=316				S		**Sn**	**01 30 41.8**	**-0.8**
	baz=316								
NNSB	**Datong**	**0.97**	**297**	⇑*i*	P		**Pb**	**01 30 29.6**	**-0.3**
NNSB	baz=293				S		**Sn**	**01 30 42.6**	**-0.2**
	baz=293								
NNS	**Nan Shan**	**0.99**	**297**	⇓*i*	P		**Pn**	**01 30 30.0**	**0.0**
NNS	baz=293				S		**Sn**	**01 30 43.3**	**+0.1**
	baz=293								
WHF	**Hehuan Shan**	**0.99**	**279**	*i*	P		**Pb**	**01 30 29.9**	**-0.4**
WHF	baz=263				S		**Sb**	**01 30 42.7**	**-0.5**
	baz=263								
FUSB	**Fushanzhiwuyua**	**1.03**	**319**	⇑*i*	P		**Pb**	**01 30 30.5**	**-0.3**
FUSB	baz=315				S		**Sn**	**01 30 44.3**	**+0.1**
	baz=315								
EHYH	**Wanrong**	**1.03**	**242**	*e*	S		**Sb**	**01 30 43.8**	**-0.1**
FUSS	baz=239 **Fushou**	**1.03**	**285**		P		**Pn**	**01 30 30.6**	**0.0**
FUSS	baz=281				S		**Sn**	**01 30 45.1**	**+0.7**
	baz=281								
EHY	**Hungye**	**1.04**	**243**		P		**Pn**	**01 30 30.1**	**-0.5**
EHY	baz=240			*i*	S		**Sb**	**01 30 44.0**	**-0.3**
	baz=240								
ECBN	**Changbin**	**1.05**	**231**	*e*	P		**Pn**	**01 30 30.4**	**-0.3**
ECBN	baz=229			*e*	S		**Sb**	**01 30 44.5**	**+0.1**
	baz=229								
OWD	**Renai**	**1.06**	**269**	*i*	P		**Pn**	**01 30 30.9**	**-0.1**
OWD	baz=265				S		**Sb**	**01 30 44.0**	**-0.9**
	baz=265								
CHGB	**Renai**	**1.06**	**274**	⇑*i*	P		**Pn**	**01 30 30.9**	**-0.2**
CHGB	baz=259			*i*	S		**Sb**	**01 30 44.5**	**-0.6**
	baz=259								
TWB1	**Santiao Chiao**	**1.07**	**343**		P		**Pb**	**01 30 30.8**	**-0.6**
TWB1	baz=328			*i*	S		**Sn**	**01 30 45.9**	**+0.9**
	baz=328								
TWT	**Tachien**	**1.09**	**284**		P		**Pn**	**01 30 31.8**	**+0.3**
TWT	baz=270				S		**Sn**	**01 30 47.0**	**+1.1**
	baz=270								
NWLT	**Wulai**	**1.09**	**316**		P		**Pb**	**01 30 31.8**	**-0.1**
NWLT	baz=313				S		**Sn**	**01 30 45.9**	**+0.2**
	baz=313								
TDCB	**Techi**	**1.11**	**284**		P		**Pn**	**01 30 31.8**	**+0.1**
TDCB	baz=270				S		**Sn**	**01 30 46.5**	**+0.3**
	baz=270								
YHNB	**Yeheng**	**1.11**	**308**		P		**Pb**	**01 30 31.7**	**-0.4**
YHNB	**Yeheng**	**1.11**	**308**	⇑*i*	P		**Pb**	**01 30 31.8**	**-0.4**
	baz=304								
YHNB					S		**Sn**	**01 30 46.1**	**-0.1**
	baz=304								
WUSB	**Renai**	**1.11**	**271**	⇑*i*	P		**Pn**	**01 30 31.6**	**-0.1**
WUSB	baz=267			*i*	S		**Sb**	**01 30 46.4**	**0.0**
	baz=267								
VWDT	**VWDT**	**1.12**	**258**	*i*	P		**Pn**	**01 30 31.4**	**-0.3**
VWDT	baz=255			*i*	S		**Sn**	**01 30 45.8**	**-0.4**
	baz=255								
YULB	**Yu-li**	**1.12**	**238**		P		**Pn**	**01 30 31.6**	**-0.1**
YULB	**Yu-li**	**1.12**	**238**	⇑*i*	P		**Pn**	**01 30 31.3**	**-0.4**
	baz=225								
YULB				*i*	S		**Sn**	**01 30 45.8**	**-0.5**
	baz=225								
NSK	**Sanguang**	**1.12**	**308**	⇑*i*	P		**Pn**	**01 30 31.8**	**-0.1**
NSK	baz=304			*i*	S		**Sn**	**01 30 46.6**	**+0.1**
	baz=304								
EYUL	**Yuli**	**1.13**	**236**	*e*	P		**Pn**	**01 30 31.0**	**-0.7**
EYUL	baz=234				S		**Sn**	**01 30 46.2**	**-0.3**
	baz=234								
TWF1	**Yuli**	**1.14**	**237**		P		**Pn**	**01 30 31.6**	**-0.4**
TWF1	baz=223			*i*	S		**Sn**	**01 30 47.0**	**+0.2**
	baz=223								
CHKH	**Chenggong**	**1.17**	**228**	*e*	P		**Pn**	**01 30 30.4**	**-1.9**
SXI1	baz=214 **Grass Mountain**	**1.18**	**339**	⇑*i*	P		**Pn**	**01 30 32.4**	**-0.2**
SXI1	baz=336				S		**Sb**	**01 30 49.0**	**+0.7**
	baz=336								
NWF	**Wu-fen Shan**	**1.19**	**335**	*e*	P		**Pn**	**01 30 31.9**	**-0.9**
NWF	baz=332			*e*	S		**Sb**	**01 30 48.7**	**0.0**
	baz=332								
WFSB	**Wu-fen Shan**	**1.19**	**335**	*i*	P		**Pb**	**01 30 32.7**	**-0.8**
WFSB	baz=332				S		**Sb**	**01 30 48.7**	**+0.2**
	baz=332								
NHDH	**Xindian Distri**	**1.22**	**323**	*e*	P		**Pb**	**01 30 34.2**	**+0.1**
TATO	baz=334 **Taipei**	**1.25**	**322**		P		**Pb**	**01 30 34.5**	**0.0**
CHKT	**Chengkung**	**1.25**	**225**	*e*	P		**Pn**	**01 30 33.0**	**-0.5**
	baz=223								
TNOU	**National Taiwa**	**1.27**	**336**	*e*	P		**Pn**	**01 30 33.4**	**-0.3**
SSLB	baz=348 **Suanglung**	**1.28**	**261**		P		**Pn**	**01 30 34.1**	**+0.2**
SSLB	baz=249				S		**Sn**	**01 30 49.8**	**-0.5**
	baz=249								
NFF	**Wufeng Townshi**	**1.28**	**300**	*e*	P		**Pn**	**01 30 33.5**	**-0.5**
WHP	baz=297 **Taichung City**	**1.30**	**283**	*e*	P		**Pb**	**01 30 36.0**	**+0.5**
WCS	baz=270 **Beigang Elemen**	**1.30**	**273**	*e*	P		**Pn**	**01 30 34.2**	**0.0**
WCS	baz=262			*e*	S		**Sb**	**01 30 52.8**	**+1.0**
	baz=262								
SMLT	**Sun Moon Lake**	**1.32**	**266**		P		**Pn**	**01 30 34.0**	**-0.4**
SMLT	baz=253				S		**Sn**	**01 30 50.7**	**-0.6**
	baz=253								
EHD	**Haiduan**	**1.33**	**231**	*e*	P		**Pn**	**01 30 35.0**	**+0.4**
HATJ	baz=218 **Hateruma jima**	**1.35**	**87**		P		**Pn**	**01 30 35.5**	**+0.7**
HATJ					S		**Sb**	**01 30 53.5**	**+0.5**
YM01	**YM01**	**1.35**	**329**		P		**Pn**	**01 30 35.0**	**+0.1**
	baz=342								
TYC	**Yuchr**	**1.35**	**267**		P		**Pn**	**01 30 34.9**	**0.0**
LIOB	baz=264 **Emei**	**1.37**	**299**		P		**Pb**	**01 30 36.8**	**+0.2**
LIOB	baz=295			*e*	S		**Sb**	**01 30 54.2**	**+0.5**
	baz=295								
NSTT	**Nanjuang**	**1.38**	**298**	⇓*i*	P		**Pb**	**01 30 36.8**	**+0.1**
NSTT	baz=295			*i*	S		**Sb**	**01 30 54.5**	**+0.7**
	baz=295								
YM08	**YM08**	**1.38**	**331**	*e*	P		**Pb**	**01 30 35.6**	**-1.0**
EDH	baz=327 **Donghe**	**1.38**	**223**	*e*	P		**Pn**	**01 30 33.1**	**-2.2**
EDH	baz=213			*e*	S		**Sn**	**01 30 50.4**	**-2.4**
	baz=213								
WHYT	**Xinyi Township**	**1.39**	**258**	*e*	P		**Pn**	**01 30 35.6**	**+0.2**
TWS1	baz=247 **Kuangyinshan**	**1.39**	**323**	*i*	P		**Pb**	**01 30 36.2**	**-0.7**
TWS1	baz=331				S		**Sb**	**01 30 54.8**	**+0.6**
	baz=331								
ELDTW	**Lidau**	**1.45**	**237**		P		**Pn**	**01 30 36.5**	**+0.2**
TWY	baz=235 **Chenhua**	**1.45**	**333**		P		**Pn**	**01 30 36.3**	**+0.1**
SBCB	baz=330 **Hsinchu**	**1.47**	**303**	*e*	P		**Pb**	**01 30 37.8**	**-0.5**
TWQ1	baz=300 **Liyutan**	**1.47**	**285**	*i*	P		**Pb**	**01 30 38.2**	**-0.1**
TWQ1	baz=281				S		**Sb**	**01 30 56.9**	**+0.3**
	baz=281								
ALS	**Alishan**	**1.48**	**252**	*i*	P		**Pn**	**01 30 37.6**	**+0.7**
ALS	baz=249			*i*	S		**Sn**	**01 30 56.3**	**+0.7**
	baz=249								
WJS	**Zhushan**	**1.48**	**264**	*e*	P		**Pb**	**01 30 38.9**	**+0.5**
NSY	baz=261 **Sanyi**	**1.50**	**287**	*i*	P		**Pb**	**01 30 39.2**	**+0.4**
NSY	baz=283				S		**Sb**	**01 30 58.1**	**+0.7**
	baz=283								
NMLH	**Miaoli**	**1.51**	**292**		P		**Pb**	**01 30 38.9**	**-0.1**
NMLH	baz=288			*e*	S		**Sb**	**01 30 59.7**	**+1.9**
	baz=288								
WNT	**Mingjian**	**1.52**	**266**		P		**Pb**	**01 30 39.3**	**+0.3**
WNT	baz=263				S		**Sb**	**01 30 59.6**	**+1.8**
	baz=263								
TCU	**Taichung**	**1.52**	**276**	*e*	P		**Pb**	**01 30 39.2**	**0.0**
TCU	baz=273			*e*	S		**Sb**	**01 30 59.7**	**+1.6**
	baz=273								
LONT	**Longtian**	**1.54**	**226**	*e*	P		**Pn**	**01 30 35.9**	**-1.6**
JKRS	baz=238 **Kuro-shima**	**1.55**	**80**		P		**Pn**	**01 30 38.7**	**+1.1**
JKRS					S		**Sb**	**01 30 59.3**	**+0.4**
WDJ	**Dajia District**	**1.59**	**283**	*e*	P		**Pb**	**01 30 39.6**	**-0.7**
	baz=280								
WCHH	**Zhanghua**	**1.63**	**274**	*e*	P		**Pb**	**01 30 40.8**	**-0.2**
WCHH	baz=270			*e*	S		**Sb**	**01 31 02.5**	**+1.5**
	baz=270								
TWGBT	**Beinan**	**1.64**	**225**		P		**Pn**	**01 30 39.9**	**+1.1**
TWGBT	**Beinan**	**1.64**	**225**	*e*	P		**Pn**	**01 30 37.7**	**-1.1**
	baz=235								
TWG	**Pinlang**	**1.64**	**225**	*e*	P		**Pn**	**01 30 37.8**	**-1.1**
STYH	baz=235 **Taoyuan**	**1.65**	**241**	*e*	P		**Pn**	**01 30 39.3**	**+0.4**
STYH	baz=229			*e*	S		**Sn**	**01 30 59.8**	**+0.6**
	baz=229								
WDLH	**Douliu**	**1.67**	**260**	*e*	P		**Pb**	**01 30 41.4**	**-0.3**
WDLH	baz=258			*e*	S		**Sb**	**01 31 03.0**	**+0.7**
	baz=258								
WCKO	**Fanlu**	**1.68**	**251**	*e*	P		**Pn**	**01 30 40.3**	**+0.9**
	baz=249								
JIJ	**Ishigaki jima**	**1.69**	**77**		P		**Pn**	**01 30 39.8**	**+0.2**
JIJ				*e*	S		**Sn**	**01 31 01.2**	**+0.8**
TPUB	**Ta-pu**	**1.71**	**247**		P		**Pn**	**01 30 40.8**	**+1.0**
TPUB	**Ta-pu**	**1.71**	**247**	*e*	P		**Pn**	**01 30 41.5**	**+1.8**
	baz=245								
TPUB				*e*	S		**Sb**	**01 31 03.0**	**-0.4**
	baz=245								
CHN4	**Tsaushan**	**1.72**	**249**		P		**Pn**	**01 30 41.6**	**+1.7**
WTP	baz=247 **Ta-pu**	**1.74**	**245**		P		**Pb**	**01 30 42.5**	**-0.5**
WTP	baz=244				S		**Sb**	**01 31 04.0**	**-0.4**
	baz=244								
WRL	**Guolierlin Hig**	**1.79**	**268**	*e*	P		**Pn**	**01 30 42.3**	**+1.4**
WRL	baz=265			*e*	S		**Sb**	**01 31 05.8**	**0.0**
	baz=265								
WTK	**Tuku**	**1.81**	**261**	*e*	P		**Pb**	**01 30 43.8**	**-0.2**
SLGT	baz=247 **Liugui**	**1.84**	**238**	*e*	P		**Pn**	**01 30 43.2**	**+1.7**
CHN1	baz=227 **Nanshi**	**1.84**	**245**	*e*	P		**Pn**	**01 30 42.6**	**+1.0**
SGST	baz=243 **Jiashian**	**1.84**	**241**	*e*	P		**Pn**	**01 30 42.2**	**+0.6**
ECL	baz=229 **Taimali**	**1.88**	**223**	*e*	P		**Pn**	**01 30 41.6**	**-0.4**
JISG	baz=232 **Ishigakijimahi**	**1.90**	**71**	*e*	P		**Pn**	**01 30 42.7**	**+0.3**
JISG				*e*	S		**Sn**	**01 31 04.6**	**-0.9**
ICHU	**Yijhu**	**1.98**	**252**	*e*	P		**Pn**	**01 30 45.1**	**+1.5**
TSMG	baz=251 **Majia**	**2.01**	**231**	*e*	P		**Pn**	**01 30 46.5**	**+2.6**
LAY	baz=221 **Lan-yu**	**2.07**	**201**	*e*	P		**Pn**	**01 30 43.6**	**-1.2**
MASBT	baz=201 **Mashibuluo**	**2.08**	**229**	*e*	P		**Pn**	**01 30 46.0**	**+1.1**
EAST	baz=220 **Anshuo**	**2.10**	**221**	*e*	P		**Pn**	**01 30 44.4**	**-0.9**
TSCK	baz=220 **Chigu Township**	**2.23**	**248**	*e*	P		**Pn**	**01 30 47.8**	**+0.9**
SCZT	baz=247 **Fangliau**	**2.25**	**225**	*e*	P		**Pn**	**01 30 48.0**	**+0.8**
JTJ	baz=218 **Tarama**	**2.26**	**73**	*e*	P		**Pn**	**01 30 49.3**	**+2.0**
SLIU	**Shizi**	**2.26**	**219**	*e*	P		**Pn**	**01 30 47.7**	**+0.3**
TWKBT	baz=219 **Hengchun**	**2.47**	**215**	*e*	P		**Pn**	**01 30 50.0**	**-0.2**
TWK1	baz=215 **Hengchun**	**2.47**	**215**	*e*	P		**Pn**	**01 30 51.0**	**+0.6**
PNG	baz=215 **Penghu**	**2.58**	**261**	*e*	P		**Pn**	**01 30 52.3**	**+0.6**
	baz=260								

*SJA **02** 01:36:35.9±0.7,21.04°S×68.88°W,h118km±4km,ML3.3, MW3.5*
*GUC **02** 01:36:37.9±0.8,21.07°S×68.81°W,h102km±4km,ML3.4*
ISC 02 01:36:39.4±1.4,21.03S±0.03×68.92W±0.05,h95km±11km, n31,σ1s52/54,3C-3D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.53**	**269**	*e*	P		**Pn**	**01 36 53.8**	**-1.2**
PB01				*e*	S		**Sn**	**01 37 07.1**	**+0.5**
PB01				IAML				01 37 10.1	
	comp=Z,331nm,0.1s								
PB01	**IPOC Station P**	**0.53**	**269**	⇓*i*	P		**Pn**	**01 36 53.9**	**-1.1**
PB01				*i*	S		**Sn**	**01 37 06.8**	**+0.2**
PB01				IAML				01 37 10.3	
	comp=N,826nm,0.1s								
PB09	**IPOC Station P**	**0.82**	**201**	*e*	P		**Pn**	**01 36 56.6**	**-1.1**
PB09				*e*	S		**Sn**	**01 37 12.4**	**+1.0**
PB09				IAML				01 37 14.6	
	comp=Z,303nm,0.3s								
PB09	**IPOC Station P**	**0.82**	**201**	*e*	P		**Pn**	**01 36 56.6**	**-1.1**
PB09				*i*	S		**Sn**	**01 37 11.6**	**+0.2**
PB09				IAML				01 37 15.1	
	comp=E,364nm,0.4s								
PB08	**IPOC Station P**	**0.91**	**346**	*e*	P		**Pn**	**01 36 57.9**	**-1.0**
PB08				*e*	S		**Sn**	**01 37 14.8**	**+1.3**
PB08				IAML				01 37 15.6	
	comp=Z,402nm,0.4s								
PB08	**IPOC Station P**	**0.91**	**346**	⇓*i*	P		**Pn**	**01 36 58.4**	**-0.5**
PB08				*i*	S		**Sn**	**01 37 14.3**	**+0.8**
PB08				IAML				01 37 15.7	
	comp=E,759nm,0.5s								
PB02	**IPOC Station P**	**0.95**	**252**	*e*	P		**Pn**	**01 36 58.1**	**-1.0**
PB02				*e*	S		**Sn**	**01 37 15.0**	**+1.2**
PB02				IAML				01 37 19.0	
	comp=Z,1μm,0.2s								
PB02	**IPOC Station P**	**0.95**	**252**	⇑*i*	P		**Pn**	**01 36 58.3**	**-0.7**
PB02				*i*	S		**Sn**	**01 37 14.4**	**+0.6**
PB02				IAML				01 37 16.5	
	comp=E,1μm,0.4s								
PB07	**IPOC Station P**	**1.14**	**232**	*e*	P		**Pn**	**01 36 59.9**	**-1.2**
PB07				*e*	S		**Sn**	**01 37 18.6**	**+1.0**
PB07				IAML				01 37 24.2	
	comp=Z,305nm,0.3s								
PB07	**IPOC Station P**	**1.14**	**232**	⇑*i*	P		**Pn**	**01 36 60.0**	**-1.2**
PB07				*i*	S		**Sn**	**01 37 17.7**	**+0.2**
PB07				IAML				01 37 23.1	
	comp=E,603nm,0.4s								
PATCX	**Punta Patache**	**1.17**	**280**	*e*	P		**Pn**	**01 37 00.9**	**-0.6**
PATCX				IAML				01 37 21.1	
	comp=Z,506nm,0.4s								
PATCX	**Punta Patache**	**1.17**	**280**	⇑*i*	P		**Pn**	**01 37 01.0**	**-0.5**
PATCX				*i*	S		**Sn**	**01 37 19.3**	**+1.2**
PATCX				IAML				01 37 22.0	
	comp=E,884nm,0.5s								
PATCX				IAML				01 37 24.9	
	comp=N,1μm,0.3s								
HMBC	**Humberstone**	**1.18**	**309**	*e*	P		**Pn**	**01 37 00.8**	**-0.8**
HMBC				IAML				01 37 22.6	
	comp=Z,820nm,0.5s								
TA01	**Diego Aracena**	**1.27**	**291**	*e*	P		**Pn**	**01 37 01.7**	**-0.8**
TA01				*e*	S		**Sn**	**01 37 21.6**	**+1.6**
TA01				IAML				01 37 24.3	
	comp=Z,351nm,0.2s								
TA01	**Diego Aracena**	**1.27**	**291**	*e*	P		**Pn**	**01 37 01.8**	**-0.8**
TA01				*i*	S		**Sn**	**01 37 20.7**	**+0.7**
TA01				IAML				01 37 24.0	
	comp=N,842nm,0.6s								
TA02	**Huaiquique**	**1.36**	**304**	*e*	P		**Pn**	**01 37 03.0**	**-0.7**
TA02				*e*	S		**Sn**	**01 37 25.7**	**+3.6**
TA02				IAML				01 37 30.1	
	comp=Z,512nm,0.1s								
TA02	**Huaiquique**	**1.36**	**304**	*e*	P		**Pn**	**01 37 03.2**	**-0.5**
TA02				*i*	S		**Sn**	**01 37 23.1**	**+1.1**
TA02				IAML				01 37 28.9	
	comp=E,1μm,0.1s								
GO01	**Chusmiza**	**1.38**	**349**	*e*	P		**Pn**	**01 37 04.2**	**-0.2**
GO01				*e*	S		**Sn**	**01 37 24.3**	**+1.1**
GO01	**Chusmiza**	**1.38**	**349**	⇓*i*	P		**Pn**	**01 37 03.6**	**-0.8**
GO01				IAML				01 37 29.4	
	comp=N,1μm,0.1s								
PB11	**IPOC Station P**	**1.44**	**331**	*e*	P		**Pn**	**01 37 03.9**	**-0.9**
PB11				IAML				01 37 28.4	
	comp=Z,335nm,0.3s								
PB11	**IPOC Station P**	**1.44**	**331**	*e*	P		**Pn**	**01 37 04.1**	**-0.8**
PB11				*i*	S		**Sn**	**01 37 24.8**	**+0.8**
PB11				IAML				01 37 26.9	
	comp=E,1μm,0.1s								
LVC	**Limon Verde**	**1.57**	**180**	*e*	P		**Pn**	**01 37 05.6**	**-1.1**
LVC				*e*	S		**Sn**	**01 37 27.8**	**+0.6**
PB04	**IPOC Station P**	**1.73**	**221**	*e*	P		**Pn**	**01 37 07.4**	**-1.0**
PB04				*e*	S		**Sn**	**01 37 32.2**	**+1.7**
PB04				IAML				01 37 35.9	
	comp=Z,290nm,0.1s								
PB04	**IPOC Station P**	**1.73**	**221**	*e*	P		**Pn**	**01 37 07.3**	**-1.2**
PB04				IAML				01 37 37.4	
	comp=N,394nm,0.4s								
PB06	**IPOC Station P**	**1.77**	**200**	*e*	P		**Pn**	**01 37 07.7**	**-1.3**
PB06				IAML				01 37 38.6	
	comp=Z,256nm,0.7s								
PB06	**IPOC Station P**	**1.77**	**200**	*e*	P		**Pn**	**01 37 07.4**	**-1.6**
PB06				*i*	S		**Sn**	**01 37 30.9**	**-0.6**
PB06				IAML				01 37 35.9	
	comp=E,308nm,0.4s								
PB05	**IPOC Station P**	**2.17**	**213**	*e*	P		**Pn**

comp=E,222nm,0.8s
PB12 IPOC Station P 2.75 331 *e*P **Pn 01 37 19.7 -2.1**
PB12 *e*S **Sn 01 37 50.4 -3.9**
PB12 IAML 01 38 02.9
comp=Z,109nm,0.2s
YJA Yavi 3.37 110 *e*P **Pn 01 37 29.9 -0.5**
YJA *e*S **Sn 01 38 10.7 +1.0**
LPAZ La Paz 4.78 9 *e*P **Pn 01 37 50.6 +1.0**

IDC 02 01:38:36.4±2.0, 2°87'N×127°99'E, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=141.7km s-min=26.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.51**	**165**	P	P	01 43 48.2	0.0
	2.4nm,0.6s,baz=344,slow=10,SNR=23						
	2.4nm,0.6s						
STKA	**Stephens Creek**	**36.89**	**161**	P	P	01 45 46.3	-0.7
	0.8nm,0.3s,baz=331,slow=9.8,SNR=2.8						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**58.98**	**325**	P	P	01 48 38.2	+0.4
	0.3nm,0.4s,baz=115,slow=7.2,SNR=5.4						
	0.3nm,0.4s						

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*IDC **02** 01:45:49.2±2.5, 45°64'N×154°35'E, h0km, mb3.7/5, mbtmp3.8/7, ML3.1/2, Error ellipse: s-maj=63.7km s-min=31.4km az=175.0*
ISC 02 01:45:52.7±2.1, 45°8'N±0°3×154°3'E±0°2, h19km, n7, σ0°82/7, mb3.9/5, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**7.69**	**16**	Pn	**Pn**	**01 47 43.2**	**-0.3**
	0.2nm,0.3s,baz=186,slow=12,SNR=3.3						
	0.9nm,0.4s						
USRK	**Uesuriysk Ar.**	**15.86**	**272**	Pn	**Pn**	**01 49 34.3**	**-0.4**
	0.4nm,0.3s,baz=80,slow=14,SNR=8.1						
	4.5nm,0.6s						
MKAR	**Makanchi Array**	**48.13**	**299**	P	**P**	**01 54 31.4**	**+0.2**
	0.7nm,0.6s,baz=72,slow=7.2,SNR=3.1						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**48.69**	**305**	P	**P**	**01 54 35.1**	**-0.4**
	0.7nm,0.6s,baz=68,slow=8.3,SNR=5.2						
	0.7nm,0.6s						
FINES	**FINESS Array B**	**65.29**	**335**	P	**P**	**01 56 32.8**	**0.0**
	0.7nm,0.6s,baz=27,slow=6.6,SNR=5.8						
	0.7nm,0.6s						
HFS	**Hagfors**	**69.67**	**340**	P	**P**	**01 57 02.0**	**+1.5**
	0.3nm,0.4s,baz=37,slow=5.7,SNR=4.3						
	0.3nm,0.4s						
TXAR	**Lajitas Array**	**77.26**	**61**	P	**P**	**01 57 45.5**	**-0.3**
	0.5nm,0.8s,baz=281,slow=3.3,SNR=5.3						
	0.5nm,0.8s						

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*ASRS **02** 01:47:14.7, 53°4N±1°0×87°4E±1°0, h4km±1km, MLh3.5/22, confirmed*
*IDC **02** 01:47:16.4±1.4, 53°45N×87°42E, h0km, mb3.5/2, mbtmp3.8/5, ML3.5/3, MS3.7/1, Error ellipse: s-maj=14.6km s-min=12.2km az=73.0*
*NNC **02** 01:47:17.6±2.2, 53°34N×87°31E, h6km±19km, mb4.2, mpv3.9, Error ellipse: s-maj=22.3km s-min=8.6km az=64.0, Suspected Mining explosion.*
ISC 02 01:47:15.6±0.6, 53°42N±0°02×87°42E±0°02, h0km, n43, σ1s24/77, 10C-10D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MALIN	**Malinovka, Kuz**	**0.09**	**269**	⇑P	**Pg**	**01 47 17.9**	**+0.6**
MALIN				S	**Sg**	**01 47 19.8**	**+1.4**
TAIL	**Tailep, Kuzbas**	**0.14**	**281**	P	**Pg**	**01 47 19.7**	**+1.5**
TAIL				S	**Sg**	**01 47 22.3**	**+2.3**
KIYZ	**Kiyzas, Kuzbas**	**0.24**	**56**	⇓P	**Pg**	**01 47 20.8**	**+0.5**
KIYZ				S	**Sg**	**01 47 25.1**	**+1.7**
TASR	**Tashtagol**	**0.72**	**157**	⇓P	**Pg**	**01 47 29.3**	**-0.1**
TASR				S	**Sg**	**01 47 39.3**	**+0.6**
ELT	**Eltsovka**	**0.73**	**258**	⇓P	**Pg**	**01 47 29.3**	**-0.2**
ELT				S	**Sg**	**01 47 39.4**	**+0.5**
VCHU	**Verkh-Chumysh,**	**0.79**	**313**	P	**Pg**	**01 47 29.8**	**-0.9**
VCHU				S	**Sb**	**01 47 43.1**	**-0.4**
KOTO	**Kotino, Kuzbas**	**0.82**	**339**	P	**Pg**	**01 47 31.7**	**+0.4**
KOTO				Sg	**Sb**	**01 47 44.6**	**+0.2**
BJR3	**Bachatsky-3 (S**	**1.10**	**318**	P	**Pg**	**01 47 36.5**	**-0.2**
BJR3				Sg	**Sb**	**01 47 52.9**	**+0.5**
POMOR	**Pomortsevo, Ku**	**1.12**	**332**	Pg	**Pb**	**01 47 37.7**	**-0.2**
POMOR				Sg	**Sn**	**01 47 54.9**	**+0.2**
BJR2	**Bachatsky-2, K**	**1.15**	**319**	Pg	**Pg**	**01 47 37.9**	**+0.2**
BJR2				Sg	**Sn**	**01 47 55.0**	**-0.5**
SALR	**Pechorkino, Sa**	**1.42**	**315**	⇓P	**Pn**	**01 47 41.9**	**-0.9**
SALR				Sg	**Sn**	**01 48 03.3**	**+1.2**
ARTR	**Artybash**	**1.63**	**183**	P	**Pn**	**01 47 45.2**	**-0.4**
ARTR				Sg	**Sn**	**01 48 07.0**	**-0.2**
ZAA0	**Zalesovo Array**	**1.64**	**290**	⇑P	**Pn**	**01 47 45.5**	**-0.1**
	6.0nm,0.6s						
ZAA0				⇓S	**Sg**	**01 48 08.3**	**+0.2**
	11nm,0.6s						
ZALV	**Zalesovo Beam**	**1.64**	**290**	Pg	**Pn**	**01 47 45.8**	**+0.2**
	14nm,0.3s,baz=109,slow=15,SNR=99						
ZALV				Lg	Lg	01 48 07.1	
	8.4nm,0.3s,baz=113,slow=28,SNR=7.6						
YALR	**Yailyu, Altay**	**1.66**	**176**	P	**Pn**	**01 47 45.3**	**-0.6**
YALR				S	**Sn**	**01 48 07.7**	**-0.3**
GALT	**Gorno-Altaysk,**	**1.72**	**212**	P	**Pn**	**01 47 46.8**	**0.0**
GALT				S	**Sn**	**01 48 09.5**	**+0.1**
VEH	**Verkhnyaya Baz**	**1.75**	**94**	Pg	**Pn**	**01 47 47.4**	**+0.1**
VEH				S	**Sn**	**01 48 10.4**	**+0.2**
KEM	**Kemerovo**	**2.08**	**338**	P	**Pn**	**01 47 52.3**	**+0.6**
KEM				S	**Sg**	**01 48 21.9**	**-0.4**
ELDR	**Elanda**	**2.35**	**201**	P	**Pb**	**01 47 57.4**	**-1.5**
ELDR				S	**Sb**	**01 48 28.0**	**-0.5**
DJO	**Djoy, Khakassi**	**2.38**	**104**	P	**Pb**	**01 47 57.7**	**-1.6**
DJO				S	**Sb**	**01 48 28.9**	**-0.3**
CERR	**Cheremushki**	**2.47**	**102**	P	**Pb**	**01 47 59.4**	**-1.5**
CERR				S	**Sb**	**01 48 31.0**	**-0.8**
KHAR	**Kharino, NSO,**	**2.56**	**299**	P	**Pn**	**01 47 57.3**	**-1.0**
KHAR				S	**Sn**	**01 48 30.6**	**+0.6**
ULGR	**Ulagan, Altay**	**2.82**	**173**	P	**Pn**	**01 48 03.0**	**+1.0**
ULGR				S	**Sb**	**01 48 41.5**	**-0.5**
NVSII	**Novosibirsk**	**2.84**	**302**	P	**Pb**	**01 48 05.3**	**-1.9**
NVSII				S	**Sb**	**01 48 42.7**	**+0.2**
NVS	**Novosibirsk**	**2.84**	**302**	P	**Pb**	**01 48 05.6**	**-1.6**
NVS				S	**Sb**	**01 48 42.5**	**0.0**
UKR	**Ust'-Kan**	**2.98**	**214**	P	**Pb**	**01 48 09.0**	**-0.5**
UKR				S	**Sb**	**01 48 46.9**	**+0.5**
CHBI	**Chibit, Altay**	**3.11**	**179**	P	**Pn**	**01 48 08.8**	**+2.7**
CHBI				S	**Sb**	**01 48 52.5**	**+2.1**
CUR	**Chagan-Uzun**	**3.38**	**170**	P	**Pb**	**01 48 15.8**	**-0.6**
CUR				S	**Sb**	**01 48 59.9**	**+1.8**
ARDR	**Aradan**	**3.73**	**101**	P	**Pn**	**01 48 16.1**	**+1.7**
ARDR				S	**Sn**	**01 49 00.9**	**+1.9**
DGZ	**Jazzator, Alta**	**3.73**	**180**	P	**Pb**	**01 48 20.3**	**-2.1**
DGZ				S	**Sg**	**01 49 13.5**	**-1.8**
KURK	**Kurchatov**	**6.07**	**247**	⇓Pn	**Pn**	**01 48 47.7**	**+1.2**
	11nm,0.6s						
KURK				⇑Lg	Lg	01 50 27.1	
	22nm,0.7s						
KURBB	**Kurchatov Arra**	**6.16**	**247**	⇑Pn	**Pn**	**01 48 48.9**	**+1.1**
	24nm,0.6s						
KURBB				⇓Sn	**Sn**	**01 49 57.4**	**-1.5**
	21nm,0.7s						
KURBB				⇑Sn	**Sn**	**01 49 57.9**	**-1.0**
	5.6nm,0.5s						
KURBB				⇓Lg	Lg	01 50 30.5	
	49nm,0.7s						
KURBB	**Kurchatov Arra**	**6.16**	**247**	Pn	**Pn**	**01 48 49.7**	**+1.9**
	1.0nm,0.3s,baz=62,slow=14,SNR=147						
KURBB				Lg	Lg	01 50 30.6	
	0.3nm,0.3s,baz=61,slow=31,SNR=5.5						
	19nm,0.5s						
MK31	**Makanchi Array**	**7.41**	**208**	⇑Pn	**Pn**	**01 49 06.7**	**+1.8**
	8.5nm,0.5s,baz=28,slow=12,SNR=147						
MK31				⇑Sn	**Sn**	**01 50 29.6**	**-0.1**
	3.1nm,0.6s,baz=35,slow=28,SNR=4.9						
MK31				Lg	Lg	01 51 08.8	
	11nm,0.8s,baz=32,slow=30,SNR=8.4						
MKAR	**Makanchi Array**	**7.41**	**208**	Pn	**Pn**	**01 49 07.2**	**+2.3**
	4.2nm,0.3s,baz=28,slow=13,SNR=210						
MKAR				Sn	**Sn**	**01 50 31.1**	**+1.4**
	0.8nm,0.3s,baz=35,slow=29,SNR=5.8						
MKAR				Lg	Lg	01 51 10.4	
	1.0nm,0.3s,baz=23,slow=29,SNR=7.6						
	13nm,0.5s						
BVA0	**Borovoye Array**	**10.22**	**275**	⇓Pn	**Pn**	**01 49 43.7**	**+0.2**
	4.4nm,1.2s,baz=74,slow=16,SNR=12						
BVA0				⇓Sn	**Sn**	**01 51 37.8**	**-0.9**
	3.6nm,0.7s,baz=0.0,slow=0.1,SNR=5.8						
BVAR	**Borovoye Array**	**10.22**	**275**	Pn	**Pn**	**01 49 42.9**	**-0.6**
	0.1nm,0.3s,baz=76,slow=15,SNR=13						
BVAR				Sn	**Sn**	**01 51 34.8**	**-3.9**
	0.1nm,0.3s,baz=82,slow=24,SNR=6.1						
	1.6nm,0.4s						
BRVK	**Borovoye**	**10.28**	**275**	⇑Pn	**Pn**	**01 49 45.1**	**+0.8**
	2.0nm,0.7s						
BRVK				⇑Sn	**Sn**	**01 51 37.4**	**-2.7**
	2.6nm,0.7s						
OTUK	**Ortayu**	**10.85**	**248**	⇑Pn	**Pn**	**01 49 50.7**	**-1.3**
	2.1nm,0.6s						
AAK	**Ala-Archa**	**13.80**	**224**	Lg	Lg	01 54 36.4	
	0.1nm,0.3s,baz=186,slow=20,SNR=1.6						
AKASG	**Malin Array Be**	**35.03**	**290**	LR	LR	02 10 51.9	
	comp=Z,127nm,21.6s,baz=90,slow=40						
NOA	**NORSAR Array B**	**39.71**	**312**	P	**P**	**01 54 50.5**	**+1.3**
	0.7nm,1.0s,baz=72,slow=6.9,SNR=2.3						
	0.7nm,1.0s						
ILAR	**Eielson Array**	**54.96**	**25**	P	**P**	**01 56 47.5**	**-0.3**
	0.4nm,0.7s,baz=317,slow=4.9,SNR=5.0						
	0.4nm,0.7s						

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*HVO **02** 02:14:54.0±1.1, 19°43N±0°02×154°94W±0°02, h-0km±9km, ML2.5/4, ML2.5/38(NEIC), Error ellipse: s-maj=3.0km s-min=1.7km az=146.0*
NEIC 02 02:14:55.8±1.3, 19°41N±0°01×155°02W±0°02, h5km±2km, Error ellipse: s-maj=3.4km s-min=3.0km az=128.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.02**	**27**	Pg		02 14 56.0	-0.8
STCH	**Steam Cracks**	**0.11**	**255**	Pg		02 14 57.5	-0.5
PHO	**Puu Honuaula**	**0.14**	**60**	Pg		02 14 56.5	-2.1
KNHH	**Kane Nui o Ham**	**0.15**	**257**	Pg		02 14 59.0	+0.2
PUH	**Pauahi**	**0.19**	**258**	Pg	Pg	02 14 59.4	-0.2
BYL	**Byron's Ledge**	**0.23**	**270**	Pg	Pg	02 14 59.6	-0.7
BYL				IAML		02 15 06.6	
	comp=N,619nm,1.0s						
HATHI	**Halema'uma'u T**	**0.23**	**272**	Pg	Pg	02 15 00.2	-0.2
HATHI				IAML		02 15 08.0	
	comp=N,554nm,1.2s						
KKO	**Keanakako`i**	**0.24**	**266**	Pg	Pg	02 15 00.2	-0.2
KKO				IAML		02 15 08.3	
	comp=E,538nm,1.3s						
SBLHI	**Steaming Bluff**	**0.24**	**273**	Pg	Pg	02 14 59.9	-0.6
SBLHI				IAML		02 15 09.1	
	comp=N,483nm,1.2s						
SBLHI				IAML		02 15 09.5	
	comp=E,435nm,0.9s						
RIM	**Rim**	**0.24**	**266**	Pg	Pg	02 15 00.5	-0.1
RIM				IAML		02 15 06.8	
	comp=E,650nm,1.2s						
UWB	**Uwekahuna B**	**0.25**	**273**	Pg	Pg	02 15 00.1	-0.5
RSD	**Rainshed**	**0.25**	**281**	Pg	Pg	02 15 00.8	0.0
RSD				IAML		02 15 08.0	
	comp=E,552nm,0.3s						
UWE	**Uwekahuna**	**0.26**	**272**	Pg	Pg	02 15 00.6	-0.3
UWE				IAML		02 15 05.6	
	comp=N,623nm,2.2s						
SDHHI	**Sand Hill**	**0.26**	**265**	Pg	Pg	02 15 00.4	-0.6
SDHHI				IAML		02 15 06.2	
	comp=N,698nm,0.8s						
SDHHI				IAML		02 15 06.5	
	comp=E,736nm,0.9s						
HLP	**Hilina Pali**	**0.30**	**247**	Pg	Pg	02 15 01.9	+0.3
HLP				IAML		02 15 07.5	
	comp=N,384nm,1.5s						
MLH	**Mauna Loa**	**0.36**	**283**	Pg	Pg	02 15 03.0	+0.1
MLH				IAML		02 15 08.6	
	comp=E,310nm,3.2s						
MLH				IAML		02 15 11.3	
	comp=N,329nm,0.8s						
HTC	**Hot Caves**	**0.40**	**244**		Pg	02 15 03.9	+0.4
HMH	**Humu'ula Sheep**	**0.48**	**293**	Pg	Pg	02 15 04.7	-0.3
HMH				IAML		02 15 18.8	
	comp=N,397nm,0.8s						
HMH				IAML		02 15 19.0	
	comp=E,348nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.54**	**283**	Pg	Pg	02 15 05.7	-0.6
MLOA				IAML		02 15 22.4	
	comp=N,218nm,2.1s						
MLOA				IAML		02 15 24.6	
	comp=E,230nm,1.5s						
MWH	**Moku'aweowe**	**0.55**	**277**	Pg	Pg	02 15 05.9	-0.6
MWH				IAML		02 15 27.2	
	comp=E,276nm,0.7s						
KHU	**Kahuku**	**0.59**	**254**	Pg	Pg	02 15 06.1	-1.1
POHA	**Pohakuloa**	**0.60**	**305**	Pg	Pg	02 15 05.8	-1.4
POHA				IAML		02 15 18.5	
	comp=E,241nm,1.3s						
POHA				IAML		02 15 26.2	
	comp=E,281nm,1.5s						
ALEP	**Alea Permanent**	**0.61**	**282**		Pg	02 15 06.7	-0.8
HUH	**Hualalai**	**0.82**	**289**	Pg	Pg	02 15 09.8	-1.8

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*PRU **02** 02:40:11.9, 42°24N×20°88E, h0km*
*PDG **02** 02:40:16.9±0.2, 42°35N×19°87E, h13km, MD2.8/5, ML2.7/13, Error ellipse: s-maj=0.3km s-min=0.3km az=0.0*
*RHSSO **02** 02:40:16.9±0.5, 42°37N×19°93E, h2km±2km, ML2.8/17*
*BEO **02** 02:40:17.6±0.3, 42°32N×19°82E, h7km±2km, ML2.4/14*
*TIR **02** 02:40:17.1, 42°27N×20°03E, h4km, Md2.6, Ml2.7*
ISC 02 02:40:16.9±0.9, 42°33N±0°02×19°90E±0°02, h7km±7km, n73, σ1s28/127, 11C-4D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCI	**Bajram Curri**	**0.13**	**74**	P	**Pg**	**02 40 19.2**	**-0.5**
	baz=16						
BCI				S	**Sg**	**02 40 21.8**	**+0.2**
	baz=16						
BCI				AMP			
	comp=E,17nm,0.5s,baz=16						
PVY	**Plav**	**0.27**	**9**	⇓*i*Pg	**Pg**	**02 40 22.1**	**-0.1**
PVY				*i* Sg	**Sg**	**02 40 26.5**	**+0.7**
PUK	**Puka**	**0.29**	**181**	P	**Pg**	**02 40 22.5**	**-0.1**
	baz=205						
PUK				S	**Sg**	**02 40 27.1**	**+0.7**
	baz=205						
PUK				AMP			
	comp=E,7.3nm,0.1s,baz=205						
PDG	**Podgorica**	**0.49**	**282**	*e*Pg	**Pg**	**02 40 25.3**	**-1.0**
PDG				*e*Sg	**Sg**	**02 40 32.9**	**+0.2**
PDG	**Podgorica**	**0.49**	**282**	⇑*i*Pg	**Pg**	**02 40 25.3**	**-1.0**
PDG				*e*Sg	**Sg**	**02 40 32.5**	**-0.2**
PDG	**Podgorica**	**0.49**	**282**	⇑*i*Pg	**Pg**	**02 40 25.4**	**-0.9**
PDG				*i* Sg	**Sg**	**02 40 33.5**	**+0.8**
IVA	**Berane**	**0.54**	**359**	⇓*i*Pg	**Pg**	**02 40 27.3**	**0.0**
IVA				*i* Sg	**Sg**	**02 40 35.1**	**+0.7**
DRME	**Dracevica, Mon**	**0.55**	**255**	⇑*i*Pg	**Pg**	**02 40 26.6**	**-0.9**
DRME				*e*Sg	**Sg**	**02 40 35.9**	**+1.2**
DRME	**Dracevica, Mon**	**0.55**	**255**	⇑*i*Pg	**Pg**	**02 40 26.7**	**-0.8**
DRME				*i* Sg	**Sg**	**02 40 35.7**	**+1.0**
KOME	**Kolasin**	**0.59**	**331**	⇑*i*Pg	**Pg**	**02 40 27.7**	**-0.6**
KOME				*i* Sg	**Sg**	**02 40 36.6**	**+0.5**
ULC	**Ulcinj**	**0.61**	**233**	⇑*i*Pg	**Pg**	**02 40 29.2**	**+0.5**
ULC				*i* Sg	**Sb**	**02 40 38.0**	**-0.7**
BUM	**Brajici-Budva**	**0.75**	**268**	⇓*i*Pg	**Pg**	**02 40 30.6**	**-0.7**
BUM				*i* Sg	**Sg**	**02 40 42.1**	**+1.1**
CEME	**Cevo**	**0.76**	**287**	⇑*i*Pg	**Pg**	**02 40 29.8**	**-1.7**
CEME				*i* Sg	**Sg**	**02 40 42.2**	**+0.8**
NKME	**Niksic**	**0.82**	**302**	⇑*i*Pg	**Pg**	**02 40 31.0**	**-1.7**
NKME				*i* Sg	**Sg**	**02 40 44.3**	**+0.8**
HCY	**Herceg Novi**	**1.05**	**277**	*e*Pg	**Pg**	**02 40 36.1**	**-1.0**
HCY				*e*Sg	**Sg**	**02 40 51.4**	**+0.8**
HCY	**Herceg Novi**	**1.05**	**277**	⇑*i*Pg	**Pg**	**02 40 36.0**	**-1.0**
HCY				*i* Sg	**Sb**	**02 40 52.3**	**+1.0**
PLE	**Pljevlja**	**1.07**	**339**	⇑*i*Pg	**Pg**	**02 40 36.3**	**-1.1**
PLE				*i* Sg	**Sb**	**02 40 52.5**	**+0.6**
UPM	**Unac-Piva**	**1.14**	**320**	*e*Pg	**Pg**	**02 40 37.6**	**-1.2**
UPM				*e*Sg	**Sg**	**02 40 53.1**	**-0.4**
UPM	**Unac-Piva**	**1.14**	**320**	⇑*i*Pg	**Pg**	**02 40 37.6**	**-1.2**
UPM				*i* Sg	**Sb**	**02 40 54.9**	**+0.8**
BRY	**Bratogost**	**1.16**	**300**	*e*Pg	**Pg**	**02 40 37.0**	**-2.1**
BRY				*e*Sg	**Sg**	**02 40 54.5**	**+0.4**
BRY	**Bratogost**	**1.16**	**300**	⇓*i*Pg	**Pg**	**02 40 37.8**	**-1.3**
BRY				*i* Sg	**Sn**	**02 40 55.8**	**+0.1**
SKO	**Skopje**	**1.20**	**107**	*i* Pn	**Pn**	**02 40 39.8**	**-0.3**
TREB	**Trebinje**	**1.21**	**289**	*e*Pg	**Pg**	**02 40 38.8**	**-1.3**
TREB				*e*Sg	**Sg**	**02 40 54.1**	**-1.7**
TREB	**Trebinje**	**1.21**	**289**	*e*Pg	**Pg**	**02 40 38.5**	**-1.6**
TREB				*e*Sg	**Sg**	**02 40 55.8**	**0.0**
SELS	**Selova**	**1.26**	**45**	*e*Pg	**Pn**	**02 40 40.9**	**-0.1**
SELS				*e*Sg	**Sn**	**02 41 00.1**	**+1.9**
KLINJ	**Klinje**	**1.28**	**311**	*e*Pg	**Pn**	**02 40 39.8**	**-1.5**
KLINJ				*e*Sg	**Sg**	**02 40 57.6**	**-0.5**
DBRK	**Dubrovnik**	**1.34**	**285**	*e*Pn	**Pn**	**02 40 41.1**	**-0.9**
DBRK				Sn	**Sn**	**02 41 04.0**	**+4.0**
RUDO	**Rudo**	**1.34**	**343**	*e*Pg	**Pn**	**02 40 40.1**	**-2.0**
RUDO				*e*Sg	**Sb**	**02 40 58.2**	**-1.6**
OHR	**Ohrid**	**1.39**	**151**	*i* Pn	**Pg**	**02 40 43.1**	**-0.5**
BARS	**Barje**	**1.50**	**70**	*e*Pg	**Pg**	**02 40 44.7**	**-0.9**
BARS				*e*Sg	**Sg**	**02 41 07.2**	**+2.3**
BBLS	**Lazi&#263i**	**1.57**	**347**	*e*Pn	**Pn**	**02 40 45.7**	**+0.4**
BBLS				*e*Sg	**Sb**	**02 41 06.9**	**+0.4**
BBLS	**Lazi&#263i**	**1.57**	**347**	*e*Pn	**Pn**	**02 40 45.2**	**-0.1**
BBLS				*e*Sn	**Sn**	**02 41 05.6**	**-0.4**
PRVS	**Prvonek**	**1.62**	**83**	*e*Pn	**Pg**	**02 40 47.3**	**-0.7**
PRVS				*e*Sg	**Sg**	**02 41 11.4**	**+2.4**
NEVS	**Nevesinje**	**1.64**	**307**	*e*Pn	**Pb**	**02 40 47.1**	**-0.4**
NEVS				*e*Sn	**Sn**	**02 41 08.3**	**+0.8**
GRUS	**Gruza**	**1.67**	**21**	*e*Pn	**Pb**	**02 40 48.0**	**+0.1**
STON	**Ston**	**1.71**	**289**	*i* Pn	**Pn**	**02 40 47.5**	**+0.4**
STON				Sn	**Sg**	**02 41 14.2**	**+2.3**
STON	**Ston**	**1.71**	**289**	*e*Pn	**Pn**	**02 40 47.1**	**0.0**
STON				*e*Sn	**Sn**	**02 41 09.9**	**+0.7**
DIVS	**Divibare**	**1.77**	**2**	*e*Pn	**Pn**	**02 40 48.2**	**+0.2**
FNA	**Florina**	**1.90**	**144**	P	**Pg**	**02 40 52.8**	**-0.6**
	baz=145						
FNA				S	**Sg**	**02 41 17.8**	**-0.3**
	baz=145						
FNA				AMP			
	comp=N,0.2nm,0.5s,baz=145						
BOSS	**Bosilegrad**	**1.92**	**84**	*e*Pn	**Pb**	**02 40 50.8**	**-1.4**
TRUS	**Trudelj**	**1.93**	**11**	*e*Pn	**Pb**	**02 40 51.2**	**-1.1**
TRUS				*e*Sn	**Sb**	**02 41 16.7**	**+0.1**
ZAPS	**Zavoj**	**2.22**	**64**	*e*Pn	**Pb**	**02 40 55.6**	**-1.8**
ZAPS				*e*Sn	**Sb**	**02 41 23.6**	**-1.5**
TEKS	**Tekeris**	**2.23**	**353**	*e*Pn	**Pn**	**02 40 53.9**	**-0.4**
TEKS				*e*Sn	**Sn**	**02 41 22.9**	**+0.8**
TEKS	**Tekeris**	**2.23**	**353**	*e*Pn	**Pn**	**02 40 54.1**	**-0.2**
TEKS				*e*Sn	**Sn**	**02 41 22.4**	**+0.3**
VAY	**Valandovo**	**2.24**	**116**	*i* Pn	**Pb**	**02 40 57.5**	**-0.1**
LSK	**Leskovik**	**2.24**	**166**	P	**Pg**	**02 40 58.6**	**-1.3**
	baz=168						
LSK				S	**Sg**	**02 41 28.8**	**-0.2**
	baz=168						
LSK				AMP			
	comp=E,0.3nm,0.7s,baz=168						
ZAGS	**Zajecar**	**2.26**	**48**	*e*Pn	**Pn**	**02 40 54.8**	**+0.1**
ZAGS				*e*Sn	**Sb**	**02 41 25.8**	**-0.4**
LSTV	**Lastovo**	**2.27**	**282**	*e*Pn	**Pn**	**02 40 55.5**	**+0.8**
MAKA	**Makarska**	**2.33**	**295**	*e*Pn	**Pn**	**02 40 56.6**	**+1.1**
MAKA				Sn	**Sb**	**02 41 28.3**	**+0.3**
RICI	**Ricice**	**2.34**	**301**	*e*Pn	**Pb**	**02 40 58.8**	**-0.6**
RICI				Sn	**Sg**	**02 41 33.8**	**+1.7**
KUBS	**Kucevo**	**2.45**	**31**	*e*Pn	**Pn**	**02 40 58.5**	**+1.2**
KUBS				*e*Sn	**Sb**	**02 41 30.8**	**-0.8**
SRN	**Sarande**	**2.45**	**178**	P	**Pb**	**02 41 00.4**	**-0.8**
	baz=181						
SRN				S	**Sg**	**02 41 33.8**	**-1.8**
	baz=181						
SRN				AMP			
	comp=E,0.1nm,0.7s,baz=181						
SRKY	**Kupres RS**	**2.65**	**312**	*e*Pn	**Pn**	**02 41 01.0**	**+0.9**
SRKY				*e*Sn	**Sn**	**02 41 32.6**	**+0.1**
FRGS	**Fruska Gora**	**2.83**	**359**	*e*Pn	**Pn**	**02 41 02.0**	**-0.5**
FRGS				*e*Sn	**Sn**	**02 41 36.7**	**0.0**
MGRS	**Mrkonjic Grad**	**2.92**	**316**	*e*Pn	**Pn**	**02 41 04.7**	**+0.9**
MGRS				*e*Sn	**Sn**	**02 41 39.7**	**+0.5**
BLY	**Banja Luka**	**3.12**	**322**	*e*Pn	**Pn**	**02 41 06.9**	**+0.4**
BLY	**Banja Luka**	**3.12**	**322**	*e*Pn	**Pn**	**02 41 07.5**	**+1.0**
BLY				*e*Sn	**Sn**	**02 41 43.9**	**-0.1**
A050A	**Klekovaca**	**3.26**	**312**	*e*Pn	**Pn**	**02 41 09.6**	**+1.1**
A050A				*e*Sn	**Sn**	**02 41 47.0**	**-0.6**
A051A	**Mrakovica**	**3.45**	**322**	*e*Pn	**Pn**	**02 41 11.8**	**+0.7**
A051A				*e*Sn	**Sn**	**02 41 51.9**	**-0.3**
BOJS	**Bojanci**	**4.62**	**315**	*e*Pn	**Pn**	**02 41 27.0**	**-0.1**
BOJS				*e*Sn	**Sn**	**02 42 20.5**	**-0.4**
CRES	**Cresnjev**	**4.74**	**319**	*e*Pn	**Pn**	**02 41 28.8**	**+0.1**
CEY	**Cerknica**	**5.21**	**313**	*e*Pn	**Pn**	**02 41 35.8**	**+0.6**
CEY				*e*Sn	**Sn**	**02 42 33.9**	**-1.7**
SOKA	**Soboth**	**5.57**	**323**	*e*Pn	**Pn**	**02 41 43.2**	**

WTVZ	West Tongariro	1.20	67	P		Pn	03 18 19.1	+0.8
WTVZ				S		S	03 18 43.4	-1.2
HIZ	Hauiti	1.21	26	P		Pn	03 18 18.6	+0.4
HIZ	Hauiti	1.21	26	P		Pn	03 18 18.7	+0.5
SNVZ	South Ngauruho	1.21	71	P		Pn	03 18 19.4	+1.1
NNVZ	North Ngauruho	1.21	68	P		Pn	03 18 19.4	+1.0
DUWZ	D'Urville Isla	1.22	189	P		Pn	03 18 19.4	+1.2
OTVZ	Oturere	1.24	70	P		Pn	03 18 19.7	+1.1
MOVZ	Moawhango	1.24	82	P		Pn	03 18 19.1	+0.6
KRVZ	Karewarewa	1.25	67	P		Pn	03 18 19.4	+0.8
NTVZ	North Tongariro	1.27	67	P		Pn	03 18 19.7	+1.0
TMVZ	Te Maari	1.28	68	P		Pn	03 18 20.1	+1.3
KATZ	Kakaramea	1.34	63	P		Pn	03 18 20.3	+1.1
KIW	Kapiti Island	1.38	156	P		Pn	03 18 20.3	+1.0
OGWZ	Otaki Gorge	1.44	148	P		Pn	03 18 21.0	+1.2
RATZ	Rangitukua	1.44	60	P		Pn	03 18 20.9	+1.0
RITZ	Rihia Road	1.45	65	P		Pn	03 18 21.2	+1.2
TSZ	Takapari Road	1.46	109	P		Pn	03 18 21.1	+1.1
POWZ	Post Office Ro	1.46	123	P		Pn	03 18 21.0	+1.0
BHHZ	Black Hill Sta	1.47	86	P		Pn	03 18 20.6	+0.5
WATZ	Wairara	1.51	54	P		Pn	03 18 21.6	+1.1
MRZ	Mangatainoka R	1.52	135	P		Pn	03 18 21.4	+1.0
PNHZ	Pukenui	1.60	102	P		Pn	03 18 22.3	+1.1
TCW	Tory Channel	1.61	177	P		Pn	03 18 22.5	+1.3
CAW	Cannon Point	1.66	156	P		Pn	03 18 22.6	+1.0
HOWZ	Holdsworth Sta	1.66	142	P		Pn	03 18 22.5	+0.8
TLZ	Tolley Road	1.66	41	P		Pn	03 18 22.2	+0.4
PRWZ	Pori Road	1.68	125	P		Pn	03 18 23.2	+1.4
DVHZ	Dannevirke	1.69	115	P		Pn	03 18 23.0	+1.1
KRHZ	Kereru	1.70	92	P		Pn	03 18 23.2	+1.1
TKNZ	Takaka Hill	1.71	212	P		Pn	03 18 22.9	+0.9
NNZ	Nelson	1.73	200	P		Pn	03 18 23.8	+1.2
WELZ	Wellington	1.75	165	P		Pn	03 18 23.8	+1.5
KWHZ	Kaweka Forest	1.75	85	P		Pn	03 18 23.9	+1.4
QRZ	Quartz Range	1.75	225	P		Pn	03 18 23.0	+0.5
QRZ	Quartz Range	1.75	225	P		Pn	03 18 23.1	+0.7
SNZO	South Karori	1.76	167	P		Pn	03 18 23.3	+0.9
TIWZ	Tintock	1.77	132	P		Pn	03 18 23.9	+1.3
WPHZ	Waipukurau	1.81	106	P		Pn	03 18 24.4	+1.4
TUWZ	Tuamarina	1.84	185	P		Pn	03 18 24.4	+1.2
BKZ	Black Stump Fm	1.85	77	P		Pn	03 18 24.1	+0.6
BKZ	Black Stump Fm	1.85	77	P		Pn	03 18 24.2	+0.8
MTW	Mount Morrison	1.86	147	P		Pn	03 18 24.3	+0.8
BHW	Baring Head	1.89	164	P		Pn	03 18 24.5	+0.8
BFZ	Birch Farm	1.93	125	P		Pn	03 18 25.1	+1.1
BFZ	Birch Farm	1.93	125	P		Pn	03 18 25.2	+1.1
MCHZ	McNeill Hill	1.96	86	P		Pn	03 18 26.3	+1.9
ANWZ	Angora Road	1.97	117	P		Pn	03 18 26.0	+1.6
TMWZ	Te Maipa	2.00	139	P		Pn	03 18 25.8	+1.0
PRHZ	Porangahau	2.01	110	P		Pn	03 18 26.4	+1.6
PAWZ	Paruwai Farm	2.02	152	P		Pn	03 18 25.8	+0.8
HRRZ	Handcock Road	2.04	54	P		Pn	03 18 25.4	+0.1
HSRZ	Hossack Road	2.07	52	P		Pn	03 18 26.6	+1.1
MRNZ	Matariki Terra	2.10	210	P		Pn	03 18 26.5	+0.8
KAHZ	Kahuranaki	2.10	96	P		Pn	03 18 27.4	+1.6
NMHZ	Naumai	2.11	77	P		Pn	03 18 27.6	+1.7
PXZ	Pawanui	2.12	103	P		Pn	03 18 27.3	+1.4
BSWZ	Blackbirch Sta	2.13	186	P		Pn	03 18 27.3	+1.3
PLWZ	Palliser	2.14	158	P		Pn	03 18 26.8	+0.7
TOZ	Tahuroa Road	2.14	30	P		Pn	03 18 27.0	+0.8
TRWZ	Traveller	2.14	148	P		Pn	03 18 27.0	+0.9
CMWZ	Cape Campbell	2.15	179	P		Pn	03 18 28.4	+2.3
MTHZ	Maungataniwha	2.21	71	P		Pn	03 18 27.5	+0.6
ARHZ	Aropaoanui	2.21	82	P		Pn	03 18 28.5	+1.6
CKHZ	Cape Kidnapper	2.25	92	P		Pn	03 18 28.8	+1.6
OMRZ	Omania	2.27	50	P		Pn	03 18 28.5	+0.9
MURZ	Murupara	2.31	62	P		Pn	03 18 28.1	+0.2
RAHZ	Arahi	2.37	74	P		Pn	03 18 29.6	+1.2
THZ	Tophouse	2.37	204	P		Pn	03 18 29.5	+1.0
RTZ	Ruatahuna	2.40	67	P		Pn	03 18 29.2	+0.4
WHHZ	Waihua	2.43	79	P		Pn	03 18 30.5	+1.4
AWAZ	Awhitu Peninsu	2.56	9	P		Pn	03 18 32.3	+1.8
SNGZ	Shannon Statio	2.60	73	P		Pn	03 18 31.8	+0.9
MKAZ	Moumakai	2.61	18	P		Pn	03 18 32.6	+1.6
URZ	Urewera	2.66	61	P		Pn	03 18 31.6	+0.1
URZ	Urewera	2.66	61	P		Pn	03 18 31.5	-0.1
KNZ	Kokohu	2.78	79	P		Pn	03 18 33.9	+1.1
DSZ	Denniston Nort	2.80	219	P		Pn	03 18 34.0	+0.9
KHZ	Kahutara	2.85	189	P		Pn	03 18 35.4	+1.8
KHZ	Kahutara	2.85	189	P		Pn	03 18 35.3	+1.7
WIAZ	Waiheke Island	2.90	15	P		Pn	03 18 36.2	+1.9
MWZ	Matawai	2.91	65	P		Pn	03 18 34.7	+0.4
MHGZ	Mahia Peninsul	2.93	82	P		Pn	03 18 36.1	+1.6
RIGZ	Rimuhau	2.93	73	P		Pn	03 18 35.7	+1.1
PRGZ	Paritu Road	2.96	200	P		Pn	03 18 36.0	+1.1
TKGZ	Te Karaka	3.09	69	P		Pn	03 18 37.3	+0.9
KUZ	Kuaotunu	3.10	24	P		Pn	03 18 38.0	+1.5
KUZ	Kuaotunu	3.10	24	P		Pn	03 18 38.0	+1.5
RUGZ	Raukumara Rang	3.19	60	P		Pn	03 18 37.1	-0.5
TWGZ	Tauwhareparae	3.30	66	P		Pn	03 18 39.6	+0.9
CNGZ	Carnagh Statio	3.34	72	P		Pn	03 18 40.6	+1.4
HAZ	Te Kaha	3.37	58	P		Pn	03 18 39.3	-0.4
GVZ	Greta Valley S	3.47	194	P		Pn	03 18 41.2	+0.5
LTZ	Lake Taylor	3.49	204	P		Pn	03 18 41.7	+0.8
PUZ	Puketiti	3.54	66	P		Pn	03 18 41.9	+0.3
INZ	Inchbonnie	3.74	212	P		Pn	03 18 44.4	+0.5
AMCZ	Amberley	3.75	197	P		Pn	03 18 44.7	+0.8
WMGZ	Waiomatatini S	3.77	63	P		Pn	03 18 44.4	+0.2
MXZ	Matakaoa Point	3.83	59	P		Pn	03 18 45.2	+0.2
MXZ	Matakaoa Point	3.83	59	P		Pn	03 18 45.4	+0.4
OXZ	Oxford	4.05	203	P		Pn	03 18 47.8	+0.2
WVZ	Waitaha Valley	4.33	216	P		Pn	03 18 51.6	+0.7
AKCZ	Akaroa Harbour	4.37	192	P		Pn	03 18 51.9	+0.4
MHCZ	Mount Hutt	4.39	206	P		Pn	03 18 52.2	+0.4
RACZ	Rakaia	4.40	200	P		Pn	03 18 52.3	+0.5
WACZ	Wakanui South	4.68	201	P		Pn	03 18 55.6	+0.4
GCSZ	Gaunt Creek Bo	4.70	217	P		Pn	03 18 56.0	+0.4
RPZ	Rata Peaks	4.73	209	P		Pn	03 18 56.3	+0.4
RPZ	Rata Peaks	4.73	209	P		Pn	03 18 56.3	+0.4
ARCZ	Arundel	4.89	206	P		Pn	03 18 58.2	+0.3
FOZ	Fox Glacier	5.11	218	P		Pn	03 19 01.0	+0.4
TMZ	Timaru	5.33	205	P		Pn	03 19 04.1	+0.7
LBZ	Lake Benmore	5.63	211	P		Pn	03 19 07.6	+0.4
JCZ	Jackson Bay	6.01	220	P		Pn	03 19 12.6	+0.5
JCZ	Jackson Bay	6.01	220	P		Pn	03 19 12.3	+0.2
ODZ	Otahua Downs	6.04	204	P		Pn	03 19 13.2	+0.9
ODZ	Otahua Downs	6.04	204	P		Pn	03 19 13.3	+0.9

*NEIC **02** 03:25:12.0±0.5, 36°80N±0°04×98°33W±0°02, h14km±7km, Error ellipse: s-maj=5.6km s-min=0.5km az=152.0*

TUL 02 03:25:12.2±1.2, 36°79N±0°01×98°33W±0°02, h5km±5km, ML2.8, mb_Lg2.3/39(NEIC), ML2.6/28(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=150.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK032	**Salt Plains WL**	**0.09**	**79**		Pg	03 25 14.7	+0.5
OK032				Sg	Sg	03 25 16.4	+0.8
OK035	**E0210 Rd and N**	**0.32**	**256**	Pg	Pg	03 25 18.9	+0.5
OK035				Sg	Sg	03 25 22.8	+0.2
OK035				IAML		03 25 24.0	
	794nm,0.2s						
KAN14	**Manchester OK**	**0.34**	**60**	Pg	Pg	03 25 19.1	+0.3
KAN14				Sg	Sg	03 25 23.9	+0.8
KAN14				IAML		03 25 24.2	
	comp=N,869nm,0.2s						
GC02	**Grant County #**	**0.38**	**80**	Pg	Pg	03 25 19.9	+0.4
GC02				Sg	Sg	03 25 25.3	+0.8
CROK	**Carrier**	**0.39**	**136**		Pg	03 25 20.1	+0.3
CROK				Sg	Sg	03 25 25.7	+0.7
OK038	**West end E0370**	**0.46**	**228**		Pg	03 25 21.3	+0.3
OK038				Sg	Sg	03 25 27.9	+1.0
KAN17	**Caldwell West**	**0.52**	**60**	Pg	Pg	03 25 22.5	+0.4
KAN17				Sg	Sg	03 25 29.8	+0.9
KAN17				IAML		03 25 31.0	
	comp=N,550nm,0.3s						
KAN17				IAML		03 25 39.7	
	comp=E,539nm,0.3s						
KAN08	**Anthony NE Sta**	**0.52**	**33**		Pg	03 25 22.5	+0.2
U32A	**Winter Ranch,**	**0.68**	**233**	Pg	Pg	03 25 25.2	-0.1
U32A				IAML		03 25 37.3	
	comp=N,210nm,0.3s						
U32A				IAML		03 25 39.6	
	comp=E,187nm,0.3s						
OK048	**Pawnee Station**	**1.17**	**108**		Pg	03 25 34.1	-0.5
OK048				IAML		03 25 54.0	
	comp=E,189nm,0.2s						
OK048				IAML		03 25 54.5	
	comp=E,89nm,0.2s						
CSTR	**Hydro, Custer**	**1.18**	**195**		Pg	03 25 34.5	-0.2
OK029	**Liberty Lake**	**1.21**	**144**		Pg	03 25 35.2	-0.2
OK029				IAML		03 25 52.0	
	comp=E,103nm,0.5s						
OK029				IAML		03 25 55.5	
	comp=E,130nm,0.4s						
QUOK	**Quay**	**1.44**	**115**		Pn	03 25 39.0	+0.1
T35A	**Sooner Cattle**	**1.46**	**84**		Pn	03 25 39.2	-0.1
OK052	**Battle Ridge R**	**1.46**	**122**		Pn	03 25 39.0	-0.3
OKCSW	**OKLAHOMA CITY**	**1.55**	**152**	IAmb_Lg		03 26 03.2	
	comp=Z,14nm,0.7s						
R32A	**Long Quarter,**	**1.66**	**349**		Pn	03 25 42.0	0.0
FNO	**Franklin**	**1.70**	**154**		Pn	03 25 42.8	+0.2
DEOK	**Depew**	**1.75**	**122**	Pn	Pn	03 25 43.1	-0.2
DEOK				IAmb_Lg		03 26 06.1	
	comp=Z,12nm,1.3s						
W35A	**Tecumseh**	**2.01**	**144**	Pn	Pn	03 25 47.6	+0.8
WMOK	**Wichita Mounta**	**2.08**	**190**	Pn	Pn	03 25 48.1	+0.4
TUL3	**Leonard**	**2.22**	**112**		Pn	03 25 50.2	+0.5
TUL3				IAmb_Lg		03 26 22.2	
	comp=Z,12nm,0.8s						
SMWD	**Samnorwood**	**2.29**	**223**	Pn	Pn	03 25 50.6	-0.1
CBKS	**Cedar Bluff**	**2.31**	**332**	Pn	Pn	03 25 50.8	-0.2
KSU1	**Kansas State U**	**2.68**	**30**	Pn	Pn	03 25 55.8	-0.2
WTFS	**Witchita Falls**	**3.02**	**182**	IAmb_Lg		03 26 55.2	
	comp=Z,8.2nm,1.0s						
U38A	**Gravette**	**3.19**	**95**	Pn	Pn	03 26 03.4	+0.4
U38A				IAmb_Lg		03 26 56.5	
	comp=Z,5.8nm,0.8s						
X37A	**Clayton**	**3.25**	**131**	IAmb_Lg		03 26 59.8	
	comp=Z,8.5nm,1.0s						
AMTX	**Amarillo**	**3.32**	**236**	Pn	Pn	03 26 05.2	+0.3
RTBA	**Rita Blanca**	**3.57**	**266**	Pn	Pn	03 26 07.9	-0.4
HHAR	**Hobbs**	**3.57**	**97**	Pn	Pn	03 26 08.5	+0.3
S39A	**Bolivar**	**4.09**	**76**	IAmb_Lg		03 27 32.9	
	comp=Z,6.5nm,0.9s						
MIAR	**Mount Ida**	**4.47**	**119**	Pn	Pn	03 26 21.4	+0.8
MIAR				IAmb_Lg		03 27 43.4	
	comp=Z,5.9nm,1.1s						
P38A	**Dawn**	**4.72**	**52**	IAmb_Lg		03 27 49.7	
	comp=Z,4.2nm,0.8s						
MGMO	**Mountain Grove**	**4.86**	**84**	IAmb_Lg		03 27 53.6	
	comp=E,6.3nm,0.8s						
T25A	**Trinidad**	**4.89**	**276**	IAmb_Lg		03 27 57.2	
	comp=Z,7.4nm,1.0s						
R40A	**Maddies Statio**	**5.04**	**71**	IAmb_Lg		03 27 52.2	
	comp=Z,8.3nm,0.9s						
FCAR	**Ozark Folk Cen**	**5.08**	**98**	IAmb_Lg		03 28 07.6	
	comp=Z,3.5nm,0.8s						
CCM	**Cathedral Cave**	**5.78**	**75**	IAmb_Lg		03 28 17.2	
	comp=Z,4.7nm,0.8s						
T42A	**Van Buren**	**5.80**	**85**	IAmb_Lg		03 28 18.3	
	comp=Z,5.3nm,1.1s						
PBMO	**Poplar Bluff**	**6.34**	**88**	IAmb_Lg		03 28 44.0	
	comp=Z,6.3nm,0.9s						
N23A	**Red Feather La**	**7.22**	**307**	IAmb_Lg		03 29 10.1	
	comp=Z,4.6nm,0.8s						
S44A	**Carbondale**	**7.29**	**80**	IAmb_Lg		03 29 04.6	
	comp=E,6.4nm,0.7s						
SIUC	**Southern Illin**	**7.32**	**80**	IAmb_Lg		03 29 07.5	
	comp=E,5.4nm,0.7s						
RSSD	**Black Hills**	**8.52**	**331**	IAmb_Lg		03 29 49.7	
	comp=Z,2.1nm,0.8s						

*HVO **02** 03:33:45.6±1.4, 19°34N±0°04×154°95W±0°03, h-1km±10km, ML2.6/3, ML2.4/30(NEIC), Error ellipse: s-maj=5.8km s-min=3.8km az=169.0*

NEIC 02 03:33:44.3±1.2, 19°34N±0°04×154°84W±0°02, h5km±2km, Error ellipse: s-maj=7.2km s-min=3.1km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.31**	**277**		Pg	03 33 51.1	+0.7
PUH	**Pauahi**	**0.35**	**275**		Pg	03 33 51.0	-0.2
BYL	**Byron's Ledge**	**0.40**	**280**		Pg	03 33 51.2	-0.9
BYL				IAML		03 33 56.9	
	comp=N,551nm,1.0s						
BYL				IAML		03 33 58.1	
	comp=E,503nm,1.6s						
HATHI	**Halema'uma'u T**	**0.40**	**281**		Pg	03 33 52.0	-0.2
HATHI				IAML		03 33 58.8	
	comp=N,705nm,0.8s						
HATHI				IAML		03 33 59.3	
	comp=E,653nm,1.1s						
SBLHI	**Steaming Bluff**	**0.41**	**282**		Pg	03 33 51.7	-0.6
RIM	**Rim**	**0.41**	**277**		Pg	03 33 51.4	-0.9
RIM				IAML		03 33 57.1	
	comp=E,617nm,1.6s						
UWB	**Uwekahuna B**	**0.42**	**281**		Pg	03 33 51.7	-0.7
RSD	**Rainshed**	**0.43**	**286**		Pg	03 33 52.4	-0.2
RSD				IAML		03 33 53.9	
	comp=N,396nm,3.8s						
SDHHI	**Sand Hill**	**0.43**	**276**		Pg	03 33 52.1	-0.5
SDHHI				IAML		03 33 55.8	
	comp=E,720nm,0.9s						
UWE	**Uwekahuna**	**0.43**	**280**		Pg	03 33 52.8	+0.1
UWE				IAML		03 33 53.2	
	comp=N,632nm,2.0s						
WRMHI	**West Rim**	**0.44**	**278**		Pg	03 33 52.0	-0.8
HLP	**Hilina Pali**	**0.44**	**264**		Pg	03 33 52.9	+0.1
HLP				IAML		03 34 00.5	
	comp=E,539nm,2.1s						
HLP				IAML		03 34 00.9	
	comp=N,381nm,2.9s						
HTC	**Hot Caves**	**0.54**	**259**		Pg	03 33 54.8	+0.1
MLH	**Mauna Loa**	**0.54**	**286**		Pg	03 33 54.6	0.0
MLH				IAML		03 33 59.5	
	comp=N,245nm,3.2s						
MLH				IAML		03 34 07.2	
	comp=E,298nm,3.7s						
HMH	**Humu'ula Sheep**	**0.66**	**293**		Pg	03 33 56.9	-0.1
HMH				IAML		03 34 02.1	
	comp=E,228nm,3.6s						
HMH				IAML		03 34 12.4	
	comp=N,302nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.72**	**286**	Pg	Pg	03 33 57.8	-0.3
MLOA				IAML		03 34 15.2	
	comp=E,292nm,3.6s						
KHU	**Kahuku**	**0.74**	**263**		Pg	03 33 58.4	-0.1
KHU	**Kahuku**	**0.74**	**263**	IAML		03 34 06.0	
	comp=N,258nm,3.4s						
KHU				IAML		03 34 16.0	
	comp=E,459nm,3.7s						

*SJA **02** 03:37:40.7±0.8, 22°38S×68°79W, h114km±3km, ML3.3, MW3.5*

*GUC **02** 03:37:42.9±0.7, 22°38S×68°83W, h108km±4km, ML3.3*

ISC 02 03:37:41.3±1.4, 22°38S±0°03×68°84W±0°05, h120km±8km, n34, σ1°28/58, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.24**	**196**	*e*P	**Pn**	**03 37 57.8**	**-0.7**
LVC				*e*S	**Sn**	**03 38 10.1**	**-1.4**
LVC				IAML		03 38 10.5	
	comp=Z,2μm,0.1s						
PB09	**IPOC Station P**	**0.69**	**327**	*e*P	**Pn**	**03 38 00.7**	**-0.2**
PB09				*e*S	**Sn**	**03 38 15.6**	**+0.1**
PB09				IAML		03 38 16.8	
	comp=Z,740nm,0.2s						
PB09	**IPOC Station P**	**0.69**	**327**	*e*P	**Pn**	**03 38 01.3**	**+0.4**
PB09				*i* S	**Sn**	**03 38 14.9**	**-0.6**
PB09				IAML		03 38 15.8	
	comp=N,994nm,0.3s						
PB06	**IPOC Station P**	**0.75**	**245**	*e*P	**Pn**	**03 38 01.2**	**0.0**
PB06				*e*S	**Sn**	**03 38 17.8**	**+1.4**
PB06				IAML		03 38 18.5	
	comp=Z,475nm,0.3s						
PB06	**IPOC Station P**	**0.75**	**245**	*e*P	**Pn**	**03 38 01.3**	**0.0**
PB06				*i* S	**Sn**	**03 38 15.9**	**-0.5**
PB06				IAML		03 38 17.4	
	comp=N,1μm,0.1s						
AF01	**San Pedro de A**	**0.83**	**133**	*e*P	**Pn**	**03 38 02.3**	**+0.2**
AF01				*i* S	**Sn**	**03 38 17.8**	**0.0**
PB15	**IPOC Station P**	**1.01**	**215**	*e*P	**Pn**	**03 38 04.2**	**+0.5**
PB15				*e*S	**Sn**	**03 38 21.1**	**+0.5**
PB15	**IPOC Station P**	**1.01**	**215**	*e*P	**Pn**	**03 38 04.3**	**+0.6**
PB15				*i* S	**Sn**	**03 38 20.6**	**0.0**
PB07	**IPOC Station P**	**1.17**	**304**	*e*P	**Pn**	**03 38 05.7**	**+0.3**
PB07				*e*S	**Sn**	**03 38 23.3**	**-0.2**
PB07				IAML		03 38 23.8	
	comp=Z,970nm,0.3s						
PB07	**IPOC Station P**	**1.17**	**304**	*e*P	**Pn**	**03 38 05.8**	**+0.5**
PB07				*i* S	**Sn**	**03 38 23.1**	**-0.4**
PB07				IAML		03 38 23.6	
	comp=N,1μm,0.4s						
PB04	**IPOC Station P**	**1.22**	**272**	*e*P	**Pn**	**03 38 06.1**	**+0.3**
PB04				*e*S	**Sn**	**03 38 25.0**	**+0.7**
PB04				IAML		03 38 27.6	
	comp=Z,467nm,0.3s						
PB04	**IPOC Station P**	**1.22**	**272**	*e*P	**Pn**	**03 38 06.2**	**+0.4**
PB04				*i* S	**Sn**	**03 38 23.6**	**-0.6**
PB04				IAML		03 38 28.9	
	comp=N,605nm,0.3s						
PB05	**IPOC Station P**	**1.34**	**249**	*e*P	**Pn**	**03 38 07.5**	**+0.4**
PB05				*e*S	**Sn**	**03 38 27.6**	**+0.8**
PB05				IAML		03 38 29.7	
	comp=Z,141nm,0.2s						
PB05	**IPOC Station P**	**1.34**	**249**	*e*P	**Pn**	**03 38 07.6**	**+0.4**
PB05				*i* S	**Sn**	**03 38 26.2**	**-0.5**
PB05				IAML		03 38 35.0	
	comp=N,194nm,0.5s						
PB02	**IPOC Station P**	**1.44**	**317**	*e*P	**Pn**	**03 38 08.7**	**+0.4**
PB02				*e*S	**Sn**	**03 38 28.8**	**+0.1**
PB02				IAML		03 38 30.8	
	comp=Z,595nm,0.3s						
PB02	**IPOC Station P**	**1.44**	**317**	*e*P	**Pn**	**03 38 08.5**	**+0.2**
PB02				*i* S	**Sn**	**03 38 28.2**	**-0.5**
PB01	**IPOC Station P**	**1.46**	**335**	*e*P	**Pn**	**03 38 08.7**	**+0.3**
PB01				IAML		03 38 32.0	
	comp=Z,332nm,0.2s						
PB01	**IPOC Station P**	**1.46**	**335**	*e*P	**Pn**	**03 38 08.8**	**+0.3**
PB01				*i* S	**Sn**	**03 38 28.7**	**-0.3**
PB01				IAML		03 38 30.7	
	comp=N,644nm,0.3s						
PATCX	**Punta Patache**	**1.98**	**322**	*e*P	**Pn**	**03 38 14.8**	**+0.1**
PATCX				*e*S	**Sn**	**03 38 42.2**	**+2.1**
PATCX				IAML		03 38 43.5	
	comp=Z,174nm,0.4s						
PATCX	**Punta Patache**	**1.98**	**322**	*e*P	**Pn**	**03 38 14.6**	**-0.1**
PATCX				*i* S	**Sn**	**03 38 40.0**	**0.0**
TA01	**Diego Aracena**	**2.20**	**325**	*e*P	**Pn**	**03 38 17.0**	**-0.3**
TA01				*e*S	**Sn**	**03 38 51.6**	**+6.8**
TA01				IAML		03 38 52.8	
	comp=Z,70nm,0.3s						
TA01	**Diego Aracena**	**2.20**	**325**	*e*P	**Pn**	**03 38 17.0**	**-0.3**
TA01				*i* S	**Sn**	**03 38 44.7**	**-0.1**
TA01				IAML		03 38 48.9	
	comp=N,206nm,0.3s						
PB08	**IPOC Station P**	**2.25**	**352**	*e*P	**Pn**	**03 38 19.2**	**+0.8**
TA02	**Huaiquique**	**2.42**	**330**	*e*P	Pn	03 38 15.3	-4.9
TA02				*e*S	**Sn**	**03 38 46.3**	**-3.7**
TA02				IAML		03 39 08.5	
	comp=Z,107nm,0.3s						
PB14	**IPOC Station P**	**2.66**	**212**	*e*P	**Pn**	**03 38 23.6**	**+0.2**
PB14				IAML		03 38 59.3	
	comp=Z,91nm,0.2s						
PB11	**IPOC Station P**	**2.72**	**344**	*e*P	**Pn**	**03 38 23.8**	**-0.4**
PB11				IAML		03 39 03.1	
	comp=Z,62nm,0.4s						
PB11	**IPOC Station P**	**2.72**	**344**	*e*P	**Pn**	**03 38 23.7**	**-0.5**
PB11				*i* S	**Sn**	**03 38 56.1**	**-0.9**
GO01	**Chusmiza**	**2.72**	**353**	*e*P	**Pn**	**03 38 25.1**	**+0.6**
GO01				*e*S	**Sn**	**03 38 55.4**	**-2.2**
GO02	**Mina Guanaco**	**2.85**	**194**	*e*P	**Pn**	**03 38 26.2**	**+0.2**
GO02				*e*S	Sn	03 38 50.4	-10
YJA	**Yavi**	**3.08**	**87**	*e*P	**Pn**	**03 38 30.6**	**+1.5**
PB12	**IPOC Station P**	**4.00**	**339**	*e*P	**Pn**	**03 38 39.9**	**-1.1**
PB12				*e*S	**Sn**	**03 39 28.0**	**+0.7**
PB12				IAML		03 39 52.2	
	comp=Z,29nm,0.4s						
AC01	**Pan de Azucar**	**4.08**	**203**	*e*P	**Pn**	**03 38 40.7**	**-1.2**
AC01				IAML		03 39 33.0	
	comp=Z,20nm,0.8s						
AC02	**Maricunga**	**4.44**	**183**	*e*P	**Pn**	**03 38 47.8**	**+0.6**
AC02				IAML		03 40 15.1	
	comp=Z,16nm,1.1s						
GO03	**Copiap**	**5.34**	**193**	*e*P	**Pn**	**03 38 57.6**	**-1.3**

*HVO **02** 03:58:45.2±1.8, 19°307N±0°008×155°78W±0°02, h-1km±9km, ML2.0/7, ML2.6/30(NEIC), Error ellipse: s-maj=3.4km s-min=1.2km az=83.0*

NEIC 02 03:58:46.5±1.0, 19°304N±0°007×155°73W±0°02, h5km±1km, Error ellipse: s-maj=3.5km s-min=2.9km az=284.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.12**	**117**		Pg	03 58 49.9	+0.7
KHU					Sg	03 58 53.1	+2.1
KHU	**

ML2.7/29,**ML2.5**/46(NEIC),**Error ellipse: s-maj=5.1km s-min=0.9km az=150.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.07**	**5**		Pg	03 59 32.0	+1.1
STCH				IAML		03 59 32.4	
	comp=E,3μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.07**	**331**		Pg	03 59 32.1	+1.2
JCUZ	**Jacuzzi**	**0.07**	**23**		Pg	03 59 31.9	+0.9
NPOC	**North of Pu'u**	**0.08**	**15**		Pg	03 59 31.9	+0.9
NPOC					Sg	03 59 32.2	0.0
PUH	**Pauahi**	**0.10**	**306**		Pg	03 59 32.5	+1.1
KKO	**Keanakako`i**	**0.15**	**303**		Pg	03 59 33.3	+0.9
KKO				IAML		03 59 37.0	
	comp=E,2μm,0.3s						
KKO				IAML		03 59 37.0	
	comp=N,2μm,0.4s						
BYL	**Byron's Ledge**	**0.15**	**308**		Pg	03 59 33.4	+0.9
BYL				IAML		03 59 36.9	
	comp=E,2μm,0.4s						
BYL				IAML		03 59 37.0	
	comp=N,2μm,0.6s						
RIM	**Rim**	**0.16**	**301**		Pg	03 59 33.5	+1.0
HATHI	**Halema'uma'u T**	**0.16**	**311**		Pg	03 59 33.5	+0.8
HATHI				IAML		03 59 37.0	
	comp=N,1μm,0.5s						
HATHI				IAML		03 59 37.5	
	comp=E,2μm,0.3s						
HLP	**Hilina Pali**	**0.17**	**263**		Pg	03 59 33.6	+0.9
HLP				IAML		03 59 38.4	
	comp=E,2μm,0.2s						
HLP				IAML		03 59 38.5	
	comp=N,2μm,0.2s						
JOKA	**Jonika Flow**	**0.17**	**46**		Pg	03 59 33.5	+0.8
JOKA					Sg	03 59 36.7	+1.8
SBLHI	**Steaming Bluff**	**0.17**	**311**		Pg	03 59 33.6	+0.8
SBLHI				IAML		03 59 37.6	
	comp=E,985nm,0.3s						
SBLHI				IAML		03 59 37.8	
	comp=N,2μm,0.2s						
SDHHI	**Sand Hill**	**0.17**	**296**		Pg	03 59 33.7	+0.9
SDHHI				IAML		03 59 37.8	
	comp=N,2μm,0.2s						
SDHHI				IAML		03 59 37.9	
	comp=E,1μm,0.3s						
NPH	**North Pit**	**0.17**	**304**	Pg	Pg	03 59 33.2	+0.4
OBL	**Observatory Le**	**0.18**	**305**		Pg	03 59 34.2	+1.3
OBL	**Observatory Le**	**0.18**	**305**	IAML		03 59 37.3	
	comp=E,1μm,0.6s						
OBL				IAML		03 59 39.0	
	comp=N,2μm,0.8s						
UWB	**Uwekahuna B**	**0.18**	**308**	Pg	Pg	03 59 33.5	+0.6
WRMHI	**West Rim**	**0.18**	**300**	Pg	Pg	03 59 32.9	-0.2
WRMHI				IAML		03 59 37.7	
	comp=E,1μm,0.7s						
WRMHI				IAML		03 59 38.5	
	comp=N,1μm,1.0s						
UWE	**Uwekahuna**	**0.18**	**305**		Pg	03 59 33.2	+0.1
UWE				IAML		03 59 38.3	
	comp=N,918nm,0.9s						
UWE				IAML		03 59 39.2	
	comp=E,1μm,0.6s						
RSD	**Rainshed**	**0.20**	**317**		Pg	03 59 33.5	+0.1
RSD				IAML		03 59 38.4	
	comp=N,603nm,0.8s						
RSD				IAML		03 59 40.2	
	comp=E,734nm,0.3s						
MLH	**Mauna Loa**	**0.30**	**307**		Pg	03 59 35.6	+0.4
MLH					Sg	03 59 38.8	-0.3
MLH				IAML		03 59 44.5	
	comp=E,547nm,0.3s						
MLH				IAML		03 59 45.1	
	comp=N,766nm,0.1s						
HMH	**Humu'ula Sheep**	**0.44**	**311**		Pg	03 59 38.7	+0.8
KHU	**Kahuku**	**0.46**	**262**		Pg	03 59 38.0	-0.4
KHU				IAML		03 59 46.2	
	comp=E,463nm,0.9s						
KHU				IAML		03 59 51.3	
	comp=N,434nm,0.9s						
MWH	**Moku'aweowe**	**0.47**	**291**		Pg	03 59 39.0	+0.5
MWH	**Moku'aweowe**	**0.47**	**291**		Sb	03 59 47.7	-0.9
MLOA	**Mauna Loa Obse**	**0.47**	**298**		Pg	03 59 38.9	+0.3
ALEP	**Alea Permanent**	**0.53**	**295**		Pg	03 59 40.4	+0.6
ALEP					Sb	03 59 48.9	-1.4
POHA	**Pohakuloa**	**0.58**	**319**		Pg	03 59 40.4	-0.2
HUH	**Hualalai**	**0.76**	**299**	Pg	Pg	03 59 44.2	+0.1
CPH	**Captain Cook**	**0.76**	**283**		Pg	03 59 44.0	-0.2
HPAH	**Hawaii Prepara**	**0.89**	**323**	Pg	Pg	03 59 46.6	0.0

*NEIC **02** 04:00:05.2±1.2, 19°.30N±0°.03×154°.98W±0°.02, h11km±3km, Error ellipse: s-maj=4.9km s-min=1.1km az=148.0*

HVO 02 04:00:05.0±1.2,19°.31N±0°.03×154°.97W±0°.02,h8km±4km, ML3.4/40,**ML3.5**/44(NEIC),**Error ellipse: s-maj=5.2km s-min=0.7km az=147.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.13**	**347**		Pg	04 00 08.0	+0.1
JCUZ	**Jacuzzi**	**0.14**	**302**		Pg	04 00 08.4	+0.3
JCUZ					Sg	04 00 10.9	+0.6
NPOC	**North of Pu'u**	**0.15**	**303**		Pg	04 00 08.6	+0.3
NPOC	**North of Pu'u**	**0.15**	**303**	IAML		04 00 12.5	
	comp=E,6μm,0.3s						
NPOC				IAML		04 00 14.2	
	comp=N,7μm,0.6s						
STCH	**Steam Cracks**	**0.16**	**298**		Pg	04 00 08.7	+0.2
STCH	**Steam Cracks**	**0.16**	**298**	IAML		04 00 14.4	
	comp=E,8μm,0.3s						
STCH				IAML		04 00 14.7	
	comp=N,10μm,0.3s						
PHO	**Puu Honuaula**	**0.19**	**25**		Pg	04 00 09.3	+0.4
PHO					Sg	04 00 13.2	+1.6
KNHH	**Kane Nui o Ham**	**0.20**	**291**		Pg	04 00 09.4	+0.3
PUH	**Pauahi**	**0.24**	**286**		Pg	04 00 09.9	+0.1
PUH					Sg	04 00 14.8	+1.8
PUH	**Pauahi**	**0.24**	**286**	IAML		04 00 15.1	
	comp=N,4μm,0.5s						
PUH				IAML		04 00 15.4	
	comp=E,4μm,0.5s						
BYL	**Byron's Ledge**	**0.29**	**291**		Pg	04 00 10.7	-0.1
BYL				IAML		04 00 16.8	
	comp=N,5μm,0.2s						
BYL				IAML		04 00 18.7	
	comp=E,4μm,0.4s						
KKO	**Keanakako`i**	**0.29**	**288**		Pg	04 00 10.9	+0.1
KKO				IAML		04 00 18.4	
	comp=N,7μm,0.5s						
KKO				IAML		04 00 18.6	
	comp=E,5μm,1.1s						
HATHI	**Halema'uma'u T**	**0.29**	**293**		Pg	04 00 10.9	0.0
HATHI				IAML		04 00 17.0	
	comp=N,6μm,0.2s						
HATHI				IAML		04 00 20.6	
	comp=E,6μm,0.5s						
RIM	**Rim**	**0.30**	**287**		Pg	04 00 11.0	0.0
RIM				IAML		04 00 16.6	
	comp=E,7μm,0.5s						
RIM				IAML		04 00 16.8	
	comp=N,6μm,0.4s						
SBLHI	**Steaming Bluff**	**0.30**	**293**		Pg	04 00 11.3	+0.3
SBLHI				IAML		04 00 17.2	
	comp=N,5μm,0.2s						
SBLHI				IAML		04 00 18.1	
	comp=E,4μm,0.3s						
NPH	**North Pit**	**0.31**	**290**		Pg	04 00 11.1	0.0
UWB	**Uwekahuna B**	**0.31**	**292**		Pg	04 00 11.0	-0.2
OBL	**Observatory Le**	**0.31**	**290**		Pg	04 00 11.0	-0.2
SDHHI	**Sand Hill**	**0.31**	**285**		Pg	04 00 11.2	-0.1
SDHHI				IAML		04 00 19.5	
	comp=N,9μm,0.2s						
SDHHI				IAML		04 00 20.4	
	comp=E,8μm,0.3s						
HLP	**Hilina Pali**	**0.32**	**268**		Pb	04 00 12.2	-0.7
HLP					Sb	04 00 17.6	-0.6
HLP	**Hilina Pali**	**0.32**	**268**	IAML		04 00 17.9	
	comp=E,9μm,0.4s						
HLP				IAML		04 00 20.8	
	comp=N,7μm,0.4s						
UWE	**Uwekahuna**	**0.32**	**290**	IAML		04 00 17.6	
	comp=E,7μm,0.5s						
UWE				IAML		04 00 20.5	
	comp=N,8μm,0.4s						
UWE	**Uwekahuna**	**0.32**	**290**		Pg	04 00 11.9	+0.5
UWE					Sb	04 00 17.1	-1.4
WRMHI	**West Rim**	**0.32**	**288**		Pg	04 00 11.6	+0.1
WRMHI				IAML		04 00 16.9	
	comp=E,7μm,0.7s						
WRMHI				IAML		04 00 21.3	
	comp=N,8μm,0.7s						
RSD	**Rainshed**	**0.33**	**298**	IAML		04 00 18.2	
	comp=N,9μm,0.3s						
RSD	**Rainshed**	**0.33**	**298**		Pg	04 00 11.9	+0.4
RSD					Sg	04 00 17.1	+1.3
MLH	**Mauna Loa**	**0.43**	**295**		Pg	04 00 13.6	+0.1
MLH	**Mauna Loa**	**0.43**	**295**	IAML		04 00 21.3	
	comp=E,7μm,0.3s						
MLH				IAML		04 00 23.8	
	comp=N,6μm,0.2s						
HMH	**Humu'ula Sheep**	**0.56**	**301**		Pg	04 00 15.6	-0.4
MLOA	**Mauna Loa Obse**	**0.61**	**292**		Pg	04 00 16.3	-0.6
MWH	**Moku'aweowe**	**0.61**	**287**		Pg	04 00 17.3	+0.3
MWH	**Moku'aweowe**	**0.61**	**287**	IAML		04 00 37.7	
	comp=E,4μm,0.6s						
ALEP	**Alea Permanent**	**0.67**	**290**		Pg	04 00 17.7	-0.3
ALEP					Sb	04 00 28.2	-0.6
POHA	**Pohakuloa**	**0.69**	**310**		Sg	04 00 28.1	+0.7
HUH	**Hualalai**	**0.90**	**295**		Pb	04 00 23.0	+0.1

*GII **02** 04:04:29.9±0.5, 34°.66N×24°.26E, h10km, Mws4.1, confirmed*

*NEIC **02** 04:04:37.5±1.8, 34°.65N±0°.06×24°.23E±0°.07, h10km±1km, mb4.4/77, Error ellipse: s-maj=10.4km s-min=9.0km az=146.0*

*ATH **02** 04:04:38.9, 34°.50N×24°.10E, h15km±1km, ML3.9/19, Manual Solution by M.Kolligri This location: 2020/06/02 09:25:58 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 2 km*

*IDC **02** 04:04:40.1±1.7, 34°.68N×24°.20E, h33km±11km, mb4.1/25, mbtmp4.2/37, ML3.9/11, MS4.6/1, Error ellipse: s-maj=14.9km s-min=11.6km az=173.0*

*ISK **02** 04:04:41.6, 34°.90N×24°.21E, h24km, ML3.7/17*

*THE **02** 04:04:42.2, 34°.73N×24°.30E, h8km±1km, ML3.9/6, Error ellipse: s-maj=1.7km s-min=0.8km az=346.0*

*AFAD **02** 04:04:43.3±0.0, 35°.10N×24°.27E, h7km±4km, MW3.9*

ISC 02 04:04:39.0±0.9,34°.56N±0°.05×24°.23E±0°.03,h27km±6km, n345,σ2§19/358,mb4.4/60,**10C-5D,Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.30**	**337**	Pg	**Pb**	**04 04 46.4**	**+0.2**
GVD				Sg	**Sb**	**04 04 50.6**	**-0.6**
GVD	**Gavdhos**	**0.30**	**337**	P	**Pb**	**04 04 46.4**	**+0.2**
GVD				S	**Sb**	**04 04 50.4**	**-0.8**
	171μm,0.4s						
GVD	**Gavdhos**	**0.30**	**337**	P	**Pb**	**04 04 46.0**	**-0.2**
GVD				S	**Sb**	**04 04 50.7**	**-0.4**
GVDS	**Gavdos**	**0.30**	**338**	Pg	**Pb**	**04 04 46.4**	**+0.1**
GVDS	**Gavdos**	**0.30**	**338**	P	**Pb**	**04 04 46.4**	**+0.1**
GVDS				S	**Sb**	**04 04 50.7**	**-0.5**
	85μm,0.2s						
TMBK	**Timbaki Herakl**	**0.68**	**41**	P	**Pn**	**04 04 52.9**	**+0.1**
TMBK	**Timbaki Herakl**	**0.68**	**41**	P	**Pn**	**04 04 53.2**	**+0.4**
TMBK				S	**Sn**	**04 05 04.5**	**+2.1**
KNDR	**Palaiochora Ch**	**0.80**	**327**	Pg	**Pb**	**04 04 54.3**	**-0.1**
KNDR	**Palaiochora Ch**	**0.80**	**327**	P	**Pn**	**04 04 55.0**	**+0.5**
KNDR				S	**Sn**	**04 05 05.6**	**0.0**
PRNS	**Prines Rethymn**	**0.83**	**16**	P	**Pb**	**04 04 53.8**	**-1.1**
PRNS				S	**Sb**	**04 05 03.5**	**-2.2**
	4μm,0.8s						
IDI	**Anoyia**	**0.91**	**37**	Pg	**Pn**	**04 04 55.8**	**-0.3**
IDI	**Anoyia**	**0.91**	**37**	P	**Pn**	**04 04 55.7**	**-0.3**
IDI				S	**Sb**	**04 05 07.1**	**-0.8**
	3μm,0.6s						
IDI	**Anoyia**	**0.91**	**37**		**Pn**	**04 04 55.5**	**-0.6**
IDI				Sn	**Sb**	**04 05 06.9**	**-1.0**
IDI	**Anoyia**	**0.91**	**37**	Pg	**Pb**	**04 04 56.1**	**0.0**
	112nm,0.3s,baz=227,slow=12,SNR=238						
IDI				Lg	Lg	04 05 09.6	
	226nm,0.3s,baz=131,slow=22,SNR=12						
IDI	**Anoyia**	**0.91**	**37**	P	**Pb**	**04 04 56.7**	**+0.5**
IDI				S	**Sn**	**04 05 11.9**	**+3.7**
IMMV	**Iera Moni Meta**	**0.92**	**347**	Pg	**Pn**	**04 04 55.7**	**-0.4**
IMMV	**Iera Moni Meta**	**0.92**	**347**	P	**Pn**	**04 04 55.8**	**-0.4**
IMMV				S	**Sn**	**04 05 08.9**	**+0.4**
	28μm,0.7s						
IMMV	**Iera Moni Meta**	**0.92**	**347**	P	**Pb**	**04 04 56.4**	**0.0**
IMMV				S	**Sn**	**04 05 10.0**	**+1.6**
CHAN	**Chania**	**0.97**	**351**	P	**Pb**	**04 04 57.1**	**0.0**
CHAN				S	**Sn**	**04 05 11.8**	**+2.2**
KSTL	**Kastelli Herak**	**1.01**	**43**	P	**Pb**	**04 05 01.8**	**+3.9**
KSTL				S	**Sb**	**04 05 17.8**	**+6.9**
IACM	**Heraklion**	**1.01**	**43**	P	**Pb**	**04 04 59.2**	**+1.2**
IACM	**Heraklion**	**1.01**	**43**	P	**Pb**	**04 04 58.7**	**+0.8**
IACM				S	**Sb**	**04 05 14.4**	**+3.5**
ANKY	**Antikythira Is**	**1.51**	**330**	P	**Pb**	**04 05 06.7**	**+0.4**
ANKY				S	**Sb**	**04 05 25.8**	**+0.8**
	2μm,0.7s						
ANKY	**Antikythira Is**	**1.51**	**330**	P	**Pb**	**04 05 06.4**	**+0.1**
ANKY				S	**Sb**	**04 05 25.0**	**0.0**
ZKR	**Zakros**	**1.73**	**71**	Pn	**Pb**	**04 05 10.4**	**+0.3**
ZKR	**Zakros**	**1.73**	**71**	P	**Pb**	**04 05 10.3**	**+0.2**
ZKR	**Zakros**	**1.73**	**71**	P	**Pb**	**04 05 10.6**	**+0.5**
THR9	**Santorini-Faro**	**2.02**	**27**	P	**Pb**	**04 05 13.5**	**-1.5**
THR9	**Santorini-Faro**	**2.02**	**27**	P	**Pb**	**04 05 13.5**	**-1.5**
THR6	**Thira Island,**	**2.03**	**28**	P	**Pn**	**04 05 13.0**	**+1.6**
THR6	**Thira Island,**	**2.03**	**28**	P	**Pb**	**04 05 13.4**	**-1.8**
THR5	**Thira Island,**	**2.06**	**26**	P	**Pn**	**04 05 13.8**	**+1.9**
THR3	**Thira Island,**	**2.08**	**27**	P	**Pn**	**04 05 13.8**	**+1.8**
THR3	**Thira Island,**	**2.08**	**27**	P	**Pn**	**04 05 13.6**	**+1.6**
THR8	**Santorini-Mono**	**2.10**	**29**	P	**Pn**	**04 05 13.8**	**+1.4**
THR8	**Santorini-Mono**	**2.10**	**29**	P	**Pn**	**04 05 14.1**	**+1.7**
THR2	**Thira island,**	**2.12**	**27**	P	**Pn**	**04 05 14.4**	**+1.7**
MHLO	**Agia Marina, M**	**2.13**	**4**	P	**Pn**	**04 05 14.2**	**+1.4**
MHLO	**Agia Marina, M**	**2.13**	**4**	P	**Pn**	**04 05 14.1**	**+1.3**
MNVA	**Monemvasia**	**2.33**	**336**	P	**Pb**	**04 05 18.2**	**-2.1**
VLI	**Veliai**	**2.39**	**334**	P	**Pn**	**04 05 18.4**	**+2.0**
VLI	**Veliai**	**2.39**	**334**	P	**Pn**	**04 05 18.1**	**+1.7**
KARP	**Karpathos**	**2.60**	**67**	Pn	**Pn**	**04 05 22.1**	**+2.8**
KARP	**Karpathos**	**2.60**	**67**	P	**Pb**	**04 05 22.6**	**-2.4**
KARP	**Karpathos**	**2.60**	**67**	Pn	**Pn**	**04 05 21.8**	**+2.5**
KARP				Sn	**Sn**	**04 05 52.6**	**+2.6**
KARP	**Karpathos**	**2.60**	**67**	P	**Pb**	**04 05 22.5**	**-2.4**
KARP	**Karpathos**	**2.60**	**67**	P	**Pb**	**04 05 22.6**	**-2.4**
APE	**Apeiranthos**	**2.72**	**23**	⇑P	**Pn**	**04 05 21.5**	**+0.6**
APE	**Apeiranthos**	**2.72**	**23**	Pn	**Pn**	**04 05 21.1**	**+0.2**
APE	**Apeiranthos**	**2.72**	**23**	P	**Pn**	**04 05 21.2**	**+0.2**
APE				S	**Sn**	**04 05 44.5**	**-8.4**
APE	**Apeiranthos**	**2.72**	**23**	P	**Pn**	**04 05 21.4**	**+0.5**
YDRA	**Hydra**	**2.85**	**348**	P	**Pn**	**04 05 24.2**	**+1.6**
KRND	**KRANIDI**	**2.95**	**343**	P	**Pn**	**04 05 25.4**	**+1.4**
KRND	**KRANIDI**	**2.95**	**343**	P	**Pn**	**04 05 25.7**	**+1.7**
PYL	**PYLOS**	**3.08**	**320**	P	**Pn**	**04 05 27.3**	**+1.4**
NISR	**Nisiros**	**3.13**	**48**	P	**Pn**	**04 05 29.0**	**+2.5**
YAZI	**Mula-Dat§a-**	**3.37**	**50**	P	**Pn**	**04 05 31.5**	**+1.7**
YAZI				S	**Sb**	**04 06 22.6**	**+3.9**
ATHU	**Athens Univers**	**3.42**	**354**	P	**Pn**	**04 05 31.3**	**+0.8**
ATH	**Athens Observa**	**3.43**	**353**	P	**Pn**	**04 05 31.7**	**+1.1**
DAT	**Datca**	**3.48**	**51**	Pn	**Pn**	**04 05 32.7**	**+1.2**
DAT	**Datca**	**3.48**	**51**	P	**Pn**	**04 05 33.2**	**+1.8**
DAT				S	**Sn**	**04 06 11.1**	**-0.7**
PTL	**Penteli**	**3.49**	**355**	P	**Pn**	**04 05 33.4**	**+1.8**
DION	**Dionisos Attik**	**3.52**	**356**	P	**Pn**	**04 05 33.7**	**+1.8**
DION	**Dionisos Attik**	**3.52**	**356**	P	**Pn**	**04 05 33.8**	**+2.0**
BODT	**Bodrum**	**3.54**	**44**	Pn	**Pn**	**04 05 33.6**	**+1.5**
ARG	**Arkhangelos**	**3.59**	**62**	Pn	**Pn**	**04 05 34.9**	**+2.1**
ARG	**Arkhangelos**	**3.59**	**62**		**Pn**	**04 05 34.6**	**+1.8**
ARG	**Arkhangelos**	**3.59**	**62**	P	**Pn**	**04 05 35.7**	**+2.9**
BDRM	**Kayabasi**	**3.62**	**45**	P	**Pn**	**04 05 34.9**	**+1.7**
GUR	**Goura**	**3.70**	**336**	P	**Pn**	**04 05 35.7**	**+1.3**
DDIM	**Aydin, Didim**	**3.78**	**39**	P	**Pn**	**04 05 35.3**	**-0.1**
KLV	**Kalavryta, Ach**	**3.86**	**335**	P	**Pn**	**04 05 38.2**	**+1.6**
TURN	**Turunc**	**3.95**	**55**	Pn	**Pn**	**04 05 39.4**	**+1.7**
TURN	**Turunc**	**3.95**	**55**	P	**Pn**	**04 05 39.0**	**+1.2**
TURN				S	**Sn**	**04 06 23.0**	**-0.1**
GCAM	**G?zelcaml?**	**3.97**	**37**	Pn	**Pn**	**04 05 39.3**	**+1.3**
MLSB	**Milas**	**3.97**	**46**	Pn	**Pn**	**04 05 39.9**	**+1.8**
CHOS	**Chios island**	**4.09**	**21**	Pn	**Pn**	**04 05 40.3**	**+0.5**
URLA	**Izmir**	**4.24**	**26**	Pn	**Pn**	**04 05 42.4**	**+0.5**
DALY	**Dalyan (Mula)**	**4.25**	**57**	Pn	**Pn**	**04 05 44.3**	**+2.4**
MULA	**Mugla, Merkez-**	**4.27**	**50**	P	**Pn**	**04 05 45.1**	**+2.8**
MULA					S	**Sn**	**04 06 26.4**	**-4.9**
FETY	**Fethiye**	**4.46**	**61**	Pn	**Pn**	**04 05 46.1**	**+1.2**
SABU	**Mula-Dalaman**	**4.47**	**58**	P	**Pn**	**04 05 47.2**	**+2.2**
SABU					S	**Sn**	**04 06 35.5**	**-0.6**
IZZE	**Mula-Seydike**	**4.49**	**64**	P	**Pn**	**04 05 46.2**	**+1.0**
IZZE					S	**Sn**	**04 06 32.5**	**-4.0**
ESEN	**Aydn-Nazilli**	**4.64**	**45**	P	**Pn**	**04 05 50.1**	**+2.8**
AKAS	**Kas**	**4.70**	**68**	P	**Pn**	**04 05 49.6**	**+1.4**
AKAS					S	**Sn**	**04 06 40.2**	**-1.7**
AGG	**Agios Georgios**	**4.70**	**342**	Pn	**Pn**	**04 05 48.6**	**+0.4**
AGG	**Agios Georgios**	**4.70**	**342**	Pn	**Pn**	**04 05 48.7**	**+0.4**
DNZT	**Denizli-Tavas-**	**4.74**	**54**	P	**Pn**	**04 05 50.9**	**+2.1**
TAVA	**DENIZLI_Tavas**	**4.78**	**51**	P	**Pn**	**04 05 51.6**	**+2.4**
CAEL	**Denizli, Camel**	**4.86**	**57**	P	**Pn**	**04 05 52.7**	**+2.2**
KNIK	**Mula-Seydike**	**4.91**	**61**	P	**Pn**	**04 05 52.8**	**+1.7**
KNIK					S	**Sn**	**04 06 46.0**	**-1.0**
DNIZ	**Denizli-Tavas-**	**4.95**	**50**	P	**Pn**	**04 05 53.6**	**+1.9**
GOLH	**Golhisar**	**5.09**	**57**	P	**Pn**	**04 05 55.6**	**+2.1**
ELL	**Elmali**	**5.11**	**63**	Pn	**Pn**	**04 05 53.2**	**-0.8**
LIT	**Litokhoron**	**5.70**	**346**	Pn	**Pn**	**04 06 01.5**	**-0.3**
FNA	**Florina**	**6.61**	**341**	Pn	**Pn**	**04 06 14.1**	**-0.3**
RDO	**Rodhopi**	**6.65**	**9**	Pn	**Pn**	**04 06 14.7**	**-0.2**
OHR	**Ohrid**	**7.08**	**338**	*i* Pn	**Pn**	**04 06 20.8**	**0.0**
SCTE	**Santa Cesarea**	**7.16**	**322**		**Pn**	**04 06 21.2**	**-0.7**
CSS	**Mathiatis**	**7.50**	**84**		**Pn**	**04 06 26.4**	**-0.2**
CSS	**Mathiatis**	**7.50**	**84**	S	**Sn**	**04 07 44.1**	**-6.7**
CSS	**Mathiatis**	**7.50**	**84**	P	Pn	04 06 18.9	-7.7
TIP	**Timpagrande**	**7.55**	**310**	⇓P	**Pn**	**04 06 27.0**	**-0.3**
TIP	**Timpagrande**	**7.55**	**310**	Pn	**Pn**	**04 06 27.2**	**-0.2**
CEL	**Celeste**	**7.66**	**301**	Pn	**Pn**	**04 06 29.3**	**+0.5**
PUK	**Puka**	**8.21**	**337**	Pn	**Pn**	**04 06 35.4**	**-0.9**
ELND	**Elena**	**8.45**	**8**	⇑P	**Pn**	**04 06 40.7**	**+1.1**
VAE	**Valguarnera**	**8.47**	**293**	Pn	**Pn**	**04 06 44.4**	**+4.5**
	3.4nm,0.3s,baz=119,slow=10,SNR=1.9						
VAE					Sn	**Sn**	**04 08 13.2**	**-1.4**
	3.5nm,0.3s,baz=20,slow=22,SNR=2.0						
MATE	**Matera**	**8.52**	**318**	⇑P	**Pn**	**04 06 40.9**	**+0.5**
DRME	**Dracevica, Mon**	**8.58**	**334**	*e*Pn	**Pn**	**04 06 39.3**	**-2.0**
BR231	**Keskin MP Arra**	**8.62**	**50**		**Pn**	**04 06 41.5**	**-0.5**
CUC	**Castrocucco**	**8.62**	**311**	Pn	**Pn**	**04 06 42.6**	**+0.7**
ANTO	**Ankara**	**8.64**	**50**		**Pn**	**04 06 41.8**	**-0.5**
PDG	**Podgorica**	**8.77**	**335**	⇑P	**Pn**	**04 06 42.0**	**-1.9**
PDG	**Podgorica**	**8.77**	**335**	Pn	**Pn**	**04 06 41.7**	**-2.2**
PDG	**Podgorica**	**8.77**	**335**	*e*Pn	**Pn**	**04 06 41.0**	**-2.9**
HCY	**Herceg Novi**	**9.06**	**332**	*e*Pn	**Pn**	**04 06 44.8**	**-3.2**
BR131	**Keskin Array S**	**9.11**	**53**	Pn	**Pn**	**04 06 50.0**	**+1.3**
BRTR	**Keskin Array B**	**9.11**	**53**		**Pn**	**04 06 49.7**	**+0.9**
BRTR	**Keskin Array B**	**9.11**	**53**	Pn	**Pn**	**04 06 50.1**	**+1.4**
	0.3nm,0.3s,baz=224,slow=14,SNR=11						
	1.7nm,0.8s						
BLKB	**Belogradchik**	**9.13**	**353**	⇓P	**Pn**	**04 06 52.1**	**+3.2**
BOVS	**Bovan**	**9.27**	**349**	⇑P	**Pn**	**04 06 50.6**	**-0.2**
KZIT	**Kziot**	**9.31**	**110**	S	**Sn**	**04 08 29.1**	**-6.1**
KZIT	**Kziot**	**9.31**	**110**	P	Pn	04 06 44.2	-7.3
SLTI	**Sal'it**	**9.33**	**101**	S	**Sn**	**04 08 30.1**	**-5.6**
SLTI	**Sal'it**	**9.33**	**101**	P	Pn	04 06 44.1	-7.6
TREB	**Trebinje**	**9.35**	**332**	*e*Pn	**Pn**	**04 06 48.5**	**-3.4**
MMAI	**Mount Meron Ar**	**9.43**	**96**	Pn	**Pn**	**04 06 52.5**	**-0.7**
	3.6nm,0.3s,baz=289,slow=13,SNR=6.5						
MMAI					Sn	**Sn**	**04 08 32.1**	**-6.2**
	1.1nm,0.3s,baz=312,slow=8.8,SNR=2.2						
	2.8nm,0.4s						
BRY	**Bratogost**	**9.44**	**334**	*e*Pn	**Pn**	**04 06 49.4**	**-3.8**
UPM	**Unac-Piva**	**9.57**	**336**	*e*Pn	**Pn**	**04 06 52.9**	**-2.2**
MMLI	**Mount Malkishu**	**9.59**	**100**	P	Pn	04 06 48.4	-6.8
MMLI	**Mount Malkishu**	**9.59**	**100**	S	**Sn**	**04 08 36.6**	**-5.5**
YTIR	**Yattir**	**9.69**	**106**	S	**Sn**	**04 08 39.0**	**-5.6**
YTIR	**Yattir**	**9.69**	**106**	P	Pn	04 06 49.6	-7.1
HMDT	**Nahal Hemdat**	**9.72**	**101**	S	**Sn**	**04 08 39.9**	**-5.4**
HMDT	**Nahal Hemdat**	**9.72**	**101**	P	Pn	04 06 50.0	-7.1
STON	**Ston**	**9.73**	**330**	*e*Pn	**Pn**	**04 06 52.9**	**-4.3**
UJAP	**Al Uja**	**9.76**	**102**	P	Pn	04 06 50.2	-7.3
UJAP	**Al Uja**	**9.76**	**102**	S	**Sn**	**04 08 40.8**	**-5.5**
RUDO	**Rudo**	**9.80**	**339**	*e*Pn	Pn	04 06 52.5	-5.5
DSI	**Dead Sea**	**9.82**	**105**	P	Pn	04 06

0.8nm,0.3s
GEC2 GERESS Array S 16.27 334 Pn **Pn** **04 08 23.9 -1.7**
GERES GERESS Array B 16.27 334 Pn **Pn** **04 08 24.8 -0.8**
GERES GERESS Array B 16.27 334 Pn **Pn** **04 08 24.4 -1.2**
0.2nm,0.3s,baz=146,slow=11,SNR=2.5
1.1nm,0.3s
DAVOX Davos/Dischmat 16.32 323 Pn **Pn** **04 08 26.2 -0.1**
0.2nm,0.3s,baz=131,slow=20,SNR=2.0
DAVOX Sn Sn 04 11 13.0 -14
0.2nm,0.3s,baz=140,slow=21,SNR=1.7
DAVOX LR LR 04 16 57.1
comp=Z,81nm,18.0s,baz=251,slow=46
0.9nm,0.3s
TUE Stuetta 16.38 321 Pn **Pn** **04 08 26.4 -0.8**
AK05 Malin Array Si 16.45 11 Pn **Pn** **04 08 27.9 +0.1**
AK05 IAmb IAmb 04 08 29.5
comp=Z,16nm,0.5s
KIEV Kiev 16.53 11 **Pn** **04 08 28.2 -0.5**
KIEV Kiev 16.53 11 **Pn** **04 08 29.1 +0.4**
KIEV IAmb IAmb 04 08 34.6
comp=Z,6.7nm,0.8s
AKASG Malin Array Be 16.54 11 Pn **Pn** **04 08 27.7 -1.1**
comp=Z,1.3nm,0.3s,baz=206,slow=9.9,SNR=12
AKASG Sn **Sn** **04 11 22.9 -8.5**
comp=Z,0.4nm,0.3s,baz=234,slow=20,SNR=1.5
AKBB Malin Array Si 16.54 11 P **Pn** **04 08 28.1 -0.7**
KHC Kasperske Hory 16.55 335 P **Pn** **04 08 27.4 -1.7**
KHC Kasperske Hory 16.55 335 *e*P **Pn** **04 08 28.6 -0.5**
ZVC Zvikov 16.61 337 *e*P **P** **04 08 32.4 +0.4**
DPC Dobruska-Polom 16.80 342 *e*P **P** **04 08 34.9 +0.6**
GOPC GO Pecny, Ondr 16.84 339 *e*P **P** **04 08 34.9 +0.3**
PRU Pruhonice 16.98 338 *e*P **Pn** **04 08 34.9 +0.5**
KVAR Kislovodsk Arr 17.07 51 Pn **P** **04 08 39.5 +2.1**
baz=270,slow=20
comp=Z,2.3nm,0.5s
CHVC Chvalec 17.09 342 *e*P **P** **04 08 38.3 +0.9**
KBZ Khabaz 17.10 52 Pn **P** **04 08 37.4 -0.1**
comp=Z,0.4nm,0.3s,baz=260,slow=12,SNR=10
comp=Z,10nm,1.0s
GNI Garni 17.23 65 Pn **P** **04 08 41.0 +1.9**
comp=Z,0.7nm,0.3s,baz=342,slow=20,SNR=1.5
comp=Z,3.6nm,0.6s
CLL Collm 18.61 337 *i* P **Pn** **04 08 54.8 +0.3**
comp=Z,5.0nm,0.9s
SUW Suwalki 19.46 358 **P** **04 09 02.3 -1.1**
SUW Suwalki 19.46 358 *e*P **P** **04 09 03.6 +0.2**
WLF Walferdange 20.11 324 P **P** **04 09 10.5 0.0**
WLF IAmb IAmb 04 09 15.7
comp=Z,22nm,1.2s
NACGM Naroch 20.42 4⇓ *i*P **P** **04 09 12.4 -1.4**
comp=Z,40nm,0.8s,baz=187
PABE Paberze 20.94 360 **P** **04 09 18.9 -0.5**
PABE Paberze 20.94 360 *e*P **P** **04 09 20.0 +0.5**
BSD Bornholm Skovb 21.55 345 *e*P **P** **04 09 23.6 -2.4**
BSD Bornholm Skovb 21.55 345 *i* P **P** **04 09 22.5 -3.5**
BSD IAmb IAmb 04 09 30.1
comp=Z,1.1nm,0.3s
LUNU Lund 22.35 344 *i* P **P** **04 09 32.0 -2.5**
BLEU Blekinge 22.50 348 *e*P **P** **04 09 32.5 -3.6**
ESDC Sonseca Array 23.00 291 P **P** **04 09 42.3 +0.6**
comp=Z,2.9nm,0.9s,baz=86,slow=9.8,SNR=15
comp=Z,2.9nm,0.9s
DEL Delary 23.03 345 *e*P **P** **04 09 39.8 -1.9**
DEL Delary 23.03 345 *i* P **P** **04 09 39.0 -2.7**
DEL IAmb IAmb 04 09 46.3
comp=Z,0.7nm,0.3s
FABU Falkenberg 23.77 344 *i* P **P** **04 09 47.9 -1.1**
BORU Boraas 24.34 345 *i* P **P** **04 09 53.0 -1.2**
BELG Belogornoye 24.44 36 P **P** **04 09 54.7 -0.5**
comp=Z,20nm,0.6s,baz=153,slow=6.8,SNR=6.2
comp=Z,20nm,0.6s
VIKU Vikbolandet 24.47 350 *e*P **P** **04 09 53.9 -1.5**
TJOU Tjoern 24.95 344 *i* P **P** **04 09 58.2 -1.6**
AAL Aland 25.78 355 *e*P **P** **04 10 06.4 -0.8**
PESTR Estremoz 25.79 289 P **P** **04 10 07.7 0.0**
PESTR IAmb IAmb 04 10 10.4
comp=Z,6.0nm,0.8s
PVAQ Vaqueiros 25.94 286 P **P** **04 10 10.5 +1.5**
STRU Stroemstad 25.96 345 *i* P **P** **04 10 05.3 -3.6**
HFS Hagfors 26.49 348 P **P** **04 10 12.5 -1.2**
comp=Z,3.1nm,0.4s,baz=153,slow=10.0,SNR=30
comp=Z,3.1nm,0.4s
RAF Rauma 26.52 357 *e*P **P** **04 10 13.7 -0.3**
KONO Kongsberg 26.88 344 P **P** **04 10 15.5 -1.7**
KONO IAmb IAmb 04 10 44.6
comp=Z,13nm,1.1s
FINES FINESS Array B 26.93 2 P **P** **04 10 15.7 -1.9**
FINES FINESS Array B 26.93 2 P **P** **04 10 15.5 -2.2**
comp=Z,2.0nm,0.7s,baz=165,slow=10,SNR=14
FINES PcP **PcP** **04 13 39.3 +0.3**
comp=Z,1.5nm,0.9s,baz=204,slow=4.2,SNR=3.7
comp=Z,2.0nm,0.7s
FIA1 FINESS Array S 26.93 2 P **P** **04 10 15.8 -1.8**
NC602 NORSAR Array S 27.45 346 P **P** **04 10 21.0 -1.3**
NC602 IAmb IAmb 04 10 25.2
comp=Z,7.2nm,0.8s
GYA0B ALIBECK ARRAY 27.45 73 P **P** **04 10 26.9 +4.2**
NAO01 NORSAR Array S 27.68 346 P **P** **04 10 23.6 -0.8**
NB201 NORSAR Array S 27.78 346 P **P** **04 10 24.6 -0.8**
NOA NORSAR Array B 27.79 346 P **P** **04 10 24.2 -1.2**
comp=Z,2.8nm,0.7s,baz=153,slow=9.2,SNR=23
comp=Z,2.8nm,0.7s
NC204 NORSAR Array S 28.09 346 P **P** **04 10 27.5 -0.7**
NC204 IAmb IAmb 04 10 35.1
comp=Z,11nm,1.2s
EKA Eskdalemuir Ar 28.10 326 P **P** **04 10 28.4 +0.2**
comp=Z,0.6nm,0.4s,baz=125,slow=8.7,SNR=7.0
comp=Z,0.6nm,0.4s
VAF Ylistaro 28.52 359 *e*P **P** **04 10 30.7 -1.1**
JOF Joensuu 28.73 7 *e*P **P** **04 10 31.9 -1.8**
AKTO Aktyubinsk 29.22 47 P **P** **04 10 37.7 -0.6**
comp=Z,4.7nm,0.5s,baz=251,slow=8.7,SNR=16
AKTO LR LR 04 23 55.6
comp=Z,1μm,21.1s,baz=211,slow=40
comp=Z,4.7nm,0.5s
TOA0 Torodi Ar. Sit 29.52 229 P **P** **04 10 43.0 +1.8**
TOA0 IAmb IAmb 04 10 47.5
comp=Z,3.4nm,0.8s
TORD Torodi Ar. Bea 29.52 229 P **P** **04 10 42.7 +1.5**
TORD Torodi Ar. Bea 29.52 229 P **P** **04 10 42.6 +1.5**
comp=Z,2.8nm,0.4s,baz=34,slow=9.2,SNR=50
comp=Z,2.8nm,0.4s
ABKAR Akbulak array 30.04 50 P **P** **04 10 45.7 +0.2**
ARU Arti 31.99 36 P **P** **04 11 01.7 -0.9**
ARU Arti 31.99 36 P **P** **04 11 02.1 -0.5**
comp=Z,6.1nm,0.4s,baz=238,slow=10,SNR=7.3
comp=Z,6.1nm,0.4s
ARCES ARCESS Array B 35.03 1 P **P** **04 11 27.4 -1.6**
ARCES IAmb IAmb 04 11 37.4
comp=Z,12nm,1.5s
ARCES ARCESS Array B 35.03 1 P **P** **04 11 27.1 -1.9**
comp=Z,1.8nm,0.7s,baz=187,slow=9.3,SNR=17
ARCES PcP **PcP** **04 14 00.7 +0.3**
comp=Z,0.8nm,0.6s,baz=184,slow=3.6,SNR=3.7
comp=Z,1.8nm,0.7s
KK31 Karatay Array 36.66 62 P **P** **04 11 43.9 +0.6**
KK31 IAmb IAmb 04 11 45.2
comp=Z,4.8nm,0.7s
KKAR Karatay Array 36.66 62 P **P** **04 11 43.9 +0.7**
KKAR IAmb IAmb 04 11 45.2
comp=Z,4.8nm,0.7s
BVAR Borovoye Array 37.31 46 P **P** **04 11 49.0 +0.3**
comp=Z,0.9nm,0.4s,baz=231,slow=4.9,SNR=8.9
comp=Z,0.9nm,0.4s
DBIC Dimbokro 38.59 231 P **P** **04 12 01.2 +1.4**
DBIC IAmb IAmb 04 12 14.0
comp=Z,19nm,1.5s
DBIC Dimbokro 38.59 231 P **P** **04 12 00.7 +0.9**
comp=Z,1.7nm,0.5s,baz=16,slow=6.8,SNR=4.3
comp=Z,1.7nm,0.5s
AAK Ala-Archa 39.61 63 P **P** **04 12 08.8 +0.4**
AAK Ala-Archa 39.61 63 P **P** **04 12 08.4 +0.1**
comp=Z,1.7nm,0.4s,baz=231,slow=8.9,SNR=6.5
comp=Z,1.7nm,0.4s
BOOM Boomskoye usch 40.69 63 P **P** **04 12 17.9 +0.6**
KURBB Kurchatov Arra 42.09 51 P **P** **04 12 28.1 -0.4**
comp=Z,1.5nm,0.4s,baz=279,slow=8.6,SNR=29
comp=Z,1.5nm,0.4s
KURK Kurchatov 42.15 50 P **P** **04 12 28.9 0.0**
SCO Scoresbysund 43.62 339 P **P** **04 12 41.5 +1.0**
SPB3 Spitsbergen Ar 43.85 358 P **P** **04 12 43.3 +1.0**
SPITS Spitsbergen Ar 43.85 358 P **P** **04 12 41.5 -0.8**
comp=Z,0.8nm,0.4s,baz=153,slow=11,SNR=15
comp=Z,1.7nm,0.4s
comp=Z,2.0nm,0.4s
SPB4 Spitsbergen Ar 43.85 358 P **P** **04 12 42.2 -0.2**
MK31 Makanchi Array 44.74 56 P **P** **04 12 50.5 +0.5**
MK31 IAmb IAmb 04 12 51.3
comp=Z,6.8nm,1.1s
MKAR Makanchi Array 44.74 56 P **P** **04 12 50.2 +0.2**
comp=Z,4.2nm,0.6s,baz=277,slow=7.2,SNR=44
comp=Z,4.2nm,0.6s
KBS Kingsbay 44.77 357 P **P** **04 12 49.8 +0.2**
ZAA0 Zalesovo Array 45.97 46 P **P** **04 12 58.8 -0.7**
ZALV Zalesovo Beam 45.97 46 P **P** **04 12 59.4 -0.1**
ZALV Zalesovo Beam 45.97 46 P **P** **04 12 58.8 -0.7**
comp=Z,4.6nm,0.4s,baz=269,slow=8.5,SNR=22
comp=Z,4.6nm,0.4s
SONM Songino Array 60.46 50 P **P** **04 14 46.7 +0.4**
comp=Z,1.2nm,0.5s,baz=279,slow=7.9,SNR=6.6
comp=Z,1.2nm,0.5s
SCHQ Schefferville 63.14 320 P **P** **04 15 04.7 +0.6**
SCHQ IAmb IAmb 04 15 38.3
comp=Z,5.3nm,1.1s
SCHQ Schefferville 63.14 320 P **P** **04 15 04.4 +0.3**
comp=Z,1.5nm,0.4s,baz=72,slow=5.3,SNR=20
comp=Z,1.5nm,0.4s
RES Resolute Bay 64.05 345 P **P** **04 15 09.3 -0.4**
A36M Sachs Harbour 71.61 350 P **P** **04 15 58.0 +0.6**
C36M Paulatuk 73.81 349 P **P** **04 16 10.8 +0.4**
B22K Teshekpuk Lake 75.39 359 P **P** **04 16 19.4 -0.2**
B22K IAmb IAmb 04 16 24.7
comp=Z,8.4nm,1.4s
B20K Meade River 75.73 0 P **P** **04 16 22.6 +1.1**
INK Inuvik 76.10 352 P **P** **04 16 23.7 0.0**
D25K Kavik River 76.19 357 P **P** **04 16 24.5 +0.1**
E29M Blow River 76.49 353 P **P** **04 16 26.9 +0.9**
E29M IAmb IAmb 04 16 27.6
comp=Z,6.8nm,1.1s
C19K Lookout Ridge 76.60 1 P **P** **04 16 27.8 +1.1**
C19K IAmb IAmb 04 16 49.2
comp=Z,6.6nm,1.1s
F31M Tsiigehtchic 76.95 351 P **P** **04 16 28.9 +0.3**
F31M IAmb IAmb 04 16 29.7
comp=Z,5.3nm,1.1s
D19K Kuna River 77.24 1 P **P** **04 16 31.0 +0.8**
D19K IAmb IAmb 04 16 31.9
comp=Z,5.6nm,1.1s
E21K Killik River 77.30 359 P **P** **04 16 30.8 +0.2**
F28M Old Crow 77.43 354 P **P** **04 16 31.1 -0.2**
G31M Satah River 77.51 351 P **P** **04 16 31.4 -0.3**
E24K Your Creek 77.53 357 P **P** **04 16 32.5 +0.7**
E24K IAmb IAmb 04 16 54.0
comp=Z,6.4nm,1.5s
E22K Anaktuvuk Pass 77.57 358 P **P** **04 16 32.8 +0.7**
E22K IAmb IAmb 04 16 33.8
comp=Z,3.2nm,1.1s
G30M tAoh Zraii Nji 77.68 352 P **P** **04 16 33.0 +0.3**
G30M IAmb IAmb 04 16 33.9
comp=Z,1.3nm,0.6s
YKA Yellowknife Ar 77.78 342 P **P** **04 16 33.7 +0.5**
YKA Yellowknife Ar 77.78 342 P **P** **04 16 33.4 +0.1**
comp=Z,0.2nm,0.4s,baz=24,slow=12,SNR=13
comp=Z,0.2nm,0.4s
USRK Ussuriysk Ar. 77.80 44 P **P** **04 16 33.1 -0.7**
comp=Z,1.6nm,0.6s,baz=291,slow=2.5,SNR=2.3
comp=Z,1.6nm,0.6s
YKAB2 New Yellowknif 77.83 342 P **P** **04 16 33.9 +0.4**
G29M Pine Creek 77.94 353 P **P** **04 16 34.1 -0.1**
G29M IAmb IAmb 04 16 38.9
comp=Z,6.5nm,1.1s
BMAR Burnt Mountain 77.97 356 P **P** **04 16 35.5 +1.1**
F24K Squaw Lake 78.06 357 P **P** **04 16 36.4 +1.5**
F24K IAmb IAmb 04 16 37.2
comp=Z,3.2nm,1.1s
E19K Redstone River 78.29 1 P **P** **04 16 36.9 +0.9**
G27K Doyon Strip 78.37 354 P **P** **04 16 37.6 +1.0**
G27K IAmb IAmb 04 16 38.5
comp=Z,4.3nm,1.4s
F21K Alatna River 78.52 359 P **P** **04 16 37.6 +0.2**
F21K IAmb IAmb 04 16 51.8
comp=Z,2.6nm,0.8s
H29M Whitestone 78.65 353 P **P** **04 16 38.1 +0.1**
H29M IAmb IAmb 04 16 39.2
comp=Z,3.1nm,0.8s
F20K Avaraart Lake 78.71 360 P **P** **04 16 38.8 +0.4**
F20K IAmb IAmb 04 16 56.1
comp=Z,6.4nm,1.5s
F19K Shaleruckik Mo 78.91 1 P **P** **04 16 39.5 0.0**
F19K IAmb IAmb 04 17 18.3
comp=Z,7.6nm,1.4s
G23K Bananza Creek 78.95 358 P **P** **04 16 40.9 +1.1**
G23K IAmb IAmb 04 17 04.8
comp=Z,4.3nm,1.4s
G21K Allakaket 79.23 359 P **P** **04 16 41.7 +0.5**
G21K IAmb IAmb 04 16 54.7
comp=Z,4.4nm,1.1s
KSRS Korea Array 79.25 52 P **P** **04 16 41.9 0.0**
comp=Z,1.3nm,0.6s,baz=319,slow=3.9,SNR=2.9
comp=Z,1.3nm,0.6s
I30M Mount Dempster 79.39 352 P **P** **04 16 42.5 +0.2**
I30M IAmb IAmb 04 16 46.3
comp=Z,2.2nm,0.8s
I28M Miner Creek 79.55 353 P **P** **04 16 43.8 +0.6**
I28M IAmb IAmb 04 16 48.0
comp=Z,5.3nm,1.5s
G19K Purcell Mounta 79.61 1 P **P** **04 16 42.8 -0.6**
G19K IAmb IAmb 04 17 03.7
comp=Z,6.7nm,1.3s
COWI Conover 79.75 320 P **P** **04 16 45.5 +1.1**
IMAR Indian Mountai 79.77 359 P **P** **04 16 45.1 +1.0**
FFC Flin Flon 79.79 332 P **P** **04 16 44.9 +0.4**
FFC IAmb IAmb 04 16 59.5
comp=Z,6.5nm,1.4s
H23K Yukon River 79.82 357 P **P** **04 16 45.6 +1.2**
I26K Coal Creek Min 79.97 355 P **P** **04 16 46.1 +0.9**
I26K IAmb IAmb 04 17 09.4
comp=Z,2.9nm,0.7s
J30M Hart River 80.01 352 P **P** **04 16 46.0 +0.3**
J30M IAmb IAmb 04 16 47.5
comp=Z,4.4nm,1.2s
H21K Melozitna Rive 80.08 359 P **P** **04 16 47.4 +1.5**
H21K IAmb IAmb 04 16 48.0
comp=Z,2.4nm,0.6s
H19K Roundabout Mou 80.23 0 P **P** **04 16 47.5 +0.9**
H19K IAmb IAmb 04 16 51.9
comp=Z,3.4nm,0.9s
ULM Lac du Bonnet 80.37 326 P **P** **04 16 47.5 -0.3**
comp=Z,1.2nm,0.4s,baz=46,slow=3.6,SNR=4.5
comp=Z,1.2nm,0.4s
MJAR Matsushiro Arr 86.29 48 P **P** **04 17 17.8 -0.7**
comp=Z,0.4nm,0.3s,baz=310,slow=6.2,SNR=2.3
comp=Z,0.4nm,0.3s
PDAR Pinedale Array 92.20 328 P **P** **04 17 46.7 +0.1**
comp=Z,0.1nm,0.4s,baz=68,slow=5.0,SNR=2.0
comp=Z,0.1nm,0.4s
WRA Warramunga Arr 117.29 96 PKP **PKPdf** **04 23 22.0 -0.3**
comp=Z,0.3nm,0.5s,baz=314,slow=1.8,SNR=1.0

*BJI **02** 04:08:04.2±0.0,30.42N×50.54E,h10km, mb5.2/86, mB5.1/69, Ms5.4/89, Ms7 5.1/85*
*MOS **02** 04:08:11.7±1.1,30.73N×51.44E,h12km, mb5.6/106, MS4.7/35, Error ellipse: s-maj=4.4km s-min=2.5km az=120.8*
*TEH **02** 04:08:11.9,30.82N×51.44E,h9km, ML5.3*
*IDC **02** 04:08:11.5±0.4,30.76N×51.50E,h0km, mb5.2/39, mbtmp5.2/47, ML4.4/8, MS4.8/64, Error ellipse: s-maj=9.0km s-min=7.7km az=3.0*
*GII **02** 04:08:12.2±0.4,30.72N×51.49E,h10km, confirmed*
*NEIC **02** 04:08:13.8,30.71N×51.48E,h14km*
*NEIC **02** 04:08:13.8,30.71N×51.48E,h10km*
*NEIC **02** 04:08:13.8,30.81N×51.25E,h14km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17^Nm; Mrr1.03; Mθθ-0.79; Mφφ-0.24; Mrθ-0.01; Mθφ0.53; Mφr0.01; Fault plane solution: Mo1.07000×10^17^ NP1: φs301.26000°,δ45.45000°,λ89.92000°. NP2: φs121.37000°,δ44.55000°,λ90.08000°. Principal axes: T 1.0309, Plg90.0000°, Azm-155.0000°; N 0.0849, Plg0.0000°, Azm301.0000°; P -1.1158, Plg0.0000°, Azm31.0000°;*
*GCMT **02** 04:08:13.4±0.1,30.61N±0.01×51.50E±0.01,h14km, MW5.3/125, Moment Tensor Solution. s109,c185; s125,c248; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr1.02±.02; Mθθ-1.13±.02; Mφφ0.10±.02; Mrθ0.20±.03; Mθφ0.60±.01; Mφr0.20±.04; Best double couple: Mo1.24700×10^17^ NP1:φs94.00000°,δ51.00000°, λ65.00000°. NP2:φs310.00000°,δ45.00000°,λ117.00000°.*

Principal axes: T 1.1150, Plg71.0000°, Azm300.0000°; N 0.2570, Plg19.0000°, Azm111.0000°; P -1.3790, Plg3.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
*NEIC **02** 04:08:13.4±1.7,30.71N±0.06×51.49E±0.07,h8km±1km, mb5.5/389, Ms_20 4.9/315, Mwb5.1/30, Mww5.3/26 Error ellipse: s-maj=10.5km s-min=10.3km az=266.0, Moment Tensor Solution. Moment tensor: Scale 10^16^Nm; Mrr5.66; Mθθ-4.82; Mφφ-0.84; Mrθ-0.05; Mθφ2.91; Mφr1.27; Fault plane solution: Mo6.17000×10^16^ NP1: φs106.03000°,δ43.20000°,λ72.55000°. NP2: φs309.35000°,δ49.23000°,λ105.72000°. Principal axes: T 5.9296, Plg78.0000°, Azm284.0000°; N 0.4625, Plg12.0000°, Azm119.0000°; P -6.3922, Plg3.0000°, Azm28.0000°;*
*DSN **02** 04:08:14.3±0.6,30.69N×51.43E,h15km, mb5.8/3, ML5.2/16 Error ellipse: s-maj=13.2km s-min=5.6km az=47.0*
*THR **02** 04:08:14.0±0.7,30.80N×51.49E,h15km, ML5.2*
*OMAN **02** 04:08:14.4±0.2,30.73N×51.57E,h10km, mb5.7/45, ms4.7/9, Mwp5.4/18, Error ellipse: s-maj=1.9km s-min=1.4km az=54.0*

ISC 02 04:08:13.3±0.3,30.81N±0.02×51.46E±0.02,h9km±1km, h9km:pP-P,n1815,σ1s48/1739,mb5.5/448,MS4.9/280, 129C-54D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLNJ	**Kolanjah**	**0.23**	**30**	Pg	**Pg**	**04 08 16.3**	**-1.9**
IBRJ	**Brojen**	**1.11**	**351**	Pg	**Pg**	**04 08 32.6**	**-2.0**
KAZ2	**Kazeron-Fars-I**	**1.21**	**171**	Pg	**Pg**	**04 08 35.3**	**-1.1**
IRAM	**Ramesheh**	**1.27**	**38**	Pg	**Pn**	**04 08 34.5**	**-2.9**
ZNGN	**Zangian**	**1.40**	**339**	Pg	**Pg**	**04 08 39.4**	**-0.9**
SHI	**Shiraz**	**1.48**	**142**	Pg	**Pn**	**04 08 39.3**	**-0.9**
SHI	**Shiraz**	**1.48**	**142**	P	**Pn**	**04 08 39.5**	**-0.7**
JHBN	**Jahan bin**	**1.57**	**335**	Pg	**Pg**	**04 08 42.1**	**-1.4**
JHBN				Sg	**Sg**	**04 09 08.0**	**+4.2**
IGAR	**Gharneh**	**1.67**	**17**	Pg	**Pb**	**04 08 42.8**	**-1.5**
IPIR	**Pirpir**	**1.93**	**346**	Pn	**Pg**	**04 08 48.1**	**-2.2**
AHBU	**AHRAM**	**1.94**	**184**	Pn	**Pb**	**04 08 48.4**	**-0.4**
ISAD	**Sadrabad**	**2.20**	**59**	Pn	**Pb**	**04 08 51.5**	**-1.9**
IZEF	**Zefreh**	**2.21**	**19**	Pn	**Pb**	**04 08 51.5**	**-2.0**
NASN	**Na'in**	**2.29**	**30**	*e*Pn	**Pb**	**04 08 53.5**	**-1.6**
DSBU	**Dashti - Bushe**	**2.44**	**184**	Pn	**Pb**	**04 08 54.7**	**-2.6**
AHWZ	**Ahwaz**	**2.47**	**283**	Pn	**Pb**	**04 08 54.9**	**-2.9**
IKLH	**Kolahrood**	**2.51**	**2**	Pn	**Pb**	**04 08 57.0**	**-1.6**
QIR1	**Qir**	**2.70**	**149**	Pn	**Pb**	**04 08 58.3**	**+1.4**
IMEH	**Mehriz**	**2.77**	**77**	Pn	**Pb**	**04 09 00.5**	**-2.6**
GHIR	**Ghir-Karzin**	**2.85**	**152**	*e*Pn	**Pn**	**04 09 00.4**	**+1.5**
ICHK	**Chekchek**	**2.90**	**60**	Pn	**Pb**	**04 09 01.3**	**-3.9**
JHRM	**Jahrom**	**2.94**	**141**	Pn	**Pn**	**04 09 01.6**	**+1.3**
ANAR	**Anarak**	**3.06**	**39**	Pn	**Pn**	**04 09 03.5**	**+1.6**
YZKH	**Yazd**	**3.11**	**59**	*e*Pn	**Pb**	**04 09 05.1**	**-3.6**
KHMZ	**Khomeyn**	**3.19**	**337**	*e*Pn	**Pb**	**04 09 06.0**	**-4.1**
KRSH	**Karshahi**	**3.20**	**10**	Pn	**Pn**	**04 09 05.3**	**+1.4**
ISFB	**Sefidab**	**3.59**	**10**	Pn	**Pn**	**04 09 10.8**	**+1.6**
IBAF	**Bafgh**	**3.61**	**76**	Pn	**Pn**	**04 09 11.8**	**+2.4**
KBD	**Kabd**	**3.65**	**244**	P	**Pn**	**04 09 12.0**	**+2.2**
KBD				S	**Sn**	**04 09 55.4**	**+2.5**
LMD1	**Lamerd**	**3.77**	**156**	Pn	**Pg**	**04 09 24.0**	**-1.4**
BDRS	**Dareh Seyedi**	**3.82**	**326**	Pn	**Pn**	**04 09 13.7**	**+1.2**
ASAO	**Ashtian**	**3.92**	**342**	*e*Pn	**Pn**	**04 09 16.4**	**+2.5**
LAR1	**LAR**	**4.04**	**140**	Pn	**Pn**	**04 09 16.6**	**+1.4**
IQOM	**Qom**	**4.04**	**355**	Pn	**Pn**	**04 09 16.8**	**+1.4**
IDOB	**Doab**	**4.07**	**318**	Pn	**Pn**	**04 09 16.9**	**+1.1**
IKFM	**Kafar-mosalman**	**4.09**	**312**	Pn	**Pn**	**04 09 17.1**	**+1.2**
HSAM	**Samen**	**4.16**	**325**	Pn	**Pn**	**04 09 18.4**	**+1.2**
IVRN	**Varamin**	**4.18**	**3**	Pn	**Pn**	**04 09 19.1**	**+1.8**
KHGB	**Koh Gabri**	**4.35**	**94**	Pn	**Pn**	**04 09 21.2**	**+1.4**
ZRDN	**Zarand Kerman**	**4.37**	**87**	Pn	**Pn**	**04 09 21.8**	**+1.8**
HAGD	**Aghdareh**	**4.45**	**335**	Pn	**Pn**	**04 09 22.4**	**+1.3**
IHSB	**Hasanabad**	**4.62**	**358**	Pn	**Pn**	**04 09 25.2**	**+1.9**
KRBR	**Kerman**	**4.66**	**99**	*e*Pn	**Pn**	**04 09 25.9**	**+1.9**
KRBR				IAML		04 10 51.9	
	comp=N,1μm,0.8s						
KRBR				IAML		04 10 52.2	
	comp=E,2μm,0.9s						
TVBK	**TV Kerman**	**4.66**	**99**	Pn	**Pn**	**04 09 25.3**	**+1.3**
NGRK	**Negar Kerman**	**4.71**	**103**	Pn	**Pn**	**04 09 26.3**	**+1.5**
ILAS	**Lasjerd**	**4.73**	**15**	Pn	**Pn**	**04 09 26.3**	**+1.3**
IBZA	**Bozab**	**4.75**	**321**	Pn	**Pn**	**04 09 26.2**	**+1.0**
IRAZ	**Razeghan**	**4.76**	**345**	Pn	**Pn**	**04 09 27.0**	**+1.7**
DAMV	**Damavand**	**4.83**	**5**	*e*Pn	**Pn**	**04 09 28.4**	**+2.1**
SAKB	**Bahrain**	**4.88**	**190**	P	**Pn**	**04 09 28.0**	**+1.2**
SAKB				S	**Sn**	**04 10 24.5**	**+1.1**
IMHD	**Mahdasht**	**4.91**	**352**	Pn	**Pn**	**04 09 29.2**	**+1.9**
SHMA	**Al-Shehemyia**	**4.95**	**185**	P	**Pn**	**04 09 28.9**	**+1.1**
	SNR=115						
SHMA				S	**Sn**	**04 10 26.0**	**+0.9**
TPRV	**Parvadeh(Tabas**	**4.97**	**62**	Pn	**Pn**	**04 09 29.7**	**+1.6**
KRM1	**Kerman Provinc**	**5.02**	**92**	Pn	**Pn**	**04 09 30.6**	**+1.7**
IANJ	**Anjilo**	**5.08**	**23**	Pn	**Pn**	**04 09 31.1**	**+1.3**
KCHF	**Cheshme Sefid,**	**5.08**	**314**	Pn	**Pn**	**04 09 30.7**	**+1.0**
CHTH	**Charan**	**5.09**	**357**	*e*Pn	**Pn**	**04 09 32.1**	**+2.1**
THKV	**Tehran--Karaj**	**5.12**	**355**	*e*Pn	**Pn**	**04 09 33.1**	**+2.8**
ILBA	**Ilam Banvizeh**	**5.26**	**304**	*e*Pn	**Pn**	**04 09 33.0**	**+1.0**
ILBA				IAML		04 11 30.4	
	comp=N,2μm,0.7s						
ILBA				IAML		04 11 41.9	
	comp=E,2μm,0.8s						
ILBA	**Ilam Banvizeh**	**5.26**	**304**	Pn	**Pn**	**04 09 33.1**	**+1.0**
BNDS	**Bandar-Abbas**	**5.34**	**128**	*e*Pn	**Pn**	**04 09 34.0**	**+0.7**
BNDS				IAML		04 10 56.4	
	comp=E,583nm,0.5s						
BNDS				IAML		04 10 56.6	
	comp=N,575nm,0.5s						
CHMN	**Cheshme madani**	**5.34**	**99**	Pn	**Pn**	**04 09 34.8**	**+1.3**
TNSJ	**Nastanj**	**5.38**	**53**	Pn	**Pn**	**04 09 35.6**	**+1.9**
IGHG	**Ghaleghazi**	**5.42**	**312**	Pn	**Pn**	**04 09 35.7**	**+1.3**
IPRN	**Peran**	**5.47**	**8**	Pn	**Pn**	**04 09 38.3**	**+3.3**
SNGE	**Sanandaj**	**5.49**	**322**	*e*Pn	**Pn**	**04 09 38.1**	**+2.6**
SNGE				IAML		04 10 47.4	
	comp=N,562nm,0.6s						
SNGE				IAML		04 11 25.3	
	comp=E,1μm,0.9s						
TKDS	**Koohdasht(Taba**	**5.56**	**58**	Pn	**Pn**	**04 09 37.8**	**+1.5**
TABS	**Tabas**	**5.57**	**58**	*e*Pn	**Pn**	**04 09 38.2**	**+1.8**
TABS				IAML		04 11 31.3	
	comp=N,455nm,0.8s						
ILIN	**Lien**	**5.58**	**318**	Pn	**Pn**	**04 09 37.7**	**+1.1**
MZPU	**Pul - Mazandar**	**5.62**	**1**	Pn	**Pn**	**04 09 40.1**	**+3.0**
KLST	**Kelardasht - M**	**5.71**	**357**	Pn	**Pn**	**04 09 40.5**	**+2.1**
IDHR	**Dehrash**	**5.77**	**314**	Pn	**Pn**	**04 09 39.9**	**+0.7**
JRN	**Qarnain Island**	**5.97**	**168**	P	**Pn**	**04 09 42.6**	**+0.8**
	SNR=12						
JRN				S	**Sn**	**04 10 50.6**	**+0.3**
IGLO	**Ghaloghah**	**6.01**	**19**	Pn	**Pn**	**04 09 45.5**	**+2.9**
JIR1	**Jirandeh**	**6.04**	**347**	Pn	**Pn**	**04 09 44.5**	**+1.6**
TRNA	**Turayna**	**6.05**	**182**	P	**Pn**	**04 09 43.8**	**+0.9**
	SNR=74						
TRNA				S	**Sn**	**04 10 53.1**	**+0.8**
SMRA	**Abu-Samra**	**6.07**	**185**	P	**Pn**	**04 09 44.1**	**+1.0**
	SNR=54						
SMRA				S	**Sn**	**04 10 53.2**	**+0.6**
	SNR=6.5						
KHNJ	**Kahnooj**	**6.15**	**116**	Pn	**Pn**	**04 09 45.6**	**+1.3**
KGS1	**Ghasr-e-Shirin**	**6.17**	**308**	Pn	**Pn**	**04 09 45.0**	**+0.5**
GIDE	**GILAN DEYLAMAN**	**6.23**	**349**	*e*Pn	**Pn**	**04 09 47.7**	**+2.2**
SHME	**Shamm**	**6.28**	**138**	*i* P	**Pn**	**04 09 46.1**	**0.0**
	SNR=16						
SHME	**Shamm**	**6.28**	**138**	P	**Pn**	**04 09 46.3**	**+0.2**
	SNR=9.2						
SHME				S	**Sn**	**04 10 57.6**	**-0.4**
ZNJK	**

SLWR P Pn 04 09 53.0 +0.9
SLWR S Sn 04 11 08.8 +0.2
SLWR S Sn 04 11 08.8 +0.2
MASF Masafi 6.83 141 S Sn 04 11 10.5 -1.0
SNR=12
MSFE Esma-Masafi 6.83 141 *i* P Pn 04 09 53.2 -0.6
SNR=17
MSFE S Sn 04 11 09.3 -2.4
NAZ Nazwa, Dubai 6.89 146 *i* P Pn 04 09 54.9 +0.5
SNR=65
NAZ Nazwa, Dubai 6.89 146 P Pn 04 09 54.7 +0.2
SNR=65
NAZ P Pn 04 09 54.7 +0.2
SNR=65
NAZ S Sn 04 11 12.9 -0.1
NAZ S Sn 04 11 12.9 -0.1
AFRZ Afriz 6.92 66 Pn Pn 04 09 56.6 +1.6
GHWR Ruwais 6.93 169 P Pn 04 09 55.5 +0.5
GHWR P Pn 04 09 55.5 +0.5
MDH Madha 6.96 141 *i* P Pn 04 09 54.8 -0.5
SNR=19
MDH Madha 6.96 141 P Pn 04 09 55.7 +0.3
SNR=71
MDH S Sn 04 11 13.0 -1.7
SNR=12
AJN Ajban 6.96 152 *i* P Pn 04 09 55.9 +0.4
SNR=11
AJN Ajban 6.96 152 P Pn 04 09 55.9 +0.4
SNR=12
AJN S Sn 04 11 14.5 -0.3
SNR=8.3
ASUD Al Ashush, Dub 7.05 150 *i* P Pn 04 09 57.3 +0.7
SNR=36
ASUD Al Ashush, Dub 7.05 150 P Pn 04 09 57.3 +0.7
SNR=36
ASUD P Pn 04 09 57.3 +0.7
SNR=36
ASUD S Sn 04 11 16.5 -0.4
SNR=6.4
ASUD S Sn 04 11 16.5 -0.4
SNR=6.4
FAQ Al Faqa, Dubai 7.06 148 *i* P Pn 04 09 56.7 -0.1
SNR=8.5
FAQ Al Faqa, Dubai 7.06 148 P Pn 04 09 57.5 +0.7
SNR=20
FAQ P Pn 04 09 57.5 +0.7
SNR=20
FAQ S Sn 04 11 17.0 -0.2
SNR=7.0
FAQ S Sn 04 11 17.0 -0.2
SNR=7.0
UOSS Minazif 7.19 143 Pn Pn 04 09 56.4 -2.2
UOSS Sn Sn 04 11 16.8 -3.6
UOSS Minazif 7.19 143 *i* P Pn 04 09 58.2 -0.4
SNR=44
UOSS Minazif 7.19 143 P Pn 04 09 58.9 +0.3
UOSS S Sn 04 11 19.2 -1.2
SNR=7.5
IMND Minoodasht 7.22 26 Pn Pn 04 10 01.6 +2.7
HATD Hatta, Dubai 7.25 144 *i* P Pn 04 09 59.3 -0.2
SNR=50
HATD Hatta, Dubai 7.25 144 P Pn 04 10 00.1 +0.6
SNR=50
HATD P Pn 04 10 00.1 +0.6
SNR=50
HATD S Sn 04 11 21.5 -0.5
SNR=5.6
HATD S Sn 04 11 21.5 -0.5
SNR=5.6
SDS1 Sardasht. Az. 7.30 318 Pn Pn 04 10 02.3 +2.1
ASHO Ashiyiah 7.34 145 *i* P Pn 04 09 59.8 -0.8
SNR=82
ASHO Ashiyiah 7.34 145 P Pn 04 10 00.8 +0.2
SNR=80
ASHO P Pn 04 10 00.8 +0.2
SNR=80
ASHO S Sn 04 11 23.4 -0.7
SNR=6.0
ASHO S Sn 04 11 23.4 -0.7
SNR=6.0
MZWR Madinat Zayed 7.34 162 P Pn 04 10 01.1 +0.4
MZWR P Pn 04 10 01.1 +0.4
MZWR S Sn 04 11 24.0 -0.1
MZWR S Sn 04 11 24.0 -0.1
IHSH Hashtrud 7.35 333 Pn Pn 04 10 01.8 +0.7
SRSL SARDASHT 7.37 319 *e*Pn Pn 04 10 03.0 +1.8
IDAH Dahanechah 7.42 73 Pn Pn 04 10 03.2 +1.3
JASK Jask - Hormozg 7.49 130 Pn Pn 04 10 01.5 -1.2
JASK Jask - Hormozg 7.49 130 P Pn 04 10 02.7 0.0
SNR=34
JASK S Sn 04 11 27.3 -0.5
SBZV Sabzevar 7.57 41 Pn Pn 04 10 05.3 +1.4
MAHB Mahabad 7.63 323 Pn Pn 04 10 05.5 +0.8
ALNE Al Ain 7.73 149 *i* P Pn 04 10 05.7 -0.3
SNR=16
ALNE Al Ain 7.73 149 P Pn 04 10 06.0 0.0
SNR=19
ALNE S Sn 04 11 33.1 -0.7
MRVT Maraveh tapeh 7.84 28 *e*Pn Pn 04 10 10.3 +2.8
MRVT Maraveh tapeh 7.84 28 Pn Pn 04 10 10.2 +2.8
TBHD Torbat heydari 7.98 53 Pn Pn 04 10 11.1 +1.5
MZR Muzera 7.98 166 *i* P Pn 04 10 09.6 +0.2
SNR=51
MZR Muzera 7.98 166 P Pn 04 10 09.9 +0.5
SNR=52
MZR S Sn 04 11 40.0 +0.1
SHRT Shahrakht 8.00 67 *e*Pn Pn 04 10 12.0 +2.2
SHRT Shahrakht 8.00 67 Pn Pn 04 10 11.9 +2.2
SOHO SOHO 8.03 145 *i* P Pn 04 10 08.6 -1.5
SNR=44
SOHO SOHO 8.03 145 P Pn 04 10 09.9 -0.2
SOHO P Pn 04 10 09.9 -0.2
SOHO S Sn 04 11 40.2 -0.9
SOHO S Sn 04 11 40.2 -0.9
ZHSF Zahedan 8.15 96 *e*Pn Pn 04 10 14.2 +2.3
LKRN Lenkeran, Azer 8.18 345 P Pn 04 10 11.5 -0.6
IAZR Azarshahr 8.21 328 Pn Pn 04 10 15.3 +2.5
ZHDN Zahedan 8.22 97 Pn Pn 04 10 14.5 +1.6
ISFR Sfrayin 8.27 39 Pn Pn 04 10 16.4 +2.9
IHRS Heris 8.33 335 Pn Pn 04 10 15.9 +1.5
IAKL Akhelmad 8.39 45 Pn Pn 04 10 17.5 +2.3
IMOG Moghan 8.44 49 Pn Pn 04 10 18.9 +2.9
BJRD Bojnurd 8.46 34 *e*Pn Pn 04 10 18.6 +2.6
GRMI Germi 8.50 341 *e*Pn Pn 04 10 19.0 +2.4
GRMI Germi 8.50 341 Pn Pn 04 10 17.8 +1.2
TBJM Torbat-e-JAM 8.67 57 Pn Pn 04 10 21.8 +2.8
ARQ Araqi 8.70 148 P Pn 04 10 19.3 0.0
SNR=51
ARQ P Pn 04 10 19.3 0.0
SNR=51
ARQ S Sn 04 11 57.0 -0.6
ARQ S Sn 04 11 57.0 -0.6
UMZA Um Al Zommool 8.71 157 P Pn 04 10 19.7 +0.2
UMZA P Pn 04 10 19.7 +0.2
UMZA S Sn 04 11 57.5 -0.4
UMZA S Sn 04 11 57.5 -0.4
ISHB Shabestar 8.87 329 Pn Pn 04 10 23.8 +2.0
HOQ Hoqain 8.88 143 P Pn 04 10 22.0 +0.2
SNR=9.6
HOQ P Pn 04 10 22.0 +0.2
SNR=9.6
HOQ P Pn 04 10 22.0 +0.2
SNR=9.6
HOQ S Sn 04 12 01.3 -0.8
HOQ S Sn 04 12 01.3 -0.8
HOQ S Sn 04 12 01.3 -0.8
IKRD Kardeh 8.96 46 Pn Pn 04 10 24.9 +1.8
GEYT Alibeck 8.98 36 Pn Pn 04 10 25.8 +2.7
comp=N,14nm,0.3s,baz=209,slow=12,SNR=2.5
GEYT Lg Lg 04 13 07.0
comp=N,16nm,0.3s,baz=272,slow=22,SNR=1.9
GEYT LR LR 04 14 27.5
comp=N,17µm,18.3s,baz=231,slow=42
GYA0 ALIBECK ARRAY 8.98 36 P Pn 04 10 26.7 +3.5
GYA0B ALIBECK ARRAY 8.98 36 Pn Pn 04 10 24.9 +1.7
RAYN Ar Rayn 8.98 218 Pn Pn 04 10 22.2 -1.0
RAYN Ar Rayn 8.98 218 P Pn 04 10 24.8 +1.6
RAYN S Sn 04 12 06.0 +1.5
RAYN Ar Rayn 8.98 218 P Pn 04 10 22.2 -1.0
JRKH Jarkhoshk 9.01 53 Pn Pn 04 10 26.8 +3.2
IMYA Miami 9.08 50 Pn Pn 04 10 26.4 +1.7
BIDO Bidbid 9.38 139 P Pn 04 10 29.1 +0.6
SNR=22
BIDO P Pn 04 10 29.1 +0.6
SNR=22

BSY Bisya 9.53 146 P Pn 04 10 30.1 -0.5
SNR=37
BSY S Sn 04 12 15.7 -2.2
NAX Nakhchivan 9.67 331 P Pn 04 10 32.3 -0.3
SMDO Samad 9.70 141 P Pn 04 10 33.0 -0.1
SNR=44
SMDO P Pn 04 10 33.0 -0.1
SNR=44
SMDO S Sn 04 12 20.9 -1.4
SMDO S Sn 04 12 20.9 -1.4
HRA Herat 9.77 66 Pn Pn 04 10 35.9 +1.7
WSAR Wadi Sarin 9.88 138 Pn Pn 04 10 35.2 -0.4
comp=N,14nm,0.3s,baz=342,slow=12,SNR=89
WSAR Sn Sn 04 12 17.9 -8.7
comp=N,6.0nm,0.3s,baz=60,slow=20,SNR=1.4
WSAR LR LR 04 14 56.2
comp=N,9µm,21.2s,baz=340,slow=41
comp=N,67nm,0.4s
WSAR Wadi Sarin 9.88 138 P Pn 04 10 35.5 0.0
SNR=12
WSAR S Sn 04 12 24.9 -1.7
NGCH Negor - Chabah 10.12 120 Pn Pn 04 10 37.1 -1.7
NGCH Negor - Chabah 10.12 120 P Pn 04 10 38.4 -0.4
SNR=46
NGCH S Sn 04 12 31.2 -1.3
MAKU Maku 10.17 329 *e*Pn Pn 04 10 42.4 +2.9
MAKU Maku 10.17 329 Pn Pn 04 10 41.3 +1.7
JMDO Jabal Madar 10.29 143 P Pn 04 10 41.0 -0.2
SNR=15
JMDO P Pn 04 10 41.0 -0.2
SNR=15
JMDO S Sn 04 12 36.9 +0.2
JMDO S Sn 04 12 36.9 +0.2
MNGR Mingechevir, A 10.56 342 P Pn 04 10 44.2 -0.4
WBK Wadi Bani Khal 10.57 139 P Pn 04 10 44.9 0.0
SNR=17
WBK P Pn 04 10 44.9 0.0
SNR=17
WBK S Sn 04 12 43.0 -0.5
WBK S Sn 04 12 43.0 -0.5
GANJ Ganja 10.66 338 P Pn 04 10 45.8 -0.4
GNI Garni 10.80 331 Pn Pn 04 10 51.1 +2.9
GNI Garni 10.80 331 Pn Pn 04 10 52.0 +3.8
comp=N,1.3nm,0.3s,baz=185,slow=6.4,SNR=9.8
GNI Lg Lg 04 13 59.7
comp=N,0.8nm,0.3s,baz=120,slow=21,SNR=1.5
comp=N,28nm,0.8s
GNI Garni 10.80 331 *ce*P Pn 04 10 51.4 +3.2
GNI pmax pmax
comp=Z,42nm,0.8s
SEKA Sheki 10.93 343 P Pn 04 10 49.0 -0.9
GURO Guroymak-BITLI 10.94 317 Pn Pn 04 10 50.1 0.0
JLN Jalan Bani Buh 11.18 139 P Pn 04 10 53.3 0.0
SNR=26
JLN P Pn 04 10 53.3 0.0
SNR=26
MHTO MHTO 11.40 148 P Pn 04 10 57.2 +0.9
SNR=38
MHTO P Pn 04 10 57.2 +0.9
SNR=38
MHTO S Sn 04 12 57.8 -6.0
SNR=9.4
MHTO S Sn 04 12 57.8 -6.0
SNR=9.4
ZKTA Zakatala 11.49 342 P Pn 04 10 57.0 -0.4
KARS Kars 11.92 328 Pn Pn 04 11 06.4 +2.9
KARS Kars 11.92 328 P Pn 04 11 06.4 +2.9
DQM DQM 12.14 152 P Pn 04 11 07.0 +0.5
DOK Doka 12.38 168 P Pn 04 11 10.3 +0.7
SNR=31
ASF Jabal al Asfar 12.50 280 Pn Pn 04 11 10.3 -1.1
comp=Z,8.9nm,0.3s,baz=75,slow=0.0,SNR=30
ASF LR LR 04 17 13.2
comp=Z,3µm,21.5s,baz=333,slow=43
comp=Z,55nm,0.4s
ASF Jabal al Asfar 12.50 280 P Pn 04 11 09.9 -1.5
MAK Makhachkala 12.53 347 *d* P Pn 04 11 12.4 +0.7
MAK *e*S Sn 04 13 32.8 +1.5
MAK pmax pmax
comp=Z,292nm,1.2s
MAK MLR MLR
comp=Z,5µm,17.0s
WHFO Wadi Hawf 13.00 170 P Pn 04 11 19.0 +0.8
SNR=48
HSUJ Al Zarqa 13.10 280 P Pn 04 11 20.4 +0.9
FKH Fakeheh 13.15 289 *e*P Pn 04 11 20.0 -0.2
GROC Groznyy 13.17 342 *e*P P 04 11 30.1 -0.4
GROC pmax pmax
comp=Z,210nm,0.8s
GROC MLR MLR
comp=Z,2µm,8.0s
SWQJ Swaqa 13.21 276 P Pn 04 11 21.4 +0.3
SHAO Shalim 13.28 162 *i* P Pn 04 11 18.8 -3.2
SNR=25
SHAO Shalim 13.28 162 P Pn 04 11 22.8 +0.8
SNR=24
BEIL Beino 13.39 290 *e*P Pn 04 11 22.8 -0.7
GAZ Gaziantep 13.41 302 Pn Pn 04 11 23.9 +0.1
DMTO DMTO 13.41 166 P Pn 04 11 24.7 +0.9
SNR=9.4
KSHT Keshet 13.47 283 P Pn 04 11 23.6 -1.0
RBK Rabkut 13.48 169 P Pn 04 11 25.6 +0.8
SNR=19
SHMJ Saham 13.49 282 P Pn 04 11 24.9 +0.1
ABTO Aybut 13.50 172 P Pn 04 11 25.8 +0.8
SNR=54
ABTO P Pn 04 11 25.8 +0.8
SNR=54
ABTO P Pn 04 11 25.8 +0.8
SNR=54
RCY Rachaya 13.50 286 *e*P Pn 04 11 24.9 -0.3
ZAHL Zahle 13.51 287 *e*P Pn 04 11 26.9 +1.6
HWQ Hawqa 13.53 289 *e*P Pn 04 11 26.6 +1.0
ARPR Arapgir-MALATY 13.56 311 Pn Pn 04 11 25.7 -0.1
NATI Neve Ativ 13.56 284 P Pn 04 11 27.7 +2.0
BALJ Balqa 13.56 279 Pn Pn 04 11 27.2 +1.3
BALJ Balqa 13.56 279 P Pn 04 11 27.8 +1.9
KARJ KARJ 13.57 275 P P 04 11 30.4 -4.6
HSNJ Maan 13.61 272 P Pn 04 11 28.6 +2.1
QRNJ Al-Qirein 13.63 281 P Pn 04 11 28.2 +1.6
GHAJ Ghor Haditha 13.63 276 Pn 04 11 26.2 -0.5
GHAJ Ghor Haditha 13.63 276 P Pn 04 11 28.1 +1.4
GHAJ Ghor Haditha 13.63 276 P Pn 04 11 26.1 -0.7
HMDT Nahal Hemdat 13.67 280 P Pn 04 11 29.6 +2.4
HMDT Nahal Hemdat 13.67 280 P Pn 04 11 27.3 +0.1
BHL Bhannes 13.71 287 *e*P Pn 04 11 29.0 +1.1
UJAP Al Uja 13.71 279 P Pn 04 11 29.9 +2.1
DQRL Deir Qamar 13.75 286 *e*P Pn 04 11 28.8 +0.3
MMLI Mount Malkishu 13.76 281 P Pn 04 11 28.4 -0.1
DSI Dead Sea 13.79 277 P P 04 11 34.4 -3.0
DSI Dead Sea 13.79 277 P Pn 04 11 27.9 -0.9
MSBI Mazada 13.81 276 P Pn 04 11 31.2 +2.0
MSBI Mazada 13.81 276 P Pn 04 11 28.0 -1.2
MMA0 Mount Meron ar 13.81 283 P P 04 11 35.8 -2.0
MMA0B Mount Meron ar 13.81 283 P Pn 04 11 29.5 +0.2
MMA0B Mount Meron ar 13.81 283 S Pn 04 11 29.2 -0.1
MMAI Mount Meron Ar 13.81 283 Pn Pn 04 11 29.1 -0.3
comp=Z,9.5nm,0.3s,baz=69,slow=15,SNR=17
MMAI Sn Sn 04 14 00.7 -2.2
comp=Z,3.5nm,0.3s,baz=74,slow=12,SNR=2.2
MMAI LR LR 04 17 28.7
comp=Z,624nm,20.0s,baz=40,slow=40
comp=Z,14nm,0.6s
BLGI Bet Lehem HaGe 13.97 282 P P 04 11 35.4 -4.1
HNTI Hanita 14.01 284 P P 04 11 36.2 -3.8
HNTI Hanita 14.01 284 P Pn 04 11 31.9 0.0
ZFRI Zfri 14.01 273 P P 04 11 36.9 -3.0
ZFRI Zfri 14.01 273 P Pn 04 11 31.8 -0.2
YTIR Yattir 14.02 276 P P 04 11 38.1 -2.0
YTIR Yattir 14.02 276 P Pn 04 11 31.5 -0.6
SLTI Sal'it 14.08 280 P P 04 11 35.8 -4.9
SLTI Sal'it 14.08 280 P Pn 04 11 33.2 +0.3
NCK Nalchik 14.12 336 *i* P P 04 11 37.2 -3.9
OFRI `Ofer 14.14 282 P P 04 11 36.4 -5.0
OFRI `Ofer 14.14 282 P Pn 04 11 33.3 -0.4
AMAZ Amatzia 14.18 277 P P 04 11 38.6 -3.3
PRNI Paran 14.18 272 P P 04 11 37.9 -4.0
PRNI Paran 14.18 272 P Pn 04 11 33.4 -0.9
HRFI Mount Harif 14.19 271 P Pn 04 11 33.0 -1.4
AQBJ Aqaba 14.22 270 P P 04 11 41.2 -1.1
EIL Elat 14.31 270 Pn Pn 04 11 35.1 -1.0
comp=Z,1.5nm,0.3s,baz=58,slow=4.1,SNR=5.9
EIL Sn Sn 04 14 15.8 +0.8
comp=Z,1.8nm,0.3s,baz=114,slow=20,SNR=1.2
EIL LR LR 04 17 59.5
comp=Z,2µm,18.1s,baz=88,slow=41
comp=Z,14nm,0.9s
EIL Elat 14.31 270 P Pn 04 11 37.9 +1.8
EIL Elat 14.31 270 P Pn 04 11 35.2 -1.0
MBRI Mt Berech 14.33 270 P Pn 04 11 38.5 +2.1
MBRI Mt Berech 14.33 270 P Pn 04 11 35.3 -1.1
KRMI Paran Flat 14.45 272 P Pn 04 11 37.1 -0.9
KBZ Khabaz 14.57 335 Pn 04 11 43.3 +3.7
KBZ Khabaz 14.57 335 Pn P 04 11 43.3 -2.8
comp=Z,0.3nm,0.3s,baz=141,slow=10.0,SNR=53
KBZ Sn S 04 14 31.2 -9.4
comp=Z,0.1nm,0.3s,baz=110,slow=14,SNR=1.3
KBZ LR LR 04 17 54.4
comp=Z,3µm,21.0s,baz=150,slow=40
comp=Z,41nm,1.0s
KBZ Khabaz 14.57 335 *ce*P P 04 11 41.9 -4.2
KZIT Kziot 14.66 275 P P 04 11 45.8 -1.3
KZIT Kziot 14.66 275 P Pn 04 11 39.8 -1.0
SHA1 Shidzhatmaz 14.67 334 *ce*P P 04 11 45.2 -2.3
KVAR Kislovodsk Arr 14.84 335 Pn P 04 11 46.5 -2.7
baz=74,slow=23
KVAR Sn S 04 14 38.0 -8.3
baz=218,slow=22
comp=Z,31nm,0.9s
KIV Kislovodsk 14.85 335 Pn P 04 11 45.7 -3.6
KIV Kislovodsk 14.85 335 *e*P P 04 11 46.1 -3.2
KIV *e*S Sn 04 14 32.8 +4.8
KIV pmax pmax
comp=Z,373nm,1.0s
KIV MLR MLR
comp=Z,614nm,13.0s
BNN Bunyan 15.11 306 Pn Pn 04 11 47.5 +0.5
BNN IAmb IAmb 04 11 49.9
comp=Z,368nm,1.2s
KBL Kabul 15.27 71 Pn Pn 04 11 49.8 +0.6
KBL Kabul 15.27 71 P Pn 04 11 49.1 -0.1
SNR=31
KBL P Pn 04 11 49.1 -0.1
SNR=31
KBL Kabul 15.27 71 P Pn 04 11 49.8 +0.6
KBL pmax pmax
comp=Z,50nm,1.4s
KBU Kabul Universi 15.34 71 P P 04 11 55.5 +0.6
VSLR Vesyoloye 15.55 327 *i* P P 04 11 55.6 -1.4
GOF Gofitskoye 15.68 337 *e*P P 04 11 57.8 -0.6
CSS Mathiatis 15.78 290 Pn Pn 04 11 55.8 +0.2
CSS IAmb IAmb 04 11 58.2
comp=Z,273nm,1.1s
CSS Mathiatis 15.78 290 P P 04 11 56.8 -2.8
CSS Mathiatis 15.78 290 P Pn 04 11 55.3 -0.4
comp=Z,261nm,1.1s,comp=Z,3µm
SOC Sochi 15.79 327 *e*P Pn 04 11 55.9 +0.2
SOC *e* 04 14 53.5
SOC pmax pmax
comp=Z,323nm,1.0s
SOC MLR MLR
comp=Z,3µm,16.0s
LABN Labinsk 16.19 332 *e*P P 04 12 03.7 -0.3
LABN *e*S S 04 15 08.1 -5.6
LABN pmax pmax
comp=Z,255nm,0.8s
LABN MLR MLR
comp=E,18µm,15.0s
SIMJ Simiganj 16.40 57 P Pn 04 12 02.6 -1.2
DIKM Dikmen 16.94 314 P P 04 12 10.2 -2.2
comp=E,86nm,0.8s
BR104 Keskin Array S 17.02 306 P P 04 12 11.6 -1.9
comp=E,71nm,1.0s,comp=E,616nm
BR131 Keskin Array S 17.03 306 Pn P 04 12 11.8 -1.8
BR131 Keskin Array S 17.03 306 P P 04 12 13.6 0.0
SNR=87
BR131 P P 04 12 13.6 0.0
SNR=87
BR131 Keskin Array S 17.03 306 *i* P P 04 12 11.8 -1.8
BRTR Keskin Array B 17.03 306 Pn P 04 12 11.9 -1.8
BRTR Keskin Array B 17.03 306 Pn P 04 12 12.5 -1.1
comp=E,1.0nm,0.3s,baz=130,slow=13,SNR=54
BRTR ScP **ScP** 04 20 32.4 +0.1
comp=E,3.5nm,0.8s,baz=145,slow=5.2,SNR=8.3
comp=E,27nm,0.8s
BRTR Keskin Array B 17.03 306 *i* P P 04 12 12.1 -1.5
BRTR pmax pmax
comp=Z,28nm,0.8s
BR105 Keskin Array S 17.04 306 P P 04 12 12.1 -1.6
comp=Z,88nm,1.0s,comp=Z,638nm
ERBR Yeremizino-Bor 17.17 333 *d* P P 04 12 15.2 +0.3
ERBR *e*S S 04 15 27.8 -5.9
ERBR pmax pmax
comp=Z,476nm,1.7s
ERBR MLR MLR
comp=Z,3µm,21.0s
ANTO Ankara 17.68 306 ⇑P P 04 12 20.5 -0.2
ANTO Ankara 17.68 306 P 04 12 20.1 -0.6
ANTO Ankara 17.68 306 P P 04 12 22.1 +1.4
ANTO Ankara 17.68 306 P P 04 12 20.3 -0.4
comp=Z,48nm,0.9s,comp=Z,805nm
BR231 Keskin MP Arra 17.68 306 P P 04 12 20.7 -0.1
ANN Anapa 17.79 326 *i* P P 04 12 22.3 +0.5
ANN *e*S S 04 15 42.8 -3.5
ANN pmax pmax
comp=Z,138nm,1.0s
ANN MLR MLR
comp=Z,4µm,16.0s
ANN MLR MLR
comp=N,4µm,18.0s
ANN MLR MLR
comp=E,2µm,14.0s
BTK Batken 18.25 54 P 04 12 26.5 -0.5
BTK Batken 18.25 54 P P 04 12 26.5 -0.5
BTK pmax pmax
comp=Z,36nm,0.9s
CHM Chimkent 18.52 47 *e*P Pn 04 12 30.1 +0.1
baz=46
CHM LR LR 04 20 17.1
comp=Z,932nm,15.7s,baz=46
CHM Chimkent 18.52 47 *e*P Pn 04 12 30.0 +0.1
CHM MLR MLR
comp=Z,931nm,16.0s
ISP Isparta 18.63 298 Pn 04 12 32.3 +0.8
ISP Isparta 18.63 298 *ce*P Pn 04 12 33.7 +2.2
ISP pmax pmax
comp=Z,125nm,0.8s
IUG luzhnay 18.70 48 *e*P Pn 04 12 32.4 +0.1
baz=47
IUG *e*S S 04 16 02.8 -2.2
baz=47
IUG luzhnay 18.70 48 *e*P Pn 04 12 32.3 +0.1
IUG *e*S S 04 16 02.7 -2.2
DRK Karamyk 18.72 57 P Pn 04 12 32.3 -0.5
DRK Karamyk 18.72 57 P Pn 04 12 32.3 -0.5
DRK pmax pmax
comp=Z,366nm,2.0s
ELL Elmali 18.85 294 P Pn 04 12 35.7 +1.5
ELL Elmali 18.85 294 P Pn 04 12 35.7 +1.5
ELL pmax pmax
comp=Z,675nm,0.8s
MDUB Mudurnu 19.04 306 P Pn 04 12 36.8 +0.3
BRLS Borolday 19.05 45 *e*P P 04 12 33.4 -2.4
baz=45
BRLS *e*S Sn 04 16 06.5 -3.3
baz=45
BRLS Borolday 19.05 45 *e*P P 04 12 33.3 -2.4
BRLS *e*S Sn 04 16 06.5 -3.3
KK31 Karatay Array 19.50 46 P Pn 04 12 41.1 -0.8
KK31 Karatay Array 19.50 46 *i* P Pn 04 12 41.6 -0.3
KKAR Karatay Array 19.50 46 P Pn 04 12 41.5 -0.4
KKAR Karatay Array 19.50 46 P Pn 04 12 41.5 -0.4
KKAR pmax pmax
comp=Z,79nm,0.8s
AB31 Akbulak array 19.51 17 *e*P Pn 04 12 41.4 -0.5
ABKAR Akbulak array 19.51 17 P Pn 04 12 41.3 -0.6
ABKAR Akbulak array 19.51 17 P Pn 04 12 41.3 -0.6
SIM Simferopol' 19.61 321 *e*P Pn 04 12 41.4 -1.6
SIM *e*S S 04 16 14.9 -8.1
SIM pmax pmax
comp=Z,154nm,0.8s
OHH Osh 19.81 55 P Pn 04 12 44.8 -0.9
DZA Taraz 19.90 47 *e*P Pn 04 12 45.8 -0.9
baz=47
DZA Taraz 19.90 47 *e*P Pn 04 12 45.8 -0.9
ARG Arkhangelos 20.17 292 P Pn 04 12 48.7 -1.1
ARG IAmb IAmb 04 12 54.9
comp=Z,358nm,1.2s

ARG	**Arkhangelos**	**20.17**	**292**	P	Pn	04 12 48.7	-1.1
ARG				pmax	pmax		
	comp=Z,358nm,1.2s						
AKTO	**Aktyubinsk**	**20.21**	**12**	P	Pn	04 12 48.9	-1.4
	comp=Z,136nm,0.8s,baz=207,slow=10,SNR=141						
AKTO				S	**S**	**04 16 33.9**	**-1.2**
	comp=Z,3.5nm,0.8s,baz=285,slow=20,SNR=0.8						
AKTO				ScP	**ScP**	**04 20 37.6**	**-1.2**
	comp=Z,6.6nm,0.9s,baz=187,slow=3.5,SNR=5.0						
	comp=Z,136nm,0.8s						
ARSB	**Arslanbob**	**20.27**	**53**	P	Pn	04 12 49.7	-1.5
ARSB	**Arslanbob**	**20.27**	**53**	P	Pn	04 12 49.7	-1.4
ARSB				pmax	pmax		
	comp=Z,192nm,2.0s						
ISK	**Istanbul-Kandi**	**20.77**	**306**	P	Pn	04 12 54.9	-1.9
ISK				pmax	pmax		
	comp=Z,220nm,0.9s						
ATD	**Arta Tunnel**	**20.78**	**204**		**P**	**04 12 54.1**	**-0.6**
ATD				IAmb	IAmb	04 13 06.5	
	comp=Z,253nm,1.4s						
ATD	**Arta Tunnel**	**20.78**	**204**	P	Pn	04 12 55.9	-1.2
	comp=Z,1.1nm,0.9s,baz=11,slow=5.9,SNR=15						
ATD				S	**S**	**04 16 46.0**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=286,slow=22,SNR=1.1						
ATD	**Arta Tunnel**	**20.78**	**204**	P	Pn	04 12 56.4	-0.7
	SNR=24						
ATD	**Arta Tunnel**	**20.78**	**204**	*eP*	Pn	04 12 57.4	+0.3
ATD				*eS*	Sn	04 16 53.4	+1.6
KLYT	**Kilyos**	**20.85**	**306**	P	Pn	04 12 55.9	-1.9
	comp=Z,308nm,1.4s						
KARP	**Karpathos**	**20.86**	**290**	P	Pn	04 12 56.8	-1.1
KARP	**Karpathos**	**20.86**	**290**	P	Pn	04 12 57.0	-0.9
KARP	**Karpathos**	**20.86**	**290**	P	Pn	04 12 56.3	-1.6
	comp=Z,792nm,0.8s,comp=Z,6μm						
EKS2	**Erkin-Say**	**21.38**	**50**	P	**P**	**04 13 02.7**	**+1.6**
	SNR=24						
CTYL	**Yalikoy Yolu**	**21.46**	**306**	P	**P**	**04 13 02.5**	**+0.6**
	comp=Z,395nm,0.8s,comp=Z,3μm						
VRH	**Novokhopyorsk**	**21.62**	**343**	*eP*	**P**	**04 13 03.7**	**+0.2**
VRH				*eS*	**S**	**04 17 02.2**	**-0.7**
VRH				pmax	pmax		
	comp=Z,352nm,1.2s						
VRH				smax	smax		
	comp=E,1.0nm,1.7s						
UCH	**Uchtor**	**21.68**	**52**	P	**P**	**04 13 05.9**	**+1.2**
	SNR=40						
BELG	**Belogornoye**	**21.75**	**354**	P	**P**	**04 13 04.5**	**-0.4**
	comp=E,353nm,0.9s,baz=170,slow=2.6,SNR=37						
BELG				S	**S**	**04 17 02.0**	**-3.3**
	comp=E,36nm,0.9s,baz=222,slow=12,SNR=1.9						
BELG				LR	LR	04 23 21.7	
	comp=E,2μm,21.8s,baz=176,slow=42						
	comp=E,353nm,0.9s						
BELG	**Belogornoye**	**21.75**	**354**	⇑*iP*	**P**	**04 13 04.3**	**-0.5**
BELG				pmax	pmax		
	comp=Z,101nm,0.9s						
KSH	**Kashi**	**21.80**	**60**	P	**P**	**04 13 02.7**	**-2.9**
KSH				pP	pP	04 13 05.9	-3.2
KSH				sP	sP	04 13 09.4	-1.2
KSH				pmax	pmax		
	comp=Z,56nm,0.8s						
KSH				LR	LR		
	comp=Z,8μm,18.6s						
KSH				LR	LR		
	comp=Z,4μm,20.1s						
KSH				LR	LR		
	comp=Z,7μm,16.1s						
AAK	**Ala-Archa**	**21.84**	**51**	P	**P**	**04 13 07.6**	**+1.4**
	SNR=24						
AAK	**Ala-Archa**	**21.84**	**51**	P	**P**	**04 13 07.3**	**+1.2**
AAK				IAmb	IAmb	04 13 18.3	
	comp=Z,137nm,1.1s						
AAK	**Ala-Archa**	**21.84**	**51**	*i* P	**P**	**04 13 07.3**	**+1.2**
	SNR=42						
AAK	**Ala-Archa**	**21.84**	**51**	P	**P**	**04 13 07.4**	**+1.2**
	comp=Z,34nm,0.9s,baz=236,slow=12,SNR=28						
AAK				PcP	**PcP**	**04 17 06.0**	**+0.2**
	comp=Z,4.9nm,0.6s,baz=298,slow=1.7,SNR=4.1						
AAK				ScP	**ScP**	**04 20 43.1**	**-0.1**
	comp=Z,7.6nm,0.7s,baz=214,slow=6.6,SNR=12						
AAK				LR	LR	04 22 32.4	
	comp=Z,3μm,20.1s,baz=262,slow=39						
	comp=Z,34nm,0.9s						
AAK	**Ala-Archa**	**21.84**	**51**	P	**P**	**04 13 06.9**	**+0.7**
AAK				P	**P**	**04 13 06.9**	**+0.7**
AAK	**Ala-Archa**	**21.84**	**51**	P	**P**	**04 13 07.7**	**+1.6**
USP	**Ospenovka**	**22.12**	**49**	P	**P**	**04 13 09.9**	**+0.9**
	SNR=27						
KBK	**Karagaybulak**	**22.16**	**51**	P	**P**	**04 13 13.9**	**+4.4**
	SNR=47						
CHMS	**Chumysh**	**22.17**	**50**	P	**P**	**04 13 10.3**	**+0.8**
	SNR=34						
MANR	**Mangalia**	**22.26**	**312**	⇑P	**P**	**04 13 10.9**	**+0.5**
SGDS	**Sogindy**	**22.29**	**49**	*eP*	**P**	**04 13 11.4**	**+0.5**
	baz=49						
SGDS	**Sogindy**	**22.29**	**49**	*eP*	**P**	**04 13 11.3**	**+0.5**
KHAM	**Kharkiv**	**22.32**	**334**	P	**P**	**04 13 10.7**	**-0.3**
EZN	**Ezine**	**22.34**	**301**	P	**P**	**04 13 11.9**	**+0.7**
EZN	**Ezine**	**22.34**	**301**	P	**P**	**04 13 11.9**	**+0.7**
VSR	**Storozhevoye**	**22.34**	**339**	*eP*	**P**	**04 13 09.5**	**-1.7**
VSR				*eS*	**S**	**04 17 08.6**	**-8.1**
VSR				pmax	pmax		
	comp=Z,120nm,0.6s						
VSR				smax	smax		
	comp=N,600nm,8.9s						
VSR				MLR	MLR		
	comp=Z,2μm,17.0s						
EFOR	**EFORIE**	**22.36**	**313**	⇓P	**P**	**04 13 12.5**	**+1.1**
APE	**Apeiranthos**	**22.36**	**293**	⇓P	**P**	**04 13 12.8**	**+1.2**
APE	**Apeiranthos**	**22.36**	**293**	*i* P	**P**	**04 13 12.5**	**+0.9**
APE				pmax	pmax		
	comp=Z,276nm,0.8s						
NE56	**Odesa**	**22.44**	**321**	P	**P**	**04 13 12.0**	**-0.3**
DESE	**Dese**	**22.45**	**212**	*eP*	**P**	**04 13 13.9**	**+0.9**
DESE				*eS*	Sn	04 17 31.5	-0.9
PSN	**Preselentsi**	**22.47**	**311**	P	**P**	**04 13 12.9**	**+0.3**
MFTR	**Murfatlar**	**22.54**	**313**	⇑P	**P**	**04 13 14.0**	**+0.6**
JURR	**Jurilovca**	**22.54**	**314**	⇓P	**P**	**04 13 13.8**	**+0.3**
IDI	**Anoyia**	**22.68**	**288**	P	**P**	**04 13 16.0**	**+0.9**
IDI	**Anoyia**	**22.68**	**288**	P	**P**	**04 13 15.8**	**+0.7**
IDI	**Anoyia**	**22.68**	**288**	P	**P**	**04 13 16.7**	**+1.6**
	comp=Z,4.5nm,0.8s,baz=92,slow=14,SNR=120						
IDI				S	**S**	**04 17 24.4**	**+0.9**
	comp=Z,0.1nm,0.4s,baz=4.4,slow=12,SNR=3.4						
BTLS	**Baital**	**22.69**	**45**	*eP*	**P**	**04 13 15.5**	**+0.5**
	baz=45						
BTLS				*eS*	**S**	**04 17 25.2**	**+1.9**
	baz=45						
BTLS	**Baital**	**22.69**	**45**	*eP*	**P**	**04 13 15.5**	**+0.5**
BTLS				*eS*	**S**	**04 17 25.2**	**+1.9**
PLTM	**Poltava**	**22.69**	**331**	P	**P**	**04 13 14.8**	**-0.2**
TKM2	**Tokmak 2**	**22.70**	**51**	P	**P**	**04 13 16.4**	**+1.0**
	SNR=42						
TKM2	**Tokmak 2**	**22.70**	**51**	P	**P**	**04 13 15.7**	**+0.3**
VORR	**Voronezh**	**22.73**	**340**	*eP*	**P**	**04 13 13.8**	**-1.5**
VORR				*eS*	**S**	**04 17 23.2**	**-0.6**
VORR				pmax	pmax		
	comp=Z,178nm,1.6s						
VORR				smax	smax		
	comp=E,1.0nm,1.3s						
BOOM	**Boomskoye usch**	**22.76**	**52**	P	**P**	**04 13 16.5**	**+0.6**
BOOM				IAmb	IAmb	04 13 20.2	
	comp=Z,152nm,1.0s						
BOOM	**Boomskoye usch**	**22.76**	**52**	P	**P**	**04 13 16.5**	**+0.6**
BOOM				pmax	pmax		
	comp=Z,152nm,1.0s						
TLCR		**22.80**	**315**	⇓P	**P**	**04 13 16.8**	**+0.6**
TLCR		**22.80**	**315**	P	**P**	**04 13 16.7**	**+0.6**
ALN	**Alexandroupoli**	**22.85**	**303**	P	**P**	**04 13 17.0**	**+0.2**
ALN				IAmb	IAmb	04 13 18.8	
	comp=Z,208nm,0.9s						
ALN	**Alexandroupoli**	**22.85**	**303**	P	**P**	**04 13 17.0**	**+0.2**
ALN				pmax	pmax		
	comp=Z,208nm,0.9s						
TPGR	**Topolog**	**22.87**	**314**	⇑P	**P**	**04 13 17.6**	**+0.7**
ULHL	**Ulahol**	**22.87**	**53**	P	**P**	**04 13 19.2**	**+2.0**
	SNR=22						
ICOR	**Ion Corvin**	**22.90**	**312**	⇑P	**P**	**04 13 18.4**	**+1.2**
PURM	**Purcari**	**22.92**	**319**	⇑P	**P**	**04 13 17.7**	**+0.3**
PURM	**Purcari**	**22.92**	**319**	P	**P**	**04 13 16.7**	**-0.7**
	comp=Z,359nm,0.7s,comp=Z,4μm						
JMB	**Yambol**	**23.06**	**307**	P	**P**	**04 13 20.6**	**+1.7**
HARR	**Harsova**	**23.09**	**313**	⇑P	**P**	**04 13 19.6**	**+0.5**
HARR	**Harsova**	**23.09**	**313**	P	**P**	**04 13 19.7**	**+0.5**
CFR	**Carcaliu**	**23.20**	**315**	⇓P	**P**	**04 13 20.6**	**+0.2**
CFR	**Carcaliu**	**23.20**	**315**	P	**P**	**04 13 20.5**	**+0.2**
RDO	**Rodhopi**	**23.30**	**303**	P	**P**	**04 13 22.1**	**+0.8**
AMRR	**Amara**	**23.43**	**313**	⇑P	**P**	**04 13 23.6**	**+1.0**
AMRR	**Amara**	**23.43**	**313**	P	**P**	**04 13 23.5**	**+1.0**
RAZG	**Razgrad**	**23.50**	**310**	⇓P	**P**	**04 13 24.7**	**+1.3**
SCHLR	**Schela**	**23.54**	**315**	⇓P	**P**	**04 13 25.1**	**+1.5**
SCTR	**Scanteiesti**	**23.54**	**316**	⇑P	**P**	**04 13 25.4**	**+1.6**
NEGRR	**Negrea**	**23.54**	**315**	⇓P	**P**	**04 13 25.4**	**+1.7**
SCHL	**Schela**	**23.55**	**315**	⇓P	**P**	**04 13 25.2**	**+1.4**
VLDR	**Vladesti**	**23.58**	**316**	⇑P	**P**	**04 13 24.8**	**+0.8**
KDZ	**Kurdzhali**	**23.59**	**304**	P	**P**	**04 13 24.5**	**+0.3**
OTUK	**Ortayu**	**23.60**	**37**	P	**P**	**04 13 24.1**	**-0.2**
IZVR	**Izvoarele**	**23.61**	**315**	⇓P	**P**	**04 13 25.8**	**+1.4**
LPSR	**Galich'ya Gora**	**23.63**	**341**	*eP*	**P**	**04 13 23.5**	**-1.0**
LPSR				*eS*	**S**	**04 17 32.4**	**-6.6**
LPSR				pmax	pmax		
	comp=Z,290nm,0.8s						
LPSR				smax	smax		
	comp=E,380nm,6.0s						
LPSR				MLR	MLR		
	comp=Z,2μm,17.0s						
SLCR	**Slobozia Conac**	**23.64**	**315**	⇑P	**P**	**04 13 25.4**	**+0.8**
TNSS	**Tian-Shan**	**23.65**	**52**	*eP*	**P**	**04 13 25.6**	**+0.2**
	baz=52						
TNSS	**Tian-Shan**	**23.65**	**52**	*eP*	**P**	**04 13 25.5**	**+0.2**
ELND	**Elena**	**23.67**	**308**	⇓P	**P**	**04 13 26.3**	**+1.2**
LEHL	**Lehliu**	**23.69**	**312**	⇓P	**P**	**04 13 26.6**	**+1.4**
AAA	**Alma-Ata**	**23.70**	**51**	*eP*	**P**	**04 13 25.9**	**+0.5**
	comp=Z,47nm,0.7s,baz=51						
AAA	**Alma-Ata**	**23.70**	**51**	*eP*	**P**	**04 13 25.9**	**+0.5**
AAA				pmax	pmax		
	comp=Z,47nm,0.7s						
TUDR		**23.70**	**315**	⇑P	**P**	**04 13 26.5**	**+1.3**
SZH	**Strazhitsa**	**23.73**	**309**	P	**P**	**04 13 25.4**	**-0.2**
MILM	**Milestii Mici**	**23.74**	**319**	⇓P	**P**	**04 13 26.0**	**+0.4**
MILM	**Milestii Mici**	**23.74**	**319**	⇑*i*P	**P**	**04 13 24.8**	**-0.8**
	comp=Z,550nm,2.0s						
MILM	**Milestii Mici**	**23.74**	**319**	*c iP*	**P**	**04 13 24.8**	**-0.8**
MILM				*e*		04 13 56.0	
MILM				*e*PPP	PPP	04 14 05.0	
MILM				*e*S	**S**	**04 17 37.0**	**-3.8**
MILM				pmax	pmax		
	comp=Z,550nm,2.0s						
VARL	**Varlezi**	**23.75**	**316**	⇑P	**P**	**04 13 26.6**	**+0.9**
MDOK	**Medeo**	**23.77**	**52**	*eP*	**P**	**04 13 26.8**	**+0.5**
	baz=51						
MDOK				*e*S	**S**	**04 17 43.0**	**+1.2**
	baz=51						
MDOK				LR	LR	04 23 10.6	
	comp=Z,1μm,15.2s,baz=51						
MDOK	**Medeo**	**23.77**	**52**	*eP*	**P**	**04 13 26.7**	**+0.5**
MDOK				*e*S	**S**	**04 17 42.9**	**+1.2**
MDOK				MLR	MLR		
	comp=Z,1μm,15.0s						
KIS	**Kishinev**	**23.78**	**319**	⇑*iP*	**P**	**04 13 25.5**	**-0.5**
	comp=Z,330nm,2.4s						
KIS	**Kishinev**	**23.78**	**319**	*c iP*	**P**	**04 13 25.5**	**-0.5**
KIS				*e*		04 13 55.0	
KIS				*e*PPP	PPP	04 14 05.0	
KIS				*e*S	**S**	**04 17 38.0**	**-3.5**
KIS				*e*SS	Sn	04 17 46.0	-17
KIS				pmax	pmax		
	comp=Z,330nm,2.4s						
KIS				MLR	MLR		
	comp=Z,400nm,15.0s						
KIS	**Kishinev**	**23.78**	**319**	P	**P**	**04 13 26.4**	**+0.4**
	comp=Z,163nm,0.7s						
TARG	**Taragay, Kyrgy**	**23.79**	**55**	P	**P**	**04 13 27.5**	**+0.9**
TARG	**Taragay, Kyrgy**	**23.79**	**55**	P	**P**	**04 13 27.5**	**+0.9**
TARG				pmax	pmax		
	comp=Z,57nm,0.8s						
BAL3X	**Bal3x, Balta**	**23.91**	**322**	P	**P**	**04 13 26.6**	**-0.6**
GRER		**24.02**	**314**	⇓P	**P**	**04 13 29.7**	**+1.4**
RZN	**Rozhen**	**24.04**	**304**	P	**P**	**04 13 29.3**	**+0.5**
BIR	**Birlad**	**24.07**	**317**	⇓P	**P**	**04 13 29.8**	**+1.0**
BIR	**Birlad**	**24.07**	**317**	P	**P**	**04 13 29.8**	**+1.0**
GHRR		**24.09**	**316**	⇑P	**P**	**04 13 30.2**	**+1.2**
GHRR		**24.09**	**316**	P	**P**	**04 13 29.7**	**+0.7**
SGRR	**Singureni**	**24.13**	**311**	⇑P	**P**	**04 13 31.1**	**+1.7**
SULR		**24.14**	**312**	⇑P	**P**	**04 13 30.9**	**+1.5**
PANC	**Panciu**	**24.15**	**315**	⇑P	**P**	**04 13 31.3**	**+1.7**
ODBI	**Odobesti**	**24.16**	**315**	⇓P	**P**	**04 13 31.5**	**+1.9**
ODBI	**Odobesti**	**24.16**	**315**	P	**P**	**04 13 31.1**	**+1.5**
	comp=Z,83nm,0.9s,comp=Z,1μm						
ISR	**Istrita**	**24.16**	**313**	⇑P	**P**	**04 13 31.8**	**+2.0**
ISR	**Istrita**	**24.16**	**313**	P	**P**	**04 13 31.7**	**+2.0**
ISR	**Istrita**	**24.16**	**313**	P	**P**	**04 13 31.3**	**+1.6**
	comp=Z,206nm,1.6s,comp=Z,4μm						
VASR	**Vaslui**	**24.17**	**318**	⇑P	**P**	**04 13 30.9**	**+1.2**
PLD	**Plovdiv**	**24.18**	**305**	P	**P**	**04 13 30.1**	**+0.3**
PVL	**Pavlikeni**	**24.22**	**308**	P	**P**	**04 13 32.3**	**+2.1**
BISRR	**Bisoca**	**24.26**	**314**	⇑P	**P**	**04 13 32.2**	**+1.6**
BISRR	**Bisoca**	**24.26**	**314**	P	**P**	**04 13 32.1**	**+1.4**
	comp=Z,359nm,1.1s,comp=Z,5μm						
PLAR	**PLOIESTI**	**24.39**	**312**	⇓P	**P**	**04 13 33.8**	**+2.0**
VRI	**Vrincioaia**	**24.41**	**315**	⇑P	**P**	**04 13 33.2**	**+1.3**
VRI	**Vrincioaia**	**24.41**	**315**	P	**P**	**04 13 33.2**	**+1.3**
VRI	**Vrincioaia**	**24.41**	**315**	P	**P**	**04 13 32.8**	**+0.9**
	comp=Z,93nm,0.9s,comp=Z,2μm						
PLOR5	**Plostina Array**	**24.43**	**313**	P	**P**	**04 13 33.3**	**+1.1**
	comp=Z,118nm,0.9s,comp=Z,2μm						
PLOR	**Plostina**	**24.45**	**315**	⇓P	**P**	**04 13 33.8**	**+1.5**
PLOR	**Plostina**	**24.45**	**315**	P	**P**	**04 13 33.8**	**+1.5**
PLOR3	**Plostina Array**	**24.45**	**315**	P	**P**	**04 13 33.5**	**+1.1**
	comp=Z,149nm,1.2s,comp=Z,2μm						
NEHR	**Nehoiu**	**24.46**	**314**	⇑P	**P**	**04 13 34.7**	**+2.2**
COPA	**Copaceanca**	**24.59**	**310**	⇓P	**P**	**04 13 35.1**	**+1.6**
IAS	**Iasi**	**24.61**	**318**	P	**P**	**04 13 34.7**	**+1.0**
PGB	**Panagyurishte**	**24.70**	**306**	P	**P**	**04 13 36.1**	**+1.5**
MMB	**Musomishta**	**24.70**	**303**	P	**P**	**04 13 35.7**	**+1.0**
SORM	**Soroca**	**24.70**	**321**	⇓P	**P**	**04 13 34.4**	**-0.1**
SORM	**Soroca**	**24.70**	**321**	P	**P**	**04 13 35.0**	**+0.5**
SORM	**Soroca**	**24.70**	**321**	P	**P**	**04 13 33.3**	**-1.2**
	comp=Z,80nm,0.6s,comp=Z,2μm						
ARXS	**Arharly**	**24.71**	**50**	*eP*	**P**	**04 13 35.7**	**+1.0**
MLR	**Muntele Rosu**	**24.71**	**314**	⇑P	**P**	**04 13 36.8**	**+1.9**
MLR	**Muntele Rosu**	**24.71**	**314**	P	**P**	**04 13 36.0**	**+1.2**
MLR	**Muntele Rosu**	**24.71**	**314**	P	**P**	**04 13 36.5**	**+1.7**
	comp=Z,232nm,0.8s,baz=49,slow=2.3,SNR=178						
MLR				S	**S**	**04 18 01.1**	**+4.3**
	comp=Z,4.0nm,0.9s,baz=72,slow=20,SNR=1.0						
MLR	**Muntele Rosu**	**24.71**	**314**	P	**P**	**04 13 36.7**	**+1.9**
MLR	**Muntele Rosu**	**24.71**	**314**	P	**P**	**04 13 36.4**	**+1.6**
	comp=Z,330nm,0.9s,comp=Z,3μm						
ZHN	**Zhinishke**	**24.71**	**53**	*eP*	**P**	**04 13 35.5**	**+0.6**
	comp=Z,50nm,0.7s,baz=52						
ZHN	**Zhinishke**	**24.71**	**53**	*eP*	**P**	**04 13 35.4**	**+0.6**
ZHN				pmax	pmax		
	comp=Z,50nm,0.7s						
COVR	**Voineasa-Covas**	**24.72**	**315**	⇑P	**P**	**04 13 36.8**	**+2.0**
TESR	**Tescani**	**24.78**	**316**	⇑P	**P**	**04 13 36.1**	**+0.8**
TESR	**Tescani**	**24.78**	**316**	P	**P**	**04 13 35.8**	**+0.6**
	comp=Z,406nm,0.9s,comp=Z,4μm						
FURI	**Furi**	**24.85**	**211**	*eP*	P	04 13 42.4	+6.0
FURI				*eS*	**S**	**04 18 05.7**	**+6.0**
HUMR	**Humele**	**24.90**	**311**	⇓P	**P**	**04 13 38.2**	**+1.8**
BRZS	**Berezniki**	**24.91**	**34**	*eP*	**P**	**04 13 37.1**	**+0.6**
	baz=34						
BRZS	**Berezniki**	**24.91**	**34**	*eP*	**P**	**04 13 37.0**	**+0.6**
TURR	**Turia**	**24.93**	**315**	⇑P	**P**	**04 13 38.5**	**+1.8**
STFAR	**Stefanesti-Arg**	**25.05**	**311**	⇑P	**P**	**04 13 39.9**	**+2.1**
VLAD	**Vladila**	**25.07**	**309**	⇑P	**P**	**04 13 39.5**	**+1.6**
OZUR		**25.09**	**315**	⇑P	**P**	**04 13 39.1**	**+1.0**
UZB	**Uzynbulak**	**25.11**	**53**	*eP*	**P**	**04 13 39.9**	**+1.4**
UZB				pmax	pmax		
	comp=Z,78nm,0.8s						
MTUR	**Matau**	**25.15**	**312**	⇓P	**P**	**04 13 39.2**	**+0.5**
MTUR	**Matau**	**25.15**	**312**	P	**P**	**04 13 40.8**	**+2.1**
AGG	**Agios Georgios**	**25.17**	**297**	P	**P**	**04 13 39.2**	**+0.3**
AGG	**Agios Georgios**	**25.17**	**297**	P	**P**	**04 13 39.2**	**+0.3**
AGG				pmax	pmax		
	comp=Z,313nm,0.9s						
KKB	**Krupnik**	**25.23**	**304**	P	**P**	**04 13 40.3**	**+0.9**
VOIR		**25.25**	**313**	⇓P	**P**	**04 13 41.4**	**+1.8**
VOIR		**25.25**	**313**	P	**P**	**04 13 41.4**	**+1.8**
VOIR		**25.25**	**313**	P	**P**	**04 13 40.6**	**+1.0**
	comp=Z,413nm,1.0s,comp=Z,4μm						
LIT	**Litokhoron**	**25.26**	**299**	P	**P**	**04 13 40.4**	**+0.7**
LIT	**Litokhoron**	**25.26**	**299**	P	**P**	**04 13 40.4**	**+0.7**
LIT				pmax	pmax		
	comp=Z,157nm,0.9s						
DOPR	**Dopca**	**25.28**	**314**	⇑P	**P**	**04 13 41.0**	**+1.3**
VTS	**Vitosha**	**25.39**	**306**	P	**P**	**04 13 40.9**	**-0.1**
TDK	**Taldyqorghan**	**25.41**	**49**	*eP*	**P**	**04 13 41.2**	**+0.1**
	comp=Z,86nm,0.9s,baz=48						
TDK				LR	LR	04 24 40.4	
	comp=Z,3μm,13.8s,baz=48						
TDK	**Taldyqorghan**	**25.41**	**49**	*eP*	**P**	**04 13 41.1**	**+0.1**
TDK				pmax	pmax		
	comp=Z,86nm,0.9s						
TDK				MLR	MLR		
	comp=Z,3μm,14.0s						
SHLS	**Shalkode**	**25.41**	**53**	*eP*	**P**	**04 13 44.4**	**+3.1**
	comp=Z,55nm,0.8s,baz=53						
SHLS	**Shalkode**	**25.41**	**53**	*eP*	**P**	**04 13 44.3**	**+3.1**
SHLS				pmax	pmax		
	comp=Z,55nm,0.8s						
PRAR	**RASCA**	**25.46**	**318**	⇑P	**P**	**04 13 42.1**	**+0.6**
VAY	**Valandovo**	**25.49**	**302**	*i* P	**P**	**04 13 43.3**	**+1.6**
NDNU	**Novodnistrovsk**	**25.50**	**321**	P	**P**	**04 13 41.1**	**-0.7**
DRBR	**Darabani**	**25.70**	**320**	⇑P	**P**	**04 13 43.9**	**+0.3**
AK07	**Malin Array Si**	**25.78**	**326**	P	**P**	**04 13 43.9**	**-0.4**
BAIL	**Bailesti**	**25.79**	**309**	⇓P	**P**	**04 13 46.0**	**+1.6**
AKASG	**Malin Array Be**	**25.87**	**327**	P	**P**	**04 13 44.5**	**-0.6**
AKASG	**Malin Array Be**	**25.87**	**327**	P	**P**	**04 13 44.7**	**-0.4**
	comp=Z,164nm,0.7s,baz=134,slow=9.3,SNR=96						
AKASG				PcP	**PcP**	**04 17 14.1**	**+0.1**
	comp=Z,3.6nm,0.5s,baz=92,slow=2.7,SNR=4.2						
AKASG				S	**S**	**04 18 16.1**	**+1.2**
	comp=Z,0.7nm,0.5s,baz=224,slow=15,SNR=1.3						
AKASG				ScP	**ScP**	**04 20 52.9**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=86,slow=3.1,SNR=1.1						
AKASG				LR	LR	04 25 05.4	
	comp=Z,2μm,21.6s,baz=128,slow=39						
	comp=Z,164nm,0.7s						
AKBB	**Malin Array Si**	**25.87**	**327**	P	**P**	**04 13 44.8**	**-0.3**
AKBB	**Malin Array Si**	**25.87**	**327**	*ce*P	**P**	**04 13 44.6**	**-0.5**
AKBB				pmax	pmax		
	comp=Z,349nm,0.9s						
AKBB	**Malin Array Si**	**25.87**	**327**	P	**P**	**04 13 44.6**	**-0.5**
KIEV	**Kiev**	**25.88**	**327**	⇓P	**P**	**04 13 45.5**	**+0.3**
KIEV	**Kiev**	**25.88**	**327**	P	**P**	**04 13 44.5**	**-0.7**
KIEV	**Kiev**	**25.88**	**327**	*i* P	**P**	**04 13 45.2**	**+0.1**
	SNR=25						
KIEV	**Kiev**	**25.88**	**327**	P	**P**	**04 13 45.4**	**+0.3**
KIEV	**Kiev**	**25.88**	**327**	P	**P**	**04 13 44.4**	**-0.7**
	comp=Z,2μm,0.9s,comp=Z,13μm						
KMPD	**K-Podol'skiy**	**25.98**	**320**	P	**P**	**04 13 45.2**	**-0.9**
MDB	**Medias**	**25.98**	**314**	⇑P	**P**	**04 13 47.7**	**+1.6**
MDB	**Medias**	**25.98**	**314**	P	**P**	**04 13 47.7**	**+1.6**
LOT	**Lotru**	**26.07**	**312**	⇓P	**P**	**04 13 48.0**	**+0.9**
ARU	**Arti**	**26.09**	**9**	P	**P**	**04 13 47.6**	**+0.6**
ARU				IAmb	IAmb	04 14 08.9	
	comp=Z,190nm,1.6s						
ARU	**Arti**	**26.09**	**9**	P	**P**	**04 13 48.0**	**+0.9**
	comp=Z,10nm,0.4s,baz=182,slow=5.2,SNR=28						
ARU				S	**S**	**04 18 22.3**	**+4.1**
	comp=Z,2.3nm,0.4s,baz=275,slow=14,SNR=1.1						
	comp=Z,10nm,0.4s						
ARU	**Arti**	**26.09**	**9**	*c iP*	**P**	**04 13 48.4**	**+1.4**
ARU						04 14 28.2	
ARU				S	**S**	**04 18 23.0**	**+4.7**
ARU				SS	SnSn	04 19 34.7	+19
ARU				pmax	pmax		
	comp=Z,61nm,1.2s						
ARU				MLR	MLR		
	comp=Z,3μm,20.0s						
ARU	**Arti**	**26.09**	**9**	P	**P**	**04 13 47.9**	**+0.9**
	comp=Z,83nm,0.9s,comp=Z,1μm						
BLKB	**Belogradchik**	**26.10**	**307**	⇓P	**P**	**04 13 48.7**	**+1.4**
SRE	**Strehaia**	**26.12**	**310**	⇑P	**P**	**04 13 48.8**	**+1.4**
SRE	**Strehaia**	**26.12**	**310**	P	**P**	**04 13 49.7**	**+2.3**
BRVK	**Borovoye**	**26.12**	**26**	P	**P**	**04 13 48.4**	**+1.0**
BRVK				IAmb	IAmb	04 13 49.7	
	comp=Z,68nm,0.8s						
BRVK	**Borovoye**	**26.12**	**26**	P	**P**	**04 13 48.1**	**+0.7**
BRVK				P	**P**	**04 13 48.1**	**+0.7**
BRVK	**Borovoye**	**26.12**	**

comp=Z,84nm,1.0s
MEZ Mezhgor'ye 27.62 318 P P 04 14 00.9 0.0
KORU Korolevo 27.67 317 P P 04 14 01.8 +0.5
MORS Morshin 27.71 319 P P 04 14 02.1 +0.4
MORS Morshin 27.71 319 P P 04 14 02.1 +0.4
TRSU Trosnyk 27.74 317 P P 04 14 03.0 +1.0
TRSU Trosnyk 27.74 317 P P 04 14 03.0 +1.0
SIRR Siria 27.75 312 ⇓P P 04 14 04.2 +2.1
BANR Banloc 27.75 310 ⇓P P 04 14 04.0 +2.0
KIRV Kirov 27.81 358 P P 04 14 03.2 +0.8
comp=Z,146nm,0.8s,baz=174,slow=2.9,SNR=59
KIRV S **S 04 18 45.6 +0.4**
comp=Z,8.9nm,0.6s,baz=180,slow=20,SNR=1.6
KIRV LR LR 04 28 28.4
comp=Z,2μm,18.1s,baz=179,slow=44
comp=Z,146nm,0.8s
BRIU Brid 27.82 317 P P 04 14 03.4 +0.7
RNPP5 Staryi Chortor 27.84 324 P P 04 14 02.4 -0.4
RNPP8 Varash 27.92 325 P P 04 14 03.2 -0.3
RNPP9 Sopachiv 27.95 325 P P 04 14 03.6 -0.1
BERU Beregovo 27.99 317 P P 04 14 04.6 +0.4
LVV L'vov 28.00 321 *e*P **P 04 14 03.5 -0.8**
LVV *e*PPP PPP 04 15 13.0
LVV *e*S **S 04 18 42.1 -6.4**
LVV *e*SSS SSS 04 20 32.0
LVV pmax pmax
comp=Z,110nm,1.2s
LVV MLR MLR
comp=N,200nm,15.0s
LVV MLR MLR
comp=E,600nm,15.0s
LVV MLR MLR
comp=Z,700nm,15.0s
SHIU Shidnytsya 28.06 319 P P 04 14 04.9 0.0
MUKU Mukachevo 28.07 317 P P 04 14 05.6 +0.7
DRME Dracevica, Mon 28.16 303 *e*P **P 04 14 05.0 -0.8**
PDG Podgorica 28.16 303 ⇑P **P 04 14 06.4 +0.6**
PDG Podgorica 28.16 303 P P 04 14 05.5 -0.3
PDG IAmb IAmb 04 14 11.7
comp=Z,30nm,0.6s
PDG Podgorica 28.16 303 ⇑*i*P **P 04 14 05.1 -0.7**
KURBB Kurchatov Arra 28.25 38 P P 04 14 07.8 +1.2
comp=Z,28nm,0.9s,baz=239,slow=9.3,SNR=98
KURBB PcP **PcP 04 17 20.1 +0.4**
comp=Z,5.0nm,0.9s,baz=235,slow=3.2,SNR=2.7
KURBB ScP **ScP 04 21 00.6 -0.3**
comp=Z,3.7nm,0.8s,baz=239,slow=3.6,SNR=10
KURBB PKiKP **PKiKP 04 24 53.9 -1.1**
comp=Z,0.7nm,0.2s,baz=225,slow=0.7,SNR=4.4
KURBB LR LR 04 26 49.3
comp=Z,6μm,18.1s,baz=242,slow=40
KURBB P3KPbc 04 46 24.9
comp=Z,0.3nm,0.2s,baz=53,slow=3.3,SNR=1.8
comp=Z,28nm,0.9s
KURBB Kurchatov Arra 28.25 38 P P 04 14 06.6 +0.1
HOLU Holmets 28.28 317 P P 04 14 07.2 +0.4
SCTE Santa Cesarea 28.29 298 P P 04 14 07.2 +0.3
SCTE IAmb IAmb 04 14 13.7
comp=Z,71nm,0.7s
KURK Kurchatov 28.35 38 P P 04 14 08.6 +1.2
KURK IAmb IAmb 04 14 10.3
comp=Z,64nm,1.0s
KURK Kurchatov 28.35 38 P P 04 14 08.3 +0.9
KURK P P 04 14 08.3 +0.9
KURK Kurchatov 28.35 38 *ce*P **P 04 14 09.0 +1.6**
KURK pmax pmax
comp=Z,120nm,1.7s
RUDO Rudo 28.39 306 ⇑*i*P **P 04 14 07.8 0.0**
MAKZ Makanchi 28.42 47 P P 04 14 08.9 +0.8
MAKZ IAmb IAmb 04 14 21.4
comp=Z,91nm,1.4s
MAKZ Makanchi 28.42 47 P P 04 14 09.4 +1.3
BBLS Lazi&#263i 28.43 306 ⇑*i*P **P 04 14 08.7 +0.4**
KOLS Kolonicke sedl 28.54 318 *e*P **P 04 14 10.8 +1.7**
KOLS Kolonicke sedl 28.54 318 *e*P **P 04 14 10.8 +1.7**
KOLS pmax pmax
comp=Z,69nm,0.8s
TEKS Tekeris 28.55 308 ⇑*i*P **P 04 14 09.4 +0.1**
FRGS Fruska Gora 28.55 309 ⇑P **P 04 14 10.3 +1.0**
FRGS Fruska Gora 28.55 309 ⇑*i*P **P 04 14 09.9 +0.6**
FRGS Fruska Gora 28.55 309 P P 04 14 09.8 +0.5
comp=Z,130nm,1.3s,comp=Z,1μm
MK31 Makanchi Array 28.61 47 P P 04 14 10.7 +0.8
MK31 Makanchi Array 28.61 47 P P 04 14 10.8 +1.0
MKAR Makanchi Array 28.61 47 P P 04 14 11.0 +1.2
MKAR Makanchi Array 28.61 47 P P 04 14 10.8 +1.0
comp=Z,32nm,0.8s,baz=238,slow=7.0,SNR=69
MKAR PcP **PcP 04 17 20.3 -0.4**
comp=Z,1.6nm,0.5s,baz=247,slow=3.9,SNR=4.1
MKAR S **S 04 18 58.1 -0.1**
comp=Z,1.7nm,0.9s,baz=289,slow=18,SNR=1.6
MKAR ScP **ScP 04 21 01.8 -0.3**
comp=Z,1.7nm,0.8s,baz=220,slow=1.2,SNR=3.5
MKAR PKiKP **PKiKP 04 24 53.5 -1.9**
comp=Z,1.2nm,1.0s,baz=242,slow=5.2,SNR=3.8
MKAR LR LR 04 27 07.9
comp=Z,6μm,18.6s,baz=254,slow=40
MKAR P3KPbc 04 46 25.9
comp=Z,0.8nm,0.8s,baz=62,slow=3.3,SNR=5.5
comp=Z,32nm,0.8s
KWP Kalwaria Pacla 28.64 319 *e*P **P 04 14 10.5 +0.6**
KWP Kalwaria Pacla 28.64 319 P P 04 14 10.8 +0.8
KWP IAmb IAmb 04 14 15.6
comp=Z,128nm,1.4s
KWP Kalwaria Pacla 28.64 319 P P 04 14 10.8 +0.8
KWP pmax pmax
comp=Z,128nm,1.4s
KWP Kalwaria Pacla 28.64 319 P P 04 14 10.6 +0.6
comp=Z,74nm,1.2s,comp=Z,1μm
BRY Bratogost 28.79 304 ⇑*i*P **P 04 14 11.1 -0.5**
TREB Trebinje 28.88 304 ⇑*i*P **P 04 14 11.8 -0.4**
CRVS Cervenica-Dubn 29.00 317 *e*P **P 04 14 14.1 +0.9**
CRVS Cervenica-Dubn 29.00 317 *e*P **P 04 14 14.1 +0.9**
CRVS pmax pmax
comp=Z,72nm,1.1s
MNK Minsk 29.08 331 *i*P **P 04 14 13.0 -0.9**
comp=E,18nm,1.0s
MNK *i*P **P 04 14 13.0 -0.9**
comp=N,24nm,0.9s
MNK *i*P **P 04 14 13.0 -0.9**
comp=Z,55nm,0.8s,baz=135
MNK *i*PP **PP 04 15 08.7 -11**
MNK *i*S **S 04 19 08.1 +2.7**
MNK *i*SS **SnSn 04 20 32.1 +3.1**
MNK *i*LQ LQ 04 23 20.1
MNK *i*LR LR 04 25 51.7
MNK *i*LRM MLR 04 26 47.7
comp=E,378nm,20.2s
MNK *i*LRM MLR 04 26 53.5
comp=Z,2μm,21.8s
MNK *i*LRM MLR 04 26 59.9
comp=N,1μm,18.6s
MNK Minsk 29.08 331 *i*P **P 04 14 12.9 -0.9**
MNK *i* 04 15 08.7
MNK *i*S **S 04 19 08.1 +2.7**
MNK *i*SS **SnSn 04 20 32.1 +3.1**
MNK pmax pmax
comp=N,24nm,0.9s
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=E,18nm,1.0s
NEVS Nevesinje 29.20 305 ⇑*i*P **P 04 14 15.0 -0.1**
STHS Stebnicka Huta 29.36 318 *e*P **P 04 14 17.4 +0.9**
STHS Stebnicka Huta 29.36 318 ⇑P **P 04 14 17.4 +0.9**
STON Ston 29.38 304 ⇑*i*P **P 04 14 15.7 -0.9**
KECS Kecovo 29.39 316 *e*P **P 04 14 17.9 +1.2**
KECS Kecovo 29.39 316 *e*P **P 04 14 17.9 +1.2**
KECS pmax pmax
comp=Z,26nm,0.9s
TIP Timpagrande 29.49 296 ⇑P **P 04 14 18.9 +1.1**
TIP Timpagrande 29.49 296 P P 04 14 18.7 +1.0
TIP Timpagrande 29.49 296 P P 04 14 18.8 +1.1
comp=Z,103nm,1.4s,comp=Z,1μm
PSZ Piszkesteto 29.51 314 ⇓P **P 04 14 18.2 +0.3**
PSZ Piszkesteto 29.51 314 P P 04 14 18.1 +0.3
PSZ Piszkesteto 29.51 314 P P 04 14 18.2 +0.3
MORH Mrgy, Hungar 29.68 311 ⇑P **P 04 14 20.4 +1.2**
MORH Mrgy, Hungar 29.68 311 P P 04 14 19.8 +0.6
comp=Z,122nm,1.3s,comp=Z,1μm
MATE Matera 29.71 299 ⇑P **P 04 14 20.4 +0.9**
NACGM Naroch 29.82 331 ⇓*i*P **P 04 14 20.5 +0.1**
comp=Z,67nm,0.9s,baz=134
BUD Budapest 29.88 313 P P 04 14 21.9 +0.9

NIE Niedzica 29.91 317 *e*P **P 04 14 21.8 +0.4**
NIE Niedzica 29.91 317 P P 04 14 21.7 +0.4
NIE Niedzica 29.91 317 P P 04 14 21.7 +0.4
comp=Z,8.0nm,1.1s,comp=Z,164nm
SRKY Kupres RS 30.05 306 ⇑*i*P **P 04 14 23.0 +0.4**
A052A Srbac 30.08 308 *e*P **P 04 14 23.1 +0.3**
CEL Celeste 30.09 294 P P 04 14 23.7 +0.6
CEL IAmb IAmb 04 14 26.5
comp=Z,55nm,0.7s
CEL Celeste 30.09 294 P P 04 14 24.3 +1.3
comp=Z,86nm,1.4s,comp=Z,1μm
IDID Didziasalis 30.12 332 *e*P **P 04 14 24.1 +1.1**
MGRS Mrkonjic Grad 30.19 306 ⇑*i*P **P 04 14 24.7 +0.9**
BLY Banja Luka 30.21 307 ⇑*i*P **P 04 14 24.3 +0.3**
LANS Liptovska Anna 30.29 316 *e*P **P 04 14 26.0 +1.4**
LANS Liptovska Anna 30.29 316 *e*P **P 04 14 26.0 +1.4**
LANS pmax pmax
comp=Z,21nm,0.9s
CUC Castrocucco 30.30 297 P P 04 14 25.3 +0.5
VYHS Vyhne 30.39 315 *e*P **P 04 14 26.2 +0.6**
VYHS Vyhne 30.39 315 *e*P **P 04 14 26.2 +0.6**
VYHS pmax pmax
comp=Z,68nm,1.8s
SRO Srobarova 30.45 313 *e*P **P 04 14 27.3 +1.2**
SRO Srobarova 30.45 313 *e*P **P 04 14 27.3 +1.2**
SRO pmax pmax
comp=Z,63nm,1.1s
A051A Mrakovica 30.47 308 ⇑*i*P **P 04 14 26.7 +0.4**
ZSN Zaisan 30.49 47 *e*P **P 04 14 26.6 +0.1**
baz=47
ZSN Zaisan 30.49 47 *e*P **P 04 14 26.5 +0.1**
ISAL Salakas 30.55 331 *e*P **P 04 14 28.4 +1.5**
OJC Ojcow 30.57 318 *e*P **P 04 14 27.3 +0.3**
OJC Ojcow 30.57 318 P P 04 14 27.4 +0.3
OJC IAmb IAmb 04 14 31.9
comp=Z,60nm,1.1s
OJC Ojcow 30.57 318 P P 04 14 27.4 +0.3
OJC pmax pmax
comp=Z,60nm,1.1s
OJC Ojcow 30.57 318 P P 04 14 26.8 -0.3
comp=Z,51nm,1.3s,comp=Z,837nm
A050A Klekovaca 30.59 306 ⇑*i*P **P 04 14 27.4 0.0**
SGRT San Giovanni R 30.59 301 P P 04 14 26.7 -0.8
SGRT IAmb IAmb 04 14 36.2
comp=Z,42nm,0.8s
MPLH Magyarpolny 30.71 312 P P 04 14 29.0 +0.6
comp=Z,354nm,1.2s,comp=Z,3μm
BEL Belsk 30.81 322 *e*P **P 04 14 29.2 0.0**
BEL Belsk 30.81 322 P P 04 14 30.1 +0.9
SUW Suwalki 30.84 327 *e*P **P 04 14 29.1 -0.3**
SUW Suwalki 30.84 327 P P 04 14 28.4 -1.0
SUW Suwalki 30.84 327 *e*P **P 04 14 29.1 -0.3**
SUW Suwalki 30.84 327 P P 04 14 28.4 -1.0
SUW pmax pmax
comp=Z,158nm,1.0s
SUW MLR MLR
comp=Z,1μm,21.0s
LODK Lodwar 31.19 212 P P 04 14 32.5 -0.5
LODK IAmb IAmb 04 14 40.6
comp=Z,90nm,1.9s
VAE Valguarnera 31.23 292 P P 04 14 35.7 +2.6
comp=Z,75nm,0.8s,baz=82,slow=6.8,SNR=8.9
comp=Z,75nm,0.8s
JAVC Velka Javorina 31.25 315 *e*P **P 04 14 34.0 +0.9**
RAFF Raffo Rosso 31.26 292 P P 04 14 34.3 +1.0
SMOL Smolenice 31.26 314 *e*P **P 04 14 33.9 +0.7**
SMOL pmax pmax
comp=Z,17nm,1.0s
MODS Modra-Piesok 31.30 314 *e*P **P 04 14 34.0 +0.4**
MODS Modra-Piesok 31.30 314 *e*P **P 04 14 34.0 +0.4**
MODS pmax pmax
comp=Z,146nm,1.4s
ZAG Zagreb 31.32 309 P P 04 14 35.5 +1.8
KOGS Kog 31.32 310 *i*P **P 04 14 34.3 +0.5**
ZST Bratislava 31.35 313 *e*P **P 04 14 34.7 +0.7**
ZST Bratislava 31.35 313 *e*P **P 04 14 34.7 +0.7**
ZST pmax pmax
comp=Z,120nm,1.1s
MAUC Maruska 31.35 316 *e*P **P 04 14 34.8 +0.8**
PTJ Puntijarka 31.35 309 P P 04 14 34.9 +0.8
OKC Ostrava-Krasne 31.36 317 AMS AMS 04 29 20.0
comp=Z,1μm,15.8s
OKC Ostrava-Krasne 31.36 317 P P 04 14 34.6 +0.6
WMQ Urumqi 31.36 55 *e*P **P 04 14 35.3 +1.1**
WMQ sP sP 04 14 43.7 +4.6
WMQ S **S 04 19 45.8 +4.3**
WMQ pmax pmax
comp=Z,28nm,1.1s
WMQ pmax pmax
comp=Z,220nm,3.6s
WMQ LR LR
comp=Z,4μm,18.9s
WMQ LR LR
comp=Z,3μm,17.3s
WMQ LR LR
comp=Z,3μm,18.9s
PAOL Paolisi 31.36 299 P P 04 14 35.2 +0.9
PABE Paberze 31.42 330 P P 04 14 34.7 +0.2
PABE Paberze 31.42 330 *e*P **P 04 14 34.3 -0.2**
SOP Sopron 31.51 312 P P 04 14 36.2 +0.8
CRES Cresnjev 31.67 308 ⇑*i*P **P 04 14 37.5 +0.6**
RONA Rosalía, Austr 31.69 312 *e*P **P 04 14 37.4 +0.4**
comp=Z,78nm,1.1s,SNR=38
RONA *e*PcP **PcP 04 17 29.3 +0.6**
comp=Z,10nm,1.0s
MORC Moravsky Berou 31.69 316 ⇓P **P 04 14 37.7 +0.7**
MORC Moravsky Berou 31.69 316 P P 04 14 37.6 +0.6
MORC Moravsky Berou 31.69 316 *e*P **P 04 14 36.6 -0.4**
MORC Moravsky Berou 31.69 316 P P 04 14 37.7 +0.7
BOJS Bojanci 31.73 308 ⇑*i*P **P 04 14 37.9 +0.6**
VSVD Vaisvydziai 31.75 330 *e*P **P 04 14 38.1 +0.8**
CONA Conrad Observa 32.04 312 *e*P **P 04 14 40.2 +0.1**
comp=Z,50nm,1.2s,SNR=40
ARSA Arzberg 32.04 311 *i*P **P 04 14 40.7 +0.6**
comp=Z,63nm,1.1s,SNR=29
VRAC Vranov 32.07 315 ⇑P **P 04 14 40.9 +0.5**
VRAC Vranov 32.07 315 *e*P **P 04 14 40.5 +0.1**
VRAC Vranov 32.07 315 P P 04 14 40.8 +0.5
comp=Z,18nm,0.8s,baz=103,slow=8.5,SNR=23
VRAC LR LR 04 29 32.2
comp=Z,1μm,18.9s,baz=105,slow=40
comp=Z,18nm,0.8s
KRUC Moravsky 32.10 315 *e*P **P 04 14 40.7 +0.1**
KRUC Moravsky 32.10 315 P P 04 14 41.1 +0.5
SOKA Soboth 32.19 310 *i*P **P 04 14 42.1 +0.6**
comp=Z,61nm,0.9s,SNR=37
SOKA *e*PcP **PcP 04 17 30.7 +0.6**
comp=Z,15nm,0.9s
KRLC Kraliky 32.26 317 *e*P **P 04 14 42.0 0.0**
KRLC AMS AMS 04 29 30.0
comp=Z,900nm,15.5s
KRLC Kraliky 32.26 317 *e*P **P 04 14 42.0 0.0**
KRLC MLR MLR
comp=Z,900nm,15.5s
PUL Pulkovo 32.26 340 *ce*P **P 04 14 43.1 +1.3**
PUL pmax pmax
comp=Z,77nm,0.7s
CEY Cerknica 32.35 308 ⇑*i*P **P 04 14 43.2 +0.4**
LJU Ljubljana 32.36 309 *i*P **P 04 14 44.0 +1.1**
LJU *e*S **S 04 20 00.2 +3.3**
VSU Vasula 32.40 336 *ce*P **P 04 14 43.1 +0.1**
VSU pmax pmax
comp=Z,94nm,0.8s
CAMP Campotosto 32.43 302 P P 04 14 43.8 +0.1
OBKA Obir 32.47 309 *i*P **P 04 14 44.8 +0.9**
comp=Z,54nm,1.1s,SNR=48
OBKA *e*PcP **PcP 04 17 32.0 +1.1**
comp=Z,6.6nm,0.9s
OBKA Obir 32.47 309 *e*P S 04 20 26.6 +28
comp=Z,5.1nm,1.2s
OBKA Obir 32.47 309 ⇑*i*P **P 04 14 44.6 +0.7**
GUMA Gualdo di Mace 32.56 303 P P 04 14 44.5 -0.2
GUMA IAmb IAmb 04 14 57.9
comp=Z,93nm,0.9s
DPC Dobruska-Polom 32.64 317 *e*P **P 04 14 45.3 0.0**
DPC AMS AMS 04 29 50.0
comp=Z,1μm,17.2s
DPC Dobruska-Polom 32.64 317 *e*P **P 04 14 45.3 0.0**
DPC MLR MLR
comp=Z,1μm,17.2s
DPC Dobruska-Polom 32.64 317 P P 04 14 44.6 -0.7
comp=Z,26nm,1.2s,comp=Z,400nm
PBUR Paburge 32.64 329 *e*P **P 04 14 45.5 +0.3**
NRCA Norcia 32.69 302 P P 04 14 46.8 +0.9

FDMO Fiordimonte 32.74 303 P P 04 14 46.7 +0.4
TREC Trest 32.74 315 AMS AMS 04 29 20.0
comp=Z,1μm,17.5s
OSTC Ostas 32.78 317 *e*P **P 04 14 47.2 +0.6**
OSTC AMS AMS 04 30 00.0
comp=Z,1μm,17.5s
OSTC Ostas 32.78 317 *e*P **P 04 14 47.2 +0.6**
OSTC MLR MLR
comp=Z,1μm,17.5s
UPC Upice 32.88 317 AMS AMS 04 30 10.0
comp=Z,1μm,16.9s
UPC Upice 32.88 317 P P 04 14 47.5 +0.1
CHVC Chvalec 32.89 317 *e*P **P 04 14 47.8 +0.3**
CHVC AMS AMS 04 30 10.0
comp=Z,900nm,18.2s
CHVC Chvalec 32.89 317 *e*P **P 04 14 47.8 +0.3**
CHVC MLR MLR
comp=Z,900nm,18.2s
CADS Cadrg 32.94 309 *i*P **P 04 14 48.1 +0.2**
SABO M.te Sabotino 32.97 308 P P 04 14 48.1 -0.2
SABO IAmb IAmb 04 14 49.7
comp=Z,125nm,0.8s
MOA Molln 33.03 312 *i*P **P 04 14 49.2 +0.4**
comp=Z,88nm,1.1s,SNR=47
CESX Cesi 33.04 302 P P 04 14 49.4 +0.5
MYKA Terra Mystica 33.10 309 *e*P **P 04 14 49.8 +0.4**
comp=Z,40nm,1.0s,SNR=27
MYKA *e*PcP **PcP 04 17 32.7 0.0**
comp=Z,6.4nm,0.8s
PRED Cave del Predi 33.10 309 P P 04 14 50.3 +0.8
ZAA0 Zalesovo Array 33.30 36 P P 04 14 51.4 +0.4
ZAA0 IAmb IAmb 04 14 52.9
comp=Z,41nm,0.8s
ZALV Zalesovo Beam 33.30 36 P P 04 14 51.8 +0.8
comp=Z,30nm,0.7s,baz=250,slow=9.7,SNR=79
ZALV PcP **PcP 04 17 32.7 -0.2**
comp=Z,3.1nm,0.6s,baz=237,slow=4.6,SNR=1.2
ZALV LR LR 04 30 07.1
comp=Z,3μm,18.8s,baz=236,slow=40
comp=Z,30nm,0.7s
ZALV Zalesovo Beam 33.30 36 *i*P **P 04 14 51.7 +0.8**
ZALV pmax pmax
comp=Z,23nm,0.5s
CKRC Cesky Krumlov 33.31 313 *e*P **P 04 14 51.6 +0.4**
CKRC AMS AMS 04 32 00.0
comp=Z,800nm,14.7s
CKRC Cesky Krumlov 33.31 313 *e*P **P 04 14 51.6 +0.4**
CKRC MLR MLR
comp=Z,800nm,14.7s
ARBE Arbavere 33.38 336 *e*P **P 04 14 51.9 +0.3**
GOPC GO Pecny, Ondr 33.39 315 *e*P **P 04 14 52.5 +0.6**
GOPC AMS AMS 04 30 10.0
comp=Z,1μm,17.6s
GOPC GO Pecny, Ondr 33.39 315 *e*P **P 04 14 52.5 +0.6**
GOPC MLR MLR
comp=Z,1μm,17.6s
BIOA Bad Ischl, Aus 33.39 311 *i*P **P 04 14 52.3 +0.3**
comp=Z,120nm,0.9s,SNR=51
KBA Koelnbreinsper 33.41 310 *i*P **P 04 14 52.7 +0.3**
comp=Z,175nm,0.9s,SNR=126
KBA Koelnbreinsper 33.41 310 P S 04 20 23.3 +10
comp=Z,10.0nm,1.3s
KBA Koelnbreinsper 33.41 310 P P 04 14 52.7 +0.3
SLIT Slitere, Latvi 33.51 332 *e*P **P 04 14 52.4 -0.4**
PRU Pruhonice 33.56 315 *e*P **P 04 14 56.3 +2.9**
PRU *e*S S 04 20 05.3 -10
PRU AMS AMS 04 30 10.0
comp=Z,1μm,18.0s
PRU Pruhonice 33.56 315 *e*P **P 04 14 56.3 +2.9**
PRU MLR MLR
comp=Z,1μm,18.0s
ZVC Zvikov 33.59 314 *e*P **P 04 14 53.5 -0.1**
MTSE Matsula 33.65 334 *e*P **P 04 14 54.0 +0.1**
PRA Prague 33.66 316 AMS AMS 04 30 00.0
comp=Z,1μm,19.2s
GEC2 GERESS Array S 33.70 313 P P 04 14 54.5 -0.1
GEC2 IAmb IAmb 04 14 55.8
comp=Z,35nm,0.9s
GEC2 GERESS Array S 33.70 313 P P 04 14 54.6 -0.1
GERES GERESS Array B 33.70 313 P P 04 14 54.6 -0.1
comp=Z,14nm,0.7s,baz=108,slow=8.6,SNR=48
GERES PcP **PcP 04 17 34.6 +0.3**
comp=Z,5.0nm,0.8s,baz=50,slow=2.1,SNR=3.6
GERES ScP **ScP 04 21 18.0 -1.1**
comp=Z,2.0nm,0.8s,baz=50,slow=7.8,SNR=4.5
comp=Z,14nm,0.7s
PVCC Panska Ves 33.74 316 AMS AMS 04 30 30.0
comp=Z,1μm,14.9s
PVCC Panska Ves 33.74 316 P P 04 14 54.9 0.0
KHC Kasperske Hory 33.87 314 P P 04 14 56.3 +0.2
KHC Kasperske Hory 33.87 314 *e*P **P 04 14 55.9 -0.1**
KHC *ex* x 04 15 13.5
KHC *e*S **S 04 20 11.4 -8.9**
KHC AMS AMS 04 31 20.0
comp=Z,1μm,16.7s
KHC Kasperske Hory 33.87 314 *ce*P **P 04 14 56.0 -0.1**
KHC pmax pmax
comp=Z,275nm,1.3s
KHC Kasperske Hory 33.87 314 P P 04 14 55.5 -0.6
comp=Z,98nm,1.3s,comp=Z,1μm
ABTA Abfaltersbach 33.88 309 *i*P **P 04 14 56.7 +0.4**
comp=Z,138nm,0.9s,SNR=79
LESA Schwarzleotal 33.95 310 *i*P **P 04 14 56.7 -0.1**
comp=Z,56nm,0.6s
OSSC Osservatorio P 34.14 303 P P 04 14 58.3 -0.2
OSSC IAmb IAmb 04 15 30.0
comp=Z,62nm,1.2s
TEOL Teolo 34.15 307 P P 04 14 59.0 +0.4
TEOL IAmb IAmb 04 15 30.6
comp=Z,79nm,0.8s
ADZR Andozero 34.17 350 ⇑*i*P **P 04 14 58.6 +0.2**
ADZR *e*S **S 04 20 25.9 +1.3**
ADZR pmax pmax
comp=Z,93nm,0.6s
LSA Lhasa 34.18 82 P P 04 14 58.1 -1.4
LSA IAMs_20 IAMs_20 04 29 50.7
comp=Z,2μm,18.0s
LSA Lhasa 34.18 82 P P 04 14 58.1 -1.4
LSA pmax pmax
comp=Z,19nm,0.7s
LSA MLR MLR
comp=Z,2μm,18.0s
BRG Berggiesshubel 34.24 317 *i*P **P 04 14 58.8 -0.5**
BRG Amp 04 15 01.0
comp=Z,13nm,1.0s
BRG Berggiesshubel 34.24 317 S S 04 20 28.0 +2.0
BRG Amp 04 31 03.0
comp=N,0.5nm,16.0s
BRG Amp 04 31 07.0
comp=Z,1.3nm,16.5s
BRG Amp 04 31 11.0
comp=E,0.7nm,15.9s
BRG Berggiesshubel 34.24 317 *i*P **P 04 14 58.7 -0.5**
BRG S **S 04 20 28.0 +2.0**
BRG pmax pmax
comp=Z,13nm,1.0s
BRG MLR MLR
comp=N,532nm,16.0s
BRG MLR MLR
comp=Z,1μm,16.5s
BRG MLR MLR
comp=E,662nm,15.9s
CTI Castel Tesino 34.30 308 P P 04 15 00.3 +0.3
CTI Castel Tesino 34.30 308 P P 04 15 00.3 +0.3
CTI pmax pmax
comp=Z,117nm,0.9s
WET Wettzell 34.31 313 P P 04 14 59.6 -0.3
HSKC Hora Svate Kat 34.45 316 *e*P **P 04 15 01.1 0.0**
HSKC AMS AMS 04 32 00.0
comp=Z,1μm,18.4s
ZCCA Zocca 34.46 305 P P 04 15 02.8 +1.5
MEF Metsahovi 34.50 336 *e*P **P 04 15 01.4 0.0**
WTTA Wattenberg 34.59 310 *e*P **P 04 15 02.2 -0.3**
comp=Z,254nm,1.0s,SNR=114
WTTA *e*PcP **PcP 04 17 37.2 +0.2**
comp=Z,13nm,0.9s
WTTA Wattenberg 34.59 310 *e*P **S 04 20 30.2 -1.6**
comp=Z,16nm,1.0s
WTTA Wattenberg 34.59 310 P P 04 15 02.6 +0.1
JOF Joensuu 34.63 344 *e*P **P 04 15 02.8 +0.4**
WATA Walderalm 34.65 310 *i*P **P 04 15 02.9 0.0**
comp=Z,212nm,1.1s,SNR=80
WATA *e*PcP **PcP 04 17 37.3 +0.2**
comp=Z,15nm,1.0s
WATA Walderalm 34.65 310 *e*P **S 04 20 30.4 -2.3**
comp=Z,6.6nm,0.7s

TATN **Tatauoine** 34.72 284 P **P** 04 15 04.4 +0.8
VLC **Villacollemand** 34.85 304 P **P** 04 15 04.8 +0.1
SQTA **Sankt Quirin** 34.86 310 *e*P **P** 04 15 04.4 -0.4
comp=Z,142nm,0.5s,SNR=102
SQTA *e*PcP **PcP** 04 17 38.2 +0.5
comp=Z,18nm,0.8s
SQTA Sankt Quirin 34.86 310 *e*P **S** 04 20 31.1 -4.9
comp=Z,15nm,0.8s
FIA1 **FINESS Array S** 34.87 339 P **P** 04 15 04.4 -0.1
FINES **FINESS Array B** 34.87 339 P **P** 04 15 04.6 +0.1
FINES **FINESS Array B** 34.87 339 P **P** 04 15 04.5 0.0
comp=Z,31nm,0.8s,baz=132,slow=11,SNR=80
FINES PcP **PcP** 04 17 36.4 -0.8
comp=Z,6.2nm,0.8s,baz=104,slow=5.9,SNR=1.5
FINES LR LR 04 30 44.3
comp=Z,2µm,19.8s,baz=138,slow=39
comp=Z,31nm,0.8s
NKC Novy Kostel 34.91 315 *e*S **S** 04 20 34.9 -1.6
NKC AMS AMS 04 34 00.0
comp=Z,1µm,14.6s
NKC Novy Kostel 34.91 315 P **P** 04 15 05.2 +0.1
CLL Collm 34.95 317 P **P** 04 15 05.4 +0.1
CLL Collm 34.95 317⇑ *i*P **P** 04 15 05.1 -0.2
comp=Z,27nm,0.9s
CLL *i* x x 04 15 11.3
CLL *i* x x 04 15 14.4
CLL *e*PP **PnPn** 04 16 20.0 -2.0
CLL *e*PPPP 04 16 42.0
CLL *e*S **S** 04 20 37.0 +0.1
CLL *i* ScP **ScP** 04 21 23.9 +0.5
comp=Z,9.0nm,1.1s
CLL *e*SS **SnSn** 04 22 48.0 -3.6
CLL *e*SSSS 04 23 24.0
CLL AMS AMS 04 31 00.0
comp=Z,1µm,20.4s
CLL Collm 34.95 317⇑ *i*P **P** 04 15 05.1 -0.2
CLL *i* 04 15 11.3
CLL *e*S **S** 04 20 37.0 +0.1
CLL pmax pmax
comp=Z,27nm,0.9s
CLL MLR MLR
comp=Z,1µm,20.4s
CLL Collm 34.95 317 P **P** 04 15 04.7 -0.6
comp=Z,32nm,0.9s,comp=Z,418nm
MOTA Moosalm 34.96 310 *e*P **P** 04 15 05.1 -0.6
comp=Z,258nm,0.8s,SNR=104
MOTA *e*PcP **PcP** 04 17 38.3 +0.2
comp=Z,8.9nm,0.8s
MOTA Moosalm 34.96 310 *e*P **S** 04 20 30.7 -6.8
comp=Z,8.1nm,0.6s
PRMA PARMA 34.99 305 P **P** 04 15 06.6 +0.8
SALO Salr 34.99 307 P **P** 04 15 06.5 +0.7
FUR Furstenfeldbru 35.05 311 P **P** 04 15 06.3 0.0
MALK Mahakanadarawa 35.13 123 P **P** 04 15 08.0 +0.7
FETA Feichten 35.14 309 *e*P **P** 04 15 07.1 -0.2
comp=Z,198nm,0.9s,SNR=103
FETA *e*PcP **PcP** 04 17 39.0 +0.5
comp=Z,15nm,0.9s
VSL Villasalto 35.22 296 P **P** 04 15 08.0 +0.1
RETA Reutte 35.22 310 *i* P **P** 04 15 07.6 -0.2
comp=Z,110nm,0.9s,SNR=29
RETA Reutte 35.22 310 *e*P S 04 20 31.6 -10
comp=Z,7.7nm,0.8s
KEST Kesra 35.35 289 P **P** 04 15 09.4 +0.2
KEST IAmb IAmb 04 15 13.4
comp=Z,104nm,0.9s
KEST Kesra 35.35 289 P **P** 04 15 11.1 +2.0
comp=Z,72nm,0.8s,baz=31,slow=1.6,SNR=38
comp=Z,72nm,0.8s
KEST Kesra 35.35 289 P **P** 04 15 10.4 +1.3
SNR=6.6
KIBK Kibwezi 35.35 204 P **P** 04 15 07.7 -1.6
KIBK IAMs_20 IAMs_20 04 30 20.6
comp=Z,2µm,19.0s
KIBK Kibwezi 35.35 204 P **P** 04 15 11.5 +2.2
SNR=11
KIBK Kibwezi 35.35 204 *e*S **P** 04 15 07.4 -1.8
FUORN Ofenpass-Fuorn 35.36 308 P **P** 04 15 09.8 +0.5
FUORN IAmb IAmb 04 15 13.4
comp=Z,94nm,1.0s
BSD Bornholm Skovb 35.48 324 *e*P **P** 04 15 07.8 -2.1
BSD Bornholm Skovb 35.48 324 *i* P **P** 04 15 08.0 -1.9
BSD IAmb IAmb 04 15 09.2
comp=Z,15nm,0.8s
MSSA Maissana 35.49 304 IAmb IAmb 04 15 14.2
comp=Z,68nm,1.1s
MSEY Mahe Island 35.49 173 P **P** 04 15 09.0 -1.4
MSEY Mahe Island 35.49 173 P **P** 04 15 09.0 -1.4
MSEY pmax pmax
comp=Z,33nm,1.0s
GRFO Grafenberg 35.50 314 P **P** 04 15 10.4 +0.2
GRFO Grafenberg 35.50 314 P **P** 04 15 10.4 +0.2
GRFO pmax pmax
comp=Z,135nm,0.8s
GRFO MLR MLR
comp=Z,800nm,18.0s
MOX Moxa 35.55 315 P **P** 04 15 10.9 +0.3
BLEU Blekinge 35.62 326 *i* P **P** 04 15 07.5 -3.6
DAVOX Davos/Dischmat 35.66 309 P **P** 04 15 11.9 +0.2
comp=Z,125nm,0.9s,baz=106,slow=5.9,SNR=180
DAVOX S **S** 04 20 43.6 -4.7
comp=Z,2.8nm,0.6s,baz=105,slow=20,SNR=3.0
comp=Z,125nm,0.9s
DAVOX Davos/Dischmat 35.66 309 P **P** 04 15 12.0 +0.2
PGF Pioggiola 35.66 301 *e*P **P** 04 15 11.6 -0.2
PGF pmax pmax
comp=Z,101nm,1.3s
DAVA Damuels 35.76 309 *i* P **P** 04 15 12.1 -0.5
comp=Z,207nm,0.5s,SNR=134
KEF Keuruu 35.79 339 *e*P **P** 04 15 13.0 +0.6
SHL Shillong 35.88 88 P **P** 04 15 12.5 -1.3
SHL IAmb IAmb 04 15 16.4
comp=Z,78nm,1.0s
SHL Shillong 35.88 88 P **P** 04 15 12.8 -1.0
SNR=19
SHL Shillong 35.88 88 P **P** 04 15 12.5 -1.3
SHL pmax pmax
comp=Z,78nm,1.0s
TUE Stuetta 35.95 308 IAmb IAmb 04 15 18.0
comp=Z,126nm,1.2s
TUE Stuetta 35.95 308 P **P** 04 15 14.0 -0.3
comp=Z,392nm,0.9s,comp=Z,5µm
RAF Rauma 35.99 336 *e*P **P** 04 15 14.0 -0.2
PALK Pallekele 36.02 124 LR LR 04 31 13.8
comp=Z,957nm,19.2s,baz=63,slow=38
PALK Pallekele 36.02 124 P P 04 15 19.2 +4.3
RGN Rugen 36.05 322 IAMs_20 IAMs_20 04 32 34.0
comp=Z,2µm,20.0s
AAL Aland 36.08 334 *e*P **P** 04 15 14.7 -0.2
GOMU GeErMu 36.33 70 P **P** 04 15 18.6 +0.8
GOMU pP sP 04 15 24.1 +1.4
GOMU sP pP 04 15 26.9 +5.4
GOMU PP **PP** 04 16 46.9 +6.6
GOMU pmax pmax
comp=Z,34nm,0.9s
GOMU LR LR
comp=Z,2µm,18.9s
GOMU LR LR
comp=Z,2µm,15.9s
GOMU LR LR
comp=Z,3µm,18.1s
VIKU Vikbolandet 36.40 330 *e*P **P** 04 15 17.0 -0.7
KAAM Kaadhehdhoo 36.42 142 IAMs_20 IAMs_20 04 29 60.0
comp=Z,2µm,20.0s
LUNU Lund 36.47 324 *i* P **P** 04 15 18.0 -0.3
STU Stuttgart 36.54 312 IAmb IAmb 04 15 19.2
comp=Z,55nm,1.1s
STU Stuttgart 36.54 312 P **P** 04 15 18.9 -0.2
DEL Delary 36.65 325 *e*P **P** 04 15 18.9 -0.9
DEL Delary 36.65 325 *i* P **P** 04 15 17.6 -2.2
SLE Schleitheim 36.78 310 P **P** 04 15 20.6 -0.5
UPP Uppsala 36.81 332 *e*P **P** 04 15 20.4 -0.8
SBF Sospel 36.92 303 *e*P **P** 04 15 22.4 -0.1
SBF pmax pmax
comp=Z,124nm,0.9s
MBAR Mbarara 36.93 216 P **P** 04 15 22.4 -0.4
MBAR IAmb IAmb 04 15 31.4
comp=Z,83nm,1.6s
MBAR Mbarara 36.93 216 LR LR 04 32 31.4
comp=Z,2µm,19.0s,baz=13,slow=40
MBAR Mbarara 36.93 216 *ce*P **P** 04 15 24.4 +1.6
MBAR pmax pmax
comp=Z,21nm,1.0s
BFO Black Forest 37.00 311 P **P** 04 15 22.0 -1.0
BFO Black Forest 37.00 311 P **P** 04 15 22.0 -1.0
BFO pmax pmax
comp=Z,33nm,0.9s
VAF Ylistaro 37.13 339 *e*P **P** 04 15 23.0 -0.8
TNS Taunus Mts 37.37 314 P **P** 04 15 26.3 +0.1
BSEG Bad Segeberg 37.43 320 P **P** 04 15 25.3 -1.2
FABU Falkenberg 37.46 326 *i* P **P** 04 15 25.8 -0.9
MBDF Montbardon 37.49 305 *e*P **P** 04 15 27.5 +0.1
MBDF pmax pmax
comp=Z,66nm,0.7s
BNI Bardonecchia 37.59 305 IAmb IAmb 04 15 33.7
comp=Z,123nm,0.9s
BNI Bardonecchia 37.59 305 P **P** 04 15 28.1 -0.1
LPG La Plagne 37.59 306 *e*P **P** 04 15 27.8 -0.6
LPG pmax pmax
comp=Z,108nm,1.0s
LPL La Plagne 37.61 306 *e*P **P** 04 15 27.8 -0.6
LPL pmax pmax
comp=Z,122nm,0.9s
MSF Maaselka 37.70 345 P **P** 04 15 28.6 -0.1
CDF Champ du Feu 37.71 311 *e*P **P** 04 15 27.5 -1.6
CDF pmax pmax
comp=Z,57nm,0.9s
BORU Boraas 37.73 327 *i* P **P** 04 15 27.9 -1.1
ECH Echery 37.75 310 IAmb IAmb 04 15 29.9
comp=Z,116nm,1.0s
ECH Echery 37.75 310 P **P** 04 15 28.2 -1.1
OUL Oulu 37.77 343 P **P** 04 15 29.0 -0.3
HINF Hinteralfeld 37.87 310 *e*P **P** 04 15 29.4 -1.1
HINF pmax pmax
comp=Z,150nm,1.6s
ORIF Oris-en-Rattie 38.14 305 *e*P **P** 04 15 31.7 -1.1
ORIF pmax pmax
comp=Z,35nm,0.9s
HAU Haudompre 38.24 310 *e*P **P** 04 15 32.3 -1.2
HAU pmax pmax
comp=Z,75nm,1.0s
APA Apatity 38.32 349⇓ *i*P **P** 04 15 32.7 -1.2
APA *i* 04 16 59.8
APA *i* 04 17 46.7
APA *i* S **S** 04 21 22.0 -6.0
APA *i* SS SS 04 24 36.0 +20
APA pmax pmax
comp=Z,33nm,0.8s
BUG Bochum-Univer 38.41 315 P **P** 04 15 36.0 +1.2
LVZ Lovozero 38.42 350 P **P** 04 15 35.2 +0.4
LVZ Lovozero 38.42 350 *ce*P **P** 04 15 35.5 +0.7
LVZ pmax pmax
comp=Z,45nm,0.7s
LVZ Lovozero 38.42 350 P **P** 04 15 34.8 0.0
comp=Z,68nm,0.9s
HFS Hagfors 38.59 331 P **P** 04 15 36.0 -0.2
comp=Z,50nm,0.8s,baz=134,slow=8.1,SNR=64
HFS LR LR 04 32 56.0
comp=Z,2µm,21.2s,baz=119,slow=38
comp=Z,50nm,0.8s
HFS Hagfors 38.59 331 P **P** 04 15 36.0 -0.2
WLF Walferdange 38.68 312 IAmb IAmb 04 15 38.6
comp=Z,94nm,0.8s
WLF Walferdange 38.68 312 *d*P **P** 04 15 37.2 0.0
comp=Z,79nm,0.9s
WLF Walferdange 38.68 312 P **P** 04 15 36.4 -0.8
BTNL Ternell 38.90 314 *d*P **P** 04 15 39.8 +0.8
comp=Z,22nm,1.1s
BHOU Houvegnez 38.92 313 *d*P **P** 04 15 40.2 +1.0
comp=Z,23nm,1.1s
MEM Membach 38.98 314 *d*P **P** 04 15 39.8 +0.1
comp=Z,24nm,1.1s
MEM Membach 38.98 314 P **P** 04 15 40.4 +0.8
VIVF Saint-Julien-l 38.99 305 *e*P **P** 04 15 38.8 -1.0
VIVF pmax pmax
comp=Z,51nm,1.1s
MUD Monsted U'grnd 38.99 324 *i* P **P** 04 15 38.8 -0.8
MUD IAmb IAmb 04 15 40.5
comp=Z,18nm,1.0s
SSB Saint Sauveur 39.12 305 P **P** 04 15 40.1 -0.8
STRU Stroemstad 39.14 328 *i* P **P** 04 15 39.1 -1.7
BEBN Eben Emael 39.23 314 *d*P **P** 04 15 42.3 +0.7
comp=Z,59nm,1.1s
BSTI Sart Tilman 39.25 314 *d*P **P** 04 15 42.8 +0.9
comp=Z,5.2nm,1.4s
RCHB Rochefort 39.37 313 *d*P **P** 04 15 43.3 +0.4
comp=Z,53nm,1.0s
BCLA Clavier 39.38 313 *d*P **P** 04 15 43.6 +0.7
comp=Z,24nm,1.0s
BGES Gesves 39.51 313 *d*P **P** 04 15 44.8 +0.7
SGF Sodankyl 39.54 345 P **P** 04 15 43.4 -0.7
GIVF Givet 39.61 313 *e*P **P** 04 15 44.9 -0.1
GIVF pmax pmax
comp=Z,77nm,1.0s
BMRD Maredsous 39.69 313 *d*P **P** 04 15 46.5 +0.9
comp=Z,28nm,1.5s
SMF Signal de Mont 39.74 307 *e*P **P** 04 15 45.4 -0.7
SMF pmax pmax
comp=Z,170nm,1.0s
DOU Dourbes 39.76 313 *d*P **P** 04 15 46.2 +0.1
comp=Z,44nm,1.1s
OSL Oslo 39.77 329 *e*P **P** 04 15 46.0 -0.1
LOR Lormes 39.80 308 *e*P **P** 04 15 45.5 -1.1
LOR pmax pmax
comp=Z,61nm,0.9s
NC602 NORSAR Array S 39.81 331 *e*P **P** 04 15 43.4 -3.1
GTA Gaotai 40.08 64 P **P** 04 15 50.0 +0.9
GTA pP sP 04 15 57.6 +3.6
GTA S **S** 04 21 57.7 +2.3
GTA sS sS 04 22 08.2 +6.4
GTA SS **SS** 04 24 52.5 -0.1
GTA pmax pmax
comp=Z,36nm,1.0s
GTA pmax pmax
comp=Z,220nm,4.9s
GTA LR LR
comp=Z,1µm,17.1s
GTA LR LR
comp=Z,900nm,19.6s
GTA LR LR
comp=Z,2µm,17.8s
AVF Avril sur Loir 40.09 307 *e*P **P** 04 15 48.1 -0.8
AVF pmax pmax
comp=Z,100nm,1.0s
NB2 NORSAR Subarra 40.11 331 P **P** 04 15 47.5 -1.4
comp=Z,26nm,1.0s,baz=120,slow=8.6
NB2 PP **PP** 04 17 21.0 0.0
comp=Z,70nm,1.7s,baz=117,slow=11
NB2 NORSAR Subarra 40.11 331 P **P** 04 15 47.5 -1.4
baz=120,slow=8.6
NOA NORSAR Array B 40.11 331 P **P** 04 15 47.6 -1.4
comp=Z,12nm,0.8s,baz=121,slow=8.3,SNR=46
NOA PP **PP** 04 17 18.9 -2.2
comp=Z,1.2nm,0.6s,baz=50,slow=15,SNR=1.8
NOA LR LR 04 33 52.9
comp=Z,1µm,21.1s,baz=125,slow=38
comp=Z,12nm,0.8s
KONO Kongsberg 40.14 328 P **P** 04 15 48.6 -0.6
KONO Kongsberg 40.14 328 *e*P **P** 04 15 48.4 -0.8
KONO Kongsberg 40.14 328 *ce*P **P** 04 15 49.0 -0.2
KONO pmax pmax
comp=Z,45nm,1.3s
EJON La Jonquera 40.17 301 P **P** 04 15 49.1 -0.7
ETOS Mallorca 40.28 297 P **P** 04 15 52.3 +1.6
TCF Toulx Ste Croi 40.83 307 *e*P **P** 04 15 54.6 -0.5
TCF pmax pmax
comp=Z,40nm,1.0s
CAF Calviac 40.84 304 *e*P **P** 04 15 54.7 -0.6
CAF pmax pmax
comp=Z,28nm,1.0s
CLF Chambon-Foret 40.96 309 P **P** 04 15 56.1 0.0
SKAR Skarslia 41.19 329 *e*P **P** 04 15 58.1 +0.3
RJF Les Rejaudoux 41.25 305 *e*P **P** 04 15 58.4 -0.2
RJF pmax pmax
comp=Z,73nm,1.2s
VADS Vadso 41.27 349 *e*P **P** 04 15 59.1 +0.7
KEV Kevo 41.38 347 P **P** 04 15 58.9 -0.3
KEV Kevo 41.38 347 P **P** 04 15 58.9 -0.3
KEV pmax pmax
comp=Z,33nm,0.9s
CEST Esterri de Car 41.38 301 IAmb IAmb 04 16 01.9
comp=Z,85nm,1.0s
EIBI Ibiza 41.46 295 P **P** 04 16 01.1 +0.7
ARA0 ARCESS Array S 41.48 347 *e*P **P** 04 15 59.0 -1.1
ARCES ARCESS Array B 41.48 347 P **P** 04 16 00.6 +0.4
ARCES ARCESS Array B 41.48 347 P **P** 04 16 00.0 -0.1
comp=Z,12nm,0.7s,baz=138,slow=7.7,SNR=46
ARCES PP **PP** 04 17 32.8 -3.0
comp=Z,21nm,0.8s,baz=144,slow=9.0,SNR=8.5
ARCES LR LR 04 35 45.3
comp=Z,1µm,21.6s,baz=139,slow=40
comp=Z,12nm,0.7s
ARCES ARCESS Array B 41.48 347 P **P** 04 16 00.6 +0.4
ARCES pmax pmax
comp=Z,33nm,1.0s
DOMB Dombas 41.50 331 *e*P **P** 04 15 59.7 -0.7
KTK1 Kautokeino 41.54 345 *e*P **P** 04 16 00.8 +0.2
TAM Tamanrasset 41.54 270 P **P** 04 16 01.5 +0.1
TAM IAMs_20 IAMs_20 04 35 45.2
comp=Z,2µm,19.0s
TAM Tamanrasset 41.54 270 P **P** 04 16 01.5 +0.1
TAM pmax pmax
comp=Z,33nm,1.1s
TAM MLR MLR
comp=Z,2µm,19.0s
ODD1 Odda 41.61 328 *e*P **P** 04 16 02.0 +0.6
NSS Namsos 41.70 336 *e*P **P** 04 16 01.8 -0.2
MOY Mondy 41.72 45 *e*P **P** 04 16 04.2 +1.8
MOY pmax pmax
comp=Z,101nm,1.6s
TNCH TengChong 41.74 86⇑ P **P** 04 16 03.5 +0.4
TNCH pP sP 04 16 06.7 -1.3
TNCH PP **PP** 04 17 39.6 +0.1
TNCH S **S** 04 22 18.8 -1.8
TNCH pmax pmax
comp=Z,95nm,0.5s
TNCH LR LR
comp=Z,580nm,13.0s
TNCH LR LR
comp=Z,620nm,13.6s
TNCH LR LR
comp=Z,770nm,19.5s
LFF La Frestale 41.78 304 *e*P **P** 04 16 02.7 -0.2
LFF pmax pmax
comp=Z,33nm,0.8s
MOR8 Moi Rana 41.86 338 *e*P **P** 04 16 02.7 -0.6
EPF Esparros 42.05 302 *e*P **P** 04 16 03.9 -1.3
EPF pmax pmax
comp=Z,14nm,1.0s
FAUS Fauske 42.39 340 *e*P **P** 04 16 07.5 0.0
STOK Stokkvaagen 42.41 338 *e*P **P** 04 16 07.7 -0.1
AKN Aaknes 42.42 331 *e*P **P** 04 16 08.0 0.0
MFF Saint Martin d 42.47 307 *e*P **P** 04 16 08.1 -0.4
KONS Konsvik 42.48 338 *e*P **P** 04 16 08.3 0.0
JETT Jettan, Norway 42.60 344 *e*P **P** 04 16 09.4 +0.2
LDF La Druitiere 42.60 310 *e*P **P** 04 16 08.4 -1.2
LDF pmax pmax
comp=Z,72nm,0.9s
ETSF Etsaut 42.71 301 *e*P **P** 04 16 10.7 +0.1
ETSF pmax pmax
comp=Z,27nm,0.8s
HAMF Hammerfest 42.75 347 *e*P **P** 04 16 11.0 +0.6
STEI Steigen 42.76 341 *e*P **P** 04 16 09.8 -0.7
FLN La Foliniere 42.85 310 *e*P **P** 04 16 10.5 -1.1
FLN pmax pmax
comp=Z,137nm,1.0s
ZAK Zakamensk 42.95 48 *e*P **P** 04 16 13.1 +0.6
ZAK pmax pmax
comp=Z,34nm,0.9s
TRO Tromso 43.00 344 *e*P **P** 04 16 12.3 -0.2
FOO Floro 43.01 329 *e*P **P** 04 16 12.7 +0.1
GRR Gorron 43.07 309 *e*P **P** 04 16 12.5 -0.9
GRR pmax pmax
comp=Z,149nm,1.0s
SJPF Ste Jean 43.20 302 *e*P **P** 04 16 15.5 +1.0
SJPF pmax pmax
comp=Z,78nm,0.9s
ECHE Chera 43.20 297 P **P** 04 16 15.9 +1.3
CART Cartagena 43.45 294 P **P** 04 16 17.3 +0.8
LZH Lanzhou 43.60 69 *e*P **P** 04 16 18.8 +0.8
LZH sP sP 04 16 26.6 +3.7
LZH SS SS 04 26 04.0 +1.7
LZH pmax pmax
comp=Z,46nm,1.4s
LZH pmax pmax
comp=Z,400nm,7.1s
LZH LR LR
comp=Z,2µm,18.5s
LZH LR LR
comp=Z,2µm,17.5s
LZH LR LR
comp=Z,2µm,19.9s
EMUR La Murta 43.60 294 P **P** 04 16 17.6 -0.3
ETOB Tobarra 43.75 295 P **P** 04 16 20.0 +0.9
IRK Irkutsk 43.81 45 *e*P **P** 04 16 19.8 +0.5
IRK pmax pmax
comp=Z,120nm,2.0s
TLOR Lorca, Murcia 43.98 294 P **P** 04 16 22.5 +1.6
PZH PanZhiHua 44.04 83 P **P** 04 16 21.4 -0.2
PZH PP **PcP** 04 18 06.9 -0.2
PZH PcS **PcS** 04 21 58.5 -1.9
PZH S **S** 04 22 53.3 -0.9
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,140nm,4.7s
PZH LR LR
comp=Z,700nm,15.1s
PZH LR LR
comp=Z,790nm,17.3s
PZH LR LR
comp=Z,930nm,16.7s
SGMF Saint Gilles 44.19 309 *e*P **P** 04 16 21.6 -0.8
SGMF pmax pmax
comp=Z,45nm,0.6s
ENIJ Nijar 44.48 293 P **P** 04 16 24.7 -0.2
CD2 Chengdu 44.55 76 P **P** 04 16 25.4 -0.1
CD2 pP pP 04 16 27.7 -1.4
CD2 PP **PP** 04 18 13.0 +3.6
CD2 S **S** 04 23 01.0 -0.3
CD2 SS **ScS** 04 26 24.7 +0.6
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,120nm,5.0s
CD2 LR LR
comp=Z,1µm,14.7s
CD2 LR LR
comp=Z,1µm,14.3s
CD2 LR LR
comp=Z,1µm,16.3s
CM31 Chiang Mai Arr 44.58 95 P **P** 04 16 25.4 -0.5
SNR=6.9
CM31 P **P** 04 16 25.4 -0.5
SNR=6.9
CMAR Chiang Mai Arr 44.58 95 P **P** 04 16 25.4 -0.4
comp=Z,17nm,0.9s,baz=291,slow=8.3,SNR=44
CMAR PcP **PP** 04 18 09.6 -0.3
comp=Z,4.7nm,0.7s,baz=286,slow=4.2,SNR=4.2
CMAR LR LR 04 36 42.9
comp=Z,574nm,19.8s,baz=285,slow=38
comp=Z,17nm,0.9s
QUIF Quistinic 44.59 309 *e*P **P** 04 16 25.4 -0.1
QUIF pmax pmax
comp=Z,90nm,0.8s
ROSF Rostrenen 44.68 309 *e*P **P** 04 16 25.4 -0.9
ROSF pmax pmax
comp=Z,128nm,1.0s
SONM Songino Array 44.80 52 P **P** 04 16 28.1 +0.7
comp=Z,10nm,0.9s,baz=269,slow=8.7,SNR=41
SONM PcP **PcP** 04 18 08.6 -0.7
comp=Z,2.5nm,0.8s,baz=283,slow=5.9,SNR=1.8
SONM LR LR 04 37 43.3
comp=Z,2µm,19.0s,baz=266,slow=40
comp=Z,10nm,0.9s
UCM Universidad Co 44.88 298 P **P** 04 16 28.2 +0.1
CRAI Chiangrai 45.08 92 P **P** 04 16 29.5 -0.3
ULN Ulaanbaatar 45.24 51 P **P** 04 16 31.5 +0.5
ULN Ulaanbaatar 45.24 51 IAMs_20 IAMs_20 04 38 03.8
comp=Z,2µm,19.0s
ULN Ulaanbaatar 45.24 51 *ce*P **P** 04 16 32.0 +1.0
ULN pmax pmax
comp=Z,61nm,1.7s
KMI Kunming 45.33 84⇑ P **P** 04 16 31.7 -0.4
KMI pP pP 04 16 34.9 -0.7
KMI PP **PP** 04 18 17.6 -0.4
KMI S **S** 04 23 11.6 -1.6
KMI SS **SS** 04 26 31.8 -4.3
KMI pmax pmax
comp=Z,34nm,1.7s
KMI pmax pmax
comp=Z,250nm,4.0s
KMI LR LR
comp=Z,2µm,21.9s
KMI LR LR

comp=Z,550nm,20.6s
KMI LR LR
comp=Z,980nm,18.1s
EKA Eskdalemuir Ar 45.34 319 P P 04 16 30.8 -0.7
comp=Z,5.5nm,0.4s,baz=102,slow=8.2,SNR=39
EKA PcP PcP 04 18 11.3 +0.4
comp=Z,6.1nm,0.8s,baz=94,slow=5.8,SNR=2.9
comp=Z,5.5nm,0.4s
ESDC Sonseca Array 45.50 297 P P 04 16 33.4 +0.4
ESDC Sonseca Array 45.50 297 P P 04 16 33.5 +0.4
comp=Z,23nm,0.9s,baz=74,slow=7.7,SNR=88
ESDC PcP PcP 04 18 12.2 +0.4
comp=Z,6.9nm,0.8s,baz=59,slow=3.1,SNR=5.5
ESDC ScP ScP 04 22 04.9 +0.1
comp=Z,3.4nm,1.1s,baz=58,slow=3.7,SNR=6.0
comp=Z,23nm,0.9s
PAB San Pablo 45.81 297 P P 04 16 35.8 +0.3
PAB IAmb IAmb 04 16 37.5
comp=Z,48nm,0.9s
PAB San Pablo 45.81 297 P P 04 16 36.1 +0.6
BJO1 Bjornoya 46.68 349 *eP* **P 04 16 42.2 +0.5**
MDT Midelt 47.21 288 LR LR 04 41 49.8
comp=Z,225nm,18.1s,baz=86,slow=43
PBRG Braganca 47.36 300⇑ *eP* **P 04 16 47.8 +0.2**
comp=Z,99nm,1.7s
HOPEN Hopen 47.45 352 *eP* **P 04 16 49.1 +1.4**
MVO Moncorvo 47.64 299⇑ *eP* **P 04 16 50.8 +0.9**
comp=Z,143nm,1.0s
MVO Moncorvo 47.64 299 *ePP* **PP 04 18 47.2 +5.9**
MVO *eS* **S 04 23 46.4 +0.7**
MVO *eLQ* LQ 04 27 50.6
MVO *eLR* LR 04 31 53.6
comp=Z,352nm,18.0s
BTO Baotou 47.77 61 *eP* **P 04 16 50.5 -0.4**
BTO pP **sP 04 16 55.2 -0.7**
BTO sP **pP 04 16 58.1 +3.6**
BTO PP **PP 04 18 40.7 -1.8**
BTO S **S 04 23 46.7 -0.9**
BTO pmax pmax
comp=Z,73nm,0.8s
BTO pmax pmax
comp=Z,260nm,4.0s
BTO LR LR
comp=Z,4μm,17.8s
BTO LR LR
comp=Z,4μm,16.1s
BTO LR LR
comp=Z,7μm,16.9s
XAN Xi'an 48.07 70⇑P **P 04 16 52.9 -0.3**
XAN pP sP 04 16 56.2 -2.0
XAN S **S 04 23 51.2 -0.7**
XAN pmax pmax
comp=Z,69nm,0.9s
XAN pmax pmax
comp=Z,430nm,7.3s
XAN LR LR
comp=Z,2μm,16.8s
XAN LR LR
comp=Z,2μm,19.0s
XAN LR LR
comp=Z,3μm,19.4s
PBAR Barrancos 48.08 295⇑ *eP* **P 04 16 53.8 +0.6**
comp=Z,205nm,1.8s
MTE Manteigas 48.13 298⇑ *eP* **P 04 16 54.8 +1.2**
comp=Z,193nm,1.5s
MTE *eS* **S 04 23 58.0 +5.4**
MTE *eSS* SS 04 27 34.5 +13
MTE *eLQ* LQ 04 31 17.7
MTE *eLR* LR 04 33 35.5
comp=Z,402nm,20.0s
PVRL Vila Real 48.15 300⇑ *eP* **P 04 16 54.5 +0.8**
comp=Z,200nm,1.4s
PMRV Marv??o 48.16 297⇑ *eP* **P 04 16 54.3 +0.5**
comp=Z,94nm,1.7s
PMRV Marv??o 48.16 297 *ePP* **PP 04 18 46.1 +0.2**
PMRV Marv??o 48.16 297 *eLR* LR 04 31 45.5
comp=Z,433nm,18.0s
PCBR Castelo Branco 48.16 298⇑ *eP* **P 04 16 54.7 +0.9**
comp=Z,274nm,1.4s
GYA Guiyang 48.24 81⇓P **P 04 16 54.6 -0.2**
GYA SS SS 04 27 21.8 -2.1
GYA pmax pmax
comp=Z,35nm,1.2s
GYA pmax pmax
comp=Z,280nm,5.1s
GYA LR LR
comp=Z,2μm,20.6s
GYA LR LR
comp=Z,630nm,22.6s
GYA LR LR
comp=Z,230nm,20.4s
PVIS Viseu 48.35 299⇑ *eP* **P 04 16 56.4 +1.1**
NONG Nongkai 48.36 93 P **P 04 16 54.8 -0.7**
PESTR Estremoz 48.40 296⇑ *eP* **P 04 16 55.9 +0.3**
comp=Z,98nm,1.6s
PESTR Estremoz 48.40 296 *ePP* **PP 04 18 49.6 +1.5**
PESTR Estremoz 48.40 296 IAmb IAmb 04 16 57.3
comp=Z,49nm,0.8s
PGAV Gavieira, Arco 48.47 301⇑ *eP* **P 04 16 57.5 +1.2**
comp=Z,308nm,1.5s
PGAV *eS* **S 04 24 03.1 +5.7**
PGAV *eLR* LR 04 32 50.6
comp=Z,402nm,18.0s
PVAQ Vaqueiros 48.75 295⇑ *eP* **P 04 16 58.5 +0.2**
comp=Z,84nm,1.6s
PVAQ Vaqueiros 48.75 295 *ePP* **PP 04 18 52.9 +1.6**
PVAQ *eS* **S 04 24 05.2 +4.0**
PVAQ *eSS* **SS 04 27 31.0 -0.4**
PVAQ *eLQ* LQ 04 30 12.4
PVAQ *eLR* LR 04 32 44.1
comp=Z,262nm,18.0s
PVAQ Vaqueiros 48.75 295 IAmb IAmb 04 16 60.0
comp=Z,46nm,1.1s
PBEJ Beja 48.75 295 *eP* **P 04 16 59.1 +0.7**
comp=Z,143nm,1.7s
EVO Evora 48.78 296⇑ *eP* **P 04 16 59.2 +0.6**
comp=Z,86nm,1.7s
EVO Evora 48.78 296 *ePP* **PP 04 18 52.1 +0.5**
COI Coimbra 48.82 298⇑ *eP* **P 04 17 00.0 +1.2**
comp=Z,166nm,0.9s
COI Coimbra 48.82 298 *ePcP* **PcP 04 18 23.8 +0.3**
COI Coimbra 48.82 298 *ePP* **PP 04 18 51.2 -0.7**
PTO Porto 48.83 300 *eP* **P 04 17 00.4 +1.5**
comp=Z,143nm,1.5s
PMTG Montargil 48.85 297⇑ *eP* **P 04 16 59.1 0.0**
comp=Z,66nm,1.8s
HHC Hu-ho-hao-te 48.90 61 *eP* **P 04 16 59.3 -0.3**
HHC sP sP 04 17 06.8 +2.2
HHC PP **PP 04 18 54.1 +1.3**
HHC ScS ScS 04 26 49.3 -3.1
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,330nm,5.3s
HHC LR LR
comp=Z,780nm,20.6s
HHC LR LR
comp=Z,930nm,19.1s
HHC LR LR
comp=Z,2μm,19.9s
PCAS Casmilo, Conde 48.91 298⇑ *eP* **P 04 17 00.2 +0.7**
comp=Z,105nm,1.9s
PBDV Barranco-do-Ve 48.95 294 *eP* **P 04 17 00.3 +0.4**
comp=Z,69nm,1.7s
PCVE Castro Verde 48.96 295 *eP* **P 04 17 00.2 +0.2**
comp=Z,82nm,1.5s
PCVE Castro Verde 48.96 295 *ePP* **PP 04 18 52.6 -0.7**
TOA0 Torodi Ar. Sit 48.96 260 P **P 04 17 00.6 +0.4**
TORD Torodi Ar. Bea 48.96 260 P **P 04 17 00.6 +0.4**
TORD Torodi Ar. Bea 48.96 260 P **P 04 17 00.6 +0.4**
comp=Z,61nm,0.7s,baz=52,slow=8.5,SNR=36
TORD LR LR 04 40 32.1
comp=Z,748nm,21.3s,baz=64,slow=40
comp=Z,61nm,0.7s
MESJ Messejana 49.06 295 *eP* **P 04 17 00.8 +0.1**
comp=Z,70nm,1.4s
MESJ Messejana 49.06 295 IAmb IAmb 04 17 02.7
comp=Z,68nm,1.4s
MESJ Messejana 49.06 295 *eP* **P 04 17 01.0 +0.2**
MESJ IAmb IAmb 04 17 01.7
comp=Z,56nm,1.3s
MESJ *ePP* **PP 04 18 54.8 +0.6**
MESJ *eS* **S 04 24 07.1 +1.5**
MESJ Messejana 49.06 295 *eP* **P** 04 18 54.8
MESJ *e* 04 18 54.8
MESJ *eS* **S 04 24 07.1 +1.5**

HSPB Hornsund (broa 49.15 350 *eP* **P 04 17 02.2 +1.4**
PSBE So Bento 49.22 298⇑ *eP* **P 04 17 03.0 +1.1**
comp=Z,189nm,1.4s
PNCL Nicolau / Gran 49.25 296⇑ *eP* **P 04 17 03.1 +0.9**
comp=Z,109nm,1.5s
PNCL Nicolau / Gran 49.25 296 *ePP* **PP 04 18 58.7 +2.8**
AVE Averroes 49.38 289 IAmb IAmb 04 17 15.3
comp=Z,42nm,0.8s
ENH Enshi 49.48 75 IAmb IAmb 04 17 07.7
comp=Z,45nm,1.0s
CIT Chita 49.50 46 *eP* **P 04 17 04.2 +0.3**
CIT *e* 04 18 21.4
CIT *e* 04 19 48.4
CIT pmax pmax
comp=Z,172nm,1.6s
MORF Marmelete 49.50 295 *eP* **P 04 17 05.1 +0.9**
comp=Z,92nm,1.6s
MORF Marmelete 49.50 295 *ePP* **PP 04 19 04.2 +6.0**
MORF Marmelete 49.50 295 IAmb IAmb 04 17 09.2
comp=Z,144nm,1.9s
MORF Marmelete 49.50 295 *eP* **P 04 17 04.6 +0.4**
MORF IAmb IAmb 04 17 08.0
comp=Z,195nm,2.1s
MORF Marmelete 49.50 295 *eP* **P 04 17 04.6 +0.4**
PTEO Sao Teotonio 49.51 295 *eP* **P 04 17 05.0 +0.8**
comp=Z,117nm,1.5s
LIS Lisbon 49.62 297⇑ *eP* **P 04 17 06.2 +1.2**
comp=Z,204nm,1.8s
LIS Lisbon 49.62 297 *eP* **P 04 17 05.3 +0.3**
LIS IAmb IAmb 04 17 08.0
comp=Z,93nm,1.0s
LIS Lisbon 49.62 297 *eP* **P 04 17 05.3 +0.3**
PFVI Vila Bisbo 49.67 294⇑ *eP* **P 04 17 05.8 +0.4**
comp=Z,131nm,1.6s
PMAFR Mafra 49.68 297 *eP* **P 04 17 06.8 +1.3**
comp=Z,210nm,1.5s
ABPO Ambohimpanom 49.70 185 P **P 04 17 05.6 -0.3**
ABPO IAmb IAmb 04 17 11.1
comp=Z,27nm,0.8s
ABPO Ambohimpanom 49.70 185 P **P 04 17 05.6 -0.3**
ABPO pmax pmax
comp=Z,27nm,0.8s
SPB2 Spitsbergen Ar 49.92 351 IAmb IAmb 04 17 08.5
comp=Z,50nm,0.8s
SPA0 Spitsbergen Ar 49.92 351 *eP* **P 04 17 07.8 +1.1**
SPITS Spitsbergen Ar 49.92 351 P **P 04 17 07.3 +0.5**
comp=Z,35nm,0.7s,baz=132,slow=15,SNR=39
SPITS PcP PcP 04 18 27.1 +0.2
comp=Z,13nm,0.8s,baz=144,slow=16,SNR=3.6
SPITS PP **PP 04 19 00.2 -1.1**
comp=Z,29nm,0.8s,baz=121,slow=24,SNR=5.8
SPITS LR LR 04 42 07.5
comp=Z,577nm,18.3s,baz=114,slow=41
comp=Z,35nm,0.7s
SPITS Spitsbergen Ar 49.92 351 P **P 04 17 07.7 +1.0**
SPITS pmax pmax
comp=Z,57nm,0.9s
BOD Bodaibo 50.00 38 *eP* **P 04 17 07.8 +0.2**
BOD pmax pmax
comp=Z,132nm,1.0s
TIY Taiyuan 50.10 65 *eP* **P 04 17 11.4 +2.6**
TIY S **S 04 24 18.1 -2.2**
TIY pmax pmax
comp=Z,30nm,0.7s
TIY pmax pmax
comp=Z,150nm,3.5s
TIY LR LR
comp=Z,990nm,20.6s
TIY LR LR
comp=Z,540nm,20.6s
TIY LR LR
comp=Z,1μm,22.7s
LYN LuoYang 50.81 69 *eP* **P 04 17 14.8 +0.7**
LYN pP sP 04 17 18.6 -0.5
LYN sP pP 04 17 22.4 +4.7
LYN S **S 04 24 35.0 +4.9**
LYN pmax pmax
comp=Z,97nm,0.9s
LYN pmax pmax
comp=Z,540nm,5.1s
LYN LR LR
comp=Z,2μm,14.3s
LYN LR LR
comp=Z,2μm,16.8s
LYN LR LR
comp=Z,3μm,16.8s
LSZ Lusaka 50.99 209 P **P 04 17 15.8 +0.1**
LSZ IAmb IAmb 04 17 21.2
comp=Z,30nm,0.7s
LSZ Lusaka 50.99 209 LR LR 04 40 07.8
comp=Z,4μm,19.2s,baz=38,slow=38
LSZ Lusaka 50.99 209 P **P 04 17 15.8 +0.1**
LSZ pmax pmax
comp=Z,30nm,0.7s
LSZ MLR MLR
comp=Z,4μm,19.0s
KBS Kingsbay 51.07 351 P **P 04 17 16.8 +1.4**
KBS IAmb IAmb 04 17 16.8
comp=Z,46nm,0.9s
KBS Kingsbay 51.07 351 *eP* **P 04 17 15.9 +0.5**
KBS Kingsbay 51.07 351 *ceP* **P 04 17 16.5 +1.1**
KBS pmax pmax
comp=Z,50nm,1.3s
KBS Kingsbay 51.07 351 *i* P **P 04 17 15.2 -0.2**
JMIC Jan Mayen 51.49 339 LR LR 04 39 50.2
comp=Z,614nm,21.6s,baz=82,slow=37
UBPT Khong Chiam 51.58 95 P **P 04 17 18.7 -1.4**
UBPT Khong Chiam 51.58 95 P **P 04 17 18.9 -1.2**
GULI GuiLin 51.78 81⇑P **P 04 17 20.3 -1.2**
GULI pmax pmax
comp=Z,30nm,1.0s
GULI pmax pmax
comp=Z,250nm,4.9s
GULI LR LR
comp=Z,1μm,21.7s
GULI LR LR
comp=Z,520nm,22.8s
GULI LR LR
comp=Z,1μm,17.3s
XLT XiLinHaoTe 51.78 56 *eP* **P 04 17 21.2 -0.1**
XLT pP sP 04 17 25.3 -1.0
XLT PP **PP 04 19 23.3 +4.4**
XLT S **S 04 24 46.8 +3.3**
XLT ScS **ScS 04 27 09.1 -2.8**
XLT pmax pmax
comp=Z,14nm,1.2s
XLT pmax pmax
comp=Z,260nm,5.6s
XLT LR LR
comp=Z,420nm,19.1s
XLT LR LR
comp=Z,1μm,19.5s
XLT LR LR
comp=Z,1μm,23.0s
KRI Karoi 51.81 207 *i* P **P 04 17 23.0 +1.2**
KRI Karoi 51.81 207 *i* P **P 04 17 19.1 -2.7**
HNS HongShan 51.93 65⇑P **P 04 17 22.8 +0.4**
HNS S **S 04 24 45.2 -0.3**
HNS pmax pmax
comp=Z,27nm,0.9s
HNS LR LR
comp=Z,810nm,18.6s
HNS LR LR
comp=Z,1μm,20.0s
HNS LR LR
comp=Z,2μm,19.1s
BJT Baijiatuau 52.51 61 P **P 04 17 27.8 +1.1**
BJT Baijiatuau 52.51 61 P **P 04 17 27.8 +1.1**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT MLR MLR
comp=Z,2μm,21.0s
BJI Beijing 52.51 61 P **P 04 17 26.8 +0.1**
BJI pmax pmax
comp=Z,8.0nm,0.9s
BJI pmax pmax
comp=Z,90nm,7.8s
BJI LR LR
comp=Z,130nm,14.3s
BJI LR LR
comp=Z,250nm,18.4s
BJI LR LR
comp=Z,170nm,18.2s
GSI Gunungsitoli 52.57 115 P **P 04 17 27.8 +0.3**
GSI Gunungsitoli 52.57 115 P **P 04 17 27.3 -0.2**
comp=Z,28nm,1.1s

VOI Vohitsoka 52.60 185 P **P 04 17 30.4 +2.8**
VOI Vohitsoka 52.60 185 P **P 04 17 27.9 +0.3**
KULM Kulim 52.66 109 P **P 04 17 26.6 -1.5**
KULM IAmb IAmb 04 17 34.0
comp=Z,40nm,1.1s
CNSH ChangSha 52.98 76⇑P **P 04 17 29.6 -0.7**
CNSH S **S 04 24 59.2 -0.9**
CNSH pmax pmax
comp=Z,22nm,0.9s
CNSH LR LR
comp=Z,700nm,19.0s
CNSH LR LR
comp=Z,1μm,16.7s
CNSH LR LR
comp=Z,1μm,16.5s
WHN Wuhan 53.42 73⇓P **P 04 17 33.9 +0.3**
WHN sP **sP 04 17 40.2 +1.7**
WHN S **S 04 25 06.5 +0.5**
WHN pmax pmax
comp=Z,130nm,0.9s
WHN pmax pmax
comp=Z,670nm,5.5s
WHN LR LR
comp=Z,2μm,12.9s
WHN LR LR
comp=Z,2μm,9.8s
WHN LR LR
comp=Z,4μm,21.3s
IPM Ipoh 53.43 109 P **P 04 17 31.7 -2.1**
IPM Ipoh 53.43 109 IAmb IAmb 04 17 36.8
comp=Z,42nm,0.9s
HIA Hailar 53.59 49 P **P 04 17 34.8 +0.3**
HIA IAmb IAmb 04 17 36.4
comp=Z,29nm,0.9s
HIA Hailar 53.59 49 P **P 04 17 34.8 +0.3**
HIA pmax pmax
comp=Z,29nm,0.9s
HIA MLR MLR
comp=Z,2μm,19.0s
QIZ Qiongzhong 53.71 88 P **P 04 17 35.4 -0.5**
QIZ S **S 04 25 08.8 -1.5**
QIZ pmax pmax
comp=Z,21nm,1.3s
QIZ pmax pmax
comp=Z,210nm,6.9s
QIZ LR LR
comp=Z,530nm,21.6s
QIZ LR LR
comp=Z,240nm,19.8s
QIZ LR LR
comp=Z,590nm,21.0s
QIZ Qiongzhong 53.71 88 IAmb IAmb 04 18 53.7
comp=Z,46nm,0.6s
CHIPN CHIPINGE 53.87 202 *i* P **P 04 17 38.6 +1.7**
CHIPN CHIPINGE 53.87 202 *i* P **P 04 17 36.4 -0.5**
TIA Tai'an 54.09 65 P **P 04 17 38.6 +0.2**
TIA PP **PP 04 19 40.0 +0.2**
TIA S **S 04 25 18.6 +3.5**
TIA pmax pmax
comp=Z,22nm,0.6s
TIA LR LR
comp=Z,560nm,20.1s
TIA LR LR
comp=Z,180nm,18.0s
TIA LR LR
comp=Z,290nm,19.4s
BORG Borgarnes 55.28 330 LR LR 04 44 23.1
comp=Z,589nm,20.6s,baz=96,slow=39
MATP Matopo 55.51 206 *i* P **P 04 17 49.7 +0.9**
MATP Matopo 55.51 206 LR LR 04 42 44.1
comp=Z,1μm,19.2s,baz=53,slow=37
MATP Matopo 55.51 206 *i* P P 04 17 43.3 -5.5
DBG Daneboro 55.67 342 *i* P **P 04 17 49.6 +0.4**
DBG IAmb IAmb 04 17 51.2
comp=Z,34nm,1.0s
DAG Danmarks Havn 55.71 345 P **P 04 17 49.2 -0.3**
DAG Danmarks Havn 55.71 345 *i* P **P 04 17 48.1 -1.4**
DAG IAmb IAmb 04 17 51.1
comp=Z,18nm,0.8s
DLV T Lat 55.74 97 P **P 04 17 50.6 -0.2**
DLV T Lat 55.74 97 IAmb IAmb 04 17 54.4
comp=Z,26nm,0.8s
SCO Scoresbysund 55.77 337 IAmb IAmb 04 17 54.9
comp=Z,116nm,1.8s
SCO Scoresbysund 55.77 337 *i* P **P 04 17 50.7 +0.8**
SCO IAmb IAmb 04 17 52.2
comp=Z,28nm,1.1s
HKPS Hong Kong Po S 56.10 83 P **P 04 17 54.0 +0.9**
HKPS Hong Kong Po S 56.10 83 P **P 04 17 51.9 -1.2**
HKPS IAmb IAmb 04 17 57.5
comp=Z,50nm,1.0s
PDSI Padang 56.20 115 P **P 04 17 55.7 +1.8**
comp=Z,31nm,0.9s,comp=Z,11μm
NOR Nord 56.55 351 *i* P **P 04 17 54.4 -1.1**
NOR IAmb IAmb 04 17 56.5
comp=Z,22nm,0.9s
NJ2 Nanjing 56.64 70 *eP* **P 04 17 56.9 +0.1**
NJ2 pP **sP 04 18 00.0 -1.8**
NJ2 pmax pmax
comp=Z,19nm,0.8s
NJ2 LR LR
comp=Z,1μm,20.8s
NJ2 LR LR
comp=Z,940nm,16.7s
NJ2 LR LR
comp=Z,2μm,22.0s
PMPST Porto Santo, M 56.64 291 *eP* **P 04 17 57.8 +1.0**
comp=Z,154nm,1.6s
PMPS Porto Santo 56.65 291 *eP* P 04 18 05.4 +8.6
comp=Z,195nm,1.4s
MUSN Musina, Limpop 56.72 204 *i* P **P 04 17 58.5 +1.2**
MUSN Musina, Limpop 56.72 204 *i* P **P 04 17 53.7 -3.7**
DL2 Dalian 56.88 61 P **P 04 17 58.4 0.0**
DL2 S **S 04 25 56.9 +4.8**
DL2 pmax pmax
comp=Z,87nm,0.8s
DL2 pmax pmax
comp=Z,280nm,7.3s
DL2 LR LR
comp=Z,2μm,19.0s
DL2 LR LR
comp=Z,1μm,16.6s
DL2 LR LR
comp=Z,3μm,22.3s
TIXI Tiksi 57.13 22 P **P 04 17 59.6 0.0**
TIXI IAmb IAmb 04 18 05.3
comp=Z,95nm,1.6s
TIXI Tiksi 57.13 22 *ceP* **P 04 18 00.0 +0.4**
TIXI pmax pmax
comp=Z,89nm,2.5s
PMAR Madeira 57.21 291 *eP* **P 04 18 02.3 +1.2**
comp=Z,301nm,1.6s
FUL Funchal 57.22 291 *eP* **P 04 18 02.2 +1.3**
comp=Z,138nm,1.4s
MOPA Mopani 57.34 202 *i* P **P 04 18 02.9 +1.2**
MOPA Mopani 57.34 202 *i* P **P 04 17 59.0 -2.7**
PMOZ Porto Moniz, M 57.41 291 *eP* **P 04 18 03.1 +0.7**
comp=Z,130nm,2.1s
PMOZ *eS* **S 04 26 04.0 +4.4**
PMOZ Porto Moniz, M 57.41 291 *eLR* LR 04 42 01.9
comp=Z,125nm,20.0s
SNY Shenyang 57.59 57⇓P **P 04 18 03.2 -0.2**
SNY PP **PP 04 20 14.4 +3.5**
SNY S **S 04 26 03.1 +1.7**
SNY SS **SS 04 29 56.3 +5.2**
SNY pmax pmax
comp=Z,14nm,0.7s
SNY LR LR
comp=Z,2μm,18.5s
SNY LR LR
comp=Z,600nm,15.6s
SNY LR LR
comp=Z,2μm,16.3s
ZEA Zeya 57.63 43 *eP* **P 04 18 04.7 +1.2**
ZEA *eS* **S 04 26 06.3 +4.7**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA pmax pmax
comp=E,100nm,4.4s
ZEA pmax pmax
comp=Z,200nm,5.6s
ZEA smax smax
comp=E,100nm,6.5s
ZEA MLR MLR
comp=E,600nm,14.0s
DBIC Dimbokro 57.80 258 P **P 04 18 05.3 0.0**

DBIC Dimbokro 57.80 258 P **P** **04 18 05.7 +0.4**
comp=E,85nm,0.8s,baz=36,slow=6.6,SNR=111
DBIC ScP **ScP** **04 22 58.9 +0.8**
comp=E,5.3nm,0.8s,baz=95,slow=2.1,SNR=3.6
DBIC LR LR 04 44 38.9
comp=E,911nm,19.4s,baz=41,slow=38
comp=E,85nm,0.8s
YAK Yakutsk 57.84 33 *e*P **P** **04 18 04.9 +0.1**
YAK *e**PP **sP** **04 18 12.7 +2.9**
YAK *e* 04 18 57.5
YAK *e* 04 20 13.0
YAK *e*S **S** **04 26 05.2 +1.1**
YAK *e**SS sS 04 26 16.8 +6.2
YAK *e* 04 27 54.7
YAK pmax pmax
comp=Z,34nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,7.0nm,0.9s
YAK pmax pmax
comp=Z,51nm,1.7s
YAK pmax pmax
comp=N,26nm,1.4s
YAK pmax pmax
comp=E,33nm,1.5s
YAK smax smax
comp=N,116nm,3.3s
YAK smax smax
comp=E,125nm,4.1s
YAK MLR MLR
comp=Z,2µm,19.0s
YAK MLR MLR
comp=E,1µm,19.0s
KIC Kosan Boka 57.87 257⇑ *e*P **P** **04 18 06.3 +0.6**
comp=E,95nm,0.6s
TIC Toumodi 57.95 258⇑ *e*P **P** **04 18 06.7 +0.4**
comp=E,43nm,0.6s
LIC Lamto 58.18 257⇑ *e*P **P** **04 18 08.4 +0.5**
comp=E,332nm,0.7s
HEH HeiHe 58.35 47 *e*P **P** **04 18 08.7 +0.1**
HEH pP **pP** **04 18 11.1 -1.1**
HEH S **S** **04 26 12.5 +1.4**
HEH pmax pmax
comp=E,51nm,0.9s
HEH pmax pmax
comp=E,350nm,5.7s
HEH LR LR
comp=E,3µm,19.0s
HEH LR LR
comp=E,930nm,19.0s
HEH LR LR
comp=E,5µm,17.7s
CN2 Changchun 58.45 55 *e*P **P** **04 18 09.7 +0.3**
CN2 *e*S **S** **04 26 10.7 -1.9**
CN2 pmax pmax
comp=E,20nm,0.6s
CN2 pmax pmax
comp=E,100nm,3.0s
CN2 LR LR
comp=E,2µm,19.0s
CN2 LR LR
comp=E,1µm,19.0s
CN2 LR LR
comp=E,600nm,16.0s
SSE Sheshan 58.83 70 P **P** **04 18 09.2 -3.0**
SSE S **S** **04 26 17.6 -0.3**
SSE pmax pmax
comp=E,14nm,0.7s
SSE pmax pmax
comp=E,110nm,5.0s
SSE LR LR
comp=E,890nm,19.5s
SSE LR LR
comp=E,220nm,20.1s
KNMB Chin-men Tao 58.86 78 IAMs_20 IAMs_20 04 48 03.0
comp=Z,742nm,20.0s
SOEG Soedalen 59.15 334 *i*P **P** **04 18 14.0 +0.2**
SOEG IAmb IAmb 04 18 16.2
comp=Z,62nm,1.1s
DSRI Dabo 59.20 111 P **P** **04 18 14.8 -0.2**
comp=Z,22nm,1.1s
BNX BinXian 59.33 52 ⇑P **P** **04 18 15.1 -0.4**
BNX pP **pP** **04 18 18.4 -0.7**
BNX sP **sP** **04 18 19.7 -0.8**
BNX PP **PP** **04 20 24.4 -1.9**
BNX S **S** **04 26 23.1 -0.9**
BNX pmax pmax
comp=Z,18nm,1.2s
BNX pmax pmax
comp=Z,220nm,3.8s
BNX LR LR
comp=Z,800nm,15.2s
BNX LR LR
comp=Z,1µm,17.7s
BNX LR LR
comp=Z,2µm,18.6s
TSUM Tsumeb 59.44 218 P **P** **04 18 16.1 -0.4**
TSUM IAmb IAmb 04 18 24.9
comp=Z,44nm,1.8s
TSUM Tsumeb 59.44 218 LR LR 04 46 26.2
comp=Z,658nm,20.2s,baz=39,slow=39
LBTB Lobatse 60.78 207 P **P** **04 18 25.6 -0.1**
LBTB IAmb IAmb 04 18 41.7
comp=Z,26nm,0.8s
LBTB Lobatse 60.78 207 *i*P **P** **04 18 26.1 +0.4**
LBTB Lobatse 60.78 207 LR LR 04 46 35.5
comp=Z,950nm,18.6s,baz=34,slow=38
LBTB Lobatse 60.78 207 *i*P **P** **04 18 21.6 -4.1**
LBTB Lobatse 60.78 207 P **P** **04 18 25.6 -0.1**
LBTB pmax pmax
comp=Z,26nm,0.8s
SUMG Summit 60.90 340 IAmb IAmb 04 18 28.2
comp=Z,107nm,0.8s
SUMG Summit 60.90 340 *i*P **P** **04 18 25.9 -0.4**
SUMG IAmb IAmb 04 18 28.0
comp=Z,120nm,0.9s
MDJ Mudanjiang 61.12 53 P **P** **04 18 27.9 +0.2**
MDJ pP sP 04 18 31.4 -1.4
MDJ PcP **PcP** **04 19 10.1 -0.6**
MDJ S **S** **04 26 46.1 -0.9**
MDJ ScS **ScS** **04 28 19.0 -0.2**
MDJ pmax pmax
comp=Z,11nm,1.9s
MDJ pmax pmax
comp=Z,190nm,5.0s
MDJ LR LR
comp=Z,1µm,16.5s
MDJ LR LR
comp=Z,2µm,21.3s
MDJ LR LR
comp=Z,3µm,21.3s
TPUB Ta-pu 61.20 79 P **P** **04 18 30.1 +1.4**
TPUB Ta-pu 61.20 79 IAmb IAmb 04 19 49.8
comp=Z,32nm,0.6s
TPUB IAMs_20 IAMs_20 04 47 26.0
comp=Z,782nm,19.0s
TATO Taipei 61.27 77 IAMs_20 IAMs_20 04 48 18.0
comp=Z,861nm,21.0s
SSLB Suanglung 61.28 78 P **P** **04 18 30.8 +1.5**
SSLB Suanglung 61.28 78 IAmb IAmb 04 18 33.5
comp=Z,27nm,1.1s
YHNB Yeheng 61.30 77 P **P** **04 18 30.5 +1.1**
YHNB Yeheng 61.30 77 IAmb IAmb 04 18 31.3
comp=Z,49nm,0.9s
YHNB IAMs_20 IAMs_20 04 46 31.4
comp=Z,797nm,22.0s
KLR Kul'dur 61.32 47 LR LR 04 47 29.4
comp=Z,3µm,18.5s,baz=284,slow=38
KLR Kul'dur 61.32 47 *ce*P **P** **04 18 28.6 -0.4**
KLR pmax pmax
comp=Z,35nm,1.7s
LWLI Liwa 61.56 116 P **P** **04 18 31.1 -0.1**
comp=Z,143nm,0.8s
NACB Ninganchiao 61.67 77 IAMs_20 IAMs_20 04 49 25.4
comp=Z,751nm,18.0s
YULB Yu-li 61.73 78 P **P** **04 18 33.3 +1.1**
YULB Yu-li 61.73 78 IAMs_20 IAMs_20 04 47 52.9
comp=Z,1µm,20.0s
TWG Pinlang 61.77 79 IAMs_20 IAMs_20 04 49 44.2
comp=Z,713nm,21.0s
KS19 Wonju Array Si 61.98 61 IAmb IAmb 04 18 45.2
comp=Z,51nm,1.3s
ICESG Greenland Ices 61.99 336 *i*P **P** **04 18 32.7 -0.9**
ICESG IAmb IAmb 04 18 34.9
comp=Z,87nm,0.9s
ANGG Ammassalik, Gr 62.01 332 IAmb IAmb 04 18 34.8
comp=Z,32nm,0.9s
ANGG Ammassalik, Gr 62.01 332 *i*P **P** **04 18 32.9 -0.5**
ANGG IAmb IAmb 04 18 34.5
comp=Z,30nm,0.9s
KSAR Wonju Array Be 62.02 61 P **P** **04 18 33.8 -0.1**
KSAR Wonju Array Be 62.02 61 P **P** **04 18 33.8 -0.1**
KSRS Korea Array 62.04 61 P **P** **04 18 33.5 -0.6**
comp=Z,13nm,0.7s,baz=281,slow=7.1,SNR=38
KSRS LR LR 04 48 49.5
comp=Z,2µm,19.1s,baz=285,slow=39
comp=Z,13nm,0.7s
KASI Kota Agung 62.21 116 P **P** **04 18 35.4 -0.1**
comp=Z,85nm,1.0s
WIN Windhoek 62.48 216 IAmb IAmb 04 18 39.9
comp=Z,66nm,1.8s
WIN Windhoek 62.48 216 P **P** **04 18 38.7 +1.4**
PSTR Posyet 62.52 55 *i*P **P** **04 18 37.5 +0.3**
ISOG Isortoq, Green 62.57 332 *i*P **P** **04 18 35.8 -1.3**
ISOG IAmb IAmb 04 18 38.1
comp=Z,46nm,0.8s
KSM Kuching 62.75 106 P **P** **04 18 38.0 -1.1**
NEEM North Greenlan 62.84 346 *i*P **P** **04 18 39.6 +0.4**
NEEM IAmb IAmb 04 18 43.7
comp=Z,66nm,1.0s
USRK Ussuriysk Ar. 62.88 53 P **P** **04 18 38.4 -1.2**
comp=Z,3.1nm,0.6s,baz=266,slow=9.6,SNR=10.0
USRK LR LR 04 49 27.0
comp=Z,2µm,18.5s,baz=288,slow=39
comp=Z,3.1nm,0.6s
GRNR Gornyy 63.79 45⇑ *i*P **P** **04 18 45.5 -0.1**
GRNR pmax pmax
comp=Z,5.0nm,0.9s
GRNR MLR MLR
comp=E,990nm,16.0s
GRNR MLR MLR
comp=N,530nm,15.0s
SBUM Sibu 63.80 104 P **P** **04 18 44.7 -1.4**
BOSA Boshof 64.15 206 P **P** **04 18 47.9 -0.3**
BOSA IAmb IAmb 04 18 55.9
comp=Z,22nm,0.8s
BOSA Boshof 64.15 206 *i*P **P** **04 18 48.8 +0.6**
BOSA Boshof 64.15 206 P **P** **04 18 47.9 -0.3**
comp=Z,20nm,1.0s,baz=26,slow=6.7,SNR=24
BOSA LR LR 04 49 52.7
comp=Z,2µm,18.4s,baz=50,slow=39
comp=Z,20nm,1.0s
BOSA Boshof 64.15 206 *i*P **P** **04 18 45.5 -2.7**
SKJI Sukabumi 64.73 116 P **P** **04 18 49.4 -2.8**
comp=Z,226nm,1.0s
DY2G Dye2 65.14 334 *i*P **P** **04 18 53.4 -1.0**
DY2G IAmb IAmb 04 18 55.7
comp=Z,99nm,1.0s
KULLO Kullorsuaq 65.33 344 *i*P **P** **04 18 54.7 -0.5**
KULLO IAmb IAmb 04 18 56.2
comp=Z,55nm,0.9s
CNJI Cibinong 65.36 116 P **P** **04 18 57.0 +0.7**
comp=Z,66nm,1.2s,comp=Z,661nm
LEM Lembang 65.44 115 LR LR 04 49 05.3
comp=Z,409nm,19.2s,baz=327,slow=38
NUUG Nuugaatsiaq 65.56 340 *i*P **P** **04 18 55.8 -0.9**
NUUG IAmb IAmb 04 18 57.6
comp=Z,27nm,0.9s
UMMG Uummannaq 65.59 339 *i*P **P** **04 18 56.2 -0.6**
UMMG IAmb IAmb 04 18 58.0
comp=Z,85nm,1.0s
JNU Nakatsue 65.81 65 LR LR 04 50 16.2
comp=Z,1µm,18.3s,baz=296,slow=38
UPNV Upernavik 65.85 342 *i*P **P** **04 18 58.1 -0.5**
UPNV IAmb IAmb 04 18 59.9
comp=Z,62nm,0.9s
BBJI Bungbulang 65.86 115 P **P** **04 18 59.8 +0.2**
JOW Kunigami 66.16 72 LR LR 04 51 35.6
comp=Z,711nm,18.9s,baz=72,slow=39
SFJD Kangerlussuaq 66.56 335 P **P** **04 19 02.9 -0.3**
SFJD IAmb IAmb 04 19 06.4
comp=Z,53nm,1.2s
SFJD Kangerlussuaq 66.56 335 LR LR 04 48 32.4
comp=Z,400nm,19.7s,baz=60,slow=36
SFJD Kangerlussuaq 66.56 335 P **P** **04 19 02.9 -0.3**
SFJD pmax pmax
comp=Z,53nm,1.2s
SFJD Kangerlussuaq 66.56 335 *i*P **P** **04 19 01.5 -1.7**
SFJD IAmb IAmb 04 19 04.2
comp=Z,26nm,1.0s
NRS Narsarsuaq 66.69 328 IAmb IAmb 04 19 07.4
comp=Z,58nm,1.0s
NRS Narsarsuaq 66.69 328 *i*P **P** **04 19 03.6 -0.5**
NRS IAmb IAmb 04 19 07.6
comp=Z,58nm,1.0s
KPJI Karang Pucung 66.78 114 P **P** **04 19 05.3 -0.1**
comp=Z,40nm,0.6s
EUNU Eureka 66.99 353 IAmb IAmb 04 19 08.0
comp=Z,43nm,0.9s
TYV Tymovskoe 67.49 43 *e*P **P** **04 19 09.8 +0.4**
TYV *e*S **S** **04 28 07.6 +1.9**
TYV pmax pmax
comp=Z,14nm,1.0s
TYV pmax pmax
comp=Z,200nm,5.6s
TYV smax smax
comp=N,200nm,6.5s
TYV smax smax
comp=E,200nm,6.5s
TYV MLR MLR
comp=Z,2µm,16.0s
SEY Seymchan 67.75 29 *e*P **P** **04 19 09.0 -1.9**
SEY pmax pmax
comp=Z,65nm,0.9s
IVI Ivigtut 67.90 329 *i*P **P** **04 19 11.2 -0.6**
JMN Monobe 67.90 63 P **P** **04 19 13.0 +0.6**
JMN Monobe 67.90 63 IAmb IAmb 04 19 17.9
comp=Z,36nm,0.8s
NUUK Nuuk 68.15 333 *i*P **P** **04 19 12.1 -1.2**
NUUK IAmb IAmb 04 19 14.5
comp=Z,37nm,0.9s
MA2 Magadan 68.42 33 P **P** **04 19 16.1 +1.0**
MA2 Magadan 68.42 33 P **P** **04 19 15.9 +0.8**
MA2 IAmb IAmb 04 19 16.9
comp=Z,42nm,0.9s
MA2 Magadan 68.42 33 *ce*P **P** **04 19 16.1 +1.0**
MA2 pmax pmax
comp=Z,40nm,0.8s
MA2 Magadan 68.42 33 P **P** **04 19 15.6 +0.5**
comp=Z,52nm,1.1s,comp=Z,690nm
YSS Yuzh-Sakhalins 69.03 47 P **P** **04 19 19.1 0.0**
YSS Yuzh-Sakhalins 69.03 47 P **P** **04 19 18.7 -0.3**
YSS IAmb IAmb 04 19 19.9
comp=Z,45nm,0.9s
YSS Yuzh-Sakhalins 69.03 47 *ce*P **P** **04 19 18.8 -0.3**
YSS *e**SP **sP** **04 19 25.1 +0.9**
YSS *e* 04 19 37.6
YSS *e* 04 21 57.8
YSS *e*S **S** **04 28 16.3 -7.8**
YSS pmax pmax
comp=Z,200nm,3.0s
YSS pmax pmax
comp=Z,30nm,0.9s
SUR Sutherland 69.22 207 P **P** **04 19 20.1 -0.5**
SUR IAmb IAmb 04 19 22.7
comp=Z,39nm,1.1s
SUR Sutherland 69.22 207 LR LR 04 51 29.8
comp=Z,2µm,18.4s,baz=30,slow=38
JGF Kuroka 69.79 60 P **P** **04 19 23.7 -0.4**
MAJO Matsushiro 70.04 59 P **P** **04 19 24.9 -0.7**
MAJO Matsushiro 70.04 59 P **P** **04 19 24.4 -1.2**
MAJO IAmb IAmb 04 19 29.0
comp=Z,26nm,1.1s
MAJO Matsushiro 70.04 59 IAMs_20 IAMs_20 04 52 33.9
comp=Z,935nm,20.0s
MAJO Matsushiro 70.04 59 *i*P **P** **04 19 24.8 -0.8**
MAJO pmax pmax
comp=Z,22nm,1.0s
MJAR Matsushiro Arr 70.04 59 P **P** **04 19 25.0 -0.6**
comp=Z,6.1nm,0.9s,baz=297,slow=10,SNR=23
MJAR LR LR 04 52 56.3
comp=Z,871nm,19.7s,baz=302,slow=38
comp=Z,6.1nm,0.9s
MJAR Matsushiro Arr 70.04 59 P **P** **04 19 25.0 -0.6**
ASAJ Asahikawa 70.05 50 LR LR 04 53 01.7
comp=Z,2µm,18.9s,baz=300,slow=38
BILL Bilibino 70.34 21 P **P** **04 19 28.0 +1.1**
BILL Bilibino 70.34 21⇑ *e*P **P** **04 19 28.2 +1.3**
BILL pmax pmax
comp=Z,131nm,1.7s
BILL MLR MLR
comp=Z,2µm,19.6s
JSG Sagara 70.79 61 P **P** **04 19 32.2 +2.0**
TOLI2 Tolitoli 71.73 100 P **P** **04 19 35.8 -0.3**
RES Resolute Bay 72.48 351 LR LR 04 56 24.5
comp=Z,512nm,18.9s,baz=20,slow=40
RES Resolute Bay 72.48 351 P **P** **04 19 40.3 +0.6**
JHJ Hachijo jima 2 72.65 62 LR LR 04 56 08.1
comp=Z,507nm,19.1s,baz=302,slow=40
TTSI Tana Toraja 73.15 104 P **P** **04 19 45.2 +0.6**
comp=Z,23nm,0.7s,comp=Z,2µm
FRB Frobisher Bay 74.63 336 LR LR 04 53 45.7
comp=Z,518nm,22.0s,baz=38,slow=37
FRB Frobisher Bay 74.63 336 P **P** **04 19 52.8 +0.4**
PETK Petropavlovsk- 74.84 37 P **P** **04 19 52.8 -1.2**
comp=Z,15nm,0.9s,baz=248,slow=1.6,SNR=26
comp=Z,15nm,0.9s
PET Petropavlovsk 75.38 37 *e*P P 04 19 43.1 -14
PET pmax pmax
comp=Z,100nm,9.7s
PET MLR MLR
comp=Z,1µm,14.0s
PET MLR MLR
comp=Z,1µm,16.0s
A21K Barrow 76.24 9 P **P** **04 20 02.7 +1.1**
baz=335
A19K Wainwright 76.58 11 P **P** **04 20 04.8 +1.3**
baz=332,SNR=6.4
A22K Sinclair Lake 76.75 9 P **P** **04 20 05.5 +1.1**
baz=337
B18K Kokolik River 77.20 12 P **P** **04 20 08.4 +1.3**
baz=331,SNR=37
JCJ Chichijima 77.22 66 LR LR 04 59 02.3
comp=Z,478nm,20.9s,baz=310,slow=40
B20K Meade River 77.36 10 IAmb IAmb 04 20 10.2
comp=Z,31nm,0.8s
B20K IAMs_20 IAMs_20 04 58 47.2
comp=Z,675nm,22.0s
B20K Meade River 77.36 10 P **P** **04 20 08.7 +0.8**
baz=335,SNR=11
A36M Sachs Harbour 77.46 359 P **P** **04 20 08.8 +0.3**
baz=2.9,SNR=212
C16K Lisburne Hills 77.50 13 IAmb IAmb 04 20 10.0
comp=Z,27nm,0.9s
C16K Lisburne Hills 77.50 13 P **P** **04 20 08.9 +0.2**
baz=328,SNR=7.4
TNTI Ternate 77.51 97 P **P** **04 20 11.0 +1.3**
TNTI Ternate 77.51 97 P **P** **04 20 11.1 +1.3**
B22K Teshekpuk Lake 77.56 8 IAmb IAmb 04 20 11.4
comp=Z,62nm,0.9s
B22K IAMs_20 IAMs_20 04 59 50.5
comp=Z,639nm,20.0s
B22K Teshekpuk Lake 77.56 8 P **P** **04 20 10.0 +1.0**
baz=338
C17K DeLong Mountai 77.74 12 P **P** **04 20 10.7 +0.6**
baz=330,SNR=24
C19K Lookout Ridge 77.81 11 P **P** **04 20 11.5 +1.0**
baz=333,SNR=11
SANI Sanana 77.81 100 P **P** **04 20 10.1 -1.3**
SANI Sanana 77.81 100 P **P** **04 20 10.3 -1.1**
comp=Z,73nm,1.0s
C18K Utukok River 77.94 12 IAmb IAmb 04 20 13.0
comp=Z,39nm,0.8s
C18K IAMs_20 IAMs_20 04 57 18.4
comp=Z,530nm,21.0s
C18K Utukok River 77.94 12 P **P** **04 20 11.7 +0.4**
baz=332,SNR=37
B21K Ikpikpuk River 78.08 9 IAmb IAmb 04 20 14.4
comp=Z,47nm,0.9s
B21K IAMs_20 IAMs_20 04 59 23.0
comp=Z,551nm,21.0s
B21K Ikpikpuk River 78.08 9 P **P** **04 20 12.9 +1.0**
baz=337,SNR=40
RDOG Red Dog Mine 78.15 13 P **P** **04 20 12.5 +0.1**
baz=330
MMRI Maumere 78.23 107 IAMs_20 IAMs_20 04 56 07.7
comp=Z,573nm,22.0s
DRLN Deer Lake 78.36 321 IAmb IAmb 04 20 17.9
comp=Z,39nm,1.4s
LBMI Labuha 78.36 98 P **P** **04 20 15.1 +0.7**
comp=Z,109nm,0.9s,comp=Z,1µm
C23K Itkillik River 78.37 8 IAmb IAmb 04 20 15.7
comp=Z,43nm,0.9s
C23K Itkillik River 78.37 8 P **P** **04 20 15.0 +1.4**
baz=341,SNR=42
D17K Noatak River 78.43 13 P **P** **04 20 14.4 +0.5**
baz=330
C21K Knifeblade Rid 78.48 9 P **P** **04 20 15.6 +1.3**
baz=337,SNR=27
D19K Kuna River 78.59 11 IAmb IAmb 04 20 16.8
comp=Z,39nm,1.1s
D19K Kuna River 78.59 11 P **P** **04 20 15.5 +0.6**
baz=334,SNR=19
D20K Etivluk River 78.63 10 P **P** **04 20 15.9 +0.8**
baz=336,SNR=25
C24K Franklin Bluff 78.69 7 P **P** **04 20 16.6 +1.3**
baz=342
C26K Camden Bay 78.86 6 P **P** **04 20 17.3 +1.1**
baz=346,SNR=10
D22K Ayikyak River 79.02 9 IAmb IAmb 04 20 19.6
comp=Z,44nm,1.1s
D22K IAMs_20 IAMs_20 05 00 59.1
comp=Z,652nm,20.0s
D22K Ayikyak River 79.02 9 P **P** **04 20 18.2 +1.0**
baz=339,SNR=20
E20K Nigu River 79.11 10 P **P** **04 20 18.5 +0.8**
baz=336,SNR=28
E18K Tukpahlearik C 79.13 12 IAmb IAmb 04 20 19.4
comp=Z,28nm,0.8s
E18K IAMs_20 IAMs_20 04 59 47.0
comp=Z,660nm,21.0s
E18K Tukpahlearik C 79.13 12 P **P** **04 20 18.1 +0.3**
baz=332,SNR=12
D23K Nanushuk River 79.19 8 P **P** **04 20 19.3 +1.2**
baz=341
E17K Hotham Inlet 79.21 13 P **P** **04 20 18.5 +0.3**
baz=331
D24K Happy Valley 79.22 7 IAMs_20 IAMs_20 04 58 09.4
comp=Z,681nm,22.0s
D24K Happy Valley 79.22 7 P **P** **04 20 19.2 +0.9**
baz=342
TNA Tin City 79.24 16 P **P** **04 20 18.8 +0.4**
baz=326
C27K Jago River 79.25 5 P **P** **04 20 19.7 +1.2**
baz=347,SNR=57
E21K Killik River 79.26 9 IAmb IAmb 04 20 20.3
comp=Z,36nm,1.1s
E21K IAMs_20 IAMs_20 05 01 31.3
comp=Z,466nm,20.0s
E21K Killik River 79.26 9 P **P** **04 20 18.9 +0.4**
baz=338
D25K Kavik River 79.31 6 IAmb IAmb 04 20 21.0
comp=Z,37nm,0.9s
D25K Kavik River 79.31 6 P **P** **04 20 19.7 +0.9**
baz=344,SNR=46
TOLK Toolik Lake Re 79.63 8 IAmb IAmb 04 20 22.8
comp=Z,47nm,0.8s
TOLK IAMs_20 IAMs_20 04 58 37.1
comp=Z,541nm,21.0s
TOLK Toolik Lake Re 79.63 8 P **P** **04 20 21.7 +1.1**
baz=342,SNR=60
SCHQ Schefferville 79.64 329 P **P** **04 20 20.6 -0.2**
comp=Z,22nm,0.9s,baz=57,slow=6.7,SNR=34
SCHQ LR LR 04 56 52.6
comp=Z,382nm,20.5s,baz=58,slow=37
comp=Z,22nm,0.9s
F14K Arctic Creek 79.67 15 P **P** **04 20 21.3 +0.5**
baz=328
E19K Redstone River 79.68 11 P **P** **04 20 21.2 +0.5**
baz=335,SNR=28
GAMB Gambell 79.76 18 P **P** **04 20 21.7 +0.4**
baz=323
D27M Malcolm River 79.83 4 P **P** **04 20 22.5 +0.8**
baz=349,SNR=22
E22K Anaktuvuk Pass 79.84 9 IAmb IAmb 04 20 35.1
comp=Z,72nm,1.6s
E22K IAMs_20 IAMs_20 05 01 36.6
comp=Z,454nm,20.0s
E22K Anaktuvuk Pass 79.84 9 P **P** **04 20 22.4 +0.7**
baz=340
F15K North Star Dit 79.84 14 IAMs_20 IAMs_20 05 01 19.7
comp=Z,670nm,22.0s
F15K North Star Dit 79.84 14 P **P** **04 20 22.2 +0.5**
baz=329,SNR=5.2
D28M Stokes Point 79.88 4 P **P** **04 20 23.0 +1.2**
baz=351,SNR=26
F17K Baldwin Pennin 79.88 13 IAMs_20 IAMs_20 05 01 54.8
comp=Z,776nm,20.0s
F17K Baldwin Pennin 79.88 13 P **P** **04 20 22.2 +0.3**

baz=332,SNR=8.8
F18K Selawik 80.04 12 P **P** **04 20 22.9 +0.2**
baz=333,SNR=18
C36M Paulatuk 80.09 358 IAmb IAmb 04 20 23.7
comp=Z,52nm,0.9s
C36M IAMs_20 IAMs_20 04 59 00.3
comp=Z,497nm,22.0s
C36M Paulatuk 80.09 358 P **P** **04 20 22.5 -0.4**
baz=3.9,SNR=55
F19K Shaleruckik Mo 80.16 11 IAMs_20 IAMs_20 05 02 33.0
comp=Z,734nm,21.0s
F19K Shaleruckik Mo 80.16 11 P **P** **04 20 23.3 0.0**
baz=335,SNR=20
E23K Chandalar 80.18 8 P **P** **04 20 24.8 +1.2**
baz=342
BATI Baumata 80.27 108 LR LR 04 58 25.4
comp=Z,239nm,21.4s,baz=320,slow=38
BATI Baumata 80.27 108 P **P** **04 20 24.2 -0.6**
comp=Z,94nm,0.9s
F20K Avaraart Lake 80.29 10 IAMs_20 IAMs_20 05 00 36.6
comp=Z,490nm,20.0s
F20K Avaraart Lake 80.29 10 P **P** **04 20 24.3 +0.2**
baz=336,SNR=45
E24K Your Creek 80.30 7 IAMs_20 IAMs_20 04 59 08.7
comp=Z,477nm,21.0s
E24K Your Creek 80.30 7 P **P** **04 20 25.1 +0.9**
baz=343,SNR=36
F22K John River 80.38 9 P **P** **04 20 26.0 +1.4**
baz=340
F21K Alatna River 80.47 10 IAMs_20 IAMs_20 05 03 07.2
comp=Z,588nm,22.0s
F21K Alatna River 80.47 10 P **P** **04 20 25.8 +0.7**
baz=338,SNR=48
SOEI Soe 80.51 107 P **P** **04 20 26.1 -0.2**
SOEI Soe 80.51 107 IAmb IAmb 04 21 00.2
comp=Z,84nm,1.0s
SOEI Soe 80.51 107 P **P** **04 20 26.5 +0.2**
comp=Z,75nm,1.0s
E28M Babbage River 80.55 4 P **P** **04 20 26.4 +0.9**
baz=350,SNR=44
E25K Arctic Village 80.55 6 IAmb IAmb 04 20 27.6
comp=Z,50nm,0.9s
E25K Arctic Village 80.55 6 P **P** **04 20 26.5 +1.0**
baz=345,SNR=69
G15K Niukluk 80.59 14 P **P** **04 20 26.4 +0.7**
baz=330
G16K Koyuk River 80.59 14 P **P** **04 20 26.3 +0.6**
baz=331
ANM Nome 80.66 15 IAMs_20 IAMs_20 05 00 00.4
comp=Z,763nm,22.0s
ANM Nome 80.66 15 P **P** **04 20 27.2 +1.0**
baz=328
E27K Coleen River 80.83 5 IAmb IAmb 04 20 29.2
comp=Z,41nm,1.0s
E27K Coleen River 80.83 5 P **P** **04 20 27.9 +0.9**
baz=349,SNR=55
G17K Kiwalik Mounta 80.83 13 P **P** **04 20 27.3 +0.3**
baz=332,SNR=7.5
G18K Tagagawik 80.85 12 P **P** **04 20 27.3 +0.1**
baz=334,SNR=8.0
E29M Blow River 80.86 3 IAmb IAmb 04 20 38.9
comp=Z,34nm,0.9s
E29M Blow River 80.86 3 P **P** **04 20 27.9 +0.8**
baz=352,SNR=57
F24K Squaw Lake 80.90 7 P **P** **04 20 28.6 +1.2**
baz=343,SNR=48
G19K Purcell Mounta 80.90 11 IAmb IAmb 04 20 28.9
comp=Z,46nm,0.8s
G19K IAMs_20 IAMs_20 05 01 44.7
comp=Z,639nm,22.0s
G19K Purcell Mounta 80.90 11 P **P** **04 20 27.8 +0.4**
baz=335,SNR=38
COLD Coldfoot 80.90 8 P **P** **04 20 28.1 +0.7**
baz=341,SNR=38
G22K Bettles 81.02 9 P **P** **04 20 28.8 +0.8**
baz=340
F25K Christian Rive 81.06 7 P **P** **04 20 29.5 +1.2**
baz=345,SNR=20
F26K Sheenjek River 81.10 6 P **P** **04 20 29.6 +1.1**
baz=346,SNR=32
INK Inuvik 81.12 2 IAmb IAmb 04 20 32.1
comp=Z,149nm,2.0s
INK Inuvik 81.12 2 P **P** **04 20 28.6 +0.2**
baz=356,SNR=39
INK Inuvik 81.12 2 LR LR 05 01 13.4
comp=Z,467nm,21.6s,baz=360,slow=39
INK Inuvik 81.12 2 P **P** **04 20 28.1 -0.4**
G21K Allakaket 81.12 10 IAmb IAmb 04 20 30.0
comp=Z,33nm,0.8s
G21K IAMs_20 IAMs_20 05 00 02.5
comp=Z,444nm,21.0s
G21K Allakaket 81.12 10 P **P** **04 20 28.9 +0.3**
baz=338,SNR=35
H16K Elim 81.28 14 P **P** **04 20 29.9 +0.5**
baz=331
BMAR Burnt Mountain 81.32 6 P **P** **04 20 30.7 +1.0**
G23K Bananza Creek 81.42 8 IAMs_20 IAMs_20 05 02 38.3
comp=Z,658nm,19.0s
G23K Bananza Creek 81.42 8 P **P** **04 20 31.3 +1.1**
baz=341,SNR=21
H17K Granite Mounta 81.48 13 P **P** **04 20 30.9 +0.4**
baz=333
F28M Old Crow 81.51 4 P **P** **04 20 31.3 +0.7**
baz=350
H19K Roundabout Mou 81.57 11 IAmb IAmb 04 20 36.0
comp=Z,76nm,1.8s
H19K IAMs_20 IAMs_20 05 01 54.4
comp=Z,751nm,21.0s
H19K Roundabout Mou 81.57 11 P **P** **04 20 31.5 +0.5**
baz=336,SNR=11
H18K Honhosa River 81.58 12 P **P** **04 20 31.4 +0.4**
baz=334,SNR=9.2
IMAR Indian Mountai 81.58 10 P **P** **04 20 31.6 +0.5**
G24K Hadweenzic Riv 81.73 7 IAmb IAmb 04 20 34.4
comp=Z,43nm,0.9s
G24K IAMs_20 IAMs_20 04 59 51.6
comp=Z,490nm,22.0s
G24K Hadweenzic Riv 81.73 7 P **P** **04 20 33.0 +1.2**
baz=344,SNR=43
F30M Barrier River 81.73 3 P **P** **04 20 32.3 +0.5**
baz=354,SNR=29
G25K Bearman Lake 81.82 7 P **P** **04 20 33.4 +1.2**
baz=345,SNR=12
G26K Porcupine Rive 81.86 6 P **P** **04 20 33.6 +1.2**
baz=347,SNR=27
H20K Anotleneega Mo 81.86 11 P **P** **04 20 33.0 +0.5**
baz=337,SNR=45
F31M Tsiigehtchic 81.98 2 P **P** **04 20 33.4 +0.3**
baz=356,SNR=112
H22K Ishtalitna Cre 82.01 9 P **P** **04 20 34.6 +1.3**
baz=340
H21K Melozitna Rive 82.03 10 IAmb IAmb 04 20 35.5
comp=Z,36nm,0.8s
H21K Melozitna Rive 82.03 10 P **P** **04 20 34.5 +1.1**
baz=339,SNR=45
G27K Doyon Strip 82.18 5 IAmb IAmb 04 20 36.6
comp=Z,30nm,0.8s
G27K IAMs_20 IAMs_20 05 00 25.5
comp=Z,462nm,22.0s
G27K Doyon Strip 82.18 5 P **P** **04 20 35.3 +1.1**
baz=349,SNR=91
GCSA Galena City Sc 82.21 12 P **P** **04 20 34.7 +0.4**
baz=336
I17K Unalakleet 82.26 14 P **P** **04 20 35.1 +0.6**
baz=332
G29M Pine Creek 82.32 4 IAmb IAmb 04 20 55.4
comp=Z,29nm,1.0s
G29M Pine Creek 82.32 4 P **P** **04 20 35.1 +0.2**
baz=352,SNR=18
H23K Yukon River 82.32 9 IAmb IAmb 04 20 37.6
comp=Z,32nm,0.9s
H23K Yukon River 82.32 9 P **P** **04 20 36.3 +1.3**
baz=342
H25L Birch Creek 82.33 7 P **P** **04 20 36.1 +1.2**
baz=345,SNR=16
G30M tAoh Zrail Nji 82.34 3 IAmb IAmb 04 20 36.5
comp=Z,59nm,1.0s
G30M tAoh Zrail Nji 82.34 3 P **P** **04 20 35.3 +0.2**
baz=353,SNR=60
G31M Satah River 82.48 2 P **P** **04 20 36.1 +0.4**
baz=355
H24K Noodor Dome 82.52 8 IAmb IAmb 04 20 38.4
comp=Z,23nm,1.0s
H24K IAMs_20 IAMs_20 05 00 30.3
comp=Z,543nm,21.0s
H24K Noodor Dome 82.52 8 P **P** **04 20 37.0 +1.0**
baz=343,SNR=24
I20K Naaghedeneel 82.57 11 IAmb IAmb 04 20 38.5
comp=Z,42nm,0.9s
I20K IAMs_20 IAMs_20 05 02 09.9
comp=Z,695nm,20.0s
I20K Naaghedeneel 82.57 11 P **P** **04 20 37.2 +1.0**
baz=338,SNR=6.2
J14K Nanvaranak Lak 82.64 15 IAmb IAmb 04 20 38.7
comp=Z,32nm,0.9s
J14K IAMs_20 IAMs_20 05 02 55.8
comp=Z,523nm,19.0s
J14K Nanvaranak Lak 82.64 15 P **P** **04 20 37.5 +0.9**
baz=330,SNR=6.9
H27K Steamboat Moun 82.76 5 P **P** **04 20 38.4 +1.1**
baz=349,SNR=51
GBN Guysborough 82.81 319 P **P** **04 20 38.7 +0.9**
GBN IAmb IAmb 04 20 41.8
comp=Z,40nm,1.0s
J16K Anvik River 82.82 14 IAmb IAmb 04 20 39.5
comp=Z,41nm,0.9s
J16K IAMs_20 IAMs_20 05 03 46.4
comp=Z,690nm,20.0s
J16K Anvik River 82.82 14 P **P** **04 20 38.3 +0.8**
baz=333,SNR=10
MLY Manley 82.92 9 IAmb IAmb 04 20 42.5
comp=Z,34nm,1.2s
MLY IAMs_20 IAMs_20 05 04 03.0
comp=Z,603nm,20.0s
MLY Manley 82.92 9 P **P** **04 20 38.9 +0.8**
baz=341,SNR=22
EPYK Eagle Plains 82.93 3 IAmb IAmb 04 20 39.4
comp=Z,30nm,0.9s
EPYK Eagle Plains 82.93 3 P **P** **04 20 38.1 0.0**
baz=353,SNR=22
H29M Whitestone 82.99 4 P **P** **04 20 39.0 +0.7**
baz=352,SNR=36
I23K Minto, Yukon-K 82.99 9 IAmb IAmb 04 20 44.8
comp=Z,91nm,1.7s
I23K IAMs_20 IAMs_20 05 03 35.9
comp=Z,604nm,19.0s
I23K Minto, Yukon-K 82.99 9 P **P** **04 20 39.3 +0.9**
baz=342,SNR=20
J17K VABM Dome 83.03 13 IAmb IAmb 04 20 40.3
comp=Z,22nm,1.0s
J17K VABM Dome 83.03 13 P **P** **04 20 39.0 +0.3**
baz=334,SNR=6.3
PRP Porcupine Dome 83.09 7 IAMs_20 IAMs_20 05 04 56.5
comp=Z,471nm,21.0s
PRP Porcupine Dome 83.09 7 P **P** **04 20 39.9 +0.8**
baz=345,SNR=18
K13K Kusilvak Mount 83.09 16 IAmb IAmb 04 20 40.7
comp=Z,18nm,0.9s
K13K Kusilvak Mount 83.09 16 P **P** **04 20 39.7 +0.7**
baz=329
J19K Poorman 83.12 12 P **P** **04 20 39.9 +0.8**
baz=337,SNR=17
J20K Nowinta River 83.20 11 IAmb IAmb 04 20 41.5
comp=Z,21nm,0.8s
J20K IAMs_20 IAMs_20 05 04 01.6
comp=Z,604nm,21.0s
J20K Nowinta River 83.20 11 P **P** **04 20 40.5 +1.0**
baz=338,SNR=19
POKR Poker Plat Res 83.26 8 IAmb IAmb 04 20 42.0
comp=Z,41nm,1.0s
POKR IAMs_20 IAMs_20 05 00 51.1
comp=Z,543nm,21.0s
POKR Poker Plat Res 83.26 8 P **P** **04 20 40.6 +0.8**
baz=344,SNR=14
MDM Murphy Dome 83.32 8 IAMs_20 IAMs_20 05 03 24.5
comp=Z,471nm,21.0s
I27K Kandik River 83.37 5 P **P** **04 20 41.1 +0.7**
baz=349,SNR=39
J18K Innoko River 83.42 12 P **P** **04 20 41.3 +0.6**
baz=336,SNR=7.3
COLA College 83.44 8 P **P** **04 20 41.2 +0.5**
COLA College 83.44 8 P **P** **04 20 40.9 +0.2**
baz=343
COLA College 83.44 8 P **P** **04 20 41.2 +0.5**
COLA pmax pmax
comp=Z,206nm,2.0s
K15K Wolf Creek Mou 83.50 15 IAmb IAmb 04 20 43.5
comp=Z,30nm,0.9s
K15K IAMs_20 IAMs_20 05 02 46.4
comp=Z,639nm,22.0s
K15K Wolf Creek Mou 83.50 15 P **P** **04 20 42.2 +1.1**
baz=332,SNR=8.9
I26K Coal Creek Min 83.53 6 IAmb IAmb 04 20 43.0
comp=Z,32nm,0.9s
I26K IAMs_20 IAMs_20 05 00 55.1
comp=Z,481nm,21.0s
I26K Coal Creek Min 83.53 6 P **P** **04 20 41.8 +0.6**
baz=347
NEA2 Nenana 83.56 9 IAmb IAmb 04 20 46.2
comp=Z,33nm,1.4s
NEA2 IAMs_20 IAMs_20 05 04 03.0
comp=Z,507nm,21.0s
NEA2 Nenana 83.56 9 P **P** **04 20 41.3 0.0**
baz=342,SNR=11
FAKI Fak Fak 83.59 97 P **P** **04 20 42.1 -0.2**
FAKI Fak Fak 83.59 97 P **P** **04 20 43.2 +0.9**
comp=Z,19nm,1.1s
H31M Peel River 83.59 2 IAmb IAmb 04 21 01.5
comp=Z,51nm,1.1s
H31M Peel River 83.59 2 P **P** **04 20 41.7 +0.1**
baz=355,SNR=37
I28M Miner Creek 83.65 5 IAMs_20 IAMs_20 05 01 45.4
comp=Z,471nm,22.0s
I28M Miner Creek 83.65 5 P **P** **04 20 42.1 +0.1**
baz=350,SNR=38
ILAR Eielson Array 83.66 8 P **P** **04 20 41.7 -0.2**
ILAR Eielson Array 83.66 8 P **P** **04 20 41.5 -0.3**
comp=Z,4.6nm,0.8s,baz=326,slow=4.1,SNR=39
ILAR PP **PP** **04 23 54.2 +0.5**
comp=Z,0.2nm,0.6s,baz=327,slow=6.5,SNR=5.3
ILAR PKKPbc **PKKPbc** **04 38 58.0 -1.8**
comp=Z,1.1nm,0.5s,baz=196,slow=1.6,SNR=19
ILAR LR LR 05 07 09.5
comp=Z,325nm,18.1s,baz=320,slow=42
comp=Z,4.6nm,0.8s
ILAR Eielson Array 83.66 8 P **P** **04 20 41.7 -0.2**
PSA00 Pilbara Seismi 83.76 119 P **P** **04 20 42.0 -1.1**
PSA00 IAmb IAmb 04 23 55.3
comp=Z,18nm,0.8s
BPAW Bear Paw Mtn. 83.77 10 IAMs_20 IAMs_20 05 04 06.4
comp=Z,578nm,21.0s
BPAW Bear Paw Mtn. 83.77 10 P **P** **04 20 42.6 +0.2**
baz=341,SNR=35
CHUM Lake Minchumin 83.77 10 P **P** **04 20 43.2 +0.8**
baz=340,SNR=28
K17K Iditarod 83.80 13 P **P** **04 20 43.2 +0.6**
baz=335,SNR=6.5
WRH Wood River Hil 83.80 8 IAMs_20 IAMs_20 05 03 28.4
comp=Z,433nm,20.0s
BWN Browne 83.91 9 IAMs_20 IAMs_20 05 05 37.8
comp=Z,658nm,21.0s
K20K Telida 83.98 11 IAmb IAmb 04 20 48.8
comp=Z,62nm,1.6s
K20K Telida 83.98 11 P **P** **04 20 44.4 +0.8**
baz=338,SNR=15
J25K Salcha River, 83.98 7 IAmb IAmb 04 20 47.7
comp=Z,42nm,1.1s
J25K IAMs_20 IAMs_20 04 59 44.2
comp=Z,451nm,22.0s
J25K Salcha River, 83.98 7 P **P** **04 20 44.1 +0.5**
baz=346,SNR=38
HDA Harding Lake 84.00 8 IAMs_20 IAMs_20 05 00 37.7
comp=Z,486nm,22.0s
HDA Harding Lake 84.00 8 P **P** **04 20 42.9 -0.7**
baz=344,SNR=12
M11K Mekoryuk 84.03 18 P **P** **04 20 41.8 -2.0**
baz=328
TTA Tatalina 84.04 12 P **P** **04 20 44.6 +0.6**
baz=336
L15K Ungalak Mounta 84.05 15 P **P** **04 20 44.6 +0.7**
baz=332
L14K Kuka Creek 84.08 16 IAmb IAmb 04 20 46.1
comp=Z,33nm,0.8s
L14K IAMs_20 IAMs_20 05 05 00.6
comp=Z,515nm,19.0s
L14K Kuka Creek 84.08 16 P **P** **04 20 43.8 -0.2**
baz=331,SNR=13
I30M Mount Dempster 84.09 3 P **P** **04 20 44.5 +0.3**
baz=353,SNR=86
EGAK Eagle 84.22 5 IAMs_20 IAMs_20 05 01 41.4
comp=Z,417nm,21.0s
EGAK Eagle 84.22 5 P **P** **04 20 45.1 +0.4**
baz=349,SNR=43
CAST Castle Rocks 84.24 10 IAmb IAmb 04 20 46.6
comp=Z,46nm,1.0s
CAST IAMs_20 IAMs_20 04 59 58.0
comp=Z,518nm,22.0s
CAST Castle Rocks 84.24 10 P **P** **04 20 45.2 +0.3**
baz=340,SNR=31
J26L Joseph Creek 84.28 6 IAmb IAmb 04 20 46.7
comp=Z,30nm,0.8s
J26L IAMs_20 IAMs_20 05 02 03.9
comp=Z,426nm,20.0s
J26L Joseph Creek 84.28 6 P **P** **04 20 45.3 +0.2**
baz=347,SNR=46
KTH Kantishna Hill 84.29 10 IAmb IAmb 04 20 48.3
comp=Z,23nm,0.9s
KTH IAMs_20 IAMs_20 05 04 34.4
comp=Z,646nm,21.0s
L17K Donlin 84.32 14 P **P** **04 20 45.9 +0.6**
baz=335,SNR=7.8
MCK McKinley 84.40 9 P **P** **04 20 45.3 -0.4**
baz=342,SNR=22
MCK McKinley 84.40 9 P **P** **04 20 45.7 0.0**
HAL Halifax 84.44 319 P **P** **04 20 46.8 +0.6**
HAL Halifax 84.44 319 P **P** **04 20 46.8 +0.6**
HAL pmax pmax
comp=Z,129nm,1.7s
L16K Owhat River 84.46 14 IAmb IAmb 04 20 48.2
comp=Z,25nm,1.1s
L16K Owhat River 84.46 14 P **P** **04 20 46.9 +0.9**
baz=334,SNR=11
TRF Thorofare Moun 84.48 10 IAmb IAmb 04 20 52.1
comp=Z,68nm,1.5s
TRF IAMs_20 IAMs_20 05 04 29.4
comp=Z,667nm,20.0s
TRF Thorofare Moun 84.48 10 P **P** **04 20 45.5 -0.8**
baz=341,SNR=11
L18K Granite Mounta 84.56 13 IAmb IAmb 04 20 52.8
comp=Z,78nm,1.9s
L18K Granite Mounta 84.56 13 P **P** **04 20 46.9 +0.4**
baz=336,SNR=6.4
PPLA Purkyle 84.72 11 P **P** **04 20 46.8 -0.7**
baz=340,SNR=8.0
K24K Donnelly Dome 84.72 8 P **P** **04 20 47.4 0.0**
baz=345,SNR=24
RND Reindeer 84.72 9 IAmb IAmb 04 20 48.1
comp=Z,39nm,1.1s
RND Reindeer 84.72 9 P **P** **04 20 46.7 -0.7**
M13K Dall Lake 84.73 17 P **P** **04 20 48.9 +1.6**
baz=330
J30M Hart River 84.74 3 IAmb IAmb 04 20 53.5
comp=Z,47nm,1.1s
J30M Hart River 84.74 3 P **P** **04 20 48.2 +0.7**
baz=353,SNR=55
SCRK Sand Creek 84.75 7 IAMs_20 IAMs_20 05 04 16.4
comp=Z,494nm,21.0s
SCRK Sand Creek 84.75 7 P **P** **04 20 48.4 +0.8**
baz=347,SNR=67
J29N Klondike Camp 84.75 4 IAmb IAmb 04 20 49.6
comp=Z,30nm,0.9s
J29N Klondike Camp 84.75 4 P **P** **04 20 48.4 +0.8**
baz=352,SNR=21
M14K Bethel 84.77 16 IAmb IAmb 04 20 49.9
comp=Z,39nm,1.1s
M14K Bethel 84.77 16 P **P** **04 20 48.1 +0.6**
baz=332,SNR=5.9
L20K Farewell, AK 84.83 12 P **P** **04 20 48.5 +0.6**
baz=338,SNR=20
K27K Chicken 84.88 6 IAMs_20 IAMs_20 05 03 07.8
comp=Z,514nm,21.0s
K27K Chicken 84.88 6 P **P** **04 20 49.2 +1.1**
baz=348
L19K White Mountain 84.94 12 IAmb IAmb 04 20 52.1
comp=Z,23nm,1.1s
L19K White Mountain 84.94 12 P **P** **04 20 49.0 +0.6**
baz=338,SNR=11
DAWY Dawson 85.06 5 IAmb IAmb 04 20 50.8
comp=Z,53nm,1.1s
DAWY Dawson 85.06 5 P **P** **04 20 49.1 +0.1**
baz=351,SNR=12
M15K Kasigluk River 85.11 15 P **P** **04 20 49.9 +0.7**
baz=333,SNR=7.9
M17K Holitna River 85.16 13 IAmb IAmb 04 20 52.0
comp=Z,48nm,0.9s
M17K Holitna River 85.16 13 P **P** **04 20 50.5 +0.9**
baz=335,SNR=17
M16K Timber Creek 85.19 14 IAmb IAmb 04 20 52.1
comp=Z,27nm,0.9s
M16K Timber Creek 85.19 14 P **P** **04 20 50.7 +1.0**
baz=334,SNR=7.2
DHY Denali Highway 85.24 8 IAmb IAmb 04 20 55.2
comp=Z,71nm,1.6s
DHY IAMs_20 IAMs_20 05 05 50.3
comp=Z,501nm,19.0s
DHY Denali Highway 85.24 8 P **P** **04 20 49.4 -0.7**
baz=344,SNR=12
M19K Big River Lodg 85.28 12 IAmb IAmb 04 21 10.8
comp=Z,34nm,1.1s
M19K Big River Lodg 85.28 12 P **P** **04 20 50.8 +0.7**
baz=338
WAT1 Susitna Watana 85.32 9 P **P** **04 20 49.4 -0.9**
baz=343
M18K Stony River 85.40 13 P **P** **04 20 50.7 0.0**
baz=337,SNR=13
K29M Barlow Dome 85.40 4 IAmb IAmb 04 20 52.7
comp=Z,56nm,0.8s
K29M Barlow Dome 85.40 4 P **P** **04 20 51.6 +0.7**
baz=352,SNR=46
CUT Chulitna 85.48 10 IAMs_20 IAMs_20 05 05 18.7
comp=Z,671nm,20.0s
CUT Chulitna 85.48 10 P **P** **04 20 50.6 -0.4**
baz=341
M20K Styx River 85.52 11 P **P** **04 20 51.9 +0.4**
baz=339,SNR=6.5
PQI Presque Isle 85.53 323 IAMs_20 IAMs_20 05 01 11.3
comp=Z,364nm,19.0s
SPIA Saint Paul Isl 85.55 21 P **P** **04 20 52.2 +0.7**
baz=325
N14K Kuskokwak Cree 85.56 16 P **P** **04 20 52.5 +1.0**
baz=332,SNR=5.1
PAX Paxson 85.57 8 P **P** **04 20 51.7 0.0**
baz=345,SNR=6.4
WAT6 Susitna Watana 85.67 9 P **P** **04 20 52.1 -0.2**
baz=344,SNR=16
SKT Skwentna 85.69 11 IAMs_20 IAMs_20 05 01 07.2
comp=Z,550nm,22.0s
SKT Skwentna 85.69 11 P **P** **04 20 51.9 -0.3**
baz=340,SNR=13
N15K Kwethluk River 85.71 15 P **P** **04 20 53.2 +0.9**
baz=333
N16K Nishlik Lake 85.73 14 P **P** **04 20 53.7 +1.3**
baz=334,SNR=10
MAYO Mayo, Yukon 85.74 3 P **P** **04 20 52.6 +0.2**
baz=354,SNR=5.5
L26K Log Cabin Wild 85.74 7 IAmb IAmb 04 20 58.0
comp=Z,46nm,1.2s
L26K IAMs_20 IAMs_20 05 04 45.7
comp=Z,501nm,19.0s
L26K Log Cabin Wild 85.74 7 P **P** **04 20 53.3 +0.8**
baz=347,SNR=23
D62A Allapoint, All 85.78 324 IAmb IAmb 04 20 56.6
comp=Z,30nm,1.1s
MENT Mentasta 85.79 7 P **P** **04 20 53.4 +0.7**
MENT Mentasta 85.79 7 IAmb IAmb 04 20 54.8
comp=Z,27nm,0.8s
BCAR Beaver Creek A 85.85 6 P **P** **04 20 54.5 +1.5**
L27K Beaver Creek, 85.85 6 IAmb IAmb 04 20 55.3
comp=Z,49nm,0.8s
L27K IAMs_20 IAMs_20 05 04 08.6
comp=Z,415nm,21.0s
L27K Beaver Creek, 85.85 6 P **P** **04 20 54.0 +1.0**
baz=349,SNR=52
N17K Nushagak Hills 86.01 14 IAmb IAmb 04 21 00.4
comp=Z,42nm,1.4s
N17K IAMs_20 IAMs_20 05 03 35.8
comp=Z,658nm,21.0s
N17K Nushagak Hills 86.01 14 P **P** **04 20 54.5 +0.7**
baz=336,SNR=7.1
L29M L29M 86.09 4 IAmb IAmb 04 20 56.3
comp=Z,58nm,1.0s
L29M IAMs_20 IAMs_20 05 04 49.0
comp=Z,457nm,21.0s
L29M L29M 86.09 4 P **P** **04 20 54.9 +0.7**
baz=352,SNR=46
M22K Willow 86.12 10 IAMs_20 IAMs_20 05 05 59.7
comp=Z,528nm,20.0s
M22K Willow 86.12 10 P **P** **04 20 54.2 0.0**
baz=342,SNR=13
N18K Kilae Creek 86.13 13 IAmb IAmb 04 20 56.7
comp=Z,30nm,0.9s
N18K IAMs_20 IAMs_20 05 04 43.9
comp=Z,549nm,22.0s
N18K Kilae Creek 86.13 13 P **P** **04 20 55.2 +0.8**

baz=337,SNR=10.0
HARP HAARP 86.16 8 P **P** **04 20 55.4 +0.9**
baz=346,SNR=16
WRGLY Wrigley 86.20 358 P **P** **04 20 55.9 +1.2**
baz=4.4,SNR=50
F64A Sherman 86.23 323 IAmb IAmb 04 20 59.0
comp=Z,47nm,1.4s
FITZ Fitzroy Crossi 86.23 113 P **P** **04 20 55.5 0.0**
FITZ Fitzroy Crossi 86.23 113 P **P** **04 20 54.9 -0.6**
P08K Saint George I 86.24 21 P **P** **04 20 54.8 -0.1**
baz=326
O14K Tigyukauivet M 86.25 16 IAmb IAmb 04 20 57.1
comp=Z,24nm,0.9s
O14K Tigyukauivet M 86.25 16 P **P** **04 20 55.3 +0.3**
baz=332
FCC Fort Churchill 86.26 343 IAmb IAmb 04 20 56.6
comp=Z,32nm,1.0s
N19K Bonanza Creek 86.28 12 P **P** **04 20 55.6 +0.4**
baz=338,SNR=17
SUA Susitna One 86.30 10 IAMs_20 IAMs_20 05 03 46.4
comp=Z,485nm,22.0s
SUA Susitna One 86.30 10 P **P** **04 20 55.5 +0.2**
baz=341,SNR=24
N20K Mount Spurr 86.31 11 P **P** **04 20 53.9 -1.4**
baz=340
M24K Tolsona, Glenn 86.32 8 P **P** **04 20 56.6 +1.3**
baz=345,SNR=18
SML Sawmill 86.33 9 IAMs_20 IAMs_20 05 05 35.2
comp=Z,483nm,18.0s
SML Sawmill 86.33 9 P **P** **04 20 55.6 +0.2**
baz=343,SNR=16
E62A Clayton Lake 86.33 324 IAmb IAmb 04 20 59.0
comp=Z,62nm,1.9s
YKA Yellowknife Ar 86.35 354 P **P** **04 20 56.0 +0.6**
YKA Yellowknife Ar 86.35 354 P **P** **04 20 55.6 +0.2**
comp=Z,24nm,0.9s,baz=3.6,slow=5.8,SNR=294
YKA PKKPbc **PKKPbc 04 38 50.4 -3.1**
comp=Z,0.3nm,0.6s,baz=199,slow=1.8,SNR=8.3
YKA LR LR 05 05 48.6
comp=Z,340nm,19.4s,baz=5.0,slow=40
comp=Z,24nm,0.9s
YKA Yellowknife Ar 86.35 354*ce*P **P** **04 20 55.5 +0.1**
YKA pmax pmax
comp=Z,26nm,0.9s
M26K Nabesna, AK 86.39 7 IAmb IAmb 04 20 57.8
comp=Z,33nm,0.9s
M26K Nabesna, AK 86.39 7 P **P** **04 20 56.5 +0.8**
baz=348,SNR=20
PMR Palmer 86.42 10 P **P** **04 20 56.4 +0.7**
PMR Palmer 86.42 10 IAmb IAmb 04 20 57.2
comp=Z,35nm,0.9s
PMR Palmer 86.42 10 P **P** **04 20 55.7 -0.1**
baz=342,SNR=16
M23K Glacier View 86.43 9 P **P** **04 20 55.9 +0.1**
baz=344,SNR=11
SCM Sheep Creek Mo 86.44 9 IAmb IAmb 04 21 07.7
comp=Z,46nm,1.0s
SCM IAMs_20 IAMs_20 05 02 33.1
comp=Z,627nm,22.0s
SCM Sheep Creek Mo 86.44 9 P **P** **04 20 55.9 -0.1**
baz=344,SNR=7.0
M27K Edge Creek, AK 86.54 6 IAMs_20 IAMs_20 05 04 50.8
comp=Z,423nm,20.0s
M27K Edge Creek, AK 86.54 6 P **P** **04 20 57.4 +0.8**
baz=348,SNR=35
O15K Ungalikthiuk R 86.66 16 P **P** **04 20 57.5 +0.5**
baz=333,SNR=5.7
O16K Kokwok River B 86.67 15 IAmb IAmb 04 20 59.2
comp=Z,29nm,1.1s
O16K IAMs_20 IAMs_20 05 07 13.3
comp=Z,591nm,20.0s
O16K Kokwok River B 86.67 15 P **P** **04 20 57.4 +0.4**
baz=335,SNR=8.4
KNK Knik Glacier 86.69 9 IAmb IAmb 04 20 58.9
comp=Z,37nm,0.8s
KNK IAMs_20 IAMs_20 05 05 46.7
comp=Z,462nm,22.0s
KNK Knik Glacier 86.69 9 P **P** **04 20 57.5 +0.4**
baz=343,SNR=11
O17K Koliganek Bris 86.72 14 P **P** **04 20 58.1 +0.8**
baz=336,SNR=9.4
M29M Somme Creek 86.73 5 IAmb IAmb 04 20 59.7
comp=Z,30nm,1.0s
M29M IAMs_20 IAMs_20 05 04 56.8
comp=Z,471nm,21.0s
M29M Somme Creek 86.73 5 P **P** **04 20 58.5 +1.0**
baz=351,SNR=19
RC01 Rabbit Creek A 86.81 10 IAMs_20 IAMs_20 05 06 21.0
comp=Z,540nm,20.0s
RC01 Rabbit Creek A 86.81 10 P **P** **04 20 57.6 -0.1**
baz=342,SNR=5.9
KLU Klutina 86.95 8 IAMs_20 IAMs_20 05 06 53.6
comp=Z,482nm,21.0s
KLU Klutina 86.95 8 P **P** **04 20 59.6 +1.1**
baz=345,SNR=25
N25K Chitina, Valde 87.00 8 IAmb IAmb 04 21 03.7
comp=Z,39nm,1.4s
N25K IAMs_20 IAMs_20 05 07 32.8
comp=Z,483nm,20.0s
N25K Chitina, Valde 87.00 8 P **P** **04 20 59.1 +0.4**
baz=346
O18K Koktuh Hills 87.03 13 IAMs_20 IAMs_20 05 05 32.6
comp=Z,668nm,22.0s
O18K Koktuh Hills 87.03 13 P **P** **04 20 59.3 +0.5**
baz=337,SNR=5.6
PKME Peaks-Kenny Pk 87.12 323 IAMs_20 IAMs_20 05 00 33.7
comp=Z,568nm,21.0s
PKME Peaks-Kenny Pk 87.12 323 P **P** **04 21 00.8 +1.3**
baz=48
M31M Drury Creek, Y 87.20 3 IAmb IAmb 04 21 01.3
comp=Z,29nm,0.9s
M31M Drury Creek, Y 87.20 3 P **P** **04 21 00.3 +0.7**
baz=355,SNR=21
P16K Nushagak River 87.20 15 P **P** **04 21 00.2 +0.6**
baz=335
FARO Faro, Yukon 87.21 2 IAmb IAmb 04 21 01.7
comp=Z,34nm,1.0s
FARO Faro, Yukon 87.21 2 P **P** **04 21 00.5 +0.8**
baz=356,SNR=34
YUK3 Moose Creek 87.24 6 P **P** **04 21 01.1 +1.1**
baz=350,SNR=24
GLB Gilahina Butte 87.24 7 IAMs_20 IAMs_20 05 05 45.4
comp=Z,505nm,22.0s
O20K Slope Mountain 87.30 12 P **P** **04 21 01.6 +1.4**
baz=339
MCARA McCarthy VSAT 87.39 7 P **P** **04 21 00.9 +0.4**
baz=348,SNR=8.4
P17K Kvichak River 87.39 14 P **P** **04 21 01.4 +0.9**
baz=336
GLI Glacier Island 87.39 9 IAMs_20 IAMs_20 05 05 16.3
comp=Z,540nm,20.0s
GLI Glacier Island 87.39 9 P **P** **04 21 00.4 -0.1**
baz=344
O22K Cooper Landing 87.39 10 IAMs_20 IAMs_20 05 06 41.3
comp=Z,531nm,19.0s
O22K Cooper Landing 87.39 10 P **P** **04 21 00.8 +0.3**
baz=342
KNRA Kununurra 87.41 110 P **P** **04 21 00.8 -0.5**
KNRA Kununurra 87.41 110 IAmb IAmb 04 21 04.7
comp=Z,18nm,0.8s
DRS Darwin Rock St 87.42 106 P **P** **04 21 01.3 -0.1**
P18K Big Mountain, 87.45 13 IAMs_20 IAMs_20 05 02 07.8
comp=Z,441nm,22.0s
P18K Big Mountain, 87.45 13 P **P** **04 21 00.4 -0.5**
baz=337
VRDI Verde Repeater 87.49 7 IAmb IAmb 04 21 02.9
comp=Z,21nm,1.0s
VRDI IAMs_20 IAMs_20 05 06 02.9
comp=Z,480nm,22.0s
P19K Oil Pt 87.59 12 P **P** **04 21 02.6 +1.0**
baz=339
FID Port Fidalgo 87.60 9 IAMs_20 IAMs_20 05 07 19.9
comp=Z,556nm,20.0s
BMRM Bremner River 87.62 8 P **P** **04 21 01.9 +0.2**
baz=346,SNR=6.5
YUK8 Steele Glacier 87.78 5 P **P** **04 21 03.4 +0.7**
baz=350
SEW Seward 87.80 10 P **P** **04 21 03.0 +0.5**
baz=342,SNR=6.2
G62A West of Eustis 87.80 323 IAmb IAmb 04 21 04.6
comp=Z,23nm,0.8s
N30M Aishikik Lake 87.80 4 IAmb IAmb 04 21 04.3
comp=Z,18nm,0.9s
N30M Aishikik Lake 87.80 4 P **P** **04 21 02.9 +0.3**
baz=353,SNR=9.1
YUK4 Talbot Arm 87.81 5 P **P** **04 21 03.3 +0.6**
baz=351,SNR=30
Q16K King Salmon 87.82 14 P **P** **04 21 02.8 +0.2**
baz=336
MTN Manton Dam 87.83 106 P **P** **04 21 03.5 +0.1**
BARN Barnard Glacie 87.84 6 IAMs_20 IAMs_20 05 05 32.1
comp=Z,414nm,20.0s
N31M Braeburn, Yuko 87.85 3 IAmb IAmb 04 21 04.1
comp=Z,26nm,1.0s
N31M IAMs_20 IAMs_20 05 05 27.3
comp=Z,423nm,21.0s
N31M Braeburn, Yuko 87.85 3 P **P** **04 21 02.8 0.0**
baz=354,SNR=7.9
EYAK Cordova Ski Ar 87.89 8 P **P** **04 21 03.8 +0.9**
baz=345
BRLK Bradley Lake 87.89 11 IAmb IAmb 04 21 04.1
comp=Z,38nm,1.0s
BRSE Bradley Lake S 87.94 11 P **P** **04 21 02.9 -0.3**
baz=341
HIN Hinchinbrook I 87.94 9 IAMs_20 IAMs_20 05 05 35.7
comp=Z,472nm,18.0s
CTG Chitna Glacier 87.96 6 P **P** **04 21 04.1 +0.6**
baz=349,SNR=9.5
CTGM Chitina Glacie 87.96 6 IAMs_20 IAMs_20 05 05 37.3
comp=Z,418nm,19.0s
TGTN Hyland Airport 88.00 360 P **P** **04 21 05.1 +1.6**
baz=0.2,SNR=47
LOGN Logan Glacier 88.13 6 IAMs_20 IAMs_20 05 05 50.8
comp=Z,431nm,21.0s
RAGM Ragged Mountai 88.17 8 IAMs_20 IAMs_20 05 06 06.0
comp=Z,560nm,20.0s
Q19K Cape Douglas, 88.19 13 IAMs_20 IAMs_20 05 05 55.3
comp=Z,692nm,21.0s
Q19K Cape Douglas, 88.19 13 P **P** **04 21 06.5 +2.0**
baz=339
P23K Montague Islan 88.20 9 P **P** **04 21 04.6 +0.2**
baz=344
ISLE Juniper Island 88.22 7 IAMs_20 IAMs_20 05 06 28.2
comp=Z,434nm,21.0s
YUK6 Outpost Mounta 88.23 5 P **P** **04 21 05.3 +0.5**
baz=352
O28M Mount Upton 88.25 6 P **P** **04 21 05.6 +0.6**
baz=350
BERG Berg Lake 88.28 7 IAMs_20 IAMs_20 05 07 08.8
comp=Z,619nm,20.0s
N32M Quiet Lake 88.30 2 IAmb IAmb 04 21 16.4
comp=Z,30nm,0.9s
N32M Quiet Lake 88.30 2 P **P** **04 21 04.9 0.0**
baz=356
Q17K Contact Creek 88.36 14 P **P** **04 21 05.2 -0.1**
baz=337
HYT Haines Junctio 88.41 4 P **P** **04 21 06.9 +1.4**
baz=352,SNR=20
O30N Mendenhall 88.55 4 IAmb IAmb 04 21 07.6
comp=Z,21nm,0.9s
O30N Mendenhall 88.55 4 P **P** **04 21 06.1 0.0**
baz=354,SNR=9.1
SMPI Sarmi 88.65 93 P **P** **04 21 07.6 +0.3**
comp=Z,47nm,1.4s,comp=Z,3µm
KAIM Kayak Island 88.65 8 P **P** **04 21 06.7 +0.2**
baz=346
MESA MESA 88.68 7 P **P** **04 21 07.7 +0.8**
baz=348
WHY Whitehorse 88.72 3 IAmb IAmb 04 21 12.1
comp=Z,28nm,1.4s
WHY Whitehorse 88.72 3 P **P** **04 21 06.6 -0.4**
baz=354
NWAO Narrogin (SRO) 88.79 130 LR LR 04 58 41.7
comp=Z,208nm,18.8s,baz=250,slow=34
KDU Kakadu 88.86 105 P **P** **04 21 07.7 -0.5**
BCPM Bancas Point 89.11 6 IAMs_20 IAMs_20 05 06 27.7
comp=Z,461nm,20.0s
P30M Million Dollar 89.14 4 P **P** **04 21 09.6 +0.7**
baz=353
LBNH Lisbon 89.19 323 IAmb IAmb 04 21 13.5
comp=Z,23nm,1.0s
LBNH Lisbon 89.19 323 P **P** **04 21 09.4 0.0**
baz=46
S12K Black Hills 89.19 18 P **P** **04 21 10.0 +0.8**
baz=332
P33M Teslin, Yukon 89.25 2 IAmb IAmb 04 21 14.1
comp=Z,86nm,1.9s
P33M Teslin, Yukon 89.25 2 P **P** **04 21 09.6 +0.1**
baz=356,SNR=13
KOTAN Kotaneelee Air 89.32 358 P **P** **04 21 10.5 +0.8**
baz=3.8,SNR=7.4
S14K Fog Glacier 89.32 17 P **P** **04 21 10.6 +0.7**
baz=334
PNL Peninsula 89.41 5 P **P** **04 21 10.8 +0.6**
baz=351
WTLY Watson Lake, Y 89.41 0 P **P** **04 21 11.1 +0.9**
baz=360
KDAK Kodiak Island 89.46 13 P **P** **04 21 11.0 +0.7**
KDAK Kodiak Island 89.46 13 P **P** **04 21 10.9 +0.6**
baz=340
KDAK Kodiak Island 89.46 13 LR LR 05 06 57.7
comp=Z,577nm,20.9s,baz=356,slow=39
KDAK Kodiak Island 89.46 13 P **P** **04 21 11.0 +0.7**
KDAK pmax pmax
comp=Z,110nm,1.7s
NIKH Nikolski High 89.48 23 P **P** **04 21 10.7 +0.2**
baz=326
P29M Windy Craggy 89.58 5 IAMs_20 IAMs_20 05 05 23.0
comp=Z,346nm,18.0s
P29M Windy Craggy 89.58 5 P **P** **04 21 11.1 +0.2**
baz=352
CHGN Chignik 89.58 16 P **P** **04 21 10.3 -0.7**
baz=335
P32M Atlin 89.84 3 P **P** **04 21 12.3 +0.2**
baz=356
PLBC Pleasant Camp 89.84 4 P **P** **04 21 11.9 -0.2**
baz=353
OHAK Old Harbor 89.85 13 P **P** **04 21 12.0 -0.2**
baz=339
SKAG Skagway 89.89 3 P **P** **04 21 12.9 +0.6**
baz=354
SDPT Sand Point 89.93 18 P **P** **04 21 11.7 -0.9**
baz=333
R33M Jennings River 90.11 1 P **P** **04 21 13.4 -0.2**
baz=358,SNR=5.3
HRV Adam Dziewonsk 90.20 322 P **P** **04 21 14.5 +0.3**
baz=46
GENI Genyem 90.20 93 P **P** **04 21 16.1 +1.5**
LONY Lake Ozonia 90.27 325 IAmb IAmb 04 21 15.5
comp=Z,17nm,0.9s
LONY Lake Ozonia 90.27 325 P **P** **04 21 14.3 -0.1**
baz=44
CHNA Chernabura Isl 90.62 17 P **P** **04 21 15.4 -0.4**
baz=334
TOAD Toad River Com 90.64 358 P **P** **04 21 16.3 +0.4**
baz=2.8,SNR=12
RCBR Riachuelo 90.68 264 IAMs_20 IAMs_20 05 00 52.6
comp=Z,534nm,19.0s
RCBR Riachuelo 90.68 264 LR LR 05 01 52.3
comp=Z,224nm,18.8s,baz=62,slow=36
KMBL Kambalda 91.00 126 P **P** **04 21 17.3 -0.6**
J59A Piesco 91.06 324 IAmb IAmb 04 21 22.7
comp=Z,50nm,1.7s
DLBC Dease Lake 91.09 1 IAmb IAmb 04 21 24.0
comp=Z,65nm,1.6s
DLBC Dease Lake 91.09 1 P **P** **04 21 19.2 +1.1**
baz=359,SNR=9.1
DLBC Dease Lake 91.09 1 LR LR 05 07 44.2
comp=Z,259nm,21.6s,baz=334,slow=39
R32K Eaglecrest 91.12 3 P **P** **04 21 18.1 0.0**
baz=355
JIS Juneau Island 91.12 3 IAMs_20 IAMs_20 05 10 00.9
comp=Z,429nm,20.0s
S34M Telegraph Cree 91.59 1 IAmb IAmb 04 21 25.4
comp=Z,39nm,1.5s
S34M IAMs_20 IAMs_20 05 07 52.4
comp=Z,461nm,20.0s
S34M Telegraph Cree 91.59 1 P **P** **04 21 20.7 +0.4**
baz=358
YLE Yale 91.77 322 IAMs_20 IAMs_20 05 03 02.4
comp=Z,371nm,22.0s
FFC Flin Flon 91.79 345 P **P** **04 21 23.3 +2.0**
FFC IAmb IAmb 04 21 25.8
comp=Z,23nm,1.4s
FFC Flin Flon 91.79 345 P **P** **04 21 23.3 +2.0**
FFC pmax pmax
comp=Z,23nm,1.4s
S32K Killisnoo 91.92 3 P **P** **04 21 22.1 +0.3**
baz=355
NBCL Cascavel-CE 91.92 266 *e*P **P** **04 21 22.4 -0.2**
WRKA Warakurna 92.11 118 P **P** **04 21 22.4 -0.8**
SADO Sadowa 92.36 327 LR LR 05 05 26.4
comp=Z,274nm,18.6s,baz=74,slow=37
J56A Wolcott 92.38 325 IAmb IAmb 04 21 24.9
comp=Z,23nm,1.0s
T35M Bob Quinn 92.54 1 IAmb IAmb 04 21 26.7
comp=Z,16nm,1.2s
T35M IAMs_20 IAMs_20 04 58 42.5
comp=Z,346nm,20.0s
T35M Bob Quinn 92.54 1 P **P** **04 21 24.5 -0.3**
baz=358
K57A Scipio Center 92.61 324 IAmb IAmb 04 21 29.4
comp=Z,25nm,1.2s
BINY Binghamton 92.73 324 IAmb IAmb 04 21 26.1
comp=Z,21nm,1.2s
BINY Binghamton 92.73 324 P **P** **04 21 25.8 -0.1**
baz=43
J55A Hilton 92.86 326 IAmb IAmb 04 21 27.0
comp=Z,16nm,0.8s
WRAK Wrangell Islan 93.06 2 P **P** **04 21 27.5 +0.4**
baz=357
KSPA Keystone Colle 93.09 323 IAmb IAmb 04 22 33.8
comp=Z,36nm,1.8s
U33K Whale Pass 93.34 3 P **P** **04 21 28.3 0.0**
baz=356
E46A Sault Ste Mari 93.39 331 IAmb IAmb 04 21 29.8
comp=Z,21nm,0.9s
L56A Greenwood 93.57 325 IAmb IAmb 04 21 30.9
comp=Z,23nm,0.8s
U35K Hyder 93.61 1 IAMs_20 IAMs_20 05 08 01.8
comp=Z,391nm,20.0s
WVNY West Valley, N 93.88 325 IAmb IAmb 04 21 31.9
comp=Z,25nm,1.1s
M57A Sunshine Farm, 93.94 324 IAmb IAmb 04 21 32.2
comp=Z,17nm,1.1s
CRAG Craig 93.98 3 P **P** **04 21 31.5 +0.2**
baz=356
WRA Warramunga Arr 94.16 111 P **P** **04 21 31.6 -1.1**
WRA Warramunga Arr 94.16 111 P **P** **04 21 31.1 -1.6**
comp=Z,3.8nm,0.9s,baz=313,slow=4.2,SNR=17
WRA PKKP **PKKPbc 04 38 33.6 +0.1**
comp=Z,1.0nm,0.7s,baz=116,slow=2.6,SNR=17
comp=Z,3.8nm,0.9s
WRA Warramunga Arr 94.16 111 P **P** **04 21 31.6 -1.1**
V35K Ketchikan 94.17 2 IAMs_20 IAMs_20 04 57 20.6
comp=Z,452nm,22.0s
V35K Ketchikan 94.17 2 P **P** **04 21 32.8 +0.6**
baz=357
ULM Lac du Bonnet 94.26 340 P **P** **04 21 31.8 -1.0**
comp=Z,6.1nm,0.7s,baz=40,slow=4.6,SNR=16
ULM LR LR 05 05 52.1
comp=Z,335nm,20.3s,baz=39,slow=37
comp=Z,6.1nm,0.7s
M55A Ridgway 94.67 325 IAmb IAmb 04 21 35.5
comp=Z,28nm,0.9s
ERPA Erie 94.77 326 IAMs_20 IAMs_20 05 05 56.8
comp=Z,339nm,20.0s
ERPA Erie 94.77 326 P **P** **04 21 35.2 -0.1**
baz=40
EYMN Ely 94.84 336 IAMs_20 IAMs_20 05 08 13.1
comp=Z,554nm,22.0s
EYMN Ely 94.84 336 P **P** **04 21 35.8 +0.3**
baz=31
SSPA Standing Stone 94.85 324 P **P** **04 21 36.2 +0.5**
SSPA IAmb IAmb 04 21 40.4
comp=Z,17nm,1.1s
SSPA Standing Stone 94.85 324 P **P** **04 21 35.8 +0.1**
baz=42
BRLDA Berland Lookou 94.90 353 IAmb IAmb 04 21 37.6
comp=Z,20nm,0.9s
COWI Conover 95.54 334 IAMs_20 IAMs_20 05 06 43.7
comp=Z,481nm,21.0s
M53A WI Miller and 95.62 326 IAMs_20 IAMs_20 05 05 49.3
comp=Z,350nm,21.0s
ASAR Alice Springs 95.72 114 P **P** **04 21 38.9 -1.0**
ASAR Alice Springs 95.72 114 P **P** **04 21 38.5 -1.3**
comp=Z,3.4nm,1.1s,baz=304,slow=4.5,SNR=11
comp=Z,3.4nm,1.1s
ASAR Alice Springs 95.72 114 P **P** **04 21 38.9 -1.0**
AGMN Agassiz Nation 95.98 339 IAMs_20 IAMs_20 05 06 14.1
comp=Z,422nm,21.0s
AGMN Agassiz Nation 95.98 339 P **P** **04 21 40.9 +0.3**
baz=28
AAM Ann Arbor 96.34 328 IAMs_20 IAMs_20 05 06 27.3
comp=Z,404nm,22.0s
MCWV Mont Chateau 96.57 324 P **P** **04 21 44.7 +1.2**
baz=40
O53A New Philadelph 96.80 325 IAmb IAmb 04 21 45.2
comp=Z,7.2nm,0.8s
O53A New Philadelph 96.80 325 P **P** **04 21 44.6 0.0**
baz=40
O52A Adamsville 97.20 326 IAmb IAmb 04 21 46.8
comp=Z,10nm,0.8s
BBB Bella Bella 97.36 360 LR LR 05 14 18.5
comp=Z,174nm,20.3s,baz=0.5,slow=41
P53A Whipple 97.47 325 IAmb IAmb 04 21 48.5
comp=Z,14nm,0.9s
MDND Maddock 97.50 341 P Pdif 04 21 47.3 -0.4
baz=25
SPMN Marine on St. 97.64 335 P Pdif 04 21 47.5 -0.8
baz=30
ACSO Alum Creek Sta 97.66 327 IAMs_20 IAMs_20 05 08 30.2
comp=Z,329nm,21.0s
ACSO Alum Creek Sta 97.66 327 P Pdif 04 21 48.9 +0.4
baz=38
P52A Corning 97.72 326 IAmb IAmb 04 21 49.0
comp=Z,12nm,0.8s
P52A IAMs_20 IAMs_20 05 08 30.9
comp=Z,379nm,21.0s
P52A Corning 97.72 326 P Pdif 04 21 47.5 -1.2
baz=39
DGMT Dagmar 98.12 344 IAMs_20 IAMs_20 05 11 27.5
comp=Z,344nm,20.0s
DGMT Dagmar 98.12 344 P Pdif 04 21 50.3 -0.2
baz=21
L44A Lake County Fo 98.30 331 IAMs_20 IAMs_20 04 55 00.0
comp=Z,562nm,22.0s
Q52A Bidwell 98.31 325 IAmb IAmb 04 21 51.9
comp=Z,12nm,0.9s
O49A Covington 98.33 327 IAmb IAmb 04 21 56.2
comp=Z,8.6nm,1.0s
MAW Mawson 98.48 176 P Pdif 04 21 50.9 -0.3
comp=Z,3.5nm,0.8s,baz=28,slow=22,SNR=4.1
MAW LR LR 05 00 38.6
comp=Z,268nm,20.7s,baz=344,slow=32
comp=Z,3.5nm,0.8s
HQIL Hanson Quary C 98.59 330 IAMs_20 IAMs_20 05 08 46.6
comp=Z,419nm,20.0s
JFWS Jewell Farm 98.64 333 IAMs_20 IAMs_20 05 08 13.9
comp=Z,506nm,20.0s
JFWS Jewell Farm 98.64 333 P Pdif 04 21 53.2 +0.3
baz=33
O48B Farmland 98.65 328 IAMs_20 IAMs_20 05 07 26.4
comp=Z,408nm,22.0s
QIS Mount Isa 98.73 109 P Pdif 04 21 53.5 0.0
MDP Montagnes des 99.42 282 LR LR 05 08 13.5
comp=Z,265nm,20.7s,baz=82,slow=36
PMG Port Moresby 99.62 95 LR LR 05 14 29.4
comp=Z,67nm,18.9s,baz=260,slow=40
EGMT Eagleton 99.73 347 IAMs_20 IAMs_20 05 09 49.0
comp=Z,454nm,22.0s
EGMT Eagleton 99.73 347 P **Pdif** **04 21 57.4 -0.3**
baz=16
ECSD EROS Data Cent 100.27 337 P **Pdif** **04 21 59.4 -0.6**
baz=28
LAO LASA Array 100.27 345 IAMs_20 IAMs_20 05 09 20.3
comp=Z,357nm,20.0s
LAO LASA Array 100.27 345 P **Pdif** **04 22 00.0 0.0**
baz=19
NEW Newport 100.62 352 IAMs_20 IAMs_20 05 11 20.4
comp=Z,380nm,21.0s
NEW Newport 100.62 352 P **Pdif** **04 22 01.5 0.0**
baz=9.9
SCIA State Center 100.65 334 IAMs_20 IAMs_20 05 10 13.0
comp=Z,409nm,22.0s
WCI Wyandotte Cave 100.81 327 IAMs_20 IAMs_20 05 09 03.5
comp=Z,417nm,21.0s
TZTN Tazewell 100.83 325 IAMs_20 IAMs_20 05 08 55.2
comp=Z,406nm,21.0s
TZTN Tazewell 100.83 325 P **Pdif** **04 22 02.5 -0.2**
baz=38
MSO Missoula 101.61 350 IAMs_20 IAMs_20 05 13 46.4
comp=Z,514nm,20.0s
RSSD Black Hills 102.14 342 P **Pdif** **04 22 08.1 -0.5**
baz=21
BOZ Bozeman (W) 102.42 348 IAMs_20 IAMs_20 05 12 53.0
comp=Z,499nm,21.0s
RLMT Red Lodge 102.42 346 IAMs_20 IAMs_20 05 16 39.1
comp=Z,441nm,21.0s
RLMT Red Lodge 102.42 346 P **Pdif** **04 22 07.5 -2.4**
baz=17
CCM Cathedral Cave 103.15 331 IAMs_20 IAMs_20 05 11 52.2
comp=Z,402nm,21.0s
CCM Cathedral Cave 103.15 331 P **Pdif** **04 22 11.6 -1.4**

baz=32
WVT Waverly 103.23 327 IAMs_20 IAMs_20 05 11 20.5
comp=Z,292nm,19.0s
GOGA Godfrey 103.23 323 IAMs_20 IAMs_20 05 12 01.0
comp=Z,325nm,20.0s
PLID Pearl Lake 103.61 351 IAMs_20 IAMs_20 05 14 19.4
comp=Z,392nm,20.0s
FLWY Flagg Ranch 103.70 347 IAMs_20 IAMs_20 05 11 54.1
comp=Z,521nm,22.0s
IMW Indian Meadow 103.93 347 IAMs_20 IAMs_20 05 08 07.2
comp=Z,339nm,21.0s
BMO Blue Mountains 104.01 352 IAMs_20 IAMs_20 05 16 57.9
comp=Z,348nm,22.0s
MOOW Moose Ponds 104.03 347 IAMs_20 IAMs_20 05 12 39.8
comp=Z,410nm,22.0s
LOHW Long Hollow 104.14 347 IAMs_20 IAMs_20 05 16 09.6
comp=Z,403nm,20.0s
PLAL Pickwick Lake 104.28 327 IAMs_20 IAMs_20 05 12 07.4
comp=Z,407nm,19.0s
TPAW Teton Pass 104.32 347 IAMs_20 IAMs_20 05 12 48.5
comp=Z,340nm,21.0s
PDAR Pinedale Array 104.73 346 PKKP **PKKPdf 04 38 17.1 +4.4**
comp=Z,0.7nm,1.0s,baz=188,slow=3.6,SNR=2.2
AHID Auburn Hatcher 105.05 347 IAMs_20 IAMs_20 05 12 35.7
comp=Z,549nm,22.0s
MFID Camas Ranch 105.22 350 IAMs_20 IAMs_20 05 11 08.1
comp=Z,415nm,22.0s
OXF Oxford 105.29 327 IAMs_20 IAMs_20 05 11 19.1
comp=Z,348nm,22.0s
BRIGG Briggsdale 105.51 341 IAMs_20 IAMs_20 05 16 48.1
comp=Z,447nm,19.0s
BDFB Brasilia 105.84 261 PP **PP 04 26 49.1 +0.5**
comp=Z,2.8nm,0.8s,baz=41,slow=15,SNR=6.2
DWPF Disney Wildern 106.16 318 P **PKiKP 04 26 36.4 -2.0**
baz=41
HWUT Hardware Ranch 106.26 347 IAMs_20 IAMs_20 05 13 24.7
comp=Z,509nm,22.0s
MIAR Mount Ida 107.12 330 IAMs_20 IAMs_20 05 15 18.3
comp=Z,353nm,21.0s
OK029 Liberty Lake 107.59 334 IAMs_20 IAMs_20 05 12 15.7
comp=Z,422nm,19.0s
SDCO Great Sand Dun 108.48 341 IAMs_20 IAMs_20 05 19 50.8
comp=Z,357nm,20.0s
ORV Oroville 109.69 354 IAMs_20 IAMs_20 05 12 40.2
comp=Z,324nm,22.0s
NVAR Mina Array Bea 110.46 351 PKiKP **PKiKP 04 26 46.9 +0.5**
comp=Z,1.3nm,0.8s,baz=35,slow=0.5,SNR=9.0
NVAR PKKPbc **PKKPbc 04 37 46.3 -0.1**
comp=Z,0.9nm,0.7s,baz=199,slow=5.7,SNR=7.0
ANMO Albuquerque 111.37 341 IAMs_20 IAMs_20 05 22 04.2
comp=Z,408nm,20.0s
JCT Junction City 113.21 333 IAMs_20 IAMs_20 05 15 24.4
comp=Z,351nm,22.0s
MNTX Cornudas Mount 114.07 338 P PKPdf 04 26 53.0 -0.2
baz=22
EPT El Paso 114.35 339 IAMs_20 IAMs_20 05 17 40.2
comp=Z,381nm,20.0s
TXAR Lajitas Array 115.67 336 PKP **PKPdf 04 26 56.2 -0.3**
comp=Z,1.0nm,0.8s,baz=118,slow=2.1,SNR=11
TXAR PKKPbc **PKKPbc 04 37 27.4 -1.3**
comp=Z,0.3nm,0.9s,baz=192,slow=8.3,SNR=2.7
TEIG Tepich 116.19 317 IAMs_20 IAMs_20 05 17 30.6
comp=Z,316nm,20.0s
SIV San Ignacio 117.17 267 PKP **PKiKP 04 26 58.9 -0.5**
comp=Z,1.2nm,0.7s,baz=119,slow=5.9,SNR=5.7
SIV PP **PP 04 28 07.9 -1.9**
comp=Z,3.2nm,0.9s,baz=63,slow=7.7,SNR=8.2
BBSD Serra de San D 117.30 266 *e*P **PKiKP 04 26 59.0 -0.7**
CPUP Villa Florida 118.26 255 PKP **PKiKP 04 27 00.1 -1.1**
comp=Z,1.6nm,0.7s,baz=46,slow=5.5,SNR=5.5
QSPA South Pole Qui 120.64 180 PKPdf **PKiKP 04 27 04.5 -0.3**
QSPA South Pole Qui 120.64 180 PKP **PKiKP 04 27 03.6 -1.2**
comp=Z,12nm,0.7s,baz=270,slow=1.4,SNR=35
QSPA PKKPbc **PKKPbc 04 37 10.8 -1.0**
comp=Z,2.3nm,0.7s,baz=146,slow=0.3,SNR=13
SNET Serv Nac Est T 121.82 314 IAMs_20 IAMs_20 05 21 04.0
comp=Z,318nm,19.0s
DZM Mont Dzumac 121.84 98 *e*LR LR 05 04 38.3
comp=Z,539nm,24.6s
LPAZ La Paz 123.37 270 PKP **PKiKP 04 27 11.4 -0.9**
comp=Z,2.2nm,0.8s,baz=348,slow=2.0,SNR=12
LPAZ PP **PP 04 28 51.1 -2.0**
comp=Z,2.3nm,1.0s,baz=30,slow=7.1,SNR=4.4
VNDA Vanda 124.24 166 PKPdf **PKiKP 04 27 11.7 +0.2**
VNDA Vanda 124.24 166 PKP **PKiKP 04 27 10.5 -1.0**
comp=Z,2.1nm,0.8s,baz=310,slow=3.9,SNR=8.3
VNDA Vanda 124.24 166 PKIKP **PKiKP 04 27 11.7 +0.2**
SBA Scott Base 125.17 166 PKPdf **PKiKP 04 27 14.2 +0.9**
SBA Scott Base 125.17 166 PKIKP **PKiKP 04 27 14.3 +0.9**
TRQA Tornquist 125.66 243 PKPdf **PKiKP 04 27 15.4 -0.1**
TRQA Tornquist 125.66 243 PKIKP **PKiKP 04 27 15.4 -0.1**
LVC Limon Verde 126.64 264 PKP **PKiKP 04 27 17.9 -0.4**
comp=Z,4.4nm,0.8s,baz=45,slow=4.3,SNR=4.0
LCO Las Campanas 130.32 257 PKPdf **PKiKP 04 27 24.9 -0.5**
LCO Las Campanas 130.32 257 PKIKP **PKiKP 04 27 24.9 -0.5**
PLCA Paso Flores 132.67 241 PKP **PKiKP 04 27 28.8 -0.8**
comp=Z,3.3nm,0.7s,baz=36,slow=4.1,SNR=8.8
GO06 Curarrehue 133.23 243 PKPdf **PKiKP 04 27 29.9 -0.9**
LL02 Futaleuf 133.87 238 PKPdf **PKiKP 04 27 30.9 -1.0**
TAOE Nuku Hiva Isla 155.62 29 *e*SS SS 04 51 57.8 +1.9
comp=Z,126nm,26.3s
TAOE Nuku Hiva Isla 155.62 29 *e*LR LR 05 20 15.2
comp=Z,559nm,26.2s
PPT2 Papeete2 156.79 60 *e*LR LR 05 20 44.1
PPT2 *e*LR LR 05 20 56.0
comp=Z,641nm,23.5s
comp=Z,553nm,24.2s
TBI Tubuai 159.97 73 *e*LR LR 05 22 14.9
comp=Z,1μm,23.2s

GII 02 04:11:18.3±0.1, 33.17N±0.01×35.69E±0.01, h8km, Mws1.3, confirmed, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.05**	**331**	P	Sg	04 11 22.7	+1.4
GEM	**Giv'at Ha'Em**	**0.05**	**331**	S	Sg	04 11 21.8	+0.5
GEM	**Giv'at Ha'Em**	**0.05**	**331**	P	Pg	04 11 20.3	+0.3
NATI	**Neve Ativ**	**0.10**	**21**	S	Sg	04 11 23.1	+0.7
NATI	**Neve Ativ**	**0.10**	**21**	P	Pg	04 11 21.0	+0.3
MMA0B	**Mount Meron ar**	**0.29**	**238**	P	Pg	04 11 24.1	+0.2

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*NEIC **02** 04:30:05.1±1.2, 19.34N±0.02×154.80W±0.04, h5km±2km, Error ellipse: s-maj=6.7km s-min=3.2km az=282.0*
HVO 02 04:30:07.5±0.9, 19.47N±0.07×154.96W±0.03, h5km±8km, ML2.5/3, ML2.3/12(NEIC), Error ellipse: s-maj=10.8km s-min=2.5km az=164.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**83**		Pg	04 30 09.6	+0.5
PUH	**Pauahi**	**0.26**	**248**		Pg	04 30 12.9	+0.3
PUH	**Pauahi**	**0.26**	**248**	IAML		04 30 14.4	
	comp=N,333nm,2.6s						
PUH				IAML		04 30 17.7	
	comp=E,174nm,1.9s						
HATHI	**Halema'uma'u T**	**0.29**	**260**	Pg	Pg	04 30 13.1	-0.1
HATHI				IAML		04 30 18.3	
	comp=N,312nm,1.3s						
HATHI				IAML		04 30 20.6	
	comp=E,572nm,2.0s						
SBLHI	**Steaming Bluff**	**0.30**	**261**	Pg	Pg	04 30 13.7	+0.3
SBLHI				IAML		04 30 17.1	
	comp=N,309nm,1.2s						
SBLHI				IAML		04 30 20.6	
	comp=E,375nm,1.8s						
RSD	**Rainshed**	**0.30**	**268**	Pg	Pg	04 30 13.2	-0.3
RSD				IAML		04 30 17.4	
	comp=N,356nm,3.7s						
HLP	**Hilina Pali**	**0.38**	**242**		Pg	04 30 14.8	-0.1
HLP	**Hilina Pali**	**0.38**	**242**	IAML		04 30 16.3	
	comp=E,383nm,3.0s						
HLP				IAML		04 30 20.0	
	comp=N,531nm,4.1s						
HTC	**Hot Caves**	**0.48**	**241**		Pg	04 30 16.7	-0.1
KHU	**Kahuku**	**0.66**	**250**		Pg	04 30 19.3	-1.0
KHU	**Kahuku**	**0.66**	**250**	IAML		04 30 25.4	
	comp=N,432nm,4.2s						
KHU				IAML		04 30 40.4	
	comp=E,324nm,4.4s						

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*NEIC **02** 04:41:21.9±1.0, 18.07N±0.10×145.7E±0.2, h118km±8km, mb4.5/105, Error ellipse: s-maj=30.5km s-min=11.6km az=107.0*
*IDC **02** 04:41:23.4±1.7, 18.02N×145.79E, h147km±16km, mb3.7/20, mbtmp4.1/22, Error ellipse: s-maj=17.2km s-min=10.2km az=88.0*
ISC 02 04:41:24.2±0.4, 18.11N±0.05×145.6E±0.1, h150km, n430, σ1903/425, mb4.4/76, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.55**	**189**	Pn	**Pn**	**04 42 29.0**	**-2.7**
GUMO	**Guam**	**4.55**	**189**	P	**Pn**	**04 42 30.4**	**-1.4**
	86nm,0.3s,baz=0.0,slow=2.0,SNR=5.3						
GUMO				S	**Sn**	**04 43 21.5**	**-2.8**
	168nm,0.3s,baz=341,slow=20,SNR=3.1						
JCJ	**Chichijima**	**9.49**	**341**	P	**Pn**	**04 43 33.1**	**-4.3**
	22nm,0.7s,baz=134,slow=22,SNR=1.4						
JCJ				S	**Sn**	**04 45 16.0**	**-6.6**
	38nm,0.5s,baz=106,slow=22,SNR=2.4						
MJAR	**Matsushiro Arr**	**19.49**	**342**	P	**Pn**	**04 45 40.9**	**-1.5**
	0.9nm,0.5s,baz=171,slow=9.9,SNR=4.6						
H11S3	**WAKE ISLAND Hy**	**20.00**	**86**	T	T	05 06 27.0	
	baz=272,slow=74,SNR=12						
H11S1	**WAKE ISLAND Hy**	**20.01**	**86**	T	T	05 06 42.5	
	baz=272,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy**	**20.02**	**86**	T	T	05 06 32.0	
	baz=272,slow=74,SNR=11						
H11N1	**WAKE ISLAND Hy**	**20.18**	**82**	T	T	05 06 44.4	
	baz=267,slow=74,SNR=19						
H11N2	**WAKE ISLAND Hy**	**20.19**	**82**	T	T	05 06 47.1	
	baz=267,slow=74,SNR=16						
H11N3	**WAKE ISLAND Hy**	**20.20**	**82**	T	T	05 06 47.6	
	baz=267,slow=74,SNR=18						
FAKI	**Fak Fak**	**24.71**	**214**	P	**P**	**04 46 33.1**	**+1.5**
FAKI				IAmb	IAmb	04 46 36.0	
	comp=Z,19nm,0.8s						
KSRS	**Korea Array**	**24.75**	**325**	P	**P**	**04 46 33.6**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=148,slow=10,SNR=1.1						
	comp=Z,0.6nm,0.5s						
NJ2	**Nanjing**	**27.84**	**305**	*e*P	**P**	**04 47 03.6**	**+4.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
USRK	**Ussuriysk Ar.**	**28.43**	**339**	P	**P**	**04 47 05.6**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=96,slow=15,SNR=1.3						
	comp=Z,0.6nm,0.3s						
KLR	**Kul'dur**	**33.01**	**343**	P	**P**	**04 47 45.2**	**+0.3**
	comp=Z,1.8nm,0.5s,baz=169,slow=8.8,SNR=4.8						
	comp=Z,1.8nm,0.5s						
PETK	**Petropavlovsk-**	**36.18**	**12**	P	**P**	**04 48 12.8**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=186,slow=7.4,SNR=5.2						
	comp=Z,1.4nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.97**	**315**	*e*P	P	04 48 25.2	+6.1
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,290nm,5.7s						
WB0	**Warramunga Arr**	**39.22**	**197**	P	**P**	**04 48 37.9**	**-0.1**
WB0				IAmb	IAmb	04 48 39.1	
	comp=Z,5.2nm,0.8s						
WR0	**Warramunga Arr**	**39.37**	**197**	P	**P**	**04 48 38.4**	**-0.7**
WRAB	**Tennant Creek**	**39.39**	**197**	P	**P**	**04 48 39.4**	**0.0**
WRAB				IAmb	IAmb	04 48 41.0	
	comp=Z,7.1nm,0.6s						
WB2	**Warramunga Arr**	**39.40**	**197**	P	**P**	**04 48 39.1**	**-0.3**
WB2				IAmb	IAmb	04 48 41.1	
	comp=Z,7.9nm,0.6s						
WRA	**Warramunga Arr**	**39.40**	**197**	P	**P**	**04 48 37.9**	**-1.6**
WRA	**Warramunga Arr**	**39.40**	**197**	P	**P**	**04 48 38.9**	**-0.6**
	comp=Z,5.1nm,0.8s,baz=6.9,slow=8.7,SNR=65						
WRA				ScP	**ScP**	**04 54 18.3**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=3.6,slow=4.1,SNR=5.2						
	comp=Z,5.1nm,0.8s						
PZH	**PanZhiHua**	**41.29**	**290**	P	P	04 49 00.4	+5.2
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
ASAR	**Alice Springs**	**43.07**	**196**	P	**P**	**04 49 07.9**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=19,slow=6.8,SNR=15						
	comp=Z,1.4nm,0.4s						
SONM	**Songino Array**	**43.56**	**322**	P	**P**	**04 49 15.7**	**+2.4**
	comp=Z,0.4nm,0.4s,baz=134,slow=6.2,SNR=2.0						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**44.23**	**278**	P	**P**	**04 49 21.4**	**+2.6**
	comp=Z,1.3nm,0.3s,baz=67,slow=7.0,SNR=8.3						
	comp=Z,1.3nm,0.3s						
PSA00	**Pilbara Seismi**	**46.83**	**214**	P	**P**	**04 49 40.0**	**+0.9**
PSA00				IAmb	IAmb	04 49 41.8	
	comp=Z,9.6nm,1.4s						
PSA00	**Pilbara Seismi**	**46.83**	**214**	P	**P**	**04 49 40.3**	**+1.2**
PSA00				IAmb	IAmb	04 50 06.6	
	comp=Z,28nm,1.4s						
STKA	**Stephens Creek**	**49.85**	**184**	P	**P**	**04 50 01.1**	**-1.0**
	comp=Z,3.2nm,0.7s,baz=351,slow=8.1,SNR=6.6						
	comp=Z,3.2nm,0.7s						
BBOO	**Buckleboo**	**51.45**	**190**	P	**P**	**04 50 14.3**	**+0.2**
BILL	**Bilibino**	**51.61**	**10**	P	**P**	**04 50 15.9**	**+1.1**
BILL				IAmb	IAmb	04 50 16.9	
	comp=Z,6.8nm,1.0s						
GAMB	**Gambell**	**54.02**	**22**	P	**P**	**04 50 32.5**	**0.0**
	baz=233						
S12K	**Black Hills**	**54.28**	**33**	P	**P**	**04 50 33.5**	**-1.1**
	baz=248						
SDPT	**Sand Point**	**54.99**	**34**	P	**P**	**04 50 39.2**	**-0.5**
	baz=250						
CHNA	**Chernabura Isl**	**55.30**	**35**	P	**P**	**04 50 41.4**	**-0.5**
	baz=251						
M13K	**Dall Lake**	**55.59**	**28**	P	**P**	**04 50 44.5**	**+0.6**
	baz=244						
K13K	**Kusilvak Mount**	**55.73**	**26**	P	**P**	**04 50 45.5**	**+0.6**
	baz=241						
S14K	**Fog Glacier**	**55.81**	**33**	P	**P**	**04 50 45.6**	**-0.1**
	baz=250						
O14K	**Tigyukauivet M**	**56.06**	**30**	P	**P**	**04 50 47.5**	**+0.2**
	baz=246						
N14K	**Kukowak Cree**	**56.13**	**29**	P	**P**	**04 50 48.6**	**+0.9**
	baz=246						
L14K	**Kuka Creek**	**56.30**	**27**	P	**P**	**04 50 49.8**	**+0.9**
	baz=244						
M14K	**Bethel**	**56.36**	**28**	P	**P**	**04 50 51.3**	**+1.9**
M14K	**Bethel**	**56.36**	**28**	P	**P**	**04 50 50.7**	**+1.4**
	baz=245						
CHGN	**Chignik**	**56.41**	**34**	P	**P**	**04 50 50.0**	**+0.2**
	baz=251						
J14K	**Nanvaranak Lak**	**56.58**	**25**	P	**P**	**04 50 51.8**	**+1.0**
	baz=242						
O15K	**Ungalikthiuk R**	**56.71**	**30**	P	**P**	**04 50 53.0**	**+1.1**
	baz=248,SNR=6.3						
F14K	**Arctic Creek**	**56.90**	**22**	P	**P**	**04 50 54.3**	**+1.2**
	baz=238						
M15K	**Kasigluk River**	**56.90**	**28**	P	**P**	**04 50 54.1**	**+0.9**
	baz=246						
L15K	**Ungalak Mounta**	**56.96**	**27**	P	**P**	**04 50 54.8**	**+1.2**
	baz=245						
N15K	**Kwethluk River**	**56.97**	**29**	P	**P**	**04 50 55.3**	**+1.6**
N15K	**Kwethluk River**	**56.97**	**29**	P	**P**	**04 50 54.9**	**+1.3**
	baz=247,SNR=9.1						
K15K	**Wolf Creek Mou**	**57.21**	**26**	P	**P**	**04 50 56.6**	**+1.2**
	baz=244						
G15K	**Niukluk**	**57.48**	**23**	P	**P**	**04 50 58.4**	**+1.2**
	baz=240						
P16K	**Nushagak River**	**57.54**	**31**	P	**P**	**04 50 58.7**	**+1.0**
	baz=250						
F15K	**North Star Dit**	**57.62**	**22**	P	**P**	**04 50 60.0**	**+1.8**
	baz=239						
O16K	**Kokwok River B**	**57.69**	**30**	P	**P**	**04 50 59.4**	**+0.6**
O16K	**Kokwok River B**	**57.69**	**30**	P	**P**	**04 50 59.8**	**+1.1**
	baz=249,SNR=5.3						
N16K	**Nishlik Lake**	**57.69**	**29**	P	**P**	**04 50 59.5**	**+0.7**
	baz=248						
M16K	**Timber Creek**	**57.81**	**28**	P	**P**	**04 51 00.6**	**+1.0**
	baz=248						
L16K	**Owhat River**	**57.85**	**27**	P	**P**	**04 51 01.0**	**+1.2**
	baz=247						
H16K	**Elim**	**57.98**	**24**	P	**P**	**04 51 02.1**	**+1.4**
	baz=242						
J16K	**Anvik River**	**58.02**	**25**	P	**P**	**04 51 02.8**	**+1.8**
	baz=245						
O17K	**Koliganek Bris**	**58.23**	**30**	P	**P**	**04 51 03.1**	**+0.7**
	baz=250,SNR=5.6						
I17K	**Unalakleet**	**58.24**	**25**	P	**P**	**04 51 03.2**	**+0.7**
	baz=244						
Q17K	**Contact Creek**	**58.33**	**32**	P	**P**	**04 51 04.1**	**+0.7**
	baz=252						
P17K	**Kvichak River**	**58.35**	**31**	P	**P**	**04 51 04.7**	**+1.4**
	baz=251						
ZALV	**Zalesovo Beam**	**58.44**	**323**	P	**P**	**04 51 04.7**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=124,slow=7.8,SNR=2.7						
	comp=Z,0.8nm,0.6s						
N17K	**Nushagak Hills**	**58.44**	**29**	P	**P**	**04 51 05.9**	**+1.9**
N17K	**Nushagak Hills**	**58.44**	**29**	P	**P**	**04 51 04.8**	**+0.8**
	baz=250						
L17K	**Donlin**	**58.53**	**27**	P	**P**	**04 51 05.1**	**+0.6**
	baz=248						
M17K	**Holitna River**	**58.63**	**28**	P	**P**	**04 51 07.2**	**+1.9**
M17K	**Holitna River**	**58.63**	**28**	P	**P**	**04 51 06.2**	**+0.9**
	baz=249						
J17K	**VABM Dome**	**58.69**	**26**	P	**P**	**04 51 06.2**	**+0.6**
	baz=246						
SII	**Sitkinak Islan**	**58.73**	**34**	P	**P**	**04 51 06.3**	**+0.2**
	baz=255						
K17K	**Iditarod**	**58.75**	**27**	P	**P**	**04 51 07.9**	**+1.9**
K17K	**Iditarod**	**58.75**	**27**	P	**P**	**04 51 06.8**	**+0.7**
	baz=247						
MKAR	**Makanchi Array**	**58.82**	**314**	P	**P**	**04 51 07.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=85,slow=8.2,SNR=5.3						
	comp=Z,0.5nm,0.6s						
G17K	**Kiwalik Mounta**	**58.97**	**23**	P	**P**	**04 51 08.6**	**+1.1**
	baz=243						
P18K	**Big Mountain,**	**59.00**	**31**	P	**P**	**04 51 08.3**	**+0.4**
	baz=252						
H17K	**Granite Mounta**	**59.00**	**24**	P	**P**	**04 51 08.5**	**+0.7**
	baz=244						
N18K	**Kilae Creek**	**59.09**	**29**	P	**P**	**04 51 09.3**	**+0.8**
	baz=251,SNR=5.0						
O18K	**Koktuh Hills**	**59.15**	**30**	P	**P**	**04 51 09.5**	**+0.6**
	baz=252						
D17K	**Noatak River**	**59.17**	**20**	P	**P**	**04 51 09.8**	**+0.9**
	baz=240						
F17K	**Baldwin Pennin**	**59.18**	**22**	P	**P**	**04 51 09.5**	**+0.5**
	baz=242						
L18K	**Granite Mounta**	**59.26**	**27**	P	**P**	**04 51 11.0**	**+1.4**
L18K				IAmb	IAmb	04 51 12.3	
	comp=Z,5.6nm,0.9s						
L18K	**Granite Mounta**	**59.26**	**27**	P	**P**	**04 51 10.2**	**+0.6**
	baz=249						
E17K	**Hotham Inlet**	**59.28**	**21**	P	**P**	**04 51 10.7**	**+1.0**
	baz=241						
OHAK	**Old Harbor**	**59.38**	**34**	P	**P**	**04 51 11.0**	**+0.6**
	baz=255						
M18K	**Stony River**	**59.39**	**28**	P	**P**	**04 51 11.0**	**+0.5**
	baz=250						
RDOG	**Red Dog Mine**	**59.40**	**20**	P	**P**	**04 51 11.3**	**+0.8**
	baz=240						
C17K	**DeLong Mountai**	**59.53**	**19**	P	**P**	**04 51 13.3**	**+2.0**
	baz=239						
Q19K	**Cape Douglas,**	**59.65**	**32**	P	**P**	**04 51 12.5**	**+0.1**
	baz=254						
H18K	**Honhosa River**	**59.69**	**24**	P	**P**	**04 51 13.4**	**+0.9**
	baz=246						
N19K	**Bonanza Creek**	**59.79**	**29**	P	**P**	**04 51 13.5**	**+0.1**
	baz=252,SNR=6.1						
TTA	**Tatalina**	**59.80**	**27**	P	**P**	**04 51 13.9**	**+0.5**
	baz=249						
F18K	**Selawik**	**59.83**	**22**	P	**P**	**04 51 14.1**	**+0.7**
	baz=244						
E18K	**Tukpahlearik C**	**59.87**	**21**	P	**P**	**04 51 14.9**	**+1.2**
	baz=242						
KDAK	**Kodiak Island**	**59.89**	**33**	P	**P**	**04 51 14.3**	**+0.4**
	baz=256						
G18K	**Tagagawik**	**59.89**	**23**	P	**P**	**04 51 15.1**	**+1.2**
G18K	**Tagagawik**	**59.89**	**23**	P	**P**	**04 51 14.9**	**+1.1**
	baz=245						
P19K	**Oil Pt**	**60.05**	**31**	P	**P**	**04 51 15.6**	**+0.5**
	baz=254						
L19K	**White Mountain**	**60.06**	**28**	P	**P**	**04 51 15.4**	**+0.3**
	baz=251						
M19K	**Big River Lodg**	**60.17**	**28**	P	**P**	**04 51 16.8**	**+1.0**
	baz=252						
Q20K	**Shuyak Island**	**60.19**	**32**	P	**P**	**04 51 16.5**	**+0.5**
	baz=255						
C18K	**Utukok River**	**60.25**	**20**	P	**P**	**04 51 16.5**	**+0.2**
	baz=241						
J19K	**Poorman**	**60.34**	**26**	P	**P**	**04 51 18.4**	**+1.4**
J19K				IAmb	IAmb	04 51 19.1	
	comp=Z,8.0nm,1.1s						
J19K	**Poorman**	**60.34**	**26**	P	**P**	**04 51 17.2**	**+0.2**
	baz=249,SNR=5.3						
B18K	**Kokolik River**	**60.41**	**19**	P	**P**	**04 51 18.0**	**+0.7**
	baz=240						
G19K	**Purcell Mounta**	**60.58**	**23**	P	**P**	**04 51 19.9**	**+1.4**
G19K				IAmb	IAmb	04 51 20.5	
	comp=Z,6.8nm,1.0s						
G19K	**Purcell Mounta**	**60.58**	**23**	P	**P**	**04 51 18.7**	**+0.2**
	baz=247						
H19K	**Roundabout Mou**	**60.58**	**24**	P	**P**	**04 51 19.1**	**+0.6**
	baz=248						
L20K	**Farewell, AK**	**60.58**	**28**	P	**P**	**04 51 18.7**	**+0.1**
	baz=252						
M20K	**Styx River**	**60.74**	**28**	P	**P**	**04 51 20.4**	**+0.6**
	baz=253						
K20K	**Telida**	**60.78**	**27**	P	**P**	**04 51 21.5**	**+1.6**
K20K				IAmb	IAmb	04 51 22.6	
	comp=Z,7.8nm,0.9s						
K20K	**Telida**	**60.78**	**27**	P	**P**	**04 51 20.8**	**+0.8**
	baz=251						
N20K	**Mount Spurr**	**60.97**	**29**	P	**P**	**04 51 21.9**	**+0.6**
	baz=254						
C19K	**Lookout Ridge**	**60.98**	**20**	P	**P**	**04 51 22.9**	**+1.6**
C19K	**Lookout Ridge**	**60.98**	**20**	P	**P**	**04 51 22.2**	**+1.0**
	baz=243,SNR=7.0						
J20K	**Nowinta River**	**61.02**	**26**	P	**P**	**04 51 23.3**	**+1.8**
J20K				IAmb	IAmb	04 51 24.3	
	comp=Z,8.0nm,1.1s						
J20K	**Nowinta River**	**61.02**	**26**	P	**P**	**04 51 22.0**	**+0.5**
	baz=251						
A19K	**Wainwright**	**61.05**	**18**	P	**P**	**04 51 23.0**	**+1.4**
	baz=240						
E19K	**Redstone River**	**61.05**	**22**	P	**P**	**04 51 22.9**	**+1.2**
E19K				IAmb	IAmb	04 51 23.9	
	comp=Z,6.0nm,1.0s						
E19K	**Redstone River**	**61.05**	**22**	P	**P**	**04 51 22.9**	**+1.2**
	baz=246						
I20K	**Naagheneel**	**61.09**	**25**	P	**P**	**04 51 22.9**	**+1.0**
	baz=250						
H20K	**Anotleneega Mo**	**61.17**	**24**	P	**P**	**04 51 23.2**	**+0.6**
	baz=249						
D19K	**Kuna River**	**61.19**	**20**	P	**P**	**04 51 23.6**	**+1.0**
D19K				IAmb	IAmb	04 51 24.1	
	comp=Z,3.8nm,0.8s						
D19K	**Kuna River**	**61.19**	**20**	P	**P**	**04 51 22.2**	**-0.4**
	baz=244						
BRSE	**Bradley Lake S**	**61.30**	**31**	P	**P**	**04 51 23.0**	**-0.5**
	baz=256						
F20K	**Avaraart Lake**	**61.43**	**22**	P	**P**	**04 51 25.7**	**+1.5**
F20K				IAmb	IAmb	04 51 26.5	
	comp=Z,2.7nm,0.7s						
F20K	**Avaraart Lake**	**61.43**	**22**	P	**P**	**04 51 25.1**	**+0.9**
	baz=243						
PPLA	**Purkeypile**	**61.45**	**27**	P	**P**	**04 51 24.4**	**-0.3**
	baz=253						
SKT	**Skwentna**	**61.49**	**29**	P	**P**	**04 51 25.1**	**+0.3**
SKT				IAmb	IAmb	04 51 26.2	
	comp=Z,8.9nm,1.0s						
SKT	**Skwentna**	**61.49**	**29**	P	**P**	**04 51 25.1**	**+0.3**
	baz=254						
CAST	**Castle Rocks**	**61.65**	**27**	P	**P**	**04 51 27.0**	**+1.2**
**CA

baz=250
BPAW Bear Paw Mtn. 62.31 26 P P 04 51 30.9 +0.6
BPAW Bear Paw Mtn. 62.31 26 P P 04 51 30.8 +0.6
baz=254,SNR=10
TRF Thorofare Moun 62.43 27 P P 04 51 31.6 +0.4
TRF Thorofare Moun 62.43 27 P P 04 51 31.3 0.0
baz=255,SNR=5.4
PMR Palmer 62.50 29 P P 04 51 31.8 +0.4
baz=257
C21K Knifeblade Rid 62.56 20 P P 04 51 32.9 +1.1
baz=247
E21K Killik River 62.57 21 P P 04 51 33.0 +1.1
baz=249
H22K Ishtalitna Cre 62.67 24 P P 04 51 33.6 +1.0
baz=252
MLY Manley 62.68 25 P P 04 51 33.7 +1.0
MLY IAmb IAmb 04 51 34.6
comp=Z,13nm,1.3s
MLY Manley 62.68 25 P P 04 51 33.6 +1.0
baz=254,SNR=8.2
KNK Knik Glacier 62.77 30 P P 04 51 33.5 +0.2
baz=257
B21K Ikpikpuk River 62.80 20 P P 04 51 34.4 +1.1
baz=247
F22K John River 62.88 22 P P 04 51 34.7 +0.7
baz=251
SML Sawmill 62.92 29 P P 04 51 34.5 +0.2
SML Sawmill 62.92 29 P P 04 51 34.6 +0.2
baz=257,SNR=8.5
G22K Bettles 62.94 23 P P 04 51 34.7 +0.4
baz=252
P23K Montague Islan 62.99 31 P P 04 51 35.6 +0.8
baz=259
WAT1 Susitna Watana 63.05 28 P P 04 51 35.3 +0.1
baz=257
RND Reindeer 63.05 27 P P 04 51 35.2 +0.1
MCK McKinley 63.09 27 P P 04 51 35.7 +0.3
baz=256
D22K Ayikyak River 63.17 21 P P 04 51 37.7 +1.9
D22K Ayikyak River 63.17 21 P P 04 51 37.0 +1.2
baz=250,SNR=7.6
M23K Glacier View 63.20 29 P P 04 51 36.8 +0.7
baz=258
E22K Anaktuvuk Pass 63.22 22 P P 04 51 37.5 +1.2
E22K IAmb IAmb 04 51 38.4
comp=Z,4.8nm,0.7s
E22K Anaktuvuk Pass 63.22 22 P P 04 51 37.4 +1.2
baz=251
A22K Sinclair Lake 63.23 18 P P 04 51 37.7 +1.6
baz=246
NEA2 Nenana 63.25 26 P P 04 51 37.4 +1.0
baz=255
I23K Minto, Yukon-K 63.27 25 P P 04 51 37.6 +1.1
I23K IAmb IAmb 04 51 38.2
comp=Z,12nm,1.3s
I23K Minto, Yukon-K 63.27 25 P P 04 51 37.5 +1.1
baz=255,SNR=6.3
GLI Glacier Island 63.31 30 P P 04 51 37.7 +0.8
baz=259
WAT6 Susitna Watana 63.35 28 P P 04 51 38.0 +0.6
baz=258
H23K Yukon River 63.38 25 P P 04 51 38.5 +1.2
H23K IAmb IAmb 04 51 38.9
comp=Z,4.0nm,0.8s
H23K Yukon River 63.38 25 P P 04 51 38.2 +0.9
baz=254
SCM Sheep Creek Mo 63.39 29 P P 04 51 38.2 +0.7
SCM Sheep Creek Mo 63.39 29 P P 04 51 38.4 +0.9
baz=258,SNR=5.1
Q23K Middleton Isla 63.42 32 P P 04 51 38.3 +0.7
baz=260
G23K Bananza Creek 63.44 24 P P 04 51 38.5 +0.9
baz=253
B22K Teshekpuk Lake 63.45 19 P P 04 51 38.9 +1.3
baz=248
COLD Coldfoot 63.52 23 P P 04 51 39.3 +1.2
baz=253
MDM Murphy Dome 63.69 26 P P 04 51 40.4 +1.1
MDM IAmb IAmb 04 51 41.5
comp=Z,11nm,1.3s
COLA College 63.82 26 P P 04 51 40.9 +0.8
baz=256
D23K Nanushuk River 63.88 21 P P 04 51 42.0 +1.5
baz=252
EYAK Cordova Ski Ar 63.90 31 P P 04 51 41.8 +1.1
baz=260
M24K Tolsona, Glenn 63.98 29 P P 04 51 42.2 +0.9
baz=259
E23K Chandalar 63.98 22 P P 04 51 42.4 +1.2
baz=253,SNR=11
KLU Klutina 63.98 30 P P 04 51 42.5 +1.1
KLU Klutina 63.98 30 P P 04 51 42.5 +1.1
baz=260
H24K Noodor Dome 64.04 25 P P 04 51 42.4 +0.8
H24K IAmb IAmb 04 51 59.4
comp=Z,6.2nm,1.4s
H24K Noodor Dome 64.04 25 P P 04 51 42.5 +0.8
baz=256
HDA Harding Lake 64.10 26 P P 04 51 42.2 +0.3
baz=257
TOLK Toolik Lake Re 64.16 22 P P 04 51 43.8 +1.4
TOLK IAmb IAmb 04 51 44.6
comp=Z,12nm,1.3s
TOLK Toolik Lake Re 64.16 22 P P 04 51 43.9 +1.5
baz=253,SNR=9.3
C23K Itkillik River 64.18 20 P P 04 51 43.6 +1.3
baz=251,SNR=7.1
IL31 64.20 26 P P 04 51 42.1 -0.5
IL31 IAmb IAmb 04 51 43.5
comp=Z,7.0nm,1.2s
ILAR Eielson Array 64.20 26 P P 04 51 42.0 -0.6
ILAR Eielson Array 64.20 26 P P 04 51 41.5 -1.2
comp=Z,2.0nm,0.5s,baz=252,slow=6.1,SNR=47
comp=Z,2.0nm,0.5s
E24K Your Creek 64.39 22 P P 04 51 45.2 +1.4
E24K IAmb IAmb 04 51 45.7
comp=Z,3.6nm,0.7s
E24K Your Creek 64.39 22 P P 04 51 45.4 +1.5
baz=254,SNR=7.7
G24K Hadweenzic Riv 64.41 24 P P 04 51 45.0 +1.0
baz=256
PAX Paxson 64.46 28 P P 04 51 44.9 +0.5
baz=260
F24K Squaw Lake 64.46 23 P P 04 51 45.4 +1.1
baz=255
K24K Donnelly Dome 64.48 27 P P 04 51 45.0 +0.5
baz=259
HARP HAARP 64.50 29 P P 04 51 45.2 +0.6
baz=260
BMRM Bremner River 64.53 30 P P 04 51 45.5 +0.6
baz=261
D24K Happy Valley 64.57 21 P P 04 51 46.6 +1.7
D24K Happy Valley 64.57 21 P P 04 51 46.2 +1.3
baz=253
N25K Chitina, Valde 64.63 30 P P 04 51 46.2 +0.7
baz=261
C24K Franklin Bluff 64.78 21 P P 04 51 47.0 +0.8
baz=253
J25K Salcha River, 64.81 26 P P 04 51 46.5 -0.2
J25K Salcha River, 64.81 26 P P 04 51 46.6 0.0
baz=259
PRP Porcupine Dome 64.92 25 P P 04 51 48.1 +0.6
baz=258
G25K Bearman Lake 64.96 24 P P 04 51 48.5 +1.0
baz=257
H25L Birch Creek 64.96 25 P P 04 51 48.6 +1.1
baz=258
SCRK Sand Creek 65.29 27 P P 04 51 50.4 +0.5
SCRK IAmb IAmb 04 51 51.2
comp=Z,6.0nm,1.1s
SCRK Sand Creek 65.29 27 P P 04 51 50.2 +0.4
baz=260,SNR=5.5
F25K Christian Rive 65.32 23 P P 04 51 51.0 +1.1
baz=257,SNR=8.7
MCARA McCarthy VSAT 65.34 30 P P 04 51 51.4 +1.3
MCARA McCarthy VSAT 65.34 30 P P 04 51 51.0 +1.0
baz=262
L26K Log Cabin Wild 65.42 28 P P 04 51 51.3 +0.7
baz=261
D25K Kavik River 65.46 21 P P 04 51 52.1 +1.4
D25K IAmb IAmb 04 51 52.9
comp=Z,4.7nm,0.6s
D25K Kavik River 65.46 21 P P 04 51 51.7 +1.0
baz=256,SNR=10
E25K Arctic Village 65.46 23 P P 04 51 52.2 +1.4
E25K Arctic Village 65.46 23 P P 04 51 51.6 +0.8
baz=257
J26L Joseph Creek 65.56 27 P P 04 51 51.9 +0.5
J26L IAmb IAmb 04 51 52.9
comp=Z,16nm,1.4s
J26L Joseph Creek 65.56 27 P P 04 51 52.0 +0.5
baz=260,SNR=8.7
BMAR Burnt Mountain 65.68 23 P P 04 51 53.8 +1.6
MESA MESA 65.72 32 P P 04 51 52.5 -0.3
baz=264
I26K Coal Creek Min 65.86 26 P P 04 51 53.4 +0.1
baz=261
G26K Porcupine Rive 65.89 24 P P 04 51 54.4 +0.9
baz=259,SNR=5.4
F26K Sheenjek River 65.90 23 P P 04 51 54.6 +1.0
baz=259,SNR=9.0
M27K Edge Creek, AK 66.00 29 P P 04 51 55.2 +0.7
baz=263
C26K Camden Bay 66.10 21 P P 04 51 56.3 +1.6
baz=257
CTG Chitna Glacier 66.11 31 P P 04 51 55.4 +0.3
baz=264
L27K Beaver Creek, 66.11 28 P P 04 51 55.7 +0.7
baz=263
K27K Chicken 66.13 27 P P 04 51 56.1 +1.0
baz=262
C27K Jago River 66.44 21 P P 04 51 58.5 +1.6
baz=258,SNR=5.3
I27K Kandik River 66.54 26 P P 04 51 58.1 +0.4
baz=262
YUK3 Moose Creek 66.61 30 P P 04 51 58.5 +0.1
baz=265
EGAK Eagle 66.62 27 P P 04 51 58.7 +0.6
EGAK IAmb IAmb 04 52 14.0
comp=Z,6.3nm,1.3s
EGAK Eagle 66.62 27 P P 04 51 59.5 +1.3
baz=263
O28M Mount Upton 66.65 31 P P 04 51 59.0 +0.2
baz=265
H27K Steamboat Moun 66.67 25 P P 04 51 59.6 +1.2
baz=262,SNR=9.1
G27K Doyon Strip 66.70 24 P P 04 51 59.4 +0.7
baz=261
BVAR Borovoye Array 66.88 321 P P 04 52 00.3 +0.2
comp=Z,3.7nm,0.5s,baz=94,slow=7.5,SNR=22
comp=Z,3.7nm,0.5s
YUK8 Steele Glacier 66.89 30 P P 04 52 00.9 +0.6
baz=265
E27K Coleen River 66.93 23 P P 04 52 01.1 +0.9
E27K Coleen River 66.93 23 P P 04 52 01.2 +1.0
baz=261,SNR=5.5
PNL Peninsula 66.96 32 P P 04 52 00.4 -0.1
baz=266
I28M Miner Creek 67.22 26 P P 04 52 02.8 +0.7
I28M Miner Creek 67.22 26 P P 04 52 02.8 +0.7
baz=264
D27M Malcolm River 67.33 22 P P 04 52 04.4 +1.7
D27M Malcolm River 67.33 22 P P 04 52 03.8 +1.1
baz=261
YUK4 Talbot Arm 67.44 30 P P 04 52 04.7 +1.0
baz=266,SNR=6.5
F28M Old Crow 67.50 24 P P 04 52 04.5 +0.8
F28M Old Crow 67.50 24 P P 04 52 04.4 +0.8
baz=263
YUK6 Outpost Mounta 67.55 31 P P 04 52 04.7 +0.3
baz=267
M29M Somme Creek 67.59 29 P P 04 52 05.8 +1.3
M29M IAmb IAmb 04 52 06.9
comp=Z,5.1nm,0.8s
M29M Somme Creek 67.59 29 P P 04 52 05.1 +0.6
baz=266
E28M Babbage River 67.75 22 P P 04 52 06.9 +1.6
E28M IAmb IAmb 04 52 07.8
comp=Z,7.1nm,1.4s
E28M Babbage River 67.75 22 P P 04 52 06.4 +1.2
baz=263,SNR=7.2
L29M L29M 67.79 28 P P 04 52 07.0 +1.3
L29M IAmb IAmb 04 52 08.1
comp=Z,6.9nm,0.7s
L29M L29M 67.79 28 P P 04 52 05.8 +0.2
baz=266,SNR=7.1
P29M Windy Craggy 67.80 32 P P 04 52 06.1 +0.3
baz=268
J29N Klondike Camp 67.85 27 P P 04 52 06.6 +0.6
baz=266
H29M Whitestone 67.94 25 P P 04 52 07.5 +1.1
H29M IAmb IAmb 04 52 20.2
comp=Z,5.5nm,1.2s
H29M Whitestone 67.94 25 P P 04 52 07.3 +0.9
baz=265
HYT Haines Junctio 67.97 31 P P 04 52 08.7 +1.8
HYT IAmb IAmb 04 52 09.4
comp=Z,9.4nm,0.9s
HYT Haines Junctio 67.97 31 P P 04 52 07.5 +0.6
baz=268,SNR=5.6
K29M Barlow Dome 68.11 28 P P 04 52 09.0 +1.3
K29M IAmb IAmb 04 52 09.5
comp=Z,4.7nm,0.8s
K29M Barlow Dome 68.11 28 P P 04 52 08.5 +0.8
baz=266,SNR=6.0
D28M Stokes Point 68.12 22 P P 04 52 08.4 +0.9
baz=263
G29M Pine Creek 68.14 24 P P 04 52 09.1 +1.4
G29M IAmb IAmb 04 52 10.0
comp=Z,4.5nm,1.0s
G29M Pine Creek 68.14 24 P P 04 52 08.0 +0.3
baz=265
N30M Aishikik Lake 68.19 30 P P 04 52 09.7 +1.5
N30M IAmb IAmb 04 52 10.5
comp=Z,8.0nm,0.9s
N30M Aishikik Lake 68.19 30 P P 04 52 08.6 +0.4
baz=268,SNR=6.1
P30M Million Dollar 68.21 32 P P 04 52 08.6 +0.2
baz=268
E29M Blow River 68.33 23 P P 04 52 10.4 +1.6
E29M Blow River 68.33 23 P P 04 52 09.6 +0.8
baz=264
PLBC Pleasant Camp 68.50 32 P P 04 52 10.3 +0.3
baz=269
S31K Pelican 68.56 34 P P 04 52 10.8 +0.4
baz=270
EPYK Eagle Plains 68.61 25 P P 04 52 11.9 +1.2
EPYK IAmb IAmb 04 52 12.3
comp=Z,3.7nm,0.7s
EPYK Eagle Plains 68.61 25 P P 04 52 11.1 +0.4
baz=266
O30N Mendenhall 68.66 31 P P 04 52 11.2 +0.2
baz=265
J30M Hart River 68.67 27 P P 04 52 12.2 +1.0
baz=267
I30M Mount Dempster 68.68 26 P P 04 52 11.9 +0.6
I30M Mount Dempster 68.68 26 P P 04 52 12.2 +0.9
baz=267
N31M Braeburn, Yuko 68.82 30 P P 04 52 12.4 +0.3
baz=269
MAYO Mayo, Yukon 68.82 28 P P 04 52 12.6 +0.6
baz=268
G30M tAoh Zraii Nji 68.85 24 P P 04 52 12.8 +0.7
G30M IAmb IAmb 04 52 13.7
comp=Z,11nm,1.5s
G30M tAoh Zraii Nji 68.85 24 P P 04 52 12.7 +0.5
baz=266
SKAG Skagway 69.03 32 P P 04 52 14.0 +0.7
baz=270
F30M Barrier River 69.06 24 P P 04 52 14.0 +0.6
baz=266,SNR=8.0
WHY Whitehorse 69.25 31 P P 04 52 15.3 +0.5
baz=270
S32K Killisnoo 69.45 35 P P 04 52 16.2 +0.3
baz=272
M31M Drury Creek, Y 69.49 30 P P 04 52 16.7 +0.6
baz=270
H31M Peel River 69.55 26 P P 04 52 17.3 +0.8
H31M IAmb IAmb 04 52 18.3
comp=Z,4.6nm,0.7s
H31M Peel River 69.55 26 P P 04 52 17.2 +0.8
baz=268
G31M Satah River 69.61 24 P P 04 52 17.6 +0.8
G31M IAmb IAmb 04 52 18.2
comp=Z,7.3nm,0.6s
G31M Satah River 69.61 24 P P 04 52 17.5 +0.8
baz=268
F31M Tsiigehtchic 69.83 24 P P 04 52 18.6 +0.5
F31M Tsiigehtchic 69.83 24 P P 04 52 18.8 +0.7
baz=268
P32M Atlin 69.85 32 P P 04 52 18.7 +0.3
baz=271
INK Inuvik 69.94 23 P P 04 52 19.2 +0.5
INK IAmb IAmb 04 52 19.9
comp=Z,4.4nm,0.7s
INK Inuvik 69.94 23 P P 04 52 19.2 +0.5
baz=268,SNR=7.7
FARO Faro, Yukon 69.97 30 P P 04 52 19.4 +0.3
baz=271
N32M Quiet Lake 70.12 31 P P 04 52 20.2 +0.2
baz=271
P33M Teslin, Yukon 70.28 32 P P 04 52 21.6 +0.5
baz=272
WRAK Wrangell Islan 70.72 36 P P 04 52 24.3 +0.6
baz=274
V35K Ketchikan 71.22 37 P P 04 52 27.4 +0.7
baz=275
R33M Jennings River 71.26 32 P P 04 52 27.8 +0.8
baz=274
S34M Telegraph Cree 71.28 34 P P 04 52 27.7 +0.6
baz=274
DLBC Dease Lake 71.82 33 P P 04 52 31.2 +0.8
baz=275
T35M Bob Quinn 71.83 35 P P 04 52 31.1 +0.6
baz=275
WTLY Watson Lake, Y 72.30 32 P P 04 52 33.7 +0.6
baz=275
TGTN Hyland Airport 72.41 30 P P 04 52 34.4 +0.5
baz=275,SNR=6.5
A36M Sachs Harbour 72.66 19 P P 04 52 35.6 +0.7
A36M IAmb IAmb 04 52 36.5
comp=Z,7.4nm,0.8s
A36M Sachs Harbour 72.66 19 P P 04 52 35.2 +0.2
baz=275,SNR=7.4
C36M Paulatuk 73.32 22 P P 04 52 39.4 +0.5
C36M IAmb IAmb 04 52 40.0
comp=Z,11nm,1.1s
C36M Paulatuk 73.32 22 P P 04 52 39.3 +0.4
baz=277,SNR=8.4
LIRD Liard River Hi 73.73 32 P P 04 52 41.7 +0.1
baz=278
TOAD Toad River Com 74.26 33 P P 04 52 45.4 +0.7
baz=279
WRGLY Wrigley 74.42 28 P P 04 52 46.6 +1.1
WRGLY Wrigley 74.42 28 P P 04 52 46.0 +0.5
baz=279,SNR=7.7
YKA Yellowknife Ar 78.54 28 P P 04 53 08.8 +0.2
comp=Z,2.9nm,0.7s,baz=293,slow=5.9,SNR=51
comp=Z,2.9nm,0.7s
RES Resolute Bay 80.01 14 P P 04 53 17.0 +0.6
J05D Fort Rock, OR 80.04 48 P P 04 53 18.8 +1.4
PINE Pine Mountain 80.11 47 P P 04 53 18.7 +0.9
NEW Newport 81.39 42 P P 04 53 24.5 +0.1
NEW IAmb IAmb 04 53 25.8
comp=Z,5.3nm,0.9s
NEW Newport 81.39 42 P P 04 53 24.3 -0.1
baz=287
J08A Circle Bar Ran 81.95 47 P P 04 53 28.3 +0.8
MPK Martis Peak 82.01 51 P P 04 53 28.7 +0.7
MPK IAmb IAmb 04 53 29.8
comp=Z,8.7nm,0.9s
CMB Columbia Colle 82.11 53 P P 04 53 28.9 +0.5
WVOR Wild Horse Val 82.11 48 P P 04 53 28.7 +0.4
BMO Blue Mountains 82.31 45 P P 04 53 29.8 +0.5
PNTR Pine Nut 82.39 51 P P 04 53 30.9 +0.9
ARCES ARCESS Array B 83.03 342 P P 04 53 31.6 -0.8
comp=Z,1.4nm,0.8s,baz=71,slow=8.2,SNR=9.2
comp=Z,1.4nm,0.8s
PLID Pearl Lake 83.11 45 P P 04 53 33.5 -0.1
SMMC Simmler 83.20 55 P P 04 53 32.9 -1.1
baz=287
MLAC Mammoth, Mammo 83.40 53 P P 04 53 34.3 -1.0
baz=288
PKM Mcpherson Peak 83.47 56 P P 04 53 34.6 -1.0
baz=287
KVN Kaiserville 83.52 51 P P 04 53 36.5 +0.7
KVN IAmb IAmb 04 53 37.2
comp=Z,5.6nm,0.6s
NVAR Mina Array Bea 83.56 52 P P 04 53 36.8 +0.8
NVAR Mina Array Bea 83.56 52 P P 04 53 36.6 +0.6
comp=Z,3.2nm,0.5s,baz=267,slow=6.2,SNR=31
comp=Z,3.2nm,0.5s
NV11 Mina Array Sit 83.67 52 P P 04 53 37.2 +0.7
MFID Camas Ranch 83.77 46 P P 04 53 37.5 +0.7
MFID IAmb IAmb 04 53 38.5
comp=Z,7.5nm,0.9s
MSO Missoula 83.90 43 P P 04 53 37.3 -0.1
baz=290
SNCC San Nicolas Is 84.19 57 P P 04 53 38.4 -0.7
baz=288
MZP Montezuma Peak 84.47 52 P P 04 53 41.1 +0.4
TPH Tonopah 84.48 52 P P 04 53 41.5 +0.8
HLID Hailey 84.69 46 P P 04 53 42.5 +0.9
HLID Hailey 84.69 46 P P 04 53 40.9 -0.7
baz=290
GRAC Grapevine Rang 84.71 53 P P 04 53 41.1 -0.5
baz=289
EDW2 Edwards Air Fo 84.90 55 P P 04 53 41.8 -0.8
baz=288
MPMC Manual Prospec 84.91 54 P P 04 53 42.3 -0.6
baz=289
LRMC Laurel Mtn Rad 84.95 54 P P 04 53 42.1 -0.9
baz=288
FMP Fort Macarthur 85.03 56 P P 04 53 42.8 -0.4
baz=288
CIS Catalina Islan 85.03 57 P P 04 53 42.0 -1.3
baz=288
ELK Elko 85.06 49 P P 04 53 43.8 +0.3
ELK IAmb IAmb 04 53 45.2
comp=Z,5.2nm,0.8s
WCT Wildcat Mounta 85.34 53 P P 04 53 45.6 +0.7
R11B Troy Canyon, C 85.61 51 P P 04 53 46.8 +0.6
R11B Troy Canyon, C 85.61 51 P P 04 53 45.6 -0.6
baz=290
GSC Goldstone, Bar 85.68 54 P P 04 53 46.3 -0.3
baz=289
BOZ Bozeman (W) 85.83 43 P P 04 53 47.0 -0.2
baz=292
SHOC Shoshone, Teco 85.90 54 P P 04 53 47.5 0.0
baz=289
MURC Murrieta 85.93 56 P P 04 53 47.2 -0.6
baz=289
EGMT Eagleton 86.11 41 P P 04 53 47.9 -0.5
baz=293
HEC Hector,Ludlow 86.20 55 P P 04 53 49.1 0.0
baz=289
TUQ Turquoise Moun 86.32 54 P P 04 53 49.2 -0.5
baz=290
PFO Pinyon Flats O 86.51 56 P P 04 53 49.3 -1.4
baz=289
TPFO Pinon Flats 86.51 56 P P 04 53 49.1 -1.6
baz=289
BELC Belle Mtn. Jos 86.74 55 P P 04 53 50.4 -1.5
baz=290
GMRC Granite Mounta 86.74 55 P P 04 53 51.2 -0.7
baz=290
MONP2 Monument Peak 86.78 57 P P 04 53 50.9 -1.3
baz=289
H17A Grant Village 86.97 44 P P 04 53 51.9 -1.0
baz=292
DUG Dugway, Tooele 86.98 49 P P 04 53 53.7 +0.8
DUG IAmb IAmb 04 53 54.4
comp=Z,9.0nm,1.2s
DUG Dugway, Tooele 86.98 49 P P 04 53 52.5 -0.4
baz=291
MOOW Moose Ponds 87.11 45 P P 04 53 54.3 +0.8
BC3 Big Chuckawall 87.28 56 P P 04 53 53.4 -1.0
baz=290
HWUT Hardware Ranch 87.35 47 P P 04 53 55.4 +0.7
HWUT IAmb IAmb 04 53 56.1
comp=Z,4.8nm,0.8s
IRM Iron Mountain 87.35 55 P P 04 53 53.9 -0.8
baz=290
FINES FINESS Array B 87.39 335 P P 04 53 52.6 -1.6
comp=Z,1.4nm,0.7s,baz=76,slow=6.0,SNR=11
comp=Z,1.4nm,0.7s
RLMT Red Lodge 87.55 43 P P 04 53 55.0 -0.6
baz=293
NLU North Lily Min 87.60 49 P P 04 53 56.5 +0.5
NLU IAmb IAmb 04 53 57.4
comp=Z,5.0nm,1.0s
FFC Flin Flon 87.62 32 P P 04 53 55.7 +0.3
FFC IAmb IAmb 04 53 57.3
comp=Z,4.8nm,0.9s
PDMCI Parker Dam,Lak 88.08 55 P P 04 53 57.5 -0.6
baz=291
PDAR Pinedale Array 88.29 45 P P 04 53 57.8 -1.3
comp=Z,0.3nm,0.4s,baz=173,slow=0.7,SNR=8.0
comp=Z,0.3nm,0.4s
LAO LASA Array 88.85 41 P P 04 54 01.1 -0.4
baz=295

WUAZ	**Wupatki** baz=292	89.76	53	P		P	04 54 05.1	-1.1
214A	**Organ Pipe Nat** baz=291	89.96	56	P		P	04 54 05.8	-1.1
O20A	**White River Ci** baz=294	90.24	47	P		P	04 54 07.7	-0.6
MVCO	**Mesa Verde** baz=294	91.24	50	P		P	04 54 12.2	-0.9
RSSD	**Black Hills** baz=297	91.36	42	P		P	04 54 13.3	-0.2
TUC	**Tucson** baz=292	91.43	55	P		P	04 54 13.1	-0.7
N23A	**Red Feather La** baz=296	91.52	46	P		P	04 54 13.6	-0.7
ISCO	**Idaho Springs** baz=296	92.22	47	P		P	04 54 16.9	-0.7
Q24A	**Divide** baz=296	92.91	47	P		P	04 54 20.1	-0.7
SDCO	**Great Sand Dun** baz=296	93.19	49	P		P	04 54 21.4	-0.7
121A	**Cookes Peak, D** baz=294	93.67	54	P		P	04 54 23.9	-0.4
ANMO	**Albuquerque** baz=295	93.68	52	P		P	04 54 23.9	-0.4
AGMN	**Agassiz Nation** baz=303	94.20	36	P		P	04 54 27.2	+1.1
T25A	**Trinidad** baz=296	94.23	49	P		P	04 54 26.9	+0.1
MNTX	**Cornudas Mount** baz=295	95.87	54	P		P	04 54 34.1	0.0
ECSD	**EROS Data Cent** baz=302	96.22	40	P		P	04 54 35.8	+0.4
CBKS	**Cedar Bluff** baz=300	96.71	46	P		P	04 54 37.6	-0.2
EYMN	**Ely** baz=306	96.80	35	P		P	04 54 38.1	+0.1
TXAR	**Lajitas Array** comp=Z,0.3nm,1.0s,baz=316,slow=3.8,SNR=2.2 comp=Z,0.3nm,1.0s	98.23	56	P		P	04 54 42.0	-2.9
P49A	**Miami Univ. Ec** baz=310	105.88	38	P		PKiKP	04 59 31.4	+0.9
OXF	**Oxford** baz=306	106.01	45	P		PKiKP	04 59 31.5	+0.7
WVT	**Waverly** baz=307	106.09	43	P		PKiKP	04 59 31.5	+0.6
ACSO	**Alum Creek Sta** baz=312	106.42	37	P		PKiKP	04 59 32.5	+1.1
ERPA	**Erie** baz=315	106.77	34	P		PKiKP	04 59 32.2	+0.2
M53A	**WI Miller and** baz=314	106.88	35	P		PKiKP	04 59 32.4	+0.2
P52A	**Corning** baz=312	107.31	37	P		PKiKP	04 59 33.2	+0.1
O53A	**New Philadelph** baz=313	107.41	36	P		PKiKP	04 59 33.4	+0.1
LONY	**Lake Ozonia** baz=320	107.61	29	P		PKiKP	04 59 34.2	+0.6
LRAL	**Lakeview Retre** baz=307	108.50	45	P		PKiKP	04 59 35.8	+0.3
SSPA	**Standing Stone** baz=316	108.94	34	P		PKiKP	04 59 36.4	+0.3
BLA	**Blacksburg** baz=313	109.94	38	P		PKiKP	04 59 38.2	+0.1
LPAZ	**La Paz** comp=Z,5.1nm,0.5s,baz=329,slow=2.1,SNR=44	147.73	92	PKPbc		PKiKP	05 00 53.0	-1.8

*AEIC **02** 04:41:26.3±1.7,56.˚34N±0.˚09×148.˚58W±0.˚06,h12km±8km, Error ellipse: s-maj=12.8km s-min=4.7km az=187.0*
NEIC 02 04:41:25.6±1.3,**56.˚6N**±0.˚1×**148.˚75W**±0.˚07,**h19**km±9km, **ML3.2**/58,**ML3.2**(AEIC),**Error ellipse: s-maj=16.3km s-min=2.3km az=161.0,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	2.42	302		Pn	04 42 03.3	-0.7
KDAK					Sn	04 42 32.8	-0.2
KDAK	**Kodiak Island** baz=122	2.42	302	P	Pn	04 42 03.7	-0.3
KDAK				S	Sn	04 42 31.7	-1.3
OHAK	**Old Harbor**	2.58	287		Pn	04 42 05.0	-1.1
OHAK					Sn	04 42 34.7	-2.2
OHAK	**Old Harbor** baz=107	2.58	287	P	Pn	04 42 05.0	-1.1
OHAK				S	Sn	04 42 34.4	-2.5
Q20K	**Shuyak Island** baz=136	2.84	318	P	Pn	04 42 10.3	+0.5
Q20K				S	Sn	04 42 44.8	+1.5
SYI	**Shuyak Island**	2.84	318		Pn	04 42 08.8	-1.0
SYI	**Shuyak Island**	2.84	318		Sn	04 42 44.6	+1.3
SII	**Sitkinak Islan**	3.01	272	Pn	Pn	04 42 12.9	+0.7
SII	comp=E,51nm,0.9s			IAML		04 42 57.9	
SII	comp=N,40nm,1.2s			IAML		04 42 59.9	
Q23K	**Middleton Isla**	3.14	23		Pn	04 42 12.9	-1.0
Q23K	**Middleton Isla** comp=N,146nm,1.1s	3.14	23	IAML		04 43 49.8	
Q23K	**Middleton Isla** baz=202	3.14	23	P	Pn	04 42 12.9	-1.0
MID	**Middleton Isla**	3.14	23		Pn	04 42 13.3	-0.6
MID	**Middleton Isla** comp=N,156nm,1.0s	3.14	23	IAML		04 44 15.7	
CNPM	**China Poot**	3.25	337		Pn	04 42 14.9	-0.5
CNPM	**China Poot**	3.25	337		Sn	04 42 54.7	+1.1
BRSE	**Bradley Lake S**	3.35	342		Pn	04 42 17.1	+0.2
BRSE					Sn	04 42 56.8	+0.7
P23K	**Montague Islan**	3.51	11		Pn	04 42 18.7	-0.4
P23K					Sn	04 42 58.9	-1.1
P23K	**Montague Islan** baz=190	3.51	11	P	Pn	04 42 18.5	-0.6
P23K	baz=190			S	Sn	04 42 58.7	-1.4
Q19K	**Cape Douglas,**	3.53	314		Pn	04 42 18.3	-1.1
Q19K	comp=N,84nm,1.2s			IAML		04 43 14.6	
Q19K	comp=E,76nm,1.2s			IAML		04 44 31.9	
Q19K	**Cape Douglas,** baz=132	3.53	314	P	Pn	04 42 20.2	+0.8
SEW	**Seward**	3.57	354		Pn	04 42 19.2	-0.6
SEW	**Seward** baz=173	3.57	354	P	Pn	04 42 19.2	-0.5
ACHA	**Angle Creek He**	3.92	298		Pn	04 42 26.1	+1.4
ANCK	**Angle Creek**	4.00	297		Pn	04 42 27.4	+1.6
HIN	**Hinchinbrook I**	4.02	16		Pn	04 42 25.6	-0.4
HIN					Sn	04 43 11.3	-1.2
HIN	**Hinchinbrook I** comp=N,54nm,0.5s	4.02	16	IAML		04 43 13.3	
HIN	comp=E,38nm,1.2s			IAML		04 43 17.1	
SLKM	**Skilak Lake**	4.03	350		Pn	04 42 26.4	+0.2
KAIM	**Kayak Island**	4.07	32		Pn	04 42 25.8	-0.9
KAIM	**Kayak Island** comp=N,56nm,0.9s	4.07	32	IAML		04 44 31.3	
KAIM	comp=E,43nm,0.9s			IAML		04 44 38.9	
KAIM	**Kayak Island** baz=213	4.07	32	P	Pn	04 42 26.0	-0.7
IVE	**Iliamna Volcan**	4.13	329		Pn	04 42 27.5	-0.1
ILSW	**Iliamna Southw**	4.14	328	Pn	Pn	04 42 27.6	-0.2
ILSW	comp=N,12nm,0.8s			IAML		04 43 21.9	
ILSW	comp=E,11nm,1.2s			IAML		04 43 47.5	
CNTC	**Contact Creek**	4.22	297		Pn	04 42 28.9	0.0
Q17K	**Contact Creek** baz=113	4.22	297	P	Pn	04 42 29.5	+0.7
EYAK	**Cordova Ski Ar**	4.29	20		Pn	04 42 29.4	-0.3
EYAK	**Cordova Ski Ar** baz=201	4.29	20	P	Pn	04 42 29.4	-0.3
FID	**Port Fidalgo**	4.36	15		Pn	04 42 30.0	-0.7
SUCK	**Suckling Hills**	4.38	35	Pn	Pn	04 42 32.2	+1.1
SUCK	comp=N,56nm,1.1s			IAML		04 45 03.4	
RAGM	**Ragged Mountai**	4.39	27		Pn	04 42 31.0	-0.1
GLI	**Glacier Island**	4.41	11		Pn	04 42 31.2	-0.2
GLI	**Glacier Island** comp=N,26nm,1.2s	4.41	11	IAML		04 45 15.5	
GLI	**Glacier Island** baz=190	4.41	11	P	Pn	04 42 31.2	-0.2
HMT	**Hamilton**	4.45	30	Pn	Pn	04 42 31.9	-0.1
P18K	**Big Mountain,**	4.46	312	Pn	Pn	04 42 32.0	-0.1
RDWB	**Redoubt West**	4.48	333		Pn	04 42 32.3	-0.2
RC01	**Rabbit Creek A**	4.56	354	Pn	Pn	04 42 33.9	+0.4
RC01	comp=E,16nm,1.0s			IAML		04 44 56.1	
RC01	comp=N,14nm,1.0s			IAML		04 45 08.8	
BERG	**Berg Lake**	4.66	33		Pn	04 42 34.0	-0.8
O18K	**Koktuh Hills**	4.75	317	Pn	Pn	04 42 36.6	+0.6
DIV	**Divide**	4.83	17	Pn	Pn	04 42 37.5	+0.3
KNK	**Knik Glacier**	4.86	2	Pn	Pn	04 42 36.1	-1.5
KNK	comp=N,28nm,1.2s			IAML		04 45 29.9	
KNK	comp=E,16nm,0.9s			IAML		04 45 30.6	
BMRM	**Bremner River**	4.91	24		Pn	04 42 37.8	-0.5
BMRM	**Bremner River** baz=206	4.91	24	P	Pn	04 42 39.0	+0.7
SUA	**Susitna One**	5.02	349	Pn	Pn	04 42 39.9	+0.1
SUA	comp=E,9.7nm,1.2s			IAML		04 44 37.4	
SUA	comp=N,8.4nm,1.1s			IAML		04 45 16.7	
PMR	**Palmer**	5.04	358	Pn	Pn	04 42 40.4	+0.3
PMR	comp=E,9.0nm,1.1s			IAML		04 45 37.9	
PMR	comp=N,6.0nm,0.8s			IAML		04 45 38.4	
KLU	**Klutina**	5.15	15		Pn	04 42 41.9	+0.3
KLU	**Klutina** baz=196	5.15	15	P	Pn	04 42 41.9	+0.3
N19K	**Bonanza Creek**	5.20	327	Pn	Pn	04 42 42.1	-0.3
GHO	**Glory Hole Cre**	5.22	359		Pn	04 42 42.3	-0.3
GHO	comp=E,14nm,0.7s			IAML		04 45 37.6	
GHO	comp=N,16nm,0.8s			IAML		04 45 40.5	
SML	**Sawmill**	5.26	2		Pn	04 42 43.8	+0.7
SML	**Sawmill** comp=N,19nm,0.9s	5.26	2	IAML		04 45 26.8	
SML	comp=E,14nm,0.7s			IAML		04 45 32.6	
SML	**Sawmill** baz=181	5.26	2	P	Pn	04 42 43.9	+0.8
SCM	**Sheep Creek Mo**	5.33	7	Pn	Pn	04 42 45.2	+1.1
SCM	comp=E,25nm,0.9s			IAML		04 45 18.9	
CHGN	**Chignik**	5.37	271	Pn	Pn	04 42 45.4	+0.8
N25K	**Chitina, Valde**	5.49	21		Pn	04 42 46.2	-0.1
N25K	**Chitina, Valde** baz=203	5.49	21	P	Pn	04 42 46.7	+0.4
GLB	**Gilahina Butte**	5.51	26	Pn	Pn	04 42 46.2	-0.3
N18K	**Kilae Creek**	5.56	321		Pn	04 42 47.5	+0.3
M24K	**Tolsona, Glenn**	5.71	12	Pn	Pn	04 42 44.4	+1.1
M20K	**Styx River**	5.79	339	Pn	Pn	04 42 50.1	-0.2
O16K	**Kokwok River B**	5.81	305	Pn	Pn	04 42 51.1	+0.5
PNL	**Peninsula**	5.85	54		Pn	04 42 49.8	-1.4
BCPM	**Bancas Point**	5.89	51	Pn	Pn	04 42 51.9	+0.2
N17K	**Nushagak Hills**	5.94	315	Pn	Pn	04 42 52.5	+0.1
M19K	**Big River Lodg**	6.08	334	Pn	Pn	04 42 54.4	+0.1
HARP	**HAARP**	6.13	16		Pn	04 42 55.1	+0.1
O28M	**Mount Upton**	6.14	43		Pn	04 42 53.9	-1.5
M18K	**Stony River**	6.14	326		Pn	04 42 55.2	+0.1
CNBA	**Chernabura Isl**	6.38	259	Pn	Pn	04 42 56.8	-1.5
L19K	**White Mountain**	6.43	334		Pn	04 42 58.5	-0.7
P29M	**Windy Craggy**	6.59	58		Pn	04 42 59.7	-1.7
M17K	**Holitna River**	6.60	321	Pn	Pn	04 43 01.8	+0.3
TTA	**Tatalina**	7.36	333	Pn	Pn	04 43 18.0	+6.1
ILAR	**Eielson Array**	8.28	6	Pn	Pn	04 43 30.7	+6.2
MDM	**Murphy Dome**	8.42	2	Pn	Pn	04 43 32.1	+5.7
I23K	**Minto, Yukon-K**	8.62	358	Pn	Pn	04 43 33.9	+4.9
L14K	**Kuka Creek**	8.64	309	Pn	Pn	04 43 33.0	+3.7
IMAR	**Indian Mountai**	9.75	348	Pn	Pn	04 43 44.4	-0.1
H18K	**Honhosa River**	9.79	335	Pn	Pn	04 43 50.1	+5.0

*ANF **02** 04:43:31.0±0.2,62.˚02N×141.˚07W,h1km±2km,ML3.5/53, Error ellipse: s-maj=1.4km s-min=1.2km az=44.0*
*AEIC **02** 04:43:31.4±1.6,62.˚05N±0.˚02×141.˚07W±0.˚03,h2km±6km, ML3.1,ML3.2/155(NEIC),Error ellipse: s-maj=2.8km s-min=2.2km az=206.0*
*NEIC **02** 04:43:31.5±1.6,62.˚032N±0.˚004×141.˚09W±0.˚04, h4km±6km,Error ellipse: s-maj=2.9km s-min=0.5km az=83.0*
ISC 02 04:43:31.3±1.0,**62.˚03N**±0.˚02×**141.˚12W**±0.˚02,**h9**km±8km, **n263,σ1§06/275,Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK2	**White River**	0.28	152		Pg	04 43 37.5	+0.6
YUK2					Sg	04 43 41.8	+1.2
BVCY	**Beaver Creek**	0.40	17		Pn	04 43 44.3	+0.8
BVCY	**Beaver Creek** baz=196,SNR=119	0.40	17	P	Pg	04 43 39.3	+0.1
BVCY	baz=196			S	Pn	04 43 44.2	+0.8
YUK3	**Moose Creek**	0.40	129		Pg	04 43 39.3	0.0
YUK3					Sg	04 43 44.8	+0.2
YUK3	**Moose Creek** baz=314,SNR=1000	0.40	129	P	Pg	04 43 39.3	0.0
YUK3	baz=314			S	Sg	04 43 44.6	0.0
M27K	**Edge Creek, AK**	0.48	313		Pg	04 43 40.8	0.0
M27K	comp=N,2μm,0.8s			IAML		04 43 49.3	
M27K	**Edge Creek, AK**	0.48	313		Sg	04 43 47.2	+0.1
M27K	**Edge Creek, AK** baz=129,SNR=902	0.48	313	P	Pg	04 43 40.8	0.0
M27K	baz=129			S	Sg	04 43 47.2	+0.1
M26K	**Nabesna, AK**	0.96	294		Pg	04 43 48.9	-0.7
M26K	comp=E,652nm,0.4s			IAML		04 44 02.0	
M26K	comp=N,746nm,0.4s			IAML		04 44 05.2	
M26K	**Nabesna, AK** baz=110,SNR=695	0.96	294	P	Pg	04 43 49.0	-0.7
M26K	baz=110			S	Sg	04 44 01.2	-0.9
YUK8	**Steele Glacier**	0.99	139		Pg	04 43 49.9	-0.4
YUK8					Sb	04 44 03.9	-0.2
YUK8	**Steele Glacier** baz=322,SNR=517	0.99	139	P	Pg	04 43 49.6	-0.7
YUK8	baz=322			S	Sb	04 44 03.3	-0.7
BARN	**Barnard Glacie**	1.01	195		Pg	04 43 50.5	-0.3
BARN	**Barnard Glacie** comp=N,464nm,0.5s	1.01	195	IAML		04 44 12.2	
BARN	comp=E,591nm,0.4s			IAML		04 44 12.3	
PTPK	**Patty Peak**	1.06	218		Pg	04 43 51.6	-0.1
CTG	**Chitna Glacier** baz=6.4,SNR=461	1.08	186	P	Pg	04 43 51.6	-0.3
CTG	baz=6.4			Sb	Sn	04 44 07.4	-0.4
CTGM	**Chitina Glacie**	1.08	186		Pg	04 43 51.8	-0.2
CTGM	comp=N,386nm,0.5s			IAML		04 44 14.0	
BCAR	**Beaver Creek A**	1.08	344	Pg	Pg	04 43 51.3	-0.8
L27K	**Beaver Creek,**	1.08	343	Pg	Pg	04 43 51.5	-0.7
L27K	comp=N,448nm,0.2s			IAML		04 44 07.9	
L27K	comp=E,571nm,0.5s			IAML		04 44 08.5	
L27K	**Beaver Creek,** baz=161,SNR=813	1.08	343	P	Pg	04 43 51.6	-0.6
MCARA	**McCarthy VSAT**	1.12	235		Pb	04 43 52.6	-0.2
MCARA					Sn	04 44 08.0	-0.6
MCARA	**McCarthy VSAT** baz=53,SNR=239	1.12	235	P	Pb	04 43 52.4	-0.4
MCARA	baz=53			S	Sn	04 44 08.1	-0.6
LOGN	**Logan Glacier**	1.21	177		Pb	04 43 54.3	-0.3
LOGN	**Logan Glacier**	1.21	177		Sn	04 44 12.8	+1.5
KIAG	**Kiagna River**	1.26	209		Pn	04 43 55.0	-0.4
M29M	**Somme Creek**	1.31	70		Pn	04 43 54.9	-1.0
M29M	**Somme Creek** baz=253,SNR=227	1.31	70	P	Pn	04 43 55.3	-0.7
M29M	baz=253			S	Sn	04 44 13.8	+0.2
O28M	**Mount Upton**	1.34	160		Pn	04 43 56.4	-0.2
O28M	**Mount Upton** baz=342,SNR=175	1.34	160	P	Pn	04 43 56.3	-0.2
O28M	baz=342			S	Sg	04 44 14.6	+0.1
YUK4	**Talbot Arm** baz=298,SNR=246	1.36	119	P	Pn	04 43 56.1	-0.6
YUK4	baz=298			S	Sg	04 44 15.0	-0.1
VRDI	**Verde Repeater**	1.38	235		Pn	04 43 56.9	0.0
VRDI	comp=E,280nm,0.5s			IAML		04 44 16.0	
VRDI	comp=N,266nm,0.7s			IAML		04 44 16.0	
GLB	**Gilahina Butte**	1.41	246		Pn	04 43 57.1	-0.1
L26K	**Log Cabin Wild**	1.44	315		Pn	04 43 57.6	0.0
L26K	**Log Cabin Wild** baz=132,SNR=28	1.44	315	P	Pb	04 43 58.1	-0.2
L26K	baz=132			S	Sg	04 44 17.0	-0.5
WASW	**Wrangell South**	1.45	267		Pb	04 43 58.2	-0.4
MENT	**Mentasta**	1.51	308		Pb	04 43 59.3	-0.3
MENT					Sg	04 44 20.4	+0.4
WACK	**Wrangell Chich**	1.52	270		Pb	04 43 59.6	-0.2
ISLE	**Juniper Island**	1.55	203		Pb	04 44 00.2	0.0
ISLE	comp=E,217nm,0.5s			IAML		04 44 28.8	
N25K	**Chitina, Valde**	1.71	257		Pb	04 44 02.6	-0.3
N25K					Sg	04 44 25.9	-0.3
N25K	**Chitina, Valde** baz=73	1.71	257	P	Pb	04 44 02.6	-0.3
N25K	baz=73			S	Sg	04 44 25.5	-0.7
YUK6	**Outpost Mounta**	1.71	128		Pb	04 44 02.5	-0.6
YUK6	**Outpost Mounta** baz=312,SNR=181	1.71	128	P	Pn	04 44 01.9	+0.3
YUK6	baz=312			S	Sb	04 44 24.6	-0.2
L29M	**L29M**	1.75	51		Pn	04 44 02.1	+0.1
L29M	**L29M** baz=234,SNR=229	1.75	51	P	Pn	04 44 01.9	0.0
L29M	baz=234			S	Sb	04 44 25.9	+0.1
BARK	**Barkley Ridge**	1.77	203		Pb	04 44 04.0	+0.1
BARK					Sg	04 44 28.0	0.0
WAX	**Waxell Ridge**	1.80	209		Pb	04 44 04.6	+0.1
WAX	**Waxell Ridge** comp=E,278nm,0.4s	1.80	209	IAML		04 44 35.1	
KHIT	**Khitrov Hills**	1.90	214		Pb	04 44 05.9	-0.3
MESA	**MESA**	1.90	193		Pb	04 44 06.3	0.0
MESA	comp=E,248nm,0.7s			IAML		04 44 36.8	
MESA	comp=N,196nm,0.7s			IAML		04 44 38.1	
MESA	**MESA** baz=12,SNR=96	1.90	193	Pg	Pg	04 44 07.3	-0.5
MESA	baz=12			Sg	Sg	04 44 34.5	+2.1
HARP	**HAARP**	1.93	283		Pn	04 44 05.3	+1.0
HARP					Sg	04 44 32.0	-1.2
HARP	**HAARP** baz=98	1.93	283	P	Pn	04 44 04.7	+0.3
HARP	baz=98			Sb	Sg	04 44 33.1	-0.2
BMRM	**Bremner River** baz=56	1.98	239	P	Pn	04 44 05.7	+0.5
BMRM	baz=56			S	Sb	04 44 32.1	-0.4
N30M	**Aishikik Lake**	2.00	105		Pn	04 44 05.7	+0.3
N30M	comp=N,146nm,0.5s			IAML		04 44 34.9	
N30M	**Aishikik Lake** baz=289,SNR=102	2.00	105	P	Pn	04 44 05.4	0.0
N30M	baz=289			S	Sb	04 44 31.4	-1.5
K27K	**Chicken**	2.05	348		Pn	04 44 06.6	+0.5
K27K	**Chicken** comp=E,194nm,0.7s	2.05	348	IAML		04 44 36.7	
K27K	**Chicken** baz=167	2.05	348	P	Pn	04 44 06.5	+0.5
K27K	baz=167			S	Sb	04 44 34.2	-0.2
BERG	**Berg Lake**	2.07	218		Pb	04 44 08.8	-0.2
BERG	comp=N,291nm,0.8s			IAML		04 44 40.4	
BERG	comp=E,283nm,1.0s			IAML		04 44 40.9	
YUK7	**Dusty Glacier**	2.08	135		Pb	04 44 08.1	-1.3
HYT	**Haines Junctio**	2.12	123		Pn	04 44 07.9	+0.9
HYT	**Haines Junctio** comp=N,133nm,1.0s	2.12	123	IAML		04 44 41.0	
HYT	comp=E,118nm,0.9s			IAML		04 44 44.1	
HYT	**Haines Junctio** baz=307,SNR=60	2.12	123	P	Pn	04 44 07.1	+0.1
HYT	baz=307			Sb	Sg	04 44 37.6	-1.7
DAWY	**Dawson**	2.19	20		Pn	04 44 08.4	+0.5
DAWY	**Dawson** comp=N,228nm,0.6s	2.19	20	IAML		04 44 44.0	
DAWY	**Dawson** baz=202,SNR=49	2.19	20	P	Pn	04 44 08.2	+0.3
DAWY	baz=202			S	Sb	04 44 37.3	-1.0
BCPM	**Bancas Point**	2.21	160		Pn	04 44 09.4	+1.3
PAX	**Paxson**	2.23	297		Pb	04 44 10.3	-1.5
PAX	**Paxson** baz=112	2.23	297	P	Pn	04 44 09.8	+1.2
PAX	baz=112			Sb	Sg	04 44 41.6	-1.3
GOAT	**Goat Mountain**	2.27	232		Pb	04 44 11.9	-0.6
NICHA	**Nichawak Mount**	2.27	219		Pb	04 44 10.7	-1.8
HMT	**Hamilton**	2.28	223		Pb	04 44 11.4	-1.3
HMT	comp=N,200nm,0.4s			IAML		04 44 47.6	
KLU	**Klutina**	2.35	259		Pb	04 44 12.1	-1.7
KLU	**Klutina** comp=N,93nm,0.4s	2.35	259	IAML		04 44 47.0	
KLU	**Klutina** baz=74	2.35	259	P	Pn	04 44 10.4	+0.3
KLU	baz=74			Sb	Sb	04 44 44.8	+1.8
SCRK	**Sand Creek**	2.35	327		Pn	04 44 10.0	-0.2
SCRK	**Sand Creek** comp=N,106nm,0.6s	2.35	327	IAML		04 44 47.7	
SCRK	comp=E,115nm,0.7s			IAML		04 44 47.9	
SCRK	**Sand Creek** baz=144,SNR=42	2.35	327	P	Pn	04 44 10.0	-0.2
SCRK	baz=144			Sb	Sb	04 44 44.6	+1.6
M24K	**Tolsona, Glenn**	2.38	274		Pb	04 44 12.6	-1.9
M24K	**Tolsona, Glenn** baz=89	2.38	274	Pb	Pb	04 44 14.8	+0.4
RAGM	**Ragged Mountai**	2.39	228		Pb	04 44 13.5	-1.0
RAGM	**Ragged Mountai** comp=E,130nm,0.7s	2.39	228	IAML		04 44 50.6	
RAGM	comp=N,247nm,0.8s			IAML		04 44 54.5	
DIV	**Divide**	2.40	250		Pb	04 44 13.2	-1.6
K29M	**Barlow Dome**	2.45	41		Pn	04 44 12.5	+0.9
K29M	**Barlow Dome** comp=E,102nm,0.4s	2.45	41	IAML		04 44 51.2	
K29M	comp=N,109nm,0.8s			IAML		04 44 53.0	
K29M	**Barlow Dome** baz=224,SNR=80	2.45	41	P	Pn	04 44 12.3	+0.7
K29M	baz=224			Sb	Sb	04 44 47.3	+1.3
PNL	**Peninsula**	2.52	160		Pb	04 44 14.5	-2.2
N31M	**Braeburn, Yuko**	2.59	100		Pn	04 44 13.9	+0.4
N31M	comp=N,132nm,0.7s			IAML		04 44 56.8	
N31M	comp=E,150nm,0.6s			IAML		04 44 58.4	
EYAK	**Cordova Ski Ar**	2.69	238		Pn	04 44 16.9	+2.2
EYAK	**Cordova Ski Ar** baz=54	2.69	238	Pb	Pb	04 44 18.3	-1.3
J26L	**Joseph Creek**	2.71	337	Pn	Pn	04 44 15.9	+0.7
J26L	comp=N,137nm,0.6s			IAML		04 44 57.1	
J26L	**Joseph Creek** baz=154,SNR=79	2.71	337	P	Pn	04 44 15.7	+0.5
J26L	baz=154			Sb	Sb	04 44 55.6	+2.1
O30N	**Mendenhall**	2.73	115		Pn	04 44 15.4	0.0
O30N	**Mendenhall** comp=E,90nm,0.6s	2.73	115	IAML		04 45 02.3	
O30N	comp=N,94nm,0.8s			IAML		04 45 02.8	
O30N	**Mendenhall**	2.73	115	P	Pn	04 44 15.2	-0.2

baz=300,SNR=26
O30N S Sn 04 44 48.7 +0.3
baz=300
EGAK Eagle 2.76 360 Pn 04 44 16.1 +0.5
EGAK Eagle 2.76 360 P Pn 04 44 17.4 +1.7
baz=179,SNR=131
J29N Klondike Camp 2.76 27 Pn 04 44 17.0 +1.2
J29N Klondike Camp 2.76 27 P Pn 04 44 16.9 +1.1
baz=210,SNR=33
J29N Sb Sb 04 44 56.5 +1.7
baz=210
K24K Donnelly Dome 2.78 312 Pn 04 44 16.6 +0.6
K24K Donnelly Dome 2.78 312 P Pn 04 44 16.8 +0.8
baz=127
K24K Sb Sg 04 44 59.8 -0.7
baz=127
P30M Million Dollar 2.78 132 Pn 04 44 17.1 +1.0
P30M Million Dollar 2.78 132 Pb Pb 04 44 21.3 +0.1
baz=316
MAYO Mayo, Yukon 2.87 54 Pn 04 44 17.6 +0.4
FID Port Fidalgo 2.88 246 Pb 04 44 20.6 -2.3
FID Port Fidalgo 2.88 246 IAML 04 45 06.5
comp=E,44nm,1.0s
FID IAML 04 45 07.2
comp=N,40nm,0.6s
P29M Windy Craggy 2.92 144 Pn 04 44 19.3 +1.3
P29M Windy Craggy 2.92 144 IAML 04 45 12.2
comp=N,59nm,0.9s
HIN Hinchinbrook I 3.08 240 Pn 04 44 22.5 +2.4
HIN Hinchinbrook I 3.08 240 IAML 04 45 08.8
comp=N,68nm,2.1s
HIN IAML 04 45 24.3
comp=E,68nm,1.7s
DHY Denali Highway 3.08 293 Pn Pn 04 44 16.1 -4.2
GLI Glacier Island 3.10 251 Pn 04 44 22.2 +1.9
GLI Glacier Island 3.10 251 IAML 04 45 10.4
comp=E,34nm,1.1s
GLI IAML 04 45 14.6
comp=N,28nm,1.3s
GLI Glacier Island 3.10 251 P Pn 04 44 22.3 +1.9
baz=65
WAT6 Susitna Watana 3.14 283 Pn 04 44 22.6 +1.5
M31M Drury Creek, Y 3.16 84 Pn 04 44 22.4 +1.1
M31M IAML 04 45 12.8
comp=N,99nm,0.7s
M31M IAML 04 45 17.5
comp=E,94nm,0.7s
J25K Salcha River, 3.22 325 Pn 04 44 22.3 +0.1
J25K IAML 04 45 13.0
comp=N,61nm,0.5s
J25K IAML 04 45 14.8
comp=E,57nm,0.5s
J25K Salcha River, 3.22 325 P Pn 04 44 22.1 -0.1
baz=141
WHY Whitehorse 3.30 112 Pn 04 44 24.1 +0.8
WHY Whitehorse 3.30 112 IAML 04 45 21.8
comp=E,45nm,0.8s
WHY IAML 04 45 22.3
comp=N,65nm,1.2s
J30M Hart River 3.34 38 Pn Pn 04 44 24.5 +0.6
J30M IAML 04 45 20.0
comp=N,78nm,0.8s
J30M IAML 04 45 21.2
comp=E,81nm,0.4s
J30M Hart River 3.34 38 P Pn 04 44 24.7 +0.8
baz=222,SNR=83
I26K Coal Creek Min 3.41 345 Pn 04 44 25.8 +1.1
I26K Coal Creek Min 3.41 345 P Pn 04 44 26.2 +1.5
baz=163
SML Sawmill 3.42 269 Pn 04 44 26.3 +1.5
SML Sawmill 3.42 269 IAML 04 45 25.9
comp=N,22nm,1.3s
SML IAML 04 46 13.3
comp=E,17nm,2.8s
SML Sawmill 3.42 269 P Pn 04 44 26.6 +1.8
baz=83
I28M Miner Creek 3.47 8 Pn Pn 04 44 26.1 +0.5
I28M IAML 04 45 24.4
comp=N,61nm,0.3s
I28M IAML 04 45 24.7
comp=E,64nm,0.6s
I28M Miner Creek 3.47 8 P Pn 04 44 25.9 +0.3
baz=189,SNR=111
KNK Knik Glacier 3.55 263 Pn 04 44 28.5 +1.9
KNK Knik Glacier 3.55 263 P Pn 04 44 28.6 +1.9
baz=76
HDA Harding Lake 3.56 315 Pn 04 44 26.6 -0.2
HDA IAML 04 45 25.9
comp=E,50nm,0.5s
HDA IAML 04 45 31.7
comp=N,42nm,0.8s
HDA Harding Lake 3.56 315 P Pn 04 44 26.5 -0.2
baz=129
I27K Kandik River 3.59 357 Pn 04 44 27.9 +0.7
I27K Kandik River 3.59 357 P Pn 04 44 28.1 +0.9
baz=176,SNR=30
FARO Faro, Yukon 3.65 83 Pn 04 44 28.1 0.0
FARO IAML 04 45 28.6
comp=N,77nm,0.8s
P23K Montague Islan 3.68 239 Pn 04 44 30.4 +2.1
IL31 3.78 319 Pn 04 44 29.3 -0.4
ILAR Eielson Array 3.78 319 Pn 04 44 29.5 -0.2
RND Reindeer 3.82 295 Pn 04 44 31.4 +1.1
SKAG Skagway 3.84 130 Pn Pn 04 44 32.8 +2.3
SKAG IAML 04 45 44.1
comp=N,43nm,0.6s
SKAG IAML 04 46 11.9
comp=E,38nm,1.2s
I30M Mount Dempster 3.84 31 Pn 04 44 30.9 +0.3
I30M Mount Dempster 3.84 31 IAML 04 45 36.9
comp=E,53nm,0.6s
I30M IAML 04 45 40.2
comp=N,46nm,0.6s
I30M Mount Dempster 3.84 31 P Pn 04 44 31.2 +0.5
baz=216,SNR=65
N32M Quiet Lake 3.94 99 Pn 04 44 32.4 +0.4
N32M Quiet Lake 3.94 99 P Pn 04 44 32.4 +0.4
baz=287
WRH Wood River Hil 3.99 311 Pn 04 44 32.7 +0.1
WRH Wood River Hil 3.99 311 IAML 04 45 37.2
comp=N,24nm,0.8s
WRH IAML 04 45 38.4
comp=E,26nm,1.0s
PRP Porcupine Dome 4.01 333 Pn 04 44 33.6 +0.6
PRP Porcupine Dome 4.01 333 P Pn 04 44 33.6 +0.6
baz=148
COLA College 4.16 316 Pn Pn 04 44 35.9 +1.0
POKR Poker Plat Res 4.19 320 Pn 04 44 35.2 -0.2
POKR Poker Plat Res 4.19 320 IAML 04 45 44.5
comp=E,44nm,0.6s
POKR IAML 04 45 50.2
comp=N,38nm,0.8s
POKR Poker Plat Res 4.19 320 P Pn 04 44 35.3 -0.1
baz=134
H27K Steamboat Moun 4.22 358 Pn 04 44 36.5 +0.6
H27K Steamboat Moun 4.22 358 P Pn 04 44 36.9 +1.0
baz=177,SNR=24
MDM Murphy Dome 4.33 316 Pn 04 44 36.6 -0.8
MDM IAML 04 45 48.6
comp=E,28nm,0.8s
MDM IAML 04 46 00.1
comp=N,26nm,0.8s
BWN Browne 4.36 303 Pn 04 44 37.4 -0.2
BWN IAML 04 45 52.9
comp=N,43nm,0.7s
BWN IAML 04 45 59.5
comp=E,46nm,1.2s
H29M Whitestone 4.37 15 Pn 04 44 37.7 -0.2
H29M Whitestone 4.37 15 IAML 04 45 52.8
comp=N,45nm,1.0s
H29M Whitestone 4.37 15 P Pn 04 44 38.1 +0.2
baz=197,SNR=112
P32M Atlin 4.37 121 Pn 04 44 38.7 +0.7
P32M Atlin 4.37 121 IAML 04 45 50.9
comp=N,20nm,0.8s
P32M IAML 04 45 52.9
comp=E,19nm,0.6s
NEA2 Nenana 4.41 309 Pn 04 44 38.2 -0.2
NEA2 Nenana 4.41 309 P Pn 04 44 38.0 -0.4
baz=122
P33M Teslin, Yukon 4.42 111 Pn 04 44 38.6 0.0
P33M Teslin, Yukon 4.42 111 IAML 04 45 58.8
comp=E,21nm,0.6s
P33M IAML 04 46 00.4
comp=N,26nm,1.2s
TRF Thorofare Moun 4.45 293 Pn 04 44 41.2 +2.1
TRF IAML 04 45 57.2
comp=N,20nm,1.5s
TRF IAML 04 46 02.4
comp=E,18nm,1.6s
H25L Birch Creek 4.72 336 Pn 04 44 43.4 +0.8
H25L Birch Creek 4.72 336 P Pn 04 44 44.3 +1.7
baz=152
KTH Kantishna Hill 4.75 293 Pn Pn 04 44 44.8 +1.6
KTH IAML 04 46 07.7
comp=N,22nm,1.3s
KTH IAML 04 46 09.7
comp=E,17nm,1.6s
EPYK Eagle Plains 4.76 22 Pn Pn 04 44 45.5 +2.3
G27K Doyon Strip 4.80 357 Pn 04 44 44.7 +0.9
G27K Doyon Strip 4.80 357 IAML 04 46 08.4
comp=E,21nm,0.9s
G27K IAML 04 46 10.5
comp=N,14nm,1.2s
G27K Doyon Strip 4.80 357 P Pn 04 44 44.8 +1.0
baz=177,SNR=20
H31M Peel River 4.82 35 Pn Pn 04 44 45.7 +1.6
H31M Peel River 4.82 35 P Pn 04 44 44.5 +0.4
baz=221
I23K Minto, Yukon-K 4.83 314 Pn 04 44 43.5 -0.6
I23K Minto, Yukon-K 4.83 314 IAML 04 46 04.9
comp=E,32nm,1.4s
I23K IAML 04 46 05.7
comp=N,28nm,0.7s
I23K Minto, Yukon-K 4.83 314 P Pn 04 44 43.7 -0.4
H24K Noodor Dome 4.84 325 Pn Pn 04 44 44.2 -0.2
H24K IAML 04 46 17.2
comp=E,27nm,1.3s
H24K Noodor Dome 4.84 325 P Pn 04 44 45.0 +0.6
baz=139
FYU Fort Yukon 4.89 340 Pn Pn 04 44 45.7 +0.7
SKT Skwentna 4.91 274 P Pn 04 44 47.2 +1.9
baz=84
G26K Porcupine Rive 5.07 348 Pn 04 44 48.4 +1.0
G26K Porcupine Rive 5.07 348 P Pn 04 44 48.6 +1.1
baz=165,SNR=22
G29M Pine Creek 5.08 14 Pn 04 44 47.4 -0.2
G29M Pine Creek 5.08 14 P Pn 04 44 47.8 +0.2
baz=197,SNR=18
PPLA Purkeypile 5.21 284 Pn 04 44 50.9 +1.4
G25K Bearman Lake 5.22 338 Pn 04 44 50.5 +1.0
G25K Bearman Lake 5.22 338 P Pn 04 44 50.5 +1.0
baz=153
CAST Castle Rocks 5.24 290 Pn 04 44 49.9 +0.2
CAST IAML 04 46 19.7
comp=E,9.4nm,3.0s
MLY Manley 5.25 309 Pn 04 44 49.6 -0.3
MLY Manley 5.25 309 P Pn 04 44 49.6 -0.3
baz=120
H23K Yukon River 5.32 319 Pn 04 44 50.9 0.0
H23K Yukon River 5.32 319 IAML 04 46 27.7
comp=E,18nm,1.2s
H23K IAML 04 46 32.0
comp=N,17nm,0.8s
H23K Yukon River 5.32 319 P Pn 04 44 50.9 0.0
baz=132
G30M tAoh Zraii Nji 5.40 21 Pn Pn 04 44 52.1 +0.2
G30M IAML 04 46 28.8
comp=N,15nm,0.6s
G30M tAoh Zraii Nji 5.40 21 P Pn 04 44 51.8 -0.1
baz=205,SNR=16
G24K Hadweenzic Riv 5.44 332 Pn 04 44 53.2 +0.7
G24K Hadweenzic Riv 5.44 332 P Pn 04 44 53.2 +0.7
baz=146
BMAR Burnt Mountain 5.62 346 Pn Pn 04 44 56.1 +1.1
F28M Old Crow 5.63 5 Pn Pn 04 44 55.9 +0.7
R33M Jennings River 5.64 113 Pn 04 44 55.9 +0.5
G31M Satah River 5.73 28 Pn 04 44 56.1 -0.3
G31M Satah River 5.73 28 P Pn 04 44 56.1 -0.3
baz=214
F26K Sheenjek River 5.83 349 Pn 04 44 59.0 +1.1
F26K Sheenjek River 5.83 349 P Pn 04 44 59.1 +1.2
baz=166,SNR=75
F25K Christian Rive 5.91 343 Pn 04 44 59.6 +0.6
F25K Christian Rive 5.91 343 P Pn 04 44 60.0 +1.0
baz=159,SNR=30
H22K Ishtalitna Cre 5.95 315 Pn 04 44 59.4 -0.1
H22K Ishtalitna Cre 5.95 315 P Pn 04 44 59.6 0.0
baz=126
L20K Farewell, AK 5.98 280 P Pn 04 45 01.2 +1.2
baz=88
F30M Barrier River 6.04 20 P Pn 04 45 01.3 +0.5
baz=204
G23K Bananza Creek 6.08 324 Pn Pn 04 45 01.2 -0.1
G23K Bananza Creek 6.08 324 P Pn 04 45 01.8 +0.5
baz=136
E27K Coleen River 6.18 358 Pn 04 45 03.2 +0.5
E27K Coleen River 6.18 358 P Pn 04 45 03.4 +0.6
baz=178,SNR=9.8
F24K Squaw Lake 6.22 335 Pn 04 45 04.1 +0.8
F24K Squaw Lake 6.22 335 P Pn 04 45 04.3 +1.1
baz=149
F31M Tsiigehtchic 6.28 27 Pn Pn 04 45 03.7 -0.2
H21K Melozitna Rive 6.32 310 Pn 04 45 04.3 -0.2
H21K Melozitna Rive 6.32 310 P Pn 04 45 04.5 0.0
baz=120
E25K Arctic Village 6.40 345 Pn 04 45 06.6 +1.0
E25K Arctic Village 6.40 345 P Pn 04 45 06.9 +1.3
baz=161,SNR=31
L19K White Mountain 6.45 277 P Pn 04 45 07.9 +1.4
baz=85
COLD Coldfoot 6.51 327 Pn 04 45 08.2 +1.0
COLD Coldfoot 6.51 327 P Pn 04 45 07.8 +0.7
baz=139
E29M Blow River 6.53 11 Pn 04 45 07.5 +0.1
E29M Blow River 6.53 11 P Pn 04 45 07.3 0.0
baz=193,SNR=29
E28M Babbage River 6.63 5 Pn 04 45 09.6 +0.7
E28M Babbage River 6.63 5 P Pn 04 45 09.2 +0.3
baz=186
E24K Your Creek 6.82 336 Pn 04 45 12.3 +0.8
E24K Your Creek 6.82 336 P Pn 04 45 12.7 +1.3
baz=149
J19K Poorman 6.89 293 P Pn 04 45 13.9 +1.5
baz=100
TTA Tatalina 6.96 284 P Pn 04 45 14.7 +1.3
baz=91
M18K Stony River 7.00 272 P Pn 04 45 15.2 +1.3
baz=79
G21K Allakaket 7.02 315 Pn 04 45 14.7 +0.6
G21K Allakaket 7.02 315 P Pn 04 45 14.9 +0.8
baz=124
E23K Chandalar 7.03 333 Pn 04 45 15.8 +1.4
E23K Chandalar 7.03 333 P Pn 04 45 16.0 +1.6
baz=145
F22K John River 7.24 324 Pn 04 45 18.5 +1.3
F22K John River 7.24 324 P Pn 04 45 18.6 +1.3
baz=134
D27M Malcolm River 7.24 0 P Pn 04 45 18.5 +1.2
baz=180
J18K Innoko River 7.30 288 P Pn 04 45 20.2 +2.1
baz=94
D28M Stokes Point 7.39 7 P Pn 04 45 20.8 +1.5
baz=189,SNR=17
F21K Alatna River 7.43 320 Pn 04 45 20.6 +0.8
F21K Alatna River 7.43 320 P Pn 04 45 20.7 +0.9
baz=128
TOLK Toolik Lake Re 7.51 336 Pn 04 45 23.8 +2.8
TOLK Toolik Lake Re 7.51 336 P Pn 04 45 23.1 +2.1
baz=148
E22K Anaktuvuk Pass 7.60 328 Pn 04 45 23.3 +1.1
E22K Anaktuvuk Pass 7.60 328 P Pn 04 45 24.1 +1.9
baz=138
D25K Kavik River 7.63 346 Pn 04 45 24.5 +1.9
D25K Kavik River 7.63 346 P Pn 04 45 24.5 +1.9
baz=161,SNR=15
C27K Jago River 7.70 353 P Pn 04 45 26.0 +2.5
baz=171,SNR=16
D23K Nanushuk River 8.01 334 P Pn 04 45 30.7 +3.1
baz=146
F20K Avaraart Lake 8.04 315 Pn 04 45 28.8 +0.6
F20K Avaraart Lake 8.04 315 P Pn 04 45 28.9 +0.7
baz=122
C24K Franklin Bluff 8.31 341 P Pn 04 45 34.0 +2.1
baz=154
E21K Killik River 8.38 326 P Pn 04 45 35.4 +2.6
baz=134
E19K Redstone River 8.76 315 P Pn 04 45 39.2 +1.1
baz=121
D20K Etivluk River 9.29 323 Pn 04 45 46.6 +1.3
D20K Etivluk River 9.29 323 P Pn 04 45 47.0 +1.7
baz=129

*HEL **02** 05:16:08.6±0.2, 67°.68N×33°.68E, h0km, ML1.7, Suspected explosion*
*KOLA **02** 05:16:08.8, 67°.64N×33°.79E, h0km, ML2.0, Error ellipse: s-maj=5.0km s-min=1.4km az=150.0, Khibiny, mines Kirovsk, Yukspor, Khibiny, mines Rasvumchorr, Central*
*IDC **02** 05:16:09.0±2.2, 67°.24N×32°.73E, h0km, mbtmp3.2/4, ML2.2/3, Error ellipse: s-maj=26.8km s-min=10.5km az=82.0*

ISC 02 05:16:07.7±0.9, 67°.60N±0°.04×33°.81E±0°.03, h0km, n28, σ1s51/47, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.16**	**259**	P	**Pg**	**05 16 11.5**	**+0.8**
APA				S	**Sg**	**05 16 14.0**	**+1.3**
APA0	**Apatity Array**	**0.31**	**272**	P	**Pg**	**05 16 14.0**	**+0.3**
APA0				S	**Sg**	**05 16 18.5**	**+0.8**
LVZ	**Lovozero**	**0.44**	**47**	P	**Pg**	**05 16 16.1**	**0.0**
LVZ				S	**Sg**	**05 16 22.5**	**+0.7**
LVZ	**Lovozero**	**0.44**	**47**	PG	**Pg**	**05 16 15.8**	**-0.3**
LVZ				SG	**Sg**	**05 16 22.8**	**+0.9**
VRF	**Varrio**	**1.61**	**277**	PG	**Pn**	**05 16 36.9**	**-0.5**
VRF				MSG		05 16 55.3	
	comp=Z,7.1nm,0.2s						
VRF				SN	**Sn**	**05 16 57.6**	**-1.2**
TERR	**Teriberka**	**1.68**	**16**	P	**Pn**	**05 16 37.6**	**-0.7**
TERR				S	**Sn**	**05 16 59.0**	**-1.5**
OLKF	**Oulanka, Finla**	**2.16**	**235**	PG	**Pb**	**05 16 47.0**	**-0.6**
OLKF				MSG		05 17 12.9	
	comp=Z,4.1nm,0.2s						
OLKF				SG	**Sg**	**05 17 16.1**	**-0.8**
KU6	**Riekki**	**2.21**	**226**	PG	**Pb**	**05 16 48.1**	**-0.5**
	baz=44						
KU6				MSG		05 17 14.9	
	comp=Z,2.6nm,0.2s						
KU6				SG	**Sg**	**05 17 17.8**	**-0.9**
RAJF	**Raja-Jooseppi**	**2.25**	**296**	PG	**Pn**	**05 16 46.7**	**+0.6**
RAJF				SG	**Sn**	**05 17 15.0**	**+0.5**
MSF	**Maaselka**	**2.54**	**230**	PB	**Pb**	**05 16 53.4**	**-0.7**
MSF				SG	**Sg**	**05 17 28.8**	**-0.3**
SGF	**Sodankyl**	**2.80**	**270**	PG	**Pb**	**05 16 57.4**	**-1.2**
SGF				SB	**Sb**	**05 17 31.9**	**-1.5**
KMNF	**Kaamanen**	**2.96**	**305**	PB	**Pn**	**05 16 56.1**	**+0.2**
KMNF				SB	**Sn**	**05 17 33.9**	**+1.8**
RANF	**Ranua**	**3.20**	**243**	PB	**Pb**	**05 17 04.0**	**-1.4**
	baz=56						
RANF				SG	**Sb**	**05 17 46.0**	**+1.2**
RNF	**Rovaniemi**	**3.21**	**256**	PN	**Pn**	**05 17 00.1**	**+0.9**
RNF				SB	**Sn**	**05 17 41.4**	**+3.3**
KEV	**Kevo**	**3.29**	**314**	PN	**Pn**	**05 17 00.8**	**+0.3**
KEV				SN	**Sn**	**05 17 39.8**	**-0.5**
ARA0	**ARCESS Array S**	**3.61**	**306**	PN	**Pn**	**05 17 04.8**	**-0.1**
	baz=122						
ARCES	**ARCESS Array B**	**3.61**	**306**	Pn	**Pn**	**05 17 04.8**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=123,slow=15,SNR=89						
ARCES				Pg	**Pb**	**05 17 12.6**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=124,slow=15,SNR=12						
ARCES				Sn	**Sn**	**05 17 45.2**	**-3.0**
	comp=Z,0.8nm,0.3s,baz=136,slow=22,SNR=9.8						
ARCES				Lg	Lg	05 17 58.1	
	comp=Z,2.6nm,0.3s,baz=114,slow=29,SNR=8.2						
	comp=Z,3.3nm,0.5s						
RMF	**Romuvaara**	**3.75**	**207**	PN	**Pn**	**05 17 07.8**	**+1.1**
	baz=19						
HEF	**Hetta**	**3.90**	**287**	PN	**Pn**	**05 17 09.2**	**+0.4**
HEF				SN	**Sn**	**05 17 55.0**	**-0.3**
OUL	**Oulu**	**4.07**	**235**	SB	**Sb**	**05 18 11.5**	**+1.8**
KTK1	**Kautokeino**	**4.17**	**295**	PG	**Pb**	**05 17 22.3**	**+0.4**
KTK1				SG	**Sb**	**05 18 15.8**	**+3.0**
PAJU	**Pajala**	**4.18**	**267**	PG	**Pb**	**05 17 22.5**	**+0.4**
	baz=73						
PAJU				SN	**Sn**	**05 18 01.9**	**-0.4**
KALU	**Kalix**	**4.50**	**252**	SG	**Sg**	**05 18 27.6**	**-4.4**
LANU	**Lannavaara**	**4.50**	**281**	PN	**Pn**	**05 17 16.6**	**-0.4**
LANU				SN	**Sn**	**05 18 08.9**	**-1.1**
FINES	**FINESS Array B**	**7.02**	**212**	Pn	Pn	05 17 43.2	-8.4
	comp=Z,0.1nm,0.3s,baz=29,slow=18,SNR=2.1						
FINES				Lg	Lg	05 19 35.5	
	comp=Z,0.3nm,0.3s,baz=33,slow=21,SNR=5.7						
	comp=Z,0.7nm,0.7s						
FAUS	**Fauske**	**7.11**	**277**	S	**Sn**	**05 19 09.5**	**-4.6**
SPITS	**Spitsbergen Ar**	**11.71**	**342**	Pn	**Pn**	**05 18 56.3**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=152,slow=9.4,SNR=1.5						
NOA	**NORSAR Array B**	**11.74**	**247**	Pn	Pn	05 18 45.1	-11
	baz=37,slow=14,SNR=1.9						
	comp=Z,0.3nm,0.6s						

IDC 02 05:23:43.9±3.7, 19°.38N×146°.19E, h0km, mb3.7/4, mbtmp3.7/4, MS3.2/1, Error ellipse: s-maj=157.0km s-min=32.9km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLR	**Kul'dur**	**31.96**	**342**	LR	LR	05 44 28.3	
	comp=Z,43nm,20.1s,baz=4.5,slow=39						
WRA	**Warramunga Arr**	**40.77**	**197**	P	P	05 31 26.8	-0.2
	0.3nm,0.5s,baz=11,slow=8.6,SNR=5.3						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**58.33**	**314**	P	P	05 33 41.3	+0.6
	0.3nm,0.7s,baz=90,slow=8.6,SNR=2.3						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**66.25**	**320**	P	P	05 34 34.9	+1.1
	0.7nm,0.5s,baz=92,slow=8.1,SNR=2.9						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**86.46**	**335**	P	P	05 36 26.7	-1.5
	1.1nm,0.7s,baz=47,slow=8.2,SNR=4.8						
	1.1nm,0.7s						

*PDG **02** 05:41:20.6±0.2, 43°.06N×18°.14E, h13km±1km, MD2.6/1, ML2.5/13, Error ellipse: s-maj=0.7km s-min=0.5km az=90.0*
*BEO **02** 05:41:21.5±0.3, 43°.07N×18°.09E, h5km±3km, ML2.3/11*
*RHSSO **02** 05:41:21.5±0.2, 43°.06N×18°.14E, h7km±1km, ML2.5/16*

ISC 02 05:41:21.1±0.9, 43°.04N±0°.02×18°.15E±0°.01, h12km±7km, n56, σ0s95/108, 14C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEVS	**Nevesinje**	**0.26**	**353**	*e*Pg	**Pg**	**05 41 26.1**	**-0.4**
NEVS				*e*Sg	**Sg**	**05 41 30.8**	**+0.7**
BRY	**Bratogost**	**0.32**	**116**	⇑*i*Pg	**Pg**	**05 41 27.5**	**-0.2**
BRY				*e*Sg	**Sb**	**05 41 33.6**	**-0.4**
BRY	**Bratogost**	**0.32**	**116**	⇑*i*Pg	**Pg**	**05 41 27.4**	**-0.2**
BRY				*i* Sg	**Sb**	**05 41 32.9**	**-1.1**
KLINJ	**Klinje**	**0.34**	**68**	⇓*i*Pg	**Pg**	**05 41 27.5**	**-0.6**
KLINJ				*e*Sg	**Sg**	**05 41 33.1**	**+0.4**
TREB	**Trebinje**	**0.36**	**155**	*e*Pg	**Pg**	**05 41 28.1**	**-0.2**
TREB				*e*Sg	**Sb**	**05 41 34.2**	**-0.8**
TREB	**Trebinje**	**0.36**	**155**	⇑*i*Pg	**Pg**	**05 41 28.0**	**-0.2**
TREB				*e*Sg	**Sb**	**05 41 34.2**	**-0.8**
STON	**Ston**	**0.37**	**243**	*e*Pg	**Pg**	**05 41 28.1**	**-0.4**
STON				*e*Sg	**Sg**	**05 41 34.3**	**+0.8**
STON	**Ston**	**0.37**	**243**	*i* Pg	**Pg**	**05 41 27.9**	**-0.6**
STON				Sg	**Sg**	**05 41 34.0**	**+0.6**
STON	**Ston**	**0.37**	**243**	⇑*i*Pg	**Pg**	**05 41 27.9**	**-0.6**
STON				*e*Sg	**Sg**	**05 41 34.2**	**+0.8**
DBRK	**Dubrovnik**	**0.37**	**180**	*i* Pg	**Pg**	**05 41 28.9**	**+0.3**
DBRK				Sg	**Sb**	**05 41 35.2**	**-0.3**
UPM	**Unac-Piva**	**0.58**	**74**	⇑*i*Pg	**Pg**	**05 41 31.5**	**-0.9**
UPM				*e*Sg	**Sb**	**05 41 40.9**	**-0.6**
UPM	**Unac-Piva**	**0.58**	**74**	⇓*i*Pg	**Pg**	**05 41 32.0**	**-0.4**
UPM				*i* Sg	**Sg**	**05 41 40.0**	**-0.1**
HCY	**Herceg Novi**	**0.65**	**157**	⇑*i*Pg	**Pg**	**05 41 33.3**	**-0.4**
HCY				*e*Sg	**Sb**	**05 41 44.0**	**+0.6**
HCY	**Herceg Novi**	**0.65**	**157**	⇓*i*Pg	**Pg**	**05 41 33.0**	**-0.7**
HCY				*i* Sg	**Sb**	**05 41 43.9**	**+0.6**
NKME	**Niksic**	**0.65**	**115**	⇑*i*Pg	**Pg**	**05 41 33.0**	**-0.8**
NKME				*i* Sg	**Sb**	**05 41 43.9**	**+0.4**
CEME	**Cevo**	**0.75**	**131**	⇑*i*Pg	**Pg**	**05 41 34.6**	**-1.1**
CEME				*i* Sg	**Sb**	**05 41 47.1**	**+0.7**
MAKA	**Makarska**	**0.86**	**287**	*e*Pg	**Pg**	**05 41 35.8**	**-1.9**
MAKA				Sg	**Sb**	**05 41 49.7**	**+0.3**
RICI	**Ricice**	**0.87**	**302**	*i* Pg	**Pg**	**05 41 36.2**	**-1.6**
RICI				Sg	**Sb**	**05 41 50.0**	**+0.3**
BUM	**Brajici-Budva**	**0.92**	**143**	⇓*i*Pg	**Pg**	**05 41 38.6**	**-0.3**
BUM				*i* Sg	**Sn**	**05 41 53.3**	**+0.1**
PLE	**Pljevlja**	**0.95**	**72**	⇓*i*Pg	**Pg**	**05 41 38.0**	**-1.5**

PLE				*i* Sg		**Sn**	**05 41 53.3**	**-0.7**
LSTV	**Lastovo**	**0.96**	**254**	*i* Pg		**Pg**	**05 41 37.9**	**-1.7**
LSTV				Sg		**Sg**	**05 41 51.7**	**-0.5**
PDG	**Podgorica**	**1.02**	**127**	*e*Pg		**Pb**	**05 41 40.3**	**-0.4**
PDG				*e*Sg		**Sn**	**05 41 56.6**	**+1.1**
PDG	**Podgorica**	**1.02**	**127**	*e*Pg		**Pb**	**05 41 39.7**	**-1.0**
PDG				*e*Sg		**Sn**	**05 41 54.8**	**-0.7**
PDG	**Podgorica**	**1.02**	**127**	⇑*i*Pg		**Pb**	**05 41 39.4**	**-1.3**
PDG				*i* Sg		**Sn**	**05 41 56.0**	**+0.5**
KOME	**Kolasin**	**1.02**	**100**	⇓*i*Pg		**Pb**	**05 41 40.2**	**-0.6**
KOME				*i* Sg		**Sn**	**05 41 55.8**	**+0.1**
RUDO	**Rudo**	**1.06**	**57**	*e*Pg		**Pb**	**05 41 39.7**	**-1.7**
RUDO				*e*Sg		**Sb**	**05 41 54.4**	**-0.8**
DRME	**Dracevica, Mon**	**1.15**	**138**	*e*Pg		**Pb**	**05 41 42.8**	**-0.1**
DRME				*e*Sg		**Sn**	**05 41 59.2**	**+0.6**
DRME	**Dracevica, Mon**	**1.15**	**138**	⇑*i*Pg		**Pb**	**05 41 42.2**	**-0.7**
DRME				*i* Sg		**Sn**	**05 42 00.5**	**+1.9**
BBLS	**Lazi&#263i**	**1.23**	**48**	*e*Pg		**Pn**	**05 41 43.7**	**-0.5**
BBLS				*e*Sg		**Sg**	**05 42 02.4**	**+1.6**
BBLS	**Lazi&#263i**	**1.23**	**48**	⇑*i*Pg		**Pn**	**05 41 43.2**	**-1.0**
BBLS				*e*Sg		**Sg**	**05 42 01.2**	**+0.4**
SRKY	**Kupres RS**	**1.25**	**325**	*e*Pg		**Pn**	**05 41 44.2**	**-0.3**
SRKY				*e*Sg		**Sb**	**05 42 01.4**	**+0.6**
HVAR	**Hvar**	**1.25**	**277**	*i* Pg		**Pn**	**05 41 43.2**	**-1.2**
HVAR				Sg		**Sb**	**05 42 01.1**	**+0.4**
IVA	**Berane**	**1.29**	**97**	⇑*i*Pg		**Pn**	**05 41 44.4**	**-0.7**
IVA				*i* Sg		**Sg**	**05 42 04.1**	**+1.4**
ULC	**Ulcinj**	**1.35**	**143**	⇑*i*Pg		**Pn**	**05 41 45.0**	**-0.8**
ULC				*i* Sg		**Sg**	**05 42 04.2**	**-0.3**
PVY	**Plav**	**1.41**	**108**	⇑*i*Pg		**Pb**	**05 41 47.3**	**0.0**
PVY				*i* Sg		**Sg**	**05 42 08.0**	**+1.6**
MGRS	**Mrkonjic Grad**	**1.57**	**331**	*e*Pg		**Pn**	**05 41 49.3**	**+0.4**
MGRS				*e*Sg		**Sb**	**05 42 10.7**	**+0.6**
KIJV	**Kijevo**	**1.59**	**308**	*i* Pn		**Pn**	**05 41 49.9**	**+0.8**
KIJV				Sn		**Sb**	**05 42 11.7**	**+1.1**
DIVS	**Divibare**	**1.71**	**51**	*e*Pg		**Pb**	**05 41 52.1**	**-0.3**
DIVS				*e*Sg		**Sg**	**05 42 16.1**	**+0.2**
TEKS	**Tekeris**	**1.81**	**33**	*e*Pn		**Pb**	**05 41 53.8**	**-0.3**
TEKS				*e*Sg		**Sg**	**05 42 18.5**	**-0.7**
TEKS	**Tekeris**	**1.81**	**33**	*e*Pn		**Pn**	**05 41 52.2**	**+0.1**
TEKS				*e*Sn		**Sn**	**05 42 16.1**	**+1.1**
BLY	**Banja Luka**	**1.84**	**338**	*e*Pn		**Pn**	**05 41 53.3**	**+0.8**
BLY				*e*Sg		**Sg**	**05 42 19.6**	**-0.7**
BLY	**Banja Luka**	**1.84**	**338**	*e*Pn		**Pn**	**05 41 53.6**	**+1.1**
BLY				*e*Sn		**Sn**	**05 42 17.0**	**+1.2**
A050A	**Klekovaca**	**1.85**	**321**	*e*Pn		**Pn**	**05 41 54.0**	**+1.2**
A050A				*e*Sn		**Sn**	**05 42 16.5**	**+0.3**
MORI	**Morici**	**1.96**	**296**	*i* Pn		**Pn**	**05 41 55.2**	**+1.0**
MORI				Sn		**Sb**	**05 42 21.9**	**+0.9**
TRUS	**Trudelj**	**2.02**	**54**	*e*Pn		**Pn**	**05 41 56.3**	**+1.3**
TRUS				*e*Sg		**Sg**	**05 42 27.8**	**+1.8**
GRUS	**Gruza**	**2.05**	**65**	*e*Pn		**Pn**	**05 41 56.8**	**+1.4**
A051A	**Mrakovica**	**2.16**	**336**	*e*Pn		**Pn**	**05 41 58.1**	**+1.1**
A051A				*e*Sn		**Sn**	**05 42 24.2**	**+0.4**
UDBI	**Udbina**	**2.28**	**311**	*e*Pn		**Pb**	**05 42 01.1**	**-1.1**
UDBI				Sn		**Sb**	**05 42 30.5**	**+0.3**
FRGS	**Fruska Gora**	**2.43**	**29**	*e*Pn		**Pn**	**05 42 01.2**	**+0.6**
FRGS				*e*Sn		**Sn**	**05 42 31.7**	**+1.4**
VIRC	**Vir**	**2.57**	**300**	*e*Pn		**Pn**	**05 42 03.2**	**+0.7**
VIRC				Sn		**Sb**	**05 42 36.9**	**-1.7**
PLIT	**Plitvice**	**2.59**	**316**	Sn		**Sb**	**05 42 38.7**	**-0.5**
NVLJ	**Novalja**	**2.82**	**304**	*e*Pn		**Pn**	**05 42 07.7**	**+1.7**
RABC	**Rab**	**2.97**	**306**	Sn		**Sn**	**05 42 46.9**	**+3.3**
BOJS	**Bojanci**	**3.22**	**321**	*e*Pn		**Pn**	**05 42 12.7**	**+1.2**
BOJS				*e*Sn		**Sn**	**05 42 49.9**	**+0.1**
CRES	**Cresnjev**	**3.38**	**326**	*e*Pn		**Pn**	**05 42 14.7**	**+0.9**
CRES				*e*Sn		**Sn**	**05 42 53.6**	**-0.2**
CEY	**Cerknica**	**3.79**	**317**	*e*Pn		**Pn**	**05 42 20.1**	**+0.7**
CEY				*e*Sn		**Sn**	**05 43 03.8**	**-0.1**

SCB ***02*** *05:47:23.3±1.2,22.6°64S×67.7°71W,h165km±12km,ML2.7/3, MW3.2,Error ellipse: s-maj=8.1km s-min=3.9km az=0.0*
GUC ***02*** *05:47:25.1±0.7,22.5°59S×67.8°8W,h185km±8km,ML3.3*
ISC 02 05:47:22.5±2.1,22.62S±0.07°×67.74W±0.05, h181km±18km,n29,σ1§06/46,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.62**	**300**	*e*P	**Pn**	**05 47 57.1**	**+1.2**
PB09	**IPOC Station P**	**1.62**	**300**	Pg	**Pn**	**05 47 57.4**	**+1.0**
PB06	**IPOC Station P**	**1.70**	**267**	*e*P	**Pn**	**05 47 57.7**	**+1.0**
PB06				*i* S	**Sn**	**05 48 23.2**	**+0.1**
PB06				IAML		05 48 25.3	
	comp=N,198nm,0.2s						
PB15	**IPOC Station P**	**1.71**	**249**	*e*P	**Pn**	**05 47 58.2**	**+1.4**
PB15				*i* S	**Sn**	**05 48 23.6**	**+0.2**
PB15	**IPOC Station P**	**1.71**	**249**	Pg	**Pn**	**05 47 57.5**	**+0.7**
PB07	**IPOC Station P**	**2.18**	**293**	*e*P	**Pn**	**05 48 02.6**	**+0.8**
PB07				*i* S	**Sn**	**05 48 31.2**	**-1.1**
PB07				IAML		05 48 32.6	
	comp=N,169nm,0.3s						
PB04	**IPOC Station P**	**2.25**	**277**	*e*P	**Pn**	**05 48 03.2**	**+0.6**
PB04				*i* S	**Sn**	**05 48 32.1**	**-1.6**
PB04				IAML		05 48 35.0	
	comp=N,263nm,0.1s						
PB01	**IPOC Station P**	**2.26**	**314**	*e*P	**Pn**	**05 48 03.3**	**+0.7**
PB01				*i* S	**Sn**	**05 48 32.5**	**-1.2**
PB01				IAML		05 48 34.0	
	comp=N,52nm,0.3s						
PB01	**IPOC Station P**	**2.26**	**314**	Pg	**Pn**	**05 48 03.4**	**+0.8**
PB01				Sg	**Sn**	**05 48 33.6**	**-0.1**
PB01				IAML		05 48 34.0	
	comp=N,43nm,0.3s						
PB05	**IPOC Station P**	**2.29**	**264**	*e*P	**Pn**	**05 48 03.9**	**+0.9**
PB05				*i* S	**Sn**	**05 48 33.2**	**-1.2**
PB05				IAML		05 48 37.0	
	comp=N,90nm,0.3s						
MOCB	**Mochara**	**2.37**	**56**	Pg	**Pn**	**05 48 04.2**	**-0.1**
MOCB				Sg	**Sn**	**05 48 36.1**	**-0.6**
MOCB				IAML		05 48 43.4	
	comp=N,14nm,0.3s						
PB02	**IPOC Station P**	**2.38**	**302**	*e*P	**Pn**	**05 48 04.8**	**+0.7**
PB02				*i* S	**Sn**	**05 48 35.0**	**-1.3**
PB02	**IPOC Station P**	**2.38**	**302**	Pg	**Pn**	**05 48 04.8**	**+0.7**
PB02				Sg	**Sn**	**05 48 35.6**	**-0.7**
PB02				IAML		05 48 39.3	
	comp=N,48nm,0.2s						
PB10	**IPOC Station P**	**2.75**	**250**	*e*P	**Pn**	**05 48 08.9**	**+0.8**
PB10				*i* S	**Sn**	**05 48 42.1**	**-1.6**
PB10				IAML		05 48 44.0	
	comp=N,73nm,0.3s						
PB08	**IPOC Station P**	**2.79**	**331**	*e*P	**Pn**	**05 48 10.7**	**+1.6**
PB08				*i* S	**Sn**	**05 48 45.6**	**+0.2**
PB08				IAML		05 48 49.2	
	comp=E,81nm,0.6s						
PB08	**IPOC Station P**	**2.79**	**331**	Pg	**Pn**	**05 48 10.8**	**+1.6**
PATCX	**Punta Patache**	**2.87**	**308**	*e*P	**Pn**	**05 48 10.1**	**+0.4**
PATCX				*i* S	**Sn**	**05 48 45.1**	**-1.4**
PATCX				IAML		05 48 51.9	
	comp=E,43nm,0.2s						
TA01	**Diego Aracena**	**3.06**	**311**	*e*P	**Pn**	**05 48 12.1**	**+0.2**
TA01				*i* S	**Sn**	**05 48 48.5**	**-1.9**
TA01				IAML		05 48 51.7	
	comp=E,26nm,0.2s						
HMBC	**Humberstone**	**3.07**	**319**	*e*P	**Pn**	**05 48 11.9**	**-0.3**
HMBC				*i* S	**Sn**	**05 48 49.2**	**-1.7**
GO01	**Chusmiza**	**3.23**	**335**	*e*P	**Pn**	**05 48 15.7**	**+1.1**
GO01				*i* S	**Sn**	**05 48 55.4**	**+0.3**
GO01	**Chusmiza**	**3.23**	**335**	Pg	**Pn**	**05 48 15.7**	**+1.1**
PB11	**IPOC Station P**	**3.36**	**327**	*e*P	**Pn**	**05 48 16.0**	**+0.2**
PB11				*i* S	**Sn**	**05 48 55.9**	**-1.5**
PB11				IAML		05 48 57.0	
	comp=E,123nm,0.3s						
PB11	**IPOC Station P**	**3.36**	**327**	Pg	**Pn**	**05 48 16.4**	**+0.6**
SOTI	**Planta Incahua**	**4.71**	**55**	Pg	**Pn**	**05 48 33.0**	**+0.1**
SOET	**ToroToro**	**4.83**	**22**	Pg	**Pn**	**05 48 35.4**	**+0.8**
AOEA	**Aiquile**	**5.00**	**28**	Pg	**Pn**	**05 48 37.0**	**+0.2**
BBOE	**La Paz, Chanca**	**5.78**	**358**	Pg	**Pn**	**05 48 48.5**	**+1.3**
BBOD	**La Paz, Gloria**	**6.00**	**352**	Pg	**Pn**	**05 48 51.5**	**+1.4**
LPAZ	**La Paz**	**6.30**	**357**	Pg	**Pn**	**05 48 55.5**	**+1.3**

AUST ***02*** *06:07:02.2±0.7,25.4°47S×127.5°3E,h10km,Error ellipse: s-maj=10.9km s-min=8.0km az=154.0*
NOU ***02*** *06:07:02.1,25.5°50S×127.8°48E,h0km,mb3.9/8,Western Australia*
ISC 02 06:07:02.3±0.8,25.50S±0.07°×127.55E±0.07,h10km,n22, σ1§41/25,Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRKA	**Warakurna**	**0.82**	**56**	P	**Pg**	**06 07 18.1**	**0.0**
	baz=0.8						
WRKA				S	**Sg**	**06 07 28.8**	**-0.1**
	baz=0.8						
WRKA	**Warakurna**	**0.82**	**56**	P	**Pg**	**06 07 18.4**	**+0.3**
FORT	**Forrest**	**5.28**	**175**	P	**Pn**	**06 08 21.5**	**+0.3**
	baz=5.3						
FORT				S	**Sn**	**06 09 19.8**	**-2.3**
	baz=5.3						
FORT	**Forrest**	**5.28**	**175**	P	**Pn**	**06 08 22.4**	**+1.2**
MULG	**Mulgathing**	**7.47**	**131**	P	**Pn**	**06 08 52.2**	**+0.8**
	baz=7.5						
MULG	**Mulgathing**	**7.47**	**131**	P	**Pn**	**06 08 53.3**	**+1.9**
FITZ	**Fitzroy Crossi**	**7.58**	**346**	P	**Pn**	**06 08 53.4**	**+0.5**
	baz=7.6						
OOD	**Oodnadatta**	**7.63**	**109**	P	**Pn**	**06 08 54.8**	**+1.2**
	baz=7.7						
OOD	**Oodnadatta**	**7.63**	**109**	P	**Pn**	**06 08 54.9**	**+1.3**
KMBL	**Kambalda**	**7.68**	**219**	P	**Pn**	**06 08 54.9**	**+0.6**
	baz=7.7						
MEEK	**Meekatharra**	**8.12**	**260**	P	**Pn**	**06 08 59.5**	**-0.8**
	baz=8.1						
MEEK	**Meekatharra**	**8.12**	**260**	P	**Pn**	**06 08 59.5**	**-0.8**
WB2	**Warramunga Arr**	**8.37**	**50**	P	**Pn**	**06 09 03.1**	**-0.6**
	baz=8.4						
WB2				S	**Sn**	**06 10 34.2**	**-4.1**
	baz=8.4						
WC3	**Warramunga Arr**	**8.37**	**50**	P	**Pn**	**06 09 03.3**	**-0.5**
	baz=8.4						
MBWA	**Marble Bar**	**8.38**	**299**	P	**Pn**	**06 09 04.8**	**+0.8**
BBOO	**Buckleboo**	**10.40**	**136**	P	**Pn**	**06 09 31.5**	**-0.1**
	baz=10						
LCRK	**Leigh Creek**	**10.63**	**120**	P	**Pn**	**06 09 34.9**	**+0.1**
	baz=11						
LCRK	**Leigh Creek**	**10.63**	**120**	P	**Pn**	**06 09 36.5**	**+1.7**
QIS	**Mount Isa**	**12.14**	**69**	P	**Pn**	**06 09 55.6**	**+0.1**
	baz=12						
QIS	**Mount Isa**	**12.14**	**69**	P	**Pn**	**06 09 57.5**	**+2.0**
GIRL	**Giralia**	**12.49**	**280**	P	**Pn**	**06 09 58.9**	**-1.3**
	baz=12						
MTN	**Manton Dam**	**13.04**	**16**	P	**Pn**	**06 10 08.1**	**+0.3**
	baz=13						

IDC 02 06:11:19.6±8.0,21.55S×177.43W,h0km,mb4.2/4, mbtmp4.2/4,Error ellipse: s-maj=203.4km s-min=45.5km az=31.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**37.83**	**245**	P	P	06 18 36.6	-1.5
	1.8nm,0.6s,baz=56,slow=11,SNR=3.8						
	1.8nm,0.6s						
ASAR	**Alice Springs**	**44.81**	**258**	P	P	06 19 35.5	-0.1
	1.6nm,0.4s,baz=94,slow=7.0,SNR=28						
	1.6nm,0.4s						
WRA	**Warramunga Arr**	**44.99**	**263**	P	P	06 19 37.8	+0.7
	3.4nm,0.4s,baz=95,slow=8.3,SNR=55						
	3.4nm,0.4s						
QSPA	**South Pole Qui**	**68.53**	**180**	P	P	06 22 23.9	+0.1
	0.9nm,0.9s,baz=14,slow=4.2,SNR=1.4						
	0.9nm,0.9s						

IDC 02 06:24:06.5±54.0,23.35S×177.82W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=988.1km s-min=166.9km az=87.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.78**	**248**	P	P	06 31 16.0	-0.1
	0.7nm,0.3s,baz=80,slow=11,SNR=4.0						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**44.09**	**260**	P	P	06 32 16.6	-0.2
	0.5nm,0.3s,baz=102,slow=8.2,SNR=17						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**44.44**	**265**	P	P	06 32 19.5	-0.1
	3.0nm,0.5s,baz=103,slow=7.9,SNR=16						
	3.0nm,0.5s						

IDC ***02*** *06:26:29.8±0.7,24.2°32S×112.2°04W,h0km,mb4.1/10, mbtmp4.1/10,Error ellipse: s-maj=30.0km s-min=18.8km az=66.0*
NEIC ***02*** *06:26:30.1±2.1,24.2°5S±0.1°×112.1°W±0.2,h10km±1km, mb5.0/141,Error ellipse: s-maj=29.0km s-min=17.9km az=229.0*
GCMT ***02*** *06:26:37.1±0.4,24.2°23S±0.04°×111.94W±0.03,h12km, MW5.2/46,Moment Tensor Solution. s41,c60; s46,c55; Duration: 1§0 Moment tensor: Scale 10¹⁷Nm; Mrr-0.13±.03; Mθθ-0.68±.04; Mϕϕ0.80±.04; Mrθ-0.19±.10; Mθϕ0.34±.04; Mϕr-0.01±.10; Best double couple: M₀0.84300×10¹⁷ NP1:φ₁56.00000°,δ81.00000°, λ-13.00000°. NP2:φ₂148.00000°,δ77.00000°, λ-171.00000°. Principal axes: T 0.8840, Plg3.0000°, Azm103.0000°; N -0.0820, Plg74.0000°, Azm203.0000°; P -0.8020, Plg15.0000°, Azm12.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 06:26:30.7±0.5,24.37S±0.08°×112.0W±0.1,h10km,n197, σ1§51/151,mb5.0/75,1D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**3.62**	**141**	Pn	**Pn**	**06 27 25.0**	**-1.9**
RPN	**Rapa Nui**	**3.65**	**139**	Pn	Pn	06 27 23.5	-3.8
	14nm,0.3s,baz=333,slow=15,SNR=6.7						
RPN				Sn	**Sn**	**06 28 11.6**	**+1.2**
	2.6nm,0.3s,baz=91,slow=19,SNR=6.7						
MT02	**Curacav**	**36.70**	**113**	P	**P**	**06 33 38.1**	**+0.1**
ARNL	**Arenillas**	**37.09**	**61**	P	**P**	**06 33 39.2**	**-2.4**
ARNL				IAmb	IAmb	06 33 49.0	
	comp=Z,50nm,1.8s						
MT13	**San Alfonso**	**37.44**	**114**	P	**P**	**06 33 42.9**	**-1.5**
LMEL	**Las Melosas**	**37.51**	**114**	P	**P**	**06 33 44.4**	**-0.7**
PLCA	**Paso Flores**	**38.18**	**126**	P	**P**	**06 33 50.8**	**+0.2**
	comp=Z,2.3nm,1.0s,baz=261,slow=11,SNR=3.1						
	comp=Z,2.3nm,1.0s						
PLCA	**Paso Flores**	**38.18**	**126**	*e*P	P	06 33 56.8	+6.2
PB07	**IPOC Station P**	**38.74**	**95**	P	**P**	**06 33 54.6**	**-1.1**
CHSH	**Refugio Sur-Vo**	**39.29**	**60**	P	**P**	**06 34 01.4**	**+0.7**
CHSH				IAmb	IAmb	06 34 12.3	
	comp=Z,44nm,1.6s						
LVC	**Limon Verde**	**39.45**	**96**	P	**P**	**06 34 01.5**	**-0.3**
LVC				IAmb	IAmb	06 34 19.0	
	comp=Z,49nm,1.7s						
LVC	**Limon Verde**	**39.45**	**96**	*e*P	**P**	**06 33 59.3**	**-2.5**
SLOR	**San Lorenzo -**	**40.05**	**59**	P	**P**	**06 34 07.6**	**+0.7**
PULU	**Pululahua**	**40.51**	**58**	P	**P**	**06 34 11.3**	**+0.6**
CZSB	**Cruzeiro do Su**	**41.05**	**73**	P	**P**	**06 34 14.5**	**-0.1**
CZSB				IAmb	IAmb	06 34 31.0	
	comp=Z,29nm,1.2s						
CZSB	**Cruzeiro do Su**	**41.05**	**73**	*e*P	**P**	**06 34 11.9**	**-2.8**
LPAZ	**La Paz**	**41.78**	**87**	P	**P**	**06 34 21.6**	**+0.2**
LPAZ	**La Paz**	**41.78**	**87**	P	**P**	**06 34 21.8**	**+0.4**
	comp=Z,4.8nm,1.2s,baz=236,slow=5.9,SNR=13						
	comp=Z,4.8nm,1.2s						
LPAZ	**La Paz**	**41.78**	**87**	*e*P	**P**	**06 34 19.4**	**-2.0**
TLIG	**Tlapa**	**43.69**	**19**	P	**P**	**06 34 36.7**	**+0.5**
TLIG				IAmb	IAmb	06 34 44.9	
	comp=Z,30nm,1.4s						
MTO3	**Montecristo**	**44.43**	**32**	P	**P**	**06 34 43.6**	**+1.3**
TBTG	**Tabatinga, AM**	**45.20**	**70**	P	**P**	**06 34 47.3**	**-1.0**
TBTG				IAmb	IAmb	06 34 54.5	
	comp=Z,17nm,1.0s						
TBTG	**Tabatinga, AM**	**45.20**	**70**	*e*P	**P**	**06 34 46.3**	**-2.0**
ETMB	**Extrema**	**45.88**	**80**	*e*P	**P**	**06 34 52.1**	**-1.6**
PSAL	**Palomas, Salto**	**48.22**	**111**	*e*P	**P**	**06 35 11.9**	**+0.1**
BBSD	**Serra de San D**	**48.36**	**92**	*e*P	**P**	**06 35 12.3**	**-0.8**
SAML	**Samuel**	**48.96**	**80**	P	**P**	**06 35 16.7**	**-1.0**
SAML	**Samuel**	**48.96**	**80**	*e*P	**P**	**06 35 16.8**	**-0.9**
CPUP	**Villa Florida**	**49.14**	**105**	*e*P	**P**	**06 35 20.1**	**+1.1**
ITQB	**Itaqui**	**49.23**	**109**	P	**P**	**06 35 16.5**	**-3.1**
TBOT	**Tacuaremb**	**49.58**	**112**	*e*P	**P**	**06 35 25.8**	**+3.6**
MURT	**Porto Murtinho**	**49.88**	**98**	*e*P	**P**	**06 35 24.9**	**+0.3**
VILB	**Vilhena**	**50.13**	**87**	P	**P**	**06 35 25.6**	**-1.1**
VILB				IAmb	IAmb	06 35 37.4	
	comp=Z,29nm,1.4s						
VILB	**Vilhena**	**50.13**	**87**	*e*P	**P**	**06 35 26.3**	**-0.3**
PTLB	**Pontes e Lacer**	**50.25**	**90**	P	**P**	**06 35 26.8**	**-0.7**
PTLB	**Pontes e Lacer**	**50.25**	**90**	*e*P	**P**	**06 35 27.4**	**-0.1**

RODS	**Rosario do Sul**	**50.37**	**110**	*e*P		**P**	**06 35 30.6**	**+2.3**
UNIS	**Unistalda (Bra**	**50.66**	**108**	*e*P		**P**	**06 35 34.0**	**+3.5**
BDQN	**Bodoquena, MS**	**50.96**	**97**	*e*P		**P**	**06 35 33.5**	**+0.7**
PLTB	**Pedras Altas**	**51.54**	**112**	*e*P		**P**	**06 35 39.8**	**+2.7**
CRSM	**Crissiumal (Br**	**51.82**	**107**	*e*P		**P**	**06 35 42.2**	**+3.0**
CPSB	**Cacapava Do Su**	**51.87**	**110**	*e*P		**P**	**06 35 43.3**	**+3.8**
AQDB	**Aquidauana**	**51.90**	**98**	*e*P		**P**	**06 35 39.4**	**-0.5**
AMBA	**Amambai (Brazi**	**51.93**	**101**	*e*P		**P**	**06 35 40.7**	**+0.6**
ALGR	**Alto Alegre (B**	**52.47**	**108**	*e*P		**P**	**06 35 46.8**	**+2.6**
SALV	**Santo Antonio**	**53.24**	**92**	*e*P		**P**	**06 35 49.6**	**-0.3**
ITAB	**Concordia**	**53.54**	**107**	*e*P		**P**	**06 35 55.2**	**+3.3**
MACA	**Manacapuru-AM**	**53.73**	**75**	P		**P**	**06 35 53.0**	**-0.5**
MACA	**Manacapuru-AM**	**53.73**	**75**	*e*P		**P**	**06 35 52.1**	**-1.4**
PDRB	**Porto dos Gac**	**53.77**	**87**	*e*P		**P**	**06 35 54.0**	**+0.2**
833A	**Chaparral WMA,**	**53.78**	**14**	P		**P**	**06 35 55.2**	**+1.7**
	baz=194							
TX31	**Lajitas Ar. Si**	**53.99**	**9**	P		**P**	**06 35 54.7**	**-0.4**
TXAR	**Lajitas Array**	**53.99**	**9**	P		**P**	**06 35 54.7**	**-0.4**
TXAR	**Lajitas Array**	**53.99**	**9**	P		**P**	**06 35 55.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=191,slow=9.2,SNR=6.6							
	comp=Z,0.3nm,0.6s							
PTGB	**Pitanga**	**54.12**	**104**	*e*P		**P**	**06 35 57.2**	**+0.9**
BAUV	**El Baul**	**54.19**	**58**	P		**P**	**06 35 56.4**	**-0.3**
SAND	**Sanderson**	**54.84**	**10**	P		**P**	**06 36 00.7**	**-0.5**
SAND				IAmb		IAmb	06 36 12.0	
	comp=Z,31nm,2.0s							
HNDO	**Hondo**	**54.97**	**14**	P		**P**	**06 36 02.4**	**+0.3**
HNDO				IAmb		IAmb	06 36 13.6	
	comp=Z,30nm,1.6s							
ALPN	**Alpine**	**55.02**	**9**	P		**P**	**06 36 02.0**	**-0.6**
ALPN				IAmb		IAmb	06 36 13.3	
	comp=Z,23nm,1.5s							
VHRN	**Van Horn**	**55.26**	**7**	P		**P**	**06 36 04.6**	**+0.2**
VHRN				IAmb		IAmb	06 36 14.9	
	comp=Z,28nm,1.5s							
LDASE	**Londrina, Braz**	**55.28**	**102**	*e*P		**P**	**06 36 06.5**	**+1.8**
PCMB	**Pacaembu**	**55.60**	**100**	*e*P		**P**	**06 36 10.3**	**+3.3**
JCT	**Junction City**	**55.78**	**13**	P		**P**	**06 36 07.0**	**-1.0**
JCT				IAmb		IAmb	06 36 19.4	
	comp=Z,28nm,1.3s							
JCT	**Junction City**	**55.78**	**13**	P		**P**	**06 36 08.8**	**+0.8**
	baz=194							
MNHN	**Monahans**	**56.10**	**10**	P		**P**	**06 36 07.9**	**-2.4**
MNHN				IAmb		IAmb	06 36 20.8	
	comp=Z,28nm,1.7s							
MNTX	**Cornudas Mount**	**56.11**	**7**	P		**P**	**06 36 10.8**	**+0.5**
	baz=187							
FRTB	**Fartura**	**56.67**	**103**	*e*P		**P**	**06 36 17.7**	**+3.0**
BRDY	**Brady**	**56.73**	**13**	P		**P**	**06 36 14.4**	**-0.3**
BRDY				IAmb		IAmb	06 36 25.6	
	comp=Z,16nm,1.3s							
121A	**Cookes Peak, D**	**56.73**	**4**	P		**P**	**06 36 14.5**	**-0.4**
121A				IAmb		IAmb	06 36 26.2	
	comp=Z,28nm,1.4s							
121A	**Cookes Peak, D**	**56.73**	**4**	P		**P**	**06 36 15.8**	**+0.9**
	baz=185							
NPGB	**Novo Progresso**	**56.80**	**82**	*e*P		**P**	**06 36 14.2**	**-1.5**
ARAG	**Araguaiana, MT**	**56.84**	**93**	*e*P		**P**	**06 36 15.6**	**-0.4**
ITRB	**Iturama**	**56.94**	**98**	*e*P		**P**	**06 36 16.8**	**+0.3**
ITTB	**Ituitaba**	**57.59**	**79**	*e*P		**P**	**06 36 21.0**	**-0.2**
SNDB	**Serra Nova Dou**	**58.59**	**89**	*e*P		**P**	**06 36 27.9**	**-0.4**
X18A	**Snowflake**	**58.61**	**2**	IAmb		IAmb	06 36 39.3	
	comp=Z,28nm,1.6s							
VAO	**Valinhos**	**59.07**	**103**	*e*P		**P**	**06 36 34.8**	**+3.2**
IPMB	**Ipameri, GO**	**59.39**	**97**	*e*P		**P**	**06 36 36.6**	**+2.8**
GSC	**Goldstone, Bar**	**59.52**	**355**	P		**P**	**06 36 33.8**	**-0.5**
TUQ	**Turquoise Moun**	**59.60**	**356**	P		**P**	**06 36 36.0**	**+1.2**
	baz=176							
V12A	**Nelson**	**59.83**	**357**	IAmb		IAmb	06 36 47.8	
	comp=Z,27nm,1.9s							
BDFB	**Brasilia**	**60.32**	**95**	P		**P**	**06 36 41.7**	**+1.4**
	comp=Z,5.2n

BW06 Boulder Array 66.84 2 P P 06 37 23.4 +0.5
baz=183
PD31 Pinedale Array 66.84 2 P P 06 37 22.0 -0.9
PDAR Pinedale Array 66.84 2 P P 06 37 21.4 -1.6
PDAR Pinedale Array 66.84 2 P P 06 37 22.2 -0.7
comp=Z,1.2nm,0.6s,baz=165,slow=7.5,SNR=16
comp=Z,1.2nm,0.6s
TPAW Teton Pass 67.53 1 P P 06 37 26.4 -0.9
TPAW IAmb IAmb 06 37 42.3
comp=Z,19nm,1.6s
MFID Camas Ranch 67.54 357 IAmb IAmb 06 37 39.3
comp=Z,14nm,1.4s
HLID Hailey 67.63 358 IAmb IAmb 06 37 39.6
comp=Z,10nm,1.1s
HLID Hailey 67.63 358 P P 06 37 28.7 +0.8
baz=178
J08A Circle Bar Ran 67.65 355 P P 06 37 27.9 0.0
J08A IAmb IAmb 06 37 40.4
comp=Z,17nm,1.4s
LOHW Long Hollow 67.66 1 P P 06 37 27.2 -0.9
LOHW IAmb IAmb 06 37 37.9
comp=Z,24nm,1.7s
FXWY Fox Creek 67.68 1 IAmb IAmb 06 37 38.4
comp=Z,20nm,1.8s
MOOW Moose Ponds 67.79 1 IAmb IAmb 06 37 39.5
comp=Z,13nm,1.6s
IMW Indian Meadow 67.94 1 IAmb IAmb 06 37 40.8
comp=Z,18nm,1.6s
FLWY Flagg Ranch 68.13 1 IAmb IAmb 06 37 42.1
comp=Z,20nm,1.4s
I07A Izee 68.46 354 IAmb IAmb 06 37 43.5
comp=Z,12nm,1.4s
RSSD Black Hills 68.55 6 P P 06 37 31.7 -1.9
RSSD IAmb IAmb 06 37 44.4
comp=Z,16nm,1.4s
BMO Blue Mountains 69.06 356 IAmb IAmb 06 37 47.5
comp=Z,28nm,1.9s
RLMT Red Lodge 69.20 2 IAmb IAmb 06 37 46.9
comp=Z,25nm,2.0s
RLMT Red Lodge 69.20 2 P P 06 37 38.8 +1.1
baz=183
PLID Pearl Lake 69.22 357 P 06 37 36.8 -1.1
P52A Corning 69.52 24 IAmb IAmb 06 37 46.0
comp=Z,14nm,0.9s
P52A Corning 69.52 24 P P 06 37 41.0 +1.5
baz=209
G08A Pilot Rock 69.61 355 P P 06 37 40.6 +0.5
G08A IAmb IAmb 06 37 50.5
comp=Z,26nm,1.6s
O52A Adamsville 70.05 24 IAmb IAmb 06 37 49.4
comp=Z,12nm,0.9s
O53A New Philadelph 70.40 25 IAmb IAmb 06 37 51.8
comp=Z,15nm,0.9s
O53A New Philadelph 70.40 25 P P 06 37 46.8 +1.9
baz=210
F36A Milaca 71.89 13 IAmb IAmb 06 38 04.5
comp=Z,20nm,1.1s
EGMT Eagleton 72.09 2 P P 06 37 53.7 -1.4
EGMT IAmb IAmb 06 38 06.8
comp=Z,20nm,1.4s
G40A Rib Lake 72.10 16 IAmb IAmb 06 38 06.5
comp=Z,26nm,1.4s
NEW Newport 72.44 356 P P 06 37 59.0 +1.8
baz=175
DGMT Dagmar 72.84 5 P P 06 37 58.8 -0.8
SNAA Sanae 72.87 162 P P 06 38 00.4 +0.8
comp=Z,0.8nm,0.6s,baz=272,slow=12,SNR=1.8
comp=Z,0.8nm,0.6s
L56A Greenwood 73.44 26 IAmb IAmb 06 38 17.4
comp=Z,17nm,1.0s
J58A Remsen 75.38 27 IAmb IAmb 06 38 21.5
comp=Z,14nm,1.2s
ULM Lac du Bonnet 75.65 11 P P 06 38 16.3 +0.5
comp=Z,1.5nm,0.6s,baz=186,slow=10,SNR=3.4
comp=Z,1.5nm,0.6s
ELIB Princess Elisa 79.19 167 *d*PcP **PcP 06 38 43.7 -0.3**
E62A Clayton Lake 80.43 28 IAmb IAmb 06 39 02.4
comp=Z,29nm,1.4s
YKA Yellowknife Ar 86.59 359 P P 06 39 14.5 +0.9
YKA Yellowknife Ar 86.59 359 P P 06 39 14.3 +0.7
comp=Z,0.8nm,0.9s,baz=172,slow=4.3,SNR=12
comp=Z,0.8nm,0.9s
H11S2 WAKE ISLAND Hy 89.90 290 T T 08 19 13.9
baz=116,slow=75,SNR=80
H11S1 WAKE ISLAND Hy 89.91 290 T T 08 19 13.3
baz=116,slow=75,SNR=72
H11S3 WAKE ISLAND Hy 89.92 290 T T 08 19 07.7
baz=116,slow=75,SNR=65
H11N3 WAKE ISLAND Hy 90.26 291 T T 08 19 46.2
baz=117,slow=75,SNR=28
H11N1 WAKE ISLAND Hy 90.27 291 T T 08 19 52.8
baz=117,slow=75,SNR=12
H11N2 WAKE ISLAND Hy 90.27 291 T T 08 19 48.3
baz=117,slow=75,SNR=46
TORD Torodi Ar. Bea 116.73 87 PKP **PKiKP 06 45 18.1 +1.9**
comp=Z,0.3nm,0.6s,baz=249,slow=1.2,SNR=1.5
NJ2 Nanjing 134.87 292 *e*P **PKPdf 06 45 49.4 -0.9**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
HHC Hu-ho-hao-te 140.23 305 *e*P **PKPdf 06 45 54.3 -5.8**
SONM Songino Array 141.69 318 PKP **PKPdf 06 46 03.7 +1.2**
comp=Z,0.4nm,0.5s,baz=90,slow=0.6,SNR=2.0
BRTR Keskin Array B 147.33 54 PKPbc **PKPab 06 46 16.1 -0.7**
comp=Z,1.1nm,0.9s,baz=287,slow=2.1,SNR=3.4
CD2 Chengdu 147.75 290 PKPbc PKPdf 06 46 10.4 -3.0
ZALV Zalesovo Beam 147.88 341 PKPbc PKPbc 06 46 15.3 -0.4
comp=Z,2.0nm,0.9s,baz=9.5,slow=4.4,SNR=3.3
GTA Gaotai 149.29 307 *e*PKPbc **PKPab 06 46 27.1 +2.4**
GTA pPKP sPKPab 06 46 32.6 +4.9
GTA LR LR
comp=N,770nm,21.8s
GTA LR LR
comp=E,2μm,21.4s
GTA LR LR
comp=Z,3μm,23.3s
PZH PanZhiHua 149.50 281 PKPbc PKPdf 06 46 13.7 -2.8
MMAI Mount Meron Ar 150.24 66 PKPbc PKPbc 06 46 23.0 +0.4
comp=Z,1.4nm,0.3s,baz=270,slow=7.2,SNR=2.0
CMAR Chiang Mai Arr 150.63 264 PKPbc PKPbc 06 46 23.4 -0.4
comp=Z,1.3nm,0.3s,baz=357,slow=0.4,SNR=11
BRVK Borovoye 151.30 357 PKPbc PKPbc 06 46 23.8 -0.5
BVAR Borovoye Array 151.33 357 PKPbc PKiKP 06 46 25.8 +0.9
comp=Z,1.3nm,0.7s,baz=343,slow=1.5,SNR=4.7
KURK Kurchatov 152.44 345 PKPdf PKPdf 06 46 19.4 -0.6
KURBB Kurchatov Arra 152.55 345 PKPbc PKPbc 06 46 27.2 0.0
comp=Z,0.6nm,0.6s,baz=23,slow=1.9,SNR=3.3
ABKAR Akbulak array 154.37 12 PKPdf PKPdf 06 46 22.1 -0.8
ABKAR PKPbc PKPbc 06 46 29.9 -1.3
WMQ Urumqi 154.76 325 *e*P **PKPdf 06 46 22.7 -1.0**
WMQ LR LR
comp=N,700nm,17.7s
WMQ LR LR
comp=E,1μm,23.9s
WMQ LR LR
comp=Z,2μm,19.1s
MKAR Makanchi Array 154.86 336 PKPdf **PKPdf 06 46 24.0 +0.3**
MKAR Makanchi Array 154.86 336 PKPbc **PKiKP 06 46 33.2 +0.8**
comp=Z,0.7nm,0.9s,baz=48,slow=1.8,SNR=4.0

*IDC **02** 06:26:41.9±1.0,3.˚16N×127.˚91E, h0km,mb3.9/6, mbtmp3.9/6,MS2.1/1,Error ellipse: s-maj=61.3km s-min=20.2km az=69.0*
*DJA **02** 06:26:50.3±1.1,3.˚N±10.˚×12.˚8E±.˚, h74km±49km, M4.2/7, mb4.1/3,MLv4.2/7*
ISC 02 06:26:53.3±0.9,3.˚06N±0.˚10×127.˚89E±0.˚09,h100km,n13, σ1°65/12,mb4.0/6,Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.33**	**193**	P	**Pn**	**06 27 27.6**	**-2.5**
SGSI	**Sangihe**	**2.44**	**285**	P	**Pn**	**06 27 28.7**	**-2.9**
LBMI	**Labuha**	**3.69**	**186**	P	**Pn**	**06 27 48.2**	**-0.1**
DAV	**Davao City (W)**	**4.61**	**330**	LR	LR	06 29 07.2	
	comp=Z,24nm,19.6s,baz=142,slow=32						
KMSI	**Cibinong**	**4.62**	**238**	P	**Pn**	**06 27 59.9**	**-0.9**
SWI	**Sorong**	**5.15**	**139**	P	**Pn**	**06 28 05.6**	**-2.4**
	57nm,0.5s,0.3nm						
GTOI	**Gorontalo**	**5.44**	**244**	P	**Pn**	**06 28 11.2**	**-0.7**
	5.2nm,0.6s,0.0nm						
WRA	**Warramunga Arr**	**23.72**	**165**	P	**P**	**06 31 56.2**	**-0.1**
	0.9nm,0.6s,baz=346,slow=10,SNR=12						
	0.9nm,0.6s						
STKA	**Stephens Creek**	**37.10**	**160**	P	**P**	**06 33 55.0**	**+0.8**
	1.8nm,0.6s,baz=346,slow=9.0,SNR=3.8						
	1.8nm,0.6s						
PETK	**Petropavlovsk-**	**55.62**	**21**	P	**P**	**06 36 19.4**	**+0.8**
	0.9nm,0.7s,baz=238,slow=8.3,SNR=2.3						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**58.77**	**325**	P	**P**	**06 36 41.3**	**+0.3**
	1.3nm,0.6s,baz=122,slow=7.8,SNR=6.2						
	1.3nm,0.6s						
KURBB	**Kurchatov Arra**	**62.93**	**327**	P	**P**	**06 37 09.2**	**+0.1**
	1.3nm,0.6s,baz=126,slow=6.7,SNR=6.6						
	1.3nm,0.6s						
BVAR	**Borovoye Array**	**68.51**	**327**	P	**P**	**06 37 45.9**	**+1.0**
	1.3nm,0.7s,baz=108,slow=8.2,SNR=4.5						
	1.3nm,0.7s						

*IDC **02** 06:28:18.1±0.9,24.˚41S×111.˚83W, h0km,mb3.9/5, mbtmp3.9/6,ML3.9/1,Error ellipse: s-maj=39.7km s-min=24.9km az=80.0*
ISC 02 06:28:19.5±0.9,24.˚5S±0.˚2×111.˚8W±0.˚2,h10km,n15, σ0°86/9,mb4.0/5,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**3.48**	**140**	Pn	**Pn**	**06 29 13.4**	**-0.4**
	11nm,0.3s,baz=324,slow=16,SNR=1.5						
	73nm,0.5s						
LPAZ	**La Paz**	**41.62**	**87**	P	**P**	**06 36 09.6**	**+0.7**
	0.4nm,0.4s,baz=266,slow=4.9,SNR=1.4						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**62.84**	**354**	P	**P**	**06 38 46.0**	**+0.2**
	2.1nm,0.7s,baz=182,slow=8.8,SNR=4.6						
	2.1nm,0.7s						
VNDA	**Vanda**	**65.51**	**194**	P	**P**	**06 39 02.5**	**0.0**
	0.6nm,0.6s,baz=69,slow=14,SNR=7.2						
	0.6nm,0.6s						
PDAR	**Pinedale Array**	**66.92**	**2**	P	**P**	**06 39 10.6**	**-1.6**
	0.6nm,0.6s,baz=171,slow=6.4,SNR=3.7						
	0.6nm,0.6s						
YKA	**Yellowknife Ar**	**86.67**	**359**	P	**P**	**06 41 03.2**	**+0.3**
	0.9nm,0.9s,baz=176,slow=4.0,SNR=3.3						
	0.9nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**90.08**	**290**	T	T	08 20 52.9	
	baz=119						
H11S1	**WAKE ISLAND Hy**	**90.09**	**290**	T	T	08 21 05.7	
	baz=113						
H11S3	**WAKE ISLAND Hy**	**90.10**	**290**	T	T	08 20 54.9	
	baz=118						
H11N3	**WAKE ISLAND Hy**	**90.44**	**291**	T	T	08 21 32.9	
	baz=118						
H11N1	**WAKE ISLAND Hy**	**90.45**	**291**	T	T	08 21 32.3	
	baz=118						
H11N2	**WAKE ISLAND Hy**	**90.45**	**291**	T	T	08 21 40.7	
	baz=118						
ZALV	**Zalesovo Beam**	**148.01**	**341**	PKPbc	**PKPbc**	**06 48 04.9**	**0.0**
	1.6nm,0.6s,baz=48,slow=2.1,SNR=4.0						
CMAR	**Chiang Mai Arr**	**150.79**	**264**	PKPbc	**PKiKP**	**06 48 14.4**	**+0.9**
	1.1nm,0.3s,baz=85,slow=2.9,SNR=2.1						
KURBB	**Kurchatov Arra**	**152.67**	**346**	PKPbc	**PKPbc**	**06 48 15.8**	**-0.5**
	0.9nm,0.7s,baz=20,slow=1.4,SNR=1.8						

*MOS **02** 06:31:30.3±1.3,24.˚18S×111.˚83W, h10km,mb5.2/34, MS5.6/6,Error ellipse: s-maj=12.3km s-min=8.6km az=82.7*
*IDC **02** 06:31:30.6±0.5,24.˚20S×111.˚96W, h0km,mb4.5/14, mbtmp4.5/14,Error ellipse: s-maj=22.0km s-min=15.0km az=75.0*
*NEIC **02** 06:31:31.8,24.˚39S×111.˚97W, h10km*
*NEIC **02** 06:31:32.1±2.1,24.˚33S±0.˚10×111.˚9W±0.˚1, h10km±1km, mb5.2/439,Mwb5.5/31,Error ellipse: s-maj=19.0km s-min=14.8km az=234.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=0.02; $M_{\theta\theta}$=-2.02; $M_{\phi\phi}$2.04; $M_{r\theta}$=0.63; $M_{r\phi}$=1.24; $M_{\theta\phi}$=0.35; Fault plane solution: $M_0$2.49000×10^{17} NP1:ϕ_s60.66000°, δ89.87000°, λ-16.81000°. NP2:ϕ_s150.70000°, δ73.19000°, λ-179.87000°. Principal axes: T 2.4952, Plg12.0000°, Azm107.0000°; N -0.0158, Plg73.0000°, Azm240.0000°; P -2.4793, Plg2.0000°, Azm14.0000°;*
ISC 02 06:31:31.6±0.3,24.˚30S±0.˚06×111.˚98W±0.˚07,h10km, n786,σ1°48/625,mb5.2/243,MS5.8/11,7C-2D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.65**	**142**	Pn	**Pn**	**06 32 25.6**	**-2.5**
VA02	**Isla de Pascua**	**3.65**	**142**	*e*P	**Sb**	**06 33 20.5**	**-0.1**
RPN	**Rapa Nui**	**3.69**	**140**	Pn	**Pn**	**06 32 27.1**	**-1.5**
	51nm,0.3s,baz=322,slow=17,SNR=5.2						
RPN				Sn	**Sb**	**06 33 16.3**	**-5.3**
	baz=105,slow=19						
PTCN	**Pitcairn Islan**	**16.48**	**264**	Pn	**Pn**	**06 35 20.0**	**-3.0**
PTCN				IAmb	IAmb	06 35 50.5	
	comp=Z,298nm,1.2s						
NNA	**Nana**	**35.46**	**76**	P	**P**	**06 38 28.2**	**-0.2**
NNA				IAmb	IAmb	06 39 07.8	
	comp=Z,89nm,2.0s						
NNA	**Nana**	**35.46**	**76**	P	**P**	**06 38 28.3**	**-0.2**
NNA				pmax	pmax		
	comp=Z,89nm,2.0s						
GO05	**Huala**	**36.19**	**117**	P	**P**	**06 38 33.0**	**-1.5**
GO05				IAmb	IAmb	06 38 42.7	
	comp=Z,57nm,1.4s						
CO06	**Fray Jorge**	**36.20**	**109**	P	**P**	**06 38 33.2**	**-1.5**
CO06				IAmb	IAmb	06 38 41.8	
	comp=Z,45nm,1.2s						
VA01	**Torpederas**	**36.26**	**113**	P	**P**	**06 38 33.7**	**-1.4**
VA05	**Santo Domingo**	**36.33**	**114**	P	**P**	**06 38 33.8**	**-1.9**
VA05				IAmb	IAmb	06 38 43.8	
	comp=Z,45nm,1.1s						
LL06	**Loncomilla**	**36.34**	**129**	P	**P**	**06 38 35.9**	**+0.3**
VA06	**Catapilco**	**36.53**	**112**	P	**P**	**06 38 36.5**	**-1.0**
CO05	**La Serena**	**36.55**	**108**	P	**P**	**06 38 36.8**	**-0.9**
CO05				IAmb	IAmb	06 39 15.4	
	comp=Z,28nm,0.9s						
GO07	**Milladeo Hill,**	**36.59**	**130**	P	**P**	**06 38 37.7**	**-0.1**
GO07				IAmb	IAmb	06 38 46.6	
	comp=Z,39nm,0.8s						
LR03	**Panguipulli**	**36.61**	**124**	P	**P**	**06 38 37.4**	**-0.7**
MT01	**Popeta**	**36.65**	**115**	P	**P**	**06 38 36.8**	**-1.6**
MT01				IAmb	IAmb	06 38 50.2	
	comp=Z,48nm,1.7s						
ML02	**Panimavida**	**36.69**	**118**	P	**P**	**06 38 37.0**	**-1.7**
MT02	**Curacav**	**36.70**	**114**	P	**P**	**06 38 38.1**	**-0.8**
MT02				IAmb	IAmb	06 38 46.4	
	comp=Z,30nm,1.1s						
CO02	**Combarbal**	**36.75**	**110**	P	**P**	**06 38 38.5**	**-1.1**
CO02				IAmb	IAmb	06 38 51.0	
	comp=Z,46nm,1.4s						
BO01	**Tunca**	**36.82**	**115**	P	**P**	**06 38 38.9**	**-1.0**
BO01				IAmb	IAmb	06 38 48.3	
	comp=Z,82nm,1.6s						
MT09	**Talagante**	**36.86**	**114**	P	**P**	**06 38 39.1**	**-1.3**
LL04	**Puerto Octay**	**36.87**	**126**	P	**P**	**06 38 39.3**	**-0.9**
LR05	**Currie**	**37.00**	**125**	P	**P**	**06 38 39.6**	**-1.7**
LR05				IAmb	IAmb	06 39 02.1	
	comp=Z,39nm,1.2s						
LCO	**Las Campanas**	**37.05**	**106**	P	**P**	**06 38 40.7**	**-1.6**
LCO	**Las Campanas**	**37.05**	**106**	P	**P**	**06 38 40.7**	**-1.6**
LCO				pmax	pmax		
	comp=Z,23nm,1.2s						
PEL	**Peldehue**	**37.07**	**113**	P	**P**	**06 38 41.5**	**-0.6**
PEL				pmax	pmax		
	comp=Z,24nm,1.7s						
BO02	**Sierra Bellavi**	**37.11**	**116**	P	**P**	**06 38 42.0**	**-0.4**
VA03	**San Esteban**	**37.17**	**113**	P	**P**	**06 38 44.4**	**+1.3**
VA03				IAmb	IAmb	06 38 50.3	
	comp=Z,28nm,0.9s						
MT16	**CCHEN**	**37.22**	**114**	P	**P**	**06 38 44.5**	**+1.1**
LL01	**San Ignacio de**	**37.25**	**129**	P	**P**	**06 38 42.8**	**-0.6**
LL01				IAmb	IAmb	06 38 52.3	
	comp=Z,39nm,1.1s						
GO06	**Curarrehue**	**37.26**	**124**	P	**P**	**06 38 42.5**	**-1.3**
AC05	**El Transito**	**37.44**	**106**	P	**P**	**06 38 43.6**	**-1.8**
AC05				IAmb	IAmb	06 38 52.7	
	comp=Z,32nm,0.9s						
MT13	**San Alfonso**	**37.44**	**114**	P	**P**	**06 38 43.7**	**-1.6**
AC06	**Mina Casimiro**	**37.47**	**104**	P	**P**	**06 38 44.2**	**-1.3**
LMEL	**Las Melosas**	**37.51**	**114**	P	**P**	**06 38 44.2**	**-1.8**
LMEL				IAmb	IAmb	06 38 50.2	
	comp=Z,52nm,1.1s						
MT08	**Bocatoma Ro**	**37.65**	**114**	P	**P**	**06 38 46.5**	**-0.8**
MT08				IAmb	IAmb	06 39 02.5	
	comp=Z,83nm,1.8s						
LL02	**Futaleuf**	**37.88**	**130**	P	**P**	**06 38 49.4**	**+0.7**
PLCA	**Paso Flores**	**38.20**	**126**	P	**P**	**06 38 53.7**	**+2.2**
PLCA				IAmb	IAmb	06 39 00.8	
	comp=Z,94nm,1.9s						
PLCA	**Paso Flores**	**38.20**	**126**	P	**P**	**06 38 53.4**	**+1.8**
	comp=Z,14nm,1.2s,baz=273,slow=10,SNR=7.9						
	comp=Z,14nm,1.2s						
PLCA	**Paso Flores**	**38.20**	**126**	*e*P	**P**	**06 38 53.9**	**+2.3**
GO02	**Mina Guanaco**	**38.40**	**100**	P	**P**	**06 38 54.4**	**+0.7**
COYC	**Coyhaique**	**38.46**	**134**	P	**P**	**06 38 57.1**	**+3.4**
COYC				IAmb	IAmb	06 39 03.4	
	comp=Z,48nm,1.3s						
AC02	**Maricunga**	**38.60**	**103**	P	**P**	**06 38 56.7**	**+1.1**
PATCX	**Punta Patache**	**38.68**	**93**	IAmb	IAmb	06 39 04.2	
	comp=Z,45nm,1.1s						
TA01	**Diego Aracena**	**38.71**	**93**	IAmb	IAmb	06 39 04.1	
	comp=Z,48nm,1.1s						
PB07	**IPOC Station P**	**38.72**	**95**	P	**P**	**06 38 55.6**	**-0.8**
PB07				IAmb	IAmb	06 39 04.2	
	comp=Z,56nm,1.1s						
PB12	**IPOC Station P**	**39.07**	**90**	P	**P**	**06 38 58.8**	**-0.4**
CHSH	**Refugio Sur-Vo**	**39.23**	**60**	P	**P**	**06 39 02.4**	**+1.3**
CHSH				IAmb	IAmb	06 39 14.2	
	comp=Z,52nm,1.2s						
PB09	**IPOC Station P**	**39.30**	**95**	IAmb	IAmb	06 39 09.6	
	comp=Z,45nm,1.1s						
PB11	**IPOC Station P**	**39.38**	**92**	IAmb	IAmb	06 39 09.1	
	comp=Z,46nm,1.1s						
LVC	**Limon Verde**	**39.43**	**97**	P	**P**	**06 39 02.3**	**-0.2**
LVC	**Limon Verde**	**39.43**	**97**	P	**P**	**06 39 02.3**	**-0.2**
LVC				pmax	pmax		
	comp=Z,20nm,1.2s						
LVC	**Limon Verde**	**39.43**	**97**	*e*P	**P**	**06 38 57.9**	**-4.6**
PB08	**IPOC Station P**	**39.75**	**93**	IAmb	IAmb	06 39 13.0	
	comp=Z,50nm,1.1s						
PB18	**Visviri**	**40.13**	**89**	IAmb	IAmb	06 39 38.3	
	comp=Z,71nm,1.3s						
MG05	**Puerto Natales**	**40.64**	**143**	P	**P**	**06 39 12.7**	**+1.0**
CZSB	**Cruzeiro do Su**	**41.00**	**73**	*e*P	**P**	**06 39 13.3**	**-1.9**
LPAZ	**La Paz**	**41.75**	**87**	IAmb	IAmb	06 39 30.1	
	comp=Z,43nm,1.2s						
LPAZ	**La Paz**	**41.75**	**87**	P	**P**	**06 39 22.6**	**+0.6**
	comp=Z,10nm,1.0s,baz=251,slow=5.7,SNR=21						
	comp=Z,10nm,1.0s						
LPAZ	**La Paz**	**41.75**	**87**	*e*P	**P**	**06 39 17.7**	**-4.4**
GCUF	**Volcan Galeras**	**42.11**	**58**	P	**P**	**06 39 26.9**	**+2.1**
	comp=Z,53nm,1.8s,comp=Z,835nm						
JTS	**Las Juntas de**	**43.35**	**41**	P	**P**	**06 39 34.4**	**+0.2**
JTS				pmax	pmax		
	comp=Z,20nm,2.4s						
POPC	**Popayan, Colom**	**43.46**	**57**	P	**P**	**06 39 35.5**	**+0.1**
	comp=Z,31nm,1.8s						
BRU2	**Volcan**	**43.58**	**45**	P	**P**	**06 39 36.3**	**0.0**
TLIG	**Tlapa**	**43.62**	**19**	IAmb	IAmb	06 39 57.9	
	comp=Z,67nm,1.3s						
HDC	**Heredia**	**43.62**	**42**	*e*P	P	06 39 43.3	+6.7
JAMC	**Jamundi, Valle**	**43.89**	**56**	P	**P**	**06 39 40.2**	**+1.3**
	comp=Z,27nm,1.6s,comp=Z,924nm						
MTO3	**Montecristo**	**44.36**	**32**	IAmb	IAmb	06 40 13.1	
	comp=Z,35nm,1.4s						
TRQA	**Tornquist**	**44.42**	**120**	P	**P**	**06 39 40.0**	**-2.7**
TRQA				IAmb	IAmb	06 39 50.2	
	comp=Z,30nm,1.1s						
TRQA	**Tornquist**	**44.42**	**120**	P	**P**	**06 39 40.0**	**-2.7**
TRQA				pmax	pmax		
	comp=Z,30nm,1.1s						
TRQA	**Tornquist**	**44.42**	**120**	*e*P	**P**	**06 39 43.0**	**+0.3**
MOIG	**Morelia**	**44.96**	**14**	P	**P**	**06 39 47.3**	**-0.1**
MOIG				IAmb	IAmb	06 39 59.6	
	comp=Z,39nm,1.1s						
TGUH	**Tegucigalpa,Un**	**45.12**	**35**	P	**P**	**06 39 48.8**	**+0.3**
TGUH				IAmb	IAmb	06 40 06.7	
	comp=Z,57nm,1.6s						
TBTG	**Tabatinga, AM**	**45.15**	**70**	*e*P	**P**	**06 39 48.1**	**-0.7**
ESPN	**Las Esperanzas**	**45.24**	**40**	P	**P**	**06 39 49.9**	**+0.6**
ESPN				IAmb	IAmb	06 40 00.1	
	comp=Z,51nm,1.3s						
PLMC	**San Jos del P**	**45.29**	**55**	P	**P**	**06 39 48.9**	**-1.0**
	comp=Z,23nm,1.1s						
ORTC	**Ortega, Tolima**	**45.42**	**57**	P	**P**	**06 39 50.6**	**-0.3**
	comp=Z,42nm,1.0s,comp=Z,543nm						
PRAC	**Prado**	**45.58**	**57**	P	**P**	**06 39 53.1**	**+0.9**
	comp=Z,28nm,1.3s,comp=Z,628nm						
PTAC	**Punta Ardita,**	**45.69**	**51**	P	**P**	**06 39 50.7**	**-2.3**
	comp=Z,27nm,2.0s,comp=Z,1μm						
ETMB	**Extrema**	**45.84**	**80**	P	**P**	**06 39 53.4**	**-0.9**
ETMB	**Extrema**	**45.84**	**80**	*e*P	**P**	**06 39 51.6**	**-2.7**
TICA	**Tres Isletas**	**46.42**	**104**	*e*P	**P**	**06 39 58.1**	**-0.5**
ROSC	**El Rosal**	**46.73**	**57**	P	**P**	**06 40 03.1**	**+1.5**
ROSC				IAmb	IAmb	06 40 16.6	
	comp=Z,38nm,1.2s						
ROSC	**El Rosal**	**46.73**	**57**	P	**P**	**06 40 01.9**	**+0.3**
	comp=Z,3.6nm,0.4s,baz=212,slow=15,SNR=5.1						
ROSC				PcP	**PcP**	**06 41 35.3**	**+0.1**
	comp=Z,49nm,1.1s,baz=237,slow=8.3,SNR=4.9						
	comp=Z,3.6nm,0.4s						
ROSC	**El Rosal**	**46.73**	**57**	P	**P**	**06 40 03.1**	**+1.5**
	comp=Z,29nm,1.5s						
NORC	**Norcasia**	**46.78**	**55**	P	**P**	**06 40 01.5**	**-0.1**
	comp=Z,31nm,1.1s						
CHIC	**Chingaza**	**47.04**	**57**	P	**P**	**06 40 04.9**	**+0.8**
	comp=Z,32nm,1.3s						
FDPY	**Filadelfia**	**47.61**	**99**	*e*P	**P**	**06 40 06.3**	**-1.7**
PTBC	**PUERTO BERRIO,**	**47.73**	**55**	P	**P**	**06 40 08.6**	**-0.4**
	comp=Z,22nm,1.4s,comp=Z,475nm						
PTGC	**Puerto Gaitan,**	**48.02**	**59**	P	**P**	**06 40 12.0**	**+0.8**
	comp=Z,28nm,0.8s,comp=Z,254nm						
ZARC	**Zaragoza, Cauc**	**48.06**	**54**	P	**P**	**06 40 12.3**	**+0.8**
	comp=Z,23nm,1.1s,comp=Z,351nm						
PSAL	**Palomas, Salto**	**48.22**	**111**	*e*P	**P**	**06 40 13.6**	**+0.9**
BBSD	**Serra de San D**	**48.34**	**92**	*e*P	**P**	**06 40 11.5**	**-2.3**
RUSC	**La Rusia**	**48.34**	**57**	P	**P**	**06 40 14.0**	**-0.3**
	comp=Z,19nm,1.6s,comp=Z,593nmcomp=Z,2μm						
BARC	**Barichara**	**48.72**	**56**	P	**P**	**06 40 16.5**	**-0.4**
PAPY	**Pozo Azul**	**48.76**	**101**	*e*P	**P**	**06 40 14.5**	**-2.4**
SAML	**Samuel**	**48.92**	**80**	P	**P**	**06 40 17.0**	**-1.2**
SAML	**Samuel**	**48.92**	**80**	P	**P**	**06 40 16.5**	**-1.7**
	comp=Z,92nm,1.1s,comp=Z,5μm						
SAML	**Samuel**	**48.92**	**80**	P	**P**	**06 40 17.0**	**-1.2**
SAML				pmax	pmax		
	comp=Z,51nm,1.2s						
SAML	**Samuel**	**48.92**	**80**	*e*P	**P**	**06 40 16.0**	**-2.2**
CPUP	**Villa Florida**	**49.13**	**105**	P	**P**	**06 40 18.9**	**-0.8**
CPUP				IAmb	IAmb	06 40 26.7	
	comp=Z,30nm,1.4s						
CPUP	**Villa Florida**	**49.13**	**105**	P	**P**	**06 40 19.4**	**-0.3**
	comp=Z,6.5nm,1.0s,baz=268,slow=8.4,SNR=8.6						
	comp=Z,6.5nm,1.0s						
CPUP	**Villa Florida**	**49.13**	**105**	*e*P	**P**	**06 40 19.1**	**-0.6**
ITQB	**Itaqui**	**49.23**	**109**	*e*P	**P**	**06 40 20.4**	**0.0**
PAMC	**Pamplona, Colo**	**49.56**	**56**	P	**P**	**06 40 23.6**	**0.0**
TBOT	**Tacuaremb**	**49.58**	**112**	*e*P	**P**	**06 40 23.1**	**+0.1**
OCAC	**Ocana**	**49.69**	**54**	P	**P

comp=Z,22nm,1.1s
833A Chaparral WMA, 53.71 14 P P 06 40 53.2 -0.6
baz=194
PDRB Porto dos Gac 53.74 87 eP P 06 40 52.8 -1.7
TXAR Lajitas Array 53.92 9 P P 06 40 55.9 +0.4
TXAR Lajitas Array 53.92 9 P P 06 40 56.6 +1.1
comp=Z,2.9nm,1.0s,baz=184,slow=8.1,SNR=14
TXAR PcP PcP 06 42 00.5 -0.4
comp=Z,0.8nm,1.0s,baz=197,slow=2.8,SNR=1.1
comp=Z,2.9nm,1.0s
TRCB Terra Rica 54.06 101 eP P 06 40 56.7 0.0
PTGB Pitanga 54.12 104 eP P 06 40 58.1 +0.9
BAUV El Baul 54.13 58 P P 06 40 56.0 -1.2
CNLB Canela 54.26 110 eP P 06 41 00.3 +2.2
CLDB Colider 54.87 86 eP P 06 41 02.5 -0.2
LDASE Londrina, Braz 55.27 102 eP P 06 41 05.6 +0.2
PCMB Pacaembu 55.59 100 eP P 06 41 07.8 0.0
JCT Junction City 55.71 13 P P 06 41 08.1 -0.2
JCT IAmb IAmb 06 41 23.8
comp=Z,34nm,1.1s
JCT Junction City 55.71 13 P P 06 41 08.5 +0.2
baz=193
JCT Junction City 55.71 13 P P 06 41 08.1 -0.2
JCT pmax pmax
comp=Z,34nm,1.1s
214A Organ Pipe Nat 55.95 359 P P 06 41 09.8 -0.2
baz=179
MNTX Cornudas Mount 56.04 7 P P 06 41 10.5 -0.2
baz=187
HKT Hockley 56.13 17 iP P 06 41 09.9 -1.3
HKT pmax pmax
comp=Z,47nm,1.8s
DVLD Doverlandia 56.20 94 eP P 06 41 12.3 +0.1
TUC Tucson 56.31 1 P P 06 41 11.8 -0.8
TUC Tucson 56.31 1 P P 06 41 12.4 -0.2
baz=181
TUC Tucson 56.31 1 P P 06 41 11.8 -0.8
TUC pmax pmax
comp=Z,18nm,1.5s
435B Jarrell 56.48 15 P P 06 41 14.1 +0.2
baz=196
BOAV Boa Vista 56.56 69 P P 06 41 15.2 +0.5
BOAV IAmb IAmb 06 41 24.7
comp=Z,52nm,1.6s
BOAV Boa Vista 56.56 69 eP P 06 41 18.5 +3.7
BRDY Brady 56.66 13 IAmb IAmb 06 41 30.0
comp=Z,26nm,1.3s
121A Cookes Peak, D 56.66 4 IAmb IAmb 06 41 22.6
comp=Z,20nm,1.1s
121A Cookes Peak, D 56.66 4 P P 06 41 15.8 +0.5
baz=184,SNR=8.3
FRTB Fartura 56.66 103 eP P 06 41 16.3 +0.8
YUH Yuha Desert 56.76 356 P P 06 41 16.0 +0.2
NPGB Novo Progresso 56.76 82 eP P 06 41 14.4 -1.9
IKP In-Ko-Pah, Jac 56.77 356 P P 06 41 17.0 +1.1
baz=176
ARAG Araguaiana, MT 56.82 93 eP P 06 41 16.8 +0.2
ODSA Odessa 56.83 10 IAmb IAmb 06 41 31.7
comp=Z,30nm,1.1s
BAR Barrett 56.84 355 P P 06 41 16.5 +0.1
SGCY Sterling City 56.86 11 IAmb IAmb 06 41 31.5
comp=Z,24nm,1.1s
ITRB Iturama 56.92 98 eP P 06 41 17.9 +0.6
MONP2 Monument Peak 57.03 356 P P 06 41 17.9 0.0
baz=175
SWSC Sam W. Stewart 57.05 356 P P 06 41 17.8 0.0
baz=176
109C Camp Elliot, M 57.08 355 P P 06 41 17.8 -0.2
baz=174
ITTB Itaituba 57.55 79 eP P 06 41 21.9 +0.1
WHTX Lake Whitney, 57.67 15 P P 06 41 21.9 -0.3
baz=196
SNCC San Nicolas Is 57.68 353 P P 06 41 21.5 -0.7
baz=172
BC3 Big Chuckawall 57.73 357 P P 06 41 22.1 -0.6
baz=176,SNR=7.5
TPFO Pinon Flats 57.75 356 P P 06 41 21.4 -1.5
baz=175
PFO Pinyon Flats O 57.75 356 P P 06 41 21.1 -1.8
baz=175
PFO Pinyon Flats O 57.75 356 iP P 06 41 23.1 +0.2
PFO pmax pmax
comp=Z,23nm,1.5s
BLYC Blythe 57.78 357 P P 06 41 23.3 +0.3
MURC Murrieta 57.80 355 P P 06 41 21.7 -1.4
baz=174
ABTX Abilene, Hawle 57.82 12 P P 06 41 22.4 -0.9
baz=193
POST Post 57.92 10 P P 06 41 24.1 0.0
POST IAmb IAmb 06 41 38.0
comp=Z,19nm,1.0s
BELC Belle Mtn. Jos 58.11 356 P P 06 41 25.1 -0.3
baz=176,SNR=6.1
BB19B Bebedouro 58.19 101 eP P 06 41 27.4 +1.2
IRM Iron Mountain 58.22 357 P P 06 41 25.4 -0.6
baz=177
PLPT Palo Pinto 58.27 14 P P 06 41 26.9 +0.5
FW07 Weatherford 58.28 14 IAmb IAmb 06 41 41.0
comp=Z,32nm,1.2s
PDMCI Parker Dam,Lak 58.32 358 P P 06 41 25.2 -1.5
baz=178
PET01 Itanhaem-SP 58.45 105 eP P 06 41 30.0 +1.9
SPB Sao Paulo 58.49 104 eP P 06 41 29.5 +1.2
X18A Snowflake 58.54 2 IAmb IAmb 06 41 44.5
comp=Z,21nm,1.2s
SNDB Serra Nova Dou 58.57 89 eP P 06 41 27.7 -1.2
FW06 Azle 58.59 14 IAmb IAmb 06 41 43.8
comp=Z,34nm,1.2s
RCLB Rio Claro- Sao 58.71 102 eP P 06 41 32.6 +2.7
NEE2 Needles Airpor 58.80 357 P P 06 41 28.9 -1.1
baz=177
GMRC Granite Mounta 58.87 356 P P 06 41 29.7 -1.0
baz=176,SNR=7.8
SBC Santa Barbara 58.88 353 P P 06 41 28.0 -2.6
baz=172
OSI Osito Audit: C 58.94 354 P P 06 41 29.5 -1.6
baz=173
HEC Hector,Ludlow 58.95 356 P P 06 41 29.9 -1.3
baz=175
VAO Valinhos 59.06 103 eP P 06 41 33.0 +0.7
W18A Petrified Fore 59.13 2 P P 06 41 30.8 -1.9
baz=182
EDW2 Edwards Air Fo 59.14 354 P P 06 41 31.3 -1.2
baz=174
ANMO Albuquerque 59.16 5 P P 06 41 33.6 +0.8
ANMO Albuquerque 59.16 5 P P 06 41 30.8 -1.9
baz=186
ANMO Albuquerque 59.16 5 iP P 06 41 30.4 -2.4
ANMO pmax pmax
comp=Z,8.0nm,1.3s
WTFS Witchita Falls 59.16 13 P P 06 41 32.5 -0.1
WTFS IAmb IAmb 06 41 38.7
comp=Z,23nm,0.8s
PKM Mcpherson Peak 59.34 353 P P 06 41 31.9 -2.1
baz=172
IPMB Ipameri, GO 59.37 97 eP P 06 41 34.7 +0.1
CCAC Calif City Air 59.41 354 P P 06 41 34.2 -0.1
CCAC IAmb IAmb 06 41 44.6
comp=Z,15nm,1.0s
GSC Goldstone, Bar 59.46 355 IAmb IAmb 06 41 46.0
comp=Z,20nm,1.1s
GSC Goldstone, Bar 59.46 355 P P 06 41 33.4 -1.3
baz=175,SNR=9.8
WUAZ Wupatki 59.50 1 P P 06 41 33.9 -1.2
baz=181
TUQ Turquoise Moun 59.53 356 P P 06 41 34.3 -1.0
baz=176,SNR=7.9
AMTX Amarillo 59.67 10 IAmb IAmb 06 41 46.4
comp=Z,22nm,1.2s
AMTX Amarillo 59.67 10 P P 06 41 34.8 -1.4
baz=191
LRMC Laurel Mtn Rad 59.70 355 P P 06 41 35.3 -1.1
baz=174
VBMS Vicksburg 59.83 21 P P 06 41 36.3 -0.9
baz=203
ISA Isabella, Lake 59.96 354 P P 06 41 37.3 -0.8
baz=173
MALB Monte Alegre 59.98 77 eP P 06 41 40.6 +1.9
SHOC Shoshone, Teco 60.02 356 P P 06 41 37.8 -0.6
baz=176,SNR=18
WMOK Wichita Mounta 60.04 13 P P 06 41 38.2 -0.4
baz=194,SNR=6.3
WMOK Wichita Mounta 60.04 13 P P 06 41 38.7 0.0
WMOK pmax pmax
comp=Z,9.0nm,0.9s
QSM Queen of Sheba 60.12 355 P P 06 41 39.4 +0.3
QSM IAmb IAmb 06 41 42.2
comp=Z,13nm,1.0s
SMWD Samnorwood 60.12 11 IAmb IAmb 06 42 01.6
comp=Z,47nm,1.8s
VES Vestal, Richgr 60.20 353 P P 06 41 38.8 -0.8
baz=173
MPMC Manual Prospec 60.26 355 P P 06 41 39.4 -1.0
baz=174,SNR=15
BDFB Brasilia 60.30 95 P P 06 41 41.3 +0.3
BDFB IAmb IAmb 06 41 47.5
comp=Z,31nm,1.1s
BDFB Brasilia 60.30 95 P P 06 41 41.0 0.0
comp=Z,6.5nm,1.0s,baz=261,slow=7.7,SNR=8.6
comp=Z,6.5nm,1.0s
BDFB Brasilia 60.30 95 P P 06 41 41.3 +0.3
BDFB pmax pmax
comp=Z,31nm,1.1s
GWY Greenwater Val 60.33 356 P P 06 41 41.5 +0.8
GWY IAmb IAmb 06 41 55.9
comp=Z,24nm,1.3s
U15A North Rim 60.41 360 IAmb IAmb 06 41 57.6
comp=Z,19nm,1.2s
SLP01 Ubatuba-SP 60.58 104 eP P 06 41 44.7 +1.9
FURC Furnace Creek, 60.62 355 P P 06 41 41.4 -1.1
baz=175,SNR=7.2
X37A Clayton 60.66 16 IAmb IAmb 06 41 56.7
comp=Z,25nm,1.1s
CWC Cottonwood Cre 60.69 354 P P 06 41 41.3 -2.0
baz=174
VOG Valley Oaks Go 60.70 353 P P 06 41 41.7 -1.4
baz=172
MLPR Magueyes Islan 60.71 50 P P 06 41 45.4 +1.9
PMNB Patos De Minas 60.81 98 eP P 06 41 44.6 +0.2
FNO Franklin 60.83 14 P 06 41 44.2 +0.2
FNO IAmb IAmb 06 41 50.0
comp=Z,22nm,1.0s
W35A Tecumseh 60.84 14 IAmb IAmb 06 41 49.5
comp=Z,15nm,0.9s
WCT Wildcat Mounta 60.93 356 IAmb IAmb 06 41 55.9
comp=Z,18nm,1.1s
OKCSW OKLAHOMA CITY 60.96 14 P 06 41 44.6 -0.3
KNB Kanab 61.00 359 IAmb IAmb 06 42 00.7
comp=Z,16nm,1.1s
RTBA Rita Blanca 61.04 9 P P 06 41 46.5 +0.9
RTBA IAmb IAmb 06 41 56.1
comp=Z,21nm,1.4s
MIAR Mount Ida 61.08 17 P P 06 41 44.4 -1.3
baz=199,SNR=6.4
MIAR Mount Ida 61.08 17 P P 06 41 45.9 +0.2
MIAR pmax pmax
comp=Z,13nm,1.1s
GRAC Grapevine Rang 61.18 355 IAmb IAmb 06 41 57.4
comp=Z,28nm,1.2s
GRAC Grapevine Rang 61.18 355 P P 06 41 45.1 -1.3
baz=174,SNR=13
X40A Basin Creek Fa 61.23 18 IAmb IAmb 06 42 09.4
comp=Z,32nm,1.9s
MVCO Mesa Verde 61.27 3 P P 06 41 45.6 -1.6
baz=184
LCH Last Change Ra 61.44 355 P P 06 41 48.7 +0.4
GMN Gold Mountain 61.48 355 IAmb IAmb 06 41 59.3
comp=Z,16nm,1.3s
T25A Trinidad 61.53 7 P P 06 41 47.2 -1.8
baz=188
CCUT Cedar City 61.54 359 IAmb IAmb 06 42 00.7
comp=Z,22nm,1.1s
BSCB Bom Sucesso 61.57 102 eP P 06 41 49.9 +0.3
DEOK Depew 61.59 14 IAmb IAmb 06 41 55.2
comp=Z,26nm,1.0s
DSP Deep Springs 61.60 355 IAmb IAmb 06 42 09.6
comp=Z,29nm,1.4s
UALR University of 61.64 18 P P 06 41 49.0 -0.5
OK033 Mehan 61.68 14 IAmb IAmb 06 42 04.1
comp=Z,26nm,1.0s
TIGA Tifton 61.73 27 P P 06 41 48.3 -1.8
baz=209
MAN01 Angra dos Reis 61.76 104 eP P 06 41 54.5 +3.6
LRAL Lakeview Retre 61.79 24 P P 06 41 50.0 -0.6
LRAL Lakeview Retre 61.79 24 P P 06 41 48.7 -1.9
baz=206
TUL3 Leonard 61.81 15 P P 06 41 49.2 -1.5
baz=197,SNR=8.4
MZP Montezuma Peak 61.88 355 IAmb IAmb 06 42 02.2
comp=Z,18nm,1.2s
HMU Henry Mountain 61.92 1 IAmb IAmb 06 42 29.2
comp=Z,25nm,1.3s
SDCO Great Sand Dun 62.02 6 P P 06 41 52.1 -0.2
SDCO IAmb IAmb 06 42 07.7
comp=Z,15nm,1.2s
SDCO Great Sand Dun 62.02 6 P P 06 41 50.7 -1.7
baz=187,SNR=25
WHAR Wooly Hollow 62.14 18 IAmb IAmb 06 41 59.2
comp=Z,12nm,0.9s
OK032 Salt Plains WL 62.15 12 IAmb IAmb 06 42 07.7
comp=Z,28nm,1.1s
OXF Oxford 62.30 21 P P 06 41 52.7 -1.2
baz=203
152A Waverly Hall 62.34 26 IAmb IAmb 06 42 08.7
comp=Z,29nm,1.3s
VAS01 Vassouras-RJ 62.39 103 eP P 06 41 57.1 +2.1
R11B Troy Canyon, C 62.41 357 P P 06 41 53.8 -1.1
baz=176,SNR=14
LHV Little Huntoon 62.52 354 P P 06 41 56.6 +1.3
PSUT Pine Spring 62.53 358 IAmb IAmb 06 42 07.1
comp=Z,13nm,1.1s
T35A Sooner Cattle 62.61 14 IAmb IAmb 06 42 05.5
comp=Z,13nm,1.1s
MCPB Macapa, AP 62.62 77 eP P 06 41 58.1 +1.5
U38A Gravette 62.66 16 IAmb IAmb 06 42 10.2
comp=Z,18nm,1.4s
NV11 Mina Array Sit 62.67 355 P P 06 41 56.5 -0.1
NV11 IAmb IAmb 06 42 07.5
comp=Z,28nm,1.1s
NVAR Mina Array Bea 62.68 354 P P 06 41 57.0 +0.3
NVAR Mina Array Bea 62.68 354 P P 06 41 57.4 +0.7
comp=Z,17nm,0.9s,baz=182,slow=9.0,SNR=46
comp=Z,17nm,0.9s
FCAR Ozark Folk Cen 62.74 18 IAmb IAmb 06 42 11.1
comp=Z,15nm,1.2s
Y49A Blount Mountai 62.74 24 IAmb IAmb 06 42 19.4
comp=Z,22nm,1.4s
Q16A Castle Valley 62.89 1 IAmb IAmb 06 42 09.1
comp=Z,17nm,1.2s
RYN Ryan 62.90 354 IAmb IAmb 06 42 17.6
comp=Z,13nm,1.1s
X48A Hartselle 63.05 23 IAmb IAmb 06 42 17.6
comp=Z,24nm,1.4s
SRU San Rafael Swe 63.10 1 IAmb IAmb 06 42 14.6
comp=Z,28nm,1.2s
SMTB Santa Maria do 63.10 88 eP P 06 41 60.0 +0.1
PLAL Pickwick Lake 63.17 22 P P 06 41 58.6 -1.2
Q24A Divide 63.26 6 P P 06 41 59.4 -1.2
baz=187
TMUT Trail Mountain 63.27 1 IAmb IAmb 06 42 27.2
comp=Z,16nm,1.2s
SMCO Snowmass 63.32 4 IAmb IAmb 06 42 18.9
comp=Z,20nm,1.3s
DIAM Dianantina, MG 63.38 99 eP P 06 42 03.5 +1.7
DUB01 Friburgo-RJ 63.39 104 eP P 06 42 03.3 +1.5
P17A Butcher Ranch, 63.45 1 IAmb IAmb 06 42 17.2
comp=Z,24nm,1.1s
PNTR Pine Nut 63.46 353 P P 06 42 02.4 +0.5
PNTR IAmb IAmb 06 42 10.0
comp=Z,21nm,0.9s
AFDM Forest Hills D 63.48 352 P P 06 42 02.6 +0.8
AFDM IAmb IAmb 06 42 21.6
comp=Z,17nm,1.3s
GOGA Godfrey 63.49 26 IAmb IAmb 06 42 04.7
comp=Z,13nm,0.9s
GOGA Godfrey 63.49 26 P P 06 42 00.9 -1.0
baz=209
GOGA Godfrey 63.49 26 P P 06 42 02.2 +0.3
GOGA pmax pmax
comp=Z,15nm,1.0s
KSCO Kaye Shedlock' 63.59 8 P P 06 42 01.5 -1.1
baz=190
P18A Preston Nutter 63.62 1 IAmb IAmb 06 42 13.0
comp=Z,18nm,1.1s
CBKS Cedar Bluff 63.83 11 IAmb IAmb 06 42 09.1
comp=Z,17nm,1.1s
CBKS Cedar Bluff 63.83 11 P P 06 42 01.4 -2.7
baz=192
JANB Januaria 63.86 95 eP P 06 42 07.0 +2.2
MGMO Mountain Grove 63.89 17 IAmb IAmb 06 42 18.9
comp=Z,28nm,1.1s
NLU North Lily Min 63.92 360 IAmb IAmb 06 42 16.1
comp=Z,20nm,1.2s
ISCO Idaho Springs 64.05 5 P P 06 42 04.2 -1.7
baz=186
ISCO Idaho Springs 64.05 5 P P 06 42 07.0 +1.2
ISCO pmax pmax
comp=Z,10.0nm,1.1s
PAHR Pah Rah Range 64.05 354 IAmb IAmb 06 42 17.6
comp=Z,38nm,1.8s
CAM01 Campos-RJ 64.10 103 eP P 06 42 09.3 +3.0
T42A Van Buren 64.10 18 IAmb IAmb 06 42 19.8
comp=Z,20nm,1.4s
S39A Bolivar 64.11 16 IAmb IAmb 06 42 20.0
comp=Z,23nm,1.1s
SWET Sewanee 64.14 24 P P 06 42 05.4 -0.8
SWET IAmb IAmb 06 42 12.0
comp=Z,15nm,1.0s
DUG Dugway, Tooele 64.17 359 IAmb IAmb 06 42 14.1
comp=Z,18nm,1.1s
DUG Dugway, Tooele 64.17 359 P P 06 42 05.5 -1.0
baz=179,SNR=14
DUG Dugway, Tooele 64.17 359 P P 06 42 08.3 +1.9
DUG pmax pmax
comp=Z,15nm,1.2s
O20A White River Ci 64.20 3 IAmb IAmb 06 42 23.3
comp=Z,22nm,1.3s
O20A White River Ci 64.20 3 P P 06 42 05.2 -1.6
baz=184
SDBA SAO DESIDERIO 64.24 92 eP P 06 42 09.3 +1.9
WVT Waverly 64.29 22 P P 06 42 05.4 -1.8
WVT IAmb IAmb 06 42 21.5
comp=Z,31nm,1.4s
WVT Waverly 64.29 22 P P 06 42 05.6 -1.5
baz=204
WVT Waverly 64.29 22 P P 06 42 05.4 -1.8
WVT pmax pmax
comp=Z,31nm,1.5s
W50A Signal Mountai 64.35 24 IAmb IAmb 06 42 29.6
comp=Z,25nm,1.4s
BSUT Blindstream Ca 64.52 1 IAmb IAmb 06 42 26.0
comp=Z,17nm,1.1s
SBA Scott Base 64.57 193 P P 06 42 09.9 +1.4
SBA Scott Base 64.57 193 P P 06 42 09.9 +1.4
SBA pmax pmax
comp=Z,58nm,1.9s
BMN Battle Mountai 64.59 356 IAmb IAmb 06 42 20.6
comp=Z,28nm,1.3s
CTU Camp Tracy 64.66 0 IAmb IAmb 06 42 20.5
comp=Z,23nm,1.2s
KSU1 Kansas State U 64.69 13 P P 06 42 08.1 -1.6
baz=195
HODGE Hodges 64.70 27 P P 06 42 10.0 +0.1
HODGE IAmb IAmb 06 42 24.2
comp=Z,17nm,1.3s
CGM3 Cape Girardeau 64.78 20 IAmb IAmb 06 42 24.1
comp=Z,24nm,1.4s
W52A Murphy 64.78 25 IAmb IAmb 06 42 24.8
comp=Z,24nm,1.3s
ELK Elko 64.78 357 P P 06 42 10.2 -0.4
ELK Elko 64.78 357 P P 06 42 10.2 -0.4
ELK pmax pmax
comp=Z,10.0nm,1.1s
CCM Cathedral Cave 65.02 18 P P 06 42 11.0 -0.8
CCM IAmb IAmb 06 42 17.7
comp=Z,19nm,0.9s
CCM Cathedral Cave 65.02 18 P P 06 42 10.8 -1.0
baz=201
CCM Cathedral Cave 65.02 18 P P 06 42 11.0 -0.8
CCM pmax pmax
comp=Z,19nm,1.0s
TCUT Toone Canyon 65.09 0 IAmb IAmb 06 42 23.4
comp=Z,28nm,1.3s
N23A Red Feather La 65.11 5 P P 06 42 12.8 +0.1
N23A Red Feather La 65.11 5 P P 06 42 10.7 -2.0
baz=186
JSC Jenkinsville 65.16 28 P P 06 42 11.9 -1.0
JSC IAmb IAmb 06 42 23.5
comp=Z,17nm,1.2s
JSC Jenkinsville 65.16 28 P P 06 42 11.9 -1.0
JSC pmax pmax
comp=Z,17nm,1.2s
FVM French Village 65.18 19 IAmb IAmb 06 42 26.5
comp=Z,20nm,1.4s
TMAB Tom-Au,PA,Br 65.28 81 eP P 06 42 15.9 +1.7
ALF01 Guarapari-ES 65.30 102 eP P 06 42 18.5 +4.3
SIUC Southern Illin 65.30 20 P P 06 42 13.6 -0.1
T47A Sharon Grove 65.32 22 IAmb IAmb 06 42 27.1
comp=Z,20nm,1.1s
U49A Red Boiling Sp 65.35 23 IAmb IAmb 06 42 33.7
comp=Z,22nm,1.4s
SJMB Sao Joao De Ma 65.48 100 eP P 06 42 19.9 +4.5
OGNE Ogallala 65.57 8 P P 06 42 14.7 -0.8
baz=190
VNDA Vanda 65.62 194 P P 06 42 16.3 +1.0
VNDA Vanda 65.62 194 P P 06 42 16.7 +1.3
comp=Z,2.1nm,1.1s,baz=83,slow=7.0,SNR=5.0
comp=Z,2.1nm,1.1s
BSFB Barra de Sao F 65.75 101 eP P 06 42 20.1 +3.1
RWWY Rawlins 65.81 4 IAmb IAmb 06 42 25.5
comp=Z,15nm,1.1s
QSPA South Pole Qui 65.86 180 P P 06 42 18.6 +1.4
QSPA South Pole Qui 65.86 180 P P 06 42 18.7 +1.5
comp=Z,14nm,1.0s,baz=114,slow=10.0,SNR=18
comp=Z,14nm,1.0s
KMSC Kings Mountain 65.87 27 P P 06 42 16.5 -0.9
baz=210
P38A Dawn 65.89 16 IAmb IAmb 06 42 23.3
comp=Z,16nm,0.8s
RIB01 Linhares ES 66.00 101 eP P 06 42 24.2 +5.4
T50A Nancy 66.14 24 IAmb IAmb 06 42 33.7
comp=Z,38nm,1.8s
TZTN Tazewell 66.20 25 IAmb IAmb 06 42 33.8
comp=Z,34nm,1.4s
TZTN Tazewell 66.20 25 P P 06 42 18.4 -1.1
baz=208,SNR=7.3
X58A Rowland 66.23 29 IAmb IAmb 06 42 34.4
comp=Z,25nm,1.2s
W57A Gilead 66.45 28 IAmb IAmb 06 42 24.0
comp=Z,16nm,0.9s
NBBC Barra do Corda 66.52 85 eP P 06 42 24.4 +2.3
OLIL Olney 66.58 20 P P 06 42 22.1 +0.3
BGNE Belgrade 66.62 11 P P 06 42 20.6 -1.6
baz=194
WVOR Wild Horse Val 66.69 355 P P 06 42 23.0 +0.3
WVOR IAmb IAmb 06 42 38.9
comp=Z,24nm,1.1s
WVOR Wild Horse Val 66.69 355 P P 06 42 23.0 +0.3
WVOR pmax pmax
comp=Z,24nm,1.2s
WCI Wyandotte Cave 66.71 22 P P 06 42 21.1 -1.6
baz=205
NAN01 Guarapari, ES 66.71 100 eP P 06 42 27.0 +3.6
PD31 Pinedale Array 66.77 2 P P 06 42 21.9 -1.5
PDAR Pinedale Array 66.77 2 P P 06 42 21.9 -1.5
PDAR Pinedale Array 66.77 2 P P 06 42 22.1 -1.2
comp=Z,4.0nm,0.8s,baz=177,slow=6.3,SNR=13
comp=Z,4.0nm,0.8s
U54A Nelsons Funny 66.86 26 IAmb IAmb 06 42 38.6
comp=Z,27nm,1.1s
K05A Summer Lake 67.20 353 P P 06 42 27.1 +1.0
K05A IAmb IAmb 06 42 36.9
comp=Z,20nm,1.1s
U56A King 67.30 27 IAmb IAmb 06 42 41.7
comp=Z,25nm,1.2s
GUA01 Guaratinga, BA 67.42 99 eP P 06 42 31.8 +3.9
R50A Paris 67.45 23 IAmb IAmb 06 42 40.9
comp=Z,26nm,1.2s
CNNC Cliffs of the 67.45 30 P P 06 42 26.5 -1.0
baz=213
TPAW Teton Pass 67.46 1 P P 06 42 26.9 -0.9
TPAW IAmb IAmb 06 42 34.6
comp=Z,14nm,1.1s
MFID Camas Ranch 67.48 357 IAmb IAmb 06 42 37.8
comp=Z,18nm,1.1s
HLID Hailey 67.57 358 IAmb IAmb 06 42 39.4
comp=Z,23nm,1.1s
HLID Hailey 67.57 358 P P 06 42 27.1 -1.2
baz=178,SNR=29
J08A Circle Bar Ran 67.59 355 P P 06 42 29.9 +1.6
J08A IAmb IAmb 06 42 45.9
comp=Z,25nm,1.1s
LOHW Long Hollow 67.59 1 IAmb IAmb 06 42 50.9
comp=Z,14nm,1.1s
MOOW Moose Ponds 67.73 1 P P 06 42 29.0 -0.4
J05D Fort Rock, OR 67.79 353 IAmb IAmb 06 42 47.6
comp=Z,24nm,1.1s
IMW Indian Meadow 67.87 1 IAmb IAmb 06 42 40.7
comp=Z,29nm,1.5s

HDIL **Hopedale** 67.89 18 P P 06 42 29.3 -0.9
baz=202
BLA **Blacksburg** 68.02 27 IAmb IAmb 06 42 37.4
comp=Z,27nm,1.1s
BLA **Blacksburg** 68.02 27 P P 06 42 30.7 -0.5
baz=211
FLWY **Flagg Ranch** 68.06 1 IAmb IAmb 06 42 34.8
comp=Z,16nm,1.0s
CMC01 **Camacan, BA** 68.10 98 eP P 06 42 35.0 +2.9
P48A **Milroy** 68.11 22 IAmb IAmb 06 42 46.5
comp=Z,34nm,1.5s
SCIA **State Center** 68.13 15 P P 06 42 31.1 -0.5
baz=198
PINE **Pine Mountain** 68.26 353 IAmb IAmb 06 42 48.9
comp=Z,19nm,1.2s
NBIT **Itapeh - BA** 68.32 97 eP P 06 42 36.8 +3.3
T57A **Hurt** 68.33 28 IAmb IAmb 06 42 47.1
comp=Z,25nm,1.4s
SFIN **Lafayette** 68.40 20 P P 06 42 33.0 -0.3
baz=204
I07A **Izee** 68.40 354 P P 06 42 34.2 +0.8
I07A IAmb IAmb 06 42 50.3
comp=Z,18nm,1.1s
P49A **Miami Univ. Ec** 68.42 22 P P 06 42 33.1 -0.5
baz=207
Q51A **Peebles** 68.46 24 IAmb IAmb 06 42 48.3
comp=Z,29nm,1.4s
RSSD **Black Hills** 68.48 6 P P 06 42 33.8 -0.3
RSSD IAmb IAmb 06 42 49.0
comp=Z,28nm,1.1s
RSSD **Black Hills** 68.48 6 P P 06 42 33.3 -0.7
baz=188
RSSD **Black Hills** 68.48 6 P P 06 42 33.8 -0.3
RSSD pmax pmax
comp=Z,28nm,1.2s
GDU01 **Guandu, BA** 68.62 96 eP P 06 42 38.5 +3.1
Q52A **Bidwell** 68.81 24 IAmb IAmb 06 42 39.1
comp=Z,16nm,0.9s
I05D **Terrebonne, OR** 68.84 353 IAmb IAmb 06 42 44.8
comp=Z,12nm,1.0s
O48B **Farmland** 68.92 22 P P 06 42 35.4 -1.3
baz=206
M44A **Midewin, Midew** 69.03 19 IAmb IAmb 06 42 42.8
comp=Z,21nm,1.0s
NBPN **Ponto Novo - B** 69.10 93 eP P 06 42 42.8 +4.4
S57A **Dark Hollow, R** 69.10 28 IAmb IAmb 06 42 55.3
comp=Z,41nm,2.0s
L42A **Oliver, Polo** 69.13 18 IAmb IAmb 06 42 43.4
comp=Z,16nm,0.9s
RLMT **Red Lodge** 69.13 2 P P 06 42 36.2 -1.9
baz=183,SNR=7.1
PLID **Pearl Lake** 69.15 357 P P 06 42 37.4 -0.9
ECSD **EROS Data Cent** 69.16 12 P P 06 42 37.5 -0.6
ECSD IAmb IAmb 06 42 52.2
comp=Z,17nm,1.1s
ECSD **EROS Data Cent** 69.16 12 P P 06 42 36.4 -1.7
baz=195
N47A **Urbana** 69.30 21 IAmb IAmb 06 42 49.6
comp=Z,20nm,1.1s
P52A **Corning** 69.44 24 IAmb IAmb 06 42 46.0
comp=Z,21nm,0.9s
P52A **Corning** 69.44 24 P P 06 42 38.7 -1.2
baz=209,SNR=12
BOZ **Bozeman (W)** 69.56 0 P P 06 42 39.1 -1.6
baz=180
ACSO **Alum Creek Sta** 69.66 23 P P 06 42 40.1 -1.1
baz=208
JFWS **Jewell Farm** 69.82 17 P P 06 42 41.1 -1.0
baz=201
F10A **Beach Ranch, E** 70.10 356 P P 06 42 43.5 -0.5
F10A IAmb IAmb 06 42 59.6
comp=Z,15nm,1.0s
O53A **New Philadelph** 70.33 25 P P 06 42 44.2 -1.1
baz=210,SNR=12
MCWV **Mont Chateau** 70.35 26 IAmb IAmb 06 42 57.5
comp=Z,30nm,1.3s
MCWV **Mont Chateau** 70.35 26 P P 06 42 44.7 -0.8
baz=211,SNR=5.2
L48A **N Adams** 70.67 21 IAmb IAmb 06 42 49.6
comp=Z,19nm,0.9s
MSO **Missoula** 70.82 359 IAmb IAmb 06 42 58.2
comp=Z,18nm,1.3s
MSO **Missoula** 70.82 359 P P 06 42 47.4 -0.9
baz=178
LAO **LASA Array** 70.85 4 IAmb IAmb 06 42 51.8
comp=Z,16nm,0.9s
LAO **LASA Array** 70.85 4 P P 06 42 47.7 -0.8
baz=186,SNR=9.5
P57A **Homestead Farm** 70.95 27 IAmb IAmb 06 43 00.6
comp=Z,24nm,1.1s
VNA3 **Neumayer Olymp** 71.07 160 ⇑P P 06 42 49.2 -0.4
comp=Z,18nm,0.8s
F33A **5 Mile Ranch,** 71.25 12 IAmb IAmb 06 43 04.9
comp=Z,20nm,1.4s
AAM **Ann Arbor** 71.25 22 P P 06 42 49.9 -1.0
baz=207
SPMN **Marine on St.** 71.37 14 IAmb IAmb 06 43 06.1
comp=Z,16nm,0.9s
SPMN **Marine on St.** 71.37 14 P P 06 42 50.7 -0.9
baz=198
M53A **WI Miller and** 71.56 24 P P 06 42 52.5 -0.3
baz=210,SNR=9.2
NBPB **Pedra_Branca-C** 71.70 88 eP P 06 42 58.2 +3.9
J47A **Sunmer** 71.70 21 IAmb IAmb 06 42 57.3
comp=Z,28nm,1.1s
VNA1 **Neumayer--Stat** 71.71 160 ⇑P P 06 42 53.6 +0.2
comp=Z,15nm,1.0s
NBMA **Muriti-CE** 71.73 90 eP P 06 42 58.2 +3.7
VNA2 **Neumayer--Watz** 71.88 160 ⇑P P 06 42 54.3 -0.2
comp=Z,18nm,1.4s,baz=255,slow=5.4
SSPA **Standing Stone** 71.97 27 P P 06 42 54.9 -0.3
SSPA IAmb IAmb 06 43 15.7
comp=Z,36nm,1.4s
SSPA **Standing Stone** 71.97 27 P P 06 42 55.1 -0.2
baz=212
C09A **Chrisman Ranch** 71.99 356 P P 06 42 54.4 -0.9
C09A IAmb IAmb 06 43 06.6
comp=Z,28nm,1.2s
EGMT **Eagleton** 72.02 2 P P 06 42 55.5 0.0
EGMT IAmb IAmb 06 43 06.7
comp=Z,25nm,1.1s
EGMT **Eagleton** 72.02 2 P P 06 42 54.9 -0.6
baz=182,SNR=12
G40A **Rib Lake** 72.03 16 IAmb IAmb 06 43 05.8
comp=Z,32nm,1.1s
NBMO **Morrinhos-CE** 72.19 86 eP P 06 43 01.0 +3.8
M55A **Ridgway** 72.32 26 IAmb IAmb 06 43 12.6
comp=Z,30nm,1.2s
NEW **Newport** 72.38 356 IAmb IAmb 06 43 08.5
comp=Z,25nm,1.2s
NEW **Newport** 72.38 356 P P 06 42 56.4 -1.2
baz=175
NEW **Newport** 72.38 356 P P 06 42 59.0 +1.4
NEW pmax pmax
comp=Z,18nm,1.3s
ERPA **Erie** 72.41 24 P P 06 42 56.5 -1.3
baz=210
N58A **Sunbury** 72.63 27 IAmb IAmb 06 43 14.3
comp=Z,45nm,1.4s
MDND **Maddock** 72.68 9 IAmb IAmb 06 43 09.5
comp=Z,18nm,0.9s
MDND **Maddock** 72.68 9 P P 06 42 57.9 -1.5
baz=192,SNR=7.5
DGMT **Dagmar** 72.78 5 P P 06 42 57.9 -2.1
baz=187,SNR=9.0
SNAA **Sanae** 72.93 162 P P 06 43 00.1 -0.7
SNAA IAmb IAmb 06 43 02.2
comp=Z,22nm,1.2s
SNAA **Sanae** 72.93 162 ⇑P P 06 43 00.3 -0.4
comp=Z,172nm,0.9s
SNAA **Sanae** 72.93 162 P P 06 43 00.9 +0.1
comp=Z,11nm,1.1s,baz=246,slow=3.3,SNR=13
comp=Z,11nm,1.1s
SNAA **Sanae** 72.93 162 *i* P P 06 42 59.6 -1.2
SNAA pmax pmax
comp=Z,24nm,1.3s
E38A **The Farm, Brul** 72.96 15 IAmb IAmb 06 43 16.4
comp=Z,26nm,1.2s
NBAN **Anadia - AL** 73.12 93 eP P 06 43 07.8 +5.0
WVNY **West Valley, N** 73.18 25 IAmb IAmb 06 43 09.1
comp=Z,25nm,0.9s
GLMI **Grayling** 73.19 20 P P 06 43 01.0 -1.5
baz=206
L56A **Greenwood** 73.37 26 IAmb IAmb 06 43 10.7
comp=Z,31nm,1.0s
NBCL **Cascavel-CE** 73.41 87 eP P 06 43 08.3 +3.8
KSPA **Keystone Colle** 73.62 28 IAmb IAmb 06 43 14.9
comp=Z,23nm,1.4s
AGMN **Agassiz Nation** 73.70 11 P P 06 43 03.5 -1.9
baz=195
ODNJ **Ogdensburg** 73.73 29 IAmb IAmb 06 43 24.3
comp=Z,49nm,1.9s
NBPA **Parau_RN** 73.87 89 eP P 06 43 11.1 +3.8
E43A **Lone Tree Farm** 73.90 18 IAmb IAmb 06 43 13.4
comp=Z,25nm,1.1s
NBCA **Caruaru-PE** 73.91 92 eP P 06 43 10.7 +3.2
PAL **Palisades** 73.97 29 P P 06 43 05.1 -2.1
baz=216
BINY **Binghamton** 74.06 27 P P 06 43 07.0 -0.7
BINY IAmb IAmb 06 43 11.5
comp=Z,22nm,1.0s
BINY **Binghamton** 74.06 27 P P 06 43 05.8 -1.9
baz=214
EYMN **Ely** 74.24 14 P P 06 43 06.7 -1.8
baz=199
TROLL **Troll, Antarti** 74.25 163 ⇑P P 06 43 09.5 +0.9
comp=Z,585nm,0.9s
L59A **Walton** 74.45 28 IAmb IAmb 06 43 16.5
comp=Z,17nm,0.9s
E46A **Sault Ste Mari** 74.68 19 IAmb IAmb 06 43 26.2
comp=Z,53nm,1.6s
J58A **Remsen** 75.31 27 IAmb IAmb 06 43 25.5
comp=Z,36nm,1.4s
DELO **Deloro Mine** 75.35 25 IAmb IAmb 06 43 21.3
comp=Z,17nm,1.0s
ULM **Lac du Bonnet** 75.58 11 IAmb IAmb 06 43 26.5
comp=Z,32nm,1.6s
ULM **Lac du Bonnet** 75.58 11 P P 06 43 15.0 -1.2
comp=Z,4.8nm,0.9s,baz=201,slow=5.3,SNR=7.6
comp=Z,4.8nm,0.9s
ULM **Lac du Bonnet** 75.58 11 *i* P P 06 43 13.6 -2.6
L61B **Northampton** 75.68 29 P P 06 43 14.9 -2.1
baz=216
M65A **Busby, Falmout** 75.90 31 P P 06 43 16.8 -1.4
baz=218
ACCN **Adirondack Com** 76.01 28 IAmb IAmb 06 43 34.0
comp=Z,46nm,1.6s
HRV **Adam Dziewonsk** 76.22 30 P P 06 43 19.9 -0.2
baz=217
NCB **Newcomb** 76.25 27 IAmb IAmb 06 43 35.4
comp=Z,36nm,1.4s
LONY **Lake Ozonia** 76.64 26 P P 06 43 22.5 +0.1
LONY IAmb IAmb 06 43 33.7
comp=Z,16nm,1.1s
LONY **Lake Ozonia** 76.64 26 P P 06 43 22.2 -0.2
baz=215
EDM **Edmonton** 77.21 359 P P 06 43 25.3 -0.1
EDM IAmb IAmb 06 43 35.9
comp=Z,29nm,1.1s
EDM **Edmonton** 77.21 359 P P 06 43 25.3 -0.1
EDM pmax pmax
comp=Z,29nm,1.1s
NVL **N'lazarevskaya** 77.41 164 eP P 06 43 24.1 -2.4
NVL *eS* S 06 53 07.8 -9.0
NVL MLR MLR
comp=Z,2µm,17.0s
LBNH **Lisbon** 77.44 28 P P 06 43 26.4 -0.5
baz=217
TRQ **Mont Tremblant** 77.96 26 IAmb IAmb 06 43 45.0
comp=Z,29nm,1.2s
BRLDA **Berland Lookou** 78.21 357 IAmb IAmb 06 43 42.1
comp=Z,23nm,1.0s
FFC **Flin Flon** 79.17 6 P P 06 43 36.1 -0.1
FFC **Flin Flon** 79.17 6 P P 06 43 36.1 -0.1
FFC pmax pmax
comp=Z,15nm,1.5s
ELIB **Princess Elisa** 79.25 167 *d* P P 06 43 37.2 +0.4
comp=Z,6.9nm,1.0s
PKME **Peaks-Kenny Pk** 79.40 29 P P 06 43 37.5 -0.2
baz=219
LDAQ **Lac Daran** 80.70 26 IAmb IAmb 06 43 55.2
comp=Z,28nm,1.4s
LMQ **La Malbaie** 80.75 27 IAmb IAmb 06 44 00.2
comp=Z,27nm,1.2s
D62A **Allapoint, All** 80.92 28 IAmb IAmb 06 43 52.6
comp=Z,20nm,1.0s
V35K **Ketchikan** 81.07 349 P P 06 43 45.2 -1.3
baz=162
U33K **Whale Pass** 82.09 348 P P 06 43 48.3 -3.5
baz=161
T35M **Bob Quinn** 82.42 350 P P 06 43 50.1 -3.6
baz=163
S34M **Telegraph Cree** 83.46 350 P P 06 43 55.7 -3.2
baz=162
TOAD **Toad River Com** 83.57 353 P P 06 43 55.0 -4.5
baz=168
DLBC **Dease Lake** 83.79 351 P P 06 44 00.3 -0.4
DLBC IAmb IAmb 06 44 11.4
comp=Z,24nm,1.2s
DLBC **Dease Lake** 83.79 351 P P 06 43 55.2 -5.5
baz=164
CASY **Casey** 84.13 196 P P 06 44 03.1 +0.5
CASY IAmb IAmb 06 44 04.5
comp=Z,22nm,1.1s
LIRD **Liard River Hi** 84.21 353 P P 06 43 59.2 -3.5
baz=167
S31K **Pelican** 84.42 347 P P 06 43 58.6 -5.2
baz=158
KOTAN **Kotaneelee Air** 84.70 354 P P 06 44 02.4 -2.9
baz=169
R31K **City Hall, Gus** 84.75 348 P P 06 44 04.7 -0.8
baz=158
FLDN **Fort Liard** 84.76 354 P P 06 44 04.5 -1.0
baz=170
R33M **Jennings River** 84.85 350 IAmb IAmb 06 44 27.7
comp=Z,16nm,1.4s
R33M **Jennings River** 84.85 350 P P 06 44 05.9 -0.3
baz=163
WTLY **Watson Lake, Y** 85.23 352 P P 06 44 05.9 -2.1
baz=165
PLBC **Pleasant Camp** 85.84 348 P P 06 44 09.5 -1.5
baz=158
P33M **Teslin, Yukon** 85.92 350 P P 06 44 11.6 +0.2
P33M IAmb IAmb 06 44 21.7
comp=Z,19nm,1.1s
P33M **Teslin, Yukon** 85.92 350 P P 06 44 09.9 -1.5
baz=161
P29M **Windy Craggy** 86.27 347 P P 06 44 11.9 -1.2
baz=157
YKA **Yellowknife Ar** 86.52 359 P P 06 44 14.0 -0.2
YKA **Yellowknife Ar** 86.52 359 P P 06 44 13.5 -0.7
comp=Z,5.4nm,1.0s,baz=171,slow=4.0,SNR=34
comp=Z,5.4nm,1.0s
YKA **Yellowknife Ar** 86.52 359 P P 06 44 14.0 -0.2
TGTN **Hyland Airport** 86.53 352 P P 06 44 12.9 -1.5
baz=165
P30M **Million Dollar** 86.57 348 P P 06 44 12.7 -1.9
baz=157
PNL **Peninsula** 86.65 346 P P 06 44 14.0 -0.9
baz=155
WHY **Whitehorse** 86.69 349 P P 06 44 14.3 -1.0
baz=159
N32M **Quiet Lake** 86.85 350 IAmb IAmb 06 44 36.8
comp=Z,20nm,1.1s
N32M **Quiet Lake** 86.85 350 P P 06 44 15.1 -0.9
baz=161
O30N **Mendenhall** 87.01 348 P P 06 44 16.1 -0.6
baz=158
HYT **Haines Junctio** 87.33 348 IAmb IAmb 06 44 34.0
comp=Z,13nm,1.2s
HYT **Haines Junctio** 87.33 348 P P 06 44 17.6 -0.8
baz=157
YUK6 **Outpost Mounta** 87.60 347 P P 06 44 19.9 0.0
baz=156
N31M **Braeburn, Yuko** 87.62 349 P P 06 44 17.8 -1.9
baz=158
MESA **MESA** 87.68 346 P P 06 44 18.9 -1.2
baz=153
WRGLY **Wrigley** 87.71 355 P P 06 44 20.2 +0.2
baz=170
O28M **Mount Upton** 87.82 347 P P 06 44 19.6 -1.3
baz=154
N30M **Aishikik Lake** 87.83 348 IAmb IAmb 06 44 50.3
comp=Z,15nm,1.4s
N30M **Aishikik Lake** 87.83 348 P P 06 44 20.0 -0.7
baz=157
FARO **Faro, Yukon** 87.92 350 P P 06 44 20.4 -0.6
baz=161
YUK4 **Talbot Arm** 88.03 347 P P 06 44 21.9 0.0
baz=156
YUK8 **Steele Glacier** 88.20 347 P P 06 44 22.4 -0.4
baz=155
CTG **Chitna Glacier** 88.24 346 P P 06 44 21.0 -1.8
baz=154
OHAK **Old Harbor** 88.32 339 P P 06 44 23.7 +0.7
baz=143
KDAK **Kodiak Island** 88.54 340 P P 06 44 21.9 -2.1
baz=144
YUK3 **Moose Creek** 88.79 347 P P 06 44 24.5 -0.9
baz=154
P23K **Montague Islan** 88.86 343 P P 06 44 24.2 -1.4
baz=148
MCARA **McCarthy VSAT** 88.99 346 P P 06 44 24.5 -1.6
baz=152
BMRM **Bremner River** 88.99 345 P P 06 44 25.7 -0.5
baz=151
M29M **Somme Creek** 89.00 348 P P 06 44 25.8 -0.5
baz=156
CHGN **Chignik** 89.39 336 P P 06 44 27.1 -0.9
baz=139
SEW **Seward** 89.51 342 P P 06 44 28.4 -0.1
baz=146
GLI **Glacier Island** 89.54 344 P P 06 44 28.2 -0.4
baz=148
L29M **L29M** 89.55 348 P P 06 44 28.7 -0.1
baz=156
M27K **Edge Creek, AK** 89.61 347 P P 06 44 24.1 -5.0
baz=153
S14K **Fog Glacier** 89.80 336 P P 06 44 22.9 -7.2
baz=138
M26K **Nabesna, AK** 89.89 346 P P 06 44 21.9 -8.4
baz=152
H11S2 **WAKE ISLAND Hy** 89.90 290 T T 08 24 01.8
baz=116
H11S1 **WAKE ISLAND Hy** 89.91 290 T T 08 24 02.7
baz=116
H11S3 **WAKE ISLAND Hy** 89.92 290 T T 08 24 09.2
baz=116
Q17K **Contact Creek** 90.00 338 P P 06 44 30.9 -0.1
baz=141
K29M **Barlow Dome** 90.11 349 P P 06 44 31.6 +0.1
baz=157
S12K **Black Hills** 90.34 334 P P 06 44 32.4 -0.2
baz=136
CAPN **Captain Cook N** 90.54 342 P P 06 44 32.7 -0.6
baz=145
J30M **Hart River** 90.59 350 P P 06 44 34.2 +0.5
baz=158
DAWY **Dawson** 90.66 348 P P 06 44 32.1 -1.7
baz=155
P18K **Big Mountain,** 90.66 339 P P 06 44 33.2 -0.8
baz=141
PMR **Palmer** 90.67 343 P P 06 44 33.3 -0.6
baz=147
O18K **Koktuh Hills** 91.02 340 P P 06 44 33.7 -1.9
baz=141
M22K **Willow** 91.07 343 P P 06 44 34.3 -1.4
baz=146
K27K **Chicken** 91.14 347 P P 06 44 37.1 +1.0
baz=153
WAT6 **Susitna Watana** 91.15 344 P P 06 44 35.1 -1.2
baz=148
N20K **Mount Spurr** 91.19 342 P P 06 44 35.7 -0.8
baz=144
I30M **Mount Dempster** 91.20 350 P P 06 44 35.1 -1.4
baz=158
NIKH **Nikolski High** 91.40 330 P P 06 44 37.2 -0.3
baz=130
H31M **Peel River** 91.44 351 IAmb IAmb 06 44 60.0
comp=Z,16nm,1.2s
H31M **Peel River** 91.44 351 P P 06 44 36.6 -0.9
baz=160
DHY **Denali Highway** 91.48 345 P P 06 44 37.5 -0.4
baz=148
SCRK **Sand Creek** 91.49 346 P P 06 44 38.3 +0.4
baz=151
N19K **Bonanza Creek** 91.55 341 P P 06 44 36.9 -1.3
baz=142
WAT1 **Susitna Watana** 91.56 344 P P 06 44 38.2 +0.1
baz=147
O17K **Koliganek Bris** 91.56 339 P P 06 44 37.3 -0.8
baz=140
EGAK **Eagle** 91.63 348 P P 06 44 36.6 -1.7
baz=154
SKT **Skwentna** 91.64 342 P P 06 44 38.1 -0.3
baz=144
CUT **Chulitna** 91.65 343 P P 06 44 39.0 +0.5
baz=146
O16K **Kokwok River B** 91.76 338 P P 06 44 36.7 -2.3
baz=139
J26L **Joseph Creek** 91.86 347 P P 06 44 38.5 -1.1
baz=152
N18K **Kilae Creek** 91.88 340 P P 06 44 38.8 -0.8
baz=141
M20K **Styx River** 92.00 342 P P 06 44 39.4 -0.8
baz=143
I28M **Miner Creek** 92.01 349 P P 06 44 34.5 -5.7
baz=155
O15K **Ungalikthiuk R** 92.04 338 P P 06 44 39.9 -0.4
baz=138
N17K **Nushagak Hills** 92.17 339 P P 06 44 33.9 -7.0
baz=140
EPYK **Eagle Plains** 92.32 350 IAmb IAmb 06 44 51.5
comp=Z,12nm,1.2s
EPYK **Eagle Plains** 92.32 350 P P 06 44 37.5 -4.1
baz=158
J25K **Salcha River,** 92.34 346 P P 06 44 43.0 +1.2
J25K IAmb IAmb 06 44 51.5
comp=Z,13nm,1.4s
J25K **Salcha River,** 92.34 346 P P 06 44 39.5 -2.2
baz=150
M19K **Big River Lodg** 92.38 341 P P 06 44 39.6 -2.3
baz=142
MCK **McKinley** 92.41 344 P P 06 44 39.4 -2.6
baz=147
H29M **Whitestone** 92.45 350 P P 06 44 40.0 -2.1
baz=156
I27K **Kandik River** 92.46 348 P P 06 44 40.8 -1.4
baz=153
G31M **Satah River** 92.48 351 P P 06 44 42.3 +0.1
G31M IAmb IAmb 06 44 55.8
comp=Z,7.9nm,1.1s
G31M **Satah River** 92.48 351 P P 06 44 42.9 +0.7
baz=160
M18K **Stony River** 92.49 341 P P 06 44 39.7 -2.7
baz=141
I26K **Coal Creek Min** 92.49 347 P P 06 44 42.1 -0.2
baz=152
TRF **Thorofare Moun** 92.52 344 P P 06 44 42.2 -0.5
baz=146
HDA **Harding Lake** 92.52 346 P P 06 44 41.8 -0.6
baz=148
PPLA **Purkeypile** 92.56 343 P P 06 44 42.0 -0.9
baz=144
O14K **Tigyukauivet M** 92.60 337 P P 06 44 40.9 -2.0
baz=136
N16K **Nishlik Lake** 92.64 339 P P 06 44 41.5 -1.6
baz=138
L20K **Farewell, AK** 92.69 342 P P 06 44 42.6 -0.8
baz=142
L19K **White Mountain** 92.74 341 P P 06 44 42.4 -1.2
baz=142
KTH **Kantishna Hill** 92.76 344 IAmb IAmb 06 44 53.2
comp=Z,13nm,1.0s
ILAR **Eielson Array** 92.81 346 P P 06 44 44.0 +0.1
comp=Z,0.4nm,0.9s,baz=185,slow=6.2,SNR=5.3
comp=Z,0.4nm,0.9s
ILAR **Eielson Array** 92.81 346 P P 06 44 44.0 +0.1
G30M **tAoh Zraii Nji** 92.82 351 P P 06 44 43.7 -0.2
baz=158
N15K **Kwethluk River** 92.86 338 P P 06 44 44.1 -0.1
baz=137
F31M **Tsiigehtchic** 92.90 352 IAmb IAmb 06 44 58.3
comp=Z,14nm,1.4s
M17K **Holitna River** 92.92 340 P P 06 44 43.6 -0.8
baz=139
CAST **Castle Rocks** 92.96 343 P P 06 44 43.8 -0.7
baz=144
H27K **Steamboat Moun** 93.00 348 P P 06 44 44.9 +0.2
baz=153
G29M **Pine Creek** 93.03 350 P P 06 44 43.8 -0.9
baz=156
M16K **Timber Creek** 93.12 339 P P 06 44 43.7 -1.6
baz=138
COLA **College** 93.12 345 P P 06 44 45.0 -0.2
baz=148
COLA **College** 93.12 345 *i* P P 06 44 44.7 -0.5
COLA pmax pmax
comp=Z,5.0nm,0.9s
PRP **Porcupine Dome** 93.16 347 P P 06 44 45.6 0.0
baz=150
NEA2 **Nenana** 93.17 345 P P 06 44 46.0 +0.5
baz=147

BPAW	**Bear Paw Mtn.**	**93.23 344**	P	**P**	**06 44 46.2**	**+0.4**
BPAW	comp=Z,12nm,1.5s		IAmb	IAmb	06 45 15.3	
BPAW	**Bear Paw Mtn.** baz=145	**93.23 344**	P	**P**	**06 44 42.3**	**-3.4**
N14K	**Kuskokwak Cree** baz=136	**93.23 337**	P	**P**	**06 44 44.2**	**-1.6**
MDM	**Murphy Dome** comp=Z,9.6nm,1.1s	**93.28 345**	IAmb	IAmb	06 44 55.6	
F30M	**Barrier River** baz=158	**93.34 351**	P	**P**	**06 44 45.3**	**-0.9**
CHUM	**Lake Minchumin** baz=144	**93.39 343**	P	**P**	**06 44 46.6**	**+0.1**
K20K	**Telida** baz=142	**93.44 342**	P	**P**	**06 44 44.1**	**-2.7**
M15K	**Kasigluk River** baz=137	**93.45 338**	P	**P**	**06 44 45.2**	**-1.6**
G27K	**Doyon Strip** baz=153	**93.55 349**	P	**P**	**06 44 44.2**	**-3.0**
TTA	**Tatalina** baz=141	**93.66 341**	P	**P**	**06 44 46.2**	**-1.6**
INK	**Inuvik**	**93.69 352**	P	**P**	**06 44 47.4**	**-0.4**
INK	**Inuvik** baz=160	**93.69 352**	P	**P**	**06 44 48.5**	**+0.7**
INK	**Inuvik**	**93.69 352**	P	**P**	**06 44 47.4**	**-0.4**
INK	comp=Z,8.0nm,1.2s		pmax	pmax		
I23K	**Minto, Yukon-K** baz=146	**93.70 345**	P	**P**	**06 44 46.5**	**-1.4**
L17K	**Donlin** baz=139	**93.74 340**	P	**P**	**06 44 47.7**	**-0.4**
L16K	**Owhat River** baz=138	**93.79 339**	P	**P**	**06 44 48.0**	**-0.4**
H25L	**Birch Creek** baz=149	**93.87 347**	P	**P**	**06 44 49.2**	**+0.6**
M14K	**Bethel** baz=136	**93.92 338**	P	**P**	**06 44 47.3**	**-1.6**
MLY	**Manley** baz=145	**93.93 345**	P	P	06 44 44.0	-5.0
F28M	**Old Crow** baz=155	**93.97 350**	P	**P**	**06 44 48.1**	**-1.0**
G26K	**Porcupine Rive** baz=151	**94.06 348**	P	**P**	**06 44 46.6**	**-2.9**
M13K	**Dall Lake** baz=134	**94.17 337**	P	**P**	**06 44 48.5**	**-1.6**
K17K	**Iditarod** baz=139	**94.18 340**	P	**P**	**06 44 49.7**	**-0.4**
J18K	**Innoko River** baz=140	**94.28 342**	P	**P**	**06 44 49.8**	**-0.8**
H23K	**Yukon River** baz=146	**94.31 345**	P	**P**	**06 44 50.0**	**-0.7**
G25K	**Bearman Lake** baz=149	**94.36 347**	P	**P**	**06 44 50.7**	**-0.2**
E29M	**Blow River** baz=156	**94.37 351**	P	**P**	**06 44 49.6**	**-1.3**
L15K	**Ungalak Mounta** baz=136	**94.43 339**	P	**P**	**06 44 48.9**	**-2.4**
L14K	**Kuka Creek** baz=135	**94.59 338**	P	**P**	**06 44 50.4**	**-1.6**
E27K	**Coleen River** baz=153	**94.77 349**	P	**P**	**06 44 51.4**	**-1.4**
F26K	**Sheenjek River** baz=151	**94.79 348**	P	**P**	**06 44 52.2**	**-0.7**
H22K	**Ishtalitna Cre** baz=144	**94.80 345**	P	**P**	**06 44 51.4**	**-1.5**
E28M	**Babbage River** baz=155	**94.81 350**	P	**P**	**06 44 53.1**	**+0.2**
J17K	**VABM Dome** baz=138	**94.92 341**	P	**P**	**06 44 52.7**	**-0.8**
F25K	**Christian Rive** baz=150	**94.98 348**	P	**P**	**06 44 53.5**	**-0.3**
G23K	**Bananza Creek** baz=146	**95.15 346**	P	**P**	**06 44 55.0**	**+0.4**
GCSA	**Galena City Sc** baz=140	**95.31 342**	P	**P**	**06 44 56.8**	**+1.6**
H20K	**Anotleneega Mo** baz=141	**95.35 343**	P	**P**	**06 44 56.2**	**+0.8**
D28M	**Stokes Point** baz=156	**95.36 351**	P	**P**	**06 44 57.2**	**+1.8**
F24K	**Squaw Lake** baz=148	**95.37 347**	P	**P**	**06 44 55.6**	**0.0**
E25K	**Arctic Village** baz=150	**95.43 348**	P	**P**	**06 44 56.3**	**+0.5**
D27M	**Malcolm River** comp=Z,8.4nm,1.2s	**95.62 350**	IAmb	IAmb	06 45 17.7	
D27M	**Malcolm River** baz=154	**95.62 350**	P	**P**	**06 44 56.4**	**-0.3**
COLD	**Coldfoot** baz=146	**95.62 346**	P	**P**	**06 44 56.3**	**-0.3**
G22K	**Bettles** baz=144	**95.66 345**	P	**P**	**06 44 57.7**	**+0.9**
H19K	**Roundabout Mou** baz=140	**95.79 343**	P	**P**	**06 44 58.2**	**+0.8**
G21K	**Allakaket** baz=143	**95.81 345**	P	**P**	**06 44 59.5**	**+2.0**
E24K	**Your Creek** baz=147	**95.96 347**	P	**P**	**06 44 58.7**	**+0.4**
E23K	**Chandalar** baz=146	**96.19 347**	P	**P**	**06 45 00.4**	**+1.1**
F22K	**John River** baz=144	**96.30 346**	P	**P**	**06 44 59.7**	**0.0**
H17K	**Granite Mounta** baz=137	**96.31 341**	P	**P**	**06 44 58.2**	**-1.6**
F21K	**Alatna River** baz=143	**96.37 345**	P	**P**	**06 45 01.0**	**+0.9**
C27K	**Jago River** baz=151	**96.41 349**	P	**P**	**06 44 59.9**	**-0.3**
G19K	**Purcell Mounta** baz=140	**96.43 343**	P	**P**	**06 44 59.5**	**-0.8**
A36M	**Sachs Harbour** baz=168	**96.47 356**	P	**P**	**06 45 00.3**	**-0.1**
D25K	**Kavik River** baz=149	**96.61 348**	P	**P**	**06 45 02.4**	**+1.2**
TOLK	**Toolik Lake Re** baz=146	**96.66 347**	P	**P**	**06 45 02.2**	**+0.8**
G18K	**Tagagawik** baz=138	**96.67 342**	P	**P**	**06 45 03.3**	**+1.9**
E22K	**Anaktuvuk Pass** baz=144	**96.72 346**	P	**P**	**06 45 02.1**	**+0.3**
F20K	**Avaraart Lake** baz=141	**96.78 344**	P	**P**	**06 45 04.8**	**+2.9**
H16K	**Elim** baz=135	**96.79 341**	P	**P**	**06 45 01.5**	**-0.5**
D23K	**Nanushuk River** baz=145	**97.16 347**	P	**P**	**06 45 02.5**	**-1.2**
G16K	**Koyuk River** baz=135	**97.36 341**	P	**P**	**06 45 02.9**	**-1.7**
E21K	**Killik River** baz=142	**97.45 346**	P	Pdif	06 45 05.7	+0.6
F18K	**Selawik** baz=137	**97.46 343**	P	Pdif	06 45 06.5	+1.4
D22K	**Ayikyak River** baz=143	**97.51 346**	P	**P**	**06 45 04.4**	**-0.8**
G15K	**Niukluk** baz=134	**97.59 340**	P	**P**	**06 45 06.2**	**+0.6**
F17K	**Baldwin Pennin** baz=136	**97.79 342**	P	Pdif	06 45 08.3	+1.8
E20K	**Nigu River** baz=140	**97.83 345**	P	**P**	**06 45 07.3**	**+0.6**
C23K	**Itkillik River** baz=145	**97.86 347**	P	**P**	**06 45 06.4**	**-0.4**
C21K	**Knifeblade Rid** baz=141	**98.20 346**	P	Pdif	06 45 09.0	+0.7
F15K	**North Star Dit** baz=133	**98.26 341**	P	**P**	**06 45 08.8**	**+0.2**
D20K	**Etivluk River** baz=140	**98.28 345**	P	**P**	**06 45 08.2**	**-0.5**
E18K	**Tukpahlearik C** baz=136	**98.32 343**	P	Pdif	06 45 09.6	+0.7
E17K	**Hotham Inlet** baz=135	**98.41 342**	P	**P**	**06 45 08.7**	**-0.5**
D19K	**Kuna River** baz=138	**98.47 344**	P	**P**	**06 45 10.2**	**+0.6**
B21K	**Ikpikpuk River** baz=141	**98.52 346**	P	**P**	**06 45 08.5**	**-1.2**
F14K	**Arctic Creek** baz=132	**98.62 340**	P	Pdif	06 45 11.2	+0.9
B22K	**Teshekpuk Lake** baz=142	**98.84 347**	P	**P**	**06 45 10.7**	**-0.4**
TNA	**Tin City** baz=130	**99.18 340**	P	**Pdif**	**06 45 09.0**	**-3.8**
C18K	**Utukok River** baz=136	**99.36 344**	P	**Pdif**	**06 45 12.1**	**-1.4**
RDOG	**Red Dog Mine** baz=134	**99.39 343**	P	**Pdif**	**06 45 13.8**	**+0.2**
C16K	**Lisburne Hills** baz=132	**100.20 342**	P	**Pdif**	**06 45 16.6**	**-0.6**
TIXI	**Tiksi**	**121.94 341**	*e*PKIKP	**PKPdf**	**06 50 25.0**	**-0.3**

KLR	**Kul'dur**	**125.02 314**	*i* PKIKP	**PKPdf**	**06 50 31.5**	**-0.4**
ZEA	**Zeya**	**127.34 320**	*i* PKIKP	**PKiKP**	**06 50 39.3**	**+2.6**
HEH	**HeiHe**	**127.74 316**	PKP	PKiKP	06 50 47.6	+10
HEH	comp=N,650nm,22.9s		LR	LR		
HEH	comp=E,1μm,22.2s		LR	LR		
HEH	comp=Z,3μm,23.7s		LR	LR		
BRG	**Berggiesshubel**	**130.98 43**↓↓	*e*Pif		06 50 52.9	
BRG	comp=Z,3.7nm,0.8s		Amp		06 50 55.5	
KHC	**Kasperske Hory**	**131.08 45**	*i* PKIKP	**PKPdf**	**06 50 42.4**	**-1.1**
NJ2	**Nanjing**	**134.87 292**	*e*PKP	**PKPdf**	**06 50 51.2**	**+0.1**
RNPP5	**Staryi Chortor**	**138.05 39**	PKP	**PKPdf**	**06 50 55.6**	**-0.8**
KLMR	**Klimovskoe**	**138.54 21**	*e*PKIKP	**PKPdf**	**06 50 55.7**	**-1.3**
KLMR	comp=Z,15nm,1.4s		pmax	pmax		
KLMR	comp=Z,1μm,19.0s		MLR	MLR		
AKASG	**Malin Array Be** comp=Z,1.5nm,0.6s,baz=280,slow=2.4,SNR=2.2	**140.18 38**	PKP	**PKiKP**	**06 51 03.4**	**+0.5**
HHC	**Hu-ho-hao-te**	**140.21 305**	*e*PKP	**PKPdf**	**06 50 57.3**	**-3.6**
ULN	**Ulaanbaatar**	**141.25 317**	*i* PKIKP	**PKPdf**	**06 51 01.0**	**-1.6**
BTO	**Baotou**	**141.41 305**	*e*PKP	**PKPdf**	**06 50 59.8**	**-3.2**
BTO			SKKS		07 00 56.1	
BTO	comp=Z,1μm,18.6s		LR	LR		
BTO	comp=Z,3μm,18.5s		LR	LR		
BTO	comp=Z,3μm,19.4s		LR	LR		
OBN	**Obninsk**	**141.46 29**↑↑	*e*PKIKP	**PKPdf**	**06 51 00.7**	**-1.8**
OBN			*i*		06 51 03.7	
OBN			*i*		06 51 08.2	
OBN			*e*SS	SS	07 12 35.7	+0.6
OBN	comp=Z,4.0nm,0.5s		pmax	pmax		
OBN	comp=Z,6.0nm,0.8s		pmax	pmax		
OBN	comp=Z,2μm,20.0s		MLR	MLR		
SONM	**Songino Array** comp=Z,1.3nm,0.7s,baz=25,slow=4.8,SNR=4.3	**141.66 318**	PKP	**PKPdf**	**06 51 04.9**	**+1.5**
MOY	**Mondy**	**142.84 326**	*e*PKIKP	**PKiKP**	**06 51 13.9**	**+5.5**
MOY	comp=Z,29nm,2.4s		pmax	pmax		
XAN	**Xi'an**	**143.20 295**	PKP	**PKPdf**	**06 51 08.6**	**+2.2**
KIRV	**Kirov**	**143.28 16**	*i* PKIKP	PKPab	06 51 01.5	+0.1
LPSR	**Galich'ya Gora**	**144.16 30**	*e*PKIKP	PKPbc	06 51 06.3	+0.9
LPSR	comp=Z,20nm,1.8s		pmax	pmax		
LPSR	comp=Z,1μm,17.0s		MLR	MLR		
VORR	**Voronezh**	**144.89 31**	*e*PKIKP	**PKPab**	**06 51 07.5**	**-0.3**
VORR	comp=Z,63nm,1.6s		pmax	pmax		
VSR	**Storozhevoye**	**145.16 32**	*e*PKIKP	**PKPbc**	**06 51 08.3**	**-0.4**
VSR	comp=Z,40nm,1.0s		pmax	pmax		
VSR	comp=Z,1μm,17.0s		MLR	MLR		
SIM	**Simferopol'**	**145.68 45**	*e*PKIKP	**PKPab**	**06 51 12.6**	**+1.7**
SIM			*e*		06 51 15.9	
SIM	comp=Z,26nm,1.0s		pmax	pmax		
SIM	comp=Z,19nm,0.8s		pmax	pmax		
VRH	**Novokhopyorsk**	**146.38 30**	*e*PKP2	**PKPdf**	**06 51 11.8**	**+0.6**
VRH	comp=Z,77nm,1.4s		pmax	pmax		
LZH	**Lanzhou**	**147.06 299**	*e*PKPbc	**PKPbc**	**06 51 15.0**	**-0.2**
LZH	comp=Z,1μm,19.6s		LR	LR		
LZH	comp=Z,2μm,19.0s		LR	LR		
LZH	comp=Z,5μm,20.6s		LR	LR		
ARU	**Arti**	**147.17 10**		**PKPbc**	**06 51 14.1**	**-0.5**
ARU	**Arti**	**147.17 10**	*i* PKP2	**PKPdf**	**06 51 13.2**	**+0.8**
ARU	comp=Z,2μm,18.0s		MLR	MLR		
BR131	**Keskin Array S**	**147.27 54**	*i* PKIKP	**PKPdf**	**06 51 12.2**	**-1.1**
BRTR	**Keskin Array B**	**147.27 54**		**PKPbc**	**06 51 15.1**	**-0.6**
BRTR	**Keskin Array B** comp=Z,5.6nm,0.9s,baz=293,slow=2.0,SNR=8.0	**147.27 54**	PKPbc	**PKPbc**	**06 51 16.0**	**+0.3**
BRTR	**Keskin Array B**	**147.27 54**	PKP2	**PKPbc**	**06 51 16.0**	**+0.3**
CD2	**Chengdu**	**147.75 290**	PKPbc	**PKPdf**	**06 51 13.6**	**-0.7**
ZAA0	**Zalesovo Array**	**147.83 341**		**PKPdf**	**06 51 14.7**	**+1.1**
ZALV	**Zalesovo Beam** comp=Z,6.6nm,0.7s,baz=41,slow=2.0,SNR=18	**147.83 341**	PKPbc	**PKPbc**	**06 51 15.6**	**-0.8**
ANN	**Anapa**	**147.84 43**	*i* PKP2	**PKPbc**	**06 51 18.1**	**+1.3**
ANN	comp=Z,20nm,1.1s		pmax	pmax		
BELG	**Belogornoye**	**147.94 24**	*i* PKIKP	**PKPdf**	**06 51 11.8**	**-2.0**
KMI	**Kunming**	**148.50 279**	↑↑PKPbc	**PKPbc**	**06 51 19.4**	**-0.1**
ERBR	**Yeremizino-Bor**	**149.19 39**	*i* PKP2	**PKPbc**	**06 51 20.4**	**+0.1**
ERBR	comp=Z,8.0nm,0.4s		pmax	pmax		
GTA	**Gaotai**	**149.27 307**	*e*PKPbc	**PKPbc**	**06 51 21.4**	**+0.5**
GTA	comp=Z,760nm,22.2s		LR	LR		
GTA	comp=Z,2μm,21.8s		LR	LR		
GTA	comp=Z,3μm,23.3s		LR	LR		
PZH	**PanZhiHua**	**149.51 281**	PKPbc	**PKPdf**	**06 51 16.8**	**-0.6**
CRAI	**Chiangrai**	**149.82 269**	PKPdf	**PKPdf**	**06 51 17.1**	**-0.8**
MMAI	**Mount Meron Ar** comp=Z,10.3s,baz=189,slow=2s,SNR=4.5	**150.19 66**	PKPbc	**PKiKP**	**06 51 24.8**	**+0.7**
CMAR	**Chiang Mai Arr** comp=Z,11nm,0.9s,baz=140,slow=0.2,SNR=22	**150.66 265**	PKPbc	**PKiKP**	**06 51 26.2**	**+0.9**
BRVK	**Borovoye**	**151.24 357**		**PKPbc**	**06 51 25.6**	**+0.7**
BRVK	**Borovoye**	**151.24 357**	PKIKP	**PKPbc**	**06 51 25.7**	**+0.7**
BVAR	**Borovoye Array** comp=Z,8.8nm,1.0s,baz=5.7,slow=1.4,SNR=14	**151.26 357**	PKPbc	**PKPbc**	**06 51 25.1**	**+0.1**
KIV	**Kislovodsk**	**151.48 40**	*e*PKIKP	**PKPdf**	**06 51 20.3**	**+0.5**
KIV	comp=Z,7.0nm,1.0s		pmax	pmax		
KBZ	**Khabaz** comp=Z,9.6nm,0.8s,baz=29,slow=2.3,SNR=12	**151.74 41**	PKPbc	**PKiKP**	**06 51 27.4**	**+0.6**
KURK	**Kurchatov**	**152.38 345**		**PKPbc**	**06 51 27.1**	**-0.5**
KURBB	**Kurchatov Arra** comp=Z,1.5nm,0.7s,baz=17,slow=1.5,SNR=2.5	**152.49 345**	PKP	**PKPdf**	**06 51 22.6**	**+1.6**
KURBB	comp=Z,4.4nm,0.9s,baz=24,slow=1.8,SNR=12		PKPbc	**PKPbc**	**06 51 27.1**	**-0.8**
GOMU	**GeErMu**	**154.08 303**	PKPbc	**PKiKP**	**06 51 35.4**	**+3.0**
GOMU			pPKP	PKPab	06 51 44.2	-1.7
GOMU			sPKP		06 51 51.1	
GOMU	**GeErMu**	**154.08 303**	SKKS		07 07 00.8	
ABKAR	**Akbulak array**	**154.30 12**	PKPdf	**PKPdf**	**06 51 27.2**	**+3.6**
ABKAR	**Akbulak array**	**154.30 12**	PKPdf	**PKPdf**	**06 51 26.3**	**+2.7**
WMQ	**Urumqi**	**154.72 325**	*e*PKPbc	**PKPdf**	**06 51 24.0**	**-0.5**
WMQ	comp=Z,1μm,16.5s		LR	LR		
WMQ	comp=Z,730nm,24.7s		LR	LR		
WMQ	comp=Z,1μm,20.5s		LR	LR		
MK31	**Makanchi Array**	**154.81 337**		**PKPbc**	**06 51 30.9**	**-2.2**
MK31	**Makanchi Array**	**154.81 337**	PKIKP	**PKPbc**	**06 51 30.9**	**-2.2**
MKAR	**Makanchi Array**	**154.81 337**		**PKPdf**	**06 51 27.7**	**+3.2**
MKAR	**Makanchi Array** comp=Z,3.0nm,1.0s,baz=29,slow=2.8,SNR=12	**154.81 337**	PKPbc	**PKiKP**	**06 51 34.3**	**+1.1**
MKAR	**Makanchi Array**	**154.81 337**	PKIKP	**PKPdf**	**06 51 27.7**	**+3.2**
MAK	**Makhachkala**	**154.85 37**	*e*PKIKP	**PKPdf**	**06 51 18.3**	**-6.3**
MAK			*e*		06 58 23.9	
MAK			*e*SS	SS	07 14 58.8	-7.4
MAK	comp=Z,294nm,1.7s		pmax	pmax		
MAKZ	**Makanchi**	**154.91 337**		**PKiKP**	**06 51 34.5**	**+1.2**
MAKZ	**Makanchi**	**154.91 337**	PKIKP	**PKiKP**	**06 51 34.5**	**+1.2**

*IDC **02** 06:32:47.7±0.5,24.7°18S×111.7°83W,h0km,mb4.7/14, mbtmp4.7/14,MS6.1/2,Error ellipse: s-maj=23.6km s-min=15.4km az=76.0*

*MOS **02** 06:32:48.4±1.2,23.9°96S×111.7°41W,h10km,mb5.7/24, MS5.5/4,Error ellipse: s-maj=14.5km s-min=9.9km az=94.3*

*NEIC **02** 06:32:48.9,24.7°26S×111.7°65W,h18km*

*NEIC **02** 06:32:48.9,24.7°26S×111.7°66W,h10km*

*NEIC **02** 06:32:48.9,24.7°06S×111.7°65W,h18km,Moment Tensor Solution. Duration: 5s0 Moment tensor: Scale 10¹⁸Nm; Mrr-0.49; Mθθ-0.46; Mϕϕ0.96; Mrθ-0.46; Mθϕ0.61; Mrϕ0.21; Fault plane solution: Mo1.15000×10¹⁸ NP1: ϕs162.72000°,δ64.38000°,λ-148.90000°. NP2: ϕs58.10000°,δ62.24000°,λ-29.26000°. Principal axes: T 1.1867, Plg1.0000°, Azm290.0000°; N -0.0812, Plg51.0000°, Azm198.0000°; P -1.1055, Plg39.0000°, Azm21.0000°;*

*NEIC **02** 06:32:49.0±2.5,24.7°27S±0.7°09×111.7°6W±0.7°1,h10km±1km, mb5.5/261,Ms_20 5.6/431,Mwb5.9/81,Mww6.0/29 Error ellipse: s-maj=18.3km s-min=13.4km az=238.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.56; Mθθ-8.07; Mϕϕ7.51; Mrθ-0.78; Mθϕ4.63; Mrϕ-0.12; Fault plane solution: Mo9.11000×10¹⁷ NP1: ϕs150.42000°,δ85.47000°,λ-178.68000°. NP2: ϕs60.31000°,δ88.69000°,λ-4.53000°. Principal axes: T 8.7955, Plg2.0000°, Azm105.0000°; N 0.6015, Plg85.0000°, Azm224.0000°; P -9.3969, Plg4.0000°, Azm15.0000°;*

*GUC **02** 06:32:49.6±11.0,24.7°70S×111.7°52W,h10km,mb5.8,ms6.1*

*GCMT **02** 06:32:55.0±0.1,24.7°35S×111.7°78W,h17km,MW6.0/166, Moment Tensor Solution. s158,c337; s166,c562; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr-0.08±.01; Mθθ-0.92±.01; Mϕϕ0.99±.01; Mrθ-0.09±.02; Mθϕ0.70±.01; Mrϕ0.03±.02; Best double couple: Mo1.19200×10¹⁸ NP1:ϕs153.00000°,δ87.00000°, λ-176.00000°. NP2:ϕs63.00000°,δ86.00000°,λ-3.00000°. Principal axes: T 1.2270, Plg0.0000°, Azm288.0000°; N -0.0710, Plg85.0000°, Azm196.0000°; P -1.1560, Plg5.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 02 06:32:48.9±0.2,24°31S±0°05×111°62W±0°04,h10km, n737,σ2s05/475,mb5.5/161,MS5.7/247,13C-9D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.45**	**146**	Pn	**Pn**	**06 33 41.7**	**-1.0**
VA02				Sn	**Sn**	**06 34 24.9**	**+1.1**
VA02	**Isla de Pascua**	**3.45**	**146**	*e*S	**Sn**	**06 34 22.3**	**-1.4**
RPN	**Rapa Nui** 128nm,0.3s,baz=317,slow=19,SNR=8.6	**3.48**	**144**	Pn	**Pn**	**06 33 42.1**	**-1.0**
RPN				Sn	**Sb**	**06 34 30.3**	**-2.6**
H03N2	**Juan Fernandez** baz=319,slow=20	**29.93**	**115**	T	T	07 10 43.8	
H03N3	**Juan Fernandez** baz=283,slow=75,SNR=78	**29.94**	**115**	T	T	07 10 47.2	
H03N1	**Juan Fernandez** baz=283,slow=75,SNR=167	**29.95**	**115**	T	T	07 10 47.2	
VA04	**Juan Fernndez**	**30.05**	**116**	*e*P	**P**	**06 38 59.9**	**+1.6**
VA04				*e*S	**S**	**06 43 53.3**	**-3.3**
TAOE	**Nuku Hiva Isla** 615nm,24.8s	**31.27**	**295**	*e*PKIKP	P	06 39 03.6	-5.6
TAOE	**Nuku Hiva Isla** 2μm,26.5s	**31.27**	**295**	*e*PP	**PP**	**06 40 23.7**	**+3.8**
TAOE	2μm,28.9s			*e*S	**S**	**06 44 15.9**	**-0.2**
TAOE	51μm,26.3s			*e*LR	LR	06 47 11.9	
PAYG	**Puerto Ayora** comp=Z,17μm,22.0s	**31.29**	**44**	IAMs_20	IAMs_20	06 48 00.6	
TBI	**Tubuai** comp=Z,1μm,37.8s	**34.56**	**264**	*e*P	**P**	**06 39 37.5**	**-0.4**
TBI	comp=Z,6μm,25.0s			*e*S	**S**	**06 45 04.3**	**-2.7**
TBI	comp=Z,66μm,27.0s			*e*SS	**SS**	**06 47 32.5**	**-4.2**
TBI	comp=Z,29μm,28.0s			*e*LR	LR	06 48 41.8	
TBI	comp=Z,141μm,28.2s			*e*LR	LR	06 48 44.5	
BI05	**Punta Hualpn**	**35.12**	**120**	P	**P**	**06 39 41.7**	**-0.9**
GO05	**Huala**	**35.89**	**117**	P	**P**	**06 39 48.2**	**-1.1**
GO05	comp=Z,122nm,1.6s			IAmb	IAmb	06 39 55.4	
GO05	**Huala**	**35.89**	**117**	*e*P	**P**	**06 39 51.5**	**+2.2**
GO05				*e*S	**S**	**06 45 27.2**	**-0.2**
CO06	**Fray Jorge**	**35.89**	**109**	P	**P**	**06 39 48.5**	**-0.8**
CO06	**Fray Jorge**	**35.89**	**109**	*e*P	**P**	**06 39 46.8**	**-2.5**
CO06	comp=Z,177nm,1.6s			IAmb	IAmb	06 40 08.6	
CO06				*e*S	S	06 45 12.7	-15
VA01	**Torpederas**	**35.96**	**113**	*e*P	**P**	**06 39 48.7**	**-1.2**
PPTF	**Pamatai, Papee**	**35.98**	**273**	P	**P**	**06 39 48.0**	**-2.3**
PPT2	**Papeete2** comp=Z,441nm,29.2s	**35.99**	**273**	*e*PKIKP	P	06 39 43.4	-6.9
PPT2	**Papeete2** comp=Z,702nm,26.5s	**35.99**	**273**	*e*PP	PP	06 41 09.4	-2.7
PPT2	comp=Z,4μm,26.5s			*e*S	**S**	**06 45 29.0**	**-0.2**
PPT2	comp=Z,10μm,23.5s			*e*SS	**SnSn**	**06 47 57.7**	**+4.4**
PPT2	comp=Z,20μm,38.5s			*e*LR	LR	06 49 21.2	
PPT2	comp=Z,55μm,42.0s			*e*LR	LR	06 49 28.3	
VA05	**Santo Domingo**	**36.03**	**114**	P	**P**	**06 39 50.9**	**+0.5**
VA05	comp=Z,75nm,1.2s			IAmb	IAmb	06 40 09.9	
VA05	**Santo Domingo**	**36.03**	**114**	*e*P	**P**	**06 39 49.1**	**-1.3**
VA05	comp=Z,146nm,1.6s			IAmb	IAmb	06 39 56.8	
VA05				*e*S	**S**	**06 45 33.7**	**+4.2**
VA05	comp=Z,40μm,21.6s			IAMs_20	IAMs_20	06 50 03.8	
VA06	**Catapilco**	**36.23**	**112**		**P**	**06 39 52.3**	**+0.1**
VA06	comp=Z,98nm,1.4s			IAmb	IAmb	06 40 04.4	
VA06	**Catapilco**	**36.23**	**112**	*i* P	**P**	**06 39 56.1**	**+4.0**
CO05	**La Serena**	**36.24**	**108**	*e*P	**P**	**06 39 51.5**	**-0.8**
CO05	comp=Z,464nm,2.1s			IAmb	IAmb	06 39 58.9	
GO07	**Milladeo Hill,**	**36.33**	**131**	P	**P**	**06 39 55.6**	**+2.8**
MT01	**Popeta**	**36.34**	**115**	P	**P**	**06 39 54.9**	**+1.7**
ML02	**Panimavida**	**36.40**	**118**	P	**P**	**06 39 53.5**	**-0.1**
ML02	comp=Z,144nm,1.4s			IAmb	IAmb	06 40 18.4	
MT02	**Curacav**	**36.40**	**114**	P	**P**	**06 39 54.2**	**+0.6**
MT02	comp=Z,71nm,1.2s			IAmb	IAmb	06 40 05.9	
CO02	**Combarbal**	**36.44**	**110**	P	**P**	**06 39 54.4**	**+0.2**
CO02	comp=Z,108nm,1.6s			IAmb	IAmb	06 40 18.3	
CO02	**Combarbal**	**36.44**	**110**	*e*P	**P**	**06 39 55.4**	**+1.3**
CO02	comp=Z,559nm,2.7s			IAmb	IAmb	06 40 16.5	
ROCH	**El Roble**	**36.49**	**113**	*e*P	**P**	**06 39 51.6**	**-3.1**
ROCH	comp=Z,353nm,1.9s			IAmb	IAmb	06 40 13.8	
ROCH	comp=Z,46μm,21.2s			IAMs_20	IAMs_20	06 50 17.4	
BO01	**Tunca**	**36.52**	**115**	P	**P**	**06 39 54.6**	**-0.1**
BO01	**Tunca**	**36.52**	**115**	*e*P	**P**	**06 39 53.3**	**-1.4**
BO01	comp=Z,680nm,2.5s			IAmb	IAmb	06 40 13.7	
BO01				*e*S	**S**	**06 45 36.0**	**-1.0**
MT09	**Talagante**	**36.56**	**114**	P	**P**	**06 39 55.4**	**+0.3**
MT09	**Talagante**	**36.56**	**114**	*e*P	**P**	**06 39 53.1**	**-2.0**
LL04	**Puerto Octay**	**36.60**	**127**	P	**P**	**06 39 54.5**	**-0.7**
BI02	**San Fabin de**	**36.63**	**119**↓↓	*e*P	**P**	**06 39 54.0**	**-1.6**
CO03	**El Pedregal**	**36.71**	**109**	P	**P**	**06 39 57.0**	**+0.6**
CO03	**El Pedregal**	**36.71**	**109**↓↓	*e*P	**P**	**06 39 53.5**	**-2.9**
CO03				*e*S	**S**	**06 45 40.2**	**+0.1**
LR05	**Currie**	**36.73**	**125**		**P**	**06 39 56.6**	**+0.3**
LR05	comp=Z,170nm,1.7s			IAmb	IAmb	06 40 11.9	
LR05	**Currie**	**36.73**	**125**↑↑	*e*P	**P**	**06 40 00.1**	**+3.8**
LCO	**Las Campanas**	**36.74**	**106**	P	**P**	**06 39 57.1**	**+0.2**
LCO	comp=Z,140nm,1.9s			IAmb	IAmb	06 40 12.3	
LCO	**Las Campanas**	**36.74**	**106**	P	**P**	**06 39 57.1**	**+0.2**
LCO	comp=Z,140nm,1.9s			pmax	pmax		
ARNL	**Arenillas**	**36.76**	**61**	P	**P**	**06 39 56.5**	**-0.3**
PEL	**Peldehue**	**36.77**	**113**	P	**P**	**06 39 57.1**	**+0.2**
PEL	**Peldehue**	**36.77**	**113**	P	**P**	**06 39 57.1**	**+0.2**
PEL	comp=Z,258nm,1.8s			pmax	pmax		
BO02	**Sierra Bellavi**	**36.81**	**116**	P	**P**	**06 39 56.8**	**-0.4**

BO02 IAmb IAmb 06 40 16.7
comp=Z,101nm,1.5s
BO02 Sierra Bellavi 36.81 116 *eP* **P 06 39 59.0 +1.8**
VA03 San Esteban 36.87 113 P **P 06 39 58.1 +0.3**
VA03 IAmb IAmb 06 40 13.4
comp=Z,210nm,1.8s
VA03 San Esteban 36.87 113 *i* P **P 06 39 59.7 +2.0**
BO04 La Punta 36.89 115 P **P 06 39 58.7 +0.9**
BO04 IAmb IAmb 06 40 09.7
comp=Z,86nm,1.3s
BO04 La Punta 36.89 115 *eP* **P 06 39 58.0 +0.2**
BO04 IAMs_20 IAMs_20 06 50 46.2
comp=E,33µm,21.5s
MT16 CCHEN 36.92 114 P **P 06 39 59.0 +0.8**
MT16 IAmb IAmb 06 40 17.8
comp=Z,156nm,1.4s
MT16 CCHEN 36.92 114 *eP* **P 06 39 59.8 +1.6**
MT16 IAMs_20 IAMs_20 06 50 30.8
comp=Z,43µm,21.5s
GO06 Curarrehue 36.99 124 P **P 06 39 59.3 +0.6**
GO06 Curarrehue 36.99 124‖ *eP* **P 06 39 59.8 +1.1**
LL01 San Ignacio de 36.99 129 P **P 06 39 59.1 +0.7**
AC05 El Transito 37.12 106 P **P 06 40 00.4 +0.4**
AC05 IAmb IAmb 06 40 15.9
comp=Z,238nm,1.9s
AC05 El Transito 37.12 106 *eP* **P 06 39 57.1 -2.8**
AC05 IAMs_20 IAMs_20 06 50 32.9
comp=Z,48µm,23.3s
MT13 San Alfonso 37.14 114 **P 06 39 59.9 -0.2**
MT13 IAmb IAmb 06 40 12.4
comp=Z,147nm,1.6s
AC06 Mina Casimiro 37.15 104 P **P 06 40 00.5 +0.4**
AC06 Mina Casimiro 37.15 104 *eP* **P 06 40 03.1 +3.0**
LMEL Las Melosas 37.21 114 P **P 06 40 01.9 +1.2**
LMEL IAmb IAmb 06 40 20.8
comp=Z,162nm,1.4s
LMEL Las Melosas 37.21 114 *eP* **P 06 40 03.6 +2.9**
CO01 Juntas del Tor 37.23 108‖ *eP* **P 06 40 02.8 +1.8**
GO03 Copiap 37.24 104 P **P 06 40 02.0 +1.1**
GO03 IAmb IAmb 06 40 08.3
comp=Z,117nm,1.5s
GO03 Copiap 37.24 104 *eP* **P 06 40 03.1 +2.2**
GO03 IAmb IAmb 06 40 07.8
comp=Z,400nm,2.2s
GO03 *eS* **S 06 45 39.5 -8.6**
GO03 IAMs_20 IAMs_20 06 50 38.5
comp=Z,39µm,23.4s
MT08 Bocatoma Ro 37.35 114 P **P 06 40 02.5 +0.5**
PB14 IPOC Station P 37.42 99 *eP* P 06 39 56.1 -6.6
LL02 Futaleuf 37.62 130 **P 06 40 04.5 +0.6**
PB05 IPOC Station P 37.89 96 P **P 06 40 07.0 +0.5**
PB05 IAmb IAmb 06 40 15.1
comp=Z,166nm,1.9s
PLCA Paso Flores 37.92 126 **P 06 40 07.2 +0.6**
PLCA Paso Flores 37.92 126 P **P 06 40 09.4 +2.8**
comp=Z,8.9nm,1.1s,baz=285,slow=16,SNR=4.6
comp=Z,8.9nm,1.1s
GO02 Mina Guanaco 38.07 100 **P 06 40 07.8 -0.4**
GO02 IAmb IAmb 06 40 27.5
comp=Z,96nm,1.1s
COYC Coyhaique 38.22 134 P **P 06 40 08.8 -0.1**
COYC IAmb IAmb 06 40 26.2
comp=Z,110nm,1.4s
COYC Coyhaique 38.22 134 IAMs_20 IAMs_20 06 52 06.3
comp=Z,12µm,20.0s
AC02 Maricunga 38.28 103 **P 06 40 09.2 -1.1**
AC02 Maricunga 38.28 103 *eP* **P 06 40 10.6 +0.4**
PATCX Punta Patache 38.35 93 P **P 06 40 09.8 -0.6**
PATCX IAmb IAmb 06 40 28.4
comp=Z,161nm,1.6s
PB07 IPOC Station P 38.40 95 P **P 06 40 11.1 +0.1**
PB07 IPOC Station P 38.40 95 *eP* **P 06 40 06.2 -4.7**
PB15 IPOC Station P 38.49 97 *eP* **P 06 40 13.2 +1.5**
AY03 Cochrane 38.51 136 **P 06 40 10.7 -0.5**
PB12 IPOC Station P 38.74 90‖ *eP* **P 06 40 13.3 -0.4**
PB12 *eS* **S 06 46 12.8 +1.6**
PB01 IPOC Station P 38.91 94 P **P 06 40 14.2 -0.9**
PB09 IPOC Station P 38.97 95 P **P 06 40 15.4 -0.3**
PB09 IAmb IAmb 06 40 43.0
comp=Z,270nm,2.0s
PB09 IPOC Station P 38.97 95 *eP* **P 06 40 16.6 +0.9**
PB11 IPOC Station P 39.06 92 *eP* **P 06 40 17.7 +1.3**
LVC Limon Verde 39.11 96 **P 06 40 16.8 -0.3**
LVC Limon Verde 39.11 96 P **P 06 40 16.8 -0.3**
LVC pmax pmax
comp=Z,132nm,1.8s
PB08 IPOC Station P 39.42 93 P **P 06 40 19.5 -0.2**
PB08 IPOC Station P 39.42 93‖ *eP* **P 06 40 20.3 +0.6**
PB08 *eS* **S 06 46 18.7 -3.2**
SLOR San Lorenzo - 39.72 59 **P 06 40 22.7 +0.4**
PULU Pululahua 40.19 58 P **P 06 40 26.2 +0.1**
GO09 Cerro Castillo 40.34 142 P **P 06 40 28.1 +1.5**
GO09 IAmb IAmb 06 40 38.5
comp=Z,87nm,1.1s
MG05 Puerto Natales 40.44 143 P **P 06 40 28.8 +1.5**
CZSB Cruzeiro do Su 40.70 73 P **P 06 40 30.6 +0.6**
CZSB IAmb IAmb 06 40 38.5
comp=Z,67nm,0.9s
LPAZ La Paz 41.43 87 P **P 06 40 39.2 +2.5**
comp=Z,25nm,1.2s,baz=252,slow=8.4,SNR=8.4
comp=Z,25nm,1.2s
GCUF Volcan Galeras 41.84 58 S P 06 40 45.8 +5.9
comp=Z,53nm,1.8s,comp=Z,835nm
CDITO Canoas 43.08 44 P **P 06 40 49.5 +0.2**
CDITO IAmb IAmb 06 41 05.2
comp=Z,143nm,1.3s
JTS Las Juntas de 43.14 40 **P 06 40 49.8 -0.1**
JTS Las Juntas de 43.14 40 P **P 06 40 49.8 -0.1**
JTS pmax pmax
comp=Z,94nm,1.5s
POPC Popayan, Colom 43.19 57 S P 06 40 56.6 +6.0
comp=Z,31nm,1.8s
LCR2 La Lucha 2 43.28 42 P **P 06 40 50.3 -0.9**
SRBA San Rafael, Bu 43.28 43 **P 06 40 50.1 -0.9**
RIMA Rio Macho 43.38 42 P **P 06 40 51.6 -0.5**
SOCE Pocosol 43.41 41 P **P 06 40 52.0 0.0**
SOCE IAmb IAmb 06 41 09.5
comp=Z,77nm,1.4s
HDC Heredia 43.41 41 IAMs_20 IAMs_20 06 54 08.9
comp=Z,8µm,20.0s
TLIG Tlapa 43.53 18 P **P 06 40 52.5 -0.5**
TLIG IAmb IAmb 06 41 01.2
comp=Z,162nm,1.5s
JAMC Jamundi, Valle 43.63 56 S P 06 41 00.9 +6.8
comp=Z,27nm,1.6s,comp=Z,924nm
SNET Serv Nac Est T 43.64 32 IAMs_20 IAMs_20 06 54 29.7
comp=Z,8µm,18.0s
TRQA Tornquist 44.13 120 **P 06 40 57.0 -0.7**
TRQA Tornquist 44.13 120 P **P 06 40 57.0 -0.7**
TRQA pmax pmax
comp=Z,40nm,1.2s
MTO3 Montecristo 44.20 32 P **P 06 40 57.6 -1.0**
MTO3 IAmb IAmb 06 41 13.5
comp=Z,152nm,1.6s
RAR Rarotonga 44.34 264 IAMs_20 IAMs_20 06 54 10.8
comp=Z,11µm,22.0s
TBTG Tabatinga, AM 44.85 70 **P 06 41 03.4 -0.2**
TBTG IAmb IAmb 06 41 12.7
comp=Z,65nm,1.0s
ESPN Las Esperanzas 45.04 39 P **P 06 41 03.9 -1.2**
ESPN IAmb IAmb 06 41 19.9
comp=Z,89nm,1.3s
ORTC Ortega, Tolima 45.16 57 S **P 06 41 10.6 +4.5**
comp=Z,42nm,1.0s,comp=Z,543nm
PRAC Prado 45.31 57 S P 06 41 14.3 +7.0
comp=Z,28nm,1.3s,comp=Z,628nm
CHIC Chingaza 46.77 57 S P 06 41 26.9 +7.6
comp=Z,32nm,1.3s
PTGC Puerto Gaitan, 47.74 59 S **P 06 41 30.8 +4.4**
comp=Z,28nm,0.8s,comp=Z,254nm
SAML Samuel 48.60 80 **P 06 41 31.7 -1.4**
SAML IAmb IAmb 06 41 37.8
comp=Z,104nm,1.6s
SAML Samuel 48.60 80 IAMs_20 IAMs_20 06 59 03.2
comp=Z,9µm,19.0s
SAML Samuel 48.60 80 P **P 06 41 31.7 -1.4**
SAML pmax pmax
comp=Z,104nm,1.7s
CPUP Villa Florida 48.81 104 P **P 06 41 35.6 +1.0**
comp=Z,11nm,1.1s,baz=262,slow=12,SNR=7.7
comp=Z,11nm,1.1s
TEIG Tepich 49.77 29 IAMs_20 IAMs_20 06 58 48.8
comp=Z,6µm,19.0s
TEIG Tepich 49.77 29 LR LR 06 59 09.2
comp=Z,53µm,18.3s,slow=32

PMSA Palmer Station 50.68 156 IAMs_20 IAMs_20 06 57 53.3
comp=Z,9µm,19.0s
PLTB Pedras Altas 51.24 112 **P 06 41 53.0 0.0**
PLTB IAmb IAmb 06 41 58.1
comp=Z,87nm,1.4s
AQDB Aquidauana 51.56 97 **P 06 41 55.5 0.0**
AQDB IAmb IAmb 06 42 00.5
comp=Z,92nm,1.4s
HSIG 53.03 1 **P 06 42 05.4 -0.7**
KVTX Kingsville 53.23 15 IAMs_20 IAMs_20 07 00 35.2
comp=Z,6µm,22.0s
833A Chaparral WMA, 53.64 13 P **P 06 42 09.8 -0.8**
833A IAmb IAmb 06 42 25.0
comp=Z,89nm,1.4s
833A Chaparral WMA, 53.64 13 P P 06 42 16.6 +6.0
baz=194
MTDJ Mount Denham 53.78 41 IAMs_20 IAMs_20 07 00 42.6
comp=Z,8µm,18.0s
BAUV El Baul 53.86 57 P **P 06 42 11.2 -1.3**
BAUV IAmb IAmb 06 42 38.2
comp=Z,77nm,1.2s
TXAR Lajitas Array 53.88 9 P **P 06 42 11.1 -1.4**
TXAR Lajitas Array 53.88 9 P **P 06 42 12.0 -0.5**
comp=Z,2.5nm,1.0s,baz=186,slow=8.0,SNR=5.3
comp=Z,2.5nm,1.0s
SOR Soroa 54.45 33 P P 06 42 23.5 +6.9
SOR pmax pmax
comp=Z,149nm,1.6s
VHRN Van Horn 55.16 7 **P 06 42 21.0 -0.8**
VHRN IAmb IAmb 06 42 35.5
comp=Z,58nm,1.3s
319A Douglas 55.42 2 **P 06 42 23.1 -0.5**
JCT Junction City 55.65 12 P **P 06 42 25.5 +0.3**
baz=193
OZNA Ozona 55.84 11 P **P 06 42 26.0 -0.6**
214A Organ Pipe Nat 55.97 359 **P 06 42 26.1 -1.3**
214A IAmb IAmb 06 42 42.5
comp=Z,108nm,1.8s
MNTX Cornudas Mount 56.02 6 P P 06 42 33.1 +5.3
baz=187
HKT Hockley 56.04 17 IAMs_20 IAMs_20 07 04 32.1
comp=Z,6µm,19.0s
HKT Hockley 56.04 17 P **P 06 42 27.3 -0.6**
HKT pmax pmax
comp=Z,205nm,2.0s
BOAV Boa Vista 56.26 69 **P 06 42 28.8 -1.1**
TUC Tucson 56.31 1 **P 06 42 28.4 -1.6**
TUC Tucson 56.31 1 P P 06 42 36.0 +6.0
baz=181
TUC Tucson 56.31 1 P **P 06 42 28.4 -1.6**
TUC pmax pmax
comp=Z,34nm,1.4s
435B Jarrell 56.41 15 P **P 06 42 29.0 -1.6**
435B IAmb IAmb 06 42 40.6
comp=Z,112nm,1.6s
GTBY Guantanamo Bay 56.55 42 IAMs_20 IAMs_20 07 02 32.9
comp=Z,6µm,18.0s
BRDY Brady 56.59 13 **P 06 42 31.0 -0.9**
BRDY IAmb IAmb 06 42 40.9
comp=Z,95nm,1.6s
121A Cookes Peak, D 56.65 4 **P 06 42 31.0 -1.4**
121A IAmb IAmb 06 42 42.3
comp=Z,75nm,1.5s
YUH Yuha Desert 56.79 356 P **P 06 42 31.1 -2.1**
YUH IAmb IAmb 06 42 46.1
comp=Z,98nm,1.6s
113A Mohawk Valley, 56.80 358 **P 06 42 32.9 -0.4**
113A IAmb IAmb 06 42 47.2
comp=Z,95nm,1.5s
IKP In-Ko-Pah, Jac 56.81 355 P **P 06 42 37.5 +4.0**
baz=175
BAR Barrett 56.88 355 **P 06 42 33.0 -1.0**
BAR IAmb IAmb 06 42 46.7
comp=Z,89nm,1.5s
MONP2 Monument Peak 57.07 355 P **P 06 42 39.2 +3.7**
baz=175
109C Camp Elliot, M 57.12 355 IAMs_20 IAMs_20 07 01 10.9
comp=Z,6µm,18.0s
GLA Glamis 57.13 357 P **P 06 42 39.7 +4.0**
baz=177
BC3 Big Chuckawall 57.76 356 P **P 06 42 40.9 +0.7**
baz=176
PFO Pinyon Flats O 57.79 355 P **P 06 42 40.4 0.0**
PFO IAmb IAmb 06 42 54.4
comp=Z,114nm,2.0s
PFO Pinyon Flats O 57.79 355 P **P 06 42 40.4 0.0**
PFO pmax pmax
comp=Z,114nm,2.0s
POST Post 57.87 10 P **P 06 42 39.7 -1.2**
NATX Nacogdoches 58.07 17 P **P 06 42 41.2 -1.1**
NATX IAMs_20 IAMs_20 07 06 35.4
comp=Z,5µm,18.0s
BELC Belle Mtn. Jos 58.14 356 P **P 06 42 43.4 +0.5**
baz=175
IRM Iron Mountain 58.24 357 P **P 06 42 47.0 +3.5**
baz=176
PDMCI Parker Dam,Lak 58.34 358 P **P 06 42 48.2 +4.1**
baz=177
APMT Aspermont 58.36 11 **P 06 42 43.7 -0.6**
X16A Lo Mia Camp, P 58.41 0 **P 06 42 43.9 -1.0**
PASC Pasadena Art C 58.50 354 IAMs_20 IAMs_20 07 01 51.3
comp=Z,7µm,19.0s
BFSC Mount Baldy Ra 58.51 354 P **P 06 42 49.0 +3.5**
baz=174
DKNS Dickens 58.55 10 P **P 06 42 45.8 0.0**
DKNS IAmb IAmb 06 42 54.5
comp=Z,99nm,1.9s
GMRC Granite Mounta 58.90 356 P **P 06 42 49.0 +0.8**
baz=176
WTFS Witchita Falls 59.10 13 **P 06 42 46.9 -2.6**
WTFS IAmb IAmb 06 42 59.0
comp=Z,58nm,1.2s
ANMO Albuquerque 59.14 5 **P 06 42 49.9 -0.1**
ANMO Albuquerque 59.14 5 P P 06 42 55.5 +5.5
baz=186
ANMO Albuquerque 59.14 5 P **P 06 42 49.9 -0.1**
ANMO pmax pmax
comp=Z,42nm,1.9s
PKM Mcpherson Peak 59.39 352 P **P 06 42 55.3 +3.6**
baz=171
GSC Goldstone, Bar 59.49 355 IAmb IAmb 06 43 04.5
comp=Z,41nm,1.1s
GSC Goldstone, Bar 59.49 355 P **P 06 42 52.8 +0.5**
baz=175
WUAZ Wupatki 59.51 0 IAMs_20 IAMs_20 07 02 46.1
comp=Z,4µm,21.0s
TUQ Turquoise Moun 59.56 356 P **P 06 42 53.9 +1.1**
baz=176
AMTX Amarillo 59.62 9 IAMs_20 IAMs_20 07 04 27.4
comp=Z,6µm,18.0s
LRMC Laurel Mtn Rad 59.74 354 P **P 06 42 54.4 +0.3**
baz=174
V12A Nelson 59.79 357 **P 06 42 54.7 +0.4**
V12A IAmb IAmb 06 43 07.4
comp=Z,56nm,1.5s
SMMC Simmler 59.83 352 P **P 06 42 58.2 +3.6**
baz=171
BDFB Brasilia 59.97 95 **P 06 42 55.3 -0.8**
BDFB IAmb IAmb 06 43 03.8
comp=Z,27nm,0.9s
BDFB Brasilia 59.97 95 P **P 06 42 57.4 +1.3**
comp=Z,18nm,1.0s,baz=248,slow=8.9,SNR=10
comp=Z,18nm,1.0s
WMOK Wichita Mounta 59.98 12 P P 06 43 00.4 +4.9
baz=194
ISA Isabella, Lake 60.00 354 **P 06 42 54.9 -0.9**
ISA IAmb IAmb 06 43 09.5
comp=Z,63nm,1.8s
ISA Isabella, Lake 60.00 354 P **P 06 42 59.5 +3.8**
baz=173
ISA Isabella, Lake 60.00 354 P **P 06 42 54.9 -0.9**
ISA pmax pmax
comp=Z,63nm,1.8s
SHOC Shoshone, Teco 60.05 356 P **P 06 42 57.2 +1.2**
baz=175
GRTK Grand Turk 60.21 44 IAMs_20 IAMs_20 07 04 48.9
comp=Z,3µm,18.0s
VES Vestal, Richgr 60.24 353 P **P 06 42 58.0 +0.8**
baz=172
MPMC Manual Prospec 60.30 355 P **P 06 42 58.4 +0.4**
baz=174
GWY Greenwater Val 60.36 355 **P 06 42 57.5 -0.8**
X37A Clayton 60.58 15 IAmb IAmb 06 43 05.4
comp=Z,39nm,1.1s
SHPR Sheep Range 60.58 357 **P 06 42 59.1 -0.7**
SHPR IAmb IAmb 06 43 13.2

comp=Z,42nm,1.2s
FURC Furnace Creek, 60.66 355 P **P 06 43 01.1 +1.1**
baz=175
CWC Cottonwood Cre 60.73 354 P **P 06 43 01.5 +0.6**
baz=173
OKCSW OKLAHOMA CITY 60.90 13 **P 06 43 00.1 -1.7**
WCT Wildcat Mounta 60.96 355 P **P 06 43 01.2 -1.1**
WCT IAmb IAmb 06 43 10.7
comp=Z,33nm,1.1s
KNB Kanab 61.01 359 **P 06 43 02.6 -0.2**
KNB Kanab 61.01 359 P **P 06 43 02.6 -0.2**
KNB pmax pmax
comp=Z,95nm,1.6s
HMH Humu'ula Sheep 61.08 312 P **P 06 43 02.5 -1.2**
GRAC Grapevine Rang 61.22 355 P **P 06 43 04.8 +0.8**
baz=174
MVCO Mesa Verde 61.27 3 **P 06 43 04.1 -0.4**
MVCO IAMs_20 IAMs_20 07 04 23.4
comp=Z,6µm,21.0s
MVCO Mesa Verde 61.27 3 P **P 06 43 08.4 +3.9**
baz=183
SAO San Andreas Ge 61.45 351 IAMs_20 IAMs_20 07 03 13.5
comp=Z,6µm,18.0s
LCH Last Change Ra 61.48 355 P **P 06 43 04.1 -1.8**
TIGA Tifton 61.59 27 P **P 06 43 04.7 -1.8**
TIGA Tifton 61.59 27 P **P 06 43 07.2 +0.7**
baz=209
OK033 Mehan 61.62 14 P **P 06 43 04.6 -2.0**
OK033 IAmb IAmb 06 43 12.1
comp=Z,42nm,1.1s
LRAL Lakeview Retre 61.67 23 P **P 06 43 06.5 -0.5**
LRAL IAmb IAmb 06 43 22.5
comp=Z,56nm,1.3s
LRAL Lakeview Retre 61.67 23 P **P 06 43 07.5 +0.4**
baz=206
TUL3 Leonard 61.74 15 **P 06 43 05.1 -2.4**
TUL3 Leonard 61.74 15 P P 06 43 12.5 +5.0
baz=196
SDCO Great Sand Dun 62.00 5 IAmb IAmb 06 43 22.9
comp=Z,71nm,1.6s
SDCO Great Sand Dun 62.00 5 P **P 06 43 09.7 +0.2**
baz=186
MTPU Mount Pierson 62.03 359 **P 06 43 08.1 -1.7**
MTPU IAmb IAmb 06 43 25.1
comp=Z,80nm,1.9s
WHAR Wooly Hollow 62.05 18 IAmb IAmb 06 43 15.2
comp=Z,52nm,1.3s
R11B Troy Canyon, C 62.44 356 IAMs_20 IAMs_20 07 05 03.8
comp=Z,6µm,18.0s
R11B Troy Canyon, C 62.44 356 P **P 06 43 16.2 +3.8**
baz=176
MVU Marysvale 62.49 359 P **P 06 43 11.5 -1.3**
Y49A Blount Mountai 62.62 24 **P 06 43 11.5 -2.0**
Y49A IAmb IAmb 06 43 25.1
comp=Z,37nm,1.1s
NV11 Mina Array Sit 62.72 354 P **P 06 43 13.8 -0.3**
NVAR Mina Array Bea 62.73 354 P **P 06 43 13.3 -1.0**
NVAR Mina Array Bea 62.73 354 P **P 06 43 14.7 +0.4**
comp=Z,18nm,0.9s,baz=183,slow=8.8,SNR=13
comp=Z,18nm,0.9s
RYN Ryan 62.94 354 P **P 06 43 13.4 -2.2**
MCCM Marconi Confer 63.02 350 IAMs_20 IAMs_20 07 04 10.1
comp=Z,5µm,18.0s
PLAL Pickwick Lake 63.06 22 IAmb IAmb 06 43 36.9
comp=Z,56nm,1.5s
KVN Kaiserville 63.32 354 **P 06 43 15.7 -2.5**
KVN Kaiserville 63.32 354 P **P 06 43 15.7 -2.5**
KVN pmax pmax
comp=Z,101nm,1.5s
GOGA Godfrey 63.36 26 IAmb IAmb 06 43 23.9
comp=Z,25nm,1.0s
GOGA Godfrey 63.36 26 IAMs_20 IAMs_20 07 06 01.7
comp=Z,7µm,22.0s
GOGA Godfrey 63.36 26 P **P 06 43 18.3 0.0**
baz=209
YERR Yerington 63.37 353 P **P 06 43 18.5 0.0**
YERR IAmb IAmb 06 43 29.0
comp=Z,34nm,0.9s
P17A Butcher Ranch, 63.46 1 P **P 06 43 16.8 -2.4**
PNTR Pine Nut 63.51 353 P **P 06 43 20.2 +0.7**
PNTR IAmb IAmb 06 43 31.9
comp=Z,41nm,0.9s
Y52A Lilburn 63.52 25 IAmb IAmb 06 43 25.7
comp=Z,39nm,1.0s
FPAL Fort Paine 63.53 24 P **P 06 43 17.2 -2.3**
FPAL IAmb IAmb 06 43 34.1
comp=Z,32nm,1.1s
MGMO Mountain Grove 63.80 17 IAmb IAmb 06 43 42.3
comp=Z,58nm,1.3s
HOPS Hopland Field 63.88 350 IAMs_20 IAMs_20 07 04 37.8
comp=Z,5µm,18.0s
T42A Van Buren 64.01 18 P **P 06 43 21.4 -1.1**
T42A IAmb IAmb 06 43 32.2
comp=Z,75nm,1.9s
SWET Sewanee 64.02 23 IAmb IAmb 06 43 37.3
comp=Z,52nm,1.2s
ISCO Idaho Springs 64.03 5 P **P 06 43 26.9 +3.9**
baz=186
S39A Bolivar 64.03 16 IAmb IAmb 06 43 43.5
comp=Z,50nm,1.2s
KIP Kipapa 64.05 311 IAMs_20 IAMs_20 07 03 20.5
comp=Z,7µm,21.0s
V48A Smith Brothers 64.17 22 IAmb IAmb 06 43 34.8
comp=Z,38nm,1.1s
DUG Dugway, Tooele 64.19 359 P **P 06 43 23.7 -0.1**
DUG IAMs_20 IAMs_20 07 06 39.9
comp=Z,6µm,18.0s
DUG Dugway, Tooele 64.19 359 P **P 06 43 27.7 +3.9**
baz=179
DUG Dugway, Tooele 64.19 359 P **P 06 43 23.7 -0.1**
DUG pmax pmax
comp=Z,138nm,2.0s
WVT Waverly 64.19 21 **P 06 43 21.9 -1.7**
WVT Waverly 64.19 21 IAMs_20 IAMs_20 07 09 55.4
comp=Z,4µm,19.0s
WVT Waverly 64.19 21 P **P 06 43 22.8 -0.9**
baz=204
WVT Waverly 64.19 21 P **P 06 43 22.0 -1.7**
WVT pmax pmax
comp=Z,117nm,1.2s
ORV Oroville 64.20 352 IAMs_20 IAMs_20 07 04 40.3
comp=Z,6µm,21.0s
SBA Scott Base 64.64 193 **P 06 43 26.5 +0.2**
SBA Scott Base 64.64 193 IAMs_20 IAMs_20 07 04 33.7
comp=Z,7µm,22.0s
SBA Scott Base 64.64 193 P **P 06 43 26.5 +0.2**
SBA pmax pmax
comp=Z,137nm,1.5s
W52A Murphy 64.65 25 P **P 06 43 25.3 -1.6**
W52A IAmb IAmb 06 43 48.1
comp=Z,60nm,1.3s
CPCT Cooper Cave 64.74 24 **P 06 43 25.0 -2.4**
CPCT IAmb IAmb 06 43 33.6
comp=Z,61nm,1.3s
ELK Elko 64.81 357 IAMs_20 IAMs_20 07 05 55.5
comp=Z,5µm,20.0s
R40A Maddies Statio 64.87 17 IAmb IAmb 06 43 34.0
comp=Z,50nm,1.2s
CCM Cathedral Cave 64.92 18 P **P 06 43 27.0 -1.5**
CCM IAmb IAmb 06 43 34.3
comp=Z,40nm,1.1s
CCM Cathedral Cave 64.92 18 IAMs_20 IAMs_20 07 09 03.9
comp=Z,5µm,18.0s
CCM Cathedral Cave 64.92 18 P **P 06 43 28.0 -0.5**
baz=200
CCM Cathedral Cave 64.92 18 P **P 06 43 27.0 -1.5**
CCM pmax pmax
comp=Z,40nm,1.1s
N23A Red Feather La 65.09 5 P **P 06 43 33.4 +3.5**
baz=186
TCUT Toone Canyon 65.10 0 P **P 06 43 28.2 -1.7**
LBZ Lake Benmore 65.21 231 **P 06 43 30.8 +0.2**
U49A Red Boiling Sp 65.23 23 IAmb IAmb 06 43 45.1
comp=Z,35nm,1.1s
OGNE Ogallala 65.53 8 IAMs_20 IAMs_20 07 08 20.8
comp=Z,3µm,20.0s
HWUT Hardware Ranch 65.59 0 IAMs_20 IAMs_20 07 08 12.0
comp=Z,4µm,18.0s
V53A Saluda 65.59 26 P **P 06 43 31.4 -1.6**
V53A IAmb IAmb 06 43 48.8
comp=Z,48nm,1.2s
VNDA Vanda 65.69 194 IAmb IAmb 06 43 48.2
comp=Z,75nm,1.9s
VNDA Vanda 65.69 194 P **P 06 43 35.4 +2.4**
comp=Z,7.3nm,1.1s,baz=102,slow=6.1,SNR=11
comp=Z,7.3nm,1.1s

RWWY **Rawlins** 65.80 4 IAMs_20 IAMs_20 07 08 04.6
comp=Z,4µm,18.0s
P38A **Dawn** 65.81 15 IAmb IAmb 06 43 54.9
comp=Z,43nm,1.2s
JCC **Jacoby Creek,** 65.82 350 IAMs_20 IAMs_20 07 05 31.1
comp=Z,4µm,18.0s
QSPA **South Pole Qui** 65.85 180 P 06 43 33.9 -0.6
QSPA **South Pole Qui** 65.85 180 P P 06 43 34.6 +0.2
comp=Z,78nm,1.3s,baz=111,slow=2.7,SNR=18
comp=Z,78nm,1.3s
TZTN **Tazewell** 66.08 24 P P 06 43 34.3 -1.8
TZTN IAMs_20 IAMs_20 07 08 06.6
comp=Z,5µm,21.0s
TZTN **Tazewell** 66.08 24 P P 06 43 36.3 +0.2
baz=208
W57A **Gilead** 66.31 28 IAmb IAmb 06 43 43.2
comp=Z,33nm,1.1s
YBH **Yreka Blue Hor** 66.51 351 IAMs_20 IAMs_20 07 05 30.4
comp=Z,6µm,22.0s
WCI **Wyandotte Cave** 66.60 22 P P 06 43 37.9 -1.5
WCI IAmb IAmb 06 43 44.0
comp=Z,47nm,1.4s
WCI **Wyandotte Cave** 66.60 22 P P 06 43 37.9 -1.5
WCI pmax pmax
comp=Z,47nm,1.4s
WCI MLR MLR
comp=Z,2µm,18.0s
AHID **Auburn Hatcher** 66.75 0 IAmb IAmb 06 43 52.6
comp=Z,31nm,1.1s
AHID IAMs_20 IAMs_20 07 07 29.7
comp=Z,4µm,21.0s
BW06 **Boulder Array** 66.77 2 P P 06 43 39.2 -1.4
baz=182
PD31 **Pinedale Array** 66.77 2 IAmb IAmb 06 43 57.9
comp=Z,62nm,1.6s
PDAR **Pinedale Array** 66.77 2 P 06 43 37.4 -3.3
PDAR **Pinedale Array** 66.77 2 P P 06 43 38.9 -1.7
comp=Z,5.3nm,0.8s,baz=170,slow=5.5,SNR=8.3
comp=Z,5.3nm,0.8s
U56A **King** 67.16 27 P P 06 43 41.5 -1.5
U56A IAmb IAmb 06 43 49.5
comp=Z,62nm,1.4s
CNNC **Cliffs of the** 67.30 30 IAMs_20 IAMs_20 07 11 02.2
comp=Z,4µm,18.0s
REDW **Red Top Meadow** 67.34 1 P P 06 43 44.6 +0.3
HUMO **Hull Mountain** 67.40 351 P P 06 43 41.9 -2.5
HUMO IAmb IAmb 06 44 16.6
comp=Z,42nm,1.6s
HUMO IAMs_20 IAMs_20 07 07 32.0
comp=Z,4µm,18.0s
SNOW **Snow King Moun** 67.44 1 IAMs_20 IAMs_20 07 08 05.2
comp=Z,4µm,20.0s
TPAW **Teton Pass** 67.47 1 P P 06 43 42.9 -2.2
TPAW IAmb IAmb 06 43 56.9
comp=Z,36nm,1.1s
TPAW IAMs_20 IAMs_20 07 07 53.9
comp=Z,4µm,20.0s
MFID **Camas Ranch** 67.50 357 IAMs_20 IAMs_20 07 08 32.8
comp=Z,4µm,18.0s
HLID **Hailey** 67.59 358 P 06 43 43.2 -2.5
HLID IAmb IAmb 06 43 53.4
comp=Z,31nm,1.1s
HLID IAMs_20 IAMs_20 07 07 56.0
comp=Z,5µm,18.0s
HLID **Hailey** 67.59 358 P P 06 43 45.8 0.0
baz=177
LOHW **Long Hollow** 67.60 1 IAmb IAmb 06 43 58.4
comp=Z,66nm,1.6s
LOHW IAMs_20 IAMs_20 07 08 10.3
comp=Z,5µm,21.0s
FXWY **Fox Creek** 67.62 0 IAmb IAmb 06 44 03.8
comp=Z,55nm,1.4s
FXWY IAMs_20 IAMs_20 07 07 58.8
comp=Z,3µm,20.0s
MOOW **Moose Ponds** 67.73 1 IAmb IAmb 06 43 59.3
comp=Z,54nm,1.9s
MOOW IAMs_20 IAMs_20 07 08 13.8
comp=Z,4µm,21.0s
HDIL **Hopedale** 67.80 18 P 06 43 44.0 -2.9
HDIL IAMs_20 IAMs_20 07 10 52.0
comp=Z,5µm,18.0s
HDIL **Hopedale** 67.80 18 P P 06 43 46.3 -0.6
baz=202
IMW **Indian Meadow** 67.88 1 IAMs_20 IAMs_20 07 08 07.6
comp=Z,3µm,20.0s
BLA **Blacksburg** 67.89 27 IAMs_20 IAMs_20 07 08 38.6
comp=Z,3µm,22.0s
BLA **Blacksburg** 67.89 27 P P 06 43 48.1 +0.5
baz=211
P48A **Milroy** 68.00 22 IAmb IAmb 06 44 14.8
comp=Z,55nm,1.5s
FLWY **Flagg Ranch** 68.06 1 P P 06 43 46.1 -2.6
FLWY IAMs_20 IAMs_20 07 08 24.7
comp=Z,4µm,21.0s
P49A **Miami Univ. Ec** 68.31 22 IAMs_20 IAMs_20 07 11 49.9
comp=Z,4µm,19.0s
P49A **Miami Univ. Ec** 68.31 22 P P 06 43 53.6 +3.5
baz=206
I07A **Izee** 68.44 354 P P 06 43 50.7 -0.4
I07A IAmb IAmb 06 44 05.0
comp=Z,41nm,1.1s
RSSD **Black Hills** 68.45 6 P 06 43 48.5 -2.7
RSSD IAmb IAmb 06 44 04.2
comp=Z,50nm,1.4s
RSSD **Black Hills** 68.45 6 P P 06 43 54.5 +3.2
baz=187
RSSD **Black Hills** 68.45 6 P P 06 43 48.5 -2.7
RSSD pmax pmax
comp=Z,50nm,1.4s
LKWY **Lake** 68.55 1 IAMs_20 IAMs_20 07 09 03.5
comp=Z,5µm,21.0s
T59A **Double "B" Far** 68.89 29 P P 06 43 53.6 -0.2
BMO **Blue Mountains** 69.03 356 P 06 43 51.6 -2.9
BMO IAMs_20 IAMs_20 07 09 04.0
comp=Z,4µm,18.0s
BMO **Blue Mountains** 69.03 356 P P 06 43 51.7 -2.9
BMO pmax pmax
comp=Z,126nm,1.9s
ECSD **EROS Data Cent** 69.10 12 IAmb IAmb 06 44 08.1
comp=Z,75nm,1.8s
RLMT **Red Lodge** 69.13 2 IAMs_20 IAMs_20 07 09 22.9
comp=Z,4µm,19.0s
PLID **Pearl Lake** 69.18 357 P 06 43 52.4 -3.4
PLID IAmb IAmb 06 44 13.7
comp=Z,49nm,1.6s
P52A **Corning** 69.32 24 IAMs_20 IAMs_20 07 09 57.7
comp=Z,5µm,22.0s
P52A **Corning** 69.32 24 P P 06 43 56.2 -0.2
baz=209
DLMT **Dillon** 69.34 359 IAMs_20 IAMs_20 07 09 09.5
comp=Z,4µm,20.0s
ACSO **Alum Creek Sta** 69.54 23 IAMs_20 IAMs_20 07 10 01.2
comp=Z,3µm,21.0s
ACSO **Alum Creek Sta** 69.54 23 P P 06 43 57.5 -0.2
baz=208
G08A **Pilot Rock** 69.59 354 P 06 43 55.7 -2.4
G08A IAmb IAmb 06 44 12.0
comp=Z,54nm,1.2s
L44A **Lake County Fo** 69.70 19 IAMs_20 IAMs_20 07 11 53.2
comp=Z,5µm,19.0s
JFWS **Jewell Farm** 69.73 17 IAMs_20 IAMs_20 07 11 21.2
comp=Z,5µm,20.0s
G05A **Wamic** 69.78 353 P P 06 43 56.9 -2.3
G05A IAmb IAmb 06 44 19.2
comp=Z,54nm,1.1s
CBN **Corbin Frederi** 70.00 28 IAMs_20 IAMs_20 07 12 39.7
comp=Z,3µm,18.0s
I37A **Lemond, Waseca** 70.02 14 P 06 43 59.0 -1.7
O53A **New Philadelph** 70.20 24 IAMs_20 IAMs_20 07 10 11.0
comp=Z,5µm,22.0s
O53A **New Philadelph** 70.20 24 P P 06 44 02.1 +0.3
baz=209
MCWV **Mont Chateau** 70.22 26 IAMs_20 IAMs_20 07 10 17.5
comp=Z,3µm,22.0s
P57A **Homestead Farm** 70.81 27 P P 06 44 02.9 -2.7
LAO **LASA Array** 70.83 4 IAmb IAmb 06 44 12.7
comp=Z,30nm,1.0s
MSO **Missoula** 70.84 358 IAMs_20 IAMs_20 07 10 21.0
comp=Z,5µm,18.0s
MSO **Missoula** 70.84 358 P P 06 44 07.1 +1.4
baz=178
VNA3 **Neumayer Olymp** 70.96 160 ⇑P P 06 44 05.3 -0.8
comp=Z,16nm,0.8s
VNA3 ⇑S S 06 53 26.3 +4.7
AAM **Ann Arbor** 71.14 22 IAMs_20 IAMs_20 07 12 12.6
comp=Z,3µm,20.0s
E28A **Huff** 71.24 8 P P 06 44 05.5 -2.6

D08A **Wollman Farm,** 71.34 355 P P 06 44 09.1 +0.5
D08A IAmb IAmb 06 44 22.2
comp=Z,55nm,1.6s
M53A **WI Miller and** 71.44 24 IAMs_20 IAMs_20 07 11 22.7
comp=Z,5µm,22.0s
M53A **WI Miller and** 71.44 24 P P 06 44 09.1 -0.2
baz=210
VNA1 **Neumayer--Stat** 71.59 160 ⇑P P 06 44 08.5 -1.5
comp=Z,14nm,0.9s
J47A **Sunmer** 71.60 20 P P 06 44 07.8 -2.4
J47A IAmb IAmb 06 44 18.0
comp=Z,32nm,0.8s
F36A **Milaca** 71.75 13 IAmb IAmb 06 44 32.4
comp=Z,53nm,0.9s
VNA2 **Neumayer--Watz** 71.76 160 ⇑P P 06 44 11.1 +0.1
comp=Z,10nm,0.8s,baz=238,slow=5.0
VNA2 ⇓S S 06 53 35.3 +4.4
baz=318,slow=38
SSPA **Standing Stone** 71.83 26 IAMs_20 IAMs_20 07 14 06.3
comp=Z,4µm,19.0s
SSPA **Standing Stone** 71.83 26 P P 06 44 11.7 0.0
baz=212
MVL **Millersville** 71.94 28 P P 06 44 10.2 -2.2
EGMT **Eagleton** 72.02 1 IAMs_20 IAMs_20 07 10 53.4
comp=Z,4µm,21.0s
EGMT **Eagleton** 72.02 1 P P 06 44 13.0 +0.2
baz=182
M55A **Ridgway** 72.19 25 P P 06 44 11.7 -2.2
M55A IAmb IAmb 06 44 20.4
comp=Z,74nm,1.4s
NLWA **Neilton Lookou** 72.22 351 P P 06 44 15.6 +1.6
NLWA IAmb IAmb 06 44 28.9
comp=Z,59nm,1.6s
ERPA **Erie** 72.28 24 IAMs_20 IAMs_20 07 11 35.8
comp=Z,5µm,22.0s
NEW **Newport** 72.41 356 IAmb IAmb 06 44 33.5
comp=Z,69nm,1.4s
NEW **Newport** 72.41 356 IAMs_20 IAMs_20 07 10 53.6
comp=Z,3µm,18.0s
M57A **Sunshine Farm,** 72.73 27 P P 06 44 15.3 -1.8
DGMT **Dagmar** 72.75 5 P P 06 44 20.6 +3.5
baz=187
SNAA **Sanae** 72.81 162 IAmb IAmb 06 44 21.1
comp=Z,38nm,1.2s
SNAA **Sanae** 72.81 162 ⇑P P 06 44 18.0 +0.6
comp=Z,243nm,0.9s
SNAA ⇓S SKiKP 06 53 49.9 -1.2
SNAA **Sanae** 72.81 162 P P 06 44 19.4 +2.0
comp=Z,16nm,1.0s,baz=252,slow=7.0,SNR=9.2
comp=Z,16nm,1.0s
COWI **Conover** 72.99 16 IAmb IAmb 06 44 40.0
comp=Z,59nm,1.1s
GLMI **Grayling** 73.09 20 IAMs_20 IAMs_20 07 14 11.2
comp=Z,4µm,18.0s
L56A **Greenwood** 73.23 26 P 06 44 17.9 -2.2
L56A IAmb IAmb 06 44 26.0
comp=Z,47nm,1.1s
LIFNC **LIFOU** 73.98 254 IAMs_20 IAMs_20 07 08 50.1
comp=Z,4µm,22.0s
TROLL **Troll, Antarti** 74.15 163 ⇑P P 06 44 25.5 +0.2
comp=Z,714nm,0.8s
TROLL ⇑S S 06 54 01.0 +2.7
EYMN **Ely** 74.17 14 P P 06 44 22.7 -2.7
EYMN **Ely** 74.17 14 P P 06 44 28.5 +3.1
baz=199
DZM **Mont Dzumac** 74.23 253 eP P 06 44 24.9 -1.8
comp=Z,109nm,23.2s
DZM eS SKiKP 06 53 57.4 +2.8
comp=Z,627nm,27.7s
DZM **Mont Dzumac** 74.23 253 eLR LR 07 07 07.4
comp=Z,8µm,23.4s
L59A **Walton** 74.31 27 P P 06 44 25.4 -1.0
L59A IAmb IAmb 06 44 38.2
comp=Z,64nm,1.4s
YLE **Yale** 74.50 29 IAMs_20 IAMs_20 07 14 59.2
comp=Z,3µm,18.0s
E46A **Sault Ste Mari** 74.58 19 P P 06 44 25.7 -2.1
E46A IAmb IAmb 06 44 50.4
comp=Z,54nm,1.3s
RCBR **Riachuelo** 74.62 89 IAMs_20 IAMs_20 07 16 41.8
comp=Z,5µm,19.0s
RCBR **Riachuelo** 74.62 89 LR LR 07 14 54.2
comp=Z,4µm,20.8s,baz=243,slow=34
ULM **Lac du Bonnet** 75.53 10 P P 06 44 34.1 +0.8
comp=Z,4.1nm,0.7s,baz=201,slow=7.0,SNR=5.5
comp=Z,4.1nm,0.7s
M65A **Buoy, Falmout** 75.74 31 IAMs_20 IAMs_20 07 15 41.7
comp=Z,3µm,18.0s
ACCN **Adirondack Com** 75.86 28 P P 06 44 34.5 -0.8
WES **Weston** 76.08 30 IAMs_20 IAMs_20 07 12 54.7
comp=Z,3µm,21.0s
KOUNC **Koumac, New Ca** 76.65 253 IAMs_20 IAMs_20 07 10 53.8
comp=Z,4µm,20.0s
HNH **Hanover** 76.71 28 IAMs_20 IAMs_20 07 17 22.5
comp=Z,2µm,18.0s
TRQ **Mont Tremblant** 77.83 25 P P 06 44 45.4 -1.1
TRQ IAmb IAmb 06 44 58.1
comp=Z,42nm,1.3s
VLDQ **Val d'Or** 78.35 23 P 06 44 47.3 -1.9
WVL **Waterville** 78.55 29 IAMs_20 IAMs_20 07 19 55.8
comp=Z,2µm,18.0s
FFC **Flin Flon** 79.15 6 P 06 44 52.1 -1.3
FFC **Flin Flon** 79.15 6 P P 06 44 52.1 -1.3
FFC pmax pmax
comp=Z,40nm,1.5s
ELIB **Princess Elisa** 79.16 167 dP P 06 44 55.2 +1.5
comp=Z,9.9nm,1.3s
PKME **Peaks-Kenny Pk** 79.25 29 IAMs_20 IAMs_20 07 19 42.6
comp=Z,3µm,18.0s
EMMW **East Machias** 79.65 30 IAMs_20 IAMs_20 07 20 13.2
comp=Z,2µm,18.0s
F63A **Nahmakanta, Br** 79.68 29 P P 06 44 58.4 +1.8
F64A **Sherman** 80.14 29 P P 06 44 58.9 -0.1
V35K **Ketchikan** 81.14 349 P P 06 45 07.5 +3.4
baz=162
U33K **Whale Pass** 82.17 348 IAMs_20 IAMs_20 07 14 22.6
comp=Z,3µm,18.0s
WRAK **Wrangell Islan** 82.31 349 IAMs_20 IAMs_20 07 14 55.7
comp=Z,2µm,18.0s
CAN **Canberra** 83.45 234 IAMs_20 IAMs_20 07 15 57.0
comp=Z,3µm,20.0s
S34M **Telegraph Cree** 83.52 350 P P 06 45 20.2 +3.7
baz=162
TOAD **Toad River Com** 83.62 353 P P 06 45 19.7 +2.6
baz=168
DLBC **Dease Lake** 83.85 350 IAmb IAmb 06 45 30.3
comp=Z,43nm,1.2s
DLBC **Dease Lake** 83.85 350 P P 06 45 21.2 +2.9
baz=163
CASY **Casey** 84.21 196 P 06 45 21.1 +0.9
LIRD **Liard River Hi** 84.26 353 P P 06 45 23.1 +2.8
baz=167
JIS **Juneau Island** 84.44 348 IAMs_20 IAMs_20 07 15 56.7
comp=Z,2µm,18.0s
R32K **Eaglecrest** 84.46 348 IAMs_20 IAMs_20 07 15 31.3
comp=Z,2µm,18.0s
KOTAN **Kotaneelee Air** 84.75 354 P P 06 45 25.8 +3.1
baz=169
HNR **Honiara** 84.76 262 IAMs_20 IAMs_20 07 14 27.8
comp=Z,4µm,22.0s
R33M **Jennings River** 84.91 350 IAmb IAmb 06 45 37.1
comp=Z,32nm,1.3s
R33M **Jennings River** 84.91 350 P P 06 45 27.1 +3.3
baz=162
WTLY **Watson Lake, Y** 85.29 351 P P 06 45 28.4 +2.9
baz=164
P32M **Atlin** 85.55 349 IAMs_20 IAMs_20 07 16 22.1
comp=Z,3µm,18.0s
P32M **Atlin** 85.55 349 P P 06 45 30.0 +3.1
baz=160
SKAG **Skagway** 85.72 348 P P 06 45 31.1 +3.4
baz=158
P33M **Teslin, Yukon** 85.99 350 IAMs_20 IAMs_20 07 18 52.6
comp=Z,3µm,18.0s
P33M **Teslin, Yukon** 85.99 350 P P 06 45 31.8 +2.8
baz=161
YKA **Yellowknife Ar** 86.54 359 P P 06 45 30.8 -0.8
comp=Z,8.4nm,1.0s,baz=168,slow=3.2,SNR=11
comp=Z,8.4nm,1.0s
TGTN **Hyland Airport** 86.59 352 P P 06 45 34.8 +2.8
baz=165
P30M **Million Dollar** 86.65 348 P P 06 45 34.6 +2.3
baz=157
WHY **Whitehorse** 86.76 349 P P 06 45 35.2 +2.3
baz=159
N32M **Quiet Lake** 86.92 350 IAMs_20 IAMs_20 07 17 54.3
comp=Z,2µm,18.0s

N32M **Quiet Lake** 86.92 350 P P 06 45 36.3 +2.7
baz=160
O30N **Mendenhall** 87.09 348 IAMs_20 IAMs_20 07 21 05.7
comp=Z,2µm,18.0s
HYT **Haines Junctio** 87.41 348 IAmb IAmb 06 45 39.6
comp=Z,32nm,1.4s
HYT **Haines Junctio** 87.41 348 P P 06 45 38.9 +2.8
baz=157
SCHQ **Schefferville** 87.67 24 P P 06 45 38.2 +0.9
comp=Z,3.4nm,0.7s,baz=245,slow=2.3,SNR=2.6
comp=Z,3.4nm,0.7s
YUK6 **Outpost Mounta** 87.68 347 P P 06 45 39.8 +2.3
baz=156
N31M **Braeburn, Yuko** 87.69 349 IAMs_20 IAMs_20 07 17 24.8
comp=Z,2µm,19.0s
O28M **Mount Upton** 87.91 346 P P 06 45 41.2 +2.6
baz=154
N30M **Aishikik Lake** 87.91 348 IAMs_20 IAMs_20 07 23 10.5
comp=Z,2µm,18.0s
SNH **Sunshine Point** 87.97 345 IAMs_20 IAMs_20 07 16 52.2
comp=Z,2µm,19.0s
M31M **Drury Creek, Y** 88.12 350 IAMs_20 IAMs_20 07 18 03.1
comp=Z,2µm,19.0s
KAIM **Kayak Island** 88.14 344 IAMs_20 IAMs_20 07 16 35.5
comp=Z,3µm,19.0s
Q23K **Middleton Isla** 88.20 343 IAMs_20 IAMs_20 07 15 03.2
comp=Z,3µm,22.0s
WAX **Waxell Ridge** 88.22 345 IAMs_20 IAMs_20 07 16 26.6
comp=Z,2µm,19.0s
SII **Sitkinak Islan** 88.22 338 IAMs_20 IAMs_20 07 15 04.8
comp=Z,2µm,20.0s
YUK8 **Steele Glacier** 88.28 347 P P 06 45 43.2 +2.8
baz=155
CTGM **Chitina Glacie** 88.33 346 IAmb IAmb 06 45 59.8
comp=Z,34nm,1.3s
CTG **Chitna Glacier** 88.33 346 P P 06 45 43.4 +2.9
baz=153
HMT **Hamilton** 88.45 344 IAMs_20 IAMs_20 07 17 32.9
comp=Z,3µm,20.0s
RAGM **Ragged Mountai** 88.60 344 IAMs_20 IAMs_20 07 17 37.8
comp=Z,3µm,19.0s
YUK3 **Moose Creek** 88.87 347 P P 06 45 45.1 +2.0
baz=154
CNBA **Chernabura Isl** 88.88 335 IAMs_20 IAMs_20 07 18 57.5
comp=Z,3µm,20.0s
M29M **Somme Creek** 89.08 348 P P 06 45 46.3 +2.4
baz=156
FID **Port Fidalgo** 89.37 344 IAMs_20 IAMs_20 07 17 50.4
comp=Z,3µm,18.0s
L29M **L29M** 89.62 348 P P 06 45 48.9 +2.5
baz=156
GLI **Glacier Island** 89.64 344 IAMs_20 IAMs_20 07 16 21.2
comp=Z,2µm,21.0s
BRSE **Bradley Lake S** 89.69 341 P P 06 45 47.9 +1.1
baz=145
BRLK **Bradley Lake** 89.75 341 IAMs_20 IAMs_20 07 19 26.1
comp=Z,2µm,18.0s
KLU **Klutina** 89.87 344 IAMs_20 IAMs_20 07 18 37.2
comp=Z,2µm,19.0s
K29M **Barlow Dome** 90.19 349 IAMs_20 IAMs_20 07 18 52.7
comp=Z,2µm,19.0s
K29M **Barlow Dome** 90.19 349 P P 06 45 51.5 +2.3
baz=157
H11S2 **WAKE ISLAND Hy** 90.21 290 T T 08 25 34.2
baz=116,slow=75,SNR=693
H11S1 **WAKE ISLAND Hy** 90.22 290 T T 08 25 29.0
baz=116,slow=75,SNR=812
H11S3 **WAKE ISLAND Hy** 90.23 290 T T 08 25 35.5
baz=116,slow=75,SNR=778
L27K **Beaver Creek,** 90.31 347 P P 06 45 51.0 +1.5
baz=153
KNK **Knik Glacier** 90.44 343 IAMs_20 IAMs_20 07 18 23.5
comp=Z,3µm,18.0s
M24K **Tolsona, Glenn** 90.46 345 IAMs_20 IAMs_20 07 18 57.8
comp=Z,3µm,18.0s
S12K **Black Hills** 90.49 334 IAMs_20 IAMs_20 07 19 29.0
comp=Z,2µm,19.0s
S12K **Black Hills** 90.49 334 P P 06 45 52.0 +1.4
baz=135
SCM **Sheep Creek Mo** 90.51 344 IAMs_20 IAMs_20 07 18 11.2
comp=Z,2µm,19.0s
H11N3 **WAKE ISLAND Hy** 90.56 291 T T 08 26 08.9
baz=117,slow=74
H11N1 **WAKE ISLAND Hy** 90.58 291 T T 08 26 06.0
baz=117
H11N2 **WAKE ISLAND Hy** 90.58 291 T T 08 26 10.0
baz=117,slow=74
J30M **Hart River** 90.66 350 IAMs_20 IAMs_20 07 19 41.2
comp=Z,2µm,20.0s
J30M **Hart River** 90.66 350 P P 06 45 52.9 +1.6
baz=158
DAWY **Dawson** 90.73 348 P P 06 45 50.6 -0.9
DAWY IAmb IAmb 06 46 18.5
comp=Z,35nm,1.7s
DAWY **Dawson** 90.73 348 P P 06 45 52.8 +1.3
baz=155
SML **Sawmill** 90.74 344 IAMs_20 IAMs_20 07 16 45.4
comp=Z,2µm,21.0s
PMR **Palmer** 90.77 343 P P 06 45 52.6 +1.0
baz=146
P18K **Big Mountain,** 90.79 339 IAMs_20 IAMs_20 07 16 40.7
comp=Z,2µm,21.0s
GHO **Glory Hole Cre** 90.87 343 IAMs_20 IAMs_20 07 17 09.7
comp=Z,2µm,21.0s
K27K **Chicken** 91.22 347 P P 06 45 55.9 +2.1
baz=152
WAT6 **Susitna Watana** 91.25 344 P P 06 45 55.7 +1.6
baz=148
I30M **Mount Dempster** 91.27 350 IAMs_20 IAMs_20 07 20 11.3
comp=Z,2µm,19.0s
I30M **Mount Dempster** 91.27 350 P P 06 45 56.1 +2.0
baz=158
N20K **Mount Spurr** 91.30 342 P P 06 45 55.9 +1.6
baz=144
H31M **Peel River** 91.50 351 IAmb IAmb 06 46 22.8
comp=Z,37nm,1.4s
H31M IAMs_20 IAMs_20 07 22 30.4
comp=Z,2µm,19.0s
H31M **Peel River** 91.50 351 P P 06 45 56.5 +1.4
baz=159
DHY **Denali Highway** 91.58 345 IAMs_20 IAMs_20 07 19 33.4
comp=Z,3µm,18.0s
O17K **Koliganek Bris** 91.69 339 P P 06 45 57.4 +1.5
baz=140
SKT **Skwentna** 91.74 342 P P 06 45 56.9 +0.7
baz=144
O16K **Kokwok River B** 91.89 338 IAmb IAmb 06 46 15.2
comp=Z,44nm,1.4s
I28M **Miner Creek** 92.09 349 IAmb IAmb 06 46 25.5
comp=Z,42nm,1.9s
M20K **Styx River** 92.11 342 P P 06 45 56.7 -1.4
M20K IAMs_20 IAMs_20 07 20 09.7
comp=Z,2µm,18.0s
RND **Reindeer** 92.22 344 IAMs_20 IAMs_20 07 19 43.4
comp=Z,2µm,19.0s
CTAO **Charters Tower** 92.31 247 IAMs_20 IAMs_20 07 20 09.4
comp=Z,2µm,22.0s
EPYK **Eagle Plains** 92.39 350 IAmb IAmb 06 46 26.8
comp=Z,28nm,1.4s
EPYK IAMs_20 IAMs_20 07 21 05.8
comp=Z,2µm,18.0s
EPYK **Eagle Plains** 92.39 350 P P 06 46 01.0 +1.8
baz=157
J25K **Salcha River,** 92.43 346 IAmb IAmb 06 46 26.5
comp=Z,36nm,1.6s
J25K **Salcha River,** 92.43 346 P P 06 46 01.0 +1.5
baz=150
H29M **Whitestone** 92.52 349 IAMs_20 IAMs_20 07 20 47.2
comp=Z,2µm,19.0s
I27K **Kandik River** 92.54 348 P P 06 46 01.1 +1.2
baz=153
G31M **Satah River** 92.54 351 P 06 45 59.4 -0.4
G31M IAmb IAmb 06 46 18.6
comp=Z,40nm,1.4s
G31M IAMs_20 IAMs_20 07 22 01.9
comp=Z,2µm,19.0s
G31M **Satah River** 92.54 351 P P 06 46 01.4 +1.7
baz=159
TRF **Thorofare Moun** 92.62 344 IAmb IAmb 06 46 19.1
comp=Z,40nm,1.4s
TRF IAMs_20 IAMs_20 07 19 53.9
comp=Z,2µm,18.0s
TRF **Thorofare Moun** 92.62 344 P P 06 46 01.5 +1.0
baz=145
KTH **Kantishna Hill** 92.86 344 IAMs_20 IAMs_20 07 20 01.5
comp=Z,2µm,18.0s
G30M **tAoh Zraii Nji** 92.88 351 IAmb IAmb 06 46 26.2
comp=Z,33nm,1.9s

G30M IAMs_20 IAMs_20 07 23 09.8
comp=Z,2µm,18.0s
G30M tAoh Zraii Nji 92.88 351 P **P** **06 46 02.4 +1.0**
baz=158
ILAR Eielson Array 92.91 346 P **P** **06 46 02.3 +0.8**
comp=Z,1.1nm,1.0s,baz=169,slow=5.3,SNR=4.1
comp=Z,1.1nm,1.0s
WRH Wood River Hil 92.93 345 IAMs_20 IAMs_20 07 20 28.1
comp=Z,2µm,18.0s
F31M Tsiigehtchic 92.96 352 **P** **06 46 01.2 -0.5**
F31M IAMs_20 IAMs_20 07 22 24.9
comp=Z,2µm,18.0s
F31M Tsiigehtchic 92.96 352 P **P** **06 46 02.6 +1.0**
baz=160
BWN Browne 93.01 344 IAMs_20 IAMs_20 07 20 17.2
comp=Z,2µm,18.0s
CAST Castle Rocks 93.06 343 IAmb IAmb 06 46 28.6
comp=Z,46nm,1.8s
CAST IAMs_20 IAMs_20 07 20 06.7
comp=Z,2µm,19.0s
CAST Castle Rocks 93.06 343 P **P** **06 46 02.5 +0.2**
baz=144
H27K Steamboat Moun 93.08 348 P **P** **06 46 03.1 +0.7**
baz=153
G29M Pine Creek 93.09 350 IAMs_20 IAMs_20 07 21 17.5
comp=Z,2µm,19.0s
COLA College 93.21 345 IAMs_20 IAMs_20 07 20 38.7
comp=Z,2µm,18.0s
M16K Timber Creek 93.24 339 IAMs_20 IAMs_20 07 17 54.5
comp=Z,2µm,22.0s
M16K Timber Creek 93.24 339 P **P** **06 46 04.5 +1.3**
baz=138
PRP Porcupine Dome 93.25 347 P **P** **06 46 04.5 +1.3**
baz=149
NEA2 Nenana 93.26 345 IAMs_20 IAMs_20 07 20 28.0
comp=Z,2µm,18.0s
BPAW Bear Paw Mtn. 93.33 344 IAMs_20 IAMs_20 07 20 25.7
comp=Z,2µm,19.0s
BPAW Bear Paw Mtn. 93.33 344 P **P** **06 46 04.0 +0.5**
baz=145
MDM Murphy Dome 93.37 345 IAmb IAmb 06 46 06.3
comp=Z,20nm,1.2s
MDM IAMs_20 IAMs_20 07 20 42.9
comp=Z,2µm,18.0s
CHUM Lake Minchumin 93.50 343 P **P** **06 46 03.2 -1.0**
baz=144
G27K Doyon Strip 93.62 349 IAMs_20 IAMs_20 07 30 47.4
comp=Z,2µm,19.0s
ATKA Atka Island 93.67 327 IAMs_20 IAMs_20 07 18 26.4
comp=Z,3µm,19.0s
TTA Tatalina 93.77 341 P **P** **06 46 06.6 +0.9**
baz=140
I23K Minto, Yukon-K 93.79 345 P **P** **06 46 05.0 -0.6**
I23K IAMs_20 IAMs_20 07 20 55.0
comp=Z,2µm,18.0s
C36M Paulatuk 93.83 356 IAMs_20 IAMs_20 07 22 06.8
comp=Z,2µm,21.0s
L17K Donlin 93.86 340 P **P** **06 46 08.2 +2.2**
baz=138
MLY Manley 94.03 344 IAMs_20 IAMs_20 07 21 01.3
comp=Z,2µm,18.0s
F28M Old Crow 94.03 350 P **P** **06 46 08.4 +1.7**
baz=154
J20K Nowinta River 94.22 343 IAMs_20 IAMs_20 07 21 20.3
comp=Z,2µm,18.0s
J18K Innoko River 94.39 341 P **P** **06 46 07.9 -0.5**
J18K Innoko River 94.39 341 P **P** **06 46 10.1 +1.6**
baz=140
H23K Yukon River 94.40 345 IAMs_20 IAMs_20 07 21 25.0
comp=Z,2µm,18.0s
E29M Blow River 94.43 351 IAMs_20 IAMs_20 07 22 05.8
comp=Z,2µm,18.0s
E29M Blow River 94.43 351 P **P** **06 46 10.0 +1.6**
baz=156
G24K Hadweenzic Riv 94.67 346 IAMs_20 IAMs_20 07 32 06.3
comp=Z,2µm,19.0s
G24K Hadweenzic Riv 94.67 346 P **P** **06 46 11.5 +1.8**
baz=148
BMAR Burnt Mountain 94.72 348 P **P** **06 46 10.0 +0.1**
ADK Adak 94.75 326 IAMs_20 IAMs_20 07 18 31.0
comp=Z,3µm,22.0s
E27K Coleen River 94.84 349 IAMs_20 IAMs_20 07 22 07.6
comp=Z,2µm,18.0s
E27K Coleen River 94.84 349 P **P** **06 46 12.2 +1.8**
baz=153
F26K Sheenjek River 94.86 348 P **P** **06 46 13.3 +2.8**
baz=151
E28M Babbage River 94.88 350 P **P** **06 46 11.9 +1.3**
baz=155
K15K Wolf Creek Mou 95.01 339 IAMs_20 IAMs_20 07 18 39.3
comp=Z,2µm,22.0s
H21K Melozitna Rive 95.05 344 IAMs_20 IAMs_20 07 22 23.2
comp=Z,2µm,18.0s
F25K Christian Rive 95.06 348 P **P** **06 46 13.7 +2.2**
baz=149
F24K Squaw Lake 95.45 347 IAMs_20 IAMs_20 07 32 17.9
comp=Z,2µm,19.0s
E25K Arctic Village 95.50 348 IAMs_20 IAMs_20 07 29 07.2
comp=Z,2µm,18.0s
D27M Malcolm River 95.68 350 IAMs_20 IAMs_20 07 27 21.9
comp=Z,2µm,18.0s
D27M Malcolm River 95.68 350 P **P** **06 46 16.1 +1.8**
baz=153
K13K Kusilvak Mount 95.81 338 IAMs_20 IAMs_20 07 21 43.5
comp=Z,2µm,20.0s
H19K Roundabout Mou 95.89 343 IAmb IAmb 06 46 42.8
comp=Z,28nm,1.6s
H19K Roundabout Mou 95.89 343 P **P** **06 46 17.3 +2.1**
baz=140
G21K Allakaket 95.91 344 IAMs_20 IAMs_20 07 22 00.9
comp=Z,2µm,19.0s
E24K Your Creek 96.05 347 IAMs_20 IAMs_20 07 28 56.5
comp=Z,2µm,18.0s
E23K Chandalar 96.27 347 P **P** **06 46 19.1 +2.1**
baz=146
H17K Granite Mounta 96.42 341 IAMs_20 IAMs_20 07 19 51.6
comp=Z,2µm,22.0s
F21K Alatna River 96.46 345 IAmb IAmb 06 46 45.5
comp=Z,19nm,1.6s
F21K IAMs_20 IAMs_20 07 23 20.6
comp=Z,2µm,18.0s
F21K Alatna River 96.46 345 P **P** **06 46 20.0 +2.1**
baz=142
C27K Jago River 96.48 349 P **P** **06 46 20.4 +2.6**
baz=151
A36M Sachs Harbour 96.50 356 IAMs_20 IAMs_20 07 23 36.6
comp=Z,2µm,20.0s
A36M Sachs Harbour 96.50 356 P **P** **06 46 19.7 +1.8**
baz=168
G19K Purcell Mounta 96.53 343 P **P** **06 46 20.4 +2.3**
baz=139
D25K Kavik River 96.69 348 IAMs_20 IAMs_20 07 26 14.5
comp=Z,2µm,19.0s
TOLK Toolik Lake Re 96.74 347 IAMs_20 IAMs_20 07 29 59.0
comp=Z,2µm,18.0s
E22K Anaktuvuk Pass 96.81 346 IAMs_20 IAMs_20 07 33 20.7
comp=Z,2µm,20.0s
F20K Avaraart Lake 96.88 344 IAMs_20 IAMs_20 07 22 31.5
comp=Z,2µm,18.0s
D23K Nanushuk River 97.24 347 P Pdif 06 46 24.2 +2.9
baz=145
E21K Killik River 97.54 345 IAMs_20 IAMs_20 07 23 17.1
comp=Z,2µm,18.0s
E19K Redstone River 97.57 344 IAMs_20 IAMs_20 07 23 01.8
comp=Z,2µm,18.0s
D22K Ayikyak River 97.60 346 IAMs_20 IAMs_20 07 23 41.6
comp=Z,2µm,20.0s
ANM Nome 97.83 339 IAMs_20 IAMs_20 07 20 52.0
comp=Z,2µm,22.0s
C23K Itkillik River 97.94 347 IAMs_20 IAMs_20 07 36 20.6
comp=Z,1µm,18.0s
C23K Itkillik River 97.94 347 P Pdif 06 46 25.3 +0.9
baz=145
D19K Kuna River 98.57 344 IAMs_20 IAMs_20 07 23 46.2
comp=Z,2µm,19.0s
B21K Ikpikpuk River 98.61 346 IAMs_20 IAMs_20 07 24 14.3
comp=Z,2µm,19.0s
C19K Lookout Ridge 99.38 344 IAMs_20 IAMs_20 07 24 24.7
comp=Z,2µm,19.0s
C18K Utukok River 99.46 344 IAMs_20 IAMs_20 07 35 45.8
comp=Z,2µm,19.0s
B20K Meade River 99.48 346 IAMs_20 IAMs_20 07 24 42.3
comp=Z,2µm,19.0s
C16K Lisburne Hills 100.31 342 IAMs_20 IAMs_20 07 22 39.4
comp=Z,2µm,22.0s
ASAR Alice Springs 100.55 238 PKKP **PKKPdf** **07 02 54.3 -2.2**
comp=Z,0.5nm,0.8s,baz=318,slow=2.5,SNR=4.5
SFJD Kangerlussuaq 101.69 21 IAMs_20 IAMs_20 07 29 32.5
comp=Z,3µm,21.0s
WRA Warramunga Arr 102.17 242 PKKP **PKKPdf** **07 02 52.9 -0.7**
comp=Z,0.4nm,0.8s,baz=316,slow=2.3,SNR=4.5
PMOZ Porto Moniz, M 106.27 61 *e*PP **PP** **06 51 31.3 +4.1**
PMOZ Porto Moniz, M 106.27 61 *e*SS SS 07 06 26.5 -3.4
PMOZ Porto Moniz, M 106.27 61 *e*LQ LQ 07 16 44.4
PMOZ *e*LR LR 07 26 22.8
comp=Z,1µm,20.0s
PMAR Madeira 106.46 61 *e*PP **PP** **06 51 25.0 -3.7**
PMAR *e*Sdif Sdif 06 59 23.6 +20
PMAR *e*SS **SS** **07 06 28.9 -3.8**
H01W1 Cape Leeuwin H 106.85 218 T T 08 46 23.3
baz=134,slow=76,SNR=4.7
H01W2 Cape Leeuwin H 106.86 218 T T 08 46 23.8
baz=134,slow=76,SNR=4.0
H01W3 Cape Leeuwin H 106.87 218 T T 08 46 24.9
baz=134,slow=76,SNR=5.1
PMPST Porto Santo, M 107.04 61 *e*PP **PP** **06 51 38.0 +5.3**
PMPST Porto Santo, M 107.04 61 *e*SS SS 07 06 38.8 -1.3
PET Petropavlovsk 108.88 320 IAMs_20 IAMs_20 07 26 03.1
comp=Z,3µm,22.0s
FAKI Fak Fak 112.37 256 IAMs_20 IAMs_20 07 39 06.4
comp=Z,2µm,18.0s
PFVI Vila Bisbo 114.05 59 *e*PP **PP** **06 52 29.9 +6.7**
PFVI Vila Bisbo 114.05 59 *e*PKKP 07 02 20.6
PFVI *e*SS SS 07 08 09.3 -4.6
PMAFR Mafra 114.10 57 *e*PP **PP** **06 52 20.7 -2.8**
PMAFR *e*Sdif Sdif 07 00 10.9 +4.1
PMAFR Mafra 114.10 57 *e*PKKP 07 02 10.7
PMAFR *e*SS SS 07 08 14.9 +0.4
MORF Marmelete 114.23 58 *e*PP PP 06 52 42.1 +18
MORF Marmelete 114.23 58 *e*PKKP 07 02 23.5
AVE Averroes 114.28 63 IAMs_20 IAMs_20 07 34 37.0
comp=Z,2µm,20.0s
MA2 Magadan 114.45 326 IAMs_20 IAMs_20 07 30 27.9
comp=Z,2µm,21.0s
PNCL Nicolau / Gran 114.50 58 *e*PP PP 06 52 43.0 +17
PNCL *e*Sdif Sdif 07 00 18.0 +7.9
PNCL Nicolau / Gran 114.50 58 *e*PKKP 07 01 52.5
PNCL *e*SS SS 07 08 13.1 -6.6
PSBE So Bento 114.59 56 *e*PP PP 06 52 37.0 +10
PSBE *e*Sdif Sdif 07 00 23.2 +12
PSBE So Bento 114.59 56 *e*PKKP 07 02 15.7
PSBE *e*SS SS 07 08 26.7 +5.8
PBDV Barranco-do-Ve 114.78 59 *e*PP PP 06 52 41.9 +14
PBDV *e*Sdif Sdif 07 00 22.2 +10
PBDV Barranco-do-Ve 114.78 59 *e*PKKP 07 02 21.1
PBDV *e*SS SS 07 08 11.8 -12
PCVE Castro Verde 114.78 58 *e*PP PP 06 52 39.5 +11
PCVE Castro Verde 114.78 58 *e*PKKP 07 02 22.7
PCAS Casmilo, Conde 114.92 56 *e*PP **PP** **06 52 32.9 +3.6**
PCAS *e*Sdif Sdif 07 00 22.6 +9.0
PCAS Casmilo, Conde 114.92 56 *e*PKKP 07 02 17.5
PCAS *e*SS SS 07 08 33.6 +8.3
PMTG Montargil 114.93 57 *e*PP **PP** **06 52 33.6 +4.2**
PMTG *e*Sdif Sdif 07 00 22.1 +8.4
PMTG Montargil 114.93 57 *e*PKKP 07 02 23.0
PMTG *e*SS SS 07 08 21.2 -4.2
PVAQ Vaqueiros 114.98 59 *e*PP PP 06 52 41.1 +11
PVAQ *e*Sdif Sdif 07 00 24.5 +10
PVAQ Vaqueiros 114.98 59 *e*PKKP 07 02 22.1
PVAQ *e*SS SS 07 08 11.5 -15
PVAQ Vaqueiros 114.98 59 *e*LQ LQ 07 19 40.1
PVAQ *e*LR LR 07 27 46.3
comp=Z,1µm,18.0s
COI Coimbra 115.02 55 *e*PKKP 07 02 16.4
COI *e*SS SS 07 08 35.0 +8.6
COI Coimbra 115.02 55 IAMs_20 IAMs_20 07 40 57.8
comp=Z,2µm,19.0s
PESTR Estremoz 115.38 57 *e*PP PP 06 52 53.5 +21
PESTR *e*Sdif Sdif 07 00 25.9 +8.4
PESTR Estremoz 115.38 57 *e*PKKP 07 02 17.6
PESTR *e*SS SS 07 08 36.9 +5.6
PGAV Gavieira, Arco 115.46 53 *e*PP **PP** **06 52 30.2 -2.9**
PGAV Gavieira, Arco 115.46 53 *e*PKKP 07 02 34.0
PGAV *e*SS SS 07 08 43.6 +11
PGAV Gavieira, Arco 115.46 53 *e*LQ LQ 07 20 05.2
PGAV *e*LR LR 07 29 55.3
comp=Z,847nm,20.0s
PMRV Many?2o 115.64 56 *e*LR LR 07 28 22.1
comp=Z,1µm,20.0s
PBAR Barrancos 115.66 58 *e*PP PP 06 52 43.6 +9.1
PBAR *e*Sdif Sdif 07 00 33.4 +14
PBAR Barrancos 115.66 58 *e*PKKP 07 02 25.2
PBAR *e*SS SS 07 08 25.9 -9.1
MTE Manteigas 115.71 55 *e*PP PP 06 52 44.3 +9.4
MTE *e*Sdif Sdif 07 00 30.3 +10
MTE *e*SS **SS** **07 08 41.0 +5.3**
MTE Manteigas 115.71 55 *e*LQ LQ 07 19 55.3
MTE *e*LR LR 07 23 51.8
comp=Z,1µm,20.0s
SOEI Soe 115.81 245 IAMs_20 IAMs_20 07 37 54.9
comp=Z,2µm,19.0s
MVO Moncorvo 116.23 55 *e*PP **PP** **06 52 44.8 +6.2**
MVO *e*Sdif Sdif 07 00 32.0 +7.3
MVO Moncorvo 116.23 55 *e*PKKP 07 02 27.5
MVO *e*SS SS 07 08 52.1 +10
MVO Moncorvo 116.23 55 *e*LQ LQ 07 20 05.8
MVO *e*LR LR 07 24 10.6
comp=Z,1µm,18.0s
TORD Torodi Ar. Bea 116.38 87 PKP **PKiKP** **06 51 35.0 +1.4**
comp=Z,1.1nm,0.9s,baz=260,slow=8.5,SNR=2.7
PBRG Braganca 116.56 54 *e*PP PP 06 52 54.0 +13
PBRG Braganca 116.56 54 *e*PKKP 07 02 36.5
YSS Yuzh-Sakhalins 117.81 312 *e*PKIKP **PKPdf** **06 51 34.4 -1.0**
YSS *e* 06 52 55.8
YSS *e*PPS PPS 07 02 38.9
YSS *e* 07 09 17.6
PAB San Pablo 117.98 57 IAMs_20 IAMs_20 07 37 19.1
comp=Z,2µm,20.0s
MAJO Matsushiro 119.74 299 IAMs_20 IAMs_20 07 36 07.0
comp=Z,2µm,20.0s
LUWI Luwuk 121.58 253 IAMs_20 IAMs_20 07 39 44.2
comp=Z,1µm,22.0s
TIXI Tiksi 122.05 341 IAMs_20 IAMs_20 07 43 56.0
comp=Z,1µm,20.0s
CLF Chambon-Foret 123.47 47 IAMs_20 IAMs_20 07 48 54.5
comp=Z,1µm,18.0s
YAK Yakutsk 124.58 330 IAMs_20 IAMs_20 07 36 06.5
comp=Z,2µm,22.0s
JAGI Jajag, Banyuwa 124.72 240 IAMs_20 IAMs_20 07 41 32.6
comp=Z,2µm,21.0s
SSB Saint Sauveur 125.03 51 IAMs_20 IAMs_20 07 46 44.2
comp=Z,1µm,20.0s
USRK Ussuriysk Ar. 125.18 308 PKP **PKPdf** **06 51 48.8 -0.8**
comp=Z,1.4nm,0.7s,baz=90,slow=1.4,SNR=3.2
KLR Kul'dur 125.26 314 PKP **PKiKP** **06 51 50.6 +0.6**
comp=Z,1.7nm,0.8s,baz=9.7,slow=1.2,SNR=5.3
KONO Kongsberg 126.36 33 IAMs_20 IAMs_20 07 43 46.5
comp=Z,2µm,22.0s
BKB Balikpapan 126.53 249 IAMs_20 IAMs_20 07 41 52.3
comp=Z,2µm,21.0s
BNI Bardonecchia 126.54 51 IAMs_20 IAMs_20 07 47 48.3
comp=Z,2µm,20.0s
ECH Echery 126.74 47 IAMs_20 IAMs_20 07 48 57.1
comp=Z,2µm,18.0s
MDJ Mudanjiang 126.89 308 PKP **PKPdf** **06 51 48.5 -4.4**
MDJ PP **PP** **06 53 50.3 -0.6**
MDJ SKS **SKSac** **06 59 00.4 +1.4**
MDJ AMB AMB
comp=Z,170nm,6.2s
MDJ LR LR
comp=Z,2µm,21.0s
MDJ LR LR
comp=Z,3µm,20.6s
MDJ LR LR
comp=Z,5µm,20.6s
STU Stuttgart 128.04 46 IAMs_20 IAMs_20 07 44 47.4
comp=Z,1µm,20.0s
BNX BinXian 128.40 310 ⇑PKP **PKiKP** **06 51 56.2 -0.2**
BNX sPKP 06 52 01.5
BNX PP **PP** **06 54 02.4 +1.6**
BNX SKS **SKSdf** **06 59 06.2 -1.3**
BNX AMB AMB
comp=Z,190nm,4.8s
BNX LR LR
comp=Z,860nm,21.1s
BNX LR LR
comp=Z,2µm,20.6s
BNX LR LR
comp=Z,4µm,21.7s
KEV Kevo 128.47 17 IAMs_20 IAMs_20 07 44 41.9
comp=Z,2µm,21.0s
FUORN Ofenpass-Fuorn 128.96 49 IAMs_20 IAMs_20 07 47 55.1
comp=Z,2µm,21.0s
GRFO Grafenberg 129.25 45 IAMs_20 IAMs_20 07 50 03.2
comp=Z,1µm,19.0s
GRA1 Grafenberg Arr 129.25 45 IAMs_20 IAMs_20 07 50 02.2
comp=Z,1µm,20.0s
RGN Rugen 129.59 38 IAMs_20 IAMs_20 07 52 42.4
comp=Z,1µm,18.0s
CN2 Changchun 129.91 308 *e*PKP **PKPdf** **06 51 53.6 -5.1**
CN2 PP **PP** **06 54 08.1 -2.6**
CN2 SS SS 07 11 39.2 +3.6
CN2 AMB AMB
comp=Z,300nm,8.0s
CN2 LR LR
comp=Z,1µm,19.0s
CN2 LR LR
comp=Z,2µm,19.0s
CN2 LR LR
comp=Z,1µm,19.6s
CLL Collm 130.10 42 *e*PKIKP **PKiKP** **06 52 00.0 +0.4**
CLL *e* 06 59 08.0
CLL MLR MLR
comp=Z,1µm,20.3s
BRG Berggiesshubel 130.77 43 P PKiKP 06 52 09.4 +8.4
BRG Amp 06 52 11.1
comp=Z,4.7nm,0.8s
BRG Berggiesshubel 130.77 43 SS SS 07 11 45.0 -0.6
SNY Shenyang 131.39 305 SS SS 07 12 01.0 +7.1
SNY AMB AMB
comp=Z,190nm,8.1s
SNY LR LR
comp=N,830nm,17.8s
SNY LR LR
comp=E,490nm,19.2s
SNY LR LR
comp=Z,1µm,18.2s
APA Apatity 131.68 17 ⇓*i*PKHKP PKPpre 06 51 51.5
APA *i* 06 54 25.0
APA pmax pmax
comp=Z,4.0nm,0.8s
DL2 Dalian 133.00 301 *e*PKP **PKPdf** **06 52 04.3 -0.4**
DL2 *e*PP **PP** **06 54 30.9 0.0**
DL2 AMB AMB
comp=Z,420nm,6.8s
DL2 LR LR
comp=Z,2µm,21.6s
DL2 LR LR
comp=Z,4µm,21.2s
DL2 LR LR
comp=Z,6µm,21.5s
FINES FINESS Array B 133.10 26 PKP **PKPdf** **06 52 04.6 +0.4**
comp=Z,1.2nm,0.9s,baz=298,slow=12,SNR=1.3
SSE Sheshan 133.12 291 PKP **PKiKP** **06 52 06.6 +0.3**
SSE PP **PP** **06 54 37.9 +6.0**
SSE SS SS 07 12 19.3 +3.6
SSE AMB AMB
comp=Z,280nm,8.4s
SSE LR LR
comp=Z,340nm,22.8s
SSE LR LR
comp=Z,620nm,22.6s
QZH Quanzhou 134.56 282 *e*PKP **PKiKP** **06 52 10.7 +1.2**
QZH *e*PP **PP** **06 54 45.2 +3.9**
QZH PKS **PKSdf** **06 55 45.7 +1.2**
QZH *e*SS SS 07 12 28.7 -4.7
QZH LR LR
comp=Z,2µm,20.6s
QZH LR LR
comp=Z,3µm,22.3s
QZH LR LR
comp=Z,4µm,22.3s
KNMB Chin-men Tao 134.66 281 IAMs_20 IAMs_20 07 39 53.1
comp=Z,2µm,22.0s
PABE Paberze 135.03 34 IAMs_20 IAMs_20 07 52 14.9
comp=Z,1µm,18.0s
NJ2 Nanjing 135.18 292 *e*PKP **PKPdf** **06 52 07.7 -1.3**
NJ2 LR LR
comp=Z,2µm,21.6s
NJ2 LR LR
comp=Z,1µm,20.0s
NJ2 LR LR
comp=Z,2µm,20.1s
PSZ Piszkesteto 135.21 46 IAMs_20 IAMs_20 07 53 57.1
comp=Z,1µm,19.0s
PMBI Palembang 135.45 238 IAMs_20 IAMs_20 07 46 54.8
comp=Z,1µm,20.0s
XLT XiLinHaoTe 136.62 309 *e*PKP **PKPdf** **06 52 05.1 -6.4**
XLT PP **PP** **06 54 50.8 -2.9**
XLT SS SS 07 12 58.7 +1.7
XLT LR LR
comp=Z,1µm,19.1s
XLT LR LR
comp=Z,1µm,19.2s
BJT Baijiatuau 137.14 303 IAMs_20 IAMs_20 07 41 28.0
comp=Z,2µm,22.0s
HNS HongShan 138.53 300 *e*PKP **PKiKP** **06 52 18.5 +1.3**
HNS PP **PP** **06 55 09.1 +3.3**
HNS PKS **PKSdf** **06 55 51.7 +0.6**
HNS SS SS 07 13 21.9 +1.9
HNS LR LR
comp=Z,460nm,21.6s
HNS LR LR
comp=Z,3µm,20.1s
HNS LR LR
comp=Z,3µm,20.1s
MYKOM Kota Tinggi 139.06 242 IAMs_20 IAMs_20 07 59 39.8
comp=Z,880nm,19.0s
KIEV Kiev 139.98 39 IAMs_20 IAMs_20 07 53 00.5
comp=Z,2µm,21.0s
AKASG Malin Array Be 139.99 39 PKP **PKPdf** **06 52 17.2 0.0**
comp=Z,2.9nm,0.7s,baz=285,slow=2.8,SNR=2.5
BKNI Bangkinang 140.39 238 IAMs_20 IAMs_20 07 44 21.3
comp=Z,930nm,20.0s
HHC Hu-ho-hao-te 140.48 305 *e*PKP **PKPdf** **06 52 14.3 -4.4**
HHC SKKS 07 02 06.3
HHC SS **SS** **07 13 38.2 -4.7**
HHC LR LR
comp=Z,810nm,19.9s
HHC LR LR
comp=Z,2µm,20.2s
HHC LR LR
comp=Z,3µm,19.1s
LYN LuoYang 140.54 295 *e*PKP **PKPdf** **06 52 18.8 0.0**
LYN SS SS 07 13 38.8 -5.0
LYN AMB AMB
comp=Z,610nm,6.7s
LYN LR LR
comp=Z,1µm,20.4s
LYN LR LR
comp=Z,3µm,20.2s
LYN LR LR
comp=Z,4µm,20.8s
IRK Irkutsk 141.02 325 *e*PKIKP **PKiKP** **06 52 26.1 +4.3**
IRK pmax pmax
comp=Z,58nm,2.2s
QIZ Qiongzhong 141.21 270 PKP **PKPdf** **06 52 18.0 -2.5**
QIZ PP **PP** **06 55 22.7 0.0**
QIZ SS SS 07 13 49.9 -2.5
QIZ AMB AMB
comp=Z,210nm,8.5s
QIZ LR LR
comp=Z,600nm,20.3s
QIZ LR LR
comp=Z,1µm,20.2s
QIZ LR LR
comp=Z,2µm,25.0s
OBN Obninsk 141.31 29 ⇑*e*PKIKP **PKPdf** **06 52 17.5 -2.0**
OBN *i* 06 52 21.8
OBN *e* 06 52 24.9
OBN *i* 06 55 29.2
OBN *e*PPP PPP 06 58 26.8
OBN *i* SS SS 07 13 54.5 +3.8
OBN *i* SSS SSS 07 19 05.9
OBN pmax pmax
comp=Z,11nm,0.4s
OBN pmax pmax
comp=Z,24nm,1.1s
OBN MLR MLR
comp=Z,1µm,17.0s
ULN Ulaanbaatar 141.47 318 **PKPdf** **06 52 19.5 -0.8**
ULN Ulaanbaatar 141.47 318 PKIKP **PKPdf** **06 52 19.5 -0.8**
BTO Baotou 141.68 305 *e*PKP **PKPdf** **06 52 18.5 -2.3**
BTO sPKP 06 52 28.7
BTO SKKS 07 02 14.0
BTO LR LR
comp=Z,1µm,17.7s
BTO LR LR

comp=Z,3µm,18.0s
BTO LR LR
comp=Z,3µm,19.2s
SONM Songino Array 141.89 318 PKhKP PKPpre 06 52 18.5
comp=Z,2.7nm,0.9s,baz=78,slow=1.9,SNR=4.1
LODK Lodwar 141.99 118 PKPdf 06 52 21.2 -1.0
KARP Karpathos 142.81 63 IAMs_20 IAMs_20 08 03 27.1
comp=Z,2µm,20.0s
IPM Ipoh 142.91 243 IAMs_20 IAMs_20 07 51 19.8
comp=Z,2µm,21.0s
XAN Xi'an 143.50 295 PKP **PKPdf 06 52 23.1 -1.1**
XAN SKKS 07 02 30.6
XAN LR LR
comp=Z,2µm,20.9s
XAN LR LR
comp=Z,3µm,21.6s
XAN LR LR
comp=Z,4µm,22.5s
KULM Kulim 143.67 244 IAMs_20 IAMs_20 07 52 13.3
comp=Z,1µm,19.0s
ISP Isparta 145.13 58 IAMs_20 IAMs_20 08 05 41.7
comp=Z,2µm,19.0s
GYA Guiyang 145.43 282 ⇓PKPbc **PKPab 06 52 28.8 +0.8**
GYA PP **PP 06 55 49.9 +1.7**
GYA AMB AMB
comp=Z,310nm,11.6s
GYA LR LR
comp=Z,860nm,16.9s
GYA LR LR
comp=Z,1µm,18.1s
GYA LR LR
comp=Z,2µm,18.0s
ANTO Ankara 146.35 54 IAMs_20 IAMs_20 08 06 13.9
comp=Z,1µm,19.0s
BRTR Keskin Array B 147.02 54 PKPbc **PKPab 06 52 33.1 -0.6**
comp=Z,8.7nm,0.9s,baz=271,slow=2.0,SNR=3.3
ARU Arti 147.13 10 PKPdf 06 52 30.4 +0.8
ARU Arti 147.13 10 *i* PKP2 **PKPdf 06 52 30.5 +0.8**
LZH Lanzhou 147.35 299 *e*PKPbc **PKPab 06 52 34.9 -0.3**
LZH SKKS 07 02 53.6
LZH SS **SS 07 15 03.3 +0.9**
LZH LR LR
comp=Z,1µm,19.6s
LZH LR LR
comp=Z,2µm,19.0s
LZH LR LR
comp=Z,5µm,19.9s
CSS Mathiatis 147.89 63 IAMs_20 IAMs_20 08 05 25.6
comp=Z,1µm,20.0s
ZALV Zalesovo Beam 147.94 342 PKPdf 06 52 30.9 -0.1
ZALV Zalesovo Beam 147.94 342 PKPbc **PKPdf 06 52 32.1 +1.1**
comp=Z,9.3nm,0.7s,baz=27,slow=2.0,SNR=8.3
ZALV Zalesovo Beam 147.94 342 PKIKP **PKPdf 06 52 31.0 -0.1**
CD2 Chengdu 148.06 290 PKPbc **PKPdf 06 52 33.2 +1.1**
CD2 pPKP sPKPbc 06 52 38.3 -0.2
CD2 SKS **SKSdf 06 59 38.5 -2.4**
CD2 SS **SS 07 15 10.2 -0.4**
CD2 AMB AMB
comp=Z,400nm,8.6s
CD2 LR LR
comp=Z,2µm,21.2s
CD2 LR LR
comp=Z,2µm,22.9s
CD2 LR LR
comp=Z,3µm,22.9s
KMI Kunming 148.82 279 ⇑PKPbc **PKPbc 06 52 36.4 -1.2**
KMI SKKS 07 03 01.6
KMI LR LR
comp=Z,850nm,20.9s
KMI LR LR
comp=Z,1µm,19.9s
KMI LR LR
comp=Z,2µm,19.7s
GTA Gaotai 149.54 307 *e*PKPbc **PKiKP 06 52 40.6 +0.7**
GTA pPKP pPKPab 06 52 45.2 -1.0
PZH PanZhiHua 149.83 281 PKPbc **PKPdf 06 52 31.6 -3.6**
PZH PKPab **PKPab 06 52 45.7 +0.3**
PZH PP **PP 06 56 13.8 -0.3**
PZH AMB AMB
comp=Z,330nm,6.5s
PZH LR LR
comp=Z,1µm,19.2s
PZH LR LR
comp=Z,940nm,18.4s
PZH LR LR
comp=Z,2µm,26.3s
MMAI Mount Meron Ar 149.89 66 PKPbc **PKPbc 06 52 40.0 +0.2**
comp=Z,0.9nm,0.3s,baz=202,slow=3.1,SNR=1.1
ARPR Arapgir-MALATY 150.66 53 PKPdf 06 52 35.7 -0.4
ARPR IAMs_20 IAMs_20 08 05 19.7
comp=Z,1µm,21.0s
CM31 Chiang Mai Arr 150.99 264 PKPdf 06 52 36.3 -0.8
CMAR Chiang Mai Arr 150.99 264 PKPbc **PKPbc 06 52 42.4 -0.4**
comp=Z,7.1nm,0.8s,baz=102,slow=1.1,SNR=3.0
CHTO Chiang Mai 151.09 265 IAMs_20 IAMs_20 07 50 44.4
comp=Z,1µm,22.0s
KIV Kislovodsk 151.28 41 *e*PKIKP **PKPab 06 52 47.8 -3.0**
KIV pmax pmax
comp=Z,20nm,1.1s
BVAR Borovoye Array 151.29 357 PKPbc **PKPbc 06 52 41.0 -1.4**
comp=Z,11nm,1.1s,baz=56,slow=0.5,SNR=2.1
KBZ Khabaz 151.53 41 PKPbc **PKiKP 06 52 44.5 +0.9**
comp=Z,18nm,0.9s,baz=303,slow=9.4,SNR=7.0
KURK Kurchatov 152.47 346 PKPdf 06 52 38.4 +0.2
KURK Kurchatov 152.47 346 PKIKP **PKPdf 06 52 38.4 +0.2**
KURBB Kurchatov Arra 152.58 346 PKPbc **PKiKP 06 52 45.6 -0.1**
comp=Z,6.6nm,0.8s,baz=26,slow=2.0,SNR=6.7
TNCH TengChong 152.62 278 PKPbc **PKPdf 06 52 38.7 -0.8**
TNCH pPKP sPKPdf 06 52 44.5 +1.7
TNCH PKPab **PKPab 06 52 54.9 -2.3**
TNCH AMB AMB
comp=Z,250nm,5.3s
TNCH LR LR
comp=Z,570nm,16.8s
TNCH LR LR
comp=Z,730nm,19.3s
TNCH LR LR
comp=Z,2µm,20.0s
ABKAR Akbulak array 154.24 13 PKPdf 06 52 39.9 -1.0
GOMU GeErMu 154.36 304 PP **PKPab 06 53 00.0 -4.4**
GNI Garni 154.63 46 IAMs_20 IAMs_20 08 13 24.0
comp=Z,1µm,21.0s
WMQ Urumqi 154.92 326 *e*PKPbc **PKPdf 06 52 37.5 -4.6**
WMQ SS SS 07 16 20.3 -4.0
WMQ LR LR
comp=Z,1µm,22.5s
WMQ LR LR
comp=Z,2µm,20.5s
WMQ LR LR
comp=Z,3µm,23.8s
MK31 Makanchi Array 154.95 337 PKPdf **PKPdf 06 52 42.1 +0.1**
MK31 Makanchi Array 154.95 337 PKIKP **PKPdf 06 52 42.1 +0.1**
MKAR Makanchi Array 154.95 337 PKPdf 06 52 41.9 -0.1
MKAR Makanchi Array 154.95 337 PKPbc **PKPbc 06 52 49.8 -0.9**
comp=Z,3.1nm,0.8s,baz=43,slow=2.8,SNR=6.3
MKAR Makanchi Array 154.95 337 PKIKP **PKPdf 06 52 41.9 -0.1**

IDC ***02*** *06:41:21.5±9.2, 17°.35S×73°.80W, h103*$_{km}$*±57*$_{km}$*,* **mb3.3***/3,*
mbtmp3.8/4, Error ellipse: s-maj=134.7km
s-min=33.5km az=18.0, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.53**	**80**	P	Pn	06 42 41.8	-0.2
	56nm,0.8s,baz=266,slow=10,SNR=150						
LPAZ				S	Sn	06 43 45.4	+0.8
	3.2nm,0.5s,baz=228,slow=25,SNR=0.6						
H03N1	**Juan Fernandez**	**16.67**	**195**	T	T	07 03 47.6	
	baz=17,slow=74,SNR=1364						
H03N2	**Juan Fernandez**	**16.67**	**195**	T	T	07 03 48.6	
	baz=17,slow=74,SNR=748						
H03N3	**Juan Fernandez**	**16.68**	**195**	T	T	07 03 47.0	
	baz=17,slow=74,SNR=910						
TXAR	**Lajitas Array**	**54.64**	**328**	P	P	06 50 40.4	+0.5
	0.2nm,0.9s,baz=139,slow=7.3,SNR=1.8						
	0.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**80.44**	**73**	P	P	06 53 22.7	+0.2
	2.1nm,0.7s,baz=262,slow=5.2,SNR=10						
	2.1nm,0.7s						
YKA	**Yellowknife Ar**	**85.81**	**342**	P	P	06 53 48.2	-0.8
	0.3nm,0.9s,baz=133,slow=4.8,SNR=3.1						
	0.3nm,0.9s						
H11N3	**WAKE ISLAND Hy**	**122.67**	**283**	T	T	09 14 08.4	
	baz=95						
H11S2	**WAKE ISLAND Hy**	**122.67**	**281**	T	T	09 14 11.0	
	baz=98,slow=75,SNR=12						
H11N2	**WAKE ISLAND Hy**	**122.67**	**283**	T	T	09 14 08.5	
	baz=95						
H11S1	**WAKE ISLAND Hy**	**122.67**	**281**	T	T	09 14 11.2	
	baz=98,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**122.68**	**283**	T	T	09 14 10.1	
	baz=95						
H11S3	**WAKE ISLAND Hy**	**122.68**	**281**	T	T	09 14 09.1	
	baz=98,slow=75,SNR=15						

IDC ***02*** *06:46:54.0±0.6, 24°.19S×112°.10W, h0*$_{km}$*, mb4.0/10,*
mbtmp4.0/10, MS4.8/4, Error ellipse: s-maj=29.8km
s-min=19.0km az=84.0
NEIC ***02*** *06:46:59.7±1.9, 23°.7S±0°.1×111°.4W±0°.2, h10*$_{km}$*±1*$_{km}$*,*
mb4.8/62, Error ellipse: s-maj=29.6km s-min=15.6km
az=245.0
ISC 02 06:46:55.6±0.6, 24°.26S±0°.09×111°.9W±0°.1, h10$_{km}$**, n89,**
σ1°.30/59, mb4.8/39, MS4.7/5, 1C, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA02	**Isla de Pascua**	**3.63**	**143**	Pn	**Pb**	**06 47 58.2**	**-1.6**
VA02					**Sb**	**06 48 46.0**	**+1.9**
RPN	**Rapa Nui**	**3.66**	**142**	Pn	Pn	06 47 45.9	-6.4
	18nm,0.3s,baz=324,slow=14,SNR=8.3						
RPN				Sn	**Sb**	**06 48 40.9**	**-4.0**
	9.1nm,0.3s,baz=313,slow=18,SNR=4.7						
H03N2	**Juan Fernandez**	**30.17**	**115**	T	T	07 24 57.8	
	baz=283,slow=75,SNR=25						
H03N3	**Juan Fernandez**	**30.18**	**115**	T	T	07 24 59.3	
	baz=283,slow=75,SNR=25						
H03N1	**Juan Fernandez**	**30.18**	**115**	T	T	07 24 58.3	
	baz=283,slow=75,SNR=31						
ATAH	**Atahualpa**	**36.30**	**68**	LR	LR	07 05 50.9	
	comp=Z,1µm,18.0s,baz=85,slow=31						
BO02	**Sierra Bellavi**	**37.04**	**116**	P	**P**	**06 54 09.0**	**+3.2**
LMEL	**Las Melosas**	**37.45**	**114**	P	**P**	**06 54 09.1**	**-0.4**
LMEL				IAmb	IAmb	06 54 24.5	
	comp=Z,21nm,1.4s						
LPAZ	**La Paz**	**41.66**	**87**	P	**P**	**06 54 44.0**	**-1.2**
LPAZ	**La Paz**	**41.66**	**87**	P	**P**	**06 54 45.0**	**-0.2**
	comp=Z,3.3nm,1.0s,baz=266,slow=6.8,SNR=7.2						
	comp=Z,3.3nm,1.0s						
ROSC	**El Rosal**	**46.62**	**57**	LR	LR	07 11 17.7	
	comp=Z,2µm,19.2s,baz=180,slow=31						
LPIG	**La Paz**	**48.10**	**2**	LR	LR	07 10 54.0	
	comp=Z,702nm,19.4s,baz=76,slow=30						
SAML	**Samuel**	**48.82**	**80**	P	**P**	**06 55 40.5**	**-0.9**
ITQB	**Itaqui**	**49.16**	**109**	P	**P**	**06 55 44.4**	**+0.6**
PMSA	**Palmer Station**	**50.82**	**156**	LR	LR	07 14 01.1	
	comp=Z,662nm,18.4s,baz=40,slow=32						
AQDB	**Aquidauana**	**51.80**	**98**	P	**P**	**06 56 05.2**	**+1.3**
AQDB				IAmb	IAmb	06 56 35.3	
	comp=Z,24nm,1.6s						
TXAR	**Lajitas Array**	**53.86**	**9**	P	**P**	**06 56 18.9**	**-0.2**
	comp=Z,1.3nm,1.2s,baz=192,slow=8.3,SNR=4.3						
	comp=Z,1.3nm,1.2s						
JCT	**Junction City**	**55.64**	**13**	P	**P**	**06 56 29.9**	**-1.9**
JCT				IAmb	IAmb	06 56 50.4	
	comp=Z,11nm,0.9s						
BRDY	**Brady**	**56.59**	**13**	P	**P**	**06 56 37.2**	**-1.3**
POST	**Post**	**57.85**	**10**	P	**P**	**06 56 47.0**	**-0.5**
POST				IAmb	IAmb	06 57 04.5	
	comp=Z,16nm,1.3s						
PLPT	**Palo Pinto**	**58.21**	**13**	P	**P**	**06 56 49.8**	**-0.1**
PLPT				IAmb	IAmb	06 57 09.1	
	comp=Z,13nm,1.1s						
APMT	**Aspermont**	**58.35**	**12**	P	**P**	**06 56 50.6**	**-0.3**
APMT				IAmb	IAmb	06 57 08.5	
	comp=Z,16nm,1.1s						
X18A	**Snowflake**	**58.49**	**2**	P	**P**	**06 56 52.4**	**+0.3**
GSC	**Goldstone, Bar**	**59.42**	**355**	P	**P**	**06 56 58.6**	**+0.2**
GSC				IAmb	IAmb	06 57 25.2	
	comp=Z,8.6nm,1.2s						
QSM	**Queen of Sheba**	**60.08**	**355**	P	**P**	**06 57 03.0**	**+0.1**
QSM				IAmb	IAmb	06 57 12.1	
	comp=Z,8.1nm,1.1s						
BDFB	**Brasilia**	**60.21**	**95**	P	**P**	**06 57 07.5**	**+3.1**
	comp=Z,4.4nm,1.0s,baz=256,slow=8.2,SNR=4.6						
	comp=Z,4.4nm,1.0s						
GWY	**Greenwater Val**	**60.29**	**356**		**P**	**06 57 04.9**	**+0.4**
U15A	**North Rim**	**60.36**	**360**	IAmb	IAmb	06 57 15.1	
	comp=Z,11nm,1.4s						
SHPR	**Sheep Range**	**60.51**	**357**		**P**	**06 57 06.7**	**+0.6**
SHPR				IAmb	IAmb	06 57 17.2	
	comp=Z,20nm,1.9s						
WCT	**Wildcat Mounta**	**60.89**	**356**	P	**P**	**06 57 09.8**	**+1.4**
WCT				IAmb	IAmb	06 57 18.9	
	comp=Z,12nm,1.3s						
KNB	**Kanab**	**60.95**	**359**	P	**P**	**06 57 09.5**	**+0.5**
KNB				IAmb	IAmb	06 57 19.0	
	comp=Z,14nm,1.4s						
MVCO	**Mesa Verde**	**61.22**	**3**	P	**P**	**06 57 10.1**	**-0.8**
PKCU	**Pink Cliffs**	**61.37**	**360**	P	**P**	**06 57 12.6**	**+0.6**
R11B	**Troy Canyon, C**	**62.37**	**357**	IAmb	IAmb	06 57 35.1	
	comp=Z,7.0nm,1.3s						
LHV	**Little Huntoon**	**62.49**	**354**	IAmb	IAmb	06 57 30.6	
	comp=Z,12nm,1.1s						
HHAR	**Hobbs**	**62.55**	**16**	P	**P**	**06 57 18.1**	**-1.5**
NV11	**Mina Array Sit**	**62.64**	**354**		**P**	**06 57 20.5**	**+0.2**
NVAR	**Mina Array Bea**	**62.65**	**354**	P	**P**	**06 57 20.7**	**+0.3**
NVAR	**Mina Array Bea**	**62.65**	**354**	P	**P**	**06 57 21.6**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=186,slow=7.3,SNR=12						
	comp=Z,2.1nm,0.9s						
Q16A	**Castle Valley**	**62.85**	**1**	IAmb	IAmb	06 57 32.0	
	comp=Z,17nm,1.7s						
SPR3	**Spring Creek J**	**62.97**	**358**	IAmb	IAmb	06 57 40.4	
	comp=Z,8.9nm,1.4s						
SRU	**San Rafael Swe**	**63.05**	**1**	P	**P**	**06 57 22.5**	**-0.6**
SRU				IAmb	IAmb	06 57 44.2	
	comp=Z,8.1nm,1.1s						
KVN	**Kaiserville**	**63.24**	**355**		**P**	**06 57 24.4**	**0.0**
KVN				IAmb	IAmb	06 57 35.2	
	comp=Z,12nm,1.3s						
PBMO	**Poplar Bluff**	**63.99**	**19**	IAmb	IAmb	06 57 29.8	
	comp=Z,9.4nm,1.4s						
ISCO	**Idaho Springs**	**63.99**	**5**	P	**P**	**06 57 28.7**	**-0.8**
BSUT	**Blindstream Ca**	**64.47**	**1**	IAmb	IAmb	06 57 41.8	
	comp=Z,7.8nm,1.3s						
RDMU	**Red Mountain**	**64.53**	**2**	IAmb	IAmb	06 57 42.5	
	comp=Z,11nm,1.1s						
BMN	**Battle Mountai**	**64.55**	**355**	IAmb	IAmb	06 57 43.5	
	comp=Z,14nm,1.4s						
VNDA	**Vanda**	**65.69**	**194**	P	P	06 57 48.3	+8.6
VNDA	**Vanda**	**65.69**	**194**	P	**P**	**06 57 39.5**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=69,slow=7.3,SNR=4.6						
	comp=Z,1.1nm,1.0s						
QSPA	**South Pole Qui**	**65.90**	**180**	P	**P**	**06 57 41.2**	**-0.3**
	comp=Z,5.0nm,1.2s,baz=160,slow=1.4,SNR=4.3						
	comp=Z,5.0nm,1.2s						
PD31	**Pinedale Array**	**66.72**	**2**	P	**P**	**06 57 45.8**	**-1.3**
PD31				IAmb	IAmb	06 58 27.9	
	comp=Z,14nm,1.9s						
PDAR	**Pinedale Array**	**66.72**	**2**	P	**P**	**06 57 45.8**	**-1.3**
	comp=Z,2.7nm,0.7s,baz=172,slow=6.9,SNR=8.0						
	comp=Z,0.7nm,0.7s						
TPAW	**Teton Pass**	**67.42**	**1**	P	**P**	**06 57 49.9**	**-1.5**
MFID	**Camas Ranch**	**67.43**	**357**	IAmb	IAmb	06 58 01.3	
	comp=Z,7.3nm,1.3s						
HLID	**Hailey**	**67.52**	**358**	P	**P**	**06 57 52.0**	**0.0**
HLID				IAmb	IAmb	06 58 16.8	
	comp=Z,14nm,1.6s						
J08A	**Circle Bar Ran**	**67.55**	**355**	IAmb	IAmb	06 58 03.1	
	comp=Z,15nm,1.5s						
MOOW	**Mose Ponds**	**67.68**	**1**		**P**	**06 57 53.8**	**+0.7**
IMW	**Indian Meadow**	**67.82**	**1**	IAmb	IAmb	06 58 34.5	
	comp=Z,13nm,1.8s						
VNA3	**Neumayer Olymp**	**71.09**	**160**	⇑P	P	06 58 24.5	+11
	comp=Z,6.9nm,0.7s						
EGMT	**Eagleton**	**71.97**	**1**	P	**P**	**06 58 20.0**	**+0.8**
EGMT				IAmb	IAmb	06 58 29.3	
	comp=Z,18nm,1.4s						
SNAA	**Sanae**	**72.94**	**162**	P	**P**	**06 58 27.3**	**+2.4**
	comp=Z,1.9nm,1.0s,baz=239,slow=8.3,SNR=1.8						
	comp=Z,1.9nm,1.0s						
ULM	**Lac du Bonnet**	**75.52**	**11**	P	**P**	**06 58 39.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=196,slow=6.2,SNR=1.8						
	comp=Z,0.7nm,0.6s						
EDM	**Edmonton**	**77.16**	**359**	P	**P**	**06 58 48.3**	**-0.9**
BRLDA	**Berland Lookou**	**78.17**	**357**	P	**P**	**06 58 55.2**	**+0.4**
BRLDA				IAmb	IAmb	06 59 10.9	
	comp=Z,9.5nm,1.0s						
DIB	**Dawson Inlet,**	**79.19**	**348**	P	**P**	**06 58 60.0**	**-0.3**
YKA	**Yellowknife Ar**	**86.48**	**359**	P	**P**	**06 59 37.8**	**-0.1**
	comp=Z,1.4nm,1.0s,baz=169,slow=4.1,SNR=10						
	comp=Z,1.4nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**89.97**	**290**	T	T	08 39 54.8	
	baz=116,slow=75,SNR=117						
H11S1	**WAKE ISLAND Hy**	**89.99**	**290**	T	T	08 39 53.1	
	baz=116,slow=75,SNR=166						
H11S3	**WAKE ISLAND Hy**	**89.99**	**290**	T	T	08 40 00.9	
	baz=116,slow=75,SNR=135						
H11N3	**WAKE ISLAND Hy**	**90.33**	**291**	T	T	08 40 19.6	
	baz=117,slow=75,SNR=24						
H11N1	**WAKE ISLAND Hy**	**90.34**	**291**	T	T	08 40 14.2	
	baz=117,slow=75,SNR=7.8						
H11N2	**WAKE ISLAND Hy**	**90.34**	**291**	T	T	08 40 13.2	
	baz=117,slow=75,SNR=20						
TIXI	**Tiksi**	**121.92**	**341**	PKP	**PKPdf**	**07 05 48.1**	**-1.2**
	comp=Z,0.9nm,0.2s,baz=29,slow=4.9,SNR=4.0						
NJ2	**Nanjing**	**134.94**	**292**	*e*P	**PKiKP**	**07 06 19.4**	**+2.7**
NJ2	**Nanjing**	**134.94**	**292**	pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC	**Hu-ho-hao-te**	**140.26**	**305**	SKS	**SKSdf**	**07 13 34.2**	**-1.3**
HHC	**Hu-ho-hao-te**	**140.26**	**305**	LR	LR		
	comp=Z,3µm,20.6s						
HHC	**Hu-ho-hao-te**	**140.26**	**305**	LR	LR		
	comp=N,790nm,19.9s						
HHC	**Hu-ho-hao-te**	**140.26**	**305**	LR	LR		
	comp=E,2µm,20.5s						
HHC	**Hu-ho-hao-te**	**140.26**	**305**	*e*PKP	**PKPdf**	**07 06 24.2**	**-0.8**
HHC	**Hu-ho-hao-te**	**140.26**	**305**	sPKP		07 06 38.0	
BRTR	**Keskin Array B**	**147.17**	**54**	PKPbc	**PKPbc**	**07 06 39.4**	**0.0**
	comp=E,2.2nm,1.0s,baz=274,slow=1.9,SNR=7.6						
ZALV	**Zalesovo Beam**	**147.81**	**341**	PKPbc	**PKPdf**	**07 06 38.4**	**+0.8**
	comp=E,0.9nm,0.3s,baz=34,slow=5.4,SNR=2.8						
CMAR	**Chiang Mai Arr**	**150.76**	**265**	PKPbc	**PKiKP**	**07 06 49.5**	**0.0**
	comp=E,1.3nm,0.3s,baz=79,slow=0.3,SNR=9.9						
BVAR	**Borovoye Array**	**151.22**	**357**	PKPbc	**PKPbc**	**07 06 49.0**	**+0.1**
	comp=E,4.3nm,0.8s,baz=11,slow=3.0,SNR=15						
KBZ	**Khabaz**	**151.64**	**41**	PKPbc	**PKiKP**	**07 06 50.6**	**0.0**
	comp=E,5.6nm,0.9s,baz=270,slow=2.0,SNR=9.0						
KURBB	**Kurchatov Arra**	**152.47**	**346**	PKPbc	**PKPbc**	**07 06 51.1**	**-0.7**
	comp=E,1.4nm,0.8s,baz=18,slow=1.7,SNR=10						
MKAR	**Makanchi Array**	**154.81**	**337**	PKPbc	**PKPbc**	**07 06 55.2**	**-1.9**
	comp=E,0.4nm,0.8s,baz=46,slow=6.2,SNR=3.0						
MKAR				PKPab	**PKPab**	**07 07 10.2**	**-1.9**
	comp=E,1.1nm,0.6s,baz=51,slow=2.2,SNR=7.9						

IDC ***02*** *06:49:48.8±2.9, 24°.23S×110°.68W, h0*$_{km}$*, mb3.8/3,*
mbtmp3.8/3, Error ellipse: s-maj=229.6km s-min=55.2km
az=103.0
ISC 02 06:49:51.2±2.5, 24°.1S±0°.5×111°.1W±°, h10$_{km}$**, n13, σ0°.81/7,**
mb3.9/3, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NVAR	**Mina Array Bea**	**62.60**	**353**	P	**P**	**07 00 15.9**	**+0.2**
	1.4nm,0.7s,baz=182,slow=9.7,SNR=6.8						
	1.4nm,0.7s						
PDAR	**Pinedale Array**	**66.56**	**1**	P	**P**	**07 00 41.5**	**-0.1**
	0.4nm,0.7s,baz=163,slow=6.6,SNR=3.6						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**86.36**	**358**	P	**P**	**07 02 32.8**	**-0.2**
	0.9nm,1.1s,baz=168,slow=4.6,SNR=4.0						
	0.9nm,1.1s						
H11S2	**WAKE ISLAND Hy**	**90.76**	**290**	T	T	08 42 44.9	
	baz=115						
H11S1	**WAKE ISLAND Hy**	**90.78**	**290**	T	T	08 42 46.3	
	baz=115						
H11S3	**WAKE ISLAND Hy**	**90.78**	**290**	T	T	08 42 46.8	
	baz=115						
H11N3	**WAKE ISLAND Hy**	**91.11**	**291**	T	T	08 43 03.4	
	baz=117						
H11N1	**WAKE ISLAND Hy**	**91.12**	**291**	T	T	08 43 02.2	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**91.12**	**291**	T	T	08 43 14.8	
	baz=117						
ZALV	**Zalesovo Beam**	**147.95**	**342**	PKPbc	**PKPdf**	**07 09 34.8**	**+1.4**
	0.8nm,0.5s,baz=36,slow=2.8,SNR=0.8						
BVAR	**Borovoye Array**	**151.11**	**358**	PKPbc	**PKiKP**	**07 09 44.5**	**-0.4**
	0.4nm,0.4s,baz=15,slow=4.0,SNR=2.1						
CMAR	**Chiang Mai Arr**	**151.66**	**264**	PKPbc	**PKPbc**	**07 09 46.3**	**-0.3**
	1.8nm,0.3s,baz=135,slow=0.4,SNR=4.2						
KURBB	**Kurchatov Arra**	**152.54**	**347**	PKPbc	**PKPbc**	**07 09 47.0**	**-0.6**
	0.4nm,0.2s,baz=21,slow=2.1,SNR=1.8						

IDC ***02*** *06:53:14.4±0.7, 24°.2S±0°.2×112°.0W±0°.3, h8*$_{km}$*, n24,*
σ0°.70/17, mb3.9/7, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H03N2	**Juan Fernandez**	**30.25**	**115**	T	T	07 31 00.4	
	baz=283,slow=75,SNR=4.3						
H03N3	**Juan Fernandez**	**30.26**	**115**	T	T	07 31 01.5	
	baz=283,slow=75,SNR=3.8						
H03N1	**Juan Fernandez**	**30.27**	**115**	T	T	07 30 57.9	
	baz=283,slow=75,SNR=4.2						
LPAZ	**La Paz**	**41.73**	**88**	P	**P**	**07 01 06.0**	**+0.1**
	0.9nm,0.9s,baz=225,slow=8.6,SNR=2.5						
	0.9nm,0.9s						
TXAR	**Lajitas Array**	**53.85**	**9**	P	**P**	**07 02 38.5**	**-0.5**
	0.4nm,1.1s,baz=173,slow=8.0,SNR=2.7						
	0.4nm,1.1s						
NVAR	**Mina Array Bea**	**62.61**	**354**	P	**P**	**07 03 41.7**	**+1.4**
	2.1nm,0.9s,baz=161,slow=8.6,SNR=5.3						
NVAR				PcP	**PcP**	**07 04 19.4**	**+0.1**
	0.4nm,0.7s,baz=186,slow=8.2,SNR=0.8						
	2.1nm,0.9s						
VNDA	**Vanda**	**65.70**	**194**	P	**P**	**07 03 59.9**	**0.0**
	0.9nm,0.9s,baz=64,slow=6.3,SNR=4.5						
	0.9nm,0.9s						
QSPA	**South Pole Qui**	**65.93**	**180**	P	**P**	**07 04 02.1**	**+0.3**
	2.4nm,1.0s,baz=116,slow=8.1,SNR=3.7						
	2.4nm,1.0s						
PDAR	**Pinedale Array**	**66.69**	**2**	P	**P**	**07 04 06.8**	**-0.2**
	0.6nm,0.7s,baz=189,slow=5.1,SNR=4.6						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**86.44**	**359**	P	**P**	**07 05 58.2**	**+0.2**
	0.7nm,0.9s,baz=175,slow=4.3,SNR=7.2						
	0.7nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**89.89**	**290**	T	T	08 45 57.5	
	baz=116,slow=75,SNR=79						
H11S1	**WAKE ISLAND Hy**	**89.90**	**290**	T	T	08 46 04.4	
	baz=116,slow=75,SNR=66						
H11S3	**WAKE ISLAND Hy**	**89.91**	**290**	T	T	08 46 08.0	
	baz=116,slow=75,SNR=58						
H11N3	**WAKE ISLAND Hy**	**90.24**	**291**	T	T	08 46 29.6	
	baz=117,slow=74						
H11N1	**WAKE ISLAND Hy**	**90.26**	**291**	T	T	08 46 26.9	
	baz=117						
H11N2	**WAKE ISLAND Hy**	**90.26**	**291**	T	T	08 46 29.4	
	baz=117,slow=74						
TORD	**Torodi Ar. Bea**	**116.68**	**87**	PKP	**PKiKP**	**07 12 01.4**	**+0.4**
	0.2nm,0.8s,baz=222,slow=1.9,SNR=1.2						
BRTR	**Keskin Array B**	**147.21**	**54**	PKPbc	**PKPab**	**07 13 00.9**	**-0.5**
	0.8nm,0.8s,baz=237,slow=4.3,SNR=4.2						
ZALV	**Zalesovo Beam**	**147.76**	**341**	PKPbc	**PKPbc**	**07 13 01.0**	**+0.5**
	1.9nm,0.7s,baz=27

	comp=E,79nm,2.0s								
SADR					IAML			07 02 33.7	
	comp=N,144nm,2.3s								
AGPR	**Aguadilla, PR**	**0.85**	**76**	⇑*e*P		**Pn**		**07 02 04.1**	**-0.1**
AGPR	**Aguadilla, PR**	**0.85**	**76**	*e*S		**Sn**		**07 02 18.0**	**-0.5**
AGPR	**Aguadilla, PR**	**0.85**	**76**			**Pn**		**07 02 04.1**	**-0.1**
AGPR						**Sn**		**07 02 18.0**	**-0.5**
AGPR	**Aguadilla, PR**	**0.85**	**76**	IAML				07 02 20.1	
	comp=E,63nm,0.8s								
AGPR				IAML				07 02 21.3	
	comp=N,90nm,1.6s								
AGPR	**Aguadilla, PR**	**0.85**	**76**	⇑*e*Pg		**Pn**		**07 02 04.2**	**-0.1**
AGPR				⇓*e*Sg		**Sn**		**07 02 20.0**	**+1.5**
AGPR				IAML				07 02 24.7	
	comp=N,85nm,1.7s								
AGPR				IAML				07 02 24.8	
	comp=E,44nm,0.2s								
LSP	**Las Mesas**	**0.85**	**96**	⇑*e*P		**Pn**		**07 02 04.0**	**-0.4**
LSP	**Las Mesas**	**0.85**	**96**	*e*S		**Sn**		**07 02 18.9**	**+0.3**
LSP	**Las Mesas**	**0.85**	**96**			**Pn**		**07 02 04.0**	**-0.4**
LSP						**Sn**		**07 02 18.9**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.86**	**107**	⇓*e*P		**Pn**		**07 02 04.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.86**	**107**	*e*S		**Sn**		**07 02 18.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.86**	**107**			**Pn**		**07 02 04.0**	**-0.3**
CRPR						**Sn**		**07 02 18.2**	**-0.6**
CRPR	**Cabo Rojo, PR**	**0.86**	**107**	⇓*e*Pg		**Pn**		**07 02 06.1**	**+1.7**
CRPR				⇓*e*Sg		**Sn**		**07 02 17.7**	**-1.1**
CRPR				IAML				07 02 21.9	
	comp=E,24nm,1.3s								
CRPR				IAML				07 02 22.4	
	comp=N,32nm,1.9s								
MLPR	**Magueyes Islan**	**0.93**	**108**	⇑*e*P		**Pn**		**07 02 04.7**	**-0.5**
MLPR	**Magueyes Islan**	**0.93**	**108**	*e*S		**Sn**		**07 02 19.8**	**-0.3**
MLPR	**Magueyes Islan**	**0.93**	**108**			**Pn**		**07 02 04.7**	**-0.5**
MLPR	**Magueyes Islan**	**0.93**	**108**			**Sn**		**07 02 19.8**	**-0.3**
MLPR	**Magueyes Islan**	**0.93**	**108**	IAML				07 02 16.8	
	comp=E,18nm,2.5s								
AOPR	**Arecibo Observ**	**1.17**	**86**	⇑*e*P		**Pn**		**07 02 07.5**	**-0.2**
AOPR	**Arecibo Observ**	**1.17**	**86**	*e*S		**Sn**		**07 02 25.0**	**+0.4**
AOPR	**Arecibo Observ**	**1.17**	**86**			**Pn**		**07 02 07.5**	**-0.2**
AOPR						**Sn**		**07 02 25.0**	**+0.4**
AOPR	**Arecibo Observ**	**1.17**	**86**	IAML				07 02 28.5	
	comp=N,114nm,0.3s								
AOPR	**Arecibo Observ**	**1.17**	**86**	⇑*e*Pg		**Pn**		**07 02 07.3**	**-0.3**
AOPR				⇑*e*Sg		**Sn**		**07 02 25.0**	**+0.4**
AOPR				IAML				07 02 28.5	
	comp=N,110nm,0.2s								
AOPR				IAML				07 02 29.8	
	comp=E,117nm,0.2s								
UUPR	**Utuado, UPR, P**	**1.19**	**90**	⇑*e*P		**Pn**		**07 02 08.2**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.19**	**90**	*e*S		**Sn**		**07 02 26.1**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.19**	**90**			**Pn**		**07 02 08.2**	**+0.2**
UUPR						**Sn**		**07 02 26.1**	**+0.9**
OBIP	**Obispado Ponce**	**1.32**	**99**	⇑*e*P		**Pn**		**07 02 08.7**	**-0.8**
OBIP	**Obispado Ponce**	**1.32**	**99**	*e*S		**Sn**		**07 02 28.4**	**+0.6**
OBIP	**Obispado Ponce**	**1.32**	**99**			**Pn**		**07 02 08.7**	**-0.8**
OBIP						**Sn**		**07 02 28.4**	**+0.6**
OBIP	**Obispado Ponce**	**1.32**	**99**	IAML				07 02 31.2	
	comp=E,22nm,4.0s								
CELP	**Cerrillos**	**1.34**	**98**	⇑*e*P		**Pn**		**07 02 09.4**	**-0.3**
CELP	**Cerrillos**	**1.34**	**98**	*e*S		**Sn**		**07 02 29.6**	**+1.4**
CELP	**Cerrillos**	**1.34**	**98**			**Pn**		**07 02 09.4**	**-0.3**
CELP						**Sn**		**07 02 29.6**	**+1.4**
CELP	**Cerrillos**	**1.34**	**98**	IAML				07 02 33.2	
	comp=N,22nm,0.3s								
CELP				IAML				07 03 06.5	
	comp=E,17nm,3.5s								
CELP	**Cerrillos**	**1.34**	**98**	⇑*e*Pg		**Pn**		**07 02 10.0**	**+0.3**
CELP				⇓*e*Sg		**Sn**		**07 02 28.9**	**+0.6**
CELP				IAML				07 02 33.9	
	comp=N,21nm,0.1s								
EMPR	**Esperanza - Ma**	**1.39**	**81**	⇑*e*P		**Pn**		**07 02 09.9**	**-0.4**
EMPR	**Esperanza - Ma**	**1.39**	**81**	*e*S		**Sn**		**07 02 29.1**	**-0.1**
EMPR	**Esperanza - Ma**	**1.39**	**81**			**Pn**		**07 02 09.9**	**-0.4**
EMPR						**Sn**		**07 02 29.1**	**-0.1**
GCPR	**Guaynabo City**	**1.80**	**88**	⇓*e*P		**Pn**		**07 02 14.4**	**-1.0**
GCPR	**Guaynabo City**	**1.80**	**88**	*e*S		**Sn**		**07 02 38.6**	**+0.3**
GCPR	**Guaynabo City**	**1.80**	**88**			**Pn**		**07 02 14.4**	**-1.0**
GCPR						**Sn**		**07 02 38.6**	**+0.3**
GCPR	**Guaynabo City**	**1.80**	**88**	IAML				07 03 09.3	
	comp=E,14nm,4.5s								
GCPR				IAML				07 03 15.3	
	comp=N,16nm,2.7s								
IGPR	**InterUniversit**	**1.80**	**99**	⇑*e*P		**Pn**		**07 02 15.5**	**+0.1**
IGPR	**InterUniversit**	**1.80**	**99**	*e*S		**Sn**		**07 02 38.6**	**+0.2**
IGPR	**InterUniversit**	**1.80**	**99**			**Pn**		**07 02 15.5**	**+0.1**
IGPR						**Sn**		**07 02 38.6**	**+0.2**
IGPR	**InterUniversit**	**1.80**	**99**	IAML				07 02 45.8	
	comp=E,19nm,0.3s								
IGPR				IAML				07 02 47.0	
	comp=N,18nm,0.6s								
SDDR	**Presa de Saban**	**3.22**	**283**	Pn		**Pn**		**07 02 34.0**	**-0.1**
SDDR				IAML				07 03 43.8	
	comp=N,17nm,2.6s								
SDDR				IAML				07 04 21.3	
	comp=N,18nm,3.2s								

IDC ***02*** *07:05:14.2±1.6,6.˚18S×148.˚90E,h69km±13km,mb3.6/8, mbtmp4.1/11,Error ellipse: s-maj=28.6km s-min=9.9km az=116.0*

NEIC ***02*** *07:05:14.6±1.6,6.˚28S±0.˚06×149.˚08E±0.˚08,h72km±13km, mb4.3/15,Error ellipse: s-maj=12.0km s-min=8.2km az=70.0*

NOU ***02*** *07:06:17.9,10.˚50S×147.˚31E,h234km,mb4.1/6,Eastern New Guinea Reg., P.N.G.*

ISC 02 07:05:13.2±0.6,6.˚25S±0.˚07×148.˚99E±0.˚09,h60km,n51, σ1♀50/55,mb4.0/11,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**3.59**	**58**	P	**Pn**	**07 06 06.8**	**+0.4**
	25nm,0.5s,baz=194,slow=22,SNR=9.1						
PMG	**Port Moresby**	**3.62**	**210**		**Pn**	**07 06 08.3**	**+1.4**
PMG	**Port Moresby**	**3.62**	**210**	P	**Pn**	**07 06 09.2**	**+2.4**
	319nm,0.6s,baz=38,slow=6.1,SNR=113						
PMG				S	**Sn**	**07 06 50.7**	**+2.3**
	330nm,0.3s,baz=6.6,slow=18,SNR=17						
KAVG	**Kavieng**	**4.07**	**27**	P	**Pn**	**07 06 14.0**	**+1.1**
MANU	**Manus Island**	**4.48**	**339**		**Pn**	**07 06 20.8**	**+2.2**
COEN	**Coen**	**9.56**	**216**	P	**Pn**	**07 07 28.4**	**+0.2**
COEN	**Coen**	**9.56**	**216**	Pn	**Pn**	**07 07 28.8**	**+0.6**
MTSU	**Mount Surprise**	**12.66**	**201**	P	**Pn**	**07 08 12.8**	**+2.2**
CTAO	**Charters Tower**	**14.01**	**191**	Pn	**Pn**	**07 08 28.6**	**-0.2**
QIS	**Mount Isa**	**16.89**	**212**	P	**P**	**07 09 07.9**	**+1.0**
QIS	**Mount Isa**	**16.89**	**212**	P	**P**	**07 09 07.6**	**+0.7**
MTN	**Manton Dam**	**18.78**	**248**	P	**Pn**	**07 09 28.6**	**-0.1**
MTN				IAmb	IAmb	07 09 39.4	
	comp=Z,15nm,1.0s						
EIDS	**Eidsvold**	**19.12**	**174**	P	**P**	**07 09 30.2**	**-1.2**
EIDS				IAmb	IAmb	07 09 35.5	
	comp=Z,14nm,0.9s						
WB0	**Warramunga Arr**	**19.54**	**225**		**P**	**07 09 36.6**	**+0.6**
WB0				IAmb	IAmb	07 09 37.8	
	comp=Z,12nm,0.6s						
WR0	**Warramunga Arr**	**19.56**	**224**	P	**P**	**07 09 37.1**	**+0.8**
WR0				IAmb	IAmb	07 09 37.7	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**19.68**	**225**	P	**P**	**07 09 38.3**	**+0.8**
WRAB				IAmb	IAmb	07 09 38.8	
	comp=Z,18nm,0.8s						
WB2	**Warramunga Arr**	**19.68**	**225**		**P**	**07 09 38.3**	**+0.7**
WB2				IAmb	IAmb	07 09 39.3	
	comp=Z,18nm,0.7s						
WRA	**Warramunga Arr**	**19.69**	**225**		**P**	**07 09 37.1**	**-0.6**
WRA	**Warramunga Arr**	**19.69**	**225**	P	**P**	**07 09 38.3**	**+0.6**
	comp=Z,28nm,0.9s,baz=51,slow=11,SNR=178						
WRA				S	**S**	**07 13 09.8**	**-7.0**
	comp=Z,1.8nm,0.8s,baz=51,slow=22,SNR=7.1						
WRA				PcP	**PcP**	**07 13 54.6**	**-0.2**
	comp=Z,1.4nm,0.6s,baz=43,slow=1.9,SNR=5.2						
WRA				ScP	**ScP**	**07 17 26.6**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=47,slow=2.4,SNR=3.6						
QLP	**Quilpie**	**20.73**	**192**	P	Pn	07 09 52.5	+0.8
KNRA	**Kununurra**	**21.93**	**243**	P	P	07 10 20.0	+18
KNRA	**Kununurra**	**21.93**	**243**	P	**P**	**07 10 00.9**	**-0.9**
KNRA	**Kununurra**	**21.93**	**243**	P	**P**	**07 10 01.2**	**-0.7**
KNRA				IAmb	IAmb	07 10 19.3	
	comp=Z,9.5nm,0.8s						
AS31	**Alice Springs**	**22.59**	**218**	P	**P**	**07 10 09.5**	**+0.6**
AS31				IAmb	IAmb	07 10 30.3	
	comp=Z,4.5nm,0.5s						
ASAR	**Alice Springs**	**22.59**	**218**	P	**P**	**07 10 09.4**	**+0.9**

ASAR	**Alice Springs**	**22.59**	**218**	P		**P**		**07 10 09.4**	**+0.5**
	comp=Z,3.3nm,0.5s,baz=52,slow=9.4,SNR=57								
ASAR				PcP		**PcP**		**07 14 00.4**	**0.0**
	comp=Z,1.6nm,0.8s,baz=42,slow=3.0,SNR=6.0								
ASAR				S		**S**		**07 14 11.8**	**-0.7**
	comp=Z,4.9nm,0.9s,baz=30,slow=23,SNR=18								
	comp=Z,3.3nm,0.5s								
INKA	**Innaminka**	**22.77**	**199**	P		**P**		**07 10 14.3**	**+3.7**
ARMA	**Armidale**	**24.18**	**174**	P		**P**		**07 10 26.9**	**+2.8**
FITZ	**Fitzroy Crossi**	**25.64**	**241**	P		**P**		**07 10 37.5**	**+0.1**
LCRK	**Leigh Creek**	**26.12**	**202**	P		**P**		**07 10 42.7**	**+1.1**
STKA	**Stephens Creek**	**26.42**	**194**	P		**P**		**07 10 44.9**	**+0.6**
STKA	**Stephens Creek**	**26.42**	**194**	P		**P**		**07 10 44.9**	**+0.6**
	comp=Z,1.8nm,0.9s,baz=349,slow=16,SNR=2.8								
	comp=Z,1.8nm,0.9s								
WRKA	**Warakurna**	**27.23**	**224**	P		**P**		**07 10 51.9**	**+0.1**
MULG	**Mulgathing**	**27.73**	**209**	P		**P**		**07 10 56.7**	**+0.6**
FORT	**Forrest**	**31.33**	**216**	P		**P**		**07 11 28.4**	**+0.5**
MBWA	**Marble Bar**	**31.97**	**239**	P		**P**		**07 11 33.3**	**-0.4**
PSA00	**Pilbara Seismi**	**32.03**	**239**	P		**P**		**07 11 33.6**	**-0.7**
PSA00				IAmb		IAmb		07 11 51.9	
	comp=Z,4.8nm,1.2s								
KLR	**Kul'dur**	**57.26**	**347**	P		**P**		**07 14 54.2**	**-0.2**
	comp=Z,2.4nm,1.0s,baz=204,slow=3.6,SNR=4.4								
	comp=Z,2.4nm,1.0s								
PEA0B	**Petropavlovsk-**	**59.59**	**6**	P		**P**		**07 15 09.7**	**-0.8**
PETK	**Petropavlovsk-**	**59.59**	**6**	P		**P**		**07 15 10.3**	**-0.2**
PETK	**Petropavlovsk-**	**59.59**	**6**	P		**P**		**07 15 10.2**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=170,slow=6.7,SNR=16								
	comp=Z,1.8nm,0.5s								
SONM	**Songino Array**	**65.59**	**330**	P		**P**		**07 15 51.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=158,slow=8.7,SNR=2.1								
	comp=Z,0.6nm,0.5s								
MKAR	**Makanchi Array**	**78.95**	**320**	P		**P**		**07 17 09.0**	**-1.5**
	comp=Z,0.3nm,0.5s,baz=81,slow=7.0,SNR=3.1								
	comp=Z,0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**80.28**	**327**	P		**P**		**07 17 15.3**	**-2.1**
	comp=Z,0.8nm,0.5s,baz=95,slow=4.8,SNR=3.5								
	comp=Z,0.8nm,0.5s								
KURBB	**Kurchatov Arra**	**82.61**	**323**	P		**P**		**07 17 30.3**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=115,slow=4.5,SNR=1.6								
	comp=Z,0.3nm,0.6s								
PLCA	**Paso Flores**	**120.82**	**146**	PKP		**PKiKP**		**07 23 59.2**	**0.0**
	comp=Z,1.0nm,0.4s,baz=276,slow=3.0,SNR=7.3								
LPAZ	**La Paz**	**136.99**	**122**	PKP		**PKPdf**		**07 24 31.5**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=330,slow=1.2,SNR=5.7								
CPUP	**Villa Florida**	**138.77**	**143**	PKP		**PKPdf**		**07 24 34.0**	**+0.6**
	comp=Z,2.7nm,1.1s,baz=240,slow=2.1,SNR=3.8								
TORD	**Torodi Ar. Bea**	**147.06**	**284**	PKPbc		**PKPbc**		**07 24 49.5**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=46,slow=3.7,SNR=17								
BDFB	**Brasilia**	**152.50**	**142**	PKPbc		**PKPbc**		**07 25 03.6**	**-0.3**
	comp=Z,9.3nm,0.4s,baz=227,slow=1.2,SNR=37								
DBIC	**Dimbokro**	**154.00**	**272**	PKPab		**PKPab**		**07 25 20.3**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=68,slow=5.4,SNR=1.2								

NEIC ***02*** *07:15:56.0±1.2,58.˚79N±0.˚02×141.˚26W±0.˚07,h10km±1km, Error ellipse: s-maj=6.3km s-min=2.9km az=283.0*

IDC ***02*** *07:15:55.8±0.6,58.˚89N×141.˚19W,h0km,mb4.0/22, mbtmp4.0/29,MLJ3.6/7,Error ellipse: s-maj=14.9km s-min=8.2km az=39.0*

PGC ***02*** *07:15:56.3±0.4,58.˚69N×141.˚30W,h10km,MLJ3.9,MLJ3.9, Mw4.7/23,123km Wsw of Yakutat, Ak Off Coast Of Southeastern Alaska*

AEIC ***02*** *07:15:57.0±1.2,58.˚76N±0.˚06×141.˚30W±0.˚08,h10km±5km, MLJ3.9,mb4.2/20(NEIC),MLJ4.0/116(NEIC),Error ellipse: s-maj=8.2km s-min=5.6km az=193.0*

ANF ***02*** *07:15:59.2±0.5,58.˚82N×141.˚27W,h35km±5km,MLJ4.3/57, Error ellipse: s-maj=1.9km s-min=1.3km az=6.0*

ISC 02 07:15:57.9±2.0,58.˚77N±0.˚04×141.˚25W±0.˚03,h20km±8km, n574,σ1♀33/599,mb4.2/35,Off coast of southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKU2	**Yakutat**	**1.10**	**47**	P	**Pn**	**07 16 16.1**	**-2.0**
YKU2	**Yakutat**	**1.10**	**47**		**Pn**	**07 16 15.9**	**-2.2**
YKU2	**Yakutat**	**1.10**	**47**		**Sb**	**07 16 31.5**	**-0.6**
PNL	**Peninsula**	**1.31**	**46**	P	**Pn**	**07 16 19.6**	**-1.5**
PNL	**Peninsula**	**1.31**	**46**		**Pn**	**07 16 19.5**	**-1.6**
PNL					**Sn**	**07 16 35.8**	**-2.2**
PNL	**Peninsula**	**1.31**	**46**	P	**Pn**	**07 16 19.5**	**-1.6**
	baz=229,SNR=132						
PNL				S	**Sn**	**07 16 35.5**	**-2.5**
	baz=229						
PNL	**Peninsula**	**1.31**	**46**	Pn	**Pn**	**07 16 19.6**	**-1.5**
PNL				S	**Sn**	**07 16 35.5**	**-2.5**
SAMH	**Samovar Hills**	**1.39**	**10**		**Pn**	**07 16 20.9**	**-1.3**
SAMH					**Sn**	**07 16 38.5**	**-1.5**
SAMH	**Samovar Hills**	**1.39**	**10**	Pn	**Pn**	**07 16 20.8**	**-1.3**
SAMH				Sn	**Sn**	**07 16 38.3**	**-1.6**
BCPM	**Bancas Point**	**1.45**	**34**		**Pn**	**07 16 21.4**	**-1.5**
BCPM	**Bancas Point**	**1.45**	**34**		**Sn**	**07 16 40.0**	**-1.3**
MESA	**MESA**	**1.46**	**346**		**Pn**	**07 16 22.1**	**-1.2**
MESA				IAML		07 16 42.5	
	comp=E,5μm,0.5s						
MESA				IAML		07 16 44.8	
	comp=N,9μm,0.4s						
MESA	**MESA**	**1.46**	**346**	P	**Pn**	**07 16 21.9**	**-1.4**
	baz=166,SNR=75						
MESA				S	**Sn**	**07 16 40.4**	**-1.5**
	baz=166						
MESA	**MESA**	**1.46**	**346**	Pn	**Pn**	**07 16 21.9**	**-1.4**
MESA				Sn	**Sn**	**07 16 40.3**	**-1.6**
CYK	**Cape Yakataga**	**1.46**	**335**		**Pn**	**07 16 21.7**	**-1.4**
SNH	**Sunshine Point**	**1.63**	**331**		**Pn**	**07 16 24.2**	**-1.3**
BGLC	**Bering Glacier**	**1.71**	**323**		**Pn**	**07 16 25.6**	**-0.9**
BGLC	**Bering Glacier**	**1.71**	**323**	P	**Pn**	**07 16 25.6**	**-0.9**
	baz=142						
BARK	**Barkley Ridge**	**1.76**	**339**		**Pn**	**07 16 26.0**	**-1.3**
BARK					**Sn**	**07 16 47.5**	**-1.6**
SUCK	**Suckling Hills**	**1.84**	**316**		**Pn**	**07 16 27.4**	**-1.0**
SUCK				IAML		07 16 55.5	
	comp=N,1μm,0.4s						
SUCK				IAML		07 16 55.8	
	comp=E,2μm,0.3s						
GRIN	**Grindle Hills**	**1.85**	**326**		**Pn**	**07 16 27.8**	**-0.6**
WAX	**Waxell Ridge**	**1.87**	**335**		**Pn**	**07 16 27.1**	**-1.7**
WAX				IAML		07 16 54.7	
	comp=E,4μm,0.3s						
WAX				IAML		07 16 56.5	
	comp=N,5μm,0.6s						
ISLE	**Juniper Island**	**1.92**	**344**		**Pn**	**07 16 28.4**	**-1.1**
ISLE				IAML		07 16 54.8	
	comp=E,2μm,0.7s						
ISLE				IAML		07 17 02.5	
	comp=N,3μm,0.8s						
ISLE	**Juniper Island**	**1.92**	**344**		**Sn**	**07 16 52.5**	**-0.8**
KAIM	**Kayak Island**	**2.00**	**307**		**Pn**	**07 16 29.7**	**-0.8**
KAIM				IAML		07 17 11.7	
	comp=N,2μm,0.9s						
KAIM				IAML		07 17 12.0	
	comp=E,2μm,0.8s						
KAIM	**Kayak Island**	**2.00**	**307**	P	**Pn**	**07 16 29.4**	**-1.0**
	baz=124						
P29M	**Windy Craggy**	**2.00**	**63**		**Pn**	**07 16 29.7**	**-0.9**
P29M	**Windy Craggy**	**2.00**	**63**	P	**Pn**	**07 16 29.6**	**-0.9**
	baz=247,SNR=306						
P29M				S	**Sn**	**07 16 52.7**	**-2.3**
	baz=247						
P29M	**Windy Craggy**	**2.00**	**63**	Pn	**Pn**	**07 16 29.6**	**-0.9**
P29M				Sn	**Sn**	**07 16 52.5**	**-2.6**
NICHA	**Nichawak Mount**	**2.02**	**318**		**Pn**	**07 16 29.4**	**-1.5**
BERG	**Berg Lake**	**2.05**	**324**		**Pn**	**07 16 29.9**	**-1.4**
LOGN	**Logan Glacier**	**2.06**	**3**		**Pn**	**07 16 30.0**	**-1.6**
LOGN				IAML		07 17 06.3	
	comp=N,1μm,0.6s						
LOGN	**Logan Glacier**	**2.06**	**3**	Pn	**Pn**	**07 16 29.7**	**-1.9**
O28M	**Mount Upton**	**2.08**	**14**	P	**Pn**	**07 16 30.4**	**-1.4**
	baz=196,SNR=63						
O28M				S	**Sn**	**07 16 56.0**	**-1.3**
	baz=196						
O28M	**Mount Upton**	**2.08**	**14**	Pn	**Pn**	**07 16 30.5**	**-1.4**
O28M				Sn	**Sn**	**07 16 55.5**	**-1.8**
HMT	**Hamilton**	**2.20**	**317**		**Pn**	**07 16 31.7**	**-1.6**
HMT	**Hamilton**	**2.20**	**317**		**Sn**	**07 16 59.0**	**-0.8**
CTG	**Chitna Glacier**	**2.20**	**359**	P	**Pn**	**07 16 32.0**	**-1.5**
	baz=180,SNR=33						
CTG				S	**Sn**	**07 16 58.9**	**-1.3**
	baz=180						
CTGM	**Chitina Glacie**	**2.20**	**359**		**Pn**	**07 16 31.9**	**-1.5**
CTGM	**Chitina Glacie**	**2.20**	**359**	Pn	**Pn**	**07 16 32.0**	**-1.5**
CTGM				Sn	**Sn**	**07 16 57.2**	**-2.9**

KIAG	**Kiagna River**	**2.23**	**346**	Pn		**Pn**		**07 16 32.7**	**-1.2**
KIAG				Sn		**Sn**		**07 16 59.0**	**-2.0**
BARN	**Barnard Glacie**	**2.31**	**355**			**Pn**		**07 16 33.4**	**-1.5**
BARN				IAML				07 17 17.4	
	comp=E,1μm,0.6s								
YUK7	**Dusty Glacier**	**2.37**	**40**	Pn		**Pn**		**07 16 35.4**	**-0.4**
YUK7	**Dusty Glacier**	**2.37**	**40**	Sn		**Sn**		**07 17 01.7**	**-2.6**
RAGM	**Ragged Mountai**	**2.38**	**314**			**Pn**		**07 16 34.5**	**-1.3**
PTPK	**Patty Peak**	**2.50**	**346**	Pn		**Pn**		**07 16 36.7**	**-0.9**
PTPK	**Patty Peak**	**2.50**	**346**	Sn		**Sn**		**07 17 05.4**	**-2.2**
GOAT	**Goat Mountain**	**2.53**	**317**			**Pn**		**07 16 35.7**	**-2.2**
P30M	**Million Dollar**	**2.58**	**56**	IAML				07 17 13.7	
	comp=N,1μm,0.8s								
P30M				IAML				07 17 21.9	
	comp=E,773nm,0.8s								
P30M	**Million Dollar**	**2.58**	**56**	P		**Pn**		**07 16 38.0**	**-0.5**
	baz=241,SNR=74								
P30M				S		**Sn**		**07 17 09.2**	**0.0**
	baz=241								
P30M	**Million Dollar**	**2.58**	**56**	Pn		**Pn**		**07 16 38.0**	**-0.5**
P30M	**Million Dollar**	**2.58**	**56**	Sn		**Sn**		**07 17 08.5**	**-0.8**
PLBC	**Pleasant Camp**	**2.61**	**73**	P		**Pn**		**07 16 38.1**	**-0.8**
	baz=257,SNR=140								
PLBC				S		**Sn**		**07 17 09.2**	**-0.8**
	baz=257								
PLBC	**Pleasant Camp**	**2.61**	**73**	Pn		**Pn**		**07 16 37.9**	**-1.0**
PLBC	**Pleasant Camp**	**2.61**	**73**	Sn		**Sn**		**07 17 08.3**	**-1.6**
YUK6	**Outpost Mounta**	**2.62**	**32**	P		**Pn**		**07 16 39.0**	**-0.3**
	baz=216,SNR=33								
YUK6				S		**Sn**		**07 17 10.4**	**-0.2**
	baz=216								
YUK6	**Outpost Mounta**	**2.62**	**32**	Pn		**Pn**		**07 16 39.0**	**-0.3**
YUK6	**Outpost Mounta**	**2.62**	**32**	Sn		**Sn**		**07 17 09.6**	**-1.0**
YUK8	**Steele Glacier**	**2.63**	**16**			**Pn**		**07 16 39.4**	**0.0**
YUK8	**Steele Glacier**	**2.63**	**16**	P		**Pn**		**07 16 39.6**	**+0.2**
	baz=198,SNR=54								
YUK8				S		**Sn**		**07 17 09.4**	**-1.5**
	baz=198								
YUK8	**Steele Glacier**	**2.63**	**16**	Pn		**Pn**		**07 16 39.5**	**0.0**
VRDI	**Verde Repeater**	**2.70**	**337**			**Pn**		**07 16 39.4**	**-1.0**
VRDI				IAML				07 17 32.8	
	comp=E,483nm,0.9s								
VRDI				IAML				07 17 33.9	
	comp=N,588nm,0.7s								
MID	**Middleton Isla**	**2.71**	**286**	P		**Pn**		**07 16 38.6**	**-1.6**
MID	**Middleton Isla**	**2.71**	**286**			**Pn**		**07 16 38.5**	**-1.8**
Q23K	**Middleton Isla**	**2.71**	**286**			**Sn**		**07 16 38.5**	**-1.8**
Q23K	**Middleton Isla**	**2.71**	**286**	P		**Pn**		**07 16 38.4**	**-1.8**
	baz=102								
Q23K				S		**Sn**		**07 17 09.7**	**-2.9**
	baz=102								
S31K	**Pelican**	**2.76**	**105**			**Pn**		**07 16 39.3**	**-1.7**
S31K	**Pelican**	**2.76**	**105**	IAML				07 17 30.0	
	comp=N,620nm,0.9s								
S31K				IAML				07 17 30.0	
	comp=E,526nm,0.9s								
S31K	**Pelican**	**2.76**	**105**	P		**Pn**		**07 16 40.4**	**-0.6**
	baz=289,SNR=44								
S31K	**Pelican**	**2.76**	**105**	Pn		**Pn**		**07 16 38.5**	**-2.5**
S31K	**Pelican**	**2.76**	**105**	Sn		**Sn**		**07 17 09.9**	**-3.8**
MCARA	**McCarthy VSAT**	**2.77**	**342**			**Pn**		**07 16 40.6**	**-0.5**
MCARA				IAML				07 17 21.7	
	comp=E,985nm,

comp=E,483nm,0.5s
KLU Klutina 3.60 321 P Pn 07 16 51.3 -1.3
baz=138,SNR=25
M27K Edge Creek, AK 3.61 355 Pn 07 16 52.7 -0.1
M27K Edge Creek, AK 3.61 355 P Pn 07 16 52.2 -0.6
baz=175,SNR=16
M27K Edge Creek, AK 3.61 355 Pn Pn 07 16 52.7 -0.1
GLI Glacier Island 3.63 308 Pn 07 16 51.9 -1.0
GLI IAML 07 17 49.3
comp=E,214nm,0.7s
GLI Glacier Island 3.63 308 P Pn 07 16 51.5 -1.5
baz=123
JIS Juneau Island 3.63 95 P Pn 07 16 52.5 -0.4
JIS Juneau Island 3.63 95 Pn 07 16 52.5 -0.4
JIS IAML 07 17 54.6
comp=E,471nm,0.6s
WHY Whitehorse 3.74 57 Pn 07 16 54.1 -0.5
WHY Whitehorse 3.74 57 P Pn 07 16 54.0 -0.5
baz=243,SNR=31
WHY Whitehorse 3.74 57 Pn Pn 07 16 54.1 -0.5
M26K Nabesna, AK 3.75 347 IAML 07 17 38.2
comp=E,215nm,0.6s
M26K Nabesna, AK 3.75 347 P Pn 07 16 53.7 -0.8
baz=166,SNR=34
M26K S Sn 07 17 37.1 -0.9
baz=166
S32K Killisnoo 3.77 107 Pn 07 16 54.1 -0.7
S32K Killisnoo 3.77 107 IAML 07 18 04.7
comp=N,196nm,1.2s
S32K IAML 07 18 07.1
comp=E,192nm,0.7s
S32K Killisnoo 3.77 107 P Pn 07 16 54.4 -0.4
baz=293,SNR=14
S32K S Sn 07 17 37.2 -1.3
baz=293
S32K Killisnoo 3.77 107 Sn Sn 07 17 35.9 -2.6
S32K Sg Sb 07 17 53.2 +4.3
N31M Braeburn, Yuko 3.86 43 Pn 07 16 55.7 -0.4
N31M Braeburn, Yuko 3.86 43 IAML 07 18 12.0
comp=E,360nm,0.9s
N31M IAML 07 18 18.8
comp=N,294nm,1.2s
N31M Braeburn, Yuko 3.86 43 P Pn 07 16 55.5 -0.6
baz=228,SNR=12
N31M Braeburn, Yuko 3.86 43 Pn Pn 07 16 55.9 -0.2
M29M Somme Creek 3.93 19 P Pn 07 16 56.9 -0.2
baz=202,SNR=17
M29M Somme Creek 3.93 19 Pn Pn 07 16 57.2 0.0
P32M Atlin 3.96 75 Pn 07 16 56.5 -1.0
P32M Atlin 3.96 75 IAML 07 18 10.1
comp=E,172nm,1.0s
P32M IAML 07 18 14.7
comp=N,266nm,0.9s
P32M Atlin 3.96 75 P Pn 07 16 56.5 -1.0
baz=262,SNR=7.2
P32M Atlin 3.96 75 Pn Pn 07 16 56.1 -1.4
HARP HAARP 4.12 334 Pn 07 16 59.3 -0.3
HARP HAARP 4.12 334 P Pn 07 16 58.1 -1.5
baz=151,SNR=12
M24K Tolsona, Glenn 4.14 326 Pn 07 16 59.6 -0.4
M24K Tolsona, Glenn 4.14 326 IAML 07 18 20.9
comp=N,1226nm,1.0s
M24K Tolsona, Glenn 4.14 326 P Pn 07 16 58.5 -1.5
baz=142
SCM Sheep Creek Mo 4.31 318 Pn 07 17 00.8 -1.6
SCM Sheep Creek Mo 4.31 318 IAML 07 18 13.7
comp=E,191nm,0.7s
SCM IAML 07 18 20.4
comp=N,174nm,0.8s
SCM Sheep Creek Mo 4.31 318 P Pn 07 17 01.0 -1.4
baz=133,SNR=7.8
L27K Beaver Creek, 4.32 356 P Pn 07 17 01.4 -1.0
baz=176,SNR=24
L27K S Sn 07 17 49.1 -3.0
baz=176
L27K Beaver Creek, 4.32 356 Pn Pn 07 17 01.4 -1.0
L27K Sn Sn 07 17 49.1 -3.0
BCAR Beaver Creek A 4.32 357 Pn 07 17 01.5 -0.9
MENT Mentasta 4.35 345 IAML 07 18 27.0
comp=E,136nm,0.9s
L26K Log Cabin Wild 4.39 347 Pn 07 17 01.6 -1.8
L26K Log Cabin Wild 4.39 347 IAML 07 17 57.1
comp=E,126nm,0.5s
L26K Log Cabin Wild 4.39 347 P Pn 07 17 02.1 -1.3
baz=166,SNR=36
SEW Seward 4.40 291 Pn 07 17 01.1 -2.3
SEW Seward 4.40 291 P Pn 07 17 02.3 -1.2
baz=104
M23K Glacier View 4.43 316 Pn 07 17 02.2 -1.7
M23K Glacier View 4.43 316 P Pn 07 17 02.7 -1.1
baz=130,SNR=19
M23K S Sn 07 17 54.1 -0.7
baz=130
KNK Knik Glacier 4.48 309 IAML 07 17 58.6
comp=E,189nm,0.4s
KNK IAML 07 18 19.1
comp=N,137nm,1.3s
KNK Knik Glacier 4.48 309 P Pn 07 17 03.7 -0.9
baz=123,SNR=12
KNK S Sn 07 17 54.3 -1.7
baz=123
P33M Teslin, Yukon 4.53 68 IAML 07 18 28.1
comp=N,148nm,0.7s
P33M IAML 07 18 28.5
comp=E,151nm,0.9s
P33M Teslin, Yukon 4.53 68 P Pn 07 17 04.4 -1.0
baz=255,SNR=20
P33M Teslin, Yukon 4.53 68 Pn Pn 07 17 04.2 -1.2
L29M L29M 4.61 18 Pn 07 17 06.7 +0.3
L29M IAML 07 18 34.6
comp=E,126nm,0.8s
L29M IAML 07 18 35.4
comp=N,103nm,0.8s
L29M L29M 4.61 18 P Pn 07 17 06.6 +0.2
baz=201,SNR=28
L29M S Sn 07 17 57.7 -1.7
baz=201
L29M L29M 4.61 18 Pn Pn 07 17 06.7 +0.3
O22K Cooper Landing 4.63 295 Pn 07 17 05.6 -1.1
O22K Cooper Landing 4.63 295 P Pn 07 17 05.6 -1.1
baz=108
O22K S Sn 07 17 57.9 -1.9
baz=108
SML Sawmill 4.66 314 Pn 07 17 06.0 -1.1
SML IAML 07 18 15.3
comp=E,122nm,0.5s
SML IAML 07 18 40.3
comp=N,91nm,0.9s
SML Sawmill 4.66 314 P Pn 07 17 05.7 -1.4
baz=128
SML S Sn 07 17 58.7 -1.9
baz=128
PAX Paxson 4.69 336 Pn 07 17 06.9 -0.6
PAX Paxson 4.69 336 P Pn 07 17 06.4 -1.2
baz=152,SNR=12
PAX Paxson 4.69 336 Pn Pn 07 17 07.6 0.0
N32M Quiet Lake 4.75 56 P Pn 07 17 07.5 -0.8
baz=244
N32M Quiet Lake 4.75 56 Pn Pn 07 17 07.9 -0.4
M31M Drury Creek, Y 4.83 42 IAML 07 18 39.2
comp=E,120nm,1.0s
M31M IAML 07 18 41.1
comp=N,90nm,0.8s
M31M Drury Creek, Y 4.83 42 P Pn 07 17 08.9 -0.5
baz=228,SNR=12
M31M Drury Creek, Y 4.83 42 Pn Pn 07 17 09.4 0.0
PMR Palmer 4.85 309 P Pn 07 17 08.8 -0.8
PMR Palmer 4.85 309 P Pn 07 17 08.6 -1.0
baz=122,SNR=12
RC01 Rabbit Creek A 4.86 302 IAML 07 18 06.5
comp=N,181nm,0.4s
RC01 IAML 07 18 06.8
comp=E,143nm,0.5s
RC01 Rabbit Creek A 4.86 302 P Pn 07 17 08.4 -1.5
baz=115
GHO Glory Hole Cre 4.87 311 Pn 07 17 08.6 -1.3
GHO Glory Hole Cre 4.87 311 IAML 07 18 28.6
comp=E,108nm,1.0s
GHO IAML 07 18 29.0
comp=N,116nm,0.7s
SLKM Skilak Lake 4.88 295 Pn 07 17 08.3 -1.8
BRSE Bradley Lake S 4.97 285 Pn 07 17 09.6 -1.8
BRSE Bradley Lake S 4.97 285 P Pn 07 17 10.0 -1.3
baz=97
WAT6 Susitna Watana 4.98 323 Pn 07 17 10.3 -1.3
WAT6 Susitna Watana 4.98 323 P Pn 07 17 10.3 -1.3
baz=137,SNR=27
WAT6 S Sn 07 18 05.8 -2.8
baz=137
BRLK Bradley Lake 5.05 286 Pn 07 17 11.2 -1.2
U33K Whale Pass 5.13 118 Pn 07 17 12.4 -1.1
U33K Whale Pass 5.13 118 P Pn 07 17 12.4 -1.1
baz=305
U33K Whale Pass 5.13 118 Pn Pn 07 17 12.1 -1.4
CNPM China Poot 5.20 283 Pn 07 17 13.2 -1.3
FARO Faro, Yukon 5.22 45 Pn Pn 07 17 15.0 +0.2
DHY Denali Highway 5.25 328 Pn 07 17 14.9 -0.4
DHY Denali Highway 5.25 328 P Pn 07 17 15.2 -0.1
baz=143,SNR=8.9
DHY S Sn 07 18 13.3 -2.0
baz=143
K27K Chicken 5.29 356 Pn 07 17 14.8 -0.9
K27K Chicken 5.29 356 P Pn 07 17 14.9 -0.9
baz=176
K27K S Sn 07 18 12.8 -3.3
baz=176
K27K Chicken 5.29 356 Pn Pn 07 17 16.2 +0.5
M22K Willow 5.33 308 IAML 07 18 43.7
comp=E,143nm,0.5s
M22K IAML 07 19 00.7
comp=N,173nm,1.6s
M22K Willow 5.33 308 P Pn 07 17 16.3 0.0
baz=120
WRAK Wrangell Islan 5.33 112 P Pn 07 17 16.8 +0.5
baz=300
R33M Jennings River 5.34 79 IAML 07 18 50.6
comp=N,133nm,1.4s
R33M IAML 07 19 04.3
comp=E,103nm,0.8s
R33M Jennings River 5.34 79 P Pn 07 17 15.4 -1.1
baz=268,SNR=16
R33M S Sn 07 18 14.2 -3.3
baz=268
R33M Jennings River 5.34 79 Pn Pn 07 17 15.3 -1.2
R33M Jennings River 5.34 79 Sn Sn 07 18 14.3 -3.1
DAWY Dawson 5.39 9 Pn 07 17 16.9 -0.2
DAWY Dawson 5.39 9 P Pn 07 17 17.1 0.0
baz=191,SNR=39
DAWY Dawson 5.39 9 Pn Pn 07 17 16.9 -0.2
SCRK Sand Creek 5.39 347 Pn 07 17 17.2 0.0
SCRK Sand Creek 5.39 347 P Pn 07 17 17.3 +0.1
baz=165,SNR=19
SCRK S Sn 07 18 17.1 -1.5
baz=165
CAPN Captain Cook N 5.39 296 P Pn 07 17 18.1 +1.1
baz=108
K29M Barlow Dome 5.40 18 P Pn 07 17 17.9 +0.7
baz=201,SNR=116
K29M S Sn 07 18 15.5 -3.3
baz=201
K29M Barlow Dome 5.40 18 Pn Pn 07 17 17.8 +0.6
S34M Telegraph Cree 5.40 95 Pn 07 17 16.2 -0.9
S34M Telegraph Cree 5.40 95 S Sn 07 18 16.6 -2.1
baz=284
HOM Homer 5.42 284 P Pn 07 17 17.5 +0.1
baz=95
WAT1 Susitna Watana 5.42 322 P Pn 07 17 16.4 -1.1
baz=136
SUA Susitna One 5.46 304 Pn 07 17 16.9 -1.3
SUA Susitna One 5.46 304 P Pn 07 17 17.1 -1.1
baz=116,SNR=10
SUA S Sn 07 18 18.5 -1.9
baz=116
MAYO Mayo, Yukon 5.49 26 P Pn 07 17 18.8 +0.3
baz=211,SNR=22
MAYO Mayo, Yukon 5.49 26 Pn Pn 07 17 18.6 +0.2
MAYO Mayo, Yukon 5.49 26 Sn Sn 07 18 17.5 -3.4
K24K Donnelly Dome 5.50 339 Pn 07 17 17.3 -1.4
K24K Donnelly Dome 5.50 339 P Pn 07 17 17.4 -1.2
baz=155,SNR=7.3
CRAG Craig 5.52 123 P Pn 07 17 17.0 -1.9
CRAG Craig 5.52 123 Pn 07 17 17.2 -1.7
CRAG Craig 5.52 123 P Pn 07 17 17.3 -1.5
baz=310
CUT Chulitna 5.75 313 P Pn 07 17 21.9 0.0
baz=126,SNR=12
SYI Shuyak Island 5.82 273 Pn 07 17 22.2 -0.7
Q20K Shuyak Island 5.82 273 P Pn 07 17 22.3 -0.6
baz=84
J26L Joseph Creek 5.86 350 Pn 07 17 23.4 -0.2
J26L Joseph Creek 5.86 350 P Pn 07 17 24.1 +0.6
baz=168,SNR=88
DLBC Dease Lake 5.88 88 Pn 07 17 23.2 -0.6
DLBC Dease Lake 5.88 88 P Pn 07 17 23.5 -0.3
baz=278,SNR=15
DLBC Dease Lake 5.88 88 Pn Pn 07 17 23.4 -0.3
comp=E,1.3nm,0.3s,baz=257,slow=9.1,SNR=23
DLBC Sn Sn 07 18 27.9 -2.7
comp=E,4.6nm,0.3s,baz=24,slow=27,SNR=5.8
comp=E,5.4nm,0.5s
DLBC Dease Lake 5.88 88 Pn Pn 07 17 22.8 -1.0
J29N Klondike Camp 5.88 13 P Pn 07 17 24.2 +0.3
baz=196,SNR=32
RND Reindeer 5.94 325 Pn 07 17 24.1 -0.5
RDT Redoubt 5.94 292 Pn 07 17 23.1 -1.5
O20K Slope Mountain 5.96 288 P Pn 07 17 24.7 -0.2
baz=98
STLK Strandline Lak 5.96 302 Pn 07 17 23.3 -1.6
SPCG Spurr Capps Gl 5.96 300 Pn 07 17 23.6 -1.4
SPCN Chakachatna No 6.01 299 Pn 07 17 25.0 -0.7
SPCP Crater Peak Br 6.01 299 Pn 07 17 24.1 -1.6
N20K Mount Spurr 6.02 299 P Pn 07 17 25.4 -0.4
baz=109
SPCR Spurr Chakacha 6.02 299 Pn 07 17 24.1 -1.6
EGAK Eagle 6.03 0 Pn 07 17 25.8 0.0
EGAK Eagle 6.03 0 P Pn 07 17 26.6 +0.8
baz=181,SNR=65
EGAK Eagle 6.03 0 Pn Pn 07 17 25.7 -0.2
SKT Skwentna 6.03 307 Pn 07 17 25.8 -0.1
SKT Skwentna 6.03 307 P Pn 07 17 26.0 +0.2
baz=118,SNR=21
KDAK Kodiak Island 6.06 265 Pn 07 17 24.8 -1.5
KDAK Kodiak Island 6.06 265 P Pn 07 17 24.9 -1.4
baz=76
KDAK Kodiak Island 6.06 265 Pn Pn 07 17 24.9 -1.4
comp=E,10nm,0.3s,baz=74,slow=10,SNR=217
KDAK Sn Sn 07 18 31.3 -3.7
comp=E,9.6nm,0.3s,baz=120,slow=20,SNR=9.2
comp=E,24nm,0.3s
RDSO Redoubt South 6.08 291 Pn 07 17 26.0 -0.6
RED Redoubt Volcan 6.08 291 Pn 07 17 25.6 -1.1
SPBG Spurr Blockage 6.11 299 Pn 07 17 25.5 -1.5
RDWB Redoubt West 6.13 291 Pn 07 17 26.6 -0.8
T35M Bob Quinn 6.13 102 P Pn 07 17 27.9 +0.6
baz=292
T35M Bob Quinn 6.13 102 Pn Pn 07 17 26.1 -1.2
J25K Salcha River, 6.18 343 P Pn 07 17 27.8 -0.2
baz=160,SNR=19
MCK McKinley 6.21 327 Pn 07 17 27.8 -0.5
MCK McKinley 6.21 327 P Pn 07 17 28.1 -0.2
baz=140,SNR=9.2
P19K Oil Pt 6.22 283 Pn 07 17 27.9 -0.6
P19K Oil Pt 6.22 283 P Pn 07 17 28.5 0.0
baz=93,SNR=13
J30M Hart River 6.28 20 Pn 07 17 29.9 +0.6
J30M Hart River 6.28 20 P Pn 07 17 29.9 +0.6
baz=204,SNR=19
J30M Hart River 6.28 20 Pn Pn 07 17 29.9 +0.6
HDA Harding Lake 6.28 337 P Pn 07 17 27.0 -2.2
baz=152,SNR=12
V35K Ketchikan 6.29 119 Pn 07 17 28.6 -0.8
V35K Ketchikan 6.29 119 P Pn 07 17 29.1 -0.2
baz=307
V35K Ketchikan 6.29 119 Pn Pn 07 17 27.2 -2.1
SPNN North Nagishla 6.30 299 Pn 07 17 28.8 -0.8
LIB Langara Island 6.40 131 Pn Pn 07 17 28.9 -2.0
TRF Thorofare Moun 6.42 321 Pn 07 17 30.8 -0.5
TRF Thorofare Moun 6.42 321 P Pn 07 17 31.1 -0.2
baz=133,SNR=11
Q19K Cape Douglas, 6.44 277 Pn 07 17 31.1 -0.4
Q19K Cape Douglas, 6.44 277 P Pn 07 17 31.1 -0.4
baz=86,SNR=6.1
IL31 6.59 338 Pn 07 17 32.2 -1.3
ILAR Eielson Array 6.59 338 Pn Pn 07 17 32.4 -1.1
comp=E,1.8nm,0.3s,baz=169,slow=12,SNR=124
ILAR Sn Sn 07 18 46.3 -1.6
comp=E,0.6nm,0.3s,baz=154,slow=19,SNR=6.3
comp=E,1.8nm,0.5s
OHAK Old Harbor 6.59 262 P Pn 07 17 31.8 -1.7
OHAK Old Harbor 6.59 262 Pn 07 17 31.8 -1.7
OHAK Old Harbor 6.59 262 P Pn 07 17 31.7 -1.7
baz=71,SNR=10.0
I26K Coal Creek Min 6.62 353 P Pn 07 17 34.1 +0.2
baz=172
M20K Styx River 6.67 303 P Pn 07 17 34.6 -0.2
baz=113
BWN Browne 6.69 328 Pn Pn 07 17 33.8 -1.2
KTH Kantishna Hill 6.70 320 Pn 07 17 34.5 -0.6
I28M Miner Creek 6.73 5 Pn Pn 07 17 35.9 +0.4
I28M Miner Creek 6.73 5 P Pn 07 17 35.8 +0.2
baz=186,SNR=18
I28M Miner Creek 6.73 5 Pn Pn 07 17 35.9 +0.4
PPLA Purkeypile 6.76 312 Pn 07 17 34.8 -1.1
PPLA Purkeypile 6.76 312 P Pn 07 17 35.6 -0.3
baz=123,SNR=5.9
O19K Port Alsworth 6.81 288 Pn 07 17 34.9 -1.6
O19K Port Alsworth 6.81 288 P Pn 07 17 35.5 -1.1
baz=96
I27K Kandik River 6.86 359 Pn 07 17 37.6 +0.3
I27K Kandik River 6.86 359 P Pn 07 17 37.3 0.0
baz=179,SNR=16
I27K Kandik River 6.86 359 Pn Pn 07 17 37.8 +0.5
I30M Mount Dempster 6.87 17 P Pn 07 17 38.2 +0.7
baz=202,SNR=18
I30M Mount Dempster 6.87 17 Pn Pn 07 17 38.1 +0.7
COLA College 6.87 336 P Pn 07 17 36.7 -0.7
COLA College 6.87 336 Pn 07 17 36.5 -0.8
COLA College 6.87 336 P Pn 07 17 36.5 -0.8
baz=150
NEA2 Nenana 6.92 331 Pn 07 17 36.9 -1.1
NEA2 Nenana 6.92 331 P Pn 07 17 36.8 -1.3
baz=144
N19K Bonanza Creek 6.99 293 Pn 07 17 37.8 -1.2
N19K Bonanza Creek 6.99 293 P Pn 07 17 38.0 -1.0
baz=101
POKR Poker Plat Res 7.00 338 P Pn 07 17 38.2 -1.0
baz=153
CAST Castle Rocks 7.02 316 Pn Pn 07 17 38.6 -0.9
CAST Castle Rocks 7.02 316 P Pn 07 17 38.9 -0.5
baz=127
TGTN Hyland Airport 7.04 61 P Pn 07 17 39.6 -0.1
baz=253
TGTN Hyland Airport 7.04 61 Pn Pn 07 17 38.9 -0.9
PRP Porcupine Dome 7.06 345 Pn 07 17 39.1 -1.0
PRP Porcupine Dome 7.06 345 P Pn 07 17 39.7 -0.4
baz=162
BPAW Bear Paw Mtn. 7.09 323 Pn Pn 07 17 39.7 -0.8
BPAW Bear Paw Mtn. 7.09 323 P Pn 07 17 39.3 -1.2
baz=135,SNR=6.5
KAHC Katmai Hardscr 7.17 275 Pn 07 17 41.1 -0.5
O18K Koktuh Hills 7.23 285 Pn 07 17 40.8 -1.5
O18K Koktuh Hills 7.23 285 P Pn 07 17 41.3 -1.0
baz=92
P18K Big Mountain, 7.23 281 Pn 07 17 41.0 -1.4
P18K Big Mountain, 7.23 281 P Pn 07 17 40.9 -1.5
baz=89
L20K Farewell, AK 7.24 306 Pn 07 17 40.9 -1.5
L20K Farewell, AK 7.24 306 P Pn 07 17 41.8 -0.7
baz=115,SNR=8.1
M19K Big River Lodg 7.24 301 P Pn 07 17 42.0 -0.4
baz=110
SII Sitkinak Islan 7.29 258 Pn 07 17 41.9 -1.2
SII Sitkinak Islan 7.29 258 P Pn 07 17 42.3 -0.8
baz=67
KVTA Katmai Vly 10 7.36 273 Pn 07 17 43.5 -0.6
CHUM Lake Minchumin 7.39 319 P Pn 07 17 43.2 -1.2
baz=129,SNR=8.7
ACHA Angle Creek He 7.40 272 Pn 07 17 44.6 -0.1
DIB Dawson Inlet, 7.43 135 Pn 07 17 44.0 -1.1
DIB Dawson Inlet, 7.43 135 Pn Pn 07 17 43.3 -1.8
DIB Dawson Inlet, 7.43 135 Sn Sn 07 19 01.7 -7.0
I23K Minto, Yukon-K 7.45 333 P Pn 07 17 43.9 -1.4
baz=146
H27K Steamboat Moun 7.49 359 P Pn 07 17 46.6 +0.7
baz=179,SNR=12
H27K Steamboat Moun 7.49 359 Pn Pn 07 17 46.2 +0.3
ANCK Angle Creek 7.49 272 Pn 07 17 45.4 -0.6
RUBB Prince Rupert 7.53 122 Pn 07 17 45.4 -1.0
RUBB Prince Rupert 7.53 122 Pn Pn 07 17 45.1 -1.3
L19K White Mountain 7.54 303 Pn 07 17 45.8 -0.8
L19K White Mountain 7.54 303 P Pn 07 17 46.0 -0.6
baz=111,SNR=30
H29M Whitestone 7.59 9 P Pn 07 17 46.0 -1.2
baz=192,SNR=7.4
H29M Whitestone 7.59 9 Pn Pn 07 17 46.4 -0.9
N18K Kilae Creek 7.65 291 Pn 07 17 46.4 -1.7
N18K Kilae Creek 7.65 291 P Pn 07 17 46.8 -1.2
baz=98,SNR=5.1
CNTC Contact Creek 7.68 272 Pn 07 17 47.8 -0.9
Q17K Contact Creek 7.69 272 P Pn 07 17 48.2 -0.5
baz=80,SNR=9.7
MLY Manley 7.71 329 Pn 07 17 47.1 -1.7
MLY Manley 7.71 329 P Pn 07 17 47.5 -1.4
baz=140
K20K Telida 7.73 312 Pn 07 17 47.2 -1.9
K20K Telida 7.73 312 P Pn 07 17 48.7 -0.4
baz=121,SNR=13
H24K Noodor Dome 7.73 339 P Pn 07 17 48.6 -0.6
baz=154
H31M Peel River 7.75 22 Pn 07 17 48.7 -0.8
H31M Peel River 7.75 22 P Pn 07 17 49.2 -0.3
baz=208
H31M Peel River 7.75 22 Pn Pn 07 17 49.6 +0.1
M18K Stony River 7.77 297 Pn 07 17 48.6 -1.1
M18K Stony River 7.77 297 P Pn 07 17 48.7 -1.1
baz=104
HG1B Mitchell Dam 7.77 135 Pn Pn 07 17 48.5 -1.2
H25L Birch Creek 7.81 346 P Pn 07 17 50.0 -0.3
baz=162
P17K Kvichak River 7.86 280 P Pn 07 17 49.9 -1.0
baz=86
BNAB Bonilla 7.94 127 Pn 07 17 50.9 -1.1
BNAB Bonilla 7.94 127 Pn Pn 07 17 50.6 -1.4
GRNB Grenville Isla 7.98 123 Pn Pn 07 17 51.0 -1.6
Q16K King Salmon 8.02 276 Pn 07 17 52.3 -0.8
Q16K King Salmon 8.02 276 P Pn 07 17 52.5 -0.6
baz=83
H23K Yukon River 8.06 335 P Pn 07 17 52.8 -0.9
baz=148
G27K Doyon Strip 8.07 359 P Pn 07 17 53.0 -0.8
baz=179,SNR=13
G27K Doyon Strip 8.07 359 Pn Pn 07 17 54.9 +1.1
O17K Koliganek Bris 8.18 284 Pn 07 17 53.7 -1.6
O17K Koliganek Bris 8.18 284 P Pn 07 17 54.1 -1.2
baz=90
BAIB Barry Inlet 8.20 135 Pn Pn 07 17 54.5 -1.1
BNB Barry Inlet 8.20 135 Pn Pn 07 17 54.5 -1.2
J20K Nowinta River 8.21 317 Pn 07 17 53.9 -1.7
J20K Nowinta River 8.21 317 P Pn 07 17 54.1 -1.5
baz=126,SNR=9.8
N17K Nushagak Hills 8.26 289 P Pn 07 17 54.9 -1.5
baz=95,SNR=5.4
G26K Porcupine Rive 8.29 353 P Pn 07 17 54.6 -2.2
baz=171
G29M Pine Creek 8.30 9 P Pn 07 17 56.0 -1.0
baz=192
G29M Pine Creek 8.30 9 Pn Pn 07 17 57.1 +0.1
TOAD Toad River Com 8.31 83 Pn Pn 07 17 56.5 -0.7
TTA Tatalina 8.32 306 P Pn 07 17 56.3 -1.0
TTA Tatalina 8.32 306 Pn 07 17 56.1 -1.2
TTA Tatalina 8.32 306 P Pn 07 17 55.8 -1.5
baz=114,SNR=19
G25K Bearman Lake 8.32 347 P Pn 07 17 56.3 -0.9
baz=162
L18K Granite Mounta 8.37 301 Pn 07 17 55.8 -2.0
L18K Granite Mounta 8.37 301 P Pn 07 17 56.6 -1.2
baz=108
KITB Kitimat 8.42 119 Pn Pn 07 17 56.1 -2.4
G24K Hadweenzic Riv 8.45 343 P Pn 07 17 57.4 -1.7
baz=158
M17K Holitna River 8.51 295 Pn 07 17 58.5 -1.3
M17K Holitna River 8.51 295 P Pn 07 17 58.3 -1.6
baz=101
H22K Ishtalitna Cre 8.55 331 P Pn 07 17 58.9 -1.5
baz=142
G30M tAoh Zraii Nji 8.55 13 P Pn 07 17 58.4 -2.0
baz=198,SNR=11
G30M tAoh Zraii Nji 8.55 13 Pn Pn 07 17 59.4 -1.0
JEDB Jedway, Haida 8.63 134 Pn Pn 07 18 00.2 -1.3
J19K Poorman 8.65 313 Pn 07 18 00.3 -1.5
J19K Poorman 8.65 313 P Pn 07 18 00.2 -1.6
baz=121,SNR=6.7
P16K Nushagak River 8.67 279 P Pn 07 18 01.6 -0.4
baz=84
GRIB Gribbell Islan 8.68 124 Pn Pn 07 18 01.1 -1.1
O16K Kokwok River B 8.69 283 Pn 07 18 01.0 -1.3
O16K Kokwok River B 8.69 283 P Pn 07 18 01.6 -0.6

baz=88
R16K Pilot Point 8.71 269 P Pn 07 18 02.1 -0.5
baz=75
H21K Melozitna Rive 8.76 327 Pn 07 18 01.8 -1.4
H21K Melozitna Rive 8.76 327 P Pn 07 18 01.4 -1.8
baz=137
G31M Satah River 8.78 18 Pn 07 18 02.2 -1.2
G31M Satah River 8.78 18 P Pn 07 18 02.1 -1.2
baz=205,SNR=12
G31M Satah River 8.78 18 Pn Pn 07 18 02.7 -0.7
BMAR Burnt Mountain 8.82 352 Pn 07 18 05.1 +0.9
J18K Innoko River 8.83 309 Pn 07 18 03.9 -0.4
J18K Innoko River 8.83 309 P Pn 07 18 04.0 -0.2
baz=115,SNR=22
F28M Old Crow 8.90 3 P Pn 07 18 04.9 -0.2
baz=185
F28M Old Crow 8.90 3 Pn Pn 07 18 05.8 +0.7
G23K Bananza Creek 8.92 337 Pn 07 18 04.1 -1.4
G23K Bananza Creek 8.92 337 P Pn 07 18 04.8 -0.7
baz=149,SNR=6.2
N16K Nishlik Lake 9.04 288 Pn 07 18 06.2 -0.9
N16K Nishlik Lake 9.04 288 P Pn 07 18 06.6 -0.5
baz=93,SNR=6.4
F26K Sheenjek River 9.05 353 Pn 07 18 07.1 -0.1
F26K Sheenjek River 9.05 353 P Pn 07 18 07.6 +0.3
baz=170,SNR=8.8
L17K Donlin 9.07 299 P Pn 07 18 06.1 -1.3
baz=104,SNR=7.6
BUTB Butedale 9.17 123 Pn Pn 07 18 08.3 -0.6
M16K Timber Creek 9.18 292 P Pn 07 18 07.8 -1.2
baz=96
F30M Barrier River 9.21 13 P Pn 07 18 05.5 -3.8
baz=198
F30M Barrier River 9.21 13 Pn Pn 07 18 05.5 -3.8
K17K Iditarod 9.23 303 Pn 07 18 08.5 -1.1
K17K Iditarod 9.23 303 P Pn 07 18 08.8 -0.9
baz=108,SNR=7.5
IMAR Indian Mountai 9.26 327 Pn 07 18 09.2 -0.9
H20K Anotleneega Mo 9.27 322 Pn 07 18 08.6 -1.6
H20K Anotleneega Mo 9.27 322 P Pn 07 18 08.0 -2.2
baz=130
F24K Squaw Lake 9.27 344 P Pn 07 18 10.3 -0.1
baz=158
F31M Tsiigehtchic 9.34 18 P Pn 07 18 09.9 -1.1
baz=205,SNR=6.7
F31M Tsiigehtchic 9.34 18 Pn Pn 07 18 08.3 -2.8
COLD Coldfoot 9.40 338 Pn 07 18 11.1 -0.9
COLD Coldfoot 9.40 338 P Pn 07 18 10.4 -1.6
baz=150
COLD Coldfoot 9.40 338 Pn Pn 07 18 11.0 -0.9
E27K Coleen River 9.46 359 P Pn 07 18 12.4 -0.4
baz=179
E27K Coleen River 9.46 359 Pn Pn 07 18 13.4 +0.7
GCSA Galena City Sc 9.51 316 P Pn 07 18 11.8 -1.7
baz=122
L16K Owhat River 9.52 296 P Pn 07 18 12.3 -1.4
baz=100
CHGN Chignik 9.55 262 Pn 07 18 13.8 -0.3
CHGN Chignik 9.55 262 P Pn 07 18 13.8 -0.3
baz=68
E25K Arctic Village 9.58 350 P Pn 07 18 13.3 -1.2
baz=166
G21K Allakaket 9.58 329 P Pn 07 18 13.1 -1.4
baz=138
O15K Ungalikthiuk R 9.60 280 Pn 07 18 13.8 -1.0
O15K Ungalikthiuk R 9.60 280 P Pn 07 18 14.1 -0.7
baz=84
FNSB Fort Nelson 9.61 82 Pn Pn 07 18 14.4 -0.5
N15K Kwethluk River 9.69 286 Pn 07 18 15.4 -0.6
N15K Kwethluk River 9.69 286 P Pn 07 18 15.4 -0.6
baz=90,SNR=9.3
E29M Blow River 9.77 7 Pn 07 18 14.8 -2.2
E29M Blow River 9.77 7 P Pn 07 18 15.4 -1.6
baz=190
J17K VABM Dome 9.79 306 Pn 07 18 14.7 -2.6
J17K VABM Dome 9.79 306 P Pn 07 18 16.0 -1.3
baz=110
H19K Roundabout Mou 9.80 320 P Pn 07 18 15.9 -1.6
baz=127
E24K Your Creek 9.88 344 P Pn 07 18 18.2 -0.4
baz=158
E28M Babbage River 9.90 4 Pn 07 18 17.4 -1.4
E28M Babbage River 9.90 4 P Pn 07 18 17.5 -1.4
baz=185,SNR=7.0
E28M Babbage River 9.90 4 Pn Pn 07 18 18.3 -0.6
BBB Bella Bella 9.94 126 Pn Pn 07 18 19.2 -0.2
comp=E,1.0nm,0.3s,baz=328,slow=14,SNR=11
BBB Sn Sn 07 20 07.0 -3.3
comp=E,0.3nm,0.3s,baz=80,slow=18,SNR=5.7
comp=E,8.5nm,0.7s
BBB Bella Bella 9.94 126 Pn Pn 07 18 18.6 -0.9
M15K Kasigluk River 10.00 289 P Pn 07 18 19.6 -0.6
baz=93
F22K John River 10.05 335 P Pn 07 18 19.7 -1.2
baz=146
F21K Alatna River 10.12 332 Pn 07 18 20.9 -1.0
F21K Alatna River 10.12 332 P Pn 07 18 20.9 -1.0
baz=141
S14K Fog Glacier 10.15 264 P Pn 07 18 21.8 -0.6
baz=68
INK Inuvik 10.16 16 Pn Pn 07 18 21.4 -1.0
INK Inuvik 10.16 16 P Pn 07 18 20.2 -2.2
baz=204,SNR=6.3
INK Inuvik 10.16 16 Pn Pn 07 18 21.1 -1.2
comp=E,0.2nm,0.3s,baz=216,slow=11,SNR=14
comp=E,2.5nm,0.8s
INK Inuvik 10.16 16 Pn Pn 07 18 20.6 -1.8
H18K Honhosa River 10.26 316 P Pn 07 18 22.2 -1.7
baz=121
O14K Tigyukauivet M 10.33 281 P Pn 07 18 23.9 -0.8
baz=84
G19K Purcell Mounta 10.38 322 P Pn 07 18 24.2 -1.3
baz=128
J16K Anvik River 10.40 304 P Pn 07 18 24.5 -1.2
baz=107
L15K Ungalak Mounta 10.47 295 P Pn 07 18 25.7 -0.9
baz=97
N14K Kuskokwak Cree 10.49 285 P Pn 07 18 25.9 -1.1
baz=87
D27M Malcolm River 10.52 1 Pn 07 18 26.9 -0.5
D27M Malcolm River 10.52 1 P Pn 07 18 25.8 -1.5
baz=181
TOLK Toolik Lake Re 10.56 343 Pn 07 18 27.4 -0.5
TOLK Toolik Lake Re 10.56 343 P Pn 07 18 26.0 -1.9
baz=156
F20K Avaraart Lake 10.58 328 P Pn 07 18 26.2 -1.9
baz=135
NBC3 NorthernBC 3 10.58 77 Pn Pn 07 18 28.2 +0.1
K15K Wolf Creek Mou 10.58 298 Pn 07 18 27.1 -1.0
K15K Wolf Creek Mou 10.58 298 P Pn 07 18 27.2 -0.9
baz=100
M14K Bethel 10.62 290 P Pn 07 18 27.8 -1.0
baz=92
D28M Stokes Point 10.66 5 Pn Pn 07 18 27.8 -1.3
H17K Granite Mounta 10.74 313 P Pn 07 18 29.2 -1.1
baz=116
G18K Tagagawik 10.76 319 Pn Pn 07 18 29.3 -1.3
G18K Tagagawik 10.76 319 P Pn 07 18 29.1 -1.6
baz=124
CHNA Chernabura Isl 10.79 256 P Pn 07 18 30.8 -0.2
baz=61
D25K Kavik River 10.82 350 Pn Pn 07 18 32.9 +1.3
C27K Jago River 10.95 355 P Pn 07 18 31.9 -1.3
baz=173
L14K Kuka Creek 11.01 293 Pn Pn 07 18 32.8 -1.1
L14K Kuka Creek 11.01 293 P Pn 07 18 33.0 -0.9
baz=94
SDPT Sand Point 11.01 260 P Pn 07 18 33.5 -0.5
SDPT Sand Point 11.01 260 Pn 07 18 33.0 -1.0
SDPT Sand Point 11.01 260 P Pn 07 18 33.7 -0.3
baz=64
E21K Killik River 11.20 335 P Pn 07 18 34.3 -2.4
baz=144
G17K Kiwalik Mounta 11.27 315 P Pn 07 18 36.5 -1.1
baz=118
E19K Redstone River 11.28 327 P Pn 07 18 36.1 -1.7
baz=133
E20K Nigu River 11.58 331 P Pn 07 18 42.0 +0.2
baz=138
J14K Nanvaranak Lak 11.59 300 P Pn 07 18 41.3 -0.6
baz=100
S12K Black Hills 11.68 264 P Pn 07 18 42.8 -0.4
baz=66
C36M Paulatuk 12.94 28 Pn Pn 07 18 59.0 -1.2
C36M Paulatuk 12.94 28 P Pn 07 18 58.6 -1.6
baz=224
C36M Paulatuk 12.94 28 Pn Pn 07 18 58.9 -1.3
YKA Yellowknife Ar 13.54 63 Pn Pn 07 19 06.9 -1.7
baz=264,slow=13,SNR=8.4
comp=E,0.7nm,0.7s
A36M Sachs Harbour 14.76 20 P Pn 07 19 22.1 -3.1
baz=214,SNR=11
UNV Unalaska Valle 14.81 262 P Pn 07 19 24.8 -1.1
EDM Edmonton 16.49 98 P P 07 19 51.5 +1.2
EDM IAmb IAmb 07 19 54.0
comp=Z,22nm,1.2s
NEW Newport 17.68 116 P P 07 20 04.1 +0.5
comp=Z,0.1nm,0.3s,baz=321,slow=14,SNR=3.1
comp=Z,0.8nm,0.5s
ATKA Atka Island 19.64 265 P P 07 20 24.4 -0.5
J08A Circle Bar Ran 20.88 128 IAmb IAmb 07 20 42.7
comp=Z,8.1nm,1.1s
EGMT Eagleton 21.43 106 P P 07 20 44.8 +0.3
EGMT IAmb IAmb 07 20 57.7
comp=Z,7.0nm,0.9s
EGMT Eagleton 21.43 106 P P 07 20 44.9 +0.5
baz=312
FFC Flin Flon 21.68 84 P P 07 20 47.8 +0.7
BOZ Bozeman (W) 22.21 113 P P 07 20 52.4 -0.5
baz=317
HLID Hailey 22.47 121 P P 07 20 55.4 -0.4
baz=322
RES Resolute Bay 23.30 29 P P 07 21 02.9 -1.1
RES IAmb IAmb 07 21 14.9
comp=Z,6.9nm,1.2s
IMW Indian Meadow 23.80 115 P P 07 21 09.4 -0.1
IMW IAmb IAmb 07 21 37.7
comp=Z,6.0nm,1.2s
LAO LASA Array 24.10 105 P P 07 21 10.3 -1.6
baz=313
ELK Elko 24.39 126 P P 07 21 13.6 -1.3
NVAR Mina Array Bea 25.15 134 P P 07 21 24.5 +2.8
comp=Z,1.1nm,0.9s,baz=311,slow=9.3,SNR=5.9
comp=Z,1.1nm,0.9s
NV11 Mina Array Sit 25.21 134 P P 07 21 24.6 +2.5
NV11 IAmb IAmb 07 21 27.8
comp=Z,7.4nm,1.2s
PDAR Pinedale Array 25.32 115 P P 07 21 25.6 +2.4
comp=Z,0.5nm,0.9s,baz=310,slow=7.0,SNR=1.9
comp=Z,0.5nm,0.9s
DUG Dugway, Tooele 25.89 123 P P 07 21 27.7 -0.6
DUG IAmb IAmb 07 21 33.3
comp=Z,8.2nm,1.4s
DUG Dugway, Tooele 25.89 123 P P 07 21 30.5 +2.2
baz=326
ULM Lac du Bonnet 27.20 88 P P 07 21 40.5 +0.6
comp=Z,1.4nm,0.8s,baz=345,slow=9.2,SNR=3.0
comp=Z,1.4nm,0.8s
Q16A Castle Valley 27.66 123 IAmb IAmb 07 21 47.9
comp=Z,7.6nm,1.2s
WUAZ Wupatki 30.43 127 P P 07 22 10.5 +1.5
baz=329
MONP2 Monument Peak 30.77 136 P P 07 22 13.8 +1.7
baz=335
EYMN Ely 30.89 88 P P 07 22 13.4 +0.7
baz=309
KULLO Kullorsuaq 33.18 29 i P P 07 22 33.5 +1.0
KULLO IAmb IAmb 07 22 34.5
comp=Z,8.3nm,1.0s
PETK Petropavlovsk- 33.59 288 P P 07 22 36.8 +0.4
comp=Z,2.4nm,0.9s,baz=66,slow=13,SNR=5.4
comp=Z,2.4nm,0.9s
NEEM North Greenlan 33.64 23 i P P 07 22 36.8 -0.1
NEEM IAmb IAmb 07 22 38.8
comp=Z,5.9nm,1.0s
JFWS Jewell Farm 34.92 94 P P 07 22 48.2 +0.3
baz=315
WMOK Wichita Mounta 36.80 112 P P 07 23 05.3 +1.1
baz=324
HDIL Hopedale 37.11 96 P P 07 23 06.8 +0.1
baz=317
TUL3 Leonard 37.33 107 P P 07 23 09.2 +0.6
baz=322
U38A Gravette 37.62 105 IAmb IAmb 07 23 12.5
comp=Z,5.4nm,0.9s
SUMG Summit 38.82 28 i P P 07 23 20.9 -0.3
SUMG IAmb IAmb 07 23 22.9
comp=Z,4.6nm,0.7s
SCHQ Schefferville 39.00 62 P P 07 23 22.0 -0.5
comp=Z,4.3nm,0.9s,baz=306,slow=9.0,SNR=6.6
comp=Z,4.3nm,0.9s
TXAR Lajitas Array 39.05 122 P P 07 23 25.5 +2.2
comp=Z,0.6nm,0.8s,baz=325,slow=7.4,SNR=8.1
TXAR PcP PcP 07 25 33.8 +0.8
comp=Z,0.6nm,1.0s,baz=224,slow=3.5,SNR=4.2
comp=Z,0.6nm,0.8s
MIAR Mount Ida 39.52 106 P P 07 23 27.3 +0.3
baz=323
JCT Junction City 39.83 117 P P 07 23 29.9 +0.2
baz=328
DAG Danmarks Havn 40.01 18 i P P 07 23 30.0 -0.6
DAG IAmb IAmb 07 23 31.8
comp=Z,2.8nm,0.8s
P49A Miami Univ. Ec 40.24 93 P P 07 23 32.8 -0.1
baz=318
ICESG Greenland Ices 40.62 33 i P P 07 23 36.5 +0.4
ICESG IAmb IAmb 07 23 38.0
comp=Z,6.7nm,0.9s
WVT Waverly 41.20 99 P P 07 23 41.3 +0.4
baz=321
Z47A Carrollton 43.37 102 P P 07 23 58.3 -0.3
FPAL Fort Paine 43.57 99 P P 07 23 60.0 -0.3
FPAL IAmb IAmb 07 24 09.8
comp=Z,12nm,1.2s
ARCES ARCESS Array B 51.64 6 P P 07 25 02.0 -0.4
comp=Z,2.0nm,0.6s,baz=348,slow=7.4,SNR=3.0
comp=Z,2.0nm,0.6s
H11N2 WAKE ISLAND Hy 53.87 247 T T 08 23 48.2
baz=30,slow=76,SNR=647
H11N3 WAKE ISLAND Hy 53.88 247 T T 08 23 49.7
baz=30,slow=76,SNR=783
H11N1 WAKE ISLAND Hy 53.89 247 T T 08 23 49.7
baz=30,slow=76,SNR=475
NOA NORSAR Array B 58.62 15 P P 07 25 52.4 -0.4
comp=Z,1.5nm,0.9s,baz=340,slow=6.6,SNR=3.1
comp=Z,1.5nm,0.9s
KSRS Korea Array 59.28 292 P P 07 25 59.4 +1.7
comp=Z,0.9nm,0.5s,baz=308,slow=22,SNR=2.3
comp=Z,0.9nm,0.5s
FINES FINESS Array B 59.72 7 P P 07 26 00.2 -0.2
comp=Z,1.6nm,0.7s,baz=347,slow=5.9,SNR=4.6
comp=Z,1.6nm,0.7s
HFS Hagfors 59.82 14 P P 07 26 01.4 +0.2
comp=Z,1.3nm,0.7s,baz=342,slow=3.4,SNR=2.0
comp=Z,1.3nm,0.7s
SONM Songino Array 60.19 314 P P 07 26 05.2 +1.2
comp=Z,1.4nm,0.6s,baz=28,slow=6.7,SNR=6.3
comp=Z,1.4nm,0.6s
EKA Eskdalemuir Ar 61.38 26 P P 07 26 11.9 +0.1
comp=Z,1.6nm,0.7s,baz=165,slow=35,SNR=2.6
comp=Z,1.6nm,0.7s
ZALV Zalesovo Beam 61.66 331 P P 07 26 13.9 +0.2
comp=Z,1.9nm,0.5s,baz=28,slow=6.7,SNR=7.0
comp=Z,1.9nm,0.5s
BVAR Borovoye Array 65.65 340 P P 07 26 40.5 +0.3
comp=Z,0.5nm,0.4s,baz=348,slow=2.1,SNR=3.8
comp=Z,0.5nm,0.4s
KURBB Kurchatov Arra 66.24 334 P P 07 26 44.3 +0.4
comp=Z,0.6nm,0.5s,baz=27,slow=6.3,SNR=3.7
comp=Z,0.6nm,0.5s
MKAR Makanchi Array 68.86 330 P P 07 27 00.6 0.0
comp=Z,0.6nm,0.8s,baz=20,slow=5.9,SNR=4.4
comp=Z,0.6nm,0.6s
AKASG Malin Array Be 70.61 6 P P 07 27 11.5 +0.2
comp=Z,1.6nm,0.5s,baz=355,slow=6.3,SNR=4.2
comp=Z,1.6nm,0.5s
ESDC Sonseca Array 75.68 33 P P 07 27 42.4 +0.9
comp=Z,3.0nm,0.9s,baz=335,slow=5.5,SNR=14
comp=Z,3.0nm,0.9s
KBZ Kabaz 77.81 357 P P 07 27 54.8 +1.5
comp=Z,1.1nm,0.4s,baz=27,slow=4.5,SNR=2.9
comp=Z,1.1nm,0.4s
BRTR Keskin Array B 81.77 4 P P 07 28 16.1 +1.0
comp=Z,1.5nm,0.8s,baz=19,slow=3.2,SNR=6.3
comp=Z,1.5nm,0.8s
CMAR Chiang Mai Arr 88.70 305 P P 07 28 50.8 +1.0
comp=Z,1.2nm,0.3s,baz=4.3,slow=4.9,SNR=8.4
comp=Z,1.2nm,0.3s
QSPA South Pole Qui 148.58 180 PKPbc PKiKP 07 35 42.7 -0.5
comp=Z,6.3nm,1.1s,baz=94,slow=0.2,SNR=18

*UCR **02** 07:29:18.3±0.7, 7.58N×82.85W, h15km±8km, MW3.6*
*CATAC **02** 07:29:20.5±1.0, 7.75N×82.89W, h10km±5km, ML2.9*

*UPA **02** 07:29:32.4±0.6, 8.17N×82.83W, h10km±25km, MW3.7*
ISC 02 07:29:17.5±2.0, 7.57N±0.09×82.92W±0.05, h13km±10km, n41, σ1887/50, 5D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PIRO	**Carate, Puerto**	**0.92**	**334**	*i* P	**Pb**	**07 29 36.9**	**+1.5**
PIRO				IAML		07 30 00.4	
	comp=Z,470nm,1.0s						
PIRO	**Carate, Puerto**	**0.92**	**334**	*e*P	**Pg**	**07 29 34.8**	**-0.5**
DVD	**David**	**0.98**	**29**⇓	*e*P	**Pn**	**07 29 41.8**	**+4.8**
DVD				*e*S	**Sb**	**07 29 48.0**	**-1.3**
CDITO	**Canoas**	**1.00**	**3**	*i* P	**Pg**	**07 29 35.9**	**-0.8**
CDITO				IAML		07 29 53.9	
	comp=Z,260nm,1.0s						
CDITO	**Canoas**	**1.00**	**3**⇓	*e*P	**Pg**	**07 29 36.0**	**-0.8**
FITO	**Golfito**	**1.07**	**348**	*e*P	**Pg**	**07 29 37.1**	**-1.1**
PTAR3	**Potrerillos Ar**	**1.19**	**21**	*e*P	Pn	07 29 45.0	+4.9
PTAR3				*e*S	**Sn**	**07 29 54.9**	**-1.4**
BCO2	**Palmira**	**1.21**	**19**	*e*P	Pn	07 29 45.3	+5.0
BCO2				*e*S	**Sn**	**07 29 55.2**	**-1.4**
MLIR3	**Monte Lirio, C**	**1.22**	**5**	*e*P	**Pn**	**07 29 45.2**	**+4.8**
MLIR3				*e*S	**Sn**	**07 29 55.7**	**-1.2**
BRU2	**Volcan**	**1.24**	**11**	*e*P	**Pn**	**07 29 45.0**	**+4.3**
BRU2				*e*S	**Sb**	**07 29 55.4**	**-1.4**
BRU2	**Volcan**	**1.24**	**11**	*i* P	**Pg**	**07 29 40.1**	**-1.3**
BRU2				*i* S	**Sb**	**07 29 55.3**	**-1.6**
BRU2				IAML		07 30 07.2	
	comp=Z,290nm,1.0s						
BRU2	**Volcan**	**1.24**	**11**⇓	*e*P	**Pg**	**07 29 39.7**	**-1.6**
BRU2				*e*S	**Sb**	**07 29 55.1**	**-1.8**
BC3P	**Paso Ancho**	**1.28**	**14**⇓	*e*P	Pn	07 29 46.4	+5.1
BC3P				*e*S	**Sn**	**07 29 57.0**	**-1.4**
PLAN	**Los Planes de**	**1.33**	**326**	*i* P	Pn	**07 29 41.2**	**-0.6**
PLAN				*i* S	**Sn**	**07 30 02.9**	**+3.5**
PLAN				IAML		07 30 08.2	
	comp=Z,370nm,1.0s						
EDP2	**Potrero Grande**	**1.46**	**350**	*e*P	**Pn**	**07 29 44.3**	**+0.7**
EDPN	**Palmar Norte**	**1.48**	**339**	*e*P	**Pn**	**07 29 43.6**	**-0.3**
BURE	**Buenos Aires**	**1.65**	**346**	*e*P	**Pn**	**07 29 47.1**	**+0.9**
OCHAL	**Ojochal**	**1.68**	**335**	*i* P	**Pn**	**07 29 46.3**	**-0.3**
OCHAL				IAML		07 29 51.5	
	comp=Z,99nm,1.0s						
OCHAL				*i* S	**Sn**	**07 30 06.5**	**-1.6**
OCHAL	**Ojochal**	**1.68**	**335**	*e*P	**Pn**	**07 29 46.9**	**+0.3**
GMAL	**Guarumal, Vera**	**1.69**	**83**	*e*P	**Pn**	**07 29 45.4**	**-1.4**
GMAL				*e*S	**Sn**	**07 30 05.4**	**-2.9**
SRBA	**San Rafael, Bu**	**1.71**	**345**	*i* P	**Pn**	**07 29 46.8**	**-0.3**
SRBA				IAML		07 30 19.2	
	comp=Z,69nm,1.0s						
SRBA	**San Rafael, Bu**	**1.71**	**345**	*e*P	**Pn**	**07 29 47.2**	**0.0**
DRK0	**Durika**	**1.71**	**349**	*e*P	**Pn**	**07 29 47.2**	**-0.1**
PEZE	**Perez Zeledon,**	**1.95**	**338**	*i* P	**Pn**	**07 29 51.4**	**+0.9**
PEZE				IAML		07 30 20.5	
	comp=Z,81nm,1.0s						
PEZE	**Perez Zeledon,**	**1.95**	**338**	*e*P	**Pn**	**07 29 50.8**	**+0.4**
BUS1	**Rivas**	**2.13**	**338**	*e*P	**Pn**	**07 29 53.9**	**+0.6**
CDM	**Cerro de Muert**	**2.14**	**337**	*i* P	**Pn**	**07 29 53.9**	**+0.5**
CDM				IAML		07 30 06.1	
	comp=Z,59nm,1.0s						
CDM	**Cerro de Muert**	**2.14**	**337**⇓	*e*P	**Pn**	**07 29 53.9**	**+0.5**
CDM				*e*S	**Sn**	**07 30 20.6**	**+0.5**
RIMA	**Rio Macho**	**2.37**	**337**	*i* P	**Pn**	**07 29 57.3**	**+0.9**
RIMA				IAML		07 30 09.8	
	comp=Z,46nm,1.0s						
RIMA	**Rio Macho**	**2.37**	**337**	*e*P	**Pn**	**07 29 55.9**	**-0.4**
ABE2	**San Pablo**	**2.40**	**332**	*e*P	**Pn**	**07 29 57.6**	**+0.8**
LCR2	**La Lucha 2**	**2.41**	**334**	*e*P	**Pn**	**07 29 57.5**	**+0.7**
PCAYA	**Pacayas**	**2.49**	**339**	*e*P	**Pn**	**07 29 59.7**	**+1.7**
ACOS	**Acosta**	**2.53**	**331**	*e*P	**Pn**	**07 29 58.6**	**+0.2**
BATAN	**Batan**	**2.55**	**350**	*i* P	**Pn**	**07 30 01.0**	**+2.4**
BATAN				IAML		07 31 17.9	
	comp=Z,250nm,1.0s						
ICR3	**Volcano Irazu**	**2.56**	**340**	*e*P	**Pn**	**07 30 00.5**	**+1.4**
HDC	**Heredia**	**2.69**	**334**	*e*P	**Pn**	**07 30 01.6**	**+0.9**
SOCE	**Pocosol**	**3.26**	**329**	*e*P	**Pn**	**07 30 11.5**	**+3.1**
JTS	**Las Juntas de**	**3.37**	**324**	*e*P	**Pn**	**07 30 11.7**	**+1.8**
BCIP	**Isla Barro Col**	**3.44**	**62**	*i* P	**Pn**	**07 30 14.5**	**+3.6**
ORTG	**Ortega, Santa**	**3.74**	**318**	*i* P	**Pn**	**07 30 16.4**	**+1.3**
ORTG				IAML		07 32 00.1	
	comp=Z,41nm,1.0s						

*DNK **02** 07:56:59.4±1.5, 80.80N×2.63W, h36km±16km, ML0.8*
BER 02 07:56:58.0±2.5, 80.76N×2.99W, h10km, mb(Pn)2.3, ML0.8(DNK), **Confirmed Earthquake, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.27**	**298**	*e*P	Pn	07 57 34.6	-0.8
NOR				*e*S	Sn	07 57 58.8	-4.6
NOR				IAML		07 58 00.6	
	comp=Z,1.0nm,0.4s						
NOR	**Nord**	**2.27**	**298**	*e*P	Pn	07 57 34.6	-0.8
NOR				*e*S	Sn	07 57 58.8	-4.6
NOR				IAML		07 58 00.6	
	comp=Z,1.0nm,0.4s						
KBS	**Kingsbay**	**3.21**	**117**	*e*P	Pn	07 57 46.8	-1.7
KBS				*e*S	Sn	07 58 20.7	-6.0
KBS				IAML		07 58 43.9	
	comp=Z,2.1nm,0.8s						
KBS	**Kingsbay**	**3.21**	**117**	*e*P	Pn	07 57 44.9	-3.5
KBS				*e*S	Sn	07 58 20.7	-6.0
BRBB	**Barentsburg B**	**4.13**	**122**	*e*P	Pn	07 58 00.8	-0.2
SPA0	**Spitsbergen Ar**	**4.37**	**116**	*e*P	Pn	07 58 03.3	-1.1
DAG	**Danmarks Havn**	**5.02**	**225**	*i* P	Pn	07 58 11.5	-1.6
DAG				*i* S	Sn	07 59 05.0	-6.1
DAG				IAML		07 59 12.8	
	comp=Z,0.4nm,0.3s						
DAG	**Danmarks Havn**	**5.02**	**225**	*i* P	Pn	07 58 11.5	-1.6
DAG				*i* S	Sn	07 59 05.0	-6.1
DAG				IAML		07 59 12.8	
	comp=Z,0.4nm,0.3s						

IDC 02 08:13:55.5±3.0, 10.80S×129.17W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=95.2km s-min=75.1km az=122.0, South Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**46.87**	**31**	P	P	08 22 27.7	-0.1
	0.7nm,0.9s,baz=200,slow=11,SNR=8.0						
	0.7nm,0.9s						
NVAR	**Mina Array Bea**	**50.01**	**11**	P	P	08 22 52.8	+0.7
	0.6nm,0.7s,baz=197,slow=10,SNR=5.9						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**73.94**	**7**	P	P	08 25 32.3	0.0
	1.6nm,0.8s,baz=191,slow=5.4,SNR=42						
	1.6nm,0.8s						
ILAR	**Eielson Array**	**76.53**	**352**	P	P	08 25 46.5	-0.7
	0.6nm,0.9s,baz=167,slow=6.5,SNR=5.6						
	0.6nm,0.9s						
SCHQ	**Schefferville**	**83.56**	**31**	P	P	08 26 24.4	-1.1
	1.7nm,0.8s,baz=252,slow=3.2,SNR=2.7						
	1.7nm,0.8s						
KBZ	**Khabaz**	**146.48**	**10**	PKPbc	PKPab	08 33 39.6	-0.2
	1.8nm,0.8s,baz=333,slow=2.3,SNR=2.7						
BRTR	**Keskin Array B**	**147.39**	**25**	PKPbc	PKPbc	08 33 41.1	-0.8
	1.2nm,0.7s,baz=326,slow=0.5,SNR=6.9						

*ISK **02** 08:38:41.7, 38.17N×27.04E, h10km, ML3.3/39*
*AFAD **02** 08:38:41.9±0.0, 38.15N×27.06E, h7km±1km, ML3.8*
*THE **02** 08:38:42.4, 38.16N×27.07E, h6km±1km, ML3.5/3, Error ellipse: s-maj=1.3km s-min=0.6km az=239.0*
*ATH **02** 08:38:43.3, 38.16N×27.00E, h9km±2km, ML3.6/5, Error ellipse: s-maj=3.2km s-min=1.1km az=258.0*
ISC 02 08:38:42.4±0.9, 38.16N±0.02×27.06E±0.02, h10km±7km, n89, σ0.69/119, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GMLD	**Gumuldur**	**0.14**	**234**	Pg	**Pg**	**08 38 45.7**	**0.0**
DGB	**zmir**	**0.18**	**232**	P	**Pg**	**08 38 46.2**	**-0.1**
DGB				*i* AML	AML	08 38 49.0	
	comp=E,2μm,0.5s						
DGB				S	**Sg**	**08 38 49.1**	**+0.2**
BLCB	**Balcova**	**0.22**	**356**	Pg	**Pg**	**08 38 46.6**	**-0.5**
BLCB	**Balcova**	**0.22**	**356**	P	**Pg**	**08 38 46.5**	**-0.5**
URLA	**Izmir**	**0.42**	**298**	Pg	**Pg**	**08 38 50.5**	**-0.1**
URLA	**Izmir**	**0.42**	**298**	P	**Pg**	**08 38 50.5**	**-0.1**
URLA				S	**Sg**	**08 38 56.7**	**+0.5**
ZEYE	**Izmir, Urla-Ze**	**0.45**	**280**	P	**Pg**	**08 38 50.9**	**-0.3**

ZEYE				S	Sg	08 38 57.9	+0.8
GCAM	**G?zelcaml?**	**0.48**	**164**	Pg	Pg	08 38 51.3	-0.5
GCAM	**G?zelcaml?**	**0.48**	**164**	P	Pg	08 38 51.6	-0.2
GCAM				S	Sg	08 38 58.4	+0.2
SMG	**Samos**	**0.49**	**202**	P	Pg	08 38 51.7	-0.2
SMG				S	Sb	08 38 59.5	-0.7
	4µm,0.3s						
SMG	**Samos**	**0.49**	**202**	P	Pg	08 38 51.6	-0.3
SMG				S	Sb	08 38 59.3	-0.9
SMG				AML	AML	08 39 03.1	
	comp=N,7985µm,0.4s						
SMG				AML	AML	08 39 04.1	
	comp=E,8765µm,0.2s						
FOCM	**Foa**	**0.61**	**335**	Pg	Pg	08 38 53.5	-0.7
FOCM				Sg	Sg	08 39 02.1	-0.1
CESE	**eme**	**0.62**	**286**	Pg	Pg	08 38 53.7	-0.8
IZMR	**zmir-demi**	**0.70**	**92**	P	Pg	08 38 55.6	-0.4
IZMR				S	Sg	08 39 04.0	-1.2
KARB	**zmir-Karabur**	**0.71**	**315**	P	Pg	08 38 55.8	-0.4
KARB				*i* AML	AML	08 39 06.0	
	comp=E,5µm,0.2s						
KARB				S	Sg	08 39 06.3	+0.7
DDIM	**Aydin, Didim**	**0.72**	**169**	P	Pg	08 38 56.0	-0.3
DDIM				S	Sn	08 39 09.1	-0.5
ZEDA	**zmir-Bergama**	**0.80**	**1**	P	Pg	08 38 57.4	-0.5
ZEDA				S	Sb	08 39 09.1	-0.3
CAND	**Candarli**	**0.82**	**346**	Pg	Pg	08 38 57.7	-0.5
CHOS	**Chios island**	**0.82**	**286**	Pg	Pg	08 38 57.7	-0.6
CHOS				Sg	Sg	08 39 09.3	+0.2
CHOS	**Chios island**	**0.82**	**286**	P	Pg	08 38 58.1	-0.2
CHOS				S	Sb	08 39 11.2	+1.2
	comp=E,4µm,0.3s						
CHOS	**Chios island**	**0.82**	**286**	P	Pg	08 38 57.9	-0.4
CHOS				S	Sg	08 39 09.4	+0.3
CHOS				AML	AML	08 39 13.2	
	comp=E,9169µm,0.4s						
CHOS				AML	AML	08 39 13.3	
	comp=N,8328µm,0.3s						
IZMD	**zmir-Dikili-**	**0.83**	**353**	P	Pg	08 38 57.9	-0.5
IZMD				S	Sb	08 39 11.5	+1.3
EAG2	**Marmaro, Chios**	**0.84**	**297**	P	Pg	08 38 58.4	-0.2
EAG2				S	Sg	08 39 09.7	0.0
EAG2				AML	AML	08 39 12.7	
	comp=N,75368µm,0.5s						
EAG2				AML	AML	08 39 14.3	
	comp=E,83414µm,0.4s						
GOMA	**Golmarmara-Man**	**0.86**	**51**	Pg	Pg	08 38 59.2	+0.1
DKL	**Dikili**	**0.92**	**352**	Pg	Pg	08 38 59.6	-0.5
AKS	**Akhisar**	**0.93**	**39**	Pg	Pg	08 38 59.9	-0.4
EAG3	**Mitilini, Lesv**	**1.00**	**337**	P	Pg	08 39 01.4	-0.2
EAG3				S	Sb	08 39 15.7	+0.7
MLSB	**Milas**	**1.03**	**147**	Pg	Pg	08 39 02.2	-0.1
MLSB				Sg	Sn	08 39 18.0	+0.5
YKAV	**Yalikavak-Bodr**	**1.05**	**170**	Pg	Pg	08 39 02.5	-0.1
KIRA	**zmir-Kiraz**	**1.05**	**88**	P	Pg	08 39 02.1	-0.6
KIRA				S	Sb	08 39 16.7	0.0
ESEN	**Aydn-Nazilli**	**1.08**	**109**	P	Pg	08 39 02.0	-1.2
ESEN				S	Sg	08 39 16.4	-0.8
BODT	**Bodrum**	**1.12**	**170**	Pn	Pg	08 39 03.3	-0.6
BODT				Sn	Sn	08 39 19.9	+0.4
BODT	**Bodrum**	**1.12**	**170**	P	Pg	08 39 03.1	-0.8
KLNA	**Kalymnos**	**1.21**	**183**	P	Pb	08 39 05.2	0.0
MANT	**Manisa**	**1.22**	**74**	P	Pb	08 39 05.2	-0.5
MANT				S	Sb	08 39 19.6	-2.0
PSRA	**Psara**	**1.24**	**288**	P	Pn	08 39 05.4	-0.4
PRK	**Paraskevi**	**1.25**	**330**	P	Pn	08 39 05.3	-0.6
PRK				S	Sg	08 39 22.5	-0.1
	comp=E,4µm,0.6s						
PRK	**Paraskevi**	**1.25**	**330**	P	Pn	08 39 05.7	-0.1
PRK				S	Sg	08 39 22.4	-0.1
PRK				AML	AML	08 39 27.6	
	comp=N,4287µm,0.5s						
PRK				AML	AML	08 39 27.8	
	comp=E,8079µm,0.6s						
KULA	**Kula-Manisa**	**1.30**	**74**	Pn	Pn	08 39 06.9	+0.1
KULA	**Kula-Manisa**	**1.30**	**74**	P	Pn	08 39 06.4	-0.4
KULA				S	Sb	08 39 23.8	-0.1
MULA	**Mugla, Merkez-**	**1.35**	**132**	P	Pn	08 39 06.9	-0.4
MULA				S	Sg	08 39 26.4	+0.6
GPNR	**Gulpinar-Canak**	**1.48**	**331**	Pn	Pn	08 39 09.1	0.0
DAT	**Datca**	**1.49**	**164**	Pn	Pn	08 39 08.8	-0.5
DAT	**Datca**	**1.49**	**164**	P	Pn	08 39 08.6	-0.7
DAT	**Datca**	**1.49**	**164**	P	Pn	08 39 08.6	-0.7
DAT				S	Sg	08 39 33.3	+3.1
YAZI	**Mula-Dat§a-**	**1.51**	**168**	P	Pn	08 39 08.9	-0.6
YAZI				S	Sg	08 39 33.0	+2.0
NISR	**Nisiros**	**1.55**	**178**	P	Pb	08 39 11.1	-0.1
TNSA	**Tinos**	**1.63**	**248**	P	Pn	08 39 10.0	-1.1
APE	**Apeiranthos**	**1.64**	**229**	Pn	Pn	08 39 09.9	-1.3
APE	**Apeiranthos**	**1.64**	**229**	P	Pn	08 39 10.0	-1.3
APE				S	Sn	08 39 32.1	-0.2
APE	**Apeiranthos**	**1.64**	**229**	P	Pn	08 39 10.0	-1.3
APE				AML	AML	08 39 39.6	
	comp=N,665µm,0.3s						
APE				AML	AML	08 39 40.5	
	comp=E,444µm,0.2s						
TURN	**Turunc**	**1.67**	**145**	Pn	Pn	08 39 11.4	-0.3
EZNE	**Ezine-Canakkal**	**1.68**	**341**	Pn	Pn	08 39 12.0	+0.2
EZN	**Ezine**	**1.76**	**341**	Pn	Pn	08 39 12.2	-0.7
EZN	**Ezine**	**1.76**	**341**	P	Pn	08 39 12.7	-0.2
DALY	**Dalyan (Mula)**	**1.84**	**136**	Pn	Pn	08 39 14.6	+0.5
CANM	**Can-anakkale**	**1.85**	**360**	Pn	Pn	08 39 13.9	-0.2
CANM				Sn	Sn	08 39 38.2	+0.7
DST	**Dursunbey**	**1.88**	**40**	Pn	Pn	08 39 15.1	+0.4
APMY	**Acipayam-Deniz**	**1.90**	**111**	Pn	Pn	08 39 15.9	+0.9
GONE	**Gonen-Balikesi**	**1.94**	**14**	Pn	Pn	08 39 15.8	+0.4
KHL	**Karahalli**	**1.94**	**85**	Pn	Pn	08 39 16.5	+1.0
COMU	**Canakkale**	**1.99**	**347**	Pn	Pn	08 39 16.3	+0.2
GEDZ	**Gediz**	**2.04**	**64**	Pn	Pn	08 39 17.8	+1.0
ARG	**Arkhangelos**	**2.12**	**156**	Pn	Pn	08 39 18.9	+1.0
ARG	**Arkhangelos**	**2.12**	**156**	P	Pn	08 39 19.3	+1.4
CAME	**Cameli-Denizli**	**2.16**	**124**	Pn	Pn	08 39 19.3	+0.8
FET	**Fethiye**	**2.22**	**133**	Pn	Pn	08 39 19.4	+0.2
GADA	**Gvkgeada**	**2.22**	**336**	Pn	Pn	08 39 19.0	-0.2
LPK	**Lapseki**	**2.22**	**354**	Pn	Pn	08 39 19.6	+0.3
KRBG	**Karabiga-Canak**	**2.23**	**5**	Pn	Pn	08 39 19.1	-0.3
EDC	**Edincik**	**2.27**	**16**	Pn	Pn	08 39 20.5	+0.6
LIA	**Limnos Island**	**2.27**	**320**	P	Pn	08 39 19.9	0.0
LIA	**Limnos Island**	**2.27**	**320**	P	Pn	08 39 20.0	0.0
GELI	**Tayfur-Gelibol**	**2.28**	**349**	Pn	Pn	08 39 19.6	-0.5
KCTX	**Karacabey (Bur**	**2.33**	**25**	Pn	Pn	08 39 21.1	+0.3
ORLT	**Orhaneli**	**2.36**	**37**	Pn	Pn	08 39 21.9	+0.7
DION	**Dionisos Attik**	**2.47**	**269**	P	Pn	08 39 23.3	+0.6
MRMT	**Marmara Adasi**	**2.47**	**9**	Pn	Pn	08 39 23.5	+0.7
RKY	**Sarkoy-Tekirda**	**2.52**	**2**	Pn	Pn	08 39 24.3	+0.8
ERIK	**Erikli-Kesan**	**2.54**	**351**	Pn	Pn	08 39 24.2	+0.6
SMTH	**Samothraki Isl**	**2.59**	**333**	P	Pn	08 39 24.5	+0.1
SMTH	**Samothraki Isl**	**2.59**	**333**	P	Pn	08 39 24.5	+0.1
ENEZ	**Enez**	**2.67**	**345**	Pn	Pn	08 39 25.4	0.0
ENEZ	**Enez**	**2.67**	**345**	P	Pn	08 39 25.2	-0.2
ALN	**Alexandroupoli**	**2.84**	**344**	Pn	Pn	08 39 27.4	-0.4
ALN	**Alexandroupoli**	**2.84**	**344**	P	Pn	08 39 27.8	0.0
ALN	**Alexandroupoli**	**2.84**	**344**	P	Pn	08 39 27.6	-0.2
RDO	**Rodhopi**	**3.20**	**339**	P	Pn	08 39 33.0	+0.2
RDO	**Rodhopi**	**3.20**	**339**	P	Pn	08 39 33.4	+0.6

*NEIC **02** 08:43:58.3±1.8,56°.20N±0°.10×149°.16W±0°.09,h22$^{km}_{\pm 9}$km, ML3.5/48,ML3.1(AEIC),Error ellipse: s-maj=14.4km s-min=6.3km az=166.0*

*AEIC **02** 08:44:01.3±1.5,56°.21N±0°.06×149°.2W±0°.1,h7$^{km}_{\pm 7}$km, Error ellipse: s-maj=11.7km s-min=2.4km az=135.0*

ISC 02 08:43:57.4±1.6,56°.28N±0°.09×149°.18W±0°.06,h10km, n121,σ1°08/126,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.39**	**310**		**Pn**	**08 44 36.6**	**+0.1**
KDAK					**Sn**	**08 45 03.9**	**-2.0**
OHAK	**Old Harbor**	**2.45**	**294**	P	**Pn**	**08 44 36.7**	**-0.7**
OHAK	**Old Harbor**	**2.45**	**294**		**Pb**	**08 44 44.2**	**+2.7**
OHAK	**Old Harbor**	**2.45**	**294**		**Pn**	**08 44 36.7**	**-0.7**
OHAK				IAML		08 45 04.8	
	comp=N,51nm,0.7s						
OHAK				IAML		08 45 14.4	
	comp=E,35nm,0.7s						
OHAK	**Old Harbor**	**2.45**	**294**		**Sn**	**08 45 04.3**	**-3.0**
OHAK	**Old Harbor**	**2.45**	**294**	P	**Pn**	**08 44 36.7**	**-0.7**
	baz=112						
OHAK				S	**Sn**	**08 45 04.3**	**-3.0**
	baz=112						
SII	**Sitkinak Islan**	**2.79**	**278**		**Pn**	**08 44 41.8**	**-0.3**
SII					**Sn**	**08 45 13.6**	**-2.3**
SII	**Sitkinak Islan**	**2.79**	**278**	IAML		08 45 28.8	
	comp=E,86nm,0.7s						
SII	**Sitkinak Islan**	**2.79**	**278**	P	**Pn**	**08 44 41.8**	**-0.3**
	baz=95						
SII				S	**Sn**	**08 45 13.6**	**-2.3**
	baz=95						
Q20K	**Shuyak Island**	**2.91**	**325**	P	**Pn**	**08 44 43.9**	**+0.2**
	baz=143						
Q20K				S	**Sn**	**08 45 18.2**	**-0.4**
	baz=143						
SYI	**Shuyak Island**	**2.91**	**325**		**Pn**	**08 44 43.9**	**+0.2**
SYI					**Sn**	**08 45 18.2**	**-0.4**
CNPM	**China Poot**	**3.43**	**342**		**Pn**	**08 44 50.9**	**0.0**
CNPM					**Sn**	**08 45 30.3**	**-1.3**
BRSE	**Bradley Lake S**	**3.56**	**347**		**Pn**	**08 44 52.5**	**-0.3**
BRSE					**Sn**	**08 45 33.1**	**-1.8**
BRSE	**Bradley Lake S**	**3.56**	**347**	P	**Pn**	**08 44 52.5**	**-0.3**
	baz=166						
BRSE				S	**Sn**	**08 45 33.1**	**-1.8**
	baz=166						
Q19K	**Cape Douglas,**	**3.58**	**320**	Pn	**Pn**	**08 44 54.6**	**+1.7**
Q19K				IAML		08 45 46.2	
	comp=N,173nm,0.9s						
Q19K				IAML		08 46 22.2	
	comp=E,164nm,1.4s						
BRLK	**Bradley Lake**	**3.61**	**346**		**Pn**	**08 44 53.2**	**-0.2**
BRLK	**Bradley Lake**	**3.61**	**346**	IAML		08 45 38.6	
	comp=N,39nm,0.1s						
BRLK				IAML		08 45 38.7	
	comp=E,39nm,0.5s						
HOM	**Homer**	**3.63**	**340**	Pn	**Pn**	**08 44 54.8**	**+1.2**
SEW	**Seward**	**3.83**	**358**		**Pn**	**08 44 56.2**	**-0.2**
SEW					**Sn**	**08 45 38.3**	**-3.2**
SEW	**Seward**	**3.83**	**358**	P	**Pn**	**08 44 56.2**	**-0.2**
	baz=178						
SEW				S	**Sn**	**08 45 38.3**	**-3.2**
	baz=178						
P23K	**Montague Islan**	**3.84**	**13**		**Pn**	**08 44 57.0**	**+0.5**
P23K					**Sn**	**08 45 39.0**	**-2.7**
P23K	**Montague Islan**	**3.84**	**13**	P	**Pn**	**08 44 57.0**	**+0.5**
	baz=194						
P23K				S	**Sn**	**08 45 39.0**	**-2.7**
	baz=194						
ACHA	**Angle Creek He**	**3.85**	**303**		**Pn**	**08 44 57.2**	**+0.4**
P19K	**Oil Pt**	**4.01**	**329**	Pn	**Pn**	**08 44 59.1**	**+0.3**
P19K				IAML		08 45 48.4	
	comp=E,63nm,0.5s						
P19K				IAML		08 45 48.4	
	comp=N,63nm,0.4s						
CNTC	**Contact Creek**	**4.14**	**301**		**Pn**	**08 45 01.2**	**+0.4**
Q17K	**Contact Creek**	**4.14**	**301**	P	**Pn**	**08 45 01.2**	**+0.4**
	baz=117						
O22K	**Cooper Landing**	**4.22**	**356**	Pn	**Pn**	**08 45 01.2**	**-0.5**
IVE	**Iliamna Volcan**	**4.26**	**333**		**Pn**	**08 45 02.5**	**+0.2**
ILSW	**Iliamna Southw**	**4.26**	**332**	Pn	**Pn**	**08 45 02.4**	**0.0**
ILSW				IAML		08 45 53.1	
	comp=N,29nm,0.4s						
ILSW				IAML		08 45 57.1	
	comp=E,26nm,0.6s						
HIN	**Hinchinbrook I**	**4.36**	**18**		**Pn**	**08 45 03.8**	**+0.1**
HIN	**Hinchinbrook I**	**4.36**	**18**	IAML		08 45 56.1	
	comp=E,72nm,1.5s						
KAIM	**Kayak Island**	**4.44**	**33**	Pn	**Pn**	**08 45 04.8**	**0.0**
KAIM				IAML		08 46 14.6	
	comp=N,75nm,1.3s						
P18K	**Big Mountain,**	**4.49**	**316**		**Pn**	**08 45 05.4**	**0.0**
P18K	**Big Mountain,**	**4.49**	**316**	P	**Pn**	**08 45 05.4**	**0.0**
	baz=132						
RDWB	**Redoubt West**	**4.63**	**337**		**Pn**	**08 45 07.6**	**0.0**
EYAK	**Cordova Ski Ar**	**4.64**	**21**	P	**Pn**	**08 45 07.7**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.64**	**21**		**Pn**	**08 45 07.9**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.64**	**21**	P	**Pn**	**08 45 07.9**	**+0.4**
	baz=204						
FID	**Port Fidalgo**	**4.70**	**16**		**Pn**	**08 45 08.5**	**+0.2**
FID	**Port Fidalgo**	**4.70**	**16**	IAML		08 45 59.8	
	comp=E,41nm,0.5s						
FID				IAML		08 46 12.3	
	comp=N,35nm,1.0s						
GLI	**Glacier Island**	**4.74**	**12**		**Pn**	**08 45 09.3**	**+0.5**
GLI	**Glacier Island**	**4.74**	**12**	IAML		08 46 10.4	
	comp=E,30nm,1.0s						
GLI				IAML		08 47 05.3	
	comp=N,34nm,1.5s						
GLI	**Glacier Island**	**4.74**	**12**	P	**Pn**	**08 45 09.3**	**+0.5**
	baz=194						
RAGM	**Ragged Mountai**	**4.75**	**28**	Pn	**Pn**	**08 45 09.6**	**+0.5**
RAGM				IAML		08 46 11.2	
	comp=E,66nm,0.9s						
SUCK	**Suckling Hills**	**4.76**	**35**		**Pn**	**08 45 09.5**	**+0.4**
SUCK	**Suckling Hills**	**4.76**	**35**	IAML		08 46 12.3	
	comp=E,58nm,1.3s						
SUCK				IAML		08 46 15.0	
	comp=N,64nm,1.3s						
O19K	**Port Alsworth**	**4.77**	**327**		**Pn**	**08 45 09.4**	**+0.2**
O19K				IAML		08 46 17.5	
	comp=N,65nm,0.5s						
O18K	**Koktuh Hills**	**4.80**	**321**		**Pn**	**08 45 09.7**	**0.0**
O18K	**Koktuh Hills**	**4.80**	**321**	IAML		08 46 23.5	
	comp=N,17nm,0.9s						
O18K	**Koktuh Hills**	**4.80**	**321**	P	**Pn**	**08 45 09.7**	**0.0**
	baz=136						
HMT	**Hamilton**	**4.82**	**31**	Pn	**Pn**	**08 45 11.1**	**+1.1**
NICHA	**Nichawak Mount**	**4.83**	**33**		**Pn**	**08 45 10.6**	**+0.5**
RC01	**Rabbit Creek A**	**4.83**	**357**		**Pn**	**08 45 10.4**	**+0.3**
RC01	**Rabbit Creek A**	**4.83**	**357**	IAML		08 46 09.0	
	comp=E,31nm,0.5s						
RC01				IAML		08 46 16.7	
	comp=N,17nm,0.8s						
RC01	**Rabbit Creek A**	**4.83**	**357**	P	**Pn**	**08 45 10.4**	**+0.3**
	baz=176						
P17K	**Kvichak River**	**4.86**	**310**		**Pn**	**08 45 11.1**	**+0.6**
P17K	**Kvichak River**	**4.86**	**310**	P	**Pn**	**08 45 11.1**	**+0.6**
	baz=124						
GOAT	**Goat Mountain**	**4.90**	**27**		**Pn**	**08 45 11.7**	**+0.6**
BERG	**Berg Lake**	**5.03**	**33**		**Pn**	**08 45 13.2**	**+0.3**
GRIN	**Grindle Hills**	**5.06**	**35**		**Pn**	**08 45 13.7**	**+0.3**
CHGN	**Chignik**	**5.14**	**274**	Pn	**Pn**	**08 45 14.9**	**+0.5**
SNH	**Sunshine Point**	**5.15**	**38**	Pn	**Pn**	**08 45 14.9**	**+0.4**
SNH				IAML		08 46 44.1	
	comp=E,38nm,1.2s						
SNH				IAML		08 47 38.1	
	comp=N,47nm,1.5s						
N20K	**Mount Spurr**	**5.18**	**344**	P	**Pn**	**08 45 15.0**	**0.0**
	baz=161						
SPCR	**Spurr Chakacha**	**5.18**	**344**		**Pn**	**08 45 15.0**	**0.0**
KHIT	**Khitrov Hills**	**5.21**	**34**		**Pn**	**08 45 15.6**	**+0.2**
N19K	**Bonanza Creek**	**5.32**	**331**		**Pn**	**08 45 16.8**	**-0.2**
N19K	**Bonanza Creek**	**5.32**	**331**	P	**Pn**	**08 45 16.8**	**-0.2**
	baz=147						
PMR	**Palmer**	**5.33**	**0**	P	**Pn**	**08 45 17.1**	**+0.2**
PMR	**Palmer**	**5.33**	**0**	Pn	**Pn**	**08 45 17.7**	**+0.9**
BARK	**Barkley Ridge**	**5.43**	**38**		**Pn**	**08 45 18.7**	**+0.3**
KLU	**Klutina**	**5.49**	**17**		**Pn**	**08 45 19.9**	**+0.6**
KLU	**Klutina**	**5.49**	**17**	P	**Pn**	**08 45 19.9**	**+0.6**
	baz=199						
GHO	**Glory Hole Cre**	**5.51**	**1**		**Pn**	**08 45 20.4**	**+1.0**
SML	**Sawmill**	**5.56**	**4**		**Pn**	**08 45 20.8**	**+0.7**
SML	**Sawmill**	**5.56**	**4**	P	**Pn**	**08 45 20.8**	**+0.7**
	baz=185						
ISLE	**Juniper Island**	**5.63**	**37**	Pn	**Pn**	**08 45 21.4**	**+0.2**
N18K	**Kilae Creek**	**5.64**	**324**		**Pn**	**08 45 20.9**	**-0.3**
N18K	**Kilae Creek**	**5.64**	**324**	P	**Pn**	**08 45 20.9**	**-0.3**
	baz=139						
SCM	**Sheep Creek Mo**	**5.65**	**9**	Pn	**Pn**	**08 45 23.1**	**+1.7**
VRDI	**Verde Repeater**	**5.79**	**29**	Pn	**Pn**	**08 45 24.6**	**+1.2**
O16K	**Kokwok River B**	**5.79**	**309**	Pn	**Pn**	**08 45 23.5**	**+0.3**
SKT	**Skwentna**	**5.84**	**349**	Pn	**Pn**	**08 45 25.2**	**+1.2**
N25K	**Chitina, Valde**	**5.84**	**22**	Pn	**Pn**	**08 45 25.2**	**+1.1**
GLB	**Gilahina Butte**	**5.88**	**26**	Pn	**Pn**	**08 45 24.8**	**+0.3**
M20K	**Styx River**	**5.97**	**342**		**Pn**	**08 45 25.7**	**-0.1**
M20K	**Styx River**	**5.97**	**342**	P	**Pn**	**08 45 25.7**	**-0.1**
	baz=158						
N17K	**Nushagak Hills**	**5.98**	**319**	Pn	**Pn**	**08 45 26.3**	**+0.4**
MCARA	**McCarthy VSAT**	**6.03**	**29**	Pn	**Pn**	**08 45 29.2**	**+2.6**
PTPK	**Patty Peak**	**6.03**	**33**		**Pn**	**08 45 27.4**	**+0.6**
M24K	**Tolsona, Glenn**	**6.04**	**14**	Pn	**Pn**	**08 45 28.9**	**+2.1**
PNL	**Peninsula**	**6.21**	**53**	P	**Pn**	**08 45 29.9**	**+0.8**
PNL	**Peninsula**	**6.21**	**53**		**Pn**	**08 45 29.5**	**+0.4**
PNL	**Peninsula**	**6.21**	**53**	P	**Pn**	**08 45 29.5**	**+0.4**
	baz=240						
CTGM	**Chitina Glacie**	**6.23**	**38**	Pn	**Pn**	**08 45 29.8**	**+0.3**
M19K	**Big River Lodg**	**6.24**	**337**	Pn	**Pn**	**08 45 31.5**	**+2.0**
LOGN	**Logan Glacier**	**6.25**	**40**	Pn	**Pn**	**08 45 30.2**	**+0.5**
M18K	**Stony River**	**6.25**	**329**		**Pn**	**08 45 29.2**	**-0.4**
M18K	**Stony River**	**6.25**	**329**	P	**Pn**	**08 45 29.2**	**-0.4**
	baz=144						
SDPT	**Sand Point**	**6.43**	**266**	P	**Pn**	**08 45 32.2**	**+0.1**
SDPT	**Sand Point**	**6.43**	**266**	Pn	**Pn**	**08 45 30.9**	**-1.3**
HARP	**HAARP**	**6.47**	**17**		**Pn**	**08 45 33.7**	**+1.1**
HARP	**HAARP**	**6.47**	**17**	P	**Pn**	**08 45 33.7**	**+1.1**
	baz=200						
L19K	**White Mountain**	**6.59**	**336**		**Pn**	**08 45 34.1**	**-0.2**
L19K	**White Mountain**	**6.59**	**336**	P	**Pn**	**08 45 34.1**	**-0.2**
	baz=152						
N15K	**Kwethluk River**	**6.95**	**309**	Pn	**Pn**	**08 45 41.1**	**+1.9**
P29M	**Windy Craggy**	**6.95**	**56**		**Pn**	**08 45 39.4**	**+0.2**
P29M	**Windy Craggy**	**6.95**	**56**	P	**Pn**	**08 45 39.4**	**+0.2**
	baz=246						
RND	**Reindeer**	**7.15**	**1**	Pn	**Pn**	**08 45 41.9**	**0.0**
S31K	**Pelican**	**7.25**	**71**		**Pn**	**08 45 41.9**	**-1.4**
S31K	**Pelican**	**7.25**	**71**	P	**Pn**	**08 45 41.9**	**-1.4**
	baz=261						
CAST	**Castle Rocks**	**7.30**	**350**	Pn	**Pn**	**08 45 44.0**	**-0.1**
K20K	**Telida**	**7.51**	**343**	Pn	**Pn**	**08 45 48.4**	**+1.5**
BPAW	**Bear Paw Mtn.**	**7.89**	**354**	Pn	**Pn**	**08 45 52.5**	**+0.3**
K17K	**Iditarod**	**7.94**	**328**	Pn	**Pn**	**08 45 52.0**	**-0.7**
JIS	**Juneau Island**	**8.26**	**70**	P	**Pn**	**08 45 57.4**	**+0.2**
IL31		**8.59**	**7**	Pn	**Pn**	**08 46 02.9**	**+1.3**
ILAR	**Eielson Array**	**8.59**	**7**	Pn	**Pn**	**08 46 03.6**	**+1.9**
WHY	**Whitehorse**	**8.68**	**54**	Pn	**Pn**	**08 46 02.8**	**-0.2**
DAWY	**Dawson**	**9.19**	**28**	Pn	**Pn**	**08 46 09.3**	**-0.6**
IMAR	**Indian Mountai**	**9.98**	**349**	Pn	**Pn**	**08 46 21.4**	**+0.8**
R33M	**Jennings River**	**10.19**	**65**	Pn	**Pn**	**08 46 23.6**	**-0.1**

*ATH **02** 08:44:42.5,38°.85N×27°.94E,h6$^{km}_{\pm 1}$km,ML3.5/9,Error ellipse: s-maj=3.0km s-min=2.0km az=67.0*

*AFAD **02** 08:44:43.5±0.0,38°.75N×27°.77E,h7$^{km}_{\pm 2}$km,ML3.3*

*THE **02** 08:44:43.4,38°.73N×27°.82E,h1$^{km}_{\pm 1}$km,ML3.4/5,Error ellipse: s-maj=1.2km s-min=0.6km az=51.0*

*ISK **02** 08:44:43.2,38°.76N×27°.75E,h6km,ML3.4/36*

ISC 02 08:44:43.2±0.8,38°.76N±0°.02×27°.82E±0°.02,h15km±5km, n73,σ0°77/115,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMA	**Golmarmara-Man**	**0.09**	**121**	Pg	**Pg**	**08 44 46.6**	**+0.2**
GOMA				Sg	**Sg**	**08 44 49.4**	**+0.9**
AKS	**Akhisar**	**0.12**	**358**	Pg	**Pg**	**08 44 45.9**	**-0.9**
ZEDA	**zmir-Bergama**	**0.61**	**290**	P	**Pg**	**08 44 55.0**	**-0.3**
ZEDA				S	**Sb**	**08 45 03.8**	**-0.3**
ZEDA				*i* AML	AML	08 45 04.0	
	comp=N,2µm,0.3s						
STEP	**BALIKESIR_Sava**	**0.62**	**353**	P	**Pb**	**08 44 55.1**	**-0.8**
STEP				S	**Sb**	**08 45 04.4**	**-0.1**
STEP				*i* AML	AML	08 45 05.0	
	comp=E,3µm,0.6s						
IZMR	**zmir-demi**	**0.63**	**170**	P	**Pb**	**08 44 56.0**	**+0.2**
IZMR				S	**Sb**	**08 45 04.3**	**-0.1**
MANT	**Manisa**	**0.64**	**114**	P	**Pn**	**08 44 56.9**	**-1.0**
MANT				S	**Sn**	**08 45 06.9**	**-0.9**
KULA	**Kula-Manisa**	**0.70**	**110**	Pg	**Pn**	**08 44 58.1**	**-0.6**
KULA	**Kula-Manisa**	**0.70**	**110**	P	**Pb**	**08 44 57.5**	**+0.3**
KULA				S	**Sb**	**08 45 07.1**	**+0.4**
BLCB	**Balcova**	**0.71**	**239**	Pg	**Pg**	**08 44 56.6**	**-0.5**
BLCB				Sg	**Sg**	**08 45 06.4**	**-0.1**
BLCB	**Balcova**	**0.71**	**239**	P	**Pg**	**08 44 56.8**	**-0.3**
BLCB				S	**Sb**	**08 45 07.4**	**+0.6**
KIRA	**zmir-Kiraz**	**0.72**	**140**	P	**Pn**	**08 44 58.4**	**-0.6**
KIRA				S	**Sn**	**08 45 08.7**	**-1.0**
IZMD	**zmir-Dikili-**	**0.73**	**289**	P	**Pg**	**08 44 57.0**	**-0.5**
IZMD				S	**Sb**	**08 45 07.4**	**-0.1**
DEMI	**Demirci**	**0.76**	**67**	P	**Pn**	**08 44 58.5**	**-0.9**
DEMI				S	**Sn**	**08 45 12.4**	**+1.8**
DKL	**

EZNE	Ezine-Canakkal	1.51	312	Pn	Pb	08 45 10.8	0.0	
ORLT	Orhaneli	1.54	33	Pn	Pg	08 45 12.2	-0.5	
KCTX	Karacabey (Bur	1.56	15	Pn	Pg	08 45 12.4	-0.9	
EZN	Ezine	1.58	313	Pn	Pn	08 45 11.0	+0.4	
EZN	Ezine	1.58	313	P	Pb	08 45 11.2	-0.8	
EDC	Edincik	1.59	1	Pn	Pb	08 45 11.8	-0.5	
KRBG	Karabiga-Canak	1.68	346	Pn	Pb	08 45 13.5	-0.4	
BODT	Bodrum	1.74	194	Pn	Pb	08 45 13.8	-1.0	
BODT	Bodrum	1.74	194	P	Pn	08 45 13.0	+0.2	
PSRA	Psara	1.78	264	P	Pb	08 45 14.6	-0.8	
PSRA				S	Sb	08 45 38.5	+0.9	
PSRA				AML	AML	08 45 41.9		
	comp=N,1477µm,0.4s							
PSRA				AML	AML	08 45 43.8		
	comp=E,2198µm,0.6s							
MDNY	Mudanya-Bursa	1.81	27	Pn	Pb	08 45 15.6	-0.4	
ARMT	Armutlu	1.98	24	Pn	Pb	08 45 18.7	-0.2	
ARMT				Sn	Sb	08 45 44.2	+0.8	
GEMT	Gemlik	1.98	32	Pn	Pb	08 45 18.9	-0.1	
TURN	Turunc	2.00	170	Pn	Pn	08 45 17.6	+1.1	
DAT	Datca	2.03	185	Pn	Pb	08 45 18.6	-1.3	
DALY	Dalyan (Mula)	2.04	161	Pn	Pb	08 45 19.3	-0.7	
CAVI	Cavuskoy	2.13	47	Pn	Pb	08 45 20.7	-0.8	
SHUT	Suhut-Afyon	2.15	95	Pn	Pb	08 45 21.2	-0.7	
CAME	Cameli-Denizli	2.16	147	Pn	Pb	08 45 21.4	-0.6	
CAME				Sn	Sb	08 45 48.8	+0.2	
ADVT	Abdulvahap	2.24	41	Pn	Pb	08 45 22.4	-0.9	
LIA	Limnos Island	2.34	300	P	Pn	08 45 22.1	+1.0	
LIA	Limnos Island	2.34	300	P	Pb	08 45 21.7	+0.7	
LIA				S	Sn	08 45 50.5	+0.9	
LIA				AML	AML	08 46 05.3		
	comp=E,614µm,0.5s							
LIA				AML	AML	08 46 09.9		
	comp=N,458µm,0.6s							
FETY	Fethiye	2.34	154	Pn	Pb	08 45 23.6	-1.5	
ENEZ	Enez	2.36	328	P	Pn	08 45 22.5	+1.2	
ENEZ				S	Sb	08 45 52.6	-1.6	
	comp=N,740nm,0.4s							
SMTH	Samothraki Isl	2.46	315	P	Pn	08 45 23.3	+0.5	
SMTH	Samothraki Isl	2.46	315	P	Pn	08 45 23.4	+0.7	
SMTH				S	Sn	08 45 51.0	-1.6	
SMTH				AML	AML	08 46 05.3		
	comp=N,291µm,0.5s							
SMTH				AML	AML	08 46 09.6		
	comp=E,262µm,0.7s							
SRCK	Saricakaya, Es	2.53	59	Pn	Pb	08 45 26.6	-1.6	
ALN	Alexandroupoli	2.54	328	P	Pn	08 45 24.9	+1.1	
ALN				S	Sn	08 45 56.3	+1.9	
	comp=E,202nm,0.5s							
ALN	Alexandroupoli	2.54	328	P	Pn	08 45 23.4	-0.4	
ALN				AML	AML	08 46 05.9		
	comp=E,265µm,0.5s							
ALN				AML	AML	08 46 06.0		
	comp=N,284µm,0.3s							

*IDC **02** 08:57:15.2±1.1,38˚40S×46˚76E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=55.1km s-min=25.5km az=30.0*

ISC 02 08:57:16.8±1.1, 38˚4S±0˚3×46˚7E±0˚2, h10km, n9, σ0°58/6, mb3.7/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	Boshof	20.36	292	P	P	09 01 53.4	-0.2
	5.3nm,0.8s,baz=129,slow=10,SNR=9.9						
	5.3nm,0.8s						
QSPA	South Pole Qui	51.77	180	P	P	09 06 24.2	-0.1
	1.0nm,1.0s,baz=294,slow=6.5,SNR=1.6						
	1.0nm,1.0s						
H01W2	Cape Leeuwin H	53.09	108	T	T	10 03 35.3	
	baz=244,slow=75,SNR=81						
H01W3	Cape Leeuwin H	53.10	108	T	T	10 03 35.9	
	baz=244,slow=75,SNR=77						
H01W1	Cape Leeuwin H	53.11	108	T	T	10 03 36.6	
	baz=244,slow=75,SNR=72						
TORD	Torodi Ar. Bea	66.37	311	P	P	09 08 05.9	-0.1
	0.4nm,0.5s,baz=132,slow=6.1,SNR=4.8						
	0.4nm,0.5s						
ASAR	Alice Springs	73.59	107	P	P	09 08 50.1	-0.4
	0.4nm,0.7s,baz=234,slow=4.8,SNR=5.3						
	0.4nm,0.7s						
WRA	Warramunga Arr	76.08	104	P	P	09 09 05.0	+0.2
	0.5nm,0.8s,baz=228,slow=4.4,SNR=2.3						
	0.5nm,0.8s						
TXAR	Lajitas Array	153.89	259	PKPbc	PKiKP	09 17 17.5	+0.9
	0.5nm,1.0s,baz=131,slow=4.0,SNR=3.3						

IDC 02 09:00:33.5±13.0, 1˚90S×127˚03E, h0km, mb3.3/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=191.9km s-min=147.7km az=143.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	19.31	159	P	P	09 05 00.7	+0.3
	0.1nm,0.3s,baz=337,slow=12,SNR=4.7						
	0.4nm,0.6s						
ASAR	Alice Springs	22.64	163	P	P	09 05 36.6	+0.2
	0.3nm,0.7s,baz=348,slow=12,SNR=4.5						
	0.3nm,0.7s						
STKA	Stephens Creek	32.83	157	P	P	09 07 08.6	-0.4
	1.1nm,0.7s,baz=345,slow=12,SNR=1.5						
	1.1nm,0.7s						

*ISN **02** 09:05:14.8±0.5, 32˚84N×47˚15E, h6km±2km, ML2.8*
*TEH **02** 09:05:15.1, 32˚83N×47˚17E, h10km±69km, ML2.9*

ISC 02 09:05:16.6±1.3, 32˚84N±0˚05×47˚19E±0˚06, h22km, n13, σ1°33/17, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	Kafar-mosalman	0.88	39	Pg	Pb	09 05 31.5	-1.7
IBDR	Badra	1.09	285	*e*Pg	Pn	09 05 35.5	-1.1
IBDR				*e*Sg	Sn	09 05 50.0	-1.0
IBDR				AML	AML	09 05 57.3	
	comp=N,235nm,0.5s						
IBDR				AML	AML	09 06 06.7	
	comp=E,217nm,0.5s						
ILBA	Ilam Banvizeh	1.14	314	Pg	Pn	09 05 36.3	-1.1
IDOB	Doab	1.26	41	Pg	Pb	09 05 39.6	-0.3
RAFI	Al-Rafai	1.43	220	*e*Pg	Pb	09 05 42.0	-0.6
RAFI				*e*Sg	Sb	09 06 02.0	+1.6
KCHF	Cheshme Sefid,	1.44	355	Pg	Pb	09 05 42.8	-0.1
IGHG	Ghaleghazi	1.58	341	Pg	Pb	09 05 45.2	0.0
IBZA	Bozab	1.73	19	Pg	Pb	09 05 48.1	+0.3
BDRS	Dareh Seyedi	1.81	51	Pn	Pb	09 05 49.0	-0.2
HSAM	Samen	1.81	40	Pn	Pb	09 05 48.8	-0.5
IDHR	Dehrash	1.98	341	Pn	Pb	09 05 51.5	-0.5
BHD	Baghdad	2.40	281	*e*Pn	Pn	09 05 55.9	+1.4
BHD				*e*Sn	Sb	09 06 26.0	-2.2
IKRK	Kirkuk	3.48	318	*e*Pn	Pn	09 06 11.0	+1.5
IKRK				*e*Sn	Sn	09 06 52.5	+2.5

*NEIC **02** 09:15:17.0±1.4,20˚19S±0˚05×69˚11W±0˚07, h100km±5km, mb4.8/152, Error ellipse: s-maj=9.1km s-min=6.8km az=88.0*
*VAO **02** 09:15:18.2±0.3,20˚05S×68˚89W, h94km±3km, mb4.9*
*GUC **02** 09:15:18.1±0.8,20˚14S×69˚17W, h95km±3km, ML4.7*
*IDC **02** 09:15:18.1±0.7,20˚11S×68˚90W, h107km±6km, mb4.0/14, mbtmp4.4/19, Error ellipse: s-maj=16.0km s-min=11.8km az=74.0*

ISC 02 09:15:16.4±0.3, 20˚12S±0˚03×69˚06W±0˚04, h99km±2km, h99km:pP-P, n502, σ1°10/491, mb4.8/79, 7C-5D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	IPOC Station P	0.09	256		Pn	09 15 31.5	+0.8
PB08				Sn	Sn	09 15 42.1	+0.7
PB08	IPOC Station P	0.09	256	↓*i*P	Pn	09 15 31.7	+1.0
PB08				*e*S	Sn	09 15 42.0	+0.7
PB08				IAML		09 15 42.9	
	comp=E,54µm,0.3s						
GO01	Chusmiza	0.47	344		Pn	09 15 33.5	+1.0
GO01	Chusmiza	0.47	344	↓*i*P	Pn	09 15 33.7	+1.2
GO01				*e*S	Sn	09 15 45.3	+1.0
GO01				IAML		09 15 47.7	
	comp=N,53µm,0.2s						
PB11	IPOC Station P	0.67	302		Pn	09 15 34.0	+0.4
PB11				Sn	Sn	09 15 47.0	+0.5
PB11	IPOC Station P	0.67	302	↑*i*P	Pn	09 15 34.1	+0.4
PB11				*e*S	Sn	09 15 46.5	0.0
PB11				IAML		09 15 47.7	
	comp=N,74µm,0.2s						
HMBC	Humberstone	0.80	258	↑*i*P	Pn	09 15 34.7	-0.1
HMBC				*e*S	Sn	09 15 47.4	-1.2
HMBC				IAML		09 15 49.1	
	comp=E,43µm,0.4s						
PB01	IPOC Station P	1.00	204		Pn	09 15 36.5	-0.4
PB01	IPOC Station P	1.00	204	↓*i*P	Pn	09 15 37.2	+0.2
PB01				*e*S	Sn	09 15 52.2	-0.1
PB01				IAML		09 15 53.7	
	comp=E,54µm,0.3s						
TA02	Huaiquique	1.02	261		Pn	09 15 36.9	-0.1
TA02	Huaiquique	1.02	261	↑*i*P	Pn	09 15 36.9	-0.1
TA02				*e*S	Sn	09 15 51.1	-1.3
TA01	Diego Aracena	1.14	247		Pn	09 15 37.7	-0.6
TA01	Diego Aracena	1.14	247	↑*i*P	Pn	09 15 37.9	-0.5
TA01				*e*S	Sn	09 15 53.1	-1.9
TA01				IAML		09 15 55.8	
	comp=E,12µm,0.5s						
PATCX	Punta Patache	1.24	236		Pn	09 15 39.0	-0.6
PATCX	Punta Patache	1.24	236	↑*i*P	Pn	09 15 39.3	-0.3
PATCX				*e*S	Sn	09 15 55.5	-1.6
PATCX				IAML		09 15 59.1	
	comp=E,18µm,0.3s						
PB02	IPOC Station P	1.43	213		Pn	09 15 41.6	-0.2
PB02	IPOC Station P	1.43	213	↓*i*P	Pn	09 15 42.0	+0.1
PB02				*e*S	Sn	09 15 59.6	-1.6
PB02				IAML		09 16 08.1	
	comp=E,22µm,0.2s						
PX02	IPOC Station P	1.57	317	*e*P	Pn	09 15 43.3	-0.4
PX02				*e*S	Sn	09 16 03.8	-0.5
PX02				IAML		09 16 04.7	
	comp=N,4µm,0.4s						
PB09	IPOC Station P	1.68	186		Pn	09 15 46.1	+1.0
PB09	IPOC Station P	1.68	186	↓*i*P	Pn	09 15 46.1	+1.0
PB09				*e*S	Sn	09 16 07.3	+0.6
PB09				IAML		09 16 10.8	
	comp=N,7µm,0.4s						
PB07	IPOC Station P	1.78	206		Pn	09 15 46.4	+0.1
PB07	IPOC Station P	1.78	206	*e*P	Pn	09 15 46.3	+0.1
PB07				*e*S	Sn	09 16 08.6	-0.4
PB07				IAML		09 16 16.7	
	comp=E,10µm,0.3s						
PB12	IPOC Station P	1.92	321	Pn	Pn	09 15 48.7	+0.7
PB12	IPOC Station P	1.92	321	↑*i*P	Pn	09 15 48.6	+0.5
PB12				*e*S	Sn	09 16 11.9	-0.2
PB12				IAML		09 16 19.1	
	comp=N,8µm,0.3s						
AP01	Chacalluta	2.12	325		Pn	09 15 51.5	+1.0
AP01	Chacalluta	2.12	325	*e*P	Pn	09 15 51.3	+0.8
AP01				*e*S	Sn	09 16 16.5	-0.1
AP01				IAML		09 16 25.0	
	comp=N,13µm,0.4s						
PB04	IPOC Station P	2.43	205	Pn	Pn	09 15 54.9	+0.2
PB04	IPOC Station P	2.43	205	*e*P	Pn	09 15 54.9	+0.2
PB04				*e*S	Sn	09 16 23.1	-1.0
PB04				IAML		09 16 40.6	
	comp=N,4µm,0.4s						
LVC	Limon Verde	2.48	177	Pn	Pn	09 15 56.0	+0.3
LVC	Limon Verde	2.48	177	P	Pn	09 15 57.0	+1.3
	comp=N,500nm,0.4s,baz=28,slow=11,SNR=764						
LVC				S	Sn	09 16 24.6	-1.0
	comp=N,341nm,0.3s,baz=360,slow=8.4,SNR=7.2						
LVC	Limon Verde	2.48	177	*e*P	Pn	09 15 57.1	+1.5
LVC	Limon Verde	2.48	177	*e*P	Pn	09 15 57.3	+1.7
PB06	IPOC Station P	2.62	190		Pn	09 15 57.2	0.0
PB06	IPOC Station P	2.62	190	*e*P	Pn	09 15 58.0	+0.7
PB06				IAML		09 16 36.3	
	comp=E,6µm,0.2s						
PB10	IPOC Station P	3.65	202		Pn	09 16 09.8	-1.1
LPAZ	La Paz	3.91	13		Pn	09 16 18.8	+3.7
LPAZ	La Paz	3.91	13	P	Pn	09 16 17.8	+2.8
	comp=E,65nm,0.5s,baz=197,slow=5.2,SNR=345						
LPAZ				S	Sn	09 16 53.1	-7.2
	comp=E,45nm,0.6s,baz=163,slow=12,SNR=3.8						
LPAZ	La Paz	3.91	13	*e*P	Pn	09 16 14.8	-0.2
LPAZ				*e*S	Sn	09 17 00.0	-0.2
PB14	IPOC Station P	4.66	195	Pn	Pn	09 16 23.5	-1.3
GO02	Mina Guanaco	5.04	185		Pn	09 16 29.3	-0.7
AC01	Pan de Azucar	6.17	193		Pn	09 16 42.7	-2.3
AC02	Maricunga	6.69	181	Pn	Pn	09 16 52.1	-0.4
GO03	Copiap	7.52	188		Pn	09 17 02.4	-1.0
AC04	Llanos de Chal	8.26	192	Pn	Pn	09 17 08.0	-5.4
BBSD	Serra de San D	8.52	71	*e*P	Pn	09 17 16.5	-0.6
BBSD				*e*S	Sn	09 18 50.3	-1.3
SIV	San Ignacio	8.63	63	P	Pn	09 17 18.9	+0.2
	comp=E,41nm,0.6s,baz=251,slow=10,SNR=214						
SIV				S	Sn	09 18 50.6	-3.8
	comp=E,4.2nm,0.6s,baz=282,slow=21,SNR=1.2						
AC05	El Transito	8.75	187		Pn	09 17 16.6	-3.7
FDPY	Filadelfia	8.77	106	*e*P	Pn	09 17 20.1	-0.3
FDPY				*e*S	Sn	09 18 57.6	+0.1
LCO	Las Campanas	8.98	189	Pn	Pn	09 17 20.5	-3.0
TICA	Tres Isletas	10.12	130	*e*P	Pn	09 17 39.1	+0.3
PTLB	Pontes e Lacer	10.53	65	Pn	Pn	09 17 45.5	+1.1
PTLB	Pontes e Lacer	10.53	65	*e*P	Pn	09 17 44.5	+0.1
PTLB				*e*S	Sn	09 19 38.2	-2.2
ETMB	Extrema	10.60	15	Pn	Pn	09 17 46.2	+0.8
ETMB	Extrema	10.60	15	*e*P	Pn	09 17 46.3	+0.8
ETMB				*e*S	Sn	09 19 42.2	-0.1
PAPY	Pozo Azul	10.79	113	*e*P	Pn	09 17 48.9	+1.0
NNA	Nana	11.01	316	P	Pn	09 17 53.9	+2.9
	comp=E,3.8nm,0.3s,baz=174,slow=9.9,SNR=2.3						
NNA				S	Sn	09 19 49.5	-2.8
	comp=E,4.1nm,0.3s,baz=120,slow=20,SNR=1.7						
VILB	Vilhena	11.08	51	Pn	Pn	09 17 52.6	+0.6
VILB	Vilhena	11.08	51	*e*P	Pn	09 17 53.3	+1.3
VILB				*e*S	Sn	09 19 52.4	-1.7
BDQN	Bodoquena, MS	11.56	94	*e*P	Pn	09 17 57.1	-1.1
BDQN				*e*S	Sn	09 20 02.0	-3.4
CPUP	Villa Florida	12.43	122	Pn	Pn	09 18 09.6	-0.2
CPUP	Villa Florida	12.43	122	P	Pn	09 18 09.3	-0.5
	comp=E,17nm,0.7s,baz=303,slow=12,SNR=44						
CPUP	Villa Florida	12.43	122	*e*P	Pn	09 18 09.5	-0.3
CPUP				*e*S	Sn	09 20 27.4	+1.0
SAML	Samuel	12.47	28	Pn	Pn	09 18 10.3	-0.2
SAML	Samuel	12.47	28	*e*P	Pn	09 18 10.6	+0.1
SAML				*e*S	Sn	09 20 26.1	-1.6
AQDB	Aquidauana	12.54	94	Pn	Pn	09 18 10.7	-0.7
AQDB	Aquidauana	12.54	94	*e*P	Pn	09 18 11.6	+0.2
AQDB				*e*S	Sn	09 20 28.4	-0.9
CZSB	Cruzeiro do Su	12.81	343		Pn	09 18 15.6	+0.6
CZSB	Cruzeiro do Su	12.81	343	*e*P	Pn	09 18 15.9	+0.9
RVDE	Rio Verde (Bra	13.35	88	*e*P	Pn	09 18 20.5	-1.6
SALV	Santo Antonio	13.39	74	*e*P	Pn	09 18 21.9	-0.6
SALV				*e*S	Sn	09 20 48.6	-1.3
AMBA	Amambai (Brazi	13.39	105	*e*P	Pn	09 18 22.6	+0.1
AMBA				*e*S	Sn	09 20 50.4	+0.6
MT09	Talagante	13.71	187	Pn	Pn	09 18 25.0	-1.8
BO01	Tunca	14.33	187		Pn	09 18 33.7	-1.0
PDRB	Porto dos Gac	14.56	56	*e*P	Pn	09 18 39.1	+1.3
PDRB				*e*S	Sn	09 21 16.6	-1.7
BO02	Sierra Bellavi	14.70	186		Pn	09 18 38.0	-1.4
ITQB	Itaqui	14.74	133	*e*P	Pn	09 18 40.3	+0.3
PSAL	Palomas, Salto	15.02	139	*e*P	Pn	09 18 44.3	+0.9
PSAL				*e*S	Sn	09 21 28.8	-0.4
UNIS	Unistalda (Bra	15.52	128	*e*P	P	09 18 51.5	-0.6
UNIS				*e*S	Sn	09 21 39.6	-1.7
TRCB	Terra Rica	15.52	103		Pn	09 18 49.5	-0.4
TRCB	Terra Rica	15.52	103	*e*P	P	09 18 51.0	-1.2
TRCB				*e*S	Sn	09 21 40.9	-0.7
CRSM	Crissiumal (Br	15.57	121	*e*P	P	09 18 52.3	-0.3
ML02	Panimavida	15.72	187		Pn	09 18 51.3	-0.9
TBTG	Tabatinga, AM	15.86	357	*e*P	P	09 18 55.2	-0.6
RODS	Rosario do Sul	16.14	132	*e*P	P	09 18 58.4	-0.5
PTGB	Pitanga	16.36	109	*e*P	P	09 19 00.8	-0.7
TBOT	Tacuaremb	16.47	137	*e*P	Pn	09 19 01.8	+0.2
PCMB	Pacaembu	16.70	98	*e*P	P	09 19 06.0	+0.8
ALGR	Alto Alegre (B	16.95	124	*e*P	P	09 19 08.5	+0.6
LDASE	Londrina, Braz	16.98	104	*e*P	P	09 19 09.8	+1.5
LDASE				*e*S	Sn	09 22 14.9	-1.9
ARAG	Araguaiana, MT	16.99	78	*e*P	P	09 19 09.2	+0.8
ITAB	Concordia	17.04	118	P	P	09 19 09.5	+0.6
ITAB	Concordia	17.04	118	*e*P	P	09 19 10.5	+1.6
TEFE	Tefe	17.06	15	*e*P	Pn	09 19 08.5	-0.5
CPSB	Cacapava Do Su	17.43	129	*e*P	Pn	09 19 14.8	+1.4
ITRB	Iturama	17.59	92	*e*P	Pn	09 19 15.9	+0.5
PLTB	Pedras Altas	18.08	133	*e*P	Pn	09 19 22.7	+1.5
FRTB	Fartura	18.39	104	*e*P	Pn	09 19 24.6	-0.4
NPGB	Novo Progresso	18.59	48	*e*P	P	09 19 25.9	-0.1
MACA	Manacapuru-AM	18.73	27	P	Pn	09 19 28.2	-0.8
MACA	Manacapuru-AM	18.73	27	*e*P	Pn	09 19 28.4	-0.7
SNDB	Serra Nova Dou	18.88	67	*e*P	P	09 19 29.6	+0.4
CNLB	Canela	18.88	123	*e*P	Pn	09 19 30.4	-0.4
TRQA	Tornquist	18.90	163	P	P	09 19 29.4	+0.2
BB19B	Bebedouro	19.25	96	*e*P	P	09 19 33.6	+0.4
ARNL	Arenillas	19.66	325	P	P	09 19 38.4	+0.7
IPMB	Ipameri, GO	19.82	87	*e*P	P	09 19 39.9	+0.4
RCLB	Rio Claro- Sao	20.19	100	*e*P	P	09 19 43.5	+0.1
ITTB	Itaituba	20.34	41	*e*P	P	09 19 44.6	-0.3
SPB	Sao Paulo	20.36	104	*e*P	P	09 19 46.3	+1.1
BDFB	Brasilia	20.51	81	P	P	09 19 47.0	0.0
BDFB	Brasilia	20.51	81	P	P	09 19 47.0	0.0
	comp=E,8.8nm,0.5s,baz=271,slow=11,SNR=17						
	comp=E,8.8nm,0.5s						
PET01	Itanhaem-SP	20.59	106	*e*P	P	09 19 48.4	+0.8
PLCA	Paso Flores	20.59	183	P	P	09 19 47.5	-0.1
PLCA	Paso Flores	20.59	183	P	P	09 19 48.4	+0.9
	comp=E,6.0nm,0.8s,baz=359,slow=9.1,SNR=12						
	comp=E,6.0nm,0.8s						
PLCA	Paso Flores	20.59	183	*e*P	Pn	09 19 51.4	+0.7
VAO	Valinhos	20.74	102	*e*P	P	09 19 49.6	+0.2
PMNB	Patos De Minas	21.40	90	*e*P	P	09 19 56.2	-0.3
PARB	Paraibuna	22.00	103	*e*P	P	09 20 02.5	-0.4
BSCB	Bom Jesesso	22.75	96	*e*P	P	09 20 10.7	0.0
SMTB	Santa Maria do	23.57	65	*e*P	P	09 20 19.1	+0.7
BOAV	Boa Vista	23.89	21	P	P	09 20 21.4	+0.3
BOAV	Boa Vista	23.89	21	*e*P	P	09 20 21.9	+0.7
DIAM	Diamantina, MG	24.04	90	*e*P	P	09 20 23.5	+0.9
JANB	Januaria	24.11	82	*e*P	P	09 20 23.2	0.0
SDBA	SAO DESIDERIO	24.40	75	*e*P	P	09 20 25.8	0.0
DUB01	Friburgo-RJ	24.96	99	*e*P	P	09 20 31.6	+0.7
SJMB	Sao Joao De Ma	26.32	92	*e*P	P	09 20 45.0	+1.9
ALF01	Guarapari-ES	26.55	96	*e*P	P	09 20 46.7	+1.4
RIB01	Linhares ES	26.98	93	*e*P	P	09 20 50.3	+1.2
GUA01	Guaratinga, BA	27.97	88	*e*P	P	09 20 58.2	+0.2
SDV	Santo Domingo	28.86	357	P	P	09 21 05.0	-1.0
SDV	Santo Domingo	28.86	357	*e*P	P	09 21 05.8	-0.3
BAUV	El Baul	28.90	2	P	P	09 21 06.4	+0.3
BAUV				IAmb	IAmb	09 21 32.4	
	comp=Z,16nm,0.9s						
OBIP	Obispado Ponce	38.00	4	P	P	09 22 24.4	-0.6
CELP	Cerrillos	38.03	4	P	P	09 22 24.3	-1.0
UUPR	Utuado, UPR, P	38.20	4	P	P	09 22 25.5	-1.2
TEIG	Tepich	44.29	334	P	P	09 23 17.0	+0.5
TEIG				pP	pP	09 23 41.5	+0.7
TEIG				sP	sP	09 23 52.7	+0.5
DWPF	Disney Wildern	49.42	346	P	P	09 23 55.8	-0.5
	baz=165						
TIGA	Tifton	53.13	344	P	P	09 24 23.4	-0.6
	baz=163						
ZAIG	Zacatecas	53.73	321	IAmb	IAmb	09 24 32.0	
	comp=Z,8.1nm,0.8s						
BRAL	Brewton	53.84	341	P	P	09 24 28.8	-0.5
	baz=159						
GOGA	Godfrey	54.98	345	P	P	09 24 37.6	+0.1
	baz=164						
JSC	Jenkinsville	55.33	348	IAmb	IAmb	09 24 41.6	
	comp=Z,10nm,0.9s						
LRAL	Lakeview Retre	55.56	342	P	P	09 24 41.5	-0.2
	baz=160						
CNNC	Cliffs of the	55.69	351	P	P	09 24 41.1	-1.3
	baz=170						
W57A	Gilead	55.94	349	IAmb	IAmb	09 24 45.8	
	comp=Z,12nm,0.8s						
VBMS	Vicksburg	55.95	338	P	P	09 24 43.1	-1.3
	baz=156						
KMSC	Kings Mountain	56.18	348	IAmb	IAmb	09 24 47.7	
	comp=Z,8.5nm,0.8s						
KMSC	Kings Mountain	56.18	348	P	P	09 24 45.9	-0.1
	baz=166						
833A	Chaparral WMA,	56.38	328	P	P	09 24 46.6	-1.0
	baz=146						
X48A	Hartselle	56.90	342	IAmb	IAmb	09 24 52.1	
	comp=Z,10nm,0.9s						
V53A	Saluda	56.99	347	IAmb	IAmb	09 24 53.1	
	comp=Z,5.2nm,0.8s						
NATX	Nacogdoches	57.13	334	P	P	09 24 52.5	-0.2
	baz=151						
W50A	Signal Mountai	57.14	344	IAmb	IAmb	09 24 54.0	
	comp=Z,8.2nm,0.8s						
TKL	Tuckaleechee C	57.20	346	IAmb	IAmb	09 24 54.2	
	comp=Z,8.2nm,0.9s						
SWET	Sewanee	57.31	344	IAmb	IAmb	09 24 54.9	
	comp=Z,7.5nm,0.7s						
HNDO	Hondo	57.32	329	IAmb	IAmb	09 24 55.9	
	comp=Z,6.6nm,0.7s						
V52A	Sevierville	57.33	346	IAmb	IAmb	09 24 55.3	
	comp=Z,19nm,1.1s						
U54A	Nelsons Funny	57.61	348	IAmb	IAmb	09 24 57.7	
	comp=Z,14nm,0.8s						
T57A	Hurt	57.62	350	IAmb	IAmb	09 24 57.8	
	comp=

baz=175
SSPA **Standing Stone** 61.00 352 P P 09 25 19.0 -0.3
baz=171
SSPA **Standing Stone** 61.00 352 P P 09 25 19.9 +0.5
SSPA sP sP 09 25 56.5 0.0
MGMO **Mountain Grove** 61.03 339 IAmb IAmb 09 25 20.6
comp=Z,7.1nm,0.8s
O53A **New Philadelph** 61.12 349 P P 09 25 20.1 -0.1
baz=167
P49A **Miami Univ. Ec** 61.12 346 IAmb IAmb 09 25 20.7
comp=Z,19nm,1.3s
P49A **Miami Univ. Ec** 61.12 346 P P 09 25 20.1 -0.1
baz=163
U38A **Gravette** 61.14 337 IAmb IAmb 09 25 21.0
comp=Z,3.5nm,0.6s
OLIL **Olney** 61.20 343 IAmb IAmb 09 25 21.0
comp=Z,8.7nm,0.8s
TUL3 **Leonard** 61.21 335 P P 09 25 20.6 -0.3
baz=151
VHRN **Van Horn** 61.27 325 P P 09 25 21.7 +0.1
VHRN IAmb IAmb 09 25 23.1
comp=Z,6.7nm,0.8s
ACSO **Alum Creek Sta** 61.42 348 IAmb IAmb 09 25 23.4
comp=Z,14nm,0.9s
ACSO **Alum Creek Sta** 61.42 348 P P 09 25 21.5 -0.8
baz=165
WMOK **Wichita Mounta** 61.44 332 P P 09 25 21.6 -0.9
baz=148
CCM **Cathedral Cave** 61.51 340 P P 09 25 22.9 +0.1
CCM IAmb IAmb 09 25 23.8
comp=Z,9.3nm,0.9s
CCM **Cathedral Cave** 61.51 340 P P 09 25 21.9 -1.0
baz=156
CCM **Cathedral Cave** 61.51 340 P P 09 25 22.7 -0.1
CCM pP pP 09 25 48.3 -0.2
CCM sP sP 09 25 59.3 -0.4
N53A **Lisbon** 61.59 350 P P 09 25 23.9 +0.5
O49A **Covington** 61.66 347 IAmb IAmb 09 26 00.7
comp=Z,10nm,1.1s
P46A **Rosedale** 61.80 344 IAmb IAmb 09 25 25.6
comp=Z,8.0nm,0.6s
O48B **Farmland** 61.91 346 P P 09 25 24.5 -1.0
baz=163
M55A **Ridgway** 61.93 352 IAmb IAmb 09 25 27.4
comp=Z,12nm,0.9s
R40A **Maddies Statio** 62.06 339 IAmb IAmb 09 25 26.9
comp=Z,7.6nm,0.6s
M53A **Wt Miller and** 62.19 350 P P 09 25 27.2 -0.2
baz=168,SNR=5.5
MNTX **Cornudas Mount** 62.19 325 P P 09 25 26.3 -1.3
baz=141
BINY **Binghamton** 62.33 354 P P 09 25 28.2 -0.1
baz=173
L61B **Northampton** 62.34 357 P P 09 25 28.0 -0.4
baz=176
HRV **Adam Dziewonsk** 62.35 358 P P 09 25 28.3 -0.1
baz=177
SMWD **Samnorwood** 62.39 331 IAmb IAmb 09 25 30.1
comp=Z,7.3nm,0.8s
SFIN **Lafayette** 62.49 345 P P 09 25 28.2 -1.2
baz=161
MSTX **Muleshoe** 62.65 329 P P 09 25 30.0 -0.7
baz=144
ERPA **Erie** 62.74 351 P P 09 25 31.2 +0.2
baz=168,SNR=5.4
AMTX **Amarillo** 62.87 330 P P 09 25 31.5 -0.6
baz=146
P40A **Paris** 63.11 340 IAmb IAmb 09 25 34.3
comp=Z,15nm,0.7s
HDIL **Hopedale** 63.23 343 P P 09 25 34.4 +0.1
baz=159
SNAA **Sanae** 63.62 161 P P 09 25 37.6 +1.0
SNAA IAmb IAmb 09 25 59.7
comp=Z,15nm,1.6s
SNAA **Sanae** 63.62 161 P P 09 25 37.6 +1.0
comp=Z,1.4nm,0.8s,baz=284,slow=8.8,SNR=6.0
comp=Z,1.4nm,0.8s
N41A **Harden Midland** 63.82 342 IAmb IAmb 09 25 38.6
comp=Z,13nm,1.1s
LBNH **Lisbon** 64.10 358 P P 09 25 39.6 -0.3
baz=177
121A **Cookes Peak, D** 64.13 324 P P 09 25 38.8 -1.8
baz=139
KSU1 **Kansas State U** 64.31 336 P P 09 25 41.0 -0.4
baz=151
LONY **Lake Ozonia** 64.62 356 P P 09 25 43.5 +0.2
baz=174
N38A **Joes South For** 64.64 340 IAmb IAmb 09 25 44.3
comp=Z,11nm,0.9s
Y22D **IRIS PASSCAL I** 64.84 326 P P 09 25 44.4 -0.8
baz=141
Y22F **Passcal Instru** 64.84 326 P P 09 25 44.4 -0.8
baz=141
ANMO **Albuquerque** 65.27 327 P P 09 25 48.7 +0.7
ANMO **Albuquerque** 65.27 327 P P 09 25 47.4 -0.7
baz=141
ANMO **Albuquerque** 65.27 327 P P 09 25 49.1 +1.1
ANMO PcP PcP 09 26 19.3 -0.3
ANMO sP sP 09 26 25.3 +0.6
CBKS **Cedar Bluff** 65.30 334 P P 09 25 48.5 +0.7
baz=148
N35A **Tabor** 65.51 338 P P 09 25 49.5 +0.4
F64A **Sherman** 65.67 1 P P 09 25 51.1 +1.1
F64A IAmb IAmb 09 27 37.9
comp=Z,15nm,1.2s
TUC **Tucson** 65.67 322 P P 09 25 49.6 -0.9
baz=137
JFWS **Jewell Farm** 65.69 343 IAmb IAmb 09 25 51.1
comp=Z,19nm,1.2s
JFWS **Jewell Farm** 65.69 343 P P 09 25 49.8 -0.4
baz=158
T25A **Trinidad** 65.99 330 P P 09 25 52.4 -0.2
baz=144
214A **Organ Pipe Nat** 66.61 320 P P 09 25 56.0 -0.4
baz=135
KSCO **Kaye Shedlock'** 66.69 332 P P 09 25 56.9 0.0
baz=146
BGNE **Belgrade** 66.90 337 P P 09 25 57.9 -0.1
baz=150
SDCO **Great Sand Dun** 66.99 329 P P 09 25 58.9 -0.2
baz=143
I37A **Lemond, Waseca** 67.61 341 IAmb IAmb 09 26 03.5
comp=Z,13nm,0.7s
Q24A **Divide** 67.80 330 P P 09 26 03.6 -0.5
baz=144
OGNE **Ogallala** 68.04 334 P P 09 26 05.2 -0.1
baz=147
MVCO **Mesa Verde** 68.07 327 P P 09 26 05.4 -0.4
baz=140
WUAZ **Wupatki** 68.34 324 P P 09 26 07.1 -0.3
baz=137
ECSD **EROS Data Cent** 68.39 339 P P 09 26 08.1 +0.8
baz=152
DBIC **Dimbokro** 68.48 74 P P 09 26 08.5 -0.1
DBIC IAmb IAmb 09 26 10.2
comp=Z,10nm,0.9s
DBIC **Dimbokro** 68.48 74 P P 09 26 07.8 -0.8
comp=Z,3.6nm,0.4s,baz=232,slow=7.8,SNR=7.2
comp=Z,3.6nm,0.4s
DBIC **Dimbokro** 68.48 74 P P 09 26 08.6 +0.1
DBIC pP pP 09 26 34.4 -0.5
SPMN **Marine on St.** 68.53 342 P P 09 26 08.3 +0.1
baz=156
ISCO **Idaho Springs** 68.68 330 P P 09 26 09.9 +0.3
baz=143
PDMCI **Parker Dam,Lak** 69.06 321 P P 09 26 11.8 +0.1
baz=135
IKP **In-Ko-Pah, Jac** 69.11 319 P P 09 26 11.7 -0.5
baz=133
F36A **Milaca** 69.32 342 IAmb IAmb 09 26 14.0
comp=Z,7.9nm,0.9s
BC3 **Big Chuckawall** 69.39 320 P P 09 26 14.0 0.0
baz=134
MONP2 **Monument Peak** 69.47 319 P P 09 26 14.6 +0.1
baz=133
IRM **Iron Mountain** 69.55 320 P P 09 26 16.0 +1.2
baz=134
N23A **Red Feather La** 69.71 331 P P 09 26 17.1 +1.1
baz=143
109C **Camp Elliot, M** 69.89 318 P P 09 26 18.3 +1.5
baz=132
BELC **Belle Mtn. Jos** 69.96 320 P P 09 26 17.8 +0.3
baz=133
TPFO **Pinon Flats** 69.97 319 P P 09 26 18.7 +1.2
baz=133
PFO **Pinyon Flats O** 69.98 319 P P 09 26 19.5 +2.0
baz=133
PFO **Pinyon Flats O** 69.98 319 P P 09 26 19.6 +2.1

QSPA **South Pole Qui** 70.06 180 P P 09 26 18.3 +0.6
QSPA IAmb IAmb 09 26 50.7
comp=Z,12nm,1.4s
QSPA **South Pole Qui** 70.06 180 P P 09 26 18.8 +1.1
comp=Z,4.5nm,1.1s,baz=28,slow=3.6,SNR=7.3
comp=Z,4.5nm,1.1s
QSPA **South Pole Qui** 70.06 180 P P 09 26 19.9 +2.2
F33A **5 Mile Ranch,** 70.15 340 P P 09 26 18.5 +0.3
F33A IAmb IAmb 09 26 19.0
comp=Z,6.5nm,0.8s
O20A **White River Ci** 70.19 329 P P 09 26 19.9 +1.1
baz=141
GMRC **Granite Mounta** 70.29 321 P P 09 26 20.8 +1.4
baz=134,SNR=7.7
SRU **San Rafael Swe** 70.55 327 IAmb IAmb 09 26 23.4
comp=Z,5.8nm,0.7s
EYMN **Ely** 70.68 344 IAmb IAmb 09 26 22.1
comp=Z,9.1nm,0.8s
EYMN **Ely** 70.68 344 P P 09 26 21.9 +0.6
baz=158
HEC **Hector,Ludlow** 70.73 320 P P 09 26 24.0 +2.0
baz=133
TUQ **Turquoise Moun** 70.89 321 P P 09 26 24.1 +1.0
baz=134
BFSC **Mount Baldy Ra** 71.14 319 P P 09 26 25.8 +1.2
baz=132
GSC **Goldstone, Bar** 71.33 320 P P 09 26 26.7 +1.0
baz=133
K22A **Casper** 71.37 332 P P 09 26 26.8 +1.0
baz=143
SHOC **Shoshone, Teco** 71.42 321 P P 09 26 26.7 +0.5
baz=134
RSSD **Black Hills** 71.50 334 P P 09 26 28.2 +1.6
RSSD **Black Hills** 71.50 334 P P 09 26 27.9 +1.2
baz=146
RSSD **Black Hills** 71.50 334 P P 09 26 27.7 +1.1
D32A **Dogwood Acres,** 71.53 340 IAmb IAmb 09 26 27.5
comp=Z,16nm,0.7s
B35A **Bob, Littlefor** 71.65 343 P P 09 26 27.6 +0.4
B35A IAmb IAmb 09 26 28.1
comp=Z,9.2nm,0.8s
EDW2 **Edwards Air Fo** 71.77 319 P P 09 26 29.5 +1.2
baz=132
GWY **Greenwater Val** 71.85 321 IAmb IAmb 09 26 31.7
comp=Z,6.4nm,0.8s
LRMC **Laurel Mtn Rad** 71.98 320 P P 09 26 30.5 +0.9
baz=132
FURC **Furnace Creek,** 72.16 321 P P 09 26 31.6 +1.2
baz=133
AGMN **Agassiz Nation** 72.21 342 IAmb IAmb 09 26 31.6
comp=Z,7.9nm,0.8s
AGMN **Agassiz Nation** 72.21 342 P P 09 26 31.5 +1.0
baz=154,SNR=11
MPMC **Manual Prospec** 72.25 320 P P 09 26 32.3 +1.0
baz=133
E28A **Huff** 72.28 338 IAmb IAmb 09 26 33.0
comp=Z,14nm,0.8s
DUG **Dugway, Tooele** 72.54 326 P P 09 26 33.4 +0.5
baz=137
ISA **Isabella, Lake** 72.58 320 P P 09 26 33.2 +0.1
baz=132
R11B **Troy Canyon, C** 72.72 323 P P 09 26 34.3 +0.3
baz=135,SNR=8.2
GRAC **Grapevine Rang** 72.81 321 P P 09 26 34.9 +0.5
baz=133
PDAR **Pinedale Array** 72.85 330 P P 09 26 35.6 +0.8
comp=Z,0.6nm,0.6s,baz=120,slow=8.8,SNR=7.0
comp=Z,0.6nm,0.6s
CWC **Cottonwood Cre** 72.86 320 P P 09 26 35.4 +0.5
baz=132
PKM **Mcpherson Peak** 72.90 318 P P 09 26 35.3 +0.1
baz=131
MDND **Maddock** 73.00 339 P P 09 26 36.6 +1.4
baz=150,SNR=5.8
VES **Vestal, Richgr** 73.07 319 P P 09 26 36.7 +0.8
baz=131
SMMC **Simmler** 73.29 318 P P 09 26 37.5 +0.3
baz=131
ULM **Lac du Bonnet** 73.96 342 IAmb IAmb 09 26 41.8
comp=Z,8.7nm,0.6s
ULM **Lac du Bonnet** 73.96 342 P P 09 26 41.0 +0.2
comp=Z,7.9nm,0.6s,baz=151,slow=6.1,SNR=21
comp=Z,7.9nm,0.6s
NVAR **Mina Aay Bea** 74.33 322 P P 09 26 45.5 +2.0
comp=Z,2.4nm,0.8s,baz=156,slow=7.1,SNR=16
comp=Z,2.4nm,0.8s
FLWY **Flagg Ranch** 74.39 330 IAmb IAmb 09 26 46.7
comp=Z,9.3nm,0.9s
LAO **LASA Array** 74.48 334 P P 09 26 45.2 +1.2
baz=144
RLMT **Red Lodge** 74.54 332 P P 09 26 44.7 +0.2
baz=141,SNR=5.1
SCHQ **Schefferville** 74.67 1 P P 09 26 45.5 +0.7
comp=Z,6.3nm,0.8s,baz=198,slow=5.9,SNR=11
comp=Z,6.3nm,0.8s
DGMT **Dagmar** 75.16 337 IAmb IAmb 09 26 50.3
comp=Z,13nm,0.9s
DGMT **Dagmar** 75.16 337 P P 09 26 48.5 +0.7
baz=146,SNR=5.5
HLID **Hailey** 75.81 328 P P 09 26 52.6 +0.7
baz=137,SNR=9.2
BOZ **Bozeman (W)** 75.97 331 P P 09 26 52.7 0.0
baz=139,SNR=5.0
DLMT **Dillon** 76.25 330 IAmb IAmb 09 27 33.5
comp=Z,14nm,1.7s
EGMT **Eagleton** 77.01 333 P P 09 26 59.8 +1.4
EGMT IAmb IAmb 09 27 00.4
comp=Z,8.0nm,0.9s
EGMT **Eagleton** 77.01 333 P P 09 26 59.1 +0.7
baz=141,SNR=6.1
TOA0 **Torodi Ar. Sit** 77.03 71 P P 09 26 59.0 -0.1
TOA0 IAmb IAmb 09 27 27.4
comp=Z,16nm,1.4s
TORD **Torodi Ar. Bea** 77.03 71 P P 09 26 58.5 -0.7
comp=Z,1.7nm,0.3s,baz=256,slow=5.5,SNR=22
TORD pP pP 09 27 26.5 +0.5
comp=Z,3.3nm,0.6s,baz=268,slow=4.7,SNR=5.5
comp=Z,1.7nm,0.3s
MSO **Missoula** 77.96 330 P P 09 27 04.2 +0.4
baz=138
VNDA **Vanda** 78.18 190 P P 09 27 05.7 +1.2
comp=Z,0.7nm,0.9s,baz=215,slow=1.6,SNR=3.8
comp=Z,0.7nm,0.9s
NEW **Newport** 80.49 330 P P 09 27 18.0 +0.5
baz=135
FCC **Fort Churchill** 81.26 347 IAmb IAmb 09 27 22.5
comp=Z,5.6nm,0.6s
EDM **Edmonton** 82.46 335 IAmb IAmb 09 27 28.8
comp=Z,16nm,0.9s
BRLDA **Berland Lookou** 84.74 334 P P 09 27 39.9 +0.5
BRLDA IAmb IAmb 09 27 40.8
comp=Z,3.9nm,0.7s
ESDC **Sonseca Array** 84.95 45 P P 09 27 41.2 +0.4
comp=Z,0.9nm,0.8s,baz=256,slow=6.0,SNR=4.5
comp=Z,0.9nm,0.8s
YKA **Yellowknife Ar** 89.84 341 P P 09 28 04.5 +0.9
comp=Z,6.6nm,0.8s,baz=128,slow=4.2,SNR=156
YKA pP pP 09 28 33.4 +2.5
comp=Z,1.2nm,0.7s,baz=126,slow=4.3,SNR=3.2
comp=Z,6.6nm,0.8s
V35K **Ketchikan** 91.90 330 P P 09 28 14.1 +0.8
baz=124
T35M **Bob Quinn** 92.19 331 P P 09 28 15.8 +1.1
baz=125
CRAG **Craig** 92.70 329 P P 09 28 17.9 +0.9
baz=122
U33K **Whale Pass** 93.04 330 P P 09 28 19.5 +0.9
baz=122
S34M **Telegraph Cree** 93.11 332 P P 09 28 19.1 +0.2
baz=124
WHY **Whitehorse** 96.20 333 P P 09 28 33.0 -0.1
baz=120
PLBC **Pleasant Camp** 96.25 332 P P 09 28 33.2 0.0
baz=119
O30N **Mendenhall** 96.77 333 P P 09 28 35.6 -0.1
baz=120
M31M **Drury Creek, Y** 96.79 335 P P 09 28 35.5 -0.1
baz=121
P30M **Million Dollar** 96.83 332 P P 09 28 35.9 0.0
baz=119
P29M **Windy Craggy** 96.94 332 P P 09 28 35.3 -1.2
baz=118
N31M **Braeburn, Yuko** 97.00 334 P P 09 28 35.3 -1.4
baz=120
C36M **Paulatuk** 97.38 343 P P 09 28 37.1 -1.0
baz=129
N30M **Aishikik Lake** 97.53 333 P Pdif 09 28 39.2 +0.1
baz=119

PNL **Peninsula** 97.71 331 P Pdif 09 28 40.3 +0.4
baz=117
YUK6 **Outpost Mounta** 97.83 333 P P 09 28 40.6 -0.1
baz=118
YUK4 **Talbot Arm** 98.14 333 P P 09 28 41.6 -0.4
baz=117
O28M **Mount Upton** 98.56 332 P P 09 28 42.9 -1.1
baz=116
M29M **Somme Creek** 98.57 334 P P 09 28 43.0 -0.8
baz=117
YUK8 **Steele Glacier** 98.60 333 P P 09 28 42.9 -1.2
baz=116
J30M **Hart River** 98.73 336 P P 09 28 43.2 -1.3
baz=119
L29M **L29M** 98.74 335 P P 09 28 44.1 -0.4
baz=118
K29M **Barlow Dome** 98.84 335 P P 09 28 44.7 -0.3
baz=118
I30M **Mount Dempster** 99.06 337 P Pdif 09 28 45.7 -0.2
baz=119
MESA **MESA** 99.09 331 P Pdif 09 28 45.3 -1.0
baz=115
YUK3 **Moose Creek** 99.11 333 P Pdif 09 28 45.4 -1.0
baz=116
G31M **Satah River** 99.14 339 P Pdif 09 28 45.1 -1.0
baz=120
CTG **Chitna Glacier** 99.15 332 P Pdif 09 28 44.9 -1.6
baz=115
A36M **Sachs Harbour** 99.34 345 P Pdif 09 28 46.2 -0.7
baz=128
DAWY **Dawson** 99.67 335 P Pdif 09 28 47.5 -1.0
baz=116
EPYK **Eagle Plains** 99.73 338 P Pdif 09 28 47.1 -1.6
baz=118
M27K **Edge Creek, AK** 99.96 333 P Pdif 09 28 48.8 -1.2
baz=114
F30M **Barrier River** 100.00 339 P Pdif 09 28 49.2 -0.7
baz=119
MCARA **McCarthy VSAT** 100.06 332 P Pdif 09 28 48.1 -2.3
baz=114
KAIM **Kayak Island** 100.12 330 P Pdif 09 28 49.2 -1.5
baz=113
L27K **Beaver Creek,** 100.23 334 P Pdif 09 28 49.7 -1.4
baz=114
H29M **Whitestone** 100.25 337 P Pdif 09 28 49.6 -1.4
baz=117
G29M **Pine Creek** 100.44 338 P Pdif 09 28 50.3 -1.6
baz=117
M26K **Nabesna, AK** 100.46 333 P Pdif 09 28 50.8 -1.3
baz=113
I28M **Miner Creek** 100.49 336 P Pdif 09 28 51.0 -1.3
baz=116
BMRM **Bremner River** 100.61 331 P Pdif 09 28 51.8 -1.0
baz=112
K27K **Chicken** 100.73 335 P Pdif 09 28 52.5 -0.7
baz=114
N25K **Chitina, Valde** 100.85 332 P Pdif 09 28 54.2 +0.3
baz=112
Q23K **Middleton Isla** 100.85 329 P Pdif 09 28 53.3 -0.5
baz=111
L26K **Log Cabin Wild** 100.85 333 P Pdif 09 28 53.9 +0.1
baz=113
EYAK **Cordova Ski Ar** 100.97 331 P Pdif 09 28 52.4 -2.0
baz=111
E29M **Blow River** 101.07 339 P Pdif 09 28 52.9 -1.8
baz=117
I27K **Kandik River** 101.19 336 P Pdif 09 28 53.8 -1.5
baz=114
HARP **HAARP** 101.39 333 P Pdif 09 28 54.4 -1.8
baz=112
F28M **Old Crow** 101.39 338 P Pdif 09 28 54.3 -1.8
baz=115
KLU **Klutina** 101.39 332 P Pdif 09 28 53.8 -2.6
baz=111
H27K **Steamboat Moun** 101.41 337 P Pdif 09 28 55.8 -0.5
baz=114
SCRK **Sand Creek** 101.48 334 P Pdif 09 28 56.3 -0.5
baz=112
J26L **Joseph Creek** 101.51 335 P Pdif 09 28 56.7 -0.1
baz=113
P23K **Montague Islan** 101.55 330 P Pdif 09 28 56.1 -0.8
baz=110
I26K **Coal Creek Min** 101.66 336 P Pdif 09 28 57.6 +0.2
baz=113
G27K **Doyon Strip** 101.69 337 P Pdif 09 28 57.6 +0.1
baz=114
E28M **Babbage River** 101.70 339 P Pdif 09 28 57.4 0.0
baz=115
GLI **Glacier Island** 101.71 331 P Pdif 09 28 57.4 -0.3
baz=110
M24K **Tolsona, Glenn** 101.73 332 P Pdif 09 28 57.3 -0.5
baz=111
PAX **Paxson** 101.73 333 P Pdif 09 28 57.7 -0.1
baz=111
RIDG **Independent Ri** 101.75 334 P Pdif 09 28 57.1 -0.8
baz=112
D28M **Stokes Point** 101.76 340 P Pdif 09 28 56.3 -1.4
baz=116
SCM **Sheep Creek Mo** 102.14 332 P Pdif 09 28 59.1 -0.5
baz=110
K24K **Donnelly Dome** 102.16 334 P Pdif 09 28 59.2 -0.4
baz=111
E27K **Coleen River** 102.22 339 P Pdif 09 29 00.1 +0.3
baz=114
J25K **Salcha River,** 102.28 335 P Pdif 09 28 59.4 -0.8
baz=111
RC01 **Rabbit Creek A** 103.00 331 P Pdif 09 29 03.3 -0.1
baz=108
WAT1 **Susitna Watana** 103.01 332 P Pdif 09 29 03.0 -0.5
baz=109
POKR **Poker Plat Res** 103.28 335 P Pdif 09 29 03.8 -0.7
baz=109
G25K **Bearman Lake** 103.31 337 P Pdif 09 29 04.5 -0.1
baz=110
M22K **Willow** 103.37 331 P Pdif 09 29 04.7 -0.2
baz=108
F25K **Christian Rive** 103.43 337 P Pdif 09 29 04.2 -1.1
baz=110
C27K **Jago River** 103.48 340 P Pdif 09 29 05.0 -0.4
baz=111
CAPN **Captain Cook N** 103.56 330 P Pdif 09 29 05.6 -0.3
baz=107
SUA **Susitna One** 103.57 331 P Pdif 09 29 05.4 -0.6
baz=107
E25K **Arctic Village** 103.58 338 P Pdif 09 29 05.6 -0.3
baz=110
OHAK **Old Harbor** 103.62 326 P Pdif 09 29 06.0 -0.2
baz=106
H24K **Noodor Dome** 103.69 335 P Pdif 09 29 06.0 -0.4
baz=108
NEA2 **Nenana** 103.78 334 P Pdif 09 29 06.2 -0.6
baz=108
G24K **Hadweenzic Riv** 103.81 336 P Pdif 09 29 05.8 -1.1
baz=109
SII **Sitkinak Islan** 103.92 325 P Pdif 09 29 06.6 -1.0
baz=105
TRF **Thorofare Moun** 103.95 333 P Pdif 09 29 07.7 -0.1
baz=107
I23K **Minto, Yukon-K** 104.06 335 P Pdif 09 29 08.0 0.0
baz=107
O20K **Slope Mountain** 104.07 329 P Pdif 09 29 08.3 +0.1
baz=106
SKT **Skwentna** 104.08 331 P Pdif 09 29 07.2 -1.0
baz=106
N20K **Mount Spurr** 104.18 330 P Pdif 09 29 06.9 -1.8
baz=106
F24K **Squaw Lake** 104.22 337 P Pdif 09 29 07.5 -1.3
baz=108
P19K **Oil Pt** 104.25 329 P Pdif 09 29 06.1 -2.9
baz=105
D25K **Kavik River** 104.26 339 P Pdif 09 29 07.7 -1.2
baz=109
Q19K **Cape Douglas,** 104.26 328 P Pdif 09 29 07.6 -1.5
baz=105
H23K **Yukon River** 104.34 335 P Pdif 09 29 07.1 -2.2
baz=107
BPAW **Bear Paw Mtn.** 104.43 333 P Pdif 09 29 08.2 -1.5
baz=106
MLY **Manley** 104.59 334 P Pdif 09 29 09.1 -1.3
baz=106
PPLA **Purkeypile** 104.62 332 P Pdif 09 29 08.5 -2.2
baz=106
CAST **Castle Rocks** 104.72 333 P Pdif 09 29 09.8 -1.2
baz=105
G23K **Bananza Creek** 104.78 336 P Pdif 09 29 10.5 -0.8
baz=106
M20K **Styx River** 104.78 331 P Pdif 09 29 10.3 -1.2
baz=105

O19K	**Port Alsworth** baz=104	**104.92**	**329**	P		**Pdif**	**09 29 09.8**	**-2.1**
CHUM	**Lake Minchumin** baz=105	**104.94**	**333**	P		**Pdif**	**09 29 09.8**	**-2.1**
COLD	**Coldfoot** baz=106	**104.99**	**337**	P		**Pdif**	**09 29 09.9**	**-2.2**
E23K	**Chandalar** baz=106	**105.01**	**337**	P		**Pdif**	**09 29 12.3**	**+0.1**
N19K	**Bonanza Creek** baz=104	**105.15**	**330**	P		**Pdif**	**09 29 12.0**	**-1.1**
TOLK	**Toolik Lake Re** baz=106	**105.16**	**338**	P		**Pdif**	**09 29 12.6**	**-0.3**
C24K	**Franklin Bluff** baz=107	**105.16**	**339**	P		**Pdif**	**09 29 12.9**	**+0.2**
P18K	**Big Mountain,** baz=104	**105.17**	**328**	P		**Pdif**	**09 29 12.0**	**-1.1**
Q17K	**Contact Creek** baz=104	**105.23**	**327**	P		**Pdif**	**09 29 14.2**	**+0.7**
O18K	**Koktuh Hills** baz=104	**105.27**	**329**	P		**Pdif**	**09 29 13.1**	**-0.4**
L20K	**Farewell, AK** baz=104	**105.27**	**331**	P		**Pdif**	**09 29 14.3**	**+0.8**
M19K	**Big River Lodg** baz=104	**105.37**	**331**	P		**Pdif**	**09 29 13.3**	**-0.6**
G22K	**Bettles** baz=105	**105.40**	**336**	P		**Pdif**	**09 29 13.7**	**-0.2**
K20K	**Telida** baz=104	**105.57**	**332**	P		**Pdif**	**09 29 14.0**	**-0.8**
H21K	**Melozitna Rive** baz=104	**105.59**	**335**	P		**Pdif**	**09 29 13.7**	**-1.1**
D23K	**Nanushuk River** baz=105	**105.63**	**338**	P		**Pdif**	**09 29 14.4**	**-0.5**
L19K	**White Mountain** baz=103	**105.64**	**331**	P		**Pdif**	**09 29 13.8**	**-1.4**
Q16K	**King Salmon** baz=103	**105.72**	**327**	P		**Pdif**	**09 29 15.6**	**+0.1**
P17K	**Kvichak River** baz=103	**105.73**	**328**	P		**Pdif**	**09 29 16.0**	**+0.5**
N18K	**Kilae Creek** baz=103	**105.79**	**329**	P		**Pdif**	**09 29 15.0**	**-0.9**
J20K	**Nowinta River** baz=103	**105.79**	**333**	P		**Pdif**	**09 29 13.8**	**-1.9**
E22K	**Anaktuvuk Pass** baz=104	**105.82**	**337**	P		**Pdif**	**09 29 15.2**	**-0.7**
C21K	**Knifeblade Rid** baz=101	**107.11**	**338**	P		**PKiKP**	**09 33 29.1**	**-1.1**
B21K	**Ikpikpuk River** baz=101	**107.14**	**339**	P		**PKiKP**	**09 33 29.3**	**-0.9**
K17K	**Iditarod** baz=100	**107.32**	**331**	P		**PKiKP**	**09 33 29.1**	**-1.6**
M16K	**Timber Creek** baz=100	**107.33**	**329**	P		**PKiKP**	**09 33 28.4**	**-2.4**
G19K	**Purcell Mounta** baz=100	**107.41**	**335**	P		**PKiKP**	**09 33 27.5**	**-3.3**
O15K	**Ungalikthiuk R** baz=100	**107.43**	**327**	P		**PKiKP**	**09 33 29.7**	**-1.4**
A22K	**Sinclair Lake** baz=101	**107.53**	**340**	P		**PKiKP**	**09 33 29.5**	**-1.4**
D20K	**Etivluk River** baz=100	**107.68**	**337**	P		**PKiKP**	**09 33 30.7**	**-0.6**
L16K	**Owhat River** baz=100	**107.69**	**330**	P		**PKiKP**	**09 33 31.0**	**-0.4**
E19K	**Redstone River** baz=100	**107.69**	**336**	P		**PKiKP**	**09 33 31.4**	**+0.1**
N15K	**Kwethluk River** baz=100	**107.73**	**328**	P		**PKiKP**	**09 33 31.1**	**-0.5**
H18K	**Honhosa River** baz=99	**107.76**	**334**	P		**PKiKP**	**09 33 31.4**	**-0.2**
J17K	**VABM Dome** baz=99	**107.79**	**332**	P		**PKiKP**	**09 33 31.2**	**-0.4**
F19K	**Shaleruckik Mo** baz=99	**107.80**	**335**	P		**PKiKP**	**09 33 30.9**	**-0.6**
G18K	**Tagagawik** baz=99	**108.00**	**334**	P		**PKiKP**	**09 33 29.9**	**-2.1**
S12K	**Black Hills** baz=99	**108.04**	**324**	P		**PKiKP**	**09 33 29.6**	**-2.8**
B20K	**Meade River** baz=99	**108.08**	**339**	P		**PKiKP**	**09 33 31.4**	**-0.5**
M15K	**Kasigluk River** baz=99	**108.11**	**329**	P		**PKiKP**	**09 33 30.8**	**-1.5**
O14K	**Tigyukauivet M** baz=99	**108.18**	**327**	P		**PKiKP**	**09 33 31.4**	**-1.0**
D19K	**Kuna River** baz=99	**108.19**	**337**	P		**PKiKP**	**09 33 31.3**	**-1.0**
H17K	**Granite Mounta** baz=98	**108.38**	**333**	P		**PKiKP**	**09 33 31.1**	**-1.6**
J16K	**Anvik River** baz=98	**108.45**	**332**	P		**PKiKP**	**09 33 31.2**	**-1.6**
N14K	**Kuskokwak Cree** baz=98	**108.49**	**328**	P		**PKiKP**	**09 33 31.3**	**-1.7**
I17K	**Unalakleet** baz=98	**108.57**	**332**	P		**PKiKP**	**09 33 30.8**	**-2.3**
L15K	**Ungalak Mounta** baz=98	**108.64**	**330**	P		**PKiKP**	**09 33 30.9**	**-2.4**
C19K	**Lookout Ridge** baz=97	**108.80**	**338**	P		**PKiKP**	**09 33 32.3**	**-1.2**
H11S2	**WAKE ISLAND Hy** baz=102,slow=75,SNR=98	**27.56**	**278**	T		T	11 54 00.8	
H11S1	**WAKE ISLAND Hy** baz=102,slow=75,SNR=117	**27.57**	**278**	T		T	11 54 03.0	
H11S3	**WAKE ISLAND Hy** baz=102,slow=75,SNR=90	**27.57**	**278**	T		T	11 54 04.8	
ASAR	**Alice Springs** comp=Z,0.8nm,0.5s,baz=122,slow=1.7,SNR=17	**131.06**	**208**	PKP		**PKiKP**	**09 34 17.9**	**-0.5**
ASAR	comp=Z,0.4nm,0.7s,baz=128,slow=1.7,SNR=2.7			pPKP		**pPKPdf**	**09 34 46.1**	**+0.3**
WRA	**Warramunga Arr** comp=Z,0.7nm,0.5s,baz=149,slow=1.7,SNR=17	**134.06**	**211**	PKP		**PKiKP**	**09 34 23.7**	**-0.8**
WRA	comp=Z,0.4nm,0.6s,baz=152,slow=1.6,SNR=2.3			pPKP		**pPKPdf**	**09 34 52.4**	**+0.9**
KURBB	**Kurchatov Arra** comp=Z,0.8nm,0.6s,baz=316,slow=2.1,SNR=5.6	**140.26**	**32**	PKP		**PKiKP**	**09 34 35.5**	**-0.6**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=322,slow=2.9,SNR=2.6	**140.76**	**24**	PKhKP		PKPpre	09 34 27.6	
ZALV	comp=Z,2.8nm,0.8s,baz=298,slow=3.2,SNR=9.4			PKP		**PKPdf**	**09 34 35.4**	**+1.1**
KSH	**Kashi**	**144.33**	**49**	PKP		**PKPdf**	**09 34 41.2**	**-0.2**
MKAR	**Makanchi Array** comp=Z,2.1nm,0.5s,baz=316,slow=3.0,SNR=28	**144.59**	**35**	PKP		**PKPdf**	**09 34 41.3**	**-0.2**
HEH	**HeiHe**	**147.21**	**340**	PKPbc		**PKPbc**	**09 34 48.7**	**+0.6**
HEH				sPKP			09 35 25.1	
USRK	**Ussuriysk Ar.** comp=Z,3.5nm,0.6s,baz=349,slow=1.1,SNR=11	**150.27**	**329**	PKPbc		**PKiKP**	**09 34 57.3**	**+0.4**
MJAR	**Matsushiro Arr** comp=Z,3.0nm,0.7s,baz=80,slow=1.9,SNR=6.7	**151.09**	**310**	PKPbc		**PKiKP**	**09 34 59.0**	**+0.1**
SONM	**Songino Array** comp=Z,2.4nm,0.4s,baz=347,slow=3.2,SNR=9.1	**152.11**	**7**	PKPbc		**PKiKP**	**09 35 01.7**	**+0.9**
HHC	**Hu-ho-hao-te**	**159.33**	**359**	*eP*		**PKPdf**	**09 35 04.1**	**+0.5**
NJ2	**Nanjing** comp=Z,7.0nm,0.5s	**166.16**	**331**	*eP* pmax		**PKPdf** pmax	**09 35 11.0**	**+0.7**
PZH	**PanZhiHua**	**169.43**	**51**	PKP		**PKPdf**	**09 35 12.5**	**-0.5**

*ISN **02** 09:22:40.6±4.2,33°.13N×46°.11E,h25km,ML2.6*
*TEH **02** 09:22:43.0,33°.13N×46°.14E,h10km±72km,ML2.5*
ISC 02 09:22:41.9±1.2,33°.11N±0°.04×46°.01E±0°.09,h12km±12km, n8,σ1§85/10,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra** baz=85	**0.07**	**274**	*e*Pg	**Pg**	**09 22 44.1**	**-0.3**
IBDR				*e*Sg	**Sg**	**09 22 46.3**	**+0.1**
IBDR	comp=E,754nm,0.3s			AML	AML	09 22 50.0	
IBDR	comp=N,691nm,0.4s			AML	AML	09 22 52.3	
ILBA	**Ilam Banvizeh**	**0.54**	**18**	Pg	**Pb**	**09 22 52.8**	**-0.6**
IGHG	**Ghaleghazi**	**1.31**	**21**	Pg	**Pg**	**09 23 07.7**	**+0.7**
RAFI	**Al-Rafai**	**1.38**	**176**	*e*Pg	**Pb**	**09 23 08.0**	**+0.4**
RAFI				*e*Sg	**Sg**	**09 23 27.0**	**+0.7**
KCHF	**Cheshme Sefid,**	**1.45**	**36**	Sg	**Sg**	**09 23 32.2**	**+3.7**
IKFM	**Kafar-mosalman**	**1.59**	**74**	Pg	**Pg**	**09 23 12.0**	**-0.4**
ILIN	**Lien**	**1.97**	**23**	Pn	**Pg**	**09 23 18.5**	**-1.2**
HSAM	**Samen**	**2.43**	**62**	Pn	**Pb**	**09 23 23.7**	**-1.9**

ISK 02 09:32:18.9,36°.14N×33°.58E,h0km,ML1.3/3,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK2	**Akkuyu-Mersin**	**0.02**	**276**	Pg	Pg	09 32 19.6	+0.3
AKK2				Sg	Sg	09 32 19.9	+0.3
AKK1	**Akkuyu-Mersin**	**0.03**	**286**	Pg	Pg	09 32 19.9	+0.4
AKK1				Sg	Sg	09 32 20.7	+0.8
AKKU	**Akkuyu-Mersin**	**0.03**	**318**	Pg	Pg	09 32 19.8	+0.3
AKKU				Sg	Sg	09 32 20.5	+0.6
IKL	**Isikli**	**0.14**	**40**	Pg	Pg	09 32 22.7	+1.2
IKL				Sg	Sg	09 32 24.3	+1.0
KEBE	**Keben-Mersin**	**0.33**	**19**	Pg	Pg	09 32 26.2	+1.0
KEBE				Sg	Sb	09 32 31.8	-1.8
BERE	**Bereket-Mersin**	**0.36**	**307**	Pg	Pg	09 32 26.8	+1.1
BERE				Sg	Sg	09 32 29.9	-0.5

AFAD 02 09:32:21.2±0.0,37°.29N×31°.91E,h7km±3km,ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDI	**Konya, Seydise**	**0.20**	**321**	P	Pg	09 32 25.0	-0.3
SEDI				S	Sg	09 32 29.1	+1.0
SEDI	comp=N,103nm,0.5s			*i* AML	AML	09 32 30.0	
SEDI	comp=E,106nm,0.3s			*i* AML	AML	09 32 30.0	
KEPZ	**Antalya-Kepez**	**0.46**	**212**	P	Pg	09 32 30.3	+0.1
KEPZ				S	Sb	09 32 38.0	-0.8
KEPZ	comp=E,39nm,0.9s			*i* AML	AML	09 32 41.0	
KEPZ	comp=N,41nm,0.7s			*i* AML	AML	09 32 43.0	
KONT	**Konya--Tatoy**	**0.74**	**29**	P	Pb	09 32 36.2	-0.3
KONT				S	Sb	09 32 46.2	-0.6
KONT	comp=E,14nm,0.4s			*i* AML	AML	09 32 50.0	
KONT	comp=N,9.0nm,0.4s			*i* AML	AML	09 32 52.0	
KKBE	**Karaman, Kazim**	**0.82**	**95**	P	Pg	09 32 37.1	+0.1
KKBE				S	Sb	09 32 48.5	-0.7
KKBE	comp=N,6.4nm,0.3s			*i* AML	AML	09 32 55.0	
KKBE	comp=E,8.2nm,0.3s			*i* AML	AML	09 32 56.0	

IDC 02 09:32:30.7±1.9,7°.46S×127°.05E,h0km,mb3.5/2, mbtmp3.5/4,ML3.6/2,Error ellipse: s-maj=294.4km s-min=30.8km az=63.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.2nm,0.3s,baz=328,slow=13,SNR=16	**14.29**	**151**	Pn	Pn	09 35 53.6	-0.9
WRA	0.6nm,0.3s,baz=333,slow=22,SNR=11 0.3nm,0.5s			Sn	Sn	09 38 16.2	-18
ASAR	**Alice Springs** 0.3nm,0.3s,baz=337,slow=10,SNR=35	**17.41**	**159**	Pn	P	09 36 36.0	-0.7
ASAR	0.2nm,0.3s,baz=47,slow=15,SNR=6.4 1.5nm,0.6s			Sn	Sn	09 39 39.6	-10
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=122,slow=7.5,SNR=2.2 0.2nm,0.5s	**67.03**	**328**	P	P	09 43 26.0	+0.3
KURBB	**Kurchatov Arra** 0.2nm,0.4s,baz=130,slow=4.9,SNR=6.2 0.2nm,0.4s	**71.39**	**330**	P	P	09 43 52.4	-0.2

*NEIC **02** 09:38:34.7±2.0,19°.46N±0°.02×154°.98W±0°.03,h5km±1km, Error ellipse: s-maj=4.9km s-min=2.9km az=121.0*
HVO 02 09:38:33.1±2.1,19°.45N±0°.02×154°.90W±0°.03,h1km±9km, ML2.5/4,ML2.5/29(NEIC),Error ellipse: s-maj=4.1km s-min=2.3km az=115.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.03**	**21**		Pg	09 38 34.4	+0.6
JOKA	**Jonika Flow**	**0.10**	**261**		Pg	09 38 36.2	+1.1
PUH	**Pauahi**	**0.30**	**256**		Pg	09 38 39.7	+0.7
BYL	**Byron's Ledge**	**0.34**	**264**	Pg	Pg	09 38 39.4	-0.2
BYL	comp=N,493nm,1.8s			IAML		09 38 48.9	
HATHI	**Halema'uma'u T**	**0.34**	**266**	Pg	Pg	09 38 40.1	+0.4
HATHI	comp=E,501nm,1.4s			IAML		09 38 40.7	
SBLHI	**Steaming Bluff**	**0.34**	**266**		Pg	09 38 40.5	+0.7
SBLHI	comp=E,484nm,0.8s			IAML		09 38 44.5	
KKO	**Keanakako`i**	**0.35**	**262**	Pg	Pg	09 38 38.7	-1.1
KKO	comp=N,638nm,1.0s			IAML		09 38 49.8	
RSD	**Rainshed**	**0.35**	**272**		Pg	09 38 40.2	+0.2
UWE	**Uwekahuna**	**0.37**	**266**	Pg	Pg	09 38 39.8	-0.4
UWE	comp=N,629nm,2.4s			IAML		09 38 46.2	
UWE	comp=E,672nm,0.7s			IAML		09 38 52.3	
WRMHI	**West Rim**	**0.38**	**264**	Pg	Pg	09 38 39.7	-0.7
WRMHI	comp=E,657nm,0.6s			IAML		09 38 47.9	
MLH	**Mauna Loa**	**0.46**	**276**		Pg	09 38 42.0	0.0
MLH	comp=N,486nm,0.6s			IAML		09 38 50.0	
MLH	comp=E,387nm,0.5s			IAML		09 38 57.9	
HTC	**Hot Caves**	**0.51**	**246**		Pg	09 38 43.1	+0.2
HMH	**Humu'ula Sheep**	**0.57**	**286**	Pg	Pg	09 38 42.6	-1.5
HMH					Sg	09 38 53.1	+1.6
MLOA	**Mauna Loa Obse**	**0.64**	**278**	Pg	Pg	09 38 44.6	-0.8
MLOA	comp=N,252nm,0.5s			IAML		09 38 54.8	
MLOA	comp=E,203nm,1.3s			IAML		09 38 55.5	
MWH	**Moku'aweowe**	**0.66**	**273**	Pg	Pg	09 38 44.9	-0.8
MWH					Sg	09 38 55.4	+1.2
MWH	comp=N,266nm,0.6s			IAML		09 39 03.8	
POHA	**Pohakuloa**	**0.67**	**297**		Pg	09 38 46.0	0.0
POHA	comp=N,310nm,0.5s			IAML		09 39 07.4	
POHA	comp=N,277nm,0.6s			IAML		09 39 08.8	
KHU	**Kahuku**	**0.70**	**253**		Pg	09 38 46.1	-0.5
KHU	comp=N,254nm,3.9s			IAML		09 39 06.0	
HUH	**Hualalai**	**0.91**	**285**	Pg	Pg	09 38 50.2	-0.4

*IDC **02** 09:39:26.9±2.6,27°.83S×178°.08W,h176km±12km,mb3.4/4, mbtmp3.9/4,Error ellipse: s-maj=50.5km s-min=21.3km az=44.0*
ISC 02 09:39:32.0±1.2,28°.6S±0°.1×178°.4W±0°.2,h200km,n11, σ2§15/14,mb3.6/4,4C,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 516nm,0.3s,baz=123,slow=20,SNR=1.9	**0.80**	**150**	P	**Pn**	**09 39 59.1**	**-1.3**
RAO	2µm,0.5s,baz=252,slow=23,SNR=32			S	**Sn**	**09 40 21.6**	**-1.1**
URZ	**Urewera** 6.0nm,1.1s,baz=80,slow=21,SNR=0.8	**10.38**	**200**	P	**Pn**	**09 41 54.4**	**-1.6**
URZ	5.3nm,0.3s,baz=148,slow=19,SNR=9.2			S	**S**	**09 43 52.6**	**+0.5**
ASAR	**Alice Springs** 1.1nm,0.9s,baz=91,slow=6.9,SNR=16	**42.91**	**265**	P	**P**	**09 47 10.9**	**-0.2**
ASAR	0.5nm,1.1s,baz=111,slow=4.2,SNR=1.6 1.1nm,0.9s			PcP	**PP**	**09 48 55.0**	**0.0**
WRA	**Warramunga Arr** 1.4nm,0.5s,baz=109,slow=7.4,SNR=31 1.4nm,0.5s	**43.73**	**270**	P	**P**	**09 47 17.0**	**-0.7**
VNDA	**Vanda** 0.4nm,0.6s,baz=358,slow=8.2,SNR=6.0 0.4nm,0.6s	**49.88**	**186**	P	**P**	**09 48 08.3**	**+3.8**
QSPA	**South Pole Qui** 2.1nm,0.6s,baz=331,slow=0.4,SNR=24 2.1nm,0.6s	**61.54**	**180**	P	**P**	**09 49 29.7**	**+2.1**
TROLL	**Troll, Antarti** comp=Z,102nm,0.6s	**79.70**	**180**	⇑P	**P**	**09 51 13.9**	**-3.2**
SNAA	**Sanae**	**79.99**	**179**	⇑P	**P**	**09 51 14.9**	**-3.7**
VNA3	**Neumayer Olymp**	**80.15**	**176**	⇑P	**P**	**09 51 18.9**	**-0.5**
VNA2	**Neumayer--Watz** baz=175,slow=2.0	**80.59**	**177**	⇑P	**P**	**09 51 21.4**	**-0.3**
AKASG	**Malin Array Be** comp=Z,0.9nm,0.6s,baz=70,slow=1.1,SNR=4.3	**149.63**	**324**	PKPbc	**PKPdf**	**09 58 54.1**	**+1.5**

IDC 02 09:40:28.2±5.2,26°.23S×110°.99W,h0km,mb3.5/3, mbtmp3.5/3,Error ellipse: s-maj=474.2km s-min=114.8km az=96.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea** 0.5nm,0.6s,baz=186,slow=8.8,SNR=5.2 0.5nm,0.6s	**64.68**	**354**	P	P	09 51 08.0	-0.2
PDAR	**Pinedale Array** 0.2nm,0.6s,baz=177,slow=8.1,SNR=2.5 0.2nm,0.6s	**68.66**	**1**	P	P	09 51 33.7	+0.2
YKA	**Yellowknife Ar** 0.3nm,0.9s,baz=167,slow=4.2,SNR=1.8 0.3nm,0.9s	**88.46**	**358**	P	P	09 53 21.7	0.0
H11S2	**WAKE ISLAND Hy** baz=116,slow=75,SNR=25	**91.40**	**290**	T	T	11 33 16.8	
H11S1	**WAKE ISLAND Hy** baz=116,slow=75,SNR=15	**91.42**	**290**	T	T	11 32 59.1	
H11S3	**WAKE ISLAND Hy** baz=116,slow=75,SNR=14	**91.42**	**290**	T	T	11 33 16.7	
ZALV	**Zalesovo Beam** 0.6nm,0.3s,baz=37,slow=3.6,SNR=2.3	**149.93**	**341**	PKPbc	PKPbc	10 00 19.7	-0.4

IDC 02 09:54:49.4±12.0,24°.37S×108°.29W,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=620.7km s-min=281.9km az=73.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVAR	**Mina Array Bea** 0.1nm,0.4s,baz=173,slow=8.2,SNR=1.5 0.1nm,0.4s	**63.17**	**351**	P	P	10 05 19.4	0.0
PDAR	**Pinedale Array** 0.1nm,0.3s,baz=159,slow=5.4,SNR=1.4 0.1nm,0.3s	**66.81**	**359**	P	P	10 05 43.0	0.0
YKA	**Yellowknife Ar** 0.1nm,0.6s,baz=170,slow=3.9,SNR=1.6 0.1nm,0.6s	**86.71**	**357**	P	P	10 07 34.6	0.0

RSNC 02 09:57:49.5±0.0,9°.N±2°.×7°.9W±°,h23km±4km,M3.1,mB4.6, mb4.0,ML2.6,Mw(mB)3.8,Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**1.27**	**265**	P	Pn	09 58 09.7	-2.1
BCIP				S	Sn	09 58 25.6	-2.5
CAPC	**Capurgana**	**1.36**	**118**	P	Pn	09 58 09.5	-3.6
CAPC				S	Sb	09 58 31.0	-0.3
PTAC	**Punta Ardita,**	**2.25**	**161**	P	Pn	09 58 21.7	-3.7
AZU	**Azuero**	**2.26**	**229**	P	Pn	09 58 23.1	-2.3
AZU				S	Sn	09 58 49.7	-2.9
APAC	**Apartado, Choc**	**2.40**	**125**	P	Pn	09 58 27.8	+0.4
UREC	**San Jos de Ur**	**3.36**	**117**	P	Pn	09 58 38.5	-2.2
SJCC	**San Jacinto, C**	**3.39**	**79**	P	Pn	09 58 39.3	-1.8
SJCC				S	Sn	09 59 16.3	-4.3
ZARC	**Zaragoza, Cauc**	**4.08**	**116**	P	Pn	09 58 48.5	-2.0
PTBC	**PUERTO BERRIO,**	**4.90**	**124**	P	Pn	09 59 00.7	-1.1
PTBC				S	Sn	09 59 55.8	-2.0
PLMC	**San Jos del P**	**4.91**	**152**	P	Pn	09 58 58.7	-3.3
OCAC	**Ocana** 14nm,0.9s,718nm	**5.28**	**101**	P	Pn	09 59 06.3	-0.9
OCAC	14nm,0.9s,718nm			S	Sn	10 00 03.3	-4.3
CRJC	**Cerrejon, Guaj**	**5.85**	**72**	P	Pn	09 59 12.6	-2.3
CRJC				S	Sn	10 00 13.5	-7.9

*NEIC **02** 10:07:14.2±0.8,19°.37N±0°.02×155°.06W±0°.02,h5km±1km, Error ellipse: s-maj=4.4km s-min=2.8km az=305.0*
HVO 02 10:07:13.0±0.9,19°.34N±0°.02×155°.00W±0°.02,h9km±3km, ML2.9/40,ML3.0/46(NEIC),Error ellipse: s-maj=3.4km s-min=2.1km az=119.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.09**	**358**		Pg	10 07 15.5	+0.1
JCUZ	**Jacuzzi**	**0.10**	**294**		Pg	10 07 15.6	0.0
NPOC	**North of Pu'u**	**0.11**	**297**		Pg	10 07 15.6	-0.1
STCH	**Steam Cracks**	**0.12**	**290**	Pg	Pg	10 07 15.8	-0.1
KNHH	**Kane Nui o Ham**	**0.16**	**283**		Pg	10 07 16.8	+0.2
PUH	**Pauahi**	**0.20**	**279**		Pg	10 07 17.2	-0.1
PUH	comp=N,2µm,0.6s			IAML		10 07 22.4	
BYL	**Byron's Ledge**	**0.25**	**286**	Pg	Pg	10 07 18.1	0.0
BYL	comp=N,2µm,0.3s			IAML		10 07 24.0	
BYL	comp=E,2µm,0.4s			IAML		10 07 27.3	
KKO	**Keanakako`i**	**0.26**	**283**		Pg	10 07 18.2	0.0
KKO	comp=E,2µm,0.6s			IAML		10 07 23.8	
KKO	comp=N,3µm,0.4s			IAML		10 07 25.6	
HATHI	**Halema'uma'u T**	**0.26**	**288**		Pg	10 07 18.2	0.0
HATHI	comp=N,2µm,0.4s			IAML		10 07 24.0	
HATHI	comp=E,2µm,0.5s			IAML		10 07 27.4	
RIM	**Rim**	**0.26**	**282**		Pg	10 07 18.3	0.0
RIM	comp=E,3µm,0.4s			IAML		10 07 23.9	
RIM	comp=N,3µm,0.3s			IAML		10 07 24.2	
SBLHI	**Steaming Bluff**	**0.27**	**289**	Pg	Pg	10 07 17.9	-0.4
SBLHI	comp=E,2µm,0.3s			IAML		10 07 24.7	
SBLHI	comp=N,2µm,0.4s			IAML		10 07 28.2	
NPH	**North Pit**	**0.27**	**285**	Pg	Pg	10 07 18.5	0.0
UWB	**Uwekahuna B**	**0.27**	**288**		Pg	10 07 18.4	-0.2
OBL	**Observatory Le**	**0.28**	**286**	Pg	Pg	10 07 18.4	-0.2
SDHHI	**Sand Hill**	**0.28**	**280**	Pg	Pg	10 07 18.6	-0.1
SDHHI	comp=E,3µm,0.5s			IAML		10 07 28.6	
SDHHI	comp=N,3µm,0.5s			IAML		10 07 28.9	
UWE	**Uwekahuna**	**0.29**	**286**		Pg	10 07 18.7	-0.1
UWE	comp=E,3µm,0.3s			IAML		10 07 26.4	
RSD	**Rainshed**	**0.29**	**295**		Pg	10 07 18.9	+0.2
RSD	comp=N,2µm,0.3s			IAML		10 07 25.3	
WRMHI	**West Rim**	**0.29**	**283**	Pg	Pg	10 07 19.0	+0.2
WRMHI	comp=N,3µm,0.5s			IAML		10 07 28.7	
HLP	**Hilina Pali**	**0.29**	**261**	Pg	Pg	10 07 19.4	+0.5
HLP	comp=N,3µm,0.5s			IAML		10 07 28.2	
HTC	**Hot Caves**	**0.39**	**255**		Pg	10 07 21.0	+0.4
MLH	**Mauna Loa**	**0.39**	**293**		Pg	10 07 20.9	+0.1
MLH	comp=E,1µm,0.4s			IAML		10 07 27.9	
MLH	comp=N,1µm,0.4s			IAML		10 07 28.2	
HMH	**Humu'ula Sheep**	**0.52**	**300**		Pg	10 07 23.0	-0.2
MLOA	**Mauna Loa Obse**	**0.58**	**290**		Pg	10 07 23.8	-0.5
MLOA				Sg	Sg	10 07 32.1	+0.2
MLOA	comp=E,1µm,0.3s			IAML		10 07 34.2	
MWH	**Moku'aweowe**	**0.58**	**284**		Pg	10 07 23.8	-0.6
MWH	comp=N,1µm,0.7s			IAML		10 07 44.9	
KHU	**Kahuku**	**0.59**	**261**		Pg	10 07 23.7	-0.7
KHU				Sg	Sg	10 07 31.9	-0.3
KHU	comp=E,603nm,0.6s			IAML		10 07 40.7	
KHU	comp=N,619nm,0.5s			IAML		10 07 41.5	
ALEP	**Alea Permanent**	**0.64**	**288**		Pg	10 07 24.6	-0.8
ALEP					Sg	10 07 34.4	+0.6
POHA	**Pohakuloa**	**0.65**	**310**		Pg	10 07 24.4	-1.2
POHA	comp=N,926nm,0.4s			IAML		10 07 46.5	
CPH	**Captain Cook**	**0.88**	**280**		Pg	10 07 29.1	-0.8

*DNK **02** 10:13:13.5±4.3,51°.65N×32°.83W,h18km±223km,mb5.1*
*IDC **02** 10:13:17.9±0.4,52°.59N×32°.09W,h0km,mb4.3/32, mbtmp4.4/35,ML4.7/3,MS4.6/86,Error ellipse: s-maj=13.1km s-min=8.8km az=3.0*
*MOS **02** 10:13:18.1±1.2,52°.69N×32°.19W,h10km,mb5.0/76, MS4.7/19,Error ellipse: s-maj=6.5km s-min=5.2km az=45.2*

BJI ***02*** *10:13:18.0±0.0,52.6′60N×32.2′20W,h10km,mb4.9/28, mB5.1/18,Ms5.1/29,Ms7 4.9/29*

NEIC ***02*** *10:13:19.8±1.5,52.6′63N±0.0′09×32.1′1W±0.0′1,h10km±1km, mb5.0/428,Mww5.3/19,Error ellipse: s-maj=15.9km s-min=13.5km az=171.0*

NEIC ***02*** *10:13:19.8,52.8′2N×31.8′0W,h18km,Moment Tensor Solution. Duration:*≥*0 Moment tensor: Scale 10¹⁶Nm; Mrr0.23; Mθθ-2.83; Mφφ2.60; Mrθ-1.40; Mθφ-8.79; Mφr-3.33; Fault plane solution: M₀9.87000×10¹⁶ NP1:φ₀8.17000°, δ86.70000°,λ-20.52000°. NP2:φ₀99.41000°,δ69.51000°, λ-176.47000°. Principal axes: T 9.4766, Plg12.0000°, Azm56.0000°; N 0.7798, Plg69.0000°, Azm179.0000°; P -10.2564, Plg17.0000°, Azm322.0000°;*

NEIC ***02*** *10:13:19.8,52.6′2N×32.1′2W,h18km*

GCMT ***02*** *10:13:21.8±0.1,52.6′8N±0.0′1×31.9′9W±0.0′1,h18km, MW5.3/144,Moment Tensor Solution. s90,c132; s144,c256; Duration: 1*≤*1 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.10±.02; Mθθ-0.29±.02; Mφφ0.38±.02; Mrθ0.24±.04; Mθφ-1.01±.01; Mφr0.06±.04; Best double couple: M₀1.09600×10¹⁷ NP1:φ₀280.00000°,δ84.00000°, λ-168.00000°. NP2:φ₀189.00000°,δ78.00000°, λ-6.00000°. Principal axes: T 1.1210, Plg4.0000°, Azm54.0000°; N -0.0500, Plg76.0000°, Azm305.0000°; P -1.0710, Plg13.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

OTT ***02*** *10:13:24.9±1.1,52.7′0N×32.3′5W,h18km,ML5.3/4, Atlantic Ocean. 1531km northeast from Bonavista, Nl*

ISC 02 10:13:20.1±0.6,52.6′7N±0.0′4×32.3′6W±0.0′3,h14km±3km, h14km:pP-P,n1048,σ1s84/866,mb4.9/342,MS4.7/134, 28C-20D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NRS	**Narsarsuaq**	**11.08**	**325**	Pn		**Pn**	**Pn**	**10 15 58.1**	**+0.1**
NRS	**Narsarsuaq**	**11.08**	**325**	P		**Pn**	**Pn**	**10 15 58.1**	**+0.1**
IVI	**Ivigtut**	**12.12**	**321**	Pn		**Pn**	**Pn**	**10 16 14.4**	**+2.3**
ANGG	**Ammassalik, Gr**	**13.25**	**350**	Pn		**Pn**	**Pn**	**10 16 27.2**	**-0.3**
BORG	**Borgarnes**	**13.36**	**21**	Pn		**Pn**	**Pn**	**10 16 28.4**	**-0.7**
BORG	**Borgarnes**	**13.36**	**21**	Pn		**Pn**	**Pn**	**10 16 30.3**	**+1.2**
	2.6nm,0.3s,baz=203,slow=9.7,SNR=9.3								
BORG				Sn		**Sn**	**Sn**	**10 18 54.1**	**-3.2**
	0.6nm,0.3s,baz=237,slow=9.3,SNR=2.2								
BORG				LR		LR	LR	10 20 02.2	
	comp=Z,2μm,20.7s,baz=226,slow=30 8.3nm,0.5s								
DY2G	**Dye2**	**15.47**	**339**	*i* P		**P**	**P**	**10 17 03.4**	**+1.2**
SOEG	**Soedalen**	**15.59**	**1**	*i* P		**P**	**P**	**10 17 06.5**	**+3.1**
DRLN	**Deer Lake**	**16.18**	**268**	Pn		**Pn**	**Pn**	**10 17 08.6**	**+1.8**
DRLN	**Deer Lake**	**16.18**	**268**	PN		**Pn**	**Pn**	**10 17 07.5**	**+0.6**
DRLN	**Deer Lake**	**16.18**	**268**	SN		**Sn**	**Sn**	**10 19 57.2**	**-8.7**
DRLN				Trac				10 20 08.7	
	comp=Z,40nm,0.8s								
ICESG	**Greenland Ices**	**16.83**	**351**	*i* P		**P**	**P**	**10 17 19.5**	**+2.1**
SFJD	**Kangerlussuaq**	**16.93**	**335**	P		**P**	**P**	**10 17 17.2**	**-0.9**
SFJD	**Kangerlussuaq**	**16.93**	**335**	P		**P**	**P**	**10 17 18.5**	**+0.4**
	1.4nm,0.3s,baz=154,slow=11,SNR=7.5								
SFJD				LR		LR	LR	10 22 34.7	
	comp=Z,5μm,19.9s,baz=144,slow=33 9.2nm,0.5s								
SFJD	**Kangerlussuaq**	**16.93**	**335**	*i* P		**P**	**P**	**10 17 18.5**	**+0.4**
ESK	**Eskdalemuir**	**17.28**	**70**	P		**Pn**	**Pn**	**10 17 18.6**	**-2.1**
ESK				IAmb		IAmb	IAmb	10 17 25.1	
	comp=Z,96nm,1.1s								
ESK	**Eskdalemuir**	**17.28**	**70**	P		**Pn**	**Pn**	**10 17 18.7**	**-2.1**
ESK				pmax		pmax			
	comp=Z,96nm,1.2s								
EKB	**Eskdalemuir**	**17.29**	**70**	P		**Pn**	**Pn**	**10 17 18.9**	**-2.0**
EKB				IAmb		IAmb	IAmb	10 17 25.1	
	comp=Z,98nm,1.1s								
EKA	**Eskdalemuir Ar**	**17.31**	**70**	P		**Pn**	**Pn**	**10 17 18.5**	**-2.6**
	baz=269,slow=10 comp=Z,16nm,0.7s								
SCO	**Scoresbysund**	**18.49**	**11**	*i* P		**Pn**	**Pn**	**10 17 41.9**	**+6.4**
ILULI	**Ilulissat**	**18.77**	**339**	P		**Pn**	**Pn**	**10 17 39.6**	**+0.7**
ILULI	**Ilulissat**	**18.77**	**339**	P		**Pn**	**Pn**	**10 17 39.6**	**+0.7**
ILULI				pmax		pmax			
	comp=Z,28nm,0.7s								
ILULI	**Ilulissat**	**18.77**	**339**	*i* P		**Pn**	**Pn**	**10 17 41.4**	**+2.5**
BJBQ	**Baie Johan-Bee**	**19.05**	**275**	PN		**Pn**	**Pn**	**10 17 46.0**	**+3.6**
BJBQ	**Baie Johan-Bee**	**19.05**	**275**	SN		**Sn**	**Sn**	**10 21 05.2**	**-10**
BJBQ				SN		**Sn**	**Sn**	**10 21 05.3**	**-10**
BJBQ				Trac				10 21 40.1	
	comp=Z,95nm,1.3s								
QUIF	**Quistinic**	**19.17**	**93**	*e*P		**Pn**	**Pn**	**10 17 46.2**	**+2.2**
QUIF				pmax		pmax			
	comp=Z,77nm,1.4s								
PCAQ	**Pointe Carleto**	**19.32**	**274**	PN		**Pn**	**Pn**	**10 17 49.1**	**+3.4**
PCAQ	**Pointe Carleto**	**19.32**	**274**	SN		**Sn**	**Sn**	**10 21 12.2**	**-10**
PGAV	**Gavieira, Arco**	**19.43**	**114**	*e*P		**Pn**	**Pn**	**10 17 51.8**	**+4.6**
	comp=Z,106nm,2.1s								
PGAV				*e*S		**S**	**S**	**10 21 26.8**	**+1.4**
PGAV				*e*LR		LR	LR	10 22 20.3	
	comp=Z,2μm,20.0s								
GAAQ	**Galiote**	**19.66**	**272**	PN		**Pn**	**Pn**	**10 17 52.9**	**+3.2**
GAAQ	**Galiote**	**19.66**	**272**	SN		**S**	**S**	**10 21 19.9**	**-10**
GAAQ				Trac				10 21 49.0	
	comp=Z,126nm,1.6s								
SUMG	**Summit**	**20.15**	**355**				**P**	**10 17 54.0**	**+0.1**
SUMG	**Summit**	**20.15**	**355**	P			**P**	**10 17 54.0**	**+0.1**
SUMG				pmax		pmax			
	comp=Z,42nm,1.0s								
SUMG	**Summit**	**20.15**	**355**	*i* P			**P**	**10 17 54.5**	**+0.6**
UMMG	**Uummannaq**	**20.16**	**341**	*i* P		Pn		10 17 54.8	-0.7
GBN	**Guysborough**	**20.35**	**261**	P			**P**	**10 17 56.1**	**+0.2**
GBN				IAmb		IAmb	IAmb	10 18 07.7	
	comp=Z,56nm,1.1s								
GBN	**Guysborough**	**20.35**	**261**	PN		Pn		10 18 02.3	+4.5
GBN	**Guysborough**	**20.35**	**261**	SN		**S**		**10 21 37.0**	**-6.4**
GBN				Trac				10 21 45.3	
	comp=Z,37nm,1.1s								
SCHQ	**Schefferville**	**20.38**	**290**	P			**P**	**10 17 57.5**	**+1.3**
SCHQ				IAmb		IAmb	IAmb	10 18 10.7	
	comp=Z,87nm,1.4s								
SCHQ	**Schefferville**	**20.38**	**290**	P			**P**	**10 17 57.0**	**+0.9**
	comp=Z,9.7nm,0.8s,baz=87,slow=7.1,SNR=23								
SCHQ				S		Sn		10 21 48.5	+1.1
	comp=Z,1.9nm,0.7s,baz=176,slow=18,SNR=1.7								
SCHQ				LR		LR	LR	10 24 31.1	
	comp=Z,2μm,20.9s,baz=86,slow=33 comp=Z,9.7nm,0.8s								
SCHQ	**Schefferville**	**20.38**	**290**	PN		Pn		10 17 57.8	-0.4
SCHQ	**Schefferville**	**20.38**	**290**	SN		**S**		**10 21 36.4**	**-7.5**
SCHQ				Trac				10 22 00.9	
	comp=Z,298nm,4.0s								
GRR	**Gorron**	**20.38**	**89**	*e*P		Pn		10 17 57.1	-1.2
GRR				pmax		pmax			
	comp=Z,136nm,1.5s								
PBRG	**Braganca**	**20.40**	**112**	*e*P		Pn		10 17 58.2	-0.4
	comp=Z,45nm,1.9s								
PVIS	**Viseu**	**20.49**	**116**	*e*P		Pn		10 17 58.9	-0.8
COI	**Coimbra**	**20.57**	**118**	P		Pn		10 17 59.7	-0.8
COI	**Coimbra**	**20.57**	**118**	P		**P**		**10 17 56.3**	**-1.9**
COI				IAmb		IAmb		10 18 02.7	
	comp=Z,40nm,0.8s								
COI	**Coimbra**	**20.57**	**118**	P		**P**		**10 17 57.6**	**-0.6**
COI				pmax		pmax			
	comp=Z,39nm,0.7s								
PCAS	**Casmilo, Conde**	**20.63**	**118**	*e*P		**P**		**10 17 59.5**	**+0.5**
	comp=Z,102nm,1.7s								
MVO	**Moncorvo**	**20.66**	**114**	*e*P		Pn		10 18 01.9	+0.2
	comp=Z,58nm,1.8s								
MVO				*e*S		**S**		**10 21 50.5**	**+0.7**
MVO				*e*LR		LR		10 22 59.2	
	comp=Z,2μm,20.0s								
LDF	**La Druitiere**	**20.75**	**88**	*e*P		**P**		**10 18 01.0**	**+0.8**
LDF				pmax		pmax			
	comp=Z,116nm,1.6s								
PSBE	**So Bento**	**20.86**	**120**	*e*P		**P**		**10 17 59.9**	**-1.6**
	comp=Z,91nm,1.1s								
MTE	**Manteigas**	**20.90**	**116**	*e*P		**P**		**10 18 01.8**	**-0.2**
	comp=Z,64nm,1.6s								
MTE				*e*S		Sn		10 21 58.3	-1.9
MTE				*e*LR		LR		10 22 57.5	
	comp=Z,2μm,20.0s								
MTE	**Manteigas**	**20.90**	**116**	P		**P**		**10 18 01.2**	**-0.8**
PMAFR	**Mafra**	**21.02**	**122**	*e*P		**P**		**10 18 04.2**	**+1.0**
	comp=Z,156nm,1.9s								
NUUG	**Nuugaatsiaq**	**21.06**	**342**	*i* P		**P**		**10 18 05.3**	**+2.0**
JMIC	**Jan Mayen**	**21.26**	**21**	LR		LR		10 23 43.7	
	comp=Z,890nm,18.6s,baz=270,slow=29								
LIS	**Lisbon**	**21.26**	**122**	*e*S		**S**		**10 22 01.3**	**-0.2**
LIS				IAMs_20		IAMs_20		10 23 10.0	
	comp=E,2μm,22.9s								
PCBR	**Castelo Branco**	**21.33**	**117**	*e*P		**P**		**10 18 06.9**	**+0.4**
	comp=E,62nm,2.5s								
PMTG	**Montargil**	**21.49**	**120**	*e*P		**P**		**10 18 08.5**	**+0.3**
	comp=E,102nm,2.2s								
PMRV	**Marv??o**	**21.67**	**118**	*e*P		**P**		**10 18 10.8**	**+0.6**
	comp=E,111nm,1.8s								
PMRV				*e*S		**S**		**10 22 06.9**	**-2.8**
PMRV				*e*LR		LR		10 23 12.7	
	comp=E,2μm,20.0s								
FRB	**Frobisher Bay**	**21.72**	**315**	P		**P**		**10 18 11.9**	**+1.4**
	comp=E,18nm,0.9s,baz=106,slow=7.0,SNR=13								
FRB				LR		LR		10 24 58.6	
	comp=E,2μm,18.7s,baz=108,slow=32 comp=E,18nm,0.9s								
PESTR	**Estremoz**	**21.97**	**119**	*e*P		**P**		**10 18 11.6**	**-1.8**
	comp=E,63nm,1.2s								
PESTR	**Estremoz**	**21.97**	**119**	P		**P**		**10 18 10.9**	**-2.5**
PESTR				IAmb		IAmb		10 18 20.3	
	comp=Z,54nm,1.2s								
EVO	**Evora**	**21.99**	**120**	*e*P		**P**		**10 18 12.0**	**-1.6**
	comp=Z,48nm,2.2s								
HAL	**Halifax**	**22.01**	**261**	P		**P**		**10 18 13.4**	**-0.3**
HAL	**Halifax**	**22.01**	**261**	P		**P**		**10 18 13.4**	**-0.3**
HAL				pmax		pmax			
	comp=Z,121nm,1.1s								
PNCL	**Nicolau / Gran**	**22.04**	**122**	*e*P		**P**		**10 18 15.0**	**+0.9**
	comp=Z,71nm,1.6s								
LMN	**Caledonia Moun**	**22.11**	**265**	P		**P**		**10 18 14.9**	**+0.1**
LMN				IAmb		IAmb		10 18 25.0	
	comp=Z,57nm,0.9s								
BATG	**Bathurst New B**	**22.20**	**269**	P		**P**		**10 18 15.8**	**0.0**
BATG				IAmb		IAmb		10 18 26.8	
	comp=Z,64nm,1.2s								
PTEO	**Sao Teotonio**	**22.37**	**123**	*e*P		**P**		**10 18 18.1**	**+0.4**
	comp=Z,56nm,2.7s								
MESJ	**Messejana**	**22.40**	**122**	*e*P		**P**		**10 18 17.6**	**-0.5**
	comp=Z,45nm,1.5s								
MESJ	**Messejana**	**22.40**	**122**	P		**P**		**10 18 16.5**	**-1.5**
MESJ	**Messejana**	**22.40**	**122**	*e*P		**P**		**10 18 17.3**	**-0.7**
MESJ				*e*S		**S**		**10 22 23.7**	**0.0**
MESJ				IAMs_20		IAMs_20		10 23 58.4	
	comp=Z,2μm,32.0s								
MESJ	**Messejana**	**22.40**	**122**	*e*P		**P**		**10 18 17.3**	**-0.7**
MESJ				*e*S		**S**		**10 22 23.7**	**0.0**
PBEJ	**Beja**	**22.45**	**121**	*e*P		**P**		**10 18 18.4**	**-0.1**
	comp=Z,27nm,1.6s								
MORF	**Marmelete**	**22.59**	**123**	*e*P		**P**		**10 18 18.9**	**-1.2**
	comp=Z,44nm,1.6s								
MORF	**Marmelete**	**22.59**	**123**	P		**P**		**10 18 18.6**	**-1.5**
MORF	**Marmelete**	**22.59**	**123**	*e*P		**P**		**10 18 19.3**	**-0.8**
MORF				*e*S		**S**		**10 22 27.3**	**+0.1**
MORF				IAMs_20		IAMs_20		10 23 17.9	
	comp=E,2μm,24.9s								
MORF	**Marmelete**	**22.59**	**123**	*e*P		**P**		**10 18 19.3**	**-0.8**
MORF				*e*S		**S**		**10 22 27.3**	**+0.1**
UPNV	**Upernavik**	**22.60**	**342**	*e*P		**P**		**10 18 24.5**	**+4.6**
UPNV				IAmb		IAmb		10 18 29.8	
	comp=Z,101nm,1.4s								
PFVI	**Vila Bisbo**	**22.64**	**124**	*e*P		**P**		**10 18 19.3**	**-1.2**
	comp=Z,72nm,1.6s								
PFVI	**Vila Bisbo**	**22.64**	**124**	P		**P**		**10 18 17.4**	**-3.1**
PCVE	**Castro Verde**	**22.66**	**122**	*e*P		**P**		**10 18 19.1**	**-1.6**
	comp=Z,44nm,1.4s								
PMOZ	**Porto Moniz, M**	**22.66**	**145**	*e*P		**P**		**10 18 20.5**	**-0.4**
PMOZ				*e*S		**S**		**10 22 32.2**	**+3.6**
PMOZ				*e*LR		LR		10 23 43.6	
	comp=Z,2μm,20.0s								
PMPST	**Porto Santo, M**	**22.74**	**143**	*e*P		**P**		**10 18 24.1**	**+2.5**
PBAR	**Barrancos**	**22.77**	**119**	*e*P		**P**		**10 18 19.5**	**-2.5**
	comp=Z,44nm,1.5s								
BAIF	**Baives**	**22.82**	**82**	*e*P		**P**		**10 18 19.1**	**-3.3**
BAIF				pmax		pmax			
	comp=Z,57nm,1.1s								
PMAR	**Madeira**	**22.85**	**145**	*e*P		**P**		**10 18 24.6**	**+1.6**
SNART	**Snartemo**	**22.85**	**60**	*e*P		**P**		**10 18 20.7**	**-1.9**
SNART				*e*				10 18 29.3	
LFF	**La Frestale**	**22.97**	**96**	*e*P		**P**		**10 18 28.2**	**+4.2**
LFF				pmax		pmax			
	comp=Z,11nm,0.6s								
PVAQ	**Vaqueiros**	**22.99**	**122**	*e*P		**P**		**10 18 22.8**	**-1.5**
	comp=Z,42nm,1.8s								
PVAQ				*e*S		**S**		**10 22 33.5**	**-0.7**
PVAQ				*e*LR		LR		10 23 57.0	
	comp=Z,950nm,22.0s								
PVAQ	**Vaqueiros**	**22.99**	**122**	P		**P**		**10 18 22.5**	**-1.8**
PBDV	**Barranco-do-Ve**	**23.01**	**122**	*e*P		**P**		**10 18 25.3**	**+0.9**
	comp=Z,47nm,1.7s								
DOU	**Dourbes**	**23.04**	**82**	*d*P		**P**		**10 18 23.5**	**-1.1**
BMRD	**Maredsous**	**23.07**	**81**	*d*P		**P**		**10 18 23.7**	**-1.3**
TCF	**Toulx Ste Croi**	**23.18**	**92**	*e*P		**P**		**10 18 26.3**	**+0.1**
TCF				pmax		pmax			
	comp=Z,63nm,1.6s								
BGES	**Gesves**	**23.24**	**81**	*d*P		**P**		**10 18 27.1**	**+0.4**
PAB	**San Pablo**	**23.26**	**113**	P		**P**		**10 18 25.8**	**-1.3**
PAB	**San Pablo**	**23.26**	**113**	P		**P**		**10 18 25.8**	**-1.3**
PAB				pmax		pmax			
	comp=Z,16nm,1.2s								
ETSF	**Etsaut**	**23.32**	**102**	*e*P		**P**		**10 18 30.7**	**+3.0**
ETSF				pmax		pmax			
	comp=Z,7.0nm,0.8s								
BCLA	**Clavier**	**23.36**	**80**	*d*P		**P**		**10 18 26.5**	**-1.3**
BCLA				*d*PP		**PnPn**		**10 18 51.3**	**-2.4**
ESBB	**Sonseca Array**	**23.39**	**112**	P		**P**		**10 18 25.6**	**-2.7**
ESDC	**Sonseca Array**	**23.39**	**112**	P		**P**		**10 18 27.2**	**-1.1**
ESDC	**Sonseca Array**	**23.39**	**112**	P		**P**		**10 18 26.2**	**-2.2**
	comp=Z,1.2nm,0.6s,baz=313,slow=9.2,SNR=8.5								
ESDC				LR		LR		10 25 47.1	
	comp=Z,2μm,18.5s,baz=308,slow=32 comp=Z,1.2nm,0.6s								
RCHB	**Rochefort**	**23.40**	**81**	*d*P		**P**		**10 18 27.3**	**-1.0**
BGF	**Bois d'Agland**	**23.44**	**91**	*e*P		**P**		**10 18 28.1**	**-0.7**
BGF				pmax		pmax			
	comp=Z,42nm,1.0s								
BSTI	**Sart Tilman**	**23.46**	**80**	*d*P		**P**		**10 18 27.4**	**-1.4**
SSF	**Saint Saulge**	**23.61**	**89**	*e*P		**P**		**10 18 28.1**	**-2.3**
SSF				pmax		pmax			
	comp=Z,23nm,0.8s								
AVF	**Avril sur Loir**	**23.64**	**90**	*e*P		**P**		**10 18 29.4**	**-1.3**
AVF				pmax		pmax			
	comp=Z,14nm,0.7s								
PQI	**Presque Isle**	**23.67**	**270**	P		**P**		**10 18 31.5**	**+0.5**
PQI				IAmb		IAmb		10 18 47.1	
	comp=Z,31nm,1.0s								
MEM	**Membach**	**23.71**	**80**	*d*P		**P**		**10 18 31.1**	**-0.3**
GGN	**Saint George**	**23.72**	**265**	P		**P**		**10 18 31.9**	**+0.5**
GGN				IAmb		IAmb		10 18 41.0	
	comp=Z,52nm,0.9s								
LOR	**Lormes**	**23.73**	**89**	P		**P**		**10 18 31.3**	**-0.3**
LOR				pmax		pmax			
	comp=Z,38nm,0.9s								
CAF	**Calviac**	**23.78**	**95**	*e*P		**P**		**10 18 32.7**	**+0.6**
CAF				pmax		pmax			
	comp=Z,32nm,1.6s								
BTNL	**Ternell**	**23.79**	**80**	*d*P		**P**		**10 18 29.8**	**-2.4**
SMF	**Signal de Mont**	**24.01**	**90**	*e*P		**P**		**10 18 32.5**	**-1.7**
SMF				pmax		pmax			
	comp=Z,17nm,0.8s								
KONO	**Kongsberg**	**24.04**	**56**	P		**P**		**10 18 32.4**	**-2.0**
KONO				IAmb		IAmb		10 18 37.7	
	comp=Z,52nm,1.3s								
KONO	**Kongsberg**	**24.04**	**56**	*ce*P		**P**		**10 18 34.0**	**-0.3**
KONO				pmax		pmax			
	comp=Z,23nm,1.3s								
MUD	**Monsted U'grnd**	**24.10**	**64**	*i* P		**P**		**10 18 35.0**	**+0.1**
MUD				*i* P		**pP**		**10 18 35.8**	**-2.3**
MUD				IAmb		IAmb		10 18 36.6	
	comp=Z,25nm,0.7s								
MUD				IAmb		IAmb		10 18 38.5	
	comp=Z,30nm,0.9s								
D62A	**Allapoint, All**	**24.11**	**271**	P		**P**		**10 18 36.7**	**+1.5**
D62A				IAmb		IAmb		10 18 53.5	
	comp=Z,42nm,0.9s								
G65A	**Princeton**	**24.11**	**266**	P		**P**		**10 18 35.8**	**+0.6**
G65A				IAmb		IAmb		10 18 46.1	
	comp=Z,34nm,0.8s								
WLF	**Walferdange**	**24.14**	**82**	*d*P		**P**		**10 18 35.8**	**+0.4**
BUG	**Bochum--Üniver**	**24.19**	**77**	P		**P**		**10 18 36.7**	**+0.9**
BUG				pmax		pmax			
	comp=Z,36nm,1.0s								
KULLO	**Kullorsuaq**	**24.20**	**344**	*i* P		**P**		**10 18 36.0**	**+0.3**
KULLO				IAmb		IAmb		10 18 40.2	
	comp=Z,49nm,1.2s								
EMMW	**East Machias**	**24.30**	**265**	P		**P**		**10 18 37.8**	**+0.9**
EMMW				IAmb		IAmb		10 18 59.8	
	comp=Z,37nm,1.0s								
SSRD	**Sdr. Stenderup**	**24.52**	**67**	*e*P		**P**		**10 18 38.3**	**-0.5**
NC204	**NORSAR Array S**	**24.60**	**52**	P		**P**		**10 18 39.2**	**-0.4**
NBO00	**NORSAR Array S**	**24.60**	**53**	P		**P**		**10 18 38.7**	**-0.9**
NBO00				IAmb		IAmb		10 18 42.1	
	comp=Z,36nm,1.1s								
E62A	**Clayton Lake**	**24.61**	**271**	P		**P**		**10 18 41.0**	**+1.2**
E62A				IAmb		IAmb		10 18 59.5	
	comp=Z,30nm,0.9s								
LMQ	**La Malbaie**	**24.68**	**273**	P		**P**		**10 18 40.8**	**+0.5**
LMQ				IAmb		IAmb		10 19 12.0	
	comp=Z,32nm,1.2s								
MTLF	**Montolieu**	**24.73**	**98**	*e*P		**P**		**10 18 42.4**	**+1.5**
MTLF				pmax		pmax			
	comp=Z,9.0nm,0.7s								
DAG	**Danmarks Havn**	**24.75**	**7**	*i* P		**P**		**10 18 42.1**	**+1.4**
F63A	**Nahmakanta, Br**	**24.80**	**268**	P		**P**		**10 18 42.0**	**+0.5**
NB2	**NORSAR Subarra**	**24.82**	**53**	P		**P**		**10 18 41.0**	**-0.5**
	comp=Z,126nm,2.5s,baz=268,slow=7.9								
NB2	**NORSAR Subarra**	**24.82**	**53**	P		**P**		**10 18 41.0**	**-0.5**
	baz=268,slow=7.9								
NOA	**NORSAR Array B**	**24.82**	**53**	P		**P**		**10 18 41.0**	**-0.5**
	comp=Z,5.0nm,0.9s,baz=272,slow=9.9,SNR=9.0								
NOA				LR		LR		10 27 43.3	
	comp=E,1μm,18.3s,baz=270,slow=35 comp=Z,5.0nm,0.9s								
NOA	**NORSAR Array B**	**24.82**	**53**	P		**P**		**10 18 41.0**	**-0.5**
STRU	**Stroemstad**	**24.88**	**58**	*e*P		**P**		**10 18 41.7**	**-0.3**
NC303	**NORSAR Array S**	**24.89**	**53**	P		**P**		**10 18 41.3**	**-0.8**
NC303				IAmb		IAmb		10 18 45.5	
	comp=Z,54nm,1.4s								
HAU	**Haudompre**	**24.92**	**85**	*e*P		**P**		**10 18 40.1**	**-2.5**
HAU				pmax		pmax			
	comp=Z,29nm,0.9s								
NC602	**NORSAR Array S**	**24.98**	**54**	P		**P**		**10 18 41.9**	**-1.0**
NC602				IAmb		IAmb		10 18 57.5	
	comp=Z,30nm,1.4s								
NORES	**NORESS Array B**	**24.98**	**54**	P		**P**		**10 18 45.3**	**+2.4**
NC405	**NORSAR Array S**	**25.06**	**53**	P		**P**		**10 18 41.9**	**-1.8**
NC405				IAmb		IAmb		10 18 53.8	
	comp=Z,27nm,1.0s								
PKME	**Peaks-Kenny Pk**	**25.13**	**268**	IAmb		IAmb		10 19 04.6	
	comp=Z,31nm,1.1s								
PKME	**Peaks-Kenny Pk**	**25.13**	**268**	P		**P**		**10 18 45.6**	**+1.2**
	baz=60								
TJOU	**Tjoern**	**25.21**	**60**	*i* P		**P**		**10 18 44.5**	**-0.5**
CDF	**Champ du Feu**	**25.31**	**84**	*e*P		**P**		**10 18 46.3**	**+0.1**
CDF				pmax		pmax			
	comp=Z,8.0nm,0.8s								
ECH	**Echery**	**25.32**	**84**	P		**P**		**10 18 45.5**	**-0.6**
ECH	**Echery**	**25.32**	**84**	P		**P**		**10 18 45.6**	**-0.6**
ECH				pmax		pmax			
	comp=Z,21nm,1.0s								
CABF	**La Chapelle**	**25.39**	**88**	*e*P		**P**		**10 18 49.0**	**+2.1**
CABF				pmax		pmax			
	comp=Z,53nm,1.4s								
VIVF	**Saint-Julien-l**	**25.40**	**93**	*e*P		**P**		**10 18 48.1**	**+1.2**
VIVF				pmax		pmax			
	comp=Z,10.0nm,0.8s								
WVL	**Waterville**	**25.72**	**267**	P		**P**		**10 18 51.5**	**+1.8**
WVL				IAmb		IAmb		10 19 00.4	
	comp=Z,36nm,1.0s								
NEEM	**North Greenlan**	**25.82**	**351**	*e*P		**P**		**10 18 53.7**	**+2.9**
NEEM				IAmb		IAmb		10 19 04.0	
	comp=Z,149nm,1.8s								
G62A	**West of Eustis**	**25.91**	**269**	P		**P**		**10 18 51.6**	**+0.1**
BFO	**Black Forest**	**25.99**	**83**	P		**P**		**10 18 51.5**	**-0.6**
BFO	**Black Forest**	**25.99**	**83**	P		**P**		**10 18 51.6**	**-0.6**
BFO				pmax		pmax			
	comp=Z,15nm,1.0s								
HFS	**Hagfors**	**26.07**	**55**	P		**P**		**10 18 51.2**	**-1.6**
	comp=Z,3.1nm,0.7s,baz=266,slow=8.8,SNR=7.0								
HFS				LR		LR		10 27 55.0	
	comp=Z,2μm,20.5s,baz=287,slow=34 comp=Z,3.1nm,0.7s							

BRG MLR MLR
comp=E,2µm,15.2s
BRG MLR MLR
comp=N,1µm,11.2s
WATA Walderalm 28.39 83 *i* P **P 10 19 12.2 -1.7**
comp=N,6.6nm,0.9s
WTTA Wattenberg 28.46 83 *i* P **P 10 19 12.8 -1.8**
comp=N,12nm,1.4s
RICC Richard 28.54 75 AMS AMS 10 30 30.0
comp=N,2µm,14.6s
LONY Lake Ozonia 28.68 271 P **P 10 19 17.7 +1.2**
baz=59
L61B Northampton 28.71 265 P **P 10 19 17.3 +0.6**
baz=55
KHC Kasperske Hory 28.80 78 P **P 10 19 16.7 -0.8**
KHC Kasperske Hory 28.80 78 *eP* **P 10 19 15.0 -2.5**
KHC AMS AMS 10 30 30.0
comp=N,1µm,15.1s
KHC Kasperske Hory 28.80 78 P **P 10 19 16.7 -0.8**
KHC pmax pmax
comp=Z,8.0nm,1.3s
NCB Newcomb 28.81 269 P **P 10 19 18.8 +1.2**
NCB IAmb IAmb 10 19 28.7
comp=Z,45nm,1.4s
PVCC Panska Ves 28.83 75 AMS AMS 10 30 40.0
comp=Z,2µm,14.8s
WBO Williamsburg 28.91 272 P **P 10 19 20.0 +1.6**
PRA Prague 28.93 76 AMS AMS 10 30 40.0
comp=Z,2µm,14.3s
GERES GERESS Array B 29.00 79 P **P 10 19 17.8 -1.5**
GERES GERESS Array B 29.00 79 P **P 10 19 17.3 -2.0**
comp=Z,3.7nm,0.8s,baz=304,slow=9.5,SNR=11
GERES LR LR 10 29 15.2
comp=Z,879nm,20.5s,baz=295,slow=33
comp=Z,3.7nm,0.8s
GERES GERESS Array B 29.00 79 P **P 10 19 17.8 -1.5**
LESA Schwarzleotal 29.01 82 *eP* **P 10 19 17.9 -1.5**
comp=Z,4.9nm,0.7s
PRU Pruhonice 29.02 76 AMS AMS 10 30 40.0
comp=Z,2µm,14.0s
ZVC Zvikov 29.04 77 *eP* **P 10 19 20.0 +0.5**
ZVC AMS AMS 10 30 30.0
comp=Z,1µm,14.7s
GOPC GO Pecny, Ondr 29.20 76 AMS AMS 10 30 50.0
comp=Z,2µm,13.9s
ABTA Abfaltersbach 29.23 83 *eP* **P 10 19 21.5 +0.1**
comp=Z,5.8nm,1.2s
CKRC Cesky Krumlov 29.37 79 AMS AMS 10 30 50.0
comp=Z,900nm,15.4s
TEOL Teolo 29.40 87 P **P 10 19 21.1 -1.7**
TEOL IAmb IAmb 10 19 31.9
comp=Z,23nm,0.8s
BIOA Bad Ischl, Aus 29.47 81 *eP* **P 10 19 23.0 -0.4**
comp=Z,5.8nm,0.9s
KBA Koelnbreinsper 29.57 82 *eP* **P 10 19 23.0 -1.5**
comp=Z,3.3nm,0.5s,SNR=4.5
KSCT Kent School, K 29.62 265 P **P 10 19 25.1 +0.4**
CHVC Chvalec 29.68 74 AMS AMS 10 30 50.0
comp=Z,2µm,15.8s
UPC Upice 29.68 75 AMS AMS 10 31 20.0
comp=Z,2µm,14.6s
OSTC Ostas 29.78 74 AMS AMS 10 30 50.0
comp=Z,2µm,16.7s
J58A Remsen 29.79 269 P **P 10 19 26.5 +0.3**
TREC Trest 29.87 77 AMS AMS 10 31 00.0
comp=Z,2µm,14.4s
DPC Dobruska-Polom 29.93 75 *eP* **P 10 19 26.4 -1.0**
DPC AMS AMS 10 31 00.0
comp=Z,2µm,15.5s
DPC Dobruska-Polom 29.93 75 *eP* **P 10 19 26.4 -1.0**
DPC MLR MLR
comp=Z,2µm,15.5s
MYKA Terra Mystica 29.97 83 *eP* **P 10 19 26.8 -1.0**
comp=Z,18nm,0.8s,SNR=9.9
PRED Cave del Predi 30.01 83 P **P 10 19 27.0 -1.3**
PRED IAmb IAmb 10 19 37.4
comp=Z,14nm,0.9s
VAF Ylistaro 30.10 48 *eP* **P 10 19 30.9 +2.1**
SABO M.te Sabotino 30.26 84 P **P 10 19 29.0 -1.4**
SABO IAmb IAmb 10 19 39.7
comp=Z,32nm,0.9s
PAL Palisades 30.30 264 P **P 10 19 31.6 +0.8**
baz=53
KRLC Kraliky 30.31 75 AMS AMS 10 31 30.0
comp=Z,2µm,15.5s
KRLC Kraliky 30.31 75 *eP* P 10 19 38.2 +7.4
KRLC MLR MLR
comp=Z,2µm,15.5s
TRNY Table Rock, Ra 30.41 265 IAmb IAmb 10 19 41.7
comp=Z,19nm,1.1s
VRAC Vranov 30.52 76 LR LR 10 31 17.5
comp=Z,1µm,18.1s,baz=293,slow=36
OBKA Obir 30.57 83 *eP* **P 10 19 31.4 -1.9**
comp=Z,15nm,0.8s,SNR=7.2
JAVS Javornik 30.58 84 *i* P **P 10 19 31.6 -1.7**
DELO Deloro Mine 30.59 273 IAmb IAmb 10 19 43.4
comp=Z,12nm,0.8s
CONA Conrad Observa 30.69 79 *eP* **P 10 19 33.1 -1.2**
comp=Z,3.9nm,1.1s
SOKA Soboth 30.78 82 *eP* **P 10 19 32.7 -2.4**
comp=Z,7.0nm,1.2s
SPITS Spitsbergen Ar 30.79 18 P **P 10 19 34.3 -0.5**
comp=Z,5.2nm,0.9s,baz=179,slow=8.9,SNR=2.3
SPITS LR LR 10 28 40.1
comp=Z,1µm,20.9s,baz=214,slow=30
comp=Z,5.2nm,0.9s
ARSA Arzberg 30.81 81 *eP* **P 10 19 32.5 -2.7**
comp=Z,3.6nm,0.7s
BINY Binghamton 30.87 268 P **P 10 19 36.9 +1.1**
baz=55
CEY Cerknica 30.88 84 *i* P **P 10 19 34.1 -1.7**
MORC Moravsky Berou 30.88 75 P **P 10 19 34.5 -1.4**
MORC Moravsky Berou 30.88 75 *eP* **P 10 19 35.7 -0.2**
MORC Moravsky Berou 30.88 75 P **P 10 19 34.5 -1.4**
MORC pmax pmax
comp=Z,6.0nm,0.8s
K57A Scipio Center 30.89 269 IAmb IAmb 10 19 46.3
comp=Z,33nm,1.1s
RONA Rosalia, Austr 31.06 79 *eP* **P 10 19 36.7 -0.7**
comp=Z,7.0nm,1.2s
ARCES ARCESS Array B 31.08 35 P **P 10 19 36.7 -0.6**
comp=Z,2.6nm,0.7s,baz=249,slow=7.8,SNR=9.1
ARCES LR LR 10 29 15.0
comp=Z,1µm,20.0s,baz=262,slow=31
comp=Z,2.6nm,0.7s
VISS Visnje 31.10 84 *i* P **P 10 19 35.9 -1.9**
OKC Ostrava-Krasne 31.21 75 AMS AMS 10 32 20.0
comp=Z,1µm,14.0s
KEF Keuruu 31.23 50 *eP* **P 10 19 39.7 +1.0**
SADO Sadowa 31.38 274 IAmb IAmb 10 19 50.9
comp=Z,26nm,1.2s
SADO Sadowa 31.38 274 LR LR 10 31 37.4
comp=Z,872nm,18.8s,baz=78,slow=35
L56A Greenwood 31.86 269 IAmb IAmb 10 19 55.1
comp=Z,38nm,1.4s
FINES FINESS Array B 31.92 51 P **P 10 19 43.6 -1.1**
comp=Z,6.3nm,0.7s,baz=280,slow=9.0,SNR=16
FINES LR LR 10 31 37.3
comp=Z,1µm,19.2s,baz=273,slow=34
comp=Z,6.3nm,0.7s
FIA1 FINESS Array S 31.92 51 P **P 10 19 43.6 -1.2**
FIA1 IAmb IAmb 10 20 01.9
comp=Z,31nm,1.1s
OJC Ojcow 32.02 73 P **P 10 19 47.9 +2.1**
MPLH Magyarpolny 32.05 80 P **P 10 19 46.6 +0.5**
comp=Z,22nm,0.8s
N58A Sunbury 32.11 266 IAmb IAmb 10 19 56.6
comp=Z,16nm,1.1s
LANS Liptovska Anna 32.28 75 *eP* **P 10 19 49.6 +1.4**
LANS *e* 10 19 57.5
LANS Liptovska Anna 32.28 75 *eP* **P 10 19 49.7 +1.5**
LANS *e* 10 19 57.5
WVNY West Valley, N 32.34 270 IAmb IAmb 10 20 03.1
comp=Z,28nm,1.2s
PABE Paberze 32.39 62 *eP* **P 10 19 48.7 -0.2**
EUNU Eureka 32.51 345 P **P 10 19 50.5 +0.6**
MSF Maaselka 32.54 42 P **P 10 19 48.8 -1.4**
NIE Niedzica 32.65 74 P **P 10 19 54.6 +3.2**
NIE Niedzica 32.65 74 P **P 10 19 53.9 +2.5**
comp=Z,5.8nm,1.0s
RES Resolute Bay 32.93 334 P **P 10 19 55.4 +1.9**
RES IAmb IAmb 10 20 06.0
comp=Z,29nm,1.4s
RES Resolute Bay 32.93 334 LR LR 10 32 40.0
comp=Z,1µm,18.2s,baz=96,slow=35
RES Resolute Bay 32.93 334 P **P 10 19 55.4 +1.9**
RES pmax pmax
comp=Z,29nm,1.4s
VSU Vasula 32.94 56 *ceP* **P 10 19 51.5 -2.3**
VSU pmax pmax
comp=Z,27nm,1.7s
SSPA Standing Stone 32.94 267 P **P 10 19 54.9 +0.9**
SSPA IAmb IAmb 10 20 05.0
comp=Z,8.0nm,0.6s
SSPA Standing Stone 32.94 267 P **P 10 19 54.5 +0.5**
baz=53
M55A Ridgway 32.98 269 IAmb IAmb 10 20 05.5
comp=Z,16nm,0.7s
SDMD Soldier's Deli 33.06 264 P **P 10 19 56.3 +1.3**
MORH Mrgy, Hungar 33.19 80 ⇑P **P 10 19 55.6 -0.5**
MORH Mrgy, Hungar 33.19 80 P **P 10 19 55.2 -0.8**
comp=Z,9.2nm,0.7s
STHS Stebnicka Huta 33.21 74 *eP* **P 10 19 56.5 +0.2**
STHS *e* 10 20 04.9
STHS Stebnicka Huta 33.21 74 *eP* **P 10 19 56.5 +0.2**
STHS *e* 10 20 04.9
ERPA Erie 33.35 271 P **P 10 19 58.2 +0.6**
baz=55
CRVS Cervenica-Dubn 33.57 74 *eP* P 10 20 07.4 +8.0
KEST Kesra 33.79 103 P **P 10 20 00.7 -0.9**
comp=Z,16nm,1.0s,baz=236,slow=2.7,SNR=4.4
KEST LR LR 10 31 58.7
comp=Z,669nm,19.3s,baz=256,slow=33
comp=Z,16nm,1.0s
JOF Joensuu 34.02 47 *eP* **P 10 20 03.7 +0.7**
APA Apatity 34.06 39 ⇓*i*P **P 10 20 04.7 +1.3**
APA *i* 10 21 13.7
APA *i* 10 22 36.8
APA *i* S **S 10 25 28.0 -0.2**
APA *i* SS **SnSn 10 27 29.0 -6.1**
APA pmax pmax
comp=Z,9.0nm,0.7s
APA MLR MLR
comp=Z,400nm,13.0s
NACGM Naroch 34.11 62 *eP* **P 10 20 04.5 +0.5**
comp=Z,14nm,0.7s,baz=291
CBN Corbin Frederi 34.14 263 P **P 10 20 05.0 +0.6**
baz=50
M53A WI Miller and 34.16 270 P **P 10 20 05.6 +0.9**
baz=54
FCC Fort Churchill 34.18 305 P **P 10 20 06.7 +2.2**
FCC IAmb IAmb 10 20 25.9
comp=Z,21nm,1.1s
FCC Fort Churchill 34.18 305 P **P 10 20 06.7 +2.2**
FCC pmax pmax
comp=Z,21nm,1.1s
FRGS Fruska Gora 34.43 81 ⇑P **P 10 20 07.7 +0.8**
FRGS Fruska Gora 34.43 81 P **P 10 20 05.6 -1.3**
comp=Z,48nm,0.8s,comp=Z,396nm
M52A Chesterland 34.52 271 P **P 10 20 09.1 +1.4**
M52A IAmb IAmb 10 20 18.3
comp=Z,33nm,1.1s
GLMI Grayling 34.66 278 P **P 10 20 09.5 +0.6**
baz=58
MCWV Mont Chateau 34.73 267 P **P 10 20 10.0 +0.5**
baz=52
MNK Minsk 34.85 62 *i* P **P 10 20 10.7 +0.2**
comp=E,13nm,0.8s
MNK *i* P **P 10 20 10.7 +0.2**
comp=N,30nm,0.9s
MNK *i* P **P 10 20 10.7 +0.2**
comp=Z,23nm,0.8s,baz=292
MNK *i* PP **PnPn 10 21 26.5 -0.2**
MNK *i* S **S 10 25 43.3 +2.6**
MNK *i* SS **SnSn 10 27 55.1 +0.6**
MNK *i* LQ LQ 10 31 42.7
MNK *i* LR LR 10 34 21.1
MNK *i* LRM MLR 10 34 43.1
comp=N,807nm,15.4s
MNK *i* LRM MLR 10 35 53.4
comp=E,173nm,15.3s
MNK *i* LRM MLR 10 35 53.4
comp=Z,439nm,15.1s
MNK Minsk 34.85 62 *i* P **P 10 20 10.6 +0.2**
MNK *i* 10 21 26.4
MNK *i* S **S 10 25 43.2 +2.6**
MNK *i* SS **SnSn 10 27 55.1 +0.6**
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=N,30nm,0.9s
MNK pmax pmax
comp=E,13nm,0.8s
MNK MLR MLR
comp=N,807nm,15.0s
MNK MLR MLR
comp=E,173nm,15.0s
MNK MLR MLR
comp=Z,439nm,15.0s
MORS Morshin 34.88 73 P **P 10 20 13.4 +2.7**
SIRR Siria 34.96 78 ⇓P **P 10 20 12.4 +0.9**
RNPP5 Staryi Chortor 35.08 68 P **P 10 20 13.2 +0.8**
O53A New Philadelph 35.20 269 P **P 10 20 13.9 +0.3**
baz=53
BZS Buzias 35.27 79 ⇑P **P 10 20 15.2 +1.0**
BZS Buzias 35.27 79 ⇑P **P 10 20 15.2 +1.0**
DRGR 35.32 77 ⇑P **P 10 20 14.0 -0.7**
DRGR 35.32 77 ⇑P **P 10 20 14.0 -0.7**
S57A Dark Hollow, R 35.38 264 IAmb IAmb 10 20 26.6
comp=Z,36nm,1.6s
STNU Starunia 35.43 73 P **P 10 20 18.2 +2.7**
PDG Podgorica 35.59 86 ⇑P **P 10 20 17.3 +0.4**
PDG Podgorica 35.59 86 IAmb IAmb 10 20 25.5
comp=Z,13nm,0.8s
MARR Marisel-Cluj 35.62 77 ⇑P **P 10 20 16.4 -0.9**
O52A Adamsville 35.66 270 IAmb IAmb 10 20 28.4
comp=Z,39nm,1.4s
Q54A Coxs Mills 35.75 267 IAmb IAmb 10 20 28.4
comp=Z,16nm,0.9s
R55A Marlinton 35.76 266 IAmb IAmb 10 20 28.6
comp=Z,19nm,0.8s
T57A Hurt 36.06 263 IAmb IAmb 10 20 32.7
comp=Z,17nm,1.1s
P52A Corning 36.13 269 P **P 10 20 22.4 +0.8**
baz=52
ACSO Alum Creek Sta 36.29 271 P **P 10 20 24.3 +1.4**
ACSO IAmb IAmb 10 20 33.6
comp=Z,20nm,0.8s
ACSO Alum Creek Sta 36.29 271 P **P 10 20 23.7 +0.8**
baz=53
BURAR Bucovina Array 36.39 74 ⇑P **P 10 20 25.3 +1.5**
BURAR Bucovina Array 36.39 74 P **P 10 20 23.4 -0.4**
BURAR Bucovina Array 36.39 74 ⇑P **P 10 20 25.3 +1.5**
N49A Columbus Grove 36.60 272 IAmb IAmb 10 20 36.3
comp=Z,14nm,0.7s
BLA Blacksburg 36.62 265 IAmb IAmb 10 20 37.0
comp=Z,22nm,1.0s
BLA Blacksburg 36.62 265 P **P 10 20 26.8 +0.9**
baz=50
KMPD K-Podol'skiy 36.64 72 P **P 10 20 25.3 -0.5**
COWI Conover 36.69 283 IAmb IAmb 10 20 37.3
comp=Z,25nm,1.1s
V58A Windy Hill, Pi 36.77 262 IAmb IAmb 10 20 39.0
comp=Z,64nm,1.6s
P51A Williamsport 36.79 270 IAmb IAmb 10 20 37.7
comp=Z,26nm,1.0s
BLKB Belogradchik 36.99 82 ⇑P **P 10 20 27.8 -1.1**
EYMN Ely 37.14 287 IAmb IAmb 10 20 41.0
comp=Z,43nm,1.2s
EYMN Ely 37.14 287 P **P 10 20 30.7 +0.6**
baz=60
NDNU Novodnistrovsk 37.15 72 P **P 10 20 29.9 -0.3**
KIEV Kiev 37.20 68 P **P 10 20 30.2 -0.3**
KIEV Kiev 37.20 68 P **P 10 20 30.0 -0.5**
comp=Z,79nm,0.9s
AKASG Malin Array Be 37.21 68 P **P 10 20 28.6 -2.0**
comp=Z,3.3nm,0.6s,baz=300,slow=8.3,SNR=6.2
AKASG LR LR 10 36 14.9
comp=Z,1µm,18.2s,baz=294,slow=37
comp=Z,3.3nm,0.6s
AKBB Malin Array Si 37.21 68 IAmb IAmb 10 20 39.9
comp=Z,17nm,0.8s
AKBB Malin Array Si 37.21 68 *ceP* **P 10 20 28.6 -2.0**
AKBB pmax pmax
comp=Z,19nm,0.9s
O48B Farmland 37.59 272 P **P 10 20 34.5 +0.5**
baz=53
W57A Gilead 37.73 262 IAmb IAmb 10 20 46.6
comp=Z,35nm,1.2s
G40A Rib Lake 37.77 283 IAmb IAmb 10 20 46.5
comp=Z,30nm,1.4s
P49A Miami Univ. Ec 37.77 271 P **P 10 20 35.9 +0.4**
baz=52
E38A The Farm, Brul 37.86 285 IAmb IAmb 10 20 46.7
comp=Z,19nm,0.8s
MLR Muntele Rosu 37.92 77 ⇓P **P 10 20 40.4 +3.5**
MLR Muntele Rosu 37.92 77 LR LR 10 35 27.7
comp=Z,731nm,19.6s,baz=294,slow=35
MLR Muntele Rosu 37.92 77 ⇓P **P 10 20 40.4 +3.5**
L44A Lake County Fo 38.13 277 P **P 10 20 39.2 +0.7**
baz=54
PLOR Plostina 38.14 76 ⇑P **P 10 20 37.9 -0.7**
PLOR Plostina 38.14 76 ⇑P **P 10 20 37.9 -0.7**
VRI Vrincioaia 38.18 76 ⇓P **P 10 20 39.7 +0.7**
VRI Vrincioaia 38.18 76 ⇓P **P 10 20 39.7 +0.7**
B35A Bob, Littlefor 38.22 289 IAmb IAmb 10 20 49.9
comp=Z,41nm,1.4s
S51A Beattyville 38.28 268 IAmb IAmb 10 20 50.5
comp=Z,32nm,1.1s
R50A Paris 38.31 269 IAmb IAmb 10 20 50.8
comp=Z,24nm,0.8s
KLMR Klimovskoe 38.33 49 *eP* **P 10 20 38.4 -1.6**
KLMR pmax pmax
comp=Z,35nm,1.5s
KLMR MLR MLR
comp=Z,1µm,17.0s
ULM Lac du Bonnet 38.51 293 P **P 10 20 42.4 +0.8**
ULM IAmb IAmb 10 20 52.0
comp=Z,25nm,1.1s
ULM Lac du Bonnet 38.51 293 P **P 10 20 41.7 0.0**
comp=Z,8.5nm,1.1s,baz=75,slow=9.0,SNR=7.9
ULM LR LR 10 35 06.4
comp=Z,600nm,19.4s,baz=62,slow=34
comp=Z,8.5nm,1.1s
ULM Lac du Bonnet 38.51 293 *i* P **P 10 20 42.1 +0.5**
KMSC Kings Mountain 38.55 263 P **P 10 20 42.9 +0.8**
baz=48
SFIN Lafayette 38.70 274 P **P 10 20 43.4 0.0**
baz=53
KIS Kishinev 38.81 73 *eP* **P 10 20 43.0 -1.2**
KIS Kishinev 38.81 73 *ePP* PP 10 22 16.0 +3.1
KIS *eS* **S 10 26 37.0 -4.1**
KIS *eL* L 10 34 43.0
KIS LRM MLR 10 37 42.0
comp=Z,400nm,15.0s
KIS Kishinev 38.81 73 *eP* **P 10 20 43.0 -1.2**
KIS *e* 10 22 16.0
KIS *eS* **S 10 26 37.0 -4.1**
KIS MLR MLR
comp=Z,400nm,15.0s
MILM Milestii Mici 38.85 73 *eP* **P 10 20 43.0 -1.5**
MILM Milestii Mici 38.85 73 *ePP* PP 10 22 16.0 +2.7
comp=Z,400nm,0.7s
MILM Milestii Mici 38.85 73 *eP* **P 10 20 43.0 -1.5**
MILM *e* 10 22 16.0
MILM *ePPP* PPP 10 22 56.0
MILM *eS* **S 10 26 36.0 -5.7**
MILM MLR MLR
comp=Z,1µm,15.5s
MILM MLR MLR
comp=N,700nm,16.0s
MILM MLR MLR
comp=E,1µm,16.0s
TZTN Tazewell 38.96 266 P **P 10 20 45.8 +0.3**
baz=49,SNR=26
JFWS Jewell Farm 39.11 279 P **P 10 20 47.2 +0.4**
baz=55
OBN Obninsk 39.19 58 LR LR 10 36 13.2
comp=E,1µm,18.7s,baz=323,slow=35
OBN Obninsk 39.19 58 ⇓*eP* **P 10 20 46.1 -1.1**
OBN *i* *PP **pP 10 20 47.7 -2.7**
OBN *i* *SP **sP 10 20 49.8 -1.9**
OBN *i* 10 22 20.0
OBN *i* S **S 10 26 45.0 -1.6**
OBN *i* SS **SnSn 10 29 34.0 -5.3**
OBN *e*SSS SSS 10 30 01.6
OBN pmax pmax
comp=Z,24nm,0.7s
OBN MLR MLR
comp=Z,727nm,16.0s
SPMN Marine on St. 39.33 284 IAmb IAmb 10 20 59.7
comp=Z,49nm,1.4s
SPMN Marine on St. 39.33 284 P **P 10 20 49.0 +0.4**
baz=57
CFR Carcaliu 39.39 76 ⇑P **P 10 20 48.3 -0.7**
CFR Carcaliu 39.39 76 ⇑P **P 10 20 48.3 -0.7**
T50A Nancy 39.43 268 IAmb IAmb 10 21 00.2
comp=Z,18nm,0.7s
V52A Sevierville 39.45 266 IAmb IAmb 10 20 59.6
comp=Z,39nm,1.2s
MOS Moscow 39.46 57 *eP* **P 10 20 48.0 -1.5**
MOS MLR MLR
comp=Z,1µm,15.0s
AGMN Agassiz Nation 39.48 290 P **P 10 20 50.5 +0.7**
baz=59
WCI Wyandotte Cave 39.55 271 P **P 10 20 50.9 +0.5**
baz=51
TKL Tuckaleechee C 39.68 266 IAmb IAmb 10 21 02.8
comp=Z,30nm,1.2s
TKL Tuckaleechee C 39.68 266 LR LR 10 36 56.6
comp=Z,1µm,18.9s,baz=64,slow=36
FFC Flin Flon 39.72 302 P **P 10 20 53.3 +1.6**
FFC Flin Flon 39.72 302 P **P 10 20 53.3 +1.6**
FFC pmax pmax
comp=Z,10.0nm,0.9s
TPGR Topolog 39.73 76 ⇓P **P 10 20 51.3 -0.7**
HDIL Hopedale 39.93 276 P **P 10 20 54.0 +0.5**
baz=53
W52A Murphy 40.15 265 IAmb IAmb 10 21 06.1
comp=Z,42nm,1.3s
L40A Anamosa 40.19 279 IAmb IAmb 10 21 07.0
comp=Z,80nm,1.9s
CPCT Cooper Cave 40.27 266 IAmb IAmb 10 21 07.4
comp=Z,62nm,1.5s
I37A Lemond, Waseca 40.36 283 IAmb IAmb 10 21 08.7
comp=Z,36nm,1.4s
W50A Signal Mountai 40.92 266 IAmb IAmb 10 21 12.2
comp=Z,24nm,1.0s
GOGA Godfrey 41.02 263 IAmb IAmb 10 21 13.9
comp=Z,26nm,1.2s
GOGA Godfrey 41.02 263 P **P 10 21 03.7 +1.0**
baz=46
GOGA Godfrey 41.02 263 P **P 10 21 04.1 +1.4**
X51A Calhoun 41.07 265 IAmb IAmb 10 21 14.3
comp=Z,21nm,0.9s
SWET Sewanee 41.29 267 IAmb IAmb 10 21 14.8
comp=Z,23nm,1.0s
SCIA State Center 41.48 280 P **P 10 21 06.7 +0.3**
baz=53
V48A Smith Brothers 41.48 268 IAmb IAmb 10 21 17.9
comp=Z,58nm,1.5s
FPAL Fort Paine 41.55 266 IAmb IAmb 10 21 17.4
comp=Z,29nm,1.3s
LPSR Galich'ya Gora 41.60 60 *eP* **P 10 21 06.2 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.8s
SIUC Southern Illin 41.65 272 IAmb IAmb 10 21 18.3
comp=Z,26nm,0.7s
S44A Carbondale 41.69 272 IAmb IAmb 10 21 18.4
comp=Z,29nm,0.7s
WVT Waverly 41.84 269 P **P 10 21 10.7 +1.3**
WVT Waverly 41.84 269 P **P 10 21 10.0 +0.6**
baz=49
WVT Waverly 41.84 269 P **P 10 21 10.7 +1.3**
WVT pmax pmax
comp=Z,11nm,0.8s
MDND Maddock 41.85 291 P **P 10 21 10.1 +0.8**
MDND Maddock 41.85 291 P **P 10 21 09.7 +0.4**
baz=57
A36M Sachs Harbour 41.90 332 P **P 10 21 11.1 +1.6**
A36M IAmb IAmb 10 21 21.2
comp=Z,18nm,0.9s
A36M Sachs Harbour 41.90 332 P **P 10 21 09.4 0.0**
baz=65,SNR=6.3
YKA Yellowknife Ar 42.21 317 P **P 10 21 13.4 +1.3**
comp=Z,3.9nm,1.1s,baz=60,slow=8.3,SNR=18
YKA PP **PP 10 22 53.4 +3.8**
comp=Z,2.7nm,1.1s,baz=58,slow=10,SNR=3.9
YKA PcP **PcP 10 23 07.7 +1.8**
comp=Z,1.0nm,0.6s,baz=56,slow=3.7,SNR=7.3
YKA LR LR 10 36 59.1
comp=Z,783nm,20.0s,baz=58,slow=34
comp=Z,3.9nm,1.1s
YKA Yellowknife Ar 42.21 317 *i* P **P 10 21 13.3 +1.2**
YKA pmax pmax
comp=Z,4.0nm,1.1s
VORR Voronezh 42.22 62 *eP* **P 10 21 12.4 +0.1**
VORR pmax pmax
comp=Z,27nm,2.0s

152A	**Waverly Hall**	**42.29**	**263**	IAmb	IAmb	10 21 23.9			
	comp=Z,69nm,1.5s								
ECSD	**EROS Data Cent**	**42.43**	**285**	P	**P**	**10 21 15.6**	**+1.5**		
ECSD				IAmb	IAmb	10 21 24.9			
	comp=Z,43nm,1.4s								
ECSD	**EROS Data Cent**	**42.43**	**285**	P	**P**	**10 21 13.9**	**-0.2**		
	baz=54,SNR=16								
VSR	**Storozhevoye**	**42.43**	**62**	*e*P	**P**	**10 21 12.6**	**-1.4**		
VSR				pmax	pmax				
	comp=Z,10.0nm,0.7s								
TIGA	**Tifton**	**42.47**	**261**	P	**P**	**10 21 14.8**	**+0.2**		
	baz=45								
Y49A	**Blount Mountai**	**42.50**	**266**	P	**P**	**10 21 15.8**	**+1.0**		
Y49A				IAmb	IAmb	10 21 25.2			
	comp=Z,19nm,0.9s								
VORD	**Divnogorie**	**42.63**	**62**	*e*P	**P**	**10 21 14.7**	**-0.9**		
VORD				pmax	pmax				
	comp=Z,50nm,0.8s								
CCM	**Cathedral Cave**	**42.67**	**274**	P	**P**	**10 21 16.2**	**+0.1**		
CCM				IAmb	IAmb	10 21 26.7			
	comp=Z,14nm,0.6s								
CCM	**Cathedral Cave**	**42.67**	**274**	P	**P**	**10 21 16.4**	**+0.3**		
	baz=50								
CCM	**Cathedral Cave**	**42.67**	**274**	P	**P**	**10 21 16.2**	**+0.1**		
CCM				pmax	pmax				
	comp=Z,14nm,0.6s								
C36M	**Paulatuk**	**42.68**	**328**	P	**P**	**10 21 17.2**	**+1.4**		
C36M	**Paulatuk**	**42.68**	**328**	P	**P**	**10 21 15.7**	**-0.1**		
	baz=64								
PBMO	**Poplar Bluff**	**42.99**	**272**	IAmb	IAmb	10 21 29.4			
	comp=Z,67nm,1.8s								
SIM	**Simferopol'**	**43.02**	**73**	*e*P	P	10 21 09.7	-9.2		
SIM				pmax	pmax				
	comp=Z,19nm,12.2s								
SIM				MLR	MLR				
	comp=Z,471nm,15.8s								
352A	**Blakely**	**43.25**	**262**	IAmb	IAmb	10 21 32.0			
	comp=Z,47nm,1.4s								
SUSD	**Miller**	**43.39**	**287**	IAmb	IAmb	10 21 31.9			
	comp=Z,25nm,0.9s								
SUSD	**Miller**	**43.39**	**287**	P	**P**	**10 21 22.0**	**+0.1**		
	baz=54								
LRAL	**Lakeview Retre**	**43.42**	**265**	IAmb	IAmb	10 21 32.8			
	comp=Z,40nm,1.4s								
LRAL	**Lakeview Retre**	**43.42**	**265**	P	**P**	**10 21 22.5**	**+0.3**		
	baz=46								
IDI	**Anoyia**	**43.47**	**90**	LR	LR	10 40 36.5			
	comp=Z,7.9nm,18.4s,baz=298,slow=38								
N35A	**Tabor**	**43.57**	**281**	IAmb	IAmb	10 21 34.8			
	comp=Z,39nm,1.4s								
DWPF	**Disney Wildern**	**43.60**	**255**	P	**P**	**10 21 24.0**	**+0.3**		
	baz=42								
VRH	**Novokhopyorsk**	**43.81**	**61**	*e*P	**P**	**10 21 23.2**	**-1.9**		
VRH				pmax	pmax				
	comp=Z,23nm,1.8s								
OXF	**Oxford**	**43.88**	**269**	P	**P**	**10 21 25.5**	**-0.4**		
	baz=48								
LCAR	**Lake Charles**	**43.90**	**272**	IAmb	IAmb	10 21 35.7			
	comp=Z,12nm,0.7s								
MDUB	**Mudurnu**	**43.97**	**80**	P	**P**	**10 21 24.8**	**-2.0**		
DGMT	**Dagmar**	**44.08**	**295**	IAmb	IAmb	10 21 38.7			
	comp=Z,32nm,1.4s								
DGMT	**Dagmar**	**44.08**	**295**	P	**P**	**10 21 27.1**	**-0.4**		
	baz=56								
FCAR	**Ozark Folk Cen**	**44.61**	**273**	IAmb	IAmb	10 21 43.4			
	comp=Z,30nm,1.9s								
KARP	**Karpathos**	**44.68**	**88**	P	**P**	**10 21 31.3**	**-1.1**		
KARP				IAmb	IAmb	10 21 48.6			
	comp=Z,23nm,0.7s								
KARP	**Karpathos**	**44.68**	**88**	P	**P**	**10 21 31.9**	**-0.5**		
	comp=Z,34nm,0.7s								
BGNE	**Belgrade**	**44.73**	**283**	P	**P**	**10 21 32.3**	**-0.4**		
	baz=52								
BRAL	**Brewton**	**44.75**	**264**	P	**P**	**10 21 32.3**	**-0.6**		
	baz=45								
ANN	**Anapa**	**45.02**	**71**	*e*P	**P**	**10 21 30.2**	**-4.7**		
ANN				*e*S	**S**	**10 28 08.2**	**-4.8**		
ANN				pmax	pmax				
	comp=Z,19nm,1.0s								
ANN				MLR	MLR				
	comp=E,1µm,17.0s								
ANN				MLR	MLR				
	comp=Z,2µm,17.0s								
WHAR	**Wooly Hollow**	**45.11**	**272**	IAmb	IAmb	10 21 45.5			
	comp=Z,15nm,0.7s								
KSU1	**Kansas State U**	**45.24**	**279**	P	**P**	**10 21 37.1**	**+0.2**		
	baz=50,SNR=5.3								
WRGLY	**Wrigley**	**45.42**	**321**	P	**P**	**10 21 39.8**	**+1.9**		
WRGLY				IAmb	IAmb	10 21 49.5			
	comp=Z,24nm,1.0s								
WRGLY	**Wrigley**	**45.42**	**321**	P	**P**	**10 21 37.7**	**-0.1**		
	baz=59								
HHAR	**Hobbs**	**45.45**	**274**	IAmb	IAmb	10 21 48.3			
	comp=Z,26nm,1.5s								
BR106	**Keskin Array S**	**45.88**	**79**	P	**P**	**10 21 42.6**	**+0.6**		
	comp=Z,20nm,0.9s,comp=Z,128nm								
BR105	**Keskin Array S**	**45.89**	**79**	P	**P**	**10 21 42.1**	**0.0**		
	comp=Z,21nm,0.8s,comp=Z,144nm								
BR131	**Keskin Array S**	**45.89**	**79**	P	**P**	**10 21 41.7**	**-0.4**		
BR131				IAmb	IAmb	10 21 44.9			
	comp=Z,18nm,0.8s								
BR131	**Keskin Array S**	**45.89**	**79**	*e*P	**P**	**10 21 40.5**	**-1.6**		
BRTR	**Keskin Array B**	**45.89**	**79**	P	**P**	**10 21 41.3**	**-0.8**		
BRTR	**Keskin Array B**	**45.89**	**79**	P	**P**	**10 21 40.6**	**-1.6**		
	comp=Z,13nm,0.7s,baz=301,slow=6.1,SNR=54								
BRTR				LR	LR	10 42 50.4			
	comp=Z,414nm,18.4s,baz=316,slow=39								
	comp=Z,13nm,0.7s								
BRTR	**Keskin Array B**	**45.89**	**79**	P	**P**	**10 21 41.3**	**-0.8**		
X40A	**Basin Creek Fa**	**45.98**	**272**	IAmb	IAmb	10 21 52.3			
	comp=Z,11nm,0.7s								
VBMS	**Vicksburg**	**46.12**	**267**	P	**P**	**10 21 43.8**	**0.0**		
	baz=46								
INK	**Inuvik**	**46.17**	**330**	P	**P**	**10 21 44.5**	**+0.8**		
INK	**Inuvik**	**46.17**	**330**	P	**P**	**10 21 43.4**	**-0.3**		
	baz=56								
INK	**Inuvik**	**46.17**	**330**	LR	LR	10 40 12.1			
	comp=Z,2µm,19.8s,baz=6.0,slow=35								
INK	**Inuvik**	**46.17**	**330**	P	**P**	**10 21 44.5**	**+0.8**		
INK				pmax	pmax				
	comp=Z,9.0nm,1.1s								
ERBR	**Yeremizino-Bor**	**46.22**	**68**	*e*P	**P**	**10 21 42.0**	**-2.4**		
ERBR				pmax	pmax				
	comp=Z,10.0nm,0.9s								
LAO	**LASA Array**	**46.22**	**294**	P	**P**	**10 21 44.6**	**0.0**		
	baz=54,SNR=8.3								
BELG	**Belogornoye**	**46.23**	**57**	LR	LR	10 40 31.9			
	comp=Z,791nm,18.8s,baz=311,slow=35								
BELG	**Belogornoye**	**46.23**	**57**	*i* P	**P**	**10 21 42.9**	**-1.5**		
BELG				pmax	pmax				
	comp=Z,4.0nm,0.9s								
EDM	**Edmonton**	**46.28**	**305**	IAmb	IAmb	10 21 56.3			
	comp=Z,14nm,0.8s								
MIAR	**Mount Ida**	**46.39**	**272**	P	**P**	**10 21 46.0**	**+0.1**		
	baz=48								
RSSD	**Black Hills**	**46.52**	**290**	P	**P**	**10 21 47.6**	**+0.5**		
	baz=53								
T35A	**Sooner Cattle**	**46.59**	**277**	IAmb	IAmb	10 21 56.9			
	comp=Z,11nm,0.7s								
F31M	**Tsiigehtchic**	**46.73**	**329**	P	**P**	**10 21 48.3**	**+0.2**		
	baz=55,SNR=21								
TUL3	**Leonard**	**46.82**	**275**	P	**P**	**10 21 49.8**	**+0.5**		
	baz=48								
LABN	**Labinsk**	**47.00**	**69**	*e*P	**P**	**10 21 47.7**	**-2.9**		
LABN				pmax	pmax				
	comp=Z,52nm,0.8s								
LABN				MLR	MLR				
	comp=Z,1µm,14.0s								
FLDN	**Fort Liard**	**47.04**	**317**	P	**P**	**10 21 50.8**	**+0.2**		
	baz=56								
SOC	**Sochi**	**47.07**	**71**	*e*P	**P**	**10 21 48.8**	**-2.3**		
SOC				*e*		10 23 39.2			
SOC				*e*PPP	PPP	10 24 22.3			
SOC				*e*S	**S**	**10 28 40.6**	**-1.8**		
SOC				*e*SSS	SSS	10 33 04.9			
SOC				MLR	MLR				
	comp=Z,781nm,17.0s								
D28M	**Stokes Point**	**47.11**	**332**	P	**P**	**10 21 51.3**	**+0.2**		
	baz=53								
G31M	**Satah River**	**47.20**	**328**	P	**P**	**10 21 52.3**	**+0.5**		
	baz=54,SNR=14								
F30M	**Barrier River**	**47.27**	**330**	P	**P**	**10 21 53.0**	**+0.6**		
	baz=54,SNR=13								
CBKS	**Cedar Bluff**	**47.30**	**281**	P	**P**	**10 21 53.1**	**0.0**		
CBKS				IAmb	IAmb	10 22 02.4			
	comp=Z,17nm,0.9s								
CBKS	**Cedar Bluff**	**47.30**	**281**	P	**P**	**10 21 52.8**	**-0.2**		
	baz=50								
CBKS	**Cedar Bluff**	**47.30**	**281**	P	**P**	**10 21 53.1**	**0.0**		
CBKS				pmax	pmax				
	comp=Z,17nm,0.9s								
OGNE	**Ogallala**	**47.31**	**285**	P	**P**	**10 21 53.7**	**+0.5**		
	baz=51								
VSLR	**Vesyoloye**	**47.32**	**71**	*i* P	**P**	**10 21 51.1**	**-2.0**		
KOTAN	**Kotaneelee Air**	**47.34**	**317**	P	**P**	**10 21 53.7**	**+0.7**		
	baz=56								
EGMT	**Eagleton**	**47.38**	**297**	P	**P**	**10 21 55.4**	**+1.8**		
EGMT	**Eagleton**	**47.38**	**297**	P	**P**	**10 21 53.5**	**-0.1**		
	baz=54,SNR=22								
E29M	**Blow River**	**47.44**	**331**	IAmb	IAmb	10 22 06.7			
	comp=Z,10nm,1.0s								
E29M	**Blow River**	**47.44**	**331**	P	**P**	**10 21 53.7**	**0.0**		
	baz=53								
X37A	**Clayton**	**47.45**	**274**	P	**P**	**10 21 54.6**	**+0.4**		
G30M	**tAoh Zraii Nji**	**47.78**	**329**	P	**P**	**10 21 56.4**	**0.0**		
	baz=53								
E28M	**Babbage River**	**47.78**	**332**	IAmb	IAmb	10 22 07.8			
	comp=Z,17nm,1.1s								
E28M	**Babbage River**	**47.78**	**332**	P	**P**	**10 21 56.6**	**+0.2**		
	baz=52								
D27M	**Malcolm River**	**47.79**	**333**	P	**P**	**10 21 56.7**	**+0.3**		
	baz=51								
TORD	**Torodi Ar. Bea**	**47.88**	**133**	P	**P**	**10 21 54.7**	**-2.9**		
	comp=Z,5.6nm,0.8s,baz=348,slow=7.9,SNR=18								
TORD				LR	LR	10 40 56.8			
	comp=Z,517nm,18.3s,baz=336,slow=35								
	comp=Z,5.6nm,0.8s								
H31M	**Peel River**	**47.88**	**327**	P	**P**	**10 21 56.5**	**-0.7**		
	baz=53								
TGTN	**Hyland Airport**	**48.23**	**320**	P	**P**	**10 21 59.5**	**-0.4**		
	baz=54								
C27K	**Jago River**	**48.29**	**334**	P	**P**	**10 21 59.5**	**-0.7**		
	baz=49								
EPYK	**Eagle Plains**	**48.31**	**328**	IAmb	IAmb	10 22 12.0			
	comp=Z,26nm,1.3s								
EPYK	**Eagle Plains**	**48.31**	**328**	P	**P**	**10 21 59.6**	**-0.9**		
	baz=52								
G29M	**Pine Creek**	**48.39**	**329**	P	**P**	**10 22 00.7**	**-0.4**		
	baz=52								
C26K	**Camden Bay**	**48.41**	**335**	P	**P**	**10 22 00.5**	**-0.7**		
	baz=49								
F28M	**Old Crow**	**48.51**	**331**	IAmb	IAmb	10 22 13.1			
	comp=Z,15nm,1.0s								
F28M	**Old Crow**	**48.51**	**331**	P	**P**	**10 22 01.4**	**-0.6**		
	baz=51								
KIV	**Kislovodsk**	**48.53**	**69**	*e*P	**P**	**10 22 00.7**	**-1.9**		
KIV				*e*S	**S**	**10 29 01.7**	**-1.7**		
KIV				pmax	pmax				
	comp=Z,7.0nm,1.0s								
KIV				MLR	MLR				
	comp=Z,481nm,16.0s								
TOAD	**Toad River Com**	**48.57**	**316**	P	**P**	**10 22 02.2**	**-0.3**		
	baz=54,SNR=18								
LIRD	**Liard River Hi**	**48.60**	**317**	P	**P**	**10 22 02.6**	**-0.1**		
	baz=54								
E27K	**Coleen River**	**48.64**	**332**	IAmb	IAmb	10 22 14.6			
	comp=Z,20nm,0.9s								
E27K	**Coleen River**	**48.64**	**332**	P	**P**	**10 22 02.2**	**-0.8**		
	baz=50,SNR=13								
KBZ	**Khabaz**	**48.80**	**69**	P	**P**	**10 22 03.5**	**-0.9**		
	comp=Z,3.5nm,1.1s,baz=289,slow=15,SNR=3.3								
KBZ				LR	LR	10 42 24.6			
	comp=Z,613nm,20.7s,baz=300,slow=36								
	comp=Z,3.5nm,1.1s								
KBZ	**Khabaz**	**48.80**	**69**	*ce*P	**P**	**10 22 04.2**	**-0.2**		
KBZ				pmax	pmax				
	comp=Z,8.0nm,1.0s								
K22A	**Casper**	**48.85**	**290**	P	**P**	**10 22 04.7**	**-0.5**		
	baz=51								
RLMT	**Red Lodge**	**48.87**	**294**	P	**P**	**10 22 05.8**	**+0.6**		
	baz=52								
KSCO	**Kaye Shedlock'**	**48.90**	**283**	P	**P**	**10 22 05.6**	**+0.1**		
	baz=50								
I30M	**Mount Dempster**	**48.91**	**327**	IAmb	IAmb	10 22 16.7			
	comp=Z,11nm,0.8s								
I30M	**Mount Dempster**	**48.91**	**327**	P	**P**	**10 22 03.9**	**-1.3**		
	baz=52,SNR=5.6								
H29M	**Whitestone**	**48.93**	**329**	IAmb	IAmb	10 22 18.1			
	comp=Z,12nm,0.7s								
H29M	**Whitestone**	**48.93**	**329**	P	**P**	**10 22 04.3**	**-0.9**		
	baz=51								
NATX	**Nacogdoches**	**48.96**	**270**	P	**P**	**10 22 06.4**	**+0.5**		
	baz=46								
PHWY	**Pilot Hill**	**49.09**	**287**	P	**P**	**10 22 08.3**	**+1.2**		
ARPR	**Arapgir-MALATY**	**49.09**	**76**	IAmb	IAmb	10 22 25.1			
	comp=Z,13nm,0.8s								
ARU	**Arti**	**49.15**	**47**	P	**P**	**10 22 06.6**	**-0.3**		
ARU				IAmb	IAmb	10 22 19.8			
	comp=Z,19nm,0.9s								
ARU	**Arti**	**49.15**	**47**	LR	LR	10 42 13.3			
	comp=Z,1µm,18.5s,baz=300,slow=35								
ARU	**Arti**	**49.15**	**47**	*c i* P	**P**	**10 22 06.4**	**-0.6**		
ARU						10 23 56.8			
ARU				S	**S**	**10 29 13.0**	**+1.5**		
ARU				SS	**SS**	**10 32 41.3**	**-0.7**		
ARU				pmax	pmax				
	comp=Z,22nm,1.0s								
ARU				MLR	MLR				
	comp=Z,1µm,17.0s								
ARU	**Arti**	**49.15**	**47**	P	**P**	**10 22 06.9**	**-0.1**		
	comp=Z,22nm,0.9s								
ARU				PP	**PP**	**10 24 02.8**	**+2.5**		
	comp=Z,22nm,0.9s								
D25K	**Kavik River**	**49.20**	**335**	P	**P**	**10 22 07.1**	**-0.1**		
	baz=47								
WTLY	**Watson Lake, Y**	**49.28**	**319**	P	**P**	**10 22 10.7**	**+2.7**		
WTLY	**Watson Lake, Y**	**49.28**	**319**	P	**P**	**10 22 07.7**	**-0.3**		
	baz=53								
J30M	**Hart River**	**49.30**	**326**	IAmb	IAmb	10 22 20.3			
	comp=Z,9.7nm,0.8s								
J30M	**Hart River**	**49.30**	**326**	P	**P**	**10 22 07.3**	**-0.9**		
	baz=51,SNR=8.4								
LYMT	**Lyon Mountain**	**49.39**	**297**	P	**P**	**10 22 10.8**	**+1.5**		
WMOK	**Wichita Mounta**	**49.42**	**276**	P	**P**	**10 22 09.3**	**-0.1**		
	baz=47								
C24K	**Franklin Bluff**	**49.52**	**336**	P	**P**	**10 22 08.7**	**-0.9**		
	baz=46								
G27K	**Doyon Strip**	**49.56**	**331**	IAmb	IAmb	10 22 21.6			
	comp=Z,11nm,0.9s								
G27K	**Doyon Strip**	**49.56**	**331**	P	**P**	**10 22 09.9**	**-0.2**		
	baz=49,SNR=6.3								
N23A	**Red Feather La**	**49.63**	**287**	P	**P**	**10 22 11.5**	**+0.2**		
	baz=50,SNR=72								
GAZ	**Gaziantep**	**49.68**	**79**	P	**P**	**10 22 12.1**	**+0.7**		
GAZ				IAmb	IAmb	10 22 21.5			
	comp=Z,18nm,0.8s								
F26K	**Sheenjek River**	**49.69**	**332**	P	**P**	**10 22 10.8**	**-0.3**		
	baz=48								
FARO	**Faro, Yukon**	**49.73**	**323**	IAmb	IAmb	10 22 23.9			
	comp=Z,11nm,0.9s								
FARO	**Faro, Yukon**	**49.73**	**323**	P	**P**	**10 22 10.9**	**-0.5**		
	baz=52,SNR=6.6								
PCRV	**Puerto La Cruz**	**49.76**	**224**	LR	LR	10 40 10.5			
	comp=Z,803nm,20.6s,slow=32								
MAYO	**Mayo, Yukon**	**49.77**	**325**	P	**P**	**10 22 11.4**	**-0.3**		
	baz=51								
E25K	**Arctic Village**	**49.80**	**333**	IAmb	IAmb	10 22 23.7			
	comp=Z,26nm,1.5s								
E25K	**Arctic Village**	**49.80**	**333**	P	**P**	**10 22 12.1**	**+0.2**		
	baz=47,SNR=6.8								
BOZ	**Bozeman (W)**	**49.88**	**296**	P	**P**	**10 22 13.5**	**+0.6**		
	baz=51,SNR=39								
H27K	**Steamboat Moun**	**49.90**	**330**	P	**P**	**10 22 12.6**	**-0.1**		
	baz=49								
C23K	**Itkillik River**	**49.91**	**336**	IAmb	IAmb	10 22 31.9			
	comp=Z,21nm,1.4s								
C23K	**Itkillik River**	**49.91**	**336**	P	**P**	**10 22 12.3**	**-0.3**		
	baz=44								
I28M	**Miner Creek**	**49.92**	**329**	IAmb	IAmb	10 22 24.9			
	comp=Z,13nm,0.7s								
I28M	**Miner Creek**	**49.92**	**329**	P	**P**	**10 22 12.8**	**-0.1**		
	baz=49,SNR=7.8								
D24K	**Happy Valley**	**49.95**	**335**	P	**P**	**10 22 13.4**	**+0.5**		
	baz=45								
BMAR	**Burnt Mountain**	**50.00**	**332**	P	**P**	**10 22 15.4**	**+2.1**		
J29N	**Klondike Camp**	**50.01**	**327**	P	**P**	**10 22 13.5**	**-0.1**		
	baz=50								
H17A	**Grant Village**	**50.05**	**294**	IAmb	IAmb	10 22 27.1			
	comp=Z,29nm,1.6s								
H17A	**Grant Village**	**50.05**	**294**	P	**P**	**10 22 14.4**	**0.0**		
	baz=51								
A22K	**Sinclair Lake**	**50.06**	**339**	P	**P**	**10 22 13.0**	**-0.7**		
	baz=42								
G26K	**Porcupine Rive**	**50.09**	**331**	P	**P**	**10 22 13.7**	**-0.3**		
	baz=48								
M31M	**Drury Creek, Y**	**50.12**	**323**	P	**P**	**10 22 13.8**	**-0.6**		
	baz=51								
ISCO	**Idaho Springs**	**50.14**	**286**	P	**P**	**10 22 15.0**	**-0.1**		
	baz=49								
YFT	**Old Faithful**	**50.16**	**294**	IAmb	IAmb	10 22 26.7			
	comp=Z,17nm,0.9s								
K29M	**Barlow Dome**	**50.17**	**326**	P	**P**	**10 22 14.9**	**+0.1**		
	baz=50								
F25K	**Christian Rive**	**50.18**	**333**	P	**P**	**10 22 14.4**	**-0.4**		
	baz=47,SNR=5.3								
B22K	**Teshekpuk Lake**	**50.20**	**338**	IAmb	IAmb	10 22 26.9			
	comp=Z,20nm,0.9s								
B22K	**Teshekpuk Lake**	**50.20**	**338**	P	**P**	**10 22 14.7**	**-0.1**		
	baz=43,SNR=14								
MDP	**Montagnes des**	**50.28**	**207**	LR	LR	10 38 18.2			
	comp=Z,697nm,21.6s,baz=2.5,slow=30								
N32M	**Quiet Lake**	**50.30**	**322**	P	**P**	**10 22 15.2**	**-0.6**		
	baz=51								
FLWY	**Flagg Ranch**	**50.31**	**293**	IAmb	IAmb	10 22 37.3			
	comp=Z,16nm,1.2s								
I27K	**Kandik River**	**50.35**	**329**	P	**P**	**10 22 15.5**	**-0.6**		
	baz=48								
MSO	**Missoula**	**50.37**	**298**	P	**P**	**10 22 16.6**	**+0.1**		
	baz=51								
Q24A	**Divide**	**50.41**	**285**	P	**P**	**10 22 16.8**	**-0.5**		
	baz=49								
TOLK	**Toolik Lake Re**	**50.50**	**335**	P	**P**	**10 22 20.5**	**+3.3**		
TOLK				IAmb	IAmb	10 22 29.7			
	comp=Z,12nm,0.9s								
TOLK	**Toolik Lake Re**	**50.50**	**335**	P	**P**	**10 22 16.6**	**-0.6**		
	baz=44								
WHTX	**Lake Whitney,**	**50.50**	**273**	P	**P**	**10 22 17.9**	**+0.3**		
	baz=46								
PD31	**Pinedale Array**	**50.51**	**291**	IAmb	IAmb	10 22 28.1			
	comp=Z,52nm,1.9s								
PDAR	**Pinedale Array**	**50.51**	**291**	P	**P**	**10 22 18.2**	**+0.4**		
PDAR	**Pinedale Array**	**50.51**	**291**	P	**P**	**10 22 18.4**	**+0.5**		
	comp=Z,4.0nm,0.6s,baz=61,slow=7.7,SNR=35								
PDAR				LR	LR	10 42 42.5			
	comp=Z,556nm,18.7s,baz=56,slow=35								
	comp=Z,4.0nm,0.6s								
D23K	**Nanushuk River**	**50.55**	**336**	P	**P**	**10 22 17.7**	**+0.2**		
	baz=44								
MOOW	**Moose Ponds**	**50.55**	**293**	P	**P**	**10 22 19.1**	**+1.0**		
MOOW				IAmb	IAmb	10 22 29.4			
	comp=Z,24nm,1.5s								
DLMT	**Dillon**	**50.55**	**296**	IAmb	IAmb	10 22 29.9			
	comp=Z,26nm,1.1s								
LOHW	**Long Hollow**	**50.56**	**293**	P	**P**	**10 22 21.1**	**+2.9**		
LOHW				IAmb	IAmb	10 22 29.4			
	comp=Z,43nm,1.9s								
R33M	**Jennings River**	**50.59**	**319**	P	**P**	**10 22 18.4**	**+0.3**		
	baz=51								
E24K	**Your Creek**	**50.62**	**334**	P	**P**	**10 22 17.9**	**-0.3**		
	baz=45								
DAWY	**Dawson**	**50.66**	**327**	P	**P**	**10 22 17.8**	**-0.6**		
	baz=49								
SNOW	**Snow King Moun**	**50.74**	**293**	IAmb	IAmb	10 22 31.0			
	comp=Z,20nm,1.1s								
EGAK	**Eagle**	**50.76**	**328**	P	**P**	**10 22 18.8**	**-0.3**		
	baz=48								
FYU	**Fort Yukon**	**50.78**	**332**	IAmb	IAmb	10 22 32.2			
	comp=Z,38nm,1.4s								
FXWY	**Fox Creek**	**50.78**	**293**	IAmb	IAmb	10 22 31.9			
	comp=Z,14nm,1.1s								
P33M	**Teslin, Yukon**	**50.80**	**321**	P	**P**	**10 22 19.2**	**-0.4**		
	baz=50								
DLBC	**Dease Lake**	**50.81**	**318**	P	**P**	**10 22 19.1**	**-0.6**		
	baz=51								
DLBC	**Dease Lake**	**50.81**	**318**	LR	LR	10 42 49.0			
	comp=Z,808nm,18.4s,baz=54,slow=35								
TPAW	**Teton Pass**	**50.83**	**293**	IAmb	IAmb	10 22 31.5			
	comp=Z,16nm,1.1s								
F24K	**Squaw Lake**	**50.85**	**333**	P	**P**	**10 22 19.4**	**-0.4**		
	baz=45								
L29M	**L29M**	**50.86**	**326**	P	**P**	**10 22 20.0**	**0.0**		
	baz=49								
G25K	**Bearman Lake**	**50.89**	**332**	P	**P**	**10 22 20.4**	**+0.4**		
	baz=46								
E23K	**Chandalar**	**50.93**	**335**	P	**P**	**10 22 20.0**	**-0.5**		
	baz=44								
B21K	**Ikpikpuk River**	**51.01**	**338**	P	**P**	**10 22 21.0**	**+0.1**		
	baz=41								
I26K	**Coal Creek Min**	**51.02**	**330**	P	**P**	**10 22 21.7**	**+0.6**		
	baz=47								
AMTX	**Amarillo**	**51.07**	**279**	P	**P**	**10 22 22.5**	**+0.5**		
	baz=47								
N31M	**Braeburn, Yuko**	**51.09**	**323**	IAmb	IAmb	10 22 34.4			
	comp=Z,12nm,0.9s								
N31M	**Braeburn, Yuko**	**51.09**	**323**	P	**P**	**10 22 22.4**	**+0.7**		
	baz=49								
DBIC	**Dimbokro**	**51.09**	**144**	P	**P**	**10 22 21.2**	**-0.9**		
	comp=Z,4.8nm,0.6s,baz=324,slow=6.3,SNR=7.8								
DBIC				LR	LR	10 41 54.3			
	comp=Z,1µm,18.8s,baz=334,slow=34								
	comp=Z,4.8nm,0.6s								
D22K	**Ayikyak River**	**51.11**	**336**	IAmb	IAmb	10 22 33.8			
	comp=Z,31nm,1.6s								
D22K	**

MAK MLR MLR
comp=Z,888nm,17.0s
BRDY Brady 51.93 273 IAmb IAmb 10 22 37.4
comp=Z,13nm,0.7s
A19K Wainwright 51.97 340 P **P** **10 22 27.0 -1.1**
baz=37
F22K John River 52.00 335 P **P** **10 22 27.4 -1.0**
baz=42
G23K Bananza Creek 52.02 333 P **P** **10 22 27.7 -0.9**
baz=43
H24K Noodor Dome 52.05 332 P **P** **10 22 28.5 -0.4**
baz=44
L27K Beaver Creek, 52.14 327 P **P** **10 22 29.0 -0.5**
baz=46
GNI Garni 52.15 71 LR LR 10 45 29.7
comp=Z,732nm,19.4s,baz=308,slow=37
GNI Garni 52.15 71 *i* P **P** **10 22 28.2 -1.8**
GNI pmax pmax
comp=Z,10.0nm,0.8s
HYT Haines Junctio 52.16 323 IAmb IAmb 10 22 42.4
comp=Z,15nm,1.1s
HYT Haines Junctio 52.16 323 P **P** **10 22 29.4 -0.4**
baz=48
D20K Etivluk River 52.17 338 P **P** **10 22 29.5 -0.2**
baz=39
J25K Salcha River, 52.18 330 P **P** **10 22 28.9 -1.0**
baz=45
SCRK Sand Creek 52.20 329 IAmb IAmb 10 22 42.3
comp=Z,14nm,1.0s
SCRK Sand Creek 52.20 329 P **P** **10 22 29.8 -0.3**
baz=46
YUK4 Talbot Arm 52.22 324 P **P** **10 22 29.1 -1.2**
baz=48
SKAG Skagway 52.25 321 P **P** **10 22 30.7 +0.4**
baz=48
BVCY Beaver Creek 52.26 326 P **P** **10 22 30.2 -0.2**
baz=47
G22K Bettles 52.26 334 P **P** **10 22 30.2 -0.1**
baz=42
BAUV El Baul 52.33 227 P **P** **10 22 31.6 +0.2**
YUK6 Outpost Mounta 52.39 324 P **P** **10 22 31.0 -0.6**
baz=48
E20K Nigu River 52.42 337 P **P** **10 22 31.2 -0.4**
baz=40
P30M Million Dollar 52.43 322 P **P** **10 22 31.3 -0.4**
baz=48
POKR Poker Flat Res 52.44 331 P **P** **10 22 31.3 -0.4**
baz=44
ILAR Eielson Array 52.53 331 P **P** **10 22 34.5 +2.2**
comp=Z,1.0nm,0.7s,baz=38,slow=4.2,SNR=12
ILAR PcP **PcP** **10 23 43.5 +1.0**
comp=Z,3.0nm,0.9s,baz=12,slow=2.7,SNR=6.8
ILAR LR LR 10 44 13.1
comp=Z,1µm,20.0s,baz=56,slow=35
comp=Z,1.0nm,0.7s
H23K Yukon River 52.53 333 P **P** **10 22 35.0 +2.6**
H23K Yukon River 52.53 333 P **P** **10 22 31.8 -0.6**
baz=43
C19K Lookout Ridge 52.54 339 P **P** **10 22 34.2 +1.8**
C19K IAmb IAmb 10 22 43.9
comp=Z,9.0nm,0.7s
C19K Lookout Ridge 52.54 339 P **P** **10 22 31.9 -0.5**
baz=38
F21K Alatna River 52.55 335 P **P** **10 22 35.1 +2.7**
F21K Alatna River 52.55 335 P **P** **10 22 31.8 -0.7**
baz=41
YUK3 Moose Creek 52.56 325 P **P** **10 22 32.1 -0.8**
baz=47
PLID Pearl Lake 52.58 298 P **P** **10 22 34.9 +1.6**
PLID IAmb IAmb 10 22 44.4
comp=Z,27nm,1.2s
AKTO Aktyubinsk 52.61 54 LR LR 10 44 06.4
comp=Z,1µm,19.6s,baz=332,slow=35
RIDG Independent Ri 52.64 329 P **P** **10 22 33.2 -0.1**
baz=45
M27K Edge Creek, AK 52.64 326 P **P** **10 22 32.6 -0.8**
baz=46
PLBC Pleasant Camp 52.65 321 P **P** **10 22 32.4 -0.9**
baz=48
YUK8 Steele Glacier 52.66 325 P **P** **10 22 32.6 -1.0**
baz=47
L26K Log Cabin Wild 52.66 328 P **P** **10 22 33.1 -0.3**
baz=46
F10A Beach Ranch, E 52.67 299 P **P** **10 22 35.4 +1.6**
D19K Kuna River 52.69 338 IAmb IAmb 10 22 46.0
comp=Z,26nm,1.5s
D19K Kuna River 52.69 338 P **P** **10 22 32.0 -1.5**
baz=38
HLID Hailey 52.71 295 IAmb IAmb 10 22 46.3
comp=Z,16nm,1.1s
HLID Hailey 52.71 295 P **P** **10 22 33.5 -0.6**
baz=49
R32K Eaglecrest 52.72 320 P **P** **10 22 33.3 -0.6**
baz=48
COLA College 52.74 331 P **P** **10 22 32.7 -1.1**
baz=44
COLA College 52.74 331 *i* P **P** **10 22 34.3 +0.4**
COLA pmax pmax
comp=Z,14nm,1.4s
MDM Murphy Dome 52.79 331 IAmb IAmb 10 22 46.8
comp=Z,44nm,1.8s
B18K Kokolik River 52.80 340 P **P** **10 22 33.2 -1.1**
baz=36
HDA Harding Lake 52.81 330 IAmb IAmb 10 22 46.2
comp=Z,16nm,1.2s
HDA Harding Lake 52.81 330 P **P** **10 22 33.6 -0.8**
baz=44,SNR=5.6
K24K Donnelly Dome 52.89 329 P **P** **10 22 34.3 -0.8**
baz=44
I23K Minto, Yukon-K 52.98 332 IAmb IAmb 10 22 46.8
comp=Z,19nm,1.4s
I23K Minto, Yukon-K 52.98 332 P **P** **10 22 33.7 -1.9**
baz=43
M26K Nabesna, AK 52.99 327 P **P** **10 22 34.6 -1.2**
baz=45
JCT Junction City 52.99 273 P **P** **10 22 36.5 +0.3**
JCT IAmb IAmb 10 22 45.6
comp=Z,12nm,0.7s
JCT Junction City 52.99 273 P **P** **10 22 35.8 -0.5**
baz=45
JCT Junction City 52.99 273 P **P** **10 22 36.5 +0.3**
JCT pmax pmax
comp=Z,12nm,0.7s
H22K Ishtalitna Cre 52.99 333 P **P** **10 22 34.2 -1.6**
baz=42
P29M Windy Craggy 53.05 322 P **P** **10 22 35.3 -1.0**
baz=47
WRAK Wrangell Islan 53.07 317 P **P** **10 22 35.1 -1.3**
baz=48
G21K Allakaket 53.09 335 P **P** **10 22 35.1 -1.3**
baz=40
WRH Wood River Hil 53.11 331 IAmb IAmb 10 22 48.3
comp=Z,17nm,1.3s
O28M Mount Upton 53.16 324 P **P** **10 22 36.2 -1.2**
baz=46
F20K Avaraart Lake 53.25 336 P **P** **10 22 37.1 -0.5**
baz=39
C18K Utukok River 53.25 339 IAmb IAmb 10 22 48.3
comp=Z,21nm,1.4s
C18K Utukok River 53.25 339 P **P** **10 22 36.9 -0.8**
baz=36
S32K Killisnoo 53.28 319 P **P** **10 22 37.6 -0.4**
baz=48
E19K Redstone River 53.30 337 P **P** **10 22 37.6 -0.4**
baz=38,SNR=6.4
NEA2 Nenana 53.31 331 P **P** **10 22 37.2 -0.9**
baz=43
P17A Butcher Ranch, 53.33 289 IAmb IAmb 10 22 50.1
comp=Z,22nm,1.2s
HNDO Hondo 53.35 272 IAmb IAmb 10 22 48.1
comp=Z,8.0nm,0.7s
PAX Paxson 53.39 328 P **P** **10 22 38.1 -0.7**
baz=44
CTG Chitna Glacier 53.43 325 P **P** **10 22 38.1 -1.1**
baz=46
BMO Blue Mountains 53.44 298 P **P** **10 22 41.8 +2.3**
BMO Blue Mountains 53.44 298 P **P** **10 22 41.8 +2.3**
BMO pmax pmax
comp=Z,7.0nm,0.9s
SRU San Rafael Swe 53.45 289 P **P** **10 22 41.9 +2.2**
SRU IAmb IAmb 10 22 51.9
comp=Z,14nm,0.8s
SRU San Rafael Swe 53.45 289 P **P** **10 22 41.9 +2.2**
SRU pmax pmax
comp=Z,14nm,0.8s
MLY Manley 53.46 332 P **P** **10 22 38.6 -0.7**
baz=42
BARN Barnard Glacie 53.48 325 P **P** **10 22 42.8 +3.2**

BARN IAmb IAmb 10 24 14.0
comp=Z,14nm,1.0s
EIL Elat 53.48 88 LR LR 10 49 02.4
comp=Z,114nm,18.6s,baz=349,slow=40
OZNA Ozona 53.48 275 P **P** **10 22 40.7 +0.8**
MPU Maple Canyon 53.48 290 P **P** **10 22 41.0 +1.1**
MPU IAmb IAmb 10 22 51.1
comp=Z,25nm,1.4s
V35K Ketchikan 53.49 315 P **P** **10 22 39.2 -0.3**
baz=48
MVCO Mesa Verde 53.55 286 IAmb IAmb 10 22 52.1
comp=Z,15nm,1.1s
MVCO Mesa Verde 53.55 286 P **P** **10 22 39.8 -0.8**
baz=47
H21K Melozitna Rive 53.56 334 P **P** **10 22 43.0 +3.1**
H21K Melozitna Rive 53.56 334 P **P** **10 22 39.0 -1.0**
baz=41
IMAR Indian Mountai 53.56 334 P **P** **10 22 42.6 +2.7**
U33K Whale Pass 53.60 317 P **P** **10 22 38.6 -1.7**
baz=48
S31K Pelican 53.61 320 P **P** **10 22 39.2 -1.1**
baz=47
TEIG Tepich 53.63 255 LR LR 10 42 59.0
comp=Z,7µm,21.7s,slow=33
PNL Peninsula 53.64 323 P **P** **10 22 39.2 -1.4**
baz=46
HARP HAARP 53.70 328 P **P** **10 22 40.0 -1.0**
baz=44
MCARA McCarthy VSAT 53.72 326 P **P** **10 22 39.7 -1.4**
baz=45
NLU North Lily Min 53.78 290 IAmb IAmb 10 22 53.5
comp=Z,26nm,1.3s
C17K DeLong Mountai 53.82 340 P **P** **10 22 40.8 -1.0**
baz=35
ANMO Albuquerque 53.89 282 P **P** **10 22 44.7 +1.7**
ANMO IAmb IAmb 10 22 55.1
comp=Z,34nm,1.8s
ANMO Albuquerque 53.89 282 P **P** **10 22 42.1 -0.9**
baz=46
ANMO Albuquerque 53.89 282 LR LR 10 44 51.7
comp=Z,1µm,18.6s,baz=139,slow=35
ANMO Albuquerque 53.89 282 *i* P **P** **10 22 43.1 +0.1**
ANMO pmax pmax
comp=Z,17nm,1.7s
MCK McKinley 53.90 330 P **P** **10 22 41.7 -0.8**
baz=42
DHY Denali Highway 53.91 329 P **P** **10 22 42.0 -0.7**
baz=43
F19K Shaleruckik Mo 53.92 336 P **P** **10 22 42.0 -0.5**
baz=38
BBB Bella Bella 54.02 311 LR LR 10 45 18.5
comp=Z,530nm,18.0s,baz=40,slow=35
G08A Pilot Rock 54.03 299 IAmb IAmb 10 22 54.1
comp=Z,30nm,1.8s
CRAG Craig 54.03 316 P **P** **10 22 43.2 -0.3**
baz=48
DUG Duway, Tooele 54.04 291 IAmb IAmb 10 22 55.5
comp=Z,19nm,0.8s
DUG Dugway, Tooele 54.04 291 P **P** **10 22 43.4 -0.6**
baz=48,SNR=16
N25K Chitina, Valde 54.09 327 P **P** **10 22 42.5 -1.5**
baz=44
RDOG Red Dog Mine 54.11 339 P **P** **10 22 42.6 -1.3**
baz=35
E18K Tukpahlearik C 54.12 338 IAmb IAmb 10 23 03.5
comp=Z,14nm,1.1s
E18K Tukpahlearik C 54.12 338 P **P** **10 22 42.7 -1.3**
baz=36
MNHN Monahans 54.18 276 IAmb IAmb 10 22 54.9
comp=Z,10nm,0.6s
MESA MESA 54.20 325 P **P** **10 22 43.4 -1.5**
baz=45
BPAW Bear Paw Mtn. 54.23 332 IAmb IAmb 10 22 56.5
comp=Z,32nm,1.8s
BPAW Bear Paw Mtn. 54.23 332 P **P** **10 22 43.5 -1.4**
baz=41
M24K Tolsona, Glenn 54.24 328 P **P** **10 22 43.3 -1.7**
baz=43
H20K Anotleneega Mo 54.24 334 P **P** **10 22 43.7 -1.2**
baz=39
833A Chaparral WMA, 54.28 271 P **P** **10 22 44.8 -0.9**
baz=44
G19K Purcell Mounta 54.30 336 P **P** **10 22 43.3 -2.0**
baz=38
ABKAR Akulak array 54.32 54 P **P** **10 22 44.5 -1.2**
WAT6 Susitna Watana 54.39 329 P **P** **10 22 44.1 -2.1**
baz=42
C16K Lisburne Hills 54.44 340 P **P** **10 22 44.1 -2.1**
baz=33
D17K Noatak River 54.44 339 P **P** **10 22 44.5 -1.8**
baz=34
WAT1 Susitna Watana 54.46 330 P **P** **10 22 44.7 -1.9**
baz=42
TRF Thorofare Moun 54.52 331 IAmb IAmb 10 22 58.6
comp=Z,27nm,1.4s
TRF Thorofare Moun 54.52 331 P **P** **10 22 45.2 -2.0**
baz=41
BMRM Bremner River 54.55 326 P **P** **10 22 45.5 -1.8**
baz=44
F18K Selawik 54.56 337 P **P** **10 22 45.5 -1.6**
baz=36
KLU Klutina 54.61 327 P **P** **10 22 45.9 -1.9**
baz=43
H19K Roundabout Mou 54.62 335 P **P** **10 22 45.5 -2.2**
baz=38
KTH Kantishna Hill 54.63 331 IAmb IAmb 10 22 59.9
comp=Z,19nm,1.1s
E17K Hotham Inlet 54.67 338 P **P** **10 22 45.8 -2.2**
baz=35
I20K Naaghedeneel 54.68 334 P **P** **10 22 46.3 -1.8**
baz=39
BGLC Bering Glacier 54.71 325 P **P** **10 22 46.8 -1.5**
baz=44
CHUM Lake Minchumin 54.78 332 P **P** **10 22 47.4 -1.4**
baz=40
SCM Sheep Creek Mo 54.81 328 P **P** **10 22 47.0 -2.2**
baz=42
PECS Pecos 54.82 277 IAmb IAmb 10 23 01.3
comp=Z,36nm,1.8s
G18K Tagagawik 54.89 336 P **P** **10 22 47.5 -2.0**
baz=37
M23K Glacier View 54.97 328 P **P** **10 22 47.9 -2.4**
baz=42
ELK Elko 55.04 293 IAmb IAmb 10 23 03.4
comp=Z,18nm,1.2s
ELK Elko 55.04 293 LR LR 10 45 21.1
comp=Z,476nm,19.0s,slow=35
F17K Baldwin Pennin 55.06 338 P **P** **10 22 48.8 -2.0**
baz=35
J20K Nowinta River 55.07 333 P **P** **10 22 52.8 +1.9**
J20K IAmb IAmb 10 23 02.5
comp=Z,28nm,1.6s
J20K Nowinta River 55.07 333 P **P** **10 22 48.7 -2.2**
baz=39
CAST Castle Rocks 55.07 332 P **P** **10 22 49.1 -1.8**
baz=40
I07A Izee 55.13 299 IAmb IAmb 10 23 02.4
comp=Z,19nm,1.7s
SML Sawmill 55.15 329 IAmb IAmb 10 23 01.0
comp=Z,20nm,1.1s
SML Sawmill 55.15 329 P **P** **10 22 50.2 -1.5**
baz=42
EYAK Cordova Ski Ar 55.24 326 P **P** **10 22 50.5 -1.7**
baz=43
KAIM Kayak Island 55.24 325 P **P** **10 22 50.3 -1.9**
baz=43
TIXI Tiksi 55.27 7 P **P** **10 22 54.1 +1.9**
TIXI IAmb IAmb 10 23 03.2
comp=Z,15nm,0.8s
TIXI Tiksi 55.27 7*ce* P **P** **10 22 53.6 +1.4**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
CUT Chulitna 55.30 330 P **P** **10 22 50.8 -1.8**
baz=41
GCSA Galena City Sc 55.35 335 P **P** **10 22 51.7 -1.2**
baz=37
ALPN Alpine 55.39 276 IAmb IAmb 10 23 04.3
comp=Z,31nm,1.8s
H18K Honhosa River 55.41 335 P **P** **10 22 51.3 -2.1**
baz=37
GLI Glacier Island 55.44 327 P **P** **10 22 52.5 -1.2**
baz=42
KNK Knik Glacier 55.49 328 P **P** **10 22 52.0 -2.0**
baz=41
PPLA Purkeypile 55.50 331 P **P** **10 22 52.8 -1.4**
baz=40
MNTX Cornudas Mount 55.51 278 P **P** **10 22 53.5 -1.0**
baz=45

PMR Palmer 55.56 329 IAmb IAmb 10 23 06.5
comp=Z,22nm,1.4s
PMR Palmer 55.56 329 P **P** **10 22 53.1 -1.3**
baz=41
J19K Poorman 55.62 333 P **P** **10 22 54.0 -0.9**
baz=38
K20K Telida 55.69 332 IAmb IAmb 10 23 07.7
comp=Z,11nm,1.1s
K20K Telida 55.69 332 P **P** **10 22 54.5 -0.9**
baz=39
G17K Kiwalik Mounta 55.69 337 P **P** **10 22 53.5 -1.9**
baz=35
W18A Petrified Fore 55.71 284 P **P** **10 22 54.9 -1.3**
baz=46
M22K Willow 55.75 329 P **P** **10 22 53.5 -2.3**
baz=40
PSUT Pine Spring 55.76 290 IAmb IAmb 10 23 08.2
comp=Z,30nm,1.5s
WVOR Wild Horse Val 55.77 297 IAmb IAmb 10 23 10.2
comp=Z,23nm,1.1s
H17K Granite Mounta 55.97 336 P **P** **10 22 54.6 -2.8**
baz=36
SKT Skwentna 56.01 330 IAmb IAmb 10 23 14.7
comp=Z,14nm,0.9s
SKT Skwentna 56.01 330 P **P** **10 22 55.7 -2.0**
baz=40,SNR=5.7
PINE Pine Mountain 56.09 299 IAmb IAmb 10 23 09.9
comp=Z,18nm,0.9s
RC01 Rabbit Creek A 56.14 329 P **P** **10 22 56.5 -2.2**
baz=40
CCUT Cedar City 56.15 289 IAmb IAmb 10 23 11.0
comp=Z,16nm,1.0s
TX31 Lajitas Ar. Si 56.15 275 IAmb IAmb 10 23 10.5
comp=Z,29nm,1.9s
TXAR Lajitas Array 56.15 275 P **P** **10 23 00.2 +0.9**
comp=Z,1.2nm,0.6s,baz=64,slow=5.8,SNR=12
TXAR LR LR 10 48 45.3
comp=Z,240nm,18.1s,baz=47,slow=38
comp=Z,1.2nm,0.6s
G16K Koyuk River 56.19 337 P **P** **10 22 57.1 -1.8**
baz=34
P23K Montague Islan 56.20 327 P **P** **10 22 57.6 -1.6**
baz=42
X18A Snowflake 56.25 284 IAmb IAmb 10 23 10.4
comp=Z,21nm,1.4s
Q23K Middleton Isla 56.27 326 P **P** **10 22 58.0 -1.5**
baz=42
U15A North Rim 56.30 287 P **P** **10 23 01.2 +0.7**
U15A IAmb IAmb 10 23 11.3
comp=Z,12nm,0.9s
L20K Farewell, AK 56.32 332 P **P** **10 22 58.1 -1.9**
baz=38
J18K Innoko River 56.33 334 P **P** **10 22 58.2 -1.9**
baz=37
BMN Battle Mountai 56.36 294 IAmb IAmb 10 23 12.6
comp=Z,24nm,1.3s
121A Cookes Peak, D 56.36 281 IAmb IAmb 10 23 11.7
comp=Z,9.4nm,0.8s
121A Cookes Peak, D 56.36 281 P **P** **10 22 59.6 -1.3**
baz=45
WUAZ Wupatki 56.40 286 P **P** **10 22 59.4 -1.7**
baz=46
F15K North Star Dit 56.45 338 P **P** **10 22 58.9 -1.9**
baz=33
BRVK Borovoye 56.49 45 P **P** **10 23 01.6 +0.4**
BRVK IAmb IAmb 10 23 04.4
comp=Z,9.4nm,0.8s
BRVK Borovoye 56.49 45*ce* P **P** **10 23 01.1 -0.2**
BRVK pmax pmax
comp=Z,9.0nm,0.7s
BVAR Borovoye Array 56.56 45 P **P** **10 23 01.7 -0.1**
comp=Z,15nm,0.7s,baz=310,slow=6.3,SNR=50
BVAR LR LR 10 46 09.6
comp=Z,2µm,19.8s,baz=309,slow=35
comp=Z,15nm,0.7s
M20K Styx River 56.57 331 P **P** **10 22 59.9 -1.9**
baz=39
TTA Tatalina 56.57 333 P **P** **10 23 04.0 +2.2**
TTA Tatalina 56.57 333 P **P** **10 23 00.0 -1.7**
baz=37
TTA Tatalina 56.57 333 P **P** **10 23 04.0 +2.2**
TTA pmax pmax
comp=Z,11nm,1.2s
O22K Cooper Landing 56.60 328 P **P** **10 23 00.5 -1.4**
baz=40
H16K Elim 56.79 337 P **P** **10 23 02.3 -0.9**
baz=34
SEW Seward 56.80 328 P **P** **10 23 01.8 -1.5**
baz=40
N20K Mount Spurr 56.82 330 P **P** **10 23 01.1 -2.5**
baz=39
CAPN Captain Cook N 56.83 329 P **P** **10 23 01.6 -1.9**
baz=40
L19K White Mountain 56.84 332 P **P** **10 23 01.8 -1.9**
baz=38
R11B Troy Canyon, C 56.87 291 IAmb IAmb 10 23 15.7
comp=Z,27nm,1.6s
R11B Troy Canyon, C 56.87 291 P **P** **10 23 03.0 -1.4**
baz=46
G15K Niukluk 56.91 338 P **P** **10 23 02.8 -1.3**
baz=33
M19K Big River Lodg 56.92 331 P **P** **10 23 02.4 -1.8**
baz=38
J17K VABM Dome 57.02 335 P **P** **10 23 03.0 -1.9**
baz=35
F14K Arctic Creek 57.02 339 P **P** **10 23 02.9 -1.9**
baz=31
I17K Unalakleet 57.03 336 P **P** **10 23 03.3 -1.6**
baz=34
TNA Tin City 57.29 340 P **P** **10 23 05.2 -1.5**
baz=30
L18K Granite Mounta 57.33 333 P **P** **10 23 05.4 -1.6**
baz=36
K17K Iditarod 57.37 334 P **P** **10 23 04.7 -2.6**
baz=36
BRSE Bradley Lake S 57.49 328 P **P** **10 23 05.9 -2.4**
baz=39
J16K Anvik River 57.51 335 P **P** **10 23 06.4 -1.9**
baz=34
ANM Nome 57.58 338 P **P** **10 23 06.9 -1.9**
baz=32
M18K Stony River 57.66 332 P **P** **10 23 07.0 -2.4**
baz=37
N19K Bonanza Creek 57.81 331 P **P** **10 23 08.3 -2.3**
baz=37
O20K Slope Mountain 57.82 329 P **P** **10 23 07.8 -2.9**
baz=38
L17K Donlin 57.84 333 P **P** **10 23 07.9 -2.8**
baz=36
HOM Homer 57.85 328 P **P** **10 23 08.6 -2.1**
baz=39
SHPR Sheep Range 57.91 289 IAmb IAmb 10 23 23.2
comp=Z,25nm,1.9s
319A Douglas 58.08 281 IAmb IAmb 10 23 24.0
comp=Z,21nm,1.2s
M17K Holitna River 58.20 332 P **P** **10 23 10.8 -2.4**
baz=36
O19K Port Alsworth 58.26 330 P **P** **10 23 10.6 -2.9**
baz=37
NV11 Mina Array Sit 58.26 293 IAmb IAmb 10 23 24.4
comp=Z,24nm,1.6s
V12A Nelson 58.27 288 IAmb IAmb 10 23 25.5
comp=Z,12nm,1.2s
TUC Tucson 58.31 283 P **P** **10 23 13.3 -1.2**
baz=44
N18K Kilae Creek 58.34 331 P **P** **10 23 10.6 -3.6**
baz=36
MZP Montezuma Peak 58.34 292 IAmb IAmb 10 23 26.1
comp=Z,15nm,1.1s
NVAR Mina Array Bea 58.34 293 P **P** **10 23 16.2 +1.3**
NVAR Mina Array Bea 58.34 293 P **P** **10 23 15.9 +1.1**
comp=Z,1.8nm,0.6s,baz=57,slow=6.6,SNR=15
NVAR LR LR 10 47 25.5
comp=Z,537nm,18.8s,baz=54,slow=35
comp=Z,1.8nm,0.6s
P19K Oil Pt 58.35 329 P **P** **10 23 11.7 -2.6**
baz=38
RCBR Riachuelo 58.35 184 LR LR 10 43 41.3
comp=Z,92nm,19.9s,baz=66,slow=31
YBH Yreka Blue Hor 58.45 299 LR LR 10 47 49.8
comp=Z,484nm,18.3s,baz=38,slow=35
L16K Owhat River 58.51 334 P **P** **10 23 13.3 -2.0**
baz=35
GMN Gold Mountain 58.55 291 IAmb IAmb 10 23 27.6
comp=Z,25nm,1.3s
K15K Wolf Creek Mou 58.57 335 P **P** **10 23 13.1 -2.7**
baz=33
J14K Nanvaranak Lak 58.70 336 P **P** **10 23 14.0 -2.6**

baz=32
O18K Koktuh Hills 58.80 330 lAmb lAmb 10 23 52.6
comp=Z,26nm,1.4s
O18K Koktuh Hills 58.80 330 P **P** **10 23 15.2 -2.3**
baz=37
BILL Bilibino 58.81 352 *i* P **P** **10 23 19.8 +2.5**
BILL pmax pmax
comp=Z,4.0nm,0.8s
GRAC Grapevine Rang 58.82 291 P **P** **10 23 14.0 -3.9**
baz=45,SNR=22
ROSC El Rosal 58.82 231 P **P** **10 23 19.2 +0.6**
ROSC El Rosal 58.82 231 P **P** **10 23 19.4 +0.8**
comp=Z,46nm,0.6s,baz=84,slow=6.6,SNR=15
ROSC LR LR 10 45 47.5
comp=Z,671nm,21.8s,baz=42,slow=33
N17K Nushagak Hills 58.84 332 P **P** **10 23 15.8 -1.9**
baz=36
PDMCI Parker Dam,Lak 58.87 287 P **P** **10 23 15.4 -2.9**
baz=45
DSP Deep Springs 58.90 292 lAmb lAmb 10 23 30.0
comp=Z,11nm,1.1s
FURC Furnace Creek, 58.91 290 P **P** **10 23 15.0 -3.5**
baz=45
Q20K Shuyak Island 58.91 328 P **P** **10 23 15.8 -2.4**
baz=38
M16K Timber Creek 58.93 333 P **P** **10 23 14.3 -4.0**
baz=35
SHOC Shoshone, Teco 58.97 290 P **P** **10 23 18.4 -0.6**
baz=45
APG El Apazote 59.01 253 LR LR 10 47 39.1
comp=Z,36nm,20.6s,baz=62,slow=35
Q19K Cape Douglas, 59.06 329 P **P** **10 23 15.8 -3.5**
baz=37
L15K Ungalak Mounta 59.07 334 P P 10 23 14.0 -5.2
baz=33
TUQ Turquoise Moun 59.10 289 P **P** **10 23 18.7 -1.4**
baz=45
P18K Big Mountain, 59.18 330 P **P** **10 23 17.8 -2.3**
baz=36
MLAC Mammoth, Mammo 59.20 293 P **P** **10 23 18.2 -2.7**
baz=45
QSM Queen of Sheba 59.27 290 lAmb lAmb 10 23 32.9
comp=Z,16nm,1.2s
TIN Tinemaha, Big 59.27 292 P **P** **10 23 21.6 +0.4**
baz=45
N16K Nishlik Lake 59.33 332 P **P** **10 23 17.0 -4.1**
baz=35
GMRC Granite Mounta 59.41 288 P **P** **10 23 19.7 -2.5**
baz=44
O17K Koliganek Bris 59.42 331 P **P** **10 23 19.5 -2.2**
baz=35
IRM Iron Mountain 59.55 287 P P 10 23 14.8 -8.2
baz=44
MPMC Manual Prospec 59.55 291 P P 10 23 17.7 -5.6
baz=45,SNR=11
CWC Cottonwood Cre 59.62 291 P P 10 23 18.7 -4.9
baz=45
KDAK Kodiak Island 59.63 328 P **P** **10 23 20.3 -2.8**
baz=37
KDAK Kodiak Island 59.63 328 LR LR 10 48 38.3
comp=Z,630nm,19.0s,baz=68,slow=36
K13K Kusilvak Mount 59.66 336 P **P** **10 23 20.4 -2.9**
baz=31
L14K Kuka Creek 59.67 335 P **P** **10 23 20.5 -2.9**
baz=32
JTS Las Juntas de 59.68 245 LR LR 10 46 32.7
comp=Z,218nm,21.0s,baz=13,slow=33
M15K Kasigluk River 59.68 333 P **P** **10 23 20.0 -3.5**
baz=33
GSC Goldstone, Bar 59.70 289 P **P** **10 23 20.5 -3.6**
baz=44
P17K Kvichak River 59.70 330 P **P** **10 23 19.0 -4.6**
baz=36
214A Organ Pipe Nat 59.76 284 P **P** **10 23 22.4 -2.1**
baz=44
HEC Hector,Ludlow 59.77 289 P **P** **10 23 23.7 -0.9**
baz=44
O16K Kokwok River B 59.87 331 P **P** **10 23 25.8 +1.1**
O16K Kokwok River B 59.87 331 P P 10 23 19.6 -5.2
baz=35
N15K Kwethluk River 59.96 333 P **P** **10 23 24.1 -1.3**
baz=34
M14K Bethel 59.98 334 P **P** **10 23 23.4 -2.0**
baz=33
CMIG Matias Romero 59.98 259 LR LR 10 48 40.9
comp=Z,876nm,20.4s,baz=42,slow=35
LRMC Laurel Mtn Rad 60.08 290 P **P** **10 23 25.8 -1.0**
baz=44
BC3 Big Chuckawall 60.09 287 P **P** **10 23 26.4 -0.5**
baz=44
GLA Glamis 60.16 286 P **P** **10 23 25.9 -1.4**
baz=44
BELC Belle Mtn. Jos 60.16 288 P **P** **10 23 25.5 -1.9**
baz=44,SNR=9.8
Q16K King Salmon 60.19 330 P **P** **10 23 25.0 -2.0**
baz=35
Q17K Contact Creek 60.29 330 P **P** **10 23 26.6 -1.2**
baz=36
ZAIG Zacatecas 60.30 269 P **P** **10 23 29.8 +1.2**
ZAIG lAmb lAmb 10 23 39.4
comp=Z,22nm,1.5s
P16K Nushagak River 60.30 331 P **P** **10 23 25.9 -1.8**
baz=35
OHAK Old Harbor 60.31 328 P **P** **10 23 25.8 -2.0**
baz=37
ISA Isabella, Lake 60.40 291 P **P** **10 23 28.0 -0.9**
baz=44
BBRC Big Bear Solar 60.51 289 P **P** **10 23 29.8 -0.1**
baz=44
N14K Kuskokwak Cree 60.60 333 P **P** **10 23 28.5 -1.3**
baz=33
VES Vestal, Richgr 60.62 291 P **P** **10 23 30.8 +0.6**
baz=44
M13K Dall Lake 60.63 335 P **P** **10 23 29.0 -0.9**
baz=32
EDW2 Edwards Air Fo 60.68 290 P **P** **10 23 30.7 -0.1**
baz=44
PFO Pinyon Flats O 60.71 288 P **P** **10 23 30.9 -0.1**
baz=44
PFO Pinyon Flats O 60.71 288 LR LR 10 50 15.3
comp=Z,282nm,18.3s,baz=47,slow=36
PFO Pinyon Flats O 60.71 288 *i* P **P** **10 23 31.1 0.0**
PFO pmax pmax
comp=Z,47nm,1.3s
O15K Ungalikthiuk R 60.71 332 P **P** **10 23 30.2 -0.3**
baz=34
TPFO Pinon Flats 60.71 288 P **P** **10 23 31.0 -0.1**
baz=44
SWSC Sam W. Stewart 60.80 287 P **P** **10 23 32.8 +1.2**
baz=44
BFSC Mount Baldy Ra 60.95 289 P **P** **10 23 31.4 -1.3**
baz=44
O14K Tigyukauivet M 61.05 333 P **P** **10 23 31.1 -1.7**
baz=33
SII Sitkinak Islan 61.13 328 P **P** **10 23 29.5 -4.0**
baz=36
MURC Murrieta 61.14 288 P **P** **10 23 31.0 -3.0**
baz=44
IKP In-Ko-Pah, Jac 61.20 287 P **P** **10 23 33.7 -0.7**
baz=44
MONP2 Monument Peak 61.20 287 P **P** **10 23 32.0 -2.6**
baz=44
OSI Osito Audit: C 61.29 290 P **P** **10 23 33.1 -1.8**
baz=44
DECC Green Verdugo 61.33 290 P **P** **10 23 32.8 -2.4**
baz=44
M11K Mekoryuk 61.38 336 P **P** **10 23 33.3 -1.7**
baz=30
SMMC Simmler 61.51 292 P **P** **10 23 35.1 -1.3**
baz=44
ZALV Zalesovo Beam 61.61 37 P **P** **10 23 36.2 -0.5**
ZALV Zalesovo Beam 61.61 37 P **P** **10 23 36.7 -0.1**
comp=Z,3.2nm,0.7s,baz=327,slow=7.6,SNR=11
ZALV LR LR 10 50 26.9
comp=Z,210nm,19.4s,baz=326,slow=36
comp=Z,3.2nm,0.7s
ZALV Zalesovo Beam 61.61 37 *i* P **P** **10 23 37.7 +1.0**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
FMP Fort Macarthur 61.69 289 P **P** **10 23 35.9 -1.7**
baz=44
PKM Mcpherson Peak 61.71 291 P **P** **10 23 36.5 -1.4**
baz=44
KURK Kurchatov 61.72 42 P **P** **10 23 36.7 -0.8**
KURBB Kurchatov Arra 61.76 42 P **P** **10 23 36.7 -1.1**
comp=Z,5.2nm,0.8s,baz=311,slow=7.3,SNR=7.1
KURBB LR LR 10 49 06.3
comp=Z,903nm,22.0s,baz=322,slow=35
comp=Z,5.2nm,0.8s
MOIG Morelia 61.79 266 P **P** **10 23 39.6 +0.9**
TLIG Tlapa 61.82 262 P **P** **10 23 39.4 +0.7**
SBC Santa Barbara 61.98 291 P **P** **10 23 36.6 -2.9**
baz=44
CIS Catalina Islan 61.99 289 P **P** **10 23 36.7 -3.0**
baz=43
CHGN Chignik 62.69 330 P **P** **10 23 40.5 -3.4**
baz=34
SNCC San Nicolas Is 62.74 290 P **P** **10 23 42.3 -2.3**
baz=43
S14K Fog Glacier 63.05 330 P **P** **10 23 43.5 -3.0**
baz=33
LPIG La Paz 64.01 276 LR LR 10 51 39.9
comp=Z,475nm,18.5s,baz=28,slow=36
SDPT Sand Point 64.12 330 P **P** **10 23 49.4 -4.0**
baz=32
CHNA Chernabura Isl 64.29 329 P **P** **10 23 50.5 -4.0**
baz=32
S12K Black Hills 64.30 331 P **P** **10 23 51.7 -2.9**
baz=31
RAYN Ar Rayn 64.38 84 P **P** **10 23 54.6 -1.0**
RAYN lAmb lAmb 10 24 04.8
comp=Z,5.1nm,0.6s
RAYN Ar Rayn 64.38 84 P **P** **10 23 54.6 -1.0**
RAYN pmax pmax
comp=Z,5.0nm,0.6s
SEY Seymchan 64.67 358 LR LR 10 53 20.8
comp=Z,251nm,18.5s,baz=16,slow=37
SEY Seymchan 64.67 358 *e*P **P** **10 24 00.8 +3.9**
SEY pmax pmax
comp=Z,5.0nm,0.9s
YAK Yakutsk 64.76 9 LR LR 10 50 20.0
comp=Z,201nm,20.7s,baz=354,slow=34
YAK Yakutsk 64.76 9 *e*P **P** **10 23 59.0 +1.6**
YAK pmax pmax
comp=Z,11nm,0.6s
SPIA Saint Paul Isl 65.21 336 P **P** **10 23 58.1 -2.3**
baz=27
P08K Saint George I 65.56 336 P **P** **10 24 00.9 -1.7**
baz=27
AAK Ala-Archa 66.10 51 LR LR 10 52 13.0
comp=Z,797nm,21.0s,baz=316,slow=35
AAK Ala-Archa 66.10 51 *ce*P **P** **10 24 05.0 -1.7**
AAK pmax pmax
comp=Z,6.0nm,2.5s
MK31 Makanchi Array 66.30 43 P **P** **10 24 07.5 -0.3**
MK31 Makanchi Array 66.30 43 *i* P **P** **10 24 08.7 +0.9**
MKAR Makanchi Array 66.30 43 P **P** **10 24 07.8 0.0**
MKAR Makanchi Array 66.30 43 P **P** **10 24 07.5 -0.3**
comp=Z,6.5nm,0.7s,baz=329,slow=5.7,SNR=41
MKAR LR LR 10 51 50.7
comp=Z,966nm,21.5s,baz=324,slow=35
comp=Z,6.5nm,0.7s
MKAR Makanchi Array 66.30 43 P **P** **10 24 07.8 0.0**
SAML Samuel 66.80 213 P **P** **10 24 11.6 +0.5**
SAML Samuel 66.80 213 P **P** **10 24 11.6 +0.5**
SAML pmax pmax
comp=Z,4.0nm,0.7s
UNV Unalaska Valle 67.19 333 P **P** **10 24 11.5 -1.7**
baz=28
MA2 Magadan 68.08 358 LR LR 10 54 37.8
comp=Z,141nm,19.2s,baz=18,slow=36
NIKH Nikolski High 68.62 333 P **P** **10 24 20.5 -1.8**
baz=27
ETMB Extrema 68.65 216 P **P** **10 24 23.0 +0.1**
KSH Kashi 69.23 52 P **P** **10 24 27.6 +1.1**
CZSB Cruzeiro do Su 69.27 223 lAmb lAmb 10 24 35.1
comp=Z,11nm,0.7s
BDFB Brasilia 69.37 196 P **P** **10 24 28.0 +0.7**
comp=Z,1.6nm,0.6s,baz=72,slow=3.4,SNR=3.2
BDFB LR LR 10 50 15.7
comp=Z,191nm,21.9s,baz=328,slow=32
comp=Z,1.6nm,0.6s
WMQ Urumqi 70.94 42 *e*P **P** **10 24 38.8 +2.0**
WMQ LR LR
comp=Z,610nm,18.7s
WMQ LR LR
comp=Z,690nm,18.7s
WMQ LR LR
comp=Z,570nm,24.2s
ATAH Atahualpa 71.24 229 LR LR 10 57 25.1
comp=Z,146nm,18.3s,baz=4.1,slow=37
PTLB Pontes e Lacer 71.69 207 P **P** **10 24 41.3 0.0**
PTLB lAmb lAmb 10 24 51.4
comp=Z,6.6nm,0.7s
ATD Arta Tunnel 71.94 95 LR LR 10 57 16.7
comp=Z,4.6nm,18.1s,baz=24,slow=37
WSAR Wadi Sarin 72.45 75 LR LR 10 58 31.5
comp=Z,124nm,21.9s,baz=334,slow=38
ZEA Zeya 72.60 13 *e*P P 10 24 56.3 +10
ZEA MLR MLR
comp=Z,200nm,14.0s
SHEM Shemya Is, Ala 72.65 344 LR LR 10 57 00.1
comp=Z,268nm,21.4s,baz=50,slow=36
SIV San Ignacio 72.75 209 LR LR 10 52 34.9
comp=Z,838nm,20.4s,baz=28,slow=32
SONM Songino 73.88 28 P **P** **10 24 55.2 +0.8**
comp=Z,2.8nm,0.8s,baz=330,slow=6.5,SNR=8.6
SONM LR LR 10 58 55.7
comp=Z,371nm,19.1s,baz=319,slow=37
comp=Z,2.8nm,0.8s
LODK Lodwar 73.89 106 P **P** **10 24 53.4 -1.3**
ULN Ulaanbaatar 74.03 27 *i* P **P** **10 24 54.6 -0.7**
ULN pmax pmax
comp=Z,24nm,2.5s
PETK Petropavlovsk- 74.25 354 P **P** **10 24 58.3 +2.1**
comp=Z,1.0nm,0.6s,baz=21,slow=17,SNR=5.5
PETK LR LR 10 57 49.8
comp=Z,254nm,19.3s,baz=8.6,slow=36
comp=Z,1.0nm,0.6s
MBAR Mbarara 74.50 112 LR LR 10 56 25.1
comp=Z,281nm,20.9s,baz=274,slow=35
NNA Nana 74.85 225 LR LR 10 57 00.3
comp=Z,346nm,20.3s,baz=352,slow=35
LPAZ La Paz 75.32 215 P **P** **10 25 04.2 +0.6**
comp=Z,1.6nm,0.8s,baz=358,slow=13,SNR=6.1
LPAZ LR LR 10 56 21.9
comp=Z,307nm,18.5s,baz=1.5,slow=34
comp=Z,1.6nm,0.8s
HEH HeiHe 76.03 13 *e*P **P** **10 25 08.5 +2.0**
HEH sP **pwP** **10 25 15.5 +1.2**
HEH S **S** **10 34 57.1 +8.1**
HEH pmax pmax
comp=Z,12nm,0.8s
HEH pmax pmax
comp=Z,120nm,5.1s
HEH LR LR
comp=Z,220nm,20.1s
HEH LR LR
comp=Z,140nm,20.0s
HEH LR LR
comp=Z,360nm,22.5s
KLR Kul'dur 77.58 11 LR LR 10 58 05.3
comp=Z,210nm,21.6s,baz=356,slow=35
KLR Kul'dur 77.58 11 *e*P P 10 25 21.0 +5.7
KLR pmax pmax
comp=Z,7.0nm,1.4s
GO01 Chusmiza 78.82 215 lAmb lAmb 10 25 32.5
comp=Z,7.6nm,0.8s
PB08 IPOC Station P 79.24 215 P **P** **10 25 25.0 -0.1**
PB08 lAmb lAmb 10 25 36.3
comp=Z,10nm,0.9s
GTA Gaotai 79.34 36 *e*P **P** **10 25 27.5 +2.1**
GTA SS SS 10 40 32.7 +1.5
GTA pmax pmax
comp=Z,5.0nm,0.9s
GTA LR LR
comp=Z,440nm,17.8s
GTA LR LR
comp=Z,270nm,18.2s
GTA LR LR
comp=Z,600nm,17.8s
BNX BinXian 80.44 14 ⇑P P 10 25 39.5 +8.5
BNX pmax pmax
comp=Z,11nm,1.5s
BNX pmax pmax
comp=Z,130nm,5.7s
YSS Yuzh-Sakhalins 80.66 3 *e*P P 10 25 41.9 +10
YSS *e*S S 10 35 52.7 +14
YSS *e*SS SS 10 41 01.0 +11
YSS pmax pmax
comp=Z,20nm,1.2s
YSS pmax pmax
comp=Z,100nm,2.1s
LVC Limon Verde 81.44 214 LR LR 10 59 22.7
comp=Z,307nm,20.6s,baz=356,slow=34
BTO Baotou 81.54 28 *e*P **P** **10 25 36.0 -1.1**
BTO pP **pP** **10 25 40.8 +0.2**
BTO sP **PcP** **10 25 43.6 +0.5**
BTO PP **PP** **10 28 42.3 -0.4**
BTO S **S** **10 35 46.7 -1.8**
BTO SS **SS** **10 41 04.0 +0.2**
BTO pmax pmax
comp=Z,9.0nm,0.8s
BTO pmax pmax
comp=Z,180nm,5.2s
BTO LR LR
comp=Z,360nm,12.4s
BTO LR LR
comp=Z,580nm,19.5s
BTO LR LR
comp=Z,510nm,17.1s
CPUP Villa Florida 81.64 203 P **P** **10 25 41.3 +3.9**
comp=Z,1.6nm,0.7s,baz=31,slow=8.4,SNR=3.1
CPUP LR LR 10 58 46.7
comp=Z,142nm,19.4s,baz=20,slow=33
HHC Hu-ho-hao-te 81.75 27 *e*P **P** **10 25 37.5 -0.7**
HHC S **S** **10 35 47.5 -3.1**
HHC pmax pmax
comp=Z,23nm,0.7s
HHC pmax pmax
comp=Z,82nm,5.1s
HHC LR LR
comp=Z,430nm,16.0s
HHC LR LR
comp=Z,170nm,16.8s
HHC LR LR
comp=Z,470nm,16.0s
CN2 Changchun 82.02 16 *e*P **P** **10 25 38.7 -0.7**
CN2 *e*S **SKSac** **10 35 57.4 -1.8**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,500nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,300nm,15.0s
USRK Ussuriysk Ar. 82.57 11 P **P** **10 25 43.5 +1.2**
comp=Z,0.5nm,0.6s,baz=204,slow=3.2,SNR=2.0
comp=Z,0.5nm,0.6s
TSUM Tsumeb 83.63 133 LR LR 11 01 19.9
comp=Z,333nm,18.4s,baz=331,slow=34
LZH Lanzhou 83.73 34 *e*P **P** **10 25 47.3 -1.4**
LZH pP pP 10 25 52.2 +0.1
LZH pmax pmax
comp=Z,18nm,1.1s
LZH LR LR
comp=Z,430nm,18.9s
LZH LR LR
comp=Z,510nm,18.2s
LZH LR LR
comp=Z,580nm,18.5s
LSZ Lusaka 85.34 123 LR LR 11 03 39.5
comp=Z,291nm,19.5s,baz=334,slow=36
HNS HongShan 85.83 26 ⇓P **P** **10 26 02.2 +3.2**
HNS S **S** **10 36 39.2 +7.7**
HNS pmax pmax
comp=Z,19nm,1.3s
HNS LR LR
comp=Z,490nm,15.7s
HNS LR LR
comp=Z,400nm,16.5s
XAN Xi'an 87.28 31 P **P** **10 26 09.1 +2.8**
XAN pmax pmax
comp=Z,9.0nm,1.0s
XAN LR LR
comp=Z,460nm,18.7s
XAN LR LR
comp=Z,390nm,18.1s
XAN LR LR
comp=Z,590nm,20.9s
CD2 Chengdu 88.38 37 P **P** **10 26 10.6 -1.0**
CD2 PP **PP** **10 29 38.6 +0.2**
CD2 S **S** **10 36 53.3 -3.2**
CD2 SS **SS** **10 42 44.1 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,80nm,3.7s
CD2 LR LR
comp=Z,400nm,18.0s
CD2 LR LR
comp=Z,300nm,16.1s
CD2 LR LR
comp=Z,490nm,19.4s
KSRS Korea Array 88.61 16 P **P** **10 26 11.3 -1.1**
comp=Z,0.9nm,0.7s,baz=52,slow=36,SNR=1.9
KSRS LR LR 11 07 35.4
comp=Z,200nm,19.0s,baz=10.0,slow=37
comp=Z,0.9nm,0.7s
PZH PanZhiHua 91.58 40 P **P** **10 26 28.2 +1.5**
PZH S **S** **10 37 24.6 -1.8**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,90nm,5.3s
PZH LR LR
comp=Z,240nm,15.3s
PZH LR LR
comp=Z,220nm,17.7s
PZH LR LR
comp=Z,420nm,27.5s
NJ2 Nanjing 91.96 24 *e*P **P** **10 26 27.0 -1.2**
NJ2 pmax pmax
comp=Z,14nm,0.5s
WHN Wuhan 92.18 28 P **P** **10 26 30.4 +1.2**
LBTB Lobatse 92.32 130 LR LR 11 05 58.6
comp=Z,342nm,19.3s,baz=326,slow=34
BOSA Boshof 95.23 132 LR LR 11 08 10.8
comp=Z,569nm,18.9s,baz=358,slow=35
SUR Sutherland 96.54 137 LR LR 11 06 00.7
comp=Z,261nm,20.2s,baz=332,slow=33
CMAR Chiang Mai Arr 97.58 46 LR LR 11 13 34.0
comp=Z,207nm,20.1s,baz=315,slow=37
PALK Pallekele 97.87 67 LR LR 11 16 25.1
comp=Z,144nm,18.2s,baz=86,slow=39
OPO Ambohidratompo 98.41 109 LR LR 11 12 50.1
comp=Z,155nm,18.1s,baz=148,slow=36
PLCA Paso Flores 98.74 208 LR LR 11 08 46.2
comp=Z,197nm,21.0s,baz=28,slow=34
JOW Kunigami 99.04 17 LR LR 11 14 10.4
comp=Z,61nm,20.2s,baz=264,slow=37
QIZ Qiongzhong 101.42 36 P **Pdif** **10 27 10.2 -1.0**
QIZ PP **PP** **10 31 18.6 -1.4**
QIZ SS SS 10 45 50.7 +0.2
QIZ LR LR
comp=Z,230nm,15.1s
QIZ LR LR
comp=Z,120nm,15.3s
QIZ LR LR
comp=Z,270nm,15.5s
TAOE Nuku Hiva Isla 107.77 279 *e*SS SS 10 47 19.6 +0.5
comp=Z,113nm,27.4s
TAOE Nuku Hiva Isla 107.77 279 *e*LR LR 11 03 17.1
comp=Z,198nm,21.7s
PPT2 Papeete2 120.26 281 *e*LR LR 11 09 03.8
comp=Z,147nm,22.2s
PPT2 *e*LR LR 11 09 03.8
comp=Z,178nm,33.2s
TBI Tubuai 124.58 276 *e*LR LR 11 11 07.6
comp=Z,1µm,31.8s
VNA2 Neumayer--Watz 124.59 170 ⇑PKPdf **PKiKP** **10 32 19.6 +1.9**
comp=Z,4.5nm,0.6s,baz=336,slow=7.7
VNA3 Neumayer Olymp 124.67 171 ⇑PKPdf **PKiKP** **10 32 19.3 +1.4**
comp=Z,6.0nm,0.6s
SNAA Sanae 125.79 169 ⇑PKPdf **PKiKP** **10 32 21.9 +1.7**
comp=Z,118nm,0.8s
SNAA Sanae 125.79 169 PKP **PKiKP** **10 32 20.6 +0.4**
comp=Z,1.5nm,0.7s,baz=258,slow=1.2,SNR=5.4
TROLL Troll, Antarti 126.78 167 ⇑PKPdf **PKiKP** **10 32 23.4 +1.2**
comp=Z,205nm,0.7s
ELIB Princess Elisa 130.29 160 *d*PKP **PKiKP** **10 32 31.2 +1.9**
QSPA South Pole Qui 142.56 180 PKP **PKPdf** **10 32 49.9 -1.3**
comp=Z,1.6nm,0.7s,baz=178,slow=1.3,SNR=11
WRA Warramunga Arr 145.73 23 PKPbc **PKPab** **10 32 58.9 0.0**
comp=Z,4.1nm,0.7s,baz=343,slow=3.6,SNR=22
DZM Mont Dzumac 146.21 327 *e*LR LR 11 21 15.6
comp=Z,420nm,28.1s
DZM Mont Dzumac 146.21 327 PKPbc **PKPbc** **10 32 59.6 -0.4**
comp=Z,3.4nm,0.8s,baz=243,slow=16,SNR=0.9

ASAR	**Alice Springs**	**149.20**	**25**	PKPbc	**PKPbc**	**10 33 07.0**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=349,slow=2.1,SNR=18						
VNDA	**Vanda**	**154.51**	**187**	PKPbc	**PKPbc**	**10 33 17.3**	**-1.2**
	comp=Z,0.8nm,0.9s,baz=210,slow=1.9,SNR=4.2						

DJA 02 10:15:52.2±1.2, 2°S±3°×12°9E±°, h28km±11km, M3.9/10, mb4.2/4, mB5.4/1, MLv3.8/10, Mw(mB)4.9/1, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.91**	**311**	P	Pn	10 16 23.6	+0.7
LBMI				S	Sn	10 16 46.3	+0.2
NLAI	**Namlea**	**2.28**	**234**	P	Pn	10 16 27.2	-0.8
SWI	**Sorong**	**2.52**	**66**	P	Pn	10 16 31.6	+0.2
SWI				S	Sn	10 17 01.6	+0.4
SANI	**Sanana**	**2.96**	**267**	P	Pn	10 16 34.6	-2.8
FAKI	**Fak Fak**	**3.45**	**107**	P	Pn	10 16 43.9	-0.2
KMSI	**Cibinong**	**5.54**	**296**	P	Pn	10 17 13.5	+0.7
	109nm,0.4s,4µm1.0nm						
LUWI	**Luwuk**	**6.23**	**278**	P	Pn	10 17 22.5	+0.1
	24nm,0.7s,0.2nm						
GTOI	**Gorontalo**	**6.45**	**293**	P	Pn	10 17 27.6	+2.3
	4.2nm,1.0s,0.0nm						

IDC 02 10:16:02.3±8.1, 19°.74S×171°.39W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=346.0km s-min=40.3km az=142.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**50.73**	**255**	P	P	10 25 03.7	-0.6
	0.3nm,0.3s,baz=94,slow=8.2,SNR=12						
	0.3nm,0.3s						
WRA	**Warramunga Arr**	**50.86**	**260**	P	P	10 25 05.6	+0.3
	1.0nm,0.3s,baz=98,slow=6.8,SNR=29						
	1.0nm,0.3s						
ILAR	**Eielson Array**	**86.33**	**10**	P	P	10 28 45.8	0.0
	0.3nm,1.1s,baz=213,slow=3.0,SNR=4.3						
	0.3nm,1.1s						

*NEIC **02** 10:17:36.0±2.2, 19°.46N±0°.02×154°.91W±0°.04, h5km±1km, Error ellipse: s-maj=6.1km s-min=2.9km az=291.0*
HVO 02 10:17:35.5±2.5, 19°.45N±0°.02×154°.87W±0°.03, h0km±7km, ML2.4/3, ML2.5/29(NEIC), **Error ellipse: s-maj=4.6km s-min=2.1km az=106.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.04**	**336**		Pg	10 17 36.8	+0.6
JOKA	**Jonika Flow**	**0.12**	**263**		Sg	10 17 43.7	+4.2
SBLHI	**Steaming Bluff**	**0.37**	**267**	Pg	Pg	10 17 42.1	-0.5
KKO	**Keanakako`i**	**0.37**	**262**	Pg	Pg	10 17 41.7	-0.9
KKO				IAML		10 17 46.1	
	comp=E,467nm,1.8s						
KKO				IAML		10 17 48.7	
	comp=N,665nm,1.0s						
RIM	**Rim**	**0.38**	**262**	Pg	Pg	10 17 42.0	-0.8
RIM				IAML		10 17 48.2	
	comp=N,674nm,1.3s						
RIM				IAML		10 17 51.2	
	comp=E,432nm,1.1s						
RSD	**Rainshed**	**0.38**	**272**		Pg	10 17 43.0	+0.2
UWB	**Uwekahuna B**	**0.38**	**267**	Pg	Pg	10 17 42.4	-0.4
WRMHI	**West Rim**	**0.40**	**264**	Pg	Pg	10 17 42.3	-0.9
HLP	**Hilina Pali**	**0.44**	**250**		Pg	10 17 44.2	+0.3
HLP				IAML		10 17 52.8	
	comp=E,436nm,2.9s						
MLH	**Mauna Loa**	**0.48**	**275**		Pg	10 17 44.7	-0.1
MLH				IAML		10 17 56.8	
	comp=N,344nm,1.2s						
MLH				IAML		10 17 56.8	
	comp=E,357nm,1.1s						
HTC	**Hot Caves**	**0.54**	**247**		Pg	10 17 46.8	+1.0
HMH	**Humu'ula Sheep**	**0.59**	**285**		Pg	10 17 46.1	-0.8
MLOA	**Mauna Loa Obse**	**0.67**	**278**	Pg	Pg	10 17 47.9	-0.4
MLOA				IAML		10 17 59.2	
	comp=N,332nm,3.6s						
MLOA				IAML		10 17 59.7	
	comp=E,282nm,3.7s						
MWH	**Moku'aweowe**	**0.68**	**273**		Pg	10 17 48.4	-0.3
MWH				IAML		10 17 54.1	
	comp=E,305nm,3.8s						
MWH				IAML		10 18 10.5	
	comp=N,240nm,1.2s						
POHA	**Pohakuloa**	**0.69**	**296**		Pg	10 17 48.6	-0.2
POHA				IAML		10 18 09.4	
	comp=N,203nm,0.7s						
POHA				IAML		10 18 11.7	
	comp=N,209nm,0.7s						
KHU	**Kahuku**	**0.73**	**254**		Pg	10 17 48.4	-1.1
KHU				IAML		10 18 02.9	
	comp=N,317nm,3.7s						
ALEP	**Alea Permanent**	**0.73**	**277**		Pn	10 17 53.5	+0.1
ALEP					Sg	10 17 59.5	+0.5
HUH	**Hualalai**	**0.94**	**285**		Pg	10 17 52.7	-0.8
HPAH	**Hawaii Prepara**	**0.97**	**307**		Pg	10 17 53.8	-0.3
HPAH				IAML		10 18 04.7	
	comp=N,137nm,3.7s						

HEL 02 10:26:06.5±0.1, 64°.24N×24°.81E, h0km, ML1.2, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OUF	**Merijarvi**	**0.13**	**345**	PG	Pg	10 26 08.0	-1.0
OUF				SG	Sg	10 26 08.4	-2.3
OBF0	**Syolatti, Pyha**	**0.36**	**316**	PG	Pg	10 26 12.7	-0.7
OBF0				SG	Sg	10 26 18.0	0.0
OBF4	**Vikkela, Lumij**	**0.59**	**12**	PG	Pg	10 26 17.0	-0.8
	baz=194						
OBF4				MSG	Sg	10 26 25.2	-0.2
	comp=Z,1.8nm,0.2s						
OBF4				SG	Sg	10 26 25.2	-0.2
OUL	**Oulu**	**0.97**	**28**	PG	Pg	10 26 24.2	-0.8
	baz=208						
OUL				SB	Sg	10 26 37.8	+0.2
VAF	**Ylistaro**	**1.54**	**219**	PG	Pn	10 26 34.5	-0.6
	baz=40						
VAF				MSG		10 26 52.4	
	comp=Z,2.0nm,0.2s						
VAF				SG	Sn	10 26 54.3	-1.4
NIF	**Nilsia**	**1.58**	**121**	PG	Pn	10 26 34.9	-0.9
NIF				SN	Sg	10 26 58.1	+0.8
SUF	**Sumiainen**	**1.64**	**158**	PG	Pn	10 26 35.9	-0.6
SUF				MSG		10 26 55.5	
	comp=Z,0.8nm,0.2s						
SUF				SN	Sg	10 26 60.0	+0.8
KALU	**Kalix**	**1.74**	**340**	PG	Pn	10 26 38.1	+0.2
KALU				SN	Sg	10 27 02.6	+0.4
UMAU	**Umeaa**	**1.85**	**261**	PG	Pn	10 26 39.3	-0.1
UMAU				SG	Sb	10 27 05.0	+0.2
RANF	**Ranua**	**1.97**	**24**	SG	Sn	10 27 07.3	+0.9
KEF	**Keuruu**	**2.08**	**179**	PG	Pn	10 26 43.7	+1.1
KEF				MSG		10 27 08.2	
	comp=Z,1.4nm,0.2s						
KEF				SG	Sb	10 27 10.4	-1.1
RMF	**Romuvaara**	**2.24**	**88**	PG	Pn	10 26 46.2	+1.4
	baz=275						
RMF				MSG		10 27 12.8	
	comp=Z,0.9nm,0.2s						
RMF				SG	Sb	10 27 16.4	+0.4
KAF	**Kangasniemi**	**2.24**	**162**	PG	Pb	10 26 46.5	-1.3
KAF				MSG		10 27 12.8	
	comp=Z,2.9nm,0.2s						
RNF	**Rovaniemi**	**2.43**	**11**	SG	Sb	10 27 21.6	+0.1
MSF	**Maaselka**	**2.46**	**45**	SG	Sb	10 27 21.1	-1.1
OLKF	**Oulanka, Finla**	**2.84**	**41**	MSG		10 27 30.2	
	comp=Z,0.6nm,0.2s						
OLKF				SG	Sb	10 27 33.3	-0.1
FIA0	**FINESS Array S**	**2.87**	**168**	SN	Sn	10 27 25.2	-3.4
FIA0				MSG		10 27 31.0	
	comp=Z,1.2nm,0.2s						
RUF	**Ruokolahti**	**3.41**	**144**	SG	Sb	10 27 49.3	-0.2
PVF	**Pernaja**	**3.74**	**172**	SB	Sn	10 27 53.4	+3.3
VJF	**Virojoki**	**3.93**	**160**	PG	Pb	10 27 15.5	-1.0
MEF	**Metsahovi**	**4.04**	**183**	SN	Sn	10 27 52.1	-5.4
HEF	**Hetta**	**4.21**	**354**	SN	Sn	10 27 56.8	-4.9

DJA 02 10:54:28.5±0.9, 0°N±5°×12°7E±°, h12km±11km, M3.7/7, mb3.8/1, MLv3.6/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.81**	**38**	P	Pg	10 54 44.2	-0.1
LBMI	**Labuha**	**1.00**	**140**	P	Pg	10 54 47.8	+0.1
SANI	**Sanana**	**2.33**	**202**	P	Pn	10 55 06.1	-0.6
KMSI	**Cibinong**	**2.91**	**279**	P	Pn	10 55 15.0	+0.3
GTOI	**Gorontalo**	**3.88**	**277**	P	Pn	10 55 30.6	+2.6
LUWI	**Luwuk**	**4.25**	**254**	P	Pn	10 55 32.9	-0.2
LUWI				S	Sn	10 56 23.4	+0.7
FAKI	**Fak Fak**	**6.18**	**119**	P	Pn	10 55 59.9	+0.2

*IDC **02** 11:07:08.0±0.9, 5°.97S×142°.89E, h0km, mb3.9/7, mbtmp3.9/9, ML1.7/1, Error ellipse: s-maj=35.7km s-min=20.0km az=78.0*
ISC 02 11:07:09.6±0.8, 6°.20S±0°.09×142°.6E±0°.1, h10km, n10, σ3°18/11, mb4.0/7, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.50**	**126**	Pn	Pn	11 08 28.1	-3.5
	1.6nm,0.3s,baz=282,slow=15,SNR=1.5						
PMG				Sn	**Sn**	**11 09 33.3**	**-1.6**
	2.1nm,0.3s,baz=215,slow=17,SNR=2.3						
	5.6nm,0.3s						
WRA	**Warramunga Arr**	**15.86**	**210**	Pn	**Pn**	**11 10 52.4**	**-0.8**
	0.3nm,0.3s,baz=26,slow=13,SNR=14						
WRA				Sn	**Sn**	**11 13 42.0**	**-7.2**
	0.2nm,0.3s,baz=40,slow=23,SNR=2.0						
WRA				Lg	Lg	11 15 39.7	
	0.1nm,0.3s,baz=34,slow=27,SNR=6.5						
ASAR	**Alice Springs**	**19.29**	**205**	P	**P**	**11 11 37.8**	**+3.0**
	5.9nm,1.0s,baz=34,slow=10,SNR=40						
ASAR				S	**Sn**	**11 15 13.9**	**+1.6**
	0.5nm,0.9s,baz=20,slow=27,SNR=4.8						
ASAR				Lg	Lg	11 17 26.2	
	baz=19,slow=29						
STKA	**Stephens Creek**	**25.56**	**182**	P	**P**	**11 12 42.2**	**+3.3**
	1.0nm,0.6s,baz=357,slow=13,SNR=3.4						
	1.0nm,0.6s						
PETK	**Petropavlovsk-**	**60.45**	**10**	P	**P**	**11 17 18.6**	**-0.8**
	1.2nm,0.8s,baz=182,slow=6.8,SNR=2.4						
	1.2nm,0.8s						
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**11 18 50.4**	**-0.6**
	0.6nm,0.8s,baz=133,slow=5.1,SNR=4.1						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**78.83**	**324**	P	P	11 19 10.8	-2.0
	0.2nm,0.4s,baz=111,slow=5.1,SNR=2.3						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**11 19 40.1**	**+1.1**
	1.1nm,0.8s,baz=334,slow=15,SNR=5.2						
	1.1nm,0.8s						
BVAR	**Borovoye Array**	**84.40**	**325**	P	**P**	**11 19 42.6**	**+0.4**
	2.0nm,0.8s,baz=106,slow=4.7,SNR=7.1						
	2.0nm,0.8s						
ILAR	**Eielson Array**	**87.39**	**24**	P	**P**	**11 19 55.8**	**-1.1**
	0.9nm,0.9s,baz=266,slow=4.3,SNR=12						
	0.9nm,0.9s						

*JMA **02** 11:07:24.1±0.2, 24°N±1°×123°.3E±0°.5, h52km±3km, MV3.3/16, NEAR ISHIGAKIJIMA ISLAND*
ISC 02 11:07:24.6±1.5, 23°.58N±0°.08×123°.27E±0°.05, h30km, n17, σ0°62/21, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HATJ	**Hateruma jima**	**0.68**	**46**	P	**Pb**	**11 07 37.9**	**-0.1**
HATJ				S	**Sn**	**11 07 47.5**	**-0.2**
IRIF	**Iriomote-Funau**	**0.86**	**29**	P	**Pn**	**11 07 40.5**	**-0.2**
YOJ	**Yonaguni jima**	**0.91**	**345**	P	**Pn**	**11 07 41.4**	**0.0**
YOJ	**Yonaguni jima**	**0.91**	**345**	P	**Pn**	**11 07 41.3**	**0.0**
YOJ				*e*S	**Sb**	**11 07 54.0**	**+0.4**
JYNG	**Yonagunijimaku**	**0.91**	**341**	P	**Pn**	**11 07 41.3**	**-0.1**
JKRS	**Kuro-shima**	**0.94**	**46**	P	**Pn**	**11 07 41.7**	**0.0**
JKRS				S	**Sn**	**11 07 54.1**	**-0.1**
JIJ	**Ishigaki jima**	**1.11**	**46**	*e*S	**Sn**	**11 07 57.6**	**-0.9**
JISG	**Ishigakijimahi**	**1.38**	**43**	P	**Pn**	**11 07 47.4**	**-0.5**
JISG				*e*S	**Sn**	**11 08 04.9**	**-0.2**
NACB	**Ninganchiao**	**1.64**	**291**	P	**Pn**	**11 07 50.9**	**-0.6**
JTJ	**Tarama**	**1.68**	**51**	*e*P	**Pn**	**11 07 52.0**	**+0.1**
YULB	**Yu-li**	**1.82**	**264**	P	**Pn**	**11 07 53.7**	**-0.3**
YHNB	**Yeheng**	**2.04**	**302**	P	**Pn**	**11 07 58.3**	**+1.2**
JIRB	**Irabujima**	**2.13**	**54**	*e*P	**Pn**	**11 07 58.1**	**-0.1**
SSLB	**Suanglung**	**2.13**	**276**	P	**Pn**	**11 07 58.6**	**+0.3**
TWGBT	**Beinan**	**2.16**	**250**	P	**Pn**	**11 07 58.6**	**0.0**
JMJ2	**Miyako jima3**	**2.20**	**58**	P	**Pn**	**11 07 59.3**	**+0.1**
JMJ	**Miyako jima 2**	**2.21**	**56**	P	**Pn**	**11 08 01.2**	**+1.8**

*JMA **02** 11:30:46.0±0.2, 25°N±2°×122°.3E±0°.5, h98km±1km, MV1.9/7, TAIWAN REGION*
*TAP **02** 11:30:46.0, 24°.70N×122°.33E, h95km±1km, ML2.7, C*
ISC 02 11:30:46.1±1.6, 24°.69N±0°.05×122°.35E±0°.03, h95km±9km, n55, σ0°72/105, 3C-1D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.29**	**201**	P	**Pn**	**11 31 00.8**	**+0.8**
	baz=197						
EOS2				S	**Sn**	**11 31 12.2**	**+1.9**
	baz=197						
EOS3	**EOS3**	**0.41**	**184**	P	**Pn**	**11 31 01.3**	**+0.6**
	baz=181						
EOS3				S	**Sn**	**11 31 13.3**	**+1.9**
	baz=181						
TWB1	**Santiao Chiao**	**0.45**	**314**	P	**Pn**	**11 31 01.0**	**-0.1**
	baz=315						
TWB1				S	**Sn**	**11 31 12.1**	**-0.2**
	baz=315						
TWC	**Suao**	**0.46**	**260**	*i* P	**Pn**	**11 31 01.0**	**-0.2**
	baz=258						
TWC				*i* S	**Sn**	**11 31 11.7**	**-0.6**
	baz=258						
EWUT	**Wuta**	**0.57**	**245**	*i* P	**Pn**	**11 31 02.3**	**+0.3**
	baz=243						
EWUT				S	**Sn**	**11 31 14.2**	**+0.3**
	baz=243						
NDS	**Dongshan**	**0.58**	**264**	*i* P	**Pn**	**11 31 02.2**	**+0.2**
	baz=263						
NDS				S	**Sn**	**11 31 13.7**	**-0.3**
	baz=263						
SXI1	**Grass Mountain**	**0.59**	**313**	*i* P	**Pn**	**11 31 02.1**	**-0.1**
	baz=313						
SXI1				S	**Sn**	**11 31 13.8**	**-0.5**
	baz=313						
JYNG	**Yonagunijimaku**	**0.59**	**114**	P	**Pn**	**11 31 02.2**	**+0.1**
JYNG				*e*S	**Sn**	**11 31 14.1**	**0.0**
ENA	**Nanau**	**0.61**	**245**	*i* P	**Pn**	**11 31 02.1**	**-0.2**
	baz=242						
ENA				*i* S	**Sn**	**11 31 14.0**	**-0.5**
	baz=242						
TWE	**Neicheng**	**0.62**	**273**	⇑ *i* P	**Pn**	**11 31 02.5**	**+0.1**
	baz=271						
TWE				*i* S	**Sn**	**11 31 14.4**	**-0.1**
	baz=271						
YOJ	**Yonaguni jima**	**0.65**	**111**	*i* P	**Pn**	**11 31 02.5**	**-0.1**
	baz=110						
YOJ				S	**Sn**	**11 31 15.1**	**+0.2**
	baz=110						
EAHA	**Aohua**	**0.66**	**237**	*e*P	**Pn**	**11 31 02.5**	**-0.2**
	baz=235						
EAHA				*e*S	**Sn**	**11 31 15.6**	**+0.4**
	baz=235						
FUSB	**Fushanzhiwuyua**	**0.70**	**276**	⇑ *i* P	**Pn**	**11 31 03.1**	**0.0**
	baz=275						
FUSB				*i* S	**Sn**	**11 31 15.2**	**-0.8**
	baz=275						
ENTT	**Nioudou**	**0.71**	**266**	*i* P	**Pn**	**11 31 03.9**	**+0.6**
	baz=265						
ENTT				S	**Sn**	**11 31 16.5**	**+0.4**
	baz=265						
LATG	**Datong**	**0.77**	**258**	*i* P	**Pn**	**11 31 04.1**	**+0.2**
	baz=257						
LATG				*i* S	**Sn**	**11 31 17.2**	**+0.1**
	baz=257						
NDT	**Datong Townshi**	**0.77**	**263**	P	**Pn**	**11 31 04.3**	**+0.5**
	baz=262						
NDT				S	**Sn**	**11 31 17.5**	**+0.5**
	baz=262						
NWLT	**Wulai**	**0.77**	**276**	*e*P	**Pn**	**11 31 02.9**	**-1.0**
	baz=275						
NWLT				*e*S	**Sn**	**11 31 17.4**	**+0.2**
	baz=275						
YM01	**YM01**	**0.84**	**303**	*i* P	**Pn**	**11 31 04.4**	**-0.1**
	baz=302						
YM01				*i* S	**Sn**	**11 31 17.8**	**-0.5**
	baz=302						
YM08	**YM08**	**0.85**	**306**	P	**Pn**	**11 31 04.4**	**-0.3**
	baz=306						
YM08				S	**Sn**	**11 31 17.4**	**-1.1**
	baz=306						
ETL	**Fush Village**	**0.85**	**231**	*e*P	**Pn**	**11 31 03.9**	**-0.7**
	baz=230						
ETL				*e*S	**Sn**	**11 31 18.0**	**-0.5**
	baz=230						
NACB	**Ninganchiao**	**0.86**	**233**	P	**Pn**	**11 31 04.1**	**-0.6**
	baz=232						
NACB				S	**Sn**	**11 31 17.3**	**-1.3**
	baz=232						
YHNB	**Yeheng**	**0.89**	**269**	⇑ *i* P	**Pn**	**11 31 05.4**	**+0.3**
	baz=268						
YHNB				*i* S	**Sn**	**11 31 19.1**	**-0.2**
	baz=268						
NSK	**Sanguang**	**0.90**	**269**	⇓ *i* P	**Pn**	**11 31 05.5**	**+0.3**
	baz=268						
NSK				*i* S	**Sn**	**11 31 19.6**	**0.0**
	baz=268						
NNSB	**Datong**	**0.92**	**254**	P	**Pn**	**11 31 05.6**	**+0.1**
	baz=252						
NNSB				S	**Sn**	**11 31 19.3**	**-0.6**
	baz=252						
TWD	**Chiawan**	**0.92**	**229**	*i* P	**Pn**	**11 31 05.1**	**-0.3**
	baz=227						
TWD				*i* S	**Sn**	**11 31 19.2**	**-0.5**
	baz=227						
NNS	**Nan Shan**	**0.92**	**254**	*i* P	**Pn**	**11 31 05.6**	**+0.1**
	baz=253						
NNS				S	**Sn**	**11 31 18.9**	**-1.2**
	baz=253						
ETLH	**Xiulin Townshi**	**0.93**	**239**	P	**Pn**	**11 31 04.8**	**-0.7**
	baz=237						
ETLH				S	**Sn**	**11 31 18.9**	**-1.2**
	baz=237						
ETM	**Tongmen**	**1.06**	**227**	*e*P	**Pn**	**11 31 06.2**	**-0.8**
	baz=226						
ETM				*e*S	**Sn**	**11 31 21.3**	**-1.3**
	baz=226						
TEYL	**Yanliau Villag**	**1.07**	**220**	*e*S	**Sn**	**11 31 21.8**	**-0.8**
	baz=219						
LXIB	**Xiulin Townshi**	**1.08**	**232**	P	**Pn**	**11 31 06.6**	**-0.8**
	baz=231						
LXIB				S	**Sn**	**11 31 21.8**	**-1.5**
	baz=231						
FUSS	**Fushou**	**1.10**	**246**	P	**Pn**	**11 31 08.0**	**+0.3**
	baz=245						
FUSS				S	**Sn**	**11 31 23.6**	**-0.1**
	baz=245						
NFF	**Wufeng Townshi**	**1.12**	**267**	*e*P	**Pn**	**11 31 07.7**	**0.0**
	baz=266						
NFF				*e*S	**Sn**	**11 31 23.8**	**-0.1**
	baz=266						
WHF	**Hehuan Shan**	**1.13**	**241**	P	**Pn**	**11 31 08.3**	**+0.2**
	baz=240						
WHF				S	**Sn**	**11 31 24.2**	**-0.4**
	baz=240						
SHUL	**Shoufeng**	**1.15**	**219**	*e*P	**Pn**	**11 31 06.8**	**-1.2**
	baz=217						
SHUL				*e*S	**Sn**	**11 31 23.3**	**-1.1**
	baz=217						
TWT	**Tachien**	**1.16**	**248**	P	**Pn**	**11 31 09.1**	**+0.9**
	baz=247						
TWT				S	**Sn**	**11 31 24.7**	**-0.1**
	baz=247						
TDCB	**Techi**	**1.17**	**248**	P	**Pn**	**11 31 08.7**	**+0.4**
	baz=247						
TDCB				S	**Sn**	**11 31 24.8**	**-0.3**
	baz=247						
ESL	**Shilin**	**1.21**	**224**	P	**Pn**	**11 31 07.9**	**-0.8**
	baz=222						
LIOB	**Emei**	**1.21**	**268**	*e*P	**Pn**	**11 31 08.7**	**0.0**
	baz=267						
LIOB				*e*S	**Sn**	**11 31 25.6**	**-0.1**
	baz=267						
NSTT	**Nanjuang**	**1.23**	**267**	*i* P	**Pn**	**11 31 08.9**	**+0.1**
	baz=266						
NSTT				S	**Sn**	**11 31 25.9**	**-0.1**
	baz=266						
CHGB	**Renai**	**1.24**	**240**	P	**Pn**	**11 31 09.4**	**+0.1**
	baz=238						
CHGB				S	**Sn**	**11 31 26.3**	**-0.3**
	baz=238						
OWD	**Renai**	**1.30**	**236**	*e*P	**Pn**	**11 31 09.8**	**0.0**
	baz=234						
OWD				*e*S	**Sn**	**11 31 27.6**	**-0.1**
	baz=234						
WARBT	**Fenglin Townsh**	**1.31**	**222**	*e*P	**Pn**	**11 31 08.5**	**-1.4**
	baz=221						
EGFH	**Guangfu**	**1.32**	**220**	*e*P	**Pn**	**11 31 09.6**	**-0.4**
	baz=218						
EGFH				*e*S	**Sn**	**11 31 27.3**	**-0.7**
	baz=218						
WUSB	**Renai**	**1.32**	**238**	P	**Pn**	**11 31 10.3**	**+0.2**
	baz=237						
WUSB				S	**Sn**	**11 31 27.6**	**-0.6**
	baz=237						
WHP	**Taichung City**	**1.34**	**252**	P	**Pn**	**11 31 11.8**	**+1.5**
	baz=251						
WHP				S	**Sn**	**11 31 30.2**	**+1.6**
	baz=251						
VWDT	**VWDT**	**1.45**	**230**	*e*P	**Pn**	**11 31 11.3**	**-0.2**
	baz=229						
VWDT				*e*S	**Sn**	**11 31 30.1**	**-0.5**
	baz=229						
WCS	**Beigang Elemen**	**1.46**	**245**	*e*P	**Pn**	**11 31 12.3**	**+0.7**
	baz=243						
WCS				*e*S	**Sn**	**11 31 30.5**	**-0.4**
	baz=243						
HGSD	**Ruisui**	**1.46**	**215**	*e*P	**Pn**	**11 31 11.1**	**-0.7**
	baz=214						
HGSD				*e*S	**Sn**	**11 31 30.6**	**-0.5**
	baz=214						
SMLT	**Sun Moon Lake**	**1.55**	**239**	*e*P	**Pn**	**11 31 13.7**	**+0.8**
	baz=237						
SMLT				*e*S	**Sn**	**11 31 34.4**	**+1.3**
	baz=237						
SSLB	**Suanglung**	**1.56**	**235**	P	**Pn**	**11 31 13.6**	**+0.6**
	baz=234						
SSLB				S	**Sn**	**11 31 34.3**	**+1.0**
	baz=234						
TYC	**Yuchr**	**1.57**	**240**	P	**Pn**	**11 31 14.1**	**+1.1**
	baz=239						
TYC				S	**Sn**	**11 31 34.7**	**+1.2**
	baz=239						
JIJ	**Ishigaki jima**	**1.67**	**101**	*e*S	**Sn**	**11 31 34.8**	**-0.8**
WHYT	**Xinyi Township**	**1.69**	**234**	*e*P	**Pn**	**11 31 15.7**	**+1.1**
	baz=233						
WHYT				*e*S	**Sn**	**11 31 37.5**	**+1.3**
	baz=233						
JISG	**Ishigakijimahi**	**1.79**	**93**	*e*P	**Pn**	**11 31 16.0**	**+0.2**
JISG				*e*S	**Sn**	**11 31 38.3**	**0.0**
ALS	**Alishan**	**1.84**	**230**	*e*P	**Pn**	**11 31 17.6**	**+0.9**
	baz=229						

*NEIC **02** 11:38:05.1±1.8, 19°.47N±0°.02×154°.91W±0°.04, h5km±1km, Error ellipse: s-maj=6.2km s-min=2.9km az=288.0*
HVO 02 11:38:04.6±1.9, 19°.46N±0°.02×154°.90W±0°.04, h2km±8km, ML2.5/2, ML2.5/32(NEIC), **Error ellipse: s-maj=5.2km s-min=1.5km az=112.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.02**	**20**		Pg	11 38 06.5	+1.3
JOKA	**Jonika Flow**	**0.10**	**254**		Pg	11 38 07.2	+0.6
JOKA					Sg	11 38 11.3	+3.2
PUH	**Pauahi**	**0.31**	**254**		Pg	11 38 09.8	-0

SDHHI	**Sand Hill**	**0.38 259**	Pg	Pg	11 38 11.5	-0.4	
SDHHI			IAML		11 38 16.9		
	comp=N,509nm,0.9s						
SDHHI			IAML		11 38 24.1		
	comp=E,553nm,1.4s						
WRMHI	**West Rim**	**0.38 262**	Pg	Pg	11 38 11.7	-0.3	
HLP	**Hilina Pali**	**0.42 247**		Pg	11 38 13.1	+0.4	
HLP			IAML		11 38 27.1		
	comp=N,382nm,0.8s						
HLP			IAML		11 38 27.4		
	comp=E,593nm,1.8s						
MLH	**Mauna Loa**	**0.46 274**		Pg	11 38 14.3	+0.8	
MLH			IAML		11 38 21.6		
	comp=E,371nm,0.6s						
MLH			IAML		11 38 22.3		
	comp=N,403nm,1.0s						
HTC	**Hot Caves**	**0.52 245**		Pg	11 38 15.1	+0.5	
HMH	**Humu'ula Sheep**	**0.57 284**	Pg	Pg	11 38 15.4	-0.1	
MLOA	**Mauna Loa Obse**	**0.64 277**	Pg	Pg	11 38 16.6	-0.4	
MLOA			IAML		11 38 33.9		
	comp=E,226nm,3.1s						
MLOA			IAML		11 38 33.9		
	comp=N,225nm,1.4s						
MWH	**Moku'aweowe**	**0.66 272**		Pg	11 38 16.9	-0.4	
MWH			IAML		11 38 32.8		
	comp=N,266nm,1.2s						
POHA	**Pohakuloa**	**0.67 296**	Pg	Pg	11 38 17.3	-0.1	
POHA			IAML		11 38 39.5		
	comp=N,270nm,0.8s						
KHU	**Kahuku**	**0.71 252**		Pg	11 38 17.2	-1.1	
KHU			IAML		11 38 33.1		
	comp=N,271nm,4.1s						

UPA ***02*** *11:52:18.5±0.4,9.′41N×82.′97W, h18km±38km, ML2.9*
CATAC ***02*** *11:52:18.9±1.0,9.′45N×82.′92W, h2km±4km, ML3.0*

ISC 02 11:52:17.7±1.4**,9.′50N**±0.′06**×82.′89W**±0.′04**, h6**km±12km**, n12,** σ0°**39/21, Panama-Costa Rica border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNI2	**El Empalme, Bo**	**0.42 100**		*e*P	**Pb**	**11 52 27.4**	**-0.2**
CNI2				*e*S	**Sb**	**11 52 34.6**	**+0.4**
SRBA	**San Rafael, Bu**	**0.53 240**		*i* P	**Pg**	**11 52 27.8**	**-0.2**
SRBA				*i* S	**Sg**	**11 52 34.8**	**-0.2**
SRBA				IAML		11 52 36.5	
	comp=Z,890nm,1.0s						
BRU2	**Volcan**	**0.73 164**		*e*P	**Pg**	**11 52 31.7**	**-0.1**
BRU2				AMP		11 52 33.1	
	comp=Z,616nm,0.1s						
BRU2				*e*S	**Sg**	**11 52 41.8**	**+0.6**
BATAN	**Batan**	**0.76 321**		*i* P	**Pn**	**11 52 34.8**	**-0.3**
BATAN				IAML		11 52 49.6	
	comp=Z,590nm,1.0s						
OCHAL	**Ojochal**	**0.84 242**		*i* P	**Pg**	**11 52 34.2**	**+0.3**
OCHAL				*i* S	**Sb**	**11 52 46.3**	**-0.1**
OCHAL				IAML		11 52 53.0	
	comp=Z,300nm,1.0s						
BCO2	**Palmira**	**0.85 155**		*e*P	**Pg**	**11 52 34.1**	**-0.1**
BCO2				*e*S	**Sg**	**11 52 45.5**	**+0.2**
CDM	**Cerro de Muert**	**0.86 274**		*i* P	**Pg**	**11 52 34.5**	**+0.2**
CDM				*i* S	**Sg**	**11 52 46.5**	**+1.0**
CDM				IAML		11 52 48.1	
	comp=Z,420nm,1.0s						
CHGR2	**Aguacate**	**0.93 127**		*e*S	**Sn**	**11 52 50.9**	**-0.1**
OCM	**Ochomogo**	**1.12 291**		*i* P	**Pb**	**11 52 39.5**	**-0.2**
OCM				*i* S	**Sg**	**11 52 54.0**	**+0.1**
OCM				IAML		11 52 57.2	
	comp=Z,270nm,1.0s						
PLAN	**Los Planes de**	**1.13 223**		*i* P	**Pg**	**11 52 39.0**	**-0.5**
PLAN				IAML		11 53 00.7	
	comp=Z,600nm,1.0s						
JACO	**JACO, Garabito**	**1.75 275**		*i* P	**Pb**	**11 52 50.2**	**-0.1**
JACO				*i* S	**Sn**	**11 53 11.9**	**+0.6**
JACO				IAML		11 53 13.6	
	comp=Z,91nm,1.0s						
SOCE	**Pocosol**	**1.91 297**		*i* P	**Pb**	**11 52 53.0**	**-0.1**
SOCE				*i* S	**Sg**	**11 53 18.9**	**-0.4**
SOCE				IAML		11 53 27.5	
	comp=Z,150nm,1.0s						

IDC ***02*** *11:57:02.4±1.9,23.′58S×179.′85E, h514km±20km, mb3.4/14, mbtmp4.3/16, Error ellipse: s-maj=16.7km s-min=14.8km az=85.0*
NEIC ***02*** *11:57:03.9±1.1,23.′8S±0.′1×180.′0E±0.′2, h519km±8km, mb4.2/43, Error ellipse: s-maj=21.0km s-min=19.4km az=143.0*

ISC 02 11:57:04.2±0.5**,23.′72S**±0.′07**×179.′93E**±0.′09**, h535**km**, n88,** σ1°**35/85, mb4.2/36, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.21 343**		P	**P**	**11 58 42.8**	**-1.4**
PINNC	**Pines Island,**	**11.54 273**		P	**P**	**11 59 39.0**	**+1.1**
DZM	**Mont Dzumac**	**12.54 275**		P	**P**	**11 59 46.0**	**-2.4**
DZM	**Mont Dzumac**	**12.54 275**		P	**P**	**11 59 45.2**	**-3.2**
	3.9nm,0.7s,baz=191,slow=23,SNR=1.3						
WIAZ	**Waiheke Island**	**13.67 196**		P	**P**	**12 00 01.1**	**+1.3**
ETAZ	**East Tamaki Re**	**13.88 197**		P	**P**	**12 00 03.5**	**+1.5**
MKAZ	**Moumakai**	**13.96 196**		P	**P**	**12 00 04.0**	**+1.1**
HAZ	**Te Kaha**	**14.11 187**		P	**P**	**12 00 04.1**	**-0.4**
RUGZ	**Raukumara Rang**	**14.33 187**		P	**P**	**12 00 07.3**	**+0.4**
TWGZ	**Tauwhareparae**	**14.51 186**		P	**P**	**12 00 08.8**	**+0.2**
URZ	**Urewera**	**14.69 189**		P	**P**	**12 00 09.0**	**-1.5**
	21nm,0.5s,baz=34,slow=2.0,SNR=22						
URZ				S	**S**	**12 02 41.0**	**-3.2**
	10.0nm,0.7s,baz=129,slow=22,SNR=5.5						
URZ	**Urewera**	**14.69 189**		P	**P**	**12 00 08.6**	**-1.9**
MWZ	**Matawai**	**14.71 187**		P	**P**	**12 00 09.2**	**-1.5**
TKGZ	**Te Karaka**	**14.78 186**		P	**P**	**12 00 10.9**	**-0.5**
MTHZ	**Maungataniwha**	**15.31 189**		P	**P**	**12 00 15.8**	**-1.2**
HIZ	**Hauiti**	**15.37 195**		P	**P**	**12 00 19.0**	**+1.4**
TMVZ	**Te Maari**	**15.76 192**		P	**P**	**12 00 20.6**	**-1.1**
OTVZ	**Oturere**	**15.82 192**		P	**P**	**12 00 20.9**	**-1.4**
SNVZ	**South Ngauruho**	**15.85 192**		P	**P**	**12 00 22.2**	**-0.4**
KWHZ	**Kaweka Forest**	**15.94 190**		P	**P**	**12 00 21.6**	**-1.8**
BHHZ	**Black Hill Sta**	**16.06 191**		P	**P**	**12 00 21.7**	**-3.0**
KRHZ	**Kereru**	**16.16 190**		P	**P**	**12 00 24.1**	**-1.4**
QRZ	**Quartz Range**	**18.16 198**		P	**P**	**12 00 44.1**	**+0.1**
RPZ	**Rata Peaks**	**21.24 198**		P	**P**	**12 01 12.3**	**+0.3**
	2.9nm,0.4s,baz=234,slow=24,SNR=1.3						
	2.9nm,0.4s						
ARMA	**Armidale**	**26.02 249**		P	**P**	**12 01 56.3**	**+1.4**
EIDS	**Eidsvold**	**26.27 260**		P	**P**	**12 01 57.7**	**+0.7**
EIDS				IAmb	IAmb	12 02 18.9	
	comp=Z,6.2nm,1.1s						
CTAO	**Charters Tower**	**31.41 270**		P	**P**	**12 02 42.5**	**+0.8**
PMG	**Port Moresby**	**34.37 289**		P	**P**	**12 03 07.5**	**+0.6**
PMG	**Port Moresby**	**34.37 289**		P	**P**	**12 03 04.8**	**-2.1**
	comp=Z,23nm,0.8s,baz=60,slow=4.3,SNR=4.6						
	comp=Z,23nm,0.8s						
COEN	**Coen**	**36.02 279**		P	**P**	**12 03 21.4**	**+0.8**
COEN				IAmb	IAmb	12 03 27.1	
	comp=Z,9.9nm,1.1s						
BBOO	**Buckleboo**	**39.45 247**		P	**P**	**12 03 47.5**	**-0.9**
BBOO				IAmb	IAmb	12 04 00.8	
	comp=Z,9.7nm,1.1s						
AS31	**Alice Springs**	**42.00 260**		P	**P**	**12 04 08.9**	**0.0**
ASAR	**Alice Springs**	**42.00 260**		P	**P**	**12 04 08.3**	**-0.5**
ASAR	**Alice Springs**	**42.00 260**		P	**P**	**12 04 08.8**	**0.0**
	comp=Z,3.3nm,0.7s,baz=95,slow=7.5,SNR=42						
ASAR				PcP	**pwP**	**12 05 49.9**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=85,slow=6.3,SNR=4.4						
ASAR				ScP	**ScP**	**12 08 52.6**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=102,slow=4.4,SNR=13						
	comp=Z,3.3nm,0.7s						
WR0	**Warramunga Arr**	**42.16 266**		P	**P**	**12 04 09.8**	**-0.4**
WR0				IAmb	IAmb	12 04 09.8	
	comp=Z,3.5nm,0.5s						
WB2	**Warramunga Arr**	**42.34 266**		P	**P**	**12 04 11.4**	**-0.1**
WB2				IAmb	IAmb	12 04 11.7	
	comp=Z,6.4nm,0.7s						
WB0	**Warramunga Arr**	**42.34 266**		P	**P**	**12 04 11.1**	**-0.5**
WB0				IAmb	IAmb	12 04 11.7	
	comp=Z,8.6nm,0.7s						
WRAB	**Tennant Creek**	**42.34 266**		P	**P**	**12 04 11.0**	**-0.6**
WRAB				IAmb	IAmb	12 04 11.7	
	comp=Z,6.1nm,0.8s						
WRA	**Warramunga Arr**	**42.35 266**		P	**P**	**12 04 11.4**	**-0.2**
WRA	**Warramunga Arr**	**42.35 266**		P	**P**	**12 04 11.1**	**-0.6**
	comp=Z,5.5nm,0.5s,baz=90,slow=5.8,SNR=98						
WRA				ScP	**ScP**	**12 08 55.7**	**+3.1**
	comp=Z,1.8nm,0.9s,baz=99,slow=4.2,SNR=8.2						
	comp=Z,5.5nm,0.5s						
MTN	**Manton Dam**	**47.37 274**		P	**P**	**12 04 48.8**	**-1.4**
MTN				IAmb	IAmb	12 05 14.0	
	comp=Z,9.3nm,1.1s						
KNRA	**Kununurra**	**48.62 270**		P	**P**	**12 04 59.8**	**+0.2**
KNRA				IAmb	IAmb	12 05 04.5	
	comp=Z,8.6nm,1.1s						
FITZ	**Fitzroy Crossi**	**50.78 265**		P	**P**	**12 05 16.3**	**+0.9**
VNDA	**Vanda**	**54.55 185**		P	**P**	**12 05 42.8**	**+1.4**
	comp=Z,0.5nm,0.8s,baz=338,slow=6.2,SNR=3.8						
	comp=Z,0.5nm,0.8s						
QSPA	**South Pole Qui**	**66.36 180**		P	**P**	**12 07 00.9**	**+1.2**
QSPA				IAmb	IAmb	12 07 01.6	
	comp=Z,6.8nm,1.0s						
QSPA	**South Pole Qui**	**66.36 180**		P	**P**	**12 07 00.8**	**+1.0**
	comp=Z,3.9nm,0.7s,baz=11,slow=1.1,SNR=23						
	comp=Z,3.9nm,0.7s						
SBUM	**Sibu**	**70.71 282**		P	**P**	**12 07 28.6**	**+1.9**
JOW	**Kunigami**	**70.82 312**		P	**P**	**12 07 29.9**	**+2.8**
MJAR	**Matsushiro Arr**	**71.71 326**		P	**P**	**12 07 31.3**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=208,slow=5.4,SNR=2.6						
	comp=Z,0.4nm,0.3s						
PETK	**Petropavlovsk-**	**78.91 347**		P	**P**	**12 08 12.5**	**+0.7**
PETK	**Petropavlovsk-**	**78.91 347**		P	**P**	**12 08 12.0**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=94,slow=8.2,SNR=2.2						
	comp=Z,2.7nm,0.9s						
GRAC	**Grapevine Rang**	**84.44 46**		P	**P**	**12 08 41.7**	**+1.1**
NVAR	**Mina Array Bea**	**84.67 44**		P	**P**	**12 08 41.6**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=226,slow=7.3,SNR=6.2						
	comp=Z,0.9nm,0.7s						
WCT	**Wildcat Mounta**	**84.81 46**		P	**P**	**12 08 43.7**	**+1.3**
SNAA	**Sanae**	**84.85 179**		P	**P**	**12 08 41.3**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=232,slow=21,SNR=5.7						
	comp=Z,0.8nm,0.4s						
WVOR	**Wild Horse Val**	**86.82 41**		P	**P**	**12 08 53.2**	**+1.3**
WVOR				IAmb	IAmb	12 08 54.0	
	comp=Z,3.6nm,1.1s						
LCMT	**Little Creek M**	**87.20 47**		P	**P**	**12 08 55.0**	**+1.2**
I07A	**Izee**	**87.29 39**		P	**P**	**12 08 55.6**	**+1.5**
I07A				IAmb	IAmb	12 08 56.8	
	comp=Z,5.1nm,1.0s						
J08A	**Circle Bar Ran**	**87.46 40**		P	**P**	**12 08 55.7**	**+0.8**
J08A				IAmb	IAmb	12 08 58.0	
	comp=Z,5.4nm,1.1s						
U15A	**North Rim**	**87.53 48**		P	**P**	**12 08 56.5**	**+0.9**
U15A				IAmb	IAmb	12 08 58.0	
	comp=Z,4.1nm,0.8s						
PKCU	**Pink Cliffs**	**88.06 47**		P	**P**	**12 08 58.8**	**+0.7**
PKCU				IAmb	IAmb	12 09 00.9	
	comp=Z,4.8nm,0.9s						
G08A	**Pilot Rock**	**88.33 38**		P	**P**	**12 08 59.8**	**+0.9**
G08A				IAmb	IAmb	12 09 02.1	
	comp=Z,2.8nm,0.8s						
MTPU	**Mount Pierson**	**88.46 47**		P	**P**	**12 09 02.2**	**+2.2**
MTPU				IAmb	IAmb	12 09 02.4	
	comp=Z,2.5nm,0.7s						
MFID	**Camas Ranch**	**89.07 41**		IAmb	IAmb	12 09 04.3	
	comp=Z,4.1nm,0.9s						
SEY	**Seynchan**	**89.08 348**		P	**P**	**12 09 01.1**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=28,slow=19,SNR=4.3						
	comp=Z,1.6nm,0.8s						
Q16A	**Castle Valley**	**89.59 47**		IAmb	IAmb	12 09 08.2	
	comp=Z,5.4nm,1.0s						
CAST	**Castle Rocks**	**89.61 12**		P	**P**	**12 09 01.1**	**-3.1**
HLID	**Hailey**	**90.00 41**		P	**P**	**12 09 08.3**	**+1.5**
SRU	**San Rafael Swe**	**90.12 47**		P	**P**	**12 09 08.5**	**+1.0**
P17A	**Butcher Ranch,**	**90.17 46**		IAmb	IAmb	12 09 10.4	
	comp=Z,2.7nm,0.9s						
TX31	**Lajitas Ar. Si**	**90.39 58**		P	**P**	**12 09 09.8**	**+0.9**
TX31				IAmb	IAmb	12 09 11.1	
	comp=Z,2.9nm,0.9s						
TXAR	**Lajitas Array**	**90.39 58**		P	**P**	**12 09 10.3**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=212,slow=6.4,SNR=18						
	comp=Z,1.8nm,0.7s						
TCUT	**Toone Canyon**	**90.58 45**		IAmb	IAmb	12 09 11.6	
	comp=Z,5.5nm,0.8s						
HWUT	**Hardware Ranch**	**90.73 44**		IAmb	IAmb	12 09 11.5	
	comp=Z,2.5nm,0.8s						
ILAR	**Eielson Array**	**91.87 14**		P	**P**	**12 09 13.6**	**-1.1**
	comp=Z,0.4nm,0.8s,baz=203,slow=5.5,SNR=4.8						
	comp=Z,0.4nm,0.8s						
PDAR	**Pinedale Array**	**92.61 44**		P	**P**	**12 09 19.3**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=225,slow=3.8,SNR=6.5						
	comp=Z,0.9nm,0.6s						
DRK	**Karamyk**	**118.29 303**			**PKPdf**	**12 14 51.2**	**-0.1**
BVAR	**Borovoye Array**	**120.26 319**		PKP	**PKPdf**	**12 14 53.1**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=44,slow=0.8,SNR=2.9						
ARCES	**ARCESS Array B**	**131.70 348**		PKP	**PKPdf**	**12 15 14.1**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=57,slow=4.5,SNR=4.9						
FINES	**FINESS Array B**	**138.25 341**		PKP	**PKPdf**	**12 15 26.8**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=90,slow=3.3,SNR=4.1						
NOA	**NORSAR Array B**	**141.89 351**		PKhKP	PKPpre	12 15 30.8	
	comp=Z,0.6nm,0.6s,baz=15,slow=4.3,SNR=3.3						
HFS	**Hagfors**	**142.35 349**		PKhKP	PKPpre	12 15 31.8	
	comp=Z,2.9nm,0.4s,baz=62,slow=3.5,SNR=19						
AKASG	**Malin Array Be**	**144.78 327**		PKP	**PKPdf**	**12 15 39.1**	**-0.8**
	comp=Z,2.1nm,0.5s,baz=44,slow=3.6,SNR=9.5						
AKBB	**Malin Array Si**	**144.78 327**			**PKPdf**	**12 15 39.8**	**-0.1**
KIEV	**Kiev**	**144.79 327**			**PKPdf**	**12 15 39.9**	**0.0**
BRTR	**Keskin Array B**	**147.41 307**		PKPbc	**PKPdf**	**12 15 45.9**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=129,slow=3.3,SNR=3.6						
MMAI	**Mount Meron Ar**	**147.57 295**		PKPbc	**PKPbc**	**12 15 48.1**	**-0.7**
	comp=Z,1.8nm,0.3s,baz=52,slow=9.7,SNR=2.8						
EKA	**Eskdalemuir Ar**	**148.34 3**		PKPbc	**PKPbc**	**12 15 49.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=345,slow=3.4,SNR=4.7						

IDC 02 12:02:51.6±10.0**,6.′11S×145.′47E, h0**km**, mb3.6/2, mbtmp3.6/4, ML0.9/1, Error ellipse: s-maj=140.3km s-min=45.4km az=24.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.68 153**		Pn	Pn	12 03 50.5	+0.7
	0.8nm,0.3s,baz=0.0,slow=12,SNR=1.7						
PMG				Sn	Sn	12 04 35.5	+1.5
	2.9nm,0.3s,baz=76,slow=19,SNR=6.3						
	4.0nm,0.4s						
WRA	**Warramunga Arr**	**17.50 217**		P	P	12 06 59.3	+0.8
	0.7nm,0.5s,baz=48,slow=12,SNR=11						
ASAR	**Alice Springs**	**20.71 211**		P	P	12 07 32.1	-1.5
	0.7nm,0.5s,baz=52,slow=8.3,SNR=14						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**25.89 188**		P	P	12 08 25.6	+0.2
	1.0nm,0.5s,baz=346,slow=9.7,SNR=3.0						
	1.0nm,0.5s						

IDC ***02*** *12:08:39.8±0.8,41.′73S×173.′99E, h0km, mb4.0/5, mbtmp4.0/7, ML4.1/2, MS3.3/2, Error ellipse: s-maj=26.9km s-min=22.5km az=120.0*
NEIC ***02*** *12:08:42.2±2.1,41.′97S±0.′04×174.′16E±0.′04, h10km±1km, mb4.0/9, Error ellipse: s-maj=6.9km s-min=4.9km az=330.0*
NOU ***02*** *12:08:43.8,42.′02S×174.′25E, h22km, MLv4.8/16, Off E. Coast of S. Island, N.Z.*
WEL ***02*** *12:08:43.7±0.3,42.′S±3.′×17.′4E±.′, h10km±3km, M4.3/21, ML4.6/21, MLv4.3/21, Error ellipse: s-maj=0.0km s-min=0.0km az=139.0, confirmed*
WEL ***02*** *12:08:43.7,41.′88S×174.′06E, h11km, ML4.3, Mw4.2, Moment Tensor Solution. s6 Moment tensor: Mrr~180.23; Mθθ-8.73; Mϕϕ188.96; Mrθ-80.88; Mθϕ91.82; Mϕr~130.25; Fault plane solution: NP1:ϕs348.00000°, δ27.00000°, λ-75.00000°. NP2:ϕs151.00000°, δ64.00000°, λ-98.00000°. Principal axes: T 275.2200, Plg19.0000°, Azm247.0000°; N -41.3900, Plg7.0000°, Azm154.0000°; P -233.8400, Plg70.0000°, Azm45.0000°; SOUTH ISLAND*

ISC 02 12:08:42.9±0.9**,41.′92S**±0.′02**×174.′14E**±0.′03**, h16**km±5km**, n212,** σ1°**45/229, mb4.1/10, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.18 17**			**Pb**	**12 08 48.0**	**+0.2**
CMWZ	**Cape Campbell**	**0.18 17**		P	**Pb**	**12 08 48.0**	**+0.2**
CMWZ				S	**Sg**	**12 08 52.1**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.29 316**			**Pg**	**12 08 48.4**	**-0.6**
BSWZ				Sg	**Sg**	**12 08 52.1**	**-1.2**
BSWZ	**Blackbirch Sta**	**0.29 316**		P	**Pg**	**12 08 48.5**	**-0.6**
BSWZ				S	**Sg**	**12 08 52.4**	**-0.9**
TUWZ	**Tuamarina**	**0.52 343**			**Pg**	**12 08 52.9**	**-0.2**
TUWZ				Sg	**Sg**	**12 08 59.9**	**-0.1**
TUWZ	**Tuamarina**	**0.52 343**		P	**Pg**	**12 08 52.9**	**-0.2**
TUWZ				S	**Sg**	**12 08 60.0**	**-0.1**

KHZ	**Kahutara**	**0.67 222**		P	**Pg**	**12 08 57.5**	**+1.5**
KHZ	**Kahutara**	**0.67 222**			**Pg**	**12 08 57.1**	**+1.1**
KHZ	**Kahutara**	**0.67 222**		P	**Pg**	**12 08 57.2**	**+1.1**
KHZ				S	**Sb**	**12 09 08.0**	**+2.9**
TCW	**Tory Channel**	**0.72 8**			**Pg**	**12 08 56.9**	**-0.1**
TCW	**Tory Channel**	**0.72 8**		P	**Pg**	**12 08 56.8**	**-0.1**
TCW				S	**Sb**	**12 09 06.6**	**0.0**
SNZO	**South Karori**	**0.74 35**		P	**Pn**	**12 08 58.9**	**+0.3**
SNZO	**South Karori**	**0.74 35**			**Pb**	**12 08 58.2**	**+0.8**
BHW	**Baring Head**	**0.75 47**			**Pn**	**12 08 59.3**	**+0.5**
BHW	**Baring Head**	**0.75 47**		P	**Pn**	**12 08 59.0**	**+0.2**
BHW				S	**Sn**	**12 09 12.0**	**+2.2**
PLWZ	**Palliser**	**0.90 67**			**Pb**	**12 09 01.4**	**+1.2**
PLWZ	**Palliser**	**0.90 67**		P	**Pb**	**12 09 01.4**	**+1.2**
NNZ	**Nelson**	**0.91 321**			**Pg**	**12 08 59.6**	**-0.9**
NNZ	**Nelson**	**0.91 321**		P	**Pg**	**12 08 59.6**	**-0.9**
NNZ				S	**Sg**	**12 09 11.8**	**-0.7**
THZ	**Tophouse**	**0.94 279**			**Pg**	**12 09 00.6**	**-0.5**
THZ	**Tophouse**	**0.94 279**		P	**Pg**	**12 09 00.6**	**-0.5**
MSWZ	**Moikau Station**	**0.97 59**			**Pn**	**12 09 02.9**	**+1.0**
MSWZ	**Moikau Station**	**0.97 59**		P	**Pn**	**12 09 02.8**	**+1.0**
CAW	**Cannon Point**	**1.07 41**		P	**Pn**	**12 09 04.1**	**+0.9**
CAW				S	**Sn**	**12 09 20.0**	**+2.3**
PAWZ	**Paruwai Farm**	**1.10 61**		P	**Pg**	**12 09 04.1**	**-0.1**
DUWZ	**D'Urville Isla**	**1.13 351**		P	**Pg**	**12 09 03.8**	**-1.0**
DUWZ				S	**Sb**	**12 09 19.4**	**+0.9**
MRNZ	**Matariki Terra**	**1.16 296**			**Pb**	**12 09 04.8**	**+0.2**
KIW	**Kapiti Island**	**1.21 29**		P	**Pn**	**12 09 06.0**	**+0.9**
KIW				S	**Sn**	**12 09 23.9**	**+2.8**
TKNZ	**Takaka Hill**	**1.26 315**			**Pn**	**12 09 05.8**	**+0.1**
TKNZ	**Takaka Hill**	**1.26 315**		P	**Pn**	**12 09 06.0**	**+0.2**
TRWZ	**Traveller**	**1.27 66**		P	**Pn**	**12 09 06.2**	**+0.2**
GVZ	**Greta Valley S**	**1.33 218**		Pn	**Pn**	**12 09 07.8**	**+1.1**
GVZ	**Greta Valley S**	**1.33 218**		P	**Pn**	**12 09 07.4**	**+0.7**
GVZ				S	**Sb**	**12 09 26.1**	**+1.9**
OGWZ	**Otaki Gorge**	**1.35 35**		P	**Pn**	**12 09 07.9**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.46 46**		P	**Pn**	**12 09 08.8**	**+0.3**
TMWZ	**Te Maipa**	**1.54 59**		P	**Pn**	**12 09 09.8**	**0.0**
LTZ	**Lake Taylor**	**1.63 238**		Pn	**Pn**	**12 09 11.8**	**+0.9**
LTZ	**Lake Taylor**	**1.63 238**		P	**Pn**	**12 09 11.7**	**+0.8**
QRZ	**Quartz Range**	**1.64 312**		P	**Pn**	**12 09 12.6**	**+1.6**
QRZ	**Quartz Range**	**1.64 312**			**Pn**	**12 09 12.3**	**+1.3**
QRZ	**Quartz Range**	**1.64 312**		P	**Pn**	**12 09 12.2**	**+1.3**
MRZ	**Mangatainoka R**	**1.66 41**		Pn	**Pn**	**12 09 11.9**	**+0.5**
MRZ	**Mangatainoka R**	**1.66 41**		P	**Pn**	**12 09 11.8**	**+0.5**
AMCZ	**Amberley**	**1.67 221**			**Pn**	**12 09 11.8**	**+0.4**
AMCZ	**Amberley**	**1.67 221**		P	**Pn**	**12 09 11.8**	**+0.4**
TIWZ	**Tintock**	**1.74 49**		P	**Pn**	**12 09 12.4**	**-0.1**
DSZ	**Denniston Nort**	**1.76 275**			**Pn**	**12 09 14.2**	**+1.5**
DSZ	**Denniston Nort**	**1.76 275**		P	**Pn**	**12 09 14.2**	**+1.5**
OHWZ	**Ohakea**	**1.93 28**		P	**Pb**	**12 09 17.3**	**-0.4**
PRWZ	**Pori Road**	**1.94 46**		P	**Pn**	**12 09 15.3**	**+0.1**
POWZ	**Post Office Ro**	**1.96 39**		P	**Pn**	**12 09 15.7**	**+0.3**
BFZ	**Birch Farm**	**2.01 53**		P	**Pn**	**12 09 16.0**	**-0.1**
BFZ	**Birch Farm**	**2.01 53**		Pn	**Pn**	**12 09 15.6**	**-0.6**
BFZ	**Birch Farm**	**2.01 53**		P	**Pn**	**12 09 15.6**	**-0.6**
MQZ	**McQueen's Vall**	**2.09 211**		Pn	**Pn**	**12 09 16.7**	**-0.5**
MQZ	**McQueen's Vall**	**2.09 211**		P	**Pn**	**12 09 16.3**	**-0.9**
OXZ	**Oxford**	**2.09 227**			**Pn**	**12 09 17.0**	**-0.3**
OXZ	**Oxford**	**2.09 227**		P	**Pn**	**12 09 16.8**	**-0.4**
AKCZ	**Akaroa Harbour**	**2.15 205**		P	**Pn**	**12 09 17.8**	**-0.2**
INZ	**Inchbonnie**	**2.15 247**		Pn	**Pn**	**12 09 19.3**	**+1.2**
INZ	**Inchbonnie**	**2.15 247**		P	**Pn**	**12 09 19.0**	**+0.9**
DVHZ	**Dannevirke**	**2.23 44**		P	**Pn**	**12 09 18.7**	**-0.4**
WAZ	**Wanganui**	**2.26 17**		P	**Pb**	**12 09 22.1**	**-1.2**
ANWZ	**Angora Road**	**2.29 51**		P	**Pn**	**12 09 19.3**	**-0.7**
TSZ	**Takapari Road**	**2.32 37**		P	**Pn**	**12 09 20.5**	**+0.1**
RACZ	**Rakaia**	**2.33 219**		P	**Pn**	**12 09 20.1**	**-0.4**
LREZ	**Lake Rotokare**	**

	13nm,0.3s							
URZ	**Urewera**	**4.31**	**33**	P		**Pn**	**12 09 46.8**	**-0.9**
TOZ	**Tahuroa Road**	**4.32**	**14**			**Pn**	**12 09 49.0**	**+1.2**
TOZ	**Tahuroa Road**	**4.32**	**14**	P		**Pn**	**12 09 49.3**	**+1.5**
JCZ	**Jackson Bay**	**4.48**	**240**	P		**Pn**	**12 09 50.5**	**+0.4**
JCZ	**Jackson Bay**	**4.48**	**240**	P		**Pn**	**12 09 50.3**	**+0.1**
TGRZ	**Tauranga**	**4.50**	**22**	P		**Pn**	**12 09 50.9**	**+0.7**
HHSZ	**Highcliff Hill**	**4.72**	**212**	P		**Pn**	**12 09 52.9**	**-0.4**
WKZ	**Wanaka**	**4.73**	**230**	Pn		**Pn**	**12 09 52.8**	**-0.8**
WKZ	**Wanaka**	**4.73**	**230**	P		**Pn**	**12 09 53.1**	**-0.4**
TWGZ	**Tauwhareparae**	**4.76**	**39**	P		**Pn**	**12 09 52.9**	**-1.1**
RUGZ	**Raukumara Rang**	**4.80**	**36**	P		**Pn**	**12 09 52.8**	**-1.7**
EAZ	**Earnscleugh**	**4.82**	**225**	P		**Pn**	**12 09 54.0**	**-0.8**
KBAZ	**Karaka Road Bo**	**4.86**	**7**	P		**Pn**	**12 09 58.7**	**+3.5**
AWAZ	**Awhitu Peninsu**	**4.87**	**5**	P		**Pn**	**12 09 59.0**	**+3.7**
MKAZ	**Moumakai**	**4.88**	**10**	P		**Pn**	**12 09 56.9**	**+1.4**
WTAZ	**Waiatarua**	**5.00**	**4**	P		**Pn**	**12 10 00.4**	**+3.2**
ETAZ	**East Tamaki Re**	**5.00**	**7**	P		**Pn**	**12 09 59.4**	**+2.2**
HAZ	**Te Kaha**	**5.02**	**35**	P		**Pn**	**12 09 56.1**	**-1.3**
RVAZ	**Riverhead Bore**	**5.16**	**4**	P		**Pn**	**12 10 02.1**	**+2.7**
MBAZ	**Motutapu North**	**5.18**	**7**	P		**Pn**	**12 10 02.9**	**+3.3**
WIAZ	**Waiheke Island**	**5.18**	**9**	P		**Pn**	**12 10 01.8**	**+2.1**
TUZ	**Tuapeka**	**5.18**	**217**	P		**Pn**	**12 09 59.4**	**-0.3**
MSZ	**Milford Sound**	**5.30**	**237**	P		**Pn**	**12 10 03.0**	**+1.7**
KUZ	**Kuaotunu**	**5.31**	**14**	P		**Pn**	**12 10 03.3**	**+1.8**
KUZ	**Kuaotunu**	**5.31**	**14**	P		**Pn**	**12 10 03.5**	**+2.0**
ABAZ	**Army Bay**	**5.34**	**6**	P		**Pn**	**12 10 05.2**	**+3.3**
MXZ	**Matakaoa Point**	**5.41**	**38**	P		**Pn**	**12 10 03.1**	**+0.3**
MXZ	**Matakaoa Point**	**5.41**	**38**	Pn		**Pn**	**12 10 01.7**	**-1.1**
MLZ	**Mavora Lakes**	**5.56**	**230**	Pn		**Pn**	**12 10 04.3**	**-0.6**
MLZ	**Mavora Lakes**	**5.56**	**230**	P		**Pn**	**12 10 04.4**	**-0.6**
SYZ	**Scrubby Hill**	**5.85**	**216**	P		**Pn**	**12 10 08.9**	**+0.1**
SYZ	**Scrubby Hill**	**5.85**	**216**	P		**Pn**	**12 10 09.2**	**+0.4**
WCZ	**Waipu Caves**	**5.98**	**2**	P		**Pn**	**12 10 13.9**	**+3.3**
WHZ	**Wether Hill Ro**	**5.98**	**226**	Pn		**Pn**	**12 10 09.2**	**-1.4**
WHZ	**Wether Hill Ro**	**5.98**	**226**	P		**Pn**	**12 10 09.8**	**-0.8**
DCZ	**Deep Cove**	**6.18**	**233**	Pn		**Pn**	**12 10 12.4**	**-1.0**
APZ	**The Paps**	**6.60**	**220**	P		**Pn**	**12 10 19.5**	**+0.4**
OUZ	**Omahuta**	**6.71**	**356**	P		**Pn**	**12 10 22.2**	**+1.6**
OUZ	**Omahuta**	**6.71**	**356**	P		**Pn**	**12 10 24.1**	**+3.4**
CTZ	**Chatham Island**	**7.03**	**108**	P		**Pn**	**12 10 24.6**	**-0.5**
CTZ	**Chatham Island**	**7.03**	**108**	Pn		**Pn**	**12 10 25.3**	**+0.2**
CTZ	**Chatham Island**	**7.03**	**108**	P		**Pn**	**12 10 24.7**	**-0.3**
AS31	**Alice Springs**	**38.00**	**286**	P		**P**	**12 15 59.9**	**-0.3**
ASAR	**Alice Springs**	**38.00**	**286**	P		**P**	**12 15 59.6**	**-0.5**
ASAR	**Alice Springs**	**38.00**	**286**	P		**P**	**12 15 58.1**	**-2.0**
	0.5nm,0.6s,baz=125,slow=7.2,SNR=16							
ASAR				PcP		**PcP**	**12 18 14.1**	**-1.5**
	0.2nm,0.6s,baz=125,slow=3.8,SNR=1.9							
	0.5nm,0.6s							
COEN	**Coen**	**38.67**	**307**	P		**P**	**12 16 05.6**	**-0.2**
COEN				IAmb		IAmb	12 16 15.5	
	comp=Z,5.0nm,1.0s							
WR0	**Warramunga Arr**	**39.94**	**291**	P		**P**	**12 16 15.6**	**-0.8**
WB2	**Warramunga Arr**	**40.08**	**291**	P		**P**	**12 16 16.5**	**-1.1**
WB2				IAmb		IAmb	12 16 22.3	
	comp=Z,4.4nm,1.0s							
WRAB	**Tennant Creek**	**40.09**	**291**	P		**P**	**12 16 16.6**	**-1.0**
WRAB				IAmb		IAmb	12 16 37.2	
	comp=Z,3.6nm,0.8s							
WRA	**Warramunga Arr**	**40.09**	**291**	P		**P**	**12 16 15.6**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=128,slow=8.5,SNR=23							
WRA				PcP		**PcP**	**12 18 20.0**	**-2.3**
	comp=Z,0.2nm,0.6s,baz=131,slow=3.1,SNR=1.4							
	comp=Z,0.5nm,0.4s							
WB0	**Warramunga Arr**	**40.17**	**291**	P		**P**	**12 16 17.4**	**-0.9**
WB0				IAmb		IAmb	12 16 46.2	
	comp=Z,2.1nm,0.8s							
MTN	**Manton Dam**	**47.22**	**295**	P		**P**	**12 17 14.8**	**-0.2**
FITZ	**Fitzroy Crossi**	**47.48**	**285**	P		**P**	**12 17 16.0**	**-1.1**
FITZ				IAmb		IAmb	12 17 34.8	
	comp=Z,0.8nm,0.9s							
QSPA	**South Pole Qui**	**48.20**	**180**	P		**P**	**12 17 23.0**	**+0.6**
QSPA	**South Pole Qui**	**48.20**	**180**	P		**P**	**12 17 23.7**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=40,slow=4.9,SNR=7.0							
	comp=Z,2.1nm,0.9s							
KSRS	**Korea Array**	**89.55**	**325**	P		**P**	**12 21 38.7**	**-0.4**
	comp=Z,1.3nm,0.8s,baz=152,slow=6.8,SNR=2.9							
	comp=Z,1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**91.63**	**293**	P		**P**	**12 21 49.4**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=150,slow=3.8,SNR=2.2							
	comp=Z,1.0nm,0.6s							
YKA	**Yellowknife Ar**	**118.57**	**30**	PKP		**PKPdf**	**12 27 27.7**	**-1.0**
	comp=Z,0.3nm,0.7s,baz=277,slow=1.8,SNR=6.5							
MKAR	**Makanchi Array**	**120.06**	**308**	PKP		**PKPdf**	**12 27 29.8**	**-2.2**
	comp=Z,0.2nm,0.4s,baz=104,slow=2.5,SNR=2.8							
BVAR	**Borovoye Array**	**129.62**	**310**	PKP		**PKPdf**	**12 27 47.5**	**-2.7**
	comp=Z,0.3nm,0.4s,baz=103,slow=6.2,SNR=2.0							
DBIC	**Dimbokro**	**144.88**	**182**	PKPbc		**PKPab**	**12 28 18.5**	**0.0**
	comp=Z,1.0nm,0.5s,baz=192,slow=1.7,SNR=1.5							
ARCES	**ARCESS Array B**	**147.91**	**340**	PKPbc		**PKPdf**	**12 28 25.4**	**+2.4**
	comp=Z,1.0nm,0.7s,baz=348,slow=2.9,SNR=3.6							
BRTR	**Keskin Array B**	**150.21**	**279**	PKPab		**PKiKP**	**12 28 37.9**	**+4.2**
	comp=Z,0.7nm,0.8s,baz=144,slow=4.6,SNR=3.7							
TORD	**Torodi Ar. Bea**	**150.59**	**195**	PKPbc		**PKPbc**	**12 28 34.2**	**0.0**
	comp=Z,0.9nm,0.4s,baz=165,slow=2.4,SNR=20							
FINES	**FINESS Array B**	**152.63**	**326**	PKPbc		**PKPbc**	**12 28 36.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=27,slow=1.6,SNR=4.6							

JMA ***02*** *12:14:29.6±0.2, 43.8°N±1.0°×14.7°E±°, h35km, MV3.5/25, E OFF HOKKAIDO*

SKHL ***02*** *12:14:30.7±0.5, 44.0°N×147.4°E, h44km±4km, mb4.2/3*

ISC 02 12:14:27.6±2.2, 43.93°N±0.09°×147.6°E±0.1, h29km±24km, n17, σ1°07/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SHO	**Shikotan**	**0.56**	**264**	*i* P	**Pn**	**12 14 40.4**	**+0.9**
SHO				AMB	AMB	12 14 41.0	
	70nm,0.2s						
SHO				*i* S	**Sn**	**12 14 47.7**	**0.0**
SHO				A	A	12 14 48.1	
	1μm,0.3s						
SHO				A	A	12 14 48.1	
	1μm,0.3s						
YUK	**Yuzh-Kuril'sk**	**1.26**	**276**	*i* P	**Pn**	**12 14 49.2**	**+0.1**
YUK				AMB	AMB	12 14 49.9	
	200nm,0.2s						
YUK				*i* S	**Sn**	**12 15 03.2**	**-1.8**
YUK				A	A	12 15 05.9	
	860nm,0.2s						
YUK				A	A	12 15 05.9	
	680nm,0.2s						
KUR	**Kuril'sk**	**1.32**	**8**	*e*P	**Pb**	**12 14 51.3**	**-0.5**
KUR				AMB	AMB	12 14 52.0	
	30nm,0.3s						
KUR				*e*S	**Sn**	**12 15 06.0**	**-0.7**
KUR				A	A	12 15 07.5	
	360nm,0.3s						
KUR				A	A	12 15 07.5	
	610nm,0.3s						
NEM2	**Nemuro 2**	**1.46**	**248**	*e*P	**Pn**	**12 14 52.3**	**+0.4**
NEM2				S	**Sn**	**12 15 08.4**	**-1.6**
NMR	**Nemuro--Hokkai**	**1.46**	**248**	*i* P	**Pn**	**12 14 52.3**	**+0.3**
NMR				*i* S	**Sn**	**12 15 08.7**	**-1.5**
JRA	**Rausu**	**1.79**	**271**	*e*P	**Pn**	**12 14 57.5**	**+1.0**
JRA				S	**Sn**	**12 15 18.0**	**-0.1**
JNSB	**Nemuroshibetsu**	**1.88**	**266**	P	**Pn**	**12 14 58.7**	**+1.0**
JNSB				*e*S	**Sn**	**12 15 20.3**	**-0.1**
JKHN	**Kushirohamanak**	**1.96**	**245**	*e*S	**Sn**	**12 15 21.1**	**-1.3**
JNK	**Nakash**	**2.11**	**262**	*i* P	**Pn**	**12 15 01.9**	**+1.0**
JNK				*e*S	**Sn**	**12 15 25.4**	**-0.8**
AKK	**Akkeshi**	**2.20**	**247**	*e*P	**Pn**	**12 15 02.8**	**+0.7**
JAK	**Akkeshi**	**2.31**	**247**	*e*P	**Pn**	**12 15 04.3**	**+0.7**
JAK				*e*S	**Sn**	**12 15 30.3**	**-0.6**
JTKR	**Abashiri--Toko**	**2.66**	**272**	P	**Pn**	**12 15 09.8**	**+1.3**
JAR	**Ashorobuto**	**2.85**	**259**	P	**Pn**	**12 15 12.7**	**+1.6**
JOB	**Onbets**	**2.92**	**251**	*e*P	**Pn**	**12 15 13.6**	**+1.5**
JOB				*e*S	**Sn**	**12 15 46.0**	**-0.2**
JMP	**Maruseppu**	**3.06**	**273**	P	**Pn**	**12 15 15.3**	**+1.4**
JCH	**Churui**	**3.36**	**248**	*e*P	**Pn**	**12 15 19.3**	**+1.3**
JCH				*e*S	**Sn**	**12 15 56.1**	**-0.8**
YSS	**Yuzh-Sakhalins**	**4.56**	**313**	*e*P	**Pn**	**12 15 35.3**	**+0.8**

IDC ***02*** *12:17:12.5±0.5, 5.93°S×149.77°E, h59km±4km, mb4.3/18, mbtmp4.6/19, MS3.7/32, Error ellipse: s-maj=14.7km s-min=8.8km az=106.0*

NEIC ***02*** *12:17:12.1±1.7, 6.02°S±0.07°×149.85°E±0.08, h35km±2km, mb4.8/85, Error ellipse: s-maj=14.3km s-min=11.0km az=71.0*

BJI ***02*** *12:17:15.4±0.0, 6.08°S×149.89°E, h82km, mb4.6/37, mB5.0/20, Ms4.5/11, Ms7 4.3/13*

GCMT ***02*** *12:17:17.1±0.2, 6.10°S×0.01×149.93°E±0.02, h64km±1km, MW5.0/98, Moment Tensor Solution. s71,c88; s98,c150; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r2.87±.12; $M_{\theta\theta}$0.23±.10; $M_{\phi\phi}$-3.10±.10; $M_{r\theta}$-0.49±.07; $M_{r\phi}$-2.26±.09; $M_{\theta\phi}$-0.62±.09; Best double couple: M_o3.64600×10^{16} NP1:ϕ±212.00000°, δ51.00000°, λ97.00000°. NP2: ϕ±21.00000°, δ39.00000°, λ81.00000°. Principal axes: T 2.9680, Plg82.0000°, Azm160.0000°; N 1.3580, Plg6.0000°, Azm28.0000°; P -4.3240, Plg6.0000°, Azm297.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***02*** *12:17:19.6±0.7, 6.5°S±5.5°×15.0°E±°, h101km±6km, M5.1/37, mb5.2/37, mB5.6/14, MLv5.0/1, Mw(mB)5.1/14, MwMwp4.7/1, Mwp5.0/1*

ISC 02 12:17:13.4±0.3, 6.08°S±0.04×149.82°E±0.04, h60km±2km, h60km:pP-P, n290, σ1°54/281, mb4.8/80, MS3.9/39, 9C-3D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I40PG	**Keravat**	**2.81**	**51**	P	**Pn**	**12 17 56.9**	**+0.9**
	baz=196,slow=24						
I40PG				I	I	12 28 00.0	
	baz=223,slow=308,SNR=1.4						
KRVT	**Keravat (AS076**	**2.81**	**51**	P	**Pn**	**12 17 57.6**	**+1.5**
	80nm,0.4s,baz=194,slow=4.2,SNR=37						
PMG	**Port Moresby**	**4.23**	**218**		**Pn**	**12 18 15.3**	**-0.2**
PMG	**Port Moresby**	**4.23**	**218**	P	**Pn**	**12 18 17.6**	**+2.2**
	352nm,0.3s,baz=26,slow=13,SNR=100						
PMG				S	**Sn**	**12 19 05.4**	**+1.8**
	5μm,0.9s,baz=60,slow=21,SNR=22						
MANU	**Manus Island**	**4.70**	**328**	P	Pn	12 18 28.3	+6.5
MANU	**Manus Island**	**4.70**	**328**	Pn	**Pn**	**12 18 19.6**	**-2.2**
TABU	**Tabubil**	**8.59**	**275**	P	Pn	12 19 20.0	+4.7
JAY	**Jayapura**	**9.75**	**291**	P	**Pn**	**12 19 35.0**	**+3.9**
	120nm,1.1s,884nm						
COEN	**Coen**	**10.20**	**219**	P	**Pn**	**12 19 38.0**	**+0.8**
	baz=10,SNR=7.7						
COEN	**Coen**	**10.20**	**219**	Pn	**Pn**	**12 19 35.8**	**-1.4**
GENI	**Genyem**	**10.23**	**289**	P	Pn	12 19 41.5	+3.9
GENI	**Genyem**	**10.23**	**289**	P	Pn	12 19 42.9	+5.3
	106nm,1.0s						
HNR	**Honiara**	**10.57**	**109**		**Pn**	**12 19 40.2**	**-2.2**
HNR	**Honiara**	**10.57**	**109**	P	**Pn**	**12 19 44.2**	**+1.9**
	6μm,0.8s,baz=220,slow=9.6,SNR=16						
HNR				LR	LR	12 23 23.1	
	comp=Z,9μm,21.2s,baz=277,slow=35						
SMPI	**Sarmi**	**11.80**	**290**	P	Pn	12 20 03.9	+4.8
	76nm,1.3s						
MTSU	**Mount Surprise**	**13.13**	**204**	P	**Pn**	**12 20 19.1**	**+1.8**
	baz=13,SNR=40						
TV1H	**Townsville Har**	**13.43**	**192**	P	**P**	**12 20 25.8**	**-2.9**
CTAO	**Charters Tower**	**14.35**	**194**	P	**P**	**12 20 37.4**	**-1.6**
CTAO	**Charters Tower**	**14.35**	**194**	Pn	**Pn**	**12 20 32.0**	**-1.6**
RK1H	**Rockhampton Ha**	**17.22**	**178**	P	**P**	**12 21 13.3**	**+2.5**
QIS	**Mount Isa**	**17.48**	**214**	P	**P**	**12 21 14.6**	**+0.9**
	baz=17,SNR=28						
QIS	**Mount Isa**	**17.48**	**214**	P	**P**	**12 21 14.8**	**+1.1**
FAKI	**Fak Fak**	**17.79**	**279**	P	**P**	**12 21 17.0**	**-0.2**
FAKI	**Fak Fak**	**17.79**	**279**	P	**P**	**12 21 18.9**	**+1.7**
	33nm,1.0s,1μm						
KDU	**Kakadu**	**18.32**	**248**	P	**P**	**12 21 22.8**	**-0.2**
	baz=18,SNR=41						
KDU	**Kakadu**	**18.32**	**248**	P	**Pn**	**12 21 23.5**	**0.0**
SAUI	**Saumlaki**	**18.48**	**263**	P	**Pn**	**12 21 25.0**	**-0.4**
SAUI	**Saumlaki**	**18.48**	**263**	P	**Pn**	**12 21 25.8**	**+0.4**
	364nm,1.0s,33μm						
EIDS	**Eidsvold**	**19.22**	**177**	P	**Pn**	**12 21 34.4**	**+0.2**
	baz=19,SNR=14						
EIDS	**Eidsvold**	**19.22**	**177**	P	**Pn**	**12 21 35.4**	**+1.2**
EIDS	**Eidsvold**	**19.22**	**177**	P	**P**	**12 21 32.4**	**-0.3**
EIDS				IAmb	IAmb	12 21 36.7	
	comp=Z,35nm,0.7s						
MTN	**Manton Dam**	**19.61**	**249**	P	**Pn**	**12 21 37.8**	**-1.1**
	baz=20,SNR=42						
MTN	**Manton Dam**	**19.61**	**249**	P	**Pn**	**12 21 38.1**	**-0.8**
MTN	**Manton Dam**	**19.61**	**249**	P	**P**	**12 21 37.5**	**+0.4**
DRS	**Darwin Rock St**	**19.70**	**250**	P	**Pn**	**12 21 39.3**	**-0.7**
BNDI	**Bandanaira**	**19.89**	**273**	P	**P**	**12 21 39.1**	**-1.0**
	comp=Z,70nm,0.7s						
GUMO	**Guam**	**20.15**	**346**	LR	LR	12 29 52.0	
	comp=Z,161nm,18.1s,baz=160,slow=38						
WB0	**Warramunga Arr**	**20.25**	**226**	P	Pn	12 21 45.2	-1.2
WR0	**Warramunga Arr**	**20.27**	**226**	P	Pn	12 21 45.6	-1.1
WRAB	**Tennant Creek**	**20.39**	**226**	P	Pn	12 21 46.8	-1.3
WB2	**Warramunga Arr**	**20.39**	**226**	P	**P**	**12 21 46.3**	**+0.7**
	baz=20						
WB2	**Warramunga Arr**	**20.39**	**226**	P	Pn	12 21 46.9	-1.3
WRA	**Warramunga Arr**	**20.40**	**226**	P	**P**	**12 21 46.9**	**+1.2**
WRA				IAmb	IAmb	12 21 47.7	
	comp=Z,24nm,0.8s						
WRA	**Warramunga Arr**	**20.40**	**226**	P	**P**	**12 21 45.5**	**-0.2**
	comp=Z,182nm,0.8s,baz=52,slow=11,SNR=228						
WRA				pP	**pP**	**12 21 58.7**	**+0.9**
	comp=Z,58nm,0.8s,baz=52,slow=11,SNR=11						
WRA				S	**S**	**12 25 26.7**	**-4.4**
	comp=Z,5.5nm,0.8s,baz=49,slow=20,SNR=6.8						
WRA				PcP	**PcP**	**12 25 57.1**	**+0.6**
	comp=Z,11nm,0.7s,baz=40,slow=2.2,SNR=8.0						
WRA				ScP	**ScP**	**12 29 26.6**	**-1.4**
	comp=Z,5.5nm,0.9s,baz=41,slow=2.3,SNR=7.5						
WRA				PKiKP	**PKiKP**	**12 33 42.9**	**-2.1**
	comp=Z,0.4nm,0.6s,baz=31,slow=1.2,SNR=8.4						
QLP	**Quilpie**	**21.08**	**194**	P	**P**	**12 21 54.2**	**+1.4**
	baz=21,SNR=61						
QLP	**Quilpie**	**21.08**	**194**	P	**P**	**12 21 55.0**	**+2.1**
AUWSH	**Wavell State H**	**21.43**	**172**	P	**P**	**12 21 58.3**	**+1.7**
DZM	**Mont Dzumac**	**22.61**	**136**	P	**P**	**12 22 12.2**	**+2.8**
DZM	**Mont Dzumac**	**22.61**	**136**	*e*P	**P**	**12 22 10.4**	**+0.9**
	comp=Z,65nm,0.9s						
DZM				*e*S	**S**	**12 26 12.7**	**-0.4**
	comp=Z,717nm,27.5s						
DZM				*e*LR	LR	12 27 39.9	
	comp=Z,1μm,24.9s						
DZM	**Mont Dzumac**	**22.61**	**136**	P	**P**	**12 22 10.3**	**+0.9**
DZM				IAmb	IAmb	12 22 13.0	
	comp=Z,27nm,0.8s						
DZM	**Mont Dzumac**	**22.61**	**136**	P	**P**	**12 22 10.2**	**+0.8**
	comp=Z,26nm,0.8s,baz=294,slow=6.5,SNR=13						
	comp=Z,26nm,0.8s						
KNRA	**Kununurra**	**22.75**	**244**	P	**P**	**12 22 10.9**	**0.0**
	baz=23,SNR=48						
KNRA				P	**P**	**12 22 10.9**	**0.0**
	baz=23,SNR=48						
KNRA	**Kununurra**	**22.75**	**244**	P	**P**	**12 22 12.2**	**+1.3**
KNRA	**Kununurra**	**22.75**	**244**	P	**P**	**12 22 11.8**	**+0.9**
YATNC	**Mamie plateau,**	**22.91**	**136**	P	**P**	**12 22 14.8**	**+2.3**
LBMI	**Labuha**	**22.92**	**283**	P	**P**	**12 22 13.3**	**+0.6**
	comp=Z,43nm,0.9s						
INKA	**Innaminka**	**23.21**	**201**	P	**P**	**12 22 16.1**	**+0.8**
AS31	**Alice Springs**	**23.24**	**220**	P	**P**	**12 22 16.4**	**+0.6**
ASAR	**Alice Springs**	**23.25**	**220**	P	**P**	**12 22 16.4**	**+0.6**
ASAR	**Alice Springs**	**23.25**	**220**	P	**P**	**12 22 15.3**	**-0.6**
	comp=Z,33nm,0.8s,baz=59,slow=8.2,SNR=156						
ASAR				PcP	**PcP**	**12 26 02.8**	**+0.7**
	comp=Z,6.8nm,0.9s,baz=49,slow=2.1,SNR=5.8						
ASAR				S	**S**	**12 26 23.6**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=69,slow=16,SNR=2.6						
ASAR				ScP	**ScP**	**12 29 35.3**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=51,slow=2.7,SNR=9.8						
ASAR				LR	LR	12 32 11.1	
	comp=Z,166nm,20.8s,baz=67,slow=38						
ASAR				PKiKP	**PKiKP**	**12 33 44.7**	**-1.7**
	comp=Z,1.0nm,0.9s,baz=65,slow=0.5,SNR=5.8						
	comp=Z,33nm,0.8s						
AULRC	**Lightning Ridg**	**23.29**	**184**	P	**P**	**12 22 16.7**	**+0.5**
SANI	**Sanana**	**24.10**	**279**	P	**P**	**12 22 24.8**	**+1.0**
SANI	**Sanana**	**24.10**	**279**	P	**P**	**12 22 24.7**	**+1.0**
	comp=Z,30nm,0.6s						
ARMA	**Armidale**	**24.27**	**176**	P	**P**	**12 22 26.4**	**+1.1**
	baz=24,SNR=36						
ARMA	**Armidale**	**24.27**	**176**	P	**P**	**12 22 26.8**	**+1.5**
ARMA	**Armidale**	**24.27**	**176**	P	**P**	**12 22 27.1**	**+1.8**
ARMA				IAmb	IAmb	12 22 27.6	
	comp=Z,51nm,0.8s						
AUPHS	**Peel High Scho**	**24.91**	**178**	P	**P**	**12 22 32.1**	**+1.1**
OOD	**Oodnadatta**	**25.43**	**210**	P	**P**	**12 22 36.7**	**+1.0**
SOEI	**Soe**	**25.57**	**260**	P	**P**	**12 22 37.7**	**+0.5**
SOEI	**Soe**	**25.57**	**260**	P	**P**	**12 22 38.0**	**+0.8**
	comp=Z,162nm,1.0s,comp=Z,2μm						

CMSA	**Cobar Meteorol**	**25.62**	**188**	P		**P**	**12 22 37.8**	**+0.4**
	baz=26,SNR=70							
CMSA	**Cobar Meteorol**	**25.62**	**188**	P		**P**	**12 22 38.0**	**+0.6**
AUDCS	**Dubbo College**	**26.04**	**182**	P		**P**	**12 22 42.3**	**+1.1**
BATI	**Baumata**	**26.21**	**259**	P		**P**	**12 22 41.4**	**-1.5**
	comp=Z,108nm,0.6s,baz=76,slow=1.8,SNR=4.7							
BATI				LR		LR	12 35 18.4	
	comp=Z,554nm,21.4s,baz=104,slow=42							
BATI	**Baumata**	**26.21**	**259**	P		**P**	**12 22 44.2**	**+1.3**
	comp=Z,130nm,0.6s,comp=Z,1μm							
FITZ	**Fitzroy Crossi**	**26.45**	**241**	P		**P**	**12 22 45.0**	**0.0**
	baz=26,SNR=46							
FITZ	**Fitzroy Crossi**	**26.45**	**241**	P		**P**	**12 22 45.3**	**+0.3**
FITZ	**Fitzroy Crossi**	**26.45**	**241**	P		**P**	**12 22 45.7**	**+0.7**
FITZ				IAmb		IAmb	12 22 51.0	
	comp=Z,26nm,0.7s							
LCRK	**Leigh Creek**	**26.59**	**203**	P		**P**	**12 22 46.3**	**+0.2**
STKA	**Stephens Creek**	**26.80**	**196**	P		**P**	**12 22 48.1**	**+0.1**
	baz=27,SNR=21							
STKA	**Stephens Creek**	**26.80**	**196**	P		**P**	**12 22 48.1**	**+0.1**
STKA	**Stephens Creek**	**26.80**	**196**	P		**P**	**12 22 47.9**	**-0.1**
	comp=Z,18nm,0.6s,baz=15,slow=9.9,SNR=23							
STKA				LR		LR	12 33 44.5	
	comp=Z,187nm,19.0s,baz=16,slow=37							
	comp=Z,18nm,0.6s							
MMRI	**Maumere**	**27.47**	**263**	P		**P**	**12 22 54.7**	**+0.4**
MMRI	**Maumere**	**27.47**	**263**	P		**P**	**12 22 53.8**	**-0.4**
MMRI	**Maumere**	**27.47**	**263**	P		**P**	**12 22 52.8**	**-1.5**
	comp=Z,111nm,0.6s,comp=Z,3μm							
DAV	**Davao City (W)**	**27.49**	**298**	LR		LR	12 35 12.3	
	comp=Z,29nm,18.1s,baz=136,slow=40							
WRKA	**Warakurna**	**27.94**	**225**	P		**P**	**12 22 58.5**	**+0.1**
	baz=28,SNR=27							
WRKA	**Warakurna**	**27.94**	**225**	P		**P**	**12 22 58.4**	**0.0**
EDFI	**Ende, Flores**	**28.02**	**263**	P		**P**	**12 22 57.7**	**-1.6**
	comp=Z,60nm,0.7s							
YNG	**Young**	**28.11**	**182**	P		**P**	**12 23 00.6**	**+0.9**
	baz=28,SNR=15							
YNG	**Young**	**28.11**	**182**	P		**P**	**12 23 00.7**	**+0.9**
MULG	**Mulgathing**	**28.28**	**210**	P		**P**	**12 23 01.6**	**+0.3**
HTT	**Hallett**	**29.04**	**199**	P		**P**	**12 23 08.3**	**+0.2**
	baz=29,SNR=18							
HTT	**Hallett**	**29.04**	**199**	P		**P**	**12 23 08.7**	**+0.6**
CNB	**Canberra Magne**	**29.10**	**181**	P		**P**	**12 23 09.6**	**+1.0**
	baz=29,SNR=10.0							
CNB	**Canberra Magne**	**29.10**	**181**	P		**P**	**12 23 09.8**	**+1.2**
CAN	**Canberra**	**29.11**	**181**	P		**P**	**12 23 10.0**	**+1.3**
CAN	**Canberra**	**29.11**	**181**	P		**P**	**12 23 10.2**	**+1.5**
CAN				IAmb		IAmb	12 23 10.7	
	comp=Z,18nm,0.9s							
WHYH	**Whyalla**	**29.14**	**201**	P		**P**	**12 23 09.4**	**+0.5**
BASI	**Baing, Sumba**	**29.23**	**260**	P		**P**	**12 23 08.4**	**-1.5**
	comp=Z,164nm,0.9s,comp=Z,3μm							
BBOO	**Buckleboo**	**29.53**	**204**	P		**P**	**12 23 12.1**	**-0.2**
	baz=30,SNR=19							
BBOO	**Buckleboo**	**29.53**	**204**	P		**P**	**12 23 12.4**	**+0.1**
BBOO	**Buckleboo**	**29.53**	**204**

GVZ IAmb IAmb 12 25 17.1
comp=Z,34nm,0.8s
JNU Nakatsue 42.93 336 LR LR 12 42 14.3
comp=Z,51nm,18.1s,baz=170,slow=35
JGF Kuroka 43.08 345 P **P** **12 25 07.7 -0.1**
MJAR Matsushiro Arr 43.77 346 P **P** **12 25 11.1 -2.1**
comp=Z,6.2nm,0.8s,baz=168,slow=6.8,SNR=18
comp=Z,6.2nm,0.8s
MAJO Matsushiro 43.77 346 P **P** **12 25 14.1 +0.9**
MAJO Matsushiro 43.77 346 P **P** **12 25 12.7 -0.5**
MAJO IAmb IAmb 12 25 16.2
comp=Z,14nm,0.8s
MAJO Matsushiro 43.77 346 P **P** **12 25 12.8 -0.5**
MAJO pP **pP** **12 25 28.6 -0.2**
MJB9 Matsu-Tunnel 43.77 346 P **P** **12 25 13.7 +0.4**
MJB9 IAmb IAmb 12 25 17.2
comp=Z,14nm,0.8s
QIZ Qiongzhong 46.62 303 P **P** **12 25 40.1 +4.0**
QIZ S **S** **12 32 26.8 +5.6**
QIZ LR LR
comp=Z,110nm,15.1s
QIZ LR LR
comp=Z,130nm,19.3s
QIZ LR LR
comp=Z,210nm,25.7s
KSRS Korea Array 47.88 336 P **P** **12 25 44.3 -1.2**
KSRS pP **pP** **12 25 58.5 -2.9**
comp=Z,2.1nm,1.0s,baz=122,slow=14,SNR=2.3
comp=Z,4.2nm,0.6s
RAR Rarotonga 51.01 112 LR LR 12 46 26.7
comp=Z,21nm,20.1s,baz=285,slow=34
TIA Tai'an 52.05 326 *e*P **P** **12 26 17.2 -0.1**
TIA pmax pmax
comp=Z,2.0nm,0.4s
USRK Ussuriysk Ar. 52.57 344 P **P** **12 26 23.0 +2.1**
USRK Ussuriysk Ar. 52.57 344 P **P** **12 26 21.6 +0.7**
comp=Z,6.4nm,0.8s,baz=185,slow=6.5,SNR=11
USRK pP **pP** **12 26 35.1 -1.7**
comp=Z,9.5nm,0.7s,baz=183,slow=5.9,SNR=9.0
LYN LuoYang 53.62 322 *e*P **P** **12 26 31.4 +2.5**
LYN pmax pmax
comp=Z,17nm,0.6s
LYN LR LR
comp=Z,320nm,20.1s
LYN LR LR
comp=Z,250nm,16.0s
LYN LR LR
comp=Z,560nm,21.1s
MDJ Mudanjiang 53.64 342 P **P** **12 26 32.0 +3.2**
MDJ pmax pmax
comp=Z,10.0nm,0.9s
MDJ pmax pmax
comp=Z,160nm,4.1s
HNS HongShan 54.25 326 ⇑P P 12 26 38.1 +4.7
HNS S **S** **12 34 04.7 -1.8**
HNS pmax pmax
comp=Z,16nm,1.4s
HNS LR LR
comp=Z,180nm,20.1s
HNS LR LR
comp=Z,270nm,19.6s
CRAI Chiangrai 55.18 300 P **P** **12 26 40.3 -0.1**
BNX BinXian 55.34 341 ⇓P **P** **12 26 41.6 +0.5**
BNX pmax pmax
comp=Z,7.0nm,0.9s
BNX pmax pmax
comp=Z,77nm,5.4s
XAN Xi'an 55.56 319 P **P** **12 26 44.0 +1.0**
XAN pmax pmax
comp=Z,9.0nm,1.1s
CMAR Chiang Mai Arr 55.77 297 P **P** **12 26 43.7 -1.0**
comp=Z,0.9nm,0.8s,baz=121,slow=6.5,SNR=5.8
CMAR LR LR 12 48 06.6
comp=Z,35nm,21.3s,baz=100,slow=33
CMAR PKP2bc **P'P'bc** **12 56 56.3 -4.1**
comp=Z,0.4nm,0.6s,baz=289,slow=3.0,SNR=4.2
comp=Z,0.9nm,0.8s
PZH PanZhiHua 56.72 307 P P 12 26 56.3 +4.8
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.7s
KLR Kul'dur 57.29 346 LR LR 12 50 01.2
comp=Z,26nm,19.9s,baz=160,slow=34
XLT XiLinHaoTe 58.32 332 *e*P **P** **12 27 03.1 +0.7**
XLT pP pP 12 27 20.5 +1.9
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,62nm,5.1s
HHC Hu-ho-hao-te 58.41 327 *e*P P 12 27 07.6 +4.5
HHC pmax pmax
comp=Z,29nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.1s
HHC LR LR
comp=Z,100nm,16.0s
HHC LR LR
comp=Z,170nm,16.8s
HHC LR LR
comp=Z,230nm,17.6s
TNCH TengChong 58.68 304 *e*P **P** **12 27 05.4 0.0**
TNCH pmax pmax
comp=Z,80nm,4.0s
BTO Baotou 59.10 325 *e*P P 12 27 13.6 +5.7
BTO pP sP 12 27 31.0 -0.1
BTO PP PP 12 29 28.4 +9.2
BTO S **S** **12 35 18.6 +7.8**
BTO pmax pmax
comp=Z,13nm,0.5s
BTO pmax pmax
comp=Z,250nm,5.1s
BTO LR LR
comp=Z,290nm,20.2s
BTO LR LR
comp=Z,300nm,15.2s
BTO LR LR
comp=Z,490nm,21.2s
PEA0B Petropavlovsk- 59.34 6 P **P** **12 27 09.3 +0.2**
PEA0B IAmb IAmb 12 27 29.9
comp=Z,10nm,0.8s
PETK Petropavlovsk- 59.34 6 P **P** **12 27 09.0 -0.1**
PETK Petropavlovsk- 59.34 6 P **P** **12 27 07.4 -1.8**
comp=Z,6.6nm,0.6s,baz=140,slow=5.7,SNR=30
PETK pP **pP** **12 27 24.5 -0.9**
comp=Z,5.2nm,0.6s,baz=157,slow=6.4,SNR=6.8
comp=Z,6.6nm,0.6s
HEH HeiHe 59.37 343 *e*P **P** **12 27 09.9 +0.5**
HEH pmax pmax
comp=Z,6.0nm,0.8s
LZH Lanzhou 60.12 318 *e*P **P** **12 27 16.8 +1.7**
LZH pmax pmax
comp=Z,13nm,1.1s
LZH LR LR
comp=Z,130nm,17.2s
LZH LR LR
comp=Z,180nm,18.9s
LZH LR LR
comp=Z,270nm,19.2s
PPT Papeete 60.19 107 LR LR 12 50 20.4
comp=Z,21nm,18.1s,baz=294,slow=33
PPT2 Papeete2 60.19 107 *e*P P 12 27 22.0 +6.2
comp=Z,79nm,24.5s
PPT2 *e*S **S** **12 35 32.6 +7.1**
comp=Z,32nm,24.2s
PPT2 *e*LR LR 12 45 06.6
comp=Z,132nm,28.0s
PPT2 *e*LR LR 12 45 12.2
comp=Z,133nm,27.5s
TBI Tubuai 60.76 113 *e*SS SS 12 39 39.0 +6.7
comp=Z,472nm,36.0s
TBI *e*LR LR 12 45 40.9
comp=Z,2μm,35.2s
DRV Dumont d'Urvil 60.87 184 ⇑P **P** **12 27 20.5 +1.1**
DRV pP **pP** **12 27 36.1 +1.3**
DRV sP **sP** **12 27 43.1 +1.8**
DRV PcP **PcP** **12 28 02.6 +0.1**
SONM Songino Array 65.86 330 P **P** **12 27 51.2 -1.8**
comp=Z,2.1nm,0.8s,baz=88,slow=3.6,SNR=5.9
SONM PKP2bc **P'P'bc** **12 56 33.6 +0.5**
comp=Z,1.1nm,0.5s,baz=301,slow=3.8,SNR=5.3
comp=Z,2.1nm,0.8s
CASY Casey 65.95 196 P **P** **12 27 53.5 +0.5**
CASY IAmb IAmb 12 27 53.7
comp=Z,17nm,1.1s
CASY Casey 65.95 196 P **P** **12 27 53.1 +0.1**
CASY pP **pP** **12 28 09.1 -0.1**
CASY sP **sP** **12 28 16.1 +0.1**
CASY PcP **PcP** **12 28 23.4 +0.1**
TAOE Nuku Hiva Isla 69.41 97 *e*P P 12 28 23.1 +7.2
comp=Z,42nm,25.3s
YAK Yakutsk 69.67 350 LR LR 12 57 46.9
comp=Z,18nm,21.8s,baz=154,slow=35
PALK Pallekele 70.22 280 LR LR 13 04 40.1
comp=Z,30nm,18.8s,baz=218,slow=41
CCD Concordia, Ant 70.63 187 ⇑P **P** **12 28 23.5 +0.9**
CCD pP **pP** **12 28 39.2 +0.2**
VNDA Vanda 71.69 177 P **P** **12 28 29.9 +1.4**
VNDA Vanda 71.69 177 P **P** **12 28 29.1 +0.5**
comp=Z,32nm,0.8s,baz=332,slow=6.8,SNR=194
VNDA LR LR 12 56 04.8
comp=Z,34nm,21.2s,baz=352,slow=32
comp=Z,32nm,0.8s
VNDA Vanda 71.69 177 ⇑P **P** **12 28 29.8 +1.4**
SBA Scott Base 72.28 176 P **P** **12 28 34.3 +2.2**
SBA IAmb IAmb 12 28 35.0
comp=Z,12nm,0.8s
BILL Bilibino 74.85 6 P **P** **12 28 48.8 +1.6**
M13K Dall Lake 75.74 22 P **P** **12 28 54.5 +2.0**
M13K IAmb IAmb 12 28 55.0
comp=Z,15nm,1.1s
O14K Tigyukauivet M 75.79 24 P **P** **12 28 54.0 +1.3**
O14K IAmb IAmb 12 29 16.6
comp=Z,14nm,1.1s
L14K Kuka Creek 76.60 21 P **P** **12 28 58.8 +1.5**
L14K IAmb IAmb 12 29 20.9
comp=Z,8.8nm,0.9s
KDAK Kodiak Island 78.66 27 LR LR 12 59 33.4
comp=Z,21nm,22.0s,baz=255,slow=32
TIXI Tiksi 78.79 353 LR LR 13 04 07.0
comp=Z,18nm,19.9s,baz=160,slow=36
MK31 Makanchi Array 79.35 320 P **P** **12 29 14.3 +1.3**
MKAR Makanchi Array 79.35 320 P **P** **12 29 13.3 +0.4**
MKAR Makanchi Array 79.35 320 P **P** **12 29 11.7 -1.2**
comp=Z,0.7nm,0.6s,baz=96,slow=5.8,SNR=4.6
MKAR LR LR 13 04 09.3
comp=Z,67nm,19.5s,baz=66,slow=36
comp=Z,0.7nm,0.6s
CNPM China Poot 80.16 26 P **P** **12 29 18.5 +1.5**
CNPM IAmb IAmb 12 29 20.2
comp=Z,22nm,1.0s
ZAA0 Zalesovo Array 80.58 327 P **P** **12 29 20.1 +0.8**
ZALV Zalesovo Beam 80.58 327 P **P** **12 29 19.2 -0.2**
ZALV Zalesovo Beam 80.58 327 P **P** **12 29 17.2 -2.1**
comp=Z,1.4nm,0.6s,baz=105,slow=4.6,SNR=7.9
ZALV PKKPbc **PKKPbc** **12 48 00.1 -2.2**
comp=Z,0.9nm,0.6s,baz=261,slow=3.8,SNR=5.2
ZALV PKPPKP **P'P'df** **12 56 01.9 -1.2**
comp=Z,0.8nm,0.8s,baz=247,slow=3.1,SNR=4.1
comp=Z,1.4nm,0.6s
KURBB Kurchatov Arra 82.98 323 P **P** **12 29 29.0 -3.1**
comp=Z,0.6nm,0.5s,baz=106,slow=4.4,SNR=2.9
KURBB PKPPKP **P'P'df** **12 55 57.9 -1.2**
comp=Z,0.6nm,0.3s,baz=236,slow=1.7,SNR=2.2
comp=Z,0.6nm,0.5s
RND Reindeer 83.06 23 IAmb IAmb 12 29 34.4
comp=Z,5.7nm,0.9s
MLY Manley 83.14 22 IAmb IAmb 12 29 34.7
comp=Z,4.5nm,0.8s
MAW Mawson 83.26 203 P **P** **12 29 33.4 +0.2**
baz=83,SNR=8.4
MAW Mawson 83.26 203 P **P** **12 29 31.9 -1.3**
comp=Z,9.3nm,0.6s,baz=93,slow=5.8,SNR=16
MAW LR LR 13 03 06.3
comp=Z,102nm,21.9s,baz=80,slow=33
comp=Z,9.3nm,0.6s
AAK Ala-Archa 83.40 314 P **P** **12 29 35.4 +0.7**
AAK Ala-Archa 83.40 314 LR LR 13 06 09.7
comp=Z,120nm,21.9s,baz=95,slow=35
QSPA South Pole Qui 83.89 180 P **P** **12 29 37.2 +0.6**
QSPA South Pole Qui 83.89 180 P **P** **12 29 34.8 -1.8**
comp=Z,46nm,0.8s,baz=335,slow=1.5,SNR=171
QSPA LR LR 13 05 11.7
comp=Z,50nm,21.2s,baz=10,slow=34
comp=Z,46nm,0.8s
H23K Yukon River 83.97 21 P **P** **12 29 36.0 -0.9**
COLA College 84.14 22 P **P** **12 29 38.4 +0.7**
COLA IAmb IAmb 12 29 39.4
comp=Z,7.8nm,0.8s
HDA Harding Lake 84.27 23 P **P** **12 29 39.1 +0.6**
E22K Anaktuvuk Pass 84.38 19 P **P** **12 29 39.9 +0.9**
ILAR Eielson Array 84.46 23 P **P** **12 29 36.0 -3.4**
comp=Z,3.6nm,0.7s,baz=249,slow=5.1,SNR=18
comp=Z,3.6nm,0.7s
J25K Salcha River, 84.98 23 IAmb IAmb 12 29 43.7
comp=Z,6.2nm,0.7s
M27K Edge Creek, AK 85.50 26 IAmb IAmb 12 29 48.0
comp=Z,6.8nm,1.1s
J26L Joseph Creek 85.64 23 IAmb IAmb 12 29 49.3
comp=Z,2.7nm,0.7s
D24K Happy Valley 85.85 18 IAmb IAmb 12 30 15.5
comp=Z,5.8nm,1.2s
K27K Chicken 86.05 24 IAmb IAmb 12 29 52.4
comp=Z,3.3nm,0.8s
EGAK Eagle 86.70 24 IAmb IAmb 12 29 57.1
comp=Z,3.6nm,0.9s
HYT Haines Junctio 86.94 28 IAmb IAmb 12 30 12.7
comp=Z,6.0nm,0.9s
M29M Somme Creek 87.02 26 IAmb IAmb 12 29 57.3
comp=Z,3.9nm,0.8s
DAWY Dawson 87.17 25 IAmb IAmb 12 30 19.5
comp=Z,4.8nm,1.0s
L29M L29M 87.38 26 IAmb IAmb 12 29 58.7
comp=Z,6.2nm,0.8s
I28M Miner Creek 87.43 23 IAmb IAmb 12 29 57.5
comp=Z,3.2nm,0.8s
K29M Barlow Dome 87.88 25 IAmb IAmb 12 29 59.1
comp=Z,4.1nm,0.7s
BVAR Borovoye Array 88.49 324 P **P** **12 29 56.3 -3.0**
comp=Z,1.5nm,0.8s,baz=103,slow=6.4,SNR=8.4
BVAR pP **pP** **12 30 14.2 -2.3**
comp=Z,1.0nm,0.6s,baz=104,slow=6.3,SNR=3.3
comp=Z,1.5nm,0.8s
J30M Hart River 88.59 25 IAmb IAmb 12 30 02.6
comp=Z,3.1nm,0.7s
BBB Bella Bella 89.91 38 LR LR 13 01 50.3
comp=Z,49nm,21.6s,baz=232,slow=30
G31M Satah River 90.07 22 IAmb IAmb 12 30 08.1
comp=Z,3.9nm,0.7s
YBH Yreka Blue Hor 92.11 48 LR LR 13 04 21.7
comp=Z,82nm,21.8s,baz=272,slow=31
A36M Sachs Harbour 94.17 18 IAmb IAmb 12 30 28.3
comp=Z,2.7nm,0.8s
ELIB Princess Elisa 94.84 195 *d*P **P** **12 30 28.5 -0.1**
comp=Z,8.7nm,1.0s
NVAR Mina Array Bea 95.20 52 LR LR 13 06 11.6
comp=Z,37nm,21.7s,baz=226,slow=31
BELA Belgrano 2 96.13 179 P **P** **12 30 34.2 0.0**
PFO Pinyon Flats O 96.42 57 LR LR 13 06 54.0
comp=Z,63nm,21.0s,baz=236,slow=31
NEW Newport 96.53 42 LR LR 13 06 54.5
comp=Z,29nm,21.5s,baz=264,slow=31
RPN Rapa Nui 96.84 118 LR LR 13 06 36.1
comp=Z,21nm,21.4s,baz=268,slow=31
ELK Elko 97.67 50 LR LR 13 08 10.6
comp=Z,63nm,20.8s,slow=31
YKA Yellowknife Ar 97.93 28 P **P** **12 30 41.2 -1.4**
comp=Z,0.4nm,0.9s,baz=284,slow=5.0,SNR=6.4
YKA PKIKP **PKiKP** **12 35 15.6 -0.1**
comp=Z,0.2nm,0.8s,baz=286,slow=1.7,SNR=3.5
YKA PKKPbc **PKKPbc** **12 47 15.5 -3.6**
comp=Z,0.4nm,0.7s,baz=76,slow=2.8,SNR=8.7
YKA LR LR 13 10 09.8
comp=Z,36nm,19.9s,baz=304,slow=32
comp=Z,0.4nm,0.9s
TROLL Troll, Antarti 99.21 190 ⇑Pdiff **Pdiff** **12 30 48.1 -0.3**
comp=Z,344nm,0.6s
TROLL ⇓pPdiff **pP** **12 31 04.5 -1.0**
SNAA Sanae 100.35 188 ⇑Pdiff **Pdiff** **12 30 52.2 -1.2**
comp=Z,73nm,1.0s
SNAA ⇑pPdiff pP 12 31 13.5 +2.9
SNAA Sanae 100.35 188 Pdiff **Pdiff** **12 30 50.7 -2.7**
comp=Z,3.1nm,0.9s,baz=185,slow=5.9,SNR=4.1
VNA3 Neumayer Olymp 101.64 187 ⇑Pdiff **Pdiff** **12 30 59.0 0.0**
comp=Z,5.3nm,0.8s
VNA2 Neumayer--Watz 101.66 187 ⇑Pdiff **Pdiff** **12 30 58.9 -0.2**
comp=Z,2.6nm,0.5s,baz=130,slow=5.3
ARCES ARCESS Array B 107.19 342 PKKPbc PKKPbc 12 46 48.6 -3.4
comp=Z,0.8nm,0.5s,baz=253,slow=1.3,SNR=10
TXAR Lajitas Array 107.34 61 PKKPbc PKKPbc 12 46 50.0 -0.3
comp=Z,0.6nm,0.8s,baz=104,slow=5.3,SNR=6.0
FINES FINESS Array B 110.95 335 PKiKP **PKiKP** **12 35 39.2 -0.5**
comp=Z,2.4nm,0.9s,baz=66,slow=6.2,SNR=2.0
MMAI Mount Meron Ar 113.73 303 PKPPKP **P'P'df** **12 54 57.9 -4.8**
comp=Z,1.3nm,0.2s,baz=24,slow=6.4,SNR=4.1
AKASG Malin Array Be 113.77 323 SKP **SKPdf** **12 39 13.5 -2.4**
comp=Z,0.4nm,0.3s,baz=22,slow=5.2,SNR=1.9
BOSA Boshof 116.48 234 PKP **PKPdf** **12 35 51.1 -0.3**
comp=Z,3.0nm,0.8s,baz=103,slow=2.6,SNR=5.9
NOA NORSAR Array B 117.06 339 PKP **PKPdf** **12 35 50.5 -1.0**
comp=Z,0.8nm,0.8s,baz=98,slow=12,SNR=1.6
PLCA Paso Flores 120.49 145 PKP **PKPdf** **12 35 56.9 -1.9**
comp=Z,3.5nm,0.6s,baz=228,slow=1.6,SNR=17
PLCA pPKP **pPKPdf** **12 36 15.8 -0.6**
comp=Z,3.3nm,0.9s,baz=229,slow=1.5,SNR=3.6
CLL Collm 122.48 329 *i* PKPdf **PKPdf** **12 36 02.0 -0.1**
comp=Z,7.0nm,1.0s
CLL AMS AMS 13 29 00.0
comp=Z,100nm,20.7s
SCHQ Schefferville 123.19 24 PKP **PKPdf** **12 36 01.6 -1.8**
comp=Z,1.5nm,0.7s,baz=273,slow=3.2,SNR=2.4
GERES GERESS Array B 123.53 327 PKP **PKPdf** **12 36 02.9 -1.5**
comp=Z,1.3nm,0.3s,baz=151,slow=2.2,SNR=4.3
BOJS Bojanci 124.44 323 *i* PKPbc **PKPdf** **12 36 05.7 -0.3**
CEY Cerknica 124.81 323 *e*PKPbc **PKPdf** **12 36 06.2 -0.6**
ATAH Atahualpa 130.14 105 PKP **PKPdf** **12 36 17.7 -0.6**
comp=Z,22nm,0.8s,baz=338,slow=0.4,SNR=11
NNA Nana 130.25 111 PKP **PKPdf** **12 36 18.2 +0.2**
comp=Z,15nm,0.8s,baz=314,slow=4.9,SNR=5.3
LVC Limon Verde 132.58 128 PKP **PKPdf** **12 36 23.4 +0.7**
comp=Z,3.5nm,0.6s,baz=297,slow=2.3,SNR=1.9
KEST Kesra 133.25 315 PKP **PKPdf** **12 36 21.0 -2.2**
comp=Z,4.6nm,0.8s,baz=345,slow=14,SNR=2.3
ROSC El Rosal 136.05 89 PKhKP PKPpre 12 36 20.5
comp=Z,9.2nm,0.8s,baz=261,slow=19,SNR=4.8
LPAZ La Paz 136.37 121 PKhKP PKPpre 12 36 19.8
comp=Z,2.0nm,0.8s,baz=307,slow=0.4,SNR=7.9
LPAZ PKP **PKPdf** **12 36 26.9 -3.4**
comp=Z,9.9nm,0.8s,baz=272,slow=3.0,SNR=7.9
CPUP Villa Florida 138.40 142 PKP **PKPdf** **12 36 30.2 -2.8**
comp=Z,4.3nm,0.7s,baz=191,slow=3.3,SNR=7.6
CPUP PP PP **12 39 21.7 -0.5**
comp=Z,1.0nm,0.3s,baz=250,slow=7.8,SNR=3.3
SIV San Ignacio 142.37 126 PKhKP PKPpre 12 36 35.3
comp=Z,8.5nm,0.8s,baz=249,slow=2.4,SNR=19
TORD Torodi Ar. Bea 147.82 285 PKP **PKPdf** **12 36 47.4 -2.4**
comp=Z,1.6nm,0.6s,baz=55,slow=7.6,SNR=18
TORD PKPbc **PKPbc** **12 36 52.0 -0.7**
comp=Z,11nm,0.6s,baz=50,slow=2.6,SNR=39
TORD pPKPbc **pPKPbc** **12 37 08.8 -1.6**
comp=Z,4.2nm,0.8s,baz=87,slow=2.8,SNR=2.7
BDFB Brasilia 152.12 141 PKP **PKPdf** **12 36 56.5 -0.2**
comp=Z,18nm,0.9s,baz=181,slow=2.8,SNR=20
BDFB PKPbc **PKPbc** **12 37 03.6 +0.2**
comp=Z,26nm,0.8s,baz=194,slow=4.2,SNR=20
BDFB pPKP **PKPab** **12 37 12.3 -0.6**
comp=Z,26nm,0.8s,baz=202,slow=5.4,SNR=9.4
DBIC Dimbokro 154.82 273 PKP **PKPdf** **12 36 59.3 -1.2**
comp=Z,4.6nm,1.0s,baz=97,slow=4.2,SNR=4.0
DBIC PKPbc **PKPbc** **12 37 07.6 -1.6**
comp=Z,10nm,0.9s,baz=118,slow=2.1,SNR=8.4
DBIC pPKPbc **PKPab** **12 37 24.4 -0.2**
comp=Z,7.5nm,0.7s,baz=117,slow=3.7,SNR=4.6

IDC 02 12:29:35.1±1.4, 19°.38N×147°.94E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=75.1km s-min=26.9km az=100.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**41.29**	**200**	P	P		12 37 22.4	-0.1
	2.1nm,0.7s,baz=20,slow=9.0,SNR=36							
	2.1nm,0.7s							
ASAR	**Alice Springs**	**44.92**	**198**	P	P		12 37 51.7	-0.2
	0.2nm,0.6s,baz=15,slow=6.5,SNR=8.6							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**67.31**	**320**	P	P		12 40 32.1	+0.3
	0.3nm,0.3s,baz=72,slow=9.3,SNR=2.2							
	0.3nm,0.3s							
YKA	**Yellowknife Ar**	**76.39**	**28**	P	P		12 41 25.9	-0.2
	0.1nm,0.6s,baz=293,slow=5.0,SNR=1.7							
	0.1nm,0.6s							

DJA 02 12:31:33.4±0.4, 1°.S±4°×100°.0E±°, h35km±10km, M3.9/9, mb4.3/1, MLv3.7/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SISI	**Saibi**	**0.60**	**245**	P	P	Pn	12 31 46.4	+1.0
SISI				S	S	Sn	12 31 56.0	+2.1
PDSI	**Padang**	**0.85**	**79**	P	P	Pn	12 31 49.5	+0.6
PDSI				S	S	Sn	12 32 01.0	+0.9
PBSI	**Pulau Batu**	**1.69**	**307**	P	P	Pn	12 32 00.6	+0.2
PPSI	**Pulau Pagai**	**1.72**	**167**	P	P	Pn	12 32 01.0	+0.1
GSI	**Gunungsitoli**	**3.13**	**319**	P	P	Pn	12 32 20.2	0.0
MNAI	**Manna**	**4.66**	**135**	P	P	Pn	12 32 41.9	+0.6

*HVO **02** 12:49:56.1±2.2, 19°.46N±0°.02×154°.87W±0°.03, h-0km±9km, ML2.8/5, ML2.5/16(NEIC), Error ellipse: s-maj=4.6km s-min=1.9km az=120.0*

NEIC 02 12:49:56.2±2.0, 19°.45N±0°.02×154°.84W±0°.03, h5km±2km, Error ellipse: s-maj=5.9km s-min=3.1km az=292.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**306**		Pg		12 49 57.5	-0.2
JOKA	**Jonika Flow**	**0.16**	**266**		Pg		12 50 00.1	+0.6
JOKA					Sg		12 50 03.6	+2.0
PUH	**Pauahi**	**0.37**	**259**		Pb		12 50 05.7	+0.4
RSD	**Rainshed**	**0.42**	**273**		Pb		12 50 05.5	-0.7
RSD				IAML			12 50 11.9	
	comp=N,379nm,1.7s							
RSD				IAML			12 50 13.6	
	comp=E,454nm,3.8s							
HLP	**Hilina Pali**	**0.47**	**252**		Sg		12 50 11.8	+0.4
HLP				IAML			12 50 11.9	
	comp=E,397nm,2.7s							
HLP				IAML			12 50 13.5	
	comp=N,446nm,1.9s							
HLP	**Hilina Pali**	**0.47**	**252**		Pg		12 50 05.5	+0.2
MLH	**Mauna Loa**	**0.52**	**275**		Pg		12 50 06.6	+0.3
MLH	**Mauna Loa**	**0.52**	**275**		Sg		12 50 13.8	+0.6
HTC	**Hot Caves**	**0.57**	**249**		Pg		12 50 07.1	-0.1
HMH	**Humu'ula Sheep**	**0.63**	**285**		Pn		12 50 11.2	-1.0
MWH	**Moku'aweowe**	**0.72**	**273**		Pg		12 50 08.8	-1.3
MWH				IAML			12 50 30.4	
	comp=E,241nm,1.4s							
POHA	**Pohakuloa**	**0.73**	**295**		Pg		12 50 08.8	-1.5
POHA				IAML			12 50 20.3	
	comp=E,244nm,3.6s							
POHA				IAML			12 50 32.1	
	comp=E,246nm,0.8s							
KHU	**Kahuku**	**0.76**	**255**		Pg		12 50 09.4	-1.5
KHU				IAML			12 50 23.7	
	comp=N,230nm,3.8s							
ALEP	**Alea Permanent**	**0.77**	**277**		Pg		12 50 10.1	-1.0
ALEP					Sg		12 50 20.7	-0.4

*HVO **02** 13:03:09.8±1.4, 19°.45N±0°.02×154°.85W±0°.03, h-0km±10km, ML2.7/7, ML2.5/38(NEIC), Error ellipse: s-maj=4.5km s-min=2.4km az=111.0*

NEIC 02 13:03:11.7±1.6, 19°.47N±0°.01×154°.93W±0°.04, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.8km az=284.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**73**		Pg		13 03 12.1	-0.8
JOKA	**Jonika Flow**	**0.08**	**242**		Pg		13 03 14.2	+0.6
JOKA					Sg		13 03 17.7	+3.0
NPOC	**North of Pu'u**	**0.19**	**246**	Pg	Pg		13 03 14.6	-0.8
NPOC				IAML			13 03 21.4	
	comp=E,676nm,0.2s							
PUH	**Pauahi**	**0.29**	**250**		Pg		13 03 17.1	-0.2
HATHI	**Halema'uma'u T**	**0.32**	**261**		Pg		13 03 17.5	-0.4
HATHI				IAML			13 03 28.9	
	comp=E,358nm,1.6s							
BYL	**Byron's Ledge**	**0.32**	**260**	Pg	Pg		13 03 17.4	-0.6
BYL				IAML			13 03 28.6	
	comp=E,307nm,2.7s							
SBLHI	**Steaming Bluff**	**0.32**	**262**		Pg		13 03 17.6	-0.4
KKO	**Keanakako'i**	**0.33**	**257**	Pg	Pg		13 03 17.4	-0.6
KKO				IAML			13 03 19.2	
	comp=E,304nm,3.1s							

KKO				IAML		13 03 19.2		
	comp=N,458nm,1.6s							
RSD	**Rainshed**	**0.33 269**			Pg	13 03 18.1	-0.1	
RSD					Sg	13 03 23.8	+1.3	
RSD				IAML		13 03 27.2		
	comp=N,503nm,2.5s							
RSD				IAML		13 03 29.9		
	comp=E,484nm,0.3s							
UWB	**Uwekahuna B**	**0.33 262**			Pg	13 03 18.2	0.0	
RIM	**Rim**	**0.33 257**	Pg		Pg	13 03 18.2	0.0	
RIM			IAML			13 03 26.9		
	comp=N,415nm,1.2s							
RIM				IAML		13 03 31.1		
	comp=E,326nm,0.9s							
UWE	**Uwekahuna**	**0.34 262**			Pg	13 03 17.9	-0.6	
UWE				IAML		13 03 29.8		
	comp=N,466nm,1.4s							
SDHHI	**Sand Hill**	**0.35 257**	Pg		Pg	13 03 18.4	-0.2	
SDHHI				IAML		13 03 27.5		
	comp=E,335nm,0.8s							
SDHHI				IAML		13 03 30.9		
	comp=N,369nm,0.9s							
WRMHI	**West Rim**	**0.35 260**	Pg		Pg	13 03 18.7	+0.1	
WRMHI				IAML		13 03 32.4		
	comp=N,509nm,1.4s							
HLP	**Hilina Pali**	**0.40 244**			Pg	13 03 19.5	+0.1	
HLP	**Hilina Pali**	**0.40 244**		IAML		13 03 25.9		
	comp=E,577nm,2.6s							
HLP				IAML		13 03 31.6		
	comp=N,418nm,0.5s							
MLH	**Mauna Loa**	**0.43 273**			Pg	13 03 19.9	-0.2	
MLH				IAML		13 03 28.4		
	comp=N,258nm,0.7s							
MLH				IAML		13 03 37.2		
	comp=E,268nm,0.5s							
HTC	**Hot Caves**	**0.50 242**			Pg	13 03 21.1	-0.2	
HMH	**Humu'ula Sheep**	**0.54 284**			Pg	13 03 22.1	0.0	
MLOA	**Mauna Loa Obse**	**0.61 276**	Pg		Pg	13 03 22.9	-0.7	
MLOA				IAML		13 03 33.4		
	comp=E,291nm,3.8s							
MLOA				IAML		13 03 40.4		
	comp=N,165nm,0.5s							
MWH	**Moku'aweowe**	**0.63 271**			Pg	13 03 22.9	-1.0	
MWH				IAML		13 03 36.7		
	comp=N,247nm,3.6s							
MWH				IAML		13 03 36.8		
	comp=E,316nm,2.5s							
ALEP	**Alea Permanent**	**0.68 276**			Pg	13 03 24.1	-0.7	
ALEP					Sg	13 03 34.6	+1.0	
KHU	**Kahuku**	**0.68 251**			Pg	13 03 23.8	-1.1	
HUH	**Hualalai**	**0.88 284**			Pg	13 03 28.4	-0.2	
CPH	**Captain Cook**	**0.93 271**			Pg	13 03 28.5	-1.2	

*SJA **02** 13:08:47.2±1.0,23.°96S×66.°84W,h211km±11km,ML3.5, MW3.5*
*IDC **02** 13:08:49.0±4.0,23.°75S×66.°49W,h201km±47km,mb2.9/1, mbtmp3.6/3,MS2.9/1,Error ellipse: s-maj=83.7km s-min=22.6km az=98.0*
ISC 02 13:08:47.7±0.9,23°.89S±0.°05×66°.86W±0.°06,h200km,n24, σ1§18/30,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.48**	**124**	*i* P		**Pn**	**13 09 22.3**	**+0.8**
SLA				*e*S		**Sn**	**13 09 48.3**	**+0.6**
SLA				IAML			13 09 50.3	
	comp=Z,33nm,0.9s							
LVC	**Limon Verde**	**2.28**	**304**	*i* P		**Pn**	**13 09 31.2**	**+1.6**
LVC				IAML			13 10 07.0	
	comp=Z,40nm,1.1s							
FSA	**Cafayete**	**2.35**	**160**	*i* P		**Pn**	**13 09 30.1**	**0.0**
FSA				*i* S		**Sn**	**13 10 01.5**	**-1.8**
PB15	**IPOC Station P**	**2.49**	**285**	*e*P		**Pn**	**13 09 33.3**	**+1.6**
PB15				IAML			13 10 09.9	
	comp=Z,676nm,0.1s							
PB06	**IPOC Station P**	**2.76**	**295**	*i* P		**Pn**	**13 09 36.2**	**+1.4**
PB06				*i* S		**Sn**	**13 10 11.6**	**+0.2**
PB06				IAML			13 10 14.3	
	comp=Z,166nm,0.3s							
GO02	**Mina Guanaco**	**2.79**	**243**	*i* P		**Pn**	**13 09 36.2**	**+1.0**
GO02				*i* S		**Sn**	**13 10 12.9**	**+0.6**
PB05	**IPOC Station P**	**3.24**	**288**	*e*P		**Pn**	**13 09 41.2**	**+0.8**
PB05				IAML			13 10 24.1	
	comp=Z,47nm,0.4s							
PB14	**IPOC Station P**	**3.32**	**257**	*i* P		**Pn**	**13 09 41.9**	**+0.5**
PB14				IAML			13 10 26.8	
	comp=Z,89nm,0.2s							
PB04	**IPOC Station P**	**3.40**	**296**	*i* P		**Pn**	**13 09 43.4**	**+1.0**
PB04				IAML			13 10 28.9	
	comp=Z,124nm,0.2s							
PB10	**IPOC Station P**	**3.41**	**276**	*i* P		**Pn**	**13 09 43.2**	**+1.0**
PB10				IAML			13 10 28.7	
	comp=Z,59nm,0.3s							
PB07	**IPOC Station P**	**3.53**	**307**	*i* P		**Pn**	**13 09 44.8**	**+0.9**
PB07				IAML			13 10 33.8	
	comp=Z,67nm,0.3s							
AC02	**Maricunga**	**3.58**	**215**	*i* P		**Pn**	**13 09 45.6**	**+0.8**
AC02				IAML			13 10 35.2	
	comp=Z,9.2nm,0.4s							
PB01	**IPOC Station P**	**3.74**	**319**	*e*P		**Pn**	**13 09 47.1**	**+0.7**
PB01				IAML			13 10 36.1	
	comp=Z,65nm,0.1s							
PB02	**IPOC Station P**	**3.80**	**312**	*e*P		**Pn**	**13 09 47.8**	**+0.6**
PB02				*e*S		**Sn**	**13 10 32.6**	**-1.1**
PB02				IAML			13 10 35.0	
	comp=Z,196nm,0.4s							
AC01	**Pan de Azucar**	**4.07**	**236**	*i* P		**Pn**	**13 09 49.7**	**-0.7**
AC01				*e*S		**Sn**	**13 10 36.5**	**-3.1**
AC01				IAML			13 10 37.3	
	comp=Z,40nm,0.8s							
PB08	**IPOC Station P**	**4.30**	**330**	*e*P		**Pn**	**13 09 55.3**	**+1.6**
PB08				IAML			13 10 51.7	
	comp=Z,32nm,0.4s							
PATCX	**Punta Patache**	**4.32**	**314**	*i* P		**Pn**	**13 09 53.4**	**-0.2**
PATCX				IAML			13 10 53.3	
	comp=Z,26nm,0.7s							
PB11	**IPOC Station P**	**4.86**	**327**	*i* P		**Pn**	**13 10 00.3**	**-0.3**
PB11				IAML			13 11 01.0	
	comp=Z,37nm,0.2s							
LPAZ	**La Paz**	**7.66**	**351**	P		**Pn**	**13 10 37.9**	**+0.7**
	comp=Z,1.1nm,0.3s,baz=168,slow=9.8,SNR=10.0							
LPAZ				S		**Sn**	**13 12 03.6**	**-0.5**
	comp=Z,0.5nm,0.5s,baz=229,slow=19,SNR=1.7							
CPUP	**Villa Florida**	**8.97**	**108**	LR		LR	13 14 25.3	
	comp=Z,70nm,18.0s,baz=1.0,slow=39							
PLCA	**Paso Flores**	**17.08**	**190**	P		**Pn**	**13 12 36.8**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=11,slow=10,SNR=4.2							
TORD	**Torodi Ar. Bea**	**76.41**	**69**	P		**P**	**13 20 14.5**	**-1.0**
	comp=Z,0.3nm,0.6s,baz=234,slow=4.8,SNR=2.3							
	comp=Z,0.3nm,0.6s							
WRA	**Warramunga Arr**	**131.78**	**207**	PKP		**PKiKP**	**13 27 38.6**	**-0.2**
	comp=Z,0.4nm,1.1s,baz=155,slow=1.9,SNR=4.5							
MKAR	**Makanchi Array**	**146.36**	**39**	PKPbc		**PKPbc**	**13 28 04.8**	**-0.1**
	comp=Z,0.3nm,0.5s,baz=308,slow=3.5,SNR=3.8							

*NEIC **02** 13:21:28.4±1.0,19.°40N±0.°03×154.°92W±0.°03,h5km±2km, Error ellipse: s-maj=5.4km s-min=3.4km az=320.0*
HVO 02 13:21:27.6±1.2,19.°41N±0.°03×154.°865W±0.°007, h2km±9km,ML2.7/3,ML2.3/39(NEIC),**Error ellipse: s-maj=3.9km s-min=1.0km az=178.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.14**	**281**			Pg	13 21 30.3	0.0
JCUZ	**Jacuzzi**	**0.23**	**264**	Pg		Pg	13 21 31.7	-0.3
STCH	**Steam Cracks**	**0.25**	**265**	Pg		Pg	13 21 32.3	-0.1
KNHH	**Kane Nui o Ham**	**0.29**	**264**			Pb	13 21 34.8	-0.7
PUH	**Pauahi**	**0.33**	**264**			Pg	13 21 33.8	-0.3
BYL	**Byron's Ledge**	**0.37**	**271**	Pg		Pg	13 21 34.4	-0.5
BYL				IAML			13 21 46.6	
	comp=E,285nm,1.8s							
HATHI	**Halema'uma'u T**	**0.38**	**272**	Pg		Pg	13 21 34.3	-0.6
HATHI				IAML			13 21 40.7	
	comp=E,323nm,1.4s							
HATHI				IAML			13 21 46.6	
	comp=N,256nm,2.1s							
KKO	**Keanakako`i**	**0.38**	**269**	Pg		Pg	13 21 34.6	-0.4
KKO				IAML			13 21 44.6	
	comp=N,417nm,1.8s							
KKO				IAML			13 21 47.4	
	comp=E,282nm,1.4s							
SBLHI	**Steaming Bluff**	**0.38**	**273**			Pg	13 21 34.5	-0.4
SBLHI	**Steaming Bluff**	**0.38**	**273**		IAML		13 21 44.2	
	comp=E,329nm,2.3s							
RIM	**Rim**	**0.39**	**268**	Pg		Pg	13 21 34.4	-0.7
RIM					IAML		13 21 44.4	
	comp=N,458nm,2.1s							
RIM					IAML		13 21 48.2	
	comp=E,308nm,1.5s							
UWB	**Uwekahuna B**	**0.39**	**273**	Pg		Pg	13 21 34.6	-0.6
UWB					IAML		13 21 44.3	
	comp=N,270nm,3.5s							
RSD	**Rainshed**	**0.39**	**278**			Pg	13 21 34.8	-0.4
RSD					IAML		13 21 42.4	
	comp=N,248nm,2.1s							
OBL	**Observatory Le**	**0.40**	**271**	Pg		Pg	13 21 35.6	+0.3
OBL					IAML		13 21 46.4	
	comp=E,300nm,0.5s							
OBL					IAML		13 21 46.4	
	comp=N,310nm,1.7s							
UWE	**Uwekahuna**	**0.41**	**272**			Pg	13 21 34.9	-0.5
SDHHI	**Sand Hill**	**0.41**	**268**	Pg		Pg	13 21 35.3	-0.1
SDHHI					IAML		13 21 37.8	
	comp=N,366nm,1.7s							
SDHHI					IAML		13 21 47.1	
	comp=E,353nm,1.2s							
WRMHI	**West Rim**	**0.41**	**270**	Pg		Pg	13 21 35.2	-0.4
WRMHI					IAML		13 21 47.4	
	comp=E,487nm,1.6s							
HLP	**Hilina Pali**	**0.43**	**255**			Pg	13 21 36.6	+0.6
HLP	**Hilina Pali**	**0.43**	**255**	IAML			13 21 47.1	
	comp=E,426nm,2.5s							
MLH	**Mauna Loa**	**0.50**	**280**			Pg	13 21 37.3	+0.1
MLH	**Mauna Loa**	**0.50**	**280**	IAML			13 21 46.0	
	comp=N,225nm,1.1s							
MLH				IAML			13 21 51.3	
	comp=E,224nm,3.2s							
HTC	**Hot Caves**	**0.53**	**251**			Pg	13 21 38.2	+0.4
HMH	**Humu'ula Sheep**	**0.61**	**288**	Pg		Pg	13 21 39.1	-0.3
HMH					IAML		13 21 45.8	
	comp=E,215nm,4.7s							
HMH						Sg	13 21 47.1	-0.3
HMH					IAML		13 21 48.7	
	comp=N,239nm,3.9s							
MWH	**Moku'aweowe**	**0.69**	**276**			Pg	13 21 40.4	-0.6
MWH	**Moku'aweowe**	**0.69**	**276**	IAML			13 21 43.5	
	comp=E,258nm,3.0s							
MWH					IAML		13 21 56.2	
	comp=N,187nm,1.8s							
KHU	**Kahuku**	**0.73**	**257**			Pg	13 21 40.9	-0.6
KHU	**Kahuku**	**0.73**	**257**	IAML			13 21 49.1	
	comp=N,255nm,3.5s							
KHU					IAML		13 21 51.4	
	comp=E,341nm,3.7s							
ALEP	**Alea Permanent**	**0.75**	**280**			Pg	13 21 41.2	-0.8
ALEP						Sg	13 21 51.1	-0.6
HUH	**Hualalai**	**0.96**	**287**	Pg		Pg	13 21 45.2	-0.8

*IDC **02** 13:21:50.6±0.8,9.°83N×126.°08E,h0km,mb3.9/13, mbtmp3.9/13,MS2.9/2,Error ellipse: s-maj=44.3km s-min=19.7km az=68.0*
ISC 02 13:21:52.2±0.8,9.°83N±0.°08×126.°1E±0.°2,h10km,n21, σ0§78/14,mb3.7/13,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.78**	**190**	Sn		**Sg**	**13 23 21.8**	**+0.2**
	baz=76,slow=22							
CMAR	**Chiang Mai Arr**	**27.64**	**291**	P		**P**	**13 27 39.7**	**-0.6**
	0.2nm,0.3s,baz=96,slow=6.4,SNR=1.2							
CMAR				LR		LR	13 38 31.8	
	comp=Z,14nm,20.0s,baz=110,slow=36							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**30.68**	**165**	P		**P**	**13 28 06.8**	**-0.5**
	0.3nm,0.6s,baz=346,slow=9.1,SNR=2.4							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**34.16**	**167**	P		**P**	**13 28 38.1**	**+0.4**
	0.4nm,0.4s,baz=352,slow=7.0,SNR=12							
	0.4nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**40.23**	**73**	T		T	14 12 23.9	
	baz=262,slow=74,SNR=30							
H11S1	**WAKE ISLAND Hy**	**40.25**	**73**	T		T	14 12 22.9	
	baz=262,slow=74,SNR=23							
H11S2	**WAKE ISLAND Hy**	**40.25**	**73**	T		T	14 12 21.6	
	baz=262,slow=74,SNR=26							
H11N1	**WAKE ISLAND Hy**	**40.58**	**71**	T		T	14 12 43.1	
	baz=264,slow=74,SNR=66							
H11N2	**WAKE ISLAND Hy**	**40.59**	**71**	T		T	14 12 43.8	
	baz=264,slow=74,SNR=58							
H11N3	**WAKE ISLAND Hy**	**40.60**	**71**	T		T	14 12 48.3	
	baz=264,slow=74,SNR=68							
SONM	**Songino Array**	**41.37**	**340**	P		**P**	**13 29 39.1**	**+0.5**
	0.5nm,0.7s,baz=148,slow=8.5,SNR=1.5							
	0.5nm,0.7s							
PALK	**Pallekele**	**44.91**	**270**	LR		LR	13 49 15.3	
	comp=Z,22nm,18.4s,baz=291,slow=37							
MKAR	**Makanchi Array**	**52.26**	**323**	P		**P**	**13 31 04.4**	**+0.7**
	0.5nm,0.5s,baz=122,slow=8.0,SNR=4.8							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**56.33**	**326**	P		**P**	**13 31 33.5**	**+0.3**
	1.8nm,0.2s,baz=124,slow=6.8,SNR=2.2							
	1.8nm,0.2s							
ILAR	**Eielson Array**	**79.92**	**26**	P		**P**	**13 33 59.9**	**-1.3**
	0.3nm,0.7s,baz=238,slow=5.2,SNR=2.5							
	0.3nm,0.7s							
SPITS	**Spitsbergen Ar**	**84.41**	**349**	P		**P**	**13 34 24.5**	**0.0**
	4.1nm,0.9s,baz=91,slow=6.7,SNR=5.1							
	4.1nm,0.9s							
ARCES	**ARCESS Array B**	**84.54**	**340**	P		**P**	**13 34 25.8**	**+0.5**
	1.9nm,0.9s,baz=80,slow=6.4,SNR=6.5							
	1.9nm,0.9s							
FINES	**FINESS Array B**	**86.19**	**332**	P		**P**	**13 34 33.2**	**-0.4**
	0.6nm,0.4s,baz=76,slow=5.9,SNR=8.6							
	0.6nm,0.4s							
AKASG	**Malin Array Be**	**86.78**	**321**	P		**P**	**13 34 35.5**	**-1.3**
	0.2nm,0.3s,baz=79,slow=2.0,SNR=2.8							
	0.2nm,0.3s							
HFS	**Hagfors**	**92.35**	**332**	P		**P**	**13 35 03.3**	**+0.5**
	2.0nm,0.9s,baz=45,slow=5.2,SNR=4.5							
	2.0nm,0.9s							
YKA	**Yellowknife Ar**	**94.24**	**24**	P		**P**	**13 35 12.4**	**+1.0**
	0.2nm,0.6s,baz=309,slow=5.3,SNR=4.4							
	0.2nm,0.6s							

*IDC **02** 13:40:52.7±1.3,28.°68S×176.°70W,h0km,mb3.9/6, mbtmp3.8/6,MS3.4/3,Error ellipse: s-maj=44.9km s-min=21.4km az=150.0*
ISC 02 13:40:57.2±1.0,28.°7S±0.°2×176.°8W±0.°2,h29km,n10, σ1§43/9,mb3.9/6,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.17**	**241**	LR		LR	13 41 16.9	
	comp=Z,55nm,18.1s,baz=153,slow=20							
RAO				Pn		**Pn**	**13 41 17.9**	**+0.3**
	114nm,0.3s,baz=96,slow=23,SNR=2.4							
RAO				Sn		**Sb**	**13 41 33.5**	**-0.1**
	414nm,0.3s,baz=68,slow=18,SNR=6.3							
DZM	**Mont Dzumac**	**16.55**	**290**	LR		LR	13 50 06.9	
	comp=Z,67nm,19.0s,baz=109,slow=33							
STKA	**Stephens Creek**	**35.96**	**254**	P		**P**	**13 47 54.0**	**-1.5**
	1.0nm,0.4s,baz=53,slow=10,SNR=2.4							
	1.0nm,0.4s							
ASAR	**Alice Springs**	**44.32**	**265**	P		**P**	**13 49 04.8**	**-0.1**
	1.1nm,0.9s,baz=105,slow=8.4,SNR=8.0							
ASAR				LR		LR	14 06 34.6	
	comp=Z,52nm,18.7s,baz=124,slow=35							
	1.1nm,0.9s							
WRA	**Warramunga Arr**	**45.16**	**270**	P		**P**	**13 49 12.6**	**+1.0**
	1.4nm,0.8s,baz=109,slow=7.6,SNR=6.7							
	1.4nm,0.8s							
NWAO	**Narrogin (SRO)**	**56.03**	**248**	LR		LR	14 10 53.5	
	comp=Z,48nm,18.4s,baz=95,slow=32							
QSPA	**South Pole Qui**	**61.42**	**180**	P		**P**	**13 51 11.1**	**+0.4**
	1.5nm,1.0s,baz=337,slow=1.0,SNR=2.5							
	1.5nm,1.0s							
NVAR	**Mina Array Bea**	**86.24**	**42**	P		**P**	**13 53 34.3**	**-2.0**
	0.4nm,0.8s,baz=222,slow=4.9,SNR=2.7							
	0.4nm,0.8s							
ILAR	**Eielson Array**	**96.02**	**12**	P		**P**	**13 54 22.3**	**+1.2**
	0.3nm,0.9s,baz=199,slow=5.2,SNR=2.3							
	0.3nm,0.9s							
FINES	**FINESS Array B**	**143.89**	**342**	PKP		**PKPdf**	**14 00 30.8**	**+1.8**
	0.8nm,0.7s,baz=26,slow=3.5,SNR=7.2							

*MDD **02** 13:50:02.1±0.6,36.°43N×2.°21E,h8km±6km,Mb4.2/18, M_mb3.5/16,Error ellipse: s-maj=9.1km s-min=2.9km az=134.0*
ISC 02 13:50:01.0±2.3,36°.41N±0.°10×2°.19E±0.°09,h20km,n30, σ1§54/50,15C,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EIBI	**Ibiza**	**2.69**	**346**		Pn	**Pn**	**13 50 44.1**	**+0.9**
EIBI					Sn	**Sn**	**13 51 12.3**	**-2.9**
EIBI	**Ibiza**	**2.69**	**346**	P		**Pn**	**13 50 44.1**	**+0.9**
EIBI				⇑*i*Vmb_V			13 50 47.0	
	844nm,SNR=2.9							
EIBI				S		**Sn**	**13 51 14.0**	**-1.2**
CART	**Cartagena**	**2.81**	**296**	P		**Pn**	**13 50 45.0**	**+0.3**
CART				S		**Sn**	**13 51 14.6**	**-3.5**
EBEN2	**Beniarda presa**	**2.95**	**321**	P		**Pn**	**13 50 47.0**	**+0.3**
EBEN2				⇑*i*Vmb_V			13 50 48.2	
	593nm,SNR=2.4							
EBEN2				S		**Sn**	**13 51 20.2**	**-1.3**
EMUR	**La Murta**	**3.09**	**298**	Pn		**Pn**	**13 50 49.7**	**+1.0**
EMUR				Sn		**Sn**	**13 51 20.8**	**-4.3**
EMUR	**La Murta**	**3.09**	**298**	P		**Pn**	**13 50 48.9**	**+0.2**
EMUR				S		**Sn**	**13 51 23.9**	**-1.2**
ETOS	**Mallorca**	**3.38**	**8**	Pn		**Pn**	**13 50 53.1**	**+0.4**
ETOS				Sn		**Sn**	**13 51 30.2**	**-2.1**
ETOS	**Mallorca**	**3.38**	**8**	P		**Pn**	**13 50 53.1**	**+0.4**
ETOS				⇑*i*Vmb_V			13 50 56.4	
	560nm,SNR=1.2							
ETOS				S		**Sn**	**13 51 31.1**	**-1.2**
EZAR	**Zarzadilla de**	**3.43**	**296**	P		**Pn**	**13 50 54.4**	**+1.0**
EZAR				⇑*i*Vmb_V			13 50 57.0	
	204nm,SNR=2.2							
EZAR				S		**Sn**	**13 51 33.1**	**-0.4**
ENIJ	**Nijar**	**3.58**	**280**	⇑*i*Vmb_V			13 50 58.6	
	251nm,SNR=1.8							
ENIJ				S		**Sn**	**13 51 36.0**	**-1.0**
ECOL	**Islas Columbre**	**3.68**	**342**	P		**Pn**	**13 50 57.4**	**+0.7**
ECOL				S		**Sn**	**13 51 38.1**	**-1.3**
ETOB	**Tobarra**	**3.71**	**308**	Pn		**Pn**	**13 50 58.7**	**+1.4**
ETOB				Sn		**Sn**	**13 51 38.0**	**-2.4**
ETOB	**Tobarra**	**3.71**	**308**	P		**Pn**	**13 50 58.8**	**+1.6**
ETOB				⇑*i*Vmb_V			13 50 60.0	
	183nm,SNR=2.4							
ETOB				S		**Sn**	**13 51 41.1**	**+0.6**
EVIV	**Cofrentes, Val**	**3.87**	**318**	P		**Pn**	**13 51 00.1**	**+0.7**
EVIV				⇑*i*Vmb_V			13 51 02.8	
	374nm,SNR=3.1							
EVIV				S		**Sn**	**13 51 43.5**	**-0.8**
ECHE	**Chera**	**4.04**	**323**	Pn		**Pn**	**13 51 03.1**	**+1.4**
ECHE	**Chera**	**4.04**	**323**	P		**Pn**	**13 51 03.3**	**+1.6**
ECHE				⇑*i*Vmb_V			13 51 05.2	
	176nm,SNR=1.3							
ECHE				S		**Sn**	**13 51 49.1**	**+0.8**
EBER	**Berja**	**4.12**	**278**	Pn		**Pn**	**13 51 03.4**	**+0.5**
EBER	**Berja**	**4.12**	**278**	P		**Pn**	**13 51 03.2**	**+0.3**
EBER				⇑*i*Vmb_V			13 51 07.7	
	168nm,SNR=1.5							
EBER				S		**Sn**	**13 51 49.1**	**-1.4**
EMEL	**Melilla**	**4.33**	**257**	S		**Sn**	**13 51 55.9**	**+0.4**
EQES	**Quesada**	**4.43**	**290**	P		**Pn**	**13 51 09.9**	**+2.8**
EQES				⇑*i*Vmb_V			13 51 15.3	
	127nm,SNR=1.7							
EQES				S		**Sn**	**13 51 59.4**	**+1.2**
EMOS	**Mosqueruela**	**4.46**	**333**	P		**Pn**	**13 51 08.9**	**+1.2**
EMOS				⇑*i*Vmb_V			13 51 09.9	
	373nm,SNR=3.2							
EMOS				S		**Sn**	**13 51 57.5**	**-1.6**
ELGU	**Los Guajares,**	**4.70**	**277**	Pn		**Pn**	**13 51 11.0**	**+0.2**
ELGU	**Los Guajares,**	**4.70**	**277**	P		**Pn**	**13 51 11.3**	**+0.5**
ELGU				⇑*i*Vmb_V			13 51 12.3	
	128nm,SNR=1.2							
ELGU				S		**Sn**	**13 52 04.4**	**-0.4**
EPOB	**Poblet**	**5.01**	**350**	P		**Pn**	**13 51 16.4**	**+1.4**
EPOB				⇑*i*Vmb_V			13 51 20.8	
	135nm,SNR=1.5							
EPOB				S		**Sn**	**13 52 11.4**	**-0.9**
EMIJ	**Mijas**	**5.61**	**274**	Pn		**Pn**	**13 51 22.5**	**-0.9**
EADA	**Adamuz**	**5.67**	**290**	Pn		**Pn**	**13 51 25.1**	**+0.9**
PAB	**San Pablo**	**6.04**	**303**	P		**Pn**	**13 51 30.3**	**+1.1**
PAB				⇑*i*Vmb_V			13 51 33.3	
	93nm,SNR=1.8							
PAB				S		**Sn**	**13 52 37.0**	**-0.8**
ECAB	**El Cabril**	**6.29**	**288**	Pn		**Pn**	**13 51 32.5**	**-0.2**
ELAN	**Lanestosa**	**8.07**	**329**	P		**Pn**	**13 51 59.4**	**+2.4**
ELAN				⇑*i*Vmb_V			13 52 03.3	
	161nm,SNR=1.2							
EARI	**Arriondas**	**8.92**	**323**	P		**Pn**	**13 52 11.7**	**+2.9**

*IDC **02** 13:53:09.8±0.9,21.°79N×145.°26E,h0km,mb3.8/11, mbtmp3.8/11,Error ellipse: s-maj=33.1km s-min=21.7km az=86.0*
ISC 02 13:53:11.7±0.9,22°.0N±0.°1×145°.1E±0.°2,h10km,n12, σ1§57/13,mb3.6/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.75**	**333**	Pn		**Pn**	**13 54 36.1**	**-1.0**
	8.1nm,0.3s,baz=112,slow=18,SNR=7.6							
JCJ					Sn	**Sn**	**13 55 41.3**	**-1.8**
	7.4nm,0.3s,baz=180,slow=20,SNR=7.4							
WRA	**Warramunga Arr**	**42.96**	**195**	P		**P**	**14 01 09.8**	**-1.4**
	0.5nm,0.6s,baz=17,slow=8.6,SNR=6.2							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**46.64**	**194**	P		**P**	**14 01 38.7**	**-1.8**
	0.2nm,0.5s,baz=18,slow=8.0,SNR=7.1							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**55.10**	**321**	P		**P**	**14 02 45.0**	**+1.1**
	0.5nm,0.3s,baz=108,slow=8.2,SNR=2.0							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**55.82**	**312**	P		**P**	**14 02 50.1**	**+0.9**
	0.3nm,0

MJAR	**Matsushiro Arr**	**3.79**	**1**	P		**Pn**	**14 00 25.1**	**+1.4**
	9.1nm,0.4s,baz=206,slow=19,SNR=71							
MJAR				S		**S**	**14 01 18.0**	**+3.1**
	1.5nm,0.4s,baz=157,slow=13,SNR=2.6							
MAT	**Matsushiro**	**3.79**	**1**	P		**Pn**	**14 00 25.8**	**+2.1**
JNU	**Nakatsue**	**6.13**	**275**	P		**Pn**	**14 00 52.7**	**+1.9**
	11nm,1.0s,baz=63,slow=11,SNR=2.5							
KSRS	**Korea Array**	**9.61**	**302**	P		**Pn**	**14 01 35.0**	**+1.9**
	4.8nm,0.7s,baz=111,slow=13,SNR=13							
USRK	**Ussuriysk Ar.**	**12.41**	**339**	P		**Pn**	**14 02 07.0**	**-0.2**
	3.6nm,0.6s,baz=153,slow=10,SNR=7.9							
KLR	**Kul'dur**	**17.15**	**346**	P		**P**	**14 02 59.2**	**-1.0**
	0.6nm,0.4s,baz=164,slow=11,SNR=2.5							
SONM	**Songino Array**	**28.29**	**312**	P		**P**	**14 04 46.1**	**-0.2**
	0.8nm,0.4s,baz=120,slow=5.7,SNR=2.1							
	0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**42.97**	**316**	P		**P**	**14 06 47.7**	**-2.2**
	0.3nm,0.4s,baz=96,slow=8.1,SNR=1.6							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**44.27**	**305**	P		**P**	**14 06 59.2**	**-1.1**
	0.7nm,0.3s,baz=86,slow=9.8,SNR=21							
	0.7nm,0.3s							
KURBB	**Kurchatov Arra**	**46.65**	**311**	P		**P**	**14 07 16.9**	**-1.8**
	0.8nm,0.4s,baz=90,slow=6.7,SNR=6.4							
	0.8nm,0.4s							
WRA	**Warramunga Arr**	**52.52**	**185**	P		**P**	**14 08 00.8**	**-2.2**
	0.3nm,0.4s,baz=0.0,slow=7.6,SNR=14							
WRA				PcP		**pP**	**14 09 08.2**	**+2.7**
	1.0nm,1.3s,baz=357,slow=4.2,SNR=5.2							
	0.3nm,0.4s							
ILAR	**Eielson Array**	**54.54**	**31**	P		**P**	**14 08 16.3**	**-0.8**
	0.2nm,0.7s,baz=257,slow=5.9,SNR=3.1							
	0.2nm,0.7s							
ASAR	**Alice Springs**	**56.24**	**185**	P		**P**	**14 08 27.6**	**-2.0**
	0.2nm,0.6s,baz=14,slow=14,SNR=9.8							
ASAR				PcP		**PcP**	**14 09 23.1**	**-0.2**
	0.2nm,0.7s,baz=6.3,slow=4.5,SNR=1.5							
	0.2nm,0.6s							
YKA	**Yellowknife Ar**	**68.85**	**28**	P		**P**	**14 09 51.2**	**-0.8**
	0.2nm,0.7s,baz=294,slow=6.0,SNR=3.2							
	0.2nm,0.7s							
TXAR	**Lajitas Array**	**94.88**	**51**	P		**P**	**14 12 07.8**	**-0.8**
	0.3nm,0.5s,baz=302,slow=2.4,SNR=2.7							
	0.3nm,0.5s							

WEL ***02*** *14:06:46.7±0.9, 37°S±8°×17°7E±°, h189km±7km, M3.0/24, ML3.2/7, MLv3.0/24, Error ellipse: s-maj=0.0km s-min=0.0km az=25.0, confirmed*
NOU ***02*** *14:06:48.0, 37.05S×176.91E, h197km, MLv3.6/8, North Island, New Zealand*

ISC 02 14:06:41.0±2.8, 36°38S±0.1°×177°46E±0.0°, h09, h233km±14km, n94, σ1°79/105, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.00**	**165**	P	**Pn**	**14 07 14.7**	**+0.6**
HAZ				S	**Sn**	**14 07 37.2**	**-3.0**
MXZ	**Matakaoa Point**	**1.03**	**139**	P	Pn	14 07 19.7	+5.4
MXZ	**Matakaoa Point**	**1.03**	**139**	P	**Pn**	**14 07 16.6**	**+2.3**
MXZ				S	**Sn**	**14 07 39.8**	**-0.6**
RUGZ	**Raukumara Rang**	**1.19**	**172**	P	**Pn**	**14 07 16.1**	**+0.6**
RUGZ				S	**Sn**	**14 07 38.9**	**-3.8**
PKGZ	**Pakihiroa**	**1.21**	**156**	P	**Pn**	**14 07 17.1**	**+1.6**
PKGZ				S	**Sn**	**14 07 41.6**	**-1.1**
OPRZ	**Ohinepanea**	**1.28**	**214**	P	**Pn**	**14 07 16.9**	**+0.9**
WMGZ	**Waiomatatini S**	**1.28**	**144**	P	**Pn**	**14 07 17.6**	**+1.7**
WMGZ				S	**Sn**	**14 07 42.5**	**-0.9**
MARZ	**Manawahe**	**1.35**	**207**	P	**Pn**	**14 07 18.1**	**+1.6**
KUZ	**Kuaotunu**	**1.40**	**271**	P	**Pn**	**14 07 16.9**	**0.0**
KUZ	**Kuaotunu**	**1.40**	**271**	P	**Pn**	**14 07 16.9**	**0.0**
PUZ	**Puketiti**	**1.43**	**154**	P	**Pn**	**14 07 41.0**	**+1.9**
PUZ				S	**Sn**	**14 07 44.1**	**-1.5**
TWGZ	**Tauwhareparae**	**1.45**	**164**	P	**Pn**	**14 07 19.6**	**+2.3**
TWGZ				S	**Sn**	**14 07 44.7**	**-1.1**
URZ	**Urewera**	**1.50**	**191**	P	**Pn**	**14 07 18.7**	**+1.1**
URZ	**Urewera**	**1.50**	**191**	P	**Pn**	**14 07 18.6**	**+1.0**
URZ				S	**Sn**	**14 07 45.4**	**-1.1**
MWZ	**Matawai**	**1.55**	**178**	P	**Pn**	**14 07 19.6**	**+1.6**
MWZ				S	**Sn**	**14 07 45.5**	**-1.8**
KMRZ	**Kaimai**	**1.61**	**228**	P	**Pn**	**14 07 20.0**	**+1.4**
TKGZ	**Te Karaka**	**1.68**	**170**	P	**Pn**	**14 07 21.0**	**+1.9**
TKGZ				S	**Sn**	**14 07 48.5**	**-0.7**
RAGZ	**Rawiri**	**1.71**	**181**	P	**Pn**	**14 07 22.4**	**+3.0**
RAGZ				S	**Sn**	**14 07 48.5**	**-1.3**
MUGZ	**Murupara**	**1.78**	**198**	P	**Pn**	**14 07 21.3**	**+1.4**
MUGZ				S	**Sn**	**14 07 49.2**	**-1.4**
CNGZ	**Carnagh Statio**	**1.80**	**161**	P	**Pn**	**14 07 22.9**	**+2.8**
TOZ	**Tahuroa Road**	**1.83**	**238**	P	**Pn**	**14 07 22.0**	**+1.6**
HRNZ	**Handcock Road**	**1.86**	**210**	P	**Pn**	**14 07 23.7**	**+3.0**
WIAZ	**Waiheke Island**	**1.87**	**269**	P	**Pn**	**14 07 21.7**	**+0.9**
RTZ	**Ruatahuna**	**1.87**	**192**	P	**Pn**	**14 07 23.0**	**+2.1**
MKAZ	**Moumakai**	**1.87**	**259**	P	**Pn**	**14 07 21.9**	**+1.1**
PRRZ	**Plateau Road**	**1.91**	**206**	P	**Pn**	**14 07 23.2**	**+2.1**
RIGZ	**Rimuhau**	**1.94**	**173**	P	**Pn**	**14 07 23.6**	**+2.2**
ALRZ	**Allen Road**	**1.99**	**206**	P	**Pn**	**14 07 24.2**	**+2.3**
SNGZ	**Shannon Statio**	**2.00**	**183**	P	**Pn**	**14 07 23.9**	**+1.9**
ETAZ	**East Tamaki Re**	**2.04**	**264**	P	**Pn**	**14 07 23.9**	**+1.5**
MTHZ	**Maungataniwha**	**2.12**	**193**	P	**Pn**	**14 07 25.4**	**+2.2**
KUTZ	**Kaahu Road**	**2.14**	**217**	P	**Pn**	**14 07 26.3**	**+2.9**
RAHZ	**Arahi**	**2.15**	**188**	P	**Pn**	**14 07 25.5**	**+2.1**
TLZ	**Tolley Road**	**2.17**	**224**	P	**Pn**	**14 07 26.0**	**+2.3**
KNZ	**Kokohu**	**2.24**	**176**	P	**Pn**	**14 07 26.2**	**+1.9**
WHHZ	**Waihua**	**2.30**	**184**	P	**Pn**	**14 07 26.9**	**+2.1**
NMHZ	**Naumai**	**2.37**	**192**	P	**Pn**	**14 07 28.2**	**+2.5**
MHGZ	**Mahia Peninsul**	**2.39**	**172**	P	**Pn**	**14 07 28.5**	**+2.6**
BKZ	**Black Stump Fm**	**2.50**	**198**	P	**Pn**	**14 07 28.3**	**+1.3**
BKZ	**Black Stump Fm**	**2.50**	**198**	P	**Pn**	**14 07 28.5**	**+1.5**
ARHZ	**Aropaoanui**	**2.50**	**188**	P	**Pn**	**14 07 29.3**	**+2.3**
HIZ	**Hauiti**	**2.69**	**229**	P	**Pn**	**14 07 31.9**	**+2.9**
MCHZ	**McNeill Hill**	**2.73**	**193**	P	**Pn**	**14 07 31.7**	**+2.3**
WTVZ	**West Tongariro**	**2.76**	**212**	P	**Pn**	**14 07 32.1**	**+2.3**
KWHZ	**Kaweka Forest**	**2.76**	**197**	P	**Pn**	**14 07 31.5**	**+1.7**
OTVZ	**Oturere**	**2.77**	**210**	P	**Pn**	**14 07 32.1**	**+2.1**
TWVZ	**Taurewa**	**2.79**	**214**	P	**Pn**	**14 07 32.6**	**+2.4**
TUVZ	**Tukino**	**2.86**	**209**	P	**Pn**	**14 07 32.0**	**+1.0**
FWVZ	**Far West T-bar**	**2.89**	**211**	P	**Pn**	**14 07 33.6**	**+2.2**
BHHZ	**Black Hill Sta**	**2.92**	**202**	P	**Pn**	**14 07 32.8**	**+1.2**
WNVZ	**Wahianoa**	**2.94**	**210**	P	**Pn**	**14 07 33.7**	**+1.9**
MOVZ	**Moawhango**	**2.95**	**207**	P	**Pn**	**14 07 33.2**	**+1.3**
KRHZ	**Kereru**	**2.98**	**196**	P	**Pn**	**14 07 33.7**	**+1.5**
PKVZ	**Pokaka**	**3.01**	**213**	P	**Pn**	**14 07 34.6**	**+2.0**
MTVZ	**Mangateitei**	**3.04**	**211**	P	**Pn**	**14 07 34.7**	**+1.8**
KAHZ	**Kahuranaki**	**3.04**	**189**	P	**Pn**	**14 07 34.8**	**+1.9**
VRZ	**Vera Road**	**3.17**	**222**	P	**Pn**	**14 07 36.0**	**+4.3**
PXZ	**Pawanui**	**3.28**	**188**	P	**Pn**	**14 07 37.0**	**+1.6**
PNHZ	**Pukenui**	**3.28**	**197**	P	**Pn**	**14 07 36.9**	**+1.3**
WPHZ	**Waipukurau**	**3.37**	**193**	P	**Pn**	**14 07 38.2**	**+1.6**
TSZ	**Takapari Road**	**3.48**	**199**	P	**Pn**	**14 07 38.9**	**+1.0**
PRHZ	**Porangahau**	**3.54**	**190**	P	**Pn**	**14 07 40.2**	**+1.6**
WAZ	**Wanganui**	**3.55**	**213**	P	**Pn**	**14 07 40.6**	**+2.0**
NEZ	**North Egmont**	**3.64**	**226**	P	**Pn**	**14 07 44.3**	**+4.5**
PKE	**Pukeiti**	**3.65**	**228**	P	**Pn**	**14 07 44.3**	**+4.4**
DVHZ	**Dannevirke**	**3.66**	**196**	P	**Pn**	**14 07 40.6**	**+0.7**
ANWZ	**Angora Road**	**3.75**	**192**	P	**Pn**	**14 07 42.4**	**+1.4**
POWZ	**Post Office Ro**	**3.84**	**200**	P	**Pn**	**14 07 43.1**	**+1.0**
PRWZ	**Pori Road**	**3.94**	**197**	P	**Pn**	**14 07 44.6**	**+1.3**
BFZ	**Birch Farm**	**4.01**	**193**	P	**Pn**	**14 07 44.9**	**+0.8**
BFZ	**Birch Farm**	**4.01**	**193**	P	**Pn**	**14 07 44.9**	**+0.8**
MRZ	**Mangatainoka R**	**4.14**	**200**	P	**Pn**	**14 07 46.1**	**+0.4**
TIWZ	**Tintock**	**4.17**	**197**	P	**Pn**	**14 07 46.9**	**+0.8**
HOWZ	**Holdsworth Sta**	**4.38**	**200**	P	**Pn**	**14 07 48.8**	**+0.2**
OGWZ	**Otaki Gorge**	**4.41**	**203**	P	**Pn**	**14 07 49.4**	**+0.5**
TMWZ	**Te Maipa**	**4.49**	**195**	P	**Pn**	**14 07 50.5**	**+0.6**
KIW	**Kapiti Island**	**4.53**	**205**	P	**Pn**	**14 07 50.9**	**+0.4**
MTW	**Mount Morrison**	**4.63**	**199**	P	**Pn**	**14 07 51.1**	**-0.5**
CAW	**Cannon Point**	**4.71**	**203**	P	**Pn**	**14 07 52.4**	**-0.1**
PAWZ	**Paruwai Farm**	**4.86**	**198**	P	**Pn**	**14 07 54.3**	**-0.1**
DUWZ	**D'Urville Isla**	**4.87**	**213**	P	**Pn**	**14 07 55.1**	**+0.5**
WEL	**Wellington**	**4.96**	**204**	P	**Pn**	**14 07 55.8**	**+0.2**
SNZO	**South Karori**	**5.00**	**205**	P	**Pn**	**14 07 56.4**	**+0.2**
BHW	**Baring Head**	**5.04**	**203**	P	**Pn**	**14 07 56.4**	**-0.2**
TCW	**Tory Channel**	**5.07**	**208**	P	**Pn**	**14 07 57.1**	**0.0**
PLWZ	**Palliser**	**5.08**	**199**	P	**Pn**	**14 07 56.8**	**-0.3**
TUWZ	**Tuamarina**	**5.39**	**209**	P	**Pn**	**14 08 00.7**	**-0.2**
NNZ	**Nelson**	**5.45**	**214**	P	**Pn**	**14 08 02.3**	**+0.5**
TKNZ	**Takaka Hill**	**5.51**	**218**	P	**Pn**	**14 08 03.1**	**+0.5**
QRZ	**Quartz Range**	**5.58**	**222**	P	**Pn**	**14 08 04.5**	**+1.1**
QRZ	**Quartz Range**	**5.58**	**222**	P	**Pn**	**14 08 03.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**5.66**	**208**	P	**Pn**	**14 08 04.6**	**+0.3**
MRNZ	**Matariki Terra**	**5.88**	**217**	P	**Pn**	**14 08 07.5**	**+0.2**
KHZ	**Kahutara**	**6.39**	**207**	P	**Pn**	**14 08 13.6**	**0.0**

TRN 02 14:21:41.6, 16°38N×61°88W, h22km, MD3.5, 1C, Near North-west of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABD	**La Joyeuse, An**	**0.39**	**75**	*eP*	Pn	14 21 52.5	+0.6
ABD				*eS*	Sn	14 21 58.8	+0.2
CBE	**Ff, Capester**	**0.40**	**139**	⇑*iP*	Pn	14 21 52.2	+0.1
CBE				*eS*	Sn	14 22 00.1	+1.1
CBE	**Ff, Capester**	**0.40**	**139**	*ex*	x	14 21 57.8	
MBFL	**Flemmings, Mon**	**0.49**	**319**	*eP*	Pn	14 21 53.7	+0.4
MBFL				*eS*	Sn	14 22 01.7	+0.5
TBG	**Guadaloupe-3**	**0.56**	**157**	*eP*	Pn	14 21 54.6	+0.3
TBG				*eS*	Sn	14 22 04.0	+1.0
TBG	**Guadaloupe-3**	**0.56**	**157**	*ex*	x	14 22 02.0	
ANBD	**Bethesda, Anti**	**0.68**	**9**	*eP*	Pn	14 21 57.2	+1.3
ANBD				*eS*	Sn	14 22 08.1	+2.3
ANBD	**Bethesda, Anti**	**0.68**	**9**	*ex*	x	14 22 07.2	
ANBD	**Bethesda, Anti**	**0.68**	**9**	*eS*	Sn	14 22 09.7	+3.9
MAGL	**Barre de l'ile**	**0.71**	**126**	*eP*	Pn	14 21 57.2	+0.9
MAGL				*eS*	Sn	14 22 08.5	+2.8
MAGL	**Barre de l'ile**	**0.71**	**126**	*ex*	x	14 22 07.3	
ANDO	**Antigua, Disas**	**0.73**	**3**	*ex*	x	14 22 08.1	
MPOM	**Morne Pois Mar**	**2.15**	**153**	*eP*	Pb	14 22 19.0	-1.0
MPOM				*eS*	Sb	14 22 45.2	-1.1

PDG ***02*** *14:29:20.6±0.1, 42°31N×19°87E, h10km, MD2.5/1, ML2.4/13, Error ellipse: s-maj=0.1km s-min=0.2km az=0.0*
RHSSO ***02*** *14:29:20.9±0.6, 42°34N×19°93E, h5km, 2km, ML2.4/10*
BEO ***02*** *14:29:21.8±0.3, 42°34N×19°86E, h3km, 3km, ML2.0/9*

ISC 02 14:29:21.0±1.1, 42°34N±0°03×19°86E±0°02, h5km±9km, n40, σ0°81/74, 12C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVY	**Plav**	**0.26**	**16**	⇓*iPg*	**Pg**	**14 29 26.1**	**0.0**
PVY				*i* Sg	**Sg**	**14 29 30.7**	**+1.1**
PDG	**Podgorica**	**0.46**	**281**	*ePg*	**Pg**	**14 29 29.1**	**-0.7**
PDG				*eSg*	**Sb**	**14 29 37.5**	**-1.1**
PDG	**Podgorica**	**0.46**	**281**	⇑*iPg*	**Pg**	**14 29 29.3**	**-0.5**
PDG				*eSg*	**Sg**	**14 29 36.7**	**+0.9**
PDG	**Podgorica**	**0.46**	**281**	⇑*iPg*	**Pg**	**14 29 29.3**	**-0.5**
PDG				*i* Sg	**Sg**	**14 29 36.9**	**+1.1**
DRME	**Dracevica, Mon**	**0.53**	**253**	⇓*iPg*	**Pg**	**14 29 30.6**	**-0.5**
DRME				*eSg*	**Sb**	**14 29 39.8**	**-0.8**
DRME	**Dracevica, Mon**	**0.53**	**253**	⇑*iPg*	**Pg**	**14 29 30.4**	**-0.7**
DRME				*i* Sg	**Sg**	**14 29 38.7**	**+0.8**
IVA	**Berane**	**0.53**	**2**	⇑*iPg*	**Pg**	**14 29 31.0**	**-0.2**
IVA				*i* Sg	**Sb**	**14 29 39.7**	**-1.1**
KOME	**Kolasin**	**0.57**	**333**	⇑*iPg*	**Pg**	**14 29 31.8**	**-0.1**
KOME				*i* Sg	**Sb**	**14 29 41.0**	**-0.9**
ULC	**Ulcinj**	**0.59**	**231**	⇓*iPg*	**Pg**	**14 29 31.7**	**-1.1**
ULC				*i* Sg	**Sg**	**14 29 40.6**	**+0.5**
BUM	**Brajici-Budva**	**0.72**	**267**	⇑*iPg*	**Pg**	**14 29 34.1**	**-0.7**
BUM				*i* Sg	**Sb**	**14 29 45.5**	**-0.7**
CEME	**Cevo**	**0.73**	**287**	⇑*iPg*	**Pg**	**14 29 33.7**	**-1.2**
CEME				*i* Sg	**Sb**	**14 29 46.0**	**-0.5**
NKME	**Niksic**	**0.80**	**303**	⇓*iPg*	**Pg**	**14 29 35.2**	**-1.0**
NKME				*i* Sg	**Sb**	**14 29 48.4**	**0.0**
HCY	**Herceg Novi**	**1.02**	**276**	⇓*iPg*	**Pg**	**14 29 40.2**	**-0.3**
HCY				*eSg*	**Sb**	**14 29 55.3**	**+0.5**
HCY	**Herceg Novi**	**1.02**	**276**	⇓*iPg*	**Pg**	**14 29 39.6**	**-0.9**
HCY				*i* Sg	**Sb**	**14 29 55.8**	**+1.0**
PLE	**Pljevlja**	**1.05**	**341**	⇑*iPg*	**Pg**	**14 29 40.5**	**-0.6**
PLE				*i* Sg	**Sn**	**14 29 57.3**	**-0.2**
UPM	**Unac-Piva**	**1.11**	**321**	*ePg*	**Pg**	**14 29 41.7**	**-0.6**
UPM				*eSg*	**Sg**	**14 29 56.8**	**0.0**
UPM	**Unac-Piva**	**1.11**	**321**	⇑*iPg*	**Pg**	**14 29 41.6**	**-0.7**
UPM				*i* Sg	**Sn**	**14 29 59.5**	**+0.3**
BRY	**Bratogost**	**1.13**	**300**	*ePg*	**Pg**	**14 29 41.4**	**-1.1**
BRY				*eSg*	**Sb**	**14 29 58.3**	**+0.3**
BRY	**Bratogost**	**1.13**	**300**	⇑*iPg*	**Pg**	**14 29 41.7**	**-0.8**
BRY				*i* Sg	**Sn**	**14 29 59.8**	**+0.4**
TREB	**Trebinje**	**1.18**	**289**	*ePg*	**Pg**	**14 29 43.4**	**-0.2**
TREB				*eSg*	**Sb**	**14 29 59.6**	**+0.2**
TREB	**Trebinje**	**1.18**	**289**	*ePg*	**Pg**	**14 29 42.9**	**-0.7**
TREB				*eSg*	**Sb**	**14 29 59.9**	**+0.5**
KLINJ	**Klinje**	**1.25**	**312**	*ePg*	**Pg**	**14 29 44.2**	**-0.8**
KLINJ				*eSg*	**Sb**	**14 30 01.8**	**+0.2**
SELS	**Selova**	**1.27**	**46**	*ePg*	**Pg**	**14 29 45.0**	**-0.4**
SELS				*eSg*	**Sn**	**14 30 02.7**	**-0.3**
DBRK	**Dubrovnik**	**1.31**	**285**	*ePn*	**Pn**	**14 29 45.4**	**-0.5**
RUDO	**Rudo**	**1.33**	**344**	⇑*iPg*	**Pn**	**14 29 44.9**	**-1.2**
RUDO				*eSg*	**Sg**	**14 30 03.7**	**+0.1**
BARS	**Barje**	**1.52**	**71**	*ePg*	**Pn**	**14 29 48.8**	**0.0**
BARS				*eSg*	**Sb**	**14 30 09.0**	**-0.1**
BBLS	**Lazi&#263i**	**1.56**	**348**	*ePn*	**Pn**	**14 29 49.9**	**+0.5**
BBLS				*eSg*	**Sg**	**14 30 11.1**	**0.0**
BBLS	**Lazi&#263i**	**1.56**	**348**	*ePn*	**Pn**	**14 29 49.6**	**+0.2**
BBLS				*eSn*	**Sn**	**14 30 10.1**	**+0.1**
NEVS	**Nevesinje**	**1.61**	**307**	*ePn*	**Pn**	**14 29 50.7**	**+0.6**
NEVS				*eSn*	**Sn**	**14 30 11.7**	**+0.4**
PRVS	**Prvonek**	**1.65**	**83**	*ePn*	**Pb**	**14 29 51.3**	**-0.5**
PRVS				*eSg*	**Sg**	**14 30 15.1**	**+1.2**
GRUS	**Gruza**	**1.67**	**22**	*ePn*	**Pb**	**14 29 52.1**	**0.0**
STON	**Ston**	**1.68**	**289**	*i* Pn	**Pn**	**14 29 51.5**	**+0.5**
STON	**Ston**	**1.68**	**289**	⇑*iPn*	**Pn**	**14 29 51.1**	**+0.1**
STON				*eSn*	**Sb**	**14 30 14.2**	**+0.4**
DIVS	**Divibare**	**1.76**	**3**	*ePn*	**Pb**	**14 29 53.9**	**+0.2**
RICI	**Ricice**	**2.31**	**301**	*ePn*	**Pb**	**14 30 02.5**	**-0.6**
BLY	**Banja Luka**	**3.10**	**322**	*ePn*	**Pn**	**14 30 11.0**	**+0.6**
BLY				*eSn*	**Sn**	**14 30 48.4**	**+0.6**
A050A	**Klekovaca**	**3.23**	**313**	*ePn*	**Pn**	**14 30 12.7**	**+0.3**
A050A				*eSn*	**Sn**	**14 30 52.0**	**+0.6**
MORI	**Morici**	**3.40**	**298**	*ePn*	**Pb**	**14 30 00.7**	**-2.6**
A051A	**Mrakovica**	**3.42**	**322**	*ePn*	**Pn**	**14 30 14.9**	**-0.1**
A051A				*eSn*	**Sn**	**14 30 55.3**	**-0.7**
DUGI	**Dugi Otok**	**3.88**	**297**	*ePn*	**Pn**	**14 30 23.0**	**+1.7**
DUGI				*Sn*	**Sn**	**14 31 09.9**	**+2.7**

HVO ***02*** *14:29:41.6±1.4, 19°48N±0°02×154°92W±0°04, h-0km±9km, ML2.6/14, ML2.5/36(NEIC), Error ellipse: s-maj=5.2km s-min=1.8km az=107.0*

NEIC 02 14:29:41.3±1.9, 19°45N±0°02×154°85W±0°03, h5km±2km, Error ellipse: s-maj=5.6km s-min=3.0km az=295.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**312**		Pg	14 29 44.1	+1.4
JOKA	**Jonika Flow**	**0.15**	**265**		Pg	14 29 44.2	0.0
JOKA					Sg	14 29 48.3	+2.1
PUH	**Pauahi**	**0.35**	**258**	Pg	Pg	14 29 48.3	+0.1
BYL	**Byron's Ledge**	**0.39**	**265**	Pg	Pg	14 29 48.4	-0.4
BYL				IAML		14 29 59.6	
	comp=N,580nm,1.4s						
HATHI	**Halema'uma'u T**	**0.39**	**266**	Pg	Pg	14 29 48.3	-0.5
HATHI				IAML		14 29 59.7	
	comp=N,693nm,1.1s						
KKO	**Keanakako'i**	**0.40**	**263**	Pg	Pg	14 29 48.5	-0.5
KKO				IAML		14 29 51.6	
	comp=N,622nm,1.4s						
KKO				IAML		14 29 56.5	
	comp=E,444nm,1.4s						
SBLHI	**Steaming Bluff**	**0.40**	**267**		Pg	14 29 49.2	+0.3
SBLHI	**Steaming Bluff**	**0.40**	**267**	IAML		14 29 58.3	
	comp=E,347nm,0.7s						
SBLHI				IAML		14 29 58.6	
	comp=N,443nm,0.5s						
RIM	**Rim**	**0.40**	**263**	Pg	Pg	14 29 48.6	-0.5
RIM				IAML		14 29 57.3	
	comp=N,664nm,1.1s						
RSD	**Rainshed**	**0.40**	**272**		Pg	14 29 49.4	+0.2
RSD				IAML		14 29 56.2	
	comp=N,575nm,0.3s						
UWB	**Uwekahuna B**	**0.40**	**267**	Pg	Pg	14 29 48.8	-0.4
UWE	**Uwekahuna**	**0.42**	**266**	Pg	Pg	14 29 48.8	-0.7
UWE				IAML		14 29 50.4	
	comp=E,701nm,1.5s						
UWE				IAML		14 29 50.5	
	comp=N,755nm,1.4s						
SDHHI	**Sand Hill**	**0.42**	**262**	Pg	Pg	14 29 48.8	-0.7
SDHHI				IAML		14 29 53.0	
	comp=E,642nm,1.4s						
WRMHI	**West Rim**	**0.43**	**265**	Pg	Pg	14 29 49.4	-0.2
HLP	**Hilina Pali**	**0.46**	**251**		Pg	14 29 50.4	+0.3
HLP	**Hilina Pali**	**0.46**	**251**	IAML		14 29 57.5	
	comp=E,606nm,1.5s						
HLP				IAML		14 29 57.5	
	comp=N,670nm,0.3s						
MLH	**Mauna Loa**	**0.51**	**275**		Pg	14 29 51.3	+0.2
MLH				IAML		14 30 02.8	
	comp=E,384nm,0.3s						
HTC	**Hot Caves**	**0.56**	**248**		Pg	14 29 52.0	0.0
HMH	**Humu'ula Sheep**	**0.62**	**285**		Pg	14 29 52.5	-0.7
MLOA	**Mauna Loa Obse**	**0.69**	**277**	Pg	Pg	14 29 53.7	-1.0
MLOA					Sg	14 30 02.1	-1.6
MLOA				IAML		14 30 04.7	
	comp=E,192nm,0.3s						
MLOA				IAML		14 30 14.6	
	comp=N,355nm,3.5s						
MWH	**Moku'aweowe**	**0.70**	**273**		Pg	14 29 53.9	-1.0
MWH				IAML		14 30 12.6	
	comp=E,336nm,0.9s						
MWH				IAML		14 30 14.8	
	comp=N,308nm,1.0s						
KHU	**Kahuku**	**0.75**	**255**		Pg	14 29 54.5	-1.3
KHU				IAML		14 30 03.5	
	comp=N,204nm,4.0s						
KHU				IAML		14 30 08.9	
	comp=E,309nm,4.1s						
HUH	**Hualalai**	**0.96**	**284**	Pg	Pg	14 29 58.7	-1.1

IDC 02 14:34:30.3±5.3, 6°21S×129°39E, h193km±53km, mb3.0/1, mbtmp3.4/3, Error ellipse: s-maj=91.7km s-min=18.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.48**	**161**	P	P	14 37 47.7	-0.3
	0.5nm,0.5s,baz=338,slow=13,SNR=5.1						
WRA				S	S	14 40 29.5	+1.0
	0.6nm,1.2s,baz=344,slow=29,SNR=1.0						
ASAR	**Alice Springs**	**17.90**	**166**	P	P	14 38 26.0	+0.4
	0.3nm,0.3s,baz=347,slow=11,SNR=5.7						
ASAR				S	S	14 41 41.2	0.0
	0.5nm,0.8s,baz=346,slow=26,SNR=3.4						
MKAR	**Makanchi Array**	**67.23**	**327**	P	P	14 45 03.7	-0.2
	0.6nm,1.0s,baz=145,slow=5.3,SNR=2.1						
	0.6nm,1.0s						

SDD ***02*** *14:36:24.2±0.9, 19°56N×67°63W, h22km±134km, MD3.5, ML2.5, MW3.2*
RSPR ***02*** *14:36:25.4, 19°62N×67°67W, h68km±14km, MD3.4/7*
NEIC ***02*** *14:36:26.6±0.7, 19°40N±0°05×67°74W±0°03, h27km±13km, ML2.7/22, Md3.4/7(RSPR), Error ellipse: s-maj=7.8km s-min=3.4km az=205.0*

ISC 02 14:36:23.6±1.8, 19°6N±0°1×67°63W±0°05, h21km, n36, σ0°80/40, 8C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**1.40**	**161**	Pn	**Pb**	**14 36 48.7**	**-0.4**

SBLHI	**Steaming Bluff**	**0.34**	**264**	Pg	Pg	14 42 06.0	0.0
KKO	**Keanakako`i**	**0.34**	**259**	Pg	Pg	14 42 06.3	+0.3
KKO				IAML		14 42 14.7	
	comp=E,654nm,1.1s						
RSD	**Rainshed**	**0.34**	**270**		Pg	14 42 06.5	+0.3
RSD				IAML		14 42 14.7	
	comp=E,617nm,0.3s						
RSD				IAML		14 42 15.2	
	comp=N,567nm,0.3s						
RSD	**Rainshed**	**0.34**	**270**		Sb	14 42 13.1	-1.1
UWB	**Uwekahuna B**	**0.35**	**264**		Pg	14 42 07.1	+0.9
UWB	**Uwekahuna B**	**0.35**	**264**	IAML		14 42 09.6	
	comp=N,370nm,2.6s						
UWB				IAML		14 42 16.2	
	comp=E,292nm,2.9s						
RIM	**Rim**	**0.35**	**259**	Pg	Pg	14 42 06.7	+0.5
RIM				IAML		14 42 11.1	
	comp=N,923nm,1.4s						
RIM				IAML		14 42 13.2	
	comp=E,717nm,1.3s						
UWE	**Uwekahuna**	**0.36**	**264**		Pg	14 42 07.3	+0.9
UWE	**Uwekahuna**	**0.36**	**264**	IAML		14 42 12.5	
	comp=E,930nm,1.1s						
UWE				IAML		14 42 15.2	
	comp=N,684nm,0.9s						
SDHHI	**Sand Hill**	**0.37**	**259**	Pg	Pg	14 42 06.7	+0.1
SDHHI				IAML		14 42 10.1	
	comp=E,896nm,1.1s						
WRMHI	**West Rim**	**0.37**	**261**	Pg	Pg	14 42 07.1	+0.5
HLP	**Hilina Pali**	**0.41**	**246**		Pg	14 42 08.0	+0.6
HLP	**Hilina Pali**	**0.41**	**246**	IAML		14 42 15.1	
	comp=N,787nm,0.6s						
HLP				IAML		14 42 21.7	
	comp=E,658nm,0.8s						
MLH	**Mauna Loa**	**0.45**	**274**		Pg	14 42 08.7	+0.5
MLH	**Mauna Loa**	**0.45**	**274**		Sb	14 42 15.7	-1.6
HTC	**Hot Caves**	**0.51**	**244**		Pg	14 42 09.5	+0.3
HMH	**Humu'ula Sheep**	**0.56**	**285**		Pg	14 42 10.2	0.0
HMH	**Humu'ula Sheep**	**0.56**	**285**		Sb	14 42 19.4	-1.1
MLOA	**Mauna Loa Obse**	**0.63**	**277**		Pg	14 42 11.1	-0.5
MLOA				IAML		14 42 21.6	
	comp=N,353nm,0.3s						
MLOA	**Mauna Loa Obse**	**0.63**	**277**		Sb	14 42 21.3	-1.4
MWH	**Moku'aweowe**	**0.65**	**272**		Pg	14 42 11.4	-0.5
MWH				IAML		14 42 26.3	
	comp=N,284nm,0.4s						
MWH				IAML		14 42 32.2	
	comp=E,375nm,1.3s						
POHA	**Pohakuloa**	**0.65**	**297**		Pg	14 42 11.5	-0.5
POHA				IAML		14 42 29.0	
	comp=E,364nm,0.6s						
POHA				IAML		14 42 32.8	
	comp=E,337nm,0.3s						
KHU	**Kahuku**	**0.70**	**252**		Pg	14 42 12.5	-0.4
KHU	**Kahuku**	**0.70**	**252**	IAML		14 42 15.4	
	comp=E,351nm,4.3s						
KHU				IAML		14 42 27.9	
	comp=N,320nm,3.7s						
HUH	**Hualalai**	**0.90**	**284**		Pg	14 42 17.1	+0.3
MHA	**Mahukona**	**1.18**	**308**	Pg	Pg	14 42 22.2	+0.1

*IDC **02** 14:58:53.1±0.8, 27.13N×140.22E, h354km±7km, mb3.2/9, mbtmp3.9/12, Error ellipse: s-maj=22.4km s-min=14.2km az=61.0*

ISC 02 14:58:52.9±0.8, 27.10N±0.10×140.1E±0.1, h350km, n13, σ0§83/16, mb3.5/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**1.83**	**90**	P	**Pn**	**14 59 44.0**	**+0.9**
	78nm,0.3s,baz=273,slow=23,SNR=38						
JCJ				S	**S**	**15 00 23.4**	**0.0**
	160nm,0.4s,baz=293,slow=22,SNR=12						
JHJ	**Hachijo jima 2**	**6.01**	**357**	P	**Pn**	**15 00 24.3**	**+0.6**
	50nm,0.5s,baz=226,slow=16,SNR=1.8						
JHJ				S	**S**	**15 01 38.5**	**+1.1**
	79nm,0.7s,baz=240,slow=24,SNR=1.4						
MJAR	**Matsushiro Arr**	**9.56**	**351**	P	**Pn**	**15 01 05.7**	**+0.2**
	0.6nm,0.4s,baz=165,slow=8.9,SNR=7.0						
MJAR				S	**S**	**15 02 54.0**	**-0.1**
	0.4nm,0.3s,baz=174,slow=32,SNR=2.4						
USRK	**Ussuriysk Ar.**	**18.28**	**341**	P	**P**	**15 02 44.2**	**+1.5**
	3.0nm,0.7s,baz=139,slow=18,SNR=3.7						
MKAR	**Makanchi Array**	**49.06**	**310**	P	**P**	**15 07 05.8**	**0.0**
	0.3nm,0.4s,baz=76,slow=6.1,SNR=2.1						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**50.82**	**187**	P	**P**	**15 07 19.8**	**+0.7**
	0.1nm,0.4s,baz=15,slow=5.9,SNR=1.7						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**51.73**	**314**	P	**P**	**15 07 25.0**	**-0.4**
	1.3nm,0.4s,baz=91,slow=8.1,SNR=9.5						
	1.3nm,0.4s						
BVAR	**Borovoye Array**	**56.80**	**317**	P	**P**	**15 08 01.6**	**0.0**
	2.3nm,0.4s,baz=92,slow=6.5,SNR=15						
	2.3nm,0.4s						
ILAR	**Eielson Array**	**58.59**	**29**	P	**P**	**15 08 12.7**	**-1.1**
	0.3nm,0.6s,baz=261,slow=6.1,SNR=4.1						
	0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**70.05**	**349**	P	**P**	**15 09 26.9**	**-0.3**
	3.5nm,0.9s,baz=63,slow=14,SNR=1.6						
	3.5nm,0.9s						
YKA	**Yellowknife Ar**	**73.00**	**28**	P	**P**	**15 09 44.2**	**-0.7**
	0.5nm,0.6s,baz=302,slow=6.3,SNR=11						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**77.13**	**333**	P	**P**	**15 10 06.9**	**-1.3**
	0.7nm,0.3s,baz=66,slow=4.8,SNR=13						
	0.7nm,0.3s						
NVAR	**Mina Array Bea**	**81.95**	**51**	P	**P**	**15 10 35.1**	**+0.4**
	0.5nm,0.6s,baz=286,slow=5.9,SNR=4.6						
	0.5nm,0.6s						

*IDC **02** 15:00:47.1±2.0, 21.57N×143.13E, h281km±18km, mb3.2/12, mbtmp3.9/14, Error ellipse: s-maj=21.6km s-min=12.0km az=86.0*

ISC 02 15:00:49.8±0.7, 21.67N±0.09×143.1E±0.2, h311km, n17, σ1§28/19, mb3.4/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.46**	**352**	P	**Pn**	**15 02 10.8**	**-2.2**
	20nm,0.5s,baz=78,slow=19,SNR=1.3						
JCJ				S	**S**	**15 03 17.6**	**-2.5**
	34nm,0.4s,baz=116,slow=23,SNR=2.7						
MJAR	**Matsushiro Arr**	**15.41**	**345**	P	**P**	**15 04 12.0**	**+1.3**
	1.3nm,0.4s,baz=162,slow=8.6,SNR=7.3						
KSRS	**Korea Array**	**20.47**	**324**	P	**P**	**15 05 06.0**	**+1.4**
	1.3nm,0.6s,baz=143,slow=9.0,SNR=9.6						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**42.22**	**192**	P	**P**	**15 08 12.8**	**-0.5**
	1.6nm,0.6s,baz=13,slow=8.5,SNR=9.3						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**45.93**	**192**	P	**P**	**15 08 42.0**	**-0.4**
	0.4nm,0.6s,baz=13,slow=6.9,SNR=6.2						
	0.4nm,0.6s						
STKA	**Stephens Creek**	**53.26**	**182**	P	**P**	**15 09 35.2**	**-1.9**
	0.6nm,0.3s,baz=19,slow=6.4,SNR=4.3						
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**54.16**	**322**	PcP	**PcP**	**15 10 43.8**	**+0.1**
	0.6nm,0.5s,baz=107,slow=7.3,SNR=2.3						
MKAR	**Makanchi Array**	**54.63**	**313**	P	**P**	**15 09 48.2**	**+1.2**
	0.2nm,0.6s,baz=100,slow=7.9,SNR=2.0						
MKAR				PcP	**PcP**	**15 10 46.1**	**+0.5**
	0.3nm,0.5s,baz=89,slow=4.4,SNR=2.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**57.46**	**317**	P	**P**	**15 10 07.2**	**+0.4**
	0.5nm,0.4s,baz=92,slow=7.6,SNR=6.3						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**62.12**	**27**	P	**P**	**15 10 38.0**	**0.0**
	0.4nm,0.7s,baz=253,slow=5.5,SNR=6.2						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**62.62**	**320**	P	**P**	**15 10 42.8**	**+1.3**
	1.8nm,0.4s,baz=98,slow=7.7,SNR=17						
	1.8nm,0.4s						
YKA	**Yellowknife Ar**	**76.54**	**28**	P	**P**	**15 12 06.7**	**+0.8**
	0.6nm,0.6s,baz=296,slow=5.7,SNR=13						
	0.6nm,0.6s						
ARCES	**ARCESS Array B**	**78.91**	**341**	P	**P**	**15 12 19.8**	**+1.0**
	2.7nm,1.0s,baz=54,slow=9.1,SNR=2.0						
	2.7nm,1.0s						
FINES	**FINESS Array B**	**83.16**	**334**	P	**P**	**15 12 41.2**	**+0.1**
	0.7nm,0.4s,baz=63,slow=4.5,SNR=9.1						
	0.7nm,0.4s						
NVAR	**Mina Array Bea**	**83.26**	**51**	P	**P**	**15 12 43.7**	**+1.3**
	0.4nm,0.6s,baz=264,slow=7.4,SNR=4.0						
	0.4nm,0.6s						
PLCA	**Paso Flores**	**145.83**	**132**	PKPbc	**PKPab**	**15 19 53.7**	**-0.3**
	1.1nm,0.7s,baz=227,slow=6.7,SNR=4.7						
LPAZ	**La Paz**	**150.06**	**85**	PKPbc	**PKiKP**	**15 20 06.2**	**+0.1**
	0.5nm,0.3s,baz=294,slow=4.0,SNR=3.6						

*DJA **02** 15:00:56.9±0.4, 6˚S±4˚×13˚0E±˚, h195km±15km, M3.7/8, mb3.6/6, mB4.5/1, MLv3.8/8, Mw(mB)3.6/1*

ISC 02 15:00:57.0±1.3, 6.34S±0.10×130.5E±0.1, h200km, n11, σ0§87/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.89**	**343**	P	**Pn**	**15 01 33.7**	**-0.8**
BNDI	**Bandanaira**	**1.89**	**343**	P	**Pn**	**15 01 33.5**	**-1.0**
FAKI	**Fak Fak**	**3.83**	**28**	P	**Pn**	**15 01 57.5**	**+0.7**
FAKI	**Fak Fak**	**3.83**	**28**	P	**Pn**	**15 01 57.3**	**+0.5**
SWI	**Sorong**	**5.50**	**8**	P	**Pn**	**15 02 17.8**	**0.0**
	12nm,0.8s,811nm0.1nm						
DRS	**Darwin Rock St**	**6.07**	**176**	P	**Pn**	**15 02 25.5**	**+0.3**
SANI	**Sanana**	**6.17**	**313**	P	**Pn**	**15 02 27.2**	**+0.6**
	5.3nm,1.4s,0.0nm						
MTN	**Manton Dam**	**6.50**	**174**	P	**Pn**	**15 02 31.8**	**+1.0**
KDU	**Kakadu**	**6.61**	**163**	P	**Pn**	**15 02 33.0**	**+0.7**
LUWI	**Luwuk**	**9.31**	**304**	P	Pn	15 03 01.9	-5.5
KNRA	**Kununurra**	**9.43**	**190**	P	**Pn**	**15 03 07.9**	**-1.1**

GUC 02 15:04:03.3±0.7, 18.88S×69.82W, h85km±5km, ML2.7, 2C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**0.55**	**298**	⇑*i* P	Pn	15 04 17.6	-0.5
PB12				*e* S	Sn	15 04 28.7	-0.4
PB12				IAML		15 04 29.6	
	comp=E,663nm,0.6s						
PB11	**IPOC Station P**	**0.89**	**170**	⇑*i* P	Pn	15 04 20.7	-1.0
PB11				*e* S	Sn	15 04 34.9	-0.5
PB11				IAML		15 04 37.9	
	comp=N,166nm,0.2s						
GO01	**Chusmiza**	**0.98**	**143**	*e* P	Pn	15 04 23.1	+0.1
GO01				*e* S	Sn	15 04 38.5	+0.9
GO01				IAML		15 04 40.6	
	comp=E,504nm,0.1s						
PB08	**IPOC Station P**	**1.41**	**154**	*e* P	Pn	15 04 28.0	-0.1
PB08				*e* S	Sn	15 04 47.1	+0.4
PB08				IAML		15 04 48.5	
	comp=E,154nm,0.3s						
TA01	**Diego Aracena**	**1.71**	**191**	*e* P	Pn	15 04 30.6	-1.1
TA01				*e* S	Sn	15 04 52.2	-0.9
TA01				IAML		15 04 57.3	
	comp=N,90nm,0.2s						
PB01	**IPOC Station P**	**2.18**	**172**	*e* P	Pn	15 04 38.0	+0.1
PB07	**IPOC Station P**	**2.84**	**181**	*e* P	Pn	15 04 47.3	+0.6
PB04	**IPOC Station P**	**3.45**	**185**	*e* P	Pn	15 05 00.9	+5.9

GUC 02 15:04:28.1±0.8, 24.35S×69.58W, h85km±7km, ML3.2, 3C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB14	**IPOC Station P**	**0.80**	**249**	⇑*i* P	Pn	15 04 45.8	+0.2
PB14				*i* S	Sn	15 04 59.1	+0.6
GO02	**Mina Guanaco**	**0.81**	**181**	⇓*i* P	Pn	15 04 45.6	-0.1
GO02				*i* S	Sn	15 04 58.8	0.0
PB15	**IPOC Station P**	**1.14**	**5**	⇑*i* P	Pn	15 04 49.2	-0.1
PB15				*i* S	Sn	15 05 05.1	0.0
PB05	**IPOC Station P**	**1.59**	**339**	⇑*i* P	Pn	15 04 55.0	0.0
PB05				*e* S	Sn	15 05 15.3	+0.1
PB05				IAML		15 05 20.1	
	comp=N,138nm,0.2s						
PB06	**IPOC Station P**	**1.63**	**0**	⇓*i* P	Pn	15 04 55.4	-0.2
PB06				*i* S	Sn	15 05 16.4	+0.2
PB06				IAML		15 05 17.5	
	comp=E,277nm,0.4s						
PB06	**IPOC Station P**	**1.63**	**0**	*e* P	Pn	15 04 55.4	-0.1
PB06				*e* S	Sn	15 05 16.4	+0.2
LVC	**Limon Verde**	**1.83**	**20**	⇓*i* P	Pn	15 04 58.6	+0.3
LVC				*i* S	Sn	15 05 21.2	+0.1
LVC				IAML		15 05 23.4	
	comp=E,551nm,0.2s						
LVC	**Limon Verde**	**1.83**	**20**	*e* P	Pn	15 04 58.5	+0.2
AF01	**San Pedro de A**	**1.89**	**43**	*e* P	Pn	15 04 59.8	+0.8
AF01				*i* S	Sn	15 05 23.5	+1.0
AF01				IAML		15 05 32.4	
	comp=E,270nm,0.1s						
AC01	**Pan de Azucar**	**2.02**	**207**	*e* P	Pn	15 05 00.5	0.0
AC01				IAML		15 05 33.3	
	comp=E,174nm,0.2s						
PB04	**IPOC Station P**	**2.07**	**345**	IAML		15 05 38.3	
	comp=E,120nm,0.7s						
PB09	**IPOC Station P**	**2.56**	**7**	*e* P	Pn	15 05 08.8	+1.0
PB02	**IPOC Station P**	**3.02**	**354**	IAML		15 05 17.5	
	comp=E,142nm,0.7s						

*IDC **02** 15:17:22.1±1.6, 12˚90N×88˚01W, h35km±12km, mb3.9/9, mbtmp4.1/11, ML3.2/3, MS3.1/15, Error ellipse: s-maj=31.3km s-min=10.3km az=49.0*

*CATAC **02** 15:17:24.9±0.3, 12˚66N×88˚41W, h36km±5km, ML4.8*

*NEIC **02** 15:17:26.2±2.2, 12˚71N±0˚08×88˚31W±0˚08, h71km±8km, mb4.4/130, Error ellipse: s-maj=14.6km s-min=7.8km az=222.0*

*GCG **02** 15:17:30.2±0.6, 12˚88N×88˚67W, h35km±999km, MD4.3*

*UCR **02** 15:17:31.0±1.8, 12˚16N×88˚34W, h35km±999km, MW4.2*

ISC 02 15:17:25.0±0.7, 12.66N±0˚04×88.41W±0˚03, h66km±6km, n566, σ1§19/567, mb4.4/63, 16C-15D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarɲn**	**0.61**	**15**	⇓*i* P	**Pn**	**15 17 37.3**	**-1.5**
JUCU				*i* S	**Sn**	**15 17 47.1**	**-1.8**
JUCU				IAML		15 17 53.2	
	comp=Z,34µm,1.0s						
RANC	**El Ranchito**	**0.78**	**9**	*i* P	**Pn**	**15 17 39.9**	**-0.9**
RANC				*i* S	**Sn**	**15 17 51.8**	**-0.6**
RANC				IAML		15 17 54.4	
	comp=E,29µm,1.0s						
PACA	**Pacayal**	**0.81**	**6**	*e* P	**Pn**	**15 17 40.5**	**-0.6**
PACA	**Pacayal**	**0.81**	**6**	⇓*i* P	**Pn**	**15 17 40.4**	**-0.7**
PACA				*i* S	**Sn**	**15 17 52.2**	**-0.8**
PACA				IAML		15 17 53.7	
	comp=Z,310µm,1.0s						
LCND	**La Caada**	**0.82**	**38**	⇓*i* P	**Pn**	**15 17 40.1**	**-1.0**
LCND				*i* P		15 17 40.3	
LCND				*i* S	**Sn**	**15 17 52.5**	**-0.6**
LCND				IAML		15 17 56.9	
	comp=Z,44µm,1.0s						
LCND				IAML		15 17 57.0	
	comp=Z,39µm,1.0s						
CNCH	**Conchagua**	**0.84**	**42**	*e* P	**Pn**	**15 17 40.5**	**-0.9**
CNCH	**Conchagua**	**0.84**	**42**	⇓*i* P	**Pn**	**15 17 40.4**	**-0.9**
CNCH				*i* S	**Sn**	**15 17 54.3**	**+0.8**
CNCH				IAML		15 17 58.8	
	comp=Z,70µm,1.0s						
COEB	**Comit de Eme**	**0.84**	**352**	*e* P	**Pn**	**15 17 40.3**	**-1.2**
COEB				*e* S	**Sn**	**15 17 52.3**	**-1.3**
COEB	**Comit de Eme**	**0.84**	**352**	⇓*i* P	**Pn**	**15 17 40.3**	**-1.2**
COEB				*i* S	**Sn**	**15 17 51.8**	**-1.8**
COEB				IAML		15 17 52.8	
	comp=Z,13µm,1.0s						
CNRM	**Centro Naciona**	**0.85**	**16**	*i* P	**Pn**	**15 17 40.7**	**-0.7**
CNRM				*i* S	**Sn**	**15 17 53.7**	**+0.2**
CNRM				IAML		15 17 55.2	
	comp=Z,200µm,1.0s						
TECO	**Alcaldia de Te**	**0.94**	**338**	⇓*i* P	**Pn**	**15 17 41.2**	**-1.4**
TECO				*i* S	**Sn**	**15 17 54.1**	**-1.6**
TECO				IAML		15 17 57.3	
	comp=Z,10µm,1.0s						
AMPH	**Amapala**	**0.97**	**50**	*e* P	**Pn**	**15 17 42.6**	**-0.3**
PQSS	**Presa 15 de Se**	**0.97**	**352**	*e* P	**Pn**	**15 17 42.2**	**-0.7**
PQSS	**Presa 15 de Se**	**0.97**	**352**	⇓*i* P	**Pn**	**15 17 42.3**	**-0.7**
PQSS				*i* S	**Sn**	**15 17 55.8**	**-0.5**
PQSS				IAML		15 17 56.1	
	comp=Z,25µm,1.0s						
SNVI	**San Vicente**	**1.04**	**337**	*e* P	**Pn**	**15 17 43.1**	**-0.8**
UESV	**Universidad de**	**1.04**	**340**	⇓*i* P	**Pn**	**15 17 42.8**	**-1.1**
UESV				*i* S	**Sn**	**15 17 56.9**	**-1.0**
UESV				IAML		15 18 07.9	
	comp=Z,11µm,1.0s						
COEG	**Centro de Oper**	**1.06**	**335**	*e* P	**Pn**	**15 17 43.2**	**-1.0**
COEG				*e* S	**Sn**	**15 17 56.9**	**-1.5**
COEG	**Centro de Oper**	**1.06**	**335**	⇓*i* P	**Pn**	**15 17 43.0**	**-1.1**
COEG				*i* S	**Sn**	**15 17 57.4**	**-1.0**
COEG				IAML		15 17 58.3	
	comp=Z,16µm,1.0s						
SCLA	**Alcaldia de Sa**	**1.08**	**344**	*e* P	**Pn**	**15 17 44.0**	**-0.5**
SCLA				*e* S	**Sn**	**15 17 58.0**	**-0.9**
SCLA	**Alcaldia de Sa**	**1.08**	**344**	⇓*i* P	**Pn**	**15 17 43.9**	**-0.5**
SCLA				*i* S	**Sn**	**15 17 58.5**	**-0.4**
SCLA				IAML		15 17 59.8	
	comp=Z,9µm,1.0s						
PAVA	**Las Pavas**	**1.17**	**334**	*e* P	**Pn**	**15 17 45.0**	**-0.6**
PAVA				*e* S	**Sn**	**15 17 59.2**	**-1.7**
PAVA	**Las Pavas**	**1.17**	**334**	⇓*i* P	**Pn**	**15 17 44.9**	**-0.6**
PAVA				*i* S	**Sn**	**15 18 00.3**	**-0.6**
PAVA				IAML		15 18 02.6	
	comp=Z,37µm,1.0s						
PANCS	**Alcalda de**	**1.21**	**322**	*i* P	**Pn**	**15 17 44.8**	**-1.2**
PANCS				*i* S	**Sn**	**15 18 00.2**	**-1.6**
PANCS				IAML		15 18 01.8	
	comp=Z,29µm,1.0s						
LALI	**Alcalda de L**	**1.21**	**313**	*e* P	**Pn**	**15 17 44.6**	**-1.4**
LALI	**Alcalda de L**	**1.21**	**313**	⇑*i* P	**Pn**	**15 17 44.6**	**-1.4**
LALI				*i* S	**Sn**	**15 17 58.9**	**-2.8**
LALI				IAML		15 18 02.1	
	comp=Z,6µm,1.0s						
LOMA	**Loma Larga**	**1.23**	**323**	*e* P	**Pn**	**15 17 45.5**	**-0.8**
LOMA				*e* S	**Sn**	**15 18 01.1**	**-1.3**
LOMA	**Loma Larga**	**1.23**	**323**	*i* P	**Pn**	**15 17 45.4**	**-1.0**
LOMA				*i* S	**Sn**	**15 18 01.4**	**-1.0**
LOMA				IAML		15 18 03.0	
	comp=Z,17µm,1.0s						
LBRS	**Las Brisas**	**1.24**	**330**	*e* P	**Pn**	**15 17 46.0**	**-0.4**
UDBS	**Universidad Do**	**1.28**	**326**	*i* P	**Pn**	**15 17 46.3**	**-0.6**
UDBS				*i* S	**Sn**	**15 18 02.5**	**-0.9**
UDBS				IAML		15 18 05.9	
	comp=Z,17µm,1.0s						
LFU	**La Fuente**	**1.28**	**328**	*e* P	**Pn**	**15 17 46.5**	**-0.5**
IGN	**Direccin Gen**	**1.28**	**325**	*i* P	**Pn**	**15 17 46.4**	**-0.6**
IGN				*i* S	**Sn**	**15 18 03.2**	**-0.3**
IGN				IAML		15 18 05.0	
	comp=Z,68µm,1.0s						
UTEC	**Universidad Te**	**1.29**	**324**	*i* P	**Pn**	**15 17 46.4**	**-0.7**
UTEC				*i* S	**Sn**	**15 18 02.9**	**-0.8**
UTEC				IAML		15 18 04.0	
	comp=Z,12µm,1.0s						
SNET	**Serv Nac Est T**	**1.30**	**322**		**Pn**	**15 17 45.7**	**-1.5**
SNET	**Serv Nac Est T**	**1.30**	**322**	*e* P	**Pn**	**15 17 46.4**	**-0.8**
SNET	**Serv Nac Est T**	**1.30**	**322**	*i* P	**Pn**	**15 17 46.4**	**-0.8**
SNET				IAML		15 18 05.9	
	comp=Z,30µm,1.0s						
ITCA	**Escuela Especi**	**1.31**	**320**	*i* P	**Pn**	**15 17 46.6**	**-0.9**
ITCA				*i* S	**Sn**	**15 18 03.6**	**-0.8**
ITCA				IAML		15 18 07.8	
	comp=Z,23µm,1.0s						
UEES	**Universidad Ev**	**1.32**	**323**	*e* P	**Pn**	**15 17 46.9**	**-0.7**
UEES	**Universidad Ev**	**1.32**	**323**	*i* P	**Pn**	**15 17 46.9**	**-0.7**
UEES				*i* S	**Sn**	**15 18 04.3**	**-0.3**
UEES				IAML		15 18 12.8	
	comp=Z,8µm,1.0s						
PIC2	**El Picacho**	**1.36**	**323**	*e* P	**Pn**	**15 17 47.8**	**-0.4**
PIC2				*e* S	**Sn**	**15 18 05.2**	**-0.3**
BOQS	**Boqueron**	**1.36**	**322**	*e* P	**Pn**	**15 17 47.7**	**-0.5**
PMON	**Piamonte**	**1.37**	**320**	*e* P	**Pn**	**15 17 47.6**	**-0.7**
PMON	**Piamonte**	**1.37**	**320**	*i* P	**Pn**	**15 17 47.5**	**-0.7**
PMON				*i* S	**Sn**	**15 18 05.0**	**-0.6**
PMON				IAML		15 18 09.4	
	comp=Z,18µm,1.0s						
JAYA	**Jayaque - finc**	**1.41**	**315**	*e* P	**Pn**	**15 17 47.7**	**-1.2**
JAYA	**Jayaque - finc**	**1.41**	**315**	⇑*i* P	**Pn**	**15 17 47.7**	**-1.2**
JAYA				*i* S	**Sn**	**15 18 04.9**	**-1.9**
JAYA				IAML		15 18 06.1	
	comp=Z,39µm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.44**	**325**	*i* P	**Pn**	**15 17 49.0**	**-0.1**
QUEZ				*i* S	**Sn**	**15 18 07.7**	**+0.5**
QUEZ				IAML		15 18 14.6	
	comp=Z,42µm,1.0s						
CEDA	**San Andres**	**1.49**	**320**	*i* P	**Pn**	**15 17 49.2**	**-0.5**
CEDA				*i* S	**Sn**	**15 18 08.8**	**+0.5**
CEDA				IAML		15 18 18.4	
	comp=Z,16µm,1.0s						
LLGN	**La Laguna**	**1.58**	**341**	*i* P	**Pn**	**15 17 50.9**	**-0.2**
LLGN				*i* S	**Sn**	**15 18 10.8**	**+0.1**
LLGN				IAML		15 18 13.6	
	comp=Z,3µm,1.0s						
PLRN	**Geotermica Pol**	**1.61**	**92**	⇑*i* P	**Pn**	**15 17 50.1**	**-1.2**
PLRN				*i* S	**Sn**	**15 18 09.9**	**-1.3**
PLRN				IAML		15 18 15.7	
	comp=Z,14µm,1.0s						
CEVE	**Cerro Verde**	**1.66**	**315**	*e* P	**Pn**	**15 17 51.8**	**-0.3**
CEVE	**Cerro Verde**	**1.66**	**315**	*i* P	**Pn**	**15 17 51.7**	**-0.5**
CEVE				*i* S	**Sn**	**15 18 11.1**	**-1.6**
CEVE				IAML		15 18 20.0	
	comp=Z,11µm,1.0s						
SBLS	**San Blas**	**1.66**	**315**	*e* P	**Pn**	**15 17 51.9**	**-0.3**
SNJE	**San Jose**	**1.67**	**316**	*e* P	**Pn**	**15 17 52.1**	**-0.3**
CNGN	**Cerro Negro**	**1.68**	**95**	Pn	**Pn**	**15 17 50.6**	**-1.7**
UNIC	**Universidad Ca**	**1.72**	**320**	*i* P	**Pn**	**15 17 52.6**	**-0.2**
UNIC				*i* S	**Sn**	**15 18 13.6**	**-0.3**
UNIC				IAML		15 18 20.3	
	comp=Z,2µm,1.0s						
RTR	**El Retiro**	**1.72**	**316**	*e* P	**Pn**	**15 17 52.8**	**-0.2**
**LEVN

RB213 Mirador 2 Volc 2.29 107 *i* P **Pn** **15 17 58.6 -2.0**
RB213 IAML 15 18 27.9
comp=Z,7μm,1.0s
MASN Masaya 2.31 107 *i* P **Pn** **15 18 00.8 0.0**
MASN *i* S **Sn** **15 18 27.4 -0.8**
MASN IAML 15 18 33.4
comp=Z,2μm,1.0s
NBG Las Nubes 2.69 316 *eP* **Pn** **15 18 07.7 +1.5**
MRL Marmol 2.71 333 *eP* **Pn** **15 18 07.9 +1.6**
FUG Fuego 3 2.96 307 *eP* **Pn** **15 18 10.3 +0.5**
APG El Apazote 3.07 320 Pn **Pn** **15 18 11.2 0.0**
comp=Z,0.8nm,0.3s,baz=128,slow=10.0,SNR=33
APG Pg 15 18 18.7
comp=Z,2.1nm,0.3s,baz=137,slow=9.9,SNR=19
APG Lg Lg 15 18 56.3
comp=Z,2.0nm,0.3s,baz=190,slow=12,SNR=4.0
LCRUZ La Cruz 3.14 120 *eS* **Sn** **15 18 48.5 0.0**
ACON Acoyapa 3.24 102 Pn **Pn** **15 18 12.6 -0.8**
HZTE Horizontes, Gu 3.37 125 Pn **Pn** **15 18 15.7 +0.5**
HZTE Horizontes, Gu 3.37 125 *iP* **Pn** **15 18 16.7 +1.5**
HZTE IAML 15 19 01.6
comp=Z,960nm,1.0s
HZTE Horizontes, Gu 3.37 125 *iP* **Pn** **15 18 16.7 +1.5**
ELI1 Hacienda Flor 3.44 125 *eP* **Pn** **15 18 18.2 +2.0**
GB1A Boringuen Arri 3.47 121 *eP* **Pn** **15 18 18.4 +1.7**
SULM Suchitepequez, 3.48 298 *eP* **Pn** **15 18 17.6 +1.0**
ALIBA Liberia Airpor 3.48 126 *eP* **Pn** **15 18 19.1 +2.4**
GPS3 Bodega del ICE 3.53 122 *eP* Pn 15 18 21.6 +4.0
GPS2 Hotel Rincn d 3.55 122 *eP* **Pn** **15 18 19.4 +1.7**
STG3 Santiaguito 3, 3.69 304 *eP* **Pn** **15 18 21.2 +1.5**
STG3 *eS* **Sn** **15 19 00.8 -1.2**
ORTG Ortega, Santa 3.69 128 Pn **Pn** **15 18 20.4 +0.8**
ORTG Ortega, Santa 3.69 128 *i* P **Pn** **15 18 20.1 +0.5**
ORTG IAML 15 19 23.5
comp=Z,470nm,1.0s
ORTG Ortega, Santa 3.69 128 *eP* **Pn** **15 18 20.7 +1.1**
SAJU San Juanillo, 3.69 134 *iP* **Pn** **15 18 20.2 +0.5**
SAJU IAML 15 19 26.6
comp=Z,490nm,1.0s
COLC Colonia 3.72 122 *eP* **Pn** **15 18 21.0 +1.0**
VMAR Armenia, Volca 3.72 119 *eP* **Pn** **15 18 20.8 +0.9**
BAGA Bagaces 3.74 124 *eP* **Pn** **15 18 22.2 +1.8**
JUD3 Juan Diaz 3 3.75 131 *eP* **Pn** **15 18 21.3 +0.8**
CUI Cuipilapa 3.75 122 *eP* **Pn** **15 18 21.9 +1.4**
NICO Nicoya 3.84 130 *eP* **Pn** **15 18 22.1 +0.4**
VERA Finca Concepci 3.91 117 *eP* **Pn** **15 18 23.7 +1.1**
CMARA Lajas Hojancha 3.93 131 *eP* **Pn** **15 18 23.9 +0.9**
INDI Punta indio, G 3.98 134 *iP* **Pn** **15 18 24.3 +0.7**
INDI IAML 15 19 38.8
comp=Z,760nm,1.0s
INDI Punta indio, G 3.98 134 *iP* **Pn** **15 18 24.3 +0.7**
ESPN Las Esperanzas 4.04 96 Pn **Pn** **15 18 23.8 -0.6**
ESPN Las Esperanzas 4.04 96 *iP* **Pn** **15 18 24.9 +0.5**
ESPN IAML 15 19 35.2
comp=Z,460nm,1.0s
NYURE Nandayure 4.07 130 *eP* **Pn** **15 18 26.2 +1.4**
JTS Las Juntas de 4.13 124 Pn **Pn** **15 18 26.0 +0.4**
JTS Las Juntas de 4.13 124 Pn **Pn** **15 18 21.9 -3.7**
comp=Z,0.7nm,0.3s,baz=294,slow=21,SNR=1.6
JTS Pg 15 18 34.8
comp=Z,248nm,0.3s,baz=301,slow=19,SNR=99
JTS Sn **Sn** **15 19 06.1 -6.6**
comp=Z,9.0nm,0.3s,baz=270,slow=18,SNR=1.2
JTS LR LR 15 19 24.9
comp=Z,83nm,20.1s,baz=286,slow=31
JTS Lg Lg 15 19 29.1
comp=Z,24nm,0.3s,baz=306,slow=19,SNR=8.8
comp=Z,5.8nm,0.4s
JTS Las Juntas de 4.13 124 *eP* **Pn** **15 18 27.3 +1.7**
MTEVE Monteverde 4.21 123 *eP* Pn 15 18 30.4 +3.5
CEDE Laguna Cedeo 4.23 120 *eP* **Pn** **15 18 29.2 +2.2**
VACR Volcan Arenal 4.26 120 *eP* **Pn** **15 18 29.7 +2.4**
COVE Coope Vega, Sa 4.38 116 Pn **Pn** **15 18 30.5 +1.5**
LAFE Finca La Fe, P 4.45 129 *i* P **Pn** **15 18 31.0 +1.0**
LAFE IAML 15 19 44.4
comp=Z,5.7nm,1.0s
LAFE Finca La Fe, P 4.45 129 *eP* **Pn** **15 18 31.1 +1.1**
CPMI Catarata Coope 4.60 120 *eP* **Pn** **15 18 34.2 +1.9**
JACO JACO, Garabito 4.74 129 Pn **Pn** **15 18 35.5 +1.7**
JACO JACO, Garabito 4.74 129 *i* P **Pn** **15 18 35.6 +1.7**
JACO JACO, Garabito 4.74 129 *eP* **Pn** **15 18 35.6 +1.7**
TRB2 Turrubares 4.75 125 *eP* **Pn** **15 18 36.5 +2.4**
GREC Grecia 4.77 122 *eP* Pn 15 18 46.6 +12
TCS1 Tacares 4.80 122 *eP* Pn 15 18 37.9 +3.1
HDC Heredia 4.97 122 Pn **Pn** **15 18 39.4 +2.1**
HDC Heredia 4.97 122 *eP* **Pn** **15 18 39.8 +2.5**
HDC *eS* **Sn** **15 19 34.5 +0.9**
CCIG Comitan 5.10 315 Pn **Pn** **15 18 41.2 +2.1**
CVIMO Finca Echandi 5.11 120 *eP* Pn 15 18 43.8 +4.6
ABE2 San Pablo 5.19 124 *eP* **Pn** **15 18 43.3 +3.0**
ABE2 *eS* **Sn** **15 19 39.0 0.0**
LCR2 La Lucha 2 5.21 123 Pn **Pn** **15 18 42.2 +1.7**
LCR2 La Lucha 2 5.21 123 *eP* **Pn** **15 18 42.3 +1.7**
VICA Volcano Irazu 5.21 120 *eP* Pn 15 18 45.4 +4.7
VTLA Turrialba Volc 5.26 120 *eP* **Pn** **15 18 44.4 +3.0**
CVTR Volcan Turrial 5.26 119 *eP* **Pn** **15 18 43.3 +1.8**
CVTQ Turrialba Volc 5.26 120 *eP* Pn 15 18 44.7 +3.2
VTR0 Volcan Turrial 5.26 119 *eP* Pn 15 18 44.7 +3.2
CVTV Tajo 5.28 119 *eP* Pn 15 18 45.5 +3.8
LLNJ Naranjito 5.29 126 *eP* **Pn** **15 18 44.0 +2.6**
VTCV VTCV, Calle Va 5.31 120 *eP* Pn 15 18 45.1 +3.1
CDM Cerro de Muert 5.51 124 *iP* **Pn** **15 18 47.4 +2.5**
CDM *eS* **Sn** **15 19 46.2 -0.9**
BUS1 Rivas 5.52 123 *iP* **Pn** **15 18 47.7 +2.6**
BUS1 *eS* **Sn** **15 19 47.2 -0.3**
PEZE Perez Zeledon, 5.67 125 Pn **Pn** **15 18 49.2 +2.4**
OCHAL Ojochal 5.87 127 *eP* **Pn** **15 18 51.1 +1.7**
SRBA San Rafael, Bu 6.02 124 Pn **Pn** **15 18 53.1 +1.6**
SRBA San Rafael, Bu 6.02 124 *eP* **Pn** **15 18 53.8 +2.3**
DRK0 Durika 6.09 123 *eP* **Pn** **15 18 54.8 +2.1**
EDBA Buenos Aires 6.12 124 *eP* **Pn** **15 18 55.2 +2.2**
EDP2 Potrero Grande 6.29 125 *eP* **Pn** **15 18 58.1 +3.0**
EDAD Golfito 6.51 127 *eP* **Pn** **15 18 60.0 +1.7**
PIRO Carate, Puerto 6.54 130 *eP* **Pn** **15 19 00.7 +2.1**
CDITO Canoas 6.79 126 Pn **Pn** **15 19 02.3 +0.2**
CDITO Canoas 6.79 126 *eP* **Pn** **15 19 04.3 +2.3**
BRU2 Volcan 6.81 124 Pn **Pn** **15 19 03.1 +0.7**
BRU2 Volcan 6.81 124 *eP* **Pn** **15 19 04.3 +1.9**
CCOL Caracol de Cor 6.81 128 *eP* Pn 15 19 05.4 +3.0
TEIG Tepich 7.53 1 Pn **Pn** **15 19 13.4 +1.4**
TEIG Tepich 7.53 1 LR LR 15 22 34.5
comp=Z,2μm,20.4s,slow=43
CMIG Matias Romero 7.65 306 Pn **Pn** **15 19 13.4 -0.4**
comp=Z,2.5nm,0.3s,baz=146,slow=12,SNR=27
CMIG Sn **Sn** **15 20 39.7 +0.6**
comp=Z,3.7nm,0.3s,baz=84,slow=19,SNR=5.7
CMIG LR LR 15 21 30.2
comp=Z,48nm,21.6s,baz=128,slow=32
comp=Z,7.9nm,0.4s
TLIG Tlapa 10.95 298 Pn **Pn** **15 20 00.7 +1.7**
SOR Soroa 11.32 26 Pn **Pn** **15 20 07.4 +3.6**
TULM Tulcn-Chalpat 15.87 138 Pn **Pn** **15 21 04.4 -0.4**
TULM IAmb IAmb 15 21 40.3
comp=Z,24nm,0.8s
PULU Pululahua 15.95 141 P **P** **15 21 09.0 +0.8**
HBVL Hebbronville 17.26 328 **P** **15 21 22.1 -0.2**
HBVL IAmb IAmb 15 21 55.2
comp=Z,27nm,1.3s
SDV Santo Domingo 17.86 100 P **Pn** **15 21 27.9 -1.5**
SDV IAmb IAmb 15 21 33.0
comp=Z,23nm,0.9s
SDV Santo Domingo 17.86 100 *eP* Pn 15 21 21.4 -7.9
SDV *eS* Sn 15 24 27.6 -20
833A Chaparral WMA, 18.65 328 P **Pn** **15 21 38.2 -0.4**
833A IAmb IAmb 15 21 41.8
comp=Z,18nm,0.9s
833A Chaparral WMA, 18.65 328 P **Pn** **15 21 38.9 +0.3**
baz=144
352A Blakely 19.01 9 P **Pn** **15 21 43.5 +0.8**
352A IAmb IAmb 15 21 47.0
comp=Z,34nm,0.8s
HNDO Hondo 19.59 331 P **P** **15 21 48.4 +0.6**
HNDO IAmb IAmb 15 21 54.2
comp=Z,22nm,1.2s
435B Jarrell 19.93 336 P **P** **15 21 51.0 -0.5**
435B IAmb IAmb 15 21 57.6
comp=Z,18nm,0.6s
435B Jarrell 19.93 336 P **Pn** **15 21 52.6 -1.1**
baz=153
DRIO Del Rio 20.17 328 P **P** **15 21 53.8 -0.3**
LRAL Lakeview Retre 20.33 3 P Pn 15 21 58.0 -0.3
LRAL Lakeview Retre 20.33 3 P **P** **15 21 56.6 +0.8**
baz=184

BAUV El Baul 20.35 98 P **P** **15 21 54.6 -1.5**
Z47A Carrollton 20.45 1 P **P** **15 21 57.7 +0.6**
JCT Junction City 20.63 331 P **P** **15 22 00.2 +1.1**
JCT IAmb IAmb 15 22 03.6
comp=Z,9.2nm,0.7s
JCT Junction City 20.63 331 P Pn 15 22 00.5 -1.5
baz=147
BRDY Brady 20.95 334 P **P** **15 22 02.8 +0.2**
BRDY IAmb IAmb 15 22 17.6
comp=Z,11nm,0.7s
GOGA Godfrey 21.15 12 P **P** **15 22 06.2 +1.6**
GOGA IAmb IAmb 15 22 24.1
comp=Z,26nm,1.1s
GOGA Godfrey 21.15 12 P **P** **15 22 05.8 +1.2**
baz=193,SNR=6.2
Y49A Blount Mountai 21.18 5 P **P** **15 22 06.5 +1.5**
SAND Sanderson 21.40 326 P **P** **15 22 07.0 -0.3**
Y52A Lilburn 21.48 10 IAmb IAmb 15 22 27.8
comp=Z,24nm,0.9s
OZNA Ozona 21.64 329 IAmb IAmb 15 22 14.8
comp=Z,16nm,0.7s
TX31 Lajitas Ar. Si 21.82 322 P **P** **15 22 13.0 +1.0**
TXAR Lajitas Array 21.82 322 P **P** **15 22 12.8 +0.8**
TXAR Lajitas Array 21.82 322 P **P** **15 22 12.9 +0.9**
comp=Z,4.6nm,0.6s,baz=146,slow=11,SNR=36
TXAR S **S** **15 26 12.8 +3.0**
comp=Z,0.3nm,0.6s,baz=132,slow=5.0,SNR=3.6
TXAR ScP **ScP** **15 29 44.5 +3.0**
comp=Z,0.3nm,0.6s,baz=134,slow=5.6,SNR=3.9
comp=Z,4.6nm,0.6s
HODGE Hodges 22.20 14 IAmb IAmb 15 22 35.0
comp=Z,18nm,1.1s
MIAR Mount Ida 22.29 349 IAmb IAmb 15 22 34.9
comp=Z,16nm,1.0s
MIAR Mount Ida 22.29 349 P **P** **15 22 18.2 +1.3**
baz=166,SNR=6.1
ABTX Abilene, Hawle 22.38 334 P **P** **15 22 18.5 +0.6**
baz=150
JSC Jenkinsville 22.49 16 P **P** **15 22 19.2 +0.2**
ALPN Alpine 22.57 324 P **P** **15 22 20.2 +0.1**
X37A Clayton 22.73 345 IAmb IAmb 15 22 46.0
comp=Z,19nm,1.1s
WHAR Wooly Hollow 22.81 352 IAmb IAmb 15 22 25.5
comp=Z,8.6nm,0.8s
APMT Aspermont 23.19 334 P **P** **15 22 26.0 -0.1**
APMT IAmb IAmb 15 22 40.5
comp=Z,9.7nm,0.7s
TKL Tuckaleechee C 23.28 10 IAmb IAmb 15 22 52.0
comp=Z,31nm,1.4s
TKL Tuckaleechee C 23.28 10 LR LR 15 31 18.9
comp=Z,47nm,20.6s,baz=166,slow=36
KMSC Kings Mountain 23.29 15 IAmb IAmb 15 22 45.9
comp=Z,13nm,0.8s
KMSC Kings Mountain 23.29 15 P **P** **15 22 28.5 +1.5**
baz=197
FCAR Ozark Folk Cen 23.37 352 IAmb IAmb 15 22 30.9
comp=Z,10.0nm,0.7s
WVT Waverly 23.38 1 P **P** **15 22 29.6 +1.7**
baz=181
PECS Pecos 23.44 325 P **P** **15 22 28.6 0.0**
POST Post 23.58 332 P **P** **15 22 29.0 -0.9**
POST IAmb IAmb 15 22 31.9
comp=Z,14nm,0.6s
LPIG La Paz 23.65 302 LR LR 15 31 00.7
comp=Z,32nm,19.1s,baz=40,slow=34
DKNS Dickens 23.82 333 IAmb IAmb 15 22 34.2
comp=Z,15nm,0.8s
WMOK Wichita Mounta 23.91 339 P **P** **15 22 33.5 +0.8**
baz=154,SNR=8.2
HHAR Hobbs 24.04 349 P **P** **15 22 35.2 +1.2**
TZTN Tazewell 24.18 10 P **P** **15 22 36.5 +1.3**
baz=191
T47A Sharon Grove 24.26 3 IAmb IAmb 15 22 38.0
comp=Z,11nm,0.6s
V58A Windy Hill, Pi 24.52 18 IAmb IAmb 15 22 56.9
comp=Z,18nm,0.8s
MNTX Cornudas Mount 24.55 323 P **P** **15 22 37.9 -0.7**
MNTX Cornudas Mount 24.55 323 P **P** **15 22 40.2 +1.6**
baz=137,SNR=6.5
MGMO Mountain Grove 24.64 353 IAmb IAmb 15 22 59.1
comp=Z,16nm,1.1s
SMWD Samnorwood 24.78 336 P **P** **15 22 40.7 -0.1**
AMTX Amarillo 25.19 334 P **P** **15 22 45.3 +0.8**
baz=148
S39A Bolivar 25.31 351 IAmb IAmb 15 23 05.6
comp=Z,14nm,0.7s
CCM Cathedral Cave 25.42 355 P **P** **15 22 45.6 -0.8**
CCM Cathedral Cave 25.42 355 P **P** **15 22 47.2 +0.8**
baz=173
BLA Blacksburg 25.48 15 P **P** **15 22 47.6 +0.6**
baz=198
WCI Wyandotte Cave 25.54 4 P **P** **15 22 47.8 +0.3**
baz=185
T57A Hurt 25.59 17 IAmb IAmb 15 23 09.7
comp=Z,12nm,0.8s
R40A Maddies Statio 25.76 353 IAmb IAmb 15 22 51.6
comp=Z,5.6nm,0.6s
T59A Double "B" Far 26.10 20 P **P** **15 22 52.5 -0.1**
T59A IAmb IAmb 15 23 11.2
comp=Z,21nm,1.4s
S57A Dark Hollow, R 26.39 17 P **P** **15 22 55.9 +0.7**
S57A IAmb IAmb 15 23 17.5
comp=Z,16nm,1.3s
R55A Marlinton 26.57 15 IAmb IAmb 15 23 16.1
comp=Z,14nm,1.2s
RTBA Rita Blanca 26.96 334 IAmb IAmb 15 23 04.8
comp=Z,8.2nm,0.9s
NNA Nana 27.04 154 LR LR 15 32 56.9
comp=Z,36nm,18.9s,baz=263,slow=34
P38A Dawn 27.24 351 P **P** **15 23 02.2 -0.6**
P38A IAmb IAmb 15 23 04.6
comp=Z,12nm,1.2s
ANMO Albuquerque 27.56 327 P **P** **15 23 05.7 -0.3**
baz=139
ANMO Albuquerque 27.56 327 LR LR 15 35 47.3
comp=Z,36nm,19.6s,baz=195,slow=40
SFIN Lafayette 27.64 2 IAmb IAmb 15 23 07.2
comp=Z,10nm,0.6s
SFIN Lafayette 27.64 2 P **P** **15 23 06.6 +0.3**
baz=182
P57A Homestead Farm 28.26 17 IAmb IAmb 15 23 14.8
comp=Z,7.9nm,0.6s
T25A Trinidad 28.28 332 P **P** **15 23 12.5 +0.1**
T25A IAmb IAmb 15 23 17.0
comp=Z,5.4nm,0.6s
T25A Trinidad 28.28 332 P **P** **15 23 13.7 +1.3**
baz=145,SNR=7.1
TUC Tucson 28.35 317 P **P** **15 23 14.0 +1.1**
baz=128
KSCO Kaye Shedlock' 29.12 337 P **P** **15 23 20.6 +0.9**
baz=150
SDCO Great Sand Dun 29.28 332 P **P** **15 23 22.5 +1.1**
baz=144
SSPA Standing Stone 29.37 16 P **P** **15 23 22.5 +0.8**
baz=201
BOAV Boa Vista 29.43 108 *eP* **P** **15 23 18.1 -4.5**
BOAV *eS* S 15 27 59.0 -13
MVCO Mesa Verde 30.35 327 P **P** **15 23 31.7 +0.8**
baz=138
OGNE Ogallala 30.61 339 P **P** **15 23 33.7 +0.9**
baz=153
WUAZ Wupatki 30.79 322 P **P** **15 23 36.7 +2.1**
baz=132
ISCO Idaho Springs 31.01 334 P **P** **15 23 38.3 +1.7**
baz=146
SMCO Snowmass 31.11 331 P **P** **15 23 38.3 +0.6**
SMCO IAmb IAmb 15 23 42.1
comp=Z,3.9nm,0.7s
PV03 Paradox Valley 31.32 328 P **P** **15 23 39.6 +0.3**
PV03 IAmb IAmb 15 23 43.5
comp=Z,8.9nm,1.5s
BINY Binghamton 31.36 18 P **P** **15 23 39.9 +0.6**
baz=204
PV11 David Mesa, Pa 31.36 328 P **P** **15 23 40.3 +0.6**
PV11 IAmb IAmb 15 23 43.2
comp=Z,5.8nm,0.5s
ETMB Extrema 31.38 134 P **P** **15 23 40.8 +1.0**
ETMB Extrema 31.38 134 *eP* **P** **15 23 41.1 +1.4**
ETMB *eS* **S** **15 28 39.1 -3.6**
PV20 West Nyswonger 31.45 328 P **P** **15 23 42.2 +1.9**
ECSD EROS Data Cent 31.76 349 P **P** **15 23 44.6 +1.7**
baz=164
N23A Red Feather La 32.06 335 P **P** **15 23 47.5 +1.7**
baz=146
SWSC Sam W. Stewart 32.16 313 P **P** **15 23 47.9 +1.4**
baz=122
PHWY Pilot Hill 32.20 336 P **P** **15 23 48.0 +0.9**

PHWY IAmb IAmb 15 23 50.3
comp=Z,2.6nm,0.6s
GLMI Grayling 32.22 5 P **P** **15 23 48.2 +1.3**
baz=187
IKP In-Ko-Pah, Jac 32.23 313 P **P** **15 23 48.5 +1.4**
baz=122
BC3 Big Chuckawall 32.31 315 P **P** **15 23 49.1 +1.2**
baz=124
NEE2 Needles Airpor 32.38 317 P **P** **15 23 49.9 +1.5**
baz=126
O20A White River Ci 32.47 331 P **P** **15 23 50.3 +1.0**
baz=142,SNR=6.3
MONP2 Monument Peak 32.58 313 P **P** **15 23 50.2 -0.2**
baz=122
SRU San Rafael Swe 32.83 327 IAmb IAmb 15 23 57.1
comp=Z,2.7nm,0.6s
TPFO Pinon Flats 32.98 314 P **P** **15 23 55.3 +1.5**
baz=122
PFO Pinyon Flats O 32.98 314 LR LR 15 37 13.8
comp=Z,41nm,20.6s,baz=88,slow=36
SAML Samuel 33.00 129 P **P** **15 23 53.6 -0.4**
SAML IAmb IAmb 15 23 55.0
comp=Z,7.0nm,0.9s
SAML Samuel 33.00 129 *eP* **P** **15 23 53.7 -0.3**
GMRC Granite Mounta 33.09 316 P **P** **15 23 56.2 +1.5**
baz=125
RWWY Rawlins 33.25 334 P **P** **15 23 56.6 +0.4**
HEC Hector Ludlow 33.57 316 P **P** **15 23 59.9 +1.0**
baz=124
TUQ Turquoise Moun 33.64 317 P **P** **15 24 01.0 +1.5**
baz=125
BBRC Big Bear Solar 33.66 315 P **P** **15 24 01.0 +1.2**
baz=123
K22A Casper 33.76 336 P **P** **15 24 01.5 +1.0**
baz=147
CIS Catalina Islan 34.27 312 P **P** **15 24 06.0 +1.0**
baz=120
LPAZ La Paz 35.06 145 P **P** **15 24 12.1 -0.4**
comp=Z,1.1nm,0.5s,baz=14,slow=3.1,SNR=4.0
comp=Z,1.1nm,0.5s
LPAZ La Paz 35.06 145 *eP* **P** **15 24 15.3 +2.8**
LPAZ *eS* **S** **15 29 42.2 +1.3**
PDAR Pinedale Array 35.15 333 P **P** **15 24 12.2 -0.4**
PDAR Pinedale Array 35.15 333 P **P** **15 24 13.1 +0.5**
comp=Z,1.3nm,0.5s,baz=127,slow=10,SNR=18
PDAR LR LR 15 41 47.9
comp=Z,17nm,18.3s,baz=116,slow=42
comp=Z,1.3nm,0.5s
AHID Auburn Hatcher 35.86 331 P **P** **15 24 18.4 -0.2**
LOHW Long Hollow 36.29 332 IAmb IAmb 15 24 26.1
comp=Z,5.4nm,0.7s
MOOW Moose Ponds 36.46 332 IAmb IAmb 15 24 27.3
comp=Z,3.8nm,0.7s
FXWY Fox Creek 36.50 332 IAmb IAmb 15 24 32.2
comp=Z,2.5nm,0.7s
ELK Elko 36.55 325 LR LR 15 42 04.5
comp=Z,20nm,19.5s,slow=40
H17A Grant Village 36.89 333 P **P** **15 24 27.8 +0.3**
H17A IAmb IAmb 15 24 31.5
comp=Z,3.8nm,0.5s
H17A Grant Village 36.89 333 P **P** **15 24 28.3 +0.8**
baz=142
RLMT Red Lodge 36.92 335 IAmb IAmb 15 24 29.0
comp=Z,4.3nm,0.7s
RLMT Red Lodge 36.92 335 P **P** **15 24 28.6 +0.9**
baz=145,SNR=7.3
NVAR Mina Array Bea 36.93 319 P **P** **15 24 30.2 +2.3**
comp=Z,1.1nm,0.7s,baz=125,slow=7.1,SNR=6.5
NVAR PcP **PcP** **15 26 49.6 +1.5**
comp=Z,0.9nm,0.6s,baz=137,slow=4.6,SNR=5.2
NVAR ScP **ScP** **15 30 31.5 +2.1**
comp=Z,0.6nm,0.7s,baz=108,slow=8.0,SNR=4.6
comp=Z,1.1nm,0.7s
YMP Mirror Lake PI 36.98 334 IAmb IAmb 15 24 36.0
comp=Z,5.1nm,0.6s
LAO LASA Array 37.10 340 P **P** **15 24 29.8 +0.9**
baz=150
VILB Vilhena 37.82 131 P **P** **15 24 34.2 -1.2**
VILB Vilhena 37.82 131 *eP* **P** **15 24 35.6 +0.3**
VILB *eS* **S** **15 30 18.1 -3.9**
ULM Lac du Bonnet 37.98 352 IAmb IAmb 15 24 37.0
comp=Z,5.0nm,0.7s
ULM Lac du Bonnet 37.98 352 P **P** **15 24 34.9 -1.4**
comp=Z,4.6nm,0.5s,baz=167,slow=9.0,SNR=14
ULM LR LR 15 41 22.8
comp=Z,45nm,21.6s,baz=137,slow=38
comp=Z,4.6nm,0.5s
DGMT Dagmar 38.04 343 P **P** **15 24 37.6 +0.7**
baz=154,SNR=5.0
HLID Hailey 38.08 329 P **P** **15 24 38.3 +0.9**
baz=136
MCMT McKenzie Canyo 38.25 332 P **P** **15 24 40.1 +1.1**
BOZ Bozeman (W) 38.30 333 IAmb IAmb 15 24 42.7
comp=Z,5.1nm,0.6s
BOZ Bozeman (W) 38.30 333 P **P** **15 24 40.0 +0.7**
baz=142,SNR=14
MCPB Macapa, AP 38.31 107 *eP* **P** **15 24 35.2 -4.4**
MCPB *eS* S 15 30 14.8 -15
LRM Limekiln Ridge 38.84 333 P **P** **15 24 44.0 +0.2**
EGMT Eagleton 39.50 337 IAmb IAmb 15 25 06.3
comp=Z,5.6nm,0.8s
EGMT Eagleton 39.50 337 P **P** **15 24 50.2 +1.0**
baz=146
PDRB Porto dos Gac 39.63 126 *eP* **P** **15 24 50.3 -0.3**
PDRB *eS* **S** **15 30 43.3 -5.8**
BPMT Black Pine Rid 39.75 333 P **P** **15 24 49.5 -2.0**
LVC Limon Verde 39.92 151 *eP* P 15 24 57.2 +3.9
MSO Missoula 40.27 333 P **P** **15 24 54.9 -0.7**
MSO IAmb IAmb 15 24 59.5
comp=Z,4.4nm,0.6s
MSO Missoula 40.27 333 P **P** **15 24 56.7 +1.1**
baz=139
BBSD Serra de San D 40.42 137 *eP* **P** **15 24 59.2 +2.1**
BBSD *eS* **S** **15 30 59.5 -1.4**
YBH Yreka Blue Hor 41.59 321 LR LR 15 44 06.7
comp=Z,53nm,21.6s,baz=155,slow=38
NEW Newport 42.78 332 P **P** **15 25 17.2 +1.1**
baz=136
NEW Newport 42.78 332 LR LR 15 45 10.4
comp=Z,30nm,19.0s,baz=152,slow=39
FFC Flin Flon 43.30 349 P **P** **15 25 20.4 +0.3**
FFC IAmb IAmb 15 25 22.5
comp=Z,3.9nm,0.6s
EDM Edmonton 45.08 339 P **P** **15 25 33.8 -0.6**
SCHQ Schefferville 45.36 17 P **P** **15 25 34.1 -2.4**
comp=Z,2.5nm,0.5s,baz=236,slow=8.5,SNR=9.9
comp=Z,2.5nm,0.5s
RVDE Rio Verde (Bra 45.60 133 *eP* **P** **15 25 40.5 +1.5**
FCC Fort Churchill 46.21 356 P **P** **15 25 41.9 -1.2**
BRLDA Berland Lookou 47.25 337 P **P** **15 25 50.9 -0.6**
BDFB Brasilia 48.87 124 LR LR 15 48 40.9
comp=Z,55nm,18.5s,baz=312,slow=39
FRB Frobisher Bay 52.90 11 LR LR 15 50 01.9
comp=Z,45nm,19.9s,baz=198,slow=37
YKAB2 New Yellowknif 53.11 345 P **P** **15 26 35.2 -0.3**
YKA Yellowknife Ar 53.17 345 P **P** **15 26 35.2 -0.7**
YKA Yellowknife Ar 53.17 345 P **P** **15 26 35.5 -0.5**
comp=Z,1.6nm,0.7s,baz=142,slow=6.5,SNR=34
YKA PcP **PcP** **15 27 44.3 +1.1**
comp=Z,0.3nm,0.6s,baz=148,slow=5.9,SNR=1.3
YKA ScP **ScP** **15 31 35.6 +0.4**
comp=Z,0.1nm,0.5s,baz=137,slow=3.9,SNR=2.5
YKA LR LR 15 51 24.9
comp=Z,48nm,19.8s,baz=347,slow=38
comp=Z,1.6nm,0.7s
RODS Rosario do Sul 53.39 144 *eP* **P** **15 26 40.6 +2.6**
CPSB Cacapava Do Su 54.46 143 *eP* **P** **15 26 48.1 +2.3**
T35M Bob Quinn 54.53 333 P **P** **15 26 47.0 +1.0**
baz=127
CNLB Canela 55.27 140 *eP* **P** **15 26 54.2 +2.4**
DLBC Dease Lake 55.32 335 P **P** **15 26 53.1 +1.3**
baz=128,SNR=5.8
S34M Telegraph Cree 55.47 334 P **P** **15 26 53.7 +0.9**
baz=126
PLCA Paso Flores 55.64 164 P **P** **15 26 55.2 +1.0**
comp=Z,1.6nm,0.8s,baz=337,slow=7.3,SNR=3.6
comp=Z,1.6nm,0.8s
WTLY Watson Lake, Y 55.89 337 P **P** **15 26 56.1 +0.3**
baz=130
R33M Jennings River 56.29 335 P **P** **15 26 58.9 +0.1**
baz=127
TGTN Hyland Airport 56.62 338 P **P** **15 27 01.8 +0.8**
baz=131
P32M Atlin 57.54 335 P **P** **15 27 08.2 +0.7**
baz=125
ABR01 Abrolhos, BA 57.73 121 *eP* **P** **15 27 07.6 -1.7**
N32M Quiet Lake 58.19 336 P **P** **15 27 12.3 +0.3**

	baz=126						
MMPY	**Sheldon Lake,** baz=129	58.41 338	P	P	15 27 14.0	+0.5	
O30N	**Mendenhall** baz=123	59.19 335	P	P	15 27 19.9	+0.9	
P30M	**Million Dollar** baz=122	59.20 334	P	P	15 27 19.6	+0.4	
P29M	**Windy Craggy** baz=120	59.29 333	P	P	15 27 19.7	0.0	
HYT	**Haines Junctio** baz=121	59.80 335	P	P	15 27 23.8	+0.5	
N30M	**Aishikik Lake** baz=122	59.97 335	P	P	15 27 25.3	+1.0	
PNL	**Peninsula** baz=119	60.04 333	P	P	15 27 24.8	0.0	
YUK6	**Outpost Mounta** baz=120	60.23 334	P	P	15 27 26.2	-0.1	
O28M	**Mount Upton** baz=119	60.92 334	P	P	15 27 30.9	-0.2	
M29M	**Somme Creek** baz=121	61.04 336	P	P	15 27 31.2	-0.4	
L29M	**L29M** baz=122	61.26 337	P	P	15 27 33.1	0.0	
J30M	**Hart River** baz=124	61.40 339	P	P	15 27 34.4	+0.3	
MESA	**MESA** baz=116	61.41 333	P	P	15 27 34.2	-0.1	
K29M	**Barlow Dome** baz=123	61.42 338	P	P	15 27 34.2	-0.1	
H31M	**Peel River** baz=127	61.44 340	P	P	15 27 35.0	+0.8	
CTG	**Chitna Glacier** baz=118	61.51 334	P	P	15 27 34.2	-0.7	
YUK3	**Moose Creek** baz=119	61.52 335	P	P	15 27 35.3	+0.2	
I30M	**Mount Dempster** comp=Z,1.6nm,0.8s	61.78 339	IAmb	IAmb	15 27 39.1		
I30M	**Mount Dempster** baz=124	61.78 339	P	P	15 27 37.3	+0.7	
G31M	**Satah River** comp=Z,4.0nm,0.8s	62.09 341	IAmb	IAmb	15 27 40.8		
G31M	**Satah River** baz=128,SNR=6.8	62.09 341	P	P	15 27 38.8	+0.2	
DAWY	**Dawson** baz=121	62.24 337	P	P	15 27 39.9	+0.2	
M27K	**Edge Creek, AK** baz=118	62.38 335	P	P	15 27 40.9	+0.2	
MCARA	**McCarthy VSAT** baz=116	62.42 334	P	P	15 27 40.9	0.0	
KAIM	**Kayak Island** baz=114	62.42 332	P	P	15 27 41.0	+0.1	
EPYK	**Eagle Plains** baz=125	62.55 340	P	P	15 27 41.9	+0.2	
BCAR	**Beaver Creek A**	62.68 336	P	P	15 27 42.8	+0.2	
L27K	**Beaver Creek,** baz=118	62.69 336	P	P	15 27 42.4	-0.3	
INK	**Inuvik** comp=Z,5.5nm,1.3s	62.73 343	IAmb	IAmb	15 27 45.4		
INK	**Inuvik** baz=129	62.73 343	P	P	15 27 42.3	-0.5	
G30M	**tAoh Zraii Nji** baz=126	62.74 341	P	P	15 27 42.2	-0.8	
M26K	**Nabesna, AK** baz=116	62.87 335	P	P	15 27 43.4	-0.5	
BMRM	**Bremner River** baz=114	62.94 333	P	P	15 27 44.5	+0.1	
F30M	**Barrier River** baz=126,SNR=9.3	62.98 342	P	P	15 27 44.8	+0.4	
H29M	**Whitestone** baz=123	63.02 340	P	P	15 27 44.6	-0.2	
I28M	**Miner Creek** baz=121	63.16 338	P	P	15 27 45.8	0.0	
N25K	**Chitina, Valde** baz=115	63.20 334	P	P	15 27 46.5	+0.3	
K27K	**Chicken** baz=118	63.25 337	P	P	15 27 46.2	-0.1	
A36M	**Sachs Harbour** baz=139	63.26 348	P	P	15 27 46.2	0.0	
EGAK	**Eagle** baz=120	63.26 338	P	P	15 27 46.6	+0.3	
EYAK	**Cordova Ski Ar** baz=113	63.28 332	P	P	15 27 46.6	0.0	
G29M	**Pine Creek** comp=Z,4.4nm,0.8s	63.29 340	IAmb	IAmb	15 27 48.9		
G29M	**Pine Creek** baz=124,SNR=6.8	63.29 340	P	P	15 27 45.8	-0.8	
KLU	**Klutina** baz=113	63.73 333	P	P	15 27 49.7	+0.1	
HARP	**HAARP** baz=114	63.77 334	P	P	15 27 49.7	-0.1	
P23K	**Montague Islan** baz=111	63.84 331	P	P	15 27 50.5	+0.2	
I27K	**Kandik River** baz=119	63.84 338	P	P	15 27 50.4	+0.2	
SCRK	**Sand Creek** baz=116	63.97 336	P	P	15 27 51.2	0.0	
GLI	**Glacier Island** baz=112	64.02 332	P	P	15 27 51.0	-0.5	
J26L	**Joseph Creek** baz=117	64.05 337	P	P	15 27 50.7	-0.9	
E29M	**Blow River**	64.08 342	P	P	15 27 51.7	0.0	
E29M	**Blow River** baz=124	64.08 342	P	P	15 27 51.4	-0.3	
M24K	**Tolsona, Glenn** baz=113	64.09 334	P	P	15 27 51.9	-0.1	
H27K	**Steamboat Moun** baz=120,SNR=7.6	64.12 339	P	P	15 27 52.7	+0.6	
PAX	**Paxson** baz=114	64.14 335	P	P	15 27 52.1	-0.2	
RIDG	**Independent Ri** baz=115	64.21 336	P	P	15 27 52.6	-0.1	
I26K	**Coal Creek Min** baz=118	64.26 338	P	P	15 27 53.1	+0.1	
F28M	**Old Crow**	64.28 341	P	P	15 27 53.1	+0.1	
F28M	comp=Z,9.8nm,1.2s		IAmb	IAmb	15 28 10.6		
F28M	**Old Crow** baz=122,SNR=13	64.28 341	P	P	15 27 52.9	-0.1	
G27K	**Doyon Strip** baz=120	64.45 339	P	P	15 27 54.0	-0.3	
SCM	**Sheep Creek Mo** baz=112	64.48 333	P	P	15 27 54.6	0.0	
K24K	**Donnelly Dome** baz=114	64.61 336	P	P	15 27 55.5	+0.2	
E28M	**Babbage River**	64.70 342	P	P	15 27 55.4	-0.4	
E28M	**Babbage River** baz=123	64.70 342	P	P	15 27 55.8	0.0	
J25K	**Saicha River,** baz=115	64.79 336	P	P	15 27 56.8	+0.2	
KNK	**Knik Glacier** baz=111	64.83 333	P	P	15 27 56.6	-0.2	
SEW	**Seward** baz=109	64.84 331	P	P	15 27 55.8	-1.0	
D28M	**Stokes Point** baz=124	64.86 342	P	P	15 27 56.5	-0.3	
SML	**Sawmill** baz=111	64.92 333	P	P	15 27 56.9	-0.4	
WAT6	**Susitna Watana** baz=112	64.94 334	P	P	15 27 57.3	-0.3	
DHY	**Denali Highway** baz=112	64.98 335	P	P	15 27 57.8	0.0	
E27K	**Coleen River**	65.13 341	P	P	15 27 58.3	-0.3	
E27K	**Coleen River** baz=120	65.13 341	P	P	15 27 58.5	-0.1	
PMR	**Palmer** baz=110	65.20 333	P	P	15 27 58.9	-0.1	
PRP	**Porcupine Dome** baz=115	65.24 337	P	P	15 28 00.0	+0.5	
G26K	**Porcupine Rive** baz=118	65.26 339	P	P	15 27 59.0	-0.4	
RC01	**Rabbit Creek A** baz=109	65.30 332	P	P	15 27 59.6	-0.1	
HDA	**Harding Lake** comp=Z,7.1nm,1.5s	65.33 336	IAmb	IAmb	15 28 16.4		
HDA	**Harding Lake** baz=114	65.33 336	P	P	15 28 00.3	+0.3	
ILAR	**Eielson Array** comp=Z,1.1nm,0.8s,baz=151,slow=4.8,SNR=15 comp=Z,1.1nm,0.8s	65.45 336	P	P	15 27 59.8	-0.9	
D27M	**Malcolm River**	65.48 342	P	P	15 28 00.7	-0.2	
D27M	**Malcolm River** baz=122	65.48 342	P	P	15 28 00.7	-0.2	
H25L	**Birch Creek** baz=115	65.68 338	P	P	15 28 02.6	+0.5	
RND	**Reindeer** comp=Z,5.5nm,0.6s	65.72 335	IAmb	IAmb	15 28 05.3		
F26K	**Sheenjek River** baz=118	65.73 340	P	P	15 28 03.4	+0.9	
BMAR	**Burnt Mountain**	65.76 339	P	P	15 28 02.3	-0.4	
POKR	**Poker Plat Res** baz=113	65.81 337	P	P	15 28 02.9	-0.1	
MCK	**McKinley** baz=111	65.88 335	P	P	15 28 04.1	+0.6	
OHAK	**Old Harbor** baz=104	65.91 327	P	P	15 28 04.3	+0.5	
CUT	**Chulitna** baz=110	65.98 333	P	P	15 28 04.2	+0.1	
G25K	**Bearman Lake** baz=115	65.99 338	P	P	15 28 04.8	+0.7	
F25K	**Christian Rive** baz=116	66.20 339	P	P	15 28 06.3	+0.8	
SII	**Sitkinak Islan** baz=103	66.23 327	P	P	15 28 06.1	+0.2	
NEA2	**Nenana** baz=112	66.25 336	P	P	15 28 06.6	+0.8	
H24K	**Noodor Dome** baz=113	66.26 337	P	P	15 28 05.7	-0.2	
SKT	**Skwentna** baz=108	66.40 333	P	P	15 28 07.1	+0.3	
E25K	**Arctic Village**	66.41 340	P	P	15 28 06.9	+0.1	
E25K	**Arctic Village** baz=116	66.41 340	P	P	15 28 07.7	+0.9	
G24K	**Hadweenzic Riv** baz=114	66.46 338	P	P	15 28 07.1	0.0	
N20K	**Mount Spurr** baz=107	66.47 332	P	P	15 28 07.3	-0.1	
C27K	**Jago River** baz=119	66.51 342	P	P	15 28 07.5	+0.1	
P19K	**Oil Pt** baz=106	66.52 330	P	P	15 28 07.3	-0.3	
Q19K	**Cape Douglas,** baz=105	66.53 329	P	P	15 28 08.1	+0.4	
I23K	**Minto, Yukon-K** comp=Z,2.5nm,0.7s	66.57 336	IAmb	IAmb	15 28 10.0		
I23K	**Minto, Yukon-K** baz=112	66.57 336	P	P	15 28 07.7	-0.1	
BPAW	**Bear Paw Mtn.** baz=110	66.86 335	P	P	15 28 09.4	-0.4	
H23K	**Yukon River** baz=112	66.89 337	P	P	15 28 09.8	-0.2	
F24K	**Squaw Lake** baz=114	66.94 339	P	P	15 28 09.9	-0.3	
C26K	**Camden Bay** baz=118	67.02 342	P	P	15 28 10.6	0.0	
MLY	**Manley**	67.07 336	P	P	15 28 10.2	-1.0	
MLY	**Manley** baz=110,SNR=5.6	67.07 336	P	P	15 28 11.1	0.0	
M20K	**Styx River** baz=106	67.09 332	P	P	15 28 11.4	0.0	
CAST	**Castle Rocks** baz=108	67.10 334	P	P	15 28 11.5	+0.2	
O19K	**Port Alsworth** baz=105	67.19 330	P	P	15 28 12.2	+0.3	
D25K	**Kavik River** comp=Z,6.0nm,1.1s	67.21 341	IAmb	IAmb	15 28 29.4		
D25K	**Kavik River** baz=116,SNR=6.5	67.21 341	P	P	15 28 11.9	0.0	
CHUM	**Lake Minchumin** baz=108	67.34 334	P	P	15 28 12.4	-0.4	
E24K	**Your Creek** baz=114	67.38 339	P	P	15 28 13.1	+0.1	
G23K	**Bananza Creek** baz=112	67.40 338	P	P	15 28 13.2	0.0	
N19K	**Bonanza Creek** baz=105	67.43 331	P	P	15 28 13.3	-0.2	
P18K	**Big Mountain,** baz=104	67.44 329	P	P	15 28 13.3	-0.3	
Q17K	**Contact Creek** baz=102	67.51 328	P	P	15 28 13.5	-0.6	
O18K	**Koktuh Hills** baz=104	67.54 330	P	P	15 28 14.0	-0.1	
L20K	**Farewell, AK** baz=106	67.60 333	P	P	15 28 14.7	+0.2	
H22K	**Ishtalitna Cre** baz=110	67.62 337	P	P	15 28 14.6	+0.1	
COLD	**Coldfoot** baz=112	67.66 338	P	P	15 28 14.9	+0.2	
M19K	**Big River Lodg** baz=105	67.67 332	P	P	15 28 15.1	+0.1	
E23K	**Chandalar** baz=112	67.76 339	P	P	15 28 15.3	-0.2	
D24K	**Happy Valley** baz=114	67.93 340	P	P	15 28 16.6	+0.2	
K20K	**Telida** baz=106	67.93 334	P	P	15 28 16.5	0.0	
L19K	**White Mountain** baz=105	67.96 332	P	P	15 28 16.7	0.0	
TOLK	**Toolik Lake Re**	67.97 340	P	P	15 28 16.1	-0.6	
TOLK	comp=Z,5.0nm,1.4s		IAmb	IAmb	15 28 40.9		
TOLK	**Toolik Lake Re** baz=113	67.97 340	P	P	15 28 16.7	0.0	
P17K	**Kvichak River** baz=102	68.00 329	P	P	15 28 17.0	+0.1	
G22K	**Bettles** baz=110	68.03 338	P	P	15 28 16.9	-0.1	
N18K	**Kilae Creek** baz=104	68.07 331	P	P	15 28 17.3	-0.1	
H21K	**Melozitna Rive** baz=108	68.10 336	P	P	15 28 17.3	-0.2	
C24K	**Franklin Bluff** baz=114	68.12 341	P	P	15 28 17.4	-0.1	
J20K	**Nowinta River** baz=106	68.20 335	P	P	15 28 18.2	0.0	
M18K	**Stony River** baz=104	68.23 332	P	P	15 28 19.2	+0.8	
O17K	**Koliganek Bris** baz=102	68.45 330	P	P	15 28 20.5	+0.8	
D23K	**Nanuhuk River** baz=112	68.47 340	P	P	15 28 20.1	+0.3	
F22K	**John River** baz=110	68.47 338	P	P	15 28 20.4	+0.5	
CHGN	**Chignik**	68.48 326	P	P	15 28 18.6	-1.4	
G21K	**Allakaket**	68.64 337	P	P	15 28 20.8	-0.1	
G21K	**Allakaket** baz=108	68.64 337	P	P	15 28 21.0	+0.1	
N17K	**Nushagak Hills** baz=102	68.66 330	P	P	15 28 19.8	-1.3	
TTA	**Tatalina** baz=104	68.67 333	P	P	15 28 20.1	-1.2	
J19K	**Poorman** baz=105	68.77 334	P	P	15 28 21.4	-0.3	
C23K	**Itkillik River** baz=112	68.77 341	P	P	15 28 20.7	-0.9	
L18K	**Granite Mounta** baz=103	68.80 332	P	P	15 28 20.9	-1.0	
F21K	**Alatna River** comp=Z,2.6nm,0.8s	68.86 338	IAmb	IAmb	15 28 25.0		
F21K	**Alatna River** baz=108	68.86 338	P	P	15 28 21.1	-1.1	
H20K	**Anotleneega Mo** baz=106	68.87 336	P	P	15 28 21.5	-0.9	
O16K	**Kokwok River B** baz=101	68.91 329	P	P	15 28 22.2	-0.4	
CHNA	**Chernabura Isl** baz=98	68.91 324	P	P	15 28 21.9	-0.8	
M17K	**Holitna River** baz=102	68.96 331	P	P	15 28 22.1	-0.9	
S14K	**Fog Glacier** baz=98	69.11 326	P	P	15 28 23.6	-0.5	
J18K	**Innoko River** baz=104	69.11 333	P	P	15 28 23.2	-0.7	
D22K	**Ayikyak River** baz=110	69.11 340	P	P	15 28 23.1	-0.7	
N16K	**Nishlik Lake** baz=101	69.41 330	P	P	15 28 25.2	-0.6	
E21K	**Killik River**	69.42 339	P	P	15 28 25.1	-0.6	
E21K	**Killik River** baz=108	69.42 339	P	P	15 28 25.2	-0.5	
SDPT	**Sand Point** baz=97	69.49 325	P	P	15 28 25.5	-0.8	
GCSA	**Galena City Sc** baz=104	69.49 335	P	P	15 28 24.9	-1.2	
H19K	**Roundabout Mou** baz=105	69.51 336	P	P	15 28 25.5	-0.7	
L17K	**Donlin** baz=102	69.52 332	P	P	15 28 25.4	-1.0	
M16K	**Timber Creek** baz=101	69.61 331	P	P	15 28 26.1	-0.8	
F20K	**Avaraart Lake** baz=106	69.64 337	P	P	15 28 25.9	-1.1	
O15K	**Ungalikthiuk R** baz=99	69.71 329	P	P	15 28 26.9	-0.7	
B22K	**Teshekpuk Lake** baz=110	69.85 341	P	P	15 28 27.8	-0.5	
C21K	**Knifeblade Rid** baz=108	69.92 340	P	P	15 28 28.5	-0.2	
G19K	**Purcell Mounta** baz=104	69.92 336	P	P	15 28 28.3	-0.6	
L16K	**Owhat River** baz=101	69.98 331	P	P	15 28 29.1	-0.1	
N15K	**Kwethluk River** baz=100	70.00 330	P	P	15 28 28.9	-0.5	
B21K	**Ikpikpuk River** baz=108	70.01 340	P	P	15 28 29.5	+0.3	
J17K	**VABM Dome** baz=102	70.13 333	P	P	15 28 29.3	-0.8	
E20K	**Nigu River** baz=106	70.15 338	P	P	15 28 29.8	-0.4	
E19K	**Redstone River** baz=105	70.31 338	P	P	15 28 30.1	-1.1	
F19K	**Shaleruckik Mo**	70.36 337	P	P	15 28 30.6	-0.8	
F19K	**Shaleruckik Mo** baz=104	70.36 337	P	P	15 28 30.4	-1.1	
D20K	**Etivluk River** baz=106	70.42 339	P	P	15 28 31.1	-0.8	
S12K	**Black Hills** baz=96	70.43 325	P	P	15 28 31.3	-0.8	
O14K	**Tigyukauivet M** baz=98	70.45 329	P	P	15 28 31.3	-0.8	
G18K	**Tagagawik** baz=103	70.49 336	P	P	15 28 31.5	-0.8	
A22K	**Sinclair Lake** baz=108	70.56 341	P	P	15 28 31.8	-0.7	
N14K	**Kuskokwak Cree** baz=98	70.76 329	P	P	15 28 33.1	-0.9	
J16K	**Anvik River** baz=100	70.78 333	P	P	15 28 32.8	-1.3	
H17K	**Granite Mounta** baz=101	70.80 335	P	P	15 28 33.9	-0.2	
D19K	**Kuna River** baz=104	70.90 339	P	P	15 28 34.3	-0.5	
L15K	**Ungalak Mounta** baz=99	70.92 331	P	P	15 28 34.1	-0.8	
I17K	**Unalakleet** baz=100	70.93 334	P	P	15 28 34.7	-0.3	
B20K	**Meade River** baz=106	70.97 340	P	P	15 28 34.8	-0.3	
M14K	**Bethel** baz=98	71.01 330	P	P	15 28 35.0	-0.4	
F18K	**Selawik** baz=102	71.04 336	P	P	15 28 35.2	-0.3	
K15K	**Wolf Creek Mou** baz=99	71.04 332	P	P	15 28 34.8	-0.8	
L14K	**Kuka Creek** baz=98	71.44 331	P	P	15 28 37.6	-0.4	
C19K	**Lookout Ridge** baz=103	71.57 339	P	P	15 28 37.9	-0.9	
E18K	**Tukpahlearik C** baz=102	71.57 337	P	P	15 28 38.4	-0.4	
F17K	**Baldwin Pennin** baz=101	71.63 336	P	P	15 28 38.3	-0.8	
M13K	**Dall Lake** baz=97	71.65 330	P	P	15 28 38.9	-0.5	
H16K	**Elim** baz=99	71.72 334	P	P	15 28 38.9	-0.8	
G16K	**Koyuk River** baz=99	71.89 335	P	P	15 28 40.1	-0.7	
E17K	**Hotham Inlet** baz=100	71.97 337	P	P	15 28 40.9	-0.3	
J14K	**Nanvaranak Lak** baz=97	72.03 332	P	P	15 28 41.1	-0.5	
C18K	**Utukok River**	72.04 338	P	P	15 28 40.6	-1.0	
C18K	**Utukok River** baz=101	72.04 338	P	P	15 28 41.2	-0.4	
K13K	**Kusilvak Mount** baz=96	72.45 331	P	P	15 28 43.7	-0.4	
G15K	**Niukluk** baz=98	72.54 334	P	P	15 28 43.7	-0.9	
RDOG	**Red Dog Mine** baz=100	72.55 338	P	P	15 28 44.0	-0.6	
D17K	**Noatak River** baz=99	72.56 337	P	P	15 28 44.5	-0.1	
C17K	**DeLong Mountai** baz=99	72.72 338	P	P	15 28 45.2	-0.5	
UNV	**Unalaska Valle** baz=92	72.86 323	P	P	15 28 46.1	-0.5	
F15K	**North Star Dit** baz=97	72.89 335	P	P	15 28 46.3	-0.4	
M11K	**Mekoryuk** baz=94	73.05 330	P	P	15 28 46.7	-0.9	
ANM	**Nome** baz=96	73.05 334	P	P	15 28 47.1	-0.6	
C16K	**Lisburne Hills** baz=97	73.49 338	P	P	15 28 49.9	-0.2	
F14K	**Arctic Creek** baz=95	73.55 335	P	P	15 28 51.0	+0.4	
SPIA	**Saint Paul Isl** baz=90	75.04 326	P	P	15 28 59.4	0.0	
PMSA	**Palmer Station**	79.38 170	*e*P	P	15 29 31.2	+7.9	
PMSA			*ep*P	sP	15 30 01.3	+13	
PMSA			*e*S	**SKSac**	**15 39 28.7**	**-4.8**	
BILL	**Bilibino**	83.99 339	P	P	**15 29 48.0**	**+0.2**	
WRA	**Warramunga Arr** comp=Z,0.3nm,0.8s,baz=94,slow=3.4,SNR=4.8	138.42 254	PKhKP	PKPpre	15 36 36.1		
WRA			PKP	**PKPdf**	**15 36 44.5**	**+0.6**	
	comp=Z,0.6nm,0.5s,baz=88,slow=2.6,SNR=20						
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=104,slow=2.8,SNR=9.1	138.47 249	PKhKP	PKPpre	15 36 37.1		
ASAR			PKP	**PKPdf**	**15 36 43.1**	**-0.7**	
	comp=Z,0.3nm,0.5s,baz=104,slow=3.1,SNR=5.6						
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.6s,baz=349,slow=3.6,SNR=6.3	148.24 347	PKPbc	**PKPbc**	**15 37 03.2**	**-1.2**	
BATI	**Baumata** comp=Z,4.8nm,0.6s,baz=33,slow=8.0,SNR=3.7	148.48 271	PKPbc	**PKPab**	**15 37 08.2**	**-0.5**	

HVO ***02*** *15:25:59.7±1.4, 19°.44N±0°.02×154°.84W±0°.03, h-0km±10km, Md2.0/6, ML2.3/17(NEIC), Error ellipse: s-maj=5.0km s-min=2.6km az=120.0*

NEIC 02 15:26:00.0±1.3, 19°.45N±0°.02×154°.84W±0°.03, h5km±2km, Error ellipse: s-maj=6.0km s-min=3.1km az=298.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**305**		Pg	15 26 01.5	0.0
JOKA	**Jonika Flow**	**0.16**	**266**		Pg	15 26 03.3	+0.1
JOKA					Sg	15 26 07.6	+2.2
PUH	**Pauahi**	**0.36**	**259**		Pg	15 26 06.0	-1.2
PUH					Sg	15 26 11.8	-0.2
BYL	**Byron's Ledge**	**0.40**	**265**	Pg	Pg	15 26 07.2	-0.6
BYL	comp=E,212nm,1.3s			IAML		15 26 19.3	
BYL	comp=N,402nm,1.1s			IAML		15 26 20.7	
SBLHI	**Steaming Bluff**	**0.41**	**267**	Sg	Sg	15 26 13.4	+0.1
RSD	**Rainshed**	**0.42**	**272**	Pg	Pg	15 26 07.7	-0.5
RSD				Sg	Sg	15 26 14.0	+0.3
RSD	comp=E,252nm,0.3s			IAML		15 26 17.9	
RSD	comp=N,260nm,0.8s			IAML		15 26 23.5	
HLP	**Hilina Pali**	**0.47**	**252**	Pg	Pg	15 26 09.1	-0.1
HLP				Sg	Sg	15 26 15.7	+0.4
HLP	comp=N,273nm,1.3s			IAML		15 26 16.2	
HLP	comp=E,330nm,0.3s			IAML		15 26 16.9	
MLH	**Mauna Loa**	**0.52**	**275**	Pg	Pg	15 26 09.8	-0.3
MLH	comp=E,171nm,1.4s			IAML		15 26 18.1	
MLH	comp=N,233nm,1.3s			IAML		15 26 25.1	
HTC	**Hot Caves**	**0.57**	**249**		Pg	15 26 11.1	+0.1
HMH	**Humu'ula Sheep**	**0.63**	**284**	Pg	Pg	15 26 11.4	-0.8
MLOA	**Mauna Loa Obse**	**0.70**	**277**	Pg	Pg	15 26 11.6	-2.0
MWH	**Moku'aweowe**	**0.72**	**273**	Pg	Pg	15 26 12.4	-1.5
KHU	**Kahuku**	**0.76**	**255**	Pg	Pg	15 26 13.0	-1.7
KHU	comp=N,82nm,1.2s			IAML		15 26 38.7	
ALEP	**Alea Permanent**	**0.77**	**277**		Pg	15 26 14.1	-0.7
MHA	**Mahukona**	**1.25**	**307**	Pg	Pg	15 26 21.8	-2.1

JMA 02 15:32:58.1±0.3, 25°N±1'×123°.4E±0°.5, h15km, MV1.3/6, NW OFF ISHIGAKIJIMA IS, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.72**	**158**	*e*P	Pg	15 33 11.8	-0.3
IRIF				*e*S	Sg	15 33 21.1	-0.6
JISG	**Ishigakijimahi**	**0.90**	**118**	*e*P	Pb	15 33 14.9	-0.5

JIJ	**Ishigaki jima**	**0.91**	**135**	*eP*	Pb	15 33 14.8	-0.7
JIJ				*eS*	Sb	15 33 26.0	-1.4
JKRS	**Kuro-shima**	**0.93**	**146**	*eP*	Pb	15 33 15.9	0.0
JKRS				*eS*	Sb	15 33 27.9	-0.1

TAP 02 15:32:59.1, 24°45N×121°35E, h8km, ML0.6, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNS	**Nan Shan**	**0.02**	**107**	*i* P	Pg	15 33 01.2	+0.5
	baz=107						
NNS				*i* S	Sg	15 33 02.3	+0.4
	baz=107						
NNSB	**Datong**	**0.03**	**122**	*eP*	Pg	15 33 01.2	+0.4
	baz=121						
NNSB				*eS*	Sg	15 33 02.4	+0.4
	baz=121						
LATG	**Datong**	**0.18**	**61**	*eP*	Pg	15 33 03.6	+0.7
	baz=60						
LATG				*eS*	Sg	15 33 07.3	+1.8
	baz=60						
NDT	**Datong Townshi**	**0.21**	**43**	*eP*	Pg	15 33 04.4	+0.9
	baz=43						
FUSS	**Fushou**	**0.22**	**207**	*eP*	Pg	15 33 05.0	+1.4
	baz=206						
YHNB	**Yeheng**	**0.22**	**6**	*eP*	Pg	15 33 04.8	+1.2
	baz=5.0						
YHNB				*eS*	Sg	15 33 08.5	+1.8
	baz=5.0						
TWT	**Tachien**	**0.25**	**220**	*eP*	Pb	15 33 05.2	-0.8
	baz=221						
TWT				*eS*	Sb	15 33 09.8	-0.8
	baz=221						
ENTT	**Nioudou**	**0.27**	**45**	*eP*	Pb	15 33 05.5	-0.8
	baz=46						
ENTT				*eS*	Sb	15 33 10.7	-0.5
	baz=46						
NFF	**Wufeng Townshi**	**0.28**	**311**	*eP*	Pb	15 33 05.7	-0.8
	baz=311						
NACB	**Ninganchiao**	**0.35**	**141**	*eP*	Pb	15 33 06.9	-0.7
	baz=140						

IDC 02 15:34:50.0±7.0, 2°44S×139°97E, h0km, mb3.1/2, mbtmp3.2/3, ML3.6/1, Error ellipse: s-maj=278.1km s-min=32.2km az=87.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.24**	**197**	P	Pn	15 39 04.1	-0.7
	0.2nm,0.3s,baz=10,slow=12,SNR=12 0.3nm,0.3s						
ASAR	**Alice Springs**	**21.90**	**195**	P	P	15 39 45.2	+0.4
	0.5nm,0.8s,baz=29,slow=9.6,SNR=12 0.5nm,0.8s						
MKAR	**Makanchi Array**	**70.35**	**322**	P	P	15 46 05.7	0.0
	0.3nm,0.8s,baz=135,slow=7.3,SNR=2.0 0.3nm,0.8s						

JMA 02 15:39:07.2±0.1, 24°3N±0°3×123°8E±0°4, h17km±1km, MV0.2/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**332**	P	Pg	15 39 10.6	0.0
IRIF				*eS*	Sg	15 39 13.1	+0.2
HATJ	**Hateruma jima**	**0.19**	**173**	P	Pg	15 39 11.8	-0.1
HATJ				*eS*	Sg	15 39 14.9	-0.1
JKRS	**Kuro-shima**	**0.21**	**93**	P	Pg	15 39 12.2	0.0
JKRS				*eS*	Sg	15 39 15.8	+0.4
JIJ	**Ishigaki jima**	**0.35**	**71**	P	Pg	15 39 14.2	-0.3
JIJ				*eS*	Sg	15 39 19.3	-0.2
JISG	**Ishigakijimahi**	**0.59**	**55**	*eP*	Pg	15 39 18.9	0.0
JISG				*eS*	Sb	15 39 27.3	+0.1
JYNG	**Yonagunijimaku**	**0.79**	**285**	P	Pb	15 39 22.0	-0.5
JYNG				*i* S	Sg	15 39 34.0	+1.0
JTJ	**Tarama**	**0.93**	**65**	*eS*	Sg	15 39 37.6	+0.2

TAP 02 15:39:34.4, 24°20N×121°71E, h20km, ML1.4, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.09**	**242**	*i* P	Pg	15 39 38.8	+0.5
	baz=241						
ETL				*i* S	Sg	15 39 41.7	+0.8
	baz=241						
EHP	**Heping Village**	**0.11**	**14**	*eS*	Sg	15 39 42.1	+0.9
	baz=17						
NACB	**Ninganchiao**	**0.11**	**255**	*i* P	Pg	15 39 39.0	+0.5
	baz=255						
NACB				*i* S	Sg	15 39 41.9	+0.8
	baz=255						
EAHA	**Aohua**	**0.13**	**11**	*eS*	Sg	15 39 42.6	+1.1
	baz=11						
TWD	**Chiawan**	**0.16**	**221**	*eP*	Pg	15 39 39.5	+0.5
	baz=219						
TWD				*eS*	Sg	15 39 43.0	+0.9
	baz=219						
ETLH	**Xiulin Townshi**	**0.21**	**271**	*i* P	Pg	15 39 40.3	+0.6
	baz=271						
ETLH				*i* S	Sg	15 39 44.3	+0.9
	baz=271						
ENA	**Nanau**	**0.23**	**7**	P	Pg	15 39 40.5	+0.6
	baz=8.0						
ENA				S	Sg	15 39 44.6	+0.9
	baz=8.0						
EWUT	**Wuta**	**0.25**	**14**	P	Pg	15 39 40.8	+0.5
	baz=14						
EWUT				S	Sg	15 39 45.1	+0.8
	baz=14						
ETM	**Tongmen**	**0.31**	**220**	*eP*	Pb	15 39 41.8	+0.5
	baz=220						
ETM				*eS*	Sb	15 39 46.9	+1.0
	baz=220						
LXIB	**Xiulin Townshi**	**0.33**	**237**	*eP*	Pb	15 39 42.5	+0.8
	baz=236						
LXIB				*eS*	Sb	15 39 47.5	+0.9
	baz=236						
LATG	**Datong**	**0.37**	**333**	*eP*	Pb	15 39 42.9	+0.3
	baz=333						
LATG				*eS*	Sb	15 39 49.4	+1.5
	baz=333						
NNSB	**Datong**	**0.38**	**307**	*eP*	Pb	15 39 42.7	+0.1
	baz=306						
NNSB				S	Sb	15 39 49.1	+1.1
	baz=306						
WHF	**Hehuan Shan**	**0.41**	**262**	P	Pb	15 39 43.4	0.0
	baz=261						
WHF				S	Sb	15 39 50.0	+0.6
	baz=261						
TWC	**Suao**	**0.42**	**17**	*eS*	Sb	15 39 50.5	+1.1
	baz=18						
ENTT	**Nioudou**	**0.46**	**343**	*eP*	Pb	15 39 44.5	+0.6
	baz=343						
ENTT				S	Sb	15 39 51.5	+1.3
	baz=343						
ESL	**Shilin**	**0.46**	**214**	*eP*	Pb	15 39 44.0	+0.1
	baz=212						
CHGB	**Renai**	**0.51**	**254**	*eP*	Pg	15 39 45.0	+0.1
	baz=254						
CHGB				*eS*	Sb	15 39 53.1	+1.1
	baz=254						
YHNB	**Yeheng**	**0.56**	**327**	*eP*	Pg	15 39 46.4	+0.7
	baz=326						
YHNB				S	Sg	15 39 54.5	+1.3
	baz=326						
WARBT	**Fenglin Townsh**	**0.57**	**212**	*eP*	Pg	15 39 46.0	+0.2
	baz=211						
WUSB	**Renai**	**0.58**	**249**	*eP*	Pg	15 39 46.5	+0.4
	baz=248						
WUSB				*eS*	Sg	15 39 55.2	+1.2
	baz=248						

*NEIC **02** 15:40:32.3±1.6, 19°47N±0°02×154°91W±0°04, h5km±1km, Error ellipse: s-maj=6.1km s-min=2.9km az=289.0*

HVO 02 15:40:31.4±1.5, 19°43N±0°02×154°82W±0°04, h6km±8km, ML2.3/4, ML2.5/25(NEIC), Error ellipse: s-maj=5.3km s-min=1.8km az=107.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.08**	**307**		Pg	15 40 34.0	+0.7
JOKA	**Jonika Flow**	**0.17**	**270**		Pg	15 40 34.2	-0.7
JOKA					Sg	15 40 38.2	+1.0
PUH	**Pauahi**	**0.38**	**261**		Pg	15 40 38.3	-0.5
HATHI	**Halema'uma'u T**	**0.41**	**269**	Pg	Pg	15 40 38.1	-1.4
HATHI					Sg	15 40 44.3	-0.7
HATHI				IAML		15 40 46.3	
	comp=N,493nm,1.0s						
HATHI				IAML		15 40 49.6	
	comp=E,454nm,1.5s						
KKO	**Keanakako'i**	**0.42**	**265**	Pg	Pg	15 40 39.2	-0.4
SBLHI	**Steaming Bluff**	**0.42**	**269**	Pg	Pg	15 40 38.8	-0.9
SBLHI				IAML		15 40 43.6	
	comp=N,288nm,1.3s						
SBLHI				IAML		15 40 48.7	
	comp=E,439nm,1.4s						
RSD	**Rainshed**	**0.43**	**274**	Pg	Pg	15 40 39.5	-0.3
HLP	**Hilina Pali**	**0.48**	**254**	Pg	Pg	15 40 40.3	-0.4
HLP				IAML		15 40 54.5	
	comp=E,399nm,0.7s						
HLP				IAML		15 40 55.4	
	comp=N,346nm,1.2s						
MLH	**Mauna Loa**	**0.54**	**277**	Pg	Pg	15 40 41.1	-0.8
MLH				Sg	Sg	15 40 47.8	-1.0
MLH				IAML		15 40 48.9	
	comp=N,350nm,0.6s						
MLH				IAML		15 40 59.0	
	comp=E,219nm,1.3s						
HTC	**Hot Caves**	**0.58**	**250**		Pg	15 40 41.9	-0.7
HMH	**Humu'ula Sheep**	**0.65**	**285**	Pg	Pg	15 40 42.7	-1.2
HMH				Sg	Sg	15 40 52.1	-0.3
MLOA	**Mauna Loa Obse**	**0.72**	**278**	Pg	Pg	15 40 43.5	-1.9
MLOA				Sg	Sg	15 40 52.8	-1.9
MLOA				IAML		15 40 53.6	
	comp=N,152nm,1.1s						
MLOA				IAML		15 40 56.8	
	comp=E,149nm,1.3s						
MWH	**Moku'aweowe**	**0.73**	**274**	Pg	Pg	15 40 43.7	-1.9
MWH				IAML		15 41 06.8	
	comp=E,227nm,0.9s						
MWH				IAML		15 41 11.5	
	comp=N,219nm,1.5s						
KHU	**Kahuku**	**0.77**	**256**	Pg	Pg	15 40 44.0	-2.3
ALEP	**Alea Permanent**	**0.78**	**278**		Pg	15 40 44.6	-2.0
ALEP					Sg	15 40 54.4	-2.3
HUH	**Hualalai**	**0.99**	**285**	Pg	Pg	15 40 49.3	-1.2
HPAH	**Hawaii Prepara**	**1.02**	**306**	Pg	Pg	15 40 50.5	-0.5
HPAH				IAML		15 41 23.1	
	comp=E,90nm,1.4s						

TAP 02 15:44:24.4, 24°38N×121°96E, h15km, ML1.3, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.18**	**291**	P	Pb	15 44 29.4	0.0
	baz=290						
EWUT				*i* S	Sb	15 44 32.8	0.0
	baz=290						
ENA	**Nanau**	**0.21**	**283**	*i* P	Pb	15 44 29.8	-0.1
	baz=282						
ENA				S	Sb	15 44 33.4	-0.2
	baz=282						
EAHA	**Aohua**	**0.21**	**256**	*eS*	Sb	15 44 34.2	+0.6
	baz=255						
EHP	**Heping Village**	**0.21**	**251**	*eS*	Sb	15 44 33.9	+0.2
	baz=249						
EOS2	**EOS2**	**0.25**	**81**	*eP*	Pg	15 44 30.1	+0.3
	baz=81						
EOS2				*eS*	Sb	15 44 35.7	+1.1
	baz=81						
TWC	**Suao**	**0.25**	**335**	*eP*	Pb	15 44 30.9	+0.3
	baz=337						
TWC				*i* S	Sb	15 44 34.6	-0.2
	baz=337						
EOS3	**EOS3**	**0.34**	**106**	*eP*	Pg	15 44 31.5	+0.2
	baz=106						
EOS3				*eS*	Sb	15 44 37.6	+0.5
	baz=106						
NDS	**Dongshan**	**0.34**	**318**	*eS*	Sb	15 44 37.6	+0.3
	baz=318						
ETL	**Fush Village**	**0.38**	**235**	*eS*	Sb	15 44 39.2	+0.6
	baz=234						
NACB	**Ninganchiao**	**0.39**	**239**	*eS*	Sb	15 44 38.9	0.0
	baz=238						
EOS4	**EOS4**	**0.41**	**129**	*eS*	Sb	15 44 40.1	+0.9
	baz=128						
LATG	**Datong**	**0.43**	**291**	*eP*	Pb	15 44 34.0	+0.3
	baz=291						
LATG				*eS*	Sb	15 44 40.7	+0.7
	baz=291						
TWE	**Neicheng**	**0.43**	**322**	*eS*	Sb	15 44 40.4	+0.3
	baz=322						
ENTT	**Nioudou**	**0.44**	**306**	P	Pb	15 44 34.4	+0.5
	baz=305						
ENTT				S	Sb	15 44 40.8	+0.4
	baz=305						
NDT	**Datong Townshi**	**0.47**	**298**	*eS*	Sb	15 44 41.3	+0.2
	baz=298						
ETLH	**Xiulin Townshi**	**0.47**	**249**	*eP*	Pg	15 44 34.0	+0.2
	baz=248						
ETLH				*eS*	Sb	15 44 42.0	+0.8
	baz=248						
FUSB	**Fushanzhiwuyua**	**0.51**	**318**	*eS*	Sb	15 44 42.9	+0.6
	baz=317						
NNSB	**Datong**	**0.53**	**275**	*eS*	Sb	15 44 42.8	-0.2
	baz=275						
NNS	**Nan Shan**	**0.54**	**276**	*eS*	Sb	15 44 43.3	0.0
	baz=276						
ETM	**Tongmen**	**0.60**	**226**	*eS*	Sb	15 44 45.6	+0.9
	baz=226						
YHNB	**Yeheng**	**0.61**	**298**	*eP*	Pb	15 44 37.5	+0.7
	baz=298						
YHNB				*eS*	Sb	15 44 46.0	+0.8
	baz=298						
TEYL	**Yanliau Villag**	**0.61**	**213**	*eS*	Sb	15 44 45.5	+0.3
	baz=214						
NSK	**Sanguang**	**0.62**	**298**	*eS*	Sb	15 44 46.2	+0.5
	baz=298						
TWB1	**Santiao Chiao**	**0.62**	**2**	*eS*	Sb	15 44 46.2	+0.6
	baz=2.0						
NWF	**Wu-fen Shan**	**0.71**	**346**	*eP*	Pb	15 44 38.8	+0.3
	baz=346						
NWF				*eS*	Sb	15 44 48.4	+0.4
	baz=346						
WFSB	**Wu-fen Shan**	**0.71**	**346**	*eS*	Sb	15 44 48.6	+0.6
	baz=346						

JMA 02 15:45:02.6±0.2, 24°3N±0°3×123°8E±0°5, h17km±1km, MV0.3/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**333**	*eP*	Pg	15 45 06.0	0.0
IRIF				*eS*	Sg	15 45 08.6	+0.2
HATJ	**Hateruma jima**	**0.19**	**173**	*eP*	Pg	15 45 07.1	-0.2
HATJ				*eS*	Sg	15 45 10.5	+0.1
JKRS	**Kuro-shima**	**0.21**	**93**	*eP*	Pg	15 45 07.5	0.0
JKRS				*eS*	Sb	15 45 11.3	-0.3
JIJ	**Ishigaki jima**	**0.35**	**71**	*eP*	Pg	15 45 09.8	-0.1
JIJ				*eS*	Sg	15 45 14.5	-0.4
JISG	**Ishigakijimahi**	**0.59**	**55**	*eP*	Pg	15 45 14.3	0.0

*IDC **02** 15:45:28.0±2.8, 10°11S×160°91E, h24km±17km, mb4.6/23, mbtmp4.7/25, ML2.1/1, MS4.7/55, Error ellipse: s-maj=16.7km s-min=11.8km az=110.0*

*MOS **02** 15:45:28.5±0.9, 10°03S×160°95E, h36km, mb5.4/41, MS4.9/5, Error ellipse: s-maj=8.2km s-min=6.9km az=114.6*

*BJI **02** 15:45:29.9±0.0, 9°60S×161°48E, h43km, mb5.0/66, mB5.3/53, Ms5.0/66, Ms7 4.8/63*

*NEIC **02** 15:45:30.9±1.7, 10°10S±0°07×160°93E±0°05, h39km±5km, mb5.3/295, Error ellipse: s-maj=12.6km s-min=1.9km az=217.0*

*GCMT **02** 15:45:30.9±0.1, 10°19S±0°01×160°83E±0°01, h31km, MW5.3/128, Moment Tensor Solution. s128,c216; s124,c234; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}1.01±.02; $M_{\theta\theta}$-0.06±.01; $M_{\phi\phi}$-0.95±.01; $M_{r\theta}$-0.21±.02; $M_{\theta\phi}$0.38±.01; $M_{\phi r}$-0.78±.02; Best double couple: $M_0$1.32600×10^{17} NP1:ϕ_s180.00000°, δ64.00000°, λ109.00000°. NP2:ϕ_s322.00000°, δ32.00000°, λ56.00000°. Principal axes: T 1.3580, Plg66.0000°, Azm123.0000°; N -0.0670, Plg17.0000°, Azm351.0000°; P -1.2940, Plg17.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **02** 15:45:32.6, 10°14S×161°00E, h41km, mb5.1/91, Solomon Islands*

ISC 02 15:45:30.5±0.2, 10°14S±0°04×161°02E±0°04, h39km±2km, h39km:pP-P, n880, σ1°39/777, mb5.3/226, MS4.8/103, 11C-8D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.27**	**304**	P	Pn	**15 45 51.9**	**+0.2**
HNR	**Honiara**	**1.27**	**304**		Pn	**15 45 50.6**	**-1.1**
HNR				Sn	Sn	15 46 05.6	**-1.9**
HNR	**Honiara**	**1.27**	**304**	LR	LR	15 46 30.6	
	comp=Z,618μm,19.0s,baz=158,slow=54						
HNR	**Honiara**	**1.27**	**304**	P	Pn	**15 45 50.6**	**-1.1**
HNR						15 46 05.6	
KOUNC	**Koumac, New Ca**	**10.82**	**163**	P	Pn	**15 48 05.3**	**+2.4**
KOUNC	**Koumac, New Ca**	**10.82**	**163**	Pn	Pn	**15 48 02.4**	**-0.5**
LIFNC	**LIFOU**	**12.16**	**151**		Pn	**15 48 20.7**	**-0.5**
NOUC	**Port Laguerre**	**12.93**	**158**	P	Pn	**15 48 34.7**	**+2.9**
DZM	**Mont Dzumac**	**12.96**	**157**	P	Pn	**15 48 35.2**	**+2.9**
DZM	**Mont Dzumac**	**12.96**	**157**	Pn	Pn	**15 48 33.8**	**+1.5**
DZM	**Mont Dzumac**	**12.96**	**157**	Pn	Pn	**15 48 32.2**	**-0.1**
	4.7nm,0.3s,baz=5.1,slow=6.0,SNR=41						
DZM				Sn	Sn	**15 50 54.7**	**-0.6**
	0.5nm,0.3s,baz=36,slow=14,SNR=1.3						
DZM				LR	LR	15 52 53.2	
	comp=Z,5μm,19.5s,baz=330,slow=34						
MARNC	**Mare, Loyalty**	**13.14**	**150**		Pn	**15 48 35.9**	**+1.3**
ONTNC	**Ouen Toro**	**13.18**	**157**	Pn	Pn	**15 48 37.3**	**+2.1**
OUENC	**Ouen Island, N**	**13.43**	**156**	Pn	Pn	**15 48 40.9**	**+2.4**
PMG	**Port Moresby**	**13.68**	**272**	Pn	Pn	**15 48 39.7**	**-2.3**
	0.4nm,0.3s,baz=108,slow=9.7,SNR=2.1						
PMG				LR	LR	15 53 40.5	
	comp=Z,10μm,19.9s,baz=106,slow=36 12nm,1.0s						
PINNC	**Pines Island,**	**13.85**	**154**	Pn	Pn	**15 48 45.0**	**+0.6**
MANU	**Manus Island**	**15.77**	**300**	P	Pn	**15 49 11.1**	**+1.2**
AUAYR	**Ayr State High**	**16.15**	**233**	P	Pn	**15 49 15.8**	**+1.1**
TARA	**Tarawa**	**16.46**	**47**	P	P	**15 49 21.6**	**+0.6**
TARA	**Tarawa**	**16.46**	**47**	Pn	Pn	**15 49 18.2**	**-0.5**
TARA				IAmb	IAmb	15 49 28.0	
	comp=Z,395nm,1.7s						
TV1H	**Townsville Har**	**16.46**	**235**	P	Pn	**15 49 18.8**	**+0.1**
RK1H	**Rockhampton Ha**	**16.57**	**216**	P	P	**15 49 23.8**	**+1.6**
PATS	**Pohnpei**	**17.07**	**351**	P	Pn	**15 49 24.4**	**-2.0**
	baz=17,SNR=4.9						
PATS	**Pohnpei**	**17.07**	**351**	P	P	**15 49 29.0**	**+1.2**
PATS	**Pohnpei**	**17.07**	**351**		Pn	**15 49 25.8**	**-0.6**
PATS				IAmb	IAmb	15 49 35.9	
	comp=Z,374nm,1.2s						
CTAO	**Charters Tower**	**17.33**	**233**	P	Pn	**15 49 29.9**	**+0.2**
CTAO	**Charters Tower**	**17.33**	**233**		P	**15 49 30.3**	**-0.4**
CTAO	**Charters Tower**	**17.33**	**233**	P	P	**15 49 30.3**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,148nm,1.2s						
EIDS	**Eidsvold**	**17.84**	**211**	P	P	**15 49 38.9**	**+2.7**
	baz=18,SNR=9.0						
EIDS	**Eidsvold**	**17.84**	**211**	P	P	**15 49 38.5**	**+2.2**
EIDS	**Eidsvold**	**17.84**	**211**		Pn	**15 49 35.6**	**-0.3**
COEN	**Coen**	**17.85**	**256**	P	P	**15 49 37.2**	**+0.7**
	baz=18,SNR=5.1						
COEN	**Coen**	**17.85**	**256**	P	P	**15 49 38.5**	**+2.0**
COEN	**Coen**	**17.85**	**256**		Pn	**15 49 34.0**	**-2.1**
MTSU	**Mount Surprise**	**18.03**	**242**	P	P	**15 49 40.0**	**+1.7**
	baz=18,SNR=11						
MTSU	**Mount Surprise**	**18.03**	**242**	P	P	**15 49 41.1**	**+2.7**
MSVF	**Nonsavu**	**18.17**	**116**	P	Pn	**15 49 42.2**	**+2.2**
MSVF	**Nonsavu**	**18.17**	**116**	P	P	**15 49 40.6**	**+0.7**
MSVF	**Nonsavu**	**18.17**	**116**	*i* P	Pn	**15 49 41.3**	**+1.3**
MSVF				pmax	pmax		
	comp=Z,123nm,1.5s						
AUWSH	**Wavell State H**	**18.75**	**203**	P	Pn	**15 49 49.9**	**+3.1**
GC1S	**Gold Coast 1 S**	**19.27**	**200**	P	Pn	**15 49 55.2**	**+2.1**
TABU	**Tabubil**	**20.20**	**282**	P	Pn	15 50 04.2	-0.1
JAY	**Jayapura**	**21.55**	**289**	P	P	**15 50 16.1**	**-0.7**
	comp=Z,103nm,1.1s,comp=Z,1μm						
JAY	**Jayapura**	**21.55**	**289**	P	P	**15 50 15.8**	**-1.0**
JAY				pmax	pmax		
	comp=Z,102nm,1.1s						
ARMA	**Armidale**	**21.99**	**202**	P	P	**15 50 23.0**	**+1.6**
	baz=22,SNR=8.3						
ARMA	**Armidale**	**21.99**	**202**	P	P	**15 50 22.5**	**+1.0**
ARMA	**Armidale**	**21.99**	**202**	P	P	**15 50 21.2**	**-0.3**
GENI	**Genyem**	**22.02**	**289**	P	P	**15 50 24.1**	**+2.3**
GENI	**Genyem**	**22.02**	**289**	P	P	**15 50 23.4**	**+1.6**
	comp=Z,130nm,1.2s,comp=Z,2μmcomp=Z,2μm						
AULRC	**Lightning Ridg**	**22.74**	**211**	P	P	**15 50 32.0**	**+2.7**
QLP	**Quilpie**	**22.78**	**222**	P	P	**15 50 31.3**	**+1.4**
	baz=23,SNR=9.8						
QLP	**Quilpie**	**22.78**	**222**	P	P	**15 50 32.6**	**+2.8**
QIS	**Mount Isa**	**23.07**	**241**	P	P	**15 50 33.3**	**+0.4**
	baz=23,SNR=26						
QIS	**Mount Isa**	**23.07**	**241**	P	P	**15 50 34.3**	**+1.4**
SMPI	**Sarmi**	**23.59**	**289**	P	P	**15 50 37.8**	**-0.2**
	comp=Z,417nm,1.1s,comp=Z,4μm						
AUDCS	**Dubbo College**	**24.79**	**206**	P	P	**15 50 50.7**	**+1.8**
CMSA	**Cobar Meteorol**	**25.60**	**211**	P	P	**15 50 57.0**	**+0.7**
	baz=26,SNR=8.7						
CMSA	**Cobar Meteorol**	**25.60**	**211**	P	P	**15 50 57.4**	**+1.2**
INKA	**Innaminka**	**25.89**	**225**	P	P	**15 51 00.9**	**+2.0**
YNG	**Young**	**26.68**	**204**	P	P	**15 51 07.1**	**+1.1**
	baz=27,SNR=9.0						
YNG	**Young**	**26.68**	**204**	P	P	**15 51 07.3**	**+1.3**
AUUHS	**Ulladulla High**	**26.89**	**199**	P	P	**15 51 09.0**	**+1.2**
CNB	**Canberra Magne**	**27.22**	**201**	P	P	**15 51 12.2**	**+1.3**
	baz=28,SNR=4.7						
CNB	**Canberra Magne**	**27.22**	**201**	P	P	**15 51 12.4**	**+1.5**
WR0	**Warramunga Arr**	**27.33**	**246**	P	P	**15 51 11.0**	**-1.0**
WR0				IAmb	IAmb	15 51 50.3	
	comp=Z,223nm,1.8s						
CAN	**Canberra**	**27.36**	**202**	P	P	**15 51 13.9**	**+1.8**
CAN	**Canberra**	**27.36**	**202**	P	P	**15 51 12.6**	**+0.5**
CAN	**Canberra**	**27.36**	**202**	P	P	**15 51 12.6**	**+0.5**
CAN				pmax	pmax		
	comp=Z,66nm,1.3s						
RAO	**Raoul Island**	**27.39**	**137**	LR	LR	16 00 19.1	
	comp=Z,856nm,18.8s,baz=272,slow=32						
WB0	**Warramunga Arr**	**27.41**	**246**	P	P	**15 51 12.2**	**-0.5**
WB0				IAmb	IAmb	15 51 24.5	
	comp=Z,211nm,1.8s						
WC3	**Warramunga Arr**	**27.48**	**246**	P	P	**15 51 14.0**	**+0.6**
	baz=28						
WRAB	**Tennant Creek**	**27.49**	**246**	P	P	**15 51 13.3**	**-0.1**
WRAB				IAmb	IAmb	15 51 26.7	
	comp=Z,138nm,1.7s						
WRAB	**Tennant Creek**	**27.49**	**246**	*i* P	P	**15 51 13.9**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,78nm,1.5s						
WB2	**Warramunga Arr**	**27.50**	**246**	P	P	**15 51 13.6**	**+0.1**
WB2				IAmb	IAmb	15 51 26.8	
	comp=Z,138nm,1.6s						
WB1	**Warramunga Ar.**	**27.50**	**246**	P	P	**15 51 15.3**	**+1.7**
WRA	**Warramunga Arr**	**27.51**	**246**	P	P	**15 51 13.2**	**-0.4**
WRA	**Warramunga Arr**	**27.51**	**246**	P	P	**15 51 12.7**	**-0.9**
	comp=Z,7.8nm,0.8s,baz=76,slow=8.9,SNR=35						
WRA				PcP	**PcP**	**15 54 30.6**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=56,slow=8.7,SNR=2.8						
WRA				S	**S**	**15 55 50.7**	**-1.4**
	comp=Z,0.9nm,0.9s,baz=97,slow=15,SNR=2.0						
WRA				ScP	**ScP**	**15 58 09.9**	**+0.8**
	comp=Z,2.8nm,1.1s,baz=75,slow=3.6,SNR=8.0 comp=Z,7.8nm,0.8s						
WRA	**Warramunga Arr**	**27.51**	**246**

H11S3 WAKE ISLAND Hy 29.00 11 T T 16 20 15.2
baz=194,slow=76,SNR=60
H11S1 WAKE ISLAND Hy 29.01 11 T T 16 20 23.6
baz=194,slow=76,SNR=29
AS31 Alice Springs 29.15 239 P **P** **15 51 26.6 -1.7**
ASAR Alice Springs 29.15 239 P **P** **15 51 30.3 +2.1**
ASAR Alice Springs 29.15 239 P **P** **15 51 26.6 -1.6**
comp=Z,5.3nm,0.9s,baz=64,slow=10,SNR=51
ASAR PcP **PcP** **15 54 33.3 -2.1**
comp=Z,3.5nm,1.1s,baz=60,slow=7.4,SNR=2.9
ASAR ScP **ScP** **15 58 16.9 +2.7**
comp=Z,1.2nm,0.8s,baz=76,slow=2.3,SNR=6.6
ASAR LR LR 16 03 11.0
comp=Z,8µm,18.0s,baz=75,slow=37
comp=Z,5.3nm,0.9s
ASAR Alice Springs 29.15 239 P **P** **15 51 30.3 +2.1**
LCRK Leigh Creek 29.31 223 P **P** **15 51 30.2 +0.7**
MTN Manton Dam 29.40 262 P **P** **15 51 30.2 -0.3**
baz=30,SNR=5.4
MTN Manton Dam 29.40 262 P **P** **15 51 31.3 +0.8**
MTN Manton Dam 29.40 262 P **P** **15 51 28.0 -2.5**
OOD Oodnadatta 29.60 230 P **P** **15 51 34.1 +2.0**
H11N1 WAKE ISLAND Hy 30.22 11 T T 16 22 06.8
baz=193,slow=75,SNR=47
H11N3 WAKE ISLAND Hy 30.23 11 T T 16 22 06.1
baz=193,slow=75,SNR=30
H11N2 WAKE ISLAND Hy 30.24 11 T T 16 22 08.2
baz=193,slow=75,SNR=44
TOO Toolangi 30.69 205 P **P** **15 51 42.9 +1.3**
baz=31,SNR=8.0
TOO Toolangi 30.69 205 P **P** **15 51 43.0 +1.3**
TOO Toolangi 30.69 205 P **P** **15 51 42.0 +0.3**
TOO Toolangi 30.69 205 P **P** **15 51 42.0 +0.3**
TOO pmax pmax
comp=Z,42nm,1.2s
HTT Hallett 30.82 218 P **P** **15 51 44.5 +1.6**
baz=31,SNR=6.8
HTT Hallett 30.82 218 P **P** **15 51 44.1 +1.2**
BRAT Ballarat 31.34 207 P **P** **15 51 49.6 +2.3**
WHYH Whyalla 31.38 220 P **P** **15 51 49.0 +1.2**
URZ Urewera 31.51 155 LR LR 16 02 00.6
comp=Z,1µm,21.7s,baz=34,slow=31
ARPS Mount Arapiles 31.68 210 P **P** **15 51 51.4 +1.0**
KNRA Kununurra 31.89 257 P **P** **15 51 53.0 +0.5**
baz=32,SNR=8.5
KNRA P **P** **15 51 53.0 +0.5**
baz=32,SNR=8.5
KNRA Kununurra 31.89 257 P **P** **15 51 53.4 +0.9**
KNRA Kununurra 31.89 257 P **P** **15 51 51.9 -0.5**
KNRA IAmb IAmb 15 52 29.2
comp=Z,28nm,0.8s
MULG Mulgathing 32.12 228 P **P** **15 51 57.3 +2.9**
BBOO Buckleboo 32.22 222 P **P** **15 51 55.9 +0.7**
baz=32,SNR=13
BBOO Buckleboo 32.22 222 P **P** **15 51 56.1 +0.9**
BBOO Buckleboo 32.22 222 P **P** **15 51 54.4 -0.8**
BBOO IAmb IAmb 15 52 08.5
comp=Z,41nm,0.7s
TCW Tory Channel 33.09 162 P **P** **15 52 01.8 -0.8**
TUWZ Tuamarina 33.19 162 P **P** **15 52 02.8 -0.7**
WRKA Warakurna 34.41 240 P **P** **15 52 13.8 -0.6**
baz=35,SNR=28
OXZ Oxford 34.43 166 P **P** **15 52 14.1 -0.2**
OXZ IAmb IAmb 15 52 15.0
comp=Z,56nm,1.3s
RPZ Rata Peaks 34.57 167 LR LR 16 04 28.3
comp=Z,829nm,19.8s,baz=327,slow=33
LBMI Labuha 34.64 284 P **P** **15 52 17.7 +1.2**
comp=Z,113nm,1.2s,comp=Z,2µm
FITZ Fitzroy Crossi 35.16 253 P **P** **15 52 20.3 -0.6**
baz=35,SNR=9.9
FITZ Fitzroy Crossi 35.16 253 P **P** **15 52 20.0 -0.9**
FITZ Fitzroy Crossi 35.16 253 P **P** **15 52 18.9 -2.0**
SANI Sanana 35.71 281 P **P** **15 52 27.7 +2.0**
SANI Sanana 35.71 281 P **P** **15 52 26.7 +1.0**
comp=Z,32nm,1.4s,comp=Z,985nm
BATI Baumata 36.75 267 LR LR 16 08 55.8
comp=Z,2µm,19.7s,baz=112,slow=38
BATI Baumata 36.75 267 P **P** **15 52 36.5 +1.9**
comp=Z,52nm,1.2s,comp=Z,1µm
SGSI Sangihe 37.92 289 P P 15 52 52.1 +7.6
MMRI Maumere 38.27 269 P **P** **15 52 50.3 +2.8**
MMRI Maumere 38.27 269 P **P** **15 52 46.2 -1.3**
MMRI Maumere 38.27 269 P **P** **15 52 46.0 -1.5**
comp=Z,99nm,1.1s,comp=Z,1µm
MMRI pP **pP** **15 52 53.5 -4.8**
comp=Z,99nm,1.1s,comp=Z,1µm
KMSI Cibinong 38.35 284 P **P** **15 52 48.1 -0.1**
EDFI Ende, Flores 38.80 269 P **P** **15 52 50.7 -1.4**
comp=Z,49nm,1.1s,comp=Z,600nm
LUWI Luwuk 39.08 281 P **P** **15 52 54.1 -0.1**
DAV Davao City (W) 39.21 294 LR LR 16 10 24.6
comp=Z,567nm,18.0s,baz=97,slow=38
RAR Rarotonga 39.22 111 LR LR 16 06 00.5
comp=Z,1µm,21.4s,baz=284,slow=31
GTOI Gorontalo 39.30 284 P **P** **15 52 56.2 +0.1**
comp=Z,31nm,1.1s,comp=Z,328nm
PSA00 Pilbara Seismi 41.08 249 P **P** **15 53 09.9 -0.9**
MBWA Marble Bar 41.12 249 P **P** **15 53 11.0 -0.1**
MBWA Marble Bar 41.12 249 P **P** **15 53 11.3 +0.2**
MBWA pP **pP** **15 53 21.3 -0.5**
KAPI Kappang 41.19 274 P **P** **15 53 13.9 +2.1**
KAPI Kappang 41.19 274 P **P** **15 53 11.6 -0.2**
KAPI IAmb IAmb 15 53 20.8
comp=Z,90nm,1.3s
KAPI Kappang 41.19 274 P **P** **15 53 11.6 -0.2**
KAPI pmax pmax
comp=Z,90nm,1.3s
KAPI Kappang 41.19 274 P **P** **15 53 12.3 +0.5**
JCJ Chichijima 41.28 334 LR LR 16 09 25.7
comp=Z,1µm,21.2s,baz=137,slow=35
TTSI Tana Toraja 41.49 277 P P 15 53 19.5 +5.3
TOLI2 Tolitoli 41.57 283 P **P** **15 53 16.9 +2.0**
TOLI2 Tolitoli 41.57 283 P **P** **15 53 13.5 -1.4**
MPSI Mapaga 42.21 282 P **P** **15 53 18.4 -1.7**
comp=Z,25nm,1.1s,comp=Z,364nm
PLAI Plampang 42.65 268 P **P** **15 53 27.2 +3.5**
MEEK Meekatharra 43.22 242 P **P** **15 53 29.6 +1.4**
baz=43,SNR=4.7
MEEK Meekatharra 43.22 242 P **P** **15 53 30.2 +2.0**
TWSI Taliwang, Sumb 43.53 268 P P 15 53 37.3 +6.4
KLBR Kellerberrin 45.33 235 P **P** **15 53 46.1 +1.1**
baz=46
MORW Morawa 46.03 239 P **P** **15 53 51.4 +0.8**
baz=46,SNR=3.2
NWAO Narrogin (SRO) 46.18 234 LR LR 16 13 35.3
comp=Z,4µm,18.5s,baz=64,slow=37
JAGI Jajag, Banyuwa 46.25 268 P **P** **15 53 52.6 +0.1**
JAGI Jajag, Banyuwa 46.25 268 P **P** **15 53 50.4 -2.1**
JAGI Jajag, Banyuwa 46.25 268 P **P** **15 53 51.4 -1.1**
comp=Z,62nm,0.7s,comp=Z,828nm
TGY Tagaytay City 46.48 301 LR LR 16 10 59.6
comp=Z,430nm,20.5s,baz=116,slow=33
MUN Mundaring 46.70 235 P **P** **15 53 57.3 +1.5**
baz=47,SNR=3.4
JHJ Hachijo jima 2 47.54 336 LR LR 16 13 57.0
comp=Z,426nm,19.5s,baz=50,slow=36
PPT Papeete 48.43 104 LR LR 16 09 51.3
comp=Z,1µm,21.4s,baz=258,slow=30
JOW Kunigami 48.59 320 LR LR 16 13 49.3
comp=Z,630nm,20.4s,baz=104,slow=35
PWJI Pagerwojo 48.61 268 P **P** **15 54 11.1 +0.3**
comp=Z,36nm,0.8s
SMRI Semarang 50.06 269 P **P** **15 54 23.4 +1.4**
SMRI Semarang 50.06 269 P **P** **15 54 21.5 -0.4**
SBUM Sibu 50.16 282 P **P** **15 54 21.2 -1.5**
STKI Sintang 50.30 279 P **P** **15 54 24.6 +0.8**
comp=Z,37nm,0.9s
JGF Kuroka 50.68 335 P **P** **15 54 26.8 +0.5**
JGF Kuroka 50.68 335 P **P** **15 54 25.1 -1.1**
JMN Monobe 50.68 331 P **P** **15 54 28.8 +2.5**
KIP Kipapa 51.01 52 *i* P **P** **15 54 29.3 +0.4**
TWGBT Beinan 51.01 310 P **P** **15 54 31.1 +2.2**
MJAR Matsushiro Arr 51.15 336 P **P** **15 54 27.6 -2.2**
comp=Z,3.2nm,0.5s,baz=166,slow=8.1,SNR=12
MJAR LR LR 16 14 03.4
comp=Z,401nm,21.7s,baz=162,slow=34
comp=Z,3.2nm,0.5s
MAJO Matsushiro 51.15 336 P **P** **15 54 31.7 +1.9**
MAJO Matsushiro 51.15 336 P **P** **15 54 28.1 -1.7**
MAJO Matsushiro 51.15 336 *i* P **P** **15 54 28.4 -1.4**
MAJO pmax pmax
comp=Z,13nm,0.7s
MAJO Matsushiro 51.15 336 P **P** **15 54 28.4 -1.4**
MAJO pP **pP** **15 54 37.4 -3.4**

MJB9 Matsu-Tunnel 51.16 336 P **P** **15 54 30.1 +0.2**
YULB Yu-li 51.19 311 P **P** **15 54 32.5 +2.2**
YULB Yu-li 51.19 311 P **P** **15 54 29.9 -0.3**
YULB IAmb IAmb 15 54 39.1
comp=Z,26nm,0.7s
NACB Ninganchiao 51.43 312 P **P** **15 54 33.7 +1.7**
KPJI Karang Pucung 51.51 269 P **P** **15 54 32.5 -0.4**
comp=Z,43nm,0.9s
TPUB Ta-pu 51.63 311 P **P** **15 54 36.1 +2.5**
TPUB Ta-pu 51.63 311 P **P** **15 54 32.9 -0.6**
SSLB Suanglung 51.67 311 P **P** **15 54 36.5 +2.6**
SSLB Suanglung 51.67 311 IAmb IAmb 15 54 43.5
comp=Z,35nm,0.8s
JNU Nakatsue 51.72 328 LR LR 16 14 11.5
comp=Z,274nm,21.6s,baz=153,slow=33
KHU Kahuku 51.76 56 P **P** **15 54 34.8 -0.1**
KHU Kahuku 51.76 56 P **P** **15 54 34.8 -0.1**
KHU pmax pmax
comp=Z,164nm,0.8s
KSM Kuching 51.77 280 P **P** **15 54 35.2 +0.4**
KSM Kuching 51.77 280 P **P** **15 54 33.3 -1.5**
HUH Hualalai 51.81 55 P **P** **15 54 34.6 -0.7**
YHNB Yeheng 51.89 312 P **P** **15 54 37.7 +2.2**
HMH Humu'ula Sheep 52.05 55 P **P** **15 54 37.1 0.0**
POHA Pohakuloa 52.09 55 P **P** **15 54 38.8 +1.5**
BBJI Bungbulang 52.76 268 P **P** **15 54 45.6 +3.4**
LEM Lembang 52.87 269 P **P** **15 54 43.4 +0.2**
comp=Z,62nm,0.9s
LEM Lembang 52.87 269 P **P** **15 54 43.4 +0.2**
LEM pmax pmax
comp=Z,52nm,0.9s
QZH Quanzhou 54.09 311 ⇓ *i* P **P** **15 54 56.1 +4.4**
QZH S **S** **16 02 27.6 +1.8**
QZH pmax pmax
comp=Z,310nm,4.8s
QZH LR LR
comp=Z,820nm,19.6s
QZH LR LR
comp=Z,440nm,19.6s
QZH LR LR
comp=Z,690nm,21.3s
SSE Sheshan 56.03 319 P **P** **15 55 06.1 +0.5**
SSE S **S** **16 02 52.9 +1.4**
SSE pmax pmax
comp=Z,24nm,1.1s
SSE pmax pmax
comp=Z,220nm,3.7s
SSE LR LR
comp=Z,200nm,17.6s
SSE LR LR
comp=Z,300nm,17.8s
TJN Taejon 56.07 327 P **P** **15 55 07.3 +1.5**
TJN Taejon 56.07 327 *ce* P **P** **15 55 04.9 -0.9**
JKA Kamikawa-asahi 56.53 344 P **P** **15 55 09.7 +0.8**
ASAJ Asahikawa 56.53 344 LR LR 16 17 26.1
comp=Z,1µm,21.4s,baz=174,slow=34
ASAJ Asahikawa 56.53 344 P **P** **15 55 09.7 +0.8**
ASAJ pmax pmax
comp=Z,69nm,1.3s
KSRS Korea Array 56.59 329 P **P** **15 55 07.8 -1.7**
comp=Z,11nm,1.1s,baz=144,slow=7.8,SNR=14
KSRS LR LR 16 17 08.4
comp=Z,602nm,21.6s,baz=135,slow=34
comp=Z,11nm,1.1s
KSAR Wonju Array Be 56.60 329 P **P** **15 55 08.2 -1.4**
KSAR Wonju Array Be 56.60 329 P **P** **15 55 08.2 -1.4**
DSRI Dabo 56.92 276 P P 15 55 21.9 +10
INCN Inchon 57.29 328 P **P** **15 55 16.6 +2.2**
INCN Inchon 57.29 328 P **P** **15 55 15.8 +1.3**
NJ2 Nanjing 58.17 318 *e* P **P** **15 55 21.9 +1.2**
NJ2 pP **sP** **15 55 34.8 -1.8**
NJ2 S **S** **16 03 21.3 +1.6**
NJ2 pmax pmax
comp=Z,15nm,0.6s
NJ2 pmax pmax
comp=Z,250nm,3.5s
NJ2 LR LR
comp=Z,730nm,18.8s
NJ2 LR LR
comp=Z,530nm,16.9s
NJ2 LR LR
comp=Z,1µm,19.9s
QIZ Qiongzhong 58.17 300 P **P** **15 55 23.7 +2.7**
QIZ S **S** **16 03 18.8 -1.4**
QIZ SS **SS** **16 07 14.1 +1.5**
QIZ pmax pmax
comp=Z,210nm,5.1s
QIZ LR LR
comp=Z,350nm,26.9s
QIZ LR LR
comp=Z,630nm,25.7s
QIZ LR LR
comp=Z,1µm,25.5s
DRV Dumont d'Urvil 58.23 190 P **P** **15 55 21.6 +1.0**
DRV pP **pP** **15 55 30.9 -0.6**
YSS Yuzh-Sakhalins 59.13 346 *e* P **P** **15 55 27.4 +0.3**
YSS *e*S **S** **16 03 28.6 -3.0**
YSS pmax pmax
comp=Z,100nm,5.4s
YSS pmax pmax
comp=Z,10.0nm,1.1s
USA0B Ussuriysk Arra 60.15 336 *i* P **P** **15 55 34.4 +0.2**
USRK Ussuriysk Ar. 60.15 336 P **P** **15 55 33.8 -0.4**
USRK Ussuriysk Ar. 60.15 336 P **P** **15 55 33.4 -0.8**
comp=Z,14nm,0.8s,baz=150,slow=6.1,SNR=17
USRK LR LR 16 19 12.8
comp=Z,656nm,21.6s,baz=149,slow=34
comp=Z,14nm,0.8s
USRK Ussuriysk Ar. 60.15 336 P **P** **15 55 33.8 -0.4**
WHN Wuhan 60.36 314 P P 15 55 43.0 +7.1
WHN LR LR
comp=Z,3µm,17.6s
UBPT Khong Chiam 60.54 294 P **P** **15 55 37.7 +0.3**
GULI GuiLin 60.60 307 ⇓ P **P** **15 55 38.2 +0.5**
GULI S **S** **16 03 53.9 +2.5**
GULI pmax pmax
comp=Z,30nm,1.3s
GULI LR LR
comp=Z,360nm,26.0s
GULI LR LR
comp=Z,350nm,26.0s
GULI LR LR
comp=Z,660nm,21.7s
DL2 Dalian 61.03 326 P **P** **15 55 39.4 -0.9**
DL2 S **S** **16 03 56.4 +0.1**
DL2 pmax pmax
comp=Z,66nm,1.1s
DL2 pmax pmax
comp=Z,250nm,8.9s
DL2 LR LR
comp=Z,740nm,18.1s
DL2 LR LR
comp=Z,660nm,19.4s
DL2 LR LR
comp=Z,1µm,22.7s
UGL Uglegorsk 61.28 346 *e* P **P** **15 55 46.1 +4.4**
UGL *e*S **S** **16 04 07.5 +8.4**
UGL pmax pmax
comp=Z,60nm,1.3s
MDJ Mudanjiang 61.47 335 P **P** **15 55 44.6 +1.5**
MDJ Mudanjiang 61.47 335 P **P** **15 55 43.6 +0.5**
MDJ pP sP 15 55 58.0 -1.1
MDJ PcP **PcP** **15 56 23.4 -1.5**
MDJ PP **PP** **15 57 59.9 +0.9**
MDJ S **S** **16 04 04.9 +3.2**
MDJ ScS **SKKSac** **16 05 31.2 -0.3**
MDJ pmax pmax
comp=Z,26nm,1.0s
MDJ pmax pmax
comp=Z,320nm,5.8s
MDJ LR LR
comp=Z,510nm,20.6s
MDJ LR LR
comp=Z,370nm,15.1s
MDJ LR LR
comp=Z,780nm,22.0s
MDJ Mudanjiang 61.47 335 P **P** **15 55 43.5 +0.3**
IPM Ipoh 61.48 281 P **P** **15 55 46.3 +2.4**
IPM Ipoh 61.48 281 P **P** **15 55 42.4 -1.6**
IPM IAmb IAmb 15 55 54.2
comp=Z,43nm,1.3s
TIA Tai'an 61.90 321 P **P** **15 55 46.2 -0.1**
TIA pmax pmax
comp=Z,3.0nm,0.8s
TIA pmax pmax
comp=Z,83nm,2.9s
TIA LR LR
comp=Z,230nm,20.1s
TIA LR LR
comp=Z,260nm,20.1s
TIA LR LR
comp=Z,470nm,23.0s
CN2 Changchun 62.66 332 *e* P **P** **15 55 49.4 -1.8**
CN2 *e*S **S** **16 04 18.5 +1.7**
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,500nm,15.0s
CN2 LR LR
comp=Z,300nm,15.0s
CN2 LR LR
comp=Z,500nm,16.0s
TYV Tymovskoe 62.81 347 *e* P **P** **15 55 52.6 +0.6**
TYV *e*S **S** **16 04 19.6 +1.2**
TYV pmax pmax
comp=Z,17nm,1.4s
TYV pmax pmax
comp=Z,300nm,4.4s
TYV smax smax
comp=N,200nm,5.6s
TYV smax smax
comp=E,200nm,5.6s
PET Petropavlovsk 62.94 358 *e* P **P** **15 55 53.7 +0.9**
PET *e*S **S** **16 04 22.0 +2.1**
PET *e*PS **PnS** **16 04 46.3 +6.3**
PET *e*SS **SS** **16 08 29.7 +3.6**
PET pmax pmax
comp=Z,200nm,5.8s
PET pmax pmax
comp=Z,400nm,5.5s
PET MLR MLR
comp=Z,600nm,15.0s
PEA0B Petropavlovsk- 63.06 358 P **P** **15 55 54.0 +0.4**
PEA0B Petropavlovsk- 63.06 358 *ce* P **P** **15 55 52.2 -1.4**
PETK Petropavlovsk- 63.06 358 P **P** **15 55 53.5 -0.1**
PETK Petropavlovsk- 63.06 358 P **P** **15 55 53.2 -0.4**
comp=Z,4.4nm,0.5s,baz=151,slow=5.8,SNR=30
PETK LR LR 16 18 58.6
comp=Z,676nm,21.8s,baz=169,slow=32
comp=Z,4.4nm,0.5s
PETK Petropavlovsk- 63.06 358 P **P** **15 55 53.5 -0.1**
PBSI Pulau Batu 63.18 275 P P 15 56 04.8 +10
BNX BinXian 63.29 334 ⇓ P **P** **15 55 55.3 0.0**
BNX pP **pP** **15 56 07.2 +0.9**
BNX sP **sP** **15 56 12.0 +0.7**
BNX PP **PP** **15 58 17.2 +2.2**
BNX S **S** **16 04 27.7 +3.1**
BNX pmax pmax
comp=Z,23nm,1.1s
BNX pmax pmax
comp=Z,390nm,4.9s
BNX LR LR
comp=Z,470nm,23.3s
BNX LR LR
comp=Z,470nm,19.5s
BNX LR LR
comp=Z,920nm,20.6s
SHEM Shemya Is, Ala 63.61 9 P **P** **15 55 57.3 +0.1**
comp=Z,38nm,0.6s,baz=291,slow=5.1,SNR=7.3
SHEM LR LR 16 18 39.2
comp=Z,346nm,21.6s,baz=243,slow=31
comp=Z,38nm,0.6s
ENH Enshi 63.76 311 P **P** **15 56 00.8 +2.0**
ENH Enshi 63.76 311 P **P** **15 56 00.7 +1.9**
LYN LuoYang 63.94 316 *e* P **P** **15 56 02.0 +2.1**
LYN pP pP 15 56 12.8 +1.5
LYN sP sP 15 56 18.1 +2.2
LYN S **S** **16 04 36.0 +2.8**
LYN pmax pmax
comp=Z,25nm,0.8s
LYN pmax pmax
comp=Z,280nm,4.8s
LYN LR LR
comp=Z,540nm,18.9s
LYN LR LR
comp=Z,410nm,17.3s
LYN LR LR
comp=Z,680nm,22.1s
GYA Guiyang 64.09 306 ⇓ P P 15 56 08.6 +7.4
GYA pP sP 15 56 20.3 +3.3
GYA S **S** **16 04 34.4 -1.2**
GYA pmax pmax
comp=Z,25nm,1.5s
GYA pmax pmax
comp=Z,110nm,7.9s
GYA LR LR
comp=N,320nm,24.3s
GYA LR LR
comp=E,750nm,19.4s
GYA LR LR
comp=Z,970nm,20.1s
GSI Gunungsitoli 64.14 276 P **P** **15 56 02.5 +0.9**
GSI Gunungsitoli 64.14 276 P **P** **15 55 59.6 -2.0**
GSI Gunungsitoli 64.14 276 P **P** **15 56 00.9 -0.7**
comp=Z,41nm,1.3s
HNS HongShan 64.16 320 ⇓ P **P** **15 56 01.3 +0.1**
HNS S **S** **16 04 36.0 +0.3**
HNS pmax pmax
comp=Z,50nm,1.4s
HNS LR LR
comp=Z,350nm,21.8s
HNS LR LR
comp=Z,440nm,21.2s
HNS LR LR
comp=Z,790nm,22.1s
SLVN Son La 64.20 300 P **P** **15 56 00.6 -1.3**
GRNR Gornyy 64.32 343 ⇑ *i* P **P** **15 56 02.6 +0.6**
GRNR pmax pmax
comp=Z,10.0nm,1.0s
KCSI Kotacane, Aceh 64.42 279 P P 15 56 11.5 +8.1
KLR Kul'dur 64.47 339 LR LR 16 21 26.9
comp=Z,580nm,21.8s,baz=149,slow=34
KLR Kul'dur 64.47 339 *e* P **P** **15 56 01.5 -1.5**
KLR pmax pmax
comp=Z,50nm,1.4s
KIWB Kanaga Island 64.55 15 P **P** **15 56 03.6 +0.1**
ADK Adak 64.70 15 P **P** **15 56 06.4 +2.0**
BJI Beijing 64.92 323 P **P** **15 56 06.8 +0.7**
BJI S **S** **16 04 41.0 -4.0**
BJI pmax pmax
comp=Z,3.0nm,1.2s
BJI pmax pmax
comp=Z,99nm,4.9s
BJI LR LR
comp=Z,200nm,21.8s
BJI LR LR
comp=Z,230nm,19.4s
BJI LR LR
comp=Z,440nm,22.1s
CASY Casey 65.58 200 P **P** **15 56 10.4 +0.4**
CASY IAmb IAmb 15 56 21.2
comp=Z,53nm,1.4s
CASY Casey 65.58 200 P **P** **15 56 08.8 -1.3**
CASY pP **pP** **15 56 19.3 -1.7**
TIY Taiyuan 65.79 319 *e* P P 15 56 16.7 +4.8
TIY S **S** **16 04 56.2 +0.2**
TIY pmax pmax
comp=Z,170nm,7.5s
TIY LR LR
comp=Z,230nm,22.1s
TIY LR LR
comp=Z,360nm,17.2s
TIY LR LR
comp=Z,440nm,18.6s
SRDT SRDT 66.02 291 P **P** **15 56 15.1 +1.4**
XAN Xi'an 66.12 314 ⇑ P **P** **15 56 16.0 +1.9**
XAN pP sP 15 56 31.7 +1.5
XAN S **S** **16 04 57.5 -2.5**
XAN pmax pmax
comp=Z,35nm,0.7s
XAN pmax pmax
comp=Z,380nm,5.7s
XAN LR LR
comp=Z,710nm,18.1s
XAN LR LR
comp=Z,920nm,20.6s
XAN LR LR
comp=Z,1µm,20.0s
XAN Xi'an 66.12 314 P **P** **15 56 14.7 +0.6**

KMI	**Kunming**	**66.70**	**303**	⇓P	**P**	**15 56 19.1**	**+0.9**		
KMI				S	**S**	**16 05 08.8**	**+1.0**		
KMI				SKS	**SKSac**	**16 06 06.5**	**-6.1**		
KMI				pmax	pmax				
	comp=Z,23nm,1.3s								
KMI				pmax	pmax				
	comp=Z,220nm,7.4s								
KMI				LR	LR				
	comp=Z,270nm,23.0s								
KMI				LR	LR				
	comp=Z,540nm,21.0s								
KMI				LR	LR				
	comp=Z,790nm,21.3s								
CRAI	**Chiangrai**	**66.85**	**297**	P	**P**	**15 56 17.8**	**-1.2**		
CRAI				IAmb	IAmb	15 56 28.2			
	comp=Z,25nm,1.0s								
HEH	**HeiHe**	**66.90**	**337**	*e*P	**P**	**15 56 18.1**	**-0.5**		
HEH				sP	**sP**	**15 56 37.9**	**+3.2**		
HEH				S	**S**	**16 05 09.5**	**+0.8**		
HEH				pmax	pmax				
	comp=Z,21nm,0.9s								
HEH				pmax	pmax				
	comp=Z,300nm,7.3s								
HEH				LR	LR				
	comp=Z,380nm,19.0s								
HEH				LR	LR				
	comp=Z,560nm,18.4s								
HEH				LR	LR				
	comp=Z,550nm,17.8s								
VNDA	**Vanda**	**67.37**	**180**	P	**P**	**15 56 21.7**	**+0.4**		
VNDA	**Vanda**	**67.37**	**180**	P	**P**	**15 56 21.4**	**+0.1**		
	comp=Z,5.6nm,0.9s,baz=343,slow=6.9,SNR=18								
VNDA				LR	LR	16 20 41.7			
	comp=Z,552nm,21.3s,baz=358,slow=31								
	comp=Z,5.6nm,0.9s								
VNDA	**Vanda**	**67.37**	**180**	P	**P**	**15 56 21.7**	**+0.4**		
VNDA				pmax	pmax				
	comp=Z,11nm,1.1s								
VNDA	**Vanda**	**67.37**	**180**	P	**P**	**15 56 21.4**	**+0.1**		
VNDA				pP	**pP**	**15 56 31.4**	**-0.9**		
XLT	**XiLinHaoTe**	**67.48**	**326**	*e*P	**P**	**15 56 23.2**	**+0.6**		
XLT				pP	pP	15 56 30.6	-3.1		
XLT				S	**S**	**16 05 15.8**	**-0.4**		
XLT				pmax	pmax				
	comp=Z,24nm,1.1s								
XLT				LR	LR				
	comp=Z,47nm,18.0s								
XLT				LR	LR				
	comp=Z,320nm,22.0s								
XLT				LR	LR				
	comp=Z,400nm,27.6s								
CMAR	**Chiang Mai Arr**	**67.50**	**295**	P	**P**	**15 56 22.3**	**-0.8**		
CMAR	**Chiang Mai Arr**	**67.50**	**295**	P	**P**	**15 56 22.7**	**-0.4**		
	comp=Z,2.7nm,0.8s,baz=118,slow=4.4,SNR=17								
CMAR				LR	LR	16 24 42.9			
	comp=Z,204nm,21.3s,baz=115,slow=35								
	comp=Z,2.7nm,0.8s								
SBA	**Scott Base**	**67.77**	**179**	P	**P**	**15 56 24.7**	**+0.9**		
SBA				IAmb	IAmb	15 56 35.4			
	comp=Z,43nm,1.8s								
SBA	**Scott Base**	**67.77**	**179**	P	**P**	**15 56 24.7**	**+0.9**		
SBA				pmax	pmax				
	comp=Z,43nm,1.8s								
SBA	**Scott Base**	**67.77**	**179**	P	**P**	**15 56 24.7**	**+0.9**		
SBA				pP	**pP**	**15 56 35.3**	**+0.6**		
NIKH	**Nikolski High**	**67.93**	**19**	P	**P**	**15 56 24.7**	**-0.4**		
	baz=212								
PZH	**PanZhiHua**	**68.09**	**304**	P	**P**	**15 56 28.3**	**+1.5**		
PZH				sP	**sP**	**15 56 47.2**	**+4.4**		
PZH				S	**S**	**16 05 24.1**	**-0.1**		
PZH				ScS	**SKiKP**	**16 06 18.7**	**-1.0**		
PZH				pmax	pmax				
	comp=Z,10.0nm,1.2s								
PZH				pmax	pmax				
	comp=Z,120nm,4.7s								
PZH				LR	LR				
	comp=Z,510nm,22.6s								
PZH				LR	LR				
	comp=Z,360nm,20.6s								
PZH				LR	LR				
	comp=Z,520nm,21.2s								
HHC	**Hu-ho-hao-te**	**68.18**	**322**	*e*P	**P**	**15 56 29.5**	**+2.4**		
HHC				S	**S**	**16 05 24.0**	**-0.8**		
HHC				ScS	**SKiKP**	**16 06 13.6**	**-5.8**		
HHC				SS	**SS**	**16 09 50.6**	**+2.1**		
HHC				pmax	pmax				
	comp=Z,18nm,0.8s								
HHC				pmax	pmax				
	comp=Z,210nm,5.5s								
HHC				LR	LR				
	comp=Z,470nm,19.1s								
HHC				LR	LR				
	comp=Z,310nm,19.1s								
HHC				LR	LR				
	comp=Z,810nm,19.9s								
CCD	**Concordia, Ant**	**68.26**	**190**	P	**P**	**15 56 27.8**	**+0.3**		
CCD				pP	**pP**	**15 56 37.8**	**-0.7**		
CD2	**Chengdu**	**68.39**	**309**	P	**P**	**15 56 28.3**	**-0.2**		
CD2				pP	pP	15 56 42.0	+1.9		
CD2				sP	sP	15 56 48.7	+4.2		
CD2				S	**S**	**16 05 24.9**	**-2.6**		
CD2				sS	sS	16 05 49.6	+2.7		
CD2				SKS	**SKiKP**	**16 06 22.0**	**+2.1**		
CD2				pmax	pmax				
	comp=Z,30nm,0.4s								
CD2				pmax	pmax				
	comp=Z,230nm,5.6s								
CD2				LR	LR				
	comp=Z,530nm,21.6s								
CD2				LR	LR				
	comp=Z,570nm,23.3s								
CD2				LR	LR				
	comp=Z,570nm,23.5s								
BTO	**Baotou**	**69.00**	**321**	*e*P	P	15 56 25.4	-6.8		
BTO				pP	pP	15 56 38.4	-5.0		
BTO				sP	sP	15 56 43.9	-4.5		
BTO				PP	**PP**	**15 59 03.8**	**-1.3**		
BTO				S	S	16 05 20.3	-14		
BTO	**Baotou**	**69.00**	**321**	SS	SS	16 10 09.0	+8.0		
BTO				pmax	pmax				
	comp=Z,22nm,0.6s								
BTO				pmax	pmax				
	comp=Z,87nm,3.9s								
BTO				LR	LR				
	comp=N,1µm,21.8s								
BTO				LR	LR				
	comp=E,950nm,22.4s								
BTO				LR	LR				
	comp=Z,2µm,23.3s								
HIA	**Hailar**	**69.35**	**332**	P	**P**	**15 56 34.8**	**+0.7**		
HIA	**Hailar**	**69.35**	**332**	IAmb	IAmb	15 56 43.0			
	comp=Z,25nm,0.8s								
HIA	**Hailar**	**69.35**	**332**	P	**P**	**15 56 34.2**	**+0.1**		
UNV	**Unalaska Valle**	**69.43**	**20**	P	**P**	**15 56 33.6**	**-0.8**		
	baz=214								
ZEA	**Zeya**	**69.78**	**339**	*e*P	**P**	**15 56 37.1**	**+0.5**		
ZEA				*e*		16 05 44.3			
ZEA				pmax	pmax				
	comp=Z,100nm,2.2s								
ZEA				pmax	pmax				
	comp=N,30nm,1.2s								
ZEA				pmax	pmax				
	comp=Z,40nm,1.4s								
MA2	**Magadan**	**69.97**	**354**	P	**P**	**15 56 37.8**	**+0.2**		
MA2	**Magadan**	**69.97**	**354**	P	**P**	**15 56 36.6**	**-1.0**		
MA2				IAmb	IAmb	15 56 45.0			
	comp=Z,32nm,1.1s								
MA2	**Magadan**	**69.97**	**354**	LR	LR	16 23 30.9			
	comp=Z,515nm,21.9s,baz=167,slow=33								
MA2	**Magadan**	**69.97**	**354**	*ce*P	**P**	**15 56 36.9**	**-0.7**		
MA2				pmax	pmax				
	comp=Z,36nm,1.7s								
MA2	**Magadan**	**69.97**	**354**	P	**P**	**15 56 36.7**	**-0.9**		
MA2				pP	**pP**	**15 56 46.1**	**-2.6**		
MA2				sP	**sP**	**15 56 50.5**	**-3.1**		
TNCH	**TengChong**	**70.19**	**301**	P	**P**	**15 56 42.3**	**+2.3**		
TNCH				pP	sP	15 56 55.4	-0.7		
TNCH				PP	**PP**	**15 59 17.3**	**+1.5**		
TNCH				S	**S**	**16 05 46.4**	**-2.8**		
TNCH				sS	sS	16 06 07.6	-1.4		
TNCH				pmax	pmax				
	comp=Z,12nm,1.6s								
TNCH				pmax	pmax				
	comp=Z,170nm,5.4s								
TNCH				LR	LR				
	comp=Z,210nm,17.4s								
TNCH				LR	LR				
	comp=Z,200nm,17.2s								
TNCH				LR	LR				
	comp=Z,500nm,18.9s								
LZH	**Lanzhou**	**70.74**	**314**	*e*P	P	15 56 51.0	+7.9		
LZH				sP	PcP	15 57 06.5	+2.7		
LZH				S	**S**	**16 05 56.6**	**+1.3**		
LZH				pmax	pmax				
	comp=Z,51nm,1.1s								
LZH				pmax	pmax				
	comp=Z,280nm,5.3s								
LZH				LR	LR				
	comp=N,450nm,19.6s								
LZH				LR	LR				
	comp=E,600nm,18.2s								
LZH				LR	LR				
	comp=Z,1µm,20.6s								
P08K	**Saint George I**	**70.82**	**17**	P	**P**	**15 56 42.3**	**-0.6**		
	baz=211								
SPIA	**Saint Paul Isl**	**71.12**	**16**	P	**P**	**15 56 44.2**	**-0.5**		
	baz=210								
FALS	**False Pass**	**71.31**	**21**	P	**P**	**15 56 45.1**	**-0.8**		
	baz=217								
S12K	**Black Hills**	**72.46**	**21**	P	**P**	**15 56 52.1**	**-0.7**		
	baz=218								
CHNA	**Chernabura Isl**	**72.69**	**23**	P	**P**	**15 56 53.6**	**-0.5**		
	baz=221								
SDPT	**Sand Point**	**72.75**	**22**	P	**P**	**15 56 53.3**	**-1.2**		
	baz=220								
SEY	**Seymchan**	**73.15**	**356**	LR	LR	16 25 24.1			
	comp=Z,429nm,21.8s,baz=190,slow=33								
SEY	**Seymchan**	**73.15**	**356**	*e*P	**P**	**15 56 53.6**	**-3.1**		
SEY				pmax	pmax				
	comp=Z,27nm,1.3s								
S14K	**Fog Glacier**	**73.80**	**22**	P	**P**	**15 57 00.3**	**-0.6**		
	baz=221								
CIT	**Chita**	**74.11**	**332**	*e*P	**P**	**15 57 03.2**	**+0.5**		
CIT				pmax	pmax				
	comp=Z,90nm,1.8s								
CHGN	**Chignik**	**74.23**	**22**	P	**P**	**15 57 02.2**	**-1.0**		
	baz=222								
ULN	**Ulaanbaatar**	**74.89**	**326**	P	**P**	**15 57 07.6**	**+0.1**		
ULN				IAmb	IAmb	15 57 18.5			
	comp=Z,28nm,0.8s								
ULN	**Ulaanbaatar**	**74.89**	**326**	*ce*P	**P**	**15 57 08.1**	**+0.7**		
ULN				pmax	pmax				
	comp=Z,26nm,1.3s								
M11K	**Mekoryuk**	**74.97**	**16**	P	**P**	**15 57 07.1**	**-0.3**		
	baz=214								
GTA	**Gaotai**	**75.11**	**315**	⇓P	**P**	**15 57 09.6**	**+0.7**		
GTA				S	**S**	**16 06 44.7**	**-0.1**		
GTA				SS	**SS**	**16 11 30.6**	**-4.2**		
GTA				pmax	pmax				
	comp=Z,5.0nm,1.2s								
GTA				pmax	pmax				
	comp=Z,270nm,5.6s								
GTA				LR	LR				
	comp=Z,310nm,20.4s								
GTA				LR	LR				
	comp=Z,400nm,20.4s								
GTA				LR	LR				
	comp=Z,510nm,21.1s								
SONM	**Songino Array**	**75.23**	**325**	P	**P**	**15 57 08.3**	**-1.1**		
	comp=Z,10nm,0.7s,baz=135,slow=5.8,SNR=34								
SONM				LR	LR	16 30 15.1			
	comp=Z,457nm,19.7s,baz=108,slow=36								
	comp=Z,10nm,0.7s								
R16K	**Pilot Point**	**75.49**	**22**	P	**P**	**15 57 09.3**	**-1.1**		
	baz=222								
O14K	**Tigyukauivet M**	**75.52**	**19**	IAmb	IAmb	15 57 12.8			
	comp=Z,62nm,1.2s								
O14K	**Tigyukauivet M**	**75.52**	**19**	P	**P**	**15 57 10.9**	**+0.3**		
	baz=218,SNR=6.2								
M13K	**Dall Lake**	**75.80**	**17**	P	**P**	**15 57 12.6**	**+0.5**		
	baz=216								
N14K	**Kuskokwak Cree**	**75.91**	**18**	P	**P**	**15 57 12.9**	**+0.1**		
	baz=218								
O15K	**Ungalikthiuk R**	**75.92**	**20**	P	**P**	**15 57 13.3**	**+0.4**		
	baz=220								
YAK	**Yakutsk**	**75.98**	**345**	P	**P**	**15 57 12.4**	**-0.7**		
YAK	**Yakutsk**	**75.98**	**345**	LR	LR	16 28 18.4			
	comp=Z,667nm,21.8s,baz=144,slow=34								
YAK	**Yakutsk**	**75.98**	**345**	*e*P	**P**	**15 57 13.0**	**-0.1**		
YAK				*e*		15 57 21.3			
YAK				*e*'PP	**sP**	**15 57 28.0**	**-1.2**		
YAK				*e*S	**S**	**16 06 51.9**	**-1.2**		
YAK				*e*'SS	**sS**	**16 07 15.2**	**+3.2**		
YAK				*e*		16 07 22.5			
YAK				pmax	pmax				
	comp=Z,57nm,0.9s								
YAK				pmax	pmax				
	comp=N,8.0nm,0.9s								
YAK				pmax	pmax				
	comp=E,2.0nm,0.9s								
YAK				smax	smax				
	comp=N,122nm,3.3s								
YAK				smax	smax				
	comp=E,60nm,2.8s								
SHL	**Shillong**	**76.01**	**300**	P	**P**	**15 57 13.2**	**-1.2**		
SHL				pmax	pmax				
	comp=Z,24nm,1.2s								
SII	**Sitkinak Islan**	**76.04**	**24**	P	**P**	**15 57 13.4**	**-0.3**		
	baz=226								
P16K	**Nushagak River**	**76.43**	**20**	P	**P**	**15 57 15.6**	**-0.2**		
	baz=222								
M14K	**Bethel**	**76.48**	**18**	IAmb	IAmb	15 57 26.2			
	comp=Z,26nm,0.9s								
M14K	**Bethel**	**76.48**	**18**	P	**P**	**15 57 16.6**	**+0.5**		
	baz=218,SNR=9.3								
N15K	**Kwethluk River**	**76.60**	**19**	P	**P**	**15 57 17.2**	**+0.5**		
	baz=220								
Q17K	**Contact Creek**	**76.61**	**22**	P	**P**	**15 57 17.2**	**+0.2**		
	baz=224,SNR=14								
K13K	**Kusilvak Mount**	**76.67**	**16**	P	**P**	**15 57 17.5**	**+0.4**		
	baz=215								
L14K	**Kuka Creek**	**76.74**	**17**	P	**P**	**15 57 18.0**	**+0.5**		
	baz=217,SNR=8.5								
O16K	**Kokwok River B**	**76.82**	**20**	P	**P**	**15 57 17.9**	**-0.1**		
	baz=222								
M15K	**Kasigluk River**	**76.83**	**18**	P	**P**	**15 57 18.9**	**+0.9**		
	baz=219,SNR=9.2								
OHAK	**Old Harbor**	**76.86**	**24**	P	**P**	**15 57 20.2**	**+2.0**		
OHAK	**Old Harbor**	**76.86**	**24**	IAmb	IAmb	15 57 20.4			
	comp=Z,46nm,1.2s								
OHAK	**Old Harbor**	**76.86**	**24**	P	**P**	**15 57 18.5**	**+0.3**		
	baz=226,SNR=5.6								
P17K	**Kvichak River**	**77.09**	**21**	P	**P**	**15 57 18.8**	**-0.7**		
	baz=223								
N16K	**Nishlik Lake**	**77.26**	**19**	P	**P**	**15 57 21.5**	**+1.0**		
	baz=221,SNR=9.5								
O17K	**Koliganek Bris**	**77.29**	**20**	P	**P**	**15 57 20.6**	**0.0**		
	baz=222,SNR=7.7								
L15K	**Ungalak Mounta**	**77.36**	**17**	P	**P**	**15 57 21.6**	**+0.6**		
	baz=218,SNR=7.1								
GOMU	**GeErMu**	**77.38**	**311**	P	P	15 57 29.4	+7.3		
GOMU				pP	sP	15 57 36.8	-1.4		
GOMU				sP	pP	15 57 42.0	+8.5		
GOMU				S	**S**	**16 07 08.4**	**-1.9**		
GOMU				sS	sS	16 07 28.0	-2.1		
GOMU	**GeErMu**	**77.38**	**311**	SS	SS	16 12 01.2	-8.5		
GOMU				pmax	pmax				
	comp=Z,12nm,1.1s								
GOMU				LR	LR				
	comp=N,400nm,20.6s								
GOMU				LR	LR				
	comp=E,700nm,21.0s								
GOMU				LR	LR				
	comp=Z,1µm,20.8s								
KDAK	**Kodiak Island**	**77.52**	**23**	P	**P**	**15 57 22.2**	**+0.3**		
KDAK				IAmb	IAmb	15 57 24.6			
	comp=Z,25nm,0.8s								
KDAK	**Kodiak Island**	**77.52**	**23**	P	**P**	**15 57 22.2**	**+0.3**		
	baz=227								
KDAK	**Kodiak Island**	**77.52**	**23**	P	**P**	**15 57 21.8**	**-0.2**		
	comp=Z,15nm,0.7s,baz=258,slow=4.8,SNR=14								
KDAK				LR	LR	16 28 30.0			
	comp=Z,584nm,19.1s,baz=244,slow=33								
	comp=Z,15nm,0.7s								
KDAK	**Kodiak Island**	**77.52**	**23**	*i* P	**P**	**15 57 21.5**	**-0.4**		
KDAK				pmax	pmax				
	comp=Z,43nm,1.0s								
M16K	**Timber Creek**	**77.62**	**19**	P	**P**	**15 57 22.7**	**+0.3**		
M16K				IAmb	IAmb	15 57 32.8			
	comp=Z,27nm,0.9s								
M16K	**Timber Creek**	**77.62**	**19**	P	**P**	**15 57 23.2**	**+0.8**		
	baz=220,SNR=9.6								
J14K	**Nanvaranak Lak**	**77.64**	**16**	P	**P**	**15 57 23.1**	**+0.7**		
	baz=216,SNR=6.0								
P18K	**Big Mountain,**	**77.66**	**21**	IAmb	IAmb	15 57 24.1			
	comp=Z,51nm,1.2s								
P18K	**Big Mountain,**	**77.66**	**21**	P	**P**	**15 57 22.7**	**-0.1**		
	baz=224,SNR=9.2								
BOD	**Bodaibo**	**77.79**	**336**	*e*P	**P**	**15 57 22.8**	**-0.6**		
BOD				pmax	pmax				
	comp=Z,30nm,1.6s								
N17K	**Nushagak Hills**	**77.82**	**20**	IAmb	IAmb	15 57 26.4			
	comp=Z,39nm,1.2s								
N17K	**Nushagak Hills**	**77.82**	**20**	P	**P**	**15 57 24.2**	**+0.6**		
	baz=222,SNR=13								
K15K	**Wolf Creek Mou**	**77.83**	**17**	P	**P**	**15 57 24.5**	**+0.9**		
	baz=218,SNR=10.0								
Q19K	**Cape Douglas,**	**77.91**	**22**	P	**P**	**15 57 23.8**	**-0.4**		
	baz=226,SNR=5.9								
L16K	**Owhat River**	**77.99**	**18**	IAmb	IAmb	15 57 26.9			
	comp=Z,76nm,1.9s								
L16K	**Owhat River**	**77.99**	**18**	P	**P**	**15 57 24.6**	**+0.1**		
	baz=220,SNR=7.2								
O18K	**Koktuh Hills**	**78.00**	**21**	P	**P**	**15 57 24.3**	**-0.3**		
	baz=224								
BILL	**Bilibino**	**78.07**	**2**	P	**P**	**15 57 25.1**	**+0.3**		
BILL	**Bilibino**	**78.07**	**2**	⇓*e*P	**P**	**15 57 25.2**	**+0.4**		
BILL				pmax	pmax				
	comp=Z,83nm,1.7s								
Q20K	**Shuyak Island**	**78.16**	**23**	P	**P**	**15 57 25.4**	**-0.1**		
	baz=227								
ZAK	**Zakamensk**	**78.34**	**326**	*e*P	**P**	**15 57 26.3**	**-0.5**		
ZAK				pmax	pmax				
	comp=Z,19nm,1.2s								
N18K	**Kilae Creek**	**78.37**	**20**	IAmb	IAmb	15 57 29.3			
	comp=Z,91nm,1.7s								
N18K	**Kilae Creek**	**78.37**	**20**	P	**P**	**15 57 27.0**	**+0.4**		
	baz=223,SNR=6.3								
M17K	**Holitna River**	**78.39**	**19**	P	**P**	**15 57 27.3**	**+0.6**		
M17K				IAmb	IAmb	15 57 29.1			
	comp=Z,59nm,1.6s								
M17K	**Holitna River**	**78.39**	**19**	P	**P**	**15 57 27.7**	**+1.0**		
	baz=222,SNR=6.9								
O19K	**Port Alsworth**	**78.56**	**21**	IAmb	IAmb	15 57 29.3			
	comp=Z,87nm,1.8s								
O19K	**Port Alsworth**	**78.56**	**21**	P	**P**	**15 57 27.3**	**-0.4**		
	baz=225								
P19K	**Oil Pt**	**78.57**	**22**	P	**P**	**15 57 27.1**	**-0.7**		
	baz=226								
L17K	**Donlin**	**78.67**	**18**	P	**P**	**15 57 28.1**	**-0.1**		
	baz=221,SNR=8.9								
ANM	**Nome**	**78.67**	**14**	P	**P**	**15 57 28.6**	**+0.4**		
	baz=214								
SVW2	**Sparrevohn**	**78.77**	**20**	P	**P**	**15 57 31.4**	**+2.5**		
SVW2	**Sparrevohn**	**78.77**	**20**	IAmb	IAmb	15 57 43.6			
	comp=Z,29nm,1.0s								
IRK	**Irkutsk**	**78.81**	**328**	*e*P	**P**	**15 57 28.9**	**-0.4**		
IRK				pmax	pmax				
	comp=Z,48nm,1.6s								
ILSW	**Iliamna Southw**	**78.83**	**22**	IAmb	IAmb	15 57 30.5			
	comp=Z,71nm,1.4s								
J16K	**Anvik River**	**78.88**	**17**	IAmb	IAmb	15 57 32.4			
	comp=Z,71nm,1.6s								
J16K	**Anvik River**	**78.88**	**17**	P	**P**	**15 57 30.2**	**+0.8**		
	baz=219								
TNA	**Tin City**	**78.94**	**13**	P	**P**	**15 57 29.9**	**+0.3**		
	baz=211								
N19K	**Bonanza Creek**	**78.94**	**20**	P	**P**	**15 57 30.4**	**+0.5**		
	baz=225								
M18K	**Stony River**	**78.98**	**20**	P	**P**	**15 57 31.6**	**+1.7**		
	baz=223,SNR=11								
O20K	**Slope Mountain**	**79.09**	**22**	P	**P**	**15 57 30.9**	**+0.2**		
	baz=227								
K17K	**Iditarod**	**79.11**	**18**	IAmb	IAmb	15 57 34.4			
	comp=Z,84nm,1.8s								
K17K	**Iditarod**	**79.11**	**18**	P	**P**	**15 57 31.6**	**+1.0**		
	baz=221,SNR=7.4								
HOM	**Homer**	**79.16**	**22**	P	**P**	**15 57 31.6**	**+0.7**		
	baz=228								
F14K	**Arctic Creek**	**79.22**	**13**	P	**P**	**15 57 31.7**	**+0.5**		
	baz=213								
L18K	**Granite Mounta**	**79.24**	**19**	P	**P**	**15 57 31.7**	**+0.3**		
L18K				IAmb	IAmb	15 57 42.2			
	comp=Z,35nm,0.9s								
L18K	**Granite Mounta**	**79.24**	**19**	P	**P**	**15 57 32.4**	**+1.1**		
	baz=222,SNR=20								
I17K	**Unalakleet**	**79.33**	**16**	P	**P**	**15 57 32.6**	**+0.8**		
	baz=218								
G15K	**Niukluk**	**79.35**	**14**	P	**P**	**15 57 32.6**	**+0.7**		
	baz=215								
J17K	**VABM Dome**	**79.40**	**17**	P	**P**	**15 57 33.3**	**+1.1**		
	baz=220,SNR=7.2								
H16K	**Elim**	**79.52**	**15**	P	**P**	**15 57 33.3**	**+0.5**		
	baz=217								
BRLK	**Bradley Lake**	**79.52**	**23**	IAmb	IAmb	15 57 38.4			
	comp=Z,26nm,0.7s								
BRSE	**Bradley Lake S**	**79.56**	**23**	P	**P**	**15 57 33.8**	**+0.6**		
	baz=226,SNR=6.9								
M19K	**Big River Lodg**	**79.75**	**20**	P	**P**	**15 57 34.8**	**+0.6**		
	baz=225								
F15K	**North Star Dit**	**79.80**	**14**	P	**P**	**15 57 34.8**	**+0.4**		
	baz=214								
L19K	**White Mountain**	**79.80**	**19**	IAmb	IAmb	15 57 45.0			
	comp=Z,29nm,0.9s								
L19K	**White Mountain**	**79.80**	**19**	P	**P**	**15 57 35.1**	**+0.7**		
	baz=224,SNR=25								
QSPA	**South Pole Qui**	**79.86**	**180**	P	**P**	**15 57 33.9**	**-1.1**		
	comp=Z,30nm,0.9s,baz=355,slow=2.4,SNR=46								
QSPA				LR	LR	16 31 09.6			
	comp=Z,273nm,18.1s,baz=12,slow=34								
	comp=Z,30nm,0.9s								
TTA	**Tatalina**	**79.97**	**18**	P	**P**	**15 57 36.8**	**+1.3**		
TTA	**Tatalina**	**79.97**	**18**	P	**P**	**15 57 35.7**	**+0.3**		
TTA	**Tatalina**	**79.97**	**18**	P	**P**	**15 57 35.7**	**+0.3**		
	baz=223,SNR=14								
TTA	**Tatalina**	**79.97**	**18**	P	**P**	**15 57 35.7**	**+0.3**		
TTA				pmax	pmax				
	comp=Z,20nm,1.1s								
N20K	**Mount Spurr**	**80.01**	**21**	P	**P**	**15 57 35.3**	**-0.4**		
	baz=227								
G16K	**Koyuk River**	**80.09**	**15**	P	**P**	**15 57 36.6**	**+0.7**		
	baz=217								
J18K	**Innoko River**	**80.15**	**18**	P	**P**	**15 57 36.7**	**+0.3**		
	baz=222,SNR=11								
M20K	**Styx River**	**80.16**	**20**	IAmb	IAmb	15 57 38.7			
	comp=Z,87nm,1.8s								
M20K	**Styx River**	**80.16**	**20**	P	**P**	**15 57 36.8**	**+0.3**		
	baz=226,SNR=8.5								
MOY	**Mondy**	**80.24**	**327**	*e*P	**P**	**15 57 36.4**	**-0.8**		
MOY				pmax	pmax				
	comp=Z,29nm,2.4s								
L20K	**Farewell, AK**	**80.33**	**20**	P	**P**	**15 57 37.7**	**+0.4**		
	baz=225,SNR=17								
H17K	**Granite Mounta**	**80.36**	**16**	IAmb	IAmb	15 57 39.9			
	comp=Z,43nm,1.6s								
H17K	**Granite Mounta**	**80.36**	**16**	P	**P**	**15 57 38.0**	**+0.6**		
	baz=219								
O22K	**Cooper Landing**	**80.43**	**22**	P	**P**	**15 57 38.5**	**+0.7**		
	baz=229								
G17K	**Kiwalik Mounta**	**80.61**	**15**	P

baz=227,SNR=6.0
F17K **Baldwin Pennin** 81.21 14 IAmb IAmb 15 57 44.4
comp=Z,100nm,2.0s
F17K **Baldwin Pennin** 81.21 14 P P **15 57 42.4 +0.6**
baz=218
PMR **Palmer** 81.37 22 P P **15 57 44.1 +1.3**
PMR **Palmer** 81.37 22 P P **15 57 43.2 +0.4**
baz=230,SNR=5.9
G18K **Tagagawik** 81.44 16 P P **15 57 43.5 +0.3**
baz=220,SNR=6.7
J20K **Nowinta River** 81.45 18 IAmb IAmb 15 57 46.8
comp=Z,91nm,1.8s
J20K **Nowinta River** 81.45 18 P P **15 57 43.7 +0.4**
baz=225,SNR=16
CUT **Chulitna** 81.50 21 IAmb IAmb 15 58 12.1
comp=Z,57nm,1.2s
CUT **Chulitna** 81.50 21 P P **15 57 43.1 -0.4**
baz=228
KNK **Knik Glacier** 81.50 22 IAmb IAmb 15 58 10.0
comp=Z,34nm,1.3s
KNK **Knik Glacier** 81.50 22 P P **15 57 43.8 +0.2**
baz=230,SNR=5.6
GHO **Glory Hole Cre** 81.56 22 IAmb IAmb 15 58 12.5
comp=Z,65nm,1.4s
CAST **Castle Rocks** 81.58 19 P P **15 57 43.3 -0.7**
CAST IAmb IAmb 15 57 53.0
comp=Z,24nm,0.9s
CAST **Castle Rocks** 81.58 19 P P **15 57 43.2 -0.7**
baz=227,SNR=26
E17K **Hotham Inlet** 81.58 14 P P **15 57 44.4 +0.5**
baz=217,SNR=15
GLI **Glacier Island** 81.68 23 IAmb IAmb 15 57 54.0
comp=Z,46nm,1.3s
GLI **Glacier Island** 81.68 23 P P **15 57 44.8 +0.3**
baz=232
F18K **Selawik** 81.73 15 P P **15 57 44.6 0.0**
baz=219,SNR=11
H19K **Roundabout Mou** 81.76 17 P P **15 57 45.8 +1.0**
baz=222,SNR=11
C16K **Lisburne Hills** 81.78 12 P P **15 57 45.4 +0.6**
baz=214
D17K **Noatak River** 81.79 13 P P **15 57 45.3 +0.4**
baz=216,SNR=6.3
I20K **Naaghedeneel** 81.80 18 P P **15 57 46.5 +1.4**
baz=224,SNR=8.6
SML **Sawmill** 81.80 22 P P **15 57 45.5 +0.3**
SML IAmb IAmb 15 58 11.8
comp=Z,26nm,1.0s
SML **Sawmill** 81.80 22 P P **15 57 45.5 +0.3**
baz=230,SNR=8.0
PALK **Pallekele** 81.81 279 LR LR 16 36 26.9
comp=Z,269nm,21.5s,baz=209,slow=37
CHUM **Lake Minchumin** 81.82 19 P P **15 57 45.8 +0.7**
baz=226,SNR=13
FID **Port Fidalgo** 81.84 23 IAmb IAmb 15 57 47.9
comp=Z,61nm,1.4s
EYAK **Cordova Ski Ar** 82.00 24 P P **15 57 46.8 +0.7**
baz=233
M23K **Glacier View** 82.02 22 P P **15 57 46.1 -0.1**
baz=231
G19K **Purcell Mounta** 82.05 16 IAmb IAmb 15 57 48.8
comp=Z,84nm,1.8s
G19K **Purcell Mounta** 82.05 16 P P **15 57 46.7 +0.3**
baz=222,SNR=13
KTH **Kantishna Hill** 82.05 20 IAmb IAmb 15 57 50.6
comp=Z,25nm,0.9s
RDOG **Red Dog Mine** 82.12 13 P P **15 57 47.3 +0.6**
baz=216
E18K **Tukpahlearik C** 82.14 14 P P **15 57 47.7 +0.9**
baz=218,SNR=10
KAIM **Kayak Island** 82.16 24 P P **15 57 47.2 +0.2**
baz=234
H20K **Anotleneega Mo** 82.18 17 P P **15 57 47.9 +0.8**
baz=224,SNR=14
SCM **Sheep Creek Mo** 82.19 22 IAmb IAmb 15 58 15.9
comp=Z,46nm,1.3s
SCM **Sheep Creek Mo** 82.19 22 P P **15 57 47.5 +0.2**
baz=231
TRF **Thorofare Moun** 82.19 20 IAmb IAmb 15 57 51.5
comp=Z,20nm,0.9s
TRF **Thorofare Moun** 82.19 20 P P **15 57 46.8 -0.5**
baz=228,SNR=17
WAT1 **Susitna Watana** 82.38 21 P P **15 57 47.9 -0.3**
baz=230
F19K **Shaleruckit Mo** 82.39 15 P P **15 57 48.6 +0.5**
F19K **Shaleruckit Mo** 82.39 15 P P **15 57 48.5 +0.5**
baz=221,SNR=12
BPAW **Bear Paw Mtn.** 82.40 19 P P **15 57 48.0 -0.2**
baz=228,SNR=11
C17K **DeLong Mountai** 82.41 13 P P **15 57 48.9 +0.7**
baz=216,SNR=8.9
KLU **Klutina** 82.50 23 P P **15 57 49.6 +0.7**
baz=233,SNR=5.4
WAT6 **Susitna Watana** 82.51 21 P P **15 57 49.3 +0.2**
baz=231,SNR=8.1
BMRM **Bremner River** 82.70 24 P P **15 57 50.1 +0.2**
baz=234
BERG **Berg Lake** 82.72 24 IAmb IAmb 15 58 03.8
comp=Z,50nm,1.1s
BGLC **Bering Glacier** 82.74 25 P P **15 57 50.1 +0.1**
baz=235
M24K **Tolsona, Glenn** 82.79 22 P P **15 57 51.4 +1.0**
M24K IAmb IAmb 15 57 58.4
comp=Z,26nm,0.7s
M24K **Tolsona, Glenn** 82.79 22 P P **15 57 51.4 +1.0**
baz=232,SNR=8.0
MCK **McKinley** 82.83 20 P P **15 57 50.3 -0.3**
baz=230,SNR=35
IMAR **Indian Mountai** 82.86 17 P P **15 57 50.8 +0.2**
H21K **Melozitna Rive** 82.91 18 P P **15 57 51.8 +1.0**
baz=226,SNR=13
DHY **Denali Highway** 82.95 21 IAmb IAmb 15 58 23.1
comp=Z,57nm,1.8s
DHY **Denali Highway** 82.95 21 P P **15 57 51.6 +0.2**
baz=231,SNR=8.7
C18K **Utukok River** 82.98 13 IAmb IAmb 15 57 52.9
comp=Z,64nm,1.8s
C18K **Utukok River** 82.98 13 P P **15 57 51.6 +0.4**
baz=218,SNR=10.0
E19K **Redstone River** 83.00 15 P P **15 57 51.4 +0.1**
E19K **Redstone River** 83.00 15 P P **15 57 52.0 +0.8**
baz=221
N25K **Chitina, Valde** 83.08 23 IAmb IAmb 15 58 08.5
comp=Z,32nm,1.3s
N25K **Chitina, Valde** 83.08 23 P P **15 57 52.5 +0.6**
baz=234,SNR=7.2
F20K **Avaraart Lake** 83.09 16 P P **15 57 52.3 +0.6**
baz=223,SNR=11
MLY **Manley** 83.11 19 P P **15 57 52.7 +0.8**
baz=228,SNR=18
GLB **Gilahina Butte** 83.29 23 IAmb IAmb 15 57 56.9
comp=Z,18nm,0.8s
G21K **Allakaket** 83.31 17 P P **15 57 53.1 +0.2**
G21K **Allakaket** 83.31 17 P P **15 57 53.5 +0.6**
baz=225
MESA **MESA** 83.32 25 P P **15 57 52.8 -0.5**
baz=236
HARP **HAARP** 83.34 22 P P **15 57 53.8 +0.6**
baz=233
NEA2 **Nenana** 83.35 19 IAmb IAmb 15 58 02.2
comp=Z,23nm,1.0s
NEA2 **Nenana** 83.35 19 P P **15 57 52.9 -0.3**
baz=229,SNR=20
ISLE **Juniper Island** 83.40 25 IAmb IAmb 15 58 00.2
comp=Z,32nm,1.0s
B18K **Kokolik River** 83.42 12 P P **15 57 53.6 +0.2**
baz=217
H22K **Ishtalitna Cre** 83.50 18 P P **15 57 54.7 +0.8**
baz=227,SNR=15
MCARA **McCarthy VSAT** 83.56 24 IAmb IAmb 15 58 00.8
comp=Z,25nm,0.9s
MCARA **McCarthy VSAT** 83.56 24 P P **15 57 55.1 +0.8**
baz=235,SNR=7.2
D19K **Kuna River** 83.57 14 P P **15 57 54.5 +0.2**
baz=220
PAX **Paxson** 83.57 22 P P **15 57 54.7 +0.3**
baz=233
WRH **Wood River Hil** 83.60 20 IAmb IAmb 15 58 23.0
comp=Z,30nm,1.1s
I23K **Minto, Yukon-K** 83.62 19 P P **15 57 54.1 -0.4**
baz=229
C19K **Lookout Ridge** 83.70 13 P P **15 57 55.2 +0.2**
baz=219,SNR=11
MAW **Mawson** 83.80 202 P P **15 57 54.8 -0.7**
comp=Z,25nm,1.0s,baz=86,slow=6.1,SNR=23
MAW LR LR 16 30 06.1
comp=Z,619nm,21.9s,baz=86,slow=32
comp=Z,25nm,1.0s
F21K **Alatna River** 83.82 16 P P **15 57 56.2 +0.7**
baz=225,SNR=14
E20K **Nigu River** 83.86 15 P P **15 57 55.9 +0.1**
baz=222
MDM **Murphy Dome** 83.86 19 IAmb IAmb 15 57 57.8
comp=Z,57nm,1.6s
BARN **Barnard Glacie** 83.93 24 P P **15 57 56.1 -0.4**
BARN IAmb IAmb 15 58 02.4
comp=Z,21nm,0.8s
COLA **College** 83.93 20 P P **15 57 56.8 +0.7**
COLA **College** 83.93 20 P P **15 57 55.5 -0.5**
COLA IAmb IAmb 15 58 05.0
comp=Z,26nm,0.8s
COLA **College** 83.93 20 P P **15 57 55.3 -0.8**
baz=230
COLA **College** 83.93 20*c* *i*P P **15 57 55.6 -0.5**
COLA pmax pmax
comp=Z,21nm,0.9s
HDA **Harding Lake** 83.94 20 IAmb IAmb 15 58 05.6
comp=Z,26nm,0.9s
HDA **Harding Lake** 83.94 20 P P **15 57 56.3 +0.2**
baz=231,SNR=17
K24K **Donnelly Dome** 83.97 21 P P **15 57 56.8 +0.5**
baz=232,SNR=5.3
CTG **Chitna Glacier** 84.01 24 P P **15 57 57.6 +0.8**
baz=237,SNR=13
CTGM **Chitina Glacie** 84.01 24 IAmb IAmb 15 58 02.7
comp=Z,25nm,0.8s
H23K **Yukon River** 84.01 18 IAmb IAmb 15 57 59.7
comp=Z,50nm,1.4s
H23K **Yukon River** 84.01 18 P P **15 57 57.2 +0.6**
baz=229,SNR=16
LOGN **Logan Glacier** 84.07 25 IAmb IAmb 15 58 06.7
comp=Z,19nm,0.8s
D20K **Etivluk River** 84.10 14 P P **15 57 57.5 +0.6**
baz=222
PNL **Peninsula** 84.13 26 P P **15 57 57.7 +0.5**
baz=239
M26K **Nabesna, AK** 84.16 23 IAmb IAmb 15 58 03.3
comp=Z,19nm,0.9s
M26K **Nabesna, AK** 84.16 23 P P **15 57 57.9 +0.5**
baz=235,SNR=19
G22K **Bettles** 84.17 17 P P **15 57 57.5 +0.3**
baz=227
ILAR **Eielson Array** 84.19 20 P P **15 57 56.3 -1.1**
ILAR **Eielson Array** 84.19 20 P P **15 57 56.8 -0.7**
comp=Z,4.0nm,0.7s,baz=245,slow=4.5,SNR=46
ILAR LR LR 16 31 11.2
comp=Z,714nm,20.4s,baz=223,slow=33
comp=Z,4.0nm,0.7s
MENT **Mentasta** 84.20 22 P P **15 58 00.7 +3.1**
MENT **Mentasta** 84.20 22 IAmb IAmb 15 58 07.2
comp=Z,17nm,0.9s
POKR **Poker Plat Res** 84.23 19 P P **15 57 57.2 -0.4**
baz=231
A19K **Wainwright** 84.25 12 P P **15 57 58.3 +0.7**
baz=218
RIDG **Independent Ri** 84.26 21 IAmb IAmb 15 58 11.6
comp=Z,31nm,1.0s
RIDG **Independent Ri** 84.26 21 P P **15 57 58.3 +0.4**
baz=233
TIXI **Tiksi** 84.36 350 P P **15 57 56.8 -1.3**
TIXI IAmb IAmb 15 58 06.6
comp=Z,35nm,1.1s
TIXI **Tiksi** 84.36 350 LR LR 16 37 15.2
comp=Z,245nm,19.3s,baz=158,slow=37
TIXI **Tiksi** 84.36 350*c* *e*P P **15 57 57.6 -0.5**
TIXI pmax pmax
comp=Z,19nm,1.3s
O28M **Mount Upton** 84.38 25 P P **15 58 00.1 +1.3**
baz=238,SNR=10
F22K **John River** 84.38 16 P P **15 57 59.2 +0.8**
baz=226
L26K **Log Cabin Wild** 84.39 22 P P **15 57 58.9 +0.4**
baz=235,SNR=17
G23K **Bananza Creek** 84.46 18 P P **15 57 59.8 +1.0**
baz=228,SNR=16
H24K **Noodor Dome** 84.54 19 P P **15 57 58.7 -0.6**
baz=230
E21K **Killik River** 84.56 15 P P **15 57 59.2 -0.1**
E21K **Killik River** 84.56 15 P P **15 57 59.7 +0.4**
baz=224
M27K **Edge Creek, AK** 84.56 23 IAmb IAmb 15 58 02.6
comp=Z,42nm,1.1s
M27K **Edge Creek, AK** 84.56 23 P P **15 58 00.4 +0.8**
baz=236,SNR=17
J25K **Salcha River,** 84.61 20 IAmb IAmb 15 58 25.0
comp=Z,42nm,1.4s
J25K **Salcha River,** 84.61 20 P P **15 57 59.9 +0.3**
baz=233,SNR=22
S31K **Pelican** 84.70 28 P P **15 58 00.8 +0.7**
baz=242
SCRK **Sand Creek** 84.71 21 P P **15 58 00.9 +0.6**
baz=234,SNR=23
COLD **Coldfoot** 84.75 17 P P **15 58 01.2 +1.0**
baz=228,SNR=13
YUK3 **Moose Creek** 84.81 24 P P **15 58 01.8 +0.9**
baz=238,SNR=8.1
YUK8 **Steele Glacier** 84.82 25 P P **15 58 02.4 +1.3**
baz=238,SNR=11
P29M **Windy Craggy** 84.83 27 P P **15 58 01.5 +0.7**
baz=240
C21K **Knifeblade Rid** 84.87 15 P P **15 58 01.4 +0.6**
baz=224,SNR=26
B20K **Meade River** 84.94 13 IAmb IAmb 15 58 05.8
comp=Z,16nm,0.7s
B20K **Meade River** 84.94 13 P P **15 58 01.9 +0.8**
baz=221,SNR=16
L27K **Beaver Creek,** 84.98 23 P P **15 58 02.0 +0.5**
L27K IAmb IAmb 15 58 04.4
comp=Z,35nm,1.4s
L27K **Beaver Creek,** 84.98 23 P P **15 58 02.8 +1.3**
baz=236,SNR=16
BCAR **Beaver Creek A** 85.00 23 P P **15 58 02.1 +0.5**
CRAG **Craig** 85.09 31 P P **15 58 03.4 +1.3**
baz=244
PRP **Porcupine Dome** 85.11 20 P P **15 58 02.2 0.0**
baz=233
J26L **Joseph Creek** 85.17 21 P P **15 58 03.3 +0.8**
baz=234,SNR=9.7
WMQ **Urumqi** 85.19 316 ⇓ *i*P P **15 58 04.2 +1.2**
WMQ pmax pmax
comp=Z,27nm,0.6s
WMQ pmax pmax
comp=Z,180nm,4.9s
WMQ LR LR
comp=Z,470nm,23.1s
WMQ LR LR
comp=Z,410nm,23.1s
WMQ LR LR
comp=Z,430nm,23.7s
D22K **Ayikyak River** 85.21 15 IAmb IAmb 15 58 08.3
comp=Z,16nm,0.9s
D22K **Ayikyak River** 85.21 15 P P **15 58 03.9 +1.4**
baz=226,SNR=17
G24K **Hadweenzic Riv** 85.22 18 P P **15 58 03.5 +0.9**
baz=231,SNR=8.7
YUK6 **Outpost Mounta** 85.23 25 P P **15 58 03.9 +0.9**
baz=240,SNR=7.2
B21K **Ikpikpuk River** 85.25 14 IAmb IAmb 15 58 12.9
comp=Z,18nm,0.9s
B21K **Ikpikpuk River** 85.25 14 P P **15 58 03.6 +0.9**
baz=224,SNR=22
S32K **Killisnoo** 85.26 29 P P **15 58 04.3 +1.4**
baz=243
YUK4 **Talbot Arm** 85.32 25 P P **15 58 05.6 +2.1**
baz=239,SNR=14
PLBC **Pleasant Camp** 85.36 27 P P **15 58 03.5 +0.1**
baz=241
U33K **Whale Pass** 85.37 31 P P **15 58 04.6 +1.1**
baz=244
P30M **Million Dollar** 85.42 26 P P **15 58 04.6 +0.8**
baz=241
K27K **Chicken** 85.43 22 IAmb IAmb 15 58 08.1
comp=Z,29nm,1.3s
K27K **Chicken** 85.43 22 P P **15 58 04.8 +1.1**
baz=236
H25L **Birch Creek** 85.47 19 P P **15 58 03.8 0.0**
baz=232
E23K **Chandalar** 85.47 17 P P **15 58 05.4 +1.5**
baz=229,SNR=16
HYT **Haines Junctio** 85.53 26 P P **15 58 05.3 +0.9**
baz=240,SNR=5.3
F24K **Squaw Lake** 85.62 17 P P **15 58 06.0 +1.4**
baz=230,SNR=14
R32K **Eaglecrest** 85.65 29 P P **15 58 06.2 +1.3**
baz=243
G25K **Bearman Lake** 85.69 18 P P **15 58 05.9 +1.0**
baz=232
T33K **Petersburg** 85.76 30 P P **15 58 06.8 +1.3**
baz=244
I26K **Coal Creek Min** 85.78 20 P P **15 58 05.3 -0.1**
I26K IAmb IAmb 15 58 35.6
comp=Z,31nm,1.2s
I26K **Coal Creek Min** 85.78 20 P P **15 58 06.2 +0.8**
baz=235
D23K **Nanushuk River** 85.79 16 P P **15 58 06.8 +1.4**
baz=228
E24K **Your Creek** 85.81 17 P P **15 58 06.5 +0.9**
baz=230,SNR=7.1
V35K **Ketchikan** 85.81 32 P P **15 58 06.8 +1.0**
baz=246
SKAG **Skagway** 85.83 27 P P **15 58 06.3 +0.6**
baz=242
TOLK **Toolik Lake Re** 85.87 16 P P **15 58 06.8 +1.0**
baz=229,SNR=9.8
WRAK **Wrangell Islan** 85.89 31 P P **15 58 06.0 -0.1**
baz=245
M29M **Somme Creek** 85.96 24 P P **15 58 07.6 +1.1**
baz=239,SNR=8.0
N30M **Aishikik Lake** 86.02 25 P P **15 58 07.3 +0.5**
baz=241
A21K **Barrow** 86.05 13 P P **15 58 06.9 +0.3**
baz=222
B22K **Teshekpuk Lake** 86.06 14 IAmb IAmb 15 58 16.7
comp=Z,17nm,0.9s
B22K **Teshekpuk Lake** 86.06 14 P P **15 58 06.7 0.0**
baz=225,SNR=17
O30N **Mendenhall** 86.11 26 IAmb IAmb 15 58 44.0
comp=Z,42nm,1.8s
O30N **Mendenhall** 86.11 26 P P **15 58 07.3 +0.1**
baz=242
A22K **Sinclair Lake** 86.18 13 P P **15 58 08.0 +0.8**
baz=223
EGAK **Eagle** 86.18 21 IAmb IAmb 15 58 13.7
comp=Z,25nm,1.0s
EGAK **Eagle** 86.18 21 P P **15 58 08.1 +0.8**
baz=237,SNR=21
F25K **Christian Rive** 86.34 18 P P **15 58 09.7 +1.5**
baz=232,SNR=11
C23K **Itkillik River** 86.40 15 P P **15 58 09.5 +1.1**
baz=228,SNR=15
D24K **Happy Valley** 86.42 16 IAmb IAmb 15 58 22.0
comp=Z,20nm,1.2s
D24K **Happy Valley** 86.42 16 P P **15 58 09.7 +1.2**
baz=229
L29M **L29M** 86.43 23 P P **15 58 09.6 +0.9**
baz=240,SNR=26
DAWY **Dawson** 86.44 22 P P **15 58 09.8 +1.1**
DAWY **Dawson** 86.44 22 P P **15 58 09.9 +1.1**
baz=238,SNR=10
I27K **Kandik River** 86.48 21 P P **15 58 10.0 +1.1**
baz=236,SNR=20
BBB **Bella Bella** 86.51 36 LR LR 16 29 08.6
comp=Z,374nm,20.6s,baz=252,slow=30
G26K **Porcupine Rive** 86.53 19 P P **15 58 10.5 +1.5**
baz=234,SNR=25
WHY **Whitehorse** 86.58 26 P P **15 58 10.1 +0.5**
baz=243
N31M **Braeburn, Yuko** 86.58 25 P P **15 58 10.5 +0.9**
baz=242
P32M **Atlin** 86.62 28 P P **15 58 09.5 -0.3**
baz=244
YBH **Yreka Blue Hor** 86.62 47 IAmb IAmb 15 58 40.4
comp=Z,17nm,1.1s
YBH **Yreka Blue Hor** 86.62 47 LR LR 16 32 47.3
comp=Z,377nm,18.5s,baz=267,slow=33
E25K **Arctic Village** 86.69 18 P P **15 58 10.6 +0.8**
baz=232,SNR=11
HUMO **Hull Mountain** 86.70 46 IAmb IAmb 15 58 12.9
comp=Z,20nm,1.1s
SNCC **San Nicolas Is** 86.82 56 P P **15 58 11.6 +0.4**
baz=256
C24K **Franklin Bluff** 86.82 16 P P **15 58 11.7 +1.3**
baz=229
F26K **Sheenjek River** 86.86 18 P P **15 58 12.1 +1.4**
baz=234,SNR=10
H27K **Steamboat Moun** 86.86 20 P P **15 58 11.9 +1.1**
baz=236,SNR=18
SBC **Santa Barbara** 86.96 54 P P **15 58 12.8 +0.9**
baz=256
I28M **Miner Creek** 86.98 21 P P **15 58 11.6 +0.1**
baz=238,SNR=15
PKM **Mcpherson Peak** 86.99 54 P P **15 58 11.7 -0.6**
baz=256
K29M **Barlow Dome** 87.04 23 P P **15 58 13.1 +1.4**
baz=240,SNR=19
J29N **Klondike Camp** 87.08 22 P P **15 58 12.7 +0.8**
J29N **Klondike Camp** 87.08 22 P P **15 58 13.3 +1.4**
baz=239
S34M **Telegraph Cree** 87.12 30 P P **15 58 13.1 +1.0**
baz=246
G27K **Doyon Strip** 87.14 20 IAmb IAmb 15 58 42.9
comp=Z,43nm,1.9s
G27K **Doyon Strip** 87.14 20 P P **15 58 13.4 +1.3**
baz=236,SNR=12
T35M **Bob Quinn** 87.18 31 P P **15 58 13.3 +0.8**
baz=247
D25K **Kavik River** 87.20 16 P P **15 58 13.1 +0.7**
baz=232,SNR=16
P33M **Teslin, Yukon** 87.30 27 P P **15 58 12.7 -0.3**
baz=244
CMB **Columbia Colle** 87.34 51 IAmb IAmb 15 58 41.8
comp=Z,28nm,1.8s
I04A **Tendick Farm,** 87.42 45 IAmb IAmb 15 58 24.1
comp=Z,43nm,1.7s
M31M **Drury Creek, Y** 87.50 25 P P **15 58 13.2 -0.7**
M31M **Drury Creek, Y** 87.50 25 P P **15 58 13.8 -0.1**
baz=243
N32M **Quiet Lake** 87.59 26 P P **15 58 14.8 +0.4**
baz=244
CIS **Catalina Islan** 87.76 56 P P **15 58 16.2 +0.4**
baz=256
OSI **Osito Audit: C** 87.79 54 P P **15 58 15.9 -0.1**
baz=256
VES **Vestal, Richgr** 87.80 53 P P **15 58 16.5 +0.6**
baz=256
R33M **Jennings River** 87.80 28 P P **15 58 15.9 +0.4**
baz=246
H04A **Detroit Lake** 87.83 44 IAmb IAmb 15 58 44.8
comp=Z,27nm,1.4s
ARVC **Arvin** 87.83 54 P P **15 58 17.1 +1.0**
baz=256
J30M **Hart River** 87.85 23 IAmb IAmb 15 58 47.1
comp=Z,27nm,1.1s
J30M **Hart River** 87.85 23 P P **15 58 16.6 +0.9**
baz=241,SNR=6.9
DLBC **Dease Lake** 87.87 29 P P **15 58 16.4 +0.6**
baz=247
DLBC **Dease Lake** 87.87 29 LR LR 16 30 21.6
comp=Z,693nm,21.0s,baz=273,slow=31
FMP **Fort Macarthur** 87.93 55 P P **15 58 17.3 +0.7**
baz=256
E27K **Coleen River** 87.93 18 IAmb IAmb 15 58 26.9
comp=Z,20nm,0.9s
E27K **Coleen River** 87.93 18 P P **15 58 17.4 +1.5**
baz=236,SNR=22
H29M **Whitestone** 87.93 21 IAmb IAmb 15 58 55.8
comp=Z,32nm,1.4s
H29M **Whitestone** 87.93 21 P P **15 58 17.2 +1.4**
baz=239
FARO **Faro, Yukon** 87.95 25 P P **15 58 16.4 +0.3**
baz=244
C26K **Camden Bay** 87.97 16 P P **15 58 17.8 +1.9**
baz=233,SNR=48
DECC **Green Verdugo** 88.02 55 P P **15 58 17.7 +0.7**
baz=256
J05D **Fort Rock, OR** 88.10 46 P P **15 58 18.3 +0.9**
J05D IAmb IAmb 15 58 28.1
comp=Z,28nm,1.3s
C27K **Jago River** 88.13 17 P P **15 58 18.0 +1.3**
baz=234,SNR=18
I30M **Mount Dempster** 88.15 22 P P **15 58 17.9 +0.8**
baz=241,SNR=20
F28M **Old Crow** 88.16 19 IAmb IAmb 15 58 47.8
comp=Z,34nm,1.9s
F28M **Old Crow** 88.16 19 P P **15 58 18.0 +1.0**
baz=238
WAKR **Walker** 88.18 51 IAmb IAmb 15 58 21.1
comp=Z,34nm,1.6s
K05A **Summer Lake** 88.19 46 IAmb IAmb 15 58 20.1
comp=Z,29nm,1.2s
ISA **Isabella, Lake** 88.24 53 P P **15 58 18.1 0.0**
ISA IAmb IAmb 15 58 20.8
comp=Z,23nm,1.4s
ISA **Isabella, Lake** 88.24 53 P P **15 58 19.2 +1.1**

baz=256
ISA Isabella, Lake 88.24 53 P P 15 58 18.1 0.0
ISA pmax pmax
comp=Z,23nm,1.4s
MDPB Devils Postpil 88.24 51 IAmb IAmb 15 58 21.0
comp=Z,32nm,1.6s
G29M Pine Creek 88.41 20 P P 15 58 19.5 +1.4
baz=240,SNR=9.8
MLAC Mammoth, Mammo 88.43 51 P P 15 58 19.9 +0.7
baz=256
EDW2 Edwards Air Fo 88.44 54 P P 15 58 19.8 +0.7
baz=257,SNR=5.2
PINE Pine Mountain 88.45 45 IAmb IAmb 15 58 29.9
comp=Z,25nm,1.3s
YERR Yerington 88.45 50 IAmb IAmb 15 58 24.3
comp=Z,39nm,2.0s
BFSC Mount Baldy Ra 88.56 55 P P 15 58 19.9 +0.2
baz=257
EPYK Eagle Plains 88.59 21 P P 15 58 20.0 +0.9
baz=241,SNR=10
D27M Malcolm River 88.71 18 IAmb IAmb 15 59 08.7
comp=Z,46nm,1.9s
D27M Malcolm River 88.71 18 P P 15 58 21.0 +1.4
baz=237,SNR=15
CWC Cottonwood Cre 88.73 53 P P 15 58 21.3 +0.8
baz=256
TIN Tinemaha, Big 88.76 52 P P 15 58 21.2 +0.6
baz=256
MURC Murrieta 88.79 56 P P 15 58 21.4 +0.6
baz=257
E28M Babbage River 88.80 18 P P 15 58 21.2 +1.3
baz=238,SNR=9.2
LRMC Laurel Mtn Rad 88.83 54 P P 15 58 22.1 +1.1
baz=257,SNR=9.7
LHV Little Huntoon 88.83 51 P P 15 58 21.6 +0.9
MMPY Sheldon Lake, 89.00 25 P P 15 58 22.1 +1.0
baz=246
NVAR Mina Array Bea 89.03 51 P P 15 58 22.1 0.0
NVAR Mina Array Bea 89.03 51 P P 15 58 22.0 0.0
comp=Z,6.6nm,0.9s,baz=240,slow=5.7,SNR=29
NVAR LR LR 16 34 21.1
comp=Z,748nm,18.2s,baz=264,slow=33
comp=Z,6.6nm,0.9s
G30M tAoh Zrail Nji 89.06 20 P P 15 58 21.7 +0.5
baz=241,SNR=6.8
MPMC Manual Prospec 89.11 53 P P 15 58 23.3 +0.9
baz=257,SNR=12
NV11 Mina Array Sit 89.14 51 IAmb IAmb 15 58 25.1
comp=Z,31nm,1.4s
BBRC Big Bear Solar 89.16 55 P P 15 58 23.4 +0.7
baz=257
H31M Peel River 89.17 22 IAmb IAmb 15 58 51.0
comp=Z,23nm,1.2s
H31M Peel River 89.17 22 P P 15 58 22.7 +0.9
baz=243
E29M Blow River 89.20 19 P P 15 58 22.6 +0.8
baz=240
RRX Edison Barstow 89.24 55 P P 15 58 23.8 +1.0
baz=257
LCH Last Change Ra 89.26 52 IAmb IAmb 15 58 32.3
comp=Z,32nm,1.9s
MONP2 Monument Peak 89.27 57 P P 15 58 24.3 +1.0
baz=258
KVN Kaiserville 89.33 50 IAmb IAmb 15 58 25.9
comp=Z,21nm,1.3s
PFO Pinyon Flats O 89.40 56 P P 15 58 24.7 +1.1
baz=258
PFO Pinyon Flats O 89.40 56 LR LR 16 30 29.1
comp=Z,2µm,20.8s,baz=261,slow=30
TPFO Pinon Flats 89.40 56 P P 15 58 24.7 +1.0
baz=258
GRAC Grapevine Rang 89.42 52 P P 15 58 24.3 +0.7
GRAC Grapevine Rang 89.42 52 P P 15 58 25.0 +1.4
baz=257,SNR=8.8
D28M Stokes Point 89.42 18 P P 15 58 23.9 +1.1
baz=239,SNR=9.8
IKP In-Ko-Pah, Jac 89.48 57 P P 15 58 25.2 +1.2
baz=258
GSC Goldstone, Bar 89.48 54 IAmb IAmb 15 58 26.5
comp=Z,44nm,1.9s
GSC Goldstone, Bar 89.48 54 P P 15 58 24.8 +0.8
baz=257
F30M Barrier River 89.51 20 P P 15 58 23.7 +0.4
baz=242
I07A Izee 89.52 45 IAmb IAmb 15 58 27.1
comp=Z,38nm,1.6s
MZP Montezuma Peak 89.56 52 IAmb IAmb 15 58 27.0
comp=Z,24nm,1.7s
QSM Queen of Sheba 89.58 53 IAmb IAmb 15 58 34.5
comp=Z,15nm,1.0s
YUH Yuha Desert 89.63 57 IAmb IAmb 15 58 35.2
comp=Z,17nm,1.1s
FURC Furnace Creek, 89.69 53 P P 15 58 25.4 +0.5
baz=257
MK31 Makanchi Array 89.70 318 IAmb IAmb 15 58 33.9
comp=Z,17nm,1.3s
MK31 Makanchi Array 89.70 318 *i* P **P 15 58 24.8 +0.1**
MKAR Makanchi Array 89.70 318 P P 15 58 23.6 -1.1
MKAR Makanchi Array 89.70 318 P P 15 58 24.0 -0.7
comp=Z,5.4nm,0.7s,baz=98,slow=6.1,SNR=27
MKAR LR LR 16 38 01.3
comp=Z,306nm,21.6s,baz=102,slow=35
comp=Z,5.4nm,0.7s
MKAR Makanchi Array 89.70 318 *ce*P **P 15 58 26.2 +1.5**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
G31M Satah River 89.71 21 IAmb IAmb 15 58 54.6
comp=Z,29nm,1.5s
G31M Satah River 89.71 21 P P 15 58 25.5 +1.4
baz=243,SNR=8.2
HEC Hector Ludlow 89.76 55 P P 15 58 26.2 +0.9
baz=256
GWY Greenwater Val 89.79 53 IAmb IAmb 15 58 27.8
comp=Z,26nm,1.5s
SWSC Sam W. Stewart 89.79 57 P P 15 58 26.2 +0.9
baz=258
BELC Belle Mtn. Jos 89.85 56 P P 15 58 27.1 +1.2
baz=258,SNR=8.1
TGTN Hyland Airport 89.86 27 P P 15 58 25.4 +0.3
baz=248
MAKZ Makanchi 89.91 318 P P 15 58 25.3 -0.4
MAKZ IAmb IAmb 15 58 34.9
comp=Z,24nm,1.4s
MAKZ Makanchi 89.91 318 P P 15 58 25.3 -0.4
MAKZ pmax pmax
comp=Z,24nm,1.4s
WCT Wildcat Mounta 89.95 53 IAmb IAmb 15 58 28.7
comp=Z,24nm,1.3s
SHOC Shoshone, Teco 90.04 54 P P 15 58 27.3 +0.8
baz=258
J08A Circle Bar Ran 90.07 46 IAmb IAmb 15 58 37.2
comp=Z,29nm,1.4s
ZALV Zalesovo Beam 90.12 325 P P 15 58 24.9 -1.5
ZALV Zalesovo Beam 90.12 325 P P 15 58 25.1 -1.3
comp=Z,1.0nm,0.5s,baz=119,slow=6.6,SNR=9.9
ZALV LR LR 16 38 25.1
comp=Z,231nm,21.1s,baz=114,slow=35
comp=Z,1.0nm,0.5s
ZALV Zalesovo Beam 90.12 325 *i* P **P 15 58 29.1 +2.7**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
F31M Tsiigehtchic 90.13 21 IAmb IAmb 15 58 56.3
comp=Z,37nm,1.7s
F31M Tsiigehtchic 90.13 21 P P 15 58 26.3 +0.2
baz=244
G08A Pilot Rock 90.20 44 IAmb IAmb 15 58 30.9
comp=Z,40nm,1.9s
TUQ Turquoise Moun 90.22 54 P P 15 58 28.2 +0.7
baz=258,SNR=9.8
BC3 Big Chuckawall 90.22 56 P P 15 58 28.1 +0.6
baz=258
GMRC Granite Mounta 90.29 55 P P 15 58 28.3 +0.5
baz=258,SNR=5.5
BMN Battle Mountai 90.30 49 IAmb IAmb 15 58 29.8
comp=Z,20nm,1.2s
IRM Iron Mountain 90.58 56 P P 15 58 30.0 +0.9
baz=258,SNR=7.2
INK Inuvik 90.59 20 P P 15 58 28.8 +0.6
baz=244
INK Inuvik 90.59 20 LR LR 16 35 33.6
comp=Z,869nm,20.0s,baz=186,slow=33
INK Inuvik 90.59 20 P P 15 58 28.4 +0.2
INK pmax pmax
comp=Z,7.0nm,1.3s
GLA Glamis 90.62 57 P P 15 58 30.2 +0.9
baz=258
SHPR Sheep Range 91.05 53 P P 15 58 30.6 -0.7
R11B Troy Canyon, C 91.09 51 IAmb IAmb 15 58 42.0
comp=Z,25nm,1.6s
R11B Troy Canyon, C 91.09 51 P P 15 58 32.4 +0.8
baz=258,SNR=16
NEE2 Needles Airpor 91.13 55 P P 15 58 33.0 +1.4
baz=259
V12A Nelson 91.13 54 IAmb IAmb 15 58 42.1
comp=Z,11nm,1.0s
BMO Blue Mountains 91.23 45 IAmb IAmb 15 58 42.3
comp=Z,14nm,1.2s
PDMCI Parker Dam,Lak 91.42 56 P P 15 58 33.6 +0.6
baz=259
F10A Beach Ranch, E 91.54 44 IAmb IAmb 15 58 39.2
comp=Z,18nm,1.0s
BELA Belgrano 2 91.69 177 P P 15 58 31.8 -1.6
ELK Elko 91.84 49 IAmb IAmb 15 59 05.3
comp=Z,10nm,1.1s
ELK Elko 91.84 49 LR LR 16 32 19.1
comp=Z,576nm,21.3s,slow=31
214A Organ Pipe Nat 92.08 58 P P 15 58 36.0 -0.1
baz=260
NEW Newport 92.12 41 IAmb IAmb 15 58 41.4
comp=Z,9.4nm,0.9s
NEW Newport 92.12 41 P P 15 58 36.6 +0.7
baz=257
NEW Newport 92.12 41 LR LR 16 34 32.1
comp=Z,586nm,19.6s,baz=260,slow=32
NEW Newport 92.12 41 P P 15 58 36.4 +0.5
NEW pmax pmax
comp=Z,8.0nm,1.1s
SPR3 Spring Creek 3 92.18 51 P P 15 58 37.0 +0.2
SPR3 IAmb IAmb 15 59 06.4
comp=Z,28nm,1.5s
KSH Kashi 92.58 310 P P 15 58 40.7 +2.4
KSH LR LR
comp=Z,320nm,16.7s
KSH LR LR
comp=Z,290nm,18.6s
KSH LR LR
comp=Z,380nm,17.5s
LCMT Little Creek M 92.65 53 IAmb IAmb 15 58 49.4
comp=Z,19nm,1.4s
CCUT Cedar City 92.66 52 IAmb IAmb 15 58 49.9
comp=Z,21nm,1.4s
LPIG La Paz 92.88 66 LR LR 16 31 14.1
comp=Z,723nm,21.6s,baz=222,slow=30
SZCU Shurtz Canyon 92.88 52 IAmb IAmb 15 59 09.9
comp=Z,27nm,1.5s
KURK Kurchatov 92.99 321 P P 15 58 38.2 -1.6
KURK IAmb IAmb 15 58 48.3
comp=Z,13nm,1.1s
KURK Kurchatov 92.99 321 *ce*P **P 15 58 37.4 -2.4**
KURK pmax pmax
comp=Z,13nm,1.1s
HLID Hailey 93.00 46 IAmb IAmb 15 58 47.0
comp=Z,11nm,1.0s
HLID Hailey 93.00 46 P P 15 58 41.9 +1.6
baz=259,SNR=15
KURBB Kurchatov Arra 93.03 321 P P 15 58 38.2 -1.7
comp=Z,2.9nm,0.6s,baz=92,slow=5.0,SNR=18
KURBB LR LR 16 40 53.8
comp=Z,369nm,20.6s,baz=150,slow=36
comp=Z,2.9nm,0.6s
U15A North Rim 93.30 54 IAmb IAmb 15 59 17.1
comp=Z,18nm,1.5s
DUG Dugway, Tooele 93.56 50 P P 15 58 43.4 +0.5
baz=260
MTPU Mount Pierson 93.67 52 IAmb IAmb 15 59 15.0
comp=Z,20nm,1.4s
TUC Tucson 93.83 58 P P 15 58 45.0 +0.7
baz=260
HVU Hansel Valley 93.86 48 IAmb IAmb 15 59 14.0
comp=Z,22nm,1.3s
WUAZ Wupatki 93.88 55 P P 15 58 44.7 +0.2
baz=260
MSO Missoula 93.94 43 P P 15 58 44.7 +0.3
baz=260
C36M Paulatuk 94.16 20 P P 15 58 45.0 +0.3
baz=252
BPMT Black Pine Rid 94.20 44 P P 15 58 44.9 -1.0
AAK Ala-Archa 94.24 312 LR LR 16 41 46.7
comp=Z,284nm,21.1s,baz=91,slow=36
AAK Ala-Archa 94.24 312 *i* P **P 15 58 44.9 -1.1**
AAK pmax pmax
comp=Z,5.0nm,2.0s
A36M Sachs Harbour 94.61 17 IAmb IAmb 15 58 56.6
comp=Z,11nm,0.7s
A36M Sachs Harbour 94.61 17 P P 15 58 46.8 +0.1
baz=252
W18A Petrified Fore 95.14 55 P P 15 58 49.0 -1.3
baz=261
BOZ Bozeman (W) 95.31 45 IAmb IAmb 15 58 54.8
comp=Z,23nm,1.9s
BOZ Bozeman (W) 95.31 45 P P 15 58 51.5 +0.7
baz=261,SNR=7.5
YKA Yellowknife Ar 96.32 28 P P 15 58 53.7 -1.1
comp=Z,4.2nm,0.9s,baz=268,slow=4.7,SNR=32
YKA PP PP 16 02 44.5 -4.1
comp=Z,1.0nm,1.0s,baz=262,slow=7.9,SNR=4.5
YKA LR LR 16 36 39.0
comp=Z,446nm,20.5s,baz=273,slow=32
comp=Z,4.2nm,0.9s
121A Cookes Peak, D 96.37 58 P P 15 58 55.4 -0.5
baz=262
PD31 Pinedale Array 96.38 48 P P 15 58 54.2 -1.6
PDAR Pinedale Array 96.38 48 P P 15 58 54.8 -1.0
comp=Z,1.3nm,0.9s,baz=241,slow=2.7,SNR=7.8
PDAR LR LR 16 39 34.7
comp=Z,220nm,18.2s,baz=270,slow=34
comp=Z,1.3nm,0.9s
MVCO Mesa Verde 96.43 53 P P 15 58 56.4 +0.2
baz=262
RLMT Red Lodge 96.89 45 P P 15 58 58.0 -0.1
baz=263
EGMT Eagleton 96.93 43 IAmb IAmb 15 59 03.1
comp=Z,9.2nm,0.9s
EGMT Eagleton 96.93 43 P P 15 58 58.4 +0.4
baz=263
O20A White River Ci 97.01 51 P P 15 58 58.7 -0.1
baz=263
ANMO Albuquerque 97.78 56 P P 15 59 02.5 +0.2
baz=263
ANMO Albuquerque 97.78 56 LR LR 16 38 19.3
comp=Z,617nm,18.9s,baz=12,slow=32
ANMO Albuquerque 97.78 56 *i* P **P 15 59 00.4 -1.9**
ANMO pmax pmax
comp=Z,2.0nm,0.9s
PMSA Palmer Station 98.05 162 LR LR 16 36 44.0
comp=Z,364nm,20.6s,baz=238,slow=31
BVAR Borovoye Array 98.39 322 P P 15 59 02.4 -2.0
comp=Z,1.8nm,0.7s,baz=132,slow=8.4,SNR=4.5
BVAR LR LR 16 45 24.8
comp=Z,247nm,19.5s,baz=82,slow=37
comp=Z,1.8nm,0.7s
BRVK Borovoye 98.45 322 *i* P Pdif 15 59 06.2 +1.6
BRVK pmax pmax
comp=Z,5.0nm,1.1s
N23A Red Feather La 98.84 50 P P 15 59 07.0 0.0
baz=264
SDCO Great Sand Dun 98.86 53 P P 15 59 07.2 0.0
baz=264
ISCO Idaho Springs 98.98 51 P Pdif 15 59 07.6 -0.1
baz=264
LAO LASA Array 99.18 44 P Pdif 15 59 08.1 0.0
LAO IAmb IAmb 15 59 18.8
comp=Z,14nm,1.2s
LAO LASA Array 99.18 44 P Pdif 15 59 08.2 0.0
baz=265
TXAR Lajitas Array 99.49 62 P Pdif 15 59 10.7 +0.7
comp=Z,0.2nm,0.7s,baz=266,slow=7.1,SNR=2.6
TXAR PP PP 16 03 11.9 -2.1
comp=Z,2.6nm,1.2s,baz=217,slow=6.1,SNR=9.3
TXAR LR LR 16 36 23.0
comp=Z,773nm,20.6s,baz=260,slow=31
comp=Z,0.2nm,0.7s
RSSD Black Hills 100.51 47 P Pdif 15 59 14.0 -0.4
baz=266
DGMT Dagmar 100.67 42 P Pdif 15 59 15.3 +0.7
baz=267
EYMN Ely 109.17 43 P PKiKP 16 03 57.1 +0.8
baz=276
CCM Cathedral Cave 110.13 53 P PKiKP 16 03 58.6 +0.2
baz=273
ARCES ARCESS Array B 114.25 344 PKP PKPdf 16 04 02.9 -2.5
comp=Z,0.7nm,0.5s,baz=66,slow=0.9,SNR=6.2
O48B Farmland 114.64 50 P PKPdf 16 04 06.7 -0.2
baz=278
GOGA Godfrey 116.78 58 P PKPdf 16 04 11.2 -0.1
baz=276
TIGA Tifton 116.85 60 P PKPdf 16 04 11.2 -0.3
baz=275
P52A Corning 117.03 51 P PKPdf 16 04 11.4 -0.2
baz=280
KIV Kislovodsk 117.28 314 *i* PKIKP **PKPdf 16 04 10.1 -2.0**
KIV pmax pmax
comp=Z,3.0nm,1.0s
KIV MLR MLR
comp=Z,204nm,22.0s
O53A New Philadelph 117.62 50 P PKPdf 16 04 12.4 -0.3
baz=281
M53A WI Miller and 117.80 48 P PKPdf 16 04 12.6 -0.4
baz=282
ERPA Erie 118.16 48 P PKPdf 16 04 13.6 -0.1
baz=282
KMSC Kings Mountain 118.34 56 P PKPdf 16 04 13.2 -1.0
baz=278
FINES FINESS Array B 119.18 337 PKP PKPdf 16 04 13.3 -1.8
comp=Z,1.4nm,0.8s,baz=53,slow=2.6,SNR=1.8
SOC Sochi 119.46 315 *i* P **Pdif 16 00 37.6 -0.7**
SOC *e* 16 05 33.4
SOC *e*PS **PS 16 15 25.9 -1.5**
SOC MLR MLR
comp=Z,314nm,22.0s
SSPA Standing Stone 120.03 49 P PKPdf 16 04 16.8 -0.5
baz=283
ANN Anapa 120.70 316 *i* PKIKP **PKPdf 16 04 13.2 -5.3**
ANN *e* 16 04 30.7
ANN pmax pmax
comp=Z,28nm,1.4s
ANN MLR MLR
comp=Z,297nm,19.0s
LONY Lake Ozonia 121.31 44 P PKPdf 16 04 20.0 +0.3
baz=288
PAL Palisades 122.86 48 P PKPdf 16 04 22.7 0.0
baz=287
LBNH Lisbon 123.23 43 P PKPdf 16 04 23.7 +0.3
baz=290
AKBB Malin Array Si 123.52 325 *i* PKIKP **PKPdf 16 04 20.9 -2.8**
HRV Adam Dziewonsk 124.07 45 P PKPdf 16 04 24.8 -0.2
baz=289
PKME Peaks-Kenny Pk 124.60 41 P PKPdf 16 04 25.9 0.0
baz=293
LPAZ La Paz 124.74 118 PKP PKPdf 16 04 26.7 -1.1
comp=Z,1.0nm,0.6s,baz=315,slow=2.2,SNR=2.3
LPAZ PKKPbc **PKKPbc 16 14 04.8 -4.3**
comp=Z,5.0nm,0.6s,baz=15,slow=7.0,SNR=5.1
BRTR Keskin Array B 124.91 312 PP PP 16 06 15.5 +0.1
comp=Z,1.2nm,1.0s,baz=89,slow=5.6,SNR=3.9
OKC Ostrava-Krasne 129.91 329 AMS AMS 16 59 10.0
comp=Z,500nm,22.0s
OSTC Ostas 130.38 331 AMS AMS 17 03 30.0
comp=Z,500nm,18.3s
CHVC Chvalec 130.44 331 AMS AMS 17 03 40.0
comp=Z,600nm,20.5s
DPC Dobruska-Polom 130.47 331 AMS AMS 17 03 30.0
comp=Z,400nm,21.8s
UPC Upice 130.51 331 AMS AMS 17 03 30.0
comp=Z,600nm,21.8s
SIV San Ignacio 130.91 121 SKPbc SKPab 16 08 02.1 +1.6
comp=Z,1.2nm,0.8s,baz=224,slow=7.6,SNR=2.4
PVCC Panska Ves 131.17 332 AMS AMS 17 01 40.0
comp=Z,700nm,25.9s
CLL Collm 131.32 334 *e*PP PP 16 06 45.0 -11
CLL *ex* x 16 07 03.0
CLL *e*SKPdf **SKPab 16 08 06.0 +4.9**
CLL *ep*SKPdf 16 08 32.0
CLL *ex* x 16 08 39.0
CLL *e*PPP PPP 16 09 42.0
CLL *e*PS **PS 16 17 06.0 -5.1**
CLL *e*PPS PPS 16 18 42.0
CLL *e*SS **SS 16 24 30.0 +4.0**
CLL *ex* x 16 31 42.0
CLL *e*(SSSS) 16 32 24.0
CLL AMS AMS 17 04 00.0
comp=Z,500nm,22.0s
GOPC GO Pecny, Ondr 131.49 331 AMS AMS 17 01 10.0
comp=Z,600nm,22.8s
PRA Prague 131.55 332 AMS AMS 17 01 20.0
comp=Z,600nm,22.7s
PRU Pruhonice 131.56 332 AMS AMS 17 01 10.0
comp=Z,600nm,23.0s
TREC Trest 131.57 330 AMS AMS 17 04 00.0
comp=Z,400nm,20.7s
HSKC Hora Svate Kat 131.63 333 AMS AMS 17 05 10.0
comp=Z,600nm,17.8s
NKC Novy Kostel 132.34 333 AMS AMS 17 04 30.0
comp=Z,500nm,22.0s
CKRC Cesky Krumlov 132.47 331 AMS AMS 17 01 50.0
comp=Z,400nm,20.0s
KHC Kasperske Hory 132.60 331 AMS AMS 17 02 00.0
comp=Z,800nm,22.3s
MVO Moncorvo 147.34 343 *e*PKIKP **PKiKP 16 05 13.6 +0.9**
ESDC Sonseca Array 147.69 338 PKPdf 16 05 09.8 +1.1
ESDC Sonseca Array 147.69 338 PKPbc PKPbc 16 05 10.8 -0.6
comp=Z,2.0nm,0.8s,baz=42,slow=2.6,SNR=6.7
PVIS Viseu 148.00 344 *e*PKPab **PKiKP 16 05 14.4 +0.4**
MTE Manteigas 148.20 343 *e*PKPab **PKPab 16 05 17.1 +1.4**
PCBR Castelo Branco 148.70 343 *e*PKPab **PKPab 16 05 18.4 +0.8**
PMRV Marv??o 149.05 342 *e*PKPab **PKPab 16 05 19.4 +0.3**
PMTG Montargil 149.63 343 *e*PKPab **PKPab 16 05 20.6 -0.8**
PESTR Estremoz 149.63 342 *e*PKPab **PKPab 16 05 25.0 +3.6**
PBAR Barrancos 150.09 341 *e*PKPab **PKiKP 16 05 20.4 +2.0**
PNCL Nicolau / Gran 150.60 343 *e*PKPbc **PKPbc 16 05 16.5 -2.2**
MESJ Messejana 150.76 342 *e*PKPbc **PKPbc 16 05 19.4 +0.3**
MESJ Messejana 150.76 342 *e*PKP **PKPdf 16 05 11.9 -1.6**
MESJ IAMs_20 IAMs_20 17 12 16.4
comp=Z,342nm,21.4s
MESJ Messejana 150.76 342 *e*PKIKP **PKPdf 16 05 11.9 -1.6**
PCVE Castro Verde 150.90 342 *e*PKPbc **PKPbc 16 05 19.3 -0.1**
PVAQ Vaqueiros 151.01 341 *e*PKPbc **PKiKP 16 05 20.7 +0.4**
TORD Torodi Ar. Bea 159.53 280 PKPdf 16 05 23.3 -2.7
TORD Torodi Ar. Bea 159.53 280 PKP PKPdf 16 05 24.1 -2.0
comp=Z,1.4nm,1.1s,baz=54,slow=2.9,SNR=4.9

JMA 02 15:57:11.8±0.1,24°N±3°×123°0E±0°6,h61km,MV1.4/7,
NW OFF ISHIGAKIJIMA IS,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.04**	**222**	*i* P	Pn	15 57 20.8	0.0
JYNG				*e*S	Sn	15 57 27.4	+0.1
IRIF	**Iriomote-Funau**	**0.71**	**102**	*e*P	Pn	15 57 26.1	0.0
JKRS	**Kuro-shima**	**0.98**	**104**	*e*P	Pn	15 57 29.9	+0.4
JKRS				*e*S	Sn	15 57 43.2	+0.6
JIJ	**Ishigaki jima**	**1.07**	**96**	*e*P	Pn	15 57 30.8	0.0
JIJ				*e*S	Sn	15 57 44.8	-0.2
JISG	**Ishigakijimahi**	**1.22**	**85**	*e*P	Pn	15 57 33.5	+0.7
JISG				*e*S	Sn	15 57 49.3	+0.8

TAP 02 15:57:54.8,23°93N×121°68E,h28km,ML1.7,1D,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HWA	**Hwalien**	**0.09**	**306**	*i* P	Pb	15 57 59.9	+0.2
HWA	baz=310			S	Sb	15 58 04.1	+1.2
TEYL	**Yanliau Villag**	**0.10**	**233**	*i* P	Pb	15 57 59.7	0.0
TEYL	baz=252			S	Sb	15 58 03.7	+0.7
TWD	**Chiawan**	**0.17**	**333**	*e*P	Pb	15 58 00.2	-0.2
TWD	baz=337			*e*S	Sb	15 58 04.2	0.0
SHUL	**Shoufeng**	**0.17**	**218**	*i* P	Pb	15 58 00.7	+0.3
SHUL	baz=211			S	Sb	15 58 05.3	+1.1
ETM	**Tongmen**	**0.18**	**283**	*i* P	Pb	15 58 00.4	0.0
ETM	baz=283			S	Sb	15 58 04.5	+0.2
ETL	**Fush Village**	**0.24**	**347**	P	Pb	15 58 00.9	-0.3
ETL	baz=349			*e*S	Sb	15 58 05.8	+0.2
ESL	**Shilin**	**0.25**	**244**	*e*P	Pb	15 58 01.1	-0.2
ESL	baz=252			*e*S	Sb	15 58 05.8	0.0
NACB	**Ninganchiao**	**0.26**	**342**	*i* P	Pb	15 58 01.1	-0.3

	baz=342							
NACB				S	Sb	15 58 05.9	-0.1	
	baz=342							
LXIB	**Xiulin Townshi**	**0.26**	**291**	P	Pb	15 58 01.7	0.0	
	baz=286							
LXIB				*e*S	Sb	15 58 06.6	+0.3	
	baz=286							
ETLH	**Xiulin Townshi**	**0.33**	**327**	*e*P	Pb	15 58 02.5	-0.1	
	baz=328							
ETLH				*e*S	Sb	15 58 08.2	+0.4	
	baz=328							
WARBT	**Fenglin Townsh**	**0.34**	**233**	*e*P	Pb	15 58 02.2	-0.4	
	baz=240							
WARBT				*e*S	Sb	15 58 08.0	0.0	
	baz=240							
EGFH	**Guangfu**	**0.35**	**222**	P	Pb	15 58 02.4	-0.3	
	baz=232							
EGFH				*e*S	Sb	15 58 08.7	+0.7	
	baz=232							
WHF	**Hehuan Shan**	**0.44**	**300**	*e*P	Pb	15 58 04.3	-0.1	
	baz=295							
WHF				*e*S	Sb	15 58 11.2	+0.3	
	baz=295							
OWD	**Renai**	**0.46**	**274**	*e*P	Pb	15 58 04.7	+0.1	
	baz=280							
OWD				*e*S	Sb	15 58 11.8	+0.6	
	baz=280							
CHGB	**Renai**	**0.48**	**286**	*e*P	Pb	15 58 05.1	+0.1	
	baz=286							
CHGB				*e*S	Sb	15 58 12.5	+0.7	
	baz=286							
HGSD	**Ruisui**	**0.49**	**209**	*e*P	Pb	15 58 05.2	+0.2	
	baz=205							
HGSD				*e*S	Sn	15 58 13.8	+0.2	
	baz=205							
ENA	**Nanau**	**0.50**	**6**	*e*P	Pb	15 58 04.9	-0.2	
	baz=14							
FUSS	**Fushou**	**0.51**	**309**	P	Pb	15 58 05.7	+0.2	
	baz=317							
FUSS				*e*S	Sb	15 58 13.4	+0.7	
	baz=317							
WUSB	**Renai**	**0.52**	**277**	P	Pb	15 58 05.6	+0.1	
	baz=283							
WUSB				S	Sb	15 58 13.3	+0.5	
	baz=283							
VWDT	**VWDT**	**0.52**	**251**	P	Pn	15 58 05.9	-0.5	
	baz=245							
VWDT				S	Sb	15 58 13.5	+0.8	
	baz=245							
EWUT	**Wuta**	**0.53**	**10**	*e*P	Pb	15 58 05.6	+0.1	
	baz=16							
EWUT				*e*S	Sb	15 58 13.0	+0.2	
	baz=16							
EHY	**Hungye**	**0.53**	**218**	*e*P	Pb	15 58 05.3	-0.3	
	baz=228							
EHY				*e*S	Sb	15 58 13.4	+0.4	
	baz=228							
TWT	**Tachien**	**0.56**	**305**	*e*P	Pn	15 58 06.7	-0.4	
	baz=304							
TWT				*e*S	Sb	15 58 14.8	+0.7	
	baz=304							
NNSB	**Datong**	**0.57**	**331**	P	Pb	15 58 06.3	0.0	
	baz=324							
NNSB				*e*S	Sb	15 58 14.4	+0.2	
	baz=324							
TDCB	**Techi**	**0.58**	**304**	*e*P	Pb	15 58 06.7	+0.2	
	baz=304							
TDCB				*e*S	Sn	15 58 15.3	-0.6	
	baz=304							
NNS	**Nan Shan**	**0.58**	**331**	*e*P	Pb	15 58 06.6	+0.1	
	baz=325							
NNS				*e*S	Sb	15 58 14.8	+0.1	
	baz=325							
EOS4	**EOS4**	**0.61**	**71**	*e*S	Sb	15 58 14.9	+0.1	
	baz=85							
LATG	**Datong**	**0.62**	**347**	*e*P	Pb	15 58 07.1	-0.1	
	baz=341							
LATG				*e*S	Sb	15 58 15.7	0.0	
	baz=341							
YULB	**Yu-li**	**0.64**	**214**	*e*P	Pb	15 58 07.0	-0.4	
	baz=224							
YULB				*e*S	Sb	15 58 16.3	+0.4	
	baz=224							
EYUL	**Yuli**	**0.67**	**210**	*e*P	Pb	15 58 07.5	-0.3	
	baz=221							
SSLB	**Suanglung**	**0.68**	**258**	*e*P	Pb	15 58 07.9	-0.2	
	baz=265							
SSLB				*e*S	Sb	15 58 17.1	-0.1	
	baz=265							
NDT	**Datong Townshi**	**0.69**	**347**	*e*P	Pb	15 58 08.4	+0.2	
	baz=348							
TWC	**Suao**	**0.70**	**13**	*e*P	Pn	15 58 08.8	-0.1	
	baz=20							
SMLT	**Sun Moon Lake**	**0.72**	**267**	*e*P	Pb	15 58 08.9	+0.2	
	baz=271							
SMLT				*e*S	Sn	15 58 19.2	-0.1	
	baz=271							
WCS	**Beigang Elemen**	**0.72**	**281**	P	Pb	15 58 08.6	-0.1	
	baz=280							
ENTT	**Nioudou**	**0.72**	**352**	*e*P	Pn	15 58 09.1	-0.1	
	baz=347							
ENTT				*e*S	Sn	15 58 18.9	-0.3	
	baz=347							
TYC	**Yuchr**	**0.75**	**269**	*e*P	Pb	15 58 09.4	+0.1	
	baz=273							
TYC				*e*S	Sn	15 58 19.7	-0.3	
	baz=273							
WHP	**Taichung City**	**0.76**	**298**	*e*P	Pn	15 58 10.9	+1.2	
	baz=298							
YHNB	**Yeheng**	**0.79**	**339**	*e*P	Pb	15 58 09.8	-0.2	
	baz=341							
YHNB				*e*S	Sb	15 58 20.2	-0.2	
	baz=341							
WHYT	**Xinyi Township**	**0.79**	**253**	*e*P	Pb	15 58 08.4	-1.6	
	baz=249							
WHYT				*e*S	Sn	15 58 21.6	+0.5	
	baz=249							
NSK	**Sanguang**	**0.80**	**339**	*e*P	Pb	15 58 09.9	-0.3	
	baz=340							
NSK				*e*S	Sb	15 58 20.5	-0.2	
	baz=340							
FUSB	**Fushanzhiwuyua**	**0.83**	**354**	*e*S	Sn	15 58 22.2	0.0	
	baz=355							
CHN5	**Tsauling**	**0.98**	**251**	*e*P	Pb	15 58 14.0	+0.9	
	baz=250							
TPUB	**Ta-pu**	**1.15**	**237**	*e*P	Pb	15 58 16.6	+0.7	
	baz=236							

IDC ***02*** *16:06:44.1±3.2, 35˚.77N×136˚.85E, h231km±61km, mb2.9/2, mbtmp3.4/2, Error ellipse: s-maj=130.7km s-min=107.1km az=37.0*

JMA ***02*** *16:06:44.3±0.5, 36˚N±2˚×13˚7E±˚, h264km±4km, MV2.5/18, NORTHERN GIFU PREF*

ISC 02 16:06:44.5±1.2, 36˚.1N±0˚.1×137˚.46E±0˚.10, h261km±9km, n11, σ0°77/17, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JGN	**Niukaw**	**0.17**	**317**	P		**Pn**	**16 07 18.3**	**+0.2**
MAT	**Matsushiro**	**0.75**	**54**	*e*P		**Pn**	**16 07 19.8**	**+0.3**
MAT				*e*S		**S**	**16 07 47.1**	**0.0**
MJAR	**Matsushiro Arr**	**0.75**	**54**	P		**Pn**	**16 07 19.8**	**+0.3**
	1.1nm,0.3s,baz=240,slow=7.5,SNR=8.8							
MJAR				S		**S**	**16 07 47.5**	**+0.4**
	2.5nm,0.7s,baz=278,slow=11,SNR=8.7							
JKG	**Kaga**	**0.93**	**281**	*e*P		**Pn**	**16 07 20.8**	**+0.5**
JRY	**Ryogami san**	**1.18**	**94**	*e*P		**Pn**	**16 07 22.7**	**+1.0**
JRY				*e*S		**S**	**16 07 51.2**	**+0.2**
JAG	**Ashikaga**	**1.65**	**78**	*e*P		**Pn**	**16 07 24.9**	**0.0**
JAG				*e*S		**S**	**16 07 54.8**	**-2.0**
JWT	**Wachi**	**1.86**	**245**	*e*P		**Pn**	**16 07 26.8**	**+0.1**
JSD	**Sado**	**2.04**	**18**	*e*P		**Pn**	**16 07 28.6**	**+0.5**
JSD				*e*S		**S**	**16 08 01.8**	**-0.9**
JOTO	**OTAMA OYAMA**	**2.73**	**57**	*e*P		**Pn**	**16 07 35.6**	**+0.8**
JOTO				*e*S		**S**	**16 08 14.5**	**-0.2**
WRA	**Warramunga Arr**	**55.82**	**184**	P		**P**	**16 15 54.8**	**-0.3**
	0.3nm,0.3s,baz=360,slow=7.5,SNR=18 0.3nm,0.3s							
ASAR	**Alice Springs**	**59.54**	**184**	P		**P**	**16 16 20.9**	**+0.1**
	0.1nm,0.5s,baz=350,slow=4.8,SNR=5.1 0.1nm,0.5s							

VAO ***02*** *16:09:42.6±0.5, 33˚.62S×70˚.18W, h20km±4km, mb5.0*

SJA ***02*** *16:09:53.2±0.7, 33˚.29S×70˚.09W, h125km±3km, ML5.0, MW4.7*

MOS ***02*** *16:09:53.1±1.1, 33˚.23S×69˚.95W, h109km, mb5.2/15, Error ellipse: s-maj=16.8km s-min=6.8km az=100.2*

NEIC ***02*** *16:09:54.4, 33˚.27S×69˚.82W, h102km*

GUC ***02*** *16:09:54.5±0.9, 33˚.26S×70˚.11W, h110km±2km, ML5.1*

NEIC ***02*** *16:09:54.8, 33˚.25S×70˚.01W, h110km*

NEIC ***02*** *16:09:54.8, 33˚.25S×69˚.77W, h110km, Moment Tensor Solution. Duration: 1ŝ3 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.24; $M_{\theta\theta}$0.48; $M_{\phi\phi}$ 1.76; $M_{r\theta}$0.07; $M_{\theta\phi}$0.34; $M_{\phi r}$-0.50; Fault plane solution: M_o2.10000×10^{16} NP1:φ9.83000°, δ51.61000°, λ-95.00000°. NP2:φ197.84000°, δ38.66000°, λ-83.73000°. Principal axes: T 1.8956, Plg6.0000°, Azm103.0000°; N 0.4089, Plg4.0000°, Azm13.0000°; P -2.3045, Plg82.0000°, Azm252.0000°;*

NEIC ***02*** *16:09:54.8±2.0, 33˚.26S±0˚.04×70˚.01W±0˚.07, h111km±3km, mb5.1/370, Mwr4.9/54, Mww4.8/30 Error ellipse: s-maj=8.5km s-min=5.4km az=71.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$2.56; $M_{r\theta}$-0.34; $M_{\theta\phi}$0.56; $M_{\phi r}$-0.37; Fault plane solution: M_o2.65000×10^{16} NP1:φ185.64000°, δ40.65000°, λ-99.14000°. NP2:φ17.62000°, δ49.97000°, λ-82.23000°. Principal axes: T 2.7129, Plg5.0000°, Azm102.0000°; N -0.1325, Plg6.0000°, Azm193.0000°; P -2.5804, Plg82.0000°, Azm334.0000°;*

IDC ***02*** *16:09:56.4±0.4, 33˚.21S×69˚.80W, h122km±3km, mb4.6/23, mbtmp5.0/25, MS4.8/5 Error ellipse: s-maj=13.7km s-min=8.7km az=75.0*

GCMT ***02*** *16:09:56.8±0.3, 33˚.30S±0˚.03×70˚.06W±0˚.03, h103km±3km, MW5.0/84, Moment Tensor Solution. s26,c35; s84,c99; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.28±.10; $M_{\theta\theta}$-1.01±.14; $M_{\phi\phi}$4.29±.17; $M_{r\theta}$-0.14±.09; $M_{\theta\phi}$-0.69±.17; $M_{\phi r}$-0.92±.14; Best double couple: M_o3.94800×10^{16} NP1:φ359.00000°, δ52.00000°, λ-82.00000°. NP2: φ166.00000°, δ39.00000°, λ-100.00000°. Principal axes: T 4.4820, Plg7.0000°, Azm83.0000°; N -1.0700, Plg6.0000°, Azm174.0000°; P -3.4130, Plg81.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 16:09:55.0±0.3, 33˚27S±0˚.02×70˚.04W±0˚.03, h116km±2km, h115km; pP-P, n883, σ1°28/837, mb5.1/205, 29C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
MT04	**Ro Olivares**	**0.16**	**212**	⇑*i*P		**Pn**	**16 10 11.0**	**-0.3**
MT04				*e*S		**Sn**	**16 10 23.5**	**-0.1**
MT04				IAML			16 10 24.8	
	comp=N,35μm,0.3s							
MT08	**Bocatoma Ro**	**0.18**	**174**	Pn		**Pn**	**16 10 11.3**	**0.0**
MT08				Sn		**Sn**	**16 10 22.5**	**-1.2**
MT08	**Bocatoma Ro**	**0.18**	**174**	⇑*i*P		**Pn**	**16 10 11.3**	**0.0**
MT08				*i* S		**Sn**	**16 10 23.3**	**-0.3**
MT08				IAML			16 10 29.4	
	comp=N,17μm,0.6s							
FCH	**Farellones**	**0.22**	**255**	⇓*i*P		**Pn**	**16 10 11.2**	**-0.3**
FCH				*i* S		**Sn**	**16 10 23.8**	**-0.2**
FCH				IAML			16 10 24.9	
	comp=N,115μm,0.3s							
MT10	**Hacienda Santa**	**0.42**	**269**	⇑*i*P		**Pn**	**16 10 11.8**	**-0.3**
MT10				*i* S		**Sn**	**16 10 24.9**	**-0.2**
MT10				IAML			16 10 25.5	
	comp=E,160μm,0.6s							
MT14	**Cerro Cal¡n**	**0.44**	**253**	Pn		**Pn**	**16 10 11.9**	**-0.3**
MT14				Sn		**Sn**	**16 10 24.5**	**-0.6**
MT14	**Cerro Cal¡n**	**0.44**	**253**	⇑*i*P		**Pn**	**16 10 12.0**	**-0.1**
MT14				*i* S		**Sn**	**16 10 24.8**	**-0.3**
MT14				IAML			16 10 26.1	
	comp=N,206μm,0.2s							
MT16	**CCHEN**	**0.44**	**249**			**Pn**	**16 10 11.8**	**-0.4**
MT16				Sn		**Sn**	**16 10 24.3**	**-0.8**
MT15	**Las Vizcachas**	**0.51**	**230**	⇑*i*P		**Pn**	**16 10 12.4**	**-0.2**
MT15				*i* S		**Sn**	**16 10 25.8**	**-0.1**
MT13	**San Alfonso**	**0.52**	**204**			**Pn**	**16 10 12.4**	**-0.3**
MT13				Sn		**Sn**	**16 10 23.6**	**-2.6**
MT13	**San Alfonso**	**0.52**	**204**	⇓*i*P		**Pn**	**16 10 12.6**	**-0.2**
MT13				*e*S		**Sn**	**16 10 26.1**	**0.0**
MT13				IAML			16 10 29.4	
	comp=E,89μm,0.3s							
PEL	**Peldehue**	**0.56**	**283**			**Pn**	**16 10 12.2**	**-0.7**
PEL				Sn		**Sn**	**16 10 25.5**	**-0.9**
PEL	**Peldehue**	**0.56**	**283**	*e*P		**Pn**	**16 10 12.3**	**-0.5**
PEL				*e*S		**Sn**	**16 10 26.6**	**+0.2**
PEL	**Peldehue**	**0.56**	**283**	⇑*e*P		**Pn**	**16 10 12.4**	**-0.5**
PEL				*i* S		**Sn**	**16 10 25.7**	**-0.7**
PEL				IAML			16 10 26.7	
	comp=E,98μm,0.4s							
PEL	**Peldehue**	**0.56**	**283**	P		**Pn**	**16 10 12.2**	**-0.7**
PEL							16 10 25.5	
LMEL	**Las Melosas**	**0.59**	**193**			**Pn**	**16 10 13.0**	**-0.2**
LMEL				Sn		**Sn**	**16 10 25.6**	**-1.5**
LMEL	**Las Melosas**	**0.59**	**193**	⇓*i*P		**Pn**	**16 10 13.1**	**-0.2**
LMEL				*e*S		**Sn**	**16 10 27.1**	**0.0**
LMEL				IAML			16 10 31.8	
	comp=N,53μm,0.2s							
MT05	**Renca**	**0.60**	**258**			**Pn**	**16 10 13.4**	**+0.1**
MT05				Sn		**Sn**	**16 10 26.7**	**-0.2**
MT05	**Renca**	**0.60**	**258**	*e*P		**Pn**	**16 10 13.3**	**+0.1**
MT05				*e*S		**Sn**	**16 10 27.6**	**+0.6**
MT05	**Renca**	**0.60**	**258**	⇑*i*P		**Pn**	**16 10 13.3**	**+0.1**
MT05				*i* S		**Sn**	**16 10 27.1**	**+0.2**
MT12	**Pirque**	**0.63**	**223**	⇑*i*P		**Pn**	**16 10 13.2**	**-0.2**
MT12				*i* S		**Sn**	**16 10 27.2**	**-0.1**
MT12				IAML			16 10 28.5	
	comp=N,135μm,0.1s							
VA03	**San Esteban**	**0.66**	**319**			**Pn**	**16 10 13.4**	**-0.3**
VA03				Sn		**Sn**	**16 10 27.1**	**-0.8**
VA03	**San Esteban**	**0.66**	**319**	*e*P		**Pn**	**16 10 13.4**	**-0.3**
VA03				*e*S		**Sn**	**16 10 28.2**	**+0.4**
VA03	**San Esteban**	**0.66**	**319**	⇑*i*P		**Pn**	**16 10 13.5**	**-0.3**
VA03				*i* S		**Sn**	**16 10 27.7**	**-0.1**
VA03				IAML			16 10 30.5	
	comp=E,174μm,0.1s							
BO04	**La Punta**	**0.86**	**213**			**Pn**	**16 10 15.1**	**-0.2**
BO04				Sn		**Sn**	**16 10 30.4**	**-0.4**
BO04	**La Punta**	**0.86**	**213**	⇑*i*P		**Pn**	**16 10 15.2**	**-0.2**
BO04				*e*S		**Sn**	**16 10 30.8**	**+0.1**
BO04				IAML			16 10 32.3	
	comp=E,129μm,0.4s							
ROCH	**El Roble**	**0.87**	**290**	⇑*i*P		**Pn**	**16 10 15.2**	**-0.4**
ROCH				*e*S		**Sn**	**16 10 30.4**	**-0.8**
ROCH				IAML			16 10 31.5	
	comp=N,126μm,0.4s							
MT02	**Curacav**	**0.92**	**270**			**Pn**	**16 10 15.3**	**-0.6**
MT02				Sn		**Sn**	**16 10 30.0**	**-1.6**
MT02	**Curacav**	**0.92**	**270**	*e*P		**Pn**	**16 10 15.0**	**-0.9**
MT02				*e*S		**Sn**	**16 10 31.1**	**-0.6**
MT02				IAML			16 10 33.4	
	comp=Z,19μm,0.5s							
MT02	**Curacav**	**0.92**	**270**	⇑*i*P		**Pn**	**16 10 15.3**	**-0.6**
MT02				*i* S		**Sn**	**16 10 30.5**	**-1.1**
MT02				IAML			16 10 31.3	
	comp=E,40μm,0.4s							
MT09	**Talagante**	**0.94**	**237**	Pn		**Pn**	**16 10 15.5**	**-0.7**
MT09				Sn		**Sn**	**16 10 31.2**	**-1.1**
MT09	**Talagante**	**0.94**	**237**	⇑*i*P		**Pn**	**16 10 15.5**	**-0.7**
MT09				*i* S		**Sn**	**16 10 31.7**	**-0.5**
MT01	**Popeta**	**1.17**	**239**			**Pn**	**16 10 17.4**	**-1.0**
MT01				Sn		**Sn**	**16 10 33.7**	**-2.6**
MT01	**Popeta**	**1.17**	**239**	*e*P		**Pn**	**16 10 16.7**	**-1.7**
MT01				*e*S		**Sn**	**16 10 35.5**	**-0.8**
MT01				IAML			16 10 37.1	
	comp=Z,16μm,0.2s							
MT01	**Popeta**	**1.17**	**239**	⇑*i*P		**Pn**	**16 10 17.5**	**-1.0**
MT01				*i* S		**Sn**	**16 10 34.8**	**-1.4**
MT01				IAML			16 10 36.3	
	comp=N,41μm,0.4s							
VA06	**Catapilco**	**1.27**	**303**			**Pn**	**16 10 18.9**	**-0.7**
VA06				Sn		**Sn**	**16 10 35.7**	**-2.4**
VA06	**Catapilco**	**1.27**	**303**	⇑*i*P		**Pn**	**16 10 18.8**	**-0.7**
VA06				*i* S		**Sn**	**16 10 36.8**	**-1.3**
VA01	**Torpederas**	**1.37**	**280**			**Pn**	**16 10 20.0**	**-0.6**
VA01	**Torpederas**	**1.37**	**280**	*e*P		**Pn**	**16 10 20.0**	**-0.6**
VA01				*e*S		**Sn**	**16 10 41.0**	**+0.9**
VA01				IAML			16 10 45.0	
	comp=Z,9μm,0.8s							
VA01	**Torpederas**	**1.37**	**280**	⇑*i*P		**Pn**	**16 10 20.1**	**-0.6**
VA01				*e*S		**Sn**	**16 10 39.0**	**-1.1**
VA01				IAML			16 10 41.7	
	comp=N,23μm,0.4s							
VA05	**Santo Domingo**	**1.37**	**253**			**Pn**	**16 10 19.8**	**-0.8**
VA05				Sn		**Sn**	**16 10 37.2**	**-2.9**
VA05	**Santo Domingo**	**1.37**	**253**	⇑*i*P		**Pn**	**16 10 19.8**	**-0.8**
VA05				*i* S		**Sn**	**16 10 38.4**	**-1.8**
VA05				IAML			16 10 42.4	
	comp=N,76μm,0.1s							
BO01	**Tunca**	**1.42**	**218**	Pn		**Pn**	**16 10 20.6**	**-0.5**
BO01	**Tunca**	**1.42**	**218**	*e*P		**Pn**	**16 10 20.4**	**-0.7**
BO01				*e*S		**Sn**	**16 10 40.7**	**-0.4**
BO01				IAML			16 10 42.9	
	comp=Z,12μm,0.2s							
BO01	**Tunca**	**1.42**	**218**	⇑*i*P		**Pn**	**16 10 20.6**	**-0.5**
BO01				*i* S		**Sn**	**16 10 40.5**	**-0.6**
BO01				IAML			16 10 41.2	
	comp=N,30μm,0.3s							
RTLS	**Leoncito**	**1.59**	**23**	*e*S		**Sn**	**16 10 48.2**	**+3.0**
RTLS				IAML			16 10 49.7	
	comp=Z,25μm,0.6s							
BO02	**Sierra Bellavi**	**1.64**	**202**	Pn		**Pn**	**16 10 23.9**	**+0.1**
BO02	**Sierra Bellavi**	**1.64**	**202**	*e*P		**Pn**	**16 10 24.0**	**+0.1**
BO02				*e*S		**Sn**	**16 10 46.9**	**+1.0**
BO02				IAML			16 10 51.4	
	comp=Z,17μm,0.1s							
BO02	**Sierra Bellavi**	**1.64**	**202**	⇑*i*P		**Pn**	**16 10 24.0**	**+0.1**
BO02				*i* S		**Sn**	**16 10 46.9**	**+1.0**
BO02				IAML			16 10 50.6	
	comp=E,35μm,0.4s							
RTCV	**Cerro Valdivia**	**1.89**	**42**	*e*P		**Pn**	**16 10 26.9**	**0.0**
RFA	**San Rafael**	**1.99**	**139**	*e*P		**Pn**	**16 10 27.8**	**-0.3**
RFA				*e*S		**Sn**	**16 10 53.5**	**+0.1**
CO02	**Combarbal**	**2.21**	**338**			**Pn**	**16 10 30.7**	**-0.3**
CO02	**Combarbal**	**2.21**	**338**	*e*P		**Pn**	**16 10 30.8**	**-0.3**
CO02				*e*S		**Sn**	**16 10 58.1**	**-0.6**
CO02				IAML			16 10 59.9	
	comp=Z,13μm,0.8s							
CO02	**Combarbal**	**2.21**	**338**	⇑*i*P		**Pn**	**16 10 30.7**	**-0.3**
CO02				*i* S		**Sn**	**16 10 58.3**	**-0.4**
GO05	**Huala**	**2.34**	**222**			**Pn**	**16 10 31.0**	**-1.5**
GO05	**Huala**	**2.34**	**222**	*e*P		**Pn**	**16 10 30.9**	**-1.7**
GO05	**Huala**	**2.34**	**222**	⇑*i*P		**Pn**	**16 10 30.9**	**-1.7**
GO05				*i* S		**Sn**	**16 10 58.9**	**-2.5**
GO05				IAML			16 11 05.2	
	comp=N,9μm,0.1s							
RTLL	**Cerro Villicun**	**2.34**	**35**	*e*P		**Pn**	**16 10 33.0**	**+0.3**
RTLL				*e*S		**Sn**	**16 11 02.2**	**+0.7**
RTLL				IAML			16 11 06.1	
	comp=Z,6μm,0.6s							
DOCA	**Reserva Natura**	**2.45**	**20**	*e*P		**Pn**	**16 10 34.7**	**+0.3**
DOCA				*e*S		**Sn**	**16 11 05.3**	**+0.8**
DOCA				IAML			16 11 12.9	
	comp=Z,10μm,0.9s							
CO03	**El Pedregal**	**2.49**	**347**			**Pn**	**16 10 34.6**	**0.0**
CO03	**El Pedregal**	**2.49**	**347**	*e*P		**Pn**	**16 10 35.1**	**+0.6**
CO03				*e*S		**Sn**	**16 11 05.1**	**+0.2**
CO03				IAML			16 11 08.2	
	comp=Z,6μm,0.5s							
CO03	**El Pedregal**	**2.49**	**347**	*e*P		**Pn**	**16 10 34.7**	**+0.2**
CO03				*i* S		**Sn**	**16 11 04.8**	**-0.1**
EDS3	**Malargue**	**2.55**	**168**	*e*P		**Pn**	**16 10 36.1**	**+0.7**
EDS3				*e*S		**Sn**	**16 11 10.3**	**+3.9**
ML02	**Panimavida**	**2.74**	**204**			**Pn**	**16 10 36.8**	**-0.8**
ML02	**Panimavida**	**2.74**	**204**	⇑*i*P		**Pn**	**16 10 37.1**	**-0.5**
ML02				IAML			16 11 15.9	
	comp=N,7μm,0.6s							
ACCO	**Cerro Coronel**	**2.80**	**17**	*e*P		**Pn**	**16 10 39.5**	**+0.6**
CO06	**Fray Jorge**	**2.92**	**332**			**Pn**	**16 10 39.7**	**-0.5**
CO06	**Fray Jorge**	**2.92**	**332**	⇑*i*P		**Pn**	**16 10 39.6**	**-0.5**
CO06				IAML			16 11 16.2	
	comp=N,6μm,0.5s							
AROD	**Rodeo**	**3.13**	**9**	*e*P		**Pn**	**16 10 44.6**	**+1.4**
GO04	**Tololo Observa**	**3.15**	**348**	Pn		**Pn**	**16 10 42.9**	**-0.6**
GO04	**Tololo Observa**	**3.15**	**348**	*e*P		**Pn**	**16 10 42.8**	**-0.7**
GO04				*e*S		**Sn**	**16 11 19.4**	**-1.4**
ACDV	**Cuesta del Vie**	**3.19**	**14**	*e*P		**Pn**	**16 10 44.9**	**+1.1**
ACDV				*e*S		**Sn**	**16 11 23.7**	**+2.3**
ACDV				IAML			16 11 25.9	
	comp=Z,2μm,0.6s							
CO01	**Juntas del Tor**	**3.28**	**359**	Pn		**Pn**	**16 10 46.1**	**+0.9**
AVFE	**Valle Fertil**	**3.40**	**41**	*e*P		**Pn**	**16 10 46.0**	**-0.5**
AVFE				*e*S		**Sn**	**16 11 25.0**	**-1.4**
AVFE				IAML			16 11 27.6	
	comp=Z,4μm,0.4s							
ACHE	**Chepes**	**3.55**	**55**	*e*P		**Pn**	**16 10 48.1**	**-0.4**
AGUA	**GUANDACOL**	**4.00**	**20**	*e*P		**Pn**	**16 10 54.9**	**+0.4**
AGUA				IAML			16 11 50.0	
	comp=Z,1μm,0.5s							
APLL	**PUNTA DE LOS L**	**4.14**	**47**	*e*P		**Pn**	**16 10 55.3**	**-1.1**
APLL				*e*S		**Sn**	**16 11 42.6**	**-1.4**
LCO	**Las Campanas**	**4.28**	**352**	Pn		**Pn**	**16 10 57.2**	**-1.3**
LCO	**Las Campanas**	**4.28**	**352**	*e*P		**Pn**	**16 10 57.3**	**-1.3**
LCO				*e*S		**Sn**	**16 11 45.4**	**-2.3**
LCO	**Las Campanas**	**4.28**	**352**	P		**Pn**	**16 10 57.2**	**-1.3**
BI05	**Punta Hualpn**	**4.33**	**216**	Pn		**Pn**	**16 10 55.8**	**-2.9**
AC05	**El Transito**	**4.42**	**357**			**Pn**	**16 11 00.0**	**-0.3**
AC05	**El Transito**	**4.42**	**357**	*e*P		**Pn**	**16 10 59.8**	**-0.5**
AC05				*e*S		**Sn**	**16 11 49.3**	**-1.6**
AC05				IAML			16 12 26.2	
	comp=Z,1μm,0.7s							
ACLC	**CERRO LA CRUZ**	**4.65**	**35**	*e*P		**Pn**	**16 11 01.8**	**-1.5**
ACLC				*e*S		Sn	16 11 45.7	-11
ACLC				IAML			16 12 24.4	
	comp=Z,2μm,0.6s							
TCA	**Tanti**	**5.00**	**69**	*e*P		**Pn**	**16 11 07.2**	**-0.7**
TCA				*e*S

CPUP LR LR 16 17 42.2
comp=Z,159nm,21.2s,baz=218,slow=36
CPUP Villa Florida 13.02 61 *e*P Pn 16 12 50.2 -5.4
CPUP *e*S **Sn 16 15 18.9 0.0**
ESFA Espinillo Form 13.05 54 *e*P Pn 16 12 51.0 -5.0
ESFA *e*S **Sn 16 15 17.9 -1.8**
PB08 IPOC Station P 13.10 4 Pn 16 12 55.5 -1.6
AZCA Azaras, Argent 13.15 71 *e*P Pn 16 12 51.8 -5.6
AZCA *e*S **Sn 16 15 18.9 -3.3**
UNIS Unistalda (Bra 13.48 76 *e*P Pn 16 12 55.3 -6.3
GO01 Chusmiza 13.57 3 Pn **Pn 16 13 02.6 -0.6**
PAPY Pozo Azul 13.81 52 *e*P **Pn 16 13 03.1 -2.8**
PLTB Pedras Altas 13.95 88 Pn **Pn 16 13 03.6 -4.0**
PLTB Pedras Altas 13.95 88 *e*P Pn 16 12 59.3 -8.4
FDPY Filadelfia 14.12 42 *e*P **Pn 16 13 07.0 -2.9**
FDPY *e*S **Sn 16 15 48.1 +2.4**
CPSB Cacapava Do Su 14.40 83 *e*P Pn 16 13 07.4 -5.9
PB12 IPOC Station P 14.60 359 Pn 16 13 15.4 -0.7
AP01 Chacalluta 14.84 359 P **P 16 13 22.9 +1.1**
CRSM Crissiumal (Br 14.95 72 *e*P **Pn 16 13 16.6 -3.8**
ALGR Alto Alegre (B 15.24 78 *e*P **Pn 16 13 18.8 -5.3**
GO08 Villa O'Higgin 15.30 186 Pn **Pn 16 13 23.1 -1.4**
CHAP Chapeco 15.86 72 *e*P **Pn 16 13 26.3 -5.5**
CHAP *e*S **Sn 16 16 27.0 -0.6**
MURT Porto Murtinho 15.96 47 *e*P **Pn 16 13 30.3 -2.7**
MURT *e*S **Sn 16 16 31.8 +1.7**
FRBT Francisco Belt 16.44 68 *e*P **Pn 16 13 35.8 -3.1**
FRBT *e*S **Sn 16 16 41.4 -0.2**
MCR1 Marechal Candi 16.52 62 *e*P **Pn 16 13 36.4 -3.5**
MCR1 *e*S **Sn 16 16 45.2 +1.6**
ITAB Concordia 16.59 73 *e*P **Pn 16 13 37.2 -3.5**
ITAB *e*S **Sn 16 16 44.8 -0.4**
AMBA Amambai (Brazi 16.79 56 *e*P **Pn 16 13 40.1 -3.0**
CNLB Canela 16.86 82 *e*P **Pn 16 13 39.8 -4.3**
LPAZ La Paz 17.00 6 P **P 16 13 46.9 +0.6**
LPAZ La Paz 17.00 6 P **P 16 13 46.6 +0.3**
comp=Z,28nm,0.9s,baz=170,slow=8.8,SNR=53
LPAZ S **S 16 16 59.0 +1.1**
comp=Z,1.1nm,0.7s,baz=2.7,slow=21,SNR=1.0
LPAZ La Paz 17.00 6 *e*S **S 16 16 58.2 +0.2**
BDQN Bodoquena, MS 17.40 46 *e*P **P 16 13 49.0 -1.1**
BBLB La Banda, Boli 17.69 37 *e*P **P 16 13 52.0 -1.3**
BBLB *e*S **Sn 16 17 13.6 +2.0**
PTGB Pitanga 17.87 66 *e*P **P 16 13 53.8 -1.6**
PTGB *e*S **Sn 16 17 17.4 +1.5**
AQDB Aquidauana 18.03 49 P **P 16 13 55.4 -1.6**
AQDB Aquidauana 18.03 49 *e*P **P 16 13 55.8 -1.3**
BBSD Serra de San D 18.13 30 *e*P **P 16 13 58.3 +0.2**
BBSD *e*S **Sn 16 17 23.3 +1.2**
MG05 Puerto Natales 18.48 185 P **P 16 14 01.0 -0.7**
TRCB Terra Rica 18.55 60 *e*P **P 16 14 01.5 -1.3**
TER01 Tubaro-SC 18.55 81 *e*P **P 16 14 00.3 -2.4**
TER01 *e*S **Sn 16 17 30.4 -1.7**
PANT Pantanal (Braz 18.61 43 *e*P **P 16 14 03.1 -0.4**
SIV San Ignacio 19.02 27 P **P 16 14 07.0 -0.9**
comp=Z,11nm,0.7s,baz=203,slow=9.2,SNR=51
SIV S **S 16 17 32.8 -5.0**
comp=Z,1.9nm,0.7s,baz=254,slow=21,SNR=1.1
CCRS Cacerres, MT, 19.30 37 *e*P **P 16 14 10.8 -0.2**
LDASE Londrina, Braz 19.32 64 *e*P **P 16 14 10.0 -1.2**
RPRD Ribas do Rio P 19.32 53 *e*P **P 16 14 10.4 -0.8**
RVDE Rio Verde (Bra 19.58 47 *e*P **P 16 14 13.5 -0.5**
GO10 Punta Arenas 19.89 182 P **P 16 14 16.1 -0.9**
PCMB Pacaembu 20.28 60 *e*P **P 16 14 20.2 -1.2**
PTLB Pontes e Lacer 20.31 32 P **P 16 14 20.3 -1.4**
PTLB Pontes e Lacer 20.31 32 *e*P **P 16 14 21.7 0.0**
EFI East Falkland 20.36 158 P **P 16 14 21.6 -0.4**
EFI East Falkland 20.36 158 P **P 16 14 21.6 -0.4**
POCN Pocone 20.47 39 *e*P **P 16 14 24.0 +0.5**
FRTB Fartura 20.53 66 *e*P **P 16 14 22.4 -1.8**
MG03 Isla Dawson 20.57 181 P **P 16 14 25.8 +1.5**
PP1B Ponte de Pedra 20.72 45 *e*P **P 16 14 25.4 -0.8**
VBST Vila Bela da S 20.76 28 *e*P **P 16 14 26.6 -0.1**
PTET Porto Estrela 21.29 36 *e*P **P 16 14 32.7 +0.3**
USHA Ushuaia 21.59 177 P **P 16 14 36.8 +1.6**
comp=Z,43nm,0.5s,baz=8.0,slow=9.1,SNR=24
comp=Z,43nm,0.5s
SALV Santo Antonio 21.62 40 *e*P **P 16 14 35.8 0.0**
SALV *e*S Sn 16 18 39.3 -6.1
PET01 Itanhaem-SP 21.83 72 *e*P **P 16 14 36.6 -1.5**
SPB Sao Paulo 22.05 70 P **P 16 14 38.5 -1.9**
SPB Sao Paulo 22.05 70 *e*P **P 16 14 38.6 -1.9**
NNA Nana 22.08 342 P **P 16 14 39.8 -1.0**
NNA Nana 22.08 342 P **P 16 14 42.0 +1.2**
comp=Z,32nm,0.7s,baz=197,slow=13,SNR=12
comp=Z,32nm,0.7s
NNA Nana 22.08 342 *i* P **P 16 14 40.3 -0.5**
NNA pmax pmax
comp=Z,77nm,1.1s
VILB Vilhena 22.13 26 *e*P **P 16 14 40.9 -0.3**
ITRB Iturama 22.15 57 *e*P **P 16 14 40.0 -1.5**
RCLB Rio Claro- Sao 22.60 67 *e*P **P 16 14 44.5 -1.6**
BB19B Bebedouro 22.62 63 *e*P **P 16 14 44.4 -1.8**
VAO Valinhos 22.73 69 *e*P **P 16 14 45.6 -1.7**
NBRS Nobres 22.89 38 *e*P **P 16 14 49.7 +0.9**
DVLD Doverlandia 23.11 49 *e*P **P 16 14 49.1 -1.8**
ETMB Extrema 23.61 9 P **P 16 14 55.1 -0.3**
ETMB Extrema 23.61 9 *e*P **P 16 14 56.0 +0.5**
PARB Paraibuna 23.61 72 *e*P **P 16 14 54.6 -1.0**
SLP01 Ubatuba-SP 23.99 72 *e*P **P 16 14 58.3 -0.7**
ARAG Araguaiana, MT 24.03 48 *e*P **P 16 14 58.4 -0.9**
JIR01 Jirau 24.11 13 *e*P **P 16 14 59.2 -0.8**
JIR01 *e*S S 16 19 20.7 +11
PDRB Porto dos Gac 24.77 33 *e*P **P 16 15 05.5 -0.5**
IPMB Ipameri, GO 24.80 58 *e*P **P 16 15 04.9 -1.4**
SAML Samuel 25.02 16 P **P 16 15 07.2 -1.0**
SAML Samuel 25.02 16 P **P 16 15 07.2 -1.0**
SAML pmax pmax
comp=Z,17nm,1.1s
SAML Samuel 25.02 16 *e*P **P 16 15 08.3 +0.1**
MAN01 Angra dos Reis 25.17 72 *e*P **P 16 15 09.1 -0.6**
BSCB Bom Sucesso 25.52 68 *e*P **P 16 15 12.2 -0.6**
CZSB Cruzeiro do Su 25.53 354 P **P 16 15 12.3 -0.6**
CZSB IAmb IAmb 16 15 17.7
comp=Z,63nm,0.9s
CZSB Cruzeiro do Su 25.53 354 *e*P **P 16 15 13.9 +1.0**
PMNB Patos De Minas 25.72 61 *e*P **P 16 15 13.6 -1.1**
CLDB Colider 25.84 34 *e*P **P 16 15 16.4 +0.6**
VAS01 Vassouras-RJ 25.88 72 *e*P **P 16 15 15.4 -0.7**
BDFB Brasilia 26.55 54 P **P 16 15 20.9 -1.3**
BDFB IAmb IAmb 16 15 22.4
comp=Z,45nm,0.9s
BDFB Brasilia 26.55 54 P **P 16 15 21.3 -0.9**
comp=Z,44nm,0.9s,baz=219,slow=7.5,SNR=39
comp=Z,44nm,0.9s
DUB01 Friburgo-RJ 26.84 73 *e*P **P 16 15 23.5 -1.2**
ATAH Atahualpa 27.14 342 P **P 16 15 29.1 +1.3**
comp=Z,7.7nm,0.8s,baz=153,slow=4.5,SNR=5.0
comp=Z,7.7nm,0.8s
SNDB Serra Nova Dou 27.27 43 *e*P **P 16 15 28.8 +0.3**
CAM01 Campos-RJ 27.54 73 *e*P **P 16 15 30.3 -0.6**
DIAM Diamantina, MG 27.93 64 *e*P **P 16 15 34.4 -0.2**
ALF01 Guarapari-ES 28.91 72 *e*P **P 16 15 42.8 -0.3**
TBTG Tabatinga, AM 28.93 0 *e*P **P 16 15 43.9 +0.6**
NPGB Novo Progresso 29.43 31 *e*P **P 16 15 48.1 +0.3**
JANB Januaria 29.53 58 *e*P **P 16 15 47.7 -0.9**
SJMB Sao Joao De Ma 29.59 68 *e*P **P 16 15 48.9 -0.3**
BSFB Barra de Sao F 29.79 68 *e*P **P 16 15 50.4 -0.5**
RIB01 Linhares ES 29.87 70 *e*P **P 16 15 50.8 -0.8**
TEFE Tefe 30.04 11 *e*P **P 16 15 52.7 -0.3**
NAN01 Guarapari, ES 30.91 68 *e*P **P 16 16 00.0 -0.8**
SDBA SAO DESIDERIO 30.96 54 *e*P **P 16 16 00.5 -0.8**
MACA Manacapuru-AM 31.21 18 *e*P **P 16 16 04.1 +0.7**
ITTB Itaituba 31.70 28 *e*P **P 16 16 08.9 +1.2**
PMSA Palmer Station 31.75 175 *e*P **P 16 16 02.9 -4.7**
GUA01 Guaratinga, BA 31.90 66 *e*P **P 16 16 08.6 -0.9**
SMTB Santa Maria do 31.93 46 *e*P **P 16 16 10.3 +0.6**
ABR01 Abrolhos, BA 31.95 69 *e*P **P 16 16 09.8 -0.1**
CMC01 Camacan, BA 32.86 65 *e*P **P 16 16 17.4 -0.5**
NBIT Itapeh - BA 33.19 64 *e*P **P 16 16 20.6 -0.2**
GDU01 Guandu, BA 33.85 62 *e*P **P 16 16 25.7 -0.8**
NBPN Ponto Novo - B 35.31 58 *e*P **P 16 16 37.4 -1.8**
NBBC Barra do Corda 35.95 45 *e*P **P 16 16 44.9 +0.3**
BOAV Boa Vista 36.59 16 *e*P **P 16 16 50.4 +0.4**
PAYG Puerto Ayora 37.60 325 P **P 16 17 00.7 +2.3**
PAYG sP **sP 16 17 39.8 +1.1**
ROSC El Rosal 38.12 353 P **P 16 17 03.4 +0.2**
comp=Z,17nm,0.4s,baz=198,slow=19,SNR=5.4
comp=Z,17nm,0.4s
NBAN Anadia - AL 38.94 61 *e*P **P 16 17 09.0 -0.8**
NBPB Pedra_Branca-C 39.53 52 *e*P **P 16 17 13.6 -1.1**

NBLV Livramento - P 40.05 57 *e*P **P 16 17 17.9 -1.2**
NBPA Parau_RN 41.06 55 *e*P **P 16 17 28.7 +1.5**
NBCL Cascavel-CE 41.37 53 *e*P **P 16 17 29.5 -0.3**
RCBR Riachuelo 41.84 57 P **P 16 17 36.5 +2.7**
RCBR sP **sP 16 18 15.7 +1.7**
SDV Santo Domingo 41.92 359 *e*P **P 16 17 34.4 0.0**
BAUV El Baul 42.02 3 P **P 16 17 34.0 -1.0**
JTS Las Juntas de 45.59 339 P **P 16 18 04.8 +1.2**
comp=Z,5.2nm,0.5s,baz=95,slow=12,SNR=2.7
comp=Z,5.2nm,0.5s
JTS Las Juntas de 45.59 339 *i* P **P 16 18 03.5 -0.1**
JTS pmax pmax
comp=Z,15nm,1.0s
BELA Belgrano 2 47.31 170 P **P 16 18 16.9 +0.6**
BELA IAmb IAmb 16 18 18.4
comp=Z,19nm,0.7s
VNA3 Neumayer Olymp 49.41 158 ⇓P **P 16 18 32.5 0.0**
comp=Z,6.3nm,0.6s
VNA1 Neumayer--Stat 49.70 157 ⇓P **P 16 18 33.8 -0.8**
comp=Z,6.2nm,0.8s
VNA2 Neumayer--Watz 50.04 158 ⇓P **P 16 18 38.1 +0.9**
comp=Z,11nm,0.7s,baz=288,slow=7.4
MTO3 Montecristo 50.87 336 P **P 16 18 43.3 -1.1**
MTO3 IAmb IAmb 16 18 46.5
comp=Z,15nm,0.8s
MLPR Magueyes Islan 51.03 4 P **P 16 18 44.4 -0.8**
OBIP Obispado Ponce 51.13 4 P **P 16 18 45.4 -0.5**
CELP Cerrillos 51.16 4 P **P 16 18 44.7 -1.5**
SNAA Sanae 51.63 158 P **P 16 18 48.3 -1.0**
SNAA IAmb IAmb 16 18 51.2
comp=Z,20nm,1.0s
SNAA Sanae 51.63 158 ⇓P **P 16 18 50.1 +0.8**
comp=Z,272nm,0.7s
SNAA Sanae 51.63 158 P **P 16 18 50.0 +0.8**
comp=Z,13nm,0.9s,baz=258,slow=17,SNR=22
comp=Z,13nm,0.9s
SNAA Sanae 51.63 158 *i* P **P 16 18 48.3 -1.0**
SNAA pmax pmax
comp=Z,22nm,1.0s
APG El Apazote 51.81 335 P **P 16 18 52.9 +1.5**
comp=Z,1.6nm,0.8s,baz=162,slow=13,SNR=13
SDDR Presa de Saban 51.97 358 P **P 16 18 50.4 -1.9**
SDDR IAmb IAmb 16 18 55.3
comp=Z,19nm,0.6s
TROLL Troll, Antarti 53.35 158 ⇓P **P 16 19 03.0 +1.0**
comp=Z,505nm,0.8s
CCIG Comitan 53.60 333 IAmb IAmb 16 19 06.0
comp=Z,14nm,0.7s
CMIG Matias Romero 55.42 331 P **P 16 19 18.7 +1.3**
comp=Z,13nm,0.9s,baz=126,slow=7.2,SNR=23
CMIG PcP **PcP 16 20 16.0 -0.3**
comp=Z,1.9nm,0.7s,baz=127,slow=5.1,SNR=4.2
CMIG LR LR 16 39 24.7
comp=Z,365nm,19.6s,baz=262,slow=32
comp=Z,13nm,0.9s
TEIG Tepich 55.97 339 P **P 16 19 21.4 +0.1**
TEIG Tepich 55.97 339 LR LR 16 42 05.1
comp=Z,2µm,22.0s,slow=34
TEIG Tepich 55.97 339 P **P 16 19 21.8 +0.5**
TEIG pP **pP 16 19 49.2 -0.8**
TEIG sP **sP 16 20 03.0 -0.1**
NVL N'lazarevskaya 56.33 157 *e*P **P 16 19 24.1 +0.8**
QSPA South Pole Qui 56.97 180 P **P 16 19 28.7 +0.7**
QSPA South Pole Qui 56.97 180 P **P 16 19 29.6 +1.6**
comp=Z,56nm,0.8s,baz=156,slow=1.8,SNR=234
comp=Z,56nm,0.8s
QSPA South Pole Qui 56.97 180 ⇓P **P 16 19 29.7 +1.6**
QSPA pP **pP 16 19 57.1 +0.2**
QSPA sP **sP 16 20 09.9 -0.2**
SBA Scott Base 64.12 191 P **P 16 20 18.4 +2.2**
SBA PcP **PcP 16 20 51.9 +1.5**
VNDA Vanda 65.14 191 P **P 16 20 24.4 +1.6**
comp=Z,3.4nm,0.9s,baz=127,slow=5.6,SNR=21
comp=Z,3.4nm,0.9s
VNDA Vanda 65.14 191 P **P 16 20 25.0 +2.2**
VNDA sP **sP 16 21 05.8 +0.7**
TIGA Tifton 65.62 347 IAmb IAmb 16 20 27.4
comp=Z,31nm,0.8s
TIGA Tifton 65.62 347 P **P 16 20 26.6 +0.1**
baz=168
BRAL Brewton 66.08 344 P **P 16 20 30.0 +0.6**
baz=164
152A Waverly Hall 67.03 347 IAmb IAmb 16 20 36.3
comp=Z,24nm,1.0s
833A Chaparral WMA, 67.29 332 P **P 16 20 38.6 +1.4**
baz=154,SNR=12
HKT Hockley 67.45 336 *i* P **P 16 20 38.1 0.0**
HKT pmax pmax
comp=Z,26nm,1.4s
GOGA Godfrey 67.52 348 IAmb IAmb 16 20 39.5
comp=Z,21nm,0.8s
GOGA Godfrey 67.52 348 P **P 16 20 38.4 -0.1**
baz=168,SNR=12
LRAL Lakeview Retre 67.86 345 P **P 16 20 41.0 +0.4**
baz=165,SNR=7.4
VBMS Vicksburg 67.94 341 P **P 16 20 42.3 +1.1**
baz=162
HODGE Hodges 68.12 349 P **P 16 20 41.6 -0.6**
SLBS Sierra La Lagu 68.22 321 P **P 16 20 45.4 +2.2**
Y49A Blount Mountai 68.53 345 IAmb IAmb 16 20 46.0
comp=Z,20nm,0.9s
CNNC Cliffs of the 68.55 353 P **P 16 20 46.1 +1.3**
baz=173
PAULI Pauline 68.63 350 IAmb IAmb 16 20 46.8
comp=Z,37nm,1.2s
W57A Gilead 68.70 351 IAmb IAmb 16 20 47.0
comp=Z,24nm,0.8s
NATX Nacogdoches 68.73 338 P **P 16 20 47.3 +1.2**
baz=158
HPIG 68.78 326 P **P 16 20 46.5 -0.3**
HPIG IAmb IAmb 16 20 48.9
comp=Z,24nm,0.7s
435B Jarrell 68.83 335 P **P 16 20 47.7 +1.0**
baz=156
KMSC Kings Mountain 68.87 350 IAmb IAmb 16 20 48.1
comp=Z,20nm,0.8s
KMSC Kings Mountain 68.87 350 P **P 16 20 47.4 +0.5**
baz=170,SNR=6.8
BG3 Lake Jocassee 68.97 349 IAmb IAmb 16 20 49.0
comp=Z,25nm,0.7s
FPAL Fort Paine 69.02 346 IAmb IAmb 16 20 49.0
comp=Z,21nm,0.8s
V58A Wind Hill, Pi 69.23 352 IAmb IAmb 16 20 50.3
comp=Z,29nm,0.9s
X48A Hartselle 69.23 345 IAmb IAmb 16 20 50.7
comp=Z,51nm,1.1s
JCT Junction City 69.37 333 P **P 16 20 50.2 +0.1**
JCT Junction City 69.37 333 P **P 16 20 51.3 +1.2**
baz=154,SNR=11
JCT Junction City 69.37 333 P **P 16 20 50.3 +0.1**
JCT pmax pmax
comp=Z,47nm,0.9s
V55A Taylorsville 69.55 350 IAmb IAmb 16 22 54.7
comp=Z,49nm,0.9s
V53A Saluda 69.62 349 IAmb IAmb 16 20 52.7
comp=Z,34nm,1.1s
CPCT Cooper Cave 69.69 347 IAmb IAmb 16 20 53.2
comp=Z,32nm,0.8s
TKL Tuckaleechee C 69.77 348 IAmb IAmb 16 20 53.3
comp=Z,26nm,0.8s
TKL Tuckaleechee C 69.77 348 P **P 16 20 52.4 0.0**
comp=Z,22nm,0.8s,baz=155,slow=7.6,SNR=24
comp=Z,22nm,0.8s
BRDY Brady 69.79 334 IAmb IAmb 16 20 54.5
comp=Z,28nm,0.8s
SAND Sanderson 69.83 331 P **P 16 20 53.7 +0.7**
SAND IAmb IAmb 16 20 55.4
comp=Z,48nm,0.9s
OXF Oxford 69.84 343 P **P 16 20 53.2 +0.4**
baz=163,SNR=9.2
WHTX Lake Whitney, 69.88 335 P **P 16 20 54.2 +1.1**
baz=156
V52A Sevierville 69.91 348 IAmb IAmb 16 20 54.2
comp=Z,29nm,0.9s
U56A King 69.93 351 IAmb IAmb 16 20 55.0
comp=Z,38nm,0.9s
TXAR Lajitas Array 69.94 329 P **P 16 20 53.9 +0.1**
TXAR Lajitas Array 69.94 329 P **P 16 20 54.9 +1.1**
comp=Z,14nm,0.6s,baz=155,slow=8.9,SNR=162
comp=Z,14nm,0.6s
TX31 Lajitas Ar. Si 69.94 329 IAmb IAmb 16 20 56.0
comp=Z,19nm,0.7s
PLAL Pickwick Lake 69.97 344 IAmb IAmb 16 20 54.8
comp=Z,28nm,0.8s
T59A Double "B" Far 70.23 354 IAmb IAmb 16 20 57.1
comp=Z,54nm,1.2s
TZTN Tazewell 70.59 348 P **P 16 20 56.5 -0.9**

TZTN IAmb IAmb 16 20 58.4
comp=Z,50nm,1.6s
TZTN Tazewell 70.59 348 P **P 16 20 57.4 0.0**
baz=168
FW07 Weatherford 70.64 335 IAmb IAmb 16 20 59.3
comp=Z,31nm,0.9s
CLTN Cedars of Leba 70.67 346 IAmb IAmb 16 20 59.2
comp=Z,38nm,1.1s
BLA Blacksburg 70.78 351 P **P 16 20 59.3 +0.7**
baz=171
U49A Red Boiling Sp 70.96 347 IAmb IAmb 16 21 00.8
comp=Z,54nm,1.6s
MIAR Mount Ida 70.99 340 P **P 16 20 59.7 -0.1**
MIAR IAmb IAmb 16 21 01.5
comp=Z,48nm,1.4s
MIAR Mount Ida 70.99 340 P **P 16 21 00.4 +0.6**
baz=159,SNR=15
MIAR Mount Ida 70.99 340 P **P 16 20 59.7 -0.1**
MIAR pmax pmax
comp=Z,47nm,1.4s
WVT Waverly 71.02 345 P **P 16 20 59.5 -0.5**
WVT Waverly 71.02 345 P **P 16 21 00.6 +0.6**
baz=164
WVT Waverly 71.02 345 P **P 16 20 59.5 -0.5**
WVT pmax pmax
comp=Z,118nm,0.7s
WVT Waverly 71.02 345 ⇓P **P 16 21 00.3 +0.3**
WVT pP **pP 16 21 29.8 -0.2**
WVT sP **sP 16 21 42.2 -0.6**
S57A Dark Hollow, R 71.15 353 IAmb IAmb 16 21 02.5
comp=Z,36nm,1.0s
SGCY Sterling City 71.16 332 IAmb IAmb 16 21 02.6
comp=Z,34nm,1.0s
ABTX Abilene, Hawle 71.23 334 P **P 16 21 02.2 +0.8**
baz=154,SNR=8.7
R58B Mineral 71.25 353 IAmb IAmb 16 21 03.7
comp=Z,72nm,1.4s
WHAR Wooly Hollow 71.32 341 IAmb IAmb 16 21 03.4
comp=Z,32nm,1.2s
CCD Concordia, Ant 71.54 184 P **P 16 21 04.3 +1.0**
X37A Clayton 71.57 338 P **P 16 21 02.6 -0.8**
LOOK Love County 71.61 336 IAmb IAmb 16 21 05.3
comp=Z,25nm,0.8s
S51A Beattyville 71.67 349 IAmb IAmb 16 21 05.0
comp=Z,30nm,0.8s
T47A Sharon Grove 71.69 346 IAmb IAmb 16 21 04.9
comp=Z,31nm,0.8s
LCAR Lake Charles 71.75 342 P **P 16 21 04.2 -0.2**
R55A Marlinton 71.80 352 IAmb IAmb 16 21 06.8
comp=Z,44nm,0.8s
FCAR Ozark Folk Cen 71.84 341 IAmb IAmb 16 21 06.1
comp=Z,24nm,0.7s
WTFS Witchita Falls 71.84 335 IAmb IAmb 16 21 06.7
comp=Z,40nm,0.9s
ODSA Odessa 71.91 331 P **P 16 21 06.0 +0.5**
SN05 Snyder 5 71.92 333 IAmb IAmb 16 21 07.3
comp=Z,26nm,0.8s
PPT Papeete 72.01 261 P **P 16 21 08.3 +1.8**
comp=Z,84nm,0.9s,baz=101,slow=5.2,SNR=16
comp=Z,84nm,0.9s
POST Post 72.33 333 IAmb IAmb 16 21 09.5
comp=Z,30nm,0.8s
W35A Tecumseh 72.57 337 IAmb IAmb 16 21 10.1
comp=Z,22nm,0.8s
DKNS Dickens 72.64 333 IAmb IAmb 16 21 11.4
comp=Z,33nm,0.8s
T42A Van Buren 72.65 342 IAmb IAmb 16 21 10.8
comp=Z,53nm,1.7s
HHAR Hobbs 72.71 340 IAmb IAmb 16 21 11.5
comp=Z,40nm,1.0s
MNTX Cornudas Mount 72.72 329 P **P 16 21 10.6 +0.3**
baz=150,SNR=32
WCI Wyandotte Cave 72.72 347 P **P 16 21 08.0 -2.2**
WCI Wyandotte Cave 72.72 347 P **P 16 21 09.8 -0.4**
baz=166
WCI Wyandotte Cave 72.72 347 P **P 16 21 08.0 -2.2**
WCI pmax pmax
comp=Z,19nm,0.9s
Q52A Bidwell 72.76 350 IAmb IAmb 16 21 11.5
comp=Z,37nm,1.1s
P57A Homestead Farm 72.77 354 IAmb IAmb 16 21 12.7
comp=Z,29nm,0.8s
WMOK Wichita Mounta 72.83 336 P **P 16 21 11.0 +0.1**
baz=155,SNR=13
SIUC Southern Illin 72.85 344 IAmb IAmb 16 21 11.9
comp=Z,42nm,1.1s
TUL3 Leonard 72.92 338 P **P 16 21 11.4 +0.1**
TUL3 Leonard 72.92 338 P **P 16 21 11.7 +0.3**
baz=158,SNR=6.0
LIC Lamto 72.96 70 *e*P **P 16 21 15.8 +3.7**
comp=Z,20nm,0.6s
Q51A Peebles 72.98 349 IAmb IAmb 16 21 12.8
comp=Z,26nm,0.8s
MGMO Mountain Grove 73.07 342 IAmb IAmb 16 21 13.8
comp=Z,28nm,0.9s
HSIG 73.08 323 IAmb IAmb 16 21 15.2
comp=Z,96nm,1.8s
MCWV Mont Chateau 73.13 352 P **P 16 21 12.9 +0.4**
baz=171
MVL Millersville 73.14 355 P **P 16 21 12.4 -0.1**
TIC Toumodi 73.22 70⇑ *e*P **P 16 21 17.9 +4.2**
comp=Z,6.1nm,0.5s
KIC Kosan Boka 73.27 71⇑ *e*P **P 16 21 17.7 +3.7**
comp=Z,24nm,0.6s
EPT El Paso 73.28 328 IAmb IAmb 16 21 15.7
comp=Z,29nm,0.8s
OK052 Battle Ridge R 73.31 338 IAmb IAmb 16 21 15.2
comp=Z,52nm,1.0s
DBIC Dimbokro 73.36 70 P **P 16 21 14.2 -0.3**
comp=Z,7.1nm,0.5s,baz=240,slow=7.9,SNR=8.5
comp=Z,7.1nm,0.5s
MAW Mawson 73.40 163 P **P 16 21 14.9 +1.0**
comp=Z,12nm,0.9s,baz=207,slow=6.8,SNR=15
comp=Z,12nm,0.9s
P52A Corning 73.40 350 IAmb IAmb 16 21 15.0
comp=Z,34nm,1.0s
P52A Corning 73.40 350 P **P 16 21 14.1 0.0**
baz=170,SNR=5.8
OK033 Mehan 73.40 338 P **P 16 21 13.7 -0.6**
QUOK Quay 73.45 338 IAmb IAmb 16 21 16.1
comp=Z,53nm,1.1s
OLIL Olney 73.58 345 IAmb IAmb 16 21 15.9
comp=Z,24nm,0.9s
CCM Cathedral Cave 73.66 343 P **P 16 21 15.8 +0.1**
CCM Cathedral Cave 73.66 343 P **P 16 21 16.1 +0.5**
baz=162
CCM Cathedral Cave 73.66 343 P **P 16 21 15.8 +0.1**
CCM pmax pmax
comp=Z,73nm,1.0s
P49A Miami Univ. Ec 73.70 348 IAmb IAmb 16 21 16.1
comp=Z,21nm,0.7s
P49A Miami Univ. Ec 73.70 348 P **P 16 21 15.5 -0.4**
baz=167
SUR Sutherland 73.71 118 LR LR 16 53 51.7
comp=Z,403nm,18.1s,baz=142,slow=36
P48A Milroy 73.76 348 IAmb IAmb 16 21 16.8
comp=Z,54nm,1.1s
O53A New Philadelph 73.88 351 P **P 16 21 16.9 0.0**
baz=170
SSPA Standing Stone 73.90 354 P **P 16 21 17.6 +0.6**
SSPA Standing Stone 73.90 354 P **P 16 21 17.8 +0.8**
baz=173
AMTX Amarillo 74.01 333 IAmb IAmb 16 21 19.8
comp=Z,56nm,1.1s
AMTX Amarillo 74.01 333 P **P 16 21 18.9 +1.0**
baz=153
T35A Sooner Cattle 74.07 338 IAmb IAmb 16 21 19.9
comp=Z,41nm,0.8s
ACSO Alum Creek Sta 74.11 350 P **P 16 21 17.5 -0.7**
ACSO Alum Creek Sta 74.11 350 P **P 16 21 18.5 +0.3**
baz=169,SNR=6.7
BLOK Blackwell 74.15 338 IAmb IAmb 16 21 20.3
comp=Z,60nm,1.1s
O49A Covington 74.28 349 IAmb IAmb 16 21 20.1
comp=Z,49nm,1.1s
O48B Farmland 74.48 348 IAmb IAmb 16 21 21.0
comp=Z,44nm,1.1s
O48B Farmland 74.48 348 P **P 16 21 20.0 -0.5**
baz=167
121A Cookes Peak, D 74.49 328 P **P 16 21 22.5 +1.6**
121A IAmb IAmb 16 21 24.0
comp=Z,48nm,0.9s
121A Cookes Peak, D 74.49 328 P **P 16 21 23.1 +2.2**
baz=148,SNR=31
OK032 Salt Plains WL 74.51 337 IAmb IAmb 16 21 22.4
comp=Z,60nm,1.2s
N51A Ashland 74.69 350 IAmb IAmb 16 21 22.5

comp=Z,33nm,0.9s
M55A Ridgway 74.80 353 IAmb IAmb 16 21 23.8
comp=Z,29nm,0.8s
SFIN Lafayette 74.96 347 P **P** **16 21 22.6 -0.6**
baz=165
N49A Columbus Grove 74.97 349 IAmb IAmb 16 21 24.2
comp=Z,67nm,1.2s
M53A Wt Miller and 74.98 352 P **P** **16 21 23.1 -0.1**
baz=171
QUA2 Belchertown 75.21 358 IAmb IAmb 16 21 26.6
comp=Z,30nm,1.1s
L59A Walton 75.23 356 P **P** **16 21 25.0 +0.2**
L59A IAmb IAmb 16 21 26.9
comp=Z,28nm,0.8s
BINY Binghamton 75.30 355 P **P** **16 21 25.6 +0.6**
baz=175
L56A Greenwood 75.36 354 IAmb IAmb 16 21 27.2
comp=Z,34nm,1.0s
L61B Northampton 75.39 358 IAmb IAmb 16 21 27.6
comp=Z,26nm,0.8s
L61B Northampton 75.39 358 P **P** **16 21 26.6 +1.0**
baz=178,SNR=5.4
HRV Adam Dziewonsk 75.42 359 P **P** **16 21 27.1 +1.4**
baz=179
ERPA Erie 75.58 352 IAmb IAmb 16 21 27.9
comp=Z,33nm,0.8s
ERPA Erie 75.58 352 P **P** **16 21 27.0 +0.3**
baz=171
HDIL Hopedale 75.58 345 P **P** **16 21 26.8 +0.1**
baz=164
TUC Tucson 75.70 325 P **P** **16 21 26.5 -1.2**
TUC Tucson 75.70 325 P **P** **16 21 29.3 +1.6**
baz=146
TUC Tucson 75.70 325 P **P** **16 21 26.5 -1.2**
TUC pmax pmax
comp=Z,7.0nm,1.0s
WVNY West Valley, N 75.72 353 IAmb IAmb 16 21 29.3
comp=Z,39nm,0.9s
P38A Dawn 75.72 341 IAmb IAmb 16 21 28.8
comp=Z,66nm,1.2s
RTBA Rita Blanca 75.78 333 IAmb IAmb 16 21 30.3
comp=Z,54nm,1.7s
ANMO Albuquerque 75.97 330 P **P** **16 21 30.1 +0.7**
ANMO IAmb IAmb 16 21 32.1
comp=Z,34nm,1.2s
ANMO Albuquerque 75.97 330 P **P** **16 21 30.8 +1.6**
baz=149
ANMO Albuquerque 75.97 330 P **P** **16 21 30.9 +1.6**
comp=Z,16nm,0.9s,baz=247,slow=8.8,SNR=31
comp=Z,16nm,0.9s
ANMO Albuquerque 75.97 330 *i* P **P** **16 21 30.0 +0.7**
ANMO pmax pmax
comp=Z,32nm,1.2s
L48A N Adams 76.01 349 IAmb IAmb 16 21 29.8
comp=Z,33nm,0.9s
KSU1 Kansas State U 76.11 339 IAmb IAmb 16 21 31.0
comp=Z,27nm,0.8s
KSU1 Kansas State U 76.11 339 P **P** **16 21 29.7 -0.1**
baz=157
214A Organ Pipe Nat 76.40 324 P **P** **16 21 33.7 +2.1**
baz=144,SNR=6.8
J56A Wolcott 76.43 355 P **P** **16 21 31.0 -0.5**
J56A IAmb IAmb 16 21 32.7
comp=Z,28nm,0.8s
J57A Williamstown 76.51 356 IAmb IAmb 16 21 33.5
comp=Z,31nm,0.8s
HNH Hanover 76.63 358 IAmb IAmb 16 21 35.3
comp=Z,29nm,1.0s
N38A Joes South For 76.74 342 IAmb IAmb 16 21 34.5
comp=Z,44nm,0.8s
CBKS Cedar Bluff 76.84 337 IAmb IAmb 16 21 36.1
comp=Z,50nm,0.9s
CBKS Cedar Bluff 76.84 337 P **P** **16 21 35.1 +1.2**
baz=155
I63A Otisfield 76.95 360 P **P** **16 21 35.1 +0.8**
I63A IAmb IAmb 16 21 37.3
comp=Z,40nm,0.8s
T25A Trinidad 77.04 332 P **P** **16 21 37.3 +2.0**
baz=151,SNR=39
L42A Oliver, Polo 77.05 345 IAmb IAmb 16 21 35.9
comp=Z,31nm,0.9s
LBNH Lisbon 77.16 359 IAmb IAmb 16 21 37.9
comp=Z,30nm,0.8s
LBNH Lisbon 77.16 359 P **P** **16 21 37.1 +1.6**
baz=178,SNR=9.4
K43A Burlington 77.44 346 IAmb IAmb 16 21 37.8
comp=Z,24nm,0.8s
W18A Petrified Fore 77.54 328 IAmb IAmb 16 21 41.0
comp=Z,46nm,1.2s
W18A Petrified Fore 77.54 328 P **P** **16 21 39.9 +1.8**
baz=147,SNR=8.4
LONY Lake Ozonia 77.63 357 P **P** **16 21 37.0 -1.2**
LONY Lake Ozonia 77.63 357 P **P** **16 21 38.7 +0.6**
baz=176,SNR=5.8
EMMW East Machias 77.64 2 IAmb IAmb 16 21 40.6
comp=Z,40nm,0.9s
X16A Lo Mia Camp, P 77.74 326 IAmb IAmb 16 21 42.3
comp=Z,37nm,1.0s
SCIA State Center 77.79 343 IAmb IAmb 16 21 40.6
comp=Z,24nm,0.8s
SCIA State Center 77.79 343 P **P** **16 21 39.3 +0.2**
baz=160
FRNY Flat Rock 77.80 357 IAmb IAmb 16 21 41.0
comp=Z,25nm,0.8s
SDCO Great Sand Dun 77.99 332 P **P** **16 21 42.1 +1.4**
baz=150,SNR=13
KSCO Kaye Shedlock' 78.02 335 P **P** **16 21 41.6 +1.0**
KSCO IAmb IAmb 16 21 43.3
comp=Z,68nm,1.3s
KSCO Kaye Shedlock' 78.02 335 P **P** **16 21 42.0 +1.4**
baz=153
JFWS Jewell Farm 78.05 345 IAmb IAmb 16 21 41.8
comp=Z,55nm,1.2s
JFWS Jewell Farm 78.05 345 P **P** **16 21 40.9 +0.4**
baz=163,SNR=7.8
WBO Williamsburg 78.05 356 IAmb IAmb 16 21 42.2
comp=Z,47nm,0.9s
G62A West of Eustis 78.12 360 IAmb IAmb 16 21 43.3
comp=Z,32nm,0.8s
PKME Peaks-Kenny Pk 78.17 1 IAmb IAmb 16 21 42.9
comp=Z,23nm,0.7s
PKME Peaks-Kenny Pk 78.17 1 P **P** **16 21 42.3 +1.2**
baz=181,SNR=5.2
GLA Glamis 78.29 323 P **P** **16 21 43.8 +1.7**
baz=143
WUAZ Wupatki 78.62 327 P **P** **16 21 46.1 +2.0**
baz=146,SNR=12
IKP In-Ko-Pah, Jac 78.63 322 P **P** **16 21 46.4 +2.4**
baz=142,SNR=5.7
BGNE Belgrade 78.69 339 P **P** **16 21 45.0 +0.8**
baz=156
SWSC Sam W. Stewart 78.70 322 P **P** **16 21 46.5 +2.2**
baz=142
I42A Draeger Farm, 78.70 346 IAmb IAmb 16 21 45.3
comp=Z,28nm,0.8s
MVCO Mesa Verde 78.76 330 IAmb IAmb 16 21 47.5
comp=Z,29nm,1.1s
MVCO Mesa Verde 78.76 330 P **P** **16 21 46.5 +1.6**
baz=148,SNR=7.5
F62A Pittston Farm, 78.80 0 IAmb IAmb 16 21 47.0
comp=Z,35nm,1.1s
Q24A Divide 78.91 333 IAmb IAmb 16 21 48.4
comp=Z,39nm,0.9s
Q24A Divide 78.91 333 P **P** **16 21 47.4 +1.6**
baz=151,SNR=11
BOSA Boshof 78.92 117 P **P** **16 21 45.5 -0.6**
BOSA Boshof 78.92 117 P **P** **16 21 46.4 +0.3**
comp=Z,8.9nm,0.9s,baz=218,slow=9.2,SNR=9.4
BOSA LR LR 16 53 16.1
comp=Z,641nm,19.1s,baz=136,slow=33
comp=Z,8.9nm,0.9s
PDMCI Parker Dam,Lak 78.95 324 P **P** **16 21 46.9 +1.2**
baz=144
MONP2 Monument Peak 78.98 322 P **P** **16 21 45.9 -0.2**
baz=142
H43A Windswept, Lux 79.04 347 IAmb IAmb 16 21 47.1
comp=Z,26nm,0.8s
BC3 Big Chuckawall 79.09 323 P **P** **16 21 47.9 +1.4**
baz=143,SNR=22
TRQ Mont Tremblant 79.23 357 IAmb IAmb 16 21 48.5
comp=Z,35nm,0.8s
IRM Iron Mountain 79.33 323 P **P** **16 21 49.4 +1.6**
baz=143,SNR=13
OGNE Ogallala 79.53 336 P **P** **16 21 50.2 +1.4**
baz=153
NEE2 Needles Airpor 79.55 324 P **P** **16 21 50.3 +1.3**
baz=143
TPFO Pinon Flats 79.56 322 P **P** **16 21 51.5 +2.4**
baz=142,SNR=12
PFO Pinyon Flats O 79.56 322 P **P** **16 21 50.5 +1.4**
PFO IAmb IAmb 16 21 52.6
comp=Z,41nm,0.9s
PFO Pinyon Flats O 79.56 322 P **P** **16 21 51.4 +2.2**
baz=142,SNR=10
PFO Pinyon Flats O 79.56 322 *i* P **P** **16 21 49.0 -0.2**
PFO pmax pmax
comp=Z,67nm,0.9s
BELC Belle Mtn. Jos 79.64 323 P **P** **16 21 51.8 +2.2**
baz=142,SNR=8.4
SMCO Snowmass 79.81 332 IAmb IAmb 16 21 53.8
comp=Z,34nm,0.9s
ISCO Idaho Springs 79.81 333 P **P** **16 21 52.3 +1.7**
baz=150,SNR=16
ISCO Idaho Springs 79.81 333 P **P** **16 21 52.1 +1.5**
MURC Murrieta 79.94 322 P **P** **16 21 53.3 +2.2**
baz=142,SNR=6.7
D62A Allapoint, All 79.99 1 P **P** **16 21 50.8 -0.2**
GMRC Granite Mounta 80.08 323 P **P** **16 21 54.0 +2.0**
baz=143,SNR=24
ELS Elsinore Mount 80.09 321 IAmb IAmb 16 21 55.1
comp=Z,29nm,0.9s
BATG Bathurst New B 80.26 3 IAmb IAmb 16 21 56.1
comp=Z,75nm,1.9s
K30B Basset 80.29 338 P **P** **16 21 53.7 +0.9**
E46A Sault Ste Mari 80.31 350 IAmb IAmb 16 21 53.9
comp=Z,56nm,1.1s
BBRC Big Bear Solar 80.31 322 P **P** **16 21 55.4 +2.1**
baz=142
F42A Maple Grove Fa 80.35 347 IAmb IAmb 16 21 54.4
comp=Z,23nm,0.8s
ECSD EROS Data Cent 80.39 341 P **P** **16 21 53.9 +0.7**
baz=158,SNR=37
CIS Catalina Islan 80.43 321 P **P** **16 21 55.7 +1.9**
baz=141
V12A Nelson 80.44 324 IAmb IAmb 16 21 56.5
comp=Z,26nm,0.9s
HEC Hector,Ludlow 80.46 323 P **P** **16 21 56.4 +2.5**
baz=142,SNR=11
KNB Kanab 80.51 327 IAmb IAmb 16 21 57.5
comp=Z,34nm,0.9s
BFSC Mount Baldy Ra 80.68 322 P **P** **16 21 57.2 +2.0**
baz=141,SNR=10
TUQ Turquoise Moun 80.73 324 P **P** **16 21 57.6 +2.2**
baz=143,SNR=18
E43A Lone Tree Farm 80.74 348 IAmb IAmb 16 21 56.8
comp=Z,56nm,1.3s
CASY Casey 80.77 180 P **P** **16 21 56.2 +1.1**
N23A Red Feather La 80.89 333 IAmb IAmb 16 22 34.2
comp=Z,28nm,0.9s
N23A Red Feather La 80.89 333 P **P** **16 21 58.0 +1.7**
baz=150,SNR=14
GSC Goldstone, Bar 81.07 323 P **P** **16 21 59.1 +1.9**
baz=142,SNR=10
LBTB Lobatse 81.08 114 P **P** **16 21 57.1 -0.5**
LBTB Lobatse 81.08 114 LR LR 16 55 12.2
comp=Z,570nm,18.1s,baz=123,slow=34
LBTB Lobatse 81.08 114 P **P** **16 21 57.2 -0.5**
LBTB pmax pmax
comp=Z,17nm,1.1s
O20A White River Ci 81.13 331 IAmb IAmb 16 22 00.0
comp=Z,64nm,1.7s
O20A White River Ci 81.13 331 P **P** **16 21 58.6 +1.1**
baz=148,SNR=10
CCUT Cedar City 81.20 327 IAmb IAmb 16 22 01.4
comp=Z,26nm,0.9s
SRU San Rafael Swe 81.22 329 P **P** **16 21 58.3 +0.3**
SRU IAmb IAmb 16 22 00.1
comp=Z,24nm,0.8s
SRU San Rafael Swe 81.22 329 P **P** **16 21 58.3 +0.3**
SRU pmax pmax
comp=Z,25nm,0.8s
Q16A Castle Valley 81.34 329 IAmb IAmb 16 22 01.4
comp=Z,27nm,1.0s
EDW2 Edwards Air Fo 81.35 322 P **P** **16 22 00.1 +1.5**
baz=141,SNR=8.5
P18A Preston Nutter 81.53 330 IAmb IAmb 16 22 02.4
comp=Z,31nm,0.9s
CCAC Calif City Air 81.57 322 IAmb IAmb 16 22 02.7
comp=Z,45nm,1.0s
F36A Milaca 81.58 344 P **P** **16 21 59.0 -0.5**
F36A IAmb IAmb 16 22 00.4
comp=Z,27nm,0.9s
P17A Butcher Ranch, 81.61 329 IAmb IAmb 16 22 02.4
comp=Z,39nm,1.2s
LRMC Laurel Mtn Rad 81.65 322 P **P** **16 22 02.3 +2.0**
baz=141,SNR=14
E38A The Farm, Brul 81.84 345 IAmb IAmb 16 22 01.9
comp=Z,25nm,0.9s
MPMC Manual Prospec 82.00 323 P **P** **16 22 03.7 +1.5**
baz=142,SNR=11
FURC Furnace Creek, 82.01 324 P **P** **16 22 03.9 +2.0**
baz=142,SNR=5.5
RDMU Red Mountain 82.04 331 IAmb IAmb 16 22 04.5
comp=Z,29nm,0.9s
RWWY Rawlins 82.06 333 IAmb IAmb 16 22 03.8
comp=Z,50nm,1.2s
ISA Isabella, Lake 82.20 322 P **P** **16 22 05.4 +2.3**
baz=141,SNR=12
PKM Mcpherson Peak 82.31 321 P **P** **16 22 06.2 +2.4**
baz=140,SNR=9.7
TOA0 Torodi Ar. Sit 82.39 69 P **P** **16 22 04.3 -0.2**
TORD Torodi Ar. Bea 82.39 69 P **P** **16 22 04.2 -0.3**
TORD Torodi Ar. Bea 82.39 69 P **P** **16 22 03.5 -0.9**
comp=Z,7.1nm,0.8s,baz=287,slow=3.3,SNR=41
TORD pP **pP** **16 22 34.0 -1.6**
comp=Z,13nm,0.8s,baz=278,slow=3.7,SNR=12
comp=Z,7.1nm,0.8s
CWC Cottonwood Cre 82.60 323 P **P** **16 22 06.9 +1.7**
baz=141
K22A Casper 82.63 334 IAmb IAmb 16 22 07.7
comp=Z,40nm,1.1s
K22A Casper 82.63 334 P **P** **16 22 06.2 +1.0**
baz=150,SNR=8.5
VES Vestal, Richgr 82.65 322 P **P** **16 22 06.8 +1.5**
baz=140
GRAC Grapevine Rang 82.68 324 P **P** **16 22 07.5 +2.0**
baz=142,SNR=9.0
SMMC Simmler 82.73 321 P **P** **16 22 07.7 +1.9**
baz=140,SNR=9.0
SPR3 Spring Creek 3 82.82 327 P **P** **16 22 06.7 +0.2**
SPR3 IAmb IAmb 16 22 09.0
comp=Z,31nm,1.0s
R11B Troy Canyon, C 82.88 326 IAmb IAmb 16 22 09.8
comp=Z,33nm,1.2s
R11B Troy Canyon, C 82.88 326 P **P** **16 22 08.3 +1.7**
baz=143,SNR=42
DRLN Deer Lake 82.92 8 P **P** **16 22 06.0 -0.4**
DRLN IAmb IAmb 16 22 07.6
comp=Z,28nm,0.8s
RSSD Black Hills 83.03 336 P **P** **16 22 07.0 -0.3**
RSSD IAmb IAmb 16 22 09.3
comp=Z,29nm,0.9s
RSSD Black Hills 83.03 336 P **P** **16 22 08.4 +1.1**
baz=152
RSSD Black Hills 83.03 336 P **P** **16 22 07.0 -0.3**
RSSD pmax pmax
comp=Z,29nm,0.9s
DUG Dugway, Tooele 83.11 328 P **P** **16 22 08.6 +0.8**
DUG Dugway, Tooele 83.11 328 P **P** **16 22 09.2 +1.5**
baz=145,SNR=9.2
DUG Dugway, Tooele 83.11 328 P **P** **16 22 08.6 +0.8**
DUG pmax pmax
comp=Z,97nm,2.0s
EYMN Ely 83.11 346 IAmb IAmb 16 22 08.5
comp=Z,20nm,0.9s
EYMN Ely 83.11 346 P **P** **16 22 07.6 +0.2**
baz=162,SNR=15
TIN Tinemaha, Big 83.15 323 P **P** **16 22 10.1 +2.0**
baz=141
TCUT Toone Canyon 83.26 330 IAmb IAmb 16 22 11.7
comp=Z,22nm,0.9s
D32A Dogwood Acres, 83.64 342 IAmb IAmb 16 22 11.5
comp=Z,26nm,0.7s
PDAR Pinedale Array 83.89 332 P **P** **16 22 11.3 -0.5**
PDAR Pinedale Array 83.89 332 P **P** **16 22 12.2 +0.4**
comp=Z,4.5nm,0.7s,baz=138,slow=5.7,SNR=40
PDAR PKKPbc **PKKPbc** **16 40 26.4 -1.9**
comp=Z,0.6nm,0.7s,baz=322,slow=4.5,SNR=4.8
comp=Z,4.5nm,0.7s
MLAC Mammoth, Mammo 83.91 323 P **P** **16 22 14.0 +2.0**
baz=141
B35A Bob, Littlefor 83.98 344 IAmb IAmb 16 22 12.9
comp=Z,23nm,0.7s
LHV Little Huntoon 84.22 324 IAmb IAmb 16 22 16.1
comp=Z,23nm,0.7s
NVAR Mina Array Bea 84.26 324 P **P** **16 22 14.8 +1.1**
NVAR Mina Array Bea 84.26 324 P **P** **16 22 15.2 +1.4**
comp=Z,14nm,0.8s,baz=156,slow=6.0,SNR=65
NVAR pP **pP** **16 22 46.0 +1.6**
comp=Z,1.9nm,0.7s,baz=133,slow=5.2,SNR=2.5
NVAR sP **sP** **16 22 58.0 +1.0**
comp=Z,5.8nm,0.9s,baz=149,slow=5.1,SNR=4.5
comp=Z,14nm,0.8s
HVU Hansel Valley 84.39 329 IAmb IAmb 16 22 16.0
comp=Z,23nm,0.7s
AGMN Agassiz Nation 84.43 343 P **P** **16 22 14.0 -0.1**
baz=158,SNR=12
ELK Elko 84.63 327 IAmb IAmb 16 22 17.9
comp=Z,21nm,1.0s
KVN Kaiserville 84.64 324 IAmb IAmb 16 22 18.1
comp=Z,24nm,1.1s
SNOW Snow King Moun 84.95 332 P **P** **16 22 17.9 +0.7**
MDND Maddock 84.99 341 P **P** **16 22 17.7 +0.7**
baz=156
TPAW Teton Pass 85.05 331 IAmb IAmb 16 22 20.3
comp=Z,22nm,0.9s
YERR Yerington 85.15 324 IAmb IAmb 16 22 21.4
comp=Z,63nm,1.6s
LTZ Lake Taylor 85.25 221 P **P** **16 22 19.8 +1.1**
LTZ IAmb IAmb 16 22 21.5
comp=Z,33nm,1.0s
RPZ Rata Peaks 85.28 220 P **P** **16 22 19.5 +0.7**
RPZ IAmb IAmb 16 22 21.5
comp=Z,31nm,1.0s
IMW Indian Meadow 85.38 332 IAmb IAmb 16 22 21.5
comp=Z,26nm,0.9s
FLWY Flagg Ranch 85.44 332 IAmb IAmb 16 22 21.9
comp=Z,35nm,0.9s
H17A Grant Village 85.66 332 P **P** **16 22 22.5 +1.8**
baz=147,SNR=5.6
RLMT Red Lodge 85.77 333 P **P** **16 22 21.8 +0.7**
baz=148,SNR=23
YMP Mirror Lake Pl 85.78 333 IAmb IAmb 16 22 38.6
comp=Z,20nm,0.9s
AFDM Forest Hills D 85.99 323 IAmb IAmb 16 22 24.8
comp=Z,40nm,1.5s
LAO LASA Array 86.02 336 P **P** **16 22 23.1 +1.0**
baz=150,SNR=12
ULM Lac du Bonnet 86.25 344 P **P** **16 22 22.8 -0.3**
ULM IAmb IAmb 16 22 24.2
comp=Z,18nm,0.8s
ULM Lac du Bonnet 86.25 344 P **P** **16 22 23.1 0.0**
comp=Z,16nm,0.8s,baz=169,slow=4.4,SNR=34
comp=Z,16nm,0.8s
ULM Lac du Bonnet 86.25 344 P **P** **16 22 22.4 -0.7**
HLID Hailey 86.54 329 IAmb IAmb 16 22 27.7
comp=Z,21nm,0.9s
HLID Hailey 86.54 329 P **P** **16 22 26.6 +1.6**
baz=144,SNR=30
ORV Oroville 86.72 323 IAmb IAmb 16 22 28.7
comp=Z,34nm,1.3s
DGMT Dagmar 86.91 338 P **P** **16 22 27.6 +1.2**
baz=152,SNR=9.2
MFID Camas Ranch 87.03 328 IAmb IAmb 16 22 29.6
comp=Z,19nm,1.1s
BOZ Bozeman (W) 87.07 332 P **P** **16 22 28.4 +1.0**
baz=146,SNR=11
DLMT Dillon 87.26 331 IAmb IAmb 16 22 31.6
comp=Z,39nm,1.2s
WVOR Wild Horse Val 87.53 326 IAmb IAmb 16 22 32.2
comp=Z,22nm,1.2s
SCHQ Schefferville 87.79 2 P **P** **16 22 30.1 -0.4**
SCHQ IAmb IAmb 16 22 31.6
comp=Z,30nm,1.4s
SCHQ Schefferville 87.79 2 P **P** **16 22 29.4 -1.0**
comp=Z,4.3nm,0.5s,baz=189,slow=4.0,SNR=24
SCHQ pP **pP** **16 23 02.6 +1.0**
comp=Z,4.7nm,0.9s,baz=184,slow=1.5,SNR=3.0
comp=Z,4.3nm,0.5s
EGMT Eagleton 88.40 335 IAmb IAmb 16 22 35.1
comp=Z,29nm,1.2s
EGMT Eagleton 88.40 335 P **P** **16 22 33.7 +0.1**
baz=148,SNR=7.6
PLID Pearl Lake 88.44 329 IAmb IAmb 16 22 36.4
comp=Z,29nm,1.0s
K05A Summer Lake 88.82 325 IAmb IAmb 16 23 22.1
comp=Z,27nm,1.3s
MSO Missoula 89.00 332 P **P** **16 22 37.5 +1.0**
baz=144
I07A Izee 89.21 327 P **P** **16 22 38.2 +0.7**
I07A IAmb IAmb 16 22 40.3
comp=Z,15nm,1.0s
J05D Fort Rock, OR 89.41 325 IAmb IAmb 16 22 41.3
comp=Z,18nm,1.3s
PINE Pine Mountain 89.65 326 IAmb IAmb 16 22 42.7
comp=Z,15nm,0.8s
G08A Pilot Rock 89.89 328 IAmb IAmb 16 22 43.1
comp=Z,37nm,2.0s
G06A Carlson Farm, 90.61 327 IAmb IAmb 16 22 47.0
comp=Z,24nm,1.5s
H04A Detroit Lake 90.91 326 IAmb IAmb 16 22 50.0
comp=Z,14nm,1.2s
HAWA Hanford 91.00 328 IAmb IAmb 16 22 48.1
comp=Z,17nm,1.1s
D08A Wollman Farm, 91.25 329 IAmb IAmb 16 22 48.8
comp=Z,8.9nm,0.8s
FFC Flin Flon 91.85 342 P **P** **16 22 49.0 -0.4**
FFC Flin Flon 91.85 342 P **P** **16 22 49.0 -0.4**
FFC pmax pmax
comp=Z,10.0nm,1.3s
EDM Edmonton 94.00 336 P **P** **16 22 58.3 -1.1**
EDM Edmonton 94.00 336 P **P** **16 22 58.3 -1.1**
EDM pmax pmax
comp=Z,22nm,0.3s
ESDC Sonseca Array 94.87 45 P **P** **16 23 04.0 +0.3**
comp=Z,1.0nm,0.8s,baz=251,slow=3.9,SNR=4.4
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 101.92 341 P **Pdif** **16 23 34.8 0.0**
comp=Z,1.2nm,0.8s,baz=136,slow=4.2,SNR=19
YKA PP **PP** **16 27 47.0 -0.8**
comp=Z,0.6nm,0.9s,baz=135,slow=7.5,SNR=4.5
TOAD Toad River Com 102.58 334 P **Pdif** **16 23 38.0 +0.2**
baz=135
S31K Pelican 106.36 329 P **PKiKP** **16 28 04.6 -0.6**
baz=127
P33M Teslin, Yukon 106.36 332 P **PKiKP** **16 28 05.4 +0.2**
baz=129
P30M Million Dollar 107.95 331 P **PKiKP** **16 28 08.2 +0.1**
baz=126
MESA MESA 110.05 330 P **PKiKP** **16 28 11.4 -0.9**
baz=122
L29M L29M 110.13 333 P **PKiKP** **16 28 12.7 +0.5**
baz=124
J30M Hart River 110.31 335 P **PKiKP** **16 28 12.0 -0.6**
baz=125
BVCY Beaver Creek 110.80 332 P **PKiKP** **16 28 12.7 -0.7**
baz=122
KAIM Kayak Island 110.98 329 P **PKiKP** **16 28 12.9 -0.9**
baz=120
G31M Satah River 110.99 338 P **PKiKP** **16 28 13.2 -0.3**
baz=126
MCARA McCarthy VSAT 111.13 330 P **PKiKP** **16 28 14.0 -0.1**
baz=121
M27K Edge Creek, AK 111.17 332 P **PKiKP** **16 28 14.3 0.0**
baz=121
CLL Collm 111.18 42 *i* P **Pdif** **16 24 15.1 -1.1**
EPYK Eagle Plains 111.47 337 P **PKiKP** **16 28 14.5 -0.1**
baz=124
L27K Beaver Creek, 111.52 332 P **PKiKP** **16 28 14.8 0.0**
baz=121
INK Inuvik 111.58 339 P **PKiKP** **16 28 15.2 +0.6**
baz=126
Q23K Middleton Isla 111.59 328 P **PKiKP** **16 28 14.7 -0.1**
baz=119
M26K Nabesna, AK 111.64 331 P **PKiKP** **16 28 15.7 +0.7**
baz=120
G30M tAoh Zraii Nji 111.65 337 P **PKiKP** **16 28 15.2 +0.3**
baz=124
EYAK Cordova Ski Ar 111.87 329 P **PKiKP** **16 28 16.0 +0.6**
baz=119
N25K Chitina, Valde 111.90 330 P **PKiKP** **16 28 15.8 +0.2**
baz=120
H29M Whitestone 111.94 336 P **PKiKP** **16 28 15.4 0.0**
baz=123
I28M Miner Creek 112.07 335 P **PKiKP** **16 28 15.8 -0.1**
baz=122
L26K Log Cabin Wild 112.10 332 P **PKiKP** **16 28 15.9 0.0**
baz=120
K27K Chicken 112.12 333 P **PKiKP** **16 28 15.6 -0.2**
baz=121
EGAK Eagle 112.16 334 P **PKiKP** **16 28 15.9 +0.1**
baz=121
G29M Pine Creek 112.20 337 P **PKiKP** **16 28 16.4 +0.4**

baz=123
P23K **Montague Islan** 112.33 328 P PKiKP 16 28 16.4 +0.1
baz=118
KLU **Klutina** 112.40 330 P PKiKP 16 28 16.6 +0.1
baz=118
HARP **HAARP** 112.52 331 P PKiKP 16 28 16.8 +0.2
baz=119
I27K **Kandik River** 112.75 335 P PKiKP 16 28 17.5 +0.4
baz=120
M24K **Tolsona, Glenn** 112.80 330 P PKiKP 16 28 17.0 -0.3
baz=118
SCRK **Sand Creek** 112.82 333 P PKiKP 16 28 18.0 +0.6
baz=119
J26L **Joseph Creek** 112.92 333 P PKiKP 16 28 17.3 -0.2
baz=119
PAX **Paxson** 112.92 331 P PKiKP 16 28 17.8 +0.3
baz=118
E29M **Blow River** 112.97 338 P PKiKP 16 28 17.4 0.0
baz=123
H27K **Steamboat Moun** 113.04 335 P PKiKP 16 28 18.1 +0.5
baz=120
RIDG **Independent Ri** 113.04 332 P PKiKP 16 28 17.9 +0.3
baz=118
I26K **Coal Creek Min** 113.16 334 P PKiKP 16 28 18.3 +0.5
baz=119
F28M **Old Crow** 113.19 337 P PKiKP 16 28 18.5 +0.7
baz=121
M23K **Glacier View** 113.30 330 P PKiKP 16 28 18.4 +0.2
baz=117
G27K **Doyon Strip** 113.37 336 P PKiKP 16 28 18.4 +0.2
baz=120
KNK **Knik Glacier** 113.44 329 P PKiKP 16 28 18.7 +0.2
baz=116
O22K **Cooper Landing** 113.58 328 P PKiKP 16 28 19.1 +0.4
baz=116
E28M **Babbage River** 113.59 338 P PKiKP 16 28 18.8 +0.2
baz=121
J25K **Salcha River,** 113.65 333 P PKiKP 16 28 19.2 +0.4
baz=118
WAT6 **Susitna Watana** 113.66 330 P PKiKP 16 28 19.2 +0.2
baz=117
BRSE **Bradley Lake S** 113.72 327 P PKiKP 16 28 19.1 +0.1
baz=115
D28M **Stokes Point** 113.73 339 P PKiKP 16 28 19.0 +0.3
baz=122
DHY **Denali Highway** 113.74 331 P PKiKP 16 28 19.0 -0.1
baz=117
KDAK **Kodiak Island** 113.75 325 P PKiKP 16 28 19.2 +0.1
baz=115
RC01 **Rabbit Creek A** 113.85 328 P PKiKP 16 28 19.9 +0.7
baz=116
Q20K **Shuyak Island** 114.01 325 P PKiKP 16 28 19.8 +0.2
baz=115
E27K **Coleen River** 114.04 337 P PKiKP 16 28 20.4 +1.0
baz=120
HOM **Homer** 114.10 327 P PKiKP 16 28 19.9 +0.2
baz=115
WAT1 **Susitna Watana** 114.11 330 P PKiKP 16 28 20.1 +0.4
baz=116
M22K **Willow** 114.31 329 P PKiKP 16 28 20.9 +0.9
baz=115
ILAR **Eielson Array** 114.31 333 PKP PKiKP 16 28 20.1 +0.1
comp=Z,0.9nm,0.6s,baz=157,slow=1.0,SNR=9.8
ILAR PP PP 16 29 18.2 +0.2
comp=Z,0.4nm,0.6s,baz=102,slow=6.9,SNR=4.1
D27M **Malcolm River** 114.36 338 P PKiKP 16 28 21.0 +0.9
baz=120
NOA **NORSAR Array B** 114.52 32 PKKPbc PKKPbc 16 39 05.2 +4.3
comp=Z,0.8nm,0.8s,baz=65,slow=4.5,SNR=3.6
H25L **Birch Creek** 114.58 334 P PKiKP 16 28 21.6 +1.1
baz=117
CUT **Chulitna** 114.64 330 P PKiKP 16 28 21.8 +1.1
baz=115
F26K **Sheenjek River** 114.65 336 P PKiKP 16 28 21.9 +1.3
baz=118
MCK **McKinley** 114.66 331 P PKiKP 16 28 21.8 +1.1
baz=115
G25K **Bearman Lake** 114.91 335 P PKiKP 16 28 21.6 +0.6
baz=116
N20K **Mount Spurr** 114.99 328 P PKiKP 16 28 21.8 +0.3
baz=114
SKT **Skwentna** 115.01 329 P PKiKP 16 28 21.9 +0.5
baz=114
NEA2 **Nenana** 115.08 332 P PKiKP 16 28 22.0 +0.6
baz=115
TRF **Thorofare Moun** 115.09 331 P PKiKP 16 28 22.2 +0.4
baz=114
F25K **Christian Rive** 115.11 336 P PKPdf 16 28 22.0 +0.5
baz=116
H24K **Nood or Dome** 115.15 334 P PKiKP 16 28 21.8 +0.2
baz=115
HFS **Hagfors** 115.27 33 PKKPbc PKKPbc 16 39 02.3 +4.0
comp=Z,2.1nm,0.5s,baz=98,slow=6.1,SNR=14
E25K **Arctic Village** 115.32 336 P PKiKP 16 28 22.3 +0.4
baz=116
G24K **Hadweenzic Riv** 115.37 335 P PKiKP 16 28 22.5 +0.5
baz=115
Q17K **Contact Creek** 115.56 324 P PKiKP 16 28 22.8 +0.1
baz=112
BPAW **Bear Paw Mtn.** 115.64 331 PKPdf 16 28 22.3 -0.3
BPAW **Bear Paw Mtn.** 115.64 331 P PKiKP 16 28 22.9 +0.3
baz=113
PPLA **Purkeypile** 115.66 330 P PKPdf 16 28 22.8 0.0
baz=113
M20K **Styx River** 115.67 329 P PKPdf 16 28 22.4 -0.4
baz=113
P18K **Big Mountain,** 115.67 326 P PKPdf 16 28 22.8 0.0
baz=112
H23K **Yukon River** 115.77 333 P PKiKP 16 28 23.1 +0.3
baz=114
CAST **Castle Rocks** 115.82 330 P PKPdf 16 28 22.8 -0.2
baz=113
O18K **Koktuh Hills** 115.83 326 P PKPdf 16 28 22.8 -0.3
baz=112
F24K **Squaw Lake** 115.86 335 P PKiKP 16 28 23.3 +0.3
baz=114
C26K **Camden Bay** 115.91 338 P PKiKP 16 28 23.4 +0.5
baz=116
CHUM **Lake Minchumin** 116.09 331 P PKiKP 16 28 23.5 +0.1
baz=112
CHGN **Chignik** 116.11 322 P PKPdf 16 28 23.1 -0.6
baz=111
D25K **Kavik River** 116.11 337 P PKiKP 16 28 23.6 +0.2
baz=115
P17K **Kvichak River** 116.17 325 P PKiKP 16 28 23.9 +0.2
baz=111
CHNA **Chernabura Isl** 116.20 320 P PKPdf 16 28 23.0 -0.9
baz=111
L20K **Farewell, AK** 116.22 329 P PKPdf 16 28 22.9 -0.9
baz=112
M19K **Big River Lodg** 116.23 328 P PKPdf 16 28 23.4 -0.4
baz=112
E24K **Your Creek** 116.30 336 P PKPdf 16 28 23.8 0.0
baz=114
G23K **Bananza Creek** 116.30 334 P PKPdf 16 28 23.5 -0.3
baz=113
I21K **Tanana** 116.45 332 P PKiKP 16 28 24.5 +0.4
baz=112
N18K **Kilae Creek** 116.45 327 P PKiKP 16 28 24.3 +0.1
baz=111
H22K **Ishtalitna Cre** 116.49 333 P PKiKP 16 28 24.3 +0.1
baz=112
COLD **Coldfoot** 116.56 335 P PKiKP 16 28 24.5 +0.2
baz=113
K20K **Telida** 116.62 330 P PKPdf 16 28 24.5 0.0
baz=111
E23K **Chandalar** 116.68 336 P PKiKP 16 28 24.9 +0.3
baz=113
O17K **Koliganek Bris** 116.69 326 P PKiKP 16 28 24.8 +0.1
baz=110
S14K **Fog Glacier** 116.70 321 P PKPdf 16 28 25.0 0.0
baz=110
M18K **Stony River** 116.71 328 P PKiKP 16 28 24.9 +0.2
baz=111
D24K **Happy Valley** 116.84 337 P PKiKP 16 28 25.6 +0.9
baz=113
SDPT **Sand Point** 116.86 320 P PKPdf 16 28 25.0 -0.1
baz=110
P16K **Nushagak River** 116.86 325 P PKPdf 16 28 25.0 -0.1
baz=110
TOLK **Toolik Lake Re** 116.89 336 PKPdf PKPdf 16 28 24.7 -0.2
TOLK **Toolik Lake Re** 116.89 336 P PKiKP 16 28 25.5 +0.6
baz=112
G22K **Bettles** 116.92 334 P PKiKP 16 28 25.6 +0.6
baz=112
H21K **Melozitna Rive** 116.95 333 P PKiKP 16 28 26.0 +0.9
baz=111
J20K **Nowinta River** 116.95 331 P PKiKP 16 28 25.5 +0.5
baz=111
N17K **Nushagak Hills** 117.00 326 P PKiKP 16 28 25.5 +0.2
baz=110
C24K **Franklin Bluff** 117.02 337 P PKiKP 16 28 25.8 +0.7
baz=113
O16K **Kokwok River B** 117.11 325 P PKiKP 16 28 25.9 +0.4
baz=110
TTA **Tatalina** 117.30 329 P PKiKP 16 28 26.3 +0.4
baz=110
I20K **Naaghedeneel** 117.30 331 P PKiKP 16 28 26.1 +0.4
baz=110
L18K **Granite Mounta** 117.35 328 P PKiKP 16 28 26.3 +0.4
baz=110
F22K **John River** 117.38 335 P PKiKP 16 28 26.5 +0.6
baz=111
D23K **Nanushuk River** 117.39 336 P PKiKP 16 28 27.1 +1.3
baz=111
M17K **Holitna River** 117.41 327 P PKiKP 16 28 26.8 +0.7
baz=110
J19K **Poorman** 117.49 330 P PKiKP 16 28 27.0 +0.8
baz=110
G21K **Allakaket** 117.52 333 P PKiKP 16 28 26.8 +0.7
baz=110
C23K **Itkillik River** 117.68 337 P PKiKP 16 28 26.7 +0.4
baz=111
H20K **Anotneega Mo** 117.70 332 P PKPdf 16 28 26.5 0.0
baz=110
N16K **Nishlik Lake** 117.72 326 P PKiKP 16 28 27.2 +0.4
baz=109
F21K **Alatna River** 117.75 334 P PKiKP 16 28 27.3 +0.6
baz=110
J18K **Innoko River** 117.78 330 P PKiKP 16 28 27.5 +0.8
baz=109
O15K **Ungalikthiuk R** 117.80 324 P PKPdf 16 28 26.9 0.0
baz=109
S12K **Black Hills** 117.83 320 P PKPdf 16 28 26.2 -0.8
baz=109
M16K **Timber Creek** 117.98 327 P PKPdf 16 28 27.2 +0.1
baz=108
D22K **Ayikyak River** 118.03 336 P PKPdf 16 28 27.0 0.0
baz=110
L17K **Donlin** 118.04 328 P PKiKP 16 28 27.3 +0.1
baz=108
K17K **Iditarod** 118.22 328 P PKPdf 16 28 27.6 +0.1
baz=108
H19K **Roundabout Mou** 118.33 332 P PKiKP 16 28 27.8 +0.1
baz=108
E21K **Killik River** 118.33 335 P PKPdf 16 28 27.8 +0.1
baz=109
L16K **Owhat River** 118.43 327 P PKPdf 16 28 27.1 -0.9
baz=108
F20K **Avaraart Lake** 118.53 334 P PKiKP 16 28 28.7 +0.7
baz=108
O14K **Tigyukuuivet M** 118.53 324 P PKPdf 16 28 28.1 -0.1
baz=108
B22K **Teshekpuk Lake** 118.76 337 P PKiKP 16 28 28.8 +0.3
baz=108
J17K **VABM Dome** 118.77 329 P PKiKP 16 28 29.4 +0.8
baz=107
G19K **Purcell Mounta** 118.77 332 P PKiKP 16 28 28.7 +0.1
baz=107
C21K **Knifeblade Rid** 118.84 336 P PKiKP 16 28 28.7 +0.1
baz=108
B21K **Ikpikpuk River** 118.92 337 P PKiKP 16 28 29.5 +0.7
baz=108
N14K **Kuskokwak Cree** 118.94 325 P PKiKP 16 28 29.1 +0.1
baz=107
ASAR **Alice Springs** 118.95 205 PKP PKPdf 16 28 29.4 -1.0
comp=Z,1.2nm,0.7s,baz=133,slow=1.5,SNR=28
ASAR PKKPbc PKKPbc 16 38 44.9 +0.3
comp=Z,1.0nm,0.6s,baz=341,slow=3.4,SNR=19
H18K **Honnosa River** 118.98 331 P PKPdf 16 28 29.0 0.0
baz=107
E20K **Nigu River** 119.06 335 P PKiKP 16 28 29.4 +0.2
baz=107
E19K **Redstone River** 119.21 334 P PKiKP 16 28 30.0 +0.6
baz=106
F19K **Shaleruckik Mo** 119.23 333 P PKiKP 16 28 30.5 +1.1
baz=106
M14K **Bethel** 119.30 326 P PKiKP 16 28 30.3 +0.6
baz=106
G18K **Tagagawik** 119.31 332 P PKiKP 16 28 30.1 +0.4
baz=106
D20K **Etivluk River** 119.34 335 P PKPdf 16 28 29.4 -0.3
baz=106
L15K **Ungalak Mounta** 119.34 327 P PKiKP 16 28 30.2 +0.4
baz=106
J16K **Anvik River** 119.39 329 P PKiKP 16 28 30.0 +0.2
baz=106
A22K **Sinclair Lake** 119.45 338 P PKPdf 16 28 29.4 -0.3
baz=105
K15K **Wolf Creek Mou** 119.53 328 P PKiKP 16 28 30.5 +0.3
baz=106
H17K **Granite Mounta** 119.55 331 P PKiKP 16 28 30.2 +0.1
baz=106
I17K **Unalakleet** 119.60 329 P PKiKP 16 28 30.3 +0.1
baz=106
UNV **Unalaska Valle** 119.72 317 P PKPdf 16 28 30.5 -0.2
baz=112
L14K **Kuka Creek** 119.80 326 P PKiKP 16 28 31.0 +0.3
baz=105
D19K **Kuna River** 119.81 335 P PKiKP 16 28 30.7 +0.1
baz=105
M13K **Dall Lake** 119.87 325 P PKPdf 16 28 30.8 +0.1
baz=105
B20K **Meade River** 119.88 337 P PKiKP 16 28 31.2 +0.6
baz=105
F18K **Selawik** 119.89 333 P PKiKP 16 28 31.1 +0.4
baz=106
G17K **Kiwalik Mounta** 120.00 331 P PKiKP 16 28 31.3 +0.3
baz=105
BRTR **Keskin Array B** 120.02 60 PKP PKiKP 16 28 32.1 +0.1
comp=Z,1.0nm,0.8s,baz=191,slow=3.3,SNR=7.1
BRTR **Keskin Array B** 120.02 60 *i* PKIKP PKPdf 16 28 32.0 0.0
BRTR pmax pmax
comp=Z,1.0nm,0.8s
H16K **Elim** 120.44 330 P PKiKP 16 28 32.5 +0.6
baz=104
E18K **Tukpahlearik C** 120.45 333 PKPdf PKiKP 16 28 32.0 +0.1
E18K **Tukpahlearik C** 120.45 333 P PKiKP 16 28 32.3 +0.5
baz=104
KIEV **Kiev** 120.46 47 PKPdf PKPdf 16 28 30.8 -1.4
KIEV **Kiev** 120.46 47 PKIKP PKPdf 16 28 30.8 -1.4
F17K **Baldwin Pennin** 120.47 332 P PKiKP 16 28 32.2 +0.4
baz=104
AKASG **Malin Array Be** 120.47 47 PKP PKPdf 16 28 31.6 -0.6
comp=Z,1.8nm,0.5s,baz=271,slow=3.1,SNR=4.9
AKASG **Malin Array Be** 120.47 47 *c i* PKIKP PKPdf 16 28 30.7 -1.5
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB **Malin Array Si** 120.47 47 PKPdf PKPdf 16 28 31.4 -0.8
AKBB **Malin Array Si** 120.47 47 PKIKP PKPdf 16 28 31.4 -0.8
C19K **Lookout Ridge** 120.48 335 PKPdf PKiKP 16 28 33.1 +1.2
C19K **Lookout Ridge** 120.48 335 P PKPdf 16 28 31.8 -0.1
baz=104
J14K **Nanvaranak Lak** 120.56 328 P PKPdf 16 28 32.1 +0.1
baz=104
G16K **Koyuk River** 120.67 331 P PKPdf 16 28 32.1 -0.1
baz=103
E17K **Hotham Inlet** 120.84 333 P PKiKP 16 28 32.9 +0.3
baz=103
K13K **Kusilvak Mount** 120.86 327 P PKiKP 16 28 32.8 0.0
baz=103
C18K **Utukok River** 120.95 335 P PKiKP 16 28 33.0 +0.1
baz=102
A19K **Wainwright** 121.23 337 P PKiKP 16 28 33.4 +0.2
baz=102
M11K **Mekoryuk** 121.24 325 P PKPdf 16 28 33.1 -0.3
baz=105
G15K **Niukluk** 121.27 330 P PKPdf 16 28 33.0 -0.3
baz=102
B18K **Kokolik River** 121.31 335 P PKPdf 16 28 33.2 -0.1
baz=101
D17K **Noatak River** 121.44 333 P PKiKP 16 28 34.2 +0.4
baz=101
FINES **FINESS Array B** 121.45 34 PKP PKiKP 16 28 34.1 +0.1
comp=Z,2.2nm,1.1s,baz=150,slow=20,SNR=3.9
FINES PKKPbc PKKPbc 16 38 35.6 -0.3
comp=Z,1.0nm,0.3s,baz=78,slow=4.0,SNR=24
SPITS **Spitsbergen Ar** 121.56 14 PKP PKiKP 16 28 34.3 +0.5
comp=Z,5.2nm,0.8s,baz=253,slow=1.5,SNR=4.7
C17K **DeLong Mountai** 121.63 334 P PKiKP 16 28 34.4 +0.2
baz=101
F15K **North Star Dit** 121.67 331 P PKiKP 16 28 34.5 +0.2
baz=101
P08K **Saint George I** 122.10 320 P PKPdf 16 28 34.9 -0.2
baz=103
WRA **Warramunga Arr** 122.19 207 PKP PKPdf 16 28 35.9 -0.8
comp=Z,2.9nm,0.3s,baz=163,slow=1.7,SNR=80
WRA PKKPbc PKKPbc 16 38 32.8 +0.3
comp=Z,0.8nm,0.7s,baz=343,slow=3.8,SNR=10.0
F14K **Arctic Creek** 122.31 331 P PKiKP 16 28 35.6 0.0
baz=100
C16K **Lisburne Hills** 122.38 334 P PKiKP 16 28 35.7 +0.1
baz=99
SPIA **Saint Paul Isl** 122.60 320 P PKPdf 16 28 36.0 -0.1
baz=102
ARCES **ARCESS Array B** 122.66 25 PKP PKPdf 16 28 36.1 +0.1
comp=Z,1.4nm,0.5s,baz=256,slow=3.7,SNR=18
TNA **Tin City** 122.98 331 P PKPdf 16 28 36.6 0.0
baz=98
OBN **Obninsk** 125.77 43 ⇑ *i* PKIKP PKPdf 16 28 42.3 +0.1
OBN *e* 16 29 15.5
OBN 16 29 27.0
OBN pmax pmax
comp=Z,7.0nm,0.4s
KIV **Kislovodsk** 127.69 57 *i* PKIKP PKPdf 16 28 45.0 -1.5
KIV pmax pmax
comp=Z,6.0nm,1.0s
KBZ **Khabaz** 127.79 58 *i* PKIKP PKPdf 16 28 44.4 -2.1
KLMR **Klimovskoe** 127.83 36 *e* PKIKP PKPdf 16 28 43.4 -2.6
KLMR pmax pmax
comp=Z,18nm,1.4s
BILL **Bilibino** 132.90 335 PKPdf PKPdf 16 28 55.9 +0.4
BILL **Bilibino** 132.90 335 *i* PKIKP PKPdf 16 28 55.6 +0.1
KIRV **Kirov** 132.91 39 *i* PKIKP PKPdf 16 28 55.4 -0.3
ARU **Arti** 138.10 41 PKPdf PKPdf 16 29 05.1 -0.4
ARU **Arti** 138.10 41 *i* PKIKP PKPdf 16 29 04.1 -1.4
ARU 16 31 53.5
ABKAR **Akbulak array** 139.92 51 PKPpre 16 29 00.9
SEY **Seymchan** 140.22 331 *i* PKIKP PKPdf 16 29 08.2 -0.9
SEY pmax pmax
comp=Z,13nm,0.9s
TIXI **Tiksi** 140.26 351 *i* PKIKP PKPdf 16 29 08.4 -0.6
PEA0B **Petropavlovsk-** 140.83 315 *i* PKIKP PKPdf 16 29 09.1 -1.5
PETK **Petropavlovsk-** 140.83 315 PKPpre 16 29 03.2
PETK **Petropavlovsk-** 140.83 315 PKhKP PKPpre 16 29 04.7
comp=Z,3.7nm,0.6s,baz=62,slow=8.5,SNR=21
PETK PKP PKPdf 16 29 11.7 +1.1
comp=Z,4.0nm,0.7s,baz=91,slow=2.2,SNR=6.0
MA2 **Magadan** 142.44 327 *i* PKIKP PKPdf 16 29 12.1 -1.2
BRVK **Borovoye** 145.54 43 PKPdf PKPbc 16 29 19.3 0.0
BRVK **Borovoye** 145.54 43 *i* PKIKP PKPdf 16 29 18.0 -0.9
BVAR **Borovoye Array** 145.61 43 PKPbc PKPab 16 29 20.2 +0.2
comp=Z,21nm,0.6s,baz=299,slow=3.3,SNR=134
BVAR pPKPbc pPKPdf 16 29 51.9 0.0
comp=Z,9.1nm,0.9s,baz=298,slow=3.2,SNR=2.9
TOLI2 **Tolitoli** 146.43 200 PKPdf PKPdf 16 29 22.1 +0.4
HYB **Hyderabad** 147.68 111 *e* PKPbc PKPbc 16 29 25.7 -0.8
KKAR **Karatay Array** 147.73 61 PKPdf PKPdf 16 29 23.5 +0.6
KKAR **Karatay Array** 147.73 61 PKIKP PKPdf 16 29 23.5 +0.6
YAK **Yakutsk** 148.58 342 PKPdf PKPdf 16 29 22.3 -1.3
YAK **Yakutsk** 148.58 342 *e* PKIKP PKPdf 16 29 23.7 +0.1
YAK pmax pmax
comp=Z,67nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.1s
EKS2 **Erkin-Say** 150.16 61 P PKPdf 16 29 28.8 +1.7
SNR=5.6
IPM **Ipoh** 150.17 162 PKPdf PKPdf 16 29 26.1 -1.6
IPM PKPbc PKPbc 16 29 32.6 -0.3
TYV **Tymovskoe** 150.36 316 *e* PKIKP PKPdf 16 29 33.3 +0.4
TYV pmax pmax
comp=Z,200nm,4.6s
TYV pmax pmax
comp=Z,26nm,1.0s
USP **Ospenovka** 150.62 60 P PKiKP 16 29 34.2 +0.4
SNR=14
AAK **Ala-Archa** 150.69 61 P PKiKP 16 29 34.9 +0.8
SNR=18
UCH **Uchtor** 150.75 62 P PKPdf 16 29 30.3 +1.9
SNR=6.2
CHMS **Chumysh** 150.83 60 P PKiKP 16 29 34.7 +0.5
SNR=8.5
KULM **Kulim** 150.84 161 PKPbc PKPbc 16 29 33.9 -0.6
KBK **Karagaybulak** 151.02 61 P PKiKP 16 29 35.6 +0.8
SNR=5.9
KURBB **Kurchatov Arra** 151.19 44 PKPbc PKiKP 16 29 34.7 0.0
comp=Z,14nm,0.8s,baz=297,slow=2.8,SNR=5.6
KURBB pPKPbc pPKPbc 16 30 07.5 +0.8
comp=Z,15nm,0.9s,baz=300,slow=2.9,SNR=9.7
KURK **Kurchatov** 151.21 43 PKPbc PKPbc 16 29 34.2 0.0
KURK **Kurchatov** 151.21 43 PKiKP PKPbc 16 29 34.2 0.0
TKM2 **Tokmak 2** 151.46 60 P PKPbc 16 29 35.5 +0.1
SNR=9.1
YSS **Yuzh-Sakhalins** 151.67 309 PKPbc PKPbc 16 29 35.3 0.0
YSS **Yuzh-Sakhalins** 151.67 309 *e* PKIKP PKPbc 16 29 35.6 +0.2
YSS pmax pmax
comp=Z,40nm,0.8s
KSH **Kashi** 152.05 67 PKPbc PKPdf 16 29 31.2 +1.2
KSH sPKP 16 30 09.7
ASAJ **Asahikawa** 152.49 303 PKPbc PKiKP 16 29 38.0 +0.5
comp=Z,22nm,0.9s,baz=299,slow=9.2,SNR=7.1
ZALV **Zalesovo Beam** 152.71 33 PKPdf 16 29 30.1 -0.2
ZALV PKPbc PKiKP 16 29 38.0 +0.3
ZALV **Zalesovo Beam** 152.71 33 PKP PKPdf 16 29 29.9 -0.3
comp=Z,1.7nm,0.8s,baz=236,slow=2.6,SNR=7.6
ZALV PKPbc PKiKP 16 29 38.1 +0.5
comp=Z,35nm,0.6s,baz=312,slow=3.2,SNR=102
ZALV pPKPbc pPKPbc 16 30 10.7 +0.5
comp=Z,5.7nm,0.6s,baz=302,slow=2.6,SNR=3.0
ZALV **Zalesovo Beam** 152.71 33 PKIKP PKPdf 16 29 30.1 -0.2
GRNR **Gornyy** 153.90 320 ⇓ *i* PKIKP PKiKP 16 29 41.1 +0.8
GRNR pmax pmax
comp=Z,10.0nm,0.9s
MK31 **Makanchi Array** 155.03 49 PKPdf PKPdf 16 29 33.1 -0.8
MK31 PKPbc PKPbc 16 29 42.4
MK31 PKPab PKPab 16 29 58.1 -0.8
MK31 **Makanchi Array** 155.03 49 PKIKP PKPdf 16 29 33.1 -0.8
MK31 16 29 58.1
MKAR **Makanchi Array** 155.03 49 PKPdf 16 29 33.4 -0.5
MKAR PKPbc 16 29 43.0
MKAR PKPab PKPab 16 29 58.2 -0.6
MKAR **Makanchi Array** 155.03 49 PKP PKPdf 16 29 34.0 +0.1
comp=Z,0.9nm,0.8s,baz=285,slow=2.8,SNR=6.1
MKAR PKPbc PKPbc 16 29 43.0
comp=Z,3.1nm,0.8s,baz=261,slow=1.9,SNR=15
MKAR PKPab PKPab 16 29 59.0 +0.1
comp=Z,3.0nm,0.7s,baz=285,slow=4.1,SNR=9.6
MKAR pPKPbc pPKPbc 16 30 16.1 +0.5
comp=Z,3.7nm,0.8s,baz=308,slow=1.8,SNR=5.4
BOD **Bodaibo** 155.29 355 *e* PKP2 PKPab 16 29 59.1 -0.4
BOD pmax pmax
comp=Z,18nm,0.8s
MJAR **Matsushiro Arr** 156.64 286 PKPbc PKPbc 16 29 48.7
comp=Z,1.5nm,0.5s,baz=92,slow=3.1,SNR=6.3
MJAR PKPab PKPab 16 30 07.4 +1.2
comp=Z,4.7nm,0.9s,baz=87,slow=2.1,SNR=8.1
KLR **Kul'dur** 157.26 321 *e* PKIKP PKPdf 16 29 34.8 -1.9
KLR pmax pmax
comp=Z,8.0nm,1.6s
HEH **HeiHe** 158.70 328 PKP PKPdf 16 29 36.9 -1.5
HEH sPKP 16 30 14.7
HEH PP PP 16 33 56.0 +0.7
HEH AMB AMB
comp=Z,290nm,9.5s
WMQ **Urumqi** 159.71 52 *e* P PKPdf 16 29 34.0 -5.9
MDJ **Mudanjiang** 161.04 312 ⇑ P PKPdf 16 29 41.3 +0.1
MDJ pmax pmax
comp=Z,10.0nm,1.3s
MDJ pmax pmax
comp=Z,200nm,5.4s
CMAR **Chiang Mai Arr** 162.25 143 PKPdf PKPdf 16 29 43.1 -0.2
CMAR PKPab PKPab 16 30 30.0 -0.8
CMAR **Chiang Mai Arr** 162.25 143 PKP PKPdf 16 29 43.8 +0.5
comp=Z,1.6nm,0.8s,baz=237,slow=3.7,SNR=9.9
CMAR PKPab sPKPdf 16 30 29.1 +0.3
comp=Z,2.5nm,0.9s,baz=228,slow=5.6,SNR=8.6
KSRS **Korea Array** 164.76 291 PKPab PKPab 16 30 43.4 +1.9
comp=Z,6.7nm,0.9s,baz=105,slow=4.9,SNR=9.9
SONM **Songino Array** 165.20 9 PKP PKPdf 16 29 45.8 +0.5
comp=Z,0.4nm,0.3s,baz=106,slow=42,SNR=2.1
SONM PKPab PKPab 16 30 43.9 +0.8
comp=Z,3.6nm,0.8s,baz=324,slow=4.5,SNR=11
ULN **Ulaanbaatar** 165.25 8 PKPdf PKPdf 16 29 45.6 +0.2
ULN PKPab PKPab 16 30 43.9 +0.5
ULN **Ulaanbaatar** 165.25 8 PKIKP PKPdf 16 29 45.6 +0.2
ULN 16 30 43.9
TNCH **TengChong** 167.07 126 *e* P PKPdf 16 29 44.5 -3.0
TNCH pmax pmax
comp=Z,170nm,8.4s

GOMU	**GeErMu**	**167.20**	**73**	PKP	**PKPdf**	**16 29 49.4**	**+1.8**
GTA	**Gaotai**	**169.78**	**50**	PKP	**PKPdf**	**16 29 50.1**	**+1.3**
GTA				PKPab	**PKPab**	**16 31 04.8**	**+1.0**
GTA				PP	**PP**	**16 35 00.4**	**+6.4**
PZH	**PanZhiHua**	**170.19**	**131**	PKP	**PKPdf**	**16 29 47.3**	**-2.2**
HHC	**Hu-ho-hao-te**	**172.33**	**351**	*e*P	**PKPdf**	**16 29 51.5**	**+1.4**
NJ2	**Nanjing**	**172.40**	**263**	*e*P	**PKPdf**	**16 29 49.6**	**-0.6**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
BTO	**Baotou**	**172.68**	**360**	*e*PKPbc	**PKPdf**	**16 29 56.9**	**+6.7**
BTO				sPKP		16 30 34.2	
BTO				*e*PKPab	**PKPab**	**16 31 18.2**	**+1.9**
BTO				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BTO				pmax	pmax		
	comp=Z,550nm,9.4s						
LZH	**Lanzhou**	**174.23**	**59**	*e*PKP	**PKPdf**	**16 29 46.1**	**-4.9**
CD2	**Chengdu**	**174.23**	**112**	PKP	**PKPdf**	**16 29 48.9**	**-2.1**

DJA 02 16:11:36.4±0.5, 8°S±5°×11°6E±°, *h*28km±6km, M3.8/6, mb4.3/1, mB4.7/1, MLv3.5/6, Mw(mB)3.9/1, Bali region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DNP	**Denpasar**	**0.65**	**252**	P		16 11 50.4	+0.6
DNP				S		16 11 59.9	+0.7
SRBI	**Singaraja**	**0.73**	**302**	P		16 11 50.8	-0.1
SRBI				S		16 12 01.3	+0.1
TWSI	**Taliwang, Sumb**	**1.06**	**104**	P		16 11 55.3	-0.1
TWSI				S		16 12 09.4	+0.1
JAGI	**Jajag, Banyuwa**	**1.67**	**270**	P		16 12 03.9	+0.1
JAGI				S		16 12 23.6	-0.7
ABJI	**Asem Bagus**	**1.73**	**293**	P		16 12 06.2	-1.3
BLJI	**Banyuglugur**	**2.34**	**288**	P		16 12 14.1	+1.1
BKSI	**Bulukumba**	**5.28**	**54**	P		16 12 52.8	-0.7

IDC 02 16:20:16.2±2.5, 8°15S×155°07E, *h*0km, mb3.3/3, mbtmp3.3/3, MS4.1/1, Error ellipse: s-maj=135.6km s-min=32.2km az=133.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.24**	**238**	P	P	16 25 25.6	+0.2
	0.6nm,0.6s,baz=63,slow=9.7,SNR=7.2						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**25.48**	**230**	P	P	16 25 45.6	-0.8
	0.3nm,0.8s,baz=60,slow=9.7,SNR=6.8						
ASAR				LR	LR	16 34 26.3	
	comp=Z,460nm,20.2s,baz=44,slow=33						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**84.41**	**21**	P	P	16 32 51.0	+0.7
	0.3nm,0.8s,baz=242,slow=5.8,SNR=2.5						
	0.3nm,0.8s						

*NEIC **02** 16:22:32.6±2.0, 19°.40N±0°.01×154°.88W±0°.03, h5km±2km, Error ellipse: s-maj=5.3km s-min=3.0km az=291.0*

HVO 02 16:22:32.1±2.1, 19°.45N±0°.02×154°.860W±0°.004, h1km±9km, ML2.7/7, ML2.5/44(NEIC), Error ellipse: s-maj=2.4km s-min=0.4km az=184.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.04**	**318**		Pg	16 22 34.0	+1.1
JOKA	**Jonika Flow**	**0.14**	**263**		Pg	16 22 36.1	+1.3
JOKA					Sg	16 22 38.9	+2.4
JCUZ	**Jacuzzi**	**0.24**	**254**	Pg	Pg	16 22 40.6	+3.9
JCUZ				IAML		16 22 42.5	
	comp=N,656nm,0.9s						
NPOC	**North of Pu'u**	**0.24**	**257**	Pg	Pg	16 22 40.7	+3.9
NPOC				IAML		16 22 42.0	
	comp=E,1μm,0.2s						
NPOC				IAML		16 22 42.2	
	comp=N,1μm,0.5s						
STCH	**Steam Cracks**	**0.26**	**256**	Pg	Pb	16 22 39.9	+0.2
STCH				IAML		16 22 42.4	
	comp=N,740nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.30**	**257**		Pb	16 22 39.2	-1.2
PUH	**Pauahi**	**0.34**	**257**	Pg	Pg	16 22 38.7	0.0
PUH				IAML		16 22 49.2	
	comp=N,457nm,0.8s						
BYL	**Byron's Ledge**	**0.38**	**264**	Pg	Pg	16 22 38.6	-0.8
BYL				IAML		16 22 50.1	
	comp=N,474nm,0.7s						
HATHI	**Halema'uma'u T**	**0.38**	**266**	Pg	Pg	16 22 38.6	-0.8
HATHI					Sg	16 22 44.8	+0.5
HATHI				IAML		16 22 45.5	
	comp=E,462nm,1.2s						
HATHI				IAML		16 22 49.5	
	comp=N,370nm,0.9s						
SBLHI	**Steaming Bluff**	**0.39**	**267**	Pg	Pg	16 22 39.0	-0.5
KKO	**Keanakako`i**	**0.39**	**262**	Pg	Pg	16 22 38.6	-0.9
KKO				IAML		16 22 51.8	
	comp=N,757nm,1.1s						
KKO				IAML		16 22 52.2	
	comp=E,441nm,0.7s						
RIM	**Rim**	**0.40**	**262**	Pg	Pg	16 22 39.1	-0.5
RIM				IAML		16 22 52.5	
	comp=E,473nm,0.8s						
RIM				IAML		16 22 53.6	
	comp=N,642nm,0.6s						
RSD	**Rainshed**	**0.40**	**272**	Pg	Pg	16 22 39.2	-0.4
RSD				Sg	Sg	16 22 45.3	+0.5
RSD				IAML		16 22 46.6	
	comp=N,398nm,0.3s						
RSD				IAML		16 22 49.9	
	comp=E,513nm,1.5s						
UWB	**Uwekahuna B**	**0.40**	**266**	Pg	Pg	16 22 38.6	-1.1
UWE	**Uwekahuna**	**0.41**	**266**	Pg	Pg	16 22 40.0	0.0
UWE				IAML		16 22 42.4	
	comp=E,706nm,1.4s						
UWE				IAML		16 22 53.5	
	comp=N,730nm,0.8s						
SDHHI	**Sand Hill**	**0.41**	**262**	Pg	Pg	16 22 39.8	-0.3
WRMHI	**West Rim**	**0.42**	**264**	Pg	Pg	16 22 39.9	-0.2
HLP	**Hilina Pali**	**0.45**	**250**	Pg	Pg	16 22 40.9	+0.2
HLP				IAML		16 22 48.2	
	comp=N,650nm,0.6s						
MLH	**Mauna Loa**	**0.50**	**275**	Sg	Sg	16 22 48.5	+0.3
HTC	**Hot Caves**	**0.55**	**248**		Pg	16 22 42.6	0.0
HMH	**Humu'ula Sheep**	**0.61**	**285**	Pg	Pg	16 22 42.8	-1.0
HMH				Sg	Sg	16 22 51.9	+0.3
MLOA	**Mauna Loa Obse**	**0.68**	**277**	Pg	Pg	16 22 44.2	-1.0
MLOA				Sg	Sg	16 22 53.2	-0.8
MLOA				IAML		16 23 07.9	
	comp=N,240nm,0.6s						
MWH	**Moku'aweowe**	**0.70**	**273**	Pg	Pg	16 22 43.7	-1.8
MWH				IAML		16 22 57.5	
	comp=N,332nm,1.3s						
POHA	**Pohakuloa**	**0.70**	**296**	Pg	Pg	16 22 44.8	-0.8
POHA				IAML		16 23 09.0	
	comp=N,349nm,0.5s						
KHU	**Kahuku**	**0.74**	**254**	Pg	Pg	16 22 44.5	-1.8
ALEP	**Alea Permanent**	**0.74**	**277**		Pg	16 22 45.7	-0.7
ALEP					Sg	16 22 55.5	-0.6
HUH	**Hualalai**	**0.95**	**284**	Pg	Pg	16 22 49.1	-1.2
HPAH	**Hawaii Prepara**	**0.98**	**306**	Pg	Pg	16 22 48.7	-2.2
HPAH				IAML		16 23 11.0	
	comp=N,111nm,1.1s						
HPAH				IAML		16 23 17.9	
	comp=E,154nm,0.6s						

*NNC **02** 16:32:02.7±3.2, 43°.87N×86°.22E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=26.6km s-min=14.2km az=100.0*
*SOME **02** 16:32:22.9, 44°.72N×84°.62E, h20km*

ISC 02 16:32:15.4±2.0, 44°28N±0°.06×85°09E±0°.09, h10km, n24, σ2s06/37, 6C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.17**	**357**	Pg	**Pb**	**16 33 11.5**	**-0.3**
	18nm,0.5s						
ZSN				Lg	Lg	16 33 45.9	
	27nm,0.6s						
ZSN	**Zaisan**	**3.17**	**357**	*e*P	**Pb**	**16 33 11.5**	**-0.3**
	18nm,0.5s						
ZSN				*e*S	**Sn**	**16 33 45.9**	**+2.6**
	27nm,0.6s						
MK31	**Makanchi Array**	**3.19**	**323**	Pn	**Pn**	**16 33 05.3**	**-0.3**
	1.5nm,0.3s,baz=134,slow=15,SNR=72						
MK31				⇓Pg	**Pg**	**16 33 16.4**	**-0.1**
	1.9nm,0.3s,baz=129,slow=16,SNR=9.8						
MK31				⇓Sn	**Sg**	**16 33 55.0**	**-2.9**
	6.2nm,0.4s,baz=127,slow=28,SNR=7.1						
MK31				⇓Lg	Lg	16 34 12.3	
	16nm,0.5s,baz=127,slow=28,SNR=6.0						
MAKZ	**Makanchi**	**3.34**	**320**	⇑Pn	**Pn**	**16 33 07.6**	**-0.1**
	2.8nm,0.4s						
MAKZ				⇑Pg	**Pg**	**16 33 21.0**	**+1.6**
	3.4nm,0.6s						
MAKZ				⇓Sn	**Sg**	**16 33 59.0**	**-3.7**
	8.8nm,0.5s						
MAKZ				⇓Lg	Lg	16 34 17.2	
	33nm,0.7s						
DJR	**Jarkent**	**3.81**	**273**	Pg	**Pb**	**16 33 24.8**	**+2.1**
	2.2nm,0.0s						
DJR				Lg	Lg	16 34 08.2	
	7.4nm,0.3s						
DJR	**Jarkent**	**3.81**	**273**	*e*P	**Pb**	**16 33 24.8**	**+2.1**
	2.2nm,0.0s						
DJR				*e*S	**Sb**	**16 34 08.2**	**-0.6**
	7.4nm,0.3s						
PDGK	**Podgornoye**	**4.17**	**259**	Pg	**Pg**	**16 33 34.3**	**-0.8**
	2.5nm,0.1s						
PDGK				Lg	Lg	16 34 24.8	
	4.9nm,0.7s						
PDGK	**Podgornoye**	**4.17**	**259**	⇑Pn	**Pn**	**16 33 17.9**	**-1.2**
	1.5nm,0.3s						
PDGK				⇑Pg	**Pg**	**16 33 34.0**	**-1.2**
	3.0nm,0.5s						
PDGK				⇑Lg	Lg	16 34 40.7	
	44nm,0.9s						
KAPS	**Kapalarasan**	**4.20**	**286**	Pg	**Pb**	**16 33 30.2**	**+0.8**
	1.8nm,0.2s						
KAPS				Lg	Lg	16 34 17.6	
	14nm,0.1s						
KAPS	**Kapalarasan**	**4.20**	**286**	*e*P	**Pb**	**16 33 30.2**	**+0.8**
	1.8nm,0.2s						
KAPS				*e*S	**Sb**	**16 34 17.6**	**-2.6**
	14nm,0.1s						
SHLS	**Shalkode**	**4.23**	**257**	Pg	**Pb**	**16 33 29.9**	**-0.1**
	13nm,0.4s						
SHLS				Lg	Lg	16 34 17.0	
	22nm,0.3s						
SHLS	**Shalkode**	**4.23**	**257**	*e*P	**Pb**	**16 33 29.9**	**-0.1**
	13nm,0.4s						
SHLS				*e*S	**Sb**	**16 34 17.0**	**-4.2**
	22nm,0.3s						
KNOS	**Konyrlen**	**4.24**	**273**	Pg	**Pb**	**16 33 32.6**	**+2.5**
	3.2nm,0.1s						
KNOS				Lg	Lg	16 34 21.5	
	18nm,0.4s						
UZB	**Uzynbulak**	**4.54**	**258**	Pg	**Pg**	**16 33 42.9**	**+0.5**
	2.6nm,0.2s						
UZB				Lg	Lg	16 34 39.4	
	6.4nm,0.3s						
UZB	**Uzynbulak**	**4.54**	**258**	*e*P	**Pg**	**16 33 42.9**	**+0.5**
	2.6nm,0.2s						
UZB				*e*S	**Sg**	**16 34 39.4**	**-1.8**
	6.4nm,0.3s						
BLB	**Baldybastay**	**4.76**	**270**	Pg	**Pb**	**16 33 42.6**	**+3.6**
	11nm,0.2s						
BLB				Lg	Lg	16 34 38.9	
	14nm,0.8s						
TDK	**Taldyqorghan**	**4.83**	**281**	Pg	**Pb**	**16 33 42.6**	**+2.7**
	14nm,0.6s						
TDK				Lg	Lg	16 34 39.0	
	36nm,0.6s						
TDK	**Taldyqorghan**	**4.83**	**281**	*e*P	**Pb**	**16 33 42.6**	**+2.7**
	14nm,0.6s						
TDK				*e*S	**Sb**	**16 34 39.0**	**+0.9**
	36nm,0.6s						
SATY	**Saty**	**5.00**	**258**	Pg	**Pg**	**16 33 51.1**	**-0.1**
	2.3nm,0.2s						
SATY				Lg	Lg	16 34 53.4	
	13nm,0.2s						
SATY	**Saty**	**5.00**	**258**	*e*P	**Pg**	**16 33 51.1**	**-0.1**
	2.3nm,0.2s						
SATY				*e*S	**Sg**	**16 34 53.4**	**-2.5**
	13nm,0.2s						
ARXS	**Arharly**	**5.22**	**272**	Pg	**Pb**	**16 33 50.1**	**+3.4**
	1.9nm,0.2s						
ARXS				Lg	Lg	16 34 51.8	
	6.9nm,0.3s						
ARXS	**Arharly**	**5.22**	**272**	*e*P	**Pb**	**16 33 50.1**	**+3.4**
	1.9nm,0.2s						
ARXS				*e*S	**Sb**	**16 34 51.8**	**+2.3**
	6.9nm,0.3s						
MDOK	**Medeo**	**5.94**	**262**	⇓Pn	**Pn**	**16 33 44.2**	**+0.8**
	2.3nm,0.6s						
MDOK				Lg	Lg	16 35 37.7	
	12nm,0.6s						
KURBB	**Kurchatov Arra**	**7.74**	**327**	⇑Pn	**Pn**	**16 34 08.9**	**+0.9**
	3.6nm,0.7s						
KURBB				⇓Lg	Lg	16 36 32.5	
	29nm,0.8s						

*IDC **02** 16:40:01.6±6.4, 6°.82S×129°.94E, h128km±58km, mb3.5/6, mbtmp4.0/9, MS3.1/1, Error ellipse: s-maj=72.6km s-min=19.8km az=58.0*
*DJA **02** 16:40:02.4±0.3, 7°S±2°×13°0E±°, h194km±6km, M4.3/11, mB5.1/3, mb4.0/11, MLv4.4/11, Mw(mB)4.4/3*

ISC 02 16:40:03.4±0.7, 6°86S±0°05×129°79E±0°06, h150km, n38, σ2s45/41, mb3.6/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.87**	**127**	P	**Pn**	**16 40 39.2**	**+2.2**
SAUI	**Saumlaki**	**1.87**	**127**	P	**Pn**	**16 40 39.3**	**+2.2**
SAUI				S	**Sn**	**16 41 04.9**	**+2.0**
BNDI	**Bandanaira**	**2.33**	**3**	P	**Pn**	**16 40 45.2**	**+2.7**
BNDI	**Bandanaira**	**2.33**	**3**	P	**Pn**	**16 40 45.0**	**+2.5**
FAKI	**Fak Fak**	**4.62**	**32**	P	**Pn**	**16 41 11.2**	**-0.7**
FAKI				S	**Sn**	**16 42 01.6**	**-3.6**
DRS	**Darwin Rock St**	**5.64**	**169**	P	**Pn**	**16 41 25.5**	**+0.1**
MTN	**Manton Dam**	**6.09**	**168**	P	**Pn**	**16 41 31.2**	**-0.2**
SANI	**Sanana**	**6.10**	**321**	P	**Pn**	**16 41 34.5**	**+3.0**
SANI	**Sanana**	**6.10**	**321**	P	**Pn**	**16 41 33.9**	**+2.4**
	13nm,0.9s,0.1nm						
SWI	**Sorong**	**6.14**	**14**	P	**Pn**	**16 41 31.0**	**-1.0**
	13nm,0.4s,2μm0.3nm						
SOEI	**Soe**	**6.17**	**242**	P	**Pn**	**16 41 33.5**	**+0.9**
SOEI	**Soe**	**6.17**	**242**	P	**Pn**	**16 41 33.4**	**+0.9**
	17nm,0.6s,0.2nm						
KDU	**Kakadu**	**6.37**	**156**	P	**Pn**	**16 41 34.8**	**-0.2**
LBMI	**Labuha**	**6.59**	**340**	P	**Pn**	**16 41 40.9**	**+2.9**
	64nm,0.8s,0.2nm						
BATI	**Baumata**	**6.91**	**241**	P	**Pn**	**16 41 42.6**	**+0.3**
	13nm,0.3s,baz=199,slow=1.6,SNR=14						
BATI				S	**Sn**	**16 42 56.3**	**-3.6**
	43nm,0.4s,baz=7.1,slow=3.9,SNR=9.1						
BATI	**Baumata**	**6.91**	**241**	P	**Pn**	**16 41 43.0**	**+0.7**
	22nm,0.8s,0.2nm						
EDFI	**Ende, Flores**	**8.24**	**256**	P	**Pn**	**16 42 01.8**	**+1.6**
	7.9nm,0.9s						
KNRA	**Kununurra**	**8.82**	**186**	P	**Pn**	**16 42 06.4**	**-1.4**
JAY	**Jayapura**	**11.70**	**69**	P	**Pn**	**16 42 42.5**	**-3.5**
	253nm,1.1s,3μm						
FITZ	**Fitzroy Crossi**	**11.88**	**200**	P	**Pn**	**16 42 46.7**	**-1.5**
WRA	**Warramunga Arr**	**13.73**	**162**	P	**Pn**	**16 43 09.1**	**-3.0**
	4.0nm,0.3s,baz=346,slow=13,SNR=40						
WRA				S	Sn	16 45 32.5	-12
	2.7nm,0.5s,baz=332,slow=23,SNR=7.1						
COEN	**Coen**	**14.93**	**119**	P	**P**	**16 43 30.4**	**+1.4**
	9.8nm,1.7s						
JAGI	**Jajag, Banyuwa**	**15.58**	**263**	P	**Pn**	**16 43 34.6**	**-0.5**
	20nm,1.3s						
QIS	**Mount Isa**	**16.61**	**146**	P	**Pn**	**16 43 49.8**	**+2.1**
ASAR	**Alice Springs**	**17.17**	**167**	P	**P**	**16 43 54.8**	**+1.1**
	4.1nm,0.5s,baz=342,slow=9.3,SNR=162						
ASAR				S	**S**	**16 46 57.4**	**-7.8**
	1.0nm,0.6s,baz=352,slow=27,SNR=4.1						
WRKA	**Warakurna**	**18.13**	**184**	P	**Pn**	**16 44 06.4**	**+0.5**
OOD	**Oodnadatta**	**21.56**	**166**	P	**P**	**16 44 42.5**	**+1.4**
TGY	**Tagaytay City**	**22.60**	**337**	LR	LR	16 54 58.4	
	comp=Z,46nm,18.6s,baz=125,slow=40						
INKA	**Innaminka**	**23.22**	**155**	P	**P**	**16 45 00.8**	**+3.6**
MULG	**Mulgathing**	**23.64**	**171**	P	**P**	**16 45 04.3**	**+3.2**
QLP	**Quilpie**	**23.95**	**147**	P	**P**	**16 45 06.0**	**+2.0**
LCRK	**Leigh Creek**	**24.76**	**162**	P	**P**	**16 45 15.3**	**+4.1**
STKA	**Stephens Creek**	**27.22**	**158**	P	**P**	**16 45 34.5**	**+1.2**
	1.7nm,1.1s,baz=342,slow=13,SNR=2.2						
	1.7nm,1.1s						
MKAR	**Makanchi Array**	**68.00**	**327**	P	**P**	**16 50 47.8**	**+1.4**
	0.5nm,0.3s,baz=118,slow=7.8,SNR=18						
	0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**71.37**	**334**	P	**P**	**16 51 07.4**	**+0.6**
	0.5nm,0.5s,baz=151,slow=5.6,SNR=2.8						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**72.28**	**329**	P	**P**	**16 51 13.2**	**+0.8**
	0.6nm,0.3s,baz=129,slow=4.9,SNR=5.9						
	0.6nm,0.3s						
BVAR	**Borovoye Array**	**77.83**	**328**	P	**P**	**16 51 44.9**	**+0.7**
	0.4nm,0.5s,baz=122,slow=7.0,SNR=3.1						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**83.11**	**180**	P	**P**	**16 52 12.3**	**0.0**
	0.7nm,0.8s,baz=299,slow=10,SNR=1.6						
	0.7nm,0.8s						

IDC 02 16:46:59.0±4.3, 29°.30S×177°.01W, h49km±24km, mb3.4/2, mbtmp3.7/2, Error ellipse: s-maj=63.8km s-min=45.7km az=172.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.79**	**273**	P	Pn	16 47 14.7	+0.8
	510nm,0.2s,baz=94,slow=10,SNR=12						
RAO				S	Sn	16 47 25.8	+1.0
	1μm,0.3s,baz=35,slow=19,SNR=6.9						
ASAR	**Alice Springs**	**44.04**	**265**	P	P	16 55 02.2	0.0
	0.6nm,0.8s,baz=102,slow=6.9,SNR=9.6						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**44.93**	**271**	P	P	16 55 09.0	-0.3
	1.3nm,0.8s,baz=112,slow=6.1,SNR=12						
	1.3nm,0.8s						
FINES	**FINESS Array B**	**144.39**	**341**	PKP	PKPbc	17 06 28.1	+0.5
	1.9nm,1.0s,baz=36,slow=5.2,SNR=6.1						

*THE **02** 16:56:44.6, 34°.86N×24°.29E, h7km±4km, ML2.7/4, Error ellipse: s-maj=4.1km s-min=0.9km az=220.0*
*ATH **02** 16:56:45.6, 34°.92N×24°.23E, h6km±2km, ML2.5/7, Manual Solution by A.Papageorgiou This location: 2020/06/10 11:35:02 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

ISC 02 16:56:45.6±1.0, 34°93N±0°.04×24°24E±0°.03, h6km±12km, n16, σ0s69/27, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVDS	**Gavdos**	**0.15**	**236**	P	**Pg**	**16 56 48.3**	**-0.3**
GVDS				S	**Sg**	**16 56 52.0**	**+1.3**
	6μm,0.2s						
GVD	**Gavdhos**	**0.15**	**235**	P	**Pg**	**16 56 48.1**	**-0.6**
GVD				S	**Sg**	**16 56 51.5**	**+0.7**
	8μm,0.3s						
GVD	**Gavdhos**	**0.15**	**235**	P	**Pg**	**16 56 48.0**	**-0.6**
GVD				S	**Sg**	**16 56 50.5**	**-0.3**
TMBK	**Timbaki Herakl**	**0.46**	**71**	P	**Pg**	**16 56 54.5**	**+0.1**
TMBK				S	**Sg**	**16 57 00.7**	**+0.4**
PRNS	**Prines Rethymn**	**0.49**	**26**	P	**Pg**	**16 56 54.3**	**-0.7**
PRNS				S	**Sg**	**16 57 02.4**	**+1.1**
	382nm,0.4s						
KNDR	**Palaiochora Ch**	**0.55**	**304**	P	**Pg**	**16 56 56.3**	**+0.1**
KNDR				S	**Sg**	**16 57 04.6**	**+1.3**
IMMV	**Iera Moni Meta**	**0.57**	**338**	P	**Pg**	**16 56 56.1**	**-0.5**
IMMV				S	**Sb**	**16 57 06.4**	**0.0**
	798nm,0.3s						
IMMV	**Iera Moni Meta**	**0.57**	**338**	P	**Sg**	**16 56 56.5**	**-0.2**
IMMV				S	**Sg**	**16 57 04.3**	**+0.2**
CHAN	**Chania**	**0.61**	**345**	P	**Pg**	**16 56 57.1**	**-0.3**
CHAN				S	**Sg**	**16 57 05.7**	**+0.3**
IDI	**Anoyia**	**0.64**	**56**	P	**Pg**	**16 56 57.1**	**-0.9**
IDI	**Anoyia**	**0.64**	**56**	P	**Pg**	**16 56 57.4**	**-0.5**
IDI				S	**Sg**	**16 57 06.5**	**+0.2**
KSTL	**Kastelli Herak**	**0.78**	**61**	P	**Pn**	**16 57 04.2**	**+1.1**
ANKY	**Antikythira Is**	**1.21**	**321**	P	**Pb**	**16 57 08.2**	**-0.7**
ANKY	**Antikythira Is**	**1.21**	**321**	P	**Pb**	**16 57 08.2**	**-0.7**
ANKY				S	**Sg**	**16 57 25.0**	**+0.4**
VLI	**Veliai**	**2.08**	**330**	P	**Pn**	**16 57 21.0**	**0.0**
KARP	**Karpathos**	**2.47**	**75**	P	**Pn**	**16 57 26.7**	**+0.3**

*IDC **02** 17:11:46.9±0.8, 41°.58S×174°.12E, h0km, mb4.0/5, mbtmp3.9/7, ML3.9/2, MS3.4/1, Error ellipse: s-maj=25.4km s-min=17.3km az=121.0*
*WEL **02** 17:11:49.9±0.3, 42°.5±3°×17°.4E±°, h11km±2km, M4.4/26, ML4.7/26, MLv4.4/26, Error ellipse: s-maj=0.0km s-min=0.0km az=135.2, confirmed*
*WEL **02** 17:11:50.0, 41°.73S×174°.27E, h22km, ML4.4, Mw4.3, Moment Tensor Solution. s6 Moment tensor: M_{rr}89.14; $M_{\theta\theta}$247.04; $M_{\phi\phi}$-336.19; $M_{r\theta}$-63.16; $M_{\theta\phi}$-27.22; $M_{\phi r}$-17.20; Fault plane solution: NP1:φ221.00000°, δ75.00000°, λ168.00000°. NP2:φ314.00000°, δ79.00000°, λ16.00000°. Principal axes: T 269.8600, Plg19.0000°, Azm178.0000°; N 68.5600, Plg71.0000°, Azm348.0000°; P -338.4200, Plg3.0000°, Azm87.0000°; SOUTH ISLAND*
*NOU **02** 17:11:49.0, 41°.95S×174°.55E, h16km, MLv4.8/15, Cook Strait, New Zealand*

ISC 02 17:11:49.4±0.8, 41°77S±0°03×174°30E±0°03, h17km±4km, n174, σ1s30/186, mb4.0/5, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**288**	P	**Pg**	**17 11 52.5**	**-0.2**
CMWZ				S	**Sg**	**17 11 54.9**	**0.0**
WDFS	**Ward Fire Stat**	**0.13**	**244**	P	**Pb**	**17 11 53.5**	**+0.1**
SDNS	**Seddon**	**0.16**	**311**	P	**Pb**	**17 11 53.8**	**0.0**
SDNS				S	**Sg**	**17 11 57.0**	**+0.5**
SEDS	**Seddon Fire St**	**0.19**	**300**	P	**Pb**	**17 11 54.2**	**-0.2**
SEDS				S	**Sg**	**17 11 57.5**	**+0.2**
KEKS	**Kekerengu Vall**	**0.30**	**232**	P	**Pb**	**17 11 56.9**	**+0.6**
KEKS				S	**Sb**	**17 12 02.8**	**+1.9**
BSWZ	**Blackbirch Sta**	**0.32**	**280**	P	**Pb**	**17 11 56.3**	**-0.3**
BSWZ				S	**Sb**	**17 12 01.5**	**0.0**
TUWZ	**Tuamarina**	**0.43**	**322**	P	**Pb**	**17 11 58.2**	**-0.3**
TUWZ				S	**Sb**	**17 12 04.4**	**-0.3**
BWRS	**Waikakaho Road**	**0.44**	**318**	P	**Pb**	**17 11 58.5**	**-0.2**
BWRS				S	**Sb**	**17 12 05.0**	**0.0**
SNZO	**South Karori**	**0.55**	**34**	P	**Pn**	**17 12 01.6**	**-0.7**
TCW	**Tory Channel**	**0.56**	**358**	P	**Pb**	**17 12 00.6**	**-0.1**
TCW				S	**Sb**	**17 12 08.8**	**+0.5**
BHW	**Baring Head**	**0.56**	**50**	P	**Pb**	**17 12 01.6**	**+0.9**
WEL	**Wellington**	**0.60**	**36**	P	**Pn**	**17 12 02.2**	**-0.8**
PLWZ	**Plimiser**	**0.74**	**75**	P	**Pn**	**17 12 05.3**	**+0.5**

INZ	Inchbonnie	2.33	245	P		Pn	17 12 27.7	+0.9		
AKCZ	Akaroa Harbour	2.34	205	P		Pn	17 12 26.3	-0.6		
PNHZ	Pukenui	2.35	38	P		Pn	17 12 27.3	+0.1		
WPHZ	Waipukurau	2.35	44	P		Pn	17 12 27.1	-0.1		
NMEZ	Namu Road	2.38	352	P		Pb	17 12 31.8	+0.2		
PREZ	Palmer Road	2.43	357	P		Pb	17 12 31.9	-0.6		
KHEZ	Kahui Hut	2.48	355	P		Pb	17 12 32.4	-1.1		
KHEZ	Kahui Hut	2.48	355	P		Pb	17 12 33.1	-0.4		
NEZ	North Egmont	2.50	356	P		Pb	17 12 33.9	0.0		
NBEZ	Newall Road No	2.52	352	P		Pb	17 12 32.5	-1.5		
RACZ	Rakaia	2.52	218	P		Pn	17 12 28.6	-0.8		
MTVZ	Mangateitei	2.54	21	P		Pn	17 12 31.8	+2.0		
DREZ	Durham Road	2.58	358	P		Pb	17 12 34.9	-0.2		
PKE	Pukeiti	2.58	355	P		Pb	17 12 33.2	-2.0		
PKVZ	Pokaka	2.60	18	P		Pn	17 12 32.8	+2.1		
PXZ	Pawanui	2.61	49	P		Pn	17 12 29.6	-1.0		
MOVZ	Moawhango	2.61	26	P		Pn	17 12 31.7	+1.0		
WNVZ	Wahianoa	2.63	23	P		Pn	17 12 32.8	+1.6		
BHHZ	Black Hill Sta	2.64	31	P		Pn	17 12 32.0	+0.8		
KRHZ	Kereru	2.64	37	P		Pn	17 12 31.1	-0.1		
TRVZ	Turoa	2.65	21	P		Pn	17 12 33.5	+2.1		
VRZ	Vera Road	2.67	8	P		Pb	17 12 34.3	-2.2		
WHVZ	Whangaehu Hut	2.67	22	P		Pn	17 12 33.5	+1.8		
MHCZ	Mount Hutt	2.68	228	P		Pn	17 12 31.0	-0.6		
MAVZ	Matarangi	2.68	21	P		Pn	17 12 34.1	+2.2		
FWVZ	Far West T-bar	2.69	21	P		Pn	17 12 33.9	+1.9		
MHEZ	Mangahewa	2.69	0	P		Pb	17 12 36.4	-0.6		
TUVZ	Tukino	2.70	23	P		Pn	17 12 33.9	+1.8		
COVZ	Chateau Observ	2.74	21	P		Pn	17 12 34.3	+1.8		
NGZ	Ngauruhoe	2.77	21	P		Pn	17 12 35.1	+2.0		
SNVZ	South Ngauruho	2.78	22	P		Pn	17 12 34.9	+1.8		
KAHZ	Kahuranaki	2.78	46	P		Pn	17 12 32.3	-0.8		
OTVZ	Oturere	2.80	22	P		Pn	17 12 35.2	+1.7		
NNVZ	North Ngauruho	2.82	21	P		Pn	17 12 35.9	+2.1		
WACZ	Wakanui South	2.83	219	P		Pn	17 12 33.1	-0.5		
WTVZ	West Tongariro	2.83	21	P		Pn	17 12 35.6	+1.8		
TWVZ	Taurewa	2.83	18	P		Pn	17 12 35.6	+1.7		
ETVZ	East Tongariro	2.84	23	P		Pn	17 12 35.7	+1.7		
KWHZ	Kaweka Forest	2.85	35	P		Pn	17 12 33.9	-0.1		
TMVZ	Te Maari	2.86	22	P		Pn	17 12 35.8	+1.5		
KRVZ	Karewarewa	2.86	21	P		Pn	17 12 36.1	+1.9		
NTVZ	North Tongarir	2.87	22	P		Pn	17 12 36.0	+1.6		
WVZ	Waitaha Valley	2.94	243	P		Pn	17 12 35.7	+0.5		
MCHZ	McNeill Hill	2.95	39	P		Pn	17 12 35.1	-0.3		
KATZ	Kakaramea	2.99	21	P		Pb	17 12 39.7	-2.5		
RITZ	Rihia Road	3.03	24	P		Pn	17 12 37.8	+1.3		
RPZ	Rata Peaks	3.08	230	P		Pn	17 12 37.0	-0.2		
RPZ	Rata Peaks	3.08	230	P		Pn	17 12 36.2	-1.0		
	25nm,0.3s,baz=65,slow=3.8,SNR=79									
RPZ				Sn		Sn	17 13 10.7	-2.9		
	17nm,0.3s,baz=334,slow=21,SNR=7.6									
	53nm,0.4s									
RPZ	Rata Peaks	3.08	230	P		Pn	17 12 36.9	-0.2		
BKZ	Black Stump Fm	3.09	33	P		Pn	17 12 37.6	+0.2		
BKZ	Black Stump Fm	3.09	33	P		Pn	17 12 37.0	-0.4		
RATZ	Rangitukua	3.11	22	P		Pn	17 12 39.2	+1.6		
ARCZ	Arundel	3.16	225	P		Pn	17 12 37.8	-0.5		
WATZ	Wairara	3.25	20	P		Pn	17 12 40.8	+1.3		
HIZ	Hauiti	3.28	8	P		Pn	17 12 42.5	+2.6		
HIZ	Hauiti	3.28	8	P		Pn	17 12 42.4	+2.6		
NMHZ	Naumai	3.28	36	P		Pn	17 12 39.5	-0.5		
GCSZ	Gaunt Creek Bo	3.32	241	P		Pn	17 12 41.7	+1.3		
WHTZ	Whakaora	3.35	23	P		Pb	17 12 48.6	+0.3		
KUTZ	Kaahu Road	3.48	20	P		Pb	17 12 50.5	0.0		
MTHZ	Maungataniwha	3.50	35	P		Pn	17 12 42.6	-0.4		
TMZ	Timaru	3.56	222	P		Pn	17 12 43.1	-0.6		
RAHZ	Arahi	3.56	38	P		Pn	17 12 42.7	-1.0		
TLZ	Tolley Road	3.56	16	P		Pn	17 12 45.1	+1.2		
PRRZ	Plateau Road	3.64	27	P		Pn	17 12 45.1	+0.2		
GRRZ	Galatos Road	3.69	23	P		Pn	17 12 46.2	+0.7		
FOZ	Fox Glacier	3.75	240	P		Pn	17 12 47.1	+0.8		
RTZ	Ruatahuna	3.76	34	P		Pn	17 12 46.2	-0.4		
SNGZ	Shannon Statio	3.78	39	P		Pn	17 12 45.5	-1.4		
MUGZ	Murupara	3.79	31	P		Pn	17 12 47.9	+0.9		
TARZ	Mount Tarawera	3.92	26	P		Pn	17 12 48.6	-0.1		
LBZ	Lake Benmore	3.99	228	P		Pn	17 12 49.7	0.0		
RIGZ	Rimuhau	4.05	42	P		Pn	17 12 48.8	-1.7		
URZ	Urewera	4.12	33	P		Pn	17 12 51.0	-0.4		
URZ	Urewera	4.12	33	Pn		Pn	17 12 50.3	-1.0		
	3.5nm,0.3s,baz=308,slow=7.1,SNR=7.6									
URZ				Sn		Sn	17 13 38.9	-0.2		
	5.5nm,0.3s,baz=236,slow=13,SNR=1.7									
URZ				Lg		Lg	17 13 54.9			
	baz=170,slow=20									
	7.0nm,0.3s									
URZ	Urewera	4.12	33	P		Pn	17 12 50.4	-1.0		
KMRZ	Kaimai	4.12	18	P		Pn	17 12 53.0	+1.6		
TOZ	Tahuroa Road	4.14	13	P		Pn	17 12 53.3	+1.6		
ODZ	Otahua Downs	4.22	218	P		Pn	17 12 51.8	-1.0		
ODZ	Otahua Downs	4.22	218	P		Pn	17 12 51.8	-1.0		
OPRZ	Ohinepanea	4.29	25	P		Pn	17 12 53.2	-0.5		
TKGZ	Te Karaka	4.30	40	P		Pn	17 12 52.2	-1.6		
TWGZ	Tauwhareparae	4.57	39	P		Pn	17 12 56.1	-1.6		
RUGZ	Raukumara Rang	4.60	35	P		Pn	17 12 56.6	-1.6		
JCZ	Jackson Bay	4.66	239	P		Pn	17 12 59.2	+0.3		
JCZ	Jackson Bay	4.66	239	P		Pn	17 12 58.6	-0.3		
KBAZ	Karaka Road Bo	4.69	6	P		Pn	17 13 02.0	+2.8		
AWAZ	Awhitu Peninsu	4.71	3	P		Pn	17 13 02.2	+2.7		
MKAZ	Moumakai	4.71	8	P		Pn	17 13 01.2	+1.8		
HAZ	Te Kaha	4.82	35	P		Pn	17 13 00.0	-1.1		
ETAZ	East Tamaki Re	4.83	6	P		Pn	17 13 03.9	+2.6		
WTAZ	Waiatarua	4.83	3	P		Pn	17 13 04.5	+3.2		
HHSZ	Highcliff Hill	4.91	212	P		Pn	17 13 01.9	-0.4		
WKZ	Wanaka	4.92	230	P		Pn	17 13 02.0	-0.4		
RVAZ	Riverhead Bore	5.00	3	P		Pn	17 13 06.4	+2.9		
WIAZ	Waiheke Island	5.01	8	P		Pn	17 13 05.9	+2.2		
EAZ	Earnscleugh	5.01	228	P		Pn	17 13 02.9	-0.8		
MBAZ	Motutapu North	5.01	6	P		Pn	17 13 06.3	+2.6		
KUZ	Kuaotunu	5.14	13	P		Pn	17 13 07.4	+2.0		
KUZ	Kuaotunu	5.14	13	P		Pn	17 13 06.5	+1.1		
ABAZ	Army Bay	5.18	5	P		Pn	17 13 09.1	+3.1		
MXZ	Matakaoa Point	5.22	38	P		Pn	17 13 07.4	+0.9		
TUZ	Tuapeka	5.37	217	P		Pn	17 13 08.5	-0.2		
MSZ	Milford Sound	5.49	236	P		Pn	17 13 13.8	+3.6		
MLZ	Mavora Lakes	5.75	229	P		Pn	17 13 13.7	-0.2		
WCZ	Waipu Caves	5.82	0	P		Pn	17 13 17.7	+2.9		
SYZ	Scrubby Hill	6.04	216	P		Pn	17 13 17.5	-0.2		
SYZ	Scrubby Hill	6.04	216	P		Pn	17 13 17.6	-0.2		
WHZ	Wether Hill Ro	6.17	226	P		Pn	17 13 19.1	-0.5		
OUZ	Omahuta	6.56	355	P		Pn	17 13 28.3	+3.3		
OUZ	Omahuta	6.56	355	P		Pn	17 13 28.5	+3.5		
CTZ	Chatham Island	6.97	109	P		Pn	17 13 31.1	+0.5		
STKA	Stephens Creek	27.84	280	LR		LR	17 26 33.9			
	comp=Z,68nm,18.8s,baz=92,slow=32									
ASAR	Alice Springs	38.07	286	P		P	17 19 06.1	-1.0		
	0.5nm,0.4s,baz=121,slow=6.6,SNR=32									
ASAR				PcP		PcP	17 21 20.7	-1.4		
	0.3nm,0.9s,baz=129,slow=3.9,SNR=1.3									
	0.5nm,0.4s									
WRA	Warramunga Arr	40.14	290	P		P	17 19 23.3	-1.2		
	1.1nm,0.5s,baz=127,slow=8.4,SNR=16									
WRA				PcP		PcP	17 21 27.1	-1.5		
	0.3nm,0.7s,baz=138,slow=2.6,SNR=1.3									
	1.1nm,0.5s									
QSPA	South Pole Qui	48.36	180	P		P	17 20 32.0	+2.2		
	4.0nm,0.9s,baz=3.1,slow=4.3,SNR=13									
	4.0nm,0.9s									
SNAA	Sanae	66.85	181	P		P	17 22 41.4	+1.7		
	0.7nm,0.5s,baz=191,slow=19,SNR=1.7									
	0.7nm,0.5s									
CMAR	Chiang Mai Arr	91.68	293	P		P	17 24 55.4	-0.4		
	0.4nm,0.6s,baz=156,slow=4.6,SNR=3.1									
	0.4nm,0.6s									
YKA	Yellowknife Ar	118.38	30	PKP		PKPdf	17 30 34.7	+0.1		
	0.2nm,0.8s,baz=256,slow=1.3,SNR=2.6									
ARCES	ARCESS Array B	147.81	340	PKPbc		PKPbc	17 31 31.4	-0.6		
	0.4nm,0.5s,baz=75,slow=3.8,SNR=3.5									
BRTR	Keskin Array B	150.30	279	PKPbc		PKPbc	17 31 39.7	+0.3		
	0.3nm,0.4s,baz=131,slow=5.9,SNR=2.7									
TORD	Torodi Ar. Bea	150.76	195	PKPbc		PKPbc	17 31 41.4	+0.4		
	1.4nm,0.7s,baz=140,slow=2.4,SNR=9.0									
FINES	FINESS Array B	152.57	327	PKPbc		PKPbc	17 31 43.0	-0.7		
	2.1nm,1.0s,baz=94,slow=4.2,SNR=4.1									

*IDC **02** 17:15:55.2±2.5, 17°.46S×178°.30W, h433km±25km, mb3.3/10, mbtmp4.1/10, Error ellipse: s-maj=20.0km s-min=15.7km az=120.0*
ISC 02 17:15:56.6±0.7, 17°.5S±0°.2×178°.3W±0°.2, h450km, n12, σ1°06/15, mb3.7/10, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	44.80	259	P		P	17 23 28.6	-0.7
	0.5nm,0.9s,baz=95,slow=7.6,SNR=8.1							
WRA				ScP		ScP	17 28 12.2	+1.1
	0.4nm,0.9s,baz=90,slow=5.7,SNR=2.2							
	0.5nm,0.9s							
ASAR	Alice Springs	45.00	254	P		P	17 23 30.9	+0.1
	1.7nm,0.5s,baz=89,slow=8.0,SNR=79							
ASAR				PcP		PcP	17 25 03.2	+0.4
	0.3nm,0.8s,baz=111,slow=3.7,SNR=1.6							
ASAR				ScP		ScP	17 28 13.7	+1.9
	0.3nm,0.6s,baz=100,slow=4.6,SNR=5.1							
	1.7nm,0.5s							
MJAR	Matsushiro Arr	67.63	323	P		P	17 26 07.8	+0.3
	2.0nm,0.7s,baz=156,slow=5.7,SNR=8.9							
	2.0nm,0.7s							
QSPA	South Pole Qui	72.56	180	P		P	17 26 37.7	+1.0
	6.0nm,1.0s,baz=25,slow=4.5,SNR=30							
	6.0nm,1.0s							
PETK	Petropavlovsk-	73.30	345	P		P	17 26 40.5	-0.4
	1.9nm,0.7s,baz=138,slow=8.9,SNR=9.6							
	1.9nm,0.7s							
NVAR	Mina Array Bea	79.06	44	P		P	17 27 13.4	0.0
	0.9nm,0.7s,baz=230,slow=8.2,SNR=5.2							
	0.9nm,0.7s							
ILAR	Eielson Array	85.46	13	P		P	17 27 44.9	-0.3
	0.3nm,0.3s,baz=226,slow=5.2,SNR=7.6							
	0.3nm,0.3s							
TXAR	Lajitas Array	85.69	58	P		P	17 27 48.0	+0.8
	1.3nm,0.8s,baz=229,slow=5.5,SNR=9.7							
	1.3nm,0.8s							
PDAR	Pinedale Array	86.98	43	P		P	17 27 53.0	-0.3
	0.5nm,0.6s,baz=191,slow=1.8,SNR=5.0							
	0.5nm,0.6s							
SNAA	Sanae	91.01	179	P		P	17 28 11.0	-0.4
	2.5nm,0.9s,baz=184,slow=13,SNR=9.2							
	2.5nm,0.9s							
BRTR	Keskin Array B	144.56	315	PKP		PKPab	17 34 41.3	-0.3
	0.3nm,0.4s,baz=70,slow=1.7,SNR=3.4							
TORD	Torodi Ar. Bea	175.68	180	PKPab		PKPab	17 36 53.3	-2.4
	0.8nm,1.0s,baz=217,slow=4.5,SNR=2.6							

*KNET **02** 17:41:10.9±0.4, 42°.37N×74°.35E, h15km±3km, ml2.0, Error ellipse: s-maj=2.9km s-min=2.3km az=22.0*
*KRNET **02** 17:41:11.2±0.1, 42°.36N×74°.34E, h18km, mb2.5*
*NNC **02** 17:41:11.8±0.6, 42°.42N×74°.29E, h3km±2km, mb3.5, mpv3.3, Error ellipse: s-maj=5.8km s-min=2.9km az=161.0*
*SOME **02** 17:41:11.5, 42°.37N×74°.32E, h5km*
ISC 02 17:41:10.7±0.9, 42°.35N±0°.02×74°.33E±0°.01, h13km±7km, n71, σ0°88/131, 47C-23D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
UCH	Uchtor	0.19	132	⇑P		Pb	17 41 15.7	-0.5
	159nm,0.1s,SNR=905							
UCH				⇓S		Sg	17 41 19.0	+0.6
	101nm,0.1s							
UCH	Uchtor	0.19	132	⇑eP		Pb	17 41 15.7	-0.5
	baz=35							
UCH				⇑eS		Sg	17 41 18.7	+0.3
	baz=35							
AAK	Ala-Archa	0.31	24	⇑P		Pb	17 41 17.6	-0.7
	130nm,0.1s,SNR=114							
AAK				⇓S		Sg	17 41 21.9	+0.3
	502nm,0.1s							
AAK	Ala-Archa	0.31	24	⇑P		Pb	17 41 17.5	-0.7
	23nm,0.2s							
AAK				⇓S		Sg	17 41 21.8	+0.3
	204nm,0.3s							
AAK	Ala-Archa	0.31	24	⇑eP		Pb	17 41 17.4	-0.8
	baz=23							
AAK				⇑eS		Sg	17 41 21.8	+0.3
	baz=23							
ARLS	Aral	0.49	180	⇑eP		Pb	17 41 21.1	-0.2
	baz=81							
ARLS				⇑eS		Sb	17 41 28.2	-0.3
	baz=81							
FRU1	Bishkek	0.51	26	⇑eP		Pb	17 41 21.1	-0.4
	baz=26							
FRU1				⇑eS		Sb	17 41 28.2	-0.7
	baz=26							
EKS2	Erkin-Say	0.51	307	⇓P		Pb	17 41 21.3	-0.2
	18nm,0.2s,SNR=19							
EKS2				⇑S		Sb	17 41 28.6	-0.3
	41nm,0.2s							
EKS2	Erkin-Say	0.51	307	⇓eP		Pb	17 41 21.2	-0.3
	baz=6.0							
EKS2				⇓eS		Sb	17 41 28.3	-0.6
	baz=6.0							
KBK	Karagaybulak	0.55	57	⇑P		Pb	17 41 22.1	-0.2
	47nm,0.1s,SNR=261							
KBK				⇑S		Sb	17 41 29.7	-0.4
	60nm,0.1s							
KBK	Karagaybulak	0.55	57	⇑eP		Pb	17 41 21.8	-0.5
	baz=57							
KBK				⇑eS		Sb	17 41 29.2	-1.0
	baz=57							
CHMS	Chumysh	0.72	26	⇑P		Pb	17 41 25.0	0.0
	23nm,0.1s,SNR=36							
CHMS				⇑S		Sb	17 41 34.5	-0.4
	122nm,0.1s							
CHMS	Chumysh	0.72	26	⇓P		Pb	17 41 24.9	-0.2
	5.9nm,0.2s							
CHMS				⇓S		Sb	17 41 34.3	-0.5
	28nm,0.2s							
CHMS	Chumysh	0.72	26	⇓eP		Pb	17 41 24.6	-0.4
	baz=26							
CHMS				⇓eS		Sb	17 41 34.3	-0.5
	baz=26							
MRKS	Merke	0.90	296	P		Pb	17 41 28.3	+0.1
	18nm,0.1s							
MRKS				S		Sb	17 41 40.3	+0.1
	36nm,0.3s							
MRKS	Merke	0.90	296	eP		Pb	17 41 28.3	+0.1
	18nm,0.1s							
MRKS				eS		Sb	17 41 40.3	+0.1
	36nm,0.3s							
MRKS	Merke	0.90	296	eP		Pb	17 41 28.3	+0.1
	baz=96							
MRKS				eS		Sb	17 41 40.3	+0.1
	baz=96							
USP	Ospenovka	0.92	8	⇓P		Pb	17 41 28.6	+0.1
	5.3nm,0.1s,SNR=41							
USP				⇑S		Sb	17 41 40.6	-0.1
	42nm,0.1s							
USP	Ospenovka	0.92	8	⇑eP		Pb	17 41 28.3	-0.2
	baz=8.0							
USP				⇑eS		Sb	17 41 40.7	-0.1
	baz=8.0							
TKM2	Tokmak 2	1.10	58	⇑P		Pb	17 41 31.6	0.0
	10nm,0.1s,SNR=99							
TKM2				⇑S		Sb	17 41 46.0	+0.1
	36nm,0.1s							
TKM2	Tokmak 2	1.10	58	⇑P		Pb	17 41 31.5	0.0
	4.7nm,0.3s							
TKM2				⇑S		Sb	17 41 45.7	-0.2
	17nm,0.4s							
TKM2	Tokmak 2	1.10	58	⇑eP		Pg	17 41 31.4	-0.4
	baz=59							
TKM2				⇑eS		Sb	17 41 45.9	0.0
	baz=59							
SGDS	Sogindy	1.12	11	P		Pn	17 41 32.3	+0.1
	3.7nm,0.4s							
SGDS				S		Sb	17 41 46.7	+0.2
	84nm,0.2s							
BOOM	Boomskoye usch	1.20	83	⇓eP		Pn	17 41 33.5	+0.1
	baz=83							
BOOM				⇓eS		Sb	17 41 49.0	0.0
	baz=83							
MNAS	Manas	1.35	276	⇑eP		Pg	17 41 36.6	-0.1
	baz=76							
MNAS				⇑eS		Sn	17 41 54.1	+0.7
	baz=76							
DGS	Degeres	1.39	50	P		Pg	17 41 37.1	-0.2
	7.9nm,0.2s							
DGS				S		Sg	17 41 55.1	-0.2
	14nm,0.6s							
DGS	Degeres	1.39	50	eP		Pg	17 41 37.1	-0.2
	7.9nm,0.2s							
DGS				eS		Sg	17 41 55.1	-0.2
	14nm,0.6s							
DGS	Degeres	1.39	50	eP		Pg	17 41 37.1	-0.2
	baz=50							
DGS				eS		Sg	17 41 55.1	-0.2
	baz=50							
KST	Kastek	1.39	60	P		Pg	17 41 37.3	-0.1
	5.4nm,0.1s							
KST				S		Sg	17 41 55.4	0.0
	18nm,0.4s							
KST	Kastek	1.39	60	eP		Pg	17 41 37.3	-0.1
	baz=60							
KST				eS		Sg	17 41 55.4	0.0
	baz=60							
ULHL	Ulahol	1.43	94	⇑eP		Pb	17 41 37.3	+0.1
	baz=94							
ULHL				⇑eS		Sg	17 41 56.2	-0.4
	baz=94							
ARSB	Arslanbob	1.44	225	⇓eP		Pb	17 41 37.8	+0.4
	baz=25							
ARSB				⇓eS		Sg	17 41 57.2	+0.2
	baz=25							
NRN	Naryn	1.55	126	⇑eP		Pb	17 41 39.3	-0.1
	baz=27							
NRN				⇑eS		Sb	17 41 59.5	+0.4
	baz=27							
KRBS	Karabastau	1.67	36	P		Pg	17 41 42.2	-0.5
	6.8nm,0.2s							
KRBS				S		Sg	17 42 03.7	-0.6
	32nm,0.3s							
KRBS	Karabastau	1.67	36	eP		Pg	17 41 42.1	-0.5
	6.8nm,0.2s							
KRBS				eS		Sg	17 42 03.7	-0.6
	32nm,0.3s							
KRBS	Karabastau	1.67	36	eP		Pg	17 41 42.2	-0.5
	baz=36							
KRBS				eS		Sg	17 42 03.7	-0.6
	baz=36							
MTBS	Maitube	1.73	63	P		Pg	17 41 43.5	-0.5
	7.1nm,0.2s							
MTBS				S		Sg	17 42 06.1	-0.3
	14nm,0.5s							
MTBS	Maitube	1.73	63	eP		Pg	17 41 43.5	-0.5
	7.1nm,0.2s							
MTBS				eS		Sg	17 42 06.1	-0.3
	14nm,0.5s							
IZV	Izvestkoviy	1.82	67	P		Pg	17 41 45.1	-0.4
	6.3nm,0.1s							
IZV				S		Sg	17 42 09.0	-0.2
	18nm,0.5s							
IZV	Izvestkoviy	1.82	67	eP		Pg	17 41 45.1	-0.4
	6.3nm,0.1s							
IZV				eS		Sg	17 42 09.0	-0.2
	18nm,0.5s							
ARK	Arkit	1.84	253	⇑eP		Pb	17 41 44.4	+0.1
	baz=53							
ARK				⇑eS		Sg	17 42 09.6	-0.4
	baz=53							
TNSS	Tian-Shan	2.05	70	Pg		Pg	17 41 49.6	-0.4
	7.6nm,0.2s							
TNSS				Lg		Lg	17 42 16.7	
	14nm,0.5s							
TNSS	Tian-Shan	2.05	70	eP		Pg	17 41 49.6	-0.4
	7.6nm,0.2s							
TNSS				eS		Sg	17 42 16.7	+0.1
	14nm,0.5s							
KNDC	Almaty	2.13	65	⇓Pn		Pb	17 41 49.5	+0.4
	6.0nm,0.2s							
KNDC				⇑Lg		Lg	17 42 19.9	
	15nm,0.4s							
KDJ	Kajisay	2.13	95	⇑eP		Pb	17 41 48.6	-0.6
	baz=95							
KDJ				⇑eS		Sb	17 42 15.8	+0.1
	baz=95							
MDOK	Medeo	2.16	67	⇓Pn		Pb	17 41 50.5	+0.8
	2.8nm,0.2s							
MDOK				Pg		Pg	17 41 51.2	-0.9
	11nm,0.1s							
MDOK				⇓Sn		Sg	17 42 19.1	-1.0
	12nm,0.6s							
MDOK				Lg		Lg	17 42 19.3	
	16nm,0.5s							
MDOK	Medeo	2.16	67	eP		Pg	17 41 51.2	-0.9
	11nm,0.1s							
MDOK				eS		Sg	17 42 19.3	-0.9
	16nm,0.5s							
OHH	Osh	2.16	213	⇑eP		Pb	17 41 49.0	-0.7
	baz=13							
OHH				⇑eS		Sb	17 42 16.4	-0.1
	baz=13							
KTBS	Karatobe	2.20	51	Pg		Pb	17 41 51.3	+1.0
	10nm,0.4s							
KTBS				Lg		Lg	17 42 19.6	
	35nm,0.5s							
KTBS	Karatobe	2.20	51	eP		Pb	17 41 51.3	+1.0
	10nm,0.4s							
KTBS				eS		Sg	17 42 19.6	-1.7
	35nm,0.5s							
KOTS	Kotyrbulak	2.23	66	Pg		Pg	17 41 53.2	-0.3
	9.5nm,0.2s							
KOTS				Lg		Lg	17 42 22.8	
	26nm,0.5s							
KOTS	Kotyrbulak	2.23	66	eP		Pg	17 41 53.1	-0.3
	9.5nm,0.2s							
KOTS				eS		Sg	17 42 22.8	+0.4
	26nm,0.5s							
DZA	Taraz	2.27	285	Pg

UZB				*e*S		**Sg**	**17 43 02.8 -1.8**
	5.4nm,0.2s						
PDGK	**Podgornoye**	**3.92**	**74**	⇑Pg		**Pb**	**17 42 19.8 +0.1**
	1.5nm,0.6s						
PDGK				⇑Lg		Lg	17 43 14.1
	6.7nm,0.9s						

AFAD 02 18:07:23.9±0.0,**37°.58N**×**38°.49E, h7**km±3km, **ML1.3, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZEY	**Adyaman-Merk**	**0.30**	**320**	P	Pg	18 07 26.8	-3.0
AZEY				S	Sg	18 07 32.9	-1.0
HANM	**anlurfa/Hi**	**0.31**	**90**	P	Pg	18 07 30.3	+0.3
HANM				S	Sg	18 07 35.0	+1.0
HANM				*i* AML	AML	18 07 40.0	
	comp=N,31nm,0.3s						
SANL	**SANLIURFA_Merk**	**0.57**	**136**	P	Pb	18 07 35.6	-0.6
SANL				S	Sg	18 07 42.9	+0.7
SANL				*i* AML	AML	18 07 48.0	
	comp=E,18nm,0.5s						
SANL				*i* AML	AML	18 07 51.0	
	comp=N,18nm,0.3s						
AKCA	**Adyaman/G¶l**	**0.67**	**289**	P	Pg	18 07 37.2	+0.3
AKCA				S	Sg	18 07 45.2	-0.5
AKCA				*i* AML	AML	18 07 55.0	
	comp=N,16nm,0.4s						
AKCA				*i* AML	AML	18 07 59.0	
	comp=E,12nm,0.5s						
SURC	**SANLIURFA_SURC**	**0.71**	**172**	P	Pb	18 07 38.4	-0.2
SURC				S	Sb	18 07 47.9	-0.6
MAYA	**Malatya/Merkez**	**0.75**	**356**	P	Pg	18 07 37.6	-0.7
GZT	**Gaziantep**	**0.77**	**253**	P	Pn	18 07 40.9	-0.5
GZT				S	Sb	18 07 50.6	+0.1
AKCD	**Akcadag**	**0.84**	**328**	P	Pn	18 07 42.0	-0.4
ELZG	**Elazig**	**0.99**	**23**	P	Pb	18 07 43.4	-0.2
ELZG				S	Sb	18 07 56.8	-0.2
ELZG				*i* AML	AML	18 08 01.0	
	comp=E,11nm,0.3s						
ELZG				*i* AML	AML	18 08 04.0	
	comp=N,7.8nm,0.3s						

*ISK **02** 18:08:27.5,40°.01N×40°.03E, h5km, ML3.8/17*
*AFAD **02** 18:08:28.1±0.0,39°.95N×40°.04E, h7km±3km, MW3.8*
*CFUSG **02** 18:08:28.2,40°.00N×40°.00E, h5km, mb2.9/4, Eastern Turkey Magtype MSH 3.5 from 4 stations*
*IDC **02** 18:08:32.2±1.0,40°.38N×39°.56E, h0km, mb3.3/3, mbtmp3.3/9, ML3.1/6, MS2.7/5, Error ellipse: s-maj=14.3km s-min=9.2km az=171.0*

ISC 02 18:08:29.4±0.6,**39°.96N**±0°.02×**40°.05E**±0°.02,**h10**km, **n94,** σ2s**25**/119, **mb3.4/3, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAYB	**BAYBURT**	**0.34**	**29**	P	**Pg**	**18 08 34.6**	**-1.6**
BAYB				S	**Sg**	**18 08 38.2**	**-2.7**
KOPT	**Kop Dagi**	**0.35**	**80**	P	**Pg**	**18 08 35.4**	**-1.0**
KOPT				S	**Sb**	**18 08 41.4**	**-2.2**
EUZM	**Uzumlu**	**0.37**	**227**	P	**Pb**	**18 08 36.1**	**-2.0**
BAYT	**Aydıntepe-Bayb**	**0.44**	**10**	Pg	**Pg**	**18 08 36.7**	**-1.4**
BAYT				Sg	**Sg**	**18 08 42.8**	**-1.1**
ERZN	**Erzincan**	**0.45**	**214**	Pg	**Pb**	**18 08 37.5**	**-2.0**
ERZN				Sg	**Sb**	**18 08 45.6**	**-0.6**
KELT	**Kelkit**	**0.64**	**288**	P	**Pg**	**18 08 40.8**	**-0.9**
YEDI	**Yedisu-Bingol**	**0.65**	**143**	Pg	**Pb**	**18 08 41.4**	**-1.5**
GUMT	**Gumushane**	**0.66**	**319**	Pg	**Pg**	**18 08 41.0**	**-1.2**
EMRE	**Erzurum,Aziziy**	**0.72**	**84**	P	**Pg**	**18 08 42.4**	**-0.9**
KRIK	**Erzurum-spir**	**0.77**	**61**	P	**Pg**	**18 08 43.0**	**-1.4**
KRIK				S	**Sg**	**18 08 50.9**	**-3.6**
ECAT	**Cat-ERZURUM**	**0.80**	**116**	P	**Pg**	**18 08 43.0**	**-1.8**
ECAT				S	**Sb**	**18 08 55.0**	**-1.4**
ETEKE	**Tekederesi - E**	**0.86**	**101**	P	**Pg**	**18 08 44.6**	**-1.3**
IZDR	**Rize**	**0.92**	**25**	P	**Pg**	**18 08 44.7**	**-2.3**
IZDR				S	**Sg**	**18 08 54.3**	**-4.6**
TNCL	**Tunceli-Merkez**	**0.93**	**205**	P	**Pg**	**18 08 45.8**	**-1.5**
MACK	**Trabzon**	**1.00**	**348**	P	**Pg**	**18 08 47.1**	**-1.6**
MACK				S	**Sg**	**18 08 59.3**	**-2.5**
KARO	**Karliova-Bingo**	**1.01**	**130**	Pg	**Pb**	**18 08 48.0**	**-1.1**
KARO				Sg	**Sn**	**18 09 04.4**	**+0.2**
ERZM	**Erzurum**	**1.02**	**93**	P	**Pg**	**18 08 47.8**	**-1.2**
KTUT	**Trabzon**	**1.05**	**348**	Pg	**Pg**	**18 08 48.1**	**-1.4**
KTUT				Sg	**Sb**	**18 09 02.8**	**-0.6**
ALUC	**Giresun/Alucra**	**1.05**	**292**	P	**Pb**	**18 08 48.4**	**-1.4**
BNGB	**Bingl**	**1.08**	**153**	Pn	**Pg**	**18 08 48.6**	**-1.6**
PTK	**Pertek**	**1.18**	**206**	Pn	**Pn**	**18 08 51.2**	**-0.9**
PTK				Sn	**Sn**	**18 09 09.8**	**+1.4**
CHAY	**Cayeli-Rize**	**1.24**	**25**	Pn	**Pn**	**18 08 50.9**	**-1.8**
ILIC	**ilic-Erzincan**	**1.25**	**246**	Pn	**Pg**	**18 08 52.9**	**-0.4**
VRTB	**Varto-Mus**	**1.35**	**126**	Pn	**Pg**	**18 08 55.1**	**-0.2**
VRTB	**Varto-Mus**	**1.35**	**126**	P	**Pb**	**18 08 53.5**	**-1.4**
VRTB				S	**Sb**	**18 09 10.9**	**-1.4**
KEMA	**Kemaliye**	**1.38**	**241**	P	**Pn**	**18 08 53.4**	**-1.4**
ESPY	**Espiye-Giresun**	**1.39**	**314**	Pn	**Pb**	**18 08 54.0**	**-1.4**
KOPR	**Koprukoy-ERZUR**	**1.39**	**88**	Pn	**Pg**	**18 08 54.9**	**-1.2**
HOMI	**Horasan**	**1.43**	**86**	P	**Pb**	**18 08 54.8**	**-0.9**
SUSE	**Susehri**	**1.44**	**281**	P	**Pb**	**18 08 54.9**	**-1.5**
HANI	**Diyarbakir_Han**	**1.57**	**170**	P	**Pb**	**18 08 57.6**	**-0.9**
ARPR	**Arapgir-MALATY**	**1.58**	**237**	Pn	**Pg**	**18 08 58.2**	**-1.5**
DDEM	**Demirkent**	**1.60**	**54**	P	**Pn**	**18 08 57.0**	**-0.9**
DBAD	**Bademkaya**	**1.64**	**49**	P	**Pn**	**18 08 57.3**	**-1.1**
ELZG	**Elazig**	**1.68**	**210**	P	**Pb**	**18 08 58.7**	**-1.7**
MUSM	**Mu-Merkez**	**1.68**	**137**	P	**Pb**	**18 08 59.3**	**-1.1**
CUZAR	**Zara_SIVAS**	**1.75**	**268**	P	**Pb**	**18 09 00.9**	**-0.8**
CUZAR				S	**Sg**	**18 09 23.8**	**-1.8**
HOPA	**Hopa-Artvin**	**1.78**	**36**	Pn	**Pb**	**18 09 00.3**	**-1.8**
DAGI	**Agillar**	**1.81**	**51**	P	**Pb**	**18 09 00.8**	**-1.9**
SENK	**Senkaya-Erzuru**	**1.86**	**70**	Pn	**Pb**	**18 09 02.1**	**-1.5**
EATA	**Eleskirt**	**1.88**	**92**	P	**Pn**	**18 09 01.3**	**-0.6**
BCA	**Borcka**	**1.91**	**38**	Pn	**Pb**	**18 09 02.3**	**-2.0**
ORDU	**Ordu-Boztepe**	**1.96**	**302**	P	**Pb**	**18 09 03.8**	**-1.4**
ORDU				S	**Sn**	**18 09 26.8**	**-0.7**
DYBB	**Diyarbakir**	**2.00**	**178**	Pn	**Pb**	**18 09 04.8**	**-1.2**
SVAN	**Silvan-Diyarba**	**2.02**	**153**	Pn	**Pb**	**18 09 04.8**	**-1.4**
SVAN	**Silvan-Diyarba**	**2.02**	**153**	P	**Pb**	**18 09 04.7**	**-1.5**
BATM	**Batumi**	**2.06**	**37**	P	**Pb**	**18 09 05.0**	**-2.0**
BATM				S	**Sb**	**18 09 32.9**	**+0.2**
GURO	**Guroymak-BITLI**	**2.09**	**132**	Pn	**Pb**	**18 09 05.9**	**-1.5**
MLAZ	**Malazgirt-MUS**	**2.10**	**112**	Pn	**Pb**	**18 09 06.0**	**-1.7**
RSDY	**Resadiye-TOKAT**	**2.13**	**283**	Pn	**Pb**	**18 09 05.5**	**-2.5**
GOLE	**Ardahan-G¶le**	**2.14**	**65**	P	**Pb**	**18 09 06.6**	**-1.7**
DORK	**Agr/Tutak/Do**	**2.19**	**104**	P	**Pb**	**18 09 08.1**	**-1.0**
AHAN	**Ardahan-Merkez**	**2.30**	**58**	P	**Pb**	**18 09 09.9**	**-1.2**
BOZK	**Kars-Merkez-Bo**	**2.33**	**73**	P	**Pg**	**18 09 11.8**	**-2.2**
SVSK	**Karacayir**	**2.34**	**270**	Pn	**Pb**	**18 09 08.9**	**-2.8**
KARS	**Kars**	**2.41**	**73**	Pn	**Pb**	**18 09 10.6**	**-2.4**
DARE	**Darende-Malaty**	**2.42**	**236**	Pn	**Pb**	**18 09 10.6**	**-2.5**
MAZI	**Mazidag**	**2.52**	**173**	Pn	**Pb**	**18 09 12.5**	**-2.2**
EPOS	**Posof**	**2.56**	**52**	Pn	**Pb**	**18 09 15.0**	**-0.4**
URFA	**Urfa**	**2.69**	**201**	Pn	**Pb**	**18 09 14.7**	**-3.0**
TOKT	**Tokat**	**2.71**	**279**	Pn	**Pb**	**18 09 14.3**	**-3.6**
ABS	**Abastumani**	**2.76**	**49**	P	**Pb**	**18 09 17.2**	**-1.7**
ABS				S	**Sg**	**18 09 55.4**	**-2.7**
AKDM	**Akdamar-Van**	**2.80**	**125**	Pn	**Pb**	**18 09 16.3**	**-3.3**
AKH	**Akhalkalaki**	**3.00**	**60**	P	**Pg**	**18 09 25.6**	**-1.1**
AKH				S	**Sg**	**18 10 04.5**	**-1.1**
CLDR	**Caldiran**	**3.10**	**104**	Pn	**Pn**	**18 09 19.7**	**+1.1**
SARI	**SarD1z-Kayseri**	**3.22**	**242**	Pn	**Pn**	**18 09 21.7**	**+1.6**
KVT	**Kavak**	**3.25**	**291**	Pn	**Pn**	**18 09 21.4**	**+1.0**
TKB	**Tkibuli**	**3.27**	**42**	P	**Pb**	**18 09 23.9**	**-3.5**
TKB				S	**Sg**	**18 10 10.8**	**-3.4**
BRNG	**Burnasheti**	**3.32**	**59**	P	**Pg**	**18 09 30.5**	**-2.4**
BRNG				S	**Sg**	**18 10 20.9**	**+5.0**
DMNI	**Dmanisi**	**3.44**	**65**	P	**Pg**	**18 09 35.2**	**-0.1**
DMNI				S	**Sg**	**18 10 24.3**	**+4.5**
TRLG	**Trialeti**	**3.46**	**62**	P	**Pg**	**18 09 32.3**	**-3.4**
TRLG				S	**Sg**	**18 10 24.6**	**+4.1**
ALIG	**Mtskhetisjvari**	**3.47**	**51**	P	**Pg**	**18 09 29.7**	**-1.2**
ALIG				S	**Sg**	**18 10 16.2**	**-4.5**
GNI	**Garni**	**3.61**	**85**	Pn	**Pg**	**18 09 37.1**	**-1.4**
	2.2nm,0.3s,baz=258,slow=6.7,SNR=13						
GNI				Sn	**Sg**	**18 10 24.2**	**-1.0**
	0.4nm,0.3s,baz=232,slow=23,SNR=1.9 16nm,0.7s						
ONI	**Oni**	**3.67**	**43**	P	**Pn**	**18 09 29.2**	**+2.9**
ONI				S	**Sg**	**18 10 24.9**	**-2.5**
DGRG	**David-gareji**	**4.32**	**68**	P	**Pg**	**18 09 52.7**	**+0.7**
KBZ	**Khabaz**	**4.33**	**29**	Pn	Pb	18 09 39.2	-6.2
	0.3nm,0.3s,baz=224,slow=11,SNR=7.5						
KBZ				Sn	**Sn**	**18 10 29.1**	**+3.4**
	0.5nm,0.3s,baz=260,slow=4.1,SNR=4.1						
KBZ				LR	LR	18 11 34.5	
	comp=Z,117nm,19.2s,baz=168,slow=44 2.8nm,0.7s						
KVAR	**Kislovodsk Arr**	**4.46**	**25**	Pn	**Pn**	**18 09 40.1**	**+3.1**
	baz=260,slow=19						
KVAR				Sn	**Sn**	**18 10 33.5**	**+4.5**
	baz=279,slow=19						
KVAR				LR	LR	18 11 26.8	
	comp=Z,71nm,20.2s,baz=92,slow=41 3.6nm,0.5s						
SHTL	**Shatili**	**4.70**	**53**	P	Pn	18 09 44.3	+3.9
BRTR	**Keskin Array B**	**4.94**	**269**	Pn	**Pn**	**18 09 45.5**	**+1.8**
	0.4nm,0.3s,baz=100,slow=14,SNR=15						
BRTR				LR	LR	18 11 03.9	
	comp=Z,32nm,19.5s,baz=20,slow=33						
BRTR				Lg	Lg	18 11 05.8	
	baz=90,slow=20 0.7nm,0.3s						
SUDU	**Sudak**	**6.18**	**325**	*e*P	**Pn**	**18 10 00.7**	**+0.1**
SUDU				Pm		18 10 02.9	
	comp=Z,18nm,0.6s						
SUDU				*e*S	**Sn**	**18 11 12.1**	**+0.8**
SUDU				Sm		18 11 15.4	
	comp=N,66nm,0.8s						
SUDU				Sm		18 11 15.4	
	comp=N,109nm,1.1s						
SUDU				Sm		18 11 15.4	
	comp=E,10.0nm,0.3s						
YAL	**Yalta**	**6.29**	**318**	*e*P	**Pn**	**18 10 03.9**	**+1.8**
YAL				Pm		18 10 06.8	
	comp=Z,5.0nm,0.2s						
YAL				*e*S	**Sn**	**18 11 16.4**	**+2.4**
YAL				Sm		18 11 18.3	
	comp=N,23nm,0.4s						
YAL				Sm		18 11 18.3	
	comp=E,22nm,0.4s						
ALU	**Alushta**	**6.30**	**320**	*e*S	**Sn**	**18 11 16.8**	**+2.4**
ALU				Sm		18 11 17.8	
	comp=E,9.0nm,0.3s						
ALU				Sm		18 11 17.8	
	comp=N,6.0nm,0.3s						
SEV	**Sevastopol'**	**6.58**	**316**	*e*P	**Pn**	**18 10 07.4**	**+1.2**
SEV				Pm		18 10 09.7	
	comp=Z,1.0nm,0.3s						
SEV				*e*S	**Sn**	**18 11 23.3**	**+2.0**
SEV				Sm		18 11 27.2	
	comp=N,3.0nm,0.3s						
SEV				Sm		18 11 27.2	
	comp=E,5.0nm,0.5s						
SIM	**Simferopol'**	**6.64**	**321**	*e*S	**Sn**	**18 11 28.9**	**+6.3**
SIM				Sm		18 11 34.2	
	comp=N,86nm,1.4s						
SIM				Sm		18 11 34.2	
	comp=E,69nm,1.3s						
TARU	**Tarkhankut**	**7.74**	**317**	*e*P	**Pn**	**18 10 24.4**	**+2.4**
TARU				Pm		18 10 25.8	
	comp=Z,5.0nm,0.4s						
TARU				*e*S	**Sn**	**18 11 53.7**	**+4.0**
TARU				Sm		18 11 57.1	
	comp=N,10.0nm,0.6s						
TARU				Sm		18 11 57.1	
	comp=E,1.0nm,0.5s						
MMAI	**Mount Meron Ar**	**7.87**	**210**	Pn	**Pn**	**18 10 27.2**	**+3.2**
	comp=E,2.9nm,0.3s,baz=140,slow=52,SNR=1.7						
MMAI				Lg	Lg	18 12 49.9	
	comp=E,0.9nm,0.3s,baz=24,slow=17,SNR=1.6						
ASF	**Jabal al Asfar**	**8.18**	**199**	Pn	**Pn**	**18 10 30.9**	**+2.7**
	comp=E,0.1nm,0.3s,baz=25,slow=0.2,SNR=1.2						
EIL	**Elat**	**11.08**	**204**	LR	LR	18 15 30.4	
	comp=E,62nm,18.6s,baz=248,slow=37						
AKASG	**Malin Array Be**	**13.15**	**328**	Pn	Pn	18 11 29.3	-6.7
	comp=E,0.8nm,0.3s,baz=134,slow=13,SNR=2.5						
AKASG				Sn	Sn	18 13 50.2	-12
	comp=E,0.5nm,0.3s,baz=135,slow=24,SNR=7.5 comp=E,0.2nm,0.4s						
AKTO	**Aktyubinsk**	**16.39**	**44**	Pn	**Pn**	**18 12 19.1**	**-0.4**
	comp=E,0.1nm,0.3s,baz=244,slow=12,SNR=1.8 comp=E,0.7nm,0.6s						
FINES	**FINESS Array B**	**23.16**	**343**	P	**P**	**18 13 33.1**	**-2.6**
	comp=E,1.0nm,0.8s,baz=150,slow=14,SNR=2.0 comp=E,1.0nm,0.8s						
BVAR	**Borovoye Array**	**24.43**	**48**	P	**P**	**18 13 53.0**	**+5.0**
	comp=E,0.2nm,0.5s,baz=235,slow=5.1,SNR=2.2 comp=E,0.2nm,0.5s						
NOA	**NORSAR Array B**	**27.56**	**330**	LR	LR	18 25 55.8	
	comp=E,16nm,19.6s,baz=65,slow=39						
ZALV	**Zalesovo Beam**	**33.02**	**50**	P	**P**	**18 15 08.0**	**+3.6**
	comp=E,0.3nm,0.3s,baz=266,slow=11,SNR=1.9 comp=E,0.3nm,0.3s						

*HVO **02** 18:12:39.3±2.6, 19°.48N±0°.02×154°.92W±0°.02, h-0km±8km, ML2.5/9, ML2.5/26(NEIC), Error ellipse: s-maj=4.1km s-min=2.2km az=131.0*

NEIC 02 18:12:41.1±2.3,**19°.46N**±0°.02×**154°.97W**±0°.02, **h4**km±3km, **Error ellipse: s-maj=3.1km s-min=1.1km az=135.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.04**	**229**		Pg	18 12 41.9	-0.3
JOKA					Sg	18 12 44.2	+1.4
PHO	**Puu Honuaula**	**0.08**	**75**		Pg	18 12 41.9	-0.8
KNHH	**Kane Nui o Ham**	**0.20**	**246**		Pg	18 12 46.0	+1.0
PUH	**Pauahi**	**0.25**	**249**		Pg	18 12 44.9	-1.0
PUH	**Pauahi**	**0.25**	**249**		Sg	18 12 51.1	+2.0
HATHI	**Halema'uma'u T**	**0.28**	**262**	Pg	Pg	18 12 45.1	-1.3
HATHI				IAML		18 12 52.5	
	comp=E,638nm,1.3s						
SBLHI	**Steaming Bluff**	**0.28**	**263**	Pg	Pg	18 12 45.4	-1.2
KKO	**Keanakako`i**	**0.29**	**257**	Pg	Pg	18 12 45.0	-1.6
KKO				IAML		18 12 53.9	
	comp=E,660nm,1.6s						
KKO				IAML		18 12 55.8	
	comp=N,640nm,1.3s						
RSD	**Rainshed**	**0.29**	**270**		Pg	18 12 45.9	-0.8
RSD				IAML		18 12 53.5	
	comp=N,537nm,0.3s						
RSD				IAML		18 12 54.7	
	comp=E,669nm,0.8s						
UWB	**Uwekahuna B**	**0.29**	**263**	Pg	Pg	18 12 47.1	+0.3
UWB				IAML		18 12 51.6	
	comp=N,442nm,1.9s						
RIM	**Rim**	**0.29**	**257**	Pg	Pg	18 12 45.3	-1.5
RIM				IAML		18 12 56.3	
	comp=E,632nm,1.5s						
RIM				IAML		18 12 57.3	
	comp=N,877nm,1.9s						
UWE	**Uwekahuna**	**0.31**	**262**		Sb	18 12 53.4	-1.3
UWE	**Uwekahuna**	**0.31**	**262**		Pg	18 12 47.2	+0.2
UWE	**Uwekahuna**	**0.31**	**262**	IAML		18 12 53.1	
	comp=N,859nm,1.6s						
UWE				IAML		18 12 53.2	
	comp=E,1μm,2.1s						
HLP	**Hilina Pali**	**0.36**	**243**		Pg	18 12 48.0	0.0
HLP	**Hilina Pali**	**0.36**	**243**	IAML		18 12 55.1	
	comp=E,472nm,0.3s						
HLP				IAML		18 12 55.1	
	comp=N,572nm,0.6s						
HTC	**Hot Caves**	**0.46**	**241**		Pg	18 12 49.6	-0.3
MLOA	**Mauna Loa Obse**	**0.58**	**277**	Pg	Pg	18 12 50.8	-1.4
MLOA				IAML		18 13 01.6	
	comp=N,367nm,0.6s						
MLOA				IAML		18 13 06.0	
	comp=E,316nm,2.7s						
MWH	**Moku'aweowe**	**0.59**	**272**	IAML		18 13 10.4	
	comp=N,266nm,0.6s						
KHU	**Kahuku**	**0.65**	**251**	IAML		18 13 16.4	
	comp=E,287nm,3.5s						
HUH	**Hualalai**	**0.84**	**285**	Pg	Pg	18 12 56.0	-1.3
MHA	**Mahukona**	**1.14**	**310**	Pg	Pg	18 13 01.4	-1.5

*IDC **02** 18:30:13.2±1.7, 14°.21S×167°.27E, h0km, mb4.3/6, mbtmp4.3/7, ML4.0/1, Error ellipse: s-maj=52.4km s-min=24.5km az=116.0*
*NOU **02** 18:30:31.8, 15°.26S×167°.62E, h96km, MLv4.4/12, Vanuatu Islands*
*NEIC **02** 18:30:33.0±2.8, 15°.5S±0°.1×167°.4E±0°.2, h146km±13km, mb4.2/14, Error ellipse: s-maj=22.1km s-min=17.7km az=101.0*

ISC 02 18:30:27.4±1.0,**15°.10S**±0°.08×**167°.6E**±0°.1, **h129**km, **n37,** σ2s**19**/39, **mb4.2**/13, **Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.66**	**183**	P	**Pn**	**18 31 51.2**	**+2.0**
LIFNC	**LIFOU**	**5.66**	**183**	Pn	**Pn**	**18 31 49.5**	**+0.3**
LIFNC				Sn	**Sn**	**18 32 48.3**	**-4.9**
KOUNC	**Koumac, New Ca**	**6.26**	**210**	P	**Pn**	**18 31 59.1**	**+1.7**
KOUNC	**Koumac, New Ca**	**6.26**	**210**	Pn	**Pn**	**18 31 58.0**	**+0.5**
MARNC	**Mare, Loyalty**	**6.36**	**176**	P	**Pn**	**18 32 00.5**	**+1.8**
YATNC	**Mamie plateau,**	**6.95**	**185**	P	**Pn**	**18 32 08.5**	**+1.8**
DZM	**Mont Dzumac**	**7.02**	**189**	P	**Pn**	**18 32 09.7**	**+2.0**
DZM	**Mont Dzumac**	**7.02**	**189**	Pn	**Pn**	**18 32 09.1**	**+1.4**
	2.2nm,0.3s,baz=322,slow=11,SNR=54						
DZM				Sn	**Sn**	**18 33 21.3**	**-4.8**
	baz=333,slow=24 13nm,0.3s						
NOUC	**Port Laguerre**	**7.07**	**190**	P	**Pn**	**18 32 11.0**	**+2.7**
ONTNC	**Ouen Toro**	**7.25**	**188**	P	**Pn**	**18 32 13.5**	**+2.8**
ONTNC	**Ouen Toro**	**7.25**	**188**	Pn	**Pn**	**18 32 13.5**	**+2.8**
OUENC	**Ouen Island, N**	**7.32**	**185**	P	**Pn**	**18 32 14.4**	**+2.9**
OUENC	**Ouen Island, N**	**7.32**	**185**	Pn	**Pn**	**18 32 14.4**	**+2.9**
PINNC	**Pines Island,**	**7.48**	**181**	P	**Pn**	**18 32 16.3**	**+2.6**
PINNC	**Pines Island,**	**7.48**	**181**	Pn	**Pn**	**18 32 16.4**	**+2.6**
CTAO	**Charters Tower**	**20.92**	**253**	P	**P**	**18 35 01.2**	**+1.4**
CTAO				IAmb	IAmb	18 35 09.9	
	comp=Z,20nm,1.4s						
COEN	**Coen**	**23.65**	**270**	P	**P**	**18 35 29.3**	**+2.1**
COEN				IAmb	IAmb	18 35 44.1	
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**28.99**	**230**	P	**P**	**18 36 16.1**	**+1.1**
STKA	**Stephens Creek**	**28.99**	**230**	P	**P**	**18 36 17.3**	**+2.3**
	comp=Z,5.1nm,0.5s,baz=45,slow=10,SNR=19 comp=Z,5.1nm,0.5s						
TOO	**Toolangi**	**29.74**	**217**	P	**P**	**18 36 20.1**	**-1.4**
TOO				IAmb	IAmb	18 36 59.6	
	comp=Z,7.1nm,1.1s						
WR0	**Warramunga Arr**	**31.84**	**256**	P	**P**	**18 36 39.6**	**-0.7**
WR0				IAmb	IAmb	18 37 13.7	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**31.97**	**257**	P	**P**	**18 36 41.1**	**-0.4**
WB0				IAmb	IAmb	18 36 50.6	
	comp=Z,10nm,1.4s						
WB2	**Warramunga Arr**	**32.02**	**256**	P	**P**	**18 36 41.7**	**-0.2**
WB2				IAmb	IAmb	18 36 42.6	
	comp=Z,4.2nm,0.9s						
WRA	**Warramunga Arr**	**32.03**	**256**	P	**P**	**18 36 40.6**	**-1.3**
WRA	**Warramunga Arr**	**32.03**	**256**	P	**P**	**18 36 41.7**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=84,slow=8.5,SNR=19 comp=Z,1.5nm,0.7s						
AS31	**Alice Springs**	**32.83**	**250**	P	**P**	**18 36 49.0**	**+0.1**
AS31				IAmb	IAmb	18 36 50.4	
	comp=Z,1.6nm,0.7s						
ASAR	**Alice Springs**	**32.83**	**250**	P	**P**	**18 36 49.1**	**+0.2**
ASAR	**Alice Springs**	**32.83**	**250**	P	**P**	**18 36 49.0**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=80,slow=9.2,SNR=91 comp=Z,3.8nm,0.6s						
BBOO	**Buckleboo**	**33.59**	**233**	P	**P**	**18 36 57.5**	**+2.1**
FORT	**Forrest**	**39.37**	**240**	P	**P**	**18 37 45.9**	**+1.5**
FITZ	**Fitzroy Crossi**	**40.24**	**260**	P	**P**	**18 37 52.5**	**+0.7**
MBWA	**Marble Bar**	**45.74**	**255**	P	**P**	**18 38 35.1**	**-0.9**
QSPA	**South Pole Qui**	**74.93**	**180**	P	**P**	**18 41 56.5**	**+2.5**
QSPA				IAmb	IAmb	18 42 24.1	
	comp=Z,3.7nm,1.2s						
CMAR	**Chiang Mai Arr**	**75.38**	**294**	P	**P**	**18 41 55.1**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=107,slow=5.8,SNR=2.3 comp=Z,0.2nm,0.5s						
MA2	**Magadan**	**75.66**	**351**	P	**P**	**18 41 54.2**	**-3.8**
	comp=Z,9.1nm,0.6s,baz=128,slow=9.6,SNR=8.9 comp=Z,9.1nm,0.6s						
MKAR	**Makanchi Array**	**97.68**	**316**	P	**P**	**18 43 47.4**	**-0.1**
	comp=Z,0.4nm,0.7s,baz=108,slow=4.7,SNR=3.3 comp=Z,0.4nm,0.7s						
ARCES	**ARCESS Array B**	**120.68**	**345**	PKP	**PKiKP**	**18 49 05.1**	**+1.6**
	comp=Z,1.6nm,0.8s,baz=66,slow=2.3,SNR=4.6						

*KRSC **02** 18:40:08.2±0.9, 54°.60N×160°.98E, h113km±9km, Ml3.9*
*IDC **02** 18:40:11.2±6.7, 53°.76N×161°.42E, h101km±49km, mb3.3/3, mbtmp3.5/4, Error ellipse: s-maj=93.7km s-min=58.8km az=160.0*

ISC 02 18:40:09.4±1.0,**54°.60N**±0°.03×**160°.97E**±0°.05, **h113**km±7km, **n49,** σ0s**79**/72, **mb3.4**/3, **Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.44**	**95**	*e*P	**Pn**	**18 40 26.2**	**+0.1**
MKZ				*e*S	**Sn**	**18 40 38.5**	**-0.3**
TUMD	**Tumrok D**	**0.69**	**332**	*e*P	**Pn**	**18 40 27.3**	**-0.7**
TUMD				*e*S	**Sn**	**18 40 41.0**	**-1.0**
TUMR	**Tumrok**	**0.84**	**326**	*e*P	**Pn**	**18 40 29.5**	**+0.1**
TUMR				*e*S	**Sn**	**18 40 44.6**	**+0.1**
KMNR	**Kamenistaya**	**1.

baz=355,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 35.11 170 T T 19 24 22.9
baz=355,slow=76,SNR=24
H11S1 WAKE ISLAND Hy 36.29 171 T T 19 25 55.0
baz=352
H11S3 WAKE ISLAND Hy 36.30 171 T T 19 25 46.5
baz=352
H11S2 WAKE ISLAND Hy 36.31 171 T T 19 25 50.3
baz=352
WRA Warramunga Arr 77.66 206 P **P** **18 51 52.8 -0.3**
0.3nm,0.5s,baz=18,slow=6.0,SNR=7.8
0.3nm,0.5s
ASAR Alice Springs 81.34 205 P **P** **18 52 13.4 +0.4**
0.4nm,0.6s,baz=20,slow=4.7,SNR=7.9
0.4nm,0.6s

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*VAO **02** 18:44:37.7±0.8,9°.09S×79°.10W,h10km,mb4.4*
*NEIC **02** 18:44:42.6±1.1,8°.92S±0°.07×79°.3W±0°.1,h51km±10km, mb4.4/16,Error ellipse: s-maj=16.2km s-min=9.7km az=70.0*
*IDC **02** 18:44:43.9±2.5,8°.97S×79°.17W,h72km±19km,mb3.7/7, mbtmp3.9/10,MS3.1/7,Error ellipse: s-maj=33.8km s-min=8.2km az=80.0*
ISC 02 18:44:43.2±0.6,8°.91S±0°.06×79°.10W±0°.07,h64km,n62, σ1°36/59,mb4.2/11,Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATAH	**Atahualpa**	**1.89**	**22**	P		**Pn**	**18 45 16.2**	**+2.5**
ATAH	108nm,0.2s,baz=175,slow=4.1,SNR=127			S		**Sn**	**18 45 40.5**	**+3.7**
ATAH	997nm,0.4s,baz=188,slow=11,SNR=12			LR		LR	18 46 12.0	
NNA	comp=Z,327nm,21.7s,baz=220,slow=45 **Nana**	**3.78**	**144**			**Pn**	**18 45 39.6**	**+0.5**
NNA	**Nana**	**3.78**	**144**	P		**Pn**	**18 45 40.1**	**+1.0**
NNA	52nm,0.3s,baz=325,slow=15,SNR=15			S		**Sn**	**18 46 22.2**	**-0.1**
NNA	153nm,0.4s,baz=216,slow=18,SNR=8.4			LR		LR	18 47 15.4	
ARNL	comp=Z,58nm,21.8s,baz=348,slow=40 **Arenillas**	**5.41**	**350**	Pn		Pn	18 45 58.4	-3.0
CZSB	**Cruzeiro do Su**	**6.43**	**80**	Pn		**Pn**	**18 46 15.8**	**+0.4**
CZSB				Sn		**Sn**	**18 47 23.6**	**-3.9**
CZSB	**Cruzeiro do Su**	**6.43**	**80**	*eP*		**Pn**	**18 46 13.2**	**-2.2**
CZSB				eS		**Sn**	**18 47 27.7**	**+0.2**
CHSH	**Refugio Sur-Vo**	**7.37**	**2**	Pn		**Pn**	**18 46 29.1**	**+0.4**
SLOR	**San Lorenzo -**	**8.15**	**4**	Pn		**Pn**	**18 46 38.6**	**-0.7**
PULU	**Pululahua**	**8.89**	**4**	Pn		**Pn**	**18 46 48.0**	**-1.4**
IMBA	**Imbabura, San**	**9.17**	**6**	Pn		**Pn**	**18 46 52.8**	**-0.4**
TULM	**Tulcn-Chalpat**	**9.65**	**8**			**Pn**	**18 46 57.3**	**-2.5**
TBTG	**Tabatinga, AM**	**10.26**	**63**	Pn		**Pn**	**18 47 05.4**	**-2.4**
TBTG	**Tabatinga, AM**	**10.26**	**63**	*eP*		**Pn**	**18 47 06.8**	**-1.0**
ETMB	**Extrema**	**12.75**	**95**	Pn		Pn	18 47 38.0	-3.8
ETMB	**Extrema**	**12.75**	**95**	*eP*		Pn	18 47 38.4	-3.3
LPAZ	**La Paz**	**12.97**	**126**	P		**Pn**	**18 47 48.2**	**+2.9**
LPAZ	0.4nm,0.5s,baz=340,slow=15,SNR=1.6			LR		LR	18 52 32.2	
TEFE	comp=Z,26nm,18.0s,baz=306,slow=36 **Tefe**	**15.34**	**70**	*eP*		**Pn**	**18 48 15.9**	**-0.1**
SAML	**Samuel**	**15.72**	**91**	Pn		**Pn**	**18 48 17.7**	**-3.2**
SAML	**Samuel**	**15.72**	**91**	*eP*		**Pn**	**18 48 19.1**	**-1.8**
RUSC	**La Rusia**	**15.88**	**22**	P		**P**	**18 48 26.6**	**+0.7**
RUSC	comp=Z,36nm,1.0s			IAmb		IAmb	18 48 31.2	
PB14	**IPOC Station P**	**17.70**	**153**	P		**Pn**	**18 48 46.2**	**+0.5**
SIV	**San Ignacio**	**18.95**	**114**	P		**P**	**18 49 01.4**	**+2.0**
SIV	comp=Z,0.7nm,0.4s,baz=292,slow=16,SNR=5.3			S		**S**	**18 52 31.8**	**+0.4**
MACA	comp=Z,0.6nm,0.3s,baz=213,slow=14,SNR=1.6 **Manacapuru-AM**	**19.17**	**74**	P		**P**	**18 49 02.1**	**+0.3**
MACA				IAmb		IAmb	18 49 23.3	
MACA	comp=Z,23nm,0.6s **Manacapuru-AM**	**19.17**	**74**	*eP*		**P**	**18 49 02.8**	**+1.0**
SDV	**Santo Domingo**	**19.58**	**26**	P		**P**	**18 49 07.3**	**+0.9**
SDV	**Santo Domingo**	**19.58**	**26**	*eP*		**P**	**18 49 07.5**	**+1.0**
BBSD	**Serra de San D**	**19.79**	**116**	*eP*		**P**	**18 49 08.2**	**-0.3**
JTS	**Las Juntas de**	**19.94**	**343**	LR		LR	18 56 49.0	
PTLB	comp=Z,23nm,18.6s,baz=3.0,slow=36 **Pontes e Lacer**	**20.56**	**110**			**P**	**18 49 17.9**	**+1.1**
PTLB	**Pontes e Lacer**	**20.56**	**110**	*eP*		**P**	**18 49 16.1**	**-0.7**
BAUV	**El Baul**	**20.88**	**32**	P		**P**	**18 49 21.0**	**+0.7**
BOAV	**Boa Vista**	**21.65**	**60**	*eP*		**P**	**18 49 29.4**	**+0.7**
PDRB	**Porto dos Gac**	**22.17**	**99**	*eP*		**P**	**18 49 33.3**	**-0.9**
NPGB	**Novo Progresso**	**23.58**	**87**	*eP*		**P**	**18 49 48.2**	**-0.3**
ITTB	**Itaituba**	**23.64**	**81**	*eP*		**P**	**18 49 48.9**	**0.0**
PCRV	**Puerto La Cruz**	**23.80**	**38**	LR		LR	19 00 47.4	
MDP	comp=Z,69nm,18.8s,slow=40 **Montagnes des**	**29.82**	**63**	LR		LR	19 03 32.8	
BDFB	comp=Z,57nm,19.1s,baz=311,slow=38 **Brasilia**	**31.07**	**105**	LR		LR	19 04 24.1	
FPAL	comp=Z,89nm,18.0s,baz=142,slow=38 **Fort Paine**	**43.65**	**352**	P		**P**	**18 52 41.2**	**-0.4**
FPAL				IAmb		IAmb	18 52 41.5	
LCAR	comp=Z,4.1nm,0.8s **Lake Charles**	**46.16**	**346**	P		**P**	**18 53 01.5**	**+0.1**
LCAR				IAmb		IAmb	18 53 02.0	
FCAR	comp=Z,3.0nm,0.8s **Ozark Folk Cen**	**46.22**	**345**	P		**P**	**18 53 02.2**	**+0.3**
S57A	**Dark Hollow, R**	**46.42**	**0**	P		**P**	**18 53 02.3**	**-1.2**
S39A	**Bolivar**	**48.23**	**345**	P		**P**	**18 53 17.8**	**+0.2**
PDAR	**Pinedale Array**	**58.46**	**334**	P		**P**	**18 54 32.8**	**0.0**
ULM	comp=Z,0.7nm,1.1s,baz=120,slow=6.4,SNR=2.5 comp=Z,0.7nm,1.1s **Lac du Bonnet**	**60.70**	**348**	P		**P**	**18 54 46.0**	**-1.8**
YKA	comp=Z,1.0nm,0.6s,baz=180,slow=6.1,SNR=3.1 comp=Z,1.0nm,0.6s **Yellowknife Ar**	**76.28**	**344**	P		**P**	**18 56 24.3**	**-0.4**
SNAA	comp=Z,0.5nm,0.7s,baz=136,slow=5.8,SNR=13 comp=Z,0.5nm,0.7s **Sanae**	**77.28**	**162**	P		**P**	**18 56 31.4**	**+1.0**
DLBC	comp=Z,1.3nm,0.6s,baz=266,slow=9.9,SNR=8.6 comp=Z,1.3nm,0.6s **Dease Lake**	**78.65**	**335**	LR		LR	19 32 42.9	
QSPA	comp=Z,25nm,19.1s,baz=300,slow=37 **South Pole Qui**	**81.20**	**180**	P		**P**	**18 56 52.3**	**+0.3**
TORD	comp=Z,2.6nm,1.0s,baz=336,slow=20,SNR=4.4 comp=Z,2.6nm,1.0s **Torodi Ar. Bea**	**83.15**	**76**	P		**P**	**18 57 03.8**	**+0.8**
TORD				IAmb		IAmb	18 57 05.4	
TORD	comp=Z,3.0nm,0.8s **Torodi Ar. Bea**	**83.15**	**76**	P		**P**	**18 57 02.7**	**-0.3**
ESDC	comp=Z,2.3nm,0.7s,baz=291,slow=4.8,SNR=11 comp=Z,2.3nm,0.7s **Sonseca Array**	**84.39**	**49**	P		**P**	**18 57 09.9**	**+1.0**
ESDC				IAmb		IAmb	18 57 11.1	
ESDC	comp=Z,3.1nm,1.1s **Sonseca Array**	**84.39**	**49**	P		**P**	**18 57 08.8**	**-0.1**
E29M	comp=Z,1.7nm,0.8s,baz=272,slow=4.8,SNR=8.2 comp=Z,1.7nm,0.8s **Blow River**	**87.32**	**342**	P		**P**	**18 57 22.8**	**+0.1**
E29M				IAmb		IAmb	18 57 23.4	
D27M	comp=Z,2.3nm,0.8s **Malcolm River**	**88.72**	**342**	P		**P**	**18 57 29.7**	**+0.3**
D27M				IAmb		IAmb	18 57 30.6	
BVAR	comp=Z,1.9nm,0.8s **Borovoye Array**	**129.55**	**23**	PKP		**PKPdf**	**19 03 44.2**	**-0.6**
ZALV	comp=Z,0.5nm,0.6s,baz=248,slow=1.6,SNR=4.1 **Zalesovo Beam**	**133.26**	**13**	PKP		**PKPdf**	**19 03 51.8**	**+0.1**
ASAR	comp=Z,0.4nm,0.4s,baz=318,slow=1.9,SNR=2.6 **Alice Springs**	**134.30**	**224**	PKP		**PKPdf**	**19 03 54.6**	**-0.1**
KURBB	comp=Z,0.2nm,0.5s,baz=105,slow=1.5,SNR=6.2 **Kurchatov Arra**	**134.48**	**20**	PKP		**PKPdf**	**19 03 53.9**	**-0.3**
WRA	comp=Z,0.6nm,0.6s,baz=318,slow=2.3,SNR=6.0 **Warramunga Arr**	**136.35**	**229**	PKP		**PKPdf**	**19 03 56.4**	**-2.2**
MKAR	comp=Z,0.4nm,0.5s,baz=124,slow=2.0,SNR=8.4 **Makanchi Array**	**139.04**	**20**	PKP		**PKPdf**	**19 04 02.9**	**+0.1**
SONM	comp=Z,0.3nm,0.8s,baz=318,slow=2.3,SNR=4.6 **Songino Array**	**140.93**	**354**	PKP		**PKPdf**	**19 04 06.2**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=321,slow=1.8,SNR=1.6							

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*SJA **02** 18:45:41.7±0.7,31°.71S×68°.79W,h117km±3km,ML3.5, MW3.7*
ISC 02 18:45:43.7±1.3,31°.66S±0°.03×68°.76W±0°.04,h110km±9km, n32,σ1°21/47,2C,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SJA	**San Juan**	**0.21**	**53**	*eP*		**Pn**	**18 45 58.7**	**-0.4**
SJA				eS		**Sn**	**18 46 11.1**	**+0.4**
SJA				IAML			18 46 12.2	
RTLS	comp=Z,1μm,0.2s **Leoncito**	**0.48**	**253**	*eP*		**Pn**	**18 46 00.3**	**-0.4**
RTLS				IAML			18 46 14.6	
DOCA	comp=Z,2μm,0.4s **Reserva Natura**	**0.76**	**339**	*eP*		**Pn**	**18 46 00.4**	**-2.6**
ACCO	**Cerro Coronel**	**1.10**	**346**	*eP*		**Pn**	**18 46 06.1**	**-0.1**
ACCO	comp=Z,885nm,0.5s			IAML			18 46 27.0	
ACDV	**Cuesta del Vie**	**1.51**	**348**	*eP*		**Pn**	**18 46 11.3**	**+0.5**
ACDV	comp=Z,283nm,0.4s			IAML			18 46 35.3	
AROD	**Rodeo**	**1.61**	**337**	*eP*		**Pn**	**18 46 12.4**	**+0.3**
CO03	**El Pedregal**	**1.84**	**296**	*eP*		**Pn**	**18 46 13.1**	**-1.6**
CO03	comp=Z,475nm,0.6s			IAML			18 46 41.5	
CO03	**El Pedregal**	**1.84**	**296**	⇑*iP*		**Pn**	**18 46 14.9**	**+0.2**
CO03				*eS*		**Sn**	**18 46 38.8**	**+0.4**
VA03	**San Esteban**	**1.88**	**234**	*eP*		**Pn**	**18 46 15.1**	**-0.1**
VA03				*eS*		**Sn**	**18 46 41.3**	**+2.1**
VA03	comp=Z,145nm,0.5s			IAML			18 46 41.3	
CO02	**Combarbal**	**1.97**	**283**	*eP*		**Pn**	**18 46 15.4**	**-0.9**
CO02	comp=Z,561nm,0.2s			IAML			18 46 42.6	
CO02	**Combarbal**	**1.97**	**283**	⇑*iP*		**Pn**	**18 46 16.0**	**-0.3**
CO02				*eS*		**Sn**	**18 46 41.5**	**+0.3**
CO02	comp=N,2μm,0.2s			IAML			18 46 43.7	
CO01	**Juntas del Tor**	**2.03**	**325**	*eP*		**Pn**	**18 46 18.2**	**+1.0**
CO01				*eS*		**Sn**	**18 46 45.1**	**+2.3**
CO01	comp=Z,206nm,0.4s			IAML			18 46 45.9	
AGUA	**GUANDACOL**	**2.18**	**6**	*eP*		**Pn**	**18 46 19.3**	**+0.3**
AGUA				*eS*		**Sn**	**18 46 46.9**	**+0.9**
AGUA	comp=Z,415nm,0.3s			IAML			18 46 47.8	
PEL	**Peldehue**	**2.20**	**227**	*eP*		**Pn**	**18 46 17.9**	**-1.3**
PEL				*eS*		**Sn**	**18 46 46.7**	**+0.2**
GO04	**Tololo Observa**	**2.29**	**310**	*eP*		**Pn**	**18 46 20.6**	**0.0**
GO04				*eS*		**Sn**	**18 46 49.1**	**+0.2**
APLL	**PUNTA DE LOS L**	**2.29**	**57**	*eP*		**Pn**	**18 46 20.4**	**-0.1**
ROCH	**El Roble**	**2.31**	**235**	*eP*		**Pn**	**18 46 20.4**	**-0.4**
ROC1	**El Roble**	**2.32**	**235**	*eP*		**Pn**	**18 46 20.0**	**-0.9**
ROC1				*eS*		**Sn**	**18 46 48.9**	**-0.5**
MT02	**Curacav**	**2.57**	**231**	*eP*		**Pn**	**18 46 22.5**	**-1.4**
CO06	**Fray Jorge**	**2.65**	**291**	*eP*		**Pn**	**18 46 23.3**	**-1.7**
ACLC	**CERRO LA CRUZ**	**2.72**	**36**	*eP*		**Pn**	**18 46 26.0**	**-0.1**
ACLC	comp=Z,143nm,0.7s			IAML			18 47 31.4	
VCA	**Vinchina**	**2.95**	**10**	*eP*		**Pn**	**18 46 29.0**	**-0.2**
VCA	comp=Z,298nm,0.4s			IAML			18 47 07.9	
AC05	**El Transito**	**3.10**	**335**	*eP*		**Pn**	**18 46 31.7**	**+0.6**
AC05				*eS*		**Sn**	**18 47 10.7**	**+3.0**
AC05	comp=Z,70nm,0.8s			IAML			18 47 35.5	
RFA	**San Rafael**	**3.12**	**176**	*eP*		**Pn**	**18 46 30.2**	**-1.0**
RFA				*eS*		**Sn**	**18 47 09.2**	**+1.3**
RFA	comp=Z,98nm,0.3s			IAML			18 47 10.1	
LCO	**Las Campanas**	**3.12**	**327**	*eP*		**Pn**	**18 46 31.1**	**-0.5**
LCO				*eS*		**Sn**	**18 47 08.1**	**-0.4**
LCO	comp=Z,184nm,0.6s			IAML			18 47 08.4	
BO01	**Tunca**	**3.35**	**215**	*eP*		**Pn**	**18 46 32.7**	**-1.6**
BO01	comp=Z,41nm,0.7s			IAML			18 47 20.5	
BO02	**Sierra Bellavi**	**3.56**	**208**	*eP*		**Pn**	**18 46 37.5**	**+0.4**
BO02				*eS*		**Sn**	**18 47 21.2**	**+2.8**
BO02	comp=Z,45nm,0.1s			IAML			18 47 22.4	
TCA	**Tanti**	**3.57**	**86**	*eP*		**Pn**	**18 46 36.9**	**-0.5**
TCA				*eS*		Sn	18 47 03.6	-15
TCA	comp=Z,107nm,0.7s			IAML			18 47 35.4	
AC04	**Llanos de Chal**	**3.98**	**329**	*eP*		**Pn**	**18 46 41.2**	**-1.6**
AC04	comp=Z,79nm,0.7s			IAML			18 47 56.5	
CYA	**Choya**	**4.11**	**39**	*eP*		**Pn**	**18 46 44.6**	**+0.1**
CYA				*eS*		**Sn**	**18 47 29.4**	**-2.3**
CYA	comp=Z,32nm,0.5s			IAML			18 47 30.5	
GO03	**Copiap**	**4.25**	**342**	*eP*		**Pn**	**18 46 45.9**	**-0.6**
GO03				*eS*		**Sn**	**18 47 33.8**	**-1.3**
AC02	**Maricunga**	**4.82**	**356**	*eP*		**Pn**	**18 46 54.3**	**-0.2**
AC02	comp=Z,26nm,0.7s			IAML			18 47 56.3	

KRSC 02 19:10:54.8±1.1,55°.47N×166°.10E,h36km±9km,MI3.5, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BKI	**Bering**	**0.28**	**196**	*eP*		Pn	19 11 03.0	+0.1
BKI				*eS*		Sn	19 11 08.7	-1.5
KBTR	**Krutoberegovo**	**2.00**	**293**	*eP*		Pn	19 11 26.9	+0.9
BZWR	**Bezymyannyi-We**	**3.21**	**281**	*eP*		Pn	19 11 46.6	+3.8
TUMD	**Tumrok D**	**3.27**	**268**	*eP*		Pn	19 11 47.7	+4.2
TUMD				*eS*		Sn	19 12 26.3	+5.2
KMNR	**Kamenistaya**	**3.34**	**277**	*eP*		Pn	19 11 48.9	+4.3
KPT	**Kopyto**	**3.37**	**281**	*eP*		Pn	19 11 48.9	+4.1
TUMR	**Tumrok**	**3.41**	**269**	*eP*		Pn	19 11 49.8	+4.4
SMAR	**Somma**	**4.81**	**246**	*eP*		Pn	19 12 09.5	+4.7
KRER	**Koryakskii**	**4.81**	**246**	*eP*		Pn	19 12 09.9	+5.1
UGLR	**Uglovaya**	**4.82**	**245**	*eP*		Pn	19 12 09.7	+4.8
AVH	**Avacha**	**4.84**	**246**	*eP*		Pn	19 12 10.3	+5.2
KRX	**Arik**	**4.84**	**247**	*eP*		Pn	19 12 10.0	+4.9
KOK	**Koryaka**	**4.88**	**247**	*eP*		Pn	19 12 10.6	+5.0
RUS	**Russkaya**	**5.42**	**239**	*eP*		Pn	19 12 17.1	+4.2
MTVR	**Mutnovka**	**5.55**	**241**	*eP*		Pn	19 12 19.1	+4.2
MTVR				*eS*		Sn	19 13 21.1	+3.8
ASAK	**Asacha**	**5.75**	**241**	*eP*		Pn	19 12 22.6	+5.1

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*IDC **02** 19:11:59.9±0.7,31°.26S×13°.82W,h0km,mb4.1/8, mbtmp4.1/8,MS3.8/41,Error ellipse: s-maj=31.3km s-min=20.3km az=103.0*
*NEIC **02** 19:12:02.7±0.8,31°.4S±0°.1×13°.51W±0°.08,h10km±1km, mb4.7/15,Error ellipse: s-maj=24.2km s-min=7.5km az=204.0*
*GCMT **02** 19:12:04.7±0.3,31°.26S±0°.04×13°.34W±0°.02,h17km±1km, MW4.8/83,Moment Tensor Solution. s22,c22; s83,c104; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.57±.14; $M_{\theta\theta}$-0.37±.10; $M_{\phi\phi}$ 1.94±.10; $M_{r\theta}$ 1.55±.39; $M_{\theta\phi}$-0.28±.07; $M_{\phi r}$-0.09±.23; Best double couple: M_o2.31700×10^{16} NP1:ϕ_s322.00000°,δ59.00000°,λ-130.00000°. NP2: ϕ_s201.00000°,δ49.00000°,λ-42.00000°. Principal axes: T 2.0000, Plg6.0000°, Azm80.0000°; N 0.6310, Plg34.0000°, Azm346.0000°; P -2.6350, Plg55.0000°, Azm178.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 02 19:12:01.9±0.6,31°.3S±0°.1×13°.5W±0°.1,h10km,n68, σ0°78/28,mb4.4/13,MS3.9/42,Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H10N1	**ASCENSION HYDR**	**23.35**	**358**	T		T	19 41 27.9	
H10N3	baz=184 **ASCENSION HYDR**	**23.35**	**358**	T		T	19 41 29.8	
H10N2	baz=184 **ASCENSION HYDR**	**23.37**	**358**	T		T	19 41 30.8	
SUR	baz=184 **Sutherland**	**29.13**	**101**	LR		LR	19 27 07.4	
TSUM	comp=Z,436nm,20.0s,baz=260,slow=31 **Tsumeb**	**30.51**	**74**	LR		LR	19 28 41.9	
RCBR	comp=Z,561nm,18.2s,baz=230,slow=33 **Riachuelo**	**32.89**	**316**	LR		LR	19 28 39.5	
BOSA	comp=Z,131nm,21.8s,baz=65,slow=31 **Boshof**	**33.60**	**96**	LR		LR	19 29 49.4	
LBTB	comp=Z,309nm,20.2s,baz=244,slow=32 **Lobatse**	**34.93**	**90**	P		**P**	**19 18 54.3**	**+0.2**
LBTB				IAmb		IAmb	19 19 00.7	
LBTB	comp=Z,21nm,1.3s **Lobatse**	**34.93**	**90**	LR		LR	19 30 49.7	
BDFB	comp=Z,244nm,18.2s,baz=246,slow=32 **Brasilia**	**35.08**	**288**	P		**P**	**19 18 55.0**	**-0.5**
BDFB				IAmb		IAmb	19 18 57.5	
BDFB	comp=Z,12nm,1.3s **Brasilia**	**35.08**	**288**	P		P	19 18 51.6	-3.9
BDFB	comp=Z,3.7nm,0.6s,baz=136,slow=9.8,SNR=1.9			LR		LR	19 30 41.9	
	comp=Z,315nm,21.1s,baz=135,slow=32 comp=Z,3.7nm,0.6s							
CPUP	**Villa Florida**	**38.50**	**266**	LR		LR	19 32 47.6	
DBIC	comp=Z,314nm,19.2s,baz=50,slow=33 **Dimbokro**	**38.65**	**14**	P		**P**	**19 19 25.2**	**-0.5**
DBIC	comp=Z,2.2nm,0.6s,baz=170,slow=4.6,SNR=3.8			LR		LR	19 31 39.2	
LSZ	comp=Z,70nm,18.3s,baz=114,slow=30 comp=Z,2.2nm,0.6s **Lusaka**	**41.24**	**77**	LR		LR	19 35 00.5	
PTLB	comp=Z,283nm,21.1s,baz=246,slow=33 **Pontes e Lacer**	**44.41**	**280**	P		**P**	**19 20 14.8**	**+1.8**
SIV	**San Ignacio**	**45.78**	**278**	LR		LR	19 37 36.7	
PLCA	comp=Z,308nm,18.8s,baz=124,slow=34 **Paso Flores**	**46.36**	**242**	LR		LR	19 40 08.2	
TOA0	comp=Z,153nm,18.5s,baz=80,slow=37 **Torodi Ar. Sit**	**46.55**	**21**	P		**P**	**19 20 30.7**	**+0.8**
TOA0				IAmb		IAmb	19 20 50.4	
TORD	comp=Z,4.4nm,1.1s **Torodi Ar. Bea**	**46.55**	**21**	P		**P**	**19 20 30.3**	**+0.5**
TORD				IAmb		IAmb	19 20 40.9	
TORD	comp=Z,4.3nm,1.1s **Torodi Ar. Bea**	**46.55**	**21**	P		**P**	**19 20 30.4**	**+0.5**
TORD	comp=Z,2.2nm,0.8s,baz=200,slow=5.9,SNR=10			LR		LR	19 36 07.6	
BO01	comp=Z,134nm,21.7s,baz=168,slow=31 comp=Z,2.2nm,0.8s **Tunca**	**47.90**	**250**	P		**P**	**19 20 40.9**	**+0.5**
LVC	**Limon Verde**	**49.68**	**266**	LR		LR	19 40 12.7	
PB08	comp=Z,167nm,21.7s,baz=117,slow=34 **IPOC Station P**	**50.87**	**269**	P		**P**	**19 21 03.6**	**-0.1**
PB08				IAmb		IAmb	19 21 05.7	
GO01	comp=Z,14nm,1.1s **Chusmiza**	**51.10**	**269**	P		**P**	**19 21 05.8**	**+0.3**
GO01				IAmb		IAmb	19 21 07.1	
LPAZ	comp=Z,16nm,1.2s **La Paz**	**51.66**	**274**	P		**P**	**19 21 08.8**	**-1.0**
LPAZ	comp=Z,1.1nm,0.7s,baz=105,slow=4.2,SNR=3.7			LR		LR	19 41 21.2	
MBAR	comp=Z,183nm,20.6s,baz=106,slow=34 comp=Z,1.1nm,0.7s **Mbarara**	**51.81**	**63**	LR		LR	19 41 04.3	
MDP	comp=Z,253nm,19.6s,baz=220,slow=34 **Montagnes des**	**51.98**	**307**	LR		LR	19 40 48.9	
QSPA	comp=Z,180nm,21.2s,baz=111,slow=33 **South Pole Qui**	**58.94**	**180**	P		**P**	**19 22 01.6**	**+0.4**
QSPA				IAmb		IAmb	19 22 02.1	
QSPA	comp=Z,7.2nm,1.1s **South Pole Qui**	**58.94**	**180**	P		**P**	**19 22 01.5**	**+0.4**
QSPA	comp=Z,3.1nm,0.9s,baz=232,slow=0.7,SNR=8.9			LR		LR	19 45 03.0	
NNA	comp=Z,28nm,18.4s,baz=218,slow=34 comp=Z,3.1nm,0.9s **Nana**	**61.12**	**273**	LR		LR	19 48 34.9	
PCRV	comp=Z,114nm,18.1s,baz=181,slow=36 **Puerto La Cruz**	**63.99**	**302**	LR		LR	19 48 23.4	
MDT	comp=Z,132nm,19.9s,slow=34 **Midelt**	**64.32**	**8**	LR		LR	19 46 37.5	
ATAH	comp=Z,60nm,20.4s,baz=172,slow=32 **Atahualpa**	**64.87**	**277**	LR		LR	19 50 26.0	
ROSC	comp=Z,122nm,21.8s,baz=148,slow=36 **El Rosal**	**68.10**	**290**	LR		LR	19 51 57.3	
ESDC	comp=Z,279nm,18.0s,baz=130,slow=35 **Sonseca Array**	**71.17**	**8**	P		**P**	**19 23 19.9**	**-0.8**
VNDA	comp=Z,1.4nm,1.1s,baz=173,slow=8.2,SNR=5.0 comp=Z,1.4nm,1.1s **Vanda**	**71.40**	**179**	P		**P**	**19 23 21.5**	**-0.2**
VNDA	comp=Z,1.3nm,1.0s,baz=238,slow=6.0,SNR=5.3			LR		LR	19 50 40.5	
EIL	comp=Z,38nm,21.6s,baz=176,slow=32 comp=Z,1.3nm,1.0s **Elat**	**76.16**	**42**	LR		LR	19 54 30.8	
MMAI	comp=Z,44nm,22.0s,baz=238,slow=33 **Mount Meron Ar**	**78.92**	**40**	LR		LR	19 56 55.1	
JTS	comp=Z,46nm,20.8s,baz=156,slow=34 **Las Juntas de**	**79.82**	**289**	LR		LR	19 57 56.6	
DAVOX	comp=Z,139nm,21.3s,baz=360,slow=35 **Davos/Dischmat**	**80.54**	**16**	LR		LR	19 56 50.8	
RPN	comp=Z,56nm,21.9s,baz=230,slow=33 **Rapa Nui**	**80.95**	**244**	LR		LR	19 52 44.9	
BR131	comp=Z,38nm,21.8s,baz=294,slow=30 **Keskin Array S**	**83.12**	**35**	P		**P**	**19 24 28.7**	**+0.7**
BRTR	**Keskin Array B**	**83.12**	**35**	P		**P**	**19 24 28.7**	**+0.7**
BRTR	**Keskin Array B**	**83.12**	**35**	P		**P**	**19 24 29.2**	**+1.2**
	comp=Z,2.3nm,1.0s,baz=191,slow=5.7,SNR=10 comp=Z,2.3nm,1.0s							
GERES	**GERESS Array B**	**83.41**	**18**	LR		LR	20 01 22.1	
PSZ	comp=Z,29nm,19.2s,baz=195,slow=36 **Piszkesteto**	**84.37**	**22**			**P**	**19 24 34.9**	**+0.8**
PSZ				IAmb		IAmb	19 24 36.2	
MLR	comp=Z,7.4nm,1.0s **Muntele Rosu**	**84.41**	**27**	P		**P**	**19 24 34.4**	**-0.1**
MLR	**Muntele Rosu**	**84.41**	**27**	LR		LR	20 00 34.8	
VRAC	comp=Z,23nm,21.5s,baz=254,slow=34 **Vranov**	**84.62**	**19**	LR		LR	20 00 22.6	
CLL	comp=Z,34nm,21.8s,baz=212,slow=34 **Collm**	**85.51**	**16**	*eP*		**P**	**19 24 40.0**	**+0.4**
BURAR	**Bucovina Array**	**85.93**	**25**			**P**	**19 24 42.7**	**+0.8**
WSAR	**Wadi Sarin**	**87.80**	**61**	LR		LR	20 03 09.7	
TEIG	comp=Z,63nm,20.5s,baz=234,slow=35 **Tepich**	**88.06**	**295**	LR		LR	20 03 44.7	
GNI	comp=Z,554nm,19.6s,slow=35 **Garni**	**89.25**	**41**	LR		LR	20 05 51.6	
AKASG	comp=Z,26nm,19.0s,baz=228,slow=36 **Malin Array Be**	**89.96**	**26**	LR		LR	20 04 08.9	
KBZ	comp=Z,12nm,21.9s,baz=216,slow=35 **Khabaz**	**90.74**	**37**	LR		LR	20 07 51.5	
CMIG	comp=Z,17nm,18.5s,baz=179,slow=37 **Matias Romero**	**91.59**	**289**	LR		LR	20 04 59.9	
HFS	comp=Z,19nm,20.9s,baz=175,slow=35 **Hagfors**	**93.82**	**13**	LR		LR	20 06 10.4	
NOA	comp=Z,30nm,18.4s,baz=202,slow=35 **NORSAR Array B**	**94.20**	**12**	LR		LR	20 07 24.5	
BORG	comp=Z,24nm,18.6s,baz

BKB	**Balikpapan**	**1.30**	**60**		**Pg**	**19 22 12.2**	**+1.1**
BKB	**Balikpapan**	**1.30**	**60**	P	**Pg**	**19 22 12.2**	**+1.1**
BKB				S	**Sn**	**19 22 33.4**	**+5.6**
SMKI	**Samarinda**	**2.05**	**45**	P	**Pn**	**19 22 21.2**	**+0.6**
TTSI	**Tana Toraja**	**4.21**	**106**	P	**Pn**	**19 22 50.3**	**0.0**
MPSI	**Mapaga**	**4.70**	**62**	P	**Pn**	**19 22 55.9**	**-1.2**
BWJI	**Bawean**	**4.99**	**218**	P	**Pn**	**19 23 03.3**	**+2.2**
	313nm,1.1s,5µm3.5nm						
KAPI	**Kappang**	**5.03**	**128**		**Pn**	**19 23 03.6**	**+1.9**
BKSI	**Bulukumba**	**5.51**	**128**	P	**Pn**	**19 23 08.8**	**+0.5**
	138nm,0.5s,1µm0.5nm						
SBUM	**Sibu**	**5.60**	**321**		**Pn**	**19 23 10.1**	**+0.7**
SBUM				Sn	**Sn**	**19 24 13.4**	**-0.5**
TOLI2	**Tolitoli**	**5.85**	**59**		**Pn**	**19 23 11.6**	**-1.2**
KSM	**Kuching**	**6.41**	**302**		**Pn**	**19 23 21.2**	**+0.6**
MRSI	**Marisa**	**6.62**	**69**	P	**Pn**	**19 23 23.0**	**-0.4**
	46nm,1.1s,701nm0.2nm						
JAGI	**Jajag, Banyuwa**	**6.71**	**194**	Pn	**Pn**	**19 23 27.2**	**+2.5**
JAGI	**Jajag, Banyuwa**	**6.71**	**194**	P	**Pn**	**19 23 26.5**	**+1.8**
	18nm,0.8s,0.1nm						
TWSI	**Taliwang, Sumb**	**6.87**	**171**	P	**Pn**	**19 23 28.0**	**+1.1**
LUWI	**Luwuk**	**7.06**	**83**		**Pn**	**19 23 29.0**	**-0.5**
LUWI					**Sn**	**19 24 47.0**	**-2.9**
LUWI	**Luwuk**	**7.06**	**83**	P	**Pn**	**19 23 29.3**	**-0.2**
	120nm,0.8s,1µm0.6nm						
PWJI	**Pagerwojo**	**7.24**	**213**	P	**Pn**	**19 23 33.8**	**+1.8**
	15nm,1.1s,0.1nm						
SMRI	**Semarang**	**7.36**	**226**	Pn	**Pn**	**19 23 33.8**	**+0.1**
GTOI	**Gorontalo**	**7.67**	**71**	P	**Pn**	**19 23 35.5**	**-2.5**
	11nm,0.6s,0.0nm						
KPJI	**Karang Pucung**	**8.68**	**231**	P	**Pn**	**19 23 54.7**	**+2.9**
	17nm,0.4s						
EDFI	**Ende, Flores**	**9.00**	**139**	P	**Pn**	**19 23 56.7**	**+0.5**
	5.7nm,0.7s						
MMRI	**Maumere**	**9.28**	**136**	Pn	**Pn**	**19 24 01.5**	**+1.4**
MMRI	**Maumere**	**9.28**	**136**	P	**Pn**	**19 24 00.8**	**+0.8**
	14nm,1.2s						
CMJI	**Cimerak**	**9.33**	**231**	P	**Pn**	**19 24 02.6**	**+1.9**
	53nm,1.0s						
LEM	**Lembang**	**9.47**	**239**	Pn	Pn	19 23 56.9	-6.0
	0.8nm,0.3s,baz=56,slow=11,SNR=1.3						
LEM				Lg	Lg	19 26 34.3	
	1.7nm,0.3s,baz=216,slow=17,SNR=2.6						
	3.5nm,0.4s						
BATI	**Baumata**	**11.38**	**137**	LR	LR	19 29 20.6	
	comp=Z,123nm,18.2s,baz=316,slow=40						
SOEI	**Soe**	**11.50**	**133**	Pn	**Pn**	**19 24 31.3**	**+0.7**
DAV	**Davao City (W)**	**13.25**	**48**	Pn	**Pn**	**19 24 54.4**	**0.0**
	42nm,0.3s,baz=228,slow=14,SNR=1.6						
DAV				LR	LR	19 31 05.3	
	comp=Z,47nm,18.8s,baz=171,slow=42						
LHMI	**Lhok Sumawe**	**20.09**	**291**	P	**P**	**19 26 20.6**	**+0.6**
WB0	**Warramunga Arr**	**25.43**	**136**	P	**P**	**19 27 14.6**	**+0.4**
WB0				IAmb	IAmb	19 27 24.3	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**25.51**	**136**	P	**P**	**19 27 15.8**	**+0.9**
WRA	**Warramunga Arr**	**25.51**	**136**	P	**P**	**19 27 13.8**	**-1.1**
	comp=Z,2.0nm,0.8s,baz=313,slow=10,SNR=21						
	comp=Z,2.0nm,0.8s						
WRAB	**Tennant Creek**	**25.51**	**136**	P	**P**	**19 27 15.7**	**+0.7**
WRAB				IAmb	IAmb	19 27 20.0	
	comp=Z,8.4nm,1.1s						
WB2	**Warramunga Arr**	**25.52**	**136**	P	**P**	**19 27 15.7**	**+0.6**
WB2				IAmb	IAmb	19 27 20.9	
	comp=Z,5.9nm,0.8s						
WR0	**Warramunga Arr**	**25.66**	**136**	P	**P**	**19 27 16.6**	**+0.3**
CMAR	**Chiang Mai Arr**	**26.15**	**321**	P	**P**	**19 27 21.3**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=151,slow=8.5,SNR=5.7						
CMAR				LR	LR	19 38 20.3	
	comp=Z,37nm,18.2s,baz=165,slow=38						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**27.86**	**142**	P	**P**	**19 27 36.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=314,slow=8.4,SNR=4.7						
	comp=Z,1.0nm,0.6s						
STKA	**Stephens Creek**	**38.49**	**143**	P	**P**	**19 29 08.7**	**+0.1**
	comp=Z,2.2nm,0.6s,baz=320,slow=11,SNR=4.0						
	comp=Z,2.2nm,0.6s						
LSA	**Lhasa**	**39.27**	**325**	P	**P**	**19 29 16.2**	**+0.6**
LSA				IAmb	IAmb	19 29 18.9	
	comp=Z,3.6nm,0.6s						
SONM	**Songino Array**	**50.22**	**352**	P	**P**	**19 30 42.6**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=157,slow=7.7,SNR=2.2						
	comp=Z,0.4nm,0.5s						
MKAR	**Makanchi Array**	**56.72**	**333**	P	**P**	**19 31 30.2**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=140,slow=7.9,SNR=15						
MKAR				PcP	**PcP**	**19 32 25.4**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=133,slow=4.1,SNR=4.0						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**61.23**	**334**	P	**P**	**19 32 00.1**	**-1.1**
	comp=Z,0.3nm,0.2s,baz=118,slow=9.5,SNR=1.6						
KURBB				PcP	**PcP**	**19 32 43.0**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=143,slow=3.4,SNR=4.2						
	comp=Z,0.3nm,0.2s						
ZALV	**Zalesovo Beam**	**61.32**	**340**	P	**P**	**19 32 00.7**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=138,slow=8.9,SNR=3.5						
	comp=Z,0.5nm,0.5s						
BVAR	**Borovoye Array**	**66.57**	**332**	P	**P**	**19 32 35.9**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=138,slow=9.0,SNR=6.0						
	comp=Z,0.6nm,0.7s						
ABKAR	**Akbulak array**	**69.95**	**325**	P	**P**	**19 32 57.0**	**-0.5**
VNDA	**Vanda**	**79.45**	**171**	P	**P**	**19 33 50.6**	**-1.5**
	comp=Z,0.7nm,1.0s,baz=322,slow=4.5,SNR=5.1						
	comp=Z,0.7nm,1.0s						
BRTR	**Keskin Array B**	**85.15**	**310**	P	**P**	**19 34 22.5**	**-0.5**
	comp=Z,0.7nm,0.9s,baz=108,slow=7.9,SNR=4.5						
	comp=Z,0.7nm,0.9s						
QSPA	**South Pole Qui**	**88.04**	**180**	P	**P**	**19 34 35.3**	**-1.2**
	comp=Z,1.1nm,1.1s,baz=264,slow=4.5,SNR=2.0						
	comp=Z,1.1nm,1.1s						
FINES	**FINESS Array B**	**91.52**	**331**	P	**P**	**19 34 51.8**	**-0.9**
	comp=Z,1.9nm,1.0s,baz=120,slow=5.6,SNR=2.2						
	comp=Z,1.9nm,1.0s						
ARCES	**ARCESS Array B**	**91.87**	**339**	P	**P**	**19 34 52.5**	**-1.7**
	comp=Z,3.3nm,1.1s,baz=100,slow=5.0,SNR=5.4						
	comp=Z,3.3nm,1.1s						
INK	**Inuvik**	**99.33**	**21**	LR	LR	20 24 41.9	
	comp=Z,28nm,18.9s,baz=0.0,slow=38						

*NEIC **02** 20:02:42.6±0.5, 43.84N±0.03×105.22W±0.06, h0km±1km, ML3.3/78, Error ellipse: s-maj=8.7km s-min=2.9km az=121.0*
*IDC **02** 20:02:44.9±1.0, 43.81N×105.57W, h0km, mb3.8/1, mbtmp3.4/6, ML3.2/4, MS2.4/1, Error ellipse: s-maj=24.5km s-min=8.9km az=147.0*
ISC 02 20:02:43.6±0.8, 43.99N±0.05×105.48W±0.05, h0km, n64, σ1s94/61, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.05**	**82**	Pn	**Pb**	**20 03 03.7**	**-1.1**
K22A	**Casper**	**1.54**	**210**		**Pn**	**20 03 11.6**	**-0.8**
K22A				IAML		20 03 36.8	
	comp=N,426nm,0.3s						
K22A				IAML		20 03 39.3	
	comp=E,341nm,0.3s						
RWWY	**Rawlins**	**2.63**	**209**		**Pn**	**20 03 27.4**	**-0.1**
RWWY				IAML		20 04 05.7	
	comp=E,169nm,0.8s						
PHWY	**Pilot Hill**	**2.69**	**180**		**Pn**	**20 03 26.6**	**-1.8**
PHWY				IAML		20 04 07.5	
	comp=E,145nm,0.5s						
LAO	**LASA Array**	**2.75**	**349**	Pn	**Pb**	**20 03 32.2**	**-1.5**
RLMT	**Red Lodge**	**2.93**	**294**	Pn	**Pb**	**20 03 35.3**	**-1.6**
RLMT				IAML		20 04 38.8	
	comp=E,66nm,0.7s						
RLMT				IAML		20 04 39.9	
	comp=E,51nm,0.7s						
N23A	**Red Feather La**	**3.11**	**186**		**Pn**	**20 03 33.0**	**-1.2**
N23A				IAML		20 04 17.0	
	comp=N,124nm,0.6s						
N23A				IAML		20 04 21.0	
	comp=E,111nm,0.6s						
PD31	**Pinedale Array**	**3.21**	**249**		**Pn**	**20 03 37.4**	**+1.9**
PDAR	**Pinedale Array**	**3.21**	**249**		**Pb**	**20 03 38.3**	**-3.3**
PDAR	**Pinedale Array**	**3.21**	**249**	Pn	**Pb**	**20 03 38.6**	**-3.1**
	comp=E,2.1nm,0.3s,baz=68,slow=16,SNR=49						
PDAR				Lg	Lg	20 04 20.1	
	comp=E,2.6nm,0.3s,baz=78,slow=24,SNR=3.8						
PDAR				LR	LR	20 05 05.3	
	comp=E,53nm,18.5s,baz=101,slow=45						
	comp=E,4.8nm,0.4s						
YMP	**Mirror Lake Pl**	**3.43**	**284**	Pn	**Pb**	**20 03 42.5**	**-3.0**
YMP				IAML		20 04 46.4	
	comp=N,77nm,0.8s						
GCMT	**Greycliff**	**3.48**	**303**		**Pb**	**20 03 44.4**	**-1.7**
H17A	**Grant Village**	**3.69**	**278**		**Pn**	**20 03 40.8**	**-1.2**
LOHW	**Long Hollow**	**3.73**	**266**		**Pn**	**20 03 41.1**	**-1.5**
FLWY	**Flagg Ranch**	**3.76**	**273**		**Pn**	**20 03 42.1**	**-1.0**
FLWY				IAML		20 04 56.5	
	comp=N,55nm,2.2s						
FLWY				IAML		20 05 01.6	
	comp=N,31nm,1.1s						
MOOW	**Moose Ponds**	**3.81**	**268**		**Pn**	**20 03 43.3**	**-0.5**
YFT	**Old Faithful**	**3.88**	**279**	Pn	**Pn**	**20 03 43.5**	**-1.2**
YFT				IAML		20 04 57.1	
	comp=E,28nm,0.9s						
YHH	**Holmes Hill**	**3.93**	**284**		**Pb**	**20 03 53.4**	**-0.6**
IMW	**Indian Meadow**	**3.94**	**271**		**Pn**	**20 03 43.5**	**-2.1**
IMW				IAML		20 05 13.6	
	comp=E,29nm,0.6s						
IMW				IAML		20 05 14.3	
	comp=E,27nm,0.7s						
REDW	**Red Top Meadow**	**3.94**	**263**		**Pn**	**20 03 43.6**	**-2.0**
OGNE	**Ogallala**	**3.97**	**139**		**Pn**	**20 03 41.9**	**-4.0**
TPAW	**Teton Pass**	**3.99**	**265**		**Pb**	**20 03 50.3**	**-4.7**
TPAW				IAML		20 05 11.3	
	comp=E,24nm,0.8s						
TPAW				IAML		20 05 16.4	
	comp=E,47nm,1.1s						
FXWY	**Fox Creek**	**4.03**	**267**		**Pn**	**20 03 43.6**	**-3.2**
ISCO	**Idaho Springs**	**4.19**	**181**		**Pn**	**20 03 46.5**	**-2.5**
E28A	**Huff**	**4.26**	**51**		**Pn**	**20 03 50.0**	**+0.3**
AHID	**Auburn Hatcher**	**4.27**	**255**		**Pb**	20 03 53.8	-5.9
AHID				IAML		20 05 10.5	
	comp=E,38nm,0.7s						
AHID				IAML		20 05 22.1	
	comp=E,31nm,1.0s						
O20A	**White River Ci**	**4.37**	**209**		**Pn**	**20 03 51.5**	**+0.1**
ECR	**Eagle Creek**	**4.38**	**260**		**Pn**	**20 03 53.9**	**+2.2**
K30B	**Baset**	**4.48**	**105**		**Pn**	**20 03 50.3**	**-2.5**
RDMU	**Red Mountain**	**4.57**	**223**		**Pn**	**20 03 53.9**	**-0.3**
RDMU				IAML		20 05 06.0	
	comp=N,23nm,0.9s						
RDMU				IAML		20 05 12.2	
	comp=E,36nm,1.1s						
DGMT	**Dagmar**	**4.57**	**11**		**Pg**	**20 04 09.2**	**-2.0**
BOZ	**Bozeman (W)**	**4.66**	**292**		**Pb**	**20 04 05.0**	**-1.3**
BOZ				IAML		20 05 22.5	
	comp=E,17nm,0.8s						
BOZ				IAML		20 05 23.0	
	comp=E,16nm,0.7s						
SMCO	**Snowmass**	**4.94**	**194**		**Pb**	**20 04 11.2**	**0.0**
SMCO				IAML		20 05 23.9	
	comp=E,18nm,1.2s						
SMCO				IAML		20 05 28.7	
	comp=E,24nm,0.8s						
EGMT	**Eagleton**	**5.01**	**325**	Pn	Pn	20 04 03.5	+3.4
HWUT	**Hardware Ranch**	**5.07**	**244**		**Pn**	**20 04 03.4**	**+2.3**
BSUT	**Blindstream Ca**	**5.22**	**230**		**Pn**	**20 04 02.3**	**-0.9**
BSUT				IAML		20 05 43.2	
	comp=E,13nm,1.2s						
BSUT				IAML		20 05 46.3	
	comp=N,12nm,1.1s						
TCUT	**Toone Canyon**	**5.23**	**239**		**Pn**	**20 04 04.6**	**+1.2**
P18A	**Preston Nutter**	**5.62**	**221**		**Pn**	**20 04 06.5**	**-2.3**
HVU	**Hansel Valley**	**5.79**	**250**		**Pn**	**20 04 13.4**	**+2.5**
P17A	**Butcher Ranch,**	**5.98**	**223**		**Pn**	**20 04 11.6**	**-2.0**
PV07	**Paradox Valley**	**6.04**	**204**	Pn	**Pn**	**20 04 11.9**	**-2.4**
MPU	**Maple Canyon**	**6.06**	**231**	Pn	**Pn**	**20 04 14.4**	**-0.3**
BPMT	**Black Pine Rid**	**6.13**	**296**	Pn	Pn	20 04 20.4	+4.7
SRU	**San Rafael Swe**	**6.17**	**220**		**Pn**	**20 04 15.2**	**-0.9**
SDCO	**Great Sand Dun**	**6.24**	**180**		**Pn**	**20 04 17.3**	**+0.1**
TMUT	**Trail Mountain**	**6.35**	**224**		**Pn**	**20 04 17.2**	**-1.6**
BGU	**Big Grassy Mou**	**6.37**	**244**	Pn	**Pn**	**20 04 21.0**	**+2.2**
ECSD	**EROS Data Cent**	**6.42**	**89**		**Pb**	**20 04 33.2**	**-3.0**
HLID	**Hailey**	**6.48**	**269**	Pn	**Pn**	**20 04 18.9**	**-1.4**
Q16A	**Castle Valley**	**6.63**	**222**	Pn	**Pn**	**20 04 22.2**	**-0.2**
DUG	**Dugway, Tooele**	**6.64**	**238**	Pn	**Pn**	**20 04 21.4**	**-1.2**
F33A	**5 Mile Ranch,**	**6.78**	**71**	Pn	**Pn**	**20 04 26.0**	**+1.6**
T25A	**Trinidad**	**6.89**	**173**		**Pn**	**20 04 25.6**	**-0.6**
HMU	**Henry Mountain**	**7.24**	**215**	Pn	**Pn**	**20 04 30.5**	**-0.4**
MSU	**Marysvale**	**7.44**	**225**	Pn	**Pn**	**20 04 34.1**	**+0.5**
MTPU	**Mount Pierson**	**7.81**	**223**	Pn	**Pn**	**20 04 36.4**	**-2.4**
RTBA	**Rita Blanca**	**7.83**	**164**	Pn	**Pn**	**20 04 37.9**	**-1.0**
PSUT	**Pine Spring**	**8.33**	**232**		**Pn**	**20 04 45.2**	**-0.6**
CCUT	**Cedar City**	**8.78**	**226**	Pn	**Pn**	**20 04 51.5**	**-0.5**
ULM	**Lac du Bonnet**	**9.06**	**43**	Pn	**Pn**	**20 04 57.1**	**+1.5**
	comp=N,1.1nm,0.3s,baz=225,slow=11,SNR=8.8						
ULM				Pg		20 05 23.4	
	comp=N,0.3nm,0.3s,baz=232,slow=19,SNR=3.1						
ULM				Lg	Lg	20 07 26.1	
	comp=N,0.2nm,0.3s,baz=147,slow=22,SNR=1.4						
	comp=N,2.3nm,0.4s						
NVAR	**Mina Array Bea**	**11.14**	**244**	Pn	**Pn**	**20 05 27.3**	**+3.1**
	comp=N,0.2nm,0.3s,baz=53,slow=13,SNR=2.4						
	comp=N,0.2nm,0.3s						
TXAR	**Lajitas Array**	**14.70**	**174**	Pn	**Pn**	**20 06 12.4**	**-0.5**
	comp=N,0.1nm,0.3s,baz=5.2,slow=11,SNR=1.6						
YKA	**Yellowknife Ar**	**19.29**	**347**	P	**Pn**	**20 07 13.2**	**+2.6**
	comp=N,0.1nm,0.3s,baz=156,slow=12,SNR=6.4						
	comp=N,0.3nm,0.6s						
MKAR	**Makanchi Array**	**89.34**	**355**	P	**P**	**20 15 43.9**	**+2.1**
	comp=N,0.4nm,0.7s,baz=4.6,slow=3.0,SNR=3.7						
	comp=N,0.4nm,0.7s						

*IDC **02** 20:29:07.1±7.8, 16.4S×168.58E, h191km±60km, mb3.7/3, mbtmp4.3/4, Error ellipse: s-maj=69.5km s-min=62.3km az=24.0*
*NEIC **02** 20:29:07.3±1.6, 16.7S±0.1×168.9E±0.1, h202km±11km, mb4.3/17, Error ellipse: s-maj=20.0km s-min=15.2km az=94.0*
*NOU **02** 20:29:10.7, 17.08S×169.49E, h213km, MLv4.0/9, Vanuatu Islands*
ISC 02 20:29:06.1±1.4, 16.7S±0.1×169.0E±0.1, h200km, n37, σ1s75/42, mb4.3/11, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**4.42**	**202**	P	**Pn**	**20 30 15.6**	**+2.5**
LIFNC	**LIFOU**	**4.42**	**202**	Pn	**Pn**	**20 30 13.5**	**+0.4**
LIFNC				Sn	**Sn**	**20 31 02.9**	**-3.0**
MARNC	**Mare, Loyalty**	**4.88**	**190**	P	**Pn**	**20 30 20.4**	**+1.4**
MARNC	**Mare, Loyalty**	**4.88**	**190**		**Pn**	**20 30 20.4**	**+1.4**
MARNC				Sn	**Sn**	**20 31 12.2**	**-4.4**
YATNC	**Mamie plateau,**	**5.72**	**200**	P	**Pn**	**20 30 30.9**	**+1.1**
	29nm,0.9s						
DZM	**Mont Dzumac**	**5.89**	**204**	P	**Pn**	**20 30 35.0**	**+2.9**
DZM	**Mont Dzumac**	**5.89**	**204**		**Pn**	**20 30 34.7**	**+2.6**
DZM	**Mont Dzumac**	**5.89**	**204**	P	**Pn**	**20 30 34.9**	**+2.9**
	21nm,0.6s,baz=95,slow=12,SNR=28						
DZM				S	**Sn**	**20 31 40.9**	**+0.8**
	4.0nm,0.3s,baz=180,slow=20,SNR=1.4						
KOUNC	**Koumac, New Ca**	**5.90**	**228**		**Pn**	**20 30 35.0**	**+2.9**
NOUC	**Port Laguerre**	**5.98**	**205**	P	**Pn**	**20 30 36.0**	**+3.0**
OUENC	**Ouen Island, N**	**6.08**	**199**	P	**Pn**	**20 30 36.7**	**+2.4**
OUENC	**Ouen Island, N**	**6.08**	**199**	Pn	**Pn**	**20 30 34.9**	**+0.6**
PINNC	**Pines Island,**	**6.10**	**193**	Pn	**Pn**	**20 30 36.1**	**+1.5**
PINNC				Sn	**Sn**	**20 31 44.7**	**-0.1**
ONTNC	**Ouen Toro**	**6.11**	**203**	P	**Pn**	**20 30 37.7**	**+3.0**
ONTNC	**Ouen Toro**	**6.11**	**203**	Pn	**Pn**	**20 30 36.9**	**+2.2**
ARMA	**Armidale**	**20.95**	**226**	P	**P**	**20 33 34.4**	**+0.7**
ARMA				IAmb	IAmb	20 33 47.2	
	comp=Z,9.9nm,1.2s						
CTAO	**Charters Tower**	**21.83**	**258**	P	**P**	**20 33 41.9**	**-0.9**
MSWZ	**Moikau Station**	**25.26**	**169**	P	**P**	**20 34 14.8**	**+1.0**
PLWZ	**Palliser**	**25.41**	**169**	P	**P**	**20 34 16.0**	**+0.8**
LTZ	**Lake Taylor**	**26.19**	**175**	P	**P**	**20 34 23.2**	**+1.0**
STKA	**Stephens Creek**	**29.09**	**234**	P	**P**	**20 34 48.0**	**-0.1**
STKA	**Stephens Creek**	**29.09**	**234**	P	**P**	**20 34 48.1**	**-0.1**
	comp=Z,2.5nm,0.4s,baz=70,slow=10,SNR=10						
	comp=Z,2.5nm,0.4s						
WR0	**Warramunga Arr**	**32.83**	**259**	P	**P**	**20 35 20.6**	**-0.4**
WR0				IAmb	IAmb	20 35 34.2	
	comp=Z,7.1nm,1.4s						
WB0	**Warramunga Arr**	**32.97**	**259**	P	**P**	**20 35 21.6**	**-0.7**
WB0				IAmb	IAmb	20 35 24.0	
	comp=Z,7.4nm,1.2s						
WB2	**Warramunga Arr**	**33.01**	**259**	P	**P**	**20 35 22.8**	**+0.2**
WB2				IAmb	IAmb	20 35 25.3	
	comp=Z,14nm,1.4s						
WRA	**Warramunga Arr**	**33.02**	**259**	P	**P**	**20 35 20.7**	**-2.0**
WRA	**Warramunga Arr**	**33.02**	**259**	P	**P**	**20 35 21.9**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=83,slow=8.4,SNR=18						
WRA				PcP	**PcP**	**20 38 02.1**	**+0.3**
	comp=Z,0.9nm,1.1s,baz=87,slow=3.3,SNR=2.3						
	comp=Z,0.6nm,0.7s						
AS31	**Alice Springs**	**33.59**	**252**	P	**P**	**20 35 26.7**	**-0.9**
AS31				IAmb	IAmb	20 35 27.8	
	comp=Z,3.1nm,0.5s						
ASAR	**Alice Springs**	**33.59**	**252**	P	**P**	**20 35 26.9**	**-0.8**
	comp=Z,5.9nm,0.6s,baz=79,slow=9.1,SNR=107						
	comp=Z,5.9nm,0.6s						
BBOO	**Buckleboo**	**33.77**	**235**	P	**P**	**20 35 28.8**	**-0.3**
BBOO				IAmb	IAmb	20 35 29.2	
	comp=Z,13nm,0.8s						
MTN	**Manton Dam**	**36.76**	**271**	P	**P**	**20 35 54.1**	**-0.6**
FORT	**Forrest**	**39.79**	**242**	P	**P**	**20 36 19.0**	**-0.8**
FITZ	**Fitzroy Crossi**	**41.32**	**261**	P	**P**	**20 36 32.5**	**0.0**
PSA00	**Pilbara Seismi**	**46.54**	**256**	P	**P**	**20 37 12.5**	**-1.5**
MBWA	**Marble Bar**	**46.66**	**256**	P	**P**	**20 37 14.1**	**-0.9**
MBWA				IAmb	IAmb	20 37 40.9	
	comp=Z,24nm,1.3s						
CASY	**Casey**	**62.39**	**203**	P	**P**	**20 39 07.5**	**+0.2**
CASY				IAmb	IAmb	20 39 14.5	
	comp=Z,9.7nm,1.4s						
QSPA	**South Pole Qui**	**73.38**	**180**	P	**P**	**20 40 16.5**	**+0.5**
QSPA				IAmb	IAmb	20 40 25.2	
	comp=Z,6.2nm,1.5s						

*GII **02** 21:08:53.7±0.4, 34.00N×24.98E, h1km, Md3.3/5, Mws3.6/10, confirmed*
*THE **02** 21:09:06.2, 34.00N×24.98E, h0km±2km, ML3.2/2, Error ellipse: s-maj=5.7km s-min=1.2km az=179.0*
*ISK **02** 21:09:06.6, 34.17N×25.14E, h12km, ML3.3/20*
*IDC **02** 21:09:08.3±1.9, 33.88N×25.06E, h50km±16km, mb3.5/11, mbtmp3.7/17, ML3.8/4, Error ellipse: s-maj=19.1km s-min=14.2km az=54.0*
*ATH **02** 21:09:09.2, 34.15N×25.04E, h17km±5km, ML3.2/4, Error ellipse: s-maj=6.0km s-min=2.2km az=186.0*
*AFAD **02** 21:09:16.6±0.0, 34.57N×25.75E, h6km±3km, ML3.2*
ISC 02 21:09:07.6±1.0, 33.96N±0.06×25.22E±0.06, h36km±2km, n142, σ2s70/147, mb3.6/11, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**1.14**	**22**	P	**Pn**	**21 09 29.4**	**+2.5**
FRMA				S	**Sn**	**21 09 48.0**	**+6.8**
	578nm,0.8s						
FRMA	**Ierapetra Chan**	**1.14**	**22**	P	**Pn**	**21 09 29.5**	**+2.6**
FRMA				S	**Sn**	**21 09 42.8**	**+1.6**
FRMA				AML	AML	21 09 57.8	
	comp=N,2599µm,0.7s						
FRMA				AML	AML	21 10 01.2	
	comp=E,3550µm,0.9s						
TMBK	**Timbaki Herakl**	**1.17**	**341**	P	**Pn**	**21 09 27.0**	**-0.4**
TMBK	**Timbaki Herakl**	**1.17**	**341**	P	**Pn**	**21 09 27.0**	**-0.4**
TMBK				S	**Sn**	**21 09 39.7**	**-2.4**
GVD	**Gavdhos**	**1.28**	**313**	Pn	**Pn**	**21 09 28.1**	**-0.9**
GVD				Sn	**Sn**	**21 09 43.4**	**-1.5**
GVD	**Gavdhos**	**1.28**	**313**	P	**Pn**	**21 09 28.1**	**-0.9**
GVD	**Gavdhos**	**1.28**	**313**	P	**Pn**	**21 09 28.2**	**-0.7**
GVD				S	**Sn**	**21 09 42.5**	**-2.4**
GVD				AML	AML	21 09 54.3	
	comp=E,3585µm,0.5s						
GVD				AML	AML	21 09 58.8	
	comp=N,3746µm,0.8s						
GVDS	**Gavdos**	**1.28**	**314**	Pn	**Pn**	**21 09 28.7**	**-0.3**
KSTL	**Kastelli Herak**	**1.35**	**355**	P	**Pn**	**21 09 29.1**	**-0.7**
KSTL	**Kastelli Herak**	**1.35**	**355**	P	**Pn**	**21 09 29.0**	**-0.7**
IDI	**Anoyia**	**1.35**	**348**	Pn	**Pn**	**21 09 29.0**	**-1.0**
IDI	**Anoyia**	**1.35**	**348**	P	**Pn**	**21 09 29.5**	**-0.5**
IDI	**Anoyia**	**1.35**	**348**	P	**Pn**	**21 09 30.5**	**+0.5**
	comp=N,1.0nm,0.4s,baz=166,slow=20,SNR=86						
IDI				S	**Sn**	**21 09 49.7**	**+3.0**
	comp=N,6.1nm,0.6s,baz=321,slow=20,SNR=8.4						
IDI	**Anoyia**	**1.35**	**348**	P	**Pn**	**21 09 29.7**	**-0.3**
IDI				AML	AML	21 09 51.2	
	comp=N,1098µm,0.7s						
IDI				AML	AML	21 10 01.9	
	comp=E,1533µm,0.9s						
ZKR	**Zakros**	**1.42**	**35**	Pn	**Pn**	**21 09 31.9**	**+1.1**
ZKR				Sn	**Sn**	**21 09 49.6**	**+1.4**
ZKR	**Zakros**	**1.42**	**35**	P	**Pn**	**21 09 33.3**	**+2.5**
ZKR	**Zakros**	**1.42**	**35**	P	**Pn**	**21 09 33.4**	**+2.6**
Z

GOLH	**Golhisar**	**4.82**	**46**	P	**Pn**	**21 10 19.5**	**+1.9**
GOLH				S	**Sn**	**21 11 09.6**	**-2.6**
GOLH				*i* AML	AML	21 11 16.0	
	comp=E,37nm,0.4s						
GOLH				*i* AML	AML	21 11 21.0	
	comp=E,41nm,0.4s						
APMY	**Acipayam-Deniz**	**4.83**	**42**	Pn	**Pn**	**21 10 19.9**	**+2.1**
INCE	**Denizli-Bozkur**	**5.15**	**42**	P	**Pn**	**21 10 23.4**	**+1.2**
INCE				S	**Sn**	**21 11 13.0**	**-7.4**
KORT	**Korkueli**	**5.17**	**53**	Pn	**Pn**	**21 10 25.7**	**+3.2**
KORT	**Korkueli**	**5.17**	**53**	P	**Pn**	**21 10 25.4**	**+2.9**
KORT				S	**Sn**	**21 11 16.3**	**-4.6**
KORT				*i* AML	AML	21 11 24.0	
	comp=E,45nm,0.5s						
PASA	**Karahalli, USA**	**5.58**	**37**	P	**Pn**	**21 10 27.4**	**-0.6**
PASA				S	Sn	21 11 21.4	-9.5
CSS	**Mathiatis**	**6.77**	**79**	S	**Sn**	**21 11 57.3**	**-3.0**
CSS	**Mathiatis**	**6.77**	**79**	P	Pn	21 10 35.9	-8.6
OFRI	**`Ofer**	**8.28**	**97**	P	Pn	21 10 57.7	-7.5
OFRI	**`Ofer**	**8.28**	**97**	S	**Sn**	**21 12 34.0**	**-3.5**
KZIT	**Kziot**	**8.33**	**109**	P	**Pn**	**21 11 08.5**	**+2.7**
KZIT	**Kziot**	**8.33**	**109**	S	**Sn**	**21 12 35.2**	**-3.4**
KZIT	**Kziot**	**8.33**	**109**	P	Pn	21 10 57.5	-8.3
HNTI	**Hanita**	**8.36**	**93**	P	**Pn**	**21 11 06.6**	**+0.4**
SLTI	**Sal'it**	**8.42**	**99**	S	**Sn**	**21 12 37.6**	**-3.0**
SLTI	**Sal'it**	**8.42**	**99**	P	Pn	21 10 58.9	-8.1
AMAZ	**Amatzia**	**8.52**	**104**	P	**Pn**	21 11 00.3	-8.0
AMAZ	**Amatzia**	**8.52**	**104**	S	**Sn**	**21 12 39.9**	**-3.3**
MMA0B	**Mount Meron ar**	**8.56**	**93**	P	Pn	21 11 01.9	-7.1
MMA0B	**Mount Meron ar**	**8.56**	**93**	S	**Sn**	**21 12 42.0**	**-2.3**
MMAI	**Mount Meron Ar**	**8.56**	**93**	P	**Pn**	**21 11 10.6**	**+1.6**
	comp=E,0.6nm,0.3s,baz=263,slow=10.0,SNR=2.2						
MMAI				S	**Sn**	**21 12 38.3**	**-6.0**
	comp=E,2.4nm,0.4s,baz=277,slow=23,SNR=3.5						
MMLI	**Mount Malkishu**	**8.68**	**97**	S	**Sn**	**21 12 44.1**	**-3.2**
MMLI	**Mount Malkishu**	**8.68**	**97**	P	Pn	21 11 03.6	-7.1
YTIR	**Yattir**	**8.73**	**105**	S	**Sn**	**21 12 45.9**	**-2.8**
YTIR	**Yattir**	**8.73**	**105**	P	Pn	21 11 04.5	-6.9
GEM	**Giv'at Ha'Em**	**8.75**	**92**	S	**Sn**	**21 12 46.4**	**-2.4**
GEM	**Giv'at Ha'Em**	**8.75**	**92**	P	Pn	21 11 03.3	-8.2
NATI	**Neve Ativ**	**8.80**	**92**	P	Pn	21 11 04.5	-7.7
NATI	**Neve Ativ**	**8.80**	**92**	S	**Sn**	**21 12 47.4**	**-2.7**
HMDT	**Nahal Hemdat**	**8.81**	**98**	S	**Sn**	**21 12 47.7**	**-2.7**
HMDT	**Nahal Hemdat**	**8.81**	**98**	P	Pn	21 11 04.6	-7.8
QRNJ	**Al-Qirein**	**8.83**	**98**	P	**Pn**	**21 11 13.4**	**+0.8**
QRNJ				S	Sn	21 12 35.7	-15
UJAP	**Al Uja**	**8.84**	**100**	P	Pn	21 11 04.8	-7.9
UJAP	**Al Uja**	**8.84**	**100**	S	**Sn**	**21 12 48.0**	**-3.0**
BRTR	**Keskin Array B**	**8.87**	**47**	P	**Pn**	**21 11 15.2**	**+2.0**
	comp=E,0.3nm,0.5s,baz=238,slow=14,SNR=2.6						
BRTR				S	**Sn**	**21 12 50.2**	**-1.7**
	comp=E,0.3nm,0.4s,baz=219,slow=26,SNR=3.1						
DSI	**Dead Sea**	**8.88**	**103**	P	**Pn**	**21 11 15.6**	**+2.3**
DSI	**Dead Sea**	**8.88**	**103**	S	**Sn**	**21 12 49.3**	**-2.8**
DSI	**Dead Sea**	**8.88**	**103**	P	Pn	21 11 06.2	-7.1
KSHT	**Keshet**	**8.90**	**93**	P	Pn	21 11 06.6	-7.1
KSHT	**Keshet**	**8.90**	**93**	S	**Sn**	**21 12 50.3**	**-2.4**
KRMI	**Paran Flat**	**8.93**	**113**	P	Pn	21 11 07.1	-6.9
KRMI	**Paran Flat**	**8.93**	**113**	S	**Sn**	**21 12 50.5**	**-2.9**
MSBI	**Mazada**	**8.95**	**104**	S	**Sn**	**21 12 50.0**	**-3.6**
MSBI	**Mazada**	**8.95**	**104**	P	Pn	21 11 07.3	-6.9
PRNI	**Paran**	**9.04**	**111**	P	**Pn**	**21 11 20.0**	**+4.5**
PRNI	**Paran**	**9.04**	**111**	S	**Sn**	**21 12 53.2**	**-2.8**
PRNI	**Paran**	**9.04**	**111**	P	Pn	21 11 09.0	-6.5
LISJ	**El Lisan**	**9.07**	**105**	P	**Pn**	**21 11 18.2**	**+2.3**
ZFRI	**Zfri**	**9.09**	**109**	S	**Sn**	**21 12 54.1**	**-3.1**
ZFRI	**Zfri**	**9.09**	**109**	P	Pn	21 11 08.4	-7.8
GHAJ	**Ghor Haditha**	**9.12**	**104**	P	**Pn**	**21 11 19.0**	**+2.5**
GHAJ	**Ghor Haditha**	**9.12**	**104**	P	Pn	21 11 08.9	-7.6
GHAJ	**Ghor Haditha**	**9.12**	**104**	S	**Sn**	**21 12 55.3**	**-2.6**
HRFI	**Mount Harif**	**9.21**	**112**	P	**Pn**	**21 11 21.4**	**+3.6**
HRFI	**Mount Harif**	**9.21**	**112**	S	**Sn**	**21 12 57.4**	**-2.8**
HRFI	**Mount Harif**	**9.21**	**112**	P	Pn	21 11 10.8	-7.0
MBRI	**Mt Berech**	**9.23**	**114**	P	**Pn**	**21 11 22.7**	**+4.5**
MBRI	**Mt Berech**	**9.23**	**114**	P	Pn	21 11 10.2	-8.0
MBRI	**Mt Berech**	**9.23**	**114**	S	**Sn**	**21 12 57.3**	**-3.4**
EIL	**Elat**	**9.32**	**115**	P	**Pn**	**21 11 20.9**	**+1.6**
	comp=E,0.7nm,0.3s,baz=225,slow=17,SNR=13						
EIL				S	**Sn**	**21 13 01.4**	**-1.5**
	comp=E,4.3nm,0.4s,baz=0.1,slow=22,SNR=7.2						
	comp=E,1.7nm,0.3s						
EIL	**Elat**	**9.32**	**115**	S	**Sn**	**21 12 59.7**	**-3.1**
EIL	**Elat**	**9.32**	**115**	P	Pn	21 11 12.2	-7.2
AQBJ	**Aqaba**	**9.36**	**114**	P	**Pn**	**21 11 23.6**	**+3.7**
KBZ	**Khabaz**	**16.85**	**49**	P	**P**	**21 13 01.9**	**-0.3**
	comp=E,0.1nm,0.3s,baz=269,slow=5.8,SNR=4.4						
	comp=E,2.3nm,0.9s						
AKASG	**Malin Array Be**	**16.99**	**9**	P	**Pn**	**21 13 02.1**	**0.0**
	comp=E,0.8nm,0.3s,baz=200,slow=11,SNR=7.6						
	comp=E,0.4nm,0.4s						
GERES	**GERESS Array B**	**17.17**	**333**	P	**Pn**	**21 13 05.0**	**+0.4**
	comp=E,0.1nm,0.3s,baz=144,slow=12,SNR=9.5						
	comp=E,1.9nm,0.7s						
ESDC	**Sonseca Array**	**23.99**	**292**	P	**P**	**21 14 18.0**	**-0.8**
	comp=E,0.4nm,0.9s,baz=89,slow=5.4,SNR=2.0						
	comp=E,0.4nm,0.9s						
HFS	**Hagfors**	**27.25**	**347**	P	**P**	**21 14 46.4**	**-1.6**
	comp=E,1.3nm,0.9s,baz=205,slow=9.5,SNR=1.4						
	comp=E,1.3nm,0.9s						
FINES	**FINESS Array B**	**27.51**	**1**	P	**P**	**21 14 49.0**	**-1.2**
	comp=E,1.9nm,1.0s,baz=169,slow=11,SNR=4.6						
	comp=E,1.9nm,1.0s						
NOA	**NORSAR Array B**	**28.57**	**346**	P	**P**	**21 14 58.5**	**-1.3**
	comp=E,0.8nm,1.0s,baz=165,slow=8.6,SNR=1.9						
	comp=E,0.8nm,1.0s						
TORD	**Torodi Ar. Bea**	**29.77**	**232**	P	**P**	**21 15 09.5**	**-1.3**
	comp=E,0.4nm,0.5s,baz=31,slow=8.0,SNR=5.9						
	comp=E,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**35.63**	**0**	P	**P**	**21 15 59.6**	**-1.9**
	comp=E,1.9nm,0.8s,baz=161,slow=7.7,SNR=5.0						
	comp=E,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**41.84**	**50**	P	**P**	**21 16 53.8**	**0.0**
	comp=E,0.9nm,0.8s,baz=280,slow=8.8,SNR=4.2						
	comp=E,0.9nm,0.8s						
MKAR	**Makanchi Array**	**44.40**	**56**	P	**P**	**21 17 16.5**	**+1.9**
	comp=E,0.9nm,0.5s,baz=273,slow=7.4,SNR=14						
	comp=E,0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**45.80**	**45**	P	**P**	**21 17 26.7**	**+1.2**
	comp=E,0.6nm,0.4s,baz=273,slow=8.9,SNR=4.4						
	comp=E,0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**77.65**	**45**	P	**P**	**21 21 01.6**	**+1.3**
	comp=E,1.8nm,0.7s,baz=281,slow=5.6,SNR=3.2						
	comp=E,1.8nm,0.7s						
YKA	**Yellowknife Ar**	**78.60**	**342**	P	**P**	**21 21 05.7**	**+0.5**
	comp=E,0.1nm,0.5s,baz=34,slow=4.5,SNR=1.8						
	comp=E,0.1nm,0.5s						

*NEIC **02** 21:09:53.5±0.8, 19.°46N±0.°01×155.°01W±0.°03, h5km±2km, Error ellipse: s-maj=5.0km s-min=3.0km az=291.0*

HVO 02 21:09:50.9±0.9, **19.°45N**±0.°01×**154.°88W**±0.°04, **h0**km±10km, **Md2.0**/7, **ML2.5**/24(NEIC), **Error ellipse: s-maj=4.9km s-min=1.9km az=99.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.33**	**257**	Pg	Pg	21 09 57.9	+0.7
BYL	**Byron's Ledge**	**0.36**	**264**	Pg	Pg	21 09 58.2	+0.3
BYL				IAML		21 10 02.1	
	comp=N,488nm,1.2s						
HATHI	**Halema'uma'u T**	**0.36**	**266**	Pg	Pg	21 09 57.9	0.0
HATHI				IAML		21 10 02.8	
	comp=E,613nm,0.8s						
HATHI				IAML		21 10 07.7	
	comp=N,615nm,1.1s						
SBLHI	**Steaming Bluff**	**0.37**	**267**		Pg	21 09 58.3	+0.2
SBLHI				IAML		21 10 01.6	
	comp=N,402nm,0.8s						
RSD	**Rainshed**	**0.38**	**272**		Pg	21 09 58.2	0.0
RSD					Sg	21 10 04.8	+1.6
RSD				IAML		21 10 05.6	
	comp=N,442nm,0.3s						
RSD				IAML		21 10 05.9	
	comp=E,386nm,0.3s						
UWB	**Uwekahuna B**	**0.38**	**266**	Pg	Pg	21 09 58.2	-0.1
UWE	**Uwekahuna**	**0.40**	**266**		Pg	21 09 58.8	+0.3
HLP	**Hilina Pali**	**0.44**	**250**	Pg	Pg	21 09 59.8	+0.5
HLP				IAML		21 10 06.9	
	comp=N,505nm,0.3s						
MLH	**Mauna Loa**	**0.48**	**275**		Pg	21 10 00.5	+0.3
MLH					Sg	21 10 07.6	+1.1
MLH				IAML		21 10 08.1	
	comp=E,368nm,0.2s						
MLH				IAML		21 10 08.4	
	comp=N,360nm,0.3s						
HTC	**Hot Caves**	**0.54**	**247**		Pg	21 10 01.4	+0.2
HMH	**Humu'ula Sheep**	**0.59**	**285**	Pg	Pg	21 10 02.7	+0.4
MLOA	**Mauna Loa Obse**	**0.67**	**278**	Pg	Pg	21 10 03.2	-0.6
MLOA					Sg	21 10 12.8	+0.4
MLOA				IAML		21 10 13.3	
	comp=N,244nm,0.6s						
MLOA				IAML		21 10 14.1	
	comp=E,212nm,1.1s						
MWH	**Moku'aweowe**	**0.68**	**273**		Pg	21 10 03.8	-0.2
MWH				IAML		21 10 25.3	
	comp=N,283nm,1.1s						

*NAO **02** 21:16:02.0, 35.°73N×28.°49E, h33km, mb4.5*
*ISK **02** 21:16:05.7, 35.°82N×28.°40E, h86km, ML4.6/29*
*MOS **02** 21:16:06.6±1.2, 35.°81N×28.°39E, h65km, mb4.6/24, Error ellipse: s-maj=4.2km s-min=2.5km az=98.2*
*MED_RC **02** 21:16:07.0±0.3, 35.°60N×28.°28E, h66km±4km, MW4.5/20, Moment Tensor Solution.Mantle waves: s20,c27; Duration: 1s0 Moment tensor: Scale 10^15Nm; Mrr2.32±.47; Mθθ-4.39±.36; Mϕϕ2.07±.36; Mrθ2.15±.28; Mθϕ5.77±.70; Mϕr1.94±.23; Best double couple: M07.46000×10^15 NP1:ϕs80.00000°, δ73.00000°, λ26.00000°. NP2:ϕs341.00000°, δ65.00000°, λ161.00000°. Principal axes: T 7.0700, Plg30.0000°, Azm302.0000°; N 0.7800, Plg59.0000°, Azm111.0000°; P -7.8500, Plg5.0000°, Azm209.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*MCSM **02** 21:16:07.6±0.4, 36.°36N±4.°×2.°8E±.°, h75km±11km, mb4.7, mB5.0, MLv4.9, Mw(mB)4.3*
*NIC **02** 21:16:07.9, 35.°55N×28.°52E, h38km±23km, Ml4.9/14*
*PDG **02** 21:16:07.9±0.9, 35.°79N×28.°38E, h76km±3km, ML4.5/13, Error ellipse: s-maj=1.2km s-min=0.8km az=90.0*
*GII **02** 21:16:08.2±0.7, 35.°522N±0.°004×28.°522E±0.°001, h60km, mB4.6/4, Md4.5/3, Mws4.6, confirmed*
*NEIC **02** 21:16:08.1±1.7, 35.°81N±0.°07×28.°37E±0.°05, h65km±6km, mb4.6/75, Error ellipse: s-maj=10.0km s-min=5.9km az=160.0*
*AFAD **02** 21:16:08.4±0.0, 35.°92N×28.°38E, h47km, MW4.4*
*ATH **02** 21:16:08.5, 35.°87N×28.°38E, h68km, Mwa4.4, Moment Tensor Solution. s9 Moment tensor: Mrr0.42; Mθθ-2.60; Mϕϕ2.18; Mrθ0.85; Mθϕ3.79; Mϕr1.46; Fault plane solution: NP1:ϕs76.00000°, δ76.00000°, λ15.00000°. NP2: ϕs342.00000°, δ75.00000°, λ165.00000°.*
*HLW **02** 21:16:08.3, 35.°52N×28.°44E, h19km±16km, Md4.3, Ml4.8*
*IDC **02** 21:16:08.7±1.6, 35.°96N×28.°26E, h65km±14km, mb4.1/25, mbtmp4.4/33, MS3.2/37, Error ellipse: s-maj=15.2km s-min=9.3km az=154.0*
*THE **02** 21:16:09.4, 35.°86N×28.°39E, h59km±2km, ML4.4/11, Error ellipse: s-maj=2.2km s-min=0.6km az=28.0*
*CFUSG **02** 21:16:14.1, 36.°30N×28.°30E, h100km, mb4.0/6, Mediterranean Sea Magtype MSH 3.6 from 5 stations*

ISC 02 21:16:07.1±0.6, **35.°77N**±0.°03×**28.°43E**±0.°03, **h60**km±5km, **n969**,σ1°§53/1057, **mb4.5**/77, **65C-30D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.51**	**331**	Pg	**Pn**	**21 16 20.1**	**+0.8**
ARG	**Arkhangelos**	**0.51**	**331**	P	**Pn**	**21 16 20.0**	**+0.8**
ARG				S	**Sn**	**21 16 27.8**	**-0.2**
	34μm,0.8s						
ARG	**Arkhangelos**	**0.51**	**331**		**Pn**	**21 16 20.0**	**+0.8**
ARG				Sn	**Sn**	**21 16 28.1**	**+0.1**
ARG	**Arkhangelos**	**0.51**	**331**	*i* P	**Pn**	**21 16 20.0**	**+0.8**
ARG				S	**Sn**	**21 16 28.4**	**+0.4**
ARG				AML	AML	21 16 29.4	
	72nm,0.8s						
ARG				AML	AML	21 16 33.7	
	64nm,0.8s						
ARG	**Arkhangelos**	**0.51**	**331**	P	**Pn**	**21 16 20.0**	**+0.8**
ARG	**Arkhangelos**	**0.51**	**331**	S	**Sn**	**21 16 27.8**	**-0.2**
ARG	**Arkhangelos**	**0.51**	**331**	P	**Pn**	**21 16 20.1**	**+0.8**
ARG				S	**Sn**	**21 16 28.3**	**+0.4**
ARG				AML	AML	21 16 28.9	
	comp=N,55736μm,0.8s						
ARG				AML	AML	21 16 29.7	
	comp=E,71123μm,0.8s						
IZZE	**Mula-Seydike**	**0.93**	**44**	P	**Pn**	**21 16 25.2**	**+1.0**
IZZE				S	**Sn**	**21 16 35.5**	**-1.4**
KSL	**Kastellorizon**	**1.01**	**68**	P	**Pn**	**21 16 26.7**	**+1.4**
KSL				S	**Sn**	**21 16 40.1**	**+1.4**
	comp=E,36μm,0.6s						
KSL	**Kastellorizon**	**1.01**	**68**	*i* P	**Pn**	**21 16 26.8**	**+1.4**
KSL				AML	AML	21 16 40.2	
	comp=E,38nm,0.6s						
KSL				S	**Sn**	**21 16 40.6**	**+1.9**
KSL				AML	AML	21 16 41.7	
	comp=E,107nm,0.5s						
KSL	**Kastellorizon**	**1.01**	**68**	P	**Pn**	**21 16 26.8**	**+1.5**
KSL				S	**Sn**	**21 16 40.3**	**+1.6**
KSL				AML	AML	21 16 40.6	
	comp=N,37689μm,0.6s						
KSL				AML	AML	21 16 42.0	
FETY	**Fethiye**	**1.01**	**31**	Pg	**Pn**	**21 16 25.9**	**+0.5**
FETY				Sg	**Sn**	**21 16 39.7**	**+0.8**
TURN	**Turunc**	**1.01**	**352**	Pg	**Pn**	**21 16 25.5**	**+0.1**
TURN				Sg	**Sn**	**21 16 40.1**	**+1.3**
TURN	**Turunc**	**1.01**	**352**	P	**Pn**	**21 16 26.4**	**+1.0**
TURN				S	**Sn**	**21 16 38.2**	**-0.7**
KARP	**Karpathos**	**1.06**	**258**	Pg	**Pn**	**21 16 27.4**	**+1.4**
KARP				Sg	**Sn**	**21 16 41.3**	**+1.4**
KARP	**Karpathos**	**1.06**	**258**	P	**Pn**	**21 16 27.4**	**+1.4**
KARP				S	**Sn**	**21 16 41.6**	**+1.7**
	comp=N,38μm,0.6s						
KARP	**Karpathos**	**1.06**	**258**		**Pn**	**21 16 27.3**	**+1.4**
KARP				Sn	**Sn**	**21 16 41.1**	**+1.2**
KARP	**Karpathos**	**1.06**	**258**	*i* P	**Pn**	**21 16 27.4**	**+1.4**
KARP				S	**Sn**	**21 16 41.7**	**+1.7**
KARP				AML	AML	21 16 42.0	
	comp=N,81nm,0.5s						
KARP				AML	AML	21 16 42.4	
	comp=N,65nm,0.4s						
KARP	**Karpathos**	**1.06**	**258**	P	**Pn**	**21 16 27.3**	**+1.3**
KARP	**Karpathos**	**1.06**	**258**	P	**Pn**	**21 16 27.6**	**+1.6**
KARP				S	**Sn**	**21 16 41.5**	**+1.7**
KARP				AML	AML	21 16 42.4	
	comp=E,81882μm,0.5s						
KARP				AML	AML	21 16 42.7	
	comp=N,66010μm,0.4s						
KARP	**Karpathos**	**1.06**	**258**	P	**Pn**	**21 16 27.7**	**+1.7**
AKAS	**Kas**	**1.06**	**64**	Pg	**Pn**	**21 16 26.3**	**+0.2**
AKAS				Sg	**Sn**	**21 16 41.6**	**+1.5**
AKAS	**Kas**	**1.06**	**64**	P	**Pn**	**21 16 27.4**	**+1.3**
AKAS				S	**Sn**	**21 16 39.9**	**-0.2**
DALY	**Dalyan (Mula)**	**1.06**	**10**	Pg	**Pn**	**21 16 26.5**	**+0.5**
DALY				Sg	**Sn**	**21 16 41.4**	**+1.5**
FETI	**Fethiye-Mugla**	**1.06**	**30**	Pg	**Pn**	**21 16 26.2**	**+0.2**
SABU	**Mula-Dalaman**	**1.14**	**22**	P	**Pn**	**21 16 28.0**	**+1.0**
SABU				S	**Sn**	**21 16 40.4**	**-1.4**
DATC	**Datca-Mugla**	**1.17**	**328**	Pn	**Pn**	**21 16 27.5**	**+0.1**
DAT	**Datca**	**1.18**	**324**	Pn	**Pn**	**21 16 27.6**	**-0.1**
DAT				Sn	**Sn**	**21 16 43.0**	**+0.1**
DAT	**Datca**	**1.18**	**324**	P	**Pn**	**21 16 28.4**	**+0.7**
DAT				S	**Sn**	**21 16 42.7**	**-0.2**
DAT	**Datca**	**1.18**	**324**	P	**Pn**	**21 16 28.4**	**+0.7**
YAZI	**Mula-Dat§a-**	**1.21**	**319**	P	**Pn**	**21 16 28.5**	**+0.6**
YAZI				S	**Sn**	**21 16 41.1**	**-2.3**
DEMR	**Demre-Antalya**	**1.28**	**68**	Pn	**Pn**	**21 16 29.8**	**+0.9**
NISR	**Nisiros**	**1.35**	**309**	P	**Pn**	**21 16 30.4**	**+0.6**
NISR				S	**Sn**	**21 16 45.9**	**-0.8**
	comp=N,6μm,0.6s						
NISR	**Nisiros**	**1.35**	**309**	P	**Pn**	**21 16 30.3**	**+0.6**
NISR				AML	AML	21 16 55.8	
	comp=N,10314μm,0.5s						
NISR				AML	AML	21 17 02.9	
	comp=E,15978μm,0.7s						
CAME	**Cameli-Denizli**	**1.37**	**31**	Pn	**Pn**	**21 16 30.3**	**+0.1**
MULA	**Mugla, Merkez-**	**1.49**	**357**	P	**Pn**	**21 16 33.5**	**+1.8**
MULA				S	**Sn**	**21 16 50.2**	**0.0**
BDRM	**Kayabasi**	**1.52**	**329**	P	**Pn**	**21 16 32.5**	**+0.4**
CAEL	**Denizli, Camel**	**1.53**	**28**	P	**Pn**	**21 16 34.1**	**+1.7**
ELL	**Elmali**	**1.54**	**50**	Pn	**Pn**	**21 16 32.9**	**+0.4**
ELL	**Elmali**	**1.54**	**50**		**Pn**	**21 16 34.5**	**+1.9**
ELL				Sn	**Sn**	**21 16 54.3**	**+2.7**
ELL	**Elmali**	**1.54**	**50**	*i* P	**Pn**	**21 16 34.4**	**+1.9**
ELL				S	**Sn**	**21 16 55.1**	**+3.5**
ELL				AML	AML	21 16 56.5	
	comp=E,120nm,1.0s						
ELL				AML	AML	21 16 57.4	
	comp=E,131nm,0.8s						
ELL	**Elmali**	**1.54**	**50**	P	**Pn**	**21 16 33.8**	**+1.3**
BODT	**Bodrum**	**1.57**	**325**	Pn	**Pn**	**21 16 32.6**	**-0.2**
BODT	**Bodrum**	**1.57**	**325**	P	**Pn**	**21 16 33.4**	**+0.6**
BODT				S	**Sn**	**21 16 51.4**	**-0.8**
DNZT	**Denizli-Tavas-**	**1.58**	**17**	P	**Pn**	**21 16 34.5**	**+1.5**
DNZT				P	**Pn**	**21 16 34.5**	**+1.5**
DNZT				S	**Sn**	**21 16 52.5**	**+0.1**
MLSB	**Milas**	**1.61**	**341**	Pn	**Pn**	**21 16 33.2**	**-0.2**
YKAV	**Yalikavak-Bodr**	**1.64**	**326**	Pn	**Pn**	**21 16 33.5**	**-0.2**
AKUM	**Antalya-Kumluc**	**1.65**	**70**	P	**Pn**	**21 16 35.2**	**+1.4**
KLNA	**Kalymnos**	**1.67**	**316**	P	**Pn**	**21 16 34.3**	**+0.2**
KLNA				S	**Sn**	**21 16 53.4**	**-1.1**
KLNA				AML	AML	21 16 53.8	
	comp=E,14521μm,0.3s						
KLNA				AML	AML	21 16 56.2	
	comp=N,15308μm,0.3s						
GOLH	**Golhisar**	**1.72**	**32**	P	**Pn**	**21 16 36.8**	**+1.9**
GOLH				S	**Sn**	**21 16 57.3**	**+1.3**
TAVA	**DENIZLI_Tavas**	**1.74**	**13**	P	**Pn**	**21 16 36.4**	**+1.3**
APMY	**Acipayam-Deniz**	**1.84**	**22**	Pn	**Pn**	**21 16 36.7**	**+0.2**
DNIZ	**Denizli-Tavas-**	**1.92**	**15**	P	**Pn**	**21 16 38.8**	**+1.2**
DNIZ				S	**Sn**	**21 16 59.8**	**-0.8**
ZKR	**Zakros**	**1.92**	**251**	Pn	**Pn**	**21 16 37.9**	**+0.4**
ZKR	**Zakros**	**1.92**	**251**	P	**Pn**	**21 16 39.2**	**+1.7**
ZKR				S	**Sn**	**21 17 01.9**	**+1.2**
	comp=N,6μm,0.8s						
ZKR	**Zakros**	**1.92**	**251**	*i* P	**Pn**	**21 16 39.1**	**+1.5**
ZKR				S	**Sn**	**21 17 02.1**	**+1.4**
ZKR				AML	AML	21 17 03.2	
	comp=N,8.3nm,0.5s						
ZKR				AML	AML	21 17 03.9	
	comp=N,17nm,1.0s						
ZKR	**Zakros**	**1.92**	**251**	P	**Pn**	**21 16 39.3**	**+1.8**
ZKR				S	**Sn**	**21 17 01.9**	**+1.2**
ZKR				AML	AML	21 17 04.4	
	comp=N,8542μm,0.5s						
ZKR				AML	AML	21 17 05.1	
	comp=E,17233μm,1.0s						
DDIM	**Aydin, Didim**	**1.94**	**331**	P	**Pn**	**21 16 38.2**	**+0.5**
DDIM				S	**Sn**	**21 16 57.8**	**-3.2**
KORT	**Korkueli**	**1.98**	**51**	Pn	**Pn**	**21 16 38.9**	**+0.5**
KORT	**Korkueli**	**1.98**	**51**	P	**Pn**	**21 16 40.6**	**+2.2**
ESEN	**Aydn-Nazilli**	**2.02**	**358**	P	**Pn**	**21 16 39.7**	**+0.7**
ANTB	**Antalya**	**2.12**	**57**	Pn	**Pn**	**21 16 41.0**	**+0.8**
INCE	**Denizli-Bozkur**	**2.14**	**25**	P	**Pn**	**21 16 42.0**	**+1.4**
GCAM	**G?zelcami?**	**2.15**	**334**	Pn	**Pn**	**21 16 40.6**	**-0.1**
GCAM	**G?zelcami?**	**2.15**	**334**	P	**Pn**	**21 16 41.3**	**+0.6**
GCAM				S	**Sn**	**21 17 02.1**	**-4.1**
BUCA	**Burdur, Bucak-**	**2.31**	**47**	P	**Pn**	**21 16 45.1**	**+2.2**
SMG	**Samos**	**2.32**	**327**	P	**Pn**	**21 16 43.3**	**+0.3**
SMG				S	**Sn**	**21 17 09.0**	**-1.4**
	comp=E,8μm,0.4s						
SMG	**Samos**	**2.32**	**327**	P	**Pn**	**21 16 43.3**	**+0.3**
SMG				S	**Sn**	**21 17 08.5**	**-1.9**
SMG				AML	AML	21 17 10.6	
	comp=N,15886μm,0.4s						
SMG				AML	AML	21 17 12.1	
	comp=E,16426μm,0.5s						
BRDR	**BURDUR-Merkez**	**2.33**	**34**	P	**Pn**	**21 16 44.9**	**+1.8**
FRMA	**Ierapetra Chan**	**2.33**	**252**	P	**Pn**	**21 16 43.4**	**+0.3**
FRMA				S	**Sn**	**21 17 09.0**	**-1.5**
	comp=E,2μm,0.8s						
FRMA	**Ierapetra Chan**	**2.33**	**252**	P	**Pn**	**21 16 43.4**	**+0.3**
FRMA				AML	AML	21 17 12.2	
	comp=E,11230μm,1.0s						
FRMA				AML	AML	21 17 12.7	
	comp=N,11841μm,0.6s						
IZMR	**zmir-demi**	**2.39**	**351**	P	**Pn**	**21 16 44.5**	**+0.6**
IZMR				P	**Pn**	**21 16 44.5**	**+0.6**
IZMR				S	**Sn**	**21 17 08.6**	**-3.5**
BCK	**Bucak**	**2.42**	**45**	Pn	**Pn**	**21 16 44.9**	**+0.5**
BCK	**Bucak**	**2.42**	**45**	P	**Pn**	**21 16 45.6**	**+1.2**
KIRA	**zmir-Kiraz**	**2.42**	**359**	P	**Pn**	**21 16 44.9**	**+0.4**
THR8	**Santorini-Mono**	**2.47**	**286**	P	**Pn**	**21 16 45.7**	**+0.7**
THR8	**Santorini-Mono**	**2.47**	**286**	P

comp=E,2µm,0.6s
CHOS Chios island 3.23 325 P Pn 21 16 55.8 +0.4
CHOS S Sn 21 17 30.5 -2.2
CHOS AML AML 21 17 35.5
comp=N,3773µm,0.5s
CHOS AML AML 21 17 36.0
comp=E,4699µm,0.8s
SHUT Suhut-Afyon 3.25 31 Pn Pn 21 16 55.9 +0.1
DEMI Demirci 3.27 4 P Pn 21 16 56.5 +0.4
AKMS Akamas 3.28 102⇑*i*P Pn 21 16 56.3 +0.3
AKMS AML AML 21 17 35.0
comp=E,21nm,0.3s
AKMS AML AML 21 17 35.0
comp=E,22nm,0.4s
KARB zmir-Karabur 3.31 331 P Pn 21 16 56.9 +0.5
EAG2 Marmaro, Chios 3.33 327 P Pn 21 16 57.6 +0.9
YVAC Isparta, Yalva 3.36 41 P Pn 21 16 58.6 +1.4
AFYO Afyonkarahisar 3.36 26 P Pn 21 16 58.2 +0.9
GEDZ Gediz 3.36 13 Pn Pn 21 16 57.2 0.0
ZEDA zmir-Bergama 3.37 342 P Pn 21 16 57.6 +0.4
MHLO Agia Marina, M 3.38 287 P Pn 21 16 57.8 +0.4
GDZ Gediz 3.42 14 P Pn 21 16 58.4 +0.4
IZMD zmir-Dikili- 3.42 340 P Pn 21 16 58.3 +0.2
IZMD P Pn 21 16 58.4 +0.3
ALFC Alefka 3.46 99 P Pn 21 16 58.6 +0.1
ALFC AML AML 21 17 36.5
comp=E,14nm,0.6s
ALFC AML AML 21 17 42.1
comp=E,14nm,0.3s
HDMB Hadim 3.48 69 Pn Pn 21 16 59.1 +0.1
DKL Dikili 3.51 340 Pn Pn 21 16 58.9 -0.3
NATA Nata 3.53 105⇑*i*P Pn 21 16 59.8 +0.3
NATA AML AML 21 17 40.5
comp=E,28nm,0.3s
NATA AML AML 21 17 42.7
comp=E,30nm,0.5s
KURO Afyon-Bolvadin 3.57 33 P Pn 21 17 01.3 +1.1
CHAN Chania 3.58 267 P Pn 21 17 01.1 +0.9
CHAN AML AML 21 17 42.7
comp=N,4204µm,0.7s
CHAN AML AML 21 17 46.6
comp=E,6340µm,0.8s
EAG3 Mitilini, Lesv 3.62 336 P Pn 21 17 01.3 +0.5
IMMV Iera Moni Meta 3.64 266 Pn Pn 21 17 01.1 +0.1
IMMV Iera Moni Meta 3.64 266 P Pn 21 17 02.0 +1.0
IMMV Iera Moni Meta 3.64 266 P Pn 21 17 01.8 +0.8
STEP BALIKESIR_Sava 3.64 351 P Pn 21 17 00.9 -0.2
EMET Ktahya-Emet 3.67 11 P Pn 21 17 01.9 +0.4
GVD Gavdhos 3.67 257 Pn Pn 21 17 01.5 +0.1
GVD Gavdhos 3.67 257 P Pn 21 17 02.9 +1.5
GVD Gavdhos 3.67 257 P Pn 21 17 02.7 +1.3
TROD Troodos 3.72 101⇑*i*P Pn 21 17 01.9 -0.3
TROD AML AML 21 17 49.2
comp=E,10nm,0.5s
TROD AML AML 21 17 51.9
comp=E,9.6nm,0.4s
UCKU Afyonkarahisar 3.73 39 P Pn 21 17 03.8 +1.5
KMER Konya-Meram 3.74 57 P Pn 21 17 05.2 +2.7
AYVA Ayvalik 3.79 339 P Pn 21 17 03.6 +0.6
DURS Dursunbey 3.83 1 P Pn 21 17 03.8 +0.2
KONT Konya--Tatoy 3.83 54 P Pn 21 17 06.1 +2.5
DST Dursunbey 3.83 2 Pn Pn 21 17 03.4 -0.2
PRK Paraskevi 3.87 334 P Pn 21 17 04.8 +0.7
PRK Paraskevi 3.87 334 P Pn 21 17 04.8 +0.7
BUHA Balikesir, Bur 3.88 344 P Pn 21 17 05.0 +0.8
AUKIR Kirka- Seyitga 3.88 25 P Pn 21 17 05.7 +1.4
KNDR Palaiochora Ch 3.91 264 P Pn 21 17 07.0 +2.4
ANDZ Kutahya, Merke 3.91 17 P Pn 21 17 05.4 +0.6
KKBE Karaman, Kazim 3.91 67 P Pn 21 17 06.7 +1.9
BKES Balkesir-Mer 3.98 354 P Pn 21 17 05.7 +0.1
SIGR SIGRI 4.00 330 P Pn 21 17 06.4 +0.5
BALY Balya 4.01 351 P Pn 21 17 06.3 +0.1
BALY S Sn 21 17 46.9 -5.0
KDHN Kadinhani 4.03 46 P Pn 21 17 07.7 +1.4
ASGA Asgata 4.06 103⇑*i*P Pn 21 17 06.5 -0.2
ASGA AML AML 21 17 54.8
comp=E,7.1nm,0.3s
ASGA AML AML 21 17 58.3
comp=E,6.6nm,0.6s
CSS Mathiatis 4.08 100 Pn Pn 21 17 06.9 -0.2
CSS Mathiatis 4.08 100⇑*i*P Pn 21 17 06.9 -0.2
CSS AML AML 21 17 56.6
comp=E,4.5nm,0.4s
CSS AML AML 21 17 59.3
comp=E,3.1nm,0.4s
CSS Mathiatis 4.08 100 P Pn 21 17 07.3 +0.2
CSS Mathiatis 4.08 100 P Pn 21 17 06.8 -0.2
CSS Mathiatis 4.08 100 P Pn 21 17 07.5 +0.4
ATHAL Athalassa 4.10 97⇑*i*P Pn 21 17 07.5 +0.2
ATHAL AML AML 21 18 11.3
comp=E,11nm,0.6s
ATHAL AML AML 21 18 12.2
comp=E,8.3nm,0.6s
BLKS Balkesir-Sus 4.11 355 P Pn 21 17 07.4 -0.1
BLKS P Pn 21 17 07.5 +0.1
DOMA Ktahya-Doman 4.13 14 P Pn 21 17 08.5 +0.7
ANKY Antikythira Is 4.17 273 P Pn 21 17 08.9 +0.7
ANKY Antikythira Is 4.17 273 P Pn 21 17 08.9 +0.7
ANKY AML AML 21 18 00.3
comp=N,2571µm,0.6s
ANKY AML AML 21 18 08.2
comp=E,2136µm,0.6s
SGAZ Eskisehir, Sey 4.21 26 P Pn 21 17 09.7 +0.8
DION Dionisos Attik 4.28 304 P Pn 21 17 12.3 +2.6
MVOU Mavrovouni 4.32 99 P Pn 21 17 10.0 -0.3
MVOU AML AML 21 18 02.6
comp=E,3.6nm,0.5s
MVOU AML AML 21 18 04.5
comp=E,4.1nm,0.4s
LAR1C Larnaka City C 4.32 100 P Pn 21 17 11.1 +0.8
AUBOZ BOZOYUK 4.32 17 P Pn 21 17 11.1 +0.7
ALIN Konya, Altinte 4.36 53 P Pn 21 17 12.7 +1.7
AUKUT KUTAHYA 4.36 16 P Pn 21 17 04.0 -7.0
ATH Athens Observa 4.37 302 P Pn 21 17 13.1 +2.1
EZN Ezine 4.38 338 P Pn 21 17 11.9 +0.8
EZN Ezine 4.38 338 P Pn 21 17 11.9 +0.8
ULDT Uludag 4.40 7 P Pn 21 17 12.2 +0.6
BORA Eskisehir 4.40 21 P Pn 21 17 11.9 +0.3
AUSIV SIVRIHISAR 4.42 33 P Pn 21 17 13.1 +1.4
MNVA Monemvasia 4.46 283 P Pn 21 17 14.1 +2.0
IGD Bursa 4.53 7 P Pn 21 17 13.7 +0.6
BILE Bilecik/Merkez 4.53 14 P Pn 21 17 14.1 +0.8
VLI Veliai 4.54 284 P Pn 21 17 14.5 +1.2
VLI Veliai 4.54 284 P Pn 21 17 14.5 +1.2
KRND KRANIDI 4.54 292 P Pn 21 17 15.2 +1.9
PARAL Paralimni 4.65 98 P Pn 21 17 15.2 +0.4
PARAL AML AML 21 18 14.7
comp=E,3.9nm,0.9s
PARAL AML AML 21 18 15.7
comp=E,5.1nm,0.8s
LIA Limnos Island 4.86 329 P Pn 21 17 18.6 +1.0
LTK Loutraki 4.92 299 P Pn 21 17 20.9 +2.3
SLUM Salum 5.04 213 P Pn 21 17 20.1 -0.1
baz=215
SLUM S Sn 21 18 12.3 -4.8
baz=215
MDUB Mudurnu 5.17 24 Pn Pn 21 17 23.6 +1.5
ISK Istanbul-Kandi 5.31 5 P Pn 21 17 24.2 +0.4
ISK pmax pmax
comp=Z,93nm,0.7s
BR231 Keskin MP Arra 5.33 39 Pn 21 17 24.8 +0.7
GUR Goura 5.34 296 P Pn 21 17 26.9 +2.6
ANTO Ankara 5.35 39 ⇑P Pn 21 17 26.1 +1.5
ANTO Ankara 5.35 39 Pn 21 17 25.6 +1.1
ANTO Ankara 5.35 39 ⇑P Pn 21 17 26.1 +1.5
ANTO Ankara 5.35 39 P Pn 21 17 26.0 +1.5
comp=Z,53nm,0.7s,comp=Z,653nmcomp=Z,0.2nm
ALN Alexandroupoli 5.45 341 Pn Pn 21 17 26.8 +1.0
ALN Alexandroupoli 5.45 341 P Pn 21 17 26.8 +1.0
ALN Alexandroupoli 5.45 341 P Pn 21 17 26.7 +1.0
KLYT Kilyos 5.50 5 P Pn 21 17 26.5 +0.2
comp=Z,97nm,0.5s,comp=Z,2µmcomp=Z,0.5nm
PYL PYLOS 5.51 284 P Pn 21 17 27.3 +0.7
BR105 Keskin Array S 5.69 45 P Pn 21 17 30.4 +1.2
comp=Z,114nm,0.9s,comp=Z,1µmcomp=Z,0.5nm
CTYL Yalikoy Yolu 5.70 359 P Pn 21 17 29.6 +0.5
comp=Z,162nm,0.5s,comp=Z,4µmcomp=Z,2.3nm
BR106 Keskin Array S 5.71 45 P Pn 21 17 30.6 +1.2
comp=Z,106nm,0.7s,comp=Z,1µmcomp=Z,0.4nm
BR131 Keskin Array S 5.71 45 Pn Pn 21 17 30.5 +1.0
BR131 Keskin Array S 5.71 45*d* P Pn 21 17 30.1 +0.6
BRTR Keskin Array B 5.71 45 P Pn 21 17 30.2 +0.7
comp=Z,45nm,0.3s,baz=135,slow=12,SNR=268
BRTR S Sn 21 18 33.3 -0.4
comp=Z,92nm,0.7s,baz=212,slow=24,SNR=14
DRO Drossia 5.81 294 P Pn 21 17 33.7 +2.9
RDO Rodhopi 5.83 338 Pn Pn 21 17 32.2 +1.3
AGG Agios Georgios 5.84 306 Pn 21 17 33.5 +2.4
AGG Agios Georgios 5.84 306 P Pn 21 17 33.5 +2.4
EFP Efpalio 5.85 299 P Pn 21 17 34.0 +2.8
ANX Ano Chora 5.91 300 P Pn 21 17 35.2 +3.0
HNTI Hanita 6.18 114 P Pn 21 17 34.7 -1.1
HNTI Hanita 6.18 114 P Pn 21 17 34.5 -1.3
HNTI Hanita 6.18 114 S Sn 21 18 42.4 -2.8
BHL Bhannes 6.22 105 *e*P Pn 21 17 34.3 -2.2
DQRL Deir Qamar 6.23 107 *e*P Pn 21 17 35.4 -1.1
OFRI `Ofer 6.27 118 P Pn 21 17 37.2 +0.1
HMYD Mayadein 6.28 161 P Pn 21 17 37.6 +0.4
baz=160
HWQ Hawqa 6.34 101 *e*P Pn 21 17 37.1 -1.0
BLGI Bet Lehem HaGe 6.37 116 P Pn 21 17 37.5 -0.8
BLGI Bet Lehem HaGe 6.37 116 P Pn 21 17 37.4 -1.0
BLGI Bet Lehem HaGe 6.37 116 S Sn 21 18 46.5 -3.1
QRWL Qaraoun 6.37 108 *e*P Pn 21 17 38.0 -0.5
LIT Litokhoron 6.38 314 Pn 21 17 39.5 +1.0
LIT Litokhoron 6.38 314 P Pn 21 17 39.5 +1.0
MMA0 Mount Meron ar 6.38 113 P Pn 21 17 37.6 -1.1
MMA0B Mount Meron ar 6.38 113 S Sn 21 18 47.4 -2.8
MMA0B Mount Meron ar 6.38 113 P Pn 21 17 37.6 -1.1
MMAI Mount Meron Ar 6.38 113 P Pn 21 17 38.1 -0.5
comp=Z,162nm,0.3s,baz=297,slow=15,SNR=130
MMAI S Sn 21 18 47.2 -3.0
comp=Z,164nm,0.4s,baz=309,slow=27,SNR=18
MMAI LR LR 21 20 48.8
comp=Z,92nm,20.1s,baz=248,slow=42
HNAT Natroun 6.39 163 P Pn 21 17 38.7 0.0
baz=162
ZAHL Zahle 6.42 105 *e*P Pn 21 17 38.0 -1.2
BEIL Beino 6.47 99 *e*P Pn 21 17 38.5 -1.2
KOT Kottamia 6.49 153 P Pn 21 17 39.8 -0.3
baz=151
KOT S Sn 21 18 46.6 -6.2
baz=151
GEM Giv'at Ha'Em 6.50 111 P Pn 21 17 39.4 -0.7
GEM Giv'at Ha'Em 6.50 111 S Sn 21 18 50.4 -2.4
GEM Giv'at Ha'Em 6.50 111 P Pn 21 17 39.3 -0.7
SHBL Chebaa 6.50 110 *e*P Pn 21 17 39.4 -0.9
RCY Rachaya 6.51 108 *e*P Pn 21 17 39.8 -0.6
SLTI Sal'it 6.52 121 P Pn 21 17 39.4 -1.1
SLTI Sal'it 6.52 121 P Pn 21 17 39.1 -1.3
NATI Neve Ativ 6.53 110 P Pn 21 17 39.9 -0.6
NATI Neve Ativ 6.53 110 P Pn 21 17 40.0 -0.5
HHAG Hagoal 6.57 151 P Pn 21 17 41.3 +0.1
baz=149
HHAG S Sn 21 18 49.1 -5.7
baz=149
BNN Bunyan 6.66 60 Pn Pn 21 17 44.6 +2.1
KSHT Keshet 6.71 112 S Sn 21 18 55.4 -2.7
KSHT Keshet 6.71 112 P Pn 21 17 42.5 -0.5
FKH Fakeheh 6.72 101 *e*P Pn 21 17 42.8 -0.6
SHMJ Saham 6.79 114 P Pn 21 17 43.8 -0.3
QRNJ Al-Qirein 6.85 118 P Pn 21 17 44.3 -0.6
HMDT Nahal Hemdat 6.86 119 P Pn 21 17 44.2 -0.8
HMDT Nahal Hemdat 6.86 119 P Pn 21 17 44.0 -1.0
AMAZ Amatzia 6.86 126 P Pn 21 17 44.6 -0.6
AMAZ Amatzia 6.86 126 S Sn 21 18 58.3 -3.6
AMAZ Amatzia 6.86 126 P Pn 21 17 43.9 -1.2
KZIT Kziot 6.96 132 P Pn 21 17 46.0 -0.5
KZIT Kziot 6.96 132 S Sn 21 19 00.2 -4.1
KZIT Kziot 6.96 132 P Pn 21 17 44.8 -1.6
SWA2 6.98 202 P Pn 21 17 46.5 -0.2
baz=203
UJAP Al Uja 6.98 121 P Pn 21 17 46.3 -0.4
PLD Plovdiv 6.98 337 P Pn 21 17 48.9 +2.2
PLD pmax pmax
comp=Z,104nm,0.6s
BALJ Balqa 7.03 119 Pn Pn 21 17 47.2 -0.2
BALJ Balqa 7.03 119 P Pn 21 17 47.3 -0.2
YTIR Yattir 7.10 126 P Pn 21 17 48.0 -0.5
YTIR Yattir 7.10 126 P Pn 21 17 47.5 -1.0
DSI Dead Sea 7.15 124 P Pn 21 17 48.3 -0.7
DSI Dead Sea 7.15 124 P Pn 21 17 48.0 -1.0
GAZ Gaziantep 7.21 156 Pn 21 17 49.4 -0.5
MDBI Mazsada 7.29 126 P Pn 21 17 50.8 -0.2
MDBI Mazsada 7.29 126 P Pn 21 17 50.8 -0.2
MSBI Mazada 7.29 126 P Pn 21 17 50.7 -0.3
MSBI Mazada 7.29 126 P Pn 21 17 50.6 -0.3
ZAF Zafarana 7.34 151 P Pn 21 17 51.3 -0.5
baz=149
ZNM Zenema 7.40 148 P Pn 21 17 52.5 +0.1
baz=147
HSUJ Al Zarqa 7.41 117 P Pn 21 17 52.6 -0.1
ELND Elena 7.42 345 ⇑P Pn 21 17 53.5 +0.9
ELND ⇑S Sn 21 19 13.5 -1.9
LISJ El Lisan 7.42 126 P Pn 21 17 52.8 +0.1
GHAJ Ghor Haditha 7.44 125 Pn Pn 21 17 53.1 +0.1
GHAJ Ghor Haditha 7.44 125 P Pn 21 17 53.3 +0.3
IGT Igoumenitsa 7.44 303 P Pn 21 17 55.9 +2.9
IGT pmax pmax
comp=Z,80nm,0.7s
FNA Florina 7.47 314 Pn 21 17 56.2 +2.7
FNA Florina 7.47 314 P Pn 21 17 56.2 +2.7
NBNS Bani Suef 7.53 160 P Pn 21 17 53.9 -0.4
baz=159
KARJ KARJ 7.61 125 P Pn 21 17 46.8 -8.6
ZFRI Zfri 7.68 131 P Pn 21 17 55.7 -0.6
ZFRI Zfri 7.68 131 P Pn 21 17 55.4 -1.0
PRNI Paran 7.72 133 P Pn 21 17 55.9 -1.0
PRNI Paran 7.72 133 P Pn 21 17 55.9 -1.0
PRNI Paran 7.72 133 S Sn 21 19 18.0 -5.0
KRMI Paran Flat 7.73 135 P Pn 21 17 55.5 -1.5
KRMI Paran Flat 7.73 135 S Sn 21 19 18.6 -4.6
SWQJ Swaqa 7.81 123 P Pn 21 17 57.7 -0.5
ASF Jabal al Asfar 7.89 115 P Pn 21 17 59.0 -0.3
comp=Z,37nm,0.3s,baz=237,slow=0.0,SNR=45
ASF S Sn 21 19 25.2 -2.1
baz=180,slow=0.0,SNR=2.0
ASF Jabal al Asfar 7.89 115 P Pn 21 17 59.1 -0.3
DIKM Dikmen 7.93 40 ⇑P Pn 21 18 01.7 +2.0
DIKM Dikmen 7.93 40 P Pn 21 18 01.8 +2.0
comp=Z,26nm,0.6s
HRFI Mount Harif 7.97 134 P Pn 21 17 59.7 -0.6
HRFI Mount Harif 7.97 134 S Sn 21 19 24.2 -4.8
HRFI Mount Harif 7.97 134 P Pn 21 18 00.0 -1.4
KVT Kavak 7.99 46 P Pn 21 18 02.5 +2.0
KVT pmax pmax
comp=Z,59nm,1.0s
MBRI Mt Berech 8.08 136 P Pn 21 18 01.0 -0.9
MBRI Mt Berech 8.08 136 P Pn 21 18 00.5 -1.4
EIL Elat 8.19 136 P Pn 21 18 03.5 +0.1
comp=Z,58nm,0.5s,baz=1.8,slow=4.8,SNR=76
EIL S Sn 21 19 28.6 -5.9
comp=Z,194nm,0.4s,baz=320,slow=9.6,SNR=15
EIL LR LR 21 22 15.9
comp=Z,72nm,21.5s,baz=312,slow=44
EIL Elat 8.19 136 P Pn 21 18 02.8 -0.6
EIL Elat 8.19 136 S Sn 21 19 29.1 -5.4
EIL Elat 8.19 136 P Pn 21 18 01.9 -1.5
HSNJ Maan 8.21 130 P Pn 21 18 04.2 +0.6
AQBJ Aqaba 8.21 135 P Pn 21 18 03.2 -0.3
ICOR Ion Corvin 8.35 357 ⇑P Pn 21 18 06.6 +1.2
VLO Vlora 8.46 306 Pn Pn 21 18 08.5 +1.6
VLO Vlora 8.46 306 P Pn 21 18 08.5 +1.6
ARPR Arapgir-MALATY 8.55 64 Pn 21 18 09.9 +1.5
HARR Harsova 8.92 358 ⇑P Pn 21 18 13.6 +0.5
HARR Harsova 8.92 358 ⇑P Pn 21 18 13.6 +0.5
SCTE Santa Cesarea 8.97 302 Pn 21 18 13.7 -0.2
BLKB Belogradchik 9.01 332 ⇓P Pn 21 18 15.0 +0.6
TPGR Topolog 9.08 360 ⇑P Pn 21 18 16.5 +1.1
CFR Carcaliu 9.40 359 ⇓P Pn 21 18 20.4 +0.7
CFR Carcaliu 9.40 359 ⇓P Pn 21 18 20.4 +0.7
ULC Ulcinj 9.46 314⇑*i*Pn Pn 21 18 20.9 +0.3
ULC *i* Sn Sn 21 19 59.7 -5.7
PVY Plav 9.47 319⇑*i*Pn Pn 21 18 21.1 +0.3
PVY *i* Sn Sn 21 19 59.9 -5.8
DRME Dracevica, Mon 9.63 314⇑*i*Pn Pn 21 18 24.4 +1.4
DRME Dracevica, Mon 9.63 314⇑*i*Pn Pn 21 18 23.4 +0.4
DRME *i* Sn Sn 21 20 03.9 -5.7
SEV Sevastopol' 9.63 23 *e*P Pn 21 18 24.0 +1.0
SEV Pm 21 18 25.2
comp=E,38nm,0.7s
SEV *e*S Sn 21 20 04.9 -4.7
SEV Sm 21 20 06.5
comp=N,4.0nm,0.5s
SEV Sm 21 20 06.5
comp=E,13nm,0.5s
SEV Sevastopol' 9.63 23 *e*P Pn 21 18 24.0 +1.0
SEV *e*S Sn 21 20 04.9 -4.7
IVA Berane 9.69 320⇓*i*Pn Pn 21 18 24.2 +0.3
IVA *i* Sn Sn 21 20 05.3 -5.9
YAL Yalta 9.74 25 *e*P Pn 21 18 25.8 +1.3
YAL Pm 21 18 27.6
comp=Z,143nm,1.0s
YAL *e*S Sn 21 20 07.7 -4.6
YAL Sm 21 20 12.4
comp=N,4.0nm,0.3s
YAL Sm 21 20 12.4
comp=E,14nm,0.5s
YAL Yalta 9.74 25 *e*P Pn 21 18 25.8 +1.3
YAL *e*S Sn 21 20 07.7 -4.6
PDG Podgorica 9.75 316 Pn 21 18 26.4 +2.0
PDG Podgorica 9.75 316⇑*i*Pn Pn 21 18 26.2 +1.7
PDG Podgorica 9.75 316⇑*i*Pn Pn 21 18 24.9 +0.4
PDG *i* Sn Sn 21 20 06.6 -5.8
BUM Brajici-Budva 9.87 314⇑*i*Pn Pn 21 18 26.6 +0.3
BUM *i* Sn Sn 21 20 09.6 -6.0
KOME Kolasin 9.88 316⇓*i*Pn Pn 21 18 26.7 +0.3
KOME *i* Sn Sn 21 20 09.8 -6.0
TIP Timpagrande 9.88 294 ⇑P Pn 21 18 25.4 -1.1
TIP Timpagrande 9.88 294 Pn 21 18 24.9 -1.6
TIP Timpagrande 9.88 294 P Pn 21 18 25.4 -1.1
comp=E,166nm,0.8s,comp=E,2µm
MLR Muntele Rosu 9.89 350 ⇓P Pn 21 18 28.4 +1.8
MLR Muntele Rosu 9.89 350 Pn 21 18 27.6 +1.0
MLR Muntele Rosu 9.89 350 LR LR 21 22 44.2
comp=E,169nm,18.6s,baz=151,slow=41
MLR Muntele Rosu 9.89 350 ⇓P Pn 21 18 28.4 +1.8
MLR Muntele Rosu 9.89 350 P Pn 21 18 28.1 +1.5
comp=E,28nm,0.9s,comp=E,262nm
SCTR Scanteiesti 9.90 358 ⇑P Pn 21 18 28.3 +1.7
ALU Alushta 10.00 25 *e*P Pn 21 18 28.6 +0.6
ALU Pm 21 18 29.3
comp=Z,137nm,0.9s
ALU *e*S Sn 21 20 12.8 -5.7
ALU Alushta 10.00 25 *e*P Pn 21 18 28.6 +0.6
ALU *e*S Sn 21 20 12.8 -5.7
CEME Cevo 10.01 315⇑*i*Pn Pn 21 18 28.6 +0.4
CEME *i* Sn Sn 21 20 13.0 -6.0
ODBI Odobesti 10.04 354 P Pn 21 18 31.1 +2.6
comp=Z,18nm,0.4s,comp=Z,1µm
SPBR Spulber 10.05 353 ⇑P Pn 21 18 29.7 +1.0
TARU Tarkhankut 10.09 17 *e*P Pn 21 18 30.0 +0.9
TARU Pm 21 18 31.9
comp=Z,37nm,0.5s
TARU *e*S Sn 21 20 14.5 -6.2
TARU Sm 21 20 19.9
comp=N,12nm,0.7s
TARU Sm 21 20 19.9
comp=E,7.0nm,0.5s
VARL Varlezi 10.13 358 ⇑P Pn 21 18 31.6 +1.9
NKME Niksic 10.13 316⇑*i*Pn Pn 21 18 30.3 +0.4
NKME *i* Sn Sn 21 20 15.9 -6.0
SIM Simferopol' 10.14 24 *e*P Pn 21 18 32.0 +2.1
SIM Pm 21 18 32.8
comp=Z,208nm,0.7s
SIM *e*S Sn 21 20 18.4 -3.6
SIM Sm 21 20 22.6
comp=N,20nm,0.5s
SIM Sm 21 20 22.6
comp=E,70nm,0.9s
SIM Simferopol' 10.14 24 *e*P Pn 21 18 32.0 +2.1
SIM *e*S Sn 21 20 18.4 -3.6
PLOR5 Plostina Array 10.15 353 P Pn 21 18 32.7 +2.6
comp=E,16nm,0.5s
PLOR Plostina 10.16 353 ⇓P Pn 21 18 32.5 +2.3
PLOR Plostina 10.16 353 ⇓P Pn 21 18 32.5 +2.3
PLOR3 Plostina Array 10.16 353 P Pn 21 18 33.2 +2.9
comp=E,12nm,0.4s
VRI Vrincioaia 10.17 353 ⇑P Pn 21 18 32.1 +1.8
VRI Vrincioaia 10.17 353 ⇑P Pn 21 18 32.1 +1.8
VRI Vrincioaia 10.17 353 P Pn 21 18 32.0 +1.7
comp=E,26nm,1.2s
HERR Herculane 10.19 335 ⇓P Pn 21 18 31.4 +0.8
HCY Herceg Novi 10.20 314 *e*Pn Pn 21 18 30.9 +0.2
HCY Herceg Novi 10.20 314⇓*i*Pn Pn 21 18 31.2 +0.5
HCY *i* Sn Sn 21 20 17.4 -6.0
PLE Pljevlja 10.28 320⇑*i*Pn Pn 21 18 32.1 +0.2
PLE *i* Sn Sn 21 20 19.3 -6.2
CEL Celeste 10.33 288 Pn 21 18 31.0 -1.6
CEL Celeste 10.33 288 P Pn 21 18 31.9 -0.7
comp=E,208nm,0.7s,comp=E,2µm
SUDU Sudak 10.39 27 *e*P Pn 21 18 34.2 +0.9
SUDU Pm 21 18 36.0
comp=Z,69nm,0.9s
SUDU *e*S Sn 21 20 24.1 -4.1
SUDU Sm 21 20 30.7
comp=N,23nm,0.7s
SUDU Sm 21 20 30.7
comp=E,11nm,0.6s
SUDU Sudak 10.39 27 *e*P Pn 21 18 34.2 +0.9
SUDU *e*S Sn 21 20 24.1 -4.1
MATE Matera 10.43 301 ⇑P Pn 21 18 33.2 -0.6
TURR Turia 10.44 351 ⇓P Pn 21 18 35.4 +1.4
DOPR Dopca 10.44 348 ⇑P Pn 21 18 35.2 +1.1
TREB Trebinje 10.45 315 *e*Pn Pn 21 18 34.6 +0.5
UPM Unac-Piva 10.45 318⇑*i*Pn Pn 21 18 36.6 +2.3
UPM Unac-Piva 10.45 318⇑*i*Pn Pn 21 18 34.5 +0.2
UPM *i* Sn Sn 21 20 23.3 -6.5
BRY Bratogost 10.45 316⇑*i*Pn Pn 21 18 35.1 +0.8
BRY Bratogost 10.45 316⇓*i*Pn Pn 21 18 34.6 +0.3
BRY *i* Sn Sn 21 20 23.5 -6.4
RUDO Rudo 10.49 321 *e*Pn Pn 21 18 36.6 +1.9
BBLS Lazi&#263i 10.65 322⇑*i*Pn Pn 21 18 39.3 +2.4
TESR Tescani 10.81 353 ⇑P Pn 21 18 40.3 +1.2
TESR Tescani 10.81 353 P Pn 21 18 40.4 +1.3
comp=E,18nm,0.5s
CUC Castrocucco 10.82 297 Pn 21 18 38.0 -1.3
STON Ston 10.92 314⇓*i*Pn Pn 21 18 40.1 -0.4
NEVS Nevesinje 10.95 316 *e*Pn Pn 21 18 42.6 +1.5
SURR Surduc 11.05 336 ⇑P Pn 21 18 43.8 +1.4
TEKS Tekeris 11.10 325 *e*Pn Pn 21 18 44.6 +1.6
BZS Buzias 11.11 334 ⇑P Pn 21 18 44.4 +1.3
BZS Buzias 11.11 334 ⇑P Pn 21 18 44.4 +1.3
MILM Milestii Mici 11.14 1 ⇑P Pn 21 18 45.1 +1.6
MILM Milestii Mici 11.14 1 *e*P Pn 21 18 45.0 +1.5
comp=E,60nm,0.7s
MILM Milestii Mici 11.14 1 *e*PP PnPn 21 18 53.0 +1.4
MILM *e*S Sn 21 20 43.0 -3.4
MILM Milestii Mici 11.14 1 *e*P Pn 21 18 45.0 +1.5
MILM *e*S Sn 21 20 43.0 -3.4
MILM pmax pmax
comp=Z,60nm,0.7s
GURO Guroymak-BITLI 11.20 72 Pn 21 18 46.6 +2.0
KIS Kishinev 11.22 1 *e*P Pn 21 18 47.0 +2.4
comp=Z,5.6nm,1.5s
KIS Kishinev 11.22 1 *e*P Pn 21 18 47.0 +2.4
KIS pmax pmax
comp=Z,6.0nm,1.5s
ANN Anapa 11.33 35 *e*P Pn 21 18 45.3 -0.8
ANN *e*S Sn 21 20 50.5 -0.6
ANN pmax pmax
comp=Z,25nm,0.8s
ANN MLR MLR
comp=Z,39nm,5.0s
VAE Valguarnera 11.39 283 P Pn 21 18 47.0 -0.1
comp=Z,28nm,0.5s,baz=122,slow=9.9,SNR=18
VAE S Sn 21 20 40.3 -12
comp=Z,64nm,0.6s,baz=45,slow=12,SNR=6.5
RAFF Raffo Rosso 11.42 281 Pn 21 18 45.5 -1.9
FRGS Fruska Gora 11.44 328⇑*i*Pn Pn 21 18 49.0 +1.4
FRGS Fruska Gora 11.44 328 P Pn 21 18 49.6 +2.0
comp=Z,22nm,1.4s
SGRT San Giovanni R 11.56 305 Pn Pn 21 18 47.7 -1.7
MARR Marisel-Cluj 11.60 342 ⇓P Pn 21 18 50.9 +1.0
SOC Sochi 11.68 45 *e*P Pn 21 18 51.5 +0.7
SOC *e* 21 20 59.5
SOC pmax pmax
comp=Z,16nm,1.1s
VSLR Vesyoloye 11.78 46 *i* P Pn 21 18 53.5 +1.2
SRKY Kupres RS 11.97 317⇑*i*Pn Pn 21 18 56.5 +1.5
PAOL Paolisi 12.07 300 Pn 21 18 55.4 -1.0
BURAR Bucovina Array 12.07 350 ⇑P Pn 21 18 58.7 +2.3
BURAR Bucovina Array 12.07 350 Pn 21 18 57.4 +1.0
BURAR Bucovina Array 12.07 350 ⇑P Pn 21 18 58.7 +2.3
BUR08 Bucovina Ar. S 12.11 350 Pn 21 18 58.0 +1.1
MGRS Mrkonjic Grad 12.24 318 *e*Pn Pn 21 18 58.2 -0.4
CLTB Caltabellotta 12.35 283 Pn Pn 21 18 59.0 -1.2
SORM Soroca 12.36 360 P Pn 21 19 01.5 +1.4

SORM	**Soroca**	**12.36**	**360**	P		**Pn**	**21 19 01.5**	**+1.4**
	comp=Z,23nm,0.8s								
BLY	**Banja Luka**	**12.41**	**320**	⇑ *i* Pn		**Pn**	**21 19 01.0**	**+0.2**
KARS	**Kars**	**12.50**	**63**			**Pn**	**21 19 04.0**	**+1.8**
KARS	**Kars**	**12.50**	**63**	P		**Pn**	**21 19 04.0**	**+1.8**
A050A	**Klekovaca**	**12.58**	**317**	⇑ *i* Pn		**Pn**	**21 19 02.7**	**-0.6**
A051A	**Mrakovica**	**12.73**	**320**	⇑ *i* Pn		**Pn**	**21 19 05.2**	**-0.1**
MORH	**Mrgy, Hungar**	**12.78**	**328**	P		**Pn**	**21 19 06.2**	**+0.4**
	comp=Z,19nm,0.8s,comp=Z,315nm								
LABN	**Labinsk**	**12.90**	**43**	*e*P		**Pn**	**21 19 08.1**	**+0.5**
LABN				*e*S		**Sn**	**21 21 31.7**	**+2.3**
LABN				MLR		MLR			
	comp=Z,75nm,5.0s								
INTR	**Introdacqua**	**12.91**	**303**			**Pn**	**21 19 07.1**	**-0.7**
ERBR	**Yeremizino-Bor**	**13.48**	**39**	*e*P		**Pn**	**21 19 16.3**	**+0.9**
ERBR				*e*S		**Sn**	**21 21 44.1**	**+0.6**
ERBR				pmax	pmax				
	comp=Z,42nm,1.3s								
GNI	**Garni**	**13.59**	**66**			**Pn**	**21 19 18.1**	**+1.0**
GNI	**Garni**	**13.59**	**66**	P		**Pn**	**21 19 19.4**	**+2.3**
	comp=Z,3.1nm,0.8s,baz=47,slow=23,SNR=4.3								
GNI				LR		LR	21 24 50.3		
	comp=Z,73nm,20.9s,baz=266,slow=38								
GNI	**Garni**	**13.59**	**66**	*ce*P		**Pn**	**21 19 18.3**	**+1.2**
GNI				pmax	pmax				
	comp=Z,11nm,1.7s								
KIV	**Kislovodsk**	**13.65**	**49**			**Pn**	**21 19 18.0**	**+0.2**
KIV	**Kislovodsk**	**13.65**	**49**	*e*P		**Pn**	**21 19 19.2**	**+1.4**
KIV				pmax	pmax				
	comp=Z,25nm,1.1s								
KIV				MLR		MLR			
	comp=Z,21nm,13.0s								
KIV	**Kislovodsk**	**13.65**	**49**	P		**Pn**	**21 19 20.0**	**+2.2**
	comp=Z,25nm,1.3s,comp=Z,268nm								
KBZ	**Khabaz**	**13.66**	**50**	P		**Pn**	**21 19 20.2**	**+2.3**
	comp=Z,5.0nm,0.8s,baz=260,slow=8.1,SNR=8.3								
KBZ	**Khabaz**	**13.66**	**50**	*ce*P		**Pn**	**21 19 20.7**	**+2.8**
PSZ	**Piszkesteto**	**13.69**	**335**			**Pn**	**21 19 17.9**	**-0.4**
PSZ	**Piszkesteto**	**13.69**	**335**	P		**Pn**	**21 19 17.9**	**-0.4**
KOLS	**Kolonicke sedl**	**13.91**	**343**	*e*P		**P**	**21 19 29.0**	**+1.5**
KOLS	**Kolonicke sedl**	**13.91**	**343**	*e*P		**P**	**21 19 29.0**	**+1.5**
BOJS	**Bojanci**	**13.93**	**318**	*e*Pn		**Pn**	**21 19 20.2**	**-1.3**
GCIS	**Gornji Cirnik**	**13.97**	**320**	*i* Pn		**Pn**	**21 19 21.6**	**-0.4**
NCK	**Nalchik**	**13.99**	**52**	*i* P		**Pn**	**21 19 24.2**	**+1.9**
MPLH	**Magyarpolny**	**14.00**	**328**	P		**Pn**	**21 19 23.4**	**+1.1**
	comp=Z,42nm,0.9s								
SRO	**Srobarova**	**14.19**	**331**	*e*P		**P**	**21 19 31.7**	**+1.2**
SRO	**Srobarova**	**14.19**	**331**	*e*P		**P**	**21 19 31.7**	**+1.2**
SRO				pmax	pmax				
	comp=Z,63nm,0.6s								
DOBS	**Dobrina**	**14.24**	**321**	*i* Pn		**Pn**	**21 19 27.2**	**+1.6**
GOF	**Gofitskoye**	**14.47**	**46**	⇑ *e*P		**P**	**21 19 33.7**	**0.0**
CEY	**Cerknica**	**14.53**	**318**	⇑ *i* Pn		**Pn**	**21 19 27.9**	**-1.5**
VYHS	**Vyhne**	**14.55**	**334**	*e*P		**P**	**21 19 35.2**	**+0.5**
VYHS	**Vyhne**	**14.55**	**334**	*e*P		**P**	**21 19 35.2**	**+0.5**
VYHS				pmax	pmax				
	comp=Z,18nm,1.5s								
SKDS	**Skadanscina**	**14.64**	**316**	*i* Pn		**Pn**	**21 19 29.3**	**-1.6**
SOKA	**Soboth**	**14.82**	**321**	*e*Pn		**Pn**	**21 19 33.2**	**0.0**
	comp=Z,8.4nm,1.0s,SNR=9.3								
MOZS	**Mozjanca**	**14.87**	**319**	*e*Pn		**Pn**	**21 19 34.3**	**+0.4**
GANJ	**Ganja**	**14.88**	**66**	P		**Pn**	**21 19 35.4**	**+1.4**
NIE	**Niedzica**	**14.88**	**339**	P		**P**	**21 19 38.1**	**-0.2**
NIE				pmax	pmax				
	comp=Z,5.0nm,1.4s								
LANS	**Liptovska Anna**	**14.90**	**337**	*e*P		**P**	**21 19 41.4**	**+2.8**
LANS	**Liptovska Anna**	**14.90**	**337**	*e*P		**P**	**21 19 41.4**	**+2.8**
KIEV	**Kiev**	**14.93**	**2**			**Pn**	**21 19 34.1**	**-0.3**
KIEV	**Kiev**	**14.93**	**2**	P		**Pn**	**21 19 34.1**	**-0.3**
AKASG	**Malin Array Be**	**14.94**	**2**			**Pn**	**21 19 34.7**	**+0.1**
AKASG	**Malin Array Be**	**14.94**	**2**	P		**Pn**	**21 19 35.2**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=192,slow=11,SNR=13								
AKASG				LR		LR	21 26 09.0		
	comp=Z,49nm,18.2s,baz=183,slow=41								
AKBB	**Malin Array Si**	**14.94**	**2**			**Pn**	**21 19 33.9**	**-0.7**
AKBB	**Malin Array Si**	**14.94**	**2**	*ce*P		**Pn**	**21 19 36.4**	**+1.8**
RONA	**Rosalia, Austr**	**14.95**	**327**	*i* Pn		**Pn**	**21 19 35.6**	**+0.8**
	comp=Z,6.7nm,0.5s,SNR=6.2								
OBKA	**Obir**	**14.96**	**320**	*i* Pn		**Pn**	**21 19 36.1**	**+1.1**
	comp=Z,3.0nm,0.5s,SNR=7.9								
OBKA	**Obir**	**14.96**	**320**	*e*Pn		**Pn**	**21 19 35.4**	**+0.4**
ARSA	**Arzberg**	**14.98**	**324**	*i* Pn		**P**	**21 19 39.5**	**+0.1**
	comp=Z,9.9nm,0.6s								
ZST	**Bratislava**	**14.98**	**329**	*e*P		**P**	**21 19 40.4**	**+1.0**
ZST	**Bratislava**	**14.98**	**329**	*e*P		**P**	**21 19 40.4**	**+1.0**
MODS	**Modra-Piesok**	**15.05**	**330**	*e*P		**P**	**21 19 40.2**	**0.0**
MODS	**Modra-Piesok**	**15.05**	**330**	P		**P**	**21 19 39.4**	**-0.8**
SMOL	**Smolenice**	**15.10**	**331**	*e*P		**P**	**21 19 40.8**	**+0.1**
SMOL				pmax	pmax				
	comp=Z,12nm,0.7s								
SABO	**M.te Sabotino**	**15.14**	**317**			**Pn**	**21 19 36.5**	**-0.7**
SABO				IAmb	IAmb		21 19 38.2		
	comp=Z,31nm,0.8s								
CASP	**Castiglione de**	**15.29**	**303**			**Pn**	**21 19 37.5**	**-1.6**
CASP				IAmb	IAmb		21 19 44.6		
	comp=Z,47nm,0.8s								
JAVC	**Velka Javorina**	**15.29**	**332**	*e*P		**P**	**21 19 43.7**	**+0.8**
GROC	**Groznyy**	**15.31**	**56**	*e*P		**Pn**	**21 19 39.9**	**+0.5**
GROC				*e*S		**Sn**	**21 22 30.1**	**+2.2**
GROC				pmax	pmax				
	comp=Z,25nm,1.3s								
CONA	**Conrad Observa**	**15.31**	**326**	*e*Pn		**Pn**	**21 19 40.2**	**+0.6**
	comp=Z,2.3nm,0.5s,SNR=5.8								
MNGR	**Mingechevir, A**	**15.47**	**66**	P		**Pn**	**21 19 43.0**	**+1.5**
KEST	**Kesra**	**15.50**	**275**			**Pn**	**21 19 41.7**	**-0.3**
KEST	**Kesra**	**15.50**	**275**	P		**Pn**	**21 19 41.8**	**-0.3**
	comp=Z,50nm,0.8s,baz=264,slow=8.4,SNR=2.7								
KEST				S		Sn	21 22 20.8	-12	
	comp=Z,5.8nm,0.8s,baz=350,slow=15,SNR=1.8								
MYKA	**Terra Mystica**	**15.52**	**319**	*i* Pn		**Pn**	**21 19 43.4**	**+1.2**
	comp=Z,14nm,0.7s								
MAUC	**Maruska**	**15.65**	**334**	*e*P		**P**	**21 19 48.5**	**+1.7**
SEKA	**Sheki**	**15.66**	**64**	P		**P**	**21 19 46.2**	**-0.8**
OJC	**Ojcow**	**15.74**	**339**			**Pn**	**21 19 44.8**	**-0.2**
OJC	**Ojcow**	**15.74**	**339**	P		**Pn**	**21 19 44.8**	**-0.2**
OJC				pmax	pmax				
	comp=Z,4.0nm,0.6s								
PII	**Pisa**	**15.88**	**305**	P		**Pn**	**21 19 46.7**	**0.0**
PII				pmax	pmax				
	comp=Z,35nm,0.7s								
OKC	**Ostrava-Krasne**	**15.93**	**335**	P		**P**	**21 19 50.1**	**+0.2**
OKC				pmax	pmax				
	comp=Z,13nm,1.2s								
KRUC	**Moravsky**	**15.95**	**330**	*e*P		**P**	**21 19 50.0**	**-0.2**
KRUC	**Moravsky**	**15.95**	**330**	P		**P**	**21 19 49.7**	**-0.5**
KRUC				pmax	pmax				
	comp=Z,79nm,0.8s								
KBA	**Koelnbreinsper**	**15.96**	**320**	*i* Pn		**Pn**	**21 19 48.4**	**+0.5**
	comp=Z,20nm,0.5s,SNR=17								
KBA	**Koelnbreinsper**	**15.96**	**320**	P		**Pn**	**21 19 48.7**	**+0.8**
KBA				pmax	pmax				
	comp=Z,40nm,0.7s								
VRAC	**Vranov**	**16.07**	**331**	*e*P		**P**	**21 19 51.7**	**+0.2**
VRAC	**Vranov**	**16.07**	**331**	P		**P**	**21 19 51.2**	**-0.2**
	comp=Z,42nm,0.9s,baz=143,slow=11,SNR=41								
VRAC				LR		LR	21 26 04.2		
	comp=Z,79nm,21.9s,baz=142,slow=38								
VRAC	**Vranov**	**16.07**	**331**	P		**P**	**21 19 52.0**	**+0.5**
VRAC				pmax	pmax				
	comp=Z,53nm,0.9s								
MORC	**Moravsky Berou**	**16.09**	**334**			**Pn**	**21 19 48.1**	**-1.4**
MORC	**Moravsky Berou**	**16.09**	**334**	*e*P		**Pn**	**21 19 50.4**	**+1.0**
MORC	**Moravsky Berou**	**16.09**	**334**	P		**Pn**	**21 19 48.1**	**-1.4**
MORC				pmax	pmax				
	comp=Z,6.0nm,0.6s								
ABTA	**Abfaltersbach**	**16.20**	**317**	*e*Pn		**Pn**	**21 19 51.1**	**+0.3**
	comp=Z,18nm,0.6s,SNR=7.2								
BIOA	**Bad Ischl, Aus**	**16.21**	**322**	*i* Pn		**P**	**21 19 52.0**	**-1.0**
	comp=Z,4.4nm,0.4s,SNR=9.4								
CTI	**Castel Tesino**	**16.29**	**314**			**Pn**	**21 19 50.3**	**-1.7**
CTI				IAmb	IAmb		21 19 53.2		
	comp=Z,28nm,0.8s								
CTI	**Castel Tesino**	**16.29**	**314**	P		**Pn**	**21 19 50.3**	**-1.7**
CTI				pmax	pmax				
	comp=Z,28nm,0.8s								
TREC	**Trest**	**16.51**	**329**	P		**P**	**21 19 56.8**	**+0.5**
TREC				pmax	pmax				
	comp=Z,17nm,1.2s								
LESA	**Schwarzleotal**	**16.53**	**320**	*i* Pn		**P**	**21 19 56.9**	**+0.2**
	comp=Z,17nm,0.5s								
KRLC	**Kraliky**	**16.62**	**333**	*e*P		**P**	**21 19 58.0**	**+0.4**
KRLC	**Kraliky**	**16.62**	**333**	*e*P		**P**	**21 19 58.0**	**+0.4**
CKRC	**Cesky Krumlov**	**16.67**	**326**	*e*P		**P**	**21 19 57.9**	**-0.2**
CKRC	**Cesky Krumlov**	**16.67**	**326**	*e*P		**P**	**21 19 57.9**	**-0.2**
GEC2	**GERESS Array S**	**16.97**	**325**	P		**Pn**	**21 20 00.3**	**-0.2**
GEC2				IAmb	IAmb		21 20 02.6		
	comp=Z,38nm,1.1s								
GERES	**GERESS Array B**	**16.97**	**325**	P		**Pn**	**21 20 00.6**	**+0.2**
GERES	**GERESS Array B**	**16.97**	**325**	P		**Pn**	**21 20 00.5**	**+0.1**
	comp=Z,17nm,0.9s,baz=134,slow=12,SNR=69								
GERES				LR		LR	21 27 12.5		
	comp=Z,59nm,21.6s,baz=134,slow=40								
GERES				ScP		**ScP**			
	comp=Z,1.0nm,0.8s,baz=131,slow=2.7,SNR=4.1								
WTTA	**Wattenberg**	**16.99**	**318**	*i* Pn		**P**	**21 20 02.6**	**+0.8**
	comp=Z,5.3nm,0.6s,SNR=8.2								
WTTA	**Wattenberg**	**16.99**	**318**	P		**P**	**21 20 02.5**	**+0.6**
WTTA				pmax	pmax				
	comp=Z,25nm,0.9s								
DPC	**Dobruska-Polom**	**17.01**	**333**	*e*P		**P**	**21 20 02.1**	**+0.2**
DPC	**Dobruska-Polom**	**17.01**	**333**	*e*P		**P**	**21 20 02.1**	**+0.2**
DPC	**Dobruska-Polom**	**17.01**	**333**	P		**P**	**21 20 01.8**	**-0.1**
WATA	**Walderalm**	**17.07**	**318**	*i* Pn		**P**	**21 20 02.8**	**+0.1**
	comp=Z,9.1nm,0.6s,SNR=14								
VORD	**Divnogorie**	**17.09**	**24**	*e*P		**P**	**21 20 06.4**	**+3.7**
VORD				pmax	pmax				
	comp=Z,120nm,0.2s								
ZVC	**Zvikov**	**17.18**	**327**	*e*P		**P**	**21 20 03.3**	**-0.4**
SQTA	**Sankt Quirin**	**17.20**	**317**	*i* Pn		**P**	**21 20 05.5**	**+1.4**
	comp=Z,22nm,0.6s,SNR=20								
OSTC	**Ostas**	**17.22**	**333**	*e*P		**P**	**21 20 04.6**	**+0.4**
OSTC	**Ostas**	**17.22**	**333**	*e*P		**P**	**21 20 04.6**	**+0.4**
KHC	**Kasperske Hory**	**17.23**	**325**	P		**Pn**	**21 20 03.2**	**-0.4**
KHC				IAmb	IAmb		21 20 05.8		
	comp=Z,24nm,0.9s								
KHC	**Kasperske Hory**	**17.23**	**325**	*e*P		**P**	**21 20 04.4**	**+0.1**
KHC	**Kasperske Hory**	**17.23**	**325**	*ce*P		**P**	**21 20 04.3**	**0.0**
KHC				pmax	pmax				
	comp=Z,105nm,1.7s								
UPC	**Upice**	**17.26**	**332**	P		**P**	**21 20 05.2**	**+0.6**
UPC				pmax	pmax				
	comp=Z,19nm,1.1s								
VSR	**Storozhevoye**	**17.26**	**23**	*e*P		**Pn**	**21 20 03.3**	**-0.6**
VSR				pmax	pmax				
	comp=Z,10.0nm,0.6s								
CHVC	**Chvalec**	**17.31**	**333**	*e*P		**P**	**21 20 05.5**	**+0.3**
CHVC	**Chvalec**	**17.31**	**333**	*e*P		**P**	**21 20 05.5**	**+0.3**
MOTA	**Moosalm**	**17.33**	**317**	*i* Pn		**P**	**21 20 05.8**	**+0.2**
	comp=Z,16nm,0.6s,SNR=11								
FETA	**Feichten**	**17.36**	**316**	*i* Pn		**P**	**21 20 06.4**	**+0.6**
	comp=Z,25nm,0.8s,SNR=25								
FUORN	**Ofenpass-Fuorn**	**17.41**	**314**	P		**Pn**	**21 20 05.9**	**-0.1**
PRU	**Pruhonice**	**17.44**	**329**	*e*P		**P**	**21 20 06.5**	**-0.1**
PRU	**Pruhonice**	**17.44**	**329**	*e*P		**P**	**21 20 06.5**	**-0.1**
PRA	**Prague**	**17.54**	**329**	*e*P		**P**	**21 20 08.3**	**+0.6**
PRA	**Prague**	**17.54**	**329**	*e*P		**P**	**21 20 08.3**	**+0.6**
WET	**Wettzell**	**17.57**	**324**	P		**Pn**	**21 20 07.6**	**-0.1**
WET				pmax	pmax				
	comp=Z,28nm,1.4s								
RETA	**Reutte**	**17.60**	**317**	*i* Pn		**P**	**21 20 10.2**	**+1.7**
	comp=Z,7.0nm,0.3s								
VORR	**Voronezh**	**17.67**	**23**	*e*P		**P**	**21 20 11.5**	**+2.4**
VORR				pmax	pmax				
	comp=Z,26nm,1.5s								
DAVOX	**Davos/Dischmat**	**17.71**	**314**	P		**P**	**21 20 10.1**	**+0.2**
	comp=Z,7.2nm,0.4s,baz=120,slow=13,SNR=22								
DAVOX				LR		LR	21 28 32.9		
	comp=Z,60nm,19.4s,baz=95,slow=43								
FUR	**Furstenfeldbru**	**17.73**	**320**	P		**Pn**	**21 20 08.9**	**-0.8**
FUR				pmax	pmax				
	comp=Z,70nm,1.1s								
PVCC	**Panska Ves**	**17.84**	**330**	*e*P		**Pn**	**21 20 11.4**	**+0.4**
PVCC	**Panska Ves**	**17.84**	**330**	*e*P		**Pn**	**21 20 11.4**	**+0.4**
TUE	**Stuetta**	**17.87**	**313**	P		**P**	**21 20 10.8**	**-0.8**
DAVA	**Damuels**	**17.98**	**315**	*i* Pn		**P**	**21 20 12.5**	**-0.3**
	comp=Z,13nm,0.5s,SNR=7.6								
VRH	**Novokhopyorsk**	**18.15**	**28**	*e*P		**Pn**	**21 20 15.1**	**+0.4**
VRH				pmax	pmax				
	comp=Z,18nm,1.5s								
LLS	**Linth-Limmern**	**18.26**	**313**	P		**Pn**	**21 20 17.1**	**+0.7**
LLS				pmax	pmax				
	comp=Z,17nm,1.0s								
BRG	**Berggiesshubel**	**18.36**	**330**	*i* P		**Pn**	**21 20 17.1**	**-0.2**
BRG				Amp			21 20 18.0		
	comp=Z,11nm,0.8s								
BRG	**Berggiesshubel**	**18.36**	**330**	*i* P		**Pn**	**21 20 17.0**	**-0.2**
BRG				pmax	pmax				
	comp=Z,11nm,0.8s								
ISO	**Isola**	**18.38**	**304**	P		**Pn**	**21 20 17.8**	**+0.1**
ISO				pmax	pmax				
	comp=Z,20nm,0.8s								
LPSR	**Galich'ya Gora**	**18.40**	**21**	*e*P		**P**	**21 20 17.0**	**-0.1**
LPSR				pmax	pmax				
	comp=Z,20nm,0.7s								
MMK	**Mattmark**	**18.52**	**310**	P		**Pn**	**21 20 20.0**	**+0.5**
MMK				pmax	pmax				
	comp=Z,61nm,0.9s								
NKC	**Novy Kostel**	**18.53**	**326**	*e*P		**P**	**21 20 18.9**	**+0.3**
NKC	**Novy Kostel**	**18.53**	**326**	*e*P		**P**	**21 20 18.9**	**+0.3**
RSP	**Reno Superiore**	**18.59**	**307**	P		**Pn**	**21 20 23.3**	**+3.1**
RSP				pmax	pmax				
	comp=Z,19nm,0.8s								
SUW	**Suwalki**	**18.61**	**350**	P		**P**	**21 20 18.5**	**-0.9**
SUW				IAmb	IAmb		21 20 21.7		
	comp=Z,31nm,1.0s								
SUW	**Suwalki**	**18.61**	**350**	P		**P**	**21 20 18.5**	**-0.9**
SUW				pmax	pmax				
	comp=Z,31nm,1.0s								
GRA1	**Grafenberg Arr**	**18.73**	**323**	P		**P**	**21 20 19.6**	**-1.3**
GRA1				IAmb	IAmb		21 20 23.2		
	comp=Z,27nm,1.0s								
GRF	**Grafenberg Arr**	**18.73**	**323**	P		**P**	**21 20 19.6**	**-1.3**
GRF				pmax	pmax				
	comp=Z,27nm,1.0s								
GRFO	**Grafenberg**	**18.73**	**323**	P		**P**	**21 20 19.6**	**-1.2**
GRFO				IAmb	IAmb		21 20 23.1		
	comp=Z,23nm,0.9s								
GRFO	**Grafenberg**	**18.73**	**323**	P		**P**	**21 20 19.6**	**-1.2**
GRFO				pmax	pmax				
	comp=Z,23nm,0.9s								
MNK	**Minsk**	**18.74**	**359**	*i* P		**P**	**21 20 19.9**	**-0.9**
	comp=E,7.0nm,1.1s								
MNK				*i* P		**P**	**21 20 19.9**	**-0.9**
	comp=N,19nm,0.9s								
MNK				*i* P		**P**	**21 20 19.9**	**-0.9**
	comp=Z,22nm,0.8s,baz=179								
MNK				*i* pP		**pP**	**21 20 34.9**	**+2.1**
MNK				*i* S		**S**	**21 23 51.2**	**+0.6**
MNK				*i* sS		**sS**	**21 24 09.5**	**-0.3**
MNK				*i* LQ		LQ	21 26 03.0		
MNK				*i* LR		LR	21 27 28.6		
MNK	**Minsk**	**18.74**	**359**	*e*P		**P**	**21 20 19.9**	**-0.9**
LSD	**Lago del Serru**	**18.79**	**307**	P		**P**	**21 20 22.1**	**+0.3**
LSD				pmax	pmax				
	comp=Z,13nm,0.7s								
RRL	**Rocca Remolon**	**18.81**	**306**	P		**Pn**	**21 20 23.7**	**+0.6**
RRL				pmax	pmax				
	comp=Z,40nm,0.8s								
BNI	**Bardonecchia**	**18.93**	**306**	P		**P**	**21 20 23.6**	**+0.4**
BNI	**Bardonecchia**	**18.93**	**306**	P		**P**	**21 20 23.6**	**+0.4**
BNI				pmax	pmax				
	comp=Z,13nm,0.8s								
SLE	**Schleitheim**	**19.04**	**315**	P		**P**	**21 20 24.3**	**+0.1**
SLE				pmax	pmax				
	comp=Z,93nm,1.2s								
SENIN	**Lac Senin/Sane**	**19.07**	**310**	P		**P**	**21 20 24.5**	**-0.3**
CLL	**Collm**	**19.08**	**329**	P		**P**	**21 20 23.4**	**-1.2**
CLL				IAmb	IAmb		21 20 28.5		
	comp=Z,27nm,1.0s								
CLL	**Collm**	**19.08**	**329**	*i* P		**P**	**21 20 24.2**	**-0.3**
	comp=Z,17nm,0.8s								
CLL				*i* x		x	21 20 27.0		
	comp=Z,34nm,1.1s								
CLL				*e*pP		**pP**	**21 20 36.0**	**-1.3**
CLL				*e*S		**S**	**21 23 53.0**	**-4.6**
CLL				*e*x		x	21 24 21.0		
CLL	**Collm**	**19.08**	**329**	*i* P		**P**	**21 20 24.2**	**-0.3**
CLL				*e*S		**S**	**21 23 53.0**	**-4.6**
CLL				pmax	pmax				
	comp=Z,17nm,0.8s								
NACGM	**Naroch**	**19.17**	**357**	*e*P		**Pn**	**21 20 28.6**	**+1.7**
	comp=Z,22nm,1.1s,baz=176								
RAYN	**Ar Rayn**	**19.18**	**125**	P		**P**	**21 20 25.9**	**-0.1**
RAYN	**Ar Rayn**	**19.18**	**125**	P		**P**	**21 20 25.9**	**-0.1**
RAYN				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MOX	**Moxa**	**19.20**	**326**	P		**Pn**	**21 20 27.4**	**0.0**
MOX				pmax	pmax				
	comp=Z,20nm,1.2s								
STU	**Stuttgart**	**19.20**	**318**	P		**P**	**21 20 25.1**	**-0.9**
STU				IAmb	IAmb		21 20 26.5		
	comp=Z,20nm,0.9s								
STU	**Stuttgart**	**19.20**	**318**	P		**P**	**21 20 25.1**	**-0.9**
STU				pmax	pmax				
	comp=Z,20nm,0.9s								
ORIF	**Oris-en-Rattie**	**19.41**	**305**	P		**P**	**21 20 27.7**	**-0.7**
ORIF				pmax	pmax				
	comp=Z,19nm,0.8s								
BFO	**Black Forest**	**19.43**	**316**	P		**P**	**21 20 28.4**	**-0.1**
BFO	**Black Forest**	**19.43**	**316**	P		**P**	**21 20 28.4**	**-0.1**
BFO				pmax	pmax				
	comp=Z,12nm,0.7s								
KLNR	**Kaliningrad**	**19.68**	**346**	*i* P		**P**	**21 20 29.6**	**-1.5**
PABE	**Paberze**	**19.97**	**353**	P		**P**	**21 20 33.3**	**-0.9**
PABE				IAmb	IAmb		21 20 38.7		
	comp=Z,22nm,0.6s								
PABE	**Paberze**	**19.97**	**353**	*e*P		**P**	**21 20 33.4**	**-0.8**
ECH	**Echery**	**20.04**	**315**	P		**P**	**21 20 34.2**	**-0.9**
ECH				IAmb	IAmb		21 20 36.1		
	comp=Z,23nm,1.0s								
ECH	**Echery**	**20.04**	**315**	P		**P**	**21 20 34.2**	**-0.9**
ECH				pmax	pmax				
	comp=Z,23nm,1.0s								
OBN	**Obninsk**	**20.14**	**14**	P		**P**	**21 20 35.7**	**-0.4**
OBN				IAmb	IAmb		21 20 38.3		
	comp=Z,34nm,1.1s								
OBN	**Obninsk**	**20.14**	**14**	LR		LR	21 29 53.3		
	comp=Z,25nm,19.6s,baz=179,slow=41								
OBN	**Obninsk**	**20.14**	**14**	⇑ *i* P		**P**	**21 20 36.4**	**+0.3**
OBN				*i*			21 20 56.9		
OBN				*e*S		**S**	**21 24 15.7**	**-3.1**
OBN				pmax	pmax				
	comp=Z,28nm,1.0s								
OBN				MLR		MLR			
	comp=Z,26nm,17.0s								
SSB	**Saint Sauveur**	**20.43**	**305**	P		**P**	**21 20 38.5**	**-0.8**
SSB	**Saint Sauveur**	**20.43**	**305**	P		**P**	**21 20 38.6**	**-0.8**
SSB				pmax	pmax				
	comp=Z,7.0nm,0.6s								
TNS	**Taunus Mts**	**20.46**	**321**	P		Pn	21 20 41.7	-0.6	
TNS				pmax	pmax				
	comp=Z,32nm,0.7s								
PBUR	**Paburge**	**20.74**	**350**	*e*P		**P**	**21 20 41.7**	**-0.8**
MOS	**Moscow**	**20.94**	**15**	*e*P		**P**	**21 20 41.2**	**-3.5**
MOS				*e*			21 21 07.6		
BSD	**Bornholm Skovb**	**21.47**	**338**	*e*P		**P**	**21 20 48.5**	**-1.9**
BSD	**Bornholm Skovb**	**21.47**	**338**	*i* P		**P**	**21 20 47.8**	**-2.5**
BSD				IAmb	IAmb		21 20 50.1		
	comp=Z,14nm,0.9s								
BELG	**Belogornoye**	**21.48**	**33**	P		**P**	**21 20 50.8**	**+0.3**
	comp=Z,58nm,0.8s,baz=243,slow=0.8,SNR=18								
	comp=Z,58nm,0.8s								
BELG	**Belogornoye**	**21.48**	**33**	*i* P		**P**	**21 20 50.4**	**-0.1**
BELG				pmax	pmax				
	comp=Z,13nm,0.9s								
MTLF	**Montolieu**	**21.52**	**299**	P		**P**	**21 20 50.6**	**-0.5**
MTLF				pmax	pmax				
	comp=Z,24nm,1.2s								
LOR	**Lormes**	**21.59**	**310**	P		**P**	**21 20 51.3**	**-0.5**
LOR				pmax	pmax				
	comp=Z,16nm,1.0s								
BHOU	**Houvegnez**	**21.81**	**319**	*d*P		**P**	**21 20 56.1**	**+2.0**
BTNL	**Ternell**	**21.87**	**320**	*d*P		**P**	**21 20 54.2**	**-0.6**
MEM	**Membach**	**21.95**	**319**	*d*P		**P**	**21 20 57.0**	**+1.5**
CEST	**Esterri de Car**	**22.08**	**296**	P		**P

KONO Kongsberg 26.85 339 P P 21 21 39.8 -1.9
KONO pmax pmax
comp=Z,33nm,1.5s
NORES NORESS Array B 27.23 342 P P 21 21 45.6 +0.5
JOF Joensuu 27.23 3 eP P 21 21 44.7 -0.4
MDT Midelt 27.38 273 LR LR 21 34 06.0
comp=Z,30nm,19.2s,baz=145,slow=40
NAO01 NORSAR Array S 27.49 341 P P 21 21 46.5 -1.0
NAO01 IAmb IAmb 21 21 47.2
comp=Z,20nm,1.0s
VAF Ylistaro 27.53 354 eP P 21 21 46.8 -1.0
NB2 NORSAR Subarra 27.57 342 P P 21 21 46.5 -1.8
comp=Z,7.0nm,1.0s,baz=149,slow=9.3
NB2 NORSAR Subarra 27.57 342 P P 21 21 46.5 -1.8
baz=149,slow=9.3
NOA NORSAR Array B 27.57 342 P P 21 21 46.9 -1.4
comp=Z,2.8nm,0.8s,baz=147,slow=8.9,SNR=9.5
NOA LR LR 21 33 42.5
comp=Z,21nm,20.1s,baz=155,slow=38
comp=Z,2.8nm,0.8s
PBRG Braganca 27.94 293 eP P 21 21 51.2 -0.5
MVO Moncorvo 28.15 292 eP P 21 21 53.6 -0.1
PBAR Barrancos 28.34 286 eP P 21 21 54.5 -0.8
PMRV Marv??o 28.50 288 eP P 21 21 56.2 -0.5
PCBR Castelo Branco 28.54 289 eP P 21 21 56.9 -0.2
PESTR Estremoz 28.70 287 eP P 21 21 57.8 -0.7
PVIS Viseu 28.82 291 eP P 21 21 59.7 +0.1
PVAQ Vaqueiros 28.96 284 eP P 21 22 00.4 -0.5
PVAQ Vaqueiros 28.96 284 P P 21 22 00.2 -0.7
PVAQ IAmb IAmb 21 22 02.8
comp=Z,10nm,1.1s
WSAR Wadi Sarin 28.98 107 LR LR 21 38 27.7
comp=Z,26nm,20.1s,baz=330,slow=46
PGAV Gavieira, Arco 29.08 294 eP P 21 22 02.1 +0.1
EKA Eskdalemuir Ar 29.14 322 P P 21 22 00.2 -2.1
comp=Z,0.5nm,0.4s,baz=126,slow=9.7,SNR=6.3
EKA PcP **PcP 21 25 09.0 +0.5**
comp=Z,1.2nm,0.5s,baz=112,slow=2.3,SNR=6.8
comp=Z,0.5nm,0.4s
PBDV Barranco-do-Ve 29.15 284 eP P 21 22 02.7 +0.1
PMTG Montargil 29.17 288 eP P 21 22 02.3 -0.4
PCVE Castro Verde 29.19 285 eP P 21 22 02.6 -0.2
MESJ Messejana 29.30 285 eP P 21 22 03.6 -0.3
MESJ Messejana 29.30 285 P P 21 22 03.7 -0.1
MESJ IAmb IAmb 21 22 22.5
comp=Z,16nm,1.3s
MESJ Messejana 29.30 285 P P 21 22 03.7 -0.1
MESJ pmax pmax
comp=Z,16nm,1.3s
PTEO Sao Teotonio 29.74 285 eP P 21 22 07.6 -0.1
PFVI Vila Bisbo 29.88 284 P P 21 22 07.5 -1.4
PFVI IAmb IAmb 21 22 15.1
comp=Z,20nm,1.1s
SVE Sverdlovsk 30.19 36 eP P 21 22 13.2 +1.8
SIMJ Simiganj 32.26 73 P P 21 22 30.9 +0.7
SIMJ IAmb IAmb 21 23 03.7
comp=Z,3.7nm,0.8s
LVZ Lovozero 32.37 4 P P 21 22 30.1 -0.5
LVZ IAmb IAmb 21 22 48.5
comp=Z,10.0nm,1.0s
LVZ Lovozero 32.37 4 P P 21 22 30.1 -0.5
LVZ pmax pmax
comp=Z,10.0nm,1.0s
FAUS Fauske 32.55 351 eP P 21 22 31.9 -0.2
TOA0 Torodi Ar. Sit 32.96 234 P P 21 22 36.4 +0.2
TOA0 IAmb IAmb 21 22 37.6
comp=Z,4.6nm,0.6s
TORD Torodi Ar. Bea 32.96 234 P P 21 22 36.3 0.0
TORD Torodi Ar. Bea 32.96 234 P P 21 22 37.1 +0.8
comp=Z,3.5nm,0.5s,baz=36,slow=9.5,SNR=32
comp=Z,3.5nm,0.5s
KK31 Karatay Array 33.04 64 P P 21 22 36.8 0.0
KK31 Karatay Array 33.04 64 P P 21 22 36.8 0.0
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 33.04 64 P P 21 22 36.7 0.0
KKAR Karatay Array 33.04 64 P P 21 22 36.7 0.0
KKAR pmax pmax
comp=Z,3.0nm,0.9s
STEI Steigen 33.07 351 eP P 21 22 36.3 -0.3
KTK1 Kautokeino 33.42 357 eP P 21 22 39.3 -0.3
ARA0 ARCESS Array S 33.86 358 eP P 21 22 43.1 -0.4
ARCES ARCESS Array B 33.86 358 P P 21 22 43.0 -0.5
ARCES IAmb IAmb 21 22 43.8
comp=Z,10nm,0.7s
ARCES ARCESS Array B 33.86 358 P P 21 22 43.0 -0.5
comp=Z,8.3nm,0.6s,baz=174,slow=8.2,SNR=86
comp=Z,8.3nm,0.6s
BRVK Borovoye 33.94 46 *i* P **P 21 22 45.1 +0.7**
BRVK pmax pmax
comp=Z,4.0nm,0.9s
BVAR Borovoye Array 34.00 46 P P 21 22 46.3 +1.4
comp=Z,0.9nm,0.6s,baz=270,slow=4.4,SNR=3.7
BVAR LR LR 21 38 44.6
comp=Z,40nm,19.5s,baz=266,slow=40
comp=Z,0.9nm,0.6s
KEV Kevo 34.05 359 P P 21 22 45.0 -0.1
KEV Kevo 34.05 359 P P 21 22 45.0 -0.1
KEV pmax pmax
comp=Z,24nm,1.4s
VADS Vadso 34.41 1 eP P 21 22 48.0 -0.2
ARSB Arslanbob 34.98 67 P P 21 22 54.4 +0.6
ARSB Arslanbob 34.98 67 P P 21 22 54.4 +0.6
ARSB pmax pmax
comp=Z,1.0nm,0.6s
HAMF Hammerfest 35.03 357 eP P 21 22 54.0 +0.4
AAK Ala-Archa 35.99 65 P P 21 23 03.6 +1.2
AAK IAmb IAmb 21 23 04.9
comp=Z,3.5nm,0.5s
AAK Ala-Archa 35.99 65 LR LR 21 38 56.4
comp=Z,41nm,18.9s,baz=288,slow=38
AAK Ala-Archa 35.99 65 *ce* **P P 21 23 04.3 +1.9**
AAK pmax pmax
comp=Z,3.0nm,1.3s
BOOM Boomskoye usch 37.07 65 P P 21 23 12.2 +0.6
BOOM IAmb IAmb 21 23 32.6
comp=Z,6.0nm,1.0s
BOOM Boomskoye usch 37.07 65 P P 21 23 12.2 +0.6
BOOM pmax pmax
comp=Z,6.0nm,1.0s
KSH Kashi 37.49 70 P P 21 23 15.3 +0.2
KURBB Kurchatov Arra 38.66 51 P P 21 23 25.8 +1.1
comp=Z,3.1nm,0.5s,baz=275,slow=8.8,SNR=14
KURBB PP **PP 21 24 53.8 -0.1**
comp=Z,3.8nm,0.9s,baz=275,slow=12,SNR=5.5
comp=Z,3.1nm,0.5s
KURK Kurchatov 38.72 51 P P 21 23 25.6 +0.5
KURK IAmb IAmb 21 23 52.8
comp=Z,19nm,1.4s
KURK Kurchatov 38.72 51 *ce* **P P 21 23 27.2 +2.1**
KURK pmax pmax
comp=Z,6.0nm,1.3s
HOPEN Hopen 40.86 359 eP P 21 23 42.8 +0.2
MK31 Makanchi Array 41.20 57 P P 21 23 46.8 +0.9
MK31 Makanchi Array 41.20 57 *ce* **P P 21 23 48.0 +2.1**
MKAR Makanchi Array 41.20 57 P P 21 23 46.6 +0.8
MKAR Makanchi Array 41.20 57 P P 21 23 46.9 +1.0
comp=Z,3.2nm,0.7s,baz=270,slow=7.4,SNR=26
MKAR LR LR 21 42 36.0
comp=Z,22nm,18.2s,baz=251,slow=38
comp=Z,3.2nm,0.7s
BORG Borgarnes 41.32 330 P P 21 23 46.9 +0.4
BORG Borgarnes 41.32 330 LR LR 21 42 14.9
comp=Z,25nm,21.6s,baz=98,slow=38
BORG Borgarnes 41.32 330 P P 21 23 46.9 +0.4
BORG pmax pmax
comp=Z,73nm,1.5s
DBIC Dimbokro 42.06 234 P P 21 23 52.8 -0.4
DBIC IAmb IAmb 21 24 15.7
comp=Z,20nm,1.5s
DBIC Dimbokro 42.06 234 P P 21 23 53.4 +0.3
comp=Z,1.9nm,0.4s,baz=40,slow=7.6,SNR=7.5
DBIC LR LR 21 42 05.1
comp=Z,52nm,18.6s,baz=78,slow=37
comp=Z,1.9nm,0.4s
ZAA0 Zalesovo Array 42.65 47 P P 21 23 57.4 -0.1
ZALV Zalesovo Beam 42.65 47 P P 21 23 57.9 +0.4
comp=Z,1.2nm,0.5s,baz=261,slow=8.0,SNR=6.6
ZALV LR LR 21 45 35.7
comp=Z,16nm,20.2s,baz=244,slow=42
comp=Z,1.2nm,0.5s
SPB2 Spitsbergen Ar 42.82 356 P P 21 23 58.3 -0.3
SPA0 Spitsbergen Ar 42.83 356 eP P 21 23 58.9 +0.3
SPITS Spitsbergen Ar 42.83 356 P P 21 23 58.8 +0.1
comp=Z,3.9nm,0.4s,baz=141,slow=11,SNR=28
comp=Z,3.9nm,0.4s
SCO Scoresbysund 43.75 338 P P 21 24 06.3 +0.3
SCO IAmb IAmb 21 24 12.5
comp=Z,16nm,1.1s
SCO Scoresbysund 43.75 338 P P 21 24 06.4 +0.3
SCO pmax pmax
comp=Z,16nm,1.1s
SCO Scoresbysund 43.75 338 *i* **P P 21 24 05.4 -0.7**
SCO IAmb IAmb 21 24 07.5
comp=Z,8.6nm,0.7s
KBS Kingsbay 43.80 355 P P 21 24 06.4 -0.1
KBS Kingsbay 43.80 355 P P 21 24 06.4 -0.1
KBS pmax pmax
comp=Z,49nm,1.5s
DAG Danmarks Havn 46.07 346 *i* **P P 21 24 23.0 -1.4**
DAG IAmb IAmb 21 24 24.4
comp=Z,4.0nm,0.9s
SOEG Soedalen 46.16 333 *i* **P P 21 24 24.9 -0.4**
NOR Nord 48.70 352 *i* **P P 21 24 43.2 -1.7**
NOR IAmb IAmb 21 24 44.9
comp=Z,11nm,0.8s
ISOG Isortoq, Green 48.76 329 *i* **P P 21 24 44.1 -1.3**
ISOG IAmb IAmb 21 24 45.9
comp=Z,22nm,0.9s
ICESG Greenland Ices 49.30 334 *i* **P P 21 24 48.1 -1.9**
ICESG IAmb IAmb 21 24 49.8
comp=Z,13nm,0.6s
SUMG Summit 49.38 339 P P 21 24 50.2 -0.4
SUMG Summit 49.38 339 P P 21 24 50.2 -0.4
SUMG Summit 49.38 339 *i* **P P 21 24 49.4 -1.2**
SUMG IAmb IAmb 21 24 51.3
comp=Z,9.2nm,0.7s
LSZ Lusaka 50.77 180 LR LR 21 49 40.4
comp=Z,45nm,18.2s,baz=200,slow=40
DY2G Dye2 51.74 330 *i* **P P 21 25 06.8 -1.5**
DY2G IAmb IAmb 21 25 08.3
comp=Z,22nm,0.8s
IVI Ivigtut 53.10 324 P P 21 25 17.2 -0.9
IVI Ivigtut 53.10 324 *i* **P P 21 25 16.6 -1.4**
NEEM North Greenlan 53.11 344 *i* **P P 21 25 17.4 -1.0**
NEEM IAmb IAmb 21 25 18.5
comp=Z,5.0nm,0.6s
SFJD Kangerlussuaq 53.43 331 P P 21 25 19.6 -0.8
SFJD IAmb IAmb 21 25 19.9
comp=Z,6.3nm,0.7s
SFJD Kangerlussuaq 53.43 331 LR LR 21 48 28.2
comp=Z,22nm,21.6s,baz=92,slow=36
SFJD Kangerlussuaq 53.43 331 P P 21 25 19.6 -0.8
SFJD pmax pmax
comp=Z,6.0nm,0.7s
SFJD Kangerlussuaq 53.43 331 *i* **P P 21 25 18.9 -1.5**
GTA Gaotai 55.31 63 *eP* **P 21 25 36.2 +1.4**
GTA pP pP 21 25 49.7 +0.5
GTA sP sP 21 25 56.4 +0.9
GTA pmax pmax
comp=Z,2.0nm,0.7s
PALK Pallekele 55.47 108 LR LR 21 50 41.9
comp=Z,28nm,19.3s,baz=31,slow=37
TSUM Tsumeb 55.63 192 LR LR 21 51 11.7
comp=Z,95nm,18.1s,baz=339,slow=38
SONM Songino Array 57.02 52 P P 21 25 47.2 +0.4
SONM Songino Array 57.02 52 P P 21 25 48.6 +1.8
comp=Z,1.1nm,0.5s,baz=287,slow=5.7,SNR=4.0
comp=Z,1.1nm,0.5s
LZH Lanzhou 59.52 65 *eP* **P 21 26 08.0 +3.5**
LZH sP sP 21 26 31.7 +6.3
LZH pmax pmax
comp=Z,8.0nm,1.1s
TIXI Tiksi 59.65 21 P P 21 26 04.1 -0.4
TIXI IAmb IAmb 21 26 28.8
comp=Z,2.2nm,0.8s
TIXI Tiksi 59.65 21 *ce* **P P 21 26 05.6 +1.1**
TIXI pmax pmax
comp=Z,6.0nm,2.5s
LBTB Lobatse 60.52 183 P P 21 26 13.1 +2.0
LBTB IAmb IAmb 21 26 14.5
comp=Z,5.2nm,0.7s
LBTB Lobatse 60.52 183 P P 21 26 13.1 +2.0
LBTB pmax pmax
comp=Z,5.0nm,0.7s
DRLN Deer Lake 61.48 312 P P 21 26 16.5 -0.9
FRB Frobisher Bay 61.49 330 LR LR 21 51 24.2
comp=Z,14nm,21.3s,baz=1.0,slow=34
PZH PanZhiHua 62.12 76 P P 21 26 23.2 +1.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.9s
HHC Hu-ho-hao-te 63.07 58 *eP* **P 21 26 30.4 +2.1**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,79nm,5.0s
CMAR Chiang Mai Arr 63.85 85 P P 21 26 36.0 +2.3
comp=Z,0.2nm,0.3s,baz=303,slow=8.4,SNR=1.3
CMAR LR LR 22 01 41.9
comp=Z,16nm,18.1s,baz=305,slow=43
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 63.85 85 P P 21 26 36.0 +2.3
YAK Yakutsk 64.00 31 LR LR 22 01 01.8
comp=Z,16nm,19.2s,baz=293,slow=42
BOSA Boshof 64.11 183 P P 21 26 36.4 +1.3
BOSA IAmb IAmb 21 26 43.5
comp=Z,20nm,1.5s
BOSA Boshof 64.11 183 P P 21 26 37.0 +2.0
comp=Z,3.6nm,1.0s,baz=332,slow=16,SNR=4.0
comp=Z,3.6nm,1.0s
SCHQ Schefferville 64.44 320 P P 21 26 35.7 -1.3
SCHQ Schefferville 64.44 320 P P 21 26 35.9 -1.1
comp=Z,8.0nm,0.6s,baz=59,slow=5.7,SNR=31
comp=Z,8.0nm,0.6s
GBN Guysborough 65.57 309 P P 21 26 43.9 -0.5
BATG Bathurst New B 67.49 313 P P 21 26 56.5 -0.2
SUR Sutherland 68.17 187 P P 21 27 01.9 +0.8
HEH HeiHe 68.61 43 *eP* **P 21 27 05.1 +1.5**
D62A Allapoint, All 69.36 314 P P 21 27 08.2 -0.1
E62A Clayton Lake 69.88 313 P P 21 27 11.4 -0.1
LDAQ Lac Daran 70.18 315 P P 21 27 13.3 -0.1
LDAQ IAmb IAmb 21 27 14.6
comp=Z,12nm,0.8s
KLR Kul'dur 71.54 42 P P 21 27 22.4 +0.9
comp=Z,0.7nm,0.5s,baz=338,slow=10.0,SNR=2.6
comp=Z,0.7nm,0.5s
BILL Bilibino 71.79 15 *i* **P P 21 27 24.3 +1.5**
BILL pmax pmax
comp=Z,7.0nm,1.5s
SEY Seymchan 71.96 24 *i* **P P 21 27 26.4 +2.6**
SEY pmax pmax
comp=Z,6.0nm,1.8s
LBNH Lisbon 72.57 312 P P 21 27 27.4 -0.5
baz=57
C36M Paulatuk 73.25 350 P P 21 27 31.0 -0.3
baz=23
HRV Adam Dziewonsk 73.29 311 P P 21 27 32.2 +0.1
baz=57
A22K Sinclair Lake 73.50 1 P P 21 27 33.3 +0.5
baz=357
MA2 Magadan 73.77 27 LR LR 22 04 10.5
comp=Z,24nm,19.2s,baz=296,slow=39
LONY Lake Ozonia 73.94 314 P P 21 27 36.1 +0.2
baz=56
B22K Teshekpuk Lake 74.19 1 P P 21 27 37.5 +0.6
baz=358
B20K Meade River 74.45 2 P P 21 27 39.1 +0.8
baz=355
USRK Usuriysk Ar. 74.50 47 P P 21 27 40.1 +1.0
comp=Z,2.9nm,0.5s,baz=291,slow=5.2,SNR=14
comp=Z,2.9nm,0.5s
C26K Camden Bay 74.51 358 P P 21 27 39.3 +0.6
baz=5.7
C23K Itkillik River 74.70 360 P P 21 27 40.9 +1.1
baz=0.9
C27K Jago River 74.75 357 P P 21 27 41.3 +1.1
baz=6.7
D28M Stokes Point 74.78 355 P P 21 27 40.6 +0.3
baz=11
C24K Franklin Bluff 74.80 359 P P 21 27 41.0 +0.6
baz=2.5
B21K Ikpikpuk River 74.89 1 P P 21 27 41.8 +0.9
baz=358,SNR=6.8
B18K Kokolik River 74.90 4 P P 21 27 41.7 +0.7
baz=352
D27M Malcolm River 75.00 356 P P 21 27 42.6 +0.9
baz=8.9
D25K Kavik River 75.15 358 P P 21 27 42.7 +0.2
baz=4.4
C21K Knifeblade Rid 75.36 1 P P 21 27 44.5 +0.8
baz=357
INK Inuvik 75.36 353 P P 21 27 43.5 -0.1
baz=15
D24K Happy Valley 75.37 359 P P 21 27 44.6 +0.9
baz=2.4
E28M Babbage River 75.55 355 P P 21 27 45.3 +0.5
baz=10
D23K Nanushuk River 75.57 360 P P 21 27 45.9 +1.0
baz=0.8
C18K Utukok River 75.65 4 P P 21 27 46.0 +0.6
baz=352
E29M Blow River 75.65 355 P P 21 27 45.6 +0.2
baz=12,SNR=12
D22K Ayikyak River 75.66 0 P P 21 27 46.2 +0.8
baz=359
C17K DeLong Mountai 75.71 4 P P 21 27 46.3 +0.6
baz=350
D20K Etivluk River 75.76 2 P P 21 27 46.5 +0.5
baz=356
KSRS Korea Array 75.78 54 P P 21 27 48.0 +1.4
comp=Z,1.6nm,0.5s,baz=310,slow=4.0,SNR=5.2
KSRS LR LR 22 04 52.0
comp=Z,14nm,19.0s,baz=20,slow=39
comp=Z,1.6nm,0.5s
TOLK Tcolik Lake Re 75.89 359 P P 21 27 47.4 +0.6
baz=1.7
D19K Kuna River 75.93 2 P P 21 27 47.7 +0.6
baz=355
E21K Killik River 76.09 1 P P 21 27 48.3 +0.4
baz=358,SNR=5.6
E27K Coleen River 76.09 356 P P 21 27 48.5 +0.6
baz=8.4
BINY Binghamton 76.17 312 P P 21 27 49.0 +0.2
baz=54
F31M Tsiigehtchic 76.22 353 P P 21 27 49.3 +0.7
baz=15
E20K Nigu River 76.23 2 P P 21 27 48.9 +0.2
baz=356
F30M Barrier River 76.25 354 P P 21 27 48.5 -0.3
baz=13
E25K Arctic Village 76.33 358 P P 21 27 49.2 0.0
baz=5.1
E24K Your Creek 76.44 359 P P 21 27 50.4 +0.5
baz=2.6
E23K Chandalar 76.48 359 P P 21 27 50.4 +0.2
baz=1.7
D17K Noatak River 76.48 4 P P 21 27 50.5 +0.5
baz=350
F28M Old Crow 76.55 355 P P 21 27 50.9 +0.4
baz=9.8
F26K Sheenjek River 76.70 357 P P 21 27 51.7 +0.3
baz=6.2
G31M Satah River 76.78 353 P P 21 27 51.6 -0.1
baz=14,SNR=5.0
F25K Christian Rive 76.86 358 P P 21 27 52.8 +0.5
baz=5.0,SNR=5.6
E18K Tukpahlearik C 76.90 4 P P 21 27 53.1 +0.6
baz=352
G30M tAoh Zraii Nji 76.90 354 P P 21 27 53.0 +0.4
baz=13
BMAR Burnt Mountain 76.98 357 P P 21 27 53.8 +0.8
F24K Squaw Lake 76.99 359 P P 21 27 53.6 +0.6
baz=3.1,SNR=7.5
E19K Redstone River 77.00 2 P P 21 27 53.4 +0.3
baz=355
F22K John River 77.04 0 P P 21 27 53.8 +0.6
baz=360
G29M Pine Creek 77.12 355 P P 21 27 53.4 -0.3
baz=11
E17K Hotham Inlet 77.17 4 P P 21 27 54.1 +0.2
baz=352
COLD Coldfoot 77.32 359 P P 21 27 54.9 +0.1
baz=1.2
F21K Alatna River 77.32 1 P P 21 27 55.3 +0.5
baz=358,SNR=6.2
G26K Porcupine Rive 77.43 357 P P 21 27 56.5 +1.1
baz=6.5,SNR=5.0
F20K Avaraart Lake 77.45 2 P P 21 27 56.0 +0.5
baz=357
G27K Doyon Strip 77.46 356 P P 21 27 56.2 +0.6
baz=8.3
EPYK Eagle Plains 77.54 354 P P 21 27 56.2 +0.1
baz=12
F19K Shaleruckik Mo 77.61 3 P P 21 27 56.4 0.0
baz=355
G22K Bettles 77.63 360 P P 21 27 57.2 +0.7
baz=0.1
YKA Yellowknife Ar 77.66 343 P P 21 27 56.0 -0.7
comp=Z,1.8nm,0.6s,baz=29,slow=5.7,SNR=37
comp=Z,1.8nm,0.6s
G25K Bearman Lake 77.70 358 P P 21 27 57.5 +0.6
baz=4.6
F18K Selawik 77.76 3 P P 21 27 57.3 0.0
baz=353
G24K Hadweenzic Riv 77.80 358 P P 21 27 57.5 -0.1
baz=3.5
H29M Whitestone 77.83 355 P P 21 27 57.9 +0.2
baz=11
G23K Bananza Creek 77.83 359 P P 21 27 58.1 +0.3
baz=1.3
F17K Baldwin Pennin 77.84 4 P P 21 27 58.0 +0.3
baz=352
H31M Peel River 77.87 353 P P 21 27 58.1 +0.2
baz=14
G21K Allakaket 78.03 1 P P 21 27 59.2 +0.5
baz=358
H27K Steamboat Moun 78.03 356 P P 21 27 59.1 +0.3
baz=8.4
H25L Birch Creek 78.19 358 P P 21 28 00.0 +0.4
baz=4.8
SSPA Standing Stone 78.25 312 P P 21 28 00.4 -0.1
baz=53
G19K Purcell Mounta 78.32 2 P P 21 28 00.5 +0.2
baz=356
F15K North Star Dit 78.34 5 P P 21 28 00.2 -0.3
baz=349
F14K Arctic Creek 78.43 6 P P 21 28 00.8 -0.1
baz=348
G18K Tagagawik 78.51 3 P P 21 28 01.3 -0.2
baz=354
I30M Mount Dempster 78.64 354 P P 21 28 02.1 -0.2
baz=13,SNR=7.1
I27K Kandik River 78.66 356 P P 21 28 02.5 +0.2
baz=8.3
H22K Ishtalitna Cre 78.66 360 P P 21 28 02.7 +0.4
baz=0.2
H24K Noodor Dome 78.68 358 P P 21 28 02.8 +0.4
baz=3.1
I28M Miner Creek 78.70 355 P P 21 28 02.8 +0.2
baz=9.7
H23K Yukon River 78.72 359 P P 21 28 03.3 +0.6
baz=1.7
G17K Kiwalik Mounta 78.81 4 P P 21 28 03.7 +0.6
baz=352
G16K Koyuk River 78.81 5 P P 21 28 04.0 +0.9
baz=351
H21K Melozitna Rive 78.89 1 P P 21 28 04.6 +1.0
baz=359
H19K Roundabout Mou 78.96 2 P P 21 28 04.3 +0.4
baz=356
H20K Anotleneega Mo 79.03 1 P P 21 28 04.8 +0.5
baz=357
I26K Coal Creek Min 79.04 356 P P 21 28 04.9 +0.6
baz=7.0
H18K Honhosa River 79.27 3 P P 21 28 05.7 +0.1
baz=354
J30M Hart River 79.27 353 P P 21 28 06.2 +0.4
baz=13
I21K Tanana 79.38 0 P P 21 28 06.8 +0.6
baz=360
GLMI Grayling 79.50 318 P P 21 28 07.4 +0.2
baz=50
MLY Manley 79.53 360 P P 21 28 07.9 +0.8
baz=0.7
ILAR Eielson Array 79.72 358 P P 21 28 07.9 -0.2
comp=Z,0.6nm,0.7s,baz=349,slow=3.9,SNR=8.1
comp=Z,0.6nm,0.7s
J26L Joseph Creek 79.86 356 P P 21 28 08.9 -0.1
baz=6.7
HDA Harding Lake 80.09 358 P P 21 28 10.4 +0.3
baz=3.9
K29M Barlow Dome 80.09 354 P P 21 28 10.4 +0.1
baz=12
K27K Chicken 80.25 356 P P 21 28 11.5 +0.6
baz=7.9
J20K Nowinta River 80.37 1 P P 21 28 12.1 +0.6
baz=358
SCRK Sand Creek 80.41 357 P P 21 28 12.2 +0.3

baz=6.3
BPAW Bear Paw Mtn. 80.46 360 P P 21 28 12.1 0.0
baz=0.5
O53A New Philadelph 80.48 313 P P 21 28 13.1 +0.4
baz=51
J19K Poorman 80.52 2 P P 21 28 12.8 +0.4
baz=357
MMPY Sheldon Lake, 80.60 351 P P 21 28 13.4 +0.5
baz=17
K24K Donnelly Dome 80.65 357 P P 21 28 13.4 +0.3
baz=4.8
CHUM Lake Minchumin 80.68 0 P P 21 28 13.4 +0.2
baz=359
MCK McKinley 80.81 359 P P 21 28 14.0 0.0
baz=2.2
L29M L29M 80.87 354 P P 21 28 14.4 +0.1
baz=11
EYMN Ely 80.91 324 P P 21 28 14.7 0.0
baz=46
J18K Innoko River 81.02 2 P P 21 28 15.3 +0.3
baz=356
TRF Thorofare Moun 81.11 359 P P 21 28 15.7 0.0
baz=1.1
CAST Castle Rocks 81.15 0 P P 21 28 15.8 0.0
baz=360
K20K Telida 81.19 1 P P 21 28 15.8 -0.2
baz=358
L27K Beaver Creek, 81.20 356 P P 21 28 15.9 -0.2
baz=8.0
TGTN Hyland Airport 81.21 349 P P 21 28 16.0 -0.1
baz=19
ULM Lac du Bonnet 81.26 328 P P 21 28 15.6 -0.9
comp=Z,5.6nm,0.6s,baz=33,slow=5.5,SNR=15
comp=Z,5.6nm,0.6s
M31M Drury Creek, Y 81.38 352 P P 21 28 17.4 +0.4
baz=14
P52A Corning 81.42 313 P P 21 28 17.8 +0.2
baz=50
DHY Denali Highway 81.44 358 P P 21 28 17.6 +0.1
baz=3.5
ACSO Alum Creek Sta 81.54 314 P P 21 28 18.4 +0.2
baz=50
M29M Somme Creek 81.56 354 P P 21 28 18.2 +0.1
baz=11
PPLA Purkeypile 81.67 0 P P 21 28 18.8 +0.1
baz=360
M26K Nabesna, AK 81.92 356 P P 21 28 20.1 +0.2
baz=7.1
WAT6 Susitna Watana 81.94 358 P P 21 28 20.0 -0.1
baz=3.2
N32M Quiet Lake 82.25 351 P P 21 28 21.4 -0.3
baz=15
L18K Granite Mounta 82.26 2 P P 21 28 22.5 +0.8
baz=356
L17K Donlin 82.28 3 P P 21 28 21.9 +0.1
baz=354
M24K Tolsona, Glenn 82.37 357 P P 21 28 22.2 -0.1
baz=4.5
YUK3 Moose Creek 82.38 355 P P 21 28 22.5 0.0
baz=9.1
N30M Aishikik Lake 82.40 353 P P 21 28 23.0 +0.6
baz=12
SKT Skwentna 82.59 360 P P 21 28 22.8 -0.6
baz=0.1
SCM Sheep Creek Mo 82.68 358 P P 21 28 24.5 +0.6
baz=3.5
M20K Styx River 82.68 1 P P 21 28 24.5 +0.6
baz=359
SML Sawmill 82.73 358 P P 21 28 24.1 -0.1
baz=2.7
LIRD Liard River Hi 82.84 347 P P 21 28 25.2 +0.5
baz=21
M18K Stony River 83.02 2 P P 21 28 25.8 +0.3
baz=357
HYT Haines Junctio 83.06 353 P P 21 28 26.4 +0.4
baz=12
SUA Susitna One 83.11 360 P P 21 28 26.2 0.0
baz=0.7
P33M Teslin, Yukon 83.12 351 P P 21 28 26.5 +0.3
baz=15
KNK Knik Glacier 83.13 358 P P 21 28 26.7 +0.5
baz=2.6
TOAD Toad River Com 83.21 347 P P 21 28 26.8 +0.2
baz=21
CTG Chitna Glacier 83.25 355 P P 21 28 27.0 +0.1
baz=8.4
O28M Mount Upton 83.35 354 P P 21 28 27.8 +0.1
baz=9.3
M16K Timber Creek 83.36 4 P P 21 28 27.9 +0.5
baz=354
RC01 Rabbit Creek A 83.47 359 P P 21 28 28.1 +0.1
baz=1.6
R33M Jennings River 83.65 350 P P 21 28 29.7 +0.6
baz=17
N19K Bonanza Creek 83.73 1 P P 21 28 29.9 +0.6
baz=358
JFWS Jewell Farm 83.79 320 P P 21 28 29.4 -0.5
baz=46
SFIN Lafayette 83.81 316 P P 21 28 29.9 -0.1
baz=48
TKL Tuckaleechee C 84.98 311 LR LR 22 08 06.8
comp=Z,18nm,18.4s,baz=106,slow=37
GOGA Godfrey 86.26 309 P P 21 28 42.5 +0.1
baz=49
ECSD EROS Data Cent 86.42 324 P P 21 28 42.9 -0.2
baz=42
WVT Waverly 87.11 313 P P 21 28 46.0 -0.5
baz=47
CCM Cathedral Cave 87.74 317 P P 21 28 49.7 +0.2
CCM Cathedral Cave 87.74 317 P P 21 28 49.8 +0.3
baz=45
CCM Cathedral Cave 87.74 317 P P 21 28 49.7 +0.2
CCM pmax pmax
comp=Z,24nm,0.6s
BDFB Brasilia 88.41 250 P P 21 28 54.7 +1.7
comp=Z,1.8nm,0.4s,baz=40,slow=9.0,SNR=4.9
BDFB LR LR 22 08 30.3
comp=Z,45nm,18.4s,baz=179,slow=36
comp=Z,1.8nm,0.4s
EGMT Eagleton 88.60 333 P P 21 28 53.8 +0.2
baz=33
LRAL Lakeview Retre 88.71 311 P P 21 28 54.3 +0.1
baz=47
MSO Missoula 91.10 335 P P 21 29 05.1 -0.2
baz=30
BOZ Bozeman (W) 91.34 333 P P 21 29 06.3 -0.2
baz=31
MIAR Mount Ida 91.56 316 P P 21 29 07.3 -0.1
baz=44
CBKS Cedar Bluff 91.68 322 P P 21 29 07.7 -0.4
baz=40
PDAR Pinedale Array 92.94 330 LR LR 22 13 24.9
comp=Z,18nm,18.1s,baz=79,slow=37
WMOK Wichita Mounta 94.30 319 P P 21 29 19.5 -0.6
baz=40
ELK Elko 96.86 333 LR LR 22 19 09.0
comp=Z,17nm,19.1s,slow=39
ANMO Albuquerque 98.03 324 LR LR 22 14 47.6
comp=Z,18nm,18.8s,baz=219,slow=36
MNTX Cornudas Mount 100.11 321 P Pdif 21 29 45.2 -1.2
baz=36
BC3 Big Chuckawall 103.12 330 P Pdif 21 29 58.4 -1.5
baz=29

ROM 02 21:16:10.6±0.1, 43°.037N±0°.004×13°.045E±0°.004, h9km, ML0.9/6, 3C-5D, Error ellipse: s-maj=0.4km s-min=0.2km az=318.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**90**	P	P	Pg	21 16 12.5	+0.2
FDMO				S	S	Sg	21 16 13.5	-0.1
T1219	**Muccia, Frazio**	**0.03**	**305**	P	P	Pg	21 16 12.5	+0.1
T1219				S	S	Sg	21 16 13.6	0.0
T1219					AML	AML		
	comp=E,160μm,0.3s							
T1219					AML	AML		
	comp=N,126μm,0.3s							
T1219					AML	AML		
	comp=E,160μm,0.3s							
T1219					AML	AML		
	comp=N,125μm,0.3s							
T1220	**Camerino, Fraz**	**0.08**	**24**	⇑P	P	Pg	21 16 13.3	+0.5
T1220					S	Sg	21 16 15.1	+0.6
T1220					AML	AML		
	comp=E,235μm,0.5s							
T1220					AML	AML		
	comp=N,223μm,0.5s							
MML1	**Montelago di S**	**0.09**	**325**	⇓P	P	Pg	21 16 13.5	+0.4
MML1				S	S	Sg	21 16 15.4	+0.5
MML1				AML	AML			
	comp=N,100μm,0.1s							
MML1				AML	AML			
	comp=E,57μm,0.1s							
MML1				AML	AML			
	comp=N,100μm,0.1s							
CESI	**CESI - Serrava**	**0.11**	**253**	P	P	Pg	21 16 13.9	+0.6
CESI				S	S	Sg	21 16 16.0	+0.9
CESI				AML	AML			
	comp=E,68μm,0.9s							
CESI				AML	AML			
	comp=N,55μm,0.1s							
CSP1	**Cessapalombo**	**0.13**	**65**	⇓P	P	Pg	21 16 14.2	+0.6
CSP1				S	S	Sg	21 16 16.7	+0.9
PF6	**Pievefavera**	**0.16**	**44**	⇓P	P	Pg	21 16 14.5	+0.5
PF6				S	S	Sg	21 16 17.2	+0.8
T1221	**Campello sul C**	**0.23**	**220**	⇑P	P	Pg	21 16 16.0	+0.7
T1221				S	S	Sg	21 16 19.8	+1.4
SNTG	**Esanatoglia**	**0.23**	**341**	⇑P	P	Pg	21 16 15.1	-0.3
SNTG				S	S	Sg	21 16 20.0	+1.5
MMO1	**Montemonaco**	**0.25**	**123**	⇓P	P	Pg	21 16 16.5	+0.9
MMO1				S	S	Sg	21 16 20.5	+1.5
EL6	**Elcito**	**0.29**	**8**	⇓P	P	Pg	21 16 17.2	+0.6
EL6				S	S	Sb	21 16 22.3	-1.0
PP3	**Marolino**	**0.54**	**50**	S	S	Sg	21 16 27.4	-0.7

TAP ***02*** *21:23:24.6, 24°.30N×121°.99E, h52km, ML3.9, B*
ASIES ***02*** *21:23:24.6, 24°.30N×121°.99E, h52km, ML3.9, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_rr0.51; $M_{\theta\theta}$0.66; $M_{\phi\phi}$-1.17; $M_{r\theta}$0.55; $M_{\theta\phi}$-0.25; $M_{r\phi}$0.33; Fault plane solution: $M_0$1.22897×10^{21} NP1:ϕ_s43.9400°, δ72.34000°, λ138.45000°. NP2:ϕ_s148.99000°, δ50.80000°, λ23.04000°. Principal axes: T Plg41.4050°, Azm358.8160°; N Plg45.4900°, Azm205.0530°; P Plg13.4410°, Azm100.9820°;*
JMA ***02*** *21:23:24.3±0.1, 24°.2N±0°.4×122°.0E±0°.3, h54km±1km, MV3.4/18, TAIWAN REGION*
ISC 02 21:23:24.6±1.2, 24°.29N±0°.02×122°.03E±0°.02, h52km±4km, n182, σ1$49/350, 14C-28D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.23**	**56**	P	P	Pn	21 23 33.9	+0.7
	baz=54							
EOS2					S	Sn	21 23 40.7	+1.3
	baz=54							
EHP	**Heping Village**	**0.26**	**274**	P	P	Pn	21 23 33.6	-0.1
	baz=271							
EHP					S	Sn	21 23 40.4	+0.2
	baz=271							
EAHA	**Aohua**	**0.26**	**278**	⇓P	P	Pn	21 23 33.4	-0.2
	baz=277							
EAHA					S	Sn	21 23 40.1	0.0
	baz=277							
EOS3	**EOS3**	**0.27**	**91**	P	P	Pn	21 23 34.4	+0.8
	baz=94							
EOS3					S	Sn	21 23 41.3	+1.4
	baz=94							
EWUT	**Wuta**	**0.27**	**304**	P	P	Pn	21 23 33.7	-0.1
	baz=312							
EWUT					S	Sn	21 23 40.6	+0.3
	baz=312							
ENA	**Nanau**	**0.29**	**298**	⇓*i*P		Pn	21 23 33.9	-0.1
	baz=304							
ENA				*i*	S	Sn	21 23 40.8	+0.2
	baz=304							
EOS4	**EOS4**	**0.32**	**122**	P	P	Pn	21 23 34.0	+0.4
	baz=121							
EOS4					S	Sn	21 23 40.9	+0.7
	baz=121							
TWC	**Suao**	**0.35**	**333**	⇓*i*P		Pn	21 23 34.5	0.0
	baz=343							
TWC				*i*	S	Sn	21 23 41.3	-0.2
	baz=343							
ETL	**Fush Village**	**0.39**	**250**	⇓P	P	Pn	21 23 34.5	-0.4
	baz=247							
ETL					S	Sn	21 23 42.1	-0.1
	baz=247							
NACB	**Ninganchiao**	**0.41**	**254**	P	P	Pn	21 23 34.6	-0.5
NACB	**Ninganchiao**	**0.41**	**254**	⇓P	P	Pn	21 23 34.5	-0.5
	baz=247							
NACB					S	Sn	21 23 42.1	-0.4
	baz=247							
NDS	**Dongshan**	**0.44**	**320**	⇓P	P	Pn	21 23 35.5	+0.1
	baz=323							
NDS					S	Sn	21 23 43.3	+0.2
	baz=323							
TWD	**Chiawan**	**0.45**	**242**	⇑*i*P		Pn	21 23 35.1	-0.3
	baz=231							
TWD				*i*	S	Sn	21 23 43.1	0.0
	baz=231							
HWA	**Hwalien**	**0.49**	**231**	⇑*i*P		Pn	21 23 36.1	+0.1
	baz=226							
HWA				*i*	S	Sn	21 23 45.4	+1.3
	baz=226							
ETLH	**Xiulin Townshi**	**0.50**	**261**	⇓P	P	Pn	21 23 35.9	-0.2
	baz=258							
ETLH					S	Sn	21 23 44.3	-0.2
	baz=258							
LATG	**Datong**	**0.52**	**298**	⇓P	P	Pn	21 23 36.2	-0.1
	baz=299							
LATG					S	Sn	21 23 44.9	+0.2
	baz=299							
ILA	**Ilan**	**0.54**	**332**	⇓*i*P		Pn	21 23 36.9	+0.5
	baz=332							
ILA				*i*	S	Sn	21 23 45.8	+0.8
	baz=332							
TWE	**Neicheng**	**0.54**	**323**	⇓*i*P		Pn	21 23 36.7	+0.2
	baz=326							
TWE				*i*	S	Sn	21 23 45.3	+0.3
	baz=326							
ENTT	**Nioudou**	**0.54**	**310**	⇓*i*P		Pn	21 23 36.7	+0.1
	baz=311							
ENTT				*i*	S	Sn	21 23 45.5	+0.4
	baz=311							
EGS		**0.56**	**351**	*i*	P	Pn	21 23 37.4	+0.6
	baz=355							
EGS					S	Sn	21 23 46.7	+1.3
	baz=355							
NDT	**Datong Townshi**	**0.56**	**304**	⇓P	P	Pn	21 23 36.8	0.0
	baz=302							
NDT					S	Sn	21 23 45.7	+0.1
	baz=302							
TEYL	**Yanliau Villag**	**0.57**	**223**	P	P	Pn	21 23 36.6	-0.3
	baz=221							
TEYL					S	Sn	21 23 46.2	+0.4
	baz=221							
ETM	**Tongmen**	**0.58**	**236**	⇑P	P	Pn	21 23 36.8	-0.2
	baz=245							
ETM					S	Sn	21 23 46.1	+0.1
	baz=245							
NTC	**Toucheng**	**0.59**	**342**	P	P	Pn	21 23 38.1	+1.0
	baz=352							
NTC					S	Sn	21 23 47.4	+1.3
	baz=352							
NNSB	**Datong**	**0.60**	**283**	⇓P	P	Pn	21 23 37.2	-0.2
	baz=283							
NNSB					S	Sn	21 23 46.9	+0.3
	baz=283							
NNSH	**Datong**	**0.60**	**283**	P	P	Pn	21 23 37.3	-0.1
	baz=283							
NNSH					S	Sn	21 23 46.4	-0.2
	baz=283							
NNS	**Nan Shan**	**0.61**	**284**	⇓*i*P		Pn	21 23 37.3	-0.3
	baz=284							
NNS				*i*	S	Sn	21 23 46.8	0.0
	baz=284							
FUSB	**Fushanzhiwuyua**	**0.61**	**320**	⇓P	P	Pn	21 23 37.7	+0.2
	baz=314							
FUSB					S	Sn	21 23 47.3	+0.5
	baz=314							
LXIB	**Xiulin Townshi**	**0.62**	**244**	P	P	Pn	21 23 37.2	-0.5
	baz=242							
LXIB					S	Sn	21 23 46.7	-0.3
	baz=242							
SHUL	**Shoufeng**	**0.66**	**220**	⇑P	P	Pn	21 23 37.9	0.0
	baz=207							
SHUL					S	Sn	21 23 48.5	+1.0
	baz=207							
NWLT	**Wulai**	**0.68**	**316**	⇓P	P	Pn	21 23 38.5	+0.2
	baz=308							
NWLT					S	Sn	21 23 48.0	-0.2
	baz=308							
YHNB	**Yeheng**	**0.70**	**303**	P	P	Pn	21 23 38.7	+0.1
YHNB	**Yeheng**	**0.70**	**303**	⇓P	P	Pn	21 23 38.7	+0.1
	baz=303							
YHNB					S	Sn	21 23 48.5	-0.2
	baz=303							
WHF	**Hehuan Shan**	**0.71**	**258**	⇓*i*P		Pn	21 23 38.9	-0.2
	baz=256							
WHF				*i*	S	Sn	21 23 49.2	-0.3
	baz=256							
FUSS	**Fushou**	**0.71**	**267**	⇓P	P	Pn	21 23 39.0	+0.1
	baz=265							
FUSS					S	Sn	21 23 49.5	+0.2
	baz=265							
TWB1	**Santiao Chiao**	**0.71**	**357**	⇑*i*P		Pn	21 23 38.5	-0.1
	baz=12							
TWB1					S	Sn	21 23 48.8	-0.1
	baz=12							
NSK	**Sanguang**	**0.72**	**302**	⇓*i*P		Pn	21 23 38.8	0.0
	baz=303							
NSK				*i*	S	Sn	21 23 49.0	-0.1
	baz=303							
ESL	**Shilin**	**0.72**	**229**	*i*	P	Pn	21 23 38.3	-0.4
	baz=236							
ESL				*i*	S	Sn	21 23 49.1	+0.1
	baz=236							
TWT	**Tachien**	**0.78**	**267**	⇓*i*P		Pn	21 23 40.2	+0.5
	baz=266							
TWT				*i*	S	Sn	21 23 51.1	+0.5
	baz=266							
TDCB	**Techi**	**0.79**	**267**	⇓P	P	Pn	21 23 40.2	+0.4
	baz=266							
TDCB					S	Sn	21 23 51.0	+0.1
	baz=266							
NWF	**Wu-fen Shan**	**0.81**	**344**	⇑*i*P		Pn	21 23 40.3	+0.3
	baz=346							
NWF					S	Sn	21 23 51.1	0.0
	baz=346							
WFSB	**Wu-fen Shan**	**0.81**	**344**	⇑P	P	Pn	21 23 40.3	+0.4
	baz=346							
WFSB					*e*S	Sn	21 23 52.3	+1.3
	baz=346							
NHDH	**Xindian Distri**	**0.81**	**326**	P	P	Pn	21 23 40.4	+0.5
	baz=327							
NHDH					S	Sn	21 23 51.9	+0.8
	baz=327							
CHGB	**Renai**	**0.81**	**254**	⇓P	P	Pn	21 23 40.3	+0.2
	baz=243							
CHGB					S	Sn	21 23 51.3	-0.1
	baz=243							
SXI1	**Grass Mountain**	**0.81**	**350**	⇑P	P	Pn	21 23 39.9	-0.1
	baz=3.0							
SXI1					S	Sn	21 23 53.5	+2.2
	baz=3.0							
WARBT	**Fenglin Townsh**	**0.82**	**226**	⇑P	P	Pn	21 23 39.4	-0.7
	baz=233							
WARBT					S	Sn	21 23 50.2	-1.1
	baz=233							
EGFH	**Guangfu**	**0.83**	**222**	P	P	Pn	21 23 39.9	-0.3
	baz=229							
EGFH					S	Sn	21 23 50.8	-0.7
	baz=229							
TATO	**Taipei**	**0.84**	**324**	P	P	Pn	21 23 40.6	+0.3
TATO	**Taipei**	**0.84**	**324**	P	P	Pn	21 23 40.7	+0.4
	baz=326							
TATO					S	Sn	21 23 52.5	+0.8
	baz=326							
OWD	**Renai**	**0.84**	**247**	P	P	Pn	21 23 40.6	+0.1
	baz=238							
OWD					S	Sn	21 23 51.9	-0.2
	baz=238							
NHY	**Taipei**	**0.85**	**331**	P	P	Pn	21 23 41.3	+0.8
	baz=340							
NHY					S	Sn	21 23 53.4	+1.3
	baz=340							
JYNG	**Yonagunijimaku**	**0.85**	**79**	P	P	Pn	21 23 40.8	+0.3
JYNG					S	Sn	21 23 52.5	+0.4
BACT	**New Taipei Cit**	**0.88**	**323**	*e*P	P	Pn	21 23 40.1	-0.8
	baz=324							
BACT					S	Sn	21 23 53.9	+1.2
	baz=324							
WUSB	**Renai**	**0.88**	**250**	⇓P	P	Pn	21 23 41.2	+0.2
	baz=242							
WUSB					S	Sn	21 23 53.0	0.0
	baz=242							
TAP	**Taipei**	**0.88**	**328**	*i* P	P	Pn	21 23 41.3	+0.4
	baz=329							
TAP				*i*	S	Sn	21 23 53.6	+0.9
	baz=329							
TNOU	**National Taiwa**	**0.89**	**345**	P	P	Pn	21 23 40.8	-0.1
	baz=347							
TNOU					S	Sn	21 23 53.0	+0.2
	baz=347							
NFF	**Wufeng Townshi**	**0.89**	**292**	P	P	Pn	21 23 41.5	+0.4
	baz=292							
NFF					S	Sn	21 23 54.2	+1.0
	baz=292							
YOJ	**Yonaguni jima**	**0.91**	**79**	P	P	Pn	21 23 41.7	+0.4
YOJ	**Yonaguni jima**	**0.91**	**79**	P	P	Pn	21 23 41.6	+0.3
YOJ					*e*S	Sn	21 23 53.9	+0.4
YOJ	**Yonaguni jima**	**0.91**	**79**	P	P	Pn	21 23 41.5	+0.2
	baz=81							
YOJ					S	Sn	21 23 54.2	+0.7
	baz=81							
YM01	**YM01**	**0.95**	**334**	⇑P	P	Pn	21 23 42.1	+0.3
	baz=335							
YM01					S	Sn	21 23 54.9	+0.6
	baz=335							
NJD	**Zhudong**	**0.96**	**298**	P	P	Pn	21 23 43.0	+1.1
	baz=298							
NJD					S	Sn	21 23 56.2	+1.6
	baz=298							
HGSD	**Ruisui**	**0.97**	**215**	⇑P	P	Pn	21 23 41.7	-0.3
	baz=202							
HGSD					S	Sn	21 23 55.6	+0.9
	baz=202							
NTY	**Taoyuan**	**0.97**	**317**	P	P	Pn	21 23 42.5	+0.5
	baz=324							
NTY					S	Sn	21 23 56.1	+1.3
	baz=324							
VWDT	**VWDT**	**0.97**	**237**	P	P	Pn	21 23 42.5	+0.5
	baz=227							
VWDT					S	Sn	21 23 55.2	+0.4
	baz=227							
YM08	**YM08**	**0.98**	**336**	P	P	Pn	21 23 42.0	-0.2
	baz=337							
YM08					S	Sn	21 23 55.2	+0.1
	baz=337							
TWS1	**Kuangyinshan**	**0.98**	**326**	*i* P	P	Pn	21 23 42.6	+0.5
	baz=327							
TWS1				*i*	S	Sn	21 23 56.1	+1.1
	baz=327							
WHP	**Taichung City**	**0.98**	**269**	⇓P	P	Pn	21 23 44.2	+1.9
	baz=264							
WHP					S	Sn	21 23 57.1	+1.8
	baz=264							
LIOB	**Emei**	**0.99**	**291**	⇓P	P	Pn	21 23 43.2	+0.9
	baz=291							
LIOB					S	Sn	21 23 56.9	+1.6
	baz=291							
NSTT	**Nanjuang**	**0.99**	**290**	⇓*i*P		Pn	21 23 43.1	+0.8
	baz=290							
NSTT				*i*	S	Sn	21 23 56.4	+1.0
	baz=290							
ANP	**Anpu**	**1.00**	**333**	*i* P	P	Pn	21 23 42.5	-0.1
	baz=334							
ANP				*i*	S	Sn	21 23 56.4	+0.7
	baz=334							
EHYH	**Wanrong**	**1.01**	**218**	P	P	Pn	21 23 42.0	-0.6
	baz=227							
EHYH					S	Sn	21 23 55.0	-0.7
	baz=227							
EHY	**Hungye**	**1.01**	**220**	⇑*i*P		Pn	21 23 41.8	-0.8
	baz=227							
EHY					S	Sn	21 23 54.6	-1.2
	baz=227							
NTST	**Danshui**	**1.01**	**329**	P	P	Pn	21 23 43.2	+0.6
	baz=339							
NTST					S	Sn	21 23 56.8	+0.9
	baz=339							
NCU	**National Centr**	**1.02**	**312**	S	S	Sn	21 23 55.8	-0.2
	baz=312							
NCUH	**Zhongli**	**1.02**	**312**	P	P	Pn	21 23 43.0	+0.3
	baz=312							
NCUH					S	Sn	21 23 56.7	+0.7
	baz=312							
WCS	**Beigang Elemen**	**1.04**	**257**	P	P	Pn	21 23 43.9	+0.9
	baz=256							

WCS				S	Sn	21 23 58.1	+1.5	
	baz=256							
TWY	**Chenhua**	**1.05 339**	*i*	P	**Pn**	**21 23 43.7**	**+0.5**	
TWY	baz=340		*i*	S	**Sn**	**21 23 57.6**	**+0.7**	
SBCB	**Hsinchu**	**1.07 298**		P	**Pn**	**21 23 44.1**	**+0.7**	
SBCB	baz=310			S	**Sn**	**21 23 58.3**	**+1.0**	
HSN	**Hsinchu**	**1.09 298**	*i*	P	**Pn**	**21 23 44.1**	**+0.5**	
HSN	baz=313			S	**Sn**	**21 23 58.5**	**+0.8**	
SSLB	**Suanglung**	**1.10 243**		P	**Pn**	**21 23 44.1**	**+0.2**	
SSLB	**Suanglung**	**1.10 243**	⇓	P	**Pn**	**21 23 44.0**	**+0.2**	
SSLB	baz=236			S	**Sn**	**21 23 58.5**	**+0.5**	
ECBN	**Changbin**	**1.10 209**		P	**Pn**	**21 23 43.5**	**-0.3**	
ECBN	baz=196			S	**Sn**	**21 23 57.5**	**-0.6**	
SMLT	**Sun Moon Lake**	**1.11 249**	*i*	P	**Pn**	**21 23 44.5**	**+0.6**	
SMLT	baz=240		*i*	S	**Sn**	**21 23 58.4**	**+0.1**	
YULB	**Yu-li**	**1.12 217**		P	**Pn**	**21 23 43.2**	**-0.8**	
YULB	**Yu-li**	**1.12 217**		P	**Pn**	**21 23 43.2**	**-0.8**	
YULB	baz=224			S	**Sn**	**21 23 56.9**	**-1.5**	
NJN	**Zhunan**	**1.12 291**		P	**Pn**	**21 23 45.3**	**+1.3**	
NJN	baz=291			S	**Sn**	**21 24 00.3**	**+1.9**	
NHW	**Xinwu Township**	**1.14 309**	*e*	P	**Pn**	**21 23 43.3**	**-1.0**	
NHW	baz=309			S	**Sn**	**21 23 59.5**	**+0.6**	
EYUL	**Yuli**	**1.14 215**		P	**Pn**	**21 23 44.0**	**-0.3**	
EYUL	baz=223			S	**Sn**	**21 23 59.1**	**+0.2**	
TWQ1	**Liyutan**	**1.14 273**	*i*	P	**Pn**	**21 23 45.5**	**+1.2**	
TWQ1	baz=272		*i*	S	**Sn**	**21 24 01.4**	**+2.4**	
TWF1	**Yuli**	**1.15 216**	⇑	*i*P	**Pn**	**21 23 43.7**	**-0.7**	
TWF1	baz=222			S	**Sn**	**21 23 58.5**	**-0.6**	
NMLH	**Miaoli**	**1.15 283**		P	**Pn**	**21 23 45.5**	**+1.0**	
NMLH	baz=282			S	**Sn**	**21 24 00.4**	**+1.2**	
NSY	**Sanyi**	**1.16 276**	*i*	P	**Pn**	**21 23 46.0**	**+1.4**	
NSY	baz=276		*i*	S	**Sn**	**21 24 01.8**	**+2.4**	
WHYT	**Xinyi Township**	**1.23 241**		P	**Pn**	**21 23 46.8**	**+1.3**	
WHYT	baz=234			S	**Sn**	**21 24 02.1**	**+1.0**	
CHKH	**Chenggong**	**1.24 208**		P	**Pn**	**21 23 44.8**	**-0.8**	
CHKH	baz=193			S	**Sn**	**21 23 59.8**	**-1.5**	
WWF	**Wufeng**	**1.24 259**		P	**Pn**	**21 23 47.3**	**+1.7**	
WWF	baz=271			S	**Sn**	**21 24 04.2**	**+3.0**	
WDJ	**Dajia District**	**1.27 273**		P	**Pn**	**21 23 47.2**	**+1.2**	
WDJ	baz=272			S	**Sn**	**21 24 04.0**	**+2.0**	
WJS	**Zhushan**	**1.27 249**		P	**Pn**	**21 23 47.5**	**+1.4**	
WJS	baz=238			S	**Sn**	**21 24 05.3**	**+3.1**	
WNT1	**Nantou City**	**1.29 253**		P	**Pn**	**21 23 47.0**	**+0.7**	
WNT1	baz=251			S	**Sn**	**21 24 06.0**	**+3.5**	
WNT	**Mingjian**	**1.29 252**	*i*	P	**Pn**	**21 23 47.9**	**+1.5**	
WNT	baz=250		*i*	S	**Sn**	**21 24 05.5**	**+2.9**	
CHKT	**Chengkung**	**1.33 207**	⇑	*i*P	**Pn**	**21 23 46.0**	**-0.9**	
CHKT	baz=194		*i*	S	**Sn**	**21 24 01.7**	**-1.8**	
PCYT	**Pengchaiyu**	**1.33 2**		P	**Pn**	**21 23 46.9**	**0.0**	
PCYT	baz=3.0		*e*	S	**Sn**	**21 24 03.8**	**+0.2**	
WCHH	**Zhanghua**	**1.36 261**		P	**Pn**	**21 23 48.5**	**+1.3**	
WCHH	baz=271			S	**Sn**	**21 24 06.8**	**+2.6**	
ALS	**Alishan**	**1.36 235**	*i*	P	**Pn**	**21 23 48.8**	**+1.2**	
ALS	baz=233		*i*	S	**Sn**	**21 24 05.7**	**+1.0**	
WYL	**Yuanlin Townsh**	**1.36 256**		P	**Pn**	**21 23 48.9**	**+1.6**	
WYL	baz=244			S	**Sn**	**21 24 07.4**	**+3.2**	
EHD	**Haiduan**	**1.36 214**		P	**Pn**	**21 23 46.5**	**-0.9**	
EHD	baz=219		*e*	S	**Sn**	**21 24 02.4**	**-1.9**	
ECS	**Chishang**	**1.40 212**		P	**Pn**	**21 23 48.1**	**+0.2**	
ECS	baz=209			S	**Sn**	**21 24 05.3**	**+0.1**	
ELDTW	**Lidau**	**1.43 220**	*i*	P	**Pn**	**21 23 48.1**	**-0.3**	
ELDTW	baz=210			S	**Sn**	**21 24 06.3**	**0.0**	
WGK	**Gukeng**	**1.47 246**	*i*	P	**Pn**	**21 23 50.7**	**+1.9**	
WGK	baz=244		*i*	S	**Sn**	**21 24 10.1**	**+3.3**	
EDH	**Donghe**	**1.47 207**		P	**Pn**	**21 23 48.0**	**-0.8**	
EDH	baz=195			S	**Sn**	**21 24 05.5**	**-1.4**	
WDLH	**Douliu**	**1.49 247**		P	**Pn**	**21 23 50.7**	**+1.7**	
WDLH	baz=245			S	**Sn**	**21 24 10.7**	**+3.4**	
WCKO	**Fanlu**	**1.55 237**		P	**Pn**	**21 23 52.0**	**+2.0**	
WCKO	baz=235			S	**Sn**	**21 24 12.1**	**+3.1**	
WRL	**Guolierlin Hig**	**1.56 256**		P	**Pn**	**21 23 50.7**	**+0.7**	
WRL	baz=255			S	**Sn**	**21 24 10.3**	**+1.3**	
IRIF	**Iriomote-Funau**	**1.56 88**		P	**Pn**	**21 23 50.0**	**+0.1**	
IRIF			*e*	S	**Sn**	**21 24 09.2**	**+0.2**	
RLNB	**Erlin**	**1.57 256**		P	**Pn**	**21 23 51.2**	**+1.0**	
RLNB	baz=254			S	**Sn**	**21 24 11.3**	**+1.9**	
STYH	**Taoyuan**	**1.60 226**		P	**Pn**	**21 23 51.6**	**+1.1**	
STYH	baz=224			S	**Sn**	**21 24 12.7**	**+2.7**	
LONT	**Longtian**	**1.60 211**		P	**Pn**	**21 23 49.8**	**-0.8**	
LONT	baz=208			S	**Sn**	**21 24 09.7**	**-0.6**	
CHN2	**Minshiung**	**1.61 242**	*i*	P	**Pn**	**21 23 53.4**	**+2.8**	
CHN2	baz=231		*i*	S	**Sn**	**21 24 14.4**	**+4.2**	
CHN4	**Tsaushan**	**1.61 235**	*i*	P	**Pn**	**21 23 52.5**	**+1.8**	
CHN4	baz=223		*i*	S	**Sn**	**21 24 13.7**	**+3.3**	
WTK	**Tuku**	**1.61 248**		P	**Pn**	**21 23 52.3**	**+1.6**	
WTK	baz=247			S	**Sn**	**21 24 13.5**	**+3.1**	
TPUB	**Ta-pu**	**1.61 233**		P	**Pn**	**21 23 52.4**	**+1.6**	
	baz=221							
TPUB				S	**Sn**	**21 24 13.2**	**+2.8**	
	baz=221							
STYT	**Tauyuan**	**1.62 226**	*i*	P	**Pn**	**21 23 48.5**	**-2.3**	
STYT	baz=224		*i*	S	**Sn**	**21 24 11.9**	**+1.3**	
HATJ	**Hateruma jima**	**1.64 98**		P	**Pn**	**21 23 52.1**	**+1.0**	
HATJ			*e*	S	**Sn**	**21 24 12.2**	**+1.1**	
WTCT	**Ta-ch'eng**	**1.65 255**	*i*	P	**Pn**	**21 23 50.2**	**-1.1**	
WTCT	baz=254			S	**Sn**	**21 24 13.4**	**+2.1**	
WTP	**Ta-pu**	**1.66 231**	*i*	P	**Pn**	**21 23 52.9**	**+1.5**	
WTP	baz=229		*i*	S	**Sn**	**21 24 13.8**	**+2.1**	
CHY	**Chiayi**	**1.67 242**	*e*	P	**Pn**	**21 23 52.0**	**+0.6**	
CHY	baz=230			S	**Sn**	**21 24 15.1**	**+3.5**	
TWGBT	**Beinan**	**1.70 211**		P	**Pn**	**21 23 51.6**	**-0.4**	
TWGBT	**Beinan**	**1.70 211**		P	**Pn**	**21 23 51.0**	**-1.0**	
TWGBT	baz=208			S	**Sn**	**21 24 11.3**	**-1.3**	
TWG	**Pinlang**	**1.71 211**	*i*	P	**Pn**	**21 23 51.2**	**-0.8**	
TWG	baz=208		*i*	S	**Sn**	**21 24 10.8**	**-1.8**	
CHN1	**Nanshi**	**1.76 232**	*i*	P	**Pn**	**21 23 54.6**	**+1.9**	
CHN1	baz=229		*i*	S	**Sn**	**21 24 16.7**	**+2.7**	
SNST	**Tainan City**	**1.76 233**		P	**Pn**	**21 23 53.6**	**+0.8**	
SNST	baz=231			S	**Sn**	**21 24 16.8**	**+2.8**	
WSF	**Szhu**	**1.77 249**	*e*	P	**Pn**	**21 23 52.6**	**-0.3**	
WSF	baz=260			S	**Sn**	**21 24 16.9**	**+2.6**	
SGST	**Jiashian**	**1.79 228**	*i*	P	**Pn**	**21 23 54.1**	**+0.9**	
SGST	baz=216		*i*	S	**Sn**	**21 24 17.4**	**+2.7**	
SLGT	**Liugui**	**1.81 225**		P	**Pn**	**21 23 55.2**	**+1.8**	
SLGT	baz=222			S	**Sn**	**21 24 17.6**	**+2.4**	
JKRS	**Kuro-shima**	**1.81 91**		P	**Pn**	**21 23 54.2**	**+0.7**	
JKRS			*e*	S	**Sn**	**21 24 15.8**	**+0.6**	
WSL	**Shuilin Townsh**	**1.81 245**		P	**Pn**	**21 23 55.0**	**+1.5**	
WSL	baz=257			S	**Sn**	**21 24 18.8**	**+3.4**	
ICHU	**Yijhu**	**1.85 240**		P	**Pn**	**21 23 56.0**	**+2.1**	
ICHU	baz=226			S	**Sn**	**21 24 18.7**	**+2.6**	
CHN8	**Yiju**	**1.91 241**	*i*	P	**Pn**	**21 23 56.4**	**+1.6**	
CHN8	baz=228		*i*	S	**Sn**	**21 24 20.7**	**+3.1**	
JIJ	**Ishigaki jima**	**1.93 87**		P	**Pn**	**21 23 55.0**	**0.0**	
JIJ				S	**Sn**	**21 24 18.4**	**+0.2**	
CHN3	**Shinhua**	**1.94 232**	*e*	P	**Pn**	**21 23 57.8**	**+2.5**	
CHN3	baz=229		*i*	S	**Sn**	**21 24 22.3**	**+3.8**	
ECL	**Taimali**	**1.95 210**		P	**Pn**	**21 23 54.4**	**-0.9**	
ECL	baz=207			S	**Sn**	**21 24 18.2**	**-0.5**	
SSHA	**Shanhua**	**1.96 235**	*e*	P	**Pn**	**21 23 57.5**	**+2.0**	
SSHA	baz=232			S	**Sn**	**21 24 22.3**	**+3.3**	
SCST	**Cishan**	**1.98 225**	*e*	P	**Pn**	**21 23 57.5**	**+1.7**	
SCST	baz=223			S	**Sn**	**21 24 23.4**	**+4.0**	
SHHT	**Tainan City**	**1.99 231**		P	**Pn**	**21 23 59.6**	**+3.7**	
SHHT	baz=241			S	**Sn**	**21 24 24.6**	**+5.0**	
SSD	**Sandimen**	**2.00 220**	*i*	P	**Pn**	**21 23 57.3**	**+1.2**	
SSD	baz=217		*i*	S	**Sn**	**21 24 22.3**	**+2.4**	
SCLT	**Jiali**	**2.01 237**	*e*	P	**Pn**	**21 23 57.9**	**+1.8**	
SCLT	baz=234		*i*	S	**Sn**	**21 24 23.5**	**+3.4**	
TSMG	**Majia**	**2.02 219**		P	**Pn**	**21 23 58.2**	**+1.8**	
TSMG	baz=204			S	**Sn**	**21 24 22.9**	**+2.5**	
TWM1	**Shoushan**	**2.07 226**	*i*	P	**Pn**	**21 23 59.5**	**+2.4**	
TWM1	baz=224			S	**Sn**	**21 24 25.8**	**+4.1**	
JISG	**Ishigakijimahi**	**2.10 81**		P	**Pn**	**21 23 57.4**	**0.0**	
JISG			*e*	S	**Sn**	**21 24 22.4**	**0.0**	
MASBT	**Mashibuluo**	**2.10 218**		P	**Pn**	**21 23 57.5**	**+0.1**	
MASBT	baz=203			S	**Sn**	**21 24 24.3**	**+1.8**	
TSCK	**Chigu Township**	**2.11 238**		P	**Pn**	**21 23 58.7**	**+1.1**	
TSCK	baz=236			S	**Sn**	**21 24 24.0**	**+1.4**	
EAST	**Anshuo**	**2.19 210**	*i*	P	**Pn**	**21 23 57.6**	**-1.0**	
EAST	baz=200		*e*	S	**Sn**	**21 24 23.4**	**-1.1**	
TAW	**Tawu**	**2.19 209**		P	**Pn**	**21 23 58.6**	**0.0**	
TAW	baz=205			S	**Sn**	**21 24 22.7**	**-1.8**	
TAWH	**Dawu Township**	**2.21 209**		P	**Pn**	**21 23 58.3**	**-0.5**	
TAWH	baz=205			S	**Sn**	**21 24 23.7**	**-1.2**	
LAY	**Lan-yu**	**2.28 191**	*i*	P	**Pn**	**21 23 58.2**	**-1.7**	
LAY	baz=187			S	**Sn**	**21 24 25.3**	**-1.6**	
SCZT	**Fangliau**	**2.31 214**	*i*	P	**Pn**	**21 24 01.5**	**+1.3**	
SCZT	baz=211		*i*	S	**Sn**	**21 24 30.8**	**+3.4**	
WSSB	**Gushan**	**2.31 225**	*e*	P	**Pn**	**21 23 58.9**	**-1.3**	
WSSB	baz=221		*e*	S	**Sn**	**21 24 30.0**	**+2.5**	
LYUB	**Lan-yu**	**2.31 190**		P	**Pn**	**21 23 58.3**	**-2.0**	
LYUB	baz=187			S	**Sn**	**21 24 24.3**	**-3.3**	
SLIU	**Shizi**	**2.35 209**		P	**Pn**	**21 24 00.4**	**-0.5**	
SLIU	baz=198			S	**Sn**	**21 24 28.3**	**-0.3**	
PNG	**Penghu**	**2.37 253**	*i*	P	**Pn**	**21 24 00.8**	**-0.3**	
PNG	baz=252		*i*	S	**Sn**	**21 24 28.3**	**-0.7**	
PHUB	**P'eng-hu**	**2.38 251**		P	**Pn**	**21 24 00.9**	**-0.2**	
PHUB	baz=250			S	**Sn**	**21 24 27.7**	**-1.4**	
WDGT	**Dungji**	**2.40 245**	*i*	P	**Pn**	**21 24 01.7**	**+0.3**	
WDGT	baz=243			S	**Sn**	**21 24 29.6**	**0.0**	
VWUC	**VWUC**	**2.45 287**		P	**Pn**	**21 24 01.5**	**-0.6**	
VWUC	baz=287			S	**Sn**	**21 24 28.1**	**-2.7**	
JTJ	**Tarama**	**2.46 81**	*e*	P	**Pn**	**21 24 03.1**	**+0.7**	
TWP	**Hsiaoliuchiu**	**2.47 219**	*e*	P	Pn	21 24 07.2	+4.8	
TWP	baz=215		*e*	S	**Sn**	**21 24 35.9**	**+4.6**	
HEN	**Hengchun**	**2.56 208**		P	**Pn**	**21 24 04.3**	**+0.6**	
HEN	baz=198			S	**Sn**	**21 24 33.4**	**-0.3**	
TWKBT	**Hengchun**	**2.59 206**		P	**Pn**	**21 24 04.0**	**-0.1**	
TWKBT	baz=194			S	**Sn**	**21 24 35.1**	**+0.7**	
TWK1	**Hengchun**	**2.59 206**	*i*	P	**Pn**	**21 24 04.2**	**+0.1**	
TWK1	baz=194		*i*	S	**Sn**	**21 24 34.6**	**+0.1**	
VCHM	**Qimei**	**2.61 246**		P	**Pn**	**21 24 04.3**	**0.0**	
VCHM	baz=245			S	**Sn**	**21 24 34.7**	**-0.2**	
MATB	**Ma-tsu**	**2.64 315**		P	**Pn**	**21 24 04.1**	**-0.7**	
MATB	baz=315			S	**Sn**	**21 24 33.1**	**-2.5**	
PTMZ	**Houxiangcun**	**2.75 286**		P	**Pn**	**21 24 05.7**	**-0.5**	
PTMZ	baz=286			S	**Sn**	**21 24 35.2**	**-3.0**	
JIRB	**Irabujima**	**2.92 79**	*e*	P	**Pn**	**21 24 09.3**	**+0.8**	
JIKM	**Ikemajima**	**3.00 77**	*e*	P	**Pn**	**21 24 10.8**	**+1.2**	
JMJ	**Miyako jima 2**	**3.02 79**		P	**Pn**	**21 24 11.9**	**+1.9**	
JMJ2	**Miyako jima3**	**3.04 81**		P	**Pn**	**21 24 11.5**	**+1.2**	
LYJJ	**Jianjiangzhen**	**3.04 318**		P	**Pn**	**21 24 09.9**	**-0.4**	
LYJJ	baz=318			S	**Sn**	**21 24 42.8**	**-2.7**	
XPSS	**Dashiqiu**	**3.11 328**		P	**Pn**	**21 24 10.6**	**-0.6**	
XPSS	baz=328			S	**Sn**	**21 24 44.7**	**-2.4**	
MHZQ	**Yeshan**	**3.26 304**		P	**Pn**	**21 24 12.1**	**-1.1**	
MHZQ	baz=304			S	**Sn**	**21 24 47.3**	**-3.4**	
KNM	**Kinmen**	**3.28 273**	*i*	P	**Pn**	**21 24 15.0**	**+1.5**	
KNM	baz=272			S	**Sn**	**21 24 52.4**	**+1.1**	
KNMB	**Chin-men Tao**	**3.32 274**		P	**Pn**	**21 24 13.3**	**-0.8**	
KNMB	baz=273			S	**Sn**	**21 24 49.4**	**-3.0**	
ZPLA	**Ao Xicun**	**3.92 266**		P	**Pn**	**21 24 20.4**	**-2.0**	
ZPLA	baz=265		*e*	S	**Sn**	**21 25 02.5**	**-4.7**	
SXFK	**Yanhouchang**	**4.49 299**		P	**Pn**	**21 24 29.4**	**-0.7**	
SXFK	baz=299		*e*	S	**Sn**	**21 25 18.1**	**-2.9**	

KRSC 02 21:24:15.3±1.6, 48°.63N×157°.28E, h6km±48km, Ml3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**2.85**	**354**	*e*S	Sn	21 25 38.3	+2.4
KDTR	**Khodutka, Kamc**	**3.22**	**9**	*e*P	Pb	21 25 09.7	-3.2
KDTR				*e*S	Sb	21 25 49.6	-2.7
ASAK	**Asacha**	**3.78**	**6**	*e*P	Pn	21 25 16.8	+2.7
RUS	**Russkaya**	**3.89**	**11**	*e*P	Pn	21 25 18.5	+3.1
RUS				*e*S	Sn	21 26 05.5	+4.1
MTVR	**Mutnovka**	**3.90**	**8**	*e*P	Pn	21 25 18.9	+3.1
MTVR				*e*S	Sn	21 26 06.8	+4.9
KOK	**Koryaka**	**4.75**	**10**	*e*P	Pn	21 25 32.6	+5.2
KRX	**Arik**	**4.81**	**10**	*e*P	Pn	21 25 33.2	+4.9

NNC 02 21:25:11.7±2.1, 42°.46N×86°.82E, h0km, mb3.4, mpv3.2, 5C-3D, Error ellipse: s-maj=13.5km s-min=9.7km az=127.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	**5.41**	**325**	⇑	Pn	21 26 33.9	+0.3
	0.3nm,0.3s,baz=136,slow=14,SNR=4.7						
MK31				⇓	Sn	21 27 38.4	+1.9
	0.2nm,0.3s,baz=137,slow=28,SNR=5.2						
MK31				⇑	Lg	21 28 03.1	
	1.9nm,0.7s,baz=134,slow=27,SNR=2.6						
PDGK	**Podgornoye**	**5.45**	**282**	⇓	Pn	21 26 34.0	-0.4
	1.2nm,0.6s						
PDGK				⇑	Sn	21 27 39.1	+1.3
	2.5nm,0.7s						
PDGK				⇑	Lg	21 28 04.8	
	3.3nm,0.5s						
MAKZ	**Makanchi**	**5.55**	**323**	⇑	Sn	21 27 40.5	+0.4
	1.8nm,1.1s						
MAKZ				⇓	Lg	21 28 08.3	
	3.5nm,0.9s						

SOME 02 21:27:01.1, 43°.52N×82°.22E, h5km, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.36**	**268**	P	Pn	21 27 26.7	-0.1
	0.6nm,0.2s						
KTMS				S	Sn	21 27 45.2	-0.1
	4.2nm,0.3s						
KTMS	**Ketmen**	**1.36**	**268**	*e*P	Pn	21 27 26.7	-0.1
	0.6nm,0.2s						
KTMS				*e*S	Sn	21 27 45.2	-0.1
	4.2nm,0.3s						
DJR	**Jarkent**	**1.93**	**296**	Pg	Pb	21 27 37.5	+0.6
	0.5nm,0.2s						
DJR				Lg	Lg	21 28 03.6	
	2.2nm,0.4s						
DJR	**Jarkent**	**1.93**	**296**	*e*P	Pb	21 27 37.5	+0.6
	0.5nm,0.2s						
DJR				*e*S	Sg	21 28 03.6	+0.4
	2.2nm,0.4s						
PDGK	**Podgornoye**	**2.00**	**266**	Pg	Pb	21 27 38.0	0.0
	0.4nm,0.5s						
SHLS	**Shalkode**	**2.04**	**261**	P	Pn	21 27 33.9	-2.3
	2.4nm,0.3s						
SHLS				S	Sn	21 27 57.7	-4.5
	10nm,0.2s						
SHLS	**Shalkode**	**2.04**	**261**	*e*P	Pn	21 27 33.9	-2.3
	2.4nm,0.3s						
SHLS				*e*S	Sn	21 27 57.7	-4.5
	10nm,0.2s						
KNOS	**Konyrlen**	**2.35**	**292**	Pg	Pg	21 27 45.1	-1.0
	0.7nm,0.5s						
KNOS				Lg	Lg	21 28 16.7	
	1.9nm,1.0s						
UZB	**Uzynbulak**	**2.36**	**262**	Pg	Pb	21 27 44.6	+0.4
	2.0nm,0.2s						
UZB				Lg	Lg	21 28 15.9	
	2.7nm,0.0s						
UZB	**Uzynbulak**	**2.36**	**262**	*e*P	Pb	21 27 44.6	+0.4
	2.0nm,0.2s						
UZB				*e*S	Sg	21 28 15.9	-1.0
	2.7nm,0.0s						
SATY	**Saty**	**2.82**	**262**	Pg	Pg	21 27 54.3	-0.8
	1.0nm,0.2s						
SATY				Lg	Lg	21 28 32.4	
	2.9nm,0.2s						
SATY	**Saty**	**2.82**	**262**	*e*P	Pg	21 27 54.3	-0.8
	1.0nm,0.2s						
SATY				*e*S	Sg	21 28 32.4	+0.8
	2.9nm,0.2s						

NEIC ***02*** *21:56:28.8±2.4, 21°.3S±0°.1×178°.6W±0°.1, h556km±8km, mb4.1/19, Error ellipse: s-maj=20.4km s-min=16.7km az=107.0*

IDC ***02*** *21:56:30.7±5.2, 21°.11S×178°.72W, h571km±58km, mb3.2/10, mbtmp4.1/10, Error ellipse: s-maj=25.9km s-min=17.3km az=76.0*

ISC 02 21:56:28.8±0.6, 21°.3S±0°.1×178°.7W±0°.1, h550km, n52, σ1§47/47, mb3.8/19, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.69**	**319**		**P**	**21 57 58.6**	**+2.4**
AFI	**Afiamalu**	**9.90**	**43**	P	P	21 58 42.4	-3.5
BKZ	**Black Stump Fm**	**18.26**	**192**	P	**P**	**22 00 07.0**	**-1.9**
MRZ	**Mangatainoka R**	**19.89**	**193**	P	**P**	**22 00 21.6**	**-2.0**
MRZ				IAmb	IAmb	22 00 47.0	
	comp=Z,16nm,1.2s						
EIDS	**Eidsvold**	**27.99**	**256**	P	**P**	**22 01 35.5**	**-0.4**
CTAO	**Charters Tower**	**32.75**	**266**	P	**P**	**22 02 16.2**	**-0.7**
WR0	**Warramunga Arr**	**43.64**	**263**	P	**P**	**22 03 44.6**	**-0.7**

WR0					IAmb	IAmb	22 03 53.2	
	comp=Z,8.9nm,1.4s							
AS31	**Alice Springs**	**43.68**	**258**	P	**P**		**22 03 45.5**	**-0.1**
ASAR	**Alice Springs**	**43.68**	**258**	P	**P**		**22 03 44.6**	**-1.0**
ASAR	**Alice Springs**	**43.68**	**258**	P	**P**		**22 03 45.8**	**+0.2**
	comp=Z,3.3nm,0.6s,baz=96,slow=7.9,SNR=41							
ASAR				PcP	**PcP**		**22 05 20.4**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=103,slow=3.7,SNR=5.2							
	comp=Z,3.3nm,0.6s							
MTN	**Manton Dam**	**48.50**	**272**	P	**P**		**22 04 21.6**	**-0.6**
KNRA	**Kununurra**	**49.94**	**267**	P	**P**		**22 04 32.5**	**-0.3**
KNRA				IAmb	IAmb		22 05 00.9	
	comp=Z,21nm,1.4s							
FITZ	**Fitzroy Crossi**	**52.26**	**263**	P	**P**		**22 04 49.1**	**-0.5**
SBA	**Scott Base**	**57.02**	**184**	P	**P**		**22 05 22.8**	**+0.9**
SBA				IAmb	IAmb		22 05 26.1	
	comp=Z,3.7nm,1.1s							
MBWA	**Marble Bar**	**57.02**	**258**	P	**P**		**22 05 21.9**	**-1.0**
MBWA				IAmb	IAmb		22 05 45.7	
	comp=Z,28nm,1.4s							
VNDA	**Vanda**	**57.05**	**185**	P	**P**		**22 05 22.4**	**+0.3**
VNDA	**Vanda**	**57.05**	**185**	P	**P**		**22 05 24.2**	**+2.1**
	comp=Z,0.6nm,0.6s,baz=359,slow=7.1,SNR=9.6							
	comp=Z,0.6nm,0.6s							
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**		**22 06 38.6**	**+0.8**
QSPA				IAmb	IAmb		22 06 39.8	
	comp=Z,4.8nm,0.9s							
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**		**22 06 39.1**	**+1.3**
	comp=Z,2.4nm,0.6s,baz=341,slow=0.9,SNR=22							
	comp=Z,2.4nm,0.6s							
MJAR	**Matsushiro Arr**	**70.47**	**324**	P	**P**		**22 06 47.2**	**-1.1**
	comp=Z,1.3nm,0.8s,baz=120,slow=5.1,SNR=4.2							
	comp=Z,1.3nm,0.8s							
PETK	**Petropavlovsk-**	**76.88**	**346**	P	**P**		**22 07 23.2**	**-1.1**
PETK	**Petropavlovsk-**	**76.88**	**346**	P	**P**		**22 07 23.5**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=101,slow=7.7,SNR=5.5							
	comp=Z,1.6nm,0.6s							
BELA	**Belgrano 2**	**78.84**	**173**	P	**P**		**22 07 34.3**	**-0.3**
USRK	**Ussuriysk Ar.**	**79.26**	**326**	P	**P**		**22 07 36.9**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=158,slow=4.2,SNR=3.3							
	comp=Z,3.0nm,0.9s							
GWY	**Greenwater Val**	**81.89**	**46**	P	**P**		**22 07 50.8**	**-0.4**
GWY				IAmb	IAmb		22 08 17.1	
	comp=Z,3.4nm,1.3s							
NVAR	**Mina Array Bea**	**82.08**	**44**	P	**P**		**22 07 51.8**	**-0.5**
NVAR	**Mina Array Bea**	**82.08**	**44**	P	**P**		**22 07 52.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=226,slow=8.4,SNR=3.9							
	comp=Z,0.5nm,0.5s							
O16K	**Kokwok River B**	**82.37**	**10**	P	**P**		**22 07 51.4**	**-1.5**
O16K				IAmb	IAmb		22 07 58.5	
	comp=Z,7.1nm,1.3s							
O18K	**Koktuh Hills**	**83.13**	**12**	P	**P**		**22 07 55.7**	**-1.1**
O18K				IAmb	IAmb		22 08 06.9	
	comp=Z,9.9nm,1.3s							
M16K	**Timber Creek**	**83.59**	**10**	P	**P**		**22 07 59.1**	**+0.1**
M16K				IAmb	IAmb		22 08 16.1	
	comp=Z,13nm,1.5s							
ILAR	**Eielson Array**	**89.25**	**13**	P	**P**		**22 08 24.6**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=223,slow=5.4,SNR=6.2							
	comp=Z,0.4nm,0.4s							
CMAR	**Chiang Mai Arr**	**89.75**	**290**	P	**P**		**22 08 30.7**	**+1.4**
	comp=Z,0.5nm,0.4s,baz=102,slow=3.1,SNR=4.9							
	comp=Z,0.5nm,0.4s							
J26L	**Joseph Creek**	**89.76**	**14**	P	**P**		**22 08 28.1**	**-0.3**
J26L				IAmb	IAmb		22 08 28.7	
	comp=Z,1.9nm,0.8s							
PDAR	**Pinedale Array**	**90.01**	**43**	P	**P**		**22 08 29.3**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=208,slow=6.0,SNR=4.1							
	comp=Z,0.4nm,0.6s							
BVAR	**Borovoye Array**	**119.26**	**320**	PKP	**PKPdf**		**22 14 14.1**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=147,slow=1.6,SNR=4.6							
ARCES	**ARCESS Array B**	**129.59**	**349**	PKP	**PKPdf**		**22 14 33.4**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=64,slow=2.1,SNR=6.8							
FINES	**FINESS Array B**	**136.35**	**343**	PKP	**PKPdf**		**22 14 45.3**	**-2.3**
	comp=Z,1.2nm,0.8s,baz=132,slow=2.8,SNR=4.6							
HFS	**Hagfors**	**140.23**	**350**	PKhKP	PKPpre		22 14 46.9	
	comp=Z,1.2nm,0.6s,baz=64,slow=6.8,SNR=9.3							
AKASG	**Malin Array Be**	**143.39**	**330**	PKPdf	PKPab		22 14 57.9	-1.1
AKASG	**Malin Array Be**	**143.39**	**330**	PKP	PKPab		22 14 57.6	-1.4
	comp=Z,4.1nm,0.4s,baz=42,slow=4.1,SNR=21							
AKBB	**Malin Array Si**	**143.39**	**330**	PKPdf	PKPab		22 14 58.1	-0.9
ARPR	**Arapgir-MALATY**	**143.71**	**308**	PKPbc	PKPab		22 15 00.4	-0.5
EKA	**Eskdalemuir Ar**	**145.87**	**5**	PKPbc	**PKPdf**		**22 15 04.6**	**-0.2**
	comp=Z,1.8nm,0.7s,baz=342,slow=1.8,SNR=4.3							
BRTR	**Keskin Array B**	**146.87**	**311**	PKPbc	**PKPdf**		**22 15 08.9**	**+1.8**
BRTR	**Keskin Array B**	**146.87**	**311**	PKPbc	**PKPdf**		**22 15 09.2**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=120,slow=3.9,SNR=7.7							
KWP	**Kalwaria Pacla**	**147.03**	**334**	PKPbc	**PKPdf**		**22 15 09.4**	**+2.5**
BUR08	**Bucovina Ar. S**	**147.41**	**329**	PKPbc	**PKPdf**		**22 15 11.0**	**+3.2**
BURAR	**Bucovina Array**	**147.43**	**329**	PKPbc	**PKPdf**		**22 15 11.0**	**+3.2**
MMAI	**Mount Meron Ar**	**147.62**	**298**	PKPbc	**PKPbc**		**22 15 12.1**	**0.0**
	comp=Z,1.2nm,0.4s,baz=72,slow=6.2,SNR=6.1							
MLR	**Muntele Rosu**	**148.53**	**326**	PKPbc	**PKPbc**		**22 15 13.9**	**-0.1**
CSS	**Mathiatis**	**148.79**	**303**	PKPbc	**PKPdf**		**22 15 13.8**	**+3.5**
GERES	**GERESS Array B**	**150.79**	**343**	PKPbc	**PKPbc**		**22 15 18.1**	**-1.2**
	comp=Z,0.4nm,0.4s,baz=11,slow=8.0,SNR=3.0							

*NNC **02** 21:59:02.3±2.5, 43.°84N×86.°21E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=19.2km s-min=10.2km az=107.0*
*SOME **02** 21:59:24.9, 44.°80N×84.°48E, h25km*
ISC 02 21:59:20.2±1.9, 44.°75N±0.°07×85.°11E±0.°09, h10km, n19, σ1§80/27, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**2.71**	**357**	Pg	**Pg**	**22 00 12.5**	**+0.4**
	12nm,0.3s						
ZSN				Lg	Lg	22 00 47.0	
	16nm,0.4s						
ZSN	**Zaisan**	**2.71**	**357**	*eP*	**Pg**	**22 00 12.5**	**+0.4**
	12nm,0.3s						
ZSN				*eS*	**Sg**	**22 00 47.0**	**-0.1**
	16nm,0.4s						
MK31	**Makanchi Array**	**2.84**	**317**	Pn	**Pn**	**22 00 05.3**	**-0.3**
	0.2nm,0.1s,baz=137,slow=15,SNR=140						
MK31				⇑Pg	**Pg**	**22 00 15.5**	**+0.9**
	0.8nm,0.2s,baz=127,slow=15,SNR=6.5						
MK31				⇑Sn	**Sg**	**22 00 55.6**	**+4.2**
	1.8nm,0.2s,baz=128,slow=27,SNR=5.8						
MK31				Lg	Lg	22 01 11.2	
	12nm,0.5s,baz=122,slow=33,SNR=9.3						
MAKZ	**Makanchi**	**3.00**	**314**	⇓Pn	**Pn**	**22 00 07.5**	**-0.4**
	2.7nm,0.5s						
MAKZ				⇑Sn	**Sg**	**22 00 58.4**	**+1.7**
	6.2nm,0.4s						
MAKZ				⇑Lg	Lg	22 01 14.5	
	18nm,0.8s						
DJR	**Jarkent**	**3.82**	**266**	Pg	**Pb**	**22 00 26.5**	**-1.2**
	1.6nm,0.2s						
DJR				Lg	Lg	22 01 10.8	
	4.0nm,0.3s						
DJR	**Jarkent**	**3.82**	**266**	*eP*	**Pb**	**22 00 26.5**	**-1.2**
	1.6nm,0.2s						
DJR				*eS*	**Sb**	**22 01 10.8**	**-3.4**
	4.0nm,0.3s						
KAPS	**Kapalarasan**	**4.11**	**280**	Pg	**Pb**	**22 00 32.1**	**-0.6**
	1.3nm,0.3s						
KAPS				Lg	Lg	22 01 20.5	
	8.3nm,0.5s						
KAPS	**Kapalarasan**	**4.11**	**280**	*eP*	**Pb**	**22 00 32.1**	**-0.6**
	1.3nm,0.3s						
KAPS				*eS*	**Sb**	**22 01 20.5**	**-1.9**
	8.3nm,0.5s						
KNOS	**Konyrlen**	**4.25**	**267**	Pg	**Pb**	**22 00 34.3**	**-0.8**
	3.0nm,0.0s						
KNOS				Lg	Lg	22 01 24.5	
	4.3nm,0.0s						
PDGK	**Podgornoye**	**4.29**	**253**	Pg	**Pb**	**22 00 32.5**	**-3.3**
	1.4nm,0.7s						
PDGK				Lg	Lg	22 01 21.2	
	3.3nm,0.4s						
PDGK	**Podgornoye**	**4.29**	**253**	⇓Pn	Pn	22 00 17.3	-8.4
PDGK				⇓Sn	**Sn**	**22 01 16.2**	**+0.4**
	7.4nm,0.8s						
PDGK				⇑Lg	Lg	22 01 38.8	
	11nm,0.6s						
SHLS	**Shalkode**	**4.37**	**251**	Pg	**Pn**	**22 00 29.5**	**+2.7**
	7.5nm,1.1s						
SHLS				Lg	Lg	22 01 15.9	
	12nm,0.5s						
SHLS	**Shalkode**	**4.37**	**251**	*eP*	**Pn**	**22 00 29.4**	**+2.7**
	7.5nm,1.1s						
SHLS				*eS*	**Sn**	**22 01 15.9**	**-1.9**
	12nm,0.5s						
UZB	**Uzynbulak**	**4.67**	**252**	Pg	**Pb**	**22 00 42.6**	**+0.2**
	2.0nm,0.3s						
UZB				Lg	Lg	22 01 38.4	
	3.8nm,0.5s						
UZB	**Uzynbulak**	**4.67**	**252**	*eP*	**Pb**	**22 00 42.6**	**+0.2**
	2.0nm,0.3s						
UZB				*eS*	**Sb**	**22 01 38.4**	**-0.4**
	3.8nm,0.5s						
BLB	**Baldybastay**	**4.79**	**265**	Pg	**Pb**	**22 00 43.1**	**-1.2**
	8.8nm,0.5s						
BLB				Lg	Lg	22 01 39.4	
	9.4nm,0.2s						
ARXS	**Arharly**	**5.24**	**267**	Pg	**Pb**	**22 00 50.9**	**-0.9**
	0.9nm,0.2s						
ARXS				Lg	Lg	22 01 52.8	
	4.1nm,0.6s						
ARXS	**Arharly**	**5.24**	**267**	*eP*	**Pb**	**22 00 50.9**	**-0.9**
	0.9nm,0.2s						
ARXS				*eS*	**Sb**	**22 01 52.8**	**-2.0**
	4.1nm,0.6s						
KURK	**Kurchatov**	**7.40**	**326**	⇓Lg	Lg	22 03 36.3	
	7.5nm,0.6s						

*HVO **02** 22:07:12.1±0.7, 19.°46N±0.°05×154.°97W±0.°01, h-0km±8km, ML2.9/4, ML1.9/16(NEIC), Error ellipse: s-maj=7.2km s-min=1.1km az=167.0*
NEIC 02 22:07:12.4±0.8, 19.°41N±0.°04×154.°95W±0.°01, h7km±3km, Error ellipse: s-maj=6.5km s-min=1.2km az=167.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**292**		Pg	22 07 13.8	-0.3
PHO	**Puu Honuaula**	**0.09**	**42**		Pg	22 07 15.2	+0.6
PUH	**Pauahi**	**0.25**	**261**	Pg	Pg	22 07 17.4	-0.1
PUH				IAML		22 07 17.9	
	comp=E,186nm,0.5s						
PUH				IAML		22 07 18.1	
	comp=N,176nm,0.5s						
HATHI	**Halema'uma'u T**	**0.29**	**272**	Pg	Pg	22 07 18.0	-0.2
SBLHI	**Steaming Bluff**	**0.30**	**273**	Pg	Pg	22 07 17.9	-0.4
RSD	**Rainshed**	**0.31**	**279**	Pg	Pg	22 07 18.3	-0.2
HLP	**Hilina Pali**	**0.35**	**251**	Pg	Pg	22 07 19.8	+0.4
HLP				IAML		22 07 23.2	
	comp=N,184nm,1.3s						
MLH	**Mauna Loa**	**0.42**	**281**		Pg	22 07 20.8	+0.2
MLH				IAML		22 07 21.8	
	comp=N,75nm,1.5s						
HTC	**Hot Caves**	**0.46**	**247**		Pg	22 07 21.7	+0.4
HMH	**Humu'ula Sheep**	**0.53**	**291**	Pg	Pg	22 07 22.5	-0.3
HMH				IAML		22 07 32.6	
	comp=E,79nm,1.4s						
MWH	**Moku'aweowe**	**0.61**	**277**	Pg	Pg	22 07 23.9	-0.4
MWH					Sg	22 07 32.2	-0.2
MWH				IAML		22 07 37.7	
	comp=N,100nm,1.2s						
MWH				IAML		22 07 41.5	
	comp=E,84nm,1.3s						
KHU	**Kahuku**	**0.65**	**255**	Pg	Pg	22 07 24.4	-0.6
KHU				IAML		22 07 41.4	
	comp=E,94nm,1.4s						
ALEP	**Alea Permanent**	**0.66**	**281**		Pg	22 07 24.7	-0.6

*IDC **02** 22:28:03.5±1.5, 36.°22N×143.°28E, h0km, mb3.6/5, mbtmp3.7/9, ML3.3/4, MS2.6/4, Error ellipse: s-maj=35.0km s-min=25.5km az=72.0*
*JMA **02** 22:28:08.6±0.3, 36.°3N±0.°9×14.°3E±.°, h100km, MV3.0/21, FAR E OFF KANTO*
ISC 02 22:28:08.2±1.2, 36.°26N±0.°06×142.°99E±0.°10, h29km, n22, σ1§69/26, mb3.5/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.94**	**273**	*eP*	**Pn**	**22 28 38.7**	**-0.4**
JHYU				*eS*	**Sn**	**22 29 01.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.95**	**296**	P	**Pn**	**22 28 38.8**	**-0.6**
JHO	**Hitachi**	**1.98**	**281**	P	**Pn**	**22 28 39.0**	**-0.8**
JHO				*eS*	**Sn**	**22 29 01.7**	**-1.9**
JOTO	**OTAMA OYAMA**	**2.49**	**302**	P	**Pn**	**22 28 46.7**	**-0.1**
JOTO				*eS*	**Sn**	**22 29 15.1**	**-1.2**
JAG	**Ashikaga**	**2.86**	**274**	P	**Pn**	**22 28 51.7**	**-0.1**
JMK	**Ichinoseki**	**3.04**	**333**	P	**Pn**	**22 28 53.0**	**-1.2**
JMK				*eS*	**Sn**	**22 29 27.5**	**-2.1**
JRY	**Ryogami san**	**3.32**	**267**	*eP*	**Pn**	**22 28 57.8**	**-0.3**
JRY				*eS*	**Sn**	**22 29 36.0**	**-0.5**
JYK	**Kaneyama**	**3.38**	**323**	P	**Pn**	**22 28 58.3**	**-0.7**
JOM	**Ohasama**	**3.48**	**338**	*eP*	**Pn**	**22 28 59.4**	**-1.0**
JOM				*eS*	**Sn**	**22 29 38.3**	**-2.3**
MJAR	**Matsushiro Arr**	**3.87**	**276**	Pn	**Pn**	**22 29 06.7**	**+1.0**
	0.3nm,0.3s,baz=115,slow=8.7,SNR=5.7						
MJAR				LR	LR	22 31 03.2	
	comp=Z,30nm,19.1s,baz=3.5,slow=44						
	2.1nm,0.5s						
JHJ	**Hachijo jima 2**	**4.09**	**221**	Pn	**Pn**	**22 29 09.0**	**+0.2**
	14nm,0.3s,baz=62,slow=20,SNR=1.7						
JHJ				Sn	**Sn**	**22 29 52.2**	**-3.5**
	37nm,0.3s,baz=251,slow=22,SNR=2.2						
	72nm,0.5s						
ASAJ	**Asahikawa**	**7.86**	**358**	Pn	**Pn**	**22 29 57.6**	**-2.9**
	0.7nm,0.3s,baz=180,slow=10,SNR=2.2						
	12nm,1.0s						
USRK	**Ussuriysk Ar.**	**11.55**	**317**	Pn	**Pn**	**22 30 53.8**	**+2.8**
	0.1nm,0.3s,baz=134,slow=10,SNR=1.5						
	1.1nm,0.6s						
KSRS	**Korea Array**	**12.13**	**280**	LR	LR	22 35 24.9	
	comp=Z,20nm,21.3s,baz=100,slow=36						
KLR	**Kul'dur**	**15.35**	**331**	LR	LR	22 36 59.9	
	comp=Z,31nm,19.4s,baz=282,slow=35						
YAK	**Yakutsk**	**27.11**	**346**	LR	LR	22 46 24.3	
	comp=Z,29nm,18.1s,baz=226,slow=40						
SONM	**Songino Array**	**29.27**	**305**	P	**P**	**22 34 11.0**	**+3.2**
	0.3nm,0.4s,baz=104,slow=9.1,SNR=2.1						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**43.37**	**313**	P	**P**	**22 36 07.1**	**-0.6**
	0.3nm,0.4s,baz=88,slow=7.4,SNR=1.4						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**45.60**	**303**	P	**P**	**22 36 26.7**	**+1.0**
	0.1nm,0.5s,baz=86,slow=10,SNR=1.6						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**47.48**	**309**	P	**P**	**22 36 41.9**	**+1.7**
	0.9nm,0.2s,baz=86,slow=7.9,SNR=4.4						
	0.9nm,0.2s						
ASAR	**Alice Springs**	**60.21**	**190**	P	**P**	**22 38 12.7**	**-0.8**
	0.5nm,0.5s,baz=359,slow=7.5,SNR=2.6						
	0.5nm,0.5s						
LPAZ	**La Paz**	**145.96**	**62**	PKPbc	**PKPab**	**22 47 45.8**	**-0.9**
	0.8nm,0.4s,baz=319,slow=2.4,SNR=5.2						

*IDC **02** 22:29:58.3±0.9, 5.°95S×142.°84E, h0km, mb4.1/6, mbtmp4.1/8, ML1.6/1, MS3.3/1, Error ellipse: s-maj=35.2km s-min=21.9km az=72.0*
ISC 02 22:30:03.6±1.0, 6.°0S±0.°2×142.°8E±0.°2, h35km, n8, σ0§53/9, mb4.1/6, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.49**	**128**	Pn	**Pn**	**22 31 23.3**	**+0.4**
	1.3nm,0.3s,baz=156,slow=16,SNR=1.7						
PMG				Sn	**Sn**	**22 32 24.5**	**-0.3**
	4.4nm,0.3s,baz=101,slow=23,SNR=6.1						
	5.7nm,0.3s						
ASAR	**Alice Springs**	**19.55**	**205**	P	**P**	**22 34 28.0**	**-0.4**
	4.2nm,0.8s,baz=31,slow=11,SNR=25						
ASAR				Lg	Lg	22 40 21.7	
	0.1nm,0.3s,baz=20,slow=30,SNR=2.9						
ASAR				LR	LR	22 42 23.0	
	comp=Z,89nm,19.6s,baz=346,slow=38						
MKAR	**Makanchi Array**	**74.87**	**322**	P	**P**	**22 41 41.5**	**+0.7**
	1.5nm,0.9s,baz=112,slow=5.8,SNR=7.1						
	1.5nm,0.9s						
ZALV	**Zalesovo Beam**	**76.82**	**329**	P	**P**	**22 41 51.5**	**-0.2**
	0.6nm,0.6s,baz=130,slow=5.8,SNR=2.0						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**78.75**	**324**	P	**P**	**22 42 02.7**	**+0.1**
	0.5nm,0.2s,baz=114,slow=4.8,SNR=1.3						
	0.5nm,0.2s						
QSPA	**South Pole Qui**	**83.97**	**180**	P	**P**	**22 42 30.3**	**+0.2**
	2.2nm,1.1s,baz=288,slow=3.2,SNR=3.3						
	2.2nm,1.1s						
BVAR	**Borovoye Array**	**84.33**	**325**	P	**P**	**22 42 32.5**	**+0.5**
	2.2nm,0.6s,baz=104,slow=6.3,SNR=14						
	2.2nm,0.6s						
ILAR	**Eielson Array**	**87.14**	**24**	P	**P**	**22 42 45.0**	**-0.6**
	1.1nm,0.7s,baz=257,slow=4.6,SNR=11						
	1.1nm,0.7s						

*IDC **02** 22:47:34.9±4.2, 17.°16N×101.°84W, h0km, mb3.5/7, mbtmp3.5/9, ML3.4/2, MS3.1/9, Error ellipse: s-maj=85.1km s-min=21.4km az=18.0*
*MEX **02** 22:47:46.8±0.4, 17.°82N×102.°66W, h9km±6km, MD4.3*
*NEIC **02** 22:47:52.2±1.8, 18.°17N±0.°08×102.°37W±0.°03, h10km±2km, mb4.2/13, Error ellipse: s-maj=13.5km s-min=5.5km az=181.0*
ISC 02 22:47:44.7±1.3, 17.°82N±0.°04×102.°65W±0.°02, h15km±9km, n94, σ2§11/119, mb4.0/12, MS3.1/6, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UON	**La Union**	**0.81**	**79**	*eP*	**Pb**	**22 47 60.0**	**-0.4**
UON				*eS*	**Sb**	**22 48 10.5**	**-0.6**
MMIG	**Aquila**	**0.81**	**305**	*eP*	**Pg**	**22 48 00.2**	**-0.2**
MMIG				*eS*	**Sb**	**22 48 10.8**	**-0.4**
ZIIG	**Zihuatanejo**	**1.15**	**100**	*iP*	**Pn**	**22 48 05.3**	**-0.9**
ZIIG				*eS*	**Sg**	**22 48 22.8**	**+1.0**
PET2	**Petatlan**	**1.35**	**102**	*eP*	**Pn**	**22 48 07.9**	**-1.1**
PET2				*eS*	**Sg**	**22 48 27.8**	**-0.5**
COIG	**Colima**	**1.68**	**324**	*eP*	**Pn**	**22 48 12.6**	**-1.0**
COIG				*iS*	**Sn**	**22 48 32.9**	**-2.0**
CDAR	**Ciudad de Arme**	**1.71**	**311**	*eP*	**Pn**	**22 48 13.1**	**-0.9**
CDAR				*iS*	**Sn**	**22 48 35.5**	**0.0**
R15V		**1.85**	**317**	*eP*	**Pn**	**22 48 14.7**	**-1.2**
R15V				*iS*	**Sn**	**22 48 39.7**	**+0.7**
MNGA	**Volcan de Coli**	**1.88**	**331**	*eP*	**Pn**	**22 48 16.6**	**0.0**
EZ5V		**1.88**	**331**	*eP*	**Pn**	**22 48 16.5**	**-0.1**
EZ5V				*eS*	**Sn**	**22 48 40.7**	**+0.5**
JUBC	**Volcan de Coli**	**1.90**	**333**	*eP*	**Pn**	**22 48 16.8**	**0.0**
INCO	**Volcan de Coli**	**1.92**	**332**	*eP*	**Pn**	**22 48 17.2**	**0.0**
INCO				*iS*	**Sn**	**22 48 41.6**	**+0.1**
SOMAC	**Volcano de Col**	**1.93**	**331**	*eP*	**Pn**	**22 48 17.2**	**-0.2**
SOMAC				*iS*	**Sb**	**22 48 44.1**	**+0.1**
CEGR	**Campo Tres**	**1.94**	**324**	*eP*	**Pn**	**22 48 16.7**	**-0.6**
ATYC	**Atoyac**	**2.20**	**106**	*eP*	**Pb**	**22 48 24.8**	**+0.7**
ATYC				*eS*	**Sb**	**22 48 50.5**	**-0.7**
ARIG	**Puente Sto Nin**	**2.23**	**78**	*eP*	**Pn**	**22 48 20.9**	**-0.3**
ARIG				*eS*	**Sn**	**22 48 48.6**	**0.0**
MOIG	**Morelia**	**2.31**	**37**	Pn	**Pn**	**22 48 22.2**	**-0.3**
MOIG				Sn	**Sn**	**22 48 47.4**	**-3.3**
MOIG	**Morelia**	**2.31**	**37**	*eP*	**Pn**	**22 48 22.1**	**-0.3**
MOIG				*iS*	**Sn**	**22 48 47.7**	**-3.0**
CAIG	**El Cayaco**	**2.40**	**108**	*eP*	**Pn**	**22 48 23.1**	**-0.3**
CAIG				*eS*	**Sn**	**22 48 52.2**	**-0.3**
CIHU	**Emiliano Zapat**	**2.45**	**306**	*eP*	**Pn**	**22 48 23.5**	**-0.6**
CIHU				*iS*	**Sb**	**22 48 56.5**	**-1.9**
TEJU	**Tejupilco**	**2.60**	**65**	*iP*	**Pn**	**22 48 28.6**	**+2.3**
TEJU				*eS*	**Sn**	**22 48 59.0**	**+1.3**
CJM	**Chamela**	**2.82**	**307**	*eP*	**Pb**	**22 48 34.3**	**-0.4**
CJM				*eS*	**Sb**	**22 49 08.5**	**-0.6**
MEIG	**Mezcala**	**2.88**	**87**	*eP*	**Pn**	**22 48 30.3**	**+0.1**
MEIG				*eS*	**Sn**	**22 49 06.5**	**+1.8**
DAIG	**Los Arroyos**	**2.97**	**105**	*eP*	**Pn**	**22 48 33.5**	**+2.2**
DAIG				*iS*	**Sn**	**22 49 09.0**	**+2.3**
PLIG	**Platanillo**	**3.04**	**79**	*eP*	**Pb**	**22 48 36.6**	**-2.1**
PLIG				*eS*	**Sb**	**22 49 13.4**	**-2.3**
IGIG	**Irapuato, Guan**	**3.17**	**23**	*eP*	**Pb**	**22 48 39.9**	**-1.0**
IGIG				*eS*	**Sn**	**22 49 16.9**	**+4.9**
MAVM	**Malinalco, Edo**	**3.20**	**69**	*eP*	**Pb**	**22 48 42.5**	**+1.1**
MAVM				*eS*	**Sb**	**22 49 17.5**	**-2.8**
ESTA	**Talpa de Allen**	**3.30**	**321**	*eP*	**Pn**	**22 48 36.9**	**+0.9**
ESTA				*eS*	**Sn**	**22 49 14.8**	**-0.2**
ACIG	**Acambay**	**3.39**	**50**	*eP*	**Pn**	**22 48 38.8**	**+1.6**
ACIG				*eS*	**Sn**	**22 49 20.0**	**+2.7**
INVM	**La Marquesa**	**3.42**	**64**	*eP*	**Pb**	**22 48 42.7**	**-2.6**
INVM				*eS*	**Sn**	**22 49 21.5**	**+3.1**
AOVM	**Tlapan**	**3.47**	**65**	*iP*	**Pb**	**22 48 43.7**	**-2.4**
AOVM				*eS*	**Sn**	**22 49 22.1**	**+0.1**
MZVM		**3.52**	**67**	*eP*	**Pb**	**22 48 44.3**	**-2.3**
MZVM				*eS*	**Sb**	**22 49 26.8**	**-2.4**
CRIG	**Cruz Grande**	**3.53**	**107**	*eP*	**Pn**	**22 48 39.5**	**+0.6**
CRIG				*eS*	**Sn**	**22 49 16.1**	**-4.3**
CJVM	**Cuajimalpa**	**3.54**	**64**	*eP*	**Pn**	**22 48 43.3**	**+3.9**
CJVM				*eS*	**Sn**	**22 49 23.8**	**+2.7**
JRQG	**Juriquilla Cam**	**3.54**	**36**		**Pn**	**22 48 40.2**	**+0.9**
JRQG	**Juriquilla Cam**	**3.54**	**36**	*eP*	**

PDAR	**Pinedale Array**	**25.55**	**348**	P	**P**	**22 53 14.7**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=155,slow=9.5,SNR=2.2						
PDAR				LR	LR	23 04 35.3	
	comp=Z,60nm,18.5s,baz=186,slow=39						
	comp=Z,0.2nm,0.5s						
NEW	**Newport**	**32.58**	**342**	LR	LR	23 08 19.4	
	comp=Z,26nm,20.9s,baz=119,slow=37						
ULM	**Lac du Bonnet**	**32.81**	**8**	P	**P**	**22 54 13.7**	**-3.6**
	comp=Z,1.1nm,0.6s,baz=134,slow=7.1,SNR=3.3						
ULM				LR	LR	23 08 28.3	
	comp=Z,56nm,20.6s,baz=152,slow=38						
	comp=Z,1.1nm,0.6s						
ATAH	**Atahualpa**	**34.48**	**134**	LR	LR	23 05 18.6	
	comp=Z,37nm,18.3s,baz=74,slow=32						
YKA	**Yellowknife Ar**	**45.41**	**352**	P	**P**	**22 55 59.9**	**-2.6**
	comp=Z,0.3nm,0.7s,baz=158,slow=7.3,SNR=5.8						
	comp=Z,0.3nm,0.7s						
SCHQ	**Schefferville**	**45.97**	**28**	P	P	22 55 59.7	-7.4
	comp=Z,2.5nm,1.0s,baz=250,slow=15,SNR=2.4						
	comp=Z,2.5nm,1.0s						
K29M	**Barlow Dome**	**51.75**	**341**	P	P	22 56 58.5	+7.0
K29M				IAmb	IAmb	22 57 00.3	
	comp=Z,3.2nm,0.8s						
K27K	**Chicken**	**53.34**	**340**	P	P	22 57 09.3	+6.2
K27K				IAmb	IAmb	22 57 12.1	
	comp=Z,3.1nm,0.8s						
INK	**Inuvik**	**54.10**	**346**	P	**P**	**22 57 07.4**	**-1.2**
	comp=Z,0.4nm,0.6s,baz=158,slow=5.4,SNR=1.6						
	comp=Z,0.4nm,0.6s						
J26L	**Joseph Creek**	**54.14**	**340**	P	P	22 57 15.6	+6.5
J26L				IAmb	IAmb	22 57 17.6	
	comp=Z,3.6nm,0.9s						
G27K	**Doyon Strip**	**55.08**	**342**	P	P	22 57 21.9	+6.2
G27K				IAmb	IAmb	22 57 23.1	
	comp=Z,2.3nm,0.8s						
ILAR	**Eielson Array**	**55.44**	**339**	P	P	22 57 25.1	+6.8
ILAR	**Eielson Array**	**55.44**	**339**	P	**P**	**22 57 18.4**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=165,slow=5.7,SNR=4.1						
	comp=Z,0.2nm,0.5s						
H03N2	**Juan Fernandez**	**55.77**	**156**	T	T	23 57 43.2	
	baz=333,slow=77,SNR=26						
H03N1	**Juan Fernandez**	**55.78**	**156**	T	T	23 57 41.1	
	baz=333,slow=77,SNR=35						
H03N3	**Juan Fernandez**	**55.79**	**156**	T	T	23 57 40.9	
	baz=333,slow=77,SNR=28						
E27K	**Coleen River**	**56.01**	**344**	P	P	22 57 28.8	+6.3
E27K				IAmb	IAmb	22 57 30.1	
	comp=Z,2.0nm,0.9s						
BMAR	**Burnt Mountain**	**56.35**	**342**	P	P	22 57 31.1	+6.2
D22K	**Ayikyak River**	**59.65**	**341**	P	P	22 57 54.5	+6.5

*IDC **02** 22:47:46.7±1.0,6°.18S×111°.43E,h0km,mb4.1/7,*
mbtmp4.1/8,ML4.4/1,Error ellipse: s-maj=35.6km
s-min=20.4km az=45.0
*NEIC **02** 22:47:48.2±1.2,6°.52S±0°.05×111°.09E±0°.05,h10km±1km,*
mb4.0/7,Error ellipse: s-maj=9.1km s-min=6.3km
az=136.0
*DJA **02** 22:47:48.9±0.6,6°.S±3°×11°.1E±°,h15km±5km,M4.3/16,*
mb4.2/2,MLv4.3/16
ISC 02 22:47:46.7±1.6,**6°.45S**±0°.06×**111°.10E**±0°.03,**h4**km±10km,
n38,σ1s**28**/46,**mb4.2**/9,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMRI	**Semarang**	**0.89**	**228**		**Pg**	**22 48 03.8**	**+0.1**
SMRI					**Sg**	**22 48 15.3**	**+0.1**
SMRI	**Semarang**	**0.89**	**228**	P	**Pg**	**22 48 04.0**	**+0.3**
SMRI				S	**Sg**	**22 48 16.2**	**+1.0**
NGJI	**Ngawi**	**0.97**	**159**	P	**Pn**	**22 48 08.2**	**+1.0**
NGJI				S	**Sn**	**22 48 25.5**	**+4.0**
GRJI	**Gresik**	**1.44**	**109**	P	**Pb**	**22 48 13.8**	**-0.3**
GRJI				S	**Sn**	**22 48 34.1**	**+1.1**
UGM	**Wanagama**	**1.56**	**202**	Pn	**Pn**	**22 48 15.0**	**-0.3**
UGM				Sn	**Sn**	**22 48 36.6**	**+0.6**
UGM	**Wanagama**	**1.56**	**202**	P	**Pn**	**22 48 15.2**	**-0.1**
UGM				S	**Sn**	**22 48 36.1**	**+0.1**
YOGI	**Yogyakarta**	**1.57**	**211**	P	**Pn**	**22 48 15.2**	**-0.3**
BWJI	**Bawean**	**1.66**	**69**	P	**Pb**	**22 48 17.5**	**-0.3**
PWJI	**Pagerwojo**	**1.71**	**156**	P	**Pn**	**22 48 17.2**	**-0.1**
PWJI				S	**Sn**	**22 48 38.6**	**-0.9**
KPJI	**Karang Pucung**	**2.33**	**248**	P	**Pb**	**22 48 28.6**	**-0.7**
BLJI	**Banyuglugur**	**2.79**	**118**	P	**Pn**	**22 48 32.7**	**+0.6**
CMJI	**Cimerak**	**2.95**	**243**	P	**Pn**	**22 48 36.7**	**+2.4**
ABJI	**Asem Bagus**	**3.38**	**113**	P	**Pn**	**22 48 41.1**	**+0.8**
LEM	**Lembang**	**3.48**	**264**	Pn	**Pb**	**22 48 47.2**	**-1.9**
	28nm,0.3s,baz=52,slow=14,SNR=7.8						
LEM				Sn	**Sb**	**22 49 35.0**	**+3.1**
	24nm,0.3s,baz=35,slow=18,SNR=5.2						
	39nm,0.5s						
LEM	**Lembang**	**3.48**	**264**	P	**Pb**	**22 48 46.4**	**-2.7**
JAGI	**Jajag, Banyuwa**	**3.63**	**124**		**Pn**	**22 48 44.0**	**+0.2**
JAGI	**Jajag, Banyuwa**	**3.63**	**124**	P	**Pn**	**22 48 43.7**	**0.0**
CNJI	**Cibinong**	**4.04**	**258**	P	**Pn**	**22 48 49.8**	**+0.5**
SRBI	**Singaraja**	**4.39**	**112**	P	**Pn**	**22 48 54.4**	**+0.2**
TWSI	**Taliwang, Sumb**	**6.16**	**112**	P	**Pn**	**22 49 18.9**	**+0.3**
	20nm,0.8s,0.1nm						
PPBI	**Pangkal Pinang**	**6.54**	**311**	P	**Pn**	**22 49 23.1**	**-0.6**
KULM	**Kulim**	**15.65**	**318**		**Pn**	**22 51 29.6**	**+1.2**
KULM				IAmb	IAmb	22 51 38.4	
	comp=Z,5.1nm,1.0s						
MBWA	**Marble Bar**	**16.84**	**151**	Pn	**Pn**	**22 51 43.0**	**-0.5**
MBWA				IAmb	IAmb	22 51 47.4	
	comp=Z,6.9nm,0.9s						
KNRA	**Kununurra**	**19.59**	**119**	P	**P**	**22 52 12.4**	**-3.6**
KNRA				IAmb	IAmb	22 52 13.3	
	comp=Z,11nm,0.7s						
ASAR	**Alice Springs**	**27.81**	**130**	P	**P**	**22 53 37.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=306,slow=7.9,SNR=4.4						
	comp=Z,0.8nm,0.7s						
STKA	**Stephens Creek**	**38.07**	**136**	P	**P**	**22 55 06.5**	**-0.2**
STKA	**Stephens Creek**	**38.07**	**136**	P	**P**	**22 55 06.8**	**+0.1**
	comp=Z,2.8nm,0.8s,baz=279,slow=8.7,SNR=3.2						
	comp=Z,2.8nm,0.8s						
MK31	**Makanchi Array**	**58.86**	**337**	P	**P**	**22 57 46.6**	**-0.1**
MK31				IAmb	IAmb	22 58 03.1	
	comp=Z,1.7nm,1.1s						
MKAR	**Makanchi Array**	**58.86**	**337**	P	**P**	**22 57 45.3**	**-1.4**
MKAR	**Makanchi Array**	**58.86**	**337**	P	**P**	**22 57 47.0**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=153,slow=7.5,SNR=18						
	comp=Z,0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**63.43**	**337**	P	**P**	**22 58 16.7**	**-0.9**
	comp=Z,3.1nm,0.2s,baz=147,slow=6.4,SNR=2.6						
	comp=Z,3.1nm,0.2s						
ZALV	**Zalesovo Beam**	**64.11**	**343**	P	**P**	**22 58 21.2**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=165,slow=6.2,SNR=5.5						
	comp=Z,0.7nm,0.4s						
BVAR	**Borovoye Array**	**68.53**	**335**	P	**P**	**22 58 49.5**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=123,slow=7.3,SNR=4.7						
	comp=Z,1.0nm,0.7s						
ABKAR	**Akbulak array**	**71.10**	**327**	P	**P**	**22 59 06.0**	**-0.3**
ABKAR	**Akbulak array**	**71.10**	**327**	P	**P**	**22 59 06.1**	**-0.1**
ABKAR				IAmb	IAmb	22 59 08.8	
	comp=Z,3.1nm,0.7s						
AKTO	**Aktyubinsk**	**72.79**	**328**	P	**P**	**22 59 16.8**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=135,slow=5.7,SNR=3.7						
	comp=Z,0.6nm,0.7s						
QSPA	**South Pole Qui**	**83.53**	**180**	P	**P**	**23 00 16.3**	**+0.5**
QSPA				IAmb	IAmb	23 00 21.2	
	comp=Z,4.2nm,1.4s						
PDAR	**Pinedale Array**	**129.10**	**38**	PKP	**PKiKP**	**23 06 57.6**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=18,slow=0.3,SNR=2.1						

ROM 02 22:51:27.6±0.1,**43°.036N**±0°.003×**13°.045E**±0°.004,
h8km,**ML1.9**/62,**17C-4D**,**Error ellipse: s-maj=0.3km**
s-min=0.2km az=70.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**89**	P	Pg	22 51 29.4	+0.1
FDMO				S	Sg	22 51 30.3	-0.1
FDMO				AML	AML		
	comp=N,4840μm,0.1s						
FDMO				AML	AML		
	comp=E,5255μm,0.2s						
T1219	**Muccia, Frazio**	**0.03**	**306**	P	Pg	22 51 29.5	+0.2
T1219				S	Sg	22 51 30.5	0.0
T1219				AML	AML		
	comp=E,2945μm,0.3s						
T1219				AML	AML		
	comp=N,3515μm,0.3s						
T1219				AML	AML		
	comp=E,5950μm,0.3s						
T1219				AML	AML		
	comp=N,7110μm,0.3s						
T1219				AML	AML		
	comp=N,3515μm,0.3s						
T1219				AML	AML		
	comp=N,7110μm,0.3s						
T1219				AML	AML		
	comp=E,2945μm,0.3s						
T1219				AML	AML		
	comp=E,5950μm,0.3s						
FEMA	**Monte Fema**	**0.07**	**177**	⇑P	Pg	22 51 30.2	+0.4
FEMA				S	Sg	22 51 31.7	+0.4
FEMA				AML	AML		
	comp=N,2095μm,1.4s						
FEMA				AML	AML		
	comp=E,2590μm,0.4s						
FEMA				AML	AML		
	comp=N,2095μm,1.4s						
FEMA				AML	AML		
	comp=N,2095μm,0.6s						
T1220	**Camerino, Fraz**	**0.08**	**24**	P	Pg	22 51 30.2	+0.4
T1220				S	Sg	22 51 32.0	+0.6
T1220				AML	AML		
	comp=E,4200μm,1.3s						
T1220				AML	AML		
	comp=N,3660μm,0.1s						
T1220				AML	AML		
	comp=E,8300μm,1.3s						
T1220				AML	AML		
	comp=N,7225μm,0.1s						
T1220				AML	AML		
	comp=E,8300μm,1.2s						
T1220				AML	AML		
	comp=E,4200μm,1.3s						
MML1	**Montelago di S**	**0.09**	**325**	P	Pg	22 51 30.4	+0.4
MML1				S	Sg	22 51 32.3	+0.5
MML1				AML	AML		
	comp=E,332μm,0.1s						
MML1				AML	AML		
	comp=N,640μm,0.1s						
MML1				AML	AML		
	comp=E,333μm,0.1s						
MML1				AML	AML		
	comp=N,640μm,0.1s						
MML1				AML	AML		
	comp=N,2570μm,0.1s						
MML1				AML	AML		
	comp=E,1395μm,0.1s						
MML1				AML	AML		
	comp=E,333μm,0.1s						
CESI	**CESI - Serrava**	**0.11**	**253**	⇑P	Pg	22 51 30.8	+0.6
CESI				S	Sg	22 51 32.9	+0.9
CESI				AML	AML		
	comp=E,1091μm,0.6s						
CESI				AML	AML		
	comp=E,1092μm,0.6s						
CESI				AML	AML		
	comp=N,1220μm,0.3s						
CSP1	**Cessapalombo**	**0.13**	**64**	⇑P	Pg	22 51 31.1	+0.5
CSP1				S	Sg	22 51 33.4	+0.8
CSP1				AML	AML		
	comp=E,482μm,0.6s						
CSP1				AML	AML		
	comp=E,481μm,0.6s						
CSP1				AML	AML		
	comp=N,214μm,1.2s						
CSP1				AML	AML		
	comp=E,482μm,1.4s						
CSP1				AML	AML		
	comp=N,214μm,0.8s						
PF6	**Pievefavera**	**0.16**	**44**	P	Pg	22 51 31.3	+0.3
PF6				S	Sg	22 51 34.1	+0.8
PF6				AML	AML		
	comp=N,187μm,0.2s						
PF6				AML	AML		
	comp=E,397μm,0.3s						
NRCA	**Norcia**	**0.21**	**166**	⇑P	Pg	22 51 32.5	+0.7
NRCA				S	Sg	22 51 36.3	+1.5
NRCA				AML	AML		
	comp=E,1310μm,0.6s						
NRCA				AML	AML		
	comp=N,1655μm,0.1s						
NRCA				AML	AML		
	comp=N,1760μm,0.1s						
NRCA				AML	AML		
	comp=E,1310μm,0.6s						
NRCA				AML	AML		
	comp=E,1395μm,0.6s						
GUMA	**Gualdo di Mace**	**0.21**	**83**	⇑P	Pg	22 51 32.9	+0.9
GUMA				S	Sg	22 51 37.0	+2.0
GUMA				AML	AML		
	comp=E,1205μm,0.2s						
GUMA				AML	AML		
	comp=N,1425μm,0.3s						
GUMA				AML	AML		
	comp=E,1840μm,0.2s						
GUMA				AML	AML		
	comp=N,1014μm,0.4s						
GUMA				AML	AML		
	comp=E,1205μm,0.2s						
T1221	**Campello sul C**	**0.23**	**220**	⇑P	Pg	22 51 33.0	+0.7
T1221				S	Sg	22 51 37.0	+1.6
T1221				AML	AML		
	comp=N,368μm,0.4s						
T1221				AML	AML		
	comp=N,368μm,0.4s						
T1221				AML	AML		
	comp=N,368μm,1.6s						
T1221				AML	AML		
	comp=E,210μm,1.5s						
SNTG	**Esanatoglia**	**0.23**	**341**	⇑P	Pg	22 51 33.0	+0.7
SNTG				S	Sg	22 51 36.9	+1.4
SNTG				AML	AML		
	comp=E,298μm,0.7s						
SNTG				AML	AML		
	comp=N,319μm,0.5s						
SNTG				AML	AML		
	comp=N,308μm,0.1s						
SNTG				AML	AML		
	comp=E,313μm,0.5s						
MMO1	**Montemonaco**	**0.25**	**123**	⇓P	Pg	22 51 33.1	+0.5
MMO1				S	Sg	22 51 37.4	+1.4
ASSB	**Assisi San Ben**	**0.28**	**272**	P	Pg	22 51 33.9	+0.6
ASSB				S	Sb	22 51 38.5	-1.4
ASSB				AML	AML		
	comp=E,312μm,0.1s						
ASSB				AML	AML		
	comp=N,440μm,0.3s						
EL6	**Elcito**	**0.30**	**8**	⇑P	Pg	22 51 34.1	+0.5
EL6				S	Sb	22 51 39.3	-1.1
EL6				AML	AML		
	comp=E,967μm,1.4s						
EL6				AML	AML		
	comp=E,967μm,0.6s						
EL6				AML	AML		
	comp=N,1205μm,0.2s						
MF5	**Montefalcone A**	**0.31**	**99**	⇑P	Pb	22 51 34.8	-0.6
MF5				S	Sb	22 51 40.3	-0.4
ATCC	**AVT- Casa Cast**	**0.33**	**297**	⇑P	Pg	22 51 34.9	+0.7
ATCC				S	Sb	22 51 40.3	-1.0
ATCC				AML	AML		
	comp=E,269μm,0.1s						
ATCC				AML	AML		
	comp=N,278μm,0.3s						
FOSV	**Fossato di Vic**	**0.33**	**321**	⇑P	Pg	22 51 34.8	+0.6
FOSV				S	Sb	22 51 40.4	-0.9
FOSV				AML	AML		
	comp=E,116μm,0.6s						
FOSV				AML	AML		
	comp=N,179μm,0.2s						
CING	**Cingoli**	**0.36**	**18**	⇑P	Pg	22 51 35.2	+0.5
CING				S	Sb	22 51 41.3	-0.8
CING				AML	AML		
	comp=N,336μm,0.1s						
CING				AML	AML		
	comp=E,214μm,0.1s						
MTRA	**Matera**	**0.38**	**137**	⇓P	Pg	22 51 35.4	+0.3
MOMA	**Monte Martano**	**0.42**	**237**	P	Pb	22 51 38.5	+1.1
MOMA				S	Sb	22 51 42.7	-1.1
LNSS	**Leonessa**	**0.43**	**180**	P	Pg	22 51 36.5	+0.4
LNSS				AML	AML		
	comp=E,187μm,1.0s						
LNSS				AML	AML		
	comp=N,340μm,0.1s						
LNSS				AML	AML		
	comp=E,187μm,1.0s						
MURB	**Monte Urbino**	**0.44**	**301**	P	Pb	22 51 37.5	-0.3
MURB				S	Sb	22 51 44.3	-0.3
MURB				AML	AML		
	comp=N,168μm,0.2s						
MURB				AML	AML		
	comp=E,180μm,0.3s						
MURB				AML	AML		
	comp=N,168μm,1.8s						
MURB				AML	AML		
	comp=E,180μm,1.7s						
SSFR	**Montelago di S**	**0.44**	**334**	⇓P	Pg	22 51 37.0	+0.6
SSFR				S	Sb	22 51 44.4	-0.2
SSFR				AML	AML		
	comp=E,350μm,0.9s						
SSFR				AML	AML		
	comp=E,276μm,0.6s						
SSFR				AML	AML		
	comp=N,382μm,0.6s						
SSFR				AML	AML		
	comp=E,276μm,1.4s						
SSFR				AML	AML		
	comp=E,350μm,1.1s						
SSFR				AML	AML		
	comp=N,563μm,0.6s						
SMA1	**SAN MARTINO**	**0.46**	**152**	⇑P	Pg	22 51 36.8	+0.3
SMA1				AML	AML		
	comp=E,86μm,1.5s						
SMA1				AML	AML		
	comp=N,87μm,1.0s						
SMA1				AML	AML		
	comp=N,87μm,1.0s						
ARVD	**Arcevia**	**0.47**	**351**	⇑P	Pg	22 51 37.1	+0.4
ARVD				S	Sb	22 51 45.1	-0.1
ARVD				AML	AML		
	comp=E,219μm,0.2s						
ARVD				AML	AML		
	comp=N,133μm,0.2s						
OFFI	**Offida**	**0.48**	**102**	⇓P	Pb	22 51 38.6	+0.3
ARRO	**Arrone**	**0.50**	**204**	⇑P	Pg	22 51 37.8	+0.5
ARRO				S	Sb	22 51 45.6	-0.5
ARRO				AML	AML		
	comp=E,144μm,0.2s						
ARRO				AML	AML		
	comp=N,156μm,0.2s						
FRON	**Frontone**	**0.54**	**334**	P	Pg	22 51 38.4	+0.4
FRON				S	Sb	22 51 47.0	-0.1
FRON				AML	AML		
	comp=E,67μm,1.5s						
FRON				AML	AML		
	comp=N,104μm,1.5s						
FRON				AML	AML		
	comp=E,67μm,0.5s						
FRON				AML	AML		
	comp=N,104μm,0.5s						
RM33	**Pellescritta (**	**0.54**	**167**	⇑P	Pg	22 51 38.3	+0.2
TERO	**Teramo**	**0.58**	**135**	⇑P	Pg	22 51 38.9	0.0
TERO				S	Sb	22 51 48.2	-0.3
TERO				AML	AML		
	comp=E,46μm,0.3s						
TERO				AML	AML		
	comp=N,40μm,0.1s						

ROM 02 22:52:04.6±0.1,**42°.762N**±0°.003×**13°.069E**±0°.005,
h10km,**ML2.3**/100,**9C-4D**,**Error ellipse: s-maj=0.3km**
s-min=0.2km az=77.0,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.08**	**25**	⇓P	Pg	22 52 07.3	+0.3
NRCA				S	Sg	22 52 09.0	+0.2
NRCA				AML	AML		
	comp=E,16000μm,0.8s						
NRCA				AML	AML		
	comp=N,15800μm,0.1s						
NRCA				AML	AML		
	comp=N,17150μm,0.1s						
NRCA				AML	AML		
	comp=E,14800μm,0.8s						
LNSS	**Leonessa**	**0.16**	**188**	⇑P	Pg	22 52 08.7	+0.6
LNSS				S	Sg	22 52 11.8	+1.1
LNSS				AML	AML		
	comp=E,4320μm,0.2s						
LNSS				AML	AML		
	comp=N,5040μm,0.1s						
MC2	**Monte Cornacci**	**0.17**	**31**	⇓P	Pg	22 52 09.1	+0.6
MC2				S	Sg	22 52 12.4	+1.2
T1221	**Campello sul C**	**0.19**	**301**	AML	AML		
	comp=E,1405μm,0.4s						
T1221				AML	AML		
	comp=N,1027μm,0.3s						
T1221				AML	AML		
	comp=N,1096μm,0.8s						
T1221				AML	AML		
	comp=E,1335μm,0.4s						
T1221				AML	AML		
	comp=N,1094μm,0.8s						
T1221				AML	AML		
	comp=E,1335μm,0.4s						
T1221				AML	AML		
	comp=N,1022μm,0.3s						
FEMA	**Monte Fema**	**0.20**	**356**	P	Pg	22 52 09.4	+0.5
FEMA				S	Sg	22 52 12.8	+1.0
FEMA				AML	AML		
	comp=E,1710μm,0.1s						
FEMA				AML	AML		
	comp=N,1700μm,0.6s						
FEMA				AML	AML		
	comp=E,1710μm,0.1s						
FEMA				AML	AML		
	comp=N,1700μm,0.7s						
MMO1	**Montemonaco**	**0.23**	**54**	⇑P	Pg	22 52 09.8	+0.4
MMO1				S	Sg	22 52 13.8	+1.0
SMA1	**SAN MARTINO**	**0.24**	**124**	P	Pg	22 52 10.0	+0.5
SMA1				S	Sg	22 52 14.4	+1.6
SMA1				AML	AML		
	comp=E,1670μm,0.7s						
SMA1				AML	AML		
	comp=N,1740μm,0.6s						
MTRA	**Matera**	**0.24**	**91**	⇓P	Pg	22 52 10.0	+0.4
MTRA				S	Sg	22 52 14.2	+1.3
MTRA				AML	AML		
	comp=N,3610μm,0.2s						
MTRA				AML	AML		
	comp=E,2920μm,0.4s						
MTRA				AML	AML		
	comp=N,3810μm,0.2s						
MTRA				AML	AML		
	comp=E,2985μm,0.4s						
MTRA				AML	AML		
	comp=N,3615μm,0.2s						
MTRA				AML	AML		
	comp=E,2920μm,0.4s						
CESI	**CESI - Serrava**	**0.27**	**334**	P	Pg	22 52 10.5	+0.4
CESI				S	Sb	22 52 15.1	-1.2
CESI				AML	AML		
	comp=N,1710μm,0.2s						
CESI				AML	AML		
	comp=E,844μm,0.3s						
FDMO	**Fiordimonte**	**0.27**	**3**	⇑P	Pg	22 52 10.5	+0.4
FDMO				S	Sg	22 52 15.2	+1.2
FDMO				AML	AML		
	comp=E,633μm,0.4s						
FDMO				AML	AML		
	comp=N,883μm,0.3s						
RM33	**Pellescritta (**	**0.28**	**157**	⇓P	Pg	22 52 10.6	+0.4
RM33				S	Sg	22 52 15.1	+1.2
RM33				AML	AML		
	comp=E,804μm,0.9s						
RM33				AML	AML		
	comp=N,900μm,0.4s						
RM33				AML	AML		
	comp=E,792μm,0.9s						
RM33				AML	AML		
	comp=N,888μm,0.4s						
RM33				AML	AML		
	comp=E,804μm,0.9s						
ARRO	**Arrone**	**0.29**	**231**	⇑P	Pg	22 52 10.9	+0.5
ARRO				S	Sb	22 52 15.6	-1.1
ARRO				AML	AML		
	comp=E,1325μm,1.1s						
ARRO				AML	AML		
	comp=N,1104μm,0.2s						
ARRO				AML	AML		
	comp=E,1325μm,0.9s						
T1219	**Muccia, Frazio**	**0.30**	**351**	AML	AML		
	comp=N,308μm,0.3s						

T1219 AML AML
comp=E,254µm,0.6s
T1219 AML AML
comp=N,308µm,0.3s
T1219 AML AML
comp=E,532µm,0.6s
T1219 AML AML
comp=N,612µm,0.3s
T1219 AML AML
comp=E,532µm,0.6s
T1219 AML AML
comp=N,612µm,0.3s
T1219 AML AML
comp=E,254µm,0.6s
CAMP Campotosto 0.34 132 P Pg 22 52 11.6 +0.3
CAMP S Sg 22 52 17.0 +1.1
CAMP AML AML
comp=N,195µm,0.9s
CAMP AML AML
comp=E,232µm,1.2s
CAMP AML AML
comp=N,195µm,1.1s
CSP1 Cessapalombo 0.34 17 ⇑P Pg 22 52 11.8 +0.3
CSP1 S Sg 22 52 17.3 +1.2
CSP1 AML AML
comp=E,458µm,1.3s
CSP1 AML AML
comp=N,217µm,0.4s
CSP1 AML AML
comp=E,458µm,0.7s
T1220 Camerino, Fraz 0.35 2 AML AML
comp=N,1315µm,1.0s
T1220 AML AML
comp=E,962µm,0.3s
T1220 AML AML
comp=N,686µm,0.5s
T1220 AML AML
comp=E,1880µm,0.3s
T1220 AML AML
comp=N,1315µm,0.9s
T1220 AML AML
comp=N,686µm,0.5s
T1220 AML AML
comp=E,962µm,0.3s
T1220 AML AML
comp=N,686µm,1.5s
T1220 AML AML
comp=E,1885µm,0.3s
GUMA Gualdo di Mace 0.36 33 ⇑P Pg 22 52 12.3 +0.6
GUMA S Sb 22 52 18.4 -0.4
GUMA AML AML
comp=N,1610µm,0.4s
GUMA AML AML
comp=E,2160µm,0.4s
GUMA AML AML
comp=N,2215µm,0.5s
GUMA AML AML
comp=N,1610µm,1.6s
GUMA AML AML
comp=E,1860µm,0.4s
MML1 Montelago di S 0.36 349 AML AML
comp=N,132µm,0.9s
MML1 AML AML
comp=N,508µm,0.2s
MML1 AML AML
comp=E,534µm,1.2s
MML1 AML AML
comp=E,125µm,1.2s
MF5 Montefalcone A 0.37 52 ⇑P Pb 22 52 12.6 -0.7
MF5 S Sb 22 52 18.8 -0.2
MF5 AML AML
comp=N,1270µm,0.5s
MF5 AML AML
comp=E,1475µm,0.6s
MOMA Monte Martano 0.37 277 P Pg 22 52 12.4 +0.4
MOMA S Sb 22 52 18.4 -0.8
MOMA AML AML
comp=N,1044µm,0.2s
MOMA AML AML
comp=N,1140µm,0.2s
MOMA AML AML
comp=E,1675µm,0.2s
MOMA AML AML
comp=E,1775µm,0.2s
MOMA AML AML
comp=N,1044µm,0.2s
CESX Cesi 0.39 247 P Pg 22 52 12.7 +0.4
CESX S Sb 22 52 18.7 -1.0
CESX AML AML
comp=E,574µm,0.5s
CESX AML AML
comp=N,706µm,0.5s
CESX AML AML
comp=E,574µm,0.5s
PF6 Pievefavera 0.40 13 ⇑P Pg 22 52 12.4 -0.1
PF6 S Sg 22 52 18.4 +0.7
PF6 AML AML
comp=N,244µm,0.6s
PF6 AML AML
comp=E,393µm,1.6s
PF6 AML AML
comp=N,244µm,1.4s
PF6 AML AML
comp=E,393µm,0.4s
ASSB Assisi San Ben 0.41 313 AML AML
comp=E,456µm,0.2s
ASSB AML AML
comp=N,502µm,0.7s
TERO Teramo 0.42 109 P Pg 22 52 12.8 0.0
TERO S Sb 22 52 19.6 -0.9
TERO AML AML
comp=E,362µm,0.8s
TERO AML AML
comp=N,370µm,0.4s
TERO AML AML
comp=N,736µm,0.4s
TERO AML AML
comp=N,736µm,1.6s
TERO AML AML
comp=N,370µm,1.6s
TERO AML AML
comp=E,745µm,0.1s
GIGS Gran Sasso 0.48 130 P Pg 22 52 14.0 0.0
GIGS S Sg 22 52 21.4 +0.9
GIGS AML AML
comp=E,100µm,0.5s
GIGS AML AML
comp=N,97µm,0.9s
OFFI Offida 0.48 69 ⇑P Pb 22 52 15.2 0.0
OFFI AML AML
comp=E,1022µm,0.7s
OFFI AML AML
comp=N,1150µm,0.7s
OFFI AML AML
comp=E,1022µm,1.3s
FIAM Fiamignano 0.49 176 P Pg 22 52 14.4 +0.2
FIAM S Sb 22 52 22.2 -0.5
FIAM AML AML
comp=N,212µm,0.7s
FIAM AML AML
comp=E,196µm,0.7s
FIAM AML AML
comp=N,212µm,0.7s
FIAM AML AML
comp=E,196µm,1.3s
SNTG Esanatoglia 0.50 349 P Pg 22 52 14.6 +0.2
SNTG S Sb 22 52 22.3 -0.6
SNTG AML AML
comp=N,298µm,1.2s
SNTG AML AML
comp=E,240µm,0.5s
SNTG AML AML
comp=N,298µm,0.8s
ATCC AVT- Casa Cast 0.53 323 P Pg 22 52 15.1 +0.3
ATCC S Sb 22 52 23.4 -0.3
ATCC AML AML
comp=E,462µm,0.6s
ATCC AML AML
comp=N,318µm,0.4s
ATCC AML AML
comp=E,462µm,1.4s
ATCC AML AML
comp=N,318µm,1.6s
EL6 Elcito 0.57 2 P Pg 22 52 15.6 -0.1
EL6 AML AML
comp=E,372µm,0.2s
EL6 AML AML
comp=N,364µm,0.1s
FOSV Fossato di Vic 0.58 337 P Pg 22 52 16.0 +0.2
FOSV AML AML
comp=E,146µm,0.3s
FOSV AML AML
comp=N,258µm,0.4s
FOSV AML AML
comp=E,145µm,0.3s
CING Cingoli 0.62 9 P Pg 22 52 16.7 +0.1
CING AML AML
comp=E,193µm,0.2s
CING AML AML
comp=N,134µm,0.9s
CING AML AML
comp=E,193µm,1.8s
TRTR Tortoreto Alta 0.62 85 P Pb 22 52 18.0 +0.4
TRTR AML AML
comp=E,808µm,0.5s
TRTR AML AML
comp=N,828µm,1.4s
TRTR AML AML
comp=N,828µm,0.6s
TRTR AML AML
comp=E,808µm,1.5s
FAGN Fagnano 0.62 142 P Pg 22 52 16.6 -0.1
FAGN S Sb 22 52 25.8 -0.7
FAGN AML AML
comp=E,310µm,0.4s
FAGN AML AML
comp=N,231µm,0.2s
SRES S.Oreste - Sor 0.67 218 P Pg 22 52 17.8 +0.3
SRES S Sb 22 52 28.0 +0.4
SRES AML AML
comp=E,130µm,0.3s
SRES AML AML
comp=N,125µm,0.2s
VCEL Villa Celiera 0.68 123 P Pg 22 52 18.0 +0.3
VCEL AML AML
comp=E,278µm,0.8s
VCEL AML AML
comp=N,312µm,0.3s
VCEL AML AML
comp=E,278µm,1.2s
MGAB Montegabbione 0.72 282 P Pb 22 52 18.9 -0.3
PP3 Marolino 0.73 33 P Pb 22 52 19.9 +0.5
PP3 AML AML
comp=E,350µm,0.8s
PP3 AML AML
comp=N,536µm,0.6s
PP3 AML AML
comp=E,350µm,1.2s
ARVD Arcevia 0.74 353 P Pg 22 52 19.1 +0.1
ARVD AML AML
comp=N,104µm,1.6s
ARVD AML AML
comp=E,130µm,0.6s
T0110 Collepietro 0.75 135 AML AML
comp=N,206µm,0.9s
T0110 AML AML
comp=E,184µm,0.7s
T0110 AML AML
comp=N,206µm,1.1s
T0110 AML AML
comp=E,184µm,1.3s
FRON Frontone 0.80 342 AML AML
comp=E,85µm,1.0s
FRON AML AML
comp=N,147µm,0.3s
FRON AML AML
comp=E,85µm,1.0s
CERT Cerreto 0.81 185 P Pg 22 52 19.8 -0.5
CERT AML AML
comp=E,150µm,0.4s
CERT AML AML
comp=N,89µm,1.5s
SACS San Casciano d 0.86 276 AML AML
comp=E,100µm,0.5s
SACS AML AML
comp=N,95µm,0.8s
INTR Introdacqua 0.97 140 AML AML
comp=E,63µm,0.9s
INTR AML AML
comp=N,120µm,1.2s
INTR AML AML
comp=N,120µm,0.8s
LPEL Lama dei Pelig 1.09 131 AML AML
comp=E,68µm,1.3s
LPEL AML AML
comp=N,59µm,1.3s

MOS ***02*** *22:56:06.4±0.8,36.°88N×71.°52E,h93km,mb4.5/25,Error ellipse: s-maj=6.3km s-min=3.5km az=85.4*
IDC ***02*** *22:56:07.8±3.4,36.°83N×71.°62E,h94km±27km,mb4.0/19, mbtmp4.4/23,MS2.6/2,Error ellipse: s-maj=23.3km s-min=13.6km az=172.0*
NEIC ***02*** *22:56:09.3±1.4,36.°95N±0.°07×71.°56E±0.°07,h99km±3km, mb4.5/53,Error ellipse: s-maj=9.7km s-min=8.1km az=192.0*
NNC ***02*** *22:56:12.4±2.9,37.°26N×71.°35E,h161km±54km,mb4.2, mpv5.0,Error ellipse: s-maj=27.4km s-min=16.6km az=26.0*
SOME ***02*** *22:56:13.9,37.°47N×71.°57E,h20km*
ISC 02 22:56:08.0±0.5,36.°88N±0.°04×71.°55E±0.°04,h95km±4km, h95km:pP-P,n269,σ1s48/299,mb4.4/71,12C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
DRK	**Karamyk**	**2.60**	**4**		**Pn**	**22 56 50.6**	**+2.0**
DRK	**Karamyk**	**2.60**	**4**	PN	**Pn**	**22 56 50.6**	**+2.0**
SIMJ	**Simiganj**	**2.68**	**312**		**Pn**	**22 56 49.0**	**-0.6**
KBL	**Kabul**	**3.10**	**222**	Pn	**Pn**	**22 56 58.1**	**+2.8**
KBL	**Kabul**	**3.10**	**222**	PN	**Pn**	**22 56 58.1**	**+2.8**
BTK	**Batken**	**3.22**	**350**		**Pn**	**22 56 58.7**	**+2.0**
BTK	**Batken**	**3.22**	**350**	PN	**Pn**	**22 56 58.7**	**+2.0**
KSH	**Kashi**	**4.36**	**52**	P	Pn	22 57 08.3	-3.8
KSH				S	Sn	22 57 53.1	-8.8
KSH				pmax	pmax		
	comp=Z,260nm,0.6s						
KSH				smax	smax		
	comp=N,790nm,0.5s						
KSH				smax	smax		
	comp=E,440nm,0.5s						
ARSB	**Arslanbob**	**4.57**	**14**		**Pn**	**22 57 15.4**	**+0.4**
ARSB	**Arslanbob**	**4.57**	**14**	PN	**Pn**	**22 57 15.4**	**+0.4**
JMU	**Jammu**	**4.99**	**146**	*e*P	**Pn**	**22 57 22.4**	**+2.0**
JMU				*e*S	**Sn**	**22 58 15.3**	**-1.5**
IUG	**Iuzhnay** baz=347	**5.39**	**348**	*e*Pn	**Pn**	**22 57 26.2**	**+0.2**
IUG	**Iuzhnay**	**5.39**	**348**	*e*P	**Pn**	**22 57 26.4**	**+0.4**
	comp=E,278nm,0.4s						
IUG				*e*S	**Sn**	**22 58 24.1**	**-2.5**
	comp=E,356nm,0.9s						
IUG	**Iuzhnay**	**5.39**	**348**	*e*PN	**Pn**	**22 57 26.2**	**+0.2**
THN	**Thein Dam**	**5.61**	**141**	*e*P	**Pn**	**22 57 31.0**	**+2.0**
THN				*e*S	**Sn**	**22 58 30.5**	**-1.5**
THN				IAML		22 58 35.8	
	comp=E,565nm,0.3s						
THN				IAML		22 58 46.4	
	comp=E,236nm,0.3s						
UCH	**Uchtor** SNR=76	**5.81**	**22**	P	**Pn**	**22 57 32.9**	**+0.9**
MRKS	**Merke**	**5.99**	**12**	*e*P	**Pn**	**22 57 34.7**	**+0.5**
	comp=E,110nm,2.1s						
MRKS				*e*S	**Sn**	**22 58 39.0**	**-2.5**
	comp=E,336nm,0.0s						
DZA	**Taraz** baz=358	**6.00**	**358**	*e*Pn	**Pn**	**22 57 34.8**	**+0.5**
DZA	baz=358			*e*Sn	**Sn**	**22 58 42.1**	**+0.5**
DZA	**Taraz**	**6.00**	**358**	*e*P	**Pn**	**22 57 35.0**	**+0.7**
	comp=E,382nm,0.2s						
DZA				*e*S	**Sn**	**22 58 39.5**	**-2.1**
	comp=E,1µm,0.0s						
DZA	**Taraz**	**6.00**	**358**	*e*PN	**Pn**	**22 57 34.8**	**+0.5**
EKS2	**Erkin-Say** SNR=99	**6.02**	**16**	P	**Pn**	**22 57 35.7**	**+1.1**
DHRM	**DHARAMSHALA**	**6.06**	**138**	*e*P	**Pn**	**22 57 36.5**	**+1.2**
DHRM				*e*S	**Sn**	**22 58 41.4**	**-2.0**
DHRM				IAML		22 58 45.3	
	comp=E,977nm,0.3s						
DHRM				IAML		22 58 46.1	
	comp=E,701nm,0.1s						
AAK	**Ala-Archa**	**6.18**	**21**	P	**Pn**	**22 57 38.1**	**+1.3**
	SNR=123						
AAK	**Ala-Archa**	**6.18**	**21**	⇓P	**Pn**	**22 57 37.8**	**+1.0**
	comp=E,52nm,0.5s						
AAK				⇑S	**Sn**	**22 58 45.4**	**-0.6**
	comp=E,88nm,0.6s						
AAK	**Ala-Archa**	**6.18**	**21**	P	**Pn**	**22 57 38.1**	**+1.3**
	comp=E,62nm,0.3s,baz=200,slow=8.0,SNR=441						
AAK				S	**Sn**	**22 58 45.5**	**-0.5**
	comp=E,72nm,0.6s,baz=329,slow=23,SNR=13						
AAK				LR	LR	22 59 37.6	
	comp=E,22nm,18.8s,baz=218,slow=34						
AAK	**Ala-Archa**	**6.18**	**21**	*ce*PN	**Pn**	**22 57 37.9**	**+1.1**
AAK				pmax	pmax		
	comp=Z,96nm,0.8s						
KK31	**Karatay Array**	**6.26**	**353**	P	**Pn**	**22 57 37.9**	**+0.1**
	comp=Z,39nm,0.3s,baz=184,slow=12,SNR=487						
KK31				S	**Sn**	**22 58 45.0**	**-2.9**
	comp=Z,20nm,0.3s,baz=182,slow=24,SNR=7.9						
KK31	**Karatay Array**	**6.26**	**353**	Pn	**Pn**	**22 57 38.2**	**+0.5**
KK31	**Karatay Array**	**6.26**	**353**	PN	**Pn**	**22 57 38.3**	**+0.5**
KKAR	**Karatay Array**	**6.26**	**353**	Pn	**Pn**	**22 57 38.2**	**+0.4**
KKAR	**Karatay Array**	**6.26**	**353**	PN	**Pn**	**22 57 38.2**	**+0.4**
BRLS	**Borolday** baz=346	**6.28**	**348**	*e*Pn	**Pn**	**22 57 34.8**	**-3.2**
BRLS	**Borolday**	**6.28**	**348**	*e*P	**Pn**	**22 57 34.8**	**-3.2**
	comp=Z,29nm,0.3s						
BRLS				*e*S	Sn	22 58 39.1	-9.2
	comp=Z,140nm,0.3s						
BRLS	**Borolday**	**6.28**	**348**	*e*PN	**Pn**	**22 57 34.8**	**-3.2**
KBK	**Karagaybulak** SNR=52	**6.33**	**23**	P	**Pn**	**22 57 40.0**	**+1.1**
FRU1	**Bishkek**	**6.37**	**21**		**Pn**	**22 57 40.9**	**+1.5**
FRU1	**Bishkek**	**6.37**	**21**	PN	**Pn**	**22 57 40.9**	**+1.5**
BOOM	**Boomskoye usch**	**6.54**	**30**	Pn	**Pn**	**22 57 42.7**	**+1.0**
BOOM	**Boomskoye usch**	**6.54**	**30**	PN	**Pn**	**22 57 42.7**	**+1.0**
CHMS	**Chumysh** SNR=106	**6.58**	**21**	P	**Pn**	**22 57 43.2**	**+1.1**
CHMS	**Chumysh**	**6.58**	**21**	⇑P	**Pn**	**22 57 42.8**	**+0.6**
	comp=Z,131nm,0.7s						
CHMS				⇓S	**Sn**	**22 58 55.7**	**0.0**
	comp=Z,146nm,0.7s						
CHMS	**Chumysh**	**6.58**	**21**	PN	**Pn**	**22 57 42.8**	**+0.6**
USP	**Ospenovka** SNR=100	**6.76**	**19**	P	**Pn**	**22 57 45.1**	**+0.4**
BHK	**Bhakra**	**6.78**	**142**	*e*P	**Pn**	**22 57 45.5**	**+0.6**
BHK				*e*S	**Sn**	**22 58 56.9**	**-3.8**
BHK				IAML		22 59 03.5	
	comp=E,350nm,0.2s						
BHK				IAML		22 59 14.7	
	comp=E,337nm,0.3s						
TKM2	**Tokmak 2** SNR=188	**6.78**	**26**	P	**Pn**	**22 57 46.0**	**+0.9**
TKM2	**Tokmak 2**	**6.78**	**26**	⇑P	**Pn**	**22 57 45.7**	**+0.6**
	comp=E,74nm,0.7s						
TKM2				⇓S	**Sn**	**22 58 59.9**	**-1.0**
	comp=E,62nm,0.9s						
TKM2	**Tokmak 2**	**6.78**	**26**	PN	**Pn**	**22 57 45.7**	**+0.6**
TARG	**Taragay, Kyrgy**	**6.85**	**43**		**Pn**	**22 57 47.3**	**+1.1**
TARG	**Taragay, Kyrgy**	**6.85**	**43**	PN	**Pn**	**22 57 47.3**	**+1.1**
SGDS	**Sogindy**	**6.97**	**19**	*e*Pn	**Pn**	**22 57 47.6**	**+0.1**
	comp=E,7.1nm,0.6s,baz=19						
SGDS	**Sogindy**	**6.97**	**19**	*e*PN	**Pn**	**22 57 47.6**	**+0.1**
SGDS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
KST	**Kastek**	**7.02**	**27**	*e*P	**Pn**	**22 57 49.3**	**+1.1**
	comp=Z,22nm,0.5s						
KST				*e*S	**Sn**	**22 59 05.5**	**-1.1**
	comp=Z,64nm,1.5s						
DGS	**Degeres**	**7.13**	**26**	*e*P	**Pn**	**22 57 50.8**	**+1.1**
	comp=Z,54nm,0.6s						
DGS				*e*S	**Sn**	**22 59 08.0**	**-1.1**
	comp=Z,33nm,0.8s						
SMLA	**Simla**	**7.39**	**139**	*e*P	**Pn**	**22 57 53.5**	**+0.3**
SMLA				*e*S	**Sn**	**22 59 10.7**	**-4.9**
SMLA				IAML		22 59 16.2	
	comp=E,328nm,0.2s						
SMLA				IAML		22 59 16.6	
	comp=E,379nm,0.3s						
TNSS	**Tian-Shan** baz=32	**7.41**	**32**	*e*Pn	**Pn**	**22 57 54.2**	**+0.4**
TNSS	**Tian-Shan**	**7.41**	**32**	*e*PN	**Pn**	**22 57 54.1**	**+0.4**
KRBS	**Karabastau**	**7.50**	**24**	*e*P	**Pn**	**22 57 54.8**	**+0.2**
	comp=E,29nm,0.6s						
KRBS				*e*S	**Sn**	**22 59 15.0**	**-3.0**
	comp=E,10nm,1.0s						
MDOK	**Medeo**	**7.55**	**32**	⇑P	**Pn**	**22 57 56.6**	**+1.1**
	comp=E,37nm,0.7s						
MDOK	**Medeo** baz=32	**7.55**	**32**	*e*P	**Pn**	**22 57 55.8**	**+0.3**
MDOK	**Medeo**	**7.55**	**32**	PN	**Pn**	**22 57 56.6**	**+1.1**
KNDC	**Almaty**	**7.56**	**32**	⇓P	**Pn**	**22 57 56.8**	**+1.2**
	comp=E,144nm,0.7s						
KNDC	**Almaty**	**7.56**	**32**	PN	**Pn**	**22 57 56.8**	**+1.2**
HRA	**Herat**	**7.98**	**255**	Pn	**Pn**	**22 58 03.0**	**+1.6**
CHKK	**Chushkaly** baz=29	**8.10**	**29**	*e*P	**Pn**	**22 58 03.1**	**+0.2**
CHKK	**Chushkaly**	**8.10**	**29**	*e*PN	**Pn**	**22 58 03.0**	**+0.2**
SATY	**Saty** baz=38	**8.11**	**38**	*e*P	**Pn**	**22 58 03.5**	**+0.5**
SATY	**Saty**	**8.11**	**38**	*e*PN	**Pn**	**22 58 03.5**	**+0.5**
ZHN	**Zhinishke**	**8.20**	**38**	*e*P	**Pn**	**22 58 04.8**	**+0.6**
	comp=E,4.3nm,0.8s,baz=38						
ZHN	**Zhinishke**	**8.20**	**38**	*e*PN	**Pn**	**22 58 04.8**	**+0.6**
ZHN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BTLS	**Baital**	**8.36**	**12**	*e*P	**Pn**	**22 58 05.8**	**-0.6**
	comp=Z,4.1nm,0.6s,baz=12						
BTLS	**Baital**	**8.36**	**12**	*e*PN	**Pn**	**22 58 05.8**	**-0.6**
BTLS				pmax	pmax		
	comp=Z,4.0nm,0.6s						
UZB	**Uzynbulak**	**8.48**	**40**	*e*P	**Pn**	**22 58 08.8**	**+0.6**
	comp=Z,4.1nm,0.9s,baz=40						
UZB	**Uzynbulak**	**8.48**	**40**	*e*PN	**Pn**	**22 58 08.7**	**+0.6**
UZB				pmax	pmax		
	comp=Z,4.0nm,0.9s						
DDI	**Dehra Dun**	**8.50**	**138**	*e*P	**Pn**	**22 58 09.4**	**+1.0**
DDI				*e*S	Sn	22 59 33.7	-8.8
DDI				IAML		22 59 41.1	
	comp=E,148nm,0.3s						
DDI				IAML		22 59 41.3	
	comp=N,147nm,0.3s						
SHLS	**Shalkode**	**8.72**	**42**	*e*P	**Pn**	**22 58 14.3**	**+2.9**
	comp=N,3.5nm,0.9s,baz=43						
SHLS	**Shalkode**	**8.72**	**42**	*e*PN	**Pn**	**22 58 14.2**	**+2.9**
SHLS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NDI	**New Delhi**	**9.46**	**148**	*e*S	**Sn**	**22 59 58.7**	**-7.3**
TDK	**Taldyqorghan** baz=30	**9.62**	**30**	*e*P	**Pn**	**22 58 23.0**	**-0.6**
TDK	**Taldyqorghan**	**9.62**	**30**	*e*P	**Pn**	**22 58 22.9**	**-0.6**
KUDL	**Kundal**	**9.66**	**153**	*e*P	**Pn**	**22 58 22.5**	**-1.5**
KUDL				*e*S	Sn	23 00 02.9	-7.9
PTH	**Pithoragarh**	**10.30**	**133**	*e*P	**Pn**	**22 58 31.7**	**-1.3**
PTH				*e*S	Sn	23 00 17.6	-9.1
LGTI	**Lohaghat**	**10.39**	**133**	*e*P	**Pn**	**22 58 31.4**	**-2.7**
LGTI				*e*S	Sn	23 00 18.7	-10
LGTI				IAML		23 00 25.0	
	comp=E,40nm,0.7s						
LGTI				IAML		23 00 37.8	
	comp=E,50nm,0.5s						
AJM	**Ajmer**	**10.70**	**165**	*e*P	**Pn**	**22 58 38.0**	**-0.3**
AJM				*e*S	Sn	23 00 27.8	-8.4
GEYT	**Alibeck**	**10.74**	**280**	P	**Pn**	**22 58 35.7**	**-3.1**
	comp=E,10nm,0.5s,baz=91,slow=15,SNR=2.7						
GEYT				S	Sn	23 00 27.9	-9.2
	comp=E,26nm,0.5s,baz=115,slow=17,SNR=3.4						
MAKZ	**Makanchi**	**12.59**	**35**		**Pn**	**22 59 01.9**	**-1.6**
MAKZ	**Makanchi**	**12.59**	**35**	P	**Pn**	**22 59 01.9**	**-1.6**
MK31	**Makanchi Array**	**12.72**	**36**	Pn	**Pn**	**22 59 04.2**	**-1.1**
MK31	**Makanchi Array**	**12.72**	**36**	*ce*P	**Pn**	**22 59 04.7**	**-0.6**
MKAR	**Makanchi Array**	**12.72**	**36**	Pn	**Pn**	**22 59 05.0**	**-0.3**
MKAR	**Makanchi Array**	**12.72**	**36**	P	**Pn**	**22 59 05.3**	**0.0**
	comp=E,8.5nm,0.9s,baz=224,slow=13,SNR=31						
JHNI	**Jhansi**	**12.85**	**150**	*e*P	**Pn**	**22 59 05.2**	**-1.9**
JHNI				*e*S	Sn	23 01 17.3	-11
WMQ	**Urumqi**	**14.11**	**56**	*e*P	**Pn**	**22 59 25.2**	**+1.6**
ZSN	**Zaisan** baz=39	**14.43**	**39**	*e*P	**Pn**	**22 59 27.8**	**+0.2**
ZSN	**Zaisan**	**14.43**	**39**	*e*P	**Pn**	**22 59 27.8**	**+0.2**
BHPL	**Bhopal**	**14.51**	**158**	*e*P	**Pn**	**22 59 30.6**	**+1.8**
BHPL				*e*S	Sn	23 01 54.5	-14
BHPL				IAML		23 02 00.8	
	comp=E,38nm,0.6s						
BHPL				IAML		23 02 04.8	
	comp=N,24nm,0.4s						

KURBB Kurchatov Arra 14.62 18 P **Pn** **22 59 27.3 -2.7**
comp=N,2.8nm,0.5s,baz=207,slow=10,SNR=4.9
KURK Kurchatov 14.73 18 Pn **Pn** **22 59 30.6 -0.7**
KURK Kurchatov 14.73 18 *ce*P **Pn** **22 59 31.4 +0.1**
KURK pmax pmax
comp=Z,7.0nm,0.8s
SEM Semipalatinsk 14.90 22 *e*P **Pn** **22 59 33.7 0.0**
baz=22
SEM Semipalatinsk 14.90 22 *e*P **Pn** **22 59 33.7 0.0**
AB31 Akbulak array 14.97 329 P **Pn** **22 59 31.4 -3.0**
comp=Z,4.6nm,0.3s,baz=137,slow=14,SNR=282
AB31 S Sn 23 02 08.6 -11
comp=Z,16nm,0.6s,baz=149,slow=23,SNR=16
AB31 Akbulak array 14.97 329 P **Pn** **22 59 31.4 -3.0**
AB31 S Sn 23 02 08.5 -11
ABKAR Akbulak array 14.97 329 Pn **Pn** **22 59 31.0 -3.4**
ABKAR Akbulak array 14.97 329 **Pn** **22 59 30.8 -3.7**
BVAR Borovoye Array 16.16 357 P **Pn** **22 59 47.3 -2.1**
comp=Z,6.9nm,0.3s,baz=160,slow=10.0,SNR=45
BVAR S **Sn** **23 02 40.1 -8.0**
comp=Z,6.5nm,0.6s,baz=167,slow=23,SNR=8.0
BRVK Borovoye 16.20 357 Pn **Pn** **22 59 48.8 -1.0**
BRVK Borovoye 16.20 357 *ce*P **Pn** **22 59 48.8 -1.0**
BRVK pmax pmax
comp=Z,16nm,1.3s
AKTO Aktyubinsk 16.68 329 ||P **Pn** **22 59 54.0 -1.8**
comp=Z,20nm,0.5s
AKTO Aktyubinsk 16.68 329 P **Pn** **22 59 55.0 -0.8**
comp=Z,44nm,0.4s,baz=142,slow=7.6,SNR=90
AKTO S Sn 23 02 49.0 -12
comp=Z,10nm,0.6s,baz=6.3,slow=21,SNR=6.2
AKTO Aktyubinsk 16.68 329 P **Pn** **22 59 55.0 -0.8**
AKL Akola 16.81 162 *e*P **P** **22 59 58.7 +0.5**
AKL *e*S Sn 23 02 49.6 -15
AKL IAML 23 02 55.0
comp=E,38nm,0.5s
AKL IAML 23 02 57.0
comp=N,30nm,0.7s
UOSS Minazif 17.72 232 P **P** **23 00 08.8 +0.6**
LSA Lhasa 17.87 108 P **P** **23 00 10.2 -0.1**
LSA Lhasa 17.87 108 P **P** **23 00 10.2 -0.1**
LSA pmax pmax
comp=Z,4.0nm,0.5s
SEKA Sheki 19.38 290 P **P** **23 00 25.4 -1.0**
ZAA0 Zalesovo Array 19.38 24 P **P** **23 00 25.5 -0.6**
ZAA0 IAmb IAmb 23 00 27.2
comp=Z,8.3nm,0.6s
ZALV Zalesovo Beam 19.38 24 P **P** **23 00 25.4 -0.7**
ZALV Zalesovo Beam 19.38 24 P **P** **23 00 25.9 -0.2**
comp=Z,6.0nm,0.3s,baz=220,slow=11,SNR=41
ZALV Zalesovo Beam 19.38 24 *i* P **P** **23 00 25.8 -0.3**
ZALV pmax pmax
comp=Z,6.0nm,0.3s
MAK Makhachkala 19.38 296 *e*P **P** **23 00 27.3 +1.0**
MAK *e*S **Sn** **23 04 04.4 -1.3**
MAK pmax pmax
comp=Z,82nm,0.7s
MAK MLR MLR
comp=Z,60nm,17.0s
ZKTA Zakatala 19.85 292 P **P** **23 00 31.3 -0.1**
GROC Groznyy 20.66 296 *e*P **P** **23 00 39.6 -0.4**
GROC *e**PP **pP** **23 00 58.8 -0.1**
GROC *e**SP **sP** **23 01 12.5 +1.5**
GROC *e*S **S** **23 04 24.8 -0.7**
GROC *e**SS **sS** **23 04 57.0 -0.4**
GROC pmax pmax
comp=Z,48nm,1.3s
SHL Shillong 20.68 117 P **P** **23 00 40.9 +0.3**
SHL Shillong 20.68 117 P **P** **23 00 40.9 +0.3**
SHL pmax pmax
comp=Z,9.0nm,0.9s
GNI Garni 21.20 287 P **P** **23 00 46.9 +0.9**
GNI IAmb IAmb 23 00 49.9
comp=Z,18nm,0.8s
GNI Garni 21.20 287 P **P** **23 00 47.9 +1.8**
comp=Z,15nm,0.7s,baz=358,slow=3.0,SNR=17
comp=Z,15nm,0.7s
GNI Garni 21.20 287 *ce*P **P** **23 00 47.3 +1.2**
GNI pmax pmax
comp=Z,28nm,1.3s
SVE Sverdlovsk 21.25 343 *e*P **P** **23 00 46.1 -0.1**
SVE *e*S **S** **23 04 40.0 +3.1**
SVE pmax pmax
comp=Z,15nm,0.8s
ARU Arti 21.42 340 P **P** **23 00 47.3 -0.8**
ARU IAmb IAmb 23 00 52.7
comp=Z,11nm,0.4s
ARU Arti 21.42 340 P **P** **23 00 47.8 -0.2**
comp=Z,8.1nm,0.4s,baz=142,slow=3.0,SNR=11
ARU S **S** **23 04 37.2 -3.0**
comp=Z,2.0nm,0.5s,baz=136,slow=21,SNR=1.1
comp=Z,8.1nm,0.4s
ARU Arti 21.42 340 *c i* P **P** **23 00 47.5 -0.5**
ARU 23 01 13.4
ARU S **S** **23 04 41.2 +1.0**
ARU SS **SnSn** **23 05 16.7 +5.1**
ARU pmax pmax
comp=Z,5.0nm,0.6s
NCK Nalchik 22.29 296 *i* P **P** **23 00 57.2 -0.3**
NCK pmax pmax
comp=Z,22nm,0.5s
GTA Gaotai 22.33 75 *e*P **P** **23 01 00.9 +2.8**
GTA pP sP 23 01 27.2 -2.9
KBZ Khabaz 22.82 296 P **P** **23 01 02.7 -0.2**
comp=Z,1.7nm,0.7s,baz=104,slow=7.5,SNR=5.3
comp=Z,1.7nm,0.7s
KBZ Khabaz 22.82 296 *ce*P **P** **23 01 01.6 -1.3**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
BELG Belogornoye 22.87 320 *i* P **P** **23 01 01.7 -1.6**
BELG pmax pmax
comp=Z,7.0nm,0.8s
KIV Kislovodsk 23.01 297 P **P** **23 01 04.6 -0.2**
KIV IAmb IAmb 23 01 50.1
comp=Z,10.0nm,0.8s
KIV Kislovodsk 23.01 297 *e*P **P** **23 01 04.1 -0.7**
KIV *e*S **S** **23 05 08.1 +0.1**
KIV pmax pmax
comp=Z,7.0nm,1.1s
GURO Guroymak-BITLI 23.37 283 P **P** **23 01 09.3 +0.9**
LABN Labinsk 24.50 298 *e*P **P** **23 01 11.9 -6.4**
LABN pmax pmax
comp=Z,11nm,0.6s
MOY Mondy 25.52 45 *e*P **P** **23 01 31.2 +3.5**
LZH Lanzhou 25.91 82 *e*P **P** **23 01 32.6 +1.2**
LZH sP pP 23 02 02.2 +8.5
LZH pmax pmax
comp=Z,22nm,1.0s
KIRV Kirov 26.09 333 *ce*P **P** **23 01 31.9 -0.6**
ARPR Arapgir-MALATY 26.19 285 P **P** **23 01 34.7 +0.8**
ARPR IAmb IAmb 23 01 38.2
comp=Z,11nm,0.9s
ANN Anapa 26.84 298 *e*P **P** **23 01 39.3 -0.2**
ANN pmax pmax
comp=Z,3.0nm,0.6s
VSR Storozhevoye 27.07 312 *e*P **P** **23 01 41.1 -0.3**
VSR pmax pmax
comp=Z,5.0nm,0.9s
PZH PanZhiHua 27.59 103 P **P** **23 01 49.0 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,70nm,4.4s
SONM Songino Array 27.75 56 P **P** **23 01 48.5 +0.7**
comp=Z,0.7nm,0.5s,baz=270,slow=9.6,SNR=6.9
comp=Z,0.7nm,0.5s
ULN Ulaanbaatar 28.19 56 *i* P **P** **23 01 51.6 -0.1**
ULN pmax pmax
comp=Z,4.0nm,1.5s
SIM Simferopol' 29.21 298 *e*P P 23 02 06.9 +6.4
SIM S **S** **23 06 49.1 +3.0**
SIM pmax pmax
comp=Z,9.0nm,0.7s
BR131 Keskin Array S 29.74 287 P **P** **23 02 05.6 +0.2**
BR131 IAmb IAmb 23 02 07.9
comp=Z,3.7nm,0.8s
BR131 Keskin Array S 29.74 287 *i* P **P** **23 02 06.6 +1.1**
BRTR Keskin Array B 29.74 287 P **P** **23 02 05.7 +0.2**
BRTR Keskin Array B 29.74 287 P **P** **23 02 07.3 +1.8**
comp=Z,2.5nm,0.8s,baz=105,slow=9.4,SNR=21
comp=Z,2.5nm,0.8s
OBN Obninsk 29.94 319 ||*e*P **P** **23 02 07.8 +1.0**
OBN *PP **pP** **23 02 32.0 +2.8**
OBN *SP **sP** **23 02 43.0 +2.4**
OBN *e* 23 03 04.9
OBN pmax pmax
comp=Z,14nm,1.3s
OBN MLR MLR
comp=Z,24nm,15.0s
HHC Hu-ho-hao-te 31.21 70 *e*P **P** **23 02 20.9 +2.5**
HHC pmax pmax
comp=Z,20nm,0.7s
HHC pmax pmax
comp=Z,78nm,4.9s
KLMR Klimovskoe 31.37 330 *e*P **P** **23 02 18.6 -0.8**
KLMR pmax pmax
comp=Z,15nm,1.8s
AKASG Malin Array Be 33.05 308 P **P** **23 02 34.1 -0.1**
AKASG Malin Array Be 33.05 308 P **P** **23 02 34.5 +0.2**
comp=Z,2.2nm,0.6s,baz=80,slow=7.2,SNR=13
comp=Z,2.2nm,0.6s
AKBB Malin Array Si 33.05 308 P **P** **23 02 33.8 -0.5**
AKBB IAmb IAmb 23 02 35.6
comp=Z,4.2nm,0.6s
AKBB Malin Array Si 33.05 308 *i* P **P** **23 02 33.9 -0.4**
AKBB pmax pmax
comp=Z,3.0nm,0.6s
KIEV Kiev 33.06 308 P **P** **23 02 33.9 -0.4**
KIEV IAmb IAmb 23 02 35.6
comp=Z,4.0nm,0.5s
KIEV Kiev 33.06 308 P **P** **23 02 33.9 -0.4**
KIEV pmax pmax
comp=Z,4.0nm,0.5s
ELL Elmali 33.15 283 P **P** **23 02 36.4 +1.0**
ELL Elmali 33.15 283 P **P** **23 02 36.4 +1.0**
ELL pmax pmax
comp=Z,33nm,0.6s
MLR Muntele Rosu 34.98 299 P **P** **23 02 50.9 -0.3**
MLR IAmb IAmb 23 02 54.7
comp=Z,5.7nm,1.1s
MLR Muntele Rosu 34.98 299 P **P** **23 02 50.9 -0.3**
MLR pmax pmax
comp=Z,6.0nm,1.1s
BURAR Bucovina Array 35.45 302 P **P** **23 02 55.5 +0.3**
BUR08 Bucovina Ar. S 35.46 303 P **P** **23 02 55.8 +0.6**
JOF Joensuu 35.76 330 *e*P **P** **23 02 58.3 +0.9**
ARBE Arbavere 36.82 322 *e*P **P** **23 03 06.8 +0.3**
PABE Paberze 36.95 316 P **P** **23 03 08.2 +0.5**
PABE IAmb IAmb 23 03 09.1
comp=Z,9.6nm,0.9s
LVZ Lovozero 37.27 338 P **P** **23 03 10.4 +0.2**
LVZ Lovozero 37.27 338 P **P** **23 03 10.5 +0.2**
LVZ pmax pmax
comp=Z,13nm,1.1s
FIA1 FINESS Array S 37.41 326 P **P** **23 03 12.0 +0.5**
FINES FINESS Array B 37.41 326 P **P** **23 03 12.2 +0.6**
comp=Z,3.9nm,0.4s,baz=117,slow=9.3,SNR=76
comp=Z,3.9nm,0.4s
IDI Anoyia 37.45 282 P **P** **23 03 12.3 0.0**
IDI IAmb IAmb 23 03 26.2
comp=Z,10nm,1.1s
MTSE Matsula 37.70 321 *e*P **P** **23 03 14.6 +0.7**
MEF Metsahovi 37.81 323 *e*P **P** **23 03 15.6 +0.7**
KEF Keuruu 38.20 326 *e*P **P** **23 03 18.8 +0.7**
NJ2 Nanjing 38.98 83 *e*P **P** **23 03 25.7 +0.6**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
VAF Ylistaro 39.44 327 *e*P **P** **23 03 29.1 +0.6**
PUK Puka 39.72 294 P **P** **23 03 31.1 -0.1**
PUK IAmb IAmb 23 03 36.4
comp=Z,13nm,1.3s
AAL Aland 39.94 322 *e*P **P** **23 03 32.4 -0.2**
VADS Vadso 40.11 339 *e*P **P** **23 03 34.8 +0.8**
KEV Kevo 40.61 338 P **P** **23 03 38.3 +0.2**
KEV IAmb IAmb 23 03 38.9
comp=Z,8.0nm,0.8s
KEV Kevo 40.61 338 P **P** **23 03 38.3 +0.2**
KEV pmax pmax
comp=Z,8.0nm,0.8s
ARCES ARCESS Array B 40.96 337 P **P** **23 03 41.4 +0.4**
ARCES IAmb IAmb 23 03 41.8
comp=Z,9.5nm,1.1s
ARCES ARCESS Array B 40.96 337 P **P** **23 03 41.6 +0.7**
comp=Z,8.1nm,0.6s,baz=112,slow=8.4,SNR=69
comp=Z,8.1nm,0.6s
VIKU Vikbolandet 41.33 319 *e*P **P** **23 03 44.3 +0.3**
KTK1 Kautokeino 41.45 336 *e*P **P** **23 03 45.4 +0.5**
CONA Conrad Observa 41.74 303 *i* P **P** **23 03 48.3 +0.6**
comp=Z,3.8nm,0.8s
HAMF Hammerfest 42.03 338 *e*P **P** **23 03 50.9 +1.2**
BSD Bornholm Skovb 42.06 314 *e*P **P** **23 03 50.5 +0.4**
SOKA Soboth 42.44 302 *i* P **P** **23 03 54.9 +1.5**
comp=Z,3.4nm,0.8s
DEL Delary 42.69 316 *e*P **P** **23 03 55.5 +0.3**
HFS Hagfors 43.04 322 P **P** **23 03 58.3 +0.3**
comp=Z,16nm,0.5s,baz=98,slow=11,SNR=90
comp=Z,16nm,0.5s
CLL Collm 43.30 309 *e*P **P** **23 04 00.0 -0.1**
CLL *i* Pmax 23 04 06.0
comp=Z,8.0nm,0.7s
CLL *e*pP **pP** **23 04 24.0 +0.5**
CLL *ex* x 23 04 43.0
CLL *e*PPP PPP 23 06 20.0
CLL Collm 43.30 309 *e*P **P** **23 04 00.0 -0.1**
CLL *e**PP **pP** **23 04 24.0 +0.5**
YAK Yakutsk 43.40 36 LR LR 23 24 19.1
comp=Z,18nm,18.1s,baz=135,slow=39
SABO M.te Sabotino 43.53 301 P **P** **23 04 02.8 +0.7**
SABO IAmb IAmb 23 04 03.8
comp=Z,6.1nm,0.8s
KBA Koelnbreinsper 43.53 303 *e*P **P** **23 04 03.0 +0.7**
comp=Z,7.6nm,1.7s
FAUS Fauske 43.67 332 *e*P **P** **23 04 03.6 +0.7**
MOR8 Moi Rana 43.70 330 *e*P **P** **23 04 03.2 0.0**
MDJ Mudanjiang 43.83 61 P **P** **23 04 04.1 -0.4**
MDJ pmax pmax
comp=Z,11nm,1.2s
MDJ pmax pmax
comp=Z,280nm,4.0s
STEI Steigen 43.83 333 *e*P **P** **23 04 05.0 +0.8**
LESA Schwarzleotal 43.93 303 *e*P **P** **23 04 05.9 +0.5**
comp=Z,7.7nm,1.3s
NC405 NORSAR Array S 44.11 323 P **P** **23 04 06.6 0.0**
NC602 NORSAR Array S 44.16 322 *e*P **P** **23 04 07.2 +0.2**
NORES NORESS Array B 44.16 322 P **P** **23 04 06.6 -0.3**
KONS Konsvik 44.29 331 *e*P **P** **23 04 08.6 +0.8**
NB2 NORSAR Subarra 44.34 323 P **P** **23 04 08.3 -0.1**
comp=Z,5.9nm,0.5s,baz=93,slow=7.9
NB2 NORSAR Subarra 44.34 323 P **P** **23 04 08.3 -0.1**
baz=93,slow=7.9
NB2 NORSAR Subarra 44.34 323 P **P** **23 04 05.9 -2.5**
NB2 pmax pmax
comp=Z,1.0nm,0.4s
NOA NORSAR Array B 44.34 323 P **P** **23 04 08.6 +0.1**
comp=Z,6.8nm,0.6s,baz=95,slow=7.8,SNR=41
comp=Z,6.8nm,0.6s
LOF Lofoten 44.50 333 *e*P **P** **23 04 09.5 0.0**
WTTA Wattenberg 44.66 303 *e*P **P** **23 04 11.6 +0.3**
comp=Z,3.3nm,0.9s
MOTA Moosalm 45.00 303 *e*P **P** **23 04 13.8 -0.3**
comp=Z,5.0nm,0.9s
KONO Kongsberg 45.07 321 P **P** **23 04 14.4 +0.3**
KONO Kongsberg 45.07 321 *e*P **P** **23 04 14.7 +0.6**
KONO Kongsberg 45.07 321 P **P** **23 04 14.4 +0.3**
KONO pmax pmax
comp=Z,46nm,1.5s
TIXI Tiksi 45.25 22 P **P** **23 04 15.3 -0.2**
TIXI IAmb IAmb 23 04 16.1
comp=Z,6.7nm,0.8s
TIXI Tiksi 45.25 22 *i* P **P** **23 04 14.9 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,0.8s
FETA Feichten 45.31 303 *e*P **P** **23 04 16.4 -0.1**
comp=Z,4.6nm,1.1s
FUORN Ofenpass-Fuorn 45.70 302 P **P** **23 04 20.2 +0.6**
FUORN IAmb IAmb 23 04 26.3
comp=Z,5.5nm,1.3s
SKAR Skarsla 45.74 322 *e*P **P** **23 04 20.8 +1.2**
DAVA Damuels 45.83 303 *e*P **P** **23 04 20.7 +0.1**
comp=Z,7.4nm,0.6s
AKN Aaknes 46.42 324 *e*P **P** **23 04 27.2 +2.4**
SPB2 Spitsbergen Ar 47.22 347 P **P** **23 04 31.1 +0.4**
SPITS Spitsbergen Ar 47.22 347 P **P** **23 04 31.7 +0.8**
comp=Z,2.4nm,0.6s,baz=130,slow=11,SNR=14
comp=Z,2.4nm,0.6s
SENIN Lac Senin/Sane 47.75 303 P **P** **23 04 35.5 -0.2**
KBS Kingsbay 48.34 347 P **P** **23 04 40.1 +0.7**
KBS Kingsbay 48.34 347 P **P** **23 04 40.1 +0.7**
KBS pmax pmax
comp=Z,24nm,1.0s
BNI Bardonecchia 48.48 301 P **P** **23 04 41.1 -0.1**
BNI IAmb IAmb 23 05 05.8
comp=Z,10nm,1.3s
BNI Bardonecchia 48.48 301 P **P** **23 04 41.1 -0.1**
BNI pmax pmax
comp=Z,10.0nm,1.3s
TATN Tataouine 49.59 284 P **P** **23 04 50.7 +1.0**
TATN IAmb IAmb 23 04 51.8
comp=Z,7.4nm,0.8s
SSB Saint Sauveur 49.89 302 P **P** **23 04 51.7 -0.1**
SSB IAmb IAmb 23 04 53.0
comp=Z,8.2nm,1.1s
SSB Saint Sauveur 49.89 302 P **P** **23 04 51.7 -0.1**
SSB pmax pmax
comp=Z,8.0nm,1.1s
EKA Eskdalemuir Ar 52.32 316 P **P** **23 05 09.6 -0.1**
comp=Z,1.8nm,0.5s,baz=90,slow=7.0,SNR=8.2
comp=Z,1.8nm,0.5s
ESK Eskdalemuir 52.35 316 P **P** **23 05 09.6 -0.3**
ESK Eskdalemuir 52.35 316 P **P** **23 05 09.6 -0.3**
ESK pmax pmax
comp=Z,61nm,1.5s
MJB9 Matsu-Tunnel 52.40 69 P **P** **23 05 11.8 +1.2**
MAJO Matsushiro 52.40 69 P **P** **23 05 10.7 +0.1**
MAJO Matsushiro 52.40 69 P **P** **23 05 10.7 +0.1**
MAJO pmax pmax
comp=Z,13nm,1.2s
CEST Esterri de Car 52.94 299 P **P** **23 05 14.7 0.0**
CEST IAmb IAmb 23 05 56.1
comp=Z,26nm,1.5s
DAG Danmarks Havn 54.49 344 *i* P **P** **23 05 25.0 -0.3**
DAG IAmb IAmb 23 05 26.4
comp=Z,5.1nm,0.7s
ESDC Sonseca Array 57.67 298 P **P** **23 05 48.4 -0.2**
ESDC Sonseca Array 57.67 298 P **P** **23 05 49.0 +0.4**
comp=Z,3.1nm,0.6s,baz=56,slow=7.4,SNR=42
comp=Z,3.1nm,0.6s
PAB San Pablo 57.99 298 P **P** **23 05 51.2 +0.3**
PAB IAmb IAmb 23 06 24.2
comp=Z,9.8nm,1.4s
PAB San Pablo 57.99 298 P **P** **23 05 51.2 +0.3**
PAB pmax pmax
comp=Z,10.0nm,1.5s
NEEM North Greenlan 60.75 348 *i* P **P** **23 06 09.5 0.0**
NEEM IAmb IAmb 23 06 10.6
comp=Z,3.2nm,0.6s
SUMG Summit 60.84 341 P **P** **23 06 10.8 +0.5**
SUMG IAmb IAmb 23 06 11.9
comp=Z,5.0nm,0.6s
SUMG Summit 60.84 341 P **P** **23 06 10.8 +0.5**
SUMG pmax pmax
comp=Z,5.0nm,0.6s
SUMG Summit 60.84 341 *i* P **P** **23 06 10.6 +0.3**
SUMG IAmb IAmb 23 06 12.1
comp=Z,5.0nm,0.7s
ICESG Greenland Ices 63.02 338 *i* P **P** **23 06 25.4 +0.5**
TOA0 Torodi Ar. Sit 66.17 269 P **P** **23 06 44.6 -1.2**
TOA0 IAmb IAmb 23 06 54.1
comp=Z,7.6nm,1.5s
TORD Torodi Ar. Bea 66.17 269 P **P** **23 06 44.4 -1.4**
TORD Torodi Ar. Bea 66.17 269 P **P** **23 06 44.4 -1.4**
comp=Z,1.1nm,0.5s,baz=40,slow=6.6,SNR=9.0
comp=Z,1.1nm,0.5s
B20K Meade River 67.72 16 P **P** **23 06 54.4 -0.3**
B20K IAmb IAmb 23 07 27.5
comp=Z,7.6nm,1.4s
C19K Lookout Ridge 67.83 18 P **P** **23 06 56.0 +0.4**
C19K IAmb IAmb 23 06 57.8
comp=Z,2.6nm,0.8s
D25K Kavik River 70.49 13 P **P** **23 07 12.8 +0.8**
A36M Sachs Harbour 70.78 5 P **P** **23 07 13.4 -0.2**
A36M IAmb IAmb 23 07 14.7
comp=Z,2.9nm,0.8s
INK Inuvik 73.45 9 P **P** **23 07 29.5 -0.1**
INK Inuvik 73.45 9 P **P** **23 07 29.6 +0.1**
comp=Z,1.3nm,0.5s,baz=335,slow=7.4,SNR=11
comp=Z,1.3nm,0.5s
ILAR Eielson Array 74.29 16 P **P** **23 07 34.2 -0.3**
comp=Z,0.5nm,0.8s,baz=319,slow=3.9,SNR=5.4
comp=Z,0.5nm,0.8s
I28M Miner Creek 75.09 13 P **P** **23 07 39.2 -0.1**
YKA Yellowknife Ar 80.84 3 P **P** **23 08 10.9 -0.1**
comp=Z,0.9nm,0.6s,baz=348,slow=6.1,SNR=26
comp=Z,0.9nm,0.6s
SCHQ Schefferville 81.92 337 P **P** **23 08 17.6 +0.7**
comp=Z,0.8nm,0.6s,baz=0.0,slow=13,SNR=1.3
comp=Z,0.8nm,0.6s
ASAR Alice Springs 84.11 125 P **P** **23 08 27.8 -0.8**
comp=Z,1.1nm,0.6s,baz=314,slow=4.9,SNR=14
comp=Z,1.1nm,0.6s

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*IDC **02** 23:15:52.3±8.6, 17.86S×174.75W, h158km±78km,*
mb3.6/10, mbtmp4.0/10, Error ellipse: s-maj=31.2km
s-min=25.5km az=122.0
*NEIC **02** 23:15:55.4±1.9, 17.75S±0.10×174.8W±0.1, h187km±6km,*
mb4.3/16, Error ellipse: s-maj=17.3km s-min=13.1km
az=118.0

ISC 02 23:15:56.1±0.5, 17.73S±0.09×174.70W±0.10, h200km,
n35, σ1$47/35, mb4.0/18, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.73**	**107**	Pn	**Pn**	**23 17 06.6**	**-0.4**
AFI	**Afiamalu**	**4.73**	**37**		**Pn**	**23 17 07.2**	**0.0**
AFI	**Afiamalu**	**4.73**	**37**	Sn	**Sn**	**23 17 58.8**	**-4.5**
URZ	**Urewera**	**21.67**	**198**	P	**P**	**23 20 28.7**	**-2.2**
	7.9nm,0.7s,baz=315,slow=5.7,SNR=7.6						
	7.9nm,0.7s						
QRZ	**Quartz Range**	**25.51**	**203**	P	**P**	**23 21 07.9**	**+1.8**
ARMA	**Armidale**	**33.10**	**241**	P	**P**	**23 22 12.0**	**-1.4**
ARMA				IAmb	IAmb	23 22 31.0	
	comp=Z,13nm,1.4s						
CTAO	**Charters Tower**	**36.95**	**260**	P	**P**	**23 22 44.7**	**-1.7**
COEN	**Coen**	**40.63**	**269**	P	**P**	**23 23 15.6**	**-1.4**
COEN				IAmb	IAmb	23 23 18.4	
	comp=Z,8.6nm,0.9s						
WR0	**Warramunga Arr**	**47.94**	**259**	P	**P**	**23 24 14.3**	**-0.6**
WR0				IAmb	IAmb	23 24 35.3	
	comp=Z,10nm,1.4s						
AS31	**Alice Springs**	**48.23**	**254**	P	**P**	**23 24 15.4**	**-1.7**
AS31				IAmb	IAmb	23 24 18.2	
	comp=Z,3.3nm,0.5s						
ASAR	**Alice Springs**	**48.23**	**254**	P	**P**	**23 24 15.9**	**-1.2**
ASAR	**Alice Springs**	**48.23**	**254**	P	**P**	**23 24 16.9**	**-0.1**
	comp=Z,8.0nm,0.5s,baz=88,slow=9.0,SNR=128						
	comp=Z,8.0nm,0.5s						
MTN	**Manton Dam**	**52.33**	**267**	P	**P**	**23 24 47.6**	**-0.3**
FITZ	**Fitzroy Crossi**	**56.53**	**260**	P	**P**	**23 25 17.8**	**-0.3**
VNDA	**Vanda**	**60.94**	**186**	P	**P**	**23 25 48.5**	**+1.0**
MJAR	**Matsushiro Arr**	**69.93**	**321**	P	**P**	**23 26 46.4**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=148,slow=6.3,SNR=2.1						
	comp=Z,1.2nm,0.8s						
QSPA	**South Pole Qui**	**72.32**	**180**	P	**P**	**23 26 60.0**	**+0.2**
QSPA	**South Pole Qui**	**72.32**	**180**	P	**P**	**23 27 00.0**	**+0.2**
	comp=Z,1.4nm,0.9s,baz=326,slow=18,SNR=2.4						
	comp=Z,1.4nm,0.9s						
PETK	**Petropavlovsk-**	**74.47**	**343**	P	**P**	**23 27 13.4**	**+1.2**
	comp=Z,0.8nm,0.4s,baz=118,slow=7.6,SNR=4.1						
	comp=Z,0.8nm,0.4s						
NVAR	**Mina Array Bea**	**76.89**	**42**	P	**P**	**23 27 29.2**	**+2.7**
	comp=Z,0.6nm,0.7s,baz=225,slow=9.2,SNR=3.9						
	comp=Z,0.6nm,0.7s						
214A	**Organ Pipe Nat**	**77.16**	**50**	P	**P**	**23 27 27.1**	**-0.9**
214A				IAmb	IAmb	23 27 36.7	
	comp=Z,2.3nm,0.8s						
P18K	**Big Mountain,**	**78.48**	**10**	P	**P**	**23 27 34.9**	**+0.3**
P18K				IAmb	IAmb	23 27 58.9	
	comp=Z,7.0nm,1.0s						
K15K	**Wolf Creek Mou**	**80.44**	**6**	P	**P**	**23 27 46.9**	**+1.8**
M19K	**Big River Lodg**	**81.00**	**10**	P	**P**	**23 27 48.5**	**+0.5**
M19K				IAmb	IAmb	23 28 14.2	
	comp=Z,7.3nm,1.4s						
J16K	**Anvik River**	**81.50**	**6**	P	**P**	**23 27 52.4**	**+1.8**
J16K				IAmb	IAmb	23 27 59.0	
	comp=Z,11nm,1.3s						
J18K	**Innoko River**	**82.14**	**8**	P	**P**	**23 27 55.9**	**+1.9**
PDAR	**Pinedale Array**	**84.83**	**42**	P	**P**	**23 28 09.2**	**+0.7**
	comp=Z,0.1nm,0.4s,baz=200,slow=7.7,SNR=2.4						
	comp=Z,0.1nm,0.4s						
ILAR	**Eielson Array**	**84.97**	**12**	P	**P**	**23 28 09.8**	**+1.5**
	comp=Z,0.5nm,0.5s,baz=230,slow=6.0,SNR=12						
	comp=Z,0.5nm,0.5s						
INK	**Inuvik**	**90.82**	**14**	P	**P**	**23 28 37.9**	**+1.8**
	comp=Z,1.0nm,0.7s,baz=224,slow=0.9,SNR=5.4						
	comp=Z,1.0nm,0.7s						

YKA	**Yellowknife Ar**	**92.72**	**24**	P		**P**	**23 28 46.0**	**+1.0**
	comp=Z,0.1nm,0.6s,baz=250,slow=3.8,SNR=3.5							
	comp=Z,0.1nm,0.6s							
BVAR	**Borovoye Array**	**118.93**	**321**	PKP		**PKPdf**	**23 34 20.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=63,slow=6.6,SNR=3.4							
FINES	**FINESS Array B**	**133.92**	**346**	PKP		**PKiKP**	**23 34 50.4**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=329,slow=0.8,SNR=3.5							
BRTR	**Keskin Array B**	**147.10**	**318**	PKPbc		**PKPab**	**23 35 17.4**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=60,slow=3.0,SNR=6.6							
GERES	**GERESS Array B**	**148.22**	**349**	PKPbc		**PKPbc**	**23 35 19.5**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=20,slow=3.1,SNR=2.3							
TORD	**Torodi Ar. Bea**	**174.27**	**142**	PKP		**PKPdf**	**23 35 42.6**	**0.0**
	comp=Z,0.4nm,1.0s,baz=190,slow=1.1,SNR=1.5							

*IDC **02** 23:34:02.0±0.7, 5.74S×11.46W, h0km, mb4.2/16, mbtmp4.2/17, ML3.3/1, MS4.0/41, Error ellipse: s-maj=32.9km s-min=14.4km az=129.0*
*NEIC **02** 23:34:03.8±1.3, 5.80S±0.09×11.59W±0.09, h10km±1km, mb4.9/63, Error ellipse: s-maj=17.0km s-min=13.1km az=143.0*
*GCMT **02** 23:34:05.8±0.2, 5.62S±0.03×11.51W±0.01, h13km±1km, MW4.8/114, Moment Tensor Solution. s33,c35; s114,c163; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.15±.13; Mθθ=0.03±.07; Mφφ=2.11±.09; Mrθ=0.29±.23; Mrφ=-0.36±.05; Mθφ=-0.07±.16: Best double couple: M=2.18000×10¹⁶ NP1=φ343.00000°, δ47.00000°, λ-100.00000°. NP2=φ178.00000°, δ44.00000°, λ-80.00000°. Principal axes: T 2.1730, Plg2.0000°, Azm80.0000°; N 0.0080, Plg7.0000°, Azm350.0000°; P -2.1870, Plg83.0000°, Azm183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 02 23:34:03.1±0.4, 5.76S±0.07×11.55W±0.07, h10km, n167, σ1°04/133, mb4.7/58, MS4.0/41, 12C-3D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.53**	**232**	Pn	**Pn**	**23 34 55.8**	**-2.2**
H10N2	**ASCENSION HYDR**	**3.57**	**235**	T	T	23 38 45.2	
	baz=55,slow=74						
H10N1	**ASCENSION HYDR**	**3.57**	**234**	T	T	23 38 38.6	
	baz=55,slow=74						
H10N3	**ASCENSION HYDR**	**3.59**	**235**	T	T	23 38 44.6	
	baz=55,slow=74						
SHEL	**Horse Pasture**	**11.63**	**151**	Pn	**Pn**	**23 36 48.2**	**-1.1**
LIC	**Lamto**	**13.57**	**29↑**	*eP*	**P**	**23 37 21.3**	**-3.6**
	25nm,1.0s						
KIC	**Kosan Boka**	**13.83**	**30↑**	*eP*	**Pn**	**23 37 19.1**	**-0.2**
	14nm,1.1s						
TIC	**Toumodi**	**13.94**	**28↑**	*eP*	**Pn**	**23 37 20.9**	**0.0**
	29nm,1.2s						
DBIC	**Dimbokro**	**14.04**	**29**	Pn	**Pn**	**23 37 20.7**	**-1.5**
DBIC	**Dimbokro**	**14.04**	**29**	Pn	**Pn**	**23 37 20.4**	**-1.8**
	0.1nm,0.3s,baz=197,slow=12,SNR=8.0						
DBIC				LR	LR	23 41 39.1	
	comp=Z,548nm,19.9s,baz=206,slow=33						
	20nm,1.2s						
TOA0	**Torodi Ar. Sit**	**22.93**	**35**	P	**P**	**23 39 06.1**	**-1.6**
TORD	**Torodi Ar. Bea**	**22.93**	**35**	P	**P**	**23 39 05.7**	**-1.9**
TORD	**Torodi Ar. Bea**	**22.93**	**35**	P	**P**	**23 39 05.8**	**-1.8**
	12nm,0.8s,baz=234,slow=5.0,SNR=45						
TORD				LR	LR	23 46 57.8	
	comp=Z,567nm,20.2s,baz=173,slow=34						
	12nm,0.8s						
RCBR	**Riachuelo**	**24.23**	**269**	LR	LR	23 46 19.4	
	comp=Z,478nm,21.1s,baz=64,slow=30						
RCBR	**Riachuelo**	**24.23**	**269**	*eP*	**P**	**23 39 20.6**	**+0.2**
NBPB	**Pedra_Branca-C**	**27.89**	**269**	*eP*	**P**	**23 39 53.9**	**+0.3**
NAN01	**Guarapari, ES**	**30.38**	**244**	*eP*	**P**	**23 40 13.7**	**-2.0**
TSUM	**Tsumeb**	**31.36**	**118**	LR	LR	23 50 22.6	
	comp=Z,573nm,21.6s,baz=299,slow=31						
TAM	**Tamanrasset**	**32.93**	**30**	P	**P**	**23 40 38.6**	**+0.5**
JANB	**Januaria**	**33.47**	**251**	*eP*	**P**	**23 40 42.9**	**0.0**
SDBA	**SAO DESIDERIO**	**33.56**	**256**	*eP*	**P**	**23 40 44.2**	**+0.5**
BDFB	**Brasilia**	**37.09**	**252**	P	**P**	**23 41 14.8**	**+0.6**
	2.1nm,0.7s,baz=34,slow=8.6,SNR=3.9						
BDFB				LR	LR	23 53 54.4	
	comp=Z,357nm,20.1s,baz=128,slow=32						
	2.1nm,0.7s						
MDT	**Midelt**	**38.92**	**9**	LR	LR	23 57 11.6	
	comp=Z,252nm,18.1s,baz=194,slow=36						
LSZ	**Lusaka**	**40.13**	**107**	LR	LR	23 56 00.7	
	comp=Z,258nm,19.8s,baz=300,slow=33						
SUR	**Sutherland**	**40.16**	**135**	LR	LR	23 53 34.0	
	comp=Z,268nm,21.3s,baz=310,slow=29						
LBTB	**Lobatse**	**40.41**	**122**	P	**P**	**23 41 41.2**	**-0.7**
LBTB				IAmb	IAmb	23 41 56.6	
	comp=Z,82nm,2.0s						
LBTB	**Lobatse**	**40.41**	**122**	LR	LR	23 56 22.5	
	comp=Z,218nm,19.5s,baz=284,slow=33						
ARAG	**Araguaiana, MT**	**40.70**	**253**	*eP*	**P**	**23 41 44.0**	**-0.3**
BOSA	**Boshof**	**41.59**	**127**	P	**P**	**23 41 52.0**	**+0.4**
BOSA				IAmb	IAmb	23 43 21.1	
	comp=Z,36nm,1.6s						
BOSA	**Boshof**	**41.59**	**127**	LR	LR	23 55 54.1	
	comp=Z,158nm,21.2s,baz=296,slow=32						
MDP	**Montagnes des**	**42.42**	**284**	LR	LR	23 57 38.7	
	comp=Z,50nm,18.1s,baz=74,slow=33						
MBAR	**Mbarara**	**42.52**	**85**	LR	LR	23 58 09.3	
	comp=Z,816nm,19.3s,baz=251,slow=34						
PDRB	**Porto dos Gac**	**44.99**	**259**	*eP*	**P**	**23 42 19.0**	**-0.2**
KEST	**Kesra**	**45.70**	**24**	LR	LR	00 02 09.6	
	comp=Z,381nm,19.7s,baz=190,slow=37						
ESDC	**Sonseca Array**	**45.75**	**8**	P	**P**	**23 42 25.6**	**+0.9**
ESDC	**Sonseca Array**	**45.75**	**8**	P	**P**	**23 42 26.4**	**+1.6**
	comp=Z,3.1nm,1.2s,baz=172,slow=7.9,SNR=8.2						
ESDC				PcP	**PcP**	**23 44 02.6**	**+0.1**
	comp=Z,0.9nm,1.1s,baz=241,slow=1.5,SNR=4.3						
ESDC				LR	LR	00 02 26.1	
	comp=Z,72nm,19.2s,baz=171,slow=37						
	comp=Z,3.1nm,1.2s						
PTLB	**Pontes e Lacer**	**47.66**	**254**	P	**P**	**23 42 39.6**	**-0.5**
PTLB				IAmb	IAmb	23 42 44.8	
	comp=Z,10nm,1.4s						
LODK	**Lodwar**	**47.73**	**80**	P	**P**	**23 42 40.6**	**-0.2**
CPUP	**Villa Florida**	**48.18**	**240**	P	**P**	**23 42 44.2**	**+0.2**
CPUP				IAmb	IAmb	23 43 35.3	
	comp=Z,24nm,1.9s						
CPUP	**Villa Florida**	**48.18**	**240**	P	**P**	**23 42 45.4**	**+1.4**
	comp=Z,1.6nm,0.8s,baz=27,slow=11,SNR=2.6						
CPUP				LR	LR	23 59 44.7	
	comp=Z,112nm,21.0s,baz=69,slow=32						
	comp=Z,1.6nm,0.8s						
SIV	**San Ignacio**	**49.57**	**254**	LR	LR	00 02 57.0	
	comp=Z,182nm,18.5s,baz=109,slow=35						
BOAV	**Boa Vista**	**49.57**	**278**	P	**P**	**23 42 54.7**	**-0.2**
SAML	**Samuel**	**51.27**	**263**	P	**P**	**23 43 07.3**	**-0.4**
SAML				IAmb	IAmb	23 43 16.3	
	comp=Z,22nm,1.9s						
CAMP	**Campotosto**	**53.16**	**23**	P	**P**	**23 43 21.7**	**+0.3**
CAMP				IAmb	IAmb	23 43 23.2	
	comp=Z,27nm,1.2s						
ETMB	**Extrema**	**54.26**	**262**	P	**P**	**23 43 29.1**	**-0.8**
ETMB				IAmb	IAmb	23 43 38.7	
	comp=Z,23nm,1.6s						
ETMB	**Extrema**	**54.26**	**262**	*eP*	**P**	**23 43 30.5**	**+0.6**
PCRV	**Puerto La Cruz**	**55.19**	**287**	LR	LR	00 03 39.7	
	comp=Z,60nm,21.9s,slow=32						
FNA	**Florina**	**55.30**	**30**	P	**P**	**23 43 37.9**	**+0.9**
FNA				IAmb	IAmb	23 43 40.2	
	comp=Z,19nm,1.4s						
DAVOX	**Davos/Dischmat**	**55.66**	**18**	LR	LR	00 07 58.9	
	comp=Z,126nm,19.6s,baz=228,slow=37						
ARG	**Arkhangelos**	**55.90**	**39**	P	**P**	**23 43 42.0**	**+0.7**
DAVA	**Damuels**	**56.11**	**17**	*eP*	**P**	**23 43 42.6**	**-0.3**
	comp=Z,7.6nm,1.1s						
FETA	**Feichten**	**56.13**	**18**	*eP*	**P**	**23 43 42.8**	**-0.2**
	comp=Z,5.3nm,1.4s						
LPAZ	**La Paz**	**56.35**	**254**	P	**P**	**23 43 44.0**	**-1.6**
LPAZ				IAmb	IAmb	23 43 53.6	
	comp=Z,16nm,1.9s						
LPAZ	**La Paz**	**56.35**	**254**	P	**P**	**23 43 47.3**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=75,slow=5.5,SNR=3.6						
LPAZ				PcP	**PcP**	**23 44 42.7**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=32,slow=1.8,SNR=4.4						
LPAZ				LR	LR	00 05 40.3	
	comp=Z,136nm,21.9s,baz=79,slow=34						
	comp=Z,1.0nm,0.8s						
LPAZ	**La Paz**	**56.35**	**254**	*eP*	**P**	**23 43 44.7**	**-0.9**
SQTA	**Sankt Quirin**	**56.46**	**18**	*eP*	**P**	**23 43 45.7**	**+0.4**
	comp=Z,9.3nm,1.3s						
ABTA	**Abfaltersbach**	**56.47**	**20**	*eP*	**P**	**23 43 46.8**	**+1.5**
	comp=Z,5.7nm,1.3s						
MOTA	**Moosalm**	**56.54**	**18**	*eP*	**P**	**23 43 46.1**	**+0.3**
	comp=Z,8.4nm,1.5s						
RETA	**Reutte**	**56.56**	**18**	*eP*	**P**	**23 43 48.0**	**+2.1**
	comp=Z,1.6nm,0.5s						
WTTA	**Wattenberg**	**56.64**	**19**	*eP*	**P**	**23 43 46.5**	**-0.1**
	comp=Z,14nm,1.3s						
WATA	**Walderalm**	**56.68**	**19**	*iP*	**P**	**23 43 47.4**	**+0.5**
	comp=Z,8.6nm,1.3s						
ATD	**Arta Tunnel**	**56.78**	**72**	LR	LR	00 07 13.9	
	comp=Z,7.2nm,18.8s,baz=212,slow=35						
EIL	**Elat**	**56.84**	**49**	LR	LR	00 07 26.4	
	comp=Z,125nm,20.9s,baz=242,slow=35						
LESA	**Schwarzleotal**	**57.12**	**19**	*eP*	**P**	**23 43 50.4**	**+0.5**
	comp=Z,4.6nm,1.0s						
SOKA	**Soboth**	**57.29**	**21**	*eP*	**P**	**23 43 52.4**	**+1.3**
	comp=Z,4.9nm,1.2s						
BIOA	**Bad Ischl, Aus**	**57.67**	**20**	*eP*	**P**	**23 43 53.9**	**+0.2**
	comp=Z,4.6nm,1.3s						
RDO	**Rodhopi**	**57.72**	**33**	P	**P**	**23 43 55.0**	**+0.8**
LVC	**Limon Verde**	**57.72**	**247**	LR	LR	00 07 10.7	
	comp=Z,125nm,21.5s,baz=98,slow=34						
ARSA	**Arzberg**	**57.95**	**21**	*eP*	**P**	**23 43 57.8**	**+2.1**
	comp=Z,4.9nm,1.3s						
MOA	**Molln**	**58.02**	**20**	*eP*	**P**	**23 43 56.6**	**+0.4**
	comp=Z,4.8nm,1.3s						
BLKB	**Belogradchik**	**58.07**	**29**	⇑P	**P**	**23 43 57.8**	**+1.1**
BAUV	**El Baul**	**58.17**	**284**	P	**P**	**23 43 57.8**	**0.0**
RONA	**Rosalia, Austr**	**58.62**	**22**	*iP*	**P**	**23 44 01.5**	**+1.1**
	comp=Z,13nm,1.2s						
CONA	**Conrad Observa**	**58.65**	**21**	*eP*	**P**	**23 44 02.0**	**+1.4**
	comp=Z,5.5nm,1.2s						
GEC2	**GERESS Array S**	**58.69**	**19**	P	**P**	**23 44 00.6**	**-0.3**
GEC2				IAmb	IAmb	23 44 02.7	
	comp=Z,7.1nm,1.1s						
GERES	**GERESS Array B**	**58.69**	**19**	P	**P**	**23 44 00.6**	**-0.3**
	comp=Z,2.6nm,0.8s,baz=188,slow=9.2,SNR=9.9						
GERES				PP	**PP**	**23 46 12.6**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=222,slow=1.8,SNR=4.1						
GERES				LR	LR	00 09 41.4	
	comp=Z,123nm,19.3s,baz=234,slow=36						
	comp=Z,2.6nm,0.8s						
CKRC	**Cesky Krumlov**	**58.87**	**20**	*eP*	**P**	**23 44 02.1**	**0.0**
HERR	**Herculane**	**58.90**	**28**	⇑P	**P**	**23 44 02.3**	**0.0**
MMAI	**Mount Meron Ar**	**58.90**	**46**	LR	LR	00 10 52.7	
	comp=Z,110nm,18.1s,baz=210,slow=38						
CELP	**Cerro Pelos**	**59.22**	**295**	P	**P**	**23 44 05.0**	**-0.1**
SURR	**Surduc**	**59.43**	**27**	⇑P	**P**	**23 44 03.5**	**-2.5**
MODS	**Modra-Piesok**	**59.54**	**22**	*eP*	**P**	**23 44 09.0**	**+2.3**
LOT	**Lotru**	**59.95**	**28**	⇑P	**P**	**23 44 11.6**	**+1.8**
VRAC	**Vranov**	**60.07**	**21**	LR	LR	00 11 04.0	
	comp=Z,98nm,19.1s,baz=204,slow=37						
PSZ	**Piszkesteto**	**60.18**	**24**	⇓P	**P**	**23 44 11.7**	**+0.5**
PSZ	**Piszkesteto**	**60.18**	**24**	P	**P**	**23 44 11.5**	**+0.3**
PSZ				IAmb	IAmb	23 44 13.7	
	comp=Z,9.6nm,0.9s						
VYHS	**Vyhne**	**60.23**	**23**	*eP*	**P**	**23 44 13.2**	**+1.7**
VYHS				*e*		00 13 54.8	
MDUB	**Mudurnu**	**60.46**	**37**	P	**P**	**23 44 13.8**	**+0.5**
DRGR		**60.49**	**26**	⇑P	**P**	**23 44 13.2**	**-0.2**
BRG	**Berggiesshubel**	**60.53**	**18**	*eP*	**P**	**23 44 14.0**	**+0.5**
BRG				Amp		23 44 17.3	
	comp=Z,2.3nm,1.0s						
MARR	**Marisel-Cluj**	**60.58**	**27**	⇑P	**P**	**23 44 14.5**	**+0.5**
SDV	**Santo Domingo**	**60.66**	**283**	LR	LR	00 08 53.5	
	comp=Z,106nm,19.2s,baz=102,slow=34						
CZSB	**Cruzeiro do Su**	**60.72**	**264**	P	**P**	**23 44 15.3**	**-0.2**
CZSB				IAmb	IAmb	23 45 48.7	
	comp=Z,6.7nm,0.9s						
MORC	**Moravsky Berou**	**60.80**	**21**	P	**P**	**23 44 15.9**	**+0.5**
DPC	**Dobruska-Polom**	**60.86**	**20**	*eP*	**P**	**23 44 16.2**	**+0.4**
OSTC	**Ostas**	**61.00**	**20**	*eP*	**P**	**23 44 17.6**	**+0.9**
MLR	**Muntele Rosu**	**61.02**	**29**	⇑P	**P**	**23 44 18.5**	**+1.4**
MLR	**Muntele Rosu**	**61.02**	**29**	P	**P**	**23 44 17.4**	**+0.3**
MLR	**Muntele Rosu**	**61.02**	**29**	LR	LR	00 11 09.5	
	comp=Z,101nm,21.8s,baz=211,slow=36						
ANTO	**Ankara**	**61.05**	**38**	P	**P**	**23 44 19.1**	**+1.7**
ANTO				IAmb	IAmb	23 44 21.4	
	comp=Z,8.8nm,0.8s						
OZUR		**61.38**	**29**	⇑P	**P**	**23 44 19.4**	**0.0**
BISRR	**Bisoca**	**61.44**	**30**	⇓P	**P**	**23 44 20.9**	**+1.1**
BR131	**Keskin Array S**	**61.49**	**39**	P	**P**	**23 44 20.5**	**+0.1**
BR131				IAmb	IAmb	23 44 24.0	
	comp=Z,18nm,1.6s						
BRTR	**Keskin Array B**	**61.49**	**39**	P	**P**	**23 44 20.7**	**+0.3**
BRTR	**Keskin Array B**	**61.49**	**39**	P	**P**	**23 44 21.3**	**+0.9**
	comp=Z,1.8nm,0.9s,baz=212,slow=6.7,SNR=15						
	comp=Z,1.8nm,0.9s						
CRVS	**Cervenica-Dubn**	**61.60**	**24**	*eP*	**P**	**23 44 22.9**	**+2.1**
CRVS				*e*		00 13 59.6	
VRI	**Vrincioaia**	**61.67**	**29**	⇑P	**P**	**23 44 20.2**	**-1.1**
KOLS	**Kolonicke sedl**	**61.95**	**25**	*eP*	**P**	**23 44 25.9**	**+2.7**
KOLS				*e*		00 14 07.9	
OJC	**Ojcow**	**62.00**	**22**	P	**P**	**23 44 23.7**	**+0.2**
OJC				IAmb	IAmb	23 44 25.6	
	comp=Z,5.7nm,1.0s						
BURAR	**Bucovina Array**	**62.23**	**27**	P	**P**	**23 44 25.5**	**+0.3**
GAZ	**Gaziantep**	**62.36**	**43**	P	**P**	**23 44 27.5**	**+1.3**
GAZ				IAmb	IAmb	23 44 29.5	
	comp=Z,15nm,1.4s						
BNN	**Bunyan**	**62.38**	**40**	P	**P**	**23 44 27.1**	**+0.7**
KWP	**Kalwaria Pacla**	**62.68**	**24**	P	**P**	**23 44 29.4**	**+1.4**
PLCA	**Paso Flores**	**62.98**	**227**	LR	LR	00 07 52.8	
	comp=Z,77nm,21.1s,baz=102,slow=32						
ROSC	**El Rosal**	**63.55**	**278**	P	**P**	**23 44 35.9**	**+0.9**
	comp=Z,4.5nm,0.5s,baz=82,slow=17,SNR=1.3						
ROSC				LR	LR	00 10 43.5	
	comp=Z,184nm,21.4s,baz=84,slow=35						
	comp=Z,4.5nm,0.5s						
ARPR	**Arapgir-MALATY**	**64.13**	**41**	P	**P**	**23 44 38.7**	**+0.7**
ARPR				IAmb	IAmb	23 44 42.5	
	comp=Z,9.2nm,1.2s						
NNA	**Nana**	**64.69**	**260**	LR	LR	00 11 16.3	
	comp=Z,302nm,21.4s,baz=64,slow=34						
SNAA	**Sanae**	**66.06**	**177**	P	**P**	**23 44 50.6**	**+0.7**
	comp=Z,3.2nm,1.0s,baz=312,slow=8.8,SNR=3.8						
	comp=Z,3.2nm,1.0s						
KIEV	**Kiev**	**66.27**	**27**	P	**P**	**23 44 51.2**	**-0.2**
AKASG	**Malin Array Be**	**66.28**	**27**	P	**P**	**23 44 51.1**	**-0.4**
AKASG				IAmb	IAmb	23 44 53.0	
	comp=Z,14nm,1.2s						
AKASG	**Malin Array Be**	**66.28**	**27**	P	**P**	**23 44 50.9**	**-0.6**
	comp=Z,3.8nm,0.7s,baz=226,slow=7.0,SNR=27						
AKASG				LR	LR	00 15 35.0	
	comp=Z,68nm,21.0s,baz=216,slow=38						
	comp=Z,3.8nm,0.7s						
AKBB	**Malin Array Si**	**66.28**	**27**	P	**P**	**23 44 51.3**	**-0.2**
GURO	**Guroymak-BITLI**	**66.34**	**44**	P	**P**	**23 44 52.7**	**+0.4**
ATAH	**Atahualpa**	**66.38**	**265**	LR	LR	00 13 50.7	
	comp=Z,582nm,18.5s,baz=96,slow=36						
HFS	**Hagfors**	**68.64**	**13**	P	**P**	**23 45 06.7**	**+0.4**
	comp=Z,2.2nm,0.8s,baz=201,slow=7.7,SNR=3.6						
HFS				LR	LR	00 16 23.9	
	comp=Z,59nm,19.0s,baz=201,slow=37						
	comp=Z,2.2nm,0.8s						
NOA	**NOSAR Array B**	**68.93**	**12**	LR	LR	00 16 07.1	
	comp=Z,45nm,20.3s,baz=190,slow=37						
GNI	**Garni**	**68.95**	**43**	P	**P**	**23 45 09.2**	**+0.3**
GNI				IAmb	IAmb	23 45 13.1	
	comp=Z,29nm,1.9s						
GNI	**Garni**	**68.95**	**43**	LR	LR	00 17 17.8	
	comp=Z,34nm,21.8s,baz=252,slow=38						
KIV	**Kislovodsk**	**69.45**	**39**	P	**P**	**23 45 12.0**	**+0.2**
KIV				IAmb	IAmb	23 45 28.7	
	comp=Z,7.8nm,1.2s						
KVAR	**Kislovodsk Arr**	**69.46**	**39**	LR	LR	00 17 06.9	
	comp=Z,26nm,20.2s,baz=82,slow=37						
KBZ	**Khabaz**	**69.47**	**39**	P	**P**	**23 45 13.1**	**+1.3**
	comp=Z,2.8nm,0.9s,baz=260,slow=9.0,SNR=7.1						
	comp=Z,2.8nm,0.9s						
ELIB	**Princess Elisa**	**69.56**	**169**	*dP*	**P**	**23 45 14.5**	**+2.4**
	comp=Z,2.2nm,1.1s						
UOSS	**Minazif**	**72.53**	**62**	P	**P**	**23 45 31.0**	**+0.1**
OBN	**Obninsk**	**72.54**	**27**	LR	LR	00 19 17.1	
	comp=Z,70nm,19.3s,baz=208,slow=38						
FINES	**FINESS Array B**	**73.07**	**18**	P	**P**	**23 45 33.2**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=270,slow=5.0,SNR=6.3						
FINES				LR	LR	00 20 22.9	
	comp=Z,54nm,18.8s,baz=170,slow=38						
	comp=Z,2.6nm,0.9s						
BELA	**Belgrano 2**	**73.09**	**185**	P	**P**	**23 45 33.1**	**0.0**
WSAR	**Wadi Sarin**	**74.27**	**64**	LR	LR	00 17 28.4	
	comp=Z,203nm,20.3s,baz=252,slow=35						
R58B	**Mineral**	**75.24**	**312**	P	**P**	**23 45 47.2**	**+0.8**
GYA0B	**ALIBECK ARRAY**	**77.74**	**49**	P	**P**	**23 46 00.5**	**-0.2**
O52A	**Adamsville**	**78.85**	**313**	P	**P**	**23 46 07.0**	**+0.3**
O52A				IAmb	IAmb	23 46 10.2	
	comp=Z,18nm,1.1s						
P52A	**Corning**	**78.92**	**312**	P	**P**	**23 46 07.5**	**+0.4**
P52A				IAmb	IAmb	23 46 10.9	
	comp=Z,32nm,1.6s						
ARCES	**ARCESS Array B**	**79.28**	**12**	LR	LR	00 23 11.4	
	comp=Z,44nm,19.6s,baz=244,slow=37						
KIRV	**Kirov**	**80.33**	**28**	LR	LR	00 25 15.7	
	comp=Z,74nm,18.7s,baz=251,slow=38						
AKTO	**Aktyubinsk**	**81.63**	**37**	LR	LR	00 26 22.3	
	comp=Z,36nm,20.6s,baz=91,slow=38						
WVT	**Waverly**	**82.38**	**307**	P	**P**	**23 46 25.8**	**+0.1**
WVT				IAmb	IAmb	23 46 27.7	
	comp=Z,8.2nm,1.1s						
ABKAR	**Akbulak array**	**82.44**	**39**	P	**P**	**23 46 26.1**	**+0.3**
ABKAR	**Akbulak array**	**82.44**	**39**	P	**P**	**23 46 26.0**	**+0.3**
ARU	**Arti**	**83.96**	**32**	P	**P**	**23 46 33.8**	**+0.4**
ARU				IAmb	IAmb	23 46 36.4	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**84.35**	**180**	P	**P**	**23 46 36.1**	**+0.7**
QSPA	**South Pole Qui**	**84.35**	**180**	P	**P**	**23 46 36.1**	**+0.7**
	comp=Z,2.8nm,0.9s,baz=185,slow=1.9,SNR=8.2						
	comp=Z,2.8nm,0.9s						
FVM	**French Village**	**84.80**	**309**	P	**P**	**23 46 37.0**	**-1.1**
FVM				IAmb	IAmb	23 46 39.0	
	comp=Z,5.4nm,0.7s						
LCAR	**Lake Charles**	**85.00**	**307**	P	**P**	**23 46 38.3**	**-0.8**
LCAR				IAmb	IAmb	23 46 46.2	
	comp=Z,9.4nm,1.5s						
CCM	**Cathedral Cave**	**85.45**	**309**	P	**P**	**23 46 40.7**	**-0.7**
CCM				IAmb	IAmb	23 46 43.4	
	comp=Z,11nm,1.2s						
S39A	**Bolivar**	**87.00**	**308**	P	**P**	**23 46 48.8**	**-0.3**
S39A				IAmb	IAmb	23 46 50.9	
	comp=Z,10nm,1.1s						
U38A	**Gravette**	**87.64**	**307**	P	**P**	**23 46 52.0**	**-0.2**
U38A				IAmb	IAmb	23 46 54.4	
	comp=Z,6.4nm,1.1s						
BTK	**Batken**	**87.85**	**50**	P	**P**	**23 46 53.9**	**+0.7**
BTK				IAmb	IAmb	23 47 07.3	
	comp=Z,9.0nm,1.4s						
KK31	**Karatay Array**	**88.12**	**47**	P	**P**	**23 46 54.5**	**+0.1**
DRK	**Karamyk**	**88.51**	**50**	P	**P**	**23 46 57.1**	**+0.5**
T35A	**Sooner Cattle**	**89.40**	**307**	P	**P**	**23 46 59.5**	**-1.0**
ARSB	**Arslanbob**	**89.67**	**49**	P	**P**	**23 47 02.5**	**+0.7**
BVAR	**Borovoye Array**	**89.72**	**37**	P	**P**	**23 47 01.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=262,slow=4.5,SNR=3.7						
	comp=Z,0.1nm,0.3s						
APMT	**Aspermont**	**91.93**	**303**	P	**P**	**23 47 12.2**	**-0.2**
RES	**Resolute Bay**	**93.75**	**345**	P	**P**	**23 47 20.9**	**+1.1**
RES				IAmb	IAmb	23 47 27.8	
	comp=Z,8.9nm,1.6s						
KURBB	**Kurchatov Arra**	**94.46**	**40**	P	**P**	**23 47 22.6**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=266,slow=5.4,SNR=5.6						
	comp=Z,0.8nm,0.9s						
TAOE	**Nuku Hiva Isla**	**126.74**	**255**	*e*LR	LR	00 33 04.8	
	comp=Z,132nm,31.7s						
TBI	**Tubuai**	**129.74**	**233**	*e*LR	LR	00 34 01.3	
	comp=Z,567nm,29.8s						
PPT2	**Papeete2**	**132.50**	**240**	*e*LR	LR	00 35 18.4	
	comp=Z,110nm,30.2s						

*NEIC **02** 23:36:38.9±2.0, 10.16S±0.09×160.9E±0.1, h42km±4km, mb4.3/11, Error ellipse: s-maj=18.5km s-min=9.4km az=51.0*
*IDC **02** 23:36:41.7±5.5, 10.15S×161.20E, h66km±50km, mb3.7/10, mbtmp4.0/11, ML4.0/1, MS3.3/8, Error ellipse: s-maj=33.1km s-min=22.4km az=88.0*

ISC 02 23:36:38.2±0.6, 10.15S±0.08×161.0E±0.1, h35km, n34, σ1°12/29, mb4.0/15, MS3.2/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.27**	**304**		**Pn**	**23 36 58.3**	**-1.3**
HNR				Sn	**Sn**	**23 37 14.9**	**-0.6**
**K

mb4.9/26, Error ellipse: s-maj=23.7km s-min=18.0km az=123.0
*GCMT **03** 00:03:42.3±0.2, 5.59S±0.02×11.48W±0.01, h12km, MW4.9/120, Moment Tensor Solution. s36,c40; s120,c170; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.46±.06; $M_{\theta\theta}$0.12±.06; $M_{\phi\phi}$2.34±.05; $M_{r\theta}$0.94±.27; $M_{\theta\phi}$-0.36±.05; $M_{\phi r}$-0.60±.19; Best double couple: M_o2.66000×10^{16} NP1:ϕ_s335.00000°, δ56.00000°, λ-109.00000°. NP2:ϕ_s186.00000°, δ38.00000°, λ-65.00000°. Principal axes: T 2.5140, Plg9.0000°, Azm78.0000°; N 0.2930, Plg15.0000°, Azm345.0000°; P -2.8060, Plg72.0000°, Azm197.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 00:03:40.3±0.7, 5.56S±0.1×11.4W±0.1, h13km, n113, σ0.83/51, mb4.5/33, MS4.0/66, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	**ASCENSION HYDR**	**3.76**	**234**	T	T	00 08 05.8	
	baz=54,slow=74,SNR=811						
H10N1	**ASCENSION HYDR**	**3.76**	**234**	T	T	00 08 06.3	
	baz=54,slow=74,SNR=965						
H10N3	**ASCENSION HYDR**	**3.78**	**234**	T	T	00 08 10.6	
	baz=54,slow=74,SNR=879						
SHEL	**Horse Pasture**	**11.66**	**152**	Pn	Pn	00 06 20.5	-6.1
DBIC	**Dimbokro**	**13.86**	**28**		**Pn**	**00 06 55.3**	**-1.4**
DBIC	**Dimbokro**	**13.86**	**28**	Pn	**Pn**	**00 06 56.5**	**-0.2**
	0.1nm,0.3s,baz=205,slow=15,SNR=3.8						
DBIC				LR	LR	00 11 15.8	
	comp=Z,497nm,20.5s,baz=200,slow=33 18nm,1.3s						
TOA0	**Torodi Ar. Sit**	**22.75**	**35**	P	**P**	**00 08 41.1**	**-1.4**
TOA0				IAmb	IAmb	00 08 55.7	
	comp=Z,39nm,1.6s						
TORD	**Torodi Ar. Bea**	**22.75**	**35**	P	**P**	**00 08 41.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**22.75**	**35**	P	**P**	**00 08 41.6**	**-0.9**
	comp=Z,7.0nm,0.9s,baz=217,slow=10,SNR=34						
TORD				LR	LR	00 16 34.2	
	comp=Z,553nm,20.0s,baz=206,slow=34 comp=Z,7.0nm,0.9s						
RCBR	**Riachuelo**	**24.38**	**268**	LR	LR	00 15 55.3	
	comp=Z,498nm,20.9s,baz=64,slow=30						
TSUM	**Tsumeb**	**31.28**	**118**	LR	LR	00 19 58.7	
	comp=Z,542nm,21.8s,baz=286,slow=32						
BDFB	**Brasilia**	**37.27**	**252**	P	**P**	**00 10 53.4**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=93,slow=13,SNR=2.4						
BDFB				LR	LR	00 22 59.4	
	comp=Z,379nm,21.5s,baz=115,slow=31 comp=Z,1.6nm,0.6s						
MDT	**Midelt**	**38.78**	**9**	LR	LR	00 26 39.0	
	comp=Z,224nm,19.4s,baz=192,slow=36						
LSZ	**Lusaka**	**40.02**	**107**	LR	LR	00 25 27.0	
	comp=Z,280nm,20.4s,baz=295,slow=33						
SUR	**Sutherland**	**40.14**	**136**	LR	LR	00 23 24.3	
	comp=Z,279nm,22.0s,baz=313,slow=30						
LBTB	**Lobatse**	**40.34**	**122**	LR	LR	00 25 58.6	
	comp=Z,205nm,19.4s,baz=284,slow=33						
MATP	**Matopo**	**41.41**	**115**	LR	LR	00 26 33.4	
	comp=Z,176nm,21.5s,baz=241,slow=33						
BOSA	**Boshof**	**41.54**	**128**	LR	LR	00 25 51.2	
	comp=Z,137nm,19.4s,baz=300,slow=32						
MBAR	**Mbarara**	**42.36**	**85**	LR	LR	00 27 35.8	
	comp=Z,826nm,20.0s,baz=254,slow=34						
MDP	**Montagnes des**	**42.54**	**284**	LR	LR	00 25 34.2	
	comp=Z,71nm,20.7s,baz=94,slow=31						
KEST	**Kesra**	**45.54**	**24**	LR	LR	00 31 45.5	
	comp=Z,346nm,19.5s,baz=194,slow=37						
ESDC	**Sonseca Array**	**45.61**	**8**	LR	LR	00 31 52.5	
	comp=Z,53nm,19.2s,baz=178,slow=37						
CPUP	**Villa Florida**	**48.37**	**240**	LR	LR	00 30 05.0	
	comp=Z,70nm,19.5s,baz=63,slow=33						
VAE	**Valguarnera**	**49.19**	**27**	LR	LR	00 33 01.5	
	comp=Z,350nm,19.0s,baz=154,slow=36						
BOAV	**Boa Vista**	**49.71**	**278**	P	**P**	**00 12 31.8**	**-0.9**
BOAV				IAmb	IAmb	00 14 08.1	
	comp=Z,15nm,1.3s						
SIV	**San Ignacio**	**49.74**	**254**	LR	LR	00 32 32.6	
	comp=Z,198nm,18.2s,baz=108,slow=35						
ETMB	**Extrema**	**51.43**	**262**	P	P	00 13 04.5	-3.4
PCRV	**Puerto La Cruz**	**55.30**	**286**	LR	LR	00 32 53.1	
	comp=Z,89nm,22.0s,slow=32						
PUK	**Puka**	**55.37**	**28**	P	**P**	**00 13 14.1**	**-0.1**
DAVOX	**Davos/Dischmat**	**55.50**	**18**	LR	LR	00 37 35.5	
	comp=Z,137nm,19.6s,baz=230,slow=37						
FETA	**Feichten**	**55.98**	**18**	P	**P**	**00 13 19.3**	**+0.6**
	comp=Z,9.8nm,1.3s						
SQTA	**Sankt Quirin**	**56.30**	**18**	*eP*	**P**	**00 13 21.5**	**+0.6**
	comp=Z,7.4nm,1.1s						
MOTA	**Moosalm**	**56.38**	**18**	P	**P**	**00 13 22.2**	**+0.7**
	comp=Z,5.3nm,1.3s						
WTTA	**Wattenberg**	**56.48**	**19**	P	**P**	**00 13 22.7**	**+0.5**
	comp=Z,6.4nm,0.8s						
LPAZ	**La Paz**	**56.53**	**254**	P	P	00 13 21.2	-2.4
LPAZ	**La Paz**	**56.53**	**254**	LR	LR	00 36 20.1	
	comp=Z,127nm,19.7s,baz=80,slow=35						
ATD	**Arta Tunnel**	**56.60**	**72**	LR	LR	00 36 49.4	
	comp=Z,8.2nm,18.7s,baz=204,slow=35						
EIL	**Elat**	**56.65**	**49**	LR	LR	00 37 02.7	
	comp=Z,121nm,21.0s,baz=238,slow=35						
OBKA	**Obir**	**56.81**	**21**	P	**P**	**00 13 25.5**	**+1.0**
	comp=Z,7.1nm,1.3s						
KBA	**Koelnbreinsper**	**56.88**	**20**	P	**P**	**00 13 25.8**	**+0.8**
	comp=Z,4.2nm,1.0s						
LESA	**Schwarzleotal**	**56.95**	**19**	P	**P**	**00 13 26.8**	**+1.3**
	comp=Z,3.2nm,0.9s						
SOKA	**Soboth**	**57.12**	**21**	P	**P**	**00 13 28.0**	**+1.3**
	comp=Z,6.3nm,1.6s						
RDO	**Rodhopi**	**57.54**	**33**	P	**P**	**00 13 30.2**	**+0.7**
MOA	**Molln**	**57.86**	**20**	*eP*	**P**	**00 13 32.9**	**+1.1**
	comp=Z,2.7nm,1.1s						
LVC	**Limon Verde**	**57.91**	**247**	LR	LR	00 36 57.4	
	comp=Z,114nm,21.5s,baz=98,slow=34						
BAUV	**El Baul**	**58.29**	**284**	P	**P**	**00 13 35.0**	**-0.5**
RONA	**Rosalia, Austr**	**58.45**	**22**	*eP*	**P**	**00 13 37.3**	**+1.3**
	comp=Z,6.8nm,1.4s						
CONA	**Conrad Observa**	**58.48**	**21**	*eP*	**P**	**00 13 37.5**	**+1.3**
	comp=Z,1.1nm,0.7s						
GEC2	**GERESS Array S**	**58.53**	**19**	P	**P**	**00 13 36.7**	**+0.1**
GEC2				IAmb	IAmb	00 13 45.3	
	comp=Z,16nm,1.5s						
GERES	**GERESS Array B**	**58.53**	**19**	P	**P**	**00 13 36.7**	**+0.1**
GERES	**GERESS Array B**	**58.53**	**19**	P	**P**	**00 13 35.7**	**-0.9**
	comp=Z,1.7nm,0.8s,baz=218,slow=4.6,SNR=6.2						
GERES				LR	LR	00 39 28.0	
	comp=Z,113nm,19.7s,baz=239,slow=37 comp=Z,1.7nm,0.8s						
PB07	**IPOC Station P**	**58.69**	**248**	P	**P**	**00 13 37.1**	**-1.3**
MMAI	**Mount Meron Ar**	**58.71**	**46**	LR	LR	00 40 29.8	
	comp=Z,105nm,18.1s,baz=215,slow=38						
VRAC	**Vranov**	**59.91**	**21**	LR	LR	00 40 50.1	
	comp=Z,94nm,19.2s,baz=198,slow=37						
PSZ	**Piszkesteto**	**60.01**	**24**		**P**	**00 13 47.1**	**+0.3**
PSZ				IAmb	IAmb	00 13 50.2	
	comp=Z,6.4nm,0.8s						
SDV	**Santo Domingo**	**60.78**	**283**	LR	LR	00 38 19.1	
	comp=Z,116nm,19.7s,baz=111,slow=34						
MLR	**Muntele Rosu**	**60.85**	**29**		**P**	**00 13 52.6**	**-0.1**
MLR				IAmb	IAmb	00 14 01.9	
	comp=Z,15nm,1.2s						
MLR	**Muntele Rosu**	**60.85**	**29**	LR	LR	00 41 06.9	
	comp=Z,110nm,20.9s,baz=218,slow=37						
BR131	**Keskin Array S**	**61.30**	**38**	P	**P**	**00 13 55.7**	**-0.1**
BRTR	**Keskin Array B**	**61.30**	**38**	P	**P**	**00 13 56.0**	**+0.1**
BRTR	**Keskin Array B**	**61.30**	**38**	P	**P**	**00 13 57.0**	**+1.1**
	comp=Z,1.6nm,1.0s,baz=216,slow=6.6,SNR=10						
BRTR				LR	LR	00 41 25.3	
	comp=Z,78nm,21.6s,baz=214,slow=37 comp=Z,1.6nm,1.0s						
BNN	**Bunyan**	**62.19**	**40**	P	**P**	**00 14 01.8**	**-0.1**
KWP	**Kalwaria Pacla**	**62.51**	**24**	P	**P**	**00 14 03.9**	**+0.2**
KWP				IAmb	IAmb	00 14 13.5	
	comp=Z,12nm,1.1s						
PLCA	**Paso Flores**	**63.17**	**227**	LR	LR	00 37 38.2	
	comp=Z,72nm,21.3s,baz=94,slow=32						
ROSC	**El Rosal**	**63.69**	**278**	LR	LR	00 40 19.4	
	comp=Z,232nm,20.8s,baz=106,slow=34						
NNA	**Nana**	**64.86**	**259**	LR	LR	00 40 41.5	
	comp=Z,322nm,21.9s,baz=58,slow=34						
AKASG	**Malin Array Be**	**66.11**	**27**	P	**P**	**00 14 27.6**	**+0.4**
AKASG				IAmb	IAmb	00 14 35.0	
	comp=Z,7.6nm,1.2s						
AKASG	**Malin Array Be**	**66.11**	**27**	P	**P**	**00 14 26.7**	**-0.5**
	comp=Z,4.5nm,0.8s,baz=226,slow=7.0,SNR=15						
AKASG				LR	LR	00 45 22.5	
	comp=Z,60nm,20.2s,baz=217,slow=38						
	comp=Z,4.5nm,0.8s						
AKBB	**Malin Array Si**	**66.11**	**27**	P	**P**	**00 14 26.3**	**-0.9**
AKBB				IAmb	IAmb	00 14 29.1	
	comp=Z,9.7nm,0.8s						
SUW	**Suwalki**	**66.12**	**21**	P	**P**	**00 14 27.8**	**+0.6**
GURO	**Guroymak-BITLI**	**66.15**	**44**	P	**P**	**00 14 27.6**	**-0.3**
SNAA	**Sanae**	**66.17**	**177**	P	**P**	**00 14 26.7**	**-0.6**
	comp=Z,3.0nm,1.0s,baz=315,slow=19,SNR=3.1						
SNAA				LR	LR	00 36 23.0	
	comp=Z,92nm,19.9s,baz=141,slow=30 comp=Z,3.0nm,1.0s						
ATAH	**Atahualpa**	**66.55**	**265**	LR	LR	00 43 26.6	
	comp=Z,609nm,18.5s,baz=98,slow=36						
HFS	**Hagfors**	**68.50**	**13**	LR	LR	00 46 29.6	
	comp=Z,58nm,18.9s,baz=201,slow=38						
GNI	**Garni**	**68.76**	**43**	LR	LR	00 46 31.0	
	comp=Z,62nm,21.6s,baz=255,slow=37						
NOA	**NORSAR Array B**	**68.79**	**12**	LR	LR	00 46 25.9	
	comp=Z,32nm,19.5s,baz=200,slow=37						
KBZ	**Khabaz**	**69.28**	**39**	P	**P**	**00 14 47.9**	**+0.6**
	comp=Z,2.6nm,0.9s,baz=250,slow=6.3,SNR=7.2						
KBZ				LR	LR	00 49 08.7	
	comp=Z,24nm,18.0s,baz=213,slow=39 comp=Z,2.6nm,0.9s						
PMSA	**Palmer Station**	**69.70**	**201**	LR	LR	00 40 38.7	
	comp=Z,121nm,18.4s,baz=31,slow=32						
BORG	**Borgarnes**	**70.59**	**356**	LR	LR	00 42 04.7	
	comp=Z,37nm,19.5s,baz=189,slow=33						
OBN	**Obninsk**	**72.37**	**27**	LR	LR	00 48 54.0	
	comp=Z,86nm,19.3s,baz=180,slow=38						
FINES	**FINESS Array B**	**72.91**	**18**	P	**P**	**00 15 09.1**	**+0.1**
FINES	**FINESS Array B**	**72.91**	**18**	P	**P**	**00 15 09.2**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=202,slow=5.5,SNR=5.5						
FINES				LR	LR	00 46 58.2	
	comp=Z,58nm,21.9s,baz=162,slow=36 comp=Z,1.2nm,0.8s						
WSAR	**Wadi Sarin**	**74.08**	**64**	LR	LR	00 46 54.6	
	comp=Z,195nm,21.0s,baz=249,slow=35						
JTS	**Las Juntas de**	**74.93**	**282**	LR	LR	00 47 20.8	
	comp=Z,93nm,21.4s,baz=112,slow=35						
BELG	**Belogornoye**	**76.31**	**33**	LR	LR	00 52 12.8	
	comp=Z,35nm,19.6s,baz=226,slow=38						
GEYT	**Alibeck**	**77.55**	**49**	LR	LR	00 51 30.5	
	comp=Z,76nm,18.2s,baz=278,slow=37						
SFJD	**Kangerlussuaq**	**77.69**	**345**	LR	LR	00 47 33.7	
	comp=Z,22nm,18.3s,baz=113,slow=34						
SADO	**Sadowa**	**78.46**	**318**	LR	LR	00 43 14.0	
	comp=Z,129nm,21.8s,baz=92,slow=30						
MAW	**Mawson**	**78.84**	**158**	LR	LR	00 42 12.9	
	comp=Z,69nm,21.0s,baz=298,slow=29						
O52A	**Adamsville**	**78.88**	**313**	P	**P**	**00 15 44.0**	**+0.4**
O52A				IAmb	IAmb	00 15 51.6	
	comp=Z,14nm,1.2s						
TKL	**Tuckaleechee C**	**79.12**	**308**	LR	LR	00 43 08.4	
	comp=Z,95nm,21.4s,baz=138,slow=30						
ARCES	**ARCESS Array B**	**79.14**	**12**	LR	LR	00 52 47.8	
	comp=Z,44nm,19.2s,baz=200,slow=37						
TEIG	**Tepich**	**79.71**	**292**	LR	LR	00 46 32.1	
	comp=Z,446nm,20.3s,slow=32						
KIRV	**Kirov**	**80.15**	**28**	LR	LR	00 54 52.2	
	comp=Z,72nm,18.3s,baz=245,slow=38						
ABKAR	**Akbulak array**	**82.25**	**39**	P	**P**	**00 16 02.1**	**+0.6**
WVT	**Waverly**	**82.43**	**307**	P	**P**	**00 16 02.7**	**0.0**
ARU	**Arti**	**83.78**	**32**	LR	LR	00 56 27.2	
	comp=Z,44nm,18.2s,baz=278,slow=38						
QSPA	**South Pole Qui**	**84.46**	**180**	P	**P**	**00 16 12.6**	**-0.1**
	comp=Z,3.0nm,1.1s,baz=208,slow=3.8,SNR=3.7						
QSPA				LR	LR	00 49 34.3	
	comp=Z,46nm,18.2s,baz=204,slow=33 comp=Z,3.0nm,1.1s						
FVM	**French Village**	**84.84**	**309**	P	**P**	**00 16 14.5**	**-0.5**
FVM				IAmb	IAmb	00 16 20.9	
	comp=Z,5.4nm,0.8s						
MGMO	**Mountain Grove**	**86.13**	**308**	P	**P**	**00 16 21.8**	**+0.3**
MGMO				IAmb	IAmb	00 16 29.1	
	comp=Z,16nm,1.5s						
S39A	**Bolivar**	**87.05**	**308**	P	**P**	**00 16 25.1**	**-0.9**
S39A				IAmb	IAmb	00 16 32.3	
	comp=Z,7.1nm,1.0s						
BVAR	**Borovoye Array**	**89.54**	**37**	LR	LR	01 01 53.3	
	comp=Z,37nm,20.2s,baz=247,slow=39						
AAK	**Ala-Archa**	**90.76**	**47**	LR	LR	01 00 18.6	
	comp=Z,50nm,19.0s,baz=260,slow=38						
ULM	**Lac du Bonnet**	**90.76**	**320**	LR	LR	00 50 45.0	
	comp=Z,65nm,21.7s,baz=90,slow=31						
PALK	**Pallekele**	**92.78**	**83**	LR	LR	00 55 54.9	
	comp=Z,138nm,19.5s,baz=1.2,slow=34						
RES	**Resolute Bay**	**93.68**	**345**	P	**P**	**00 16 56.2**	**0.0**
RES				IAmb	IAmb	00 17 05.0	
	comp=Z,4.8nm,1.2s						
RES	**Resolute Bay**	**93.68**	**345**	LR	LR	00 54 36.9	
	comp=Z,9.3nm,18.9s,baz=24,slow=33						
KURBB	**Kurchatov Arra**	**94.27**	**40**	P	**P**	**00 17 00.9**	**+1.5**
	comp=Z,0.6nm,1.0s,baz=244,slow=5.6,SNR=3.0 comp=Z,0.6nm,1.0s						
RPN	**Rapa Nui**	**94.48**	**242**	LR	LR	00 54 49.0	
	comp=Z,142nm,19.2s,baz=78,slow=32						
TXAR	**Lajitas Array**	**94.70**	**299**	P	**P**	**00 17 03.4**	**+1.4**
	comp=Z,0.4nm,0.9s,baz=96,slow=8.3,SNR=2.0						
TXAR				LR	LR	00 55 06.9	
	comp=Z,27nm,21.9s,baz=87,slow=33 comp=Z,0.4nm,0.9s						
VNDA	**Vanda**	**96.88**	**179**	LR	LR	00 55 51.8	
	comp=Z,46nm,18.1s,baz=200,slow=32						
ANMO	**Albuquerque**	**97.34**	**304**	LR	LR	00 59 19.9	
	comp=Z,30nm,18.6s,baz=188,slow=34						
ZALV	**Zalesovo Beam**	**98.19**	**36**	LR	LR	01 06 19.2	
	comp=Z,34nm,19.8s,baz=107,slow=38						

ROM 03 00:13:32.4±0.1, 43.037N±0.003×13.043E±0.006, h8km, ML1.9/52, 10C-2D, Error ellipse: s-maj=0.4km s-min=0.3km az=84.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.07**	**176**	⇑P	Pg	00 13 34.8	+0.3
FEMA				S	Sg	00 13 36.4	+0.3
FEMA				AML	AML		
	comp=E,4165μm,1.3s						
FEMA				AML	AML		
	comp=N,3480μm,0.2s						
FEMA				AML	AML		
	comp=E,4165μm,0.7s						
T1220	**Camerino, Fraz**	**0.08**	**24**	⇑P	Pg	00 13 34.9	+0.4
T1220				S	Sg	00 13 36.6	+0.5
T1220				AML	AML		
	comp=E,4810μm,0.5s						
T1220				AML	AML		
	comp=N,3705μm,0.2s						
T1220				AML	AML		
	comp=E,9820μm,0.5s						
T1220				AML	AML		
	comp=N,7405μm,0.2s						
T1220				AML	AML		
	comp=N,3705μm,1.8s						
T1220				AML	AML		
	comp=N,7405μm,1.8s						
T1220				AML	AML		
	comp=E,9820μm,1.5s						
T1220				AML	AML		
	comp=E,4810μm,1.5s						
MML1	**Montelago di S**	**0.09**	**326**	P	Pg	00 13 35.0	+0.2
MML1				S	Sg	00 13 37.1	+0.7
MML1				AML	AML		
	comp=N,394μm,0.2s						
MML1				AML	AML		
	comp=E,594μm,0.5s						
MML1				AML	AML		
	comp=N,1605μm,0.2s						
MML1				AML	AML		
	comp=E,146μm,0.2s						
CESI	**CESI - Serrava**	**0.11**	**253**	⇑P	Pg	00 13 35.4	+0.5
CESI				S	Sg	00 13 37.7	+1.0
CESI				AML	AML		
	comp=E,1006μm,0.6s						
CESI				AML	AML		
	comp=N,1385μm,0.3s						
CESI				AML	AML		
	comp=E,1006μm,1.4s						
CSP1	**Cessapalombo**	**0.13**	**65**	⇑P	Pg	00 13 35.7	+0.4
CSP1				S	Sg	00 13 38.1	+0.7
CSP1				AML	AML		
	comp=E,740μm,0.7s						
CSP1				AML	AML		
	comp=N,384μm,0.7s						
CSP1				AML	AML		
	comp=E,740μm,0.7s						
PF6	**Pievefavera**	**0.16**	**44**	⇑P	Pg	00 13 36.0	+0.3
PF6				S	Sg	00 13 38.5	+0.5
PF6				AML	AML		
	comp=E,519μm,1.1s						
PF6				AML	AML		
	comp=N,202μm,0.3s						
PF6				AML	AML		
	comp=N,202μm,1.7s						
PF6				AML	AML		
	comp=E,519μm,0.9s						
MC2	**Monte Cornacci**	**0.16**	**139**	P	Pg	00 13 36.8	+0.9
MC2				S	Sg	00 13 39.4	+1.0
MDAR	**Monte D'Aria**	**0.17**	**25**	P	Pg	00 13 36.6	+0.6
MDAR				S	Sg	00 13 39.7	+1.2
MDAR				AML	AML		
	comp=E,848μm,0.5s						
MDAR				AML	AML		
	comp=N,752μm,0.2s						
MDAR				AML	AML		
	comp=N,752μm,0.1s						
MDAR				AML	AML		
	comp=E,848μm,0.4s						
GAG1	**Gagliole**	**0.20**	**5**	P	Pg	00 13 37.4	+0.9
GAG1				S	Sg	00 13 41.2	+1.9
NRCA	**Norcia**	**0.21**	**166**	P	Pg	00 13 37.2	+0.5
NRCA				S	Sg	00 13 41.0	+1.5
NRCA				AML	AML		
	comp=E,1935μm,0.6s						
NRCA				AML	AML		
	comp=E,2010μm,0.6s						
NRCA				AML	AML		
	comp=N,1915μm,0.1s						
NRCA				AML	AML		
	comp=E,1935μm,1.4s						
NRCA				AML	AML		
	comp=E,2010μm,1.4s						
NRCA				AML	AML		
	comp=N,1765μm,0.1s						
GUMA	**Gualdo di Mace**	**0.22**	**83**	⇑P	Pg	00 13 37.6	+0.8
GUMA				S	Sg	00 13 41.7	+2.0
GUMA				AML	AML		
	comp=N,1900μm,0.3s						
GUMA				AML	AML		
	comp=E,1800μm,0.2s						
GUMA				AML	AML		
	comp=E,2915μm,0.2s						
GUMA				AML	AML		
	comp=N,1340μm,0.3s						
T1221	**Campello sul C**	**0.23**	**219**	⇑P	Pg	00 13 37.6	+0.6
T1221				S	Sg	00 13 41.6	+1.6
SNTG	**Esanatoglia**	**0.23**	**341**	P	Pg	00 13 37.5	+0.5
SNTG				S	Sg	00 13 41.4	+1.2
SNTG				AML	AML		
	comp=E,238μm,0.2s						
SNTG				AML	AML		
	comp=N,263μm,0.5s						
MMO1	**Montemonaco**	**0.25**	**123**	P	Pg	00 13 37.7	+0.3
MMO1				S	Sg	00 13 41.8	+1.1
EL6	**Elcito**	**0.30**	**8**	⇑P	Pg	00 13 38.7	+0.4
EL6				S	Sb	00 13 43.8	-1.3
EL6				AML	AML		
	comp=E,1260μm,1.4s						
EL6				AML	AML		
	comp=N,1485μm,0.3s						
EL6				AML	AML		
	comp=E,1260μm,0.6s						
MF5	**Montefalcone A**	**0.31**	**99**	P	Pg	00 13 39.2	+0.7
MF5				S	Sb	00 13 45.2	-0.2
MF5				AML	AML		
	comp=E,232μm,0.2s						
MF5				AML	AML		
	comp=N,317μm,0.3s						
FOSV	**Fossato di Vic**	**0.33**	**321**	P	Pg	00 13 39.3	+0.4
FOSV				S	Sb	00 13 45.0	-1.0
FOSV				AML	AML		
	comp=E,124μm,0.5s						
FOSV				AML	AML		
	comp=E,124μm,1.5s						
FOSV				AML	AML		
	comp=N,220μm,0.3s						
CING	**Cingoli**	**0.36**	**18**	⇑P	Pg	00 13 39.8	+0.4
CING				S	Sb	00 13 45.9	-0.9
CING				AML	AML		
	comp=N,365μm,0.1s						
CING				AML	AML		
	comp=E,174μm,0.5s						
MOMA	**Monte Martano**	**0.42**	**236**	P	Pg	00 13 41.2	+0.7
MOMA				S	Sb	00 13 48.0	-0.6
MOMA				AML	AML		
	comp=E,96μm,0.9s						
MOMA				AML	AML		
	comp=N,123μm,0.9s						
ARVD	**Arcevia**	**0.47**	**351**	⇑P	Pg	00 13 41.7	+0.3
ARVD				S	Sb	00 13 49.5	-0.5
ARVD				AML	AML		
	comp=E,170μm,0.2s						
ARVD				AML	AML		
	comp=N,101μm,0.8s						
ARVD				AML	AML		
	comp=N,101μm,1.2s						
OFFI	**Offida**	**0.48**	**102**	P	Pb	00 13 43.6	+0.5
OFFI				S	Sb	00 13 52.4	+2.1
FRON	**Frontone**	**0.53**	**334**	⇓P	Pg	00 13 42.9	+0.2
FRON				S	Sb	00 13 51.5	-0.4
FRON				AML	AML		
	comp=E,67μm,1.4s						
FRON				AML	AML		
	comp=N,81μm,1.0s						
CESX	**Cesi**	**0.55**	**219**	P	Pg	00 13 42.9	0.0
CESX				S	Sb	00 13 51.4	-0.7
TERO	**Teramo**	**0.58**	**135**	P	Pb	00 13 44.3	-0.6
TERO				S	Sb	00 13 52.4	-0.9
TERO				AML	AML		
	comp=E,67μm,0.9s						
TERO				AML	AML		
	comp=N,55μm,1.4s						
TERO				AML	AML		
	comp=E,67μm,1.1s						
PIEI	**Pieia**	**0.62**	**324**	⇓P	Pg	00 13 44.6	+0.2
PIEI				S	Sb	00 13 54.7	+0.3
PIEI				AML	AML		
	comp=N,40μm,1.1s						
PIEI				AML	AML		
	comp=E,53μm,0.7s						
PE3	**Peglio**	**0.77**	**329**	P	Pn	00 13 48.8	-0.7
PE3				S	Sn	00 14 01.0	-0.3
PE3				AML	AML		
	comp=E,211μm,1.1s						
PE3				AML	AML		
	comp=N,164μm,1.2s						
PE3				AML	AML		
	comp=E,211μm,0.9s						

ROM 03 00:14:06.0±0.0, 43.038N±0.003×13.044E±0.004, h8km, ML2.0/42, 14C-5D, Error ellipse: s-maj=0.2km s-min=0.2km az=73.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**93**	P	Pg	00 14 07.8	+0.2
FDMO				S	Sg	00 14 08.7	-0.1
FDMO				AML	AML		
	comp=N,4820μm,0.4s						
FDMO				AML	AML		
	comp=E,3620μm,0.1s						
FDMO				AML	AML		
	comp=N,4820μm,1.6s						
T1219	**Muccia, Frazio**	**0.03**	**303**	P	Pg	00 14 07.9	+0.2
T1219				S

T1219					AML	AML		
	comp=N,1025µm,1.7s							
FEMA	**Monte Fema**	**0.08**	**177**	⇑	P	Pg	00 14 08.6	+0.4
FEMA					S	Sg	00 14 10.2	+0.4
FEMA					AML	AML		
	comp=N,2315µm,1.1s							
FEMA					AML	AML		
	comp=E,2605µm,1.2s							
FEMA					AML	AML		
	comp=E,2605µm,1.2s							
FEMA					AML	AML		
	comp=E,2605µm,0.8s							
T1220	**Camerino, Fraz**	**0.08**	**25**	⇑	P	Pg	00 14 08.6	+0.4
T1220					S	Sg	00 14 10.3	+0.6
T1220					AML	AML		
	comp=N,2665µm,0.5s							
T1220					AML	AML		
	comp=E,5590µm,0.3s							
T1220					AML	AML		
	comp=E,2780µm,0.3s							
T1220					AML	AML		
	comp=N,2665µm,0.4s							
T1220					AML	AML		
	comp=E,5590µm,0.3s							
T1220					AML	AML		
	comp=N,5260µm,0.4s							
T1220					AML	AML		
	comp=E,2780µm,0.3s							
T1220					AML	AML		
	comp=N,5255µm,0.5s							
T1220					AML	AML		
	comp=E,5590µm,1.7s							
T1220					AML	AML		
	comp=E,2780µm,1.7s							
MML1	**Montelago di S**	**0.09**	**325**		P	Pg	00 14 08.8	+0.4
MML1					S	Sg	00 14 10.7	+0.6
MML1					AML	AML		
	comp=E,567µm,0.1s							
MML1					AML	AML		
	comp=E,2470µm,0.1s							
MML1					AML	AML		
	comp=N,3290µm,0.1s							
MML1					AML	AML		
	comp=E,566µm,0.1s							
MML1					AML	AML		
	comp=N,834µm,0.1s							
MML1					AML	AML		
	comp=E,566µm,0.2s							
MML1					AML	AML		
	comp=N,834µm,0.1s							
MML1					AML	AML		
	comp=N,834µm,1.9s							
MML1					AML	AML		
	comp=N,3290µm,1.9s							
MML1					AML	AML		
	comp=E,2470µm,1.9s							
MML1					AML	AML		
	comp=E,566µm,1.8s							
CESI	**CESI - Serrava**	**0.11**	**252**	⇑	P	Pg	00 14 09.2	+0.6
CESI					S	Sg	00 14 11.3	+1.0
CESI					AML	AML		
	comp=E,1355µm,0.3s							
CESI					AML	AML		
	comp=N,1500µm,0.3s							
CSP1	**Cessapalombo**	**0.13**	**65**	⇑	P	Pg	00 14 09.5	+0.5
CSP1					S	Sg	00 14 11.8	+0.8
CSP1					AML	AML		
	comp=E,837µm,0.2s							
CSP1					AML	AML		
	comp=N,360µm,0.8s							
CSP1					AML	AML		
	comp=E,838µm,0.2s							
PF6	**Pievefavera**	**0.15**	**45**		P	Pg	00 14 09.5	+0.2
PF6					S	Sg	00 14 12.3	+0.7
PF6					AML	AML		
	comp=N,294µm,0.9s							
PF6					AML	AML		
	comp=E,424µm,0.8s							
PF6					AML	AML		
	comp=E,425µm,0.8s							
PF6					AML	AML		
	comp=N,294µm,1.1s							
MC2	**Monte Cornacci**	**0.17**	**139**	⇓	P	Pg	00 14 10.1	+0.5
MC2					S	Sg	00 14 13.5	+1.5
NRCA	**Norcia**	**0.21**	**166**	⇑	P	Pg	00 14 10.8	+0.5
NRCA					S	Sg	00 14 14.3	+1.1
NRCA					AML	AML		
	comp=N,1380µm,0.2s							
NRCA					AML	AML		
	comp=N,1380µm,0.2s							
NRCA					AML	AML		
	comp=N,1450µm,0.2s							
NRCA					AML	AML		
	comp=E,1260µm,0.1s							
NRCA					AML	AML		
	comp=E,1305µm,0.1s							
GUMA	**Gualdo di Mace**	**0.21**	**83**	⇑	P	Pg	00 14 11.3	+0.9
GUMA					S	Sg	00 14 15.3	+1.9
GUMA					AML	AML		
	comp=N,1725µm,0.2s							
GUMA					AML	AML		
	comp=E,1515µm,0.3s							
GUMA					AML	AML		
	comp=E,2710µm,0.2s							
GUMA					AML	AML		
	comp=N,928µm,0.4s							
T1221	**Campello sul C**	**0.23**	**219**	⇑	P	Pg	00 14 11.3	+0.7
T1221					S	Sg	00 14 15.2	+1.4
SNTG	**Esanatoglia**	**0.23**	**341**	⇓	P	Pg	00 14 11.3	+0.6
SNTG					S	Sg	00 14 15.4	+1.6
SNTG					AML	AML		
	comp=E,314µm,1.0s							
SNTG					AML	AML		
	comp=E,256µm,1.0s							
SNTG					AML	AML		
	comp=N,262µm,0.7s							
SNTG					AML	AML		
	comp=E,256µm,1.0s							
SNTG					AML	AML		
	comp=E,314µm,1.0s							
SNTG					AML	AML		
	comp=N,286µm,0.7s							
MMO1	**Montemonaco**	**0.25**	**124**	⇓	P	Pg	00 14 11.5	+0.5
MMO1					S	Sg	00 14 15.8	+1.4
ASSB	**Assisi San Ben**	**0.28**	**271**		P	Pg	00 14 12.3	+0.6
ASSB					S	Sg	00 14 16.8	+1.3
ASSB					AML	AML		
	comp=E,365µm,1.1s							
ASSB					AML	AML		
	comp=N,670µm,0.2s							
EL6	**Elcito**	**0.29**	**8**	⇑	P	Pg	00 14 12.4	+0.5
EL6					S	Sb	00 14 17.7	-1.1
EL6					AML	AML		
	comp=E,514µm,1.4s							
EL6					AML	AML		
	comp=N,475µm,0.4s							
EL6					AML	AML		
	comp=E,514µm,0.6s							
MF5	**Montefalcone A**	**0.31**	**99**	⇓	P	Pb	00 14 13.1	-0.7
MF5					S	Sb	00 14 18.4	-0.7
ATCC	**AVT- Casa Cast**	**0.33**	**297**		P	Pg	00 14 13.4	+0.8
ATCC					S	Sb	00 14 18.9	-0.8
CING	**Cingoli**	**0.35**	**18**	⇑	P	Pg	00 14 13.5	+0.5
CING					S	Sb	00 14 19.5	-1.0
CING					AML	AML		
	comp=E,153µm,0.1s							
CING					AML	AML		
	comp=N,123µm,1.3s							
CING					AML	AML		
	comp=N,123µm,0.7s							
MTRA	**Matera**	**0.38**	**137**	⇑	P	Pg	00 14 13.8	+0.3
MTRA					S	Sg	00 14 19.6	+1.0
MOMA	**Monte Martano**	**0.42**	**236**	⇑	P	Pb	00 14 15.1	-0.6
MOMA					S	Sb	00 14 21.6	-0.7
MOMA					AML	AML		
	comp=N,105µm,0.8s							
MOMA					AML	AML		
	comp=E,89µm,1.2s							
LNSS	**Leonessa**	**0.43**	**180**		AML	AML		
	comp=N,244µm,0.1s							
LNSS					AML	AML		
	comp=E,258µm,0.2s							
MURB	**Monte Urbino**	**0.44**	**301**	⇓	P	Pg	00 14 15.3	+0.7
MURB					S	Sb	00 14 23.0	+0.1
MURB					AML	AML		
	comp=N,234µm,0.3s							
MURB					AML	AML		
	comp=E,248µm,0.2s							
ARVD	**Arcevia**	**0.47**	**351**	⇑	P	Pg	00 14 15.5	+0.4
ARVD					S	Sb	00 14 23.6	0.0
ARVD					AML	AML		
	comp=N,91µm,1.6s							
ARVD					AML	AML		
	comp=E,136µm,1.0s							
ARVD					AML	AML		
	comp=E,136µm,1.0s							
ARVD					AML	AML		
	comp=N,91µm,0.4s							
ARRO	**Arrone**	**0.50**	**204**		P	Pb	00 14 16.6	-0.5
ARRO					S	Sb	00 14 24.0	-0.6
FRON	**Frontone**	**0.53**	**334**	⇑	P	Pg	00 14 16.7	+0.4
FRON					S	Sb	00 14 25.1	-0.5
CESX	**Cesi**	**0.55**	**219**	⇑	P	Pg	00 14 16.7	+0.1
CESX					S	Sb	00 14 24.9	-1.0
TERO	**Teramo**	**0.58**	**135**		P	Pg	00 14 17.3	0.0
TERO					S	Sb	00 14 26.7	-0.3
TERO					AML	AML		
	comp=N,93µm,0.5s							
TERO					AML	AML		
	comp=E,66µm,0.2s							
TERO					AML	AML		
	comp=N,93µm,1.5s							
PIEI	**Pieia**	**0.62**	**323**		P	Pb	00 14 18.7	-0.5
PIEI					S	Sb	00 14 28.1	0.0
T1247	**Pizzolo (AQ)**	**0.62**	**162**		P	Pn	00 14 21.5	+0.2
T1247					S	Sb	00 14 28.5	+0.3

ZUR 03 00:35:36.4, 46°34.84N × 7°41.41E, h7km ± 3km, MLh0.4/4, 1D, Error ellipse: s-maj=7315.2km s-min=1031.3km az=317.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STAF	**Tafers**	**0.14**	**255**		Sg	Sg	00 35 41.8	+0.6
WOLEN	**Wohlen bei Ber**	**0.16**	**351**		Pg	Pg	00 35 39.9	+0.2
WOLEN					Sg	Sg	00 35 42.7	+0.8
SCOU	**Cournillens**	**0.21**	**274**		Sg	Sg	00 35 43.9	+0.5
TORNY	**Torny/Romont**	**0.32**	**258**	⇓	Pg	Pg	00 35 42.9	+0.3
TORNY					Sg	Sg	00 35 47.7	+0.9
SENIN	**Lac Senin/Sane**	**0.48**	**189**		Sg	Sg	00 35 53.1	+1.0
HASLI	**Hasliberg/Brie**	**0.52**	**99**		Sg	Sg	00 35 54.2	+1.0

ZUR 03 00:35:54.8, 46°34.84N × 7°41.41E, h-0km ± 3km, MLh1.0/7, 2C-3D, Error ellipse: s-maj=6306.0km s-min=691.1km az=340.0, Switzerland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STAF	**Tafers**	**0.14**	**257**	⇓	Pg	Pg	00 35 58.0	+0.6
STAF					Sg	Sg	00 36 00.5	+1.3
WOLEN	**Wohlen bei Ber**	**0.17**	**350**	⇓	Pg	Pg	00 35 58.5	+0.6
WOLEN					Sg	Sg	00 36 01.4	+1.2
SFRU	**Fribourg, Univ**	**0.18**	**256**	⇑	Pg	Pg	00 35 58.9	+0.7
SCOU	**Cournillens**	**0.21**	**275**		Sg	Sg	00 36 03.0	+1.4
WIMIS	**Wimmis**	**0.23**	**139**	⇓	Pg	Pg	00 35 59.8	+0.7
TORNY	**Torny/Romont**	**0.32**	**259**	⇑	Pg	Pg	00 36 01.5	+0.7
TORNY					Sg	Sg	00 36 06.3	+1.3
SENIN	**Lac Senin/Sane**	**0.48**	**189**		Sg	Sg	00 36 11.7	+1.5
HASLI	**Hasliberg/Brie**	**0.52**	**99**		Sg	Sg	00 36 12.8	+1.4

IDC 03 00:56:32.2 ± 2.3, 5°56S × 152°34E, h0km, mb3.8/5, mbtmp3.8/5, MS3.4/2, Error ellipse: s-maj=91.3km s-min=34.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**25.14**	**223**		P	P	01 01 59.3	0.0
	0.4nm,0.5s,baz=58,slow=9.2,SNR=5.8							
	0.4nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**27.95**	**30**		T	T	01 30 40.7	
	baz=208,slow=74							
H11S2	**WAKE ISLAND Hy**	**27.95**	**30**		T	T	01 30 34.9	
	baz=208,slow=74							
H11S1	**WAKE ISLAND Hy**	**27.96**	**30**		T	T	01 30 33.3	
	baz=208							
TGY	**Tagaytay City**	**36.88**	**303**		LR	LR	01 17 29.3	
	comp=Z,76nm,21.3s,baz=218,slow=34							
MKAR	**Makanchi Array**	**80.74**	**319**		P	P	01 08 48.8	+1.2
	0.5nm,0.8s,baz=96,slow=5.8,SNR=2.8							
	0.5nm,0.8s							
ILAR	**Eielson Array**	**83.21**	**22**		P	P	01 09 00.3	+0.2
	1.1nm,0.9s,baz=241,slow=6.1,SNR=6.2							
ILAR					LR	LR	01 39 21.5	
	comp=Z,18nm,20.8s,baz=268,slow=31							
	1.1nm,0.9s							
KURBB	**Kurchatov Arra**	**84.27**	**322**		P	P	01 09 05.5	-0.3
	0.2nm,0.4s,baz=116,slow=5.0,SNR=2.6							
	0.2nm,0.4s							
BVAR	**Borovoye Array**	**89.73**	**323**		P	P	01 09 31.4	-1.0
	1.1nm,0.7s,baz=98,slow=6.0,SNR=6.7							
	1.1nm,0.7s							

*HVO **03** 01:02:16.7 ± 1.0, 19°.44N ± 0°.02 × 154°.95W ± 0°.04, h-0km ± 9km, ML2.2/3, ML2.2/20(NEIC), Error ellipse: s-maj=5.4km s-min=1.5km az=118.0*

NEIC 03 01:02:17.3 ± 1.2, 19°.39N ± 0°.02 × 154°.95W ± 0°.03, h5km ± 2km, Error ellipse: s-maj=6.0km s-min=3.0km az=305.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.07**	**308**			Pg	01 02 18.7	-0.2
PHO	**Puu Honuaula**	**0.10**	**30**			Pg	01 02 20.1	+0.6
KNHH	**Kane Nui o Ham**	**0.21**	**267**			Pg	01 02 23.1	+1.6
PUH	**Pauahi**	**0.26**	**266**			Pg	01 02 21.8	-0.5
PUH					IAML		01 02 30.1	
	comp=N,396nm,2.2s							
HATHI	**Halema'uma'u T**	**0.30**	**276**			Sg	01 02 27.2	+0.1
HATHI	**Halema'uma'u T**	**0.30**	**276**			Pg	01 02 22.9	-0.2
HATHI					IAML		01 02 29.9	
	comp=N,282nm,0.7s							
HATHI	**Halema'uma'u T**	**0.30**	**276**		IAML		01 02 25.8	
	comp=E,264nm,1.3s							
SBLHI	**Steaming Bluff**	**0.31**	**277**			Pg	01 02 22.9	-0.4
SBLHI	**Steaming Bluff**	**0.31**	**277**		IAML		01 02 30.8	
	comp=N,268nm,1.8s							
SBLHI					IAML		01 02 31.1	
	comp=E,246nm,1.9s							
UWB	**Uwekahuna B**	**0.32**	**276**			Pg	01 02 23.9	+0.4
UWB	**Uwekahuna B**	**0.32**	**276**		IAML		01 02 25.5	
	comp=E,124nm,2.6s							
UWB					IAML		01 02 31.1	
	comp=N,209nm,1.4s							
RSD	**Rainshed**	**0.32**	**283**		Pg	Pg	01 02 22.7	-0.9
RSD					IAML		01 02 30.3	
	comp=N,264nm,0.5s							
RSD					IAML		01 02 31.4	
	comp=E,322nm,0.5s							
HLP	**Hilina Pali**	**0.35**	**255**		Pg	Pg	01 02 23.8	-0.4
HLP					IAML		01 02 34.2	
	comp=E,401nm,1.2s							
MLH	**Mauna Loa**	**0.43**	**284**			Pg	01 02 25.3	-0.4
MLH					IAML		01 02 28.6	
	comp=N,224nm,4.6s							
MLH					IAML		01 02 32.8	
	comp=E,249nm,0.6s							
MLH	**Mauna Loa**	**0.43**	**284**			Sg	01 02 32.4	+1.1
HTC	**Hot Caves**	**0.45**	**250**			Pg	01 02 26.5	+0.5
HMH	**Humu'ula Sheep**	**0.55**	**293**			Pg	01 02 27.4	-0.5
MLOA	**Mauna Loa Obse**	**0.61**	**284**			Pg	01 02 28.4	-0.8
MLOA					IAML		01 02 37.9	
	comp=N,165nm,1.3s							
KHU	**Kahuku**	**0.65**	**257**			Pg	01 02 29.2	-0.6
KHU	**Kahuku**	**0.65**	**257**		IAML		01 02 36.0	
	comp=E,129nm,3.4s							
KHU					IAML		01 02 46.4	
	comp=N,253nm,3.6s							
ALEP	**Alea Permanent**	**0.68**	**283**			Pg	01 02 29.2	-1.1
ALEP						Sg	01 02 39.3	+0.2

*NEIC **03** 01:20:29.8 ± 1.8, 19°.48N ± 0°.03 × 154°.91W ± 0°.04, h5km ± 1km, Error ellipse: s-maj=6.8km s-min=4.2km az=311.0*

HVO 03 01:20:29.0 ± 1.7, 19°.45N ± 0°.02 × 154°.86W ± 0°.03, h2km ± 9km, ML2.3/3, ML2.5/18(NEIC), Error ellipse: s-maj=4.5km s-min=2.6km az=101.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**316**			Pg	01 20 30.8	+1.0
JOKA	**Jonika Flow**	**0.14**	**262**			Pg	01 20 31.7	0.0
JOKA						Sg	01 20 33.7	+0.2
KNHH	**Kane Nui o Ham**	**0.30**	**256**			Pb	01 20 36.2	-1.0
PUH	**Pauahi**	**0.34**	**257**			Pg	01 20 36.0	+0.3
HATHI	**Halema'uma'u T**	**0.38**	**266**			Pg	01 20 36.7	+0.4
HATHI						Sg	01 20 42.1	+0.9
SBLHI	**Steaming Bluff**	**0.39**	**266**			Sg	01 20 42.6	+1.1
RSD	**Rainshed**	**0.39**	**271**			Pg	01 20 36.3	-0.3
RSD					IAML		01 20 44.3	
	comp=N,347nm,0.5s							
RSD					IAML		01 20 44.5	
	comp=E,442nm,0.3s							
UWE	**Uwekahuna**	**0.41**	**266**			Sg	01 20 43.0	+0.8
HLP	**Hilina Pali**	**0.45**	**250**			Pg	01 20 37.9	+0.2
HLP	**Hilina Pali**	**0.45**	**250**		IAML		01 20 50.7	
	comp=E,470nm,2.3s							
HLP					IAML		01 20 52.1	
	comp=N,325nm,1.6s							
MLH	**Mauna Loa**	**0.50**	**275**			Pg	01 20 38.4	-0.2
MLH	**Mauna Loa**	**0.50**	**275**			Sg	01 20 45.5	+0.5
MLH	**Mauna Loa**	**0.50**	**275**		IAML		01 20 46.0	
	comp=E,277nm,0.6s							
MLH					IAML		01 20 46.5	
	comp=N,518nm,1.4s							
HTC	**Hot Caves**	**0.55**	**247**			Pg	01 20 39.4	-0.2
HMH	**Humu'ula Sheep**	**0.60**	**284**			Pg	01 20 40.4	-0.3
HMH					IAML		01 20 54.5	
	comp=E,420nm,0.8s							
HMH	**Humu'ula Sheep**	**0.60**	**284**			Sg	01 20 49.2	+0.7
MWH	**Moku'aweowe**	**0.69**	**273**			Pg	01 20 41.6	-0.8
MWH					IAML		01 20 51.0	
	comp=E,240nm,3.2s							
MWH					IAML		01 21 06.0	
	comp=N,252nm,2.8s							
KHU	**Kahuku**	**0.74**	**254**			Pg	01 20 42.3	-0.9
KHU	**Kahuku**	**0.74**	**254**		IAML		01 21 00.4	
	comp=N,251nm,3.8s							
ALEP	**Alea Permanent**	**0.74**	**277**			Pg	01 20 42.1	-1.2
ALEP						Sg	01 20 52.5	-0.4
HUH	**Hualalai**	**0.95**	**284**			Pg	01 20 47.5	+0.3

ROM 03 01:36:11.7 ± 0.1, 43°.031N ± 0°.004 × 13°.101E ± 0°.006, h8km, ML1.3/20, 6C-6D, Error ellipse: s-maj=0.4km s-min=0.4km az=21.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.01**	**300**		P	Pg	01 36 12.8	-0.3
FDMO					S	Sg	01 36 13.3	-0.9
FDMO					AML	AML		
	comp=E,3345µm,0.2s							
FDMO					AML	AML		
	comp=N,2855µm,0.3s							
FDMO					AML	AML		
	comp=N,2589µm,0.1s							
FDMO					AML	AML		
	comp=E,3346µm,0.2s							
T1220	**Camerino, Fraz**	**0.08**	**354**	⇑	P	Pg	01 36 14.1	+0.3
T1220					S	Sg	01 36 15.9	+0.6
T1220					AML	AML		
	comp=E,559µm,0.3s							
T1220					AML	AML		
	comp=E,1063µm,0.3s							
T1220					AML	AML		
	comp=N,921µm,0.4s							
T1220					AML	AML		
	comp=E,1064µm,0.3s							
T1220					AML	AML		
	comp=N,466µm,0.4s							
CSP1	**Cessapalombo**	**0.10**	**51**	⇑	P	Pg	01 36 14.4	+0.3
CSP1					S	Sg	01 36 16.3	+0.5
CSP1					AML	AML		
	comp=E,166µm,0.1s							
CSP1					AML	AML		
	comp=N,63µm,0.8s							
CSP1					AML	AML		
	comp=N,57µm,0.1s							
MML1	**Montelago di S**	**0.12**	**311**		P	Pg	01 36 15.1	+0.6
MML1					AML	AML		
	comp=E,92µm,1.5s							
MML1					AML	AML		
	comp=N,198µm,0.9s							
MML1					AML	AML		
	comp=E,92µm,1.5s							
MML1					AML	AML		
	comp=N,198µm,1.1s							
MML1					AML	AML		
	comp=E,92µm,0.5s							
PF6	**Pievefavera**	**0.14**	**30**	⇑	P	Pg	01 36 14.9	+0.2
PF6					S	Sg	01 36 17.2	+0.5
PF6					AML	AML		
	comp=N,126µm,0.6s							
PF6					AML	AML		
	comp=E,200µm,0.2s							
PF6					AML	AML		
	comp=N,126µm,0.6s							
CESI	**CESI - Serrava**	**0.15**	**260**	⇑	P	Pg	01 36 15.6	+0.7
CESI					S	Sg	01 36 18.3	+1.3
CESI					AML	AML		
	comp=E,214µm,0.4s							
CESI					AML	AML		
	comp=N,233µm,0.2s							
GUMA	**Gualdo di Mace**	**0.17**	**79**	⇓	P	Pg	01 36 16.2	+0.9
GUMA					S	Sg	01 36 19.7	+1.9
GUMA					AML	AML		
	comp=E,360µm,0.2s							
GUMA					AML	AML		
	comp=N,312µm,0.2s							
GUMA					AML	AML		
	comp=N,312µm,1.8s							
GUMA					AML	AML		
	comp=E,360µm,1.8s							
MMO1	**Montemonaco**	**0.21**	**128**		P	Pg	01 36 16.4	+0.4
MMO1					S	Sg	01 36 20.2	+1.3
T1221	**Campello sul C**	**0.25**	**228**	⇓	P	Pg	01 36 17.5	+0.8
T1221					S	Sb	01 36 22.0	-1.2
T1221					AML	AML		
	comp=E,70µm,0.2s							
T1221					AML	AML		
	comp=N,113µm,0.2s							
SNTG	**Esanatoglia**	**0.25**	**332**	⇓	P	Pg	01 36 17.4	+0.6
MF5	**Montefalcone A**	**0.27**	**99**	⇓	P	Pb	01 36 18.1	-0.7
MF5					S	Sb	01 36 23.1	-0.4
EL6	**Elcito**	**0.30**	**0**	⇓	P	Pg	01 36 18.2	+0.6
EL6					S	Sb	01 36 23.5	-1.0
MTRA	**Matera**	**0.35**	**141**		P	Pg	01 36 18.9	+0.3
MTRA					S	Sb	01 36 24.6	-1.3
MTRA					AML	AML		
	comp=E,45µm,0.4s							
MTRA					AML	AML		
	comp=N,43µm,0.2s							
CING	**Cingoli**	**0.35**	**11**	⇓	P	Pg	01 36 19.2	+0.6
CING					S	Sb	01 36 25.0	-1.0
FOSV	**Fossato di Vic**	**0.36**	**317**	⇑	P	Pg	01 36 19.4	+0.6
FOSV					S	Sb	01 36 25.6	-0.7
ATCC	**AVT- Casa Cast**	**0.37**	**295**	⇑	P	Pb	01 36 20.2	-0.4
ATCC					S	Sb	01 36 26.2	-0.4
ATCC					AML	AML		
	comp=E,126µm,1.3s							
ATCC					AML	AML		
	comp=E,126µm,0.7s							
ATCC					AML	AML		
	comp=N,77µm,0.3s							
PE3	**Peglio**	**0.80**	**327**		P	Pb	01 36 27.7	-0.2

*VIE **03** 01:36:29.6 ± 0.5, 50°.10N × 18°.53E, h0km, mb2.5/7, ml2.5/6, Error ellipse: s-maj=4.0km s-min=3.3km az=113.0, Suspected Mining induced.*

*IPEC **03** 01:36:30.4 ± 0.2, 50°.04N × 18°.54E, h1km, ML2.4/4, Error ellipse: s-maj=2.0km s-min=1.0km az=164.0*

*PRU **03** 01:36:31.3, 50°.03N × 18°.47E, h0km*

ISC 03 01:36:30.6 ± 0.8, 50°.03N ± 0°.03 × 18°.50E ± 0°.02, h0km, n42, σ0.83/74, 6C-5D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.20**	**285**	*e*P	G	**Pg**	**01 36 35.9**	**+1.4**
RAC				*e*S	G	**Sg**	**01 36 39.6**	**+2.5**
OKC	**Ostrava-Krasne**	**0.30**	**229**	*e*P	G	**Pg**	**01 36 37.1**	**+0.8**

OKC *e*SG **Sg** **01 36 41.2 +1.0**
comp=Z,133nm,0.5s
MORC Moravsky Berou 0.67 248 ⇑P **Pg** **01 36 43.5 +0.1**
MORC ⇓S **Sg** **01 36 53.3 +1.2**
MORC Moravsky Berou 0.67 248 *e*Pg **Pg** **01 36 43.5 +0.1**
baz=68
MORC *e*Sg **Sg** **01 36 52.5 +0.5**
56nm,0.4s,baz=68
MAUC Maruska 0.80 213 *e*PG **Pg** **01 36 46.3 +0.5**
OJC Ojcow 0.86 77 *e*Pg **Pg** **01 36 46.8 -0.2**
OJC *e*Sg **Sg** **01 36 58.4 +0.2**
KRLC Kraliky 1.11 273 *e*PG **Pg** **01 36 51.1 -0.7**
KRLC *e*SG **Sg** **01 37 06.1 -0.1**
comp=Z,42nm,0.4s
JAVC Velka Javorina 1.29 205 *e*PG **Pb** **01 36 55.5 -0.4**
JAVC Velka Javorina 1.29 205 *e*Pg **Pb** **01 36 55.4 -0.4**
baz=25
NIE Niedzica 1.32 117 *e*Pg **Pg** **01 36 55.6 -0.3**
NIE *e*Sg **Sn** **01 37 14.7 +0.1**
VRAC Vranov 1.43 240 ⇑P **Pn** **01 36 57.1 -0.8**
VRAC ⇓S **Sg** **01 37 16.5 -0.1**
VRAC Vranov 1.43 240 *e*Pg **Pn** **01 36 57.0 -0.8**
baz=59
VRAC *e*Sg **Sg** **01 37 16.1 -0.5**
28nm,0.4s,baz=59
DPC Dobruska-Polom 1.43 284 *e*PG **Pn** **01 36 57.2 -0.7**
DPC *e*SG **Sg** **01 37 16.5 -0.2**
comp=Z,48nm,0.4s
OSTC Ostas 1.56 291 *e*PG **Pn** **01 36 58.8 -0.8**
OSTC *e*SG **Sg** **01 37 20.6 0.0**
comp=Z,30nm,0.8s
VYHS Vyhne 1.56 172 *e*PG **Pn** **01 36 58.6 -0.9**
VYHS *e*SG **Sg** **01 37 21.1 +0.6**
CHVC Chvalec 1.66 291 *e*PG **Pn** **01 37 00.9 -0.1**
CHVC *e*SG **Sg** **01 37 24.3 +0.3**
comp=Z,22nm,0.6s
UPC Upice 1.66 288 *e*PG **Pn** **01 37 01.4 +0.3**
UPC *e*SG **Sg** **01 37 24.1 0.0**
KRUC Moravsky 1.68 235 *e*Pn **Pn** **01 37 01.2 0.0**
baz=54
KRUC *e*Sg **Sb** **01 37 23.9 -0.1**
34nm,0.8s,baz=54
MODS Modra-Piesok 1.84 206 *e*PG **Pn** **01 37 03.2 -0.3**
MODS *e*SG **Sb** **01 37 28.3 -0.5**
MODS eLG Lg 01 37 30.2
TREC Trest 2.09 250 *e*PN **Pn** **01 37 06.0 -0.9**
PSZ Piszkesteto 2.31 156 ⇑P **Pn** **01 37 09.4 -0.5**
GOPC GO Pecny, Ondr 2.40 269 *e*PG **Pb** **01 37 13.8 -0.9**
GOPC *e*SG **Sg** **01 37 46.4 -1.2**
comp=Z,12nm,0.5s
PRU Pruhonice 2.55 271 *e*PG **Pb** **01 37 16.5 -0.8**
PRU *e*SG **Sb** **01 37 50.4 +1.2**
comp=Z,12nm,0.9s
PVCC Panska Ves 2.57 283 *e*SG **Sg** **01 37 51.9 -1.2**
KOLS Kolonicke sedl 2.70 113 *e*PG **Pb** **01 37 19.9 +0.2**
KOLS *e*SG **Sg** **01 37 58.0 +0.8**
KOLS eLG Lg 01 38 09.3
CONA Conrad Observa 2.73 221 Pn **Pn** **01 37 15.1 -0.6**
0.6nm,0.2s
CONA Sn **Sn** **01 37 50.6 +1.2**
1.4nm,0.3s
RONA Rosalia, Austr 2.75 213 Pn **Pn** **01 37 15.7 -0.3**
0.9nm,0.2s
RONA Sn **Sn** **01 37 50.4 +0.5**
2.5nm,0.3s
ZVC Zvikov 2.85 260 *e*PN **Pn** **01 37 16.5 -0.9**
CKRC Cesky Krumlov 2.99 248 *e*PN **Pn** **01 37 19.3 0.0**
CKRC *e*PG **Pb** **01 37 25.0 +0.2**
CKRC *e*SG **Sg** **01 38 05.2 -1.5**
comp=Z,10.0nm,0.4s
BRG Berggiesshubel 3.03 288 Pg **Pb** **01 37 26.1 +0.7**
BRG Sg **Sg** **01 38 06.5 -1.5**
BRG Amp 01 38 12.6
comp=Z,6.6nm,0.5s
HSKC Hora Svate Kat 3.30 282 *e*PN **Pn** **01 37 23.4 -0.1**
HSKC *e*PG **Pb** **01 37 30.3 +0.3**
KHC Kasperske Hory 3.33 256 *e*PN **Pn** **01 37 23.1 -0.8**
KHC *e*PG **Pb** **01 37 31.5 +1.0**
KHC *e*SG **Sg** **01 38 15.7 -1.7**
comp=Z,8.3nm,0.5s
MOA Molln 3.54 234 *e*Pn **Pn** **01 37 26.0 -0.9**
comp=Z,0.7nm,0.2s
MOA *e*Sn **Sn** **01 38 09.7 +0.2**
comp=Z,0.8nm,0.3s
CLL Collm 3.72 292 *e*Pn **Pn** **01 37 30.0 +0.7**
CLL *e*Pg **Pg** **01 37 40.0 -1.9**
CLL *e*Sg **Sg** **01 38 30.0 -0.1**
comp=Z,10.0nm,0.5s
BIOA Bad Ischl, Aus 3.97 236 *e*Pn **Pn** **01 37 32.4 -0.4**
comp=Z,0.6nm,0.2s
BIOA *e*Sn **Sn** **01 38 20.7 +0.6**
comp=Z,2.2nm,0.3s
DRGR 4.29 138 ⇓P **Pn** **01 37 37.0 -0.2**
SIRR Siria 4.32 149 ⇓P **Pn** **01 37 37.1 -0.4**
KBA Koelnbreinsper 4.52 231 Pn **Pn** **01 37 39.6 -0.8**
comp=Z,1.1nm,0.3s
KBA Sn **Sn** **01 38 35.5 +1.8**
comp=Z,0.9nm,0.4s
MARR Marisel-Cluj 4.56 136 ⇑P **Pn** **01 37 40.3 -0.6**
CJR Cluj-Napoca 4.75 132 ⇓P **Pn** **01 37 42.5 -1.0**
BZS Buzias 4.89 153 ⇑P **Pn** **01 37 44.9 -0.5**
BURAR Bucovina Array 5.05 116 ⇑P **Pn** **01 37 48.0 +0.3**

ROM 03 01:36:36.5±0.0, 43°066N±0'002×13°017E±0'004,
h8km, ML2.2/108, 5C-7D, Error ellipse: s-maj=0.3km
s-min=0.1km az=59.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op	ISC		h	m	s	ISC
T1219	**Muccia, Frazio**	**0.01**	**214**	AML	AML					
	comp=E,36400µm,0.2s									
T1219				AML	AML					
	comp=N,16450µm,0.3s									
T1219				AML	AML					
	comp=N,34850µm,0.3s									
T1219				AML	AML					
	comp=E,19300µm,0.2s									
T1219				AML	AML					
	comp=N,28333µm,0.2s									
T1219				AML	AML					
	comp=N,13697µm,0.2s									
T1219				AML	AML					
	comp=E,19298µm,0.2s									
T1219				AML	AML					
	comp=E,36388µm,0.2s									
MML1	**Montelago di S**	**0.06**	**325**	AML	AML					
	comp=E,7655µm,0.1s									
MML1				AML	AML					
	comp=E,1720µm,0.1s									
MML1				AML	AML					
	comp=N,2970µm,0.4s									
MML1				AML	AML					
	comp=E,1720µm,0.1s									
MML1				AML	AML					
	comp=N,2970µm,0.3s									
MML1				AML	AML					
	comp=N,11600µm,0.3s									
MML1				AML	AML					
	comp=E,1720µm,1.9s									
MML1				AML	AML					
	comp=E,7655µm,1.9s									
MML1				AML	AML					
	comp=E,7653µm,0.1s									
MML1				AML	AML					
	comp=N,2795µm,0.1s									
MML1				AML	AML					
	comp=E,1718µm,0.1s									
MML1				AML	AML					
	comp=N,10874µm,0.1s									
FDMO	**Fiordimonte**	**0.06**	**120**	⇓P	Pg		01	36	38.6	+0.2
FDMO				S	Sg		01	36	39.7	+0.1
T1220	**Camerino, Fraz**	**0.07**	**50**	AML	AML					
	comp=E,8755µm,1.6s									
T1220				AML	AML					
	comp=E,4475µm,0.4s									
T1220				AML	AML					
	comp=N,3890µm,0.3s									
T1220				AML	AML					
	comp=E,8755µm,0.4s									
T1220				AML	AML					
	comp=E,8755µm,0.4s									
T1220				AML	AML					
	comp=N,7815µm,0.3s									
T1220				AML	AML					
	comp=E,4475µm,1.6s									
T1220				AML	AML					
	comp=N,7188µm,0.1s									
T1220				AML	AML					
	comp=N,3578µm,0.1s									
T1220				AML	AML					
	comp=E,3484µm,0.2s									
T1220				AML	AML					
	comp=E,6961µm,0.2s									
SEF1	**Sefro**	**0.10**	**328**	P	Pg		01	36	39.2	+0.3
SEF1				S	Sg		01	36	40.9	+0.5
CESI	**CESI - Serrava**	**0.10**	**233**	⇑P	Pg		01	36	39.6	+0.6
CESI				S	Sg		01	36	41.8	+1.2
CESI				AML	AML					
	comp=N,1715µm,0.8s									
CESI				AML	AML					
	comp=E,1990µm,1.1s									
CESI				AML	AML					
	comp=N,1335µm,0.1s									
CESI				AML	AML					
	comp=E,1693µm,0.2s									
FEMA	**Monte Fema**	**0.11**	**167**	P	Pg		01	36	39.6	+0.5
FEMA				S	Sg		01	36	41.7	+0.9
FEMA				AML	AML					
	comp=E,9350µm,0.2s									
FEMA				AML	AML					
	comp=N,7160µm,0.2s									
FEMA				AML	AML					
	comp=E,9350µm,0.2s									
FEMA				AML	AML					
	comp=N,6180µm,0.3s									
FEMA				AML	AML					
	comp=E,9355µm,0.2s									
FEMA				AML	AML					
	comp=N,7160µm,0.1s									
FEMA				AML	AML					
	comp=N,7160µm,0.1s									
FEMA				AML	AML					
	comp=E,9353µm,0.2s									
PIO1	**Pioraco**	**0.11**	**348**	P	Pg		01	36	39.5	+0.4
PIO1				S	Sg		01	36	41.5	+0.5
FIU1	**Fiuminata**	**0.14**	**333**	P	Pg		01	36	39.9	+0.4
FIU1				S	Sg		01	36	42.5	+0.9
CSP1	**Cessapalombo**	**0.14**	**79**	⇑P	Pg		01	36	40.1	+0.5
CSP1				S	Sg		01	36	42.6	+0.9
CSP1				AML	AML					
	comp=E,1205µm,0.7s									
CSP1				AML	AML					
	comp=N,830µm,1.5s									
CSP1				AML	AML					
	comp=E,1210µm,0.7s									
CSP1				AML	AML					
	comp=N,829µm,1.5s									
CSP1				AML	AML					
	comp=E,1210µm,1.3s									
CSP1				AML	AML					
	comp=N,829µm,0.5s									
CSP1				AML	AML					
	comp=E,1104µm,0.2s									
CSP1				AML	AML					
	comp=N,826µm,0.3s									
PF6	**Pievefavera**	**0.15**	**57**	⇑P	Pg		01	36	40.2	+0.4
PF6				S	Sg		01	36	42.8	+0.8
PF6				AML	AML					
	comp=N,408µm,0.9s									
PF6				AML	AML					
	comp=E,926µm,0.9s									
PF6				AML	AML					
	comp=N,409µm,0.9s									
PF6				AML	AML					
	comp=E,930µm,0.9s									
PF6				AML	AML					
	comp=N,409µm,1.1s									
PF6				AML	AML					
	comp=N,391µm,0.1s									
PF6				AML	AML					
	comp=E,695µm,0.2s									
MDAR	**Monte D'Aria**	**0.16**	**36**	P	Pg		01	36	40.3	+0.5
MDAR				S	Sg		01	36	43.1	+1.0
GAG1	**Gagliole**	**0.18**	**12**	P	Pg		01	36	41.1	+1.0
GAG1				S	Sg		01	36	44.2	+1.6
MTL1	**Matelica**	**0.19**	**358**	P	Pg		01	36	41.1	+0.7
MTL1				S	Sg		01	36	44.8	+1.7
SNTG	**Esanatoglia**	**0.20**	**344**	⇓P	Pg		01	36	40.9	+0.4
SNTG				S	Sg		01	36	44.5	+1.2
SNTG				AML	AML					
	comp=E,1067µm,1.3s									
SNTG				AML	AML					
	comp=N,891µm,0.1s									
SNTG				AML	AML					
	comp=E,1067µm,1.3s									
SNTG				AML	AML					
	comp=N,892µm,0.1s									
SNTG				AML	AML					
	comp=E,1100µm,1.3s									
SNTG				AML	AML					
	comp=N,998µm,0.1s									
SNTG				AML	AML					
	comp=E,1067µm,0.7s									
SNTG				AML	AML					
	comp=E,1100µm,0.7s									
SNTG				AML	AML					
	comp=N,891µm,0.1s									
SNTG				AML	AML					
	comp=E,973µm,0.1s									
SNTG				AML	AML					
	comp=N,998µm,0.1s									
SNTG				AML	AML					
	comp=E,1000µm,0.1s									
MC2	**Monte Cornacci**	**0.20**	**140**	P	Pg		01	36	41.2	+0.6
MC2				S	Sg		01	36	45.0	+1.6
SSM1	**San Severino M**	**0.20**	**36**	P	Pg		01	36	41.2	+0.6
SSM1				S	Sg		01	36	44.8	+1.5
GUMA	**Gualdo di Mace**	**0.23**	**91**	⇑P	Pg		01	36	42.1	+0.9
GUMA				S	Sg		01	36	46.4	+2.0
GUMA				AML	AML					
	comp=E,4580µm,0.3s									
GUMA				AML	AML					
	comp=E,3035µm,0.3s									
GUMA				AML	AML					
	comp=N,3765µm,0.3s									
GUMA				AML	AML					
	comp=N,2965µm,0.3s									
GUMA				AML	AML					
	comp=E,3038µm,0.3s									
GUMA				AML	AML					
	comp=N,3770µm,0.3s									
GUMA				AML	AML					
	comp=E,4580µm,0.3s									
GUMA				AML	AML					
	comp=N,2964µm,0.3s									
T1221	**Campello sul C**	**0.24**	**211**	AML	AML					
	comp=N,1690µm,0.2s									
T1221				AML	AML					
	comp=E,1265µm,1.1s									
T1221				AML	AML					
	comp=N,1770µm,0.2s									
T1221				AML	AML					
	comp=E,1254µm,1.5s									
T1221				AML	AML					
	comp=N,1690µm,0.2s									
T1221				AML	AML					
	comp=E,1260µm,1.1s									
T1221				AML	AML					
	comp=N,1775µm,0.2s									
T1221				AML	AML					
	comp=E,1254µm,1.6s									
T1221				AML	AML					
	comp=E,1260µm,0.9s									
T1221				AML	AML					
	comp=E,1254µm,0.4s									
T1221				AML	AML					
	comp=N,1690µm,0.2s									
T1221				AML	AML					
	comp=N,1772µm,0.2s									
T1221				AML	AML					
	comp=E,1141µm,0.3s									
T1221				AML	AML					
	comp=E,1167µm,0.3s									
NRCA	**Norcia**	**0.24**	**163**	P	Pg		01	36	42.0	+0.6
NRCA				S	Sg		01	36	46.2	+1.5
NRCA				AML	AML					
	comp=N,2365µm,0.3s									
NRCA				AML	AML					
	comp=N,2455µm,0.2s									
NRCA				AML	AML					
	comp=E,2395µm,0.1s									
NRCA				AML	AML					
	comp=N,2365µm,0.3s									
NRCA				AML	AML					
	comp=N,2450µm,0.2s									
NRCA				AML	AML					
	comp=E,2550µm,0.1s									
NRCA				AML	AML					
	comp=E,2395µm,0.1s									
NRCA				AML	AML					
	comp=N,2365µm,0.3s									
NRCA				AML	AML					
	comp=N,2452µm,0.2s									
NRCA				AML	AML					
	comp=E,2550µm,0.1s									
ASSB	**Assisi San Ben**	**0.26**	**265**	AML	AML					
	comp=N,2145µm,0.2s									
ASSB				AML	AML					
	comp=E,1170µm,1.1s									
ASSB				AML	AML					
	comp=N,2145µm,0.2s									
ASSB				AML	AML					
	comp=E,1110µm,0.2s									
EL6	**Elcito**	**0.27**	**13**	⇓P	Pg		01	36	42.5	+0.6
EL6				S	Sb		01	36	47.1	-1.5
EL6				AML	AML					
	comp=E,4290µm,1.3s									
EL6				AML	AML					
	comp=E,4290µm,0.7s									
EL6				AML	AML					
	comp=N,4030µm,0.2s									
EL6				AML	AML					
	comp=E,4236µm,0.2s									
EL6				AML	AML					
	comp=N,4030µm,0.2s									
MMO1	**Montemonaco**	**0.28**	**126**	⇓P	Pg		01	36	42.7	+0.5
MMO1				S	Sb		01	36	47.4	-1.5
FOSV	**Fossato di Vic**	**0.29**	**321**	⇓P	Pg		01	36	42.9	+0.5
FOSV				S	Sb		01	36	48.1	-1.1
FOSV				AML	AML					
	comp=E,472µm,0.2s									
FOSV				AML	AML					
	comp=E,472µm,0.2s									
FOSV				AML	AML					
	comp=N,600µm,1.1s									
FOSV				AML	AML					
	comp=N,542µm,0.3s									
FOSV				AML	AML					
	comp=E,472µm,0.2s									
ATCC	**AVT- Casa Cast**	**0.30**	**293**	⇓P	Pg		01	36	43.2	+0.7
ATCC				S	Sb		01	36	48.4	-1.0
ATCC				AML	AML					
	comp=E,1890µm,0.3s									
ATCC				AML	AML					
	comp=N,1575µm,1.3s									
ATCC				AML	AML					
	comp=N,1575µm,0.7s									
ATCC				AML	AML					
	comp=E,1801µm,0.2s									
ATCC				AML	AML					
	comp=N,1569µm,0.2s									
MF5	**Montefalcone A**	**0.33**	**103**	P	Pb		01	36	44.1	-0.7
MF5				S	Sb		01	36	50.1	-0.3
MF5				AML	AML					
	comp=E,839µm,0.6s									
MF5				AML	AML					
	comp=N,908µm,0.4s									
MF5				AML	AML					
	comp=E,842µm,0.6s									
MF5				AML	AML					
	comp=N,912µm,0.4s									
MF5				AML	AML					
	comp=E,842µm,1.4s									
MF5				AML	AML					
	comp=E,840µm,0.6s									
MF5				AML	AML					
	comp=N,911µm,0.4s									
CING	**Cingoli**	**0.34**	**23**	⇑P	Pg		01	36	43.7	+0.5
CING				S	Sb		01	36	49.3	-1.1
CING				AML	AML					
	comp=N,1045µm,0.2s									
CING				AML	AML					
	comp=E,2295µm,0.2s									
CING				AML	AML					
	comp=E,2296µm,0.2s									
CING				AML	AML					
	comp=N,1046µm,0.2s									
MNTP	**Montappone**	**0.34**	**78**	P	Pb		01	36	44.2	-0.6
MNTP				S	Sb		01	36	50.7	+0.3
MMUR	**Monte Murano**	**0.38**	**358**	P	Pg		01	36	44.3	+0.4
MMUR				S	Sb		01	36	50.6	-0.9
GAVE	**Gavelli**	**0.39**	**194**	AML	AML					
	comp=N,659µm,0.7s									
GAVE				AML	AML					
	comp=N,658µm,0.7s									
GAVE				AML	AML					
	comp=E,697µm,0.1s									
GAVE				AML	AML					
	comp=E,708µm,0.1s									
GAVE				AML	AML					
	comp=E,697µm,0.1s									
GAVE				AML	AML					
	comp=N,586µm,0.2s									
GAVE				AML	AML					
	comp=N,215µm,0.4s									
SSFR	**Montelago di S**	**0.41**	**335**	P	Pg		01	36	44.9	+0.4
SSFR				S	Sb		01	36	51.9	-0.6
SSFR				AML	AML					
	comp=E,1080µm,0.4s									
SSFR				AML	AML					
	comp=N,1020µm,0.2s									
SSFR				AML	AML					
	comp=N,1055µm,0.2s									
SSFR				AML	AML					
	comp=E,946µm,0.4s									
SSFR				AML	AML					
	comp=E,929µm,0.2s									
SSFR				AML	AML					
	comp=N,1054µm,0.2s									
SSFR				AML	AML					
	comp=E,1041µm,0.2s									
SSFR				AML	AML					
	comp=N,1022µm,0.1s									
MURB	**Monte Urbino**	**0.41**	**299**	P	Pg		01	36	45.2	+0.7
MURB				S	Sb		01	36	52.2	-0.4
MURB				AML	AML					
	comp=N,1146µm,1.1s									
MURB				AML	AML					
	comp=E,1920µm,1.0s									
MURB				AML	AML					
	comp=E,1910µm,1.0s									
MURB				AML	AML					
	comp=N,1145µm,1.1s									
MURB				AML	AML					
	comp=N,1020µm,1.3s									
MURB				AML	AML					
	comp=E,1920µm,1.0s									
MURB				AML	AML					
	comp=E,1910µm,1.0s									
MURB				AML	AML					
	comp=N,1145µm,0.9s									
MURB				AML	AML					
	comp=N,1013µm,0.2s									
MURB				AML	AML					
	comp=N,1118µm,0.2s									
MURB				AML	AML					
	comp=E,1895µm,0.2s									
MURB				AML	AML					
	comp=E,1763µm,0.2s									
MTRA	**Matera**	**0.42**	**138**	P	Pg		01	36	45.0	+0.4
MTRA				S	Sb		01	36	51.7	-1.0
MTRA				AML	AML					
	comp=E,570µm,0.4s									
MTRA				AML	AML					
	comp=N,486µm,0.5s									
MTRA				AML	AML					
	comp=E,508µm,0.4s									
MTRA				AML	AML					
	comp=N,440µm,0.5s									
MTRA				AML	AML					
	comp=E,570µm,0.4s									
MTRA				AML	AML					
	comp=E,508µm,0.4s									
MTRA				AML	AML					
	comp=N,486µm,1.5s									
MTRA				AML	AML					
	comp=N,440µm,1.5s									
MTRA				AML	AML					
	comp=N,430µm,0.3s									

MTRA				AML	AML		
	comp=N,449µm,0.3s						
MTRA				AML	AML		
	comp=E,508µm,0.4s						
MTRA				AML	AML		
	comp=E,570µm,0.4s						
MOMA	**Monte Martano**	**0.42**	**232**	P	Pg	01 36 45.2	+0.5
MOMA				S	Sb	01 36 52.5	-0.3
MOMA				AML	AML		
	comp=E,426µm,0.4s						
MOMA				AML	AML		
	comp=N,336µm,0.2s						
MOMA				AML	AML		
	comp=E,426µm,1.6s						
MOMA				AML	AML		
	comp=E,374µm,0.2s						
MOMA				AML	AML		
	comp=N,336µm,0.2s						
MOMA				AML	AML		
	comp=N,313µm,0.2s						
MOMA				AML	AML		
	comp=E,372µm,0.2s						
ARVD	**Arcevia**	**0.43**	**353**	⇓P	Pg	01 36 45.4	+0.4
ARVD				S	Sb	01 36 52.6	-0.7
ARVD				AML	AML		
	comp=E,641µm,0.5s						
ARVD				AML	AML		
	comp=N,399µm,0.2s						
ARVD				AML	AML		
	comp=E,641µm,1.5s						
ARVD				AML	AML		
	comp=E,630µm,0.1s						
ARVD				AML	AML		
	comp=N,399µm,0.2s						
LNSS	**Leonessa**	**0.46**	**178**	P	Pg	01 36 45.8	+0.3
LNSS				S	Sb	01 36 53.6	-0.5
LNSS				AML	AML		
	comp=N,427µm,1.0s						
LNSS				AML	AML		
	comp=E,340µm,0.2s						
LNSS				AML	AML		
	comp=N,427µm,1.0s						
LNSS				AML	AML		
	comp=E,340µm,0.2s						
LNSS				AML	AML		
	comp=N,352µm,0.3s						
FRON	**Frontone**	**0.50**	**335**	P	Pg	01 36 46.4	+0.2
FRON				S	Sb	01 36 54.7	-0.4
FRON				AML	AML		
	comp=E,207µm,1.4s						
FRON				AML	AML		
	comp=N,328µm,0.5s						
FRON				AML	AML		
	comp=E,207µm,0.6s						
FRON				AML	AML		
	comp=N,318µm,0.1s						
FRON				AML	AML		
	comp=E,198µm,0.2s						
OFFI	**Offida**	**0.51**	**105**	P	Pb	01 36 47.9	+0.1
PP3	**Marolino**	**0.53**	**54**	P	Pb	01 36 48.2	+0.1
PP3				AML	AML		
	comp=N,426µm,0.2s						
PP3				AML	AML		
	comp=E,380µm,0.4s						
PP3				AML	AML		
	comp=N,438µm,0.2s						
PP3				AML	AML		
	comp=E,344µm,0.4s						
ATVO	**AVT- Monte Val**	**0.55**	**305**	P	Pg	01 36 47.3	+0.2
ATVO				S	Sb	01 36 56.1	-0.4
ATVO				AML	AML		
	comp=E,132µm,0.3s						
ATVO				AML	AML		
	comp=N,141µm,1.4s						
ATVO				AML	AML		
	comp=E,132µm,0.3s						
ATVO				AML	AML		
	comp=N,131µm,0.3s						
CESX	**Cesi**	**0.56**	**215**	P	Pg	01 36 47.5	+0.2
CESX				S	Sb	01 36 56.3	-0.4
CESX				AML	AML		
	comp=E,294µm,0.2s						
CESX				AML	AML		
	comp=N,332µm,0.9s						
CESX				AML	AML		
	comp=N,332µm,0.9s						
CESX				AML	AML		
	comp=N,332µm,1.1s						
CESX				AML	AML		
	comp=E,294µm,0.2s						
CESX				AML	AML		
	comp=N,328µm,0.3s						
RM33	**Pellescritta (**	**0.58**	**165**	P	Pg	01 36 47.7	0.0
RM33				S	Sb	01 36 57.1	-0.2
RM33				AML	AML		
	comp=E,149µm,1.2s						
RM33				AML	AML		
	comp=N,120µm,1.5s						
RM33				AML	AML		
	comp=N,120µm,1.5s						
RM33				AML	AML		
	comp=N,120µm,0.5s						
RM33				AML	AML		
	comp=E,135µm,0.2s						
RM33				AML	AML		
	comp=N,122µm,0.3s						
RM33				AML	AML		
	comp=N,113µm,0.2s						
RM33				AML	AML		
	comp=E,135µm,0.2s						
PIEI	**Pieia**	**0.59**	**323**	P	Pg	01 36 47.9	0.0
PIEI				S	Sb	01 36 57.9	+0.3
PIEI				AML	AML		
	comp=N,159µm,0.9s						
PIEI				AML	AML		
	comp=N,159µm,1.1s						
PIEI				AML	AML		
	comp=E,213µm,0.1s						
PIEI				AML	AML		
	comp=N,155µm,0.2s						
PIEI				AML	AML		
	comp=E,213µm,0.1s						
ATPI	**Pietralunga -**	**0.59**	**311**	P	Pg	01 36 48.1	+0.1
ATPI				S	Sb	01 36 57.4	-0.4
ATPI				AML	AML		
	comp=E,126µm,0.7s						
ATPI				AML	AML		
	comp=N,84µm,1.2s						
ATPI				AML	AML		
	comp=E,126µm,0.7s						
ATPI				AML	AML		
	comp=N,84µm,1.2s						
ATPI				AML	AML		
	comp=E,126µm,1.3s						
ATPI				AML	AML		
	comp=N,67µm,0.3s						
ATPI				AML	AML		
	comp=E,100µm,0.4s						
MPAG	**Monte Paganucc**	**0.59**	**342**	P	Pg	01 36 48.2	+0.3
MPAG				S	Sb	01 36 58.2	+0.3
MPAG				AML	AML		
	comp=E,178µm,0.8s						
MPAG				AML	AML		
	comp=N,171µm,0.6s						
MPAG				AML	AML		
	comp=N,171µm,1.4s						
MPAG				AML	AML		
	comp=E,176µm,0.2s						
MPAG				AML	AML		
	comp=E,143µm,0.1s						
MPAG				AML	AML		
	comp=N,135µm,0.2s						
MPAG				AML	AML		
	comp=N,145µm,0.1s						
CAMP	**Campotosto**	**0.60**	**151**	P	Pg	01 36 48.2	+0.1
CAMP				S	Sb	01 36 57.6	-0.6
CAMP				AML	AML		
	comp=E,80µm,0.8s						
CAMP				AML	AML		
	comp=N,94µm,1.6s						
CAMP				AML	AML		
	comp=E,80µm,1.2s						
CAMP				AML	AML		
	comp=E,74µm,0.2s						
CAMP				AML	AML		
	comp=N,60µm,0.4s						
TERO	**Teramo**	**0.62**	**136**	P	Pg	01 36 48.4	0.0
TERO				S	Sb	01 36 58.4	-0.1
TERO				AML	AML		
	comp=N,143µm,1.2s						
TERO				AML	AML		
	comp=E,144µm,0.3s						
TERO				AML	AML		
	comp=N,143µm,0.8s						
TERO				AML	AML		
	comp=N,59µm,0.1s						
TERO				AML	AML		
	comp=N,120µm,0.3s						
TERO				AML	AML		
	comp=E,123µm,0.1s						
TERO				AML	AML		
	comp=E,60µm,0.1s						
APEC	**Apecchio**	**0.66**	**319**	P	Pg	01 36 49.5	+0.3
APEC				AML	AML		
	comp=E,110µm,0.6s						
APEC				AML	AML		
	comp=N,128µm,0.6s						
APEC				AML	AML		
	comp=E,108µm,0.6s						
APEC				AML	AML		
	comp=N,118µm,0.4s						
BADI	**Badiali**	**0.72**	**308**	P	Pg	01 36 50.6	+0.2
BADI				S	Sb	01 37 01.8	+0.4
BADI				AML	AML		
	comp=E,100µm,1.1s						
BADI				AML	AML		
	comp=N,93µm,1.0s						
BADI				AML	AML		
	comp=N,93µm,1.0s						
BADI				AML	AML		
	comp=E,84µm,0.2s						
BADI				AML	AML		
	comp=N,89µm,0.2s						
PE3	**Peglio**	**0.73**	**329**	P	Pg	01 36 51.1	+0.4
PE3				AML	AML		
	comp=N,462µm,0.3s						
PE3				AML	AML		
	comp=N,462µm,1.7s						
PE3				AML	AML		
	comp=E,427µm,0.5s						
PE3				AML	AML		
	comp=N,462µm,0.3s						
PE3				AML	AML		
	comp=E,427µm,0.5s						
GIGS	**Gran Sasso**	**0.74**	**146**	P	Pg	01 36 50.6	-0.1
GIGS				S	Sb	01 37 01.6	-0.4
GIGS				AML	AML		
	comp=E,36µm,1.6s						
GIGS				AML	AML		
	comp=N,44µm,1.6s						
GIGS				AML	AML		
	comp=N,29µm,0.1s						
GIGS				AML	AML		
	comp=E,20µm,0.2s						
CAFI	**Castiglion Fio**	**0.81**	**289**	P	Pg	01 36 52.5	+0.4
CAFI				S	Sb	01 37 04.5	+0.4
CAFI				AML	AML		
	comp=E,82µm,0.6s						
CAFI				AML	AML		
	comp=N,78µm,0.8s						
CAFI				AML	AML		
	comp=E,82µm,1.4s						
CAFI				AML	AML		
	comp=E,78µm,0.3s						
CAFI				AML	AML		
	comp=E,73µm,0.3s						
CAFI				AML	AML		
	comp=N,64µm,0.4s						
CAFI				AML	AML		
	comp=N,57µm,0.4s						
PARC	**Parchiule**	**0.81**	**316**	P	Pg	01 36 52.3	+0.1
PARC				AML	AML		
	comp=E,61µm,0.7s						
PARC				AML	AML		
	comp=N,81µm,1.4s						
PARC				AML	AML		
	comp=N,81µm,0.6s						
PARC				AML	AML		
	comp=E,58µm,0.6s						
PARC				AML	AML		
	comp=N,69µm,0.5s						
CRE	**Caprese Michel**	**0.95**	**306**	P	Pb	01 36 55.2	-0.2
CRE				AML	AML		
	comp=E,42µm,0.3s						
CRE				AML	AML		
	comp=N,52µm,0.4s						
VIRC	**Vir**	**1.92**	**50**	*e*Pn	Pn	01 37 08.5	-1.0
VIRC				Sn	Sn	01 37 34.4	+0.5
NVLJ	**Novalja**	**2.01**	**41**	*e*Pn	Pn	01 37 10.6	-0.2
NVLJ				Sn	Sn	01 37 35.8	-0.4
MORI	**Morici**	**2.12**	**67**	*i* Pn	Pn	01 37 10.9	-1.3
MORI				Sn	Sn	01 37 37.2	-1.5
UDBI	**Udbina**	**2.47**	**53**	*e*Pn	Pn	01 37 15.3	-1.9

*VAO **03** 01:38:52.0±0.7, 9.°09S×74.′67W, h155km±7km, mb4.3*
*NEIC **03** 01:38:55.4±1.1, 8.°96S±0.°09×74.′45W±0.′08, h137km±8km, mb4.1/7, Error ellipse: s-maj=13.9km s-min=9.9km az=141.0*
*IDC **03** 01:38:55.7±1.5, 8.°87S×74.′54W, h140km±18km, mb3.6/9, mbtmp4.0/14, Error ellipse: s-maj=18.9km s-min=11.7km az=62.0*

ISC 03 01:38:55.6±0.6, **8.°97S**±0.°05×**74.°49W**±0.°05, **h145km, n40, σ1ŝ77/48, mb3.9/11, Peru-Brazil border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**2.15**	**55**	Pn		**Pn**	**01 39 32.6**	**+0.3**
CZSB						**Sn**	**01 40 00.7**	**+0.2**
CZSB	**Cruzeiro do Su**	**2.15**	**55**	*e*P		**Pn**	**01 39 33.4**	**+1.1**
CZSB				*e*S		**Sn**	**01 40 01.0**	**+0.5**
NNA	**Nana**	**3.79**	**217**	Pn		**Pn**	**01 39 52.9**	**-0.1**
NNA	**Nana**	**3.79**	**217**	P		**Pn**	**01 39 55.0**	**+2.0**
	23nm,0.3s,baz=34,slow=14,SNR=29							
NNA				S		**Sn**	**01 40 38.3**	**+0.8**
	108nm,0.4s,baz=5.9,slow=16,SNR=4.7							
ATAH	**Atahualpa**	**4.28**	**295**	P		**Pn**	**01 39 59.9**	**+0.1**
	26nm,0.3s,baz=108,slow=4.9,SNR=84							
ATAH				S		**Sn**	**01 40 46.7**	**-2.8**
	115nm,0.7s,baz=90,slow=20,SNR=10							
TBTG	**Tabatinga, AM**	**6.58**	**44**	Pn		**Pn**	**01 40 29.5**	**-0.6**
TBTG	**Tabatinga, AM**	**6.58**	**44**	*e*P		**Pn**	**01 40 29.9**	**-0.2**
ARNL	**Arenillas**	**7.73**	**314**	Pn		**Pn**	**01 40 44.0**	**-1.5**
ETMB	**Extrema**	**8.21**	**97**	Pn		**Pn**	**01 40 50.8**	**-1.1**
ETMB	**Extrema**	**8.21**	**97**	*e*P		**Pn**	**01 40 51.0**	**-0.9**
ETMB				*e*S		**Sn**	**01 42 25.2**	**+2.0**
CHSH	**Refugio Sur-Vo**	**8.61**	**329**	Pn		**Pn**	**01 40 57.2**	**-0.6**
SLOR	**San Lorenzo -**	**9.11**	**334**	Pn		**Pn**	**01 41 02.1**	**-2.2**
LPAZ	**La Paz**	**9.56**	**140**	Pn		**Pn**	**01 41 10.3**	**-0.2**
LPAZ	**La Paz**	**9.56**	**140**	P		**Pn**	**01 41 13.5**	**+3.1**
	0.6nm,0.6s,baz=331,slow=13,SNR=2.3							
LPAZ	**La Paz**	**9.56**	**140**	*e*P		**Pn**	**01 41 06.7**	**-3.7**
LPAZ				*e*S		**Sn**	**01 42 54.1**	**-2.5**
SAML	**Samuel**	**11.17**	**91**	Pn		**Pn**	**01 41 29.1**	**-2.1**
SAML	**Samuel**	**11.17**	**91**	*e*P		**Pn**	**01 41 29.0**	**-2.3**
TEFE	**Tefe**	**11.20**	**62**	*e*P		**Pn**	**01 41 30.6**	**-1.0**
TEFE				*e*S		**Sn**	**01 43 38.3**	**+2.9**
VILB	**Vilhena**	**14.58**	**107**	Pn		**Pn**	**01 42 12.9**	**-2.2**
VILB	**Vilhena**	**14.58**	**107**	*e*P		**Pn**	**01 42 12.8**	**-2.3**
VILB				*e*S		**Sn**	**01 44 56.1**	**-0.8**
LVC	**Limon Verde**	**14.58**	**159**	*e*P		Pn	01 42 10.1	-5.3
LVC				*e*S		**Sn**	**01 44 52.0**	**-5.3**
SIV	**San Ignacio**	**14.84**	**119**	P		**P**	**01 42 19.7**	**-0.8**
	2.0nm,0.6s,baz=301,slow=14,SNR=12							
MACA	**Manacapuru-AM**	**14.89**	**68**	*e*P		**Pn**	**01 42 16.8**	**-2.2**
BOAV	**Boa Vista**	**17.93**	**52**			**P**	**01 42 53.7**	**-0.9**
BOAV					IAmb	IAmb	01 42 56.0	
	comp=Z,7.9nm,0.8s							
SDV	**Santo Domingo**	**18.15**	**12**	Pn		**P**	**01 42 58.5**	**+1.3**
SDV	**Santo Domingo**	**18.15**	**12**	P		**P**	**01 42 57.9**	**+0.7**
	comp=Z,3.7nm,0.3s,baz=180,slow=20,SNR=5.1							
BAUV	**El Baul**	**18.92**	**20**	P		**P**	**01 43 04.9**	**-0.4**
BAUV					IAmb	IAmb	01 43 06.0	
	comp=Z,12nm,0.5s							
PCRV	**Puerto La Cruz**	**21.40**	**27**	P		**P**	**01 43 33.1**	**+1.0**
	comp=Z,10nm,0.9s,baz=198,slow=6.4,SNR=1.8							
	comp=Z,10nm,0.9s							
CPUP	**Villa Florida**	**23.73**	**139**	P		**P**	**01 43 56.4**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=315,slow=8.6,SNR=3.4							
	comp=Z,0.7nm,0.4s							
BDFB	**Brasilia**	**26.68**	**107**	P		**P**	**01 44 22.3**	**+0.8**
	comp=Z,1.5nm,0.5s,baz=276,slow=19,SNR=3.6							
	comp=Z,1.5nm,0.5s							
TXAR	**Lajitas Array**	**47.34**	**325**	P		**P**	**01 47 15.7**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=147,slow=7.4,SNR=6.7							
	comp=Z,0.2nm,0.4s							
ECSD	**EROS Data Cent**	**56.17**	**341**	P		**P**	**01 48 21.8**	**+1.6**
ECSD					IAmb	IAmb	01 48 22.6	
	comp=Z,3.8nm,1.4s							
DBIC	**Dimbokro**	**71.12**	**80**	P		**P**	**01 49 58.8**	**0.0**
DBIC	**Dimbokro**	**71.12**	**80**	P		**P**	**01 49 58.8**	**0.0**
	comp=Z,4.0nm,0.5s,baz=257,slow=8.5,SNR=8.3							
	comp=Z,4.0nm,0.5s							
TOA0	**Torodi Ar. Sit**	**78.77**	**75**	P		**P**	**01 50 42.3**	**-0.6**
TOA0					IAmb	IAmb	01 50 43.6	
	comp=Z,2.7nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.77**	**75**	P		**P**	**01 50 42.1**	**-0.8**
TORD					IAmb	IAmb	01 50 43.6	
	comp=Z,2.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**78.77**	**75**	P		**P**	**01 50 42.5**	**-0.3**
	comp=Z,1.2nm,0.4s,baz=258,slow=3.5,SNR=30							
	comp=Z,1.2nm,0.4s							
ESDC	**Sonseca Array**	**81.05**	**47**	P		**P**	**01 50 55.5**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=258,slow=6.4,SNR=4.1							
	comp=Z,0.7nm,0.9s							
QSPA	**South Pole Qui**	**81.14**	**180**	P		**P**	**01 50 57.3**	**+2.5**
	comp=Z,2.0nm,1.0s,baz=122,slow=13,SNR=6.2							
	comp=Z,2.0nm,1.0s							
ILAR	**Eielson Array**	**90.68**	**336**	P		**P**	**01 51 41.0**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=100,slow=4.7,SNR=2.8							
	comp=Z,0.2nm,0.7s							

IDC 03 01:40:06.1±13.0, **7.°62N×103.′59W, h0km, mb3.3/4, mbtmp3.3/4, MS3.3/10, Error ellipse: s-maj=452.3km s-min=110.2km az=113.0, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**12.68**	**41**	LR		LR	01 46 46.0	
	comp=Z,178nm,21.6s,baz=193,slow=32							
JTS	**Las Juntas de**	**18.60**	**80**	LR		LR	01 49 35.1	
	comp=Z,60nm,20.8s,baz=241,slow=31							
TEIG	**Tepich**	**19.42**	**48**	LR		LR	01 51 01.3	
	comp=Z,629nm,20.6s,slow=34							
TXAR	**Lajitas Array**	**21.60**	**360**	P		P	01 44 57.4	-0.4
	0.7nm,0.9s,baz=183,slow=14,SNR=6.0							
TXAR				LR		LR	01 52 29.5	
	comp=Z,112nm,18.7s,baz=178,slow=34							
	0.7nm,0.9s							
ATAH	**Atahualpa**	**29.09**	**120**	LR		LR	01 55 51.6	
	comp=Z,38nm,19.9s,baz=358,slow=32							
TKL	**Tuckaleechee C**	**33.29**	**30**	LR		LR	02 02 21.5	
	comp=Z,29nm,18.0s,baz=217,slow=40							
RPN	**Rapa Nui**	**34.98**	**189**	LR		LR	01 58 02.3	
	comp=Z,51nm,21.0s,baz=320,slow=31							
PDAR	**Pinedale Array**	**35.40**	**352**	P		P	01 47 04.8	+0.7
	0.8nm,0.9s,baz=181,slow=7.8,SNR=5.4							
	0.8nm,0.9s							
SADO	**Sadowa**	**42.67**	**26**	LR		LR	02 05 53.6	
	comp=Z,28nm,21.4s,baz=70,slow=36							
ULM	**Lac du Bonnet**	**42.98**	**7**	LR		LR	02 05 35.1	
	comp=Z,45nm,18.6s,baz=107,slow=38							
PPT	**Papeete**	**51.86**	**241**	LR		LR	02 07 04.5	
	comp=Z,28nm,18.9s,baz=110,slow=31							
YKA	**Yellowknife Ar**	**55.36**	**354**	P		P	01 49 41.1	-0.6
	0.2nm,0.8s,baz=166,slow=8.0,SNR=3.7							
	0.2nm,0.8s							
ILAR	**Eielson Array**	**64.65**	**341**	P		P	01 50 45.4	0.0
	0.4nm,0.9s,baz=136,slow=7.4,SNR=4.3							
	0.4nm,0.9s							

*NEIC **03** 01:46:18.2±1.1, 19.°23N±0.°02×154.′94W±0.′03, h5km±2km, Error ellipse: s-maj=4.8km s-min=3.0km az=302.0*
HVO 03 01:46:18.8±1.3, **19.°32N**±0.°02×**154.°93W**±0.°01, **h8km**±7km, **ML2.4/4, ML2.8/42**(NEIC), **Error ellipse: s-maj=2.6km s-min=1.7km az=174.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.13**	**325**			Pg	01 46 22.0	+0.3
JCUZ	**Jacuzzi**	**0.18**	**290**			Pg	01 46 22.2	-0.3
NPOC	**North of Pu'u**	**0.19**	**291**			Pg	01 46 22.5	-0.2
STCH	**Steam Cracks**	**0.20**	**288**			Pg	01 46 22.7	-0.2
PUH	**Pauahi**	**0.28**	**280**	Pg		Pg	01 46 23.8	-0.6
BYL	**Byron's Ledge**	**0.33**	**285**			Pg	01 46 25.1	-0.3
BYL						Sg	01 46 29.9	+0.3
BYL	**Byron's Ledge**	**0.33**	**285**	IAML			01 46 30.4	
	comp=N,1µm,0.2s							
BYL				IAML			01 46 31.2	
	comp=E,1µm,0.4s							
KKO	**Keanakako`i**	**0.33**	**283**			Pg	01 46 24.9	-0.5
KKO						Sg	01 46 30.3	+0.6
KKO	**Keanakako`i**	**0.33**	**283**	IAML			01 46 30.9	
	comp=E,986nm,0.4s							
KKO				IAML			01 46 32.9	
	comp=N,1µm,1.0s							
HATHI	**Halema'uma'u T**	**0.33**	**287**			Pg	01 46 25.1	-0.2
HATHI						Sg	01 46 30.0	+0.2
HATHI	**Halema'uma'u T**	**0.33**	**287**	IAML			01 46 31.1	
	comp=E,1µm,0.3s							
HATHI				IAML			01 46 36.1	
	comp=N,973nm,0.6s							
RIM	**Rim**	**0.34**	**282**			Pg	01 46 25.3	-0.2
RIM						Sg	01 46 30.2	+0.3
RIM	**Rim**	**0.34**	**282**	IAML			01 46 30.4	
	comp=E,1µm,0.3s							
RIM				IAML			01 46 34.7	
	comp=N,1µm,1.1s							
SBLHI	**Steaming Bluff**	**0.34**	**288**			Sg	01 46 29.8	-0.2
SBLHI	**Steaming Bluff**	**0.34**	**288**	Pg		Pg	01 46 25.2	-0.3
SBLHI	**Steaming Bluff**	**0.34**	**288**	IAML			01 46 30.7	
	comp=N,906nm,0.1s							
SBLHI				IAML			01 46 32.1	
	comp=E,840nm,0.4s							
UWB	**Uwekahuna B**	**0.35**	**287**	Pg		Pg	01 46 25.5	-0.2
OBL	**Observatory Le**	**0.35**	**285**			Sg	01 46 30.5	+0.5
OBL	**Observatory Le**	**0.35**	**285**	Pg		Pg	01 46 25.7	0.0
OBL	**Observatory Le**	**0.35**	**285**	IAML			01 46 33.9	
	comp=E,2µm,0.4s							
OBL				IAML			01 46 35.2	
	comp=N,2µm,0.4s							
SDHHI	**Sand Hill**	**0.35**	**281**			Pg	01 46 25.6	-0.2
SDHHI	**Sand Hill**	**0.35**	**281**	IAML			01 46 33.3	
	comp=N,2µm,0.3s							
SDHHI				IAML			01 46 37.2	
	comp=E,1µm,0.5s							
RSD	**Rainshed**	**0.36**	**293**			Pg	01 46 25.6	-0.3
RSD				IAML			01 46 31.4	
	comp=N,1µm,0.3s							
UWE	**Uwekahuna**	**0.36**	**286**			Pg	01 46 25.8	-0.1
UWE	**Uwekahuna**	**0.36**	**286**	IAML			01 46 31.4	
	comp=N,2µm,0.4s							
UWE				IAML			01 46 33.4	
	comp=E,1µm,0.5s							
HLP	**Hilina Pali**	**0.36**	**266**			Sg	01 46 30.6	-0.1
WRMHI	**West Rim**	**0.36**	**283**			Pg	01 46 25.7	-0.2
WRMHI	**West Rim**	**0.36**	**283**	IAML			01 46 35.4	
	comp=N,1µm,0.5s							
MLH	**Mauna Loa**	**0.47**	**291**			Pg	01 46 27.5	-0.4
MLH	**Mauna Loa**	**0.47**	**291**	IAML			01 46 37.1	
	comp=E,888nm,0.2s							
MLH				IAML			01 46 37.4	
	comp=N,1µm,0.2s							
HMH	**Humu'ula Sheep**	**0.59**	**298**			Pg	01 46 29.5	-0.8
HMH						Sg	01 46 37.5	-0.7
MLOA	**Mauna Loa Obse**	**0.65**	**289**			Pg	01 46 30.6	-0.8
MLOA				IAML			01 46 38.7	
	comp=N,561nm,0.3s							
MLOA	**Mauna Loa Obse**	**0.65**	**289**			Sg	01 46 38.7	-1.2
MLOA	**Mauna Loa Obse**	**0.65**	**289**	IAML			01 46 39.8	
	comp=E,883nm,0.4s							
MWH	**Moku'aweowe**	**0.65**	**284**			Pg	01 46 30.2	-1.3
MWH				IAML			01 46 45.4	
	comp=N,562nm,0.3s							
MWH				IAML			01 46 45.0	
	comp=E,471nm,0.6s							
ALEP	**Alea Permanent**	**0.71**	**288**			Pg	01 46 31.0	-1.6
ALEP						Sg	01 46 41.1	-0.8
POHA	**Pohakuloa**	**0.72**	**307**	Pg		Pg	01 46 31.9	-0.8
POHA				IAML			01 46 43.3	
	comp=E,591nm,0.1s							
POHA				IAML			01 46 54.0	
	comp=E,666nm,0.3s							
HUH	**Hualalai**	**0.93**	**293**			Pg	01 46 35.7	-1.1

NEIC ***03*** *01:54:11.4±0.8, 19°.41N±0°.02×154°.94W±0°.03, h5km±2km, Error ellipse: s-maj=5.9km s-min=3.4km az=302.0*

HVO 03 01:54:11.0±0.8, 19°.33N±0°.03×154°.95W±0°.03, h0km±10km, ML2.1/3, ML2.5/4(NEIC), **Error ellipse: s-maj=4.2km s-min=3.7km az=202.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.12**	**336**		Pg	01 54 14.7	+1.3
STCH	**Steam Cracks**	**0.17**	**291**		Pg	01 54 15.2	+0.9
STCH	**Steam Cracks**	**0.17**	**291**	IAML		01 54 19.1	
	comp=N,524nm,0.3s						
STCH				IAML		01 54 19.2	
	comp=E,626nm,0.1s						
KNHH	**Kane Nui o Ham**	**0.21**	**285**		Pg	01 54 15.9	+0.8
PUH	**Pauahi**	**0.25**	**281**		Pg	01 54 16.4	+0.5
BYL	**Byron's Ledge**	**0.30**	**287**		Sg	01 54 22.3	+1.6
BYL	**Byron's Ledge**	**0.30**	**287**	Pg	Pg	01 54 17.2	+0.4
BYL	**Byron's Ledge**	**0.30**	**287**	IAML		01 54 23.0	
	comp=E,411nm,0.5s						
BYL				IAML		01 54 24.3	
	comp=N,599nm,1.2s						
KKO	**Keanakako`i**	**0.30**	**284**		Sg	01 54 22.5	+1.7
KKO	**Keanakako`i**	**0.30**	**284**		Pg	01 54 17.2	+0.3
KKO	**Keanakako`i**	**0.30**	**284**	IAML		01 54 25.7	
	comp=E,503nm,0.8s						
KKO				IAML		01 54 26.6	
	comp=N,808nm,1.0s						
HATHI	**Halema'uma'u T**	**0.31**	**289**		Pg	01 54 17.4	+0.5
HATHI				IAML		01 54 22.7	
	comp=N,689nm,0.5s						
HATHI				IAML		01 54 24.6	
	comp=E,638nm,0.5s						
RIM	**Rim**	**0.31**	**283**		Pg	01 54 17.6	+0.6
RIM					Sg	01 54 22.1	+1.1
RIM				IAML		01 54 22.7	
	comp=E,587nm,0.7s						
RIM				IAML		01 54 26.5	
	comp=N,673nm,1.2s						
SBLHI	**Steaming Bluff**	**0.31**	**289**		Pg	01 54 17.6	+0.6
SBLHI				IAML		01 54 22.9	
	comp=N,694nm,0.6s						
NPH	**North Pit**	**0.32**	**286**	Pg	Pg	01 54 17.5	+0.3
UWB	**Uwekahuna B**	**0.32**	**288**	Pg	Pg	01 54 17.7	+0.5
OBL	**Observatory Le**	**0.33**	**287**	Pg	Pg	01 54 17.8	+0.5
OBL				IAML		01 54 26.2	
	comp=N,829nm,0.5s						
SDHHI	**Sand Hill**	**0.33**	**281**	Pg	Pg	01 54 17.9	+0.5
SDHHI				IAML		01 54 28.5	
	comp=E,754nm,0.8s						
UWE	**Uwekahuna**	**0.33**	**287**		Sg	01 54 23.5	+1.7
UWE	**Uwekahuna**	**0.33**	**287**	Pg	Pg	01 54 17.5	+0.1
UWE					Pb	01 54 18.1	-1.8
UWE	**Uwekahuna**	**0.33**	**287**	IAML		01 54 24.9	
	comp=N,784nm,0.6s						
UWE				IAML		01 54 25.4	
	comp=E,678nm,0.3s						
HLP	**Hilina Pali**	**0.34**	**265**	Pg	Pg	01 54 18.4	+0.9
HLP				IAML		01 54 23.9	
	comp=N,883nm,0.3s						
HLP				IAML		01 54 25.6	
	comp=E,660nm,0.6s						
RSD	**Rainshed**	**0.34**	**294**		Pg	01 54 17.7	+0.2
RSD				IAML		01 54 24.5	
	comp=N,850nm,0.2s						
WRMHI	**West Rim**	**0.34**	**284**	Pg	Pg	01 54 18.3	+0.8
MLH	**Mauna Loa**	**0.44**	**293**		Pg	01 54 20.1	+0.6
MLH				IAML		01 54 26.9	
	comp=E,365nm,0.3s						
HMH	**Humu'ula Sheep**	**0.57**	**299**	Pg	Pg	01 54 22.2	+0.2
MLOA	**Mauna Loa Obse**	**0.62**	**290**		Sg	01 54 31.7	+0.6
MLOA	**Mauna Loa Obse**	**0.62**	**290**	Pg	Pg	01 54 22.9	-0.1
MLOA				IAML		01 54 27.5	
	comp=N,341nm,4.0s						
MLOA	**Mauna Loa Obse**	**0.62**	**290**	IAML		01 54 32.1	
	comp=E,410nm,0.2s						
MWH	**Moku'aweowe**	**0.63**	**285**		Pg	01 54 22.9	-0.2
MWH				IAML		01 54 39.6	
	comp=N,291nm,0.6s						
MWH				IAML		01 54 39.8	
	comp=E,360nm,0.8s						
KHU	**Kahuku**	**0.63**	**263**	Pg	Pg	01 54 22.3	-0.8
KHU					Pb	01 54 22.7	-2.4
KHU				IAML		01 54 26.2	
	comp=N,226nm,3.9s						
KHU					Sg	01 54 31.6	+0.3
KHU				IAML		01 54 31.9	
	comp=E,264nm,3.8s						
ALEP	**Alea Permanent**	**0.69**	**288**		Pg	01 54 24.4	+0.2
ALEP					Sg	01 54 33.5	+0.4
POHA	**Pohakuloa**	**0.69**	**308**	Pg	Pg	01 54 24.2	-0.2
POHA				IAML		01 54 34.3	
	comp=E,266nm,0.2s						
POHA				IAML		01 54 37.0	
	comp=E,231nm,0.2s						
HUH	**Hualalai**	**0.91**	**293**	Pg	Pg	01 54 28.1	-0.3
MHA	**Mahukona**	**1.24**	**314**	Pn	Pg	01 54 31.4	-3.5

NAO ***03*** *02:04:32.8, 39°.97N×26°.91E, h10km, mb3.9*

IDC ***03*** *02:04:32.4±0.6, 39°.95N×26°.90E, h0km, mb3.9/20, mbtmp4.0/30, ML4.0/10, MS3.1/21, Error ellipse: s-maj=9.7km s-min=8.5km az=47.0*

AFAD ***03*** *02:04:33.7±0.0, 39°.97N×26°.90E, h10km±2km, MW4.3*

ISK ***03*** *02:04:33.4, 39°.98N×26°.92E, h13km, ML4.5/50*

BEO ***03*** *02:04:33.3±2.5, 39°.80N×27°.39E, h64km±7km, ML4.4/18*

MOS ***03*** *02:04:33.1±1.0, 40°.07N×26°.93E, h13km, mb4.3/9, Error ellipse: s-maj=4.4km s-min=2.8km az=98.2*

NEIC ***03*** *02:04:34.7±1.5, 40°.04N±0°.04×26°.88E±0°.05, h10km±1km, mb4.3/15, Error ellipse: s-maj=7.3km s-min=5.9km az=196.0*

PDG ***03*** *02:04:34.0±0.8, 39°.97N×26°.88E, h18km±1km, ML4.4/12, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0*

SOF ***03*** *02:04:34.8, 40°.07N±0°.02×26°.93E±0°.01, h18km±2km, MD4.3/7*

MED_RC ***03*** *02:04:34.0±0.6, 39°.97N×26°.91E, h20km±4km, MW4.1/8, Moment Tensor Solution.Mantle waves: s8,c8; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; M_{rr}=0.55±.37; $M_{\theta\theta}$=0.62±.28; $M_{\phi\phi}$=-0.07±.29; $M_{r\theta}$=0.72±.38; $M_{\theta\phi}$=-1.39±.34; $M_{r\phi}$=0.45±.24; Best double couple: $M_0$1.73000×10^{15} NP1:$\chi_{\phi s}$269.00000°, δ72.00000°, λ-148.00000°. NP2: ϕ_s168.00000°, δ60.00000°, λ-21.00000°. Principal axes: T 1.7500, Plg8.0000°, Azm36.0000°; N -0.0400, Plg54.0000°, Azm295.0000°; P -1.7100, Plg35.0000°, Azm132.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

THE ***03*** *02:04:34.5, 39°.96N×26°.88E, h7km, ML4.4/14 Error ellipse: s-maj=1.0km s-min=0.4km az=249.0*

ATH ***03*** *02:04:34.4, 39°.94N×26°.98E, h16km±4km, ML4.5/13, Error ellipse: s-maj=5.7km s-min=0.9km az=94.0*

CFUSG ***03*** *02:04:35.9, 40°.05N×27°.00E, h5km, mb3.8/6, Western Turkey Magtype MSH 3.7 from 4 stations*

MCSM ***03*** *02:04:35.4±0.4, 40°.N±4°.×2°.7E±°, h10km, mb4.4, mB5.1, MLv4.8, Mw(mB)4.4*

TIR ***03*** *02:04:35.9, 40°.27N×26°.40E, h10km±21km, Ml4.0*

ISC 03 02:04:33.9±0.8, 39°.98N±0°.01×26°.93E±0°.01, h10km±5km, n543, σ1§47/681, mb4.0/30, MS3.1/14, 56C-34D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YENI	**Yenice-Canakka**	**0.25**	**101**	Pg	**Pg**	**02 04 39.6**	**+0.7**
YENI				Sg	**Sg**	**02 04 42.9**	**+0.6**
COMU	**Canakkale**	**0.37**	**289**	Pg	**Pg**	**02 04 41.6**	**+0.4**
COMU				Sg	**Sg**	**02 04 47.0**	**+0.9**
BAYC	**CANAKKALE_Bayr**	**0.38**	**231**	P	**Pg**	**02 04 41.2**	**-0.1**
BAYC				S	**Sg**	**02 04 46.4**	**0.0**
LPK	**Lapseki**	**0.41**	**342**	Pg	**Pg**	**02 04 42.5**	**+0.5**
LPK				Sg	**Sg**	**02 04 48.2**	**+0.8**
CNKL	**anakkale-Mer**	**0.42**	**282**	P	**Pg**	**02 04 42.3**	**+0.1**
CNKL				S	**Sg**	**02 04 48.2**	**+0.4**
EZNE	**Ezine-Canakkal**	**0.49**	**243**	Pg	**Pg**	**02 04 43.5**	**+0.1**
EZNE				Sg	**Sg**	**02 04 50.4**	**+0.6**
EZN	**Ezine**	**0.49**	**252**	Pg	**Pg**	**02 04 43.3**	**-0.1**
EZN	**Ezine**	**0.49**	**252**	P	**Pg**	**02 04 43.3**	**-0.1**
EZN				S	**Sg**	**02 04 49.8**	**0.0**
	15μm,0.6s						
BUHA	**Balikesir, Bur**	**0.49**	**166**	P	**Pg**	**02 04 43.9**	**+0.4**
BUHA				S	**Sg**	**02 04 50.9**	**+0.9**
KRBG	**Karabiga-Canak**	**0.50**	**35**	Pg	**Pg**	**02 04 44.0**	**+0.4**
KRBG				Sg	**Sg**	**02 04 50.9**	**+0.7**
GELI	**Tayfur-Gelibol**	**0.54**	**320**	Pg	**Pg**	**02 04 44.7**	**+0.3**
GELI				Sg	**Sg**	**02 04 52.3**	**+0.7**
KNL	**Balıkesir**	**0.54**	**58**	P	**Pg**	**02 04 44.8**	**+0.4**
KNL				S	**Sb**	**02 04 52.8**	**-0.5**
ECEA	**Canakkale, Ece**	**0.58**	**276**	P	**Pg**	**02 04 45.4**	**+0.2**
ECEA				S	**Sb**	**02 04 53.8**	**-0.6**
BALY	**Balya**	**0.58**	**114**	P	**Pg**	**02 04 45.5**	**+0.3**
BALY				S	**Sb**	**02 04 54.3**	**-0.2**
GONE	**Gonen-Balikesi**	**0.59**	**83**	Pg	**Pg**	**02 04 45.7**	**+0.5**
GONE				Sg	**Sg**	**02 04 53.6**	**+0.6**
BOZC	**Bozcaada**	**0.69**	**259**	P	**Pg**	**02 04 47.0**	**-0.2**
BOZC				S	**Sg**	**02 04 55.9**	**-0.3**
AYVA	**Ayvalik**	**0.70**	**195**	P	**Pg**	**02 04 47.5**	**+0.2**
AYVA				S	**Sg**	**02 04 56.7**	**+0.2**
RKY	**Sarkoy-Tekirda**	**0.73**	**15**	Pg	**Pg**	**02 04 48.2**	**+0.2**
RKY				Sg	**Sg**	**02 04 58.1**	**+0.5**
SART	**Tekirdag**	**0.73**	**15**	P	**Pg**	**02 04 48.3**	**+0.3**
SART				S	**Sb**	**02 04 58.4**	**-0.4**
ERIK	**Erikli-Kesan**	**0.76**	**335**	Pg	**Pg**	**02 04 48.4**	**-0.1**
ERIK				Sg	**Sg**	**02 04 58.9**	**+0.5**
KOCA	**Canakkale, Ayv**	**0.78**	**232**	P	**Pg**	**02 04 48.3**	**-0.5**
KOCA				S	**Sg**	**02 04 58.6**	**-0.3**
GOAD	**anakkale-G¶**	**0.80**	**283**	P	**Pg**	**02 04 49.1**	**-0.2**
GOAD				S	**Sg**	**02 05 00.0**	**+0.3**
EDC	**Edincik**	**0.80**	**63**	Pg	**Pg**	**02 04 49.1**	**-0.3**
EDC				Sg	**Sb**	**02 05 01.6**	**+0.8**
EDC	**Edincik**	**0.80**	**63**	P	**Pg**	**02 04 48.6**	**-0.8**
MRMT	**Marmara Adasi**	**0.80**	**39**	Pg	**Pg**	**02 04 49.3**	**-0.1**
BLKS	**Balkesir-Sus**	**0.81**	**97**	P	**Pg**	**02 04 49.5**	**+0.1**
BLKS				P	**Pg**	**02 04 49.6**	**+0.1**
BLKS				S	**Sg**	**02 05 00.5**	**+0.5**
BKES	**Balkesir-Mer**	**0.81**	**108**	P	**Pg**	**02 04 49.8**	**+0.3**
BKES				S	**Sb**	**02 05 01.1**	**+0.2**
GADA	**Gvkgeada**	**0.82**	**285**	Pg	**Pg**	**02 04 49.3**	**-0.3**
STEP	**BALIKESIR_Sava**	**0.86**	**134**	P	**Pg**	**02 04 50.7**	**+0.3**
STEP				S	**Sn**	**02 05 05.2**	**+0.6**
ENZZ	**Sultanice-Enez**	**0.87**	**316**	Pg	**Pg**	**02 04 50.6**	**0.0**
ENZZ				Sg	**Sb**	**02 05 03.2**	**+0.6**
PRK	**Paraskevi**	**0.89**	**215**	P	**Pg**	**02 04 50.8**	**-0.3**
PRK				S	**Sb**	**02 05 03.6**	**+0.3**
	31μm,0.5s						
PRK	**Paraskevi**	**0.89**	**215**	P	**Pg**	**02 04 50.7**	**-0.3**
PRK				S	**Sg**	**02 05 02.6**	**-0.1**
PRK				AML	AML	02 05 06.3	
	comp=N,78049μm,0.5s						
PRK				AML	AML	02 05 06.7	
	comp=E,49431μm,1.0s						
DKL	**Dikili**	**0.91**	**181**	Pg	**Pg**	**02 04 51.2**	**-0.2**
CAVK	**Edirne/Enez-Ca**	**0.92**	**321**	P	**Pg**	**02 04 51.5**	**0.0**
CAVK				S	**Sb**	**02 05 03.8**	**-0.3**
LESV	**Lesvos island,**	**0.92**	**198**	P	**Pg**	**02 04 51.4**	**-0.1**
LESV				S	**Sb**	**02 05 04.1**	**+0.1**
EAG3	**Mitilini, Lesv**	**0.94**	**197**	P	**Pg**	**02 04 51.7**	**-0.2**
EAG3				S	**Sg**	**02 05 03.7**	**-0.4**
EAG3				AML	AML	02 05 06.5	
EAG3				AML	AML	02 05 06.8	
ENEZ	**Enez**	**0.96**	**322**	Pg	**Pg**	**02 04 52.2**	**-0.1**
ENEZ	**Enez**	**0.96**	**322**	P	**Pg**	**02 04 52.3**	**-0.1**
ENEZ				S	**Sb**	**02 05 05.8**	**+0.6**
	comp=E,61μm,0.4s						
BAND	**Balkesir-Ban**	**0.97**	**67**	P	**Pg**	**02 04 51.7**	**-0.9**
BAND				S	**Sn**	**02 05 07.0**	**-0.4**
IZMD	**zmir-Dikili-**	**1.00**	**180**	P	**Pg**	**02 04 53.0**	**-0.1**
IZMD				P	**Pb**	**02 04 53.1**	**-0.1**
IZMD				S	**Sg**	**02 05 05.8**	**-0.2**
ZEDA	**zmir-Bergama**	**1.02**	**173**	P	**Pg**	**02 04 53.5**	**0.0**
ZEDA				S	**Sb**	**02 05 07.3**	**+0.3**
CAND	**Candarli**	**1.03**	**185**	Pg	**Pg**	**02 04 53.5**	**-0.2**
TKR	**Tekirdag**	**1.11**	**25**	Pn	**Pb**	**02 04 55.1**	**0.0**
SIGR	**SIGRI**	**1.13**	**227**	Pn	**Pb**	**02 04 55.0**	**-0.5**
SIGR	**SIGRI**	**1.13**	**227**	P	**Pb**	**02 04 54.9**	**-0.5**
SIGR				S	**Sg**	**02 05 10.2**	**-0.1**
	comp=E,36μm,0.5s						
SIGR	**SIGRI**	**1.13**	**227**	P	**Pb**	**02 04 54.8**	**-0.6**
SIGR				S	**Sb**	**02 05 09.4**	**-0.8**
SIGR				AML	AML	02 05 11.8	
	comp=E,63228μm,0.5s						
SIGR				AML	AML	02 05 12.1	
	comp=N,79214μm,0.6s						
KCTX	**Karacabey (Bur**	**1.13**	**75**	Pn	**Pb**	**02 04 55.0**	**-0.5**
ALN	**Alexandroupoli**	**1.14**	**324**	Pn	**Pg**	**02 04 55.7**	**0.0**
ALN	**Alexandroupoli**	**1.14**	**324**	P	**Pb**	**02 04 55.3**	**-0.2**
ALN				S	**Sg**	**02 05 10.9**	**+0.5**
	comp=N,11μm,0.5s						
ALN	**Alexandroupoli**	**1.14**	**324**	Pg	**Pb**	**02 04 55.1**	**-0.4**
ALN				Sg	**Sb**	**02 05 09.1**	**-1.2**
ALN	**Alexandroupoli**	**1.14**	**324**	P	**Pb**	**02 04 54.7**	**-0.8**
ALN	**Alexandroupoli**	**1.14**	**324**	P	**Pb**	**02 04 55.2**	**-0.4**
ALN				S	**Sb**	**02 05 10.1**	**-0.2**
ALN				AML	AML	02 05 13.8	
	comp=E,13817μm,0.5s						
ALN				AML	AML	02 05 14.5	
	comp=N,31266μm,0.4s						
UKOP	**Uzunkopru-Edir**	**1.17**	**349**	Pn	**Pg**	**02 04 56.6**	**+0.3**
SMTH	**Samothraki Isl**	**1.18**	**295**	P	**Pb**	**02 04 55.9**	**-0.3**
SMTH				S	**Sn**	**02 05 12.4**	**0.0**
	comp=N,12μm,0.4s						
SMTH	**Samothraki Isl**	**1.18**	**295**	P	**Pb**	**02 04 56.0**	**-0.2**
SMTH				S	**Sn**	**02 05 12.1**	**-0.3**
SMTH				AML	AML	02 05 13.9	
	comp=E,20160μm,0.2s						
SMTH				AML	AML	02 05 14.2	
	comp=N,29435μm,0.5s						
DURS	**Dursunbey**	**1.25**	**107**	P	**Pn**	**02 04 57.4**	**0.0**
DURS				S	**Sn**	**02 05 14.5**	**+0.1**
FOCM	**Foa**	**1.28**	**187**	Pn	**Pn**	**02 04 56.7**	**-1.0**
AKS	**Akhisar**	**1.30**	**148**	Pn	**Pn**	**02 04 57.5**	**-0.5**
CRLT	**Corlu**	**1.30**	**28**	Pn	**Pn**	**02 04 57.9**	**-0.1**
LIA	**Limnos Island**	**1.34**	**267**	P	**Pn**	**02 04 58.5**	**-0.1**
LIA				S	**Sn**	**02 05 16.5**	**0.0**
	comp=N,25μm,0.4s						
LIA	**Limnos Island**	**1.34**	**267**	P	**Pn**	**02 04 58.3**	**-0.3**
LIA				S	**Sb**	**02 05 16.3**	**0.0**
LIA				AML	AML	02 05 17.7	
	comp=N,43545μm,0.4s						
LIA				AML	AML	02 05 17.7	
	comp=E,57210μm,0.4s						
DST	**Dursunbey**	**1.36**	**106**	Pn	**Pn**	**02 04 58.9**	**0.0**
KARB	**zmir-Karabur**	**1.38**	**197**	P	**Pn**	**02 04 58.2**	**-0.8**
KARB				S	**Sg**	**02 05 18.8**	**+0.7**
GOMA	**Golmarmara-Man**	**1.49**	**149**	Pn	**Pn**	**02 05 00.7**	**+0.1**
ORLT	**Orhaneli**	**1.51**	**87**	Pn	**Pn**	**02 05 01.0**	**0.0**
MDNY	**Mudanya-Bursa**	**1.55**	**75**	Pn	**Pn**	**02 05 01.4**	**0.0**
EAG2	**Marmaro, Chios**	**1.57**	**204**	P	**Pn**	**02 05 00.9**	**-0.8**
EAG2				AML	AML	02 05 26.5	
EAG2				AML	AML	02 05 26.8	
RDO	**Rodhopi**	**1.57**	**318**	Pn	**Pn**	**02 05 02.0**	**+0.2**
RDO	**Rodhopi**	**1.57**	**318**	P	**Pb**	**02 05 02.4**	**-0.6**
RDO				S	**Sb**	**02 05 23.1**	**+0.2**
	comp=E,5μm,0.3s						
RDO	**Rodhopi**	**1.57**	**318**	Pn	**Pb**	**02 05 02.4**	**-0.6**
RDO	**Rodhopi**	**1.57**	**318**	P	**Pb**	**02 05 02.3**	**-0.6**
RDO				S	**Sn**	**02 05 22.4**	**+0.2**
RDO				AML	AML	02 05 23.3	
	comp=N,9958μm,0.3s						
RDO				AML	AML	02 05 25.6	
	comp=E,9924μm,0.3s						
SLVT	**Silivri**	**1.58**	**38**	Pn	**Pn**	**02 05 01.9**	**0.0**
ARMT	**Armutlu**	**1.59**	**68**	Pn	**Pn**	**02 05 02.0**	**0.0**
BLCB	**Balcova**	**1.60**	**177**	Pn	**Pn**	**02 05 01.8**	**-0.3**
BLCB	**Balcova**	**1.60**	**177**	P	**Pn**	**02 05 01.9**	**-0.2**
ELBA	**Catalca**	**1.63**	**44**	P	**Pn**	**02 05 02.2**	**-0.4**
ELBA				S	**Sn**	**02 05 22.7**	**-1.0**
URLA	**Izmir**	**1.64**	**189**	Pn	**Pn**	**02 05 01.8**	**-0.9**
URLA	**Izmir**	**1.64**	**189**	P	**Pn**	**02 05 01.9**	**-0.8**
URLA				S	**Sg**	**02 05 28.1**	**+1.5**
DEMI	**Demirci**	**1.67**	**124**	P	**Pn**	**02 05 03.8**	**+0.6**
DEMI				S	**Sn**	**02 05 25.0**	**+0.3**
ULDT	**Uludag**	**1.70**	**84**	P	**Pn**	**02 05 04.1**	**+0.4**
ULDT				S	**Sg**	**02 05 29.2**	**+0.6**
AVCI	**Avcilar-stanb**	**1.70**	**53**	Pn	**Pn**	**02 05 03.6**	**+0.1**
PHSR	**Pinarhisar**	**1.71**	**15**	Pn	**Pn**	**02 05 03.3**	**-0.3**
CESE	**eme**	**1.72**	**197**	Pn	**Pn**	**02 05 03.9**	**+0.1**
CHOS	**Chios island**	**1.73**	**203**	Pn	**Pn**	**02 05 03.5**	**-0.5**
CHOS	**Chios island**	**1.73**	**203**	P	**Pn**	**02 05 03.3**	**-0.7**
CHOS				S	**Sn**	**02 05 26.1**	**-0.1**
	comp=E,16μm,0.5s						
CHOS	**Chios island**	**1.73**	**203**	P	**Pn**	**02 05 03.0**	**-1.0**
CHOS				AML	AML	02 05 35.7	
	comp=E,40996μm,0.5s						
CHOS				AML	AML	02 05 36.2	
	comp=N,25294μm,0.6s						
CTKS	**Kestanelik-??a**	**1.74**	**43**	Pn	**Pn**	**02 05 03.8**	**-0.2**
VIZE	**Kirklareli, Vi**	**1.74**	**23**	P	**Pn**	**02 05 03.8**	**-0.2**
VIZE				S	**Sb**	**02 05 28.7**	**+1.0**
IGD	**Bursa**	**1.77**	**80**	P	**Pn**	**02 05 04.7**	**+0.3**
IGD				S	**Sg**	**02 05 30.3**	**-0.3**
ZEYE	**Izmir, Urla-Ze**	**1.77**	**191**	P	**Pn**	**02 05 03.5**	**-1.0**
ZEYE				S	**Sg**	**02 05 30.7**	**-0.1**
GEMT	**Gemlik**	**1.79**	**75**	Pn	**Pn**	**02 05 04.8**	**0.0**
THAS	**Thassos island**	**1.80**	**291**	P	**Pn**	**02 05 04.6**	**-0.3**
THAS				S	**Sn**	**02 05 27.7**	**-0.1**
	comp=N,2μm,0.5s						
THAS	**Thassos island**	**1.80**	**291**	P	**Pn**	**02 05 04.5**	**-0.3**
THAS				AML	AML	02 05 27.2	
	comp=N,5381μm,0.6s						
THAS				AML	AML	02 05 27.8	
	comp=E,4024μm,0.3s						
KIRK	**Kırklareli**	**1.80**	**4**	P	**Pn**	**02 05 04.8**	**-0.2**
KIRK				S	**Sg**	**02 05 30.8**	**-1.0**
CTYL	**Yalikoy Yolu**	**1.81**	**34**	Pn	**Pn**	**02 05 04.8**	**-0.3**
SMAA	**Simav-Kutahya**	**1.81**	**118**	Pn	**Pn**	**02 05 05.0**	**-0.2**
BGKT	**Bogazkoy**	**1.85**	**49**	Pn	**Pn**	**02 05 05.2**	**-0.3**
EDRB	**Edirne**	**1.87**	**356**	Pn	**Pn**	**02 05 05.7**	**-0.1**
EDRB	**Edirne**	**1.87**	**356**	P	**Pn**	**02 05 06.0**	**+0.2**
EDRB				S	**Sn**	**02 05 30.1**	**+0.6**
	comp=E,6μm,0.7s						
DGB	**zmir**	**1.93**	**181**	P	**Pn**	**02 05 06.0**	**-0.6**
DGB				S	**Sn**	**02 05 30.9**	**+0.1**
EMET	**Ktahya-Emet**	**1.94**	**107**	P	**Pn**	**02 05 07.9**	**+0.9**
EMET				S	**Sg**	**02 05 36.3**	**0.0**
ISK	**Istanbul-Kandi**	**1.95**	**56**	Pn	**Pn**	**02 05 06.5**	**-0.5**
ISK	**Istanbul-Kandi**	**1.95**	**56**	P	**Pn**	**02 05 06.5**	**-0.5**
ISK				S	**Sb**	**02 05 33.7**	**-0.1**
	comp=E,4μm,0.6s						
ISK	**Istanbul-Kandi**	**1.95**	**56**	P	**Pn**	**02 05 06.2**	**-0.8**
KAVV	**Kandilli-Istan**	**1.95**	**56**	Pn	**Pn**	**02 05 06.3**	**-0.7**
MANT	**Manisa**	**1.96**	**139**	P	**Pn**	**02 05 07.7**	**+0.4**
MANT				S	**Sg**	**02 05 36.3**	**-0.4**
KULA	**Kula-Manisa**	**1.99**	**137**	Pn	**Pn**	**02 05 07.7**	**+0.1**
IZMR	**zmir-demi**	**2.01**	**156**	P	**Pn**	**02 05 07.4**	**-0.3**
IZMR				P	**Pb**	**02 05 07.8**	**-2.6**
KDZ	**Kurdzhali**	**2.04**	**324**	Pn	**Pn**	**02 05 08.6**	**+0.4**
KDZ	**Kurdzhali**	**2.04**	**324**	*i* P	**Pn**	**02 05 08.9**	**+0.7**
KDZ				S	**Sn**	**02 05 33.9**	**+0.2**
KLYT	**Kilyos**	**2.05**	**51**	Pn	**Pn**	**02 05 08.2**	**-0.1**
KLYT	**Kilyos**	**2.05**	**51**	P	**Pn**	**02 05 08.4**	**+0.1**
USAK	**Uak-Merkez**	**2.06**	**127**	P	**Pn**	**02 05 09.2**	**+0.7**
USAK				S	**Sg**	**02 05 39.3**	**-0.7**
KAVA	**Kavala**	**2.10**	**300**	P	**Pn**	**02 05 09.3**	**+0.3**
KAVA				S	**Sn**	**02 05 34.8**	**-0.4**
	comp=E,3μm,0.4s						
KAVA	**Kavala**	**2.10**	**300**	P	**Pn**	**02 05 09.4**	**+0.3**
GEDZ	**Gediz**	**2.14**	**115**	Pn	**Pn**	**02 05 09.7**	**+0.1**
SKY	**Skiros Island**	**2.15**	**240**	P	**Pn**	**02 05 08.8**	**-0.9**
SKY	**Skiros Island**	**2.15**	**240**	P	**Pn**	**02 05 08.7**	**-1.0**
SKY				AML	AML	02 05 44.1	
	comp=E,5713μm,0.4s						
SKY				AML	AML	02 05 44.4	
	comp=N,8639μm,0.9s						
ADVT	**Abdulvahap**	**2.20**	**77**	Pn	**Pn**	**02 05 10.5**	**+0.1**
OSMT	**Osmaniye**	**2.21**	**73**	Pn	**Pn**	**02 05 10.3**	**-0.3**
CAVI	**Cavuskoy**	**2.25**	**83**	Pn	**Pn**	**02 05 11.2**	**+0.1**
HRT	**Hereke**	**2.25**	**67**	Pn	**Pn**	**02 05 10.6**	**-0.6**
SMG	**Samos**	**2.27**	**182**	P	**Pn**	**02 05 10.8**	**-0.6**
SMG	**Samos**	**2.27**	**182**	P	**Pn**	**02 05 10.5**	**-0.9**
SMG				AML	AML	02 05 51.8	
	comp=N,14150μm,0.5s						
SMG				AML	AML	02 05 52.1	
	comp=E,11070μm,0.5s						
OUR	**Ouranopolis**	**2.29**	**280**	P	**Pn**	**02 05 11.2**	**-0.3**
OUR	**Ouranopolis**	**2.29**	**280**	P	**Pn**	**02 05 11.0**	**-0.5**
OUR	**Ouranopolis**	**2.29**	**280**	P	**Pn**	**02 05 11.2**	**-0.3**
GCAM	**G?zelcaml?**	**2.29**	**174**	P	**Pn**	**02 05 10.7**	**-0.9**
GCAM				S	**Sn**	**02 05 40.3**	**+0.4**
DIM	**Dimitrovgrad**	**2.30**	**334**	*i* P	**Pn**	**02 05 12.6**	**+0.8**
DIM				S	**Sn**	**02 05 40.3**	**+0.2**
SILT	**Sile**	**2.38**	**60**	Pn	**Pn**	**02 05 12.8**	**0.0**
RZN	**Rozhen**	**2.38**	**317**	P	**Pn**	**02 05 14.1**	**+1.0**
RZN				S	**Sn**	**02 05 42.9**	**+0.4**
KOKK	**Kokkinochori,**	**2.39**	**291**	P	**Pn**	**02 05 12.9**	**-0.1**
KOKK	**Kokkinochori,**	**2.39**	**291**

FNA eSn Sn 02 06 29.6 -0.3
FNA Florina 4.32 282 P Pn 02 05 40.2 +0.7
FNA Florina 4.32 282 P Pn 02 05 40.4 +0.9
MFTR Murfatlar 4.34 14 ⇓P Pn 02 05 40.6 +0.8
COPA Copaceanca 4.34 344 ⇑P Pn 02 05 40.5 +0.7
KARP Karpathos 4.43 178 Pn Pn 02 05 40.8 -0.3
KARP Karpathos 4.43 178 P Pn 02 05 38.9 -2.2
KARP Karpathos 4.43 178 P Pn 02 05 41.0 -0.1
VLAD Vladila 4.43 336 ⇑P Pn 02 05 41.4 +0.3
PRVS Prvonek 4.44 306 ePn Pn 02 05 42.8 +1.5
PRVS eSn Sn 02 06 32.5 -0.5
BR231 Keskin MP Arra 4.50 90 Pn Pn 02 05 43.4 +1.2
ANTO Ankara 4.51 90 Pn Pn 02 05 43.8 +1.5
ANTO Ankara 4.51 90 P Pn 02 05 43.8 +1.5
ANTO Ankara 4.51 90 P Pb 02 05 53.6 +0.5
VALD Valchedram 4.53 326 P Pn 02 05 43.1 +0.7
ZAPS Zavoj 4.60 317 ePn Pn 02 05 44.9 +1.5
ZAPS eSn Sn 02 06 36.1 -0.8
TLBR Topalu 4.63 10 ⇑P Pn 02 05 44.9 +1.0
AMRR Amara 4.63 4 ⇑P Pn 02 05 45.3 +1.5
SULR 4.72 354 ⇑P Pn 02 05 46.3 +1.3
HARR Harsova 4.76 9 ⇑P Pn 02 05 46.5 +0.9
HARR Harsova 4.76 9 P Pn 02 05 46.1 +0.5
HUMR Humele 4.77 343 ⇓P Pn 02 05 45.8 +0.1
BARS Barje 4.78 308 ePn Pn 02 05 47.2 +1.4
BARS eSn Sn 02 06 40.0 -1.2
OHR Ohrid 4.80 286 *i* Pn Pn 02 05 48.5 +2.2
OHR Ohrid 4.80 286 P Pn 02 05 51.6 +5.4
OHR pmax pmax
comp=Z,26nm,1.2s
BLKB Belogradchik 4.83 320 ⇑P Pn 02 05 47.4 +0.8
IDI Anoyia 4.96 200 Pn Pn 02 05 47.6 -0.8
comp=Z,1.4nm,0.3s,baz=20,slow=14,SNR=12
IDI Sn Sn 02 06 45.1 -0.7
comp=Z,3.7nm,0.3s,baz=336,slow=20,SNR=5.2
IDI Lg Lg 02 07 08.3
comp=Z,3.1nm,0.3s,baz=36,slow=17,SNR=2.7
IDI LR LR 02 07 58.7
comp=E,8.0nm,18.7s,baz=22,slow=42
JURR Jurilovca 4.99 16 ⇑P Pn 02 05 49.6 +0.8
LKD2 Lefkada island 5.00 258 P Pn 02 05 50.4 +1.4
baz=254
LKD2 S Sn 02 06 50.7 +3.9
baz=254
IGT Igoumenitsa 5.10 267 P Pn 02 05 53.7 +3.4
baz=263
IGT S Sn 02 06 51.0 +1.8
baz=263
IGT AMP
comp=E,0.3nm,0.6s,baz=263
IGT Igoumenitsa 5.10 267 P Pn 02 05 54.1 +3.8
IGT pmax pmax
comp=Z,48nm,0.8s
ISR Istrita 5.14 357 P Pn 02 05 52.8 +1.9
ISR Istrita 5.14 357 P Pn 02 05 53.0 +2.1
comp=Z,158nm,0.7s,comp=Z,3µmcomp=Z,1.3nm
BR106 Keskin Array S 5.16 91 P Pn 02 05 52.1 +1.0
comp=Z,33nm,0.7s,comp=Z,261nmcomp=Z,0.2nm
BR105 Keskin Array S 5.16 91 P Pn 02 05 52.0 +0.8
comp=Z,46nm,0.7s,comp=Z,398nmcomp=Z,0.3nm
BR131 Keskin Array S 5.17 91 Pn Pn 02 05 52.4 +1.1
BR131 Keskin Array S 5.17 91 eP Pn 02 05 52.3 +0.9
BRTR Keskin Array B 5.17 91 Pn Pn 02 05 52.2 +0.9
BRTR Keskin Array B 5.17 91 Pn Pn 02 05 52.1 +0.7
comp=Z,2.8nm,0.3s,baz=265,slow=12,SNR=104
BRTR Sn Sn 02 06 50.6 -0.5
comp=Z,3.0nm,0.3s,baz=268,slow=16,SNR=8.8
BRTR Lg Lg 02 07 19.1
comp=Z,2.3nm,0.3s,baz=270,slow=26,SNR=6.3
comp=Z,8.6nm,0.5s
BRTR Keskin Array B 5.17 91 *i* P Pn 02 05 52.5 +1.1
BRTR pmax pmax
comp=Z,11nm,0.4s
ZAGS Zajecar 5.19 319 ePn Pn 02 05 51.6 +0.1
ZAGS eSn Sn 02 06 48.3 -3.0
PUNG Punghina 5.22 327 ⇑P Pn 02 05 52.0 +0.1
CFR Carcaliu 5.27 9 ⇑P Pn 02 05 53.0 +0.5
CFR Carcaliu 5.27 9 P Pn 02 05 52.6 +0.1
SRN Sarande 5.33 271 P Pn 02 05 55.5 +2.2
baz=268
SRN S Sn 02 06 55.9 +1.2
baz=268
BOVS Bovan 5.34 315 ⇓P Pn 02 05 54.7 +1.1
BOVS Bovan 5.34 315 ePn Pn 02 05 54.8 +1.2
BOVS eSn Sn 02 06 53.3 -1.8
TLCR 5.38 14 ⇑P Pn 02 05 55.1 +1.0
TLCR 5.38 14 P Pn 02 05 55.0 +0.9
MTUR Matau 5.42 346 ⇑P Pn 02 05 55.4 +0.7
SELS Selova 5.42 308 ePn Pn 02 05 55.9 +1.2
SELS eSn Sn 02 06 54.6 -2.6
SRE Strehaia 5.43 331 ⇓P Pn 02 05 55.1 +0.3
SRE Strehaia 5.43 331 P Pn 02 05 55.9 +1.1
MLR Muntele Rosu 5.55 353 ⇑P Pn 02 05 58.4 +1.8
MLR Muntele Rosu 5.55 353 Pn Pn 02 05 57.3 +0.7
MLR Muntele Rosu 5.55 353 Pn Pn 02 05 58.4 +1.8
comp=Z,3.3nm,0.3s,baz=186,slow=5.4,SNR=109
MLR Sn Sn 02 07 02.5 +2.0
comp=Z,5.5nm,0.3s,baz=177,slow=18,SNR=1.6
MLR Lg Lg 02 07 31.7
comp=Z,5.8nm,0.3s,baz=187,slow=8.1,SNR=4.8
MLR Muntele Rosu 5.55 353 P Pn 02 05 58.4 +1.8
comp=Z,106nm,0.8s,comp=Z,1µmcomp=Z,0.8nm
SCHL Schela 5.55 7 ⇑P Pn 02 05 57.1 +0.6
BISRR Bisoca 5.56 358 P Pn 02 05 59.2 +2.5
comp=Z,507nm,0.7s,comp=Z,5µmcomp=Z,2.9nm
GIUM Giurgiulesti 5.58 9 ⇑P Pn 02 05 58.0 +1.2
IZVR Izvoarele 5.59 6 ⇑P Pn 02 05 57.1 +0.1
NEGRR Negrea 5.60 7 ⇑P Pn 02 05 57.8 +0.8
VOIR 5.62 346 P Pn 02 05 58.2 +0.7
VOIR 5.62 346 P Pn 02 05 58.2 +0.7
comp=Z,40nm,0.8s,comp=Z,4µmcomp=Z,0.3nm
RMGR Halanga-Turnu 5.63 328 ⇑P Pn 02 05 57.1 -0.5
SLCR Slobozia Conac 5.64 6 ⇓P Pn 02 05 58.1 +0.5
TATR Tatarca 5.67 8 ⇓P Pn 02 05 59.1 +1.0
BCI Bajram Curri 5.70 297 P Pn 02 06 00.5 +2.0
baz=296
BCI S Sn 02 07 01.3 -2.6
baz=296
PUK Puka 5.71 293 P Pn 02 06 00.5 +1.9
baz=292
PUK S Sn 02 07 01.1 -3.1
baz=292
PUK AMP
comp=E,0.3nm,0.9s,baz=292
PUK Puka 5.71 293 Pn Pn 02 05 59.6 +0.9
DJES Djerdap 5.71 327 ⇓P Pn 02 05 58.7 +0.1
DJES Djerdap 5.71 327 ePn Pn 02 05 59.0 +0.4
DJES eSn Sn 02 07 00.8 -3.3
SCTR Scanteiesti 5.74 8 ⇑P Pn 02 06 00.2 +1.2
ODBI Odobesti 5.78 1 P Pn 02 06 01.6 +2.0
comp=E,133nm,0.6s,comp=E,2µmcomp=E,0.5nm
PVY Plav 5.86 299 ⇑*i* Pn Pn 02 06 01.4 +0.6
PVY *i* Sn Sn 02 07 07.0 -1.1
PLOR5 Plostina Array 5.86 358 P Pn 02 06 02.3 +1.5
comp=E,119nm,0.6s,comp=E,1µmcomp=E,0.8nm
PLOR Plostina 5.87 358 ⇑P Pn 02 06 02.6 +1.7
PLOR Plostina 5.87 358 P Pn 02 06 02.4 +1.5
PLOR3 Plostina Array 5.87 358 P Pn 02 06 02.7 +1.8
comp=E,158nm,0.7s,comp=E,1µmcomp=E,0.5nm
VRI Vrincioaia 5.88 359 ⇑P Pn 02 06 02.6 +1.6
VRI Vrincioaia 5.88 359 P Pn 02 06 02.3 +1.3
VRI Vrincioaia 5.88 359 P Pn 02 06 02.6 +1.6
comp=E,96nm,0.7s,comp=E,1µmcomp=E,0.5nm
PANC Panciu 5.89 1 ⇑P Pn 02 06 02.1 +1.1
KUBS Kucevo 5.90 320 ePn Pn 02 06 00.0 -1.2
KUBS eSn Sn 02 07 04.8 -4.1
VLDR Vladesti 5.92 8 ⇓P Pn 02 06 03.2 +1.7
HERR Herculane 5.92 327 ⇑P Pn 02 06 01.4 -0.1
LOT Lotru 5.94 338 ⇓P Pn 02 06 02.0 +0.2
VARL Varlezi 5.95 6 ⇓P Pn 02 06 04.0 +2.0
IVA Berane 6.02 301 ⇓*i* Pn Pn 02 06 03.6 +0.6
IVA *i* Sn Sn 02 07 11.1 -0.9
SVIS Svilajnac 6.03 317 ePn Pn 02 06 04.8 +1.8
GRUS Gruza 6.06 312 ePn Pn 02 06 04.3 +0.9
GRUS eSn Sn 02 07 10.2 -2.5
GHRR 6.09 3 ⇓P Pn 02 06 04.7 +0.9
DOPR Dopca 6.09 350 ⇑P Pn 02 06 05.0 +1.1
TURR Turia 6.11 354 ⇓P Pn 02 06 05.6 +1.5
ULC Ulcinj 6.14 291 ⇓*i* Pn Pn 02 06 05.3 +0.7
ULC *i* Sn Sn 02 07 14.1 -0.8
MDVR Moldovita 6.16 323 ⇑P Pn 02 06 05.4 +0.6
OZUR 6.17 353 ⇓P Pn 02 06 06.4 +1.5
DRME Dracevica, Mon 6.25 293 ePn Pn 02 06 09.6 +3.5
DRME Dracevica, Mon 6.25 293 ⇓*i* Pn Pn 02 06 06.8 +0.7
DRME *i* Sn Sn 02 07 16.6 -0.9
KOME Kolasin 6.26 300 ⇓*i* Pn Pn 02 06 07.0 +0.6
KOME *i* Sn Sn 02 07 17.0 -1.0
PDG Podgorica 6.28 295 Pn 02 06 07.7 +1.3
PDG Podgorica 6.28 295 ePn Pn 02 06 09.7 +3.2
PDG Podgorica 6.28 295 ⇑*i* Pn Pn 02 06 07.2 +0.7
PDG *i* Sn Sn 02 07 17.3 -0.9
MDB Medias 6.43 344 ⇓P Pn 02 06 10.1 +1.6
TRUS Trudelj 6.44 313 ePn Pn 02 06 09.2 +0.5
TRUS eSn Sn 02 07 19.9 -2.3
BUM Brajici-Budva 6.49 293 ⇑*i* Pn Pn 02 06 10.2 +0.8
BUM *i* Sn Sn 02 07 22.5 -1.0
TESR Tescani 6.53 358 ⇑P Pn 02 06 11.0 +1.1
TESR Tescani 6.53 358 P Pn 02 06 10.6 +0.7
comp=E,337nm,0.7s,comp=E,3µmcomp=E,1.0nm
DIKM Dikmen 6.54 73 P Pn 02 06 11.5 +1.5
comp=E,24nm,0.7s,comp=E,387nmcomp=E,0.2nm
CEME Cevo 6.56 296 ⇑*i* Pn Pn 02 06 11.3 +1.0
CEME *i* Sn Sn 02 07 24.1 -1.0
LEOM Leova 6.56 8 ⇑P Pn 02 06 11.6 +1.3
PLE Pljevlja 6.56 303 ⇑*i* Pn Pn 02 06 11.2 +0.8
PLE *i* Sn Sn 02 07 24.1 -1.2
DEV Deva 6.59 335 ⇑P Pn 02 06 11.9 +1.2
DEV Deva 6.59 335 P Pn 02 06 11.7 +0.9
DEV pmax pmax
comp=Z,94nm,0.7s
DIVS Divibare 6.60 311 ePn Pn 02 06 11.7 +0.8
DIVS eSn Sn 02 07 21.7 -4.5
NKME Niksic 6.61 297 ⇓*i* Pn Pn 02 06 11.8 +0.7
NKME *i* Sn Sn 02 07 25.5 -1.0
VASR Vaslui 6.69 5 ⇑P Pn 02 06 12.8 +0.8
RUDO Rudo 6.71 305 ePn Pn 02 06 12.9 +0.5
SURR Surduc 6.76 330 ⇑P Pn 02 06 13.9 +0.8
SEV Sevastopol' 6.76 45 eP Pn 02 06 12.9 -0.2
SEV Pm 02 06 15.3
comp=Z,22nm,0.5s
SEV eS Sn 02 07 25.8 -4.3
SEV Sm 02 07 26.0
comp=N,28nm,0.6s
SEV Sevastopol' 6.76 45 eP Pn 02 06 12.9 -0.2
SEV eS Sn 02 07 25.8 -4.3
BEO Beograd 6.79 317 P Pn 02 06 12.6 -0.8
TARU Tarkhankut 6.79 36 eP Pn 02 06 13.0 -0.4
TARU Pm 02 06 13.8
comp=Z,97nm,0.7s
TARU eS Sn 02 07 27.3 -3.4
TARU Sm 02 07 30.4
comp=N,62nm,0.7s
HCY Herceg Novi 6.82 294 ⇓*i* Pn Pn 02 06 14.7 +0.8
HCY *i* Sn Sn 02 07 30.5 -1.0
BBLS Lazi&#263i 6.82 307 ePn Pn 02 06 15.4 +1.5
BBLS eSn Sn 02 07 29.0 -2.6
BBLS Lazi&#263i 6.82 307 ePn Pn 02 06 14.6 +0.7
UPM Unac-Piva 6.82 301 ePn Pn 02 06 16.6 +2.5
UPM Unac-Piva 6.82 301 ⇑*i* Pn Pn 02 06 14.7 +0.6
UPM *i* Sn Sn 02 07 30.5 -1.3
BZS Buzias 6.85 327 ⇑P Pn 02 06 14.4 +0.1
BZS Buzias 6.85 327 P Pn 02 06 13.7 -0.6
BZS pmax pmax
comp=Z,233nm,0.8s
BANR Banloc 6.88 324 ⇑P Pn 02 06 15.4 +0.8
PURM Purcari 6.89 17 ⇓P Pn 02 06 15.3 +0.5
PURM Purcari 6.89 17 P Pn 02 06 15.6 +0.8
comp=Z,409nm,0.8s,comp=Z,7µmcomp=Z,1.8nm
BRY Bratogost 6.94 298 ePn Pn 02 06 19.1 +3.4
BRY Bratogost 6.94 298 ⇑*i* Pn Pn 02 06 16.5 +0.8
BRY *i* Sn Sn 02 07 33.5 -1.3
BNN Bunyan 7.00 96 Pn Pn 02 06 18.7 +2.2
YAL Yalta 7.00 48 eP Pn 02 06 15.5 -0.8
YAL Pm 02 06 27.0
comp=Z,24nm,0.5s
YAL eS Sn 02 07 30.8 -5.1
YAL Sm 02 07 32.6
comp=N,23nm,0.6s
YAL Sm 02 07 32.6
comp=E,51nm,0.6s
YAL Yalta 7.00 48 eP Pn 02 06 15.5 -0.8
YAL eS Sn 02 07 30.8 -5.1
TREB Trebinje 7.01 296 ePn Pn 02 06 18.8 +2.3
KVT Kavak 7.03 78 P Pn 02 06 21.4 +4.5
KVT pmax pmax
comp=Z,19nm,1.2s
MILM Milestii Mici 7.07 11 ⇑P Pn 02 06 17.8 +0.5
MILM Milestii Mici 7.07 11 ⇑*i* P Pn 02 06 17.5 +0.3
comp=Z,360nm,0.5s
MILM eS Sn 02 07 35.0 -2.6
MILM eLq LQ 02 08 20.0
comp=Z,400nm,8.0s
MILM LRM MLR 02 09 18.0
comp=Z,1µm,12.0s
MILM Milestii Mici 7.07 11 *c* *i* P Pn 02 06 17.5 +0.3
MILM eS Sn 02 07 35.0 -2.6
MILM pmax pmax
comp=Z,360nm,0.5s
MILM MLR MLR
comp=Z,1µm,12.0s
MILM MLR MLR
comp=N,800nm,10.2s
TEKS Tekeris 7.14 312 ePn Pn 02 06 18.4 +0.2
TEKS eSn Sn 02 07 34.4 -4.9
TEKS Tekeris 7.14 312 ePn Pn 02 06 18.4 +0.2
CSS Mathiatis 7.14 133 Pn 02 06 20.6 +2.2
CSS Mathiatis 7.14 133 P Pn 02 06 19.4 +1.1
KIS Kishinev 7.15 10 ⇓P Pn 02 06 19.5 +1.2
KIS Kishinev 7.15 10 ⇓*i* P Pn 02 06 19.0 +0.7
comp=N,110nm,0.3s
KIS eS Sn 02 07 40.0 +0.5
KIS eL L 02 09 05.0
KIS LRM MLR 02 09 18.0
comp=N,450nm,13.0s
KIS Kishinev 7.15 10 *d* *i* P Pn 02 06 19.0 +0.7
KIS eS Sn 02 07 40.0 +0.5
KIS pmax pmax
comp=Z,110nm,0.4s
KIS MLR MLR
comp=Z,400nm,10.5s
KIS MLR MLR
comp=N,450nm,13.0s
KIS Kishinev 7.15 10 P Pn 02 06 19.1 +0.7
comp=N,173nm,0.9s,comp=N,2µmcomp=N,0.7nm
CJR Cluj-Napoca 7.15 341 ⇓P Pn 02 06 20.1 +1.6
CJR Cluj-Napoca 7.15 341 P Pn 02 06 20.1 +1.6
IAS Iasi 7.22 3 ⇓P Pn 02 06 19.4 +0.1
IAS Iasi 7.22 3 P Pn 02 06 19.7 +0.3
IAS pmax pmax
comp=Z,80nm,0.6s
MARR Marisel-Cluj 7.24 339 ⇓P Pn 02 06 20.4 +0.6
ALU Alushta 7.26 47 eP Pn 02 06 18.4 -1.5
ALU Pm 02 06 29.3
comp=Z,31nm,0.6s
ALU eS Sn 02 07 36.4 -5.9
ALU Sm 02 07 41.5
comp=N,16nm,0.4s
ALU Sm 02 07 41.5
comp=E,56nm,0.8s
ALU Alushta 7.26 47 eP Pn 02 06 18.4 -1.5
ALU eS Sn 02 07 36.4 -5.9
SIM Simferopol' 7.27 45 eP Pn 02 06 20.2 +0.2
SIM Pm 02 06 26.5
comp=Z,62nm,0.4s
SIM eS Sn 02 07 40.5 -2.1
SIM Sm 02 07 46.0
comp=N,105nm,1.1s
SIM Sm 02 07 46.0
comp=E,61nm,0.9s
SIM Simferopol' 7.27 45 eP Pn 02 06 20.2 +0.2
SIM eS Sn 02 07 40.5 -2.1
ARR ARCALIA 7.34 346 ⇑P Pn 02 06 21.3 +0.3
SIRR Siria 7.37 330 ⇓P Pn 02 06 21.6 +0.2
FRGS Fruska Gora 7.37 317 ⇓P Pn 02 06 21.8 +0.4
FRGS Fruska Gora 7.37 317 ePn Pn 02 06 21.6 +0.2
FRGS eSn Sn 02 07 41.6 -3.5
FRGS Fruska Gora 7.37 317 ePn Pn 02 06 21.1 -0.3
FRGS Fruska Gora 7.37 317 P Pn 02 06 21.9 +0.4
comp=E,37nm,0.7s,comp=E,353nmcomp=E,0.1nm
NEVS Nevesinje 7.39 299 ePn Pn 02 06 28.9 +7.1
PRAR RASCA 7.39 356 ⇑P Pn 02 06 24.0 +2.3
DRGR 7.47 337 ⇓P Pn 02 06 23.0 +0.2
DRGR 7.47 337 P Pn 02 06 22.0 -0.8
DRGR pmax pmax
comp=Z,40nm,0.7s
STON Ston 7.51 296 ePn Pn 02 06 28.3 +5.0
SUDU Sudak 7.72 48 eP Pn 02 06 25.9 -0.4
SUDU Pm 02 06 31.1
comp=Z,53nm,0.7s
SUDU eS Sn 02 07 52.1 -1.6
SUDU Sm 02 07 52.7
comp=N,61nm,0.5s
SUDU Sm 02 07 52.7
comp=E,42nm,0.8s
SUDU Sudak 7.72 48 eP Pn 02 06 25.9 -0.4
SUDU eS Sn 02 07 52.1 -1.6
BURAR Bucovina Array 7.73 351 ⇓P Pn 02 06 28.4 +1.9
BURAR Bucovina Array 7.73 351 Pn Pn 02 06 27.2 +0.8
BUR08 Bucovina Ar. S 7.76 351 Pn Pn 02 06 27.2 +0.3
AMBH Ambrzfalva 7.81 327 ⇑P Pn 02 06 28.0 +0.6
BMR Baia Mare 8.08 343 P Pn 02 06 31.9 +0.8
BMR pmax pmax
comp=Z,65nm,0.8s
SORM Soroca 8.21 7 ⇑P Pn 02 06 32.4 -0.5
SORM Soroca 8.21 7 P Pn 02 06 32.0 -1.0
comp=Z,74nm,0.9s,comp=Z,1µm
CUC Castrocucco 8.53 274 02 06 38.9 +1.5
MGRS Mrkonjic Grad 8.54 304 ePn Pn 02 06 38.3 +0.8
A052A Srbac 8.63 309 ePn Pn 02 06 39.6 +1.0
BLY Banja Luka 8.64 307 ePn Pn 02 06 40.4 +1.5
MORH Mrgy, Hungar 8.69 319 ⇑P Pn 02 06 40.0 +0.5
MORH Mrgy, Hungar 8.69 319 P Pn 02 06 40.2 +0.7
comp=Z,48nm,0.7s,comp=Z,452nm
ARPR Arapgir-MALATY 8.86 92 Pn 02 06 44.3 +2.2
A050A Klekovaca 8.93 304 ePn Pn 02 06 45.1 +2.3
A051A Mrakovica 8.95 307 ePn Pn 02 06 44.9 +1.8
ANN Anapa 9.14 55 eP Pn 02 06 39.1 -6.6
ANN eS Sn 02 08 20.1 -8.4
ANN pmax pmax
comp=Z,15nm,1.2s
PSZ Piszkesteto 9.41 330 ⇑P Pn 02 06 49.6 +0.1
PSZ Piszkesteto 9.41 330 Pn Pn 02 06 49.5 +0.1
PSZ Piszkesteto 9.41 330 P Pn 02 06 49.5 +0.1
BUD Budapest 9.43 325 P Pn 02 06 50.4 +0.8
BUD pmax pmax
comp=Z,41nm,0.7s
KOLS Kolonicke sedl 9.55 341 ePN Pn 02 06 52.1 +0.9
KOLS Kolonicke sedl 9.55 341 eP Pn 02 06 52.1 +0.9
MMAI Mount Meron Ar 9.74 133 Pn Pn 02 06 53.6 -0.4
comp=Z,1.7nm,0.3s,baz=317,slow=12,SNR=14
MMAI LR LR 02 11 52.0
comp=Z,14nm,20.4s,baz=284,slow=45
comp=Z,7.9nm,0.6s
GEM Giv'at Ha'Em 9.74 131 P Pn 02 06 53.7 -0.3
NATI Neve Ativ 9.75 131 P Pn 02 06 54.4 +0.4
MPLH Magyarpolny 9.89 320 P Pn 02 06 57.4 +1.4
comp=Z,78nm,0.8s
LVV L'vov 10.05 349 eP Pn 02 06 59.1 +1.0
LVV eS Sn 02 08 54.4 +3.6
LVV MLR MLR
comp=E,200nm,9.0s
LVV MLR MLR
comp=N,200nm,12.0s
LVV MLR MLR
comp=Z,200nm,11.0s
KWP Kalwaria Pacla 10.10 344 Pn 02 06 59.7 +0.8
KWP Kalwaria Pacla 10.10 344 P Pn 02 06 59.7 +0.8
KWP Kalwaria Pacla 10.10 344 P Pn 02 07 00.1 +1.2
comp=Z,15nm,1.1s
SHMJ Saham 10.15 133 P Pn 02 07 00.1 +0.5
BOJS Bojanci 10.20 307 ePn Pn 02 07 01.5 +1.2
SOC Sochi 10.21 65 eP Pn 02 07 17.0 +17
SOC pmax pmax
comp=Z,22nm,1.2s
VYHS Vyhne 10.29 328 ePN Pn 02 07 01.7 +0.2
VYHS eSN Sn 02 08 56.5 -0.4
VYHS Vyhne 10.29 328 eP Pn 02 07 01.7 +0.2
VYHS *e* 02 08 56.5
QRNJ Al-Qirein 10.34 135 P Pn 02 07 01.6 -0.6
HMDT Nahal Hemdat 10.38 135 P Pn 02 07 03.0 +0.3
NIE Niedzica 10.54 336 P Pn 02 07 05.9 +1.0
NIE pmax pmax
comp=Z,5.0nm,1.3s
NIE Niedzica 10.54 336 P Pn 02 07 06.6 +1.7
comp=Z,5.1nm,1.3s
UJAP Al Uja 10.58 137 P Pn 02 07 04.5 -0.9
NRCA Norcia 10.76 290 Pn Pn 02 07 08.1 +0.2
CEY Cerknica 10.82 306 ePn Pn 02 07 11.5 +2.7
KIEV Kiev 10.83 8 Pn 02 07 08.9 +0.1
KIEV Kiev 10.83 8 P Pn 02 07 08.9 +0.1
KIEV Kiev 10.83 8 P Pn 02 07 10.2 +1.4
DSI Dead Sea 10.84 138 P Pn 02 07 08.5 +0.5
AKASG Malin Array Be 10.84 8 Pn 02 07 07.6 -1.3
AKASG Malin Array Be 10.84 8 Pn Pn 02 07 07.3 -1.7
comp=Z,3.6nm,0.3s,baz=192,slow=13,SNR=21
AKASG Lg Lg 02 10 16.0
baz=183,slow=28
AKASG LR LR 02 11 49.9
comp=Z,166nm,21.3s,baz=183,slow=40
comp=Z,2.7nm,0.4s
AKASG Malin Array Be 10.84 8 P Pn 02 07 07.6 -1.3
AKBB Malin Array Si 10.84 8 Pn 02 07 08.9 +0.1
AKBB Malin Array Si 10.84 8 P Pn 02 07 09.0 +0.1
MODS Modra-Piesok 10.87 324 ePN Pn 02 07 11.4 +2.0
MODS eSN Sn 02 09 07.2 -3.9
MODS Modra-Piesok 10.87 324 eP Pn 02 07 11.5 +2.0
MODS *e* 02 09 07.2
RONA Rosalia, Austr 10.88 319 ePn Pn 02 07 09.9 +0.4
comp=Z,15nm,0.9s,SNR=9.3
KZIT Kziot 10.91 144 P Pn 02 07 09.7 -0.3
SOKA Soboth 10.94 312 Pn Pn 02 07 10.8 +0.4
comp=Z,0.8nm,0.6s
ARSA Arzberg 11.00 315 ePn Pn 02 07 12.1 +1.0
comp=Z,7.9nm,0.8s,SNR=5.5
JAVC Velka Javorina 11.06 326 ePN Pn 02 07 11.7 -0.4
OBKA Obir 11.13 310 ePn Pn 02 07 13.1 +0.1
comp=Z,6.7nm,1.1s
OBKA Obir 11.13 310 ePn Pn 02 07 11.6 -1.4
CONA Conrad Observa 11.25 319 ePn Pn 02 07 14.9 +0.3
comp=Z,7.8nm,0.6s,SNR=18
OJC Ojcow 11.40 336 Pn 02 07 17.4 +0.8
OJC Ojcow 11.40 336 P Pn 02 07 17.4 +0.8
PRNI Paran 11.65 143 P Pn 02 07 21.2 +1.0
MYKA Terra Mystica 11.73 309 eP Pn 02 07 23.8 +2.6
comp=Z,2.9nm,0.5s
KRUC Moravsky 11.78 324 ePN Pn 02 07 20.5 -1.2
KRUC Moravsky 11.78 324 P Pn 02 07 23.6 +1.9
KRUC pmax pmax
comp=Z,7.0nm,0.8s
MORC Moravsky Berou 11.83 329 Pn Pn 02 07 22.5 0.0
MORC Moravsky Berou 11.83 329 ePN Pn 02 07 22.0 -0.5
MORC Moravsky Berou 11.83 329 P Pn 02 07 22.5 0.0
VRAC Vranov 11.87 325 ePN Pn 02 07 22.6 -0.4
VRAC Vranov 11.87 325 Pn Pn 02 07 22.8 -0.2
comp=Z,0.3nm,0.3s,baz=139,slow=15,SNR=6.0
VRAC Sn Sn 02 09 33.5 -1.9
comp=Z,0.3nm,0.3s,baz=196,slow=19,SNR=3.8
VRAC LR LR 02 12 32.0
comp=Z,60nm,19.2s,baz=138,slow=40
comp=Z,2.7nm,0.6s
HRFI Mount Harif 11.94 144 P Pn 02 07 23.1 -1.0
MOA Molln 12.04 315 eP Pn 02 07 28.2 +2.9
comp=Z,4.4nm,1.0s
MBRI Mt Berech 12.09 145 P Pn 02 07 25.4 -0.8
KBA Koelnbreinsper 12.13 310 ePn Pn 02 07 27.7 +0.9
comp=Z,1.4nm,1.2s
AQBJ Aqaba 12.21 144 P Pn 02 07 27.7 0.0
EIL Elat 12.21 145 Pn Pn 02 07 26.9 -0.9
comp=Z,0.6nm,0.3s,baz=346,slow=15,SNR=8.2
EIL LR LR 02 13 05.6
comp=Z,29nm,20.5s,baz=282,slow=42
comp=Z,4.1nm,0.6s
EIL Elat 12.21 145 P Pn 02 07 26.9 -0.9
KRLC Kraliky 12.37 328 P Pn 02 07 31.3 +1.4
KRLC pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 12.38 66 eP Pn 02 07 33.8 +3.7
KIV pmax pmax
comp=Z,3.0nm,1.1s
ABTA Abfaltersbach 12.47 308 eP Pn 02 07 34.2 +2.9
comp=Z,2.0nm,0.6s
KBZ Khabaz 12.48 67 Pn Pn 02 07 34.4 +3.0
comp=Z,0.5nm,0.5s,baz=264,slow=9.2,SNR=1.8
KBZ LR LR 02 12 57.1
comp=Z,28nm,18.7s,baz=210,slow=40
KBZ Khabaz 12.48 67 *i* P Pn 02 07 34.6 +3.2
CKRC Cesky Krumlov 12.61 319 eP Pn 02 07 34.8 +1.6
CKRC *ex* x 02 07 41.4
CKRC AMS AMS 02 12 50.0
comp=Z,200nm,14.6s

CKRC	**Cesky Krumlov**	**12.61**	**319**	*e*P		**Pn**	**02 07 34.8**	**+1.6**
CKRC				MLR		MLR			
	comp=Z,200nm,14.6s								
LESA	**Schwarzleotal**	**12.70**	**311**	*e*P		**Pn**	**02 07 37.2**	**+2.7**
	comp=Z,2.7nm,0.9s								
CTI	**Castel Tesino**	**12.71**	**303**			**Pn**	**02 07 34.3**	**-0.3**
CTI	**Castel Tesino**	**12.71**	**303**	P		**Pn**	**02 07 34.3**	**-0.3**
DPC	**Dobruska-Polom**	**12.77**	**328**	*e*P		**Pn**	**02 07 35.3**	**-0.1**
DPC				*ex*		x	02 07 42.3		
DPC				AMS		AMS	02 13 40.0		
	comp=Z,200nm,9.8s								
DPC	**Dobruska-Polom**	**12.77**	**328**	*e*P		**Pn**	**02 07 35.3**	**-0.1**
DPC				MLR		MLR			
	comp=Z,200nm,9.8s								
NCK	**Nalchik**	**12.93**	**69**	*i* P		**Pn**	**02 07 39.7**	**+2.1**
GERES	**GERESS Array B**	**12.94**	**318**	Pn		**Pn**	**02 07 39.2**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=116,slow=11,SNR=4.2								
GERES				LR		LR	02 13 03.5		
	comp=Z,97nm,18.4s,baz=128,slow=40								
	comp=Z,1.1nm,0.7s								
KHC	**Kasperske Hory**	**13.18**	**318**	*e*P		**Pn**	**02 07 42.7**	**+1.7**
KHC				*ex*		x	02 07 50.7		
KHC				AMS		AMS	02 13 10.0		
	comp=Z,300nm,9.7s								
KHC	**Kasperske Hory**	**13.18**	**318**	*e*P		**Pn**	**02 07 42.7**	**+1.7**
KHC				MLR		MLR			
	comp=Z,300nm,9.7s								
WTTA	**Wattenberg**	**13.24**	**308**	P		**Pn**	**02 07 44.3**	**+2.4**
	comp=Z,4.8nm,0.7s								
WATA	**Walderalm**	**13.31**	**309**	*e*P		**Pn**	**02 07 47.1**	**+4.2**
	comp=Z,6.9nm,0.8s								
SQTA	**Sankt Quirin**	**13.48**	**308**	*e*P		**Pn**	**02 07 49.4**	**+4.3**
	comp=Z,1.8nm,0.5s								
WET	**Wettzell**	**13.55**	**317**	P		**Pn**	**02 07 47.7**	**+1.7**
WET				pmax		pmax			
	comp=Z,6.0nm,1.2s								
MOTA	**Moosalm**	**13.60**	**308**	*e*P		**Pn**	**02 07 50.4**	**+3.6**
	comp=Z,7.4nm,0.6s								
GNI	**Garni**	**13.65**	**84**	Pn		**Pn**	**02 07 51.4**	**+3.8**
	comp=Z,0.3nm,0.3s,baz=297,slow=6.8,SNR=3.1								
	comp=Z,1.8nm,0.5s								
GNI	**Garni**	**13.65**	**84**	*ce*P		**Pn**	**02 07 49.7**	**+2.2**
GNI				pmax		pmax			
	comp=Z,10.0nm,1.7s								
FETA	**Feichten**	**13.69**	**306**	*e*P		**Pn**	**02 07 51.1**	**+3.1**
	comp=Z,2.4nm,0.5s								
VORD	**Divnogorie**	**13.97**	**34**	*e*P		**Pn**	**02 07 52.0**	**+0.3**
VORD				pmax		pmax			
	comp=Z,10.0nm,0.6s								
VSR	**Storozhevoye**	**14.11**	**33**	*e*P		**Pn**	**02 07 51.7**	**-1.8**
VSR				pmax		pmax			
	comp=Z,10.0nm,1.0s								
DAVOX	**Davos/Dischmat**	**14.12**	**304**	Pn		**Pn**	**02 07 56.8**	**+2.8**
	comp=Z,0.2nm,0.3s,baz=159,slow=14,SNR=2.0								
DAVOX				LR		LR	02 13 03.1		
	comp=Z,61nm,18.9s,baz=88,slow=36								
SUW	**Suwalki**	**14.26**	**351**			**Pn**	**02 07 53.5**	**-2.2**
SUW	**Suwalki**	**14.26**	**351**	P		**Pn**	**02 07 53.5**	**-2.2**
DAVA	**Damuels**	**14.32**	**306**	*e*P		**P**	**02 08 01.0**	**-2.9**
	comp=Z,1.3nm,0.5s								
GROC	**Groznyy**	**14.48**	**71**	*e*P		**Pn**	**02 07 57.4**	**-1.3**
GROC				pmax		pmax			
	comp=Z,8.0nm,0.9s								
MNK	**Minsk**	**14.54**	**2**	*i* P		**Pn**	**02 08 01.7**	**+2.2**
	comp=E,5.0nm,1.1s								
MNK				*i* P		**Pn**	**02 08 01.7**	**+2.2**
	comp=N,4.0nm,0.8s								
MNK				*i* P		**Pn**	**02 08 01.7**	**+2.2**
	comp=Z,4.0nm,0.8s,baz=184								
MNK				*i* PP		**PnPn**	**02 08 08.7**	**+1.3**
MNK				*i* S		**Sn**	**02 10 43.5**	**+2.9**
MNK				*i* SS		**S**	**02 11 02.4**	**+2.3**
MNK				*i* LR		LR	02 12 36.7		
MNK				*i* LRM		MLR	02 13 36.6		
	comp=Z,236nm,12.2s								
MNK				*i* LRM		MLR	02 13 39.2		
	comp=N,197nm,12.0s								
MNK				*i* LRM		MLR	02 13 42.4		
	comp=E,79nm,12.2s								
MNK	**Minsk**	**14.54**	**2**	*i* P		**Pn**	**02 08 01.6**	**+2.2**
MNK				*i* S		**Sn**	**02 10 43.5**	**+2.9**
MNK				pmax		pmax			
	comp=N,4.0nm,0.8s								
MNK				pmax		pmax			
	comp=E,5.0nm,1.0s								
MNK				pmax		pmax			
	comp=Z,4.0nm,0.8s								
MNK				MLR		MLR			
	comp=Z,236nm,12.0s								
MNK				MLR		MLR			
	comp=N,197nm,12.0s								
MNK				MLR		MLR			
	comp=E,79nm,12.0s								
CLL	**Collm**	**14.91**	**324**	*i* P		**Pn**	**02 08 04.3**	**-0.2**
CLL				*i* PP		**PnPn**	**02 08 13.6**	**+1.2**
	comp=Z,7.0nm,1.1s								
CLL				*e*(SS)			02 11 12.0		
CLL				*ex*		x	02 11 42.0		
CLL	**Collm**	**14.91**	**324**	*e*P		Pn	02 07 56.0	-8.5	
NACGM	**Naroch**	**14.93**	**360**	*e*P		**Pn**	**02 08 01.7**	**-3.0**
	comp=Z,16nm,0.9s,baz=177								
LPSR	**Galich'ya Gora**	**15.07**	**29**	*e*P		**Pn**	**02 08 04.3**	**-2.4**
LPSR				pmax		pmax			
	comp=Z,20nm,0.9s								
VRH	**Novokhopyorsk**	**15.23**	**38**	*e*P		**Pn**	**02 08 07.6**	**-1.2**
VRH				pmax		pmax			
	comp=Z,20nm,0.7s								
SENIN	**Lac Senin/Sane**	**15.66**	**300**	Pn		**Pn**	**02 08 14.4**	**-0.2**
MAK	**Makhachkala**	**15.71**	**72**	*e*P		**Pn**	**02 08 13.1**	**-1.9**
MAK				*e*S		**Sn**	**02 11 08.7**	**-0.3**
MAK				pmax		pmax			
	comp=Z,136nm,1.0s								
MAK				MLR		MLR			
	comp=Z,80nm,20.0s								
BFO	**Black Forest**	**15.71**	**308**	Pn		**Pn**	**02 08 16.3**	**+1.1**
BFO				IAmb		IAmb	02 08 26.7		
	comp=Z,15nm,1.2s								
BFO	**Black Forest**	**15.71**	**308**	P		**Pn**	**02 08 16.3**	**+1.1**
BFO				pmax		pmax			
	comp=Z,15nm,1.2s								
BNI	**Bardonecchia**	**15.76**	**295**	Pn		**Pn**	**02 08 16.5**	**+0.7**
BNI	**Bardonecchia**	**15.76**	**295**	P		**Pn**	**02 08 16.5**	**+0.7**
BNI				pmax		pmax			
	comp=Z,11nm,1.3s								
OBN	**Obninsk**	**16.45**	**20**	Pn		**Pn**	**02 08 21.6**	**-2.9**
	comp=Z,1.8nm,0.3s,baz=209,slow=19,SNR=3.3								
	comp=Z,5.7nm,0.4s								
OBN	**Obninsk**	**16.45**	**20**	*e*P		**Pn**	**02 08 20.6**	**-3.9**
OBN				pmax		pmax			
	comp=Z,14nm,1.3s								
OBN				MLR		MLR			
	comp=Z,185nm,14.0s								
MOS	**Moscow**	**17.29**	**21**	*e*P		**Pn**	**02 08 31.1**	**-4.0**
MOS				*e*S		**Sn**	**02 11 39.2**	**-8.0**
MOS				pmax		pmax			
	comp=Z,26nm,1.1s								
MOS				MLR		MLR			
	comp=N,300nm,12.0s								
MOS				MLR		MLR			
	comp=Z,300nm,12.0s								
VSU	**Vasula**	**18.50**	**360**	*i* P		**P**	**02 08 45.0**	**-4.8**
BELG	**Belogornoye**	**18.87**	**42**	P		**P**	**02 08 52.8**	**-1.2**
	comp=Z,1.0nm,0.3s,baz=252,slow=6.4,SNR=4.6								
	comp=Z,28nm,1.0s								
BELG	**Belogornoye**	**18.87**	**42**	*i* P		**P**	**02 08 53.0**	**-1.0**
FINES	**FINESS Array B**	**21.50**	**359**	P		**P**	**02 09 21.7**	**-0.7**
	comp=Z,3.1nm,0.7s,baz=167,slow=8.1,SNR=16								
FINES				LR		LR	02 18 18.2		
	comp=Z,76nm,20.3s,baz=192,slow=38								
	comp=Z,3.1nm,0.7s								
HFS	**Hagfors**	**21.81**	**342**	P		**P**	**02 09 24.8**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=163,slow=15,SNR=4.1								
HFS				LR		LR	02 18 19.5		
	comp=Z,59nm,19.6s,baz=172,slow=38								
	comp=Z,3.2nm,0.9s								
KLMR	**Klimovskoe**	**22.30**	**16**	*e*P		**P**	**02 09 29.6**	**-1.5**
KLMR				pmax		pmax			
	comp=Z,22nm,1.0s								
RAYN	**Ar Rayn**	**22.70**	**131**	P		**P**	**02 09 36.4**	**+0.6**
RAYN	**Ar Rayn**	**22.70**	**131**	P		**P**	**02 09 36.4**	**+0.6**
RAYN				pmax		pmax			
	comp=Z,3.0nm,0.9s								
NC602	**NORSAR Array S**	**22.86**	**340**	P		**P**	**02 09 35.8**	**-1.3**
NC602				IAmb		IAmb	02 09 39.3		
	comp=Z,11nm,0.9s								
NAO01	**NORSAR Array S**	**23.13**	**340**	P		**P**	**02 09 39.2**	**-0.6**

NB2	**NORSAR Subarra**	**23.21**	**340**	P		**P**	**02 09 39.8**	**-0.9**
	comp=Z,4.3nm,0.8s,baz=148,slow=11								
NOA	**NORSAR Array B**	**23.21**	**340**	P		**P**	**02 09 40.0**	**-0.6**
	comp=Z,2.7nm,0.8s,baz=147,slow=11,SNR=8.1								
NOA				LR		LR	02 20 44.1		
	comp=Z,57nm,21.1s,baz=150,slow=42								
	comp=Z,2.7nm,0.8s								
KIRV	**Kirov**	**23.50**	**30**	LR		LR	02 20 12.6		
	comp=Z,40nm,18.3s,baz=223,slow=40								
KIRV	**Kirov**	**23.50**	**30**	*i* P		**P**	**02 09 43.2**	**-0.3**
ESDC	**Sonseca Array**	**23.67**	**279**	P		**P**	**02 09 45.4**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=75,slow=10,SNR=6.5								
	comp=Z,0.7nm,0.7s								
AKTO	**Aktyubinsk**	**24.10**	**54**	P		**P**	**02 09 49.1**	**-0.3**
	comp=Z,1.3nm,0.7s,baz=247,slow=9.6,SNR=6.9								
	comp=Z,1.3nm,0.7s								
TAM	**Tamanrasset**	**24.95**	**233**	P		**P**	**02 09 57.4**	**-0.1**
TAM				IAmb		IAmb	02 10 04.1		
	comp=Z,5.0nm,1.2s								
TAM	**Tamanrasset**	**24.95**	**233**	P		**P**	**02 09 57.4**	**-0.1**
TAM				pmax		pmax			
	comp=Z,5.0nm,1.2s								
ABKAR	**Akbulak array**	**25.09**	**57**	P		**P**	**02 09 58.8**	**+0.4**
ABKAR	**Akbulak array**	**25.09**	**57**	P		**P**	**02 09 59.8**	**+1.4**
EKA	**Eskdalemuir Ar**	**25.16**	**318**	P		**P**	**02 09 58.9**	**-0.1**
	comp=Z,3.8nm,0.7s,baz=116,slow=9.5,SNR=6.9								
	comp=Z,3.8nm,0.7s								
ESK	**Eskdalemuir**	**25.18**	**318**	P		**P**	**02 09 59.4**	**+0.3**
ESK	**Eskdalemuir**	**25.18**	**318**	P		**P**	**02 09 59.4**	**+0.3**
ESK				pmax		pmax			
	comp=Z,17nm,1.2s								
ARU	**Arti**	**26.41**	**41**	P		**P**	**02 10 10.4**	**+0.1**
ARU				IAmb		IAmb	02 10 17.6		
	comp=Z,11nm,0.9s								
ARU	**Arti**	**26.41**	**41**	P		**P**	**02 10 10.4**	**+0.1**
	comp=Z,2.3nm,0.3s,baz=247,slow=9.3,SNR=10								
ARU				LR		LR	02 22 35.2		
	comp=Z,44nm,19.0s,baz=246,slow=41								
	comp=Z,2.3nm,0.3s								
ARU	**Arti**	**26.41**	**41**	*d* iP		**P**	**02 10 10.8**	**+0.5**
ARU							02 10 48.1		
ARU				S		**S**	**02 14 48.3**	**+4.8**
ARU				SS		**SnSn**	**02 15 50.4**	**+6.3**
ARU				pmax		pmax			
	comp=Z,13nm,0.9s								
ARCES	**ARCESS Array B**	**29.62**	**359**	P		**P**	**02 10 39.4**	**+0.6**
	comp=Z,2.1nm,0.9s,baz=159,slow=7.7,SNR=2.6								
	comp=Z,2.1nm,0.9s								
WSAR	**Wadi Sarin**	**31.53**	**112**	LR		LR	02 28 00.9		
	comp=Z,44nm,18.1s,baz=144,slow=45								
BRVK	**Borovoye**	**32.06**	**51**	P		**P**	**02 11 02.2**	**+1.7**
BRVK				pmax		pmax			
	comp=Z,4.0nm,1.4s								
BVAR	**Borovoye Array**	**32.12**	**51**	P		**P**	**02 11 01.7**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=251,slow=13,SNR=1.8								
	comp=Z,0.9nm,0.7s								
TOA0	**Torodi Ar. Sit**	**34.74**	**227**	P		**P**	**02 11 24.5**	**+0.2**
TOA0				IAmb		IAmb	02 11 38.3		
	comp=Z,6.4nm,1.4s								
TORD	**Torodi Ar. Bea**	**34.74**	**227**	P		**P**	**02 11 24.0**	**-0.2**
TORD				IAmb		IAmb	02 11 38.3		
	comp=Z,3.8nm,1.4s								
TORD	**Torodi Ar. Bea**	**34.74**	**227**	P		**P**	**02 11 24.5**	**+0.2**
	comp=Z,1.2nm,0.7s,baz=34,slow=10.0,SNR=21								
	comp=Z,1.2nm,0.7s								
AAK	**Ala-Archa**	**35.46**	**70**	LR		LR	02 28 56.3		
	comp=Z,24nm,18.2s,baz=301,slow=41								
AAK	**Ala-Archa**	**35.46**	**70**	*i* P		**P**	**02 11 31.1**	**+0.7**
BORG	**Borgarnes**	**37.10**	**328**	LR		LR	02 27 42.4		
	comp=Z,40nm,19.1s,baz=134,slow=37								
KURBB	**Kurchatov Arra**	**37.12**	**56**	P		**P**	**02 11 45.1**	**+0.8**
	comp=Z,0.5nm,0.6s,baz=278,slow=8.8,SNR=4.6								
	comp=Z,0.5nm,0.6s								
KURK	**Kurchatov**	**37.17**	**56**	*i* P		**P**	**02 11 44.3**	**-0.4**
KURK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
MKAR	**Makanchi Array**	**40.09**	**61**	P		**P**	**02 12 10.1**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=281,slow=6.7,SNR=8.1								
	comp=Z,1.2nm,0.8s								
MKAR	**Makanchi Array**	**40.09**	**61**	*ce*P		**P**	**02 12 10.3**	**+1.0**
MKAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ZAA0	**Zalesovo Array**	**40.74**	**50**	P		**P**	**02 12 14.2**	**-0.4**
ZAA0				IAmb		IAmb	02 12 16.4		
	comp=Z,3.4nm,0.8s								
ZALV	**Zalesovo Beam**	**40.74**	**50**	P		**P**	**02 12 15.6**	**+0.9**
ZALV	**Zalesovo Beam**	**40.74**	**50**	P		**P**	**02 12 15.1**	**+0.5**
	comp=Z,2.7nm,0.7s,baz=271,slow=9.7,SNR=12								
ZALV				LR		LR	02 30 51.7		
	comp=Z,17nm,19.4s,baz=63,slow=39								
	comp=Z,2.7nm,0.7s								
ZALV	**Zalesovo Beam**	**40.74**	**50**	*i* P		**P**	**02 12 15.5**	**+0.9**
ZALV				pmax		pmax			
	comp=Z,3.0nm,0.6s								
DBIC	**Dimbokro**	**43.73**	**229**	P		**P**	**02 12 39.7**	**+0.4**
DBIC				IAmb		IAmb	02 13 09.4		
	comp=Z,11nm,1.2s								
DBIC	**Dimbokro**	**43.73**	**229**	P		**P**	**02 12 39.8**	**+0.5**
	comp=Z,3.0nm,0.7s,baz=35,slow=14,SNR=2.0								
	comp=Z,3.0nm,0.7s								
SONM	**Songino Array**	**55.42**	**54**	P		**P**	**02 14 09.7**	**+1.4**
	comp=Z,1.3nm,0.7s,baz=290,slow=7.4,SNR=7.4								
	comp=Z,1.3nm,0.7s								
TIXI	**Tiksi**	**56.17**	**22**	LR		LR	02 41 18.8		
	comp=Z,57nm,18.8s,baz=310,slow=39								
FRB	**Frobisher Bay**	**57.27**	**328**	LR		LR	02 40 47.4		
	comp=Z,31nm,18.1s,baz=74,slow=38								
RES	**Resolute Bay**	**59.38**	**345**	P		**P**	**02 14 36.6**	**+0.9**
	comp=Z,1.3nm,1.0s,baz=39,slow=6.5,SNR=4.8								
RES				LR		LR	02 39 16.2		
	comp=Z,24nm,21.3s,baz=20,slow=35								
	comp=Z,1.3nm,1.0s								
TSUM	**Tsumeb**	**59.52**	**190**	LR		LR	02 40 14.4		
	comp=Z,40nm,21.0s,baz=64,slow=36								
SCHQ	**Schefferville**	**60.47**	**318**	P		**P**	**02 14 44.2**	**+0.7**
	comp=Z,3.1nm,1.0s,baz=76,slow=4.2,SNR=1.9								
	comp=Z,3.1nm,1.0s								
HHC	**Hu-ho-hao-te**	**61.87**	**59**	*e*P		**P**	**02 14 52.0**	**-1.3**
HHC				pmax		pmax			
	comp=Z,16nm,0.7s								
HHC				pmax		pmax			
	comp=Z,99nm,5.0s								
MA2	**Magadan**	**70.54**	**27**	LR		LR	02 49 11.7		
	comp=Z,18nm,18.1s,baz=179,slow=38								
YKA	**Yellowknife Ar**	**73.29**	**342**	P		**P**	**02 16 04.8**	**-0.1**
	comp=Z,0.1nm,0.7s,baz=46,slow=5.6,SNR=2.7								
	comp=Z,0.1nm,0.7s								
ULM	**Lac du Bonnet**	**77.09**	**326**	P		**P**	**02 16 26.8**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=45,slow=5.9,SNR=4.9								
	comp=Z,1.4nm,0.6s								
PDAR	**Pinedale Array**	**88.70**	**330**	P		**P**	**02 17 27.5**	**-0.2**
	comp=Z,0.1nm,0.5s,baz=35,slow=3.3,SNR=1.8								
	comp=Z,0.1nm,0.5s								

NEIC ***03*** *02:08:19.7±1.5, 19°.44N±0°.02×154°.98W±0°.04, h5km±1km, Error ellipse: s-maj=6.0km s-min=2.9km az=293.0*

HVO 03 02:08:18.7±1.3, 19°.45N±0°.02×154°.92W±0°.04, h3km±7km, ML2.5/11, ML2.5/14(NEIC), Error ellipse: s-maj=5.4km s-min=1.7km az=118.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.05**	**41**		Pg	02 08 21.7	+2.0
JOKA	**Jonika Flow**	**0.08**	**261**		Pg	02 08 21.6	+1.2
KNHH	**Kane Nui o Ham**	**0.24**	**254**		Pg	02 08 24.6	+1.1
PUH	**Pauahi**	**0.29**	**255**		Pg	02 08 24.1	-0.2
RSD	**Rainshed**	**0.34**	**273**		Pg	02 08 25.1	-0.1
RSD					Sg	02 08 31.4	+1.7
RSD	**Rainshed**	**0.34**	**273**	IAML		02 08 32.9	
	comp=N,506nm,2.4s						
RSD				IAML		02 08 34.2	
	comp=E,405nm,1.3s						
HLP	**Hilina Pali**	**0.39**	**248**		Pg	02 08 26.6	+0.3
HLP	**Hilina Pali**	**0.39**	**248**	IAML		02 08 36.4	
	comp=E,360nm,1.9s						
HLP				IAML		02 08 38.3	
	comp=N,474nm,2.3s						
MLH	**Mauna Loa**	**0.44**	**276**		Pg	02 08 27.2	0.0
MLH				IAML		02 08 36.1	
	comp=N,322nm,1.8s						
MLH	**Mauna Loa**	**0.44**	**276**		Sg	02 08 34.5	+1.5
HTC	**Hot Caves**	**0.49**	**245**		Pg	02 08 28.2	-0.1
HMH	**Humu'ula Sheep**	**0.55**	**286**		Pg	02 08 29.0	-0.3
HMH				IAML		02 08 46.3	
	comp=N,417nm,0.6s						
HMH	**Humu'ula Sheep**	**0.55**	**286**		Sb	02 08 38.2	-1.5
MWH	**Moku'aweowe**	**0.64**	**274**		Pg	02 08 30.0	-1.0
MWH				IAML		02 08 43.4	
	comp=E,292nm,0.9s						
MWH				IAML		02 08 44.4	
	comp=N,246nm,1.4s						
ALEP	**Alea Permanent**	**0.69**	**278**		Pg	02 08 30.9	-1.1
ALEP					Sg	02 08 40.9	0.0
HUH	**Hualalai**	**0.89**	**286**		Pg	02 08 35.4	-0.4

ISK ***03*** *02:30:45.0, 40°.86N×31°.66E, h4km, ML3.8/32*
AFAD ***03*** *02:30:45.6±0.0, 40°.84N×31°.65E, h7km±1km, MW3.8*
IDC ***03*** *02:30:46.0±0.9, 40°.86N×31°.79E, h0km, mb3.3/7, mbtmp3.4/9, ML3.9/2, MS3.4/1, Error ellipse: s-maj=23.5km s-min=8.2km az=46.0*
CFUSG ***03*** *02:30:47.6, 41°.00N×31°.60E, h10km, mb3.4/5, Northern Turkey*
MCSM ***03*** *02:30:48.0±1.3, 41°N±3°×3°2E±°, h12km±12km, mB5.6, mb4.1, MLv4.1, Mw(mB)5.1*
THE ***03*** *02:30:52.5, 40°.67N×31°.07E, h0km±2km, ML3.3/6, Error ellipse: s-maj=5.3km s-min=0.9km az=89.0*
ATH ***03*** *02:31:28.9±1.8, 40°.37N×27°.47E, h10km, ML2.6/11, Manual Solution by N.Liadopoulou This location: 2020/06/02 09:44:51 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 7 km; Longitude uncertainty: 15 km*

ISC 03 02:30:46.4±0.9, 40°.85N±0°.02×31°.64E±0.01, h5km±6km, n148, σ1°.18/190, mb3.3/5, 11C-8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOLU	**Bolu-Merkez-Mu**	**0.08**	**158**	P	Pg	**02 30 47.9**	**-0.3**
BOLU				S	**Sg**	**02 30 49.2**	**-0.3**
YIGI	**Dzce**	**0.18**	**308**	P	**Pg**	**02 30 50.2**	**+0.3**
YIGI				S	**Sg**	**02 30 53.3**	**+0.9**
BCAM	**Yenicaga**	**0.33**	**96**	P	**Pg**	**02 30 52.2**	**-0.5**
BCAM				S	**Sg**	**02 30 56.5**	**-0.6**
DEVR	**Zonguldak/Devr**	**0.38**	**41**	P	**Pg**	**02 30 53.3**	**-0.5**
DEVR				S	**Sg**	**02 30 58.6**	**-0.3**
KIBS	**BOLU**	**0.46**	**159**	P	**Pg**	**02 30 54.9**	**-0.4**
KIBS				S	**Sg**	**02 31 01.1**	**-0.2**
YUVA	**Yuva-Kibriscik**	**0.46**	**175**	Pg	**Pg**	**02 30 55.2**	**-0.1**
YUVA				Sg	**Sg**	**02 31 01.7**	**+0.3**
MDUB	**Mudurnu**	**0.51**	**221**	Pg	**Pg**	**02 30 56.0**	**-0.1**
MDUB				Sg	**Sg**	**02 31 03.3**	**+0.6**
BTAS	**Taskesti**	**0.56**	**240**	P	**Pg**	**02 30 56.7**	**-0.4**
BTAS				S	**Sg**	**02 31 05.6**	**+1.2**
CMDR	**Camlidere-ANKA**	**0.73**	**119**	P	**Pg**	**02 30 59.8**	**-0.6**
CMDR				S	**Sg**	**02 31 09.8**	**-0.2**
SUSU	**Bolu-G¶lynk-**	**0.79**	**230**	P	**Pg**	**02 31 01.3**	**-0.3**
SUSU				S	**Sb**	**02 31 14.4**	**+0.7**
KBUK	**KARABUK-Merkez**	**0.84**	**63**	P	**Pg**	**02 31 01.6**	**-0.9**
KBUK				S	**Sg**	**02 31 13.0**	**-0.5**
SAFT	**Safranbolu**	**0.88**	**64**	Pg	**Pg**	**02 31 02.0**	**-1.3**
BTIN	**Bartın**	**0.91**	**30**	P	**Pg**	**02 31 02.9**	**-0.9**
BTIN				S	**Sg**	**02 31 14.8**	**-0.8**
GULT	**Gulveren**	**0.95**	**244**	Pg	**Pg**	**02 31 03.7**	**-0.9**
GULT				Sg	**Sb**	**02 31 18.6**	**+0.3**
KAYN	**Sakarya, Kayna**	**0.99**	**277**	P	**Pg**	**02 31 04.5**	**-0.9**
KAYN				S	**Sg**	**02 31 16.4**	**-1.7**
AUMIH	**MIHALICIK**	**0.99**	**187**	P	**Pg**	**02 31 04.8**	**-0.6**
AUMIH				S	**Sg**	**02 31 18.1**	**-0.1**
SAUV	**Serdivan-Sakar**	**1.00**	**264**	Pg	**Pg**	**02 31 04.8**	**-0.8**
SAUV				Sg	**Sb**	**02 31 19.9**	**+0.3**
GEYV	**SAKARYA_Geyve**	**1.08**	**251**	P	**Pg**	**02 31 06.4**	**-0.8**
GEYV				S	**Sb**	**02 31 22.7**	**+0.7**
SRCK	**Saricakaya, Es**	**1.12**	**224**	Pn	**Pg**	**02 31 07.3**	**-0.5**
SRCK				Sn	**Sn**	**02 31 23.9**	**-0.5**
KAND	**Kocaeli-Kandir**	**1.12**	**283**	P	**Pg**	**02 31 06.6**	**-1.2**
KAND				S	**Sg**	**02 31 22.1**	**-0.2**
GPA	**Golpazari**	**1.16**	**241**	Pn	**Pg**	**02 31 07.1**	**-1.5**
KURC	**Kurucasile-Bar**	**1.29**	**40**	Pn	**Pn**	**02 31 10.1**	**-0.9**
ANTO	**Ankara**	**1.32**	**138**	P	**Pn**	**02 31 10.7**	**-0.8**
BORA	**Eskisehir**	**1.33**	**223**	P	**Pn**	**02 31 10.9**	**-0.7**
BORA				S	**Sn**	**02 31 31.0**	**+1.4**
PELI	**Kastamonı-Ara**	**1.34**	**70**	P	**Pn**	**02 31 10.8**	**-1.0**
PELI				S	**Sb**	**02 31 29.4**	**-0.2**
HISA	**Bilecik-Osmane**	**1.36**	**254**	P	**Pn**	**02 31 11.0**	**-1.1**
SVRH	**Sivrihisar-ESK**	**1.41**	**184**	Pn	**Pn**	**02 31 12.3**	**-0.4**
ELDT	**Eldivan**	**1.41**	**104**	P	**Pn**	**02 31 12.0**	**-0.8**
AUSIV	**SIVRIHISAR**	**1.41**	**183**	P	**Pn

YAL				Pm			02 31 51.7
	comp=Z,37nm,0.5s						
YAL				*e*S		**Sn**	**02 32 37.0 -0.4**
YAL				Sm			02 32 39.4
	comp=N,29nm,0.6s						
YAL				Sm			02 32 39.4
	comp=E,44nm,0.4s						
ENEZ	**Enez**	**4.16**	**270**	P		**Pn**	**02 31 49.9 -0.6**
ENEZ				S		**Sn**	**02 32 35.3 -4.2**
	comp=E,198nm,0.7s						
EZN	**Ezine**	**4.19**	**258**	P		**Pn**	**02 31 51.3 +0.5**
ALN	**Alexandroupoli**	**4.24**	**272**	P		**Pn**	**02 31 51.4 -0.1**
ALN				S		**Sn**	**02 32 38.0 -3.3**
	comp=E,72nm,0.8s						
ALN	**Alexandroupoli**	**4.24**	**272**	P		**Pn**	**02 31 51.1 -0.4**
ICOR	**Ion Corvin**	**4.32**	**320**	⇑P		**Pn**	**02 31 53.1 +0.5**
ALU	**Alushta**	**4.33**	**27**	*e*P		**Pn**	**02 31 52.7 -0.1**
ALU				*e*S		**Sn**	**02 32 42.2 -1.5**
ALU				Sm			02 32 44.3
	comp=E,19nm,0.6s,comp=N,22nm,0.6s						
PRK	**Paraskevi**	**4.42**	**250**	P		**Pn**	**02 31 54.0 0.0**
PRK				S		**Sn**	**02 32 40.3 -5.5**
	comp=N,190nm,0.8s						
PRK	**Paraskevi**	**4.42**	**250**	P		**Pn**	**02 31 54.6 +0.6**
SIM	**Simferopol'**	**4.48**	**23**	*e*P		**Pn**	**02 31 55.9 +1.1**
SIM				Pm			02 31 59.3
	comp=Z,113nm,0.6s						
SIM				*e*S		**Sn**	**02 32 46.9 -0.4**
SIM				Sm			02 32 51.6
	comp=N,53nm,0.8s						
SIM				Sm			02 32 51.6
	comp=E,233nm,1.0s						
TARU	**Tarkhankut**	**4.57**	**8**	*e*P		**Pn**	**02 31 56.5 +0.5**
TARU				Pm			02 32 00.5
	comp=Z,32nm,0.6s						
TARU				*e*S		**Sn**	**02 32 49.1 -0.3**
TARU				Sm			02 32 50.8
	comp=N,105nm,0.6s						
TARU				Sm			02 32 50.8
	comp=E,20nm,0.4s						
RDO	**Rodhopi**	**4.62**	**276**	P		**Pn**	**02 31 56.9 +0.1**
RDO	**Rodhopi**	**4.62**	**276**	P		**Pn**	**02 31 57.2 +0.4**
TPGR	**Topolog**	**4.65**	**330**	⇑P		**Pn**	**02 31 57.3 +0.1**
SMTH	**Samothraki Isl**	**4.66**	**267**	P		**Pn**	**02 31 56.4 -0.9**
SMTH				S		**Sn**	**02 32 47.6 -4.2**
	comp=E,40nm,0.5s						
SMTH	**Samothraki Isl**	**4.66**	**267**	P		**Pn**	**02 31 55.4 -1.9**
SIGR	**SIGRI**	**4.73**	**252**	P		**Pn**	**02 31 58.0 -0.3**
SIGR	**SIGRI**	**4.73**	**252**	P		**Pn**	**02 31 58.3 0.0**
SUDU	**Sudak**	**4.73**	**30**	*e*P		**Pn**	**02 31 58.5 +0.2**
SUDU				Pm			02 32 03.0
	comp=Z,73nm,0.8s						
SUDU				*e*S		**Sn**	**02 32 53.3 -0.1**
SUDU				Sm			02 32 56.7
	comp=N,66nm,0.4s						
SUDU				Sm			02 32 56.7
	comp=E,64nm,0.8s						
ELND	**Elena**	**4.77**	**298**	⇓P		**Pn**	**02 31 58.7 -0.2**
SMG	**Samos**	**4.87**	**231**	P		**Pb**	**02 32 12.5 +0.4**
CHOS	**Chios island**	**4.96**	**242**	P		**Pn**	**02 32 00.6 -1.0**
FEO	**Feodosiya**	**4.99**	**32**	*e*P		**Pn**	**02 32 02.0 +0.2**
FEO				*e*S		**Sn**	**02 32 58.6 -1.3**
FEO				Sm			02 33 00.8
	comp=N,36nm,0.3s						
FEO				Sm			02 33 00.8
	comp=E,24nm,0.3s						
LIA	**Limnos Island**	**5.02**	**261**	P		**Pn**	**02 32 02.3 +0.1**
LIA	**Limnos Island**	**5.02**	**261**	P		**Pn**	**02 32 00.1 -2.2**
CFR	**Carcaliu**	**5.03**	**330**	⇑P		**Pn**	**02 32 01.3 -1.0**
KAVA	**Kavala**	**5.40**	**274**	P		**Pn**	**02 32 07.3 -0.2**
ISR	**Istrita**	**5.67**	**320**	⇑P		**Pn**	**02 32 11.1 -0.1**
ISR	**Istrita**	**5.67**	**320**	P		**Pn**	**02 32 13.9 +2.7**
	comp=E,30nm,0.7s,comp=E,0.2nm						
KOKK	**Kokkinochori,**	**5.79**	**272**	P		**Pn**	**02 32 12.1 -0.8**
NVR	**Nevrokopi**	**5.89**	**277**	P		**Pn**	**02 32 15.4 +1.1**
BISRR	**Bisoca**	**5.91**	**324**	P		**Pn**	**02 32 17.7 +3.1**
	comp=E,45nm,0.8s,comp=E,0.3nm						
NEHR	**Nehoiu**	**6.01**	**321**	⇑P		**Pn**	**02 32 16.7 +0.8**
SPBR	**Spulber**	**6.05**	**326**	⇓P		**Pn**	**02 32 16.5 0.0**
SRS	**Serrai**	**6.09**	**275**	P		**Pn**	**02 32 17.0 0.0**
VRI	**Vrincioaia**	**6.16**	**326**	⇓P		**Pn**	**02 32 17.2 -0.7**
VRI	**Vrincioaia**	**6.16**	**326**	P		**Pn**	**02 32 19.3 +1.4**
	comp=E,9.5nm,0.9s,comp=E,0.1nm						
PLOR5	**Plostina Array**	**6.17**	**326**	P		**Pn**	**02 32 20.4 +2.4**
	comp=E,16nm,0.7s,comp=E,0.1nm						
PLOR	**Plostina**	**6.18**	**326**	⇓P		**Pn**	**02 32 19.2 +1.0**
PLOR3	**Plostina Array**	**6.18**	**326**	P		**Pn**	**02 32 21.3 +3.0**
	comp=E,11nm,0.6s,comp=E,0.1nm						
MLR	**Muntele Rosu**	**6.23**	**320**	⇓P		**Pn**	**02 32 19.7 +0.7**
MLR	**Muntele Rosu**	**6.23**	**320**	Pn		**Pn**	**02 32 20.9 +1.9**
	comp=E,0.9nm,0.3s,baz=128,slow=19,SNR=11						
MLR				Sn		**Sn**	**02 33 32.6 +2.1**
	comp=E,1.2nm,0.3s,baz=143,slow=20,SNR=4.4						
	comp=E,2.2nm,0.3s						
MLR	**Muntele Rosu**	**6.23**	**320**	P		**Pn**	**02 32 21.6 +2.6**
	comp=E,7.4nm,0.5s,comp=E,0.1nm						
SOH	**Sokhos**	**6.28**	**272**	P		**Pn**	**02 32 18.6 -1.0**
COVR	**Voineasa-Covas**	**6.37**	**323**	⇓P		**Pn**	**02 32 21.8 +1.0**
KNT	**Kendrikon**	**6.62**	**276**	P		**Pn**	**02 32 24.4 +0.2**
VOIR		**6.65**	**316**	⇑P		**Pn**	**02 32 25.4 +0.7**
VOIR		**6.65**	**316**	P		**Pn**	**02 32 27.2 +2.5**
	comp=E,6.9nm,0.6s,comp=E,4µmcomp=E,0.0nm						
TESR	**Tesoani**	**6.71**	**329**	P		**Pn**	**02 32 28.5 +3.0**
	comp=E,7.0nm,1.2s,comp=E,0.1nm						
OZUR		**6.75**	**323**	⇑P		**Pn**	**02 32 27.0 +1.0**
LOT	**Lotru**	**7.36**	**311**	⇑P		**Pn**	**02 32 35.1 +0.6**
SORM	**Soroca**	**7.65**	**343**	⇑P		**Pn**	**02 32 37.4 -0.9**
SORM	**Soroca**	**7.65**	**343**	P		**Pn**	**02 32 37.4 -0.9**
HERR	**Herculane**	**7.88**	**304**	⇓P		**Pn**	**02 32 41.6 +0.1**
MARR	**Marisel-Cluj**	**8.47**	**316**	⇑P		**Pn**	**02 32 50.0 +0.2**
BZS	**Buzias**	**8.72**	**306**	⇑P		**Pn**	**02 32 53.3 +0.2**
AKASG	**Malin Array Be**	**9.99**	**351**	Pn		**Pn**	**02 33 08.0 -2.4**
	comp=E,2.0nm,0.3s,baz=165,slow=13,SNR=8.3						
	comp=E,0.9nm,0.4s						
AKTO	**Aktyubinsk**	**20.69**	**54**	P		**P**	**02 35 27.1 +0.1**
	comp=E,1.1nm,0.5s,baz=278,slow=7.1,SNR=2.7						
	comp=E,1.1nm,0.5s						
FINES	**FINESS Array B**	**20.90**	**352**	P		Pn	02 35 31.0 -0.7
	comp=E,0.7nm,0.5s,baz=167,slow=13,SNR=4.3						
	comp=E,0.7nm,0.5s						
NOA	**NORSAR Array B**	**23.77**	**335**	P		**P**	**02 36 01.9 +2.5**
	comp=E,0.4nm,0.7s,baz=135,slow=10,SNR=1.8						
	comp=E,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**33.64**	**57**	P		**P**	**02 37 27.7 0.0**
	comp=E,0.2nm,0.3s,baz=279,slow=9.4,SNR=3.7						
	comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**36.50**	**63**	P		**P**	**02 37 51.4 -0.9**
	comp=E,0.3nm,0.7s,baz=270,slow=6.8,SNR=2.4						
	comp=E,0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**38.04**	**232**	P		**P**	**02 38 07.2 +1.6**
	comp=E,0.4nm,0.6s,baz=38,slow=9.0,SNR=2.9						
	comp=E,0.4nm,0.6s						
MBAR	**Mbarara**	**41.27**	**181**	LR		LR	02 59 51.1
	comp=E,49nm,18.2s,baz=211,slow=42						
YKA	**Yellowknife Ar**	**73.48**	**344**	P		**P**	**02 42 19.6 +0.2**
	comp=E,0.3nm,0.9s,baz=32,slow=6.0,SNR=3.0						
	comp=E,0.3nm,0.9s						

NOU 03 02:32:39.3,15°.46S×167°.85E,h69km,MLv4.1/10,
Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.32**	**186**	P	Pn	02 33 55.3	-0.9
MARNC	**Mare, Loyalty**	**5.99**	**178**	P	Pn	02 34 04.9	-0.5
YATNC	**Mamie plateau,**	**6.63**	**188**	P	Pn	02 34 13.4	-0.7
DZM	**Mont Dzumac**	**6.71**	**191**	P	Pn	02 34 14.5	-0.8
NOUC	**Port Laguerre**	**6.77**	**192**	P	Pn	02 34 16.6	+0.6
ONTNC	**Ouen Toro**	**6.94**	**191**	P	Pn	02 34 19.1	+0.8
OUENC	**Ouen Island, N**	**6.99**	**188**	P	Pn	02 34 19.9	+0.9

*ISK **03** 02:32:40.3,40°.85N×31°.66E,h5km,ML3.9/28*
*AFAD **03** 02:32:41.4±0.0,40°.85N×31°.65E,h9km±1km,MW4.0*
*IDC **03** 02:32:41.7±0.9,40°.91N×31°.81E,h0km,mb3.6/8,*
mbtmp3.6/10,ML3.9/2,MS2.8/7,Error ellipse:
s-maj=21.1km s-min=8.1km az=51.0
*CFUSG **03** 02:32:43.8,41°.00N×31°.60E,h10km,mb3.6/6,Northern*
Turkey Magtype MSH 3.6 from 4 stations
*THE **03** 02:32:43.6,40°.90N×31°.60E,h2km±8km,ML3.4/5,Error*
ellipse: s-maj=15.6km s-min=1.3km az=81.0
ISC 03 02:32:41.8±0.9,40°.87N±0°.02×31°.66E±0°.01,h5km±6km,
n117,σ1§12/157,mb3.5/7,13C,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLU	**Bolu-Merkez-Mu**	**0.09**	**172**	P	**Pg**	**02 32 43.7**	**-0.1**
BOLU				S	**Sg**	**02 32 44.9**	**-0.3**
YIGI	**Dzce**	**0.19**	**301**	P	**Pg**	**02 32 46.1**	**+0.5**
YIGI				S	**Sg**	**02 32 49.1**	**+1.0**
BCAM	**Yenicaga**	**0.31**	**99**	P	**Pg**	**02 32 48.0**	**+0.1**
BCAM				S	**Sg**	**02 32 52.3**	**+0.3**
DEVR	**Zonguldak/Devr**	**0.36**	**40**	P	**Pg**	**02 32 49.1**	**+0.2**
DEVR				S	**Sg**	**02 32 54.4**	**+0.8**
KIBS	**BOLU**	**0.47**	**162**	P	**Pg**	**02 32 50.7**	**-0.2**
KIBS				S	**Sg**	**02 32 57.9**	**+0.9**
YUVA	**Yuva-Kibriscik**	**0.47**	**178**	Pg	**Pg**	**02 32 50.7**	**-0.3**
YUVA				Sg	**Sg**	**02 32 57.6**	**+0.4**
MDUB	**Mudurnu**	**0.53**	**222**	Pg	**Pg**	**02 32 51.6**	**-0.4**
BTAS	**Taskesti**	**0.58**	**240**	P	**Pg**	**02 32 52.5**	**-0.5**
BTAS				S	**Sg**	**02 33 01.7**	**+1.0**
CMDR	**Camlidere-ANKA**	**0.72**	**121**	P	**Pg**	**02 32 55.6**	**-0.2**
CMDR				S	**Sg**	**02 33 05.6**	**+0.5**
SUSU	**Bolu-G¶lynk-**	**0.81**	**230**	P	**Pg**	**02 32 57.1**	**-0.4**
SUSU				S	**Sb**	**02 33 09.3**	**-0.5**
KBUK	**KARABUK-Merkez**	**0.82**	**63**	P	**Pg**	**02 32 57.4**	**-0.1**
KBUK				S	**Sg**	**02 33 08.4**	**+0.2**
SAFT	**Safranbolu**	**0.86**	**64**	Pg	**Pg**	**02 32 57.9**	**-0.5**
BTIN	**Bartın**	**0.89**	**30**	P	**Pg**	**02 32 58.7**	**-0.2**
BTIN				S	**Sb**	**02 33 10.5**	**-1.4**
GULT	**Gulveren**	**0.97**	**244**	Pg	**Pg**	**02 32 59.6**	**-0.9**
GULT				Sg	**Sb**	**02 33 14.4**	**0.0**
AUMIH	**MIHALICIK**	**1.01**	**188**	P	**Pg**	**02 33 00.7**	**-0.4**
AUMIH				S	**Sg**	**02 33 14.0**	**-0.2**
KAYN	**Sakarya, Kayna**	**1.01**	**276**	P	**Pg**	**02 32 59.9**	**-1.2**
KAYN				S	**Sg**	**02 33 12.8**	**-1.4**
SAUV	**Serdivan-Sakar**	**1.02**	**263**	Pg	**Pg**	**02 33 00.6**	**-0.8**
GEYV	**SAKARYA_Geyve**	**1.11**	**250**	P	**Pg**	**02 33 02.2**	**-0.9**
GEYV				S	**Sn**	**02 33 19.0**	**-0.6**
KAND	**Kocaeli-Kandir**	**1.14**	**282**	P	**Pg**	**02 33 02.6**	**-1.0**
KAND				S	**Sb**	**02 33 18.2**	**-0.8**
SRCK	**Saricakaya, Es**	**1.14**	**224**	Pn	**Pg**	**02 33 03.2**	**-0.5**
SRCK				Sn	**Sb**	**02 33 19.5**	**+0.3**
GPA	**Golpazari**	**1.18**	**241**	Pn	**Pg**	**02 33 03.0**	**-1.5**
KURC	**Kurucasile-Bar**	**1.27**	**39**	Pn	**Pn**	**02 33 05.9**	**-0.4**
PELI	**Kastamonı-Ara**	**1.32**	**70**	P	**Pn**	**02 33 06.6**	**-0.4**
PELI				S	**Sn**	**02 33 25.8**	**+0.8**
BORA	**Eskisehir**	**1.35**	**224**	P	**Pn**	**02 33 06.7**	**-0.7**
BORA				S	**Sn**	**02 33 26.3**	**+0.6**
HISA	**Bilecik-Osmane**	**1.38**	**254**	P	**Pn**	**02 33 07.0**	**-0.9**
HISA				S	**Sb**	**02 33 25.9**	**-0.2**
ELDT	**Eldivan**	**1.39**	**105**	P	**Pn**	**02 33 07.7**	**-0.4**
ELDT				S	**Sb**	**02 33 26.5**	**-0.2**
CIDE	**Kastamonu/Cide**	**1.40**	**43**	P	**Pg**	**02 33 08.3**	**-0.4**
CIDE				S	**Sn**	**02 33 27.3**	**+0.4**
SVRH	**Sivrihisar-ESK**	**1.42**	**184**	Pn	**Pn**	**02 33 08.3**	**-0.1**
SVRH				Sn	**Sg**	**02 33 28.5**	**+1.0**
AUSIV	**SIVRIHISAR**	**1.43**	**184**	P	**Pn**	**02 33 08.1**	**-0.4**
AUSIV				S	**Sb**	**02 33 25.9**	**-1.6**
SEMS	**Kocaeli-K¶rfe**	**1.46**	**271**	P	**Pn**	**02 33 08.7**	**-0.1**
SEMS				S	**Sb**	**02 33 26.3**	**-2.0**
SGAZ	**Eskisehir, Sey**	**1.48**	**206**	P	**Pn**	**02 33 08.9**	**-0.2**
SGAZ				S	**Sn**	**02 33 27.6**	**-1.3**
HRT	**Hereke**	**1.51**	**269**	Pn	**Pn**	**02 33 09.7**	**+0.1**
OSMT	**Osmaniye**	**1.51**	**261**	Pn	**Pn**	**02 33 09.5**	**-0.2**
ADVT	**Abdulvahap**	**1.53**	**254**	Pn	**Pn**	**02 33 09.7**	**0.0**
BILE	**Bilecik/Merkez**	**1.53**	**243**	P	**Pn**	**02 33 09.5**	**-0.5**
CAVI	**Cavuskoy**	**1.54**	**245**	Pn	**Pn**	**02 33 09.8**	**-0.1**
AUKUT	**KUTAHYA**	**1.55**	**235**	P	**Pg**	**02 33 15.5**	**+4.0**
SILT	**Sile**	**1.55**	**281**	Pn	**Pb**	**02 33 10.3**	**-0.8**
AUBOZ	**BOZOYUK**	**1.57**	**233**	P	**Pn**	**02 33 09.9**	**-0.5**
PLGA	**Ilgaz**	**1.57**	**83**	P	**Pb**	**02 33 11.0**	**-0.5**
ILGA				S	**Sn**	**02 33 31.1**	**-0.2**
CIFT	**Cifteler, Eski**	**1.57**	**197**	Pn	**Pn**	**02 33 10.9**	**+0.4**
YENC	**ankr-Yen**	**1.67**	**96**	P	**Pb**	**02 33 12.5**	**-0.6**
KMON	**Kastamonu**	**1.68**	**72**	Pn	**Pn**	**02 33 12.3**	**+0.3**
BBAL	**Bala**	**1.73**	**139**	P	**Pb**	**02 33 13.7**	**-0.5**
SEYI	**Kastamonu-Seyd**	**1.75**	**63**	P	**Pb**	**02 33 13.4**	**-1.1**
AFSR	**Afar-Bala (An**	**1.78**	**142**	Pn	**Pn**	**02 33 13.6**	**+0.2**
AUKIR	**Kırka- Seyitga**	**1.81**	**209**	P	**Pb**	**02 33 15.1**	**-0.4**
DOMA	**Ktahya-Doman**	**1.85**	**235**	P	**Pn**	**02 33 13.7**	**-0.6**
DOMA				S	**Sb**	**02 33 39.2**	**-0.5**
KURT	**Yalova, Merkez**	**1.88**	**262**	P	**Pn**	**02 33 14.4**	**-0.2**
KURT				S	**Sn**	**02 33 39.0**	**+0.2**
BRTR	**Keskin Array B**	**1.89**	**126**	Pn	**Pn**	**02 33 14.9**	**-0.1**
	60nm,0.3s,baz=303,slow=15,SNR=31						
BRTR				Lg	Lg	02 33 42.0	
	83nm,0.3s,baz=298,slow=31,SNR=17						
BRTR				LR	LR	02 34 19.2	
	comp=Z,161nm,20.5s,baz=280,slow=53						
ANDZ	**Kutahya, Merke**	**1.91**	**225**	P	**Pn**	**02 33 14.3**	**-0.8**
KESK	**Krkkale-Ke**	**1.92**	**129**	P	**Pn**	**02 33 14.8**	**-0.4**
KESK				S	**Sn**	**02 33 39.0**	**-0.8**
DELI	**KIRIKKALE**	**1.93**	**116**	P	**Pn**	**02 33 15.0**	**-0.4**
DELI				S	**Sn**	**02 33 38.9**	**-1.3**
GEMT	**Gemlik**	**1.93**	**258**	Pn	**Pn**	**02 33 15.7**	**+0.4**
KKUL	**Konya-Kulu**	**1.95**	**150**	P	**Pb**	**02 33 17.2**	**-0.6**
IGD	**Bursa**	**1.97**	**253**	P	**Pn**	**02 33 15.3**	**-0.5**
IGD				S	**Sn**	**02 33 39.5**	**-1.4**
ISK	**Istanbul-Kandi**	**1.98**	**277**	Pn	**Pn**	**02 33 16.3**	**+0.3**
ISK	**Istanbul-Kandi**	**1.98**	**277**	P	**Pn**	**02 33 16.6**	**+0.6**
ISK				S	**Sn**	**02 33 40.9**	**-0.3**
	945nm,0.5s						
KAVV	**Kandilli-Istan**	**1.98**	**277**	Pn	**Pn**	**02 33 16.3**	**+0.3**
KIZT	**Kizilcal**	**1.99**	**175**	Pn	**Pn**	**02 33 16.3**	**0.0**
ARMT	**Armutlu**	**2.15**	**263**	Pn	**Pn**	**02 33 18.5**	**+0.2**
KAMT	**Kaman**	**2.17**	**133**	Pn	**Pn**	**02 33 19.0**	**+0.3**
MDNY	**Mudanya-Bursa**	**2.17**	**258**	Pn	**Pn**	**02 33 18.9**	**+0.3**
BGKT	**Bogazkoy**	**2.21**	**279**	Pn	**Pn**	**02 33 19.5**	**+0.4**
AVCI	**Avcilar-stanb**	**2.23**	**274**	Pn	**Pn**	**02 33 19.7**	**+0.3**
ORLT	**Orhaneli**	**2.26**	**250**	Pn	**Pn**	**02 33 20.0**	**+0.1**
CTKS	**Kestanelik-??a**	**2.41**	**280**	Pn	**Pn**	**02 33 22.5**	**+0.6**
SHUT	**Suhut-Afyon**	**2.46**	**201**	Pn	**Pn**	**02 33 23.0**	**+0.2**
GEDZ	**Gediz**	**2.51**	**224**	Pn	**Pn**	**02 33 23.6**	**+0.2**
KCTX	**Karacabey (Bur**	**2.59**	**258**	Pn	**Pn**	**02 33 24.3**	**-0.1**
DIKM	**Dikmen**	**2.82**	**73**	⇑P	**Pg**	**02 33 34.7**	**-1.2**
KULA	**Kula-Manisa**	**3.30**	**226**	P	**Pn**	**02 33 35.1**	**+0.9**
EDRB	**Edirne**	**3.83**	**286**	P	**Pn**	**02 33 42.0**	**+0.6**
EDRB				S	**Sn**	**02 34 26.2**	**-0.6**
	135nm,0.9s						
SEV	**Sevastopol'**	**3.96**	**21**	*e*P	**Pn**	**02 33 44.0**	**+0.8**
SEV				Pm		02 33 51.3	
	comp=Z,17nm,0.5s						
SEV				*e*S	**Sn**	**02 34 29.6**	**-0.5**
SEV				Sm		02 34 31.7	
	comp=N,14nm,0.3s						
SEV				Sm		02 34 31.7	
	comp=E,13nm,0.3s						
YAL	**Yalta**	**4.06**	**26**	*e*P	**Pn**	**02 33 46.2**	**+1.6**
YAL				Pm		02 33 47.4	
	comp=Z,5.0nm,0.4s						
YAL				*e*S	**Sn**	**02 34 32.8**	**+0.4**
YAL				Sm		02 34 34.0	
	comp=N,25nm,0.4s						
YAL				Sm		02 34 34.0	
	comp=E,126nm,0.6s						
ENEZ	**Enez**	**4.18**	**270**	P	**Pn**	**02 33 45.8**	**-0.5**
ENEZ				S	**Sn**	**02 34 36.0**	**+0.5**
	comp=E,212nm,0.7s						
EZN	**Ezine**	**4.21**	**257**	P	**Pn**	**02 33 46.8**	**+0.2**
EZN				S	**Sn**	**02 34 36.3**	**+0.2**
	comp=E,60nm,0.7s						
ALN	**Alexandroupoli**	**4.26**	**272**	P	**Pn**	**02 33 47.5**	**+0.2**
ALN				S	**Sn**	**02 34 37.0**	**-0.3**
	comp=E,72nm,0.6s						
ALU	**Alushta**	**4.31**	**27**	*e*P	**Pn**	**02 33 47.9**	**-0.2**
ALU				Pm		02 33 48.8	
	comp=Z,47nm,0.7s						
ALU				*e*S	**Sn**	**02 34 37.4**	**-1.3**
ALU				Sm		02 34 40.3	
	comp=N,26nm,0.4s						
ALU				Sm		02 34 40.3	
	comp=E,53nm,0.7s						
ICOR	**Ion Corvin**	**4.32**	**320**	⇑P	**Pn**	**02 33 48.9**	**+0.7**
BLCB	**Balcova**	**4.34**	**237**	P	**Pn**	**02 33 49.2**	**+0.7**
PRK	**Paraskevi**	**4.44**	**250**	P	**Pn**	**02 33 50.0**	**+0.2**
SIM	**Simferopol'**	**4.46**	**23**	*e*P	**Pn**	**02 33 52.0**	**+1.9**
SIM				Pm		02 33 52.6	
	comp=Z,157nm,0.8s						
SIM				*e*S	**Sn**	**02 34 42.7**	**+0.3**
SIM				Sm		02 34 45.0	
	comp=N,46nm,0.5s						
SIM				Sm		02 34 45.0	
	comp=E,272nm,1.0s						
TARU	**Tarkhankut**	**4.55**	**8**	*e*P	**Pn**	**02 33 51.9**	**+0.6**
TARU				Pm		02 33 56.1	
	comp=Z,20nm,0.6s						
TARU				*e*S	**Sn**	**02 34 44.2**	**-0.4**
TARU				Sm		02 34 46.4	
	comp=N,145nm,0.6s						
TARU				Sm		02 34 46.4	
	comp=E,38nm,0.4s						
RDO	**Rodhopi**	**4.64**	**275**	P	**Pn**	**02 33 52.6**	**0.0**
TPGR	**Topolog**	**4.64**	**330**	⇑P	**Pn**	**02 33 52.9**	**+0.2**
SMTH	**Samothraki Isl**	**4.68**	**267**	P	**Pn**	**02 33 53.0**	**-0.1**
SUDU	**Sudak**	**4.71**	**30**	*e*P	**Pn**	**02 33 54.5**	**+1.0**
SUDU				Pm		02 33 58.9	
	comp=Z,85nm,0.7s						
SUDU				*e*S	**Sn**	**02 34 48.5**	**0.0**
SUDU				Sm		02 34 52.5	
	comp=N,66nm,0.5s						
SIGR	**SIGRI**	**4.75**	**252**	P	**Pn**	**02 33 54.4**	**+0.3**
FEO	**Feodosiya**	**4.97**	**32**	*e*P	**Pn**	**02 34 01.2**	**+4.1**
FEO				*e*S	**Sn**	**02 34 58.0**	**+3.1**
FEO				Sm		02 34 58.2	
	comp=N,36nm,0.3s						
FEO				Sm		02 34 58.2	
	comp=E,39nm,0.3s						
CHOS	**Chios island**	**4.99**	**242**	P	**Pn**	**02 33 57.5**	**+0.1**
LIA	**Limnos Island**	**5.04**	**261**	P	**Pn**	**02 33 58.3**	**+0.2**
NEHR	**Nehoiu**	**6.01**	**321**	⇑P	**Pn**	**02 34 13.8**	**+2.3**
SPBR	**Spulber**	**6.05**	**325**	⇑P	**Pn**	**02 34 14.2**	**+2.2**
PLOR	**Plostina**	**6.18**	**325**	⇑P	**Pn**	**02 34 16.5**	**+2.7**
MLR	**Muntele Rosu**	**6.23**	**320**	Pn	**Pn**	**02 34 17.1**	**+2.6**
	comp=E,0.9nm,0.3s,baz=138,slow=5.7,SNR=3.1						
MLR				Sn	**Sn**	**02 35 27.2**	**+1.0**
	comp=E,0.4nm,0.3s,baz=121,slow=19,SNR=1.6						
MLR				LR	LR	02 37 17.2	
	comp=E,92nm,20.9s,baz=122,slow=44						
	comp=E,16nm,1.2s						
COVR	**Voineasa-Covas**	**6.37**	**323**	⇑P	**Pn**	**02 34 18.8**	**+2.5**
TURR	**Turia**	**6.62**	**324**	⇑P	**Pn**	**02 34 22.0**	**+2.3**
VOIR		**6.65**	**316**	⇑P	**Pn**	**02 34 22.0**	**+1.7**
OZUR		**6.75**	**323**	⇑P	**Pn**	**02 34 23.3**	**+1.7**
DOPR	**Dopca**	**6.84**	**320**	⇑P	**Pn**	**02 34 24.0**	**+1.2**
LOT	**Lotru**	**7.36**	**311**	⇑P	**Pn**	**02 34 30.7**	**+0.6**
SORM	**Soroca**	**7.64**	**343**	⇑P	**Pn**	**02 34 32.0**	**-1.7**
MMAI	**Mount Meron Ar**	**8.39**	**158**	LR	LR	02 38 52.5	
	comp=E,48nm,21.4s,baz=298,slow=44						
KBZ	**Khabaz**	**8.80**	**67**	LR	LR	02 39 25.8	
	comp=E,67nm,18.4s,baz=267,slow=46						
AKASG	**Malin Array Be**	**9.98**	**351**	Pn	**Pn**	**02 35 02.8**	**-3.0**
	comp=E,2.3nm,0.3s,baz=166,slow=13,SNR=7.1						
AKASG				Sn	**Sn**	**02 36 52.6**	**-5.5**
	comp=E,1.2nm,0.3s,baz=157,slow=23,SNR=2.6						
AKASG				LR	LR	02 38 44.8	
	comp=E,27nm,20.2s,baz=240,slow=36						
	comp=E,2.0nm,0.6s						
VRAC	**Vranov**	**13.57**	**314**	LR	LR	02 41 57.0	
	comp=E,21nm,20.1s,baz=168,slow=41						
GERES	**GERESS Array B**	**15.00**	**308**	LR	LR	02 43 26.1	
	comp=E,32nm,19.7s,baz=114,slow=43						
FINES	**FINESS Array B**	**20.89**	**352**	P	Pn	02 37 26.0	-1.1
	comp=E,1.6nm,0.8s,baz=153,slow=13,SNR=2.5						
	comp=E,1.6nm,0.8s						
HFS	**Hagfors**	**22.28**	**336**	P	**P**	**02 37 40.2**	**+0.6**
	comp=E,1.6nm,0.7s,baz=145,slow=5.3,SN

CD2				smax	smax			
	comp=N,30nm,1.0s							
CD2				smax	smax			
	comp=E,30nm,1.2s							
CD2				LR	LR			
	comp=N,730nm,8.1s							
CD2				LR	LR			
	comp=E,460nm,5.7s							
CD2				LR	LR			
	comp=Z,700nm,6.7s							
ITAN	**ITANAGAR**	**7.78**	**199**	*eP*	**Pn**		**02 49 19.4**	**+1.6**
ITAN				*eS*	**Sn**		**02 50 48.2**	**+2.3**
ITAN				IAML			02 50 51.4	
	comp=E,108nm,0.3s							
ITAN				IAML			02 50 51.7	
	comp=N,85nm,0.3s							
MOKO	**MOKOCHONG**	**8.38**	**193**	*eP*	**Pn**		**02 49 27.0**	**+0.7**
MOKO				*eS*	**Sn**		**02 51 03.6**	**+2.4**
MOKO				IAML			02 51 08.0	
	comp=E,45nm,0.9s							
MOKO				IAML			02 51 11.2	
	comp=N,52nm,0.8s							
KOHI	**KOHIMA**	**9.05**	**195**⇑	*eP*	**Pn**		**02 49 36.0**	**+0.5**
KOHI				*eS*	**Sn**		**02 51 19.2**	**+1.7**
KOHI				IAML			02 51 21.4	
	comp=N,40nm,0.8s							
KOHI				IAML			02 51 22.8	
	comp=E,44nm,1.7s							
PZH	**PanZhiHua**	**9.14**	**150**	P	**Pn**		**02 49 40.5**	**+3.8**
PZH				S	**Sn**		**02 51 23.2**	**+3.5**
PZH				pmax	pmax			
	comp=E,10.0nm,0.8s							
PZH				pmax	pmax			
	comp=E,110nm,5.0s							
PZH				LR	LR			
	comp=E,520nm,11.4s							
PZH				LR	LR			
	comp=E,670nm,12.0s							
PZH				LR	LR			
	comp=E,690nm,9.6s							
TNCH	**TengChong**	**9.61**	**170**	P	**Pn**		**02 49 45.2**	**+2.0**
TNCH				S	**Sn**		**02 51 35.1**	**+3.7**
TNCH				pmax	pmax			
	comp=E,110nm,4.6s							
TNCH				LR	LR			
	comp=E,1μm,6.4s							
TNCH				LR	LR			
	comp=E,760nm,4.4s							
TNCH				LR	LR			
	comp=E,700nm,7.2s							
SHL	**Shillong**	**9.83**	**206**	Pn	**Pn**		**02 49 44.9**	**-1.3**
SHL	**Shillong**	**9.83**	**206**	*eP*	**Pn**		**02 49 44.5**	**-1.7**
SHL				*eS*	**Sn**		**02 51 32.6**	**-4.2**
SHL				IAML			02 51 37.0	
	comp=E,46nm,0.8s							
WMQ	**Urumqi**	**11.57**	**326**	*eP*	**Pn**		**02 50 13.7**	**+3.9**
WMQ				LR	LR			
	comp=E,430nm,17.7s							
WMQ				LR	LR			
	comp=E,580nm,16.9s							
WMQ				LR	LR			
	comp=E,200nm,18.1s							
BTO	**Baotou**	**12.23**	**56**	*eP*	Pn		02 50 16.8	-2.1
BTO				pP			02 50 19.1	
BTO				sP			02 50 24.7	
BTO				PP	**PnPn**		**02 50 26.6**	**-0.1**
BTO				S	**Sn**		**02 52 34.1**	**-1.3**
BTO				pmax	pmax			
	comp=Z,20nm,0.6s							
BTO				LR	LR			
	comp=N,870nm,13.0s							
BTO				LR	LR			
	comp=E,580nm,12.2s							
BTO				LR	LR			
	comp=Z,270nm,5.1s							
HHC	**Hu-ho-hao-te**	**13.40**	**58**	*eP*	Pn		02 50 28.9	-6.0
HHC				sP	P		02 50 35.7	-8.8
HHC				pmax	pmax			
	comp=Z,15nm,0.5s							
HHC				pmax	pmax			
	comp=Z,48nm,4.6s							
HHC				LR	LR			
	comp=N,210nm,12.6s							
HHC				LR	LR			
	comp=E,340nm,11.6s							
HHC				LR	LR			
	comp=Z,380nm,10.4s							
SONM	**Songino Array**	**15.17**	**26**	Pn	**Pn**		**02 50 57.2**	**-1.8**
SONM	**Songino Array**	**15.17**	**26**	Pn	**Pn**		**02 50 59.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=212,slow=12,SNR=16							
SONM				LR	LR		02 57 16.1	
	comp=Z,166nm,21.5s,baz=216,slow=39							
	comp=Z,4.2nm,0.9s							
ULN	**Ulaanbaatar**	**15.44**	**27**	Pn	**Pn**		**02 51 01.2**	**-1.4**
CHTO	**Chiang Mai**	**15.79**	**172**	Pn	**Pn**		**02 51 05.9**	**-1.2**
CHTO				IAmb	IAmb		02 51 19.1	
	comp=Z,9.3nm,0.8s							
CM31	**Chiang Mai Arr**	**16.14**	**172**	Pn	**Pn**		**02 51 08.8**	**-2.9**
CM31				IAmb	IAmb		02 51 16.8	
	comp=Z,11nm,0.7s							
CMAR	**Chiang Mai Arr**	**16.14**	**172**	Pn	**Pn**		**02 51 09.8**	**-1.9**
CMAR	**Chiang Mai Arr**	**16.14**	**172**	Pn	**Pn**		**02 51 11.9**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=343,slow=12,SNR=32							
CMAR				LR	LR		02 58 27.0	
	comp=Z,22nm,20.6s,baz=345,slow=41							
	comp=Z,8.8nm,0.8s							
PHRA	**Phrae**	**16.29**	**168**	Pn	**Pn**		**02 51 12.6**	**-0.9**
MK31	**Makanchi Array**	**16.34**	**323**	Pn	**Pn**		**02 51 14.0**	**-0.1**
MKAR	**Makanchi Array**	**16.34**	**323**	Pn	**Pn**		**02 51 13.6**	**-0.5**
MKAR	**Makanchi Array**	**16.34**	**323**	Pn	**Pn**		**02 51 10.0**	**-4.1**
	comp=Z,0.5nm,0.3s,baz=128,slow=12,SNR=21							
MKAR				LR	LR		02 58 34.6	
	comp=Z,235nm,19.8s,baz=144,slow=41							
	comp=Z,1.8nm,0.5s							
TARG	**Taragay, Kyrgy**	**16.44**	**301**	Pn	**Pn**		**02 51 13.7**	**-2.0**
MAKZ	**Makanchi**	**16.51**	**322**	Pn	**Pn**		**02 51 14.2**	**-2.0**
BOOM	**Boomskoye usch**	**18.00**	**302**		**Pn**		**02 51 34.7**	**-0.4**
AAK	**Ala-Archa**	**19.06**	**302**	LR	LR		03 00 37.1	
	comp=Z,61nm,19.5s,baz=88,slow=42							
QIZ	**Qiongzhong**	**19.41**	**139**	P	**P**		**02 51 50.2**	**-0.7**
QIZ				S	**Sn**		**02 55 30.1**	**+0.3**
QIZ				LR	LR			
	comp=N,270nm,8.8s							
QIZ				LR	LR			
	comp=E,130nm,9.5s							
QIZ				LR	LR			
	comp=Z,390nm,9.6s							
KURBB	**Kurchatov Arra**	**20.79**	**326**	P	**P**		**02 52 05.5**	**-0.3**
	comp=Z,8.2nm,0.6s,baz=133,slow=11,SNR=61							
KURBB				LR	LR		03 01 16.2	
	comp=Z,282nm,18.8s,baz=157,slow=40							
	comp=Z,8.2nm,0.6s							
KURK	**Kurchatov**	**20.81**	**326**	P	**P**		**02 52 06.1**	**+0.1**
KURK				IAmb	IAmb		02 52 06.7	
	comp=Z,8.1nm,0.8s							
ZAA0	**Zalesovo Array**	**21.12**	**340**	P	**P**		**02 52 08.0**	**-1.3**
ZAA0				IAmb	IAmb		02 52 13.0	
	comp=Z,7.1nm,0.9s							
ZALV	**Zalesovo Beam**	**21.12**	**340**	P	**P**		**02 52 09.6**	**+0.3**
ZALV	**Zalesovo Beam**	**21.12**	**340**	P	**P**		**02 52 08.4**	**-0.8**
	comp=Z,5.6nm,0.7s,baz=157,slow=11,SNR=22							
ZALV				LR	LR		03 00 37.9	
	comp=Z,49nm,19.6s,baz=202,slow=38							
	comp=Z,5.6nm,0.7s							
KK31	**Karatay Array**	**22.00**	**301**	P	**P**		**02 52 18.7**	**-0.3**
KK31				IAmb	IAmb		02 52 22.5	
	comp=Z,6.4nm,1.4s							
KKAR	**Karatay Array**	**22.00**	**301**	P	**P**		**02 52 18.0**	**-1.0**
SIMJ	**Simiganj**	**22.51**	**289**	P	**P**		**02 52 24.1**	**-0.5**
SIMJ				IAmb	IAmb		02 52 30.4	
	comp=Z,6.1nm,1.0s							
KBL	**Kabul**	**22.70**	**278**	P	**P**		**02 52 27.3**	**+0.7**
KBL				IAmb	IAmb		02 52 31.5	
	comp=Z,18nm,0.9s							
KSRS	**Korea Array**	**25.43**	**74**	P	**P**		**02 52 54.0**	**+1.6**
	comp=Z,2.2nm,1.0s,baz=272,slow=8.7,SNR=2.3							
	comp=Z,2.2nm,1.0s							
SRIT	**Nakonsritamara**	**25.96**	**173**	P	**P**		**02 52 55.6**	**-1.8**
BVAR	**Borovoye Array**	**26.23**	**323**	P	**P**		**02 52 59.6**	**0.0**
	comp=Z,1.2nm,0.6s,baz=127,slow=9.6,SNR=6.2							
BVAR				LR	LR		03 04 17.4	
	comp=Z,209nm,20.6s,baz=122,slow=39							
	comp=Z,1.2nm,0.6s							
BRVK	**Borovoye**	**26.30**	**323**	P	**P**		**02 52 58.6**	**-1.5**
BRVK				IAmb	IAmb		02 53 04.5	
	comp=Z,2.2nm,0.7s							

HRA	**Herat**	**28.27**	**280**	P	**P**		**02 53 18.1**	**-0.2**
HRA				IAmb	IAmb		02 53 19.8	
	comp=Z,2.1nm,0.6s							
ABKAR	**Akbulak array**	**30.67**	**310**	P	**P**		**02 53 39.2**	**0.0**
PALK	**Pallekele**	**30.84**	**212**	P	P		02 53 39.2	-1.8
AKTO	**Aktyubinsk**	**32.18**	**311**	LR	LR		03 07 57.5	
	comp=Z,127nm,18.4s,baz=179,slow=38							
MJB9	**Matsu-Tunnel**	**33.71**	**74**	P	P		02 54 01.3	-4.7
MAJO	**Matsushiro**	**33.71**	**74**	P	P		02 54 00.6	-5.4
MJAR	**Matsushiro Arr**	**33.72**	**74**	LR	LR		03 09 18.3	
	comp=Z,30nm,18.6s,baz=206,slow=39							
ARU	**Arti**	**33.87**	**322**	LR	LR		03 08 58.3	
	comp=Z,150nm,19.7s,baz=116,slow=38							
BELG	**Belogornoye**	**38.94**	**313**	LR	LR		03 12 08.9	
	comp=Z,53nm,20.4s,baz=115,slow=38							
KIRV	**Kirov**	**39.24**	**323**	LR	LR		03 12 26.6	
	comp=Z,119nm,20.0s,baz=109,slow=38							
GNI	**Garni**	**41.14**	**294**	P	**P**		**02 55 07.9**	**-1.3**
GNI				IAmb	IAmb		02 55 18.0	
	comp=Z,3.9nm,0.6s							
GNI	**Garni**	**41.14**	**294**	LR	LR		03 15 16.5	
	comp=Z,32nm,18.4s,baz=72,slow=41							
KBZ	**Khabaz**	**42.03**	**299**	LR	LR		03 14 49.1	
	comp=Z,32nm,20.9s,baz=72,slow=39							
BRTR	**Keskin Array B**	**49.58**	**296**	P	**P**		**02 56 15.7**	**-0.3**
BRTR	**Keskin Array B**	**49.58**	**296**	P	**P**		**02 56 15.8**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=88,slow=4.9,SNR=4.6							
	comp=Z,0.5nm,0.6s							
AKASG	**Malin Array Be**	**50.41**	**310**	LR	LR		03 20 41.4	
	comp=Z,36nm,18.1s,baz=86,slow=40							
FINES	**FINESS Array B**	**51.17**	**324**	LR	LR		03 19 25.6	
	comp=Z,89nm,18.9s,baz=76,slow=38							
ARCES	**ARCESS Array B**	**51.52**	**335**	LR	LR		03 21 24.0	
	comp=Z,37nm,18.3s,baz=165,slow=40							
EIL	**Elat**	**51.77**	**283**	LR	LR		03 20 28.0	
	comp=Z,26nm,19.3s,baz=86,slow=38							
MLR	**Muntele Rosu**	**53.61**	**304**	LR	LR		03 22 35.7	
	comp=Z,43nm,18.2s,baz=136,slow=40							
SHEM	**Shemya Is, Ala**	**56.16**	**46**	LR	LR		03 23 11.4	
	comp=Z,30nm,18.7s,baz=6.0,slow=38							
HFS	**Hagfors**	**57.36**	**324**	LR	LR		03 23 06.9	
	comp=Z,104nm,18.2s,baz=80,slow=37							
NOA	**NORSAR Array B**	**58.32**	**325**	P	**P**		**02 57 18.4**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=73,slow=8.8,SNR=1.6							
NOA				LR	LR		03 23 48.3	
	comp=Z,62nm,19.9s,baz=70,slow=38							
	comp=Z,0.8nm,1.0s							
VRAC	**Vranov**	**58.65**	**311**	LR	LR		03 24 52.9	
	comp=Z,31nm,18.8s,baz=80,slow=38							
GERES	**GERESS Array B**	**60.60**	**311**	LR	LR		03 24 14.4	
	comp=Z,36nm,19.4s,baz=80,slow=36							
DAVOX	**Davos/Dischmat**	**63.76**	**310**	LR	LR		03 28 19.3	
	comp=Z,38nm,19.4s,baz=84,slow=39							
L18K	**Granite Mounta**	**67.20**	**29**	P	**P**		**02 58 17.5**	**-1.1**
ASAR	**Alice Springs**	**67.85**	**143**	P	**P**		**02 58 23.0**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=327,slow=5.9,SNR=2.2							
ASAR				LR	LR		03 31 58.7	
	comp=Z,47nm,19.0s,baz=216,slow=39							
	comp=Z,0.4nm,0.6s							
ILAR	**Eielson Array**	**69.39**	**24**	P	**P**		**02 58 31.9**	**-0.3**
	comp=Z,0.5nm,1.0s,baz=289,slow=5.6,SNR=4.4							
ILAR				LR	LR		03 31 04.5	
	comp=Z,19nm,18.8s,baz=342,slow=38							
	comp=Z,0.5nm,1.0s							
SUA	**Susitna One**	**69.97**	**28**	P	**P**		**02 58 36.2**	**+0.1**
I28M	**Miner Creek**	**71.18**	**22**	P	**P**		**02 58 43.9**	**+0.5**
I28M				IAmb	IAmb		02 59 18.3	
	comp=Z,4.2nm,1.5s							
KDAK	**Kodiak Island**	**71.37**	**32**	LR	LR		03 31 52.6	
	comp=Z,42nm,18.4s,baz=260,slow=37							
G31M	**Satah River**	**71.74**	**19**	P	**P**		**02 58 45.3**	**-1.2**
G31M				IAmb	IAmb		02 58 51.2	
	comp=Z,3.3nm,1.2s							
I30M	**Mount Dempster**	**72.40**	**21**	P	**P**		**02 58 50.0**	**-0.7**
I30M				IAmb	IAmb		02 59 07.8	
	comp=Z,1.5nm,1.1s							
H31M	**Peel River**	**72.55**	**20**	P	**P**		**02 58 51.0**	**-0.5**
H31M				IAmb	IAmb		02 59 15.7	
	comp=Z,6.1nm,1.4s							
SFJD	**Kangerlussuaq**	**75.76**	**347**	LR	LR		03 36 05.8	
	comp=Z,30nm,18.5s,baz=16,slow=39							
ESDC	**Sonseca Array**	**76.01**	**309**	LR	LR		03 36 27.9	
	comp=Z,29nm,18.6s,baz=123,slow=39							
YKA	**Yellowknife Ar**	**80.09**	**14**	P	**P**		**02 59 34.2**	**-0.1**
	comp=Z,0.4nm,1.0s,baz=330,slow=4.5,SNR=2.7							
	comp=Z,0.4nm,1.0s							
FRB	**Frobisher Bay**	**81.34**	**353**	LR	LR		03 38 30.3	
	comp=Z,17nm,18.5s,baz=241,slow=38							
TORD	**Torodi Ar. Bea**	**86.65**	**284**	P	**P**		**03 00 08.5**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=58,slow=4.3,SNR=1.6							
	comp=Z,0.4nm,0.8s							
YBH	**Yreka Blue Hor**	**95.95**	**28**	LR	LR		03 43 31.3	
	comp=Z,13nm,18.8s,baz=347,slow=35							
PDAR	**Pinedale Array**	**99.43**	**19**	LR	LR		03 51 12.4	
	comp=Z,23nm,18.1s,baz=107,slow=38							

*NEIC **03** 02:49:57.8±1.5, 36.96N±0.02×113.85W±0.02, h11km±7km, Error ellipse: s-maj=2.7km s-min=1.5km az=144.0*
*REN **03** 02:49:59.2±1.7, 37.03N±0.02×113.80W±0.02, h10km±8km, Error ellipse: s-maj=3.1km s-min=1.2km az=221.0*
UUSS 03 02:49:58.7±1.6, 37.01N±0.02×113.83W±0.02, h13km±7km, ML3.0/12, ML2.7/134(NEIC), ML2.9/5(REN), Error ellipse: s-maj=3.3km s-min=2.7km az=196.0, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICU	**Indian Springs**	**0.16**	**332**		Pg	02 50 02.8	+0.1
ICU					Sg	02 50 05.2	-0.2
SGSU	**St. George Fir**	**0.18**	**77**		Pg	02 50 03.2	+0.3
SCUT	**Santa Clara**	**0.19**	**50**		Pg	02 50 03.3	+0.2
WDO	**Saint George**	**0.22**	**62**		Pg	02 50 03.8	+0.3
WDO					Sg	02 50 07.0	+0.2
REUT	**Washington Fie**	**0.26**	**70**		Pg	02 50 04.5	+0.2
REUT					Sg	02 50 08.3	+0.3
WCO	**Washington Cit**	**0.29**	**63**		Pg	02 50 04.9	+0.2
LCMT	**Little Creek M**	**0.47**	**89**		Pg	02 50 08.1	+0.1
LCMT					Sg	02 50 14.2	-0.1
LCMT	**Little Creek M**	**0.47**	**89**	IAML		02 50 15.1	
	comp=N,2μm,0.2s						
LCMT				IAML		02 50 15.4	
	comp=E,2μm,0.1s						
CCUT	**Cedar City**	**0.66**	**34**		Pg	02 50 11.5	-0.1
CCUT	**Cedar City**	**0.66**	**34**	IAML		02 50 20.3	
	comp=E,172nm,0.3s						
CCUT				IAML		02 50 26.6	
	comp=N,121nm,0.8s						
KNB	**Kanab**	**0.81**	**89**		Pg	02 50 14.2	-0.2
KNB					Sg	02 50 24.8	-0.2
KNB	**Kanab**	**0.81**	**89**	IAML		02 50 25.0	
	comp=E,352nm,0.2s						
SZCU	**Shurtz Canyon**	**0.83**	**45**		Pg	02 50 14.4	-0.5
SZCU	**Shurtz Canyon**	**0.83**	**45**	IAML		02 50 29.9	
	comp=N,400nm,0.2s						
ARUT	**Antelope Range**	**0.84**	**22**		Pg	02 50 14.8	-0.1
ARUT	**Antelope Range**	**0.84**	**22**		Sg	02 50 26.2	+0.2
EKU	**East Kanab**	**1.07**	**86**		Pb	02 50 18.9	-0.2
SHPR	**Sheep Range**	**1.18**	**245**		Pb	02 50 20.1	-0.9
SHPR	**Sheep Range**	**1.18**	**245**	IAML		02 50 36.8	
	comp=E,146nm,0.4s						
WTNK	**Soaring Height**	**1.25**	**230**		Pn	02 50 21.7	-0.1
PKCU	**Pink Cliffs**	**1.29**	**70**	Pg	Pb	02 50 23.0	0.0
U15A	**North Rim**	**1.36**	**115**		Pb	02 50 24.3	+0.1
U15A	**North Rim**	**1.36**	**115**	IAML		02 50 45.9	
	comp=N,153nm,0.5s						
U15A				IAML		02 50 46.0	
	comp=E,200nm,0.7s						
V12A	**Nelson**	**1.52**	**213**		Pn	02 50 26.1	+0.5
V12A	**Nelson**	**1.52**	**213**	IAML		02 50 48.2	
	comp=N,107nm,0.5s						
V12A				IAML		02 50 49.2	
	comp=E,85nm,0.5s						
PSUT	**Pine Spring**	**1.52**	**359**		Pn	02 50 26.2	+0.4
PSUT				IAML		02 50 47.5	
	comp=E,108nm,0.7s						
PSUT				IAML		02 50 49.0	
	comp=N,160nm,0.5s						
S11A	**Rachel**	**1.66**	**293**		Pn	02 50 28.0	+0.5
MTPU	**Mount Pierson**	**1.67**	**51**		Pb	02 50 29.5	+0.1
MTPU	**Mount Pierson**	**1.67**	**51**	IAML		02 50 53.2	
	comp=N,66nm,0.5s						
MCY	**Mercury**	**1.75**	**259**		Pn	02 50 29.5	+0.7
W13A	**Hualapai Mount**	**1.90**	**181**		Pn	02 50 30.5	-0.5
W13A				IAML		02 50 59.6	
	comp=E,64nm,0.4s						
W13A				IAML		02 51 01.1	
	comp=N,68nm,0.4s						
NSP	**Numbskull Pass**	**1.93**	**262**		Pn	02 50 31.9	+0.6
R11B	**Troy Canyon, C**	**1.93**	**314**		Pn	02 50 31.1	-0.3
TCRU	**Three Creeks R**	**1.94**	**34**		Pn	02 50 32.6	+1.0
TCRU				IAML		02 51 04.1	
	comp=N,47nm,0.6s						
MVU	**Marysvale**	**1.97**	**40**		Pn	02 50 31.8	-0.2
MSU	**Marysvale**	**1.99**	**41**		Pn	02 50 32.3	0.0
SPR3	**Spring Creek 3**	**2.03**	**349**		Pn	02 50 32.5	-0.3
SPR3	**Spring Creek 3**	**2.03**	**349**	IAML		02 51 01.3	
	comp=N,60nm,0.3s						
SPR3				IAML		02 51 02.2	
	comp=E,76nm,0.5s						
AMDNV	**Amargosa**	**2.04**	**255**		Pn	02 50 33.8	+1.0
Q12A	**Willow Creek R**	**2.18**	**339**		Pb	02 50 38.8	+0.7
WCT	**Wildcat Mounta**	**2.25**	**265**		Pn	02 50 36.4	+0.8
WCT	**Wildcat Mounta**	**2.25**	**265**	IAML		02 51 15.5	
	comp=N,43nm,0.5s						
WCT				IAML		02 51 16.4	
	comp=E,59nm,0.5s						
TUQ	**Turquoise Moun**	**2.31**	**228**		Pn	02 50 37.4	+0.9
GWY	**Greenwater Val**	**2.43**	**251**		Pn	02 50 39.1	+0.9
GWY	**Greenwater Val**	**2.43**	**251**	IAML		02 51 15.1	
	comp=N,60nm,0.5s						
GWY				IAML		02 51 17.4	
	comp=E,58nm,0.6s						
WUAZ	**Wupatki**	**2.48**	**126**	Pn	Pn	02 50 38.7	-0.2
SGV	**South Grapevin**	**2.56**	**270**		Pn	02 50 40.7	+0.7
HMU	**Henry Mountain**	**2.63**	**68**		Pn	02 50 41.2	+0.2
QSM	**Queen of Sheba**	**2.66**	**248**		Pn	02 50 42.2	+1.0
QSM	**Queen of Sheba**	**2.66**	**248**	IAML		02 51 26.6	
	comp=N,30nm,0.4s						
QSM				IAML		02 51 27.2	
	comp=E,27nm,0.7s						
GMRC	**Granite Mounta**	**2.67**	**214**		Pn	02 50 41.8	+0.3
GMN	**Gold Mountain**	**2.76**	**277**		Pn	02 50 41.8	-1.0
GMN				IAML		02 51 28.8	
	comp=N,37nm,0.9s						
GMN				IAML		02 51 29.9	
	comp=E,24nm,0.6s						
GRAC	**Grapevine Rang**	**2.83**	**271**	Pn	Pn	02 50 44.7	+1.0
Q16A	**Castle Valley**	**2.84**	**47**	Pn	Pn	02 50 43.9	0.0
TPH	**Tonopah**	**2.90**	**293**		Pn	02 50 45.0	+0.3
GSC	**Goldstone, Bar**	**2.95**	**236**	Pn	Pn	02 50 45.4	+0.1
GSC				IAML		02 51 32.7	
	comp=N,20nm,0.5s						
GSC				IAML		02 51 35.9	
	comp=E,19nm,0.7s						
LCH	**Last Change Ra**	**3.06**	**275**		Pn	02 50 47.2	+0.4
LCH	**Last Change Ra**	**3.06**	**275**	IAML		02 51 37.4	
	comp=E,32nm,0.5s						
LCH				IAML		02 51 38.2	
	comp=N,18nm,0.4s						
TMUT	**Trail Mountain**	**3.08**	**41**	Pn	Pn	02 50 46.9	-0.5
TMUT				IAML		02 51 37.7	
	comp=N,16nm,0.6s						
X16A	**Lo Mia Camp, P**	**3.23**	**142**	Pn	Pn	02 50 51.1	+1.9
X16A				IAML		02 51 42.9	
	comp=N,15nm,0.7s						
X16A				IAML		02 51 44.3	
	comp=E,16nm,0.6s						
NLU	**North Lily Min**	**3.25**	**25**	Pn	Pn	02 50 50.1	+0.6
DUG	**Dugway, Tooele**	**3.28**	**14**	Pn	Pn	02 50 48.6	-1.3
DUG				IAML		02 51 44.9	
	comp=E,19nm,1.0s						
DUG				IAML		02 51 48.7	
	comp=E,18nm,1.5s						
BLYC	**Blythe**	**3.30**	**190**	Pn	Pn	02 50 49.9	-0.1
BLYC				IAML		02 51 46.2	
	comp=N,18nm,0.7s						
BLYC				IAML		02 51 49.6	
	comp=E,16nm,1.2s						
DSP	**Deep Springs**	**3.33**	**278**		Pn	02 50 51.0	+0.7
DSP	**Deep Springs**	**3.33**	**278**	IAML		02 51 45.9	
	comp=N,25nm,0.9s						
DSP				IAML		02 51 46.1	
	comp=E,17nm,0.9s						
SRU	**San Rafael Swe**	**3.35**	**50**	Pn	Pn	02 50 50.0	-0.8
SRU				IAML		02 51 54.9	
	comp=N,15nm,0.6s						
SRU				IAML		02 52 03.6	
	comp=E,20nm,0.6s						
P17A	**Butcher Ranch,**	**3.46**	**44**	Pn	Pn	02 50 54.4	+2.0
MPU	**Maple Canyon**	**3.46**	**29**	Pn	Pn	02 50 54.1	+1.7
NV11	**Mina Array Sit**	**3.71**	**294**	Pn	Pn	02 50 56.3	+0.4
W18A	**Petrified Fore**	**3.81**	**118**	Pn	Pn	02 50 59.9	+2.6
NVAR	**Mina Array Bea**	**3.82**	**293**	Pn	Pn	02 50 57.6	+0.2
NV08	**Mina Array Sit**	**3.82**	**293**		Pn	02 50 58.0	+0.6
P18A	**Preston Nutter**	**3.85**	**46**	Pn	Pn	02 50 58.5	+0.7
P18A				IAML		02 52 09.5	
	comp=E,11nm,0.8s						
NV09	**Mina Array Sit**	**3.85**	**293**		Pn	02 50 58.3	+0.6
CCAC	**Calif City Air**	**3.86**	**243**	Pn	Pn	02 50 58.7	+0.9
CCAC				IAML		02 52 01.3	
	comp=E,12nm,2.2s						
CCAC				IAML		02 52 24.1	
	comp=N,14nm,2.3s						
ELK	**Elko**	**3.89**	**344**	Pn	Pn	02 50 59.4	+1.0
LHV	**Little Huntoon**	**3.91**	**290**		Pn	02 50 59.3	+0.9
KVN	**Kaiserville**	**3.94**	**302**		Pn	02 50 59.8	+0.8
BGU	**Big Grassy Mou**	**3.96**	**9**	Pn	Pn	02 50 59.2	-0.1
BGU				IAML		02 52 08.9	
	comp=E,10nm,1.4s						
ISA	**Isabella, Lake**	**3.98**	**252**	Pn	Pn	02 51 01.7	+2.2
X18A	**Snowflake**	**4.01**	**127**	Pn	Pn	02 51 00.0	+0.1
X18A				IAML		02 52 06.8	
	comp=E,18nm,0.8s						
X18A				IAML		02 52 09.9	
	comp=N,14nm,0.6s						
RYN	**Ryan**	**4.05**	**295**	Pn	Pn	02 51 00.0	-0.5
RYN				IAML		02 52 08.

TWAS				S		Sg	02 58 18.8	+0.2
JCZ	**Jackson Bay**	0.51	270	P		Pb	02 58 14.5	-0.1
JCZ	**Jackson Bay**	0.51	270	P		Pb	02 58 14.4	-0.2
JCZ				S		Sb	02 58 21.2	-0.9
MCNS	**Mount Cook Ann**	0.55	52	P		Pg	02 58 13.4	-0.7
LBZ	**Lake Benmore**	0.58	122	P		Pg	02 58 14.8	+0.2
LBZ				S		Sg	02 58 22.5	+0.1
FOZ	**Fox Glacier**	0.59	23	P		Pg	02 58 14.5	-0.3
NSBS	**Neils Beach**	0.61	277	P		Pb	02 58 16.2	+0.1
NSBS				S		Sb	02 58 24.6	-0.1
WNPS	**Wanaka Nationa**	0.67	202	P		Pg	02 58 14.8	-1.5
WNPS				S		Sg	02 58 24.3	-0.7
FQPS	**Fox Glacier Pa**	0.72	32	P		Pg	02 58 15.7	-1.5
WKZ	**Wanaka**	0.83	204	P		Pg	02 58 19.0	-0.3
FJDS	**Franz Josef DO**	0.85	36	P		Pg	02 58 17.8	-1.9
FDCS	**Fairlie Distri**	0.96	92	P		Pg	02 58 22.0	+0.2
FDCS				S		Sg	02 58 33.5	-0.9
GCSZ	**Gaunt Creek Bo**	0.97	39	P		Pg	02 58 20.8	-1.2
GCSZ				S		Sb	02 58 36.2	+1.0
GCSZ	**Gaunt Creek Bo**	0.97	39	P		Pg	02 58 20.6	-1.4
TMZ	**Timaru**	1.13	106	P		Pg	02 58 24.9	-0.2
EAZ	**Earnscleugh**	1.16	187	P		Pg	02 58 24.8	-0.9
EAZ				S		Sn	02 58 41.5	-0.3
RPZ	**Rata Peaks**	1.18	73	P		Pg	02 58 25.5	-0.6
RPZ	**Rata Peaks**	1.18	73	P		Pg	02 58 25.5	-0.6
ARCZ	**Arundel**	1.22	85	P		Pg	02 58 26.3	-0.4
ARCZ				S		Sg	02 58 40.9	-1.7
ODZ	**Otahua Downs**	1.27	140	P		Pg	02 58 26.7	-1.0
ODZ	**Otahua Downs**	1.27	140	P		Pg	02 58 26.8	-1.0
ODZ				S		Sg	02 58 42.9	-1.3
MSZ	**Milford Sound**	1.27	241	P		Pg	02 58 27.2	-0.6
MSZ				S		Sb	02 58 44.0	+0.1
WVZ	**Waitaha Valley**	1.35	42	P		Pn	02 58 27.7	-0.5
WVZ				S		Sg	02 58 47.0	+0.4
MHCZ	**Mount Hutt**	1.60	71	P		Pn	02 58 32.6	+0.8
MLZ	**Mavora Lakes**	1.62	217	P		Pb	02 58 33.0	-0.4
WACZ	**Wakanui South**	1.70	86	P		Pn	02 58 33.8	+0.7
TUZ	**Tuapeka**	1.88	177	P		Pn	02 58 35.6	0.0
RACZ	**Rakaia**	1.94	81	P		Pn	02 58 37.7	+1.3
INZ	**Inchbonnie**	1.96	47	P		Pn	02 58 37.1	+0.4
HHSZ	**Highcliff Hill**	1.97	157	P		Pn	02 58 38.3	+1.5
OXZ	**Oxford**	1.99	69	P		Pn	02 58 37.3	+0.2
WHZ	**Wether Hill Ro**	2.12	211	P		Pn	02 58 39.3	+0.3
DCZ	**Deep Cove**	2.17	229	P		Pn	02 58 40.9	+1.3
LTZ	**Lake Taylor**	2.40	58	P		Pn	02 58 43.7	+0.9
AMCZ	**Amberley**	2.46	70	P		Pn	02 58 44.3	+0.7
AKCZ	**Akaroa Harbour**	2.47	86	P		Pn	02 58 44.1	+0.3
SYZ	**Scrubby Hill**	2.47	186	P		Pn	02 58 43.5	-0.3
SYZ	**Scrubby Hill**	2.47	186	P		Pn	02 58 43.4	-0.3
GVZ	**Greta Valley S**	2.80	68	P		Pn	02 58 48.7	+0.4
DSZ	**Denniston Nort**	2.88	37	P		Pn	02 58 49.1	-0.3
PYZ	**Puysegur Point**	2.89	223	P		Pn	02 58 50.5	+1.0
PYZ	**Puysegur Point**	2.89	223	P		Pn	02 58 50.8	+1.3
APZ	**The Paps**	2.95	201	P		Pn	02 58 50.2	-0.2
KHZ	**Kahutara**	3.39	62	P		Pn	02 59 00.4	+4.1
THZ	**Tophouse**	3.41	48	P		Pn	02 58 57.5	+0.8
MRNZ	**Matariki Terra**	3.59	43	P		Pn	02 59 00.0	+0.8
QRZ	**Quartz Range**	3.95	36	P		Pn	02 59 04.4	+0.3
QRZ	**Quartz Range**	3.95	36	P		Pn	02 59 04.3	+0.2
TKNZ	**Takaka Hill**	3.97	41	P		Pn	02 59 05.0	+0.6
BSWZ	**Blackbirch Sta**	3.99	55	P		Pn	02 59 08.2	+3.6
NNZ	**Nelson**	4.04	46	P		Pn	02 59 06.2	+0.8
TUWZ	**Tuamarina**	4.21	53	P		Pn	02 59 11.2	+3.6
TCW	**Tory Channel**	4.54	53	P		Pn	02 59 15.5	+3.3
DUWZ	**D'Urville Isla**	4.63	47	P		Pn	02 59 15.3	+1.9
KIW	**Kapiti Island**	5.13	53	P		Pn	02 59 20.9	+0.5
OGWZ	**Otaki Gorge**	5.31	54	P		Pn	02 59 21.1	+0.3
NBEZ	**Newall Road No**	5.81	36	P		Pn	02 59 30.5	+0.8
KHEZ	**Kahui Hut**	5.85	37	P		Pn	02 59 31.4	+1.1
KHEZ	**Kahui Hut**	5.85	37	P		Pn	02 59 31.4	+1.1
PREZ	**Palmer Road**	5.88	38	P		Pn	02 59 32.1	+1.5
LREZ	**Lake Rotokare**	5.89	40	P		Pn	02 59 35.5	+4.8
NEZ	**North Egmont**	5.91	37	P		Pn	02 59 32.5	+1.5
PKE	**Pukeiti**	5.92	36	P		Pn	02 59 32.3	+1.1
BFZ	**Birch Farm**	6.04	58	P		Pn	02 59 32.3	-0.5
BFZ	**Birch Farm**	6.04	58	P		Pn	02 59 32.8	0.0
VRZ	**Vera Road**	6.33	40	P		Pn	02 59 38.0	+1.3
PKVZ	**Pokaka**	6.48	44	P		Pn	02 59 41.3	+2.4
TWVZ	**Taurewa**	6.70	44	P		Pn	02 59 43.8	+1.9
NGZ	**Ngauruhoe**	6.70	45	P		Pn	02 59 45.2	+3.3
SNVZ	**South Ngauruho**	6.71	45	P		Pn	02 59 45.5	+3.3
WTVZ	**West Tongariro**	6.74	45	P		Pn	02 59 45.6	+3.1
NNVZ	**North Ngauruho**	6.74	45	P		Pn	02 59 45.3	+2.8
OTVZ	**Oturere**	6.74	45	P		Pn	02 59 45.0	+2.4
ETVZ	**East Tongariro**	6.79	45	P		Pn	02 59 46.0	+3.7
HIZ	**Hauiti**	6.87	38	P		Pn	02 59 44.4	+0.3
HIZ	**Hauiti**	6.87	38	P		Pn	02 59 44.5	+0.3
OUZ	**Omahuta**	9.39	21	P		Pn	03 00 19.6	+0.8

*NEIC **03** 03:07:54.7±1.5, 19°.38N×0°.02×154°.86W±0°.03, h5km±2km, Error ellipse: s-maj=5.4km s-min=3.0km az=288.0*
HVO 03 03:07:54.5±1.3,**19°.42N**±0°.03×**154.83W**±0°.04,**h5**km±8km,
ML2.7/3,**ML2.6**/22(NEIC),**Error ellipse: s-maj=5.0km s-min=3.7km az=106.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.08**	**317**		Pg	03 07 57.0	+0.7
JOKA	**Jonika Flow**	**0.17**	**275**		Pg	03 07 58.5	+0.8
PUH	**Pauahi**	**0.37**	**263**		Pg	03 08 01.4	-0.2
PUH	**Pauahi**	**0.37**	**263**	IAML		03 08 07.6	
	comp=N,394nm,3.5s						
PUH				IAML		03 08 11.6	
	comp=E,182nm,0.7s						
HATHI	**Halema'uma'u T**	**0.41**	**270**		Pg	03 08 02.2	-0.2
HATHI	**Halema'uma'u T**	**0.41**	**270**	IAML		03 08 14.8	
	comp=N,525nm,0.6s						
HATHI				IAML		03 08 16.0	
	comp=E,506nm,1.3s						
SBLHI	**Steaming Bluff**	**0.41**	**271**		Pg	03 08 02.2	-0.2
SBLHI	**Steaming Bluff**	**0.41**	**271**	IAML		03 08 16.5	
	comp=N,601nm,0.6s						
SBLHI				IAML		03 08 17.0	
	comp=E,530nm,0.6s						
RSD	**Rainshed**	**0.42**	**276**		Pg	03 08 02.4	-0.3
HLP	**Hilina Pali**	**0.47**	**255**		Pg	03 08 03.4	-0.1
HLP	**Hilina Pali**	**0.47**	**255**	IAML		03 08 10.2	
	comp=N,507nm,0.5s						
HLP				IAML		03 08 17.5	
	comp=E,514nm,0.7s						
MLH	**Mauna Loa**	**0.53**	**278**		Pg	03 08 04.1	-0.6
MLH				IAML		03 08 12.2	
	comp=N,496nm,1.3s						
HTC	**Hot Caves**	**0.57**	**251**		Pg	03 08 04.8	-0.5
HMH	**Humu'ula Sheep**	**0.64**	**287**		Pg	03 08 05.7	-1.2
HMH	**Humu'ula Sheep**	**0.64**	**287**		Sg	03 08 15.5	+0.3
MLOA	**Mauna Loa Obse**	**0.71**	**279**		Sg	03 08 16.7	-0.8
MLOA	**Mauna Loa Obse**	**0.71**	**279**	Pg	Pg	03 08 07.5	-0.7
MLOA				IAML		03 08 11.0	
	comp=E,189nm,3.9s						
MLOA	**Mauna Loa Obse**	**0.71**	**279**	IAML		03 08 16.9	
	comp=N,212nm,0.5s						
MWH	**Moku'aweowe**	**0.73**	**275**		Pg	03 08 06.9	-1.6
MWH	**Moku'aweowe**	**0.73**	**275**	IAML		03 08 19.4	
	comp=E,259nm,1.3s						
MWH				IAML		03 08 20.8	
	comp=N,256nm,2.4s						
KHU	**Kahuku**	**0.76**	**257**		Pg	03 08 07.0	-2.1
KHU				IAML		03 08 32.4	
	comp=N,176nm,3.8s						
HUH	**Hualalai**	**0.98**	**286**		Pg	03 08 12.7	-0.7

*BEO **03** 03:14:21.3±4.5, 39°.21N×27°.95E, h121km±1km, ML3.4/9*
*ISK **03** 03:14:30.3, 39°.99N×26°.93E, h8km, ML3.1/49*
*AFAD **03** 03:14:30.5±0.0, 39°.99N×26°.91E, h7km±3km, ML3.1*
*ATH **03** 03:14:31.6, 39°.94N×26°.90E, h13km±1km, ML2.8/15, Error ellipse: s-maj=2.7km s-min=1.0km az=89.0*
*THE **03** 03:14:31.6, 39°.97N×26°.86E, h7km±1km, ML3.0/10, Error ellipse: s-maj=1.4km s-min=0.6km az=266.0*
*SOF **03** 03:14:32.3, 39°.96N±0°.07×27°.08E±0°.03, h101km±18km, MD3.5/4*
ISC 03 03:14:30.4±0.9,**39°.94N**±0°.01×**26°.91E**±0°.01,**h13**km±7km,
n139,σ0**95**/200,**4C-5D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YENI	**Yenice-Canakka**	**0.26**	**91**	Pg	**Pg**	**03 14 36.2**	**+0.4**
BAYC	**CANAKKALE_Bayr**	**0.34**	**234**	P	**Pb**	**03 14 37.9**	**-0.4**
BAYC				S	**Sb**	**03 14 42.4**	**-1.3**
COMU	**Canakkale**	**0.37**	**295**	Pg	**Pg**	**03 14 38.3**	**+0.5**
COMU				Sg	**Sg**	**03 14 43.1**	**+0.2**
CNKL	**anakkale-Mer**	**0.42**	**288**	P	**Pg**	**03 14 39.0**	**+0.3**
CNKL				P	**Pg**	**03 14 39.0**	**+0.3**
CNKL				S	**Sg**	**03 14 44.0**	**-0.3**
LPK	**Lapseki**	**0.45**	**345**	Pg	**Pg**	**03 14 38.9**	**-0.3**
LPK				Sg	**Sg**	**03 14 44.5**	**-0.7**
EZNE	**Ezine-Canakkal**	**0.46**	**246**	Pg	**Pb**	**03 14 40.5**	**+0.2**
BUHA	**Balikesir, Bur**	**0.46**	**163**	P	**Pb**	**03 14 40.7**	**+0.4**
BUHA				S	**Sb**	**03 14 46.4**	**-0.6**
BUHA				*i* AML	AML	03 14 48.0	
	comp=E,1μm,0.6s						
EZN	**Ezine**	**0.46**	**256**	Pg	**Pb**	**03 14 40.1**	**-0.3**
EZN	**Ezine**	**0.46**	**256**	P	**Pb**	**03 14 40.0**	**-0.3**
EZN				S	**Sb**	**03 14 46.6**	**-0.5**
	455nm,0.2s						
KRBG	**Karabiga-Canak**	**0.54**	**33**	Pg	**Pg**	**03 14 40.1**	**-0.9**
KRBG				Sg	**Sg**	**03 14 47.6**	**-0.6**
GELI	**Tayfur-Gelibol**	**0.56**	**324**	Pg	**Pg**	**03 14 41.6**	**+0.1**
ECEA	**Canakkale, Ece**	**0.57**	**281**	P	**Pb**	**03 14 42.2**	**-0.1**
ECEA				S	**Sg**	**03 14 48.8**	**-0.4**
KNL	**Balıkesir**	**0.58**	**55**	P	**Pg**	**03 14 41.6**	**-0.1**
BALY	**Balya**	**0.58**	**110**	P	**Pg**	**03 14 42.1**	**+0.3**
BALY				S	**Sg**	**03 14 48.3**	**-1.2**
GONE	**Gonen-Balikesi**	**0.61**	**80**	Pg	**Pg**	**03 14 41.7**	**-0.5**
AYVA	**Ayvalik**	**0.65**	**195**	P	**Pb**	**03 14 44.2**	**+0.6**
AYVA				S	**Sb**	**03 14 52.2**	**-0.4**
AYVA				*i* AML	AML	03 14 54.0	
	comp=N,1μm,0.5s						
BOZC	**Bozcaada**	**0.67**	**262**	P	**Pb**	**03 14 43.6**	**-0.2**
BOZC				P	**Pb**	**03 14 43.7**	**-0.2**
KOCA	**Canakkale, Ayv**	**0.74**	**234**	P	**Pb**	**03 14 45.2**	**+0.1**
KOCA				S	**Sb**	**03 14 54.7**	**-0.4**
KOCA				*i* AML	AML	03 14 56.0	
	comp=N,956nm,0.4s						
KOCA				*i* AML	AML	03 14 56.0	
	comp=E,752nm,0.3s						
GPNR	**Gulpinar-Canak**	**0.77**	**231**	Pg	**Pb**	**03 14 45.7**	**+0.1**
RKY	**Sarkoy-Tekirda**	**0.77**	**15**	Pg	**Pg**	**03 14 44.9**	**-0.5**
SART	**Tekirdag**	**0.78**	**15**	P	**Pg**	**03 14 45.0**	**-0.5**
SART				S	**Sg**	**03 14 52.9**	**-2.8**
SART				*i* AML	AML	03 14 56.0	
	comp=N,800nm,0.4s						
ERIK	**Erikli-Kesan**	**0.79**	**338**	Pg	**Pg**	**03 14 45.4**	**-0.3**
GOAD	**anakkale-G¶**	**0.80**	**286**	P	**Pg**	**03 14 45.9**	**+0.1**
BKES	**Balkesir-Mer**	**0.81**	**104**	P	**Pg**	**03 14 46.3**	**+0.2**
BKES				*i* AML	AML	03 15 01.0	
	comp=N,785nm,0.2s						
BKES				*i* AML	AML	03 15 01.0	
	comp=E,684nm,0.2s						
GADA	**Gvkgeada**	**0.81**	**288**	Pg	**Pb**	**03 14 46.4**	**0.0**
BLKS	**Balkesir-Sus**	**0.82**	**94**	P	**Pg**	**03 14 46.2**	**0.0**
BLKS				P	**Pb**	**03 14 46.4**	**-0.1**
BLKS				S	**Sg**	**03 14 56.9**	**-0.1**
EDC	**Edincik**	**0.84**	**61**	Pg	**Pg**	**03 14 45.8**	**-0.8**
STEP	**BALIKESIR_Sava**	**0.84**	**132**	P	**Pb**	**03 14 47.3**	**+0.4**
STEP				*i* AML	AML	03 15 02.0	
	comp=N,537nm,0.6s						
STEP				*i* AML	AML	03 15 02.0	
	comp=E,752nm,0.3s						
MRMT	**Marmara Adasi**	**0.84**	**38**	Pg	**Pg**	**03 14 45.9**	**-0.9**
PRK	**Paraskevi**	**0.85**	**216**	P	**Pn**	**03 14 47.6**	**-0.4**
PRK				S	**Sn**	**03 15 00.2**	**-0.1**
	1μm,0.4s						
PRK	**Paraskevi**	**0.85**	**216**	P	**Pn**	**03 14 47.7**	**-0.4**
PRK				S	**Sn**	**03 14 59.3**	**-1.1**
PRK				AML	AML	03 15 01.1	
	comp=E,1996μm,0.2s						
PRK				AML	AML	03 15 02.9	
	comp=N,3117μm,0.5s						
DKL	**Dikili**	**0.87**	**180**	Pg	**Pn**	**03 14 48.3**	**0.0**
ENZZ	**Sultanice-Enez**	**0.89**	**319**	Pg	**Pg**	**03 14 47.4**	**-0.1**
CAVK	**Edirne/Enez-Ca**	**0.94**	**323**	P	**Pg**	**03 14 48.3**	**-0.3**
CAVK				*i* AML	AML	03 15 05.0	
	comp=N,598nm,0.3s						
CAVK				*i* AML	AML	03 15 05.0	
	comp=N,654nm,0.2s						
IZMD	**zmir-Dikili-**	**0.96**	**179**	P	**Pn**	**03 14 50.0**	**+0.4**
IZMD				P	**Pb**	**03 14 50.1**	**+1.3**
IZMD				*i* AML	AML	03 15 05.0	
	comp=N,475nm,0.5s						
IZMD				*i* AML	AML	03 15 05.0	
	comp=N,469nm,0.5s						
ENEZ	**Enez**	**0.98**	**324**	Pg	**Pg**	**03 14 49.1**	**-0.2**
ENEZ	**Enez**	**0.98**	**324**	P	**Pg**	**03 14 49.1**	**-0.2**
ENEZ				S	**Sg**	**03 15 02.4**	**+0.2**
	comp=N,2μm,0.3s						
ZEDA	**zmir-Bergama**	**0.98**	**172**	P	**Pn**	**03 14 50.2**	**+0.4**
ZEDA				S	**Sg**	**03 15 01.5**	**-0.6**
ZEDA				*i* AML	AML	03 15 06.0	
	comp=N,922nm,0.8s						
ZEDA				*i* AML	AML	03 15 06.0	
	comp=N,603nm,0.3s						
CAND	**Candarli**	**0.99**	**185**	Pg	**Pn**	**03 14 50.3**	**+0.4**
BAND	**Balkesir-Ban**	**1.00**	**65**	P	**Pg**	**03 14 48.8**	**-1.0**
BAND				S	**Sg**	**03 15 00.8**	**-2.0**
BAND				*i* AML	AML	03 15 05.0	
	comp=N,472nm,0.3s						
BAND				*i* AML	AML	03 15 07.0	
	comp=N,533nm,0.2s						
SIGR	**SIGRI**	**1.09**	**228**	Pn	**Pn**	**03 14 51.7**	**+0.4**
SIGR	**SIGRI**	**1.09**	**228**	P	**Pn**	**03 14 51.8**	**+0.4**
SIGR				S	**Sn**	**03 15 07.3**	**+1.0**
	comp=N,920nm,0.4s						
SIGR	**SIGRI**	**1.09**	**228**	P	**Pn**	**03 14 51.7**	**+0.4**
SIGR				S	**Sn**	**03 15 06.3**	**0.0**
SIGR				AML	AML	03 15 08.4	
	comp=E,1991μm,0.4s						
SIGR				AML	AML	03 15 08.8	
	comp=N,1676μm,0.5s						
TKR	**Tekirdag**	**1.15**	**24**	Pn	**Pb**	**03 14 51.9**	**-0.3**
KCTX	**Karacabey (Bur**	**1.16**	**73**	Pn	**Pb**	**03 14 51.7**	**-0.6**
ALN	**Alexandroupoli**	**1.16**	**326**	Pn	**Pb**	**03 14 52.6**	**+0.3**
ALN	**Alexandroupoli**	**1.16**	**326**	P	**Pb**	**03 14 52.5**	**+0.3**
ALN				S	**Sb**	**03 15 07.7**	**+0.5**
	comp=N,370nm,0.4s						
ALN	**Alexandroupoli**	**1.16**	**326**	P	**Pb**	**03 14 52.9**	**+0.6**
ALN				S	**Sb**	**03 15 07.1**	**-0.1**
ALN				AML	AML	03 15 10.0	
	comp=N,823μm,0.5s						
ALN				AML	AML	03 15 10.9	
	comp=E,669μm,0.4s						
SMTH	**Samothraki Isl**	**1.18**	**297**	P	**Pb**	**03 14 52.8**	**+0.1**
SMTH				S	**Sn**	**03 15 09.2**	**+0.7**
	comp=E,638nm,0.2s						
SMTH	**Samothraki Isl**	**1.18**	**297**	P	**Pb**	**03 14 52.8**	**+0.1**
SMTH				S	**Sn**	**03 15 09.0**	**+0.4**
SMTH				AML	AML	03 15 10.2	
	comp=N,1566μm,0.3s						
SMTH				AML	AML	03 15 11.6	
	comp=E,972μm,0.2s						
UKOP	**Uzunkopru-Edir**	**1.21**	**350**	Pn	**Pn**	**03 14 53.1**	**+0.2**
FOCM	**Foa**	**1.23**	**186**	Pn	**Pg**	**03 14 54.7**	**+0.6**
DURS	**Dursunbey**	**1.25**	**105**	P	**Pb**	**03 14 54.6**	**+0.7**
DURS				S	**Sb**	**03 15 10.5**	**+0.5**
DURS				*i* AML	AML	03 15 13.0	
	comp=E,464nm,0.2s						
AKS	**Akhisar**	**1.27**	**146**	Pn	**Pg**	**03 14 54.9**	**+0.1**
LIA	**Limnos Island**	**1.33**	**269**	P	**Pg**	**03 14 55.6**	**-0.3**
LIA				S	**Sg**	**03 15 13.4**	**+0.2**
	comp=E,718nm,0.4s						
LIA	**Limnos Island**	**1.33**	**269**	P	**Pg**	**03 14 55.7**	**-0.3**
LIA				S	**Sg**	**03 15 12.8**	**-0.3**
LIA				AML	AML	03 15 14.4	
	comp=E,1754μm,0.4s						
LIA				AML	AML	03 15 17.7	
	comp=N,1108μm,0.3s						
KARB	**zmir-Karabur**	**1.33**	**197**	P	**Pb**	**03 14 55.3**	**+0.1**
KARB				S	**Sg**	**03 15 12.9**	**-0.4**
KARB				*i* AML	AML	03 15 16.0	
	comp=N,346nm,0.2s						
KARB				*i* AML	AML	03 15 17.0	
	comp=N,472nm,0.7s						
CRLT	**Corlu**	**1.34**	**28**	Pn	**Pn**	**03 14 54.9**	**+0.1**
DST	**Dursunbey**	**1.36**	**104**	Pn	**Pb**	**03 14 56.3**	**+0.6**
GOMA	**Golmarmara-Man**	**1.46**	**147**	Pn	**Pb**	**03 14 57.4**	**0.0**
ORLT	**Orhaneli**	**1.53**	**85**	Pn	**Pn**	**03 14 58.1**	**+0.6**
EFSA	**Agios Efstrati**	**1.53**	**255**	P	**Pb**	**03 14 58.3**	**-0.3**
EFSA				S	**Sn**	**03 15 16.6**	**-0.6**
EFSA				AML	AML	03 15 22.8	
	comp=E,510μm,0.9s						
EFSA				AML	AML	03 15 24.7	
	comp=N,406μm,0.3s						
BLCB	**Balcova**	**1.56**	**176**	Pn	**Pb**	**03 14 59.3**	**+0.3**
MDNY	**Mudanya-Bursa**	**1.57**	**74**	Pn	**Pn**	**03 14 58.7**	**+0.7**
RDO	**Rodhopi**	**1.59**	**320**	Pn	**Pn**	**03 14 59.4**	**+1.1**
RDO	**Rodhopi**	**1.59**	**320**	P	**Pn**	**03 14 59.1**	**+0.9**
RDO				S	**Sn**	**03 15 19.8**	**+1.1**
	comp=N,295nm,0.3s						
RDO	**Rodhopi**	**1.59**	**320**	P	**Pn**	**03 14 59.1**	**+0.9**
RDO				S	**Sn**	**03 15 19.6**	**+0.9**
RDO				AML	AML	03 15 22.0	
	comp=E,663μm,0.3s						
RDO				AML	AML	03 15 22.2	
	comp=N,509μm,0.3s						
URLA	**Izmir**	**1.60**	**189**	Pn	**Pg**	**03 15 00.4**	**-0.7**
URLA	**Izmir**	**1.60**	**189**	P	**Pn**	**03 14 58.6**	**+0.3**
URLA				S	**Sg**	**03 15 21.4**	**-0.3**
ARMT	**Armutlu**	**1.62**	**67**	Pn	**Pn**	**03 14 59.5**	**+0.8**
SLVT	**Silivri**	**1.62**	**37**	Pn	**Pn**	**03 14 59.0**	**+0.3**
DEMI	**Demirci**	**1.66**	**122**	P	**Pn**	**03 15 00.3**	**+1.0**
DEMI				S	**Sn**	**03 15 20.3**	**-0.2**
CESE	**eme**	**1.68**	**197**	Pn	**Pb**	**03 15 01.2**	**+0.1**
CHOS	**Chios island**	**1.69**	**203**	Pn	**Pb**	**03 15 01.4**	**+0.1**
CHOS	**Chios island**	**1.69**	**203**	P	**Pn**	**03 15 00.0**	**+0.4**
CHOS				S	**Sb**	**03 15 23.1**	**+0.6**
	comp=N,482nm,0.2s						
CHOS	**Chios island**	**1.69**	**203**	P	**Pn**	**03 15 00.1**	**+0.4**
CHOS				S	**Sn**	**03 15 21.1**	**0.0**
CHOS				AML	AML	03 15 30.5	
	comp=E,1207μm,0.3s						
CHOS				AML	AML	03 15 32.3	
	comp=N,676μm,0.4s						
ZEYE	**Izmir, Urla-Ze**	**1.73**	**191**	P	**Pb**	**03 15 01.3**	**-0.7**
AVCI	**Avcilar-stanb**	**1.74**	**52**	Pn	**Pn**	**03 15 01.0**	**+0.7**
PSRA	**Psara**	**1.74**	**217**	P	**Pn**	**03 15 00.4**	**+0.1**
PSRA				S	**Sn**	**03 15 21.5**	**-0.9**
PSRA				AML	AML	03 15 30.4	
	comp=N,744μm,0.3s						
PSRA				AML	AML	03 15 32.0	
	comp=E,1024μm,0.3s						
CTKS	**Kestanelik-??a**	**1.78**	**43**	Pn	**Pn**	**03 15 00.3**	**-0.5**
THAS	**Thassos island**	**1.80**	**292**	P	**Pn**	**03 15 01.2**	**+0.1**
THAS				S	**Sn**	**03 15 23.6**	**-0.2**
	comp=E,70nm,0.3s						
THAS	**Thassos island**	**1.80**	**292**	P	**Pn**	**03 15 01.1**	**+0.1**
THAS				S	**Sn**	**03 15 22.5**	**-1.3**
THAS				AML	AML	03 15 24.4	
	comp=N,128μm,0.3s						
THAS				AML	AML	03 15 25.1	
	comp=E,144μm,0.3s						
SMAA	**Simav-Kutahya**	**1.81**	**117**	Pn	**Pn**	**03 15 02.4**	**+1.1**
GEMT	**Gemlik**	**1.82**	**73**	Pn	**Pn**	**03 15 02.0**	**+0.7**
CTYL	**Yalikoy Yolu**	**1.86**	**34**	Pn	**Pn**	**03 15 02.7**	**+0.8**
BGKT	**Bogazkoy**	**1.89**	**48**	Pn	**Pn**	**03 15 02.1**	**-0.2**
DGB	**zmir**	**1.89**	**181**	P	**Pn**	**03 15 03.0**	**+0.8**
EDRB	**Edirne**	**1.91**	**356**	Pn	**Pn**	**03 15 02.8**	**+0.2**
EDRB	**Edirne**	**1.91**	**356**	P	**Pn**	**03 15 02.6**	**0.0**
KULA	**Kula-Manisa**	**1.97**	**136**	Pn	**Pn**	**03 15 05.1**	**+1.6**
ISK	**Istanbul-Kandi**	**1.99**	**55**	Pn	**Pn**	**03 15 04.3**	**+0.6**
ISK	**Istanbul-Kandi**	**1.99**	**55**	P	**Pn**	**03 15 05.2**	**+1.5**
KAVV	**Kandilli-Istan**	**1.99**	**55**	Pn	**Pn**	**03 15 04.8**	**+1.1**
KDZ	**Kurdzhali**	**2.06**	**325**	Pn	**Pn**	**03 15 05.7**	**+0.9**
KDZ	**Kurdzhali**	**2.06**	**325**	S	**Sn**	**03 15 30.7**	**+0.3**
KLYT	**Kilyos**	**2.09**	**50**	Pn	**Pn**	**03 15 05.9**	**+0.9**
KAVA	**Kavala**	**2.11**	**301**	P	**Pn**	**03 15 06.0**	**+0.6**
KAVA				S	**Sn**	**03 15 31.1**	**-0.4**
SKY	**Skiros Island**	**2.11**	**241**	P	**Pn**	**03 15 05.5**	**+0.1**
SKY				S	**Sn**	**03 15 31.5**	**0.0**
SKY				AML	AML	03 15 41.1	
	comp=N,213μm,0.5s						
SKY				AML	AML	03 15 43.7	
	comp=E,200μm,0.3s						
**GE

comp=N,4μm,0.2s
NPOC IAML 03 36 28.5
comp=E,3μm,0.2s
STCH Steam Cracks 0.25 251 Pg 03 36 21.1 -0.7
KNHH Kane Nui o Ham 0.29 252 Pg 03 36 23.2 +0.5
PUH Pauahi 0.34 254 Pg 03 36 23.6 +0.1
PUH IAML 03 36 35.0
comp=N,1μm,0.6s
HATHI Halema'uma'u T 0.37 263 Pg Pg 03 36 23.9 -0.3
HATHI IAML 03 36 34.1
comp=N,2μm,0.9s
HATHI IAML 03 36 35.4
comp=E,2μm,0.6s
SBLHI Steaming Bluff 0.37 264 Pg Pg 03 36 24.2 0.0
KKO Keanakako`i 0.38 259 Pg Pg 03 36 24.5 +0.2
KKO IAML 03 36 36.2
comp=N,2μm,1.3s
RSD Rainshed 0.38 269 Pg 03 36 24.9 +0.6
RSD IAML 03 36 34.7
comp=N,2μm,0.3s
UWB Uwekahuna B 0.38 263 Pg Pg 03 36 24.6 +0.2
RIM Rim 0.38 259 Pg Pg 03 36 24.8 +0.3
RIM IAML 03 36 37.5
comp=N,2μm,0.6s
RIM IAML 03 36 37.5
comp=E,2μm,0.9s
UWE Uwekahuna 0.40 263 Pg Pg 03 36 25.4 +0.7
UWE IAML 03 36 37.4
comp=E,3μm,0.5s
UWE IAML 03 36 37.4
comp=N,3μm,0.5s
SDHHI Sand Hill 0.40 259 Pg 03 36 25.2 +0.4
SDHHI IAML 03 36 37.5
comp=E,2μm,1.1s
SDHHI IAML 03 36 38.8
comp=N,1μm,0.7s
WRMHI West Rim 0.41 261 Pg 03 36 25.6 +0.8
WRMHI West Rim 0.41 261 IAML 03 36 32.7
comp=N,2μm,0.9s
WRMHI IAML 03 36 33.8
comp=E,3μm,0.9s
HLP Hilina Pali 0.44 247 Pg 03 36 26.1 +0.5
HLP IAML 03 36 40.5
comp=E,2μm,0.8s
HLP IAML 03 36 41.2
comp=N,2μm,0.9s
MLH Mauna Loa 0.48 273 Pg 03 36 26.9 +0.6
MLH IAML 03 36 34.7
comp=E,3μm,0.7s
MLH IAML 03 36 42.5
comp=N,2μm,0.6s
HTC Hot Caves 0.54 245 Pg 03 36 27.8 +0.3
HMH Humu'ula Sheep 0.59 283 Pg 03 36 28.4 0.0
MLOA Mauna Loa Obse 0.66 276 Pg 03 36 29.7 -0.1
MLOA IAML 03 36 51.9
comp=E,973nm,0.7s
MLOA IAML 03 36 52.9
comp=N,919nm,0.7s
MWH Moku'aweowe 0.68 271 Pg 03 36 29.7 -0.4
POHA Pohakuloa 0.68 295 Pg 03 36 29.9 -0.3
ALEP Alea Permanent 0.73 276 Pg 03 36 30.8 -0.2
KHU Kahuku 0.73 252 Pg Pg 03 36 30.1 -1.0
KHU IAML 03 36 48.5
comp=N,592nm,0.9s
HUH Hualalai 0.93 283 Pg Pg 03 36 35.2 +0.3
HPAH Hawaii Prepara 0.95 306 Pg 03 36 35.0 -0.3
MHA Mahukona 1.20 307 Pg Pg 03 36 39.8 -0.3

*VIE **03** 03:52:17.8±0.6,51.˚59N×16.˚27E, h0km, mb2.5/9, ml2.9/8, Error ellipse: s-maj=4.7km s-min=2.6km az=27.0, Suspected Mining induced.*
*IPEC **03** 03:52:18.9±0.2,51.˚59N×16.˚16E, h1km, ML2.6/4, Error ellipse: s-maj=2.0km s-min=1.2km az=36.0*
*IDC **03** 03:52:20.8±1.0,51.˚53N×15.˚90E, h0km, mbtmp3.1/4, ML2.4/4, Error ellipse: s-maj=20.9km s-min=9.5km az=118.0*
*PRU **03** 03:52:22.8,51.˚45N×16.˚07E, h0km*
ISC 03 03:52:18.4±0.9,51.˚62N±0.˚04×16.˚10E±0.˚02, h0km, n39, σ0.˚72/77, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CHVC	**Chvalec**	**1.04**	**182**	*e*PG		**Pg**	**03 52 38.4**	**+0.2**
CHVC				*e*SG		**Sg**	**03 52 51.1**	**-0.5**
	comp=Z,58nm,0.4s							
OSTC	**Ostas**	**1.07**	**176**	*e*PG		**Pg**	**03 52 39.0**	**+0.1**
OSTC				*e*SG		**Sg**	**03 52 52.6**	**-0.1**
UPC	**Upice**	**1.12**	**183**	*e*PG		**Pg**	**03 52 39.8**	**0.0**
UPC				*e*SG		**Sg**	**03 52 53.4**	**-0.9**
DPC	**Dobruska-Polom**	**1.28**	**174**	*e*PG		**Pg**	**03 52 42.4**	**-0.5**
DPC				*e*SG		**Sg**	**03 52 58.2**	**-1.3**
	comp=Z,50nm,0.6s							
PVCC	**Panska Ves**	**1.46**	**222**	*e*PG		**Pb**	**03 52 46.4**	**0.0**
PVCC				*e*SG		**Sn**	**03 53 05.6**	**-0.3**
	comp=Z,133nm,0.4s							
BRG	**Berggiesshubel**	**1.55**	**242**	Pn		**Pn**	**03 52 47.2**	**0.0**
BRG				Pg		**Pg**	**03 52 48.7**	**+0.6**
BRG				Sg		**Sg**	**03 53 08.5**	**+0.3**
BRG				Amp			03 53 09.3	
	comp=Z,82nm,0.5s							
KRLC	**Kraliky**	**1.61**	**164**	*e*PG		**Pn**	**03 52 47.9**	**-0.2**
KRLC				*e*SG		**Sn**	**03 53 08.5**	**-1.0**
	comp=Z,64nm,0.6s							
PRA	**Prague**	**1.88**	**215**	*e*PG		**Pg**	**03 52 54.5**	**+0.1**
PRA				*e*SG		**Sb**	**03 53 17.8**	**+0.2**
	comp=Z,50nm,0.6s							
GOPC	**GO Pecny, Ondr**	**1.91**	**207**	*e*PG		**Pb**	**03 52 53.4**	**-0.6**
PRU	**Pruhonice**	**1.91**	**212**	*e*PG		**Pb**	**03 52 53.9**	**-0.2**
PRU				*e*SG		**Sb**	**03 53 17.6**	**-0.9**
	comp=Z,36nm,0.5s							
CLL	**Collm**	**1.96**	**262**	*e*Pn		**Pn**	**03 52 53.0**	**+0.1**
	comp=Z,11nm,0.4s							
CLL				*e*Pg		**Pg**	**03 52 56.0**	**0.0**
CLL				*i* x		x	03 52 59.1	
CLL				*ex*		x	03 53 10.0	
CLL				*e*Sg		**Sg**	**03 53 21.0**	**-0.5**
	comp=Z,29nm,0.6s							
HSKC	**Hora Svate Kat**	**1.97**	**240**	*e*PG		**Pb**	**03 52 55.3**	**+0.2**
HSKC				*e*SG		**Sb**	**03 53 20.5**	**+0.4**
	comp=Z,145nm,1.2s							
MORC	**Moravsky Berou** baz=335	**2.06**	**153**	*e*Pn		**Pn**	**03 52 53.8**	**-0.5**
MORC				*e*Sg		**Sb**	**03 53 22.3**	**-0.6**
	comp=Z,41nm,0.6s,baz=335							
OKC	**Ostrava-Krasne**	**2.21**	**143**	*e*PG		**Pg**	**03 53 00.0**	**-0.7**
OKC				*e*SG		**Sb**	**03 53 26.9**	**-0.2**
	comp=Z,21nm,0.4s							
VRAC	**Vranov** baz=353	**2.34**	**172**	*e*Pn		**Pn**	**03 52 58.1**	**0.0**
VRAC				*e*Sg		**Sb**	**03 53 31.3**	**+0.5**
	comp=Z,31nm,0.7s,baz=353							
TREC	**Trest**	**2.36**	**190**	*e*PG		**Pb**	**03 53 02.3**	**+0.5**
TREC				*e*SG		**Sb**	**03 53 31.9**	**+0.4**
MAUC	**Maruska**	**2.51**	**153**	*e*PN		**Pn**	**03 53 00.9**	**+0.4**
MAUC				*e*PG		**Pb**	**03 53 05.2**	**+0.8**
KRUC	**Moravsky** baz=357	**2.57**	**176**	*e*Pn		**Pn**	**03 53 01.3**	**0.0**
KRUC				*e*Sg		**Sb**	**03 53 38.3**	**+0.8**
	comp=Z,27nm,0.8s,baz=357							
NKC	**Novy Kostel**	**2.70**	**240**	*e*PN		**Pn**	**03 53 02.8**	**-0.3**
NKC				*e*PG		**Pg**	**03 53 10.0**	**-0.1**
NKC				*e*SG		**Sg**	**03 53 44.2**	**-0.9**
	comp=Z,53nm,0.6s							
OJC	**Ojcow**	**2.73**	**120**	*e*Pn		**Pn**	**03 53 02.1**	**-1.3**
OJC				*e*Pg		**Pg**	**03 53 10.3**	**-0.3**
OJC				*e*Sg		**Sg**	**03 53 46.5**	**+0.5**
JAVC	**Velka Javorina** baz=341	**2.94**	**159**	*e*Pn		**Pn**	**03 53 06.3**	**-0.1**
KHC	**Kasperske Hory**	**2.97**	**214**	*e*PN		**Pn**	**03 53 06.5**	**-0.3**
KHC				*e*PG		**Pg**	**03 53 14.9**	**-0.4**
KHC				*e*SN		**Sn**	**03 53 42.5**	**-0.7**
KHC				*e*SG		**Sg**	**03 53 52.0**	**-1.8**
	comp=Z,13nm,0.4s							
CKRC	**Cesky Krumlov**	**3.03**	**203**	*e*PN		**Pn**	**03 53 08.2**	**+0.6**
CKRC				*e*PG		**Pb**	**03 53 14.5**	**+1.3**
CKRC				*e*SG		**Sb**	**03 53 52.6**	**+1.8**
GERES	**GERESS Array B**	**3.18**	**210**	Pn		**Pn**	**03 53 09.3**	**-0.5**
	comp=Z,0.8nm,0.3s,baz=31,slow=14,SNR=13							
GERES				Pg		**Pb**	**03 53 16.4**	**+0.6**
	comp=Z,2.1nm,0.3s,baz=27,slow=17,SNR=16							
GERES				Lg		Lg	03 53 57.3	
	comp=Z,2.5nm,0.3s,baz=31,slow=26,SNR=5.1							
	comp=Z,2.3nm,0.5s							
MODS	**Modra-Piesok**	**3.34**	**166**	*e*PG		**Pg**	**03 53 22.5**	**+0.1**
MODS				*e*SG		**Sg**	**03 54 04.0**	**-1.6**
NIE	**Niedzica**	**3.47**	**128**	*e*Pg		**Pg**	**03 53 24.1**	**-0.8**
NIE				*e*Sg		**Sg**	**03 54 09.6**	**-0.2**
ZST	**Bratislava**	**3.49**	**169**	*e*SG		**Sg**	**03 54 10.2**	**-0.3**
VYHS	**Vyhne**	**3.59**	**150**	*e*PN		**Pn**	**03 53 15.3**	**0.0**
VYHS				*e*PG		**Pg**	**03 53 28.8**	**+1.6**
VYHS				*e*SG		**Sg**	**03 54 15.5**	**+1.8**
CONA	**Conrad Observa**	**3.70**	**183**	*e*Pn		**Pn**	**03 53 17.5**	**+0.6**
	comp=Z,2.8nm,0.5s							
CONA				*e*Sn		**Sn**	**03 54 00.7**	**-0.5**
	comp=Z,2.2nm,0.4s							
RONA	**Rosalia, Austr**	**3.93**	**178**	*e*Pn		**Pn**	**03 53 19.6**	**-0.4**
	comp=Z,0.8nm,0.4s							
RONA				*e*Sn		**Sn**	**03 54 06.1**	**-0.7**
	comp=Z,2.6nm,0.7s							
MOA	**Molin**	**3.96**	**198**	*e*Pn		**Pn**	**03 53 20.6**	**+0.2**
	comp=Z,5.4nm,0.4s,SNR=15							
BIOA	**Bad Ischl, Aus**	**4.25**	**203**	*e*Pn		**Pn**	**03 53 24.0**	**-0.3**
	comp=Z,1.6nm,0.5s							
BIOA				*e*Sn		**Sn**	**03 54 16.5**	**+1.8**
	comp=Z,5.7nm,0.5s							
ARSA	**Arzberg**	**4.39**	**185**	Pn		**Pn**	**03 53 25.6**	**-0.8**
	comp=Z,1.2nm,0.4s							
LESA	**Schwarzleotal**	**4.76**	**209**	Pn		**Pn**	**03 53 31.6**	**+0.2**
	comp=Z,2.6nm,0.8s							
LESA				*e*Sn		**Sn**	**03 54 28.0**	**+0.7**
	comp=Z,3.4nm,1.0s							
KBA	**Koelnbreinsper**	**4.89**	**203**	*e*Pn		**Pn**	**03 53 34.0**	**+0.7**
	comp=Z,3.4nm,0.4s,SNR=7.1							
KBA				*e*Sn		**Sn**	**03 54 29.9**	**-0.8**
	comp=Z,1.4nm,0.5s							
SOKA	**Soboth**	**5.00**	**188**	*e*Pn		**Pn**	**03 53 34.5**	**-0.2**
	comp=Z,0.7nm,0.4s							
AKASG	**Malin Array Be**	**8.30**	**91**	Pn		**Pn**	**03 54 20.5**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=280,slow=12,SNR=1.3							
	comp=Z,0.2nm,0.2s							
NOA	**NORSAR Array B**	**9.82**	**346**	Pn		**Pn**	**03 54 41.0**	**+0.3**
	baz=157,slow=12,SNR=1.5							
	comp=Z,1.0nm,1.0s							
FINES	**FINESS Array B**	**11.26**	**25**	Pn		**Pn**	**03 55 00.4**	**0.0**
	comp=Z,0.1nm,0.3s,baz=210,slow=16,SNR=3.7							
	comp=Z,0.5nm,0.5s							

*SJA **03** 04:01:36.2±0.8,24.˚19S×69.˚69W, h97km±5km, ML3.5, MW3.7*
*GUC **03** 04:01:38.2±0.4,24.˚20S×69.˚63W, h84km±3km, ML3.5*
ISC 03 04:01:38.9±1.3,24.˚18S±0.˚03×69.˚65W±0.˚07, h80km±12km, n33, σ1.960/53, 1C-1D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PB14	**IPOC Station P**	**0.82**	**237**	*e*P		**Pn**	**04 01 55.4**	**-0.8**
PB14				*e*S		**Sn**	**04 02 09.8**	**+0.7**
PB14				IAML			04 02 13.3	
	comp=Z,696nm,0.4s							
PB14	**IPOC Station P**	**0.82**	**237**	*e*P		**Pn**	**04 01 56.0**	**-0.2**
PB14				*i* S		**Sn**	**04 02 09.0**	**-0.1**
PB15	**IPOC Station P**	**0.98**	**10**	*e*P		**Pn**	**04 01 57.8**	**-0.2**
PB15				*e*S		**Sn**	**04 02 12.6**	**+0.4**
PB15	**IPOC Station P**	**0.98**	**10**	*e*P		**Pn**	**04 01 57.8**	**-0.2**
PB15				*i* S		**Sn**	**04 02 12.3**	**+0.1**
GO02	**Mina Guanaco**	**0.98**	**177**	*e*P		**Pn**	**04 01 57.4**	**-0.7**
GO02				*e*S		**Sn**	**04 02 12.6**	**+0.2**
GO02				IAML			04 02 13.1	
	comp=Z,1μm,0.7s							
GO02	**Mina Guanaco**	**0.98**	**177**	*i* P		**Pn**	**04 01 57.5**	**-0.6**
GO02				*i* S		**Sn**	**04 02 12.0**	**-0.3**
GO02				IAML			04 02 12.9	
	comp=N,1μm,0.5s							
PB05	**IPOC Station P**	**1.41**	**339**	*e*P		**Pn**	**04 02 02.4**	**-0.9**
PB05				*e*P			04 02 03.1	
PB05				*e*S		**Sn**	**04 02 24.1**	**+2.5**
PB05				IAML			04 02 25.7	
	comp=Z,324nm,0.3s							
PB05	**IPOC Station P**	**1.41**	**339**	*i* P		**Pn**	**04 02 03.1**	**-0.2**
PB05				*i* S		**Sn**	**04 02 21.6**	**0.0**
PB05				IAML			04 02 25.9	
	comp=E,644nm,0.4s							
PB06	**IPOC Station P**	**1.47**	**3**	*e*P		**Pn**	**04 02 03.3**	**-0.7**
PB06				*e*S		**Sn**	**04 02 23.5**	**+0.5**
PB06				IAML			04 02 27.0	
	comp=Z,575nm,0.3s							
PB06	**IPOC Station P**	**1.47**	**3**	*e*P		**Pn**	**04 02 03.9**	**-0.2**
PB06				*e*S		**Sn**	**04 02 23.4**	**+0.5**
PB06				IAML			04 02 25.2	
	comp=E,654nm,0.2s							
LVC	**Limon Verde**	**1.70**	**24**	*e*P		**Pn**	**04 02 07.3**	**0.0**
LVC				*e*S		**Sn**	**04 02 29.9**	**+1.2**
LVC				IAML			04 02 32.7	
	comp=Z,304nm,0.5s							
LVC	**Limon Verde**	**1.70**	**24**	*e*P		**Pn**	**04 02 07.2**	**-0.1**
LVC				*e*S		**Sn**	**04 02 28.7**	**0.0**
AF01	**San Pedro de A**	**1.82**	**48**	IAML			04 02 38.2	
	comp=N,757nm,0.6s							
PB04	**IPOC Station P**	**1.89**	**346**	*e*P		**Pn**	**04 02 08.4**	**-1.2**
PB04				*e*S		**Sn**	**04 02 33.8**	**+0.9**
PB04				IAML			04 02 42.8	
	comp=Z,249nm,0.5s							
AC01	**Pan de Azucar**	**2.14**	**203**	*e*P		**Pn**	**04 02 11.9**	**-0.8**
AC01				*e*S		**Sn**	**04 02 42.4**	**+3.9**
AC01				IAML			04 02 44.3	
	comp=Z,197nm,0.6s							
AC01	**Pan de Azucar**	**2.14**	**203**	*e*P		**Pn**	**04 02 12.3**	**-0.4**
AC01				IAML			04 02 44.8	
	comp=E,531nm,0.1s							
PB09	**IPOC Station P**	**2.40**	**9**	*e*P		**Pn**	**04 02 16.7**	**+0.3**
PB09				*e*S		**Sn**	**04 02 42.1**	**-2.9**
PB09				IAML			04 02 54.9	
	comp=Z,160nm,0.3s							
PB09	**IPOC Station P**	**2.40**	**9**	*e*P		**Pn**	**04 02 16.8**	**+0.4**
PB09				*i* S		**Sn**	**04 02 46.3**	**+1.3**
PB09				IAML			04 02 58.0	
	comp=E,315nm,0.5s							
PB07	**IPOC Station P**	**2.45**	**355**	*e*P		**Pn**	**04 02 16.2**	**-0.8**
PB07				*e*S		**Sn**	**04 02 51.1**	**+4.9**
PB07				IAML			04 02 56.1	
	comp=Z,144nm,0.2s							
PB07	**IPOC Station P**	**2.45**	**355**	*e*P		**Pn**	**04 02 16.3**	**-0.8**
PB07				IAML			04 02 54.7	
	comp=N,224nm,0.3s							
AC02	**Maricunga**	**2.69**	**170**	*e*P		**Pn**	**04 02 21.0**	**+0.5**
AC02				IAML			04 03 03.1	
	comp=Z,114nm,0.2s							
PB02	**IPOC Station P**	**2.85**	**355**	*e*P		**Pn**	**04 02 21.5**	**-0.9**
PB02				*e*S		**Sn**	**04 02 53.6**	**-2.3**
PB02				IAML			04 03 06.8	
	comp=Z,291nm,0.3s							
PB02	**IPOC Station P**	**2.85**	**355**	*e*P		**Pn**	**04 02 21.5**	**-0.9**
PB01	**IPOC Station P**	**3.12**	**3**	*e*P		**Pn**	**04 02 25.4**	**-0.7**
PB01				*e*S		**Sn**	**04 03 03.1**	**+0.7**
PB01				IAML			04 03 10.2	
	comp=Z,131nm,0.3s							
AC06	**Mina Casimiro**	**3.23**	**191**	*e*P		**Pn**	**04 02 27.5**	**+0.1**
AC06				IAML			04 03 24.2	
	comp=Z,145nm,0.3s							
PATCX	**Punta Patache**	**3.38**	**352**	*e*P		**Pn**	**04 02 27.6**	**-1.8**
PATCX				*e*S		Sn	04 03 19.4	+11
PATCX				IAML			04 03 20.4	
	comp=Z,88nm,0.5s							
GO03	**Copiap**	**3.44**	**189**	*e*P		**Pn**	**04 02 30.0**	**-0.3**
GO03				*e*S		**Sn**	**04 03 08.1**	**-1.9**
GO03				IAML			04 03 30.4	
	comp=Z,92nm,0.9s							
GO03	**Copiap**	**3.44**	**189**	*e*P		**Pn**	**04 02 30.1**	**-0.3**
TA01	**Diego Aracena**	**3.63**	**352**	*e*P		**Pn**	**04 02 29.9**	**-2.9**
TA01				*e*S		**Sn**	**04 03 19.6**	**+5.1**
TA01				IAML			04 03 31.0	
	comp=Z,70nm,0.7s							
HMBC	**Humberstone**	**3.89**	**357**	*e*P		**Pn**	**04 02 34.8**	**-1.7**
HMBC				*e*S		Sn	04 03 34.3	+13
PB08	**IPOC Station P**	**4.04**	**7**	*e*P		**Pn**	**04 02 37.9**	**-1.0**
PB08				*e*S		Sn	04 03 40.6	+15
PB11	**IPOC Station P**	**4.40**	**360**	*e*P		**Pn**	**04 02 41.3**	**-2.1**
PB11				*e*S		Sn	04 03 40.6	+7.1
GO01	**Chusmiza**	**4.51**	**5**	*e*P		**Pn**	**04 02 44.2**	**-1.0**
GO01				*e*S		Sn	04 03 47.1	+10

*NEIC **03** 04:06:45±1.4, 19.˚44N±0.˚02×154.˚96W±0.˚03, h5km±2km, Error ellipse: s-maj=5.1km s-min=3.1km az=120.0*
HVO 03 04:06:43.9±1.1, 19.˚45N±0.˚02×154.˚91W±0.˚03, h3km±8km, ML3.0/2, ML2.9/40(NEIC), Error ellipse: s-maj=4.8km s-min=2.6km az=113.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOKA	**Jonika Flow**	**0.10**	**258**			**Pg**	**04 06 46.3**	**+0.4**
JCUZ	**Jacuzzi**	**0.20**	**249**			Sg	**04 06 50.9**	**+0.4**
STCH	**Steam Cracks**	**0.22**	**252**			**Pg**	**04 06 48.4**	**+0.2**
KNHH	**Kane Nui o Ham**	**0.26**	**253**			**Pg**	**04 06 49.2**	**+0.3**
PUH	**Pauahi**	**0.30**	**255**			**Pg**	**04 06 50.0**	**+0.1**
HATHI	**Halema'uma'u T**	**0.34**	**265**			**Pg**	**04 06 50.4**	**-0.1**
HATHI	**Halema'uma'u T**	**0.34**	**265**	IAML			**04 06 57.7**	
	comp=N,1μm,0.2s							
HATHI				IAML			04 07 00.7	
	comp=E,843nm,0.4s							
SBLHI	**Steaming Bluff**	**0.34**	**266**			**Pg**	**04 06 50.5**	**-0.1**
SBLHI	**Steaming Bluff**	**0.34**	**266**	IAML			**04 06 59.4**	
	comp=E,613nm,0.3s							
SBLHI				IAML			04 07 02.1	
	comp=N,865nm,0.4s							
KKO	**Keanakako`i**	**0.34**	**261**			**Pg**	**04 06 50.6**	**0.0**
KKO	**Keanakako`i**	**0.34**	**261**	IAML			**04 06 59.0**	
	comp=E,740nm,0.5s							
KKO				IAML			04 07 00.4	
	comp=N,1μm,1.0s							
RSD	**Rainshed**	**0.35**	**271**			**Pg**	**04 06 51.1**	**+0.4**
RSD				IAML			04 06 58.2	
	comp=N,2μm,0.3s							
RSD				IAML			04 06 59.2	
	comp=E,2μm,0.3s							
RIM	**Rim**	**0.35**	**261**			**Pg**	**04 06 51.4**	**+0.7**
RIM	**Rim**	**0.35**	**261**	IAML			**04 07 00.8**	
	comp=E,677nm,0.5s							
RIM				IAML			04 07 03.9	
	comp=N,992nm,0.4s							
UWB	**Uwekahuna B**	**0.35**	**265**			**Pg**	**04 06 51.1**	**+0.3**
UWB	**Uwekahuna B**	**0.35**	**265**	IAML			**04 06 55.5**	
	comp=E,255nm,2.2s							
UWB				IAML			04 07 02.6	
	comp=N,401nm,0.4s							
OBL	**Observatory Le**	**0.36**	**264**			**Pg**	**04 06 51.8**	**+0.8**
OBL	**Observatory Le**	**0.36**	**264**	IAML			**04 07 00.1**	
	comp=N,2μm,0.5s							
OBL				IAML			04 07 01.9	
	comp=E,2μm,0.5s							
UWE	**Uwekahuna**	**0.37**	**265**			**Pg**	**04 06 51.7**	**+0.7**
UWE	**Uwekahuna**	**0.37**	**265**	IAML			**04 06 59.1**	
	comp=N,1μm,0.9s							
UWE				IAML			04 06 59.8	
	comp=E,1μm,0.5s							
SDHHI	**Sand Hill**	**0.37**	**260**			**Pg**	**04 06 51.8**	**+0.7**
SDHHI	**Sand Hill**	**0.37**	**260**	IAML			**04 06 58.7**	
	comp=N,1μm,0.6s							
SDHHI				IAML			04 07 02.5	
	comp=E,1μm,1.0s							
WRMHI	**West Rim**	**0.38**	**263**			**Pg**	**04 06 51.8**	**+0.6**
WRMHI	**West Rim**	**0.38**	**263**	IAML			**04 06 59.4**	
	comp=N,1μm,0.6s							
WRMHI				IAML			04 07 02.2	
	comp=E,2μm,0.4s							
HLP	**Hilina Pali**	**0.41**	**248**			**Pg**	**04 06 52.4**	**+0.5**
HLP				IAML			04 07 06.2	
	comp=E,1μm,0.8s							
MLH	**Mauna Loa**	**0.46**	**275**			**Pg**	**04 06 53.2**	**+0.5**
MLH				IAML			04 07 05.0	
	comp=E,1μm,0.3s							
HTC	**Hot Caves**	**0.51**	**245**			**Pg**	**04 06 54.0**	**+0.2**
HMH	**Humu'ula Sheep**	**0.56**	**285**			**Pg**	**04 06 55.0**	**+0.2**
MLOA	**Mauna Loa Obse**	**0.64**	**277**			**Pg**	**04 06 56.0**	**-0.3**
MLOA	**Mauna Loa Obse**	**0.64**	**277**			**Sg**	**04 07 05.1**	**+0.5**
MLOA	**Mauna Loa Obse**	**0.64**	**277**	IAML			**04 07 06.0**	
	comp=N,1μm,0.3s							
MLOA				IAML			04 07 09.1	
	comp=E,553nm,0.3s							
MWH	**Moku'aweowe**	**0.65**	**273**			**Pg**	**04 06 56.0**	**-0.6**
MWH				IAML			04 07 12.1	
	comp=N,689nm,0.3s							
POHA	**Pohakuloa**	**0.66**	**297**			**Pg**	**04 06 56.0**	**-0.7**
POHA				IAML			04 07 20.3	
	comp=N,715nm,0.5s							
ALEP	**Alea Permanent**	**0.70**	**277**			**Sg**	**04 07 07.3**	**+0.7**
HUH	**Hualalai**	**0.91**	**285**	Pg		**Pg**	**04 07 01.2**	**-0.1**
HPAH	**Hawaii Prepara**	**0.94**	**308**	Pg		**Pg**	**04 07 01.5**	**-0.5**
HPAH				IAML			04 07 25.0	
	comp=N,293nm,0.5s							
HPAH				IAML			04 07 34.6	
	comp=E,274nm,0.8s							

*NEIC **03** 04:26:16.6±1.4, 19.˚40N±0.˚02×154.˚82W±0.˚02, h5km±1km, Error ellipse: s-maj=3.4km s-min=3.0km az=123.0*
HVO 03 04:26:17.7±1.4, 19.˚47N±0.˚02×154.˚88W±0.˚03, h2km±6km, ML3.1/31, ML3.0/46(NEIC), Error ellipse: s-maj=4.4km s-min=1.9km az=109.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PHO	**Puu Honuaula**	**0.01**	**317**			**Pg**	**04 26 18.6**	**+0.4**
JOKA	**Jonika Flow**	**0.12**	**251**			**Pg**	**04 26 20.6**	**+0.5**
JOKA						Sg	04 26 23.0	+1.3
JCUZ	**Jacuzzi**	**0.23**	**247**			**Pg**	**04 26 21.9**	**-0.1**
JCUZ				IAML			04 26 28.9	
	comp=N,3μm,0.2s							
JCUZ				IAML			04 26 29.1	
	comp=E,2μm,0.2s							
NPOC	**North of Pu'u**	**0.23**	**250**			**Pg**	**04 26 27.3**	**+5.2**
NPOC	**North of Pu'u**	**0.23**	**250**	IAML			**04 26 27.4**	
	comp=N,5μm,0.2s							
NPOC				IAML			04 26 27.9	
	comp=E,8μm,0.3s							
STCH	**Steam Cracks**	**0.25**	**249**			**Pg**	**04 26 21.3**	**-1.1**
KNHH	**Kane Nui o Ham**	**0.29**	**251**			**Pg**	**04 26 23.8**	**+0.6**
PUH	**Pauahi**	**0.33**	**253**			**Pg**	**04 26 23.5**	**-0.6**
HATHI	**Halema'uma'u T**	**0.36**	**262**			**Pg**	**04 26 24.6**	**-0.1**
HATHI				IAML			04 26 35.4	
	comp=N,1μm,0.7s							
HATHI				IAML			04 26 35.6	
	comp=E,1μm,0.6s							
BYL	**Byron's Ledge**	**0.36**	**260**			**Pg**	**04 26 24.3**	**-0.3**
BYL				IAML			04 26 35.1	
	comp=E,1μm,0.7s							
SBLHI	**Steaming Bluff**	**0.37**	**263**			Pn	**04 26 29.1**	**-1.0**
SBLHI				IAML			04 26 34.4	
	comp=E,1μm,0.6s							
KKO	**Keanakako`i**	**0.37**	**258**			**Pg**	**04 26 24.4**	**-0.4**
KKO				IAML			04 26 34.8	
	comp=

MLOA				IAML		04 26 53.7	
	comp=N,689nm,0.7s						
MWH	**Moku'aweowe**	**0.68**	**271**		Pg	04 26 30.2	-0.4
POHA	**Pohakuloa**	**0.68**	**295**		Pg	04 26 29.9	-0.7
ALEP	**Alea Permanent**	**0.72**	**275**		Pg	04 26 30.8	-0.7
KHU	**Kahuku**	**0.73**	**252**		Pg	04 26 30.6	-1.1
HUH	**Hualalai**	**0.92**	**283**	Pg	Pg	04 26 35.0	-0.4
HPAH	**Hawaii Prepara**	**0.95**	**306**	Pg	Pg	04 26 35.4	-0.4
HPAH				IAML		04 27 09.9	
	comp=N,778nm,0.8s						
MHA	**Mahukona**	**1.20**	**307**	Pg	Pg	04 26 40.7	+0.1

*IDC **03** 04:36:27.0±1.1,34.°80N×137.°21E,h296km±9km,mb3.0/8, mbtmp3.8/9, Error ellipse: s-maj=30.5km s-min=15.3km az=76.0*
*JMA **03** 04:36:30.3±0.2,35°N±1.°×13.°7E±.°,h306km±1km,MV3.0/28, SE GIFU PREF*
ISC 03 04:36:30.6±0.9,35°.4N±0.°1×137°.05E±0.°09,h302km±7km, n22,σ0°58/25,mb3.1/8,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAO	**Obara**	**0.19**	**114**	*eP*	**Pn**	**04 37 08.9**	**-0.2**
JAO				*eS*	**S**	**04 37 39.3**	**-0.3**
JYTA	**Yamagatataniai**	**0.35**	**314**	*eS*	**S**	**04 37 40.0**	**+0.2**
JIE	**Ise**	**0.99**	**196**	*eP*	**Pn**	**04 37 11.4**	**+0.1**
JKG	**Kaga**	**1.10**	**328**	*eP*	**Pn**	**04 37 11.8**	**+0.2**
JWT	**Wachi**	**1.35**	**268**	*eP*	**Pn**	**04 37 13.3**	**+0.2**
JWT				*eS*	**S**	**04 37 46.2**	**-0.6**
MAT	**Matsushiro**	**1.52**	**38**	*eP*	**Pn**	**04 37 14.5**	**+0.3**
MJAR	**Matsushiro Arr**	**1.52**	**38**	P	**Pn**	**04 37 14.2**	**+0.1**
	23nm,0.4s,baz=203,slow=8.2,SNR=119						
MJAR				S	**S**	**04 37 49.4**	**+0.6**
	7.4nm,0.8s,baz=219,slow=12,SNR=7.4						
JWY	**Kouya**	**1.64**	**227**	*eP*	**Pn**	**04 37 15.2**	**+0.1**
JRY	**Ryogami san**	**1.65**	**66**	*eP*	**Pn**	**04 37 15.6**	**+0.5**
JRY				*eS*	**S**	**04 37 51.1**	**+0.7**
TTO1	**TONANKAI O.B.S**	**1.73**	**187**	P	**Pn**	**04 37 16.1**	**+0.8**
JTNC	**Tanabenakahech**	**1.93**	**218**	*eP*	**Pn**	**04 37 16.9**	**-0.3**
JAG	**Ashikaga**	**2.23**	**60**	*eP*	**Pn**	**04 37 19.0**	**-0.5**
JAG				*eS*	**S**	**04 37 56.7**	**-1.7**
JAI	**Aioi**	**2.64**	**235**	*eP*	**Pn**	**04 37 22.8**	**-0.4**
JCJ	**Chichijima**	**9.32**	**150**	P	Pn	04 38 29.4	-11
	34nm,0.7s,baz=229,slow=21,SNR=1.9						
JCJ				S	S	04 40 09.3	-17
	14nm,0.3s,baz=275,slow=23,SNR=6.0						
KURBB	**Kurchatov Arra**	**44.28**	**309**	P	**P**	**04 44 10.8**	**+0.1**
	0.1nm,0.3s,baz=95,slow=7.9,SNR=2.5						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**52.79**	**31**	P	**P**	**04 45 14.2**	**-0.8**
	0.5nm,0.9s,baz=268,slow=8.0,SNR=4.9						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**58.77**	**183**	P	P	04 45 51.5	-6.1
	0.4nm,0.9s,baz=18,slow=6.5,SNR=2.9						
	0.4nm,0.9s						
ARCES	**ARCESS Array B**	**64.31**	**339**	P	**P**	**04 46 34.0**	**+0.2**
	4.0nm,0.9s,baz=57,slow=8.7,SNR=3.3						
	4.0nm,0.9s						
YKA	**Yellowknife Ar**	**67.01**	**29**	P	**P**	**04 46 51.5**	**+0.4**
	0.1nm,0.6s,baz=300,slow=7.2,SNR=5.4						
	0.1nm,0.6s						
FINES	**FINESS Array B**	**68.62**	**331**	P	**P**	**04 47 01.2**	**+0.1**
	1.3nm,0.5s,baz=67,slow=6.9,SNR=13						
	1.3nm,0.5s						
HFS	**Hagfors**	**74.12**	**334**	P	**P**	**04 47 34.0**	**+0.3**
	1.6nm,0.8s,baz=45,slow=7.4,SNR=1.8						
	1.6nm,0.8s						
NOA	**NORSAR Array B**	**74.33**	**336**	P	**P**	**04 47 35.4**	**+0.4**
	0.6nm,0.9s,baz=35,slow=5.1,SNR=1.6						
	0.6nm,0.9s						

*IDC **03** 04:54:46.1±1.1,1.°85N×127.°48E,h0km,mb4.0/8, mbtmp4.0/8,MS3.6/4, Error ellipse: s-maj=46.7km s-min=23.8km az=78.0*
*DJA **03** 04:54:51.9±0.4,2.°N±3.°×12.°7E±.°,h10km,M4.3/12,mb4.5/6, mB5.1/3,MLv4.2/12,Mw(mB)4.5/3*
*NEIC **03** 04:54:54.3±1.0,1.°86N±0.°07×127.°36E±0.°08,h49km±8km, mb4.4/46, Error ellipse: s-maj=14.6km s-min=5.6km az=53.0*
ISC 03 04:54:53.5±0.6,1.°91N±0.°05×127.°42E±0.°09,h50km,n73, σ1°33/73,mb4.4/32,MS3.7/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.13**	**183**		**Pn**	**04 55 12.9**	**-0.1**
TNTI				Sn	**Sn**	**04 55 27.3**	**-0.1**
TNTI	**Ternate**	**1.13**	**183**	P	**Pn**	**04 55 12.7**	**-0.3**
TNTI				S	**Sn**	**04 55 25.9**	**-1.5**
LBMI	**Labuha**	**2.53**	**178**	P	**Pn**	**04 55 33.1**	**+1.0**
LBMI				S	**Sn**	**04 56 06.5**	**+4.8**
SGSI	**Sangihe**	**2.58**	**313**	P	**Pn**	**04 55 32.4**	**-0.5**
KMSI	**Cibinong**	**3.68**	**249**	P	**Pn**	**04 55 48.2**	**+0.3**
SANI	**Sanana**	**4.18**	**200**	P	**Pn**	**04 55 53.6**	**-1.2**
GTOI	**Gorontalo**	**4.58**	**254**	P	**Pn**	**04 56 01.3**	**+1.0**
NLAI	**Namlea**	**5.12**	**184**	P	**Pn**	**04 56 08.0**	**+0.3**
	14nm,0.7s,3µm0.5nm						
LUWI	**Luwuk**	**5.49**	**238**	Pn	**Pn**	**04 56 12.0**	**-0.7**
LUWI	**Luwuk**	**5.49**	**238**	P	**Pn**	**04 56 13.4**	**+0.6**
	63nm,0.7s,0.4nm						
TOLI2	**Tolitoli**	**6.68**	**263**	Pn	**Pn**	**04 56 28.5**	**-0.6**
KAPI	**Kappang**	**10.29**	**228**	Pn	**Pn**	**04 57 18.1**	**-0.4**
BATI	**Baumata**	**12.60**	**197**	LR	LR	05 03 21.4	
	comp=Z,96nm,18.3s,baz=327,slow=41						
FITZ	**Fitzroy Crossi**	**19.96**	**185**	P	**P**	**04 59 19.2**	**-2.4**
WB0	**Warramunga Arr**	**22.60**	**163**	P	**P**	**04 59 48.5**	**-1.6**
WRAB	**Tennant Creek**	**22.75**	**163**	P	**P**	**04 59 47.6**	**-4.0**
WB2	**Warramunga Arr**	**22.76**	**163**	P	**P**	**04 59 49.4**	**-2.3**
WR0	**Warramunga Arr**	**22.83**	**162**	P	**P**	**04 59 50.3**	**-2.1**
MBWA	**Marble Bar**	**24.13**	**198**	P	**P**	**05 00 05.3**	**+0.5**
MBWA				IAmb	IAmb	05 00 32.8	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**26.19**	**166**	P	**P**	**05 00 24.4**	**+0.8**
ASAR	**Alice Springs**	**26.19**	**166**	P	**P**	**05 00 22.1**	**-1.5**
	comp=Z,0.6nm,0.5s,baz=348,slow=7.2,SNR=8.5						
ASAR				LR	LR	05 12 03.8	
	comp=Z,27nm,20.8s,baz=260,slow=40						
	comp=Z,0.6nm,0.5s						
BBOO	**Buckleboo**	**35.48**	**167**	P	**P**	**05 01 45.0**	**-0.4**
MJAR	**Matsushiro Arr**	**35.88**	**15**	P	**P**	**05 01 48.3**	**-0.5**
	comp=Z,1.1nm,0.5s,baz=194,slow=9.0,SNR=5.7						
	comp=Z,1.1nm,0.5s						
USRK	**Ussuriysk Ar.**	**42.31**	**5**	P	**P**	**05 02 43.6**	**+1.3**
	comp=Z,1.9nm,0.7s,baz=187,slow=7.3,SNR=2.1						
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**49.23**	**341**	P	**P**	**05 03 36.0**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=154,slow=8.0,SNR=2.2						
	comp=Z,0.5nm,0.6s						
PETK	**Petropavlovsk-**	**56.86**	**21**	P	**P**	**05 04 31.5**	**-1.5**
	comp=Z,3.0nm,1.0s,baz=218,slow=8.5,SNR=2.5						
	comp=Z,3.0nm,1.0s						
MK31	**Makanchi Array**	**59.44**	**326**	P	**P**	**05 04 51.7**	**+0.5**
MK31				IAmb	IAmb	05 04 53.2	
	comp=Z,2.7nm,1.1s						
MKAR	**Makanchi Array**	**59.44**	**326**	P	**P**	**05 04 51.7**	**+0.5**
	comp=Z,2.3nm,0.5s,baz=117,slow=7.8,SNR=28						
	comp=Z,2.3nm,0.5s						
NNZ	**Nelson**	**59.84**	**141**	P	**P**	**05 04 53.8**	**-0.2**
KURBB	**Kurchatov Arra**	**63.63**	**328**	P	**P**	**05 05 19.5**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=128,slow=6.2,SNR=21						
	comp=Z,1.7nm,0.4s						
KURK	**Kurchatov**	**63.64**	**328**	P	**P**	**05 05 19.8**	**+0.4**
KURK				IAmb	IAmb	05 05 20.8	
	comp=Z,3.4nm,0.7s						
ROCAM	**Rodrigues Isla**	**66.37**	**248**	P	**P**	**05 05 38.3**	**+0.6**
BVAR	**Borovoye Array**	**69.21**	**327**	P	**P**	**05 05 54.7**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=110,slow=11,SNR=4.2						
	comp=Z,1.0nm,0.7s						
GEYT	**Alibeck**	**72.57**	**309**	LR	LR	05 40 25.0	
	comp=Z,359nm,20.9s,baz=254,slow=38						
ABKAR	**Akbulak array**	**73.99**	**321**	P	**P**	**05 06 23.5**	**-0.3**
ABKAR	**Akbulak array**	**73.99**	**321**	P	**P**	**05 06 24.6**	**+0.8**
ABKAR				IAmb	IAmb	05 06 27.8	
	comp=Z,0.8nm,0.8s						
K15K	**Wolf Creek Mou**	**79.58**	**27**	P	**P**	**05 06 56.5**	**+1.4**
L16K	**Owhat River**	**80.36**	**28**	P	**P**	**05 07 00.6**	**+1.3**
L16K				IAmb	IAmb	05 07 19.9	
	comp=Z,9.7nm,1.4s						
F17K	**Baldwin Pennin**	**80.86**	**23**	P	**P**	**05 07 03.7**	**+1.8**
F17K				IAmb	IAmb	05 07 40.2	
	comp=Z,12nm,1.5s						
H17K	**Granite Mounta**	**80.98**	**24**	P	**P**	**05 07 04.0**	**+1.4**
H17K				IAmb	IAmb	05 07 39.8	
	comp=Z,3.6nm,1.1s						
C18K	**Utukok River**	**81.51**	**21**	P	**P**	**05 07 06.5**	**+1.2**
C18K				IAmb	IAmb	05 07 19.3	
	comp=Z,6.3nm,1.5s						
L18K	**Granite Mounta**	**81.76**	**27**	P	**P**	**05 07 08.2**	**+1.5**
L18K				IAmb	IAmb	05 07 38.4	
	comp=Z,6.2nm,1.4s						
J18K	**Innoko River**	**82.00**	**26**	P	**P**	**05 07 09.4**	**+1.4**
J18K				IAmb	IAmb	05 07 44.2	
	comp=Z,6.0nm,1.4s						
TTA	**Tatalina**	**82.21**	**27**	P	**P**	**05 07 10.2**	**+1.1**
TTA				IAmb	IAmb	05 07 25.2	
	comp=Z,5.3nm,1.4s						
G19K	**Purcell Mounta**	**82.42**	**23**	P	**P**	**05 07 11.0**	**+0.9**
G19K				IAmb	IAmb	05 07 12.6	
	comp=Z,6.7nm,1.2s						
H19K	**Roundabout Mou**	**82.54**	**24**	P	**P**	**05 07 12.4**	**+1.7**
H19K				IAmb	IAmb	05 07 13.2	
	comp=Z,2.5nm,0.7s						
D19K	**Kuna River**	**82.56**	**21**	P	**P**	**05 07 12.3**	**+1.4**
E19K	**Redstone River**	**82.65**	**22**	P	**P**	**05 07 12.6**	**+1.3**
E19K				IAmb	IAmb	05 07 13.9	
	comp=Z,2.4nm,0.8s						
M19K	**Big River Lodg**	**82.77**	**28**	P	**P**	**05 07 13.3**	**+1.3**
KDAK	**Kodiak Island**	**83.06**	**32**	P	**P**	**05 07 14.6**	**+1.1**
B20K	**Meade River**	**83.25**	**20**	P	**P**	**05 07 15.8**	**+1.5**
RSO	**Redoubt South**	**83.33**	**29**	P	**P**	**05 07 16.6**	**+1.4**
M20K	**Styx River**	**83.35**	**28**	P	**P**	**05 07 16.7**	**+1.5**
M20K				IAmb	IAmb	05 07 45.3	
	comp=Z,8.6nm,1.4s						
IMAR	**Indian Mountai**	**83.72**	**24**	P	**P**	**05 07 18.3**	**+1.5**
G21K	**Allakaket**	**83.91**	**23**	P	**P**	**05 07 17.9**	**+0.2**
PPLA	**Purkeypile**	**83.93**	**27**	P	**P**	**05 07 19.2**	**+1.1**
B21K	**Ikpikpuk River**	**84.03**	**20**	P	**P**	**05 07 18.9**	**+0.6**
B21K				IAmb	IAmb	05 07 26.6	
	comp=Z,3.3nm,1.2s						
CAST	**Castle Rocks**	**84.05**	**26**	P	**P**	**05 07 20.2**	**+1.6**
H21K	**Melozitna Rive**	**84.05**	**24**	P	**P**	**05 07 19.8**	**+1.2**
H21K				IAmb	IAmb	05 07 48.8	
	comp=Z,2.7nm,1.2s						
SKT	**Skwentna**	**84.11**	**28**	P	**P**	**05 07 18.8**	**-0.1**
SKT				IAmb	IAmb	05 07 19.6	
	comp=Z,5.5nm,1.3s						
SUA	**Susitna One**	**84.43**	**29**	P	**P**	**05 07 21.3**	**+0.6**
SUA				IAmb	IAmb	05 07 40.2	
	comp=Z,5.0nm,1.2s						
B22K	**Teshekpuk Lake**	**84.57**	**20**	P	**P**	**05 07 22.2**	**+1.2**
B22K				IAmb	IAmb	05 07 25.4	
	comp=Z,5.1nm,1.4s						
KTH	**Kantishna Hill**	**84.58**	**26**	P	**P**	**05 07 22.5**	**+1.1**
E22K	**Anaktuvuk Pass**	**84.80**	**22**	P	**P**	**05 07 23.6**	**+1.3**
E22K				IAmb	IAmb	05 07 37.0	
	comp=Z,2.8nm,1.4s						
RC01	**Rabbit Creek A**	**84.87**	**29**	P	**P**	**05 07 23.1**	**+0.4**
C23K	**Itkillik River**	**85.45**	**20**	P	**P**	**05 07 27.0**	**+1.5**
C23K				IAmb	IAmb	05 08 06.3	
	comp=Z,3.9nm,1.4s						
RND	**Reindeer**	**85.49**	**27**	P	**P**	**05 07 26.0**	**+0.1**
RND				IAmb	IAmb	05 07 36.3	
	comp=Z,5.6nm,1.4s						
SML	**Sawmill**	**85.61**	**28**	P	**P**	**05 07 27.2**	**+0.7**
SML				IAmb	IAmb	05 07 34.6	
	comp=Z,5.5nm,1.2s						
GLI	**Glacier Island**	**86.14**	**29**	P	**P**	**05 07 29.8**	**+0.7**
BMAR	**Burnt Mountain**	**87.48**	**23**	P	**P**	**05 07 36.2**	**+0.6**
E28M	**Babbage River**	**89.36**	**21**	P	**P**	**05 07 44.9**	**+0.6**
I28M	**Miner Creek**	**89.39**	**25**	P	**P**	**05 07 45.5**	**+0.8**
I28M				IAmb	IAmb	05 07 45.9	
	comp=Z,1.3nm,0.8s						
BRTR	**Keskin Array B**	**91.70**	**310**	LR	LR	05 55 23.6	
	comp=Z,24nm,18.2s,baz=306,slow=40						

*NEIC **03** 04:59:42.3±1.8,19.°45N±0.°01×154.°92W±0.°03,h5km±2km, Error ellipse: s-maj=5.3km s-min=3.0km az=289.0*
HVO 03 04:59:41.2±1.7,19.°45N±0.°02×154.°86W±0.°03,h2km±9km, ML2.4/3,ML2.4/18(NEIC),Error ellipse: s-maj=5.0km s-min=2.1km az=110.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.04**	**311**		Pg	04 59 42.8	+0.7
JOKA	**Jonika Flow**	**0.14**	**262**		Pg	04 59 43.9	-0.1
PUH	**Pauahi**	**0.35**	**257**		Sg	04 59 53.2	+0.7
PUH	**Pauahi**	**0.35**	**257**		Pg	04 59 48.2	+0.3
PUH	**Pauahi**	**0.35**	**257**	IAML		04 59 50.9	
	comp=E,139nm,3.9s						
PUH	**Pauahi**	**0.35**	**257**	IAML		04 59 59.9	
	comp=N,209nm,1.7s						
SBLHI	**Steaming Bluff**	**0.39**	**266**		Pg	04 59 48.8	+0.1
SBLHI	**Steaming Bluff**	**0.39**	**266**	IAML		04 59 52.5	
	comp=E,162nm,3.4s						
SBLHI				IAML		04 59 52.6	
	comp=N,209nm,2.8s						
RSD	**Rainshed**	**0.40**	**271**		Pg	04 59 48.8	0.0
RSD				IAML		04 59 54.8	
	comp=E,387nm,3.7s						
RSD				IAML		04 59 56.0	
	comp=N,246nm,0.2s						
RSD	**Rainshed**	**0.40**	**271**		Sg	04 59 55.0	+0.9
HLP	**Hilina Pali**	**0.45**	**250**	IAML		05 00 02.8	
	comp=N,304nm,2.1s						
HLP	**Hilina Pali**	**0.45**	**250**		Pg	04 59 50.0	+0.1
HLP	**Hilina Pali**	**0.45**	**250**		Sg	04 59 56.7	+0.8
MLH	**Mauna Loa**	**0.50**	**275**		Pg	04 59 50.7	-0.1
MLH	**Mauna Loa**	**0.50**	**275**		Sg	04 59 57.8	+0.5
MLH	**Mauna Loa**	**0.50**	**275**	IAML		04 59 58.1	
	comp=E,231nm,0.2s						
MLH				IAML		04 59 58.7	
	comp=N,342nm,0.6s						
HMH	**Humu'ula Sheep**	**0.61**	**284**		Pg	04 59 52.4	-0.5
MWH	**Moku'aweowe**	**0.70**	**273**	IAML		04 59 59.3	
	comp=N,204nm,3.4s						
MWH				IAML		05 00 06.3	
	comp=E,226nm,3.0s						
MWH	**Moku'aweowe**	**0.70**	**273**		Pg	04 59 53.9	-0.7
MWH	**Moku'aweowe**	**0.70**	**273**		Sg	05 00 03.9	+0.1
POHA	**Pohakuloa**	**0.70**	**295**		Pg	04 59 54.3	-0.4
POHA				IAML		05 00 11.3	
	comp=E,136nm,2.1s						
POHA				IAML		05 00 17.3	
	comp=E,125nm,0.9s						
KHU	**Kahuku**	**0.74**	**254**		Pg	04 59 54.4	-1.1
KHU	**Kahuku**	**0.74**	**254**	IAML		05 00 20.9	
	comp=N,210nm,3.7s						

IDC 03 05:06:23.3±0.3,54.°08N×86.°48E,h0km,mbtmp2.6/2, ML2.4/2,Error ellipse: s-maj=23.7km s-min=14.4km az=60.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.99**	**263**	I	I	05 13 20.0	
	baz=81,slow=332,SNR=2.4						
ZALV	**Zalesovo Beam**	**0.99**	**263**	Pg	Pg	05 06 40.7	-1.5
	0.4nm,0.3s,baz=79,slow=19,SNR=4.6						
ZALV				Lg	Lg	05 06 56.4	
	1.3nm,0.3s,baz=86,slow=28,SNR=8.8						
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn	05 07 53.9	+1.0
	0.1nm,0.3s,baz=53,slow=13,SNR=2.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	05 08 18.7	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=1.4						
	0.1nm,0.3s						

GII 03 05:10:01.9±0.4,32.°91N×35.°50E,h0km,Md0.8/1, confirmed,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MMA0B	**Mount Meron ar**	**0.13**	**323**	P	Pg	05 10 05.3	+0.8
MMA0B	**Mount Meron ar**	**0.13**	**323**	S	Sg	05 10 08.6	+2.4
MMA0B	**Mount Meron ar**	**0.13**	**323**	P	Pg	05 10 05.2	+0.8
MMA0B	**Mount Meron ar**	**0.13**	**323**	S	Sg	05 10 08.3	+2.1
MMC7	**Mount Meron ar**	**0.14**	**322**	P	Pg	05 10 05.6	+0.9
MMC7	**Mount Meron ar**	**0.14**	**322**	P	Pg	05 10 05.4	+0.8
KSHT	**Keshet**	**0.27**	**74**	P	Pg	05 10 07.8	+0.7
KSHT	**Keshet**	**0.27**	**74**	S	Sb	05 10 15.6	+0.7
KSHT	**Keshet**	**0.27**	**74**	P	Pg	05 10 07.8	+0.6
KSHT	**Keshet**	**0.27**	**74**	S	Sb	05 10 13.1	-1.8
HNTI	**Hanita**	**0.32**	**303**	S	Sb	05 10 14.4	-1.9
HNTI	**Hanita**	**0.32**	**303**	P	Pg	05 10 08.8	+0.7
GEM	**Giv'at Ha'Em**	**0.33**	**25**	P	Pb	05 10 10.9	+0.2
GEM	**Giv'at Ha'Em**	**0.33**	**25**	S	Sb	05 10 17.4	+0.7
GEM	**Giv'at Ha'Em**	**0.33**	**25**	P	Pb	05 10 09.8	-0.9
GEM	**Giv'at Ha'Em**	**0.33**	**25**	S	Sb	05 10 16.0	-0.6
NATI	**Neve Ativ**	**0.41**	**29**	P	Pb	05 10 11.2	-0.7
NATI	**Neve Ativ**	**0.41**	**29**	S	Sb	05 10 18.6	-0.1
HMDT	**Nahal Hemdat**	**0.65**	**178**	P	Pb	05 10 15.5	-0.6
HMDT	**Nahal Hemdat**	**0.65**	**178**	S	Sb	05 10 26.3	+0.6

*JMA **03** 05:16:26.0±0.4,25.°N±2.°×12.°9E±.°,h47km,MV3.9/15,FAR S OFF OKINAWAJIMA*
*NIED **03** 05:16:26.0,25.°13N×129.°13E,h47km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-5.71; Mθθ3.21; Mϕϕ2.50; Mrθ0.22; Mθϕ5.02; Mϕr-2.24; Fault plane solution: M₀7.30000×10¹⁴ NP1:φs27.00000°, δ55.00000°,λ-117.00000°. NP2:φs249.00000°, δ44.00000°,λ-57.00000°.*
*IDC **03** 05:16:32.1±5.4,25.°44N×129.°11E,h44km±38km,mb3.6/9, mbtmp3.8/11,ML3.5/2,MS3.2/6 Error ellipse: s-maj=40.2km s-min=23.2km az=6.0*
ISC 03 05:16:30.5±1.0,25.°24N±0.°09×129.°10E±0.°05,h50km,n28, σ2°28/34,mb3.9/9,MS3.3/6,Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JJT3	**Tamagusuku3**	**1.49**	**307**	*eP*	**Pn**	**05 16 52.5**	**-2.3**
JJT3				*eS*	**Sn**	**05 17 11.4**	**-1.7**
JNTH	**Nagotoyohara**	**1.60**	**323**	*eP*	**Pn**	**05 16 54.0**	**-2.4**
JNTH				*eS*	**Sn**	**05 17 13.1**	**-2.7**
JOW	**Kunigami**	**1.75**	**335**	P	**Pn**	**05 16 56.8**	**-1.7**
	412nm,0.4s,baz=158,slow=14,SNR=439						
JOW				S	**Sn**	**05 17 17.1**	**-2.5**
	304nm,0.3s,baz=273,slow=28,SNR=19						
JOW				LR	LR	05 17 22.9	
	comp=Z,124nm,20.6s,baz=130,slow=32						
JOW	**Kunigami**	**1.75**	**335**	*eP*	**Pn**	**05 16 56.7**	**-1.7**
JOW				S	**Sn**	**05 17 17.8**	**-1.8**
JYRO	**Yoronjima**	**1.87**	**342**	*eP*	**Pn**	**05 16 58.4**	**-1.6**
JYRO				*eS*	**Sn**	**05 17 19.8**	**-2.6**
JMZ	**Minamidaito 2**	**2.00**	**73**	*eP*	Pn	05 16 57.8	-4.1
JIH	**Iheya**	**2.05**	**331**	*eP*	**Pn**	**05 17 01.1**	**-1.5**
JIH				*eS*	**Sn**	**05 17 24.9**	**-2.1**
JKDJ	**Kitadaitoujima**	**2.10**	**70**	*eP*	**Pn**	**05 16 59.7**	**-3.6**
JKDJ				*eS*	**Sn**	**05 17 24.4**	**-3.9**
JAGN	**Aguni-jima**	**2.14**	**309**	*eP*	**Pn**	**05 17 01.5**	**-2.3**
JAGN				*eS*	**Sn**	**05 17 26.6**	**-2.6**
JOKE	**Okinoerabujima**	**2.16**	**347**	P	**Pn**	**05 17 03.0**	**-1.1**
JOKE				*eS*	**Sn**	**05 17 27.8**	**-1.9**
JKE	**Kume jima 2**	**2.35**	**298**	P	**Pn**	**05 17 03.3**	**-3.3**
JKE				*eS*	**Sn**	**05 17 29.9**	**-4.3**
JTK	**Tokunoshima**	**2.54**	**357**	P	**Pn**	**05 17 08.0**	**-1.2**
JTK				*eS*	**Sn**	**05 17 36.8**	**-2.0**
JIRB	**Irabujima**	**3.59**	**264**	*eS*	Sn	05 17 57.9	-6.8
JNU	**Nakatsue**	**8.00**	**11**	P	**Pn**	**05 18 24.5**	**+0.3**
	1.0nm,0.3s,baz=220,slow=9.4,SNR=7.2						
JNU				S	**Sn**	**05 19 49.6**	**-3.7**
	11nm,1.0s,baz=190,slow=14,SNR=1.7						
	4.7nm,0.3s						
USRK	**Ussuriysk Ar.**	**19.06**	**6**	P	**Pn**	**05 20 49.7**	**0.0**
	0.1nm,0.3s,baz=178,slow=8.3,SNR=4.8						
	3.0nm,0.7s						
SONM	**Songino Array**	**28.80**	**327**	LR	LR	05 34 28.2	
	comp=Z,26nm,19.1s,baz=244,slow=38						
MKAR	**Makanchi Array**	**42.77**	**312**	P	**P**	**05 24 24.5**	**+1.4**
	1.4nm,0.6s,baz=101,slow=10,SNR=15						
	1.4nm,0.6s						
ZALV	**Zalesovo Beam**	**43.50**	**323**	P	**P**	**05 24 29.8**	**+1.0**
	1.5nm,0.7s,baz=116,slow=8.0,SNR=7.5						
	1.5nm,0.7s						
KURBB	**Kurchatov Arra**	**46.11**	**317**	P	**P**	**05 24 50.9**	**+1.4**
	0.8nm,0.5s,baz=104,slow=8.1,SNR=7.2						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**51.53**	**319**	P	**P**	**05 25 33.4**	**+2.2**
	0.5nm,0.4s,baz=81,slow=8.9,SNR=3.2						
BVAR				LR	LR	05 48 57.7	
	comp=Z,28nm,18.5s,baz=119,slow=38						
	0.5nm,0.4s						
ARU	**Arti**	**58.65**	**322**	LR	LR	05 53 42.7	
	comp=Z,24nm,19.8s,baz=116,slow=38						
ILAR	**Eielson Array**	**64.93**	**28**	P	**P**	**05 27 05.9**	**+1.3**
	0.3nm,0.7s,baz=283,slow=8.2,SNR=2.9						
	0.3nm,0.7s						
GNI	**Garni**	**70.08**	**306**	LR	LR	06 05 27.2	
	comp=Z,12nm,18.2s,baz=267,slow=42						
FINES	**FINESS Array B**	**74.10**	**331**	P	**P**	**05 28 02.3**	**+1.2**
	1.8nm,0.8s,baz=32,slow=13,SNR

TNSS					*e*S		**Sb**	05 25 53.3	**+4.8**
	2.2nm,0.5s								
KAPS	**Kapalarasan**	**3.72**	**337**		Pg		**Pb**	05 25 07.0	**-2.5**
	1.3nm,0.2s								
KAPS					Lg		Lg	05 25 55.9	
	3.9nm,0.2s								
KTBS	**Karatobe**	**3.94**	**299**		Pg		**Pb**	**05 25 12.5**	**-0.7**
	1.1nm,0.5s								
KTBS					Lg		Lg	05 26 05.0	
	2.4nm,0.5s								
KTBS	**Karatobe**	**3.94**	**299**		*e*P		**Pb**	**05 25 14.0**	**+0.8**
	1.1nm,0.5s								
KTBS					*e*S		**Sg**	**05 26 07.5**	**-3.1**
	2.3nm,0.4s								
KST	**Kastek**	**4.20**	**288**		Pg		**Pb**	**05 25 19.3**	**+1.6**
	1.5nm,0.3s								
KST					Lg		Lg	05 26 16.7	
	5.4nm,0.4s								
KST	**Kastek**	**4.20**	**288**		*e*P		**Pb**	**05 25 19.3**	**+1.6**
	1.5nm,0.3s								
KST					*e*S		**Sg**	**05 26 16.7**	**-2.2**
	5.4nm,0.4s								
TKM2	**Tokmak 2**	**4.44**	**286**		⇓Pn		**Pn**	**05 25 13.7**	**+2.8**
	1.1nm,0.3s								
TKM2					⇑Pg		**Pg**	**05 25 26.1**	**-2.9**
	1.5nm,0.6s								
TKM2					⇓Sn		**Sn**	**05 26 01.9**	**-0.4**
	1.1nm,0.4s								
TKM2					⇑Lg		Lg	05 26 23.8	
	0.3nm,0.2s								
MK31	**Makanchi Array**	**4.96**	**7**		⇓Pn		Pn	05 25 20.7	+2.9
	baz=194,slow=14,SNR=6.7								
MK31					⇑Pg		**Pb**	**05 25 30.9**	**+0.4**
	0.3nm,0.4s,baz=179,slow=12,SNR=4.5								
MK31					⇑Sn		**Sn**	**05 26 11.7**	**-3.1**
	1.1nm,0.8s								
MK31					⇑Lg		Lg	05 26 38.1	
	1.2nm,0.5s								

*NEIC **03** 05:28:36.4±0.6, 19°.20N±0°.02×155°.47W±0°.02, h36km±2km, Error ellipse: s-maj=3.1km s-min=2.2km az=131.0*

HVO 03 05:28:37.8±0.8, **19°.18N**±0°.05×**155°.46W**±0°.04, **h31**km±7km, **ML2.4**/26, **ML2.6**/40(NEIC), **Error ellipse: s-maj=7.0km s-min=5.3km az=158.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**49**		Pb	05 28 43.0	-0.3
KHU	**Kahuku**	**0.16**	**293**		Pb	05 28 43.4	-0.7
KHU				IAML		05 28 47.5	
	comp=N,862nm,0.2s						
KHU				IAML		05 28 47.6	
	comp=E,541nm,0.2s						
HLP	**Hilina Pali**	**0.18**	**52**		Sb	05 28 46.9	-1.6
SDHHI	**Sand Hill**	**0.26**	**38**		Pb	05 28 44.2	-0.8
WRMHI	**West Rim**	**0.27**	**35**		Pb	05 28 44.2	-0.9
RIM	**Rim**	**0.28**	**40**		Pb	05 28 44.2	-1.0
RIM				IAML		05 28 55.6	
	comp=E,605nm,0.3s						
KKO	**Keanakako`i**	**0.28**	**41**		Pb	05 28 44.4	-0.9
KKO				IAML		05 28 53.5	
	comp=N,583nm,0.4s						
NPH	**North Pit**	**0.28**	**37**		Pb	05 28 44.4	-0.9
UWE	**Uwekahuna**	**0.28**	**34**		Pb	05 28 44.4	-1.0
UWE				IAML		05 28 55.3	
	comp=N,713nm,0.4s						
UWE				IAML		05 28 56.8	
	comp=E,645nm,0.3s						
OBL	**Observatory Le**	**0.29**	**36**		Pb	05 28 44.3	-1.1
UWB	**Uwekahuna B**	**0.30**	**36**		Pb	05 28 44.3	-1.1
BYL	**Byron's Ledge**	**0.30**	**40**		Pb	05 28 44.5	-1.0
PUH	**Pauahi**	**0.30**	**51**	Pg	Pb	05 28 44.4	-1.1
PUH				IAML		05 28 49.6	
	comp=E,402nm,0.4s						
PUH				IAML		05 28 49.8	
	comp=N,497nm,0.2s						
SBLHI	**Steaming Bluff**	**0.30**	**37**		Pb	05 28 44.3	-1.3
SBLHI				IAML		05 28 49.6	
	comp=N,395nm,0.3s						
HATHI	**Halema'uma'u T**	**0.30**	**39**		Pb	05 28 44.5	-1.1
HATHI				IAML		05 28 50.3	
	comp=N,395nm,0.2s						
HATHI				IAML		05 28 53.1	
	comp=E,434nm,0.5s						
MLH	**Mauna Loa**	**0.32**	**13**		Pb	05 28 44.9	-1.0
MLH				IAML		05 28 50.3	
	comp=E,628nm,0.3s						
MWH	**Moku'aweowe**	**0.33**	**337**		Pb	05 28 45.0	-1.3
MWH				IAML		05 28 50.4	
	comp=N,349nm,0.3s						
MWH				IAML		05 28 50.6	
	comp=E,576nm,0.3s						
RSD	**Rainshed**	**0.33**	**32**		Pb	05 28 45.2	-0.7
RSD				IAML		05 28 51.2	
	comp=E,410nm,0.1s						
KNHH	**Kane Nui o Ham**	**0.34**	**55**		Pb	05 28 44.9	-1.1
MLOA	**Mauna Loa Obse**	**0.37**	**343**	Pg	Pb	05 28 45.3	-1.4
MLOA				IAML		05 28 50.9	
	comp=N,489nm,0.1s						
MLOA				IAML		05 28 51.2	
	comp=E,356nm,0.1s						
STCH	**Steam Cracks**	**0.38**	**58**		Pb	05 28 45.6	-1.0
ALEP	**Alea Permanent**	**0.40**	**334**		Pn	05 28 47.8	+0.1
HMH	**Humu'ula Sheep**	**0.42**	**357**		Pb	05 28 46.3	-1.0
HMH				IAML		05 28 53.5	
	comp=E,492nm,0.3s						
JOKA	**Jonika Flow**	**0.50**	**60**		Pn	05 28 53.6	+4.8
POHA	**Pohakuloa**	**0.57**	**353**		Pb	05 28 47.8	-1.9
POHA				IAML		05 29 00.9	
	comp=E,335nm,0.4s						
POHA				IAML		05 29 01.1	
	comp=E,289nm,0.2s						

*IDC **03** 06:05:57.4±2.6, 0°.47S×97°.35E, h0km, mb3.5/6, mbtmp3.6/7, ML4.5/1, MS2.9/2, Error ellipse: s-maj=104.3km s-min=29.6km az=59.0*

*DJA **03** 06:06:05.4±0.6, 1°.N±2°.×9°.9E±°, h16km±6km, M4.0/11, mb3.8/1, MLv4.1/11*

ISC 03 06:06:05.7±0.8, **0°.49N**±0°.04×**98°.53E**±0°.05, **h10**km, **n25, σ1§72/20, mb3.7/6, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.60**	**205**	P	**Pb**	**06 06 19.2**	**+0.9**
PBSI				S	**Sn**	**06 06 29.6**	**-0.5**
SBSI	**Sibolga**	**1.11**	**19**	P	**Pb**	**06 06 27.0**	**-0.1**
SBSI				S	**Sb**	**06 06 42.3**	**+0.7**
GSI	**Gunungsitoli**	**1.25**	**310**	P	**Pn**	**06 06 28.1**	**-1.2**
GSI				S	**Sb**	**06 06 45.4**	**-0.3**
SISI	**Saibi**	**1.89**	**163**	P	**Pn**	**06 06 36.6**	**-1.5**
PDSI	**Padang**	**2.38**	**126**	P	**Pn**	**06 06 44.2**	**-0.7**
PDSI				S	**Sn**	**06 07 13.7**	**-0.4**
BKNI	**Bangkinang**	**2.51**	**94**	P	**Pn**	**06 06 44.7**	**-2.0**
SNSI	**Sinabang, Aceh**	**2.91**	**311**	P	**Pn**	**06 06 51.1**	**-1.1**
KCSI	**Kotacane, Aceh**	**3.11**	**346**	P	**Pn**	**06 06 53.4**	**-1.5**
PPSI	**Pulau Pagai**	**3.55**	**155**	P	**Pn**	**06 06 59.5**	**-1.5**
MLSI	**Meulaboh, Aceh**	**4.31**	**330**	P	**Pn**	**06 07 10.3**	**-1.1**
DSRI	**Dabo**	**6.12**	**99**	P	**Pn**	**06 07 36.5**	**+0.2**
CMAR	**Chiang Mai Arr**	**17.86**	**1**	P	**P**	**06 10 18.8**	**+3.6**
	0.6nm,0.3s,baz=187,slow=12,SNR=4.2						
CMAR				LR	LR	06 17 38.1	
	comp=Z,18nm,20.7s,baz=190,slow=37 1.3nm,0.3s						
H08S2	**Diego Garcia H**	**27.20**	**252**	T	T	06 39 23.0	
	baz=73,slow=75,SNR=17						
H08S3	**Diego Garcia H**	**27.20**	**252**	T	T	06 39 20.9	
	baz=73,slow=75,SNR=36						
H08S1	**Diego Carcia H**	**27.21**	**252**	T	T	06 39 40.6	
	baz=73,slow=75,SNR=14						
ASAR	**Alice Springs**	**41.91**	**127**	P	P	06 13 52.9	-3.9
	0.3nm,0.6s,baz=299,slow=7.5,SNR=2.1 0.3nm,0.6s						
WSAR	**Wadi Sarin**	**44.85**	**303**	LR	LR	06 33 27.6	
	comp=Z,25nm,19.2s,baz=7.0,slow=37						
SONM	**Songino Array**	**47.65**	**7**	P	**P**	**06 14 44.8**	**+2.5**
	0.6nm,0.6s,baz=184,slow=8.4,SNR=2.8 0.6nm,0.6s						
MKAR	**Makanchi Array**	**48.26**	**345**	P	**P**	**06 14 44.2**	**-2.7**
	0.5nm,0.6s,baz=157,slow=7.4,SNR=3.8 0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**52.77**	**344**	P	**P**	**06 15 18.4**	**-2.5**
	0.3nm,0.7s,baz=169,slow=6.9,SNR=2.3 0.3nm,0.7s						

ZALV	**Zalesovo Beam**	**54.47**	**350**		P		**P**	**06 15 32.5**	**-0.9**
	0.8nm,0.5s,baz=164,slow=6.5,SNR=1.7 0.8nm,0.5s								
BVAR	**Borovoye Array**	**57.36**	**340**		P		P	06 15 50.4	-3.6
	0.3nm,0.4s,baz=130,slow=8.1,SNR=1.9 0.3nm,0.4s								
H04N2	**CROZET ISLANDS**	**61.95**	**215**		T		T	07 22 51.1	
	baz=56,slow=75,SNR=16								
H04N1	**CROZET ISLANDS**	**61.96**	**215**		T		T	07 22 52.5	
	baz=56,slow=75,SNR=28								
H04N3	**CROZET ISLANDS**	**61.97**	**215**		T		T	07 22 52.0	
	baz=56,slow=75,SNR=30								

*NSSP **03** 06:12:46.3, 41°.15N×46°.87E, h10km, Ms3.1*
*TIF **03** 06:12:46.1, 41°.17N×47°.22E, h4?km±1km*
*AZER **03** 06:12:47.2, 41°.19N×46°.96E, h22km, ml3.0*
*MOS **03** 06:12:47.3, 41°.18N×47°.07E, h17km, MPVA3.8*
*DRS **03** 06:12:48.8, 41°.06N×47°.02E, h18km*

ISC 03 06:12:48.6±0.9, **41°.16N**±0°.02×**47°.01E**±0°.02, **h16**km±7km, **n52, σ1§92/101, 3C-1D, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEKA	**Sheki**	**0.15**	**71**	P	**Pb**	**06 12 53.5**	**+0.4**
SEKA				S	**Sg**	**06 12 57.7**	**+2.4**
MNGR	**Mingechevir, A**	**0.39**	**172**	P	**Pb**	**06 12 57.8**	**+0.7**
MNGR				S	**Sb**	**06 13 04.3**	**+1.3**
VSHL	**Vashlovani**	**0.47**	**279**	P	**Pb**	**06 12 59.5**	**+1.0**
VSHL				S	**Sb**	**06 13 08.8**	**+3.6**
ZKTA	**Zakatala**	**0.56**	**329**	P	**Pg**	**06 12 59.4**	**-0.3**
ZKTA				S	**Sb**	**06 13 08.4**	**+0.5**
AKT	**Akhty**	**0.63**	**59**	*e*Pg	**Pg**	**06 13 00.1**	**-0.8**
AKT				*e*Sg	**Sg**	**06 13 09.0**	**-0.4**
QBL	**Gabala**	**0.66**	**109**	P	**Pg**	**06 13 01.1**	**-0.4**
QBL				S	**Sb**	**06 13 11.4**	**+0.7**
GANJ	**Ganja**	**0.73**	**226**	P	**Pg**	**06 13 02.2**	**-0.7**
GANJ				P	**Pg**	**06 13 02.2**	**-0.7**
GANJ				S	**Sg**	**06 13 12.9**	**+0.4**
XNQ	**Khinaliq**	**0.85**	**89**	P	**Pg**	**06 13 03.9**	**-1.3**
XNQ				S	**Sg**	**06 13 16.1**	**-0.4**
LGD	**Lagodekhi**	**0.89**	**320**	P	**Pg**	**06 13 05.1**	**-0.8**
LGD				S	**Sb**	**06 13 18.1**	**+0.7**
BRDA	**Brd**	**0.91**	**172**	P	**Pb**	**06 13 06.5**	**+0.6**
BRDA				S	**Sn**	**06 13 21.8**	**+2.4**
IML	**Ismayilli**	**0.96**	**112**	P	**Pg**	**06 13 05.7**	**-1.5**
IML				S	**Sb**	**06 13 19.7**	**+0.3**
KMKR	**Kumukh**	**0.97**	**4**	*e*Pg	**Pg**	**06 13 06.5**	**-1.0**
KMKR				*e*Sg	**Sb**	**06 13 20.0**	**+0.1**
QSAR	**Qusar**	**1.01**	**69**	P	**Pg**	**06 13 07.4**	**-0.7**
QSAR				S	**Sb**	**06 13 21.0**	**+0.2**
ZRD	**Zardab**	**1.02**	**150**	P	**Pg**	**06 13 07.7**	**-0.5**
ZRD				S	**Sn**	**06 13 23.4**	**+1.2**
GDB	**GEDABAY**	**1.05**	**246**	P	**Pg**	**06 13 06.9**	**-2.0**
GDB				S	**Sg**	**06 13 21.2**	**-1.5**
AGDM	**Agdam**	**1.05**	**176**	P	**Pb**	**06 13 07.3**	**-1.1**
AGDM				S	**Sn**	**06 13 23.4**	**+0.2**
URKR	**Urkarakh**	**1.11**	**25**	*e*Pg	**Pb**	**06 13 09.1**	**-0.4**
URKR				*e*Sg	**Sn**	**06 13 24.6**	**0.0**
QUBA	**Quba, Azerbaij**	**1.13**	**80**	P	**Pb**	**06 13 09.7**	**-0.2**
QUBA				S	**Sn**	**06 13 25.9**	**+0.8**
KDMR	**Kurdemir**	**1.19**	**131**	P	**Pb**	**06 13 10.1**	**-0.6**
KDMR				S	**Sn**	**06 13 27.3**	**+1.0**
GNBR	**Gunib**	**1.23**	**358**	*e*Pg	**Pg**	**06 13 12.0**	**-0.3**
GNBR				*e*Sg	**Sn**	**06 13 29.4**	**+1.9**
QZX	**Qazax, Azerbai**	**1.24**	**266**	P	**Pn**	**06 13 10.3**	**-1.1**
QZX				S	**Sb**	**06 13 27.3**	**-0.3**
DGRG	**David-gareji**	**1.27**	**284**	P	**Pn**	**06 13 11.8**	**0.0**
DGRG				S	**Sg**	**06 13 30.9**	**+1.3**
DRN	**Derbent**	**1.32**	**48**	*e*Pg	**Pb**	**06 13 12.7**	**-0.3**
DRN				*e*Sg	**Sg**	**06 13 30.3**	**-0.8**
SGKR	**Sergokala**	**1.39**	**20**	*e*Pg	**Pn**	**06 13 13.7**	**+0.4**
SGKR				*e*Sg	**Sg**	**06 13 32.9**	**-0.4**
XNZR	**Khunzakh**	**1.40**	**351**	*e*Pg	**Pg**	**06 13 14.9**	**-0.7**
XNZR				*e*Sg	**Sg**	**06 13 34.0**	**+0.2**
SIZA	**Siyzn**	**1.43**	**93**	Pn	**Pb**	**06 13 15.0**	**+0.1**
SIZA				Sn	**Sg**	**06 13 36.4**	**+1.7**
ARKR	**Arakani**	**1.44**	**359**	*e*Pg	**Pg**	**06 13 15.7**	**-0.6**
ARKR				*e*Sg	**Sg**	**06 13 35.9**	**+0.8**
ATGJ	**Altiaghaj**	**1.49**	**101**	Pn	**Pg**	**06 13 16.4**	**-0.9**
ATGJ				Sn	**Sg**	**06 13 35.8**	**-0.8**
BLQ	**Beylaqan**	**1.50**	**164**	Pn	**Pn**	**06 13 14.5**	**-0.3**
BLQ				Sn	**Sn**	**06 13 35.0**	**+1.0**
UNCR	**Uncukul**	**1.56**	**354**	*e*Pg	**Pg**	**06 13 17.7**	**-1.0**
UNCR				*e*Sg	**Sg**	**06 13 39.5**	**+0.5**
BTLR	**Botlikh**	**1.61**	**339**	*e*Pg	**Pb**	**06 13 17.4**	**-0.7**
BTLR				*e*Sg	**Sg**	**06 13 39.4**	**-1.3**
BUJR	**Buynaksk**	**1.67**	**2**	*e*Pg	**Pb**	**06 13 18.4**	**-0.6**
BUJR				*i* Sg	**Sg**	**06 13 41.1**	**-1.2**
QRD	**Qoradiz**	**1.71**	**172**	Sn	**Sb**	**06 13 41.3**	**+0.8**
DBC	**Dubki**	**1.86**	**356**	*e*Pg	**Pb**	**06 13 21.6**	**-0.8**
DBC				*e*Sg	**Sg**	**06 13 46.9**	**-1.7**
DVE	**Vedeno**	**1.91**	**340**	*e*Pg	**Pn**	**06 13 21.4**	**+0.8**
DVE				*e*Sg	**Sb**	**06 13 47.4**	**+0.6**
KAPZ	**Kaputan**	**1.95**	**245**	⇑*i*P	**Pn**	**06 13 22.5**	**+1.3**
KAPZ				⇑*i*S	**Sb**	**06 13 48.5**	**+0.6**
CHRG	**Chargali**	**1.95**	**308**	P	**Pn**	**06 13 20.7**	**-0.5**
CHRG				S	**Sn**	**06 13 45.6**	**+0.2**
GNI	**Garni**	**2.00**	**240**	⇑*i*P	**Pb**	**06 13 24.0**	**-0.7**
GNI				⇓*i*S	**Sb**	**06 13 51.2**	**+1.8**
STE	**Stepanavan**	**2.00**	**266**	*e*P	**Pn**	**06 13 21.7**	**-0.2**
STE				*e*S	**Sn**	**06 13 47.0**	**+0.2**
SHTL	**Shatili**	**2.04**	**318**	P	**Pn**	**06 13 23.1**	**+0.6**
SBZ	**Shahbuz**	**2.08**	**213**	Pg	**Pb**	**06 13 25.1**	**-1.1**
SBZ				Sg	**Sb**	**06 13 53.2**	**+1.4**
NRKZ	**NAREK**	**2.13**	**238**	*e*P	**Pb**	**06 13 25.8**	**-1.2**
NRKZ				*e*S	**Sb**	**06 13 54.3**	**+1.1**
DMNI	**Dmanisi**	**2.13**	**275**	P	**Pn**	**06 13 23.0**	**-0.7**
DMNI				S	**Sn**	**06 13 51.7**	**+1.7**
GLBA	**Clilabad**	**2.19**	**151**	Pn	**Pn**	**06 13 25.1**	**+0.8**
GLBA				Sn	**Sn**	**06 13 51.9**	**+0.8**
TRLG	**Trialeti**	**2.22**	**281**	P	**Pn**	**06 13 23.8**	**-1.2**
TRLG				S	**Sn**	**06 13 53.8**	**+1.5**
AMBZ	**Amberd**	**2.23**	**251**	*e*P	**Pb**	**06 13 27.5**	**-1.2**
AMBZ				*e*S	**Sb**	**06 13 57.1**	**+1.0**
ORD	**Ordubad**	**2.36**	**200**	Pn	**Pn**	**06 13 27.4**	**+0.5**
ORD				Sn	**Sb**	**06 13 59.4**	**-0.4**
MTEO	**Meteo**	**2.39**	**310**	P	**Pn**	**06 13 27.9**	**+0.3**
YRD	**Yardimli**	**2.43**	**157**	Pn	**Pn**	**06 13 27.0**	**-0.9**
YRD				Sn	**Sn**	**06 13 55.6**	**-1.8**
ALIG	**Mtskhetisjvari**	**2.69**	**292**	P	**Pn**	**06 13 31.0**	**-0.4**
LRK	**Lerik**	**2.71**	**157**	Pn	**Pn**	**06 13 31.1**	**-0.6**
LRK				Sn	**Sn**	**06 14 04.6**	**+0.3**
ASTR	**Astara**	**2.94**	**152**	Pn	**Pn**	**06 13 34.6**	**0.0**
ASTR				Sn	**Sn**	**06 14 09.8**	**+0.2**

*IDC **03** 06:21:07.7±2.1, 36°.68N×138°.77E, h156km±7km, mb3.4/6, mbtmp3.9/6, Error ellipse: s-maj=67.5km s-min=15.5km az=68.0*

*JMA **03** 06:21:08.0±0.2, 36°.5N±0°.6×138°.9E±0°.7, h159km±1km, MV3.4/39, NW GUNMA PREF*

ISC 03 06:21:07.7±0.8, **36°.59N**±0°.04×**138°.82E**±0°.05, **h160**km±6km, **n30, σ0§75/43, mb3.6/6, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JGK	**Kuni**	**0.15**	**259**	*e*P	**Pn**	**06 21 29.6**	**+0.4**
JGK				*e*S	**Sn**	**06 21 46.2**	**+0.7**
JKT	**Katashina**	**0.39**	**63**	P	**Pn**	**06 21 30.1**	**+0.3**
JKT				S	**Sn**	**06 21 46.9**	**+0.2**
MJAR	**Matsushiro Arr**	**0.49**	**265**	P	**Pn**	**06 21 30.3**	**+0.1**
	398nm,0.4s,baz=74,slow=4.1,SNR=1629						
MJAR				S	**Sn**	**06 21 47.2**	**-0.1**
	99nm,0.4s,baz=69,slow=14,SNR=6.4						
MAJO	**Matsushiro**	**0.49**	**265**	P	**Pn**	**06 21 30.5**	**+0.3**
MAT	**Matsushiro**	**0.49**	**265**	*i* P	**Pn**	**06 21 30.4**	**+0.2**
MAT				*e*S	**Sn**	**06 21 47.2**	**0.0**
JAG	**Ashikaga**	**0.54**	**108**	P	**Pn**	**06 21 30.5**	**+0.2**
JAG				*e*S	**Sn**	**06 21 47.6**	**0.0**
JRY	**Ryogami san**	**0.58**	**173**	*e*P	**Pn**	**06 21 30.7**	**0.0**
JRY				*e*S	**Sn**	**06 21 47.5**	**-0.5**
JYN	**Shimob**	**1.11**	**192**	*e*P	**Pn**	**06 21 34.4**	**-0.1**
JYN				*e*S	**Sn**	**06 21 54.8**	**-0.2**
JNS	**Sasagawa**	**1.29**	**18**	P	**Pn**	**06 21 36.6**	**+0.6**
JOD2	**Odawara 2**	**1.34**	**170**	*e*P	**Pn**	**06 21 36.4**	**-0.2**
JOD2				*e*S	**Sn**	**06 21 57.4**	**-1.2**
JFNN	**Fujinakano**	**1.40**	**184**	*e*P	**Pn**	**06 21 37.4**	**+0.4**
JFNN				*e*S	**Sn**	**06 22 00.4**	**+0.9**
JSZ	**Suzu**	**1.45**	**307**	P	**Pn**	**06 21 37.9**	**+0.4**
JSZ				*e*S	**Sn**	**06 22 00.6**	**+0.3**
JSD	**Sado**	**1.51**	**343**	P	**Pn**	**06 21 38.3**	**+0.2**
JSD				*e*S	**Sn**	**06 22 01.0**	**-0.6**
JGF	**Kuroka**	**1.54**	**231**	P	**Pn**	**06 21 39.1**	**+0.6**
JOTO	**OTAMA OYAMA**	**1.55**	**51**	*e*P	**Pn**	**06 21 39.5**	**+1.0**
JOTO				*e*S	**Sn**	**06 22 04.2**	**+1.9**
JAW	**Awa shima**	**1.89**	**10**	*e*P	**Pn**	**06 21 43.1**	**+0.9**
JYTA	**Yamagatataniai**	**1.96**	**240**	P	**Pn**	**06 21 43.6**	**+0.6**
JYTA				*e*S	**Sn**	**06 22 10.5**	**+0.5**
JSG	**Sagara**	**1.98**	**195**	P	**Pn**	**06 21 44.9**	**+1.7**
JMM	**Marumori**	**2.03**	**50**	P	**Pn**	**06 21 44.3**	**+0.6**
JKG	**Kaga**	**2.03**	**262**	P	**Pn**	**06 21 44.5**	**+0.8**
JHJ2	**Mitsune**	**3.57**	**166**	P	**Pn**	**06 22 02.1**	**-0.6**
JMN	**Monobe**	**4.95**	**236**	P	**Pn**	**06 22 20.9**	**+0.2**
ERM	**Erimo**	**6.38**	**31**	P	**Pn**	**06 22 38.0**	**-1.4**
JEM	**Erimo**	**6.38**	**31**	P	**Pn**	**06 22 38.1**	**-1.3**
ZALV	**Zalesovo Beam**	**40.68**	**313**	P	**P**	**06 28 32.2**	**0.0**
	1.1nm,0.4s,baz=108,slow=7.0,SNR=3.7 1.1nm,0.4s						
MKAR	**Makanchi Array**	**42.59**	**302**	P	**P**	**06 28 47.2**	**-0.6**
	0.5nm,0.5s,baz=72,slow=9.3,SNR=5.1 0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**44.63**	**308**	P	**P**	**06 29 03.5**	**-0.6**
	3.4nm,0.5s,baz=82,slow=7.6,SNR=40 3.4nm,0.5s						
BVAR	**Borovoye Array**	**49.33**	**312**	P	**P**	**06 29 40.2**	**-0.3**
	0.7nm,0.4s,baz=97,slow=8.5,SNR=4.4 0.7nm,0.4s						
ASAR	**Alice Springs**	**60.11**	**185**	P	**P**	**06 30 59.1**	**+0.9**
	0.1nm,0.3s,baz=1.0,slow=7.3,SNR=1.5 0.1nm,0.3s						
FINES	**FINESS Array B**	**68.22**	**331**	P	**P**	**06 31 49.6**	**-1.0**
	0.8nm,0.8s,baz=48,slow=8.4,SNR=2.1 0.8nm,0.8s						

*THE **03** 06:38:29.8, 34°.24N×25°.72E, h9km±4km, ML2.7/4, Error ellipse: s-maj=4.9km s-min=2.1km az=124.0*

*ATH **03** 06:38:31.0, 34°.34N×25°.62E, h8km±3km, ML2.8/6, Error ellipse: s-maj=4.0km s-min=1.3km az=25.0*

*GII **03** 06:38:35.2±0.8, 34°.552N±0°.004×26°.173E±0°.005, h31km, confirmed*

ISC 03 06:38:28.3±1.7, **34°.26N**±0°.07×**25°.65E**±0°.04, **h11**km±11km, **n21, σ1§91/30, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRMA	**Ierapetra Chan**	**0.75**	**5**	P	**Pg**	**06 38 44.1**	**+1.2**
FRMA				S	**Sn**	**06 38 56.3**	**0.0**
	372nm,0.4s						
FRMA	**Ierapetra Chan**	**0.75**	**5**	P	**Pg**	**06 38 43.9**	**+1.0**
FRMA				S	**Sg**	**06 38 53.2**	**+0.4**
FRMA				AML	AML	06 38 59.1	
	comp=N,2000μm,0.5s						
FRMA				AML	AML	06 39 01.3	
	comp=E,1945μm,0.5s						
ZKR	**Zakros**	**0.97**	**29**	P	**Pg**	**06 38 48.0**	**+1.0**
ZKR				S	**Sb**	**06 39 01.5**	**+1.5**
	comp=E,805nm,0.5s						
ZKR	**Zakros**	**0.97**	**29**	P	**Pg**	**06 38 48.0**	**+1.0**
ZKR				S	**Sb**	**06 39 01.1**	**+1.1**
ZKR				AML	AML	06 39 05.3	
	comp=N,763μm,0.3s						
ZKR				AML	AML	06 39 06.3	
	comp=E,2014μm,0.7s						
TMBK	**Timbaki Herakl**	**1.09**	**318**	P	**Pg**	**06 38 50.1**	**+0.8**
KSTL	**Kastelli Herak**	**1.14**	**336**	P	**Pg**	**06 38 48.6**	**-1.7**
KSTL				S	**Sg**	**06 39 03.7**	**-1.5**
	comp=E,285nm,0.6s						
KSTL	**Kastelli Herak**	**1.14**	**336**	P	**Pg**	**06 38 48.4**	**-1.9**
KSTL				S	**Sg**	**06 39 00.1**	**-5.1**
KSTL				AML	AML	06 39 03.0	
	comp=E,813μm,0.4s						
KSTL				AML	AML	06 39 03.2	
	comp=N,2529μm,0.8s						
IDI	**Anoyia**	**1.20**	**329**	P	**Pg**	**06 38 52.0**	**+0.6**
IDI				S	**Sn**	**06 39 08.4**	**+1.0**
	comp=N,315nm,0.5s						
IDI	**Anoyia**	**1.20**	**329**	P	**Pg**	**06 38 51.6**	**+0.2**
IDI				S	**Sb**	**06 39 07.5**	**+0.9**
IDI				AML	AML	06 39 10.8	
	comp=E,691μm,0.5s						
IDI				AML	AML	06 39 12.3	
	comp=N,855μm,0.4s						
GVD	**Gavdhos**	**1.41**	**294**	P	**Pn**	**06 38 55.6**	**+1.7**
GVD				S	**Sb**	**06 39 13.3**	**+0.6**
GVD				AML	AML	06 39 22.2	
	comp=E,836μm,0.4s						
GVD				AML	AML	06 39 25.9	
	comp=N,904μm,0.4s						
KARP	**Karpathos**	**1.79**	**44**	P	**Pn**	**06 39 01.1**	**+2.0**
KARP				AML	AML	06 39 38.1	
	comp=E,230μm,0.2s						
KARP				AML	AML	06 39 41.4	
	comp=N,217μm,0.4s						
IMMV	**Iera Moni Meta**	**1.82**	**312**	P	**Pn**	**06 39 00.5**	**+1.0**
ANKY	**Antikythira Is**	**2.50**	**310**	P	**Pn**	**06 39 10.2

	5.4nm,0.7s								
ILAR	**Eielson Array**	**87.21**	**24**	P		**P**		**07 06 38.0**	**+0.2**
	0.9nm,0.8s,baz=256,slow=5.0,SNR=8.3								
	0.9nm,0.8s								

*NEIC **03** 06:58:01.2±1.8, 19°.45N±0°.02×155°.08W±0°.05, h5km±1km, Error ellipse: s-maj=8.1km s-min=2.9km az=290.0*

HVO 03 06:57:58.5±1.3, 19°.43N±0°.02×154°.906W±0°.007, h3km±9km, ML2.2/7, ML2.3/22(NEIC), Error ellipse: s-maj=2.5km s-min=1.0km az=175.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**16**		Pg	06 58 01.8	+2.0
JOKA	**Jonika Flow**	**0.09**	**273**		Pg	06 58 01.9	+1.5
KNHH	**Kane Nui o Ham**	**0.25**	**259**		Pg	06 58 03.5	0.0
PUH	**Pauahi**	**0.30**	**259**		Pg	06 58 04.1	-0.1
PUH				IAML		06 58 14.6	
	comp=N,272nm,1.9s						
HATHI	**Halema'uma'u T**	**0.34**	**269**	Pg	Pg	06 58 04.2	-0.8
HATHI				IAML		06 58 11.1	
	comp=E,362nm,0.9s						
HATHI				IAML		06 58 11.1	
	comp=N,308nm,0.8s						
KKO	**Keanakako`i**	**0.34**	**265**	Pg	Pg	06 58 03.2	-1.9
KKO				IAML		06 58 10.4	
	comp=E,360nm,1.6s						
KKO				IAML		06 58 14.3	
	comp=N,436nm,1.2s						
SBLHI	**Steaming Bluff**	**0.34**	**270**		Pg	06 58 04.8	-0.3
RSD	**Rainshed**	**0.35**	**276**		Pg	06 58 05.3	-0.1
RSD					Sg	06 58 05.4	-4.6
UWE	**Uwekahuna**	**0.36**	**269**	Pg	Pg	06 58 05.1	-0.5
UWE				IAML		06 58 09.4	
	comp=N,415nm,1.5s						
UWE				IAML		06 58 13.0	
	comp=E,449nm,1.3s						
HLP	**Hilina Pali**	**0.40**	**251**		Pg	06 58 06.7	+0.4
HLP					Sg	06 58 06.8	-4.7
HLP				IAML		06 58 10.4	
	comp=N,276nm,3.5s						
MLH	**Mauna Loa**	**0.46**	**278**		Pg	06 58 07.6	+0.3
MLH					Sg	06 58 07.7	-5.6
MLH				IAML		06 58 12.8	
	comp=E,197nm,3.8s						
MLH				IAML		06 58 16.5	
	comp=N,194nm,1.6s						
HTC	**Hot Caves**	**0.50**	**248**		Pg	06 58 08.5	+0.3
HMH	**Humu'ula Sheep**	**0.57**	**288**		Pg	06 58 09.5	0.0
HMH					Sg	06 58 18.1	+1.2
HMH				IAML		06 58 26.5	
	comp=N,188nm,1.2s						
HMH				IAML		06 58 29.0	
	comp=E,231nm,1.2s						
MWH	**Moku'aweowe**	**0.65**	**275**	Pg	Pg	06 58 10.7	-0.4
KHU	**Kahuku**	**0.69**	**255**		Pg	06 58 10.6	-1.2
ALEP	**Alea Permanent**	**0.70**	**279**		Pg	06 58 11.2	-0.9

*IDC **03** 06:59:01.0±4.2, 37°.46N×71°.95E, h72km±27km, mb3.6/8, mbtmp3.9/15, Error ellipse: s-maj=45.3km s-min=20.6km az=146.0*

*NNC **03** 06:59:09.0±3.2, 37°.95N×71°.73E, h136km±57km, mb3.2, mpv3.8, Error ellipse: s-maj=30.7km s-min=22.6km az=175.0*

ISC 03 06:59:05.8±1.8, 37°.7N±0°.1×71°.8E±0°.1, h100km, n21, σ1§23/23, mb3.8/7, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.30**	**22**	⇑P	**Pn**	**07 00 24.6**	**+1.8**
	4.0nm,0.3s						
AAK				⇓S	**Sn**	**07 01 23.1**	**+0.5**
	7.7nm,0.5s						
AAK	**Ala-Archa**	**5.30**	**22**	P	**Pn**	**07 00 22.6**	**-0.2**
	9.9nm,0.3s,baz=174,slow=6.5,SNR=28						
AAK				S	**Sn**	**07 01 23.2**	**+0.6**
	8.8nm,0.6s,baz=348,slow=19,SNR=9.0						
KK31	**Karatay Array**	**5.46**	**350**	P	**Pn**	**07 00 25.2**	**+0.6**
	11nm,0.3s,baz=185,slow=15,SNR=122						
KK31				⇑S	**Sn**	**07 01 25.5**	**-0.6**
	16nm,0.5s,baz=171,slow=20,SNR=8.2						
TKM2	**Tokmak 2**	**5.92**	**28**	⇓P	**Pn**	**07 00 32.5**	**+1.3**
	1.2nm,0.3s						
TKM2				⇑S	**Sn**	**07 01 38.8**	**+1.1**
	2.2nm,0.4s						
GEYT	**Alibeck**	**10.85**	**275**	P	Pn	07 01 34.5	-3.6
	3.6nm,0.4s,baz=107,slow=13,SNR=10						
GEYT				S	Sn	07 03 29.7	-7.8
	3.6nm,0.3s,baz=105,slow=16,SNR=7.5						
MKAR	**Makanchi Array**	**11.90**	**37**	P	**Pn**	**07 01 50.4**	**-1.7**
	0.7nm,0.6s,baz=224,slow=14,SNR=5.9						
KURBB	**Kurchatov Arra**	**13.74**	**18**	P	**Pn**	**07 02 14.0**	**-2.2**
	0.2nm,0.3s,baz=203,slow=13,SNR=1.8						
AB31	**Akbulak array**	**14.37**	**327**	⇑P	**Pn**	**07 02 21.2**	**-3.1**
	1.2nm,0.5s,baz=132,slow=13,SNR=22						
BVAR	**Borovoye Array**	**15.32**	**357**	P	**Pn**	**07 02 34.7**	**-1.7**
	1.4nm,0.5s,baz=167,slow=12,SNR=8.1						
AKTO	**Aktyubinsk**	**16.08**	**327**	⇑P	**Pn**	**07 02 46.7**	**+0.8**
	8.2nm,0.7s						
AKTO	**Aktyubinsk**	**16.08**	**327**	P	**Pn**	**07 02 46.4**	**+0.5**
	11nm,0.5s,baz=133,slow=11,SNR=33						
ZALV	**Zalesovo Beam**	**18.52**	**25**	P	**P**	**07 03 13.9**	**-0.2**
	2.7nm,0.5s,baz=217,slow=11,SNR=12						
ARU	**Arti**	**20.70**	**339**	P	**P**	**07 03 38.7**	**+1.0**
	2.8nm,0.4s,baz=140,slow=9.6,SNR=5.4						
	2.8nm,0.4s						
AKASG	**Malin Array Be**	**32.71**	**307**	P	**P**	**07 05 29.1**	**+0.5**
	0.5nm,0.4s,baz=105,slow=9.2,SNR=5.0						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**36.84**	**325**	P	**P**	**07 06 04.2**	**+0.2**
	0.6nm,0.3s,baz=119,slow=8.5,SNR=12						
	0.6nm,0.3s						
ARCES	**ARCESS Array B**	**40.27**	**337**	P	**P**	**07 06 33.1**	**+0.5**
	5.2nm,1.1s,baz=109,slow=9.1,SNR=8.0						
	5.2nm,1.1s						
HFS	**Hagfors**	**42.52**	**321**	P	**P**	**07 06 51.1**	**+0.1**
	3.7nm,0.6s,baz=99,slow=9.3,SNR=13						
	3.7nm,0.6s						
NB2	**NORSAR Subarra**	**43.80**	**322**	P	**P**	**07 07 01.4**	**0.0**
	comp=Z,0.7nm,0.5s,baz=93,slow=8.6						
NOA	**NORSAR Array B**	**43.80**	**322**	P	**P**	**07 07 01.5**	**0.0**
	comp=Z,1.0nm,0.6s,baz=93,slow=7.8,SNR=4.0						
	comp=Z,1.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**66.41**	**269**	P	P	07 09 42.9	-1.7
	comp=Z,0.3nm,0.6s,baz=31,slow=6.4,SNR=2.4						
	comp=Z,0.3nm,0.6s						
YKA	**Yellowknife Ar**	**79.98**	**3**	P	**P**	**07 11 03.4**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=349,slow=6.3,SNR=8.8						
	comp=Z,0.2nm,0.6s						

DJA 03 07:14:13.8±1.3, 7°.5S±5°×107°.5E±°, h21km±12km, M4.4/14, mb4.5/4, MLv4.3/14, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKJI	**Sukabumi**	**1.27**	**82**	P	Pn	07 14 36.6	+0.3
SBJI	**Serang**	**1.34**	**38**	P	Pn	07 14 35.8	-1.5
TNG	**Tangerang**	**1.68**	**53**	P	Pn	07 14 41.6	-0.3
KASI	**Kota Agung**	**1.82**	**334**	P	Pn	07 14 44.6	+0.6
CNJI	**Cibinong**	**1.83**	**94**	P	Pn	07 14 43.6	-0.4
LEM	**Lembang**	**2.34**	**82**	P	Pn	07 14 52.1	+0.9
LWLI	**Liwa**	**2.47**	**330**	P	Pn	07 14 52.6	-0.4
CMJI	**Cimerak**	**3.19**	**101**	P	Pn	07 15 03.5	+0.8
CMJI				S	Sn	07 15 41.1	+1.0
KPJI	**Karang Pucung**	**3.62**	**93**	P	Pn	07 15 08.0	-0.6
MNAI	**Manna**	**3.64**	**320**	P	Pn	07 15 09.8	+0.9
UGM	**Wanagama**	**5.24**	**98**	P	Pn	07 15 31.9	+0.9
	70nm,2.1s,0.5nm						
PWJI	**Pagerwojo**	**6.51**	**98**	P	Pn	07 15 48.3	-0.1
	24nm,0.8s,0.2nm						
PPSI	**Pulau Pagai**	**6.85**	**310**	P	Pn	07 15 52.5	-0.6
	72nm,1.0s,0.3nm						
GRJI	**Gresik**	**7.14**	**88**	P	Pn	07 15 57.4	+0.3
	90nm,0.5s,0.6nm						
SISI	**Saibi**	**8.49**	**313**	P	Pn	07 16 14.5	-1.1

*JSN **03** 07:15:30.3±1.1, 17°.67N×75°.14W, h12km, MD3.9*
*OSPL **03** 07:15:32.6±1.5, 16°.86N×75°.60W, h30km±22km, ML2.7*
*SSNC **03** 07:15:32.1±1.6, 17°.04N×75°.64W, h5km±23km, MD3.1, ML2.6, MW2.4*

ISC 03 07:15:28.9±2.2, 16°.9N±0°.1×75°.72W±0°.06, h18km±7km, n20, σ1§29/33, 1C-2D, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOJ	**Hope**	**1.45**	**317**	*i* P	**Pg**	**07 15 56.7**	**-0.1**
GWJ	**Greenwich**	**1.48**	**320**	*i* P	**Pg**	**07 15 57.4**	**-0.1**
STH	**Stony Hill**	**1.54**	**318**	*i* P	**Pb**	**07 15 56.7**	**-0.2**
STH	**Stony Hill**	**1.54**	**318**	*e*P	**Pg**	**07 15 57.5**	**-1.0**
STH				*e*S	**Sg**	**07 16 17.6**	**-0.9**
MTDJ	**Mount Denham**	**2.15**	**307**	*i* P	**Pb**	**07 16 08.0**	**+0.6**
MTDJ	**Mount Denham**	**2.15**	**307**	*e*P	**Pb**	**07 16 07.7**	**+0.3**
MTDJ				*e*S	**Sb**	**07 16 33.5**	**-0.3**
MTDJ	**Mount Denham**	**2.15**	**307**	*i* P	**Pb**	**07 16 07.5**	**+0.1**
MTDJ				⇓*e*S	**Sb**	**07 16 32.8**	**-1.1**
MTDJ				IAML		07 16 56.3	
	comp=Z,44nm,0.3s						
GTBY	**Guantanamo Bay**	**3.03**	**11**	*e*P	**Pn**	**07 16 18.1**	**+2.1**
GTBY				*e*S	**Sn**	**07 16 51.3**	**-0.5**
GTBY	**Guantanamo Bay**	**3.03**	**11**	⇓*i*P	**Pn**	**07 16 18.1**	**+2.1**
GTBY				*e*S	**Sn**	**07 16 51.8**	**0.0**
GTBY				IAML		07 17 10.3	
	comp=Z,13nm,1.6s						
RCC	**Rio Carpintero**	**3.04**	**0**	*e*P	**Pn**	**07 16 17.5**	**+1.4**
RCC				*e*S	**Sn**	**07 16 51.5**	**-0.5**
MARVS	**Santiago de Cu**	**3.05**	**357**	*e*P	**Pn**	**07 16 17.7**	**+1.4**
MARVS				*e*S	**Sn**	**07 16 52.3**	**-0.1**
MARVS				IAML		07 16 53.2	
	comp=E,14nm,0.2s						
MARVS				IAML		07 16 54.3	
	comp=N,12nm,0.2s						
CHIV	**Chivirico**	**3.09**	**348**	*e*P	**Pn**	**07 16 18.1**	**+1.3**
CHIV				*e*S	**Sn**	**07 16 52.5**	**-0.8**
LMGC	**Las Mercedes**	**3.34**	**339**	*e*P	**Pn**	**07 16 21.4**	**+1.1**
LMGC				*e*S	**Sn**	**07 16 58.5**	**-0.9**
QMBU	**Quimbuelo**	**3.36**	**15**	⇑*e*P	**Pn**	**07 16 21.7**	**+1.2**
QMBU				*e*S	**Sn**	**07 16 58.4**	**-1.5**
PILO	**Pilon**	**3.36**	**332**	*e*P	**Pn**	**07 16 22.7**	**+2.2**
PILO				*e*S	**Sn**	**07 16 58.3**	**-1.7**
YAR	**Yar**	**3.47**	**350**	*e*P	**Pn**	**07 16 24.0**	**+2.0**
YAR				*e*S	**Sn**	**07 17 02.2**	**-0.4**
PINC	**Pinares de May**	**3.53**	**359**	*e*P	**Pn**	**07 16 25.7**	**+2.8**
PAPH	**Port-au-Prince**	**3.62**	**64**	*i* P	**Pn**	**07 16 25.1**	**+1.0**
PAPH				IAML		07 17 37.6	
	comp=Z,16nm,1.0s						
NMDO	**Nuevo Mundo**	**3.67**	**11**	*e*P	**Pn**	**07 16 26.0**	**+1.2**
NMDO				*e*S	**Sn**	**07 17 07.2**	**-0.5**
SDDR	**Presa de Saban**	**4.69**	**64**	*i* P	**Pn**	**07 16 38.7**	**-0.1**

IDC 03 07:46:45.6±2.6, 53°.66N×86°.91E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=23.8km s-min=14.9km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**284**	I	I	07 55 10.0	
	baz=100,slow=339,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.27**	**284**	Pg	Pg	07 47 09.8	-0.2
	0.9nm,0.3s,baz=101,slow=12,SNR=9.6						
ZALV				Lg	Lg	07 47 27.2	
	1.0nm,0.3s,baz=104,slow=28,SNR=8.1						
KURBB	**Kurchatov Arra**	**5.99**	**243**	Pn	Pn	07 48 15.1	-0.3
	0.1nm,0.3s,baz=59,slow=13,SNR=2.1						
KURBB				Lg	Lg	07 49 54.6	
	baz=61,slow=34						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.49**	**205**	Pn	Pn	07 48 37.7	+1.7
	0.1nm,0.3s,baz=25,slow=14,SNR=8.0						
	0.2nm,0.3s						

*JMA **03** 07:55:27.3±1.1, 46°.4N×15°.3E±°, h30km, MD5.2/19, MV5.6/19, KURILE ISLANDS REGION*

*SKHL **03** 07:55:28.9±0.4, 46°.30N×152°.70E, h93km±7km, mb6.0/8, mbv5.8/4, msh5.6/4, msha6.7/8*

*NEIC **03** 07:55:30.9±1.1, 46°.5N±0°.1×152°.3E±0°.1, h71km±8km, mb4.5/106, Error ellipse: s-maj=18.4km s-min=11.2km az=147.0*

*MOS **03** 07:55:30.1±1.0, 46°.59N×152°.25E, h92km, mb4.6/32, Error ellipse: s-maj=6.7km s-min=5.2km az=76.4*

*IDC **03** 07:55:32.3±1.7, 46°.65N×152°.13E, h78km±14km, mb4.0/34, mbtmp4.4/38, MS3.6/45, Error ellipse: s-maj=13.7km s-min=8.8km az=158.0*

ISC 03 07:55:28.1±0.4, 46°.42N±0°.05×152°.43E±0°.04, h52km, n553, σ1§36/545, mb4.5/125, MS3.7/43, 17C-14D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.40**	**251**	*i* P	**Pn**	**07 56 21.4**	**+2.8**
KUR				AMB	AMB	07 56 23.0	
	2μm,1.5s						
KUR				AMB	AMB	07 56 26.5	
	1μm,0.4s						
KUR				*e*S	**Sn**	**07 57 01.1**	**+3.5**
KUR				A	A	07 57 03.3	
	8μm,2.0s						
KUR				A	A	07 57 03.3	
	6μm,2.0s						
KUR				A	A	07 57 15.6	
	4μm,0.6s						
KUR				A	A	07 57 15.6	
	6μm,0.6s						
KUR	**Kuril'sk**	**3.40**	**251**	*d* iPN	**Pn**	**07 56 21.4**	**+2.8**
KUR				*e*S	**Sn**	**07 57 00.9**	**+3.3**
KUR				pmax	pmax		
	comp=Z,1μm,0.4s						
KUR				pmax	pmax		
	comp=N,596nm,0.5s						
KUR				pmax	pmax		
	comp=E,271nm,0.2s						
KUR				smax	smax		
	comp=E,6μm,0.6s						
KUR				smax	smax		
	comp=N,4μm,0.3s						
SHO	**Shikotan**	**4.71**	**239**	*i* P	**Pn**	**07 56 37.9**	**+1.4**
SHO				AMB	AMB	07 56 47.2	
	comp=N,620nm,0.3s						
SHO				*i* S	**Sn**	**07 57 29.4**	**-0.4**
SHO				A	A	07 57 44.3	
	comp=N,870nm,0.5s						
SHO				A	A	07 57 44.3	
	comp=N,2μm,0.5s						
SHO	**Shikotan**	**4.71**	**239**	⇑*i* PN	**Pn**	**07 56 37.8**	**+1.3**
SHO				*i* S	**Sn**	**07 57 30.1**	**+0.3**
SHO				pmax	pmax		
	comp=N,243nm,0.3s						
SHO				pmax	pmax		
	comp=E,454nm,0.3s						
SHO				pmax	pmax		
	comp=Z,616nm,0.3s						
SHO				smax	smax		
	comp=E,2μm,0.5s						
SHO				smax	smax		
	comp=N,868nm,0.4s						
SKR	**Severo-Kuril's**	**4.92**	**29**	*e*P	**Pn**	**07 56 41.0**	**+1.7**
SKR				AMB	AMB	07 56 43.7	
	comp=N,490nm,0.4s						
SKR				*e*S	**Sn**	**07 57 35.5**	**+0.7**
SKR				A	A	07 57 38.0	
	comp=N,2μm,3.0s						
SKR				A	A	07 57 38.0	
	comp=N,1μm,3.0s						
SKR				A	A	07 57 47.9	
	comp=N,1μm,0.4s						
SKR				A	A	07 57 47.9	
	comp=N,1μm,0.4s						
SKR	**Severo-Kuril's**	**4.92**	**29**	*e*PN	**Pn**	**07 56 41.0**	**+1.7**
SKR				*e*S	**Sn**	**07 57 34.7**	**-0.1**
SKR				pmax	pmax		
	comp=Z,672nm,1.5s						
SKR				smax	smax		
	comp=E,2μm,0.6s						
SKR				smax	smax		
	comp=N,2μm,1.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**5.21**	**245**	*i* P	**Pn**	**07 56 46.5**	**+3.1**
YUK				AMB	AMB	07 56 52.7	
	comp=Z,2μm,0.3s						
YUK				AMB	AMB	07 56 53.2	
	comp=Z,3μm,1.5s						
YUK				*i* S	**Sn**	**07 57 44.7**	**+2.5**
YUK				A	A	07 57 59.2	
	comp=Z,5μm,1.5s						
YUK				A	A	07 57 59.2	
	comp=Z,7μm,1.5s						
YUK				A	A	07 58 04.5	
	comp=Z,7μm,0.6s						
YUK				A	A	07 58 04.5	
	comp=Z,6μm,0.6s						
YUK	**Yuzh-Kuril'sk**	**5.21**	**245**	*c* iPN	**Pn**	**07 56 46.8**	**+3.4**
YUK				*i* S	**Sn**	**07 57 46.7**	**+4.5**
YUK				pmax	pmax		
	comp=Z,2μm,0.3s						
YUK				pmax	pmax		
	comp=N,764nm,0.2s						
YUK				pmax	pmax		
	comp=E,168nm,0.2s						
YUK				pmax	pmax		
	comp=Z,3μm,1.5s						
YUK				smax	smax		
	comp=E,7μm,1.3s						
YUK				smax	smax		
	comp=N,5μm,1.2s						
YUK				smax	smax		
	comp=N,7μm,0.6s						
YUK				smax	smax		
	comp=E,6μm,0.6s						
RUSJ	**Misakicho**	**5.57**	**248**	⇑*i* PN	Pn	07 56 53.0	+4.7
RUSJ				*i* S	Sn	07 57 59.9	+8.9
NEM2	**Nemuro 2**	**5.65**	**240**	*e*P	**Pn**	**07 56 49.9**	**+0.5**
NEM2				*e*S	**Sn**	**07 57 50.0**	**-2.8**
NEM2	**Nemuro 2**	**5.65**	**240**	A	A	07 56 49.9	
	comp=E,4.0nm,4.0s,comp=N,4.0nm,4.0s						
NMR	**Nemuro--Hokkai**	**5.65**	**240**	*i* P	**Pn**	**07 56 49.9**	**+0.5**
NMR	**Nemuro--Hokkai**	**5.65**	**240**	⇓*i* PN	**Pn**	**07 56 49.9**	**+0.5**
JRA	**Rausu**	**5.73**	**247**	*e*P	**Pn**	**07 56 53.6**	**+3.2**
JRA	**Rausu**	**5.73**	**247**	A	A	07 56 53.6	
	comp=E,4.0nm,1.9s,comp=N,4.0nm,3.2s						
PAU	**Pauzhetka**	**5.82**	**28**	*e*P	**Pn**	**07 56 53.2**	**+1.6**
PAU				AMB	AMB	07 57 00.6	
	comp=N,460nm,0.4s						
PAU				*e*S	**Sn**	**07 57 57.5**	**+0.6**
PAU				A	A	07 58 02.1	
	comp=N,970nm,0.3s						
PAU				A	A	07 58 02.1	
	comp=N,1μm,0.3s						
JNSB	**Nemuroshibetsu**	**5.88**	**246**	A	A	07 56 53.0	
	comp=E,9.0nm,3.7s,comp=N,10.0nm,4.8s						
JKHN	**Kushirohamanak**	**6.16**	**240**	A	A	07 56 56.7	
	comp=E,7.0nm,0.8s,comp=N,8.0nm,0.6s						
JNK	**Nakash**	**6.16**	**245**	*e*P	**Pn**	**07 56 58.7**	**+2.3**
JNK				*e*S	**Sn**	**07 58 07.3**	**+1.9**
JAK	**Akkeshi**	**6.49**	**241**	*e*P	**Pn**	**07 57 01.4**	**+0.5**
JAK				*e*S	**Sn**	**07 58 10.7**	**-2.7**
JAK	**Akkeshi**	**6.49**	**241**	A	A	07 57 01.4	
	comp=E,5.0nm,0.8s,comp=N,5.0nm,2.7s						
JTKR	**Abashiri--Toko**	**6.50**	**251**	*e*P	**Pn**	**07 57 03.8**	**+2.8**
YSS	**Yuzh-Sakhalins**	**6.68**	**278**	Pn	**Pn**	**07 57 05.6**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.68**	**278**	*e*P	**Pn**	**07 57 06.7**	**+3.3**
YSS				AMB	AMB	07 57 16.4	
	comp=N,700nm,3.2s						
YSS				*e*S	**Sn**	**07 58 20.7**	**+2.6**
YSS	**Yuzh-Sakhalins**	**6.68**	**278**	*e*PN	**Pn**	**07 57 06.5**	**+3.1**
YSS				*e*S	**Sn**	**07 58 20.4**	**+2.3**
YSS				pmax	pmax		
	comp=Z,160nm,0.7s						
YSS				pmax	pmax		
	comp=Z,700nm,3.2s						
YSS				smax	smax		
	comp=N,100nm,0.6s						
YSS				smax	smax		
	comp=E,140nm,0.5s						
JAR	**Ashorobuto**	**6.90**	**246**	P	**Pn**	**07 57 09.1**	**+2.6**
JOB	**Onbets**	**7.06**	**243**	*e*P	**Pn**	**07 57 10.8**	**+2.0**
JOB				*e*S	**Sn**	**07 58 26.8**	**-0.8**
JKK2	**Kamakawa 2**	**7.30**	**253**	*e*P	**Pn**	**07 57 15.4**	**+3.4**
JKA	**Kamikawa-asahi**	**7.31**	**255**	Pn	**Pn**	**07 57 15.5**	**+3.4**
JKA	**Kamikawa-asahi**	**7.31**	**255**	*e*P	**Pn**	**07 57 16.3**	**+4.2**
ASAJ	**Asahikawa**	**7.31**	**255**	P	**Pn**	**07 57 16.3**	**+4.2**
	comp=E,585nm,0.9s,baz=85,slow=15,SNR=53						
ASAJ				S	**Sn**	**07 58 35.0**	**+1.3**
	comp=E,126nm,0.8s,baz=262,slow=32,SNR=2.8						
ASAJ				LR	LR	08 00 03.6	
	comp=E,383nm,19.0s,baz=4.5,slow=38						
JWK2	**Keihoku**	**7.43**	**265**	*e*P	Pn	07 57 19.7	+5.8
UGL	**Uglegorsk**	**7.47**	**295**	*e*P	**Pn**	**07 57 17.6**	**+3.3**
UGL				AMB	AMB	07 57 18.2	
	comp=E,240nm,0.6s						
UGL				*e*S	**Sn**	**07 58 40.4**	**+2.8**
UGL				A	A	07 58 41.5	
	comp=E,220nm,0.5s						
UGL				A	A	07 58 41.5	
	comp=E,190nm,0.5s						
UGL	**Uglegorsk**	**7.47**	**295**	⇓*e*PN	**Pn**	**07 57 17.6**	**+3.3**
UGL				*e*S	**Sn**	**07 58 40.4**	**+2.8**
UGL				pmax	pmax		
	comp=Z,240nm,0.8s						
UGL				smax	smax		
	comp=N,221nm,0.5s						
UGL				smax	smax		
	comp=E,195nm,0.8s						
PEA0B	**Petropavlovsk-**	**7.51**	**25**	Pn	**Pn**	**07 57 15.7**	**+0.8**
PEA0B	**Petropavlovsk-**	**7.51**	**25**	*c*ePN	**Pn**	**07 57 16.1**	**+1.2**
PETK	**Petropavlovsk-**	**7.51**	**25**	Pn	**Pn**	**07 57 15.7**	**+0.8**
PETK	**Petropavlovsk-**	**7.51**	**25**	P	**Pn**	**07 57 16.7**	**+1.9**
	comp=E,121nm,0.6s,baz=184,slow=11,SNR=63						
PETK				S	**Sn**	**07 58 40.6**	**+2.1**
	comp=E,25nm,0.8s,baz=213,slow=42,SNR=1.3						
JCH	**Churui**	**7.51**	**243**	*e*P	**Pn**	**07 57 15.6**	**+0.7**
JCH				*e*S	**Sn**	**07 58 36.4**	**-2.2**
PET	**Petropavlovsk**	**7.74**	**29**		**Pn**	**07 57 18.3**	**+0.3**
PET	**Petropavlovsk**	**7.74**	**29**	*e*P	**Pn**	**07 57 20.5**	**+2.5**
PET				AMB	AMB	07 57 26.3	
	comp=E,110nm,0.8s						
PET				*e*S	**Sn**	**07 58 43.8**	**-0.3**
PET				A	A	07 59 02.7	
	comp=E,430nm,0.6s						
PET				A	A	07 59 02.7	
	comp=E,280nm,0.6s						
PET	**Petropavlovsk**	**7.74**	**29**	*e*PN	**Pn**	**07 57 21.5**	**+3.5**
PET				*e*S	**Sn**	**07 58 44.6**	**+0.5**
PET				pmax	pmax		
	comp=Z,200nm,2.3s						
PET				pmax	pmax		
	comp=Z,138nm,0.8s						
PET				MLR	MLR		
	comp=Z,500nm,11.0s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
PET	**Petropavlovsk**	**7.74**	**29**	P	**Pn**	**07 57 20.2**	**+2.2**
	comp=Z,133nm,0.7s,comp=Z,1.1nm						
JAB	**Ashibetsu**	**7.80**	**252**	*e*P	**Pn**	**07 57 23.0**	**+4.1**
TYV	**Tymovskoe**	**7.85**	**308**	*e*P	Pn	07 57 23.4	+3.9
TYV				AMB	AMB	07 57 24.2	
	comp=Z,140nm,2.0s						
TYV				*e*S	**Sn**	**07 58 47.0**	**+0.2**
TYV				A	A	07 58 48.8	
	comp=Z,100nm,3.1s						
TYV				A	A	07 58 48.8	
	comp=Z,130nm,3.1s						
TYV	**Tymovskoe**	**7.85**	**308**	*e*PN	**Pn**	**07 57 22.1**	**+

NKL **Nikolayevsk** **10.14 316** *e*P **Pn** **07 57 52.3 +1.5**
NKL *e*S **Sn** **07 59 43.5 +0.5**
TEY **Ternei** **11.15 269** *e*PN Pn 07 58 10.9 +6.3
GRNR **Gornyy** **11.45 298** *e*P **Pn** **07 58 11.7 +2.9**
GRNR **Gornyy** **11.45 298**⇑*i*PN **Pn** **07 58 11.7 +2.9**
GRNR pmax pmax
comp=Z,20nm,0.8s
JMM **Marumori** **12.14 229** Pn **Pn** **07 58 16.1 -2.1**
MA2 **Magadan** **13.21 356** Pn **Pn** **07 58 33.1 +0.4**
MA2 **Magadan** **13.21 356** P **Pn** **07 58 33.6 +0.8**
comp=Z,121nm,0.6s,baz=174,slow=9.3,SNR=78
MA2 S **Sn** **08 00 55.6 -2.4**
comp=Z,2.9nm,0.4s,baz=131,slow=20,SNR=1.7
MA2 LR LR 08 03 42.0
comp=Z,201nm,18.6s,baz=156,slow=38
MA2 **Magadan** **13.21 356***c i*PN **Pn** **07 58 32.0 -0.7**
MA2 pmax pmax
comp=Z,133nm,0.7s
MA2 **Magadan** **13.21 356** P **Pn** **07 58 32.9 +0.2**
comp=Z,215nm,0.7s,comp=Z,2µm
KLR **Kul'dur** **14.17 289** P **Pn** **07 58 47.5 +1.8**
comp=Z,12nm,0.9s,baz=99,slow=15,SNR=24
KLR LR LR 08 04 28.3
comp=Z,252nm,18.7s,baz=83,slow=38
KLR **Kul'dur** **14.17 289** *e*P **Pn** **07 58 46.0 +0.3**
KLR **Kul'dur** **14.17 289** *e*P **Pn** **07 58 46.6 +0.9**
KLR pmax pmax
comp=Z,19nm,1.0s
MAJO **Matsushiro** **14.50 232** Pn **Pn** **07 58 48.8 -1.5**
MAJO **Matsushiro** **14.50 232***de*P **Pn** **07 58 48.8 -1.5**
MJAR **Matsushiro Arr** **14.50 232** P **Pn** **07 58 49.8 -0.5**
comp=Z,11nm,0.6s,baz=25,slow=15,SNR=27
MJAR S **Sn** **08 01 31.4 +1.8**
comp=Z,1.2nm,0.5s,baz=270,slow=39,SNR=1.5
MJAR LR LR 08 04 58.1
comp=Z,264nm,19.6s,baz=46,slow=39
MJB9 **Matsu-Tunnel** **14.50 232** Pn **Pn** **07 58 50.2 -0.1**
USRK **Ussuriysk Ar.** **14.55 269** P **Pn** **07 58 51.2 +0.4**
comp=Z,36nm,0.6s,baz=77,slow=11,SNR=52
SHEM **Shemya Is, Ala** **15.38 58** P **Pn** **07 59 02.0 +0.6**
comp=Z,48nm,0.4s,baz=304,slow=3.6,SNR=21
SHEM S **Sn** **08 01 43.0 -7.6**
comp=Z,38nm,0.5s,baz=287,slow=20,SNR=7.1
SHEM LR LR 08 04 08.6
comp=Z,140nm,19.4s,baz=292,slow=34
JGF **Kuroka** **15.66 232** Pn **Pn** **07 59 04.9 -0.4**
MDJ **Mudanjiang** **16.10 272** P **P** **07 59 13.0 -0.3**
MDJ pmax pmax
comp=Z,55nm,1.0s
MDJ pmax pmax
comp=Z,1µm,4.8s
SEY **Seymchan** **16.55 360** P **P** **07 59 17.3 -0.8**
comp=Z,23nm,0.5s,baz=175,slow=12,SNR=54
SEY LR LR 08 05 39.5
comp=Z,169nm,19.8s,baz=175,slow=37
SEY **Seymchan** **16.55 360** *e*P **Pn** **07 59 14.9 -1.3**
SEY pmax pmax
comp=Z,19nm,0.6s
HEH **HeiHe** **17.04 292** *e*P **P** **07 59 23.2 -0.4**
HEH pmax pmax
comp=Z,100nm,0.8s
HEH pmax pmax
comp=Z,510nm,5.1s
BNX **BinXian** **17.36 277**⇑P **Pn** **07 59 24.7 -1.8**
BNX pmax pmax
comp=Z,19nm,0.5s
BNX pmax pmax
comp=Z,1µm,4.6s
ZEA **Zeya** **17.68 304** *e*P **P** **07 59 29.6 -1.0**
ZEA **Zeya** **17.68 304** *e*P **P** **07 59 31.5 +0.9**
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,0.8s
AMKA **Amchitka** **18.30 64** P **P** **07 59 38.3 +0.9**
CN2 **Changchun** **19.19 272** *e*P **P** **07 59 45.9 -1.4**
KSRS **Korea Array** **20.25 253** P Pn 08 00 00.3 -0.8
comp=Z,28nm,0.8s,baz=57,slow=11,SNR=35
KSRS LR LR 08 06 52.2
comp=Z,105nm,20.9s,baz=50,slow=34
comp=Z,28nm,0.8s
KS19 **Wonju Array Si** **20.26 253** P **P** **07 59 59.8 +0.8**
KSAR **Wonju Array Be** **20.28 253** P **P** **07 59 60.0 +0.8**
KSAR **Wonju Array Be** **20.28 253** P **P** **08 00 00.0 +0.8**
YAK **Yakutsk** **20.35 328** P **P** **07 59 60.0 +0.2**
YAK **Yakutsk** **20.35 328** P **P** **07 59 59.5 -0.3**
comp=Z,97nm,0.7s,baz=133,slow=2.1,SNR=17
YAK LR LR 08 07 43.8
comp=Z,171nm,20.5s,baz=146,slow=36
comp=Z,97nm,0.7s
YAK **Yakutsk** **20.35 328** *e*P Pn 08 00 02.7 +0.5
YAK *e* 08 00 21.3
YAK *e* 08 04 04.9
YAK *e*SS Sn 08 04 11.4 +21
YAK *e* 08 11 28.1
YAK pmax pmax
comp=Z,91nm,1.0s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,14nm,1.2s
YAK pmax pmax
comp=Z,77nm,1.4s
YAK pmax pmax
comp=N,54nm,1.5s
YAK pmax pmax
comp=E,55nm,1.8s
JCJ **Chichijima** **20.93 206** S S 08 03 47.0 -10
comp=E,33nm,0.6s,baz=90,slow=13,SNR=2.2
INCN **Inchon** **21.09 254** P **P** **08 00 08.6 +0.6**
INCN **Inchon** **21.09 254** P **P** **08 00 08.6 +0.6**
INCN pmax pmax
comp=Z,48nm,0.7s
JNU **Nakatsue** **21.14 239** P **P** **08 00 09.4 +0.8**
JNU IAmb IAmb 08 00 22.3
comp=Z,25nm,0.8s
JNU **Nakatsue** **21.14 239** LR LR 08 09 38.9
comp=Z,96nm,19.1s,baz=14,slow=40
SNY **Shenyang** **21.15 268**⇓P **P** **08 00 09.2 +0.6**
SNY pmax pmax
comp=Z,88nm,0.9s
TJN **Taejon** **21.23 251**⇓*e*P **P** **08 00 10.1 +0.6**
BILL **Bilibino** **22.82 13** P **P** **08 00 25.2 -1.1**
BILL **Bilibino** **22.82 13** *e*P **P** **08 00 25.1 -1.1**
BILL **Bilibino** **22.82 13**⇓*e*P **P** **08 00 25.1 -1.1**
BILL pmax pmax
comp=Z,9.0nm,0.7s
BILL MLR MLR
comp=Z,200nm,16.3s
XLT **XiLinHaoTe** **25.61 278** *e*P **P** **08 00 53.9 +1.4**
XLT pP sP 08 01 09.2 -1.6
XLT pmax pmax
comp=Z,19nm,0.6s
XLT pmax pmax
comp=Z,230nm,4.8s
BOD **Bodaibo** **25.84 310** *e*P **P** **08 00 53.0 -1.2**
BOD **Bodaibo** **25.84 310** *e*P **P** **08 00 53.0 -1.2**
BOD pmax pmax
comp=Z,13nm,1.4s
BJT **Baijiatuao** **27.02 269** P **P** **08 01 06.4 +1.4**
BJT IAmb IAmb 08 01 10.6
comp=Z,9.1nm,0.7s
BJT **Baijiatuao** **27.02 269** P **P** **08 01 06.4 +1.4**
BJT pmax pmax
comp=Z,9.0nm,0.7s
TIXI **Tiksi** **27.65 344** LR LR 08 12 54.2
comp=Z,125nm,18.6s,baz=158,slow=38
TIXI **Tiksi** **27.65 344** *e*P **P** **08 01 10.2 -0.2**
TIXI **Tiksi** **27.65 344**⇑*e*P **P** **08 01 10.2 -0.2**
TIXI pmax pmax
comp=Z,6.0nm,0.9s
TIXI MLR MLR
comp=Z,120nm,18.0s
K13K **Kusilvak Mount** **28.85 42** P **P** **08 01 21.2 0.0**
baz=258
H11N2 **WAKE ISLAND Hy** **29.15 151** T T 08 32 43.9
baz=340,slow=75,SNR=3736
F14K **Arctic Creek** **29.15 34** P **P** **08 01 23.8 0.0**
baz=250
H11N1 **WAKE ISLAND Hy** **29.17 151** T T 08 32 44.9
baz=340,slow=75,SNR=3136
H11N3 **WAKE ISLAND Hy** **29.17 151** T T 08 32 45.0
baz=340,slow=75,SNR=2720
NJ2 **Nanjing** **29.45 253** *e*P **P** **08 01 27.9 +1.1**
NJ2 pmax pmax
comp=Z,21nm,0.5s
J14K **Nanvaranak Lak** **29.54 40** P **P** **08 01 27.4 +0.2**
HHC **Hu-ho-hao-te** **29.84 274** *e*P **P** **08 01 31.1 +0.7**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,120nm,5.0s
F15K **North Star Dit** **29.89 34** P **P** **08 01 31.5 +1.2**
M14K **Bethel** **29.93 45** P **P** **08 01 31.4 +0.8**
H11S1 **WAKE ISLAND Hy** **30.23 152** T T 08 34 06.9
baz=340,slow=76,SNR=2266
H11S3 **WAKE ISLAND Hy** **30.24 152** T T 08 34 08.3
baz=340,slow=76,SNR=2135
H11S2 **WAKE ISLAND Hy** **30.25 152** T T 08 34 08.2
baz=340,slow=76,SNR=1851
K15K **Wolf Creek Mou** **30.37 42** P **P** **08 01 35.8 +1.2**
K15K IAmb IAmb 08 02 13.9
comp=Z,10nm,1.2s
M15K **Kasigluk River** **30.54 45** P **P** **08 01 36.2 +0.1**
baz=264
ULN **Ulaanbaatar** **30.56 290** P **P** **08 01 35.9 -0.8**
ULN IAmb IAmb 08 01 42.1
comp=Z,8.3nm,0.7s
ULN **Ulaanbaatar** **30.56 290** *e*P **P** **08 01 35.9 -0.8**
ULN **Ulaanbaatar** **30.56 290**⇓*e*P **P** **08 01 35.9 -0.8**
ULN pmax pmax
comp=Z,9.0nm,0.7s
C16K **Lisburne Hills** **30.58 29** P **P** **08 01 36.8 +0.4**
baz=246
G16K **Koyuk River** **30.71 36** P **P** **08 01 37.3 -0.2**
J16K **Anvik River** **30.96 40** P **P** **08 01 40.6 +0.8**
SONM **Songino Array** **31.00 290** P **P** **08 01 40.1 -0.4**
SONM **Songino Array** **31.00 290** P **P** **08 01 39.4 -1.0**
comp=Z,1.9nm,0.7s,baz=68,slow=8.4,SNR=11
SONM LR LR 08 15 13.1
comp=Z,146nm,18.4s,baz=94,slow=38
comp=Z,1.9nm,0.7s
SONM **Songino Array** **31.00 290** P **P** **08 01 40.1 -0.4**
SONM pmax pmax
comp=Z,3.0nm,0.7s
BTO **Baotou** **31.01 275** *e*P **P** **08 01 41.2 +0.6**
BTO pP **sP** **08 01 58.6 -0.5**
BTO sP pwP 08 02 06.6 +10
BTO PP **PnPn** **08 02 42.4 -0.8**
BTO S **S** **08 06 41.7 -0.1**
BTO SS **SnSn** **08 08 32.7 +6.6**
BTO pmax pmax
comp=Z,29nm,0.5s
BTO pmax pmax
comp=Z,270nm,5.4s
BTO LR LR
comp=N,330nm,5.7s
BTO LR LR
comp=E,540nm,4.4s
BTO LR LR
comp=Z,230nm,5.5s
CHNA **Chernabura Isl** **31.03 56** P **P** **08 01 40.0 -0.5**
baz=275
D17K **Noatak River** **31.15 31** P **P** **08 01 41.9 +0.5**
baz=250
L16K **Owhat River** **31.24 43** P **P** **08 01 43.6 +1.3**
L16K IAmb IAmb 08 02 25.4
comp=Z,16nm,1.5s
RDOG **Red Dog Mine** **31.34 31** P **P** **08 01 43.1 0.0**
RDOG IAmb IAmb 08 01 47.1
comp=Z,7.6nm,0.6s
RDOG **Red Dog Mine** **31.34 31** P **P** **08 01 43.5 +0.4**
baz=249
C17K **DeLong Mountai** **31.40 30** P **P** **08 01 43.7 0.0**
baz=248,SNR=8.0
E17K **Hotham Inlet** **31.41 33** P **P** **08 01 43.7 0.0**
baz=252,SNR=19
G17K **Kiwalik Mounta** **31.42 36** P **P** **08 01 44.3 +0.5**
baz=256
F17K **Baldwin Pennin** **31.43 34** P **P** **08 01 44.8 +0.8**
F17K IAmb IAmb 08 02 07.7
comp=Z,8.0nm,0.7s
F17K **Baldwin Pennin** **31.43 34** P **P** **08 01 43.9 0.0**
baz=254,SNR=7.5
N16K **Nishlik Lake** **31.46 46** P **P** **08 01 44.6 +0.3**
baz=266
J17K **VABM Dome** **31.66 40** P **P** **08 01 46.3 +0.4**
baz=261
L17K **Donlin** **31.84 42** P **P** **08 01 48.1 +0.5**
baz=264
K17K **Iditarod** **31.91 41** P **P** **08 01 48.7 +0.5**
E18K **Tukpahlearik C** **31.96 32** P **P** **08 01 49.5 +1.0**
E18K **Tukpahlearik C** **31.96 32** P **P** **08 01 49.0 +0.4**
baz=253
F18K **Selawik** **32.09 34** P **P** **08 01 49.1 -0.6**
baz=255
C18K **Utukok River** **32.14 30** P **P** **08 01 50.2 0.0**
C18K **Utukok River** **32.14 30** P **P** **08 01 50.1 -0.2**
baz=250,SNR=13
M17K **Holitna River** **32.18 44** P **P** **08 01 51.2 +0.6**
M17K IAmb IAmb 08 02 25.2
comp=Z,12nm,1.1s
M17K **Holitna River** **32.18 44** P **P** **08 01 50.8 +0.2**
baz=266
B18K **Kokolik River** **32.19 28** P **P** **08 01 51.3 +0.7**
baz=249
H18K **Honhosa River** **32.28 37** P **P** **08 01 51.7 +0.3**
H18K IAmb IAmb 08 02 18.9
comp=Z,4.2nm,0.7s
H18K **Honhosa River** **32.28 37** P **P** **08 01 52.1 +0.7**
baz=259
LYN **LuoYang** **32.29 263**⇑*i*P **P** **08 01 52.6 +0.8**
LYN pmax pmax
comp=Z,32nm,0.7s
G18K **Tagagawik** **32.32 35** P **P** **08 01 52.1 +0.3**
G18K IAmb IAmb 08 02 17.3
comp=Z,6.4nm,0.7s
G18K **Tagagawik** **32.32 35** P **P** **08 01 51.5 -0.2**
baz=258,SNR=9.8
ZAK **Zakamensk** **32.39 295** *e*P **P** **08 01 50.6 -2.0**
ZAK pmax pmax
comp=Z,4.0nm,0.9s
P17K **Kvichak River** **32.59 48** P **P** **08 01 54.0 -0.1**
baz=270
J18K **Innoko River** **32.72 40** P **P** **08 01 55.7 +0.4**
J18K **Innoko River** **32.72 40** P **P** **08 01 55.0 -0.3**
baz=263
C19K **Lookout Ridge** **32.84 29** P **P** **08 01 57.2 +0.8**
C19K **Lookout Ridge** **32.84 29** P **P** **08 01 56.1 -0.2**
baz=252,SNR=6.5
F19K **Shaleruckik Mo** **32.88 34** P **P** **08 01 56.8 +0.3**
baz=257,SNR=8.3
N18K **Kilae Creek** **32.89 45** P **P** **08 01 56.6 -0.3**
baz=268
TTA **Tatalina** **32.98 41** P **P** **08 01 58.3 +0.7**
TTA **Tatalina** **32.98 41** P **P** **08 01 57.7 +0.1**
baz=265
TTA **Tatalina** **32.98 41** P **P** **08 01 58.3 +0.7**
TTA pmax pmax
comp=Z,6.0nm,1.0s
G19K **Purcell Mounta** **33.00 35** P **P** **08 01 58.3 +0.6**
G19K **Purcell Mounta** **33.00 35** P **P** **08 01 57.9 +0.2**
baz=259,SNR=6.9
H19K **Roundabout Mou** **33.14 36** P **P** **08 01 59.4 +0.5**
H19K IAmb IAmb 08 02 01.8
comp=Z,8.6nm,0.8s
H19K **Roundabout Mou** **33.14 36** P **P** **08 01 59.1 +0.3**
baz=260,SNR=14
D19K **Kuna River** **33.17 31** P **P** **08 01 59.5 +0.3**
D19K **Kuna River** **33.17 31** P **P** **08 01 59.7 +0.5**
baz=254,SNR=23
E19K **Redstone River** **33.23 33** P **P** **08 02 00.1 +0.4**
E19K IAmb IAmb 08 02 20.8
comp=Z,6.9nm,0.7s
E19K **Redstone River** **33.23 33** P **P** **08 01 60.0 +0.4**
baz=257,SNR=12
J19K **Poorman** **33.27 39** P **P** **08 01 59.8 -0.3**
J19K **Poorman** **33.27 39** P **P** **08 02 00.5 +0.5**
baz=264
GUMO **Guam** **33.34 193** LR LR 08 16 25.1
comp=Z,27nm,18.6s,baz=49,slow=37
WHN **Wuhan** **33.39 255** P **P** **08 02 04.1 +2.7**
WHN pmax pmax
comp=Z,68nm,0.9s
L19K **White Mountain** **33.46 43** P **P** **08 02 03.3 +1.6**
M19K **Big River Lodg** **33.66 43** P **P** **08 02 04.0 +0.5**
baz=268
F20K **Avaraart Lake** **33.71 34** P **P** **08 02 04.1 +0.3**
baz=259
D20K **Etivluk River** **33.76 31** P **P** **08 02 04.2 -0.1**
baz=255,SNR=36
H20K **Anotleneega Mo** **33.78 37** P **P** **08 02 04.6 +0.1**
baz=262,SNR=5.7
E20K **Nigu River** **33.80 32** P **P** **08 02 04.8 +0.1**
baz=256,SNR=24
J20K **Nowinta River** **33.93 39** P **P** **08 02 06.1 +0.4**
J20K IAmb IAmb 08 02 35.2
comp=Z,3.9nm,0.8s
J20K **Nowinta River** **33.93 39** P **P** **08 02 06.2 +0.4**
baz=265
B20K **Meade River** **33.94 28** P **P** **08 02 05.8 +0.1**
baz=253
Q19K **Cape Douglas,** **34.04 48** P **P** **08 02 07.1 +0.3**
baz=273
P19K **Oil Pt** **34.22 47** P **P** **08 02 08.2 -0.2**
baz=272
M20K **Styx River** **34.26 43** P **P** **08 02 08.7 -0.1**
baz=269
IMAR **Indian Mountai** **34.31 36** P **P** **08 02 09.7 +0.6**
G21K **Allakaket** **34.48 35** P **P** **08 02 10.9 +0.4**
G21K IAmb IAmb 08 02 13.4
comp=Z,6.4nm,0.8s
G21K **Allakaket** **34.48 35** P **P** **08 02 10.0 -0.5**
baz=262,SNR=13
C21K **Knifeblade Rid** **34.51 30** P **P** **08 02 10.5 -0.2**
baz=257,SNR=11
F21K **Alatna River** **34.60 34** P **P** **08 02 12.0 +0.4**
F21K **Alatna River** **34.60 34** P **P** **08 02 11.6 0.0**
baz=261
E21K **Killik River** **34.64 32** P **P** **08 02 12.0 +0.1**
baz=259
H21K **Melozitna River** **34.66 37** P **P** **08 02 12.0 -0.1**
H21K IAmb IAmb 08 02 40.2
comp=Z,5.5nm,0.8s
H21K **Melozitna River** **34.66 37** P **P** **08 02 11.6 -0.4**
baz=264,SNR=7.7
KDAK **Kodiak Island** **34.68 50** P **P** **08 02 12.1 -0.2**
KDAK **Kodiak Island** **34.68 50** P **P** **08 02 12.3 0.0**
baz=276
KDAK **Kodiak Island** **34.68 50** P **P** **08 02 12.1 -0.2**
KDAK pmax pmax
comp=Z,14nm,1.0s
B21K **Ikpikpuk River** **34.68 29** P **P** **08 02 12.7 +0.5**
B21K **Ikpikpuk River** **34.68 29** P **P** **08 02 11.9 -0.3**
baz=256,SNR=58
CHUM **Lake Minchumin** **34.71 40** P **P** **08 02 12.2 -0.4**
baz=267
CAST **Castle Rocks** **34.79 41** P **P** **08 02 14.2 +0.9**
CAST IAmb IAmb 08 02 50.9
comp=Z,7.1nm,1.3s
CAST **Castle Rocks** **34.79 41** P **P** **08 02 13.3 0.0**
baz=268
A22K **Sinclair Lake** **34.93 27** P **P** **08 02 13.8 -0.4**
baz=254
I21K **Tanana** **34.95 37** P **P** **08 02 14.7 +0.2**
baz=265
SKT **Skwentna** **35.02 43** P **P** **08 02 15.0 -0.2**
baz=270
XAN **Xi'an** **35.02 265**⇑P **P** **08 02 15.2 -0.4**
XAN pmax pmax
comp=Z,35nm,0.8s
F22K **John River** **35.15 33** P **P** **08 02 16.4 +0.1**
baz=262
D22K **Ayikyak River** **35.19 31** P **P** **08 02 16.8 +0.2**
D22K **Ayikyak River** **35.19 31** P **P** **08 02 16.7 +0.1**
baz=259,SNR=11
CAPN **Captain Cook N** **35.22 45** P **P** **08 02 16.8 -0.1**
baz=272
B22K **Teshekpuk Lake** **35.25 28** P **P** **08 02 17.0 -0.1**
B22K **Teshekpuk Lake** **35.25 28** P **P** **08 02 16.7 -0.3**
baz=256,SNR=19
H22K **Ishtalitna Cre** **35.27 36** P **P** **08 02 17.4 +0.1**
baz=265
BPAW **Bear Paw Mtn.** **35.31 39** P **P** **08 02 18.3 +0.6**
BPAW IAmb IAmb 08 02 46.8
comp=Z,5.2nm,0.8s
BPAW **Bear Paw Mtn.** **35.31 39** P **P** **08 02 18.1 +0.3**
baz=268
KTH **Kantishna Hill** **35.32 40** P **P** **08 02 18.9 +1.0**
G22K **Bettles** **35.33 34** P **P** **08 02 18.3 +0.6**
baz=263
E22K **Anaktuvuk Pass** **35.38 32** P **P** **08 02 18.3 0.0**
baz=261
SUA **Susitna One** **35.40 44** P **P** **08 02 18.6 0.0**
baz=272
MLY **Manley** **35.47 38** P **P** **08 02 19.8 +0.7**
MLY IAmb IAmb 08 02 37.8
comp=Z,4.9nm,0.8s
MLY **Manley** **35.47 38** P **P** **08 02 19.1 0.0**
baz=267
TRF **Thorofare Moun** **35.60 41** P **P** **08 02 20.8 +0.4**
TRF IAmb IAmb 08 02 58.6
comp=Z,5.3nm,0.9s
TRF **Thorofare Moun** **35.60 41** P **P** **08 02 19.5 -0.9**
baz=269
COLD **Coldfoot** **35.87 34** P **P** **08 02 22.4 0.0**
baz=264,SNR=11
G23K **Bananza Creek** **35.89 35** P **P** **08 02 23.1 +0.5**
G23K IAmb IAmb 08 02 40.7
comp=Z,5.7nm,0.9s
G23K **Bananza Creek** **35.89 35** P **P** **08 02 22.5 -0.2**
baz=265,SNR=6.9
RC01 **Rabbit Creek A** **35.90 45** P **P** **08 02 22.2 -0.5**
baz=273
D23K **Nanushuk River** **35.92 31** P **P** **08 02 22.5 -0.4**
baz=261
H23K **Yukon River** **36.01 36** P **P** **08 02 24.8 +1.0**
H23K IAmb IAmb 08 02 43.2
comp=Z,6.8nm,0.8s
H23K **Yukon River** **36.01 36** P **P** **08 02 23.4 -0.3**
baz=267
I23K **Minto, Yukon-K** **36.05 38** P **P** **08 02 24.9 +0.9**
I23K IAmb IAmb 08 02 41.4
comp=Z,6.4nm,1.2s
I23K **Minto, Yukon-K** **36.05 38** P **P** **08 02 23.6 -0.4**
baz=268
C23K **Itkillik River** **36.09 30** P **P** **08 02 24.8 +0.5**
C23K **Itkillik River** **36.09 30** P **P** **08 02 23.8 -0.5**
baz=260,SNR=24
SEW **Seward** **36.10 46** P **P** **08 02 24.4 0.0**
baz=275
NEA2 **Nenana** **36.16 39** P **P** **08 02 24.8 -0.1**
baz=269,SNR=9.8
PMR **Palmer** **36.16 44** P **P** **08 02 24.6 -0.4**
baz=273
E23K **Chandalar** **36.19 33** P **P** **08 02 25.0 -0.3**
baz=264,SNR=11
MCK **McKinley** **36.21 40** P **P** **08 02 25.6 +0.2**
baz=270
MCK **McKinley** **36.21 40** P **P** **08 02 25.8 +0.4**
RND **Reindeer** **36.24 41** P **P** **08 02 25.3 -0.5**
RND IAmb IAmb 08 03 01.0
comp=Z,5.5nm,0.8s
RND **Reindeer** **36.24 41** P **P** **08 02 25.3 -0.5**
RND pmax pmax
comp=Z,6.0nm,0.8s
TOLK **Toolik Lake Re** **36.27 32** P **P** **08 02 25.9 0.0**
baz=263,SNR=15
WAT1 **Susitna Watana** **36.39 42** P **P** **08 02 27.2 +0.2**
baz=272
KNK **Knik Glacier** **36.50 44** P **P** **08 02 27.9 0.0**
baz=274
MDM **Murphy Dome** **36.53 38** P **P** **08 02 28.8 +0.7**
MDM IAmb IAmb 08 02 33.0
comp=Z,5.5nm,0.8s
SML **Sawmill** **36.53 43** P **P** **08 02 28.5 +0.2**
SML **Sawmill** **36.53 43** P **P** **08 02 28.2 -0.1**
baz=273
SML **Sawmill** **36.53 43** P **P** **08 02 28.5 +0.2**
SML pmax pmax
comp=Z,17nm,0.8s
WRH **Wood River Hil** **36.58 39** P **P** **08 02 29.1 +0.6**
WRH IAmb IAmb 08 02 59.5
comp=Z,5.4nm,0.9s
D24K **Happy Valley** **36.61 31** P **P** **08 02 28.8 0.0**
baz=263
E24K **Your Creek** **36.61 33** P **P** **08 02 28.7 -0.2**
baz=265
COLA **College** **36.69 38** P **P** **08 02 29.5 +0.1**
baz=270
H24K **Noodor Dome** **36.70 36** P **P** **08 02 30.3 +0.7**
H24K IAmb IAmb 08 02 55.5
comp=Z,4.6nm,0.9s
H24K **Noodor Dome** **36.70 36** P **P** **08 02 29.4 -0.2**
baz=268
C24K **Franklin Bluff** **36.73 30** P **P** **08 02 29.6 -0.1**
baz=262

WAT6 **Susitna Watana** 36.77 42 P P 08 02 30.2 -0.2
baz=273
F24K **Squaw Lake** 36.79 34 P P 08 02 31.5 +1.2
F24K IAmb IAmb 08 02 58.0
comp=Z,4.8nm,0.7s
F24K **Squaw Lake** 36.79 34 P P 08 02 29.9 -0.5
baz=266,SNR=8.4
M23K **Glacier View** 36.82 43 P P 08 02 30.4 -0.3
baz=274
POKR **Poker Plat Res** 36.87 38 P P 08 02 30.4 -0.6
baz=270
G24K **Hadweenzic Riv** 36.90 35 P P 08 02 31.8 +0.5
G24K IAmb IAmb 08 03 13.4
comp=Z,6.9nm,0.8s
G24K **Hadweenzic Riv** 36.90 35 P P 08 02 30.7 -0.5
baz=267,SNR=8.0
DHY **Denali Highway** 36.92 41 P P 08 02 31.2 -0.4
baz=272
SCM **Sheep Creek Mo** 37.01 43 P P 08 02 32.1 -0.2
baz=274
HDA **Harding Lake** 37.08 39 P P 08 02 32.8 0.0
HDA IAmb IAmb 08 02 37.0
comp=Z,5.3nm,0.7s
HDA **Harding Lake** 37.08 39 P P 08 02 32.4 -0.4
baz=271,SNR=10
IL31 37.10 38 P P 08 02 32.7 -0.2
IL31 IAmb IAmb 08 03 00.7
comp=Z,7.7nm,1.1s
ILAR **Eielson Array** 37.10 38 P P 08 03 33.2 +0.2
comp=Z,1.8nm,0.7s,baz=260,slow=6.5,SNR=20
ILAR LR LR 08 19 30.4
comp=Z,70nm,18.9s,baz=296,slow=39
comp=Z,1.8nm,0.7s
P23K **Montague Islan** 37.13 46 P P 08 02 33.1 -0.2
baz=276
LZH **Lanzhou** 37.42 272 *e*P P 08 02 38.9 +2.7
LZH pP pP 08 02 43.5 -5.4
LZH pmax pmax
comp=Z,18nm,1.4s
G25K **Bearman Lake** 37.45 35 P P 08 02 35.4 -0.4
baz=269
D25K **Kavik River** 37.49 31 P P 08 02 35.9 -0.4
baz=265
M24K **Tolsona, Glenn** 37.53 43 P P 08 02 36.9 +0.2
baz=275
H25L **Birch Creek** 37.55 36 P P 08 02 36.6 -0.1
baz=270
K24K **Donnelly Dome** 37.61 40 P P 08 02 37.2 -0.1
baz=273
F25K **Christian Rive** 37.65 34 P P 08 02 37.8 +0.1
baz=268
PRP **Porcupine Dome** 37.67 37 P P 08 02 38.1 +0.2
PRP IAmb IAmb 08 03 02.1
comp=Z,5.8nm,0.8s
PRP **Porcupine Dome** 37.67 37 P P 08 02 37.7 -0.3
baz=271
E25K **Arctic Village** 37.70 33 P P 08 02 38.6 +0.6
E25K IAmb IAmb 08 02 42.8
comp=Z,4.9nm,0.8s
E25K **Arctic Village** 37.70 33 P P 08 02 38.2 +0.2
baz=267,SNR=11
KLU **Klutina** 37.70 44 P P 08 02 38.8 +0.5
KLU IAmb IAmb 08 03 10.0
comp=Z,6.6nm,0.8s
KLU **Klutina** 37.70 44 P P 08 02 37.5 -0.7
baz=276
J25K **Salcha River,** 37.76 39 P P 08 02 38.0 -0.6
baz=272
FYU **Fort Yukon** 37.79 35 P P 08 02 39.6 +0.8
HARP **HAARP** 37.98 42 P P 08 02 39.5 -1.0
baz=275
BMAR **Burnt Mountain** 38.06 34 P P 08 02 41.8 +0.7
C26K **Camden Bay** 38.06 30 P P 08 02 40.5 -0.5
baz=266
F26K **Sheenjek River** 38.23 33 P P 08 02 42.2 -0.3
baz=269,SNR=6.0
N25K **Chitina, Valde** 38.32 43 P P 08 02 43.3 -0.2
baz=277
G26K **Porcupine Rive** 38.36 35 P P 08 02 43.2 -0.3
baz=270,SNR=13
SCRK **Sand Creek** 38.39 40 P P 08 02 43.6 -0.4
SCRK IAmb IAmb 08 03 11.1
comp=Z,8.5nm,1.4s
SCRK **Sand Creek** 38.39 40 P P 08 02 43.6 -0.4
baz=274
BMRM **Bremner River** 38.40 44 P P 08 02 43.7 -0.3
baz=277
C27K **Jago River** 38.45 30 P P 08 02 44.3 -0.1
baz=267,SNR=26
J26L **Joseph Creek** 38.54 39 P P 08 02 45.5 +0.3
baz=274
GTA **Gaotai** 38.55 279 P P 08 02 47.3 +1.6
GTA pmax pmax
comp=Z,10.0nm,1.2s
GTA LR LR
comp=N,140nm,16.7s
GTA LR LR
comp=E,190nm,17.8s
GTA LR LR
comp=Z,110nm,17.5s
MENT **Mentasta** 38.59 41 P P 08 02 46.1 +0.5
KAIM **Kayak Island** 38.63 46 P P 08 02 45.1 -0.8
baz=279
L26K **Log Cabin Wild** 38.76 41 P P 08 02 47.6 +0.7
L26K IAmb IAmb 08 02 52.5
comp=Z,4.3nm,0.7s
L26K **Log Cabin Wild** 38.76 41 P P 08 02 46.4 -0.6
baz=276
M26K **Nabesna, AK** 38.98 42 P P 08 02 49.7 +0.8
M26K IAmb IAmb 08 03 20.5
comp=Z,7.5nm,0.9s
M26K **Nabesna, AK** 38.98 42 P P 08 02 49.0 +0.1
baz=277,SNR=7.2
E27K **Coleen River** 39.19 33 P P 08 02 51.6 +1.1
E27K **Coleen River** 39.19 33 P P 08 02 51.0 +0.4
baz=271,SNR=7.8
G27K **Doyon Strip** 39.21 35 P P 08 02 51.0 +0.3
G27K **Doyon Strip** 39.21 35 P P 08 02 51.3 +0.6
baz=273
K27K **Chicken** 39.23 39 P P 08 02 51.0 +0.2
baz=276
H27K **Steamboat Moun** 39.29 36 P P 08 02 51.8 +0.5
baz=274
I27K **Kandik River** 39.29 37 P P 08 02 51.7 +0.2
baz=274
D27M **Malcolm River** 39.41 31 P P 08 02 52.9 +0.5
baz=270
L27K **Beaver Creek,** 39.44 41 P P 08 02 53.8 +1.1
L27K IAmb IAmb 08 03 18.7
comp=Z,6.8nm,0.8s
L27K **Beaver Creek,** 39.44 41 P P 08 02 53.3 +0.6
baz=277,SNR=8.4
BCAR **Beaver Creek A** 39.46 41 P P 08 02 53.4 +0.5
M27K **Edge Creek, AK** 39.51 42 P P 08 02 55.1 +1.8
M27K IAmb IAmb 08 03 29.1
comp=Z,10nm,1.3s
M27K **Edge Creek, AK** 39.51 42 P P 08 02 53.5 +0.2
baz=278
EGAK **Eagle** 39.55 38 P P 08 02 53.5 0.0
EGAK IAmb IAmb 08 03 21.2
comp=Z,9.0nm,1.0s
EGAK **Eagle** 39.55 38 P P 08 02 53.7 +0.2
baz=276
MESA **MESA** 39.81 45 P P 08 02 56.1 +0.1
baz=280
F28M **Old Crow** 39.86 34 P P 08 02 57.4 +1.3
F28M IAmb IAmb 08 03 35.8
comp=Z,5.3nm,0.8s
F28M **Old Crow** 39.86 34 P P 08 02 56.7 +0.6
baz=273,SNR=8.5
E28M **Babbage River** 39.94 32 P P 08 02 57.3 +0.6
baz=272
CTG **Chitna Glacier** 39.97 44 P P 08 02 58.1 +0.8
baz=280,SNR=6.3
I28M **Miner Creek** 40.00 37 P P 08 02 58.0 +0.5
I28M IAmb IAmb 08 03 21.6
comp=Z,7.1nm,0.8s
I28M **Miner Creek** 40.00 37 P P 08 02 57.9 +0.5
baz=276,SNR=9.8
D28M **Stokes Point** 40.20 31 P P 08 02 58.9 0.0
baz=272
YUK3 **Moose Creek** 40.25 43 P P 08 02 59.7 0.0
baz=280
DAWY **Dawson** 40.39 39 P P 08 03 00.8 +0.2
baz=278
E29M **Blow River** 40.56 32 P P 08 03 02.2 +0.3
baz=274,SNR=12

O28M **Mount Upton** 40.56 44 P P 08 03 02.8 +0.5
baz=281
H29M **Whitestone** 40.56 36 P P 08 03 02.2 +0.2
H29M IAmb IAmb 08 03 30.6
comp=Z,5.8nm,0.8s
H29M **Whitestone** 40.56 36 P P 08 03 02.5 +0.6
baz=276
G29M **Pine Creek** 40.63 35 P P 08 03 03.0 +0.5
baz=276
YUK8 **Steele Glacier** 40.67 43 P P 08 03 03.4 +0.2
baz=281
M29M **Somme Creek** 41.06 41 P P 08 03 07.1 +0.8
M29M **Somme Creek** 41.06 41 P P 08 03 07.0 +0.8
baz=280,SNR=6.1
L29M **L29M** 41.10 40 P P 08 03 07.3 +0.9
L29M **L29M** 41.10 40 P P 08 03 07.2 +0.8
baz=280
GYA **Guiyang** 41.18 257 ⇑P P 08 03 08.3 +0.7
GYA pmax pmax
comp=Z,28nm,0.8s
GYA pmax pmax
comp=Z,160nm,5.2s
YUK4 **Talbot Arm** 41.19 43 P P 08 03 08.5 +1.1
baz=282
EPYK **Eagle Plains** 41.21 35 P P 08 03 07.8 +0.5
baz=278
K29M **Barlow Dome** 41.24 39 P P 08 03 08.6 +1.0
baz=280
G30M **tAoh Zraii Nji** 41.33 34 P P 08 03 09.3 +1.0
baz=277
F30M **Barrier River** 41.42 33 P P 08 03 09.7 +0.8
baz=277,SNR=9.4
I30M **Mount Dempster** 41.51 37 P P 08 03 10.5 +0.7
I30M **Mount Dempster** 41.51 37 P P 08 03 10.4 +0.5
baz=279,SNR=17
J30M **Hart River** 41.63 38 P P 08 03 11.5 +0.7
baz=280
HYT **Haines Junctio** 41.84 44 P P 08 03 13.3 +0.7
baz=283
N30M **Aishikik Lake** 41.90 43 P P 08 03 13.2 +0.3
baz=283
MAYO **Mayo, Yukon** 42.00 39 P P 08 03 15.1 +1.3
baz=281
P29M **Windy Craggy** 42.00 45 P P 08 03 14.9 +1.1
baz=284
G31M **Satah River** 42.10 34 P P 08 03 14.7 +0.3
G31M IAmb IAmb 08 03 39.5
comp=Z,11nm,1.2s
G31M **Satah River** 42.10 34 P P 08 03 15.5 +1.1
baz=279
INK **Inuvik** 42.18 32 P P 08 03 15.8 +0.8
baz=278,SNR=8.6
INK **Inuvik** 42.18 32 LR LR 08 21 03.9
comp=Z,42nm,21.2s,baz=288,slow=36
INK **Inuvik** 42.18 32 P P 08 03 15.8 +0.8
INK pmax pmax
comp=Z,8.0nm,0.8s
F31M **Tsiigehtchic** 42.22 33 P P 08 03 15.6 +0.2
F31M **Tsiigehtchic** 42.22 33 P P 08 03 16.9 +1.5
baz=279,SNR=6.0
H31M **Peel River** 42.25 36 P P 08 03 16.7 +1.0
H31M IAmb IAmb 08 03 51.1
comp=Z,7.5nm,0.9s
H31M **Peel River** 42.25 36 P P 08 03 16.8 +1.0
baz=280
P30M **Million Dollar** 42.26 45 P P 08 03 16.8 +0.9
baz=284
ZALV **Zalesovo Beam** 42.42 306 P P 08 03 14.8 -2.4
comp=Z,1.1nm,0.6s,baz=67,slow=8.1,SNR=4.2
ZALV ScP ScP 08 08 54.2 -1.4
comp=Z,0.5nm,0.5s,baz=93,slow=7.4,SNR=1.7
comp=Z,1.1nm,0.6s
ZALV **Zalesovo Beam** 42.42 306 *i* P P 08 03 14.3 -2.9
ZALV pmax pmax
comp=Z,1.0nm,0.6s
N31M **Braeburn, Yuko** 42.50 42 P P 08 03 18.6 +0.8
baz=284
O30N **Mendenhall** 42.52 44 P P 08 03 18.6 +0.5
baz=284
PLBC **Pleasant Camp** 42.72 45 P P 08 03 20.6 +1.0
baz=285
M31M **Drury Creek, Y** 42.97 41 P P 08 03 22.5 +0.8
baz=284
WHY **Whitehorse** 43.13 43 P P 08 03 23.5 +0.4
baz=285
FARO **Faro, Yukon** 43.44 41 P P 08 03 26.0 +0.6
baz=285
P33M **Teslin, Yukon** 44.24 44 P P 08 03 33.4 +1.5
P33M **Teslin, Yukon** 44.24 44 P P 08 03 32.7 +0.8
baz=287
A36M **Sachs Harbour** 44.36 26 P P 08 03 33.6 +1.1
baz=282,SNR=62
PZH **PanZhiHua** 44.50 262 P P 08 03 34.4 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,120nm,5.6s
KMI **Kunming** 44.72 259 ⇑P P 08 03 38.5 +2.2
KMI pP sP 08 03 53.9 -1.0
KMI sP pwP 08 04 02.0 +9.2
KMI pmax pmax
comp=Z,16nm,0.7s
C36M **Paulatuk** 45.34 30 P P 08 03 40.6 +0.2
C36M **Paulatuk** 45.34 30 P P 08 03 41.0 +0.6
baz=285,SNR=43
S34M **Telegraph Cree** 45.80 46 P P 08 03 45.2 +1.0
baz=290
DLBC **Dease Lake** 46.16 45 P P 08 03 48.0 +0.9
baz=291
DLBC **Dease Lake** 46.16 45 P P 08 03 49.5 +2.3
comp=Z,2.2nm,0.8s,baz=331,slow=5.0,SNR=5.7
DLBC LR LR 08 26 13.4
comp=Z,46nm,18.2s,baz=60,slow=40
comp=Z,2.2nm,0.8s
MK31 **Makanchi Array** 46.67 297 *ce*P P 08 03 49.0 -2.3
MKAR **Makanchi Array** 46.67 297 P P 08 03 51.0 -0.3
comp=Z,6.8nm,0.6s,baz=67,slow=6.3,SNR=27
MKAR ScP ScP 08 09 11.0 -2.2
comp=Z,0.8nm,0.9s,baz=68,slow=4.1,SNR=2.3
MKAR LR LR 08 24 39.5
comp=Z,143nm,19.0s,baz=62,slow=38
comp=Z,6.8nm,0.6s
MKAR **Makanchi Array** 46.67 297 *e*P P 08 03 51.0 -0.3
MKAR **Makanchi Array** 46.67 297 P P 08 03 51.0 -0.3
KURK **Kurchatov** 47.15 304 *e*P P 08 03 52.2 -2.7
KURK **Kurchatov** 47.15 304 *c i*P P 08 03 52.2 -2.7
KURK pmax pmax
comp=Z,5.0nm,0.8s
KURBB **Kurchatov Arra** 47.24 304 P P 08 03 53.5 -2.1
comp=Z,3.4nm,0.6s,baz=69,slow=8.3,SNR=18
KURBB LR LR 08 24 40.5
comp=Z,84nm,20.1s,baz=174,slow=37
comp=Z,3.4nm,0.6s
TNCH **TengChong** 47.66 263 *e*P P 08 03 51.8 -7.6
TOAD **Toad River Com** 48.33 44 P P 08 04 05.3 +1.3
baz=294
BBB **Bella Bella** 49.69 53 LR LR 08 24 11.1
comp=Z,19nm,21.1s,baz=274,slow=35
BVAR **Borovoye Array** 50.70 309 P P 08 04 21.1 -1.0
comp=Z,4.0nm,0.5s,baz=43,slow=8.6,SNR=8.4
comp=Z,4.0nm,0.5s
BRVK **Borovoye** 50.74 309 *e*P P 08 04 21.3 -1.1
BRVK **Borovoye** 50.74 309 *de*P P 08 04 21.3 -1.1
BRVK pmax pmax
comp=Z,5.0nm,0.6s
RES **Resolute Bay** 51.30 18 P P 08 04 26.5 +0.3
RES IAmb IAmb 08 04 45.9
comp=Z,4.0nm,0.8s
RES **Resolute Bay** 51.30 18 P P 08 04 26.5 +0.3
RES pmax pmax
comp=Z,4.0nm,0.8s
YKA **Yellowknife Ar** 51.47 36 P P 08 04 27.7 +0.1
YKA **Yellowknife Ar** 51.47 36 P P 08 04 28.0 +0.3
comp=Z,1.4nm,0.7s,baz=301,slow=7.6,SNR=18
comp=Z,1.4nm,0.7s
YKA **Yellowknife Ar** 51.47 36 P P 08 04 27.7 +0.1
CMAR **Chiang Mai Arr** 51.83 256 P P 08 04 31.4 +0.4
comp=Z,4.6nm,0.8s,baz=38,slow=7.1,SNR=18
comp=Z,4.6nm,0.8s
SHL **Shillong** 51.89 268 P P 08 04 30.8 -0.7
SHL **Shillong** 51.89 268 P P 08 04 30.8 -0.7
SHL pmax pmax
comp=Z,32nm,0.7s
BOOM **Boomskoye usch** 52.73 295 P P 08 04 36.8 -0.8
BOOM pmax pmax
comp=Z,10.0nm,0.7s
SPITS **Spitsbergen Ar** 52.85 350 P P 08 04 37.2 -0.6

comp=Z,7.4nm,0.8s,baz=61,slow=6.8,SNR=5.7
comp=Z,7.4nm,0.8s
AAK **Ala-Archa** 53.55 296 P P 08 04 42.8 -0.8
AAK **Ala-Archa** 53.55 296 P P 08 04 42.6 -1.0
comp=Z,6.3nm,0.7s,baz=29,slow=8.7,SNR=9.3
AAK LR LR 08 29 00.0
comp=Z,73nm,18.2s,baz=57,slow=38
comp=Z,6.3nm,0.7s
AAK **Ala-Archa** 53.55 296 *e*P P 08 04 42.0 -1.6
AAK **Ala-Archa** 53.55 296 ⇑*e*P P 08 04 42.0 -1.6
AAK pmax pmax
comp=Z,6.0nm,0.7s
KSH **Kashi** 54.34 292 P P 08 04 54.6 +5.3
ARU **Arti** 54.93 317 P P 08 04 52.9 -0.3
comp=Z,3.6nm,0.3s,baz=58,slow=2.4,SNR=5.4
ARU LR LR 08 30 43.0
comp=Z,62nm,18.5s,baz=93,slow=39
comp=Z,3.6nm,0.3s
ARU **Arti** 54.93 317 *e*P P 08 04 51.5 -1.7
ARU **Arti** 54.93 317 *c i*P P 08 04 51.5 -1.7
ARU 08 06 53.6
ARU S S 08 12 29.5 -1.3
ARU SS SS 08 16 08.5 -5.6
ARU pmax pmax
comp=Z,11nm,1.3s
ARU **Arti** 54.93 317 P P 08 04 52.9 -0.3
comp=Z,6.4nm,0.6s
NEEM **North Greenlan** 55.54 6 *i* P P 08 04 55.3 -2.3
NEEM IAmb IAmb 08 04 57.3
comp=Z,13nm,1.1s
KKAR **Karatay Array** 55.74 299 P P 08 04 58.6 -0.7
KKAR IAmb IAmb 08 04 59.9
comp=Z,3.7nm,0.8s
KKAR **Karatay Array** 55.74 299 P P 08 04 58.6 -0.7
KKAR pmax pmax
comp=Z,4.0nm,0.9s
EDM **Edmonton** 56.88 46 P P 08 05 07.5 +0.3
EDM IAmb IAmb 08 05 41.2
comp=Z,6.0nm,1.0s
EDM **Edmonton** 56.88 46 P P 08 05 07.5 +0.3
EDM pmax pmax
comp=Z,6.0nm,1.0s
DAG **Danmarks Havn** 56.95 358 P P 08 05 05.9 -1.4
DAG **Danmarks Havn** 56.95 358 *i* P P 08 05 05.2 -2.1
DAG IAmb IAmb 08 05 06.6
comp=Z,1.5nm,0.6s
KULLO **Kullorsuaq** 57.66 9 *i* P P 08 05 10.1 -2.2
KULLO IAmb IAmb 08 05 11.6
comp=Z,6.2nm,0.7s
NEW **Newport** 57.75 52 LR LR 08 28 06.1
comp=Z,15nm,21.8s,baz=315,slow=34
ARCES **ARCESS Array B** 58.01 341 P P 08 05 14.3 -0.6
comp=Z,0.7nm,0.4s,baz=33,slow=7.5,SNR=9.6
comp=Z,0.7nm,0.4s
ABKAR **Akbulak array** 58.27 310 P P 08 05 16.0 -1.0
YBH **Yreka Blue Hor** 58.32 61 P P 08 05 20.2 +2.6
comp=Z,1.0nm,0.8s,baz=294,slow=10.0,SNR=2.0
YBH LR LR 08 29 11.7
comp=Z,21nm,18.7s,baz=296,slow=35
comp=Z,1.0nm,0.8s
AKTO **Aktyubinsk** 58.59 312 P P 08 05 20.2 +1.0
comp=Z,2.4nm,0.6s,baz=74,slow=4.1,SNR=1.9
AKTO LR LR 08 32 51.7
comp=Z,147nm,19.3s,baz=308,slow=38
comp=Z,2.4nm,0.6s
SIMJ **Simiganj** 59.25 295 P P 08 05 23.3 -0.8
MSO **Missoula** 60.34 52 P P 08 05 32.8 +1.4
baz=308
SUMG **Summit** 61.06 4 P P 08 05 35.3 -1.0
SUMG **Summit** 61.06 4 P P 08 05 35.3 -1.0
SUMG pmax pmax
comp=Z,11nm,0.9s
SUMG **Summit** 61.06 4 *i* P P 08 05 35.3 -1.0
SUMG IAmb IAmb 08 05 37.2
comp=Z,11nm,0.9s
FFC **Flin Flon** 61.29 40 P P 08 05 38.5 +0.8
FFC IAmb IAmb 08 06 18.0
comp=Z,3.1nm,0.8s
FFC **Flin Flon** 61.29 40 P P 08 05 38.5 +0.8
FFC pmax pmax
comp=Z,3.0nm,0.9s
KBL **Kabul** 61.75 291 P P 08 05 40.0 -1.3
KBL **Kabul** 61.75 291 P P 08 05 40.0 -1.3
KBL pmax pmax
comp=Z,11nm,0.6s
FCC **Fort Churchill** 61.80 33 P P 08 05 40.4 -0.5
FCC IAmb IAmb 08 05 44.3
comp=Z,5.2nm,1.0s
FCC **Fort Churchill** 61.80 33 P P 08 05 40.4 -0.5
FCC pmax pmax
comp=Z,5.0nm,1.0s
PNTR **Pine Nut** 61.80 62 P P 08 05 43.2 +1.6
PNTR IAmb IAmb 08 06 24.1
comp=Z,4.1nm,0.8s
BOZ **Bozeman (W)** 62.36 52 P P 08 05 46.5 +1.3
BOZ IAmb IAmb 08 06 21.0
comp=Z,2.8nm,0.8s
BOZ **Bozeman (W)** 62.36 52 P P 08 05 46.4 +1.2
baz=309
BOZ **Bozeman (W)** 62.36 52 P P 08 05 46.5 +1.3
BOZ pmax pmax
comp=Z,3.0nm,0.8s
BELG **Belogornoye** 62.46 318 LR LR 08 35 02.1
comp=Z,73nm,19.3s,baz=86,slow=38
NVAR **Mina Array Bea** 63.01 62 P P 08 05 52.0 +2.3
comp=Z,1.1nm,0.7s,baz=301,slow=6.9,SNR=9.4
comp=Z,1.1nm,0.7s
ELK **Elko** 63.38 58 P P 08 05 54.0 +1.9
comp=Z,0.6nm,0.8s
ELK LR LR 08 30 39.9
comp=Z,19nm,20.7s,slow=33
comp=Z,0.6nm,0.8s
VOG **Valley Oaks Go** 63.67 64 P P 08 05 55.0 +1.2
baz=310
H17A **Grant Village** 63.70 53 P P 08 05 55.1 +0.8
baz=310
SMMC **Simmler** 63.93 65 P P 08 05 57.3 +1.7
baz=310
RLMT **Red Lodge** 63.95 51 P P 08 05 56.8 +1.0
baz=311
FINES **FINESS Array B** 64.13 335 P P 08 05 55.1 -1.4
comp=Z,2.1nm,0.4s,baz=40,slow=6.7,SNR=23
FINES LR LR 08 36 48.9
comp=Z,71nm,18.1s,baz=42,slow=39
comp=Z,2.1nm,0.4s
FINES **FINESS Array B** 64.13 335 *i* P P 08 05 55.2 -1.2
FINES pmax pmax
comp=Z,2.0nm,0.4s
ICESG **Greenland Ices** 64.46 5 *i* P P 08 05 58.4 -0.5
ICESG IAmb IAmb 08 06 02.4
comp=Z,25nm,1.2s
GRAC **Grapevine Rang** 64.49 63 P P 08 06 00.6 +1.3
baz=310
R11B **Troy Canyon, C** 64.70 60 P P 08 06 01.6 +0.8
R11B **Troy Canyon, C** 64.70 60 P P 08 06 01.6 +0.8
baz=310
ARVC **Arvin** 64.78 65 P P 08 06 01.7 +0.6
baz=310
FURC **Furnace Creek,** 65.14 63 P P 08 06 04.8 +1.5
baz=311
OBN **Obninsk** 65.31 325 ⇓*e*P P 08 06 00.6 -3.6
OBN *e**PP sP 08 06 24.8 +1.3
OBN *e* 08 06 32.7
OBN *e**SP PcP 08 06 36.0 0.0
OBN *e* 08 08 27.4
OBN *e*PPP PPP 08 10 03.1
OBN *e*SS SS 08 18 50.7 -5.7
OBN pmax pmax
comp=Z,6.0nm,0.4s
OBN MLR MLR
comp=Z,45nm,19.0s
BW06 **Boulder Array** 65.32 53 P P 08 06 06.0 +1.1
baz=311
PDAR **Pinedale Array** 65.32 53 P P 08 06 06.0 +1.2
PDAR **Pinedale Array** 65.32 53 P P 08 06 06.3 +1.5
comp=Z,1.3nm,0.7s,baz=311,slow=1.3,SNR=17
comp=Z,1.3nm,0.7s
FRB **Frobisher Bay** 65.51 19 LR LR 08 35 51.5
comp=Z,42nm,21.8s,baz=259,slow=37
SFJD **Kangerlussuaq** 65.56 10 LR LR 08 35 02.5
comp=Z,57nm,21.3s,baz=342,slow=36
SFJD **Kangerlussuaq** 65.56 10 *e*P P 08 06 06.8 +1.3
SFJD IAmb IAmb 08 06 07.9
comp=Z,8.9nm,1.0s
GEYT **Alibeck** 66.36 301 P P 08 06 11.1 -0.3
GEYT **Alibeck** 66.36 301 P P 08 06 10.9 -0.4
comp=Z,3.4nm,0.7s,baz=20,slow=4.7,SNR=5.6

comp=Z,3.4nm,0.7s
GEYT Alibeck 66.36 301 P **P** 08 06 11.1 -0.3
GEYT pmax pmax
comp=Z,4.0nm,0.9s
DY2G Dye2 66.53 8 *i* P **P** 08 06 13.0 +0.9
RDMU Red Mountain 66.77 55 P **P** 08 06 15.1 +1.0
LCMT Little Creek M 66.98 60 P **P** 08 06 16.4 +1.0
K22A Casper 67.07 52 P **P** 08 06 16.6 +0.7
baz=313
ULM Lac du Bonnet 67.08 40 P **P** 08 06 17.9 +2.2
comp=Z,0.5nm,0.3s,baz=319,slow=20,SNR=2.7
comp=Z,0.5nm,0.3s
SRU San Rafael Swe 67.19 57 P **P** 08 06 17.4 +0.6
SRU IAmb IAmb 08 06 42.3
comp=Z,4.6nm,0.8s
SRU San Rafael Swe 67.19 57 P **P** 08 06 17.4 +0.6
SRU pmax pmax
comp=Z,5.0nm,0.8s
PFO Pinyon Flats O 67.25 65 LR LR 08 30 37.6
comp=Z,13nm,19.6s,baz=304,slow=31
O20A White River Ci 67.81 55 P **P** 08 06 21.4 +0.7
baz=313
HMU Henry Mountain 67.85 58 P **P** 08 06 21.6 +0.5
NB2 NORSAR Subarra 68.38 341 P **P** 08 06 22.7 -1.0
comp=Z,4.0nm,0.6s,baz=29,slow=6.5
NOA NORSAR Array B 68.38 341 P **P** 08 06 22.8 -1.0
comp=Z,1.9nm,0.5s,baz=28,slow=6.4,SNR=12
NOA LR LR 08 40 13.6
comp=Z,36nm,18.9s,baz=20,slow=39
comp=Z,1.9nm,0.5s
N23A Red Feather La 68.58 53 P **P** 08 06 26.4 +0.8
baz=314
NORES NORESS Array B 68.58 341 P **P** 08 06 25.7 +0.8
HFS Hagfors 68.60 339 P **P** 08 06 23.9 -1.1
comp=Z,5.0nm,0.5s,baz=57,slow=5.5,SNR=16
HFS LR LR 08 39 08.3
comp=Z,60nm,20.7s,baz=20,slow=38
comp=Z,5.0nm,0.5s
DZM Mont Dzumac 69.34 166 *e*LR LR 08 27 35.7
comp=Z,48nm,21.2s
DZM Mont Dzumac 69.34 166 LR LR 08 35 24.4
comp=Z,42nm,18.1s,baz=358,slow=34
ISCO Idaho Springs 69.52 54 P **P** 08 06 32.8 +1.4
ISCO Idaho Springs 69.52 54 P **P** 08 06 31.8 +0.4
baz=314
ISCO Idaho Springs 69.52 54 P **P** 08 06 32.8 +1.4
ISCO pmax pmax
comp=Z,2.0nm,1.0s
MVCO Mesa Verde 69.65 57 P **P** 08 06 33.3 +1.1
baz=314
KIV Kislovodsk 70.69 314 *e*P **P** 08 06 36.7 -1.6
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,57nm,18.0s
KBZ Khabaz 70.75 314 P **P** 08 06 39.5 +1.0
comp=Z,5.0nm,0.9s,baz=70,slow=3.8,SNR=6.4
KBZ LR LR 08 42 40.8
comp=Z,91nm,18.1s,baz=46,slow=40
comp=Z,5.0nm,0.9s
KBZ Khabaz 70.75 314 *e*P **P** 08 06 37.5 -1.0
KBZ Khabaz 70.75 314⇑ *e*P **P** 08 06 37.5 -1.0
KBZ pmax pmax
comp=Z,4.0nm,0.8s
ECSD EROS Data Cent 71.45 46 P **P** 08 06 43.0 +0.1
ECSD IAmb IAmb 08 07 04.3
comp=Z,6.0nm,1.1s
ECSD EROS Data Cent 71.45 46 P **P** 08 06 43.3 +0.5
baz=317
AK03 Malin Array Si 71.54 326 P **P** 08 06 42.6 -0.5
AKASG Malin Array Be 71.56 326 P **P** 08 06 42.9 -0.4
comp=Z,2.5nm,0.5s,baz=33,slow=6.2,SNR=9.4
AKASG LR LR 08 40 27.2
comp=Z,62nm,19.5s,baz=44,slow=38
comp=Z,2.5nm,0.5s
AKBB Malin Array Si 71.56 326⇓ *e*P **P** 08 06 42.6 -0.7
AKBB pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 71.56 326 P **P** 08 06 42.8 -0.5
KIEV Kiev 71.57 326 P **P** 08 06 42.7 -0.6
KIEV Kiev 71.57 326 P **P** 08 06 42.7 -0.6
ASAR Alice Springs 71.75 198 P **P** 08 06 46.6 +2.0
comp=Z,1.5nm,0.7s,baz=13,slow=5.2,SNR=22
comp=Z,1.5nm,0.7s
MI30 MI30,Zelenitsa 71.92 326 P **P** 08 06 43.3 -2.1
T25A Trinidad 72.05 55 P **P** 08 06 47.0 +0.3
baz=315
MI29 MI29, Kamyanyy 72.31 326 P **P** 08 06 45.7 -2.1
GNI Garni 72.38 310 LR LR 08 41 41.9
comp=Z,78nm,19.8s,baz=60,slow=38
ANMO Albuquerque 72.41 58 LR LR 08 35 15.1
comp=Z,14nm,21.4s,baz=53,slow=33
SCHQ Schefferville 73.79 22 LR LR 08 43 30.5
comp=Z,27nm,20.0s,baz=224,slow=39
NDNU Novodnistrovsk 73.97 326 P **P** 08 06 56.8 -0.8
KMPD K-Podol'skiy 74.34 326 P **P** 08 06 58.7 -1.1
KMPD P **P** 08 06 58.7 -1.1
AMTX Amarillo 75.20 55 P **P** 08 07 05.8 +0.6
baz=317
MNTX Cornudas Mount 75.34 59 P **P** 08 07 06.8 +0.9
baz=316
WSAR Wadi Sarin 76.04 289 LR LR 08 44 57.2
comp=Z,40nm,20.0s,baz=58,slow=39
EKA Eskdalemuir Ar 76.55 346 P **P** 08 07 11.2 -1.1
comp=Z,1.5nm,0.6s,baz=18,slow=5.3,SNR=5.4
comp=Z,1.5nm,0.6s
WMOK Wichita Mounta 76.93 53 P **P** 08 07 14.3 -0.6
baz=318
VYHS Vyhne 77.18 330 *e*P **P** 08 07 17.7 +1.7
VYHS Vyhne 77.18 330 *e*P **P** 08 07 17.7 +1.7
VRAC Vranov 77.22 332 LR LR 08 44 42.7
comp=Z,48nm,21.1s,baz=38,slow=38
VOIR 77.46 325 P **P** 08 07 17.9 +0.2
VOIR pmax pmax
comp=Z,4.0nm,0.7s
TX31 Lajitas Ar. Si 78.06 60 P **P** 08 07 22.2 +0.9
TX31 IAmb IAmb 08 07 23.7
comp=Z,3.1nm,0.7s
TXAR Lajitas Array 78.07 60 P **P** 08 07 22.2 +0.8
TXAR Lajitas Array 78.07 60 P **P** 08 07 22.8 +1.4
comp=Z,2.8nm,0.6s,baz=303,slow=4.2,SNR=36
comp=Z,2.8nm,0.6s
TXAR Lajitas Array 78.07 60 P **P** 08 07 22.2 +0.8
BR131 Keskin Array S 78.30 316⇓ *e*P **P** 08 07 19.2 -3.4
BRTR Keskin Array B 78.30 316 P **P** 08 07 22.3 -0.3
comp=Z,2.5nm,0.8s,baz=43,slow=3.0,SNR=12
comp=Z,2.5nm,0.8s
BRTR Keskin Array B 78.30 316 *i* P **P** 08 07 22.5 -0.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 78.54 334 P **P** 08 07 23.0 -0.7
comp=Z,0.6nm,0.4s,baz=40,slow=6.4,SNR=2.0
GERES LR LR 08 46 15.3
comp=Z,44nm,19.5s,baz=44,slow=39
comp=Z,0.6nm,0.4s
KBA Koelnbreinsper 80.22 333 P **P** 08 07 34.5 +1.5
KBA pmax pmax
comp=Z,11nm,0.8s
TAOE Nuku Hiva Isla 81.26 113 *e*LR LR 08 32 59.4
comp=Z,74nm,28.5s
PPT2 Papeete2 82.37 125 *e*LR LR 08 33 35.9
comp=Z,66nm,25.2s
MMAI Mount Meron Ar 82.67 311 P **P** 08 07 45.5 -0.6
comp=Z,2.8nm,0.5s,baz=32,slow=5.4,SNR=5.3
MMAI LR LR 08 48 50.5
comp=Z,53nm,19.5s,baz=351,slow=39
comp=Z,2.8nm,0.5s
RAYN Ar Rayn 84.16 298 P **P** 08 07 53.0 -0.8
RAYN pmax pmax
comp=Z,6.0nm,0.9s
EIL Elat 85.53 309 LR LR 08 49 16.5
comp=Z,33nm,18.7s,baz=58,slow=38
TBI Tubuai 87.06 129 *e*LR LR 08 35 39.5
comp=Z,147nm,27.2s
ESDC Sonseca Array 91.72 342 P **P** 08 08 30.5 +0.7
comp=Z,0.5nm,0.8s,baz=44,slow=3.9,SNR=1.7
ESDC LR LR 08 53 50.2
comp=Z,35nm,20.9s,baz=358,slow=38
comp=Z,0.5nm,0.8s
TEIG Tepich 94.00 55 LR LR 08 56 07.0
comp=Z,74nm,18.1s,slow=39
MDT Midelt 98.45 341 LR LR 09 00 58.7
comp=Z,31nm,18.5s,baz=34,slow=40
TORD Torodi Ar. Bea 115.13 328 PKP **PKiKP** 08 14 03.6 -0.1
comp=Z,0.3nm,0.6s,baz=9.5,slow=2.1,SNR=1.9
VNDA Vanda 123.81 178 PKP **PKiKP** 08 14 19.7 +1.0
comp=Z,0.2nm,0.3s,baz=315,slow=4.3,SNR=6.0

QSPA South Pole Qui 136.16 180 PKP **PKPdf** 08 14 43.6 +1.4
comp=Z,0.7nm,0.5s,baz=83,slow=0.2,SNR=14
H03N2 Juan Fernandez 139.22 90 T T 10 50 11.9
baz=309,slow=77,SNR=113
H03N1 Juan Fernandez 139.24 90 T T 10 50 13.2
baz=309,slow=77,SNR=189
H03N3 Juan Fernandez 139.24 90 T T 10 50 12.7
baz=309,slow=77,SNR=150
BDFB Brasília 144.88 36 PKP **PKPdf** 08 15 00.5 +0.9
comp=Z,2.3nm,0.7s,baz=0.0,slow=4.0,SNR=3.6
ELIB Princess Elisa 145.29 205 *d*PKP **PKPab** 08 15 00.8 +2.0
PLCA Paso Flores 148.65 95 PKPbc **PKPbc** 08 15 10.2 +1.2
comp=Z,1.8nm,0.7s,baz=228,slow=3.4,SNR=6.4
CPUP Villa Florida 149.04 60 PKPbc **PKPbc** 08 15 10.8 +0.6
comp=Z,1.5nm,0.6s,baz=305,slow=2.4,SNR=5.9
SNAA Sanae 152.10 196 PKPbc **PKPbc** 08 15 16.1 -0.1
comp=Z,2.3nm,1.0s,baz=183,slow=10,SNR=6.3

IDC ***03*** *07:58:05.7±0.9,24.˚92N×63.˚28E, h0km, mb4.0/17, mbtmp4.0/20, ML3.9/3, MS3.4/10, Error ellipse: s-maj=20.6km s-min=16.7km az=148.0*
NEIC ***03*** *07:58:08.0±1.9, 25.˚05N±0.˚10×63.˚2E±0.˚1, h10km±1km, mb4.5/43, Error ellipse: s-maj=18.8km s-min=12.9km az=136.0*
MOS ***03*** *07:58:07.5±1.2, 25.˚11N×63.˚25E, h20km, mb4.7/27, Error ellipse: s-maj=9.5km s-min=4.9km az=82.5*
OMAN ***03*** *07:58:15.0±0.2, 24.˚79N×62.˚71E, h10km, mb4.8/15, ml4.0/7, ms3.1/1, Error ellipse: s-maj=4.5km s-min=2.9km az=36.0*
ISC 03 07:58:09.3±0.5, 24.˚93N±0.˚05×63.˚20E±0.˚05, h28km, n181, σ1 971/200, mb4.5/59, MS3.5/8, 6C-8D, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NGCH	**Negor - Chabah**	**1.92**	**283**	P	P		**Pn**	**07 58 41.5**	**+1.3**
	SNR=5.1								
JLN	**Jalan Bani Buh**	**4.44**	**232**	P	P		**Pn**	**07 59 15.2**	**+0.3**
	SNR=39								
JLN				S			**Sn**	**08 00 03.9**	**-1.8**
WSAR	**Wadi Sarin**	**4.50**	**249**	Pn			**Pn**	**07 59 15.5**	**-0.2**
	5.9nm,0.3s,baz=111,slow=8.4,SNR=51								
WSAR				Sn			**Sn**	**08 00 02.6**	**-4.6**
	9.6nm,0.3s,baz=63,slow=23,SNR=3.6								
WSAR				LR	LR			08 01 33.6	
	comp=Z,343nm,20.1s,baz=110,slow=46								
	15nn,0.4s								
WSAR	**Wadi Sarin**	**4.50**	**249**	P			**Pn**	**07 59 15.7**	**0.0**
	SNR=11								
WSAR				S			**Sn**	**08 00 03.0**	**-4.2**
WBK	**Wadi Bani Khal**	**4.51**	**240**	P			**Pn**	**07 59 16.2**	**+0.3**
	SNR=94								
WBK				S			**Sn**	**08 00 04.9**	**-2.5**
BIDO	**Bidbid**	**4.84**	**254**	P			**Pn**	**07 59 21.5**	**+1.2**
	SNR=16								
BIDO				S			**Sn**	**08 00 12.4**	**-3.1**
JASK	**Jask - Hormozg**	**4.92**	**282**	P			**Pn**	**07 59 24.1**	**+2.7**
	SNR=10								
JASK				S			**Sn**	**08 00 16.6**	**-0.7**
SMDO	**Samad**	**5.07**	**250**	P			**Pn**	**07 59 24.2**	**+0.7**
	SNR=8.3								
SMDO				S			**Sn**	**08 00 18.2**	**-3.0**
JMDO	**Jabal Madar**	**5.32**	**242**	P			**Pn**	**07 59 28.1**	**+1.1**
	SNR=123								
JMDO				S			**Sn**	**08 00 26.1**	**-1.3**
HOQ	**Hoqain**	**5.54**	**257**	P			**Pn**	**07 59 30.6**	**+0.6**
	SNR=12								
HOQ				S			**Sn**	**08 00 31.6**	**-1.2**
BSY	**Bisya**	**5.91**	**250**	P			**Pn**	**07 59 37.0**	**+1.9**
	SNR=13								
BSY				S			**Sn**	**08 00 42.1**	**+0.2**
SOHO	**SOHO**	**6.12**	**264**	P			**Pn**	**07 59 38.7**	**+0.7**
SOHO				S			**Sn**	**08 00 43.4**	**-3.7**
MHTO	**MHTO**	**6.22**	**232**	P			**Pn**	**07 59 40.0**	**+0.7**
	SNR=8.5								
MHTO				S			**Sn**	**08 00 47.0**	**-2.4**
MDH	**Madha**	**6.27**	**275**	P			**Pn**	**07 59 40.0**	**+0.1**
	SNR=5.6								
MDH				S			**Sn**	**08 00 47.0**	**-3.7**
ARQ	**Araqi**	**6.30**	**257**	P			**Pn**	**07 59 43.5**	**+3.0**
	SNR=44								
ARQ				S			**Sn**	**08 00 51.7**	**+0.1**
UOSS	**Minazif**	**6.35**	**272**	Pn			**Pn**	**07 59 39.7**	**-1.4**
UOSS	**Minazif**	**6.35**	**272**	P			**Pn**	**07 59 41.1**	**0.0**
UOSS				S			**Sn**	**08 00 48.0**	**-4.8**
MASF	**Masafi**	**6.40**	**275**	P			**Pn**	**07 59 43.8**	**+2.0**
MASF				S			**Sn**	**08 00 49.0**	**-5.0**
HATD	**Hatta, Dubai**	**6.42**	**271**	P			**Pn**	**07 59 43.3**	**+1.2**
HATD				S			**Sn**	**08 00 49.2**	**-5.3**
SHME	**Shamm**	**6.48**	**281**	P			**Pn**	**07 59 44.3**	**+1.5**
	SNR=24								
SHME				S			**Sn**	**08 00 53.9**	**-1.9**
ASHO	**Ashiyiah**	**6.50**	**269**	P			**Pn**	**07 59 44.0**	**+0.9**
	SNR=29								
ASHO				S			**Sn**	**08 00 55.3**	**-1.1**
	SNR=6.4								
ALNE	**Al Ain**	**6.84**	**264**	P			**Pn**	**07 59 50.4**	**+2.5**
	SNR=13								
ALNE				S			**Sn**	**08 01 03.0**	**-1.9**
NAZ	**Nazwa, Dubai**	**6.84**	**272**	P			**Pn**	**07 59 51.1**	**+3.2**
NAZ				S			**Sn**	**08 01 05.1**	**+0.2**
FAQ	**Al Faqa, Dubai**	**6.92**	**270**	P			**Pn**	**07 59 51.2**	**+2.3**
	SNR=20								
FAQ				S			**Sn**	**08 01 05.6**	**-1.0**
	SNR=8.5								
ASUD	**Al Ashush, Dub**	**7.16**	**269**	P			**Pn**	**07 59 55.5**	**+3.2**
ASUD				S			**Sn**	**08 01 12.4**	**-0.3**
DQM	**DQM**	**7.22**	**228**	P			**Pn**	**07 59 53.6**	**+0.5**
DQM				S			**Sn**	**08 01 12.4**	**-1.8**
HRA	**Herat**	**9.46**	**355**	Pn			**Pn**	**08 00 21.8**	**-2.2**
DOK	**Doka**	**10.51**	**235**	P			**Pn**	**08 00 40.0**	**+1.8**
	SNR=8.4								
DOK				P			**Pn**	**08 00 40.0**	**+1.8**
	SNR=8.4								
KBL	**Kabul**	**10.84**	**27**				**Pn**	**08 00 40.1**	**-2.7**
KBL	**Kabul**	**10.84**	**27**	P			**Pn**	**08 00 40.1**	**-2.7**
DHRM	**DHARAMSHALA**	**13.62**	**55**	*e*P			**Pn**	**08 01 17.0**	**-3.8**
DHRM				*e*S			Sn	08 03 38.0	-13
GEYT	**Alibeck**	**13.66**	**343**	Pn			**Pn**	**08 01 22.8**	**+1.5**
	0.5nm,0.3s,baz=174,slow=14,SNR=1.6								
GEYT				LR	LR			08 07 23.6	
	comp=Z,117nm,20.6s,baz=177,slow=41								
	0.8nm,0.4s								
SMLA	**Simla**	**13.79**	**60**	*e*P			**Pn**	**08 01 19.4**	**-3.6**
SMLA				*e*S			Sn	08 03 41.4	-14
SIMJ	**Simiganj**	**14.55**	**18**	Pn			**Pn**	**08 01 30.9**	**-2.6**
RAYN	**Ar Rayn**	**16.21**	**269**	Pn			**Pn**	**08 01 53.9**	**-1.3**
RAYN	**Ar Rayn**	**16.21**	**269**	P			**Pn**	**08 01 53.9**	**-1.3**
RAYN				pmax	pmax				
	comp=Z,20nm,1.4s								
DRK	**Karamyk**	**16.22**	**24**	Pn			**Pn**	**08 01 54.8**	**-0.7**
DRK	**Karamyk**	**16.22**	**24**	P			**Pn**	**08 01 54.8**	**-0.7**
DRK				pmax	pmax				
	comp=Z,18nm,0.9s								
IUG	**luzhnay**	**18.08**	**17**	*e*P			**Pn**	**08 02 17.2**	**-1.4**
	comp=Z,17nm,0.6s,baz=17								
IUG	**luzhnay**	**18.08**	**17**	*e*P			**Pn**	**08 02 17.1**	**-1.4**
IUG				pmax	pmax				
	comp=Z,17nm,0.6s								
KSH	**Kashi**	**18.09**	**33**	P			**Pn**	**08 02 13.4**	**-5.3**
KSH				sP			P	08 02 21.6	+2.7
KSH				pmax	pmax				
	comp=Z,20nm,0.6s								
BRLS	**Boroldav**	**18.86**	**15**	*e*P			**P**	**08 02 22.6**	**-4.7**
	baz=15								
BRLS	**Boroldav**	**18.86**	**15**	*e*P			**P**	**08 02 22.6**	**-4.7**
KK31	**Karatay Array**	**19.10**	**17**	P			**P**	**08 02 27.8**	**-2.1**
KK31	**Karatay Array**	**19.10**	**17**	*i* P			**P**	**08 02 28.2**	**-1.7**
KKAR	**Karatay Array**	**19.10**	**17**	P			**P**	**08 02 28.0**	**-1.9**
KKAR	**Karatay Array**	**19.10**	**17**	P			**P**	**08 02 28.0**	**-1.9**
KKAR				pmax	pmax				
	comp=Z,8.0nm,1.0s								
DZA	**Taraz**	**19.13**	**18**	*e*P			**P**	**08 02 28.6**	**-1.6**
	baz=18								
DZA	**Taraz**	**19.13**	**18**	*e*P			**P**	**08 02 28.6**	**-1.6**
UCH	**Uchur**	**19.63**	**26**	P			**Pn**	**08 02 36.0**	**-1.6**
	SNR=15								
EKS2	**Erkin-Say**	**19.72**	**24**	P			**Pn**	**08 02 38.2**	**-0.2**
	SNR=5.8								
AAK	**Ala-Archa**	**19.97**	**25**	P			**Pn**	**08 02 40.9**	**-0.4**
	SNR=6.0								
AAK	**Ala-Archa**	**19.97**	**25**	P			**P**	**08 02 38.9**	**-0.6**
AAK	**Ala-Archa**	**19.97**	**25**	P			**Pn**	**08 02 40.1**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=212,slow=7.2,SNR=15								
AAK				LR	LR			08 11 47.2	
	comp=Z,131nm,20.2s,baz=205,slow=41								
	comp=Z,5.6nm,0.7s								
AAK	**Ala-Archa**	**19.97**	**25**	*i* P			**Pn**	**08 02 40.1**	**-1.3**
AAK				pmax	pmax				
	comp=Z,19nm,1.9s								
KBK	**Karagaybulak**	**20.16**	**26**	P			Pn	08 02 42.4	-1.3
	SNR=6.0								
ULHL	**Ulahol**	**20.36**	**29**	P			Pn	08 02 44.6	-1.4
	SNR=22								
BOOM	**Boomskoye usch**	**20.43**	**28**	P			**P**	**08 02 43.8**	**-0.8**
BOOM				IAmb	IAmb			08 02 53.3	
	comp=Z,47nm,1.4s								
BOOM	**Boomskoye usch**	**20.43**	**28**	P			**P**	**08 02 43.8**	**-0.8**
BOOM				pmax	pmax				
	comp=Z,47nm,1.4s								
USP	**Ospenovka**	**20.51**	**24**	P			**P**	**08 02 44.8**	**-0.5**
	SNR=12								
TKM2	**Tokmak 2**	**20.64**	**27**	P			**P**	**08 02 46.3**	**-0.6**
	SNR=8.3								
TKM2	**Tokmak 2**	**20.64**	**27**	P			**P**	**08 02 45.5**	**-1.4**
SGDS	**Sogindy**	**20.72**	**24**	*e*P			**P**	**08 02 46.3**	**-1.3**
	baz=24								
SGDS	**Sogindy**	**20.72**	**24**	*e*P			**P**	**08 02 46.3**	**-1.3**
SEKA	**Sheki**	**21.00**	**325**	P			**P**	**08 02 50.9**	**+0.2**
GANJ	**Ganja**	**21.09**	**322**	P			**P**	**08 02 52.3**	**+0.8**
MDOK	**Medeo**	**21.45**	**29**	*e*P			**P**	**08 02 54.6**	**-1.0**
	baz=29								
MDOK	**Medeo**	**21.45**	**29**	*e*P			**P**	**08 02 54.5**	**-1.0**
ZKTA	**Zakatala**	**21.61**	**325**	P			**P**	**08 02 57.5**	**+0.4**
GNI	**Garni**	**21.67**	**319**	P			**P**	**08 02 58.2**	**+0.2**
GNI				IAmb	IAmb			08 03 04.9	
	comp=Z,21nm,0.8s								
GNI	**Garni**	**21.67**	**319**	P			**P**	**08 02 59.5**	**+1.5**
	comp=Z,12nm,0.5s,baz=121,slow=9.2,SNR=8.1								
	comp=Z,12nm,0.5s								
GNI	**Garni**	**21.67**	**319⇑**	*e*P			**P**	**08 02 59.2**	**+1.2**
GNI				pmax	pmax				
	comp=Z,29nm,1.0s								
BTLS	**Baital**	**21.91**	**21**	*e*P			**P**	**08 02 58.9**	**-1.3**
	baz=21								
BTLS	**Baital**	**21.91**	**21**	*e*P			**P**	**08 02 58.9**	**-1.3**
CHKK	**Chushkaly**	**21.99**	**27**	*e*P			**P**	**08 03 00.1**	**-1.1**
	baz=28								
CHKK	**Chushkaly**	**21.99**	**27**	*e*P			**P**	**08 03 00.0**	**-1.1**
UZB	**Uzynbulak**	**22.34**	**32**	*e*P			**P**	**08 03 03.8**	**-1.4**
	baz=32								
UZB	**Uzynbulak**	**22.34**	**32**	*e*P			**P**	**08 03 03.7**	**-1.4**
GURO	**Guroymak-BITLI**	**22.48**	**312**	P			**P**	**08 03 07.3**	**+0.7**
GURO				IAmb	IAmb			08 03 16.5	
	comp=Z,10.0nm,0.4s								
SHLS	**Shalkode**	**22.56**	**32**	*e*P			**P**	**08 03 08.8**	**+1.4**
	baz=33								
SHLS	**Shalkode**	**22.56**	**32**	*e*P			**P**	**08 03 08.8**	**+1.4**
PDGK	**Podgornoye**	**22.70**	**32**	P			**P**	**08 03 09.2**	**+0.3**
KARS	**Kars**	**22.97**	**318**	P			**P**	**08 03 12.5**	**+0.7**
KARS	**Kars**	**22.97**	**318**	P			**P**	**08 03 12.5**	**+0.7**
KARS				pmax	pmax				
	comp=Z,307nm,1.5s								
TDK	**Taldyqorghan**	**23.51**	**28**	*e*P			**P**	**08 03 16.3**	**-0.8**
	comp=Z,12nm,0.7s,baz=28								
TDK	**Taldyqorghan**	**23.51**	**28**	*e*P			**P**	**08 03 16.2**	**-0.8**
TDK				pmax	pmax				
	comp=Z,12nm,0.7s								
PALK	**Pallekele**	**24.25**	**133**	LR	LR			08 12 45.5	
	comp=Z,113nm,18.8s,baz=56,slow=36								
OTUK	**Ortayu**	**24.36**	**15**	P			**P**	**08 03 24.7**	**-0.3**
ABKAR	**Akbulak array**	**24.42**	**355**	P			**P**	**08 03 24.9**	**-0.5**
ABKAR				IAmb	IAmb			08 03 27.2	
	comp=Z,6.1nm,0.8s								
KBZ	**Khabaz**	**25.04**	**324**	P			**P**	**08 03 33.1**	**+2.0**
	comp=Z,7.8nm,0.7s,baz=124,slow=8.9,SNR=22								
	comp=Z,7.8nm,0.7s								
KBZ	**Khabaz**	**25.04**	**324**	*c i* P			**P**	**08 03 33.4**	**+2.3**
KBZ				pmax	pmax				
	comp=Z,26nm,0.9s								
GAZ	**Gaziantep**	**25.30**	**305**	P			**P**	**08 03 34.7**	**+1.0**
KIV	**Kislovodsk**	**25.31**	**324**	P			**P**	**08 03 34.9**	**+1.3**
KIV	**Kislovodsk**	**25.31**	**324**	*e*P			**P**	**08 03 34.2**	**+0.6**
KIV				pmax	pmax				
	comp=Z,39nm,1.0s								
EIL	**Elat**	**25.51**	**287**	LR	LR			08 16 13.5	
	comp=Z,86nm,20.7s,baz=68,slow=42								
MMAI	**Mount Meron Ar**	**25.57**	**295**	P			**P**	**08 03 38.8**	**+2.7**
	comp=Z,0.4nm,0.2s,baz=96,slow=14,SNR=1.7								
MMAI				LR	LR			08 16 31.5	
	comp=Z,65nm,21.1s,baz=42,slow=43								
	comp=Z,0.4nm,0.2s								
AKTO	**Aktyubinsk**	**25.78**	**352**	P			**P**	**08 03 38.1**	**+0.4**
	comp=Z,4.1nm,0.6s,baz=168,slow=7.0,SNR=11								
	comp=Z,4.1nm,0.6s								
BRZS	**Berezniki**	**26.07**	**14**	*e*P			**P**	**08 03 39.4**	**-1.0**
	comp=Z,7.9nm,1.2s,baz=14								
BRZS	**Berezniki**	**26.07**	**14**	*e*P			**P**	**08 03 39.4**	**-1.0**
BRZS				pmax	pmax				
	comp=Z,8.0nm,1.2s								
MAKZ	**Makanchi**	**26.48**	**30**	P			**P**	**08 03 44.0**	**-0.2**
MAKZ				IAmb	IAmb			08 03 52.6	
	comp=Z,8.3nm,0.8s								
MAKZ	**Makanchi**	**26.48**	**30**	P			**P**	**08 03 44.0**	**-0.2**
MAKZ				pmax	pmax				
	comp=Z,8.0nm,0.8s								
MK31	**Makanchi Array**	**26.61**	**30**	P			**P**	**08 03 45.5**	**+0.1**
MK31				IAmb	IAmb			08 03 51.5	
	comp=Z,7.7nm,0.7s								
MK31	**Makanchi Array**	**26.61**	**30**	P			**P**	**08 03 45.5**	**+0.1**
MK31				pmax	pmax				
	comp=Z,8.0nm,0.6s								
MKAR	**Makanchi Array**	**26.61**	**30**	P			**P**	**08 03 45.4**	**0.0**
	comp=Z,7.6nm,0.7s,baz=213,slow=9.3,SNR=60								
	comp=Z,7.6nm,0.7s								
WMQ	**Urumqi**	**27.47**	**41**	*e*P			**P**	**08 03 55.7**	**+2.5**
ZSN	**Zaisan**	**28.30**	**32**	*e*P			**P**	**08 03 59.8**	**-0.6**
	baz=32								
ZSN	**Zaisan**	**28.30**	**32**	*e*P			**P**	**08 03 59.8**	**-0.6**
BVAR	**Borovoye Array**	**28.58**	**9**	P			**P**	**08 04 03.1**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=170,slow=8.8,SNR=4.2								
	comp=Z,0.7nm,0.5s								
BRVK	**Borovoye**	**28.60**	**9⇑**	*e*P			**P**	**08 04 03.9**	**+0.9**
BRVK				pmax	pmax				
	comp=Z,5.0nm,0.6s								
ANN	**Anapa**	**28.78**	**320**	*e*P			**P**	**08 04 03.9**	**-0.8**
ANN				*e**PP			**pP**	**08 04 07.6**	**-5.3**
ANN				*e*				08 04 55.7	
ANN				*e*S			**S**	**08 08 53.5**	**+0.9**
ANN				pmax	pmax				
	comp=Z,15nm,0.7s								
BRTR	**Keskin Array B**	**28.85**	**308**	P			**P**	**08 04 06.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=102,slow=12,SNR=1.9								
	comp=Z,0.4nm,0.6s								
BELG	**Belogornoye**	**29.87**	**341⇑**	*e*P			**P**	**08 04 14.0**	**-0.2**
BELG				pmax	pmax				
	comp=Z,2.0nm,0.8s								
TNCH	**TengChong**	**31.96**	**82**	P			P	08 04 24.0	-9.3
TNCH				pP	pP			08 04

comp=Z,1.5nm,0.5s
AKBB Malin Array Si 36.65 323 P P 08 05 12.8 -0.5
AKBB IAmb IAmb 08 05 21.9
comp=Z,12nm,1.1s
AKBB Malin Array Si 36.65 323⇓ eP P 08 05 13.2 -0.2
AKBB pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 36.66 323 P P 08 05 13.1 -0.3
KIEV IAmb IAmb 08 05 22.0
comp=Z,10nm,1.1s
KIEV Kiev 36.66 323 P P 08 05 13.1 -0.3
KIEV pmax pmax
comp=Z,10.0nm,1.1s
BURAR Bucovina Array 37.55 317 P P 08 05 21.4 +0.2
BURAR Bucovina Array 37.55 317 P P 08 05 21.4 +0.2
BURAR pmax pmax
comp=Z,1.0nm,0.6s
BUR08 Bucovina Ar. S 37.57 317 P P 08 05 20.9 -0.5
GYA Guiyang 39.06 78 ⇓P P 08 05 35.3 +1.1
GYA pmax pmax
comp=Z,17nm,0.6s
GYA pmax pmax
comp=Z,120nm,4.5s
KLMR Klimovskoe 39.42 342 eP P 08 05 34.2 -2.3
KLMR pmax pmax
comp=Z,15nm,1.0s
KWP Kalwaria Pacla 39.88 319 P P 08 05 42.2 +1.6
KWP Kalwaria Pacla 39.88 319 P P 08 05 42.2 +1.6
KWP pmax pmax
comp=Z,40nm,0.5s
SONM Songino Array 40.91 45 P P 08 05 50.1 +0.8
SONM Songino Array 40.91 45 P P 08 05 50.5 +1.1
comp=Z,2.1nm,0.8s,baz=250,slow=7.8,SNR=8.4
comp=Z,2.1nm,0.8s
SONM Songino Array 40.91 45 P P 08 05 50.1 +0.8
SONM pmax pmax
comp=Z,2.0nm,0.9s
ULN Ulaanbaatar 41.34 45⇓ eP P 08 05 54.1 +1.2
ULN pmax pmax
comp=Z,6.0nm,1.7s
OJC Ojcow 41.84 319 P P 08 05 57.5 +0.7
OJC Ojcow 41.84 319 P P 08 05 57.5 +0.7
OJC pmax pmax
comp=Z,5.0nm,0.9s
CUC Castrocucco 42.22 303 P P 08 06 00.7 +0.6
HHC Hu-ho-hao-te 43.05 56 eP P 08 06 07.3 +0.4
HHC pP pP 08 06 11.4 -3.8
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,76nm,4.5s
GERES GERESS Array B 45.24 315 P P 08 06 24.2 0.0
comp=Z,0.5nm,0.2s,baz=90,slow=10,SNR=2.0
comp=Z,0.5nm,0.2s
LVZ Lovozero 46.39 346 P P 08 06 32.5 -0.4
LVZ Lovozero 46.39 346⇓ eP P 08 06 33.0 +0.1
LVZ pmax pmax
comp=Z,18nm,1.4s
APA Apatity 46.42 345⇓ iP P 08 06 32.1 -1.0
APA pmax pmax
comp=Z,5.0nm,0.7s
APA MLR MLR
comp=Z,200nm,16.0s
XLT XiLinHaoTe 46.71 52 eP P 08 06 36.9 +1.0
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,110nm,6.3s
NJ2 Nanjing 48.98 68 eP P 08 06 53.8 +0.3
NJ2 pmax pmax
comp=Z,12nm,0.5s
BNI Bardonecchia 49.41 309 P P 08 06 56.8 0.0
BNI IAmb IAmb 08 07 00.3
comp=Z,12nm,1.4s
BNI Bardonecchia 49.41 309 P P 08 06 56.8 0.0
BNI pmax pmax
comp=Z,13nm,1.5s
KEV Kevo 49.61 344 P P 08 06 58.0 +0.3
KEV Kevo 49.61 344 P P 08 06 58.1 +0.3
KEV pmax pmax
comp=Z,32nm,1.4s
ARCES ARCESS Array B 49.83 344 P P 08 06 59.7 +0.2
ARCES ARCESS Array B 49.83 344 P P 08 06 59.6 +0.2
comp=Z,3.3nm,0.6s,baz=134,slow=8.8,SNR=10
comp=Z,3.3nm,0.6s
ARCES ARCESS Array B 49.83 344 P P 08 06 59.7 +0.2
ARCES pmax pmax
comp=Z,12nm,1.3s
CN2 Changchun 53.47 53 eP P 08 07 24.6 -2.5
CN2 esP pP 08 07 31.6 -4.0
YAK Yakutsk 57.28 31 LR LR 08 35 06.0
comp=Z,26nm,20.4s,baz=270,slow=39
SPB2 Spitsbergen Ar 57.43 350 P P 08 07 56.3 +1.3
TORD Torodi Ar. Bea 58.89 271 P P 08 08 06.5 +0.3
TORD IAmb IAmb 08 08 16.9
comp=Z,4.4nm,1.1s
TORD Torodi Ar. Bea 58.89 271 P P 08 08 06.5 +0.3
comp=Z,0.5nm,0.7s,baz=59,slow=6.4,SNR=5.5
TORD LR LR 08 37 15.4
comp=Z,64nm,19.3s,baz=146,slow=40
comp=Z,0.5nm,0.7s
TIXI Tiksi 58.93 20 P P 08 08 05.6 0.0
TIXI IAmb IAmb 08 08 06.1
comp=Z,2.9nm,0.5s
TIXI Tiksi 58.93 20⇑ eP P 08 08 04.7 -0.9
TIXI pmax pmax
comp=Z,2.0nm,0.9s
TSUM Tsumeb 62.41 230 LR LR 08 38 18.6
comp=Z,32nm,18.4s,baz=327,slow=39
BOSA Boshof 64.54 217 P P 08 08 46.0 +1.9
BOSA Boshof 64.54 217 P P 08 08 45.7 +1.6
comp=Z,1.7nm,0.5s,baz=37,slow=9.0,SNR=5.6
comp=Z,1.7nm,0.5s
BOSA Boshof 64.54 217 P P 08 08 46.0 +1.9
BOSA pmax pmax
comp=Z,16nm,1.5s
SEY Seymchan 67.75 30 P P 08 09 04.3 +0.2
comp=Z,2.3nm,0.7s,baz=267,slow=8.5,SNR=6.7
comp=Z,2.3nm,0.7s
SEY Seymchan 67.75 30⇑ eP P 08 09 04.8 +0.7
SEY pmax pmax
comp=Z,7.0nm,1.8s
BILL Bilibino 71.87 23⇓ eP P 08 09 30.2 +0.8
BILL pmax pmax
comp=Z,4.0nm,1.5s
PETK Petropavlovsk- 73.05 39 LR LR 08 46 49.1
comp=Z,26nm,18.9s,baz=229,slow=40
C16K Lisburne Hills 80.49 16 P P 08 10 18.2 -0.2
C16K IAmb IAmb 08 11 00.2
comp=Z,8.8nm,1.4s
C18K Utukok River 81.23 15 P P 08 10 22.6 +0.1
C18K IAmb IAmb 08 10 27.1
comp=Z,6.2nm,1.4s
E18K Tukpahlearik C 82.32 16 P P 08 10 28.7 +0.6
E18K IAmb IAmb 08 10 28.9
comp=Z,2.2nm,0.8s
C23K Itkillik River 82.44 11 P P 08 10 29.5 +0.8
C23K IAmb IAmb 08 10 30.2
comp=Z,3.3nm,0.8s
E19K Redstone River 83.09 15 P P 08 10 32.2 +0.1
E19K IAmb IAmb 08 11 11.8
comp=Z,4.5nm,1.5s
ASAR Alice Springs 83.81 119 P P 08 10 37.0 +0.4
comp=Z,0.4nm,0.7s,baz=312,slow=5.3,SNR=4.4
comp=Z,0.4nm,0.7s
E25K Arctic Village 84.82 10 P P 08 10 41.0 +0.1
E25K IAmb IAmb 08 10 50.4
comp=Z,2.5nm,1.1s
IMAR Indian Mountai 85.10 14 P P 08 10 42.1 -0.2
H21K Melozitna Rive 85.58 14 P P 08 10 45.1 +0.3
H21K IAmb IAmb 08 10 57.5
comp=Z,3.1nm,1.1s
BMAR Burnt Mountain 85.61 10 P P 08 10 45.8 +0.9
MLY Manley 86.57 14 P P 08 10 50.2 +0.4
MLY IAmb IAmb 08 11 24.6
comp=Z,3.3nm,1.3s
F31M Tsiigehtchic 87.04 6 P P 08 10 52.0 +0.2
F31M IAmb IAmb 08 11 01.8
comp=Z,4.5nm,1.0s
ILAR Eielson Array 87.59 12 P P 08 10 54.1 -0.5
comp=Z,0.3nm,0.6s,baz=310,slow=5.0,SNR=4.8
comp=Z,0.3nm,0.6s
J26L Joseph Creek 88.45 11 P P 08 10 59.1 +0.2
J26L IAmb IAmb 08 11 21.1
comp=Z,2.8nm,1.1s
YKA Yellowknife Ar 92.87 359 P P 08 11 19.7 +0.5

comp=Z,0.2nm,0.8s,baz=346,slow=4.3,SNR=4.2
comp=Z,0.2nm,0.8s
NVAR Mina Array Bea 116.96 1 PKP PKiKP 08 16 53.2 +1.2
comp=Z,0.1nm,0.5s,baz=323,slow=0.5,SNR=4.9

IDC 03 08:06:18.8±0.9, 16.10S×173.39W, h0km, mb3.9/7, mbtmp3.9/7, MS3.3/6, Error ellipse: s-maj=49.3km s-min=24.5km az=135.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**13.87**	**114**	LR	LR	08 13 31.2	
	comp=Z,134nm,19.0s,baz=308,slow=31						
DZM	**Mont Dzumac**	**19.96**	**250**	LR	LR	08 17 11.0	
	comp=Z,117nm,20.3s,baz=28,slow=33						
PPT	**Papeete**	**22.83**	**97**	LR	LR	08 17 26.2	
	comp=Z,56nm,21.8s,baz=305,slow=29						
H11N3	**WAKE ISLAND Hy**	**40.52**	**331**	T	T	08 57 15.4	
	baz=146						
H11N1	**WAKE ISLAND Hy**	**40.53**	**331**	T	T	08 57 26.1	
	baz=146						
H11N2	**WAKE ISLAND Hy**	**40.54**	**331**	T	T	08 57 26.4	
	baz=146						
ASAR	**Alice Springs**	**49.91**	**252**	P	P	08 15 13.9	-0.7
	4.2nm,0.7s,baz=87,slow=8.4,SNR=35						
	4.2nm,0.7s						
NWAO	**Narrogin (SRO)**	**64.29**	**241**	LR	LR	08 44 19.6	
	comp=Z,31nm,18.8s,baz=144,slow=36						
MJAR	**Matsushiro Arr**	**69.48**	**320**	LR	LR	08 41 19.9	
	comp=Z,32nm,21.9s,baz=207,slow=30						
QSPA	**South Pole Qui**	**73.95**	**180**	P	P	08 17 56.1	+0.2
	1.9nm,0.9s,baz=33,slow=7.6,SNR=5.8						
	1.9nm,0.9s						
YBH	**Yreka Blue Hor**	**74.14**	**37**	P	P	08 17 55.7	-1.6
	0.8nm,0.6s,baz=207,slow=2.3,SNR=1.9						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**74.83**	**42**	P	P	08 18 02.1	+0.5
	0.6nm,0.7s,baz=220,slow=6.9,SNR=5.6						
	0.6nm,0.7s						
KSRS	**Korea Array**	**76.66**	**316**	LR	LR	08 45 48.7	
	comp=Z,9.4nm,21.2s,baz=110,slow=31						
TXAR	**Lajitas Array**	**80.99**	**56**	P	P	08 18 36.2	+0.4
	0.6nm,1.0s,baz=237,slow=6.3,SNR=3.0						
	0.6nm,1.0s						
PDAR	**Pinedale Array**	**82.77**	**42**	P	P	08 18 44.8	-0.3
	0.8nm,0.8s,baz=189,slow=3.5,SNR=7.4						
	0.8nm,0.8s						
ILAR	**Eielson Array**	**83.12**	**11**	P	P	08 18 46.2	+0.1
	0.1nm,0.5s,baz=222,slow=6.5,SNR=4.4						
	0.1nm,0.5s						
BRTR	**Keskin Array B**	**146.70**	**320**	PKPbc	PKPab	08 26 04.4	+0.2
	0.2nm,0.3s,baz=132,slow=4.1,SNR=1.9						

IDC 03 08:09:51.4±3.2, 53.54N×87.64E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=27.1km s-min=15.2km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**285**	I	I	08 21 30.0	
	0.1nm,0.7s,baz=101,slow=334,SNR=5.1						
ZALV	**Zalesovo Beam**	**1.72**	**285**	Pg	Pb	08 10 23.5	-0.4
	0.7nm,0.3s,baz=105,slow=17,SNR=4.2						
ZALV				Lg	Lg	08 10 45.4	
	1.1nm,0.3s,baz=106,slow=31,SNR=3.3						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	Pn	08 11 26.3	+0.5
	baz=62,slow=15,SNR=2.2						
KURBB				Lg	Lg	08 13 10.2	
	baz=62,slow=34,SNR=4.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.57**	**209**	Pn	Pn	08 11 43.7	+0.7
	0.2nm,0.3s,baz=32,slow=14,SNR=5.6						
MKAR				Sn	Sn	08 13 11.2	+1.7
	0.1nm,0.3s,baz=30,slow=26,SNR=3.5						
MKAR				Lg	Lg	08 13 48.3	
	baz=21,slow=32,SNR=2.4						
	0.3nm,0.3s						

*DJA **03** 08:20:05.3±0.5, 6.7N×12.4E±°, h519km±6km, M4.4/15, mB4.9/12, mb4.6/15, MLv4.8/8, Mw(mB)4.2/12*
*NEIC **03** 08:20:07.4±0.9, 6.03N±0.10×123.8E±0.1, h540km±8km, mb4.3/57, Error ellipse: s-maj=18.3km s-min=12.6km az=64.0*
*IDC **03** 08:20:09.2±1.4, 6.00N×123.87E, h571km±16km, mb3.4/19, mbtmp4.4/19, Error ellipse: s-maj=18.3km s-min=8.2km az=70.0*
ISC 03 08:20:07.4±0.3, 5.97N±0.05×123.85E±0.08, h550km, n114, σ1.928/123, mb4.2/53, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**2.82**	**144**	P	P	**08 21 18.4**	**-3.0**
SGSI				S	S	**08 22 17.7**	**-3.8**
KMSI	**Cibinong**	**5.36**	**179**	P	P	**08 21 40.5**	**+0.1**
	624nm,0.9s,6μm1.8nm						
GTOI	**Gorontalo**	**5.36**	**189**	P	P	**08 21 38.8**	**-1.6**
	27nm,0.6s,235nm0.1nm						
GTOI				S	S	**08 22 50.6**	**-5.7**
	27nm,0.6s,235nm0.1nm						
TOLI2	**Tolitoli**	**5.71**	**213**	P	P	**08 21 43.1**	**-0.4**
MRSI	**Marisa**	**5.78**	**199**	P	P	**08 21 43.3**	**-0.8**
	41nm,0.9s,1μm0.2nm						
TNTI	**Ternate**	**6.24**	**146**	P	P	**08 21 46.5**	**-1.8**
TNTI	**Ternate**	**6.24**	**146**	P	P	**08 21 47.5**	**-0.8**
MPSI	**Mapaga**	**6.84**	**215**	P	P	**08 21 54.3**	**+0.3**
LUWI	**Luwuk**	**7.05**	**189**	P	P	**08 21 53.7**	**-2.3**
LUWI	**Luwuk**	**7.05**	**189**	P	P	**08 21 53.6**	**-2.3**
	121nm,0.7s,3μm0.7nm						
LBMI	**Labuha**	**7.51**	**151**	P	P	**08 21 59.8**	**-0.6**
	461nm,0.6s,7μm2.2nm						
SANI	**Sanana**	**8.25**	**165**	P	P	**08 22 03.7**	**-4.0**
NLAI	**Namlea**	**9.71**	**160**	P	P	**08 22 23.7**	**+1.3**
	150nm,0.8s,3μm						
SWI	**Sorong**	**10.04**	**132**	P	P	**08 22 26.2**	**+0.4**
	57nm,0.5s,2μm						
SBUM	**Sibu**	**12.11**	**254**	P	P	**08 22 47.7**	**+0.5**
FAKI	**Fak Fak**	**12.18**	**136**	P	P	**08 22 48.0**	**+0.1**
FAKI	**Fak Fak**	**12.18**	**136**	P	P	**08 22 48.1**	**+0.2**
	104nm,0.7s,881nm						
EDFI	**Ende, Flores**	**14.78**	**188**	P	P	**08 23 15.8**	**+1.0**
	6.6nm,0.6s,1μm						
BATI	**Baumata**	**16.07**	**181**	S	S	**08 26 12.6**	**+1.3**
	20nm,0.3s,baz=319,slow=20,SNR=1.9						
DLV	**T Lat**	**16.29**	**292**	P	P	**08 23 29.7**	**-0.3**
TPUB	**Ta-pu**	**17.51**	**350**	P	P	**08 23 39.7**	**-1.1**
SSLB	**Suanglung**	**17.93**	**351**	P	P	**08 23 43.2**	**-1.5**
YHNB	**Yeheng**	**18.75**	**353**	P	P	**08 23 51.3**	**-0.9**
UBPT	**Khong Chiam**	**20.28**	**299**	P	P	**08 24 05.8**	**-0.3**
JOW	**Kunigami**	**21.17**	**11**	P	P	**08 24 13.8**	**-0.3**
JOW	**Kunigami**	**21.17**	**11**	P	P	**08 24 14.6**	**+0.5**
	9.3nm,0.5s,baz=200,slow=15,SNR=4.3						
	9.3nm,0.5s						
WHN	**Wuhan**	**26.03**	**341**	P	P	**08 24 58.4**	**+1.2**
PHRA	**Phrae**	**26.18**	**300**	P	P	**08 24 59.7**	**+0.9**
CRAI	**Chiangrai**	**26.84**	**304**	P	P	**08 25 05.0**	**+0.5**
CRAI				IAmb	IAmb	08 25 06.1	
	comp=Z,7.0nm,0.8s						
MBWA	**Marble Bar**	**27.26**	**188**	P	P	**08 25 07.7**	**-0.4**
MBWA				IAmb	IAmb	08 25 34.8	
	comp=Z,20nm,1.3s						
CMAR	**Chiang Mai Arr**	**27.27**	**299**	P	P	**08 25 09.4**	**+1.1**
	comp=Z,6.0nm,0.7s,baz=108,slow=6.9,SNR=31						
	comp=Z,6.0nm,0.7s						
COEN	**Coen**	**27.57**	**136**	P	P	**08 25 10.1**	**-0.8**
COEN				IAmb	IAmb	08 25 20.5	
	comp=Z,7.3nm,1.1s						
KMI	**Kunming**	**27.78**	**316**	⇓P	P	**08 25 14.1**	**+1.2**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH	**PanZhiHua**	**29.35**	**317**	P	P	**08 25 27.1**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,6.1s						
LYN	**LuoYang**	**30.33**	**341**	⇑P	P	**08 25 35.2**	**+0.6**
LYN				pmax	pmax		
	comp=Z,20nm,0.8s						
AS31	**Alice Springs**	**31.05**	**162**	P	P	**08 25 41.8**	**+0.8**
AS31				IAmb	IAmb	08 25 43.8	
	comp=Z,2.7nm,0.4s						
ASAR	**Alice Springs**	**31.05**	**162**	P	P	**08 25 41.7**	**+0.7**
ASAR	**Alice Springs**	**31.05**	**162**	P	P	**08 25 42.0**	**+1.0**
	comp=Z,3.1nm,0.4s,baz=340,slow=7.0,SNR=81						

ASAR PcP **PcP** **08 28 20.1 +0.4**
comp=Z,1.5nm,0.4s,baz=345,slow=2.7,SNR=13
ASAR S **S** **08 30 07.2 -0.6**
comp=Z,3.7nm,0.8s,baz=338,slow=16,SNR=13
ASAR ScP **ScP** **08 31 11.1 +0.3**
comp=Z,0.5nm,0.5s,baz=342,slow=3.7,SNR=1.9
comp=Z,3.1nm,0.4s
XAN Xi'an 31.17 336 ⇓P P 08 25 41.7 -0.2
XAN pmax pmax
comp=Z,48nm,0.6s
KSRS Korea Array 31.56 6 P P 08 25 46.0 +0.9
comp=Z,1.9nm,0.8s,baz=189,slow=9.5,SNR=5.1
comp=Z,1.9nm,0.8s
MJAR Matsushiro Arr 33.15 21 P P 08 25 57.2 -1.5
comp=Z,1.8nm,0.7s,baz=187,slow=9.7,SNR=5.7
comp=Z,1.8nm,0.7s
LZH Lanzhou 35.15 331 eP P 08 26 16.8 +1.2
LZH pP pP 08 27 46.1 -3.0
LZH pmax pmax
comp=Z,31nm,0.9s
MORW Morawa 35.64 192 P P 08 26 20.0 +0.5
MORW IAmb IAmb 08 26 29.2
comp=Z,30nm,1.4s
SHL Shillong 36.25 306 P P 08 26 25.2 +0.4
HHC Hu-ho-hao-te 36.43 344 eP P 08 26 26.8 +0.7
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,110nm,5.1s
FORT Forrest 36.76 174 P P 08 26 29.8 +1.0
XLT XiLinHaoTe 38.39 351 eP P 08 26 42.2 +0.2
XLT pmax pmax
comp=Z,16nm,0.7s
XLT pmax pmax
comp=Z,170nm,4.5s
USRK Ussuriysk Ar. 38.74 9 P P 08 26 45.3 +0.6
comp=Z,2.7nm,0.6s,baz=188,slow=6.4,SNR=6.4
comp=Z,2.7nm,0.6s
NWAO Narrogin (SRO) 39.19 189 P P 08 26 48.8 +0.3
GTA Gaotai 39.73 330 P P 08 26 53.5 +0.6
GTA pmax pmax
comp=Z,12nm,0.7s
BBOO Buckleboo 40.27 164 P P 08 26 58.3 +1.1
EIDS Eidsvold 40.88 141 P P 08 27 02.5 +0.3
EIDS IAmb IAmb 08 27 03.2
comp=Z,15nm,1.4s
STKA Stephens Creek 41.27 157 P P 08 27 06.1 +1.0
STKA Stephens Creek 41.27 157 P P 08 27 05.6 +0.5
comp=Z,5.3nm,0.4s,baz=340,slow=8.0,SNR=12
comp=Z,5.3nm,0.4s
ULN Ulaanbaatar 44.15 344 P P 08 27 27.7 +0.1
ULN IAmb IAmb 08 27 29.0
comp=Z,16nm,1.2s
HEH HeiHe 44.24 3 eP P 08 27 27.8 -0.2
HEH pmax pmax
comp=Z,14nm,0.8s
SONM Songino Array 44.31 343 P P 08 27 28.5 -0.2
SONM IAmb IAmb 08 27 30.0
comp=Z,9.2nm,1.1s
SONM Songino Array 44.31 343 P P 08 27 28.7 0.0
comp=Z,5.0nm,0.8s,baz=158,slow=9.4,SNR=20
comp=Z,5.0nm,0.8s
ARMA Armidale 44.92 145 P P 08 27 35.0 +1.3
ARMA IAmb IAmb 08 27 44.9
comp=Z,13nm,1.4s
TOO Toolangi 47.79 157 P P 08 27 57.0 +1.8
TOO IAmb IAmb 08 28 32.8
comp=Z,13nm,1.2s
DZM Mont Dzumac 50.16 125 P P 08 28 14.2 +1.1
DZM IAmb IAmb 08 28 19.1
comp=Z,29nm,1.5s
MK31 Makanchi Array 54.10 326 P P 08 28 41.0 +0.1
MK31 IAmb IAmb 08 28 42.1
comp=Z,9.4nm,0.9s
MKAR Makanchi Array 54.10 326 P P 08 28 41.0 +0.1
MKAR Makanchi Array 54.10 326 P P 08 28 41.3 +0.5
comp=Z,8.9nm,0.4s,baz=120,slow=7.6,SNR=129
MKAR PcP **PcP** **08 29 35.1 -1.9**
comp=Z,1.3nm,0.4s,baz=116,slow=6.5,SNR=4.9
MKAR ScP **ScP** **08 32 41.8 -0.8**
comp=Z,2.1nm,0.8s,baz=118,slow=4.9,SNR=6.7
comp=Z,8.9nm,0.4s
TARG Taragay, Kyrgy 54.18 318 P P 08 28 42.9 +0.9
MAKZ Makanchi 54.28 326 P P 08 28 42.3 +0.2
MAKZ IAmb IAmb 08 28 43.3
comp=Z,16nm,1.1s
KSH Kashi 54.44 315 P P 08 28 45.6 +2.0
PETK Petropavlovsk- 54.52 24 P P 08 28 44.5 +0.8
comp=Z,1.0nm,0.6s,baz=198,slow=3.9,SNR=4.2
PETK PcP **PcP** **08 29 38.2 -0.3**
comp=Z,1.0nm,0.7s,baz=130,slow=2.3,SNR=1.5
comp=Z,1.0nm,0.6s
ARSB Arslanbob 57.27 316 P P 08 29 03.3 +0.2
ZAA0 Zalesovo Array 57.31 334 P P 08 29 01.4 -1.5
ZAA0 IAmb IAmb 08 29 03.2
comp=Z,11nm,1.4s
ZALV Zalesovo Beam 57.31 334 P P 08 29 01.6 -1.4
ZALV Zalesovo Beam 57.31 334 P P 08 29 02.2 -0.7
comp=Z,3.3nm,0.6s,baz=131,slow=6.3,SNR=9.4
comp=Z,3.3nm,0.6s
KBL Kabul 57.89 307 P P 08 29 07.5 -0.1
KBL IAmb IAmb 08 29 08.5
comp=Z,7.4nm,0.7s
KURBB Kurchatov Arra 58.32 328 P P 08 29 09.9 0.0
KURBB ScP **ScP** **08 32 56.0 -5.2**
comp=Z,9.6nm,0.7s,baz=127,slow=6.3,SNR=64
comp=Z,0.1nm,0.2s,baz=110,slow=7.1,SNR=1.3
comp=Z,9.6nm,0.7s
KURK Kurchatov 58.33 328 P P 08 29 09.4 -0.5
KURK IAmb IAmb 08 29 10.9
comp=Z,21nm,0.9s
KK31 Karatay Array 59.65 317 P P 08 29 19.0 +0.1
KK31 IAmb IAmb 08 29 20.0
comp=Z,5.3nm,0.8s
KKAR Karatay Array 59.65 317 P P 08 29 18.9 -0.1
BVAR Borovoye Array 63.89 327 P P 08 29 46.1 -0.3
comp=Z,5.2nm,1.0s,baz=145,slow=10,SNR=14
comp=Z,5.2nm,1.0s
BRVK Borovoye 63.97 327 P P 08 29 46.9 +0.1
BRVK IAmb IAmb 08 29 47.7
comp=Z,11nm,1.4s
MRNZ Matariki Terra 64.93 141 P P 08 29 53.8 +0.7
LBZ Lake Benmore 65.14 145 P P 08 29 55.1 +0.7
LBZ IAmb IAmb 08 30 33.7
comp=Z,13nm,1.4s
TCW Tory Channel 65.78 140 P P 08 29 58.7 +0.3
SNZO South Karori 66.10 140 P P 08 30 00.3 -0.1
RTZ Ruatahuna 66.22 137 P P 08 30 01.9 +0.6
RTZ IAmb IAmb 08 30 03.3
comp=Z,22nm,0.9s
BFZ Birch Farm 66.77 139 P P 08 30 05.2 +0.6
GEYT Alibeck 67.26 309 P P 08 30 09.0 +1.2
comp=Z,0.9nm,0.3s,baz=159,slow=4.3,SNR=4.2
comp=Z,0.9nm,0.3s
ABKAR Akbulak array 68.61 321 P P 08 30 15.1 -0.6
ABKAR IAmb IAmb 08 30 15.9
comp=Z,2.5nm,0.6s
ARU Arti 71.52 328 P P 08 30 31.9 -0.9
ARU IAmb IAmb 08 30 32.7
comp=Z,8.1nm,0.6s
CASY Casey 72.72 186 P P 08 30 39.9 +0.5
CASY IAmb IAmb 08 30 50.6
comp=Z,8.6nm,1.3s
C18K Utukok River 79.01 21 P P 08 31 14.9 +0.6
C18K IAmb IAmb 08 31 39.0
comp=Z,8.2nm,1.5s
L18K Granite Mounta 79.83 28 P P 08 31 19.4 +0.7
D19K Kuna River 80.09 21 P P 08 31 20.5 +0.5
TTA Tatalina 80.22 27 P P 08 31 21.6 +0.8
H19K Roundabout Mou 80.33 25 P P 08 31 22.1 +1.0
K20K Telida 81.14 27 P P 08 31 26.6 +1.1
IMAR Indian Mountai 81.48 24 P P 08 31 28.1 +0.9
CAST Castle Rocks 82.04 27 P P 08 31 30.7 +0.6
BPAW Bear Paw Mtn. 82.55 26 P P 08 31 33.3 +0.6
C23K Itkillik River 82.89 20 P P 08 31 35.0 +0.8
TOLK Toolik Lake Re 83.23 22 P P 08 31 37.1 +1.1
ILAR Eielson Array 84.33 26 P P 08 31 40.6 -0.8
comp=Z,0.3nm,0.7s,baz=243,slow=5.7,SNR=7.2
comp=Z,0.3nm,0.7s
BMAR Burnt Mountain 85.14 23 P P 08 31 45.9 +0.5
VNDA Vanda 86.00 172 P P 08 31 49.8 +0.5
VNDA IAmb IAmb 08 31 51.2
comp=Z,3.2nm,1.1s
VNDA Vanda 86.00 172 P P 08 31 47.6 -1.6
comp=Z,5.8nm,1.2s,baz=308,slow=5.7,SNR=13
comp=Z,5.8nm,1.2s

BRTR	**Keskin Array B**	**86.39**	**309**	P		**P**	**08 31 50.5**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=120,slow=5.8,SNR=3.7							
	comp=Z,0.7nm,0.5s							
I28M	**Miner Creek**	**87.20**	**25**	P		**P**	**08 31 55.4**	**0.0**
SPITS	**Spitsbergen Ar**	**87.74**	**349**	P		**P**	**08 31 56.9**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=139,slow=6.8,SNR=4.7							
	comp=Z,1.4nm,0.5s							
FINES	**FINESS Array B**	**88.51**	**332**	P		**P**	**08 32 00.4**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=73,slow=4.8,SNR=3.4							
	comp=Z,0.7nm,0.5s							
FARO	**Faro, Yukon**	**90.69**	**27**	P		**P**	**08 32 11.8**	**+0.3**
FARO				IAmb		IAmb	08 32 24.8	
	comp=Z,3.2nm,1.3s							
QSPA	**South Pole Qui**	**95.86**	**180**	P		**P**	**08 32 36.6**	**+1.5**
QSPA				IAmb		IAmb	08 33 17.9	
	comp=Z,2.8nm,1.2s							
QSPA	**South Pole Qui**	**95.86**	**180**	P		**P**	**08 32 37.2**	**+2.1**
	comp=Z,1.1nm,0.9s,baz=51,slow=1.7,SNR=2.1							
TORD	**Torodi Ar. Bea**	**119.49**	**289**	PKP		**PKiKP**	**08 37 55.5**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=48,slow=2.1,SNR=6.0							
PLCA	**Paso Flores**	**143.06**	**162**	PKP		**PKPdf**	**08 38 38.5**	**-0.9**
	comp=Z,2.3nm,0.7s,baz=234,slow=3.4,SNR=7.2							
LPAZ	**La Paz**	**164.41**	**132**	PKPab		**PKPab**	**08 40 09.2**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=238,slow=5.7,SNR=4.2							

IDC 03 08:20:08.5±3.1, 53°.76N×88°.12E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=27.6km s-min=18.8km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**277**	I		I	08 32 50.0	
	0.1nm,0.7s,baz=92,slow=338,SNR=6.1							
ZALV	**Zalesovo Beam**	**1.96**	**277**	Pn		Pn	08 20 43.1	+0.1
	1.6nm,0.3s,baz=90,slow=13,SNR=31							
ZALV				Lg		Lg	08 21 11.2	
	5.2nm,0.3s,baz=93,slow=26,SNR=24							
KURBB	**Kurchatov Arra**	**6.68**	**246**	Pn		Pn	08 21 47.9	+0.2
	0.1nm,0.3s,baz=62,slow=14,SNR=2.7							
KURBB				Lg		Lg	08 23 39.2	
	0.1nm,0.3s,baz=59,slow=30,SNR=4.3							
	0.8nm,0.3s							
MKAR	**Makanchi Array**	**7.90**	**210**	Pn		Pn	08 22 06.0	+1.5
	0.1nm,0.3s,baz=28,slow=13,SNR=4.2							
MKAR				Lg		Lg	08 24 16.5	
	0.1nm,0.3s,baz=30,slow=27,SNR=1.6							
	0.4nm,0.5s							
COEN	**Coen**	**82.11**	**127**	P		P	08 32 32.1	+1.3

*CATAC **03** 08:25:24.6±1.5, 13°.68N×90°.73W, h15km±16km, mb4.1, ML3.4*
*SNET **03** 08:25:26.0±0.8, 13°.69N×90°.52W, h93km±19km, ML3.2*
*GCG **03** 08:25:30.2±0.7, 14°.02N×90°.85W, h45km±18km, MD3.3*
ISC 03 08:25:23.9±1.6, 13°.63N±0°.08×90°.75W±0°.05, h15km±10km, n31, σ1s03/37, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PCG	**Pacaya**	**0.77**	**11**	*i* P		**Pn**	**08 25 40.8**	**+0.5**
FUG	**Fuego 3**	**0.81**	**354**	*i* P		**Pn**	**08 25 41.2**	**+0.3**
NUBE	**Las Nubes**	**0.98**	**74**	*i* P		**Pn**	**08 25 43.4**	**+0.2**
NUBE				*i* S		**Sg**	**08 25 55.7**	**-0.2**
NUBE				IAML			08 25 57.6	
	comp=Z,420nm,1.0s							
LOAL	**Lomas de Alarc**	**1.01**	**69**	*e*P		**Pn**	**08 25 43.8**	**+0.3**
LOAL				*e*S		**Sn**	**08 25 58.0**	**+0.4**
LOAL	**Lomas de Alarc**	**1.01**	**69**	*i* P		**Pg**	**08 25 43.6**	**+0.1**
LOAL				IAML			08 25 59.3	
	comp=Z,3µm,1.0s							
NBG	**Las Nubes**	**1.03**	**23**	*i* P		**Pn**	**08 25 45.4**	**+1.4**
NBG				*i* S		**Sn**	**08 26 00.9**	**+2.7**
SULM	**Suchitepequez,**	**1.03**	**310**	*i* P		**Pg**	**08 25 44.4**	**+0.5**
CEVE	**Cerro Verde**	**1.11**	**80**	*e*P		**Pb**	**08 25 45.2**	**+0.3**
CEVE				*e*S		**Sn**	**08 26 00.2**	**-0.1**
CEVE				IAML			08 26 01.9	
	comp=Z,848nm,0.3s							
CEVE	**Cerro Verde**	**1.11**	**80**	*i* P		**Pb**	**08 25 45.0**	**0.0**
CEVE				*i* S		**Sg**	**08 25 59.8**	**-0.3**
CEVE				IAML			08 26 04.6	
	comp=Z,750nm,1.0s							
UNIC	**Universidad Ca**	**1.22**	**73**	*i* P		**Pn**	**08 25 46.2**	**-0.2**
UNIC				*i* S		**Sn**	**08 26 02.6**	**-0.1**
UNIC				IAML			08 26 03.8	
	comp=Z,260nm,1.0s							
JAYA	**Jayaque - finc**	**1.27**	**89**	*e*P		**Pn**	**08 25 46.5**	**-0.6**
JAYA				*e*S		**Sb**	**08 26 02.5**	**-1.3**
JAYA				IAML			08 26 05.6	
	comp=Z,780nm,0.2s							
JAYA	**Jayaque - finc**	**1.27**	**89**	*i* P		**Pn**	**08 25 47.3**	**+0.1**
JAYA				IAML			08 26 05.5	
	comp=Z,2µm,1.0s							
STG3	**Santiaguito 3,**	**1.33**	**324**	*i* P		**Pn**	**08 25 48.2**	**+0.1**
STG3				*i* S		**Sb**	**08 26 02.2**	**-3.4**
PMON	**Piamonte**	**1.40**	**87**	*i* P		**Pn**	**08 25 48.7**	**-0.2**
PMON				IAML			08 26 11.6	
	comp=Z,610nm,1.0s							
ITCA	**Escuela Especi**	**1.43**	**88**	*i* P		**Pn**	**08 25 47.1**	**-2.3**
ITCA				IAML			08 26 08.9	
	comp=Z,2µm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.45**	**82**	*i* P		**Pn**	**08 25 49.8**	**+0.2**
QUEZ				IAML			08 26 16.0	
	comp=Z,2µm,1.0s							
PANCS	**Alcalde de**	**1.53**	**91**	*i* P		**Pn**	**08 25 50.6**	**-0.1**
PANCS				IAML			08 26 11.4	
	comp=Z,2µm,1.0s							
LOMA	**Loma Larga**	**1.54**	**89**	IAML			08 26 11.9	
	comp=Z,309nm,0.1s							
LOMA	**Loma Larga**	**1.54**	**89**	*i* P		**Pn**	**08 25 51.5**	**+0.7**
LOMA				IAML			08 26 13.6	
	comp=Z,400nm,1.0s							
MTO3	**Montecristo**	**1.55**	**60**	*e*P		**Pn**	**08 25 50.6**	**-0.5**
MTO3	**Montecristo**	**1.55**	**60**	*i* P		**Pn**	**08 25 50.6**	**-0.5**
MTO3				IAML			08 26 13.9	
	comp=Z,83nm,1.0s							
PAVA	**Las Pavas**	**1.77**	**87**	IAML			08 26 23.3	
	comp=Z,88nm,0.4s							
PAVA	**Las Pavas**	**1.77**	**87**	*i* P		**Pn**	**08 25 53.9**	**-0.1**
PAVA				IAML			08 26 28.2	
	comp=Z,290nm,1.0s							
COEG	**Centro de Oper**	**1.82**	**90**	*i* P		**Pn**	**08 25 55.3**	**+0.6**
COEG				IAML			08 26 22.8	
	comp=Z,140nm,1.0s							
UESV	**Universidad de**	**1.91**	**90**	*i* P		**Pn**	**08 25 56.9**	**+1.0**
UESV				IAML			08 26 27.7	
	comp=Z,150nm,1.0s							
TECO	**Alcaldia de Te**	**1.92**	**93**	*i* P		**Pn**	**08 25 56.7**	**+0.7**
TECO				IAML			08 27 39.1	
	comp=Z,120nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.97**	**88**	*i* P		**Pn**	**08 25 56.9**	**+0.2**
SCLA				IAML			08 26 34.0	
	comp=Z,44nm,1.0s							
PQSS	**Presa 15 de Se**	**2.13**	**90**	*i* P		**Pn**	**08 25 58.9**	**0.0**
PQSS				IAML			08 26 27.6	
	comp=Z,66nm,1.0s							
LCND	**La Caada**	**2.80**	**96**	*i* P		**Pn**	**08 26 09.4**	**+1.2**
LCND				IAML			08 26 52.5	
	comp=Z,72nm,1.0s							
CNCH	**Conchagua**	**2.86**	**97**	*i* P		**Pn**	**08 26 09.8**	**+0.7**
CNCH				IAML			08 26 52.7	
	comp=Z,270nm,1.0s							
ORTG	**Ortega, Santa**	**6.12**	**122**	*i* P		**Pn**	**08 26 54.7**	**+0.9**

CATAC 03 08:26:47.0±0.4, 9°.34N×84°.44W, h4km±2km, ML2.8, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.39**	**326**	*i* P			08 26 54.5	
JACO				*i* S			08 26 59.8	
JACO				IAML			08 27 01.5	
	comp=Z,620nm,1.0s							
LAFE	**Finca La Fe, P**	**0.66**	**315**	*i* P			08 26 59.8	
LAFE				*i* S			08 27 09.5	
LAFE				IAML			08 27 12.6	
	comp=Z,2.1nm,1.0s							
CDM	**Cerro de Muert**	**0.70**	**72**	*i* P			08 27 00.6	
CDM				*i* S			08 27 10.3	
CDM				IAML			08 27 15.1	
	comp=Z,260nm,1.0s							
RIMA	**Rio Macho**	**0.71**	**53**	*i* P		P	08 27 00.5	
RIMA				IAML			08 27 02.2	
	comp=Z,650nm,1.0s							
OCM	**Ochomogo**	**0.72**	**41**	*i* P		P	08 27 00.6	
OCM				IAML			08 27 02.3	
	comp=Z,440nm,1.0s							
HDC	**Heredia**	**0.73**	**26**	*i* P			08 27 01.1	
HDC				IAML			08 27 16.9	
	comp=Z,280nm,1.0s							
HDC3	**Heredia 3**	**0.73**	**26**	*i* P		P	08 27 01.1	
HDC3				IAML			08 27 16.9	
	comp=Z,290nm,1.0s							
PEZE	**Perez Zeledon,**	**0.75**	**87**	*i* P			08 27 02.0	
PEZE				IAML			08 27 03.0	
	comp=Z,170nm,1.0s							
PEZE				*i* S			08 27 12.4	
OCHAL	**Ojochal**	**0.82**	**107**	*i* P			08 27 02.7	
OCHAL				IAML			08 27 03.1	
	comp=Z,200nm,1.0s							
CPMI	**Catarata Coope**	**0.94**	**4**	*i* P			08 27 04.7	
CPMI				IAML			08 27 04.7	
	comp=Z,110nm,1.0s							
VTCV	**VTCV, Calle Va**	**0.95**	**48**	*i* P		P	08 27 05.0	
VTCV				IAML			08 27 23.1	
	comp=Z,390nm,1.0s							
SOCE	**Pocosol**	**1.05**	**350**	*i* P			08 27 06.9	
SOCE				*i* S			08 27 21.7	
SOCE				IAML			08 27 24.1	
	comp=Z,370nm,1.0s							
RIFO	**Rio Frio, Sara**	**1.09**	**28**	*i* P			08 27 07.3	
RIFO				*i* S			08 27 23.3	
RIFO				IAML			08 27 27.7	
	comp=Z,240nm,1.0s							
BATAN	**Batan**	**1.29**	**54**	*i* P			08 27 11.0	
BATAN				*i* S			08 27 29.4	
BATAN				IAML			08 28 23.5	
	comp=Z,300nm,1.0s							
ORTG	**Ortega, Santa**	**1.43**	**315**	*i* P			08 27 12.8	
ORTG				*i* S			08 27 32.8	
ORTG				IAML			08 27 39.1	
	comp=Z,46nm,1.0s							
SAJU	**San Juanillo,**	**1.45**	**300**	*i* P			08 27 14.3	
SAJU				IAML			08 27 39.2	
	comp=Z,80nm,1.0s							
CDITO	**Canoas**	**1.73**	**116**	*i* P			08 27 17.7	
CDITO				IAML			08 28 01.7	
	comp=Z,62nm,1.0s							
HZTE	**Horizontes, Gu**	**1.78**	**320**	*i* P		P	08 27 17.9	
HZTE				IAML			08 28 42.5	
	comp=Z,110nm,1.0s							

*SKO **03** 08:36:26.1, 40°.84N×21°.33E, h18km, ML1.8*
*ATH **03** 08:36:26.2, 40°.84N×21°.30E, h17km±1km, ML2.6/2, Error ellipse: s-maj=10.5km s-min=1.7km az=138.0*
*THE **03** 08:36:27.3, 40°.79N×21°.37E, h13km±1km, ML2.3/3, Error ellipse: s-maj=3.8km s-min=1.0km az=330.0*
ISC 03 08:36:26.3±0.9, 40°.83N±0°.04×21°.32E±0°.03, h16km±4km, n16, σ0s35/28, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FNA	**Florina**	**0.06**	**141**	P		**Pg**	**08 36 29.4**	**-0.1**
FNA				S		**Sg**	**08 36 31.7**	**+0.1**
	12µm,0.3s							
FNA	**Florina**	**0.06**	**141**	↑P		**Pg**	**08 36 29.5**	**-0.1**
FNA				*i* Sg		**Sg**	**08 36 31.7**	**+0.1**
FNA	**Florina**	**0.06**	**141**	P		**Pg**	**08 36 29.4**	**-0.1**
FNA				S		**Sg**	**08 36 31.7**	**+0.1**
FNA				AML	AML		08 36 32.0	
	comp=E,22150µm,0.4s							
FNA				AML	AML		08 36 32.2	
	comp=N,25429µm,0.3s							
NEST	**Nestorio**	**0.47**	**207**	P		**Pg**	**08 36 35.4**	**-0.4**
NEST				S		**Sb**	**08 36 42.8**	**-0.1**
	comp=N,270nm,0.4s							
NEST	**Nestorio**	**0.47**	**207**	P		**Pg**	**08 36 35.4**	**-0.4**
NEST				S		**Sg**	**08 36 42.2**	**+0.1**
NEST				AML	AML		08 36 43.5	
	comp=N,489µm,0.3s							
NEST				AML	AML		08 36 43.8	
	comp=E,935µm,0.2s							
OHR	**Ohrid**	**0.49**	**305**	*i* Pg		**Pg**	**08 36 36.0**	**-0.1**
OHR				*i* Sg		**Sb**	**08 36 43.8**	**+0.4**
OHR				*e*Lg		Lg	08 36 44.0	
	comp=N,61nm,0.6s							
OHR				*e*Lg		Lg	08 36 45.0	
	comp=E,83nm,0.2s							
PENT	**Pentalofos**	**0.65**	**193**	P		**Pg**	**08 36 38.7**	**-0.5**
PENT	**Pentalofos**	**0.65**	**193**	P		**Pg**	**08 36 38.6**	**-0.5**
GRG	**Griva**	**0.83**	**81**	P		**Pg**	**08 36 42.2**	**-0.2**
GRG	**Griva**	**0.83**	**81**	*i* Pg		**Pg**	**08 36 42.3**	**-0.1**
GRG				*i* Sg		**Sn**	**08 36 54.7**	**-0.5**
GRG	**Griva**	**0.83**	**81**	P		**Pb**	**08 36 42.0**	**-0.3**
LSK	**Leskovik**	**0.88**	**219**	P		**Pb**	**08 36 43.3**	**+0.1**
LSK				S		**Sn**	**08 36 56.8**	**+0.3**
	comp=E,68nm,0.5s							
VAY	**Valandovo**	**1.06**	**62**	*i* Pg		**Pg**	**08 36 46.8**	**0.0**
VAY				*i* Sg		**Sn**	**08 37 00.7**	**-0.2**
VAY				*e*Lg		Lg	08 37 01.8	
	comp=N,19nm,0.8s							
VAY				*e*Lg		Lg	08 37 02.6	
	comp=E,12nm,0.4s							
LIT	**Litokhoron**	**1.15**	**129**	P		**Pg**	**08 36 48.4**	**-0.2**
LIT				S		**Sb**	**08 37 02.7**	**+0.2**
LIT	**Litokhoron**	**1.15**	**129**	*i* Pg		**Pg**	**08 36 48.8**	**+0.2**
LIT				*i* Sg		**Sg**	**08 37 04.7**	**+1.1**
KNT	**Kendrikon**	**1.24**	**74**	*i* Pg		**Pg**	**08 36 49.8**	**-0.4**
KNT				*i* Sg		**Sg**	**08 37 06.4**	**+0.1**

*NEIC **03** 08:40:44.6±0.6, 37°.20N±0°.02×97°.81W±0°.01, h6km±2km, mb_Lg2.6/64, ML2.8/15, ML3.1/43, Error ellipse: s-maj=2.2km s-min=1.2km az=174.0*
NEIC 03 08:40:44.4±0.7, 37°.192N±0°.010×97°.81W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.9km az=12.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KAN01	**Argonia South**	**0.06**	**132**			Pg	08 40 46.3	+0.5
KAN01				IAML			08 40 47.7	
	comp=E,18µm,0.2s							
KAN06	**Argonia West S**	**0.07**	**326**			Pg	08 40 46.2	+0.2
KAN06				IAML			08 40 47.4	
	comp=E,18µm,0.1s							
KAN05	**Bluff City Nor**	**0.10**	**210**			Pg	08 40 46.9	+0.5
KAN05				Sg		Sg	08 40 48.6	+0.8
KAN05				IAML			08 40 50.6	
	comp=N,10µm,0.2s							
KAN08	**Anthony NE Sta**	**0.13**	**285**			Pg	08 40 47.4	+0.3
KAN08				Sg		Sg	08 40 49.4	+0.6
KAN08				IAML			08 40 49.7	
	comp=E,6µm,0.1s							
KAN08				IAML			08 40 49.7	
	comp=N,8µm,0.2s							
KAN17	**Caldwell West**	**0.15**	**166**			Pg	08 40 48.0	+0.6
KAN17				Sg		Sg	08 40 50.2	+0.7
KAN17				IAML			08 40 51.0	
	comp=E,6µm,0.2s							
KAN09	**Caldwell North**	**0.17**	**110**			Pg	08 40 48.2	+0.5
KAN09				Sg		Sg	08 40 50.6	+0.8
KAN09				IAML			08 40 51.0	
	comp=N,6µm,0.3s							
KAN09				IAML			08 40 53.0	
	comp=E,6µm,0.2s							
KAN12	**Harper NE Stat**	**0.18**	**305**			Pg	08 40 48.2	+0.2
KAN12				Sg		Sg	08 40 50.7	+0.3
KAN12				IAML			08 40 52.7	
	comp=N,5µm,0.3s							
KAN12				IAML			08 40 53.2	
	comp=E,5µm,0.4s							
KAN14	**Manchester OK**	**0.26**	**207**			Pg	08 40 50.2	+0.7
KAN14				Sg		Sg	08 40 53.7	+0.7
KAN14				IAML			08 40 54.2	
	comp=E,4µm,0.2s							
KAN13	**South Haven SW**	**0.32**	**124**			Pg	08 40 51.0	+0.4
KAN13				Sg		Sg	08 40 55.6	+0.7
KAN13				IAML			08 41 01.1	
	comp=N,3µm,0.3s							
KAN13				IAML			08 41 02.0	
	comp=E,2µm,0.3s							
GC02	**Grant County #**	**0.34**	**186**	Pg		Pg	08 40 51.5	+0.5
GC02				Sg		Sg	08 40 56.3	+0.8
OK032	**Salt Plains WL**	**0.50**	**220**			Pg	08 40 54.4	+0.4
OK032				Sg		Sg	08 41 01.2	+0.6
OK032				IAML			08 41 03.5	
	comp=E,2µm,0.3s							
BLOK	**Blackwell**	**0.64**	**132**			Pg	08 40 56.9	+0.2
BLOK				Sg		Sg	08 41 05.8	+0.7
BLOK				IAML			08 41 06.4	
	comp=E,969nm,0.3s							
BLOK				IAML			08 41 09.5	
	comp=N,807nm,0.2s							
CROK	**Carrier**	**0.70**	**191**			Pg	08 40 58.2	+0.4
CROK				Sg		Sg	08 41 07.8	+0.9
CROK				IAML			08 41 10.3	
	comp=N,1µm,0.2s							
OK035	**E0210 Rd and N**	**0.87**	**236**	Pg		Pg	08 41 00.9	-0.1
OK035				IAML			08 41 20.8	
	comp=N,636nm,0.4s							
OK035				IAML			08 41 23.4	
	comp=N,520nm,0.4s							
OK038	**West end E0370**	**1.03**	**227**			Pg	08 41 04.0	-0.2
OK038				Sg		Sg	08 41 17.8	+0.2
OK051	**E0350 and S346**	**1.04**	**131**			Pg	08 41 04.2	-0.1
OK051				IAML			08 41 23.9	
	comp=N,655nm,0.2s							
OK051				IAML			08 41 30.3	
	comp=N,562nm,0.2s							
OK048	**Pawnee Station**	**1.04**	**138**			Pg	08 41 04.3	0.0
OK048				Sg		Sg	08 41 18.0	+0.1
T35A	**Sooner Cattle**	**1.08**	**104**	Pg		Pg	08 41 04.7	-0.3
T35A						Sg	08 41 19.1	+0.1
U32A	**Winter Ranch,**	**1.25**	**230**			Pg	08 41 07.9	-0.5
OK033	**Mehan**	**1.34**	**148**			Pn	08 41 09.6	-0.2
QUOK	**Quay**	**1.35**	**139**			Pn	08 41 09.6	-0.3
R32A	**Long Quarter,**	**1.42**	**330**			Pn	08 41 10.6	-0.3
OK029	**Liberty Lake**	**1.42**	**168**			Pn	08 41 11.0	+0.1
OK052	**Battle Ridge R**	**1.45**	**146**			Pn	08 41 11.3	+0.1
OK031	**S. Brethren Rd**	**1.46**	**147**			Pn	08 41 11.8	+0.3
CSTR	**Hydro, Custer**	**1.70**	**205**			Pn	08 41 15.3	+0.6
DEOK	**Depew**	**1.71**	**141**			Pn	08 41 15.4	+0.6
OKCSW	**OKLAHOMA CITY**	**1.81**	**170**			Pb	08 41 17.3	-0.6
FNO	**Franklin**	**1.96**	**170**			Pb	08 41 19.9	-0.7
TUL3	**Leonard**	**2.07**	**128**			Pb	08 41 21.1	-1.3
KSU1	**Kansas State U**	**2.13**	**26**			Pn	08 41 21.2	+0.6
CBKS	**Cedar Bluff**	**2.22**	**317**			Pn	08 41 22.7	+0.8
CBKS						Sb	08 41 53.7	+0.8
WMOK	**Wichita Mounta**	**2.57**	**198**	Pn		Pn	08 41 27.2	+0.4
SMWD	**Samnorwood**	**2.87**	**224**			Pn	08 41 30.8	0.0
LOOK	**Love County**	**3.23**	**171**	Pn		Pn	08 41 36.7	+0.9
X37A	**Clayton**	**3.27**	**142**	Pn		Pn	08 41 37.0	+0.7
X37A				IAmb_Lg			08 42 36.8	
	comp=Z,19nm,0.7s							
S39A	**Bolivar**	**3.61**	**81**			Pn	08 41 41.9	+0.9
Z35A	**Perchaven, San**	**3.88**	**173**	IAmb_Lg			08 42 54.1	
	comp=Z,12nm,0.7s							
AMTX	**Amarillo**	**3.89**	**235**			Pn	08 41 45.4	+0.5
RTBA	**Rita Blanca**	**4.02**	**261**	Pn		Pn	08 41 47.5	+0.7
N35A	**Tabor**	**4.03**	**24**			Pn	08 41 47.1	+0.3
P38A	**Dawn**	**4.15**	**53**	IAmb_Lg			08 42 56.4	
	comp=Z,10nm,0.8s							
KSCO	**Kaye Shedlock'**	**4.21**	**297**	IAmb_Lg			08 43 00.3	
	comp=Z,11nm,0.8s							
MIAR	**Mount Ida**	**4.34**	**126**	IAmb_Lg			08 43 12.3	
	comp=Z,13nm,1.0s							
DKNS	**Dickens**	**4.34**	**217**	IAmb_Lg			08 43 07.9	
	comp=Z,9.4nm,0.8s							
PLPT	**Palo Pinto**	**4.39**	**186**	IAmb_Lg			08 43 02.3	
	comp=Z,9.1nm,1.0s							
MGMO	**Mountain Grove**	**4.43**	**89**	IAmb_Lg			08 43 15.6	
	comp=Z,12nm,0.8s							
R40A	**Maddies Statio**	**4.53**	**74**			Pn	08 41 54.1	+0.5
Z38A	**Mt. Pleasant**	**4.55**	**149**	IAmb_Lg			08 43 13.1	
	comp=Z,18nm,1.1s							
FCAR	**Ozark Folk Cen**	**4.76**	**104**	IAmb_Lg			08 43 19.2	
	comp=Z,11nm,0.8s							
X40A	**Basin Creek Fa**	**4.86**	**122**	IAmb_Lg			08 43 26.8	
	comp=Z,8.4nm,0.9s							
OGNE	**Ogallala**	**4.98**	**320**	IAmb_Lg			08 43 25.3	
	comp=Z,14nm,0.7s							
UALR	**University of**	**5.05**	**117**	IAmb_Lg			08 43 31.4	
	comp=Z,10nm,0.8s							
P40A	**Paris**	**5.09**	**61**	IAmb_Lg			08 43 36.0	
	comp=Z,10nm,1.1s							
WLAR	**White Oak Lake**	**5.19**	**131**	IAmb_Lg			08 43 37.5	
	comp=Z,10nm,0.7s							
T25A	**Trinidad**	**5.27**	**271**	IAmb_Lg			08 43 34.3	
	comp=Z,8.0nm,0.7s							
T42A	**Van Buren**	**5.37**	**90**	IAmb_Lg			08 43 41.4	
	comp=Z,9.9nm,0.9s							
LCAR	**Lake Charles**	**5.47**	**100**	IAmb_Lg			08 43 37.4	
	comp=Z,11nm,1.0s							
SCIA	**State Center**	**5.90**	**36**	IAmb_Lg			08 43 52.1	
	comp=Z,11nm,0.8s							
FVM	**French Village**	**5.92**	**80**	IAmb_Lg			08 43 54.0	
	comp=Z,11nm,0.8s							
Q24A	**Divide**	**6.05**	**289**	IAmb_Lg			08 44 03.3	
	comp=Z,7.0nm,0.7s							
N41A	**Harden Midland**	**6.46**	**55**	IAmb_Lg			08 44 04.9	
	comp=Z,8.7nm,0.7s							
CGM3	**Cape Girardeau**	**6.51**	**87**	IAmb_Lg			08 44 09.8	
	comp=Z,8.3nm,0.8s							
ECSD	**EROS Data Cent**	**6.60**	**8**	IAmb_Lg			08 44 16.8	
	comp=Z,5.9nm,0.9s							
SIUC	**Southern Illin**	**6.86**	**83**	IAmb_Lg			08 44 22.1	
	comp=Z,11nm,0.7s							
JCT	**Junction City**	**6.90**	**194**	IAmb_Lg			08 44 39.6	
	comp=Z,9.5nm,0.9s							
PHWY	**Pilot Hill**	**7.21**	**307**	IAmb_Lg			08 44 48.3	
	comp=Z,5.0nm,0.9s							
N23A	**Red Feather La**	**7.33**	**303**	IAmb_Lg			08 44 49.5	
	comp=Z,10nm,0.8s							
JFWS	**Jewell Farm**	**8.14**	**43**	IAmb_Lg			08 45 01.1	
	comp=Z,8.0nm,0.7s							
K22A	**Casper**	**8.63**	**312**	IAmb_Lg			08 45 24.4	
	comp=Z,5.2nm,0.8s							
F33A	**5 Mile Ranch,**	**8.71**	**

comp=E,20615µm,0.5s
IACM AML AML 08 42 45.3
comp=N,24654µm,1.1s
TMBK Timbaki Herakl 0.90 298 P **Pn** **08 42 27.3 +2.1**
TMBK Timbaki Herakl 0.90 298 P **Pn** **08 42 27.0 +1.8**
IDI Anoyia 0.93 312 Pg **Pn** **08 42 26.8 +0.9**
IDI Sg **Sn** **08 42 39.8 +0.9**
IDI Anoyia 0.93 312 P **Pn** **08 42 27.2 +1.4**
IDI S **Sn** **08 42 39.6 +0.6**
comp=N,2µm,0.7s
IDI Anoyia 0.93 312 P **Pn** **08 42 26.3 +0.4**
comp=N,4.4nm,0.4s,baz=128,slow=15,SNR=236
IDI S **Sn** **08 42 39.5 +0.6**
comp=N,10nm,0.4s,baz=6.1,slow=22,SNR=17
IDI Anoyia 0.93 312 P **Pn** **08 42 26.7 +0.9**
PRNS Prines Rethymn 1.23 305 P **Pg** **08 42 33.0 +1.9**
PRNS S **Sg** **08 42 48.6 +1.5**
comp=N,715nm,0.8s
GVDS Gavdos 1.36 278 Pn **Pn** **08 42 32.9 +1.2**
GVD Gavdhos 1.37 278 Pn **Pn** **08 42 32.9 +1.2**
GVD Sn **Sn** **08 42 50.2 +0.7**
GVD Gavdhos 1.37 278 P **Pg** **08 42 34.4 +0.8**
GVD S **Sn** **08 42 50.9 +1.4**
comp=N,2µm,0.6s
GVD Gavdhos 1.37 278 P **Pg** **08 42 34.5 +0.8**
GVD AML AML 08 43 01.5
comp=E,4124µm,0.5s
GVD AML AML 08 43 01.8
comp=N,3026µm,0.7s
KARP Karpathos 1.47 52 Pn **Pn** **08 42 33.3 +0.1**
KARP Karpathos 1.47 52 P **Pg** **08 42 38.0 +2.4**
KARP Karpathos 1.47 52 P **Pg** **08 42 36.9 +1.3**
KARP AML AML 08 43 07.5
comp=E,2338µm,0.6s
KARP AML AML 08 43 08.1
comp=N,2066µm,1.0s
CHAN Chania 1.63 302 P **Pg** **08 42 39.0 +0.4**
IMMV Iera Moni Meta 1.64 300 Pn **Pn** **08 42 36.9 +1.4**
IMMV Iera Moni Meta 1.64 300 P **Pb** **08 42 38.2 +1.0**
IMMV AML AML 08 43 11.5
comp=E,3361µm,0.9s
IMMV AML AML 08 43 13.7
comp=N,2776µm,0.9s
KNDR Palaiochora Ch 1.78 289 Pn **Pb** **08 42 39.4 -0.1**
KNDR Palaiochora Ch 1.78 289 P **Pb** **08 42 40.3 +0.9**
ANKY Antikythira Is 2.33 302 P **Pn** **08 42 47.1 +2.2**
APE Apeiranthos 2.41 356 Pn **Pn** **08 42 47.5 +1.3**
APE Apeiranthos 2.41 356 P **Pn** **08 42 47.4 +1.3**
APE Apeiranthos 2.41 356 P **Pn** **08 42 47.5 +1.3**
ARG Arkhangelos 2.50 51 Pn **Pn** **08 42 47.5 +0.2**
ARG Arkhangelos 2.50 51 P **Pb** **08 42 50.2 -1.6**
DAT Datca 2.55 35 Pn **Pn** **08 42 48.5 +0.3**
TURN Turunc 2.94 43 Pn **Pn** **08 42 53.8 +0.5**
VLI Veliai 3.07 313 P **Pn** **08 42 55.8 +0.7**
DALY Dalyan (Mula) 3.21 47 Pn **Pn** **08 42 57.5 +0.5**
AKAS Kas 3.53 62 Pn **Pn** **08 43 02.1 +0.5**
CAME Cameli-Denizli 3.69 51 Pn **Pn** **08 43 04.3 +0.5**
CHOS Chios island 3.73 4 Pn **Pn** **08 43 05.2 +0.9**
URLA Izmir 3.76 10 Pn **Pn** **08 43 05.6 +1.0**
APMY Acipayam-Deniz 4.03 45 Pn **Pn** **08 43 09.3 +0.9**
CSS Mathiatis 6.26 85 Pn **Pn** **08 43 41.7 +2.7**
BRTR Keskin Array B 8.08 49 P Pn 08 44 13.2 +9.0
comp=N,1.1nm,0.8s,baz=228,slow=15,SNR=6.6
BRTR LR LR 08 47 42.0
comp=N,95nm,20.5s,baz=222,slow=41
KZIT Kziot 8.20 115 P **Pn** **08 44 06.7 +1.1**
KZIT S Sn 08 45 22.9 -15
KZIT Kziot 8.20 115 S **Sn** **08 45 35.3 -2.7**
KZIT Kziot 8.20 115 P **Pn** **08 44 07.4 +1.8**
MMAI Mount Meron Ar 8.21 99 P **Pn** **08 44 06.4 +0.5**
comp=N,2.0nm,0.3s,baz=268,slow=12,SNR=4.3
MMAI S **Sn** **08 45 38.4 +0.1**
comp=N,1.5nm,0.4s,baz=306,slow=25,SNR=2.4
comp=N,0.9nm,0.3s
YTIR Yattir 8.54 110 P **Pn** **08 44 11.1 +0.7**
YTIR Yattir 8.54 110 S **Sn** **08 45 43.7 -2.7**
QRNJ Al-Qirein 8.54 103 P Pn 08 44 05.1 -5.2
KSHT Keshet 8.55 98 P Pn 08 44 15.9 +5.4
DSI Dead Sea 8.66 108 P **Pn** **08 44 11.3 -0.6**
DSI Dead Sea 8.66 108 P **Pn** **08 44 12.7 +0.7**
DSI Dead Sea 8.66 108 S **Sn** **08 45 46.4 -2.9**
MSBI Mazada 8.75 110 P **Pn** **08 44 12.2 -0.9**
KRMI Paran Flat 8.85 118 P **Pn** **08 44 19.1 +4.5**
LISJ El Lisan 8.87 110 P **Pn** **08 44 12.9 -1.9**
GHAJ Ghor Haditha 8.91 109 P **Pn** **08 44 12.5 -2.9**
GHAJ Ghor Haditha 8.91 109 P **Pn** **08 44 16.8 +1.4**
GHAJ Ghor Haditha 8.91 109 S **Sn** **08 45 54.5 -0.9**
PRNI Paran 8.93 116 P **Pn** **08 44 17.2 +1.5**
PRNI Paran 8.93 116 S **Sn** **08 45 53.1 -2.9**
PRNI Paran 8.93 116 P **Pn** **08 44 16.7 +1.1**
MBRI Mt Berech 9.16 119 P **Pn** **08 44 20.5 +1.6**
EIL Elat 9.26 120 P **Pn** **08 44 22.0 +1.9**
comp=N,0.7nm,0.3s,baz=246,slow=10.0,SNR=8.6
EIL S **Sn** **08 45 59.0 -5.1**
comp=N,3.2nm,0.5s,baz=317,slow=19,SNR=2.3
comp=N,1.7nm,0.3s
EIL Elat 9.26 120 P **Pn** **08 44 21.2 +1.0**
KBZ Khabaz 16.07 51 P **P** **08 45 58.4 +2.6**
comp=N,5.4nm,0.9s,baz=253,slow=12,SNR=10
AKASG Malin Array Be 16.23 8 P **Pn** **08 45 56.5 +1.9**
comp=N,0.9nm,0.3s,baz=202,slow=12,SNR=4.3
AKASG LR LR 08 52 42.7
comp=N,38nm,18.7s,baz=228,slow=39
comp=N,0.3nm,0.3s
ESDC Sonseca Array 24.13 291 P **P** **08 47 22.0 -0.5**
comp=N,0.2nm,0.3s,baz=78,slow=12,SNR=2.3
comp=N,0.2nm,0.3s
GEYT Alibeck 26.23 73 P **P** **08 47 44.7 +3.1**
comp=N,1.6nm,0.5s,baz=251,slow=9.0,SNR=1.9
FINES FINESS Array B 26.80 0 P **P** **08 47 43.8 -2.6**
comp=N,2.5nm,0.9s,baz=156,slow=11,SNR=4.7
comp=N,2.5nm,0.9s
NOA NORSAR Array B 28.00 345 LR LR 08 59 37.5
comp=N,12nm,19.1s,baz=160,slow=38
EKA Eskdalemuir Ar 28.72 325 P **P** **08 48 05.0 +1.4**
comp=N,0.2nm,0.3s,baz=128,slow=9.1,SNR=3.4
comp=N,0.2nm,0.3s
TORD Torodi Ar. Bea 30.54 231 P **P** **08 48 20.7 +0.6**
comp=N,0.5nm,0.5s,baz=37,slow=9.1,SNR=8.3
comp=N,0.5nm,0.5s
ARCES ARCESS Array B 34.93 360 P **P** **08 48 55.6 -2.3**
comp=N,2.8nm,0.9s,baz=191,slow=8.9,SNR=5.4
comp=N,2.8nm,0.9s
BVAR Borovoye Arr 36.35 46 LR LR 09 06 47.8
comp=N,21nm,19.6s,baz=283,slow=41
KURBB Kurchatov Arra 41.07 51 P **P** **08 49 50.5 +0.5**
comp=N,0.8nm,0.4s,baz=275,slow=8.7,SNR=9.0
comp=N,0.8nm,0.4s
MKAR Makanchi Array 43.66 56 P **P** **08 50 11.5 +0.4**
comp=N,1.3nm,0.6s,baz=281,slow=6.6,SNR=13
comp=N,1.3nm,0.6s
ZALV Zalesovo Beam 45.01 46 P **P** **08 50 21.4 -0.5**
comp=N,0.9nm,0.4s,baz=266,slow=7.9,SNR=5.0
comp=N,0.9nm,0.4s
SCHQ Schefferville 63.87 320 P **P** **08 52 38.1 -0.9**
comp=N,1.6nm,0.4s,baz=68,slow=4.4,SNR=14
comp=N,1.6nm,0.4s
YKA Yellowknife Ar 78.07 342 P **P** **08 54 03.7 -1.2**
comp=N,0.2nm,0.6s,baz=27,slow=5.3,SNR=9.0
comp=N,0.2nm,0.6s
QSPA South Pole Qui 124.52 180 PKP **PKPdf** **09 01 04.4 -0.5**
comp=N,0.5nm,0.9s,baz=289,slow=3.0,SNR=5.4
PPT Papeete 162.47 345 PKPab **PKPab** **09 02 50.9 -5.5**
comp=N,19nm,0.9s,baz=344,slow=3.5,SNR=3.4

*ISK **03** 08:58:47.2, 39.52N×26.02E, h6km, ML3.5/28*
*THE **03** 08:58:47.9, 39.53N×26.00E, h2km±1km, ML3.1/9, Error ellipse: s-maj=1.9km s-min=0.5km az=101.0*
*ATH **03** 08:58:48.5, 39.50N×26.01E, h12km±1km, ML3.3/8, Error ellipse: s-maj=1.9km s-min=0.8km az=114.0*
*AFAD **03** 08:58:48.2±0.0, 39.56N×26.10E, h6km±1km, MW3.5*
ISC 03 08:58:47.6±0.8, 39.49N±0.02×26.02E±0.02, h9km±6km, n86, σ1.9 00/121, 8C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.10**	**85**	P	**Pg**	**08 58 50.0**	**-0.1**
KOCA				*i* AML	AML	08 58 51.0	
	comp=N,2µm,0.3s						
KOCA				*i* AML	AML	08 58 51.0	
	comp=E,3µm,0.3s						
KOCA				S	**Sg**	**08 58 51.7**	**-0.2**
GPNR	**Gulpinar-Canak**	**0.10**	**113**	Pg	**Pg**	**08 58 50.3**	**+0.2**
GPNR				Sg	**Sg**	**08 58 51.9**	**0.0**
SIGR	**SIGRI**	**0.31**	**204**	Pg	**Pb**	**08 58 54.6**	**-0.7**
SIGR				Sg	**Sb**	**08 58 59.6**	**-0.9**
SIGR	**SIGRI**	**0.31**	**204**	P	**Pb**	**08 58 54.8**	**-0.5**
SIGR				S	**Sb**	**08 58 59.5**	**-0.9**
	6µm,0.2s						
SIGR	**SIGRI**	**0.31**	**204**	P	**Pb**	**08 58 54.7**	**-0.5**
SIGR				S	**Sb**	**08 58 59.5**	**-0.9**
SIGR				AML	AML	08 59 00.3	
	comp=N,11983µm,0.2s						
SIGR				AML	AML	08 59 00.6	
	comp=E,10778µm,0.2s						
PRK	**Paraskevi**	**0.32**	**141**	P	**Pb**	**08 58 54.8**	**-0.7**
PRK				S	**Sb**	**08 59 00.0**	**-0.7**
	comp=E,6µm,0.3s						
PRK	**Paraskevi**	**0.32**	**141**	P	**Pb**	**08 58 54.7**	**-0.7**
PRK				S	**Sb**	**08 58 59.2**	**-1.5**
PRK				AML	AML	08 59 00.2	
	comp=N,13394µm,0.2s						
PRK				AML	AML	08 59 01.1	
	comp=E,8504µm,0.2s						
BOZC	**Bozcaada**	**0.35**	**5**	P	**Pg**	**08 58 53.7**	**-0.9**
BOZC				S	**Sg**	**08 58 58.6**	**-0.6**
BOZC				*i* AML	AML	08 58 59.0	
	comp=E,4µm,0.2s						
BOZC				*i* AML	AML	08 58 59.0	
	comp=E,4µm,0.3s						
EZNE	**Ezine-Canakkal**	**0.38**	**46**	Pg	**Pg**	**08 58 54.9**	**-0.1**
EZNE				Sg	**Sg**	**08 59 00.3**	**+0.3**
EZN	**Ezine**	**0.41**	**36**	Pg	**Pg**	**08 58 55.1**	**-0.6**
EZN				Sg	**Sg**	**08 59 01.0**	**-0.1**
EZN	**Ezine**	**0.41**	**36**	P	**Pg**	**08 58 55.4**	**-0.3**
EZN				S	**Sg**	**08 59 01.0**	**-0.1**
	comp=E,4µm,0.1s						
BAYC	**CANAKKALE_Bayr**	**0.48**	**59**	P	**Pg**	**08 58 56.1**	**-0.8**
BAYC				S	**Sg**	**08 59 01.9**	**-1.4**
BAYC				*i* AML	AML	08 59 03.0	
	comp=E,3µm,0.4s						
BAYC				*i* AML	AML	08 59 03.0	
	comp=E,2µm,0.1s						
EAG3	**Mitilini, Lesv**	**0.59**	**133**	P	**Pb**	**08 58 59.9**	**-0.3**
EAG3				S	**Sb**	**08 59 09.1**	**+0.5**
CNKL	**anakkale-Mer**	**0.64**	**27**	P	**Pg**	**08 58 57.8**	**-2.2**
CNKL				S	**Sg**	**08 59 06.8**	**-1.6**
CNKL				*i* AML	AML	08 59 14.0	
	comp=E,743nm,0.4s						
CNKL				*i* AML	AML	08 59 15.0	
	comp=E,660nm,0.3s						
COMU	**Canakkale**	**0.70**	**30**	Pg	**Pg**	**08 59 00.7**	**-0.5**
GADA	**Gvkgeada**	**0.70**	**353**	Pg	**Pg**	**08 59 00.5**	**-0.7**
EFSA	**Agios Efstrati**	**0.80**	**274**	P	**Pb**	**08 59 03.6**	**0.0**
DKL	**Dikili**	**0.81**	**121**	Pg	**Pb**	**08 59 03.5**	**-0.3**
CAND	**Candarli**	**0.82**	**131**	Pg	**Pb**	**08 59 03.6**	**-0.3**
CAND				Sg	**Sb**	**08 59 15.7**	**+0.7**
BUHA	**Balikesir, Bur**	**0.82**	**89**	P	**Pb**	**08 59 03.5**	**-0.5**
BUHA				S	**Sg**	**08 59 13.3**	**-0.8**
BUHA				*i* AML	AML	08 59 19.0	
	comp=E,971nm,0.4s						
BUHA				*i* AML	AML	08 59 21.0	
	comp=E,894nm,0.4s						
EAG2	**Marmaro, Chios**	**0.95**	**176**	P	**Pb**	**08 59 06.6**	**+0.3**
EAG2				S	**Sb**	**08 59 19.5**	**+0.5**
EAG2				AML	AML	08 59 24.2	
	comp=N,36540µm,0.4s						
EAG2				AML	AML	08 59 25.1	
	comp=E,21776µm,0.3s						
CANM	**Can-anakkale**	**0.95**	**57**	Pg	**Pb**	**08 59 06.1**	**-0.2**
FOCM	**Foa**	**0.96**	**144**	Pg	**Pb**	**08 59 06.2**	**-0.2**
GELI	**Tayfur-Gelibol**	**0.97**	**21**	Pg	**Pg**	**08 59 05.6**	**-0.7**
GELI				Sg	**Sb**	**08 59 19.1**	**-0.4**
PSRA	**Psara**	**1.01**	**200**	P	**Pb**	**08 59 07.5**	**+0.2**
PSRA				S	**Sb**	**08 59 21.7**	**+1.0**
PSRA				AML	AML	08 59 24.5	
	comp=N,6208µm,0.3s						
PSRA				AML	AML	08 59 26.6	
	comp=E,6554µm,0.3s						
SMTH	**Samothraki Isl**	**1.04**	**339**	P	**Pg**	**08 59 07.2**	**-0.5**
SMTH				S	**Sg**	**08 59 21.0**	**-0.3**
	comp=E,930nm,0.4s						
SMTH	**Samothraki Isl**	**1.04**	**339**	P	**Pg**	**08 59 07.1**	**-0.6**
SMTH				S	**Sg**	**08 59 21.0**	**-0.3**
SMTH				AML	AML	08 59 24.1	
	comp=N,1871µm,0.4s						
SMTH				AML	AML	08 59 24.3	
	comp=E,1835µm,0.4s						
YENI	**Yenice-Canakka**	**1.04**	**65**	Pg	**Pb**	**08 59 07.3**	**-0.6**
LPK	**Lapseki**	**1.05**	**33**	Pg	**Pg**	**08 59 07.0**	**-0.8**
CHOS	**Chios island**	**1.11**	**178**	Pn	**Pn**	**08 59 09.3**	**0.0**
CHOS	**Chios island**	**1.11**	**178**	P	**Pn**	**08 59 09.3**	**0.0**
CHOS				S	**Sn**	**08 59 25.4**	**+0.7**
	comp=E,2µm,0.2s						
CHOS	**Chios island**	**1.11**	**178**	P	**Pb**	**08 59 09.0**	**+0.1**
CHOS				S	**Sb**	**08 59 24.3**	**+0.8**
CHOS				AML	AML	08 59 29.0	
	comp=N,2499µm,0.3s						
CHOS				AML	AML	08 59 29.6	
	comp=E,5618µm,0.3s						
CESE	**eme**	**1.18**	**169**	Pn	**Pb**	**08 59 10.0**	**-0.2**
URLA	**Izmir**	**1.22**	**158**	Pn	**Pb**	**08 59 10.7**	**-0.2**
ERIK	**Erikli-Kesan**	**1.24**	**18**	Pn	**Pg**	**08 59 10.0**	**-1.4**
ENEZ	**Enez**	**1.25**	**5**	Pn	**Pg**	**08 59 10.8**	**-0.7**
ENEZ	**Enez**	**1.25**	**5**	P	**Pg**	**08 59 10.4**	**-1.1**
ENEZ				S	**Sn**	**08 59 28.7**	**+0.6**
	comp=E,2µm,0.5s						
BALY	**Balya**	**1.26**	**78**	P	**Pg**	**08 59 10.1**	**-1.8**
BALY				S	**Sb**	**08 59 28.1**	**+0.1**
BALY				*i* AML	AML	08 59 29.0	
	comp=E,882nm,0.6s						
BALY				*i* AML	AML	08 59 29.0	
	comp=E,424nm,0.5s						
SKY	**Skiros Island**	**1.29**	**242**	P	**Pn**	**08 59 11.6**	**-0.3**
SKY				S	**Sn**	**08 59 30.8**	**+1.5**
	comp=E,738nm,0.2s						
SKY	**Skiros Island**	**1.29**	**242**	P	**Pn**	**08 59 11.5**	**-0.3**
SKY				AML	AML	08 59 33.7	
	comp=E,1550µm,0.2s						
SKY				AML	AML	08 59 34.8	
	comp=N,1381µm,0.2s						
STEP	**BALIKESIR_Sava**	**1.32**	**95**	P	**Pb**	**08 59 13.3**	**+0.7**
STEP				S	**Sn**	**08 59 30.6**	**+0.5**
STEP				*i* AML	AML	08 59 34.0	
	comp=N,585nm,0.3s						
STEP				*i* AML	AML	08 59 35.0	
	comp=N,413nm,0.3s						
KRBG	**Karabiga-Canak**	**1.33**	**47**	Pn	**Pg**	**08 59 12.5**	**-0.7**
BLCB	**Balcova**	**1.37**	**144**	Pn	**Pg**	**08 59 13.5**	**-0.3**
KNL	**Balıkesir**	**1.40**	**56**	P	**Pb**	**08 59 13.3**	**-0.5**
KNL				S	**Sb**	**08 59 31.4**	**-0.4**
KNL				*i* AML	AML	08 59 34.0	
	comp=N,1µm,0.6s						
KNL				*i* AML	AML	08 59 34.0	
	comp=N,1µm,0.6s						
GONE	**Gonen-Balikesi**	**1.40**	**66**	Pn	**Pb**	**08 59 13.4**	**-0.5**
ALN	**Alexandroupoli**	**1.40**	**1**	Pn	**Pn**	**08 59 13.3**	**-0.1**
ALN	**Alexandroupoli**	**1.40**	**1**	P	**Pn**	**08 59 13.2**	**-0.1**
ALN				S	**Sn**	**08 59 32.6**	**+0.7**
	comp=N,622nm,0.6s						
ALN	**Alexandroupoli**	**1.40**	**1**	P	**Pn**	**08 59 12.9**	**-0.4**
ALN				S	**Sb**	**08 59 31.5**	**-0.4**
ALN				AML	AML	08 59 33.4	
	comp=N,1418µm,0.9s						
ALN				AML	AML	08 59 33.4	
	comp=E,1064µm,0.3s						
RKY	**Sarkoy-Tekirda**	**1.49**	**36**	Pn	**Pn**	**08 59 14.6**	**0.0**
SART	**Tekirdag**	**1.49**	**36**	P	**Pn**	**08 59 14.2**	**-0.5**
SART				S	**Sb**	**08 59 33.8**	**-0.7**
SART				*i* AML	AML	08 59 36.0	
	comp=E,942nm,0.4s						
SART				*i* AML	AML	08 59 39.0	
	comp=E,863nm,0.5s						
THAS	**Thassos island**	**1.49**	**319**	P	**Pn**	**08 59 14.0**	**-0.5**
THAS				S	**Sn**	**08 59 33.9**	**-0.2**
	comp=E,462nm,0.3s						
THAS	**Thassos island**	**1.49**	**319**	P	**Pn**	**08 59 14.0**	**-0.5**
BKES	**Balkesir-Mer**	**1.50**	**80**	P	**Pg**	**08 59 16.6**	**+0.3**
BKES				S	**Sg**	**08 59 35.5**	**-0.3**
BKES				*i* AML	AML	08 59 38.0	
	comp=E,276nm,0.2s						
BKES				*i* AML	AML	08 59 39.0	
	comp=E,509nm,0.3s						
BLKS	**Balkesir-Sus**	**1.56**	**75**	P	**Pn**	**08 59 15.0**	**-0.5**
BLKS				S	**Sn**	**08 59 35.5**	**-0.3**
BLKS				*i* AML	AML	08 59 39.0	
	comp=E,141nm,0.4s						
BLKS				*i* AML	AML	08 59 41.0	
	comp=E,231nm,1.0s						
EDC	**Edincik**	**1.66**	**58**	Pn	**Pn**	**08 59 17.1**	**+0.2**
SUSR	**Susurluk-Balik**	**1.66**	**73**	Pn	**Pn**	**08 59 17.2**	**+0.3**
RDO	**Rodhopi**	**1.69**	**348**	Pn	**Pn**	**08 59 17.7**	**+0.4**
RDO	**Rodhopi**	**1.69**	**348**	P	**Pn**	**08 59 17.7**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.70**	**16**	Pn	**Pn**	**08 59 17.9**	**+0.5**
OUR	**Ouranopolis**	**1.77**	**299**	Pn	**Pn**	**08 59 18.5**	**+0.1**
OUR	**Ouranopolis**	**1.77**	**299**	P	**Pn**	**08 59 18.6**	**+0.1**
BAND	**Balkesir-Ban**	**1.82**	**61**	P	**Pn**	**08 59 18.3**	**-0.8**
BAND				S	**Sb**	**08 59 43.7**	**-0.3**
BAND				*i* AML	AML	08 59 46.0	
	comp=E,194nm,0.2s						
BAND				*i* AML	AML	08 59 46.0	
	comp=E,324nm,0.2s						
PAIG	**Paliouri**	**1.85**	**284**	Pn	**Pn**	**08 59 19.5**	**0.0**
KAVA	**Kavala**	**1.89**	**323**	P	**Pn**	**08 59 19.9**	**-0.2**
TKR	**Tekirdag**	**1.89**	**37**	Pn	**Pn**	**08 59 20.5**	**+0.4**
SMG	**Samos**	**1.90**	**160**	P	**Pn**	**08 59 20.0**	**-0.2**
KVLA	**Kavala**	**1.91**	**320**	P	**Pn**	**08 59 20.1**	**-0.1**
KCTX	**Karacabey (Bur**	**1.96**	**66**	Pn	**Pn**	**08 59 21.7**	**+0.7**
GCAM	**G?zelcaml?**	**2.03**	**152**	Pn	**Pn**	**08 59 22.6**	**+0.6**
KOKK	**Kokkinochori,**	**2.03**	**311**	P	**Pn**	**08 59 21.7**	**-0.3**
KULA	**Kula-Manisa**	**2.28**	**115**	Pn	**Pn**	**08 59 26.2**	**+0.7**
APE	**Apeiranthos**	**2.45**	**189**	⇑P	**Pn**	**08 59 24.9**	**-2.9**
APE	**Apeiranthos**	**2.45**	**189**	P	**Pn**	**08 59 27.8**	**-0.1**
SRS	**Serrai**	**2.46**	**312**	P	**Pn**	**08 59 28.0**	**0.0**
VIL2	**Platees**	**2.50**	**240**	P	**Pn**	**08 59 28.2**	**-0.2**
LTK	**Loutraki**	**2.80**	**239**	P	**Pn**	**08 59 32.5**	**-0.1**
ANX	**Ano Chora**	**3.31**	**256**	P	**Pn**	**08 59 40.4**	**+0.7**
ELND	**Elena**	**3.43**	**358**	⇑P	**Pn**	**08 59 43.1**	**+1.8**
BLKB	**Belogradchik**	**4.83**	**330**	⇓P	**Pn**	**09 00 01.9**	**+1.5**
ANTO	**Ankara**	**5.24**	**84**	⇑P	**Pn**	**09 00 05.8**	**-0.5**
BOVS	**Bovan**	**5.25**	**323**	⇑P	**Pn**	**09 00 06.9**	**+0.7**
MLR	**Muntele Rosu**	**5.99**	**360**	⇑P	**Pn**	**09 00 20.2**	**+3.6**
COVR	**Voineasa-Covas**	**6.35**	**1**	⇓P	**Pn**	**09 00 25.5**	**+4.1**
VRI	**Vrincioaia**	**6.39**	**4**	⇑P	**Pn**	**09 00 25.8**	**+3.9**
TURR	**Turia**	**6.56**	**0**	⇑P	**Pn**	**09 00 27.5**	**+3.3**
BZS	**Buzias**	**6.93**	**333**	⇑P	**Pn**	**09 00 30.0**	**+0.8**

IDC 03 09:00:21.7±3.2, 53.58N×87.87E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=30.1km s-min=18.1km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**283**	I	I	09 12 10.0	
	0.1nm,0.7s,baz=99,slow=333,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.85**	**283**	Pn	Pn	09 00 54.6	0.0
	1.4nm,0.3s,baz=100,slow=16,SNR=13						
ZALV				Lg	Lg	09 01 19.9	
	1.8nm,0.3s,baz=105,slow=28,SNR=8.2						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	09 01 59.0	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=5.2						
	0.8nm,0.3s						
MKAR	**Makanchi Array**	**7.68**	**210**	Pn	Pn	09 02 15.5	+0.8
	0.1nm,0.3s,baz=30,slow=15,SNR=2.4						
MKAR				Lg	Lg	09 04 27.5	
	0.1nm,0.3s,baz=27,slow=29,SNR=2.4						
	0.2nm,0.3s						

IDC 03 09:04:29.5±2.7, 54.00N×86.51E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=22.1km s-min=13.2km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**268**	I	I	09 11 40.0	
	baz=85,slow=326,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.00**	**267**	Pg	Pg	09 04 47.1	-1.5
	0.5nm,0.3s,baz=88,slow=16,SNR=6.1						
ZALV				Lg	Lg	09 05 02.9	
	2.2nm,0.3s,baz=88,slow=29,SNR=11						
KURBB	**Kurchatov Arra**	**5.95**	**239**	Pn	Pn	09 06 00.2	+1.5
	0.1nm,0.3s,baz=56,slow=14,SNR=4.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.70**	**202**	Pn	Pn	09 06 23.8	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=6.0						
	0.2nm,0.3s						

IDC 03 09:08:27.7±3.0, 53.52N×87.63E, h0km, mbtmp2.8/2, ML2.5/1, Error ellipse: s-maj=25.4km s-min=15.2km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.73**	**285**	I	I	09 18 50.0	
	0.2nm,0.8s,baz=100,slow=334,SNR=4.6						
ZALV	**Zalesovo Beam**	**1.73**	**285**	Pn	Pn	09 08 59.0	+0.1
	0.6nm,0.3s,baz=104,slow=14,SNR=6.5						
ZALV				Lg	Lg	09 09 22.2	
	1.4nm,0.3s,baz=105,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**6.32**	**246**	Pn	Pn	09 10 02.7	+0.7
	0.4nm,0.5s,baz=62,slow=14,SNR=1.8						
KURBB				Lg	Lg	09 11 46.9	
	baz=62,slow=32,SNR=8.8						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	09 10 20.3	+1.2
	0.1nm,0.3s,baz=22,slow=8.5,SNR=4.2						
MKAR				Sn	Sn	09 11 45.4	0.0
	0.1nm,0.3s,baz=28,slow=22,SNR=2.6						
MKAR				Lg	Lg	09 12 27.2	
	0.1nm,0.3s,baz=30,slow=31,SNR=7.1						
	0.6nm,0.8s						

*NEIC **03** 09:22:39.3±0.5, 19.37N±0.03×154.88W±0.03, h10km±2km, Error ellipse: s-maj=6.0km s-min=3.2km az=313.0*
HVO 03 09:22:39.1±0.8, 19.38N±0.04×154.86W±0.04, h9km±8km, ML3.6/41, ML3.7/52(NEIC), Error ellipse: s-maj=6.8km s-min=2.8km az=140.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.11**	**343**		Pg	09 22 42.2	+0.4
JOKA	**Jonika Flow**	**0.15**	**292**		Pg	09 22 42.5	0.0
JOKA					Sg	09 22 44.8	0.0
JCUZ	**Jacuzzi**	**0.23**	**272**		Pg	09 22 44.1	+0.2
JCUZ					Sg	09 22 47.7	+0.6
JCUZ	**Jacuzzi**	**0.23**	**272**	IAML		09 22 51.9	
	comp=N,7µm,1.0s						
JCUZ				IAML		09 22 52.1	
	comp=E,9µm,0.4s						
NPOC	**North of Pu'u**	**0.24**	**274**		Pg	09 22 44.2	+0.2
NPOC					Sg	09 22 48.0	+0.7
NPOC	**North of Pu'u**	**0.24**	**274**	IAML		09 22 48.3	
	comp=E,12

comp=N,12µm,0.4s
UWB Uwekahuna B 0.40 277 Pg 09 22 46.6 -0.4
NPH North Pit 0.40 275 Pg 09 22 46.7 -0.4
NPH North Pit 0.40 275 Sg 09 22 52.3 -0.1
OBL Observatory Le 0.41 276 Pg 09 22 46.9 -0.2
OBL IAML 09 22 58.9
comp=E,12µm,0.5s
RSD Rainshed 0.41 282 Pg 09 22 47.0 -0.2
RSD Sg 09 22 53.0 +0.4
RSD Rainshed 0.41 282 IAML 09 22 59.0
comp=N,8µm,0.4s
SDHHI Sand Hill 0.41 272 Pg 09 22 47.1 -0.2
SDHHI IAML 09 23 00.7
comp=E,10µm,0.4s
UWE Uwekahuna 0.41 276 Pg 09 22 46.9 -0.4
UWE Sg 09 22 53.0 +0.2
WRMHI West Rim 0.42 274 Pg 09 22 47.1 -0.3
WRMHI IAML 09 22 53.4
comp=N,9µm,0.6s
HLP Hilina Pali 0.43 260 Pg 09 22 47.6 -0.1
HLP IAML 09 23 02.8
comp=N,11µm,0.5s
HLP IAML 09 23 03.2
comp=E,8µm,0.6s
MLH Mauna Loa 0.51 283 Pg 09 22 48.6 -0.5
MLH Sg 09 22 55.8 -0.2
MLH Mauna Loa 0.51 283 IAML 09 22 57.4
comp=N,5µm,0.5s
MLH IAML 09 23 01.5
comp=E,4µm,0.7s
MLOA Mauna Loa Obse 0.70 283 Pg 09 22 51.3 -1.4
MLOA IAML 09 23 00.5
comp=N,4µm,0.3s
MLOA IAML 09 23 02.9
comp=E,3µm,0.5s
MWH Moku'aweowe 0.71 279 IAML 09 23 16.0
comp=N,4µm,0.5s
MWH IAML 09 23 16.7
comp=E,5µm,0.6s
KHU Kahuku 0.73 260 IAML 09 23 04.4
comp=E,2µm,0.5s
POHA Pohakuloa 0.74 301 Pg 09 22 51.6 -1.9
POHA IAML 09 23 11.6
comp=E,3µm,0.5s
POHA IAML 09 23 17.8
comp=E,4µm,0.5s
HLK Haleakala 1.90 317 Pn Pn 09 23 11.1 -0.8
KIP Kipapa 3.59 305 IAML 09 24 20.1
comp=E,114nm,3.5s
KIP IAML 09 24 29.8
comp=E,112nm,3.5s
KIP Kipapa 3.59 305 Pn Pn 09 23 32.7 -2.3
KEKH Kekaha 5.23 301 Pn Pn 09 23 57.1 -0.5

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*KRNET **03** 09:34:05.6±0.1, 40.˚73N×69.˚43E, mb2.6*
ISC 03 09:34:08.7±2.7, 40.˚69N±0.˚09×69.˚6E±0.˚2, h10km, n5, σ1ş53/8, 9C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BTK	**Batken**	**1.15**	**123**	⇑*e*P			**Pb**	**09 34 28.9**	**-1.8**
BTK	baz=22			⇑*e*S			**Sb**	**09 34 45.8**	**+0.2**
	baz=22								
TRKS	**Terek-Say**	**1.46**	**54**	⇑*e*P			Pn	09 34 33.2	-2.1
TRKS	baz=60			⇑*e*S			**Sn**	**09 34 53.8**	**-0.8**
	baz=60								
DRK	**Karamyk**	**2.10**	**124**	⇑*e*P			**Pn**	**09 34 44.4**	**+0.2**
DRK	baz=24			⇑*e*S			**Sn**	**09 35 12.5**	**+2.0**
	baz=24								
OHH	**Osh**	**2.46**	**93**	⇑*e*P			**Pn**	**09 34 49.1**	**+0.2**
OHH	baz=93			⇑*e*S			**Sn**	**09 35 20.8**	**+1.7**
	baz=93								
KK31	**Karatay Array**	**2.52**	**16**	⇓Pg			**Pn**	**09 34 50.6**	**+0.9**
KK31	0.4nm,0.2s,baz=192,slow=13,SNR=43			⇑Lg			Lg	09 35 20.6	
	1.0nm,0.2s,baz=190,slow=30,SNR=3.6								

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*IDC **03** 09:53:03.8±0.7, 2.˚73N×128.˚72E, h218km±6km, mb4.1/23, mbtmp4.7/26, Error ellipse: s-maj=13.7km s-min=7.8km az=81.0*
*BJI **03** 09:53:04.1±0.0, 2.˚71N×128.˚70E, h231km, mb4.5/38, mB4.8/9*
*NEIC **03** 09:53:06.2±1.5, 2.˚70N±0.˚07×128.˚66E±0.˚10, h235km±7km, mb4.6/61, Error ellipse: s-maj=14.0km s-min=10.0km az=82.0*
*DJA **03** 09:53:07.3±0.3, 3˚N±4˚×12˚8E±˚, h216km±3km, M4.7/32, mb4.9/32, mB5.1/18, MLv5.2/14, Mw(mB)4.5/18, MwMwp5.3/4, Mwp5.5/4*
ISC 03 09:53:06.4±0.3, 2.˚70N±0.˚04×128.˚53E±0.˚06, h250km, n230, σ1ş75/185, mb4.5/63, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.24**	**211**	P			**Pn**	**09 53 50.0**	**-1.1**
TNTI	**Ternate**	**2.24**	**211**	Pn			**Pn**	**09 53 49.8**	**-1.3**
TNTI	**Ternate**	**2.24**	**211**	P			**Pn**	**09 53 49.8**	**-1.3**
SGSI	**Sangihe**	**3.16**	**288**	P			**Pn**	**09 53 59.3**	**-1.3**
SGSI				S			**S**	**09 54 40.1**	**-3.4**
LBMI	**Labuha**	**3.47**	**197**	P			**Pn**	**09 54 03.2**	**-1.0**
SWI	**Sorong**	**4.47**	**142**	P			**Pn**	**09 54 15.4**	**-0.4**
KMSI	**Cibinong**	**5.01**	**245**	P			**Pn**	**09 54 21.9**	**-0.5**
DAV	**Davao City (W)**	**5.25**	**326**				**Pn**	**09 54 24.8**	**-0.5**
DAV	**Davao City (W)**	**5.25**	**326**	P			**Pn**	**09 54 23.8**	**-1.5**
	608nm,0.8s,baz=90,slow=7.2,SNR=9.7								
SANI	**Sanana**	**5.36**	**208**	P			**Pn**	**09 54 24.6**	**-2.0**
SANI	**Sanana**	**5.36**	**208**	P			**Pn**	**09 54 24.6**	**-2.0**
	2µm,0.7s,28µm7.1nm								
SANI				S			**S**	**09 55 23.1**	**-7.6**
	2µm,0.7s,28µm7.1nm								
GTOI	**Gorontalo**	**5.89**	**250**	P			**Pn**	**09 54 33.7**	**+0.5**
	306nm,0.6s,3µm1.1nm								
NLAI	**Namlea**	**6.07**	**194**	P			**Pn**	**09 54 35.3**	**-0.1**
	107nm,0.6s,0.7nm								
FAKI	**Fak Fak**	**6.70**	**146**	P			**Pn**	**09 54 43.2**	**-0.2**
FAKI	**Fak Fak**	**6.70**	**146**	Pn			**Pn**	**09 54 42.3**	**-1.1**
FAKI	**Fak Fak**	**6.70**	**146**	P			**Pn**	**09 54 43.2**	**-0.2**
	246nm,1.0s,2µm0.8nm								
LUWI	**Luwuk**	**6.85**	**237**	P			**Pn**	**09 54 43.9**	**-1.4**
LUWI	**Luwuk**	**6.85**	**237**	Pn			**Pn**	**09 54 43.9**	**-1.4**
LUWI	**Luwuk**	**6.85**	**237**	P			**Pn**	**09 54 43.3**	**-2.0**
	862nm,0.7s,13µm3.8nm								
MRSI	**Marisa**	**6.95**	**252**	P			**Pn**	**09 54 46.2**	**-0.3**
	399nm,0.5s,5µm745nm1.6nm								
TOLI2	**Tolitoli**	**7.91**	**259**	P			**Pn**	**09 54 58.2**	**-0.4**
TOLI2	**Tolitoli**	**7.91**	**259**	Pn			**Pn**	**09 54 57.3**	**-1.3**
MPSI	**Mapaga**	**8.94**	**255**	P			**Pn**	**09 55 11.5**	**-0.2**
	93nm,1.5s,1µm								
TTSI	**Tana Toraja**	**10.41**	**237**	P			**Pn**	**09 55 30.4**	**+0.2**
	223nm,0.8s,2µm								
SMPI	**Sarmi**	**11.19**	**114**	P			P	09 55 44.6	+0.5
BKSI	**Bulukumba**	**11.58**	**227**	P			**P**	**09 55 45.6**	**-2.8**
	91nm,0.7s,870nm								
KAPI	**Kappang**	**11.65**	**229**	Pn			**P**	**09 55 47.8**	**-1.3**
GENI	**Genyem**	**12.76**	**114**	P			P	09 56 03.7	+2.1
	477nm,0.9s,4µm								
MMRI	**Maumere**	**12.89**	**209**	Pn			**P**	**09 56 01.0**	**-2.0**
MMRI	**Maumere**	**12.89**	**209**	P			**P**	**09 56 05.0**	**+2.0**
SOEI	**Soe**	**13.08**	**199**	P			**P**	**09 56 04.7**	**-0.5**
SOEI	**Soe**	**13.08**	**199**	Pn			**P**	**09 56 04.0**	**-1.3**
SOEI	**Soe**	**13.08**	**199**	P			**P**	**09 56 05.3**	**+0.1**
	87nm,0.6s								
JAY	**Jayapura**	**13.22**	**113**	P			P	09 56 07.2	+0.5
	92nm,0.9s,762nm								
EDFI	**Ende, Flores**	**13.26**	**211**	P			**P**	**09 56 07.5**	**+0.3**
	36nm,0.7s								
BATI	**Baumata**	**13.71**	**201**	P			**P**	**09 56 12.8**	**+0.7**
	70nm,0.5s,baz=57,slow=3.9,SNR=7.4								
BATI				S			**S**	**09 58 40.8**	**-2.3**
	20nm,0.3s,baz=73,slow=19,SNR=1.7								
BATI	**Baumata**	**13.71**	**201**	P			**P**	**09 56 12.7**	**+0.7**
	58nm,0.5s								
MTKI	**Muara Teweh, K**	**14.11**	**255**	P			**P**	**09 56 17.8**	**+1.3**
TABU	**Tabubil**	**14.94**	**122**	P			Pn	09 56 27.7	+1.6
BASI	**Baing, Sumba**	**15.08**	**212**	P			**Pn**	**09 56 27.7**	**0.0**
	101nm,0.7s								
DRS	**Darwin Rock St**	**15.21**	**171**	P			**Pn**	**09 56 28.2**	**-1.1**
MTN	**Manton Dam**	**15.65**	**171**	P			**Pn**	**09 56 33.6**	**-0.9**
	baz=16,SNR=95								
MTN	**Manton Dam**	**15.65**	**171**	P			**Pn**	**09 56 33.3**	**-1.2**
MTN	**Manton Dam**	**15.65**	**171**				**Pn**	**09 56 32.9**	**-1.6**
PLAI	**Plampang**	**15.69**	**223**	P			**Pn**	**09 56 37.6**	**+2.7**
	134nm,0.7s,4µm								
KDU	**Kakadu**	**15.78**	**166**	P			**Pn**	**09 56 34.6**	**-1.4**
	baz=16,SNR=70								
KDU	**Kakadu**	**15.78**	**166**	P			**Pn**	**09 56 34.7**	**-1.3**
TWSI	**Taliwang, Sumb**	**16.25**	**226**	P			**Pn**	**09 56 42.5**	**+0.9**
	49nm,1.0s								
SBUM	**Sibu**	**16.30**	**270**				**Pn**	**09 56 44.6**	**+2.4**
SRBI	**Singaraja**	**17.07**	**231**	P			**Pn**	**09 56 54.4**	**+3.2**
STKI	**Sintang**	**17.25**	**262**	P			**Pn**	**09 56 54.0**	**+0.7**
ABJI	**Asem Bagus**	**17.67**	**234**	P			**Pn**	**09 56 59.0**	**+0.8**
	52nm,0.5s								
JAGI	**Jajag, Banyuwa**	**18.13**	**232**	P			**Pn**	**09 57 03.4**	**-0.3**
JAGI				IAmb			IAmb	09 57 10.2	
	comp=Z,28nm,0.7s								
JAGI	**Jajag, Banyuwa**	**18.13**	**232**	P			**Pn**	**09 57 03.6**	**-0.1**
	comp=Z,36nm,0.8s								
BLJI	**Banyuglugur**	**18.16**	**235**	P			**Pn**	**09 57 04.1**	**+0.1**
	comp=Z,71nm,0.8s								
KSM	**Kuching**	**18.25**	**267**	P			**Pn**	**09 57 04.3**	**-0.9**
KNRA	**Kununurra**	**18.26**	**179**	P			**Pn**	**09 57 02.6**	**-2.5**
	baz=18,SNR=92								
KNRA				P			**Pn**	**09 57 02.6**	**-2.5**
	baz=18,SNR=92								
KNRA	**Kununurra**	**18.26**	**179**	P			**Pn**	**09 57 02.9**	**-2.2**
KNRA	**Kununurra**	**18.26**	**179**	P			**Pn**	**09 57 03.0**	**-2.1**
GUMO	**Guam**	**19.44**	**55**	P			**Pn**	**09 57 12.0**	**-7.0**
	comp=Z,80nm,0.7s,baz=329,slow=5.9,SNR=1.6								
NGJI	**Ngawi**	**19.75**	**239**	P			**Pn**	**09 57 21.4**	**-1.3**
	comp=Z,118nm,0.9s								
PWJI	**Pagerwojo**	**19.80**	**237**	P			**Pn**	**09 57 19.8**	**-3.4**
	comp=Z,50nm,0.9s								
UGM	**Wanagama**	**20.83**	**239**	P			Pn	09 57 30.3	-5.1
FITZ	**Fitzroy Crossi**	**20.86**	**188**	P			**P**	**09 57 29.4**	**-0.3**
	baz=21,SNR=74								
FITZ	**Fitzroy Crossi**	**20.86**	**188**	P			Pn	09 57 29.5	-6.2
FITZ	**Fitzroy Crossi**	**20.86**	**188**	P			Pn	09 57 29.4	-6.2
FITZ				IAmb			IAmb	09 57 32.7	
	comp=Z,25nm,1.4s								
KPJI	**Kang Pucung**	**21.95**	**243**	P			**P**	**09 57 42.5**	**+2.3**
	comp=Z,62nm,0.6s								
COEN	**Coen**	**22.02**	**139**	P			**P**	**09 57 39.9**	**-0.8**
	baz=22,SNR=5.7								
COEN	**Coen**	**22.02**	**139**	P			**P**	**09 57 40.7**	**0.0**
COEN	**Coen**	**22.02**	**139**	P			**P**	**09 57 39.7**	**-1.0**
COEN				IAmb			IAmb	09 57 40.6	
	comp=Z,13nm,0.8s								
CMJI	**Cimerak**	**22.58**	**242**	P			**P**	**09 57 47.2**	**+1.3**
	comp=Z,104nm,1.4s								
LEM	**Lembang**	**22.92**	**246**	P			**P**	**09 57 52.3**	**+3.1**
	comp=Z,79nm,0.6s,baz=80,slow=12,SNR=10.0								
	comp=Z,73nm,0.6s								
LEM	**Lembang**	**22.92**	**246**	P			**P**	**09 57 52.9**	**+3.7**
	comp=Z,99nm,0.9s								
BBJI	**Bungbulang**	**23.15**	**244**	P			**P**	**09 57 53.2**	**+2.0**
WRAB	**Tennant Creek**	**23.20**	**166**	P			**P**	**09 57 51.4**	**-0.1**
MYKOM	**Kota Tinggi**	**24.68**	**268**	P			**P**	**09 58 06.7**	**+1.7**
MYKOM				IAmb			IAmb	09 58 10.3	
	comp=Z,17nm,0.8s								
MBWA	**Marble Bar**	**25.23**	**200**	P			**P**	**09 58 10.3**	**+0.5**
MBWA	**Marble Bar**	**25.23**	**200**	P			**P**	**09 58 10.3**	**+0.5**
MBWA				IAmb			IAmb	09 58 11.3	
	comp=Z,15nm,0.9s								
QIS	**Mount Isa**	**25.54**	**155**	P			**P**	**09 58 12.6**	**0.0**
	baz=26,SNR=36								
QIS	**Mount Isa**	**25.54**	**155**	P			**P**	**09 58 12.8**	**+0.2**
PSA00	**Pilbara Seismi**	**25.58**	**199**	P			**P**	**09 58 13.8**	**+0.9**
PSA00	**Pilbara Seismi**	**25.58**	**199**	P			**P**	**09 58 13.4**	**+0.5**
PSA00				IAmb			IAmb	09 58 13.9	
	comp=Z,20nm,0.6s								
PSA00	**Pilbara Seismi**	**25.58**	**199**	P			**P**	**09 58 12.6**	**-0.3**
PSA00				IAmb			IAmb	09 58 14.2	
	comp=Z,6.2nm,0.8s								
MTSU	**Mount Surprise**	**25.89**	**144**	P			**P**	**09 58 15.7**	**-0.1**
	baz=26,SNR=13								
MTSU	**Mount Surprise**	**25.89**	**144**	P			**P**	**09 58 16.3**	**+0.5**
UBPT	**Khong Chiam**	**25.94**	**300**	P			**P**	**09 58 17.7**	**+1.4**
UBPT				IAmb			IAmb	09 58 19.2	
	comp=Z,10nm,0.7s								
AS31	**Alice Springs**	**26.72**	**169**	IAmb			IAmb	09 58 24.7	
	comp=Z,6.8nm,0.6s								
ASAR	**Alice Springs**	**26.72**	**169**	P			**P**	**09 58 23.2**	**0.0**
	comp=Z,9.9nm,0.4s,baz=354,slow=7.2,SNR=554								
ASAR				PcP			**PcP**	**10 01 40.9**	**+1.1**
	comp=Z,4.6nm,0.7s,baz=350,slow=2.7,SNR=6.4								
ASAR				S			**S**	**10 02 41.0**	**+0.9**
	comp=Z,1.2nm,0.8s,baz=359,slow=22,SNR=2.7								
ASAR				ScP			**ScP**	**10 04 57.8**	**+1.7**
	comp=Z,3.6nm,0.7s,baz=345,slow=2.6,SNR=12								
	comp=Z,9.9nm,0.4s								
IPM	**Ipoh**	**27.51**	**274**	P			**P**	**09 58 31.7**	**+1.4**
IPM				IAmb			IAmb	09 58 33.0	
	comp=Z,12nm,0.7s								
WRKA	**Warakurna**	**27.57**	**180**	P			**P**	**09 58 31.2**	**+0.5**
	baz=28,SNR=103								
WRKA	**Warakurna**	**27.57**	**180**	P			**P**	**09 58 31.2**	**+0.5**
KULM	**Kulim**	**27.93**	**276**	P			**P**	**09 58 35.5**	**+1.4**
KULM				IAmb			IAmb	09 58 36.8	
	comp=Z,12nm,0.9s								
GIRL	**Giralia**	**28.80**	**208**	P			**P**	**09 58 42.9**	**+1.4**
	baz=29,SNR=5.1								
GIRL	**Giralia**	**28.80**	**208**	P			P	09 58 43.8	+2.3
SRIT	**Nakonsritamara**	**29.37**	**283**	P			**P**	**09 58 48.4**	**+1.7**
SRIT				IAmb			IAmb	09 58 49.6	
	comp=Z,18nm,0.7s								
JNU	**Nakatsue**	**30.34**	**4**	P			**P**	**09 58 55.8**	**+0.7**
NJ2	**Nanjing**	**30.59**	**344**	*e*P			P	09 59 00.8	+3.6
NJ2				pmax			pmax		
	comp=Z,12nm,0.5s								
MEEK	**Meekatharra**	**30.70**	**198**	P			**P**	**09 58 58.6**	**+0.3**
	baz=31,SNR=10.0								
MEEK	**Meekatharra**	**30.70**	**198**	P			**P**	**09 58 58.8**	**+0.5**
GSI	**Gunungsitoli**	**30.97**	**268**	P			P	09 59 03.6	+2.8
GSI	**Gunungsitoli**	**30.97**	**268**	P			**P**	**09 59 00.9**	**+0.1**
OOD	**Oodnadatta**	**31.09**	**168**	P			**P**	**09 59 01.7**	**+0.1**
GYA	**Guiyang**	**31.60**	**320**	*e*P			**P**	**09 59 06.7**	**+0.4**
GYA				pmax			pmax		
	comp=Z,17nm,1.0s								
PHRA	**Phrae**	**31.86**	**302**	P			**P**	**09 59 10.5**	**+2.0**
INKA	**Innaminka**	**32.47**	**160**	P			P	09 59 15.0	+1.3
CRAI	**Chiangrai**	**32.53**	**305**	IAmb			IAmb	09 59 17.6	
	comp=Z,7.8nm,0.8s								
QLP	**Quilpie**	**32.83**	**153**	P			**P**	**09 59 16.6**	**-0.2**
	baz=33,SNR=7.3								
QLP	**Quilpie**	**32.83**	**153**	P			**P**	**09 59 16.8**	**0.0**
CMAR	**Chiang Mai Arr**	**32.94**	**300**	P			**P**	**09 59 19.7**	**+1.7**
CMAR	**Chiang Mai Arr**	**32.94**	**300**	P			P	09 59 20.6	+2.7
	comp=Z,6.3nm,0.7s,baz=116,slow=7.0,SNR=32								
CMAR				ScP			**ScP**	**10 05 19.9**	**+3.6**
	comp=Z,1.8nm,0.6s,baz=117,slow=2.0,SNR=15								
	comp=Z,6.3nm,0.7s								
MULG	**Mulgathing**	**33.22**	**171**	P			**P**	**09 59 20.5**	**+0.4**
FORT	**Forrest**	**33.29**	**181**	P			**P**	**09 59 21.4**	**+0.6**
	baz=34,SNR=66								
FORT	**Forrest**	**33.29**	**181**	P			**P**	**09 59 21.2**	**+0.4**
RK1H	**Rockhampton Ha**	**33.62**	**142**	P			P	09 59 24.5	+0.8
MORW	**Morawa**	**33.78**	**200**	P			**P**	**09 59 25.4**	**+0.4**
	baz=34,SNR=25								
MORW	**Morawa**	**33.78**	**200**	P			**P**	**09 59 25.4**	**+0.4**
LCRK	**Leigh Creek**	**34.23**	**165**	P			**P**	**09 59 29.6**	**+0.8**
KMBL	**Kambalda**	**34.46**	**190**	P			**P**	**09 59 31.5**	**+0.7**
	baz=35,SNR=32								
KMBL	**Kambalda**	**34.46**	**190**	P			**P**	**09 59 31.5**	**+0.7**
KSRS	**Korea Array**	**34.59**	**359**	P			**P**	**09 59 32.5**	**+0.8**
	comp=Z,5.3nm,0.7s,baz=174,slow=9.8,SNR=16								
	comp=Z,5.3nm,0.7s								
MJAR	**Matsushiro Arr**	**34.84**	**14**	P			**P**	**09 59 32.8**	**-1.2**
	comp=Z,9.1nm,0.7s,baz=188,slow=9.7,SNR=23								
	comp=Z,9.1nm,0.7s								
MAJO	**Matsushiro**	**34.84**	**14**	P			**P**	**09 59 32.7**	**-1.3**
MAJO				IAmb			IAmb	09 59 34.8	
	comp=Z,14nm,0.8s								
MJB9	**Matsu-Tunnel**	**34.84**	**14**	P			**P**	**09 59 34.0**	**0.0**
MJB9				IAmb			IAmb	09 59 35.8	
	comp=Z,14nm,0.8s								
PZH	**PanZhiHua**	**34.94**	**315**	P			P	09 59 37.1	+2.0
PZH				pmax			pmax		
	comp=Z,10.0nm,0.6s								
PZH				pmax			pmax		
	comp=Z,90nm,4.3s								
BLDU	**Ballidu**	**35.00**	**198**	P			**P**	**09 59 35.8**	**+0.4**
	baz=35,SNR=15								
BLDU	**Ballidu**	**35.00**	**198**	P			**P**	**09 59 35.8**	**+0.4**
EIDS	**Eidsvold**	**35.45**	**143**	P			**P**	**09 59 38.9**	**-0.3**
	baz=36,SNR=4.3								
EIDS	**Eidsvold**	**35.45**	**143**	P			**P**	**09 59 38.7**	**-0.6**
EIDS				IAmb			IAmb	09 59 39.7	
	comp=Z,8.9nm,0.7s								
KLBR	**Kellerberrin**	**35.61**	**196**	P			**P**	**09 59 41.3**	**+0.7**
	baz=36,SNR=47								
KLBR	**Kellerberrin**	**35.61**	**196**	P			**P**	**09 59 41.1**	**+0.5**
BBOO	**Buckleboo**	**36.03**	**169**	P			**P**	**09 59 44.6**	**+0.4**
	baz=36,SNR=50								
BBOO	**Buckleboo**	**36.03**	**169**	P			**P**	**09 59 44.5**	**+0.4**
XAN	**Xi'an**	**36.16**	**332**	P			**P**	**09 59 45.7**	**+0.5**
XAN				pmax			pmax		
	comp=Z,14nm,0.9s								
MUN	**Mundaring**	**36.42**	**198**	P			**P**	**09 59 48.3**	**+0.9**
	baz=37,SNR=10.0								
MUN	**Mundaring**	**36.42**	**198**	P			**P**	**09 59 48.1**	**+0.7**
TNCH	**TengChong**	**36.45**	**310**	P			P	09 59 50.1	+2.0
TNCH				sP			sP	10 01 00.8	-5.7
TNCH				pmax			pmax		
	comp=Z,37nm,0.5s								
WHYH	**Whyalla**	**36.55**	**167**	P			**P**	**09 59 49.2**	**+0.7**
STKA	**Stephens Creek**	**36.56**	**161**	P			**P**	**09 59 48.9**	**+0.4**
	baz=37,SNR=6.2								
STKA	**Stephens Creek**	**36.56**	**161**	P			**P**	**09 59 49.0**	**+0.4**
STKA	**Stephens Creek**	**36.56**	**161**	P			**P**	**09 59 48.5**	**-0.1**
	comp=Z,17nm,0.5s,baz=337,slow=8.1,SNR=34								
	comp=Z,17nm,0.5s								
JMM	**Marumori**	**36.76**	**16**	P			P	09 59 51.5	+1.3
NWAO	**Narrogin (SRO)**	**37.01**	**196**	P			**P**	**09 59 53.5**	**+1.1**
	baz=37,SNR=26								
NWAO				P			**P**	**09 59 53.5**	**+1.1**
	baz=37,SNR=26								
NWAO	**Narrogin (SRO)**	**37.01**	**196**	P			**P**	**09 59 53.4**	**+1.1**
HTT	**Hallett**	**37.25**	**166**	P			**P**	**09 59 55.3**	**+0.9**
	baz=38,SNR=14								
HTT	**Hallett**	**37.25**	**166**	P			**P**	**09 59 55.2**	**+0.7**
RKGY	**Rocky Gully**	**38.67**	**195**	P			P	10 00 08.4	+2.2
	baz=39,SNR=10								
RKGY	**Rocky Gully**	**38.67**	**195**	P			P	10 00 08.3	+2.1
BJI	**Beijing**	**38.82**	**345**	P			**P**	**10 00 08.2**	**+0.8**
BJI				sP			**sP**	**10 01 22.1**	**-3.4**
BJI				pmax			pmax		
	comp=Z,6.0nm,0.7s								
ARMA	**Armidale**	**39.63**	**148**	P			**P**	**10 00 15.0**	**+0.7**
	baz=40,SNR=24								
ARMA	**Armidale**	**39.63**	**148**	P			P	10 00 15.1	+0.7
ARMA	**Armidale**	**39.63**	**148**	P			**P**	**10 00 14.8**	**+0.4**
ARMA				IAmb			IAmb	10 00 15.8	
	comp=Z,18nm,0.6s								
LZH	**Lanzhou**	**40.31**	**328**	*e*P			P	10 00 22.6	+2.7
LZH				pP			pP	10 01 13.4	+2.3
LZH				pmax			pmax		
	comp=Z,31nm,1.1s								
H11S3	**WAKE ISLAND Hy**	**40.52**	**64**	T			T	10 44 12.5	
	baz=252,slow=74								
H11S2	**WAKE ISLAND Hy**	**40.54**	**64**	T			T	10 44 09.0	
	baz=252,slow=74								
H11S1	**WAKE ISLAND Hy**	**40.54**	**64**	T			T	10 44 14.0	
	baz=252								
HHC	**Hu-ho-hao-te**	**40.95**	**340**	*e*P			P	10 00 29.9	+4.9
HHC				pmax			pmax		
	comp=Z,12nm,0.5s								
HHC				pmax			pmax		
	comp=Z,130nm,5.4s								
H11N1	**WAKE ISLAND Hy**	**41.09**	**63**	T			T	10 45 20.2	
	baz=250,slow=75,SNR=8.0								
H11N2	**WAKE ISLAND Hy**	**41.11**	**63**	T			T	10 45 24.1	
	baz=250,slow=75,SNR=4.4								
H11N3	**WAKE ISLAND Hy**	**41.11**	**63**	T			T	10 45 23.3	
	baz=250,slow=75,SNR=10								
ARPS	**Mount Arapiles**	**41.18**	**164**	P			P	10 00 27.9	+1.2
	baz=42,SNR=34								
ARPS	**Mount Arapiles**	**41.18**	**164**	P			P	10 00 27.8	+1.1
BTO	**Baotou**	**41.28**	**339**	*e*P			P	10 00 37.9	+10
BTO				pP			pwP	10 01 24.6	+2.5
BTO				sP			sP	10 01 44.9	-2.2
BTO				PP			**PcP**	**10 02 23.3**	**+2.0**
BTO				S			S	10 06 42.0	+19
BTO				SS			SS	10 09 45.6	+8.5
BTO				pmax			pmax		
	comp=Z,17nm,0.6s								
BTO				LR			LR		
	comp=N,370nm,4.3s								
BTO				LR			LR		
	comp=E,290nm,5.2s								
BTO				LR			LR		
	comp=Z,240nm,4.9s								
USRK	**Ussuriysk Ar.**	**41.44**	**4**	P			**P**	**10 00 29.1**	**+0.4**
	comp=Z,5.0nm,0.6s,baz=170,slow=7.7,SNR=12								
	comp=Z,5.0nm,0.6s								
MDJ	**Mudanjiang**	**41.75**	**1**	P			P	10 00 32.4	+1.1
MDJ				PcP			**PcP**	**10 02 21.8**	**-0.8**
MDJ				PcS			**PcS**	**10 06 08.9**	**-5.4**
MDJ				S			S	10 06 34.6	+5.3
MDJ				ScS			**ScS**	**10 10 11.4**	**+4.9**
MDJ				pmax			pmax		
	comp=Z,10.0nm,1.2s								
MDJ				pmax			pmax		
	comp=Z,730nm,4.1s								
SHL

KURK	**Kurchatov**	**63.58**	**327**	P	**P**		**10 03 11.4**	**+0.9**
KURK				IAmb	IAmb		10 03 12.1	
	comp=Z,11nm,0.8s							
TIXI	**Tiksi**	**68.85**	**0**	P	**P**		**10 03 43.6**	**+0.1**
BVAR	**Borovoye Array**	**69.16**	**327**	P	**P**		**10 03 46.6**	**+0.8**
	comp=Z,6.0nm,0.8s,baz=125,slow=7.4,SNR=24							
BVAR				pP	**pP**		**10 04 37.1**	**-5.9**
	comp=Z,2.4nm,0.8s,baz=124,slow=7.2,SNR=3.1							
	comp=Z,6.0nm,0.8s							
BRVK	**Borovoye**	**69.23**	**327**	P	**P**		**10 03 47.2**	**+1.0**
BRVK				IAmb	IAmb		10 03 47.9	
	comp=Z,6.2nm,0.9s							
CASY	**Casey**	**70.03**	**188**	P	**P**		**10 03 51.9**	**+1.2**
GEYT	**Alibeck**	**72.94**	**309**	P	**P**		**10 04 10.4**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=107,slow=4.8,SNR=2.2							
	comp=Z,1.5nm,0.6s							
ABKAR	**Akbulak array**	**74.08**	**321**	P	**P**		**10 04 15.8**	**+0.6**
AKTO	**Aktyubinsk**	**75.58**	**322**	P	**P**		**10 04 24.6**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=56,slow=6.5,SNR=2.3							
	comp=Z,1.1nm,0.5s							
ARU	**Arti**	**76.77**	**328**	P	**P**		**10 04 30.3**	**0.0**
	comp=Z,4.1nm,0.2s,baz=210,slow=6.5,SNR=1.3							
	comp=Z,4.1nm,0.2s							
E18K	**Tukpahlearik C**	**80.24**	**22**	P	P		10 04 51.2	+2.2
C19K	**Lookout Ridge**	**81.08**	**20**	IAmb	IAmb		10 04 56.7	
	comp=Z,8.5nm,1.1s							
G19K	**Purcell Mounta**	**81.25**	**23**	IAmb	IAmb		10 04 57.2	
	comp=Z,4.5nm,0.7s							
VNDA	**Vanda**	**82.19**	**173**	P	**P**		**10 04 59.8**	**+0.8**
VNDA				IAmb	IAmb		10 05 00.9	
	comp=Z,9.0nm,1.0s							
VNDA	**Vanda**	**82.19**	**173**	P	**P**		**10 04 59.9**	**+0.9**
	comp=Z,4.5nm,0.5s,baz=316,slow=6.9,SNR=54							
	comp=Z,4.5nm,0.5s							
B21K	**Ikpikpuk River**	**82.91**	**20**	IAmb	IAmb		10 05 05.8	
	comp=Z,4.3nm,0.6s							
MAW	**Mawson**	**83.42**	**201**	P	P		10 05 07.0	+1.6
	comp=Z,4.2nm,0.7s,baz=72,slow=4.9,SNR=10							
	comp=Z,4.2nm,0.7s							
B22K	**Teshekpuk Lake**	**83.45**	**19**	IAmb	IAmb		10 05 08.7	
	comp=Z,9.0nm,1.4s							
M22K	**Willow**	**83.53**	**28**	IAmb	IAmb		10 05 09.0	
	comp=Z,16nm,0.9s							
PMR	**Palmer**	**83.99**	**28**	P	P		10 05 09.4	+1.0
ILAR	**Eielson Array**	**85.26**	**25**	P	P		10 05 16.1	+1.4
	comp=Z,0.2nm,0.4s,baz=247,slow=5.2,SNR=6.4							
ILAR				pP	pP		10 06 09.9	-3.2
	comp=Z,0.1nm,0.5s,baz=173,slow=27,SNR=2.3							
	comp=Z,0.2nm,0.4s							
ARCES	**ARCESS Array B**	**92.03**	**340**	P	**P**		**10 05 46.4**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=79,slow=4.7,SNR=6.0							
	comp=Z,2.9nm,0.8s							
QSPA	**South Pole Qui**	**92.61**	**180**	P	**P**		**10 05 50.6**	**+1.1**
QSPA				IAmb	IAmb		10 05 51.8	
	comp=Z,9.3nm,0.8s							
QSPA	**South Pole Qui**	**92.61**	**180**	P	**P**		**10 05 50.6**	**+1.1**
	comp=Z,7.6nm,0.6s,baz=318,slow=1.4,SNR=76							
	comp=Z,7.6nm,0.6s							
FINES	**FINESS Array B**	**93.58**	**332**	P	**P**		**10 05 53.8**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.2,SNR=1.6							
	comp=Z,0.7nm,0.6s							
AKASG	**Malin Array Be**	**93.82**	**321**	P	**P**		**10 05 54.9**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=69,slow=0.8,SNR=1.2							
	comp=Z,0.2nm,0.3s							
TORD	**Torodi Ar. Bea**	**124.95**	**288**	PKP	**PKiKP**		**10 11 38.4**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=358,slow=4.3,SNR=4.6							
PLCA	**Paso Flores**	**138.40**	**158**	PKP	**PKiKP**		**10 12 05.5**	**+0.7**
	comp=Z,1.8nm,0.6s,baz=226,slow=3.3,SNR=7.4							
CPUP	**Villa Florida**	**155.84**	**167**	PKPab	**PKPab**		**10 13 00.6**	**+1.5**
	comp=Z,4.9nm,0.9s,baz=206,slow=1.2,SNR=5.9							
LPAZ	**La Paz**	**158.76**	**131**	PKPab	**PKPab**		**10 13 14.9**	**+1.9**
	comp=Z,1.6nm,0.7s,baz=236,slow=2.3,SNR=6.4							

ISC 03 10:02:25.0±1.1, 49°24N±0°06×18°64E±0°04, h10km, n6, σ0°67/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANS	**Liptovska Anna**	**0.55**	**99**	*e*PG	**Pg**	**10 02 35.7**	**0.0**
LANS				*e*SG	**Sb**	**10 02 45.2**	**+0.5**
LANS				*e*LG	Lg	10 02 51.3	
JAVC	**Velka Javorina**	**0.74**	**240**	*e*PG	**Pb**	**10 02 40.2**	**+0.2**
JAVC				*e*SG	**Sb**	**10 02 51.4**	**+1.3**
VYHS	**Vyhne**	**0.76**	**170**	*e*PG	**Pg**	**10 02 38.9**	**-0.6**
VYHS				*e*SG	**Sg**	**10 02 49.4**	**0.0**
MORC	**Moravsky Berou**	**0.90**	**308**	*e*PG	**Pg**	**10 02 41.9**	**-0.3**
VRAC	**Vranov**	**1.34**	**274**	*e*PN	**Pn**	**10 02 49.4**	**-0.4**
KRUC	**Moravsky**	**1.48**	**264**	*e*PN	**Pn**	**10 02 51.2**	**-0.5**

*NEIC **03** 10:05:47.6±1.1, 19°.8N±0°.2×68°.80W±0°.06, h35km±2km, ML2.5/12, Md3.3/4(RSPR), Error ellipse: s-maj=30.8km s-min=7.1km az=13.0*
*RSPR **03** 10:05:50.2, 19°.72N×68°.65W, h74km±9km, MD3.3/4*
*SDD **03** 10:05:53.3±2.0, 19°.56N×68°.76W, h87km±31km, MD3.1, ML2.2, MW2.5*

ISC 03 10:05:54.0±2.3, 19°5N±0°.2×68°61W±0°.04, h50km, n25, σ1s55/26, 10C-3D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDR	**Miches**	**0.66**	**220**	⇑*e*Pg	**Pn**	**10 06 06.9**	**-0.3**
MIDR				⇑*e*Sg	**Sn**	**10 06 19.9**	**+3.1**
MIDR				IAML		10 06 23.1	
	comp=E,25nm,0.5s						
MIDR				IAML		10 06 29.3	
	comp=N,23nm,1.3s						
HATOM	**Hato Mayor del**	**1.01**	**226**	⇓*e*Pg	**Pn**	**10 06 10.9**	**-1.1**
HATOM				⇑*e*Sg	**Sn**	**10 06 25.3**	**+0.1**
HATOM				IAML		10 06 27.8	
	comp=N,27nm,0.6s						
CRPR	**Cabo Rojo, PR**	**2.05**	**136**	⇓*e*P	**Pn**	**10 06 24.4**	**-1.7**
CRPR	**Cabo Rojo, PR**	**2.05**	**136**	*e*S	**Sn**	**10 06 51.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.05**	**136**		**Pn**	**10 06 24.4**	**-1.7**
CRPR				IAML		10 07 08.8	
	comp=E,24nm,2.2s						
CRPR	**Cabo Rojo, PR**	**2.05**	**136**		**Sn**	**10 06 51.3**	**+0.9**
CRPR	**Cabo Rojo, PR**	**2.05**	**136**	IAML		10 06 47.1	
	comp=N,25nm,2.8s						
AOPR	**Arecibo Observ**	**2.09**	**123**	⇑*e*P	**Pn**	**10 06 27.6**	**+0.9**
AOPR	**Arecibo Observ**	**2.09**	**123**	*e*S	**Sn**	**10 06 52.1**	**+0.5**
AOPR	**Arecibo Observ**	**2.09**	**123**		**Pn**	**10 06 27.6**	**+0.9**
AOPR	**Arecibo Observ**	**2.09**	**123**		**Sn**	**10 06 52.1**	**+0.5**
AOPR	**Arecibo Observ**	**2.09**	**123**	IAML		10 06 47.3	
	comp=E,36nm,2.9s						
AOPR	**Arecibo Observ**	**2.09**	**123**	⇑*e*Pg	**Pn**	**10 06 28.8**	**+2.1**
AOPR				⇑*e*Sg	**Sn**	**10 06 53.4**	**+1.8**
AOPR				IAML		10 07 00.8	
	comp=E,23nm,0.3s						
AOPR				IAML		10 07 21.9	
	comp=N,25nm,3.1s						
MLPR	**Magueyes Islan**	**2.12**	**135**	⇓*e*P	**Pn**	**10 06 24.9**	**-2.2**
MLPR	**Magueyes Islan**	**2.12**	**135**	*e*S	**Sn**	**10 06 53.6**	**+1.4**
MLPR	**Magueyes Islan**	**2.12**	**135**		**Pn**	**10 06 24.9**	**-2.2**
MLPR					**Sn**	**10 06 53.6**	**+1.4**
MLPR	**Magueyes Islan**	**2.12**	**135**	IAML		10 07 13.0	
	comp=N,22nm,2.5s						
MLPR				IAML		10 08 00.5	
	comp=E,24nm,2.7s						
OBIP	**Obispado Ponce**	**2.38**	**127**	Pn	**Pn**	**10 06 28.3**	**-2.3**
OBIP				IAML		10 07 08.2	
	comp=E,19nm,3.0s						
CELP	**Cerrillos**	**2.38**	**126**	⇑*e*P	**Pn**	**10 06 28.7**	**-1.9**
CELP	**Cerrillos**	**2.38**	**126**	*e*S	**Sn**	**10 06 59.4**	**+0.7**
CELP	**Cerrillos**	**2.38**	**126**		**Pn**	**10 06 28.7**	**-1.9**
CELP					**Sn**	**10 06 59.4**	**+0.7**
CELP	**Cerrillos**	**2.38**	**126**	IAML		10 07 09.7	
	comp=N,19nm,2.6s						
CELP	**Cerrillos**	**2.38**	**126**	⇑*e*Pg	**Pn**	**10 06 30.8**	**+0.2**
CELP				⇑*e*Sg	**Sn**	**10 06 58.6**	**-0.1**
CELP				IAML		10 07 09.4	
	comp=N,18nm,2.2s						
SDDR	**Presa de Saban**	**2.58**	**259**	Pn	Pn	10 06 25.4	-8.0
REDR	**Restauracion**	**2.65**	**263**	⇑*e*Sg	**Sn**	**10 07 05.6**	**+0.3**
REDR				IAML		10 07 42.9	
	comp=N,19nm,1.2s						

WEL 03 10:18:04.3±1.3, 46°S±7°×166°E±°, h10km±4km, M3.5/6, ML3.9/18, MLv3.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=33.4, confirmed, Off west coast of South Island

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

PYZ	**Puysegur Point**	**0.43**	**72**	P	Pb		10 18 14.4	+0.5
PYZ				S	Sb		10 18 20.6	+0.1
RRKS	**Rarakau**	**0.97**	**81**	S	Sb		10 18 36.8	+0.8
DCZ	**Deep Cove**	**1.11**	**42**	P	Pb		10 18 23.4	-2.3
DCZ				S	Sg		10 18 38.1	-2.1
WHZ	**Wether Hill Ro**	**1.35**	**73**	P	Pn		10 18 28.6	-0.7
WHZ				S	Sb		10 18 46.3	-0.8
APZ	**The Paps**	**1.41**	**113**	P	Pn		10 18 29.1	-1.0
MLZ	**Mavora Lakes**	**1.69**	**57**	P	Pn		10 18 34.3	+0.3
MLZ				S	Sg		10 18 58.0	-0.8
MSZ	**Milford Sound**	**2.07**	**39**	P	Pn		10 18 38.5	-0.7
SYZ	**Scrubby Hill**	**2.12**	**98**	P	Pn		10 18 39.4	-0.4
SYZ				S	Sn		10 19 06.3	+0.2
TUZ	**Tuapeka**	**2.48**	**83**	P	Pn		10 18 44.7	0.0
EAZ	**Earnscleugh**	**2.49**	**66**	P	Pn		10 18 45.4	+0.4
ARCZ	**Arundel**	**4.30**	**59**	P	Pn		10 19 08.7	-1.1
WVZ	**Waitaha Valley**	**4.62**	**47**	P	Pn		10 19 15.7	+1.5
OXZ	**Oxford**	**5.17**	**57**	P	Pn		10 19 21.2	-0.5
INZ	**Inchbonnie**	**5.23**	**49**	P	Pn		10 19 21.7	-0.9
LTZ	**Lake Taylor**	**5.64**	**54**	P	Pn		10 19 28.5	+0.2
DSZ	**Denniston Nort**	**6.14**	**44**	P	Pn		10 19 34.1	-0.9
THZ	**Tophouse**	**6.68**	**50**	P	Pn		10 19 43.5	+1.0
MRNZ	**Matariki Terra**	**6.87**	**47**	P	Pn		10 19 45.7	+0.7
QRZ	**Quartz Range**	**7.19**	**43**	P	Pn		10 19 49.5	0.0

*NNC **03** 10:23:40.0±5.4, 53°.57N×90°.54E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=43.2km s-min=37.1km az=15.0, Suspected Mining explosion.*
*IDC **03** 10:23:39.9±3.5, 53°.55N×90°.52E, h0km, mbtmp3.5/3, ML2.9/3, Error ellipse: s-maj=34.1km s-min=27.9km az=7.0*

ISC 03 10:23:41.5±3.9, 54°.1N±0°.2×90°.0E±0°.2, h0km, n11, σ1s38/11, 2C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.07**	**269**	I	I	10 46 45.0	
	0.1nm,1.1s,baz=90,slow=334,SNR=8.1						
ZAA0	**Zalesovo Array**	**3.07**	**269**	Pg	**Pg**	**10 24 41.1**	**+0.8**
ZAA0	**Zalesovo Array**	**3.07**	**269**	Lg	Lg	10 25 30.0	
ZALV	**Zalesovo Beam**	**3.07**	**269**	Pn	**Pb**	**10 24 35.0**	**-2.0**
	2.8nm,0.3s,baz=95,slow=17,SNR=29						
ZALV				Sn	**Sb**	**10 25 15.1**	**+0.1**
	1.5nm,0.3s,baz=105,slow=17,SNR=5.7						
ZALV				Lg	Lg	10 25 28.0	
	3.4nm,0.3s,baz=94,slow=24,SNR=7.4						
	5.8nm,0.3s						
KURK	**Kurchatov**	**7.76**	**248**	⇓Pn	**Pn**	**10 25 37.6**	**+2.0**
	3.0nm,0.6s						
KURK				⇓Sn	**Sn**	**10 27 05.2**	**+1.1**
	21nm,0.9s						
KURK				⇑Lg	Lg	10 27 55.2	
	43nm,1.0s						
KURBB	**Kurchatov Arra**	**7.86**	**248**	⇓Pn	**Pn**	**10 25 37.1**	**+0.1**
	4.5nm,0.6s,baz=65,slow=15						
KURBB				⇓Sn	**Sn**	**10 27 07.2**	**+0.7**
	58nm,0.7s,baz=64,slow=24						
KURBB				⇑Lg	Lg	10 27 59.1	
	107nm,0.8s,baz=325,slow=29						
KURBB	**Kurchatov Arra**	**7.86**	**248**	Pn	**Pn**	**10 25 36.6**	**-0.3**
	0.3nm,0.3s,baz=67,slow=15,SNR=15						
KURBB				Sn	**Sn**	**10 27 04.4**	**-2.1**
	0.1nm,0.3s,baz=68,slow=25,SNR=5.1						
KURBB				Lg	Lg	10 27 53.1	
	0.1nm,0.3s,baz=68,slow=34,SNR=4.8						
	4.0nm,0.6s						
MKAR	**Makanchi Array**	**8.84**	**217**	Lg	Lg	10 28 12.0	
	baz=45,slow=27						
BVAR	**Borovoye Array**	**11.72**	**273**	Pn	**Pn**	**10 26 30.4**	**+0.6**
	0.1nm,0.3s,baz=86,slow=19,SNR=2.3						
BVAR				Sn	**Sn**	**10 28 41.8**	**+0.5**
	baz=67,slow=22,SNR=1.5						
	0.5nm,0.4s						
I34MN	**SONGINO INFRAS**	**12.11**	**115**	I	I	11 30 40.0	
	baz=307,slow=320,SNR=1.0						
AAK	**Ala-Archa**	**15.41**	**228**	Lg	Lg	10 31 42.7	
	0.2nm,0.3s,baz=150,slow=20,SNR=1.4						

NNC 03 10:24:29.7±1.7, 41°.67N×81°.38E, h0km, mb4.3, mpv4.0, 5C-8D, Error ellipse: s-maj=12.0km s-min=10.9km az=19.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.93**	**337**	Pg	Pn	10 25 04.6	+0.7
	50nm,0.4s						
KTMS				Lg	Lg	10 25 31.2	
	264nm,0.3s						
SHLS	**Shalkode**	**2.06**	**317**	Pg	Pn	10 25 04.0	-1.7
	159nm,0.5s						
SHLS				Lg	Lg	10 25 29.9	
	686nm,0.4s						
PDGK	**Podgornoye**	**2.17**	**320**	Pg	Pn	10 25 08.5	+1.2
	107nm,0.5s						
PDGK				Lg	Lg	10 25 38.4	
	335nm,0.7s						
PDGK	**Podgornoye**	**2.17**	**320**	⇑Pn	Pn	10 25 08.1	+0.9
	125nm,0.5s						
PDGK				⇑Sn	Sg	10 25 39.2	-0.2
	417nm,0.5s						
UZB	**Uzynbulak**	**2.29**	**311**	Pg	Pb	10 25 11.4	-0.5
	70nm,0.5s						
UZB				Lg	Lg	10 25 42.7	
	130nm,0.6s						
SATY	**Saty**	**2.61**	**303**	Pg	Pb	10 25 16.8	-0.6
	96nm,0.5s						
SATY				Lg	Lg	10 25 52.4	
	133nm,0.5s						
ZHN	**Zhinishke**	**2.65**	**305**	Pg	Pb	10 25 17.8	-0.2
	54nm,0.3s						
ZHN				Lg	Lg	10 25 53.7	
	158nm,0.3s						
DJR	**Jarkent**	**2.91**	**337**	Pg	Pb	10 25 21.9	-0.5
	3.8nm,0.2s						
DJR				Lg	Lg	10 26 00.8	
	155nm,0.6s						
KURS	**Kuram**	**2.99**	**309**	Pg	Pb	10 25 23.2	-0.7
	26nm,0.7s						
KURS				Lg	Lg	10 26 03.0	
	42nm,0.6s						
KNOS	**Konyrlen**	**3.14**	**330**	Pg	Pn	10 25 23.4	+2.9
	84nm,0.5s						
KNOS				Lg	Lg	10 26 03.4	
	52nm,0.3s						
BLB	**Baldybastay**	**3.23**	**320**	Pg	Pb	10 25 27.2	-0.8
	71nm,0.5s						
BLB				Lg	Lg	10 26 10.0	
	145nm,0.6s						
KOTS	**Kotyrbulak**	**3.52**	**298**	Pg	Pb	10 25 31.6	-1.4
	31nm,0.7s						
KOTS				Lg	Lg	10 26 20.1	
	157nm,0.5s						
MDOK	**Medeo**	**3.54**	**296**	⇓Pn	Pn	10 25 26.7	+0.7
	12nm,0.4s						
MDOK				Pg	Pb	10 25 32.7	-0.6
	20nm,0.5s						
MDOK				Lg	Lg	10 26 19.3	
	47nm,0.8s						
MDOK				⇓Lg	Lg	10 26 19.9	
	52nm,0.6s						
TNSS	**Tian-Shan**	**3.56**	**294**	Pg	Pb	10 25 34.0	+0.3
	12nm,0.7s						
TNSS				Lg	Lg	10 26 21.5	
	27nm,0.6s						
ARXS	**Arharly**	**3.64**	**315**	Pg	Pb	10 25 34.1	-0.9
	15nm,0.5s						
ARXS				Lg	Lg	10 26 21.9	
	46nm,0.6s						
AAA	**Alma-Ata**	**3.65**	**296**	Pg	Pb	10 25 36.3	+1.3
	55nm,0.4s						
AAA				Lg	Lg	10 26 25.9	
	104nm,0.4s						
CHKK	**Chushkaly**	**3.90**	**305**	Pg	Pb	10 25 40.7	+1.3
	16nm,0.6s						
CHKK				Lg	Lg	10 26 33.0	
	35nm,0.6s						
KAPS	**Kapalarasan**	**3.90**	**339**	Pg	Pn	10 25 32.4	+1.4
	18nm,0.5s						
KAPS				Lg	Lg	10 26 19.7	
	38nm,0.5s						
MTBS	**Maitube**	**3.95**	**293**	Pg	Pb	10 25 40.7	+0.5
	11nm,0.3s						
MTBS				Lg	Lg	10 26 33.0	
	31nm,0.6s						
TDK	**Taldyqorghan**	**3.98**	**328**	Pg	Pg	10 25 43.8	-2.1
TDK				Lg	Lg	10 26 38.2	
	153nm,0.5s						
KTBS	**Karatobe**	**4.02**	**302**	Pg	Pb	10 25 43.2	+1.8
	23nm,0.6s						
KTBS				Lg	Lg	10 26 37.4	
	31nm,0.5s						
DGS	**Degeres**	**4.44**	**293**	Pg	Pg	10 25 52.3	-2.4
	20nm,0.7s						
DGS				Lg	Lg	10 26 52.8	
	57nm,0.7s						
TKM2	**Tokmak 2**	**4.47**	**288**	⇓Pn	Pn	10 25 39.3	+0.4
	16nm,0.7s						
TKM2				⇓Lg	Lg	10 26 50.6	
	30nm,0.6s						
WMQ	**Urumqi**	**5.12**	**63**	*e*Pn	Pn	10 25 50.6	+2.9
WMQ				Sn	Sn	10 26 48.6	+1.0
WMQ				smax	smax		
	comp=N,52nm,0.7s						
WMQ				smax	smax		
	comp=E,67nm,1.1s						
MK31	**Makanchi Array**	**5.17**	**7**	⇓Pn	Pn	10 25 46.9	-1.4
	comp=E,3.1nm,0.5s,baz=27,slow=14,SNR=63						
MK31				⇓Pg	Pg	10 26 04.9	-3.7
	comp=E,0.8nm,0.2s,baz=186,slow=16,SNR=8.4						
MK31				⇑Lg	Lg	10 27 09.1	
	comp=E,16nm,0.5s,baz=190,slow=32,SNR=4.6						
AAK	**Ala-Archa**	**5.21**	**283**	⇓Pg	Pg	10 26 08.9	-0.7
	comp=E,19nm,0.8s						
AAK				⇓Lg	Lg	10 27 16.5	
	comp=E,31nm,0.9s						
MRKS	**Merke**	**6.15**	**283**	Pg	Pg	10 26 23.1	-4.4
	comp=E,3.7nm,0.8s						
MRKS				Lg	Lg	10 27 45.7	
	comp=E,6.2nm,0.6s						
ZSN	**Zaisan**	**6.29**	**22**	Pg	Pb	10 26 13.0	-7.1
	comp=E,5.4nm,0.4s						
ZSN				Lg	Lg	10 27 28.5	
	comp=E,24nm,1.1s						
BTLS	**Baital**	**6.32**	**305**	Pg	Pb	10 26 25.1	+4.6
	comp=E,4.0nm,0.4s						
BTLS				Lg	Lg	10 27 49.2	
	comp=E,2.8nm,0.5s						
KK31	**Karatay Array**	**8.17**	**284**	⇑Pg	Pb	10 26 57.7	+5.5
	comp=E,2.1nm,0.7s						
KK31				⇑Lg	Lg	10 28 52.3	
	comp=E,5.7nm,0.7s						
BTO	**Baotou**	**21.56**	**83**	*e*P	P	10 29 15.9	-4.8
BTO				pP		10 29 21.7	
BTO				sP		10 29 23.9	
BTO				PP	PnPn	10 29 33.1	-7.7
BTO				S	S	10 33 14.2	-6.3
BTO				SS	SnSn	10 33 37.3	-6.1
BTO				pmax	pmax		
	comp=Z,17nm,0.7s						
BTO				pmax	pmax		
	comp=Z,310nm,3.8s						
BTO				LR	LR		
	comp=N,310nm,5.3s						
BTO				LR	LR		
	comp=E,390nm,4.6s						
BTO				LR	LR		
	comp=Z,380nm,5.0s						

*IDC **03** 10:27:59.0±1.0, 31°.89N×40°.62W, h0km, mb3.8/15, mbtmp3.8/15, MS3.5/25, Error ellipse: s-maj=28.8km s-min=18.2km az=169.0*

ISC 03 10:28:01.1±0.9, 31°.9N±0°.2×40°.6W±0°.1, h14km, n38, σ0s64/15, mb3.8/15, MS3.4/25, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**28.93**	**205**	LR	LR	10 42 36.0	
	comp=Z,66nm,21.7s,baz=78,slow=30						
SCHQ	**Schefferville**	**29.52**	**329**	LR	LR	10 44 56.1	
	comp=Z,164nm,21.6s,baz=208,slow=34						
MDT	**Midelt**	**30.33**	**78**	LR	LR	10 43 48.3	
	comp=Z,74nm,19.0s,baz=294,slow=31						
ESDC	**Sonseca Array**	**30.56**	**65**	LR	LR	10 44 24.7	
	comp=Z,26nm,18.7s,baz=229,slow=32						
PCRV	**Puerto La Cruz**	**31.00**	**231**	LR	LR	10 46 52.8	
	comp=Z,31nm,18.2s,slow=37						
SADO	**Sadowa**	**32.56**	**304**	LR	LR	10 45 36.8	
	comp=Z,53nm,21.9s,baz=80,slow=32						
EKA	**Eskdalemuir Ar**	**35.19**	**37**	P	**P**	**10 34 54.6**	**+0.2**
	0.9nm,0.6s,baz=238,slow=7.9,SNR=5.2						
	0.9nm,0.6s						
SFJD	**Kangerlussuaq**	**35.66**	**353**	LR	LR	10 46 27.1	
	comp=Z,39nm,18.1s,baz=127,slow=31						
TKL	**Tuckaleechee C**	**35.88**	**288**	LR	LR	10 47 12.6	
	comp=Z,74nm,19.9s,baz=87,slow=32						
FRB	**Frobisher Bay**	**36.39**	**339**	LR	LR	10 48 34.1	
	comp=Z,18nm,19.5s,baz=15,slow=34						
DBIC	**Dimbokro**	**41.71**	**119**	LR	LR	10 50 31.3	
	comp=Z,86nm,19.0s,baz=308,slow=32						
TORD	**Torodi Ar. Bea**	**42.96**	**106**	P	**P**	**10 35 59.0**	**-1.0**
	0.9nm,0.9s,baz=319,slow=7.5,SNR=4.1						
	0.9nm,0.9s						
TEIG	**Tepich**	**44.06**	**267**	LR	LR	10 51 49.7	
	comp=Z,402nm,20.6s,slow=32						
NOA	**NORSAR Array B**	**44.35**	**33**	P	**P**	**10 36 11.2**	**+0.6**
	0.8nm,0.7s,baz=254,slow=8.0,SNR=3.0						
NOA				LR	LR	10 50 43.1	
	comp=Z,19nm,20.7s,baz=245,slow=31						
	0.8nm,0.7s						
ULM	**Lac du Bonnet**	**44.43**	**311**	LR	LR	10 55 06.8	
	comp=Z,29nm,19.8s,baz=44,slow=37						
VRAC	**Vranov**	**45.65**	**50**	LR	LR	10 53 14.1	
	comp=Z,21nm,19.8s,baz=253,slow=33						
JTS	**Las Juntas de**	**46.22**	**252**	LR	LR	10 54 28.4	
	comp=Z,32nm,19.7s,baz=67,slow=34						
H10N2	**ASCENSION HYDR**	**46.70**	**143**	T	T	11 26 05.3	
	baz=329,slow=75						
H10N3	**ASCENSION HYDR**	**46.71**	**143**	T	T	11 25 55.9	
	baz=329,slow=75						
H10N1	**ASCENSION HYDR**	**46.72**	**143**	T	T	11 26 08.0	
	baz=329,slow=75						
CMIG	**Matias Romero**	**51.06**	**267**	LR	LR	10 56 05.

0.8nm,1.0s
AKTO Aktyubinsk 71.18 42 P **P** **10 39 19.9 +0.6**
4.7nm,0.7s,baz=301,slow=4.7,SNR=14
4.7nm,0.7s
BVAR Borovoye Array 76.42 35 P **P** **10 39 50.1 0.0**
1.6nm,0.8s,baz=318,slow=6.4,SNR=7.9
1.6nm,0.8s
KURBB Kurchatov Arra 81.87 34 P **P** **10 40 19.9 0.0**
0.6nm,0.7s,baz=310,slow=5.9,SNR=5.8
0.6nm,0.7s
ZALV Zalesovo Beam 82.39 29 P **P** **10 40 23.3 +0.8**
1.2nm,0.7s,baz=322,slow=9.4,SNR=4.2
1.2nm,0.7s

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*IDC **03** 10:39:51.5±0.6, 1°.35S×137°.97E, h0km, mb4.5/20, mbtmp4.5/22, ML4.9/1, MS4.1/46, Error ellipse: s-maj=25.3km s-min=12.4km az=85.0*
*MOS **03** 10:39:54.3±0.9, 1°.37S×138°.01E, h28km, mb5.0/24, Error ellipse: s-maj=10.5km s-min=6.3km az=118.5*
*BJI **03** 10:39:55.2±0.0, 1°.52S×138°.30E, h48km, mb4.8/55, mB5.1/22, Ms4.7/17, Ms7 4.3/17*
*DJA **03** 10:39:56.6±0.7, 2°.5±4°×13°.8E±°, h30km±7km, M4.9/42, mb5.1/42, mB5.4/26, MLv5.1/9, Mw(mB)4.8/26, MwMwp4.8/6, Mwp5.1/6*
*GCMT **03** 10:39:57.6±0.2, 1°.33S±0°.01×137°.90E±0°.01, h22km±1km, MW5.1/111, Moment Tensor Solution. s79,c113; s111,c182; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.39±.13; Mθθ5.70±.12; Mϕϕ-5.31±.12; Mrθ2.90±.24; Mθϕ1.67±.10; Mϕr-0.77±.21; Best double couple: Mo6.42100×10^16 NP1:ϕ127.00000°, δ85.00000°, λ25.00000°. NP2:ϕ35.00000°, δ65.00000°, λ175.00000°. Principal axes: T 6.9930, Plg21.0000°, Azm354.0000°; N -1.1430, Plg65.0000°, Azm137.0000°; P -5.8490, Plg14.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **03** 10:39:57.6±2.1, 1°.39S±0°.09×137°.96E±0°.07, h34km±5km, mb4.9/135 Error ellipse: s-maj=13.0km s-min=10.2km az=193.0*
ISC 03 10:39:57.6±0.3, 1°.48S±0°.04×137°.96E±0°.04, h39km±3km, h36km:pP-P, n564, σ1§58/493, mb4.9/121, MS4.2/53, 11C-7D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMPI	**Sarmi**	**0.91**	**124**	P	**Pn**	**10 40 12.8**	**-1.1**
SMPI				S	**Sn**	**10 40 29.0**	**+3.2**
GENI	**Genyem**	**2.47**	**117**	P	**Pn**	**10 40 34.4**	**-1.0**
JAY	**Jayapura**	**2.94**	**111**	P	Pn	10 40 39.7	-2.0
JAY				S	**Sn**	**10 41 15.4**	**-0.4**
JAY	**Jayapura**	**2.94**	**111**	P	Pn	10 40 39.8	-2.0
TABU	**Tabubil**	**4.98**	**139**	P	**Pn**	**10 41 13.8**	**+3.9**
FAKI	**Fak Fak**	**5.88**	**256**	P	**Pn**	**10 41 21.0**	**-1.2**
FAKI	**Fak Fak**	**5.88**	**256**	Pn	**Pn**	**10 41 20.8**	**-1.4**
FAKI	**Fak Fak**	**5.88**	**256**	P	**Pn**	**10 41 20.5**	**-1.7**
	371nm,0.7s,3µm6µm1.2nm						
SWI	**Sorong**	**6.72**	**275**	P	**Pn**	**10 41 33.1**	**-0.7**
	168nm,0.7s,2µm4µm0.6nm						
SWI	**Sorong**	**6.72**	**275**	P	**Pn**	**10 41 33.0**	**-0.7**
SWI				pmax	pmax		
	comp=Z,167nm,0.7s						
MMPI	**Merauke**	**7.35**	**161**	P	**Pn**	**10 41 42.2**	**-0.2**
	comp=Z,323nm,0.6s,comp=Z,2.9nm						
BNDI	**Bandaaira**	**8.59**	**249**	P	**Pn**	**10 41 56.0**	**-3.4**
	comp=Z,162nm,0.7s,comp=Z,28µmcomp=Z,3µm						
MANU	**Manus Island**	**9.42**	**94**	Pn	**Pn**	**10 42 10.4**	**-0.5**
LBMI	**Labuha**	**10.48**	**274**	P	**Pn**	**10 42 25.2**	**-0.2**
	comp=Z,166nm,1.5s						
TNTI	**Ternate**	**10.82**	**282**	P	**Pn**	**10 42 32.2**	**+2.2**
TNTI	**Ternate**	**10.82**	**282**		**Pn**	**10 42 31.9**	**+1.9**
TNTI	**Ternate**	**10.82**	**282**	P	**Pn**	**10 42 29.5**	**-0.5**
	comp=Z,58nm,1.1s,comp=Z,1µmcomp=Z,1µm						
NLAI	**Namlea**	**10.99**	**261**	P	**Pn**	**10 42 31.6**	**-0.7**
	comp=Z,57nm,0.9s						
SANI	**Sanana**	**11.97**	**267**	P	**Pn**	**10 42 44.9**	**-0.9**
SANI	**Sanana**	**11.97**	**267**	P	**Pn**	**10 42 43.2**	**-2.6**
	comp=Z,62nm,1.5s,comp=Z,718nm						
PMG	**Port Moresby**	**12.08**	**131**		**Pn**	**10 42 47.7**	**+0.5**
PMG	**Port Moresby**	**12.08**	**131**	Pn	**Pn**	**10 42 47.8**	**+0.6**
	comp=Z,19nm,0.7s,baz=277,slow=8.1,SNR=1.7						
PMG				LR	LR	10 48 37.6	
	comp=Z,3µm,20.7s,baz=320,slow=43						
KDU	**Kakadu**	**12.39**	**206**	P	Pn	10 42 47.8	-3.7
	baz=12,SNR=6.6						
KDU	**Kakadu**	**12.39**	**206**	P	**Pn**	**10 42 48.8**	**-2.7**
DRS	**Darwin Rock St**	**12.94**	**212**	P	**Pn**	**10 42 58.8**	**-0.1**
MTN	**Manton Dam**	**13.16**	**211**	P	**Pn**	**10 43 00.2**	**-1.8**
	baz=13,SNR=16						
MTN	**Manton Dam**	**13.16**	**211**	P	**Pn**	**10 43 02.1**	**+0.1**
MTN	**Manton Dam**	**13.16**	**211**	Pn	**Pn**	**10 43 00.9**	**-1.1**
COEN	**Coen**	**13.43**	**158**	P	Pn	10 43 03.3	-2.4
	baz=14,SNR=9.0						
COEN	**Coen**	**13.43**	**158**	Pn	Pn	10 43 02.8	-2.9
SGSI	**Sangihe**	**13.44**	**292**	P	**Pn**	**10 43 05.1**	**-0.7**
	comp=Z,161nm,0.9s						
KMSI	**Cibinong**	**14.12**	**278**	P	**Pn**	**10 43 14.2**	**-0.9**
	comp=Z,358nm,1.6s,comp=Z,5µm						
KRVT	**Keravat (AS076**	**14.33**	**102**	Pn	**P**	**10 43 24.9**	**+0.4**
	comp=Z,2.0nm,0.3s,baz=12,slow=21,SNR=12						
DAV	**Davao City (W)**	**14.99**	**305**	LR	LR	10 49 09.5	
	comp=Z,226nm,18.1s,baz=114,slow=37						
GTOI	**Gorontalo**	**15.09**	**278**	P	**Pn**	**10 43 28.7**	**+0.5**
	comp=Z,30nm,1.4s,comp=Z,556nm						
LUWI	**Luwuk**	**15.19**	**271**	P	**Pn**	**10 43 30.1**	**+0.7**
LUWI	**Luwuk**	**15.19**	**271**	P	**Pn**	**10 43 27.9**	**-1.5**
	comp=Z,156nm,1.3s						
BBSI	**Bau Bau**	**15.86**	**255**	P	**Pn**	**10 43 39.2**	**+1.0**
	comp=Z,316nm,1.1s,comp=Z,3µm						
SOEI	**Soe**	**15.90**	**238**	P	**Pn**	**10 43 38.6**	**-0.2**
SOEI	**Soe**	**15.90**	**238**	Pn	**Pn**	**10 43 38.2**	**-0.6**
SOEI	**Soe**	**15.90**	**238**	P	**Pn**	**10 43 36.4**	**-2.4**
	comp=Z,445nm,0.8s,comp=Z,4µm						
MRSI	**Marisa**	**16.13**	**277**	P	**P**	**10 43 43.6**	**-0.8**
	comp=Z,49nm,0.9s						
GUMO	**Guam**	**16.46**	**24**	LR	LR	10 50 04.4	
	comp=Z,464nm,18.6s,baz=204,slow=38						
BATI	**Baumata**	**16.64**	**238**	Pn	**Pn**	**10 43 45.7**	**-2.4**
	comp=Z,4.0nm,0.3s,baz=151,slow=3.0,SNR=11						
BATI				LR	LR	10 50 15.8	
	comp=Z,393nm,20.7s,baz=66,slow=37						
	comp=Z,106nm,0.9s						
BATI	**Baumata**	**16.64**	**238**	P	**Pn**	**10 43 45.7**	**-2.4**
	comp=Z,251nm,0.9s,comp=Z,5µm						
KNRA	**Kununurra**	**16.77**	**212**	P	**Pn**	**10 43 48.1**	**-1.5**
	baz=17,SNR=11						
KNRA				P	**Pn**	**10 43 48.1**	**-1.5**
	baz=17,SNR=11						
KNRA	**Kununurra**	**16.77**	**212**	P	**Pn**	**10 43 48.1**	**-1.5**
KNRA	**Kununurra**	**16.77**	**212**	Pn	**Pn**	**10 43 47.6**	**-2.1**
MMRI	**Maumere**	**17.19**	**245**	P	**Pn**	**10 43 55.2**	**+0.3**
MMRI	**Maumere**	**17.19**	**245**	P	**Pn**	**10 43 55.5**	**+0.6**
MMRI	**Maumere**	**17.19**	**245**	P	**Pn**	**10 43 54.4**	**-0.5**
	comp=Z,100nm,0.9s,comp=Z,2µm						
TOLI2	**Tolitoli**	**17.36**	**278**	P	**P**	**10 43 58.8**	**+0.7**
TOLI2	**Tolitoli**	**17.36**	**278**	Pn	**Pn**	**10 43 54.4**	**-2.8**
MTSU	**Mount Surprise**	**17.69**	**160**	P	**P**	**10 44 02.0**	**+0.2**
	baz=18,SNR=9.7						
MTSU	**Mount Surprise**	**17.69**	**160**	P	**P**	**10 44 05.3**	**+3.6**
EDFI	**Ende, Flores**	**17.73**	**245**	P	**Pn**	**10 44 01.6**	**-0.1**
	comp=Z,55nm,1.0s,comp=Z,817nm						
MPSI	**Mapaga**	**18.14**	**276**	P	**P**	**10 44 07.2**	**+0.5**
	comp=Z,36nm,1.4s,comp=Z,1µm						
TTSI	**Tana Toraja**	**18.19**	**265**	P	**Pn**	**10 44 06.6**	**-0.7**
	comp=Z,89nm,1.6s,comp=Z,2µmcomp=Z,2µm						
BKSI	**Bulukumba**	**18.20**	**257**	P	**P**	**10 44 05.9**	**-1.5**
	comp=Z,96nm,1.7s,comp=Z,2µm						
KAPI	**Kappang**	**18.51**	**259**	P	**Pn**	**10 44 12.5**	**+1.3**
KAPI	**Kappang**	**18.51**	**259**	P	**Pn**	**10 44 11.7**	**+0.6**
KAPI	**Kappang**	**18.51**	**259**	*d* *i*P	**Pn**	**10 44 11.5**	**+0.3**
KAPI				pmax	pmax		
	comp=Z,72nm,1.5s						
WRAB	**Tennant Creek**	**18.68**	**191**	P	**P**	**10 44 11.2**	**-1.3**
WRAB				IAmb	IAmb	10 44 21.3	
	comp=Z,68nm,0.8s						
WRAB	**Tennant Creek**	**18.68**	**191**	*c* *i*P	**P**	**10 44 12.4**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,82nm,0.9s						
QIS	**Mount Isa**	**19.03**	**175**	P	**P**	**10 44 14.4**	**-2.1**
	baz=19,SNR=23						
BASI	**Baing, Sumba**	**19.33**	**243**	P	**Pn**	**10 44 20.7**	**-0.4**
	comp=Z,174nm,0.8s						
CTAO	**Charters Tower**	**20.20**	**157**	P	Pn	10 44 32.4	+1.1
CTAO	**Charters Tower**	**20.20**	**157**		Pn	10 44 31.4	+0.2
CTAO	**Charters Tower**	**20.20**	**157**	P	Pn	10 44 31.5	+0.2
CTAO				pmax	pmax		
	comp=Z,24nm,0.8s						
PLAI	**Plampang**	**21.37**	**249**	P	**P**	**10 44 44.8**	**+2.9**
PLAI	**Plampang**	**21.37**	**249**	P	**P**	**10 44 39.7**	**-2.2**
	comp=Z,107nm,1.2s						
AS31	**Alice Springs**	**22.40**	**190**	P	**P**	**10 44 53.2**	**+0.3**
AS31				IAmb	IAmb	10 45 02.5	
	comp=Z,45nm,0.8s						
ASAR	**Alice Springs**	**22.40**	**190**	P	**P**	**10 44 53.1**	**+0.1**
ASAR	**Alice Springs**	**22.40**	**190**	P	**P**	**10 44 52.8**	**-0.2**
	comp=Z,36nm,0.8s,baz=19,slow=11,SNR=200						
ASAR				S	**S**	**10 48 54.4**	**-2.4**
	comp=Z,16nm,0.9s,baz=12,slow=24,SNR=10						
ASAR				LR	LR	10 55 02.8	
	comp=Z,1µm,18.2s,baz=18,slow=40						
	comp=Z,36nm,0.8s						
ASAR	**Alice Springs**	**22.40**	**190**	P	**P**	**10 44 53.1**	**+0.1**
TGY	**Tagaytay City**	**22.89**	**313**	LR	LR	10 52 37.3	
	comp=Z,514nm,22.0s,baz=118,slow=34						
HNR	**Honiara**	**23.26**	**111**	P	P	10 45 10.7	+8.8
HNR	**Honiara**	**23.26**	**111**	P	**P**	**10 45 00.4**	**-1.4**
HNR	**Honiara**	**23.26**	**111**	P	**P**	**10 45 00.4**	**-1.4**
HNR				pmax	pmax		
	comp=Z,116nm,0.9s						
RK1H	**Rockhampton Ha**	**24.95**	**152**	P	**P**	**10 45 22.1**	**+4.7**
BLJI	**Banyuglugur**	**25.05**	**255**	P	**P**	**10 45 16.8**	**-1.7**
	comp=Z,75nm,1.0s						
WRKA	**Warakurna**	**25.21**	**201**	P	**P**	**10 45 20.2**	**+0.4**
	baz=25,SNR=29						
WRKA	**Warakurna**	**25.21**	**201**	P	**P**	**10 45 22.5**	**+2.6**
QLP	**Quilpie**	**25.68**	**167**	P	**P**	**10 45 25.9**	**+1.9**
	baz=26,SNR=8.1						
QLP	**Quilpie**	**25.68**	**167**	P	**P**	**10 45 29.5**	**+5.4**
GRJI	**Gresik**	**25.96**	**257**	P	**P**	**10 45 27.8**	**+1.0**
	comp=Z,370nm,1.6s,comp=Z,4µm						
SBUM	**Sibu**	**26.02**	**279**	P	**P**	**10 45 28.0**	**+0.7**
INKA	**Innaminka**	**26.25**	**174**	P	**P**	**10 45 34.3**	**+5.1**
MBWA	**Marble Bar**	**26.43**	**221**	P	**P**	**10 45 33.6**	**+2.7**
MBWA	**Marble Bar**	**26.43**	**221**	P	**P**	**10 45 31.0**	**+0.1**
MBWA				IAmb	IAmb	10 45 45.9	
	comp=Z,51nm,1.1s						
PSA00	**Pilbara Seismi**	**26.65**	**220**	P	**P**	**10 45 33.6**	**+0.7**
PSA00	**Pilbara Seismi**	**26.65**	**220**	P	**P**	**10 45 32.7**	**-0.2**
PSA00	**Pilbara Seismi**	**26.65**	**220**	P	**P**	**10 45 33.2**	**+0.3**
PSA00				IAmb	IAmb	10 45 42.9	
	comp=Z,20nm,1.0s						
PWJI	**Pagerwojo**	**26.85**	**255**	P	**P**	**10 45 32.3**	**-2.4**
	comp=Z,39nm,1.1s						
EIDS	**Eidsvold**	**26.92**	**153**	P	**P**	**10 45 38.0**	**+2.7**
	baz=27,SNR=9.6						
EIDS	**Eidsvold**	**26.92**	**153**	P	**P**	**10 45 39.7**	**+4.4**
EIDS	**Eidsvold**	**26.92**	**153**	P	**P**	**10 45 39.2**	**+3.9**
KSM	**Kuching**	**27.80**	**276**	P	**P**	**10 45 45.2**	**+1.9**
KSM	**Kuching**	**27.80**	**276**	P	**P**	**10 45 44.0**	**+0.7**
SMRI	**Semarang**	**27.98**	**258**	P	**P**	**10 45 48.9**	**+3.9**
SMRI	**Semarang**	**27.98**	**258**	P	**P**	**10 45 45.8**	**+0.9**
SMRI	**Semarang**	**27.98**	**258**	P	**P**	**10 45 45.7**	**+0.7**
	comp=Z,110nm,1.1s						
JCJ	**Chichijima**	**28.70**	**8**	LR	LR	10 54 51.9	
	comp=Z,205nm,18.0s,baz=106,slow=32						
LCRK	**Leigh Creek**	**28.81**	**180**	P	**P**	**10 45 56.5**	**+4.4**
AULRC	**Lightning Ridg**	**29.39**	**162**	P	P	10 46 02.8	+5.5
KPJI	**Karang Pucung**	**29.50**	**258**	P	**P**	**10 45 57.4**	**-1.1**
	comp=Z,28nm,1.1s,comp=Z,1µm						
AUWSH	**Wavell State H**	**29.56**	**152**	P	P	10 46 04.0	+5.3
JOW	**Kunigami**	**29.65**	**342**	LR	LR	10 55 27.2	
	comp=Z,258nm,21.1s,baz=166,slow=32						
STKA	**Stephens Creek**	**30.43**	**174**	P	**P**	**10 46 08.5**	**+2.0**
	baz=31,SNR=12						
STKA	**Stephens Creek**	**30.43**	**174**	P	**P**	**10 46 11.2**	**+4.7**
STKA	**Stephens Creek**	**30.43**	**174**	P	**P**	**10 46 07.6**	**+1.2**
STKA	**Stephens Creek**	**30.43**	**174**	P	**P**	**10 46 07.2**	**+0.8**
	comp=Z,10nm,0.8s,baz=354,slow=9.8,SNR=16						
STKA				LR	LR	10 59 17.8	
	comp=Z,1µm,21.7s,baz=346,slow=38						
	comp=Z,10nm,0.8s						
STKA	**Stephens Creek**	**30.43**	**174**	‖ *e*P	**P**	**10 46 08.3**	**+1.8**
LEM	**Lembang**	**30.71**	**259**	LR	LR	11 00 47.3	
	comp=Z,752nm,19.3s,baz=116,slow=41						
CMSA	**Cobar Meteorol**	**30.78**	**167**	P	**P**	**10 46 11.8**	**+2.3**
	baz=31,SNR=10						
CMSA	**Cobar Meteorol**	**30.78**	**167**	P	**P**	**10 46 13.1**	**+3.6**
MEEK	**Meekatharra**	**31.16**	**215**	P	**P**	**10 46 13.0**	**-0.1**
	baz=31,SNR=6.0						
BBOO	**Buckleboo**	**31.22**	**183**	P	**P**	**10 46 14.6**	**+1.2**
	baz=31,SNR=5.5						
ARMA	**Armidale**	**31.57**	**157**	P	**P**	**10 46 17.4**	**+0.7**
	baz=32,SNR=6.2						
ARMA	**Armidale**	**31.57**	**157**	P	**P**	**10 46 20.6**	**+3.9**
ARMA	**Armidale**	**31.57**	**157**	P	**P**	**10 46 18.2**	**+1.5**
ARMA				IAmb	IAmb	10 46 26.6	
	comp=Z,18nm,1.1s						
HTT	**Hallett**	**31.80**	**178**	P	**P**	**10 46 19.5**	**+0.9**
	baz=32,SNR=5.5						
AUPHS	**Peel High Scho**	**31.91**	**159**	P	**P**	**10 46 22.9**	**+3.4**
AUDCS	**Dubbo College**	**32.20**	**163**	P	P	10 46 27.9	+5.8
YNG	**Young**	**34.08**	**164**	P	**P**	**10 46 40.0**	**+1.5**
	baz=34,SNR=8.4						
YNG	**Young**	**34.08**	**164**	P	**P**	**10 46 41.9**	**+3.4**
MYKOM	**Kota Tinggi**	**34.25**	**275**	IAmb	IAmb	10 46 48.1	
	comp=Z,17nm,0.9s						
QIZ	**Qiongzhong**	**34.33**	**308**	P	**P**	**10 46 42.6**	**+1.8**
QIZ				S	**S**	**10 52 10.0**	**+4.2**
QIZ				LR	LR		
	comp=Z,170nm,11.3s						
QIZ				LR	LR		
	comp=Z,220nm,10.8s						
QIZ				LR	LR		
	comp=Z,300nm,18.4s						
JHJ	**Hachijo jima 2**	**34.45**	**3**	LR	LR	10 57 31.0	
	comp=Z,346nm,19.8s,baz=95,slow=31						
DZM	**Mont Dzumac**	**34.45**	**129**	*e*P	P	10 46 39.2	-2.8
	comp=Z,54nm,22.6s						
DZM				*e*S	**S**	**10 52 03.3**	**-4.7**
	comp=Z,286nm,30.6s						
DZM				*e*LR	LR	10 56 02.3	
	comp=Z,538nm,23.6s						
MORW	**Morawa**	**34.48**	**215**	P	**P**	**10 46 42.6**	**+0.6**
	baz=35,SNR=4.6						
MORW	**Morawa**	**34.48**	**215**	P	**P**	**10 46 45.4**	**+3.4**
JNU	**Nakatsue**	**35.06**	**350**	LR	LR	10 58 26.0	
	comp=Z,267nm,21.2s,baz=172,slow=32						
CAN	**Canberra**	**35.21**	**164**	P	**P**	**10 46 52.4**	**+4.2**
CAN	**Canberra**	**35.21**	**164**	P	**P**	**10 46 52.0**	**+3.8**
ARPS	**Mount Arapiles**	**35.30**	**175**	P	**P**	**10 46 50.6**	**+1.7**
	baz=36,SNR=6.6						
ARPS	**Mount Arapiles**	**35.30**	**175**	P	**P**	**10 46 53.6**	**+4.7**
CNB	**Canberra Magne**	**35.30**	**164**	P	**P**	**10 46 50.9**	**+1.9**
	baz=36,SNR=8.4						
CNB	**Canberra Magne**	**35.30**	**164**	P	**P**	**10 46 53.7**	**+4.6**
KLBR	**Kellerberrin**	**35.52**	**210**	P	**P**	**10 46 51.4**	**+0.5**
	baz=36,SNR=6.2						
KLBR	**Kellerberrin**	**35.52**	**210**	P	**P**	**10 46 53.8**	**+2.9**
UBPT	**Khong Chiam**	**36.19**	**299**	P	P	10 47 01.3	+4.5
UBPT	**Khong Chiam**	**36.19**	**299**	P	**P**	**10 46 55.8**	**-1.0**
UBPT				IAmb	IAmb	10 46 57.5	
	comp=Z,9.7nm,0.8s						
TOO	**Toolangi**	**36.58**	**170**	P	**P**	**10 47 01.8**	**+1.8**
	baz=37,SNR=4.6						
TOO	**Toolangi**	**36.58**	**170**	P	P	10 47 05.3	+5.3
AUHPC	**Hawkesdale P12**	**36.68**	**174**	P	P	10 47 05.8	+5.2
NWAO	**Narrogin (SRO)**	**36.85**	**210**	LR	LR	11 04 08.7	
	comp=Z,1µm,19.0s,baz=44,slow=39						
NWAO	**Narrogin (SRO)**	**36.85**	**210**	P	**P**	**10 47 02.9**	**+0.7**
MILA	**Mila**	**36.88**	**165**	P	**P**	**10 47 06.4**	**+3.9**
	baz=37,SNR=5.5						
MJAR	**Matsushiro Arr**	**37.83**	**0**	P	**P**	**10 47 06.9**	**-3.6**
	comp=Z,3.8nm,0.9s,baz=167,slow=8.7,SNR=6.8						
MJAR				LR	LR	10 59 26.6	
	comp=Z,210nm,20.6s,baz=160,slow=31						
	comp=Z,3.8nm,0.9s						
NJ2	**Nanjing**	**37.94**	**333**	*e*P	**P**	**10 47 11.6**	**+0.1**
NJ2				pP	**pP**	**10 47 20.0**	**-2.3**
NJ2				pmax	pmax		
	comp=Z,22nm,0.9s						
WHN	**Wuhan**	**38.98**	**327**	P	**P**	**10 47 22.3**	**+2.0**
SRIT	**Nakonsritamara**	**39.52**	**285**	P	**P**	**10 47 24.0**	**-1.0**
SRIT				IAmb	IAmb	10 47 26.1	
	comp=Z,31nm,1.2s						
KSRS	**Korea Array**	**39.84**	**348**	P	**P**	**10 47 24.0**	**-3.3**
	comp=Z,1.6nm,0.8s,baz=174,slow=14,SNR=4.9						
KSRS				LR	LR	11 01 25.8	
	comp=Z,182nm,21.3s,baz=160,slow=33						
	comp=Z,1.6nm,0.8s						
GSI	**Gunungsitoli**	**40.47**	**274**	P	**P**	**10 47 31.2**	**-1.7**
GSI				IAmb	IAmb	10 47 34.2	
	comp=Z,36nm,1.0s						
PHRA	**Phrae**	**42.08**	**300**	P	**P**	**10 47 45.8**	**-0.2**
TIA	**Tai'an**	**42.22**	**335**	P	**P**	**10 47 46.3**	**-0.7**
TIA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
TIA				pmax	pmax		
	comp=Z,68nm,3.5s						
TIA				LR	LR		
	comp=Z,120nm,15.3s						
TIA				LR	LR		
	comp=Z,140nm,5.5s						
TIA				LR	LR		
	comp=Z,160nm,11.3s						
CRAI	**Chiangrai**	**42.68**	**302**	P	**P**	**10 47 51.1**	**+0.2**
CRAI				IAmb	IAmb	10 47 52.4	
	comp=Z,24nm,1.4s						
LYN	**LuoYang**	**43.08**	**329**	⇑P	**P**	**10 47 53.4**	**-0.6**
LYN				S	**S**	**10 54 20.0**	**+2.6**
LYN				sS	sS	10 54 38.5	+2.5
LYN				pmax	pmax		
	comp=Z,20nm,1.7s						
LYN				pmax	pmax		
	comp=Z,220nm,5.7s						
LYN				LR	LR		
	comp=Z,400nm,12.5s						
LYN				LR	LR		
	comp=Z,240nm,14.3s						
LYN				LR	LR		
	comp=Z,400nm,29.9s						
KMI	**Kunming**	**43.15**	**310**	⇑P	**P**	**10 47 56.7**	**+1.7**
KMI				S	**S**	**10 54 19.0**	**-0.2**
KMI				pmax	pmax		
	comp=Z,11nm,1.3s						
KMI				LR	LR		
	comp=Z,170nm,17.1s						
KMI				LR	LR		
	comp=Z,310nm,18.1s						
KMI				LR	LR		
	comp=Z,390nm,19.1s						
CM31	**Chiang Mai Arr**	**43.18**	**299**	IAmb	IAmb	10 49 02.1	
	comp=Z,18nm,0.6s						
CMAR	**Chiang Mai Arr**	**43.18**	**299**	P	**P**	**10 47 54.3**	**-0.7**
CMAR	**Chiang Mai Arr**	**43.18**	**299**	P	**P**	**10 47 54.9**	**-0.1**
	comp=Z,9.8nm,1.1s,baz=120,slow=6.4,SNR=42						
CMAR				LR	LR	11 05 58.4	
	comp=Z,111nm,21.8s,baz=95,slow=36						
	comp=Z,9.8nm,1.1s						
CMAR	**Chiang Mai Arr**	**43.18**	**299**	*i* P	**P**	**10 47 55.7**	**+0.7**
CMAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
HNS	**HongShan**	**44.27**	**333**	⇓P	**P**	**10 48 03.3**	**-0.2**
HNS				pmax	pmax		
	comp=Z,17nm,1.5s						
XAN	**Xi'an**	**44.64**	**325**	⇑P	**P**	**10 48 05.6**	**-1.0**
XAN				pmax	pmax		
	comp=Z,15nm,1.3s						
XAN				LR	LR		
	comp=Z,440nm,16.2s						
XAN				LR	LR		
	comp=Z,300nm,17.1s						
XAN				LR	LR		
	comp=Z,550nm,16.8s						
PZH	**PanZhiHua**	**44.65**	**311**	P	**P**	**10 48 11.0**	**+4.1**
PZH				S	**S**	**10 54 39.4**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
PZH				LR	LR		
	comp=Z,230nm,20.4s						
PZH				LR	LR		
	comp=Z,240nm,21.0s						
PZH				LR	LR		
	comp=Z,310nm,22.6s						
VLA	**Vladivostok**	**44.73**	**354**	‖ *e*P	**P**	**10 48 09.0**	**+2.0**
ASAJ	**Asahikawa**	**45.58**	**5**	LR	LR	11 06 10.9	
	comp=Z,165nm,20.5s,baz=196,slow=35						
CD2	**Chengdu**	**45.77**	**318**	P	**P**	**10 48 16.3**	**+0.7**
CD2				pP	pP	10 48 27.3	+0.7
CD2				sP	sP	10 48 32.6	+2.0
CD2				S	**S**	**10 54 56.7**	**0.0**
CD2				sS	sS	10 55 22.7	+7.4
CD2				pmax	pmax		
	comp=Z,20nm,0.9s						
CD2				pmax	pmax		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=Z,590nm,21.5s						
CD2				LR	LR		
	comp=Z,360nm,15.5s						
CD2				LR	LR		
	comp=Z,260nm,14.6s						
USRK	**Ussuriysk Ar.**	**45.79**	**354**	P	**P**	**10 48 14.9**	**-0.5**
	comp=Z,2.1nm,0.6s,baz=196,slow=10,SNR=4.7						
	comp=Z,2.1nm,0.6s						
BJI	**Beijing**	**45.87**	**337**	P	**P**	**10 48 15.7**	**-0.4**
BJI				pP	**pP**	**10 48 24.6**	**-2.6**
BJI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
TNCH	**TengChong**	**46.40**	**307**	*e*P	**P**	**10 48 21.1**	**+0.3**
TNCH				pmax	pmax		
	comp=Z,72nm,4.0s						
CN2	**Changchun**	**46.45**	**348**	*e*P	**P**	**10 48 20.1**	**-0.5**
CN2				*es*P	sP	10 48 37.8	+2.3
MDJ	**Mudanjiang

GTA sP sP 10 49 34.6 +3.9
GTA pmax pmax
comp=Z,7.0nm,1.3s
LSA Lhasa 54.36 309 P P 10 49 22.8 +1.5
LSA pP **pP 10 49 32.3 -0.4**
ZEA Zeya 55.74 352 *eP* **P 10 49 30.4 +0.2**
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,1.2s
ULN Ulaanbaatar 56.04 335 *i* P **P 10 49 33.6 +0.9**
ULN pmax pmax
comp=Z,7.0nm,1.1s
SONM Songino Array 56.29 335 P P 10 49 33.5 -0.9
comp=Z,1.1nm,0.6s,baz=150,slow=9.6,SNR=5.6
SONM LR LR 11 12 46.2
comp=Z,186nm,21.5s,baz=126,slow=35
comp=Z,1.1nm,0.6s
PEA0B Petropavlovsk- 56.85 14 P P 10 49 38.1 0.0
PEA0B Petropavlovsk- 56.85 14 *ce* P **P 10 49 38.5 +0.3**
PETK Petropavlovsk- 56.85 14 P P 10 49 38.0 -0.2
PETK Petropavlovsk- 56.85 14 P P 10 49 37.2 -1.0
comp=Z,12nm,0.9s,baz=205,slow=6.6,SNR=16
PETK LR LR 11 10 13.0
comp=Z,129nm,21.7s,baz=201,slow=32
comp=Z,12nm,0.9s
PETK Petropavlovsk- 56.85 14 P P 10 49 38.0 -0.2
PET Petropavlovsk 57.01 15 *eP* **P 10 49 38.2 -1.1**
PET *eS* **S 10 57 32.1 +1.2**
PET 11 03 37.2
PET MLR MLR
comp=Z,100nm,14.0s
PET MLR MLR
comp=Z,200nm,15.0s
PALK Pallekele 57.77 279 LR LR 11 16 49.8
comp=Z,111nm,20.6s,baz=203,slow=38
ZAK Zakamensk 59.56 335 *eP* **P 10 49 57.1 -0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
MOY Mondy 61.48 335 *eP* **P 10 50 11.2 +0.8**
MOY pmax pmax
comp=Z,34nm,2.8s
MA2 Magadan 61.70 7 LR LR 11 22 28.8
comp=Z,30nm,18.0s,baz=192,slow=42
SHEM Shemya Is, Ala 61.93 24 LR LR 11 13 34.1
comp=Z,290nm,20.8s,baz=278,slow=33
BOD Bodaibo 62.14 346 *eP* **P 10 50 14.7 +0.1**
BOD pmax pmax
comp=Z,35nm,1.7s
WMQ Urumqi 63.58 322 *eP* **P 10 50 27.1 +2.6**
YAK Yakutsk 63.65 356 P **P 10 50 23.8 -0.7**
comp=Z,50nm,0.4s,baz=145,slow=1.6,SNR=9.9
YAK Yakutsk 63.65 356 *eP* **P 10 50 24.0 -0.5**
YAK *e**PP **pP 10 50 30.4 -5.2**
YAK *e* 10 51 00.6
YAK *e* 10 52 43.3
YAK *eS* **S 10 58 58.7 +3.0**
YAK *e**SS **sS 10 59 19.0 +6.3**
YAK *e*SSS SSS 11 05 57.9
YAK pmax pmax
comp=Z,51nm,1.0s
YAK pmax pmax
comp=N,21nm,1.4s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,288nm,5.3s
YAK pmax pmax
comp=N,266nm,5.0s
YAK pmax pmax
comp=E,228nm,4.8s
YAK smax smax
comp=N,476nm,5.0s
YAK smax smax
comp=E,224nm,4.8s
YAK MLR MLR
comp=Z,181nm,20.0s
YAK MLR MLR
comp=N,190nm,21.0s
YAK MLR MLR
comp=E,45nm,18.0s
RAR Rarotonga 63.69 113 LR LR 11 17 51.8
comp=E,52nm,19.1s,baz=285,slow=36
DRV Dumont d'Urvil 65.07 179 P P 10 50 34.6 +0.9
DRV pP **pP 10 50 43.8 -1.6**
DRV sP **sP 10 50 47.9 -2.0**
SEY Seymchan 65.16 7 P P 10 50 33.2 -1.1
comp=E,6.1nm,0.9s,baz=218,slow=4.4,SNR=12
comp=E,6.1nm,0.9s
SEY Seymchan 65.16 7 *eP* **P 10 50 33.7 -0.7**
SEY pmax pmax
comp=Z,10.0nm,1.0s
CASY Casey 67.52 192 P P 10 50 55.4 +6.0
CASY sP sP 10 51 08.1 +2.5
MK31 Makanchi Array 68.36 322 IAmb IAmb 10 51 03.1
comp=Z,17nm,1.4s
MK31 Makanchi Array 68.36 322 *ci* P **P 10 50 55.2 0.0**
MKAR Makanchi Array 68.36 322 P P 10 50 54.5 -0.7
MKAR Makanchi Array 68.36 322 P P 10 50 54.7 -0.5
comp=Z,4.4nm,0.5s,baz=109,slow=8.3,SNR=36
MKAR LR LR 11 19 18.3
comp=Z,61nm,21.7s,baz=104,slow=35
comp=Z,4.4nm,0.5s
MKAR Makanchi Array 68.36 322 *i* P **P 10 50 55.2 0.0**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MAKZ Makanchi 68.56 322 P P 10 50 56.2 -0.2
MAKZ IAmb IAmb 10 51 04.2
comp=Z,13nm,1.0s
MAKZ Makanchi 68.56 322 P P 10 50 56.2 -0.2
MAKZ pmax pmax
comp=Z,13nm,1.0s
MAKZ Makanchi 68.56 322 P P 10 50 56.6 +0.2
UZB Uzynbulak 68.89 318 *eP* **P 10 50 59.2 +0.5**
TARG Taragay, Kyrgy 69.18 316 P P 10 51 01.2 +0.4
TARG IAmb IAmb 10 51 18.1
comp=Z,13nm,1.1s
TARG Taragay, Kyrgy 69.18 316 P P 10 51 01.2 +0.4
TARG pmax pmax
comp=Z,13nm,1.1s
KSH Kashi 69.69 313 P P 10 51 06.7 +3.0
KSH pmax pmax
comp=Z,8.0nm,1.3s
ARXS Arharly 70.11 318 *eP* **P 10 51 06.8 +0.7**
ZALV Zalesovo Beam 70.50 330 P P 10 51 07.0 -1.2
ZALV Zalesovo Beam 70.50 330 P P 10 51 06.6 -1.5
comp=Z,1.8nm,0.7s,baz=108,slow=4.8,SNR=6.5
ZALV LR LR 11 21 38.9
comp=Z,71nm,21.8s,baz=160,slow=36
comp=Z,1.8nm,0.7s
ZALV Zalesovo Beam 70.50 330 *i* P **P 10 51 07.4 -0.8**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
AAK Ala-Archa 71.80 316 P P 10 51 17.1 +0.6
AAK Ala-Archa 71.80 316 *lie* P **P 10 51 18.0 +1.5**
AAK pmax pmax
comp=Z,5.0nm,1.0s
BILL Bilibino 72.10 11 P P 10 51 16.6 -1.0
BILL Bilibino 72.10 11 *ji* P **P 10 51 18.0 +0.4**
BILL pmax pmax
comp=Z,7.0nm,1.4s
KURK Kurchatov 72.28 325 P P 10 51 18.6 -0.3
KURK IAmb IAmb 10 51 50.1
comp=Z,16nm,1.3s
KURK Kurchatov 72.28 325 *ci* P **P 10 51 18.7 -0.3**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURBB Kurchatov Arra 72.29 325 P P 10 51 18.6 -0.5
comp=Z,2.7nm,0.8s,baz=114,slow=5.8,SNR=21
comp=Z,2.7nm,0.8s
PPT Papeete 72.85 108 LR LR 11 19 52.3
comp=Z,95nm,21.8s,baz=282,slow=33
PPT2 Papeete2 72.85 108 *eS* **S 11 00 42.4 -4.7**
comp=Z,119nm,28.8s
PPT2 Papeete2 72.85 108 *e* LR LR 11 13 46.9
comp=Z,331nm,23.8s
PPT2 *e* LR LR 11 13 48.5
comp=Z,242nm,23.2s
BTLS Baital 72.92 318 *eP* **P 10 51 23.5 +0.5**
TIXI Tiksi 73.24 357 P P 10 51 23.6 -0.6
TIXI Tiksi 73.24 357 LR LR 11 21 12.6
comp=Z,263nm,21.7s,baz=176,slow=34
TIXI Tiksi 73.24 357 P P 10 51 23.6 -0.6
TIXI pmax pmax
comp=Z,5.0nm,0.8s
TBI Tubuai 73.44 114 *eP* **P 10 51 25.7 -0.7**
comp=Z,346nm,31.5s
TBI Tubuai 73.44 114 *e* LR LR 11 14 07.3
comp=Z,514nm,25.5s
BTK Batken 73.64 313 P P 10 51 27.1 -0.3
BTK IAmb IAmb 10 51 44.9
comp=Z,13nm,1.2s
BTK Batken 73.64 313 P P 10 51 27.1 -0.3
BTK pmax pmax
comp=Z,13nm,1.2s
FALS False Pass 73.74 31 P P **10 51 28.9 +1.4**
baz=243
SIMJ Simiganj 74.62 311 P P 10 51 32.5 -0.8
SIMJ IAmb IAmb 10 51 38.4
comp=Z,10nm,0.9s
KK31 Karatay Array 74.73 315 P P 10 51 33.1 -0.5
KK31 IAmb IAmb 10 51 40.8
comp=Z,22nm,1.6s
KK31 Karatay Array 74.73 315 P P 10 51 33.1 -0.5
KK31 pmax pmax
comp=Z,22nm,1.6s
KKAR Karatay Array 74.73 315 IAmb IAmb 10 51 40.8
comp=Z,21nm,1.6s
IUG luzhnay 74.79 314 *eP* **P 10 51 35.0 +0.9**
S14K Fog Glacier 76.34 31 P P 10 51 42.6 0.0
baz=246
K13K Kusilvak Mount 76.57 24 P P 10 51 44.6 +0.9
baz=240
N14K Kuskokwak Cree 76.89 27 P P 10 51 46.3 +0.9
baz=243
CHGN Chignik 76.92 31 P P 10 51 46.1 +0.4
baz=247
VNDA Vanda 77.07 175 P P 10 51 47.1 +0.8
VNDA Vanda 77.07 175 P P 10 51 46.8 +0.5
comp=Z,1.8nm,0.8s,baz=319,slow=5.3,SNR=8.7
VNDA LR LR 11 26 05.3
comp=Z,619nm,18.2s,baz=354,slow=36
comp=Z,1.8nm,0.8s
VNDA Vanda 77.07 175 P P 10 51 47.1 +0.8
VNDA pmax pmax
comp=Z,4.0nm,1.0s
L14K Kuka Creek 77.11 25 IAmb IAmb 10 51 58.5
comp=Z,19nm,0.9s
L14K Kuka Creek 77.11 25 P P 10 51 48.0 +1.3
baz=242
M14K Bethel 77.14 26 P P 10 51 48.7 +1.8
baz=243
TNA Tin City 77.26 20 P P 10 51 49.1 +1.6
baz=236
J14K Nanvaranak Lak 77.42 24 P P 10 51 49.7 +1.3
baz=241
ANM Nome 77.64 22 P P 10 51 50.9 +1.3
baz=239
F14K Arctic Creek 77.77 21 P P 10 51 51.9 +1.5
baz=238
BVAR Borovoye Array 77.88 325 P P 10 51 51.2 0.0
comp=Z,4.9nm,0.7s,baz=120,slow=7.2,SNR=28
BVAR LR LR 11 26 17.0
comp=Z,57nm,22.0s,baz=108,slow=36
comp=Z,4.9nm,0.7s
BRVK Borovoye 77.95 325 P P 10 51 51.3 -0.3
BRVK IAmb IAmb 10 52 04.2
comp=Z,12nm,0.8s
BRVK Borovoye 77.95 325 *ci* P **P 10 51 51.5 -0.1**
BRVK pmax pmax
comp=Z,12nm,1.3s
K15K Wolf Creek Mou 78.03 25 P P 10 51 53.3 +1.4
baz=243
CHIR Chirikof Islan 78.20 32 P P 10 51 53.0 +0.1
baz=249
P16K Nushagak River 78.21 28 P P 10 51 54.3 +1.3
baz=247
G15K Niukluk 78.35 22 P P 10 51 55.1 +1.5
baz=240
O16K Kokwok River B 78.39 28 P P 10 51 54.3 +0.4
baz=246
N16K Nishlik Lake 78.44 27 P P 10 51 55.3 +1.1
baz=246
F15K North Star Dit 78.49 21 P P 10 51 56.0 +1.7
baz=239
M16K Timber Creek 78.58 26 P P 10 51 55.9 +0.9
baz=245
L16K Owhat River 78.65 26 P P 10 51 55.5 +0.2
baz=245
Q16K King Salmon 78.72 29 P P 10 51 56.4 +0.7
baz=248
H16K Elim 78.85 22 P P 10 51 56.0 -0.3
baz=242
J16K Anvik River 78.86 24 P P 10 51 57.9 +1.4
baz=243
O17K Koliganek Bris 78.93 28 P P 10 51 58.0 +1.1
baz=247
Q17K Contact Creek 78.94 30 P P 10 51 57.5 +0.3
baz=249
I17K Unalakleet 79.10 23 P P 10 51 58.4 +0.7
baz=243
G16K Koyuk River 79.17 22 IAmb IAmb 10 52 09.7
comp=Z,11nm,1.1s
G16K Koyuk River 79.17 22 P P 10 51 59.7 +1.7
baz=241
N17K Nushagak Hills 79.18 27 P P 10 51 59.7 +1.5
baz=247
SII Sitkinak Islan 79.21 31 P P 10 52 00.2 +1.7
baz=250
L17K Donlin 79.33 25 P P 10 51 59.8 +0.8
baz=246
M17K Holitna River 79.41 26 P P 10 52 00.8 +1.3
baz=247
J17K VABM Dome 79.53 24 IAmb IAmb 10 52 18.5
comp=Z,17nm,1.1s
J17K VABM Dome 79.53 24 P P 10 52 01.7 +1.6
baz=245
K17K Iditarod 79.57 25 P P 10 52 01.9 +1.6
K17K IAmb IAmb 10 52 16.8
comp=Z,28nm,1.2s
K17K Iditarod 79.57 25 P P 10 52 02.1 +1.7
baz=246
C16K Lisburne Hills 79.60 18 P P 10 52 02.6 +2.3
baz=238
P18K Big Mountain, 79.67 29 P P 10 52 02.4 +1.4
baz=249
N18K Kilae Creek 79.83 27 P P 10 52 03.2 +1.4
baz=248
O18K Koktuh Hills 79.84 28 P P 10 52 02.4 +0.5
baz=249
G17K Kiwalik Mounta 79.84 22 P P 10 52 02.0 +0.3
baz=243
H17K Granite Mounta 79.87 22 IAmb IAmb 10 52 13.4
comp=Z,13nm,1.1s
H17K Granite Mounta 79.87 22 P P 10 52 03.7 +1.8
baz=244
OHAK Old Harbor 79.89 31 P P 10 52 04.1 +2.0
baz=251
D17K Noatak River 80.03 19 P P 10 52 04.6 +1.9
baz=240
L18K Granite Mounta 80.06 26 P P 10 52 04.7 +1.7
baz=247
F17K Baldwin Pennin 80.06 21 P P 10 52 04.0 +1.1
baz=242
M18K Stony River 80.16 26 P P 10 52 03.9 +0.3
baz=248
E17K Hotham Inlet 80.16 20 P P 10 52 05.5 +2.0
baz=242
Q19K Cape Douglas, 80.27 29 P P 10 52 06.0 +1.7
baz=250
O19K Port Alsworth 80.38 28 P P 10 52 06.8 +2.1
baz=250
C17K DeLong Mountai 80.39 19 P P 10 52 06.3 +1.6
baz=240
KDAK Kodiak Island 80.43 31 P P 10 52 06.6 +1.6
baz=252
KDAK Kodiak Island 80.43 31 LR LR 11 25 02.5
comp=Z,212nm,20.1s,baz=253,slow=34
N19K Bonanza Creek 80.52 27 P P 10 52 07.1 +1.5
baz=250
J18K Innoko River 80.53 24 P P 10 52 06.6 +1.1
baz=247
H18K Honhosa River 80.56 23 P P 10 52 06.8 +1.1
baz=245
TTA Tatalina 80.62 25 P P 10 52 06.5 +0.4
baz=248
F18K Selawik 80.70 21 P P 10 52 07.6 +1.3
baz=244
P19K Oil Pt 80.71 29 P P 10 52 08.5 +1.9
baz=251
E18K Tukpahlearik C 80.74 20 IAmb IAmb 10 52 18.3
comp=Z,12nm,1.0s
E18K Tukpahlearik C 80.74 20 P P 10 52 08.5 +2.0
baz=243,SNR=6.0
G18K Tagagawik 80.76 22 IAmb IAmb 10 52 17.5
comp=Z,9.6nm,1.0s
G18K Tagagawik 80.76 22 P P 10 52 07.7 +1.0
baz=245
Q20K Shuyak Island 80.79 30 P P 10 52 07.8 +0.8
baz=252
L19K White Mountain 80.84 26 IAmb IAmb 10 52 17.9
comp=Z,17nm,1.2s
L19K White Mountain 80.84 26 P P 10 52 08.1 +0.8
baz=249
M19K Big River Lodg 80.94 26 P P 10 52 09.4 +1.6
baz=249
GCSA Galena City Sc 80.97 23 P P 10 52 09.0 +1.2
baz=247
C18K Utukok River 81.11 19 P P 10 52 09.0 +0.4
baz=242
O20K Slope Mountain 81.14 28 P P 10 52 09.9 +0.9
baz=251
J19K Poorman 81.18 24 IAmb IAmb 10 52 20.2
comp=Z,15nm,1.4s
J19K Poorman 81.18 24 P P 10 52 10.7 +1.7
baz=248
B18K Kokolik River 81.26 18 P P 10 52 10.9 +1.6
baz=241
L20K Farewell, AK 81.37 26 P P 10 52 11.1 +1.0
baz=250
H19K Roundabout Mou 81.44 23 IAmb IAmb 10 52 21.5
comp=Z,14nm,1.1s
H19K Roundabout Mou 81.44 23 P P 10 52 11.7 +1.4
baz=247
G19K Purcell Mounta 81.45 22 IAmb IAmb 10 52 21.9
comp=Z,14nm,1.0s
G19K Purcell Mounta 81.45 22 P P 10 52 11.7 +1.3
baz=246
F19K Shaleruckik Mo 81.48 21 P P 10 52 11.9 +1.4
baz=246
HOM Homer 81.48 29 P P 10 52 11.8 +1.2
baz=252
M20K Styx River 81.50 27 IAmb IAmb 10 52 20.8
comp=Z,14nm,1.2s
M20K Styx River 81.50 27 P P 10 52 11.9 +1.1
baz=250
K20K Telida 81.60 25 P P 10 52 12.4 +1.2
baz=250
N20K Mount Spurr 81.69 27 P P 10 52 12.8 +0.9
baz=252
C19K Lookout Ridge 81.84 19 IAmb IAmb 10 52 23.9
comp=Z,21nm,1.1s
C19K Lookout Ridge 81.84 19 P P 10 52 14.1 +1.7
baz=244
J20K Nowinta River 81.85 24 IAmb IAmb 10 52 23.9
comp=Z,11nm,1.2s
J20K Nowinta River 81.85 24 P P 10 52 14.2 +1.7
baz=249
E19K Redstone River 81.93 21 IAmb IAmb 10 52 29.5
comp=Z,19nm,0.9s
E19K Redstone River 81.93 21 P P 10 52 14.0 +1.2
baz=246,SNR=11
BRSE Bradley Lake S 81.94 29 P P 10 52 14.0 +0.9
baz=253
I20K Naaghedeneel 81.94 24 P P 10 52 14.6 +1.7
baz=249
H20K Anotleneega Mo 82.04 23 P P 10 52 14.8 +1.3
baz=248
CAPN Captain Cook N 82.05 28 P P 10 52 12.9 -0.7
baz=252
D19K Kuna River 82.06 20 P P 10 52 14.1 +0.6
baz=245,SNR=10
PPLA Purkeypile 82.25 26 P P 10 52 14.3 -0.5
baz=251
SKT Skwentna 82.25 27 P P 10 52 14.7 0.0
baz=252
F20K Avaraart Lake 82.31 21 IAmb IAmb 10 52 26.2
comp=Z,18nm,1.1s
F20K Avaraart Lake 82.31 21 P P 10 52 14.2 -0.6
baz=248
SUA Susitna One 82.45 27 P P 10 52 14.7 -1.1
baz=253
CAST Castle Rocks 82.46 25 P P 10 52 15.6 -0.2
baz=251
CHUM Lake Minchumin 82.51 25 P P 10 52 17.2 +1.3
baz=251
E20K Nigu River 82.61 20 P P 10 52 17.4 +0.9
baz=247,SNR=9.3
O22K Cooper Landing 82.64 28 P P 10 52 17.9 +1.2
baz=254
IMAR Indian Mountai 82.65 23 P P 10 52 16.8 +0.2
D20K Etivluk River 82.65 20 P P 10 52 16.6 0.0
baz=246,SNR=6.5
SEW Seward 82.67 29 P P 10 52 16.8 0.0
baz=254
RC01 Rabbit Creek A 82.81 28 P P 10 52 18.3 +0.8
baz=254
M22K Willow 82.82 27 P P 10 52 18.4 +0.8
baz=253
GEYT Alibeck 82.89 308 P P 10 52 17.9 -0.7
GEYT IAmb IAmb 10 52 27.7
comp=Z,21nm,1.1s
GEYT Alibeck 82.89 308 P P 10 52 17.3 -1.2
comp=Z,2.5nm,0.4s,baz=180,slow=1.0,SNR=11
comp=Z,2.5nm,0.4s
GEYT Alibeck 82.89 308 P P 10 52 17.9 -0.7
GEYT pmax pmax
comp=Z,21nm,1.2s
H21K Melozitna Rive 82.90 23 P P 10 52 17.9 -0.1
baz=250
G21K Allakaket 82.93 22 IAmb IAmb 10 52 28.5
comp=Z,10nm,1.3s
G21K Allakaket 82.93 22 P P 10 52 18.2 +0.1
baz=250
CUT Chulitna 82.94 26 P P 10 52 18.9 +0.7
baz=253
MAW Mawson 82.98 202 P P 10 52 18.3 0.0
comp=Z,4.3nm,0.8s,baz=56,slow=5.4,SNR=4.5
MAW LR LR 11 28 36.3
comp=Z,223nm,18.2s,baz=68,slow=35
comp=Z,4.3nm,0.8s
KTH Kantishna Hill 83.00 25 IAmb IAmb 10 52 34.1
comp=Z,16nm,1.2s
B20K Meade River 83.00 18 P P 10 52 19.0 +0.6
baz=246
I21K Tanana 83.07 24 IAmb IAmb 10 52 37.4
comp=Z,24nm,1.8s
I21K Tanana 83.07 24 P P 10 52 19.1 +0.3
baz=251
BPAW Bear Paw Mtn. 83.14 25 P P 10 52 19.9 +0.6
baz=252
F21K Alatna River 83.18 21 P P 10 52 19.9 +0.5
baz=250
PMR Palmer 83.22 27 IAmb IAmb 10 52 28.9
comp=Z,10nm,1.1s
PMR Palmer 83.22 27 P P 10 52 20.3 +0.6
baz=254
TRF Thorofare Moun 83.24 25 P P 10 52 20.2 +0.2
baz=253
ABKAR Akbulak array 83.30 320 P P 10 52 19.6 -0.8
ABKAR Akbulak array 83.30 320 IAmb IAmb 10 52 27.4
comp=Z,7.1nm,1.1s
C21K Knifeblade Rid 83.43 19 P P 10 52 21.0 +0.4
baz=248,SNR=5.9
E21K Killik River 83.44 20 P P 10 52 21.8 +1.1
baz=249
KNK Knik Glacier 83.49 28 P P 10 52 22.4 +1.3
baz=255
MLY Manley 83.52 24 IAmb IAmb 10 52 31.4
comp=Z,16nm,1.6s
MLY Manley 83.52 24 P P 10 52 22.2 +0.9
baz=252
H22K Ishtalitna Cre 83.54 23 P P 10 52 22.3 +1.0
baz=252
SML Sawmill 83.65 27 P P 10 52 22.8 +0.9
baz=255
B21K Ikpikpuk River 83.66 19 IAmb IAmb 10 52 33.4
comp=Z,8.5nm,0.8s
B21K Ikpikpuk River 83.66 19 P P 10 52 23.3 +1.6
baz=248
A21K Barrow 83.70 17 P P 10 52 23.2 +1.2
baz=246
F22K John River 83.76 21 P P 10 52 23.6 +1.2
baz=251
G22K Bettles 83.81 22 P P 10 52 22.9 +0.3
baz=251
WAT1 Susitna Watana 83.82 26 P P 10 52 23.5 +0.7
baz=255
RND Reindeer 83.84 26 IAmb IAmb 10 52 38.1
comp=Z,18nm,1.4s
MCK McKinley 83.90 25 P P 10 52 23.9 +0.7
baz=254

M23K **Glacier View** 83.92 27 P P 10 52 24.6 +1.3
baz=255
GLI **Glacier Island** 83.99 28 P P 10 52 23.8 +0.1
baz=256
Q23K **Middleton Isla** 84.02 30 P P 10 52 24.7 +0.9
baz=257
D22K **Ayikyak River** 84.04 20 IAmb IAmb 10 52 38.8
comp=Z,16nm,1.4s
D22K **Ayikyak River** 84.04 20 P P 10 52 24.9 +1.1
baz=250
A22K **Sinclair Lake** 84.07 18 P P 10 52 24.4 +0.6
baz=248
NEA2 **Nenana** 84.08 25 P P 10 52 25.4 +1.4
baz=254
E22K **Anaktuvuk Pass** 84.09 21 P P 10 52 25.5 +1.4
baz=251
I23K **Minto, Yukon-K** 84.11 24 P P 10 52 25.8 +1.6
baz=254
SCM **Sheep Creek Mo** 84.12 27 P P 10 52 24.4 0.0
baz=256
WAT6 **Susitna Watana** 84.12 27 P P 10 52 24.8 +0.3
baz=255
H23K **Yukon River** 84.23 23 P P 10 52 25.2 +0.4
baz=253
B22K **Teshekpuk Lake** 84.31 18 P P 10 52 25.6 +0.6
baz=249
G23K **Bananza Creek** 84.31 22 P P 10 52 26.4 +1.2
baz=253,SNR=6.2
COLD **Coldfoot** 84.39 22 P P 10 52 26.9 +1.3
baz=253,SNR=7.4
DHY **Denali Highway** 84.40 26 IAmb IAmb 10 52 41.1
comp=Z,8.2nm,0.9s
DHY **Denali Highway** 84.40 26 P P 10 52 26.5 +0.5
baz=256
WRH **Wood River Hil** 84.45 25 IAmb IAmb 10 52 41.1
comp=Z,11nm,1.2s
KLU **Klutina** 84.69 28 P P 10 52 27.3 0.0
baz=257
M24K **Tolsona, Glenn** 84.71 27 P P 10 52 27.8 +0.4
baz=257
AKTO **Aktyubinsk** 84.72 321 LR LR 11 32 53.6
comp=Z,57nm,19.9s,baz=58,slow=38
D23K **Nanushuk River** 84.75 20 P P 10 52 28.0 +0.7
baz=252
E23K **Chandalar** 84.85 21 P P 10 52 29.5 +1.5
baz=253,SNR=11
POKR **Poker Plat Res** 84.89 24 P P 10 52 30.3 +2.1
baz=255
H24K **Noodor Dome** 84.90 23 IAmb IAmb 10 52 46.8
comp=Z,8.3nm,1.2s
H24K **Noodor Dome** 84.90 23 P P 10 52 28.6 +0.3
baz=255,SNR=5.5
HDA **Harding Lake** 84.92 25 P P 10 52 27.7 -0.6
baz=256
IL31 85.03 25 P P 10 52 27.3 -1.5
ILAR **Eielson Array** 85.03 25 P P 10 52 27.2 -1.6
comp=Z,2.5nm,0.8s,baz=256,slow=5.1,SNR=23
ILAR LR LR 11 26 56.2
comp=Z,111nm,20.3s,baz=249,slow=33
comp=Z,2.5nm,0.8s
TOLK **Toolik Lake Re** 85.04 21 P P 10 52 28.9 0.0
baz=253,SNR=6.4
C23K **Itkillik River** 85.05 19 P P 10 52 29.3 +0.5
baz=252,SNR=7.9
KAIM **Kayak Island** 85.08 30 P P 10 52 28.9 -0.3
baz=258
BMRM **Bremner River** 85.20 29 P P 10 52 30.0 +0.2
baz=258
PAX **Paxson** 85.22 26 P P 10 52 30.2 +0.2
baz=257
HARP **HAARP** 85.24 27 P P 10 52 29.9 -0.1
baz=258
E24K **Your Creek** 85.27 21 IAmb IAmb 10 52 47.0
comp=Z,19nm,1.6s
E24K **Your Creek** 85.27 21 P P 10 52 30.0 0.0
baz=254
K24K **Donnelly Dome** 85.27 26 P P 10 52 31.2 +1.1
baz=257
G24K **Hadweenzic Riv** 85.28 23 IAmb IAmb 10 52 45.8
comp=Z,17nm,1.5s
G24K **Hadweenzic Riv** 85.28 23 P P 10 52 30.1 0.0
baz=255
N25K **Chitina, Valde** 85.33 28 P P 10 52 29.9 -0.6
baz=258
F24K **Squaw Lake** 85.34 22 P P 10 52 29.6 -0.8
baz=255,SNR=6.5
ARU **Arti** 85.36 327 P P 10 52 30.1 -0.5
ARU IAmb IAmb 10 52 47.4
comp=Z,8.7nm,1.0s
ARU **Arti** 85.36 327 *c iP* P 10 52 30.7 +0.1
ARU 10 55 42.7
ARU S SKSac 11 02 52.4 -0.2
ARU SS SS 11 08 30.1 -3.8
ARU pmax pmax
comp=Z,7.0nm,1.0s
D24K **Happy Valley** 85.45 20 P P 10 52 30.9 +0.1
baz=254
J25K **Salcha River,** 85.63 25 P P 10 52 32.2 +0.3
baz=257
C24K **Franklin Bluff** 85.65 20 P P 10 52 31.5 -0.3
baz=254
GLB **Gilahina Butte** 85.67 28 IAmb IAmb 10 52 42.2
comp=Z,12nm,1.2s
PRP **Porcupine Dome** 85.77 24 P P 10 52 32.7 0.0
baz=257
H25L **Birch Creek** 85.82 23 P P 10 52 33.3 +0.6
baz=257
G25K **Bearman Lake** 85.82 23 P P 10 52 32.4 -0.3
baz=256
MCARA **McCarthy VSAT** 86.03 28 P P 10 52 33.8 -0.1
baz=260
SCRK **Sand Creek** 86.09 26 P P 10 52 34.0 -0.2
baz=259
L26K **Log Cabin Wild** 86.18 27 P P 10 52 35.3 +0.6
baz=259
F25K **Christian Rive** 86.19 22 P P 10 52 34.9 +0.3
baz=257,SNR=9.8
M26K **Nabesna, AK** 86.23 27 P P 10 52 35.5 +0.6
baz=260
D25K **Kavik River** 86.33 20 P P 10 52 36.0 +0.7
baz=256
E25K **Arctic Village** 86.34 21 P P 10 52 35.9 +0.5
baz=257,SNR=9.4
J26L **Joseph Creek** 86.37 25 P P 10 52 36.2 +0.6
baz=259
BMAR **Burnt Mountain** 86.55 22 P P 10 52 37.6 +1.2
BARN **Barnard Glacie** 86.63 29 P P 10 52 38.0 +0.9
I26K **Coal Creek Min** 86.69 24 P P 10 52 38.4 +1.3
baz=259
M27K **Edge Creek, AK** 86.73 27 P P 10 52 38.2 +0.6
baz=261
G26K **Porcupine Rive** 86.76 23 P P 10 52 38.5 +1.2
baz=259,SNR=12
CTG **Chitna Glacier** 86.77 29 P P 10 52 37.5 -0.2
baz=261
CTGM **Chitina Glacie** 86.77 29 IAmb IAmb 10 52 39.4
comp=Z,7.5nm,0.9s
F26K **Sheenjek River** 86.77 22 P P 10 52 37.4 -0.1
baz=258,SNR=23
L27K **Beaver Creek,** 86.87 27 IAmb IAmb 10 52 51.9
comp=Z,7.2nm,1.3s
L27K **Beaver Creek,** 86.87 27 P P 10 52 38.6 +0.6
baz=261
K27K **Chicken** 86.92 26 P P 10 52 38.9 +0.7
baz=260
C26K **Camden Bay** 86.97 20 P P 10 52 38.9 +0.6
baz=257
O28M **Mount Upton** 87.30 29 P P 10 52 41.0 +0.6
baz=262
YUK3 **Moose Creek** 87.31 28 P P 10 52 41.3 +0.9
baz=262
C27K **Jago River** 87.32 20 P P 10 52 40.4 +0.4
baz=258
I27K **Kandik River** 87.38 24 P P 10 52 41.6 +1.2
baz=261,SNR=12
EGAK **Eagle** 87.44 25 P P 10 52 41.1 +0.5
EGAK IAmb IAmb 10 52 55.7
comp=Z,12nm,1.1s
EGAK **Eagle** 87.44 25 P P 10 52 41.8 +1.1
baz=261,SNR=8.8
H27K **Steamboat Moun** 87.52 24 P P 10 52 41.9 +0.8
baz=261,SNR=12
PNL **Peninsula** 87.54 30 P P 10 52 41.3 -0.1
baz=263
G27K **Doyon Strip** 87.56 23 IAmb IAmb 10 53 06.6
comp=Z,17nm,1.8s
G27K **Doyon Strip** 87.56 23 P P 10 52 42.3 +1.0
baz=261

YUK8 **Steele Glacier** 87.57 29 P P 10 52 42.0 +0.2
baz=262
E27K **Coleen River** 87.81 22 P P 10 52 42.9 +0.5
baz=261
I28M **Miner Creek** 88.05 24 P P 10 52 44.9 +1.2
baz=262,SNR=6.3
DAWY **Dawson** 88.10 26 P P 10 52 44.6 +0.7
DAWY **Dawson** 88.10 26 P P 10 52 45.0 +1.1
baz=263,SNR=19
YUK4 **Talbot Arm** 88.11 29 P P 10 52 44.8 +0.5
baz=264
YUK6 **Outpost Mounta** 88.20 29 P P 10 52 45.1 +0.4
baz=264
D27M **Malcolm River** 88.20 21 P P 10 52 46.1 +1.8
baz=261
M29M **Somme Creek** 88.32 28 IAmb IAmb 10 52 47.5
comp=Z,6.2nm,1.1s
M29M **Somme Creek** 88.32 28 P P 10 52 46.4 +1.3
baz=264,SNR=6.3
F28M **Old Crow** 88.37 22 P P 10 52 46.5 +1.4
baz=262
P29M **Windy Craggy** 88.38 30 P P 10 52 46.1 +0.8
baz=264
QSPA **South Pole Qui** 88.46 180 P P 10 52 48.9 +3.2
QSPA **South Pole Qui** 88.46 180 P P 10 52 46.1 +0.4
comp=Z,2.2nm,0.6s,baz=287,slow=1.3,SNR=9.2
comp=Z,2.2nm,0.6s
L29M **L29M** 88.55 27 P P 10 52 47.0 +0.9
baz=264,SNR=6.7
HYT **Haines Junctio** 88.61 29 P P 10 52 47.6 +1.1
baz=264
E28M **Babbage River** 88.62 21 P P 10 52 47.9 +1.6
baz=262
J29N **Klondike Camp** 88.65 26 P P 10 52 47.1 +0.5
baz=264
H29M **Whitestone** 88.78 24 P P 10 52 47.5 +0.4
baz=264
P30M **Million Dollar** 88.81 30 P P 10 52 48.2 +0.8
baz=265
N30M **Aishikik Lake** 88.87 29 P P 10 52 48.3 +0.6
baz=265
K29M **Barlow Dome** 88.89 26 P P 10 52 49.0 +1.2
baz=264,SNR=12
G29M **Pine Creek** 89.00 23 IAmb IAmb 10 53 02.2
comp=Z,12nm,1.2s
G29M **Pine Creek** 89.00 23 P P 10 52 48.9 +0.8
baz=264
D28M **Stokes Point** 89.00 21 P P 10 52 48.9 +0.9
baz=263
S31K **Pelican** 89.01 32 P P 10 52 49.3 +1.1
baz=266
PLBC **Pleasant Camp** 89.06 31 P P 10 52 48.9 +0.5
baz=266
E29M **Blow River** 89.20 22 P P 10 52 49.1 +0.1
baz=264
O30N **Mendenhall** 89.30 29 P P 10 52 49.9 +0.2
baz=266
R31K **City Hall, Gus** 89.31 32 P P 10 52 49.5 -0.1
baz=266
EPYK **Eagle Plains** 89.46 24 P P 10 52 50.5 +0.2
baz=265
J30M **Hart River** 89.48 25 IAmb IAmb 10 53 07.6
comp=Z,14nm,1.4s
J30M **Hart River** 89.48 25 P P 10 52 51.9 +1.4
baz=266,SNR=6.5
N31M **Braeburn, Yuko** 89.50 29 P P 10 52 51.4 +0.8
baz=266
I30M **Mount Dempster** 89.51 25 IAmb IAmb 10 53 09.1
comp=Z,17nm,1.6s
I30M **Mount Dempster** 89.51 25 P P 10 52 51.4 +0.8
baz=265
SKAG **Skagway** 89.59 31 P P 10 52 51.8 +0.9
baz=264
G30M **tAoh Zraii Nji** 89.71 23 IAmb IAmb 10 53 15.7
comp=Z,6.8nm,1.2s
G30M **tAoh Zraii Nji** 89.71 23 P P 10 52 52.8 +1.3
baz=266
S32K **Killisnoo** 89.87 33 P P 10 52 53.5 +1.2
baz=267
WHY **Whitehorse** 89.88 29 IAmb IAmb 10 52 58.1
comp=Z,5.9nm,0.7s
WHY **Whitehorse** 89.88 29 P P 10 52 53.2 +0.7
baz=267,SNR=5.9
F30M **Barrier River** 89.92 22 P P 10 52 52.4 0.0
baz=266
R32K **Eaglecrest** 89.94 32 P P 10 52 53.4 +0.8
baz=267
M31M **Drury Creek, Y** 90.20 28 P P 10 52 55.2 +1.4
baz=267
H31M **Peel River** 90.39 24 P P 10 52 55.1 +0.5
baz=267
P32M **Atlin** 90.41 31 P P 10 52 56.0 +1.1
baz=268
G31M **Satah River** 90.47 23 P P 10 52 56.3 +1.4
baz=267
KIRV **Kirov** 90.48 328 LR LR 11 34 30.3
comp=Z,168nm,21.7s,baz=96,slow=36
CRAG **Craig** 90.59 35 P P 10 52 55.5 -0.2
baz=268
U33K **Whale Pass** 90.61 34 P P 10 52 55.4 -0.4
baz=268
FARO **Faro, Yukon** 90.69 28 P P 10 52 56.5 +0.4
baz=268
F31M **Tsiigehtchic** 90.70 23 IAmb IAmb 10 53 09.9
comp=Z,13nm,1.6s
F31M **Tsiigehtchic** 90.70 23 P P 10 52 55.6 -0.3
baz=268
N32M **Quiet Lake** 90.78 29 P P 10 52 57.1 +0.6
baz=268
INK **Inuvik** 90.81 22 P P 10 52 57.3 +0.8
baz=268
INK **Inuvik** 90.81 22 LR LR 11 33 49.1
comp=Z,83nm,19.0s,baz=190,slow=36
P33M **Teslin, Yukon** 90.89 30 P P 10 52 57.0 -0.1
baz=269
S34M **Telegraph Cree** 91.73 32 P P 10 53 01.1 +0.2
baz=270
R33M **Jennings River** 91.81 31 P P 10 53 02.7 +1.2
baz=270
WTLY **Watson Lake, Y** 92.90 30 IAmb IAmb 10 53 08.4
comp=Z,6.3nm,1.0s
WTLY **Watson Lake, Y** 92.90 30 P P 10 53 06.7 +0.3
baz=272
TGTN **Hyland Airport** 93.09 29 P P 10 53 07.0 -0.3
baz=273
GNI **Garni** 93.41 310 LR LR 11 40 57.8
comp=Z,15nm,18.9s,baz=87,slow=39
A36M **Sachs Harbour** 93.51 18 IAmb IAmb 10 53 33.1
comp=Z,7.0nm,1.2s
A36M **Sachs Harbour** 93.51 18 P P 10 53 08.5 -0.4
baz=276
BBB **Bella Bella** 93.58 38 LR LR 11 33 26.8
comp=Z,128nm,18.2s,baz=276,slow=34
C36M **Paulatuk** 94.19 21 P P 10 53 11.5 -0.6
C36M IAmb IAmb 10 53 36.1
comp=Z,5.1nm,1.1s
C36M **Paulatuk** 94.19 21 P P 10 53 11.8 -0.2
baz=277
KBZ **Khabaz** 94.68 314 LR LR 11 38 52.8
comp=Z,38nm,21.7s,baz=84,slow=37
KIV **Kislovodsk** 94.82 314 *eP* P 10 53 14.8 -0.9
KIV pmax pmax
comp=Z,5.0nm,1.1s
KIV MLR MLR
comp=Z,34nm,20.0s
WRGLY **Wrigley** 95.19 27 P P 10 53 17.3 +0.5
baz=277
KLMR **Klimovskoe** 95.40 331 *eP* P 10 53 14.5 -3.3
KLMR pmax pmax
comp=Z,17nm,1.7s
ELIB **Princess Elisa** 96.05 197 *dP* P 10 53 22.3 +1.5
comp=Z,4.2nm,1.0s
SPITS **Spitsbergen Ar** 97.64 350 LR LR 11 38 31.0
comp=Z,98nm,20.8s,baz=21,slow=36
OBN **Obninsk** 97.72 325 LR LR 11 39 22.6
comp=Z,89nm,21.7s,baz=35,slow=37
OBN **Obninsk** 97.72 325 *eP* Pdif 10 53 30.1 +1.7
OBN *e* 10 57 27.9
OBN *eP* PPP PPP 10 59 28.8
OBN *eS* **SKSac 11 04 06.3 +3.5**
OBN *eSS* **SS 11 11 34.2 +2.5**
OBN pmax pmax
comp=Z,8.0nm,0.4s
OBN MLR MLR
comp=Z,99nm,17.0s
YBH **Yreka Blue Hor** 97.95 48 LR LR 11 30 44.7
comp=Z,213nm,20.4s,baz=270,slow=31
ARCES **ARCESS Array B** 99.10 341 LR LR 11 41 10.8
comp=Z,85nm,21.8s,baz=49,slow=37
YKA **Yellowknife Ar** 99.31 27 P Pdif 10 53 35.1 -0.3
comp=Z,0.4nm,0.9s,baz=296,slow=4.7,SNR=7.1
YKA LR LR 11 36 30.5
comp=Z,126nm,20.4s,baz=333,slow=34
comp=Z,0.4nm,0.9s
TORD **Torodi Ar. Bea** 135.18 287 PKP PKiKP 10 59 15.2 -0.4
comp=Z,1.9nm,0.8s,baz=54,slow=3.3,SNR=8.2

*IDC **03** 10:52:44.8±0.6,26°.40S×67°.80W,h0km,mb4.3/11, mbtmp4.2/15,ML3.8/3,MS3.8/13,Error ellipse: s-maj=24.0km s-min=14.9km az=82.0*
*GUC **03** 10:52:47.8±0.5,26°.36S×67°.95W,h26km±2km, ML3.9*
*SJA **03** 10:52:48.7±1.4,26°.34S×68°.04W,h15km,ML4.2,MW4.6*
*VAO **03** 10:52:51.0±0.4,26°.30S×68°.02W,h64km±4km,mb4.5*
*NEIC **03** 10:52:51.4±2.8,26°.31S±0°.05×67°.98W±0°.07,h36km±7km, mb4.7/175,Error ellipse: s-maj=9.6km s-min=7.2km az=96.0*

ISC 03 10:52:47.9±1.1,26°.34S±0°.02×67°.99W±0°.03,h18km±7km, n262,σ2s01/232,mb4.7/90,MS4.0/9,1C-4D,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AC02	**Maricunga**	**1.13**	**244**			**Pb**	**10 53 08.7**	**-0.6**
AC02	**Maricunga**	**1.13**	**244**	*eP*		**Pb**	**10 53 08.5**	**-0.7**
AC02	**Maricunga**	**1.13**	**244**	*iP*		**Pb**	**10 53 08.5**	**-0.7**
AC02				*eS*		**Sg**	**10 53 24.3**	**-0.5**
GO02	**Mina Guanaco**	**1.86**	**309**			**Pb**	**10 53 21.1**	**-0.4**
GO02	**Mina Guanaco**	**1.86**	**309**	*eP*		**Pb**	**10 53 21.5**	**0.0**
GO02				*eS*		**Sg**	**10 53 48.3**	**+0.4**
GO02	**Mina Guanaco**	**1.86**	**309**	*iP*		**Pb**	**10 53 21.4**	**-0.2**
GO02				*eS*		**Sg**	**10 53 46.9**	**-1.0**
GO02				IAML			10 53 57.5	
comp=N,2μm,0.8s								
AC06	**Mina Casimiro**	**2.34**	**244**			**Pb**	**10 53 28.7**	**-0.9**
AC06	**Mina Casimiro**	**2.34**	**244**	*eP*		**Pb**	**10 53 28.5**	**-1.1**
AC06				*eS*		**Sb**	**10 53 59.6**	**+1.4**
AC06				IAML			10 54 07.2	
comp=N,620nm,0.5s								
AC01	**Pan de Azucar**	**2.35**	**274**			**Pb**	**10 53 28.5**	**-1.3**
AC01	**Pan de Azucar**	**2.35**	**274**	*eP*		**Pn**	**10 53 28.1**	**+2.4**
AC01				*eS*		**Sg**	**10 54 01.4**	**-2.1**
AC01				IAML			10 54 03.7	
comp=Z,1μm,1.6s								
AC01	**Pan de Azucar**	**2.35**	**274**	*eP*		**Pb**	**10 53 28.4**	**-1.4**
AC01				*eS*		**Sb**	**10 54 00.3**	**+1.8**
AC01				IAML			10 54 04.2	
comp=E,810nm,0.5s								
GO03	**Copiap**	**2.36**	**238**			**Pb**	**10 53 29.1**	**-0.8**
GO03	**Copiap**	**2.36**	**238**	*eP*		**Pn**	**10 53 23.7**	**-2.1**
GO03				*eP*		**Pb**	**10 53 29.2**	**-0.8**
GO03				*eS*		**Sg**	**10 54 06.8**	**+3.0**
GO03	**Copiap**	**2.36**	**238**	*eP*		**Pb**	**10 53 28.9**	**-1.1**
GO03				IAML			10 54 07.6	
comp=E,524nm,0.8s								
VCA	**Vinchina**	**2.39**	**185**	*eP*		**Pb**	**10 53 30.4**	**-0.2**
VCA				IAML			10 54 13.6	
comp=Z,908nm,1.6s								
SLA	**San Lorenzo**	**2.76**	**55**	*eP*		**Pb**	**10 53 36.7**	**-0.2**
SLA				*eS*		**Sb**	**10 54 10.7**	**+0.2**
SLA				IAML			10 54 16.0	
comp=Z,564nm,1.1s								
PB14	**IPOC Station P**	**2.77**	**308**			**Pn**	**10 53 34.4**	**+2.7**
PB14	**IPOC Station P**	**2.77**	**308**	*eP*		**Pn**	**10 53 34.6**	**+2.9**
PB14				*eS*		**Sg**	**10 54 15.6**	**-1.4**
PB14				IAML			10 54 16.2	
comp=Z,754nm,1.1s								
PB14	**IPOC Station P**	**2.77**	**308**	*eP*		**Pb**	**10 53 35.0**	**-2.1**
PB14				*eS*		**Sb**	**10 54 11.4**	**+0.6**
PB14				IAML			10 54 20.3	
comp=N,399nm,0.6s								
AGUA	**GUANDACOL**	**3.17**	**188**	*eP*		**Pb**	**10 53 41.8**	**-1.9**
AGUA				*eS*		**Sb**	**10 54 23.7**	**+1.7**
AGUA				IAML			10 54 29.0	
comp=Z,467nm,0.7s								
AC05	**El Transito**	**3.21**	**219**			**Pn**	**10 53 40.9**	**+3.4**
AC05	**El Transito**	**3.21**	**219**	*eP*		**Pb**	**10 53 42.4**	**-2.0**
AC05	**El Transito**	**3.21**	**219**	*eP*		**Pb**	**10 53 42.5**	**-2.0**
AC04	**Llanos de Chal**	**3.31**	**235**			**Pn**	**10 53 42.5**	**+3.7**
AC04	**Llanos de Chal**	**3.31**	**235**	*eP*		**Pn**	**10 53 42.3**	**+3.4**
AC04				*eP*		**Pb**	**10 53 43.5**	**-2.6**
AC04				*eS*		**Sg**	**10 54 30.8**	**-3.5**
AC04				IAML			10 54 35.1	
comp=Z,334nm,0.7s								
AC04	**Llanos de Chal**	**3.31**	**235**	*eP*		**Pn**	**10 53 42.5**	**+3.7**
AC04				*eS*		**Sb**	**10 54 24.8**	**-1.4**
AC04				IAML			10 54 36.0	
comp=N,284nm,0.5s								
AF01	**San Pedro de A**	**3.38**	**357**			**Pn**	**10 53 44.2**	**+4.2**
AF01	**San Pedro de A**	**3.38**	**357**	*eP*		**Pb**	**10 53 45.2**	**-2.2**
PB15	**IPOC Station P**	**3.40**	**336**			**Pn**	**10 53 43.2**	**+3.0**
PB15	**IPOC Station P**	**3.40**	**336**	*eP*		**Pb**	**10 53 45.7**	**-2.0**
PB15				*eS*		**Sb**	**10 54 29.2**	**+0.5**
PB15				IAML			10 54 35.2	
comp=Z,494nm,1.1s								
PB15	**IPOC Station P**	**3.40**	**336**	*eP*		**Pn**	**10 53 43.2**	**+3.0**
LCO	**Las Campanas**	**3.59**	**221**			**Pn**	**10 53 45.6**	**+2.7**
LCO	**Las Campanas**	**3.59**	**221**	*eP*		**Pn**	**10 53 46.5**	**+3.7**
LCO				*eS*		**Sg**	**10 54 43.5**	**+0.4**
LCO				IAML			10 54 54.3	
comp=Z,1μm,0.6s								
LCO	**Las Campanas**	**3.59**	**221**	*eP*		**Pn**	**10 53 45.5**	**+2.7**
LVC	**Limon Verde**	**3.81**	**347**	Pn		**Pn**	**10 53 49.2**	**+3.2**
LVC	**Limon Verde**	**3.81**	**347**	*eP*		**Pn**	**10 53 50.0**	**+4.0**
LVC				IAML			10 55 22.0	
comp=Z,197nm,2.6s								
LVC	**Limon Verde**	**3.81**	**347**	Pn		**Pn**	**10 53 48.1**	**+2.1**
comp=Z,14nm,0.3s,baz=174,slow=6.5,SNR=107								
LVC				Lg		Lg	10 54 44.7	
comp=Z,8.2nm,0.3s,baz=105,slow=23,SNR=5.5								
comp=Z,76nm,0.5s								
LVC	**Limon Verde**	**3.81**	**347**	*eP*		**Pn**	**10 53 49.5**	**+3.5**
LVC	**Limon Verde**	**3.81**	**347**	*eP*		**Pn**	**10 53 46.7**	**+0.7**
LVC				*eS*		**Sn**	**10 54 30.7**	**+0.1**
PB06	**IPOC Station P**	**3.90**	**338**			**Pn**	**10 53 49.5**	**+2.4**
PB06	**IPOC Station P**	**3.90**	**338**	*eP*		**Pn**	**10 53 51.1**	**+4.1**
PB06				*eS*		**Sg**	**10 54 49.7**	**-3.3**
PB06				IAML			10 55 05.0	
comp=Z,396nm,1.1s								
PB06	**IPOC Station P**	**3.90**	**338**	*eP*		**Pn**	**10 53 50.6**	**+3.5**
ACDV	**Cuesta del Vie**	**3.94**	**194**	*eP*		**Pn**	**10 53 52.4**	**+4.7**
ACDV				*eS*		**Sg**	**10 54 52.2**	**-2.4**
ACDV				IAML			10 55 00.4	
comp=Z,262nm,0.8s								
PB05	**IPOC Station P**	**4.01**	**329**			**Pn**	**10 53 52.0**	**+3.4**
AROD	**Rodeo**	**4.03**	**199**	*eP*		Pn	10 53 54.2	+5.1
AROD				*eS*		**Sg**	**10 54 57.5**	**+0.2**
CO01	**Juntas del Tor**	**4.07**	**207**	Pn		**Pn**	**10 53 54.0**	**+4.4**
ACCO	**Cerro Coronel**	**4.34**	**192**	*eP*		Pn	10 53 58.0	+4.7
ACCO				*eS*		**Sg**	**10 55 03.9**	**-3.3**
PB04	**IPOC Station P**	**4.45**	**333**			**Pn**	**10 53 56.0**	**+1.3**
PB04	**IPOC Station P**	**4.45**	**333**	*eP*		**Pn**	**10 53 57.7**	**+3.0**
PB04				*eS*		**Sg**	**10 55 07.7**	**-3.0**
PB04				IAML			10 55 13.1	
comp=Z,345nm,0.9s								
CO05	**La Serena**	**4.58**	**218**	*eP*		**Pn**	**10 53 59.3**	**+3.0**
PB09	**IPOC Station P**	**4.67**	**346**			**Pn**	**10 54 01.8**	**+4.1**
PB09	**IPOC Station P**	**4.67**	**346**	*eP*		**Pn**	**10 54 02.2**	**+4.6**
PB09				*eS*		**Sg**	**10 55 17.7**	**0.0**
PB09				IAML			10 55 44.9	
comp=Z,334nm,1.2s								
DOCA	**Reserva Natura**	**4.69**	**192**	*eP*		**Pn**	**10 54 02.0**	**+3.9**
DOCA				*eS*		**Sg**	**10 55 13.7**	**-4.8**
DOCA				IAML			10 55 33.7	
comp=Z,512nm,1.1s								
PB07	**IPOC Station P**	**4.91**	**339**			**Pn**	**10 54 03.3**	**+2.3**
PB07	**IPOC Station P**	**4.91**	**339**	*eP*		Pn	10 53 47.5	-13
PB07				*eS*		**Sb**	**10 55 18.2**	**+5.9**
PB07				IAML			10 55 43.5	
comp=Z,272nm,1.6s								
PB07	**IPOC Station P**	**4.91**	**339**	*eP*		**Pn**	**10 54 03.8**	**+2.8**
CO03	**El Pedregal**	**5.07**	**207**	*eP*		**Pn**	**10 54 07.0**	**+3.9**
CO03				IAML			10 56 07.5	
comp=Z,94nm,2.9s								
PB02	**IPOC Station P**	**5.29**	**340**			**Pn**	**10 54 07.5**	**+1.3**
PB02	**IPOC Station P**	**5.29**	**340**	*eP*		**Pn**	**10 54 09.2**	**+2.9**
PB02				*eS*		**Sb**	**10 55 28.7**	**+5.4**
PB02				IAML			10 55 48.2	
comp=Z,195nm,1.3s								
PB01	**IPOC Station P**	**5.45**	**345**			**Pn**	**10 54 10.4**	**+2.1**

PATCX	Punta Patache	5.84	340			Pn		10 54 15.1 +1.3
TA01	Diego Aracena	6.09	340		Pn	Pn		10 54 17.7 +0.6
PB08	IPOC Station P	6.26	350			Pn		10 54 21.9 +2.2
TA02	Huaiquique	6.35	342			Pn		10 54 25.2 +4.5
PB11	IPOC Station P	6.73	346		Pn	Pn		10 54 26.1 +0.1
GO01	Chusmiza	6.73	350		Pn	Pn		10 54 27.8 +1.5
TICA	Tres Isletas	6.82	92	eP		Pn		10 54 28.4 +1.2
TICA				eS		Sn		10 55 45.7 +1.3
PEL	Peldehue	7.17	198			Pn		10 54 35.2 +3.3
MT16	CCHEN	7.40	197		Pn	Pn		10 54 36.9 +1.8
MT13	San Alfonso	7.64	195			Pn		10 54 42.2 +3.7
BO04	La Punta	7.95	196			Pn		10 54 45.1 +2.4
FDPY	Filadelfia	8.38	63	eP		Pn		10 54 49.9 +1.4
FDPY				eS		Sn		10 56 23.7 +1.0
PAPY	Pozo Azul	9.12	78	eP		Pn		10 54 59.8 +1.2
PAPY				eS		Sn		10 56 41.4 +0.5
CPUP	Villa Florida	9.56	92	Pn		Pn		10 55 07.8 +3.1
CPUP	Villa Florida	9.56	92	Pn		Pn		10 55 04.5 -0.2
	comp=Z,0.4nm,0.3s,baz=276,slow=10,SNR=7.8							
CPUP				Lg		Lg		10 57 43.0
	comp=Z,1.4nm,0.3s,baz=0.0,slow=20,SNR=1.5							
CPUP				LR		LR		10 58 58.0
	comp=Z,412nm,19.4s,baz=266,slow=40							
CPUP	Villa Florida	9.56	92	eP		Pn		10 55 06.2 +1.4
CPUP				eS		Sn		10 56 53.1 +1.4
LPAZ	La Paz	10.00	359	Pn		Pn		10 55 12.2 +0.9
	comp=Z,0.3nm,0.3s,baz=182,slow=9.5,SNR=22							
LPAZ				LR		LR		11 00 02.5
	comp=Z,438nm,19.0s,baz=178,slow=44							
	comp=Z,4.8nm,0.7s							
LPAZ	La Paz	10.00	359	eP		Pn		10 55 11.7 +0.4
LPAZ				eS		Sn		10 57 02.7 -0.9
PSAL	Palomas, Salto	10.26	120	eP		Pn		10 55 16.0 +1.7
ITQB	Itaqui	10.58	111			Pn		10 55 20.7 +2.1
ITQB	Itaqui	10.58	111	eP		Pn		10 55 20.4 +1.8
BBSD	Serra de San D	11.40	38	eP		Pn		10 55 29.1 -0.8
BBSD				eS		Sn		10 57 36.8 0.0
UNIS	Unistalda (Bra	11.76	106	eP		Pn		10 55 36.2 +1.3
UNIS				eS		Sn		10 57 47.5 +1.7
BDQN	Bodoquena, MS	11.87	63	eP		Pn		10 55 37.6 +1.3
RODS	Rosario do Sul	11.95	112	eP		Pn		10 55 38.9 +1.4
RODS				eS		Sn		10 57 52.0 +1.6
SIV	San Ignacio	12.15	33	Pn		Pn		10 55 38.4 -1.8
	baz=209,slow=14,SNR=9.5							
	comp=Z,2.3nm,0.6s							
AMBA	Amambai (Brazi	12.30	77	eP		Pn		10 55 42.8 +0.5
AMBA				eS		Sn		10 58 00.1 +1.1
CRSM	Crissiumal (Br	12.50	98	eP		Pn		10 55 43.6 -1.3
AQDB	Aquidauana	12.70	65	eP		Pn		10 55 49.4 +1.7
AQDB				eS		Sn		10 58 09.5 +0.8
CPSB	Cacapava Do Su	13.43	111	eP		Pn		10 55 59.5 +1.8
CPSB				eS		Sn		10 58 28.1 +1.5
ALGR	Alto Alegre (B	13.50	104	eP		Pn		10 56 00.9 +2.3
ALGR				eS		Sn		10 58 29.8 +1.6
PTLB	Pontes e Lacer	13.63	39	Pn		Pn		10 56 00.3 0.0
PTLB	Pontes e Lacer	13.63	39	eS		Sn		10 58 31.5 +0.1
PLTB	Pedras Altas	13.69	117	eP		Pn		10 56 00.9 -0.3
PLTB				eS		Sn		10 58 34.4 +1.5
RVDE	Rio Verde (Bra	14.07	62	eP		Pn		10 56 08.4 +2.0
ITAB	Concordia	14.19	97	eP		Pn		10 56 09.3 +1.2
PTGB	Pitanga	14.47	87	eP		Pn		10 56 13.9 +2.0
PTGB				eS		Sn		10 58 54.4 +2.3
PLCA	Paso Flores	14.51	188	Pn		Pn		10 56 09.8 -2.7
	comp=Z,1.8nm,1.0s,baz=342,slow=20,SNR=1.6							
PLCA				Lg		Lg		11 00 23.9
	baz=93,slow=19,SNR=1.3							
PLCA				LR		LR		11 02 53.2
	comp=Z,234nm,21.4s,baz=2.0,slow=42							
LL04	Puerto Octay	14.99	193	P		Pn		10 56 19.4 +0.6
VILB	Vilhena	15.20	30	P		Pn		10 56 22.1 +0.3
VILB	Vilhena	15.20	30	eP		Pn		10 56 22.4 +0.7
CNLB	Canela	15.45	105	eP		Pn		10 56 26.2 +1.2
SALV	Santo Antonio	15.46	50	eP		Pn		10 56 26.5 +1.2
LDASE	Londrina, Braz	15.59	83	eP		Pn		10 56 28.1 +1.2
LDASE				eS		Sn		10 59 20.1 +0.8
PCMB	Pacaembu	16.00	76	eP		Pn		10 56 32.6 +0.5
LL01	San Ignacio de	16.41	192	P		Pn		10 56 39.1 +1.9
ETMB	Extrema	16.52	6	eP		Pn		10 56 37.6 -1.3
ETMB				eS		Sn		10 59 41.0 -0.9
NNA	Nana	16.53	328	LR		LR		11 02 35.1
	comp=Z,76nm,18.4s,baz=164,slow=35							
FRTB	Fartura	16.99	84	eP		Pn		10 56 45.8 +1.1
ITRB	Iturama	17.51	71	eP		Pn		10 56 52.5 +1.2
SAML	Samuel	17.89	16	P		Pn		10 56 55.6 -0.3
SAML	Samuel	17.89	16	eP		Pn		10 56 56.7 +0.8
PDRB	Porto dos Gac	18.09	38	eP		Pn		10 56 57.2 -1.2
ARAG	Araguaiana, MT	18.42	58	eP		P		10 57 01.4 -0.9
BB19B	Bebedouro	18.57	78	eP		P		10 57 04.0 -0.1
CZSB	Cruzeiro do Su	19.05	346	P		P		10 57 09.7 +0.5
CZSB				IAmb		IAmb		10 57 11.7
	comp=Z,26nm,0.9s							
CZSB	Cruzeiro do Su	19.05	346	eP		P		10 57 08.2 -1.0
CLDB	Colider	19.22	39	eP		P		10 57 09.4 -1.7
VAO	Valinhos	19.39	85	eP		P		10 57 12.9 -0.1
COYC	Coyhaique	19.47	189	P		P		10 57 14.9 +1.3
COYC				IAmb		IAmb		10 57 30.8
	comp=Z,55nm,1.4s							
IPMB	Ipameri, GO	20.10	70	eP		P		10 57 19.1 -1.7
AY03	Cochrane	21.19	189	P		P		10 57 35.8 +3.5
AY03				IAmb		IAmb		10 57 42.4
	comp=Z,23nm,1.1s							
SNDB	Serra Nova Dou	21.25	51	eP		P		10 57 29.8 -3.4
PMNB	Patos De Minas	21.36	73	eP		P		10 57 33.0 -1.5
BDFB	Brasilia	21.44	64			P		10 57 33.9 -1.5
BDFB				IAmb		IAmb		10 57 34.9
	comp=Z,21nm,0.9s							
BDFB	Brasilia	21.44	64	P		P		10 57 33.6 -1.9
	comp=Z,21nm,0.9s,baz=231,slow=10,SNR=21							
BDFB				LR		LR		11 06 48.5
	comp=Z,336nm,20.5s,baz=254,slow=40							
	comp=Z,21nm,0.9s							
TBTG	Tabatinga, AM	22.11	355	P		P		10 57 42.4 0.0
TBTG	Tabatinga, AM	22.11	355	eP		P		10 57 40.9 -1.4
TEFE	Tefe	22.93	9	eP		P		10 57 49.5 -1.6
DIAM	Diamantina, MG	23.85	75	eP		P		10 57 59.3 -1.2
JANB	Januaria	24.79	68	eP		P		10 58 05.0 -4.0
ITTB	Itaituba	24.80	30	eP		P		10 58 06.1 -2.9
ALF01	Guarapari-ES	25.62	83	eP		P		10 58 14.6 -1.9
SDBA	SAO DESIDERIO	25.75	62	eP		P		10 58 13.8 -4.0
SMTB	Santa Maria do	26.01	52	eP		P		10 58 17.7 -2.4
RIB01	Linhares ES	26.34	80	eP		P		10 58 14.4 -2.6
BOAV	Boa Vista	29.46	15	P		P		10 58 50.2 -0.7
BOAV				IAmb		IAmb		10 58 51.5
	comp=Z,16nm,0.9s							
BOAV	Boa Vista	29.46	15	eP		P		10 58 48.9 -2.1
ROSC	El Rosal	31.60	348	LR		LR		11 13 33.4
	comp=Z,181nm,18.1s,baz=316,slow=39							
MDP	Montagnes des	34.62	28	LR		LR		11 15 08.7
	comp=Z,172nm,19.6s,baz=90,slow=39							
SDV	Santo Domingo	35.11	355	P		P		10 59 39.7 -0.9
PCRV	Puerto La Cruz	36.44	6	LR		LR		11 16 07.0
	comp=Z,211nm,18.1s,slow=38							
RCBR	Riachuelo	36.78	62	LR		LR		11 16 20.4
	comp=Z,88nm,18.0s,baz=239,slow=39							
ORTG	Ortega, Santa	40.24	333	P		P		11 00 25.5 +1.6
ORTG				IAmb		IAmb		11 00 27.2
	comp=Z,19nm,1.0s							
MTO3	Montecristo	45.52	330	P		P		11 01 07.7 +0.8
MTO3				IAmb		IAmb		11 01 11.5
	comp=Z,9.9nm,0.9s							
SNAA	Sanae	57.46	160	P		P		11 02 34.6 -0.8
	comp=Z,1.0nm,0.6s,baz=279,slow=4.6,SNR=2.3							
	comp=Z,1.0nm,0.6s							
833A	Chaparral WMA,	62.16	329	P		P		11 03 09.1 +0.9
X51A	Calhoun	62.65	344	P		P		11 03 10.5 -0.8
X48A	Hartselle	63.10	342	P		P		11 03 13.6 -0.7
HNDO	Hondo	63.13	330	P		P		11 03 15.6 +1.0
HNDO				IAmb		IAmb		11 03 19.1
	comp=Z,9.1nm,0.9s							
W50A	Signal Mountai	63.36	344	P		P		11 03 15.6 -0.5
CPCT	Cooper Cave	63.41	345	P		P		11 03 15.7 -0.7
CPCT				IAmb		IAmb		11 03 17.1
	comp=Z,11nm,1.1s							
SWET	Sewanee	63.53	344	P		P		11 03 16.7 -0.5
DRIO	Del Rio	63.66	328	P		P		11 03 18.9 +0.7
DRIO				IAmb		IAmb		11 03 19.8
	comp=Z,8.9nm,1.3s							
OXF	Oxford	63.84	340	P		P		11 03 18.4 -0.7
QSPA	South Pole Qui	63.87	180	P		P		11 03 18.9 -0.4
	comp=Z,4.1nm,1.1s,baz=171,slow=3.7,SNR=20							
	comp=Z,4.1nm,1.1s							
PLAL	Pickwick Lake	63.89	342	P		P		11 03 18.5 -1.0
PLAL				IAmb		IAmb		11 03 19.6
	comp=Z,12nm,1.1s							
JCT	Junction City	64.18	330	P		P		11 03 21.6 +0.1
JCT				IAmb		IAmb		11 03 23.2
	comp=Z,8.5nm,0.8s							
HPIG		64.20	323	IAmb		IAmb		11 03 24.6
	comp=Z,4.6nm,0.8s							
V48A	Smith Brothers	64.26	343	P		P		11 03 21.0 -0.9
CLTN	Cedars of Leba	64.47	344	P		P		11 03 22.6 -0.6
CLTN				IAmb		IAmb		11 03 23.8
	comp=Z,7.4nm,1.0s							
BRDY	Brady	64.51	331	P		P		11 03 24.1 +0.4
BRDY				IAmb		IAmb		11 03 25.0
	comp=Z,15nm,1.5s							
SAND	Sanderson	64.83	327	P		P		11 03 26.4 +0.5
SAND				IAmb		IAmb		11 03 28.0
	comp=Z,11nm,0.9s							
WVT	Waverly	64.89	342	P		P		11 03 25.3 -0.7
TXAR	Lajitas Array	65.08	326	P		P		11 03 27.3 -0.2
TXAR	Lajitas Array	65.08	326	P		P		11 03 28.1 +0.6
	comp=Z,12nm,0.7s,baz=144,slow=8.8,SNR=10							
	comp=Z,1.2nm,0.7s							
TX31	Lajitas Ar. Si	65.08	326	P		P		11 03 27.6 0.0
MIAR	Mount Ida	65.23	337	P		P		11 03 28.3 0.0
MIAR				IAmb		IAmb		11 03 29.6
	comp=Z,5.4nm,0.8s							
WHAR	Wooly Hollow	65.47	338	IAmb		IAmb		11 03 30.3
	comp=Z,12nm,1.2s							
T47A	Sharon Grove	65.51	343	P		P		11 03 29.5 -0.6
LCAR	Lake Charles	65.81	340	IAmb		IAmb		11 03 32.7
	comp=Z,11nm,1.1s							
X37A	Clayton	65.92	335	IAmb		IAmb		11 03 34.4
	comp=Z,8.1nm,0.8s							
FCAR	Ozark Folk Cen	65.96	339	IAmb		IAmb		11 03 33.7
	comp=Z,7.5nm,1.1s							
MNHN	Monahans	66.28	328	IAmb		IAmb		11 03 37.2
	comp=Z,8.1nm,0.8s							
T42A	Van Buren	66.68	340	IAmb		IAmb		11 03 38.0
	comp=Z,4.0nm,0.9s							
APMT	Aspermont	66.74	331	IAmb		IAmb		11 03 42.3
	comp=Z,7.6nm,0.7s							
SN07	Snyder 07	66.88	330	IAmb		IAmb		11 03 40.2
	comp=Z,8.0nm,0.9s							
VHRN	Van Horn	66.92	326	P		P		11 03 40.3 +0.9
VHRN				IAmb		IAmb		11 03 40.8
	comp=Z,4.0nm,0.9s							
POST	Post	67.13	330	IAmb		IAmb		11 03 45.6
	comp=Z,4.3nm,0.7s							
MGMO	Mountain Grove	67.16	339	IAmb		IAmb		11 03 45.0
	comp=Z,11nm,1.1s							
U38A	Gravette	67.22	337	IAmb		IAmb		11 03 41.6
	comp=Z,4.8nm,0.8s							
CCM	Cathedral Cave	67.67	340	P		P		11 03 43.6 -0.2
S39A	Bolivar	67.99	339	P		P		11 03 45.9 +0.1
T35A	Sooner Cattle	68.41	336	P		P		11 03 48.6 +0.1
L59A	Walton	68.50	354	P		P		11 03 49.5 +0.5
P38A	Dawn	69.82	339	IAmb		IAmb		11 03 57.6
	comp=Z,6.6nm,0.9s							
ANMO	Albuquerque	71.00	327	P		P		11 04 05.7 +0.9
TUC	Tucson	71.17	323	P		P		11 04 07.3 +1.6
TUC				IAmb		IAmb		11 04 08.5
	comp=Z,6.9nm,1.3s							
VNDA	Vanda	72.25	190	P		P		11 04 11.8 +0.2
	comp=Z,0.6nm,0.8s,baz=143,slow=5.1,SNR=2.9							
	comp=Z,0.6nm,0.8s							
KSCO	Kaye Shedlock'	72.63	332	IAmb		IAmb		11 04 17.5
	comp=Z,16nm,1.2s							
W18A	Petrified Fore	72.78	325	IAmb		IAmb		11 04 18.3
	comp=Z,7.0nm,1.0s							
Q24A	Divide	73.67	331	IAmb		IAmb		11 04 23.2
	comp=Z,9.2nm,0.8s							
MVCO	Mesa Verde	73.80	327	IAmb		IAmb		11 04 24.1
	comp=Z,5.3nm,1.0s							
E46A	Sault Ste Mari	73.86	348	IAmb		IAmb		11 04 21.9
	comp=Z,9.9nm,0.8s							
WUAZ	Wupatki	73.93	324	IAmb		IAmb		11 04 25.4
	comp=Z,6.3nm,0.9s							
ECSD	EROS Data Cent	74.52	339	IAmb		IAmb		11 04 26.5
	comp=Z,11nm,1.0s							
SMCO	Snowmass	74.66	330	IAmb		IAmb		11 04 29.6
	comp=Z,6.3nm,1.1s							
U15A	North Rim	75.11	324	IAmb		IAmb		11 04 32.5
	comp=Z,9.2nm,1.3s							
PFO	Pinyon Flats O	75.32	320	LR		LR		11 34 08.3
	comp=Z,219nm,20.3s,baz=274,slow=33							
N23A	Red Feather La	75.61	331	IAmb		IAmb		11 04 34.4
	comp=Z,5.3nm,1.0s							
KNB	Kanab	75.83	324	IAmb		IAmb		11 04 36.7
	comp=Z,14nm,1.1s							
V12A	Nelson	75.95	322	IAmb		IAmb		11 04 36.6
	comp=Z,5.2nm,1.0s							
O20A	White River Ci	76.01	329	IAmb		IAmb		11 04 36.8
	comp=Z,8.8nm,0.9s							
SRU	San Rafael Swe	76.28	327	IAmb		IAmb		11 04 38.1
	comp=Z,6.9nm,0.9s							
SZCU	Shurtz Canyon	76.41	325	IAmb		IAmb		11 04 39.8
	comp=Z,8.6nm,1.5s							
Q16A	Castle Valley	76.45	327	IAmb		IAmb		11 04 39.6
	comp=Z,6.0nm,1.1s							
CCUT	Cedar City	76.52	324	IAmb		IAmb		11 04 40.7
	comp=Z,8.5nm,1.1s							
P18A	Preston Nutter	76.55	328	IAmb		IAmb		11 04 39.7
	comp=Z,5.7nm,0.9s							
P17A	Butcher Ranch,	76.67	327	IAmb		IAmb		11 04 40.4
	comp=Z,9.8nm,1.1s							
GSC	Goldstone, Bar	76.74	321	IAmb		IAmb		11 04 41.4
	comp=Z,11nm,1.5s							
RWWY	Rawlins	76.80	331	IAmb		IAmb		11 04 40.2
	comp=Z,8.9nm,0.9s							
EYMN	Ely	76.91	344	IAmb		IAmb		11 04 42.3
	comp=Z,7.5nm,1.1s							
RDMU	Red Mountain	76.97	329	IAmb		IAmb		11 04 41.5
	comp=Z,5.0nm,0.8s							
K22A	Casper	77.29	332	IAmb		IAmb		11 04 43.9
	comp=Z,7.5nm,1.1s							
RSSD	Black Hills	77.50	334	P		P		11 04 42.5 -0.1
RSSD				IAmb		IAmb		11 04 44.5
	comp=Z,4.2nm,0.8s							
BSUT	Blindstream Ca	77.51	328	IAmb		IAmb		11 04 45.6
	comp=Z,6.9nm,1.0s							
PSUT	Pine Spring	77.51	325	IAmb		IAmb		11 04 45.6
	comp=Z,4.9nm,1.0s							
MPU	Maple Canyon	77.52	327	IAmb		IAmb		11 04 45.3
	comp=Z,5.5nm,1.1s							
B35A	Bob, Littlefor	77.86	343	IAmb		IAmb		11 04 45.0
	comp=Z,5.7nm,0.8s							
ISA	Isabella, Lake	77.95	320	P		P		11 04 46.3 +1.2
ISA				IAmb		IAmb		11 04 48.0
	comp=Z,6.0nm,0.9s							
TOA0	Torodi Ar. Sit	78.24	69	P		P		11 04 44.6 -2.5
TOA0				IAmb		IAmb		11 04 46.6
	comp=Z,7.5nm,0.9s							
TORD	Torodi Ar. Bea	78.24	69	P		P		11 04 45.1 -1.9
TORD				IAmb		IAmb		11 05 28.2
	comp=Z,7.6nm,0.8s							
TORD	Torodi Ar. Bea	78.24	69	P		P		11 04 44.9 -2.1
	comp=Z,2.2nm,0.6s,baz=262,slow=5.4,SNR=23							
	comp=Z,4.2nm,0.6s							
AGMN	Agassiz Nation	78.39	341	IAmb		IAmb		11 04 48.3
	comp=Z,5.0nm,0.9s							
PDAR	Pinedale Array	78.71	330	P		P		11 04 49.5 +0.2
PDAR	Pinedale Array	78.71	330	P		P		11 04 49.3 0.0
	comp=Z,2.7nm,0.9s,baz=130,slow=6.6,SNR=13							
	comp=Z,2.7nm,0.9s							
HWUT	Hardware Ranch	78.72	328	IAmb		IAmb		11 04 54.2
	comp=Z,5.6nm,0.8s							
AHID	Auburn Hatcher	79.41	329	IAmb		IAmb		11 04 55.3
	comp=Z,11nm,1.1s							
HVU	Hansel Valley	79.43	328	IAmb		IAmb		11 04 55.2
	comp=Z,4.1nm,0.8s							
SNOW	Snow King Moun	79.79	330	IAmb		IAmb		11 05 13.4
	comp=Z,6.8nm,1.1s							
NVAR	Mina Array Bea	79.81	322	P		P		11 04 56.0 +0.5
	comp=Z,0.9nm,0.8s,baz=149,slow=7.4,SNR=7.7							
	comp=Z,0.9nm,0.8s							
ULM	Lac du Bonnet	80.16	342	IAmb		IAmb		11 04 57.7
	comp=Z,16nm,1.4s							
ULM	Lac du Bonnet	80.16	342	P		P		11 04 56.6 -0.1
	comp=Z,2.9nm,0.5s,baz=147,slow=5.7,SNR=10							
	comp=Z,2.9nm,0.5s							
IMW	Indian Meadow	80.22	330	IAmb		IAmb		11 05 00.0
	comp=Z,7.0nm,1.1s							
FLWY	Flagg Ranch	80.26	330	IAmb		IAmb		11 05 00.4
	comp=Z,2.9nm,1.1s							
RLMT	Red Lodge	80.46	332	IAmb		IAmb		11 05 00.5
	comp=Z,5.9nm,0.7s							
BOSA	Boshof	80.47	117	P		P		11 04 58.2 -1.0
	comp=Z,4.8nm,0.9s,baz=238,slow=7.1,SNR=5.1							
	comp=Z,4.8nm,0.9s							
LAO	LASA Array	80.50	334	IAmb		IAmb		11 05 00.6
	comp=Z,10nm,1.1s							
YMP	Mirror Lake Pl	80.54	331	IAmb		IAmb		11 05 21.9
	comp=Z,6.9nm,0.8s							
PNTR	Pine Nut	80.99	322	IAmb		IAmb		11 05 04.6
	comp=Z,6.2nm,0.8s							
PAHR	Pah Rah Range	81.31	322	IAmb		IAmb		11 05 06.2
	comp=Z,9.4nm,1.2s							
MPK	Martis Peak	81.38	322	IAmb		IAmb		11 05 09.0
	comp=Z,5.2nm,1.0s							
HLID	Hailey	81.57	328	IAmb		IAmb		11 05 07.5
	comp=Z,9.1nm,1.1s							
DLMT	Dillon	82.10	330	IAmb		IAmb		11 05 09.9
	comp=Z,13nm,1.4s							
LBTB	Lobatse	82.26	114	LR		LR		11 38 30.2
	comp=Z,139nm,18.8s,baz=122,slow=33							
J08A	Circle Bar Ran	83.42	326	IAmb		IAmb		11 05 19.4
	comp=Z,6.7nm,1.1s							
PLID	Pearl Lake	83.47	328	IAmb		IAmb		11 05 16.6
	comp=Z,6.6nm,0.8s							
PINE	Pine Mountain	85.00	325	IAmb		IAmb		11 05 24.9
	comp=Z,5.3nm,0.9s							
FCC	Fort Churchill	87.52	347	IAmb		IAmb		11 05 35.0
	comp=Z,3.5nm,0.8s							
LSZ	Lusaka	88.72	106	P		P		11 05 40.7 -0.4
FRB	Frobisher Bay	89.78	360	LR		LR		11 46 43.8
	comp=Z,66nm,20.2s,baz=347,slow=36							
BRLDA	Berland Lookou	90.73	333	IAmb		IAmb		11 05 53.0
	comp=Z,6.2nm,1.1s							
YKA	Yellowknife Ar	96.01	340	P		P		11 06 13.2 -0.3
	comp=Z,0.9nm,0.8s,baz=133,slow=4.3,SNR=21							
	comp=Z,0.9nm,0.8s							
BYL	Byron's Ledge	96.05	289	P		P		11 06 13.2 -1.6
WRMHI	West Rim	96.09	289	P		P		11 06 13.1 -1.9
VAE	Valguarnera	99.96	53	LR		LR		11 51 42.8
	comp=Z,52nm,21.1s,baz=148,slow=35							
ASAR	Alice Springs	125.96	205	PKP		PKPdf		11 11 48.8 -0.8
	comp=Z,0.5nm,0.6s,baz=133,slow=1.7,SNR=7.6							
BVAR	Borovoye Array	139.19	38	PKP		PKPdf		11 12 14.4 +1.0
	comp=Z,1.1nm,0.7s,baz=300,slow=1.2,SNR=5.3							
KURBB	Kurchatov Arra	144.78	38	PKP		PKPab		11 12 22.8 +0.5
	comp=Z,9.4nm,0.8s,baz=301,slow=3.6,SNR=38							
ZALV	Zalesovo Beam	145.87	29	PKPbc		PKPdf		11 12 25.7 +0.5
	comp=Z,7.7nm,0.6s,baz=294,slow=3.4,SNR=31							
MKAR	Makanchi Array	148.88	41	PKPbc		PKPbc		11 12 34.4 -0.1
	comp=Z,7.3nm,0.7s,baz=318,slow=2.5,SNR=54							
SONM	Songino Array	158.09	10	PKP		PKPdf		11 12 44.7 +0.9
	comp=Z,0.5nm,0.5s,baz=253,slow=1.5,SNR=4.7							
SONM				PKPab		PKPab		11 13 18.4 +1.1
	comp=Z,0.5nm,0.5s,baz=331,slow=5.8,SNR=4.0							

NNC ***03*** *11:06:24.4±1.4, 44°.65N×81°.97E, h0km, mb3.6, mpv3.6, Error ellipse: s-maj=13.7km s-min=5.6km az=127.0, Suspected Mining explosion.*

SOME ***03*** *11:06:24.8, 44°.70N×81°.93E, h20km*

ISC 03 11:06:22.4±1.5, 44°.65N±0°.05×82°.11E±0°.07, h0km, n20, σ0s 80/31, 3C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	1.69	260	P		Pg	11 06 55.2	+0.3
	11nm,0.2s							
DJR				S		Sg	11 07 17.6	+0.8
	14nm,0.2s							
DJR	**Jarkent**	1.69	260	eP		Pg	11 06 55.6	+0.7
	11nm,0.1s							
DJR				eS		Sg	11 07 17.6	+0.8
	14nm,0.1s							
KAPS	**Kapalarasan**	2.06	289	Pg		Pb	11 07 00.9	+0.2
	5.1nm,0.2s							
KAPS				Lg		Lg	11 07 26.8	
	12nm,0.3s							
KAPS	**Kapalarasan**	2.06	289	eP		Pb	11 07 00.9	+0.2
	4.7nm,0.1s							
KAPS				eS		Sb	11 07 26.8	-0.1
	12nm,0.2s							
KNOS	**Konyrlen**	2.12	263	Pg		Pb	11 07 01.8	-0.1
	25nm,0.1s							
KNOS				Lg		Lg	11 07 28.7	
	16nm,0.2s							
MK31	**Makanchi Array**	2.14	3	⇑Pn		Pb	11 07 02.2	+0.1
	3.7nm,0.3s,baz=184,slow=14,SNR=189							
MK31				⇑Sn	

NWAO **Narrogin (SRO)** 16.63 350 Pn **P** 11 11 37.2 -0.7
comp=Z,1.6nm,0.3s,baz=157,slow=8.2,SNR=11
NWAO Sn **Sn** 11 14 38.2 -1.9
comp=Z,0.3nm,0.3s,baz=183,slow=12,SNR=1.2
NWAO LR LR 11 16 37.1
comp=Z,511nm,20.9s,baz=186,slow=32
comp=Z,13nm,0.7s
CASY Casey 17.74 193 P **Pn** 11 11 48.9 -0.2
FORT Forrest 19.41 20 P **P** 11 12 08.6 0.0
FORT IAmb IAmb 11 12 17.4
comp=Z,48nm,1.0s
ARPS Mount Arapiles 19.89 59 P **P** 11 12 14.3 +0.5
BBOO Buckleboo 20.17 41 P **P** 11 12 17.3 +0.4
BBOO IAmb IAmb 11 12 20.3
comp=Z,41nm,0.9s
BRAT Ballarat 20.55 64 P **P** 11 12 22.2 +1.3
MORW Morawa 20.58 349 P **P** 11 12 22.0 +0.6
MORW Morawa 20.58 349 P **P** 11 12 22.1 +0.8
MORW IAmb IAmb 11 12 24.9
comp=Z,118nm,1.7s
HTT Hallett 20.95 47 P **P** 11 12 25.2 -0.1
TOO Toolangi 21.46 66 P **P** 11 12 31.8 +1.0
TOO Toolangi 21.46 66 P **P** 11 12 30.7 -0.2
TOO IAmb IAmb 11 12 32.3
comp=Z,29nm,0.9s
MULG Mulgathing 21.62 33 P **P** 11 12 32.9 +0.3
MEEK Meekatharra 22.75 355 P **P** 11 12 45.6 +0.8
LCRK Leigh Creek 23.13 42 P **P** 11 12 49.6 +1.0
STKA Stephens Creek 23.52 50 P **P** 11 12 52.2 -0.3
STKA Stephens Creek 23.52 50 P **P** 11 12 51.9 -0.6
STKA Stephens Creek 23.52 50 P **P** 11 12 52.0 -0.4
comp=Z,13nm,0.8s,baz=201,slow=11,SNR=16
STKA LR LR 11 20 22.7
comp=Z,181nm,20.2s,baz=209,slow=32
comp=Z,13nm,0.8s
WRKA Warakurna 25.03 17 P **P** 11 13 08.0 +1.4
CAN Canberra 25.06 67 P **P** 11 13 05.2 -1.6
CAN IAmb IAmb 11 13 09.2
comp=Z,50nm,1.8s
CMSA Cobar Meteorol 25.92 56 P **P** 11 13 14.6 0.0
INKA Innaminka 26.57 43 P **P** 11 13 20.9 +0.4
ASAR Alice Springs 27.71 27 P **P** 11 13 30.3 -0.5
ASAR Alice Springs 27.71 27 P **P** 11 13 30.1 -0.8
comp=Z,16nm,1.0s,baz=202,slow=6.8,SNR=48
ASAR LR LR 11 23 14.3
comp=Z,382nm,20.1s,baz=198,slow=34
comp=Z,16nm,1.0s
AS31 Alice Springs 27.71 27 P **P** 11 13 30.3 -0.5
ARMA Armidale 30.10 63 P **P** 11 13 52.5 +0.4
ARMA IAmb IAmb 11 13 53.6
comp=Z,10nm,0.9s
WB2 Warramunga Arr 31.36 25 P **P** 11 14 02.1 -1.1
WB2 IAmb IAmb 11 14 02.9
comp=Z,10nm,1.1s
WRAB Tennant Creek 31.37 25 P **P** 11 14 02.5 -0.8
WR0 Warramunga Arr 31.40 26 P **P** 11 14 02.6 -0.9
WR0 IAmb IAmb 11 14 05.9
comp=Z,18nm,1.4s
FITZ Fitzroy Crossi 31.46 9 P **P** 11 14 04.2 +0.2
WB0 Warramunga Arr 31.54 25 P **P** 11 14 03.3 -1.5
WB0 IAmb IAmb 11 15 02.5
comp=Z,39nm,1.9s
VNDA Vanda 32.26 164 P **P** 11 14 10.1 -0.4
VNDA IAmb IAmb 11 14 11.6
comp=Z,8.9nm,0.9s
VNDA Vanda 32.26 164 P **P** 11 14 10.0 -0.6
comp=Z,6.2nm,0.8s,baz=306,slow=8.8,SNR=39
comp=Z,6.2nm,0.8s
SBA Scott Base 33.32 164 P **P** 11 14 20.5 +0.7
SBA IAmb IAmb 11 14 23.3
comp=Z,11nm,1.4s
MAW Mawson 33.62 216 P **P** 11 14 23.0 +0.5
comp=Z,12nm,1.0s,baz=86,slow=13,SNR=8.5
comp=Z,12nm,1.0s
CTAO Charters Tower 35.68 44 P **P** 11 14 41.0 +0.2
MTN Manton Dam 37.45 17 P **P** 11 14 56.0 +0.1
MTN IAmb IAmb 11 14 56.6
comp=Z,22nm,1.2s
MRZ Mangatainoka R 39.04 99 P **P** 11 15 09.5 +0.4
MRZ IAmb IAmb 11 15 35.0
comp=Z,20nm,1.2s
BATI Baumata 39.13 5 LR LR 11 30 09.0
comp=Z,232nm,20.6s,baz=202,slow=34
COEN Coen 39.88 36 P **P** 11 15 16.0 -0.3
QSPA South Pole Qui 40.75 180 P **P** 11 15 22.4 -0.8
QSPA IAmb IAmb 11 15 26.5
comp=Z,28nm,1.3s
QSPA South Pole Qui 40.75 180 P **P** 11 15 23.3 +0.1
comp=Z,14nm,1.1s,baz=328,slow=2.8,SNR=20
comp=Z,14nm,1.1s
KAPI Kappang 44.21 359 P **P** 11 15 50.4 -1.2
KAPI IAmb IAmb 11 15 56.2
comp=Z,22nm,1.1s
PMG Port Moresby 45.59 38 LR LR 11 35 02.4
comp=Z,91nm,18.4s,baz=228,slow=36
ELIB Princess Elisa 46.11 205 *d*P **P** 11 16 06.6 +0.3
comp=Z,16nm,0.9s
FAKI Fak Fak 47.34 16 P **P** 11 16 16.2 -0.2
TOLI2 Tolitoli 50.29 0 P **P** 11 16 38.7 -0.3
TROLL Troll, Antarti 51.41 201 ⇑P **P** 11 16 47.0 0.0
comp=Z,672nm,0.8s
BELA Belgrano 2 52.10 186 P **P** 11 16 51.0 -1.0
SNAA Sanae 52.85 199 P **P** 11 16 56.9 -0.8
SNAA Sanae 52.85 199 ⇑P **P** 11 16 56.8 -0.8
comp=Z,569nm,0.9s
SNAA Sanae 52.85 199 P **P** 11 16 58.0 +0.4
comp=Z,26nm,0.9s,baz=143,slow=8.9,SNR=48
SNAA LR LR 11 38 49.7
comp=Z,285nm,19.0s,baz=114,slow=35
comp=Z,26nm,0.9s
VNA2 Neumayer--Watz 54.38 199 ⇑P **P** 11 17 07.9 -0.9
comp=Z,20nm,0.8s,baz=147,slow=7.5
VNA3 Neumayer Olymp 54.59 198 ⇑P **P** 11 17 08.7 -1.6
comp=Z,14nm,0.8s
VNA1 Neumayer--Stat 54.77 199 ⇑P **P** 11 17 10.3 -1.3
comp=Z,23nm,0.8s
H08S2 Diego Garcia H 57.82 299 T T 12 20 09.4
baz=151,slow=76
H08S1 Diego Carcia H 57.84 299 T T 12 20 11.8
baz=151
H08S3 Diego Garcia H 57.84 299 T T 12 20 10.3
baz=151,slow=76
GUMO Guam 66.25 26 LR LR 11 47 34.2
comp=Z,19nm,20.0s,baz=136,slow=36
PALK Pallekele 66.29 316 LR LR 11 41 45.9
comp=Z,78nm,20.0s,baz=255,slow=31
PHRA Phrae 69.96 339 P **P** 11 18 53.4 -0.4
CMAR Chiang Mai Arr 70.22 338 P **P** 11 18 54.7 -0.7
CMAR Chiang Mai Arr 70.22 338 P **P** 11 18 55.7 +0.2
comp=Z,4.9nm,0.9s,baz=189,slow=5.6,SNR=27
CMAR LR LR 11 51 12.3
comp=Z,29nm,18.1s,baz=215,slow=37
comp=Z,4.9nm,0.9s
KMI Kunming 75.86 343 ⇓P **P** 11 19 30.8 +1.9
KMI pmax pmax
comp=Z,20nm,0.9s
JOW Kunigami 76.17 7 LR LR 11 52 32.8
comp=Z,31nm,20.4s,baz=84,slow=35
GYA Guiyang 76.51 347 *e*P **P** 11 19 34.7 +2.2
GYA pmax pmax
comp=Z,10.0nm,0.6s
PZH PanZhiHua 77.39 343 P **P** 11 19 38.0 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,5.5s
CD2 Chengdu 81.33 345 P **P** 11 19 59.7 +1.0
CD2 pmax pmax
comp=Z,10.0nm,0.6s
XAN Xi'an 83.70 350 P **P** 11 20 12.5 +1.5
XAN pmax pmax
comp=Z,11nm,0.8s
KSRS Korea Array 86.70 6 LR LR 12 00 10.1
comp=Z,13nm,19.9s,baz=150,slow=36
MJAR Matsushiro Arr 86.96 14 LR LR 11 54 42.8
comp=Z,17nm,21.7s,baz=216,slow=32
PLCA Paso Flores 89.73 172 P **P** 11 20 41.1 +0.3
PLCA Paso Flores 89.73 172 P **P** 11 20 41.0 +0.2
comp=Z,2.2nm,0.8s,baz=186,slow=5.4,SNR=5.6
comp=Z,2.2nm,0.8s
HHC Hu-ho-hao-te 90.20 353 *e*P **P** 11 20 45.0 +2.4
HHC pP pwP 11 20 49.6 -0.1
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,190nm,4.4s

WSAR Wadi Sarin 90.83 306 LR LR 11 54 01.0
comp=Z,68nm,19.1s,baz=186,slow=31
ASAJ Asahikawa 95.08 16 LR LR 12 01 46.7
comp=Z,25nm,21.4s,baz=168,slow=34
WMQ Urumqi 97.19 337 *e*P Pdif 11 21 16.1 +1.4
SONM Songino Array 97.61 350 LR LR 12 08 31.5
comp=Z,25nm,18.6s,baz=264,slow=37
PDAR Pinedale Array 145.12 81 PKP **PKPbc** **11 27 18.3 -1.0**
comp=Z,0.9nm,0.8s,baz=205,slow=3.5,SNR=7.4
EKA Eskdalemuir Ar 145.97 302 PKPbc **PKPdf** **11 27 20.6 +0.2**
comp=Z,2.5nm,0.6s,baz=111,slow=3.9,SNR=7.7
YKA Yellowknife Ar 147.50 45 PKPbc **PKPdf** **11 27 23.9 +1.2**
comp=Z,1.9nm,0.9s,baz=282,slow=2.9,SNR=28

NEIC 03 11:20:29.0±0.7, 31.32N±0.03×103.08W±0.01, h2km±6km, mb_Lg2.6/33, ML2.5/8, Error ellipse: s-maj=4.1km s-min=1.0km az=159.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNHN	**Monahans**	**0.27**	**85**	Pg	Pg	11 20 34.8	+0.5
MNHN				IAML		11 20 40.0	
	918nm,0.5s						
PECS	**Pecos**	**0.68**	**275**	Pg	Pg	11 20 42.6	+0.7
ODSA	**Odessa**	**0.92**	**29**	Pg	Pg	11 20 46.8	+0.1
ALPN	**Alpine**	**1.05**	**207**	Pg	Pg	11 20 49.4	+0.1
SAND	**Sanderson**	**1.59**	**148**		Pn	11 20 58.6	+0.4
VHRN	**Van Horn**	**1.72**	**253**		Pb	11 21 01.1	-0.4
OZNA	**Ozona**	**1.72**	**103**	Pg	Pb	11 21 01.2	-0.2
SGCY	**Sterling City**	**1.77**	**70**		Pb	11 21 02.0	-0.3
TX31	**Lajitas Ar. Si**	**2.04**	**195**		Pb	11 21 06.0	-0.9
TXAR	**Lajitas Array**	**2.04**	**195**		Pb	11 21 06.1	-0.8
POST	**Post**	**2.20**	**37**		Pb	11 21 08.3	-1.3
POST				IAmb_Lg		11 21 40.6	
	comp=Z,28nm,0.9s						
SN05	**Snyder 5**	**2.43**	**50**		Pn	11 21 11.0	+1.2
SN05				IAmb_Lg		11 21 52.5	
	comp=Z,22nm,0.8s						
SN07	**Snyder 07**	**2.56**	**46**		Pn	11 21 12.9	+1.2
DRIO	**Del Rio**	**2.84**	**131**		Pn	11 21 16.2	+0.7
DRIO				IAmb_Lg		11 21 58.2	
	comp=Z,24nm,0.7s						
DKNS	**Dickens**	**2.97**	**37**		Pn	11 21 18.3	+1.1
ABTX	**Abilene, Hawle**	**3.20**	**65**	Pn	Pn	11 21 21.8	+1.4
ABTX				IAmb_Lg		11 22 12.9	
	comp=Z,23nm,0.8s						
APMT	**Aspermont**	**3.21**	**51**		Pn	11 21 21.8	+1.3
APMT				IAmb_Lg		11 22 15.4	
	comp=Z,24nm,0.9s						
BRDY	**Brady**	**3.49**	**89**	Pn	Pn	11 21 25.7	+1.2
BRDY				IAmb_Lg		11 22 25.9	
	comp=Z,20nm,0.8s						
HNDO	**Hondo**	**3.73**	**118**	Pn	Pn	11 21 28.8	+1.1
HNDO				IAmb_Lg		11 22 37.5	
	comp=Z,12nm,0.8s						
AMTX	**Amarillo**	**3.75**	**18**	Pn	Pn	11 21 28.8	+0.8
PLPT	**Palo Pinto**	**4.31**	**69**	IAmb_Lg		11 22 56.9	
	comp=Z,9.4nm,0.8s						
SMWD	**Samnorwood**	**4.46**	**31**	IAmb_Lg		11 23 00.9	
	comp=Z,12nm,0.7s						
ANMO	**Albuquerque**	**4.60**	**323**	IAmb_Lg		11 23 03.1	
	comp=Z,4.4nm,0.8s						
WTFS	**Witchita Falls**	**4.60**	**57**	IAmb_Lg		11 22 57.1	
	comp=Z,7.4nm,0.8s						
WMOK	**Wichita Mounta**	**4.97**	**45**	Pn	Pn	11 21 46.2	+1.5
FW14	**Alvarado**	**5.12**	**76**	IAmb_Lg		11 23 22.0	
	comp=Z,13nm,0.9s						
KAN06	**Argonia West S**	**7.33**	**35**	IAmb_Lg		11 24 38.1	
	comp=Z,5.5nm,0.7s						

*IDC **03** 13:19:14.3±0.7, 15.27S×173.39W, h0km, mb4.1/10, mbtmp4.1/10, MS3.7/45, Error ellipse: s-maj=33.3km s-min=18.9km az=125.0*
*NEIC **03** 13:19:14.1±2.9, 15.5S±0.1×173.24W±0.05, h10km±1km, mb4.6/31, Error ellipse: s-maj=21.1km s-min=7.4km az=354.0*
ISC 03 13:19:14.4±0.5, 15.4S±0.1×173.3W±0.1, h10km, n89, σ1s65/36, mb4.6/26, MS3.8/44, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.85**	**139**		**Pn**	**13 20 25.1**	**-2.4**
RAR	**Rarotonga**	**14.08**	**116**	LR	LR	13 26 56.5	
	comp=Z,206nm,20.2s,baz=310,slow=32						
DZM	**Mont Dzumac**	**20.25**	**248**	P	Pn	13 23 54.9	+2.8
	16nm,1.0s,baz=86,slow=19,SNR=4.3						
DZM				LR	LR	13 30 36.1	
	comp=Z,403nm,19.2s,baz=44,slow=34						
KOUNC	**Koumac, New Ca**	**21.89**	**253**	P	**P**	**13 24 05.0**	**-2.6**
KOUNC				IAmb	IAmb	13 24 30.6	
	comp=Z,51nm,1.4s						
PPT	**Papeete**	**22.86**	**99**	LR	LR	13 30 37.6	
	comp=Z,140nm,21.7s,baz=281,slow=30						
PPTF	**Pamatai, Papee**	**22.87**	**99**	P	**P**	**13 24 16.5**	**-1.8**
PPTF				IAmb	IAmb	13 24 37.6	
	comp=Z,42nm,1.2s						
INZ	**Inchbonnie**	**30.17**	**203**	P	**P**	**13 25 24.7**	**0.0**
WHZ	**Wether Hill Ro**	**34.18**	**204**	P	**P**	**13 26 00.0**	**+0.2**
PMG	**Port Moresby**	**39.01**	**274**	LR	LR	13 41 01.3	
	comp=Z,85nm,19.7s,baz=88,slow=34						
H11S2	**WAKE ISLAND Hy**	**39.04**	**329**	T	T	14 08 01.8	
	baz=149,slow=76						
H11S3	**WAKE ISLAND Hy**	**39.05**	**329**	T	T	14 08 16.6	
	baz=149,slow=76						
H11S1	**WAKE ISLAND Hy**	**39.06**	**329**	T	T	14 08 04.1	
	baz=149,slow=76						
H11N3	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	14 09 13.1	
	baz=157,slow=76						
H11N1	**WAKE ISLAND Hy**	**39.99**	**330**	T	T	14 09 13.5	
	baz=157,slow=76						
H11N2	**WAKE ISLAND Hy**	**40.00**	**330**	T	T	14 09 19.3	
	baz=157,slow=76						
COEN	**Coen**	**42.05**	**266**	P	**P**	**13 27 05.5**	**-1.2**
COEN				IAmb	IAmb	13 27 10.4	
	comp=Z,12nm,1.0s						
STKA	**Stephens Creek**	**44.08**	**240**	P	**P**	**13 27 24.0**	**+1.1**
	comp=Z,5.9nm,0.9s,baz=335,slow=23,SNR=4.0						
STKA				LR	LR	13 42 35.2	
	comp=Z,90nm,19.9s,baz=49,slow=32						
	comp=Z,5.9nm,0.9s						
WB2	**Warramunga Arr**	**49.90**	**257**	P	**P**	**13 28 05.4**	**-3.1**
WB2				IAmb	IAmb	13 28 11.4	
	comp=Z,6.6nm,1.1s						
WRAB	**Tennant Creek**	**49.90**	**257**	P	**P**	**13 28 08.3**	**-0.2**
AS31	**Alice Springs**	**50.17**	**252**	P	**P**	**13 28 09.2**	**-1.3**
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	**13 28 08.2**	**-2.4**
ASAR	**Alice Springs**	**50.17**	**252**	P	**P**	**13 28 11.3**	**+0.8**
	comp=Z,4.0nm,0.7s,baz=89,slow=7.7,SNR=65						
	comp=Z,4.0nm,0.7s						
GUMO	**Guam**	**50.42**	**303**	LR	LR	13 48 01.2	
	comp=Z,37nm,18.0s,baz=87,slow=34						
RPN	**Rapa Nui**	**60.20**	**113**	LR	LR	13 49 11.5	
	comp=Z,26nm,21.3s,baz=254,slow=30						
BATI	**Baumata**	**61.49**	**267**	LR	LR	13 54 19.2	
	comp=Z,118nm,20.2s,baz=155,slow=34						
VNDA	**Vanda**	**63.34**	**186**	P	**P**	**13 29 44.6**	**+1.3**
VNDA	**Vanda**	**63.34**	**186**	P	**P**	**13 29 46.5**	**+3.3**
	comp=Z,1.0nm,0.9s,baz=22,slow=5.4,SNR=5.2						
	comp=Z,1.0nm,0.9s						
DAV	**Davao City (W)**	**64.52**	**286**	LR	LR	13 56 56.1	
	comp=Z,43nm,18.1s,baz=120,slow=35						
NWAO	**Narrogin (SRO)**	**64.66**	**241**	LR	LR	13 55 52.5	
	comp=Z,81nm,19.4s,baz=170,slow=34						
SHEM	**Shemya Is, Ala**	**68.76**	**352**	LR	LR	13 56 33.8	
	comp=Z,72nm,18.4s,baz=326,slow=33						
MJAR	**Matsushiro Arr**	**69.02**	**320**	LR	LR	13 54 36.0	
	comp=Z,81nm,21.5s,baz=145,slow=31						
JOW	**Kunigami**	**70.57**	**306**	LR	LR	13 55 33.8	
	comp=Z,61nm,21.2s,baz=27,slow=31						
ASAJ	**Asahikawa**	**71.62**	**328**	LR	LR	13 55 57.0	
	comp=Z,35nm,21.9s,baz=155,slow=31						
JNU	**Nakatsue**	**71.88**	**313**	LR	LR	13 55 07.9	
	comp=Z,42nm,20.0s,baz=154,slow=30						
PETK	**Petropavlovsk-**	**72.69**	**342**	P	**P**	**13 30 43.4**	**+1.1**
	comp=Z,3.3nm,0.9s,baz=124,slow=7.4,SNR=5.4						
PETK				LR	LR	13 59 47.6	
	comp=Z,21nm,18.9s,baz=147,slow=34						
	comp=Z,3.3nm,0.9s						
PFO	**Pinyon Flats O**	**72.90**	**47**	LR	LR	13 54 32.9	
	comp=Z,66nm,19.4s,baz=233,slow=29						
LPIG	**La Paz**	**73.00**	**58**	LR	LR	13 56 12.4	
	comp=Z,65nm,19.4s,baz=190,slow=30						
YBH	**Yreka Blue Hor**	**73.59**	**37**	LR	LR	13 57 24.1	
	comp=Z,56nm,18.3s,baz=235,slow=31						

NVAR Mina Array Bea 74.31 42 P **P** **13 30 53.8 +1.4**
comp=Z,1.0nm,1.0s,baz=227,slow=9.7,SNR=6.4
NVAR LR LR 13 57 41.2
comp=Z,72nm,20.1s,baz=234,slow=31
comp=Z,1.0nm,1.0s
QSPA South Pole Qui 74.60 180 P **P** **13 30 56.1 +2.6**
QSPA IAmb IAmb 13 30 57.7
comp=Z,6.5nm,1.0s
QSPA South Pole Qui 74.60 180 P **P** **13 30 56.2 +2.6**
comp=Z,6.0nm,1.1s,baz=22,slow=1.2,SNR=9.1
comp=Z,6.0nm,1.1s
KDAK Kodiak Island 74.95 11 LR LR 13 56 04.8
comp=Z,66nm,21.5s,baz=211,slow=30
KSRS Korea Array 76.24 316 LR LR 13 58 53.1
comp=Z,22nm,21.9s,baz=90,slow=31
ELK Elko 77.57 41 LR LR 13 58 22.2
comp=Z,50nm,20.9s,slow=30
M22K Willow 79.11 11 P **P** **13 31 17.2 -1.5**
MA2 Magadan 80.23 342 LR LR 14 02 52.7
comp=Z,27nm,20.1s,baz=278,slow=33
TXAR Lajitas Array 80.57 56 P **P** **13 31 28.8 +1.2**
comp=Z,1.1nm,0.9s,baz=207,slow=5.2,SNR=9.1
comp=Z,1.1nm,0.9s
KLR Kul'dur 80.60 327 LR LR 14 01 46.6
comp=Z,34nm,20.6s,baz=149,slow=32
NEW Newport 80.70 34 LR LR 14 02 02.2
comp=Z,48nm,18.7s,baz=218,slow=32
ANMO Albuquerque 80.77 50 LR LR 14 02 26.5
comp=Z,38nm,18.3s,baz=348,slow=32
DLBC Dease Lake 81.72 21 LR LR 14 01 12.5
comp=Z,47nm,19.4s,baz=311,slow=31
BPMT Black Pine Rid 81.75 37 P **P** **13 31 34.0 +0.4**
MLY Manley 82.05 9 P **P** **13 31 35.2 +0.7**
MLY IAmb IAmb 13 31 36.4
comp=Z,4.6nm,1.1s
FLWY Flagg Ranch 82.18 40 P **P** **13 31 34.7 -1.1**
FLWY IAmb IAmb 13 31 39.6
comp=Z,7.1nm,1.1s
PD31 Pinedale Array 82.25 42 P **P** **13 31 35.1 -1.2**
PDAR Pinedale Array 82.25 42 LR **P** **13 31 36.3 0.0**
PDAR Pinedale Array 82.25 42 P **P** **13 31 36.5 +0.2**
comp=Z,1.3nm,0.9s,baz=240,slow=2.9,SNR=11
PDAR LR LR 14 04 24.5
comp=Z,55nm,18.1s,baz=264,slow=33
comp=Z,1.3nm,0.9s
G19K Purcell Mounta 82.25 7 P **P** **13 31 36.3 +0.8**
OVMT Ovando 82.34 37 P **P** **13 31 34.5 -2.1**
COLA College 82.39 11 P **P** **13 31 36.0 -0.2**
YHH Holmes Hill 82.44 40 P **P** **13 31 38.2 +0.9**
ILAR Eielson Array 82.47 11 P **P** **13 31 36.9 +0.2**
comp=Z,0.9nm,0.8s,baz=220,slow=5.6,SNR=6.3
ILAR LR LR 14 04 58.4
comp=Z,27nm,18.3s,baz=192,slow=33
comp=Z,0.9nm,0.8s
J26L Joseph Creek 82.89 13 P **P** **13 31 37.8 -1.2**
J26L IAmb IAmb 13 31 42.3
comp=Z,5.4nm,1.1s
L29M L29M 82.95 15 P **P** **13 31 40.0 +0.8**
L29M IAmb IAmb 13 31 42.4
comp=Z,5.1nm,0.9s
DAWY Dawson 83.45 14 IAmb IAmb 13 31 44.7
comp=Z,4.3nm,1.1s
CMIG Matias Romero 83.83 70 LR LR 14 00 49.6
comp=Z,66nm,18.6s,baz=186,slow=30
E22K Anaktuvuk Pass 84.80 8 IAmb IAmb 13 31 51.7
comp=Z,4.5nm,1.0s
E21K Killik River 84.81 7 IAmb IAmb 13 31 51.5
comp=Z,4.2nm,1.0s
D22K Ayikyak River 85.39 7 IAmb IAmb 13 31 54.4
comp=Z,6.0nm,1.1s
H29M Whitestone 85.49 13 IAmb IAmb 13 31 58.2
comp=Z,8.0nm,1.4s
E25K Arctic Village 85.73 10 IAmb IAmb 13 31 56.6
comp=Z,4.1nm,1.1s
G30M tAoh Zrail Nji 86.61 14 IAmb IAmb 13 32 00.0
comp=Z,6.1nm,1.1s
G31M Satah River 87.02 14 IAmb IAmb 13 32 01.9
comp=Z,5.3nm,1.1s
INK Inuvik 88.29 14 LR LR 14 06 00.8
comp=Z,33nm,19.1s,baz=194,slow=32
YAK Yakutsk 89.18 337 LR LR 14 04 36.3
comp=Z,26nm,21.3s,baz=114,slow=31
PLCA Paso Flores 89.42 132 LR LR 14 03 24.3
comp=Z,52nm,21.0s,baz=208,slow=30
YKA Yellowknife Ar 90.11 23 P **P** **13 32 15.6 +1.3**
comp=Z,0.9nm,0.9s,baz=244,slow=4.2,SNR=12
YKA LR LR 14 06 47.6
comp=Z,46nm,18.6s,baz=316,slow=32
comp=Z,0.9nm,0.9s
JTS Las Juntas de 91.14 80 LR LR 14 04 09.4
comp=Z,47nm,19.9s,baz=222,slow=30
CMAR Chiang Mai Arr 92.70 288 LR LR 14 09 18.3
comp=Z,20nm,21.6s,baz=100,slow=32
ATAH Atahualpa 92.84 98 LR LR 14 04 36.9
comp=Z,75nm,20.2s,baz=256,slow=29
SNAA Sanae 92.86 177 LR LR 14 13 36.4
comp=Z,25nm,18.3s,baz=103,slow=35
A36M Sachs Harbour 92.93 13 P **P** **13 32 24.6 -2.5**
NNA Nana 92.97 103 LR LR 14 07 30.8
comp=Z,20nm,18.2s,baz=230,slow=31
ULM Lac du Bonnet 93.92 39 LR LR 14 11 14.0
comp=Z,58nm,18.1s,baz=276,slow=33
SONM Songino Array 94.93 318 LR LR 14 08 54.5
comp=Z,42nm,21.1s,baz=238,slow=32
TIXI Tiksi 95.07 344 LR LR 14 11 42.3
comp=Z,37nm,20.6s,baz=154,slow=33
LVC Limon Verde 96.93 116 LR LR 14 05 55.3
comp=Z,24nm,21.4s,baz=215,slow=29
TKL Tuckaleechee C 98.48 55 LR LR 14 12 25.2
comp=Z,37nm,18.4s,baz=289,slow=32
BRTR Keskin Array B 146.24 321 PKPbc **PKPab** **13 38 57.0 +0.7**
comp=Z,6.6nm,0.9s,baz=91,slow=2.1,SNR=28

*KRNET **03** 13:19:54.5±0.1, 39.92N×75.93E, mb3.2*
*SOME **03** 13:19:57.2, 40.08N×75.90E, h15km*
*NNC **03** 13:20:00.8±2.1, 40.23N×75.92E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=14.5km s-min=9.5km az=177.0*
ISC 03 13:19:54.6±1.6, 39.84N±0.08×75.86E±0.03, h0km±11km, n64, σ1s13/98, 26C-20D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.59**	**4**	⇓*e*P	**Pn**	**13 20 22.8**	**-1.5**
NRN				⇓*e*S	**Sn**	13 20 42.5	-3.3
	baz=1.0						
SFK	**Sufi-Kurgan**	**1.82**	**276**	⇑*i*P	**Pg**	13 20 29.3	-0.2
	baz=74						
SFK				⇑*i*S	**Sg**	13 20 53.8	+0.8
	baz=74						
ARLS	**Aral**	**2.33**	**330**	⇑*i*P	**Pn**	13 20 34.4	+0.1
	baz=28						
ARLS				⇑*i*S	**Sn**	13 21 03.8	+0.1
	baz=28						
TARG	**Taragay, Kyrgy**	**2.40**	**37**	⇑*i*P	**Pn**	13 20 34.7	-0.7
	baz=38						
TARG				⇑*i*S	**Sn**	13 21 04.6	-1.1
	baz=38						
ULHL	**Ulahol**	**2.42**	**7**	P	**Pb**	13 20 37.7	-1.4
	SNR=14						
ULHL	**Ulahol**	**2.42**	**7**	⇑*i*P	**Pn**	13 20 35.0	-0.6
	baz=6.0						
ULHL				⇑*i*S	**Sn**	13 21 05.2	-0.8
	baz=6.0						
KDJ	**Kajisay**	**2.50**	**23**	⇑*e*P	**Pn**	13 20 36.6	0.0
	baz=23						
KDJ				⇑*e*S	**Sn**	13 21 06.8	-1.0
	baz=23						
UCH	**Uchtor**	**2.59**	**337**	P	**Pn**	13 20 39.2	+1.0
	SNR=68						
UCH	**Uchtor**	**2.59**	**337**	⇓*i*P	**Pn**	13 20 38.0	-0.1
	baz=36						
UCH				⇓*i*S	**Sn**	13 21 10.4	-0.2
	baz=36						
ARSB	**Arslanbob**	**2.64**	**305**	⇑*e*P	**Pn**	13 20 39.9	+1.3
	baz=3.0						
ARSB				⇑*e*S	**Sn**	13 21 12.5	+1.1
	baz=3.0						
BOOM	**Boomskoye usch**	**2.65**	**1**	⇓*i*P	**Pn**	13 20 39.1	+0.4
	baz=0.0						
BOOM				⇓*i*S	**Sn**	13 21 10.8	-0.7
	baz=0.0						
KBK	**Karagaybulak**	**2.90**	**347**	P	**Pn**	13 20 43.5	+1.5
	SNR=14						
KBK	**Karagaybulak**	**2.90**	**347**	⇑*i*P	**Pn**	13 20 41.9	-0.2
	baz=45						

KBK				⇑*i*S		**Sn**	**13 21 17.1**	**-0.5**
	baz=45								
AAK	**Ala-Archa**	**2.98**	**340**	P		**Pn**	**13 20 44.5**	**+1.4**
	SNR=22								
AAK	**Ala-Archa**	**2.98**	**340**	Pn		**Pn**	**13 20 43.7**	**+0.5**
	9.7nm,0.4s								
AAK				Pg		**Pg**	**13 20 55.0**	**+3.4**
	19nm,0.4s								
AAK				⇑Lg		Lg	13 21 20.1		
	57nm,0.6s								
AAK	**Ala-Archa**	**2.98**	**340**	⇓*i*P		**Pn**	**13 20 43.2**	**0.0**
	baz=39								
AAK				⇓*i*S		**Sn**	**13 21 19.3**	**-0.3**
	baz=39								
TKM2	**Tokmak 2**	**3.08**	**356**	P		**Pn**	**13 20 45.8**	**+1.1**
	SNR=5.5								
TKM2	**Tokmak 2**	**3.08**	**356**	⇓Pg		Pg	13 20 58.8	+5.1
	37nm,0.8s								
TKM2				⇓Lg		Lg	13 21 27.0		
	90nm,0.5s								
TKM2	**Tokmak 2**	**3.08**	**356**	⇑*i*P		**Pn**	**13 20 44.4**	**-0.3**
	baz=55								
TKM2				⇑*i*S		**Sn**	**13 21 21.4**	**-0.9**
	baz=55								
KST	**Kastek**	**3.20**	**1**	Pg		**Pb**	**13 20 51.9**	**-0.4**
	9.3nm,0.4s								
KST				Lg		Lg	13 21 31.6		
	64nm,0.5s								
KST	**Kastek**	**3.20**	**1**	*e*P		**Pb**	**13 20 51.9**	**-0.4**
	9.3nm,0.4s								
KST				*e*S		**Sb**	**13 21 31.6**	**-0.3**
	64nm,0.5s								
EKS2	**Erkin-Say**	**3.22**	**332**	⇓*i*P		**Pn**	**13 20 46.8**	**+0.3**
	baz=30								
EKS2				⇓*i*S		**Sn**	**13 21 25.7**	**0.0**
	baz=30								
ANVS	**Anan'yevo**	**3.24**	**24**	⇑*e*P		**Pn**	**13 20 46.7**	**-0.1**
	baz=24								
ANVS				⇑*e*S		**Sn**	**13 21 24.5**	**-1.7**
	baz=24								
IZV	**Izvestkoviy**	**3.24**	**10**	Pg		**Pb**	**13 20 53.1**	**0.0**
	4.9nm,0.2s								
IZV				Lg		Lg	13 21 33.1		
	69nm,0.4s								
IZV	**Izvestkoviy**	**3.24**	**10**	*e*P		**Pb**	**13 20 53.1**	**0.0**
	4.9nm,0.2s								
IZV				*e*S		**Sb**	**13 21 33.1**	**-0.1**
	69nm,0.4s								
CHMS	**Chumysh**	**3.26**	**346**	P		Pg	13 21 33.5	+36
	SNR=6.7								
CHMS	**Chumysh**	**3.26**	**346**	⇑Pg		**Pg**	**13 20 55.3**	**-1.8**
	7.0nm,0.5s								
CHMS				⇓Lg		Lg	13 21 32.8		
	13nm,0.4s								
CHMS	**Chumysh**	**3.26**	**346**	⇓*e*P		**Pn**	**13 20 46.8**	**-0.2**
	baz=44								
CHMS				⇓*i*S		**Sn**	**13 21 26.0**	**-0.5**
	baz=44								
TNSS	**Tian-Shan**	**3.30**	**14**	Pg		**Pb**	**13 20 53.5**	**-0.6**
	6.6nm,0.3s								
TNSS				Lg		Lg	13 21 34.1		
	22nm,0.6s								
TNSS	**Tian-Shan**	**3.30**	**14**	*e*P		**Pb**	**13 20 53.5**	**-0.6**
	6.6nm,0.3s								
TNSS				*e*S		**Sb**	**13 21 34.1**	**-0.8**
	22nm,0.6s								
MTBS	**Maitube**	**3.31**	**7**	Pg		**Pb**	**13 20 53.7**	**-0.6**
	6.4nm,0.2s								
MTBS				Lg		Lg	13 21 34.6		
	40nm,0.6s								
MTBS	**Maitube**	**3.31**	**7**	*e*P		**Pb**	**13 20 53.7**	**-0.6**
	6.4nm,0.2s								
MTBS				*e*S		**Sb**	**13 21 34.6**	**-0.5**
	40nm,0.6s								
DGS	**Degeres**	**3.40**	**359**	Pg		**Pb**	**13 20 55.3**	**-0.4**
	6.3nm,0.3s								
DGS				Lg		Lg	13 21 36.9		
	30nm,0.5s								
DGS	**Degeres**	**3.40**	**359**	*e*P		**Pb**	**13 20 55.3**	**-0.4**
	6.3nm,0.3s								
DGS				*e*S		**Sb**	**13 21 36.9**	**-0.7**
	30nm,0.5s								
MDOK	**Medeo**	**3.44**	**15**	Pg		**Pb**	**13 20 56.3**	**-0.1**
	4.9nm,0.4s								
MDOK				Lg		Lg	13 21 38.1		
	24nm,0.5s								
MDOK	**Medeo**	**3.44**	**15**	*e*P		**Pb**	**13 20 55.1**	**-1.3**
	5.4nm,0.3s								
MDOK				*e*S		**Sb**	**13 21 37.2**	**-1.6**
	44nm,0.5s								
MRKS	**Merke**	**3.51**	**326**	Pg		**Pb**	**13 20 57.3**	**-0.3**
	3.9nm,0.2s								
MRKS				Lg		Lg	13 21 40.7		
	16nm,0.5s								
MRKS	**Merke**	**3.51**	**326**	*e*P		**Pb**	**13 20 57.3**	**-0.3**
	3.9nm,0.1s								
MRKS				*e*S		**Sb**	**13 21 40.7**	**-0.2**
	16nm,0.2s								
KOTS	**Kotyrbulak**	**3.52**	**15**	*e*P		**Pb**	**13 20 58.1**	**+0.4**
	6.6nm,0.2s								
KOTS				*e*S		**Sb**	**13 21 41.7**	**+0.6**
	73nm,0.3s								
USP	**Ospenovka**	**3.57**	**344**	P		**Pn**	**13 20 52.5**	**+1.3**
	SNR=9.5								
USP	**Ospenovka**	**3.57**	**344**	⇑*i*P		**Pn**	**13 20 51.3**	**+0.1**
	baz=43								
USP				⇑*i*S		**Sn**	**13 21 33.5**	**-0.6**
	baz=43								
MNAS	**Manas**	**3.66**	**317**	⇑*i*P		**Pn**	**13 20 53.4**	**+0.9**
	baz=16								
MNAS				⇑*i*S		**Sn**	**13 21 36.1**	**-0.4**
	baz=16								
SATY	**Saty**	**3.74**	**30**	Pg		**Pb**	**13 21 02.0**	**+0.5**
	2.9nm,0.2s								
SATY				Lg		Lg	13 21 48.7		
	19nm,0.3s								
SATY	**Saty**	**3.74**	**30**	*e*P		**Pb**	**13 21 02.0**	**+0.5**
	2.9nm,0.2s								
SATY				*e*S		**Sb**	**13 21 48.7**	**+1.2**
	19nm,0.3s								
KTBS	**Karatobe**	**3.92**	**9**	*e*P		**Pb**	**13 21 04.4**	**-0.1**
	9.3nm,0.3s								
KTBS				*e*S		**Sb**	**13 21 53.0**	**+0.5**
	91nm,0.5s								
TRKS	**Terek-Say**	**3.96**	**297**	⇓*i*P		**Pn**	**13 20 57.7**	**+1.0**
	baz=95								
TRKS				⇓*i*S		**Sn**	**13 21 43.2**	**-0.8**
	baz=95								
KURS	**Kuram**	**4.03**	**25**	*e*P		**Pb**	**13 21 06.0**	**-0.5**
	3.4nm,0.4s								
KURS				*e*S		**Sb**	**13 21 55.2**	**-0.6**
	20nm,0.6s								
UZB	**Uzynbulak**	**4.07**	**35**	Pg		**Pb**	**13 21 07.9**	**+0.8**
	2.0nm,0.2s								
UZB				Lg		Lg	13 21 58.6		
	5.7nm,0.5s								
UZB	**Uzynbulak**	**4.07**	**35**	*e*P		**Pb**	**13 21 07.9**	**+0.8**
	2.0nm,0.2s								
UZB				*e*S		**Sb**	**13 21 58.6**	**+1.7**
	5.7nm,0.5s								
CHKK	**Chushkaly**	**4.10**	**12**	Pg		**Pb**	**13 21 08.7**	**+1.2**
	5.4nm,0.3s								
CHKK				Lg		Lg	13 21 60.0		
	40nm,0.3s								
CHKK	**Chushkaly**	**4.10**	**12**	*e*P		**Pb**	**13 21 08.7**	**+1.2**
	5.4nm,0.3s								
CHKK				*e*S		**Sb**	**13 21 60.0**	**+2.4**
	40nm,0.3s								
SHLS	**Shalkode**	**4.28**	**38**	Pg		**Pg**	**13 21 16.6**	**+0.1**
	6.9nm,0.2s								
SHLS				Lg		Lg	13 22 13.9		
	7.0nm,0.1s								
SHLS	**Shalkode**	**4.28**	**38**	*e*P		**Pg**	**13 21 16.6**	**+0.1**
	6.9nm,0.2s								
SHLS				*e*S		**Sg**	**13 22 13.9**	**+1.9**
	7.0nm,0.1s								
PDGK	**Podgornoye**	**4.42**	**37**	Pg		**Pb**	**13 21 12.8**	**-0.3**
	0.8nm,0.5s								
PDGK				Lg		Lg	13 22 07.9		
	5.9nm,0.6s								
PDGK	**Podgornoye**	**4.42**	**37**	⇑Pg		**Pg**	**13 21 17.9**	**-1.4**
	3.0nm,0.5s								
PDGK				⇓Sn		**Sn**	**13 21 55.8**	**+0.6**
	10.0nm,0.6s								
PDGK				⇓Lg		Lg	13 22 10.4		
	24nm,0.8s								
ARXS	**Arharly**	**4.61**	**18**	Pg		**Pb**	**13 21 16.7**	**+0.4**
	3.5nm,0.3s								
ARXS				Lg		Lg	13 22 14.5		
	13nm,0.5s								
ARXS	**Arharly**	**4.61**	**18**	*e*P		**Pb**	**13 21 16.7**	**+0.4**
	3.5nm,0.3s								
ARXS				*e*S		**Sb**	**13 22 14.5**	**+2.2**
	13nm,0.4s								
BLB	**Baldybastay**	**4.68**	**24**	Pg		**Pb**	**13 21 18.0**	**+0.5**
	7.5nm,0.3s								
BLB				Lg		Lg	13 22 16.7		
	25nm,0.5s								
IUG	**Iuzhnay**	**4.97**	**299**	*e*P		**Pg**	**13 21 27.3**	**-2.6**
	8.5nm,0.2s								
IUG				*e*S		**Sg**	**13 22 31.7**	**-2.6**
	22nm,0.4s								
KNOS	**Konyrlen**	**5.14**	**28**	Pg		**Pb**	**13 21 26.4**	**+0.9**
	2.4nm,0.2s								
KNOS				Lg		Lg	13 22 30.4		
	5.0nm,0.5s								
KK31	**Karatay Array**	**5.17**	**311**	Pg		**Pg**	**13 21 33.0**	**-0.7**
	1.2nm,0.4s,baz=138,slow=19,SNR=4.9								
KK31				⇓Lg		Lg	13 22 34.5		
	2.6nm,0.3s,baz=124,slow=29,SNR=5.7								
BTLS	**Baital**	**5.37**	**346**	Pg		**Pb**	**13 21 30.6**	**+1.5**
	1.2nm,0.3s								
BTLS				Lg		Lg	13 22 37.5		
	12nm,0.6s								
BTLS	**Baital**	**5.37**	**346**	*e*P		**Pb**	**13 21 30.6**	**+1.5**
	1.2nm,0.3s								
BTLS				*e*S		**Sb**	**13 22 37.5**	**+3.5**
	12nm,0.4s								
MK31	**Makanchi Array**	**8.38**	**32**	⇑Lg		Lg	13 24 10.6		
	0.3nm,0.4s								

*SOME **03** 13:28:04.0, 40.°93N×69.°72E, h5km*
*KRNET **03** 13:28:05.0±0.1, 41.°06N×69.°73E, h16km, mb2.8*
*NNC **03** 13:28:05.1±3.9, 40.°97N×69.°63E, h0km, mb3.6, mpv3.4,*
Error ellipse: s-maj=25.6km s-min=16.4km az=36.0

ISC 03 13:28:05.9±1.4, 41.°07N±0.°03×69.°85E±0.°05, h13km±11km, n20, σ1°84/36, 11C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**1.07**	**64**	⇑*i*P	**Pg**	**13 28 27.1**	**+0.5**
	baz=69						
TRKS				⇑*i*S	**Sg**	**13 28 43.2**	**+2.6**
	baz=69						
IUG	**Iuzhnay**	**1.08**	**7**	P	**Pg**	**13 28 27.5**	**+0.7**
	16nm,0.2s						
IUG				S	**Sn**	**13 28 44.1**	**+2.3**
	56nm,0.3s						
IUG	**Iuzhnay**	**1.08**	**7**	*e*P	**Pg**	**13 28 27.5**	**+0.7**
	16nm,0.2s						
IUG				*e*S	**Sn**	**13 28 44.1**	**+2.3**
	56nm,0.3s						
BTK	**Batken**	**1.25**	**144**	⇓*i*P	**Pg**	**13 28 29.5**	**-0.5**
	baz=40						
BTK				⇓*i*S	**Sg**	**13 28 47.6**	**+1.3**
	baz=40						
ARK	**Arkit**	**1.74**	**65**	⇑*i*P	**Pg**	**13 28 39.3**	**-0.1**
	baz=65						
ARK				⇑*i*S	**Sg**	**13 29 04.2**	**+2.1**
	baz=65						
BRLS	**Borolday**	**1.96**	**360**	P	**Pn**	**13 28 38.8**	**+0.1**
	15nm,0.1s						
BRLS				S	**Sb**	**13 29 03.6**	**-2.0**
	63nm,0.3s						
BRLS	**Borolday**	**1.96**	**360**	*e*P	**Pn**	**13 28 38.8**	**+0.1**
	15nm,0.1s						
BRLS				*e*S	**Sb**	**13 29 03.6**	**-2.0**
	63nm,0.2s						
KK31	**Karatay Array**	**2.09**	**13**	⇓Pg	**Pg**	**13 28 46.0**	**0.0**
	3.6nm,0.3s,baz=198,slow=16,SNR=8.4						
KK31				Lg	Lg	13 29 16.2	
	10nm,0.3s,baz=204,slow=28,SNR=20						
KKAR	**Karatay Array**	**2.09**	**13**	⇑*i*P	**Pb**	**13 28 43.8**	**+0.2**
	baz=16						
KKAR				⇑*i*S	**Sg**	**13 29 11.9**	**-1.1**
	baz=16						
DRK	**Karamyk**	**2.18**	**136**	⇓*e*P	**Pb**	**13 28 45.2**	**-0.2**
	baz=34						
DRK				⇓*e*S	**Sg**	**13 29 15.1**	**-0.9**
	baz=34						
OHH	**Osh**	**2.29**	**103**	⇓*i*P	**Pb**	**13 28 47.1**	**0.0**
	baz=2.0						
OHH				⇓*i*S	**Sb**	**13 29 18.1**	**+2.7**
	baz=2.0						
ARSB	**Arslanbob**	**2.38**	**83**	⇓*e*P	**Pb**	**13 28 48.6**	**0.0**
	baz=83						
ARSB				⇓*e*S	**Sb**	**13 29 20.0**	**+2.2**
	baz=83						
MNAS	**Manas**	**2.44**	**54**	⇓*e*P	**Pb**	**13 28 49.3**	**-0.3**
	baz=55						
MNAS				⇓*i*S	**Sb**	**13 29 21.6**	**+2.0**
	baz=55						
MRKS	**Merke**	**3.02**	**55**	Pg	**Pg**	**13 29 03.0**	**-0.8**
	4.2nm,0.3s						
MRKS				Lg	Lg	13 29 45.4	
	7.4nm,0.3s						
MRKS	**Merke**	**3.02**	**55**	*e*P	**Pg**	**13 29 03.0**	**-0.8**
	4.2nm,0.3s						
MRKS				*e*S	**Sg**	**13 29 45.4**	**+2.5**
	7.4nm,0.3s						
EKS2	**Erkin-Say**	**3.33**	**60**	⇑*e*P	**Pb**	**13 29 01.8**	**-3.1**
	baz=61						
EKS2				⇑*i*S	**Sb**	**13 29 43.3**	**-2.1**
	baz=61						
ARLS	**Aral**	**3.45**	**75**	⇑*i*P	**Pb**	**13 29 03.6**	**-3.3**
	baz=76						
ARLS				⇑*i*S	**Sb**	**13 29 46.3**	**-2.5**
	baz=76						
AAK	**Ala-Archa**	**3.80**	**64**	⇓Pg	**Pg**	**13 29 17.6**	**-1.2**
	1.6nm,0.3s						
AAK				⇑Lg	Lg	13 30 10.6	
	2.3nm,0.5s						
TKM2	**Tokmak 2**	**4.66**	**65**	⇓Pg	**Pg**	**13 29 32.0**	**-3.2**
	2.6nm,0.8s						
TKM2				⇓Lg	Lg	13 30 36.6	
	3.4nm,0.5s						
DGS	**Degeres**	**4.90**	**62**	*e*P	**Pg**	**13 29 37.4**	**-2.5**
	3.2nm,0.6s						
DGS				*e*S	**Sg**	**13 30 43.8**	**+0.5**
	4.0nm,0.6s						

DJA 03 13:33:33.5±0.4, 1.°N×3.°×12.°3E±.°, h10km, M4.3/11, mb4.7/1, MLv4.1/11, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.84**	**179**	P	Pg	13 33 47.4	-2.3
GTOI				S	Sg	13 33 57.1	-3.5
KMSI	**Cibinong**	**1.33**	**133**	P	Pn	13 33 58.3	+0.1
KMSI				S	Sg	13 34 16.3	-0.1
MRSI	**Marisa**	**1.45**	**227**	P	Pn	13 33 59.9	0.0
LUWI	**Luwuk**	**2.52**	**185**	P	Pn	13 34 16.2	+1.7
MPSI	**Mapaga**	**3.30**	**250**	P	Pn	13 34 25.5	+0.2
SGSI	**Sangihe**	**3.34**	**49**	P	Pn	13 34 24.6	-1.3
SANI	**Sanana**	**4.61**	**140**	P	Pn	13 34 41.7	-1.5
LBMI	**Labuha**	**4.97**	**115**	P	Pn	13 34 47.4	-0.8
TTSI	**Tana Toraja**	**5.51**	**215**	P	Pn	13 34 57.6	+2.0

ROM 03 13:54:09.4±0.1, 41.°515N±0.°004×13.°676E±0.°006, h11km, Md1.2/3, ML1.0/4, Error ellipse: s-maj=0.6km s-min=0.2km az=225.0, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MCI	**Monte Cassino**	**0.11**	**107**	P	Pg	13 54 12.5	+0.3
MCI				S	Sg	13 54 15.0	+0.7
MCI				AML	AML		
	comp=E,423μm,0.0s						
MCI				AML	AML		
	comp=N,206μm,0.0s						
MCI				END			
LRP	**Arpino**	**0.15**	**333**	P	Pg	13 54 13.4	+0.6
LRP				S	Sg	13 54 16.2	+0.9
LRP				AML	AML		
	comp=E,56μm,0.2s						
LRP				AML	AML		
	comp=N,40μm,0.2s						
LRP				END			
POFI	**Posta Fibreno**	**0.20**	**8**	P	Pg	13 54 14.3	+0.5
POFI				S	Sg	13 54 17.9	+1.1
POFI				END			
LPEL	**Lama dei Pelig**	**0.65**	**35**	AML	AML		
	comp=E,99μm,1.6s						
LPEL				AML	AML		
	comp=N,75μm,1.6s						
LPEL				AML	AML		
	comp=E,99μm,0.4s						
RNCA	**Ronca, Sant'Ol**	**4.55**	**312**	AML	AML		
	comp=N,26μm,0.5s						
RNCA				AML	AML		
	comp=E,49μm,1.6s						
RNCA				AML	AML		
	comp=N,26μm,1.5s						
RNCA				AML	AML		
	comp=E,49μm,0.4s						
EUCT	**Pavia**	**4.95**	**320**	AML	AML		
	comp=N,1285μm,0.1s						
EUCT				AML	AML		
	comp=E,1165μm,0.5s						
ZONE	**Zone**	**4.97**	**330**	AML	AML		
	comp=N,74μm,0.2s						
ZONE				AML	AML		
	comp=E,75μm,0.3s						

ROM 03 13:54:27.3±0.1, 43.°035N±0.°004×13.°046E±0.°005, h9km, ML1.8/34, 4C-3D, Error ellipse: s-maj=0.4km s-min=0.2km az=112.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**88**	P	Pg	13 54 29.1	+0.1
FDMO				S	Sg	13 54 30.0	-0.2
FDMO				AML	AML		
	comp=E,4410μm,0.2s						
FDMO				AML	AML		
	comp=N,3330μm,0.1s						
T1219	**Muccia, Frazio**	**0.04**	**306**	P	Pg	13 54 29.1	+0.1
T1219				S	Sg	13 54 30.1	-0.1
T1219				AML	AML		
	comp=E,3760μm,0.3s						
T1219				AML	AML		
	comp=N,3395μm,0.3s						
FEMA	**Monte Fema**	**0.07**	**178**	P	Pg	13 54 29.8	+0.3
FEMA				S	Sg	13 54 31.4	+0.4
FEMA				AML	AML		
	comp=E,1965μm,1.0s						
FEMA				AML	AML		
	comp=N,1800μm,0.2s						
FEMA				AML	AML		
	comp=N,1800μm,0.2s						
T1220	**Camerino, Fraz**	**0.08**	**23**	P	Pg	13 54 29.9	+0.4
T1220				S	Sg	13 54 31.6	+0.5
T1220				AML	AML		
	comp=E,2635μm,1.3s						
T1220				AML	AML		
	comp=N,2345μm,0.4s						
T1220				AML	AML		
	comp=E,5335μm,1.3s						
T1220				AML	AML		
	comp=N,4645μm,0.4s						
T1220				AML	AML		
	comp=N,2345μm,1.6s						
T1220				AML	AML		
	comp=N,4645μm,1.6s						
T1220				AML	AML		
	comp=E,2635μm,0.7s						
T1220				AML	AML		
	comp=E,5335μm,0.7s						
MML1	**Montelago di S**	**0.10**	**325**	⇓P	Pg	13 54 30.1	+0.4
MML1				S	Sg	13 54 32.0	+0.5
MML1				AML	AML		
	comp=E,153μm,0.4s						
MML1				AML	AML		
	comp=E,676μm,0.4s						
MML1				AML	AML		
	comp=N,1125μm,0.2s						
MML1				AML	AML		
	comp=E,152μm,0.4s						
MML1				AML	AML		
	comp=N,284μm,0.2s						
CESI	**CESI - Serrava**	**0.11**	**254**	⇑P	Pg	13 54 30.4	+0.5
CESI				S	Sg	13 54 32.6	+0.8
CESI				AML	AML		
	comp=N,628μm,0.9s						
CESI				AML	AML		
	comp=E,616μm,0.7s						
CESI				AML	AML		
	comp=E,616μm,1.3s						
CESI				AML	AML		
	comp=N,628μm,1.1s						
CSP1	**Cessapalombo**	**0.13**	**64**	⇑P	Pg	13 54 30.8	+0.5
CSP1				S	Sg	13 54 33.2	+0.9
CSP1				AML	AML		
	comp=E,350μm,0.6s						
CSP1				AML	AML		
	comp=N,158μm,1.2s						
CSP1				AML	AML		
	comp=N,158μm,1.2s						
CSP1				AML	AML		
	comp=E,350μm,0.6s						
SEF1	**Sefro**	**0.13**	**327**	P	Pg	13 54 30.8	+0.5
PF6	**Pievefavera**	**0.16**	**43**	P	Pg	13 54 31.0	+0.3
PF6				AML	AML		
	comp=E,362μm,1.0s						
PF6				AML	AML		
	comp=N,140μm,0.3s						
MC2	**Monte Cornacci**	**0.16**	**139**	P	Pg	13 54 31.9	+1.1
GAG1	**Gagliole**	**0.20**	**4**	P	Pg	13 54 32.5	+1.0
NRCA	**Norcia**	**0.21**	**166**	⇓P	Pg	13 54 32.1	+0.6
NRCA				AML	AML		
	comp=E,1020μm,0.2s						
NRCA				AML	AML		
	comp=E,1060μm,0.2s						
NRCA				AML	AML		
	comp=N,1175μm,0.1s						
NRCA				AML	AML		
	comp=N,1094μm,0.1s						
GUMA	**Gualdo di Mace**	**0.21**	**83**	⇑P	Pg	13 54 32.6	+0.9
GUMA				AML	AML		
	comp=E,841μm,0.2s						
GUMA				AML	AML		
	comp=N,1125μm,1.3s						
GUMA				AML	AML		
	comp=N,1125μm,0.7s						
GUMA				AML	AML		
	comp=E,1395μm,0.2s						
GUMA				AML	AML		
	comp=N,674μm,0.3s						
T1221	**Campello sul C**	**0.23**	**220**	P	Pg	13 54 32.6	+0.7
SNTG	**Esanatoglia**	**0.23**	**341**	⇓P	Pg	13 54 32.7	+0.7
SNTG				AML	AML		
	comp=N,162μm,0.8s						
SNTG				AML	AML		
	comp=N,162μm,1.2s						
SNTG				AML	AML		
	comp=E,168μm,0.1s						
MMO1	**Montemonaco**	**0.25**	**123**	P	Pg	13 54 32.8	+0.6
EL6	**Elcito**	**0.30**	**8**	⇑P	Pg	13 54 33.8	+0.5
EL6				AML	AML		
	comp=E,669μm,1.4s						
EL6				AML	AML		
	comp=N,814μm,1.0s						
MTRA	**Matera**	**0.38**	**137**	P	Pg	13 54 35.1	+0.4

ROM 03 13:55:01.3±0.0, 43.°034N±0.°002×13.°047E±0.°004, h9km, ML2.2/72, 2C, Error ellipse: s-maj=0.3km s-min=0.1km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**84**	P	Pg	13 55 03.1	+0.1
FDMO				S	Sg	13 55 04.1	-0.2
FDMO				AML	AML		
	comp=E,8310μm,0.3s						
FDMO				AML	AML		
	comp=N,6835μm,0.5s						
T1219	**Muccia, Frazio**	**0.04**	**307**	AML	AML		
	comp=N,10600μm,0.3s						
T1219				AML	AML		
	comp=E,6330μm,0.7s						
T1219				AML	AML		
	comp=E,6330μm,0.7s						
FEMA	**Monte Fema**	**0.07**	**178**	P	Pg	13 55 03.9	+0.4
FEMA				S	Sg	13 55 05.5	+0.4
FEMA				AML	AML		
	comp=E,5480μm,1.1s						
FEMA				AML	AML		

comp=N,6660µm,1.1s
FEMA AML AML
comp=E,5480µm,1.1s
FEMA AML AML
comp=N,6660µm,1.1s
FEMA AML AML
comp=N,6660µm,0.9s
FEMA AML AML
comp=E,5480µm,0.9s
T1220 Camerino, Fraz 0.08 22 AML AML
comp=E,7635µm,0.3s
T1220 AML AML
comp=N,5830µm,0.4s
T1220 AML AML
comp=E,7640µm,0.3s
T1220 AML AML
comp=N,5825µm,0.4s
T1220 AML AML
comp=N,11250µm,0.4s
T1220 AML AML
comp=N,5825µm,0.4s
T1220 AML AML
comp=N,11250µm,0.4s
T1220 AML AML
comp=N,5825µm,1.6s
T1220 AML AML
comp=E,15100µm,0.3s
T1220 AML AML
comp=N,11250µm,1.6s
MML1 Montelago di S 0.10 325 AML AML
comp=N,9715µm,0.2s
MML1 AML AML
comp=E,1525µm,0.2s
MML1 AML AML
comp=E,6665µm,0.2s
MML1 AML AML
comp=N,2480µm,0.2s
MML1 AML AML
comp=N,2480µm,0.2s
CESI CESI - Serrava 0.11 255 ⇑P Pg 13 55 04.5 +0.6
CESI S Sg 13 55 06.7 +0.9
CESI AML AML
comp=N,5705µm,0.3s
CESI AML AML
comp=E,4570µm,0.3s
CESI AML AML
comp=N,5705µm,1.7s
CESI AML AML
comp=E,4570µm,1.7s
CSP1 Cessapalombo 0.13 63 P Pg 13 55 04.8 +0.5
CSP1 S Sg 13 55 07.2 +0.8
CSP1 AML AML
comp=N,701µm,0.4s
CSP1 AML AML
comp=E,1110µm,0.4s
SEF1 Sefro 0.14 327 P Pg 13 55 04.8 +0.5
SEF1 S Sg 13 55 07.2 +0.7
PIO1 Pioraco 0.15 342 P Pg 13 55 05.0 +0.4
PIO1 S Sg 13 55 07.9 +1.0
PF6 Pievefavera 0.16 43 ⇑P Pg 13 55 05.0 +0.3
PF6 S Sg 13 55 07.9 +0.9
PF6 AML AML
comp=E,789µm,1.2s
PF6 AML AML
comp=N,450µm,0.9s
PF6 AML AML
comp=E,790µm,1.2s
PF6 AML AML
comp=N,450µm,1.1s
PF6 AML AML
comp=E,790µm,0.8s
MC2 Monte Cornacci 0.16 139 P Pg 13 55 05.4 +0.6
MC2 S Sg 13 55 07.9 +0.6
MDAR Monte D'Aria 0.17 24 P Pg 13 55 05.5 +0.5
MDAR S Sg 13 55 08.5 +1.0
FIU1 Fiuminata 0.18 331 P Pg 13 55 05.4 +0.4
FIU1 S Sg 13 55 08.7 +1.2
GAG1 Gagliole 0.20 4 P Pg 13 55 06.4 +0.9
NRCA Norcia 0.21 166 P Pg 13 55 06.1 +0.6
NRCA S Sg 13 55 09.6 +1.2
NRCA AML AML
comp=E,2015µm,1.0s
NRCA AML AML
comp=N,2505µm,0.8s
NRCA AML AML
comp=N,2360µm,0.8s
NRCA AML AML
comp=E,2015µm,1.0s
NRCA AML AML
comp=N,2360µm,0.8s
NRCA AML AML
comp=E,2110µm,1.0s
GUMA Gualdo di Mace 0.21 82 P Pg 13 55 06.6 +0.9
GUMA S Sg 13 55 10.6 +2.0
GUMA AML AML
comp=E,2885µm,0.4s
GUMA AML AML
comp=N,1960µm,0.6s
GUMA AML AML
comp=E,2890µm,0.4s
GUMA AML AML
comp=E,4460µm,0.3s
GUMA AML AML
comp=N,2915µm,0.3s
GUMA AML AML
comp=N,1960µm,1.4s
SSM1 San Severino M 0.22 26 P Pg 13 55 06.3 +0.6
MTL1 Matelica 0.23 353 P Pg 13 55 06.6 +0.7
MTL1 S Sg 13 55 10.7 +1.7
T1221 Campello sul C 0.23 220 AML AML
comp=E,479µm,0.5s
T1221 AML AML
comp=E,458µm,1.0s
T1221 AML AML
comp=E,458µm,1.0s
T1221 AML AML
comp=N,529µm,0.4s
T1221 AML AML
comp=N,566µm,0.4s
T1221 AML AML
comp=E,458µm,1.0s
SNTG Esanatoglia 0.23 341 P Pg 13 55 06.6 +0.5
SNTG S Sg 13 55 10.6 +1.3
SNTG AML AML
comp=E,652µm,1.0s
SNTG AML AML
comp=E,648µm,1.2s
SNTG AML AML
comp=E,648µm,0.8s
SNTG AML AML
comp=N,1030µm,0.1s
SNTG AML AML
comp=E,652µm,1.0s
SNTG AML AML
comp=N,918µm,0.1s
ASSB Assisi San Ben 0.28 272 AML AML
comp=N,2190µm,0.2s
ASSB AML AML
comp=E,976µm,0.2s
EL6 Elcito 0.30 8 P Pg 13 55 07.7 +0.5
EL6 S Sb 13 55 12.8 -1.2
EL6 AML AML
comp=N,990µm,1.1s
EL6 AML AML
comp=E,1014µm,0.3s
EL6 AML AML
comp=N,991µm,1.1s
EL6 AML AML
comp=N,991µm,0.9s
MF5 Montefalcone A 0.31 98 P Pb 13 55 08.5 -0.5
MF5 S Sb 13 55 13.8 -0.3
MF5 AML AML
comp=N,442µm,0.5s
MF5 AML AML
comp=E,495µm,1.4s
MF5 AML AML
comp=E,495µm,0.6s
ATCC AVT- Casa Cast 0.33 297 P Pg 13 55 08.6 +0.7
ATCC S Sb 13 55 14.2 -0.7
ATCC AML AML
comp=E,696µm,0.1s
ATCC AML AML
comp=N,578µm,0.3s
CING Cingoli 0.36 18 P Pg 13 55 08.8 +0.5
CING S Sb 13 55 14.8 -0.9
CING AML AML
comp=E,416µm,1.1s
CING AML AML
comp=N,263µm,1.4s
MTRA Matera 0.38 137 P Pg 13 55 09.2 +0.5
MTRA S Sb 13 55 15.2 -1.0
MTRA AML AML
comp=E,410µm,1.2s
MTRA AML AML
comp=N,458µm,0.4s
MTRA AML AML
comp=E,410µm,1.2s
MTRA AML AML
comp=E,393µm,0.5s
MTRA AML AML
comp=N,456µm,0.4s
MTRA AML AML
comp=E,410µm,0.8s
MOMA Monte Martano 0.42 237 P Pg 13 55 09.9 +0.4
MOMA S Sb 13 55 17.1 -0.3
MOMA AML AML
comp=E,281µm,0.3s
MOMA AML AML
comp=N,444µm,0.9s
MOMA AML AML
comp=N,444µm,1.1s
LNSS Leonessa 0.43 181 P Pg 13 55 10.1 +0.4
LNSS S Sb 13 55 17.1 -0.6
LNSS AML AML
comp=E,648µm,0.9s
LNSS AML AML
comp=N,494µm,0.7s
LNSS AML AML
comp=E,648µm,1.1s
MURB Monte Urbino 0.45 301 P Pg 13 55 10.6 +0.6
MURB S Sb 13 55 18.3 +0.1
MURB AML AML
comp=E,444µm,1.4s
MURB AML AML
comp=N,452µm,0.3s
MURB AML AML
comp=E,444µm,0.6s
SSFR Montelago di S 0.45 334 P Pg 13 55 10.5 +0.5
SSFR S Sb 13 55 18.1 -0.1
SSFR AML AML
comp=E,658µm,0.6s
SSFR AML AML
comp=N,872µm,0.2s
SSFR AML AML
comp=N,773µm,0.2s
SSFR AML AML
comp=E,574µm,1.4s
SSFR AML AML
comp=N,872µm,1.8s
ARVD Arcevia 0.47 351 P Pg 13 55 10.8 +0.3
ARVD S Sb 13 55 18.6 -0.2
ARVD AML AML
comp=E,286µm,1.0s
ARVD AML AML
comp=N,206µm,1.0s
ARVD AML AML
comp=N,206µm,1.0s
ARRO Arrone 0.50 205 P Pg 13 55 11.4 +0.4
ARRO AML AML
comp=E,323µm,0.7s
ARRO AML AML
comp=N,300µm,0.2s
FRON Frontone 0.54 334 P Pg 13 55 11.9 +0.2
FRON AML AML
comp=E,126µm,1.3s
FRON AML AML
comp=N,238µm,1.3s
RM33 Pellescritta (0.54 167 P Pg 13 55 12.1 +0.3
RM33 AML AML
comp=E,248µm,0.3s
RM33 AML AML
comp=N,178µm,0.3s
CESX Cesi 0.55 219 P Pg 13 55 12.0 +0.2
CESX AML AML
comp=E,246µm,0.9s
CESX AML AML
comp=E,246µm,1.1s
CESX AML AML
comp=N,290µm,0.6s
TERO Teramo 0.58 135 AML AML
comp=E,134µm,1.5s
TERO AML AML
comp=N,156µm,1.3s
ATVO AVT- Monte Val 0.58 307 P Pg 13 55 13.0 +0.4
ATVO AML AML
comp=E,102µm,0.3s
ATVO AML AML
comp=N,83µm,1.4s
PIEI Pieia 0.63 324 P Pg 13 55 13.7 +0.3
PIEI AML AML
comp=N,102µm,1.3s
PIEI AML AML
comp=E,108µm,0.2s
MGAB Montegabbione 0.70 260 P Pb 13 55 15.2 -0.4
FIAM Fiamignano 0.77 176 P Pg 13 55 16.0 0.0
FIAM AML AML
comp=E,92µm,0.4s
FIAM AML AML
comp=N,105µm,0.7s

*IDC **03** 14:19:08.5±1.2,44˚06N×12˚01E,h0km,mb3.5/4, mbtmp3.4/8,ML2.9/4,MS2.5/3,Error ellipse: s-maj=26.1km s-min=14.7km az=93.0*
*ROM **03** 14:19:09.5±0.1,44˚050N±0˚004×11˚720E±0˚005, h5km,ML3.3/111,Error ellipse: s-maj=0.4km s-min=0.3km az=239.0*
*LDG **03** 14:19:09.5±0.1,44˚06N×11˚67E,h5km,Ml3.0/24,Error ellipse: s-maj=1.7km s-min=0.8km az=37.0*
*PRU **03** 14:19:11.6,44˚08N×12˚11E,h10km*
ISC 03 14:19:09.6±0.7,44˚06N±0˚01×11˚69E±0˚01,h9km±3km, n169,σ1²87/239,mb3.6/4,6C-1D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LMD	**Lutirano**	**0.02**	**30**	⇑P		**Pg**	**14 19 10.5**	**-0.8**
LMD				S		**Sg**	**14 19 11.4**	**-1.1**
LMD				AML		AML		
LMD				AML		AML		
LMD				AML		AML		
LMD				AML		AML		
LMD				AML		AML		
LMD	**Lutirano**	**0.02**	**30**	P		**Pg**	**14 19 10.5**	**-0.8**
LMD				S		**Sg**	**14 19 11.3**	**-1.1**
BRIS	**BRISIGHELLA**	**0.16**	**305**	⇑P		**Pg**	**14 19 13.3**	**+0.3**
BRIS				S		**Sg**	**14 19 16.6**	**+1.3**
BRIS				AML		AML		
BRIS	comp=N,56300µm,0.5s			AML		AML		
BRIS	comp=E,46100µm,0.5s			AML		AML		
BRIS	comp=E,49100µm,0.4s			AML		AML		
BRIS	comp=N,52450µm,0.5s			AML		AML		
BRIS	comp=E,46150µm,0.5s			AML		AML		
BRIS	comp=N,51195µm,0.4s			AML		AML		
BRIS	comp=N,53846µm,0.4s			AML		AML		
BRIS	comp=E,49095µm,0.4s			AML		AML		
BRIS	comp=E,46131µm,0.5s			AML		AML		
SFI	**Santa Sofia**	**0.19**	**144**	⇑P		**Pg**	**14 19 13.6**	**+0.1**
SFI				S		**Sg**	**14 19 17.0**	**+0.8**
SFI				AML		AML		
SFI	comp=E,19900µm,0.5s			AML		AML		
SFI	comp=N,16050µm,1.1s			AML		AML		
SFI	comp=N,16000µm,1.1s			AML		AML		
SFI	comp=N,16100µm,1.1s			AML		AML		
SFI	comp=E,20200µm,0.5s			AML		AML		
SFI	comp=N,16000µm,0.9s			AML		AML		
SFI	comp=N,16100µm,0.9s			AML		AML		
SFI	comp=E,16648µm,0.3s			AML		AML		
SFI	comp=E,16780µm,0.4s			AML		AML		
SFI	comp=N,12542µm,0.5s			AML		AML		
SFI	comp=N,12464µm,0.5s			AML		AML		
SEI	**Scarperia**	**0.24**	**269**	⇓P		**Pg**	**14 19 15.1**	**+0.7**
SEI				S		**Sb**	**14 19 19.9**	**+2.1**
SEI				AML		AML		
SEI	comp=E,14350µm,0.3s			AML		AML		
SEI	comp=N,34000µm,0.4s			AML		AML		
SEI	comp=E,4165µm,0.5s			AML		AML		
SEI	comp=N,6055µm,0.5s			AML		AML		
SEI	comp=N,6055µm,1.5s			AML		AML		
SEI	comp=E,4165µm,1.5s			AML		AML		
SEI	comp=N,36342µm,0.4s			AML		AML		
SEI	comp=E,14781µm,0.6s			AML		AML		
SEI	**Scarperia**	**0.24**	**269**	P		**Pg**	**14 19 15.2**	**+0.7**
SEI				S		**Sb**	**14 19 20.2**	**+2.4**
RUFI	**Rufina**	**0.26**	**211**	⇑P		**Pg**	**14 19 15.5**	**+0.8**
RUFI				S		**Sb**	**14 19 20.4**	**-0.5**
RUFI				AML		AML		
RUFI	comp=E,8575µm,1.2s			AML		AML		
RUFI	comp=E,8580µm,1.2s			AML		AML		
RUFI	comp=N,17150µm,0.4s			AML		AML		
RUFI	comp=E,8625µm,1.2s			AML		AML		
RUFI	comp=N,17100µm,0.4s			AML		AML		
RUFI	comp=N,17100µm,1.6s			AML		AML		
RUFI	comp=E,8580µm,0.4s			AML		AML		
RUFI	comp=N,17141µm,0.4s			AML		AML		
RUFI	**Rufina**	**0.26**	**211**	P		**Pg**	**14 19 15.5**	**+0.8**
RUFI				S		**Sb**	**14 19 20.7**	**-0.2**
FAEN	**Faenza**	**0.27**	**30**	P		**Pg**	**14 19 15.9**	**+1.0**
FAEN				S		**Sb**	**14 19 21.5**	**+0.3**
ASQU	**Asqua**	**0.27**	**165**	⇑P		**Pg**	**14 19 15.3**	**+0.3**
ASQU				S		**Sg**	**14 19 20.1**	**+1.4**
ASQU				AML		AML		
ASQU	comp=N,20500µm,0.3s			AML		AML		
ASQU	comp=E,18900µm,0.4s			AML		AML		
ASQU	comp=N,20500µm,0.3s			AML		AML		
ASQU	comp=E,18882µm,0.4s			AML		AML		
ASQU	**Asqua**	**0.27**	**165**	P		**Pg**	**14 19 15.3**	**+0.3**
ASQU				S		**Sg**	**14 19 20.4**	**+1.7**
IMOL	**Imola, Italy**	**0.30**	**7**	P		**Pg**	**14 19 16.6**	**+1.0**
IMOL				S		**Sb**	**14 19 21.7**	**-0.5**
IMOL				AML		AML		
IMOL	comp=N,24950µm,1.4s			AML		AML		
IMOL	comp=E,19350µm,0.5s			AML		AML		
IMOL	comp=E,19350µm,1.5s			AML		AML		
IMOL	comp=N,23657µm,0.5s			AML		AML		
IMOL	comp=N,24950µm,0.6s			AML		AML		
IMOL	comp=E,19325µm,0.7s			AML		AML		
IMOL	**Imola, Italy**	**0.30**	**7**	P		**Pg**	**14 19 16.6**	**+1.0**
IMOL				S		**Sb**	**14 19 23.8**	**+1.5**
BRSN	**Barisano**	**0.36**	**51**	P		**Pg**	**14 19 17.4**	**+0.8**
BRSN				S		**Sb**	**14 19 23.6**	**-0.2**
BRSN				AML		AML		
BRSN	comp=E,19900µm,0.6s			AML		AML		
BRSN	comp=N,25150µm,0.6s			AML		AML		
BRSN	comp=E,21850µm,0.8s			AML		AML		
BRSN	comp=E,19850µm,0.6s			AML		AML		
BRSN	comp=N,25100µm,0.6s			AML		AML		
BRSN	comp=N,22500µm,0.6s			AML		AML		
BRSN	comp=E,21850µm,0.8s			AML		AML		
BRSN	comp=N,25100µm,1.4s			AML		AML		
BRSN	comp=N,22500µm,1.4s			AML		AML		
BRSN	comp=E,21842µm,0.8s			AML		AML		
BRSN	comp=E,18333µm,0.7s			AML		AML		
BRSN	comp=N,25089µm,0.6s			AML		AML		
BRSN	comp=N,22513µm,0.6s			AML		AML		
MTRZ	**Monterenzio**	**0.36**	**333**	P		**Pg**	**14 19 17.1**	**+0.4**
MTRZ				AML		AML		
MTRZ	comp=E,15600µm,0.9s			AML		AML		
MTRZ	comp=N,18100µm,0.5s			AML		AML		
MTRZ	comp=N,18400µm,0.5s			AML		AML		
MTRZ	comp=N,11700µm,0.9s			AML		AML		
MTRZ	comp=E,16050µm,0.9s			AML		AML		
MTRZ	comp=N,11800µm,0.9s			AML		AML		
MTRZ	comp=E,16050µm,1.1s			AML		AML		
MTRZ	comp=E,15600µm,1.1s			AML		AML		
MTRZ	comp=E,15788µm,0.7s			AML		AML		
MTRZ	comp=E,15417µm,0.7s			AML		AML		
MTRZ	comp=N,18426µm,0.5s			AML		AML		
MTRZ	comp=N,18094µm,0.5s			AML		AML		
MTRZ	**Monterenzio**	**0.36**	**333**	P		**Pg**	**14 19 17.1**	**+0.4**
MOCL	**Monte Cuccoli**	**0.37**	**262**	⇑P		**Pg**	**14 19 17.6**	**+0.7**
MOCL				S		**Sb**	**14 19 24.4**	**+0.1**
MOCL				AML		AML		
MOCL	comp=E,3220µm,0.3s			AML		AML		
MOCL	comp=N,3855µm,0.4s			AML		AML		
MOCL	comp=N,3850µm,0.4s			AML		AML		
MOCL	comp=E,2530µm,0.4s			AML		AML		
MOCL	comp=N,3852µm,0.4s			AML		AML		
MOCL	comp=E,3217µm,0.3s			AML		AML		
A309A	**Martorano (FC)**	**0.41**	**74**	P		**Pg**	**14 19 17.4**	**-0.2**
FNVD	**Fontana Vidola**	**0.42**	**285**	P		**Pg**	**14 19 18.4**	**+0.6**
FNVD				S		**Sb**	**14 19 26.3**	**+0.4**
FNVD				AML		AML		
FNVD	comp=E,4170µm,1.0s			AML		AML		
FNVD	comp=N,3845µm,0.9s			AML		AML		
FNVD	comp=E,4170µm,1.0s			AML		AML		
FNVD	comp=E,4929µm,0.6s			AML		AML		
FNVD	comp=N,3908µm,0.6s			AML		AML		
FIR	**Firenze**	**0.42**	**228**	P		**Pg**	**14 19 19.0**	**+1.2**
MPPT	**Montemurlo**	**0.45**	**257**	P		**Pb**	**14 19 19.5**	**-0.1**
CRE	**Caprese Michel**	**0.48**	**157**	P		**Pg**	**14 19 18.7**	**-0.1**
CRE				S		**Sg**	**14 19 26.6**	**+1.4**
CRE				AML		AML		
CRE	comp=E,4995µm,0.7s			AML		AML		
CRE	comp=N,5025µm,0.8s			AML		AML		
CRE	comp=N,4275µm,0.4s			AML		AML		

CRE				AML	AML		
	comp=E,4997µm,0.7s						
MTCR	**Monte La Croce**	**0.50**	**267**	P	**Pg**	**14 19 19.8**	**+0.5**
MTCR				S	**Sb**	**14 19 28.2**	**+0.1**
MTCR				AML	AML		
	comp=E,2145µm,0.6s						
MTCR				AML	AML		
	comp=N,2695µm,1.1s						
MTCR				AML	AML		
	comp=N,2695µm,0.9s						
MTCR				AML	AML		
	comp=N,2210µm,0.6s						
MTCR				AML	AML		
	comp=E,2147µm,0.6s						
MTCR	**Monte La Croce**	**0.50**	**267**	P	**Pg**	**14 19 19.9**	**+0.5**
MTCR				S	**Sb**	**14 19 28.4**	**+0.3**
CPGN	**Carpegna, Ital**	**0.52**	**119**	P	**Pg**	**14 19 20.7**	**+1.0**
RSM	**Repubblica di**	**0.56**	**103**	P	**Pg**	**14 19 21.4**	**+0.9**
BLLA	**Bellaria**	**0.57**	**81**	P	**Pg**	**14 19 21.6**	**+1.1**
PARC	**Parchiule**	**0.57**	**136**	P	**Pg**	**14 19 20.2**	**-0.4**
PARC				S	**Sg**	**14 19 29.1**	**+1.0**
PARC				AML	AML		
	comp=E,1420µm,0.7s						
PARC				AML	AML		
	comp=N,2075µm,0.5s						
PARC				AML	AML		
	comp=E,1418µm,0.7s						
PARC				AML	AML		
	comp=N,2077µm,0.5s						
PARC				AML	AML		
	comp=N,2075µm,1.5s						
SSP9	**Sansepolcro**	**0.58**	**147**	P	**Pg**	**14 19 20.6**	**-0.2**
SSP9				S	**Sg**	**14 19 29.5**	**+1.1**
SSP9				AML	AML		
	comp=E,2230µm,1.4s						
SSP9				AML	AML		
	comp=E,2235µm,1.4s						
SSP9				AML	AML		
	comp=N,3595µm,0.6s						
SSP9				AML	AML		
	comp=E,2235µm,0.6s						
SSP9				AML	AML		
	comp=E,2114µm,0.8s						
SSP9				AML	AML		
	comp=N,3595µm,0.6s						
ZCCA	**Zocca**	**0.59**	**300**	P	**Pb**	**14 19 22.8**	**+0.7**
ZCCA				AML	AML		
	comp=E,989µm,1.4s						
ZCCA				AML	AML		
	comp=E,930µm,1.4s						
ZCCA				AML	AML		
	comp=N,781µm,1.0s						
ZCCA				AML	AML		
	comp=N,682µm,1.0s						
ZCCA				AML	AML		
	comp=E,930µm,0.6s						
ZCCA				AML	AML		
	comp=E,989µm,0.6s						
OSSC	**Osservatorio P**	**0.62**	**211**	P	**Pg**	**14 19 22.4**	**+0.8**
OSSC				S	**Sb**	**14 19 32.2**	**+0.7**
OSSC				AML	AML		
	comp=N,4630µm,0.6s						
OSSC				AML	AML		
	comp=E,4560µm,0.6s						
OSSC				AML	AML		
	comp=E,3280µm,0.8s						
OSSC				AML	AML		
	comp=N,4631µm,0.6s						
OSSC				AML	AML		
	comp=E,4558µm,0.6s						
OSSC				AML	AML		
	comp=N,3248µm,0.8s						
OSSC				AML	AML		
	comp=E,3282µm,0.8s						
OSSC				AML	AML		
	comp=N,3250µm,0.8s						
OSSC	**Osservatorio P**	**0.62**	**211**	P	**Pg**	**14 19 22.4**	**+0.8**
OSSC				S	**Sb**	**14 19 32.4**	**+0.9**
CSNT	**Castellina Chi**	**0.65**	**206**	P	**Pg**	**14 19 23.2**	**+1.0**
CSNT				S	**Sb**	**14 19 33.6**	**+1.2**
CSNT	**Castellina Chi**	**0.65**	**206**	P	**Pg**	**14 19 23.2**	**+1.0**
CSNT				S	**Sb**	**14 19 33.1**	**+0.7**
POPM	**Popiglio**	**0.67**	**269**	P	**Pb**	**14 19 23.9**	**+0.4**
POPM				S	**Sn**	**14 19 34.1**	**-1.9**
POPM				AML	AML		
	comp=E,843µm,0.6s						
POPM				AML	AML		
	comp=N,1775µm,0.9s						
POPM				AML	AML		
	comp=N,1775µm,1.1s						
POPM				AML	AML		
	comp=E,843µm,1.4s						
POPM				AML	AML		
	comp=N,1677µm,0.3s						
POPM				AML	AML		
	comp=E,843µm,0.6s						
BADI	**Badiali**	**0.68**	**144**	P	**Pg**	**14 19 22.2**	**-0.5**
BADI				S	**Sg**	**14 19 33.1**	**+1.5**
BADI				AML	AML		
	comp=N,2565µm,0.4s						
BADI				AML	AML		
	comp=E,1660µm,1.6s						
BADI				AML	AML		
	comp=E,1660µm,0.4s						
BADI				AML	AML		
	comp=N,2562µm,0.4s						
BADI				AML	AML		
	comp=E,1570µm,0.8s						
PE3	**Peglio**	**0.69**	**122**	P	**Pg**	**14 19 22.2**	**-0.5**
PE3				S	**Sb**	**14 19 33.9**	**+0.6**
PE3				AML	AML		
	comp=E,8175µm,0.5s						
PE3				AML	AML		
	comp=N,7845µm,1.3s						
PE3				AML	AML		
	comp=E,8180µm,0.5s						
PE3				AML	AML		
	comp=E,8179µm,0.5s						
PE3				AML	AML		
	comp=N,7848µm,1.3s						
PE3				AML	AML		
	comp=N,7845µm,0.7s						
ATMC	**Monte Cedrone**	**0.71**	**149**	P	**Pg**	**14 19 22.9**	**-0.4**
ATMC				S	**Sb**	**14 19 34.5**	**+0.4**
APEC	**Apecchio**	**0.73**	**133**	P	**Pg**	**14 19 23.1**	**-0.5**
CAFI	**Castiglion Fio**	**0.76**	**165**	P	**Pg**	**14 19 24.0**	**-0.1**
CAFI				S	**Sb**	**14 19 35.9**	**+0.6**
CAFI				AML	AML		
	comp=N,1216µm,0.5s						
CAFI				AML	AML		
	comp=N,1092µm,0.5s						
BDI	**Bagni Di Lucca**	**0.79**	**271**	P	**Pb**	**14 19 25.9**	**+0.4**
ATPI	**Pietralunga -**	**0.80**	**139**	P	**Pb**	**14 19 24.3**	**-1.3**
ATPI				S	**Sb**	**14 19 36.6**	**+0.1**
ATPI				AML	AML		
	comp=E,1240µm,1.1s						
ATPI				AML	AML		
	comp=N,1470µm,0.7s						
ATPI				AML	AML		
	comp=E,1240µm,0.9s						
ATPI				AML	AML		
	comp=E,1234µm,0.5s						
ATPI				AML	AML		
	comp=N,1473µm,0.7s						
ATPC	**Poggio Castell**	**0.80**	**136**	P	**Pb**	**14 19 24.1**	**-1.6**
ATMI	**Monte Miggiano**	**0.84**	**150**	P	**Pb**	**14 19 25.6**	**-0.7**
ATMI				S	**Sg**	**14 19 38.2**	**+1.7**
ATMI				AML	AML		
	comp=E,2450µm,0.9s						
ATMI				AML	AML		
	comp=N,4650µm,0.6s						
ATMI				AML	AML		
	comp=E,2450µm,1.1s						
ATMI				AML	AML		
	comp=N,4650µm,0.6s						
ATMI				AML	AML		
	comp=E,2450µm,0.9s						
PESA	**Pesaro**	**0.84**	**98**	P	**Pb**	**14 19 25.8**	**-0.5**
PESA				AML	AML		
	comp=E,2825µm,0.6s						
PESA				AML	AML		
	comp=N,2320µm,0.5s						
PESA				AML	AML		
	comp=E,2825µm,1.4s						
PESA				AML	AML		
	comp=E,2294µm,0.2s						
PESA				AML	AML		
	comp=N,2322µm,0.5s						
GSCL	**Gusciola**	**0.85**	**291**	P	**Pn**	**14 19 29.4**	**+1.6**
ATBU	**Serra di Buran**	**0.85**	**133**	P	**Pb**	**14 19 25.5**	**-1.1**
ATVO	**AVT- Monte Val**	**0.85**	**142**	P	**Pb**	**14 19 25.3**	**-1.3**
ATVO				S	**Sg**	**14 19 38.9**	**+1.8**
ATVO				AML	AML		
	comp=N,1335µm,0.5s						
ATVO				AML	AML		
	comp=E,1920µm,0.8s						
ATVO				AML	AML		
	comp=N,1335µm,1.5s						
ATVO				AML	AML		
	comp=N,1336µm,0.5s						
ATVO				AML	AML		
	comp=E,1917µm,0.8s						
CARD	**Cardoso**	**0.87**	**268**	P	**Pn**	**14 19 27.6**	**-0.4**
MAIM	**Mastiano**	**0.88**	**261**	P	**Pb**	**14 19 26.5**	**-0.4**
MAIM	**Mastiano**	**0.88**	**261**	P	**Pg**	**14 19 27.6**	**+1.2**
MPAG	**Monte Paganucc**	**0.88**	**119**	P	**Pb**	**14 19 26.0**	**-1.1**
ATVA	**AVT- Monte Val**	**0.89**	**151**	P	**Pb**	**14 19 26.2**	**-1.0**
ATLO	**AVT- Montelove**	**0.91**	**145**	P	**Pb**	**14 19 27.8**	**+0.3**
PII	**Pisa**	**0.91**	**249**	P	**Pb**	**14 19 27.7**	**+0.3**
PII	**Pisa**	**0.91**	**249**	P	**Pg**	**14 19 28.0**	**+0.9**
A306A	**Viano (RE)**	**0.92**	**302**	P	**Pn**	**14 19 28.5**	**-0.3**
FRON	**Frontone**	**0.92**	**125**	P	**Pb**	**14 19 26.3**	**-1.4**
FROS	**Frosini**	**0.93**	**205**	P	**Pb**	**14 19 28.1**	**+0.2**
FROS	**Frosini**	**0.93**	**205**	P	**Pb**	**14 19 28.1**	**+0.2**
SARO	**Sassorosso**	**0.94**	**278**	P	**Pn**	**14 19 28.8**	**-0.3**
SARO				AML	AML		
	comp=N,1790µm,0.6s						
SARO				AML	AML		
	comp=E,1150µm,0.6s						
SARO				AML	AML		
	comp=N,1789µm,0.6s						
SARO				AML	AML		
	comp=E,1150µm,0.6s						
VLC	**Villacollemand**	**0.95**	**277**	P	**Pg**	**14 19 28.5**	**+0.7**
VLC				AML	AML		
	comp=E,494µm,1.1s						
VLC				AML	AML		
	comp=E,475µm,1.1s						
VLC				AML	AML		
	comp=N,746µm,1.0s						
VLC				AML	AML		
	comp=N,741µm,0.9s						
ATSC	**Scheggia e Pas**	**0.96**	**131**	P	**Pb**	**14 19 27.7**	**-0.7**
ATTE	**AVT- Monte Tez**	**0.98**	**151**	P	**Pb**	**14 19 27.9**	**-1.0**
ATTE				S	**Sg**	**14 19 42.7**	**+1.4**
ATTE				AML	AML		
	comp=E,1124µm,0.6s						
ATTE				AML	AML		
	comp=N,1086µm,0.9s						
ATTE				AML	AML		
	comp=E,1124µm,1.4s						
ATTE				AML	AML		
	comp=N,954µm,0.5s						
ATTE				AML	AML		
	comp=E,1125µm,0.6s						
A304A	**Bellombra (RO)**	**0.99**	**14**	P	**Pn**	**14 19 29.9**	**+0.2**
SERM	**Sermide**	**0.99**	**344**	P	**Pn**	**14 19 29.7**	**+0.1**
MURB	**Monte Urbino**	**1.00**	**142**	P	**Pb**	**14 19 29.4**	**+0.3**
SSFR	**Montelago di S**	**1.01**	**128**	P	**Pb**	**14 19 28.7**	**-0.5**
COR1	**Corinaldo**	**1.04**	**114**	P	**Pb**	**14 19 29.4**	**-0.3**
COR1				AML	AML		
	comp=E,2425µm,0.7s						
COR1				AML	AML		
	comp=N,3145µm,1.0s						
COR1				AML	AML		
	comp=N,3634µm,0.7s						
COR1				AML	AML		
	comp=N,3022µm,0.7s						
COR1				AML	AML		
	comp=E,2426µm,0.7s						
COR1				AML	AML		
	comp=E,2425µm,1.3s						
COR1				AML	AML		
	comp=E,4807µm,0.8s						
ARVD	**Arcevia**	**1.06**	**121**	P	**Pb**	**14 19 29.3**	**-0.8**
ARVD				AML	AML		
	comp=E,765µm,0.7s						
ARVD				AML	AML		
	comp=N,824µm,0.7s						
ARVD				AML	AML		
	comp=N,824µm,1.3s						
ARVD				AML	AML		
	comp=N,824µm,0.7s						
ARVD				AML	AML		
	comp=E,765µm,0.7s						
ARVD				AML	AML		
	comp=E,765µm,1.3s						
MAGO	**Bibbona**	**1.09**	**224**	P	**Pb**	**14 19 30.0**	**-0.5**
FOSV	**Fossato di Vic**	**1.09**	**134**	P	**Pn**	**14 19 31.3**	**+0.3**
ATCC	**AVT- Casa Cast**	**1.11**	**141**	P	**Pb**	**14 19 30.1**	**-0.8**
EQUI	**Equi**	**1.11**	**276**	P	**Pg**	**14 19 32.0**	**+1.1**
EQUI	**Equi**	**1.11**	**276**	P	**Pg**	**14 19 32.0**	**+1.1**
SENI	**Senigallia**	**1.17**	**107**	P	**Pn**	**14 19 31.3**	**-0.8**
MGAB	**Montegabbione**	**1.19**	**165**	P	**Pn**	**14 19 31.9**	**-0.5**
MGAB				S	**Sb**	**14 19 47.9**	**+0.2**
MGAB				AML	AML		
	comp=E,1355µm,0.7s						
MGAB				AML	AML		
	comp=N,1120µm,1.1s						
MGAB				AML	AML		
	comp=E,1480µm,0.6s						
MGAB				AML	AML		
	comp=E,1480µm,1.4s						
MGAB				AML	AML		
	comp=E,1355µm,1.3s						
MGAB				AML	AML		
	comp=N,1089µm,0.5s						
MGAB				AML	AML		
	comp=N,1283µm,0.8s						
MGAB				AML	AML		
	comp=N,1285µm,0.8s						
MGAB				AML	AML		
	comp=E,1480µm,0.6s						
MGAB				AML	AML		
	comp=E,1355µm,0.7s						
SNTG	**Esanatoglia**	**1.21**	**131**	P	**Pn**	**14 19 31.6**	**-1.2**
ARCI	**Arcidosso**	**1.22**	**188**	P	**Pn**	**14 19 32.5**	**-0.3**
ARCI				AML	AML		
	comp=E,508µm,0.7s						
ARCI				AML	AML		
	comp=N,1310µm,0.8s						
ARCI				AML	AML		
	comp=E,508µm,1.3s						
ARCI				AML	AML		
	comp=N,1308µm,0.8s						
ARCI				AML	AML		
	comp=E,508µm,0.7s						
A318A	**Donoratico (LI**	**1.24**	**221**	P	**Pb**	**14 19 33.3**	**+0.2**
GRAM	**Graiana**	**1.25**	**291**	P	**Pg**	**14 19 33.9**	**+0.4**
SF01	**Poggio Pratacc**	**1.25**	**184**	AML	AML		
	comp=N,578µm,0.7s						
SF01				AML	AML		
	comp=E,688µm,0.9s						
SF01				AML	AML		
	comp=N,578µm,0.7s						
SF01				AML	AML		
	comp=E,688µm,1.1s						
SF01				AML	AML		
	comp=E,688µm,0.9s						
EL6	**Elcito**	**1.26**	**125**	P	**Pn**	**14 19 32.7**	**-0.7**
EL6				AML	AML		
	comp=E,1690µm,0.6s						
EL6				AML	AML		
	comp=N,1950µm,1.4s						
EL6				AML	AML		
	comp=N,1950µm,0.6s						
EL6				AML	AML		
	comp=E,1690µm,1.4s						
EL6				AML	AML		
	comp=N,1778µm,0.7s						
EL6				AML	AML		
	comp=E,1690µm,0.6s						
CING	**Cingoli**	**1.29**	**122**	P	**Pn**	**14 19 34.0**	**+0.2**
MML1	**Montelago di S**	**1.33**	**135**	AML	AML		
	comp=N,770µm,0.8s						
MML1				AML	AML		
	comp=E,195µm,1.0s						
MML1				AML	AML		
	comp=N,188µm,1.1s						
MML1				AML	AML		
	comp=E,732µm,1.0s						
MML1				AML	AML		
	comp=N,188µm,0.9s						
MML1				AML	AML		
	comp=E,195µm,1.0s						
MML1				AML	AML		
	comp=E,733µm,1.0s						
MML1				AML	AML		
	comp=N,770µm,0.8s						
MML1				AML	AML		
	comp=N,182µm,0.6s						
PLMA	**Palmaria, Port**	**1.33**	**270**	P	**Pn**	**14 19 34.4**	**+0.1**
PF6	**Pievefavera**	**1.42**	**129**	P	**Pn**	**14 19 35.6**	**0.0**
FDMO	**Fiordimonte**	**1.44**	**135**	P	**Pn**	**14 19 36.1**	**+0.3**
FDMO				AML	AML		
	comp=E,390µm,0.9s						
T1221	**Campello sul C**	**1.46**	**145**	AML	AML		
	comp=E,432µm,0.7s						
T1221				AML	AML		
	comp=E,396µm,0.7s						
T1221				AML	AML		
	comp=N,390µm,0.6s						
T1221				AML	AML		
	comp=N,390µm,0.6s						
T1221				AML	AML		
	comp=N,371µm,0.7s						
T1221				AML	AML		
	comp=E,396µm,0.7s						
AOI	**Ancona**	**1.47**	**110**	P	**Pb**	**14 19 37.5**	**+0.3**
MF5	**Montefalcone A**	**1.67**	**129**	P	**Pb**	**14 19 41.1**	**+0.5**
BRJN	**Brijuni**	**1.70**	**59**	*e*Pn	**Pn**	**14 19 38.3**	**-1.0**
BRJN	**Brijuni**	**1.70**	**59**	P	**Pn**	**14 19 38.4**	**-1.0**
MTRA	**Matera**	**1.80**	**136**	AML	AML		
	comp=N,651µm,1.0s						
MTRA				AML	AML		
	comp=N,692µm,0.8s						
MTRA				AML	AML		
	comp=E,742µm,1.6s						
MTRA				AML	AML		
	comp=E,684µm,1.6s						
MTRA				AML	AML		
	comp=N,652µm,1.0s						
MTRA				AML	AML		
	comp=E,701µm,0.7s						
MTRA				AML	AML		
	comp=E,671µm,0.9s						
MTRA				AML	AML		
	comp=N,692µm,0.8s						
CGRP	**Cima Grappa**	**1.82**	**2**	AML	AML		
	comp=N,514µm,0.6s						
CGRP				AML	AML		
	comp=E,668µm,0.6s						
CGRP				AML	AML		
	comp=E,668µm,0.6s						
CGRP				AML	AML		
	comp=N,514µm,0.6s						
CGRP				AML	AML		
	comp=N,558µm,0.7s						
CGRP				AML	AML		
	comp=E,668µm,1.4s						
CGRP				AML	AML		
	comp=E,668µm,1.4s						
CGRP				AML	AML		
	comp=N,557µm,0.7s						
CGRP				AML	AML		
	comp=E,668µm,0.6s						
CGRP				AML	AML		
	comp=E,669µm,0.6s						
DOSS	**Dosso del Somm**	**1.86**	**349**	P	**Pn**	**14 19 41.5**	**-0.2**
DOSS				AML	AML		
	comp=E,862µm,0.4s						
DOSS				AML	AML		
	comp=N,1150µm,0.4s						
DOSS				AML	AML		
	comp=N,887µm,0.5s						
DOSS				AML	AML		
	comp=E,1144µm,0.5s						
DOSS				AML	AML		
	comp=N,887µm,0.5s						
DOSS				AML	AML		
	comp=E,862µm,0.4s						
DOSS				AML	AML		
	comp=N,1148µm,0.4s						
DOSS				AML	AML		
	comp=E,1145µm,0.5s						
VARN	**Col Varnada, M**	**1.96**	**8**	AML	AML		
	comp=N,766µm,0.5s						
VARN				AML	AML		
	comp=E,901µm,0.7s						
CTI	**Castel Tesino**	**1.99**	**359**	P	**Pn**	**14 19 43.4**	**-0.1**
CTI				AML	AML		
	comp=E,472µm,0.4s						
CTI				AML	AML		
	comp=E,472µm,1.6s						
CTI				AML	AML		
	comp=N,501µm,0.3s						
CTI				AML	AML		
	comp=E,473µm,0.4s						
CTI				AML	AML		
	comp=N,501µm,0.3s						
TERO	**Teramo**	**2.00**	**135**	AML	AML		
	comp=N,311µm,1.1s						
TERO				AML	AML		
	comp=E,236µm,0.7s						
TERO				AML	AML		
	comp=N,308µm,0.9s						
TERO				AML	AML		
	comp=E,236µm,1.3s						
TERO				AML	AML		
	comp=E,236µm,0.7s						
SMRN	**Sveta Marina**	**2.01**	**60**	*e*Pn	**Pn**	**14 19 42.4**	**-1.3**
SMRN				Sn	**Sn**	**14 20 07.5**	**-1.5**
VCEL	**Villa Celiera**	**2.29**	**136**	AML	AML		
	comp=N,422µm,1.6s						
VCEL				AML	AML		
	comp=N,422µm,0.4s						
VCEL				AML	AML		
	comp=E,388µm,0.9s						
RABC	**Rab**	**2.32**	**72**	*i* Pn	**Pn**	**14 19 47.2**	**-0.7**
RABC				Sn	**Sn**	**14 20 16.1**	**-0.4**
NVLJ	**Novalja**	**2.34**	**76**	*e*Pn	**Pn**	**14 19 47.8**	**-0.3**
NVLJ				Sn	**Sn**	**14 20 16.8**	**-0.2**
RIY	**Rijeka**	**2.36**	**57**	*e*Pn	**Pn**	**14 19 47.6**	**-0.8**
RIY				Sn	**Sn**	**14 20 17.8**	**+0.3**
MPRI	**Monte Prat**	**2.37**	**22**	AML	AML		
	comp=N,485µm,0.7s						
MPRI				AML	AML		
	comp=E,396µm,0.5s						
MPRI				AML	AML		
	comp=N,498µm,1.6s						
MPRI				AML	AML		
	comp=N,390µm,1.6s						
MPRI				AML	AML		
	comp=E,396µm,1.5s						
MPRI				AML	AML		
	comp=E,310µm,0.8s						
MPRI				AML	AML		
	comp=N,381µm,0.7s						
MPRI				AML	AML		
	comp=E,304µm,0.5s						
MPRI				AML	AML		
	comp=E,396µm,0.5s						
OZOL	**Ozolo**	**2.39**	**349**	P	**Pn**	**14 19 50.6**	**+1.6**
OZOL				AML	AML		
	comp=N,398µm,0.5s						
OZOL				AML	AML		
	comp=N,398µm,1.5s						
OZOL				AML	AML		
	comp=E,902µm,0.4s						
OZOL				AML	AML		
	comp=N,398µm,0.5s						
OZOL				AML	AML		
	comp=E,820µm,0.5s						
OZOL				AML	AML		
	comp=E,902µm,0.4s						
OZOL				AML	AML		
	comp=N,493µm,0.4s						
DUGI	**Dugi Otok**	**2.43**	**90**	*e*Pn	**Pn**	**14 19 49.5**	**+0.1**
DUGI				Sn	**Sn**	**14 20 18.9**	**-0.4**
VIRC	**Vir**	**2.43**	**83**	*e*Pn	**Pn**	**14 19 49.3**	**-0.1**
VIRC				Sn	**Sn**	**14 20 19.3**	**+0.1**
PGF	**Pioggiola**	**2.48**	**233**	*e*P	**Pn**	**14 19 50.9**	**+0.7**
PGF				*e*Sn	**Sn**	**14 20 17.5**	**-3.1**
	comp=N,62nm,0.9s						
PTCC	**Patocco-Chiusa**	**2.62**	**26**	P	**Pn**	**14 19 51.1**	**-1.0**
PTCC				AML	AML		
	comp=E,144µm,0.5s						
PTCC				AML	AML		
	comp=N,136µm,1.4s						

PTCC AML AML
comp=N,136µm,0.6s
PTCC AML AML
comp=E,144µm,0.5s
PTCC AML AML
comp=N,134µm,0.7s
ABTA Abfaltersbach 2.75 12 Pn **Pn 14 19 54.1 +0.1**
comp=N,3.1nm,0.2s
ZIRJ Zirje 2.89 97 *e*Pn **Pn 14 19 56.1 +0.4**
ZIRJ Sn **Sn 14 20 29.4 -1.1**
MORI Morici 2.91 92 *e*Pn **Pn 14 19 56.9 +1.0**
MORI Sn **Sn 14 20 31.1 +0.1**
MYKA Terra Mystica 2.92 27 *e*Pn **Pn 14 19 56.2 0.0**
comp=N,3.3nm,0.4s
MYKA Sn **Sn 14 20 32.3 +0.9**
comp=N,14nm,0.4s
BOJS Bojanci 2.92 59 P **Pn 14 19 55.4 -0.7**
BOJS AML AML
comp=E,374µm,1.1s
BOJS AML AML
comp=N,450µm,0.8s
PLIT Plitvice 2.93 72 Sn **Sn 14 20 30.7 -1.0**
UDBI Udbina 2.96 79 Sn **Sn 14 20 33.5 +1.0**
DAVOX Davos/Dischmat 3.01 336 P **Pn 14 19 59.9 +2.3**
DAVOX Davos/Dischmat 3.01 336 Pn **Pn 14 19 59.6 +2.0**
comp=N,3.5nm,0.3s,baz=153,slow=12,SNR=18
DAVOX Sn **Sb 14 20 38.4 -1.9**
comp=N,3.3nm,0.3s,baz=23,slow=19,SNR=3.8
DAVOX Lg Lg 14 20 48.0
comp=N,6.6nm,0.3s,baz=322,slow=17,SNR=5.6
DAVOX LR LR 14 21 35.7
comp=N,69nm,20.1s,baz=85,slow=47
comp=N,13nm,0.4s
FETA Feichten 3.04 347 *e*Pn **Pn 14 19 59.5 +1.5**
comp=N,21nm,0.7s,SNR=9.8
SBF Sospel 3.08 268 *e*P **Pn 14 19 59.7 +1.3**
SBF *e*Sn **Sn 14 20 31.8 -3.6**
comp=N,55nm,0.6s
OBKA Obir 3.17 38 *e*Pn **Pn 14 20 00.0 +0.2**
comp=N,1.6nm,0.3s
SQTA Sankt Quirin 3.18 354 *e*Pn **Pn 14 20 02.5 +2.6**
comp=N,16nm,0.4s,SNR=13
SQTA *e*Sn **Sb 14 20 41.8 -3.4**
comp=N,19nm,0.4s
WTTA Wattenberg 3.21 359 *e*Pn **Pn 14 20 01.1 +0.8**
comp=N,5.3nm,0.4s
WTTA *e*Sn **Sn 14 20 41.6 +2.9**
comp=N,31nm,0.5s
WTTA Wattenberg 3.21 359 P **Pn 14 20 03.0 +2.7**
KBA Koelnbreinsper 3.23 20 *e*Pn **Pn 14 20 00.8 +0.1**
comp=N,4.1nm,0.5s
KBA *e*Sn **Sn 14 20 39.7 +0.3**
comp=N,15nm,0.5s
WATA Walderalm 3.28 359 *e*Pn **Pn 14 20 03.5 +2.2**
comp=N,9.6nm,0.4s,SNR=6.6
WATA *e*Sn **Sb 14 20 44.1 -3.9**
comp=N,23nm,0.5s
MOTA Moosalm 3.31 353 *e*Pn **Pn 14 20 04.0 +2.3**
comp=N,10nm,0.4s,SNR=12
MOTA *e*Sn **Sb 14 20 45.4 -3.6**
comp=N,8.4nm,0.4s
KIJV Kijevo 3.40 89 *i* Pn **Pn 14 20 04.1 +1.3**
KIJV Sn **Sn 14 20 42.5 -0.7**
LESA Schwarzleotal 3.44 11 *i* Pn **Pn 14 20 05.0 +1.7**
comp=N,3.9nm,0.2s
LESA *e*Sn **Sn 14 20 47.1 +2.8**
comp=N,40nm,0.4s
DAVA Damuels 3.47 339 *e*Pn **Pn 14 20 06.0 +2.1**
comp=N,18nm,0.5s
DAVA *e*Sn **Sn 14 20 46.9 +1.7**
comp=N,20nm,0.5s
RETA Reutte 3.49 350 *e*Pn **Pn 14 20 06.0 +1.9**
comp=N,4.7nm,0.3s
RETA *e*Sn **Sn 14 20 48.6 +3.1**
comp=N,12nm,0.4s
SOKA Soboth 3.52 41 *e*Pn **Pn 14 20 07.0 +2.5**
comp=N,0.9nm,0.2s
SOKA Sg **Sg 14 21 05.4 +2.7**
comp=N,11nm,0.5s
MBDF Montbardon 3.59 282 *e*P **Pn 14 20 06.8 +1.3**
MBDF *e*Sn **Sn 14 20 44.1 -4.0**
comp=N,28nm,0.7s
BNALP Bannalp 3.63 322 P **Pn 14 20 08.6 +2.5**
LPG La Plagne 3.80 294 *e*P **Pn 14 20 10.4 +1.8**
LPG *e*Sn **Sn 14 20 49.3 -4.2**
comp=N,25nm,0.6s
LPL La Plagne 3.82 294 *e*P **Pn 14 20 10.4 +1.6**
LPL *e*Sn **Sn 14 20 49.8 -4.1**
comp=N,46nm,0.6s
LMR La Mourre 3.83 261 *e*P **Pn 14 20 09.9 +1.3**
LMR *e*Sn **Sn 14 20 49.8 -4.0**
comp=N,9.1nm,0.6s
BIOA Bad Ischl, Aus 3.88 20 *e*Pn **Pn 14 20 11.0 +1.6**
comp=N,1.7nm,0.2s
BIOA *e*Sn **Sn 14 20 57.3 +2.2**
comp=N,9.6nm,0.4s
ARSA Arzberg 4.17 39 *e*Pn **Pn 14 20 14.7 +1.3**
comp=N,5.8nm,0.7s
MOA Molln 4.20 24 *i* Pn **Pn 14 20 13.5 -0.2**
comp=N,1.4nm,0.2s
MOA *e*Sn **Sn 14 21 02.6 -0.2**
comp=N,6.6nm,0.3s
ORIF Oris-en-Rattie 4.25 284 *e*P **Pn 14 20 16.4 +1.9**
ORIF *e*Sn **Sn 14 20 59.9 -4.3**
comp=N,21nm,0.6s
SMRF Simiane la Rot 4.41 271 *e*P **Pn 14 20 18.5 +1.8**
SMRF *e*Sn **Sn 14 21 03.7 -4.6**
comp=N,2.6nm,0.4s
CABF La Chapelle 4.70 305 *e*P **Pn 14 20 22.8 +2.0**
CABF *e*Sn **Sn 14 21 10.4 -5.1**
comp=N,26nm,0.8s
CONA Conrad Observa 4.84 35 *e*Pn **Pn 14 20 22.0 -0.7**
comp=N,0.9nm,0.3s
CONA *e*Sn **Sn 14 21 19.2 +0.4**
comp=N,7.3nm,0.5s
RONA Rosalia, Austr 4.86 40 *e*Pn **Pn 14 20 23.1 +0.2**
comp=N,0.5nm,0.1s
GERES GERESS Array B 4.99 15 Pn **Pn 14 20 24.1 -0.6**
comp=N,1.7nm,0.3s,baz=185,slow=11,SNR=7.3
GERES Sn **Sn 14 21 20.4 -2.1**
comp=N,2.2nm,0.3s,baz=200,slow=17,SNR=2.7
comp=N,3.8nm,0.3s
HINF Hinteralfeld 5.05 320 *e*P **Pn 14 20 26.8 +1.3**
HINF *e*Sn **Sn 14 21 18.9 -5.1**
comp=N,22nm,0.6s
VIVF Saint-Julien-l 5.09 281 *e*P **Pn 14 20 28.3 +2.3**
VIVF *e*Sn **Sn 14 21 19.8 -5.1**
comp=N,12nm,0.7s
CKRC Cesky Krumlov 5.09 20 *e*PN **Pn 14 20 25.6 -0.5**
CKRC *e*SN **Sn 14 21 22.3 -2.7**
KHC Kasperske Hory 5.24 14 *e*PN **Pn 14 20 27.7 -0.4**
KHC *e*SN **Sn 14 21 25.6 -3.0**
CDF Champ du Feu 5.32 326 *e*P **Pn 14 20 29.7 +0.4**
CDF *e*Sn **Sn 14 21 25.5 -5.3**
comp=N,12nm,0.4s
HAU Haudompre 5.42 319 *e*P **Pn 14 20 31.8 +1.2**
HAU *e*Sn **Sn 14 21 27.7 -5.4**
comp=N,34nm,0.5s
LASF Ste Croix 5.65 273 *e*P **Pn 14 20 35.9 +2.2**
LASF *e*Sn **Sn 14 21 33.0 -5.6**
comp=N,4.4nm,0.5s
MODS Modra-Piesok 5.80 40 *e*PN **Pn 14 20 32.4 -3.4**
MODS *e*SN **Sn 14 21 38.2 -4.2**
VRAC Vranov 6.24 31 Sn **Sn 14 21 53.5 +0.3**
comp=N,0.8nm,0.3s,baz=204,slow=12,SNR=2.0
VRAC LR LR 14 22 57.4
comp=N,14nm,21.8s,baz=204,slow=37
LOR Lormes 6.36 303 *e*P **Pn 14 20 44.9 +1.5**
baz=118
LOR *e*Sn **Sn 14 21 50.2 -5.9**
comp=N,26nm,0.5s
AVF Avril sur Loir 6.47 298 *e*P **Pn 14 20 47.6 +2.6**
AVF *e*Sn **Sn 14 21 52.9 -6.0**
comp=N,2.2nm,0.4s
SSF Saint Saulge 6.48 300 *e*P **Pn 14 20 47.4 +2.3**
SSF *e*Sn **Sn 14 21 53.4 -5.8**
comp=N,7.0nm,0.4s
VYHS Vyhne 6.65 46 *e*PN **Pn 14 20 48.4 +1.0**
BGF Bois d'Agland 6.72 295 *e*P **Pn 14 20 50.1 +1.7**
MTLF Montolieu 6.91 267 *e*P **Pn 14 20 53.7 +2.8**
MTLF *e*Sn **Sn 14 22 03.2 -6.4**
comp=N,1.2nm,0.3s
NOA NORSAR Array B 17.01 359 P **P 14 23 08.6 -0.9**
baz=178,slow=11,SNR=3.8
comp=N,0.2nm,0.5s
FINES FINESS Array B 19.39 21 P **P 14 23 35.4 0.0**
comp=N,0.1nm,0.3s,baz=205,slow=12,SNR=1.1
comp=N,0.5nm,0.6s
TORD Torodi Ar. Bea 31.98 199 P **P 14 25 36.5 +0.5**
comp=N,1.1nm,0.8s,baz=9.1,slow=10,SNR=6.5
comp=N,1.1nm,0.8s
FRB Frobisher Bay 47.54 324 LR LR 14 47 04.9
comp=N,23nm,18.0s,baz=344,slow=35
MKAR Makanchi Array 48.08 61 P **P 14 27 48.8 -0.5**
comp=N,0.5nm,0.8s,baz=283,slow=7.2,SNR=4.6
comp=N,0.5nm,0.8s
YKA Yellowknife Ar 65.44 336 P **P 14 29 53.4 +1.1**
comp=N,0.3nm,0.8s,baz=54,slow=8.5,SNR=4.0
comp=N,0.3nm,0.8s
TXAR Lajitas Array 86.09 308 P **P 14 31 52.1 +1.0**
comp=N,0.2nm,0.6s,baz=64,slow=4.1,SNR=2.7
comp=N,0.2nm,0.6s

*IDC **03** 14:38:20.9±3.0, 30°.29S×177°.49W, h0km, mb4.0/2, mbtmp4.0/3, ML3.1/1, Error ellipse: s-maj=66.2km s-min=26.6km az=103.0*
*NEIC **03** 14:38:27.5±0.9, 29°.97S±0°.09×178°.2W±0°.2, h10km±2km, mb4.4/9, Error ellipse: s-maj=28.3km s-min=13.4km az=109.0*
ISC 03 14:38:27.0±0.8, **30°.08S**±0°.08×**178°.3W**±0°.2, **h10**km, **n17, σ2s06/18, mb4.4/7, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.88**	**20**	Pn	**Pb**	**14 38 44.0**	**-0.2**
RAO	**Raoul Island**	**0.88**	**20**	Pn	**Pg**	**14 38 43.8**	**-0.1**
	146nm,0.3s,baz=76,slow=23,SNR=9.4						
RAO				Sn	**Sb**	**14 38 55.7**	**-0.3**
	878nm,0.3s,baz=10,slow=21,SNR=24						
URZ	**Urewera**	**9.02**	**204**	Pn	Pn	14 40 33.7	-3.5
	0.2nm,0.3s,baz=158,slow=19,SNR=1.9						
URZ				Sn	**Sn**	**14 42 13.0**	**-5.8**
	1.0nm,0.3s,baz=89,slow=23,SNR=8.9						
	6.5nm,0.9s						
MSVF	**Nonsavu**	**12.74**	**344**	Pn	**Pn**	**14 41 27.3**	**-1.1**
THZ	**Tophouse**	**13.67**	**209**	Pn	**Pn**	**14 41 42.5**	**+1.5**
ARMA	**Armidale**	**25.98**	**262**	P	**P**	**14 44 00.1**	**0.0**
ARMA				IAmb	IAmb	14 44 41.4	
	comp=Z,11nm,1.4s						
CAN	**Canberra**	**27.97**	**251**	P	**P**	**14 44 17.1**	**-0.8**
CTAO	**Charters Tower**	**33.53**	**279**	P	**P**	**14 45 09.0**	**+1.9**
STKA	**Stephens Creek**	**34.33**	**257**	P	**P**	**14 45 15.7**	**+1.7**
	comp=Z,2.5nm,0.8s,baz=122,slow=13,SNR=2.0						
	comp=Z,2.5nm,0.8s						
ASAR	**Alice Springs**	**42.90**	**267**	P	**P**	**14 46 25.8**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=103,slow=7.4,SNR=14						
	comp=Z,0.7nm,0.5s						
WR0	**Warramunga Arr**	**43.68**	**272**	P	**P**	**14 46 32.8**	**+0.4**
WB2	**Warramunga Arr**	**43.85**	**272**	P	**P**	**14 46 33.4**	**-0.3**
WB2				IAmb	IAmb	14 46 53.4	
	comp=Z,8.0nm,1.3s						
WRAB	**Tennant Creek**	**43.86**	**272**	P	**P**	**14 46 33.9**	**+0.2**
WRAB				IAmb	IAmb	14 47 09.1	
	comp=Z,7.8nm,1.2s						
WB0	**Warramunga Arr**	**43.88**	**272**	P	**P**	**14 46 33.8**	**-0.2**
WB0				IAmb	IAmb	14 46 58.8	
	comp=Z,8.5nm,1.3s						
SBA	**Scott Base**	**48.34**	**184**	P	**P**	**14 47 09.7**	**+1.4**
QSPA	**South Pole Qui**	**60.03**	**180**	P	**P**	**14 48 35.3**	**+1.5**
QSPA				IAmb	IAmb	14 49 14.7	
	comp=Z,3.9nm,1.2s						
FINES	**FINESS Array B**	**144.77**	**340**	PKPbc	**PKPab**	**14 57 58.4**	**-3.8**
	comp=Z,2.7nm,0.7s,baz=22,slow=4.5,SNR=11						

IDC 03 14:53:35.8±10.0, **18°.35S**×**177°.59W**, **h516**km±108km, **mb3.1/4, mbtmp3.9/4, Error ellipse: s-maj=47.0km s-min=34.5km az=112.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.42**	**255**	P	P	15 01 08.2	-0.1
	4.4nm,0.6s,baz=87,slow=8.9,SNR=99						
ASAR				PcP	PcP	15 02 36.5	-0.3
	0.4nm,0.4s,baz=104,slow=3.8,SNR=9.6						
	4.4nm,0.6s						
QSPA	**South Pole Qui**	**71.70**	**180**	P	P	15 04 05.1	+0.1
	0.6nm,0.5s,baz=56,slow=7.3,SNR=1.5						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**86.15**	**13**	P	P	15 05 21.6	+0.1
	0.3nm,0.4s,baz=220,slow=5.2,SNR=12						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**94.41**	**25**	P	P	15 05 59.5	-0.2
	0.1nm,0.6s,baz=227,slow=5.0,SNR=2.6						
	0.1nm,0.6s						
BRTR	**Keskin Array B**	**145.65**	**315**	PKPbc	PKPdf	15 12 15.9	+0.4
	0.4nm,0.4s,baz=112,slow=3.4,SNR=4.1						

*NEIC **03** 15:01:21.4±0.8, 19°.14N±0°.04×67°.23W±0°.05, h14km±3km, ML2.7/26, Md3.2/10(RSPR), Error ellipse: s-maj=6.9km s-min=5.2km az=91.0*
*RSPR **03** 15:01:23.7, 19°.22N×67°.17W, h46km±7km, MD3.2/10*
*OSPL **03** 15:01:25.6±0.3, 19°.00N×67°.27W, h22km±4km, ML2.6*
ISC 03 15:01:22.5±1.6, **19°.14N**±0°.08×**67°.16W**±0°.05, **h29**km, **n50, σ0s94/53, 11C, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.67**	**176**	*i* *e*P	**Pn**	**15 01 35.7**	**-0.3**
AGPR	**Aguadilla, PR**	**0.67**	**176**		**Pn**	**15 01 35.7**	**-0.3**
AGPR					**Sb**	**15 01 43.4**	**-1.3**
AGPR	**Aguadilla, PR**	**0.67**	**176**	IAML		15 01 48.5	
	comp=E,296nm,0.2s						
AGPR				IAML		15 01 49.7	
	comp=N,366nm,0.3s						
AGPR	**Aguadilla, PR**	**0.67**	**176**	*i* P	**Pn**	**15 01 35.8**	**-0.3**
AGPR				*e*S	**Sb**	**15 01 43.4**	**-1.3**
AGPR				IAML		15 01 48.4	
	comp=Z,192nm,0.8s						
AOPR	**Arecibo Observ**	**0.87**	**154**	*i* *e*P	**Pb**	**15 01 39.1**	**-0.1**
AOPR	**Arecibo Observ**	**0.87**	**154**	*e*S	**Sb**	**15 01 52.1**	**+1.6**
AOPR	**Arecibo Observ**	**0.87**	**154**		**Pb**	**15 01 39.1**	**-0.1**
AOPR	**Arecibo Observ**	**0.87**	**154**		**Sb**	**15 01 52.1**	**+1.6**
AOPR	**Arecibo Observ**	**0.87**	**154**	IAML		15 02 04.6	
	comp=N,306nm,0.3s						
EMPR	**Esperanza - Ma**	**0.88**	**138**	*i* *e*P	**Pb**	**15 01 40.1**	**+0.8**
EMPR	**Esperanza - Ma**	**0.88**	**138**	*e*S	**Sb**	**15 01 52.0**	**+1.2**
EMPR	**Esperanza - Ma**	**0.88**	**138**		**Pb**	**15 01 40.4**	**+1.1**
EMPR	**Esperanza - Ma**	**0.88**	**138**		**Sb**	**15 01 52.0**	**+1.2**
EMPR	**Esperanza - Ma**	**0.88**	**138**	IAML		15 02 00.4	
	comp=E,229nm,0.6s						
EMPR				IAML		15 02 00.7	
	comp=N,191nm,0.5s						
PRSN	**Puerto Rico Se**	**0.91**	**179**		**Pb**	**15 01 39.5**	**-0.3**
PRSN				Sn	**Sn**	**15 01 51.7**	**+0.1**
PRSN				IAML		15 01 57.1	
	comp=E,351nm,0.3s						
LSP	**Las Mesas**	**0.96**	**176**	*i* *e*P	**Pb**	**15 01 40.4**	**-0.2**
LSP	**Las Mesas**	**0.96**	**176**	*e*S	**Sb**	**15 01 54.1**	**+1.2**
LSP	**Las Mesas**	**0.96**	**176**		**Pb**	**15 01 40.4**	**-0.2**
LSP					**Sb**	**15 01 54.1**	**+1.2**
UUPR	**Utuado, UPR, P**	**0.97**	**155**	*e*S	**Sb**	**15 01 54.5**	**+1.3**
UUPR	**Utuado, UPR, P**	**0.97**	**155**	Pn	**Pb**	**15 01 41.6**	**+0.9**
UUPR					**Sb**	**15 01 55.7**	**+2.5**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**	*i* *e*P	**Pb**	**15 01 42.7**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**	*e*S	**Sb**	**15 01 58.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**		**Pb**	**15 01 42.7**	**-0.7**
CRPR					**Sb**	**15 01 58.3**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.12**	**178**	*i* P	**Pb**	**15 01 42.7**	**-0.7**
CRPR				IAML		15 02 06.1	
	comp=Z,172nm,0.3s						
MLPR	**Magueyes Islan**	**1.17**	**175**	*i* *e*P	**Pb**	**15 01 43.3**	**-0.8**
MLPR	**Magueyes Islan**	**1.17**	**175**	*e*S	**Sb**	**15 01 59.1**	**+0.3**
MLPR	**Magueyes Islan**	**1.17**	**175**		**Pb**	**15 01 43.2**	**-0.8**
MLPR	**Magueyes Islan**	**1.17**	**175**		**Sb**	**15 01 59.1**	**+0.3**
MLPR	**Magueyes Islan**	**1.17**	**175**	IAML		15 02 01.5	
	comp=E,137nm,0.6s						
MLPR				IAML		15 02 05.1	
	comp=N,95nm,0.4s						
GBPR	**Guanica, Bosqu**	**1.18**	**167**	*i* *e*P	**Pb**	**15 01 44.1**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.18**	**167**	*e*S	**Sb**	**15 01 59.7**	**+0.3**
GBPR	**Guanica, Bosqu**	**1.18**	**167**		**Pb**	**15 01 44.1**	**-0.3**
GBPR					**Sb**	**15 01 59.7**	**+0.3**
CELP	**Cerrillos**	**1.19**	**153**	*i* *e*P	**Pb**	**15 01 44.0**	**-0.5**
CELP	**Cerrillos**	**1.19**	**153**	*e*S	**Sb**	**15 02 00.5**	**+1.0**
CELP	**Cerrillos**	**1.19**	**153**		**Pb**	**15 01 43.9**	**-0.6**
CELP	**Cerrillos**	**1.19**	**153**		**Sb**	**15 02 00.5**	**+1.0**
CELP	**Cerrillos**	**1.19**	**153**	IAML		15 02 02.6	
	comp=N,150nm,0.3s						
CELP				IAML		15 02 03.0	
	comp=E,173nm,0.5s						
OBIP	**Obispado Ponce**	**1.21**	**154**	*i* *e*P	**Pb**	**15 01 44.4**	**-0.3**
OBIP	**Obispado Ponce**	**1.21**	**154**	*e*S	**Sb**	**15 02 01.0**	**+1.0**
OBIP	**Obispado Ponce**	**1.21**	**154**		**Pb**	**15 01 44.5**	**-0.3**
OBIP				IAML		15 02 02.6	
	comp=E,217nm,0.5s						
OBIP				IAML		15 02 02.7	
	comp=N,143nm,0.4s						
OBIP	**Obispado Ponce**	**1.21**	**154**		**Sb**	**15 02 01.0**	**+1.0**
GCPR	**Guaynabo City**	**1.31**	**129**	*i* *e*P	**Pb**	**15 01 45.3**	**-1.2**
GCPR	**Guaynabo City**	**1.31**	**129**		**Pb**	**15 01 45.3**	**-1.2**
IGPR	**InterUniversit**	**1.53**	**139**	*i* *e*P	**Pb**	**15 01 48.8**	**-1.5**
IGPR	**InterUniversit**	**1.53**	**139**	*e*S	**Sb**	**15 02 08.5**	**-0.8**
IGPR	**InterUniversit**	**1.53**	**139**		**Pb**	**15 01 48.8**	**-1.5**
IGPR					**Sb**	**15 02 08.5**	**-0.8**
IGPR	**InterUniversit**	**1.53**	**139**	IAML		15 02 19.1	
	comp=N,107nm,0.3s						
IGPR				IAML		15 02 19.1	
	comp=E,144nm,0.3s						
HUMP	**Col San Antoni**	**1.58**	**128**		**Pn**	**15 01 48.0**	**-0.7**
HUMP				Sn	**Sb**	**15 02 11.9**	**+1.1**
HUMP				IAML		15 02 19.4	
	comp=E,87nm,0.2s						
SDDR	**Presa de Saban**	**3.91**	**268**		**Pn**	**15 02 20.7**	**0.0**
SDDR	**Presa de Saban**	**3.91**	**268**	*i* P	**Pn**	**15 02 21.4**	**+0.6**
SDDR				IAML		15 03 26.6	
	comp=Z,22nm,1.9s						

*JMA **03** 15:02:38.7±0.1, 39°.9N±0°.3×142°.6E±0°.8, h33km±1km, MV3.8/38, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .
*NIED **03** 15:02:38.7, 39°.94N×142°.57E, h33km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr2.18; Mθθ-0.26; Mφφ-1.92; Mrθ-2.54; Mθφ1.60; Mφr0.41; Fault plane solution: M0 3.66000×10^14 NP1: φs298.00000°, δ69.00000°, λ61.00000°. NP2: φs176.00000°, δ35.00000°, λ142.00000°.*
*IDC **03** 15:02:42.0±2.8, 39°.90N×142°.62E, h69km±24km, mb3.2/6, mbtmp3.5/10, MS2.6/2 Error ellipse: s-maj=30.7km s-min=21.8km az=102.0*
ISC 03 15:02:38.0±1.8, **39°.94N**±0°.05×**142°.62E**±0°.08, **h26**km±12km, **n29, σ1s56/26, mb3.5/6, 4D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTH	**Tanohata**	**0.58**	**270**	P	**Pb**	**15 02 49.8**	**+0.3**
JTH				S	**Sb**	**15 02 57.8**	**+0.3**
MIYJ	**Miyakonagasawa**	**0.72**	**240**	||P	**Pn**	**15 02 51.8**	**-0.6**
JKEN	**Kujiedanarisaw**	**0.74**	**291**	||P	**Pn**	**15 02 52.1**	**-0.7**
JKEN				||S	**Sb**	**15 03 01.7**	**-0.4**
JANG	**Nango**	**0.95**	**297**	P	**Pn**	**15 02 55.2**	**-0.4**
JKZ	**Kuzumaki**	**0.99**	**273**	P	**Pn**	**15 02 56.3**	**+0.1**
JKZ				S	**Sn**	**15 03 08.8**	**-0.6**
JOM	**Ohasama**	**1.12**	**246**	||P	**Pn**	**15 02 58.2**	**+0.2**
OFUJ	**Ofunato**	**1.13**	**221**	||P	**Pn**	**15 02 58.0**	**-0.1**
OFUJ				||S	**Sn**	**15 03 12.0**	**-0.8**
JTM	**Tenmabayashi**	**1.45**	**306**	P	**Pn**	**15 03 03.4**	**+0.9**
JTM				S	**Sn**	**15 03 20.9**	**+0.2**
JMK	**Ichinoseki**	**1.47**	**228**	P	**Pn**	**15 03 03.1**	**+0.4**
JAH	**Hinai**	**1.54**	**280**	S	**Sb**	**15 03 23.9**	**-1.0**
JRG	**Rokugo**	**1.63**	**251**	P	**Pb**	**15 03 06.1**	**-1.2**
ASAJ	**Asahikawa**	**4.17**	**360**	P	**Pn**	**15 03 42.1**	**+2.2**
	7.1nm,0.4s,baz=200,slow=15,SNR=18						
ASAJ				S	**Sb**	**15 04 37.0**	**-3.5**
	18nm,0.6s,baz=87,slow=14,SNR=2.3						
MJAR	**Matsushiro Arr**	**4.86**	**227**	P	**Pn**	**15 03 51.9**	**+2.6**
	5.4nm,0.6s,baz=33,slow=14,SNR=25						
USRK	**Ussuriysk Ar.**	**8.97**	**302**	P	Pn	15 04 50.8	+5.1
	2.2nm,0.7s,baz=108,slow=14,SNR=2.4						
KSRS	**Korea Array**	**11.75**	**262**	P	**Pn**	**15 05 28.2**	**+4.4**
	0.4nm,0.4s,baz=70,slow=14,SNR=1.1						
KLR	**Kul'dur**	**12.08**	**324**	LR	LR	15 09 54.0	
	comp=Z,22nm,21.6s,baz=192,slow=36						
PETK	**Petropavlovsk-**	**16.72**	**33**	LR	LR	15 13 07.7	
	comp=Z,24nm,18.5s,baz=211,slow=37						
H11N2	**WAKE ISLAND Hy 28.98**	**127**		T	T	15 39 11.2	
	baz=319,slow=76,SNR=195						
H11N1	**WAKE ISLAND Hy 28.99**	**127**		T	T	15 39 14.1	
	baz=319,slow=76,SNR=143						
H11N3	**WAKE ISLAND Hy 29.00**	**127**		T	T	15 39 14.7	
	baz=319,slow=76,SNR=240						
H11S1	**WAKE ISLAND Hy 29.80**	**129**		T	T	15 40 16.5	
	baz=320,slow=76,SNR=31						
H11S3	**WAKE ISLAND Hy 29.80**	**129**		T	T	15 40 14.3	
	baz=320,slow=76,SNR=27						
H11S2	**WAKE ISLAND Hy 29.81**	**129**		T	T	15 40 14.4	
	baz=320,slow=76,SNR=23						
ZALV	**Zalesovo Beam**	**40.72**	**310**	P	**P**	**15 10 15.5**	**-0.6**
	0.3nm,0.3s,baz=114,slow=6.8,SNR=1.9						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**43.44**	**300**	P	**P**	**15 10 37.7**	**-0.8**
	0.2nm,0.5s,baz=81,slow=8.9,SNR=4.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**45.01**	**306**	P	**P**	**15 10 50.1**	**-0.8**
	0.9nm,0.5s,baz=80,slow=8.5,SNR=6.6						
	0.9nm,0.5s						
ILAR	**Eielson Array**	**46.55**	**34**	P	**P**	**15 11 03.5**	**+0.6**
	0.3nm,0.9s,baz=245,slow=5.8,SNR=2.0						
	0.3nm,0.9s						
BVAR	**Borovoye Array**	**49.35**	**311**	P	**P**	**15 11 24.7**	**-0.1**
	0.6nm,0.5s,baz=63,slow=9.9,SNR=2.6						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**63.80**	**189**	P	**P**	**15 13 06.3**	**-1.4**
	0.2nm,0.4s,baz=13,slow=7.2,SNR=4.3						
	0.2nm,0.4s						

*NEIC **03** 15:54:07.1±0.8, 19°.45N±0°.02×154°.99W±0°.03, h5km±1km, Error ellipse: s-maj=6.0km s-min=2.8km az=296.0*
HVO 03 15:54:06.1±0.9, **19°.45N**±0°.02×**154°.94W**±0°.03, **h4**km±6km, **ML2.5**/14, **ML2.5**/46(NEIC), **Error ellipse: s-maj=5.2km s-min=1.7km az=115.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.06**	**52**		Pg	15 54 09.3	+1.9
JOKA	**Jonika Flow**	**0.06**	**259**		Pg	15 54 08.0	+0.5
JCUZ	**Jacuzzi**	**0.17**	**248**	Pg	Pg	15 54 09.5	+0.1
JCUZ					Sg	15 54 12.8	+1.2
NPOC	**North of Pu'u**	**0.17**	**252**	Pg	Pg	15 54 09.8	+0.3
NPOC				IAML		15 54 13.4	
	comp=E,1µm,0.4s						
STCH	**Steam Cracks**	**0.19**	**251**		Pg	15 54 10.0	+0.2
PUH	**Pauahi**	**0.27**	**255**		Pg	15 54 11.6	+0.2
PUH				IAML		15 54 21.2	
	comp=N,595nm,0.3s						
BYL	**Byron's Ledge**	**0.31**	**264**	Pg	Pg	15 54 12.0	0.0
BYL				IAML		15 54 22.7	
	comp=N,692nm,0.5s						
HATHI	**Halema'uma'u T**	**0.31**	**266**		Pg	15 54 12.2	+0.1
HATHI	**Halema'uma'u T**	**0.31**	**266**	IAML		15 54 14.1	
	comp=E,672nm,0.8s						
HATHI				Sg	Sg	15 54 16.0	-0.1
HATHI				IAML		15 54 20.5	
	comp=N,738

WRMHI	**West Rim**	**0.34 263**	Pg	Pg	15 54 13.7	+1.0	
HLP	**Hilina Pali**	**0.38 247**		Pg	15 54 13.4	0.0	
HLP			IAML		15 54 20.8		
	comp=E,561nm,0.5s						
HLP			IAML		15 54 24.4		
	comp=N,494nm,0.4s						
MLH	**Mauna Loa**	**0.42 277**		Pg	15 54 14.5	+0.2	
MLH			IAML		15 54 22.2		
	comp=E,342nm,0.4s						
MLH			IAML		15 54 22.4		
	comp=N,570nm,0.6s						
HTC	**Hot Caves**	**0.48 245**		Pg	15 54 15.8	+0.5	
HMH	**Humu'ula Sheep**	**0.54 287**		Pg	15 54 16.7	+0.2	
HMH	**Humu'ula Sheep**	**0.54 287**		Sb	15 54 25.5	-1.0	
MLOA	**Mauna Loa Obse**	**0.61 279**		Pg	15 54 17.8	-0.1	
MLOA			IAML		15 54 26.9		
	comp=N,279nm,0.6s						
MLOA			IAML		15 54 30.1		
	comp=E,266nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.61 279**		Sg	15 54 26.9	+1.1	
MWH	**Moku'aweowe**	**0.62 274**		Pg	15 54 17.8	-0.3	
POHA	**Pohakuloa**	**0.64 299**		Pg	15 54 17.9	-0.5	
POHA			IAML		15 54 31.1		
	comp=E,327nm,0.7s						
POHA			IAML		15 54 40.0		
	comp=E,288nm,0.4s						
KHU	**Kahuku**	**0.67 253**		Pg	15 54 18.0	-1.0	
KHU			IAML		15 54 33.5		
	comp=E,260nm,2.0s						
KHU			IAML		15 54 38.1		
	comp=N,268nm,3.8s						
ALEP	**Alea Permanent**	**0.67 278**		Pg	15 54 18.4	-0.6	
ALEP				Sg	15 54 28.6	+0.8	
HUH	**Hualalai**	**0.88 286**		Pg	15 54 21.7	-1.2	
HPAH	**Hawaii Prepara**	**0.92 309**		Pg	15 54 21.6	-2.1	
HPAH			IAML		15 54 47.5		
	comp=E,155nm,1.6s						
HPAH			IAML		15 54 49.1		
	comp=N,176nm,1.9s						
MHA	**Mahukona**	**1.17 309**	Pn	Pg	15 54 26.8	-1.7	

IDC 03 16:05:03.2±3.2, 47°.46N×93°.02W, h0km, mbtmp3.2/2, ML1.9/2, Error ellipse: s-maj=34.7km s-min=16.7km az=92.0, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULM	**Lac du Bonnet**	**3.38**	**327**	Pn	Pn	16 05 56.5	-0.7
	0.2nm,0.3s,baz=145,slow=15,SNR=1.5						
ULM				Pg	Pb	16 06 03.7	-0.2
	0.9nm,0.3s,baz=142,slow=14,SNR=4.6						
ULM				Lg	Lg	16 06 47.0	
	2.0nm,0.3s,baz=178,slow=18,SNR=14						
I10CA	**LAC DU BONNET**	**3.39**	**325**	I	I	16 26 10.0	
	0.1nm,1.1s,baz=141,slow=323,SNR=1.5						
PDAR	**Pinedale Array**	**12.59**	**254**	Pn	Pn	16 08 01.3	-2.4
	0.5nm,0.6s,baz=70,slow=12,SNR=5.9						
PDAR				Lg	Lg	16 11 30.4	
	baz=71,slow=31,SNR=2.9						
TKL	**Tuckaleechee C**	**13.65**	**146**	Lg	Lg	16 12 05.2	
	0.2nm,0.3s,baz=254,slow=19,SNR=1.7						
YKA	**Yellowknife Ar**	**19.35**	**329**	P	P	16 09 28.5	-1.5
	baz=127,slow=12,SNR=9.4						
	0.6nm,0.8s						

*TEH **03** 16:06:20.7, 35°.81N×60°.56E, h13km±16km, ML3.4*
*IDC **03** 16:06:22.4±4.8, 35°.76N×60°.49E, h0km, mb3.6/1, mbtmp3.1/5, ML2.7/4, Error ellipse: s-maj=68.1km s-min=22.2km az=25.0*

ISC 03 16:06:22.4±0.9, 35°.79N±0°.04×60°.41E±0°.06, h10km, n30, σ2s01/28, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBJM	**Torbat-e-JAM**	**0.53**	**188**	Pg	**Pg**	**16 06 31.6**	**-1.1**
IMYA	**Miami**	**0.61**	**335**	Pg	**Pg**	**16 06 32.6**	**-1.6**
IMOG	**Moghan**	**0.93**	**290**	Pg	**Pg**	**16 06 39.5**	**-0.8**
TBHD	**Torbat heydari**	**1.03**	**249**	Pg	**Pg**	**16 06 41.4**	**-0.9**
IKRD	**Kardeh**	**1.22**	**324**	Pg	**Pb**	**16 06 44.2**	**-1.6**
IPAY	**Payeh**	**1.32**	**300**	Pg	**Pn**	**16 06 46.1**	**-1.1**
IAKL	**Akhelmad**	**1.57**	**302**	Pg	**Pn**	**16 06 50.5**	**-0.1**
SHRT	**Shahrakht**	**2.14**	**183**	Pn	**Pn**	**16 06 58.6**	**+0.4**
IEMG	**Emamgholi**	**2.15**	**319**	Pn	**Pb**	**16 07 00.4**	**-1.3**
ISFR	**Sfrayin**	**2.32**	**304**	Pn	**Pb**	**16 07 03.0**	**-1.6**
SBZV	**Sabzevar**	**2.35**	**286**	Pn	**Pb**	**16 07 03.4**	**-1.5**
AFRZ	**Afriz**	**2.63**	**206**	Pn	**Pn**	**16 07 06.7**	**+1.6**
GEYT	**Alibeck**	**2.82**	**320**	Pn	**Pn**	**16 07 09.4**	**+1.8**
	2.0nm,0.3s,baz=138,slow=16,SNR=15						
GEYT				Lg	Lg	16 07 54.0	
	6.6nm,0.3s,baz=180,slow=27,SNR=6.1						
	2.3nm,0.3s						
ITEG	**Tejag**	**3.20**	**206**	Pn	**Pn**	**16 07 14.7**	**+1.7**
TKDS	**Koohdasht(Taba**	**3.47**	**232**	Pn	**Pn**	**16 07 19.1**	**+2.4**
IKOO	**Kooshah**	**3.56**	**200**	Pn	**Pn**	**16 07 19.4**	**+1.5**
BSRN	**Basiran**	**3.96**	**196**	Pn	**Sn**	**16 08 14.4**	**+4.4**
TPRV	**Parvadeh(Tabas**	**4.13**	**229**	Pn	**Pn**	**16 07 28.1**	**+2.4**
IGLO	**Ghalooghah**	**5.38**	**280**	Pn	**Pn**	**16 07 45.1**	**+2.2**
IBAF	**Bafgh**	**5.82**	**225**	Pn	**Pg**	**16 08 11.8**	**-2.1**
KRM1	**Kerman Provinc**	**5.89**	**207**	Pg	Pn	16 07 42.5	-7.5
KHGB	**Koh Gabri**	**6.33**	**213**	Pg	**Pn**	**16 07 53.9**	**-2.1**
CHMN	**Cheshme madani**	**6.39**	**203**	Pg	**Pn**	**16 07 54.1**	**-2.8**
CHMN				Sg	Pn	16 08 05.4	+8.5
TVBK	**TV Kerman**	**6.55**	**209**	Pg	**Pn**	**16 07 56.0**	**-3.1**
KBAM	**BAM**	**6.84**	**195**	Pn	Pn	16 08 11.8	+8.9
NGRK	**Negar Kerman**	**6.87**	**208**	Pg	**Pn**	**16 08 01.3**	**-2.3**
BVAR	**Borovoye Array**	**18.61**	**19**	P	**Pn**	**16 10 41.5**	**+1.4**
	baz=195,slow=10,SNR=4.2						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**19.71**	**49**	P	**Pn**	**16 10 52.9**	**-0.4**
	baz=227,slow=12,SNR=2.0						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**19.77**	**36**	P	**P**	**16 10 52.6**	**+0.1**
	baz=233,slow=12,SNR=2.1						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**24.87**	**36**	P	**P**	**16 11 47.2**	**+2.2**
	0.6nm,0.5s,baz=241,slow=8.1,SNR=2.5						
	0.6nm,0.5s						

WEL 03 16:11:47.3±0.6, 41°S±3°×17°2E±°, h5km, M3.9/16, ML4.1/16, MLv3.9/16, Error ellipse: s-maj=0.0km s-min=0.0km az=108.5, confirmed, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKNZ	**Takaka Hill**	**0.71**	**109**	P	Pg	16 12 00.8	-0.1
TKNZ				S	Sg	16 12 09.9	-0.3
MRNZ	**Matariki Terra**	**0.79**	**139**	P	Pg	16 12 02.5	+0.1
MRNZ				S	Sg	16 12 12.9	+0.2
DSZ	**Denniston Nort**	**0.97**	**192**	P	Pg	16 12 05.9	+0.1
DSZ				S	Sb	16 12 19.4	-0.3
NNZ	**Nelson**	**1.07**	**113**	P	Pg	16 12 07.0	-0.8
NNZ				S	Sg	16 12 21.5	-0.2
THZ	**Tophouse**	**1.15**	**147**	P	Pg	16 12 08.5	-0.8
THZ				S	Sg	16 12 24.4	+0.3
DUWZ	**D'Urville Isla**	**1.40**	**91**	P	Pn	16 12 12.3	-1.2
DUWZ				S	Sg	16 12 32.3	0.0
TUWZ	**Tuamarina**	**1.54**	**115**	P	Pn	16 12 15.1	-0.3
TUWZ				S	Sb	16 12 36.1	-0.1
BSWZ	**Blackbirch Sta**	**1.64**	**125**	P	Pn	16 12 17.2	+0.5
BSWZ				S	Sg	16 12 39.9	+0.1
TCW	**Tory Channel**	**1.72**	**105**	P	Pn	16 12 17.7	0.0
TCW				S	Sb	16 12 41.0	-0.1
CMWZ	**Cape Campbell**	**1.87**	**121**	P	Pb	16 12 21.2	-0.7
NMEZ	**Namu Road**	**1.96**	**46**	P	Pn	16 12 20.8	-0.2
INZ	**Inchbonnie**	**1.98**	**194**	P	Pn	16 12 21.1	-0.4
LTZ	**Lake Taylor**	**1.98**	**176**	P	Pn	16 12 21.6	0.0
LTZ				S	Sn	16 12 47.1	+0.2
NBEZ	**Newall Road No**	**2.06**	**43**	P	Pn	16 12 22.1	-0.4
WEL	**Wellington**	**2.09**	**104**	P	Pn	16 12 24.0	+1.0
KHEZ	**Kahui Hut**	**2.12**	**45**	P	Pn	16 12 23.2	-0.2
KIW	**Kapiti Island**	**2.15**	**93**	P	Pn	16 12 23.6	-0.2
PREZ	**Palmer Road**	**2.16**	**48**	P	Pn	16 12 24.1	+0.1
PKE	**Pukeiti**	**2.17**	**43**	P	Pn	16 12 23.8	-0.4
NEZ	**North Egmont**	**2.18**	**46**	P	Pn	16 12 23.9	-0.4
BHW	**Baring Head**	**2.20**	**107**	P	Pn	16 12 24.9	+0.5
LREZ	**Lake Rotokare**	**2.23**	**54**	P	Pn	16 12 25.0	+0.2
GVZ	**Greta Valley S**	**2.28**	**162**	P	Pn	16 12 25.6	0.0
CAW	**Cannon Point**	**2.29**	**99**	P	Pn	16 12 26.3	+0.6
DREZ	**Durham Road**	**2.29**	**46**	P	Pn	16 12 25.7	0.0
OGWZ	**Otaki Gorge**	**2.35**	**91**	P	Pn	16 12 26.9	+0.4
AMCZ	**Amberley**	**2.41**	**170**	P	Pn	16 12 27.2	-0.2
MHEZ	**Mangahewa**	**2.44**	**46**	P	Pn	16 12 28.0	+0.3
WVZ	**Waitaha Valley**	**2.48**	**203**	P	Pn	16 12 28.0	-0.3
PLWZ	**Palliser**	**2.52**	**109**	P	Pn	16 12 28.5	-0.4
OXZ	**Oxford**	**2.52**	**181**	P	Pn	16 12 28.4	-0.5
OHWZ	**Ohakea**	**2.54**	**78**	P	Pn	16 12 30.9	+1.8
PAWZ	**Paruwai Farm**	**2.60**	**104**	P	Pn	16 12 29.6	-0.4
HOWZ	**Holdsworth Sta**	**2.61**	**93**	P	Pn	16 12 31.1	+1.0
MTW	**Mount Morrison**	**2.62**	**99**	P	Pn	16 12 30.1	-0.1
MRZ	**Mangatainoka R**	**2.67**	**88**	P	Pn	16 12 31.1	+0.2
MHCZ	**Mount Hutt**	**2.75**	**188**	P	Pn	16 12 31.9	-0.3
GCSZ	**Gaunt Creek Bo**	**2.83**	**207**	P	Pn	16 12 33.6	+0.5
POWZ	**Post Office Ro**	**2.84**	**83**	P	Pb	16 12 38.2	-0.2
TIWZ	**Tintock**	**2.89**	**91**	P	Pn	16 12 35.8	+1.8
TMWZ	**Te Maipa**	**2.91**	**97**	P	Pb	16 12 37.0	-2.6
RACZ	**Rakaia**	**2.92**	**179**	P	Pn	16 12 33.6	-0.8
PKVZ	**Pokaka**	**2.93**	**60**	P	Pn	16 12 34.6	0.0
MQZ	**McQueen's Vall**	**2.94**	**172**	P	Pn	16 12 33.1	-1.5
MTVZ	**Mangateitei**	**2.96**	**63**	P	Pn	16 12 35.2	+0.2
PRWZ	**Pori Road**	**2.97**	**87**	P	Pn	16 12 37.2	+2.1
RPZ	**Rata Peaks**	**3.01**	**194**	P	Pn	16 12 36.2	+0.6
TSZ	**Takapari Road**	**3.06**	**77**	P	Pn	16 12 36.5	+0.2
TRVZ	**Turoa**	**3.06**	**62**	P	Pn	16 12 36.7	+0.2
WNVZ	**Wahianoa**	**3.08**	**63**	P	Pn	16 12 36.7	0.0
FWVZ	**Far West T-bar**	**3.08**	**61**	P	Pn	16 12 37.1	+0.3
WHVZ	**Whangaehu Hut**	**3.09**	**62**	P	Pn	16 12 37.4	+0.5
COVZ	**Chateau Observ**	**3.11**	**60**	P	Pn	16 12 37.1	+0.1
TWVZ	**Taurewa**	**3.11**	**57**	P	Pn	16 12 36.6	-0.5
AKCZ	**Akaroa Harbour**	**3.13**	**169**	P	Pn	16 12 36.3	-1.0
HIZ	**Hauiti**	**3.13**	**44**	P	Pn	16 12 36.5	-0.8
MOVZ	**Moawhango**	**3.15**	**65**	P	Pn	16 12 37.8	+0.3
TUVZ	**Tukino**	**3.15**	**62**	P	Pn	16 12 38.1	+0.5
WACZ	**Wakanui South**	**3.15**	**183**	P	Pn	16 12 37.1	-0.3
DVHZ	**Dannevirke**	**3.16**	**82**	P	Pn	16 12 40.4	+2.7
NGZ	**Ngauruhoe**	**3.16**	**60**	P	Pn	16 12 37.8	0.0
BFZ	**Birch Farm**	**3.17**	**89**	P	Pn	16 12 37.6	-0.3
SNVZ	**South Ngauruho**	**3.18**	**61**	P	Pn	16 12 38.2	+0.2
WTVZ	**West Tongariro**	**3.18**	**59**	P	Pn	16 12 38.2	+0.1
NNVZ	**North Ngauruho**	**3.19**	**60**	P	Pn	16 12 38.1	-0.1
OTVZ	**Oturere**	**3.21**	**60**	P	Pn	16 12 38.5	0.0
ARCZ	**Arundel**	**3.21**	**192**	P	Pn	16 12 37.9	-0.5
KRVZ	**Karewarewa**	**3.23**	**59**	P	Pn	16 12 38.9	+0.2
NTVZ	**North Tongarir**	**3.25**	**60**	P	Pn	16 12 39.1	+0.1
ETVZ	**East Tongariro**	**3.25**	**60**	P	Pn	16 12 39.3	+0.3
TMVZ	**Te Maari**	**3.26**	**60**	P	Pn	16 12 39.7	+0.6
PNHZ	**Pukenui**	**3.27**	**76**	P	Pn	16 12 40.8	+1.6
BHHZ	**Black Hill Sta**	**3.33**	**68**	P	Pn	16 12 40.9	+0.9
KATZ	**Kakaramea**	**3.33**	**58**	P	Pn	16 12 39.9	-0.2
WPHZ	**Waipukurau**	**3.41**	**79**	P	Pn	16 12 43.9	+2.8
RATZ	**Rangitukua**	**3.44**	**57**	P	Pn	16 12 42.0	+0.4
KRHZ	**Kereru**	**3.48**	**72**	P	Pn	16 12 43.5	+1.4
KWHZ	**Kaweka Forest**	**3.61**	**69**	P	Pn	16 12 46.1	+2.2
TLZ	**Tolley Road**	**3.64**	**48**	P	Pn	16 12 43.7	-0.6
TMZ	**Timaru**	**3.67**	**192**	P	Pn	16 12 43.9	-0.7
KUTZ	**Kaahu Road**	**3.70**	**53**	P	Pn	16 12 46.2	+1.1
BKZ	**Black Stump Fm**	**3.77**	**66**	P	Pn	16 12 46.8	+0.7
MCHZ	**McNeill Hill**	**3.79**	**71**	P	Pn	16 12 49.9	+3.5
KAHZ	**Kahuranaki**	**3.81**	**76**	P	Pn	16 12 45.8	-0.8
LBZ	**Lake Benmore**	**3.84**	**201**	P	Pn	16 12 46.9	-0.2
ALRZ	**Allen Road**	**3.98**	**57**	P	Pn	16 12 48.5	-0.4
NMHZ	**Naumai**	**4.01**	**66**	P	Pn	16 12 53.4	+3.9
TOZ	**Tahuroa Road**	**4.06**	**42**	P	Pn	16 12 49.6	-0.4
JCZ	**Jackson Bay**	**4.08**	**216**	P	Pn	16 12 49.2	-1.2
AWAZ	**Awhitu Peninsu**	**4.23**	**29**	P	Pn	16 12 52.3	-0.1
RAHZ	**Arahi**	**4.29**	**66**	P	Pn	16 12 56.8	+3.6
KBAZ	**Karaka Road Bo**	**4.30**	**32**	P	Pn	16 12 53.9	+0.6
WTAZ	**Waiatarua**	**4.33**	**28**	P	Pn	16 12 54.1	+0.4
ODZ	**Otahua Downs**	**4.37**	**193**	P	Pn	16 12 53.2	-1.1
MKAZ	**Moumakai**	**4.41**	**34**	P	Pn	16 12 54.8	+0.1
ETAZ	**East Tamaki Re**	**4.44**	**31**	P	Pn	16 12 55.2	0.0
RVAZ	**Riverhead Bore**	**4.47**	**27**	P	Pn	16 12 56.2	+0.5
SNGZ	**Shannon Statio**	**4.53**	**65**	P	Pn	16 13 00.2	+3.7
MBAZ	**Motutapu North**	**4.59**	**30**	P	Pn	16 12 57.3	0.0
WKZ	**Wanaka**	**4.61**	**208**	P	Pn	16 12 57.0	-0.7
WIAZ	**Waiheke Island**	**4.66**	**32**	P	Pn	16 12 58.4	+0.1
ABAZ	**Army Bay**	**4.72**	**28**	P	Pn	16 12 59.2	+0.1
EAZ	**Earnscleugh**	**4.87**	**204**	P	Pn	16 12 59.8	-1.3
MWZ	**Matawai**	**4.88**	**61**	P	Pn	16 13 01.1	-0.2
KUZ	**Kuaotunu**	**4.95**	**36**	P	Pn	16 13 01.8	-0.4
TUZ	**Tuapeka**	**5.45**	**198**	P	Pn	16 13 08.3	-0.8
WHZ	**Wether Hill Ro**	**5.91**	**209**	P	Pn	16 13 14.5	-1.0
SYZ	**Scrubby Hill**	**6.12**	**199**	P	Pn	16 13 16.7	-1.6

*NEIC **03** 16:14:35.9±1.3, 19°.42N±0°.02×154°.98W±0°.04, h5km±1km, Error ellipse: s-maj=6.2km s-min=2.9km az=294.0*

HVO 03 16:14:34.7±1.0, 19°.45N±0°.02×154°.93W±0°.04, h4km±6km, ML2.5/8, ML2.4/34(NEIC), Error ellipse: s-maj=5.9km s-min=1.5km az=112.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**45**		Pg	16 14 37.6	+1.8
JOKA	**Jonika Flow**	**0.07**	**260**		Pg	16 14 38.1	+1.8
STCH	**Steam Cracks**	**0.20**	**252**		Pg	16 14 38.8	+0.3
STCH	**Steam Cracks**	**0.20**	**252**		Sg	16 14 42.2	+1.1
KNHH	**Kane Nui o Ham**	**0.24**	**254**		Pg	16 14 41.2	+1.8
PUH	**Pauahi**	**0.28**	**255**		Pg	16 14 40.2	0.0
BYL	**Byron's Ledge**	**0.32**	**264**	Pg	Pg	16 14 40.8	0.0
BYL				IAML		16 14 44.5	
	comp=N,624nm,1.2s						
BYL				IAML		16 14 51.5	
	comp=E,464nm,1.3s						
HATHI	**Halema'uma'u T**	**0.32**	**266**	Pg	Pg	16 14 40.9	0.0
HATHI				IAML		16 14 50.3	
	comp=N,543nm,0.7s						
SBLHI	**Steaming Bluff**	**0.32**	**267**		Pg	16 14 41.0	0.0
SBLHI	**Steaming Bluff**	**0.32**	**267**	IAML		16 14 49.1	
	comp=N,487nm,0.8s						
SBLHI				IAML		16 14 51.2	
	comp=E,509nm,0.5s						
KKO	**Keanakako'i**	**0.32**	**261**	Pg	Pg	16 14 40.4	-0.6
KKO				IAML		16 14 45.4	
	comp=E,460nm,1.0s						
RSD	**Rainshed**	**0.33**	**273**		Pg	16 14 41.2	+0.1
RSD				IAML		16 14 50.3	
	comp=N,420nm,1.2s						
RSD	**Rainshed**	**0.33**	**273**		Sb	16 14 48.0	-1.1
UWB	**Uwekahuna B**	**0.33**	**266**		Pg	16 14 41.4	+0.3
HLP	**Hilina Pali**	**0.39**	**247**		Pg	16 14 42.5	+0.2
HLP					Sg	16 14 46.8	-0.5
HLP				IAML		16 14 49.5	
	comp=E,437nm,0.7s						
HLP				IAML		16 14 53.5	
	comp=N,430nm,0.9s						
MLH	**Mauna Loa**	**0.44**	**276**	Pg	Pg	16 14 43.4	+0.3
MLH				IAML		16 14 51.0	
	comp=E,419nm,0.8s						
MLH				IAML		16 14 57.5	
	comp=N,354nm,1.0s						
HTC	**Hot Caves**	**0.49**	**245**		Pg	16 14 44.5	+0.4
HMH	**Humu'ula Sheep**	**0.55**	**287**		Pg	16 14 45.3	0.0
MLOA	**Mauna Loa Obse**	**0.62**	**278**		Pg	16 14 46.3	-0.3
MLOA				IAML		16 15 01.4	
	comp=N,211nm,2.1s						
MLOA				IAML		16 15 07.4	
	comp=E,192nm,1.9s						
MWH	**Moku'aweowe**	**0.63**	**274**		Pg	16 14 46.2	-0.8
POHA	**Pohakuloa**	**0.65**	**298**	Pg	Pg	16 14 46.5	-0.7
POHA				IAML		16 15 06.8	
	comp=E,195nm,0.7s						
POHA				IAML		16 15 10.6	
	comp=E,209nm,0.6s						
KHU	**Kahuku**	**0.68**	**253**		Pg	16 14 46.5	-1.2
KHU				IAML		16 14 51.3	
	comp=N,196nm,2.8s						
KHU				IAML		16 15 07.2	
	comp=E,224nm,4.2s						
ALEP	**Alea Permanent**	**0.68**	**278**		Pg	16 14 47.2	-0.6
HUH	**Hualalai**	**0.89**	**286**		Pg	16 14 50.2	-1.6
HPAH	**Hawaii Prepara**	**0.93**	**309**	Pg	Pg	16 14 52.0	-0.5
HPAH				IAML		16 15 14.2	
	comp=N,106nm,0.7s						
MHA	**Mahukona**	**1.18**	**309**	Pg	Pg	16 14 55.9	-1.4

*IDC **03** 16:19:27.6±0.6, 27°.72N×139°.98E, h471km±9km, mb3.0/9, mbtmp3.8/12, Error ellipse: s-maj=21.2km s-min=15.8km az=65.0*
*JMA **03** 16:19:29.9±0.1, 28°.N±2°×14°1E±°, h514km, MV3.7/16, W OFF OGASAWARA*

ISC 03 16:19:29.3±0.7, 27°.79N±0°.09×140°.1E±0°.1, h500km, n18, σ1s99/23, mb3.3/9, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.97**	**110**	P	**P**	**16 20 35.0**	**+0.7**
CBIJ				*e*S	**S**	**16 21 26.1**	**-0.9**
JCJ	**Chichijima**	**1.97**	**110**	P	**P**	**16 20 30.8**	**-3.5**
	127nm,0.3s,baz=7.4,slow=13,SNR=216						
JCJ				S	**S**	**16 21 21.3**	**-5.7**
	309nm,0.3s,baz=255,slow=18,SNR=24						
JHH2	**Haha-jima-NKT2**	**2.18**	**122**	*e*P	**P**	**16 20 36.2**	**+0.9**
JHH2				S	**S**	**16 21 29.4**	**+0.4**
JIE	**Ise**	**7.19**	**337**	*e*P	**P**	**16 21 20.3**	**+3.0**
JRY	**Ryogami san**	**8.26**	**353**	*e*P	**P**	**16 21 29.2**	**+0.9**
JAG	**Ashikaga**	**8.62**	**356**	*e*P	**P**	**16 21 31.9**	**-0.1**
JAG				*e*S	**S**	**16 23 09.9**	**-3.0**
JHO	**Hitachi**	**8.80**	**2**	*e*P	**P**	**16 21 35.0**	**+1.1**
JHO				*e*S	**S**	**16 23 14.5**	**-1.8**
MJAR	**Matsushiro Arr**	**8.87**	**350**	P	**P**	**16 21 34.9**	**+0.2**
	1.1nm,0.7s,baz=168,slow=11,SNR=8.2						
KSRS	**Korea Array**	**14.06**	**316**	P	**P**	**16 22 29.6**	**+0.1**
	1.4nm,0.9s,baz=151,slow=9.0,SNR=2.2						
CMAR	**Chiang Mai Arr**	**38.83**	**265**	P	**P**	**16 26 09.7**	**-1.3**
	0.5nm,0.6s,baz=71,slow=5.9,SNR=4.4						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**47.75**	**319**	P	**P**	**16 27 19.8**	**-0.3**
	0.7nm,0.3s,baz=104,slow=6.3,SNR=3.9						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**48.61**	**309**	P	**P**	**16 27 26.8**	**+0.2**
	0.5nm,0.4s,baz=88,slow=9.9,SNR=10						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**51.23**	**314**	P	**P**	**16 27 46.1**	**+0.3**
	3.1nm,0.5s,baz=92,slow=8.2,SNR=29						
	3.1nm,0.5s						
ASAR	**Alice Springs**	**51.51**	**187**	P	**P**	**16 27 48.4**	**+0.1**
	0.3nm,0.6s,baz=2.0,slow=5.7,SNR=9.0						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**56.28**	**317**	P	**P**	**16 28 22.0**	**+0.4**
	3.9nm,0.4s,baz=90,slow=7.2,SNR=38						
	3.9nm,0.4s						
YKA	**Yellowknife Ar**	**72.40**	**28**	P	**P**	**16 30 05.4**	**+1.5**
	0.1nm,0.4s,baz=310,slow=5.2,SNR=5.3						
	0.1nm,0.4s						
FINES	**FINESS Array B**	**76.50**	**333**	P	**P**	**16 30 27.3**	**+0.3**
	0.8nm,0.3s,baz=59,slow=5.3,SNR=10						
	0.8nm,0.3s						
NVAR	**Mina Array Bea**	**81.53**	**51**	P	**P**	**16 30 56.6**	**+2.0**
	0.2nm,0.5s,baz=310,slow=6.9,SNR=3.5						
	0.2nm,0.5s						

*IDC **03** 16:26:25.6±4.5, 7°.81S×129°.80E, h0km, mb3.8/2, mbtmp3.7/3, ML3.8/1, Error ellipse: s-maj=482.1km s-min=42.7km az=71.0*

ISC 03 16:26:29.8±1.0, 7°.85S±0°.07×129°.8E±0°.1, h22km, n11, σ3s27/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.45**	**95**	P	Pb	16 27 03.1	+7.0
BNDI	**Bandanaira**	**3.31**	**1**	P	**Pn**	**16 27 23.2**	**+3.0**
DRS	**Darwin Rock St**	**4.57**	**167**	P	**Pn**	**16 27 42.8**	**+3.8**
MTN	**Mantun Dam**	**5.12**	**166**	P	**Pn**	**16 27 49.1**	**+3.9**
FAKI	**Fak Fak**	**5.45**	**26**	P	**Pn**	**16 27 49.0**	**-0.8**
KDU	**Kakadu**	**5.46**	**152**	P	**Pn**	**16 27 53.0**	**+3.1**
SOEI	**Soe**	**5.82**	**251**	P	**Pn**	**16 27 57.5**	**+2.5**
KNRA	**Kununurra**	**7.85**	**188**	P	**Pn**	**16 28 24.2**	**+1.5**
ASAR	**Alice Springs**	**16.20**	**167**	Pn	**Pn**	**16 30 15.4**	**-0.8**
	0.3nm,0.3s,baz=346,slow=8.9,SNR=28						
ASAR				Sn	**Sn**	**16 33 10.3**	**-5.1**
	0.1nm,0.3s,baz=352,slow=26,SNR=4.7						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**68.85**	**327**	P	**P**	**16 37 31.6**	**-1.1**
	0.4nm,0.5s,baz=111,slow=7.2,SNR=7.7						
	0.4nm,0.5s	

JIZS ⇓S **Sn** **17 07 50.3 -1.7**
JIZS Izushimoda 1.40 231 A A 17 07 33.2
comp=E,7.0nm,1.1s,comp=N,5.0nm,0.4s
ONAJ Iwakimizuishiy 1.57 18 A A 17 07 35.2
comp=E,6.0nm,2.6s,comp=N,4.0nm,0.3s
SHZ3 Shizuoka 3 1.71 252 A A 17 07 37.7
comp=E,7.0nm,1.0s,comp=N,13nm,1.1s
MJAR Matsushiro Arr 1.87 301 P **Pn** **17 07 39.9 -0.5**
comp=N,250nm,0.4s,baz=130,slow=14,SNR=2166
MJAR S **Sn** **17 08 03.1 0.0**
comp=N,155nm,0.4s,baz=95,slow=12,SNR=2.5
MJAR LR LR 17 08 36.2
comp=N,622nm,20.5s,baz=72,slow=46
MAJO Matsushiro 1.87 301 P **Pn** **17 07 40.4 -0.1**
MAJO Matsushiro 1.87 301 **Pn** **17 07 39.8 -0.7**
MAJO Matsushiro 1.87 301 *d iP* **Pn** **17 07 40.3 -0.2**
MJB9 Matsu-Tunnel 1.87 301 **Pn** **17 07 40.8 +0.3**
JSG Sagara 1.89 241 P **Pn** **17 07 41.5 +0.7**
JSG Sagara 1.89 241 **Pn** **17 07 41.1 +0.3**
JNY Yasuok 1.93 263 A A 17 07 40.5
comp=E,3.0nm,1.2s,comp=N,4.0nm,0.7s
JOTO OTAMA OYAMA 1.96 3 A A 17 07 40.4
comp=E,7.0nm,3.5s,comp=N,7.0nm,1.3s
JMM Marumori 2.31 12 **Pn** **17 07 45.5 -0.9**
JGF Kuroka 2.32 271 P **Pn** **17 07 47.5 +0.9**
JGF Kuroka 2.32 271 **Pn** **17 07 46.7 +0.1**
JHJ Hachijo jima 2 2.50 188 P **Pn** **17 07 49.0 -0.1**
comp=N,374nm,0.3s,baz=91,slow=22,SNR=40
JHJ S **Sn** **17 08 16.5 -2.0**
comp=N,774nm,0.3s,baz=9.0,slow=19,SNR=11
JHJ2 Mitsune 2.50 187 P **Pn** **17 07 49.2 +0.1**
JHJ2 Mitsune 2.50 187 **Pn** **17 07 48.5 -0.6**
JSD Sado 2.89 328 P **Pn** **17 07 54.4 +0.2**
JSD Sado 2.89 328 **Pn** **17 07 53.3 -0.9**
JTM Tenmabayashi 5.22 7 P **Pn** **17 08 26.4 +0.3**
JTM Tenmabayashi 5.22 7 Pn **Pn** **17 08 25.8 -0.3**
JMN Monobe 5.54 252 P **Pn** **17 08 30.9 +0.4**
JMN Monobe 5.54 252 Pn **Pn** **17 08 29.8 -0.6**
ERM Erimo 6.81 19 P **Pn** **17 08 45.9 -1.8**
ERM Erimo 6.81 19 Pn **Pn** **17 08 46.5 -1.2**
ERM Erimo 6.81 19 ⇑*eP* **Pn** **17 08 46.5 -1.2**
JEM Erimo 6.81 19 P **Pn** **17 08 46.2 -1.6**
JNU Nakatsue 8.10 255 P **Pn** **17 09 06.9 +1.4**
JNU Nakatsue 8.10 255 P **Pn** **17 09 05.8 +0.3**
comp=N,13nm,1.0s,baz=67,slow=14,SNR=2.4
JCJ Chichijima 8.65 168 P **Pn** **17 09 09.8 -3.2**
JCJ Chichijima 8.65 168 Pn **Pn** **17 09 09.7 -3.4**
JCJ Chichijima 8.65 168 P Pn 17 09 05.3 -7.7
comp=N,136nm,0.4s,baz=323,slow=6.2,SNR=30
JCJ S Sn 17 10 33.7 -15
comp=N,51nm,0.4s,baz=308,slow=24,SNR=2.2
ASAJ Asahikawa 8.70 11 P **Pn** **17 09 11.1 -2.5**
comp=N,4.2nm,0.3s,baz=204,slow=14,SNR=15
ASAJ S **Sn** **17 10 44.8 -5.3**
comp=N,12nm,0.9s,baz=331,slow=26,SNR=2.0
ASAJ Asahikawa 8.70 11 P **Pn** **17 09 11.7 -1.9**
JKA Kamikawa-asahi 8.70 11 Pn **Pn** **17 09 11.7 -2.0**
KSRS Korea Array 10.05 284 P **Pn** **17 09 34.2 +2.0**
comp=N,7.4nm,0.7s,baz=93,slow=14,SNR=18
KSRS LR LR 17 13 16.9
comp=N,170nm,20.9s,baz=90,slow=36
KSAR Wonju Array Be 10.08 284 Pn **Pn** **17 09 31.7 -0.9**
KSAR Wonju Array Be 10.08 284 P **Pn** **17 09 31.7 -0.9**
KS19 Wonju Array Si 10.10 284 Pn **Pn** **17 09 34.3 +1.4**
USRK Ussuriysk Ar. 10.65 326 P **Pn** **17 09 42.1 +1.9**
comp=N,3.6nm,0.6s,baz=147,slow=13,SNR=8.8
YSS Yuzh-Sakhalins 11.50 9 Pn **Pn** **17 09 49.0 -2.8**
JOW Kunigami 13.43 233 P **Pn** **17 10 17.4 -0.7**
comp=N,10nm,0.8s,baz=78,slow=16,SNR=1.5
JOW LR LR 17 15 26.8
comp=N,46nm,20.0s,baz=168,slow=37
BNX BinXian 14.01 320 ⇑P **Pn** **17 10 25.8 +0.1**
BNX pmax pmax
comp=Z,11nm,1.0s
BNX pmax pmax
comp=Z,490nm,4.9s
KLR Kul'dur 14.96 338 P **Pn** **17 10 35.8 -2.3**
comp=Z,0.9nm,0.5s,baz=92,slow=9.5,SNR=2.0
KLR LR LR 17 16 05.9
comp=Z,37nm,21.1s,baz=200,slow=36
KLR Kul'dur 14.96 338⇓*eP* **Pn** **17 10 38.9 +0.8**
JMJ Miyako jima 2 16.76 234 P **P** **17 11 02.9 +0.8**
NJ2 Nanjing 18.08 265 *eP* **Pn** **17 11 17.2 +0.1**
NJ2 pmax pmax
comp=Z,13nm,0.6s
YHNB Yeheng 19.56 241 P **Pn** **17 11 34.2 -0.6**
YHNB Yeheng 19.56 241 P **P** **17 11 31.4 -1.5**
NACB Ninganchiao 19.71 240 P **P** **17 11 35.3 +0.8**
NACB Ninganchiao 19.71 240 P **P** **17 11 32.1 -2.4**
NACB IAmb IAmb 17 11 46.0
comp=Z,18nm,0.8s
ZEA Zeya 20.28 337 *eP* **P** **17 11 37.8 -2.6**
ZEA pmax pmax
comp=Z,10.0nm,0.6s
SSLB Suanglung 20.41 240 P Pn 17 11 44.3 -0.5
SSLB Suanglung 20.41 240 P **P** **17 11 40.6 -1.5**
SSLB IAmb IAmb 17 12 21.9
comp=Z,31nm,1.3s
YULB Yu-li 20.42 239 P **P** **17 11 40.4 -1.9**
YULB IAmb IAmb 17 11 52.9
comp=Z,40nm,1.3s
TPUB Ta-pu 20.95 239 P **P** **17 11 48.9 +1.0**
TPUB Ta-pu 20.95 239 P **P** **17 11 45.5 -2.5**
PEA0B Petropavlovsk- 21.41 30 P **P** **17 11 50.0 -2.6**
PEA0B IAmb IAmb 17 12 10.0
comp=Z,20nm,1.2s
PEA0B Petropavlovsk- 21.41 30 P **P** **17 11 50.0 -2.6**
PEA0B pmax pmax
comp=Z,20nm,1.2s
PETK Petropavlovsk- 21.41 30 P **P** **17 11 52.3 -0.3**
PETK Petropavlovsk- 21.41 30 P **P** **17 11 53.3 +0.7**
comp=Z,3.2nm,0.8s,baz=201,slow=10,SNR=6.1
PETK LR LR 17 19 56.0
comp=Z,22nm,20.5s,baz=223,slow=36
comp=Z,3.2nm,0.8s
HHC Hu-ho-hao-te 23.04 292 *eP* **P** **17 12 10.3 +0.1**
HHC pP pP 17 12 24.8 -0.2
HHC pmax pmax
comp=Z,23nm,0.5s
HHC pmax pmax
comp=Z,92nm,4.0s
BTO Baotou 24.20 291 *eP* **P** **17 12 21.9 +1.1**
BTO pP **pP** **17 12 38.1 +1.1**
BTO sP **sP** **17 12 47.1 +1.8**
BTO PP **PnPn** **17 12 54.6 +0.8**
BTO S **S** **17 16 37.1 +2.8**
BTO SS **SnSn** **17 17 16.1 -6.5**
BTO pmax pmax
comp=Z,9.0nm,0.7s
BTO LR LR
comp=N,700nm,4.7s
BTO LR LR
comp=E,510nm,4.4s
BTO LR LR
comp=Z,470nm,5.0s
MA2 Magadan 24.96 13 P **P** **17 12 27.2 -0.2**
MA2 IAmb IAmb 17 12 29.9
comp=Z,9.5nm,0.7s
MA2 Magadan 24.96 13 LR LR 17 24 09.8
comp=Z,22nm,18.2s,baz=184,slow=41
MA2 Magadan 24.96 13 *ceP* **P** **17 12 29.1 +1.8**
MA2 pmax pmax
comp=Z,14nm,1.7s
MA2 Magadan 24.96 13 P **P** **17 12 28.3 +1.0**
comp=Z,15nm,0.8s
ENH Enshi 26.26 267 P **P** **17 12 38.4 -1.1**
ENH IAmb IAmb 17 12 41.7
comp=Z,13nm,0.6s
YAK Yakutsk 27.27 349 P **P** **17 12 47.5 -0.6**
YAK IAmb IAmb 17 12 49.6
comp=Z,8.8nm,0.8s
YAK Yakutsk 27.27 349 LR LR 17 23 21.7
comp=Z,25nm,19.7s,baz=156,slow=36
YAK Yakutsk 27.27 349 *eP* **P** **17 12 47.7 -0.4**
YAK pmax pmax
comp=Z,10.0nm,1.0s
YAK pmax pmax
comp=N,7.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,1.4s
SONM Songino Array 27.81 307 LR LR 17 24 09.0
comp=E,85nm,18.1s,baz=273,slow=37
BOD Bodaibo 28.25 330 *eP* **P** **17 12 58.2 +1.3**
BOD pmax pmax
comp=Z,8.0nm,1.3s

H11N2 WAKE ISLAND Hy 28.32 117 T T 17 42 47.9
baz=308,slow=75,SNR=74
H11N1 WAKE ISLAND Hy 28.32 117 T T 17 42 31.1
baz=308,slow=75,SNR=69
H11N3 WAKE ISLAND Hy 28.34 117 T T 17 42 48.8
baz=308,slow=75,SNR=76
SEY Seymchan 28.39 12⇓*eP* **P** **17 12 59.4 +1.4**
SEY pmax pmax
comp=Z,5.0nm,0.9s
H11S1 WAKE ISLAND Hy 28.96 119 T T 17 43 04.6
baz=312,slow=75,SNR=30
H11S3 WAKE ISLAND Hy 28.96 119 T T 17 43 05.0
baz=312,slow=75,SNR=20
H11S2 WAKE ISLAND Hy 28.98 119 T T 17 43 05.6
baz=312,slow=75,SNR=18
GYA Guiyang 30.03 262 ⇑P **P** **17 13 12.1 -1.1**
GYA pmax pmax
comp=Z,13nm,0.8s
CD2 Chengdu 30.72 272 P **P** **17 13 18.9 -0.2**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
DAV Davao City (W) 31.41 209 LR LR 17 23 56.4
comp=Z,18nm,20.4s,baz=313,slow=32
GTA Gaotai 32.08 289 *eP* **P** **17 13 32.2 +1.1**
GTA pP pP 17 13 44.8 -2.9
GTA pmax pmax
comp=Z,3.0nm,1.1s
PZH PanZhiHua 34.00 265 P **P** **17 13 46.3 -1.7**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.9s
SLVN Son La 34.72 256 P **P** **17 13 52.8 -1.3**
BILL Bilibino 35.67 16 P **P** **17 14 01.3 -0.5**
BILL Bilibino 35.67 16⇑*eP* **P** **17 14 01.3 -0.5**
BILL pmax pmax
comp=Z,10.0nm,2.7s
TIXI Tiksi 36.60 354 P **P** **17 14 09.3 -0.4**
TIXI IAmb IAmb 17 14 09.8
comp=Z,2.9nm,0.6s
TIXI Tiksi 36.60 354⇑*iP* **P** **17 14 09.2 -0.4**
TIXI pmax pmax
comp=Z,12nm,2.6s
UBPT Khong Chiam 37.05 246 P **P** **17 14 12.9 -1.1**
UBPT IAmb IAmb 17 14 18.4
comp=Z,4.2nm,0.7s
CRAI Chiangrai 38.10 257 P **P** **17 14 22.0 -0.9**
CRAI IAmb IAmb 17 14 23.3
comp=Z,4.4nm,0.8s
PHRA Phrae 39.16 255 P **P** **17 14 30.6 -1.1**
CM31 Chiang Mai Arr 40.19 256 P **P** **17 14 38.7 -1.7**
CMAR Chiang Mai Arr 40.19 256 P **P** **17 14 39.5 -0.9**
comp=Z,0.8nm,0.7s,baz=47,slow=7.6,SNR=8.7
CMAR PcP **PcP** **17 16 44.6 +1.2**
comp=Z,1.1nm,0.8s,baz=23,slow=1.7,SNR=7.3
CMAR LR LR 17 31 48.0
comp=Z,23nm,20.1s,baz=55,slow=37
comp=Z,0.8nm,0.7s
WMQ Urumqi 40.63 298 *eP* **P** **17 14 46.2 +2.4**
WMQ pmax pmax
comp=Z,20nm,0.9s
ZAA0 Zalesovo Array 42.17 314 P **P** **17 14 55.4 -0.8**
ZALV Zalesovo Beam 42.17 314 P **P** **17 14 56.0 -0.2**
ZALV Zalesovo Beam 42.17 314 P **P** **17 14 56.1 -0.1**
comp=Z,2.4nm,0.4s,baz=97,slow=8.1,SNR=15
ZALV PcP **PcP** **17 16 49.1 -0.1**
comp=Z,3.5nm,0.5s,baz=117,slow=2.5,SNR=12
comp=Z,2.4nm,0.4s
ZALV Zalesovo Beam 42.17 314 *i* P **P** **17 14 56.4 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
MK31 Makanchi Array 44.06 303 P **P** **17 15 11.4 -0.2**
MK31 Makanchi Array 44.06 303 *c iP* **P** **17 15 11.7 +0.1**
MKAR Makanchi Array 44.06 303 P **P** **17 15 11.2 -0.4**
MKAR Makanchi Array 44.06 303 P **P** **17 15 11.8 +0.2**
comp=Z,4.6nm,0.7s,baz=88,slow=9.6,SNR=44
MKAR ScP **ScP** **17 20 41.9 +0.3**
comp=Z,0.1nm,0.4s,baz=107,slow=4.8,SNR=2.0
MKAR LR LR 17 34 01.5
comp=Z,43nm,18.3s,baz=70,slow=36
comp=Z,4.6nm,0.7s
MAKZ Makanchi 44.28 303 P **P** **17 15 13.3 0.0**
MAKZ IAmb IAmb 17 15 14.5
comp=Z,7.5nm,1.0s
MAKZ Makanchi 44.28 303 P **P** **17 15 13.3 0.0**
MAKZ pmax pmax
comp=Z,7.0nm,1.0s
C16K Lisburne Hills 44.41 26 P **P** **17 15 14.7 +0.6**
C16K IAmb IAmb 17 15 15.9
comp=Z,5.2nm,0.8s
KAPI Kappang 44.73 210 P **P** **17 15 17.4 +0.2**
KAPI Kappang 44.73 210 P **P** **17 15 17.4 +0.2**
KAPI pmax pmax
comp=Z,11nm,0.9s
F17K Baldwin Pennin 45.45 29 P **P** **17 15 24.4 +2.1**
C18K Utukok River 45.99 26 P **P** **17 15 27.9 +1.3**
C18K IAmb IAmb 17 15 28.9
comp=Z,3.6nm,0.8s
KURK Kurchatov 46.06 309 P **P** **17 15 27.1 -0.3**
KURK Kurchatov 46.06 309 *c iP* **P** **17 15 27.2 -0.1**
KURK pmax pmax
comp=Z,10.0nm,0.7s
K17K Iditarod 46.09 34 P **P** **17 15 28.1 +0.7**
KURBB Kurchatov Arra 46.12 309 P **P** **17 15 27.3 -0.6**
comp=Z,4.4nm,0.5s,baz=82,slow=7.8,SNR=7.3
KURBB PcP **PcP** **17 17 01.5 -1.3**
comp=Z,1.3nm,0.3s,baz=88,slow=3.9,SNR=4.6
comp=Z,4.4nm,0.5s
G18K Tagagawik 46.37 30 P **P** **17 15 30.7 +1.1**
G18K IAmb IAmb 17 15 32.0
comp=Z,4.5nm,0.8s
C19K Lookout Ridge 46.67 25 P **P** **17 15 33.6 +1.7**
C19K IAmb IAmb 17 15 52.2
comp=Z,8.2nm,1.1s
F19K Shalerucki Mo 46.88 29 P **P** **17 15 34.3 +0.8**
G19K Purcell Mounta 47.05 30 P **P** **17 15 36.0 +1.1**
G19K IAmb IAmb 17 16 10.2
comp=Z,7.9nm,1.4s
H19K Roundabout Mou 47.22 30 P **P** **17 15 37.5 +1.4**
H19K IAmb IAmb 17 15 52.2
comp=Z,12nm,1.5s
J19K Poorman 47.41 33 P **P** **17 15 38.0 +0.3**
J19K IAmb IAmb 17 15 39.6
comp=Z,6.6nm,1.3s
B20K Meade River 47.70 24 P **P** **17 15 41.2 +1.4**
B20K IAmb IAmb 17 15 58.7
comp=Z,5.5nm,0.9s
J20K Nowinta River 48.07 32 P **P** **17 15 43.9 +1.1**
J20K IAmb IAmb 17 15 45.6
comp=Z,4.7nm,1.1s
M20K Styx River 48.45 36 P **P** **17 15 47.8 +1.9**
M20K IAmb IAmb 17 16 11.9
comp=Z,11nm,1.5s
B21K Ikpikpuk River 48.50 25 P **P** **17 15 47.4 +1.4**
B21K IAmb IAmb 17 16 14.5
comp=Z,4.7nm,0.8s
E21K Killik River 48.56 27 P **P** **17 15 47.6 +1.1**
H21K Melozitna Rive 48.74 30 P **P** **17 15 49.1 +1.1**
H21K IAmb IAmb 17 16 14.7
comp=Z,6.1nm,1.5s
KDAK Kodiak Island 48.82 41 P **P** **17 15 48.7 +0.1**
KDAK Kodiak Island 48.82 41 LR LR 17 38 00.8
comp=Z,8.2nm,19.7s,baz=287,slow=38
KDAK Kodiak Island 48.82 41 P **P** **17 15 48.7 +0.1**
KDAK pmax pmax
comp=Z,40nm,1.3s
MTN Manton Dam 48.94 192 P **P** **17 15 50.6 +0.7**
MTN Manton Dam 48.94 192 P **P** **17 15 48.9 -1.1**
CAST Castle Rocks 48.96 34 P **P** **17 15 50.5 +0.9**
B22K Teshekpuk Lake 49.01 24 P **P** **17 15 50.6 +0.7**
B22K IAmb IAmb 17 16 14.6
comp=Z,8.8nm,1.4s
D22K Ayikyak River 49.08 26 P **P** **17 15 52.0 +1.5**
D22K IAmb IAmb 17 15 54.4
comp=Z,4.0nm,0.8s
BOOM Boomskoye usch 49.32 299 P **P** **17 15 53.0 +0.1**
BOOM IAmb IAmb 17 16 01.7
comp=Z,5.1nm,0.8s
BOOM Boomskoye usch 49.32 299 P **P** **17 15 53.0 +0.1**
BOOM pmax pmax
comp=Z,5.0nm,0.8s
E22K Anaktuvuk Pass 49.32 27 P **P** **17 15 53.3 +0.9**
E22K IAmb IAmb 17 16 12.0
comp=Z,3.2nm,0.9s
MLY Manley 49.58 31 P **P** **17 15 56.5 +2.0**

MLY IAmb IAmb 17 16 08.9
comp=Z,6.1nm,1.3s
C23K Itkillik River 49.91 25 P **P** **17 15 57.3 +0.6**
C23K IAmb IAmb 17 16 04.9
comp=Z,5.9nm,1.3s
H23K Yukon River 50.09 30 P **P** **17 16 00.5 +2.2**
H23K IAmb IAmb 17 16 12.8
comp=Z,3.6nm,0.9s
NEA2 Nenana 50.29 32 P **P** **17 16 01.2 +1.4**
NEA2 IAmb IAmb 17 16 02.4
comp=Z,3.4nm,0.6s
AAK Ala-Archa 50.32 299 P **P** **17 16 00.8 +0.3**
AAK Ala-Archa 50.32 299 LR LR 17 38 19.9
comp=Z,32nm,21.4s,baz=60,slow=37
AAK Ala-Archa 50.32 299⇑*iP* **P** **17 16 00.9 +0.4**
AAK pmax pmax
comp=Z,2.0nm,0.9s
MDM Murphy Dome 50.65 31 P **P** **17 16 03.9 +1.5**
BVAR Borovoye Array 50.82 313 P **P** **17 16 03.8 -0.1**
comp=Z,1.7nm,0.5s,baz=67,slow=7.6,SNR=13
BVAR PcP **PcP** **17 17 19.7 -0.1**
comp=Z,2.0nm,0.6s,baz=83,slow=3.8,SNR=5.8
comp=Z,1.7nm,0.5s
BRVK Borovoye 50.88 313 P **P** **17 16 04.9 +0.6**
BRVK Borovoye 50.88 313⇑*iP* **P** **17 16 04.9 +0.6**
BRVK pmax pmax
comp=Z,6.0nm,2.0s
IL31 51.23 32 IAmb IAmb 17 16 10.0
comp=Z,3.6nm,0.9s
ILAR Eielson Array 51.23 32 P **P** **17 16 07.5 +0.7**
comp=Z,2.1nm,0.7s,baz=271,slow=6.2,SNR=26
comp=Z,2.1nm,0.7s
GSI Gunungsitoli 52.23 239 P **P** **17 16 14.6 -0.2**
GSI Gunungsitoli 52.23 239 P **P** **17 16 13.6 -1.3**
KK31 Karatay Array 53.00 301 IAmb IAmb 17 16 43.1
comp=Z,4.0nm,0.9s
KKAR Karatay Array 53.00 301 IAmb IAmb 17 16 43.1
comp=Z,4.0nm,0.9s
E29M Blow River 54.49 27 IAmb IAmb 17 16 44.4
comp=Z,7.8nm,1.5s
FITZ Fitzroy Crossi 55.16 197 P **P** **17 16 36.5 +0.4**
FITZ Fitzroy Crossi 55.16 197 P **P** **17 16 35.8 -0.3**
FITZ IAmb IAmb 17 16 37.0
comp=Z,3.4nm,0.7s
M29M Somme Creek 55.24 34 P **P** **17 16 37.3 +0.9**
M29M IAmb IAmb 17 16 39.8
comp=Z,5.0nm,0.7s
EPYK Eagle Plains 55.25 29 IAmb IAmb 17 16 54.4
comp=Z,5.2nm,0.8s
G30M tAoh Zrai Nji 55.34 28 IAmb IAmb 17 16 57.1
comp=Z,3.7nm,1.0s
WRAB Tennant Creek 55.51 187 P **P** **17 16 37.9 -0.7**
WRAB Tennant Creek 55.51 187 P **P** **17 16 37.9 -0.7**
WRAB pmax pmax
comp=Z,6.0nm,0.8s
SIMJ Simiganj 55.51 296 P **P** **17 16 38.2 -0.5**
SVE Sverdlovsk 55.58 319 *eP* **P** **17 16 39.6 +0.9**
SVE pmax pmax
comp=Z,9.0nm,0.6s
I30M Mount Dempster 55.60 30 P **P** **17 16 39.9 +1.0**
I30M IAmb IAmb 17 17 06.2
comp=Z,7.8nm,1.1s
INK Inuvik 56.10 27 P **P** **17 16 43.1 +0.8**
H31M Peel River 56.31 30 IAmb IAmb 17 17 23.2
comp=Z,6.8nm,1.1s
ARU Arti 56.79 319 P **P** **17 16 46.9 -0.4**
ARU Arti 56.79 319 *c iP* **P** **17 16 47.3 -0.1**
ARU 17 17 03.5
ARU S **S** **17 24 36.1 +1.1**
ARU SS **SS** **17 28 23.7 +0.4**
ARU pmax pmax
comp=Z,12nm,0.7s
ARU Arti 56.79 319 P **P** **17 16 47.7 +0.3**
comp=Z,17nm,0.8s
ABKAR Akbulak array 58.12 310 P **P** **17 16 56.6 -0.2**
AKTO Aktyubinsk 58.91 312 LR LR 17 42 35.3
comp=Z,27nm,18.3s,baz=35,slow=36
C36M Paulatuk 59.13 24 IAmb IAmb 17 17 05.3
comp=Z,4.2nm,0.8s
AS31 Alice Springs 59.24 187 IAmb IAmb 17 17 09.3
comp=Z,2.5nm,0.6s
ASAR Alice Springs 59.25 187 P **P** **17 17 04.3 -0.6**
comp=Z,1.7nm,0.7s,baz=20,slow=12,SNR=30
comp=Z,1.7nm,0.7s
MBWA Marble Bar 59.69 202 P **P** **17 17 07.9 -0.1**
MBWA Marble Bar 59.69 202 P **P** **17 17 07.6 -0.3**
PSA00 Pilbara Seismi 60.05 202 P **P** **17 17 10.4 0.0**
PSA00 Pilbara Seismi 60.05 202 P **P** **17 17 09.6 -0.8**
PSA00 Pilbara Seismi 60.05 202 P **P** **17 17 09.4 -1.0**
PSA00 IAmb IAmb 17 17 10.7
comp=Z,10nm,0.8s
KIRV Kirov 60.80 323 *c iP* **P** **17 17 15.4 +0.3**
WRKA Warakurna 61.35 192 P **P** **17 17 19.6 +0.3**
SPITS Spitsbergen Ar 61.73 349 P **P** **17 17 22.5 +1.3**
comp=Z,16nm,1.1s,baz=102,slow=7.8,SNR=6.0
comp=Z,16nm,1.1s
GEYT Alibeck 63.67 299 P **P** **17 17 34.9 +0.1**
comp=Z,0.9nm,0.6s,baz=51,slow=14,SNR=2.2
comp=Z,0.9nm,0.6s
BELG Belogornoye 64.18 317 *c iP* **P** **17 17 37.3 -0.4**
BELG pmax pmax
comp=Z,2.0nm,0.6s
RES Resolute Bay 64.23 14 P **P** **17 17 37.9 +0.2**
RES Resolute Bay 64.23 14 P **P** **17 17 37.9 +0.2**
RES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 64.99 339 P **P** **17 17 43.1 +0.3**
comp=Z,4.6nm,0.9s,baz=49,slow=7.0,SNR=5.8
ARCES LR LR 17 49 49.5
comp=Z,9.4nm,18.5s,baz=155,slow=39
comp=Z,4.6nm,0.9s
MEEK Meekatharra 65.18 201 P **P** **17 17 45.1 +0.6**
YKA Yellowknife Ar 65.53 29 P **P** **17 17 46.9 +0.5**
comp=Z,0.8nm,0.7s,baz=306,slow=6.9,SNR=5.9
comp=Z,0.8nm,0.7s
YKA Yellowknife Ar 65.53 29 *i* P **P** **17 17 44.5 -1.9**
YKA pmax pmax
comp=Z,1.0nm,0.6s
LCRK Leigh Creek 65.73 182 P **P** **17 17 47.8 -0.1**
NEEM North Greenlan 67.00 3 *i* P **P** **17 17 55.7 -0.2**
FORT Forrest 67.01 191 P **P** **17 17 56.4 +0.3**
DAG Danmarks Havn 67.11 355 P **P** **17 17 56.9 +0.6**
DAG Danmarks Havn 67.11 355 *i* P **P** **17 17 56.0 -0.3**
DAG IAmb IAmb 17 17 57.2
comp=Z,4.0nm,0.8s
STKA Stephens Creek 67.14 179 P **P** **17 17 56.2 -0.7**
comp=Z,2.7nm,0.8s,baz=34,slow=6.9,SNR=3.5
comp=Z,2.7nm,0.8s
OBN Obninsk 68.65 323 *deP* **P** **17 18 06.5 +0.3**
OBN *e**PP **pP** **17 18 25.8 +1.2**
OBN *e* 17 18 30.4
OBN *e* 17 20 39.5
OBN *e*PPP PPP 17 22 17.1
OBN pmax pmax
comp=Z,6.0nm,0.5s
OBN MLR MLR
comp=Z,19nm,13.0s
BLDU Ballidu 69.47 202 P **P** **17 18 11.4 -0.1**
FINES FINESS Array B 69.62 332 P **P** **17 18 11.9 -0.2**
comp=Z,4.1nm,0.7s,baz=72,slow=6.2,SNR=13
FINES LR LR 17 49 34.3
comp=Z,13nm,18.3s,baz=42,slow=36
comp=Z,4.1nm,0.7s
FINES FINESS Array B 69.62 332 *i* P **P** **17 18 12.3 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 71.09 311 P **P** **17 18 21.9 +0.4**
comp=Z,5.3nm,0.9s,baz=36,slow=2.3,SNR=14
comp=Z,5.3nm,0.9s
KBZ Khabaz 71.09 311 *ceP* **P** **17 18 21.8 +0.4**
KBZ pmax pmax
comp=Z,6.0nm,0.9s
KVAR Kislovodsk Arr 71.09 311 LR LR 17 50 35.4
comp=Z,29nm,20.4s,baz=60,slow=37
KIV Kislovodsk 71.10 311 P **P** **17 18 21.1 -0.5**
KIV Kislovodsk 71.10 311 *eP* **P** **17 18 22.8 +1.2**
KIV pmax pmax
comp=Z,10.0nm,1.0s
KIV Kislovodsk 71.10 311 P **P** **17 18 23.2 +1.6**
comp=Z,11nm,1.0s
VSU Vasula 71.19 329 *deP* **P** **17 18 22.2 +0.5**
VSU pmax pmax
comp=Z,16nm,0.9s
NWAO Narrogin (SRO) 71.49 200 P **P** **17 18 23.8 0.0**
PINE Pine Mountain 72.01 49 P **P** **17 18 29.4 +2.1**
SUMG Summit 72.11 360 P **P** **17 18 28.2 +0.6**

SUMG				IAmb	IAmb	17 18 29.7	
	comp=Z,5.4nm,0.7s						
SUMG	**Summit**	**72.11**	**360**	P	**P**	**17 18 28.2**	**+0.6**
SUMG				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SUMG	**Summit**	**72.11**	**360**	*i* P	**P**	**17 18 27.9**	**+0.3**
SUMG				IAmb	IAmb	17 18 30.2	
	comp=Z,5.3nm,0.8s						
AK03	**Malin Array Si**	**74.81**	**322**	P	**P**	**17 18 43.1**	**-0.2**
AKASG	**Malin Array Be**	**74.82**	**322**	P	**P**	**17 18 43.2**	**-0.2**
	comp=Z,5.3nm,0.6s,baz=47,slow=5.9,SNR=24						
AKASG				LR	LR	17 53 19.4	
	comp=Z,19nm,18.0s,baz=28,slow=37						
	comp=Z,5.3nm,0.6s						
AKBB	**Malin Array Si**	**74.82**	**322**	*c i* P	**P**	**17 18 43.1**	**-0.3**
AKBB				pmax	pmax		
	comp=Z,11nm,0.8s						
AKBB	**Malin Array Si**	**74.82**	**322**	P	**P**	**17 18 43.1**	**-0.3**
KIEV	**Kiev**	**74.84**	**322**	P	**P**	**17 18 43.0**	**-0.4**
KIEV	**Kiev**	**74.84**	**322**	P	**P**	**17 18 43.0**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
KIEV	**Kiev**	**74.84**	**322**	P	**P**	**17 18 43.0**	**-0.4**
	comp=Z,53nm,0.7s						
HFS	**Hagfors**	**74.98**	**335**	P	**P**	**17 18 43.8**	**-0.3**
	comp=Z,1.7nm,0.6s,baz=8.5,slow=3.0,SNR=7.4						
	comp=Z,1.7nm,0.6s						
NB2	**NORSAR Subarra**	**75.12**	**337**	P	**P**	**17 18 44.7**	**-0.3**
	comp=Z,0.9nm,0.5s,baz=40,slow=6.2						
NB2	**NORSAR Subarra**	**75.12**	**337**	P	**P**	**17 18 45.0**	**0.0**
NOA	**NORSAR Array B**	**75.12**	**337**	P	**P**	**17 18 45.0**	**0.0**
	comp=Z,2.9nm,0.8s,baz=40,slow=5.8,SNR=8.4						
	comp=Z,2.9nm,0.8s						
MI30	**MI30,Zelenitsa**	**75.31**	**322**	P	**P**	**17 18 45.9**	**-0.3**
FFC	**Flin Flon**	**75.44**	**32**	P	**P**	**17 18 46.8**	**0.0**
FFC				IAmb	IAmb	17 18 48.3	
	comp=Z,4.3nm,0.8s						
FFC	**Flin Flon**	**75.44**	**32**	P	**P**	**17 18 46.8**	**0.0**
FFC				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MI28	**MI28,Pidlybu**	**75.45**	**323**	P	**P**	**17 18 47.2**	**+0.2**
ICESG	**Greenland Ices**	**75.62**	**360**	*i* P	**P**	**17 18 49.2**	**+1.1**
ICESG				IAmb	IAmb	17 18 50.1	
	comp=Z,6.1nm,0.6s						
FCC	**Fort Churchill**	**75.72**	**26**	P	**P**	**17 18 47.4**	**-0.9**
FCC	**Fort Churchill**	**75.72**	**26**	P	**P**	**17 18 47.4**	**-0.9**
FCC				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RNPP9	**Sopachiv**	**76.01**	**324**	P	**P**	**17 18 50.3**	**+0.1**
LUBAR	**Lubar, Ukraine**	**76.05**	**322**	P	**P**	**17 18 49.6**	**-0.8**
SOEG	**Soedalen**	**76.32**	**357**	*i* P	**P**	**17 18 52.5**	**+1.0**
NVAR	**Mina Array Bea**	**76.63**	**52**	P	**P**	**17 18 55.8**	**+1.6**
	comp=Z,1.1nm,0.7s,baz=292,slow=6.0,SNR=10.0						
	comp=Z,1.1nm,0.7s						
DIKM	**Dikmen**	**76.92**	**312**	P	**P**	**17 18 56.5**	**+1.0**
	comp=Z,5.7nm,1.1s						
NDNU	**Novodnistrovsk**	**77.09**	**321**	P	**P**	**17 18 56.5**	**+0.2**
ELK	**Elko**	**77.22**	**49**	P	**P**	**17 18 58.5**	**+0.9**
ELK	**Elko**	**77.22**	**49**	P	**P**	**17 18 58.5**	**+0.9**
ELK				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KMPD	**K-Podol'skiy**	**77.57**	**321**	P	**P**	**17 18 59.0**	**0.0**
KMPD				P	**P**	**17 18 59.0**	**0.0**
FRB	**Frobisher Bay**	**78.38**	**13**	LR	LR	17 57 07.9	
	comp=Z,12nm,18.8s,baz=304,slow=38						
R11B	**Troy Canyon, C**	**78.42**	**51**	P	**P**	**17 19 03.5**	**-0.7**
STNU	**Starunia**	**78.46**	**322**	P	Pn	17 19 04.7	+3.4
MORS	**Morshin**	**78.47**	**323**	P	**P**	**17 19 05.1**	**+1.1**
MORS	**Morshin**	**78.47**	**323**	P	Pg	17 19 05.1	+1.3
KWP	**Kalwaria Pacla**	**78.71**	**324**	P	**P**	**17 19 06.0**	**+0.7**
KWP	**Kalwaria Pacla**	**78.71**	**324**	P	**P**	**17 19 06.0**	**+0.7**
	comp=Z,17nm,1.1s						
TESR	**Tescani**	**78.80**	**320**	P	**P**	**17 19 06.3**	**+0.4**
	comp=Z,7.8nm,1.1s						
BUR08	**Bucovina Ar. S**	**78.81**	**321**	IAmb	IAmb	17 19 07.5	
	comp=Z,3.9nm,0.8s						
BURAR	**Bucovina Array**	**78.82**	**321**	P	**P**	**17 19 06.0**	**-0.1**
BURAR	**Bucovina Array**	**78.82**	**321**	P	**P**	**17 19 05.0**	**-1.1**
BURAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BR131	**Keskin Array S**	**79.06**	**311⇑**	*e*P	**P**	**17 19 08.7**	**+1.1**
BRTR	**Keskin Array B**	**79.06**	**311**	P	**P**	**17 19 07.0**	**-0.6**
BRTR	**Keskin Array B**	**79.06**	**311**	P	**P**	**17 19 08.2**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=94,slow=3.8,SNR=12						
	comp=Z,1.6nm,0.7s						
BR106	**Keskin Array S**	**79.07**	**311**	P	**P**	**17 19 08.3**	**+0.7**
	comp=Z,1.9nm,0.6s						
PDAR	**Pinedale Array**	**79.37**	**45**	P	**P**	**17 19 10.1**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=273,slow=2.8,SNR=12						
	comp=Z,1.8nm,0.6s						
HOLU	**Holmets**	**79.62**	**323**	P	**P**	**17 19 11.2**	**+0.9**
OJC	**Ojcow**	**79.67**	**326**	P	**P**	**17 19 11.6**	**+1.0**
OJC	**Ojcow**	**79.67**	**326**	P	**P**	**17 19 11.6**	**+1.0**
	comp=Z,7.4nm,1.7s						
NIE	**Niedzica**	**80.00**	**325**	P	**P**	**17 19 13.7**	**+1.3**
NIE	**Niedzica**	**80.00**	**325**	P	**P**	**17 19 13.7**	**+1.3**
	comp=Z,2.8nm,1.0s						
RAYN	**Ar Rayn**	**80.28**	**292**	P	**P**	**17 19 14.3**	**-0.1**
RAYN				IAmb	IAmb	17 19 15.4	
	comp=Z,4.3nm,0.7s						
RAYN	**Ar Rayn**	**80.28**	**292**	P	**P**	**17 19 14.3**	**-0.1**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
PFO	**Pinyon Flats O**	**80.65**	**55**	LR	LR	17 47 37.8	
	comp=Z,18nm,21.1s,baz=125,slow=30						
PFO	**Pinyon Flats O**	**80.65**	**55**	*i*⇓P	**P**	**17 19 17.6**	**+1.3**
PFO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
ULM	**Lac du Bonnet**	**81.23**	**33**	P	**P**	**17 19 18.8**	**-0.1**
	comp=Z,1.8nm,0.7s,baz=322,slow=7.3,SNR=5.4						
	comp=Z,1.8nm,0.7s						
VYHS	**Vyhne**	**81.34**	**325**	*e*P	**P**	**17 19 21.0**	**+1.5**
VYHS	**Vyhne**	**81.34**	**325**	*e*P	**P**	**17 19 21.0**	**+1.5**
CLL	**Collm**	**81.84**	**330**	*i*⇓P	**P**	**17 19 22.5**	**+0.5**
	comp=Z,8.0nm,1.0s						
CLL				*e*pP	**pP**	**17 19 42.0**	**+1.1**
CLL				*es*P	**sP**	**17 19 49.0**	**+0.5**
CLL	**Collm**	**81.84**	**330**	⇓*i*P	**P**	**17 19 22.5**	**+0.5**
CLL				*e**PP	**pP**	**17 19 42.0**	**+1.1**
CLL				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CLL	**Collm**	**81.84**	**330**	P	**P**	**17 19 22.6**	**+0.5**
	comp=Z,8.1nm,0.9s						
CSS	**Mathiatis**	**82.16**	**307**	P	**P**	**17 19 24.8**	**+0.7**
	comp=Z,7.8nm,0.8s						
KHC	**Kasperske Hory**	**83.24**	**328**	P	**P**	**17 19 30.4**	**+0.9**
KHC	**Kasperske Hory**	**83.24**	**328**	P	**P**	**17 19 30.4**	**+0.9**
GERES	**GERESS Array B**	**83.40**	**328**	P	**P**	**17 19 30.7**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=353,slow=6.9,SNR=2.2						
	comp=Z,0.7nm,0.6s						
EKA	**Eskdalemuir Ar**	**84.14**	**340**	P	**P**	**17 19 33.4**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=32,slow=4.6,SNR=1.7						
	comp=Z,0.4nm,0.4s						
PPT2	**Papeete2**	**84.90**	**116**	*e*LR	LR	17 46 19.5	
	comp=Z,43nm,23.2s						
TAOE	**Nuku Hiva Isla**	**86.79**	**103**	*e*LR	LR	17 47 16.3	
	comp=Z,46nm,23.8s						
SCHQ	**Schefferville**	**86.98**	**15**	P	**P**	**17 19 48.8**	**+0.8**
	comp=Z,2.7nm,0.7s,baz=29,slow=4.9,SNR=4.7						
	comp=Z,2.7nm,0.7s						
TXAR	**Lajitas Array**	**91.77**	**52**	P	**P**	**17 20 12.2**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=289,slow=3.8,SNR=6.9						
	comp=Z,0.7nm,0.6s						
TKL	**Tuckaleechee C**	**98.12**	**35**	LR	LR	18 07 57.7	
	comp=Z,8.4nm,19.2s,baz=90,slow=37						
TORD	**Torodi Ar. Bea**	**117.62**	**313**	PKP	**PKPdf**	**17 25 48.7**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=70,slow=4.0,SNR=5.1						
QSPA	**South Pole Qui**	**125.35**	**180**	PKhKP	PKPpre	17 25 57.1	
	comp=Z,1.0nm,0.6s,baz=56,slow=3.6,SNR=10						
QSPA				PKP	**PKiKP**	**17 26 02.3**	**-0.7**
	comp=Z,2.1nm,0.8s,baz=294,slow=1.6,SNR=7.8						
DBIC	**Dimbokro**	**126.63**	**315**	PKP	**PKPdf**	**17 26 06.0**	**-0.6**
	comp=Z,4.1nm,0.8s,baz=135,slow=4.3,SNR=3.0						
LPAZ	**La Paz**	**148.26**	**60**	PKPbc	**PKiKP**	**17 26 50.6**	**-1.2**
	comp=Z,1.9nm,0.7s,baz=225,slow=2.9,SNR=7.4						
SIV	**San Ignacio**	**152.75**	**50**	PKPbc	**PKiKP**	**17 26 59.7**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=234,slow=2.4,SNR=6.1						

*SJA **03** 17:15:44.3±0.6,28°.34S×70°.78W,h81km±2km, ML3.8, MW3.8*
*NEIC **03** 17:15:45±1.7,28°.37S±0°.04×70°.8W±0°.1,h85km±6km, ML4.1/60,Error ellipse: s-maj=14.3km s-min=4.9km az=95.0*
*GUC **03** 17:15:45.4±0.4,28°.41S×70°.54W,h80km±2km, ML3.9*

ISC 03 17:15:44.0±0.7,28°.37S±0°.03×70°.73W±0°.04,h86km±5km, n100,σ2$20/134,8C,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.34**	**298**	Pn	**Pn**		**17 15 59.4**	**+2.2**
AC04				IAML			17 16 10.8	
	comp=N,9μm,0.1s							
AC04	**Llanos de Chal**	**0.34**	**298**	*e*P	**Pn**		**17 15 59.6**	**+2.4**
AC04				*e*S	**Sn**		**17 16 09.4**	**+2.3**
AC04				IAML			17 16 11.0	
	comp=Z,3μm,0.3s							
AC04	**Llanos de Chal**	**0.34**	**298**	*e*P	**Pn**		**17 15 59.7**	**+2.4**
AC04				*e*S	**Sn**		**17 16 09.9**	**+2.8**
AC04				IAML			17 16 10.5	
	comp=E,19μm,0.1s							
AC05	**El Transito**	**0.62**	**139**		**Pn**		**17 15 59.7**	**+0.1**
AC05				Sn	**Sn**		**17 16 09.8**	**-1.3**
AC05	**El Transito**	**0.62**	**139**	*e*P	**Pn**		**17 15 59.8**	**+0.3**
AC05				*e*S	**Sn**		**17 16 11.3**	**+0.2**
AC05	**El Transito**	**0.62**	**139⇑**	*e*P	**Pn**		**17 15 59.5**	**0.0**
AC05				*e*S	**Sn**		**17 16 10.2**	**-0.9**
LCO	**Las Campanas**	**0.64**	**178**	Pn	**Pn**		**17 16 01.1**	**+1.1**
LCO				Sn	**Sn**		**17 16 12.4**	**+0.7**
LCO				IAML			17 16 14.1	
	comp=E,3μm,0.3s							
LCO				IAML			17 16 14.2	
	comp=E,4μm,0.2s							
LCO	**Las Campanas**	**0.64**	**178**	*e*P	**Pn**		**17 16 00.9**	**+1.0**
LCO				*e*S	**Sn**		**17 16 13.1**	**+1.4**
LCO				IAML			17 16 14.5	
	comp=Z,4μm,0.2s							
LCO	**Las Campanas**	**0.64**	**178**	*e*P	**Pn**		**17 16 01.0**	**+1.1**
LCO				*e*S	**Sn**		**17 16 12.8**	**+1.0**
GO03	**Copiap**	**0.89**	**30**		**Pn**		**17 16 03.2**	**+0.9**
GO03				IAML			17 16 17.0	
	comp=N,3μm,0.3s							
GO03				IAML			17 16 18.1	
	comp=E,3μm,0.2s							
GO03	**Copiap**	**0.89**	**30**	*e*P	**Pn**		**17 16 03.1**	**+0.9**
GO03				*e*S	**Sn**		**17 16 17.1**	**+1.3**
GO03	**Copiap**	**0.89**	**30⇑**	*e*P	**Pn**		**17 16 03.1**	**+0.9**
GO03				*e*S	**Sn**		**17 16 16.7**	**+0.9**
GO03				IAML			17 16 16.9	
	comp=N,3μm,0.3s							
AC06	**Mina Casimiro**	**1.06**	**18**		**Pn**		**17 16 05.6**	**+1.4**
AC06				Sn	**Sn**		**17 16 20.2**	**+0.9**
AC06				IAML			17 16 21.8	
	comp=E,4μm,0.2s							
AC06	**Mina Casimiro**	**1.06**	**18⇑**	*i*P	**Pn**		**17 16 05.6**	**+1.4**
AC06				*e*S	**Sn**		**17 16 20.8**	**+1.5**
AC06				IAML			17 16 21.7	
	comp=N,5μm,0.3s							
CO05	**La Serena**	**1.61**	**196**		**Pn**		**17 16 12.2**	**+1.3**
CO05				IAML			17 16 39.8	
	comp=N,2μm,0.4s							
CO05	**La Serena**	**1.61**	**196**	*e*P	**Pn**		**17 16 12.8**	**+1.9**
CO05				IAML			17 16 37.1	
	comp=E,2μm,0.3s							
CO01	**Juntas del Tor**	**1.70**	**161**	Pn	**Pn**		**17 16 13.6**	**+1.2**
GO04	**Tololo Observa**	**1.80**	**182**		**Pn**		**17 16 15.5**	**+1.8**
GO04				Sn	**Sn**		**17 16 38.3**	**+2.2**
GO04	**Tololo Observa**	**1.80**	**182**	*e*P	**Pn**		**17 16 15.7**	**+2.0**
GO04				*e*S	**Sn**		**17 16 38.8**	**+2.6**
GO04	**Tololo Observa**	**1.80**	**182⇑**	*e*P	**Pn**		**17 16 15.4**	**+1.7**
GO04				*e*S	**Sn**		**17 16 38.4**	**+2.2**
GO04				IAML			17 16 41.4	
	comp=E,3μm,0.4s							
AC02	**Maricunga**	**2.09**	**43**	Pn	**Pn**		**17 16 19.3**	**+1.6**
AC02				IAML			17 16 44.9	
	comp=N,1μm,0.4s							
AC02				IAML			17 16 45.5	
	comp=E,1μm,0.2s							
AC02	**Maricunga**	**2.09**	**43**	*e*P	**Pn**		**17 16 19.4**	**+1.7**
AC02				IAML			17 16 51.5	
	comp=Z,346nm,0.2s							
AC02	**Maricunga**	**2.09**	**43⇑**	*e*P	**Pn**		**17 16 19.0**	**+1.4**
AC02				*e*S	**Sn**		**17 16 44.5**	**+1.2**
AC02				IAML			17 16 45.8	
	comp=E,1μm,0.3s							
AROD	**Rodeo**	**2.10**	**149**	*e*P	**Pn**		**17 16 20.5**	**+2.8**
AROD				*e*S	**Sn**		**17 16 47.4**	**+3.9**
AC01	**Pan de Azucar**	**2.21**	**3**	Pn	**Pn**		**17 16 20.4**	**+1.4**
AC01				IAML			17 16 59.1	
	comp=E,723nm,0.3s							
AC01	**Pan de Azucar**	**2.21**	**3**	*e*P	**Pn**		**17 16 20.4**	**+1.4**
AC01				*e*S	**Sn**		**17 16 41.5**	**-4.2**
AC01				IAML			17 17 01.6	
	comp=Z,389nm,0.2s							
AC01	**Pan de Azucar**	**2.21**	**3⇑**	*e*P	**Pn**		**17 16 20.5**	**+1.6**
VCA	**Vinchina**	**2.25**	**100**	*e*P	**Pn**		**17 16 22.1**	**+2.5**
VCA				*e*S	**Sn**		**17 16 51.1**	**+4.3**
VCA				IAML			17 16 54.8	
	comp=Z,232nm,0.2s							
AGUA	**GUANDACOL**	**2.26**	**120**	*e*P	**Pn**		**17 16 22.1**	**+2.5**
AGUA				*e*S	**Sn**		**17 16 41.1**	**-5.7**
AGUA				IAML			17 16 52.4	
	comp=Z,509nm,0.4s							
ACDV	**Cuesta del Vie**	**2.28**	**142**	*e*P	**Pn**		**17 16 22.9**	**+3.0**
ACDV				*e*S	**Sn**		**17 16 55.5**	**+8.0**
CO06	**Fray Jorge**	**2.43**	**199**	Pn	**Pn**		**17 16 23.1**	**+1.3**
CO06	**Fray Jorge**	**2.43**	**199⇑**	*e*P	**Pn**		**17 16 23.1**	**+1.3**
CO03	**El Pedregal**	**2.46**	**179**		**Pn**		**17 16 24.0**	**+1.7**
CO03				IAML			17 16 55.1	
	comp=E,745nm,0.4s							
CO03				IAML			17 17 01.4	
	comp=N,767nm,0.3s							
CO03	**El Pedregal**	**2.46**	**179**	*e*P	**Pn**		**17 16 23.7**	**+1.4**
CO03				*e*S	**Sn**		**17 16 54.3**	**+2.6**
CO03				IAML			17 16 59.4	
	comp=Z,294nm,0.5s							
CO03	**El Pedregal**	**2.46**	**179**	*e*P	**Pn**		**17 16 24.3**	**+2.0**
CO03				*e*S	**Sn**		**17 16 53.9**	**+2.2**
CO03				IAML			17 17 01.5	
	comp=N,780nm,0.3s							
ACCO	**Cerro Coronel**	**2.65**	**147**	*e*P	**Pn**		**17 16 28.0**	**+3.0**
ACCO				*e*S	**Sn**		**17 17 02.6**	**+6.2**
CO02	**Combarbal**	**2.84**	**185**		**Pn**		**17 16 28.8**	**+1.5**
CO02	**Combarbal**	**2.84**	**185**	*e*P	**Pn**		**17 16 28.9**	**+1.5**
CO02				*e*S	**Sn**		**17 16 58.0**	**-2.6**
CO02				IAML			17 17 16.4	
	comp=Z,392nm,0.3s							
CO02	**Combarbal**	**2.84**	**185⇑**	*e*P	**Pn**		**17 16 28.8**	**+1.5**
DOCA	**Reserva Natura**	**2.95**	**151**	*e*P	**Pn**		**17 16 32.3**	**+3.2**
DOCA				*e*S	**Sn**		**17 17 07.5**	**+3.8**
GO02	**Mina Guanaco**	**3.35**	**18**	Pn	**Pn**		**17 16 36.1**	**+1.7**
GO02				IAML			17 17 27.4	
	comp=E,449nm,0.6s							
GO02				IAML			17 17 33.5	
	comp=N,439nm,0.7s							
GO02	**Mina Guanaco**	**3.35**	**18**	*e*P	**Pn**		**17 16 36.3**	**+1.8**
GO02				*e*S	**Sn**		**17 17 18.9**	**+5.5**
GO02	**Mina Guanaco**	**3.35**	**18**	*e*P	**Pn**		**17 16 36.9**	**+2.4**
ACLC	**CERRO LA CRUZ**	**3.48**	**109**	*e*P	**Pn**		**17 16 37.3**	**+1.2**
ACLC				*e*S	**Sn**		**17 16 16.5**	**+0.2**
ACLC				IAML			17 17 21.8	
	comp=Z,202nm,0.4s							
RTLL	**Cerro Villicun**	**3.54**	**147**	*e*P	**Pn**		**17 16 38.6**	**+1.8**
RTLS	**Leoncito**	**3.64**	**160**	*e*P	**Pn**		**17 16 41.7**	**+3.4**
RTLS				*e*S	**Sn**		**17 17 21.3**	**+0.9**
RTLS				IAML			17 17 31.1	
	comp=Z,289nm,0.4s							
AVFE	**Valle Fertil**	**3.66**	**129**	*e*P	**Pn**		**17 16 39.8**	**+1.4**
AVFE				IAML			17 17 25.4	
	comp=Z,332nm,0.6s							
PB14	**IPOC Station P**	**3.74**	**5**	Pn	**Pn**		**17 16 40.2**	**+0.5**
PB14				IAML			17 17 43.8	
	comp=E,281nm,0.7s							
PB14				IAML			17 17 47.3	
	comp=N,288nm,0.5s							
PB14	**IPOC Station P**	**3.74**	**5**	*e*P	**Pn**		**17 16 40.3**	**+0.6**
PB14				*e*S	**Sn**		**17 16 30.6**	**+7.8**
PB14				IAML			17 17 45.1	
	comp=Z,132nm,0.6s							
APLL	**PUNTA DE LOS L**	**4.19**	**120**	*e*P	**Pn**		**17 16 46.2**	**+0.6**
APLL				*e*S	**Sn**		**17 17 35.1**	**+1.7**
VA06	**Catapilco**	**4.21**	**187**	Pn	**Pn**		**17 16 46.5**	**+0.7**
CYA	**Choya**	**4.34**	**92**	*e*P	**Pn**		**17 16 48.7**	**+1.0**
CYA				*e*S	**Sn**		**17 16 36.5**	**-0.6**
CYA				IAML			17 17 38.7	
	comp=Z,60nm,1.0s							
VA03	**San Esteban**	**4.38**	**178**		**Pn**		**17 16 49.3**	**+1.0**
VA03				IAML			17 18 04.6	
	comp=E,241nm,0.5s							
VA03	**San Esteban**	**4.38**	**178**	*e*P	**Pn**		**17 16 50.4**	**+2.1**
VA03				*e*S	Sn		17 17 56.6	+18
VA03				IAML			17 18 02.8	
	comp=Z,125nm,0.7s							
ACHE	**Chepes**	**4.50**	**129**	*e*P	**Pn**		**17 16 51.2**	**+1.3**
ACHE				*e*S	**Sn**		**17 17 38.4**	**-2.7**
ASAL	**Salagasta**	**4.52**	**159**	*e*P	**Pn**		**17 16 53.0**	**+2.9**
ASAL				*e*S	**Sn**		**17 17 40.9**	**-0.6**
VA01	**Torpederas**	**4.71**	**189**	Pn	**Pn**		**17 16 52.4**	**-0.1**
VA01				IAML			17 17 55.4	
	comp=N,143nm,0.6s							
VA01				IAML			17 18 12.6	
	comp=E,120nm,0.6s							
ARCO	**CERRO ARCO**	**4.72**	**161**	*e*P	**Pn**		**17 16 51.5**	**-1.4**
ARCO				IAML			17 17 58.6	
	comp=Z,66nm,0.5s							
PEL	**Peldehue**	**4.76**	**180**		**Pn**		**17 16 54.4**	**+1.0**
PEL				IAML			17 18 12.3	
	comp=N,83nm,0.4s							
PB10	**IPOC Station P**	**4.84**	**2**	Pn	**Pn**		**17 16 55.2**	**+0.9**
MT02	**Curacav**	**4.89**	**184**	Pn	**Pn**		**17 16 55.3**	**+0.3**
FCH	**Farellones**	**4.96**	**176**	*e*P	**Pn**		**17 16 58.2**	**+1.9**
AAGR	**Agrelo**	**4.98**	**161**	*e*P	**Pn**		**17 17 00.2**	**+3.8**
MT05	**Renca**	**5.01**	**180**	Pn	**Pn**		**17 16 54.5**	**-2.2**
MT05				IAML			17 18 13.0	
	comp=N,85nm,0.9s							
MT14	**Cerro Cal¡n**	**5.02**	**178**	Pn	**Pn**		**17 16 55.5**	**-1.3**
MT14				IAML			17 18 20.3	
	comp=E,152nm,0.5s							
MT14				IAML			17 18 27.0	
	comp=N,122nm,0.7s							
MT16	**CCHEN**	**5.05**	**178**	Pn	**Pn**		**17 16 54.7**	**-2.6**
MT08	**Bocatoma Ro**	**5.10**	**173**		**Pn**		**17 16 58.7**	**+0.6**
MT08				IAML			17 18 34.5	
	comp=N,68nm,0.7s							
PB15	**IPOC Station P**	**5.26**	**13**		**Pn**		**17 17 01.2**	**+0.9**
VA05	**Santo Domingo**	**5.33**	**188**		**Pn**		**17 16 58.8**	**-2.2**
MT13	**San Alfonso**	**5.37**	**176**	Pn	**Pn**		**17 17 02.6**	**+0.8**
MT13				IAML			17 18 25.9	
	comp=N,85nm,0.2s							
MT13				IAML			17 18 37.6	
	comp=E,96nm,0.5s							
MT09	**Talagante**	**5.40**	**182**	Pn	**Pn**		**17 17 02.6**	**+0.5**
MT09				IAML			17 18 25.7	
	comp=N,106nm,0.5s							
MT09				IAML			17 18 28.7	
	comp=E,97nm,1.0s							
LMEL	**Las Melosas**	**5.48**	**175**	Pn	**Pn**		**17 17 04.0**	**+0.7**
MT01	**Popeta**	**5.50**	**185**		**Pn**		**17 17 03.2**	**-0.1**
PB05	**IPOC Station P**	**5.51**	**5**	Pn	**Pn**		**17 17 02.9**	**-0.8**
BO04	**La Punta**	**5.61**	**179**		**Pn**		**17 17 05.1**	**+0.3**
PB06	**IPOC Station P**	**5.73**	**11**	Pn	**Pn**		**17 17 06.7**	**0.0**
AF01	**San Pedro de A**	**5.86**	**24**	Pn	**Pn**		**17 17 08.0**	**-0.7**
LVC	**Limon Verde**	**5.96**	**16**		**Pn**		**17 17 10.4**	**+0.4**
BO01	**Tunca**	**6.01**	**183**	Pn	**Pn**		**17 17 09.7**	**-0.6**
PB04	**IPOC Station P**	**6.03**	**5**	Pn	**Pn**		**17 17 11.7**	**+0.8**
PB07	**IPOC Station P**	**6.66**	**7**	Pn	**Pn**		**17 17 18.1**	**-1.3**
PB09	**IPOC Station P**	**6.68**	**12**	Pn	**Pn**		**17 17 19.9**	**+0.2**
GO05	**Huala**	**6.70**	**188**		**Pn**		**17 17 17.6**	**-2.2**
PB02	**IPOC Station P**	**7.06**	**6**	Pn	**Pn**		**17 17 22.4**	**-2.3**
PB01	**IPOC Station P**	**7.38**	**9**	Pn	**Pn**		**17 17 26.6**	**-2.6**
PATCX	**Punta Patache**	**7.53**	**4**		**Pn**		**17 17 31.3**	**+0.1**
TA01	**Diego Aracena**	**7.78**	**4**	Pn	**Pn**		**17 17 34.7**	**+0.1**
GO01	**Chusmiza**	**8.77**	**10**	Pn	**Pn**		**17 17 47.1**	**-1.4**
PB12	**IPOC Station P**	**9.72**	**2**	Pn	**Pn**		**17 17 58.6**	**-2.4**
CPUP	**Villa Florida**	**12.09**	**83**	Pn	**Pn**		**17 18 30.6**	**-2.5**
TRQA	**Tornquist**	**12.12**	**145**	Pn	**Pn**		**17 18 32.2**	**-1.2**
PLTB	**Pedras Altas**	**15.21**	**107**	Pn	**Pn**		**17 19 14.0**	**0.0**
GO08	**Villa O'Higgin**	**20.12**	**184**	P	**P**		**17 20 10.7**	**-0.1**
BBSR	**BB Station**	**60.68**	**6**	P	**P**		**17 25 44.5**	**-1.5**
255A	**Hazlehurst**	**60.99**	**349**	P	**P**		**17 25 46.3**	**-1.9**
545A	**Edgard**	**61.07**	**340**	P	**

JMM	**Marumori**	**2.28**	**11**	P	**Pn**	**17 18 18.1**	**+1.1**
JMM	**Marumori**	**2.28**	**11**	Pn	**Pn**	**17 18 17.4**	**+0.5**
JGF	**Kuroka**	**2.34**	**270**	P	**Pn**	**17 18 18.9**	**+1.1**
JGF	**Kuroka**	**2.34**	**270**		**Pn**	**17 18 18.2**	**+0.3**
JHJ	**Hachijo jima 2**	**2.53**	**189**	P	**Pn**	**17 18 19.7**	**-0.6**
	comp=N,322nm,0.3s,baz=315,slow=19,SNR=45						
JHJ				S	**Sn**	**17 18 46.9**	**-3.1**
	comp=N,469nm,0.3s,baz=72,slow=21,SNR=5.1						
JHJ2	**Mitsune**	**2.53**	**188**	P	**Pn**	**17 18 19.9**	**-0.5**
JHJ2	**Mitsune**	**2.53**	**188**		**Pn**	**17 18 18.8**	**-1.6**
JSD	**Sado**	**2.88**	**327**	P	**Pn**	**17 18 26.8**	**+1.7**
JSD	**Sado**	**2.88**	**327**		**Pn**	**17 18 24.8**	**-0.3**
JTM	**Tenmabayashi**	**5.20**	**7**	P	**Pn**	**17 18 57.7**	**+1.0**
JTM	**Tenmabayashi**	**5.20**	**7**	Pn	**Pn**	**17 18 56.7**	**-0.1**
JMN	**Monobe**	**5.56**	**252**	P	**Pn**	**17 19 02.5**	**+0.6**
JMN	**Monobe**	**5.56**	**252**		**Pn**	**17 19 02.2**	**+0.4**
ERM	**Erimo**	**6.78**	**19**	P	**Pn**	**17 19 16.5**	**-1.9**
ERM	**Erimo**	**6.78**	**19**	Pn	**Pn**	**17 19 16.4**	**-1.9**
ERM					Sn	**Sn**	**17 20 28.0**	**-6.0**
JEM	**Erimo**	**6.78**	**19**	P	**Pn**	**17 19 18.0**	**-0.4**
JNU	**Nakatsue**	**8.12**	**255**	P	**Pn**	**17 19 38.8**	**+1.9**
JNU	**Nakatsue**	**8.12**	**255**	Pn	**Pn**	**17 19 33.8**	**-3.1**
JNU	**Nakatsue**	**8.12**	**255**	P	**Pn**	**17 19 37.8**	**+0.9**
	comp=N,9,4nm,0.8s,baz=73,slow=5.4,SNR=9.3						
JCJ	**Chichijima**	**8.67**	**168**	P	**Pn**	**17 19 41.3**	**-3.0**
JCJ	**Chichijima**	**8.67**	**168**	Pn	**Pn**	**17 19 41.0**	**-3.3**
JCJ	**Chichijima**	**8.67**	**168**	P	Pn	17 19 36.6	-7.6
	comp=N,59nm,0.3s,baz=279,slow=21,SNR=19						
JCJ				S	Sn	17 21 06.2	-14
	comp=N,23nm,0.3s,baz=287,slow=24,SNR=2.1						
ASAJ	**Asahikawa**	**8.67**	**11**	P	**Pn**	**17 19 41.7**	**-2.6**
	comp=N,12nm,0.8s,baz=201,slow=17,SNR=15						
ASAJ				S	**Sn**	**17 21 15.1**	**-5.4**
	comp=N,6.6nm,0.6s,baz=222,slow=18,SNR=1.7						
JKA	**Kamikawa-asahi**	**8.67**	**11**	Pn	**Pn**	**17 19 41.8**	**-2.5**
KSRS	**Korea Array**	**10.07**	**284**	P	**Pn**	**17 20 05.4**	**+2.0**
	comp=N,3.9nm,0.9s,baz=98,slow=14,SNR=5.8						
KSRS				LR	LR	17 24 00.2	
	comp=N,26nm,19.4s,baz=95,slow=38						
KSAR	**Wonju Array Be**	**10.10**	**284**	Pn	**Pn**	**17 20 01.0**	**-2.8**
KS19	**Wonju Array Si**	**10.12**	**284**	Pn	**Pn**	**17 20 05.7**	**+1.6**
USRK	**Ussuriysk Ar.**	**10.64**	**326**	P	**Pn**	**17 20 13.3**	**+2.1**
	comp=N,7.4nm,1.0s,baz=137,slow=13,SNR=5.3						
JOW	**Kunigami**	**13.46**	**233**	LR	LR	17 25 33.5	
	comp=N,33nm,21.2s,baz=317,slow=35						
KLR	**Kul'dur**	**14.95**	**338**	P	**Pn**	**17 21 09.5**	**+0.5**
	comp=N,1.3nm,0.6s,baz=192,slow=9.8,SNR=4.8						
KLR				LR	LR	17 25 59.5	
	comp=N,36nm,21.9s,baz=178,slow=33						
JMJ	**Miyako jima 2**	**16.79**	**234**	P	**Pn**	**17 21 32.6**	**+0.1**
YHNB	**Yeheng**	**19.59**	**241**	P	**P**	**17 22 02.6**	**-1.9**
NACB	**Ninganchiao**	**19.74**	**240**	P	**P**	**17 22 05.8**	**-0.3**
NACB	**Ninganchiao**	**19.74**	**240**	P	**P**	**17 22 05.1**	**-0.9**
NACB				IAmb	IAmb	17 22 07.2	
	comp=Z,29nm,1.2s						
SSLB	**Suanglung**	**20.44**	**240**	P	**P**	**17 22 12.5**	**-1.2**
SSLB	**Suanglung**	**20.44**	**240**	P	**P**	**17 22 11.6**	**-2.0**
SSLB				IAmb	IAmb	17 22 45.1	
	comp=Z,21nm,1.2s						
YULB	**Yu-li**	**20.45**	**239**	P	**P**	**17 22 13.5**	**-0.3**
YULB	**Yu-li**	**20.45**	**239**	P	**P**	**17 22 10.9**	**-2.9**
YULB				IAmb	IAmb	17 22 13.9	
	comp=Z,22nm,1.1s						
TPUB	**Ta-pu**	**20.98**	**239**	P	**P**	**17 22 17.7**	**-1.8**
TPUB	**Ta-pu**	**20.98**	**239**	P	**P**	**17 22 17.0**	**-2.5**
PETK	**Petropavlovsk-**	**21.38**	**30**	P	**P**	**17 22 24.4**	**+0.9**
PETK	**Petropavlovsk-**	**21.38**	**30**	P	**P**	**17 22 24.6**	**+1.1**
	comp=Z,2.1nm,0.9s,baz=231,slow=6.1,SNR=4.1						
PETK				LR	LR	17 31 55.8	
	comp=Z,16nm,18.6s,baz=199,slow=40						
	comp=Z,2.1nm,0.9s						
HHC	**Hu-ho-hao-te**	**23.06**	**292**	*e*P	**P**	**17 22 38.1**	**-3.4**
HHC				pP	pP	17 22 52.1	-3.7
HHC				pmax	pmax		
	comp=Z,15nm,0.5s						
HHC				pmax	pmax		
	comp=Z,130nm,4.8s						
BTO	**Baotou**	**24.22**	**291**	*e*P	**P**	**17 22 53.6**	**+1.4**
BTO				pP	**pP**	**17 23 08.0**	**+0.1**
BTO				sP	**sP**	**17 23 15.3**	**-0.5**
BTO				PP	**PnPn**	**17 23 27.9**	**+2.9**
BTO				S	**S**	**17 27 08.9**	**+2.9**
BTO				pmax	pmax		
	comp=Z,11nm,0.5s						
BTO				LR	LR		
	comp=N,740nm,4.6s						
BTO				LR	LR		
	comp=E,780nm,4.6s						
BTO				LR	LR		
	comp=Z,450nm,4.9s						
MA2	**Magadan**	**24.93**	**13**	P	**P**	**17 22 58.6**	**+0.3**
MA2	**Magadan**	**24.93**	**13**	P	**P**	**17 22 59.6**	**+1.3**
	comp=Z,11nm,1.0s						
ENH	**Enshi**	**26.28**	**267**	P	**P**	**17 23 09.9**	**-1.0**
ENH				IAmb	IAmb	17 23 10.6	
	comp=Z,6.4nm,0.6s						
YAK	**Yakutsk**	**27.25**	**349**	LR	LR	17 33 38.8	
	comp=Z,19nm,18.1s,baz=144,slow=35						
SONM	**Songino Array**	**27.82**	**306**	P	**P**	**17 23 25.3**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=103,slow=10,SNR=2.3						
	comp=Z,1.7nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**28.31**	**117**	T	T	17 53 18.9	
	baz=308,slow=75,SNR=43						
H11N1	**WAKE ISLAND Hy**	**28.31**	**117**	T	T	17 53 15.3	
	baz=308,slow=75,SNR=48						
H11N3	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	17 53 22.4	
	baz=308,slow=75,SNR=56						
H11S1	**WAKE ISLAND Hy**	**28.95**	**119**	T	T	17 53 40.8	
	baz=308,slow=74						
H11S3	**WAKE ISLAND Hy**	**28.95**	**119**	T	T	17 53 38.4	
	baz=308,slow=74						
H11S2	**WAKE ISLAND Hy**	**28.97**	**119**	T	T	17 53 44.8	
	baz=308						
PZH	**PanZhiHua**	**34.02**	**265**	P	**P**	**17 24 18.3**	**-1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
ATKA	**Atka Island**	**36.10**	**48**	P	**P**	**17 24 36.0**	**-0.8**
TIXI	**Tiksi**	**36.58**	**354**	P	**P**	**17 24 40.5**	**-0.2**
TIXI				IAmb	IAmb	17 24 41.0	
	comp=Z,2.7nm,0.6s						
CRAI	**Chiangrai**	**38.13**	**257**	P	**P**	**17 24 53.5**	**-1.0**
FAKI	**Fak Fak**	**39.06**	**193**	P	**P**	**17 25 02.0**	**-0.2**
CMAR	**Chiang Mai Arr**	**40.22**	**256**	P	**P**	**17 25 10.7**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=48,slow=7.4,SNR=4.0						
CMAR				PcP	**PcP**	**17 27 15.6**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=26,slow=1.7,SNR=5.2						
	comp=Z,0.4nm,0.5s						
ZAA0	**Zalesovo Array**	**42.17**	**314**	P	**P**	**17 25 26.6**	**-0.9**
ZAA0				IAmb	IAmb	17 25 28.8	
	comp=Z,4.2nm,0.7s						
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**17 25 26.4**	**-1.1**
ZALV	**Zalesovo Beam**	**42.17**	**314**	P	**P**	**17 25 27.6**	**+0.1**
	comp=Z,3.5nm,0.6s,baz=97,slow=7.6,SNR=17						
ZALV				PcP	**PcP**	**17 27 20.3**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=114,slow=2.7,SNR=8.9						
	comp=Z,3.5nm,0.6s						
MK31	**Makanchi Array**	**44.07**	**303**	P	**P**	**17 25 43.0**	**+0.1**
MK31				IAmb	IAmb	17 25 44.0	
	comp=Z,7.0nm,1.1s						
MKAR	**Makanchi Array**	**44.07**	**303**	P	**P**	**17 25 43.1**	**+0.1**
	comp=Z,3.1nm,0.5s,baz=83,slow=9.9,SNR=49						
	comp=Z,3.1nm,0.5s						
MAKZ	**Makanchi**	**44.28**	**303**	P	**P**	**17 25 44.7**	**+0.1**
MAKZ				IAmb	IAmb	17 25 45.8	
	comp=Z,8.0nm,1.1s						
C16K	**Lisburne Hills**	**44.38**	**26**	P	**P**	**17 25 46.2**	**+1.1**
C16K				IAmb	IAmb	17 26 24.9	
	comp=Z,10nm,1.2s						
PMG	**Port Moresby**	**45.26**	**170**	LR	LR	17 42 03.2	
	comp=Z,85nm,19.8s,baz=28,slow=32						
L16K	**Owhat River**	**45.40**	**36**	P	**P**	**17 25 54.3**	**+1.0**
L16K				IAmb	IAmb	17 26 05.7	
	comp=Z,12nm,1.4s						
F17K	**Baldwin Pennin**	**45.41**	**29**	P	**P**	**17 25 54.8**	**+1.5**
E18K	**Tukpahlearik C**	**45.88**	**28**	P	**P**	**17 25 57.2**	**+0.2**
E18K				IAmb	IAmb	17 26 16.8	
	comp=Z,4.6nm,1.4s						
C18K	**Utukok River**	**45.96**	**26**	P	**P**	**17 25 59.2**	**+1.5**
C18K				IAmb	IAmb	17 26 18.3	
	comp=Z,4.4nm,1.0s						
K17K	**Iditarod**	**46.05**	**34**	P	**P**	**17 26 01.1**	**+2.7**
KURK	**Kurchatov**	**46.06**	**309**	P	**P**	**17 25 58.4**	**-0.2**
KURBB	**Kurchatov Arra**	**46.13**	**309**	P	**P**	**17 25 59.0**	**-0.2**
	comp=Z,5.1nm,0.6s,baz=81,slow=7.6,SNR=31						
KURBB				PcP	**PcP**	**17 27 33.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=93,slow=3.9,SNR=0.8						
	comp=Z,5.1nm,0.6s						
G18K	**Tagagawik**	**46.34**	**30**	P	**P**	**17 26 02.3**	**+1.6**
G18K				IAmb	IAmb	17 26 44.4	
	comp=Z,7.6nm,1.5s						
H18K	**Honhosa River**	**46.34**	**31**	P	**P**	**17 26 02.4**	**+1.7**
H18K				IAmb	IAmb	17 26 27.3	
	comp=Z,9.5nm,1.4s						
C19K	**Lookout Ridge**	**46.64**	**25**	P	**P**	**17 26 04.9**	**+2.0**
C19K				IAmb	IAmb	17 26 46.7	
	comp=Z,12nm,1.4s						
J19K	**Poorman**	**47.38**	**33**	P	**P**	**17 26 10.2**	**+1.4**
J19K				IAmb	IAmb	17 26 16.6	
	comp=Z,7.1nm,1.4s						
B20K	**Meade River**	**47.67**	**24**	P	**P**	**17 26 12.4**	**+1.5**
B20K				IAmb	IAmb	17 26 22.9	
	comp=Z,6.3nm,1.2s						
B21K	**Ikpikpuk River**	**48.47**	**25**	P	**P**	**17 26 19.2**	**+2.2**
B21K				IAmb	IAmb	17 26 20.5	
	comp=Z,2.1nm,0.7s						
E21K	**Killik River**	**48.53**	**27**	P	**P**	**17 26 19.0**	**+1.4**
E21K				IAmb	IAmb	17 26 42.7	
	comp=Z,5.1nm,1.4s						
MTN	**Manton Dam**	**48.97**	**192**	P	**P**	**17 26 20.6**	**-0.9**
B22K	**Teshekpuk Lake**	**48.98**	**24**	P	**P**	**17 26 22.7**	**+1.8**
D22K	**Ayikyak River**	**49.05**	**26**	P	**P**	**17 26 23.7**	**+2.1**
D22K				IAmb	IAmb	17 26 25.2	
	comp=Z,2.4nm,0.8s						
E22K	**Anaktuvuk Pass**	**49.29**	**27**	P	**P**	**17 26 25.3**	**+1.8**
BOOM	**Boomskoye usch**	**49.33**	**299**	P	**P**	**17 26 25.6**	**+1.3**
COEN	**Coen**	**49.39**	**176**	P	**P**	**17 26 26.8**	**+2.1**
CNPM	**China Poot**	**49.39**	**39**	P	**P**	**17 26 26.7**	**+2.4**
MLY	**Manley**	**49.55**	**31**	P	**P**	**17 26 27.9**	**+2.4**
C23K	**Itkillik River**	**49.88**	**25**	P	**P**	**17 26 28.9**	**+1.0**
H23K	**Yukon River**	**50.06**	**30**	P	**P**	**17 26 30.4**	**+1.0**
H23K				IAmb	IAmb	17 26 41.2	
	comp=Z,3.4nm,1.1s						
AAK	**Ala-Archa**	**50.33**	**299**	P	**P**	**17 26 32.0**	**+0.2**
GHO	**Glory Hole Cre**	**50.41**	**36**	P	**P**	**17 26 33.1**	**+1.0**
D24K	**Happy Valley**	**50.46**	**26**	P	**P**	**17 26 33.8**	**+1.6**
E24K	**Your Creek**	**50.53**	**27**	P	**P**	**17 26 34.3**	**+1.4**
MDM	**Murphy Dome**	**50.61**	**31**	P	**P**	**17 26 35.1**	**+1.6**
MDM				IAmb	IAmb	17 26 35.9	
	comp=Z,3.1nm,0.8s						
WRH	**Wood River Hil**	**50.69**	**32**	P	**P**	**17 26 35.4**	**+1.4**
H24K	**Noodor Dome**	**50.75**	**30**	P	**P**	**17 26 35.8**	**+1.2**
H24K				IAmb	IAmb	17 27 09.0	
	comp=Z,5.7nm,1.5s						
BVAR	**Borovoye Array**	**50.82**	**313**	P	**P**	**17 26 34.5**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=83,slow=6.9,SNR=11						
BVAR				PcP	**PcP**	**17 27 50.7**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=80,slow=3.7,SNR=4.7						
	comp=Z,1.3nm,0.4s						
BRVK	**Borovoye**	**50.88**	**313**	P	**P**	**17 26 36.5**	**+0.9**
BRVK				IAmb	IAmb	17 26 39.3	
	comp=Z,3.3nm,1.1s						
ILAR	**Eielson Array**	**51.19**	**32**	P	**P**	**17 26 38.9**	**+1.0**
	comp=Z,1.2nm,0.7s,baz=271,slow=6.7,SNR=14						
	comp=Z,1.2nm,0.7s						
D25K	**Kavik River**	**51.33**	**26**	P	**P**	**17 26 40.2**	**+1.3**
BMAR	**Burnt Mountain**	**52.02**	**28**	P	**P**	**17 26 46.0**	**+2.0**
GSI	**Gunungsitoli**	**52.26**	**239**	P	**P**	**17 26 45.9**	**-0.5**
KK31	**Karatay Array**	**53.01**	**301**	P	**P**	**17 26 52.4**	**+0.8**
KK31				IAmb	IAmb	17 27 18.6	
	comp=Z,4.0nm,1.2s						
VRDI	**Verde Repeater**	**53.08**	**36**	P	**P**	**17 26 54.0**	**+1.9**
E27K	**Coleen River**	**53.11**	**27**	P	**P**	**17 26 54.1**	**+2.1**
D27M	**Malcolm River**	**53.26**	**26**		**P**	**17 26 55.1**	**+2.0**
L27K	**Beaver Creek,**	**53.58**	**34**	P	**P**	**17 26 57.5**	**+2.0**
L27K				IAmb	IAmb	17 27 25.3	
	comp=Z,4.9nm,1.3s						
BCAR	**Beaver Creek A**	**53.59**	**34**	P	**P**	**17 26 56.7**	**+1.0**
M27K	**Edge Creek, AK**	**53.65**	**34**	P	**P**	**17 26 57.8**	**+1.5**
M27K				IAmb	IAmb	17 27 01.3	
	comp=Z,4.4nm,1.1s						
F28M	**Old Crow**	**53.81**	**28**	P	**P**	**17 26 59.1**	**+1.9**
E28M	**Babbage River**	**53.83**	**27**	P	**P**	**17 26 59.4**	**+2.1**
E28M				IAmb	IAmb	17 27 22.7	
	comp=Z,4.8nm,1.4s						
I28M	**Miner Creek**	**54.06**	**31**	P	**P**	**17 27 00.7**	**+1.6**
I28M				IAmb	IAmb	17 27 21.8	
	comp=Z,5.3nm,1.4s						
E29M	**Blow River**	**54.46**	**27**	P	**P**	**17 27 03.3**	**+1.5**
H29M	**Whitestone**	**54.59**	**29**	P	**P**	**17 27 04.4**	**+1.6**
G29M	**Pine Creek**	**54.62**	**29**	P	**P**	**17 27 05.5**	**+2.4**
FITZ	**Fitzroy Crossi**	**55.19**	**197**	P	**P**	**17 27 07.6**	**0.0**
FITZ	**Fitzroy Crossi**	**55.19**	**197**	P	**P**	**17 27 07.3**	**-0.3**
EPYK	**Eagle Plains**	**55.22**	**29**	P	**P**	**17 27 09.5**	**+2.1**
G30M	**tAoh Zraii Nji**	**55.31**	**28**	P	**P**	**17 27 09.1**	**+1.1**
G30M				IAmb	IAmb	17 27 35.0	
	comp=Z,8.7nm,1.5s						
SIMJ	**Simiganj**	**55.52**	**296**	P	**P**	**17 27 09.8**	**-0.4**
SIMJ				IAmb	IAmb	17 27 15.2	
	comp=Z,5.5nm,1.1s						
I30M	**Mount Dempster**	**55.57**	**30**	P	**P**	**17 27 11.9**	**+1.8**
I30M				IAmb	IAmb	17 27 12.9	
	comp=Z,2.9nm,0.8s						
G31M	**Satah River**	**56.07**	**28**	P	**P**	**17 27 15.0**	**+1.6**
H31M	**Peel River**	**56.28**	**30**	P	**P**	**17 27 16.7**	**+1.7**
H31M				IAmb	IAmb	17 27 42.1	
	comp=Z,2.6nm,0.9s						
ARU	**Arti**	**56.79**	**319**	P	**P**	**17 27 18.5**	**-0.1**
ARU	**Arti**	**56.79**	**319**	P	**P**	**17 27 18.6**	**-0.1**
	comp=Z,13nm,0.6s						
A36M	**Sachs Harbour**	**57.92**	**21**	IAmb	IAmb	17 27 28.9	
	comp=Z,3.3nm,0.8s						
ABKAR	**Akbulak array**	**58.12**	**310**	P	**P**	**17 27 27.9**	**-0.2**
ABKAR	**Akbulak array**	**58.12**	**310**	P	**P**	**17 27 28.3**	**+0.1**
ABKAR				IAmb	IAmb	17 27 28.9	
	comp=Z,5.5nm,1.1s						
MMPY	**Sheldon Lake,**	**58.40**	**33**	P	**P**	**17 27 32.3**	**+2.3**
MMPY				IAmb	IAmb	17 27 50.9	
	comp=Z,5.2nm,1.5s						
C36M	**Paulatuk**	**59.10**	**24**	IAmb	IAmb	17 27 36.5	
	comp=Z,3.2nm,1.0s						
ASAR	**Alice Springs**	**59.27**	**187**	P	**P**	**17 27 35.2**	**-1.2**
	comp=Z,0.9nm,0.9s,baz=22,slow=10,SNR=35						
	comp=Z,0.9nm,0.9s						
MBWA	**Marble Bar**	**59.72**	**202**	P	**P**	**17 27 39.0**	**-0.5**
WRKA	**Warakurna**	**61.38**	**192**	P	**P**	**17 27 50.7**	**-0.1**
SPITS	**Spitsbergen Ar**	**61.72**	**349**	P	**P**	**17 27 53.2**	**+0.8**
	comp=Z,7.7nm,1.0s,baz=60,slow=8.5,SNR=4.1						
	comp=Z,7.7nm,1.0s						
DZM	**Mont Dzumac**	**62.53**	**152**	LR	LR	17 55 57.8	
	comp=Z,28nm,18.7s,baz=282,slow=37						
ARCES	**ARCESS Array B**	**64.97**	**339**	P	**P**	**17 28 14.1**	**+0.1**
	comp=Z,3.9nm,0.9s,baz=47,slow=7.5,SNR=4.6						
	comp=Z,3.9nm,0.9s						
MEEK	**Meekatharra**	**65.21**	**201**	P	**P**	**17 28 15.8**	**-0.2**
YKA	**Yellowknife Ar**	**65.50**	**30**	P	**P**	**17 28 17.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=304,slow=7.2,SNR=8.4						
	comp=Z,0.4nm,0.7s						
NEEM	**North Greenlan**	**66.98**	**3**	*i* P	**P**	**17 28 26.4**	**-0.7**
NEEM				IAmb	IAmb	17 28 28.3	
	comp=Z,2.3nm,0.5s						
FORT	**Forrest**	**67.04**	**191**	P	**P**	**17 28 28.2**	**+0.6**
DAG	**Danmarks Havn**	**67.09**	**355**	*i* P	**P**	**17 28 27.3**	**-0.1**
DAG				IAmb	IAmb	17 28 28.4	
	comp=Z,2.8nm,0.6s						
STKA	**Stephens Creek**	**67.16**	**179**	LR	LR	17 57 25.5	
	comp=Z,68nm,19.2s,baz=203,slow=36						
BLDU	**Ballidu**	**69.50**	**202**	P	**P**	**17 28 42.6**	**-0.4**
FINES	**FINESS Array B**	**69.61**	**332**	P	**P**	**17 28 43.1**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=91,slow=6.1,SNR=14						
	comp=Z,2.7nm,0.7s						
KBZ	**Khabaz**	**71.09**	**311**	P	**P**	**17 28 52.5**	**-0.2**
	comp=Z,3.5nm,0.9s,baz=57,slow=1.9,SNR=10						
	comp=Z,3.5nm,0.9s						
KIV	**Kislovodsk**	**71.10**	**311**	P	**P**	**17 28 54.8**	**+1.8**
	comp=Z,8.2nm,0.9s						
GNI	**Garni**	**71.78**	**307**	P	**P**	**17 28 58.8**	**+1.6**
	comp=Z,7.7nm,1.2s						
SUMG	**Summit**	**72.09**	**360**	*i* P	**P**	**17 28 60.0**	**+1.2**
SUMG				IAmb	IAmb	17 29 01.1	
	comp=Z,3.8nm,0.6s						
AK03	**Malin Array Si**	**74.81**	**322**	P	**P**	**17 29 14.5**	**-0.1**
AKASG	**Malin Array Be**	**74.82**	**322**	P	**P**	**17 29 14.5**	**-0.2**
	comp=Z,3.4nm,0.5s,baz=47,slow=6.0,SNR=27						
	comp=Z,3.4nm,0.5s						
AKBB	**Malin Array Si**	**74.82**	**322**	P	**P**	**17 29 14.6**	**-0.1**
KIEV	**Kiev**	**74.83**	**322**	P	**P**	**17 29 14.1**	**-0.6**
KIEV	**Kiev**	**74.83**	**322**	P	**P**	**17 29 14.6**	**-0.1**
	comp=Z,38nm,0.9s						
AK04	**Malin Array Si**	**74.84**	**322**	P	**P**	**17 29 14.7**	**-0.1**
NC405	**NORSAR Array S**	**74.89**	**337**	P	**P**	**17 29 15.7**	**+0.7**
HFS	**Hagfors**	**74.97**	**335**	P	**P**	**17 29 14.4**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=347,slow=2.0,SNR=9.3						
	comp=Z,1.0nm,0.4s						
NB2	**NORSAR Subarra**	**75.11**	**337**	P	**P**	**17 29 16.3**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=40,slow=5.3						
NOA	**NORSAR Array B**	**75.11**	**337**	P	**P**	**17 29 15.9**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=44,slow=5.6,SNR=5.3						
	comp=Z,0.6nm,0.5s						
ICESG	**Greenland Ices**	**75.59**	**360**	*i* P	**P**	**17 29 20.2**	**+1.0**
RNPP9	**Sopachiv**	**76.01**	**324**	P	**P**	**17 29 21.8**	**+0.3**
LUBAR	**Lubar, Ukraine**	**76.04**	**322**	P	**P**	**17 29 20.8**	**-0.9**
NVAR	**Mina Array Bea**	**76.60**	**52**	P	**P**	**17 29 26.8**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=297,slow=5.0,SNR=3.6						
	comp=Z,0.3nm,0.5s						
NDNU	**Novodnistrovsk**	**77.08**	**321**	P	**P**	**17 29 27.7**	**+0.1**
KMPD	**K-Podol'skiy**	**77.56**	**321**	P	**P**	**17 29 30.6**	**+0.3**
KMPD				P	**P**	**17 29 30.7**	**+0.4**
STNU	**Starunia**	**78.45**	**322**	P	**P**	**17 29 35.6**	**+0.4**
MORS	**Morshin**	**78.47**	**323**	P	**P**	**17 29 36.6**	**+1.3**
KWP	**Kalwaria Pacla**	**78.71**	**324**	P	**P**	**17 29 38.1**	**+1.5**
	comp=Z,12nm,0.9s						
BRTR	**Keskin Array B**	**79.06**	**311**	P	**P**	**17 29 39.5**	**+0.6**
	comp=Z,1.1nm,0.8s,baz=120,slow=4.9,SNR=7.7						
	comp=Z,1.1nm,0.8s						
BR104	**Keskin Array S**	**79.07**	**311**	P	**P**	**17 29 40.2**	**+1.2**
	comp=Z,1.6nm,1.0s						
BR105	**Keskin Array S**	**79.08**	**311**	P	**P**	**17 29 40.1**	**+1.1**
	comp=Z,2.5nm,0.9s						
PDAR	**Pinedale Array**	**79.34**	**45**	P	**P**	**17 29 41.4**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=307,slow=1.0,SNR=6.8						
	comp=Z,0.9nm,0.5s						
BISRR	**Bisoca**	**79.39**	**319**	P	**P**	**17 29 42.0**	**+1.5**
NIE	**Niedzica**	**80.00**	**325**	P	**P**	**17 29 45.5**	**+1.8**
	comp=Z,1.7nm,1.3s						
DPC	**Dobruska-Polom**	**81.13**	**327**	P	**P**	**17 29 51.0**	**+1.2**
	comp=Z,2.2nm,1.7s						
VYHS	**Vyhne**	**81.33**	**325**	*e*P	**P**	**17 29 52.0**	**+1.2**
CLL	**Collm**	**81.83**	**330**	*i* P	**P**	**17 29 53.7**	**+0.3**
	comp=Z,3.0nm,0.9s						
TORD	**Torodi Ar. Bea**	**117.62**	**313**	PKP	**PKPdf**	**17 36 19.7**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=37,slow=4.3,SNR=3.2						
QSPA	**South Pole Qui**	**125.37**	**180**	PKP	**PKPdf**	**17 36 33.9**	**-0.1**
	comp=Z,1.1nm,0.9s,baz=15,slow=2.1,SNR=2.2						
SNAA	**Sanae**	**139.12**	**197**	PKhKP	PKPpre	17 36 55.7	
	comp=Z,0.9nm,0.8s,baz=82,slow=11,SNR=1.5						

IPEC ***03*** *17:17:55.8±0.3, 49.84N×18.53E, h1km, ML1.3/4, Error ellipse: s-maj=2.1km s-min=1.7km az=70.0*

PRU 03 17:17:57.2, 49.83N×18.46E, h0km, Mining Induced Event Darkov, E=3.0e+04, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.20**	**272**	*e*Pg	Pg	17 18 01.2	+0.1
OKC				*e*Sg	Sg	17 18 04.5	+0.8
MORC	**Moravsky Berou**	**0.60**	**265**	*e*Pg	Pg	17 18 08.2	-0.4
	baz=84						
MORC				*e*Sg	Sg	17 18 16.0	-0.3
	9.4nm,0.4s,baz=84						
LANS	**Liptovska Anna**	**0.95**	**136**	*e*PG	Pg	17 18 13.7	-1.6
LANS				*e*SG	Sb	17 18 29.3	-0.3
LANS				*e*LG	Lg	17 18 32.

SIV	**San Ignacio**	**5.09**	**21**	P	**P**	**17 35 34.2**	**+1.9**
	14nm,0.3s,baz=195,slow=7.5,SNR=60							
SIV				S	**S**	**17 36 46.9**	**+0.7**
	3.0nm,0.8s,baz=270,slow=20,SNR=5.1							
SIV	**San Ignacio**	**5.09**	**21**	P	**P**	**17 35 34.4**	**+2.1**
LVC	**Limon Verde**	**5.81**	**251**	P	**P**	**17 35 39.7**	**+0.9**
LVC				S	**S**	**17 36 53.9**	**-4.3**
LVC	**Limon Verde**	**5.81**	**251**	P	**P**	**17 35 40.3**	**+1.5**
	1.7nm,0.3s,baz=108,slow=2.5,SNR=14							
LVC				S	**S**	**17 36 56.6**	**-1.6**
	5.6nm,0.4s,baz=89,slow=18,SNR=16							
LVC	**Limon Verde**	**5.81**	**251**	*e*P	**P**	**17 35 39.0**	**+0.2**
LVC				*e*S	**S**	**17 36 57.4**	**-0.8**
PB08	**IPOC Station P**	**5.82**	**275**	P	**P**	**17 35 41.3**	**+2.4**
BDQN	**Bodoquena, MS**	**5.85**	**88**	*e*P	**P**	**17 35 39.4**	**+0.7**
BDQN				*e*S	**S**	**17 36 58.9**	**+0.7**
PB09	**IPOC Station P**	**5.93**	**259**	P	**P**	**17 35 41.3**	**+1.7**
PB09				S	**S**	**17 37 00.5**	**+0.7**
GO01	**Chusmiza**	**5.94**	**280**	P	**P**	**17 35 40.0**	**-0.1**
PB01	**IPOC Station P**	**6.09**	**266**	P	**P**	**17 35 42.3**	**+1.3**
PB11	**IPOC Station P**	**6.35**	**278**	P	**P**	**17 35 44.8**	**+1.3**
PB06	**IPOC Station P**	**6.42**	**251**	P	**P**	**17 35 42.5**	**-1.7**
PTLB	**Pontes e Lacer**	**6.44**	**35**	P	**P**	**17 35 45.1**	**+1.0**
PTLB	**Pontes e Lacer**	**6.44**	**35**	*e*P	**P**	**17 35 45.2**	**+1.0**
PTLB				*e*S	**S**	**17 37 08.8**	**+0.6**
PB02	**IPOC Station P**	**6.48**	**264**	P	**P**	**17 35 46.1**	**+1.4**
PB15	**IPOC Station P**	**6.49**	**247**	P	**P**	**17 35 44.5**	**-0.4**
PB15				S	**S**	**17 37 08.4**	**-1.0**
PB07	**IPOC Station P**	**6.51**	**260**	P	**P**	**17 35 45.5**	**+0.4**
LPAZ	**La Paz**	**6.62**	**312**	P	**P**	**17 35 48.8**	**+2.2**
	6.3nm,0.4s,baz=89,slow=5.3,SNR=30							
LPAZ				S	**S**	**17 37 12.9**	**+0.6**
	6.0nm,0.6s,baz=173,slow=8.1,SNR=10							
LPAZ	**La Paz**	**6.62**	**312**	⇑Pg	**P**	**17 35 49.0**	**+2.4**
LPAZ				Sg	**S**	**17 37 13.4**	**+1.0**
LPAZ				IAML		17 37 14.1		
	14nm,0.6s							
LPAZ	**La Paz**	**6.62**	**312**	*e*P	**P**	**17 35 47.6**	**+1.0**
LPAZ				*e*S	**S**	**17 37 13.2**	**+0.8**
PATCX	**Punta Patache**	**6.71**	**268**	P	**P**	**17 35 46.0**	**-0.8**
BBOD	**La Paz, Gloria**	**6.73**	**307**	⇑Pg	**P**	**17 35 50.4**	**+2.8**
TA01	**Diego Aracena**	**6.75**	**271**	P	**P**	**17 35 47.5**	**+0.5**
AQDB	**Aquidauana**	**6.83**	**89**	P	**P**	**17 35 48.2**	**+0.4**
AQDB	**Aquidauana**	**6.83**	**89**	*e*P	**P**	**17 35 48.7**	**+0.9**
PB05	**IPOC Station P**	**7.02**	**252**	P	**P**	**17 35 50.4**	**+0.7**
PB12	**IPOC Station P**	**7.25**	**286**	P	**P**	**17 35 52.3**	**+0.3**
GO02	**Mina Guanaco**	**7.49**	**233**	P	**P**	**17 35 55.2**	**+0.7**
CPUP	**Villa Florida**	**7.58**	**138**	P	**P**	**17 35 55.6**	**+0.6**
CPUP	**Villa Florida**	**7.58**	**138**	P	**P**	**17 35 55.4**	**+0.4**
	3.9nm,0.5s,baz=325,slow=9.0,SNR=12							
CPUP	**Villa Florida**	**7.58**	**138**	*e*P	**P**	**17 35 55.6**	**+0.6**
CPUP				*e*S	**S**	**17 37 28.2**	**+0.1**
AMBA	**Amambai (Brazi**	**7.72**	**108**	*e*P	**P**	**17 35 57.2**	**+0.7**
AMBA				*e*S	**S**	**17 37 30.1**	**-0.7**
RVDE	**Rio Verde (Bra**	**7.76**	**78**	*e*P	**P**	**17 35 57.7**	**+0.7**
PB14	**IPOC Station P**	**7.85**	**239**	P	**P**	**17 35 58.3**	**+0.2**
VILB	**Vilhena**	**8.22**	**19**	P	**P**	**17 36 02.6**	**+1.0**
VILB	**Vilhena**	**8.22**	**19**	*e*P	**P**	**17 36 03.1**	**+1.6**
AC02	**Maricunga**	**8.25**	**222**	P	**P**	**17 36 02.2**	**+0.1**
AC01	**Pan de Azucar**	**8.80**	**231**	P	**P**	**17 36 08.3**	**+1.2**
AC06	**Mina Casimiro**	**9.39**	**224**	P	**P**	**17 36 14.3**	**+1.1**
GO03	**Copiap**	**9.48**	**223**	P	**P**	**17 36 15.2**	**+1.1**
AC05	**El Transito**	**10.40**	**218**	P	**P**	**17 36 25.2**	**+1.6**
CRSM	**Crissiumal (Br**	**10.55**	**131**	*e*P	**P**	**17 36 25.3**	**+0.3**
LCO	**Las Campanas**	**10.78**	**219**	P	**P**	**17 36 28.9**	**+1.3**
PTGB	**Pitanga**	**10.81**	**113**	*e*P	**P**	**17 36 28.2**	**+0.4**
PDRB	**Porto dos Gac**	**10.91**	**34**	*e*P	**P**	**17 36 29.5**	**+0.6**
ETMB	**Extrema**	**11.33**	**344**	P	**P**	**17 36 33.9**	**+0.7**
SAML	**Samuel**	**11.76**	**359**	P	**P**	**17 36 38.3**	**+0.6**
SAML	**Samuel**	**11.76**	**359**	*e*P	**P**	**17 36 38.9**	**+1.2**
CO03	**El Pedregal**	**12.19**	**213**	P	**P**	**17 36 42.1**	**+0.2**
VA03	**San Esteban**	**13.71**	**208**	P	**P**	**17 36 58.7**	**+1.0**
VA06	**Catapilco**	**13.89**	**211**	P	**P**	**17 36 59.1**	**-0.2**
BO01	**Tunca**	**15.34**	**206**	P	**P**	**17 37 13.5**	**-0.8**
BO01				IAmb	IAmb	17 37 14.4		
	comp=Z,6.1nm,0.7s							
BO02	**Sierra Bellavi**	**15.57**	**205**	IAmb	IAmb	17 37 19.0		
	comp=Z,10nm,0.6s							
GO06	**Curarrehue**	**20.11**	**199**	P	**P**	**17 37 57.7**	**-0.8**
PLCA	**Paso Flores**	**20.91**	**196**	P	**P**	**17 38 05.7**	**+0.1**
PLCA				IAmb	IAmb	17 38 49.6		
	comp=Z,12nm,1.5s							
PLCA	**Paso Flores**	**20.91**	**196**	P	**P**	**17 38 05.8**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=16,slow=10,SNR=5.7							
	comp=Z,0.8nm,0.6s							
SNAA	**Sanae**	**61.19**	**162**	P	**P**	**17 43 22.4**	**-0.3**
	comp=Z,2.7nm,1.1s,baz=323,slow=13,SNR=2.9							
	comp=Z,2.7nm,1.1s							
FCAR	**Ozark Folk Cen**	**62.75**	**334**	P	**P**	**17 43 31.6**	**-1.7**
DBIC	**Dimbokro**	**63.25**	**71**	P	**P**	**17 43 36.2**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=272,slow=4.5,SNR=2.5							
	comp=Z,3.9nm,0.7s							
TXAR	**Lajitas Array**	**63.40**	**320**	P	**P**	**17 43 36.9**	**-0.8**
	comp=Z,0.1nm,0.4s,baz=113,slow=6.9,SNR=2.3							
	comp=Z,0.1nm,0.4s							
CSTR	**Hydro, Custer**	**65.53**	**329**	P	**P**	**17 43 49.3**	**-1.6**
CSTR				IAmb	IAmb	17 43 50.2		
	comp=Z,1.6nm,0.6s							
P38A	**Dawn**	**66.52**	**335**	P	**P**	**17 43 56.6**	**-0.4**
P38A				IAmb	IAmb	17 44 03.5		
	comp=Z,14nm,1.4s							
QSPA	**South Pole Qui**	**69.42**	**180**	P	**P**	**17 44 15.3**	**+1.0**
	comp=Z,0.7nm,0.5s,baz=155,slow=17,SNR=15							
	comp=Z,0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**71.93**	**68**	P	**P**	**17 44 28.9**	**-1.0**
	comp=Z,0.4nm,0.5s,baz=253,slow=4.4,SNR=2.3							
	comp=Z,0.4nm,0.5s							
PDAR	**Pinedale Array**	**76.40**	**327**	P	**P**	**17 44 55.6**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=129,slow=12,SNR=3.5							
	comp=Z,0.2nm,0.5s							
ULM	**Lac du Bonnet**	**76.46**	**339**	P	**P**	**17 44 53.9**	**-0.8**
	comp=Z,0.8nm,0.4s,baz=120,slow=4.9,SNR=2.9							
	comp=Z,0.8nm,0.4s							
YKA	**Yellowknife Ar**	**92.44**	**339**	P	**P**	**17 46 13.1**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=125,slow=4.4,SNR=3.3							
	comp=Z,0.2nm,0.6s							

*NEIC **03** 17:37:48.6±2.1,4˚.41S±0˚.09×152˚.03E±0˚.09,h179km±4km, mb4.6/67, Error ellipse: s-maj=14.1km s-min=11.9km az=222.0*

*DJA **03** 17:37:48.4±0.4,4˚S±5˚×15˚2E±˚, h184km±4km, M4.4/16, mB5.3/4, mb4.7/16, MLv4.3/2, Mw(mB)4.7/4*

*IDC **03** 17:37:48.1±0.4,4.40S×152˚06E,h179km±2km, mb3.9/17, mbtmp4.4/18, Error ellipse: s-maj=15.8km s-min=10.4km az=97.0*

ISC 03 17:37:48.3±0.5,4˚39S±0˚05×151˚99E±0˚06,h180km±4km, n178,σ0§96/187,mb4.4/50,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**0.09**	**23**	P	**Pn**	**17 38 12.4**	**+0.3**
	1μm,0.4s,baz=189,slow=0.1,SNR=496						
KRVT				S	**Sn**	**17 38 30.4**	**-0.1**
	328nm,0.4s,baz=313,slow=0.0,SNR=8.2						
RABL	**Rabaul**	**0.26**	**41**	Pn	**Pn**	**17 38 12.8**	**+0.3**
BULU	**Kimbe**	**2.02**	**236**	P	**Pn**	**17 38 26.2**	**+0.6**
KAVG	**Kavieng**	**2.15**	**327**	P	**Pn**	**17 38 28.3**	**+1.3**
MANU	**Manus Island**	**5.17**	**297**		**Pn**	**17 39 06.0**	**+1.4**
PMG	**Port Moresby**	**6.92**	**224**	Pn	**Pn**	**17 39 27.4**	**0.0**
PMG	**Port Moresby**	**6.92**	**224**	P	**Pn**	**17 39 27.9**	**+0.6**
	42nm,0.5s,baz=69,slow=6.7,SNR=17						
HNR	**Honiara**	**9.35**	**123**	Pn	**Pn**	**17 39 59.1**	**-0.3**
JAY	**Jayapura**	**11.42**	**279**	P	**Pn**	**17 40 26.0**	**-0.4**
	23nm,1.5s						
GENI	**Genyem**	**11.94**	**278**	P	**P**	**17 40 37.0**	**-1.5**
	32nm,1.1s,2μm						
COEN	**Coen**	**12.88**	**222**	P	**Pn**	**17 40 46.6**	**+1.6**
	baz=13,SNR=15						
COEN	**Coen**	**12.88**	**222**	P	**Pn**	**17 40 46.9**	**+1.8**
COEN	**Coen**	**12.88**	**222**		**Pn**	**17 40 46.0**	**+0.9**
MTSU	**Mount Surprise**	**15.59**	**208**	P	**P**	**17 41 20.3**	**+1.2**
	baz=16,SNR=38						
MTSU	**Mount Surprise**	**15.59**	**208**	P	**P**	**17 41 20.7**	**+1.6**
TV1H	**Townsville Har**	**15.63**	**199**	P	**P**	**17 41 21.4**	**+2.0**
CTAO	**Charters Tower**	**16.58**	**199**	P	**Pn**	**17 41 32.1**	**+1.5**
CTAO	**Charters Tower**	**16.58**	**199**	P	**P**	**17 41 27.2**	**-2.7**
CTAO				IAmb	IAmb	17 41 34.2	
	comp=Z,37nm,1.3s						
KOUNC	**Koumac, New Ca**	**20.03**	**144**	P	**Pn**	**17 42 09.7**	**-1.8**
QIS	**Mount Isa**	**20.09**	**216**	P	**P**	**17 42 08.4**	**+0.3**
	baz=20,SNR=26						
QIS	**Mount Isa**	**20.09**	**216**	P	**P**	**17 42 08.5**	**+0.4**
EIDS	**Eidsvold**	**20.88**	**182**	P	**P**	**17 42 17.2**	**+0.7**
	baz=21,SNR=3.9						
EIDS	**Eidsvold**	**20.88**	**182**	P	**P**	**17 42 16.2**	**-0.2**
EIDS				IAmb	IAmb	17 42 19.5	
	comp=Z,16nm,1.1s						
LIFNC	**LIFOU**	**22.03**	**139**	P	**P**	**17 42 29.3**	**+0.8**
NOUC	**Port Laguerre**	**22.41**	**143**	P	**P**	**17 42 33.6**	**+1.5**
DZM	**Mont Dzumac**	**22.48**	**143**	P	**P**	**17 42 33.6**	**+0.8**
DZM	**Mont Dzumac**	**22.48**	**143**		**P**	**17 42 32.2**	**-0.6**
DZM	**Mont Dzumac**	**22.48**	**143**	P	**P**	**17 42 33.2**	**+0.4**
	comp=Z,49nm,0.5s,baz=295,slow=7.6,SNR=132						
	comp=Z,49nm,0.5s						
YATNC	**Mamie plateau,**	**22.74**	**142**	P	**P**	**17 42 37.7**	**+2.6**
OUENC	**Ouen Island, N**	**22.98**	**143**	P	**P**	**17 42 38.8**	**+1.6**
OUENC	**Ouen Island, N**	**22.98**	**143**		**P**	**17 42 38.1**	**+0.9**
WRAB	**Tennant Creek**	**23.11**	**227**	P	**P**	**17 42 37.5**	**-1.0**
QLP	**Quilpie**	**23.28**	**198**	P	**P**	**17 42 40.4**	**+0.5**
	baz=24,SNR=15						
QLP	**Quilpie**	**23.28**	**198**	P	**P**	**17 42 41.1**	**+1.1**
KNRA	**Kununurra**	**25.44**	**242**	P	**P**	**17 42 58.9**	**-0.8**
	baz=26,SNR=5.2						
KNRA				P	**P**	**17 42 58.9**	**-0.8**
	baz=26,SNR=5.2						
KNRA	**Kununurra**	**25.44**	**242**	P	**P**	**17 42 59.2**	**-0.5**
KNRA	**Kununurra**	**25.44**	**242**	P	**P**	**17 42 58.6**	**-1.1**
INKA	**Innaminka**	**25.58**	**204**	P	**P**	**17 43 00.7**	**-0.1**
AS31	**Alice Springs**	**25.92**	**221**	P	**P**	**17 43 03.4**	**-0.6**
AS31				IAmb	IAmb	17 43 28.7	
	comp=Z,3.8nm,0.5s						
ASAR	**Alice Springs**	**25.92**	**221**	P	**P**	**17 43 02.8**	**-1.2**
ASAR	**Alice Springs**	**25.92**	**221**	P	**P**	**17 43 03.6**	**-0.3**
	comp=Z,3.4nm,0.4s,baz=54,slow=9.3,SNR=145						
ASAR				PcP	**PcP**	**17 46 28.1**	**0.0**
	comp=Z,1.2nm,0.7s,baz=70,slow=2.3,SNR=1.7						
ASAR				S	**S**	**17 47 22.2**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=46,slow=14,SNR=4.8						
	comp=Z,3.4nm,0.4s						
SANI	**Sanana**	**26.06**	**274**	P	**P**	**17 43 05.7**	**+0.4**
CMSA	**Cobar Meteorol**	**27.65**	**192**	P	**P**	**17 43 18.7**	**-0.5**
	baz=28,SNR=17						
CMSA	**Cobar Meteorol**	**27.65**	**192**	P	**P**	**17 43 19.0**	**-0.3**
OOD	**Oodnadatta**	**27.98**	**212**	P	**P**	**17 43 22.8**	**+0.5**
LCRK	**Leigh Creek**	**29.00**	**205**	P	**P**	**17 43 31.1**	**-0.1**
STKA	**Stephens Creek**	**29.04**	**198**	P	**P**	**17 43 31.4**	**-0.2**
	baz=29,SNR=7.0						
STKA	**Stephens Creek**	**29.04**	**198**	P	**P**	**17 43 31.6**	**0.0**
STKA	**Stephens Creek**	**29.04**	**198**	P	**P**	**17 43 31.1**	**-0.4**
	comp=Z,2.1nm,0.5s,baz=36,slow=14,SNR=8.1						
	comp=Z,2.1nm,0.5s						
FITZ	**Fitzroy Crossi**	**29.15**	**240**	P	**P**	**17 43 31.9**	**-0.9**
	baz=29,SNR=23						
FITZ	**Fitzroy Crossi**	**29.15**	**240**	P	**P**	**17 43 31.4**	**-1.4**
WRKA	**Warakurna**	**30.66**	**226**	P	**P**	**17 43 45.0**	**-1.1**
	baz=31,SNR=95						
WRKA	**Warakurna**	**30.66**	**226**	P	**P**	**17 43 45.4**	**-0.6**
MULG	**Mulgathing**	**30.82**	**211**	P	**P**	**17 43 46.6**	**-0.7**
CNB	**Canberra Magne**	**30.87**	**184**	P	**P**	**17 43 49.4**	**+1.6**
CAN	**Canberra**	**30.91**	**185**	P	**P**	**17 43 49.2**	**+1.1**
CAN	**Canberra**	**30.91**	**185**	P	**P**	**17 43 49.4**	**+1.3**
CAN				IAmb	IAmb	17 44 24.2	
	comp=Z,28nm,1.4s						
HTT	**Hallett**	**31.36**	**201**	P	**P**	**17 43 52.1**	**+0.1**
	baz=32,SNR=11						
HTT	**Hallett**	**31.36**	**201**	P	**P**	**17 43 51.8**	**-0.3**
TOLI2	**Tolitoli**	**31.66**	**279**	P	**P**	**17 43 54.8**	**-0.1**
TOLI2	**Tolitoli**	**31.66**	**279**	P	**P**	**17 43 54.1**	**-0.8**
TOLI2				IAmb	IAmb	17 44 17.1	
	comp=Z,6.6nm,0.8s						
BBOO	**Buckleboo**	**31.96**	**206**	P	**P**	**17 43 56.8**	**-0.5**
	baz=32,SNR=7.9						
BBOO	**Buckleboo**	**31.96**	**206**	P	**P**	**17 43 56.9**	**-0.5**
BBOO	**Buckleboo**	**31.96**	**206**	P	**P**	**17 43 56.4**	**-0.5**
KAPI	**Kappang**	**32.13**	**268**	P	**P**	**17 43 59.4**	**+0.3**
ARPS	**Mount Arapiles**	**33.55**	**195**	P	**P**	**17 44 10.8**	**-0.2**
	baz=34,SNR=8.0						
ARPS	**Mount Arapiles**	**33.55**	**195**	P	**P**	**17 44 11.2**	**+0.2**
FORT	**Forrest**	**34.60**	**218**	P	**P**	**17 44 19.5**	**-0.6**
	baz=35,SNR=16						
FORT	**Forrest**	**34.60**	**218**	P	**P**	**17 44 20.0**	**-0.2**
FORT	**Forrest**	**34.60**	**218**	P	**P**	**17 44 19.6**	**-0.6**
MBWA	**Marble Bar**	**35.48**	**239**	P	**P**	**17 44 27.2**	**-0.7**
MBWA	**Marble Bar**	**35.48**	**239**	P	**P**	**17 44 26.3**	**-1.5**
PSA00	**Pilbara Seismi**	**35.55**	**238**	P	**P**	**17 44 27.5**	**-0.9**
PSA00	**Pilbara Seismi**	**35.55**	**238**	P	**P**	**17 44 27.4**	**-1.1**
PSA00	**Pilbara Seismi**	**35.55**	**238**	P	**P**	**17 44 27.1**	**-1.3**
PSA00				IAmb	IAmb	17 44 29.0	
	comp=Z,16nm,0.9s						
JAGI	**Jajag, Banyuwa**	**37.80**	**262**	P	**P**	**17 44 45.6**	**-2.0**
MOO	**Moorlands**	**38.13**	**186**	P	**P**	**17 44 50.5**	**+0.6**
	baz=38,SNR=4.4						
MOO	**Moorlands**	**38.13**	**186**	P	**P**	**17 44 51.6**	**+1.7**
TAU	**Tasmania Unive**	**38.58**	**186**	P	**P**	**17 44 55.3**	**+1.6**
TAU	**Tasmania Unive**	**38.58**	**186**	P	**P**	**17 44 55.2**	**+1.6**
MEEK	**Meekatharra**	**38.82**	**232**	P	**P**	**17 44 55.2**	**-0.7**
	baz=39,SNR=124						
MEEK	**Meekatharra**	**38.82**	**232**	P	**P**	**17 44 55.5**	**-0.4**
KMBL	**Kambalda**	**38.99**	**223**	P	**P**	**17 44 56.7**	**-0.6**
	baz=39,SNR=16						
KMBL	**Kambalda**	**38.99**	**223**	P	**P**	**17 44 57.2**	**-0.1**
SBUM	**Sibu**	**40.32**	**279**	P	**P**	**17 45 08.4**	**0.0**
GIRL	**Giralia**	**40.77**	**240**	P	**P**	**17 45 11.0**	**-1.1**
	baz=41,SNR=7.6						
GIRL	**Giralia**	**40.77**	**240**	P	**P**	**17 45 12.5**	**+0.5**
GIRL	**Giralia**	**40.77**	**240**	P	**P**	**17 45 12.2**	**+0.2**
RTZ	**Ruatahuna**	**40.95**	**150**	P	**P**	**17 45 13.7**	**+0.3**
RTZ				IAmb	IAmb	17 45 44.9	
	comp=Z,19nm,1.3s						
MRNZ	**Matariki Terra**	**41.28**	**156**	P	**P**	**17 45 16.6**	**+0.7**
UGM	**Wanagama**	**41.36**	**263**	P	**P**	**17 45 17.8**	**+0.7**
UGM	**Wanagama**	**41.36**	**263**	P	**P**	**17 45 16.5**	**-0.5**
THZ	**Tophouse**	**41.65**	**156**	P	**P**	**17 45 18.0**	**-1.0**
THZ				IAmb	IAmb	17 45 23.7	
	comp=Z,6.2nm,0.6s						
TCW	**Tory Channel**	**41.76**	**155**	P	**P**	**17 45 19.9**	**+0.2**
TUWZ	**Tuamarina**	**41.80**	**155**	P	**P**	**17 45 19.3**	**-0.8**
MRZ	**Mangatainoka R**	**41.88**	**153**	P	**P**	**17 45 21.0**	**+0.1**
MRZ				IAmb	IAmb	17 45 27.2	
	comp=Z,13nm,1.2s						
MORW	**Morawa**	**41.98**	**230**	P	**P**	**17 45 21.0**	**-0.9**
	baz=42,SNR=7.2						
MORW	**Morawa**	**41.98**	**230**	P	**P**	**17 45 21.0**	**-0.9**
MORW	**Morawa**	**41.98**	**230**	P	**P**	**17 45 20.9**	**-0.9**
MORW				IAmb	IAmb	17 45 22.0	
	comp=Z,21nm,0.7s						
KLBR	**Kellerberrin**	**42.01**	**226**	P	**P**	**17 45 20.8**	**-1.2**
	baz=42,SNR=6.2						
BFZ	**Birch Farm**	**42.21**	**152**	P	**P**	**17 45 24.2**	**+0.7**
BFZ	**Birch Farm**	**42.21**	**152**	P	**P**	**17 45 22.1**	**-1.4**
BFZ				IAmb	IAmb	17 45 31.1	
	comp=Z,35nm,1.4s						
BLDU	**Ballidu**	**42.25**	**228**	P	**P**	**17 45 22.7**	**-1.3**
	baz=42,SNR=29						
BLDU	**Ballidu**	**42.25**	**228**	P	**P**	**17 45 23.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**43.11**	**225**	P	**P**	**17 45 31.2**	**+0.4**
MUN	**Mundaring**	**43.32**	**226**	P	**P**	**17 45 31.8**	**-0.8**
	baz=44,SNR=4.5						
MUN	**Mundaring**	**43.32**	**226**	P	**P**	**17 45 33.0**	**+0.4**
BBJI	**Bungbulang**	**44.20**	**264**	P	**P**	**17 45 38.8**	**-1.1**
KSRS	**Korea Array**	**47.27**	**334**	P	**P**	**17 46 03.6**	**+0.1**
	comp=Z,1.7nm,0.8s,baz=144,slow=9.2,SNR=4.7						
	comp=Z,1.7nm,0.8s						
MYKOM	**Kota Tinggi**	**48.49**	**276**	P	**P**	**17 46 13.0**	**-0.3**
ENH	**Enshi**	**53.29**	**313**	P	**P**	**17 46 48.9**	**0.0**
ENH				IAmb	IAmb	17 46 50.7	
	comp=Z,21nm,1.2s						
SRIT	**Nakonsritamara**	**53.81**	**284**	P	**P**	**17 46 52.1**	**-0.7**
SRIT				IAmb	IAmb	17 46 56.5	
	comp=Z,21nm,1.4s						
GSI	**Gunungsitoli**	**54.66**	**275**	P	**P**	**17 46 57.1**	**-2.0**
GSI				IAmb	IAmb	17 47 14.0	
	comp=Z,26nm,1.4s						
SRDT	**SRDT**	**55.62**	**291**	P	**P**	**17 47 05.4**	**-0.5**
PHRA	**Phrae**	**55.83**	**296**	P	**P**	**17 47 06.4**	**-0.9**
CRAI	**Chiangrai**	**56.27**	**298**	P	**P**	**17 47 10.3**	**-0.1**
CRAI				IAmb	IAmb	17 47 13.1	
	comp=Z,15nm,1.2s						
CM31	**Chiang Mai Arr**	**56.97**	**295**	P	**P**	**17 47 16.8**	**+1.4**
CM31				IAmb	IAmb	17 47 18.6	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Ar**	**56.97**	**295**	P	**P**	**17 47 16.6**	**+1.2**
CMAR	**Chiang Mai Arr**	**56.97**	**295**	P	**P**	**17 47 16.7**	**+1.3**
	comp=Z,6.2nm,0.8s,baz=116,slow=5.2,SNR=42						
	comp=Z,6.2nm,0.8s						
PETK	**Petropavlovsk-**	**57.48**	**4**	P	**P**	**17 47 18.1**	**-0.3**
	comp=Z,2.1nm,1.1s,baz=154,slow=5.4,SNR=4.2						
	comp=Z,2.1nm,1.1s						
CD2	**Chengdu**	**57.86**	**311**	P	**P**	**17 47 22.7**	**+1.2**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HHC	**Hu-ho-hao-te**	**58.24**	**325**	*e*P	**P**	**17 47 24.6**	**+0.6**
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,65nm,4.9s						
LZH	**Lanzhou**	**60.38**	**316**	*e*P	**P**	**17 47 40.8**	**+2.0**
LZH				sP	sP	17 48 47.0	+7.8
LZH				pmax	pmax		
	comp=Z,14nm,1.0s						
GTA	**Gaotai**	**64.81**	**317**	*e*P	**P**	**17 48 09.0**	**+0.9**
GTA				pP	pwP	17 48 55.2	+2.3
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
SHL	**Shillong**	**65.40**	**301**	P	**P**	**17 48 11.8**	**-0.4**
SONM	**Songino Array**	**65.55**	**328**	P	**P**	**17 48 13.5**	**+0.9**
SONM	**Songino Array**	**65.55**	**328**	P	**P**	**17 48 13.3**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=167,slow=7.4,SNR=4.9						
	comp=Z,1.8nm,0.8s						
LSA	**Lhasa**	**67.34**	**305**	P	**P**	**17 48 25.1**	**+0.3**
VNDA	**Vanda**	**73.27**	**178**	P	**P**	**17 48 59.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=340,slow=6.3,SNR=5.8						
	comp=Z,0.6nm,0.6s						
WMQ	**Urumqi**	**74.89**	**318**	*e*P	**P**	**17 49 10.8**	**+1.4**
WMQ				pmax	pmax		
	comp=Z,12nm,1.5s						
MK31	**Makanchi Array**	**79.49**	**319**	P	**P**	**17 49 34.9**	**0.0**
MKAR	**Makanchi Array**	**79.49**	**319**	P	**P**	**17 49 34.5**	**-0.4**
MKAR	**Makanchi Array**	**79.49**	**319**	P	**P**	**17 49 35.3**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=100,slow=6.7,SNR=20						
MKAR				pP	**pwP**	**17 50 20.3**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=106,slow=7.7,SNR=2.6						
	comp=Z,2.0nm,0.7s						
MAKZ	**Makanchi**	**79.70**	**319**	P	**P**	**17 49 35.6**	**-0.4**
MAKZ				IAmb	IAmb	17 49 37.4	
	comp=Z,7.6nm,1.1s						
ZAA0	**Zalesovo Array**	**80.37**	**326**	P	**P**	**17 49 38.7**	**-0.7**
ZALV	**Zalesovo Beam**	**80.37**	**326**	P	**P**	**17 49 37.9**	**-1.5**
ZALV	**Zalesovo Beam**	**80.37**	**326**	P	**P**	**17 49 39.2**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=106,slow=6.7,SNR=14						
ZALV				pP	**pwP**	**17 50 24.6**	**-1.0**
	comp=Z,0.5nm,0.4s,baz=76,slow=6.3,SNR=2.6						
	comp=Z,2.7nm,0.6s						
KSH	**Kashi**	**82.06**	**311**	P	**P**	**17 49 51.5**	**+2.7**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ILAR	**Eielson Array**	**82.08**	**22**	P	**P**	**17 49 47.5**	**-0.7**
ILAR	**Eielson Array**	**82.08**	**22**	P	**P**	**17 49 47.2**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=254,slow=4.8,SNR=10						
ILAR				pP	**pP**	**17 50 32.7**	**+0.8**
	comp=Z,1.8nm,1.0s,baz=257,slow=5.7,

HARU	**Harads**	**0.90**	**180**	⇑P	**Pg**	**18 13 50.5**	**-0.6**
HARU				S	**Sg**	**18 14 03.2**	**+0.4**
KUA	**Kurravaara**	**0.93**	**345**	P	**Pg**	**18 13 51.0**	**-0.8**
KUA				S	**Sg**	**18 14 04.4**	**+0.5**
RATU	**Laukkuluspa**	**0.93**	**326**	P	**Pg**	**18 13 51.1**	**-0.8**
SALU	**Saltoluokta**	**1.01**	**290**	*e*P	**Pg**	**18 13 52.7**	**-0.6**
SALU	**Saltoluokta**	**1.01**	**290**	⇓P	**Pg**	**18 13 52.6**	**-0.7**
SALU				S	**Sg**	**18 14 06.1**	**-0.3**
LANU	**Lannavaara**	**1.07**	**21**	PG	**Pg**	**18 13 53.4**	**-1.1**
LANU	**Lannavaara**	**1.07**	**21**	P	**Pg**	**18 13 53.6**	**-1.0**
KLF	**Kolari**	**1.19**	**80**	PG	**Pg**	**18 13 55.9**	**-0.9**
	baz=261						
KLF				MSG		18 14 09.3	
	comp=Z,22nm,0.2s						
KLF				SB	**Sg**	**18 14 11.6**	**-0.5**
KOVU	**Salmi**	**1.21**	**346**	⇑P	**Pg**	**18 13 56.1**	**-1.0**
KALU	**Kalix**	**1.54**	**140**	PG	**Pn**	**18 14 01.9**	**-0.7**
	baz=325						
KALU				SN	**Sg**	**18 14 26.0**	**+2.6**
KALU	**Kalix**	**1.54**	**140**	P	**Pn**	**18 14 02.0**	**-0.6**
SJUU	**Sjulsmark**	**1.58**	**170**	P	**Pn**	**18 14 02.7**	**-0.5**
HEF	**Hetta**	**1.70**	**36**	*e*P	**Pn**	**18 14 04.8**	**-0.2**
HEF	**Hetta**	**1.70**	**36**	PG	**Pn**	**18 14 04.5**	**-0.5**
	baz=220						
HEF				MSG		18 14 24.4	
	comp=Z,16nm,0.2s						
HEF				SN	**Sg**	**18 14 29.5**	**+0.9**
KIF	**Kilpisjarvi**	**1.96**	**358**	PG	**Pb**	**18 14 10.9**	**+0.4**
KIF				MSG		18 14 33.9	
	comp=Z,6.2nm,0.2s						
RNF	**Rovaniemi**	**2.05**	**100**	PG	**Pn**	**18 14 10.4**	**+0.8**
KTK1	**Kautokeino**	**2.14**	**23**	PG	**Pn**	**18 14 11.9**	**+1.0**
KTK1				SG	**Sb**	**18 14 40.9**	**+0.2**
SGF	**Sodankyl**	**2.20**	**77**	PG	**Pn**	**18 14 12.5**	**+0.8**
BURU	**Burvik**	**2.49**	**176**	PN	**Pn**	**18 14 16.5**	**+0.7**
BURU				SG	**Sg**	**18 14 53.1**	**-0.8**
RANF	**Ranua**	**2.56**	**111**	PN	**Pn**	**18 14 17.4**	**+0.7**
	baz=298						
OBF4	**Vikkela, Lumij**	**2.82**	**141**	PN	**Pn**	**18 14 21.1**	**+0.9**
	baz=323						
OBF4				MSG		18 14 57.5	
	comp=Z,3.3nm,0.2s						
OUL	**Oulu**	**2.82**	**132**	PB	**Pn**	**18 14 22.4**	**+2.1**
OBF0	**Syolatti, Pyha**	**2.90**	**151**	PB	**Pn**	**18 14 24.4**	**+3.0**
OBF0				MSG		18 15 00.3	
	comp=Z,4.9nm,0.2s						
ARA0	**ARCESS Array S**	**3.01**	**32**	PN	**Pn**	**18 14 23.0**	**+0.1**
	baz=212						
ARA0				SB	**Sb**	**18 15 03.2**	**-2.4**
ARCES	**ARCESS Array B**	**3.01**	**32**	Pg	**Pn**	**18 14 23.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=219,slow=13,SNR=39						
ARCES				Lg	Lg	18 15 03.9	
	comp=Z,0.5nm,0.3s,baz=215,slow=26,SNR=7.2						
KMNF	**Kaamanen**	**3.09**	**44**	PN	**Pn**	**18 14 24.0**	**0.0**
KMNF				SB	**Sn**	**18 15 03.4**	**+1.9**
OUF	**Merijarvi**	**3.12**	**148**	PB	**Pn**	**18 14 27.3**	**+2.9**
OUF				MSG		18 15 06.3	
	comp=Z,3.1nm,0.2s						
RAJF	**Raja-Jooseppi**	**3.14**	**60**	PN	**Pn**	**18 14 25.4**	**+0.8**
UMAU	**Umeaa**	**3.19**	**182**	PN	**Pn**	**18 14 25.9**	**+0.6**
	baz=8.0						
UMAU				SN	**Sn**	**18 15 06.1**	**+2.1**
VRF	**Varrio**	**3.41**	**74**	PN	**Pn**	**18 14 29.3**	**+0.9**
VRF				SG	**Sb**	**18 15 18.4**	**+1.2**
OLKF	**Oulanka, Finla**	**3.44**	**99**	PN	**Pn**	**18 14 29.5**	**+0.7**
MSF	**Maaselka**	**3.44**	**106**	PN	**Pn**	**18 14 29.7**	**+0.9**
KEV	**Kevo**	**3.51**	**37**	PN	**Pn**	**18 14 30.2**	**+0.4**
KU6	**Riekki**	**3.72**	**102**	PN	**Pn**	**18 14 33.3**	**+0.7**
	baz=287						
KU6				SB	**Sn**	**18 15 20.4**	**+3.3**
HUSU	**Husum**	**3.80**	**192**	PN	**Pn**	**18 14 34.6**	**+0.9**
HUSU				SN	**Sn**	**18 15 18.9**	**-0.2**
VAF	**Ylistaro**	**4.10**	**169**	PN	**Pn**	**18 14 39.1**	**+1.3**
NIF	**Nilsia**	**4.67**	**139**	PN	**Pn**	**18 14 46.9**	**+1.2**
RMF	**Romuvaara**	**4.68**	**123**	PN	**Pn**	**18 14 48.0**	**+2.1**
FINES	**FINESS Array B**	**6.06**	**156**	Pn	**Pn**	**18 15 05.5**	**+0.8**
	baz=339,slow=11,SNR=8.2						
FINES				Pg	**Pb**	**18 15 17.5**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=3.5						
FINES				Sn	**Sn**	**18 16 15.3**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=346,slow=23,SNR=1.5						
FINES				Lg	Lg	18 16 44.9	
	comp=Z,0.2nm,0.3s,baz=342,slow=27,SNR=1.5						
	comp=Z,0.3nm,0.3s						
NOA	**NORSAR Array B**	**7.39**	**220**	Pn	**Pn**	**18 15 21.8**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=34,slow=21,SNR=1.6						

NNC 03 18:39:42.6±2.9, 36°.98N×71°.22E, h0km, mb3.5, mpv3.2, 4D, Error ellipse: s-maj=27.7km s-min=20.1km az=136.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
KK31	**Karatay Array**	**6.14**	**355**	P		Pn	18 41 14.3	-0.3
	0.7nm,0.3s,baz=177,slow=12,SNR=23							
KK31				⇓S		Sn	18 42 26.4	+0.8
	0.9nm,0.3s,baz=177,slow=21,SNR=8.7							
AAK	**Ala-Archa**	**6.19**	**23**	⇓P		Pn	18 41 15.1	-0.3
	1.3nm,0.7s							
AAK				⇓S		Sn	18 42 28.4	+1.4
	1.3nm,0.5s							
AB31	**Akbulak array**	**14.76**	**330**	⇓P		Pn	18 43 14.5	+2.0
	0.4nm,0.6s,baz=143,slow=11,SNR=5.0							

*STR **03** 18:45:58.5±1.2, 44°.N±5°.×1°.2E±°, h5km, MLv3.9/34, Error ellipse: s-maj=0.0km s-min=0.0km az=102.3, preliminary*
*LDG **03** 18:46:03.7±0.1, 44°.06N×11°.72E, h6km, Ml3.3/36, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*IDC **03** 18:46:04.3±0.9, 44°.14N×11°.76E, h0km, mb3.8/6, mbtmp3.6/12, ML3.2/5, MS2.8/6, Error ellipse: s-maj=18.4km s-min=10.6km az=114.0*
*ROM **03** 18:46:04.5±0.1, 44°.056N±0°.006×11°.71E±0°.01, h8km, ML3.6/138, Error ellipse: s-maj=0.7km s-min=0.7km az=290.0*
*MED_RC **03** 18:46:05.0±0.8, 44°.06N×11°.72E, h10km, MW3.8/10, Moment Tensor Solution. Mantle waves: s10, c11; Duration: 1s0 Moment tensor: Scale 10¹⁴Nm; Mrr-5.59±.59; Mθθ 5.50±.63; Mϕϕ 0.09±.69; Mrθ 0.89±1.79; Mθϕ-1.45±.62; Mϕr-3.38±1.70; Best double couple: M₀6.65000×10¹⁴ NP1:ϕs308.00000°, δ58.00000°, λ-63.00000°. NP2:ϕs83.00000°, δ41.00000°, λ-126.00000°. Principal axes: T 6.1400, Plg9.0000°, Azm19.0000°; N 1.0300, Plg23.0000°, Azm113.0000°; P -7.1700, Plg65.0000°, Azm268.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NEIC **03** 18:46:05.0±2.4, 44°.06N±0°.02×11°.83E±0°.02, h10km±1km, mb4.3/12 Error ellipse: s-maj=3.8km s-min=3.2km az=198.0*
*PRU **03** 18:46:06.9, 44°.10N×11°.98E, h10km, M4.3*
*NAO **03** 18:46:13.9, 44°.21N×12°.39E, h33km, mb3.8*

ISC 03 18:46:04.5±0.7, 44°.06N±0°.01×11°.73E±0°.02, h10km±4km, n245, σ26°27/321, mb4.3/12, 4C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LMD	**Lutirano**	**0.02**	**326**	P		**Pg**	**18 46 05.6**	**-0.7**
LMD				S		**Sg**	**18 46 06.7**	**-0.8**
LMD				AML	AML			
LMD				AML	AML			
LMD	**Lutirano**	**0.02**	**326**	P		**Pg**	**18 46 05.6**	**-0.7**
SFI	**Santa Sofia**	**0.18**	**150**	P		**Pg**	**18 46 08.6**	**+0.4**
SFI				S		**Sg**	**18 46 12.1**	**+1.3**
SFI				AML	AML			
	comp=N,43700μm,0.5s							
SFI				AML	AML			
	comp=E,53000μm,0.4s							
SFI				AML	AML			
	comp=N,44450μm,0.5s							
SFI				AML	AML			
	comp=N,43750μm,0.6s							
SFI				AML	AML			
	comp=E,52600μm,0.4s							
SFI				AML	AML			
	comp=E,52580μm,0.4s							
SFI				AML	AML			
	comp=E,52963μm,0.4s							
SFI				AML	AML			
	comp=N,41015μm,0.9s							
SFI				AML	AML			
	comp=N,41300μm,0.9s							
SFI				AML	AML			
	comp=E,52950μm,0.4s							
SFI				AML	AML			
	comp=N,43700μm,0.6s							
SFI				AML	AML			
	comp=N,44500μm,0.5s							
BRIS	**BRISIGHELLA**	**0.18**	**301**	⇑P		**Pg**	**18 46 08.5**	**+0.1**
BRIS				S		**Sg**	**18 46 11.8**	**+0.9**
BRIS				AML	AML			
BRIS				AML	AML			
	comp=N,88350μm,0.7s							
BRIS				AML	AML			
BRIS				AML	AML			
BRIS				AML	AML			
	comp=N,93850μm,0.5s							
BRIS				AML	AML			
	comp=N,88350μm,1.3s							
BRIS				AML	AML			
BRIS				AML	AML			
BRIS				AML	AML			
	comp=E,99404μm,0.7s							
BRIS				AML	AML			
	comp=N,93730μm,0.5s							
BRIS				AML	AML			
	comp=N,88335μm,0.7s							
FAEN	**Faenza**	**0.26**	**25**	P		**Pg**	**18 46 11.1**	**+1.4**
FAEN				S		**Sg**	**18 46 16.6**	**+3.5**
FAEN				AML	AML			
	comp=E,93100μm,0.7s							
FAEN				AML	AML			
	comp=N,98900μm,0.6s							
FAEN				AML	AML			
	comp=N,98950μm,0.6s							
FAEN				AML	AML			
	comp=E,49486μm,0.6s							
FAEN				AML	AML			
	comp=N,99056μm,0.6s							
FAEN				AML	AML			
	comp=E,93100μm,0.7s							
ASQU	**Asqua**	**0.27**	**170**	⇓P		**Pg**	**18 46 10.5**	**+0.6**
ASQU				S		**Sb**	**18 46 15.4**	**-0.7**
ASQU				AML	AML			
	comp=E,47350μm,0.3s							
ASQU				AML	AML			
	comp=N,44500μm,0.3s							
ASQU				AML	AML			
	comp=E,47350μm,1.7s							
ASQU				AML	AML			
	comp=E,47376μm,0.3s							
ASQU				AML	AML			
	comp=N,44527μm,0.3s							
ASQU	**Asqua**	**0.27**	**170**	P		**Pg**	**18 46 10.5**	**+0.6**
ASQU				S		**Sb**	**18 46 15.6**	**-0.5**
SEI	**Scarperia**	**0.27**	**269**	P		**Pg**	**18 46 10.2**	**+0.4**
SEI				S		**Sg**	**18 46 15.1**	**+1.6**
SEI				AML	AML			
	comp=E,17700μm,1.5s							
SEI				AML	AML			
	comp=N,34450μm,0.5s							
SEI				AML	AML			
	comp=E,17700μm,0.5s							
SEI				AML	AML			
	comp=N,34468μm,0.5s							
SEI				AML	AML			
	comp=E,17691μm,0.4s							
SEI	**Scarperia**	**0.27**	**269**	P		**Pg**	**18 46 10.3**	**+0.4**
SEI				S		**Sg**	**18 46 15.4**	**+1.9**
RUFI	**Rufina**	**0.27**	**216**	⇑P		**Pg**	**18 46 10.6**	**+0.8**
RUFI				S		**Sb**	**18 46 15.4**	**-0.7**
RUFI				AML	AML			
	comp=N,21000μm,0.3s							
RUFI				AML	AML			
	comp=N,20997μm,0.3s							
RUFI				AML	AML			
	comp=E,16350μm,0.8s							
RUFI				AML	AML			
	comp=E,16350μm,0.8s							
RUFI	**Rufina**	**0.27**	**216**	P		**Pg**	**18 46 10.7**	**+0.8**
RUFI				S		**Sb**	**18 46 15.9**	**-0.2**
IMOL	**Imola, Italy**	**0.30**	**2**	⇓P		**Pb**	**18 46 11.8**	**-0.2**
IMOL				AML	AML			
	comp=E,36250μm,0.8s							
IMOL				AML	AML			
	comp=E,36200μm,0.8s							
IMOL				AML	AML			
	comp=N,44300μm,0.7s							
IMOL				AML	AML			
	comp=E,36208μm,0.8s							
IMOL				AML	AML			
	comp=N,44301μm,0.7s							
IMOL	**Imola, Italy**	**0.30**	**2**	P		**Pb**	**18 46 11.8**	**-0.2**
IMOL				S		**Sb**	**18 46 19.0**	**+1.9**
BRSN	**Barisano**	**0.34**	**48**	P		**Pb**	**18 46 12.4**	**-0.3**
BRSN				AML	AML			
	comp=E,60700μm,0.8s							
BRSN				AML	AML			
	comp=N,63850μm,0.7s							
BRSN				AML	AML			
	comp=E,50150μm,0.7s							
BRSN				AML	AML			
	comp=N,74850μm,0.7s							
MTRZ	**Monterenzio**	**0.37**	**330**	P		**Pg**	**18 46 11.1**	**-0.7**
MTRZ				AML	AML			
	comp=E,29950μm,0.7s							
MTRZ				AML	AML			
	comp=N,26450μm,1.0s							
MTRZ				AML	AML			
	comp=E,29900μm,0.7s							
MTRZ				AML	AML			
	comp=N,26550μm,1.0s							
MTRZ				AML	AML			
	comp=N,26450μm,1.0s							
MTRZ				AML	AML			
	comp=N,26550μm,1.0s							
MTRZ				AML	AML			
	comp=N,26442μm,1.0s							
MTRZ				AML	AML			
	comp=N,26565μm,1.0s							
MTRZ				AML	AML			
	comp=E,30571μm,0.7s							
MTRZ				AML	AML			
	comp=E,29926μm,0.7s							
MTRZ				AML	AML			
	comp=E,30550μm,0.7s							
MTRZ	**Monterenzio**	**0.37**	**330**	P		**Pg**	**18 46 12.4**	**+0.7**
A309A	**Martorano (FC)**	**0.39**	**73**	P		**Pg**	**18 46 12.0**	**-0.2**
MOCL	**Monte Cuccoli**	**0.40**	**262**	P		**Pg**	**18 46 12.9**	**+0.6**
FIR	**Firenze**	**0.44**	**230**	AML	AML			
	comp=N,11750μm,0.5s							
FIR				AML	AML			
	comp=E,15350μm,0.6s							
FIR				AML	AML			
	comp=E,15300μm,0.7s							
FIR				AML	AML			
	comp=N,11350μm,0.5s							
CRE	**Caprese Michel**	**0.47**	**159**	P		**Pg**	**18 46 14.0**	**+0.4**
CRE				S		**Sb**	**18 46 21.3**	**-0.6**
CRE				AML	AML			
	comp=E,10520μm,0.4s							
CRE				AML	AML			
	comp=N,10850μm,0.4s							
CRE				AML	AML			
	comp=N,10855μm,0.4s							
CRE				AML	AML			
	comp=E,10531μm,0.4s							
CPGN	**Carpegna, Ital**	**0.50**	**121**	AML	AML			
	comp=E,8590μm,0.7s							
CPGN				AML	AML			
	comp=N,7775μm,0.8s							
CPGN				AML	AML			
	comp=E,8965μm,0.9s							
CPGN				AML	AML			
	comp=N,9625μm,0.5s							
MTCR	**Monte La Croce**	**0.53**	**267**	P		**Pg**	**18 46 15.0**	**+0.3**
CMPO	**Campotto Po**	**0.53**	**6**	AML	AML			
	comp=N,35500μm,1.0s							
CMPO				AML	AML			
	comp=E,27200μm,1.1s							
RSM	**Repubblica di**	**0.54**	**104**	⇑P		**Pb**	**18 46 16.5**	**+0.4**
RSM				AML	AML			
	comp=E,7088μm,1.0s							
BLLA	**Bellaria**	**0.54**	**81**	⇓P		**Pb**	**18 46 16.1**	**0.0**
BLLA				AML	AML			
	comp=E,11750μm,0.4s							
BLLA				AML	AML			
	comp=N,10435μm,0.4s							
BLLA				AML	AML			
	comp=N,10400μm,0.4s							
BLLA				AML	AML			
	comp=E,11725μm,0.4s							
BLLA				AML	AML			
	comp=N,10414μm,0.4s							
BLLA				AML	AML			
	comp=E,11700μm,0.4s							
PARC	**Parchiule**	**0.55**	**138**	⇓P		**Pg**	**18 46 15.4**	**+0.2**
PARC				S		**Sb**	**18 46 24.3**	**0.0**
PARC				AML	AML			
	comp=N,5605μm,0.5s							
PARC				AML	AML			
	comp=E,4900μm,0.6s							
PARC				AML	AML			
	comp=E,4899μm,0.6s							
PARC				AML	AML			
	comp=N,5604μm,0.5s							
SSP9	**Sansepolcro**	**0.57**	**149**	⇑P		**Pb**	**18 46 16.1**	**-0.5**
SSP9				AML	AML			
	comp=E,5965μm,1.5s							
SSP9				AML	AML			
	comp=N,8290μm,1.4s							
SSP9				AML	AML			
	comp=N,8305μm,1.4s							
SSP9				AML	AML			
	comp=E,5960μm,1.5s							
SSP9				AML	AML			
	comp=N,8305μm,0.6s							
SSP9				AML	AML			
	comp=E,5939μm,0.5s							
SSP9				AML	AML			
	comp=N,8307μm,1.4s							
ZCCA	**Zocca**	**0.61**	**299**			**Pb**	**18 46 17.6**	**+0.2**
ZCCA	**Zocca**	**0.61**	**299**	P		**Pb**	**18 46 18.3**	**+1.0**
OSSC	**Osservatorio P**	**0.64**	**213**	Pg		**Pg**	**18 46 17.3**	**+0.5**
OSSC				Sg		**Sb**	**18 46 27.1**	**+0.4**
OSSC	**Osservatorio P**	**0.64**	**213**	⇓P		**Pb**	**18 46 18.8**	**+1.0**
OSSC				AML	AML			
	comp=E,6365μm,0.7s							
OSSC				AML	AML			
	comp=N,8885μm,0.7s							
OSSC				AML	AML			
	comp=E,8885μm,0.8s							
OSSC				AML	AML			
	comp=N,8885μm,0.8s							
OSSC				AML	AML			
	comp=N,6330μm,1.1s							
OSSC				AML	AML			
	comp=N,6330μm,0.9s							
OSSC				AML	AML			
	comp=N,8885μm,1.2s							
OSSC				AML	AML			
	comp=E,8885μm,1.2s							
OSSC				AML	AML			
	comp=E,6364μm,0.7s							
OSSC				AML	AML			
	comp=N,8892μm,0.8s							
OSSC				AML	AML			
	comp=E,8886μm,0.8s							
OSSC				AML	AML			
	comp=N,5844μm,0.8s							
OSSC				AML	AML			
	comp=E,6365μm,0.7s							
OSSC	**Osservatorio P**	**0.64**	**213**	P		**Pb**	**18 46 17.7**	**0.0**
OSSC				S		**Sb**	**18 46 27.0**	**+0.3**
BADI	**Badiali**	**0.67**	**145**	P		**Pg**	**18 46 17.4**	**0.0**
BADI				AML	AML			
	comp=E,3890μm,1.4s							
BADI				AML	AML			
	comp=N,6360μm,0.5s							
BADI				AML	AML			
	comp=N,6358μm,0.5s							
BADI				AML	AML			
	comp=E,3712μm,0.4s							
BADI				AML	AML			
	comp=E,3890μm,0.6s							
BADI				AML	AML			
	comp=N,6355μm,0.5s							
CSNT	**Castellina Chi**	**0.67**	**208**	P		**Pb**	**18 46 18.3**	**0.0**
PE3	**Peglio**	**0.67**	**123**	⇓P		**Pb**	**18 46 17.8**	**-0.4**
PE3				AML	AML			
	comp=E,26300μm,1.2s							
PE3				AML	AML			
	comp=N,22350μm,0.5s							
PE3				AML	AML			
	comp=E,26250μm,1.2s							
PE3				AML	AML			
	comp=N,22300μm,0.5s							
PE3				AML	AML			
	comp=E,23627μm,0.5s							
PE3				AML	AML			
	comp=N,22339μm,0.5s							
POPM	**Popiglio**	**0.70**	**269**	P		**Pg**	**18 46 18.6**	**+0.6**
APEC	**Apecchio**	**0.71**	**135**	P		**Pg**	**18 46 18.2**	**0.0**
APEC				AML	AML			
	comp=E,6345μm,0.7s							
APEC				AML	AML			
	comp=N,5965μm,0.5s							
APEC				AML	AML			
	comp=E,8320μm,0.7s							
APEC				AML	AML			
	comp=E,6345μm,0.7s							
APEC				AML	AML			
	comp=N,5890μm,0.7s							
APEC				AML	AML			
	comp=E,8320μm,1.3s							
APEC				AML	AML			
	comp=N,5970μm,0.5s							
APEC				AML	AML			
	comp=E,6344μm,0.7s							
APEC				AML	AML			
	comp=E,8319μm,0.7s							
APEC				AML	AML			
	comp=N,5969μm,0.5s							
APEC				AML	AML			
	comp=N,5892μm,0.7s							
PIEI	**Pieia**	**0.79**	**131**	⇓P		**Pg**	**18 46 19.2**	**-0.4**
PIEI				AML	AML			
	comp=E,2260μm,0.4s							
PIEI				AML	AML			
	comp=N,2045μm,1.6s							
PIEI				AML	AML			
	comp=N,2045μm,0.4s							
PIEI				AML	AML			
	comp=E,2260μm,0.4s							
PIEI				AML	AML			
	comp=N,1704μm,0.8s							
BDI	**Bagni Di Lucca**	**0.81**	**271**	P		**Pg**	**18 46 20.8**	**+0.6**
MAIM	**Mastiano**	**0.90**	**261**	P		**Pb**	**18 46 22.6**	**+0.3**
PII	**Pisa**	**0.93**	**249**	P		**Pb**	**18 46 23.2**	**+0.5**
FROS	**Frosini**	**0.94**	**206**	P		**Pb**	**18 46 23.5**	**+0.5**
FROS				S		**Sb**	**18 46 36.8**	**+1.3**
SERM	**Sermide**	**1.00**	**342**	P		**Pn**	**18 46 26.1**	**+1.4**
SERM				S		**Sn**	**18 46 43.1**	**+4.3**
PRMA	**PARMA**	**1.23**	**305**			**Pg**	**18 46 29.4**	**+1.2**
PRMA						**Sn**	**18 46 47.4**	**+2.8**
TEOL	**Teolo**	**1.30**	**358**			**Pn**	**18 46 28.5**	**-0.3**
TEOL				Sg		**Sb**	**18 46 44.5**	**-1.4**
CASP	**Castiglione de**	**1.41**	**207**			**Pn**	**18 46 29.6**	**-0.8**
FDMO	**Fiordimonte**	**1.42**	**135**			**Pn**	**18 46 30.3**	**-0.2**
GUMA	**Gualdo di Mace**	**1.54**	**130**			**Pn**	**18 46 31.9**	**-0.2**
CESX	**Cesi**	**1.58**	**156**	Pn		**Pn**	**18 46 32.8**	**+0.2**
NRCA	**Norcia**	**1.59**	**140**			**Pn**	**18 46 32.4**	**-0.4**
MSSA	**Maissana**	**1.61**	**280**			**Pb**	**18 46 35.3**	**+0.9**
SALO	**Salr**	**1.78**	**332**			**Pn**	**18 46 35.0**	**-0.4**
GORR	**Gorreto**	**1.83**	**288**	P		**Pg**	**18 46 40.5**	**+0.9**
CTI	**Castel Tesino**	**1.99**	**358**			**Pn**	**18 46 38.1**	**-0.2**
RNCA	**Ronca, Sant'Ol**	**2.04**	**283**	P		**Pb**	**18 46 42.6**	**+1.1**
MORSI	**Morsiglia**	**2.04**	**238**	P		**Pn**	**18 46 37.4**	**-1.5**
SKDS	**Skadanscina**	**2.21**	**47**	*i* Pn		**Pn**	**18 46 40.2**	**-1.1**
SKDS				*i* Sn		**Sn**	**18 47 08.2**	**-0.5**
SKDS				IAML			18 47 21.8	
	comp=Z,141nm,0.3s							
RABC	**Rab**	**2.30**	**71**	*e*Pn		**Pn**	**18 46 42.9**	**+0.5**
RABC				Sn		**Sn**	**18 47 11.4**	**+0.6**
NVLJ	**Novalja**	**2.31**	**76**	*e*Pn		**Pn**	**18 46 42.8**	**+0.1**
NVLJ				Sn		**Sn**	**18 47 11.6**	**+0.4**
PCP	**Piancastagn**	**2.33**	**283**	P		**Pn**	**18 46 45.0**	**+2.0**
SABO	**M.te Sabotino**	**2.34**	**34**	Pn		**Pn**	**18 46 42.5**	**-0.6**
DUGI	**Dugi Otok**	**2.41**	**90**	*i* Pn		**Pn**	**18 46 44.7**	**+0.8**
DUGI				Sn		**Sn**	**18 47 13.7**	**+0.2**
VIRC	**Vir**	**2.41**	**83**	*e*Pn		**Pn**	**18 46 44.7**	**+0.8**
VIRC				Sn		**Sn**	**18 47 12.8**	**-0.7**
PGF	**Pioggiola**	**2.50**	**234**	*e*P		**Pn**	**18 46 46.0**	**+0.7**

PGF eSn Sn 18 47 12.4 -3.5
comp=Z,46nm,0.7s
PGF Pioggiola 2.50 234 P Pn 18 46 46.6 +1.3
CANO Canova, Maglio 2.52 275 P Pn 18 46 47.6 +2.1
CEY Cerknica 2.55 48 ePn Pn 18 46 45.3 -0.7
INTR Introdacqua 2.60 141 Pn 18 46 48.0 +1.4
RORO Rocca Rossa 2.64 272 P Pn 18 46 49.7 +2.6
PRED Cave del Predi 2.72 28 Pn Pn 18 46 47.4 -0.9
ABTA Abfaltersbach 2.75 11 Pn Pn 18 46 49.1 +0.4
comp=Z,11nm,0.4s,SNR=9.5
FUORN Ofenpass-Fuorn 2.76 339 Pn Pn 18 46 50.8 +1.7
GBOS Grotte di Boss 2.80 275 P Pn 18 46 51.5 +2.0
MORI Morici 2.88 92 *i* Pn Pn 18 46 52.0 +1.5
MORI Sn Sn 18 47 26.8 +1.5
BOJS Bojanci 2.90 59 ePn Pn 18 46 50.9 +0.2
MYKA Terra Mystica 2.91 27 ePn Pn 18 46 51.7 +0.8
comp=Z,3.1nm,0.2s,SNR=6.6
MYKA Sn Sn 18 47 27.3 +1.3
comp=Z,63nm,0.7s
SAOF Saorge 3.01 270 P Pn 18 46 52.9 +0.6
DAVOX Davos/Dischmat 3.02 335 Pn Pn 18 46 53.0 +0.5
comp=Z,2.6nm,0.3s,baz=163,slow=16,SNR=29
DAVOX Sn Sn 18 47 30.4 +1.5
comp=Z,4.1nm,0.3s,baz=180,slow=20,SNR=3.8
comp=Z,19nm,0.5s
FETA Feichten 3.04 347 ePn Pn 18 46 55.1 +2.2
comp=Z,39nm,0.7s,SNR=32
SBF Sospel 3.10 268 eP Pn 18 46 54.1 +0.5
SBF eSn Sn 18 47 27.1 -3.7
comp=Z,241nm,1.1s
TURF col de Turini 3.13 270 P Pn 18 46 54.5 +0.4
ESCA l'Escarene 3.15 267 P Pn 18 46 57.3 +3.1
OBKA Obir 3.16 38 ePn Pn 18 46 54.6 +0.1
comp=Z,3.2nm,0.2s
OBKA Obir 3.16 38 ePn Pn 18 46 54.2 -0.2
SQTA Sankt Quirin 3.18 354 ePn Pn 18 46 57.6 +2.8
comp=Z,20nm,0.3s,SNR=31
SQTA eSn Sb 18 47 38.3 -1.9
comp=Z,85nm,0.7s
CRES Cresnjev 3.19 55 ePn Pn 18 46 54.0 -0.7
WTTA Wattenberg 3.21 359 ePn Pn 18 46 57.5 +2.3
comp=Z,6.5nm,0.3s,SNR=14
WTTA eSn Sb 18 47 37.4 -3.5
comp=Z,65nm,0.4s
KBA Koelnbreinsper 3.23 20 ePn Pn 18 46 56.2 +0.7
comp=Z,12nm,0.4s,SNR=17
SPIF crte de Spivo 3.24 272 P Pn 18 46 56.3 +0.8
WATA Walderalm 3.28 358 *i* Pn Pn 18 46 58.8 +2.7
comp=Z,12nm,0.3s,SNR=18
WATA eSn Sb 18 47 40.2 -2.7
comp=Z,25nm,0.4s
MOTA Moosalm 3.32 353 ePn Pn 18 46 59.3 +2.6
comp=Z,58nm,0.8s,SNR=24
MOTA eSn Sb 18 47 40.4 -3.6
comp=Z,28nm,0.5s
PZZ Stroppo 3.34 279 P Pn 18 46 57.8 +0.8
ISO Isola 3.37 274 P Pn 18 47 00.1 +2.9
KIJV Kijevo 3.38 89 *i* Pn Pn 18 46 59.6 +2.3
KIJV Sn Sn 18 47 37.8 +0.4
LESA Schwarzleotal 3.43 11 *i* Pn Pn 18 46 59.8 +1.6
comp=Z,7.7nm,0.2s
LESA eSn Sn 18 47 42.3 +3.4
comp=Z,57nm,0.4s
A050A Klekovaca 3.48 81 ePn Pn 18 47 00.3 +1.5
DAVA Damuels 3.48 339 ePn Pn 18 47 01.6 +2.7
comp=Z,28nm,0.4s,SNR=16
DAVA Sn Sn 18 47 43.2 +3.0
comp=Z,56nm,0.8s
CALF Calern 3.48 267 P Pn 18 47 01.3 +2.4
RETA Reutte 3.50 349 ePn Pn 18 47 01.3 +2.3
comp=Z,5.8nm,0.3s,SNR=11
RETA eSn Sn 18 47 44.0 +3.6
comp=Z,27nm,0.7s
SOKA Soboth 3.51 41 ePn Pn 18 46 59.2 0.0
comp=Z,3.1nm,0.4s
HVAR Hvar 3.54 103 *i* Pn Pn 18 47 00.6 +1.0
SURF Saint Ours 3.55 279 P Pn 18 47 01.8 +1.8
LSD Lago del Serru 3.56 295 P Pn 18 47 00.4 +0.4
JAUF Jausiers 3.59 278 P Pn 18 47 00.9 +0.4
MBDF Montbardon 3.61 282 eP Pn 18 47 02.3 +1.6
MBDF eSn Sn 18 47 39.2 -4.3
comp=Z,65nm,0.8s
SALSA La sagne 3.64 269 P Pn 18 47 01.8 +0.7
DIX Grande Dixence 3.67 305 P Pn 18 47 05.9 +4.3
CREF Crivoux 3.69 279 P Pn 18 47 04.5 +2.6
BNI Bardonecchia 3.74 287 Pn 18 47 04.5 +2.1
SGRT San Giovanni R 3.74 127 Pn Pn 18 47 03.4 +0.9
LPG La Plagne 3.82 294 eP Pn 18 47 05.1 +1.4
LPG eSn Sn 18 47 44.3 -4.6
comp=Z,64nm,0.7s
A051A Mrakovica 3.83 74 ePn Pn 18 47 04.7 +1.1
LPL La Plagne 3.84 294 eP Pn 18 47 05.3 +1.4
LPL eSn Sn 18 47 44.7 -4.6
comp=Z,86nm,0.7s
LMR La Mourre 3.85 261 eP Pn 18 47 05.0 +1.2
LMR eSn Sn 18 47 44.8 -4.3
comp=Z,32nm,0.9s
MGRS Mrkonjic Grad 3.87 83 ePn Pn 18 47 04.4 +0.3
BIOA Bad Ischl, Aus 3.87 20 ePn Pn 18 47 05.1 +1.0
comp=Z,3.9nm,0.3s
BIOA eSn Sn 18 47 51.9 +2.2
comp=Z,17nm,0.3s
SENIN Lac Senin/Sane 3.88 308 Pn Pn 18 47 07.4 +2.9
RICI Ricice 3.96 96 ePn Pn 18 47 06.7 +1.4
RICI Sn Sn 18 47 54.0 +2.3
BLY Banja Luka 3.97 78 ePn Pb 18 47 11.7 -2.9
LSTV Lastovo 3.98 107 ePn Pn 18 47 06.3 +0.7
LSTV Sn Sn 18 47 50.1 -2.2
FLAF Flassans-sur-I 4.02 262 P Pn 18 47 06.2 0.0
OGSI Sixt 4.05 301 P Pn 18 47 09.3 +2.6
OGSI S Sn 18 47 59.7 +5.4
ARSA Arzberg 4.16 39 ePn Pn 18 47 08.3 +0.3
comp=Z,3.5nm,0.3s
MOA Molln 4.18 24 *i* Pn Pn 18 47 09.4 +0.9
comp=Z,16nm,0.6s,SNR=16
MOA eSn Sn 18 47 58.0 +0.6
comp=Z,26nm,0.6s
ORIF Oris-en-Rattie 4.27 284 eP Pn 18 47 11.5 +1.8
ORIF eSn Sn 18 47 54.8 -4.8
comp=Z,38nm,0.8s
BALST Balsthal 4.33 321 P Pn 18 47 10.6 +0.2
BSTF la Bastide-des 4.39 270 P Pn 18 47 12.2 +0.9
GUT Gutenstein 4.41 337 P Pn 18 47 11.9 +0.4
SMRF Simiane la Rot 4.44 271 eP Pn 18 47 13.6 +1.7
SMRF eSn Sn 18 47 58.6 -5.1
comp=Z,56nm,1.0s
STON Ston 4.51 103 ePn Pn 18 47 14.3 +1.5
STON Sn Sn 18 48 05.9 +0.6
STON Ston 4.51 103 ePn Pn 18 47 13.9 +1.1
OGMY Moye 4.52 296 P Pn 18 47 14.7 +1.6
OGMY S Sn 18 48 09.4 +3.6
GIMEL St. Georges / 4.58 305 P Pn 18 47 14.5 +0.6
BOURR Bourrignon 4.59 318 P Pn 18 47 14.4 +0.5
BOURR Bourrignon 4.59 318 S Sn 18 48 08.6 +1.3
ENDD Endenburg 4.59 324 P Pn 18 47 15.0 +0.9
FELD Feldberg im Sc 4.62 327 P Pn 18 47 14.8 +0.4
KIZ Kirchzarten 4.71 327 P Pn 18 47 15.7 0.0
CABF La Chapelle 4.72 305 eP Pn 18 47 18.1 +2.2
CABF eSn Sn 18 48 05.6 -5.2
comp=Z,58nm,1.0s
CHMF Charmoille 4.78 314 P Pn 18 47 16.8 +0.1
CONA Conrad Observa 4.83 35 ePn Pn 18 47 17.3 0.0
comp=Z,4.6nm,0.4s,SNR=8.6
CONA eSn Sn 18 48 12.6 -0.7
comp=Z,6.9nm,0.3s
RONA Rosalia, Austr 4.84 40 ePn Pn 18 47 17.3 -0.2
comp=Z,8.0nm,0.7s,SNR=11
RONA eSn Sn 18 48 11.8 -1.9
comp=Z,14nm,0.7s
BFO Black Forest 4.88 332 Pn Pn 18 47 18.4 +0.4
DBRK Dubrovnik 4.88 104 ePn Pn 18 47 18.9 +0.8
DBRK Sn Sn 18 48 15.4 +0.8
VSL Villasalto 4.88 202 Pn Pn 18 47 20.4 +2.4
RIVEL MONT RIVEL 4.90 305 P Pn 18 47 19.8 +1.6
VOGT Vogtsburg - To 4.91 326 P Pn 18 47 19.7 +1.2
VOGT Vogtsburg - To 4.91 326 S Sn 18 48 16.0 +0.6
MOF Molkenrain 4.96 321 P Pn 18 47 19.4 +0.2
MOF S Sn 18 48 16.7 0.0
GEC2 GERESS Array S 4.98 15 Pn 18 47 18.5 -0.9
GERES GERESS Array B 4.98 15 Pn 18 47 18.0 -1.4
GERES GERESS Array B 4.98 15 Pn Pn 18 47 19.6 +0.2
comp=Z,1.2nm,0.3s,baz=187,slow=11,SNR=11
GERES Pg Pb 18 47 33.4 +1.5
comp=Z,1.2nm,0.3s,baz=193,slow=17,SNR=7.4
GERES Sn Sn 18 48 15.4 -1.7
comp=Z,4.0nm,0.3s,baz=196,slow=19,SNR=9.7
GERES Lg Lg 18 48 41.9
comp=Z,0.4nm,0.3s,baz=218,slow=37,SNR=1.5
comp=Z,1.9nm,0.4s
BOUC Bouclans 4.99 312 P Pn 18 47 19.5 +0.1
WALT Westhalten 4.99 323 P Pn 18 47 19.1 -0.3
TREB Trebinje 5.01 103 ePn Pn 18 47 20.4 +0.6
HINF Hinteralfeld 5.07 320 eP Pn 18 47 21.8 +1.2
HINF eSn Sn 18 48 13.7 -5.5
comp=Z,38nm,0.6s
OPP Oppenau 5.07 332 P Pn 18 47 20.9 +0.3
CKRC Cesky Krumlov 5.09 20 ePN Pn 18 47 20.9 +0.1
CKRC eSN Sn 18 48 17.6 -2.0
RONF Ronchamp 5.09 318 P Pn 18 47 21.5 +0.6
BRY Bratogost 5.09 101 ePn Pn 18 47 22.8 +1.8
VIVF Saint-Julien-l 5.11 281 eP Pn 18 47 23.1 +1.9
VIVF eSn Sn 18 48 14.9 -5.4
comp=Z,6.2nm,0.4s
ECH Echery 5.23 324 Pn Pn 18 47 22.9 0.0
ECH Echery 5.23 324 P Pn 18 47 23.5 +0.7
ECH S Sn 18 48 21.7 -1.5
ECH Echery 5.23 324 P Pn 18 47 23.2 +0.4
ECH S Sn 18 48 22.3 -0.9
KHC Kasperske Hory 5.23 13 Pn Pn 18 47 21.2 -1.6
KHC Kasperske Hory 5.23 13 ePN Pn 18 47 23.6 +0.8
KHC eSN Sn 18 48 21.4 -1.9
BABA Baden-Baden-Ne 5.26 334 P Pn 18 47 24.0 +0.7
BABA Baden-Baden-Ne 5.26 334 S Sn 18 48 22.3 -1.6
SSB Saint Sauveur 5.27 286 Pn Pn 18 47 24.5 +1.2
SSB Saint Sauveur 5.27 286 P Pn 18 47 24.7 +1.4
SSB S Sn 18 48 25.5 +1.4
UPM Unac-Piva 5.28 97 ePn Pn 18 47 26.0 +2.3
WLS Welschbruch 5.31 327 P Pn 18 47 24.4 +0.5
CDF Champ du Feu 5.34 326 eP Pn 18 47 25.5 +1.2
CDF eSn Sn 18 48 20.5 -5.4
comp=Z,16nm,0.5s
HAU Haudompre 5.44 318 eP Pn 18 47 27.7 +2.0
HAU eSn Sn 18 48 22.7 -5.6
comp=Z,50nm,0.6s
BBLS Lazi&#263i 5.55 89 ePn Pn 18 47 22.4 -4.8
RUDO Rudo 5.55 92 ePn Pn 18 47 26.5 -0.7
ZVC Zvikov 5.64 17 ePN Pn 18 47 29.5 +1.1
ZVC eSN Sn 18 48 31.2 -2.1
LASF Ste Croix 5.67 273 eP Pn 18 47 30.9 +2.1
LASF eSn Sn 18 48 28.0 -6.0
comp=Z,2.4nm,0.3s
PDG Podgorica 5.74 104 ePn Pn 18 47 29.6 -0.1
DRME Dracevica, Mon 5.77 106 ePn Pn 18 47 31.2 +1.0
MODS Modra-Piesok 5.78 40 ePN Pn 18 47 31.5 +1.1
MODS eSN Sn 18 48 33.5 -3.3
KRUC Moravsky 5.95 31 eSN Sn 18 48 36.8 -4.1
SJES Sjenica 6.04 95 ePn Pn 18 47 35.5 +1.5
PAGF Fort de Pagny 6.12 319 eP Pn 18 47 37.3 +2.3
PAGF eSn Sn 18 48 39.1 -6.0
comp=Z,34nm,0.6s
SMF Signal de Mont 6.13 298 eP Pn 18 47 36.7 +1.6
SMF eSn Sn 18 48 39.0 -6.3
comp=Z,28nm,0.6s
NKC Novy Kostel 6.20 4 eSN Sn 18 48 44.5 -2.5
GOPC GO Pecny, Ondr 6.22 19 ePN Pn 18 47 35.9 -0.5
GOPC eSN Sn 18 48 44.9 -2.7
SFTF Sexfontaines 6.23 314 eP Pn 18 47 38.9 +2.4
baz=130
SFTF eSn Sn 18 48 41.4 -6.3
comp=Z,18nm,0.7s
VRAC Vranov 6.23 31 ePN Pn 18 47 37.2 +0.7
VRAC eSN Sn 18 48 44.8 -2.9
VRAC Vranov 6.23 31 Pn Pn 18 47 37.1 +0.6
comp=Z,1.7nm,0.4s,baz=212,slow=13,SNR=1.2
VRAC Sn Sn 18 48 44.8 -2.9
comp=Z,1.2nm,0.3s,baz=166,slow=19,SNR=4.7
VRAC Lg Lg 18 49 21.9
comp=Z,0.3nm,0.3s,baz=162,slow=20,SNR=1.6
PRU Pruhonice 6.24 17 eSN Sn 18 48 44.2 -3.7
PUK Puka 6.31 106 Pn Pn 18 47 38.5 +0.8
JAVC Velka Javorina 6.32 38 ePN Pn 18 47 38.8 +1.0
LOR Lormes 6.38 303 eP Pn 18 47 40.4 +1.8
baz=118
LOR eSn Sn 18 48 45.0 -6.4
comp=Z,39nm,0.6s
MEZF Maizieres J'vi 6.41 316 eP Pn 18 47 41.6 +2.6
MEZF eSn Sn 18 48 45.9 -6.3
comp=Z,30nm,0.9s
SAVF Savonnieres en 6.45 317 ePn Pn 18 47 37.0 -2.5
SAVF eSn Sn 18 48 46.8 -6.4
comp=Z,8.0nm,0.5s
AVF Avril sur Loir 6.49 298 eP Pn 18 47 41.9 +1.8
AVF eSn Sn 18 48 47.8 -6.5
comp=Z,19nm,0.9s
SSF Saint Saulge 6.50 300 eP Pn 18 47 41.9 +1.6
SSF eSn Sn 18 48 48.0 -6.5
comp=Z,21nm,0.6s
VYHS Vyhne 6.63 46 ePN Pn 18 47 46.0 +4.0
VYHS ePG Pg 18 48 18.4 +7.0
BGF Bois d'Agland 6.74 295 eP Pn 18 47 45.5 +2.0
BGF eSn Sn 18 48 53.7 -6.7
comp=Z,14nm,0.4s
MTLF Montolieu 6.93 267 eP Pn 18 47 48.0 +1.9
MTLF eSn Sn 18 48 58.4 -6.6
comp=Z,2.6nm,0.4s
KRLC Kraliky 6.94 28 ePN Pn 18 47 45.7 -0.6
CAF Calviac 6.96 281 eP Pn 18 47 48.4 +1.8
CAF eSn Sn 18 48 59.2 -6.7
comp=Z,1.0nm,0.4s
BRG Berggiesshubel 6.98 12 Pn Pn 18 47 46.6 -0.2
BRG Amp 18 47 48.9
comp=Z,3.7nm,0.5s
BRG Berggiesshubel 6.98 12 Pg Pg 18 48 16.3 -1.8
BRG Sn Sn 18 49 00.8 -5.4
BRG Amp 18 49 29.5
comp=Z,5.9nm,0.7s
BRG Amp 18 51 01.0
comp=Z,0.2nm,15.4s
BRG Amp 18 51 04.0
comp=E,0.1nm,9.9s
BRG Amp 18 51 05.0
comp=N,0.2nm,7.1s
TCF Toulx Ste Croi 7.08 292 eP Pn 18 47 50.2 +1.9
TCF eSn Sn 18 49 01.9 -7.0
comp=N,5.5nm,0.4s
CLL Collm 7.30 6 ePn Pn 18 47 53.0 +1.8
CLL ex x 18 48 02.0
CLL ePg Pg 18 48 25.0 +0.7
CLL eSn Sn 18 48 57.0 -17
CLL ex x 18 49 13.0
CLL eSb Sb 18 49 23.0 -15
CLL ex x 18 49 47.0
CLL eSg Sg 18 49 57.0 -1.8
comp=Z,28nm,1.2s
CLL AMS AMS 18 51 00.0
comp=Z,100nm,18.5s
MEM Membach 7.62 331 dPP Pn 18 48 04.3 +8.8
GIVF Givet 7.66 325 eSn Sn 18 49 14.9 -8.1
comp=Z,11nm,0.5s
BAIF Baives 7.89 322 ePn Pn 18 47 57.6 -1.7
BAIF eSn Sn 18 49 20.0 -8.7
comp=Z,2.9nm,0.5s
KEST Kesra 8.51 193 Pn Pn 18 48 15.4 +7.5
comp=Z,0.3nm,0.3s,baz=301,slow=18,SNR=2.4
BURAR Bucovina Array 10.06 65 Pn Pn 18 48 28.3 -0.9
MLR Muntele Rosu 10.21 77 LR LR 18 52 37.0
comp=Z,31nm,18.9s,baz=30,slow=39
RDO Rodhopi 10.59 101 Pn Pn 18 48 35.5 -0.8
SGMF Saint Gilles 10.76 298 eP Pn 18 48 40.2 +1.7
ESDC Sonseca Array 12.49 255 Pn Pn 18 49 02.7 +0.4
comp=Z,0.1nm,0.3s,baz=59,slow=13,SNR=3.5
comp=Z,0.8nm,0.9s
AKASG Malin Array Be 13.57 55 LR LR 18 55 44.9
comp=Z,15nm,19.0s,baz=242,slow=43
NACGM Naroch 14.58 37 eP Pn 18 49 15.8 -15
comp=Z,21nm,1.0s,baz=228
HFS Hagfors 16.14 4 LR LR 18 56 25.2
comp=Z,28nm,19.2s,baz=200,slow=39
BRTR Keskin Array B 16.87 97 Pn P 18 50 03.0 +0.1
baz=275,slow=12,SNR=2.7
comp=Z,0.4nm,0.8s
NB2 NORSAR Subarra 17.01 359 P P 18 50 06.1 +1.8
comp=Z,3.7nm,1.1s,baz=177,slow=14
NOA NORSAR Array B 17.01 359 Pn P 18 50 03.7 -0.6
baz=178,slow=11,SNR=8.7
NOA LR LR 18 56 40.3
comp=Z,21nm,19.0s,baz=180,slow=38
FINES FINES Array B 19.38 21 P Pn 18 50 31.6 +0.3
comp=Z,0.1nm,0.3s,baz=213,slow=10,SNR=4.7
FINES LR LR 18 58 57.0
comp=Z,74nm,19.1s,baz=199,slow=40
comp=Z,1.3nm,0.7s
ARPR Arapgir-MALATY 20.48 95 P P 18 50 41.1 -1.5
GAZ Gaziantep 20.48 101 P P 18 50 40.8 -1.7
KBZ Khabaz 22.40 80 P P 18 51 05.5 +2.4
comp=Z,1.3nm,0.6s,baz=292,slow=5.9,SNR=6.3
comp=Z,1.3nm,0.6s
KIRV Kirov 27.23 44 LR LR 19 03 57.5
comp=Z,48nm,20.9s,baz=230,slow=40
TOA0 Torodi Ar. Sit 31.98 199 P P 18 52 31.2 +0.3
TOA0 IAmb IAmb 18 52 32.9
comp=Z,5.6nm,1.0s
TORD Torodi Ar. Bea 31.98 199 P P 18 52 31.5 +0.7
TORD IAmb IAmb 18 52 32.8
comp=Z,2.8nm,1.0s
TORD Torodi Ar. Bea 31.98 199 P P 18 52 32.0 +1.1
comp=Z,3.0nm,0.8s,baz=11,slow=10,SNR=14
comp=Z,3.0nm,0.8s
MBAR Mbarara 47.59 154 P P 18 54 39.3 -1.5
MBAR IAmb IAmb 18 54 48.0
comp=Z,2.0nm,0.7s
MK31 Makanchi Array 48.06 61 P 18 54 44.1 +0.1
MKAR Makanchi Array 48.06 61 P P 18 54 41.7 -2.3
MKAR Makanchi Array 48.06 61 P P 18 54 44.8 +0.8
comp=Z,1.0nm,0.7s,baz=287,slow=6.2,SNR=11
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 65.45 336 P P 18 56 47.8 +0.6
comp=Z,0.8nm,0.9s,baz=41,slow=7.1,SNR=10
comp=Z,0.8nm,0.9s
HHC Hu-ho-hao-te 69.02 53 eP P 18 57 08.6 -1.7
HHC sP sP 18 57 15.7 +0.9
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,200nm,5.9s
PDAR Pinedale Array 78.86 320 P P 18 58 09.7 +1.6
comp=Z,0.3nm,0.6s,baz=51,slow=7.1,SNR=3.1
comp=Z,0.3nm,0.6s
BMO Blue Mountains 80.55 326 P P 18 58 18.4 +1.4
BMO IAmb IAmb 18 59 02.9
comp=Z,4.3nm,1.0s
RDMU Red Mountain 80.58 319 P P 18 58 18.0 +0.6
U15A North Rim 85.16 318 P P 18 58 43.0 +1.7
U15A IAmb IAmb 18 58 44.3
comp=Z,2.1nm,0.8s
KSXB Camp Six Broad 85.67 328 P P 18 58 44.2 +0.6
TX31 Lajitas Ar. Si 86.11 308 P P 18 58 46.5 +0.6
TX31 IAmb IAmb 18 58 50.6
comp=Z,3.2nm,1.4s
TXAR Lajitas Array 86.11 308 P 18 58 47.5 +1.5
TXAR Lajitas Array 86.11 308 P P 18 58 47.6 +1.7
comp=Z,1.1nm,0.9s,baz=64,slow=5.8,SNR=6.6
comp=Z,1.1nm,0.9s
KMPM Mount Pierce 86.98 328 P P 18 58 50.2 +0.2

*AEIC **03** 18:51:28.9±2.6,51.°7N±0.°1×179.°61W±0.°06,h82km±5km, Error ellipse: s-maj=18.9km s-min=5.1km az=185.0*
*NEIC **03** 18:51:29.3±2.6,51.°9N±0.°1×179.°66W±0.°07,h80km±2km, mb4.5/246,ML4.8(AEIC), Error ellipse: s-maj=21.6km s-min=7.2km az=174.0*
*MOS **03** 18:51:29.5±0.9,51.°88N×179.°73W,h114km,mb4.5/36, Error ellipse: s-maj=9.7km s-min=6.1km az=95.1*
*IDC **03** 18:51:30.0±1.6,51.°99N×179.°70W,h105km±12km, mb4.0/33,mbtmp4.4/38,MS3.0/24, Error ellipse: s-maj=15.5km s-min=8.9km az=167.0*

ISC 03 18:51:29.1±0.6,51.°80N±0.°07×179.°69W±0.°03, h101km±4km,n676,σ1$16/585,mb4.5/163,14C-33D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC h m s	ISC
CEPE	**Semis' Perret**	**0.44**	**292**			**Pn 18 51 43.8**	**-0.8**
CERB	**Semis' Cerberu**	**0.44**	**287**			**Pn 18 51 44.1**	**-0.6**
CERB						Sn 18 51 55.0	-1.2
CESW	**Semis' Southwe**	**0.47**	**282**			**Pn 18 51 43.9**	**-1.0**
CEAP	**Semis' Anvil P**	**0.50**	**294**			**Pn 18 51 44.5**	**-0.4**
AMKA	**Amchitka**	**0.76**	**236**	Pn		**Pn 18 51 45.9**	**-1.2**
AMKA	**Amchitka**	**0.76**	**236**			**Sn 18 51 58.4**	**-2.2**
LSPA	**Little Sitkin**	**1.09**	**279**			**Pn 18 51 50.6**	**0.0**
LSPA						Sn 18 52 06.8	+0.1
LSSE	**Little Sitkin**	**1.09**	**278**			**Pn 18 51 50.6**	**0.0**
LSNW	**Little Sitkin**	**1.12**	**279**			**Pn 18 51 50.7**	**-0.3**
ATKA	**Atka Island**	**3.42**	**81**	P		**Pn 18 52 19.9**	**-0.5**
ATKA	**Atka Island**	**3.42**	**81**	Pn		**Pn 18 52 19.6**	**-0.8**
ATKA	**Atka Island**	**3.42**	**81**			**Sn 18 53 00.4**	**+0.3**
KOKL	**Mount Kliuchef**	**3.43**	**79**			**Pn 18 52 20.3**	**-0.3**
KOFP	**Korovin Flat P**	**3.49**	**80**			**Pn 18 52 21.4**	**+0.1**
KOSE	**Korovin Southe**	**3.52**	**79**			**Pn 18 52 22.1**	**+0.2**
SHEM	**Shemya Is, Ala**	**3.93**	**286**	P		**Pn 18 52 26.7**	**-0.5**
SHEM	161nm,0.4s,baz=35,slow=4.8,SNR=25					S Sn 18 53 11.4	-0.9
	156nm,0.4s,baz=345,slow=22,SNR=1.5						
CLES	**Cleveland East**	**6.09**	**76**	Pn		**Pn 18 52 56.1**	**-0.5**
CLCO	**Concord Point,**	**6.20**	**77**			**Pn 18 52 59.0**	**+1.0**
NIKH	**Nikolski High**	**6.74**	**76**	P		**Pn 18 53 05.9**	**+0.6**
NIKH	**Nikolski High**	**6.74**	**76**			**Pn 18 53 06.3**	**+1.0**
NIKH						Sn 18 54 22.7	+2.2
NIKH	**Nikolski High** baz=265,SNR=14	**6.74**	**76**	P		**Pn 18 53 06.2**	**+1.0**
OKWE	**Okmok W'ng Wal**	**7.17**	**72**			**Pn 18 53 11.6**	**+0.5**
OKCE	**Okmok Cone E**	**7.21**	**72**			**Pn 18 53 12.4**	**+0.7**
OKFG	**Magazine Ridge**	**7.35**	**73**			**Pn 18 53 15.1**	**+1.4**
P08K	**Saint George I**	**7.64**	**47**			**Pn 18 53 19.1**	**+1.5**
P08K						Sn 18 54 40.4	-2.0
P08K	**Saint George I** baz=236	**7.64**	**47**	P		**Pn 18 53 18.2**	**+0.7**
SPIA	**Saint Paul Isl**	**7.69**	**42**	P		**Pn 18 53 20.3**	**+2.1**
SPIA	**Saint Paul Isl**	**7.69**	**42**			**Pn 18 53 20.2**	**+2.0**
MAPS	**Pakushin South**	**7.99**	**70**			**Pn 18 53 23.0**	**+0.7**
MREP	**Makushin Rep't**	**8.10**	**71**			**Pn 18 53 25.1**	**+1.2**
MNAT	**Makushin Natee**	**8.15**	**70**			**Pn 18 53 25.6**	**+1.1**
MTBL	**Makushin Table**	**8.16**	**69**			**Pn 18 53 26.1**	**+1.3**
UNV	**Unalaska Vale**	**8.25**	**70**	P		**Pn 18 53 26.9**	**+1.2**
UNV	**Unalaska Vale**	**8.25**	**70**			**Pn 18 53 27.1**	**+1.4**
UNV	**Unalaska Valle** baz=261,SNR=11	**8.25**	**70**	P		**Pn 18 53 27.0**	**+1.2**
AKRB	**Akutan Reef Bi**	**8.55**	**69**			**Pn 18 53 31.8**	**+1.9**
ZRO	**Akutan Zero**	**8.59**	**69**			**Pn 18 53 31.9**	**+1.4**
AKBBA	**Akutan Broad B**	**8.62**	**69**			**Pn 18 53 32.1**	**+1.2**
AHB	**Akutan Harbor**	**8.69**	**69**			**Pn 18 53 33.2**	**+1.4**
AKSA	**Akutan Strait**	**8.76**	**69**			**Pn 18 53 33.9**	**+1.1**
WECS	**Westdahl Cape**	**9.37**	**67**			**Pn 18 53 42.3**	**+1.2**
WESE	**West Dahl East**	**9.46**	**68**			**Pn 18 53 43.8**	**+1.4**
ISNN	**Isanotski Nort**	**9.99**	**66**			**Pn 18 53 51.0**	**+1.5**
FALS	**False Pass**	**10.20**	**66**	P		**Pn 18 53 54.9**	**+2.6**
FALS	**False Pass** baz=260	**10.20**	**66**	P		**Pn 18 53 53.7**	**+1.4**
S12K	**Black Hills**	**11.14**	**63**	Pn		**Pn 18 54 06.0**	**+1.0**
S12K	**Black Hills** baz=257	**11.14**	**63**	P		**Pn 18 54 06.1**	**+1.1**
M11K	**Mekoryuk** baz=227	**11.41**	**36**	P		**Pn 18 54 10.8**	**+2.2**
SDPT	**Sand Point**	**11.95**	**65**	P		**Pn 18 54 15.5**	**-0.4**
SDPT	**Sand Point**	**11.95**	**65**			**Pn 18 54 14.6**	**-1.2**
SDPT	**Sand Point** baz=261	**11.95**	**65**	P		**Pn 18 54 15.9**	**0.0**
M13K	**Dall Lake**	**12.52**	**40**	Pn		**P 18 54 27.6**	**-3.3**
M13K	**Dall Lake** baz=234	**12.52**	**40**	P		**Pn 18 54 25.4**	**+2.1**
S14K	**Fog Glacier** baz=258	**12.64**	**61**	P		**Pn 18 54 27.2**	**+2.1**
O14K	**Tigyukauivet M**	**12.80**	**47**	Pn		**Pn 18 54 27.5**	**+0.5**
N14K	**Kuskokwak Cree** baz=239	**12.94**	**44**	P		**Pn 18 54 31.4**	**+2.5**
K13K	**Kusilvak Mount**	**13.03**	**33**			**Pn 18 54 31.4**	**+1.4**
K13K	**Kusilvak Mount** baz=226	**13.03**	**33**	P		**Pn 18 54 32.4**	**+2.3**
CHGN	**Chignik**	**13.27**	**62**	Pn		**Pn 18 54 32.3**	**-0.9**
CHGN	**Chignik** baz=259	**13.27**	**62**	P		**Pn 18 54 34.4**	**+1.2**
M14K	**Bethel**	**13.28**	**41**	Pn		**Pn 18 54 34.4**	**+1.1**
M14K	**Bethel** baz=236,SNR=7.1	**13.28**	**41**	P		**Pn 18 54 34.8**	**+1.6**
L14K	**Kuka Creek** baz=232	**13.34**	**38**	P		**Pn 18 54 35.3**	**+1.2**
O15K	**Ungalikthiuk R** baz=245	**13.43**	**49**	P		**Pn 18 54 36.8**	**+1.5**
N15K	**Kwethluk River**	**13.76**	**45**	Pn		**Pn 18 54 41.0**	**+1.4**
N15K	**Kwethluk River** baz=241	**13.76**	**45**	P		**Pn 18 54 41.9**	**+2.4**

M15K	**Kasigluk River**	13.77	42	P		Pn	18 54 41.5	+1.9
	baz=238,SNR=8.4							
PETK	**Petropavlovsk-**	13.84	284	Pn		Pn	18 54 40.9	+0.2
PETK	**Petropavlovsk-**	13.84	284	P		Pn	18 54 41.6	+0.8
	2.3nm,0.6s,baz=86,slow=22,SNR=4.3							
PETK				S		Sn	18 57 09.8	-3.2
	2.0nm,0.8s,baz=80,slow=35,SNR=3.1							
PETK				LR		LR	18 59 43.2	
	comp=Z,57nm,21.7s,baz=93,slow=36							
J14K	**Nanvaranak Lak**	13.97	32	Pn		Pn	18 54 42.8	+0.6
J14K	**Nanvaranak Lak**	13.97	32	P		P	18 54 45.0	-1.9
	baz=226							
L15K	**Ungalak Mounta**	14.00	38	P		Pn	18 54 45.0	+2.3
	baz=233,SNR=5.1							
P16K	**Nushagak River**	14.24	51	P		Pn	18 54 47.8	+2.0
	baz=249							
K15K	**Wolf Creek Mou**	14.37	36			Pn	18 54 49.5	+2.1
K15K	**Wolf Creek Mou**	14.37	36	P		Pn	18 54 49.5	+2.1
	baz=231							
O16K	**Kokwok River B**	14.41	49	Pn		Pn	18 54 49.0	+1.1
O16K	**Kokwok River B**	14.41	49	P		P	18 54 50.2	-1.7
	baz=247,SNR=8.1							
N16K	**Nishlik Lake**	14.48	45	P		Pn	18 54 50.8	+1.9
	baz=242							
M16K	**Timber Creek**	14.66	43			Pn	18 54 52.1	+0.9
M16K	**Timber Creek**	14.66	43	P		Pn	18 54 53.1	+1.9
	baz=240,SNR=5.4							
ANM	**Nome**	14.80	25	P		P	18 54 54.9	-1.4
	baz=217							
L16K	**Owhat River**	14.81	40			Pn	18 54 54.3	+1.3
L16K	**Owhat River**	14.81	40	P		P	18 54 55.2	-1.2
	baz=237,SNR=6.1							
O17K	**Koliganek Bris**	14.95	49	P		Pn	18 54 56.1	+1.4
	baz=248							
Q17K	**Contact Creek**	15.05	55	P		Pn	18 54 57.4	+1.1
	baz=255							
TNA	**Tin City**	15.05	19	P		Pn	18 54 57.2	+1.1
	baz=209							
P17K	**Kvichak River**	15.05	51	P		Pn	18 54 57.6	+1.4
	baz=251,SNR=5.8							
N17K	**Nushagak Hills**	15.21	46	Pn		Pn	18 54 58.4	+0.3
N17K				IAmb		IAmb	18 55 40.2	
	comp=Z,28nm,1.2s							
N17K	**Nushagak Hills**	15.21	46	P		Pn	18 54 59.3	+1.2
	baz=245							
F14K	**Arctic Creek**	15.32	21	P		P	18 55 01.5	-0.5
	baz=213							
J16K	**Anvik River**	15.32	34	Pn		Pn	18 54 59.6	0.0
J16K	**Anvik River**	15.32	34	P		P	18 55 01.2	-0.8
	baz=230							
M17K	**Holitna River**	15.49	43	Pn		Pn	18 55 02.9	+1.3
M17K				IAmb		IAmb	18 55 09.8	
	comp=Z,43nm,0.7s							
M17K	**Holitna River**	15.49	43	P		P	18 55 03.4	-0.5
	baz=242,SNR=9.7							
G15K	**Niukluk**	15.49	25	P		P	18 55 04.2	+0.3
	baz=219							
L17K	**Donlin**	15.51	40	P		P	18 55 03.6	-0.5
	baz=238							
SII	**Sitkinak Islan**	15.63	62	Pn		Pn	18 55 01.9	-1.6
SII	**Sitkinak Islan**	15.63	62	P		P	18 55 04.8	-0.6
	baz=263							
I17K	**Unalakleet**	15.69	32	P		P	18 55 06.3	+0.3
	baz=228							
P18K	**Big Mountain,**	15.70	52	P		P	18 55 06.0	-0.3
	baz=252							
H16K	**Elim**	15.73	28	P		P	18 55 06.9	+0.4
	baz=223							
K17K	**Iditarod**	15.82	38			Pn	18 55 06.8	+0.9
K17K				IAmb		IAmb	18 55 15.1	
	comp=Z,42nm,1.4s							
K17K	**Iditarod**	15.82	38	P		P	18 55 07.9	+0.3
	baz=236							
N18K	**Kilae Creek**	15.85	47	Pn		Pn	18 55 06.8	+0.6
N18K	**Kilae Creek**	15.85	47	P		P	18 55 08.1	+0.1
	baz=247							
O18K	**Koktuh Hills**	15.86	50			P	18 55 07.5	-0.6
O18K	**Koktuh Hills**	15.86	50	P		P	18 55 08.3	+0.2
	baz=250,SNR=10.0							
F15K	**North Star Dit**	15.91	23			Pn	18 55 07.8	+1.0
F15K	**North Star Dit**	15.91	23	P		P	18 55 08.9	+0.5
	baz=216							
J17K	**VABM Dome**	15.93	35			Pn	18 55 04.7	-2.4
J17K				IAmb		IAmb	18 55 19.6	
	comp=Z,49nm,1.5s							
J17K	**VABM Dome**	15.93	35	P		P	18 55 09.0	+0.2
	baz=233							
L18K	**Granite Mounta**	16.20	41	Pn		P	18 55 11.4	-0.3
L18K						Pn	18 55 11.6	+1.1
L18K	**Granite Mounta**	16.20	41	P		P	18 55 12.9	+1.1
	baz=240,SNR=9.6							
OHAK	**Old Harbor**	16.20	60	P		Pn	18 55 08.3	-2.2
OHAK	**Old Harbor**	16.20	60	Pn		Pn	18 55 08.1	-2.4
M18K	**Stony River**	16.22	44	P		P	18 55 13.0	+1.0
	baz=244							
G16K	**Koyuk River**	16.26	26	P		P	18 55 14.6	+2.3
G16K	**Koyuk River**	16.26	26	P		P	18 55 13.8	+1.5
	baz=221							
Q19K	**Cape Douglas,**	16.36	54	Pn		Pn	18 55 12.9	+0.5
N19K	**Bonanza Creek**	16.54	47			P	18 55 16.1	+0.5
N19K				IAmb		IAmb	18 55 21.3	
	comp=Z,31nm,1.0s							
N19K	**Bonanza Creek**	16.54	47	P		P	18 55 16.3	+0.6
	baz=248,SNR=5.9							
H17K	**Granite Mounta**	16.65	30	Pn		Pn	18 55 14.5	-1.5
H17K	**Granite Mounta**	16.65	30	P		P	18 55 18.4	+1.7
	baz=227							
KDAK	**Kodiak Island**	16.67	58			Pn	18 55 14.1	-2.1
KDAK				IAmb		IAmb	18 55 30.9	
	comp=Z,70nm,1.5s							
KDAK	**Kodiak Island**	16.67	58	P		P	18 55 17.5	+0.6
	baz=261							
KDAK	**Kodiak Island**	16.67	58	P		Pn	18 55 14.1	-2.1
	comp=Z,12nm,0.3s,baz=298,slow=7.3,SNR=88							
KDAK				S		Sn	18 58 14.2	-6.7
	comp=Z,2.2nm,0.3s,baz=180,slow=20,SNR=1.2							
KDAK				LR		LR	19 02 23.9	
	comp=Z,80nm,18.5s,baz=268,slow=40							
KDAK	**Kodiak Island**	16.67	58	P		Pn	18 55 15.7	-0.5
KDAK				pmax		pmax		
	comp=Z,32nm,2.0s							
P19K	**Oil Pt**	16.75	52	P		P	18 55 19.3	+1.3
	baz=254							
G17K	**Kiwalik Mounta**	16.82	28	P		P	18 55 20.5	+1.9
	baz=224							
TTA	**Tatalina**	16.83	39			P	18 55 19.4	+0.7
TTA	**Tatalina**	16.83	39	P		P	18 55 20.8	+2.0
	baz=240,SNR=6.5							
TTA	**Tatalina**	16.83	39	P		P	18 55 19.4	+0.7
TTA				pmax		pmax		
	comp=Z,16nm,1.1s							
J18K	**Innoko River**	16.84	37	P		P	18 55 19.8	+1.0
J18K	**Innoko River**	16.84	37	P		P	18 55 20.5	+1.7
	baz=237,SNR=6.0							
ILSW	**Iliamna Southw**	16.89	51	Pn		Pn	18 55 19.0	-0.1
ILSW				IAmb		IAmb	18 55 22.3	
	comp=Z,40nm,1.0s							
Q20K	**Shuyak Island**	16.92	56	P		P	18 55 20.4	+0.7
	baz=258							
SYI	**Shuyak Island**	16.92	56			P	18 55 19.7	0.0
SYI				IAmb		IAmb	18 55 32.1	
	comp=Z,39nm,0.8s							
L19K	**White Mountain**	16.94	43	P		P	18 55 21.5	+1.6
L19K				IAmb		IAmb	18 55 30.9	
	comp=Z,18nm,0.7s							
L19K	**White Mountain**	16.94	43	P		P	18 55 21.7	+1.8
	baz=244,SNR=7.6							
M19K	**Big River Lodg**	17.02	44	P		P	18 55 22.4	+1.6
	baz=245							
O20K	**Slope Mountain**	17.17	51	P		P	18 55 23.9	+1.4
	baz=253							
RSO	**Redoubt South**	17.22	49	P		P	18 55 24.7	+1.5
H18K	**Honhosa River**	17.28	31			P	18 55 23.2	-0.5
H18K	**Honhosa River**	17.28	31	P		Pn	18 55 26.0	+2.3
	baz=230							
F17K	**Baldwin Pennin**	17.35	25	P		P	18 55 24.0	-0.3
F17K	**Baldwin Pennin**	17.35	25	P		Pn	18 55 26.9	+2.4
	baz=221							
L20K	**Farewell, AK**	17.48	42	P		Pn	18 55 28.1	+1.9
	baz=244							
J19K	**Poorman**	17.54	37			Pn	18 55 28.1	+1.3
J19K	**Poorman**	17.54	37	P		Pn	18 55 29.2	+2.4
	baz=237							
M20K	**Styx River**	17.55	45	P		Pn	18 55 28.6	+1.4
M20K	**Styx River**	17.55	45	P		Pn	18 55 29.1	+2.0
	baz=247							
BILL	**Bilibino**	17.66	342	P		Pn	18 55 29.9	+1.6
BILL				IAmb		IAmb	18 55 33.5	
	comp=Z,48nm,1.1s							
BILL	**Bilibino**	17.66	342	*i* P		Pn	18 55 30.1	+1.8
				pmax		pmax		
	comp=Z,54nm,1.1s							
G18K	**Tagagawik**	17.69	29			Pn	18 55 29.7	+1.0
G18K	**Tagagawik**	17.69	29	P		Pn	18 55 30.5	+1.9
	baz=227							
E17K	**Hotham Inlet**	17.69	23	P		Pn	18 55 30.8	+2.1
	baz=219,SNR=14							
CNPM	**China Poot**	17.70	53			Pn	18 55 29.5	+0.6
CNPM				IAmb		IAmb	18 55 33.6	
	comp=Z,25nm,0.9s							
N20K	**Mount Spurr**	17.72	47	P		Pn	18 55 30.5	+1.4
	baz=250							
K20K	**Telida**	17.81	40	P		Pn	18 55 31.5	+1.4
	baz=241							
D17K	**Noatak River**	17.89	21	P		Pn	18 55 32.9	+1.8
	baz=215,SNR=16							
F18K	**Selawik**	17.90	26	P		Pn	18 55 32.6	+1.5
	baz=224							
C16K	**Lisburne Hills**	17.92	17	P		Pn	18 55 33.0	+1.6
C16K				IAmb		IAmb	18 55 34.1	
	comp=Z,26nm,0.8s							
C16K	**Lisburne Hills**	17.92	17	P		Pn	18 55 33.2	+1.8
	baz=210,SNR=9.5							
BRLK	**Bradley Lake**	17.93	52	P		Pn	18 55 32.5	+0.8
BRLK				IAmb		IAmb	18 56 03.7	
	comp=Z,60nm,1.4s							
BRSE	**Bradley Lake S**	18.00	53	P		Pn	18 55 33.3	+0.9
	baz=257							
CAPN	**Captain Cook N**	18.07	49	P		Pn	18 55 34.3	+1.2
	baz=253							
H19K	**Roundabout Mou**	18.14	32	P		Pn	18 55 35.5	+1.4
	baz=232							
J20K	**Nowinta River**	18.19	37	IAmb		IAmb	18 55 47.0	
	comp=Z,14nm,0.6s							
J20K	**Nowinta River**	18.19	37	P		Pn	18 55 36.0	+1.4
	baz=239,SNR=7.8							
RDOG	**Red Dog Mine**	18.23	20	P		Pn	18 55 34.9	-0.2
RDOG				IAmb		IAmb	18 55 39.4	
	comp=Z,20nm,1.1s							
RDOG	**Red Dog Mine**	18.23	20	P		Pn	18 55 36.0	+1.0
	baz=215							
MA2	**Magadan**	18.25	307	P		Pn	18 55 35.5	0.0
	comp=Z,3.0nm,0.5s,baz=83,slow=13,SNR=5.8							
E18K	**Tukpahlearik C**	18.26	24	P		Pn	18 55 36.6	+1.1
	baz=220							
SKT	**Skwentna**	18.29	45	IAmb		IAmb	18 55 39.3	
	comp=Z,45nm,1.0s							
SKT	**Skwentna**	18.29	45	P		Pn	18 55 37.2	+1.3
	baz=249,SNR=19							
G19K	**Purcell Mounta**	18.33	30	IAmb		IAmb	18 55 43.3	
	comp=Z,20nm,0.8s							
G19K	**Purcell Mounta**	18.33	30	P		Pn	18 55 37.6	+1.2
	baz=229,SNR=15							
PPLA	**Purkeypile**	18.36	42	P		Pn	18 55 37.6	+0.7
	baz=246							
I20K	**Naaghedeneel**	18.39	35	P		Pn	18 55 38.0	+1.0
	baz=237							
SUA	**Susitna One**	18.47	47	IAmb		IAmb	18 55 42.2	
	comp=Z,29nm,0.9s							
SUA	**Susitna One**	18.47	47	P		Pn	18 55 38.5	+0.4
	baz=252							
C17K	**DeLong Mountai**	18.52	19	P		Pn	18 55 39.5	+0.9
	baz=214,SNR=12							
SEY	**Seymchan**	18.56	318	P		P	18 55 36.3	-1.3
	comp=Z,1.3nm,0.7s,baz=139,slow=19,SNR=2.1							
SEY				LR		LR	19 01 45.4	
	comp=Z,51nm,20.9s,baz=276,slow=33							
SEY	**Seymchan**	18.56	318	*e*P		Pn	18 55 41.0	+2.0
SEY				pmax		pmax		
	comp=Z,6.0nm,1.0s							
F19K	**Shaleruckik Mo**	18.59	28	IAmb		IAmb	18 55 45.6	
	comp=Z,17nm,0.7s							
F19K	**Shaleruckik Mo**	18.59	28	P		Pn	18 55 40.9	+1.5
	baz=227,SNR=9.9							
CAST	**Castle Rocks**	18.63	41	P		Pn	18 55 40.1	+0.2
CAST				IAmb		IAmb	18 56 17.1	
	comp=Z,13nm,0.8s							
CAST	**Castle Rocks**	18.63	41	P		Pn	18 55 40.7	+0.8
	baz=244,SNR=15							
H20K	**Anotleneega Mo**	18.65	33	P		Pn	18 55 40.5	+0.4
	baz=235,SNR=7.6							
SEW	**Seward**	18.71	52	P		Pn	18 55 41.0	+0.1
	baz=257							
CHUM	**Lake Minchumin**	18.75	39	P		Pn	18 55 42.0	+0.8
	baz=243							
RC01	**Rabbit Creek A**	18.82	49	P		Pn	18 55 42.7	+0.5
	baz=254							
M22K	**Willow**	18.84	47	P		Pn	18 55 43.1	+0.7
	baz=252							
CUT	**Chulitna**	19.00	45	P		Pn	18 55 44.2	0.0
	baz=250							
C18K	**Utukok River**	19.08	21	IAmb		IAmb	18 55 46.6	
	comp=Z,15nm,0.7s							
C18K	**Utukok River**	19.08	21	P		Pn	18 55 46.3	+1.0
	baz=217,SNR=12							
KTH	**Kantishna Hill**	19.16	41	IAmb		IAmb	18 55 46.9	
	comp=Z,26nm,0.8s							
E19K	**Redstone River**	19.18	27	P		Pn	18 55 46.8	+0.4
	baz=226							
PMR	**Palmer**	19.25	48	P		Pn	18 55 47.2	+0.1
	baz=253							
IMAR	**Indian Mountai**	19.31	33	P		Pn	18 55 47.5	-0.4
F20K	**Avaraart Lake**	19.34	29	P		Pn	18 55 49.1	+0.9
	baz=230,SNR=8.2							
BPAW	**Bear Paw Mtn.**	19.37	39	P		Pn	18 55 48.2	-0.4
BPAW	**Bear Paw Mtn.**	19.37	39	P		Pn	18 55 48.5	-0.1
	baz=244,SNR=11							
TRF	**Thorofare Moun**	19.38	42	P		Pn	18 55 48.3	-0.6
TRF				IAmb		IAmb	18 55 57.5	
	comp=Z,10nm,0.7s							
TRF	**Thorofare Moun**	19.38	42	P		Pn	18 55 48.5	-0.4
	baz=247							
GHO	**Glory Hole Cre**	19.39	47	P		P	18 55 47.9	+1.1
GHO				IAmb		IAmb	18 56 10.5	
	comp=Z,16nm,1.0s							
H21K	**Melozitna Rive**	19.45	34	P		Pn	18 55 49.6	0.0
	baz=238,SNR=9.3							
I21K	**Tanana**	19.50	36	P		Pn	18 55 49.8	-0.3
	baz=240							
KNK	**Knik Glacier**	19.51	48	IAmb		IAmb	18 56 15.0	
	comp=Z,12nm,0.7s							
KNK	**Knik Glacier**	19.51	48	P		P	18 55 48.4	+0.4
	baz=255							
B18K	**Kokolik River**	19.54	19	P		Pn	18 55 50.2	-0.3
	baz=215							
SML	**Sawmill**	19.67	47	P		Pn	18 55 51.7	-0.5
	baz=254							
D19K	**Kuna River**	19.69	24	P		Pn	18 55 52.0	-0.3
	baz=223							
P23K	**Montague Islan**	19.70	53	P		Pn	18 55 51.9	-0.6
	baz=260							
G21K	**Allakaket**	19.70	32	P		Pn	18 55 52.0	-0.4
	baz=234							
C19K	**Lookout Ridge**	19.80	21	IAmb		IAmb	18 55 57.9	
	comp=Z,14nm,0.9s							
C19K	**Lookout Ridge**	19.80	21	P		Pn	18 55 52.9	-0.7
	baz=219							
MLY	**Manley**	19.89	37	P		Pn	18 55 53.8	-0.9
MLY	**Manley**	19.89	37	P		Pn	18 55 53.7	-0.9
	baz=242							
WAT1	**Susitna Watana**	19.89	44	P		P	18 55 53.3	+1.1
	baz=251							
M23K	**Glacier View**	19.95	48	P		P	18 55 53.9	+1.1
	baz=255							
RND	**Reindeer**	19.96	43	P		P	18 55 53.5	+0.5
E20K	**Nigu River**	20.02	26	P		Pn	18 55 55.6	-0.6
	baz=226							
GLI	**Glacier Island**	20.02	50	P		Pn	18 55 55.2	-1.0
	baz=258							
MCK	**McKinley**	20.05	42	P		Pn	18 55 55.5	-1.0
	baz=248							
H22K	**Ishtalitna Cre**	20.08	35	P		Pn	18 55 56.4	-0.5
	baz=239							
F21K	**Alatna River**	20.13	30	IAmb		IAmb	18 56 00.1	
	comp=Z,12nm,0.8s							
F21K	**Alatna River**	20.13	30	P		Pn	18 55 57.1	-0.3
	baz=233,SNR=17							
Q23K	**Middleton Isla**	20.14	55	P		Pn	18 55 56.4	-1.1
	baz=263							
SCM	**Sheep Creek Mo**	20.14	48	IAmb		IAmb	18 55 57.1	
	comp=Z,18nm,0.8s							
SCM	**Sheep Creek Mo**	20.14	48	P		P	18 55 56.3	+1.4
	baz=255							
WAT6	**Susitna Watana**	20.16	45	P		P	18 55 55.5	+0.2
	baz=252,SNR=7.5							
D20K	**Etivluk River**	20.23	24	P		Pn	18 55 57.7	-0.9
	baz=225							
NEA2	**Nenana**	20.33	39	IAmb		IAmb	18 55 59.1	
	comp=Z,15nm,0.8s							
NEA2	**Nenana**	20.33	39	P		P	18 55 58.1	+1.2
	baz=246,SNR=17							
A19K	**Wainwright**	20.38	18	P		Pn	18 55 59.1	-1.1
	baz=215							
I23K	**Minto, Yukon-K**	20.46	38	P		Pn	18 56 00.0	-1.2
	baz=244,SNR=5.2							
DHY	**Denali Highway**	20.48	44	IAmb		IAmb	18 56 27.0	
	comp=Z,19nm,0.7s							
DHY	**Denali Highway**	20.48	44	P		P	18 55 59.7	+1.1
	baz=252,SNR=15							
G22K	**Bettles**	20.59	32	P		Pn	18 56 01.4	-1.3
	baz=236							
EYAK	**Cordova Ski Ar**	20.61	52	P		Pn	18 56 01.7	-1.3
	baz=260							
H23K	**Yukon River**	20.70	36	P		Pn	18 56 03.3	-0.8
	baz=242							
F22K	**John River**	20.71	30	P		Pn	18 56 02.8	-1.4
	baz=234,SNR=8.3							
KLU	**Klutina**	20.71	49	IAmb		IAmb	18 56 23.7	
	comp=Z,27nm,1.4s							
KLU	**Klutina**	20.71	49	P		P	18 56 02.6	+1.6
	baz=258							
M24K	**Tolsona, Glenn**	20.73	47	P		P	18 56 02.5	+1.2
	baz=256							
E21K	**Killik River**	20.75	27	IAmb		IAmb	18 56 05.9	
	comp=Z,20nm,0.6s							
E21K	**Killik River**	20.75	27	P		P	18 56 03.0	+1.6
	baz=230							
MDM	**Murphy Dome**	20.81	39	P		P	18 56 02.4	+0.3
MDM				IAmb		IAmb	18 56 27.4	
	comp=Z,13nm,0.9s							
COLA	**College**	20.93	39	P		Pn	18 56 05.4	-1.3
	baz=246							
COLA	**College**	20.93	39‖	*e*P		P	18 56 04.7	+1.5
COLA				pmax		pmax		
	comp=Z,5.0nm,0.9s							
G23K	**Bananza Creek**	20.97	33	P		P	18 56 05.4	+1.6
G23K				IAmb		IAmb	18 56 08.5	
	comp=Z,17nm,0.8s							
G23K	**Bananza Creek**	20.97	33	P		P	18 56 05.4	+1.6
	baz=238,SNR=22							
C21K	**Knifeblade Rid**	21.01	25	P		P	18 56 05.3	+1.2
	baz=227,SNR=10							
B20K	**Meade River**	21.05	22	IAmb		IAmb	18 56 07.3	
	comp=Z,12nm,0.8s							
B20K	**Meade River**	21.05	22	P		P	18 56 06.3	+1.8
	baz=222							
HDA	**Harding Lake**	21.11	41	P		P	18 56 07.2	+2.0
	baz=249							
COLD	**Coldfoot**	21.18	32	P		P	18 56 08.7	+2.7
	baz=238,SNR=5.1							
POKR	**Poker Plat Res**	21.19	39	P		P	18 56 07.8	+1.7
	baz=246							
E22K	**Anaktuvuk Pass**	21.19	29	IAmb		IAmb	18 56 10.2	
	comp=Z,9.9nm,0.8s							
E22K	**Anaktuvuk Pass**	21.19	29	P		P	18 56 08.8	+2.7
	baz=233							
BMRM	**Bremner River**	21.23	51	P		P	18 56 07.7	+1.1
	baz=260							
ILAR	**Eielson Array**	21.27	40	P		P	18 56 05.4	-1.5
	comp=Z,1.6nm,0.7s,baz=240,slow=9.2,SNR=22							
ILAR				PcP		PcP	19 00 06.5	-0.9
	comp=Z,0.6nm,0.4s,baz=262,slow=3.2,SNR=6.1							
ILAR				ScP		ScP	19 03 32.4	-2.3
	comp=Z,0.8nm,0.5s,baz=276,slow=3.3,SNR=13							
ILAR				LR		LR	19 05 27.4	
	comp=Z,53nm,18.4s,baz=87,slow=40							
	comp=Z,1.6nm,0.7s							
HARP	**HAARP**	21.27	47	P		P	18 56 08.0	+1.1
	baz=256							
PAX	**Paxson**	21.28	45	P		P	18 56 08.2	+1.0
	baz=254,SNR=7.8							
H24K	**Noodor Dome**	21.32	37	IAmb		IAmb	18 56 12.3	
	comp=Z,9.8nm,0.8s							
H24K	**Noodor Dome**	21.32	37	P		P	18 56 09.4	+1.9
	baz=244,SNR=13							
N25K	**Chitina, Valde**	21.35	49	IAmb		IAmb	18 56 11.2	
	comp=Z,9.7nm,0.8s							
N25K	**Chitina, Valde**	21.35	49	P		P	18 56 08.9	+1.0
	baz=259							
B21K	**Ikpikpuk River**	21.38	24	IAmb		IAmb	18 56 35.1	
	comp=Z,14nm,0.9s							
B21K	**Ikpikpuk River**	21.38	24	P		P	18 56 09.3	+1.3
	baz=226,SNR=20							
D22K	**Ayikyak River**	21.40	27	P		P	18 56 10.9	+2.6
D22K				IAmb		IAmb	18 56 12.8	
	comp=Z,28nm,0.7s							
D22K	**Ayikyak River**	21.40	27	P		P	18 56 10.0	+1.7
	baz=231,SNR=30							
GLB	**Gilahina Butte**	21.69	50	IAmb		IAmb	18 56 51.6	
	comp=Z,31nm,1.4s							
J25K	**Salcha River,**	21.82	41	P		P	18 56 13.5	+0.7
	baz=250							
E23K	**Chandalar**	21.82	30	P		P	18 56 14.3	+1.4
	baz=237							
G24K	**Hadweenzic Riv**	21.85	35	IAmb		IAmb	18 56 16.6	
	comp=Z,14nm,0.9s							
G24K	**Hadweenzic Riv**	21.85	35	P		P	18 56 14.4	+1.3
	baz=243,SNR=6.9							
D23K	**Nanushuk River**	22.02	28	P		P	18 56 16.0	+1.1
	baz=233							
MCARA	**McCarthy VSAT**	22.05	50	P		P	18 56 16.0	+0.7
	baz=261							
PRP	**Porcupine Dome**	22.08	39	P		P	18 56 16.6	+0.9
	baz=248							
F24K	**Squaw Lake**	22.10	33	IAmb		IAmb	18 56 18.9	
	comp=Z,14nm,0.8s							
F24K	**Squaw Lake**	22.10	33	P		P	18 56 16.9	+1.1
	baz=240,SNR=23							
TOLK	**Toolik Lake Re**	22.16	29	P		P	18 56 17.6	+1.2
	baz=236,SNR=11							
A21K	**Barrow**	22.16	20	P		P	18 56 17.0	+0.7
	baz=220							
B22K	**Teshekpuk Lake**	22.17	23	P		P	18 56 17.6	+1.2
	baz=227							
E24K	**Your Creek**	22.19	31	P		P	18 56 18.0	+1.3
	baz=238,SNR=9.8							
SCRK	**Sand Creek**

baz=242,SNR=20
G26K Porcupine Rive 23.28 36 P **P 18 56 28.0 +0.5**
baz=247,SNR=12
YUK3 Moose Creek 23.32 49 P **P 18 56 27.6 -0.6**
baz=263
O28M Mount Upton 23.35 52 P **P 18 56 29.0 +0.4**
baz=265
F26K Sheenjek River 23.46 34 P **P 18 56 30.2 +1.1**
baz=245,SNR=6.3
D25K Kavik River 23.50 29 IAmb IAmb 18 56 55.9
comp=Z,13nm,0.8s
D25K Kavik River 23.50 29 P **P 18 56 30.4 +0.8**
baz=239,SNR=20
EGAK Eagle 23.60 42 IAmb IAmb 18 56 56.7
comp=Z,17nm,0.8s
EGAK Eagle 23.60 42 P **P 18 56 30.7 +0.3**
baz=255,SNR=11
YUK8 Steele Glacier 23.60 51 P **P 18 56 31.6 +0.8**
baz=265
PNL Peninsula 23.68 55 P **P 18 56 31.4 +0.1**
baz=269
H27K Steamboat Moun 23.87 38 P **P 18 56 33.2 +0.3**
baz=252
G27K Doyon Strip 24.01 37 P **P 18 56 35.0 +0.8**
baz=250
YUK4 Talbot Arm 24.14 51 P **P 18 56 36.5 +0.9**
baz=265
DAWY Dawson 24.18 44 P **P 18 56 36.5 +0.8**
baz=259
C26K Camden Bay 24.25 29 P **P 18 56 37.5 +1.4**
baz=240,SNR=50
YUK6 Outpost Mounta 24.25 52 P **P 18 56 37.6 +1.0**
baz=267
I28M Miner Creek 24.27 41 IAmb IAmb 18 56 40.2
comp=Z,8.0nm,0.7s
I28M Miner Creek 24.27 41 P **P 18 56 37.5 +1.0**
baz=255,SNR=16
M29M Somme Creek 24.34 48 IAmb IAmb 18 57 13.9
comp=Z,11nm,0.8s
M29M Somme Creek 24.34 48 P **P 18 56 38.6 +1.3**
baz=263,SNR=7.6
C27K Jago River 24.47 30 P **P 18 56 39.3 +1.1**
baz=242,SNR=13
E27K Coleen River 24.54 34 P **P 18 56 40.1 +1.3**
baz=247,SNR=10.0
L29M L29M 24.58 46 P **P 18 56 40.2 +0.9**
baz=262,SNR=5.3
YSS Yuzh-Sakhalins 24.73 274 *e*P **P 18 56 42.3 +1.5**
YSS pmax pmax
comp=Z,20nm,0.7s
N30M Aishikik Lake 24.90 51 P **P 18 56 42.9 +0.6**
baz=267
F28M Old Crow 24.94 36 IAmb IAmb 18 57 09.5
comp=Z,9.2nm,0.8s
F28M Old Crow 24.94 36 P **P 18 56 43.7 +1.2**
baz=251,SNR=16
K29M Barlow Dome 24.96 45 P **P 18 56 43.9 +1.1**
K29M IAmb IAmb 18 57 08.8
comp=Z,8.5nm,0.8s
K29M Barlow Dome 24.96 45 P **P 18 56 43.5 +0.7**
baz=261,SNR=7.4
H29M Whitestone 25.09 39 P **P 18 56 44.8 +0.9**
baz=255
D27M Malcolm River 25.17 32 IAmb IAmb 18 57 12.0
comp=Z,10nm,1.0s
D27M Malcolm River 25.17 32 P **P 18 56 46.1 +1.5**
baz=246,SNR=18
E28M Babbage River 25.40 33 P **P 18 56 48.3 +1.7**
baz=249
J30M Hart River 25.59 43 P **P 18 56 48.0 -0.5**
R31K City Hall, Gus 25.61 58 P **P 18 56 49.9 +1.4**
baz=274
MAYO Mayo, Yukon 25.64 46 P **P 18 56 50.2 +1.3**
baz=263
I30M Mount Dempster 25.68 42 P **P 18 56 49.5 +0.2**
I30M Mount Dempster 25.68 42 P **P 18 56 50.4 +1.0**
baz=260
EPYK Eagle Plains 25.78 39 P **P 18 56 50.6 +0.5**
baz=257
E29M Blow River 25.90 34 P **P 18 56 51.1 -0.1**
baz=251,SNR=9.8
D28M Stokes Point 25.93 32 P **P 18 56 52.7 +1.3**
baz=249
G30M tAoh Zraii Nji 26.11 38 P **P 18 56 53.6 +0.4**
baz=256
ASAJ Asahikawa 26.16 268 P **P 18 56 54.8 +1.1**
comp=Z,13nm,0.8s,baz=66,slow=10.0,SNR=2.9
ASAJ LR LR 19 10 16.4
comp=Z,14nm,18.2s,baz=332,slow=43
comp=Z,13nm,0.8s
M31M Drury Creek, Y 26.22 49 P **P 18 56 54.8 +0.7**
baz=268
F30M Barrier River 26.43 37 P **P 18 56 56.6 +0.6**
baz=255
G31M Satah River 26.85 38 P **P 18 57 00.7 +1.0**
baz=258
P33M Teslin, Yukon 26.99 53 P **P 18 57 01.2 +0.1**
baz=273
F31M Tsiigehtchic 27.16 37 P **P 18 57 03.0 +0.6**
baz=258
INK Inuvik 27.43 36 P **P 18 57 05.7 +0.8**
baz=256
INK Inuvik 27.43 36 LR LR 19 08 20.7
comp=Z,35nm,19.6s,baz=348,slow=37
INK Inuvik 27.43 36 P **P 18 57 05.5 +0.6**
INK pmax pmax
comp=Z,4.0nm,0.8s
MMPY Sheldon Lake, 27.68 48 P **P 18 57 08.0 +0.7**
baz=270
R33M Jennings River 27.98 55 P **P 18 57 10.6 +0.5**
baz=276
YAK Yakutsk 28.72 311 LR LR 19 08 02.0
comp=Z,22nm,19.8s,baz=92,slow=35
TIXI Tiksi 29.99 330 P **P 18 57 28.2 +0.6**
TIXI Tiksi 29.99 330 LR LR 19 10 40.7
comp=Z,15nm,19.1s,baz=100,slow=39
TIXI Tiksi 29.99 330⇓ *e*P **P 18 57 28.3 +0.8**
KLR Kul'dur 30.53 285 P **P 18 57 32.6 +0.1**
comp=Z,8.1nm,0.5s,baz=71,slow=7.7,SNR=41
KLR LR LR 19 09 40.5
comp=Z,27nm,20.9s,baz=49,slow=36
comp=Z,8.1nm,0.5s
KLR Kul'dur 30.53 285⇓ *e*P **P 18 57 32.6 +0.1**
KLR pmax pmax
comp=Z,38nm,1.8s
A36M Sachs Harbour 30.99 29 P **P 18 57 37.9 +1.6**
baz=259,SNR=28
C36M Paulatuk 30.99 35 P **P 18 57 37.0 +0.7**
baz=264
BBB Bella Bella 31.21 69 LR LR 19 10 02.6
comp=Z,11nm,18.0s,baz=216,slow=36
ZEA Zeya 31.55 295 *e*P **P 18 57 40.6 -0.8**
USRK Ussuriysk Ar. 32.70 276 P **P 18 57 51.5 -0.1**
comp=Z,7.9nm,0.6s,baz=59,slow=10,SNR=28
USRK PcP **PcP 19 00 35.1 +0.3**
comp=Z,1.5nm,0.7s,baz=47,slow=3.9,SNR=3.0
comp=Z,7.9nm,0.6s
HEH HeiHe 32.70 289 *e*P **P 18 57 50.6 -1.0**
HEH pmax pmax
comp=Z,11nm,0.6s
HEH pmax pmax
comp=Z,440nm,4.8s
MJAR Matsushiro Arr 33.31 259 P **P 18 57 58.0 +0.9**
comp=Z,3.0nm,0.7s,baz=41,slow=7.3,SNR=13
MJAR PcP **PcP 19 00 37.0 +0.3**
comp=Z,1.4nm,0.7s,baz=70,slow=2.0,SNR=4.9
MJAR LR LR 19 14 20.2
comp=Z,4.4nm,18.0s,baz=34,slow=41
comp=Z,3.0nm,0.7s
MJAR Matsushiro Arr 33.31 259 P **P 18 57 58.0 +0.9**
MJAR 19 00 37.0
MAJO Matsushiro 33.31 259⇑ *i*P **P 18 57 57.7 +0.7**
MAJO pmax pmax
comp=Z,55nm,2.9s
H11N2 WAKE ISLAND Hy 33.69 203 T T 19 35 14.5
baz=18,slow=76,SNR=117
H11N3 WAKE ISLAND Hy 33.70 203 T T 19 34 58.2
baz=18,slow=76,SNR=106
H11N1 WAKE ISLAND Hy 33.71 203 T T 19 35 17.6
baz=18,slow=76,SNR=91
MDJ Mudanjiang 33.96 278 P **P 18 58 03.3 +0.7**
MDJ pmax pmax
comp=Z,15nm,1.7s
MDJ pmax pmax
comp=Z,1μm,4.8s
BNX BinXian 34.73 281⇓ P **P 18 58 08.3 -0.9**
BNX pmax pmax
comp=Z,17nm,0.6s
BNX pmax pmax
comp=Z,610nm,4.1s
H11S1 WAKE ISLAND Hy 34.91 203 T T 19 36 50.4
baz=19,slow=74
H11S2 WAKE ISLAND Hy 34.93 203 T T 19 35 53.5
baz=19
H11S3 WAKE ISLAND Hy 34.93 203 T T 19 36 29.4
baz=19,slow=74
YKA Yellowknife Ar 35.34 47 P **P 18 58 13.9 -0.3**
comp=Z,0.8nm,0.7s,baz=285,slow=8.7,SNR=9.1
YKA PcP **PcP 19 00 42.2 +0.2**
comp=Z,0.1nm,0.5s,baz=308,slow=2.8,SNR=3.7
YKA ScP **ScP 19 04 16.9 -1.5**
comp=Z,0.5nm,0.5s,baz=296,slow=3.8,SNR=12
YKA LR LR 19 13 41.0
comp=Z,28nm,20.2s,baz=25,slow=38
comp=Z,0.8nm,0.7s
YKA Yellowknife Ar 35.34 47*ce*P **P 18 58 15.0 +0.8**
YKA pmax pmax
comp=Z,1.0nm,0.6s
BOD Bodaibo 37.28 306 *e*P **P 18 58 30.2 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.6s
COR Corvallis 37.44 78 P **P 18 58 34.0 +1.7**
COR pmax pmax
comp=Z,35nm,0.8s
DBO Dodson Butte 38.27 80 IAmb IAmb 18 58 42.0
comp=Z,6.6nm,0.7s
HUMO Hull Mountain 38.72 81 P **P 18 58 44.8 +1.7**
HUMO IAmb IAmb 18 58 46.1
comp=Z,5.2nm,0.8s
KSRS Korea Array 39.08 270 P **P 18 58 47.5 +1.4**
comp=Z,7.7nm,0.9s,baz=54,slow=8.2,SNR=16
KSRS LR LR 19 14 23.6
comp=Z,7.1nm,21.0s,baz=100,slow=35
comp=Z,7.7nm,0.9s
KHMM House Mountain 39.23 83 P **P 18 58 49.5 +1.9**
NEW Newport 39.26 70 P **P 18 58 48.1 +0.6**
baz=300
NEW Newport 39.26 70 LR LR 19 13 59.8
comp=Z,15nm,18.2s,baz=32,slow=34
NEW Newport 39.26 70 P **P 18 58 48.5 +1.0**
PINE Pine Mountain 39.30 78 IAmb IAmb 18 58 50.8
comp=Z,5.3nm,0.8s
YBH Yreka Blue Hor 39.37 82 P **P 18 58 50.3 +1.7**
YBH IAmb IAmb 18 58 51.9
comp=Z,7.4nm,0.8s
YBH Yreka Blue Hor 39.37 82 LR LR 19 11 44.8
comp=Z,16nm,21.8s,baz=310,slow=31
YBH Yreka Blue Hor 39.37 82 P **P 18 58 50.3 +1.7**
YBH pmax pmax
comp=Z,7.0nm,0.8s
RES Resolute Bay 39.59 25 IAmb IAmb 18 58 52.3
comp=Z,4.2nm,1.1s
RES Resolute Bay 39.59 25 P **P 18 58 50.6 +0.7**
RES pmax pmax
comp=Z,5.0nm,1.0s
K05A Summer Lake 39.92 79 P **P 18 58 54.8 +1.6**
JNU Nakatsue 40.08 262 LR LR 19 14 47.5
comp=Z,15nm,21.9s,baz=39,slow=35
J08A Circle Bar Ran 41.03 77 IAmb IAmb 18 59 04.2
comp=Z,7.2nm,0.9s
GDXM Geysers 41.04 85 IAmb IAmb 18 59 06.6
comp=Z,10nm,1.2s
ORV Oroville 41.39 84 IAmb IAmb 18 59 06.5
comp=Z,4.4nm,0.7s
WVOR Wild Horse Val 41.46 78 P **P 18 59 07.2 +1.4**
WVOR pmax pmax
comp=Z,21nm,0.7s
MSO Missoula 41.84 70 P **P 18 59 09.3 +0.4**
baz=302
PAHR Pah Rah Range 42.60 82 IAmb IAmb 18 59 17.5
comp=Z,16nm,1.4s
PNTR Pine Nut 42.84 83 P **P 18 59 18.6 +1.4**
CMB Columbia Colle 43.01 85 IAmb IAmb 18 59 20.8
comp=Z,3.4nm,0.6s
YERR Yerington 43.13 83 IAmb IAmb 18 59 46.8
comp=Z,7.5nm,1.1s
WAKR Walker 43.30 83 IAmb IAmb 18 59 23.1
comp=Z,7.4nm,0.5s
HLID Hailey 43.36 74 IAmb IAmb 18 59 22.9
comp=Z,5.3nm,1.0s
HLID Hailey 43.36 74 P **P 18 59 21.9 +0.6**
baz=305
KVN Kaiserville 43.79 82 IAmb IAmb 18 59 27.8
comp=Z,3.7nm,0.7s
BOZ Bozeman (W) 43.86 70 P **P 18 59 25.5 +0.3**
baz=304,SNR=5.9
NVAR Mina Array Bea 44.05 83 P **P 18 59 27.9 +0.9**
comp=Z,3.0nm,0.4s,baz=299,slow=7.3,SNR=5.0
NVAR ScP **ScP 19 04 52.6 -0.3**
comp=Z,1.7nm,0.8s,baz=286,slow=4.3,SNR=9.3
comp=Z,3.0nm,0.4s
ELK Elko 44.51 78 LR LR 19 18 20.9
comp=Z,17nm,18.1s,slow=36
ELK Elko 44.51 78 P **P 18 59 31.2 +0.6**
DSP Deep Springs 44.92 84 P **P 18 59 35.1 +1.6**
DSP IAmb IAmb 18 59 36.3
comp=Z,5.8nm,0.9s
PKM Mcpherson Peak 45.37 88 P **P 18 59 38.0 +0.6**
baz=311
GMN Gold Mountain 45.40 83 IAmb IAmb 18 59 39.8
comp=Z,5.0nm,0.7s
RLMT Red Lodge 45.50 69 IAmb IAmb 18 59 41.9
comp=Z,3.6nm,0.9s
RLMT Red Lodge 45.50 69 P **P 18 59 39.2 +0.8**
baz=305
GRAC Grapevine Rang 45.53 84 P **P 18 59 39.4 +1.0**
baz=310
ULN Ulaanbaatar 45.58 295 P **P 18 59 38.7 -0.2**
ULN IAmb IAmb 18 59 40.2
comp=Z,9.6nm,0.8s
ULN Ulaanbaatar 45.58 295*d i*P **P 18 59 39.3 +0.5**
ULN pmax pmax
comp=Z,13nm,1.0s
ISA Isabella, Lake 45.70 86 IAmb IAmb 18 59 41.2
comp=Z,7.0nm,1.1s
ISA Isabella, Lake 45.70 86 P **P 18 59 40.3 +0.5**
baz=311,SNR=5.5
BGU Big Grassy Mou 45.74 76 IAmb IAmb 18 59 45.3
comp=Z,4.0nm,0.8s
R11B Troy Canyon, C 45.77 81 IAmb IAmb 18 59 42.3
comp=Z,6.4nm,0.7s
R11B Troy Canyon, C 45.77 81 P **P 18 59 40.9 +0.4**
baz=309,SNR=22
Q12A Willow Creek R 45.80 80 IAmb IAmb 18 59 47.8
comp=Z,11nm,1.2s
SONM Songino Array 45.96 296 P **P 18 59 42.6 +0.8**
comp=Z,6.8nm,0.5s,baz=62,slow=7.4,SNR=19
SONM PcP **PcP 19 01 16.6 -0.3**
comp=Z,3.2nm,0.7s,baz=72,slow=2.3,SNR=5.5
comp=Z,6.8nm,0.5s
MPMC Manual Prospec 46.05 85 P **P 18 59 43.5 +0.8**
baz=310,SNR=8.4
WCT Wildcat Mounta 46.11 83 IAmb IAmb 18 59 44.5
comp=Z,3.3nm,0.9s
SPR3 Spring Creek 3 46.13 79 IAmb IAmb 18 59 45.9
comp=Z,7.3nm,0.6s
FURC Furnace Creek, 46.17 84 P **P 18 59 44.5 +1.1**
baz=310,SNR=6.1
HWUT Hardware Ranch 46.21 75 IAmb IAmb 18 59 45.5
comp=Z,4.5nm,1.0s
ZAK Zakamensk 46.26 300 *e*P **P 18 59 43.7 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
LRMC Laurel Mtn Rad 46.31 85 P **P 18 59 45.5 +0.9**
baz=311
DUG Dugway, Tooele 46.31 77 P **P 18 59 45.4 +0.7**
baz=308,SNR=26
DUG Dugway, Tooele 46.31 77 P **P 18 59 45.4 +0.7**
DUG pmax pmax
comp=Z,26nm,0.9s
GWY Greenwater Val 46.48 84 IAmb IAmb 18 59 47.8
comp=Z,5.5nm,0.7s
QSM Queen of Sheba 46.49 84 IAmb IAmb 18 59 49.5
comp=Z,6.7nm,0.7s
EDW2 Edwards Air Fo 46.51 86 P **P 18 59 46.7 +0.5**
baz=311
NOR Nord 46.53 3 P **P 18 59 45.9 +0.2**
NOR pmax pmax
comp=Z,10.0nm,2.6s
NOR Nord 46.53 3 *i*P **P 18 59 45.9 +0.2**
NOR IAmb IAmb 18 59 47.0
comp=Z,9.3nm,1.2s
BW06 Boulder Array 46.71 72 P **P 18 59 48.2 +0.3**
baz=307
PD31 Pinedale Array 46.71 72 IAmb IAmb 19 00 13.8
comp=Z,4.4nm,0.9s
PDAR Pinedale Array 46.71 72 P **P 18 59 47.3 -0.6**
PDAR Pinedale Array 46.71 72 P **P 18 59 47.9 0.0**
comp=Z,1.3nm,0.4s,baz=317,slow=3.0,SNR=20
comp=Z,1.3nm,0.4s
SHOC Shoshone, Teco 46.90 84 P **P 18 59 50.1 +0.9**
baz=311
NLU North Lily Min 46.91 77 P **P 18 59 49.3 -0.2**
NLU IAmb IAmb 18 59 51.0
comp=Z,7.2nm,0.7s
GSC Goldstone, Bar 46.97 85 P **P 18 59 50.2 +0.5**
baz=311,SNR=13
HHC Hu-ho-hao-te 47.04 285 *e*P **P 18 59 52.0 +1.7**
HHC pP pP 19 00 07.6 -6.5
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,58nm,4.9s
BFSC Mount Baldy Ra 47.13 87 P **P 18 59 51.7 +0.5**
baz=312
NEEM North Greenlan 47.15 13 *i*P **P 18 59 50.7 -0.2**
NEEM IAmb IAmb 18 59 52.5
comp=Z,26nm,0.8s
BSUT Blindstream Ca 47.34 75 IAmb IAmb 18 59 55.2
comp=Z,4.1nm,0.7s
TUQ Turquoise Moun 47.42 84 P **P 18 59 54.3 +1.0**
baz=311,SNR=7.4
HEC Hector,Ludlow 47.57 85 P **P 18 59 55.7 +1.3**
baz=311,SNR=6.9
CCUT Cedar City 47.63 80 IAmb IAmb 18 59 57.1
comp=Z,4.2nm,0.7s
MURC Murrieta 47.85 87 P **P 18 59 57.0 +0.4**
baz=312
GMRC Granite Mounta 48.01 85 P **P 18 59 58.9 +0.9**
baz=312,SNR=13
MTPU Mount Pierson 48.04 79 IAmb IAmb 19 00 00.7
comp=Z,7.7nm,0.8s
LCMT Little Creek M 48.05 81 IAmb IAmb 19 00 00.5
comp=Z,8.2nm,0.9s
BTO Baotou 48.12 286 *e*P **P 19 00 00.2 +1.6**
BTO pP **sP 19 00 33.7 -0.2**
BTO sP PcP 19 00 55.6 -29
BTO PP **PP 19 01 56.0 +4.6**
BTO S **S 19 06 46.9 -2.7**
P18A Preston Nutter 48.22 76 IAmb IAmb 19 00 01.4
comp=Z,7.7nm,0.9s
NJ2 Nanjing 48.25 271 *e*P **P 19 00 01.2 +1.6**
NJ2 pmax pmax
comp=Z,12nm,0.5s
PFO Pinyon Flats O 48.30 86 P **P 19 00 00.5 +0.3**
baz=312
PFO Pinyon Flats O 48.30 86 LR LR 19 17 53.0
comp=Z,12nm,21.0s,baz=72,slow=33
TPFO Pinon Flats 48.30 86 P **P 19 00 00.6 +0.4**
baz=312
BELC Belle Mtn. Jos 48.32 86 P **P 19 00 00.3 0.0**
baz=312,SNR=6.7
PKCU Pink Cliffs 48.34 80 IAmb IAmb 19 00 03.0
comp=Z,7.8nm,0.8s
NEE2 Needles Airpor 48.67 84 P **P 19 00 03.1 +0.3**
baz=312
IRM Iron Mountain 48.75 85 P **P 19 00 04.3 +0.8**
baz=312,SNR=7.6
MONP2 Monument Peak 48.80 87 P **P 19 00 04.6 +0.5**
baz=313
BC3 Big Chuckawall 48.89 86 P **P 19 00 04.9 +0.2**
baz=312
O20A White River Ci 49.10 74 P **P 19 00 06.5 +0.2**
baz=309,SNR=14
IKP In-Ko-Pah, Jac 49.16 87 P **P 19 00 07.3 +0.6**
baz=313,SNR=5.1
PDMCI Parker Dam,Lak 49.27 84 P **P 19 00 08.1 +0.7**
baz=312
GLA Glamis 49.68 86 P **P 19 00 11.7 +1.1**
baz=313
ESJX Sierra Juarez 49.70 88 IAmb IAmb 19 00 12.3
comp=Z,5.4nm,0.6s
UPNV Upernavik 49.75 19 *i*P **P 19 00 10.6 0.0**
UPNV IAmb IAmb 19 00 11.8
comp=Z,6.9nm,0.7s
SPITS Spitsbergen Ar 49.91 356 P **P 19 00 11.7 0.0**
comp=Z,14nm,0.5s,baz=46,slow=7.1,SNR=78
comp=Z,14nm,0.5s
ULM Lac du Bonnet 49.91 57 LR LR 19 23 15.7
comp=Z,28nm,18.2s,baz=5.5,slow=38
SPB2 Spitsbergen Ar 49.91 356 P **P 19 00 11.7 0.0**
N23A Red Feather La 49.99 72 P **P 19 00 13.5 +0.4**
baz=309
WUAZ Wupatki 50.17 81 IAmb IAmb 19 00 16.5
comp=Z,6.1nm,0.7s
WUAZ Wupatki 50.17 81 P **P 19 00 15.6 +1.2**
baz=312
SMCO Snowmass 50.46 74 IAmb IAmb 19 00 17.9
comp=Z,3.9nm,0.7s
MVCO Mesa Verde 50.81 77 IAmb IAmb 19 00 20.8
comp=Z,11nm,1.2s
MVCO Mesa Verde 50.81 77 P **P 19 00 20.2 +0.9**
baz=311
X16A Lo Mia Camp, P 50.86 82 IAmb IAmb 19 00 21.8
comp=Z,3.1nm,0.8s
ISCO Idaho Springs 50.88 73 P **P 19 00 20.5 +0.6**
baz=310
ISCO Idaho Springs 50.88 73 P **P 19 00 21.2 +1.3**
DAG Danmarks Havn 51.13 6 P **P 19 00 20.5 -0.3**
DAG pmax pmax
comp=Z,7.0nm,0.7s
DAG Danmarks Havn 51.13 6 *i*P **P 19 00 20.1 -0.8**
DAG IAmb IAmb 19 00 21.9
comp=Z,3.2nm,0.6s
W18A Petrified Fore 51.44 80 IAmb IAmb 19 00 26.0
comp=Z,6.3nm,0.8s
W18A Petrified Fore 51.44 80 P **P 19 00 25.2 +1.3**
baz=312
214A Organ Pipe Nat 51.67 85 P **P 19 00 26.6 +1.1**
baz=314
X18A Snowflake 51.70 81 IAmb IAmb 19 00 28.1
comp=Z,6.8nm,1.1s
WHN Wuhan 52.08 273 P P 19 00 37.0 +8.5
SDCO Great Sand Dun 52.27 75 IAmb IAmb 19 00 32.0
comp=Z,6.3nm,1.1s
SDCO Great Sand Dun 52.27 75 P **P 19 00 30.9 +0.7**
baz=311,SNR=6.4
TUC Tucson 52.68 83 P **P 19 00 33.4 +0.3**
TUC IAmb IAmb 19 00 34.8
comp=Z,3.8nm,0.9s
TUC Tucson 52.68 83 P **P 19 00 34.0 +0.9**
baz=313
TUC Tucson 52.68 83 P **P 19 00 33.4 +0.3**
TUC pmax pmax
comp=Z,4.0nm,0.9s
FRB Frobisher Bay 52.95 31 LR LR 19 24 59.4
comp=Z,36nm,18.6s,baz=186,slow=38
FRB Frobisher Bay 52.95 31 P **P 19 00 33.6 -0.9**
FRB pmax pmax
comp=Z,6.0nm,1.3s
SUMG Summit 53.02 14 P **P 19 00 35.6 +0.2**
SUMG IAmb IAmb 19 00 38.3
comp=Z,7.6nm,0.9s
SUMG Summit 53.02 14 P **P 19 00 35.6 +0.2**
SUMG pmax pmax
comp=Z,8.0nm,0.9s
SUMG Summit 53.02 14 *i*P **P 19 00 34.5 -0.9**
SUMG IAmb IAmb 19 00 37.2
comp=Z,5.6nm,0.9s
T25A Trinidad 53.32 75 P **P 19 00 39.0 +1.1**
baz=312,SNR=7.4
ZALV Zalesovo Beam 53.34 313 P **P 19 00 36.9 -0.5**
comp=Z,0.3nm,0.3s,baz=29,slow=6.7,SNR=2.3
ZALV PcP **PcP 19 01 42.3 -1.3**
comp=Z,0.9nm,0.6s,baz=33,slow=5.7,SNR=4.4
comp=Z,0.3nm,0.3s
ANMO Albuquerque 53.55 78 P **P 19 00 40.4 +0.8**
baz=312
ANMO Albuquerque 53.55 78*ce*P **P 19 00 40.1 +0.5**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
EYMN Ely 53.60 57 P **P 19 00 40.5 +1.0**
baz=310
121A Cookes Peak, D 54.38 81 P **P 19 00 46.6 +1.0**
baz=314
GTA Gaotai 54.90 291 P **P 19 00 49.9 +0.7**
GTA sP pP 19 01 13.6 -0.1
GTA pmax pmax
comp=Z,37nm,0.5s
ENH Enshi 55.28 276 P **P 19 00 51.5 -0.4**
ENH IAmb IAmb 19 00 52.0
comp=Z,7.4nm,0.9s
ICESG Greenland Ices 55.89 16 *i*P **P 19 00 55.6 -0.5**

ICESG					IAmb	IAmb	19 00 57.6		
	comp=Z,7.8nm,0.6s								
MNTX	**Cornudas Mount**	**56.42**	**80**	P	**P**		**19 01 01.4**	**+1.3**	
	baz=314,SNR=5.2								
MSTX	**Muleshoe**	**56.44**	**76**	P	**P**		**19 01 01.8**	**+1.5**	
	baz=314								
VHRN	**Van Horn**	**57.30**	**81**	IAmb	IAmb		19 01 08.3		
	comp=Z,3.8nm,0.8s								
ARCES	**ARCESS Array B**	**57.58**	**350**	P	**P**		**19 01 06.9**	**-0.8**	
	comp=Z,2.2nm,0.5s,baz=23,slow=8.1,SNR=18								
ARCES				PcP	**PcP**		**19 01 58.6**	**-1.2**	
	comp=Z,4.1nm,1.0s,baz=15,slow=5.0,SNR=3.7								
	comp=Z,2.2nm,0.5s								
WMOK	**Wichita Mounta**	**58.30**	**73**	IAmb	IAmb		19 01 14.5		
	comp=Z,3.0nm,0.8s								
WMOK	**Wichita Mounta**	**58.30**	**73**	P	**P**		**19 01 14.1**	**+0.9**	
	baz=314								
WMOK	**Wichita Mounta**	**58.30**	**73**	P	**P**		**19 01 14.2**	**+1.0**	
KURK	**Kurchatov**	**58.33**	**313**	*d* *i* P	**P**		**19 01 12.8**	**-0.3**	
KURK				pmax	pmax				
	comp=Z,3.0nm,1.3s								
CD2	**Chengdu**	**58.35**	**281**	P	**P**		**19 01 14.1**	**+0.5**	
CD2				pmax	pmax				
	comp=Z,10.0nm,0.7s								
APA	**Apatity**	**58.39**	**346**	⇓ *i* P	**P**		**19 01 16.8**	**+3.5**	
APA				pmax	pmax				
	comp=Z,4.0nm,0.8s								
KURBB	**Kurchatov Arra**	**58.43**	**313**	P	**P**		**19 01 13.0**	**-0.8**	
	comp=Z,1.2nm,0.4s,baz=43,slow=6.4,SNR=17								
KURBB				PcP	**PcP**		**19 02 02.7**	**-0.7**	
	comp=Z,1.7nm,0.8s,baz=43,slow=6.1,SNR=5.0								
	comp=Z,1.2nm,0.4s								
WMQ	**Urumqi**	**58.65**	**302**	*e*P	P		19 01 21.2	+5.7	
TX31	**Lajitas Ar. Si**	**59.13**	**81**	IAmb	IAmb		19 01 20.6		
	comp=Z,6.7nm,1.2s								
TXAR	**Lajitas Array**	**59.13**	**81**	P	**P**		**19 01 19.2**	**0.0**	
TXAR	**Lajitas Array**	**59.13**	**81**	P	**P**		**19 01 19.6**	**+0.4**	
	comp=Z,1.9nm,0.6s,baz=301,slow=4.8,SNR=23								
TXAR				ScP	**ScP**		**19 05 57.0**	**-0.8**	
	comp=Z,0.7nm,0.7s,baz=290,slow=3.3,SNR=6.0								
	comp=Z,1.9nm,0.6s								
ABTX	**Abilene, Hawle**	**59.26**	**75**	P	**P**		**19 01 20.8**	**+0.9**	
	baz=315								
MK31	**Makanchi Array**	**59.34**	**308**	P	**P**		**19 01 19.5**	**-0.7**	
MK31				IAmb	IAmb		19 01 20.0		
	comp=Z,1.6nm,0.3s								
MK31	**Makanchi Array**	**59.34**	**308**	*ce*P	**P**		**19 01 19.0**	**-1.2**	
MKAR	**Makanchi Array**	**59.34**	**308**	P	**P**		**19 01 19.2**	**-1.0**	
	comp=Z,2.0nm,0.3s,baz=48,slow=6.8,SNR=74								
	comp=Z,2.0nm,0.3s								
MKAR	**Makanchi Array**	**59.34**	**308**	P	**P**		**19 01 19.3**	**-0.9**	
SAND	**Sanderson**	**59.64**	**79**	IAmb	IAmb		19 01 23.4		
	comp=Z,2.2nm,0.8s								
GOMU	**GeErMu**	**59.98**	**291**	P	**P**		**19 01 25.3**	**+0.1**	
GOMU				pP	pP		19 01 30.1	-20	
GOMU				sP	sP		19 01 32.3	-29	
GOMU				pmax	pmax				
	comp=Z,27nm,0.8s								
SCHQ	**Schefferville**	**60.01**	**38**	P	**P**		**19 01 23.4**	**-1.3**	
	comp=Z,1.2nm,0.4s,baz=336,slow=7.6,SNR=5.4								
	comp=Z,1.2nm,0.4s								
BVAR	**Borovoye Array**	**60.21**	**319**	P	**P**		**19 01 25.2**	**-0.8**	
	comp=Z,2.1nm,0.4s,baz=49,slow=6.6,SNR=22								
BVAR				PcP	**PcP**		**19 02 09.8**	**-0.7**	
	comp=Z,2.0nm,0.5s,baz=45,slow=4.1,SNR=7.2								
	comp=Z,2.1nm,0.4s								
BRVK	**Borovoye**	**60.23**	**319**	P	**P**		**19 01 25.1**	**-1.0**	
BRVK				IAmb	IAmb		19 01 27.2		
	comp=Z,1.8nm,0.7s								
BRVK	**Borovoye**	**60.23**	**319**	*de*P	**P**		**19 01 25.1**	**-1.0**	
BRVK				pmax	pmax				
	comp=Z,8.0nm,2.8s								
FCAR	**Ozark Folk Cen**	**61.39**	**68**	P	**P**		**19 01 32.6**	**-1.7**	
FCAR				IAmb	IAmb		19 02 00.5		
	comp=Z,4.7nm,0.8s								
MIAR	**Mount Ida**	**61.50**	**70**	P	**P**		**19 01 35.5**	**+0.5**	
	baz=315								
ARU	**Arti**	**61.95**	**328**	P	**P**		**19 01 36.9**	**-0.8**	
ARU				IAmb	IAmb		19 02 17.4		
	comp=Z,2.7nm,0.6s								
ARU	**Arti**	**61.95**	**328**	*d* *i* P	**P**		**19 01 37.0**	**-0.8**	
ARU							19 02 16.2		
ARU				S	**S**		**19 09 56.4**	**+2.9**	
ARU				SS	**SS**		**19 13 56.2**	**-0.3**	
ARU				pmax	pmax				
	comp=Z,2.0nm,0.6s								
ARU	**Arti**	**61.95**	**328**	P	**P**		**19 01 37.3**	**-0.4**	
	comp=Z,3.4nm,0.5s								
PZH	**PanZhiHua**	**62.73**	**279**	P	**P**		**19 01 43.6**	**+0.1**	
PZH				pmax	pmax				
	comp=Z,10.0nm,0.9s								
PZH				pmax	pmax				
	comp=Z,100nm,5.1s								
KIRV	**Kirov**	**62.95**	**334**	LR	LR		19 32 19.9		
	comp=Z,16nm,18.5s,baz=66,slow=39								
KLMR	**Klimovskoe**	**63.39**	**340**	*e*P	**P**		**19 01 44.6**	**-2.6**	
KLMR				pmax	pmax				
	comp=Z,11nm,1.4s								
SLVN	**Son La**	**65.19**	**273**	P	**P**		**19 01 60.0**	**+0.3**	
SLVN				IAmb	IAmb		19 02 01.3		
	comp=Z,10nm,1.5s								
FINES	**FINESS Array B**	**65.25**	**347**	P	**P**		**19 01 58.4**	**-0.9**	
	comp=Z,2.0nm,0.6s,baz=13,slow=8.3,SNR=15								
	comp=Z,2.0nm,0.6s								
SSPA	**Standing Stone**	**65.68**	**55**	P	**P**		**19 02 03.2**	**+0.8**	
	baz=318								
AAK	**Ala-Archa**	**66.16**	**309**	⇓ *e*P	**P**		**19 02 06.2**	**+0.5**	
AAK				pmax	pmax				
	comp=Z,5.0nm,1.7s								
TKL	**Tuckaleechee C**	**66.25**	**62**	LR	LR		19 30 43.2		
	comp=Z,21nm,19.2s,baz=288,slow=36								
LSA	**Lhasa**	**66.78**	**289**	P	**P**		**19 02 12.0**	**+1.8**	
LSA	**Lhasa**	**66.78**	**289**	P	**P**		**19 02 12.0**	**+1.8**	
LSA				pmax	pmax				
	comp=Z,27nm,0.6s								
AKTO	**Aktyubinsk**	**67.02**	**324**	LR	LR		19 33 46.9		
	comp=Z,21nm,19.7s,baz=61,slow=38								
NB2	**NORSAR Subarra**	**67.17**	**354**	P	**P**		**19 02 11.3**	**-0.4**	
	comp=Z,1.6nm,0.7s,baz=8.2,slow=6.2								
NOA	**NORSAR Array B**	**67.17**	**354**	P	**P**		**19 02 10.8**	**-0.9**	
	comp=Z,1.6nm,0.5s,baz=251,slow=4.1,SNR=12								
	comp=Z,1.6nm,0.5s								
ABKAR	**Akbulak array**	**67.26**	**322**	P	**P**		**19 02 11.3**	**-1.0**	
KK31	**Karatay Array**	**67.69**	**312**	P	**P**		**19 02 14.1**	**-1.1**	
KK31	**Karatay Array**	**67.69**	**312**	P	**P**		**19 02 14.1**	**-1.1**	
KK31				pmax	pmax				
	comp=Z,2.0nm,0.9s								
HFS	**Hagfors**	**67.90**	**353**	P	**P**		**19 02 15.7**	**-0.5**	
	comp=Z,2.7nm,0.5s,baz=39,slow=5.7,SNR=20								
	comp=Z,2.7nm,0.5s								
CRAI	**Chiangrai**	**68.20**	**275**	P	**P**		**19 02 19.1**	**+0.4**	
BELG	**Belogornoye**	**68.81**	**331**	*d* *i* P	**P**		**19 02 21.0**	**-1.0**	
BELG				pmax	pmax				
	comp=Z,2.0nm,0.9s								
OBN	**Obninsk**	**69.28**	**339**	P	**P**		**19 02 24.9**	**+0.1**	
	comp=Z,10nm,0.4s,baz=126,slow=16,SNR=2.1								
	comp=Z,10nm,0.4s								
OBN	**Obninsk**	**69.28**	**339**	*e*P	**P**		**19 02 24.9**	**+0.1**	
OBN				*e*			19 02 47.8		
OBN				*e*			19 04 59.4		
OBN				*e*PPP	PPP		19 06 40.5		
OBN				pmax	pmax				
	comp=Z,11nm,1.6s								
BTK	**Batken**	**69.91**	**310**	P	**P**		**19 02 29.4**	**+0.3**	
BTK				IAmb	IAmb		19 02 32.1		
	comp=Z,3.7nm,0.8s								
BTK	**Batken**	**69.91**	**310**	P	**P**		**19 02 29.4**	**+0.3**	
BTK				pmax	pmax				
	comp=Z,4.0nm,0.9s								
CMAR	**Chiang Mai Arr**	**70.42**	**275**	P	**P**		**19 02 32.4**	**0.0**	
CMAR	**Chiang Mai Arr**	**70.42**	**275**	P	**P**		**19 02 32.8**	**+0.4**	
	comp=Z,2.4nm,0.7s,baz=29,slow=6.6,SNR=22								
	comp=Z,2.4nm,0.7s								
LUWI	**Luwuk**	**71.39**	**243**	P	**P**		**19 02 36.2**	**-2.0**	
SIMJ	**Simiganj**	**71.88**	**310**	P	**P**		**19 02 40.6**	**-0.6**	
SIMJ				IAmb	IAmb		19 02 42.6		
	comp=Z,2.9nm,0.8s								
EKA	**Eskdalemuir Ar**	**73.19**	**2**	P	**P**		**19 02 48.4**	**0.0**	
	comp=Z,0.6nm,0.4s,baz=353,slow=5.4,SNR=5.7								
	comp=Z,0.6nm,0.4s								
CMIG	**Matias Romero**	**73.58**	**83**	LR	LR		19 34 26.0		
	comp=Z,11nm,18.1s,baz=128,slow=35								
AK21	**Malin Array Si**	**74.94**	**342**	P	**P**		**19 02 57.8**	**-0.8**	
AK03	**Malin Array Si**	**74.95**	**341**	P	**P**		**19 02 57.8**	**-0.9**	
AKASG	**Malin Array Be**	**74.97**	**341**	P	**P**		**19 02 58.2**	**-0.6**	
	comp=Z,4.1nm,0.3s,baz=20,slow=6.4,SNR=27								
	comp=Z,4.1nm,0.3s								

AKBB	**Malin Array Si**	**74.97**	**341**	*d* P	**P**		**19 02 58.1**	**-0.7**	
AKBB				pmax	pmax				
	comp=Z,6.0nm,0.5s								
KIEV	**Kiev**	**74.98**	**341**	⇓ P	**P**		**19 02 58.4**	**-0.5**	
KIEV	**Kiev**	**74.98**	**341**	P	**P**		**19 02 58.2**	**-0.7**	
KIEV	**Kiev**	**74.98**	**341**	⇓ P	**P**		**19 02 58.4**	**-0.5**	
KIEV	**Kiev**	**74.98**	**341**	P	**P**		**19 02 58.2**	**-0.7**	
	comp=Z,45nm,1.5s,comp=Z,979nm								
KBL	**Kabul**	**75.14**	**307**	P	**P**		**19 02 58.8**	**-1.6**	
KBL				IAmb	IAmb		19 03 00.7		
	comp=Z,6.7nm,0.6s								
KBL	**Kabul**	**75.14**	**307**	P	**P**		**19 02 58.8**	**-1.6**	
KBL				pmax	pmax				
	comp=Z,7.0nm,0.6s								
LUBAR	**Lubar, Ukraine**	**76.00**	**342**	P	**P**		**19 03 03.1**	**-1.6**	
CLL	**Collm**	**76.71**	**352**	*e*P	**P**		**19 03 08.0**	**-0.7**	
HORU	**Horodok**	**76.93**	**343**	P	**P**		**19 03 11.9**	**+1.9**	
HORU	**Horodok**	**76.93**	**343**	P	**P**		**19 03 11.9**	**+1.9**	
OJC	**Ojcow**	**77.02**	**347**	P	**P**		**19 03 09.5**	**-1.0**	
OJC				pmax	pmax				
	comp=Z,8.0nm,1.0s								
OJC	**Ojcow**	**77.02**	**347**	P	**P**		**19 03 10.7**	**+0.2**	
	comp=Z,7.7nm,1.0s								
KWP	**Kalwaria Pacla**	**77.16**	**345**	P	**P**		**19 03 12.2**	**+0.9**	
KWP	**Kalwaria Pacla**	**77.16**	**345**	P	**P**		**19 03 12.2**	**+0.9**	
	comp=Z,17nm,1.2s								
GEYT	**Alibeck**	**77.40**	**317**	P	**P**		**19 03 13.1**	**+0.2**	
	comp=Z,0.6nm,0.5s,baz=80,slow=11,SNR=1.9								
	comp=Z,0.6nm,0.5s								
MORS	**Morshin**	**77.45**	**344**	P	**P**		**19 03 13.3**	**+0.4**	
MORS	**Morshin**	**77.45**	**344**	P	**P**		**19 03 13.3**	**+0.4**	
SHIU	**Shidnytsya**	**77.45**	**345**	P	**P**		**19 03 13.9**	**+0.9**	
KMPD	**K-Podol'skiy**	**77.55**	**343**	P	**P**		**19 03 12.9**	**-0.5**	
KMPD				P	**P**		**19 03 13.0**	**-0.5**	
SORM	**Soroca**	**77.59**	**341**	⇓ P	**P**		**19 03 12.3**	**-1.3**	
SORM	**Soroca**	**77.59**	**341**	P	**P**		**19 03 13.1**	**-0.6**	
SORM	**Soroca**	**77.59**	**341**	P	**P**		**19 03 13.1**	**-0.6**	
	comp=Z,17nm,1.2s								
STNU	**Starunia**	**77.76**	**344**	P	**P**		**19 03 14.5**	**-0.1**	
BTNL	**Ternell**	**77.87**	**356**	*d*P	**P**		**19 03 15.7**	**+0.5**	
	comp=Z,4.1nm,0.6s								
BSTI	**Sart Tilman**	**77.89**	**357**	*d*P	**P**		**19 03 15.8**	**+0.5**	
	comp=Z,2.7nm,0.5s								
KOLS	**Kolonicke sedl**	**77.91**	**345**	*e*P	**P**		**19 03 15.9**	**+0.4**	
KOLS	**Kolonicke sedl**	**77.91**	**345**	*e*P	**P**		**19 03 15.9**	**+0.4**	
KOLS				pmax	pmax				
	comp=Z,7.0nm,0.6s								
KBZ	**Khabaz**	**77.97**	**330**	P	**P**		**19 03 15.9**	**+0.1**	
	comp=Z,0.8nm,0.6s,baz=0.7,slow=19,SNR=3.8								
	comp=Z,0.8nm,0.6s								
KBZ	**Khabaz**	**77.97**	**330**	⇑ *e*P	**P**		**19 03 14.9**	**-0.9**	
KBZ				pmax	pmax				
	comp=Z,3.0nm,1.0s								
KSV	**Kosov**	**78.04**	**343**	P	**P**		**19 03 15.8**	**-0.4**	
KSV	**Kosov**	**78.04**	**343**	P	**P**		**19 03 15.8**	**-0.4**	
CRVS	**Cervenica-Dubn**	**78.06**	**346**	*e*P	**P**		**19 03 16.8**	**+0.5**	
CRVS	**Cervenica-Dubn**	**78.06**	**346**	*e*P	**P**		**19 03 16.8**	**+0.5**	
CRVS				pmax	pmax				
	comp=Z,17nm,1.6s								
BCLA	**Clavier**	**78.07**	**357**	*d*P	**P**		**19 03 16.3**	**0.0**	
LANS	**Liptovska Anna**	**78.11**	**347**	*e*P	**P**		**19 03 18.0**	**+1.4**	
LANS	**Liptovska Anna**	**78.11**	**347**	*e*P	**P**		**19 03 18.1**	**+1.4**	
LANS				pmax	pmax				
	comp=Z,5.0nm,1.3s								
BMRD	**Maredsous**	**78.20**	**357**	*d*P	**P**		**19 03 17.4**	**+0.3**	
	comp=Z,7.9nm,0.6s								
DOU	**Dourbes**	**78.41**	**357**	*d*P	**P**		**19 03 18.2**	**0.0**	
	comp=Z,3.9nm,0.6s								
BERU	**Beregovo**	**78.53**	**345**	P	**P**		**19 03 19.0**	**+0.1**	
BURAR	**Bucovina Array**	**78.69**	**343**	⇑ P	**P**		**19 03 18.7**	**-1.2**	
BURAR	**Bucovina Array**	**78.69**	**343**	⇑ P	**P**		**19 03 18.7**	**-1.2**	
KHC	**Kasperske Hory**	**78.81**	**351**	⇑ *e*P	**P**		**19 03 21.0**	**+0.5**	
KHC				pmax	pmax				
	comp=Z,23nm,2.8s								
VYHS	**Vyhne**	**78.84**	**348**	*e*P	**P**		**19 03 21.0**	**+0.4**	
VYHS	**Vyhne**	**78.84**	**348**	*e*P	**P**		**19 03 21.0**	**+0.4**	
GERES	**GERESS Array B**	**79.08**	**351**	P	**P**		**19 03 21.6**	**-0.5**	
	comp=Z,0.8nm,0.5s,baz=32,slow=7.8,SNR=5.3								
	comp=Z,0.8nm,0.5s								
ARCR	**ARCALIA**	**79.35**	**344**	⇑ P	**P**		**19 03 24.9**	**+1.5**	
MARR	**Marisel-Cluj**	**79.96**	**344**	⇑ P	**P**		**19 03 27.2**	**+0.4**	
VRI	**Vrincioaia**	**80.09**	**342**	⇑ P	**P**		**19 03 27.6**	**+0.2**	
VRI	**Vrincioaia**	**80.09**	**342**	⇑ P	**P**		**19 03 27.6**	**+0.2**	
PLOR	**Plostina**	**80.12**	**342**	⇓ P	**P**		**19 03 27.0**	**-0.6**	
PLOR	**Plostina**	**80.12**	**342**	⇓ P	**P**		**19 03 27.0**	**-0.6**	
COVR	**Voineasa-Covas**	**80.21**	**342**	⇓ P	**P**		**19 03 29.1**	**+1.0**	
CFR	**Carcaliu**	**80.46**	**340**	⇓ P	**P**		**19 03 28.9**	**-0.5**	
CFR	**Carcaliu**	**80.46**	**340**	⇓ P	**P**		**19 03 28.9**	**-0.5**	
LESA	**Schwarzleotal**	**80.59**	**352**	*i* P	**P**		**19 03 30.3**	**+0.1**	
	comp=Z,1.0nm,0.3s								
MLR	**Muntele Rosu**	**80.60**	**342**	⇓ P	**P**		**19 03 31.4**	**+1.1**	
MLR	**Muntele Rosu**	**80.60**	**342**	⇓ P	**P**		**19 03 31.4**	**+1.1**	
MLR	**Muntele Rosu**	**80.60**	**342**	P	**P**		**19 03 31.5**	**+1.2**	
WATA	**Waldheim**	**80.77**	**352**	*e*P	**P**		**19 03 31.2**	**0.0**	
	comp=Z,4.1nm,0.6s								
MOTA	**Moosalm**	**80.80**	**353**	*e*P	**P**		**19 03 32.0**	**+0.6**	
	comp=Z,2.2nm,0.7s								
VOIR		**80.82**	**343**	⇓ P	**P**		**19 03 32.3**	**+0.9**	
VOIR		**80.82**	**343**	⇓ P	**P**		**19 03 32.3**	**+0.9**	
WTTA	**Wattenberg**	**80.84**	**352**	*e*P	**P**		**19 03 31.8**	**+0.2**	
	comp=Z,3.8nm,0.6s								
KBA	**Koelnbreinsper**	**80.87**	**351**	*i* P	**P**		**19 03 32.4**	**+0.6**	
	comp=Z,8.0nm,0.4s								
KBA	**Koelnbreinsper**	**80.87**	**351**	P	**P**		**19 03 32.6**	**+0.8**	
KBA				pmax	pmax				
	comp=Z,25nm,0.9s								
SQTA	**Sankt Quirin**	**80.92**	**353**	*e*P	**P**		**19 03 32.1**	**+0.2**	
	comp=Z,4.6nm,0.7s								
BZS	**Buzias**	**81.24**	**345**	⇓ P	**P**		**19 03 33.5**	**-0.1**	
BZS	**Buzias**	**81.24**	**345**	⇓ P	**P**		**19 03 33.5**	**-0.1**	
MYKA	**Terra Mystica**	**81.28**	**351**	*i* P	**P**		**19 03 34.2**	**+0.3**	
	comp=Z,1.9nm,0.3s								
OBKA	**Obir**	**81.31**	**350**	*i* P	**P**		**19 03 34.5**	**+0.5**	
	comp=Z,3.3nm,0.5s								
WRAB	**Tennant Creek**	**81.92**	**223**	⇑ *e*P	**P**		**19 03 36.0**	**-1.3**	
WRAB				pmax	pmax				
	comp=Z,9.0nm,0.9s								
BLKB	**Belogradchik**	**83.00**	**344**	⇑ P	**P**		**19 03 41.2**	**-1.7**	
BR131	**Keskin Array S**	**84.33**	**335**	⇓ *e*P	**P**		**19 03 48.3**	**-1.5**	
BRTR	**Keskin Array B**	**84.33**	**335**	P	**P**		**19 03 49.5**	**-0.3**	
	comp=Z,0.9nm,0.6s,baz=44,slow=4.1,SNR=6.6								
	comp=Z,0.9nm,0.6s								
ASAR	**Alice Springs**	**85.43**	**222**	P	**P**		**19 03 55.9**	**+0.7**	
	comp=Z,2.6nm,0.8s,baz=19,slow=5.6,SNR=25								
	comp=Z,2.6nm,0.8s								
ESDC	**Sonseca Array**	**88.82**	**3**	P	**P**		**19 04 10.8**	**-0.8**	
	comp=Z,0.7nm,0.6s,baz=350,slow=4.6,SNR=8.0								
	comp=Z,0.7nm,0.6s								
STKA	**Stephens Creek**	**89.98**	**212**	P	**P**		**19 04 18.1**	**+1.4**	
	comp=Z,5.9nm,0.8s,baz=0.7,slow=6.7,SNR=8.1								
	comp=Z,5.9nm,0.8s								
STKA	**Stephens Creek**	**89.98**	**212**	‖ *e*P	**P**		**19 04 17.9**	**+1.2**	
KEST	**Kesra**	**92.48**	**353**	P	**P**		**19 04 28.1**	**-0.6**	
	comp=Z,4.1nm,0.8s,baz=18,slow=2.6,SNR=5.3								
	comp=Z,4.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**115.31**	**359**	PKP		**PKiKP**	**19 09 57.6**	**-1.3**	
	comp=Z,0.3nm,0.4s,baz=4.9,slow=2.6,SNR=5.6								
DBIC	**Dimbokro**	**121.59**	**6**	PKP		**PKPdf**	**19 10 10.1**	**-0.9**	
	comp=Z,1.7nm,0.4s,baz=306,slow=1.7,SNR=5.6								
H03N2	**Juan Fernandez**	**121.79**	**105**	T	T		21 23 32.5		
	baz=311								
H03N1	**Juan Fernandez**	**121.81**	**105**	T	T		21 23 35.6		
	baz=311								
H03N3	**Juan Fernandez**	**121.81**	**105**	T	T		21 23 37.6		
	baz=311								
QSPA	**South Pole Qui**	**141.56**	**180**	PKhKP	PKPpre		19 10 41.9		
	comp=Z,1.8nm,0.7s,baz=18,slow=4.0,SNR=3.9								
QSPA				PKP	**PKPdf**		**19 10 47.5**	**+0.6**	
	comp=Z,1.5nm,0.6s,baz=282,slow=1.5,SNR=5.6								
BOSA	**Boshof**	**150.28**	**312**	PKPbc	**PKPbc**		**19 11 08.3**	**+0.1**	
	comp=Z,8.1nm,0.7s,baz=34,slow=2.2,SNR=20								

KRSC 03 19:05:36.1±2.1, 49.76N×155.16E, h280km±13km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.11**	**33**	*e*P	Pn	19 06 14.7	-0.1
SKR				*e*S	S	19 06 45.9	+0.4
KDTR	**Khodutka, Kamc**	**2.76**	**41**	*e*P	Pn	19 06 29.1	+1.2
KDTR				*e*S	S	19 07 07.9	-1.4
ASAK	**Asacha**	**3.14**	**32**	*e*P	Pn	19 06 33.3	+1.4
MTVR	**Mutnovka**	**3.32**	**34**	*e*P	Pn	19 06 36.5	+2.5
MTVR				*e*S	S	19 07 21.8	+1.8
RUS	**Russkaya**	**3.41**	**37**	*e*P	Pn	19 06 36.3	+1.7
RUS				*e*S	S	19 07 20.0	-1.4
UGLR	**Uglovaya**	**4.14**	**32**	*e*P	Pn	19 06 45.3	+2.4
UGLR				*e*S	S	19 07 36.8	+0.6
KOK	**Koryaka**	**4.15**	**30**	*e*P	Pn	19 06 46.4	+3.5
KBTR	**Krutoberegovo**	**7.94**	**33**	*e*P	Pn	19 07 30.1	+1.6
KBTR				*e*S	S	19 08 55.2	-4.2
BKI	**Bering**	**8.55**	**46**	*e*S	S	19 09 11.4	-2.1

NEIC ***03*** *19:09:01.0±2.0, 12.83N±0.02×143.4E±0.1, h107km±10km, mb4.5/14, Error ellipse: s-maj=19.5km s-min=3.3km az=86.0*
IDC ***03*** *19:09:02.6±1.6, 12.93N×143.47E, h126km±19km, mb3.4/10, mbtmp3.8/10, Error ellipse: s-maj=28.5km s-min=18.7km az=91.0*
ISC 03 19:09:00.0±0.7, 12.9N±0.1×143.28E±0.0, h100km, n33, σ0s 87/31, mb4.3/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.71**	**64**		**Pn**	**19 09 29.4**	**+0.5**
GUMO	**Guam**	**1.71**	**64**	P	**Pn**	**19 09 29.2**	**+0.2**
	49nm,0.3s,baz=349,slow=5.8,SNR=18						
GUMO				S	**Sn**	**19 09 52.1**	**+1.2**
	298nm,0.4s,baz=190,slow=23,SNR=21						
PATS	**Pohnpei**	**15.97**	**111**	P	**Pn**	**19 12 38.2**	**-0.8**
H11S3	**WAKE ISLAND Hy**	**23.21**	**73**	T	T	19 37 52.0	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**23.23**	**73**	T	T	19 37 48.7	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**23.23**	**73**	T	T	19 37 52.2	
	baz=253						
MJAR	**Matsushiro Arr**	**24.03**	**350**	P	**P**	**19 14 05.8**	**+0.1**
	0.5nm,0.5s,baz=231,slow=14,SNR=5.4						
	0.5nm,0.5s						
MAJO	**Matsushiro**	**24.03**	**350**	P	**P**	**19 14 06.3**	**+0.6**
MAJO				IAmb	IAmb	19 14 27.8	
	comp=Z,18nm,1.4s						
MJB9	**Matsu-Tunnel**	**24.03**	**350**	P	**P**	**19 14 06.9**	**+1.1**
MJB9				IAmb	IAmb	19 14 28.8	
	comp=Z,17nm,1.4s						
LUWI	**Luwuk**	**24.59**	**237**		**P**	**19 14 11.1**	**+0.1**
LUWI				IAmb	IAmb	19 14 14.2	
	comp=Z,19nm,0.7s						
JKA	**Kamikawa-asahi**	**31.16**	**359**	P	**P**	**19 15 08.2**	**-1.2**
WB2	**Warramunga Arr**	**33.75**	**195**	P	**P**	**19 15 31.5**	**-0.8**
WB2				IAmb	IAmb	19 15 36.8	
	comp=Z,4.6nm,1.0s						
AS31	**Alice Springs**	**37.43**	**194**	P	**P**	**19 16 04.1**	**+0.3**
ASAR	**Alice Springs**	**37.43**	**194**		**P**	**19 16 04.2**	**+0.5**
ASAR	**Alice Springs**	**37.43**	**194**	P	**P**	**19 16 04.6**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=22,slow=12,SNR=9.3						
ASAR				PcP	**PcP**	**19 18 21.0**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=22,slow=2.8,SNR=3.6						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**42.97**	**283**	P	**P**	**19 16 50.8**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=79,slow=5.8,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**1.15**	**190**	⇓*eP*	**Pb**	**19 21 33.1**	**+1.0**
AGPR	**Aguadilla, PR**	**1.15**	**190**		**Pb**	**19 21 32.1**	**0.0**
AGPR				IAML		19 21 51.4	
	comp=N,101nm,2.7s						
AGPR				IAML		19 22 15.2	
	comp=E,88nm,2.1s						
AOPR	**Arecibo Observ**	**1.25**	**174**	⇑*iP*	**Pb**	**19 21 34.4**	**+0.3**
AOPR	**Arecibo Observ**	**1.25**	**174**	*eS*	**Sb**	**19 21 50.7**	**+0.9**
AOPR	**Arecibo Observ**	**1.25**	**174**		**Pb**	**19 21 34.4**	**+0.3**
AOPR				IAML		19 22 02.0	
	comp=E,41nm,0.8s						
AOPR	**Arecibo Observ**	**1.25**	**174**		**Sb**	**19 21 50.7**	**+0.9**
AOPR	**Arecibo Observ**	**1.25**	**174**	IAML		19 21 43.3	
	comp=N,36nm,2.1s						
CELP	**Cerrillos**	**1.55**	**169**	⇑*iP*	**Pb**	**19 21 38.4**	**-0.6**
CELP	**Cerrillos**	**1.55**	**169**	*eS*	**Sn**	**19 21 56.6**	**+0.3**
CELP	**Cerrillos**	**1.55**	**169**		**Pb**	**19 21 38.4**	**-0.6**
CELP					**Sn**	**19 21 56.6**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.60**	**187**	⇓*eP*	**Pb**	**19 21 39.4**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.60**	**187**	*eS*	**Sb**	**19 21 59.3**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.60**	**187**		**Pb**	**19 21 38.2**	**-1.6**
CRPR				IAML		19 22 07.1	
	comp=E,22nm,3.6s						
CRPR				IAML		19 22 07.1	
	comp=N,27nm,2.8s						
CRPR	**Cabo Rojo, PR**	**1.60**	**187**		**Sb**	**19 21 59.3**	**-0.3**
MLPR	**Magueyes Islan**	**1.63**	**185**	⇓*eP*	**Pb**	**19 21 39.8**	**-0.6**
MLPR	**Magueyes Islan**	**1.63**	**185**	*eS*	**Sb**	**19 21 59.4**	**-1.1**
MLPR	**Magueyes Islan**	**1.63**	**185**		**Pb**	**19 21 39.4**	**-1.0**
MLPR				IAML		19 22 12.8	
	comp=E,22nm,2.8s						
MLPR				IAML		19 22 29.2	
	comp=N,24nm,1.7s						
MLPR	**Magueyes Islan**	**1.63**	**185**		**Sb**	**19 21 59.4**	**-1.1**
HUMP	**Col San Antoni**	**1.76**	**145**	Pn	**Pb**	**19 21 40.9**	**-1.7**
IGPR	**InterUniversit**	**1.79**	**155**	Pn	**Pb**	**19 21 41.6**	**-1.6**
IGPR				IAML		19 22 06.4	
	comp=N,22nm,0.3s						
IGPR				IAML		19 22 43.8	
	comp=E,26nm,0.2s						
SMRT	**St. Maarten**	**3.94**	**112**	Pn	**Pn**	**19 22 11.2**	**+1.3**
SDDR	**Presa de Saban**	**4.19**	**262**	Pn	**Pb**	**19 22 13.5**	**+0.1**

*GII **03** 19:24:44.5±0.3,33°.66N±0°.04×35°.88E±0°.01,h1km, Mws2.1,confirmed*
*JSO **03** 19:24:45,33°.71N×35°.77E,h1km,Mw2.1/18*
*GRAL **03** 19:24:45.3±0.3,33°.67N×35°.84E,h8km±1km,MD3.0*
ISC 03 19:24:43.7±1.0,33°.69N±0°.02×35°.91E±0°.05,h15km±7km, n45,σ0$56/49,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAHL	**Zahle**	**0.17**	**353**	*eP*	**Pb**	**19 24 49.1**	**+0.5**
ZAHL				*eS*	**Sb**	**19 24 51.7**	**-0.1**
RCY	**Rachaya**	**0.21**	**197**	*eP*	**Pg**	**19 24 48.7**	**+0.1**
RCY				*eS*	**Sg**	**19 24 51.3**	**-0.6**
QRWL	**Qaraoun**	**0.24**	**232**	*eP*	**Pg**	**19 24 48.8**	**-0.3**
DQRL	**Deir Qamar**	**0.28**	**273**	*eP*	**Pg**	**19 24 49.6**	**-0.2**
BHL	**Bhannes**	**0.30**	**315**	*eP*	**Pg**	**19 24 50.3**	**+0.2**
BHL				*eS*	**Sg**	**19 24 54.3**	**-0.2**
SHBL	**Chebaa**	**0.37**	**202**	*eP*	**Pg**	**19 24 51.3**	**0.0**
NATI	**Neve Ativ**	**0.45**	**199**	P	**Pg**	**19 24 52.9**	**+0.1**
NATI				S	**Sb**	**19 25 00.0**	**+0.2**
NATI	**Neve Ativ**	**0.45**	**199**	S	**Sb**	**19 25 00.1**	**+0.2**
NATI	**Neve Ativ**	**0.45**	**199**	P	**Pg**	**19 24 52.9**	**+0.1**
GEM	**Giv'at Ha'Em**	**0.52**	**203**	P	**Pb**	**19 24 54.4**	**-0.2**
GEM				S	**Sb**	**19 25 02.4**	**+0.5**
GEM	**Giv'at Ha'Em**	**0.52**	**203**	S	**Sb**	**19 25 02.6**	**+0.7**
GEM	**Giv'at Ha'Em**	**0.52**	**203**	P	**Pb**	**19 24 54.3**	**-0.2**
HWQ	**Hawqa**	**0.58**	**3**	*eP*	**Pn**	**19 24 56.4**	**-1.2**
FKH	**Fakeheh**	**0.69**	**37**	*eP*	**Pn**	**19 24 58.7**	**-0.3**
KSHT	**Keshet**	**0.71**	**187**	S	**Sn**	**19 25 09.1**	**-0.9**
KSHT	**Keshet**	**0.71**	**187**	P	**Pn**	**19 24 58.8**	**-0.4**
MMC1	**Mount Meron ar**	**0.79**	**213**	P	**Pb**	**19 24 59.1**	**0.0**
MMB1	**Mount Meron ar**	**0.80**	**212**	P	**Pb**	**19 24 59.3**	**+0.1**
MMC7	**Mount Meron ar**	**0.80**	**213**	P	**Pb**	**19 24 59.3**	**0.0**
MMC7	**Mount Meron ar**	**0.80**	**213**	S	**Sn**	**19 25 11.6**	**-0.4**
MMA0B	**Mount Meron ar**	**0.80**	**212**	S	**Sn**	**19 25 11.6**	**-0.5**
MMA0B	**Mount Meron ar**	**0.80**	**212**	P	**Pb**	**19 24 59.3**	**0.0**
HNTI	**Hanita**	**0.86**	**225**	P	**Pb**	**19 25 00.5**	**+0.1**
HNTI	**Hanita**	**0.86**	**225**	P	**Pb**	**19 25 00.8**	**+0.4**
HNTI	**Hanita**	**0.86**	**225**	S	**Sn**	**19 25 14.3**	**+0.7**
BEIL	**Beino**	**0.88**	**15**	*eP*	**Pn**	**19 25 01.6**	**+0.1**
BLGI	**Bet Lehem HaGe**	**1.13**	**212**	P	**Pb**	**19 25 05.3**	**+0.4**
BLGI	**Bet Lehem HaGe**	**1.13**	**212**	S	**Sg**	**19 25 21.4**	**+1.0**
MMLI	**Mount Malkishu**	**1.32**	**198**	S	**Sg**	**19 25 27.6**	**+1.3**
MMLI	**Mount Malkishu**	**1.32**	**198**	P	**Pg**	**19 25 08.7**	**-0.4**
OFRI	**`Ofer**	**1.32**	**216**	P	**Pb**	**19 25 08.6**	**+0.4**
OFRI	**`Ofer**	**1.32**	**216**	S	**Sg**	**19 25 27.4**	**+1.0**
OFRI	**`Ofer**	**1.32**	**216**	P	**Pb**	**19 25 08.8**	**+0.6**
QRNJ	**Al-Qirein**	**1.38**	**192**	P	**Pg**	**19 25 10.2**	**-0.1**
HMDT	**Nahal Hemdat**	**1.47**	**193**	P	**Pg**	**19 25 11.3**	**-0.7**
HMDT	**Nahal Hemdat**	**1.47**	**193**	P	**Pg**	**19 25 11.3**	**-0.7**
HMDT	**Nahal Hemdat**	**1.47**	**193**	S	**Sg**	**19 25 31.4**	**+0.2**
HSUJ	**Al Zarqa**	**1.60**	**171**	P	**Pg**	**19 25 15.4**	**+0.9**
BALJ	**Balqa**	**1.62**	**188**	P	**Pg**	**19 25 13.9**	**-0.9**
SLTI	**Sal'it**	**1.62**	**207**	P	**Pb**	**19 25 14.1**	**+0.8**
SLTI	**Sal'it**	**1.62**	**207**	S	**Sg**	**19 25 36.4**	**+0.4**
SLTI	**Sal'it**	**1.62**	**207**	P	**Pb**	**19 25 13.1**	**-0.2**
ASF	**Jabal al Asfar**	**1.73**	**151**	P	**Pg**	**19 25 17.2**	**+0.2**
DSI	**Dead Sea**	**2.16**	**192**	P	**Pb**	**19 25 21.9**	**-0.6**
KARJ	**KARJ**	**2.58**	**185**	P	Pn	19 25 16.0	-8.8

*NEIC **03** 19:28:33.1±1.5,19°.42N±0°.02×154°.89W±0°.03,h5km±2km, Error ellipse: s-maj=5.5km s-min=2.9km az=293.0*
HVO 03 19:28:32.6±1.7,19°.45N±0°.02×154°.85W±0°.03,h2km±8km, ML2.4/5,ML2.5/42(NEIC),Error ellipse: s-maj=4.5km s-min=1.8km az=118.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**308**		Pg	19 28 34.6	+0.8
JOKA	**Jonika Flow**	**0.15**	**264**		Pg	19 28 35.5	-0.1
JOKA					Sg	19 28 39.4	+1.9
STCH	**Steam Cracks**	**0.27**	**257**		Pg	19 28 37.6	-0.3
KNHH	**Kane Nui o Ham**	**0.31**	**257**		Pb	19 28 40.0	-1.0
PUH	**Pauahi**	**0.36**	**258**		Pg	19 28 39.2	-0.3
BYL	**Byron's Ledge**	**0.39**	**265**	Pg	Pg	19 28 39.8	-0.4
BYL				IAML		19 28 52.9	
	comp=E,388nm,1.0s						
HATHI	**Halema'uma'u T**	**0.39**	**266**	Pg	Pg	19 28 39.5	-0.7
HATHI				IAML		19 28 53.4	
	comp=E,381nm,0.6s						
KKO	**Keanakako`i**	**0.40**	**263**	Pg	Pg	19 28 39.6	-0.7
KKO				IAML		19 28 48.5	
	comp=E,408nm,1.5s						
KKO				IAML		19 28 53.5	
	comp=N,546nm,1.0s						
SBLHI	**Steaming Bluff**	**0.40**	**267**	Pg	Pg	19 28 38.8	-1.5
RIM	**Rim**	**0.41**	**263**	Pg	Pg	19 28 40.5	+0.1
RIM				IAML		19 28 53.3	
	comp=N,525nm,1.3s						
RIM				IAML		19 28 53.4	
	comp=E,364nm,0.7s						
RSD	**Rainshed**	**0.41**	**272**		Pg	19 28 40.5	0.0
RSD				IAML		19 28 47.2	
	comp=N,384nm,0.3s						
RSD				IAML		19 28 53.3	
	comp=E,432nm,0.7s						
UWB	**Uwekahuna B**	**0.41**	**267**	Pg	Pg	19 28 39.2	-1.3
UWE	**Uwekahuna**	**0.42**	**266**	Pg	Pg	19 28 40.5	-0.3
UWE				IAML		19 28 52.0	
	comp=N,505nm,0.9s						
UWE				IAML		19 28 55.8	
	comp=E,596nm,0.5s						
SDHHI	**Sand Hill**	**0.43**	**262**	Pg	Pg	19 28 39.3	-1.5
SDHHI				IAML		19 28 48.3	
	comp=E,455nm,1.4s						
SDHHI				IAML		19 28 49.9	
	comp=N,376nm,0.4s						
WRMHI	**West Rim**	**0.43**	**264**	Pg	Pg	19 28 39.8	-1.1
WRMHI				IAML		19 28 52.2	
	comp=N,536nm,1.4s						
HLP	**Hilina Pali**	**0.46**	**251**		Pg	19 28 41.5	0.0
HLP				IAML		19 28 48.8	
	comp=N,562nm,0.6s						
MLH	**Mauna Loa**	**0.51**	**275**		Pg	19 28 40.1	-2.4
MLH				IAML		19 28 53.2	
	comp=E,338nm,0.6s						
HTC	**Hot Caves**	**0.56**	**248**		Pg	19 28 43.2	-0.2
HMH	**Humu'ula Sheep**	**0.62**	**284**		Pg	19 28 44.2	-0.4
MLOA	**Mauna Loa Obse**	**0.69**	**277**		Pg	19 28 45.2	-0.7
MLOA				IAML		19 28 55.2	
	comp=N,251nm,0.3s						
MLOA				IAML		19 28 58.3	
	comp=E,232nm,0.7s						
MWH	**Moku'aweowe**	**0.71**	**273**		Pg	19 28 44.7	-1.5
MWH				IAML		19 29 05.5	
	comp=N,294nm,2.2s						
POHA	**Pohakuloa**	**0.72**	**296**		Pg	19 28 44.0	-2.4
KHU	**Kahuku**	**0.75**	**255**	Pg	Pg	19 28 45.3	-1.8
KHU				IAML		19 28 51.7	
	comp=E,253nm,3.7s						
KHU				IAML		19 29 12.5	
	comp=N,246nm,4.1s						
HUH	**Hualalai**	**0.96**	**284**		Pg	19 28 50.3	-0.8
HPAH	**Hawaii Prepara**	**0.99**	**306**		Pg	19 28 50.9	-0.7
HPAH				IAML		19 29 14.1	
	comp=E,117nm,0.9s						
HPAH				IAML		19 29 26.3	
	comp=N,124nm,1.3s						
MHA	**Mahukona**	**1.24**	**307**	Pg	Pg	19 28 55.5	-0.9

*IDC **03** 19:31:10.6±0.9,51°.69N×173°.76W,h0km,mb4.0/22, mbtmp4.0/25,ML3.6/3,MS3.2/23,Error ellipse: s-maj=27.1km s-min=13.2km az=176.0*
*MOS **03** 19:31:13.7±1.0,51°.59N×173°.66W,h34km,mb4.4/10, Error ellipse: s-maj=15.0km s-min=9.4km az=96.8*
*AEIC **03** 19:31:15.7±2.0,51°.57N±0°.05×173°.74W±0°.08,h35km±5km, Error ellipse: s-maj=8.9km s-min=5.8km az=217.0*
*NEIC **03** 19:31:16.5±2.0,51°.58N±0°.06×173°.79W±0°.09,h41km±9km, mb4.0/79,ML3.7(AEIC),Error ellipse: s-maj=10.1km s-min=6.8km az=218.0*
ISC 03 19:31:15.9±0.6,51°.55N±0°.07×173°.84W±0°.04,h35km, n190,σ1$36/173,mb4.1/43,MS3.2/20,10C-4D,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.69**	**342**		**Pn**	**19 31 28.6**	**-0.5**
ATKA					**Sn**	**19 31 38.3**	**-0.3**
KOFP	**Korovin Flat P**	**0.74**	**348**		**Pn**	**19 31 29.9**	**0.0**
KOKL	**Mount Kliuchef**	**0.81**	**344**		**Pn**	**19 31 30.9**	**+0.1**
KOKL					**Sn**	**19 31 42.5**	**+0.9**
KOSE	**Korovin Southe**	**0.81**	**351**		**Pn**	**19 31 31.0**	**+0.2**
KOWE	**Korovin West**	**0.86**	**343**		**Pn**	**19 31 31.8**	**+0.3**
CLES	**Cleveland East**	**2.74**	**61**		**Pn**	**19 31 57.9**	**+0.5**
CLES					**Sn**	**19 32 30.4**	**+1.2**
CLCO	**Concord Point,**	**2.82**	**62**		**Pn**	**19 31 58.2**	**-0.2**
NIKH	**Nikolski High**	**3.38**	**63**		**Pn**	**19 32 06.1**	**0.0**
NIKH					**Sn**	**19 32 45.0**	**0.0**
OKWE	**Okmok W'ng Wal**	**3.93**	**58**		**Pn**	**19 32 13.5**	**-0.2**
AMKA	**Amchitka**	**4.29**	**270**		**Pn**	**19 32 19.2**	**+0.6**
MAPS	**Pakushin South**	**4.77**	**59**		**Pn**	**19 32 25.4**	**+0.2**
MSW	**Makushin Switc**	**4.90**	**58**		**Pn**	**19 32 27.3**	**+0.3**
MSW					**Sn**	**19 33 24.9**	**+2.5**
MNAT	**Makushin Natee**	**4.94**	**59**		**Pn**	**19 32 28.2**	**+0.7**
UNV	**Unalaska Valle**	**5.02**	**60**		**Pn**	**19 32 30.2**	**+1.6**
UNV					**Sn**	**19 33 27.5**	**+2.2**
SPIA	**Saint Paul Isl**	**6.02**	**19**		**Pn**	**19 32 43.9**	**+1.7**
SHEM	**Shemya Is, Ala**	**7.52**	**284**	LR	LR	19 36 13.7	
	comp=Z,166nm,18.8s,baz=313,slow=40						
SDPT	**Sand Point**	**8.84**	**59**	Pn	**Pn**	**19 33 20.6**	**-0.3**
CHGN	**Chignik**	**10.26**	**56**	Pn	**Pn**	**19 33 40.2**	**-0.2**
O14K	**Tigyukauivet M**	**10.51**	**38**	Pn	**Pn**	**19 33 44.1**	**+0.3**
M14K	**Bethel**	**11.34**	**31**	Pn	**Pn**	**19 33 58.2**	**+3.1**
K13K	**Kusilvak Mount**	**11.55**	**22**	Pn	**Pn**	**19 33 60.0**	**+1.9**
N15K	**Kwethluk River**	**11.56**	**36**	Pn	**Pn**	**19 34 00.9**	**+2.6**
O16K	**Kokwok River B**	**11.99**	**42**	Pn	**Pn**	**19 34 08.0**	**+3.9**
J14K	**Nanvaranak Lak**	**12.52**	**22**	Pn	**Pn**	**19 34 14.8**	**+3.6**
M16K	**Timber Creek**	**12.55**	**35**	Pn	**Pn**	**19 34 14.1**	**+2.3**
L16K	**Owhat River**	**12.86**	**32**	Pn	**Pn**	**19 34 17.3**	**+1.4**
N17K	**Nushagak Hills**	**12.91**	**39**	Pn	**Pn**	**19 34 20.4**	**+3.8**
M17K	**Holitna River**	**13.36**	**36**	Pn	**Pn**	**19 34 24.8**	**+2.1**
Q19K	**Cape Douglas,**	**13.65**	**49**	Pn	**Pn**	**19 34 27.3**	**+0.6**
KDAK	**Kodiak Island**	**13.76**	**55**	Pn	**Pn**	**19 34 27.9**	**-0.3**
	0.4nm,0.3s,baz=261,slow=4.4,SNR=10 8.4nm,1.0s						
KDAK	**Kodiak Island**	**13.76**	**55**	⇑*eP*	**Pn**	**19 34 25.6**	**-2.6**
K17K	**Iditarod**	**13.96**	**31**		**P**	**19 34 35.8**	**-2.8**
L18K	**Granite Mounta**	**14.16**	**34**	P	**Pn**	**19 34 35.1**	**+1.4**
N19K	**Bonanza Creek**	**14.17**	**42**	P	**Pn**	**19 34 35.7**	**+1.9**
J17K	**VABM Dome**	**14.23**	**28**	P	**P**	**19 34 38.6**	**-2.9**
L19K	**White Mountain**	**14.80**	**37**	Pn	**Pn**	**19 34 43.0**	**+0.6**
M19K	**Big River Lodg**	**14.81**	**38**	P	**P**	**19 34 46.0**	**-2.0**
TTA	**Tatalina**	**14.87**	**33**	P	**P**	**19 34 48.5**	**-0.2**
TTA	**Tatalina**	**14.87**	**33**	P	**P**	**19 34 48.5**	**-0.2**
F15K	**North Star Dit**	**14.96**	**15**	Pn	**Pn**	**19 34 44.6**	**+0.2**
J18K	**Innoko River**	**15.01**	**31**	Pn	**Pn**	**19 34 44.6**	**-0.5**
CNPM	**China Poot**	**15.02**	**49**	Pn	**Pn**	**19 34 44.7**	**-0.7**
G16K	**Koyuk River**	**15.09**	**19**	Pn	**Pn**	**19 34 46.4**	**+0.3**
G16K				IAmb	IAmb	19 34 58.1	
	comp=E,5.0nm,0.8s						
BRLK	**Bradley Lake**	**15.28**	**49**	Pn	**Pn**	**19 34 48.3**	**-0.4**
J19K	**Poorman**	**15.73**	**31**		**P**	**19 34 58.6**	**+0.5**
J19K				IAmb	IAmb	19 35 02.5	
	comp=Z,13nm,1.0s						
H18K	**Honhosa River**	**15.80**	**24**	P	**P**	**19 34 59.3**	**+0.4**
H18K				IAmb	IAmb	19 35 10.9	
	comp=Z,8.0nm,0.8s						
K20K	**Telida**	**15.82**	**34**	Pn	**Pn**	**19 34 55.0**	**-0.7**
F17K	**Baldwin Pennin**	**16.23**	**18**	Pn	**Pn**	**19 35 00.6**	**-0.2**
J20K	**Nowinta River**	**16.33**	**32**	P	**P**	**19 35 04.3**	**-0.4**
J20K				IAmb	IAmb	19 35 20.5	
	comp=Z,12nm,1.3s						
G18K	**Tagagawik**	**16.33**	**23**		**Pn**	**19 35 02.3**	**+0.2**
G18K				IAmb	IAmb	19 35 08.7	
	comp=Z,10nm,1.2s						
CAST	**Castle Rocks**	**16.57**	**36**	Pn	**Pn**	**19 35 05.3**	**+0.1**
KNK	**Knik Glacier**	**17.03**	**45**	Pn	**Pn**	**19 35 10.1**	**-1.0**
KTH	**Kantishna Hill**	**17.07**	**36**	P	**Pn**	**19 35 11.8**	**+0.2**
KTH				IAmb	IAmb	19 35 28.1	
	comp=Z,9.0nm,0.8s						
E18K	**Tukpahlearik C**	**17.21**	**17**		**Pn**	**19 35 12.2**	**-1.0**
SML	**Sawmill**	**17.25**	**44**	Pn	**Pn**	**19 35 12.6**	**-1.2**
TRF	**Thorofare Moun**	**17.25**	**37**	Pn	**Pn**	**19 35 12.7**	**-1.2**
TRF				IAmb	IAmb	19 35 18.5	
	comp=Z,17nm,1.3s						
F19K	**Shaleruckik Mo**	**17.30**	**22**		**P**	**19 35 15.1**	**-0.4**
BPAW	**Bear Paw Mtn.**	**17.36**	**35**		**P**	**19 35 16.1**	**-0.1**
BPAW				IAmb	IAmb	19 35 18.5	
	comp=Z,13nm,1.1s						
PETK	**Petropavlovsk-**	**17.42**	**286**	P	**Pn**	**19 35 16.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=97,slow=9.8,SNR=4.6						
PETK				LR	LR	19 41 40.1	
	comp=Z,38nm,20.1s,baz=80,slow=36 comp=Z,1.7nm,0.6s						
HIN	**Hinchinbrook I**	**17.56**	**49**	Pn	**Pn**	**19 35 15.8**	**-1.8**
FID	**Port Fidalgo**	**17.68**	**48**		**Pn**	**19 35 17.9**	**-1.2**
I21K	**Tanana**	**17.69**	**31**	P	**Pn**	**19 35 19.1**	**-0.1**
I21K				IAmb	IAmb	19 35 26.9	
	comp=Z,16nm,1.2s						
SCM	**Sheep Creek Mo**	**17.69**	**44**		**Pn**	**19 35 18.2**	**-1.1**
SCM				IAmb	IAmb	19 35 35.0	
	comp=Z,18nm,1.1s						
SCM	**Sheep Creek Mo**	**17.69**	**44**	P	**Pn**	**19 35 18.2**	**-1.1**
SCM				pmax	pmax		
	comp=Z,18nm,1.1s						
IMAR	**Indian Mountai**	**17.70**	**28**		**Pn**	**19 35 18.2**	**-1.0**
H21K	**Melozitna Rive**	**17.75**	**29**		**Pn**	**19 35 20.2**	**+0.3**
H21K				IAmb	IAmb	19 35 37.5	
	comp=Z,17nm,1.5s						
RND	**Reindeer**	**17.78**	**39**	Pn	**Pn**	**19 35 18.4**	**-2.0**
RND	**Reindeer**	**17.78**	**39**	P	**Pn**	**19 35 18.4**	**-2.0**
RND				pmax	pmax		
	comp=Z,8.0nm,1.2s						
E19K	**Redstone River**	**17.93**	**21**	P	**P**	**19 35 22.8**	**+0.3**
E19K				IAmb	IAmb	19 35 45.5	
	comp=Z,8.7nm,1.1s						
F20K	**Avaraart Lake**	**17.96**	**23**		**P**	**19 35 22.8**	**+0.1**
MLY	**Manley**	**18.00**	**33**		**Pn**	**19 35 23.1**	**0.0**
MLY				IAmb	IAmb	19 35 27.3	
	comp=Z,18nm,1.3s						
G21K	**Allakaket**	**18.14**	**27**		**P**	**19 35 25.1**	**+0.3**
C18K	**Utukok River**	**18.20**	**15**		**P**	**19 35 25.8**	**+0.3**
C18K				IAmb	IAmb	19 35 41.3	
	comp=Z,7.9nm,0.9s						
M24K	**Tolsona, Glenn**	**18.30**	**44**	P	**P**	**19 35 25.6**	**-1.0**
D19K	**Kuna River**	**18.62**	**18**	P	**Pn**	**19 35 30.7**	**+0.2**
D19K				IAmb	IAmb	19 35 37.5	
	comp=Z,7.8nm,0.8s						
WRH	**Wood River Hil**	**18.62**	**36**	P	**P**	**19 35 29.4**	**-0.6**
F21K	**Alatna River**	**18.67**	**25**	P	**Pn**	**19 35 30.9**	**-0.1**
MDM	**Murphy Dome**	**18.83**	**35**	P	**P**	**19 35 30.8**	**-1.5**
C19K	**Lookout Ridge**	**18.88**	**16**	P	**P**	**19 35 33.3**	**+0.5**
H23K	**Yukon River**	**18.89**	**32**	P	**P**	**19 35 33.4**	**+0.4**
HDA	**Harding Lake**	**19.01**	**37**	P	**P**	**19 35 33.6**	**-0.7**
BILL	**Bilibino**	**19.16**	**337**		**Pn**	**19 35 37.3**	**+0.2**
BILL	**Bilibino**	**19.16**	**337**	⇓*eP*	**Pn**	**19 35 37.2**	**+0.2**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ILAR	**Eielson Array**	**19.22**	**36**	P	**P**	**19 35 35.7**	**-0.9**
ILAR	**Eielson Array**	**19.22**	**36**	P	**P**	**19 35 34.1**	**-2.4**
	comp=Z,0.8nm,0.3s,baz=222,slow=8.4,SNR=42						
ILAR				LR	LR	19 43 42.5	
	comp=Z,76nm,19.5s,baz=264,slow=39 comp=Z,3.8nm,0.9s						
ILAR	**Eielson Array**	**19.22**	**36**	P	**P**	**19 35 35.7**	**-0.9**
G23K	**Bananza Creek**	**19.30**	**29**	P	**P**	**19 35 37.7**	**+0.3**
G23K				IAmb	IAmb	19 35 43.5	
	comp=Z,8.0nm,0.9s						
E21K	**Killik River**	**19.47**	**22**	P	**P**	**19 35 39.5**	**+0.2**
E21K				IAmb	IAmb	19 35 46.9	
	comp=Z,6.6nm,0.8s						
MENT	**Mentasta**	**19.67**	**43**	P	**P**	**19 35 41.9**	**+0.3**
MENT				IAmb	IAmb	19 36 12.0	
	comp=Z,4.0nm,0.7s						
E22K	**Anaktuvuk Pass**	**19.77**	**25**	P	**P**	**19 35 41.8**	**-0.9**
M26K	**Nabesna, AK**	**19.80**	**45**	P	**P**	**19 35 42.5**	**-0.5**
L26K	**Log Cabin Wild**	**19.86**	**43**	IAmb	IAmb	19 35 59.0	
	comp=Z,4.5nm,0.7s						
SCRK	**Sand Creek**	**19.97**	**40**	P	**P**	**19 35 42.7**	**-2.2**
G24K	**Hadweenzic Riv**	**20.09**	**31**	P	**P**	**19 35 43.8**	**-2.2**
G24K				IAmb	IAmb	19 35 48.3	
	comp=Z,8.3nm,1.1s						
B20K	**Meade River**	**20.09**	**17**	P	**P**	**19 35 46.4**	**+0.4**
B20K				IAmb	IAmb	19 35 56.6	
	comp=Z,6.8nm,0.9s						
PRP	**Porcupine Dome**	**20.10**	**35**	P	**P**	**19 35 44.6**	**-1.7**
PRP				IAmb	IAmb	19 36 00.5	
	comp=Z,4.2nm,0.6s						
D22K	**Ayikyak River**	**20.11**	**22**	P	**P**	**19 35 44.7**	**-1.5**
D22K				IAmb	IAmb	19 35 55.1	
	comp=Z,8.4nm,0.9s						
B21K	**Ikpikpuk River**	**20.26**	**19**	P	**P**	**19 35 47.4**	**-0.4**
B21K				IAmb	IAmb	19 35 55.2	
	comp=Z,6.2nm,0.8s						
E24K	**Your Creek**	**20.64**	**27**	P	**P**	**19 35 51.6**	**-0.4**
TOLK	**Toolik Lake Re**	**20.72**	**25**	P	**P**	**19 35 52.9**	**0.0**
TOLK				IAmb	IAmb	19 36 08.1	
	comp=Z,6.1nm,0.8s						
K27K	**Chicken**	**20.76**	**41**	P	**P**	**19 35 52.4**	**-1.0**
K27K				IAmb	IAmb	19 35 56.8	
	comp=Z,8.4nm,1.1s						
SEY	**Seymchan**	**21.25**	**315**	P	**P**	**19 35 59.0**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=23,slow=11,SNR=1.5						
SEY				LR	LR	19 44 40.4	
	comp=Z,73nm,19.6s,baz=322,slow=38 comp=Z,0.7nm,0.4s						
SEY	**Seymchan**	**21.25**	**315**	*eP*	**P**	**19 36 01.6**	**+3.0**
SEY				pmax	pmax		
	comp=Z,5.0nm,1.0s						
D24K	**Happy Valley**	**21.27**	**25**	P	**P**	**19 35 57.5**	**-1.2**
D24K				IAmb	IAmb	19 36 00.3	
	comp=Z,5.4nm,1.0s						
C23K	**Itkillik River**	**21.31**	**22**	P	**P**	**19 35 58.4**	**-0.9**
MA2	**Magadan**	**21.34**	**306**	LR	LR	19 43 49.0	
	comp=Z,81nm,20.3s,baz=107,slow=36						
EGAK	**Eagle**	**21.42**	**39**	P	**P**	**19 35 59.4**	**-1.0**
BMAR	**Burnt Mountain**	**21.43**	**31**	P	**P**	**19 36 00.7**	**+0.1**
E25K	**Arctic Village**	**21.52**	**29**	P	**P**	**19 36 02.2**	**+0.7**
DAWY	**Dawson**	**21.88**	**42**	IAmb	IAmb	19 36 21.8	
	comp=Z,4.8

H11S3	**WAKE ISLAND Hy**	**36.40**	**212**	T	T	20 17 27.0	
	baz=20,slow=76,SNR=4.8						
NVAR	**Mina Array Bea**	**40.45**	**87**	P	**P**	**19 38 51.8**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=294,slow=8.8,SNR=3.2						
	comp=Z,0.4nm,0.7s						
KSRS	**Korea Array**	**42.73**	**274**	P	**P**	**19 39 10.2**	**+0.8**
	comp=Z,3.1nm,0.9s,baz=66,slow=7.4,SNR=6.5						
KSRS				LR	LR	19 56 14.7	
	comp=Z,16nm,20.5s,baz=30,slow=35						
	comp=Z,3.1nm,0.9s						
PDAR	**Pinedale Array**	**43.28**	**75**	P	**P**	**19 39 14.4**	**+0.3**
	comp=Z,0.9nm,0.5s,baz=298,slow=3.2,SNR=12						
	comp=Z,0.9nm,0.5s						
PFO	**Pinyon Flats O**	**44.66**	**91**	LR	LR	19 55 28.6	
	comp=Z,23nm,18.1s,baz=47,slow=33						
ULN	**Ulaanbaatar**	**48.93**	**299**	⇑*i*P	**P**	**19 39 59.0**	**+0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.1s						
SONM	**Songino Array**	**49.31**	**299**	P	**P**	**19 40 01.9**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=47,slow=8.2,SNR=4.1						
SONM				LR	LR	20 01 20.6	
	comp=Z,43nm,20.4s,baz=60,slow=37						
	comp=Z,0.9nm,0.7s						
TXAR	**Lajitas Array**	**55.55**	**85**	P	**P**	**19 40 46.8**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=319,slow=8.6,SNR=2.5						
	comp=Z,0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**56.12**	**316**	PcP	**PcP**	**19 41 48.5**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=22,slow=4.7,SNR=2.1						
ZALV				LR	LR	20 06 14.6	
	comp=Z,20nm,18.4s,baz=66,slow=38						
ARCES	**ARCESS Array B**	**58.40**	**352**	P	**P**	**19 41 06.4**	**-0.8**
	comp=Z,5.4nm,1.1s,baz=29,slow=6.2,SNR=1.6						
ARCES				PcP	**PcP**	**19 41 56.4**	**-1.2**
	comp=Z,3.9nm,0.9s,baz=23,slow=4.9,SNR=4.8						
ARCES				LR	LR	20 08 59.7	
	comp=Z,35nm,18.9s,baz=347,slow=39						
	comp=Z,5.4nm,1.1s						
KURK	**Kurchatov**	**61.10**	**316**	⇑*i*P	**P**	**19 41 25.9**	**-0.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURBB	**Kurchatov Arra**	**61.20**	**316**	P	**P**	**19 41 26.0**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=45,slow=6.6,SNR=26						
	comp=Z,2.2nm,0.7s						
BVAR	**Borovoye Array**	**62.71**	**322**	P	**P**	**19 41 36.1**	**-0.7**
	comp=Z,1.2nm,0.6s,baz=49,slow=6.6,SNR=13						
BVAR				LR	LR	20 11 22.9	
	comp=Z,60nm,19.6s,baz=26,slow=38						
	comp=Z,1.2nm,0.6s						
ARU	**Arti**	**64.03**	**331**	P	**P**	**19 41 44.7**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=42,slow=8.3,SNR=3.9						
	comp=Z,1.8nm,0.5s						
ARU	**Arti**	**64.03**	**331**	*d i*P	**P**	**19 41 45.0**	**-0.5**
ARU						19 42 14.8	
ARU						19 44 04.5	
ARU				S	**S**	**19 50 20.7**	**+1.7**
ARU				SS	**SS**	**19 54 22.8**	**-4.3**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s						
FINES	**FINESS Array B**	**66.24**	**350**	P	**P**	**19 41 58.5**	**-1.2**
	comp=Z,1.3nm,0.9s,baz=28,slow=8.6,SNR=3.5						
	comp=Z,1.3nm,0.9s						
FINES	**FINESS Array B**	**66.24**	**350**	*i* P	**P**	**19 42 02.5**	**+2.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
HFS	**Hagfors**	**68.50**	**356**	P	**P**	**19 42 13.5**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=5.7,slow=1.4,SNR=5.5						
HFS				LR	LR	20 12 47.7	
	comp=Z,13nm,19.8s,baz=320,slow=36						
	comp=Z,1.1nm,0.6s						
VSU	**Vasula**	**69.07**	**349**	⇑*e*P	**P**	**19 42 17.1**	**-0.5**
VSU				pmax	pmax		
	comp=Z,25nm,1.3s						
AAK	**Ala-Archa**	**69.08**	**313**	*de*P	**P**	**19 42 19.1**	**+0.9**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
AKTO	**Aktyubinsk**	**69.27**	**327**	P	**P**	**19 42 18.8**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=58,slow=5.0,SNR=8.2						
	comp=Z,2.2nm,0.6s						
OBN	**Obninsk**	**70.73**	**342**	*e*P	**P**	**19 42 27.0**	**-0.8**
OBN				*e*		19 42 50.9	
OBN				*e*		19 45 02.9	
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**74.06**	**280**	P	**P**	**19 42 48.8**	**+0.5**
	comp=Z,1.5nm,0.9s,baz=24,slow=7.0,SNR=11						
CMAR				LR	LR	20 19 08.6	
	comp=Z,9.9nm,18.9s,baz=175,slow=39						
	comp=Z,1.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**74.06**	**280**	*ce*P	**P**	**19 42 50.0**	**+1.7**
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
DZM	**Mont Dzumac**	**75.32**	**199**	LR	LR	20 11 00.0	
	comp=Z,50nm,19.4s,baz=233,slow=32						
AKASG	**Malin Array Be**	**76.26**	**345**	P	**P**	**19 42 59.2**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=343,slow=0.7,SNR=4.2						
	comp=Z,0.7nm,0.5s						
AKASG	**Malin Array Be**	**76.26**	**345**	*ce*P	**P**	**19 43 00.5**	**+0.1**
AKBB	**Malin Array Si**	**76.26**	**345**	*i* P	**P**	**19 42 58.9**	**-1.5**
KHC	**Kasperske Hory**	**79.50**	**355**	*i* P	**P**	**19 43 17.9**	**-0.6**
KBZ	**Khabaz**	**79.90**	**334**	P	**P**	**19 43 21.3**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=315,slow=2.4,SNR=5.5						
	comp=Z,1.8nm,0.9s						
KBZ	**Khabaz**	**79.90**	**334**	⇓*e*P	**P**	**19 43 21.0**	**+0.3**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GEYT	**Alibeck**	**79.99**	**321**	P	**P**	**19 43 22.4**	**+1.0**
	comp=Z,1.5nm,0.9s,baz=72,slow=1.8,SNR=4.7						
	comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**85.99**	**339**	P	**P**	**19 43 51.7**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=58,slow=3.1,SNR=7.3						
	comp=Z,0.9nm,0.8s						
BRTR	**Keskin Array B**	**85.99**	**339**	*ce*P	**P**	**19 43 52.4**	**-0.1**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**87.78**	**227**	P	**P**	**19 44 00.9**	**-0.3**
	comp=Z,0.5nm,0.8s,baz=28,slow=6.3,SNR=4.1						
	comp=Z,0.5nm,0.8s						
H03N2	**Juan Fernandez**	**118.24**	**109**	T	T	21 59 45.8	
	baz=317						
H03N1	**Juan Fernandez**	**118.25**	**109**	T	T	21 59 34.7	
	baz=317						
H03N3	**Juan Fernandez**	**118.25**	**109**	T	T	21 59 51.1	
	baz=317						

*SOME **03** 19:39:51.2, 41.93N×85.02E, h20km*
*IDC **03** 19:40:02.5±1.1, 42.02N×84.36E, h0km, mb3.8/6, mbtmp3.5/12, ML2.7/6, MS2.4/2, Error ellipse: s-maj=20.7km s-min=12.8km az=69.0*
*NNC **03** 19:40:06.1±2.0, 42.21N×84.50E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=17.9km s-min=11.3km az=153.0*

ISC 03 19:40:03.6±1.1, **42.02N**±0.07×**84.73E**±0.06, **h10km, n26, o2s19/31, mb3.8/6, 7C-8D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
KTMS	**Ketmen**	**3.53**	**295**	*e*P	**Pn**	**19**	**41**	**00.7**	**+2.1**
	2.3nm,0.2s								
KTMS				*e*S	**Sb**	**19**	**41**	**48.4**	**-0.7**
	57nm,0.2s								
SHLS	**Shalkode**	**4.05**	**288**	*e*P	**Pn**	**19**	**41**	**05.3**	**-0.5**
	11nm,0.2s								
SHLS				*e*S	**Sn**	**19**	**41**	**56.5**	**+3.1**
	124nm,0.3s								
PDGK	**Podgornoye**	**4.08**	**291**	⇑Pn	**Pn**	**19**	**41**	**06.5**	**+0.4**
	1.5nm,0.4s								
PDGK				⇑Pg	**Pb**	**19**	**41**	**17.8**	**+2.1**
	5.8nm,0.5s								
PDGK				⇓Lg	Lg	19	42	07.9	
	37nm,0.4s								
UZB	**Uzynbulak**	**4.36**	**287**	*e*P	**Pn**	**19**	**41**	**13.9**	**+3.8**
	5.9nm,0.2s								
UZB				*e*S	**Sb**	**19**	**42**	**11.9**	**-1.2**
	20nm,0.3s								
SATY	**Saty**	**4.79**	**285**	*e*P	Pb	19	41	23.4	-4.2
	4.0nm,0.1s								
SATY				*e*S	**Sb**	**19**	**42**	**27.9**	**+2.6**
	36nm,0.2s								
MK31	**Makanchi Array**	**5.09**	**341**	⇓Pn	**Pn**	**19**	**41**	**20.3**	**+0.4**
	0.2nm,0.2s,baz=175,slow=12,SNR=63								
MK31				⇓Lg	Lg	19	42	39.1	
	36nm,0.7s,baz=168,slow=30,SNR=6.0								
MKAR	**Makanchi Array**	**5.09**	**341**	Pn	**Pn**	**19**	**41**	**19.9**	**0.0**
	0.4nm,0.3s,baz=161,slow=14,SNR=22								
MKAR				Pg	**Pb**	**19**	**41**	**34.0**	**+1.3**
	5.4nm,0.3s,baz=156,slow=16,SNR=44								
MKAR				Sn	**Sn**	**19**	**42**	**18.1**	**-0.7**
	3.0nm,0.3s,baz=207,slow=17,SNR=6.0								
MKAR				Lg	Lg	19	42	39.4	
	7.3nm,0.3s,baz=151,slow=28,SNR=8.2								
MKAR				LR	LR	19	42	44.6	
	comp=Z,20nm,19.4s,baz=198,slow=32								
	0.5nm,0.3s								
ZSN	**Zaisan**	**5.43**	**1**	*e*P	**Pb**	**19**	**41**	**35.4**	**-3.2**
	2.0nm,0.2s								
ZSN				*e*S	**Sb**	**19**	**42**	**49.5**	**+5.6**
	28nm,0.7s								
KNDC	**Almaty**	**5.85**	**284**	⇓Lg	Lg	19	43	08.8	
	31nm,0.5s								
TKM2	**Tokmak 2**	**6.81**	**281**	⇑Pn	**Pn**	**19**	**41**	**44.1**	**+0.3**
	1.0nm,0.3s								
TKM2				⇑Sn	**Sn**	**19**	**43**	**01.7**	**+0.2**
	3.0nm,0.5s								
TKM2				⇓Lg	Lg	19	43	33.4	
	4.7nm,0.5s								
AAK	**Ala-Archa**	**7.61**	**278**	⇓Pg	Pb	19	42	21.8	+6.1
	2.6nm,0.8s								
AAK				⇓Lg	Lg	19	44	03.4	
	9.1nm,0.7s								
AAK	**Ala-Archa**	**7.61**	**278**	Pn	**Pn**	**19**	**41**	**52.7**	**-2.0**
	0.3nm,0.3s,baz=128,slow=8.9,SNR=4.2								
AAK				Sn	**Sn**	**19**	**43**	**16.9**	**-4.1**
	0.3nm,0.3s,baz=70,slow=9.4,SNR=1.6								
AAK				Lg	Lg	19	43	55.5	
	0.6nm,0.3s,baz=222,slow=22,SNR=1.6								
	0.6nm,0.3s								
KURBB	**Kurchatov Arra**	**9.61**	**336**	⇑Lg	Lg	19	45	07.2	
	16nm,0.7s								
KURBB	**Kurchatov Arra**	**9.61**	**336**	Pn	**Pn**	**19**	**42**	**22.2**	**+0.2**
	baz=147,slow=13,SNR=5.2								
KURBB				Sn	**Sn**	**19**	**44**	**07.2**	**-2.8**
	0.1nm,0.3s,baz=156,slow=30,SNR=1.5								
KURBB				Lg	Lg	19	45	05.0	
	0.1nm,0.3s,baz=182,slow=29,SNR=6.6								
	0.3nm,0.5s								
KURK	**Kurchatov**	**9.67**	**336**	⇓Lg	Lg	19	45	03.8	
	27nm,1.1s								
KK31	**Karatay Array**	**10.55**	**281**	⇑Lg	Lg	19	45	35.4	
	1.5nm,0.6s								
OTUK	**Ortayu**	**10.74**	**310**	⇑Lg	Lg	19	45	36.1	
	6.8nm,0.8s								
ZALV	**Zalesovo Beam**	**11.94**	**0**	Pn	**Pn**	**19**	**42**	**52.6**	**-1.2**
	0.2nm,0.3s,baz=172,slow=15,SNR=2.4								
ZALV				Sn	**Sn**	**19**	**45**	**07.3**	**+0.4**
	0.2nm,0.3s,baz=182,slow=22,SNR=2.2								
ZALV				Lg	Lg	19	46	23.8	
	0.1nm,0.3s,baz=165,slow=40,SNR=2.4								
	0.7nm,0.3s								
BVAR	**Borovoye Array**	**14.64**	**324**	Pn	**Pn**	**19**	**43**	**28.5**	**-2.1**
	baz=152,slow=9.6,SNR=1.8								
BVAR				Sn	Sn	19	46	03.3	-10
	baz=123,slow=16,SNR=1.3								
BVAR				Lg	Lg	19	47	42.6	
	baz=121,slow=34,SNR=2.8								
BVAR				LR	LR	19	49	42.2	
	comp=Z,31nm,20.7s,baz=348,slow=40								
	0.3nm,0.5s								
SONM	**Songino Array**	**16.39**	**62**	Pn	**Pn**	**19**	**43**	**55.6**	**+1.8**
	0.1nm,0.3s,baz=257,slow=13,SNR=4.1								
	0.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**26.42**	**148**	P	**P**	**19**	**45**	**42.7**	**+2.2**
	1.2nm,0.9s,baz=324,slow=9.5,SNR=7.9								
	1.2nm,0.9s								
FINES	**FINESS Array B**	**39.55**	**320**	P	**P**	**19**	**47**	**33.8**	**-0.6**
	1.1nm,0.9s,baz=90,slow=9.7,SNR=1.5								
	1.1nm,0.9s								
ARCES	**ARCESS Array B**	**40.68**	**332**	P	**P**	**19**	**47**	**43.0**	**-0.7**
	1.9nm,0.9s,baz=96,slow=8.3,SNR=3.5								
	1.9nm,0.9s								
HFS	**Hagfors**	**45.69**	**319**	P	**P**	**19**	**48**	**23.4**	**-0.9**
	1.0nm,0.7s,baz=108,slow=4.8,SNR=4.1								
	1.0nm,0.7s								
NOA	**NORSAR Array B**	**46.73**	**320**	P	**P**	**19**	**48**	**31.7**	**-0.8**
	0.6nm,0.8s,baz=348,slow=8.2,SNR=3.9								
	0.6nm,0.8s								
TORD	**Torodi Ar. Bea**	**76.19**	**275**	P	**P**	**19**	**51**	**50.6**	**-1.7**
	0.4nm,0.4s,baz=33,slow=5.0,SNR=7.8								
	0.4nm,0.4s								

*NOU **03** 20:01:10.9, 16.37S×171.08W, h0km, mb5.1/26, Samoa Islands Region*
*NEIC **03** 20:02:59.4±1.7, 17.9S±0.2×178.5W±0.2, h597km±9km, mb4.3/139, Error ellipse: s-maj=35.1km s-min=18.3km az=152.0*
*IDC **03** 20:03:01.1±2.6, 17.89S×178.60W, h619km±31km, mb3.5/13, mbtmp4.4/14, Error ellipse: s-maj=19.8km s-min=12.1km az=146.0*

ISC 03 20:02:58.8±0.4, **18.04S**±0.10×**178.46W**±0.08, **h600km, n192, o69⁄94/136, mb4.3/85, 18C-7D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
MSVF	**Nonsavu**	**3.34**	**275**	P	**P**	**20**	**04**	**21.4**	**+1.3**
NIUE	**Niue**	**8.16**	**99**	P	**P**	**20**	**04**	**59.3**	**-0.3**
MARNC	**Mare, Loyalty**	**13.17**	**253**	P	**P**	**20**	**05**	**49.5**	**+0.1**
MARNC	**Mare, Loyalty**	**13.17**	**253**	P	**P**	**20**	**05**	**48.5**	**-0.9**
LIFNC	**LIFOU**	**13.77**	**256**	P	**P**	**20**	**05**	**54.7**	**-0.7**
LIFNC	**LIFOU**	**13.77**	**256**	P	**P**	**20**	**05**	**54.1**	**-1.3**
OUENC	**Ouen Island, N**	**14.47**	**250**	P	**P**	**20**	**06**	**03.1**	**+1.0**
OUENC	**Ouen Island, N**	**14.47**	**250**	P	**P**	**20**	**06**	**02.3**	**+0.2**
DZM	**Mont Dzumac**	**14.74**	**252**	P	**P**	**20**	**06**	**06.2**	**+1.4**
DZM	**Mont Dzumac**	**14.74**	**252**	P	**P**	**20**	**06**	**04.3**	**-0.4**
DZM	**Mont Dzumac**	**14.74**	**252**	P	**P**	**20**	**06**	**04.8**	**0.0**
	7.6nm,0.6s,baz=68,slow=19,SNR=9.5								
ONTNC	**Ouen Toro**	**14.79**	**251**	P	**P**	**20**	**06**	**04.7**	**-0.4**
NOUC	**Port Laguerre**	**14.87**	**252**	P	**P**	**20**	**06**	**08.3**	**+2.4**
KOUNC	**Koumac, New Ca**	**16.48**	**258**	P	**P**	**20**	**06**	**21.2**	**+0.5**
MRZ	**Mangatainoka R**	**23.12**	**192**	P	**P**	**20**	**07**	**16.5**	**-3.8**
MRZ				IAmb	IAmb	20	07	31.5	
	comp=Z,18nm,1.3s								
LTZ	**Lake Taylor**	**25.89**	**196**	P	**P**	**20**	**07**	**44.4**	**-0.4**
LBZ	**Lake Benmore**	**27.95**	**198**	P	**P**	**20**	**08**	**00.3**	**-2.3**
WKZ	**Wanaka**	**28.69**	**199**	P	**P**	**20**	**08**	**08.7**	**-0.5**
ARMA	**Armidale**	**29.83**	**240**	P	**P**	**20**	**08**	**20.9**	**+1.6**
ARMA	**Armidale**	**29.83**	**240**	P	**P**	**20**	**08**	**20.5**	**+1.2**
ARMA				IAmb	IAmb	20	08	21.5	
	comp=Z,7.3nm,0.7s								
CTAO	**Charters Tower**	**33.38**	**261**	P	**P**	**20**	**08**	**49.1**	**-0.3**
CMSA	**Cobar Meteorol**	**35.04**	**241**	P	**P**	**20**	**09**	**04.2**	**+1.1**
TOO	**Toolangi**	**37.05**	**231**	P	**P**	**20**	**09**	**21.1**	**+1.6**
TOO				IAmb	IAmb	20	09	48.2	
	comp=Z,17nm,1.2s								
COEN	**Coen**	**37.06**	**271**	P	**P**	**20**	**09**	**20.7**	**+0.8**
COEN	**Coen**	**37.06**	**271**	P	**P**	**20**	**09**	**20.4**	**+0.6**
MANU	**Manus Island**	**37.10**	**291**	P	**P**	**20**	**09**	**20.8**	**+0.5**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**20**	**09**	**33.0**	**+1.5**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**20**	**09**	**32.7**	**+1.2**
STKA	**Stephens Creek**	**38.52**	**241**	P	**P**	**20**	**09**	**32.5**	**+1.0**
	comp=Z,13nm,0.7s,baz=83,slow=9.1,SNR=20								
	comp=Z,13nm,0.7s								
INKA	**Innaminka**	**38.65**	**248**	P	**P**	**20**	**09**	**34.2**	**+1.6**
HTT	**Hallett**	**41.04**	**240**	P	**P**	**20**	**09**	**51.5**	**-0.1**
LCRK	**Leigh Creek**	**41.16**	**244**	P	**P**	**20**	**09**	**53.3**	**+0.8**
OOD	**Oodnadatta**	**43.13**	**248**	P	**P**	**20**	**10**	**09.2**	**+1.3**
BBOO	**Buckleboo**	**43.30**	**241**	P	**P**	**20**	**10**	**10.1**	**+0.8**
WRAB	**Tennant Creek**	**44.55**	**260**	P	**P**	**20**	**10**	**17.6**	**-1.4**
AS31	**Alice Springs**	**44.71**	**254**	P	**P**	**20**	**10**	**20.1**	**-0.1**
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**20**	**10**	**19.9**	**-0.3**
ASAR	**Alice Springs**	**44.71**	**254**	P	**P**	**20**	**10**	**20.6**	**+0.3**
	comp=Z,75nm,0.6s,baz=87,slow=8.5,SNR=935								
ASAR				PcP	**PcP**	**20**	**11**	**49.5**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=97,slow=4.0,SNR=4.2								
ASAR				S	**S**	**20**	**16**	**13.4**	**-1.2**
	comp=Z,4.2nm,1.0s,baz=88,slow=16,SNR=15								
MULG	**Mulgathing**	**44.71**	**245**	P	**P**	**20**	**10**	**20.5**	**+0.4**
KDU	**Kakadu**	**47.51**	**269**	P	**P**	**20**	**10**	**41.2**	**-0.2**
MTN	**Manton Dam**	**48.75**	**269**	P	**P**	**20**	**10**	**50.1**	**-0.5**
MTN	**Manton Dam**	**48.75**	**269**	P	**P**	**20**	**10**	**50.0**	**-0.6**
WRKA	**Warakurna**	**49.76**	**252**	P	**P**	**20**	**10**	**58.0**	**0.0**
FORT	**Forrest**	**49.91**	**245**	P	**P**	**20**	**10**	**58.7**	**-0.3**
FORT	**Forrest**	**49.91**	**245**	P	**P**	**20**	**10**	**58.6**	**-0.3**
KNRA	**Kununurra**	**50.43**	**264**	P	**P**	**20**	**11**	**02.8**	**-0.1**
KNRA	**Kununurra**	**50.43**	**264**	P	**P**	**20**	**11**	**02.3**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.96**	**261**	P	**P**	**20**	**11**	**21.2**	**+0.2**
FITZ	**Fitzroy Crossi**	**52.96**	**261**	P	**P**	**20**	**11**	**20.9**	**-0.2**
KMBL	**Kambalda**	**55.21**	**244**	P	**P**	**20**	**11**	**35.3**	**-1.4**
SOEI	**Soe**	**56.02**	**270**	P	**P**	**20**	**11**	**43.4**	**+0.8**
TNTI	**Ternate**	**56.45**	**283**	P	**P**	**20**	**11**	**45.6**	**+0.2**
TNTI				IAmb	IAmb	20	11	46.3	
	comp=Z,23nm,0.9s								
PSA00	**Pilbara Seismi**	**57.83**	**255**	P	**P**	**20**	**11**	**54.5**	**-0.2**
PSA00				IAmb	IAmb	20	11	54.9	
	comp=Z,14nm,0.6s								
PSA00	**Pilbara Seismi**	**57.83**	**255**	P	**P**	**20**	**11**	**54.5**	**-0.2**
MBWA	**Marble Bar**	**58.00**	**256**	P	**P**	**20**	**11**	**54.7**	**-1.1**
MMRI	**Maumere**	**58.25**	**271**	P	**P**	**20**	**11**	**56.9**	**-0.8**
MMRI				IAmb	IAmb	20	12	12.5	
	comp=Z,20nm,0.8s								
LUWI	**Luwuk**	**60.08**	**279**	P	**P**	**20**	**12**	**10.0**	**+0.2**
JAGI	**Jajag, Banyuwa**	**65.99**	**269**	P	**P**	**20**	**12**	**46.2**	**-1.4**
MJAR	**Matsushiro Arr**	**67.98**	**323**	P	**P**	**20**	**12**	**58.7**	**-0.7**
	comp=Z,5.2nm,0.7s,baz=161,slow=5.7,SNR=21								
	comp=Z,5.2nm,0.7s								
SBUM	**Sibu**	**71.18**	**279**	P	**P**	**20**	**13**	**18.9**	**0.0**
QSPA	**South Pole Qui**	**72.02**	**180**	P	**P**	**20**	**13**	**24.6**	**+1.7**
	comp=Z,1.0nm,0.8s,baz=45,slow=2.9,SNR=5.4								
	comp=Z,1.0nm,0.8s								
SSLB	**Suanglung**	**72.27**	**303**	P	**P**	**20**	**13**	**23.9**	**-1.0**
TPUB	**Ta-pu**	**72.29**	**302**	P	**P**	**20**	**13**	**24.2**	**-0.9**
KSM	**Kuching**	**72.65**	**277**	P	**P**	**20**	**13**	**25.8**	**-1.6**
PETK	**Petropavlovsk-**	**73.79**	**345**	P	**P**	**20**	**13**	**32.5**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=132,slow=8.9,SNR=5.4								
	comp=Z,3.6nm,0.8s								
KSRS	**Korea Array**	**74.77**	**318**	P	**P**	**20**	**13**	**38.9**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=134,slow=6.1,SNR=4.2								
	comp=Z,1.3nm,0.7s								
SAO	**San Andreas Ge**	**76.55**	**44**	P	**P**	**20**	**13**	**49.4**	**+0.7**
SAO				IAmb	IAmb	20	13	50.4	
	comp=Z,9.7nm,0.9s								
PMPB	**Monarch Peak**	**76.67**	**45**	P	**P**	**20**	**13**	**49.0**	**-0.4**
PMPB				IAmb	IAmb	20	13	51.3	
	comp=Z,22nm,1.1s								
USRK	**Ussuriysk Ar.**	**76.70**	**326**	P	**P**	**20**	**13**	**49.8**	**+0.6**
	comp=Z,1.5nm,0.8s,baz=107,slow=5.1,SNR=2.8								
	comp=Z,1.5nm,0.8s								
KMPM	**Mount Pierce**	**77.01**	**40**	P	**P**	**20**	**13**	**52.3**	**+1.1**
KMPM				IAmb	IAmb	20	13	53.2	
	comp=Z,14nm,0.9s								
KMRM	**Mail Ridge**	**77.15**	**40**	P	**P**	**20**	**13**	**53.1**	**+1.2**
CMB	**Columbia Colle**	**77.97**	**43**	P	**P**	**20**	**13**	**56.2**	**-0.2**
CMB				IAmb	IAmb	20	13	57.7	
	comp=Z,8.4nm,1.1s								
AFDM	**Forest Hills D**	**78.11**	**42**	P	**P**	**20**	**13**	**57.1**	**+0.1**
ORV	**Oroville**	**78.12**	**41**	P	**P**	**20**	**13**	**57.0**	**-0.1**
YUH	**Yuha Desert**	**78.17**	**50**	P	**P**	**20**	**13**	**58.2**	**+0.6**
YBH	**Yreka Blue Hor**	**78.66**	**39**	P	**P**	**20**	**14**	**00.5**	**+0.5**
YBH				IAmb	IAmb	20	14	01.8	
	comp=Z,7.2nm,0.9s								
WAKR	**Walker**	**78.85**	**43**	P	**P**	**20**	**14**	**01.4**	**+0.2**
WAKR				IAmb	IAmb	20	14	03.1	
	comp=Z,11nm,0.9s								
GSC	**Goldstone, Bar**	**78.91**	**47**	P	**P**	**20**	**14**	**01.1**	**-0.4**
MPK	**Martis Peak**	**78.91**	**42**	IAmb	IAmb	20	14	03.2	
	comp=Z,2.2nm,0.7s								
HUMO	**Hull Mountain**	**79.03**	**38**	P	**P**	**20**	**14**	**02.9**	**+1.0**
PNTR	**Pine Nut**	**79.07**	**43**	P	**P**	**20**	**14**	**02.4**	**0.0**
PNTR				IAmb	IAmb	20	14	04.1	
	comp=Z,14nm,0.8s								
L04D	**Klamath Falls**	**79.19**	**39**	IAmb	IAmb	20	14	04.3	
	comp=Z,13nm,0.8s								
DSP	**Deep Springs**	**79.20**	**45**	P	**P**	**20**	**14**	**03.4**	**+0.6**
DSP				IAmb	IAmb	20	14	04.8	
	comp=Z,7.8nm,1.0s								
YERR	**Yerington**	**79.24**	**43**	IAmb	IAmb	20	14	04.8	
	comp=Z,1.8nm,1.2

	comp=Z,8.0nm,1.0s						
PD31	**Pinedale Array**	**87.48**	**43**	IAmb	IAmb	20 14 45.0	
	comp=Z,3.1nm,0.8s						
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**20 14 42.8**	**-1.2**
PDAR	**Pinedale Array**	**87.48**	**43**	P	**P**	**20 14 44.4**	**+0.3**
	comp=Z,2.4nm,0.6s,baz=226,slow=3.3,SNR=27						
	comp=Z,2.4nm,0.6s						
BOZ	**Bozeman (W)**	**87.50**	**40**	IAmb	IAmb	20 14 45.7	
	comp=Z,8.5nm,1.4s						
H17A	**Grant Village**	**87.58**	**42**	IAmb	IAmb	20 14 47.3	
	comp=Z,5.0nm,0.8s						
MNHN	**Monahans**	**87.60**	**56**	IAmb	IAmb	20 14 46.2	
	comp=Z,5.2nm,1.0s						
MMPY	**Sheldon Lake,**	**88.51**	**20**	IAmb	IAmb	20 14 49.3	
	comp=Z,4.8nm,0.9s						
RLMT	**Red Lodge**	**88.75**	**41**	IAmb	IAmb	20 14 51.7	
	comp=Z,4.1nm,1.1s						
CMAR	**Chiang Mai Arr**	**88.88**	**290**	P	**P**	**20 14 51.0**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=120,slow=3.0,SNR=11						
I30M	**Mount Dempster**	**88.94**	**16**	IAmb	IAmb	20 14 50.5	
	comp=Z,4.5nm,1.1s						
ELIB	**Princess Elisa**	**89.02**	**187**	*d*P	**P**	**20 14 51.3**	**+0.6**
	comp=Z,2.1nm,0.7s						
PZH	**PanZhiHua**	**89.18**	**298**	P	**P**	**20 14 52.4**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.9s						
SNAA	**Sanae**	**90.47**	**179**	P	**P**	**20 14 58.0**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=190,slow=12,SNR=1.6						
	comp=Z,1.3nm,1.0s						
E28M	**Babbage River**	**90.84**	**13**	IAmb	IAmb	20 14 59.3	
	comp=Z,2.4nm,1.0s						
LZH	**Lanzhou**	**90.93**	**308**	*e*P	**P**	**20 15 00.9**	**+0.7**
LZH				pP	pP	20 17 14.5	+4.5
LZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**92.02**	**15**	IAmb	IAmb	20 15 04.0	
	comp=Z,2.6nm,0.9s						
SONM	**Songino Array**	**93.62**	**319**	P	**P**	**20 15 12.2**	**+0.1**
	comp=Z,0.6nm,0.9s,baz=95,slow=3.3,SNR=2.7						
	comp=Z,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**94.47**	**25**	P	**P**	**20 15 14.9**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=251,slow=4.5,SNR=8.8						
	comp=Z,0.6nm,0.8s						
MKAR	**Makanchi Array**	**109.19**	**314**	PKiKP	**PKiKP**	**20 20 20.4**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=159,slow=0.5,SNR=7.2						
KURBB	**Kurchatov Arra**	**111.94**	**318**	PKiKP	**PKiKP**	**20 20 25.3**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=110,slow=2.0,SNR=6.5						
BVAR	**Borovoye Array**	**116.92**	**321**	PKP	**PKPdf**	**20 20 35.2**	**-0.8**
	comp=Z,1.0nm,0.4s,baz=110,slow=5.2,SNR=13						
SORM	**Soroca**	**142.88**	**330**	↑P	**PKPdf**	**20 21 22.2**	**-2.8**
BNN	**Bunyan**	**143.71**	**312**	PKPdf	PKPbc	20 21 25.5	-0.6
LODK	**Lodwar**	**143.83**	**250**		PKPbc	20 21 25.9	-1.3
VASR	**Vaslui**	**144.20**	**329**	↑P	PKPbc	20 21 27.5	+0.3
TLCR		**144.65**	**326**	↑P	**PKPab**	**20 21 29.5**	**+0.1**
BURAR	**Bucovina Array**	**144.71**	**332**	↑P	**PKPab**	**20 21 29.6**	**-0.1**
SCTR	**Scanteiesti**	**144.76**	**327**	↓P	**PKPdf**	**20 21 28.9**	**+0.6**
GHRR		**144.79**	**328**	↑P	**PKPab**	**20 21 30.6**	**+0.7**
BR131	**Keskin Array S**	**144.84**	**315**		**PKPdf**	**20 21 28.2**	**-0.6**
BRTR	**Keskin Array B**	**144.84**	**315**		**PKPdf**	**20 21 28.5**	**-0.4**
BRTR	**Keskin Array B**	**144.84**	**315**	PKP	**PKPdf**	**20 21 29.4**	**+0.5**
	comp=Z,1.8nm,0.5s,baz=107,slow=2.9,SNR=16						
TESR	**Tescani**	**144.85**	**329**	↑P	PKPbc	20 21 29.2	+0.1
KOLS	**Kolonicke sedl**	**144.90**	**336**	*e*PKP	**PKPab**	**20 21 30.1**	**-0.2**
SLCR	**Slobozia Conac**	**144.93**	**327**	↑P	**PKPab**	**20 21 31.1**	**+0.7**
CFR	**Carcaliu**	**145.02**	**326**	↑P	PKPbc	20 21 30.0	+0.3
TPGR	**Topolog**	**145.08**	**326**	↑P	PKPbc	20 21 30.2	+0.2
VRI	**Vrincioaia**	**145.27**	**329**	↑P	**PKPbc**	**20 21 30.5**	**0.0**
PLOR	**Plostina**	**145.31**	**329**	↓P	**PKPbc**	**20 21 30.9**	**+0.2**
TURR	**Turia**	**145.48**	**329**	↓P	**PKiKP**	**20 21 33.6**	**-0.3**
CLL	**Collm**	**145.58**	**347**	*i* PKPbc	**PKPbc**	**20 21 30.9**	**-0.2**
	comp=Z,4.0nm,0.8s						
DOPR	**Dopca**	**145.85**	**330**	↑P	**PKPbc**	**20 21 32.6**	**+0.5**
MLR	**Muntele Rosu**	**145.92**	**329**	↓P	**PKPbc**	**20 21 32.7**	**+0.3**
MMAI	**Mount Meron Ar**	**146.17**	**303**	PKPbc	**PKPbc**	**20 21 33.8**	**+0.3**
	comp=Z,2.9nm,0.5s,baz=72,slow=5.4,SNR=15						
MARR	**Marisel-Cluj**	**146.35**	**333**	↑P	**PKPbc**	**20 21 33.8**	**+0.2**
DRGR		**146.44**	**333**	↓P	**PKPbc**	**20 21 34.3**	**+0.5**
VYHS	**Vyhne**	**146.52**	**339**	*e*PKP	**PKPbc**	**20 21 34.9**	**+1.0**
LOT	**Lotru**	**146.99**	**331**	↓P	**PKPdf**	**20 21 32.0**	**-0.3**
SURR	**Surduc**	**147.50**	**333**	↑P	**PKPbc**	**20 21 36.4**	**-0.1**
GERES	**GERESS Array B**	**147.73**	**345**	PKPbc	**PKPbc**	**20 21 36.8**	**-0.3**
	comp=Z,1.2nm,0.5s,baz=45,slow=2.6,SNR=6.3						
ELND	**Elena**	**147.74**	**325**	↑P	**PKPbc**	**20 21 37.5**	**+0.3**
BZS	**Buzias**	**147.83**	**333**	↑P	**PKPbc**	**20 21 36.7**	**-0.7**
HERR	**Herculane**	**148.05**	**331**	↑P	**PKPbc**	**20 21 37.9**	**0.0**
BLKB	**Belogradchik**	**148.88**	**330**	↑P	**PKPbc**	**20 21 40.1**	**0.0**
BOVS	**Bovan**	**149.33**	**331**	↑P	**PKPbc**	**20 21 39.5**	**-1.5**

*FUNV **03** 20:13:31.4, 10˚.81N×72˚.15W, h5km, MW3.1*
*RSNC **03** 20:13:33.6±0.0, 11˚.4×7˚.2W×˚, h5km±4km, M2.2, ML2.2*
ISC 03 20:13:29.3±1.8,**10˚.85N**±0˚.05×**72˚.17W**±0˚.04,**h6**km±13km,
n11,σ1°**27**/**22**,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRJC	**Cerrejon, Guaj**	**0.72**	**283**	P	**Pn**	**20 13 46.9**	**+0.8**
CRJC				S	**Sn**	**20 13 57.2**	**-0.3**
MCQV	**Machiques**	**0.88**	**204**	*e*P	**Pb**	**20 13 47.4**	**+0.5**
MCQV				*e*S	**Sb**	**20 13 59.0**	**+0.2**
SMRC	**Santa Marta, M**	**2.04**	**279**	P	**Pg**	**20 14 09.2**	**+0.7**
SMRC				S	**Sn**	**20 14 31.1**	**+1.1**
ARGC	**Ariguani, Magd**	**2.27**	**244**	P	**Pg**	**20 14 12.3**	**-0.6**
ARGC				S	**Sn**	**20 14 36.7**	**+1.0**
SIQV	**Siquisique**	**2.33**	**95**	*e*P	**Pn**	**20 14 09.2**	**+1.0**
SIQV				*e*S	**Sn**	**20 14 37.5**	**+0.3**
OCAC	**Ocana**	**2.83**	**204**	P	**Pg**	**20 14 22.8**	**-0.9**
OCAC				S	**Sb**	**20 14 55.3**	**-0.1**
SOCV	**Socops**	**2.86**	**153**	*e*P	**Pn**	**20 14 15.9**	**+0.4**
SOCV				*e*S	**Sn**	**20 14 49.0**	**-1.3**
CAPV	**Capacho**	**2.97**	**183**	*e*P	**Pn**	**20 14 18.1**	**+0.9**
CAPV				*e*S	**Sn**	**20 14 53.0**	**-0.3**
SJCC	**San Jacinto, C**	**3.11**	**253**	P	**Pb**	**20 14 23.2**	**-1.9**
SJCC				S	**Sb**	**20 15 00.9**	**-2.4**
PAMC	**Pamplona, Colo**	**3.53**	**189**	P	**Pb**	**20 14 34.0**	**+1.5**
PAMC				S	**Sb**	**20 15 16.8**	**+1.0**
BAUV	**El Baul**	**4.49**	**115**	*e*P	**Pn**	**20 14 38.3**	**+0.4**
BAUV				*e*S	**Sn**	**20 15 27.7**	**-2.7**

*JMA **03** 20:25:00.8±0.2,25˚.N±1˚×122˚.3E±0˚.4, h132km±1km, MV2.1/11, TAIWAN REGION*
*TAP **03** 20:25:00.9, 24˚.99N×122˚.31E, h127km, ML3.0, D*
ISC 03 20:25:00.7±1.8,**24˚.96N**±0˚.06×**122˚.32E**±0˚.03,**h127**km±9km,
n76,σ0°**71**/140,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.31**	**278**	*e*P	**Pn**	**20 25 19.3**	**+0.8**
	baz=274						
TWB1				*e*S	**Sn**	**20 25 32.1**	**+0.1**
	baz=274						
EGS		**0.37**	**252**	*e*P	**Pn**	**20 25 18.2**	**-0.6**
	baz=246						
EGS				*e*S	**Sn**	**20 25 31.8**	**-0.7**
	baz=246						
SXI1	**Grass Mountain**	**0.43**	**288**	*i* P	**Pn**	**20 25 19.2**	**0.0**
	baz=285						
SXI1				*i* S	**Sn**	**20 25 33.0**	**-0.1**
	baz=285						
TNOU	**National Taiwa**	**0.53**	**291**	*e*P	**Pn**	**20 25 19.5**	**-0.2**
	baz=288						
EOS2	**EOS2**	**0.55**	**189**	*e*P	**Pn**	**20 25 20.4**	**+0.7**
	baz=186						
EOS2				*e*S	**Sn**	**20 25 34.6**	**+0.7**
	baz=186						
TWC	**Suao**	**0.56**	**231**	P	**Pn**	**20 25 20.3**	**+0.4**
	baz=227						
TWC				*e*S	**Sn**	**20 25 33.4**	**-0.8**
	baz=227						
NDS	**Dongshan**	**0.64**	**239**	*e*P	**Pn**	**20 25 21.4**	**+0.9**
	baz=236						
NDS				*e*S	**Sn**	**20 25 34.8**	**-0.5**
	baz=236						
TWE	**Neicheng**	**0.64**	**248**	P	**Pn**	**20 25 21.3**	**+0.9**
	baz=244						
TWE				S	**Sn**	**20 25 35.0**	**-0.3**
	baz=244						
TWA	**Mucha**	**0.67**	**272**	*e*P	**Pn**	**20 25 19.7**	**-0.9**
	baz=269						
TWA				*e*S	**Sn**	**20 25 34.1**	**-1.5**
	baz=269						
EOS3	**EOS3**	**0.67**	**180**	*e*P	**Pn**	**20 25 21.4**	**+0.9**
	baz=179						
EOS3				*e*S	**Sn**	**20 25 36.4**	**+1.0**
	baz=179						
NHY	**Taipei**	**0.69**	**276**	*e*P	**Pn**	**20 25 20.4**	**-0.3**
	baz=274						
FUSB	**Fushanzhiwuyua**	**0.70**	**253**	P	**Pn**	**20 25 20.9**	**+0.1**
	baz=250						
FUSB				*e*S	**Sn**	**20 25 34.9**	**-1.2**
	baz=250						
EWUT	**Wuta**	**0.71**	**224**	P	**Pn**	**20 25 21.4**	**+0.4**
	baz=221						
EWUT				S	**Sn**	**20 25 36.3**	**+0.1**
	baz=221						
TWY	**Chenhua**	**0.73**	**296**	*e*P	**Pn**	**20 25 21.6**	**+0.6**
	baz=294						
ENA	**Nanau**	**0.75**	**225**	*e*P	**Pn**	**20 25 21.7**	**+0.5**
	baz=222						
ENA				S	**Sn**	**20 25 36.8**	**+0.1**
	baz=222						
TATO	**Taipei**	**0.76**	**271**	*e*P	**Pn**	**20 25 20.9**	**-0.3**
	baz=268						
TATO				*e*S	**Sn**	**20 25 35.5**	**-1.3**
	baz=268						
ENTT	**Nioudou**	**0.76**	**245**	*e*P	**Pn**	**20 25 21.7**	**+0.4**
	baz=242						
ENTT				*e*S	**Sn**	**20 25 37.6**	**+0.7**
	baz=242						
JYNG	**Yonagunijimaku**	**0.76**	**132**	P	**Pn**	**20 25 21.4**	**+0.1**
JYNG				S	**Sn**	**20 25 37.2**	**+0.4**
NWLT	**Wulai**	**0.77**	**256**	*e*P	**Pn**	**20 25 21.3**	**-0.1**
	baz=254						
NWLT				*e*S	**Sn**	**20 25 36.0**	**-1.1**
	baz=254						
YOJ	**Yonaguni jima**	**0.80**	**128**	P	**Pn**	**20 25 21.8**	**+0.1**
YOJ				S	**Sn**	**20 25 37.4**	**0.0**
YOJ	**Yonaguni jima**	**0.80**	**128**	P	**Pn**	**20 25 22.0**	**+0.4**
	baz=129						
YOJ				S	**Sn**	**20 25 37.5**	**0.0**
	baz=129						
NTST	**Danshui**	**0.82**	**284**	*e*P	**Pn**	**20 25 22.1**	**+0.3**
	baz=282						
NTST				*e*S	**Sn**	**20 25 37.4**	**-0.2**
	baz=282						
NDT	**Datong Townshi**	**0.82**	**244**	*i* P	**Pn**	**20 25 22.6**	**+0.8**
	baz=242						
NDT				*e*S	**Sn**	**20 25 38.3**	**+0.6**
	baz=242						
TWS1	**Kuangyinshan**	**0.83**	**280**	*e*P	**Pn**	**20 25 22.2**	**+0.3**
	baz=278						
EOS4	**EOS4**	**0.84**	**180**	*e*P	**Pn**	**20 25 21.8**	**+0.3**
	baz=179						
EOS4				*e*S	**Sn**	**20 25 37.1**	**-0.2**
	baz=179						
LATG	**Datong**	**0.84**	**240**	*i* P	**Pn**	**20 25 22.9**	**+0.8**
	baz=237						
LATG				*e*S	**Sn**	**20 25 39.3**	**+1.1**
	baz=237						
YHNB	**Yeheng**	**0.91**	**251**	*e*P	**Pn**	**20 25 22.9**	**+0.2**
	baz=249						
YHNB				*i* S	**Sn**	**20 25 39.0**	**-0.3**
	baz=249						
NSK	**Sanguang**	**0.92**	**252**	*i* P	**Pn**	**20 25 22.7**	**-0.1**
	baz=249						
NSK				S	**Sn**	**20 25 38.9**	**-0.5**
	baz=249						
NNSB	**Datong**	**1.01**	**238**	*i* P	**Pn**	**20 25 24.2**	**+0.6**
	baz=236						
NNSB				S	**Sn**	**20 25 40.9**	**0.0**
	baz=236						
NNSH	**Datong**	**1.01**	**238**	*e*P	**Pn**	**20 25 24.2**	**+0.6**
	baz=236						
NNSH				*e*S	**Sn**	**20 25 41.0**	**0.0**
	baz=236						
NNS	**Nan Shan**	**1.01**	**239**	*e*P	**Pn**	**20 25 24.2**	**+0.6**
	baz=237						
NNS				*e*S	**Sn**	**20 25 40.9**	**-0.1**
	baz=237						
ETL	**Fush Village**	**1.02**	**219**	*e*P	**Pn**	**20 25 23.7**	**0.0**
	baz=217						
ETL				*e*S	**Sn**	**20 25 40.4**	**-0.6**
	baz=217						
NACB	**Ninganchiao**	**1.03**	**220**	*e*P	**Pn**	**20 25 23.6**	**-0.1**
	baz=218						
NACB				S	**Sn**	**20 25 40.4**	**-0.7**
	baz=218						
ETLH	**Xiulin Townshi**	**1.07**	**226**	*e*P	**Pn**	**20 25 24.5**	**+0.2**
	baz=224						
ETLH				*e*S	**Sn**	**20 25 41.3**	**-0.7**
	baz=224						
TWD	**Chiawan**	**1.10**	**217**	*e*P	**Pn**	**20 25 23.9**	**-0.5**
	baz=215						
TWD				*e*S	**Sn**	**20 25 41.4**	**-0.9**
	baz=215						
NFF	**Wufeng Townshi**	**1.14**	**253**	*i* P	**Pn**	**20 25 24.9**	**+0.1**
	baz=251						
NFF				*i* S	**Sn**	**20 25 42.7**	**-0.5**
	baz=251						
FUSS	**Fushou**	**1.21**	**234**	*e*P	**Pn**	**20 25 26.5**	**+0.7**
	baz=232						
FUSS				*e*S	**Sn**	**20 25 44.5**	**-0.3**
	baz=232						
LIOB	**Emei**	**1.23**	**255**	*e*P	**Pn**	**20 25 25.9**	**+0.2**
	baz=253						
LIOB				*i* S	**Sn**	**20 25 44.1**	**-0.6**
	baz=253						
NSTT	**Nanjuang**	**1.25**	**255**	P	**Pn**	**20 25 26.0**	**+0.1**
	baz=253						
NSTT				*i* S	**Sn**	**20 25 44.4**	**-0.5**
	baz=253						
ETM	**Tongmen**	**1.25**	**217**	*e*P	**Pn**	**20 25 25.5**	**-0.4**
	baz=216						
ETM				*e*S	**Sn**	**20 25 43.2**	**-1.8**
	baz=216						
LXIB	**Xiulin Townshi**	**1.25**	**222**	*e*P	**Pn**	**20 25 25.4**	**-0.7**
	baz=220						
LXIB				*e*S	**Sn**	**20 25 44.9**	**-0.5**
	baz=220						
TWT	**Tachien**	**1.26**	**236**	*e*P	**Pn**	**20 25 26.9**	**+0.7**
	baz=234						
TWT				*e*S	**Sn**	**20 25 46.2**	**+0.6**
	baz=234						
WHF	**Hehuan Shan**	**1.26**	**230**	*e*P	**Pn**	**20 25 27.5**	**+1.0**
	baz=228						
WHF				S	**Sn**	**20 25 45.8**	**-0.2**
	baz=228						
TDCB	**Techi**	**1.27**	**237**	*e*P	**Pn**	**20 25 27.3**	**+1.0**
	baz=235						
TDCB				*e*S	**Sn**	**20 25 46.0**	**+0.2**
	baz=235						
SHUL	**Shoufeng**	**1.36**	**211**	*e*P	**Pn**	**20 25 26.7**	**-0.4**
	baz=209						
SHUL				*e*S	**Sn**	**20 25 46.9**	**-0.3**
	baz=209						
CHGB	**Renai**	**1.38**	**230**	*e*P	**Pn**	**20 25 28.6**	**+1.0**
	baz=228						
CHGB				*e*S	**Sn**	**20 25 47.5**	**-0.5**
	baz=228						
ESL	**Shilin**	**1.40**	**216**	*e*P	**Pn**	**20 25 27.2**	**-0.4**
	baz=214						
ESL				*e*S	**Sn**	**20 25 46.1**	**-1.9**
	baz=214						
IRIF	**Iriomote-Funau**	**1.43**	**116**	P	**Pn**	**20 25 27.8**	**0.0**
IRIF				S	**Sn**	**20 25 48.2**	**-0.1**
WHP	**Taichung City**	**1.43**	**242**	*e*P	**Pn**	**20 25 29.5**	**+1.5**
	baz=240						
WHP				*i* S	**Sn**	**20 25 49.1**	**+0.5**
	baz=240						
OWD	**Renai**	**1.45**	**226**	*e*P	**Pn**	**20 25 28.9**	**+0.6**
	baz=225						
OWD				*e*S	**Sn**	**20 25 48.8**	**-0.4**
	baz=225						
WUSB	**Renai**	**1.46**	**229**	*e*P	**Pn**	**20 25 29.1**	**+0.7**
	baz=227						
WUSB				S	**Sn**	**20 25 49.6**	**+0.2**
	baz=227						
WARBT	**Fenglin Townsh**	**1.51**	**215**	*e*P	**Pn**	**20 25 27.6**	**-1.2**
	baz=213						
WARBT				*e*S	**Sn**	**20 25 47.7**	**-2.4**
	baz=213						
WCS	**Beigang Elemen**	**1.57**	**235**	*e*P	**Pn**	**20 25 30.1**	**+0.6**
	baz=233						
WCS				*i* S	**Sn**	**20 25 51.5**	**+0.1**
	baz=233						
VWDT	**VWDT**	**1.62**	**222**	*e*P	**Pn**	**20 25 30.8**	**+0.8**
	baz=220						
VWDT				*i* S	**Sn**	**20 25 52.3**	**0.0**
	baz=220						
HGSD	**Ruisui**	**1.68**	**209**	P	**Pn**	**20 25 30.5**	**-0.2**
	baz=208						
HGSD				*e*S	**Sn**	**20 25 53.1**	**-0.5**
	baz=208						
SMLT	**Sun Moon Lake**	**1.69**	**231**	*e*P	**Pn**	**20 25 30.7**	**-0.2**
	baz=229						
SMLT				*e*S	**Sn**	**20 25 55.0**	**+1.1**
	baz=229						
JKRS	**Kuro-shima**	**1.70**	**115**	P	**Pn**	**20 25 31.2**	**+0.3**
JKRS				*e*S	**Sn**	**20 25 53.9**	**0.0**
TYC	**Yuchr**	**1.70**	**232**	*e*P	**Pn**	**20 25 31.6**	**+0.6**
	baz=230						
TYC				*e*S	**Sn**	**20 25 53.8**	**-0.3**
	baz=230						
SSLB	**Suanglung**	**1.71**	**227**	*e*P	**Pn**	**20 25 32.0**	**+0.9**
	baz=225						
SSLB				*e*S	**Sn**	**20 25 55.0**	**+0.6**
	baz=225						
EHY	**Hungye**	**1.71**	**212**	*e*P	**Pn**	**20 25 29.9**	**-1.3**
	baz=211						
JIJ	**Ishigaki jima**	**1.76**	**109**	P	**Pn**	**20 25 31.9**	**+0.2**
JIJ				S	**Sn**	**20 25 54.4**	**-0.9**
YULB	**Yu-li**	**1.82**	**211**	*e*P	**Pn**	**20 25 31.2**	**-1.2**
	baz=210						
WHYT	**Xinyi Township**	**1.84**	**227**	*e*P	**Pn**	**20 25 33.4**	**+0.7**
	baz=225						
WHYT				*e*S	**Sn**	**20 25 57.5**	**+0.5**
	baz=225						
WNT	**Mingjian**	**1.84**	**234**	*e*P	**Pn**	**20 25 32.9**	**+0.3**
	baz=233						
WNT				*e*S	**Sn**	**20 25 57.4**	**+0.4**
	baz=233						
JISG	**Ishigakijimahi**	**1.85**	**101**	P	**Pn**	**20 25 32.8**	**+0.2**
JISG				S	**Sn**	**20 25 56.8**	**-0.3**
EYUL	**Yuli**	**1.85**	**210**	*e*P	**Pn**	**20 25 33.0**	**+0.2**
	baz=208						
TWF1	**Yuli**	**1.86**	**210**	*e*P	**Pn**	**20 25 31.6**	**-1.3**
	baz=209						
TWF1				*e*S	**Sn**	**20 25 56.8**	**-0.7**
	baz=209						
ALS	**Alishan**	**2.00**	**224**	*e*P	**Pn**	**20 25 36.4**	**+1.5**
	baz=222						
ALS				*e*S	**Sn**	**20 26 02.0**	**+1.0**
	baz=222						
WRL	**Guolierlin Hig**	**2.06**	**240**	*e*P	**Pn**	**20 25 34.6**	**-0.7**
	baz=238						
EHD	**Haiduan**	**2.08**	**210**	*e*P	**Pn**	**20 25 35.7**	**+0.2**
	baz=208						
ELDTW	**Lidau**	**2.13**	**214**	*e*P	**Pn**	**20 25 36.0**	**-0.3**
	baz=213						
WCKO	**Fanlu**	**2.18**	**226**	*e*P	**Pn**	**20 25 36.2**	**-0.6**
	baz=225						
WCKO				*e*S	**Sn**	**20 26 03.9**	**-0.6**
	baz=225						
CHN4	**Tsaushan**	**2.25**	**225**	*e*P	**Pn**	**20 25 38.3**	**+0.6**
	baz=223						
TPUB	**Ta-pu**	**2.27**	**223**	*e*P	**Pn**	**20 25 37.5**	**-0.4**
	baz=222						
TPUB				*e*S	**Sn**	**20 26 05.8**	**-0.6**
	baz=222						
STYH	**Taoyuan**	**2.28**	**219**	*e*P	**Pn**	**20 25 39.5**	**+1.5**
	baz=217						
STYH				*i* S	**Sn**	**20 26 07.1**	**+0.5**
	baz=217						
MASBT	**Mashibuluo**	**2.81**	**214**	*e*P	**Pn**	**20 25 45.6**	**+0.9**
	baz=212						

*IDC **03** 20:30:55.6±0.8, 19˚.40N×155˚.16W, h0km, mb4.4/18, mbtmp4.4/18, MS3.9/54, Error ellipse: s-maj=26.3km s-min=16.1km az=163.0*
*BJI **03** 20:30:55.0±0.0, 19˚.50N×155˚.20W, h5km, mb4.9/36, mB5.4/16, Ms4.9/9, Ms7 4.5/15*
*NEIC **03** 20:30:57.0±2.0, 19˚.48N±0˚.02×155˚.10W±0˚.04, h10km±1km, Error ellipse: s-maj=6.6km s-min=4.5km az=99.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.88; Mθθ-3.74; Mϕϕ-0.14; Mrθ-0.79; Mθϕ-2.88; Mϕr0.16; Fault plane solution: M₀4.84000×10¹⁶ NP1:φs49.28000°, δ42.41000°, λ72.88000°. NP2:φs251.93000°, δ49.86000°, λ105.05000°. Principal axes: T 4.0257, Plg78.0000°, Azm223.0000°; N 1.3507, Plg11.0000°, Azm62.0000°; P -5.3764, Plg4.0000°, Azm331.0000°;*
*HVO **03** 20:30:56.5±1.2, 19˚.34N±0˚.09×155˚.07W±0˚.04, h7km±3km, ML4.7/37, mb5.1/104(NEIC), ML4.6/48(NEIC), Mwb5.1/25(NEIC) Error ellipse: s-maj=13.7km s-min=4.5km az=196.0*
*NEIC **03** 20:30:56.5, 19˚.34N×155˚.07W, h7km*
*GCMT **03** 20:31:02.5±0.3, 19˚.19N±0˚.02×155˚.04W±0˚.03, h12km, MW4.9/92, Moment Tensor Solution. s23,c26; s92,c134; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.00±.06; Mθθ-1.57±.05; Mϕϕ-0.43±.05; Mrθ1.54±.19; Mθϕ-0.46±.05; Mϕr1.12±.26; Best double couple: M₀2.66200×10¹⁶ NP1:φs59.00000°, δ68.00000°, λ83.00000°. NP2: φs257.00000°, δ23.00000°, λ107.00000°. Principal axes: T 2.8260, Plg66.0000°, Azm317.0000°; N -0.3300, Plg6.0000°, Azm62.0000°; P -2.4970, Plg23.0000°, Azm155.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 03 20:30:57.1±0.4,**19˚.42N**±0˚.05×**155˚.11W**±0˚.03,**h10**km,
n531,σ1°**31**/479,**mb5.1**/69,**MS4.0**/61,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPOC	**North of Pu'u**	**0.02**	**169**		**Pg**	**20 30 58.4**	**-0.6**
NPOC					IAML	20 31 00.6	
	comp=N,501μm,0.5s						
STCH	**Steam Cracks**	**0.03**	**199**		**Pg**	**20 30 58.5**	**-0.6**
JCUZ	**Jacuzzi**	**0.03**	**159**		**Pg**	**20 30 58.3**	**-0.8**
JCUZ					IAML	20 31 00.0	
	comp=N,434μm,2.2s						
JCUZ					IAML	20 31 00.4	
	comp=E,417μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.06**	**236**		**Pg**	**20 30 59.5**	**+0.2**
JOKA	**Jonika Flow**	**0.10**	**80**		**Pg**	**20 30 59.2**	**-0.6**
PUH	**Pauahi**	**0.10**	**247**		**Pg**	**20 30 59.8**	**-0.1**
PUH					IAML	20 31 03.4	
	comp=E,197μm,1.1s						
PUH					IAML	20 31 03.8	
	comp=N,177μm,1.1s						
BYL	**Byron's Ledge**	**0.14**	**269**		**Pg**	**20 31 00.4**	**+0.1**
BYL					IAML	20 31 07.1	
	comp=E,126μm,

HLP IAML 20 31 07.8
comp=N,144µm,0.3s
PHO Puu Honuaula 0.22 73 Pg 20 31 01.5 -0.2
MLH Mauna Loa 0.27 287 Pg 20 31 03.2 +0.5
MLH **Sb 20 31 09.2 +0.3**
MLH Mauna Loa 0.27 287 IAML 20 31 10.9
comp=E,137µm,0.3s
MLH IAML 20 31 11.6
comp=N,104µm,0.3s
HMH Humu'ula Sheep 0.40 298 Pg 20 31 05.5 +0.5
MWH Moku'aweowe 0.46 279 Pg 20 31 06.2 -0.1
KHU Kahuku 0.50 251 Pg 20 31 06.0 -1.0
POHA Pohakuloa 0.52 311 Pg 20 31 07.4 +0.1
HUH Hualalai 0.73 292 Pg 20 31 10.8 -0.5
I59US HAWAII INFRASO 0.76 284 Pg **Pg 20 31 10.6 -1.1**
baz=124,slow=6.7
I59US Lg Lg 20 31 22.4
baz=97,slow=25
CPH Captain Cook 0.76 276 Pg 20 31 10.1 -1.8
HPAH Hawaii Prepara 0.82 318 Pg 20 31 11.2 -1.8
MHA Mahukona 1.07 316 Pg 20 31 15.2 -2.5
HLK Haleakala 1.71 322 Pn 20 31 23.8 -3.4
KHLH Kahului Airpor 1.92 320 Pn 20 31 27.2 -2.7
HON Honolulu 3.31 306 Pn 20 31 46.0 -3.0
KIP Kipapa 3.38 307 IAML 20 32 44.1
comp=N,1µm,0.8s
KIP IAML 20 32 49.1
comp=N,1µm,0.9s
KIP Kipapa 3.38 307 Pn 20 31 46.3 -3.6
OPA Opana 3.53 310 Pn 20 31 49.2 -2.8
KEKH Kekaha 5.00 301 Pn 20 32 08.8 -3.5
KMPM Mount Pierce 33.79 45 P **P 20 37 39.0 -0.4**
KMPM IAmb IAmb 20 37 49.0
comp=Z,39nm,1.2s
SAO San Andreas Ge 34.13 52 P **P 20 37 42.2 -0.2**
BBGB Big Mountain B 34.38 53 P **P 20 37 45.4 +0.9**
BBGB IAmb IAmb 20 37 50.7
comp=Z,54nm,1.4s
SNCC San Nicolas Is 34.56 59 P **P 20 37 47.7 +1.6**
baz=255
PKM Mcpherson Peak 34.78 56 P **P 20 37 49.2 +1.1**
baz=253
NIKH Nikolski High 35.15 346 P **P 20 37 53.4 +2.5**
baz=157
ORV Oroville 35.19 48 P **P 20 37 52.1 +0.7**
YBH Yreka Blue Hor 35.36 44 P **P 20 37 52.2 -0.7**
YBH Yreka Blue Hor 35.36 44 LR LR 20 48 19.0
comp=Z,179nm,21.7s,baz=244,slow=30
CMB Columbia Colle 35.39 51 P **P 20 37 53.4 +0.2**
UNV Unalaska Valle 35.47 348 P **P 20 37 55.9 +2.3**
baz=161
ARVC Arvin 35.62 56 P **P 20 37 56.7 +1.5**
baz=253
H11N3 WAKE ISLAND Hy 35.74 277 T T 21 15 02.9
baz=84,slow=74,SNR=502
H11N2 WAKE ISLAND Hy 35.75 277 T T 21 15 02.3
baz=84,slow=74,SNR=1250
H11N1 WAKE ISLAND Hy 35.75 277 T T 21 15 02.8
baz=84,slow=74,SNR=703
ISA Isabella, Lake 36.05 56 P **P 20 37 59.6 +0.6**
baz=253
H11S2 WAKE ISLAND Hy 36.08 275 T T 21 15 28.1
baz=83,slow=75,SNR=208
H11S1 WAKE ISLAND Hy 36.08 275 T T 21 15 26.6
baz=83,slow=75,SNR=124
H11S3 WAKE ISLAND Hy 36.09 275 T T 21 15 27.6
baz=83,slow=75,SNR=200
EDW2 Edwards Air Fo 36.21 57 P **P 20 38 01.4 +1.0**
baz=254
BFSC Mount Baldy Ra 36.32 58 P **P 20 38 03.3 +1.9**
baz=256
CWC Cottonwood Cre 36.59 55 P **P 20 38 05.4 +1.8**
baz=252
S12K Black Hills 36.61 353 P **P 20 38 06.3 +2.9**
baz=169
LRMC Laurel Mtn Rad 36.62 56 P **P 20 38 05.7 +1.8**
baz=254
MPMC Manual Prospec 36.93 55 P **P 20 38 08.4 +1.8**
baz=253
MONP2 Monument Peak 37.02 61 P **P 20 38 08.5 +1.1**
baz=258
NVAR Mina Array Bea 37.06 51 P **P 20 38 07.6 -0.1**
NVAR Mina Array Bea 37.06 51 P **P 20 38 08.1 +0.4**
comp=Z,2.3nm,0.7s,baz=240,slow=9.3,SNR=12
NVAR PcP **PcP 20 40 28.6 +0.2**
comp=Z,0.4nm,0.5s,baz=232,slow=2.2,SNR=3.1
NVAR LR LR 20 51 16.1
comp=Z,41nm,19.7s,baz=292,slow=33
comp=Z,2.3nm,0.7s
SII Sitkinak Islan 37.09 1 P **P 20 38 10.5 +3.0**
baz=181
PFO Pinyon Flats O 37.14 60 P **P 20 38 09.7 +1.3**
baz=257
PFO Pinyon Flats O 37.14 60 LR LR 20 49 06.5
comp=Z,108nm,18.4s,baz=244,slow=29
TPFO Pinon Flats 37.14 60 P **P 20 38 09.7 +1.3**
baz=257
PPT Papeete 37.15 171 LR LR 20 49 24.8
comp=Z,650nm,20.0s,baz=348,slow=30
IKP In-Ko-Pah, Jac 37.23 61 P **P 20 38 09.9 +0.8**
baz=259
GSC Goldstone, Bar 37.26 57 P **P 20 38 10.1 +0.8**
baz=255
HEC Hector,Ludlow 37.52 58 P **P 20 38 12.2 +0.7**
baz=256
FURC Furnace Creek, 37.53 55 P **P 20 38 12.2 +0.8**
baz=253
SWSC Sam W. Stewart 37.55 61 P **P 20 38 12.2 +0.6**
baz=259
BELC Belle Mtn. Jos 37.60 59 P **P 20 38 13.1 +0.8**
baz=257
OHAK Old Harbor 37.78 2 P **P 20 38 15.0 +1.8**
baz=183
SHOC Shoshone, Teco 37.83 56 P **P 20 38 14.8 +0.7**
baz=255
BC3 Big Chuckawall 37.97 60 P **P 20 38 15.4 +0.1**
baz=258
TUQ Turquoise Moun 37.99 57 P **P 20 38 15.7 +0.1**
baz=256
H02S1 DAWSON INLET T 38.00 22 T T 21 18 18.7
SNR=1071
GMRC Granite Mounta 38.05 58 P **P 20 38 16.7 +0.7**
baz=256
IRM Iron Mountain 38.33 59 P **P 20 38 18.4 +0.2**
baz=258
KDAK Kodiak Island 38.36 2 P **P 20 38 19.6 +1.5**
baz=184
KDAK Kodiak Island 38.36 2 LR LR 20 50 43.5
comp=Z,280nm,20.6s,baz=211,slow=31
GNW Green Mountain 38.42 36 P **P 20 38 18.3 -0.5**
P08K Saint George I 38.67 347 P **P 20 38 22.0 +1.3**
baz=158
BBB Bella Bella 38.91 26 LR LR 20 51 58.4
comp=Z,148nm,18.3s,baz=230,slow=32
R11B Troy Canyon, C 39.05 53 P **P 20 38 24.6 +0.1**
baz=252,SNR=14
Q20K Shuyak Island 39.19 2 P **P 20 38 26.9 +1.8**
baz=184
SPIA Saint Paul Isl 39.35 347 P **P 20 38 28.5 +2.1**
baz=157
P16K Nushagak River 39.62 358 P **P 20 38 30.1 +1.5**
baz=176
CRAG Craig 39.65 20 P **P 20 38 30.9 +1.9**
baz=214
O15K Ungalikthiuk R 39.86 356 P **P 20 38 32.0 +1.4**
baz=173
214A Organ Pipe Nat 39.88 63 P **P 20 38 31.7 +0.4**
baz=262
P18K Big Mountain, 39.93 360 P **P 20 38 32.7 +1.4**
baz=180
V35K Ketchikan 40.02 21 P **P 20 38 33.0 +0.9**
baz=216
ELK Elko 40.08 49 LR LR 20 51 48.8
comp=Z,85nm,19.4s,slow=31
U33K Whale Pass 40.19 19 P **P 20 38 35.3 +1.9**
baz=213
HOM Homer 40.27 3 P **P 20 38 35.3 +1.2**
baz=185
O17K Koliganek Bris 40.34 358 P **P 20 38 35.8 +1.2**
baz=177
O18K Koktuh Hills 40.39 360 P **P 20 38 36.0 +0.9**
baz=180
RAR Rarotonga 40.63 187 LR LR 20 52 16.0
comp=Z,400nm,18.0s,baz=324,slow=32
O20K Slope Mountain 40.66 2 P **P 20 38 38.3 +1.0**
baz=184
WRAK Wrangell Islan 40.68 19 P **P 20 38 39.2 +1.7**
baz=214
N14K Kuskokwak Cree 40.74 355 P **P 20 38 39.2 +1.3**
baz=170
O19K Port Alsworth 40.74 1 P **P 20 38 39.6 +1.7**
baz=181
SEW Seward 40.84 4 P **P 20 38 40.0 +1.2**
baz=188
N15K Kwethluk River 40.86 356 P **P 20 38 39.9 +0.9**
baz=173
S31K Pelican 40.92 15 P **P 20 38 40.3 +0.8**
baz=208
S32K Killisnoo 40.92 17 P **P 20 38 40.1 +0.7**
baz=210
SHEM Shemya Is, Ala 40.94 332 LR LR 20 52 09.5
comp=Z,120nm,20.7s,baz=96,slow=31
N17K Nushagak Hills 41.09 358 P **P 20 38 41.9 +1.0**
baz=177
N16K Nishlik Lake 41.10 357 P **P 20 38 42.2 +1.3**
baz=175
KAIM Kayak Island 41.19 8 P **P 20 38 43.3 +1.6**
baz=195
N18K Kilae Creek 41.22 359 P **P 20 38 43.2 +1.2**
baz=179
N19K Bonanza Creek 41.36 0 P **P 20 38 44.4 +1.3**
N19K Bonanza Creek 41.36 0 P **P 20 38 44.5 +1.4**
baz=181
M13K Dall Lake 41.37 354 P **P 20 38 44.5 +1.4**
baz=168
M15K Kasigluk River 41.43 356 P **P 20 38 45.0 +1.4**
baz=172
BGLC Bering Glacier 41.53 9 P **P 20 38 45.7 +1.2**
baz=197
M14K Bethel 41.58 355 P **P 20 38 45.6 +0.8**
M14K Bethel 41.58 355 P **P 20 38 46.4 +1.6**
baz=170
EYAK Cordova Ski Ar 41.63 7 P **P 20 38 46.7 +1.5**
baz=193
TUC Tucson 41.63 63 P **P 20 38 45.7 -0.1**
baz=263
WUAZ Wupatki 41.63 58 P **P 20 38 45.9 0.0**
baz=259
R32K Eaglecrest 41.64 16 P **P 20 38 47.1 +1.7**
baz=210
M16K Timber Creek 41.65 357 P **P 20 38 47.3 +1.8**
baz=174
DUG Duguay, Tooele 41.66 51 P **P 20 38 46.8 +0.8**
baz=253
HLID Hailey 41.66 45 P **P 20 38 47.1 +1.1**
baz=248
M11K Mekoryuk 41.68 352 P **P 20 38 47.4 +1.7**
baz=164
LPIG La Paz 41.74 75 LR LR 20 54 03.3
comp=Z,155nm,18.7s,baz=236,slow=33
PNL Peninsula 41.77 12 P **P 20 38 47.4 +1.0**
baz=202
N20K Mount Spurr 41.79 2 P **P 20 38 48.3 +1.6**
baz=184
MESA MESA 41.79 10 P **P 20 38 48.0 +1.2**
baz=199
RC01 Rabbit Creek A 41.80 4 P **P 20 38 48.3 +1.6**
baz=188
GLI Glacier Island 41.81 6 P **P 20 38 48.0 +1.2**
baz=191
T35M Bouinn 41.81 20 P **P 20 38 48.3 +1.4**
baz=216
M17K Holitna River 41.98 358 P **P 20 38 49.6 +1.5**
baz=177
NEW Newport 42.02 38 P **P 20 38 49.2 +0.5**
baz=240
NEW Newport 42.02 38 LR LR 20 53 03.3
comp=Z,124nm,18.5s,baz=210,slow=32
M18K Stony River 42.04 359 P **P 20 38 50.2 +1.6**
baz=179
P29M Windy Craggy 42.07 13 P **P 20 38 50.3 +1.3**
baz=205
SUA Susitna One 42.12 3 P **P 20 38 49.8 +0.4**
baz=186
BMRM Bremner River 42.17 8 P **P 20 38 50.4 +0.6**
baz=195
KNK Knik Glacier 42.22 5 P **P 20 38 51.2 +1.1**
baz=189
PLBC Pleasant Camp 42.22 14 P **P 20 38 51.1 +1.0**
baz=207
L14K Kuka Creek 42.22 355 P **P 20 38 50.9 +0.8**
baz=169
PMR Palmer 42.35 4 P **P 20 38 52.2 +1.1**
baz=188
L16K Owhat River 42.37 357 P **P 20 38 52.4 +1.1**
baz=174
M20K Styx River 42.45 1 P **P 20 38 53.4 +1.4**
baz=183
M19K Big River Lodg 42.45 1 P **P 20 38 53.2 +1.2**
baz=181
SKAG Skagway 42.47 15 P **P 20 38 53.9 +1.8**
baz=208
KLU Klutina 42.53 7 P **P 20 38 53.5 +0.8**
baz=193
SKT Skwentna 42.60 2 IAmb IAmb 20 38 59.8
comp=Z,46nm,1.3s
SKT Skwentna 42.60 2 P **P 20 38 54.4 +1.2**
baz=185
SML Sawmill 42.62 5 P **P 20 38 54.2 +0.8**
baz=189
CTG Chitna Glacier 42.64 10 P **P 20 38 54.7 +1.0**
baz=199
O28M Mount Upton 42.65 11 P **P 20 38 54.0 +0.1**
baz=201
P30M Million Dollar 42.69 13 P **P 20 38 55.1 +1.1**
baz=206
L19K White Mountain 42.73 0 IAmb IAmb 20 39 02.1
comp=Z,78nm,1.5s
L19K White Mountain 42.73 0 P **P 20 38 55.4 +1.2**
baz=180
SCM Sheep Creek Mo 42.73 5 P **P 20 38 55.5 +1.1**
baz=191
L17K Donlin 42.74 358 P **P 20 38 54.8 +0.5**
baz=176
L18K Granite Mounta 42.78 359 P **P 20 38 55.7 +1.1**
baz=178
MCARA McCarthy VSAT 42.78 9 P **P 20 38 55.4 +0.7**
baz=197
N25K Chitina, Valde 42.79 7 P **P 20 38 55.7 +0.8**
baz=195
W18A Petrified Fore 42.88 59 P **P 20 38 55.6 -0.6**
baz=261
P32M Atlin 42.99 16 P **P 20 38 56.5 +0.1**
baz=210
K13K Kusilvak Mount 43.00 353 P **P 20 38 56.0 -0.4**
baz=167
L20K Farewell, AK 43.03 1 P **P 20 38 57.9 +1.2**
baz=182
DLBC Dease Lake 43.06 19 P **P 20 38 56.6 -0.5**
baz=216
DLBC Dease Lake 43.06 19 LR LR 20 52 30.9
comp=Z,213nm,20.5s,baz=237,slow=30
K15K Wolf Creek Mou 43.07 356 P **P 20 38 56.3 -0.7**
baz=171
CUT Chulitna 43.08 3 P **P 20 38 57.2 +0.1**
baz=187
M24K Tolsona, Glenn 43.11 6 P **P 20 38 58.5 +1.1**
baz=192
YUK6 Outpost Mounta 43.15 12 P **P 20 38 58.0 0.0**
baz=203
YUK8 Steele Glacier 43.21 11 P **P 20 38 59.2 +0.8**
baz=201
HYT Haines Junctio 43.21 13 P **P 20 38 59.9 +1.6**
baz=204
MSO Missoula 43.28 41 P **P 20 38 59.5 +0.5**
baz=245
K17K Iditarod 43.32 358 P **P 20 38 59.7 +0.7**
baz=176
WAT6 Susitna Watana 43.43 5 P **P 20 39 01.3 +1.2**
baz=190
O30N Mendenhall 43.46 13 P **P 20 39 01.4 +1.1**
baz=206
YUK4 Talbot Arm 43.47 11 P **P 20 39 02.2 +1.7**
baz=203
TTA Tatalina 43.48 359 P **P 20 39 00.7 +0.3**
TTA Tatalina 43.48 359 P **P 20 39 00.5 +0.1**
baz=179
PPLA Purkeypile 43.49 2 P **P 20 39 00.9 +0.3**
baz=184
HARP HAARP 43.50 7 P **P 20 39 00.9 +0.5**
baz=194
YUK3 Moose Creek 43.55 10 P **P 20 39 01.6 +0.5**
baz=200
R33M Jennings River 43.57 18 P **P 20 39 02.0 +0.8**
baz=214
WAT1 Susitna Watana 43.61 4 P **P 20 39 02.8 +1.4**
baz=189
WHY Whitehorse 43.64 14 P **P 20 39 03.1 +1.4**
baz=208
J14K Nanvaranak Lak 43.69 354 P **P 20 39 03.2 +1.3**
baz=168
P33M Teslin, Yukon 43.75 16 P **P 20 39 02.9 +0.2**
baz=211
M26K Nabesna, AK 43.77 8 P **P 20 39 03.4 +0.7**
baz=197
N30M Aishikik Lake 43.87 12 P **P 20 39 04.6 +1.1**
baz=205
M27K Edge Creek, AK 43.88 9 P **P 20 39 04.2 +0.5**
baz=198
K20K Telida 43.91 1 P **P 20 39 04.4 +0.7**
baz=181
DHY Denali Highway 43.95 5 P **P 20 39 05.0 +0.7**
baz=190
J16K Anvik River 44.00 356 P **P 20 39 04.7 +0.3**
baz=172
CAST Castle Rocks 44.02 2 P **P 20 39 03.8 -0.9**
CAST Castle Rocks 44.02 2 P **P 20 39 04.5 -0.1**
baz=184
PAX Paxson 44.02 6 P **P 20 39 05.5 +0.7**
baz=193
J18K Innoko River 44.03 359 IAmb IAmb 20 39 11.2
comp=Z,31nm,1.3s
J18K Innoko River 44.03 359 P **P 20 39 05.3 +0.6**
baz=178
J17K VABM Dome 44.03 357 P **P 20 39 06.1 +1.4**
baz=175
TRF Thorofare Moun 44.12 3 P **P 20 39 06.5 +0.9**
baz=186
RND Reindeer 44.17 4 P **P 20 39 07.0 +1.1**
RND IAmb IAmb 20 39 12.7
comp=Z,72nm,1.7s
N31M Braebuen, Yuko 44.17 13 P **P 20 39 07.0 +1.1**
baz=206
MVCO Mesa Verde 44.23 56 P **P 20 39 07.1 +0.1**
baz=259
BOZ Bozeman (W) 44.27 44 P **P 20 39 06.5 -0.6**
baz=248
L26K Log Cabin Wild 44.32 8 P **P 20 39 07.7 +0.6**
baz=196
CHUM Lake Minchumin 44.48 2 P **P 20 39 09.1 +0.9**
baz=184
MCK McKinley 44.48 4 P **P 20 39 09.0 +0.7**
baz=188
N32M Quiet Lake 44.50 15 P **P 20 39 09.7 +1.2**
baz=210
M29M Somme Creek 44.52 11 P **P 20 39 10.5 +1.7**
baz=203
J19K Poorman 44.55 360 P **P 20 39 09.7 +0.9**
baz=179
L27K Beaver Creek, 44.56 9 P **P 20 39 10.2 +1.2**
baz=198
BCAR Beaver Creek A 44.57 9 P **P 20 39 09.5 +0.4**
I17K Unalakleet 44.60 356 P **P 20 39 10.7 +1.5**
baz=172
J20K Nowinta River 44.73 1 P **P 20 39 11.6 +1.3**
baz=181
BPAW Bear Paw Mtn. 44.74 3 P **P 20 39 10.4 0.0**
baz=186
PDAR Pinedale Array 44.75 48 P **P 20 39 10.4 -0.7**
PDAR Pinedale Array 44.75 48 P **P 20 39 11.7 +0.6**
comp=Z,4.3nm,1.1s,baz=254,slow=5.4,SNR=14
PDAR LR LR 20 53 58.7
comp=Z,35nm,21.4s,baz=266,slow=31
comp=Z,4.3nm,1.1s
WTLY Watson Lake, Y 44.79 18 P **P 20 39 11.9 +1.0**
baz=216
TOAD Toad River Com 44.95 22 P **P 20 39 13.4 +1.2**
baz=222,SNR=12
Y22F Pasccal Instru 45.05 61 P **P 20 39 13.2 -0.3**
baz=264
M31M Drury Creek, Y 45.11 14 P **P 20 39 15.6 +2.2**
baz=208
SCRK Sand Creek 45.17 7 P **P 20 39 14.9 +1.0**
baz=195,SNR=10.0
L29M L29M 45.19 11 P **P 20 39 15.3 +1.3**
baz=203,SNR=7.1
HDA Harding Lake 45.30 5 IAmb IAmb 20 39 20.4
comp=Z,66nm,1.7s
HDA Harding Lake 45.30 5 P **P 20 39 15.7 +0.9**
baz=191,SNR=13
GCSA Galena City Sc 45.32 359 P **P 20 39 16.6 +1.7**
baz=178
NEA2 Nenana 45.33 4 P **P 20 39 15.5 +0.4**
baz=188,SNR=14
I20K Naaghedeneel 45.35 0 P **P 20 39 15.7 +0.5**
baz=181
H16K Elim 45.45 356 P **P 20 39 17.7 +1.7**
baz=170
K27K Chicken 45.45 8 P **P 20 39 17.7 +1.7**
baz=197
ANMO Albuquerque 45.53 60 P **P 20 39 16.4 -1.0**
ANMO Albuquerque 45.53 60 P **P 20 39 17.2 -0.2**
baz=263
ANMO Albuquerque 45.53 60 LR LR 20 54 03.2
comp=Z,79nm,18.6s,baz=354,slow=30
H17K Granite Mounta 45.61 357 P **P 20 39 18.8 +1.6**
baz=174
J25K Salcha River, 45.64 6 P **P 20 39 18.9 +1.3**
baz=193,SNR=21
ANM Nome 45.65 354 P **P 20 39 18.6 +1.0**
baz=166
IL31 45.66 5 IAmb IAmb 20 39 23.8
comp=Z,28nm,1.4s
ILAR Eielson Array 45.66 5 P **P 20 39 17.9 +0.2**
comp=Z,3.9nm,0.7s,baz=196,slow=6.9,SNR=39
ILAR PcP **PcP 20 40 55.4 -0.3**
comp=Z,1.2nm,0.8s,baz=197,slow=3.9,SNR=1.0
ILAR LR LR 20 54 03.8
comp=Z,174nm,20.9s,baz=166,slow=30
comp=Z,3.9nm,0.7s
RLMT Red Lodge 45.67 45 P **P 20 39 18.7 +0.4**
baz=251
MLY Manley 45.68 3 P **P 20 39 18.4 +0.5**
baz=186,SNR=15
COLA College 45.69 4 P **P 20 39 18.0 +0.1**
baz=190
J26L Joseph Creek 45.72 7 P **P 20 39 19.5 +1.2**
baz=195,SNR=10
H18K Honhosa River 45.76 358 P **P 20 39 19.9 +1.4**
baz=176
I21K Tanana 45.79 2 P **P 20 39 19.2 +0.6**
baz=184
I23K Minto, Yukon-K 45.87 3 P **P 20 39 19.7 +0.5**
baz=188,SNR=11
DAWY Dawson 45.87 10 P **P 20 39 20.3 +0.9**
baz=201,SNR=9.5
G15K Niukluk 45.94 355 P **P 20 39 21.0 +1.2**
baz=168
POKR Poker Plat Res 45.96 5 P **P 20 39 21.2 +1.2**
baz=190
K29M Barlow Dome 45.98 11 P **P 20 39 21.1 +0.8**
baz=203
H20K Anotleneega Mo 46.05 0 P **P 20 39 22.1 +1.3**
baz=180,SNR=18
H19K Roundabout Mou 46.10 359 P **P 20 39 22.7 +1.6**
baz=178,SNR=18
MNTX Cornudas Mount 46.15 64 P **P 20 39 21.9 -0.2**
baz=267,SNR=11
G16K Koyuk River 46.20 356 P **P 20 39 23.7 +1.7**
baz=170
MMPY Sheldon Lake, 46.20 15 P **P 20 39 23.4 +1.3**
baz=212
G17K Kiwalik Mounta 46.21 357 P **P 20 39 23.3 +1.4**
baz=173,SNR=8.1
H21K Melozitna Rive 46.24 1 P **P 20 39 24.0 +1.7**
baz=183
EGAK Eagle 46.29 8 P **P 20 39 23.8 +1.2**
baz=198,SNR=12
KOTAN Kotaneelee Air 46.31 21 P **P 20 39 23.5 +0.6**
baz=222
EGMT Eagleton 46.36 41 P **P 20 39 24.4 +0.8**
baz=248
PRP Porcupine Dome 46.51 5 P **P 20 39 25.6 +1.0**
baz=192,SNR=14
G18K Tagagawik 46.52 358 P **P 20 39 25.9 +1.5**
baz=175,SNR=7.4
H22K Ishtalitna Cre 46.52 2 P **P 20 39 25.1 +0.6**
baz=185,SNR=9.0
H23K Yukon River 46.53 3 P **P 20 39 24.7 +0.2**
baz=187,SNR=22
I26K Coal Creek Min 46.55 7 P **P 20 39 26.0 +1.3**
baz=196
IMAR Indian Mountai 46.55 1 P **P 20 39 25.1 +0.4**

F14K **Arctic Creek** 46.63 354 P P 20 39 26.6 +1.4
baz=165
H24K **Noodor Dome** 46.64 4 IAmb IAmb 20 39 31.7
comp=Z,40nm,1.4s
H24K **Noodor Dome** 46.64 4 P P 20 39 26.0 +0.6
baz=189,SNR=20
SDCO **Great Sand Dun** 46.67 56 P P 20 39 26.0 -0.4
baz=261,SNR=16
F15K **North Star Dit** 46.69 355 P P 20 39 27.0 +1.2
baz=168
G19K **Purcell Mounta** 46.72 359 P P 20 39 27.2 +1.1
baz=177,SNR=16
J30M **Hart River** 46.86 11 P P 20 39 27.4 +0.1
baz=204,SNR=10.0
K22A **Casper** 46.87 49 P P 20 39 26.4 -1.4
TNA **Tin City** 46.89 353 P P 20 39 28.7 +1.4
baz=163
N23A **Red Feather La** 46.90 52 P P 20 39 27.7 -0.4
baz=258,SNR=14
ISCO **Idaho Springs** 46.93 53 P P 20 39 27.0 -1.4
baz=259
I27K **Kandik River** 47.02 8 P P 20 39 29.2 +0.8
baz=197,SNR=12
G21K **Allakaket** 47.09 1 P P 20 39 29.7 +0.8
baz=182
I28M **Miner Creek** 47.09 9 P P 20 39 29.9 +0.8
baz=200,SNR=9.4
Q24A **Divide** 47.14 55 P P 20 39 30.2 +0.2
baz=260
F17K **Baldwin Pennin** 47.18 357 P P 20 39 30.7 +1.2
baz=172,SNR=17
H25L **Birch Creek** 47.22 5 P P 20 39 30.5 +0.6
baz=192,SNR=21
F18K **Selawik** 47.26 358 P P 20 39 31.4 +1.2
baz=174,SNR=11
G23K **Bananza Creek** 47.39 3 P P 20 39 31.9 +0.6
baz=186,SNR=12
F19K **Shaleruckik Mo** 47.43 359 P P 20 39 33.6 +2.1
baz=176,SNR=20
T25A **Trinidad** 47.44 57 P P 20 39 32.0 -0.4
baz=262
I30M **Mount Dempster** 47.44 11 IAmb IAmb 20 39 34.5
comp=Z,15nm,0.9s
I30M **Mount Dempster** 47.44 11 P P 20 39 33.1 +1.3
baz=204,SNR=20
G24K **Hadweenzic Riv** 47.52 4 P P 20 39 32.9 +0.6
baz=190,SNR=20
G22K **Bettles** 47.55 2 P P 20 39 32.6 +0.2
baz=185
TXAR **Lajitas Array** 47.57 68 P P 20 39 34.9 +1.6
TXAR **Lajitas Array** 47.57 68 P P 20 39 34.7 +1.4
comp=Z,7.9nm,0.8s,baz=256,slow=7.7,SNR=36
comp=Z,7.9nm,0.8s
F20K **Avaraart Lake** 47.62 360 P P 20 39 34.9 +1.9
baz=179,SNR=17
H27K **Steamboat Moun** 47.63 7 P P 20 39 34.8 +1.6
baz=197,SNR=29
G25K **Bearman Lake** 47.69 5 P P 20 39 34.5 +1.0
baz=192,SNR=11
F21K **Alatna River** 47.80 1 P P 20 39 36.3 +1.9
baz=182,SNR=32
E17K **Hotham Inlet** 47.84 356 P P 20 39 36.4 +1.7
baz=171,SNR=24
COLD **Coldfoot** 47.90 3 P P 20 39 36.0 +0.9
baz=186,SNR=8.3
E19K **Redstone River** 48.05 359 P P 20 39 38.0 +1.7
baz=177
H29M **Whitestone** 48.05 9 P P 20 39 37.5 +1.2
baz=201,SNR=20
G26K **Porcupine Rive** 48.08 6 P P 20 39 38.1 +1.6
baz=194,SNR=19
F22K **John River** 48.11 2 P P 20 39 38.4 +1.5
baz=184,SNR=40
E18K **Tukpahlearik C** 48.12 357 P P 20 39 38.8 +1.9
baz=173
G27K **Doyon Strip** 48.17 7 P P 20 39 38.4 +1.1
baz=197,SNR=7.3
LAO **LASA Array** 48.17 44 P P 20 39 39.0 +1.3
baz=252
F24K **Squaw Lake** 48.31 4 P P 20 39 38.9 +0.5
baz=189
H31M **Peel River** 48.34 11 IAmb IAmb 20 39 44.5
comp=Z,19nm,1.4s
H31M **Peel River** 48.34 11 P P 20 39 39.0 +0.4
baz=206,SNR=11
EPYK **Eagle Plains** 48.44 10 P P 20 39 40.7 +1.3
baz=203,SNR=12
BMAR **Burnt Mountain** 48.47 5 P P 20 39 39.0 -0.7
D17K **Noatak River** 48.53 356 P P 20 39 41.8 +1.7
baz=170
F25K **Christian Rive** 48.54 5 P P 20 39 41.6 +1.4
baz=192,SNR=7.6
G29M **Pine Creek** 48.74 9 P P 20 39 42.8 +1.1
baz=202,SNR=18
E22K **Anaktuvuk Pass** 48.75 2 P P 20 39 43.4 +1.6
baz=184
E23K **Chandalar** 48.75 3 P P 20 39 43.2 +1.3
baz=187,SNR=8.8
F26K **Sheenjek River** 48.77 6 P P 20 39 43.1 +1.2
baz=194,SNR=14
WRGLY **Wrigley** 48.82 18 P P 20 39 43.8 +1.5
baz=221
E24K **Your Creek** 48.83 3 P P 20 39 43.5 +1.1
baz=188,SNR=11
E20K **Nigu River** 48.84 359 P P 20 39 43.9 +1.4
baz=179
RDOG **Red Dog Mine** 48.88 356 P P 20 39 44.8 +2.1
baz=170,SNR=9.1
RSSD **Black Hills** 48.98 48 P P 20 39 44.0 -0.1
baz=257
E21K **Killik River** 49.02 1 P P 20 39 45.4 +1.6
baz=181,SNR=30
E25K **Arctic Village** 49.06 5 P P 20 39 45.6 +1.4
baz=192,SNR=21
G30M **tAoh Zraii Nji** 49.08 10 P P 20 39 45.1 +0.7
baz=204,SNR=18
KSCO **Kaye Shedlock'** 49.09 55 P P 20 39 44.7 -0.2
baz=262
D19K **Kuna River** 49.10 359 P P 20 39 45.9 +1.5
baz=176
F28M **Old Crow** 49.15 8 P P 20 39 46.3 +1.4
baz=199,SNR=14
C16K **Lisburne Hills** 49.27 355 P P 20 39 47.6 +1.9
baz=167,SNR=7.8
D20K **Etivluk River** 49.30 359 P P 20 39 47.2 +1.3
baz=178
C17K **DeLong Mountai** 49.31 356 P P 20 39 47.3 +1.3
baz=170,SNR=7.9
TOLK **Toolik Lake Re** 49.34 3 P P 20 39 47.3 +1.0
baz=187,SNR=9.1
G31M **Satah River** 49.35 11 P P 20 39 47.1 +0.8
baz=206,SNR=13
C18K **Utukok River** 49.37 357 P P 20 39 47.5 +1.0
baz=172,SNR=11
PETK **Petropavlovsk-** 49.43 324 P P 20 39 47.5 +0.3
PETK **Petropavlovsk-** 49.43 324 P P 20 39 48.2 +1.0
comp=Z,6.9nm,0.8s,baz=102,slow=12,SNR=12
PETK LR LR 20 57 47.2
comp=Z,101nm,20.4s,baz=114,slow=33
comp=Z,6.9nm,0.8s
D22K **Ayikyak River** 49.48 1 P P 20 39 49.5 +2.2
baz=183,SNR=22
E27K **Coleen River** 49.50 7 P P 20 39 48.9 +1.4
baz=197,SNR=15
D23K **Nanushuk River** 49.62 2 P P 20 39 50.2 +1.9
baz=185
F30M **Barrier River** 49.73 10 P P 20 39 50.0 +0.8
baz=204,SNR=10.0
C21K **Knifeblade Rid** 49.73 0 P P 20 39 50.7 +1.5
baz=180,SNR=17
C19K **Lookout Ridge** 49.76 358 P P 20 39 50.7 +1.2
baz=174,SNR=8.9
OZNA **Ozona** 49.77 66 P P 20 39 52.8 +2.6
OZNA IAmb IAmb 20 40 01.0
comp=Z,22nm,1.0s
SGCY **Sterling City** 49.78 64 P P 20 39 49.6 -0.6
SGCY IAmb IAmb 20 40 00.9
comp=Z,19nm,1.0s
OGNE **Ogallala** 49.82 52 P P 20 39 50.9 +0.5
baz=261
D24K **Happy Valley** 49.88 3 P P 20 39 51.7 +1.4
baz=188,SNR=17
F31M **Tsiigehtchic** 49.91 11 P P 20 39 51.1 +0.5
baz=207
DGMT **Dagmar** 50.01 42 P P 20 39 52.3 +0.6
baz=253
B18K **Kokolik River** 50.11 357 P P 20 39 53.8 +1.7
baz=172

E28M **Babbage River** 50.13 7 P P 20 39 53.6 +1.3
baz=199,SNR=17
E29M **Blow River** 50.14 8 P P 20 39 52.9 +0.5
baz=201,SNR=20
D25K **Kavik River** 50.19 4 P P 20 39 54.1 +1.3
baz=191,SNR=38
B21K **Ikpikpuk River** 50.20 0 P P 20 39 53.7 +1.0
baz=181,SNR=10
C24K **Franklin Bluff** 50.45 3 P P 20 39 55.7 +1.1
baz=188
C23K **Itkillik River** 50.49 2 P P 20 39 56.7 +1.7
baz=185,SNR=27
D27M **Malcolm River** 50.58 6 P P 20 39 57.1 +1.4
baz=197,SNR=16
B20K **Meade River** 50.60 359 P P 20 39 56.9 +1.1
baz=177
C27K **Jago River** 50.69 5 P P 20 39 57.4 +0.9
baz=194,SNR=16
INK **Inuvik** 50.73 10 IAmb IAmb 20 40 01.8
comp=Z,38nm,1.4s
INK **Inuvik** 50.73 10 P P 20 39 56.7 0.0
baz=207,SNR=24
INK **Inuvik** 50.73 10 LR LR 20 58 02.3
comp=Z,180nm,19.2s,baz=182,slow=32
C26K **Camden Bay** 50.88 5 P P 20 39 59.8 +1.9
baz=192,SNR=24
JCT **Junction City** 50.91 66 P P 20 39 59.4 +0.6
baz=271
A19K **Wainwright** 50.91 357 P P 20 39 59.8 +1.7
baz=173
D28M **Stokes Point** 50.92 7 P P 20 39 59.8 +1.6
baz=200,SNR=12
B22K **Teshekpuk Lake** 50.93 1 P P 20 39 59.8 +1.6
baz=182,SNR=20
ABTX **Abilene, Hawle** 51.04 63 P P 20 39 59.7 0.0
baz=269
YKA **Yellowknife Ar** 51.26 23 P P 20 40 01.2 +0.4
YKA **Yellowknife Ar** 51.26 23 P P 20 40 00.3 -0.5
comp=Z,5.4nm,0.9s,baz=238,slow=7.2,SNR=58
YKA PcP PcP 20 41 15.7 -0.2
comp=Z,1.6nm,1.1s,baz=224,slow=2.6,SNR=1.5
YKA LR LR 21 00 10.6
comp=Z,123nm,18.1s,baz=332,slow=34
comp=Z,5.4nm,0.9s
CBKS **Cedar Bluff** 51.30 55 P P 20 40 02.2 +0.6
baz=264
833A **Chaparral WMA,** 51.35 69 P P 20 40 01.7 -0.4
833A **Chaparral WMA,** 51.35 69 P P 20 40 02.5 +0.4
baz=273
A22K **Sinclair Lake** 51.59 0 P P 20 40 04.3 +1.1
baz=180
WMOK **Wichita Mounta** 51.80 61 P P 20 40 06.0 +0.5
baz=268
A21K **Barrow** 51.92 359 P P 20 40 07.0 +1.4
baz=178,SNR=7.0
PLPT **Palo Pinto** 52.16 63 P P 20 40 11.0 +2.9
PLPT IAmb IAmb 20 40 13.4
comp=Z,32nm,1.4s
SUSD **Miller** 52.62 48 P P 20 40 11.2 -0.2
baz=260
BGNE **Belgrade** 52.79 52 P P 20 40 12.7 +0.1
baz=263
WHTX **Lake Whitney,** 52.90 64 P P 20 40 13.5 -0.1
baz=271
FFC **Flin Flon** 53.30 35 P P 20 40 15.7 -0.4
W35A **Tecumseh** 53.38 60 P P 20 40 20.5 +3.4
W35A IAmb IAmb 20 40 22.4
comp=Z,20nm,1.1s
C36M **Paulatuk** 53.43 13 IAmb IAmb 20 40 18.1
comp=Z,37nm,1.8s
C36M **Paulatuk** 53.43 13 P P 20 40 16.7 -0.1
baz=217,SNR=10.0
KSU1 **Kansas State U** 53.76 55 P P 20 40 19.8 +0.1
baz=266
ECSD **EROS Data Cent** 54.19 50 P P 20 40 22.5 -0.4
ECSD IAmb IAmb 20 40 27.2
comp=Z,30nm,1.2s
ECSD **EROS Data Cent** 54.19 50 P P 20 40 23.1 +0.2
baz=263,SNR=10
TUL3 **Leonard** 54.28 59 P P 20 40 23.4 -0.2
baz=269
BILL **Bilibino** 54.30 343 P P 20 40 23.3 +0.1
NATX **Nacogdoches** 55.28 64 P P 20 40 30.7 -0.3
baz=272
A36M **Sans Harbour** 55.34 11 P P 20 40 31.4 +0.6
baz=215,SNR=11
AGMN **Agassiz Nation** 55.38 44 IAmb IAmb 20 40 36.4
comp=Z,29nm,1.2s
AGMN **Agassiz Nation** 55.38 44 P P 20 40 31.1 -0.3
baz=260,SNR=10
MA2 **Magadan** 55.53 330 LR LR 20 59 57.8
comp=Z,125nm,21.7s,baz=120,slow=31
ULM **Lac du Bonnet** 55.72 42 IAmb IAmb 20 40 38.6
comp=Z,31nm,1.2s
ULM **Lac du Bonnet** 55.72 42 P P 20 40 33.5 -0.3
comp=Z,27nm,1.2s,baz=265,slow=8.6,SNR=11
ULM LR LR 21 02 42.5
comp=Z,83nm,18.0s,baz=264,slow=34
comp=Z,27nm,1.2s
MIAR **Mount Ida** 56.09 61 P P 20 40 36.8 0.0
baz=271
SEY **Seymchan** 56.18 334 LR LR 20 59 58.9
comp=Z,83nm,21.2s,baz=122,slow=31
SCIA **State Center** 56.51 52 P P 20 40 40.3 +0.7
baz=266
ASAJ **Asahikawa** 56.95 310 LR LR 20 59 37.0
comp=Z,160nm,21.8s,baz=168,slow=30
CMIG **Matias Romero** 56.99 82 LR LR 21 01 19.6
comp=Z,78nm,18.6s,baz=185,slow=32
SPMN **Marine on St.** 57.06 48 P P 20 40 44.1 +0.6
baz=265
WHAR **Wooly Hollow** 57.13 60 P P 20 40 42.8 -1.4
P40A **Paris** 57.31 55 P P 20 40 44.5 -0.9
CCM **Cathedral Cave** 57.93 57 P P 20 40 48.0 -1.7
CCM **Cathedral Cave** 57.93 57 P P 20 40 49.7 0.0
baz=270
E38A **The Farm, Brul** 58.06 47 IAmb IAmb 20 40 54.9
comp=Z,20nm,1.1s
EYMN **Ely** 58.23 45 IAmb IAmb 20 40 55.1
comp=Z,18nm,1.3s
EYMN **Ely** 58.23 45 P P 20 40 52.3 +0.6
baz=264
JFWS **Jewell Farm** 58.76 51 P P 20 40 55.1 -0.4
baz=268
HDIL **Hopedale** 59.43 54 P P 20 41 00.6 +0.4
baz=270
OXF **Oxford** 59.53 61 P P 20 41 01.2 +0.3
baz=274
COWI **Conover** 59.69 47 IAmb IAmb 20 41 05.8
comp=Z,28nm,1.4s
MJAR **Matsushiro Arr** 60.21 302 P P 20 41 05.3 -0.3
comp=Z,4.4nm,0.8s,baz=96,slow=4.9,SNR=9.1
MJAR LR LR 21 02 44.8
comp=Z,65nm,21.4s,baz=130,slow=32
comp=Z,4.4nm,0.8s
H43A **Windswept, Lux** 60.59 49 P P 20 41 06.3 -1.7
WVT **Waverly** 60.72 59 P P 20 41 09.2 +0.1
baz=273
SFIN **Lafayette** 61.11 54 P P 20 41 11.3 -0.3
baz=272
E43A **Lone Tree Farm** 61.19 47 P P 20 41 11.0 -1.1
LRAL **Lakeview Retre** 61.65 62 P P 20 41 15.3 -0.1
baz=276
WCI **Wyandotte Cave** 61.82 56 P P 20 41 16.7 +0.2
baz=273
TEIG **Tepich** 62.47 77 LR LR 21 02 53.5
comp=Z,304nm,21.8s,slow=31
O48B **Farmland** 62.60 54 P P 20 41 21.8 +0.1
baz=273,SNR=14
P49A **Miami Univ. Ec** 62.98 55 P P 20 41 24.6 +0.4
baz=273
URZ **Urewera** 63.02 204 LR LR 21 04 29.3
comp=Z,167nm,19.6s,baz=46,slow=32
RES **Resolute Bay** 63.70 15 P P 20 41 27.9 -0.4
RES IAmb IAmb 20 41 33.0
comp=Z,18nm,1.5s
RES **Resolute Bay** 63.70 15 LR LR 21 04 59.6
comp=Z,168nm,21.6s,baz=202,slow=32
TKL **Tuckaleechee C** 64.04 59 LR LR 21 06 18.0
comp=Z,54nm,19.5s,baz=307,slow=33
RPN **Rapa Nui** 64.10 135 LR LR 21 03 01.1
comp=Z,169nm,21.4s,baz=298,slow=30
TZTN **Tazewell** 64.14 58 P P 20 41 32.3 +0.3
baz=276
GOGA **Godfrey** 64.55 62 P P 20 41 34.9 +0.2
baz=277
USRK **Ussuriysk Ar.** 64.58 310 P P 20 41 34.6 -0.1
comp=Z,2.2nm,0.9s,baz=91,slow=6.2,SNR=2.1

comp=Z,2.2nm,0.9s
KLR **Kulʻdur** 64.59 316 LR LR 21 05 24.6
comp=Z,59nm,20.4s,baz=150,slow=32
TIGA **Tifton** 64.71 64 P P 20 41 36.4 +0.6
baz=278
P52A **Corning** 64.96 55 P P 20 41 37.1 -0.2
baz=275
O53A **New Philadelph** 65.61 54 P P 20 41 41.5 +0.1
baz=275
M53A **WI Miller and** 65.91 53 P P 20 41 43.0 -0.4
baz=275
KMSC **Kings Mountain** 66.08 59 P P 20 41 45.3 +0.6
baz=278
YAK **Yakutsk** 66.11 330 P P 20 41 42.5 -1.8
YAK IAmb IAmb 20 41 59.6
comp=Z,17nm,1.0s
YAK **Yakutsk** 66.11 330 LR LR 21 06 35.8
comp=Z,127nm,21.8s,baz=120,slow=32
MDJ **Mudanjiang** 66.27 311 P P 20 41 47.0 +1.4
MDJ pmax pmax
comp=Z,26nm,1.6s
MDJ pmax pmax
comp=Z,900nm,4.1s
ERPA **Erie** 66.36 52 P P 20 41 46.2 0.0
baz=275
BLA **Blacksburg** 66.55 57 P P 20 41 47.5 -0.1
baz=277
MCWV **Mont Chateau** 66.71 54 P P 20 41 48.4 -0.2
baz=276
TIXI **Tiksi** 67.32 341 P P 20 41 50.0 -1.8
TIXI IAmb IAmb 20 41 58.0
comp=Z,21nm,1.4s
TIXI **Tiksi** 67.32 341 LR LR 21 10 24.0
comp=Z,71nm,19.9s,baz=143,slow=35
EUNU **Eureka** 67.36 10 P P 20 41 51.9 -0.1
VLDQ **Val d'Or** 67.64 45 P P 20 41 52.1 -2.1
VLDQ IAmb IAmb 20 41 57.5
comp=Z,18nm,1.1s
JTS **Las Juntas de** 68.05 86 LR LR 21 04 05.8
comp=Z,97nm,21.3s,baz=348,slow=29
SSPA **Standing Stone** 68.09 53 P P 20 41 57.4 +0.2
baz=277
L56A **Greenwood** 68.15 51 P P 20 41 55.4 -2.3
KSRS **Korea Array** 68.31 303 P P 20 41 59.5 +0.8
comp=Z,3.7nm,0.9s,baz=84,slow=7.3,SNR=5.6
comp=Z,3.7nm,0.9s
KSAR **Wonju Array Be** 68.35 303 P P 20 41 57.1 -1.9
M57A **Sunshine Farm,** 68.57 52 P P 20 41 58.0 -2.2
M57A IAmb IAmb 20 42 05.7
comp=Z,22nm,1.1s
BINY **Binghamton** 69.30 51 P P 20 42 05.2 +0.3
baz=278
CN2 **Changchun** 69.32 310 eP P 20 42 04.1 -0.8
J58A **Remsen** 69.66 50 P P 20 42 05.9 -1.1
J58A IAmb IAmb 20 42 11.2
comp=Z,37nm,1.5s
LONY **Lake Ozonia** 69.99 49 P P 20 42 09.6 +0.6
baz=278
PAL **Palisades** 71.02 52 P P 20 42 15.3 0.0
baz=279
FRB **Frobisher Bay** 71.27 28 LR LR 21 11 25.6
comp=Z,50nm,18.5s,baz=205,slow=34
L61B **Northampton** 71.69 51 P P 20 42 19.6 +0.2
baz=280
LDAQ **Lac Daran** 71.80 45 P P 20 42 18.2 -1.8
LDAQ IAmb IAmb 20 42 24.3
comp=Z,29nm,1.3s
LBNH **Lisbon** 71.93 49 P P 20 42 21.2 +0.4
baz=280
HRV **Adam Dziewonsk** 72.50 50 P P 20 42 24.9 +0.7
baz=280
E62A **Clayton Lake** 73.18 46 P P 20 42 27.0 -1.2
E62A IAmb IAmb 20 42 33.3
comp=Z,19nm,1.1s
SCHQ **Schefferville** 73.39 37 LR LR 21 12 14.7
comp=Z,62nm,19.2s,baz=228,slow=34
KULLO **Kullorsuaq** 73.52 16 eP P 20 42 30.1 +0.4
KULLO IAmb IAmb 20 42 34.1
comp=Z,33nm,1.3s
PKME **Peaks-Kenny Pk** 73.59 47 P P 20 42 31.3 +0.7
baz=281
XLT **XiLinHaoTe** 75.96 312 eP P 20 42 41.4 -3.1
XLT sP sP 20 42 49.2 -0.1
XLT pmax pmax
comp=Z,19nm,1.1s
XLT pmax pmax
comp=Z,230nm,4.5s
NJ2 **Nanjing** 76.70 299 eP P 20 42 49.6 +0.8
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
BJI **Beijing** 76.82 308 P P 20 42 50.6 +1.3
BJI S S 20 52 39.8 +2.8
BJI pmax pmax
comp=Z,8.0nm,1.0s
BJI pmax pmax
comp=Z,110nm,5.0s
TIA **Taiʻan** 77.05 304 P P 20 42 51.6 +0.9
TIA pmax pmax
comp=Z,10.0nm,0.9s
SFJD **Kangerlussuaq** 77.82 23 LR LR 21 15 43.2
comp=Z,126nm,18.1s,baz=296,slow=34
SUMG **Summit** 79.19 16 P P 20 43 02.3 -0.1
SUMG IAmb IAmb 20 43 07.8
comp=Z,42nm,1.3s
SUMG **Summit** 79.19 16 iP P 20 43 01.9 -0.6
SUMG IAmb IAmb 20 43 07.6
comp=Z,51nm,1.4s
STKA **Stephens Creek** 79.21 231 P P 20 43 02.4 -0.3
comp=Z,3.3nm,0.8s,baz=124,slow=4.6,SNR=5.5
comp=Z,3.3nm,0.8s
ROSC **El Rosal** 79.74 88 LR LR 21 15 39.8
comp=Z,47nm,18.0s,baz=232,slow=34
ATAH **Atahualpa** 79.96 101 LR LR 21 11 52.6
comp=Z,117nm,18.1s,baz=297,slow=31
HHC **Hu-ho-hao-te** 79.99 310 eP P 20 43 05.9 -1.1
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,100nm,6.2s
HHC LR LR
comp=Z,150nm,16.5s
HHC LR LR
comp=Z,190nm,14.9s
HHC LR LR
comp=Z,210nm,14.9s
DAG **Danmarks Havn** 80.56 9 iP P 20 43 08.0 -1.3
DAG IAmb IAmb 20 43 13.6
comp=Z,31nm,1.4s
ICESG **Greenland Ices** 80.64 19 iP P 20 43 10.5 +0.3
WHN **Wuhan** 80.82 299 P P 20 43 12.3 +0.8
ULN **Ulaanbaatar** 80.93 318 P P 20 43 12.6 +0.6
ULN IAmb IAmb 20 43 17.8
comp=Z,17nm,1.1s
LYN **LuoYang** 81.16 303 eP P 20 43 14.7 +1.4
LYN pP pP 20 43 17.7 +0.9
LYN S S 20 53 22.9 -0.6
LYN SKS SKSac 20 53 29.8 -3.0
LYN pmax pmax
comp=Z,43nm,0.9s
BTO **Baotou** 81.18 310 eP P 20 43 13.7 +0.3
BTO pP sP 20 43 18.8 +0.6
BTO sP PcP 20 43 20.7 +1.0
BTO PP PP 20 46 15.8 -2.6
BTO S S 20 53 24.1 +0.3
BTO SS SS 20 58 33.3 -5.2
BTO pmax pmax
comp=Z,29nm,0.8s
BTO LR LR
comp=Z,370nm,3.8s
BTO LR LR
comp=Z,340nm,4.2s
BTO LR LR
comp=Z,220nm,12.8s
SONM **Songino Array** 81.36 318 P P 20 43 13.7 -0.5
comp=Z,3.2nm,1.0s,baz=51,slow=2.6,SNR=13
comp=Z,3.2nm,1.0s
AS31 **Alice Springs** 81.36 241 P P 20 43 12.7 -1.8
ASAR **Alice Springs** 81.37 241 P P 20 43 14.6 0.0
comp=Z,3.6nm,1.1s,baz=64,slow=5.4,SNR=14
comp=Z,3.6nm,1.1s
SDV **Santo Domingo** 81.93 83 LR LR 21 15 40.9
comp=Z,42nm,19.7s,baz=230,slow=33
NNA **Nana** 83.14 105 LR LR 21 11 22.5
comp=Z,79nm,20.8s,baz=255,slow=29
XAN **Xiʻan** 84.11 304 P P 20 43 26.4 -2.3
XAN pmax pmax
comp=Z,8.0nm,0.9s

BAUV	**El Baul**	**84.34 83**	P	**P**	**20 43 29.0**	**-1.2**
ENH	**Enshi**	**84.90 300**	P	**P**	**20 43 32.0**	**-0.8**
PCRV	**Puerto La Cruz**	**87.12 80**	LR	LR	21 17 22.6	
	comp=Z,33nm,20.6s,slow=32					
LZH	**Lanzhou**	**87.29 307**	*e*P	**P**	**20 43 49.2**	**+4.6**
LZH			S	**S**	**20 54 30.6**	**+5.4**
LZH			pmax	pmax		
	comp=Z,16nm,1.2s					
LZH			LR	LR		
	comp=Z,180nm,16.5s					
LZH			LR	LR		
	comp=Z,170nm,18.9s					
LZH			LR	LR		
	comp=Z,180nm,20.6s					
QIZ	**Qiongzhong**	**88.36 289**	P	**P**	**20 43 49.9**	**+0.1**
QIZ			S	**S**	**20 54 36.7**	**+1.0**
QIZ			LR	LR		
	comp=Z,110nm,15.7s					
QIZ			LR	LR		
	comp=Z,110nm,13.7s					
QIZ			LR	LR		
	comp=Z,170nm,14.3s					
GYA	**Guiyang**	**88.54 297**	P	**P**	**20 43 51.0**	**+0.2**
GYA			S	**S**	**20 54 41.4**	**+3.9**
GYA			pmax	pmax		
	comp=Z,7.0nm,1.1s					
GYA			pmax	pmax		
	comp=Z,130nm,6.6s					
GYA			LR	LR		
	comp=Z,150nm,26.8s					
GTA	**Gaotai**	**88.92 312**	P	**P**	**20 43 53.6**	**+1.3**
GTA			pP	sP	20 44 01.9	+4.8
GTA			pmax	pmax		
	comp=Z,6.0nm,1.1s					
BORG	**Borgarnes**	**88.95 18**	LR	LR	21 20 22.7	
	comp=Z,49nm,21.9s,baz=333,slow=33					
CD2	**Chengdu**	**89.29 302**	P	**P**	**20 43 52.6**	**-1.5**
H03N2	**Juan Fernandez**	**89.58 126**	T	T	22 22 51.4	
	baz=298,slow=76,SNR=1275					
H03N3	**Juan Fernandez**	**89.60 126**	T	T	22 22 55.8	
	baz=298,slow=76,SNR=1334					
H03N1	**Juan Fernandez**	**89.60 126**	T	T	22 22 54.8	
	baz=298,slow=76,SNR=2097					
ZALV	**Zalesovo Beam**	**90.74 329**	P	**P**	**20 43 59.7**	**-0.7**
ZALV	**Zalesovo Beam**	**90.74 329**	P	**P**	**20 44 01.1**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=64,slow=6.6,SNR=9.5					
ZALV			LR	LR	21 22 30.3	
	comp=Z,77nm,20.8s,baz=68,slow=34					
	comp=Z,2.2nm,0.9s					
ARCES	**ARCESS Array B**	**91.30 360**	LR	LR	21 21 21.8	
	comp=Z,41nm,20.8s,baz=9.0,slow=33					
ETMB	**Extrema**	**92.19 100**	P	**P**	**20 44 06.1**	**-1.6**
ETMB			IAmb	IAmb	20 44 10.2	
	comp=Z,10nm,1.0s					
LPAZ	**La Paz**	**92.55 106**	P	**P**	**20 44 10.2**	**+0.1**
	comp=Z,2.7nm,1.0s,baz=233,slow=3.5,SNR=7.0					
LPAZ			LR	LR	21 18 41.6	
	comp=Z,44nm,18.1s,baz=292,slow=31					
	comp=Z,2.7nm,1.0s					
PZH	**PanZhiHua**	**92.62 299**	P	**P**	**20 44 10.8**	**+1.1**
PZH			SKS	**SKSac**	**20 54 41.8**	**-2.3**
PZH			S	**SKKSac**	**20 55 08.7**	**+6.8**
PZH			pmax	pmax		
	comp=Z,10.0nm,1.0s					
PZH			pmax	pmax		
	comp=Z,100nm,5.4s					
PZH			LR	LR		
	comp=Z,160nm,25.0s					
GOMU	**GeErMu**	**93.88 310**	P	**P**	**20 44 17.5**	**+1.8**
GOMU			pP	sP	20 44 21.1	+0.6
GOMU			sP	pP	20 44 25.0	+5.7
GOMU			pmax	pmax		
	comp=Z,10.0nm,1.1s					
LVC	**Limon Verde**	**93.93 112**	LR	LR	21 17 21.9	
	comp=Z,117nm,20.2s,baz=270,slow=30					
SAML	**Samuel**	**94.73 98**	P	**P**	**20 44 17.4**	**-2.1**
WMQ	**Urumqi**	**94.83 320**	*e*P	**P**	**20 44 21.1**	**+1.6**
WMQ			LR	LR		
	comp=Z,100nm,18.7s					
BI05	**Punta Hualpn**	**95.18 127**	P	**P**	**20 44 19.7**	**-1.3**
KURBB	**Kurchatov Arra**	**95.83 329**	P	**P**	**20 44 23.3**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=52,slow=4.2,SNR=2.2					
KURBB			LR	LR	21 25 21.8	
	comp=Z,88nm,22.0s,baz=172,slow=34					
	comp=Z,0.2nm,0.4s					
TNCH	**TengChong**	**95.87 299**	P	**P**	**20 44 22.4**	**-2.4**
TNCH			pP	PcP	20 44 26.1	+1.1
TNCH			sP	pP	20 44 29.2	+0.9
TNCH			pmax	pmax		
	comp=Z,4.0nm,1.8s					
TNCH			pmax	pmax		
	comp=Z,60nm,4.1s					
CRAI	**Chiangrai**	**96.23 294**	P	**P**	**20 44 25.2**	**-1.1**
CRAI			IAmb	IAmb	20 44 32.6	
	comp=Z,7.0nm,1.4s					
MKAR	**Makanchi Array**	**96.27 324**	P	**P**	**20 44 24.6**	**-1.3**
MKAR	**Makanchi Array**	**96.27 324**	P	**P**	**20 44 26.7**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=57,slow=5.3,SNR=2.9					
MKAR			LR	LR	21 24 55.0	
	comp=Z,51nm,22.0s,baz=65,slow=34					
	comp=Z,0.4nm,0.8s					
BVAR	**Borovoye Array**	**97.83 334**	P	**P**	**20 44 30.9**	**-1.9**
	comp=Z,0.3nm,0.5s,baz=46,slow=4.2,SNR=2.7					
BVAR			LR	LR	21 27 05.6	
	comp=Z,91nm,21.8s,baz=48,slow=34					
	comp=Z,0.3nm,0.5s					
CMAR	**Chiang Mai Arr**	**98.17 293**	LR	LR	21 25 35.9	
	comp=Z,25nm,20.3s,baz=105,slow=33					
PLCA	**Paso Flores**	**98.44 130**	LR	LR	21 20 42.8	
	comp=Z,102nm,18.4s,baz=266,slow=30					
ARU	**Arti**	**99.30 342**	LR	LR	21 34 31.5	
	comp=Z,44nm,18.7s,baz=97,slow=38					
KIRV	**Kirov**	**99.69 347**	LR	LR	21 31 30.2	
	comp=Z,81nm,19.9s,baz=44,slow=36					
VNDA	**Vanda**	**99.93 189**	LR	LR	21 23 01.4	
	comp=Z,106nm,18.9s,baz=0.5,slow=31					
BRTR	**Keskin Array B**	**120.60 352**	PKP	**PKPdf**	**20 49 50.0**	**+0.3**
	comp=Z,0.3nm,0.7s,baz=46,slow=4.2,SNR=2.0					

*BJI **03** 20:52:22.9±0.0,2˚23S×139˚39E, h28km, mb4.8/58, mB5.0/21, Ms4.5/9, Ms7 4.2/10*

*IDC **03** 20:52:22.3±0.5,2˚04S×139˚14E, h0km, mb4.5/18, mbtmp4.6/21, ML2.0/1, MS4.0/31, Error ellipse: s-maj=22.4km s-min=12.2km az=78.0*

*MOS **03** 20:52:24.3±0.9,2˚02S×139˚15E, h23km, mb5.0/24, Error ellipse: s-maj=10.3km s-min=6.5km az=113.5*

*NEIC **03** 20:52:27.1±1.6,2˚02S±0˚09×139˚12E±0˚09, h27km±5km, mb4.8/98, Error ellipse: s-maj=13.8km s-min=11.9km az=58.0*

*DJA **03** 20:52:28.1±1.1,2˚S±4˚×13˚9E±˚, h27km±10km, M4.9/26, mB5.2/6, mb4.8/26, MLv5.1/7, Mw(mB)4.6/6*

ISC 03 20:52:26.9±0.3,**2˚09S**±0˚04×**139˚12E**±0˚04,**h29km**,**n539**, σ1**s03**/500,**mb4.8**/98,**MS4.0**/33,**9C-8D**,**Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.16**	**115**	P	**Pb**	**20 52 48.0**	**-0.3**
GENI				S	**Sb**	**20 53 04.1**	**+1.2**
JAY	**Jayapura**	**1.64**	**105**	P	**Pn**	**20 52 54.0**	**+0.2**
JAY				S	**Sn**	**20 53 13.0**	**-0.9**
JAY	**Jayapura**	**1.64**	**105**	P	**Pn**	**20 52 53.9**	**+0.2**
MMPI	**Merauke**	**6.46**	**169**	P	**Pn**	**20 53 59.7**	**-0.3**
	515nm,0.5s,17μm3.5nm						
FAKI	**Fak Fak**	**6.92**	**263**	Pn	**Pn**	**20 54 06.6**	**+0.2**
FAKI	**Fak Fak**	**6.92**	**263**	P	**Pn**	**20 54 07.6**	**+1.2**
	112nm,1.1s,1μm0.5nm						
SWI	**Sorong**	**7.95**	**279**	P	**Pn**	**20 54 24.0**	**+3.4**
	62nm,1.0s,777nm0.2nm						
SWI	**Sorong**	**7.95**	**279**	P	**Pn**	**20 54 23.8**	**+3.2**
SWI				pmax	pmax		
	comp=Z,61nm,0.7s						
SAUI	**Saumlaki**	**9.74**	**233**	Pn	**Pn**	**20 54 44.6**	**-0.6**
PMG	**Port Moresby**	**10.80**	**133**	Pn	**Pn**	**20 54 59.6**	**0.0**
	comp=Z,0.5nm,0.3s,baz=302,slow=4.7,SNR=2.6						
PMG				LR	LR	21 00 32.2	
	comp=Z,1μm,19.1s,baz=332,slow=45						
	comp=Z,8.2nm,0.6s						
LBMI	**Labuha**	**11.71**	**277**	P	**Pn**	**20 55 14.1**	**+2.0**
	comp=Z,40nm,0.8s						
KDU	**Kakadu**	**12.42**	**212**	P	**Pn**	**20 55 20.8**	**-1.0**
	baz=12,SNR=54						
KDU	**Kakadu**	**12.42**	**212**	P	**Pn**	**20 55 21.0**	**-0.8**
COEN	**Coen**	**12.45**	**161**	P	**Pn**	**20 55 22.9**	**+0.6**
	baz=13,SNR=8.6						
COEN	**Coen**	**12.45**	**161**	Pn	**Pn**	**20 55 23.1**	**+0.8**
KRVT	**Keravat (AS076**	**13.07**	**100**	Pn	**Pn**	**20 55 29.3**	**-1.5**
	comp=Z,12nm,0.7s,baz=323,slow=20,SNR=2.2						
DRS	**Darwin Rock St**	**13.11**	**218**	P	**Pn**	**20 55 31.7**	**+0.4**
SANI	**Sanana**	**13.13**	**270**	P	**Pn**	**20 55 32.2**	**+0.7**
	comp=Z,47nm,0.8s						
MTN	**Manton Dam**	**13.29**	**216**	P	**Pn**	**20 55 32.6**	**-1.2**
	baz=13,SNR=26						
MTN	**Manton Dam**	**13.29**	**216**	P	**Pn**	**20 55 33.2**	**-0.6**
MTN	**Manton Dam**	**13.29**	**216**	Pn	**Pn**	**20 55 32.4**	**-1.4**
DAV	**Davao City (W)**	**16.30**	**304**	LR	LR	21 03 04.6	
	comp=Z,257nm,19.0s,baz=157,slow=40						
GTOI	**Gorontalo**	**16.34**	**279**	P	**Pn**	**20 56 15.5**	**+1.2**
	comp=Z,8.8nm,1.1s						
LUWI	**Luwuk**	**16.38**	**273**		**Pn**	**20 56 13.2**	**-1.7**
LUWI				IAmb	IAmb	20 56 22.3	
	comp=Z,123nm,1.6s						
LUWI	**Luwuk**	**16.38**	**273**	P	**P**	**20 56 18.1**	**+0.6**
	comp=Z,71nm,1.2s						
GUMO	**Guam**	**16.59**	**20**	LR	LR	21 01 01.4	
	comp=Z,552nm,21.1s,baz=170,slow=31						
SOEI	**Soe**	**16.61**	**242**	Pn	**Pn**	**20 56 16.0**	**-2.0**
SOEI				IAmb	IAmb	20 56 26.8	
	comp=Z,93nm,0.8s						
SOEI	**Soe**	**16.61**	**242**	P	**Pn**	**20 56 17.1**	**-0.9**
	comp=Z,161nm,0.9s						
MTSU	**Mount Surprise**	**16.74**	**163**	P	**Pn**	**20 56 20.4**	**+1.0**
	baz=17,SNR=15						
BBSI	**Bau Bau**	**16.86**	**258**	P	**P**	**20 56 22.8**	**0.0**
	comp=Z,169nm,1.2s,comp=Z,1μm						
KNRA	**Kununurra**	**16.93**	**217**	P	**Pn**	**20 56 21.3**	**-0.5**
	baz=17,SNR=15						
KNRA				P	**Pn**	**20 56 21.3**	**-0.5**
	baz=17,SNR=15						
KNRA	**Kununurra**	**16.93**	**217**	P	**Pn**	**20 56 20.6**	**-1.2**
KNRA	**Kununurra**	**16.93**	**217**		**Pn**	**20 56 20.0**	**-1.8**
KNRA				IAmb	IAmb	20 56 30.5	
	comp=Z,42nm,0.6s						
BATI	**Baumata**	**17.34**	**242**	P	**Pn**	**20 56 25.2**	**-1.9**
	comp=Z,26nm,0.7s,baz=90,slow=8.1,SNR=17						
BATI	**Baumata**	**17.34**	**242**	P	**Pn**	**20 56 27.7**	**+0.6**
	comp=Z,151nm,0.8s,comp=Z,1μm						
MRSI	**Marisa**	**17.37**	**278**	P	**P**	**20 56 29.5**	**+1.0**
	comp=Z,27nm,1.1s						
MMRI	**Maumere**	**18.02**	**248**	Pn	**Pn**	**20 56 32.3**	**-3.1**
MMRI	**Maumere**	**18.02**	**248**	P	**P**	**20 56 35.9**	**+0.3**
	comp=Z,18nm,0.6s,comp=Z,763nm						
WRAB	**Tennant Creek**	**18.34**	**194**	P	**P**	**20 56 38.9**	**-0.2**
WRAB				IAmb	IAmb	20 56 42.3	
	comp=Z,38nm,0.6s						
WRAB	**Tennant Creek**	**18.34**	**194**	*ce*P	**Pn**	**20 56 40.2**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,26nm,0.6s						
QIS	**Mount Isa**	**18.36**	**179**	P	**Pn**	**20 56 40.3**	**+0.8**
	baz=18,SNR=35						
QIS	**Mount Isa**	**18.36**	**179**	P	**P**	**20 56 39.2**	**-0.2**
EDFI	**Ende, Flores**	**18.56**	**248**	P	**Pn**	**20 56 42.4**	**+0.3**
	comp=Z,15nm,0.9s						
TOLI2	**Tolitoli**	**18.61**	**280**		**P**	**20 56 40.1**	**-2.1**
CTAO	**Charters Tower**	**19.20**	**159**	P	**Pn**	**20 56 50.0**	**+0.4**
CTAO	**Charters Tower**	**19.20**	**159**	P	**Pn**	**20 56 50.0**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,12nm,0.7s						
BKSI	**Bulukumba**	**19.23**	**260**	P	**Pn**	**20 56 51.8**	**+1.7**
	comp=Z,23nm,0.7s,comp=Z,391nm						
TTSI	**Tana Toraja**	**19.31**	**267**	P	**Pn**	**20 56 53.1**	**+2.1**
	comp=Z,49nm,0.8s						
MPSI	**Mapaga**	**19.37**	**277**	P	**Pn**	**20 56 55.2**	**+3.4**
	comp=Z,17nm,0.8s						
KAPI	**Kappang**	**19.55**	**261**	P	**P**	**20 56 52.3**	**-0.2**
KAPI	**Kappang**	**19.55**	**261**	P	**P**	**20 56 52.3**	**-0.2**
KAPI				pmax	pmax		
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**20.69**	**219**	P	**P**	**20 57 04.8**	**-0.1**
	baz=21,SNR=10						
FITZ	**Fitzroy Crossi**	**20.69**	**219**	P	**P**	**20 57 04.5**	**-0.3**
HNR	**Honiara**	**21.95**	**110**	P	**P**	**20 57 17.4**	**-1.1**
HNR	**Honiara**	**21.95**	**110**	P	**P**	**20 57 17.4**	**-1.1**
HNR				pmax	pmax		
	comp=Z,93nm,0.9s						
AS31	**Alice Springs**	**22.03**	**193**	P	**P**	**20 57 19.3**	**0.0**
AS31				IAmb	IAmb	20 57 26.9	
	comp=Z,19nm,0.6s						
ASAR	**Alice Springs**	**22.04**	**193**	P	**P**	**20 57 18.4**	**-0.9**
ASAR	**Alice Springs**	**22.04**	**193**	P	**P**	**20 57 18.8**	**-0.5**
	comp=Z,16nm,0.5s,baz=21,slow=11,SNR=239						
ASAR				S	**S**	**21 01 18.6**	**-2.4**
	comp=Z,8.0nm,0.8s,baz=13,slow=26,SNR=7.8						
	comp=Z,16nm,0.5s						
TWSI	**Taliwang, Sumb**	**23.09**	**253**	P	**P**	**20 57 27.3**	**-3.3**
	comp=Z,26nm,0.9s						
MTKI	**Muara Teweh, K**	**24.25**	**272**	P	**P**	**20 57 44.0**	**+2.3**
	comp=Z,31nm,1.0s						
QLP	**Quilpie**	**24.84**	**169**	P	**P**	**20 57 48.3**	**+1.4**
	baz=25,SNR=6.2						
WRKA	**Warakurna**	**25.09**	**204**	P	**P**	**20 57 49.5**	**+0.2**
	baz=25,SNR=20						
WRKA	**Warakurna**	**25.09**	**204**	P	**P**	**20 57 49.0**	**-0.2**
INKA	**Innaminka**	**25.55**	**177**	P	**P**	**20 57 54.7**	**+1.4**
JAGI	**Jajag, Banyuwa**	**25.65**	**255**	P	**P**	**20 57 54.4**	**0.0**
JAGI				IAmb	IAmb	20 58 04.2	
	comp=Z,27nm,1.1s						
JAGI	**Jajag, Banyuwa**	**25.65**	**255**	P	**P**	**20 57 52.5**	**-1.9**
OOD	**Oodnadatta**	**25.77**	**187**	P	**P**	**20 57 55.8**	**+0.5**
EIDS	**Eidsvold**	**25.85**	**155**	P	**P**	**20 57 57.8**	**+1.7**
	baz=26,SNR=7.7						
EIDS	**Eidsvold**	**25.85**	**155**	P	**P**	**20 57 55.2**	**-0.9**
EIDS				IAmb	IAmb	20 58 04.4	
	comp=Z,22nm,0.8s						
MBWA	**Marble Bar**	**26.76**	**223**	P	**P**	**20 58 05.8**	**+1.4**
MBWA	**Marble Bar**	**26.76**	**223**	P	**P**	**20 58 03.7**	**-0.7**
PSA00	**Pilbara Seismi**	**26.96**	**223**	P	**P**	**20 58 07.9**	**+1.7**
PSA00	**Pilbara Seismi**	**26.96**	**223**	P	**P**	**20 58 06.5**	**+0.2**
PSA00	**Pilbara Seismi**	**26.96**	**223**	P	**P**	**20 58 06.2**	**0.0**
PSA00				IAmb	IAmb	20 58 11.4	
	comp=Z,15nm,0.8s						
SBUM	**Sibu**	**27.27**	**279**	P	**P**	**20 58 04.1**	**-5.0**
LCRK	**Leigh Creek**	**28.21**	**182**	P	**P**	**20 58 18.2**	**+0.9**
MULG	**Mulgathing**	**28.45**	**189**	P	**P**	**20 58 20.4**	**+1.1**
JCJ	**Chichijima**	**29.17**	**6**	LR	LR	21 07 19.4	
	comp=Z,225nm,21.3s,baz=140,slow=31						
STKA	**Stephens Creek**	**29.72**	**176**	P	**P**	**20 58 32.4**	**+1.8**
	baz=30,SNR=12						
STKA	**Stephens Creek**	**29.72**	**176**	P	**P**	**20 58 32.4**	**+1.8**
STKA	**Stephens Creek**	**29.72**	**176**	P	**P**	**20 58 30.9**	**+0.2**
	comp=Z,11nm,0.7s,baz=346,slow=9.3,SNR=22						
	comp=Z,11nm,0.7s						
STKA	**Stephens Creek**	**29.72**	**176**	P	**P**	**20 58 32.4**	**+1.8**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
CMSA	**Cobar Meteorol**	**29.94**	**169**	P	**P**	**20 58 34.6**	**+2.1**
	baz=30,SNR=12						
FORT	**Forrest**	**30.39**	**199**	P	**P**	**20 58 38.6**	**+2.0**
	baz=31,SNR=11						
FORT	**Forrest**	**30.39**	**199**	P	**P**	**20 58 37.2**	**+0.6**
FORT	**Forrest**	**30.39**	**199**	P	**P**	**20 58 37.7**	**+1.0**
JOW	**Kunigami**	**30.60**	**341**	LR	LR	21 08 35.4	
	comp=Z,242nm,20.4s,baz=128,slow=32						
BBOO	**Buckleboo**	**30.69**	**185**	P	**P**	**20 58 40.7**	**+1.5**
	baz=31,SNR=4.9						
BBOO	**Buckleboo**	**30.69**	**185**	P	**P**	**20 58 39.8**	**+0.6**
BBOO	**Buckleboo**	**30.69**	**185**	P	**P**	**20 58 40.4**	**+1.2**
HTT	**Hallett**	**31.18**	**180**	P	**P**	**20 58 45.4**	**+1.8**
	baz=31,SNR=17						
HTT	**Hallett**	**31.18**	**180**	P	**P**	**20 58 45.3**	**+1.7**
MEEK	**Meekatharra**	**31.36**	**217**	P	**P**	**20 58 45.2**	**0.0**
	baz=32,SNR=5.8						
MEEK	**Meekatharra**	**31.36**	**217**	P	**P**	**20 58 45.8**	**+0.6**
PPBI	**Pangkal Pinang**	**32.96**	**269**	P	**P**	**20 58 58.5**	**-1.0**
DZM	**Mont Dzumac**	**33.16**	**129**	LR	LR	21 13 02.9	
	comp=Z,155nm,18.6s,baz=337,slow=37						
YNG	**Young**	**33.19**	**166**	P	**P**	**20 59 02.7**	**+1.5**
	baz=33,SNR=5.0						
KMBL	**Kambalda**	**33.36**	**207**	P	**P**	**20 59 02.9**	**+0.2**
	baz=34,SNR=19						
KMBL	**Kambalda**	**33.36**	**207**	P	**P**	**20 59 02.9**	**+0.2**
H11S3	**WAKE ISLAND Hy**	**33.98**	**52**	T	T	21 34 45.6	
	baz=236,slow=76,SNR=94						
H11S2	**WAKE ISLAND Hy**	**33.99**	**52**	T	T	21 34 46.9	
	baz=236,slow=76,SNR=90						
H11S1	**WAKE ISLAND Hy**	**33.99**	**52**	T	T	21 34 47.1	
	baz=236,slow=76,SNR=110						
CNB	**Canberra Magne**	**34.40**	**165**	P	**P**	**20 59 13.4**	**+1.7**
	baz=35,SNR=4.9						
ARPS	**Mount Arapiles**	**34.60**	**176**	P	**P**	**20 59 14.8**	**+1.5**
	baz=35,SNR=13						
MORW	**Morawa**	**34.68**	**217**	P	**P**	**20 59 14.5**	**+0.3**
	baz=35,SNR=12						
MORW	**Morawa**	**34.68**	**217**	P	**P**	**20 59 14.6**	**+0.3**
MORW	**Morawa**	**34.68**	**217**	P	**P**	**20 59 14.5**	**+0.3**
JHJ	**Hachijo jima 2**	**35.03**	**1**	LR	LR	21 11 10.4	
	comp=Z,228nm,18.2s,baz=86,slow=32						
BLDU	**Ballidu**	**35.43**	**215**	P	**P**	**20 59 20.6**	**0.0**
	baz=36,SNR=9.3						
BLDU	**Ballidu**	**35.43**	**215**	P	**P**	**20 59 20.8**	**+0.1**
MYKOM	**Kota Tinggi**	**35.48**	**276**	P	**P**	**20 59 20.4**	**-0.8**
MYKOM				IAmb	IAmb	20 59 32.9	
	comp=Z,14nm,1.0s						
KLBR	**Kellerberrin**	**35.60**	**212**	P	**P**	**20 59 22.3**	**+0.2**
	baz=36,SNR=8.8						
KLBR	**Kellerberrin**	**35.60**	**212**	P	**P**	**20 59 22.3**	**+0.2**
QIZ	**Qiongzhong**	**35.62**	**307**	P	**P**	**20 59 22.6**	**+0.2**
QIZ				S	**S**	**21 04 57.4**	**+0.3**
QIZ				LR	LR		
	comp=Z,96nm,14.7s						
QIZ				LR	LR		
	comp=Z,130nm,15.7s						
QIZ				LR	LR		
	comp=Z,140nm,21.0s						
TOO	**Toolangi**	**35.79**	**171**	P	**P**	**20 59 25.6**	**+1.9**
	baz=36,SNR=4.0						
TOO	**Toolangi**	**35.79**	**171**	P	**P**	**20 59 24.3**	**+0.6**
TOO	**Toolangi**	**35.79**	**171**	P	**P**	**20 59 24.3**	**+0.6**
TOO				pmax	pmax		
	comp=Z,44nm,1.5s						
JNU	**Nakatsue**	**35.88**	**348**	LR	LR	21 11 21.9	
	comp=Z,208nm,20.3s,baz=170,slow=32						
NWAO	**Narrogin (SRO)**	**36.92**	**211**	P	**P**	**20 59 33.9**	**+0.6**
	baz=37,SNR=4.6						
NWAO				P	**P**	**20 59 33.9**	**+0.6**
	baz=37,SNR=4.6						
NWAO	**Narrogin (SRO)**	**36.92**	**211**	P	**P**	**20 59 34.3**	**+1.0**
NWAO	**Narrogin (SRO)**	**36.92**	**211**	P	**P**	**20 59 33.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**36.92**	**211**	LR	LR	21 16 00.1	
	comp=Z,1μm,18.8s,baz=49,slow=38						
NWAO	**Narrogin (SRO)**	**36.92**	**211**	P	**P**	**20 59 33.7**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,57nm,1.5s						
UBPT	**Khong Chiam**	**37.50**	**299**	P	**P**	**20 59 38.0**	**-0.5**
UBPT				IAmb	IAmb	20 59 48.3	
	comp=Z,16nm,1.2s						
MJAR	**Matsushiro Arr**	**38.45**	**359**	P	**P**	**20 59 44.7**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=177,slow=9.2,SNR=8.0						
MJAR				LR	LR	21 13 34.7	
	comp=Z,218nm,18.7s,baz=148,slow=33						
	comp=Z,1.6nm,0.5s						
MAJO	**Matsushiro**	**38.45**	**359**	P	**P**	**20 59 45.3**	**-0.9**
MAJO	**Matsushiro**	**38.45**	**359**	P	**P**	**20 59 45.3**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,51nm,1.7s						
MJB9	**Matsu-Tunnel**	**38.45**	**359**	P	**P**	**20 59 46.5**	**+0.2**
PDSI	**Padang**	**38.66**	**271**	P	**P**	**20 59 49.3**	**+0.9**
NJ2	**Nanjing**	**39.02**	**332**	*e*P	**P**	**20 59 51.6**	**+0.5**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
KULM	**Kulim**	**39.12**	**281**	P	**P**	**20 59 51.6**	**-0.6**
KULM				IAmb	IAmb	21 00 03.2	
	comp=Z,54nm,1.8s						
SISI	**Saibi**	**40.02**	**270**	P	**P**	**21 00 00.9**	**+1.2**
KSRS	**Korea Array**	**40.70**	**346**	P	**P**	**21 00 04.5**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=159,slow=9.0,SNR=4.7						
KSRS				LR	LR	21 14 22.0	
	comp=Z,140nm,22.0s,baz=150,slow=32						
	comp=Z,2.0nm,0.8s						
SRIT	**Nakonsritamara**	**40.80**	**286**	P	**P**	**21 00 06.9**	**+0.7**
SRIT				IAmb	IAmb	21 00 17.3	
	comp=Z,18nm,0.8s						
GSI	**Gunungsitoli**	**41.68**	**274**	P	**P**	**21 00 12.2**	**-1.2**
GSI	**Gunungsitoli**	**41.68**	**274**	P	**P**	**21 00 13.4**	**0.0**
GYA	**Guiyang**	**42.28**	**314**	⇓P	**P**	**21 00 18.7**	**+0.4**
GYA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
GYA				pmax	pmax		
	comp=Z,110nm,4.8s						
MLSI	**Meulaboh, Aceh**	**43.15**	**278**	P	P	21 00 33.3	+7.9
PHRA	**Phrae**	**43.39**	**300**	P	**P**	**21 00 27.4**	**+0.2**
KMI	**Kunming**	**44.44**	**310**	⇓P	**P**	**21 00 36.4**	**+0.6**
KMI				pP	sP	21 00 47.2	-0.9
KMI				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CM31	**Chiang Mai Arr**	**44.49**	**299**	IAmb	IAmb	21 00 47.7	
	comp=Z,28nm,1.4s						
CMAR	**Chiang Mai Arr**	**44.49**	**299**	P	**P**	**21 00 35.0**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.49**	**299**	P	**P**	**21 00 36.2**	**+0.1**
	comp=Z,5.5nm,0.9s,baz=118,slow=6.3,SNR=32						
CMAR				PcP	**PcP**	**21 02 19.4**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=134,slow=2.6,SNR=5.1						
	comp=Z,5.5nm,0.9s						
HNS	**HongShan**	**45.35**	**332**	⇑P	**P**	**21 00 42.6**	**0.0**
HNS				S	**S**	**21 07 20.3**	**-1.4**
HNS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
HNS				LR	LR		
	comp=Z,220nm,16.2s						
HNS				LR	LR		
	comp=Z,230nm,17.5s						
XAN	**Xi'an**	**45.81**	**324**	P	**P**	**21 00 45.9

HHC Hu-ho-hao-te 49.57 333 *e*P P **21 01 16.7 +1.1**
HHC pmax pmax
comp=Z,21nm,0.5s
HHC pmax pmax
comp=Z,140nm,4.6s
HHC LR LR
comp=Z,150nm,14.2s
HHC LR LR
comp=Z,200nm,12.6s
HHC LR LR
comp=Z,270nm,14.9s
URZ Urewera 50.03 141 LR LR 21 25 01.5
comp=Z,101nm,18.4s,baz=36,slow=39
TUWZ Tuamarina 50.15 146 P P **21 01 20.0 +0.3**
TCW Tory Channel 50.19 146 P P **21 01 20.7 +0.6**
LZH Lanzhou 50.24 323 *e*P P **21 01 21.8 +1.0**
LZH pP pP 21 01 30.6 +1.0
LZH pmax pmax
comp=Z,18nm,1.4s
KLR Kul'dur 51.52 354 LR LR 21 20 17.5
comp=Z,121nm,20.6s,baz=177,slow=32
KLR Kul'dur 51.52 354 *e*P P **21 01 28.7 -1.2**
KLR pmax pmax
comp=Z,24nm,1.5s
HEH HeiHe 53.10 351 *e*P P **21 01 41.2 -0.5**
HEH pmax pmax
comp=Z,15nm,1.1s
HEH pmax pmax
comp=Z,470nm,4.2s
GTA Gaotai 54.82 323 P P **21 01 55.4 +0.8**
GTA pP pP 21 02 02.9 -0.7
GTA sP sP 21 02 06.7 -0.3
GTA pmax pmax
comp=Z,6.0nm,1.0s
GOMU GeErMu 56.14 317 P P **21 02 05.8 +1.3**
GOMU pP pP 21 02 10.8 -2.6
GOMU sP sP 21 02 12.9 -4.0
GOMU pmax pmax
comp=Z,6.0nm,1.2s
ZEA Zeya 56.51 352 *e*P P **21 02 06.3 0.0**
ZEA pmax pmax
comp=Z,10.0nm,1.4s
ULN Ulaanbaatar 57.08 335 P P **21 02 09.8 -0.9**
ULN IAmb IAmb 21 02 11.9
comp=Z,5.3nm,0.7s
ULN Ulaanbaatar 57.08 335 *d i*P P **21 02 11.3 +0.6**
ULN pmax pmax
comp=Z,6.0nm,0.7s
PEA0B Petropavlovsk- 57.17 13⇑ *e*P P **21 02 11.7 +0.7**
PETK Petropavlovsk- 57.17 13 P P **21 02 10.2 -0.8**
PETK Petropavlovsk- 57.17 13 P P **21 02 10.7 -0.3**
comp=Z,9.2nm,1.0s,baz=132,slow=6.2,SNR=7.4
PETK LR LR 21 22 48.4
comp=Z,122nm,21.9s,baz=195,slow=32
comp=Z,9.2nm,1.0s
SONM Songino Array 57.34 334 P P **21 02 13.0 +0.5**
SONM IAmb IAmb 21 02 26.5
comp=Z,14nm,1.8s
SONM Songino Array 57.34 334 P P **21 02 12.2 -0.3**
comp=Z,2.2nm,0.6s,baz=154,slow=8.2,SNR=14
SONM LR LR 21 27 57.2
comp=Z,166nm,18.6s,baz=114,slow=37
comp=Z,2.2nm,0.6s
SONM Songino Array 57.34 334 P P **21 02 13.0 +0.5**
SONM pmax pmax
comp=Z,14nm,1.8s
ZAK Zakamensk 60.61 335 *e*P P **21 02 34.9 -0.2**
ZAK pmax pmax
comp=Z,14nm,1.3s
SHEM Shemya Is, Ala 62.02 23 LR LR 21 28 06.3
comp=Z,134nm,19.6s,baz=291,slow=35
MA2 Magadan 62.16 7 LR LR 21 26 08.5
comp=Z,37nm,21.9s,baz=176,slow=33
MA2 Magadan 62.16 7⇓ *e*P P **21 02 44.3 -1.0**
MA2 pmax pmax
comp=Z,8.0nm,1.1s
RAR Rarotonga 62.38 113 LR LR 21 27 10.0
comp=Z,68nm,20.3s,baz=306,slow=34
MOY Mondy 62.53 334 *e*P P **21 02 48.4 +0.3**
MOY pmax pmax
comp=Z,22nm,1.7s
BOD Bodaibo 63.02 345 *e*P P **21 02 50.3 -0.7**
BOD pmax pmax
comp=Z,10.0nm,1.5s
YAK Yakutsk 64.36 355 P P **21 02 59.6 -0.1**
YAK Yakutsk 64.36 355 LR LR 21 29 32.6
comp=Z,102nm,19.9s,baz=162,slow=35
YAK Yakutsk 64.36 355 *e*P P **21 02 59.9 +0.2**
YAK *e**PP **pP** **21 03 10.1 +1.4**
YAK *e* 21 03 33.9
YAK *e* 21 05 22.1
YAK *e*PPP PPP 21 07 01.7
YAK *e*S **S** **21 11 38.1 +2.2**
YAK *e**SS sS 21 12 05.5 +15
YAK *e*SS **SS** **21 15 52.3 +6.1**
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,148nm,4.2s
YAK pmax pmax
comp=N,185nm,4.3s
YAK pmax pmax
comp=E,182nm,4.0s
YAK smax smax
comp=E,374nm,4.5s
YAK smax smax
comp=N,252nm,4.2s
WMQ Urumqi 64.79 321 *e*P P **21 03 04.0 +1.0**
WMQ pP sP 21 03 15.0 -0.5
WMQ pmax pmax
comp=N,21nm,0.9s
WMQ pmax pmax
comp=N,52nm,3.7s
SEY Seymchan 65.62 7⇑ *e*P P **21 03 08.6 +0.6**
SEY pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 69.56 322 IAmb IAmb 21 03 46.0
comp=Z,10nm,1.1s
MK31 Makanchi Array 69.56 322 *ce*P P **21 03 33.2 0.0**
MKAR Makanchi Array 69.56 322 P P **21 03 33.1 -0.1**
comp=Z,5.5nm,0.8s,baz=107,slow=8.2,SNR=52
comp=Z,5.5nm,0.8s
MKAR Makanchi Array 69.56 322 *i*P P **21 03 33.5 +0.3**
MKAR pmax pmax
comp=Z,6.0nm,0.8s
SHLS Shalkode 69.84 318 *e*P P **21 03 36.7 +1.6**
NIKH Nikolski High 69.94 30 P P **21 03 36.4 +1.0**
baz=237
KSH Kashi 70.96 313 P P **21 03 44.0 +1.9**
KSH pP sP 21 03 54.4 -0.3
KSH pmax pmax
comp=Z,7.0nm,1.1s
ARXS Arharly 71.34 318 *e*P P 21 03 49.1 +4.9
PPT Papeete 71.55 108 LR LR 21 31 38.6
comp=Z,53nm,22.0s,baz=279,slow=33
UNV Unalaska Valle 71.59 31 P P **21 03 46.4 +1.0**
baz=239
ZALV Zalesovo Beam 71.61 330 P P **21 03 44.4 -1.1**
ZALV Zalesovo Beam 71.61 330 P P **21 03 44.6 -1.0**
comp=Z,2.8nm,0.6s,baz=113,slow=6.5,SNR=15
comp=Z,2.8nm,0.6s
ZALV Zalesovo Beam 71.61 330 *i*P P **21 03 45.0 -0.5**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
P08K Saint George I 71.63 27 P P **21 03 46.1 +0.5**
baz=235
SPIA Saint Paul Isl 71.65 26 P P **21 03 47.1 +1.4**
baz=234
BOOM Boomskoye usch 72.00 316 P P **21 03 48.4 +0.1**
BOOM IAmb IAmb 21 04 01.2
comp=Z,7.3nm,0.9s
BOOM Boomskoye usch 72.00 316 P P **21 03 48.4 +0.1**
BOOM pmax pmax
comp=Z,7.0nm,0.9s
BILL Bilibino 72.49 10⇑ *e*P P **21 03 52.0 +1.5**
BILL pmax pmax
comp=Z,6.0nm,2.5s
AAK Ala-Archa 73.05 316 P P **21 03 54.0 -0.6**
AAK Ala-Archa 73.05 316 *de*P P **21 03 55.0 +0.4**
AAK pmax pmax
comp=Z,5.0nm,1.3s

KURK Kurchatov 73.45 325 P P **21 03 56.4 -0.1**
KURK IAmb IAmb 21 03 59.7
comp=Z,7.2nm,0.8s
KURK Kurchatov 73.45 325 *i* P P **21 03 56.4 -0.1**
KURK pmax pmax
comp=Z,16nm,1.5s
KURBB Kurchatov Arra 73.46 325 P P **21 03 56.5 -0.1**
comp=Z,4.7nm,0.8s,baz=115,slow=5.4,SNR=41
comp=Z,4.7nm,0.8s
TIXI Tiksi 73.91 357 P P **21 03 57.4 -1.4**
TIXI Tiksi 73.91 357 LR LR 21 34 15.5
comp=Z,72nm,20.7s,baz=192,slow=34
TIXI Tiksi 73.91 357⇑ *i*P P **21 03 57.9 -0.9**
TIXI pmax pmax
comp=Z,7.0nm,1.5s
BTLS Baital 74.16 318 *e*P P **21 04 04.7 +3.9**
S12K Black Hills 74.75 30 P P **21 04 05.0 +0.9**
baz=242
M11K Mekoryuk 75.20 25 P P **21 04 07.7 +1.2**
baz=238
SDPT Sand Point 75.39 31 P P **21 04 08.4 +0.7**
baz=244
SIMJ Simiganj 75.90 311 P P **21 04 10.9 -0.3**
SIMJ IAmb IAmb 21 04 12.4
comp=Z,13nm,1.1s
IUG Iuzhnay 76.06 314 *e*P P **21 04 15.9 +3.9**
S14K Fog Glacier 76.27 30 P P **21 04 13.7 +0.8**
baz=244
VNDA Vanda 76.36 175 P P **21 04 13.6 +0.7**
VNDA IAmb IAmb 21 04 16.9
comp=Z,23nm,1.8s
VNDA Vanda 76.36 175 P P **21 04 13.3 +0.5**
comp=Z,2.5nm,0.7s,baz=328,slow=7.5,SNR=23
VNDA LR LR 21 36 51.4
comp=Z,166nm,20.2s,baz=353,slow=35
comp=Z,2.5nm,0.7s
VNDA Vanda 76.36 175 P P **21 04 13.6 +0.7**
VNDA pmax pmax
comp=Z,23nm,1.8s
K13K Kusilvak Mount 76.65 24 P P **21 04 15.7 +0.9**
baz=239
O14K Tigyukauivet M 76.78 27 P P **21 04 16.4 +0.9**
baz=242
N14K Kuskokwak Cree 76.91 26 P P **21 04 17.1 +0.9**
baz=242
L14K Kuka Creek 77.17 25 P P **21 04 18.7 +1.0**
baz=241
M14K Bethel 77.19 26 P P **21 04 18.3 +0.6**
baz=241
O15K Ungalikthiuk R 77.41 27 P P **21 04 19.8 +0.7**
baz=244
TNA Tin City 77.44 20 P P **21 04 19.8 +0.7**
baz=235
J14K Nanvaranak Lak 77.52 23 P P **21 04 20.0 +0.4**
baz=240
M15K Kasigluk River 77.71 26 P P **21 04 21.0 +0.3**
baz=243
N15K Kwethluk River 77.73 27 P P **21 04 21.3 +0.4**
baz=243
ANM Nome 77.78 21 P P **21 04 21.8 +0.7**
baz=237
L15K Ungalak Mounta 77.83 25 P P **21 04 21.9 +0.5**
baz=242
CHIR Chirikof Islan 78.10 32 P P **21 04 23.6 +0.6**
baz=248
K15K Wolf Creek Mou 78.11 24 P P **21 04 23.5 +0.5**
baz=242
P16K Nushagak River 78.20 28 P P **21 04 23.6 +0.1**
baz=245
O16K Kokwok River B 78.39 28 P P **21 04 25.3 +0.8**
baz=245
N16K Nishlik Lake 78.46 27 P P **21 04 25.8 +0.9**
baz=244
G15K Niukluk 78.49 21 P P **21 04 25.6 +0.6**
baz=239
M16K Timber Creek 78.61 26 P P **21 04 26.4 +0.6**
baz=244
F15K North Star Dit 78.65 21 P P **21 04 26.6 +0.7**
baz=238
L16K Owhat River 78.70 25 P P **21 04 27.1 +1.0**
baz=244
Q17K Contact Creek 78.90 29 P P **21 04 28.2 +0.7**
baz=247
O17K Koliganek Bris 78.92 28 P P **21 04 28.5 +1.0**
baz=246
J16K Anvik River 78.95 24 P P **21 04 29.1 +1.5**
baz=242
H16K Elim 78.97 22 P P **21 04 28.0 +0.3**
baz=240
BVAR Borovoye Array 79.05 325 P P **21 04 28.6 +0.2**
comp=Z,18nm,0.7s,baz=114,slow=7.8,SNR=85
comp=Z,18nm,0.7s
BRVK Borovoye 79.12 325 P P **21 04 28.6 -0.1**
BRVK Borovoye 79.12 325 P P **21 04 28.6 -0.1**
BRVK pmax pmax
comp=Z,14nm,0.7s
SII Sitkinak Islan 79.12 31 P P **21 04 29.7 +1.0**
baz=249
N17K Nushagak Hills 79.19 27 P P **21 04 29.6 +0.7**
baz=246
I17K Unalakleet 79.20 23 P P **21 04 29.7 +0.8**
baz=242
G16K Koyuk River 79.31 21 P P **21 04 30.4 +0.9**
baz=240
L17K Donlin 79.38 25 P P **21 04 30.8 +0.8**
baz=244
M17K Holitna River 79.44 26 P P **21 04 30.9 +0.6**
baz=245
J17K VABM Dome 79.62 24 P P **21 04 32.0 +0.8**
baz=244
K17K Iditarod 79.63 25 P P **21 04 32.8 +1.5**
baz=244
P18K Big Mountain, 79.65 28 P P **21 04 31.7 +0.2**
baz=248
C16K Lisburne Hills 79.81 18 P P **21 04 33.1 +1.0**
baz=237
OHAK Old Harbor 79.82 31 P P **21 04 32.6 +0.3**
baz=250
O18K Koktuh Hills 79.83 28 P P **21 04 33.2 +0.7**
baz=248
N18K Kilae Creek 79.84 27 P P **21 04 33.5 +1.0**
baz=247
G17K Kiwalik Mounta 79.98 22 P P **21 04 33.7 +0.5**
baz=242
H17K Granite Mounta 79.99 22 P P **21 04 33.8 +0.6**
baz=242
L18K Granite Mounta 80.11 25 P P **21 04 34.7 +0.8**
baz=246
M18K Stony River 80.19 26 P P **21 04 35.0 +0.7**
baz=247
F17K Baldwin Pennin 80.22 21 P P **21 04 35.2 +0.8**
baz=241
D17K Noatak River 80.23 19 P P **21 04 35.3 +0.9**
baz=239
Q19K Cape Douglas, 80.24 29 P P **21 04 34.9 +0.2**
baz=249
E17K Hotham Inlet 80.33 20 P P **21 04 36.1 +1.1**
baz=240
KDAK Kodiak Island 80.36 30 P P **21 04 35.6 +0.3**
baz=250
KDAK Kodiak Island 80.36 30 LR LR 21 35 39.6
comp=Z,169nm,19.4s,baz=247,slow=32
RDOG Red Dog Mine 80.47 19 P P **21 04 36.6 +0.9**
baz=239
N19K Bonanza Creek 80.53 27 P P **21 04 36.8 +0.5**
baz=248
C17K DeLong Mountai 80.60 18 P P **21 04 37.9 +1.4**
baz=239
J18K Innoko River 80.61 24 P P **21 04 37.6 +1.0**
baz=246
H18K Honhosa River 80.68 22 P P **21 04 38.2 +1.3**
baz=244
TTA Tatalina 80.68 25 P P **21 04 37.8 +0.8**
baz=246
Q20K Shuyak Island 80.74 30 P P **21 04 38.0 +0.7**
baz=250
F18K Selawik 80.86 21 P P **21 04 38.8 +1.0**
baz=242
L19K White Mountain 80.88 26 P P **21 04 39.5 +1.4**
baz=248
G18K Tagagawik 80.90 22 P P **21 04 38.8 +0.7**
baz=244
E18K Tukpahlearik C 80.92 20 P P **21 04 38.9 +0.8**
baz=242
M19K Big River Lodg 80.98 26 P P **21 04 39.6 +1.1**
baz=248
GCSA Galena City Sc 81.07 23 P P **21 04 39.9 +1.0**
baz=245

O20K Slope Mountain 81.13 28 P P **21 04 40.8 +1.3**
baz=250
J19K Poorman 81.27 24 P P **21 04 40.6 +0.5**
baz=247
C18K Utukok River 81.31 19 P P **21 04 40.8 +0.4**
baz=241
L20K Farewell, AK 81.41 26 P P **21 04 41.4 +0.5**
baz=248
HOM Homer 81.45 29 P P **21 04 42.2 +1.1**
baz=251
B18K Kokolik River 81.48 18 P P **21 04 41.8 +0.8**
baz=240
M20K Styx River 81.53 26 P P **21 04 42.3 +0.7**
baz=249
H19K Roundabout Mou 81.56 22 P P **21 04 42.2 +0.6**
baz=246
G19K Purcell Mounta 81.58 22 P P **21 04 42.7 +1.0**
baz=245
F19K Shaleruckik Mo 81.63 21 P P **21 04 43.3 +1.4**
baz=244
K20K Telida 81.66 25 P P **21 04 42.6 +0.4**
baz=248
N20K Mount Spurr 81.70 27 P P **21 04 43.4 +0.8**
baz=250
BRSE Bradley Lake S 81.91 29 P P **21 04 44.1 +0.5**
baz=252
J20K Nowinta River 81.93 24 IAmb IAmb 21 04 45.2
comp=Z,5.2nm,0.8s
J20K Nowinta River 81.93 24 P P **21 04 44.9 +1.3**
baz=248
I20K Naaghedeneel 82.04 23 P P **21 04 45.0 +0.9**
baz=248
CAPN Captain Cook N 82.05 28 P P **21 04 44.7 +0.5**
baz=251
C19K Lookout Ridge 82.05 19 P P **21 04 45.3 +1.1**
baz=242
E19K Redstone River 82.09 20 P P **21 04 45.2 +0.8**
baz=245
H20K Anotleneega Mo 82.15 23 P P **21 04 45.2 +0.5**
baz=247
D19K Kuna River 82.25 19 P P **21 04 46.0 +0.8**
baz=244
SKT Skwentna 82.27 26 P P **21 04 45.5 +0.1**
baz=251
F20K Avaraart Lake 82.45 21 P P **21 04 46.7 +0.5**
baz=246
SUA Susitna One 82.46 27 P P **21 04 47.3 +0.8**
baz=252
CAST Castle Rocks 82.52 25 P P **21 04 47.4 +0.7**
baz=250
CHUM Lake Minchumin 82.58 25 P P **21 04 48.0 +1.1**
baz=250
E20K Nigu River 82.79 20 P P **21 04 48.8 +0.7**
baz=246
RC01 Rabbit Creek A 82.80 28 P P **21 04 48.7 +0.5**
baz=252
M22K Willow 82.83 27 P P **21 04 48.6 +0.4**
baz=252
D20K Etivluk River 82.84 19 P P **21 04 49.2 +1.0**
baz=245
MAW Mawson 82.85 202 P P **21 04 48.8 +0.5**
comp=Z,2.2nm,0.6s,baz=99,slow=8.7,SNR=8.8
comp=Z,2.2nm,0.6s
H21K Melozitna Rive 83.01 23 P P **21 04 49.6 +0.4**
baz=249
G21K Allakaket 83.06 22 P P **21 04 49.7 +0.3**
baz=248
I21K Tanana 83.17 23 P P **21 04 51.0 +1.1**
baz=250
BPAW Bear Paw Mtn. 83.20 25 P P **21 04 51.4 +1.1**
baz=251
B20K Meade River 83.22 18 P P **21 04 50.8 +0.7**
baz=244
PMR Palmer 83.23 27 P P **21 04 50.9 +0.6**
baz=253
TRF Thorofare Moun 83.29 25 P P **21 04 51.8 +0.9**
baz=252
F21K Alatna River 83.33 21 P P **21 04 50.9 0.0**
baz=248
KNK Knik Glacier 83.49 27 P P **21 04 52.0 +0.3**
baz=254
P23K Montague Islan 83.60 29 P P **21 04 53.0 +0.7**
baz=255
MLY Manley 83.61 24 P P **21 04 52.9 +0.6**
MLY IAmb IAmb 21 07 38.8
comp=Z,23nm,2.0s
MLY Manley 83.61 24 P P **21 04 53.3 +1.0**
baz=251
E21K Killik River 83.62 20 P P **21 04 53.0 +0.7**
baz=248
C21K Knifeblade Rid 83.62 19 P P **21 04 53.1 +0.9**
baz=247
H22K Ishtalitna Cre 83.64 23 P P **21 04 53.0 +0.6**
baz=250
SML Sawmill 83.66 27 P P **21 04 53.2 +0.6**
baz=254
WAT1 Susitna Watana 83.85 26 P P **21 04 53.4 -0.2**
baz=253
B21K Ikpikpuk River 83.86 19 IAmb IAmb 21 07 56.5
comp=Z,16nm,1.9s
B21K Ikpikpuk River 83.86 19 P P **21 04 54.4 +0.9**
baz=247
F22K John River 83.90 21 P P **21 04 54.6 +0.8**
baz=250
M23K Glacier View 83.93 27 P P **21 04 54.7 +0.7**
baz=254
A21K Barrow 83.94 17 P P **21 04 54.4 +0.6**
baz=245
G22K Bettles 83.94 22 P P **21 04 54.6 +0.6**
baz=250
MCK McKinley 83.95 25 P P **21 04 53.7 -0.4**
baz=253
Q23K Middleton Isla 83.97 30 P P **21 04 53.7 -0.5**
baz=256
GLI Glacier Island 83.98 28 P P **21 04 54.3 0.0**
baz=255
SCM Sheep Creek Mo 84.12 27 P P **21 04 55.4 +0.3**
baz=254
WAT6 Susitna Watana 84.14 26 P P **21 04 55.0 -0.3**
baz=254
NEA2 Nenana 84.15 24 P P **21 04 55.7 +0.7**
baz=253
GEYT Alibeck 84.18 308 P P **21 04 55.5 -0.4**
GEYT Alibeck 84.18 308 P P **21 04 56.2 +0.4**
comp=Z,3.2nm,0.7s,baz=116,slow=3.4,SNR=11
comp=Z,3.2nm,0.7s
GYA0B ALIBECK ARRAY 84.18 308 IAmb IAmb 21 05 02.6
comp=Z,7.9nm,0.8s
I23K Minto, Yukon-K 84.20 24 IAmb IAmb 21 05 10.9
comp=Z,7.1nm,1.1s
I23K Minto, Yukon-K 84.20 24 P P **21 04 56.0 +0.7**
baz=252
D22K Ayikyak River 84.22 20 P P **21 04 55.8 +0.5**
baz=249
E22K Anaktuvuk Pass 84.25 21 P P **21 04 56.3 +0.8**
baz=250
A22K Sinclair Lake 84.30 17 P P **21 04 56.1 +0.5**
baz=246
H23K Yukon River 84.34 23 P P **21 04 56.4 +0.4**
baz=252
G23K Bananza Creek 84.43 22 P P **21 04 57.5 +1.0**
baz=252
DHY Denali Highway 84.44 26 P P **21 04 56.8 +0.1**
baz=254
B22K Teshekpuk Lake 84.52 18 P P **21 04 57.1 +0.4**
baz=248
ABKAR Akbulak array 84.52 320 P P **21 04 56.8 -0.4**
ABKAR Akbulak array 84.52 320 IAmb IAmb 21 04 58.2
comp=Z,9.3nm,1.1s
WRH Wood River Hil 84.52 25 IAmb IAmb 21 05 11.5
comp=Z,11nm,1.1s
COLD Coldfoot 84.53 22 P P **21 04 57.8 +0.9**
baz=251
EYAK Cordova Ski Ar 84.53 29 P P **21 04 57.5 +0.5**
baz=256
KLU Kluting 84.69 28 P P **21 04 58.4 +0.5**
baz=256
M24K Tolsona, Glenn 84.72 27 P P **21 04 58.7 +0.6**
baz=256
D23K Nanushuk River 84.93 20 P P **21 04 59.7 +0.8**
baz=251
POKR Poker Plat Res 84.97 24 P P **21 04 59.8 +0.6**
baz=254
HDA Harding Lake 84.98 25 P P **21 04 59.5 +0.3**
baz=255
H24K Noodor Dome 85.00 23 IAmb IAmb 21 05 00.9
comp=Z,6.5nm,1.2s
H24K Noodor Dome 85.00 23 P P **21 04 59.8 +0.5**

	baz=254						
E23K	**Chandalar**	**85.01**	**21**	P	**P**	**21 04 60.0**	**+0.6**
	baz=252						
KAIM	**Kayak Island**	**85.04**	**29**	P	**P**	**21 04 59.8**	**+0.2**
	baz=257						
IL31		**85.10**	**24**	IAmb	IAmb	21 05 14.2	
	comp=Z,4.6nm,1.0s						
ILAR	**Eielson Array**	**85.10**	**24**	P	**P**	**21 04 58.7**	**-1.2**
	comp=Z,2.6nm,0.9s,baz=261,slow=5.0,SNR=17						
ILAR				LR	LR	21 40 58.6	
	comp=Z,55nm,19.2s,baz=250,slow=34						
	comp=Z,2.6nm,0.9s						
BMRM	**Bremner River**	**85.18**	**28**	P	**P**	**21 05 00.5**	**+0.1**
	baz=257						
TOLK	**Toolik Lake Re**	**85.20**	**20**	IAmb	IAmb	21 05 27.9	
	comp=Z,6.0nm,1.1s						
TOLK	**Toolik Lake Re**	**85.20**	**20**	P	**P**	**21 05 00.9**	**+0.5**
	baz=252						
C23K	**Itkillik River**	**85.24**	**19**	IAmb	IAmb	21 05 01.8	
	comp=Z,6.3nm,0.9s						
C23K	**Itkillik River**	**85.24**	**19**	P	**P**	**21 05 01.2**	**+0.8**
	baz=251,SNR=8.0						
PAX	**Paxson**	**85.25**	**26**	P	**P**	**21 05 00.5**	**-0.2**
	baz=256						
HARP	**HAARP**	**85.25**	**27**	P	**P**	**21 05 00.1**	**-0.6**
	baz=256						
K24K	**Donnelly Dome**	**85.32**	**25**	P	**P**	**21 05 01.0**	**0.0**
	baz=256						
N25K	**Chitina, Valde**	**85.33**	**28**	P	**P**	**21 05 01.3**	**+0.1**
	baz=257						
G24K	**Hadweenzic Riv**	**85.39**	**22**	P	**P**	**21 05 02.0**	**+0.8**
	baz=254						
E24K	**Your Creek**	**85.42**	**21**	P	**P**	**21 05 02.1**	**+0.7**
	baz=253						
SVE	**Sverdlovsk**	**85.45**	**327**	*e*P	**P**	**21 05 02.0**	**+0.3**
SVE				pmax	pmax		
	comp=Z,6.0nm,0.6s						
F24K	**Squaw Lake**	**85.47**	**22**	IAmb	IAmb	21 05 17.7	
	comp=Z,4.4nm,0.9s						
F24K	**Squaw Lake**	**85.47**	**22**	P	**P**	**21 05 02.0**	**+0.3**
	baz=254						
D24K	**Happy Valley**	**85.62**	**20**	P	**P**	**21 05 03.4**	**+1.0**
	baz=252						
J25K	**Salcha River,**	**85.69**	**25**	IAmb	IAmb	21 05 04.0	
	comp=Z,6.9nm,1.2s						
J25K	**Salcha River,**	**85.69**	**25**	P	**P**	**21 05 03.3**	**+0.4**
	baz=256						
C24K	**Franklin Bluff**	**85.83**	**19**	P	**P**	**21 05 04.3**	**+1.0**
	baz=253						
PRP	**Porcupine Dome**	**85.85**	**24**	P	**P**	**21 05 04.6**	**+0.9**
	baz=256						
H25L	**Birch Creek**	**85.92**	**23**	P	**P**	**21 05 04.5**	**+0.7**
	baz=256						
G25K	**Bearman Lake**	**85.94**	**23**	P	**P**	**21 05 04.0**	**+0.1**
	baz=255						
MCARA	**McCarthy VSAT**	**86.02**	**28**	P	**P**	**21 05 05.2**	**+0.8**
	baz=258						
SCRK	**Sand Creek**	**86.13**	**26**	P	**P**	**21 05 05.0**	**-0.2**
	baz=257						
L26K	**Log Cabin Wild**	**86.21**	**27**	P	**P**	**21 05 05.8**	**+0.4**
	baz=258						
MESA	**MESA**	**86.30**	**29**	P	**P**	**21 05 06.4**	**+0.2**
	baz=259						
F25K	**Christian Rive**	**86.32**	**22**	P	**P**	**21 05 07.5**	**+1.6**
	baz=256,SNR=6.0						
J26L	**Joseph Creek**	**86.43**	**25**	P	**P**	**21 05 06.7**	**+0.1**
	baz=258						
E25K	**Arctic Village**	**86.48**	**21**	IAmb	IAmb	21 05 09.3	
	comp=Z,13nm,1.4s						
E25K	**Arctic Village**	**86.48**	**21**	P	**P**	**21 05 07.4**	**+0.7**
	baz=256,SNR=10						
D25K	**Kavik River**	**86.51**	**20**	P	**P**	**21 05 07.4**	**+0.6**
	baz=255						
ARU	**Arti**	**86.51**	**327**	P	**P**	**21 05 05.7**	**-1.2**
ARU				IAmb	IAmb	21 05 07.3	
	comp=Z,4.9nm,0.6s						
ARU	**Arti**	**86.51**	**327**	*c* iP	**P**	**21 05 05.8**	**-1.2**
ARU						21 08 24.8	
ARU				S	**SKSac**	**21 15 29.3**	**-2.1**
ARU				SS	**SS**	**21 21 21.2**	**-0.9**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BMAR	**Burnt Mountain**	**86.68**	**22**	P	**P**	**21 05 08.6**	**+0.9**
CTG	**Chitna Glacier**	**86.74**	**29**	P	**P**	**21 05 09.0**	**+0.8**
	baz=260						
M27K	**Edge Creek, AK**	**86.74**	**27**	P	**P**	**21 05 09.0**	**+0.8**
	baz=259						
I26K	**Coal Creek Min**	**86.77**	**24**	P	**P**	**21 05 09.4**	**+1.3**
	baz=258						
G26K	**Porcupine Rive**	**86.87**	**23**	P	**P**	**21 05 09.4**	**+0.9**
	baz=257,SNR=7.0						
L27K	**Beaver Creek,**	**86.89**	**27**	P	**P**	**21 05 09.3**	**+0.5**
	baz=259						
F26K	**Sheenjek River**	**86.90**	**22**	P	**P**	**21 05 09.9**	**+1.1**
	baz=257,SNR=12						
K27K	**Chicken**	**86.97**	**26**	P	**P**	**21 05 10.1**	**+1.0**
	baz=259						
C26K	**Camden Bay**	**87.15**	**20**	P	**P**	**21 05 11.8**	**+1.9**
	baz=256						
O28M	**Mount Upton**	**87.26**	**29**	P	**P**	**21 05 10.7**	**-0.2**
	baz=261						
YUK3	**Moose Creek**	**87.30**	**28**	P	**P**	**21 05 11.2**	**+0.2**
	baz=261						
I27K	**Kandik River**	**87.46**	**24**	P	**P**	**21 05 11.9**	**+0.4**
	baz=259,SNR=8.7						
PNL	**Peninsula**	**87.48**	**30**	P	**P**	**21 05 12.0**	**+0.3**
	baz=262						
C27K	**Jago River**	**87.49**	**20**	P	**P**	**21 05 11.9**	**+0.4**
	baz=257						
EGAK	**Eagle**	**87.50**	**25**	IAmb	IAmb	21 05 13.4	
	comp=Z,9.2nm,1.1s						
EGAK	**Eagle**	**87.50**	**25**	P	**P**	**21 05 12.1**	**+0.4**
	baz=260						
YUK8	**Steele Glacier**	**87.55**	**29**	P	**P**	**21 05 12.1**	**-0.2**
	baz=261						
H27K	**Steamboat Moun**	**87.61**	**23**	P	**P**	**21 05 12.8**	**+0.6**
	baz=259,SNR=10.0						
G27K	**Doyon Strip**	**87.67**	**23**	P	**P**	**21 05 13.3**	**+0.9**
	baz=259						
QSPA	**South Pole Qui**	**87.85**	**180**	P	**P**	**21 05 13.4**	**-0.1**
QSPA				IAmb	IAmb	21 05 21.6	
	comp=Z,9.7nm,1.1s						
QSPA	**South Pole Qui**	**87.85**	**180**	P	**P**	**21 05 13.2**	**-0.2**
	comp=Z,3.5nm,0.5s,baz=300,slow=1.2,SNR=25						
QSPA				LR	LR	21 45 56.3	
	comp=Z,204nm,18.4s,baz=12,slow=37						
	comp=Z,3.5nm,0.5s						
E27K	**Coleen River**	**87.95**	**22**	P	**P**	**21 05 14.1**	**+0.3**
	baz=259						
YUK4	**Talbot Arm**	**88.09**	**29**	P	**P**	**21 05 15.3**	**+0.5**
	baz=262						
I28M	**Miner Creek**	**88.12**	**24**	IAmb	IAmb	21 05 16.8	
	comp=Z,7.1nm,1.1s						
I28M	**Miner Creek**	**88.12**	**24**	P	**P**	**21 05 15.1**	**+0.4**
	baz=261,SNR=7.2						
YUK6	**Outpost Mounta**	**88.17**	**29**	P	**P**	**21 05 15.8**	**+0.6**
	baz=262						
P29M	**Windy Craggy**	**88.31**	**30**	P	**P**	**21 05 16.5**	**+0.8**
	baz=263						
M29M	**Somme Creek**	**88.32**	**27**	P	**P**	**21 05 16.3**	**+0.5**
	baz=262,SNR=7.6						
D27M	**Malcolm River**	**88.37**	**21**	P	**P**	**21 05 16.8**	**+1.1**
	baz=260						
F28M	**Old Crow**	**88.49**	**22**	P	**P**	**21 05 17.5**	**+1.2**
	baz=261						
L29M	**L29M**	**88.56**	**27**	P	**P**	**21 05 17.9**	**+1.1**
	baz=263,SNR=8.2						
HYT	**Haines Junctio**	**88.57**	**29**	IAmb	IAmb	21 05 27.6	
	comp=Z,9.0nm,1.1s						
HYT	**Haines Junctio**	**88.57**	**29**	P	**P**	**21 05 17.7**	**+0.7**
	baz=263						
P30M	**Million Dollar**	**88.76**	**30**	P	**P**	**21 05 18.7**	**+0.9**
	baz=264						
E28M	**Babbage River**	**88.77**	**21**	IAmb	IAmb	21 05 21.8	
	comp=Z,14nm,1.9s						
E28M	**Babbage River**	**88.77**	**21**	P	**P**	**21 05 17.7**	**+0.1**
	baz=261						
N30M	**Aishikik Lake**	**88.85**	**29**	IAmb	IAmb	21 05 20.4	
	comp=Z,6.0nm,1.1s						
N30M	**Aishikik Lake**	**88.85**	**29**	P	**P**	**21 05 17.4**	**-0.8**
	baz=264						
H29M	**Whitestone**	**88.87**	**24**	P	**P**	**21 05 18.0**	**-0.2**
	baz=262						
S31K	**Pelican**	**88.91**	**32**	P	**P**	**21 05 19.4**	**+1.0**
	baz=264						
K29M	**Barlow Dome**	**88.93**	**26**	P	**P**	**21 05 19.2**	**+0.6**
	baz=263,SNR=14						
PLBC	**Pleasant Camp**	**88.99**	**31**	P	**P**	**21 05 19.4**	**+0.6**
	baz=264						
G29M	**Pine Creek**	**89.10**	**23**	P	**P**	**21 05 19.9**	**+0.7**
	baz=263						
D28M	**Stokes Point**	**89.16**	**21**	P	**P**	**21 05 20.7**	**+1.3**
	baz=262						
O30N	**Mendenhall**	**89.26**	**29**	IAmb	IAmb	21 05 22.8	
	comp=Z,7.5nm,1.1s						
O30N	**Mendenhall**	**89.26**	**29**	P	**P**	**21 05 21.0**	**+0.9**
	baz=264						
E29M	**Blow River**	**89.34**	**22**	P	**P**	**21 05 21.3**	**+1.0**
	baz=263						
N31M	**Braeburn, Yuko**	**89.47**	**29**	P	**P**	**21 05 21.9**	**+0.8**
	baz=265						
SKAG	**Skagway**	**89.52**	**31**	P	**P**	**21 05 22.2**	**+1.0**
	baz=265						
J30M	**Hart River**	**89.53**	**25**	IAmb	IAmb	21 05 23.6	
	comp=Z,5.5nm,0.9s						
J30M	**Hart River**	**89.53**	**25**	P	**P**	**21 05 21.8**	**+0.4**
	baz=264,SNR=6.2						
EPYK	**Eagle Plains**	**89.55**	**24**	P	**P**	**21 05 21.7**	**+0.3**
	baz=264						
I30M	**Mount Dempster**	**89.57**	**25**	IAmb	IAmb	21 05 24.9	
	comp=Z,8.1nm,1.4s						
I30M	**Mount Dempster**	**89.57**	**25**	P	**P**	**21 05 21.6**	**0.0**
	baz=264						
S32K	**Killisnoo**	**89.75**	**33**	P	**P**	**21 05 22.2**	**-0.2**
	baz=266						
G30M	**tAoh Zraii Nji**	**89.81**	**23**	P	**P**	**21 05 22.4**	**-0.1**
	baz=264						
WHY	**Whitehorse**	**89.84**	**29**	IAmb	IAmb	21 05 24.8	
	comp=Z,7.0nm,1.0s						
WHY	**Whitehorse**	**89.84**	**29**	P	**P**	**21 05 23.5**	**+0.6**
	baz=266						
R32K	**Eaglecrest**	**89.84**	**32**	P	**P**	**21 05 22.9**	**+0.1**
	baz=266						
F30M	**Barrier River**	**90.04**	**22**	P	**P**	**21 05 24.2**	**+0.6**
	baz=265						
M31M	**Drury Creek, Y**	**90.19**	**28**	P	**P**	**21 05 24.2**	**-0.2**
	baz=266						
P32M	**Atlin**	**90.35**	**31**	P	**P**	**21 05 25.2**	**-0.1**
	baz=266						
U33K	**Whale Pass**	**90.47**	**34**	P	**P**	**21 05 25.7**	**0.0**
	baz=267						
H31M	**Peel River**	**90.47**	**24**	P	**P**	**21 05 26.4**	**+0.8**
	baz=266						
G31M	**Satah River**	**90.57**	**23**	P	**P**	**21 05 25.3**	**-0.7**
	baz=266						
FARO	**Faro, Yukon**	**90.68**	**28**	IAmb	IAmb	21 05 28.4	
	comp=Z,6.9nm,1.2s						
FARO	**Faro, Yukon**	**90.68**	**28**	P	**P**	**21 05 26.9**	**+0.2**
	baz=267						
N32M	**Quiet Lake**	**90.75**	**29**	P	**P**	**21 05 27.1**	**+0.1**
	baz=267						
F31M	**Tsiigehtchic**	**90.81**	**23**	P	**P**	**21 05 27.6**	**+0.5**
	baz=267						
P33M	**Teslin, Yukon**	**90.83**	**30**	P	**P**	**21 05 28.0**	**+0.5**
	baz=267						
WRAK	**Wrangell Islan**	**90.91**	**34**	P	**P**	**21 05 28.4**	**+0.5**
	baz=268						
INK	**Inuvik**	**90.94**	**22**	IAmb	IAmb	21 05 41.3	
	comp=Z,7.5nm,1.4s						
INK	**Inuvik**	**90.94**	**22**	P	**P**	**21 05 28.6**	**+0.9**
	baz=267						
INK	**Inuvik**	**90.94**	**22**	LR	LR	21 43 41.8	
	comp=Z,50nm,20.8s,baz=190,slow=34						
V35K	**Ketchikan**	**91.28**	**35**	P	**P**	**21 05 30.3**	**+0.7**
	baz=268						
S34M	**Telegraph Cree**	**91.62**	**32**	P	**P**	**21 05 31.4**	**+0.3**
	baz=269						
MMPY	**Sheldon Lake,**	**91.66**	**28**	P	**P**	**21 05 32.0**	**+0.7**
	baz=269						
R33M	**Jennings River**	**91.74**	**31**	P	**P**	**21 05 31.9**	**+0.1**
	baz=269						
DLBC	**Dease Lake**	**92.22**	**32**	P	**P**	**21 05 33.0**	**-1.0**
	baz=270						
BELG	**Belogornoye**	**92.56**	**322**	*d* iP	**P**	**21 05 33.9**	**-1.6**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
TGTN	**Hyland Airport**	**93.07**	**29**	P	**P**	**21 05 37.8**	**0.0**
	baz=271						
BBB	**Bella Bella**	**93.34**	**38**	LR	LR	21 39 37.4	
	comp=Z,85nm,20.2s,baz=288,slow=30						
RAYN	**Ar Rayn**	**94.15**	**293**	P	**P**	**21 05 42.4**	**-1.2**
RAYN				IAmb	IAmb	21 05 55.4	
	comp=Z,6.0nm,1.2s						
RAYN	**Ar Rayn**	**94.15**	**293**	P	**P**	**21 05 42.4**	**-1.2**
RAYN				pmax	pmax		
	comp=Z,6.0nm,1.3s						
C36M	**Paulatuk**	**94.35**	**21**	IAmb	IAmb	21 07 23.4	
	comp=Z,7.8nm,1.7s						
C36M	**Paulatuk**	**94.35**	**21**	P	**P**	**21 05 43.3**	**-0.2**
	baz=276						
TOAD	**Toad River Com**	**94.71**	**31**	P	**P**	**21 05 45.0**	**-0.3**
	baz=274						
ELIB	**Princess Elisa**	**95.80**	**196**	*d*P	**P**	**21 05 52.1**	**+1.8**
YBH	**Yreka Blue Hor**	**97.49**	**48**	LR	LR	21 41 07.7	
	comp=Z,131nm,21.7s,baz=316,slow=30						
SPITS	**Spitsbergen Ar**	**98.45**	**350**	LR	LR	21 49 36.5	
	comp=Z,76nm,21.4s,baz=24,slow=35						
OBN	**Obninsk**	**98.89**	**325**	*e*P	Pdif	21 06 04.8	+0.5
OBN				*e*		21 10 06.9	
OBN				*e*PPP	PPP	21 12 14.2	
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
YKA	**Yellowknife Ar**	**99.33**	**27**	P	**Pdif**	**21 06 05.0**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=292,slow=5.1,SNR=10.0						
YKA				LR	LR	21 48 00.4	
	comp=Z,83nm,19.9s,baz=286,slow=34						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**99.33**	**27**	*i* P	**Pdif**	**21 06 06.9**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ARCES	**ARCESS Array B**	**100.06**	**341**	P	**Pdif**	**21 06 08.3**	**-1.0**
	comp=Z,2.9nm,0.7s,baz=60,slow=2.9,SNR=5.0						
SMMC	**Simmler**	**100.09**	**55**	P	**Pdif**	**21 06 09.1**	**-1.1**
	baz=275						
PKM	**Mcpherson Peak**	**100.27**	**55**	P	**Pdif**	**21 06 10.5**	**-0.7**
	baz=275						
NVAR	**Mina Array Bea**	**101.15**	**51**	P	**Pdif**	**21 06 15.2**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=255,slow=4.6,SNR=3.6						
CIS	**Catalina Islan**	**101.55**	**56**	P	**Pdif**	**21 06 16.5**	**-0.2**
	baz=275						
FMP	**Fort Macarthur**	**101.62**	**56**	P	**Pdif**	**21 06 16.5**	**-0.5**
	baz=275						
FINES	**FINESS Array B**	**102.70**	**333**	P	**Pdif**	**21 06 20.4**	**-0.7**
	comp=Z,2.5nm,0.9s,baz=9.5,slow=4.2,SNR=5.9						
MONP2	**Monument Peak**	**103.27**	**57**	P	**Pdif**	**21 06 23.9**	**-0.7**
	baz=276						
R11B	**Troy Canyon, C**	**103.28**	**51**	P	**Pdif**	**21 06 23.2**	**-1.3**
	baz=278						
DUG	**Duguay, Tooele**	**105.11**	**49**	P	**PKiKP**	**21 10 46.4**	**-0.7**
	baz=280						
EGMT	**Eagleton**	**105.58**	**41**	P	**PKiKP**	**21 10 46.8**	**-0.8**
	baz=285						
CLL	**Collm**	**113.45**	**326**	*e*Pdif	**Pdif**	**21 07 09.0**	**-0.2**
CLL				*e*PKiKP	**PKiKP**	**21 11 02.0**	**-0.2**
CLL				*e*PP	**PP**	**21 11 49.0**	**-4.2**
P38A	**Dawn**	**119.42**	**45**	PKPdf	**PKPdf**	**21 11 13.4**	**-0.7**
S39A	**Bolivar**	**120.35**	**47**	PKPdf	**PKPdf**	**21 11 15.6**	**-0.3**
MIAR	**Mount Ida**	**121.36**	**50**	P	**PKPdf**	**21 11 16.8**	**-1.1**
	baz=292						
CCM	**Cathedral Cave**	**121.70**	**46**	P	**PKPdf**	**21 11 17.9**	**-0.6**
	baz=295						
SCHQ	**Schefferville**	**123.33**	**18**	PKP	**PKPdf**	**21 11 20.6**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=314,slow=4.4,SNR=5.7						
OXF	**Oxford**	**124.54**	**49**	P	**PKPdf**	**21 11 23.1**	**-0.9**
	baz=295						
O48B	**Farmland**	**124.81**	**41**	P	**PKPdf**	**21 11 23.8**	**-0.6**
	baz=302						
WVT	**Waverly**	**125.00**	**46**	P	**PKPdf**	**21 11 24.3**	**-0.6**
	baz=297						
WCI	**Wyandotte Cave**	**125.09**	**43**	P	**PKPdf**	**21 11 24.9**	**-0.1**
	baz=300						
P49A	**Miami Univ. Ec**	**125.48**	**41**	P	**PKPdf**	**21 11 24.7**	**-1.0**
	baz=302						
ACSO	**Alum Creek Sta**	**126.22**	**40**	P	**PKPdf**	**21 11 26.0**	**-1.1**
	baz=304						
ERPA	**Erie**	**126.95**	**36**	P	**PKPdf**	**21 11 27.7**	**-0.7**
	baz=308						
LRAL	**Lakeview Retre**	**126.98**	**49**	P	**PKPdf**	**21 11 27.7**	**-1.0**
	baz=296						
P52A	**Corning**	**127.10**	**40**	P	**PKPdf**	**21 11 27.7**	**-1.1**
	baz=304						
O53A	**New Philadelph**	**127.33**	**39**	P	**PKPdf**	**21 11 27.7**	**-1.5**
	baz=306						
TZTN	**Tazewell**	**127.82**	**44**	P	**PKPdf**	**21 11 29.5**	**-0.8**
	baz=301						
LONY	**Lake Ozonia**	**128.25**	**30**	P	**PKPdf**	**21 11 30.3**	**-0.5**
	baz=315						
SSPA	**Standing Stone**	**129.11**	**36**	P	**PKPdf**	**21 11 31.7**	**-0.9**
	baz=309						
BINY	**Binghamton**	**129.18**	**33**	P	**PKPdf**	**21 11 32.7**	**0.0**
	baz=312						
GOGA	**Godfrey**	**129.44**	**47**	P	**PKPdf**	**21 11 33.3**	**-0.1**
	baz=299						
ESDC	**Sonseca Array**	**129.77**	**323**	PKP	**PKPdf**	**21 11 33.7**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=12,slow=0.4,SNR=1.3						
LBNH	**Lisbon**	**129.84**	**29**	P	**PKPdf**	**21 11 33.7**	**-0.2**
	baz=318						
KMSC	**Kings Mountain**	**130.09**	**44**	P	**PKPdf**	**21 11 34.4**	**-0.3**
	baz=302						
HRV	**Adam Dziewonsk**	**131.29**	**30**	P	**PKPdf**	**21 11 36.2**	**-0.5**
	baz=317						
TORD	**Torodi Ar. Bea**	**136.48**	**287**	PKP	**PKPdf**	**21 11 47.4**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=50,slow=3.1,SNR=6.0						
DBIC	**Dimbokro**	**143.81**	**278**	PKP	PKPab	21 11 57.7	+0.3
	comp=Z,3.6nm,0.6s,baz=30,slow=2.4,SNR=7.6						
PB11	**IPOC Station P**	**144.37**	**129**	PKPdf	PKPbc	21 12 00.5	+0.6
LPAZ	**La Paz**	**147.47**	**125**	PKPbc	**PKPbc**	**21 12 10.1**	**+0.1**
	comp=Z,5.0nm,0.7s,baz=296,slow=2.5,SNR=18						
CPUP	**Villa Florida**	**147.58**	**152**	PKPbc	**PKPbc**	**21 12 09.4**	**+0.2**
	comp=Z,2.8nm,0.7s,baz=212,slow=2.5,SNR=4.0						

NEIC ***03*** *20:55:50.7±0.5, 19°.38N±0°.02×155°.10W±0°.01, h5km±2km, Error ellipse: s-maj=4.0km s-min=1.8km az=153.0*

HVO 03 20:55:49.7±0.7, 19°.33N±0°.04×155°.05W±0°.02, h6km±3km, ML2.8/39, ML2.9/48(NEIC), Error ellipse: s-maj=5.5km s-min=1.2km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.07**	**318**		Pg	20 55 51.8	+0.4
JCUZ					IAML	20 55 54.0	
	comp=E,6μm,0.1s						
NPOC	**North of Pu'u**	**0.08**	**318**		Pg	20 55 52.0	+0.3
NPOC					IAML	20 55 53.9	
	comp=N,7μm,0.2s						
NPOC					IAML	20 55 54.0	
	comp=E,4μm,0.2s						
STCH	**Steam Cracks**	**0.09**	**307**		Pg	20 55 52.1	+0.4
STCH	**Steam Cracks**	**0.09**	**307**		IAML	20 55 54.3	
	comp=E,9μm,0.2s						
STCH					IAML	20 55 54.9	
	comp=N,7μm,0.2s						
JOKA	**Jonika Flow**	**0.11**	**24**		Pg	20 55 52.4	+0.3
KNHH	**Kane Nui o Ham**	**0.12**	**293**		Pg	20 55 52.6	+0.3
PUH	**Pauahi**	**0.16**	**285**		Pg	20 55 53.1	+0.2
BYL	**Byron's Ledge**	**0.21**	**292**		Pg	20 55 54.0	0.0
BYL					IAML	20 56 00.5	
	comp=N,2μm,0.8s						
KKO	**Keanakako`i**	**0.21**	**288**		Pg	20 55 53.8	-0.1
KKO					IAML	20 56 01.2	
	comp=E,2μm,0.6s						
HATHI	**Halema'uma'u T**	**0.22**	**295**		Pg	20 55 53.9	-0.1
HATHI					IAML	20 56 01.7	
	comp=N,2μm,0.6s						
HATHI					IAML	20 56 01.7	
	comp=E,2μm,0.5s						
RIM	**Rim**	**0.22**	**287**		Pg	20 55 54.0	-0.1
RIM					IAML	20 56 01.3	
	comp=N,2μm,0.3s						
SBLHI	**Steaming Bluff**	**0.22**	**295**		Pg	20 55 54.0	-0.2
NPH	**North Pit**	**0.23**	**290**		Pg	20 55 54.0	-0.3
UWB	**Uwekahuna B**	**0.23**	**293**		Pg	20 55 54.1	-0.2
OBL	**Observatory Le**	**0.23**	**291**		Pg	20 55 54.3	0.0
OBL					IAML	20 56 01.9	
	comp=N,3μm,0.4s						
OBL					IAML	20 56 02.9	
	comp=E,2μm,0.4s						
SDHHI	**Sand Hill**	**0.23**	**284**		Pg	20 55 54.3	0.0
SDHHI					IAML	20 56 01.7	
	comp=E,2μm,0.3s						
SDHHI					IAML	20 56 02.7	
	comp=N,2μm,0.4s						
HLP	**Hilina Pali**	**0.24**	**261**		Pg	20 55 54.6	0.0
HLP					IAML	20 56 00.5	
	comp=N,2μm,0.1s						
HLP					IAML	20 56 00.9	
	comp=E,2μm,0.2s						
UWE	**Uwekahuna**	**0.24**	**291**		Pg	20 55 54.5	-0.1
UWE					IAML	20 56 00.1	
	comp=N,2μm,0.4s						
UWE					IAML	20 56 02.9	
	comp=E,2μm,0.4s						
WRMHI	**West Rim**	**0.24**	**287**		Pg	20 55 54.3	-0.2
WRMHI					IAML	20 56 01.6	
	comp=N,2μm,0.7s						
WRMHI					IAML	20 56 02.8	
	comp=E,2μm,0.3s						
RSD	**Rainshed**	**0.25**	**301**		Pg	20 55 54.5	-0.1
RSD					IAML	20 55 59.8	
	comp=N,3μm,0.3s						
MLH	**Mauna Loa**	**0.35**	**297**		Pg	20 55 56.1	-0.5
MLH					IAML	20 56 03.3	
	comp=N,2μm,0.4s						
HMH	**Humu'ula Sheep**	**0.49**	**304**		Pg	20 55 59.2	0.0
MLOA	**Mauna Loa Obse**	**0.53**	**292**		Pg	20 55 59.7	-0.4
MWH	**Moku'aweowe**	**0.54**	**286**		Pg	20 55 59.6	-0.6
KHU	**Kahuku**	**0.54**	**261**		Pg	20 55 59.6	-0.5
KHU					IAML	20 56 12.8	
	comp=E,779nm,0.3s						
KHU					IAML	20 56 16.1	
	comp=N,784nm,0.5s						
POHA	**Pohakuloa**	**0.62**	**313**		Pg	20 56 00.7	-1.0
HUH	**Hualalai**	**0.82**	**295**		Pg	20 56 03.9	-1.5
HPAH	**Hawaii Prepara**	**0.92**	**319**		Pg	20 56 04.6	-2.8
MHA	**Mahukona**	**1.17**	**317**	Pg	Pg	20 56 08.2	-3.9

JMA 03 20:59:36.5±0.1, 38°.5N±0°.3×141°.3E±0°.5, h99km, MV2.9/34, NORTHERN MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIO	**Ouri**	**0.08**	**167**	*i* P	Pn	20 59 50.4	+0.1
JIO				S	Sn	21 00 00.6	+0.1
JIKH	**Ishinomakikobu**	**0.24**	**154**	*i* P	Pn	20 59 50.9	+0.1
JIKH				S	Sn	21 00 01

SKR	**Severo-Kuril's**	**1.81**	**360**	*e*P		**Pn**	**21 40 25.0**	**+0.6**
SKR					AMB	AMB	21 40 25.5	
	100nm,0.5s							
SKR				*e*S		**Sn**	**21 40 47.0**	**+0.9**
SKR					A	A	21 40 58.4	
	800nm,0.5s							
SKR					A	A	21 40 58.4	
	560nm,0.5s							
SKR	**Severo-Kuril's**	**1.81**	**360**	PN		**Pn**	**21 40 25.0**	**+0.6**
SKR				S		**Sn**	**21 40 48.5**	**+2.4**
PAU	**Pauzhetka**	**2.63**	**9**	*e*P		**Pn**	**21 40 37.7**	**+2.0**
PAU	**Pauzhetka**	**2.63**	**9**	*e*P		**Pn**	**21 40 37.8**	**+2.0**
PAU					AMB	AMB	21 40 41.3	
	120nm,0.3s							
PAU				*e*S		**Sn**	**21 41 08.3**	**+1.9**
PAU					A	A	21 41 10.5	
	310nm,0.3s							
PAU					A	A	21 41 10.5	
	290nm,0.3s							
PAU	**Pauzhetka**	**2.63**	**9**	PN		**Pn**	**21 40 37.7**	**+2.0**
KDTR	**Khodutka, Kamc**	**3.19**	**22**	*e*P		**Pn**	**21 40 42.6**	**-0.8**
KDTR				*e*S		**Sn**	**21 41 19.3**	**-0.9**
KDTR	**Khodutka, Kamc**	**3.19**	**22**	*e*P		**Pn**	**21 40 42.6**	**-0.8**
KDTR	**Khodutka, Kamc**	**3.19**	**22**	PN		**Pn**	**21 40 42.6**	**-0.8**
KDTR				S		**Sn**	**21 41 19.3**	**-0.9**
ASAK	**Asacha**	**3.69**	**17**	*e*P		**Pn**	**21 40 51.0**	**+0.7**
ASAK	**Asacha**	**3.69**	**17**	PN		**Pn**	**21 40 51.0**	**+0.7**
MTVR	**Mutnovka**	**3.84**	**19**	*e*P		**Pn**	**21 40 52.6**	**+0.1**
MTVR				*e*S		**Sn**	**21 41 37.5**	**+1.0**
MTVR	**Mutnovka**	**3.84**	**19**	PN		**Pn**	**21 40 52.6**	**+0.1**
MTVR				S		**Sn**	**21 41 37.5**	**+1.0**
RUS	**Russkaya**	**3.87**	**22**	*e*P		**Pn**	**21 40 51.9**	**-0.8**
RUS	**Russkaya**	**3.87**	**22**	*e*P		**Pn**	**21 40 51.9**	**-0.8**
RUS	**Russkaya**	**3.87**	**22**	PN		**Pn**	**21 40 51.9**	**-0.8**
KRMR	**Karymshinskiy**	**4.16**	**17**	*e*P		**Pn**	**21 40 58.2**	**+1.5**
KRMR	**Karymshinskiy**	**4.16**	**17**	*e*P		**Pn**	**21 40 58.2**	**+1.5**
KRMR	**Karymshinskiy**	**4.16**	**17**	PN		**Pn**	**21 40 58.2**	**+1.5**
PEA0B	**Petropavlovsk-**	**4.35**	**13**			**Pn**	**21 41 00.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.35**	**13**	⇓	*e*PN	**Pn**	**21 41 00.8**	**+1.4**
PETK	**Petropavlovsk-**	**4.35**	**13**			**Pn**	**21 41 00.5**	**+1.1**
PETK	**Petropavlovsk-**	**4.35**	**13**	Pn		**Pn**	**21 41 00.1**	**+0.7**
	1.9nm,0.3s,baz=171,slow=13,SNR=24							
PETK					Sn	**Sb**	**21 41 59.1**	**-4.3**
	baz=143,slow=15							
PETK					LR	LR	21 42 52.9	
	comp=Z,93nm,19.0s,baz=164,slow=43							
PETK	**Petropavlovsk-**	**4.35**	**13**	PN		**Pn**	**21 41 00.5**	**+1.1**
PET	**Petropavlovsk**	**4.45**	**20**			**Pn**	**21 41 02.1**	**+1.4**
PET	**Petropavlovsk**	**4.45**	**20**	*e*P		**Pn**	**21 41 02.3**	**+1.7**
PET	**Petropavlovsk**	**4.45**	**20**	*e*P		**Pn**	**21 41 02.3**	**+1.3**
PET					AMB	AMB	21 41 02.5	
	20nm,0.2s							
PET				*e*S		**Sn**	**21 41 51.3**	**+0.1**
PET					A	A	21 42 03.0	
	60nm,0.5s							
PET					A	A	21 42 03.0	
	90nm,0.5s							
PET	**Petropavlovsk**	**4.45**	**20**	*e*PN		**Pn**	**21 41 01.3**	**+0.6**
PET				*e*S		**Sn**	**21 41 51.1**	**-0.1**
PET					pmax	pmax		
	comp=Z,20nm,0.5s							
PET					smax	smax		
	comp=N,134nm,0.6s							
PET					smax	smax		
	comp=E,106nm,0.6s							
DALK	**Dalny**	**4.48**	**21**	*e*P		**Pn**	**21 41 01.1**	**0.0**
DALK	**Dalny**	**4.48**	**21**	PN		**Pn**	**21 41 01.1**	**0.0**
UGLR	**Uglovaya**	**4.66**	**20**	*e*P		**Pn**	**21 41 04.7**	**+1.0**
UGLR	**Uglovaya**	**4.66**	**20**	PN		**Pn**	**21 41 04.7**	**+1.0**
KOK	**Koryaka**	**4.70**	**19**	*e*P		**Pn**	**21 41 05.7**	**+1.5**
KOK	**Koryaka**	**4.70**	**19**	*e*P		**Pn**	**21 41 05.7**	**+1.5**
KOK	**Koryaka**	**4.70**	**19**	PN		**Pn**	**21 41 05.7**	**+1.5**
SMAR	**Somma**	**4.71**	**20**	*e*P		**Pn**	**21 41 05.4**	**+1.0**
SMAR	**Somma**	**4.71**	**20**	PN		**Pn**	**21 41 05.4**	**+1.0**
KRER	**Koryakskii**	**4.73**	**19**	*e*P		**Pn**	**21 41 06.2**	**+1.4**
KRER	**Koryakskii**	**4.73**	**19**	PN		**Pn**	**21 41 06.2**	**+1.4**
KRX	**Arik**	**4.76**	**19**	*e*P		**Pn**	**21 41 06.5**	**+1.4**
KRX	**Arik**	**4.76**	**19**	PN		**Pn**	**21 41 06.5**	**+1.4**
GNL	**Ganaly**	**4.96**	**13**	*e*P		**Pn**	**21 41 09.5**	**+1.7**
GNL	**Ganaly**	**4.96**	**13**	PN		**Pn**	**21 41 09.5**	**+1.7**
KII	**Karymskiy**	**5.57**	**21**	*e*P		**Pn**	**21 41 17.0**	**+0.9**
KII	**Karymskiy**	**5.57**	**21**	PN		**Pn**	**21 41 17.0**	**+0.9**
TUMD	**Tumrok D**	**6.86**	**21**	*e*P		**Pn**	**21 41 34.1**	**+0.2**
TUMR	**Tumrok**	**6.88**	**20**	PN		**Pn**	**21 41 34.1**	**0.0**
SHO	**Shikotan**	**8.14**	**236**	*e*P		**Pn**	**21 41 51.9**	**+0.5**
SHO				*e*S		**Sn**	**21 43 18.9**	**-3.3**
NMR	**Nemuro--Hokkai**	**9.07**	**237**	*e*P		**Pn**	**21 42 01.7**	**-2.5**
JKA	**Kamikawa-asahi**	**10.46**	**248**	Pn		**Pn**	**21 42 25.4**	**+2.2**
JKA	**Kamikawa-asahi**	**10.46**	**248**	*e*P		**Pn**	**21 42 25.4**	**+2.2**
ASAJ	**Asahikawa**	**10.47**	**248**	Pn		**Pn**	**21 42 25.1**	**+1.9**
	comp=E,0.8nm,0.3s,baz=80,slow=7.7,SNR=6.0							
	comp=E,9.6nm,0.6s							
ASAJ	**Asahikawa**	**10.47**	**248**	PN		**Pn**	**21 42 25.4**	**+2.2**
MA2	**Magadan**	**11.16**	**346**	Pn		**Pn**	**21 42 33.8**	**+1.1**
	comp=E,2.0nm,0.2s,baz=171,slow=19,SNR=1.4							
MA2					LR	LR	21 47 30.1	
	comp=E,83nm,18.3s,baz=163,slow=42							
ERM	**Erimo**	**11.39**	**238**	Pn		**Pn**	**21 42 38.0**	**+2.1**
ERM	**Erimo**	**11.39**	**238**	PN		**Pn**	**21 42 38.0**	**+2.1**
AMKA	**Amchitka**	**15.06**	**72**	Pn		**P**	**21 43 31.7**	**+1.0**
KLR	**Kul'dur**	**15.97**	**280**	Pn		**Pn**	**21 43 37.6**	**0.0**
	comp=E,0.1nm,0.3s,baz=148,slow=3.5,SNR=1.5							
KLR					LR	LR	21 50 17.1	
	comp=E,118nm,18.6s,baz=85,slow=39							
	comp=E,0.4nm,0.3s							
USRK	**Ussuriysk Ar.**	**17.22**	**263**	P		**P**	**21 43 54.5**	**-0.2**
	comp=E,0.2nm,0.3s,baz=65,slow=12,SNR=4.2							
	comp=E,1.6nm,0.6s							
MJAR	**Matsushiro Arr**	**17.98**	**233**	P		**P**	**21 44 03.9**	**+0.7**
	baz=247,slow=31,SNR=2.4							
	comp=E,0.8nm,0.7s							
YAK	**Yakutsk**	**19.77**	**322**	LR		LR	21 52 22.3	
	comp=E,43nm,19.2s,baz=90,slow=38							
BILL	**Bilibino**	**19.88**	**11**	⇑	*i*P	**P**	**21 44 24.1**	**+0.4**
BILL					pmax	pmax		
	comp=Z,2.0nm,0.6s							
KSRS	**Korea Array**	**23.39**	**251**	P		**P**	**21 45 01.3**	**+0.1**
	comp=Z,1.1nm,0.4s,baz=47,slow=11,SNR=3.0							
KSRS					LR	LR	21 53 51.8	
	comp=Z,63nm,18.8s,baz=40,slow=36							
	comp=Z,1.1nm,0.4s							
TIXI	**Tiksi**	**26.06**	**341**	P		**P**	**21 45 24.7**	**-0.7**
TIXI	**Tiksi**	**26.06**	**341**	LR		LR	21 57 15.2	
	comp=Z,41nm,18.4s,baz=190,slow=40							
TIXI	**Tiksi**	**26.06**	**341**	⇑	*e*P	**P**	**21 45 23.4**	**-2.1**
TIXI					pmax	pmax		
	comp=Z,3.0nm,0.8s							
C16K	**Lisburne Hills**	**27.21**	**30**	P		**P**	**21 45 37.1**	**+1.4**
C16K					IAmb	IAmb	21 45 53.3	
	comp=Z,11nm,1.1s							
H11N2	**WAKE ISLAND Hy**	**30.34**	**160**	T		T	22 18 14.9	
	baz=344							
H11N1	**WAKE ISLAND Hy**	**30.36**	**160**	T		T	22 18 12.5	
	baz=344							
H11N3	**WAKE ISLAND Hy**	**30.36**	**160**	T		T	22 18 18.2	
	baz=344							
B21K	**Ikpikpuk River**	**31.30**	**31**	P		**P**	**21 46 13.6**	**+1.5**
B21K					IAmb	IAmb	21 46 27.1	
	comp=Z,3.2nm,0.8s							
H11S1	**WAKE ISLAND Hy**	**31.48**	**161**	T		T	22 19 40.1	
	baz=348							
H11S3	**WAKE ISLAND Hy**	**31.49**	**161**	T		T	22 19 36.4	
	baz=348							
H11S2	**WAKE ISLAND Hy**	**31.50**	**161**	T		T	22 19 37.0	
	baz=348							
ILAR	**Eielson Array**	**33.62**	**40**	P		**P**	**21 46 32.7**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=243,slow=6.0,SNR=2.0							
	comp=Z,0.2nm,0.6s							
D25K	**Kavik River**	**34.09**	**32**	P		**P**	**21 46 37.7**	**+1.1**
D27M	**Malcolm River**	**36.01**	**33**	P		**P**	**21 46 54.7**	**+1.6**
D27M						**pwP**	**21 47 07.5**	**+0.4**
DAWY	**Dawson**	**36.91**	**41**			**S**	**21 52 46.0**	**+2.9**
A36M	**Sachs Harbour**	**41.03**	**28**			pP	21 47 50.1	+6.3
ZALV	**Zalesovo Beam**	**43.03**	**305**	P		**P**	**21 47 49.9**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=60,slow=8.5,SNR=2.7							
	comp=Z,0.5nm,0.4s							
EUNU	**Eureka**	**46.63**	**12**	P		**P**	**21 48 21.2**	**+1.2**
MKAR	**Makanchi Array**	**47.77**	**297**	P		**P**	**21 48 28.2**	**-1.1**
	comp=Z,0.8nm,0.8s,baz=61,slow=8.5,SNR=5.1							
	comp=Z,0.8nm,0.8s							
MKAR	**Makanchi Array**	**47.77**	**297**	*e*P		**P**	**21 48 28.9**	**-0.4**
MKAR	**Makanchi Array**	**47.77**	**297**	*e*P		**P**	**21 48 28.9**	**-0.4**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.8s							
KURK	**Kurchatov**	**47.88**	**303**	*e*P		**P**	**21 48 29.7**	**-0.4**
KURK	**Kurchatov**	**47.88**	**303**	⇓	*e*P	**P**	**21 48 29.7**	**-0.4**
KURK					pmax	pmax		
	comp=Z,3.0nm,0.8s							
KURBB	**Kurchatov Arra**	**47.98**	**303**	P		**P**	**21 48 30.3**	**-0.5**
	comp=Z,1.1nm,0.6s,baz=66,slow=8.6,SNR=4.9							
	comp=Z,1.1nm,0.6s							
YKA	**Yellowknife Ar**	**48.00**	**39**	P		**P**	**21 48 29.1**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=300,slow=8.0,SNR=4.1							
	comp=Z,0.3nm,0.8s							
SPITS	**Spitsbergen Ar**	**50.87**	**350**	P		**P**	**21 48 51.4**	**-1.2**
	comp=Z,12nm,1.0s,baz=25,slow=3.8,SNR=1.9							
	comp=Z,12nm,1.0s							
BVAR	**Borovoye Array**	**51.08**	**309**	P		**P**	**21 48 53.9**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=64,slow=6.8,SNR=5.6							
	comp=Z,0.4nm,0.4s							
BRVK	**Borovoye**	**51.11**	**309**	*e*P		**P**	**21 48 54.4**	**-0.3**
BRVK	**Borovoye**	**51.11**	**309**	⇓	*e*P	**P**	**21 48 54.4**	**-0.3**
BRVK					pmax	pmax		
	comp=Z,8.0nm,3.5s							
AAK	**Ala-Archa**	**54.70**	**297**	LR		LR	22 14 09.1	
	comp=Z,32nm,19.8s,baz=45,slow=38							
ARU	**Arti**	**54.81**	**318**	P		**P**	**21 49 21.1**	**-0.8**
ARU					IAmb	IAmb	21 49 22.7	
	comp=Z,3.9nm,0.9s							
ARU	**Arti**	**54.81**	**318**	*e*P		**P**	**21 49 20.7**	**-1.1**
ARU	**Arti**	**54.81**	**318**	*d*P		**P**	**21 49 20.7**	**-1.1**
ARU					*PP	**sP**	**21 49 33.3**	**-0.4**
ARU							21 51 20.5	
ARU					S	**S**	**21 56 51.7**	**-8.4**
ARU					pmax	pmax		
	comp=Z,4.0nm,0.8s							
CMAR	**Chiang Mai Arr**	**54.83**	**257**	P		**P**	**21 49 23.6**	**+1.1**
	comp=Z,0.9nm,0.7s,baz=30,slow=7.1,SNR=6.6							
	comp=Z,0.9nm,0.7s							
SUMG	**Summit**	**58.42**	**5**			pP	21 50 01.4	+4.6
ABKAR	**Akbulak array**	**58.61**	**310**	P		**P**	**21 49 48.9**	**0.0**
ABKAR					IAmb	IAmb	21 50 01.0	
	comp=Z,3.0nm,1.2s							
ABKAR						**sP**	**21 50 01.2**	**+0.1**
GMN	**Gold Mountain**	**61.03**	**65**	P		P	21 50 12.9	+6.8
GMN					IAmb	IAmb	21 50 37.1	
	comp=Z,3.1nm,0.8s							
PDAR	**Pinedale Array**	**61.87**	**56**	P		**P**	**21 50 11.5**	**-0.1**
	comp=Z,0.2nm,0.7s,baz=256,slow=3.6,SNR=2.6							
	comp=Z,0.2nm,0.7s							
FINES	**FINESS Array B**	**62.96**	**336**	P		**P**	**21 50 17.4**	**-0.9**
	comp=Z,1.0nm,0.5s,baz=34,slow=8.6,SNR=12							
FINES					LR	LR	22 20 54.7	
	comp=Z,35nm,18.1s,baz=352,slow=39							
	comp=Z,1.0nm,0.5s							
FINES	**FINESS Array B**	**62.96**	**336**	*i* P		**P**	**21 50 18.7**	**+0.4**
FINES					pmax	pmax		
	comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**66.84**	**342**	LR		LR	22 24 31.1	
	comp=Z,20nm,19.8s,baz=45,slow=40							
KBZ	**Khabaz**	**70.81**	**315**	P		**P**	**21 51 07.8**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=360,slow=4.2,SNR=5.2							
	comp=Z,1.7nm,0.7s							
KBZ	**Khabaz**	**70.81**	**315**	*e*P		**P**	**21 51 11.8**	**+3.3**
KBZ					pmax	pmax		
	comp=Z,2.0nm,0.7s							
AKASG	**Malin Array Be**	**70.88**	**327**	P		**P**	**21 51 08.2**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.7,SNR=2.0							
	comp=Z,0.3nm,0.4s							
WRA	**Warramunga Arr**	**71.21**	**202**	P		**P**	**21 51 10.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=17,slow=5.9,SNR=2.9							
	comp=Z,0.4nm,0.7s							
TXAR	**Lajitas Array**	**74.70**	**63**	P		**P**	**21 51 30.7**	**-1.2**
	comp=Z,0.1nm,0.5s,baz=311,slow=5.5,SNR=2.1							
	comp=Z,0.1nm,0.5s							
EKA	**Eskdalemuir Ar**	**74.72**	**348**	P		**P**	**21 51 32.2**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=20,slow=5.3,SNR=6.2							
	comp=Z,0.4nm,0.3s							
CLL	**Collm**	**75.33**	**337**	*i* P		**P**	**21 51 35.7**	**+0.6**
	comp=Z,4.0nm,0.7s							
CLL				*es*P		**pwP**	**21 51 52.0**	**+3.2**
CLL	**Collm**	**75.33**	**337**	*i* P		**P**	**21 51 35.7**	**+0.6**
CLL					pmax	pmax		
	comp=Z,4.0nm,0.7s							
VRAC	**Vranov**	**76.16**	**334**	LR		LR	22 28 59.7	
	comp=Z,34nm,18.7s,baz=216,slow=39							
BRTR	**Keskin Array B**	**78.19**	**318**	P		**P**	**21 51 51.7**	**+0.1**
	comp=Z,0.9nm,0.9s,baz=50,slow=3.9,SNR=5.7							
	comp=Z,0.9nm,0.9s							
BRTR	**Keskin Array B**	**78.19**	**318**	*e*P		**P**	**21 51 52.8**	**+1.1**
BRTR					pmax	pmax		
	comp=Z,1.0nm,0.9s							
MMAI	**Mount Meron Ar**	**82.88**	**313**	P		**P**	**21 52 17.9**	**+1.1**
	comp=Z,1.0nm,0.5s,baz=36,slow=7.7,SNR=6.7							
MMAI					LR	LR	22 35 31.6	
	comp=Z,44nm,18.1s,baz=154,slow=40							
	comp=Z,1.0nm,0.5s							

IDC 03 21:45:07.3±22.0, 17°.12S×176°.59W, h317km±173km, mb3.0/3, mbtmp3.7/3, Error ellipse: s-maj=367.3km s-min=53.7km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.48**	**259**	P	P	21 53 02.9	-0.9
	0.1nm,0.3s,baz=96,slow=7.1,SNR=2.0						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**46.67**	**253**	P	P	21 53 05.5	+0.2
	1.1nm,0.4s,baz=89,slow=7.7,SNR=22						
	1.1nm,0.4s						
ILAR	**Eielson Array**	**84.74**	**12**	P	P	21 57 05.5	-0.1
	0.3nm,0.4s,baz=225,slow=4.7,SNR=5.7						
	0.3nm,0.4s						
BRTR	**Keskin Array B**	**145.43**	**317**	PKPbc	PKPbc	22 04 08.5	-0.3
	0.4nm,0.6s,baz=72,slow=4.7,SNR=3.2						
MMAI	**Mount Meron Ar**	**147.14**	**305**	PKPbc	PKPbc	22 04 12.6	-1.2
	0.4nm,0.4s,baz=90,slow=4.3,SNR=3.5						

*IDC **03** 22:16:43.5±2.0, 0°.94N×124°.55E, h0km, mb3.6/3, mbtmp3.7/3, Error ellipse: s-maj=128.6km s-min=28.0km az=58.0*
*DJA **03** 22:17:00.6±0.5, 0°.5S±3°.3×12°.3E±°, h134km±5km, M3.7/8, MLv3.7/8*
ISC 03 22:17:00.3±0.9, 0°.16S±0°.07×123°.25E±0°.06, h150km, n11, σ1s93/15, mb3.7/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**0.82**	**343**	P	**Pn**	**22 17 24.2**	**+0.5**
GTOI				S	**Sn**	**22 17 41.5**	**-0.1**
LUWI	**Luwuk**	**1.00**	**209**	P	**Pn**	**22 17 24.5**	**-0.7**
LUWI				S	**Sn**	**22 17 42.1**	**-2.0**
KMSI	**Cibinong**	**1.03**	**45**	P	**Pn**	**22 17 24.7**	**-0.6**
KMSI				S	**Sn**	**22 17 44.1**	**-0.3**
MRSI	**Marisa**	**1.46**	**296**	P	**Pn**	**22 17 27.5**	**-1.9**
MRSI				S	**Sn**	**22 17 47.0**	**-4.7**
SANI	**Sanana**	**3.32**	**125**	P	**Pn**	**22 17 49.8**	**-2.0**
MPSI	**Mapaga**	**3.39**	**278**	P	**Pn**	**22 17 53.4**	**+0.7**
LBMI	**Labuha**	**4.27**	**96**	P	**Pn**	**22 18 04.5**	**+0.3**
TTSI	**Tana Toraja**	**4.47**	**230**	P	**Pn**	**22 18 08.4**	**+1.5**
WRA	**Warramunga Arr**	**22.46**	**152**	P	**P**	**22 21 48.6**	**+1.3**
	0.5nm,0.4s,baz=334,slow=10,SNR=4.8						
	0.5nm,0.4s						
CMAR	**Chiang Mai Arr**	**30.21**	**309**	P	**P**	**22 22 59.1**	**+2.1**
	0.6nm,0.3s,baz=132,slow=7.4,SNR=1.2						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**58.88**	**328**	P	**P**	**22 26 42.9**	**-0.6**
	0.3nm,0.3s,baz=126,slow=7.4,SNR=8.2						
	0.3nm,0.3s						

*IDC **03** 22:19:41.4±1.2, 23°.10N×120°.85E, h0km, mb3.7/4, mbtmp3.7/4, MS2.9/3, Error ellipse: s-maj=70.2km s-min=25.4km az=72.0*
*JMA **03** 22:19:43.7±0.1, 23°.2N±0°.2×120°.5E±0°.5, h1km±1km, MV4.1/14, TAIWAN REGION*
*NIED **03** 22:19:43.7, 23°.19N×120°.46E, h1km, MW4.1, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr-0.23; Mθθ1.23; Mφφ-1.00; Mrθ-0.77; Mθφ0.64; Mφr-0.27; Fault plane solution: M0 1.45000×10^15^ NP1: φs209.00000°, δ78.00000°, λ160.00000°. NP2: φs303.00000°, δ70.00000°, λ12.00000°.*
*TAP **03** 22:19:44.3, 23°.14N×120°.50E, h15km, ML4.2, B*
*ASIES **03** 22:19:44.3, 23°.14N×120°.50E, h15km, ML4.2, Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^21^Nm; Mrr5.85; Mθθ-2.10; Mφφ-7.28; Mrθ-1.84; Mθφ-1.49; Mφr-2.88; Fault plane solution: M0 7.73061×10^21^ NP1: φs202.32000°, δ58.29000°, λ97.32000°. NP2: φs8.58000°, δ32.46000°, λ78.34000°. Principal axes: T Plg75.5380°, Azm133.4860°; N Plg6.2270°, Azm18.4570°; P Plg13.0000°, Azm287.0140°;*

ISC 03 22:19:44.4±0.7, 23°.14N±0°.01×120°.48E±0°.01, h17km±4km, n156, σ0s87/269, mb4.0/4, MS2.6/3, 16C-36D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHN1	**Nanshi**	**0.06**	**45**	⇑	*i*P	**Pg**	**22 19 47.6**	**0.0**
CHN1	baz=33				*i* S	**Sg**	**22 19 50.1**	**+0.4**
	baz=33							
SNST	**Tainan City**	**0.08**	**10**	⇑	*i*P	**Pg**	**22 19 47.8**	**0.0**
SNST	baz=1.0				*i* S	**Sg**	**22 19 50.3**	**+0.4**
	baz=1.0							
SGST	**Jiashian**	**0.11**	**123**	⇓	*i*P	**Pg**	**22 19 47.4**	**-0.7**
SGST	baz=123				S	**Sg**	**22 19 50.3**	**-0.2**
	baz=123							
TWK	**Hsinying**	**0.12**	**2**	⇑	*i*P	**Pb**	**22 19 48.5**	**0.0**
TWK	baz=12				S	**Sb**	**22 19 51.6**	**+0.5**
	baz=12							
CHN3	**Shinhua**	**0.13**	**239**	⇓	*i*P	**Pb**	**22 19 49.1**	**+0.7**
CHN3	baz=251				*e*S	**Sb**	**22 19 52.8**	**+1.8**
	baz=251							
WTP	**Ta-pu**	**0.16**	**50**	⇓	*i*P	**Pb**	**22 19 49.0**	**0.0**
WTP	baz=40				S	**Sb**	**22 19 52.5**	**+0.4**
	baz=40							
SHHT	**Tainan City**	**0.17**	**226**	⇓	*i*P	**Pb**	**22 19 50.0**	**+0.8**
SHHT	baz=237				S	**Sb**	**22 19 54.3**	**+1.9**
	baz=237							
SSHA	**Shanhua**	**0.18**	**268**	⇓	*i*P	**Pb**	**22 19 49.9**	**+0.6**
SSHA	baz=276				S	**Sb**	**22 19 54.1**	**+1.6**
	baz=276							
TPUB	**Ta-pu**	**0.21**	**41**	P		**Pb**	**22 19 49.6**	**-0.3**
TPUB	**Ta-pu**	**0.21**	**41**	⇓	*i*P	**Pb**	**22 19 49.5**	**-0.3**
TPUB	baz=37				*i* S	**Sb**	**22 19 53.3**	**-0.2**
	baz=37							
SLGT	**Liugui**	**0.21**	**134**	⇓	*i*P	**Pb**	**22 19 50.2**	**+0.3**
SLGT	baz=125				*e*S	**Sb**	**22 19 54.9**	**+1.3**
	baz=125							
CHN4	**Tsaushan**	**0.23**	**26**	⇑	*i*P	**Pb**	**22 19 50.1**	**-0.2**
CHN4	baz=23				S	**Sb**	**22 19 54.5**	**+0.3**
	baz=23							
TAI1	**Yung-k'ang**	**0.26**	**247**	⇓	*i*P	**Pb**	**22 19 51.1**	**+0.5**
SCST	**Cishan**	**0.26**	**178**	⇓	P	**Pb**	**22 19 51.2**	**+0.6**
SCST	baz=171				S	**Sb**	**22 19 56.4**	**+1.6**
	baz=171							
SCLT	**Jiali**	**0.27**	**277**	⇓	P	**Pb**	**22 19 51.0**	**+0.2**
SCLT	baz=278				*e*S	**Sb**	**22 19 57.1**	**+2.0**
	baz=278							
STYH	**Taoyuan**	**0.27**	**84**	⇓	*i*P	**Pb**	**22 19 51.0**	**+0.1**
STYH	baz=73				S	**Sb**	**22 19 55.1**	**-0.1**
	baz=73							
ICHU	**Yijhu**	**0.29**	**319**	⇓	P	**Pb**	**22 19 51.4**	**+0.2**
ICHU	baz=319				*i* S	**Sb**	**22 19 57.7**	**+2.0**
	baz=319							
WCKO	**Fanlu**	**0.32**	**21**	⇑	*e*P	**Pb**	**22 19 51.6**	**-0.1**
WCKO	baz=19				S	**Sb**	**22 19 57.2**	**+0.7**
	baz=19							
CHN8	**Yiju**	**0.32**	**309**	⇓	*i*P	**Pb**	**22 19 51.8**	**0.0**
CHN8	baz=322				S	**Sb**	**22 19 58.3**	**+1.7**
	baz=322							
TWM1	**Shoushan**	**0.32**	**190**		*e*P	**Pn**	**22 19 53.1**	**-1.3**
TWM1	baz=179				*e*S	**Sn**	**22 19 59.8**	**-1.0**
	baz=179							
CHY	**Chiayi**	**0.36**	**351**		*e*P	**Pb**	**22 19 52.7**	**+0.3**
CHY	baz=351				*e*S	**Sb**	**22 19 59.5**	**+1.8**
	baz=351							
TSCK	**Chigu Township**	**0.36**	**271**		*e*P	**Pb**	**22 19 52.7**	**+0.2**
TSCK	baz=285				*e*S	**Sb**	**22 20 00.1**	**+2.2**
	baz=285							
CHN2	**Minshiung**	**0.39**	**359**	⇑	*i*P	**Pb**	**22 19 53.4**	**+0.5**
CHN2	baz=358				*e*S	**Sb**	**22 20 00.6**	**+2.0**
	baz=358							
SNJT	**Kaohsiung City**	**0.41**	**199**		*e*P	**Pn**	**22 19 54.6**	**-1.0**
SNJT	ba

EHD	**Haiduan** baz=83	0.67	89	⇓*i*	P	**Pb**	22 19 57.8	+0.1
EHD	baz=83				S	**Sb**	22 20 06.7	+0.1
ECS	**Chishang** baz=93	0.68	94		P	**Pb**	22 19 58.4	+0.5
ECS	baz=93				S	**Sn**	22 20 08.9	-0.7
ECL	**Taimali** baz=145	0.70	141	⇓*i*	P	**Pb**	22 19 58.6	+0.5
ECL	baz=145				*e*S	**Sb**	22 20 08.2	+0.8
WJS	**Zhushan** baz=4.0	0.71	18	*e*	P	**Pb**	22 19 59.0	+0.5
WJS	baz=4.0				*e*S	**Sn**	22 20 10.1	-0.3
TTN	**Taitung** baz=111	0.72	122	*e*	P	**Pn**	22 19 59.7	-0.2
TTN	baz=111				*e*S	**Sn**	22 20 11.0	+0.4
WTCT	**Ta-ch'eng** baz=346	0.74	346	*e*	P	**Pb**	22 19 59.1	+0.1
WTCT	baz=346				*e*S	**Sb**	22 20 10.2	+1.4
WNT	**Mingjian** baz=14	0.76	14		P	**Pb**	22 19 59.6	+0.4
WNT	baz=14				*i* S	**Sn**	22 20 11.0	-0.5
WRL	**Guolierlin Hig** baz=352	0.76	353	*e*	P	**Pb**	22 19 59.7	+0.4
WRL	baz=352				*i* S	**Sn**	22 20 11.2	-0.4
WDGT	**Dungji** baz=280	0.77	279	⇓*i*	P	**Pg**	22 19 58.9	-0.5
WDGT	baz=280				*e*S	**Sb**	22 20 10.0	+0.6
EDH	**Donghe** baz=95	0.78	102	*e*	P	**Pn**	22 20 00.1	-0.5
EDH	baz=95				*e*S	**Sn**	22 20 11.7	-0.2
SSLB	**Suanglung**	0.78	34		P	**Pb**	22 19 59.6	+0.1
SSLB	**Suanglung** baz=33	0.78	34	⇓*i*	P	**Pb**	22 19 59.5	-0.1
SSLB	baz=33				S	**Sb**	22 20 10.3	+0.5
SCZT	**Fangliau** baz=158	0.78	171	⇑	P	**Pb**	22 20 00.1	+0.5
SCZT	baz=158				*i* S	**Sn**	22 20 12.9	+1.0
TWF1	**Yuli** baz=73	0.78	74	⇓*i*	P	**Pb**	22 19 59.7	+0.2
TWF1	baz=73				S	**Sb**	22 20 10.1	+0.2
YULB	**Yu-li**	0.79	71		P	**Pb**	22 19 59.6	-0.2
YULB	**Yu-li** baz=70	0.79	71	⇓*i*	P	**Pb**	22 19 59.7	0.0
YULB	baz=70				S	**Sb**	22 20 10.0	-0.2
EYUL	**Yuli** baz=74	0.80	75	⇓*e*	P	**Pb**	22 20 00.1	+0.2
EYUL	baz=74				*e*S	**Sb**	22 20 10.7	+0.3
CHKT	**Chengkung** baz=92	0.81	93	⇓*i*	P	**Pn**	22 20 01.1	-0.1
CHKT	baz=92				*e*S	**Sn**	22 20 13.9	+1.0
EAST	**Anshuo** baz=148	0.83	156	*e*	P	**Pn**	22 20 01.0	-0.4
EAST	baz=148				*e*S	**Sn**	22 20 12.8	-0.4
SMLT	**Sun Moon Lake** baz=27	0.83	27	⇑*i*	P	**Pb**	22 20 00.8	+0.2
SMLT	baz=27				*e*S	**Sn**	22 20 13.3	-0.2
TYC	**Yuchr** baz=24	0.83	24	⇑*i*	P	**Pb**	22 20 00.8	+0.3
TYC	baz=24				S	**Sn**	22 20 13.3	0.0
CHKH	**Chenggong** baz=85	0.84	86	⇓*e*	P	**Pn**	22 20 01.2	-0.3
CHKH	baz=85				*e*S	**Sn**	22 20 13.6	0.0
EHY	**Hungye** baz=71	0.85	65	⇓	P	**Pb**	22 20 01.0	+0.2
EHY	baz=71				*e*S	**Sb**	22 20 12.4	+0.3
VWDT	**VWDT** baz=52	0.86	45	⇓*i*	P	**Pg**	22 20 01.3	+0.1
VWDT	baz=52				S	**Sb**	22 20 12.7	+0.6
EHYH	**Wanrong** baz=72	0.87	66	*e*	P	**Pg**	22 20 01.4	0.0
EHYH	baz=72				*e*S	**Sb**	22 20 12.9	+0.5
TAW	**Tawu** baz=153	0.87	154	*e*	P	**Pn**	22 20 01.8	-0.1
TAW	baz=153				*e*S	**Sn**	22 20 14.1	-0.1
TAWH	**Dawu Township** baz=142	0.88	155	*e*	P	**Pn**	22 20 02.0	-0.1
ECBN	**Changbin** baz=72	0.91	79	*e*	P	**Pn**	22 20 03.1	+0.6
PHUB	**P'eng-hu** baz=295	0.92	294	⇓	P	**Pb**	22 20 00.9	-1.0
PHUB	baz=295				S	**Sb**	22 20 12.4	-1.4
HGSD	**Ruisui** baz=72	0.93	68	⇓	P	**Pn**	22 20 02.9	+0.1
HGSD	baz=72				*e*S	**Sn**	22 20 15.8	0.0
WCHH	**Zhanghua** baz=4.0	0.94	4	*e*	P	**Pn**	22 20 02.8	-0.1
WCHH	baz=4.0				*e*S	**Sn**	22 20 16.0	+0.1
PNG	**Penghu** baz=298	0.95	297	⇓*e*	P	**Pb**	22 20 01.6	-0.9
PNG	baz=298				*e*S	**Sb**	22 20 15.0	+0.2
SLIU	**Shizi** baz=149	0.97	162	⇑*e*	P	**Pn**	22 20 03.3	0.0
SLIU	baz=149				*i* S	**Sn**	22 20 17.9	+1.2
VCHM	**Qimei** baz=276	0.97	274	⇓	P	**Pb**	22 20 01.9	-0.9
VCHM	baz=276				*i* S	**Sb**	22 20 15.1	-0.3
WCS	**Beigang Elemen** baz=22	0.99	23	*e*	P	**Pn**	22 20 03.8	+0.2
WCS	baz=22				*e*S	**Sn**	22 20 17.5	+0.2
WARBT	**Fenglin Townsh** baz=48	1.01	55	⇓*i*	P	**Pg**	22 20 03.7	-0.3
WARBT	baz=48				*e*S	**Sn**	22 20 17.8	+0.1
EGFH	**Guangfu** baz=45	1.01	59	*i*	P	**Pn**	22 20 04.1	+0.2
EGFH	baz=45				S	**Sn**	22 20 17.9	+0.1
TCU	**Taichung** baz=359	1.02	10	*e*	P	**Pb**	22 20 03.7	+0.1
TCU	baz=359				*e*S	**Sn**	22 20 18.8	+0.9
WUSB	**Renai** baz=33	1.03	34	*e*	P	**Pb**	22 20 03.8	-0.1
WUSB	baz=33				*e*S	**Sn**	22 20 18.4	0.0
OWD	**Renai** baz=27	1.03	38	*e*	P	**Pn**	22 20 04.2	0.0
OWD	baz=27				*e*S	**Sn**	22 20 18.3	-0.1
ESL	**Shilin** baz=51	1.10	52	⇑	P	**Pg**	22 20 05.5	-0.2
ESL	baz=51				*i* S	**Sn**	22 20 21.1	+1.2
CHGB	**Renai** baz=34	1.11	35	*e*	P	**Pn**	22 20 05.6	+0.1
CHGB	baz=34				*e*S	**Sg**	22 20 20.1	-0.6
HEN	**Hengchun** baz=155	1.16	168	*e*	P	**Pb**	22 20 06.1	+0.2
HEN	baz=155				*e*S	**Sg**	22 20 24.2	+2.3
SHUL	**Shoufeng** baz=44	1.18	57	*e*	P	**Pg**	22 20 07.2	-0.1
SHUL	baz=44				*e*S	**Sg**	22 20 22.7	0.0
WHP	**Taichung City** baz=20	1.21	21	*i*	P	**Pg**	22 20 08.1	+0.3
WHP	baz=20				*i* S	**Sg**	22 20 25.1	+1.4
WDJ	**Dajia District** baz=7.0	1.21	7	*e*	P	**Pg**	22 20 07.6	-0.2
WDJ	baz=7.0				*i* S	**Sg**	22 20 24.7	+1.1
LXIB	**Xiulin Townshi** baz=33	1.22	44	*i*	P	**Pb**	22 20 07.3	0.0
LXIB	baz=33				*i* S	**Sg**	22 20 24.7	+0.6
TWK1	**Hengchun** baz=163	1.23	166	*e*	P	**Pn**	22 20 06.7	-0.2
TWQ1	**Liyutan** baz=1.0	1.23	12		P	**Pb**	22 20 07.4	+0.2
TWQ1	baz=1.0				*e*S	**Sg**	22 20 24.9	+0.6
WHF	**Hehuan Shan** baz=35	1.23	36	*e*	P	**Pg**	22 20 08.0	-0.3
WHF	baz=35				*e*S	**Sg**	22 20 25.0	+0.6
TWKBT	**Hengchun** baz=164	1.23	166	*e*	P	**Pn**	22 20 06.6	-0.3
TWKBT	baz=164				*e*S	**Sg**	22 20 24.0	-0.4
ETM	**Tongmen** baz=57	1.24	48	*e*	P	**Pb**	22 20 07.6	+0.2
ETM	baz=57				*e*S	**Sg**	22 20 24.4	-0.2
TEYL	**Yanliau Villag** baz=43	1.25	55	*e*	P	**Pg**	22 20 08.6	0.0
TEYL	baz=43				*e*S	**Sg**	22 20 26.4	+1.4
TDCB	**Techi** baz=28	1.27	29	⇑*i*	P	**Pb**	22 20 07.9	-0.1
TDCB	baz=28				*e*S	**Sg**	22 20 25.1	-0.4
NSY	**Sanyi** baz=1.0	1.29	11	*e*	P	**Pb**	22 20 08.8	+0.4
NSY	baz=1.0				S	**Sg**	22 20 27.1	+0.7
TSEB	**Hengchuen, Pin** baz=162	1.29	163	*e*	P	**Pg**	22 20 09.5	0.0
TSEB	baz=162				*e*S	**Sg**	22 20 26.8	+0.4
FUSS	**Fushou** baz=19	1.30	32	*e*	P	**Pb**	22 20 08.7	0.0
FUSS	baz=19				*e*S	**Sg**	22 20 26.1	-0.6
HWA	**Hwalien** baz=50	1.32	51	*e*	P	**Pg**	22 20 09.8	-0.2
HWA	baz=50				*e*S	**Sg**	22 20 27.7	+0.5
TWD	**Chiawan** baz=55	1.38	47	*e*	P	**Pb**	22 20 10.2	+0.3
TWD	baz=55				S	**Sg**	22 20 28.9	-0.3
ETLH	**Xiulin Townshi** baz=40	1.40	41	*e*	P	**Pb**	22 20 10.4	+0.2
ETLH	baz=40				*e*S	**Sg**	22 20 29.8	0.0
NMLH	**Miaoli** baz=11	1.42	11	*e*	P	**Pb**	22 20 10.5	0.0
NMLH	baz=11				*i* S	**Sg**	22 20 30.1	-0.2
NACB	**Ninganchiao**	1.45	45		P	**Pb**	22 20 11.2	+0.2
NACB	**Ninganchiao** baz=61	1.45	45	*e*	P	**Pb**	22 20 10.7	-0.3
NACB	baz=61				*e*S	**Sg**	22 20 30.3	-0.9
ETL	**Fush Village** baz=61	1.46	46	*e*	P	**Pg**	22 20 12.5	0.0
LAY	**Lan-yu** baz=134	1.48	138	*e*	P	**Pn**	22 20 10.3	0.0
LAY	baz=134				*e*S	**Sg**	22 20 31.9	-0.2
NNSB	**Datong** baz=32	1.52	33	*e*	P	**Pn**	22 20 11.6	+0.6
NNSB	baz=32				*e*S	**Sg**	22 20 33.6	-0.1
LYUB	**Lan-yu** baz=123	1.52	138	*e*	P	**Pn**	22 20 08.9	-2.0
NNS	**Nan Shan** baz=32	1.53	32	*e*	P	**Pb**	22 20 12.2	-0.3
NNS	baz=32				*e*S	**Sb**	22 20 32.4	+0.8
NSTT	**Nanjuang** baz=17	1.56	18	*e*	P	**Pn**	22 20 11.6	+0.2
NSTT	baz=17				*e*S	**Sb**	22 20 32.4	+0.1
LIOB	**Emei** baz=17	1.57	18	*e*	P	**Pn**	22 20 12.3	+0.6
LIOB	baz=17				*e*S	**Sb**	22 20 33.3	+0.5
NFF	**Wufeng Townshi** baz=20	1.59	21	*i*	P	**Pb**	22 20 13.1	-0.4
NFF	baz=20				*i* S	**Sb**	22 20 33.4	0.0
LATG	**Datong** baz=34	1.68	34	*e*	P	**Pb**	22 20 14.5	-0.6
LATG	baz=34				*e*S	**Sb**	22 20 36.5	+0.4
ENA	**Nanau** baz=57	1.72	42	*e*	P	**Pb**	22 20 15.2	-0.4
ENA	baz=57				*e*S	**Sb**	22 20 38.3	+1.2
NSK	**Sanguang** baz=11	1.72	28	*e*	P	**Pn**	22 20 14.6	+0.8
NSK	baz=11				*e*S	**Sb**	22 20 37.9	+0.7
YHNB	**Yeheng**	1.73	28		P	**Pn**	22 20 14.7	+0.9
YHNB	**Yeheng** baz=11	1.73	28	*e*	P	**Pn**	22 20 14.4	+0.6
YHNB	baz=11				*e*S	**Sb**	22 20 37.4	+0.2
NDT	**Datong Townshi** baz=32	1.73	33	*e*	P	**Pn**	22 20 14.8	+1.0
NDT	baz=32				*e*S	**Sg**	22 20 39.0	-1.3
ENTT	**Nioudou** baz=17	1.79	33	*e*	P	**Pb**	22 20 16.7	-0.2
NDS	**Dongshan** baz=37	1.86	37	*e*	P	**Pb**	22 20 17.7	-0.4
NDS	baz=37				*e*S	**Sg**	22 20 43.7	-0.9
NWLT	**Wulai** baz=27	1.88	30	*e*	P	**Pn**	22 20 16.6	+0.7
FUSB	**Fushanzhiwuyua** baz=15	1.90	32	*e*	P	**Pn**	22 20 17.1	+0.9
FUSB	baz=15				*e*S	**Sb**	22 20 41.3	-1.0
TWE	**Neicheng** baz=34	1.91	34	*e*	P	**Pb**	22 20 18.8	0.0
TWE	baz=34				*e*S	**Sb**	22 20 43.1	+0.7
TWC	**Suao** baz=27	1.92	40	*e*	P	**Pb**	22 20 18.6	-0.4
TWC	baz=27				*e*S	**Sb**	22 20 43.1	+0.3
EOS4	**EOS4** baz=58	1.94	60	*e*	P	**Pn**	22 20 17.5	+1.1
EOS3	**EOS3** baz=53	2.03	56	*e*	P	**Pb**	22 20 19.8	-1.0
EOS2	**EOS2** baz=65	2.05	51	*e*	P	**Pb**	22 20 20.7	-0.4
VWUC	**VWUC** baz=333	2.07	333	*e*	P	**Pn**	22 20 17.2	-1.2
EGS	baz=34	2.15	38	*e*	P	**Pb**	22 20 22.7	-0.3
WFSB	**Wu-fen Shan** baz=28	2.26	31	*e*	P	**Pb**	22 20 23.2	-1.6
PTMZ	**Houxiangcun** baz=326	2.26	327	*e*	P	**Pn**	22 20 20.3	-0.8
KNM	**Kinmen** baz=302	2.27	304	*e*	P	**Pn**	22 20 21.4	+0.3
SXI1	**Grass Mountain** baz=16	2.32	33	*e*	P	**Pn**	22 20 22.8	+0.7
KNMB	**Chin-men Tao** baz=304	2.33	305	*e*	P	**Pn**	22 20 20.4	-1.6
TWY	**Chenhua** baz=11	2.36	25	*e*	P	**Pn**	22 20 22.9	+0.5
JYNG	**Yonagunijimaku**	2.60	60		P	**Pn**	22 20 27.5	+1.7
JYNG					S	**Sb**	22 20 59.7	-2.7
YOJ	**Yonaguni jima**	2.66	60		P	**Pn**	22 20 28.7	+2.1
YOJ	**Yonaguni jima**	2.66	60	*e*S		**Sb**	22 21 01.2	-2.9
YOJ	**Yonaguni jima** baz=58	2.66	60	*e*	P	**Pn**	22 20 27.3	+0.7
DSXP	**Dongshan** baz=283	2.86	282	*e*	P	**Pn**	22 20 28.7	-0.7
MATB	**Ma-tsu** baz=352	3.04	351	*e*	P	**Pn**	22 20 30.8	-0.9
HATJ	**Hateruma jima**	3.18	73		P	**Pn**	22 20 35.1	+1.4
HATJ				*e*S		**Sn**	22 21 13.8	+2.5
IRIF	**Iriomote-Funau**	3.20	68		P	**Pn**	22 20 35.8	+1.8
IRIF				*e*S		**Sn**	22 21 13.8	+2.0
MHZQ	**Yeshan** baz=338	3.23	336	*e*	P	**Pn**	22 20 33.4	-1.0
JKRS	**Kuro-shima**	3.41	71		P	**Pn**	22 20 39.4	+2.5
JKRS				*e*S		**Sn**	22 21 20.4	+3.4
LYJJ	**Jianjiangzhen** baz=351	3.46	349	*e*	P	**Pn**	22 20 36.8	-0.7
JIJ	**Ishigaki jima**	3.57	69		P	**Pn**	22 20 40.2	+1.1
JIJ					S	**Sn**	22 21 22.5	+1.7
JISG	**Ishigakijimahi**	3.79	67		P	**Pn**	22 20 43.0	+0.9
JISG				*e*S		**Sn**	22 21 27.3	+1.0
CMAR	**Chiang Mai Arr** comp=Z,21nm,18.4s,baz=105,slow=39	20.66	261		LR	LR	22 33 24.2	
GUMO	**Guam** comp=Z,23nm,21.5s,baz=107,slow=34	24.98	108		LR	LR	22 33 45.0	
KLR	**Kul'dur** comp=Z,51nm,18.0s,baz=232,slow=40	27.52	16		LR	LR	22 37 55.5	
MKAR	**Makanchi Array** 0.3nm,0.6s,baz=106,slow=6.9,SNR=2.4 0.3nm,0.6s	38.65	317		P	**P**	22 27 08.6	+1.6
WRA	**Warramunga Arr** 1.7nm,0.7s,baz=343,slow=8.8,SNR=10.0 1.7nm,0.7s	44.91	161		P	**P**	22 27 56.9	-1.6
ASAR	**Alice Springs** 0.7nm,0.4s,baz=344,slow=7.4,SNR=6.7 0.7nm,0.4s	48.32	163		P	**P**	22 28 23.4	-1.8
YKA	**Yellowknife Ar** 0.5nm,0.6s,baz=321,slow=5.2,SNR=11 0.5nm,0.6s	84.17	23		P	**P**	22 32 13.8	-0.7

*IDC **03** 22:42:24.8±1.9, 6°.03S×147°.15E, h52km±18km, mb4.2/16, mbtmp4.5/19, ML4.4/2, MS3.7/43, Error ellipse: s-maj=20.3km s-min=9.3km az=99.0*

*BJI **03** 22:42:25.4±0.0, 5°.80S×147°.33E, h60km, mb4.7/44, mB5.2/17*

*DJA **03** 22:42:25.1±0.7, 6°.5±4°×14°.7E±°, h38km±7km, M4.8/27, mB5.3/9, mb4.9/27, MLv5.0/3, Mw(mB)4.7/9*

*NEIC **03** 22:42:26.3±1.0, 6°.03S±0°.02×147°.24E±0°.09, h61km±6km, mb4.6/84, Error ellipse: s-maj=12.4km s-min=1.9km az=82.0*

*GCMT **03** 22:42:29.3±0.4, 6°.10S±0°.03×147°.22E±0°.03, h62km±3km, MW4.9/45, Moment Tensor Solution. s45,c57; s41,c54; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.06±.17; $M_{\theta\theta}$-2.87±.12; $M_{\phi\phi}$-0.19±.14; $M_{r\theta}$0.10±.18; $M_{\theta\phi}$1.47±.11; $M_{\phi r}$-0.01±.15; Best double couple: M_o3.29200×10^{16} NP1:ϕ_s113.00000°, δ46.00000°, λ89.00000°. NP2: ϕ_s294.00000°, δ44.00000°, λ91.00000°. Principal axes: T 3.0620, Plg89.0000°, Azm349.0000°; N 0.4530, Plg1.0000°, Azm114.0000°; P -3.5220, Plg1.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 03 22:42:24.9±0.4, 6°.05S±0°.05×147°.24E±0°.07, h50km, n196, σ1§08/155, mb4.7/75, MS3.8/41, 3C-1D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	3.34	181	Pn	**Pn**	22 43 16.3	+1.7
PMG	**Port Moresby** 235nm,0.4s,baz=33,slow=4.4,SNR=29	3.34	181	P	**Pn**	22 43 16.0	+1.4
PMG	393nm,0.6s,baz=5.2,slow=19,SNR=2.1			S	**Sn**	22 43 53.0	-0.1
PMG	comp=Z,3μm,20.6s,baz=26,slow=45			LR	LR	22 44 57.1	
MANU	**Manus Island**	3.98	2	Pn	**Pn**	22 43 24.4	+1.0
KRVT	**Keravat (AS076** 12nm,0.3s,baz=192,slow=23,SNR=16 39nm,0.4s	5.07	70	P	**Pn**	22 43 39.5	+1.0
RABL	**Rabaul**	5.24	70		**Pn**	22 43 41.3	+0.5
JAY	**Jayapura** 39nm,0.9s,515nm0.4nm	7.40	298	P	**Pn**	22 44 13.4	+3.0
GENI	**Genyem**	7.84	296	P	**Pn**	22 44 17.8	+1.4
COEN	**Coen**	8.82	207	Pn	**Pn**	22 44 31.1	+1.2
CTAO	**Charters Tower**	13.99	184	Pn	**Pn**	22 45 42.8	+2.3
FAKI	**Fak Fak**	15.26	281	Pn	**Pn**	22 45 56.1	-1.2
FAKI	comp=Z,29nm,0.8s			IAmb	IAmb	22 46 07.9	
FAKI	**Fak Fak** comp=Z,42nm,1.2s	15.26	281	P	Pn	22 45 52.5	-4.8
SWI	**Sorong** comp=Z,110nm,0.9s,comp=Z,1μm	16.75	287	P	**Pn**	22 46 14.7	-1.6
MTN	**Manton Dam**	17.25	246		**Pn**	22 46 22.1	-0.3
WRA	**Warramunga Arr** comp=Z,1.2nm,0.3s,baz=45,slow=12,SNR=43	18.65	221	P	**P**	22 46 38.1	-0.7
WRA	comp=Z,0.6nm,0.6s,baz=52,slow=21,SNR=1.1 comp=Z,10nm,0.8s			S	Sn	22 49 52.5	-15
EIDS	**Eidsvold**	19.56	170	P	**P**	22 46 48.2	-0.5
GUMO	**Guam** comp=Z,340nm,21.8s,baz=142,slow=32	19.65	353	LR	LR	22 52 55.5	
LBMI	**Labuha** comp=Z,88nm,1.4s	20.41	285	P	**P**	22 46 57.7	-0.4
KNRA	**Kununurra**	20.49	241	P	**P**	22 46 58.7	-0.2
KNRA	comp=Z,26nm,0.8s			IAmb	IAmb	22 47 36.4	
TNTI	**Ternate**	20.96	288	P	Pn	22 47 20.5	+13
SANI	**Sanana** comp=Z,45nm,0.6s	21.56	280	P	**P**	22 47 08.4	-2.0
AS31	**Alice Springs**	21.71	215	P	**P**	22 47 13.0	+1.0
ASAR	**Alice Springs**	21.71	215	P	**P**	22 47 12.7	+0.7
ASAR	**Alice Springs** comp=Z,5.0nm,0.4s,baz=52,slow=8.9,SNR=43	21.71	215	P	**P**	22 47 12.0	0.0
ASAR	comp=Z,5.6nm,1.1s,baz=30,slow=22,SNR=6.4			S	**S**	22 51 09.3	-0.4
ASAR	comp=Z,528nm,20.9s,baz=44,slow=38 comp=Z,5.0nm,0.4s			LR	LR	22 56 13.5	
SOEI	**Soe**	23.04	259	P	**P**	22 47 26.4	+0.1
SOEI	**Soe** comp=Z,78nm,1.0s	23.04	259	P	**P**	22 47 25.5	-0.8
BATI	**Baumata** comp=Z,449nm,19.8s,baz=92,slow=42	23.69	258	LR	LR	22 58 56.1	
BATI	**Baumata** comp=Z,65nm,0.6s,comp=Z,1μm	23.69	258	P	**P**	22 47 31.6	-0.8
FITZ	**Fitzroy Crossi**	24.24	239	P	**P**	22 47 36.9	-0.5
FITZ	comp=Z,16nm,0.8s			IAmb	IAmb	22 47 45.6	
DZM	**Mont Dzumac** comp=Z,157nm,21.9s,baz=274,slow=29	24.46	133	LR	LR	22 54 16.9	
BBSI	**Bau Bau** comp=Z,79nm,1.8s,comp=Z,2μm	24.55	270	P	**P**	22 47 36.6	-3.6
ARMA	**Armidale**	24.59	171	P	**P**	22 47 40.3	-0.3
LUWI	**Luwuk**	24.91	281	P	**P**	22 47 44.4	+0.9
LUWI	**Luwuk** comp=Z,278nm,1.1s,comp=Z,3μm	24.91	281	P	**P**	22 47 45.1	+1.6
MMRI	**Maumere**	24.92	263	P	**P**	22 47 43.1	-0.6
MMRI	**Maumere** comp=Z,60nm,0.6s	24.92	263	P	**P**	22 47 42.8	-0.9
GTOI	**Gorontalo** comp=Z,27nm,0.7s,comp=Z,270nm	25.08	285	P	**P**	22 47 47.5	+2.4
DAV	**Davao City (W)** comp=Z,81nm,21.3s,baz=163,slow=34	25.23	301	LR	LR	22 56 49.3	
EDFI	**Ende, Flores** comp=Z,59nm,1.0s,comp=Z,644nm	25.47	262	P	**P**	22 47 47.9	-0.9
STKA	**Stephens Creek** comp=Z,3.9nm,0.8s,baz=357,slow=12,SNR=2.8	26.23	191	P	**P**	22 47 54.6	-0.7
STKA	comp=Z,542nm,19.4s,baz=19,slow=38 comp=Z,3.9nm,0.8s			LR	LR	22 58 57.2	
TOLI2	**Tolitoli**	27.35	284	P	**P**	22 48 03.1	-2.5
TOLI2	comp=Z,14nm,0.8s			IAmb	IAmb	22 48 18.9	
KAPI	**Kappang**	27.38	271	P	**P**	22 48 03.9	-2.0
KAPI	comp=Z,38nm,1.3s			IAmb	IAmb	22 48 19.8	
TTSI	**Tana Toraja** comp=Z,34nm,1.4s	27.49	275	P	**P**	22 48 09.2	+2.4
MPSI	**Mapaga** comp=Z,15nm,1.1s	28.02	282	P	**P**	22 48 12.2	+0.6
TWSI	**Taliwang, Sumb** comp=Z,13nm,0.7s	30.21	263	P	**P**	22 48 31.4	+0.3
PSA00	**Pilbara Seismi** comp=Z,14nm,1.4s	30.66	237	P	**P**	22 48 34.3	-0.7
PSA00				IAmb	IAmb	22 49 13.6	
H11S3	**WAKE ISLAND Hy** baz=220,slow=76,SNR=22	31.03	38	T	T	23 21 18.6	

H11S2 WAKE ISLAND Hy 31.04 38 T T 23 21 19.3
baz=220,slow=76,SNR=19
H11S1 WAKE ISLAND Hy 31.05 38 T T 23 21 20.2
baz=220,slow=76,SNR=18
H11N1 WAKE ISLAND Hy 32.09 37 T T 23 22 35.4
baz=219,slow=76,SNR=5.1
H11N3 WAKE ISLAND Hy 32.10 37 T T 23 22 43.6
baz=219,slow=76,SNR=6.6
H11N2 WAKE ISLAND Hy 32.10 37 T T 23 22 39.7
baz=219,slow=76,SNR=10.0
JOW Kunigami 37.49 332 LR LR 23 02 06.9
comp=Z,120nm,21.6s,baz=130,slow=32
NWAO Narrogin (SRO) 38.65 222 LR LR 23 07 06.3
comp=Z,676nm,20.1s,baz=28,slow=38
NACB Ninganchiao 39.08 321 P **P** **22 49 48.8 +1.4**
LEM Lembang 39.37 267 LR LR 23 09 36.8
comp=Z,64nm,18.7s,baz=68,slow=42
MRNZ Matariki Terra 41.91 151 P **P** **22 50 10.6 0.0**
JNU Nakatsue 41.94 339 LR LR 23 05 14.2
comp=Z,94nm,21.1s,baz=152,slow=33
URZ Urewera 41.98 144 LR LR 23 05 28.5
comp=Z,193nm,21.1s,baz=31,slow=33
THZ Tophouse 42.26 151 P **P** **22 50 12.8 -0.8**
JGF Kuroka 42.46 348 P **P** **22 50 14.6 -0.5**
JGF IAmb IAmb 22 50 17.2
comp=Z,17nm,0.9s
TUWZ Tuamarina 42.52 150 P **P** **22 50 14.7 -0.8**
TCW Tory Channel 42.52 150 P **P** **22 50 15.3 -0.3**
MRZ Mangatainoka R 42.79 148 P **P** **22 50 18.7 +0.9**
MJAR Matsushiro Arr 43.20 349 P **P** **22 50 20.6 -0.5**
comp=Z,16nm,1.0s,baz=165,slow=6.9,SNR=18
MJAR LR LR 23 06 50.7
comp=Z,83nm,18.6s,baz=162,slow=34
comp=Z,16nm,1.0s
MAJO Matsushiro 43.20 349 P **P** **22 50 21.6 +0.5**
MJB9 Matsu-Tunnel 43.21 349 P **P** **22 50 22.3 +1.1**
MYKOM Kota Tinggi 44.02 279 P **P** **22 50 28.8 +0.7**
MYKOM IAmb IAmb 22 50 30.0
comp=Z,9.3nm,0.7s
JMM Marumori 44.10 353 P **P** **22 50 27.1 -1.1**
NJ2 Nanjing 46.55 326 *e*P **P** **22 50 48.0 +0.2**
NJ2 pmax pmax
comp=Z,12nm,0.6s
KSRS Korea Array 46.88 339 P **P** **22 50 49.9 -0.4**
comp=Z,9.0nm,1.0s,baz=156,slow=9.1,SNR=16
KSRS LR LR 23 07 53.4
comp=Z,113nm,21.6s,baz=150,slow=33
comp=Z,9.0nm,1.0s
KSAR Wonju Array Be 46.88 339 P **P** **22 50 49.3 -1.0**
JTM Tenmabayashi 46.95 354 P **P** **22 50 50.2 -0.5**
ASAJ Asahikawa 50.11 356 LR LR 23 11 30.5
comp=Z,31nm,20.6s,baz=184,slow=35
GYA Guiyang 50.89 311 *e*P **P** **22 51 22.7 +1.3**
GYA pmax pmax
comp=Z,7.0nm,0.5s
GYA pmax pmax
comp=Z,180nm,4.2s
USRK Ussuriysk Ar. 51.87 346 P **P** **22 51 26.6 -1.7**
comp=Z,4.1nm,0.8s,baz=176,slow=7.2,SNR=7.7
comp=Z,4.1nm,0.8s
LYN LuoYang 52.03 323 *e*P **P** **22 51 31.4 +1.8**
LYN pmax pmax
comp=Z,20nm,0.6s
PHRA Phrae 52.37 299 P **P** **22 51 32.0 -0.5**
HNS HongShan 52.81 327 ⇑P **P** **22 51 35.3 0.0**
HNS pmax pmax
comp=Z,28nm,0.8s
MDJ Mudanjiang 52.87 344 P **P** **22 51 34.3 -1.4**
MDJ pmax pmax
comp=Z,11nm,1.8s
MDJ pmax pmax
comp=Z,330nm,3.8s
CRAI Chiangrai 52.95 301 P **P** **22 51 36.9 +0.2**
CRAI IAmb IAmb 22 52 15.6
comp=Z,6.4nm,1.1s
RAR Rarotonga 53.40 112 LR LR 23 10 50.5
comp=Z,50nm,21.2s,baz=298,slow=32
CMAR Chiang Mai Arr 53.48 298 P **P** **22 51 41.1 +0.5**
CMAR Chiang Mai Arr 53.48 298 P **P** **22 51 40.3 -0.4**
comp=Z,0.9nm,0.3s,baz=110,slow=4.9,SNR=1.8
CMAR LR LR 23 14 57.6
comp=Z,13nm,20.2s,baz=145,slow=37
comp=Z,0.9nm,0.3s
XAN Xi'an 53.87 320 ⇑P **P** **22 51 42.6 -0.7**
XAN pmax pmax
comp=Z,18nm,1.2s
BNX BinXian 54.52 343 ⇑P **P** **22 51 48.4 +0.7**
BNX pmax pmax
comp=Z,9.0nm,1.4s
BNX pmax pmax
comp=Z,610nm,4.3s
PZH PanZhiHua 54.67 308 P **P** **22 51 50.6 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.2s
CD2 Chengdu 55.48 314 P **P** **22 51 55.1 +0.1**
KLR Kul'dur 56.69 348 LR LR 23 14 57.0
comp=Z,46nm,20.1s,baz=160,slow=34
HHC Hu-ho-hao-te 57.00 328 *e*P **P** **22 52 07.8 +2.1**
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,88nm,4.9s
LZH Lanzhou 58.40 319 *e*P **P** **22 52 18.2 +2.5**
LZH sP sP 22 52 36.7 +1.7
LZH pmax pmax
comp=Z,19nm,1.5s
PETK Petropavlovsk- 59.60 7 P **P** **22 52 23.9 +0.4**
PETK Petropavlovsk- 59.60 7 P **P** **22 52 24.2 +0.7**
comp=Z,6.0nm,0.8s,baz=190,slow=7.5,SNR=9.0
PETK LR LR 23 13 25.5
comp=Z,105nm,21.4s,baz=174,slow=31
comp=Z,6.0nm,0.8s
GTA Gaotai 62.93 320 *e*P **P** **22 52 49.3 +2.8**
GTA pmax pmax
comp=Z,7.0nm,1.1s
ULN Ulaanbaatar 64.27 331 P **P** **22 52 55.3 +0.1**
ULN IAmb IAmb 22 52 58.2
comp=Z,10nm,0.9s
SONM Songino Array 64.56 331 P **P** **22 52 56.8 -0.2**
SONM IAmb IAmb 22 53 01.2
comp=Z,5.6nm,0.9s
SONM Songino Array 64.56 331 P **P** **22 52 57.0 0.0**
comp=Z,4.3nm,0.8s,baz=146,slow=6.2,SNR=9.5
SONM LR LR 23 20 04.1
comp=Z,45nm,21.1s,baz=282,slow=35
comp=Z,4.3nm,0.8s
MA2 Magadan 65.48 2 P **P** **22 53 02.8 +0.3**
MA2 Magadan 65.48 2 LR LR 23 17 34.6
comp=Z,79nm,21.9s,baz=156,slow=32
SEY Seymchan 68.90 3 LR LR 23 19 21.5
comp=Z,81nm,21.8s,baz=250,slow=32
YAK Yakutsk 69.22 351 P **P** **22 53 26.7 +0.5**
YAK Yakutsk 69.22 351 LR LR 23 23 08.1
comp=Z,42nm,19.1s,baz=148,slow=35
VNDA Vanda 71.85 177 P **P** **22 53 42.5 +0.4**
VNDA IAmb IAmb 22 53 56.5
comp=Z,5.9nm,0.8s
VNDA Vanda 71.85 177 P **P** **22 53 42.3 +0.2**
comp=Z,3.9nm,0.7s,baz=334,slow=7.1,SNR=32
comp=Z,3.9nm,0.7s
BILL Bilibino 75.13 7 P **P** **22 54 01.2 -0.2**
MK31 Makanchi Array 77.68 320 P **P** **22 54 15.6 -0.8**
MKAR Makanchi Array 77.68 320 P **P** **22 54 14.9 -1.5**
MKAR Makanchi Array 77.68 320 P **P** **22 54 15.6 -0.8**
comp=Z,2.0nm,0.8s,baz=99,slow=7.8,SNR=16
comp=Z,2.0nm,0.8s
TIXI Tiksi 78.48 354 P **P** **22 54 19.0 -1.2**
TIXI IAmb IAmb 22 54 22.4
comp=Z,9.7nm,1.4s
ZAA0 Zalesovo Array 79.18 328 P **P** **22 54 23.1 -1.3**
ZALV Zalesovo Beam 79.18 328 P **P** 22 54 22.2 -2.2
ZALV Zalesovo Beam 79.18 328 P **P** **22 54 22.6 -1.8**
comp=Z,2.3nm,0.6s,baz=94,slow=5.9,SNR=14
ZALV LR LR 23 28 46.2
comp=Z,51nm,21.6s,baz=81,slow=35
comp=Z,2.3nm,0.6s
KDAK Kodiak Island 79.83 28 LR LR 23 22 31.0
comp=Z,62nm,21.6s,baz=251,slow=30
L19K White Mountain 81.06 24 P **P** **22 54 33.9 -0.6**
L19K IAmb IAmb 22 54 38.0
comp=Z,8.3nm,1.1s
KURBB Kurchatov Arra 81.41 323 P **P** **22 54 34.9 -1.6**
comp=Z,0.6nm,0.7s,baz=114,slow=4.0,SNR=5.1
comp=Z,0.6nm,0.7s
AAK Ala-Archa 81.54 315 P **P** **22 54 36.7 -0.9**
AAK Ala-Archa 81.54 315 LR LR 23 29 42.3
comp=Z,15nm,21.1s,baz=82,slow=35
H19K Roundabout Mou 82.26 20 P **P** **22 54 40.1 -0.6**
J20K Nowinta River 82.37 22 P **P** **22 54 40.8 -0.4**
J20K IAmb IAmb 22 54 43.8
comp=Z,6.8nm,1.1s
G19K Purcell Mounta 82.39 20 P **P** **22 54 39.8 -1.5**
G19K IAmb IAmb 22 54 44.8
comp=Z,7.0nm,1.1s
E19K Redstone River 83.08 19 P **P** **22 54 45.1 +0.2**
E19K IAmb IAmb 22 54 48.4
comp=Z,6.0nm,0.9s
C19K Lookout Ridge 83.33 17 P **P** **22 54 46.0 -0.2**
C19K IAmb IAmb 22 54 49.9
comp=Z,6.8nm,1.1s
F20K Avaraart Lake 83.34 19 P **P** **22 54 46.2 0.0**
F20K IAmb IAmb 22 54 49.8
comp=Z,6.8nm,1.3s
D19K Kuna River 83.40 18 P **P** **22 54 46.2 -0.3**
D19K IAmb IAmb 22 54 55.2
comp=Z,8.0nm,1.4s
IMAR Indian Mountai 83.45 21 P **P** **22 54 46.4 -0.4**
I21K Tanana 83.68 22 P **P** **22 54 48.3 +0.3**
I21K IAmb IAmb 22 54 51.3
comp=Z,7.7nm,1.2s
QSPA South Pole Qui 83.92 180 P **P** **22 54 49.2 -0.2**
QSPA South Pole Qui 83.92 180 P **P** **22 54 49.3 -0.2**
comp=Z,6.6nm,0.5s,baz=196,slow=0.8,SNR=114
QSPA LR LR 23 32 11.9
comp=Z,71nm,18.3s,baz=0.5,slow=36
comp=Z,6.6nm,0.5s
MLY Manley 84.07 22 P **P** **22 54 49.8 -0.3**
MLY IAmb IAmb 22 54 52.6
comp=Z,12nm,1.3s
F21K Alatna River 84.18 20 P **P** **22 54 50.1 -0.4**
KKAR Karatay Array 84.49 314 P **P** **22 54 51.9 -0.7**
E21K Killik River 84.65 19 P **P** **22 54 52.9 0.0**
HMT Hamilton 84.81 28 P **P** **22 54 53.8 -0.1**
WRH Wood River Hil 84.84 23 IAmb IAmb 22 54 54.6
comp=Z,6.4nm,1.0s
H23K Yukon River 84.89 22 P **P** **22 54 54.1 0.0**
B21K Ikpikpuk River 85.08 17 P **P** **22 54 55.1 +0.1**
B21K IAmb IAmb 22 55 33.2
comp=Z,11nm,1.5s
G23K Bananza Creek 85.12 21 IAmb IAmb 22 54 57.5
comp=Z,3.1nm,0.8s
N25K Chitina, Valde 85.13 26 P **P** **22 54 55.6 +0.1**
E22K Anaktuvuk Pass 85.19 19 P **P** **22 54 55.7 0.0**
HDA Harding Lake 85.26 23 P **P** **22 54 54.7 -1.3**
D22K Ayikyak River 85.28 18 P **P** **22 54 56.2 +0.1**
D22K IAmb IAmb 22 54 59.7
comp=Z,4.4nm,0.8s
IL31 85.43 23 IAmb IAmb 22 54 57.9
comp=Z,10.0nm,1.2s
ILAR Eielson Array 85.43 23 P **P** **22 54 55.6 -1.2**
ILAR Eielson Array 85.43 23 P **P** 22 54 54.8 -2.1
comp=Z,5.9nm,0.9s,baz=254,slow=5.1,SNR=38
ILAR LR LR 23 27 55.7
comp=Z,44nm,21.4s,baz=278,slow=32
comp=Z,5.9nm,0.9s
H24K Noodor Dome 85.51 22 P **P** **22 54 56.9 -0.4**
H24K IAmb IAmb 22 54 60.0
comp=Z,7.7nm,1.2s
B22K Teshekpuk Lake 85.81 17 P **P** **22 54 58.5 0.0**
J25K Salcha River, 85.97 24 P **P** **22 54 58.9 -0.7**
F24K Squaw Lake 86.23 20 P **P** **22 55 00.9 +0.1**
F24K IAmb IAmb 22 55 03.8
comp=Z,4.7nm,0.8s
BARN Barnard Glacie 86.26 27 P **P** **22 55 01.1 -0.2**
E24K Your Creek 86.27 20 P **P** **22 54 60.0 -1.0**
C23K Itkillik River 86.39 18 P **P** **22 55 02.0 +0.5**
C23K IAmb IAmb 22 55 28.9
comp=Z,12nm,1.4s
M27K Edge Creek, AK 86.60 26 P **P** **22 55 03.4 +0.5**
D24K Happy Valley 86.64 19 P **P** **22 55 03.1 +0.3**
J26L Joseph Creek 86.65 24 P **P** **22 55 03.1 +0.2**
BCAR Beaver Creek A 86.88 26 P **P** **22 55 04.0 -0.1**
BVAR Borovoye Array 86.95 324 P **P** **22 55 02.7 -1.8**
comp=Z,1.9nm,0.7s,baz=102,slow=6.9,SNR=11
comp=Z,1.9nm,0.7s
K27K Chicken 87.09 25 P **P** **22 55 04.9 -0.1**
K27K IAmb IAmb 22 55 08.7
comp=Z,7.0nm,1.1s
I26K Coal Creek Min 87.10 23 P **P** **22 55 05.2 +0.1**
I26K IAmb IAmb 22 55 37.3
comp=Z,8.3nm,1.5s
E25K Arctic Village 87.28 20 P **P** **22 55 06.1 +0.2**
BMAR Burnt Mountain 87.36 21 P **P** **22 55 06.6 +0.3**
D25K Kavik River 87.50 19 P **P** **22 55 06.8 -0.2**
D25K IAmb IAmb 22 55 46.2
comp=Z,3.4nm,1.0s
EGAK Eagle 87.71 24 P **P** **22 55 08.1 +0.1**
EGAK IAmb IAmb 22 55 10.4
comp=Z,5.9nm,1.1s
M29M Somme Creek 88.14 27 P **P** **22 55 09.9 -0.3**
M29M IAmb IAmb 22 55 28.4
comp=Z,8.1nm,1.4s
G27K Doyon Strip 88.20 22 P **P** **22 55 10.3 0.0**
I28M Miner Creek 88.42 24 P **P** **22 55 11.6 +0.1**
I28M IAmb IAmb 22 55 41.1
comp=Z,4.8nm,1.1s
L29M L29M 88.48 26 P **P** **22 55 12.1 +0.3**
L29M IAmb IAmb 22 55 16.6
comp=Z,10.0nm,1.4s
E27K Coleen River 88.69 21 P **P** **22 55 12.4 -0.2**
E27K IAmb IAmb 22 55 15.1
comp=Z,2.7nm,0.9s
K29M Barlow Dome 88.94 25 P **P** **22 55 14.0 0.0**
K29M IAmb IAmb 22 55 45.5
comp=Z,4.3nm,1.1s
F28M Old Crow 89.12 21 P **P** **22 55 13.2 -1.5**
F28M IAmb IAmb 22 55 17.8
comp=Z,4.3nm,1.4s
D27M Malcolm River 89.26 20 P **P** **22 55 15.2 -0.1**
H29M Whitestone 89.27 23 P **P** **22 55 15.2 -0.1**
H29M IAmb IAmb 22 55 37.4
comp=Z,4.7nm,1.2s
G31M Satah River 91.03 23 P **P** **22 55 23.1 -0.4**
G31M IAmb IAmb 22 55 25.0
comp=Z,5.4nm,1.3s
DLBC Dease Lake 91.31 31 LR LR 23 29 31.8
comp=Z,46nm,21.3s,baz=258,slow=31
BBB Bella Bella 91.45 38 LR LR 23 28 46.0
comp=Z,56nm,21.7s,baz=281,slow=30
INK Inuvik 91.61 21 LR LR 23 31 38.2
comp=Z,26nm,21.9s,baz=348,slow=32
ABKAR Akbulak array 92.77 319 P P 22 55 29.8 -2.1
GEYT Alibeck 92.98 308 LR LR 23 40 52.8
comp=Z,11nm,20.4s,baz=280,slow=38
YBH Yreka Blue Hor 94.02 49 LR LR 23 30 02.1
comp=Z,97nm,21.4s,baz=310,slow=30
AKTO Aktyubinsk 94.12 320 LR LR 23 37 42.9
comp=Z,26nm,21.6s,baz=229,slow=35
ELIB Princess Elisa 94.21 195 *d*P **P** **22 55 38.4 0.0**
ARU Arti 94.26 326 LR LR 23 38 00.8
comp=Z,29nm,21.0s,baz=286,slow=35
NVAR Mina Array Bea 97.21 52 LR LR 23 34 40.1
comp=Z,36nm,19.5s,baz=240,slow=32
NEW Newport 98.23 42 LR LR 23 33 42.3
comp=Z,37nm,20.3s,baz=300,slow=31
PFO Pinyon Flats O 98.56 57 LR LR 23 31 23.7
comp=Z,56nm,21.9s,baz=244,slow=30
YKA Yellowknife Ar 99.10 28 P **Pdif** **22 56 00.1 -0.3**
comp=Z,0.7nm,0.9s,baz=278,slow=4.9,SNR=8.2
YKA LR LR 23 37 60.0
comp=Z,17nm,19.4s,baz=330,slow=34
comp=Z,0.7nm,0.9s
RPN Rapa Nui 99.11 119 LR LR 23 34 36.2
comp=Z,14nm,19.6s,baz=236,slow=32
KIRV Kirov 99.21 328 LR LR 23 40 50.3
comp=Z,72nm,21.2s,baz=80,slow=35
ELK Elko 99.61 50 LR LR 23 37 09.6
comp=Z,32nm,18.7s,slow=33
SNAA Sanae 99.99 189 LR LR 23 40 24.4
comp=Z,204nm,20.7s,baz=132,slow=35
PLCA Paso Flores 121.95 147 PKP **PKPdf** **23 01 13.9 -0.4**
comp=Z,0.4nm,0.4s,baz=252,slow=3.4,SNR=5.1
GERES GERESS Array B 122.08 326 PKP **PKPdf** **23 01 13.5 -0.7**
comp=Z,0.4nm,0.4s,baz=252,slow=3.9,SNR=2.2
EKA Eskdalemuir Ar 125.45 340 PKP **PKPdf** **23 01 19.0 -1.4**
comp=Z,1.0nm,0.6s,baz=55,slow=2.7,SNR=2.3
LPAZ La Paz 138.56 123 PKhKP PKPpre 23 01 37.3
comp=Z,1.6nm,0.7s,baz=305,slow=1.0,SNR=3.3
LPAZ PKP **PKPdf** **23 01 46.1 -0.9**
comp=Z,6.5nm,1.1s,baz=27,slow=1.3,SNR=12
CPUP Villa Florida 139.96 145 PKP **PKPdf** **23 01 47.8 -0.8**
comp=Z,4.0nm,1.1s,baz=50,slow=5.6,SNR=4.3
TORD Torodi Ar. Bea 145.33 284 PKPbc **PKPbc** **23 01 57.3 -0.9**
comp=Z,6.3nm,0.6s,baz=75,slow=2.2,SNR=30
DBIC Dimbokro 152.26 273 PKPbc **PKPbc** **23 02 15.8 -0.5**
comp=Z,8.1nm,1.1s,baz=68,slow=4.5,SNR=9.9
BDFB Brasilia 153.68 145 PKP **PKPdf** **23 02 12.1 +0.4**
comp=Z,5.9nm,0.8s,baz=136,slow=1.8,SNR=8.1
BDFB PKPbc **PKPbc** **23 02 19.6 +0.1**
comp=Z,4.6nm,0.5s,baz=151,slow=1.7,SNR=9.1
BDFB PKPab **pPKPdf** **23 02 31.7 +4.7**
comp=Z,4.3nm,0.5s,baz=23,slow=4.6,SNR=3.2

*NEIC **03** 23:03:33.1±1.4, 19°.40N±0°.02×154°.914W±0°.007, h2km±13km, Error ellipse: s-maj=3.2km s-min=1.1km az=182.0*

HVO 03 23:03:32.5±1.4, 19°.45N±0°.02×154°.90W±0°.04, h3km±6km, ML2.2/9, ML2.3/28(NEIC), Error ellipse: s-maj=5.2km s-min=2.4km az=114.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.03**	**13**		Pg	23 03 34.8	+1.5
JOKA	**Jonika Flow**	**0.10**	**260**		Pg	23 03 35.0	+0.4
JCUZ	**Jacuzzi**	**0.20**	**251**	Pg	Pg	23 03 34.8	-1.7
NPOC	**North of Pu'u**	**0.21**	**254**	Pg	Pg	23 03 35.4	-1.2
NPOC				IAML		23 03 38.4	
	comp=E,812nm,0.5s						
STCH	**Steam Cracks**	**0.23**	**253**	Pg	Pg	23 03 35.9	-0.9
PUH	**Pauahi**	**0.31**	**256**		Pg	23 03 38.9	+0.4
PUH					Sg	23 03 39.2	-3.4
HATHI	**Halema'uma'u T**	**0.34**	**265**	Pg	Pg	23 03 39.5	+0.4
HATHI				IAML		23 03 46.0	
	comp=N,343nm,1.1s						
HATHI				IAML		23 03 48.9	
	comp=E,434nm,1.6s						
RSD	**Rainshed**	**0.36**	**272**	Pg	Pg	23 03 39.2	-0.2
RSD				IAML		23 03 46.9	
	comp=N,303nm,0.3s						
RSD				IAML		23 03 50.5	
	comp=E,277nm,1.9s						
HLP	**Hilina Pali**	**0.42**	**248**		Pg	23 03 41.2	+0.6
HLP	**Hilina Pali**	**0.42**	**248**	IAML		23 03 47.6	
	comp=E,560nm,3.5s						
HLP				IAML		23 03 48.1	
	comp=N,336nm,1.2s						
MLH	**Mauna Loa**	**0.46**	**275**		Pg	23 03 41.8	+0.4
MLH	**Mauna Loa**	**0.46**	**275**	IAML		23 03 49.3	
	comp=E,227nm,0.2s						
MLH				IAML		23 03 49.6	
	comp=N,340nm,0.6s						
HTC	**Hot Caves**	**0.52**	**246**		Pg	23 03 42.7	+0.3
HMH	**Humu'ula Sheep**	**0.57**	**285**	Pg	Pg	23 03 43.8	+0.3
HMH				IAML		23 03 58.4	
	comp=E,221nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.65**	**278**	Pg	Pg	23 03 43.9	-1.0
MLOA				IAML		23 03 49.4	
	comp=N,182nm,3.5s						
MLOA				IAML		23 04 03.0	
	comp=E,163nm,3.6s						
MWH	**Moku'aweowe**	**0.66**	**273**	IAML		23 04 02.1	
	comp=N,222nm,3.2s						
MWH	**Moku'aweowe**	**0.66**	**273**		Pg	23 03 45.1	-0.1
MWH					Sg	23 03 55.0	+1.2
KHU	**Kahuku**	**0.71**	**253**	Pg	Pg	23 03 45.5	-0.6
ALEP	**Alea Permanent**	**0.71**	**277**		Sg	23 03 55.1	-0.3
HUH	**Hualalai**	**0.92**	**285**	Pg	Pb	23 03 50.8	-0.3
HPAH	**Hawaii Prepara**	**0.95**	**307**		Pg	23 03 50.9	+0.3
HPAH				IAML		23 03 59.6	
	comp=N,125nm,0.5s						
HPAH				IAML		23 04 24.0	
	comp=E,86nm,1.4s						

*IDC **03** 23:37:04.9±7.3, 58°.68S×25°.89W, h87km±67km, mb4.0/7, mbtmp4.3/8, ML4.2/1, MS3.4/2, Error ellipse: s-maj=28.6km s-min=19.8km az=116.0*

ISC 03 23:37:06.8±0.8, 58°.7S±0°.1×25°.9W±0°.2, h107km, n25, σ1§09/15, mb4.2/7, 8C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNA1	**Neumayer--Stat**	**14.04**	**155**	⇑P	**Pn**	**23 40 19.7**	**-0.9**
	comp=Z,10nm,0.2s						
VNA1				⇑S	Sn	23 42 43.8	-11
	comp=Z,8.1nm,0.8s						
VNA3	**Neumayer Olymp**	**14.22**	**158**	⇑P	**Pn**	**23 40 21.1**	**-1.8**
	comp=Z,8.7nm,0.2s						
VNA3				⇑S	Sn	23 42 43.4	-16
	comp=Z,9.9nm,0.6s						
VNA2	**Neumayer--Watz**	**14.44**	**155**	⇑P	**Pn**	**23 40 24.9**	**-0.8**
	comp=Z,3.2nm,0.2s,baz=309,slow=15						
VNA2				⇓S	Sn	23 42 47.4	-17
	comp=Z,5.5nm,0.5s,baz=40,slow=37						
SNAA	**Sanae**	**16.01**	**153**	⇑P	**Pn**	**23 40 45.3**	**-0.1**
	comp=Z,153nm,0.6s						
SNAA				⇓S	Sn	23 43 25.4	-17
	comp=Z,31nm,0.3s						
SNAA	**Sanae**	**16.01**	**153**	P	**Pn**	**23 40 45.2**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=353,slow=9.2,SNR=21						
SNAA				S	Sn	23 43 25.3	-17
	comp=Z,0.7nm,0.4s,baz=313,slow=8.3,SNR=1.3						
	comp=Z,4.3nm,0.5s						
TROLL	**Troll, Antarti**	**17.54**	**151**	⇑P	**Pn**	**23 41 06.7**	**+2.5**
	comp=Z,76nm,0.4s						
TROLL				⇑S	Sn	23 44 05.7	-14
	comp=Z,48nm,0.2s						
QSPA	**South Pole Qui**	**31.50**	**180**	P	**P**	**23 43 18.6**	**+0.5**
	comp=Z,4.2nm,0.5s,baz=325,slow=0.5,SNR=71						
	comp=Z,4.2nm,0.5s						
PLCA	**Paso Flores**	**33.21**	**283**	P	**P**	**23 43 32.8**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=158,slow=6.4,SNR=3.2						
	comp=Z,1.3nm,0.7s						
VNDA	**Vanda**	**43.91**	**182**	P	**P**	**23 45 03.1**	**+1.1**
	comp=Z,2.5nm,0.6s,baz=184,slow=6.4,SNR=29						
	comp=Z,2.5nm,0.6s						
H04S2	**CROZET ISLANDS**	**45.88**	**111**	T	T	00 35 45.3	
	baz=225,slow=75,SNR=50						
H04S3	**CROZET ISLANDS**	**45.89**	**111**	T	T	00 35 44.9	
	baz=225,slow=75,SNR=48						
H04S1	**CROZET ISLANDS**	**45.90**	**111**	T	T	00 35 44.8	
	baz=225,slow=75,SNR=48						
BOSA	**Boshof**	**46.06**	**72**	P	**P**	**23 45 18.9**	**-0.9**
	comp=Z,2.6nm,0.5s,baz=218,slow=7.0,SNR=18						
	comp=Z,2.6nm,0.5s						
H10S2	**ASCENSION HYDR**	**50.41**	**15**	T	T	00 40 26.6	
	baz=188,slow=74,SNR=16						
H10S3	**ASCENSION HYDR**	**50.42**	**14**	T	T	00 40 27.6	
	baz=32,slow=74,SNR=24						
H10N1	**ASCENSION HYDR**	**51.53**	**15**	T	T	00 41 51.9	
	baz=201,slow=76,SNR=8.5						
H10N3	**ASCENSION HYDR**	**51.53**	**15**	T	T	00 41 50.7	
	baz=201,slow=76,SNR=14						
H10N2	**ASCENSION HYDR**	**51.55**	**15**	T	T	00 41 52.6	
	baz=201,slow=76,SNR=11						
LSZ	**Lusaka**	**58.77**	**66**	LR	LR	00 08 39.8	
	comp=Z,27nm,18.1s,baz=132,slow=32						
DBIC	**Dimbokro**	**67.36**	**23**	P	**P**	**23 47 50.3**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=199,slow=5.0,SNR=4.4						
	comp=Z,2.0nm,0.5s						
MBAR	**Mbarara**	**72.81**	**61**	LR	LR	00 15 48.7	
	comp=Z,22nm,19.7s,baz=180,slow=32						
TORD	**Torodi Ar. Bea**	**75.09**	**28**	P	**P**	**23 48 37.5**	**+0.8**
	comp=Z,2.5nm,0.6s,baz=200,slow=6.0,SNR=31						
	comp=Z,2.5nm,0.6s						
ASAR	**Alice Springs**	**96.21**	**161**	P	**P**	**23 50 22.6**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=173,slow=3.7,SNR=4.6						
	comp=Z,0.4nm,0.6s						
YKA	**Yellowknife Ar**	**138.61**	**315**	PKP	**PKPdf**	**23 56 18.0**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=113,slow=1.6,SNR=6.5						
ILAR	**Eielson Array**	**152.37**	**308**	PKPbc	**PKiKP**	**23 56 48.5**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=143,slow=2.4,SNR=8.1						

KRSC 03 23:48:24.7±1.5, 49°.75N×155°.93E, h124km±11km, MI4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.94**	**7**	*e*P	Pn	23 48 47.5	+1.0
SKR				*e*S	Sn	23 49 03.6	+0.7
PAU	**Pauzhetka**	**1.81**	**18**	*e*P	Pn	23 48 57.8	+1.9
KDTR	**Khodutka, Kamc**	**2.47**	**33**	*e*P	Pn	23 49 05.5	+1.4
KDTR				*e*S	Sn	23 49 35.3	+0.8
ASAK	**Asacha**	**2.91**	**25**	*e*P	Pn	23 49 11.9	+1.9
ASAK				*e*S	Sn	23 49 48.4	+3.5

MTVR	**Mutnovka**	**3.08**	**27**	*eP*	Pn	23 49 14.2	+2.0
MTVR				eS	Sn	23 49 50.9	+2.0
RUS	**Russkaya**	**3.14**	**30**	*eP*	Pn	23 49 13.8	+0.9
RUS				eS	Sn	23 49 50.0	-0.1
KRMR	**Karymshinskiy**	**3.38**	**23**	*eP*	Pn	23 49 17.6	+1.6
PET	**Petropavlovsk**	**3.69**	**26**	*eS*	Sn	23 50 05.1	+2.0
UGLR	**Uglovaya**	**3.91**	**27**	*eP*	Pn	23 49 25.4	+2.3
UGLR				eS	Sn	23 50 09.2	+0.9
KOK	**Koryaka**	**3.93**	**24**	*eP*	Pn	23 49 26.0	+2.7
AVH	**Avacha**	**3.93**	**25**	*eP*	Pn	23 49 26.0	+2.7
KRER	**Koryakskii**	**3.97**	**25**	*eP*	Pn	23 49 26.3	+2.3
KRER				eS	Sn	23 50 12.1	+2.1
KRX	**Arik**	**3.99**	**24**	*eP*	Pn	23 49 26.4	+2.2
GNL	**Ganaly**	**4.14**	**17**	*eP*	Pn	23 49 27.0	+0.8
SPN	**Mys Shipunski**	**4.22**	**36**	*eP*	Pn	23 49 28.9	+1.8

*TAP **03** 23:52:46.5, 21.54N × 121.93E, h36km, ML3.3, D*
*JMA **03** 23:52:47.1±0.3, 22.2°N±2.2° × 121.5E±1.0, h126km, MV3.0/10, TAIWAN REGION*
ISC 03 23:52:49.3±2.0, 21.76N±0.08 × 121.78E±0.05, h14km±11km, n22, σ1§07/34, 1C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYUB	**Lan-yu**	**0.30**	**324**	*eP*	**Pn**	**23 52 59.0**	**-0.4**
	baz=325						
LYUB				*i* S	**Sn**	**23 53 06.3**	**+0.6**
	baz=325						
LAY	**Lan-yu**	**0.35**	**323**	⇑P	**Pn**	**23 52 58.7**	**-1.4**
	baz=325						
LAY				*eS*	**Sn**	**23 53 06.0**	**-0.9**
	baz=325						
TWKBT	**Hengchun**	**0.92**	**282**	*eP*	**Pb**	**23 53 06.1**	**-0.9**
	baz=291						
TWKBT				S	**Sn**	**23 53 21.3**	**+0.5**
	baz=291						
SLIU	**Shizi**	**1.02**	**297**	*eP*	**Pb**	**23 53 07.8**	**-0.9**
	baz=303						
SCZT	**Fangliau**	**1.24**	**300**	*eP*	**Pg**	**23 53 13.4**	**+0.3**
	baz=316						
MASBT	**Mashibuluo**	**1.36**	**309**	*eP*	**Pg**	**23 53 15.3**	**-0.2**
	baz=319						
MASBT				*eS*	**Sb**	**23 53 32.7**	**+0.8**
	baz=319						
SSD	**Sandimen**	**1.45**	**313**	*eP*	**Pg**	**23 53 17.1**	**0.0**
	baz=322						
SSD				*eS*	**Sg**	**23 53 37.6**	**+1.5**
	baz=322						
CHKH	**Chenggong**	**1.47**	**346**	P	**Pn**	**23 53 15.1**	**-0.4**
	baz=351						
CHKH				S	**Sb**	**23 53 34.7**	**-0.3**
	baz=351						
EHD	**Haiduan**	**1.48**	**339**	*eP*	**Pn**	**23 53 15.5**	**-0.1**
	baz=324						
EHD				*eS*	**Sg**	**23 53 38.2**	**+1.0**
	baz=324						
YULB	**Yu-li**	**1.69**	**345**	*eP*	**Pb**	**23 53 19.2**	**-1.0**
	baz=329						
YULB				*eS*	**Sb**	**23 53 41.9**	**+0.5**
	baz=329						
WTP	**Ta-pu**	**1.83**	**324**	*eS*	**Sg**	**23 53 50.1**	**+1.8**
	baz=325						
ALS	**Alshan**	**1.96**	**333**	S	**Sb**	**23 53 50.8**	**+1.3**
	baz=332						
SSLB	**Suanglung**	**2.16**	**340**	*eS*	**Sg**	**23 53 57.4**	**-1.4**
	baz=327						
TYC	**Yuchr**	**2.30**	**338**	P	**Pb**	**23 53 29.7**	**-0.9**
	baz=327						
TYC				*eS*	**Sg**	**23 54 01.4**	**-1.9**
	baz=327						
WUSB	**Renai**	**2.31**	**345**	*eS*	**Sb**	**23 53 59.3**	**+0.1**
	baz=343						
NACB	**Ninganchiao**	**2.41**	**356**	*eS*	**Sn**	**23 53 58.8**	**+1.1**
	baz=2.0						
NNSB	**Datong**	**2.69**	**352**	*eS*	**Sn**	**23 54 06.4**	**+1.7**
	baz=359						
IRIF	**Iriomote-Funau**	**3.13**	**35**	*eP*	**Pn**	**23 53 39.8**	**+1.5**
JKRS	**Kuro-shima**	**3.21**	**39**	*eP*	**Pn**	**23 53 40.1**	**+0.7**
JKRS				S	**Sn**	**23 54 18.1**	**+0.6**
JIJ	**Ishigaki jima**	**3.39**	**40**	*eP*	**Pn**	**23 53 42.0**	**+0.3**
JIJ				*eS*	**Sn**	**23 54 19.7**	**-2.0**
JISG	**Ishigakijimahi**	**3.66**	**39**	P	**Pn**	**23 53 45.7**	**+0.3**
JTJ	**Tarama**	**3.93**	**43**	P	**Pn**	**23 53 49.9**	**+0.6**
JTJ				S	**Sn**	**23 54 34.9**	**-0.4**

*DJA **03** 23:56:07.3±0.3, 6°S±3° × 12°9E±°, h343km±7km, M4.6/13, mb4.6/8, mB5.0/6, MLv4.8/13, Mw(mB)4.3/6*
*IDC **03** 23:56:08.2±1.9, 6.06S×128.73E, h318km±18km, mb3.5/7, mbtmp4.3/9, Error ellipse: s-maj=22.6km s-min=9.6km az=77.0*
*NEIC **03** 23:56:08.7±1.1, 6.02S±0.08×128.74E±0.08, h315km±12km, mb4.5/6, Error ellipse: s-maj=12.4km s-min=10.9km az=121.0*
ISC 03 23:56:08.5±0.5, 6.02S±0.05×128.73E±0.05, h322km, n67, σ1§17/74, mb3.7/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.89**	**38**	P	**Pn**	**23 56 57.4**	**+0.9**
BNDI	**Bandanaira**	**1.89**	**38**	P	**Pn**	**23 56 56.9**	**+0.4**
SAUI	**Saumlaki**	**3.21**	**128**	P	**Pn**	**23 57 09.2**	**+1.4**
SAUI	**Saumlaki**	**3.21**	**128**	Pn	**Pn**	**23 57 08.0**	**+0.2**
SAUI				Sn	**S**	**23 57 54.3**	**-1.0**
SAUI	**Saumlaki**	**3.21**	**128**	P	**Pn**	**23 57 08.8**	**+1.0**
NLAI	**Namlea**	**3.21**	**329**	P	**Pn**	**23 57 12.0**	**+4.2**
FAKI	**Fak Fak**	**4.67**	**49**		**Pn**	**23 57 22.2**	**-1.0**
FAKI				Sn	**S**	**23 58 19.3**	**-4.1**
FAKI	**Fak Fak**	**4.67**	**49**	P	**Pn**	**23 57 22.4**	**-0.8**
SANI	**Sanana**	**4.80**	**325**	P	**Pn**	**23 57 24.9**	**+0.2**
SANI	**Sanana**	**4.80**	**325**	P	**Pn**	**23 57 25.4**	**+0.7**
LBMI	**Labuha**	**5.49**	**347**	P	**Pn**	**23 57 32.9**	**+0.3**
	185nm,0.8s,0.6nm						
SWI	**Sorong**	**5.71**	**26**	P	**Pn**	**23 57 33.7**	**-1.4**
	174nm,0.6s,3μm0.8nm						
SOEI	**Soe**	**5.77**	**230**	P	**Pn**	**23 57 35.9**	**0.0**
SOEI	**Soe**	**5.77**	**230**		**Pn**	**23 57 35.2**	**-0.7**
SOEI				Sn	**S**	**23 58 43.8**	**-2.7**
SOEI	**Soe**	**5.77**	**230**	P	**Pn**	**23 57 36.3**	**+0.4**
	182nm,0.4s,6μm1.2nm						
BATI	**Baumata**	**6.51**	**230**	P	**Pn**	**23 57 44.9**	**+0.3**
	380nm,0.3s,baz=80,slow=3.1,SNR=76						
BATI				S	**S**	**23 59 00.1**	**-2.3**
	204nm,0.5s,baz=83,slow=22,SNR=21						
BATI	**Baumata**	**6.51**	**230**	P	**Pn**	**23 57 45.0**	**+0.4**
DRS	**Darwin Rock St**	**6.72**	**162**	P	**Pn**	**23 57 47.5**	**+0.6**
MMRI	**Maumere**	**6.95**	**248**	P	**Pn**	**23 57 49.6**	**-0.1**
	30nm,0.8s,3μm0.2nm						
MTN	**Manton Dam**	**7.18**	**161**	P	**Pn**	**23 57 52.3**	**-0.1**
MTN	**Manton Dam**	**7.18**	**161**		**Pn**	**23 57 52.2**	**-0.2**
EDFI	**Ende, Flores**	**7.49**	**248**	P	**Pn**	**23 57 57.4**	**+1.1**
	16nm,0.5s,683nm0.1nm						
KDU	**Kakadu**	**7.58**	**151**	P	**Pn**	**23 57 57.5**	**+0.3**
GTOI	**Gorontalo**	**8.74**	**319**	P	**P**	**23 58 15.0**	**-0.2**
	24nm,0.8s						
KNRA	**Kununurra**	**9.59**	**180**	P	**Pn**	**23 58 22.0**	**+0.4**
KNRA	**Kununurra**	**9.59**	**180**	Pn	**Pn**	**23 58 21.7**	**+0.1**
TOLI2	**Tolitoli**	**10.64**	**312**	P	**Pn**	**23 58 35.5**	**+1.1**
TOLI2	**Tolitoli**	**10.64**	**312**	Pn	**Pn**	**23 58 34.5**	**+0.2**
FITZ	**Fitzroy Crossi**	**12.38**	**194**		**Pn**	**23 58 54.8**	**-0.3**
TABU	**Tabubil**	**12.45**	**87**	P	**P**	**23 58 58.3**	**+1.8**
JAGI	**Jajag, Banyuwa**	**14.67**	**260**	P	**P**	**23 59 21.8**	**+0.9**
JAGI	**Jajag, Banyuwa**	**14.67**	**260**	P	**P**	**23 59 21.1**	**+0.2**
WB0	**Warramunga Arr**	**14.73**	**159**	P	**P**	**23 59 21.7**	**+0.1**
WRAB	**Tennant Creek**	**14.87**	**159**	P	**P**	**23 59 23.4**	**+0.4**
WRA	**Warramunga Arr**	**14.87**	**159**	P	**Pn**	**23 59 24.0**	**-0.8**
	17nm,0.5s,baz=337,slow=12,SNR=63						
WRA				S	**S**	**00 02 02.3**	**-2.3**
	2.8nm,0.6s,baz=330,slow=21,SNR=4.1						
WB2	**Warramunga Arr**	**14.87**	**159**	P	**P**	**23 59 23.2**	**+0.1**
WR0	**Warramunga Arr**	**14.96**	**158**	P	**P**	**23 59 24.3**	**+0.2**
COEN	**Coen**	**16.25**	**120**	P	**P**	**23 59 39.4**	**+1.2**
COEN	**Coen**	**16.25**	**120**	P	**P**	**23 59 38.9**	**+0.7**
MBWA	**Marble Bar**	**17.39**	**209**	P	**P**	**23 59 50.8**	**+0.3**
MBWA	**Marble Bar**	**17.39**	**209**	P	**P**	**23 59 50.6**	**+0.1**
MBWA				IAmb	IAmb	23 59 50.8	
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**17.69**	**208**	P	**P**	**23 59 54.2**	**+0.5**
PSA00	**Pilbara Seismi**	**17.69**	**208**	P	**P**	**23 59 53.9**	**+0.2**
PSA00				IAmb	IAmb	23 59 55.4	
	comp=Z,18nm,1.0s						
PSA00	**Pilbara Seismi**	**17.69**	**208**	P	**P**	**23 59 51.0**	**-2.7**
PSA00				IAmb	IAmb	23 59 55.3	
	comp=Z,15nm,1.1s						
QIS	**Mount Isa**	**17.89**	**145**	P	**P**	**23 59 57.6**	**+1.7**
AS31	**Alice Springs**	**18.23**	**165**	P	**P**	**00 00 00.4**	**+0.9**
AS31				IAmb	IAmb	00 00 01.5	
	comp=Z,18nm,0.3s						
ASAR	**Alice Springs**	**18.23**	**165**	P	**P**	**00 00 00.5**	**+1.0**
	comp=Z,14nm,0.4s,baz=345,slow=11,SNR=285						
ASAR				S	**S**	**00 03 09.9**	**-1.3**
	comp=Z,26nm,0.9s,baz=346,slow=21,SNR=68						
ASAR				ScP	**ScP**	**00 07 20.6**	**0.0**
	comp=Z,2.3nm,0.6s,baz=343,slow=2.2,SNR=9.6						
WRKA	**Warakurna**	**18.91**	**181**	P	**P**	**00 00 07.7**	**+1.0**
GIRL	**Giralia**	**21.65**	**219**	P	**P**	**00 00 34.4**	**+0.7**
OOD	**Oodnadatta**	**22.64**	**164**	P	**P**	**00 00 44.3**	**+1.7**
FORT	**Forrest**	**24.63**	**181**	P	**P**	**00 01 01.0**	**+0.4**
MULG	**Mulgathing**	**24.65**	**169**	P	**P**	**00 01 01.8**	**+1.0**
KMBL	**Kambalda**	**26.02**	**193**	P	**P**	**00 01 13.5**	**+0.5**
BLDU	**Ballidu**	**26.95**	**203**	P	**P**	**00 01 22.0**	**+0.7**
CMAR	**Chiang Mai Arr**	**38.14**	**310**	P	**P**	**00 02 58.5**	**+0.6**
	comp=Z,0.9nm,0.3s,baz=138,slow=8.4,SNR=4.6						
	comp=Z,0.9nm,0.3s						
MJAR	**Matsushiro Arr**	**43.26**	**11**	P	**P**	**00 03 38.0**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=186,slow=8.7,SNR=4.3						
	comp=Z,1.1nm,0.6s						
USRK	**Ussuriysk Ar.**	**50.08**	**3**	P	**P**	**00 04 31.3**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=177,slow=7.0,SNR=5.8						
	comp=Z,1.4nm,0.5s						
PETK	**Petropavlovsk-**	**63.81**	**19**	P	**P**	**00 06 07.3**	**+0.4**
	comp=Z,2.4nm,0.5s,baz=177,slow=3.8,SNR=15						
	comp=Z,2.4nm,0.5s						
MKAR	**Makanchi Array**	**66.73**	**327**	P	**P**	**00 06 26.2**	**+0.5**
	comp=Z,0.9nm,0.3s,baz=113,slow=8.5,SNR=22						
	comp=Z,0.9nm,0.3s						
ZALV	**Zalesovo Beam**	**70.16**	**334**	P	**P**	**00 06 46.2**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=126,slow=7.5,SNR=4.0						
	comp=Z,0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**71.03**	**329**	P	**P**	**00 06 52.0**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=128,slow=5.1,SNR=21						
	comp=Z,1.3nm,0.5s						
QSPA	**South Pole Qui**	**83.95**	**180**	P	**P**	**00 08 01.5**	**-1.2**
PDAR	**Pinedale Array**	**117.10**	**45**	PKP	**PKPdf**	**00 14 16.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=214,slow=1.0,SNR=1.9						
TXAR	**Lajitas Array**	**125.50**	**58**	PKP	**PKPdf**	**00 14 32.5**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=211,slow=3.7,SNR=4.7						
TORD	**Torodi Ar. Bea**	**127.38**	**282**	PKP	**PKPdf**	**00 14 36.1**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=62,slow=2.7,SNR=1.6						
CPUP	**Villa Florida**	**147.31**	**170**	PKPbc	**PKPbc**	**00 15 15.4**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=300,slow=2.1,SNR=3.3						
LPAZ	**La Paz**	**152.25**	**143**	PKPbc	**PKiKP**	**00 15 28.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=183,slow=2.9,SNR=5.6						

*IDC **04** 00:19:03.2±0.8, 22.26N × 101.55E, h0km, mb3.8/14, mbtmp3.8/15, ML3.7/1, MS3.2/15, Error ellipse: s-maj=25.6km s-min=16.3km az=78.0*
ISC 04 00:19:05.0±0.8, 22.36N±0.09×101.7E±0.2, h10km, n28, σ1§12/15, mb3.9/14, MS3.2/15, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**4.64**	**214**	Pn	**Pn**	**00 20 12.9**	**-2.3**
	1.0nm,0.3s,baz=25,slow=12,SNR=18						
CMAR				Pg	**Pb**	**00 20 28.7**	**+2.2**
	6.0nm,0.3s,baz=37,slow=17,SNR=20						
CMAR				Lg	Lg	00 21 26.2	
	4.5nm,0.3s,baz=40,slow=16,SNR=5.8						
	2.6nm,0.5s						
JOW	**Kunigami**	**24.59**	**74**	LR	LR	00 33 50.4	
	comp=Z,38nm,19.3s,baz=292,slow=36						
PALK	**Pallekele**	**25.15**	**237**	LR	LR	00 34 40.6	
	comp=Z,42nm,19.9s,baz=193,slow=38						
KSRS	**Korea Array**	**27.17**	**50**	LR	LR	00 36 59.4	
	comp=Z,75nm,20.1s,baz=240,slow=40						
JNU	**Nakatsue**	**27.91**	**61**	LR	LR	00 37 01.6	
	comp=Z,46nm,20.3s,baz=346,slow=38						
MKAR	**Makanchi Array**	**28.97**	**332**	P	**P**	**00 25 05.9**	**+1.3**
	0.7nm,0.6s,baz=139,slow=9.4,SNR=8.9						
	0.7nm,0.6s						
AAK	**Ala-Archa**	**30.34**	**318**	LR	LR	00 37 52.2	
	comp=Z,36nm,19.1s,baz=122,slow=37						
KURBB	**Kurchatov Arra**	**33.50**	**333**	P	**P**	**00 25 44.3**	**-0.2**
	0.5nm,0.2s,baz=145,slow=9.2,SNR=1.2						
	0.5nm,0.2s						
ZALV	**Zalesovo Beam**	**34.02**	**342**	P	**P**	**00 25 49.5**	**+0.6**
	1.4nm,0.3s,baz=144,slow=7.0,SNR=2.5						
ZALV				LR	LR	00 39 25.8	
	comp=Z,18nm,18.2s,baz=203,slow=36						
	1.4nm,0.3s						
KLR	**Kul'dur**	**35.84**	**34**	LR	LR	00 40 34.2	
	comp=Z,31nm,18.5s,baz=226,slow=36						
BVAR	**Borovoye Array**	**38.80**	**330**	P	**P**	**00 26 30.5**	**+0.8**
	0.5nm,0.5s,baz=133,slow=9.1,SNR=5.0						
BVAR				LR	LR	00 43 50.0	
	comp=Z,31nm,20.4s,baz=118,slow=38						
	0.5nm,0.5s						
GEYT	**Alibeck**	**40.34**	**303**	P	**P**	**00 26 42.9**	**-0.1**
	1.4nm,0.7s,baz=128,slow=9.3,SNR=5.9						
	1.4nm,0.7s						
YAK	**Yakutsk**	**44.04**	**19**	LR	LR	00 46 44.4	
	comp=Z,53nm,18.9s,baz=208,slow=38						
MA2	**Madan**	**50.66**	**30**	LR	LR	00 49 42.1	
	comp=Z,22nm,20.2s,baz=160,slow=36						
TIXI	**Tiksi**	**51.72**	**11**	LR	LR	00 53 03.6	
	comp=Z,35nm,19.3s,baz=248,slow=39						
KIRV	**Kirov**	**51.75**	**328**	LR	LR	00 51 45.7	
	comp=Z,30nm,19.9s,baz=137,slow=38						
PETK	**Petropavlovsk-**	**52.16**	**39**	LR	LR	00 51 49.2	
	comp=Z,36nm,19.0s,baz=228,slow=38						
WRA	**Warramunga Arr**	**52.79**	**140**	P	**P**	**00 28 20.1**	**-0.5**
	0.9nm,0.8s,baz=326,slow=8.0,SNR=5.0						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**55.47**	**144**	P	**P**	**00 28 40.3**	**+0.2**
	0.8nm,0.8s,baz=338,slow=7.0,SNR=4.4						
	0.8nm,0.8s						
AKASG	**Malin Array Be**	**61.99**	**317**	P	**P**	**00 29 24.6**	**-0.7**
	0.4nm,0.5s,baz=82,slow=6.2,SNR=1.9						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**63.74**	**329**	P	**P**	**00 29 35.6**	**-1.1**
	0.8nm,0.6s,baz=114,slow=7.1,SNR=4.6						
	0.8nm,0.6s						
MLR	**Muntele Rosu**	**64.56**	**311**	LR	LR	01 01 02.9	
	comp=Z,23nm,19.9s,baz=114,slow=39						
SPITS	**Spitsbergen Ar**	**67.31**	**347**	LR	LR	01 02 26.3	
	comp=Z,33nm,21.4s,baz=84,slow=39						
HFS	**Hagfors**	**69.88**	**328**	P	**P**	**00 30 16.1**	**+0.2**
	1.4nm,0.6s,baz=89,slow=5.9,SNR=5.6						
	1.4nm,0.6s						
NOA	**NORSAR Array B**	**70.92**	**329**	P	P	00 30 20.7	-1.5
	0.7nm,0.8s,baz=66,slow=5.4,SNR=1.9						
	0.7nm,0.8s						
GERES	**GERESS Array B**	**72.19**	**316**	P	**P**	**00 30 30.1**	**-0.2**
	0.6nm,0.6s,baz=40,slow=7.7,SNR=2.8						
	0.6nm,0.6s						
INK	**Inuvik**	**81.11**	**18**	P	**P**	**00 31 20.9**	**+0.7**
	0.6nm,0.5s,baz=81,slow=3.9,SNR=4.2						
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**90.66**	**16**	P	**P**	**00 32 07.7**	**+0.1**
	0.2nm,0.8s,baz=334,slow=5.6,SNR=2.8						
	0.2nm,0.8s						

*NEIC **04** 00:20:24.7±1.0, 19.44N±0.02×154.85W±0.01, h2km±9km, ML2.5/6, ML2.5/42(NEIC), Error ellipse: s-maj=3.3km s-min=1.0km az=199.0, Hawaiian Islands*

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.06**	**317**		Pg	00 20 26.0	+0.5
JOKA	**Jonika Flow**	**0.15**	**268**		Pg	00 20 27.1	-0.1
JCUZ	**Jacuzzi**	**0.25**	**257**	Pg	Pg	00 20 28.9	-0.2
NPOC	**North of Pu'u**	**0.25**	**260**		Pg	00 20 28.8	-0.3
NPOC				IAML		00 20 33.8	
	comp=N,641nm,0.2s						
NPOC				IAML		00 20 36.1	
	comp=E,701nm,0.4s						
STCH	**Steam Cracks**	**0.27**	**259**		Pg	00 20 28.8	-0.6
KNHH	**Kane Nui o Ham**	**0.31**	**259**		Pg	00 20 31.0	+0.8
PUH	**Pauahi**	**0.35**	**260**		Pg	00 20 31.0	-0.1
BYL	**Byron's Ledge**	**0.39**	**266**	Pg	Pg	00 20 31.5	-0.3
HATHI	**Halema'uma'u T**	**0.39**	**268**	Pg	Pg	00 20 31.5	-0.3
HATHI				IAML		00 20 40.0	
	comp=E,322nm,0.9s						
HATHI				IAML		00 20 45.4	
	comp=N,334nm,0.6s						
KKO	**Keanakako'i**	**0.40**	**264**	Pg	Pg	00 20 31.6	-0.3
KKO				IAML		00 20 42.7	
	comp=E,318nm,1.0s						
KKO				IAML		00 20 45.7	
	comp=N,416nm,1.1s						
SBLHI	**Steaming Bluff**	**0.40**	**268**		Pg	00 20 31.6	-0.3
RIM	**Rim**	**0.41**	**264**	Pg	Pg	00 20 31.8	-0.3
RIM				IAML		00 20 42.8	
	comp=N,297nm,0.5s						
UWB	**Uwekahuna B**	**0.41**	**268**	Pg	Pg	00 20 31.5	-0.6
UWB				IAML		00 20 44.5	
	comp=N,321nm,2.4s						
RSD	**Rainshed**	**0.41**	**273**		Pg	00 20 31.9	-0.2
RSD				IAML		00 20 39.0	
	comp=N,509nm,0.8s						
RSD				IAML		00 20 44.8	
	comp=E,470nm,0.4s						
UWE	**Uwekahuna**	**0.42**	**268**		Pg	00 20 32.0	-0.4
UWE				IAML		00 20 40.5	
	comp=E,470nm,0.6s						
UWE				IAML		00 20 46.0	
	comp=N,422nm,1.2s						
SDHHI	**Sand Hill**	**0.42**	**263**	Pg	Pg	00 20 31.9	-0.6
SDHHI				IAML		00 20 40.0	
	comp=N,343nm,0.8s						
SDHHI				IAML		00 20 43.3	
	comp=E,439nm,1.4s						
WRMHI	**West Rim**	**0.43**	**266**	Pg	Pg	00 20 32.1	-0.4
WRMHI				IAML		00 20 39.9	
	comp=N,532nm,0.6s						
WRMHI				IAML		00 20 43.1	
	comp=E,706nm,0.4s						
HLP	**Hilina Pali**	**0.46**	**252**	Pg	Pg	00 20 33.1	+0.1
HLP				IAML		00 20 40.4	
	comp=N,665nm,0.6s						
HLP				IAML		00 20 47.0	
	comp=E,641nm,0.8s						
MLH	**Mauna Loa**	**0.51**	**276**		Pg	00 20 33.6	-0.5
MLH				Sg	Sg	00 20 40.5	-0.3
MLH				IAML		00 20 41.5	
	comp=E,360nm,1.8s						
HTC	**Hot Caves**	**0.56**	**249**		Pg	00 20 34.7	-0.2
HMH	**Humu'ula Sheep**	**0.62**	**285**		Pg	00 20 35.6	-0.6
HMH	**Humu'ula Sheep**	**0.62**	**285**		Sg	00 20 45.3	+1.0
MLOA	**Mauna Loa Obse**	**0.69**	**278**		Pg	00 20 36.6	-1.0
MLOA					Sg	00 20 46.4	-0.2
MLOA				IAML		00 20 55.7	
	comp=N,308nm,2.4s						
MLOA				IAML		00 21 00.5	
	comp=E,238nm,3.2s						
MWH	**Moku'aweowe**	**0.71**	**274**		Pg	00 20 36.9	-1.0
POHA	**Pohakuloa**	**0.72**	**296**		Pg	00 20 37.4	-0.7
KHU	**Kahuku**	**0.75**	**255**		Pg	00 20 37.7	-0.9
KHU				IAML		00 21 02.7	
	comp=N,253nm,3.1s						
HUH	**Hualalai**	**0.96**	**285**		Pg	00 20 42.4	-0.3

*IDC **04** 00:44:45.0±0.8, 13.56N × 120.98E, h142km±7km, mb3.6/12, mbtmp4.0/12, MS2.9/1, Error ellipse: s-maj=36.6km s-min=13.3km az=60.0*
*NEIC **04** 00:44:46.4±1.3, 13.8N±0.1×121.0E±0.1, h142km±10km, mb4.4/8, Error ellipse: s-maj=20.7km s-min=16.7km az=111.0*
ISC 04 00:44:45.7±0.7, 13.67N±0.10×121.1E±0.2, h150km, n22, σ0§86/21, mb3.8/13, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.45**	**342**	P	**Pn**	**00 45 06.3**	**-0.7**
	4μm,0.3s,baz=223,slow=3.3,SNR=90						
SBUM	**Sibu**	**14.18**	**219**		**P**	**00 48 03.2**	**+0.3**
KAPI	**Kappang**	**18.61**	**184**	P	**Pn**	**00 48 54.2**	**+0.4**
KAPI				IAmb	IAmb	00 48 55.3	
	comp=Z,19nm,0.7s						
FAKI	**Fak Fak**	**19.86**	**145**	P	**Pn**	**00 49 07.5**	**-1.0**
FAKI				IAmb	IAmb	00 49 19.3	
	comp=Z,27nm,1.0s						
PHRA	**Phrae**	**20.60**	**286**	P	**P**	**00 49 13.0**	**-0.2**
CRAI	**Chiangrai**	**20.84**	**291**	P	**P**	**00 49 15.7**	**-0.1**
CRAI				IAmb	IAmb	00 49 17.9	
	comp=Z,6.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**21.79**	**286**	P	**P**	**00 49 25.4**	**-0.6**
	comp=Z,4.0nm,0.6s,baz=91,slow=7.6,SNR=30						
	comp=Z,4.0nm,0.6s						
MMRI	**Maumere**	**22.19**	**177**	P	**P**	**00 49 31.6**	**+1.7**
JCJ	**Chichijima**	**23.82**	**53**	LR	LR	00 58 07.4	
	comp=Z,32nm,21.1s,baz=120,slow=34						
WRA	**Warramunga Arr**	**35.86**	**158**	P	**P**	**00 51 30.3**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=332,slow=10,SNR=11						
	comp=Z,1.9nm,0.5s						
ASAR	**Alice Springs**	**39.17**	**161**	P	**P**	**00 51 59.0**	**-0.1**
	comp=Z,1.2nm,0.6s,baz=339,slow=6.9,SNR=9.9						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**46.28**	**323**	P	**P**	**00 52 56.7**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=132,slow=8.7,SNR=12						
	comp=Z,1

JOW	**Kunigami**	**3.09**	**78**	P		**Pn**	**00 54 54.9**	**+1.5**
JOW	**Kunigami**	**3.09**	**78**	P		**Pn**	**00 54 54.8**	**+1.5**
JOW				S		**Sn**	**00 55 31.6**	**-2.1**
JYRO	**Yoronjima**	**3.29**	**75**	P		**Pn**	**00 54 57.0**	**+1.4**
JYRO				S		**Sn**	**00 55 34.9**	**-2.9**
TATO	**Taipei**	**3.31**	**249**	P		**Pn**	**00 54 58.9**	**+3.0**
JOKE	**Okinoerabujima**	**3.48**	**70**	*eP*		**Pn**	**00 54 58.8**	**+0.9**
JOKE				*eS*		**Sn**	**00 55 39.5**	**-2.4**
YHNB	**Yeheng**	**3.53**	**245**	P		**Pn**	**00 55 01.3**	**+2.7**
NACB	**Ninganchiao**	**3.61**	**237**	P		**Pn**	**00 54 59.8**	**+0.4**
JTK	**Tokunoshima**	**3.95**	**66**	P		**Pn**	**00 55 04.3**	**+0.8**
JTK				*eS*		**Sn**	**00 55 49.4**	**-2.7**
YULB	**Yu-li**	**4.30**	**230**	P		**Pn**	**00 55 07.3**	**-0.7**
SSLB	**Suanglung**	**4.31**	**237**	P		**Pn**	**00 55 08.8**	**+0.7**
TPUB	**Ta-pu**	**4.83**	**234**	P		**Pn**	**00 55 15.9**	**+1.3**
JMZ	**Minamidaito 2**	**5.71**	**92**	P		**Pn**	**00 55 27.8**	**+2.2**

*IDC **04** 00:57:01.0±5.9, 23°.14S×67°.72W, h0km, mb3.9/1, mbtmp3.9/2, ML4.0/1, Error ellipse: s-maj=171.5km s-min=52.8km az=63.0*
*GUC **04** 00:57:28.8±0.8, 21°.28S×67°.62W, h185km±9km, ML3.3*
*SCB **04** 00:57:28.2±1.4, 21°.29S×67°.56W, h166km±26km, ML3.1/1, Error ellipse: s-maj=14.7km s-min=10.9km az=0.0*
ISC 04 00:57:27.5±1.0, 21°.26S±0°.05×67°.59W±0°.05, h182km±9km, n30, σ1§01/43, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.63**	**251**	*eP*	**Pn**	**00 58 02.2**	**+1.1**
PB09				*eS*	**Sn**	**00 58 28.1**	**+1.0**
PB01	**IPOC Station P**	**1.79**	**277**	*eP*	**Pn**	**00 58 03.0**	**+0.4**
PB01				*eS*	**Sn**	**00 58 29.3**	**-0.4**
PB01				IAML		00 58 30.7	
	comp=N,117nm,0.4s						
PB01	**IPOC Station P**	**1.79**	**277**	Pg	**Pn**	**00 58 03.6**	**+1.0**
MOCB	**Mochara**	**1.82**	**90**	Pg	**Pn**	**00 58 03.5**	**+0.2**
MOCB				Sg	**Sn**	**00 58 29.5**	**-1.5**
MOCB				IAML		00 58 31.0	
	comp=N,105nm,0.7s						
LVC	**Limon Verde**	**1.82**	**222**	*eP*	**Pn**	**00 58 03.9**	**+0.7**
LVC				*eS*	**Sn**	**00 58 30.6**	**-0.5**
LVC				IAML		00 58 32.5	
	comp=N,110nm,0.2s						
PB08	**IPOC Station P**	**1.84**	**307**	*i* P	**Pn**	**00 58 04.6**	**+1.1**
PB08				*eS*	**Sn**	**00 58 31.7**	**+0.4**
PB08				IAML		00 58 34.2	
	comp=E,80nm,0.2s						
PB08	**IPOC Station P**	**1.84**	**307**	Pg	**Pn**	**00 58 04.8**	**+1.3**
PB02	**IPOC Station P**	**2.15**	**268**	*eP*	**Pn**	**00 58 07.1**	**+0.6**
PB02				*eS*	**Sn**	**00 58 35.8**	**-1.1**
PB02				IAML		00 58 37.9	
	comp=E,208nm,0.2s						
PB02	**IPOC Station P**	**2.15**	**268**	Pg	**Pn**	**00 58 07.1**	**+0.6**
PB02				Sg	**Sn**	**00 58 35.6**	**-1.2**
GO01	**Chusmiza**	**2.18**	**316**	*eP*	**Pn**	**00 58 08.0**	**+0.6**
GO01				IAML		00 58 43.6	
	comp=N,181nm,0.1s						
GO01	**Chusmiza**	**2.18**	**316**	Pg	**Pn**	**00 58 08.1**	**+0.8**
PB07	**IPOC Station P**	**2.19**	**257**	*eP*	**Pn**	**00 58 07.6**	**+0.6**
PB07				*eS*	**Sn**	**00 58 36.6**	**-1.1**
PB07				IAML		00 58 37.0	
	comp=N,159nm,0.2s						
PB06	**IPOC Station P**	**2.34**	**232**	*eP*	**Pn**	**00 58 09.3**	**+0.6**
PB06				*eS*	**Sn**	**00 58 40.2**	**-0.5**
PB06				IAML		00 58 41.5	
	comp=E,129nm,0.1s						
HMBC	**Humberstone**	**2.36**	**294**	*eP*	**Pn**	**00 58 09.0**	**+0.1**
HMBC				*eS*	**Sn**	**00 58 39.8**	**-1.3**
HMBC				IAML		00 58 40.6	
	comp=E,132nm,0.3s						
PATCX	**Punta Patache**	**2.44**	**280**	*eP*	**Pn**	**00 58 10.4**	**+0.7**
PATCX				*eS*	**Sn**	**00 58 41.1**	**-1.3**
PATCX				IAML		00 58 42.5	
	comp=E,110nm,0.2s						
PB11	**IPOC Station P**	**2.44**	**307**	*i* P	**Pn**	**00 58 10.1**	**+0.2**
PB11				*eS*	**Sn**	**00 58 41.5**	**-1.3**
PB11				IAML		00 58 43.0	
	comp=N,172nm,0.2s						
PB11	**IPOC Station P**	**2.44**	**307**	Pg	**Pn**	**00 58 10.3**	**+0.4**
TA01	**Diego Aracena**	**2.52**	**285**	*eP*	**Pn**	**00 58 10.4**	**-0.2**
PB15	**IPOC Station P**	**2.61**	**222**	*eP*	**Pn**	**00 58 13.7**	**+1.9**
SOEO	**Opoqueri**	**2.70**	**354**	Pg	**Pn**	**00 58 14.4**	**+1.2**
PB05	**IPOC Station P**	**2.90**	**236**	*eP*	**Pn**	**00 58 15.5**	**+0.4**
PB05				*eS*	**Sn**	**00 58 50.3**	**-2.0**
PB05				IAML		00 58 51.1	
	comp=N,52nm,0.2s						
SOET	**ToroToro**	**3.55**	**28**	Pg	**Pn**	**00 58 23.5**	**+0.1**
PB12	**IPOC Station P**	**3.68**	**315**	*eP*	**Pn**	**00 58 23.7**	**-1.2**
AOEA	**Aiquile**	**3.78**	**36**	Pg	**Pn**	**00 58 26.4**	**+0.1**
SOEJ	**Jacaque**	**4.30**	**352**	Pg	**Pn**	**00 58 34.5**	**+1.4**
BBOE	**La Paz, Chanca**	**4.44**	**355**	Pg	**Pn**	**00 58 36.6**	**+1.7**
LPAZ	**La Paz**	**4.97**	**354**	Pn	**Pn**	**00 58 43.0**	**+1.2**
	comp=N,1.4nm,0.3s,baz=157,slow=5.6,SNR=35						
	comp=N,3.2nm,0.4s						
LPAZ	**La Paz**	**4.97**	**354**	Pg	**Pn**	**00 58 42.8**	**+1.0**
TORD	**Torodi Ar. Bea**	**76.11**	**70**	P	**P**	**01 08 55.6**	**-0.1**
	comp=N,0.5nm,0.4s,baz=251,slow=5.7,SNR=9.4						
	comp=N,0.5nm,0.4s						
MKAR	**Makanchi Array**	**144.71**	**37**	PKPbc	**PKPdf**	**01 16 42.8**	**+0.3**
	comp=N,0.2nm,0.4s,baz=322,slow=1.3,SNR=2.9						

*NEIC **04** 01:18:51.8±2.2, 19°.41N±0°.02×155°.02W±0°.03, h5km±2km, Error ellipse: s-maj=5.2km s-min=3.1km az=291.0*
HVO 04 01:18:49.9±1.4, 19°.42N±0°.02×154°.89W±0°.04, h6km±9km, ML2.2/3, ML2.5/20(NEIC), Error ellipse: s-maj=5.0km s-min=3.0km az=97.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.31**	**262**		Pg	01 18 55.9	-0.1
PUH				Sg	Sg	01 19 00.7	+0.5
RSD	**Rainshed**	**0.37**	**277**	Pg	Pg	01 18 57.0	-0.1
RSD				Sg	Sg	01 19 03.1	+1.1
RSD				IAML		01 19 03.5	
	comp=N,415nm,1.3s						
HLP	**Hilina Pali**	**0.41**	**253**		Pg	01 18 57.8	-0.2
HLP				Sg	Sg	01 19 04.3	+0.9
HLP				IAML		01 19 04.9	
	comp=N,575nm,0.6s						
HLP				IAML		01 19 11.9	
	comp=E,520nm,0.7s						
MLH	**Mauna Loa**	**0.47**	**279**		Pg	01 18 58.5	-0.6
MLH				Sg	Sg	01 19 05.6	+0.2
MLH				IAML		01 19 10.1	
	comp=E,276nm,0.6s						
HTC	**Hot Caves**	**0.51**	**249**		Pg	01 18 59.3	-0.5
HMH	**Humu'ula Sheep**	**0.59**	**288**		Pg	01 19 00.6	-0.7
HMH				Sg	Sg	01 19 08.7	-0.4
MLOA	**Mauna Loa Obse**	**0.66**	**280**	Pg	Pg	01 19 01.1	-1.5
MLOA				Sg	Sg	01 19 10.2	-1.0
MLOA				IAML		01 19 11.1	
	comp=N,214nm,1.2s						
MLOA				IAML		01 19 20.2	
	comp=E,187nm,1.5s						
MWH	**Moku'aweowe**	**0.67**	**276**		Pg	01 19 01.4	-1.5
MWH				Sg	Sg	01 19 12.0	+0.3
MWH				IAML		01 19 14.6	
	comp=N,227nm,1.1s						
MWH				IAML		01 19 21.5	
	comp=E,315nm,1.5s						
KHU	**Kahuku**	**0.70**	**256**		Pg	01 19 02.3	-1.2
KHU				Sg	Sg	01 19 11.7	-1.1
ALEP	**Alea Permanent**	**0.72**	**280**		Pg	01 19 02.5	-1.4
HUH	**Hualalai**	**0.93**	**287**		Pg	01 19 07.2	-0.6
HPAH	**Hawaii Prepara**	**0.97**	**309**	Pg	Pg	01 19 07.9	-0.7
HPAH				IAML		01 19 34.2	
	comp=E,113nm,0.9s						
HPAH				IAML		01 19 37.8	
	comp=N,111nm,1.4s						

*NEIC **04** 01:49:32.6±0.7, 19°.36N±0°.02×155°.14W±0°.01, h5km±1km, Error ellipse: s-maj=3.4km s-min=2.5km az=152.0*
HVO 04 01:49:30.3±0.8, 19°.33N±0°.03×155°.01W±0°.02, h4km±8km, ML2.7/3, ML1.9/14(NEIC), Error ellipse: s-maj=4.7km s-min=2.1km az=205.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.10**	**301**		Pg	01 49 34.4	+2.0
JCUZ	**Jacuzzi**	**0.10**	**301**		IAML	01 49 34.6	
	comp=E,542nm,0.1s						
JCUZ					IAML	01 49 35.0	
	comp=N,304nm,0.3s						
STCH	**Steam Cracks**	**0.12**	**296**		Pg	01 49 33.2	+0.4
STCH	**Steam Cracks**	**0.12**	**296**		IAML	01 49 35.2	
	comp=E,331nm,0.2s						
STCH					IAML	01 49 35.3	
	comp=N,313nm,0.2s						
KNHH	**Kane Nui o Ham**	**0.16**	**288**		Pg	01 49 33.7	+0.2
PUH	**Pauahi**	**0.20**	**282**		Pg	01 49 34.2	0.0
PUH	**Pauahi**	**0.20**	**282**	IAML		01 49 35.5	
	comp=E,132nm,1.9s						
PUH					IAML	01 49 39.6	
	comp=N,184nm,1.9s						
HLP	**Hilina Pali**	**0.28**	**263**		Pg	01 49 35.9	+0.1
HLP	**Hilina Pali**	**0.28**	**263**	IAML		01 49 39.6	
	comp=N,260nm,1.8s						
HLP				IAML		01 49 39.9	
	comp=E,208nm,2.3s						
HTC	**Hot Caves**	**0.38**	**256**		Pg	01 49 38.1	+0.5
MLH	**Mauna Loa**	**0.39**	**295**		Pg	01 49 38.1	+0.2
MLH	**Mauna Loa**	**0.39**	**295**	IAML		01 49 47.9	
MLH	comp=E,126nm,2.4s			IAML		01 49 50.0	
	comp=N,202nm,3.0s						
HMH	**Humu'ula Sheep**	**0.52**	**301**		Pg	01 49 40.4	0.0
HMH	**Humu'ula Sheep**	**0.52**	**301**	IAML		01 49 46.2	
	comp=E,174nm,2.9s						
HMH				IAML		01 49 50.0	
	comp=N,360nm,3.5s						
KHU	**Kahuku**	**0.58**	**262**		Pg	01 49 41.0	-0.5
KHU	**Kahuku**	**0.58**	**262**	IAML		01 49 49.4	
	comp=E,295nm,3.1s						
KHU				IAML		01 49 50.2	
	comp=N,216nm,3.9s						
ALEP	**Alea Permanent**	**0.64**	**289**		Sg	01 49 50.6	-0.2

*NEIC **04** 01:50:22.0±1.8, 19°.42N±0°.03×154°.92W±0°.04, h7km±6km, Error ellipse: s-maj=6.3km s-min=1.5km az=129.0*
HVO 04 01:50:21.2±1.7, 19°.43N±0°.02×154°.89W±0°.03, h1km±9km, ML2.3/3, ML2.5/16(NEIC), Error ellipse: s-maj=5.0km s-min=1.8km az=115.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**358**		Pg	01 50 23.3	+1.0
JOKA	**Jonika Flow**	**0.11**	**273**		Pg	01 50 23.6	+0.3
PUH	**Pauahi**	**0.31**	**260**		Pg	01 50 27.0	-0.2
PUH				IAML		01 50 37.3	
	comp=N,451nm,0.7s						
UWB	**Uwekahuna B**	**0.37**	**270**		Pg	01 50 28.7	+0.5
UWB	**Uwekahuna B**	**0.37**	**270**	IAML		01 50 31.4	
	comp=N,290nm,1.7s						
UWB				IAML		01 50 38.0	
	comp=E,247nm,2.8s						
RSD	**Rainshed**	**0.37**	**275**		Pg	01 50 28.3	0.0
RSD				IAML		01 50 35.1	
	comp=E,443nm,0.3s						
RSD	**Rainshed**	**0.37**	**275**		Sg	01 50 34.9	+1.8
SDHHI	**Sand Hill**	**0.39**	**264**		Pg	01 50 29.2	+0.6
SDHHI	**Sand Hill**	**0.39**	**264**	IAML		01 50 34.1	
	comp=N,638nm,0.9s						
SDHHI				IAML		01 50 41.6	
	comp=E,665nm,1.2s						
HLP	**Hilina Pali**	**0.42**	**252**		Pg	01 50 29.9	+0.7
HLP	**Hilina Pali**	**0.42**	**252**	IAML		01 50 40.3	
	comp=N,357nm,0.8s						
HLP				IAML		01 50 41.2	
	comp=E,414nm,2.8s						
HTC	**Hot Caves**	**0.52**	**249**		Pg	01 50 31.4	+0.3
HMH	**Humu'ula Sheep**	**0.59**	**287**		Pg	01 50 32.3	-0.2
HMH	**Humu'ula Sheep**	**0.59**	**287**		Sg	01 50 40.9	+0.8
HMH	**Humu'ula Sheep**	**0.59**	**287**	IAML		01 50 46.5	
	comp=N,332nm,0.4s						
MWH	**Moku'aweowe**	**0.67**	**275**		Pg	01 50 33.5	-0.6
MWH	**Moku'aweowe**	**0.67**	**275**	IAML		01 50 55.3	
	comp=N,255nm,1.5s						
KHU	**Kahuku**	**0.71**	**255**		Pg	01 50 33.5	-1.3
KHU				IAML		01 50 52.4	
	comp=N,216nm,3.3s						
ALEP	**Alea Permanent**	**0.72**	**279**		Pg	01 50 34.1	-0.9

IDC 04 01:59:29.3±3.0, 54°.17N×87°.12E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=24.4km s-min=18.8km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.37**	**262**	I	I	02 08 30.7	
	baz=80,slow=329,SNR=16						
ZALV	**Zalesovo Beam**	**1.37**	**262**	Pg	Pg	01 59 53.9	-1.7
	1.2nm,0.3s,baz=82,slow=11,SNR=10						
ZALV				Lg	Lg	02 00 13.4	
	0.8nm,0.3s,baz=80,slow=29,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.34**	**239**	Pn	Pn	02 01 05.0	+1.1
	0.1nm,0.3s,baz=55,slow=14,SNR=4.2						
KURBB				Sn	Sn	02 02 16.3	-0.8
	baz=2.6,slow=19						
KURBB				Lg	Lg	02 02 50.3	
	baz=64,slow=30,SNR=1.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.00**	**205**	Pn	Pn	02 01 28.0	+1.3
	0.1nm,0.3s,baz=24,slow=14,SNR=1.9						
	0.1nm,0.3s						

*IDC **04** 02:09:08.8±1.0, 1°.27S×23°.91W, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=45.1km s-min=24.9km az=160.0*
ISC 04 02:09:09.6±0.9, 1°.5S±0°.3×24°.0W±0°.2, h10km, n14, σ1§49/9, mb3.7/5, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**1.35**	**124**	T	T	02 23 57.7	
	baz=305,slow=74,SNR=93						
H10N2	**ASCENSION HYDR**	**1.35**	**124**	T	T	02 23 52.3	
	baz=305,slow=74,SNR=110						
H10N1	**ASCENSION HYDR**	**1.37**	**124**	T	T	02 23 51.3	
	baz=305,slow=74,SNR=146						
H10S3	**ASCENSION HYDR**	**1.87**	**129**	T	T	02 24 40.9	
	baz=309,slow=74,SNR=74						
H10S2	**ASCENSION HYDR**	**1.88**	**129**	T	T	02 24 43.4	
	baz=271,slow=74,SNR=23						
RCBR	**Riachuelo**	**12.69**	**250**	Pn	**Pn**	**02 12 09.1**	**-1.3**
	0.9nm,0.3s,baz=63,slow=13,SNR=17						
DBIC	**Dimbokro**	**20.70**	**67**	P	**P**	**02 13 50.9**	**+0.7**
	5.0nm,1.0s,baz=241,slow=9.5,SNR=2.2						
	5.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**29.29**	**60**	P	**P**	**02 15 13.2**	**+0.7**
	0.6nm,0.7s,baz=238,slow=8.3,SNR=2.9						
	0.6nm,0.7s						
LPAZ	**La Paz**	**45.93**	**249**	P	**P**	**02 17 35.5**	**+1.6**
	1.1nm,0.7s,baz=138,slow=4.3,SNR=4.9						
	1.1nm,0.7s						
AKASG	**Malin Array Be**	**68.81**	**33**	P	**P**	**02 20 12.2**	**-1.9**
	1.0nm,0.7s,baz=238,slow=6.0,SNR=2.3						
	1.0nm,0.7s						
TXAR	**Lajitas Array**	**81.75**	**300**	P	**P**	**02 21 31.1**	**+1.8**
	0.5nm,0.9s,baz=123,slow=9.1,SNR=6.1						
	0.5nm,0.9s						
YKA	**Yellowknife Ar**	**91.59**	**332**	P	**P**	**02 22 15.8**	**-0.8**
	0.3nm,0.7s,baz=84,slow=5.4,SNR=5.8						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**147.02**	**141**	PKPbc	**PKPab**	**02 28 54.2**	**-0.8**
	2.5nm,0.5s,baz=210,slow=2.2,SNR=33						
WRA	**Warramunga Arr**	**149.90**	**136**	PKPbc	**PKPbc**	**02 29 01.1**	**-0.1**
	1.2nm,0.6s,baz=243,slow=1.5,SNR=6.9						

*IDC **04** 02:24:18.9±0.6, 36°.31N×33°.86W, h0km, mb4.1/21, mbtmp4.1/21, MS3.8/57, Error ellipse: s-maj=19.0km s-min=12.9km az=160.0*
*NEIC **04** 02:24:20.9±1.5, 36°.3N±0°.1×33°.9W±0°.1, h10km±1km, mb4.9/346, Error ellipse: s-maj=18.9km s-min=14.1km az=167.0*
*MOS **04** 02:24:20.9±2.0, 36°.30N×33°.90W, h10km, mb5.0/49, Error ellipse: s-maj=8.8km s-min=5.5km az=136.8*
*GCMT **04** 02:24:21.9±0.2, 36°.44N±0°.03×33°.88W±0°.02, h14km, MW4.9/109, Moment Tension Solution. s30, c35; s109, c170; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.52±.14; Mθθ=0.26±.09; Mϕϕ=2.26±.09; Mrθ=0.25±.23; Mrϕ=0.87±.05; Mθϕ=0.34±.16; Best double couple: M=2.58700×10^16 NP1:ϕ=203.00000°, δ=50.00000°, λ=-87.00000°. NP2:ϕ=18.00000°, δ=41.00000°, λ=-94.00000°. Principal axes: T 2.6170, Plg=5.0000°, Azm=291.0000°; N -0.0590, Plg=3.0000°, Azm=21.0000°; P -2.5570, Plg=85.0000°, Azm=140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*SVSA **04** 02:24:24.7±1.2, 36°.15N×33°.50W, h10km, ML4.7(INMG) Error ellipse: s-maj=15.4km s-min=7.3km az=31.0*
ISC 04 02:24:20.4±0.3, 36°.33N±0°.06×33°.94W±0°.05, h10km, n813, σ1§23/655, mb4.9/233, MS3.9/65, 18C-26D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**3.73**	**35**	*eP*	**Pn**	**02 25 18.4**	**+0.3**
H07S1	**FLORES T-PHASE**	**3.73**	**35**	Pn	**Pn**	**02 25 17.9**	**-0.2**
H07N1	**FLORES T-PHASE**	**4.02**	**33**	*eP*	**Pn**	**02 25 21.0**	**-1.1**
H07N1	**FLORES T-PHASE**	**4.02**	**33**	Pn	**Pn**	**02 25 20.4**	**-1.7**
CALA	**Caldeira**	**4.73**	**60**	*eP*	**Pn**	**02 25 29.7**	**-2.2**
PICO	**Pico**	**4.89**	**62**	*eP*	**Pn**	**02 25 31.1**	**-3.0**
ROSA	**Rosais**	**5.11**	**61**	*eP*	**Pn**	**02 25 34.5**	**-2.6**
ADH	**Angra Heroismo**	**5.81**	**64**	*eP*	Pn	02 25 43.3	-3.3
PSET	**Sete Cidades**	**6.73**	**75**	*eP*	Pn	02 25 55.8	-3.6
CMLA	**Cha da Macela**	**6.88**	**76**	Pn	Pn	02 25 57.1	-4.2
CMLA	**Cha da Macela**	**6.88**	**76**	*eP*	Pn	02 25 57.7	-3.6
CMLA	**Cha da Macela**	**6.88**	**76**	*eP*	Pn	02 25 57.7	-3.6
PGRON	**Lagoa das Cont**	**6.99**	**76**	*eP*	Pn	02 25 59.6	-3.4
PSMA	**Santa Maria**	**7.11**	**82**	*eP*	Pn	02 26 00.8	-3.7
PSMA				*eS*	Sn	02 27 12.9	-12
PSMA				A	A	02 27 13.5	
	8.3nm,0.2s						
BART	**Pico Bartolome**	**7.16**	**76**	*eP*	Pn	02 26 01.6	-3.6
PSMN	**Pico do Norte,**	**7.16**	**82**	*eP*	Pn	02 26 01.3	-3.9
PSMN				*eS*	Sn	02 27 13.0	-14
PSMN				A	A	02 27 15.6	
	13nm,0.5s						
DRLN	**Deer Lake**	**21.48**	**314**	P	**P**	**02 29 09.2**	**+0.2**
DRLN				IAmb	IAmb	02 29 15.6	
	comp=Z,77nm,1.4s						
GBN	**Guysborough**	**22.65**	**302**	P	**P**	**02 29 21.2**	**-0.3**
GBN				IAmb	IAmb	02 29 26.8	
	comp=Z,48nm,1.1s						
PAB	**San Pablo**	**23.50**	**73**	P	**P**	**02 29 30.5**	**-0.1**
PAB				IAmb	IAmb	02 29 40.2	
	comp=Z,55nm,1.5s						
PAB	**San Pablo**	**23.50**	**73**	P	**P**	**02 29 30.5**	**-0.1**
PAB				pmax	pmax		
	comp=Z,55nm,1.5s						
ESDC	**Sonseca Array**	**23.80**	**73**	P	**P**	**02 29 31.2**	**-2.2**
ESDC				IAmb	IAmb	02 29 44.1	
	comp=Z,53nm,1.9s						
ESDC	**Sonseca Array**	**23.80**	**73**	P	**P**	**02 29 32.1**	**-1.3**
	comp=Z,1.2nm,0.7s,baz=287,slow=7.0,SNR=7.3						
ESDC				LR	LR	02 36 41.6	
	comp=Z,414nm,20.6s,baz=270,slow=31						
	comp=Z,1.2nm,0.7s						
ESBB	**Sonseca Array**	**23.80**	**73**	P	**P**	**02 29 31.6**	**-1.8**
ESBB				IAmb	IAmb	02 29 38.4	
	comp=Z,40nm,1.5s						
MDT	**Midelt**	**24.36**	**90**	LR	LR	02 37 08.2	
	comp=Z,429nm,20.2s,baz=308,slow=32						
LMN	**Caledonia Moun**	**25.00**	**302**	P	**P**	**02 29 45.3**	**+1.0**
LMN				IAmb	IAmb	02 29 48.2	
	comp=Z,46nm,1.3s						
PKME	**Peaks-Kenny Pk**	**28.03**	**300**	P	**P**	**02 30 11.3**	**-0.3**
	baz=96						
EKA	**Eskdalemuir Ar**	**28.29**	**38**	P	**P**	**02 30 13.9**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=245,slow=8.5,SNR=6.6						
	comp=Z,2.3nm,0.8s						
SCHQ	**Schefferville**	**29.14**	**320**	LR	LR	02 41 08.8	
	comp=Z,834nm,19.1s,baz=100,slow=35						
BORG	**Borgarnes**	**29.44**	**11**	LR	LR	02 38 47.9	
	comp=Z,145nm,20.3s,baz=206,slow=30						
HRV	**Adam Dziewonsk**	**29.54**	**294**	P	**P**	**02 30 25.2**	**+0.2**
	baz=89						
LBNH	**Lisbon**	**29.83**	**297**	P	**P**	**02 30 28.4**	**+0.8**
	baz=92						
L61B	**Northampton**	**30.37**	**294**	P	**P**	**02 30 32.6**	**+0.2**
	baz=88						
PAL	**Palisades**	**31.36**	**291**	P	**P**	**02 30 41.2**	**0.0**
	baz=85						
J59A	**Piesco**	**31.68**	**296**	P	**P**	**02 30 44.8**	**+0.7**
LONY	**Lake Ozonia**	**31.74**	**298**	P	**P**	**02 30 45.2**	**+0.7**
	baz=91						
TRQ	**Mont Tremblant**	**31.78**	**301**	P	**P**	**02 30 46.7**	**+1.8**
TRQ				IAmb	IAmb	02 30 48.6	
	comp=Z,12nm,0.9s						
SFJD	**Kangerlussuaq**	**32.17**	**348**	LR	LR	02 40 54.3	
	comp=Z,357nm,20.9s,baz=162,slow=31						
BINY	**Binghamton**	**32.83**	**293**	P	**P**	**02 30 54.0**	**-0.1**
	baz=86						
J56A	**Wolcott**	**33.41**	**295**	P	**P**	**02 30 59.4**	**+0.4**
J56A				IAmb	IAmb	02 31 04.0	
	comp=Z,18nm,1.1s						
M57A	**Sunshine Farm,**	**33.75**	**292**	P	**P**	**02 31 03.4**	**+1.3**
M57A				IAmb	IAmb	02 31 10.6	
	comp=Z,32nm,1.4s						
SDMD	**Soldier's Deli**	**33.78**	**288**	P	**P**	**02 31 03.6**	**+1.3**
DAVOX	**Davos/Dischmat**	**34.01**	**58**	LR	LR	02 43 17.3	
	comp=Z,57nm,19.2s,baz=260,slow=34						
MMNY	**Mt. Morris Dam**	**34.21**	**294**	P	**P**	**02 31 07.5**	**+1.4**
SSPA	**Standing Stone**	**34.40**	**291**	P	**P**	**02 31 08.0**	**+0.2**
	baz=83						
FRB	**Frobisher Bay**	**34.52**	**334**	LR	LR	02 42 44.1	
	comp=Z,134nm,18.0s,baz=94,slow=32						
WVNY	**West Valley, N**	**34.75**	**294**	P	**P**	**02 31 13.0**	**+2.2**
SADO	**Sadowa**	**34.99**	**298**	P	**P**	**02 31 15.5**	**+2.7**
BSEG	**Bad Segeberg**	**35.14**	**46**	P	**P**	**02 31 16.2**	**+2.2**
BSEG				pmax	pmax		
	comp=Z,10.0nm,2.0s						
MDP	**Montagnes des**	**35.52**	**213**	LR	LR	02 42 58.1	
	comp=Z,114nm,18.7s,baz=46,slow=32						
Q56A	**Snyder Ridge,**	**35.63**	**288**	P	**P**	**02 31 20.5**	**+2.0**
Q56A

comp=Z,2.0nm,0.7s
BRG MLR MLR
comp=N,92nm,13.0s
BRG MLR MLR
comp=Z,359nm,15.5s
BRG MLR MLR
comp=E,245nm,17.7s
O53A New Philadelph 36.97 291 P **P** **02 31 29.3 -0.6**
O53A IAmb IAmb 02 31 38.6
comp=Z,49nm,1.7s
O53A New Philadelph 36.97 291 P **P** **02 31 29.2 -0.7**
baz=80
JMIC Jan Mayen 37.22 13 LR LR 02 42 33.0
comp=Z,115nm,20.0s,baz=151,slow=29
P53A Whipple 37.24 290 P **P** **02 31 33.8 +1.6**
P53A IAmb IAmb 02 31 39.6
comp=Z,41nm,1.8s
PRU Pruhonice 37.24 53 P **P** **02 31 34.4 +2.4**
PRU pmax pmax
comp=E,6.0nm,1.8s
O52A Adamsville 37.46 291 P **P** **02 31 36.0 +1.9**
O52A IAmb IAmb 02 31 42.6
comp=Z,32nm,1.4s
NB2 NORSAR Subarra 37.58 34 P **P** **02 31 36.4 +1.6**
comp=Z,1.0nm,0.7s,baz=251,slow=8.6
NOA NORSAR Array B 37.58 34 P **P** **02 31 34.4 -0.4**
comp=Z,1.3nm,0.8s,baz=251,slow=8.6,SNR=8.4
comp=Z,1.3nm,0.8s
N51A Ashland 37.74 292 P **P** **02 31 37.3 +1.0**
N51A IAmb IAmb 02 31 44.5
comp=Z,39nm,1.4s
P52A Corning 37.77 290 P **P** **02 31 36.5 -0.1**
baz=79
KMSC Kings Mountain 38.19 283 P **P** **02 31 40.4 +0.1**
KMSC Kings Mountain 38.19 283 P **P** **02 31 40.7 +0.5**
baz=74
UPC Upice 38.21 52 P **P** **02 31 43.0 +2.8**
UPC pmax pmax
comp=Z,9.0nm,1.3s
U54A Nelsons Funny 38.21 285 P **P** **02 31 42.0 +1.5**
U54A IAmb IAmb 02 31 48.7
comp=Z,27nm,1.2s
ACSO Alum Creek Sta 38.31 291 P **P** **02 31 40.5 -0.7**
ACSO IAmb IAmb 02 31 49.4
comp=Z,44nm,1.6s
ACSO Alum Creek Sta 38.31 291 P **P** **02 31 40.7 -0.5**
baz=80
VAE Valguarnera 38.34 73 LR LR 02 45 52.0
comp=Z,358nm,18.2s,baz=180,slow=34
JSC Jenkinsville 38.38 281 P **P** **02 31 41.4 -0.4**
JSC Jenkinsville 38.38 281 P **P** **02 31 41.4 -0.4**
JSC pmax pmax
comp=Z,19nm,1.4s
DPC Dobruska-Polom 38.40 52 P **P** **02 31 43.9 +2.0**
DPC pmax pmax
comp=Z,3.0nm,1.3s
DPC Dobruska-Polom 38.40 52 P **P** **02 31 44.1 +2.2**
comp=Z,3.2nm,1.3s
KRUC Moravsky 38.43 55 *e*P **P** **02 31 42.5 +0.4**
KRUC Moravsky 38.43 55 P **P** **02 31 43.3 +1.2**
KRUC pmax pmax
comp=Z,7.0nm,2.3s
VRAC Vranov 38.56 54 *e*P **P** **02 31 43.5 +0.3**
VRAC Vranov 38.56 54 LR LR 02 45 28.2
comp=Z,72nm,18.8s,baz=263,slow=33
KRLC Kraliky 38.69 53 P **P** **02 31 44.0 -0.3**
KRLC pmax pmax
comp=E,6.0nm,1.6s
SSFO Shawnee State 38.77 289 P **P** **02 31 45.4 +0.3**
O51A Peebles 38.82 289 P **P** **02 31 45.4 -0.1**
L48A N Adams 39.10 294 P **P** **02 31 48.5 +0.7**
MORC Moravsky Berou 39.18 53 *e*P **P** **02 31 47.3 -1.1**
V53A Saluda 39.21 284 P **P** **02 31 47.9 -1.0**
MPLH Magyarpolny 39.25 58 P **P** **02 31 50.2 +1.2**
comp=Z,11nm,1.9s
S51A Beattyville 39.31 287 P **P** **02 31 49.9 +0.3**
O49A Covington 39.33 291 P **P** **02 31 49.0 -0.7**
O49A IAmb IAmb 02 31 57.6
comp=Z,37nm,1.4s
TORD Torodi Ar. Bea 39.41 117 P **P** **02 31 51.7 +1.1**
TORD Torodi Ar. Bea 39.41 117 P **P** **02 31 49.6 -1.0**
comp=Z,1.1nm,0.7s,baz=332,slow=5.4,SNR=6.7
TORD LR LR 02 47 07.9
comp=Z,288nm,18.8s,baz=328,slow=35
comp=Z,1.1nm,0.7s
TZTN Tazewell 39.55 286 P **P** **02 31 51.5 -0.2**
baz=75
G45A Suttons Bay 39.59 299 P **P** **02 31 51.6 -0.2**
G45A IAmb IAmb 02 31 56.2
comp=Z,29nm,1.3s
R50A Paris 39.73 288 P **P** **02 31 52.8 -0.2**
DBIC Dimbokro 39.73 131 LR LR 02 46 44.7
comp=Z,488nm,19.3s,baz=306,slow=34
P49A Miami Univ. Ec 39.75 290 P **P** **02 31 53.0 -0.3**
baz=78
V52A Sevierville 39.77 285 P **P** **02 31 53.6 +0.1**
O48B Farmland 39.94 292 P **P** **02 31 54.8 0.0**
baz=79
TKL Tuckaleechee C 39.96 284 P **P** **02 31 55.7 +0.6**
TKL Tuckaleechee C 39.96 284 LR LR 02 45 27.5
comp=Z,341nm,21.5s,baz=64,slow=32
TKL Tuckaleechee C 39.96 284 P **P** **02 31 55.7 +0.6**
TKL pmax pmax
comp=Z,18nm,1.2s
VYHS Vyhne 40.05 55 *e*P **P** **02 31 55.6 -0.1**
VYHS Vyhne 40.05 55 *e*P **P** **02 31 55.6 -0.1**
W52A Murphy 40.24 284 P **P** **02 31 56.5 -0.9**
R49A Shelbyville 40.37 289 P **P** **02 31 58.2 -0.3**
GOGA Godfrey 40.39 281 P **P** **02 31 57.6 -1.0**
baz=71
E43A Lone Tree Farm 40.39 301 P **P** **02 31 58.3 -0.2**
T50A Nancy 40.43 287 P **P** **02 31 58.4 -0.5**
CPCT Cooper Cave 40.61 284 P **P** **02 32 01.6 +1.2**
OJC Ojcow 40.63 53 P **P** **02 31 59.0 -1.4**
OJC Ojcow 40.63 53 P **P** **02 31 59.0 -1.4**
OJC pmax pmax
comp=Z,14nm,1.3s
OJC Ojcow 40.63 53 P **P** **02 32 01.0 +0.6**
comp=Z,8.1nm,1.4s
NIE Niedzica 40.98 54 P **P** **02 32 05.3 +2.0**
NIE pmax pmax
comp=Z,3.0nm,1.7s
NIE Niedzica 40.98 54 P **P** **02 32 05.7 +2.4**
comp=Z,2.8nm,1.7s
DAG Danmarks Havn 41.11 5 P **P** **02 32 06.1 +2.1**
TIGA Tifton 41.15 278 P **P** **02 32 04.0 -0.9**
baz=69
BLO Bloomington 41.20 290 P **P** **02 32 06.2 +1.0**
BLO IAmb IAmb 02 32 13.4
comp=Z,25nm,1.1s
BLO Bloomington 41.20 290 P **P** **02 32 06.2 +1.0**
BLO pmax pmax
comp=Z,25nm,1.2s
WCI Wyandotte Cave 41.24 289 P **P** **02 32 05.5 -0.1**
baz=76
BAUV El Baul 41.27 237 P **P** **02 32 06.3 +0.4**
U49A Red Boiling Sp 41.29 286 P **P** **02 32 06.6 +0.6**
W50A Signal Mountai 41.30 284 P **P** **02 32 05.7 -0.5**
W50A IAmb IAmb 02 32 14.5
comp=Z,25nm,1.3s
SFIN Lafayette 41.37 292 P **P** **02 32 06.5 -0.1**
baz=78
L44A Lake County Fo 41.62 295 P **P** **02 32 08.3 -0.3**
baz=79
SWET Sewanee 41.78 284 P **P** **02 32 11.3 +1.2**
CLTN Cedars of Leba 41.84 286 P **P** **02 32 10.5 0.0**
RCBR Riachuelo 41.98 183 LR LR 02 46 57.8
comp=Z,68nm,19.4s,baz=57,slow=32
I42A Draeger Farm, 42.05 298 P **P** **02 32 10.7 -1.5**
I42A IAmb IAmb 02 32 20.1
comp=Z,32nm,1.6s
SIRR Siria 42.15 59 ⇓P **P** **02 32 13.0 +0.1**
T47A Sharon Grove 42.19 287 P **P** **02 32 13.3 -0.1**
BZS Buzias 42.20 59 ⇓P **P** **02 32 14.9 +1.5**
BZS Buzias 42.20 59 ⇓P **P** **02 32 14.9 +1.5**
V48A Smith Brothers 42.32 286 P **P** **02 32 14.0 -0.4**
USIN University of 42.36 289 P **P** **02 32 16.0 +1.3**
USIN IAmb IAmb 02 32 19.0
comp=Z,17nm,0.9s
HOLU Holmets 42.41 55 P **P** **02 32 18.3 +3.3**
KWP Kalwaria Pacla 42.53 53 P **P** **02 32 19.2 +3.2**
KWP pmax pmax
comp=Z,12nm,1.6s
KWP Kalwaria Pacla 42.53 53 P **P** **02 32 18.8 +2.8**
comp=Z,12nm,1.6s

SURR Surduc 42.54 59 ⇑P **P** **02 32 16.9 +0.8**
BOVS Bovan 42.56 62 ⇑P **P** **02 32 18.0 +1.6**
BERU Beregovo 42.61 56 P **P** **02 32 17.8 +1.2**
MUKU Mukachevo 42.61 55 P **P** **02 32 19.8 +3.1**
G40A Rib Lake 42.75 300 P **P** **02 32 17.1 -0.8**
DRGR 42.81 58 ⇓P **P** **02 32 19.7 +1.3**
DRGR 42.81 58 P **P** **02 32 19.7 +1.3**
BRIU Brid 42.85 55 P **P** **02 32 21.1 +2.6**
L42A Oliver, Polo 42.93 295 P **P** **02 32 19.5 +0.1**
HDIL Hopedale 42.96 293 P **P** **02 32 19.7 +0.1**
baz=77
WVT Waverly 42.99 286 P **P** **02 32 20.3 +0.4**
WVT Waverly 42.99 286 P **P** **02 32 20.3 +0.4**
baz=73
WVT Waverly 42.99 286 P **P** **02 32 20.3 +0.4**
WVT pmax pmax
comp=Z,78nm,1.3s
SDV Santo Domingo 43.09 240 LR LR 02 48 20.1
comp=Z,82nm,21.8s,baz=60,slow=33
SDV Santo Domingo 43.09 240 *e*P **P** **02 32 19.9 -1.2**
MARR Marisel-Cluj 43.10 58 ⇑P **P** **02 32 21.6 +0.8**
JFWS Jewell Farm 43.18 297 P **P** **02 32 21.3 0.0**
JFWS Jewell Farm 43.18 297 P **P** **02 32 20.6 -0.8**
baz=79
JFWS Jewell Farm 43.18 297 P **P** **02 32 21.3 0.0**
JFWS pmax pmax
comp=Z,12nm,1.2s
EYMN Ely 43.29 304 P **P** **02 32 22.5 +0.3**
EYMN Ely 43.29 304 P **P** **02 32 20.1 -2.1**
baz=84
LRAL Lakeview Retre 43.31 282 P **P** **02 32 21.6 -0.9**
baz=70
LVV L'vov 43.38 53 *e*P **P** **02 32 23.3 +0.5**
PLAL Pickwick Lake 43.52 285 P **P** **02 32 24.5 +0.3**
SIUC Southern Illin 43.61 289 P **P** **02 32 24.6 -0.3**
SIUC IAmb IAmb 02 32 33.0
comp=Z,40nm,1.4s
RAKU Rahkiv 43.64 56 P **P** **02 32 26.6 +1.6**
S44A Carbondale 43.64 289 P **P** **02 32 25.3 +0.1**
S44A IAmb IAmb 02 32 33.2
comp=Z,34nm,1.3s
STNU Starunia 43.79 55 P **P** **02 32 29.9 +3.7**
BRAL Brewton 44.01 279 P **P** **02 32 28.1 0.0**
baz=68
L40A Anamosa 44.05 296 P **P** **02 32 28.8 +0.4**
L40A IAmb IAmb 02 32 36.1
comp=Z,43nm,1.6s
N41A Harden Midland 44.09 294 P **P** **02 32 28.6 -0.1**
Z47A Carrollton 44.10 282 P **P** **02 32 28.3 -0.6**
Z47A IAmb IAmb 02 32 37.1
comp=Z,22nm,1.1s
BUR08 Bucovina Ar. S 44.38 56 P **P** **02 32 31.0 -0.1**
BURAR Bucovina Array 44.40 56 ⇓P **P** **02 32 32.7 +1.5**
BURAR Bucovina Array 44.40 56 P **P** **02 32 31.9 +0.7**
BURAR Bucovina Array 44.40 56 ⇓P **P** **02 32 32.7 +1.5**
RNPP8 Varash 44.42 51 P **P** **02 32 34.1 +3.0**
RNPP9 Sopachiv 44.43 51 P **P** **02 32 32.9 +1.6**
FVM French Village 44.46 290 P **P** **02 32 31.5 -0.2**
FVM IAmb IAmb 02 32 39.3
comp=Z,27nm,1.4s
FVM French Village 44.46 290 P **P** **02 32 31.5 -0.2**
FVM pmax pmax
comp=Z,27nm,1.4s
FCC Fort Churchill 44.53 320 P **P** **02 32 32.9 +1.0**
FCC Fort Churchill 44.53 320 P **P** **02 32 32.9 +1.0**
FCC pmax pmax
comp=Z,11nm,1.2s
SPMN Marine on St. 44.57 300 P **P** **02 32 33.4 +0.9**
SPMN IAmb IAmb 02 32 40.1
comp=Z,26nm,1.6s
SPMN Marine on St. 44.57 300 P **P** **02 32 31.2 -1.3**
baz=80
VOIR 44.61 59 ⇑P **P** **02 32 34.5 +1.5**
VOIR 44.61 59 ⇑P **P** **02 32 34.5 +1.5**
FINES FINESS Array B 44.66 36 *i* P **P** **02 32 35.5 +2.5**
FINES pmax pmax
comp=Z,2.0nm,0.8s
OXF Oxford 44.71 285 P **P** **02 32 33.6 -0.2**
OXF Oxford 44.71 285 P **P** **02 32 33.2 -0.6**
baz=71
OXF Oxford 44.71 285 P **P** **02 32 33.6 -0.2**
OXF pmax pmax
comp=Z,58nm,1.1s
B35A Bob, Littlefor 44.72 305 P **P** **02 32 33.6 -0.1**
NACGM Naroch 44.79 46 *e*P P 02 32 26.9 -7.2
comp=Z,7.0nm,1.0s,baz=272
PBMO Poplar Bluff 44.80 288 P **P** **02 32 34.5 0.0**
BOSR Bodos 44.93 58 ⇑P **P** **02 32 37.1 +1.7**
Y45A Yeager Farm, C 45.03 284 P **P** **02 32 36.2 -0.1**
CCM Cathedral Cave 45.06 290 P **P** **02 32 36.2 -0.3**
CCM IAmb IAmb 02 32 43.7
comp=Z,18nm,1.4s
CCM Cathedral Cave 45.06 290 P **P** **02 32 35.4 -1.1**
baz=74
CCM Cathedral Cave 45.06 290 P **P** **02 32 36.2 -0.3**
CCM pmax pmax
comp=Z,18nm,1.4s
KMPD K-Podol'skiy 45.09 55 P **P** **02 32 36.6 0.0**
MLR Muntele Rosu 45.23 59 ⇑P **P** **02 32 39.7 +1.8**
MLR Muntele Rosu 45.23 59 P **P** **02 32 37.4 -0.5**
MLR IAmb IAmb 02 32 46.6
comp=Z,35nm,1.9s
MLR Muntele Rosu 45.23 59 LR LR 02 50 22.7
comp=Z,114nm,19.7s,baz=259,slow=35
MLR Muntele Rosu 45.23 59 ⇑P **P** **02 32 39.7 +1.8**
MLR Muntele Rosu 45.23 59 P **P** **02 32 41.7 +3.8**
comp=Z,8.0nm,1.6s
T42A Van Buren 45.24 289 P **P** **02 32 37.7 -0.2**
P40A Paris 45.26 292 P **P** **02 32 38.4 +0.3**
ITTB Itaituba 45.34 211 *e*P **P** **02 32 39.0 +0.1**
COVR Voineasa-Covas 45.34 58 ⇓P **P** **02 32 40.9 +2.2**
MNK Minsk 45.45 46 *i* P **P** **02 32 37.9 -1.4**
comp=E,3.0nm,0.7s,baz=273
MNK *i* P **P** **02 32 37.9 -1.4**
comp=N,5.0nm,0.9s,baz=273
MNK *i* P **P** **02 32 37.9 -1.4**
comp=Z,8.0nm,0.8s,baz=273
MNK *i* PP **PP** **02 34 24.2 -1.2**
baz=273
MNK *i* PPP PPP 02 35 03.0
baz=273
MNK *i* S **S** **02 39 19.6 -0.9**
baz=273
MNK *i* SS **SS** **02 42 44.1 +0.6**
baz=273
MNK *i* SSS SSS 02 43 30.6
baz=273
MNK *i* LR LR 02 47 38.3
baz=273
MNK *i* LRM MLR 02 51 32.5
comp=N,76nm,16.6s,baz=273
MNK *i* LRM MLR 02 51 32.9
comp=E,83nm,17.0s,baz=273
MNK *i* LRM MLR 02 51 42.9
comp=Z,164nm,19.9s,baz=273
MNK Minsk 45.45 46 *i* P **P** **02 32 37.9 -1.4**
MNK *i* 02 34 24.1
MNK *i* S **S** **02 39 19.6 -0.9**
MNK *i* SS **SS** **02 42 44.1 +0.6**
MNK pmax pmax
comp=E,3.0nm,0.7s
MNK pmax pmax
comp=Z,8.0nm,0.9s
MNK pmax pmax
comp=N,5.0nm,0.9s
MNK MLR MLR
comp=N,76nm,17.0s
MNK MLR MLR
comp=E,83nm,17.0s
MNK MLR MLR
comp=Z,164nm,20.0s
NEHR Nehoiu 45.48 59 ⇑P **P** **02 32 42.5 +2.7**
SCIA State Center 45.54 296 P **P** **02 32 38.6 -1.6**
baz=76
LCAR Lake Charles 45.57 287 P **P** **02 32 39.5 -1.1**
LCAR IAmb IAmb 02 32 47.5
comp=Z,19nm,1.4s
PLOR Plostina 45.65 58 ⇓P **P** **02 32 43.4 +2.3**
PLOR Plostina 45.65 58 ⇓P **P** **02 32 43.4 +2.3**
VRI Vrincioaia 45.70 58 ⇑P **P** **02 32 43.5 +2.0**
VRI Vrincioaia 45.70 58 ⇑P **P** **02 32 43.5 +2.0**
SPBR Spulber 45.73 58 ⇓P **P** **02 32 43.7 +1.9**
LUBAR Lubar, Ukraine 45.76 53 P **P** **02 32 46.1 +4.2**
R40A Maddies Statio 45.77 291 P **P** **02 32 41.9 -0.2**
R40A IAmb IAmb 02 32 49.4
comp=Z,24nm,1.2s
N38A Joes South For 45.82 294 P **P** **02 32 42.4 -0.1**
ARCES ARCESS Array B 45.84 25 P **P** **02 32 41.6 -0.6**
ARCES ARCESS Array B 45.84 25 P **P** **02 32 41.3 -1.0**
comp=Z,7.1nm,0.9s,baz=270,slow=6.1,SNR=9.3
ARCES LR LR 02 49 04.1
comp=Z,70nm,19.1s,baz=198,slow=32
comp=Z,7.1nm,0.9s
ARCES ARCESS Array B 45.84 25 P **P** **02 32 41.7 -0.6**
ARCES pmax pmax
comp=Z,31nm,1.2s
ULM Lac du Bonnet 45.88 308 P **P** **02 32 42.7 -0.1**
ULM Lac du Bonnet 45.88 308 P **P** **02 32 43.0 +0.2**
comp=Z,2.9nm,1.0s,baz=48,slow=8.8,SNR=3.5
comp=Z,2.9nm,1.0s
ULM Lac du Bonnet 45.88 308 ⇓ *i* P **P** **02 32 43.7 +0.9**
MGMO Mountain Grove 46.10 289 P **P** **02 32 44.5 -0.3**
MGMO IAmb IAmb 02 32 52.1
comp=Z,31nm,1.4s
AGMN Agassiz Nation 46.14 305 P **P** **02 32 45.0 +0.1**
AGMN Agassiz Nation 46.14 305 P **P** **02 32 43.4 -1.6**
baz=81
P38A Dawn 46.34 293 P **P** **02 32 46.9 +0.2**
VBMS Vicksburg 46.38 282 P **P** **02 32 46.6 -0.4**
VBMS Vicksburg 46.38 282 P **P** **02 32 46.0 -0.9**
baz=68
FCAR Ozark Folk Cen 46.38 288 P **P** **02 32 46.3 -0.6**
FCAR IAmb IAmb 02 32 53.6
comp=Z,17nm,1.2s
SORM Soroca 46.41 55 ⇓P **P** **02 32 47.8 +0.8**
SORM Soroca 46.41 55 ⇓P **P** **02 32 47.8 +0.8**
AK20 Malin Array Si 46.46 51 P **P** **02 32 48.1 +0.8**
KIEV Kiev 46.59 51 P **P** **02 32 49.0 +0.6**
KIEV Kiev 46.59 51 P **P** **02 32 49.0 +0.6**
comp=Z,29nm,1.2s
AKASG Malin Array Be 46.60 51 P **P** **02 32 48.5 0.0**
comp=Z,0.2nm,0.3s,baz=268,slow=8.5,SNR=11
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 46.60 51 *de*P **P** **02 32 49.5 +1.1**
AKBB pmax pmax
comp=Z,13nm,1.5s
AKBB Malin Array Si 46.60 51 P **P** **02 32 48.7 +0.3**
WHAR Wooly Hollow 46.70 287 P **P** **02 32 49.1 -0.3**
WHAR IAmb IAmb 02 32 56.2
comp=Z,20nm,1.2s
S39A Bolivar 46.74 290 P **P** **02 32 49.4 -0.3**
CCAR Cane Creek 46.76 285 P **P** **02 32 50.5 +0.6**
CFR Carcaliu 46.80 59 ⇑P **P** **02 32 52.5 +2.4**
CFR Carcaliu 46.80 59 ⇑P **P** **02 32 52.5 +2.4**
MILM Milestii Mici 46.92 57 ⇓P **P** **02 32 52.3 +1.3**
MILM Milestii Mici 46.92 57 ⇓ *i* P **P** **02 32 51.0 0.0**
comp=Z,40nm,1.6s
MILM Milestii Mici 46.92 57 ⇓P **P** **02 32 52.3 +1.3**
X40A Basin Creek Fa 47.39 286 P **P** **02 32 54.0 -0.9**
X40A IAmb IAmb 02 33 02.2
comp=Z,11nm,1.0s
ECSD EROS Data Cent 47.54 299 P **P** **02 32 56.2 +0.2**
ECSD EROS Data Cent 47.54 299 P **P** **02 32 55.4 -0.6**
baz=76,SNR=18
NPGB Novo Progresso 47.61 209 *e*P **P** **02 32 57.8 +1.1**
RES Resolute Bay 47.71 342 P **P** **02 32 57.7 +0.9**
RES Resolute Bay 47.71 342 LR LR 02 50 00.9
comp=Z,154nm,18.9s,baz=153,slow=32
RES Resolute Bay 47.71 342 P **P** **02 32 57.7 +0.9**
RES pmax pmax
comp=Z,9.0nm,1.2s
PURM Purcari 47.72 57 P **P** **02 32 58.2 +1.0**
comp=Z,21nm,0.8s,comp=Z,1μm
MIAR Mount Ida 47.94 286 P **P** **02 32 59.0 -0.1**
baz=70
MIAR Mount Ida 47.94 286 P **P** **02 33 00.7 +1.5**
MIAR pmax pmax
comp=Z,30nm,1.2s
EUNU Eureka 48.21 349 IAmb IAmb 02 33 14.2
comp=Z,16nm,1.4s
ROSC El Rosal 48.52 240 LR LR 02 51 33.5
comp=Z,188nm,21.6s,baz=52,slow=34
MDND Maddock 48.69 305 P **P** **02 33 03.0 -1.8**
baz=78
KSU1 Kansas State U 48.78 293 P **P** **02 33 04.9 -0.6**
baz=72
TEFE Tefe 48.92 223 *e*P **P** **02 33 08.5 +1.7**
FFC Flin Flon 49.03 315 P **P** **02 33 07.7 +0.5**
FFC IAmb IAmb 02 33 14.8
comp=Z,17nm,1.3s
FFC Flin Flon 49.03 315 P **P** **02 33 07.7 +0.5**
FFC pmax pmax
comp=Z,17nm,1.3s
TUL3 Leonard 49.18 289 P **P** **02 33 07.1 -1.6**
baz=70
BGNE Belgrade 49.24 297 P **P** **02 33 07.0 -2.1**
baz=74
X37A Clayton 49.32 287 IAmb IAmb 02 33 17.3
comp=Z,21nm,1.1s
SDBA SAO DESIDERIO 49.57 194 *e*P **P** **02 33 14.0 +2.2**
NATX Nacogdoches 49.81 283 P **P** **02 33 12.2 -1.3**
baz=67
TEIG Tepich 49.85 267 LR LR 02 51 48.3
comp=Z,1μm,19.4s,slow=33
W35A Tecumseh 50.27 288 P **P** **02 33 16.9 -0.2**
W35A IAmb IAmb 02 33 24.5
comp=Z,34nm,1.5s
OBN Obninsk 50.38 45 *i* P **P** **02 33 18.5 +1.0**
OBN *i* 02 35 10.9
OBN pmax pmax
comp=Z,41nm,1.6s
OBN Obninsk 50.38 45 P **P** **02 33 19.6 +2.1**
comp=Z,18nm,1.1s
OK029 Liberty Lake 50.49 289 P **P** **02 33 18.7 0.0**
OK029 IAmb IAmb 02 33 25.6
comp=Z,28nm,1.2s
R32A Long Quarter, 50.55 293 IAmb IAmb 02 33 22.7
comp=Z,25nm,1.2s
MOS Moscow 50.88 44 *e*P **P** **02 33 21.5 +0.2**
LOOK Love County 50.93 287 IAmb IAmb 02 33 29.8
comp=Z,17nm,0.8s
KLMR Klimovskoe 51.17 37 *e*P **P** **02 33 20.2 -3.2**
KLMR 02 34 36.6
KLMR pmax pmax
comp=Z,13nm,1.5s
CBKS Cedar Bluff 51.19 294 P **P** **02 33 22.9 -1.1**
baz=71
DGMT Dagmar 51.55 307 P **P** **02 33 24.9 -1.6**
baz=76
WMOK Wichita Mounta 51.88 289 P **P** **02 33 28.4 -0.7**
baz=68
WMOK Wichita Mounta 51.88 289 P **P** **02 33 30.1 +0.9**
WMOK pmax pmax
comp=Z,6.0nm,1.2s
WHTX Lake Whitney, 51.91 285 P **P** **02 33 28.9 -0.4**
baz=67
JANB Januaria 52.05 193 *e*P **P** **02 33 32.3 +1.9**
OGNE Ogallala 52.17 297 P **P** **02 33 30.0 -1.3**
baz=71
BR131 Keskin Array S 52.19 64 ⇓ *e*P **P** **02 33 33.5 +2.0**
BRTR Keskin Array B 52.19 64 P **P** **02 33 31.3 -0.2**
BRTR Keskin Array B 52.19 64 P **P** **02 33 31.6 +0.1**
comp=Z,0.7nm,0.8s,baz=282,slow=6.2,SNR=6.7
BRTR PcP **PcP** **02 34 43.6 +0.5**
comp=Z,0.4nm,0.8s,baz=252,slow=2.9,SNR=1.9
BRTR LR LR 02 54 08.6
comp=Z,111nm,21.6s,baz=295,slow=34
comp=Z,0.7nm,0.8s
BRTR Keskin Array B 52.19 64 *i* P **P** **02 33 33.0 +1.5**
BRTR pmax pmax
comp=Z,1.0nm,0.8s
LPSR Galich'ya Gora 52.22 48 *e*P **P** **02 33 32.4 +1.0**
LPSR pmax pmax
comp=Z,30nm,1.4s
PLPT Palo Pinto 52.25 286 IAmb IAmb 02 33 39.3
comp=Z,27nm,1.2s
PDRB Porto dos Gac 52.31 209 *e*P **P** **02 33 33.8 +1.4**
435B Jarrell 52.49 284 P **P** **02 33 33.3 -0.4**
baz=66
VORR Voronezh 52.60 49 *e*P **P** **02 33 35.8 +1.6**
VORR pmax pmax
comp=Z,30nm,0.4s
RSSD Black Hills 52.61 302 P **P** **02 33 33.8 -0.9**
baz=73
VSR Storozhevoye 52.68 49 *e*P **P** **02 33 34.7 -0.1**
VSR pmax pmax
comp=Z,10.0nm,1.3s
SAML Samuel 52.78 217 P **P** **02 33 36.1 +0.2**
SAML IAmb IAmb 02 33 37.6
comp=Z,23nm,1.6s

SAML Samuel 52.78 217 P P 02 33 36.1 +0.2
SAML pmax pmax
comp=Z,23nm,1.6s
SAML Samuel 52.78 217 *e*P P 02 33 36.7 +0.8
JTS Las Juntas de 52.80 254 LR LR 02 54 45.0
comp=Z,148nm,18.5s,baz=45,slow=35
JTS Las Juntas de 52.80 254‖ *e*P P 02 33 38.4 +2.2
JTS pmax pmax
comp=Z,18nm,1.5s
SMWD Samnorwood 52.86 290 IAmb IAmb 02 33 43.6
comp=Z,19nm,1.2s
KSCO Kaye Shedlock' 53.24 295 P P 02 33 38.4 -1.0
baz=70
LAO LASA Array 53.35 305 IAmb IAmb 02 33 44.7
comp=Z,23nm,1.1s
LAO LASA Array 53.35 305 P P 02 33 39.2 -0.7
baz=73,SNR=9.5
ABTX Abilene, Hawle 53.36 287 IAmb IAmb 02 33 46.9
comp=Z,22nm,1.4s
ABTX Abilene, Hawle 53.36 287 P P 02 33 39.9 -0.2
baz=66
BDFB Brasilia 53.38 197 LR LR 02 53 07.5
comp=Z,77nm,19.1s,baz=312,slow=32
BRDY Brady 53.40 285 IAmb IAmb 02 33 47.8
comp=Z,18nm,1.1s
APMT Aspermont 53.45 288 IAmb IAmb 02 33 47.6
comp=Z,22nm,1.3s
MTO3 Montecristo 53.86 261 P P 02 33 44.8 +0.6
MTO3 IAmb IAmb 02 33 54.6
comp=Z,18nm,1.3s
TULM Tulcn-Chalpat 53.87 239 IAmb IAmb 02 33 47.6
comp=Z,23nm,1.2s
DKNS Dickens 53.93 288 IAmb IAmb 02 33 51.1
comp=Z,21nm,1.3s
AMTX Amarillo 54.04 290 IAmb IAmb 02 33 52.5
comp=Z,23nm,1.2s
AMTX Amarillo 54.04 290 P P 02 33 44.5 -0.6
baz=67
SN05 Snyder 5 54.21 287 IAmb IAmb 02 33 53.2
comp=Z,17nm,1.4s
VRH Novokhopyorsk 54.24 49 *e*P P 02 33 47.8 +1.6
VRH pmax pmax
comp=Z,15nm,1.2s
YKA Yellowknife Ar 54.32 326 P P 02 33 47.2 +0.6
YKA Yellowknife Ar 54.32 326 P P 02 33 47.8 +1.2
comp=Z,6.1nm,1.1s,baz=73,slow=7.2,SNR=30
YKA PcP PcP 02 34 49.5 -1.1
comp=Z,0.9nm,1.1s,baz=80,slow=4.4,SNR=1.4
comp=Z,6.1nm,1.1s
JCT Junction City 54.36 284 IAmb IAmb 02 33 55.0
comp=Z,16nm,1.0s
JCT Junction City 54.36 284 P P 02 33 47.0 -0.5
baz=65
APG El Apazote 54.40 262 LR LR 02 53 51.3
comp=Z,6.4nm,19.6s,baz=240,slow=32
POST Post 54.61 288 IAmb IAmb 02 33 56.1
comp=Z,25nm,1.3s
SGCY Sterling City 54.79 286 IAmb IAmb 02 33 58.0
comp=Z,24nm,1.2s
K22A Casper 54.80 301 IAmb IAmb 02 33 53.9
comp=Z,14nm,1.2s
K22A Casper 54.80 301 P P 02 33 49.7 -1.0
baz=70
VILB Vilhena 54.93 212 *e*P P 02 33 53.0 +1.4
833A Chaparral WMA, 54.96 282 P P 02 33 51.0 -0.8
baz=64
N23A Red Feather La 54.99 298 IAmb IAmb 02 34 00.5
comp=Z,20nm,1.1s
N23A Red Feather La 54.99 298 P P 02 33 51.2 -1.0
baz=70,SNR=9.9
ETMB Extrema 55.05 220 IAmb IAmb 02 33 53.5
comp=Z,26nm,1.7s
ETMB Extrema 55.05 220 *e*P P 02 33 52.5 +0.1
Q24A Divide 55.10 296 P P 02 33 52.1 -1.0
baz=69
DIAM Diamantina, MG 55.11 191 *e*P P 02 33 53.6 +0.6
ISCO Idaho Springs 55.13 297 P P 02 33 52.8 -0.5
baz=69
ISCO Idaho Springs 55.13 297 P P 02 33 54.8 +1.5
OZNA Ozona 55.21 285 IAmb IAmb 02 34 00.9
comp=Z,31nm,1.5s
T25A Trinidad 55.23 294 P P 02 33 52.6 -1.3
baz=68
EGMT Eagleton 55.25 308 IAmb IAmb 02 34 01.0
comp=Z,18nm,1.2s
EGMT Eagleton 55.25 308 P P 02 33 53.0 -0.7
baz=72
VSLR Vesyoloye 55.48 58‖ *e*P P 02 33 57.6 +2.2
VSLR pmax pmax
comp=Z,21nm,1.4s
RWWY Rawlins 55.60 300 IAmb IAmb 02 34 03.1
comp=Z,14nm,1.2s
RIB01 Linhares ES 55.68 187 *e*P P 02 33 59.6 +2.7
IPMB Ipameri, GO 55.68 197 *e*P P 02 33 57.5 +0.5
SDCO Great Sand Dun 55.81 295 P P 02 33 56.7 -1.4
baz=68
PMNB Patos De Minas 55.84 194 *e*P P 02 33 58.9 +0.7
RLMT Red Lodge 55.85 304 P P 02 33 57.1 -1.2
baz=71
EDM Edmonton 55.91 314 IAmb IAmb 02 34 05.3
comp=Z,26nm,1.4s
MMAI Mount Meron Ar 55.99 72 LR LR 02 58 29.5
comp=Z,52nm,19.4s,baz=241,slow=37
A36M Sachs Harbour 56.30 338 P P 02 34 00.7 0.0
A36M IAmb IAmb 02 34 09.2
comp=Z,8.8nm,0.9s
A36M Sachs Harbour 56.30 338 P P 02 33 59.7 -1.0
baz=76,SNR=14
MNHN Monahans 56.30 286 IAmb IAmb 02 34 08.3
comp=Z,14nm,1.1s
KIRV Kirov 56.53 39 *ce*P P 02 34 02.5 -0.1
YMP Mirror Lake Pl 56.57 304 IAmb IAmb 02 34 11.4
comp=Z,22nm,1.1s
C36M Paulatuk 56.57 335 P P 02 34 00.6 -2.1
baz=75
PTLB Pontes e Lacer 56.74 209 P P 02 34 04.7 +0.2
PTLB Pontes e Lacer 56.74 209 *e*P P 02 34 05.9 +1.3
LKWY Lake 56.80 304 IAmb IAmb 02 34 13.6
comp=Z,13nm,1.2s
CMIG Matias Romero 56.82 267 LR LR 02 54 54.4
comp=Z,118nm,21.6s,baz=62,slow=32
BW06 Boulder Array 56.86 302 P P 02 34 04.3 -1.2
baz=69,SNR=12
PD31 Pinedale Array 56.86 302 IAmb IAmb 02 34 12.4
comp=Z,15nm,1.3s
PDAR Pinedale Array 56.86 302 P P 02 34 05.7 +0.2
PDAR Pinedale Array 56.86 302 P P 02 34 06.0 +0.5
comp=Z,7.3nm,1.1s,baz=69,slow=8.1,SNR=22
comp=Z,7.3nm,1.1s
O20A White River Ci 56.89 298 P P 02 34 04.5 -1.3
baz=68
CZSB Cruzeiro do Su 56.97 228 *e*P P 02 34 05.9 -0.3
H17A Grant Village 56.97 304 P P 02 34 05.5 -0.8
baz=70
EIL Elat 57.07 75 LR LR 02 59 52.7
comp=Z,19nm,19.4s,baz=282,slow=37
KIV Kislovodsk 57.11 57 *e*P P 02 34 07.1 0.0
KIV pmax pmax
comp=Z,6.0nm,1.0s
FLWY Flagg Ranch 57.17 303 IAmb IAmb 02 34 19.0
comp=Z,9.2nm,0.9s
BOZ Bozeman (W) 57.26 305 IAmb IAmb 02 34 15.6
comp=Z,17nm,1.4s
BOZ Bozeman (W) 57.26 305 P P 02 34 07.7 -0.5
baz=70,SNR=10
LOHW Long Hollow 57.27 303 IAmb IAmb 02 34 15.7
comp=Z,18nm,1.6s
KBZ Khabaz 57.34 57 P P 02 34 09.8 +1.3
comp=Z,1.1nm,0.7s,baz=223,slow=5.4,SNR=3.3
KBZ LR LR 02 58 21.3
comp=Z,33nm,18.8s,baz=309,slow=36
comp=Z,1.1nm,0.7s
KBZ Khabaz 57.34 57‖ *i*P P 02 34 10.8 +2.2
KBZ pmax pmax
comp=Z,4.0nm,1.4s
IMW Indian Meadow 57.39 303 IAmb IAmb 02 34 16.9
comp=Z,18nm,1.2s
BELG Belogornoye 57.40 46‖ *e*P P 02 34 10.6 +1.8
BELG pmax pmax
comp=Z,6.0nm,1.0s
SNOW Snow King Moun 57.42 303 IAmb IAmb 02 34 17.2
comp=Z,26nm,1.4s
TPAW Teton Pass 57.55 303 IAmb IAmb 02 34 17.9
comp=Z,16nm,1.4s
ANMO Albuquerque 57.62 292 P P 02 34 10.9 -0.1
ANMO Albuquerque 57.62 292 P P 02 34 09.2 -1.8
baz=66
ANMO Albuquerque 57.62 292⇑ *i*P P 02 34 13.2 +2.2
ANMO pmax pmax
comp=Z,7.0nm,1.2s
TXAR Lajitas Array 57.88 285 P P 02 34 11.8 -0.9
TXAR Lajitas Array 57.88 285 P P 02 34 13.3 +0.6
comp=Z,3.8nm,0.9s,baz=89,slow=6.7,SNR=14
TXAR LR LR 02 56 38.2
comp=Z,145nm,21.7s,baz=58,slow=34
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 57.88 285 P P 02 34 11.8 -0.9
AHID Auburn Hatcher 57.91 302 IAmb IAmb 02 34 20.4
comp=Z,22nm,1.2s
WRGLY Wrigley 58.06 328 IAmb IAmb 02 34 29.6
comp=Z,23nm,1.2s
WRGLY Wrigley 58.06 328 P P 02 34 12.4 -1.0
baz=72
MNTX Cornudas Mount 58.17 288 P P 02 34 13.7 -0.9
baz=64
MVCO Mesa Verde 58.21 295 IAmb IAmb 02 34 23.7
comp=Z,21nm,1.2s
MVCO Mesa Verde 58.21 295 P P 02 34 14.0 -1.1
baz=66
VHRN Van Horn 58.26 287 IAmb IAmb 02 34 23.9
comp=Z,14nm,1.2s
MSO Missoula 58.33 307 P P 02 34 14.5 -1.1
baz=69
Y22D IRIS PASSCAL I 58.33 291 P P 02 34 15.0 -0.9
baz=65
Y22F Passcal Instru 58.33 291 P P 02 34 15.1 -0.8
baz=65
P18A Preston Nutter 58.51 298 IAmb IAmb 02 34 24.8
comp=Z,9.6nm,1.0s
BSUT Blindstream Ca 58.52 300 IAmb IAmb 02 34 24.2
comp=Z,11nm,1.3s
HWUT Hardware Ranch 58.67 301 P P 02 34 18.7 +0.5
HWUT IAmb IAmb 02 34 27.4
comp=Z,15nm,1.1s
TCUT Toone Canyon 58.75 300 IAmb IAmb 02 34 31.7
comp=Z,14nm,1.2s
BBSD Serra de San D 58.91 210 *e*P P 02 34 19.8 0.0
TMUT Trail Mountain 59.33 298 IAmb IAmb 02 34 31.4
comp=Z,13nm,1.2s
MPU Maple Canyon 59.34 299 IAmb IAmb 02 34 30.6
comp=Z,15nm,1.4s
KOTAN Kotaneelee Air 59.35 324 P P 02 34 21.6 -0.8
baz=70
SPUT South Promonto 59.40 301 IAmb IAmb 02 34 30.7
comp=Z,23nm,1.5s
Q16A Castle Valley 59.45 298 IAmb IAmb 02 34 31.2
comp=Z,8.8nm,1.2s
HMU Henry Mountain 59.54 297 IAmb IAmb 02 34 29.9
comp=Z,11nm,1.4s
121A Cookes Peak, D 59.64 290 IAmb IAmb 02 34 33.2
comp=Z,10nm,1.1s
121A Cookes Peak, D 59.64 290 P P 02 34 25.0 0.0
baz=64
NLU North Lily Min 59.68 299 IAmb IAmb 02 34 33.2
comp=Z,14nm,1.1s
NEW Newport 59.81 310 IAmb IAmb 02 34 34.7
comp=Z,12nm,0.9s
NEW Newport 59.81 310 P P 02 34 24.8 -1.0
baz=68
NEW Newport 59.81 310 P P 02 34 25.7 -0.1
HLID Hailey 59.85 304 P P 02 34 25.1 -1.3
baz=67
BGU Big Grassy Mou 59.95 301 IAmb IAmb 02 34 34.5
comp=Z,19nm,1.3s
GNI Garni 59.97 60 LR LR 03 01 15.6
comp=Z,23nm,19.6s,baz=278,slow=37
W18A Petrified Fore 59.99 293 P P 02 34 25.9 -1.6
baz=65
DUG Dugway, Tooele 60.10 300 P P 02 34 27.3 -0.8
baz=66,SNR=18
DUG Dugway, Tooele 60.10 300 P P 02 34 29.7 +1.6
AQDB Aquidauana 60.13 204 *e*P P 02 34 29.5 +1.3
INK Inuvik 60.16 335 P P 02 34 27.6 -0.1
INK IAmb IAmb 02 34 34.6
comp=Z,14nm,1.2s
INK Inuvik 60.16 335 P P 02 34 26.8 -1.0
baz=66,SNR=6.9
INK Inuvik 60.16 335 LR LR 02 58 03.3
comp=Z,231nm,18.3s,baz=5.0,slow=34
INK Inuvik 60.16 335 P P 02 34 27.7 -0.1
INK pmax pmax
comp=Z,15nm,1.2s
TOAD Toad River Com 60.37 323 P P 02 34 28.8 -0.7
baz=68
BDQN Bodoquena, MS 60.46 205 *e*P P 02 34 31.6 +1.3
TCRU Three Creeks R 60.49 298 IAmb IAmb 02 34 39.2
comp=Z,15nm,1.2s
LIRD Liard River Hi 60.57 324 P P 02 34 29.7 -1.1
baz=68
F31M Tsiigehtchic 60.58 334 P P 02 34 30.0 -0.7
baz=66,SNR=19
TGTN Hyland Airport 60.76 327 P P 02 34 31.3 -0.9
baz=67
PKCU Pink Cliffs 60.88 297 P P 02 34 34.8 +1.1
G31M Satah River 60.99 334 IAmb IAmb 02 34 40.5
comp=Z,15nm,1.2s
G31M Satah River 60.99 334 P P 02 34 32.2 -1.3
baz=65
WUAZ Wupatki 61.02 294 IAmb IAmb 02 34 43.1
comp=Z,17nm,1.4s
WUAZ Wupatki 61.02 294 P P 02 34 33.2 -1.3
baz=64
F30M Barrier River 61.23 335 P P 02 34 34.5 -0.6
baz=64,SNR=8.7
U15A North Rim 61.30 296 IAmb IAmb 02 34 44.8
comp=Z,20nm,1.3s
SZCU Shurtz Canyon 61.38 297 IAmb IAmb 02 34 44.8
comp=Z,13nm,1.3s
D28M Stokes Point 61.43 337 P P 02 34 36.6 +0.1
baz=63,SNR=12
KNB Kanab 61.43 297 IAmb IAmb 02 35 11.2
comp=Z,9.9nm,1.3s
H31M Peel River 61.49 333 IAmb IAmb 02 34 46.6
comp=Z,14nm,1.2s
H31M Peel River 61.49 333 P P 02 34 35.6 -1.3
baz=65
LPAZ La Paz 61.51 218 P P 02 34 38.4 0.0
LPAZ La Paz 61.51 218 P P 02 34 38.9 +0.6
comp=Z,10nm,1.1s,baz=23,slow=7.6,SNR=20
LPAZ LR LR 02 59 11.2
comp=Z,122nm,20.5s,baz=21,slow=34
comp=Z,10nm,1.1s
LPAZ La Paz 61.51 218 P P 02 34 38.4 0.0
LPAZ pmax pmax
comp=Z,19nm,1.1s
LPAZ La Paz 61.51 218 *e*P P 02 34 38.0 -0.3
PSUT Pine Spring 61.52 299 P P 02 34 38.7 +0.8
X16A Lo Mia Camp, P 61.55 293 IAmb IAmb 02 34 46.9
comp=Z,13nm,1.4s
ELK Elko 61.56 301 IAmb IAmb 02 34 45.9
comp=Z,9.6nm,1.3s
E29M Blow River 61.59 336 IAmb IAmb 02 34 46.5
comp=Z,8.8nm,1.1s
E29M Blow River 61.59 336 P P 02 34 37.6 +0.1
baz=63
CCUT Cedar City 61.59 297 IAmb IAmb 02 34 46.6
comp=Z,18nm,1.4s
MMPY Sheldon Lake, 61.61 329 IAmb IAmb 02 35 21.3
comp=Z,11nm,1.5s
MMPY Sheldon Lake, 61.61 329 P P 02 34 36.9 -1.0
G30M tAoh Zraii Nji 61.65 334 P P 02 34 37.2 -0.9
baz=64
ARU Arti 61.90 39 P P 02 34 40.1 +0.3
ARU IAmb IAmb 02 34 45.9
comp=Z,13nm,1.1s
ARU Arti 61.90 39 *di*P P 02 34 40.7 +0.9
ARU S S 02 43 03.8 +0.3
ARU pmax pmax
comp=Z,11nm,1.1s
ARU MLR MLR
comp=Z,175nm,17.0s
TUC Tucson 62.01 291 P P 02 34 40.9 -0.1
baz=63
E28M Babbage River 62.02 336 IAmb IAmb 02 34 43.5
comp=Z,18nm,1.8s
E28M Babbage River 62.02 336 P P 02 34 39.7 -0.8
baz=62
EPYK Eagle Plains 62.11 334 IAmb IAmb 02 34 45.4
comp=Z,16nm,1.3s
EPYK Eagle Plains 62.11 334 P P 02 34 40.6 -0.5
baz=63
D27M Malcolm River 62.17 337 IAmb IAmb 02 34 49.0
comp=Z,17nm,1.2s
D27M Malcolm River 62.17 337 P P 02 34 40.2 -1.4
baz=61,SNR=20
G29M Pine Creek 62.32 334 IAmb IAmb 02 34 49.6
comp=Z,12nm,1.1s
G29M Pine Creek 62.32 334 P P 02 34 41.6 -0.9
baz=62
LTY Liberty 62.41 310 IAmb IAmb 02 34 49.7
comp=Z,17nm,1.4s
I30M Mount Dempster 62.51 332 P P 02 34 43.3 -0.6
baz=63
F28M Old Crow 62.61 335 IAmb IAmb 02 34 51.8
comp=Z,10.0nm,0.9s
F28M Old Crow 62.61 335 P P 02 34 44.4 -0.1
baz=61,SNR=14
J08A Circle Bar Ran 62.64 305 IAmb IAmb 02 34 55.4
comp=Z,8.5nm,0.9s
FARO Faro, Yukon 62.66 329 P P 02 34 43.9 -1.0
baz=64
H29M Whitestone 62.77 334 P P 02 34 45.6 +0.1
baz=62,SNR=5.4
J30M Hart River 62.79 332 IAmb IAmb 02 34 50.9
comp=Z,20nm,1.4s
J30M Hart River 62.79 332 P P 02 34 45.7 -0.1
baz=62
C27K Jago River 62.81 338 P P 02 34 45.4 -0.4
baz=59,SNR=10
R11B Troy Canyon, C 62.83 299 IAmb IAmb 02 34 54.2
comp=Z,9.5nm,1.4s
R11B Troy Canyon, C 62.83 299 P P 02 34 45.5 -1.1
baz=64
DLBC Dease Lake 62.83 324 P P 02 34 46.4 +0.2
baz=64
R33M Jennings River 62.85 325 P P 02 34 45.9 -0.4
baz=64
E27K Coleen River 62.90 336 IAmb IAmb 02 34 50.5
comp=Z,15nm,1.4s
E27K Coleen River 62.90 336 P P 02 34 45.6 -0.8
baz=60
C26K Camden Bay 63.02 339 P P 02 34 46.1 -0.9
baz=58
N32M Quiet Lake 63.02 328 P P 02 34 47.3 -0.1
baz=63
W13A Hualapai Mount 63.05 295 IAmb IAmb 02 34 57.0
comp=Z,19nm,1.4s
BMN Battle Mountai 63.05 302 IAmb IAmb 02 34 55.8
comp=Z,7.5nm,1.1s
M31M Drury Creek, Y 63.10 329 P P 02 34 47.7 -0.2
baz=63
WVOR Wild Horse Val 63.14 304 P P 02 34 52.7 +4.1
P33M Teslin, Yukon 63.33 326 IAmb IAmb 02 34 57.2
comp=Z,10nm,1.2s
P33M Teslin, Yukon 63.33 326 P P 02 34 48.9 -0.6
baz=63
V12A Nelson 63.47 296 IAmb IAmb 02 34 59.3
comp=Z,12nm,1.2s
J29N Klondike Camp 63.56 332 P P 02 34 50.4 -0.5
baz=61
K29M Barlow Dome 63.59 331 IAmb IAmb 02 34 55.6
comp=Z,19nm,1.4s
K29M Barlow Dome 63.59 331 P P 02 34 51.1 -0.1
baz=61,SNR=8.7
PDMCI Parker Dam,Lak 63.60 294 P P 02 34 52.0 +0.5
baz=62
G27K Doyon Strip 63.62 335 P P 02 34 49.8 -1.4
baz=59,SNR=9.0
214A Organ Pipe Nat 63.70 292 P P 02 34 51.3 -1.0
baz=62
I28M Miner Creek 63.71 333 IAmb IAmb 02 35 01.0
comp=Z,8.5nm,1.1s
I28M Miner Creek 63.71 333 P P 02 34 49.9 -2.0
baz=60
D25K Kavik River 63.77 339 IAmb IAmb 02 34 58.9
comp=Z,14nm,1.4s
D25K Kavik River 63.77 339 P P 02 34 51.1 -1.1
baz=56
H27K Steamboat Moun 63.87 335 P P 02 34 51.0 -1.9
baz=59
F26K Sheenjek River 63.98 337 P P 02 34 52.7 -0.8
baz=57,SNR=12
N31M Braeburn, Yuko 64.02 329 P P 02 34 54.0 +0.1
baz=61
WHY Whitehorse 64.03 327 P P 02 34 53.5 -0.5
baz=62,SNR=5.7
113A Mohawk Valley, 64.03 293 IAmb IAmb 02 35 02.8
comp=Z,14nm,1.3s
I05D Terrebonne, OR 64.08 307 pP 02 34 59.1 +1.8
BLYC Blythe 64.14 294 IAmb IAmb 02 35 03.7
comp=Z,14nm,1.3s
L29M L29M 64.19 331 P P 02 34 55.7 +0.6
baz=60,SNR=12
E25K Arctic Village 64.19 337 IAmb IAmb 02 35 02.5
comp=Z,10nm,1.2s
E25K Arctic Village 64.19 337 P P 02 34 54.7 -0.2
baz=56,SNR=9.6
C24K Franklin Bluff 64.22 339 P P 02 34 56.0 +1.0
baz=54
I27K Kandik River 64.23 334 P P 02 34 55.9 +0.7
baz=59
G26K Porcupine Rive 64.26 336 P P 02 34 55.5 +0.1
baz=57,SNR=9.8
BMAR Burnt Mountain 64.26 336 P P 02 34 56.6 +1.2
TUQ Turquoise Moun 64.38 296 P P 02 34 57.7 +0.8
baz=62
IRM Iron Mountain 64.41 295 P P 02 34 57.8 +0.9
baz=62
SHOC Shoshone, Teco 64.42 297 P P 02 34 57.2 +0.3
baz=62
H04A Detroit Lake 64.47 308 IAmb IAmb 02 35 00.8
comp=Z,11nm,1.3s
J05D Fort Rock, OR 64.48 306 P P 02 34 57.7 +0.3
GMRC Granite Mounta 64.49 296 P P 02 34 57.2 -0.3
baz=62
EGAK Eagle 64.50 333 P P 02 34 57.7 +0.8
baz=59
O30N Mendenhall 64.50 328 IAmb IAmb 02 35 05.5
comp=Z,7.9nm,0.9s
O30N Mendenhall 64.50 328 P P 02 34 56.9 -0.2
baz=61
F25K Christian Rive 64.51 337 P P 02 34 57.9 +0.9
baz=56,SNR=15
FURC Furnace Creek, 64.58 298 P P 02 34 57.1 -0.9
baz=62
D24K Happy Valley 64.58 339 IAmb IAmb 02 35 04.6
comp=Z,18nm,1.3s
D24K Happy Valley 64.58 339 P P 02 34 57.2 -0.3
baz=54
N30M Aishikik Lake 64.58 329 P P 02 34 56.4 -1.3
baz=60
NV11 Mina Array Sit 64.59 300 IAmb IAmb 02 35 07.3
comp=Z,9.9nm,1.1s
M29M Somme Creek 64.66 330 IAmb IAmb 02 35 06.5
comp=Z,14nm,1.2s
M29M Somme Creek 64.66 330 P P 02 34 57.6 -0.6
baz=60
C23K Itkillik River 64.69 340 P P 02 34 57.8 -0.2
baz=53
GLA Glamis 64.69 293 P P 02 34 57.4 -1.4
baz=62
NVAR Mina Array Bea 64.70 300 P P 02 34 58.3 -0.7
NVAR Mina Array Bea 64.70 300 P P 02 34 58.6 -0.4
comp=Z,3.9nm,1.0s,baz=22,slow=12,SNR=5.8
comp=Z,3.9nm,1.0s
RYN Ryan 64.76 300 IAmb IAmb 02 35 07.7
comp=Z,6.1nm,0.9s
SKAG Skagway 64.80 326 P P 02 34 57.2 -1.8
baz=61
WRAK Wrangell Islan 64.86 323 P P 02 34 58.3 -1.1
baz=62
PAHR Pah Rah Range 64.86 302 IAmb IAmb 02 35 07.5
comp=Z,18nm,1.4s
BC3 Big Chuckawall 64.87 294 P P 02 34 59.0 -1.0
baz=62
I26K Coal Creek Min 64.93 334 IAmb IAmb 02 35 03.4
comp=Z,24nm,1.7s
I26K Coal Creek Min 64.93 334 P P 02 34 57.4 -2.4
baz=57
DSP Deep Springs 64.95 299 IAmb IAmb 02 35 08.3
comp=Z,8.5nm,1.2s
HEC Hector,Ludlow 64.96 296 P P 02 34 59.3 -1.2
baz=62
R32K Eaglecrest 65.01 325 P P 02 34 59.5 -0.8
baz=61
V35K Ketchikan 65.01 321 P P 02 34 59.9 -0.5
baz=62
GSC Goldstone, Bar 65.08 296 P P 02 35 01.1 -0.3
baz=62
A22K Sinclair Lake 65.10 342 P P 02 35 00.5 -0.2
baz=50,SNR=7.2

BELC Belle Mtn. Jos 65.10 295 P P 02 34 59.9 -1.7
baz=62
TOLK Toolik Lake Re 65.11 339 IAmb IAmb 02 35 04.2
comp=Z,23nm,1.6s
TOLK Toolik Lake Re 65.11 339 P P 02 35 00.4 -0.5
baz=53
E24K Your Creek 65.12 338 P P 02 35 01.8 +0.8
E24K IAmb IAmb 02 35 09.2
comp=Z,9.7nm,1.0s
E24K Your Creek 65.12 338 P P 02 34 59.7 -1.3
baz=54,SNR=15
G25K Bearman Lake 65.13 336 P P 02 35 00.4 -0.6
baz=55,SNR=10
B22K Teshekpuk Lake 65.13 341 P P 02 35 00.5 -0.4
baz=51
P30M Million Dollar 65.19 327 P P 02 35 01.1 -0.5
baz=60
MPMC Manual Prospec 65.22 298 P P 02 35 00.9 -1.5
baz=62
K27K Chicken 65.23 333 P P 02 34 59.9 -1.8
baz=58
D23K Nanushuk River 65.23 339 P P 02 35 00.9 -0.7
baz=52
F24K Squaw Lake 65.26 337 P P 02 34 59.6 -2.3
baz=54
PLBC Pleasant Camp 65.27 327 P P 02 35 00.7 -1.3
baz=60
A21K Barrow 65.29 343 P P 02 35 00.6 -1.3
baz=48
H25L Birch Creek 65.32 336 P P 02 35 01.8 -0.4
baz=56
YUK6 Outpost Mounta 65.38 329 P P 02 35 01.2 -1.8
baz=59
U33K Whale Pass 65.39 323 P P 02 35 01.4 -1.4
baz=61
S32K Killisnoo 65.43 324 P P 02 35 02.2 -0.8
baz=61
SWSC Sam W. Stewart 65.46 294 P P 02 35 03.5 -0.2
baz=61
CWC Cottonwood Cre 65.46 298 P P 02 35 03.5 -0.4
baz=62
E23K Chandalar 65.47 338 P P 02 35 01.3 -2.0
baz=53
J26L Joseph Creek 65.52 333 P P 02 35 02.4 -1.3
baz=57
LPIG La Paz 65.58 283 LR LR 03 03 44.8
comp=Z,108nm,18.3s,baz=32,slow=36
G24K Hadweenzic Riv 65.61 336 P P 02 35 03.2 -0.9
baz=54,SNR=13
MDPB Devils Postpil 65.61 300 IAmb IAmb 02 35 13.2
comp=Z,12nm,1.3s
TPFO Pinon Flats 65.62 295 P P 02 35 04.5 -0.4
baz=61
PFO Pinyon Flats O 65.63 295 P P 02 35 06.0 +1.0
PFO IAmb IAmb 02 35 13.7
comp=Z,17nm,1.2s
PFO Pinyon Flats O 65.63 295 P P 02 35 04.7 -0.3
baz=61
PFO Pinyon Flats O 65.63 295 P P 02 35 06.0 +1.0
PFO pmax pmax
comp=Z,17nm,1.3s
LRMC Laurel Mtn Rad 65.63 297 P P 02 35 04.8 -0.2
baz=62
PRP Porcupine Dome 65.64 335 IAmb IAmb 02 35 13.0
comp=Z,8.8nm,1.0s
PRP Porcupine Dome 65.64 335 P P 02 35 03.2 -1.4
baz=55
BBRC Big Bear Solar 65.65 296 P P 02 35 03.9 -1.4
baz=62
L27K Beaver Creek, 65.66 332 P P 02 35 03.0 -1.6
baz=57
CRAG Craig 65.70 322 P P 02 35 04.2 -0.6
baz=61
P29M Windy Craggy 65.78 327 P P 02 35 04.8 -0.6
baz=59
YUK8 Steele Glacier 65.78 329 P P 02 35 04.9 -0.8
baz=58
ABKAR Akbulak array 65.80 46 P P 02 35 06.9 +1.2
ABKAR Akbulak array 65.80 46 P P 02 35 07.3 +1.7
YUK3 Moose Creek 65.81 330 P P 02 35 05.1 -0.7
baz=58
IKP In-Ko-Pah, Jac 65.83 294 P P 02 35 05.7 -0.5
baz=61
D22K Ayikyak River 65.86 340 IAmb IAmb 02 35 15.2
comp=Z,9.0nm,1.1s
D22K Ayikyak River 65.86 340 P P 02 35 04.9 -0.8
baz=51
B21K Ikpikpuk River 65.91 341 IAmb IAmb 02 35 13.6
comp=Z,15nm,1.3s
B21K Ikpikpuk River 65.91 341 P P 02 35 05.1 -0.9
baz=50
MONP2 Monument Peak 65.94 294 P P 02 35 06.9 -0.2
baz=61
S31K Pelican 65.96 325 P P 02 35 05.8 -0.7
baz=60
SCRK Sand Creek 65.97 333 IAmb IAmb 02 35 14.7
comp=Z,7.9nm,1.2s
SCRK Sand Creek 65.97 333 P P 02 35 05.7 -0.9
baz=56
CCAC Calif City Air 66.03 297 IAmb IAmb 02 35 13.6
comp=Z,16nm,1.2s
M27K Edge Creek, AK 66.06 331 P P 02 35 06.7 -0.6
baz=57
J25K Salcha River, 66.10 334 P P 02 35 06.6 -0.8
baz=55
ISA Isabella, Lake 66.11 298 pP 02 35 12.1 +1.4
ISA Isabella, Lake 66.11 298 P P 02 35 08.0 0.0
baz=61
CPUP Villa Florida 66.12 203 P P 02 35 06.8 -0.9
comp=Z,1.9nm,0.8s,baz=348,slow=6.2,SNR=3.1
CPUP LR LR 03 03 37.6
comp=Z,29nm,18.3s,baz=50,slow=36
comp=Z,1.9nm,0.8s
EDW2 Edwards Air Fo 66.14 297 P P 02 35 07.3 -0.9
baz=61
COLD Coldfoot 66.16 338 P P 02 35 07.5 -0.1
baz=52
MURC Murrieta 66.17 295 P P 02 35 08.9 +0.6
baz=61
BFSC Mount Baldy Ra 66.20 296 P P 02 35 08.8 +0.2
baz=61
O28M Mount Upton 66.23 329 P P 02 35 06.3 -2.2
baz=58
H24K Noodor Dome 66.25 336 IAmb IAmb 02 35 10.7
comp=Z,21nm,1.6s
H24K Noodor Dome 66.25 336 P P 02 35 05.8 -2.5
baz=54,SNR=9.1
C21K Knifeblade Rid 66.26 340 P P 02 35 07.8 -0.5
baz=49
L26K Log Cabin Wild 66.26 332 IAmb IAmb 02 35 20.9
comp=Z,7.4nm,0.9s
L26K Log Cabin Wild 66.26 332 P P 02 35 07.1 -1.3
baz=56
AFDM Forest Hills D 66.31 302 P P 02 35 09.4 +0.3
AFDM IAmb IAmb 02 35 16.3
comp=Z,7.4nm,1.1s
B20K Meade River 66.31 342 P P 02 35 07.7 -0.9
baz=48
CMB Columbia Colle 66.33 301 IAmb IAmb 02 35 17.2
comp=Z,11nm,1.2s
ORV Oroville 66.38 303 IAmb IAmb 02 35 16.9
comp=Z,19nm,1.6s
G23K Bananza Creek 66.42 337 P P 02 35 10.2 +0.8
G23K IAmb IAmb 02 35 17.2
comp=Z,19nm,1.4s
G23K Bananza Creek 66.42 337 P P 02 35 08.6 -0.8
baz=52,SNR=9.8
109C Camp Elliot, M 66.45 294 P P 02 35 08.8 -1.3
baz=61
M26K Nabesna, AK 66.47 331 P P 02 35 07.8 -2.0
baz=56
PNL Peninsula 66.48 328 P P 02 35 08.7 -1.2
baz=58
POKR Poker Plat Res 66.53 335 P P 02 35 09.6 -0.5
baz=54
ILAR Eielson Array 66.55 335 P P 02 35 10.6 +0.4
comp=Z,1.1nm,1.0s,baz=49,slow=4.7,SNR=8.3
ILAR LR LR 03 01 36.3
comp=Z,80nm,19.1s,baz=56,slow=34
comp=Z,1.1nm,1.0s
L02F Cave Junction 66.55 306 IAmb IAmb 02 35 17.6
comp=Z,6.9nm,1.0s
F22K John River 66.58 338 P P 02 35 09.0 -1.4
baz=51,SNR=8.4
CTG Chitna Glacier 66.60 330 P P 02 35 10.4 -0.4
baz=57
K24K Donnelly Dome 66.72 333 P P 02 35 10.8 -0.5
baz=55
G22K Bettles 66.75 338 P P 02 35 11.2 -0.2
baz=51
HDA Harding Lake 66.78 334 IAmb IAmb 02 35 19.6
comp=Z,5.7nm,0.8s
HDA Harding Lake 66.78 334 P P 02 35 10.9 -0.7
baz=54
H23K Yukon River 66.81 336 IAmb IAmb 02 35 16.8
comp=Z,12nm,1.1s
H23K Yukon River 66.81 336 P P 02 35 11.3 -0.5
baz=52
D20K Etivluk River 67.05 341 P P 02 35 12.2 -1.1
baz=48
PAX Paxson 67.09 333 P P 02 35 12.7 -1.0
baz=54
F21K Alatna River 67.15 338 IAmb IAmb 02 35 21.3
comp=Z,11nm,1.3s
F21K Alatna River 67.15 338 P P 02 35 13.6 -0.4
baz=50,SNR=7.6
I23K Minto, Yukon-K 67.16 336 IAmb IAmb 02 35 21.9
comp=Z,12nm,1.1s
I23K Minto, Yukon-K 67.16 336 P P 02 35 13.3 -0.8
baz=52
E20K Nigu River 67.24 340 P P 02 35 13.4 -1.2
baz=48,SNR=8.4
MESA MESA 67.29 329 P P 02 35 14.5 -0.7
baz=56
LVC Limon Verde 67.30 215 LR LR 03 02 52.7
comp=Z,68nm,20.1s,baz=355,slow=34
HARP HAARP 67.30 332 P P 02 35 14.5 -0.5
baz=55
H22K Ishtalitna Cre 67.36 337 P P 02 35 14.2 -1.1
baz=51
PKM Mcpherson Peak 67.44 297 P P 02 35 16.4 -0.2
baz=61
N25K Chitina, Valde 67.55 331 P P 02 35 16.3 -0.4
baz=55
C19K Lookout Ridge 67.56 342 P P 02 35 15.9 -0.7
baz=45
D19K Kuna River 67.60 341 P P 02 35 16.5 -0.4
baz=46
G21K Allakaket 67.62 338 P P 02 35 15.8 -1.2
baz=49
MLY Manley 67.69 336 IAmb IAmb 02 35 26.6
comp=Z,16nm,1.6s
MLY Manley 67.69 336 P P 02 35 15.9 -1.6
baz=51
KCPM Cahto Peak 67.73 304 P P 02 35 18.9 +0.7
DHY Denali Highway 67.73 333 P P 02 35 16.6 -1.3
baz=53
M24K Tolsona, Glenn 67.86 332 P P 02 35 18.7 +0.1
baz=54
MCK McKinley 67.89 334 P P 02 35 18.2 -0.5
baz=52
BMRM Bremner River 67.92 330 P P 02 35 17.7 -1.3
baz=54
B18K Kokolik River 67.92 342 P P 02 35 17.8 -1.0
baz=43
F20K Avaraart Lake 67.92 339 IAmb IAmb 02 35 31.4
comp=Z,9.7nm,1.2s
F20K Avaraart Lake 67.92 339 P P 02 35 17.8 -1.1
baz=48
H21K Melozitna Rive 67.96 337 P P 02 35 18.6 -0.5
baz=50
I21K Tanana 68.00 336 P P 02 35 19.2 -0.2
baz=50
SNCC San Nicolas Is 68.04 296 P P 02 35 19.1 -1.1
baz=60
E19K Redstone River 68.08 340 IAmb IAmb 02 35 27.2
comp=Z,8.8nm,1.4s
E19K Redstone River 68.08 340 P P 02 35 18.9 -1.0
baz=47
KLU Klutina 68.13 331 P P 02 35 20.7 +0.3
baz=54
WAT6 Susitna Watana 68.16 333 P P 02 35 19.0 -1.6
baz=53
C18K Utukok River 68.29 342 P P 02 35 19.6 -1.7
baz=44
WAT1 Susitna Watana 68.31 333 P P 02 35 19.8 -1.6
baz=52
BPAW Bear Paw Mtn. 68.36 335 P P 02 35 20.0 -1.8
baz=51
KAIM Kayak Island 68.45 330 P P 02 35 20.3 -2.0
baz=54
SCM Sheep Creek Mo 68.46 332 P P 02 35 21.1 -1.3
baz=53
TRF Thorofare Moun 68.54 334 P P 02 35 21.5 -1.5
baz=51
EYAK Cordova Ski Ar 68.62 330 P P 02 35 21.7 -1.6
baz=54
M23K Glacier View 68.64 332 P P 02 35 21.5 -2.0
baz=52
F19K Shaleruckik Mo 68.66 339 P P 02 35 22.8 -0.6
baz=46
H20K Anotleneega Mo 68.72 337 P P 02 35 23.1 -0.8
baz=48
SML Sawmill 68.85 332 P P 02 35 24.0 -0.9
baz=52
C17K DeLong Mountai 68.92 342 P P 02 35 24.1 -1.0
baz=42
G19K Purcell Mounta 68.94 339 P P 02 35 24.9 -0.4
baz=46
GLI Glacier Island 68.95 331 P P 02 35 24.8 -0.6
baz=53
CHUM Lake Minchumin 68.95 335 P P 02 35 24.7 -0.6
baz=50
E18K Tukpahlearik C 69.03 341 P P 02 35 24.9 -0.8
baz=44
I20K Naaghedeneel 69.06 337 P P 02 35 25.2 -0.8
baz=48
KNK Knik Glacier 69.15 332 P P 02 35 26.0 -0.7
baz=52
RDOG Red Dog Mine 69.16 342 P P 02 35 25.5 -1.1
baz=42
H19K Roundabout Mou 69.18 338 P P 02 35 25.8 -0.9
baz=47
CAST Castle Rocks 69.18 335 P P 02 35 26.0 -0.8
baz=50
CUT Chulitna 69.19 333 P P 02 35 25.5 -1.4
baz=51
PMR Palmer 69.29 332 P P 02 35 26.1 -1.3
baz=51
F18K Selawik 69.36 340 P P 02 35 26.7 -1.1
baz=44
J20K Nowinta River 69.37 336 IAmb IAmb 02 35 36.0
comp=Z,8.5nm,0.8s
J20K Nowinta River 69.37 336 P P 02 35 26.8 -1.1
baz=48
D17K Noatak River 69.47 342 P P 02 35 27.4 -1.1
baz=42
BRVK Borovoye 69.47 39 *j e* P P 02 35 30.3 +1.5
BRVK pmax pmax
comp=Z,9.0nm,1.4s
Q23K Middleton Isla 69.53 330 P P 02 35 27.6 -1.4
baz=53
BVAR Borovoye Array 69.55 39 P P 02 35 29.6 +0.4
comp=Z,1.0nm,0.7s,baz=319,slow=5.7,SNR=4.5
comp=Z,1.0nm,0.7s
PPLA Purkeypile 69.56 334 P P 02 35 27.4 -1.9
baz=49
G18K Tagagawik 69.58 339 P P 02 35 28.2 -1.0
baz=45
C16K Lisburne Hills 69.59 343 P P 02 35 28.9 -0.3
baz=40
E17K Hotham Inlet 69.60 341 P P 02 35 29.5 +0.2
baz=43
P23K Montague Islan 69.61 331 P P 02 35 28.7 -0.8
baz=52
RC01 Rabbit Creek A 69.83 332 P P 02 35 29.4 -1.5
baz=51
GCSA Galena City Sc 69.85 337 P P 02 35 30.1 -0.7
baz=46
K20K Telida 69.89 335 P P 02 35 30.2 -1.0
baz=48
F17K Baldwin Pennin 69.92 340 P P 02 35 29.7 -1.6
baz=43
SKT Skwentna 69.92 334 P P 02 35 29.5 -1.9
baz=50
SUA Susitna One 69.97 333 P P 02 35 30.4 -1.4
baz=50
J19K Poorman 69.97 336 P P 02 35 29.4 -2.2
baz=47
H18K Honhosa River 70.02 338 P P 02 35 30.6 -1.3
baz=45
MBAR Mbarara 70.17 106 LR LR 03 04 55.6
comp=Z,121nm,20.8s,baz=297,slow=35
O22K Cooper Landing 70.21 332 P P 02 35 31.6 -1.5
baz=50
GEYT Alibeck 70.23 57 P P 02 35 33.5 -0.3
comp=Z,0.9nm,0.5s,baz=282,slow=10,SNR=2.0
GEYT LR LR 03 08 07.0
comp=Z,36nm,18.6s,baz=205,slow=37
comp=Z,0.9nm,0.5s
SEW Seward 70.35 331 P P 02 35 32.3 -1.7
baz=51
L20K Farewell, AK 70.42 335 P P 02 35 33.1 -1.3
baz=48
G17K Kiwalik Mounta 70.44 339 P P 02 35 32.5 -2.0
baz=43
M20K Styx River 70.56 334 P P 02 35 34.3 -1.1
baz=48
CAPN Captain Cook N 70.57 332 P P 02 35 33.9 -1.4
baz=50
H17K Granite Mounta 70.63 339 P P 02 35 33.4 -2.2
baz=44
J18K Innoko River 70.69 336 P P 02 35 36.6 +0.5
J18K IAmb IAmb 02 35 43.6
comp=Z,15nm,1.4s
J18K Innoko River 70.69 336 P P 02 35 33.8 -2.2
baz=46
TTA Tatalina 70.83 336 P P 02 35 34.9 -2.2
baz=46
L19K White Mountain 70.95 335 P P 02 35 36.1 -1.6
baz=47
M19K Big River Lodg 70.98 334 P P 02 35 36.3 -1.6
baz=47
BRSE Bradley Lake S 71.08 331 P P 02 35 36.5 -2.1
baz=50
F15K North Star Dit 71.39 341 P P 02 35 39.2 -1.1
baz=40
H16K Elim 71.53 339 P P 02 35 39.3 -1.8
baz=42
L18K Granite Mounta 71.55 335 P P 02 35 39.8 -1.4
baz=46
O20K Slope Mountain 71.57 332 P P 02 35 39.4 -2.1
baz=48
TIXI Tiksi 71.63 6 P P 02 35 42.2 +0.6
TIXI IAmb IAmb 02 35 48.7
comp=Z,10nm,1.2s
TIXI Tiksi 71.63 6 LR LR 03 02 12.6
comp=Z,33nm,20.4s,baz=16,slow=32
TIXI Tiksi 71.63 6 *ll eP* P 02 35 42.9 +1.3
TIXI pmax pmax
comp=Z,10.0nm,1.1s
M18K Stony River 71.77 335 P P 02 35 40.4 -2.2
baz=46
G15K Niukluk 71.77 340 P P 02 35 40.9 -1.6
baz=40
J16K Anvik River 72.05 338 P P 02 35 42.3 -1.9
baz=43
P19K Oil Pt 72.09 332 P P 02 35 42.8 -1.8
baz=48
O19K Port Alsworth 72.12 333 P P 02 35 43.2 -1.6
baz=47
N18K Kilae Creek 72.35 334 P P 02 35 44.1 -2.0
baz=46
TNA Tin City 72.36 342 P P 02 35 44.0 -2.0
baz=38
M17K Holitna River 72.38 335 P P 02 35 44.8 -1.5
baz=45
Q20K Shuyak Island 72.47 331 P P 02 35 45.0 -1.9
baz=48
ATD Arta Tunnel 72.66 88 LR LR 03 08 33.9
comp=Z,4.8nm,18.1s,baz=107,slow=37
L16K Owhat River 72.84 336 P P 02 35 47.2 -1.8
baz=43
P18K Big Mountain, 73.01 333 P P 02 35 47.8 -2.3
baz=46
K15K Wolf Creek Mou 73.07 337 P P 02 35 48.1 -2.3
baz=42
KDAK Kodiak Island 73.10 331 P P 02 35 48.7 -1.9
baz=48
KDAK Kodiak Island 73.10 331 LR LR 03 08 13.6
comp=Z,164nm,18.5s,baz=66,slow=36
M16K Timber Creek 73.17 335 P P 02 35 49.2 -1.8
baz=44
J14K Nanvaranak Lak 73.34 338 P P 02 35 50.5 -1.4
baz=40
O17K Koliganek Bris 73.42 334 P P 02 35 51.2 -1.3
baz=45
N16K Nishlik Lake 73.50 335 P P 02 35 52.6 -0.4
baz=44
TSUM Tsumeb 73.62 130 LR LR 03 02 48.3
comp=Z,99nm,21.4s,baz=324,slow=31
OHAK Old Harbor 73.76 330 P P 02 35 53.7 -0.8
baz=47
M15K Kasigluk River 73.98 336 P P 02 35 55.4 -0.4
baz=42
Q17K Contact Creek 74.04 332 P P 02 35 55.3 -1.0
baz=45
L14K Kuka Creek 74.14 337 P P 02 35 55.8 -0.8
baz=41
CO01 Juntas del Tor 74.19 212 P P 02 35 55.3 -2.3
CO01 IAmb IAmb 02 36 20.7
comp=Z,6.8nm,0.5s
K13K Kusilvak Mount 74.30 338 P P 02 35 55.9 -1.6
baz=39
SII Sitkinak Islan 74.57 330 P P 02 35 57.4 -1.9
baz=46
O15K Ungaliklthiuk R 74.81 334 P P 02 35 59.3 -1.3
baz=43
BILL Bilibino 74.84 352 P P 02 36 02.5 +1.9
BILL Bilibino 74.84 352 *ll eP* P 02 36 01.5 +0.9
BILL pmax pmax
comp=Z,12nm,1.9s
N14K Kuskokwak Cree 74.89 336 P P 02 35 59.7 -1.3
baz=41
KURK Kurchatov 75.02 37 P P 02 36 01.5 -0.5
KURK Kurchatov 75.02 37 *ce eP* P 02 36 03.0 +1.0
KURK pmax pmax
comp=Z,7.0nm,0.9s
KURBB Kurchatov Arra 75.04 38 P P 02 36 01.1 -0.9
comp=Z,2.1nm,0.6s,baz=312,slow=6.0,SNR=26
comp=Z,2.1nm,0.6s
M13K Dall Lake 75.06 337 P P 02 36 01.4 -0.6
baz=40
O14K Tigyukauivet M 75.25 335 P P 02 36 01.7 -1.5
baz=42
ZALV Zalesovo Beam 75.75 32 P P 02 36 06.2 +0.1
comp=Z,0.6nm,0.5s,baz=316,slow=6.0,SNR=2.1
ZALV LR LR 03 09 02.1
comp=Z,80nm,20.3s,baz=308,slow=35
comp=Z,0.6nm,0.5s
M11K Mekoryuk 75.98 338 P P 02 36 05.5 -1.8
baz=38
S14K Fog Glacier 76.85 332 P P 02 36 10.1 -2.4
baz=42
SIMJ Simiganj 76.97 52 P P 02 36 12.4 -1.1
GAR Garm 77.59 51 IAmb IAmb 02 36 23.9
comp=Z,13nm,0.9s
LSZ Lusaka 77.88 119 LR LR 03 08 44.7
comp=Z,198nm,21.8s,baz=309,slow=34
AAK Ala-Archa 77.89 46 LR LR 03 10 23.1
comp=Z,72nm,19.5s,baz=320,slow=36
AAK Ala-Archa 77.89 46 *ll iP* P 02 36 17.1 -1.5
AAK pmax pmax
comp=Z,7.0nm,2.0s
WSAR Wadi Sarin 78.57 70 LR LR 03 14 01.9
comp=Z,43nm,18.6s,baz=293,slow=38
MAKZ Makanchi 79.26 39 P P 02 36 25.6 -0.3
MAKZ Makanchi 79.26 39 P P 02 36 25.6 -0.3
MAKZ pmax pmax
comp=Z,4.0nm,1.0s
MK31 Makanchi Array 79.43 39 *ce eP* P 02 36 27.0 +0.2
MKAR Makanchi Array 79.43 39 P P 02 36 26.4 -0.4
MKAR Makanchi Array 79.43 39 P P 02 36 27.1 +0.3
comp=Z,2.1nm,0.7s,baz=318,slow=5.3,SNR=20
MKAR LR LR 03 12 01.7
comp=Z,99nm,18.3s,baz=316,slow=36
comp=Z,2.1nm,0.7s
SPIA Saint Paul Isl 79.82 338 P P 02 36 26.5 -2.2
baz=34
P08K Saint George I 80.08 337 P P 02 36 27.6 -2.5
baz=35
KSH Kashi 80.72 47 P P 02 36 35.9 +1.8
KSH pP pwP 02 36 41.0 +1.7
SEY Seymchan 80.94 357 LR LR 03 10 37.0
comp=Z,53nm,19.8s,baz=318,slow=34
SEY Seymchan 80.94 357 *eP* P 02 36 33.9 -0.7
SEY pmax pmax
comp=Z,5.0nm,1.3s
YAK Yakutsk 81.08 8 LR LR 03 09 11.6
comp=Z,29nm,21.3s,baz=340,slow=33
BOD Bodaibo 82.41 17 *eP* P 02 36 41.9 -0.6
BOD pmax pmax
comp=Z,15nm,1.1s
LBTB Lobatse 82.91 128 LR LR 03 08 54.6

comp=Z,84nm,20.6s,baz=316,slow=32
PLCA Paso Flores 83.74 207 LR LR 03 13 41.1
comp=Z,18nm,20.2s,baz=30,slow=35
WMQ Urumqi 84.23 38 *eP* **P 02 36 54.7 +2.4**
WMQ pmax pmax
comp=Z,48nm,1.1s
WMQ pmax pmax
comp=Z,40nm,3.7s
WMQ LR LR
comp=N,310nm,13.1s
WMQ LR LR
comp=Z,75nm,21.9s
MA2 Magadan 84.36 358 LR LR 03 11 20.1
comp=Z,48nm,21.5s,baz=355,slow=33
BOSA Boshof 85.26 131 LR LR 03 10 23.4
comp=Z,43nm,21.6s,baz=353,slow=32
SUR Sutherland 85.41 126 LR LR 03 11 49.9
comp=Z,35nm,18.8s,baz=344,slow=33
PETK Petropavlovsk- 90.35 353 LR LR 03 15 46.3
comp=Z,62nm,21.3s,baz=346,slow=34
KLR Kul'dur 93.86 9 LR LR 03 18 30.1
comp=Z,28nm,18.0s,baz=2.0,slow=35
OPO Ambohidratompo 93.93 110 LR LR 03 20 24.7
comp=Z,74nm,18.5s,baz=214,slow=36
HHC Hu-ho-hao-te 96.92 26 *eP* **P 02 37 49.4 -2.8**
HHC sP pP 02 37 56.1 +1.2
HHC pmax pmax
comp=Z,11nm,0.5s
HHC pmax pmax
comp=Z,120nm,4.0s
LZH Lanzhou 97.96 33 *eP* **P 02 37 56.7 -0.3**
LZH sP pwP 02 38 03.8 +1.6
LZH pmax pmax
comp=Z,10.0nm,1.0s
MDJ Mudanjiang 98.05 12 P **P 02 37 57.7 +0.6**
MDJ pmax pmax
comp=Z,17nm,1.8s
MDJ pmax pmax
comp=Z,670nm,3.8s
USRK Ussuriysk Ar. 98.83 10 LR LR 03 21 19.3
comp=Z,22nm,18.2s,baz=32,slow=35
ASAJ Asahikawa 99.86 3 LR LR 03 19 47.5
comp=Z,35nm,21.4s,baz=154,slow=33
VNDA Vanda 138.14 185 PKP **PKPdf 02 43 44.4 0.0**
comp=Z,0.8nm,0.9s,baz=257,slow=2.0,SNR=3.8
WRA Warramunga Arr 160.70 35 PKPab **PKPab 02 45 03.3 +0.5**
comp=Z,1.1nm,0.9s,baz=330,slow=4.9,SNR=4.8
ASAR Alice Springs 163.58 43 PKPab **PKPab 02 45 15.2 -0.2**
comp=Z,0.6nm,0.7s,baz=326,slow=4.0,SNR=4.9

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*NEIC **04** 02:39:08.8±0.7, 19.°60N±0.°09×65.°2W±0.°1, h37km±46km, ML2.7/20, Md3.5/8(RSPR), Error ellipse: s-maj=15.7km s-min=12.0km az=54.0*
*RSPR **04** 02:39:09.8, 19.°62N×65.°24W, h34km±19km, MD3.5/8*
ISC 04 02:39:09.8±2.5, 19.°6N±0.°2×65.°27W±0.°05, h35km, n41, σ0s48/44, 6C-5D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.47**	**212**	↓	*eP*	**Pn**		**02 39 33.1**	**-0.7**
GCPR	**Guaynabo City**	**1.47**	**212**		*eS*	**Sn**		**02 39 51.5**	**-0.2**
GCPR	**Guaynabo City**	**1.47**	**212**			**Pn**		**02 39 33.1**	**-0.7**
GCPR						**Sn**		**02 39 51.5**	**-0.2**
HUMP	**Col San Antoni**	**1.52**	**201**	↓	*eP*	**Pn**		**02 39 34.2**	**-0.2**
HUMP	**Col San Antoni**	**1.52**	**201**		*eS*	**Sn**		**02 39 53.4**	**+0.4**
HUMP	**Col San Antoni**	**1.52**	**201**			**Pn**		**02 39 34.2**	**-0.2**
HUMP						**Sn**		**02 39 53.4**	**+0.4**
HUMP	**Col San Antoni**	**1.52**	**201**		IAML			02 39 54.4	
	comp=E,95nm,0.2s								
HUMP					IAML			02 39 58.7	
	comp=N,75nm,0.4s								
EMPR	**Esperanza - Ma**	**1.61**	**228**	↓	*eP*	**Pn**		**02 39 35.5**	**-0.3**
EMPR	**Esperanza - Ma**	**1.61**	**228**		*eS*	**Sn**		**02 39 55.1**	**-0.1**
EMPR	**Esperanza - Ma**	**1.61**	**228**			**Pn**		**02 39 35.5**	**-0.3**
EMPR						**Sn**		**02 39 55.1**	**-0.1**
EMPR	**Esperanza - Ma**	**1.61**	**228**		IAML			02 40 01.2	
	comp=N,123nm,1.8s								
IGPR	**InterUniversit**	**1.78**	**207**	↓	*eP*	**Pn**		**02 39 38.1**	**+0.1**
IGPR	**InterUniversit**	**1.78**	**207**		*eS*	**Sn**		**02 39 59.3**	**-0.1**
IGPR	**InterUniversit**	**1.78**	**207**			**Pn**		**02 39 37.6**	**-0.4**
IGPR	**InterUniversit**	**1.78**	**207**			**Sn**		**02 39 59.3**	**-0.1**
IGPR	**InterUniversit**	**1.78**	**207**		IAML			02 39 59.9	
	comp=E,141nm,0.3s								
IGPR					IAML			02 40 00.9	
	comp=N,119nm,0.3s								
AOPR	**Arecibo Observ**	**1.85**	**229**	↑	*eP*	**Pn**		**02 39 38.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.85**	**229**		*eS*	**Sn**		**02 40 01.9**	**+0.6**
AOPR	**Arecibo Observ**	**1.85**	**229**			**Pn**		**02 39 38.8**	**-0.4**
AOPR						**Sn**		**02 40 01.9**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.89**	**227**	↑	*eP*	**Pn**		**02 39 39.4**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.89**	**227**		*eS*	**Sn**		**02 40 02.6**	**+0.3**
UUPR	**Utuado, UPR, P**	**1.89**	**227**			**Pn**		**02 39 39.4**	**-0.3**
UUPR						**Sn**		**02 40 02.6**	**+0.3**
CELP	**Cerrillos**	**1.93**	**220**	↓	*eP*	**Pn**		**02 39 40.0**	**-0.2**
CELP					*eS*	**Sn**		**02 40 05.3**	**+2.1**
CELP	**Cerrillos**	**1.93**	**220**			**Pn**		**02 39 40.0**	**-0.2**
OBIP	**Obispado Ponce**	**1.97**	**220**	↑	*eP*	**Pn**		**02 39 40.7**	**0.0**
OBIP	**Obispado Ponce**	**1.97**	**220**		*eS*	**Sn**		**02 40 04.0**	**-0.2**
OBIP	**Obispado Ponce**	**1.97**	**220**			**Pn**		**02 39 40.7**	**0.0**
OBIP						**Sn**		**02 40 04.0**	**-0.2**
OBIP	**Obispado Ponce**	**1.97**	**220**		IAML			02 40 09.6	
	comp=N,44nm,1.4s								
LSP	**Las Mesas**	**2.21**	**232**	↑	*eP*	**Pn**		**02 39 43.8**	**-0.2**
LSP	**Las Mesas**	**2.21**	**232**		*eS*	**Sn**		**02 40 10.0**	**-0.1**
LSP	**Las Mesas**	**2.21**	**232**			**Pn**		**02 39 43.8**	**-0.2**
LSP						**Sn**		**02 40 10.0**	**-0.1**
MLPR	**Magueyes Islan**	**2.31**	**227**	↑	*eP*	**Pn**		**02 39 45.4**	**0.0**
MLPR	**Magueyes Islan**	**2.31**	**227**		*eS*	**Sn**		**02 40 13.4**	**+0.8**
MLPR	**Magueyes Islan**	**2.31**	**227**			**Pn**		**02 39 45.4**	**0.0**
MLPR	**Magueyes Islan**	**2.31**	**227**		IAML			02 40 07.1	
	comp=E,28nm,2.6s								
MLPR					IAML			02 40 18.9	
	comp=N,29nm,1.8s								
MLPR	**Magueyes Islan**	**2.31**	**227**			**Sn**		**02 40 13.4**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.33**	**229**	↑	*eP*	**Pn**		**02 39 45.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.33**	**229**		*eS*	**Sn**		**02 40 13.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.33**	**229**			**Pn**		**02 39 45.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**2.33**	**229**		IAML			02 40 16.4	
	comp=N,30nm,2.2s								
CRPR					IAML			02 40 40.3	
	comp=E,35nm,2.8s								
ANBD	**Bethesda, Anti**	**4.17**	**126**		*eP*	**Pn**		**02 40 10.9**	**0.0**
ANBD					*eS*	**Sn**		**02 40 58.6**	**+0.2**

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*IDC **04** 02:42:54.3±1.3, 36.°29N×33.°84W, h0km, mb3.6/8, mbtmp3.6/8, MS3.2/4, Error ellipse: s-maj=38.5km s-min=22.0km az=138.0*
ISC 04 02:42:56.5±1.4, 36.°3N±0.°2×33.°9W±0.°2, h14km, n14, σ0s77/10, mb3.6/8, MS3.1/4, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**3.71**	**34**			Pn	**Pn**	**02 43 54.2**	**+0.8**
H07N1	**FLORES T-PHASE**	**4.00**	**32**			Pn	**Pn**	**02 43 56.4**	**-1.0**
ESDC	**Sonseca Array**	**23.74**	**73**			LR	LR	02 54 53.4	
	comp=Z,38nm,21.5s,baz=248,slow=30								
MDT	**Midelt**	**24.30**	**90**			LR	LR	02 55 11.1	
	comp=Z,43nm,20.9s,baz=286,slow=30								
SCHQ	**Schefferville**	**29.20**	**320**			LR	LR	02 59 24.1	
	comp=Z,64nm,20.8s,baz=72,slow=34								
YKA	**Yellowknife Ar**	**54.37**	**326**			P	**P**	**02 52 23.1**	**+0.6**
	0.9nm,1.1s,baz=70,slow=6.8,SNR=4.1								
	0.9nm,1.1s								
PDAR	**Pinedale Array**	**56.92**	**302**			P	**P**	**02 52 41.4**	**-0.1**
	0.3nm,0.9s,baz=38,slow=10,SNR=2.8								
	0.3nm,0.9s								
TXAR	**Lajitas Array**	**57.94**	**285**			P	**P**	**02 52 47.6**	**-1.1**
	0.3nm,0.8s,baz=79,slow=6.5,SNR=3.5								
	0.3nm,0.8s								
NEW	**Newport**	**59.87**	**310**			LR	LR	03 17 21.3	
	comp=Z,31nm,20.1s,baz=102,slow=34								
LPAZ	**La Paz**	**61.54**	**218**			P	**P**	**02 53 14.3**	**+0.3**
	1.7nm,0.9s,baz=327,slow=1.8,SNR=7.3								
	1.7nm,0.9s								
NVAR	**Mina Array Bea**	**64.76**	**300**			P	**P**	**02 53 35.3**	**+0.5**
	0.4nm,0.7s,baz=101,slow=9.4,SNR=3.3								
	0.4nm,0.7s								
ILAR	**Eielson Array**	**66.59**	**335**			P	**P**	**02 53 46.3**	**+0.4**
	0.2nm,0.7s,baz=20,slow=8.8,SNR=2.6								
	0.2nm,0.7s								
KURBB	**Kurchatov Arra**	**75.01**	**38**			P	**P**	**02 54 37.5**	**+0.2**
	0.3nm,0.2s,baz=313,slow=6.3,SNR=5.1								
	0.3nm,0.2s								
MKAR	**Makanchi Array**	**79.40**	**39**			P	**P**	**02 55 01.5**	**-0.6**
	0.4nm,0.7s,baz=338,slow=3.4,SNR=3.6								
	0.4nm,0.7s								

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*SJA **04** 03:03:27.6±0.7, 19.°89S×71.°04W, h14km±2km, ML3.4, MW3.7*
*GUC **04** 03:03:32.2±0.8, 19.°87S×70.°90W, h35km±2km, ML3.3*
ISC 04 03:03:30.2±1.7, 19.°86S±0.°02×70.°96W±0.°05, h19km±4km, n33, σ0s98/62, 4C-1D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TA02	**Huaiquique**	**0.88**	**118**		*eP*	**Pb**	**Pb**	**03 03 46.3**	**-0.6**
TA02					IAML			03 04 01.3	
	comp=Z,772nm,0.4s								
TA02	**Huaiquique**	**0.88**	**118**		*eP*	**Pb**	**Pb**	**03 03 46.4**	**-0.6**
TA02					*eS*	**Sb**	**Sb**	**03 03 57.2**	**-1.1**
TA02					IAML			03 04 01.3	
	comp=N,1μm,0.2s								
TA01	**Diego Aracena**	**1.02**	**134**		*eP*	Pb		03 03 43.6	-5.6
TA01					*eP*	**Pn**		**03 03 48.4**	**-1.0**
TA01					*eS*	**Sg**		**03 04 03.4**	**-0.1**
TA01					IAML			03 04 03.7	
	comp=Z,834nm,0.7s								
TA01	**Diego Aracena**	**1.02**	**134**		*eP*	**Pb**	**Pb**	**03 03 48.8**	**-0.4**
TA01					*eS*	**Sb**	**Sb**	**03 04 01.7**	**-0.5**
TA01					IAML			03 04 07.7	
	comp=E,1μm,0.4s								
HMBC	**Humberstone**	**1.09**	**113**		*eP*	**Pb**	**Pb**	**03 03 49.4**	**-1.1**
HMBC					*eS*	**Sn**	**Sn**	**03 04 05.7**	**+0.5**
HMBC					IAML			03 04 06.6	
	comp=Z,828nm,0.3s								
HMBC	**Humberstone**	**1.09**	**113**	↓	*eP*	**Pb**	**Pb**	**03 03 50.1**	**-0.5**
HMBC					*eS*	**Sb**	**Sb**	**03 04 03.8**	**-0.7**
HMBC					IAML			03 04 06.8	
	comp=N,1μm,0.4s								
PX02	**IPOC Station P**	**1.15**	**39**		*eP*	**Pn**	**Pn**	**03 03 50.8**	**-0.5**
PX02					*eS*	**Sb**	**Sb**	**03 04 05.5**	**-0.5**
PX02					IAML			03 04 08.2	
	comp=N,1μm,0.3s								
PATCX	**Punta Patache**	**1.23**	**142**		*eP*	**Pn**	**Pn**	**03 03 51.7**	**-0.6**
PATCX					*eS*	**Sg**	**Sg**	**03 04 12.8**	**+2.8**
PATCX					IAML			03 04 13.6	
	comp=Z,559nm,0.5s								
PATCX	**Punta Patache**	**1.23**	**142**	↑	*iP*	**Pn**	**Pn**	**03 03 52.0**	**-0.3**
PATCX					*i* S	**Sb**	**Sb**	**03 04 07.4**	**-0.9**
PATCX					IAML			03 04 13.4	
	comp=E,792nm,0.6s								
PB11	**IPOC Station P**	**1.23**	**86**		*eP*	**Pn**	**Pn**	**03 03 52.5**	**0.0**
PB11					*eS*	**Sg**	**Sg**	**03 04 09.9**	**-0.5**
PB11					IAML			03 04 13.9	
	comp=Z,639nm,0.4s								
PB11	**IPOC Station P**	**1.23**	**86**		*eP*	**Pn**	**Pn**	**03 03 52.3**	**-0.3**
PB11					*eS*	**Sb**	**Sb**	**03 04 07.6**	**-1.0**
PB11					IAML			03 04 13.9	
	comp=N,1μm,0.5s								
PB12	**IPOC Station P**	**1.37**	**26**		*eP*	**Pn**	**Pn**	**03 03 54.6**	**+0.2**
PB12					*eS*	**Sg**	**Sg**	**03 04 14.7**	**-0.1**
PB12					IAML			03 04 17.6	
	comp=Z,846nm,0.5s								
PB12	**IPOC Station P**	**1.37**	**26**	↑	*eP*	**Pn**	**Pn**	**03 03 55.2**	**+0.8**
PB12					*eS*	**Sn**	**Sn**	**03 04 12.3**	**+0.2**
PB12					IAML			03 04 16.9	
	comp=N,1μm,0.5s								
AP01	**Chacalluta**	**1.59**	**22**		*eP*	**Pb**	**Pb**	**03 03 58.7**	**-0.2**
AP01					*eS*	**Sg**	**Sg**	**03 04 20.9**	**-0.7**
AP01					IAML			03 04 25.1	
	comp=Z,955nm,0.3s								
AP01	**Chacalluta**	**1.59**	**22**	↑	*eP*	**Pn**	**Pn**	**03 03 57.9**	**+0.6**
AP01					*eS*	**Sn**	**Sn**	**03 04 17.9**	**+0.6**
GO01	**Chusmiza**	**1.68**	**84**		*eP*	**Pn**	**Pn**	**03 03 59.9**	**+1.0**
GO01					*eS*	**Sg**	**Sg**	**03 04 24.1**	**-0.4**
GO01					IAML			03 04 25.2	
	comp=Z,505nm,0.3s								
GO01	**Chusmiza**	**1.68**	**84**	↑	*eP*	**Pn**	**Pn**	**03 03 59.4**	**+0.5**
GO01					*eS*	**Sn**	**Sn**	**03 04 21.1**	**+1.0**
PB08	**IPOC Station P**	**1.73**	**100**		*eP*	**Pn**	**Pn**	**03 04 00.3**	**+0.8**
PB08					*eS*	**Sg**	**Sg**	**03 04 25.4**	**-0.7**
PB08					IAML			03 04 26.2	
	comp=Z,372nm,0.5s								
PB08	**IPOC Station P**	**1.73**	**100**		*eP*	**Pn**	**Pn**	**03 03 59.7**	**+0.2**
PB08					*eS*	**Sn**	**Sn**	**03 04 21.4**	**+0.2**
PB08					IAML			03 04 30.6	
	comp=N,395nm,0.4s								
PB02	**IPOC Station P**	**1.77**	**146**		*eP*	**Pn**	**Pn**	**03 04 00.1**	**+0.2**
PB02					*eS*	**Sn**	**Sn**	**03 04 23.0**	**+1.2**
PB02					IAML			03 04 32.6	
	comp=Z,739nm,0.4s								
PB02	**IPOC Station P**	**1.77**	**146**		*eP*	**Pn**	**Pn**	**03 04 00.0**	**+0.2**
PB02					*eS*	**Sn**	**Sn**	**03 04 21.4**	**-0.4**
PB02					IAML			03 04 31.0	
	comp=E,1μm,0.5s								
PB01	**IPOC Station P**	**1.82**	**131**		*eP*	**Pn**	**Pn**	**03 04 01.1**	**+0.6**
PB01					*eS*	**Sb**	**Sb**	**03 04 27.1**	**+1.7**
PB01					IAML			03 04 29.2	
	comp=Z,370nm,0.7s								
PB01	**IPOC Station P**	**1.82**	**131**		*eP*	**Pn**	**Pn**	**03 04 00.9**	**+0.4**
PB01					*eS*	**Sn**	**Sn**	**03 04 22.9**	**-0.2**
PB01					IAML			03 04 30.3	
	comp=E,718nm,0.6s								
PB07	**IPOC Station P**	**2.12**	**152**		*eP*	**Pn**	**Pn**	**03 04 04.9**	**+0.2**
PB07					*eS*	**Sn**	**Sn**	**03 04 30.1**	**-0.4**
PB07					IAML			03 04 44.5	
	comp=Z,209nm,1.0s								
PB07	**IPOC Station P**	**2.12**	**152**		*eP*	**Pn**	**Pn**	**03 04 04.9**	**+0.2**
PB07					*eS*	**Sn**	**Sn**	**03 04 30.2**	**-0.3**
PB07					IAML			03 04 41.6	
	comp=E,339nm,0.5s								
PB07					IAML			03 04 48.0	
	comp=N,210nm,0.7s								
PB09	**IPOC Station P**	**2.51**	**140**		*eP*	**Pn**	**Pn**	**03 04 10.9**	**+0.8**
PB09					*eS*	**Sb**	**Sb**	**03 04 43.6**	**-1.8**
PB09					IAML			03 04 57.0	
	comp=Z,504nm,0.6s								
PB09	**IPOC Station P**	**2.51**	**140**		*eP*	**Pn**	**Pn**	**03 04 11.3**	**+1.2**
PB09					*eS*	**Sn**	**Sn**	**03 04 40.7**	**+0.4**
PB04	**IPOC Station P**	**2.58**	**163**		*eP*	Pn	Pn	03 04 00.4	-11
PB04					*eS*	**Sg**	**Sg**	**03 04 53.6**	**+0.4**
PB04					IAML			03 05 06.4	
	comp=Z,144nm,0.5s								
PB05	**IPOC Station P**	**3.06**	**167**		*eP*	Pn	Pn	03 04 11.9	-5.8
PB05					*eS*	**Sb**	**Sb**	**03 05 02.6**	**+1.4**
PB05					IAML			03 05 21.4	
	comp=Z,52nm,1.0s								
PB06	**IPOC Station P**	**3.12**	**156**		*eP*	**Pn**	**Pn**	**03 04 18.3**	**-0.1**
PB06					*eS*	**Sb**	**Sb**	**03 05 02.6**	**-0.2**
PB06					IAML			03 05 12.3	
	comp=Z,121nm,0.9s								
LVC	**Limon Verde**	**3.34**	**145**		*eP*	**Pn**	**Pn**	**03 04 23.0**	**+1.3**
LVC					*eS*	**Sb**	**Sb**	**03 05 10.1**	**+0.6**
LVC					IAML			03 05 15.9	
	comp=Z,45nm,0.8s								
PB15	**IPOC Station P**	**3.61**	**158**		*eP*	**Pb**	**Pb**	**03 04 30.0**	**-3.6**
PB15					*eS*	**Sb**	**Sb**	**03 05 19.6**	**+2.5**
PB15					IAML			03 05 31.8	
	comp=Z,128nm,0.4s								
PB10	**IPOC Station P**	**3.66**	**174**		*eP*	**Pn**	**Pn**	**03 04 25.3**	**-0.5**

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*NEIC **04** 03:14:24.0±1.1, 19.°44N±0.°03×155.°00W±0.°03, h5km±1km, Error ellipse: s-maj=6.9km s-min=2.9km az=128.0*
HVO 04 03:14:22.6±1.0, 19.°43N±0.°03×154.°93W±0.°03, h3km±8km, ML2.3/10, ML2.4/34(NEIC), Error ellipse: s-maj=5.3km s-min=2.2km az=132.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**36**			Pg		03 14 24.6	+0.6
JOKA	**Jonika Flow**	**0.07**	**270**			Pg		03 14 24.6	+0.4
STCH	**Steam Cracks**	**0.19**	**256**			Pg		03 14 26.8	+0.4
STCH	**Steam Cracks**	**0.19**	**256**		IAML			03 14 31.1	
	comp=N,362nm,0.5s								
STCH					IAML			03 14 32.4	
	comp=E,315nm,0.3s								
KNHH	**Kane Nui o Ham**	**0.23**	**257**			Pg		03 14 27.6	+0.4
PUH	**Pauahi**	**0.28**	**258**			Pg		03 14 28.1	+0.1
PUH					IAML			03 14 38.7	
	comp=N,412nm,0.7s								
HATHI	**Halema'uma'u T**	**0.32**	**268**			Pg		03 14 28.8	+0.1
HATHI	**Halema'uma'u T**	**0.32**	**268**		IAML			03 14 33.7	
	comp=N,380nm,0.8s								
HATHI					IAML			03 14 39.8	
	comp=E,386nm,0.5s								
KKO	**Keanakako`i**	**0.32**	**264**			Pg		03 14 29.0	+0.1
KKO						Sg		03 14 33.4	+0.2
KKO	**Keanakako`i**	**0.32**	**264**		IAML			03 14 34.9	
	comp=E,275nm,1.0s								
KKO					IAML			03 14 40.3	
	comp=N,461nm,0.6s								
SBLHI	**Steaming Bluff**	**0.32**	**269**			Pg		03 14 28.9	0.0
UWB	**Uwekahuna B**	**0.33**	**269**			Pg		03 14 29.5	+0.5
UWB	**Uwekahuna B**	**0.33**	**269**		IAML			03 14 36.6	
	comp=E,218nm,2.8s								
UWB					IAML			03 14 41.4	
	comp=N,185nm,0.6s								
RSD	**Rainshed**	**0.33**	**275**			Pg		03 14 29.3	+0.2
RSD					IAML			03 14 36.7	
	comp=N,366nm,0.3s								
RSD					IAML			03 14 37.4	
	comp=E,431nm,0.4s								
RSD	**Rainshed**	**0.33**	**275**			Sb		03 14 35.6	-1.4
UWE	**Uwekahuna**	**0.35**	**268**			Pg		03 14 30.2	+0.8
UWE	**Uwekahuna**	**0.35**	**268**		IAML			03 14 31.6	
	comp=E,544nm,2.7s								
UWE					IAML			03 14 42.0	
	comp=N,494nm,0.8s								
SDHHI	**Sand Hill**	**0.35**	**263**			Pg		03 14 30.2	+0.8
SDHHI	**Sand Hill**	**0.35**	**263**		IAML			03 14 34.7	
	comp=N,434nm,0.6s								
SDHHI					IAML			03 14 39.4	
	comp=E,396nm,0.7s								
WRMHI	**West Rim**	**0.35**	**266**			Pg		03 14 30.3	+0.8
WRMHI	**West Rim**	**0.35**	**266**		IAML			03 14 37.5	
	comp=E,544nm,0.5s								
WRMHI					IAML			03 14 42.0	
	comp=N,544nm,0.6s								
HLP	**Hilina Pali**	**0.39**	**249**			Pg		03 14 30.7	+0.6
HLP					IAML			03 14 41.2	
	comp=N,467nm,0.8s								
MLH	**Mauna Loa**	**0.44**	**278**			Pg		03 14 31.3	+0.2
MLH					IAML			03 14 38.8	
	comp=E,373nm,0.8s								
MLH					IAML			03 14 47.7	
	comp=N,274nm,0.6s								
HTC	**Hot Caves**	**0.48**	**246**			Pg		03 14 32.4	+0.4
HMH	**Humu'ula Sheep**	**0.55**	**288**			Pg		03 14 33.3	0.0
MLOA	**Mauna Loa Obse**	**0.62**	**280**			Pg		03 14 34.2	-0.4
MLOA					IAML			03 14 36.4	
	comp=E,233nm,2.6s								
MLOA					IAML			03 14 46.9	
	comp=N,176nm,0.5s								
MWH	**Moku'aweowe**	**0.64**	**275**			Pg		03 14 34.3	-0.6
POHA	**Pohakuloa**	**0.66**	**300**			Pg		03 14 34.5	-0.8
ALEP	**Alea Permanent**	**0.69**	**279**			Pg		03 14 35.0	-0.8
ALEP						Sg		03 14 45.9	+1.1
HPAH	**Hawaii Prepara**	**0.94**	**309**		Pg	Pg		03 14 40.4	-0.2
HPAH					IAML			03 15 07.6	
	comp=N,136nm,1.7s								

DJA 04 03:22:20.9±0.3, 7.°5S±4.°×107.°7E±.°, h10km, M2.6/5, MLv2.6/5, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.28**	**124**			P	Pb	03 22 27.5	-0.6
CNJI						S	Sg	03 22 30.3	-0.2
SKJI	**Sukabumi**	**0.36**	**293**			P	Pb	03 22 29.4	0.0
SKJI						S	Sb	03 22 34.7	-0.5
LEM	**Lembang**	**0.79**	**66**			P	Pg	03 22 36.1	-0.1
TNG	**Tangerang**	**1.00**	**346**			P	Pb	03 22 39.9	-0.5
TNG						P	Pg	03 22 39.8	-0.4
JCJI	**Jatiwangi**	**1.52**	**65**			P	Pn	03 22 46.9	-1.2
CMJI	**Cimerak**	**1.67**	**112**			P	Pn	03 22 50.4	+0.2
CMJI						S	Sn	03 23 12.1	+0.4
KPJI	**Karang Pucung**	**2.03**	**95**			P	Pn	03 22 55.4	+0.2

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*DJA **04** 03:22:44.0±0.4, 7.°5S±3.°×12.°1E±.°, h567km±6km, M4.5/20, mB5.1/7, mb4.6/13, MLv4.5/20, Mw(mB)4.4/7*
*IDC **04** 03:22:45.2±1.2, 7.°11S×120.°82E, h552km±13km, mb3.6/15, mbtmp4.4/17, Error ellipse: s-maj=30.1km s-min=9.0km az=61.0*
*NEIC **04** 03:22:45.2±1.6, 7.°20S±0.°07×120.°7E±0.°1, h555km±7km, mb4.3/37, Error ellipse: s-maj=18.7km s-min=6.8km az=62.0*
ISC 04 03:22:44.7±0.3, 7.°22S±0.°06×120.°77E±0.°08, h550km, n123, σ1s06/129, mb4.2/28, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EDFI	**Ende, Flores**	**1.77**	**149**			P	**P**	**03 23 52.6**	**-1.0**
BKSI	**Bulukumba**	**1.99**	**341**			P	**P**	**03 23 55.7**	**+1.3**
MMRI	**Maumere**	**2.03**	**134**			P	**P**	**03 23 54.4**	**-0.1**
MMRI	**Maumere**	**2.03**	**134**			P	**P**	**03 23 54.2**	**-0.3**
MMRI	**Maumere**	**2.03**	**134**			P	**P**	**03 23 53.9**	**-0.6**
KAPI	**Kappang**	**2.41**	**335**			P	**P**	**03 23 58.9**	**+2.5**
KAPI	**Kappang**	**2.41**	**335**			P	**P**	**03 23 58.3**	**+1.9**
BBSI	**Bau Bau**	**2.49**	**46**			P	**P**	**03 23 59.3**	**+2.5**
BASI	**Baing, Sumba**	**2.98**	**184**			P	**P**	**03 24 00.4**	**+0.8**
PLAI

WB2	**Warramunga Arr**	**18.27 135**	P	**P**	**03 26 25.7**	**+0.6**
WB2			IAmb	IAmb	03 26 27.7	
	comp=Z,9.4nm,0.8s					
WR0	**Warramunga Arr**	**18.41 135**	P	**P**	**03 26 27.1**	**+0.7**
WR0			IAmb	IAmb	03 26 27.9	
	comp=Z,11nm,0.6s					
WRKA	**Warakurna**	**19.12 159**	P	**P**	**03 26 34.0**	**+1.1**
MEEK	**Meekatharra**	**19.42 186**	P	**P**	**03 26 35.8**	**+0.3**
AS31	**Alice Springs**	**20.65 144**	P	**P**	**03 26 46.0**	**-0.8**
ASAR	**Alice Springs**	**20.65 144**	P	**P**	**03 26 47.5**	**+0.7**
	comp=Z,3.8nm,0.4s,baz=317,slow=8.1,SNR=73					
ASAR			S	**S**	**03 30 00.8**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=340,slow=24,SNR=4.5					
ASAR			PcP	**PcP**	**03 30 32.7**	**+0.1**
	comp=Z,1.6nm,0.4s,baz=325,slow=1.5,SNR=13					
ASAR			ScP	**ScP**	**03 33 17.1**	**-0.4**
	comp=Z,2.5nm,0.6s,baz=326,slow=2.1,SNR=15					
	comp=Z,3.8nm,0.4s					
MORW	**Morawa**	**22.18 191**	P	**P**	**03 27 01.0**	**+0.6**
MORW	**Morawa**	**22.18 191**	P	**P**	**03 27 00.4**	**0.0**
QIS	**Mount Isa**	**22.55 128**	P	**P**	**03 27 05.0**	**+1.1**
COEN	**Coen**	**23.01 109**	P	**P**	**03 27 08.1**	**+0.1**
COEN			IAmb	IAmb	03 27 43.0	
	comp=Z,9.4nm,1.2s					
FORT	**Forrest**	**24.41 165**	P	**P**	**03 27 20.9**	**+0.7**
NWAO	**Narrogin (SRO)**	**25.79 187**	P	**P**	**03 27 32.9**	**+0.6**
BBOO	**Buckleboo**	**29.16 153**	P	**P**	**03 28 02.4**	**+0.6**
STKA	**Stephens Creek**	**31.29 144**	P	**P**	**03 28 21.4**	**+1.2**
STKA	**Stephens Creek**	**31.29 144**	P	**P**	**03 28 21.1**	**+0.8**
	comp=Z,6.6nm,0.4s,baz=318,slow=8.4,SNR=20					
STKA			ScP	**ScP**	**03 33 48.0**	**-0.7**
	comp=Z,2.1nm,0.6s,baz=270,slow=5.1,SNR=5.3					
	comp=Z,6.6nm,0.4s					
CMAR	**Chiang Mai Arr**	**33.38 320**	P	**P**	**03 28 38.8**	**+0.6**
	comp=Z,1.8nm,0.3s,baz=145,slow=7.0,SNR=8.4					
CMAR			PcP	**PcP**	**03 31 04.9**	**+1.3**
	comp=Z,1.2nm,0.3s,baz=187,slow=4.4,SNR=2.0					
	comp=Z,1.8nm,0.3s					
CRAI	**Chiangrai**	**33.86 324**	P	**P**	**03 28 42.7**	**+0.6**
CRAI			IAmb	IAmb	03 28 43.4	
	comp=Z,4.0nm,0.6s					
PZH	**PanZhiHua**	**38.27 332**	P	**P**	**03 29 22.9**	**+4.3**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,80nm,5.6s					
LSA	**Lhasa**	**46.45 324**	P	**P**	**03 30 20.5**	**-2.7**
LSA			IAmb	IAmb	03 30 24.8	
	comp=Z,8.8nm,0.8s					
SONM	**Songino Array**	**56.27 348**	P	**P**	**03 31 33.3**	**-0.1**
	comp=Z,3.0nm,0.5s,baz=159,slow=8.5,SNR=2.9					
	comp=Z,3.0nm,0.5s					
GVZ	**Greta Valley S**	**57.96 137**	P	**P**	**03 31 45.2**	**+0.3**
TARG	**Taragay, Kyrgy**	**62.57 325**	P	**P**	**03 32 16.1**	**+0.3**
MK31	**Makanchi Array**	**63.71 332**	P	**P**	**03 32 23.0**	**+0.5**
MK31			IAmb	IAmb	03 32 23.7	
	comp=Z,5.6nm,0.7s					
MKAR	**Makanchi Array**	**63.71 332**	P	**P**	**03 32 23.0**	**+0.5**
MKAR	**Makanchi Array**	**63.71 332**	P	**P**	**03 32 23.0**	**+0.5**
	comp=Z,6.3nm,0.4s,baz=141,slow=7.6,SNR=93					
	comp=Z,6.3nm,0.4s					
MAKZ	**Makanchi**	**63.87 331**	P	**P**	**03 32 23.8**	**+0.3**
KBL	**Kabul**	**64.09 314**	P	**P**	**03 32 24.7**	**-0.8**
KBL			IAmb	IAmb	03 32 25.9	
	comp=Z,8.4nm,0.6s					
BOOM	**Boomskoye usch**	**64.12 325**	P	**P**	**03 32 24.7**	**-0.8**
BOOM			IAmb	IAmb	03 32 26.7	
	comp=Z,5.6nm,0.7s					
DRK	**Karamyk**	**64.84 320**	P	**P**	**03 32 28.8**	**-1.5**
AAK	**Ala-Archa**	**65.05 324**	P	**P**	**03 32 30.9**	**-0.4**
AAK			IAmb	IAmb	03 32 32.7	
	comp=Z,5.7nm,0.6s					
ARSB	**Arslanbob**	**65.17 322**	P	**P**	**03 32 31.5**	**-0.5**
GAR	**Garm**	**65.54 319**	P	**P**	**03 32 34.5**	**+0.1**
GAR			IAmb	IAmb	03 32 34.9	
	comp=Z,11nm,0.5s					
CHGR	**Chuyangaron**	**66.12 318**	P	**P**	**03 32 37.0**	**-1.1**
CHGR			IAmb	IAmb	03 32 38.5	
	comp=Z,28nm,1.3s					
SIMJ	**Simiganj**	**66.22 318**	P	**P**	**03 32 37.3**	**-1.4**
SIMJ			IAmb	IAmb	03 32 39.2	
	comp=Z,7.8nm,0.9s					
PEA0B	**Petropavlovsk-**	**67.76 23**	P	**P**	**03 32 48.8**	**+1.1**
PEA0B			IAmb	IAmb	03 33 09.7	
	comp=Z,13nm,1.2s					
PETK	**Petropavlovsk-**	**67.76 23**	P	**P**	**03 32 47.2**	**-0.4**
PETK	**Petropavlovsk-**	**67.76 23**	P	**P**	**03 32 47.1**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=195,slow=2.5,SNR=4.7					
	comp=Z,1.4nm,0.5s					
ZAA0	**Zalesovo Array**	**68.03 338**	P	**P**	**03 32 48.3**	**-0.9**
ZAA0			IAmb	IAmb	03 32 48.7	
	comp=Z,6.0nm,0.4s					
ZALV	**Zalesovo Beam**	**68.03 338**	P	**P**	**03 32 48.2**	**-1.1**
ZALV	**Zalesovo Beam**	**68.03 338**	P	**P**	**03 32 48.4**	**-0.9**
	comp=Z,4.6nm,0.3s,baz=130,slow=4.5,SNR=18					
	comp=Z,4.6nm,0.3s					
KURBB	**Kurchatov Arra**	**68.18 333**	P	**P**	**03 32 49.9**	**-0.3**
	comp=Z,2.7nm,0.5s,baz=140,slow=5.2,SNR=26					
KURBB			PcP	**PcP**	**03 33 11.3**	**-0.1**
	comp=Z,0.4nm,0.2s,baz=128,slow=3.9,SNR=4.7					
	comp=Z,2.7nm,0.5s					
KURK	**Kurchatov**	**68.20 333**	P	**P**	**03 32 50.2**	**-0.2**
KURK			IAmb	IAmb	03 32 51.1	
	comp=Z,4.0nm,0.8s					
VNDA	**Vanda**	**73.47 171**	P	**P**	**03 33 21.4**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=338,slow=4.8,SNR=1.1					
	comp=Z,0.5nm,0.6s					
GEYT	**Alibeck**	**73.50 313**	P	**P**	**03 33 20.8**	**-1.0**
GEYT			IAmb	IAmb	03 33 23.3	
	comp=Z,5.8nm,0.9s					
GEYT	**Alibeck**	**73.50 313**	P	**P**	**03 33 22.4**	**+0.6**
	comp=Z,2.1nm,0.4s,baz=195,slow=4.5,SNR=7.1					
	comp=Z,2.1nm,0.4s					
GYA0B	**ALIBECK ARRAY**	**73.50 313**	P	**P**	**03 33 20.8**	**-1.1**
GYA0B			IAmb	IAmb	03 33 23.2	
	comp=Z,5.8nm,1.0s					
BVAR	**Borovoye Array**	**73.58 331**	P	**P**	**03 33 21.5**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=165,slow=7.7,SNR=5.2					
	comp=Z,0.7nm,0.4s					
ABKAR	**Akbulak array**	**77.14 324**	P	**P**	**03 33 41.5**	**-0.3**
ABKAR	**Akbulak array**	**77.14 324**	P	**P**	**03 33 40.9**	**-0.9**
TIXI	**Tiksi**	**78.89 3**	P	**P**	**03 33 50.1**	**-0.6**
RAYN	**Ar Rayn**	**79.51 295**	P	**P**	**03 33 53.7**	**-1.4**
QSPA	**South Pole Qui**	**82.76 180**	P	**P**	**03 34 11.3**	**+0.2**
QSPA	**South Pole Qui**	**82.76 180**	P	**P**	**03 34 11.4**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=271,slow=2.7,SNR=5.0					
	comp=Z,0.6nm,0.5s					
BRTR	**Keskin Array B**	**92.36 310**	P	**P**	**03 34 56.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=151,slow=4.7,SNR=5.7					
	comp=Z,0.6nm,0.7s					
SNAA	**Sanae**	**93.17 195**	P	**P**	**03 35 00.4**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=244,slow=3.6,SNR=6.6					
	comp=Z,1.7nm,0.9s					
FINES	**FINESS Array B**	**98.54 331**	PKiKP	**PKiKP**	**03 39 52.7**	**+0.3**
	comp=Z,1.6nm,0.9s,baz=119,slow=4.9,SNR=3.7					
ARCES	**ARCESS Array B**	**98.56 339**	P	Pdif	03 35 23.4	-0.8
	comp=Z,4.2nm,1.1s,baz=81,slow=5.6,SNR=1.5					
	comp=Z,4.2nm,1.1s					
YKA	**Yellowknife Ar**	**111.86 24**	PKiKP	**PKiKP**	**03 40 16.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=315,slow=2.7,SNR=13					
EKA	**Eskdalemuir Ar**	**114.76 329**	PKP	PKPdf	03 40 20.9	-1.9
	comp=Z,0.1nm,0.3s,baz=54,slow=3.6,SNR=4.0					
NVAR	**Mina Array Bea**	**118.54 50**	PKP	**PKPdf**	**03 40 31.1**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=313,slow=3.5,SNR=3.9					
TORD	**Torodi Ar. Bea**	**119.86 281**	PKP	**PKPdf**	**03 40 33.5**	**-0.2**
	comp=Z,0.7nm,0.5s,baz=63,slow=3.7,SNR=8.9					
PDAR	**Pinedale Array**	**123.43 43**	PKP	**PKPdf**	**03 40 40.6**	**+0.4**
	comp=Z,0.2nm,0.4s,baz=28,slow=2.1,SNR=2.4					
PLCA	**Paso Flores**	**131.16 169**	PKP	**PKPdf**	**03 40 56.4**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=46,slow=7.5,SNR=3.7					
SCHQ	**Schefferville**	**132.13 6**	PKP	**PKPdf**	**03 40 57.5**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=300,slow=3.8,SNR=4.5					
TXAR	**Lajitas Array**	**132.81 56**	PKP	**PKPdf**	**03 40 59.8**	**+1.5**
	comp=Z,0.2nm,0.4s,baz=197,slow=1.7,SNR=4.5					
TZTN	**Tazewell**	**143.34 34**		PKPab	03 41 15.7	+0.4
LRAL	**Lakeview Retre**	**143.63 41**		PKPab	03 41 16.4	-0.2
GO02	**Mina Guanaco**	**146.27 163**		**PKPdf**	**03 41 24.4**	**+1.5**
CPUP	**Villa Florida**	**146.60 183**	PKPbc	**PKPbc**	**03 41 25.9**	**+0.4**
	comp=Z,2.0nm,0.7s,baz=330,slow=0.7,SNR=5.8					
LVC	**Limon Verde**	**148.88 163**	PKPbc	**PKPbc**	**03 41 32.6**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=57,slow=1.7,SNR=5.3					
LPAZ	**La Paz**	**155.04 159**	PKPab	**PKPab**	**03 42 05.8**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=83,slow=2.0,SNR=4.6					

*IDC **04** 03:36:45.9±0.5,24.2°20S×111.2°93W,h0km,mb4.7/25,*

mbtmp4.7/25,MS4.6/48,Error ellipse: s-maj=18.0km s-min=12.5km az=64.0

*NEIC **04** 03:36:47.3±1.8,24.3°31S±0.0°09×111.6°6W±0.1°,h10km±1km, mb5.4/519,Error ellipse: s-maj=20.0km s-min=15.2km az=252.0*

*MOS **04** 03:36:48.9±1.2,23.7°71S×111.4°41W,h10km,mb5.4/38, Error ellipse: s-maj=13.2km s-min=8.2km az=84.2*

*BJI **04** 03:36:50.5±0.0,24.4°20S×111.4°80W,h10km,mb5.2/4, Ms5.3/15,Ms7 5.0/18*

*GCMT **04** 03:36:50.3±0.1,24.1°21S±0.0°01×111.7°87W±0.0°01,h17km, MW5.3/140,Moment Tensor Solution. s105,c167; s140,c253; Duration: 1s1 Moment tensor: Scale 10^17 Nm; Mrr=0.15±.01; Mθθ=0.85±.01; Mφφ=0.99±.02; Mrθ=0.06±.03; Mθφ=0.52±.01; Mφr=0.08±.04; Best double couple: Mo=1.06300×10^17 NP1:φs=60.00000°,δs=89.00000°, λs=5.00000°. NP2:φs=330.00000°,δs=85.00000°,λs=179.00000°. Principal axes: T 1.1380, Plg4.0000°, Azm285.0000°; N -0.1510, Plg85.0000°, Azm72.0000°; P -0.9880, Plg3.0000°, Azm195.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 03:36:48.6±0.3,24.09S±0.06×111.68W±0.05,h11km, h11km:pP-P,n1011,σ1940/815,mb5.4/278,MS4.6/60, 38C-17D,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VA02	**Isla de Pascua**	**3.67**	**147**	Pn	Pn	Pn	03 37 40.3	-5.0
RPN	**Rapu Nui**	**3.69**	**145**	Pn	Pn	Pn	03 37 41.1	-4.6
	16nm,0.3s,baz=333,slow=14,SNR=8.3							
RPN				Sn	**Sn**	**Sn**	**03 38 28.6**	**-0.6**
	5.4nm,0.3s,baz=119,slow=20,SNR=1.4							
RPN				T	T	T	03 41 48.5	
	138nm,0.4s,baz=298,slow=18,SNR=2.6							
H03N2	**Juan Fernandez**	**30.08**	**116**	T	T	T	04 15 00.1	
	baz=284,slow=75,SNR=111							
H03N3	**Juan Fernandez**	**30.09**	**116**	T	T	T	04 14 58.4	
	baz=284,slow=75,SNR=127							
H03N1	**Juan Fernandez**	**30.10**	**116**	T	T	T	04 14 59.8	
	baz=284,slow=75,SNR=150							
TAOE	**Nuku Hiva Isla**	**31.12**	**294**	*e*P	P	P	03 42 59.9	-7.7
	54nm,27.1s							
TAOE	**Nuku Hiva Isla**	**31.12**	**294**	*e*PP	**PP**	**PP**	**03 44 17.0**	**-0.9**
	52nm,23.2s							
TAOE				*e*S	**S**	**S**	**03 48 09.1**	**-4.3**
	222nm,27.2s							
TAOE				*e*LR	LR	LR	03 51 15.1	
	3μm,24.7s							
TBI	**Tubuai**	**34.53**	**263**	*e*P	**P**	**P**	**03 43 35.4**	**-1.8**
	189nm,40.2s							
TBI	**Tubuai**	**34.53**	**263**	*e*PP	PP	PP	03 44 50.4	-5.0
	224nm,29.5s							
TBI				*e*S	**S**	**S**	**03 49 06.1**	**+0.1**
	698nm,26.2s							
TBI				*e*SS	**SnSn**	**SnSn**	**03 51 27.2**	**+10**
	5μm,27.8s							
TBI				*e*LR	LR	LR	03 52 36.4	
	3μm,26.2s							
TBI				*e*LR	LR	LR	03 52 45.9	
	9μm,25.5s							
NNA	**Nana**	**35.14**	**76**	LR	LR	LR	03 54 05.6	
	comp=Z,2μm,21.3s,baz=245,slow=29							
PPT2	**Papeete2**	**35.92**	**273**	*e*P	**P**	**P**	**03 43 47.7**	**-1.6**
	34nm,24.2s							
PPT2	**Papeete2**	**35.92**	**273**	*e*PP	PP	PP	03 45 04.9	-6.1
	60nm,23.8s							
PPT2				*e*S	**S**	**S**	**03 49 23.5**	**-4.2**
	405nm,26.2s							
PPT2				*e*SS	**SnSn**	**SnSn**	**03 51 58.3**	**+7.1**
	680nm,23.2s							
PPT2				*e*LR	LR	LR	03 53 14.5	
	2μm,38.8s							
PPT2				*e*LR	LR	LR	03 53 20.8	
	3μm,38.8s							
PPT	**Papeete**	**35.93**	**273**	LR	LR	LR	03 54 44.5	
	comp=Z,576nm,18.6s,baz=113,slow=30							
ATAH	**Atahualpa**	**36.08**	**68**	P	**P**	**P**	**03 43 52.9**	**+1.8**
	12nm,0.9s,baz=261,slow=9.3,SNR=7.3							
ATAH				PcP	**PcP**	**PcP**	**03 46 18.9**	**+1.6**
	5.8nm,0.8s,baz=309,slow=6.5,SNR=1.6							
ATAH				LR	LR	LR	03 54 44.7	
	comp=Z,2μm,21.9s,baz=240,slow=30							
	12nm,0.9s							
ML02	**Panimavida**	**36.55**	**118**	P	P	P	03 43 50.4	-4.0
BO01	**Tunca**	**36.67**	**116**	P	**P**	**P**	**03 43 53.5**	**-2.0**
LR05	**Currie**	**36.91**	**126**	P	**P**	**P**	**03 43 54.6**	**-2.8**
PEL	**Peldehue**	**36.91**	**114**	P	**P**	**P**	**03 43 55.1**	**-2.5**
PEL	**Peldehue**	**36.91**	**114**	P	**P**	**P**	**03 43 58.3**	**+0.7**
PEL				pmax	pmax	pmax		
	comp=Z,34nm,1.2s							
BO02	**Sierra Bellavi**	**36.96**	**116**	P	**P**	**P**	**03 43 55.2**	**-2.8**
BO04	**La Punta**	**37.03**	**115**	P	**P**	**P**	**03 43 56.3**	**-2.3**
GO06	**Curarrehue**	**37.16**	**124**	P	P	P	03 43 55.7	-4.0
LL01	**San Ignacio de**	**37.17**	**99**	P	**P**	**P**	**03 43 56.1**	**-3.5**
AC05	**El Transito**	**37.24**	**106**	P	**P**	**P**	**03 43 56.9**	**-3.7**
AC06	**Mina Casimiro**	**37.26**	**104**	P	**P**	**P**	**03 43 57.8**	**-2.8**
MT13	**San Alfonso**	**37.28**	**115**	P	**P**	**P**	**03 43 57.0**	**-3.9**
LMEL	**Las Melosas**	**37.36**	**115**	P	P	P	03 43 57.5	-4.1
PLCA	**Paso Flores**	**38.10**	**126**	P	**P**	**P**	**03 44 04.1**	**-3.6**
PLCA	**Paso Flores**	**38.10**	**126**	P	**P**	**P**	**03 44 08.1**	**+0.5**
	comp=Z,5.2nm,1.2s,baz=272,slow=11,SNR=4.0							
PLCA				LR	LR	LR	03 55 44.0	
	comp=Z,2μm,21.4s,baz=280,slow=30							
	comp=Z,5.2nm,1.2s							
PLCA	**Paso Flores**	**38.10**	**126**	*e*P	**P**	**P**	**03 44 10.1**	**+2.4**
GO02	**Mina Guanaco**	**38.17**	**101**	P	P	P	03 44 05.9	-2.7
AC02	**Maricunga**	**38.39**	**103**	P	P	P	03 44 02.9	-7.8
PB07	**IPOC Station P**	**38.47**	**95**	P	**P**	**P**	**03 44 07.7**	**-3.4**
CHSH	**Refugio Sur-Vo**	**38.89**	**60**	P	**P**	**P**	**03 44 12.3**	**-2.8**
PB01	**IPOC Station P**	**38.98**	**94**	P	**P**	**P**	**03 44 14.8**	**-0.4**
PB09	**IPOC Station P**	**39.04**	**95**	P	**P**	**P**	**03 44 12.7**	**-3.2**
LVC	**Limon Verde**	**39.19**	**97**	P	**P**	**P**	**03 44 17.8**	**+0.5**
	comp=Z,4.2nm,0.9s,baz=251,slow=8.1,SNR=6.1							
LVC				LR	LR	LR	03 56 17.8	
	comp=Z,1μm,19.1s,baz=265,slow=30							
	comp=Z,4.2nm,0.9s							
LVC	**Limon Verde**	**39.19**	**97**	*e*P	**P**	**P**	**03 44 16.5**	**-0.8**
PB08	**IPOC Station P**	**39.49**	**93**	P	P	P	03 44 16.0	-3.9
GO01	**Chusmiza**	**39.56**	**92**	P	**P**	**P**	**03 44 19.4**	**-1.2**
PB18	**Visviri**	**39.85**	**89**	P	**P**	**P**	**03 44 20.9**	**-2.3**
CZSB	**Cruzeiro do Su**	**40.68**	**73**	P	**P**	**P**	**03 44 26.5**	**-2.9**
CZSB	**Cruzeiro do Su**	**40.68**	**73**	*e*P	**P**	**P**	**03 44 28.5**	**-0.9**
TULM	**Tulcn-Chalpat**	**41.10**	**58**	P	**P**	**P**	**03 44 30.7**	**-2.7**
LPAZ	**La Paz**	**41.47**	**88**	P	**P**	**P**	**03 44 33.5**	**-3.1**
LPAZ	**La Paz**	**41.47**	**88**	P	**P**	**P**	**03 44 36.9**	**+0.3**
	comp=Z,6.6nm,0.9s,baz=253,slow=5.1,SNR=18							
LPAZ				LR	LR	LR	03 58 18.8	
	comp=Z,775nm,19.0s,baz=252,slow=31							
	comp=Z,6.6nm,0.9s							
LPAZ	**La Paz**	**41.47**	**88**	*e*P	**P**	**P**	**03 44 34.9**	**-1.7**
DUNO	**Dulce Nombre,**	**42.52**	**40**	P	**P**	**P**	**03 44 43.8**	**-0.6**
JACO	**JACO, Garabito**	**42.69**	**41**	P	**P**	**P**	**03 44 45.4**	**-0.3**
ORTG	**Ortega, Santa**	**42.77**	**40**	P	**P**	**P**	**03 44 45.8**	**-0.7**
CDITO	**Canoas**	**42.96**	**44**	P	**P**	**P**	**03 44 47.6**	**-0.3**
JTS	**Las Juntas de**	**43.01**	**40**	P	**P**	**P**	**03 44 49.2**	**+0.8**
JTS	**Las Juntas de**	**43.01**	**40**	LR	LR	LR	03 58 00.3	
	comp=Z,802nm,21.7s,baz=208,slow=30							
PEZE	**Perez Zeledon,**	**43.07**	**43**	P	**P**	**P**	**03 44 47.5**	**-1.4**
PEZE				IAmb	IAmb	IAmb	03 45 01.6	
	comp=Z,126nm,1.5s							
LCR2	**La Lucha 2**	**43.15**	**42**	P	**P**	**P**	**03 44 49.8**	**+0.1**
SRBA	**San Rafael, Bu**	**43.15**	**43**	P	**P**	**P**	**03 44 49.9**	**+0.2**
BRU2	**Volcan**	**43.24**	**44**	P	**P**	**P**	**03 44 52.0**	**+1.5**
SOCE	**Pocosol**	**43.28**	**41**	P	**P**	**P**	**03 44 47.6**	**-2.9**
SOCE				IAmb	IAmb	IAmb	03 44 51.4	
	comp=Z,86nm,1.4s							
TLIG	**Tlapa**	**43.33**	**18**	P	**P**	**P**	**03 44 52.3**	**+1.3**
TLIG				IAmb	IAmb	IAmb	03 44 55.1	
	comp=Z,106nm,1.3s							
MTO3	**Montecristo**	**44.03**	**32**	P	**P**	**P**	**03 44 56.3**	**-0.5**
MTO3				IAmb	IAmb	IAmb	03 45 08.8	
	comp=Z,83nm,1.2s							
APG	**El Apazote**	**44.04**	**30**	LR	LR	LR	03 58 46.5	
	comp=Z,52nm,20.9s,baz=258,slow=30							
CMIG	**Matias Romero**	**44.09**	**23**	LR	LR	LR	03 58 59.7	
	comp=Z,698nm,20.6s,baz=196,slow=30							
ESQI	**Esquipulas**	**44.18**	**32**	P	**P**	**P**	**03 44 58.3**	**+0.5**
ACON	**Acoyapa**	**44.22**	**39**	P	**P**	**P**	**03 44 58.4**	**+0.3**
ACON				IAmb	IAmb	IAmb	03 45 05.4	
	comp=Z,55nm,1.1s							
TRQA	**Tornquist**	**44.29**	**120**	P	**P**	**P**	**03 44 57.7**	**-0.9**
TRQA	**Tornquist**	**44.29**	**120**	P	**P**	**P**	**03 44 57.7**	**-0.9**
TRQA				pmax	pmax	pmax		
	comp=Z,40nm,1.5s							
RAR	**Rarotonga**	**44.31**	**264**	LR	LR	LR	03 58 06.3	
	comp=Z,908nm,19.9s,baz=112,slow=29							
CCIG	**Comitan**	**44.43**	**27**	P	**P**	**P**	**03 44 58.7**	**-1.3**
CCIG				IAmb	IAmb	IAmb	03 45 11.8	
	comp=Z,55nm,1.3s							
TGUH	**Tegucigalpa,Un**	**44.79**	**35**	P	**P**	**P**	**03 45 03.0**	**+0.3**
TGUH				IAmb	IAmb	IAmb	03 45 10.0	
	comp=Z,117nm,1.6s							
ESPN	**Las Esperanzas**	**44.91**	**40**	P	**P**	**P**	**03 45 03.2**	**-0.4**
ETMB	**Extrema**	**45.54**	**80**	P	**P**	**P**	**03 45 07.5**	**-1.2**
ETMB	**Extrema**	**45.54**	**80**	*e*P	**P**	**P**	**03 45 08.3**	**-0.4**
PETF	**Flores**	**45.99**	**30**	P	**P**	**P**	**03 45 11.9**	**-0.1**
PETF				IAmb	IAmb	IAmb	03 45 15.7	
	comp=Z,83nm,1.3s							
TICA	**Tres Isletas**	**46.21**	**104**	*e*P	**P**	**P**	**03 45 14.0**	**+0.1**
ROSC	**El Rosal**	**46.38**	**57**	P	**P**	**P**	**03 45 15.8**	**0.0**
ROSC				IAmb	IAmb	IAmb	03 45 29.9	
	comp=Z,27nm,0.8s							
ROSC	**El Rosal**	**46.38**	**57**	P	**P**	**P**	**03 45 16.7**	**+0.9**
	comp=Z,14nm,0.9s,baz=274,slow=5.3,SNR=7.9							
ROSC				LR	LR	LR	04 01 56.6	
	comp=Z,472nm,18.4s,baz=236,slow=32							
	comp=Z,14nm,0.9s							
ZAIG	**Zacatecas**	**47.41**	**11**	P	**P**	**P**	**03 45 22.2**	**-1.3**
SLBS	**Sierra La Lagu**	**47.52**	**2**	P	**P**	**P**	**03 45 24.3**	**+0.2**
SLBS				IAmb	IAmb	IAmb	03 45 29.9	
	comp=Z,31nm,1.0s							
LPIG	**La Paz**	**47.92**	**2**	LR	LR	LR	04 00 51.1	
	comp=Z,1μm,19.9s,baz=192,slow=30							
SIV	**San Ignacio**	**48.02**	**90**	P	**P**	**P**	**03 45 28.3**	**+0.1**
	comp=Z,9.1nm,1.0s,baz=248,slow=8.3,SNR=21							
SIV				LR	LR	LR	04 03 05.9	
	comp=Z,457nm,19.7s,baz=272,slow=33							
	comp=Z,9.1nm,1.0s							
PSAL	**Palomas, Salto**	**48.04**	**111**	*e*P	**P**	**P**	**03 45 30.4**	**+2.3**
BBSD	**Serra de San D**	**48.08**	**92**	*e*P	**P**	**P**	**03 45 28.2**	**-0.3**
SAML	**Samuel**	**48.62**	**80**	P	**P**	**P**	**03 45 31.8**	**-1.0**
SAML	**Samuel**	**48.62**	**80**	P	**P**	**P**	**03 45 31.8**	**-1.0**
SAML				pmax	pmax	pmax		
	comp=Z,25nm,1.3s							
SAML	**Samuel**	**48.62**	**80**	*e*P	**P**	**P**	**03 45 32.1**	**-0.7**
CPUP	**Villa Florida**	**48.92**	**105**	P	**P**	**P**	**03 45 34.2**	**-0.8**
CPUP	**Villa Florida**	**48.92**	**105**	P	**P**	**P**	**03 45 35.8**	**+0.8**
	comp=Z,2.7nm,0.9s,baz=257,slow=10,SNR=4.2							
CPUP				LR	LR	LR	04 02 34.2	
	comp=Z,613nm,21.4s,baz=253,slow=32							
	comp=Z,2.7nm,0.9s							
CPUP	**Villa Florida**	**48.92**	**105**	P	**P**	**P**	**03 45 34.2**	**-0.8**
CPUP				pmax	pmax	pmax		
	comp=Z,27nm,1.6s							
CPUP	**Villa Florida**	**48.92**	**105**	*e*P	**P**	**P**	**03 45 35.3**	**+0.3**
ITQB	**Itaqui**	**49.05**	**109**	*e*P	**P**	**P**	**03 45 36.9**	**+1.0**
TBOT	**Tacuaremb**	**49.40**	**112**	*e*P	**P**	**P**	**03 45 39.8**	**+1.2**
TEIG	**Tepich**	**49.60**	**29**	LR	LR	LR	04 03 01.9	
	comp=Z,4μm,18.4s,slow=32							
MURT	**Porto Murtinho**	**49.62**	**99**	*e*P	**P**	**P**	**03 45 40.3**	**-0.1**
TEFE	**Tefe**	**49.74**	**73**	*e*P	**P**	**P**	**03 45 40.9**	**-0.4**
VILB	**Vilhena**	**49.81**	**87**	P	**P**	**P**	**03 45 38.5**	**-3.5**
VILB	**Vilhena**	**49.81**	**87**	*e*P	**P**	**P**	**03 45 41.9**	**-0.1**
PTLB	**Pontes e Lacer**	**49.95**	**90**	P	P	P	03 45 38.3	-4.7
**

baz=184,SNR=20
FRTB Fartura 56.45 103 eP P 03 46 33.2 +2.4
NPGB Novo Progresso 56.47 82 eP P 03 46 31.3 +0.3
RMX La Rumorosa 56.53 356 P P 03 46 30.1 -1.1
RMX IAmb IAmb 03 46 41.2
comp=Z,46nm,1.4s
TKX Tecate 56.54 355 P P 03 46 30.4 -0.6
TKX IAmb IAmb 03 46 36.8
comp=Z,61nm,1.3s
ARAG Araguaiana, MT 56.56 93 eP P 03 46 33.4 +1.7
YUH Yuha Desert 56.56 356 P P 03 46 31.2 0.0
YUH IAmb IAmb 03 46 37.7
comp=Z,34nm,1.1s
ODSA Odessa 56.57 9 P P 03 46 30.3 -1.1
ODSA IAmb IAmb 03 46 37.1
comp=Z,64nm,1.1s
113A Mohawk Valley, 56.58 358 P P 03 46 30.4 -0.8
113A IAmb IAmb 03 46 37.3
comp=Z,41nm,1.1s
IKP In-Ko-Pah, Jac 56.58 356 P P 03 46 32.1 +0.7
baz=175,SNR=7.4
SGCY Sterling City 56.60 11 P P 03 46 30.8 -0.8
SGCY IAmb IAmb 03 46 37.6
comp=Z,72nm,1.3s
BAR Barrett 56.65 355 P P 03 46 31.2 -0.7
BAR IAmb IAmb 03 46 33.6
comp=Z,42nm,1.1s
ITRB Iturama 56.69 98 eP P 03 46 34.5 +2.0
MONP2 Monument Peak 56.84 355 P P 03 46 34.3 +0.8
baz=175,SNR=5.7
SWSC Sam W. Stewart 56.85 356 P P 03 46 33.8 +0.6
baz=176
109C Camp Elliot, M 56.90 355 P P 03 46 34.1 +0.5
baz=174
GLA Glamis 56.90 357 P P 03 46 33.7 0.0
GLA Glamis 56.90 357 P P 03 46 34.1 +0.5
baz=176
GLA Glamis 56.90 357 P P 03 46 33.7 0.0
GLA pmax pmax
comp=Z,31nm,1.2s
SCI2 San Clemente I 57.13 353 P P 03 46 36.0 +0.8
baz=172
ITTB Itaituba 57.25 79 eP P 03 46 37.2 +0.7
WHTX Lake Whitney, 57.40 14 P P 03 46 36.7 -0.5
WHTX IAmb IAmb 03 46 42.7
comp=Z,32nm,1.1s
WHTX Lake Whitney, 57.40 14 P P 03 46 37.7 +0.5
baz=195,SNR=10
SNCC San Nicolas Is 57.51 352 P P 03 46 38.1 +0.3
baz=172
CIS Catalina Islan 57.53 353 P P 03 46 38.2 +0.1
baz=173
BC3 Big Chuckawall 57.54 356 P P 03 46 39.0 +0.8
baz=176,SNR=33
ABTX Abilene, Hawle 57.55 12 P P 03 46 37.4 -0.8
ABTX IAmb IAmb 03 46 43.6
comp=Z,37nm,1.1s
ABTX Abilene, Hawle 57.55 12 P P 03 46 38.5 +0.2
baz=193,SNR=12
TPFO Pinon Flats 57.56 355 P P 03 46 39.0 +0.6
baz=175,SNR=6.9
PFO Pinyon Flats O 57.56 355 P P 03 46 38.3 -0.1
PFO Pinyon Flats O 57.56 355 P P 03 46 39.2 +0.8
baz=175
PFO Pinyon Flats O 57.56 355 P P 03 46 38.9 +0.5
comp=Z,7.3nm,0.9s,baz=164,slow=4.8,SNR=7.2
PFO LR LR 04 06 03.3
comp=Z,440nm,18.0s,baz=178,slow=30
comp=Z,7.3nm,0.9s
PFO Pinyon Flats O 57.56 355 ceP P 03 46 39.1 +0.7
PFO pmax pmax
comp=Z,35nm,1.3s
SN05 Snyder 5 57.58 11 P P 03 46 37.8 -0.7
SN05 IAmb IAmb 03 46 39.8
comp=Z,35nm,1.0s
BLYC Blythe 57.58 357 P P 03 46 38.3 -0.1
BLYC IAmb IAmb 03 46 45.0
comp=Z,42nm,1.1s
MURC Murrieta 57.61 355 P P 03 46 38.9 +0.3
baz=174
FW13 Cleburne 57.75 14 IAmb IAmb 03 46 45.1
comp=Z,42nm,1.2s
237A Washetta, Mont 57.80 16 IAmb IAmb 03 46 42.1
comp=Z,63nm,1.2s
FMP Fort Macarthur 57.83 353 P P 03 46 40.5 +0.4
baz=173
NATX Nacogdoches 57.87 17 IAmb IAmb 03 46 42.8
comp=Z,48nm,1.0s
NATX Nacogdoches 57.87 17 P P 03 46 41.2 +0.8
baz=198
BELC Belle Mtn. Jos 57.91 356 P P 03 46 41.6 +0.7
baz=175,SNR=22
IRM Iron Mountain 58.02 357 P P 03 46 42.2 +0.7
baz=176,SNR=14
Y22D IRIS PASSCAL I 58.02 5 P P 03 46 42.3 +0.6
baz=185
Y22F Passcal Instru 58.02 5 P P 03 46 42.6 +0.9
baz=185
PDMCI Parker Dam,Lak 58.12 358 P P 03 46 43.2 +1.0
baz=177,SNR=16
BBRC Big Bear Solar 58.24 355 P P 03 46 44.2 +0.9
baz=174
PASC Pasadena Art C 58.27 354 IAmb IAmb 03 46 48.9
comp=Z,29nm,1.0s
FW03 Perrin-Whitt E 58.28 13 IAmb IAmb 03 46 44.9
comp=Z,49nm,0.9s
BFSC Mount Baldy Ra 58.28 354 P P 03 46 43.9 +0.4
baz=174,SNR=11
DECC Green Verdugo 58.37 354 P P 03 46 44.5 +0.6
baz=173
NEE2 Needles Airpor 58.60 357 P P 03 46 46.4 +0.9
baz=177
GMRC Granite Mounta 58.67 356 P P 03 46 47.2 +1.0
baz=176,SNR=32
SBC Santa Barbara 58.71 352 P P 03 46 46.5 +0.3
baz=171
RAO Raoul Island 58.72 249 LR LR 04 05 33.3
comp=Z,432nm,20.8s,baz=146,slow=30
HEC Hector,Ludlow 58.76 356 P P 03 46 47.4 +0.6
baz=175,SNR=14
OSI Osito Audit: C 58.76 353 P P 03 46 46.8 +0.1
baz=172
VAO Valinhos 58.84 103 eP P 03 46 49.1 +1.3
WTFS Witchita Falls 58.90 13 IAmb IAmb 03 46 48.8
comp=Z,41nm,0.9s
W18A Petrified Fore 58.91 2 IAmb IAmb 03 46 54.4
comp=Z,33nm,1.1s
W18A Petrified Fore 58.91 2 P P 03 46 48.6 +0.6
baz=182,SNR=10
ANMO Albuquerque 58.92 5 P P 03 46 47.5 -0.5
ANMO Albuquerque 58.92 5 P P 03 46 48.2 +0.1
baz=185
ANMO Albuquerque 58.92 5 P P 03 46 48.0 0.0
comp=Z,5.7nm,1.1s,baz=265,slow=7.3,SNR=12
ANMO LR LR 04 07 35.8
comp=Z,925nm,19.6s,baz=284,slow=31
comp=Z,5.7nm,1.1s
ANMO Albuquerque 58.92 5 di P P 03 46 48.5 +0.5
ANMO pmax pmax
comp=Z,13nm,1.3s
EDW2 Edwards Air Fo 58.95 354 P P 03 46 48.3 +0.2
baz=173,SNR=12
PKM Mcpherson Peak 59.16 352 P P 03 46 50.1 +0.4
baz=171,SNR=7.7
Z38A Mt. Pleasant 59.21 16 IAmb IAmb 03 46 55.6
comp=Z,44nm,1.1s
CCAC Calif City Air 59.22 354 IAmb IAmb 03 46 55.9
comp=Z,33nm,1.0s
GSC Goldstone, Bar 59.27 355 IAmb IAmb 03 46 56.7
comp=Z,34nm,0.9s
GSC Goldstone, Bar 59.27 355 P P 03 46 50.9 +0.6
baz=174,SNR=33
ARVC Arvin 59.28 353 P P 03 46 50.7 +0.4
baz=172
WUAZ Wupatki 59.28 0 IAmb IAmb 03 47 04.3
comp=Z,34nm,1.2s
WUAZ Wupatki 59.28 0 P P 03 46 50.9 +0.5
baz=180,SNR=16
TUQ Turquoise Moun 59.34 356 P P 03 46 51.7 +0.9
baz=175,SNR=29
AMTX Amarillo 59.41 10 IAmb IAmb 03 47 05.0
comp=Z,68nm,1.5s
AMTX Amarillo 59.41 10 P P 03 46 51.3 0.0
baz=190
LRMC Laurel Mtn Rad 59.52 354 P P 03 46 52.6 +0.6
baz=174,SNR=24
VBMS Vicksburg 59.53 21 P P 03 46 52.3 +0.3
baz=202
V12A Nelson 59.57 357 P P 03 46 52.3 0.0
V12A IAmb IAmb 03 46 54.3
comp=Z,28nm,1.2s
SMMC Simmler 59.60 352 P P 03 46 53.1 +0.6
baz=171,SNR=7.5
WMOK Wichita Mounta 59.77 12 P 03 46 52.7 -1.0
WMOK Wichita Mounta 59.77 12 P P 03 46 53.5 -0.2
baz=194,SNR=15
WMOK Wichita Mounta 59.77 12 P P 03 46 52.7 -1.0
WMOK pmax pmax
comp=Z,11nm,1.0s
ISA Isabella, Lake 59.77 354 P P 03 46 54.3 +0.5
baz=173
BRAL Brewton 59.80 24 P P 03 46 53.2 -0.7
baz=206
Z41A Richland Creek 59.80 18 P P 03 46 52.5 -1.3
SHOC Shoshone, Teco 59.82 356 P P 03 46 54.6 +0.6
baz=175,SNR=43
SMWD Sanorwood 59.86 11 IAmb IAmb 03 46 55.3
comp=Z,22nm,0.9s
QSM Queen of Sheba 59.93 355 IAmb IAmb 03 47 01.1
comp=Z,44nm,0.9s
VES Vestal, Richgr 60.02 353 P P 03 46 55.8 +0.5
baz=172,SNR=21
BDFB Brasilia 60.05 95 P P 03 46 55.6 -0.6
BDFB Brasilia 60.05 95 P P 03 46 57.5 +1.3
comp=Z,4.7nm,0.7s,baz=261,slow=4.6,SNR=5.9
BDFB LR LR 04 10 57.4
comp=Z,669nm,18.7s,baz=281,slow=34
comp=Z,4.7nm,0.7s
MPMC Manual Prospec 60.07 355 P P 03 46 56.6 +0.6
baz=174,SNR=37
GWY Greenwater Val 60.13 355 IAmb IAmb 03 47 10.4
comp=Z,48nm,1.2s
U15A North Rim 60.19 359 IAmb IAmb 03 47 12.3
comp=Z,61nm,1.4s
SHPR Sheep Range 60.36 357 IAmb IAmb 03 47 04.8
comp=Z,42nm,1.1s
FURC Furnace Creek, 60.43 355 P P 03 46 59.0 +0.9
baz=174,SNR=12
CWC Cottonwood Cre 60.51 354 P P 03 46 59.5 +0.7
baz=173
VOG Valley Oaks Go 60.52 353 P P 03 46 59.2 +0.4
baz=172
FNO Franklin 60.55 13 IAmb IAmb 03 47 00.2
comp=Z,41nm,0.9s
W35A Tecumseh 60.57 14 IAmb IAmb 03 46 59.7
comp=Z,30nm,0.8s
PMNB Patos De Minas 60.57 98 eP P 03 47 01.7 +2.0
PMPB Monarch Peak 60.60 352 IAmb IAmb 03 47 08.8
comp=Z,29nm,1.1s
WCT Wildcat Mounta 60.73 355 IAmb IAmb 03 47 07.2
comp=Z,43nm,1.0s
KNB Kanab 60.79 359 IAmb IAmb 03 47 07.3
comp=Z,37nm,1.2s
RTBA Rita Blanca 60.79 8 IAmb IAmb 03 47 06.7
comp=Z,37nm,1.2s
MIAR Mount Ida 60.80 17 IAmb IAmb 03 47 14.4
comp=Z,51nm,1.4s
MIAR Mount Ida 60.80 17 P P 03 47 00.9 +0.2
baz=199,SNR=18
MIAR Mount Ida 60.80 17 P P 03 47 01.1 +0.4
MIAR pmax pmax
comp=Z,27nm,1.3s
GRAC Grapevine Rang 60.99 355 IAmb IAmb 03 47 08.7
comp=Z,37nm,0.8s
GRAC Grapevine Rang 60.99 355 P P 03 47 03.0 +1.0
baz=174,SNR=9.7
MVCO Mesa Verde 61.05 3 P P 03 47 02.9 +0.3
baz=183,SNR=45
OK029 Liberty Lake 61.06 13 IAmb IAmb 03 47 03.6
comp=Z,51nm,1.2s
TIN Tinemaha, Big 61.13 354 P P 03 47 03.6 +0.6
baz=173
URZ Urewera 61.18 238 LR LR 04 07 15.4
comp=Z,476nm,20.1s,baz=207,slow=30
SAO San Andreas Ge 61.22 351 IAmb IAmb 03 47 17.4
comp=Z,30nm,1.2s
Z47A Carrollton 61.25 23 IAmb IAmb 03 47 05.8
comp=Z,30nm,0.9s
T25A Trinidad 61.28 7 P P 03 47 04.5 +0.3
baz=187,SNR=9.5
GMN Gold Mountain 61.29 355 IAmb IAmb 03 47 10.7
comp=Z,24nm,1.0s
BSCB Bom Sucesso 61.35 102 eP P 03 47 06.8 +1.8
UALR University of 61.35 18 IAmb IAmb 03 47 10.1
comp=Z,31nm,1.1s
SZCU Shurtz Canyon 61.37 359 IAmb IAmb 03 47 10.9
comp=Z,40nm,1.2s
OK033 Mehan 61.41 14 P P 03 47 04.3 -0.5
TIGA Tifton 61.41 27 P P 03 47 05.5 +0.5
baz=209,SNR=5.8
DSP Deep Springs 61.42 354 IAmb IAmb 03 47 07.0
comp=Z,34nm,1.1s
LRAL Lakeview Retre 61.49 24 IAmb IAmb 03 47 11.4
comp=Z,42nm,1.3s
LRAL Lakeview Retre 61.49 24 P P 03 47 06.3 +0.9
baz=206,SNR=13
TUL3 Leonard 61.54 15 P P 03 47 05.7 0.0
baz=196,SNR=13
QUOK Quay 61.58 14 IAmb IAmb 03 47 11.2
comp=Z,41nm,1.0s
CROK Carrier 61.64 13 IAmb IAmb 03 47 12.0
comp=Z,48nm,1.2s
MZP Montezuma Peak 61.70 355 IAmb IAmb 03 47 13.5
comp=Z,32nm,0.9s
MLAC Mammoth, Mammo 61.76 354 P P 03 47 07.9 +0.4
baz=173
OK048 Pawnee Station 61.77 13 IAmb IAmb 03 47 12.6
comp=Z,33nm,1.0s
SDCO Great Sand Dun 61.78 6 IAmb IAmb 03 47 13.1
comp=Z,22nm,1.1s
SDCO Great Sand Dun 61.78 6 P P 03 47 08.0 +0.4
baz=186,SNR=47
WHAR Wooly Hollow 61.85 18 IAmb IAmb 03 47 09.4
comp=Z,30nm,1.0s
RLO Rose Lookout 61.96 15 IAmb IAmb 03 47 14.8
comp=Z,40nm,1.4s
OXF Oxford 62.00 21 P P 03 47 08.8 0.0
baz=203
152A Waverly Hall 62.03 26 IAmb IAmb 03 47 14.8
comp=Z,35nm,1.1s
KAN14 Manchester OK 62.08 12 IAmb IAmb 03 47 14.5
comp=Z,21nm,0.9s
KAN17 Caldwell West 62.21 13 IAmb IAmb 03 47 11.4
comp=Z,24nm,0.8s
R11B Troy Canyon, C 62.22 357 IAmb IAmb 03 47 17.3
comp=Z,23nm,1.1s
R11B Troy Canyon, C 62.22 357 P P 03 47 11.3 +0.9
baz=176,SNR=42
MCPB Macapa, AP 62.31 77 eP P 03 47 12.9 +1.4
PSUT Pine Spring 62.33 358 IAmb IAmb 03 47 25.7
comp=Z,34nm,1.2s
CMB Columbia Colle 62.33 352 IAmb IAmb 03 47 21.3
comp=Z,44nm,1.4s
HHAR Hobbs 62.34 16 IAmb IAmb 03 47 12.2
comp=Z,26nm,1.1s
T35A Sooner Cattle 62.34 14 IAmb IAmb 03 47 17.4
comp=Z,24nm,1.1s
TCRU Three Creeks R 62.37 359 IAmb IAmb 03 47 17.7
comp=Z,37nm,1.1s
U38A Gravette 62.38 16 IAmb IAmb 03 47 12.2
comp=Z,33nm,1.4s
Y49A Blount Mountai 62.44 24 IAmb IAmb 03 47 13.3
comp=Z,23nm,0.9s
FCAR Ozark Folk Cen 62.46 18 IAmb IAmb 03 47 17.8
comp=Z,32nm,1.2s
NVAR Mina Array Bea 62.50 354 P P 03 47 11.8 -0.5
NVAR Mina Array Bea 62.50 354 P P 03 47 12.2 -0.1
comp=Z,52nm,0.9s,baz=185,slow=8.5,SNR=207
NVAR LR LR 04 08 41.8
comp=Z,557nm,18.5s,baz=179,slow=31
Q16A Castle Valley 62.68 0 IAmb IAmb 03 47 19.8
comp=Z,52nm,1.3s
WAKR Walker 62.69 353 IAmb IAmb 03 47 15.8
comp=Z,28nm,1.2s
X48A Hartselle 62.75 23 IAmb IAmb 03 47 15.1
comp=Z,31nm,1.4s
SMTB Santa Maria do 62.83 88 eP P 03 47 16.7 +1.9
Q12A Willow Creek R 62.87 357 IAmb IAmb 03 47 24.3
comp=Z,47nm,1.4s
PLAL Pickwick Lake 62.87 22 P P 03 47 13.8 -0.9
LCAR Lake Charles 62.90 19 IAmb IAmb 03 47 28.7
comp=Z,37nm,1.4s
Q24A Divide 63.02 6 P P 03 47 15.4 -0.5
baz=187
TMUT Trail Mountain 63.06 0 IAmb IAmb 03 47 31.2
comp=Z,42nm,1.4s
SMCO Snowmass 63.09 4 IAmb IAmb 03 47 22.5
comp=Z,26nm,1.1s
DIAM Diamantina, MG 63.14 99 eP P 03 47 19.9 +2.9
GOGA Godfrey 63.18 26 IAmb IAmb 03 47 22.1
comp=Z,33nm,1.1s
GOGA Godfrey 63.18 26 P P 03 47 16.9 +0.2
baz=209,SNR=12
GOGA Godfrey 63.18 26 P P 03 47 17.3 +0.6
GOGA pmax pmax
comp=Z,31nm,1.0s
AFDM Forest Hills D 63.31 352 IAmb IAmb 03 47 32.4
comp=Z,44nm,1.4s
KSCO Kaye Shedlock' 63.34 8 P P 03 47 18.0 +0.2
baz=189,SNR=9.2
Y52A Lilburn 63.34 26 IAmb IAmb 03 47 19.4
comp=Z,32nm,0.9s
FPAL Fort Paine 63.35 24 IAmb IAmb 03 47 22.9
comp=Z,32nm,1.2s
R32A Long Quarter, 63.36 11 IAmb IAmb 03 47 22.9
comp=Z,47nm,1.4s
P18A Preston Nutter 63.40 1 IAmb IAmb 03 47 31.5
comp=Z,31nm,1.2s
GDXM Geysers 63.43 350 IAmb IAmb 03 47 24.7
comp=Z,24nm,1.0s
CBKS Cedar Bluff 63.57 10 IAmb IAmb 03 47 28.1
comp=Z,31nm,1.1s
CBKS Cedar Bluff 63.57 10 P P 03 47 18.9 -0.3
baz=192
JANB Januaria 63.61 95 eP P 03 47 21.8 +1.7
X51A Calhoun 63.65 25 IAmb IAmb 03 47 25.1
comp=Z,34nm,1.2s
NLU North Lily Min 63.71 360 IAmb IAmb 03 47 26.8
comp=Z,43nm,1.2s
MPU Maple Canyon 63.77 0 IAmb IAmb 03 47 27.0
comp=Z,45nm,1.3s
ISCO Idaho Springs 63.81 5 P P 03 47 20.1 -1.0
ISCO IAmb IAmb 03 47 27.1
comp=Z,34nm,1.2s
ISCO Idaho Springs 63.81 5 P P 03 47 21.1 -0.1
baz=186,SNR=27
ISCO Idaho Springs 63.81 5 P P 03 47 20.2 -1.0
ISCO pmax pmax
comp=Z,34nm,1.3s
S39A Bolivar 63.83 16 IAmb IAmb 03 47 22.1
comp=Z,29nm,0.8s
SWET Sewanee 63.83 23 IAmb IAmb 03 47 22.2
comp=Z,26nm,0.9s
UTMT University of 63.85 20 P P 03 47 20.4 -0.7
PAHR Pah Rah Range 63.87 353 IAmb IAmb 03 47 27.8
comp=Z,21nm,1.1s
BELA Belgrano 2 63.90 167 P P 03 47 18.3 -2.7
DUG Dugway, Tooele 63.96 359 IAmb IAmb 03 47 28.3
comp=Z,42nm,1.1s
DUG Dugway, Tooele 63.96 359 P P 03 47 22.3 +0.4
baz=179,SNR=38
DUG Dugway, Tooele 63.96 359 P P 03 47 22.8 +0.9
DUG pmax pmax
comp=Z,36nm,1.1s
O20A White River Ci 63.97 3 P P 03 47 22.2 +0.1
baz=183,SNR=14
ORV Oroville 63.97 352 IAmb IAmb 03 47 24.3
comp=Z,39nm,1.4s
SDBA SAO DESIDERIO 63.98 92 eP P 03 47 24.0 +1.5
V48A Smith Brothers 63.99 22 IAmb IAmb 03 47 26.9
comp=Z,38nm,1.1s
WVT Waverly 64.00 21 P P 03 47 21.2 -0.8
WVT Waverly 64.00 21 P P 03 47 21.7 -0.3
baz=204
WVT Waverly 64.00 21 P P 03 47 21.2 -0.8
WVT pmax pmax
comp=Z,19nm,1.0s
W50A Signal Mountai 64.05 24 P P 03 47 22.0 -0.5
W50A IAmb IAmb 03 47 27.6
comp=Z,25nm,1.1s
BSUT Blindstream Ca 64.30 1 IAmb IAmb 03 47 30.4
comp=Z,38nm,1.1s
MDP Montagnes des 64.38 71 LR LR 04 12 37.0
comp=Z,776nm,18.7s,baz=260,slow=33
HODGE Hodges 64.39 27 IAmb IAmb 03 47 26.3
comp=Z,22nm,1.0s
KSU1 Kansas State U 64.42 13 IAmb IAmb 03 47 30.0
comp=Z,29nm,1.1s
KSU1 Kansas State U 64.42 13 P P 03 47 24.6 -0.2
baz=195
CTU Camp Tracy 64.45 360 IAmb IAmb 03 47 39.0
comp=Z,42nm,1.2s
W52A Murphy 64.47 25 IAmb IAmb 03 47 30.9
comp=Z,44nm,1.2s
CGM3 Cape Girardeau 64.49 19 IAmb IAmb 03 47 34.7
comp=Z,41nm,1.4s
CPCT Cooper Cave 64.56 24 P P 03 47 24.9 -0.9
CPCT IAmb IAmb 03 47 31.1
comp=Z,37nm,1.3s
ELK Elko 64.59 357 P P 03 47 25.9 -0.3
ELK IAmb IAmb 03 47 31.8
comp=Z,24nm,1.1s
ELK Elko 64.59 357 P P 03 47 26.8 +0.6
comp=Z,17nm,1.0s
ELK LR LR 04 10 07.6
comp=Z,344nm,19.1s,slow=31
comp=Z,17nm,1.0s
BGU Big Grassy Mou 64.69 359 P P 03 47 26.2 -0.6
BGU IAmb IAmb 03 47 37.0
comp=Z,55nm,1.5s
CCM Cathedral Cave 64.73 18 P P 03 47 25.5 -1.3
CCM Cathedral Cave 64.73 18 P P 03 47 26.8 0.0
baz=200
CCM Cathedral Cave 64.73 18 P P 03 47 25.5 -1.3
CCM pmax pmax
comp=Z,52nm,1.1s
BG3 Lake Jocassee 64.78 26 P P 03 47 27.1 -0.1
BG3 IAmb IAmb 03 47 33.6
comp=Z,37nm,1.1s
SBA Scott Base 64.84 193 P P 03 47 24.4 -2.7
SBA Scott Base 64.84 193 P P 03 47 26.5 -0.6
SBA pmax pmax
comp=Z,22nm,1.5s
N23A Red Feather La 64.87 5 P P 03 47 27.7 -0.4
N23A IAmb IAmb 03 47 37.4
comp=Z,47nm,1.4s
N23A Red Feather La 64.87 5 P P 03 47 27.9 -0.2
baz=186,SNR=24
FVM French Village 64.89 18 IAmb IAmb 03 47 29.2
comp=Z,22nm,0.9s
KMRM Mail Ridge 64.95 350 P P 03 47 28.7 +0.3
S44A Carbondale 64.97 20 IAmb IAmb 03 47 34.4
comp=Z,33nm,1.1s
TKL Tuckaleechee C 65.03 25 P P 03 47 27.6 -1.2
TKL IAmb IAmb 03 47 33.9
comp=Z,25nm,1.2s
TKL Tuckaleechee C 65.03 25 P P 03 47 28.9 +0.1
comp=Z,14nm,1.1s,baz=186,slow=8.5,SNR=7.5
TKL LR LR 04 12 14.0
comp=Z,402nm,20.9s,baz=194,slow=33
comp=Z,14nm,1.1s
SJMB Sao Joao De Ma 65.25 100 eP P 03 47 32.9 +2.1
LBZ Lake Benmore 65.31 231 P P 03 47 29.6 -1.2
PHWY Pilot Hill 65.31 5 P P 03 47 30.6 -0.3
OGNE Ogallala 65.32 8 P P 03 47 30.8 0.0
OGNE Ogallala 65.32 8 P P 03 47 30.6 -0.1
baz=190,SNR=17
HWUT Hardware Ranch 65.36 0 P P 03 47 30.3 -0.8
HWUT IAmb IAmb 03 47 43.6
comp=Z,21nm,1.1s
KMSC Kings Mountain 65.56 27 P P 03 47 32.3 +0.1
baz=210,SNR=5.9
KHMM Horse Mountain 65.60 350 P P 03 47 33.5 +0.9
VNDA Vanda 65.89 194 P P 03 47 32.6 -1.3
comp=Z,1.2nm,1.0s,baz=35,slow=6.0,SNR=4.0
VNDA LR LR 04 10 49.0
comp=Z,493nm,18.1s,baz=106,slow=31
comp=Z,1.2nm,1.0s
TZTN Tazewell 65.90 25 IAmb IAmb 03 47 40.0
comp=Z,43nm,1.1s
TZTN Tazewell 65.90 25 P P 03 47 34.9 +0.5
baz=208,SNR=12
Y60A Bolivia 65.96 30 P P 03 47 34.2 -0.6
QSPA South Pole Qui 66.07 180 P P 03 47 33.0 -2.5
QSPA IAmb IAmb 03 47 44.9
comp=Z,25nm,1.2s
QSPA South Pole Qui 66.07 180 P P 03 47 33.5 -2.0
comp=Z,8.7nm,1.1s,baz=101,slow=3.7,SNR=9.4
QSPA LR LR 04 12 34.5
comp=Z,598nm,18.6s,baz=98,slow=33
comp=Z,8.7nm,1.1s
YBH Yreka Blue Hor 66.28 351 P P 03 47 36.0 -0.9

YBH **Yreka Blue Hor** 66.28 351 P **P** 03 47 36.4 -0.5
comp=Z,6.3nm,1.0s,baz=132,slow=5.8,SNR=15
YBH LR LR 04 09 52.6
comp=Z,413nm,20.6s,baz=174,slow=30
comp=Z,6.3nm,1.0s
OLIL Olney 66.29 20 IAmb IAmb 03 47 42.9
comp=Z,48nm,1.1s
BGNE Belgrade 66.36 11 P **P** 03 47 37.8 +0.4
BGNE Belgrade 66.36 11 P **P** 03 47 37.4 +0.1
baz=193,SNR=11
WCI Wyandotte Cave 66.41 22 P **P** 03 47 36.9 -0.8
WCI IAmb IAmb 03 47 42.4
comp=Z,21nm,1.0s
WCI Wyandotte Cave 66.41 22 P **P** 03 47 36.9 -0.8
baz=205
WCI Wyandotte Cave 66.41 22 P **P** 03 47 36.9 -0.8
WCI pmax pmax
comp=Z,21nm,1.0s
WVOR Wild Horse Val 66.50 354 P **P** 03 47 39.3 +1.0
WVOR pmax pmax
comp=Z,53nm,1.1s
AHID Auburn Hatcher 66.52 0 IAmb IAmb 03 47 43.4
comp=Z,37nm,1.1s
BW06 Boulder Array 66.55 2 P **P** 03 47 37.7 -1.1
baz=182,SNR=32
PD31 Pinedale Array 66.55 2 P **P** 03 47 37.2 -1.6
PD31 IAmb IAmb 03 47 43.6
comp=Z,54nm,1.6s
PDAR Pinedale Array 66.55 2 P **P** 03 47 37.1 -1.7
PDAR Pinedale Array 66.55 2 P **P** 03 47 36.9 -1.9
comp=Z,5.3nm,0.6s,baz=167,slow=5.1,SNR=29
PDAR LR LR 04 12 15.7
comp=Z,293nm,18.1s,baz=182,slow=32
comp=Z,5.3nm,0.6s
K22A Casper 66.58 4 P **P** 03 47 38.6 -0.3
baz=185,SNR=34
L04D Klamath Falls 66.70 351 P **P** 03 47 39.4 -0.2
L04D IAmb IAmb 03 47 48.6
comp=Z,43nm,1.2s
L02F Cave Junction 66.79 350 IAmb IAmb 03 47 46.1
comp=Z,37nm,1.1s
ECR Eagle Creek 66.81 0 P **P** 03 47 40.1 -0.3
K05A Summer Lake 67.02 353 P **P** 03 47 42.1 +0.4
K04D Chiloquin, OR 67.03 352 P **P** 03 47 41.8 +0.1
K04D IAmb IAmb 03 47 54.2
comp=Z,35nm,1.0s
CNNC Cliffs of the 67.13 30 P **P** 03 47 42.6 +0.2
baz=213
HUMO Hull Mountain 67.17 351 IAmb IAmb 03 47 44.6
comp=Z,30nm,1.2s
HLID Hailey 67.36 358 P **P** 03 47 44.2 +0.4
baz=177,SNR=94
K02D Willamette Mer 67.36 350 IAmb IAmb 03 47 53.3
comp=Z,56nm,1.4s
MOOW Moose Ponds 67.51 1 IAmb IAmb 03 47 53.3
comp=Z,44nm,1.3s
HDIL Hopedale 67.61 18 P **P** 03 47 45.4 +0.1
baz=202,SNR=14
IMW Indian Meadow 67.66 1 IAmb IAmb 03 47 51.2
comp=Z,49nm,1.3s
BLA Blacksburg 67.71 27 IAmb IAmb 03 47 47.6
comp=Z,43nm,1.1s
BLA Blacksburg 67.71 27 P **P** 03 47 46.2 +0.2
baz=211,SNR=10
DBO Dodson Butte 67.72 351 IAmb IAmb 03 47 51.7
comp=Z,30nm,1.2s
P48A Milroy 67.82 22 IAmb IAmb 03 47 46.9
comp=Z,24nm,1.1s
SCIA State Center 67.85 15 P **P** 03 47 46.5 -0.3
baz=198
T57A Hurt 68.02 28 IAmb IAmb 03 47 49.4
comp=Z,24nm,1.0s
PINE Pine Mountain 68.08 353 IAmb IAmb 03 47 54.8
comp=Z,40nm,1.1s
SFIN Lafayette 68.10 20 IAmb IAmb 03 47 57.8
comp=Z,48nm,1.4s
SFIN Lafayette 68.10 20 P **P** 03 47 47.9 -0.4
baz=204,SNR=6.4
P49A Miami Univ. Ec 68.12 22 P **P** 03 47 47.8 -0.8
baz=206,SNR=15
H17A Grant Village 68.16 1 IAmb IAmb 03 48 25.5
comp=Z,12nm,0.3s
H17A Grant Village 68.16 1 P **P** 03 47 48.9 -0.1
baz=181
Q51A Peebles 68.16 23 IAmb IAmb 03 47 54.2
comp=Z,28nm,1.1s
RSSD Black Hills 68.24 6 P **P** 03 47 49.0 -0.4
RSSD IAmb IAmb 03 47 55.0
comp=Z,45nm,1.1s
RSSD Black Hills 68.24 6 P **P** 03 47 49.1 -0.3
baz=187
RSSD Black Hills 68.24 6 P **P** 03 47 49.0 -0.4
RSSD pmax pmax
comp=Z,45nm,1.1s
Q52A Bidwell 68.50 24 IAmb IAmb 03 47 56.1
comp=Z,43nm,1.0s
YMP Mirror Lake Pl 68.51 1 P **P** 03 47 50.6 -0.6
YMP IAmb IAmb 03 48 10.9
comp=Z,23nm,1.2s
O48B Farmland 68.62 22 IAmb IAmb 03 47 55.9
comp=Z,60nm,1.6s
O48B Farmland 68.62 22 P **P** 03 47 50.8 -0.8
baz=206,SNR=6.1
I05D Terrebonne, OR 68.67 353 IAmb IAmb 03 47 53.6
comp=Z,46nm,1.2s
T59A Double "B" Far 68.73 29 IAmb IAmb 03 47 53.8
comp=Z,22nm,1.1s
O49A Covington 68.84 22 IAmb IAmb 03 48 02.1
comp=Z,51nm,1.6s
L42A Oliver, Polo 68.84 17 IAmb IAmb 03 47 54.1
comp=Z,35nm,1.1s
ECSD EROS Data Cent 68.89 12 IAmb IAmb 03 47 58.2
comp=Z,29nm,1.1s
ECSD EROS Data Cent 68.89 12 P **P** 03 47 53.2 -0.1
baz=195,SNR=19
RLMT Red Lodge 68.91 2 P **P** 03 47 52.9 -0.8
baz=182,SNR=15
PLID Pearl Lake 68.95 357 IAmb IAmb 03 47 58.7
comp=Z,23nm,1.0s
H04D Lebanon 69.02 352 IAmb IAmb 03 48 05.1
comp=Z,51nm,1.4s
Q54A Coxs Mills 69.07 25 IAmb IAmb 03 48 00.1
comp=Z,43nm,1.3s
H04A Detroit Lake 69.11 352 IAmb IAmb 03 48 00.6
comp=Z,32nm,1.2s
P52A Corning 69.14 24 P **P** 03 47 55.0 +0.2
baz=209,SNR=24
COR Corvallis 69.16 351 P **P** 03 47 55.3 +0.4
COR Corvallis 69.16 351 P **P** 03 47 55.3 +0.4
COR pmax pmax
comp=Z,77nm,1.3s
SUSD Miller 69.19 10 IAmb IAmb 03 48 00.1
comp=Z,54nm,1.2s
SUSD Miller 69.19 10 P **P** 03 47 55.0 -0.1
baz=192
BOZ Bozeman (W) 69.35 0 P **P** 03 47 55.8 -0.4
baz=180,SNR=21
ACSO Alum Creek Sta 69.36 23 P **P** 03 47 55.0 -1.2
ACSO Alum Creek Sta 69.36 23 P **P** 03 47 55.7 -0.5
baz=208,SNR=5.1
G06A Carlson Farm, 69.47 353 IAmb IAmb 03 48 07.2
comp=Z,56nm,1.5s
L44A Lake County Fo 69.50 19 P **P** 03 47 56.3 -0.7
baz=203
JFWS Jewell Farm 69.54 17 P **P** 03 47 57.0 -0.3
baz=201
G05A Wamic 69.56 353 IAmb IAmb 03 48 17.9
comp=Z,55nm,1.2s
CBN Corbin Frederi 69.83 28 P **P** 03 47 59.3 +0.1
baz=213
F10A Beach Ranch, E 69.91 356 IAmb IAmb 03 48 01.2
comp=Z,28nm,1.1s
O53A New Philadelph 70.02 24 P **P** 03 48 00.1 -0.2
baz=209,SNR=18
MCWV Mont Chateau 70.04 26 P **P** 03 48 00.1 -0.3
baz=211,SNR=16
F07A Phinny Hill Vi 70.05 354 IAmb IAmb 03 48 07.6
comp=Z,31nm,0.9s
O54A Avella 70.28 25 IAmb IAmb 03 48 08.3
comp=Z,43nm,1.1s
I40A Norwalk 70.36 16 IAmb IAmb 03 48 07.5
comp=Z,27nm,1.1s
F04A Amboy 70.37 352 IAmb IAmb 03 48 11.2
comp=Z,33nm,1.0s
M50A Fremont 70.37 23 IAmb IAmb 03 48 03.7
comp=Z,30nm,0.9s
L48A N Adams 70.38 21 IAmb IAmb 03 48 08.2
comp=Z,52nm,1.1s

HAWA Hanford 70.51 354 IAmb IAmb 03 48 04.9
comp=Z,29nm,1.2s
MSO Missoula 70.61 358 IAmb IAmb 03 48 13.5
comp=Z,40nm,1.2s
MSO Missoula 70.61 358 P **P** 03 48 03.8 -0.2
baz=178,SNR=27
LAO LASA Array 70.62 4 IAmb IAmb 03 48 09.3
comp=Z,36nm,0.9s
LAO LASA Array 70.62 4 P **P** 03 48 03.9 0.0
baz=185,SNR=34
I42A Draeger Farm, 70.80 17 IAmb IAmb 03 48 06.2
comp=Z,22nm,1.0s
AAM Ann Arbor 70.95 22 P **P** 03 48 05.4 -0.6
baz=207,SNR=6.7
F33A 5 Mile Ranch, 70.99 11 IAmb IAmb 03 48 11.5
comp=Z,47nm,1.4s
SDMD Soldier's Deli 71.07 28 P **P** 03 48 06.8 +0.1
SPMN Marine on St. 71.10 14 IAmb IAmb 03 48 12.1
comp=Z,47nm,1.2s
SPMN Marine on St. 71.10 14 P **P** 03 48 06.4 -0.3
baz=198,SNR=13
E03A Lebam 71.12 351 IAmb IAmb 03 48 14.3
comp=Z,28nm,1.1s
VNA3 Neumayer Olymp 71.18 160 ⇑P **P** 03 48 06.3 -0.8
comp=Z,25nm,0.8s
M53A WI Miller and 71.26 24 P **P** 03 48 08.2 +0.4
baz=210,SNR=27
NBPB Pedra_Branca-C 71.42 88 *e*P **P** 03 48 12.9 +3.4
D05A Enumclaw 71.55 353 IAmb IAmb 03 48 20.5
comp=Z,69nm,1.4s
SSPA Standing Stone 71.66 26 P **P** 03 48 09.9 -0.4
SSPA IAmb IAmb 03 48 19.8
comp=Z,44nm,1.2s
SSPA Standing Stone 71.66 26 P **P** 03 48 09.7 -0.5
baz=212
MVL Millersville 71.77 28 IAmb IAmb 03 48 12.7
comp=Z,29nm,1.0s
EGMT Eagleton 71.80 1 P **P** 03 48 11.2 +0.1
EGMT Eagleton 71.80 1 P **P** 03 48 11.1 +0.1
baz=182,SNR=29
VNA1 Neumayer--Stat 71.82 160 ⇑P **P** 03 48 09.1 -1.8
comp=Z,18nm,0.9s
VNA2 Neumayer--Watz 71.99 160 ⇑P **P** 03 48 08.6 -3.3
comp=Z,16nm,0.8s,baz=249,slow=7.6
NLWA Neilton Lookou 71.99 351 P **P** 03 48 11.9 -0.2
WUPA West Chester U 72.03 28 P **P** 03 48 12.3 -0.2
ERPA Erie 72.10 24 P **P** 03 48 13.1 +0.2
ERPA IAmb IAmb 03 48 18.4
comp=Z,51nm,1.1s
ERPA Erie 72.10 24 P **P** 03 48 12.8 -0.1
baz=210
NEW Newport 72.19 356 IAmb IAmb 03 48 19.2
comp=Z,53nm,1.2s
NEW Newport 72.19 356 P **P** 03 48 13.1 -0.2
baz=175,SNR=30
NEW Newport 72.19 356 P **P** 03 48 13.2 -0.1
comp=Z,25nm,1.0s,baz=172,slow=5.7,SNR=38
NEW LR LR 04 14 55.9
comp=Z,285nm,18.6s,baz=184,slow=32
comp=Z,25nm,1.0s
N58A Sunbury 72.31 27 IAmb IAmb 03 48 15.8
comp=Z,30nm,0.9s
MDND Maddock 72.42 9 P **P** 03 48 14.4 -0.3
baz=191
DGMT Dagmar 72.54 5 P **P** 03 48 15.4 0.0
baz=187,SNR=24
M57A Sunshine Farm, 72.56 27 IAmb IAmb 03 48 21.9
comp=Z,31nm,1.1s
WVNY West Valley, N 72.88 25 IAmb IAmb 03 48 19.3
comp=Z,42nm,0.9s
GLMI Grayling 72.90 20 IAmb IAmb 03 48 19.4
comp=Z,24nm,0.7s
GLMI Grayling 72.90 20 P **P** 03 48 17.9 +0.3
baz=206
SNAA Sanae 73.04 162 ⇑P **P** 03 48 15.5 -2.9
comp=Z,186nm,0.8s
SNAA Sanae 73.04 162 P **P** 03 48 16.2 -2.1
comp=Z,14nm,1.2s,baz=240,slow=5.6,SNR=8.2
SNAA LR LR 04 14 32.5
comp=Z,165nm,19.3s,baz=274,slow=31
comp=Z,14nm,1.2s
SNAA Sanae 73.04 162 ⇓*i*P **P** 03 48 16.6 -1.7
SNAA pmax pmax
comp=Z,23nm,1.1s
PGC Sidney 73.17 352 P **P** 03 48 19.2 +0.1
PGC IAmb IAmb 03 48 24.5
comp=Z,44nm,1.1s
KSPA Keystone Colle 73.31 27 P **P** 03 48 19.5 -0.5
AGMN Agassiz Nation 73.44 11 P **P** 03 48 20.7 0.0
AGMN Agassiz Nation 73.44 11 P **P** 03 48 20.8 +0.1
baz=195,SNR=14
MEDO Medina 73.58 25 P **P** 03 48 21.3 -0.3
PAL Palisades 73.66 29 P **P** 03 48 22.3 +0.2
baz=215
BINY Binghamton 73.75 27 P **P** 03 48 22.7 0.0
BINY IAmb IAmb 03 48 29.1
comp=Z,61nm,1.1s
BINY Binghamton 73.75 27 P **P** 03 48 23.2 +0.5
baz=214,SNR=14
EYMN Ely 73.97 14 P **P** 03 48 23.5 -0.3
EYMN IAmb IAmb 03 48 29.6
comp=Z,35nm,1.1s
EYMN Ely 73.97 14 P **P** 03 48 23.7 -0.1
baz=199,SNR=18
DZM Mont Dzumac 74.25 253 *e*S **SKiKP** 03 57 57.6 +3.6
comp=Z,102nm,31.6s
DZM Mont Dzumac 74.25 253 *e*LR LR 04 11 10.4
comp=Z,832nm,22.9s
DZM Mont Dzumac 74.25 253 LR LR 04 12 49.4
comp=Z,509nm,21.1s,baz=88,slow=29
TROLL Troll, Antarti 74.38 163 ⇑P **P** 03 48 24.8 -1.5
comp=Z,853nm,1.1s
E46A Sault Ste Mari 74.39 19 IAmb IAmb 03 48 32.9
comp=Z,60nm,1.2s
RCBR Riachuelo 74.67 90 LR LR 04 18 52.7
comp=Z,394nm,21.1s,baz=246,slow=34
SADO Sadowa 74.70 23 IAmb IAmb 03 48 33.4
comp=Z,53nm,1.2s
SADO Sadowa 74.70 23 LR LR 04 17 55.3
comp=Z,310nm,21.8s,baz=272,slow=33
J58A Remsen 75.00 27 IAmb IAmb 03 48 36.3
comp=Z,54nm,1.1s
DELO Deloro Mine 75.05 25 IAmb IAmb 03 48 36.1
comp=Z,49nm,1.0s
ULM Lac du Bonnet 75.33 10 IAmb IAmb 03 48 36.4
comp=Z,44nm,1.3s
ULM Lac du Bonnet 75.33 10 P **P** 03 48 30.2 -1.4
comp=Z,11nm,0.7s,baz=206,slow=5.5,SNR=27
ULM LR LR 04 18 14.8
comp=Z,307nm,18.9s,baz=204,slow=33
comp=Z,11nm,0.7s
L61B Northampton 75.36 29 P **P** 03 48 31.9 -0.2
baz=216
ACCN Adirondack Com 75.69 28 P **P** 03 48 33.8 -0.1
ACCN IAmb IAmb 03 48 43.5
comp=Z,40nm,1.3s
HRV Adam Dziewonsk 75.91 29 P **P** 03 48 35.4 +0.2
baz=217
NCB Newcomb 75.94 27 IAmb IAmb 03 48 40.9
comp=Z,55nm,1.1s
LONY Lake Ozonia 76.32 26 IAmb IAmb 03 48 43.7
comp=Z,43nm,1.1s
LONY Lake Ozonia 76.32 26 P **P** 03 48 38.0 +0.5
baz=214,SNR=13
VT1 Waterbury 76.85 28 IAmb IAmb 03 48 46.8
comp=Z,30nm,1.1s
FRNY Flat Rock 76.91 27 IAmb IAmb 03 48 46.6
comp=Z,29nm,1.1s
LBNH Lisbon 77.13 28 P **P** 03 48 41.1 -0.9
baz=217
BBB Bella Bella 77.30 350 P **P** 03 48 42.6 -0.2
comp=Z,16nm,1.0s,baz=283,slow=3.7,SNR=3.9
BBB LR LR 04 17 53.0
comp=Z,95nm,18.4s,baz=210,slow=32
comp=Z,16nm,1.0s
NVL N'lazarevskaya 77.54 164 *e*P **P** 03 48 43.5 -0.6
NVL *e*S **S** 03 58 43.8 +8.9
NVL pmax pmax
comp=Z,10.0nm,1.0s
TRQ Mont Tremblant 77.66 25 IAmb IAmb 03 48 51.1
comp=Z,38nm,1.1s
VLDQ Val d'Or 78.16 23 IAmb IAmb 03 48 52.8
comp=Z,30nm,1.1s
WVL Waterville 78.38 29 IAmb IAmb 03 48 54.9
comp=Z,40nm,1.2s
G62A West of Eustis 78.51 28 P **P** 03 48 49.0 -0.7
G62A IAmb IAmb 03 49 04.4
comp=Z,93nm,1.9s

FFC Flin Flon 78.93 6 P **P** 03 48 51.3 -0.5
FFC Flin Flon 78.93 6 P **P** 03 48 51.3 -0.5
FFC pmax pmax
comp=Z,23nm,1.1s
PKME Peaks-Kenny Pk 79.09 29 P **P** 03 48 52.4 -0.5
baz=219
ELIB Princess Elisa 79.39 167 *d*P **P** 03 48 52.8 -1.7
comp=Z,4.9nm,1.1s
F63A Nahmakanta, Br 79.51 29 IAmb IAmb 03 49 01.7
comp=Z,41nm,1.1s
G65A Princeton 79.81 30 P **P** 03 48 56.8 0.0
G65A IAmb IAmb 03 49 02.1
comp=Z,46nm,1.3s
LMQ La Malbaie 80.44 27 P **P** 03 48 59.8 -0.4
LMQ IAmb IAmb 03 49 09.6
comp=Z,45nm,1.1s
PQI Presque Isle 80.74 29 P **P** 03 49 01.8 +0.1
PQI IAmb IAmb 03 49 07.5
comp=Z,45nm,1.1s
V35K Ketchikan 80.92 349 P **P** 03 49 02.8 +0.4
baz=162,SNR=9.3
CRAG Craig 81.33 348 P **P** 03 49 04.6 -0.1
baz=160
U33K Whale Pass 81.94 348 P **P** 03 49 07.9 0.0
baz=160,SNR=5.7
WRAK Wrangell Islan 82.08 349 P **P** 03 49 08.7 +0.1
baz=161
T35M Bob Quinn 82.26 350 P **P** 03 49 09.9 +0.2
baz=163
S34M Telegraph Cree 83.30 350 IAmb IAmb 03 49 20.6
comp=Z,24nm,1.2s
S34M Telegraph Cree 83.30 350 P **P** 03 49 15.1 +0.2
baz=162,SNR=11
TOAD Toad River Com 83.39 353 P **P** 03 49 15.4 -0.1
baz=168,SNR=22
S32K Killisnoo 83.49 348 P **P** 03 49 15.8 -0.1
baz=159
DLBC Dease Lake 83.62 350 P **P** 03 49 17.2 +0.5
baz=163,SNR=18
DLBC Dease Lake 83.62 350 P **P** 03 49 16.8 +0.1
comp=Z,21nm,1.0s,baz=187,slow=6.0,SNR=28
DLBC LR LR 04 21 57.3
comp=Z,138nm,18.1s,baz=118,slow=32
comp=Z,21nm,1.0s
FCC Fort Churchill 83.82 9 IAmb IAmb 03 49 22.4
comp=Z,34nm,1.2s
LIRD Liard River Hi 84.04 353 P **P** 03 49 19.0 +0.2
baz=167
JIS Juneau Island 84.21 348 IAmb IAmb 03 49 42.3
comp=Z,32nm,1.4s
R32K Eaglecrest 84.23 348 P **P** 03 49 19.9 +0.2
baz=159
KOTAN Kotaneelee Air 84.52 354 P **P** 03 49 21.2 0.0
baz=169,SNR=13
R33M Jennings River 84.69 350 IAmb IAmb 03 49 28.0
comp=Z,20nm,1.1s
R33M Jennings River 84.69 350 P **P** 03 49 22.1 -0.1
baz=162,SNR=14
WTLY Watson Lake, Y 85.06 351 P **P** 03 49 23.5 -0.4
baz=164,SNR=8.0
P32M Atlin 85.32 349 P **P** 03 49 24.9 -0.4
baz=160
SKAG Skagway 85.50 348 P **P** 03 49 25.6 -0.4
baz=158
PLBC Pleasant Camp 85.69 348 P **P** 03 49 26.6 -0.4
baz=158
P33M Teslin, Yukon 85.76 350 IAmb IAmb 03 49 32.9
comp=Z,29nm,1.1s
P33M Teslin, Yukon 85.76 350 P **P** 03 49 26.9 -0.5
baz=161,SNR=23
P29M Windy Craggy 86.12 347 P **P** 03 49 28.9 -0.4
baz=156
YKA Yellowknife Ar 86.31 359 P **P** 03 49 29.9 -0.2
comp=Z,11nm,1.0s,baz=172,slow=4.0,SNR=135
YKA PKKPbc **PKKPdf** 04 07 29.1 +4.3
comp=Z,0.1nm,0.3s,baz=14,slow=2.9,SNR=2.1
YKA LR LR 04 23 51.6
comp=Z,428nm,19.1s,baz=175,slow=33
comp=Z,11nm,1.0s
TGTN Hyland Airport 86.36 352 P **P** 03 49 30.2 -0.2
baz=165,SNR=7.0
P30M Million Dollar 86.42 348 P **P** 03 49 30.5 -0.2
baz=157
PNL Peninsula 86.51 346 P **P** 03 49 31.4 +0.2
baz=155
WHY Whitehorse 86.53 349 P **P** 03 49 30.7 -0.6
WHY IAmb IAmb 03 49 44.5
comp=Z,47nm,1.7s
WHY Whitehorse 86.53 349 P **P** 03 49 30.5 -0.9
baz=159
N32M Quiet Lake 86.69 350 IAmb IAmb 03 49 45.0
comp=Z,32nm,1.1s
N32M Quiet Lake 86.69 350 P **P** 03 49 31.4 -0.7
baz=160
O30N Mendenhall 86.86 348 P **P** 03 49 32.6 -0.2
baz=158
HYT Haines Junctio 87.18 348 IAmb IAmb 03 49 36.1
comp=Z,30nm,1.3s
HYT Haines Junctio 87.18 348 P **P** 03 49 34.0 -0.5
baz=156,SNR=5.7
YUK6 Outpost Mounta 87.45 347 P **P** 03 49 35.2 -0.8
baz=156
N31M Braeburn, Yuko 87.47 349 P **P** 03 49 35.2 -0.6
baz=158
SCHQ Schefferville 87.49 24 P **P** 03 49 35.4 -0.6
comp=Z,6.0nm,0.8s,baz=258,slow=0.8,SNR=7.5
SCHQ LR LR 04 27 13.7
comp=Z,171nm,19.9s,baz=232,slow=34
comp=Z,6.0nm,0.8s
WRGLY Wrigley 87.52 355 P **P** 03 49 35.1 -0.8
baz=169
MESA MESA 87.54 345 P **P** 03 49 36.0 -0.4
baz=153
O28M Mount Upton 87.68 346 P **P** 03 49 36.3 -0.8
baz=154,SNR=8.0
N30M Aishikik Lake 87.68 348 P **P** 03 49 36.0 -0.9
baz=157
FARO Faro, Yukon 87.75 350 IAmb IAmb 03 49 38.3
comp=Z,18nm,1.3s
FARO Faro, Yukon 87.75 350 P **P** 03 49 36.2 -0.9
baz=160,SNR=9.9
BGLC Bering Glacier 87.80 345 P **P** 03 49 36.7 -0.6
baz=151
YUK4 Talbot Arm 87.88 347 P **P** 03 49 37.5 -0.5
baz=156
M31M Drury Creek, Y 87.90 350 P **P** 03 49 37.4 -0.4
baz=159
KAIM Kayak Island 87.91 344 P **P** 03 49 37.8 -0.1
baz=150
CHIR Chirikof Islan 87.92 337 P **P** 03 49 37.3 -0.7
baz=141
Q23K Middleton Isla 87.97 343 P **P** 03 49 37.5 -0.6
baz=149
SII Sitkinak Islan 87.99 338 P **P** 03 49 37.4 -1.0
baz=142
YUK8 Steele Glacier 88.05 347 P **P** 03 49 38.6 -0.3
baz=154
CTGM Chitina Glacie 88.10 346 IAmb IAmb 03 49 44.0
comp=Z,26nm,1.1s
CTG Chitna Glacier 88.10 346 P **P** 03 49 38.6 -0.4
baz=153
OHAK Old Harbor 88.22 339 P **P** 03 49 38.8 -0.6
baz=143
BARN Barnard Glacie 88.26 346 IAmb IAmb 03 49 45.3
comp=Z,37nm,1.2s
KDAK Kodiak Island 88.44 339 P **P** 03 49 40.0 -0.3
baz=143
KDAK Kodiak Island 88.44 339 LR LR 04 19 36.6
comp=Z,192nm,21.7s,baz=174,slow=29
MAW Mawson 88.49 178 LR LR 04 25 32.0
comp=Z,656nm,21.1s,baz=190,slow=33
YUK3 Moose Creek 88.64 347 P **P** 03 49 41.0 -0.6
baz=154
P23K Montague Islan 88.74 343 P **P** 03 49 41.4 -0.4
baz=148
EYAK Cordova Ski Ar 88.78 344 P **P** 03 49 41.7 -0.2
baz=149
M29M Somme Creek 88.85 348 P **P** 03 49 41.6 -0.8
baz=156
MCARA McCarthy VSAT 88.85 345 P **P** 03 49 42.4 +0.1
baz=152
BMRM Bremner River 88.86 345 P **P** 03 49 42.5 +0.1
baz=150
Q20K Shuyak Island 89.04 340 P **P** 03 49 43.6 +0.4
baz=144
SEW Seward 89.39 342 P **P** 03 49 45.4 +0.6
baz=146
L29M L29M 89.39 348 P **P** 03 49 45.3 +0.4

baz=156
N25K **Chitina, Valde** 89.42 345 P P 03 49 45.2 +0.1
baz=150
MAYO **Mayo, Yukon** 89.45 349 P P 03 49 45.0 0.0
baz=158
BRSE **Bradley Lake S** 89.46 341 P P 03 49 45.0 -0.2
baz=145
M27K **Edge Creek, AK** 89.46 346 P P 03 49 44.3 -1.0
baz=153
KLU **Klutina** 89.64 344 P P 03 49 45.1 -1.0
baz=149
HOM **Homer** 89.66 341 P P 03 49 45.4 -0.7
baz=144
Q19K **Cape Douglas,** 89.69 340 P P 03 49 45.4 -0.9
baz=142
S14K **Fog Glacier** 89.72 336 P P 03 49 45.6 -1.0
baz=137
M26K **Nabesna, AK** 89.75 346 P P 03 49 46.2 -0.4
baz=152
Q17K **Contact Creek** 89.90 338 P P 03 49 46.6 -0.9
baz=140
R16K **Pilot Point** 89.95 337 P P 03 49 46.3 -1.2
baz=139
K29M **Barlow Dome** 89.96 349 IAmb IAmb 03 49 55.8
comp=Z,31nm,1.3s
K29M **Barlow Dome** 89.96 349 P P 03 49 46.7 -0.9
baz=156,SNR=10
L27K **Beaver Creek,** 90.08 347 P P 03 49 46.8 -1.3
baz=153
H11S2 **WAKE ISLAND Hy** 90.08 290 T T 05 29 12.5
baz=116,slow=75,SNR=318
H11S1 **WAKE ISLAND Hy** 90.09 290 T T 05 29 12.2
baz=116,slow=75,SNR=194
H11S3 **WAKE ISLAND Hy** 90.10 290 T T 05 29 12.8
baz=116,slow=75,SNR=210
KNK **Knik Glacier** 90.22 343 P P 03 49 47.6 -1.1
baz=147
M24K **Tolsona, Glenn** 90.23 345 P P 03 49 48.2 -0.6
baz=149
HARP **HAARP** 90.24 345 P P 03 49 48.2 -0.6
baz=150
S12K **Black Hills** 90.27 334 P P 03 49 47.7 -1.4
baz=135
H11N3 **WAKE ISLAND Hy** 90.43 291 T T 05 29 41.6
baz=117,slow=75,SNR=83
J30M **Hart River** 90.43 350 P P 03 49 48.6 -1.2
baz=158
H11N1 **WAKE ISLAND Hy** 90.44 291 T T 05 29 41.6
baz=117,slow=75,SNR=28
H11N2 **WAKE ISLAND Hy** 90.45 291 T T 05 29 39.5
baz=117,slow=75,SNR=185
DAWY **Dawson** 90.50 348 P P 03 49 49.0 -1.0
baz=155
SML **Sawmill** 90.51 344 P P 03 49 49.7 -0.5
baz=147
PMR **Palmer** 90.54 343 IAmb IAmb 03 49 54.7
comp=Z,24nm,1.1s
PMR **Palmer** 90.54 343 P P 03 49 49.5 -0.7
baz=146
J29N **Klondike Camp** 90.64 349 P P 03 49 50.0 -0.8
P17K **Kvichak River** 90.80 339 P P 03 49 50.1 -1.3
baz=140
PAX **Paxson** 90.80 345 P P 03 49 49.9 -1.6
baz=150
UNV **Unalaska Valle** 90.86 331 P P 03 49 50.5 -1.3
baz=132
O18K **Koktuh Hills** 90.91 340 P P 03 49 50.4 -1.6
baz=141
M22K **Willow** 90.94 343 P P 03 49 51.2 -0.9
baz=145
K27K **Chicken** 90.99 347 P P 03 49 51.4 -0.8
baz=152
WAT6 **Susitna Watana** 91.02 344 P P 03 49 51.2 -1.4
baz=148
I30M **Mount Dempster** 91.04 350 P P 03 49 51.7 -0.9
baz=158,SNR=17
P16K **Nushagak River** 91.20 338 P P 03 49 52.0 -1.3
baz=139
H31M **Peel River** 91.27 351 P P 03 49 52.8 -0.7
H31M IAmb IAmb 03 50 06.0
comp=Z,34nm,1.4s
H31M **Peel River** 91.27 351 P P 03 49 52.3 -1.2
baz=159,SNR=12
DHY **Denali Highway** 91.35 345 P P 03 49 53.1 -1.0
baz=148
SCRK **Sand Creek** 91.35 346 P P 03 49 52.9 -1.2
baz=151
NIKH **Nikolski High** 91.35 329 P P 03 49 51.8 -2.4
baz=130
WAT1 **Susitna Watana** 91.43 344 P P 03 49 52.9 -1.5
baz=147
N19K **Bonanza Creek** 91.44 341 P P 03 49 53.0 -1.5
baz=142
O17K **Koliganek Bris** 91.46 339 P P 03 49 53.4 -1.1
baz=139
EGAK **Eagle** 91.48 348 P P 03 49 54.2 -0.3
baz=153
SKT **Skwentna** 91.52 342 P P 03 49 54.2 -0.6
SKT IAmb IAmb 03 50 03.1
comp=Z,30nm,1.4s
SKT **Skwentna** 91.52 342 P P 03 49 53.9 -0.8
baz=144
CUT **Chulitna** 91.52 343 P P 03 49 54.1 -0.6
baz=145
K24K **Donnelly Dome** 91.59 346 P P 03 49 54.6 -0.5
baz=149
O16K **Kokwok River B** 91.66 338 P P 03 49 54.6 -0.9
baz=139
J26L **Joseph Creek** 91.72 347 P P 03 49 54.9 -0.8
baz=151
N18K **Kilae Creek** 91.77 340 P P 03 49 55.1 -0.9
baz=140
I28M **Miner Creek** 91.86 349 P P 03 49 55.6 -0.8
baz=154
M20K **Styx River** 91.89 342 P P 03 49 55.0 -1.6
baz=143
N17K **Nushagak Hills** 92.06 339 P P 03 49 55.8 -1.5
baz=139
EPYK **Eagle Plains** 92.16 350 P P 03 49 56.2 -1.4
EPYK IAmb IAmb 03 49 58.2
comp=Z,24nm,1.3s
EPYK **Eagle Plains** 92.16 350 P P 03 49 56.1 -1.6
baz=157,SNR=7.3
J25K **Salcha River,** 92.20 346 P P 03 49 57.2 -0.8
J25K IAmb IAmb 03 50 06.1
comp=Z,18nm,1.3s
J25K **Salcha River,** 92.20 346 P P 03 49 56.6 -1.4
baz=150
M19K **Big River Lodg** 92.27 341 P P 03 49 57.0 -1.3
baz=142
MCK **McKinley** 92.28 344 P P 03 49 56.9 -1.4
baz=146
H29M **Whitestone** 92.29 349 P P 03 49 57.1 -1.2
baz=156
I27K **Kandik River** 92.31 348 P P 03 49 57.1 -1.3
baz=153
G31M **Satah River** 92.31 351 P P 03 49 56.9 -1.4
G31M **Satah River** 92.31 351 P P 03 49 57.1 -1.2
baz=159,SNR=10
I26K **Coal Creek Min** 92.34 347 P P 03 49 58.0 -0.5
baz=152
TRF **Thorofare Moun** 92.39 344 P P 03 49 57.8 -1.1
TRF **Thorofare Moun** 92.39 344 P P 03 49 57.1 -1.9
baz=145
PPLA **Purkeypile** 92.44 343 P P 03 49 57.7 -1.5
baz=144
O14K **Tigyukauivet M** 92.51 337 P P 03 49 58.4 -1.0
baz=136
N16K **Nishlik Lake** 92.54 339 P P 03 49 59.1 -0.5
baz=138
L20K **Farewell, AK** 92.58 342 P P 03 49 58.8 -0.9
baz=142
L19K **White Mountain** 92.62 341 P P 03 49 58.9 -1.0
baz=141
G30M **tAoh Zraii Nji** 92.65 351 P P 03 49 58.7 -1.2
baz=158
ILAR **Eielson Array** 92.68 346 P P 03 49 59.3 -0.8
ILAR **Eielson Array** 92.68 346 P P 03 49 59.0 -1.0
comp=Z,1.2nm,1.0s,baz=198,slow=2.8,SNR=6.4
ILAR LR LR 04 23 57.8
comp=Z,124nm,19.9s,baz=104,slow=30
comp=Z,1.2nm,1.0s
ILAR **Eielson Array** 92.68 346 P P 03 49 59.3 -0.8
WRH **Wood River Hil** 92.70 345 IAmb IAmb 03 50 04.6
comp=Z,13nm,1.0s
F31M **Tsiigehtchic** 92.73 352 P P 03 49 59.3 -0.9
baz=160,SNR=11
N15K **Kwethluk River** 92.76 338 P P 03 49 60.0 -0.6
baz=137
M17K **Holitna River** 92.81 340 P P 03 49 59.9 -0.9
baz=139
CAST **Castle Rocks** 92.83 343 P P 03 49 60.0 -0.8
baz=144
H27K **Steamboat Moun** 92.85 348 P P 03 49 59.9 -1.0
baz=153
G29M **Pine Creek** 92.86 350 P P 03 50 00.3 -0.6
baz=156
COLA **College** 92.98 345 P P 03 50 00.2 -1.2
COLA **College** 92.98 345 P P 03 50 01.4 0.0
baz=147
COLA **College** 92.98 345 *de*P P 03 50 00.7 -0.7
COLA pmax pmax
comp=Z,14nm,1.0s
M16K **Timber Creek** 93.01 339 P P 03 50 01.5 -0.2
baz=138
PRP **Porcupine Dome** 93.02 347 P P 03 50 00.9 -0.9
baz=149,SNR=6.5
NEA2 **Nenana** 93.03 345 P P 03 50 00.3 -1.4
NEA2 **Nenana** 93.03 345 P P 03 50 01.0 -0.7
baz=146
POKR **Poker Plat Res** 93.09 346 P P 03 50 01.0 -0.9
baz=148
BPAW **Bear Paw Mtn.** 93.10 344 IAmb IAmb 03 50 02.1
comp=Z,22nm,1.3s
BPAW **Bear Paw Mtn.** 93.10 344 P P 03 50 00.7 -1.3
baz=145,SNR=7.6
N14K **Kuskokwak Cree** 93.14 337 P P 03 50 01.4 -0.8
baz=136
MDM **Murphy Dome** 93.14 345 IAmb IAmb 03 50 07.3
comp=Z,24nm,1.2s
F30M **Barrier River** 93.17 351 P P 03 50 01.8 -0.5
baz=158,SNR=8.5
L18K **Granite Mounta** 93.20 341 P P 03 50 01.3 -1.2
baz=140
CHUM **Lake Minchumin** 93.27 343 P P 03 50 02.2 -0.6
baz=143
K20K **Telida** 93.32 342 P P 03 50 02.0 -1.1
baz=142
M15K **Kasigluk River** 93.35 338 P P 03 50 01.8 -1.4
baz=136
G27K **Doyon Strip** 93.39 349 P P 03 50 02.1 -1.3
baz=153
INK **Inuvik** 93.52 352 IAmb IAmb 03 50 12.3
comp=Z,18nm,1.3s
INK **Inuvik** 93.52 352 P P 03 50 02.5 -1.3
baz=160,SNR=11
INK **Inuvik** 93.52 352 LR LR 04 26 31.4
comp=Z,169nm,20.0s,baz=185,slow=32
INK **Inuvik** 93.52 352 P P 03 50 03.1 -0.7
INK pmax pmax
comp=Z,11nm,1.4s
TTA **Tatalina** 93.55 341 P P 03 50 03.1 -1.1
baz=140
I23K **Minto, Yukon-K** 93.56 345 IAmb IAmb 03 50 08.7
comp=Z,14nm,1.1s
I23K **Minto, Yukon-K** 93.56 345 P P 03 50 02.7 -1.4
baz=146,SNR=8.4
C36M **Paulatuk** 93.60 356 P P 03 50 03.1 -1.1
baz=169
L17K **Donlin** 93.63 340 P P 03 50 03.3 -1.2
baz=138
H25L **Birch Creek** 93.73 347 P P 03 50 03.6 -1.2
baz=149
MLY **Manley** 93.80 344 P P 03 50 03.6 -1.7
baz=145
H24K **Noodor Dome** 93.80 346 P P 03 50 03.6 -1.7
baz=147
F28M **Old Crow** 93.81 350 P P 03 50 03.5 -1.7
baz=154,SNR=7.2
FRB **Frobisher Bay** 93.84 18 LR LR 04 29 44.4
comp=Z,562nm,18.8s,baz=206,slow=34
G26K **Porcupine Rive** 93.91 348 P P 03 50 04.1 -1.5
baz=151
P08K **Saint George I** 93.98 332 P P 03 50 04.5 -1.7
baz=129
J20K **Nowinta River** 93.99 343 P P 03 50 04.3 -1.8
baz=142
K17K **Iditarod** 94.07 340 P P 03 50 05.3 -1.2
baz=138
M13K **Dall Lake** 94.08 337 P P 03 50 05.1 -1.4
baz=134
J18K **Innoko River** 94.16 341 P P 03 50 05.8 -1.1
baz=140
H23K **Yukon River** 94.17 345 P P 03 50 05.9 -1.0
baz=146
E29M **Blow River** 94.20 351 IAmb IAmb 03 50 18.9
comp=Z,17nm,1.4s
E29M **Blow River** 94.20 351 P P 03 50 05.6 -1.4
baz=156,SNR=14
G25K **Bearman Lake** 94.21 347 P P 03 50 06.1 -1.0
baz=149
I21K **Tanana** 94.23 344 P P 03 50 06.0 -1.1
baz=144
J19K **Poorman** 94.25 342 P P 03 50 05.9 -1.4
baz=141
L15K **Ungalak Mounta** 94.33 339 P P 03 50 06.2 -1.5
baz=136
G24K **Hadweenzic Riv** 94.45 347 IAmb IAmb 03 50 19.1
comp=Z,29nm,1.9s
G24K **Hweenzic Riv** 94.45 347 P P 03 50 07.0 -1.1
baz=148
BMAR **Burnt Mountain** 94.49 348 P P 03 50 06.6 -1.7
L14K **Kuka Creek** 94.49 338 P P 03 50 07.4 -1.0
baz=135
I20K **Naaghedeneel** 94.57 343 P P 03 50 07.0 -1.7
baz=142
E27K **Coleen River** 94.61 349 P P 03 50 08.0 -1.0
baz=153,SNR=12
F26K **Shenjiek River** 94.64 348 P P 03 50 08.2 -0.9
baz=150,SNR=7.9
SPIA **Saint Paul Isl** 94.64 332 P P 03 50 08.1 -1.1
baz=129
E28M **Babbage River** 94.65 350 P P 03 50 07.8 -1.2
baz=155,SNR=9.4
H22K **Ishtalitna Cre** 94.66 345 P P 03 50 07.7 -1.5
baz=144
K15K **Wolf Creek Mou** 94.78 339 P P 03 50 08.4 -1.4
baz=136
J17K **VABM Dome** 94.81 341 P P 03 50 08.8 -1.1
baz=138
H21K **Melozitna Rive** 94.82 344 P P 03 50 09.1 -0.8
baz=143
F25K **Christian Rive** 94.83 348 P P 03 50 09.2 -0.8
baz=149
G23K **Bananza Creek** 95.02 346 P P 03 50 09.9 -0.9
baz=145
M11K **Mekoryuk** 95.09 336 P P 03 50 10.4 -0.8
baz=132
GCSA **Galena City Sc** 95.19 342 P P 03 50 11.1 -0.4
baz=139
D28M **Stokes Point** 95.19 351 P P 03 50 10.6 -0.9
baz=155
H20K **Anotleneega Mo** 95.22 343 P P 03 50 11.2 -0.6
baz=141
F24K **Squaw Lake** 95.22 347 P P 03 50 11.0 -0.8
baz=147
E25K **Arctic Village** 95.28 348 IAmb IAmb 03 52 20.9
comp=Z,6.2nm,0.5s
E25K **Arctic Village** 95.28 348 P P 03 50 11.4 -0.6
baz=149
D27M **Malcolm River** 95.45 350 IAmb IAmb 03 50 21.3
comp=Z,14nm,1.1s
D27M **Malcolm River** 95.45 350 P P 03 50 12.1 -0.7
baz=153,SNR=9.7
COLD **Coldfoot** 95.48 346 P P 03 50 12.3 -0.6
baz=145,SNR=7.6
G22K **Bettles** 95.53 345 P P 03 50 12.4 -0.7
baz=144
K13K **Kusilvak Mount** 95.58 338 P P 03 50 12.7 -0.8
baz=133
H19K **Roundabout Mou** 95.67 343 P P 03 50 13.4 -0.3
baz=140
I17K **Unalakleet** 95.67 340 P P 03 50 13.2 -0.6
baz=136
G21K **Allakaket** 95.68 344 IAmb IAmb 03 50 14.6
comp=Z,26nm,1.9s
G21K **Allakaket** 95.68 344 P P 03 50 12.8 -1.0
baz=142
J14K **Nanvaranak Lak** 95.77 339 P P 03 50 14.0 -0.3
baz=134
E24K **Your Creek** 95.82 347 P P 03 50 13.7 -0.8
baz=147
H18K **Honhosa River** 95.91 342 P P 03 50 14.5 -0.4
baz=138
E23K **Chandalar** 96.04 347 P P 03 50 14.6 -0.9
baz=146
F22K **John River** 96.16 345 P P 03 50 15.1 -0.9
baz=143
H17K **Granite Mounta** 96.19 341 P P 03 50 15.3 -0.9
baz=137
F21K **Alatna River** 96.23 345 IAmb IAmb 03 50 25.6
comp=Z,15nm,1.5s
F21K **Alatna River** 96.23 345 P P 03 50 15.2 -1.1
baz=142
PMG **Port Moresby** 96.24 257 LR LR 04 27 20.0
comp=Z,436nm,19.4s,baz=106,slow=32
C27K **Jago River** 96.25 349 P P 03 50 15.6 -0.8
baz=151,SNR=13
A36M **Sachs Harbour** 96.28 356 P P 03 50 15.5 -0.9
baz=168
G19K **Purcell Mounta** 96.31 343 P P 03 50 16.4 -0.2
baz=139
D25K **Kavik River** 96.46 348 P P 03 50 17.2 -0.2
baz=148
TOLK **Toolik Lake Re** 96.51 347 P P 03 50 17.7 +0.1
baz=146
G18K **Tagagawik** 96.54 342 P P 03 50 18.0 +0.3
baz=138
F20K **Avaraart Lake** 96.65 344 P P 03 50 18.1 -0.1
baz=140
H16K **Elim** 96.68 340 P P 03 50 18.6 +0.2
baz=135
C26K **Camden Bay** 96.71 349 P P 03 50 18.9 +0.5
baz=150
D24K **Happy Valley** 96.79 347 P P 03 50 19.0 +0.3
baz=146
G17K **Kiwalik Mounta** 96.82 342 P P 03 50 19.5 +0.5
baz=136
F19K **Shaleruckik Mo** 97.01 343 P P 03 50 19.8 0.0
baz=138
D23K **Nanushuk River** 97.01 347 P P 03 50 19.9 +0.1
baz=145
C24K **Franklin Bluff** 97.24 348 P P 03 50 20.9 +0.2
baz=146
G16K **Koyuk River** 97.24 341 P P 03 50 20.6 -0.3
baz=135
E21K **Killik River** 97.31 345 P P 03 50 20.7 -0.5
baz=142
F18K **Selawik** 97.34 343 P P 03 50 21.1 -0.1
baz=137
E19K **Redstone River** 97.34 344 P P 03 50 21.1 -0.2
baz=139
D22K **Ayikyak River** 97.37 346 P P 03 50 21.6 +0.2
baz=143
G15K **Niukluk** 97.48 340 P P 03 50 22.1 +0.1
baz=133
F17K **Baldwin Pennin** 97.67 342 P P 03 50 22.8 +0.1
baz=135
E20K **Nigu River** 97.69 345 P P 03 50 23.0 +0.1
baz=140
C23K **Itkillik River** 97.71 347 P P 03 50 23.0 +0.1
baz=145
C21K **Knifeblade Rid** 98.06 346 P P 03 50 24.2 -0.4
baz=141
D20K **Etivluk River** 98.14 345 P P 03 50 24.5 -0.4
baz=139
E18K **Tukpahlearik C** 98.19 343 P P 03 50 24.8 -0.4
baz=136
E17K **Hotham Inlet** 98.28 342 P P 03 50 25.2 -0.4
baz=135
D19K **Kuna River** 98.34 344 P P 03 50 25.2 -0.6
baz=138
B21K **Ikpikpuk River** 98.38 346 IAmb IAmb 03 50 35.2
comp=Z,19nm,1.6s
B21K **Ikpikpuk River** 98.38 346 P P 03 50 25.5 -0.4
baz=141
F14K **Arctic Creek** 98.52 340 P P 03 50 26.0 -0.7
baz=131
B22K **Teshekpuk Lake** 98.69 347 IAmb IAmb 03 50 34.8
comp=Z,21nm,1.6s
B22K **Teshekpuk Lake** 98.69 347 P P 03 50 26.7 -0.6
baz=142
D17K **Noatak River** 99.06 342 P Pdif 03 50 28.6 -0.4
baz=134
TNA **Tin City** 99.08 339 P Pdif 03 50 28.4 -0.7
baz=130
RES **Resolute Bay** 99.14 4 LR LR 04 31 50.4
comp=Z,197nm,21.5s,baz=197,slow=33
RES **Resolute Bay** 99.14 4 P Pdif 03 50 28.5 -0.7
RES pmax pmax
comp=Z,5.0nm,1.1s
C19K **Lookout Ridge** 99.15 344 P Pdif 03 50 28.9 -0.6
baz=137
C18K **Utukok River** 99.23 344 P Pdif 03 50 29.6 -0.3
baz=135
B20K **Meade River** 99.25 346 P Pdif 03 50 29.7 -0.1
baz=139
RDOG **Red Dog Mine** 99.26 343 P Pdif 03 50 29.6 -0.3
baz=134
A22K **Sinclair Lake** 99.54 347 P Pdif 03 50 31.0 -0.1
baz=141
C17K **DeLong Mountai** 99.63 343 P Pdif 03 50 31.2 -0.3
baz=134
SHEM **Shemya Is, Ala** 99.85 324 LR LR 04 26 21.1
comp=Z,164nm,21.5s,baz=333,slow=30
B18K **Kokolik River** 99.89 344 P Pdif 03 50 32.2 -0.5
baz=135
C16K **Lisburne Hills** 100.08 342 P Pdif 03 50 33.1 -0.5
baz=132
A21K **Barrow** 100.13 347 P Pdif 03 50 32.8 -0.9
baz=139
TORD **Torodi Ar. Bea** 116.42 87 PKP PKPdf 03 55 31.8 -1.4
comp=Z,1.8nm,1.1s,baz=203,slow=1.1,SNR=3.5
TORD PP PP 03 56 38.4 -1.4
comp=Z,1.6nm,1.0s,baz=258,slow=8.8,SNR=3.8
ESDC **Sonseca Array** 118.21 57 PKP PKPdf 03 55 35.9 -0.2
comp=Z,0.8nm,0.9s,baz=339,slow=3.3,SNR=3.0
MAJO **Matsushiro** 119.58 300 ‖ *i* PKIKP PKPdf 03 55 39.2 +0.4
EKA **Eskdalemuir Ar** 119.93 39 PKP PKPdf 03 55 37.0 -1.7
comp=Z,1.7nm,0.8s,baz=335,slow=1.2,SNR=3.4
NOA **NORSAR Array B** 126.59 31 PKP PKPdf 03 55 50.9 -0.6
comp=Z,1.3nm,1.0s,baz=309,slow=2.1,SNR=3.6
MDJ **Mudanjiang** 126.71 309 PKP PKiKP 03 55 54.2 +1.6
KSRS **Korea Array** 127.86 300 PKP PKPdf 03 55 54.5 -0.1
comp=Z,1.9nm,0.9s,baz=126,slow=6.2,SNR=2.3
DAVA **Damuels** 128.53 48 *e*PKiKP PKPdf 03 55 57.0 +1.3
comp=Z,4.6nm,1.0s
FETA **Feichten** 129.14 48 *e*PKiKP PKPdf 03 55 58.3 +1.3
comp=Z,11nm,1.1s
MOTA **Moosalm** 129.36 48 *e*PKiKP PKPdf 03 55 58.5 +1.2
comp=Z,12nm,1.8s
SQTA **Sankt Quirin** 129.44 48 *e*PKiKP PKPdf 03 55 59.0 +1.5
comp=Z,2.9nm,0.5s
WATA **Walderalm** 129.68 48 *e*PKiKP PKPdf 03 55 58.9 +1.0
comp=Z,9.9nm,0.9s
CN2 **Changchun** 129.72 308 *e*PKP PKPdf 03 55 54.3 -3.6
WTTA **Wattenberg** 129.72 48 *e*PKiKP PKPdf 03 55 59.4 +1.3
comp=Z,9.7nm,1.3s
NKC **Novy Kostel** 129.82 44 PKIKP PKPdf 03 55 59.8 +1.9
CLL **Collm** 129.97 42 *i* PKIKP PKPdf 03 55 59.1 +1.0
WET **Wettzell** 130.28 45 PKIKP PKPdf 03 56 00.4 +1.5
LESA **Schwarzleotal** 130.41 47 *ep*PKiKP PKiKP 03 56 04.2 +4.1
comp=Z,9.9nm,1.8s
BRG **Berggiesshubel** 130.64 43 *e*PKP PKPdf 03 56 00.7 +1.3
BRG Amp 03 56 02.5
comp=Z,6.0nm,1.1s
BRG **Berggiesshubel** 130.64 43 *e*PKIKP PKPdf 03 56 00.7 +1.3
BRG pmax pmax
comp=Z,6.0nm,1.1s
KHC **Kasperske Hory** 130.74 45 PKPdf 03 55 58.4 -1.4
KHC **Kasperske Hory** 130.74 45 ‖ *e*PKIKP PKPdf 03 55 59.8 +0.1
GERES **GERESS Array B** 130.87 45 PKP PKPdf 03 56 00.5 +0.4
comp=Z,0.2nm,0.3s,baz=230,slow=43,SNR=2.2
PVCC **Panska Ves** 131.10 43 PKIKP PKiKP 03 56 02.8 +1.6
MYKA **Terra Mystica** 131.17 48 *ep*PKiKP PKiKP 03 56 05.5 +3.9
comp=Z,8.8nm,1.4s
ARSA **Arzberg** 132.35 47 *e*PKiKP PKPdf 03 56 04.5 +1.6
comp=Z,3.3nm,1.0s
CONA **Conrad Observa** 132.45 46 *ep*PKP pPKPdf 03 56 07.0 +1.0
comp=Z,4.9nm,1.0s
KRLC **Kraliky** 132.59 43 PKIKP PKPdf 03 56 04.4 +1.2
RONA **Rosalía, Austr** 132.78 47 *e*PKiKP PKPdf 03 56 05.6 +2.0
comp=Z,1.8nm,0.7s
FINES **FINESS Array B** 132.93 26 PKP PKPdf 03 56 04.1 +0.7
comp=Z,2.2nm,0.8s,baz=176,slow=32,SNR=1.6
MORC **Moravsky Berou** 133.13 43 ‖ P PKiKP 03 56 07.0 +1.5
MORC **Moravsky Berou** 133.13 43 ‖ PKIKP PKiKP 03 56 07.0 +1.5
MORH **Mrgy, Hungar** 134.65 48 ↑P PKPdf 03 56 08.1 +1.0
NIE **Niedzica** 134.96 43 PKIKP PKPdf 03 56 09.2 +1.5
NJ2 **Nanjing** 135.04 292 *e*PKP PKPdf 03 56 08.6 +0.3
CRVS **Cervenica-Dubn** 135.84 44 *e*PKP PKiKP 03 56 14.3 +3.4
CRVS **Cervenica-Dubn** 135.84 44 *e*PKIKP PKiKP 03 56 14.3 +3.4
KWP **Kalwaria Pacla** 136.39 42 PKIKP PKPdf 03 56 10.6 +0.3

XLT	**XiLinHaoTe**	**136.43**	**309**	*e*PKP	**PKiKP**	**03 56 13.6**	**+1.2**
SIRR	**Siria**	**136.68**	**47**	⇓P	**PKiKP**	**03 56 16.3**	**+3.6**
BZS	**Buzias**	**136.81**	**48**	⇑P	**PKiKP**	**03 56 15.0**	**+2.0**
BZS	**Buzias**	**136.81**	**48**	PKiKP	**PKPdf**	**03 56 12.4**	**+1.2**
SURR	**Surduc**	**137.12**	**48**	⇑P	**PKPdf**	**03 56 12.7**	**+0.9**
LVV	**L'vov**	**137.14**	**42**	*e*PKiKP	**PKiKP**	**03 56 17.1**	**+3.6**
DRGR		**137.24**	**46**	⇑P	**PKPdf**	**03 56 12.1**	**0.0**
DRGR		**137.24**	**46**	⇑PKiKP	**PKPdf**	**03 56 12.1**	**0.0**
MNK	**Minsk**	**137.34**	**34**	*i* PKiKP	**PKiKP**	**03 56 17.1**	**+3.3**
MNK				*i*		03 59 03.1	
MNK				*i* PPP	PPP	04 02 02.5	
MNK				pmax	pmax		
	comp=Z,22nm,0.7s						
MNK				pmax	pmax		
	comp=E,4.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,21nm,0.8s						
MNK				MLR	MLR		
	comp=E,49nm,14.0s						
MNK				MLR	MLR		
	comp=Z,108nm,19.0s						
MNK				MLR	MLR		
	comp=N,79nm,18.0s						
HERR	**Herculane**	**137.53**	**49**	⇑P	**PKPdf**	**03 56 13.5**	**+0.9**
MARR	**Marisel-Cluj**	**137.54**	**46**	⇓P	**PKPdf**	**03 56 13.1**	**+0.4**
BLKB	**Belogradchik**	**137.99**	**51**	⇓P	**PKPdf**	**03 56 12.9**	**-0.6**
KLMR	**Klimovskoe**	**138.24**	**21**	*e*PKiKP	**PKPdf**	**03 56 12.5**	**-0.8**
KLMR				*e*		03 58 59.3	
KLMR				pmax	pmax		
	comp=Z,22nm,1.4s						
HNS	**HongShan**	**138.38**	**300**	⇓PKP	**PKPdf**	**03 56 16.5**	**+2.2**
HNS				PP	PP	03 59 14.2	+10
HNS				LR	LR		
	comp=Z,310nm,24.9s						
HNS				LR	LR		
	comp=Z,490nm,23.9s						
BUR08	**Bucovina Ar. S**	**138.60**	**44**		**PKPdf**	**03 56 12.5**	**-2.1**
BURAR	**Bucovina Array**	**138.62**	**44**	⇑P	**PKPdf**	**03 56 15.4**	**+0.8**
BURAR	**Bucovina Array**	**138.62**	**44**		**PKPdf**	**03 56 12.2**	**-2.4**
BURAR	**Bucovina Array**	**138.62**	**44**	⇑PKiKP	**PKPdf**	**03 56 15.4**	**+0.8**
VOIR		**139.18**	**48**	⇑P	**PKPdf**	**03 56 17.2**	**+1.5**
VOIR		**139.18**	**48**	⇑PKiKP	**PKPdf**	**03 56 17.2**	**+1.5**
TURR	**Turia**	**139.64**	**46**	⇑P	**PKiKP**	**03 56 20.7**	**+1.9**
MLR	**Muntele Rosu**	**139.77**	**47**	PP	**PP**	**03 59 14.2**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=182,slow=12,SNR=2.1						
MLR	**Muntele Rosu**	**139.77**	**47**	PKiKP	**PKPdf**	**03 56 16.1**	**-0.7**
KIEV	**Kiev**	**139.84**	**38**	⇑P	**PKPdf**	**03 56 15.6**	**-0.9**
KIEV	**Kiev**	**139.84**	**38**		**PKPdf**	**03 56 14.0**	**-2.5**
KIEV	**Kiev**	**139.84**	**38**	⇑PKiKP	**PKPdf**	**03 56 15.6**	**-0.9**
AKASG	**Malin Array Be**	**139.84**	**38**		**PKPdf**	**03 56 13.7**	**-2.9**
AKASG	**Malin Array Be**	**139.84**	**38**	PKP	**PKPdf**	**03 56 15.3**	**-1.2**
	comp=Z,2.7nm,0.6s,baz=281,slow=2.7,SNR=11						
AKASG				PP	**PP**	**03 59 14.3**	**+1.6**
	comp=Z,0.1nm,0.2s,baz=299,slow=6.0,SNR=6.2						
AKBB	**Malin Array Si**	**139.84**	**38**		**PKPdf**	**03 56 13.9**	**-2.6**
AKBB	**Malin Array Si**	**139.84**	**38**	⇓*e*PKiKP	**PKPdf**	**03 56 15.2**	**-1.4**
TESR	**Tescani**	**139.91**	**45**	⇑P	**PKiKP**	**03 56 19.7**	**+0.5**
PLOR	**Plostina**	**140.13**	**46**	⇑P	**PKiKP**	**03 56 20.9**	**+1.1**
PLOR	**Plostina**	**140.13**	**46**	⇑PKiKP	**PKiKP**	**03 56 20.9**	**+1.1**
VRI	**Vrincioaia**	**140.17**	**46**	⇑P	**PKPdf**	**03 56 17.3**	**-0.1**
VRI	**Vrincioaia**	**140.17**	**46**	⇑PKiKP	**PKPdf**	**03 56 17.3**	**-0.1**
HHC	**Hu-ho-hao-te**	**140.31**	**306**	*e*PKP	**PKPdf**	**03 56 15.0**	**-2.9**
OBN	**Obninsk**	**141.14**	**29**	PKP	**PKPdf**	**03 56 19.3**	**+0.6**
	comp=Z,15nm,0.4s,baz=303,slow=7.3,SNR=3.6						
OBN	**Obninsk**	**141.14**	**29**	*i* PKiKP	**PKPdf**	**03 56 18.5**	**-0.3**
OBN				*i*		03 59 22.6	
OBN				pmax	pmax		
	comp=Z,20nm,1.0s						
OBN				MLR	MLR		
	comp=Z,162nm,19.0s						
QIZ	**Qiongzhong**	**141.16**	**271**	PKP	**PKPdf**	**03 56 19.7**	**-0.2**
QIZ				PP	**PP**	**03 59 21.7**	**-0.3**
QIZ				SS	SS	04 17 48.2	-3.0
QIZ				LR	LR		
	comp=Z,100nm,14.7s						
QIZ				LR	LR		
	comp=Z,150nm,21.3s						
QIZ				LR	LR		
	comp=Z,230nm,21.6s						
MOS	**Moscow**	**141.19**	**27**	*i* PKiKP	**PKPdf**	**03 56 20.1**	**+1.3**
MOS				*e*		03 59 22.4	
ULN	**Ulaanbaatar**	**141.27**	**318**	⇑*i*PKiKP	**PKPdf**	**03 56 19.6**	**+0.1**
CFR	**Carcaliu**	**141.33**	**47**	⇑P	**PKPdf**	**03 56 19.4**	**0.0**
CFR	**Carcaliu**	**141.33**	**47**	⇑PKiKP	**PKPdf**	**03 56 19.4**	**0.0**
TPGR	**Topolog**	**141.63**	**47**	⇓P	**PKPdf**	**03 56 17.5**	**-2.6**
SONM	**Songino Array**	**141.69**	**318**	PKhKP	PKPpre	03 56 14.3	
	comp=Z,2.0nm,0.7s,baz=62,slow=3.5,SNR=3.6						
ZAK	**Zakamensk**	**142.31**	**323**	*e*PKiKP	**PKPdf**	**03 56 19.7**	**-1.5**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s						
MOY	**Mondy**	**142.81**	**326**	*e*PKHKP	PKPpre	03 56 17.1	
MOY				pmax	pmax		
	comp=Z,18nm,1.5s						
KIRV	**Kirov**	**143.00**	**16**	PKhKP	PKPpre	03 56 16.3	
	comp=Z,9.2nm,0.7s,baz=318,slow=8.4,SNR=4.4						
KIRV	**Kirov**	**143.00**	**16**	⇓*e*PKiKP	PKPbc	03 56 21.7	+3.0
XAN	**Xi'an**	**143.35**	**295**	PKP	PKPab	03 56 19.2	-0.3
LPSR	**Galich'ya Gora**	**143.84**	**30**	*e*PKiKP	PKPab	03 56 20.9	+0.2
LPSR				pmax	pmax		
	comp=Z,40nm,1.3s						
VORR	**Voronezh**	**144.57**	**32**	*e*PKiKP	**PKPab**	**03 56 24.7**	**+1.3**
VORR				pmax	pmax		
	comp=Z,61nm,1.5s						
VORR				pmax	pmax		
	comp=Z,2μm,17.3s						
VSR	**Storozhevoye**	**144.84**	**32**	*e*PKiKP	**PKPab**	**03 56 23.4**	**-1.1**
VSR				pmax	pmax		
	comp=Z,60nm,1.1s						
VORD	**Divnogorie**	**145.06**	**32**	*e*PKiKP	**PKPbc**	**03 56 24.4**	**-0.8**
VORD				pmax	pmax		
	comp=Z,20nm,0.2s						
GYA	**Guiyang**	**145.33**	**282**	PKPbc	**PKPbc**	**03 56 25.2**	**-1.9**
SIM	**Simferopol'**	**145.34**	**45**	*e*PKiKP	**PKPbc**	**03 56 26.6**	**+0.2**
SIM				pmax	pmax		
	comp=Z,84nm,1.2s						
VRH	**Novokhoyorsk**	**146.06**	**30**	*e*PKiKP	**PKPdf**	**03 56 29.1**	**+1.6**
VRH				pmax	pmax		
	comp=Z,116nm,1.5s						
VRH				pmax	pmax		
	comp=Z,3μm,20.9s						
ANTO	**Ankara**	**146.26**	**54**	⇑P	**PKPbc**	**03 56 30.9**	**+1.4**
ANTO	**Ankara**	**146.26**	**54**	⇑PKP2	**PKPbc**	**03 56 30.9**	**+1.4**
SVE	**Sverdlovsk**	**146.82**	**8**	*e*PKP2	**PKiKP**	**03 56 34.9**	**+1.8**
SVE				pmax	pmax		
	comp=Z,38nm,1.1s						
ARU	**Arti**	**146.92**	**10**		**PKPdf**	**03 56 28.7**	**-0.2**
ARU	**Arti**	**146.92**	**10**	PKPbc	**PKPdf**	**03 56 30.5**	**+1.7**
	comp=Z,7.4nm,0.2s,baz=320,slow=2.3,SNR=27						
ARU	**Arti**	**146.92**	**10**	*i* PKP2	**PKPdf**	**03 56 30.2**	**+1.4**
ARU						03 59 50.0	
ARU				SS	SS	04 18 46.4	-7.4
BR131	**Keskin Array S**	**146.93**	**54**	*e*PKP2	**PKPdf**	**03 56 31.6**	**+2.0**
BRTR	**Keskin Array B**	**146.93**	**54**		**PKPdf**	**03 56 29.9**	**+0.3**
BRTR	**Keskin Array B**	**146.93**	**54**	PKPbc	**PKPdf**	**03 56 31.6**	**+2.0**
	comp=Z,11nm,1.0s,baz=222,slow=1.7,SNR=34						
BRTR				PP	**PP**	**03 59 56.0**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=260,slow=4.1,SNR=3.7						
LZH	**Lanzhou**	**147.19**	**300**	*e*PKPbc	**PKPdf**	**03 56 32.6**	**+2.4**
LZH				PKPab	**pPKPbc**	**03 56 37.4**	**+2.1**
LZH				LR	LR		
	comp=Z,150nm,19.2s						
LZH				LR	LR		
	comp=Z,300nm,20.0s						
LZH				LR	LR		
	comp=Z,410nm,21.0s						
DIKM	**Dikmen**	**147.43**	**49**	⇑P	**PKPab**	**03 56 35.4**	**+0.8**
BELG	**Belogornoye**	**147.64**	**24**	PKPbc	**PKPdf**	**03 56 30.9**	**+0.8**
	comp=Z,77nm,1.0s,baz=101,slow=1.9,SNR=9.7						
BELG	**Belogornoye**	**147.64**	**24**	*ce*PKP2	**PKPdf**	**03 56 31.6**	**+1.5**
ZALV	**Zalesovo Beam**	**147.71**	**342**		**PKPdf**	**03 56 30.4**	**+0.2**
ZALV	**Zalesovo Beam**	**147.71**	**342**	PKPbc	**PKPdf**	**03 56 29.8**	**-0.4**
	comp=Z,6.8nm,0.5s,baz=26,slow=3.3,SNR=32						
ZALV				PP	**PP**	**03 59 59.9**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=38,slow=8.0,SNR=1.9						
CSS	**Mathiatis**	**147.84**	**62**	PKPbc	**PKPdf**	**03 56 32.7**	**+1.6**
CD2	**Chengdu**	**147.94**	**290**	PKPbc	**PKPbc**	**03 56 36.3**	**+1.8**
CD2				pPKP	PKiKP	03 56 37.4	+1.1
CD2				PP	**PP**	**04 00 06.3**	**+4.0**
CD2				SKS	**SKSdf**	**04 03 38.9**	**-1.2**
CD2				SKKS	**SKKSac**	**04 06 49.2**	**-4.8**
CD2				AMB	AMB		
	comp=Z,100nm,6.1s						
CD2				LR	LR		
	comp=Z,230nm,16.3s						
CD2				LR	LR		
	comp=Z,280nm,22.2s						
CD2				LR	LR		
	comp=Z,190nm,20.8s						
KMI	**Kunming**	**148.74**	**279**	⇓PKPbc	**PKPdf**	**03 56 36.4**	**+3.3**
KMI				LR	LR		
	comp=Z,110nm,17.0s						
KMI				LR	LR		
	comp=Z,180nm,21.7s						
KMI				LR	LR		
	comp=Z,230nm,21.3s						
TOKA	**Tokat**	**148.78**	**51**	PKPbc	**PKPdf**	**03 56 34.1**	**+1.6**
BNN	**Bunyan**	**148.83**	**54**		**PKPdf**	**03 56 34.5**	**+1.8**
GTA	**Gaotai**	**149.36**	**307**	PKPbc	**PKPbc**	**03 56 37.7**	**-0.3**
GTA				pPKP	PKiKP	03 56 41.5	+2.4
GTA				LR	LR		
	comp=Z,100nm,20.4s						
GTA				LR	LR		
	comp=Z,230nm,21.1s						
GTA				LR	LR		
	comp=Z,290nm,22.5s						
SOC	**Sochi**	**149.53**	**43**	*e*PKiKP	**PKPdf**	**03 56 34.6**	**+1.1**
SOC				*e*		04 00 17.7	
SOC				*e*PPP	PPP	04 03 32.0	
SOC				*e*SS	SS	04 19 27.3	+2.4
SOC				*e*SSS	SSS	04 25 07.0	
SOC				pmax	pmax		
	comp=Z,32nm,1.3s						
SOC				MLR	MLR		
	comp=Z,82nm,16.0s						
PZH	**PanZhiHua**	**149.73**	**282**	PKPbc	**PKPdf**	**03 56 36.8**	**+2.2**
PZH				PP	**PP**	**04 00 16.1**	**+3.0**
PZH				AMB	AMB		
	comp=Z,100nm,5.5s						
PZH				LR	LR		
	comp=Z,140nm,21.6s						
PZH				LR	LR		
	comp=Z,160nm,23.5s						
PZH				LR	LR		
	comp=Z,280nm,24.5s						
PHRA	**Phrae**	**149.79**	**266**		**PKPdf**	**03 56 36.7**	**+2.0**
MMAI	**Mount Meron Ar**	**149.85**	**65**	PKPbc	**PKPbc**	**03 56 38.6**	**-0.7**
	comp=Z,14nm,0.9s,baz=256,slow=3.4,SNR=10						
GOF	**Gofitskoye**	**150.70**	**38**	*ce*PKiKP	**PKPbc**	**03 56 41.5**	**+0.7**
KTUT	**Trabzon**	**150.80**	**48**	⇑P	**PKiKP**	**03 56 46.3**	**+4.4**
CMAR	**Chiang Mai Arr**	**150.95**	**265**	PKPdf	**PKPdf**	**03 56 33.9**	**-2.6**
CMAR	**Chiang Mai Arr**	**150.95**	**265**	PKPbc	**PKPbc**	**03 56 41.1**	**-1.1**
	comp=Z,9.1nm,0.9s,baz=141,slow=0.6,SNR=25						
CMAR	**Chiang Mai Arr**	**150.95**	**265**	PKiKP	**PKPdf**	**03 56 33.9**	**-2.6**
BRVK	**Borovoye**	**151.04**	**358**		**PKPdf**	**03 56 34.7**	**-0.9**
BRVK				PKPbc	**sPKPdf**	**03 56 41.0**	**+1.5**
BRVK	**Borovoye**	**151.04**	**358**	PKiKP	**PKPdf**	**03 56 34.7**	**-0.9**
BRVK						03 56 41.0	
BVAR	**Borovoye Array**	**151.06**	**357**	PKP	**PKPdf**	**03 56 34.5**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=235,slow=44,SNR=3.5						
BVAR				PKPbc	**pPKPdf**	**03 56 40.5**	**+2.0**
	comp=Z,9.9nm,0.8s,baz=72,slow=4.8,SNR=36						
BVAR				PP	**PP**	**04 00 19.6**	**+1.0**
	comp=Z,0.5nm,0.4s,baz=30,slow=6.7,SNR=3.0						
KIV	**Kislovodsk**	**151.14**	**40**	⇑P	**PKiKP**	**03 56 47.2**	**+4.6**
KIV	**Kislovodsk**	**151.14**	**40**	*e*PKiKP	**PKPdf**	**03 56 35.1**	**-1.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KBZ	**Khabaz**	**151.40**	**41**	PKPbc	**PKPbc**	**03 56 42.0**	**-0.5**
	comp=Z,19nm,0.9s,baz=286,slow=1.8,SNR=25						
KBZ	**Khabaz**	**151.40**	**41**	*c i*PKiKP	**PKPdf**	**03 56 38.5**	**+2.1**
BCA	**Borcka**	**151.82**	**46**	⇑P	**PKPbc**	**03 56 43.2**	**-0.4**
KURK	**Kurchatov**	**152.25**	**346**		**PKPdf**	**03 56 35.6**	**-1.9**
KURK	**Kurchatov**	**152.25**	**346**	*c i*PKiKP	**PKPdf**	**03 56 38.0**	**+0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.3s						
KURBB	**Kurchatov Arra**	**152.35**	**346**	PKP	**PKPdf**	**03 56 36.8**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=345,slow=1.2,SNR=7.9						
KURBB				PKPbc	**sPKPdf**	**03 56 43.0**	**+1.6**
	comp=Z,6.2nm,0.7s,baz=23,slow=1.8,SNR=34						
KURBB				PP	**PP**	**04 00 26.4**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=20,slow=5.3,SNR=4.1						
AKTO	**Aktyubinsk**	**152.51**	**14**	PKP	**PKPdf**	**03 56 37.2**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=337,slow=3.0,SNR=4.5						
AKTO				PKPbc	**sPKPdf**	**03 56 44.1**	**+2.3**
	comp=Z,10nm,0.9s,baz=320,slow=2.5,SNR=17						
AKTO				PP	**PP**	**04 00 28.3**	**+1.4**
	comp=Z,0.9nm,0.5s,baz=12,slow=8.7,SNR=5.3						
MARD	**Mardin**	**153.01**	**54**	PKPdf	**PKPdf**	**03 56 36.4**	**-2.8**
GROC	**Groznyy**	**153.40**	**39**	*e*PKiKP	**PKPbc**	**03 56 45.1**	**-1.9**
GROC				pmax	pmax		
	comp=Z,24nm,1.3s						
ABKAR	**Akbulak array**	**154.03**	**13**	PKPdf	**PKPdf**	**03 56 39.6**	**-0.5**
ABKAR	**Akbulak array**	**154.03**	**13**		**PKPdf**	**03 56 38.0**	**-2.1**
GOMU	**GeErMu**	**154.19**	**304**	PKPbc	**PKPbc**	**03 56 48.2**	**-1.3**
GEVA	**Gevas**	**154.26**	**51**	PKPdf	**PKPdf**	**03 56 39.5**	**-1.6**
WMQ	**Urumqi**	**154.70**	**326**	*e*PKPbc	**PKPdf**	**03 56 40.1**	**-1.3**
WMQ				pPKP	PKiKP	03 56 51.7	+1.8
WMQ				LR	LR		
	comp=Z,250nm,24.2s						
MK31	**Makanchi Array**	**154.72**	**337**		**PKPdf**	**03 56 39.5**	**-1.8**
MK31	**Makanchi Array**	**154.72**	**337**	PKiKP	**PKPdf**	**03 56 39.5**	**-1.8**
MKAR	**Makanchi Array**	**154.72**	**337**		**PKPdf**	**03 56 39.8**	**-1.4**
MKAR	**Makanchi Array**	**154.72**	**337**	PKP	**PKPdf**	**03 56 40.0**	**-1.2**
	comp=Z,1.0nm,1.0s,baz=29,slow=2.8,SNR=6.0						
MKAR				PKPbc	**sPKPdf**	**03 56 48.2**	**+3.1**
	comp=Z,2.5nm,0.7s,baz=28,slow=2.1,SNR=15						
MKAR				PP	**PP**	**04 00 35.8**	**-3.9**
	comp=Z,2.3nm,1.2s,baz=46,slow=5.2,SNR=5.1						
MAKZ	**Makanchi**	**154.82**	**338**	PKPdf	**PKPdf**	**03 56 39.6**	**-1.8**
MAKZ	**Makanchi**	**154.82**	**338**	PKiKP	**PKPdf**	**03 56 39.6**	**-1.8**
RAYN	**Ar Rayn**	**159.12**	**87**	PKPdf	**PKPdf**	**03 56 45.2**	**-2.4**
RAYN	**Ar Rayn**	**159.12**	**87**	PKiKP	**PKPdf**	**03 56 48.2**	**+0.6**
TARG	**Taragay, Kyrgy**	**160.71**	**338**	PKiKP	**PKPdf**	**03 56 50.3**	**+1.0**
AAK	**Ala-Archa**	**160.81**	**346**		**PKPdf**	**03 56 47.3**	**-1.8**
AAK	**Ala-Archa**	**160.81**	**346**	PKiKP	**PKPdf**	**03 56 47.3**	**-1.8**
KK31	**Karatay Array**	**160.95**	**355**		**PKPab**	**03 57 29.4**	**-2.2**
KK31	**Karatay Array**	**160.95**	**355**	PKP2	**PKPab**	**03 57 29.4**	**-2.2**
KKAR	**Karatay Array**	**160.95**	**355**		**PKPab**	**03 57 29.1**	**-2.5**
KKAR	**Karatay Array**	**160.95**	**355**	PKP2	**PKPab**	**03 57 29.1**	**-2.5**
GEYT	**Alibeck**	**163.68**	**30**	PKP	**PKPdf**	**03 56 52.4**	**+0.4**
	comp=Z,3.4nm,0.7s,baz=236,slow=6.9,SNR=7.4						
CHGR	**Chuyangaron**	**165.46**	**357**	PKPab	**PKPab**	**03 57 50.1**	**-1.4**
CHGR	**Chuyangaron**	**165.46**	**357**	PKP2	**PKPab**	**03 57 50.1**	**-1.4**
SIMJ	**Simiganj**	**165.46**	**358**	PKPab	**PKPab**	**03 57 50.5**	**-1.1**

*IDC **04** 03:53:59.5±1.2, 41.°96S×85.°01E, h0km, mb3.9/7, mbtmp3.9/7, MS4.1/14, Error ellipse: s-maj=40.7km s-min=25.0km az=93.0*

*GCMT **04** 03:54:04.0±0.3, 41.°76S±0.°02×84.°96E±0.°02, h19km±1km, MW5.0/106, Moment Tensor Solution. s36,c40; s106,c138; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-0.50±.13; Mθθ3.23±.13; Mϕϕ-2.73±.11; Mrθ-0.72±.28; Mθϕ-0.60±.10; Mϕr1.43±.28; Best double couple: M0 3.46300×10^16^ NP1:ϕs138.00000°, δ82.00000°, λ-28.00000°. NP2:ϕs233.00000°, δ62.00000°, λ-171.00000°. Principal axes: T 3.4890, Plg13.0000°, Azm189.0000°; N -0.0520, Plg61.0000°, Azm303.0000°; P -3.4360, Plg26.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 04 03:54:01.1±1.2, 42.°0S±0.°2×85.°0E±0.°3, h10km, n32, σ0s54/7, mb4.1/7, MS4.2/14, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**23.78**	**82**	T	T	04 23 48.6	
	baz=244,slow=74,SNR=102						
H01W3	**Cape Leeuwin H**	**23.79**	**82**	T	T	04 23 49.2	
	baz=244,slow=74,SNR=100						
H01W1	**Cape Leeuwin H**	**23.80**	**82**	T	T	04 23 49.9	
	baz=244,slow=74,SNR=119						
H04S1	**CROZET ISLANDS**	**24.05**	**247**	T	T	04 24 20.7	
	baz=89,slow=75,SNR=11						
H04S2	**CROZET ISLANDS**	**24.07**	**247**	T	T	04 24 19.7	
	baz=89,slow=75,SNR=69						
H04S3	**CROZET ISLANDS**	**24.07**	**247**	T	T	04 24 18.4	
	baz=89,slow=75,SNR=48						
H04N2	**CROZET ISLANDS**	**24.14**	**249**	T	T	04 24 21.2	
	baz=91,slow=75,SNR=514						
H04N3	**CROZET ISLANDS**	**24.16**	**249**	T	T	04 24 20.6	
	baz=91,slow=75,SNR=673						
H04N1	**CROZET ISLANDS**	**24.16**	**249**	T	T	04 24 22.9	
	baz=91,slow=75,SNR=327						
NWAO	**Narrogin (SRO)**	**26.98**	**81**	LR	LR	04 07 54.9	
	comp=Z,320nm,21.8s,baz=208,slow=31						
H08S2	**Diego Garcia H**	**35.94**	**338**	T	T	04 38 27.7	
	baz=164,slow=76,SNR=168						
H08S1	**Diego Garcia H**	**35.95**	**338**	T	T	04 38 28.7	
	baz=164,slow=76,SNR=129						
H08S3	**Diego Garcia H**	**35.96**	**338**	T	T	04 38 30.4	
	baz=164,slow=76,SNR=220						
LEM	**Lembang**	**40.32**	**36**	LR	LR	04 14 53.6	
	comp=Z,198nm,19.8s,baz=182,slow=31						
ASAR	**Alice Springs**	**44.30**	**81**	P	**P**	**04 02 10.8**	**-0.4**
	1.4nm,0.8s,baz=229,slow=8.6,SNR=3.7						
	1.4nm,0.8s						
STKA	**Stephens Creek**	**45.59**	**96**	LR	LR	04 19 08.6	
	comp=Z,246nm,19.4s,baz=214,slow=33						
VNDA	**Vanda**	**46.59**	**163**	P	**P**	**04 02 28.8**	**+0.2**
	0.4nm,0.6s,baz=269,slow=6.1,SNR=2.3						
VNDA				LR	LR	04 20 13.8	
	comp=Z,200nm,19.5s,baz=268,slow=34						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**46.89**	**78**	P	**P**	**04 02 31.9**	**+0.2**
	2.6nm,0.9s,baz=234,slow=8.5,SNR=9.1						
	2.6nm,0.9s						
QSPA	**South Pole Qui**	**48.19**	**180**	P	**P**	**04 02 41.3**	**-0.1**
	2.8nm,1.0s,baz=290,slow=3.2,SNR=6.8						
	2.8nm,1.0s						
PALK	**Pallekele**	**49.16**	**354**	LR	LR	04 18 26.0	
	comp=Z,463nm,21.5s,baz=293,slow=30						
LBTB	**Lobatse**	**51.38**	**270**	LR	LR	04 20 58.8	
	comp=Z,139nm,19.0s,baz=192,slow=32						
CMAR	**Chiang Mai Arr**	**61.48**	**15**	P	**P**	**04 04 18.3**	**+0.4**
	0.8nm,0.3s,baz=203,slow=6.7,SNR=6.1						
	0.8nm,0.3s						
WSAR	**Wadi Sarin**	**69.33**	**334**	LR	LR	04 29 02.9	
	comp=Z,182nm,19.7s,baz=184,slow=30						
DZM	**Mont Dzumac**	**69.37**	**101**	LR	LR	04 31 56.5	
	comp=Z,78nm,18.6s,baz=216,slow=33						
PMSA	**Palmer Station**	**70.87**	**193**	LR	LR	04 35 51.8	
	comp=Z,167nm,19.9s,baz=147,slow=36						
JOW	**Kunigami**	**79.26**	**39**	LR	LR	04 39 47.6	
	comp=Z,368nm,21.8s,baz=124,slow=35						
AAK	**Ala-Archa**	**84.76**	**352**	LR	LR	04 41 14.4	
	comp=Z,94nm,19.1s,baz=113,slow=34						
JNU	**Nakatsue**	**85.77**	**37**	LR	LR	04 48 14.3	
	comp=Z,148nm,18.0s,baz=97,slow=38						
KSRS	**Korea Array**	**88.20**	**33**	LR	LR	04 40 45.1	
	comp=Z,53nm,21.9s,baz=90,slow=32						
MKAR	**Makanchi Array**	**88.41**	**358**	P	**P**	**04 06 52.0**	**-0.8**
	0.6nm,0.8s,baz=182,slow=5.6,SNR=4.7						
	0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**92.38**	**356**	P	**P**	**04 07 11.4**	**+0.2**
	0.7nm,0.9s,baz=190,slow=5.4,SNR=5.4						
	0.7nm,0.9s						
PLCA	**Paso Flores**	**94.76**	**198**	LR	LR	04 49 54.0	
	comp=Z,101nm,19.7s,baz=166,slow=35						

*JMA **04** 03:58:52.5±0.1, 24.°N±2.°×122.°6E±0.°5, h38km±4km, MV3.2/14, NW OFF ISHIGAKIJIMA IS*
*TAP **04** 03:58:52.6, 24.°09N×122.°64E, h46km, ML3.7, C*
*ASIES **04** 03:58:52.6, 24.°09N×122.°64E, h46km, ML3.7, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^20^Nm; Mrr5.20; Mθθ4.85; Mϕϕ-9.67; Mrθ-5.20; Mθϕ-2.42; Mϕr5.81; Fault plane solution: M0 11.77970×10^20^ NP1: ϕs334.03000°, δ73.00000°, λ50.33000°. NP2: ϕs224.61000°, δ42.61000°, λ154.40000°. Principal axes: T Plg46.6570°, Azm202.9040°; N Plg37.6290°, Azm347.6740°; P Plg18.2750°, Azm92.4220°;*

ISC 04 03:58:51.5±0.9, 23.°98N±0.°02×122.°62E±0.°02, h20km±7km, n132, σ0s89/262, 1C-14D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.30**	**297**	*i* P	**Pn**	**03 59 01.3**	**+0.9**
	baz=276						
EOS4				*e* S	**Sn**	**03 59 07.4**	**+1.3**
	baz=276						
EOS3	**EOS3**	**0.41**	**318**	P	**Pn**	**03 59 02.4**	**+0.3**
	baz=304						
EOS3				*

LATG				*e*S	**Sn**	03 59 27.5	+0.1
	baz=282							
WARBT	**Fenglin Townsh**	1.16 257	⇓	*i* P	**Pn**	03 59 12.3	-0.2
	baz=252							
WARBT				S	**Sb**	03 59 27.4	0.0
	baz=252							
ENTT	**Nioudou**	1.16 305		*i* P	**Pb**	03 59 12.8	-0.1
	baz=300							
ENTT				S	**Sb**	03 59 27.6	+0.1
	baz=300							
TWB1	**Santiao Chiao**	1.17 331		*i* P	**Pn**	03 59 12.0	-0.7
	baz=328							
TWB1				*i* S	**Sb**	03 59 26.2	-1.5
	baz=328							
NDT	**Datong Townshi**	1.18 302		P	**Pb**	03 59 13.2	0.0
	baz=287							
NDT				S	**Sn**	03 59 28.8	+0.5
	baz=287							
HGSD	**Ruisui**	1.20 246		P	**Pb**	03 59 13.3	-0.2
	baz=241							
HGSD				S	**Sb**	03 59 28.3	-0.2
	baz=241							
NNSB	**Datong**	1.21 292		P	**Pn**	03 59 13.4	+0.1
	baz=287							
NNSB				*e*S	**Sn**	03 59 29.3	+0.1
	baz=287							
NNSH	**Datong**	1.21 292		P	**Pb**	03 59 13.6	-0.1
	baz=287							
NNSH				*e*S	**Sb**	03 59 29.2	+0.2
	baz=287							
FUSB	**Fushanzhiwuyua**	1.22 310		P	**Pb**	03 59 13.7	-0.1
	baz=305							
FUSB				S	**Sb**	03 59 29.6	+0.5
	baz=305							
NNS	**Nan Shan**	1.22 292		*i* P	**Pn**	03 59 13.4	-0.1
	baz=287							
NNS				*e*S	**Sb**	03 59 33.4	+4.0
	baz=287							
WHF	**Hehuan Shan**	1.25 278		*i* P	**Pn**	03 59 14.2	+0.1
	baz=273							
WHF				*i* S	**Sn**	03 59 30.1	-0.4
	baz=273							
ECBN	**Changbin**	1.26 238		P	**Pb**	03 59 14.6	+0.2
	baz=234							
ECBN				S	**Sb**	03 59 30.2	0.0
	baz=234							
EHYH	**Wanrong**	1.26 248		P	**Pb**	03 59 14.7	+0.2
	baz=243							
EHYH				S	**Sb**	03 59 30.8	+0.4
	baz=243							
EHY	**Hungye**	1.28 248	⇓	*i* P	**Pb**	03 59 14.6	-0.2
	baz=257							
EHY				*i* S	**Sn**	03 59 30.4	-0.3
	baz=257							
FUSS	**Fushou**	1.28 282		*i* P	**Pn**	03 59 14.8	+0.3
	baz=266							
FUSS				*e*S	**Sb**	03 59 32.0	+0.9
	baz=266							
NWLT	**Wulai**	1.29 308		*i* P	**Pn**	03 59 14.6	+0.3
	baz=315							
NWLT				*e*S	**Sn**	03 59 30.6	-0.4
	baz=315							
SXI1	**Grass Mountain**	1.29 329		*i* P	**Pn**	03 59 14.0	-0.5
	baz=335							
SXI1				*i* S	**Sn**	03 59 29.6	-1.6
	baz=335							
JKRS	**Kuro-shima**	1.30 78		*e*P	**Pb**	03 59 15.1	-0.1
JKRS				*e*S	**Sb**	03 59 32.4	+1.0
OWD	**Renai**	1.32 269	⇑	*i* P	**Pb**	03 59 15.3	-0.3
	baz=276							
OWD				S	**Sn**	03 59 31.5	-0.4
	baz=276							
CHGB	**Renai**	1.32 274	⇓	*i* P	**Pb**	03 59 15.4	-0.3
	baz=269							
CHGB				S	**Sn**	03 59 32.0	0.0
	baz=269							
YHNB	**Yeheng**	1.32 301	⇓	*i* P	**Pn**	03 59 15.1	+0.3
	baz=297							
YHNB				*e*S	**Sn**	03 59 31.7	-0.3
	baz=297							
NWF	**Wu-fen Shan**	1.32 325		P	**Pn**	03 59 14.6	-0.3
	baz=322							
NWF				*e*S	**Sn**	03 59 29.5	-2.5
	baz=322							
WFSB	**Wu-fen Shan**	1.32 325		P	**Pn**	03 59 14.3	-0.5
	baz=322							
WFSB				S	**Sn**	03 59 30.0	-1.8
	baz=322							
NSK	**Sanguang**	1.34 301	⇓	*i* P	**Pn**	03 59 15.1	+0.1
	baz=297							
NSK				*e*S	**Sb**	03 59 33.4	+0.7
	baz=297							
TWT	**Tachien**	1.34 282		*i* P	**Pb**	03 59 16.2	+0.1
	baz=267							
TWT				*e*S	**Sb**	03 59 33.1	+0.3
	baz=267							
YULB	**Yu-li**	1.34 244		P	**Pb**	03 59 15.6	-0.3
	baz=232							
YULB				S	**Sn**	03 59 32.5	+0.1
	baz=232							
EYUL	**Yuli**	1.35 242		P	**Pb**	03 59 16.1	0.0
	baz=238							
EYUL				S	**Sb**	03 59 33.3	+0.5
	baz=238							
TWF1	**Yuli**	1.36 243	⇓	*i* P	**Pb**	03 59 16.2	-0.1
	baz=239							
TWF1				S	**Sb**	03 59 33.6	+0.4
	baz=239							
CHKH	**Chenggong**	1.37 235		P	**Pn**	03 59 15.5	+0.1
	baz=223							
CHKH				S	**Sn**	03 59 31.8	-1.1
	baz=223							
VWDT	**VWDT**	1.37 261		*i* P	**Pb**	03 59 16.4	0.0
	baz=257							
VWDT				S	**Sn**	03 59 33.1	+0.1
	baz=257							
WUSB	**Renai**	1.37 271	⇓	P	**Pb**	03 59 16.2	-0.3
	baz=266							
WUSB				S	**Sn**	03 59 32.6	-0.6
	baz=266							
TNOU	**National Taiwa**	1.39 327		P	**Pn**	03 59 15.0	-0.8
	baz=324							
TNOU				S	**Sn**	03 59 31.3	-2.2
	baz=324							
TATO	**Taipei**	1.43 314		*e*P	**Pn**	03 59 16.6	+0.4
	baz=323							
TATO				*e*S	**Sn**	03 59 33.9	-0.4
	baz=323							
JIJ	**Ishigaki jima**	1.45 74		*e*P	**Pn**	03 59 16.2	-0.3
JIJ				*e*S	**Sn**	03 59 33.5	-1.3
CHKT	**Chengkung**	1.45 233		*i* P	**Pb**	03 59 17.1	-0.6
	baz=220							
CHKT				*i* S	**Sn**	03 59 33.8	-1.0
	baz=220							
NFF	**Wufeng Townshi**	1.51 296		*i* P	**Pb**	03 59 18.7	-0.1
	baz=292							
NFF				*e*S	**Sn**	03 59 36.7	+0.1
	baz=292							
WPL	**Puli Township**	1.52 271		P	**Pn**	03 59 17.5	+0.1
	baz=268							
WPL				S	**Sn**	03 59 37.0	+0.3
	baz=268							
SSLB	**Suanglung**	1.53 263		P	**Pb**	03 59 18.6	-0.6
	baz=259							
SSLB				*e*S	**Sn**	03 59 37.3	+0.2
	baz=259							
EHD	**Haiduan**	1.54 238		P	**Pn**	03 59 18.1	+0.4
	baz=248							
EHD				S	**Sn**	03 59 37.0	-0.1
	baz=248							
WHP	**Taichung City**	1.55 281		P	**Pb**	03 59 20.4	+0.8
	baz=268							
WHP				S	**Sb**	03 59 39.0	+0.1
	baz=268							
ECS	**Chishang**	1.56 236		P	**Pb**	03 59 19.3	-0.3
	baz=223							
ECS				S	**Sb**	03 59 39.5	+0.6
	baz=223							
TWS1	**Kuangyinshan**	1.56 316		P	**Pn**	03 59 18.7	+0.7
	baz=325							
TWS1				S	**Sb**	03 59 38.6	-0.3
	baz=325							
WCS	**Beigang Elemen**	1.56 273		P	**Pb**	03 59 19.1	-0.5
	baz=269							
WCS				*e*S	**Sn**	03 59 38.0	+0.4
	baz=269							
EDH	**Donghe**	1.57 230		P	**Pn**	03 59 18.8	+0.6
	baz=220							
EDH				S	**Sn**	03 59 37.4	-0.5
	baz=220							
SMLT	**Sun Moon Lake**	1.57 267	⇓	*i* P	**Pb**	03 59 19.4	-0.5
	baz=263							
SMLT				*e*S	**Sn**	03 59 38.7	+0.6
	baz=263							
TWY	**Chenhua**	1.58 325		P	**Pn**	03 59 18.2	-0.1
	baz=322							
TWY				*e*S	**Sn**	03 59 37.4	-0.9
	baz=322							
LIOB	**Emei**	1.60 295		*i* P	**Pb**	03 59 20.1	-0.3
	baz=291							
LIOB				*e*S	**Sb**	03 59 40.1	0.0
	baz=291							
NSTT	**Nanjuang**	1.61 294		*i* P	**Pb**	03 59 20.0	-0.5
	baz=291							
NSTT				S	**Sb**	03 59 39.9	-0.5
	baz=291							
TYC	**Yuchr**	1.61 268		*i* P	**Pb**	03 59 20.0	-0.5
	baz=264							
TYC				S	**Sn**	03 59 39.5	+0.6
	baz=264							
WHYT	**Xinyi Township**	1.64 260		*i* P	**Pb**	03 59 20.8	-0.2
	baz=248							
WHYT				S	**Sb**	03 59 41.2	0.0
	baz=248							
JISG	**Ishigakijimahi**	1.66 68		P	**Pn**	03 59 19.0	-0.4
JISG				S	**Sn**	03 59 39.5	-0.6
ELDTW	**Lidau**	1.67 242		*i* P	**Pn**	03 59 20.1	+0.5
	baz=238							
ELDTW				*i* S	**Sn**	03 59 39.8	-0.7
	baz=238							
LDUT	**Ludao**	1.68 219		P	**Pn**	03 59 20.2	+0.6
	baz=216							
LDUT				S	**Sn**	03 59 39.5	-1.0
	baz=216							
PCYT	**Pengchaiyu**	1.71 343		P	**Pn**	03 59 19.1	-1.1
	baz=342							
PCYT				*e*S	**Sn**	03 59 40.9	-0.5
	baz=342							
TWQ1	**Liyutan**	1.72 283		*i* P	**Pb**	03 59 21.9	-0.5
	baz=279							
TWQ1				S	**Sb**	03 59 44.6	+1.0
	baz=279							
ALS	**Alishan**	1.72 255		*i* P	**Pb**	03 59 22.2	-0.4
	baz=251							
ALS				*i* S	**Sn**	03 59 43.0	+0.8
	baz=251							
LONT	**Longtian**	1.73 232		P	**Pn**	03 59 21.4	+0.9
	baz=241							
LONT				S	**Sn**	03 59 42.0	0.0
	baz=241							
WJS	**Zhushan**	1.73 265		*e*P	**Pb**	03 59 21.8	-0.9
	baz=262							
WJS				S	**Sb**	03 59 45.1	+1.2
	baz=262							
NSY	**Sanyi**	1.75 285		*i* P	**Pb**	03 59 22.2	-0.6
	baz=282							
NSY				S	**Sb**	03 59 44.1	-0.2
	baz=282							
WNT	**Mingjian**	1.77 267		*i* P	**Pb**	03 59 23.5	+0.2
	baz=264							
WNT				*i* S	**Sb**	03 59 45.7	+0.7
	baz=264							
TCU	**Taichung**	1.78 276		P	**Pb**	03 59 23.2	-0.2
	baz=273							
TCU				*e*S	**Sb**	03 59 44.9	-0.4
	baz=273							
CHN5	**Tsauling**	1.82 258		*i* P	**Pb**	03 59 23.9	-0.2
	baz=255							
CHN5				S	**Sb**	03 59 46.9	+0.5
	baz=255							
TTN	**Taitung**	1.82 228		P	**Pb**	03 59 23.5	-0.6
	baz=216							
TTN				*i* S	**Sb**	03 59 45.5	-1.0
	baz=216							
TWGBT	**Beinan**	1.83 231		P	**Pn**	03 59 22.5	+0.8
	baz=240							
TWGBT				*e*S	**Sn**	03 59 44.2	-0.1
	baz=240							
TWG	**Pinlang**	1.83 231		*i* P	**Pn**	03 59 22.6	+0.8
	baz=240							
TWG				*i* S	**Sn**	03 59 44.3	0.0
	baz=240							
WDJ	**Dajia District**	1.84 282		P	**Pb**	03 59 23.7	-0.7
	baz=279							
WDJ				S	**Sb**	03 59 45.9	-1.1
	baz=279							
STYH	**Taoyuan**	1.87 245		P	**Pb**	03 59 24.3	-0.7
	baz=235							
STYH				*e*S	**Sn**	03 59 46.3	+0.9
	baz=235							
WCHH	**Zhanghua**	1.88 273		P	**Pb**	03 59 24.9	-0.2
	baz=271							
WCHH				*e*S	**Sb**	03 59 49.2	+1.0
	baz=271							
WGK	**Gukeng**	1.90 261		*i* P	**Pb**	03 59 25.0	-0.5
	baz=259							
WGK				S	**Sb**	03 59 49.2	+0.4
	baz=259							
WCKO	**Fanlu**	1.92 254		P	**Pb**	03 59 25.1	-0.7
	baz=251							
WCKO				*i* S	**Sb**	03 59 49.0	-0.4
	baz=251							
WDLH	**Douliu**	1.93 262		P	**Pb**	03 59 25.6	-0.3
	baz=259							
WDLH				*e*S	**Sb**	03 59 50.0	+0.5
	baz=259							
TPUB	**Ta-pu**	1.94 250		P	**Pb**	03 59 26.1	-0.1
	baz=255							
TPUB				S	**Sb**	03 59 50.1	+0.1
	baz=255							
WTP	**Ta-pu**	1.98 249		*i* P	**Pb**	03 59 26.5	-0.3
	baz=246							
WTP				S	**Sb**	03 59 51.0	0.0
	baz=246							
CHN2	**Minshiung**	2.01 258		P	**Pb**	03 59 27.1	-0.2
	baz=255							
CHN2				S	**Sb**	03 59 53.0	+1.1
	baz=255							
JTJ	**Tarama**	2.01 71		*e*S	**Sn**	03 59 48.2	-0.6
WRL	**Guolierlin Hig**	2.05 268		P	**Pb**	03 59 27.1	-0.9
	baz=276							
WRL				S	**Sb**	03 59 52.2	-0.9
	baz=276							
ECL	**Taimali**	2.06 228		P	**Pb**	03 59 27.2	-0.9
	baz=236							
ECL				S	**Sn**	03 59 49.6	-0.4
	baz=236							
SLGT	**Liugui**	2.06 242		P	**Pb**	03 59 27.4	-0.8
	baz=232							
SLGT				S	**Sb**	03 59 52.8	-0.5
	baz=232							
WTK	**Tuku**	2.06 262		*e*P	**Pb**	03 59 27.6	-0.6
	baz=260							
WTK				*i* S	**Sb**	03 59 53.3	-0.1
	baz=260							
SGST	**Jiashian**	2.07 245		*i* P	**Pb**	03 59 27.6	-0.8
	baz=242							
SGST				*e*S	**Sb**	03 59 53.8	+0.1
	baz=242							
CHN1	**Nanshi**	2.07 248		*i* P	**Pb**	03 59 28.1	-0.3
	baz=245							
CHN1				*i* S	**Sb**	03 59 53.8	+0.1
	baz=245							
TWK	**Hsinying**	2.08 250		*i* P	**Pb**	03 59 27.9	-0.6
	baz=248							
TWK				S	**Sb**	03 59 53.7	-0.2
	baz=248							
SNST	**Tainan City**	2.09 249		P	**Pb**	03 59 28.5	-0.2
	baz=246							
SNST				S	**Sb**	03 59 55.2	+1.1
	baz=246							
LAY	**Lan-yu**	2.17 207		*e*P	**Pn**	03 59 27.5	+1.1
	baz=204							
LAY				S	**Sn**	03 59 51.2	-1.5
	baz=204							
LYUB	**Lan-yu**	2.19 206		P	**Pn**	03 59 26.4	-0.3
	baz=203							
LYUB				S	**Sn**	03 59 51.2	-2.0
	baz=203							
SSD	**Sandimen**	2.20 236		*i* P	**Pb**	03 59 29.1	-1.5
	baz=230							
SSD				S	**Sb**	03 59 56.0	-1.4
	baz=230							
TSMG	**Majia**	2.21 235		P	**Pb**	03 59 29.4	-1.4
	baz=229							
TSMG				S	**Sn**	03 59 54.2	+0.4
	baz=229							
ICHU	**Yijhu**	2.23 254		*i* P	**Pb**	03 59 29.8	-1.3
	baz=253							
ICHU				S	**Sb**	03 59 57.0	-1.2
	baz=253							
SCST	**Cishan**	2.23 241		*e*P	**Pb**	03 59 31.3	+0.2
	baz=228							
SCST				S	**Sb**	03 59 59.6	+1.2
	baz=228							
WSL	**Shuilin Townsh**	2.23 259		P	**Pb**	03 59 29.9	-1.3
	baz=257							
WSL				S	**Sb**	03 59 57.6	-0.8
	baz=257							
MASBT	**Mashibuluo**	2.28 234		P	**Pn**	03 59 29.2	+1.3
	baz=228							
MASBT				S	**Sb**	03 59 58.1	-1.5
	baz=228							
TAWH	**Dawu Township**	2.28 225		P	**Pn**	03 59 29.0	+1.0
	baz=230							
TAWH				S	**Sn**	03 59 55.1	-0.4
	baz=230							
SHHT	**Tainan City**	2.29 246		P	**Pb**	03 59 32.6	+0.5
	baz=254							
SHHT				S	**Sb**	04 00 01.3	+1.3
	baz=254							
CHN8	**Yiju**	2.29 254		*e*P	**Pn**	03 59 29.9	+1.8
	baz=253							
CHN8				S	**Sb**	03 59 59.7	-0.3
	baz=253							
SLIU	**Shizi**	2.43 224		P	**Pn**	03 59 31.1	+1.1
	baz=212							
SLIU				S	**Sn**	03 59 59.7	+0.6
	baz=212							
SCZT	**Fangliau**	2.44 229		P	**Pb**	03 59 32.4	-2.2
	baz=221							
SCZT				S	**Sb**	04 00 02.1	-2.1
	baz=221							
TSCK	**Chigu Township**	2.47 251		*e*P	**Pb**	03 59 33.0	-2.1
	baz=249							
TSCK				*e*S	**Sb**	04 00 02.8	-2.3
	baz=249							
WSSB	**Gushan**	2.54 239		*e*P	**Pb**	03 59 35.3	-1.1
	baz=237							
WSSB				S	**Sb**	04 00 08.5	+1.2
	baz=237							
JMJ2	**Miyako jima3**	2.59 72		*e*S	**Sn**	04 00 03.0	0.0
HEN	**Hengchun**	2.62 222		P	**Pb**	03 59 35.2	-2.6
	baz=218							
HEN				*i* S	**Sn**	04 00 05.4	+1.5
	baz=218							
TWKBT	**Hengchun**	2.63 220		P	**Pn**	03 59 34.8	+2.1
	baz=217							
TWKBT				*i* S	**Sn**	04 00 06.6	+2.6
	baz=217							
WDGT	**Dungji**	2.81 256		*i* P	**Pn**	03 59 37.0	+1.9
	baz=255							
WDGT				*i* S	**Sn**	04 00 09.0	+0.6
	baz=255							
PHUB	**P'eng-hu**	2.83 261		*i* P	**Pn**	03 59 37.0	+1.5
	baz=273							
PHUB				*i* S	**Sn**	04 00 09.8	+0.8
	baz=273							
PNG	**Penghu**	2.83 262		*i* P	**Pn**	03 59 36.9	+1.3
	baz=274							
PNG				*e*S	**Sn**	04 00 10.5	+1.4
	baz=274							
VCHM	**Qimei**	3.02 256		P	**Pn**	03 59 39.8	+1.6
	baz=255							
VCHM				*e*S	**Sn**	04 00 15.2	+1.4
	baz=255							
VWUC	**VWUC**	3.05 290		P	**Pn**	03 59 38.3	-0.3
	baz=288							
VWUC				S	**Sn**	04 00 11.4	-3.1
	baz=288							
PTMZ	**Houxiangcun**	3.35 289		P	**Pn**	03 59 42.6	-0.1
	baz=287							
PTMZ				S	**Sn**	04 00 18.7	-3.2
	baz=287							

NAO ***04*** *04:19:18.0±2.5, 71°.98N×0°.24W, ML3.2*
IDC ***04*** *04:19:22.5±4.0, 71°.88N×1°.30E, h0km, mb3.5/1, mbtmp3.5/5, ML2.5/3, MS3.0/6, Error ellipse: s-maj=84.0km s-min=25.6km az=90.0*
BER ***04*** *04:19:23.2±3.7, 72°.06N×0°.30W, h23km±52km, mb(Pn)4.2, ML3.2(NAO)*
ISC 04 04:19:19.2±1.0**, 71°.97N**±0°.09×**0°.09E**±0°.08**, h10**km**, n36, σ2°.20/37, MS3.3/3, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMIC	**Jan Mayen**			**2.92 254**		LR	LR	04 21 02.0	
	comp=Z,73nm,21.2s,baz=253,slow=30								
LOF	**Lofoten**			**6.00 123**		Pn	**Pn**	**04 20 49.9**	**+2.1**
LOF						Sn	**Sn**	**04 21 54.1**	**-2.4**
LOF	**Lofoten**			**6.00 123**	*e*P		**Pn**	**04 20 49.7**	**+1.8**
LOF						IAML		04 22 03.1	
	comp=Z,4.5nm,0.7s								
DBG	**Daneborg**			**6.33 301**		Pn	**Pn**	**04 20 50.2**	**-2.2**
DBG	**Daneborg**			**6.33 301**	*e*P		**Pn**	**04 20 50.2**	**-2.2**
DBG	**Daneborg**			**6.33 301**	*e*		**Pn**	**04 20 49.7**	**-2.8**
	baz=103,slow=16								
DBG					*i* P		**Pn**	**04 20 50.1**	**-2.4**
HSPB	**Hornsund (broa**	**6.51**	**32**			Pn	**Pn**	**04 20 55.2**	**+0.5**
HSPB	**Hornsund (broa**	**6.51**	**32**		*e*P		**Pn**	**04 20 55.3**	**+0.5**
STEI	**Steigen**	**6.59**	**121**		*e*P		**Pn**	**04 20 58.0**	**+2.1**
STEI					*e*S		**Sn**	**04 22 07.9**	**-3.1**
STEI						IAML		04 22 09.2	
	comp=Z,3.7nm,0.4s								
TRO	**Tromso**	**6.63**	**102**		*e*P		**Pn**	**04 20 57.9**	**+1.4**
DAG	**Danmarks Havn**	**6.95**	**322**		*i* P		**Pn**	**04 20 58.3**	**-2.6**
DAG					*e*			04 21 53.9	
DAG						IAML		04 22 10.6	
	comp=Z,3.6nm,0.4s								
BRBB	**Barentsburg B**	**7.12**	**24**			Pn	**Pn**	**04 21 05.3**	**+2.0**
KONS	**Konsvik**	**7.17**	**134**		*e*P		**Pn**	**04 21 05.2**	**+1.3**
KONS					*e*S		**Sn**	**04 22 19.1**	**-6.2**
KONS						IAML		04 22 24.5	
	comp=Z,4.8nm,0.4s								
SCO	**Scoresbysund**	**7.25**	**269**		*e*P		**Pn**	**04 21 04.5**	**-0.4**
SPA0	**Spitsbergen Ar**	**7.48**	**26**			Pn	**Pn**	**04 21 09.5**	**+1.4**
	baz=201,slow=16								
SPA0	**Spitsbergen Ar**	**7.48**	**26**			Pn	**Pn**	**04 21 09.5**	**+1.4**
	baz=201,slow=16								
SPITS	**Spitsbergen Ar**	**7.48**	**26**			Pn	**Pn**	**04 21 09.5**	**+1.4**
	comp=Z,1.5nm,0.4s,baz=209,slow=15,SNR=48								
MOR8	**Moi Rana**	**7.75**	**132**		*e*P		**Pn**	**04 21 14.7**	**+2.8**
MOR8					*e*S		**Sn**	**04 22 37.0**	**-2.5**
MOR8						IAML		04 22 40.9	
	comp=Z,6.4nm,0.3s								
SALU	**Saltoluokta**	**7.87**	**117**		*e*P		**Pn**	**04 21 16.1**	**+2.5**
KTK1	**Kautokeino**	**8.26**	**100**		*e*P		**Pn**	**04 21 20.6**	**+1.7**
ARA0	**ARCESS Array S**	**8.70**	**94**			Pn	**Pn**	**04 21 25.9**	**+0.9**
	baz=295,slow=11								
ARA0	**ARCESS Array S**	**8.70**	**94**			Pn	**Pn**	**04 21 25.9**	**+0.9**
	baz=295,slow=11								
HEF	**Hetta**	**8.72**	**103**			Pn	**Pn**	**04 21 26.4**	**+1.2**
HEF	**Hetta**	**8.72**	**103**		*e*P		**Pn**	**04 21 26.4**	**+1.2**
KEV	**Kevo**	**9.07**	**91**			Pn	**Pn**	**04 21 30.3**	**+0.4**
VADS	**Vadso**	**9.64**	**87**		*e*P		**Pn**	**04 21 38.0**	**+0.3**
SUMG	**Summit**	**11.62**	**291**		*i* P		**Pn**	**04 22 05.4**	**+0.3**
NOA	**NORSAR Array B**	**11.81**	**153**			Pn	**Pn**	**04 22 08.5**	**+1.0**
	baz=350,slow=12,SNR=1.3								
NOA						LR	LR	04 26 41.9	
	comp=Z,51nm,19.7s,baz=320,slow=38								
	comp=Z,0.9nm,0.9s								
HFS	**Hagfors**			**13.05 149**		Pn	**Pn**	**04 22 27.0**	**+2.6**
	baz=342,slow=12								
HFS	**Hagfors**			**13.05 149**		Pn	**Pn**	**04 22 27.0**	**+2.6**
	baz=342,slow=12								
HFS	**Hagfors**			**13.05 149**		Pn	**Pn**	**04 22 25.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=342,slow=14,SNR=4.4								
	comp=Z,1.1nm,0.8s								
FINES	**FINESS Array B**			**14.56 123**		Pn	**Pn**	**04 22 45.4**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=328,slow=16,SNR=0.8								
FINES						LR	LR	04 27 54.2	
	comp=Z,80nm,19.8s,baz=264,slow=36								
	comp=Z,0.7nm,0.7s								
GERES	**GERESS Array B**			**24.03 158**		P	**P**	**04 24 37.6**	**+3.5**
	comp=Z,1.2nm,0.8s,baz=6.7,slow=9.2,SNR=4.3								
	comp=Z,1.2nm,0.8s								
GNI	**Garni**			**38.73 121**		LR	LR	04 43 22.5	
	comp=Z,38nm,18.3s,baz=192,slow=38								
NEW	**Newport**			**52.27 311**		LR	LR	04 50 52.4

comp=Z,4.9nm,18.5s,baz=226,slow=37

*NNC **04** 04:34:00.8±1.6,54.°46N×87.°06E,h0km,mb3.1,mpv2.9, Error ellipse: s-maj=16.1km s-min=8.3km az=178.0, Suspected Mining explosion.*

IDC 04 04:34:03.9±2.8,54.°47N×86.°81E,h0km,mbtmp3.2/2, ML3.0/2,7C-5D,Error ellipse: s-maj=22.8km s-min=16.1km az=54.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**247**	I	I		04 42 08.1	
	baz=66,slow=327,SNR=10							
ZAA0	**Zalesovo Array**	**1.28**	**247**	⇓P	Pg		04 34 26.7	-1.8
	0.3nm,0.3s							
ZAA0				⇓S	Sb		04 34 46.3	+0.3
	1.3nm,0.8s							
ZALV	**Zalesovo Beam**	**1.28**	**247**	Pg	Pg		04 34 27.0	-1.5
	2.2nm,0.3s,baz=62,slow=16,SNR=15							
ZALV				Lg	Lg		04 34 44.9	
	1.9nm,0.3s,baz=65,slow=26,SNR=7.3							
KURK	**Kurchatov**	**6.25**	**236**	⇑Pn	Pn		04 35 34.4	-2.9
	0.6nm,0.4s							
KURK				⇓Lg	Lg		04 37 24.7	
	7.1nm,1.0s							
KURBB	**Kurchatov Arra**	**6.35**	**236**	⇓Pn	Pn		04 35 36.9	-1.8
	1.9nm,0.5s							
KURBB				⇑Lg	Lg		04 37 28.3	
	5.2nm,0.8s							
KURBB	**Kurchatov Arra**	**6.35**	**236**	Pn	Pn		04 35 39.6	+0.9
	0.2nm,0.3s,baz=53,slow=14,SNR=11							
KURBB				Sn	Sn		04 36 51.6	-0.3
	0.1nm,0.3s,baz=34,slow=20,SNR=2.3							
KURBB				Lg	Lg		04 37 27.3	
	0.1nm,0.3s,baz=46,slow=32,SNR=5.6							
	1.4nm,0.4s							
MK31	**Makanchi Array**	**8.21**	**202**	⇑Pn	Pn		04 36 04.5	+0.3
	0.4nm,0.5s,baz=26,slow=13,SNR=11							
MK31				⇑Sn	Sn		04 37 35.6	-2.0
	0.3nm,0.5s							
MK31				⇑Lg	Lg		04 38 21.3	
	5.5nm,1.1s,baz=31,slow=28,SNR=4.8							
MKAR	**Makanchi Array**	**8.21**	**202**	Pn	Pn		04 36 05.3	+1.1
	0.3nm,0.3s,baz=23,slow=13,SNR=12							
MKAR				Sn	Sn		04 37 37.0	-0.6
	0.1nm,0.3s,baz=24,slow=25,SNR=6.0							
MKAR				Lg	Lg		04 38 22.6	
	0.1nm,0.3s,baz=23,slow=25,SNR=2.2							
	0.4nm,0.4s							
MAKZ	**Makanchi**	**8.26**	**204**	⇓Pn	Pn		04 36 03.4	-1.6
	0.2nm,0.3s							
MAKZ				⇑Sn	Sn		04 37 37.6	-1.4
	0.3nm,0.5s							
MAKZ				⇑Lg	Lg		04 38 23.1	
	0.8nm,0.8s							

*IDC **04** 05:36:23.5±20.0,3.°95N×124.°00E,h443km±271km, mb3.3/7,mbtmp4.1/7,Error ellipse: s-maj=225.0km s-min=43.4km az=61.0*

ISC 04 05:36:24.0±1.7,3.°9N±0.°9×12.°4E±.°,h450km,n7,σ0s68/7, mb3.6/7,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
WRA	**Warramunga Arr**	**25.83**	**157**	P	**P**		**05 41 17.4**	**-0.6**
	1.1nm,0.3s,baz=335,slow=9.8,SNR=22							
	1.1nm,0.3s							
ASAR	**Alice Springs**	**29.09**	**161**	P	**P**		**05 41 46.4**	**-0.3**
	0.6nm,0.4s,baz=335,slow=7.0,SNR=6.0							
	0.6nm,0.4s							
STKA	**Stephens Creek**	**39.38**	**156**	P	**P**		**05 43 13.9**	**+0.5**
	1.8nm,0.5s,baz=338,slow=8.9,SNR=3.8							
	1.8nm,0.5s							
MKAR	**Makanchi Array**	**55.81**	**327**	P	**P**		**05 45 18.2**	**+0.9**
	1.6nm,0.5s,baz=124,slow=8.7,SNR=22							
	1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**59.17**	**334**	P	**P**		**05 45 39.8**	**-0.4**
	1.0nm,0.5s,baz=130,slow=5.1,SNR=1.9							
	1.0nm,0.5s							
KURBB	**Kurchatov Arra**	**60.08**	**328**	P	**P**		**05 45 45.9**	**-0.4**
	1.8nm,0.7s,baz=126,slow=6.5,SNR=16							
	1.8nm,0.7s							
BVAR	**Borovoye Array**	**65.63**	**328**	P	**P**		**05 46 22.2**	**-0.1**
	0.9nm,0.5s,baz=128,slow=9.6,SNR=3.7							
	0.9nm,0.5s							

*NEIC **04** 05:38:00.3±1.6,19.°38N±0.°02×154.°81W±0.°03,h5km±2km, Error ellipse: s-maj=5.8km s-min=3.0km az=300.0*

HVO 04 05:38:01.6±1.7,19.°44N±0.°01×154.°89W±0.°03,h3km±7km, ML2.7/13,ML2.7/27(NEIC),Error ellipse: s-maj=4.4km s-min=1.3km az=102.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PHO	**Puu Honuaula**	**0.04**	**357**		Pg		05 38 04.3	+1.7
JOKA	**Jonika Flow**	**0.11**	**266**		Pg		05 38 04.2	+0.4
JOKA					Sg		05 38 06.5	+1.2
JCUZ	**Jacuzzi**	**0.21**	**254**		Pg		05 38 05.7	0.0
NPOC	**North of Pu'u**	**0.21**	**257**		Pg		05 38 05.4	-0.4
STCH	**Steam Cracks**	**0.23**	**256**		Pg		05 38 05.9	-0.2
KNHH	**Kane Nui o Ham**	**0.27**	**257**		Pb		05 38 08.8	-0.5
PUH	**Pauahi**	**0.32**	**258**		Pg		05 38 07.7	-0.1
PUH				IAML			05 38 13.7	
	comp=E,570nm,1.6s							
PUH				IAML			05 38 17.0	
	comp=N,1µm,1.9s							
RSD	**Rainshed**	**0.37**	**273**		Sb		05 38 15.5	-1.7
RSD	**Rainshed**	**0.37**	**273**	Pg	Pg		05 38 08.6	-0.1
RSD				IAML			05 38 15.2	
	comp=E,705nm,0.8s							
HLP	**Hilina Pali**	**0.42**	**250**		Pg		05 38 09.8	+0.1
HLP				IAML			05 38 17.6	
	comp=N,887nm,0.7s							
HLP	**Hilina Pali**	**0.42**	**250**		Sg		05 38 16.8	+1.5
MLH	**Mauna Loa**	**0.47**	**276**	IAML			05 38 18.8	
	comp=E,651nm,1.6s							
MLH	**Mauna Loa**	**0.47**	**276**		Pg		05 38 11.2	+0.4
MLH	**Mauna Loa**	**0.47**	**276**		Sb		05 38 19.6	-0.6
HTC	**Hot Caves**	**0.52**	**247**		Pg		05 38 12.0	+0.4
HMH	**Humu'ula Sheep**	**0.58**	**286**		Pg		05 38 12.9	0.0
MLOA	**Mauna Loa Obse**	**0.66**	**278**		Pg		05 38 13.9	-0.4
MLOA				IAML			05 38 29.1	
	comp=N,313nm,2.0s							
MLOA				IAML			05 38 38.1	
	comp=E,294nm,1.4s							
MWH	**Moku'aweowe**	**0.67**	**274**		Pg		05 38 14.3	-0.2
MWH				IAML			05 38 37.4	
	comp=N,558nm,1.8s							
MWH				IAML			05 38 38.8	
	comp=E,641nm,1.7s							
POHA	**Pohakuloa**	**0.69**	**297**		Pg		05 38 13.4	-1.4
POHA				IAML			05 38 38.0	
	comp=E,524nm,0.6s							
POHA				IAML			05 38 38.3	
	comp=E,533nm,0.6s							
KHU	**Kahuku**	**0.71**	**254**	Pg	Pg		05 38 13.8	-1.6
KHU				IAML			05 38 25.8	
	comp=N,305nm,3.2s							
KHU				IAML			05 38 27.1	
	comp=E,348nm,3.6s							
ALEP	**Alea Permanent**	**0.72**	**278**		Pg		05 38 15.0	-0.5
ALEP					Sg		05 38 25.6	+0.8
HUH	**Hualalai**	**0.93**	**285**		Pg		05 38 18.1	-1.3
HPAH	**Hawaii Prepara**	**0.96**	**308**		Pg		05 38 19.7	-0.4
HPAH				IAML			05 38 40.2	
	comp=E,190nm,0.8s							
HPAH				IAML			05 38 41.5	
	comp=N,195nm,0.8s							
MHA	**Mahukona**	**1.21**	**308**	Pg	Pg		05 38 23.4	-1.5

*IDC **04** 05:50:09.0±1.2,34.°58N×96.°61E,h0km,mb3.7/6, mbtmp3.8/9,ML4.1/3,MS3.2/24,Error ellipse: s-maj=36.2km s-min=21.0km az=48.0*

ISC 04 05:50:13.5±1.0,34.°6N±0.°1×96.°5E±0.°2,h35km,n27, σ1s31/9,mb3.7/5,MS3.2/21,Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
SONM	**Songino Array**	**15.16**	**26**	Pn	**Pn**		**05 53 45.2**	**+0.2**
	0.6nm,0.3s,baz=201,slow=16,SNR=4.4							
	3.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**16.21**	**172**	Pn	**Pn**		**05 53 57.2**	**-1.3**
	0.5nm,0.3s,baz=353,slow=14,SNR=15							
CMAR				LR	LR		06 00 44.7	
	comp=Z,41nm,18.2s,baz=325,slow=39							
	2.2nm,0.6s							
MKAR	**Makanchi Array**	**16.26**	**323**	Pn	**Pn**		**05 53 57.1**	**-2.0**
	0.3nm,0.3s,baz=132,slow=13,SNR=12							
MKAR				LR	LR		06 00 57.6	
	comp=Z,132nm,18.4s,baz=152,slow=40							
	0.9nm,0.6s							
AAK	**Ala-Archa**	**18.97**	**302**	LR	LR		06 03 12.4	
	comp=Z,59nm,21.0s,baz=82,slow=41							
KURBB	**Kurchatov Arra**	**20.70**	**326**	P	**P**		**05 54 51.0**	**+0.5**
	4.7nm,0.6s,baz=133,slow=11,SNR=41							
KURBB				LR	LR		06 04 10.5	
	comp=Z,97nm,18.6s,baz=174,slow=41							
	4.7nm,0.6s							
ZALV	**Zalesovo Beam**	**21.04**	**340**	P	**P**		**05 54 54.9**	**+0.8**
	2.5nm,0.7s,baz=159,slow=11,SNR=12							
ZALV				LR	LR		06 04 08.6	
	comp=Z,15nm,18.6s,baz=274,slow=40							
	2.5nm,0.7s							
KSRS	**Korea Array**	**25.50**	**74**	P	**P**		**05 55 37.5**	**-1.0**
	1.1nm,0.5s,baz=275,slow=9.1,SNR=4.3							
KSRS				LR	LR		06 06 34.7	
	comp=Z,33nm,18.3s,baz=250,slow=39							
	1.1nm,0.5s							
BVAR	**Borovoye Array**	**26.14**	**323**	P	**P**		**05 55 44.8**	**+0.6**
	0.6nm,0.5s,baz=128,slow=9.3,SNR=2.4							
BVAR				LR	LR		06 07 02.2	
	comp=Z,110nm,20.2s,baz=123,slow=39							
	0.6nm,0.5s							
KLR	**Kul'dur**	**29.71**	**50**	LR	LR		06 09 30.6	
	comp=Z,36nm,19.2s,baz=266,slow=39							
PALK	**Pallekele**	**30.84**	**212**	LR	LR		06 09 32.1	
	comp=Z,34nm,20.2s,baz=142,slow=38							
GEYT	**Alibeck**	**31.01**	**288**	LR	LR		06 10 42.4	
	comp=Z,40nm,20.3s,baz=264,slow=40							
AKTO	**Aktyubinsk**	**32.09**	**311**	LR	LR		06 10 52.1	
	comp=Z,66nm,20.2s,baz=86,slow=39							
ARU	**Arti**	**33.78**	**322**	LR	LR		06 11 43.8	
	comp=Z,76nm,21.9s,baz=163,slow=38							
DAV	**Davao City (W)**	**38.29**	**129**	LR	LR		06 15 17.1	
	comp=Z,32nm,18.9s,baz=340,slow=39							
GNI	**Garni**	**41.05**	**294**	LR	LR		06 19 32.4	
	comp=Z,19nm,18.4s,baz=66,slow=43							
KBZ	**Khabaz**	**41.94**	**299**	LR	LR		06 17 07.8	
	comp=Z,26nm,19.5s,baz=82,slow=38							
MA2	**Magadan**	**42.97**	**37**	LR	LR		06 17 31.0	
	comp=Z,36nm,18.1s,baz=294,slow=38							
SEY	**Seymchan**	**44.41**	**33**	LR	LR		06 18 18.5	
	comp=Z,35nm,18.6s,baz=344,slow=38							
GUMO	**Guam**	**48.30**	**103**	LR	LR		06 19 40.3	
	comp=Z,18nm,18.9s,baz=34,slow=37							
BRTR	**Keskin Array B**	**49.48**	**295**	P	**P**		**05 59 01.4**	**+0.8**
	0.4nm,0.4s,baz=109,slow=11,SNR=3.6							
	0.4nm,0.4s							
FINES	**FINESS Array B**	**51.08**	**324**	LR	LR		06 22 21.0	
	comp=Z,40nm,20.9s,baz=93,slow=38							
MLR	**Muntele Rosu**	**53.52**	**304**	LR	LR		06 27 47.9	
	comp=Z,22nm,19.2s,baz=156,slow=42							
NOA	**NORSAR Array B**	**58.24**	**325**	LR	LR		06 26 22.6	
	comp=Z,32nm,18.2s,baz=65,slow=37							
ASAR	**Alice Springs**	**67.94**	**143**	P	**P**		**06 01 10.2**	**+1.3**
	0.4nm,0.7s,baz=330,slow=6.4,SNR=2.5							
	0.4nm,0.7s							
ILAR	**Eielson Array**	**69.38**	**24**	LR	LR		06 36 29.9	
	comp=Z,21nm,19.5s,baz=175,slow=40							
KDAK	**Kodiak Island**	**71.37**	**32**	LR	LR		06 35 10.2	
	comp=Z,36nm,18.2s,baz=272,slow=38							
LBTB	**Lobatse**	**89.60**	**239**	LR	LR		06 41 27.0	
	comp=Z,19nm,18.7s,baz=145,slow=34							

IDC 04 06:01:34.3±3.0,54.°10N×86.°44E,h0km,mbtmp2.7/2, ML2.1/2,Error ellipse: s-maj=23.6km s-min=14.5km az=59.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**262**	I	I		06 08 30.0	
	baz=81,slow=325,SNR=1.3							
ZALV	**Zalesovo Beam**	**0.97**	**262**	Pg	Pg		06 01 51.5	-1.3
	0.4nm,0.3s,baz=80,slow=16,SNR=5.4							
ZALV				Lg	Lg		06 02 06.7	
	1.0nm,0.3s,baz=80,slow=31,SNR=7.8							
KURBB	**Kurchatov Arra**	**5.97**	**237**	Pn	Pn		06 03 05.0	+1.2
	baz=56,slow=15,SNR=1.4							
	0.3nm,0.2s							
MKAR	**Makanchi Array**	**7.78**	**202**	Pn	Pn		06 03 29.8	+1.1
	baz=25,slow=14,SNR=1.8							
	0.1nm,0.2s							

*NNC **04** 06:10:19.1±2.2,54.°42N×86.°89E,h0km,mb3.0,mpv2.8, Error ellipse: s-maj=21.6km s-min=10.8km az=177.0, Suspected Mining explosion.*

*IDC **04** 06:10:21.9±2.8,54.°32N×86.°67E,h0km,mbtmp3.3/2, ML3.0/2,Error ellipse: s-maj=23.4km s-min=14.6km az=54.0*

ISC 04 06:10:23.3±5.0,54.°3N±0.°2×86.°5E±0.°2,h0km,n9,σ0s72/12, 9C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**251**	I	I		06 18 40.0	
	0.1nm,0.9s,baz=72,slow=325,SNR=14							
ZAA0	**Zalesovo Array**	**1.06**	**251**	⇑P	**Pg**		**06 10 42.9**	**-0.7**
	0.3nm,0.3s							
ZAA0				⇑S	**Sn**		**06 11 01.6**	**+0.8**
	1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**1.06**	**251**	Pg	**Pg**		**06 10 42.4**	**-1.1**
	2.3nm,0.3s,baz=72,slow=17,SNR=26							
ZALV				Lg	Lg		06 10 59.9	
	2.3nm,0.3s,baz=72,slow=25,SNR=8.9							
KURK	**Kurchatov**	**6.01**	**236**	⇑Pn	**Pn**		**06 11 53.9**	**+0.5**
	0.3nm,0.4s							
KURK				⇑Lg	Lg		06 13 40.0	
	7.1nm,1.0s							
KURBB	**Kurchatov Arra**	**6.11**	**236**	⇑Pn	**Pn**		**06 11 55.4**	**+0.6**
	2.1nm,0.5s							
KURBB				⇑Lg	Lg		06 13 41.6	
	10nm,1.0s							
KURBB	**Kurchatov Arra**	**6.11**	**236**	Pn	**Pn**		**06 11 55.4**	**+0.6**
	0.2nm,0.3s,baz=53,slow=14,SNR=16							
KURBB				Lg	Lg		06 13 39.3	
	baz=50,slow=29,SNR=3.0							
	2.0nm,0.4s							
MK31	**Makanchi Array**	**7.99**	**201**	⇑Pn	**Pn**		**06 12 20.2**	**-0.4**
	0.2nm,0.4s,baz=27,slow=12,SNR=9.9							
MK31				⇑Sn	**Sn**		**06 13 51.6**	**-0.1**
	0.3nm,0.5s,baz=38,slow=28,SNR=3.9							
MK31				⇑Lg	Lg		06 14 38.5	
	7.1nm,1.1s,baz=32,slow=30,SNR=5.9							
MKAR	**Makanchi Array**	**7.99**	**201**	Pn	**Pn**		**06 12 20.8**	**+0.2**
	0.3nm,0.3s,baz=23,slow=12,SNR=12							
MKAR				Sn	**Sn**		**06 13 51.7**	**+0.1**
	0.1nm,0.3s,baz=31,slow=26,SNR=5.9							
MKAR				Lg	Lg		06 14 36.2	
	0.1nm,0.3s,baz=29,slow=30,SNR=6.0							
	0.6nm,0.5s							
MAKZ	**Makanchi**	**8.04**	**203**	⇓Pn	**Pn**		**06 12 22.3**	**+0.9**
	0.4nm,0.5s							
MAKZ				⇓Sn	**Sn**		**06 13 53.5**	**+0.5**
	0.5nm,0.5s							
MAKZ				⇓Lg	Lg		06 14 40.1	
	7.3nm,1.1s							

*NEIC **04** 06:14:52.1±1.3,19.°44N±0.°01×154.°99W±0.°03,h5km±1km, Error ellipse: s-maj=5.2km s-min=2.8km az=290.0*

HVO 04 06:14:51.0±1.3,19.°44N±0.°02×154.°93W±0.°03,h4km±6km, ML2.9/2,ML2.4/36(NEIC),Error ellipse: s-maj=4.2km s-min=1.8km az=115.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PHO	**Puu Honuaula**	**0.06**	**46**		Pg		06 14 54.2	+1.9
JOKA	**Jonika Flow**	**0.07**	**262**		Pg		06 14 54.2	+1.7
JCUZ	**Jacuzzi**	**0.17**	**250**		Sg		06 14 58.0	+1.3
JCUZ	**Jacuzzi**	**0.17**	**250**	Pg	Pg		06 14 54.4	0.0
JCUZ	**Jacuzzi**	**0.17**	**250**	IAML			06 14 58.3	
	comp=E,460nm,0.6s							
JCUZ				IAML			06 14 59.7	
	comp=N,311nm,0.7s							
STCH	**Steam Cracks**	**0.19**	**253**		Pg		06 14 54.7	0.0
KNHH	**Kane Nui o Ham**	**0.23**	**254**		Pg		06 14 55.9	+0.3
PUH	**Pauahi**	**0.28**	**256**		Pg		06 14 56.5	+0.1
HATHI	**Halema'uma'u T**	**0.31**	**266**	Pg	Pg		06 14 57.1	+0.1
HATHI				IAML			06 15 04.3	
	comp=E,550nm,1.4s							
HATHI				IAML			06 15 06.8	
	comp=N,505nm,1.2s							
SBLHI	**Steaming Bluff**	**0.32**	**267**	Pg	Pg		06 14 57.1	-0.1
SBLHI				IAML			06 15 03.7	
	comp=N,447nm,1.2s							
SBLHI				IAML			06 15 06.3	
	comp=E,474nm,1.4s							
KKO	**Keanakako`i**	**0.32**	**262**	Pg	Pg		06 14 57.1	-0.1
KKO				IAML			06 15 04.0	
	comp=E,635nm,1.3s							
RSD	**Rainshed**	**0.33**	**274**		Pg		06 14 57.2	-0.1
RSD				IAML			06 15 07.2	
	comp=N,430nm,1.7s							
RSD	**Rainshed**	**0.33**	**274**		Sb		06 15 03.9	-1.3
UWB	**Uwekahuna B**	**0.33**	**267**		Pg		06 14 58.2	+0.9
UWB	**Uwekahuna B**	**0.33**	**267**	IAML			06 15 05.9	
	comp=N,352nm,1.4s							
UWB				IAML			06 15 07.9	
	comp=E,276nm,2.1s							
UWE	**Uwekahuna**	**0.34**	**266**	Pg	Pg		06 14 58.4	+0.8
SDHHI	**Sand Hill**	**0.34**	**261**	Pg	Pg		06 14 57.9	+0.1
HLP	**Hilina Pali**	**0.38**	**248**		Pg		06 14 59.1	+0.7
HLP	**Hilina Pali**	**0.38**	**248**	IAML			06 15 03.2	
	comp=E,492nm,2.5s							
HLP				IAML			06 15 05.4	
	comp=N,335nm,1.7s							
MLH	**Mauna Loa**	**0.43**	**277**		Pg		06 14 59.9	+0.6
MLH	**Mauna Loa**	**0.43**	**277**		Sb		06 15 06.8	-1.5
MLH	**Mauna Loa**	**0.43**	**277**	IAML			06 15 07.7	
	comp=N,297nm,1.4s							
MLH				IAML			06 15 11.6	
	comp=E,186nm,0.4s							
HTC	**Hot Caves**	**0.48**	**245**		Pg		06 15 00.7	+0.4
HMH	**Humu'ula Sheep**	**0.54**	**287**		Sb		06 15 10.5	-1.1
HMH	**Humu'ula Sheep**	**0.54**	**287**	Pg	Pg		06 15 01.7	+0.2
HMH				IAML			06 15 15.9	
	comp=N,288nm,0.7s							
HMH				IAML			06 15 18.9	
	comp=E,327nm,0.5s							
MLOA	**Mauna Loa Obse**	**0.61**	**279**	Pg	Pg		06 15 02.4	-0.5
MLOA				IAML			06 15 12.0	
	comp=N,216nm,1.2s							
MLOA				IAML			06 15 23.5	
	comp=E,217nm,1.8s							
MWH	**Moku'aweowe**	**0.63**	**274**		Pg		06 15 02.7	-0.4
MWH	**Moku'aweowe**	**0.63**	**274**	IAML			06 15 06.2	
	comp=N,221nm,1.6s							
MWH				IAML			06 15 16.6	
	comp=E,381nm,1.7s							
POHA	**Pohakuloa**	**0.65**	**299**	Pg	Pg		06 15 02.7	-0.8
POHA				IAML			06 15 15.9	
	comp=E,234nm,2.1s							
POHA				IAML			06 15 24.9	
	comp=E,214nm,0.4s							
KHU	**Kahuku**	**0.67**	**253**		Pg		06 15 02.9	-1.1
KHU				IAML			06 15 20.4	
	comp=E,232nm,2.5s							
ALEP	**Alea Permanent**	**0.68**	**278**		Pg		06 15 03.4	-0.7
ALEP					Sg		06 15 13.4	+0.5
HPAH	**Hawaii Prepara**	**0.93**	**309**	Pg	Pg		06 15 08.5	-0.3
HPAH				IAML			06 15 13.8	
	comp=E,140nm,3.1s							

*NNC **04** 06:19:41.6±2.2,54.°34N×87.°75E,h0km,mb3.1,mpv2.8, Error ellipse: s-maj=18.9km s-min=11.6km az=21.0, Suspected Mining explosion.*

*IDC **04** 06:19:47.9±1.5,54.°21N×87.°18E,h0km,mb3.1/1, mbtmp3.2/4,ML2.5/3,Error ellipse: s-maj=14.8km s-min=12.4km az=104.0*

ISC 04 06:19:47.1±1.7,54.°22N±0.°09×87.°1E±0.°1,h0km,n11, σ2s17/16,6C-6D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.38**	**260**	I	I		06 28 50.0	
	0.1nm,1.0s,baz=78,slow=326,SNR=14							
ZAA0	**Zalesovo Array**	**1.38**	**260**	⇓P	**Pg**		**06 20 12.4**	**-1.1**
	0.3nm,0.3s							
ZAA0				⇓S	**Sn**		**06 20 37.3**	**+4.7**
	7.2nm,0.9s							
ZALV	**Zalesovo Beam**	**1.38**	**260**	Pg	**Pb**		**06 20 13.0**	**-0.8**
	1.5nm,0.3s,baz=75,slow=16,SNR=17							
ZALV				Lg	Lg		06 20 33.2	
	1.3nm,0.3s,baz=79,slow=30,SNR=11							
KURK	**Kurchatov**	**6.26**	**239**	⇑Pn	**Pn**		**06 21 21.7**	**+1.0**
	1.0nm,0.5s							
KURK				⇑Lg	Lg		06 23 09.5	
	8.7nm,1.0s							
KURBB	**Kurchatov Arra**	**6.37**	**239**	⇓Pn	**Pn**		**06 21 22.8**	**+0.7**
	1.2nm,0.5s							
KURBB				⇑Lg	Lg		06 23 16.7	
	23nm,1.1s							
KURBB	**Kurchatov Arra**	**6.37**	**239**	Pn	**Pn**		**06 21 24.1**	**+2.0**
	0.1nm,0.3s,baz=55,slow=14,SNR=19							
KURBB				Sn	**Sn**		**06 22 36.7**	**+1.2**
	baz=53,slow=23,SNR=3.4							
KURBB				Lg	Lg		06 23 07.8	
	baz=52,slow=32,SNR=3.4							
	2.6nm,0.7s							
MK31	**Makanchi Array**	**8.04**	**204**	⇑Pn	**Pn**		**06 21 43.7**	**-1.5**
	0.2nm,0.3s,baz=19,slow=9.1,SNR=5.6							
MK31				⇓Sn	**Sn**		**06 23 16.7**	**-0.1**
	0.9nm,0.6s,baz=28,slow=29,SNR=5.1							
MK31				⇓Lg	Lg		06 24 08.7	
	9.9nm,1.1s,baz=28,slow=31,SNR=7.3							
MKAR	**Makanchi Array**	**8.04**	**204**	Pn	**Pn**		**06 21 47.3**	**+2.1**
	0.2nm,0.3s,baz=24,slow=13,SNR=6.7							
MKAR				Sn	**Sn**		**06 23 17.2**	**+0.4**
	0.2nm,0.3s,baz=28,slow=29,SNR=7.8							
MKAR				Lg	Lg		06 24 01.4	
	baz=21,slow=28							
	1.1nm,0.9s							
MAKZ	**Makanchi**	**8.11**	**206**	⇑Pn	**Pn**		**06 21 46.9**	**+0.8**
	0.2nm,0.3s							
MAKZ				⇑Sn	**Sn**		**06 23 20.3**	**+2.0**
	1.5nm,0.6s							
MAKZ				⇓Lg	Lg		06 24 09.0	
	8.4nm,1.1s							
BVAR	**Borovoye Array**	**10.01**	**270**

σ2$ş$38/135, **mb4.2**/23, **MS3.3**/12, **22C-15D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.88**	**86**	Pg	**Pg**	**06 46 52.2**	**+1.4**
WMQ				Sg	**Sb**	**06 47 05.3**	**+2.2**
WMQ				smax	smax		
	comp=N,1μm,1.1s						
WMQ				smax	smax		
	comp=E,1μm,1.3s						
ZSN	**Zaisan**	**3.86**	**343**	Pg	**Pb**	**06 47 45.5**	**+3.3**
	comp=E,133nm,0.6s						
ZSN				Lg	Lg	06 48 44.7	
	comp=E,144nm,0.7s						
ZSN	**Zaisan**	**3.86**	**343**	*e*P	**Pb**	**06 47 45.5**	**+3.3**
	comp=E,133nm,0.6s						
ZSN				*e*S	**Sg**	**06 48 44.7**	**+6.8**
	comp=E,144nm,0.7s						
MK31	**Makanchi Array**	**4.24**	**317**	⇑Pn	**Pn**	**06 47 39.2**	**+0.6**
	comp=E,13nm,0.5s,baz=130,slow=16,SNR=607						
MK31				⇑Pg	**Pg**	**06 47 54.6**	**-0.6**
	comp=E,75nm,0.6s,baz=130,slow=17,SNR=19						
MK31				⇓Sn	**Sn**	**06 48 27.0**	**-1.3**
	comp=E,84nm,0.6s,baz=133,slow=26,SNR=4.4						
MK31				⇑Lg	Lg	06 48 44.8	
	comp=E,147nm,0.7s,baz=130,slow=27,SNR=8.0						
MK31	**Makanchi Array**	**4.24**	**317**		**Pn**	**06 47 38.6**	**-0.1**
MK31	**Makanchi Array**	**4.24**	**317**	*e*P	**Pn**	**06 47 38.9**	**+0.3**
MK31						06 48 28.0	
MKAR	**Makanchi Array**	**4.24**	**317**		**Pn**	**06 47 38.7**	**+0.1**
MKAR	**Makanchi Array**	**4.24**	**317**	Pn	**Pn**	**06 47 39.0**	**+0.3**
	comp=E,6.2nm,0.3s,baz=134,slow=14,SNR=330						
MKAR				Sn	**Sn**	**06 48 27.4**	**-0.8**
	comp=E,26nm,0.3s,baz=133,slow=26,SNR=9.1						
MKAR				Lg	Lg	06 48 44.0	
	comp=E,22nm,0.3s,baz=132,slow=29,SNR=5.9						
	comp=E,28nm,0.6s						
MAKZ	**Makanchi**	**4.41**	**315**	⇑Pn	**Pn**	**06 47 41.0**	**0.0**
	comp=E,28nm,0.5s						
MAKZ				⇓Sn	**Sn**	**06 48 32.1**	**-0.2**
	comp=E,114nm,0.5s						
MAKZ				⇓Lg	Lg	06 48 50.4	
	comp=E,97nm,0.7s						
MAKZ	**Makanchi**	**4.41**	**315**		**Pn**	**06 47 41.0**	**0.0**
MAKZ	**Makanchi**	**4.41**	**315**	P	**Pn**	**06 47 41.0**	**0.0**
DJR	**Jarkent**	**4.86**	**279**	Pg	**Pb**	**06 48 00.0**	**+0.7**
	comp=E,12nm,0.3s						
DJR				Lg	Lg	06 49 05.7	
	comp=E,157nm,0.7s						
DJR	**Jarkent**	**4.86**	**279**	*e*P	**Pb**	**06 47 58.0**	**-1.3**
	comp=E,12nm,0.3s						
DJR				*e*S	**Sb**	**06 49 05.9**	**+8.0**
	comp=E,157nm,0.7s						
PDGK	**Podgornoye**	**5.11**	**268**	Pg	**Pb**	**06 48 04.8**	**+1.4**
	comp=E,5.4nm,0.4s						
PDGK				Lg	Lg	06 49 17.6	
	comp=E,88nm,0.8s						
PDGK	**Podgornoye**	**5.11**	**268**	⇑Pn	**Pn**	**06 47 51.6**	**+1.0**
	comp=E,6.1nm,0.4s						
PDGK				⇓Pg	**Pb**	**06 48 06.7**	**+3.3**
	comp=E,15nm,0.6s						
PDGK				⇓Sn	**Sn**	**06 48 50.9**	**+1.2**
	comp=E,69nm,0.5s						
PDGK				⇓Lg	Lg	06 49 13.4	
	comp=E,342nm,1.2s						
PDGK	**Podgornoye**	**5.11**	**268**	P	**Pn**	**06 47 51.6**	**+1.0**
PDGK						06 48 50.8	
SHLS	**Shalkode**	**5.15**	**266**	Pg	Pn	06 48 00.3	+9.0
	comp=E,20nm,0.3s						
SHLS				Lg	Lg	06 49 09.9	
	comp=E,355nm,0.6s						
SHLS	**Shalkode**	**5.15**	**266**	*e*P	Pn	06 48 00.3	+9.1
	comp=E,20nm,0.3s						
SHLS				*e*S	**Sb**	**06 49 09.9**	**+3.8**
	comp=E,355nm,0.6s						
KNOS	**Konyrlen**	**5.30**	**279**	Pg	**Pb**	**06 48 08.4**	**+1.6**
	comp=E,14nm,0.2s						
KNOS				Lg	Lg	06 49 23.3	
	comp=E,96nm,0.4s						
KAPS	**Kapalarasan**	**5.32**	**289**	Pg	**Pb**	**06 48 10.4**	**+3.3**
	comp=E,12nm,0.5s						
KAPS				Lg	Lg	06 49 26.6	
	comp=E,135nm,0.5s						
KAPS	**Kapalarasan**	**5.32**	**289**	*e*P	**Pb**	**06 48 09.9**	**+2.9**
	comp=E,12nm,0.5s						
KAPS				*e*S	**Sg**	**06 49 26.6**	**+1.8**
	comp=E,135nm,0.5s						
UZB	**Uzynbulak**	**5.47**	**266**	Pg	**Pb**	**06 48 11.1**	**+1.4**
	comp=E,12nm,0.5s						
UZB				Lg	Lg	06 49 28.4	
	comp=E,73nm,0.8s						
UZB	**Uzynbulak**	**5.47**	**266**	*e*P	**Pb**	**06 48 11.1**	**+1.4**
	comp=E,12nm,0.5s						
UZB				*e*S	**Sg**	**06 49 28.4**	**-1.1**
	comp=E,73nm,0.8s						
ZHN	**Zhinishke**	**5.89**	**267**	Pg	**Pb**	**06 48 19.6**	**+2.8**
	comp=E,9.8nm,0.2s						
ZHN				Lg	Lg	06 49 43.0	
	comp=E,68nm,0.4s						
ZHN	**Zhinishke**	**5.89**	**267**	*e*P	**Pb**	**06 48 19.6**	**+2.8**
	comp=E,9.8nm,0.2s						
ZHN				*e*S	**Sg**	**06 49 43.0**	**0.0**
	comp=E,68nm,0.4s						
TARG	**Taragay, Kyrgy**	**6.71**	**255**		**Pn**	**06 48 13.6**	**+0.7**
TARG	**Taragay, Kyrgy**	**6.71**	**255**	P	**Pn**	**06 48 13.6**	**+0.7**
MDOK	**Medeo**	**6.90**	**268**	Pn	**Pn**	**06 48 14.4**	**-0.8**
	comp=E,3.0nm,0.4s						
MDOK				Lg	Lg	06 50 10.4	
	comp=E,57nm,0.7s						
MDOK	**Medeo**	**6.90**	**268**	P	**Pn**	**06 48 14.4**	**-0.8**
BOOM	**Boomskoye usch**	**7.82**	**264**		**Pn**	**06 48 27.7**	**-0.3**
BOOM	**Boomskoye usch**	**7.82**	**264**	P	**Pn**	**06 48 27.7**	**-0.3**
TKM2	**Tokmak 2**	**7.99**	**268**	⇑Pn	**Pn**	**06 48 30.4**	**+0.2**
	comp=E,3.1nm,0.5s						
TKM2				⇑Lg	Lg	06 50 50.2	
	comp=E,28nm,0.8s						
TKM2	**Tokmak 2**	**7.99**	**268**	P	**Pn**	**06 48 30.4**	**+0.2**
CHMS	**Chumysh**	**8.58**	**269**	⇑Pn	**Pn**	**06 48 40.3**	**+2.0**
	comp=E,1.6nm,0.4s						
CHMS				⇓Lg	Lg	06 51 05.8	
	comp=E,11nm,0.7s						
CHMS	**Chumysh**	**8.58**	**269**	P	**Pn**	**06 48 40.3**	**+2.0**
KURBB	**Kurchatov Arra**	**8.74**	**325**	⇑Pn	**Pn**	**06 48 39.5**	**-0.9**
	comp=E,14nm,0.6s						
KURBB				⇓Lg	Lg	06 51 10.7	
	comp=E,93nm,0.7s						
KURBB	**Kurchatov Arra**	**8.74**	**325**	Pn	**Pn**	**06 48 38.6**	**-1.8**
	comp=E,0.3nm,0.3s,baz=130,slow=13,SNR=26						
KURBB				Sn	**Sn**	**06 50 14.9**	**-4.0**
	comp=E,0.5nm,0.3s,baz=132,slow=30,SNR=4.3						
KURBB				Lg	Lg	06 51 04.0	
	comp=E,0.8nm,0.3s,baz=141,slow=28,SNR=5.7						
KURBB				LR	LR	06 52 29.5	
	comp=E,167nm,20.0s,baz=162,slow=41						
	comp=E,1.5nm,0.4s						
KURBB	**Kurchatov Arra**	**8.74**	**325**	P	**Pn**	**06 48 39.5**	**-0.9**
KURK	**Kurchatov**	**8.78**	**325**	⇑Pn	**Pn**	**06 48 38.2**	**-2.6**
	comp=E,7.1nm,0.6s						
KURK				⇑Lg	Lg	06 51 10.7	
	comp=E,70nm,0.8s						
KURK	**Kurchatov**	**8.78**	**325**	Pn	**Pn**	**06 48 38.6**	**-2.2**
KURK	**Kurchatov**	**8.78**	**325**	*ce*P	**Pn**	**06 48 39.1**	**-1.7**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**8.84**	**267**	⇑Pn	**Pn**	**06 48 40.7**	**-1.1**
	comp=Z,1.0nm,0.4s						
AAK				⇓Lg	Lg	06 51 15.6	
	comp=Z,26nm,0.8s						
AAK	**Ala-Archa**	**8.84**	**267**	Pn	**Pn**	**06 48 41.8**	**0.0**
AAK	**Ala-Archa**	**8.84**	**267**	Pn	**Pn**	**06 48 43.5**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=62,slow=15,SNR=3.2						
AAK				Lg	Lg	06 51 12.8	
	comp=Z,0.6nm,0.3s,baz=307,slow=22,SNR=1.9						
	comp=Z,0.9nm,0.3s						
AAK	**Ala-Archa**	**8.84**	**267**	*i* P	**Pn**	**06 48 42.7**	**+0.9**
KSH	**Kashi**	**8.94**	**245**	P	Pn	06 48 52.9	+10
GOMU	**GeErMu**	**9.89**	**137**	P	**Pn**	**06 48 57.9**	**+1.4**
GOMU				S	**Sn**	**06 50 56.3**	**+8.6**
GOMU				sS		06 51 04.3	
GOMU				pmax	pmax		
	comp=Z,31nm,0.8s						
GOMU				LR	LR		
	comp=N,550nm,12.0s						
GOMU				LR	LR		
	comp=E,260nm,11.2s						
GOMU				LR	LR		
	comp=Z,840nm,14.3s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZAA0	**Zalesovo Array**	**10.26**	**354**		**Pn**	**06 48 58.3**	**-2.8**
ZALV	**Zalesovo Beam**	**10.26**	**354**		**Pn**	**06 48 58.5**	**-2.6**
ZALV	**Zalesovo Beam**	**10.26**	**354**	Pn	**Pn**	**06 48 58.6**	**-2.5**
	comp=Z,4.3nm,0.3s,baz=177,slow=14,SNR=93						
ZALV				Sn	**Sn**	**06 50 49.6**	**-6.4**
	comp=Z,1.5nm,0.3s,baz=175,slow=22,SNR=9.3						
ZALV				LR	LR	06 53 20.8	
	comp=Z,102nm,19.1s,baz=175,slow=40						
	comp=Z,23nm,0.5s						
OTUK	**Ortayu**	**10.81**	**299**	⇓Pn	**Pn**	**06 49 07.2**	**-1.6**
	comp=Z,2.3nm,0.6s						
OTUK				⇑Sn	**Sn**	**06 51 08.2**	**-1.6**
	comp=Z,3.5nm,0.6s						
OTUK				⇓Lg	Lg	06 52 17.9	
	comp=Z,36nm,1.1s						
OTUK	**Ortayu**	**10.81**	**299**	P	**Pn**	**06 49 07.2**	**-1.6**
GTA	**Gaotai**	**10.88**	**109**	*e*P	**Pn**	**06 49 11.0**	**+1.1**
GTA				sP		06 49 22.5	
GTA				S	**Sn**	**06 51 10.7**	**-1.0**
GTA				pmax	pmax		
	comp=Z,5.0nm,1.2s						
GTA				LR	LR		
	comp=N,160nm,8.0s						
GTA				LR	LR		
	comp=E,200nm,10.2s						
GTA				LR	LR		
	comp=Z,180nm,10.9s						
KK31	**Karatay Array**	**11.64**	**272**	⇑Pn	**Pn**	**06 49 20.7**	**+0.7**
	comp=Z,0.7nm,0.4s,baz=71,slow=13,SNR=5.2						
KK31				⇓Sn	**Sn**	**06 51 32.7**	**+2.6**
	comp=Z,1.3nm,0.5s						
KK31				⇓Lg	Lg	06 52 45.1	
	comp=Z,6.0nm,0.7s,baz=70,slow=30,SNR=3.9						
KK31	**Karatay Array**	**11.64**	**272**	Pn	**Pn**	**06 49 20.8**	**+0.7**
KK31	**Karatay Array**	**11.64**	**272**	P	**Pn**	**06 49 20.8**	**+0.7**
KKAR	**Karatay Array**	**11.64**	**272**	Pn	**Pn**	**06 49 20.6**	**+0.5**
KKAR	**Karatay Array**	**11.64**	**272**	P	**Pn**	**06 49 20.6**	**+0.5**
GAR	**Garm**	**13.04**	**254**		**Pn**	**06 49 39.4**	**0.0**
CHGR	**Chuyangaron**	**14.00**	**255**	Pn	**Pn**	**06 49 51.3**	**-1.2**
CHGR	**Chuyangaron**	**14.00**	**255**	P	**Pn**	**06 49 51.3**	**-1.2**
SIMJ	**Simiganj**	**14.11**	**255**	Pn	**Pn**	**06 49 52.4**	**-1.5**
BVA0	**Borovoye Array**	**14.12**	**317**	⇑Pn	**Pn**	**06 49 56.4**	**+2.5**
	comp=Z,1.4nm,0.6s,baz=115,slow=12,SNR=5.9						
BVA0				⇑Sn	**Sn**	**06 52 32.3**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=121,slow=25,SNR=3.9						
BVA0				⇑Lg	Lg	06 54 02.2	
	comp=Z,14nm,1.1s						
BVA0	**Borovoye Array**	**14.12**	**317**	*i* P	**Pn**	**06 49 56.3**	**+2.3**
BVA0				*i*		06 52 25.5	
BVAR	**Borovoye Array**	**14.12**	**317**	Pn	Pn	06 49 51.1	-2.9
	comp=Z,0.1nm,0.3s,baz=119,slow=12,SNR=7.3						
BVAR				Sn	Sn	06 52 21.0	-10
	comp=Z,0.1nm,0.3s,baz=134,slow=24,SNR=3.8						
	comp=Z,1.0nm,0.5s						
BRVK	**Borovoye**	**14.20**	**317**	⇓Pn	**Pn**	**06 49 55.2**	**+0.3**
	comp=Z,3.1nm,0.6s						
BRVK				⇑Sn	**Sn**	**06 52 32.8**	**+0.4**
	comp=Z,2.6nm,0.6s						
BRVK				⇓Lg	Lg	06 53 59.4	
	comp=Z,13nm,1.1s						
BRVK	**Borovoye**	**14.20**	**317**	Pn	Pn	06 49 51.1	-3.8
BRVK	**Borovoye**	**14.20**	**317**	*i* P	**Pn**	**06 49 54.3**	**-0.6**
NIL	**Nilore**	**14.43**	**230**		**Pn**	**06 49 56.7**	**-1.6**
NIL	**Nilore**	**14.43**	**230**	P	**Pn**	**06 49 56.7**	**-1.6**
SONM	**Songino Array**	**14.46**	**67**	Pn	**P**	**06 50 05.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=268,slow=9.9,SNR=3.9						
SONM				Lg	Lg	06 54 18.4	
	comp=Z,0.2nm,0.3s,baz=268,slow=37,SNR=6.9						
SONM				LR	LR	06 55 36.0	
	comp=Z,74nm,21.9s,baz=262,slow=38						
ULN	**Ulaanbaatar**	**14.91**	**67**	*i* P	**Pn**	**06 50 02.2**	**-2.6**
LZH	**Lanzhou**	**15.35**	**114**	*e*P	**Pn**	**06 50 11.9**	**+1.2**
LZH				pP	P	06 50 18.4	+2.9
LZH				pmax	pmax		
	comp=Z,18nm,1.2s						
LZH				LR	LR		
	comp=N,180nm,12.0s						
LZH				LR	LR		
	comp=E,190nm,10.0s						
LZH				LR	LR		
	comp=Z,180nm,17.5s						
KBL	**Kabul**	**16.34**	**242**		**Pn**	**06 50 23.8**	**+0.1**
KBL	**Kabul**	**16.34**	**242**	P	**Pn**	**06 50 23.8**	**+0.1**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
SHL	**Shillong**	**18.68**	**165**		**P**	**06 50 52.2**	**-0.2**
SHL				IAmb	IAmb	06 50 54.5	
	comp=Z,9.9nm,0.9s						
SHL	**Shillong**	**18.68**	**165**	P	**P**	**06 50 52.2**	**-0.2**
SHL				pmax	pmax		
	comp=Z,10.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**18.75**	**90**	*e*P	**P**	**06 50 54.4**	**+1.3**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,84nm,4.8s						
AB31	**Akbulak array**	**19.03**	**296**	*e*P	**P**	**06 50 51.8**	**-4.1**
ABKAR	**Akbulak array**	**19.03**	**296**	P	**P**	**06 50 54.1**	**-1.8**
ABKAR	**Akbulak array**	**19.03**	**296**		**P**	**06 50 54.2**	**-1.8**
AKTO	**Aktyubinsk**	**20.42**	**299**	P	**P**	**06 51 12.9**	**+1.8**
	comp=Z,2.0nm,0.5s,baz=88,slow=11,SNR=6.2						
AKTO				S	**S**	**06 54 52.8**	**-6.8**
	comp=Z,2.7nm,0.7s,baz=16,slow=6.3,SNR=4.1						
AKTO				Lg	Lg	06 57 19.6	
	comp=Z,0.1nm,0.3s,baz=253,slow=14,SNR=1.8						
HRA	**Herat**	**20.96**	**252**	P	**P**	**06 51 16.9**	**-0.3**
TNCH	**TengChong**	**21.12**	**148**	*e*P	**P**	**06 51 20.0**	**+1.0**
TNCH				pP	pP	06 51 22.8	+0.4
TNCH				sP	sP	06 51 26.1	+2.2
TNCH				pmax	pmax		
	comp=Z,42nm,0.6s						
TNCH				pmax	pmax		
	comp=Z,100nm,5.4s						
PZH	**PanZhiHua**	**21.20**	**139**	P	**P**	**06 51 20.4**	**+0.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.7s						
ARU	**Arti**	**21.76**	**315**	P	**P**	**06 51 25.1**	**-0.4**
	comp=Z,4.6nm,0.2s,baz=198,slow=6.4,SNR=3.1						
	comp=Z,4.6nm,0.2s						
ARU	**Arti**	**21.76**	**315**	P	**P**	**06 51 30.5**	**+5.0**
ARU						06 52 00.4	
ARU				SS	**SnSn**	**06 56 02.6**	**+12**
GEYT	**Alibeck**	**22.18**	**265**	P	**P**	**06 51 28.8**	**-1.4**
GEYT				IAmb	IAmb	06 51 56.8	
	comp=Z,4.2nm,0.9s						
GEYT	**Alibeck**	**22.18**	**265**	LR	LR	07 01 09.2	
	comp=Z,45nm,21.1s,baz=98,slow=40						
GEYT	**Alibeck**	**22.18**	**265**	P	**P**	**06 51 28.8**	**-1.4**
GEYT				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CM31	**Chiang Mai Arr**	**27.32**	**154**	P	**P**	**06 52 20.0**	**+1.1**
CM31				IAmb	IAmb	06 53 00.1	
	comp=Z,7.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**27.32**	**154**	P	**P**	**06 52 20.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**27.32**	**154**	P	**P**	**06 52 20.2**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=333,slow=9.1,SNR=12						
CMAR				LR	LR	07 03 06.7	
	comp=Z,5.4nm,18.5s,baz=320,slow=36						
	comp=Z,1.4nm,0.7s						
YAK	**Yakutsk**	**31.04**	**39**	LR	LR	07 05 54.8	
	comp=Z,79nm,18.4s,baz=252,slow=38						
KBZ	**Khabaz**	**31.22**	**285**	LR	LR	07 07 58.0	
	comp=Z,57nm,18.2s,baz=68,slow=41						
KBZ	**Khabaz**	**31.22**	**285**	*i* P	**P**	**06 52 53.0**	**-0.4**
KBZ				pmax	pmax		
	comp=Z,3.0nm,1.1s						
KLR	**Kul'dur**	**31.26**	**64**	*i* P	**P**	**06 52 52.7**	**-1.0**
KIV	**Kislovodsk**	**31.31**	**286**	*e*P	**P**	**06 52 53.8**	**-0.5**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,44nm,15.0s						
KSRS	**Korea Array**	**31.83**	**87**	LR	LR	07 06 35.6	
	comp=Z,12nm,20.7s,baz=40,slow=38						
OBN	**Obninsk**	**33.68**	**308**	*i* P	**P**	**06 53 14.7**	**-0.1**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TIXI	**Tiksi**	**34.59**	**22**	*ce*P	**P**	**06 53 21.8**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ARPR	**Arapgir-MALATY**	**36.00**	**280**	P	**P**	**06 53 34.4**	**-0.8**
AKASG	**Malin Array Be**	**38.64**	**301**	P	**P**	**06 53 55.9**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=64,slow=8.6,SNR=4.2						
AKASG				LR	LR	07 10 46.1	
	comp=Z,21nm,20.1s,baz=108,slow=38						
	comp=Z,0.2nm,0.3s						
FINES	**FINESS Array B**	**39.07**	**318**	P	**P**	**06 53 59.7**	**-1.0**
FINES	**FINESS Array B**	**39.07**	**318**	P	**P**	**06 54 00.1**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=47,slow=8.4,SNR=7.8						
	comp=Z,0.5nm,0.3s						
BR131	**Keskin Array S**	**39.09**	**283**	P	**P**	**06 54 00.1**	**-1.2**
BR131				IAmb	IAmb	06 54 02.5	
	comp=Z,2.3nm,0.8s						
BR131	**Keskin Array S**	**39.09**	**283**	P	**P**	**06 54 00.1**	**-1.2**
BR131				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BRTR	**Keskin Array B**	**39.09**	**283**	P	**P**	**06 53 59.9**	**-1.4**
BRTR	**Keskin Array B**	**39.09**	**283**	P	**P**	**06 54 00.2**	**-1.1**
	comp=Z,1.4nm,0.6s,baz=98,slow=7.7,SNR=8.5						
	comp=Z,1.4nm,0.6s						
ARCES	**ARCESS Array B**	**39.76**	**331**	LR	LR	07 12 41.8	
	comp=Z,48nm,18.0s,baz=69,slow=40						
HFS	**Hagfors**	**45.26**	**318**	P	**P**	**06 54 49.6**	**-1.6**
	comp=Z,1.3nm,0.6s,baz=108,slow=7.7,SNR=2.3						
HFS				LR	LR	07 14 57.9	
	comp=Z,28nm,18.9s,baz=360,slow=38						
	comp=Z,1.3nm,0.6s						
SKR	**Severo-Kuril's**	**46.19**	**56**	*ce*P	**P**	**06 54 59.1**	**+0.4**
NB2	**NORSAR Subarra**	**46.23**	**319**	P	**P**	**06 54 58.2**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**46.23**	**319**	P	**P**	**06 54 58.3**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=76,slow=7.9,SNR=3.1						
NOA				LR	LR	07 15 19.8	
	comp=Z,34nm,18.2s,baz=90,slow=37						
	comp=Z,0.5nm,0.5s						
PETK	**Petropavlovsk-**	**46.33**	**52**	LR	LR	07 16 18.0	
	comp=Z,36nm,18.6s,baz=233,slow=39						
IDI	**Anoyia**	**47.29**	**282**	P	**P**	**06 55 05.7**	**-1.9**
CLL	**Collm**	**48.26**	**306**	*e*pP	pP	06 55 21.0	+2.6
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**48.26**	**306**	*e*P	pP	06 55 21.0	+2.6
KHC	**Kasperske Hory**	**48.73**	**303**	*ce*P	P	06 55 15.7	-2.9
KHC				pmax	pmax		
	comp=Z,13nm,2.5s						
ILAR	**Eielson Array**	**64.06**	**22**	P	**P**	**06 57 07.2**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=318,slow=6.1,SNR=3.0						
	comp=Z,0.4nm,0.8s						
ESDC	**Sonseca Array**	**64.29**	**301**	LR	LR	07 27 42.5	
	comp=Z,27nm,18.3s,baz=341,slow=38						
YKA	**Yellowknife Ar**	**72.75**	**10**	P	**P**	**06 58 00.8**	**-1.1**
	comp=Z,0.1nm,0.6s,baz=337,slow=6.7,SNR=3.5						
	comp=Z,0.1nm,0.6s						
WRA	**Warramunga Arr**	**77.07**	**134**	P	**P**	**06 58 26.8**	**-0.6**
	comp=Z,2.2nm,0.7s,baz=334,slow=5.1,SNR=17						
	comp=Z,2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**77.30**	**276**	P	**P**	**06 58 27.5**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=42,slow=6.0,SNR=10						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**79.95**	**137**	P	**P**	**06 58 42.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=328,slow=5.9,SNR=9.9						
	comp=Z,1.0nm,0.7s						
DBIC	**Dimbokro**	**86.41**	**276**	P	**P**	**06 59 15.3**	**-1.5**
	comp=Z,4.0nm,0.6s,baz=53,slow=4.0,SNR=5.6						
	comp=Z,4.0nm,0.6s						
CPUP	**Villa Florida**	**145.99**	**289**	PKPbc	**PKPdf**	**07 06 12.6**	**-0.5**
	comp=Z,2.3nm,0.9s,baz=92,slow=3.9,SNR=3.6						

SDD ***04*** *06:46:57.5±2.6, 19°.63N×70°.36W, h23km±13km, MD3.4, ML3.3, MW3.5*

OSPL ***04*** *06:46:59.2±3.1, 19°.60N×70°.40W, h6km±12km, ML2.9*

ISC 04 06:46:56.9±1.0, 19°.59N±0°.02×70°.35W±0°.02, h10km±8km, n48, σ1$ş$14/78, 51C-12D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID	ISC	Time h m s	Res ISC
SODR	**Sosua Marina B**	**0.27**	**307**	⇑*e*Pg	**Pg**	**06 47 02.6**	**+0.3**
SODR				⇑*e*Sg	**Sb**	**06 47 08.8**	**+0.4**
SODR				IAML		06 47 09.7	
	comp=N,5μm,0.3s						
SODR				IAML		06 47 13.4	
	comp=E,4μm,0.3s						
SODR	**Sosua Marina B**	**0.27**	**307**	⇓*e*Pg	**Pg**	**06 47 02.8**	**+0.5**
SODR				⇑*e*Sg	**Sb**	**06 47 08.0**	**-0.4**
SODR				IAML		06 47 09.7	
	comp=N,5μm,0.3s						
SODR				IAML		06 47 17.4	
	comp=E,5μm,0.8s						
SC01	**Santiago de lo**	**0.39**	**245**	⇓*e*Pg	**Pg**	**06 47 04.7**	**0.0**
SC01				⇑*e*Sg	**Sg**	**06 47 10.4**	**+0.5**
SC01				IAML		06 47 21.2	
	comp=N,1μm,0.3s						
SC01				IAML		06 47 21.6	
	comp=E,1μm,0.3s						
SC01	**Santiago de lo**	**0.39**	**245**	⇑*e*Pg	**Pg**	**06 47 05.0**	**+0.3**
SC01				⇑*e*Sg	**Sb**	**06 47 11.3**	**-0.7**
SC01				IAML		06 47 21.1	
	comp=N,1μm,0.3s						
SC01				IAML		06 47 21.6	
	comp=E,1μm,0.3s						
SC01	**Santiago de lo**	**0.39**	**245**	*i* P	**Pg**	**06 47 04.9**	**+0.3**
SC01				IAML		06 47 15.0	
	comp=Z,752nm,0.3s						
LONA1	**Toro Cenizo, N**	**0.50**	**115**	*i* P	**Pb**	**06 47 08.4**	**+0.5**
LONA1				*e*S	**Sn**	**06 47 18

REDR				IAML			06 47 37.8	
	comp=N,958nm,0.2s							
SDDR	**Presa de Saban**	**1.07 236**	⇑	*e*Pg	**Pb**		**06 47 15.8**	**-1.8**
SDDR			⇑	*e*Sg	**Sb**		**06 47 29.5**	**-2.2**
SDDR				IAML			06 47 33.8	
	comp=E,189nm,0.3s							
SDDR				IAML			06 47 34.5	
	comp=N,191nm,0.5s							
SDDR	**Presa de Saban**	**1.07 236**	⇑	*e*Pg	**Pb**		**06 47 15.8**	**-1.8**
SDDR			⇓	*e*Sg	**Sb**		**06 47 30.0**	**-1.7**
SDDR				IAML			06 47 33.8	
	comp=E,189nm,0.3s							
SDDR				IAML			06 47 34.5	
	comp=N,191nm,0.5s							
SDDR	**Presa de Saban**	**1.07 236**	*i*	P	**Pb**		**06 47 15.7**	**-1.8**
SDDR				IAML			06 47 34.1	
	comp=Z,148nm,0.2s							
BANI	**BANI**	**1.19 180**	⇑	*e*Pg	**Pn**		**06 47 18.6**	**-1.1**
BANI			⇑	*e*Sg	**Sg**		**06 47 35.8**	**+0.4**
BANI				IAML			06 47 38.2	
	comp=E,553nm,0.1s							
BANI				IAML			06 47 41.0	
	comp=N,584nm,0.2s							
BANI	**BANI**	**1.19 180**	⇑	*e*Pg	**Pn**		**06 47 18.9**	**-0.9**
BANI			⇑	*e*Sg	**Sn**		**06 47 36.7**	**+0.6**
BANI				IAML			06 47 38.2	
	comp=E,553nm,0.1s							
BANI				IAML			06 47 41.0	
	comp=N,584nm,0.2s							
SDD	**Santo Domingo**	**1.20 160**	⇑	*e*Pg	**Pn**		**06 47 18.8**	**-1.0**
SDD			⇑	*e*Sg	**Sb**		**06 47 35.8**	**+0.5**
SDD				IAML			06 47 37.1	
	comp=N,92nm,0.2s							
SDD				IAML			06 47 40.9	
	comp=E,95nm,0.6s							
SDD	**Santo Domingo**	**1.20 160**	⇓	*e*Pg	**Pn**		**06 47 18.9**	**-0.9**
SDD			⇑	*e*Sg	**Sn**		**06 47 36.5**	**+0.4**
SDD				IAML			06 47 37.1	
	comp=N,92nm,0.2s							
SDD				IAML			06 47 40.9	
	comp=E,95nm,0.6s							
SDD	**Santo Domingo**	**1.20 160**	*i*	P	**Pn**		**06 47 19.1**	**-0.7**
SDD				*e*S	**Sg**		**06 47 36.0**	**+0.3**
HATOM	**Hato Mayor del**	**1.22 131**	⇑	*e*Pg	**Pn**		**06 47 19.3**	**-0.7**
HATOM			⇑	*e*Sg	**Sn**		**06 47 37.2**	**+0.7**
HATOM				IAML			06 47 38.6	
	comp=N,315nm,0.7s							
HATOM				IAML			06 47 42.8	
	comp=Z,137nm,0.2s							
HATOM	**Hato Mayor del**	**1.22 131**	⇓	*e*Pg	**Pn**		**06 47 19.5**	**-0.5**
HATOM			⇑	*e*Sg	**Sn**		**06 47 37.8**	**+1.2**
HATOM				IAML			06 47 38.6	
	comp=N,315nm,0.7s							
HATOM				IAML			06 47 38.6	
	comp=E,371nm,0.3s							
MCDR	**Montecristi**	**1.27 284**	⇑	*e*Pg	**Pn**		**06 47 19.8**	**-0.9**
MCDR				IAML			06 47 41.7	
	comp=N,413nm,0.2s							
MCDR				IAML			06 47 43.5	
	comp=Z,265nm,0.4s							
LODA1	**ITESIL, Dajabo**	**1.28 268**	⇑	*e*Pg	**Pb**		**06 47 21.0**	**0.0**
LODA1			⇑	*e*Sg	**Sb**		**06 47 36.6**	**-0.9**
LODA1				IAML			06 47 37.6	
	comp=N,2µm,0.4s							
LODA1				IAML			06 47 37.6	
	comp=N,2µm,0.4s							
LODA1				IAML			06 47 41.2	
	comp=E,1µm,0.4s							
LODA1	**ITESIL, Dajabo**	**1.28 268**	*i*	P	**Pn**		**06 47 20.7**	**-0.1**
LODA1				*e*S	**Sb**		**06 47 36.8**	**-0.7**
LODA1				IAML			06 47 38.7	
	comp=Z,1µm,0.3s							
MIDR	**Miches**	**1.37 116**	⇑	*e*Pg	**Pb**		**06 47 22.8**	**+0.2**
MIDR				IAML			06 47 43.8	
	comp=N,241nm,0.5s							
MIDR				IAML			06 47 47.4	
	comp=E,185nm,0.4s							
MIDR	**Miches**	**1.37 116**	⇑	*e*Pg	**Pb**		**06 47 22.7**	**+0.1**
MIDR			⇑	*e*Sg	**Sg**		**06 47 41.9**	**+0.9**
MIDR				IAML			06 47 43.8	
	comp=N,241nm,0.5s							
MIDR				IAML			06 47 47.4	
	comp=E,185nm,0.4s							
NEDR	**Neiba UASD**	**1.50 223**	⇑	*e*Pg	**Pn**		**06 47 23.1**	**-0.7**
NEDR				IAML			06 47 49.7	
	comp=N,116nm,0.3s							
NEDR				IAML			06 47 51.0	
	comp=E,174nm,0.5s							
PODR	**Polo**	**1.67 212**	⇑	*e*Pg	**Pn**		**06 47 25.9**	**-0.5**
PODR				IAML			06 47 56.7	
	comp=N,129nm,0.3s							
PODR				IAML			06 48 03.2	
	comp=N,100nm,0.5s							
PODR	**Polo**	**1.67 212**	⇑	*e*Pg	**Pb**		**06 47 27.6**	**-0.3**
PODR			⇓	*e*Sg	**Sn**		**06 47 48.3**	**+0.3**
PODR				IAML			06 48 01.5	
	comp=E,176nm,0.3s							
PODR				IAML			06 48 03.2	
	comp=N,100nm,0.5s							
PODR	**Polo**	**1.67 212**	*i*	P	**Pn**		**06 47 27.2**	**+0.8**
JIDR	**Jimani**	**1.79 233**	⇓	*e*Pg	**Pn**		**06 47 28.9**	**+1.0**
JIDR			⇑	*e*Sg	**Sg**		**06 47 54.0**	**-0.6**
JIDR				IAML			06 47 54.1	
	comp=N,353nm,1.0s							
JIDR				IAML			06 47 55.2	
	comp=N,245nm,0.3s							
SADR	**Isla Saona**	**2.04 133**	⇑	*e*Pg	**Pb**		**06 47 34.4**	**+0.4**
GRTK	**Grand Turk**	**2.04 339**	⇑	*e*Pg	**Pn**		**06 47 30.7**	**-0.7**
GRTK			⇑	*e*Sg	**Sn**		**06 47 57.6**	**+0.6**
GRTK				IAML			06 47 58.8	
	comp=N,196nm,0.3s							
GRTK				IAML			06 48 00.5	
	comp=E,163nm,0.3s							
GRTK	**Grand Turk**	**2.04 339**	*i*	P	**Pn**		**06 47 30.7**	**-0.7**
GRTK				*e*S	**Sn**		**06 47 56.3**	**-0.6**
GRTK				IAML			06 47 59.9	
	comp=Z,90nm,0.6s							
PAPH	**Port-au-Prince**	**2.13 240**	⇑	*e*Sg	**Sb**		**06 48 01.6**	**-0.4**
PAPH				IAML			06 48 07.2	
	comp=N,182nm,0.8s							
PAPH				IAML			06 48 11.2	
	comp=E,135nm,1.2s							
PAPH	**Port-au-Prince**	**2.13 240**	*i*	P	**Pn**		**06 47 34.0**	**+1.5**
PAPH				IAML			06 48 08.1	
	comp=Z,37nm,0.3s							
AGPR	**Aguadilla, PR**	**3.26 110**	*i*	P	**Pn**		**06 47 49.8**	**+1.6**
AGPR				IAML			06 48 51.3	
	comp=Z,80nm,1.6s							
CRPR	**Cabo Rojo, PR**	**3.45 117**	⇑	*e*Pg	**Pb**		**06 47 56.9**	**-1.3**
CRPR				IAML			06 48 57.0	
	comp=N,51nm,2.2s							
CRPR				IAML			06 48 57.4	
	comp=E,31nm,2.1s							
CRPR	**Cabo Rojo, PR**	**3.45 117**	*i*	P	**Pn**		**06 47 52.3**	**+1.6**
CRPR				IAML			06 48 57.5	
	comp=Z,75nm,1.6s							
MLPR	**Magueyes Islan**	**3.52 117**	⇑	*e*Pg	**Pb**		**06 47 57.9**	**-1.4**
MLPR				IAML			06 48 53.1	
	comp=N,26nm,0.5s							
MLPR				IAML			06 48 55.0	
	comp=E,27nm,0.7s							
AOPR	**Arecibo Observ**	**3.62 109**	⇑	*e*Pg	**Pb**		**06 47 58.6**	**-2.4**
AOPR				IAML			06 49 01.5	
	comp=N,99nm,0.3s							

TAP ***04*** *06:54:30.9,24.˚79N×122.˚87E,h132km,ML3.5,D*
JMA ***04*** *06:54:31.6±0.2,25.˚N±3.˚×122.˚9E±0.˚7,h130km±2km,*
MV3.4/15,NW OFF ISHIGAKIJIMA IS

ISC 04 06:54:31.8±1.5,**24.˚68N**±0.˚05×**122.˚86E**±0.˚03,**h128**km±8km,
n82,σ087/161,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.24**	**162**	P		**Pn**		**06 54 49.7**	**+0.1**
JYNG				S		**Sn**		**06 55 03.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.26**	**149**	P		**Pn**		**06 54 49.7**	**+0.1**
YOJ				*e*S		**Sn**		**06 55 03.5**	**+0.5**
YOJ	**Yonaguni jima**	**0.26**	**149**	*i* P		**Pn**		**06 54 49.8**	**+0.1**
	baz=159								
YOJ				*i* S		**Sn**		**06 55 03.7**	**+0.6**
	baz=159								
EOS2	**EOS2**	**0.63**	**245**	*e*P		**Pn**		**06 54 51.7**	**+0.3**
	baz=247								
EOS2				S		**Sn**		**06 55 06.5**	**+0.4**
	baz=247								
EOS3	**EOS3**	**0.64**	**232**	*e*P		**Pn**		**06 54 52.0**	**+0.6**
	baz=233								
EOS3				S		**Sn**		**06 55 07.6**	**+1.4**
	baz=233								
EOS4	**EOS4**	**0.75**	**222**	*e*P		**Pn**		**06 54 52.2**	**+0.3**
	baz=218								
EOS4				S		**Sn**		**06 55 08.2**	**+1.0**
	baz=218								
TWC	**Suao**	**0.93**	**266**	*e*P		**Pn**		**06 54 53.4**	**-0.4**
	baz=254								
TWC				*i* S		**Sn**		**06 55 09.2**	**-1.3**
	baz=254								
SXI1	**Grass Mountain**	**0.98**	**295**	P		**Pn**		**06 54 54.2**	**-0.3**
	baz=283								
SXI1				*e*S		**Sn**		**06 55 11.7**	**0.0**
	baz=283								
EWUT	**Wuta**	**1.01**	**257**	P		**Pn**		**06 54 55.1**	**+0.4**
	baz=256								
EWUT				*e*S		**Sn**		**06 55 11.9**	**-0.1**
	baz=256								
NDS	**Dongshan**	**1.04**	**267**	*e*P		**Pn**		**06 54 53.2**	**-1.8**
	baz=258								
NDS				*e*S		**Sn**		**06 55 12.0**	**-0.5**
	baz=258								
ENA	**Nanau**	**1.05**	**256**	*e*P		**Pn**		**06 54 55.2**	**+0.1**
	baz=251								
ENA				S		**Sn**		**06 55 12.8**	**+0.2**
	baz=251								
HATJ	**Hateruma jima**	**1.06**	**126**	P		**Pn**		**06 54 55.9**	**+0.8**
HATJ				*e*S		**Sn**		**06 55 13.6**	**+0.7**
EAHA	**Aohua**	**1.08**	**251**	*e*P		**Pn**		**06 54 53.8**	**-1.5**
	baz=243								
EAHA				*e*S		**Sn**		**06 55 13.4**	**+0.2**
	baz=243								
TWE	**Neicheng**	**1.09**	**272**	*e*P		**Pn**		**06 54 55.5**	**+0.1**
	baz=263								
TWE				*e*S		**Sn**		**06 55 12.8**	**-0.4**
	baz=263								
JKRS	**Kuro-shima**	**1.14**	**113**	P		**Pn**		**06 54 56.5**	**+0.7**
JKRS				S		**Sn**		**06 55 14.7**	**+0.6**
FUSB	**Fushanzhiwuyua**	**1.16**	**274**	P		**Pn**		**06 54 56.0**	**-0.2**
	baz=265								
FUSB				*e*S		**Sn**		**06 55 13.6**	**-1.2**
	baz=265								
ENTT	**Nioudou**	**1.18**	**268**	*i* P		**Pn**		**06 54 56.5**	**+0.2**
	baz=263								
ENTT				S		**Sn**		**06 55 16.4**	**+1.4**
	baz=263								
JIJ	**Ishigaki jima**	**1.21**	**105**	P		**Pn**		**06 54 56.7**	**+0.1**
JIJ				S		**Sn**		**06 55 14.3**	**-1.1**
LATG	**Datong**	**1.23**	**263**	P		**Pn**		**06 54 57.1**	**+0.2**
	baz=256								
LATG				S		**Sn**		**06 55 16.3**	**+0.3**
	baz=256								
NDT	**Datong Townshi**	**1.23**	**266**	P		**Pn**		**06 54 57.5**	**+0.6**
	baz=262								
NDT				*e*S		**Sn**		**06 55 15.6**	**-0.3**
	baz=262								
NWLT	**Wulai**	**1.24**	**275**	P		**Pn**		**06 54 56.8**	**-0.2**
	baz=270								
NWLT				*e*S		**Sn**		**06 55 15.0**	**-1.1**
	baz=270								
YM01	**YM01**	**1.26**	**292**	P		**Pn**		**06 54 57.2**	**0.0**
	baz=287								
YM01				S		**Sn**		**06 55 15.6**	**-0.9**
	baz=287								
NACB	**Ninganchiao**	**1.26**	**247**	*i* P		**Pn**		**06 54 56.6**	**-0.6**
	baz=243								
NACB				S		**Sn**		**06 55 16.0**	**-0.5**
	baz=243								
TWD	**Chiawan**	**1.30**	**243**	*i* P		**Pn**		**06 54 57.1**	**-0.5**
	baz=235								
TWD				*i* S		**Sn**		**06 55 16.6**	**-0.6**
	baz=235								
ANP	**Anpu**	**1.32**	**293**	*e*P		**Pn**		**06 54 56.4**	**-1.5**
	baz=288								
ANP				*e*S		**Sn**		**06 55 16.6**	**-1.1**
	baz=288								
JISG	**Ishigakijimahi**	**1.32**	**94**	P		**Pn**		**06 54 57.6**	**-0.1**
JISG				*e*S		**Sn**		**06 55 16.7**	**-0.9**
ETLH	**Xiulin Townshi**	**1.34**	**250**	*i* P		**Pn**		**06 54 57.9**	**-0.3**
	baz=246								
ETLH				S		**Sn**		**06 55 17.7**	**-0.5**
	baz=246								
YHNB	**Yeheng**	**1.35**	**270**	*i* P		**Pn**		**06 54 58.5**	**+0.3**
	baz=271								
YHNB				*i* S		**Sn**		**06 55 17.4**	**-1.0**
	baz=271								
NSK	**Sanguang**	**1.37**	**270**	*e*P		**Pn**		**06 54 58.5**	**+0.2**
	baz=271								
NSK				*i* S		**Sn**		**06 55 17.9**	**-0.7**
	baz=271								
NNSB	**Datong**	**1.37**	**260**	P		**Pn**		**06 54 58.6**	**+0.2**
	baz=256								
NNSB				S		**Sn**		**06 55 18.9**	**+0.1**
	baz=256								
NNS	**Nan Shan**	**1.38**	**260**	*e*P		**Pn**		**06 54 58.7**	**+0.1**
	baz=256								
NNS				*e*S		**Sn**		**06 55 17.8**	**-1.1**
	baz=256								
TEYL	**Yanliau Villag**	**1.41**	**235**	*e*P		**Pn**		**06 54 58.5**	**-0.3**
	baz=236								
TEYL				*e*S		**Sn**		**06 55 19.3**	**0.0**
	baz=236								
ETM	**Tongmen**	**1.44**	**240**	P		**Pn**		**06 54 58.8**	**-0.4**
	baz=233								
ETM				S		**Sn**		**06 55 19.0**	**-0.9**
	baz=233								
LXIB	**Xiulin Townshi**	**1.48**	**244**	*i* P		**Pn**		**06 54 59.3**	**-0.4**
	baz=241								
LXIB				S		**Sn**		**06 55 19.8**	**-1.2**
	baz=241								
SHUL	**Shoufeng**	**1.48**	**233**	*i* P		**Pn**		**06 54 59.5**	**-0.1**
	baz=231								
SHUL				*e*S		**Sn**		**06 55 20.5**	**-0.2**
	baz=231								
WHF	**Hehuan Shan**	**1.55**	**250**	*e*P		**Pn**		**06 55 01.0**	**+0.1**
	baz=247								
WHF				*i* S		**Sn**		**06 55 22.0**	**-0.9**
	baz=247								
ESL	**Shilin**	**1.57**	**237**	P		**Pn**		**06 55 00.2**	**-0.4**
	baz=234								
ESL				S		**Sn**		**06 55 21.2**	**-1.2**
	baz=234								
NFF	**Wufeng Townshi**	**1.59**	**268**	*e*P		**Pn**		**06 55 01.5**	**+0.6**
	baz=265								
NFF				*i* S		**Sn**		**06 55 22.2**	**-0.8**
	baz=265								
TWT	**Tachien**	**1.60**	**255**	*i* P		**Pn**		**06 55 01.9**	**+0.8**
	baz=246								
TWT				*e*S		**Sn**		**06 55 23.3**	**0.0**
	baz=246								
TDCB	**Techi**	**1.61**	**255**	*e*P		**Pn**		**06 55 01.9**	**+0.7**
	baz=246								
TDCB				*i* S		**Sn**		**06 55 23.5**	**-0.1**
	baz=246								
EGFH	**Guangfu**	**1.66**	**233**	*e*P		**Pn**		**06 55 01.3**	**-0.2**
	baz=231								
EGFH				S		**Sn**		**06 55 24.0**	**-0.3**
	baz=231								
WARBT	**Fenglin Townsh**	**1.66**	**235**	*i* P		**Pn**		**06 55 01.1**	**-0.5**
	baz=233								
WARBT				S		**Sn**		**06 55 22.9**	**-1.4**
	baz=233								
CHGB	**Renai**	**1.66**	**248**	*i* P		**Pn**		**06 55 02.3**	**+0.5**
	baz=241								
CHGB				*e*S		**Sn**		**06 55 24.8**	**0.0**
	baz=241								
JTJ	**Tarama**	**1.67**	**91**	P		**Pn**		**06 55 01.9**	**+0.2**
JTJ				S		**Sn**		**06 55 23.8**	**-0.8**
LIOB	**Emei**	**1.68**	**269**	*e*P		**Pn**		**06 55 02.3**	**+0.5**
	baz=266								
LIOB				*i* S		**Sn**		**06 55 24.1**	**-0.7**
	baz=266								
NSTT	**Nanjuang**	**1.69**	**269**	*e*P		**Pn**		**06 55 02.7**	**+0.6**
	baz=265								
NSTT				*e*S		**Sn**		**06 55 24.0**	**-1.1**
	baz=265								
OWD	**Renai**	**1.70**	**245**	*e*P		**Pn**		**06 55 02.6**	**+0.4**
	baz=240								
OWD				*i* S		**Sn**		**06 55 24.9**	**-0.5**
	baz=240								
WUSB	**Renai**	**1.73**	**247**	*i* P		**Pn**		**06 55 03.1**	**+0.4**
	baz=241								
WUSB				*i* S		**Sn**		**06 55 26.1**	**-0.1**
	baz=241								
HGSD	**Ruisui**	**1.77**	**228**	P		**Pn**		**06 55 03.2**	**+0.2**
	baz=223								
HGSD				*i* S		**Sn**		**06 55 26.9**	**+0.2**
	baz=223								
WHP	**Taichung City**	**1.79**	**257**	*i* P		**Pn**		**06 55 05.1**	**+1.8**
	baz=255								
WHP				*i* S		**Sn**		**06 55 28.4**	**+1.1**
	baz=255								
VWDT	**VWDT**	**1.82**	**240**	*i* P		**Pn**		**06 55 04.2**	**+0.6**
	baz=235								
VWDT				*i* S		**Sn**		**06 55 27.9**	**+0.1**
	baz=235								
EHY	**Hungye**	**1.83**	**231**	P		**Pn**		**06 55 03.3**	**-0.4**
	baz=229								
EHY				*i* S		**Sn**		**06 55 26.6**	**-1.5**
	baz=229								
ECBN	**Changbin**	**1.88**	**224**	*e*P		**Pn**		**06 55 05.3**	**+1.1**
	baz=218								
ECBN				S		**Sn**		**06 55 29.1**	**+0.1**
	baz=218								
WCS	**Beigang Elemen**	**1.89**	**251**	*e*P		**Pn**		**06 55 06.1**	**+1.8**
	baz=249								
WCS				S		**Sn**		**06 55 29.6**	**+0.5**
	baz=249								
YULB	**Yu-li**	**1.92**	**228**	*e*P		**Pn**		**06 55 04.5**	**-0.3**
	baz=233								
YULB				S		**Sn**		**06 55 29.1**	**-0.9**
	baz=233								
TWQ1	**Liyutan**	**1.93**	**260**	*e*P		**Pn**		**06 55 04.7**	**-0.2**
	baz=258								
TWQ1				*e*S		**Sn**		**06 55 30.5**	**+0.3**
	baz=258								
EYUL	**Yuli**	**1.94**	**227**	P		**Pn**		**06 55 06.3**	**+1.3**
	baz=236								
EYUL				*e*S		**Sn**		**06 55 31.6**	**+1.3**
	baz=236								
TWF1	**Yuli**	**1.95**	**228**	*e*P		**Pn**		**06 55 05.0**	**-0.1**
	baz=232								
TWF1				S		**Sn**		**06 55 28.5**	**-2.1**
	baz=232								
SSLB	**Suanglung**	**1.96**	**243**	P		**Pn**		**06 55 06.3**	**+1.1**
	baz=240								
SSLB				S		**Sn**		**06 55 31.4**	**+0.6**
	baz=240								
SMLT	**Sun Moon Lake**	**1.96**	**246**	*e*P		**Pn**		**06 55 06.5**	**+1.2**
	baz=240								
SMLT				S		**Sn**		**06 55 32.2**	**+1.3**
	baz=240								
TYC	**Yuchr**	**1.99**	**247**	*e*P		**Pn**		**06 55 06.8**	**+1.3**
	baz=243								
TYC				*i* S		**Sn**		**06 55 33.1**	**+1.7**
	baz=243								
CHKH	**Chenggong**	**2.00**	**222**	*e*P		**Pn**		**06 55 06.2**	**+0.5**
	baz=216								
CHKH				*e*S		**Sn**		**06 55 30.7**	**-0.9**
	baz=216								
WHYT	**Xinyi Township**	**2.08**	**242**	P		**Pn**		**06 55 08.2**	**+1.5**
	baz=240								
WHYT				S		**Sn**		**06 55 34.8**	**+1.3**
	baz=240								
CHKT	**Chengkung**	**2.09**	**221**	*e*P		**Pn**		**06 55 06.9**	**+0.1**
	baz=215								
CHKT				S		**Sn**		**06 55 32.8**	**-0.8**
	baz=215								
JIRB	**Irabujima**	**2.11**	**86**	*e*P		**Pn**		**06 55 07.3**	**+0.4**
EHD	**Haiduan**	**2.15**	**225**	*i* P		**Pn**		**06 55 07.1**	**-0.5**
	baz=232								
EHD				S		**Sn**		**06 55 33.5**	**-1.5**
	baz=232								
JIKM	**Ikemajima**	**2.18**	**83**	P		**Pn**		**06 55 08.3**	**+0.5**
ALS	**Alishan**	**2.21**	**239**	P		**Pn**		**06 55 09.8**	**+1.1**
	baz=237								
ALS				*e*S		**Sn**		**06 55 38.0**	**+1.1**
	baz=237								
EDH	**Donghe**	**2.22**	**220**	*i* P		**Pn**		**06 55 06.7**	**-1.7**
	baz=215								
EDH				*i* S		**Sn**		**06 55 34.8**	**-1.7**
	baz=215								
JMJ2	**Miyako jima3**	**2.24**	**88**	P		**Pn**		**06 55 09.3**	**+0.6**
ELDTW	**Lidau**	**2.25**	**229**	*i* P		**Pn**		**06 55 08.9**	**0.0**
	baz=226								
ELDTW				*i* S		**Sn**		**06 55 36.6**	**-0.8**
	baz=226								
CHN5	**Tsauling**	**2.27**	**242**	*i* P		**Pn**		**06 55 10.1**	**+1.0**
	baz=232								
CHN5				*i* S		**Sn**		**06 55 39.9**	**+2.1**
	baz=232								
LDUT	**Ludao**	**2.37**	**213**	*e*P		**Pn**		**06 55 10.2**	**-0.2**
	baz=213								
LDUT				S		**Sn**		**06 55 38.9**	**-1.1**
	baz=213								
WCKO	**Fanlu**	**2.41**	**239**	*e*P		**Pn**		**06 55 11.5**	**+0.7**
	baz=239								
WCKO				S		**Sn**		**06 55 41.5**	**+0.8**
	baz=239								
STYH	**Taoyuan**	**2.43**	**232**	*e*P		**Pn**		**06 55 12.6**	**+1.5**
	baz=238								
STYH				*e*S		**Sn**		**06 55 42.6**	**+1.4**
	baz=238								
CHN4	**Tsaushan**	**2.46**	**238**	*i* P		**Pn**		**06 55 12.4**	**+0.9**
	baz=237								
CHN4				*i* S		**Sn**		**06 55 43.3**	**+1.3**
	baz=237								
TWGBT	**Beinan**	**2.47**	**222**	P		**Pn**		**06 55 11.1**	**-0.5**
	baz=221								
TWGBT				*e*S		**Sn**		**06 55 42.5**	**+0.3**
	baz=221								
TWG	**Pinlang**	**2.48**	**222**	*i* P		**Pn**		**06 55 11.3**	**-0.4**
	baz=221								
TWG				*e*S		**Sn**		**06 55 41.2**	**-1.1**
	baz=221								
TWK	**Hsinying**	**2.59**	**237**	P		**Pn**		**06 55 13.3**	**+0.1**
	baz=237								
TWK				*e*S		**Sn**		**06 55 44.9**	**-0.1**
	baz=237								
SLGT	**Liugui**	**2.64**	**231**	P		**Pn**		**06 55 14.1**	**+0.4**
	baz=239								
SLGT				S		**Sn**		**06 55 47.6**	**+1.7**
	baz=239								
LAY	**Lan-yu**	**2.90**	**205**	P		**Pn**		**06 55 17.1**	**0.0**
	baz=200								
LAY				S		**Sn**		**06 55 50.2**	**-1.7**
	baz=200								
LYUB	**Lan-yu**	**2.92**	**204**	*e*P		**Pn**		**06 55 17.0**	**-0.3**
	baz=205								
LYUB				S		**Sn**		**06 55 50.3**	**-2.1**
	baz=205								

IDC 04 07:09:12.0±3.0,**54.˚32N**×**86.˚90E,h0**km,**mbtmp2.8**/2,
ML2.6/2,**Error ellipse: s-maj=26.8km s-min=17.7km**
az=55.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**254**	I		I		07 17 50.0	
	baz=74,slow=326,SNR=6.5								
ZALV	**Zalesovo Beam**	**1.28**	**254**	Pg		Pg		07 09 34.8	-1.7
	2.8nm,0.3s,baz=72,slow=16,SNR=24								
ZALV				Lg		Lg		07 09 53.9	
	1.9nm,0.3s,baz=71,slow=28,SNR=4.3								
KURBB	**Kurchatov Arra**	**6.31**	**237**	Pn		Pn		07 10 46.9	+0.7
	0.1nm,0.3s,baz=54,slow=14,SNR

0.2nm,0.3s

NEIC ***04*** *07:29:51.6±1.5, 19.45N×0.02×154.93W±0.03, h5km±2km, Error ellipse: s-maj=5.6km s-min=3.0km az=281.0*

HVO 04 07:29:50.3±1.5, **19.45N**±0.02×**154.90W**±0.04, **h3km**±8km, **ML2.4**/12, **ML2.4**/30(NEIC), **Error ellipse: s-maj=5.3km s-min=1.3km az=114.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**10**		Pg	07 29 53.1	+1.8
JOKA	**Jonika Flow**	**0.10**	**264**		Pg	07 29 52.8	+0.5
STCH	**Steam Cracks**	**0.22**	**255**		Pg	07 29 54.8	+0.2
KNHH	**Kane Nui o Ham**	**0.27**	**256**		Pb	07 29 57.3	-0.4
PUH	**Pauahi**	**0.31**	**257**		Pg	07 29 56.9	+0.6
BYL	**Byron's Ledge**	**0.34**	**265**	Pg	Pg	07 29 57.7	+0.8
BYL	comp=N,467nm,0.7s			IAML		07 30 04.6	
HATHI	**Halema'uma'u T**	**0.34**	**266**		Sb	07 30 04.0	-1.1
HATHI	**Halema'uma'u T**	**0.34**	**266**	Pg	Pg	07 29 57.1	+0.2
HATHI	**Halema'uma'u T**	**0.34**	**266**	IAML		07 30 06.0	
HATHI	comp=E,669nm,0.7s			IAML		07 30 07.9	
SBLHI	**Steaming Bluff**	**0.35**	**267**	Pg	Pg	07 29 57.8	+0.7
SBLHI	comp=N,449nm,0.8s			IAML		07 30 02.0	
SBLHI	comp=E,315nm,1.1s			IAML		07 30 06.2	
KKO	**Keanakako`i**	**0.35**	**262**	Pg	Pg	07 29 57.6	+0.5
KKO	comp=N,332nm,0.6s			IAML		07 30 07.6	
KKO	comp=E,385nm,1.2s			IAML		07 30 08.5	
RSD	**Rainshed**	**0.36**	**273**		Pg	07 29 58.0	+0.7
RSD	comp=N,527nm,1.0s			IAML		07 30 04.7	
RSD	comp=N,442nm,0.3s			IAML		07 30 05.7	
UWB	**Uwekahuna B**	**0.36**	**267**	Pg	Pg	07 29 58.1	+0.8
UWE	**Uwekahuna**	**0.37**	**266**	Pg	Pg	07 29 58.4	+0.9
UWE	comp=E,481nm,1.9s			IAML		07 30 01.3	
UWE	comp=N,462nm,1.0s			IAML		07 30 04.9	
SDHHI	**Sand Hill**	**0.38**	**262**	Pg	Pg	07 29 58.3	+0.6
SDHHI	comp=E,492nm,1.2s			IAML		07 30 09.3	
WRMHI	**West Rim**	**0.38**	**264**	Pg	Pg	07 29 58.5	+0.7
HLP	**Hilina Pali**	**0.41**	**249**		Pg	07 29 59.0	+0.7
HLP	**Hilina Pali**	**0.41**	**249**	IAML		07 30 07.7	
HLP	comp=N,694nm,3.0s			IAML		07 30 10.0	
HLP	comp=E,531nm,1.1s			IAML		07 30 15.3	
MLH	**Mauna Loa**	**0.46**	**276**		Pg	07 29 59.8	+0.6
MLH	comp=E,333nm,0.3s			IAML		07 30 11.6	
HTC	**Hot Caves**	**0.52**	**247**		Pg	07 30 00.6	+0.4
HMH	**Humu'ula Sheep**	**0.57**	**286**		Pg	07 30 01.5	+0.1
HMH	**Humu'ula Sheep**	**0.57**	**286**		Sb	07 30 10.4	-1.4
MLOA	**Mauna Loa Obse**	**0.65**	**278**		Sg	07 30 12.3	+1.1
MLOA	**Mauna Loa Obse**	**0.65**	**278**	Pg	Pg	07 30 02.4	-0.4
MLOA	**Mauna Loa Obse**	**0.65**	**278**	IAML		07 30 12.4	
MLOA	comp=N,273nm,0.6s			IAML		07 30 15.3	
ALEP	comp=E,216nm,0.9s **Alea Permanent**	**0.71**	**278**		Sg	07 30 13.7	+0.4

IDC ***04*** *07:40:02.6±0.7, 36.10S×101.67W, h0km, mb4.1/8, mbtmp4.1/8, MS3.9/19, Error ellipse: s-maj=29.7km s-min=20.8km az=91.0*

NEIC ***04*** *07:40:04.2±1.7, 36.1S±0.1×101.5W±0.2, h10km±1km, mb4.6/51, Error ellipse: s-maj=25.0km s-min=22.4km az=125.0*

GCMT ***04*** *07:40:05.2±0.4, 36.24S±0.02×101.46W±0.03, h22km±1km, MW4.8/92, Moment Tensor Solution. s13,c14; s92,c120; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.68±.15; Mθθ=0.24±.11; Mφφ=0.92±.11; Mrθ=0.26±.16; Mθφ=-1.93±.07; Mφr=0.17±.15; Best double couple: M0=2.06100×10^16 NP1:φs=280.00000°, δ79.00000°, λ=-168.00000°. NP2: φs=187.00000°, δ79.00000°, λ=-11.00000°. Principal axes: T 2.3550, Plg0.0000°, Azm53.0000°; N -0.5880, Plg74.0000°, Azm323.0000°; P -1.7660, Plg16.0000°, Azm143.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 07:40:03.9±0.6, **36.2S**±0.1×**101.5W**±0.1, **h10km**, **n93, e0s80/66, mb4.5/32, MS4.0/18, Southeast of Easter Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.22**	**321**	LR	LR	07 45 50.0	
H03S2	comp=Z,534nm,21.6s,baz=106,slow=31 **Juan Fernandez**	**18.60**	**89**	T	T	08 03 46.7	
H03S1	baz=254,slow=75,SNR=10 **Juan Fernandez**	**18.61**	**89**	T	T	08 03 38.6	
H03S3	baz=254,slow=75,SNR=3.3 **Juan Fernandez**	**18.61**	**89**	T	T	08 03 44.2	
H03N2	baz=254,slow=72,SNR=5.1 **Juan Fernandez**	**18.69**	**88**	T	T	08 03 56.1	
H03N3	baz=248,slow=72,SNR=14 **Juan Fernandez**	**18.69**	**88**	T	T	08 03 57.2	
H03N1	baz=248,slow=72,SNR=13 **Juan Fernandez**	**18.70**	**88**	T	T	08 03 51.8	
VA04	baz=248,slow=72,SNR=15 **Juan Fernndez**	**18.72**	**89**	P	**P**	**07 44 21.8**	**-0.8**
LR04	**Corral**	**22.36**	**108**	P	**P**	**07 45 01.2**	**-0.7**
GO07	**Milladeo Hill,**	**22.44**	**117**	P	**P**	**07 45 00.4**	**-2.4**
GO07	comp=Z,35nm,1.2s			IAmb	IAmb	07 45 17.1	
LL07	**Hotel Espejo d**	**22.53**	**116**	P	**P**	**07 45 03.0**	**-0.8**
GO06	**Curarrehue**	**23.86**	**107**	P	**P**	**07 45 19.1**	**+1.6**
PLCA	**Paso Flores**	**24.56**	**110**	P	**P**	**07 45 25.4**	**+1.5**
PLCA	**Paso Flores**	**24.56**	**110**	P	**P**	**07 45 26.6**	**+2.7**
PLCA	comp=Z,2.9nm,0.9s,baz=280,slow=8.9,SNR=4.5			LR	LR	07 52 40.9	
BO02	comp=Z,96nm,18.6s,baz=274,slow=31 **Sierra Bellavi**	**24.97**	**96**	P	**P**	**07 45 27.6**	**0.0**
BO02	comp=Z,2.9nm,0.9s			IAmb	IAmb	07 45 45.5	
BO04	comp=Z,16nm,1.1s **La Punta**	**25.29**	**94**	P	**P**	**07 45 30.9**	**+0.4**
BO04	comp=Z,18nm,1.1s			IAmb	IAmb	07 45 33.0	
PEL	**Peldehue**	**25.44**	**92**	P	**P**	**07 45 32.5**	**+0.6**
PEL	comp=Z,20nm,1.2s			IAmb	IAmb	07 45 36.1	
MT16	**CCHEN**	**25.50**	**93**	P	**P**	**07 45 32.2**	**-0.2**
MT13	**San Alfonso**	**25.61**	**94**	P	**P**	**07 45 32.3**	**-1.2**
MT13	comp=Z,16nm,1.1s			IAmb	IAmb	07 45 41.8	
LMEL	**Las Melosas**	**25.65**	**94**	P	**P**	**07 45 33.5**	**-0.5**
LMEL	comp=Z,19nm,1.0s			IAmb	IAmb	07 45 37.8	
LVC	**Limon Verde**	**31.24**	**73**	LR	LR	07 55 44.0	
TA01	comp=Z,180nm,18.4s,baz=248,slow=30 **Diego Aracena**	**31.43**	**69**	P	**P**	**07 46 26.7**	**+1.4**
NNA	**Nana**	**32.73**	**49**	LR	LR	07 56 47.1	
LPAZ	comp=Z,274nm,18.8s,baz=232,slow=31 **La Paz**	**35.59**	**65**	P	**P**	**07 47 02.4**	**0.0**
LPAZ	**La Paz**	**35.59**	**65**	P	**P**	**07 47 03.5**	**+1.1**
LPAZ	comp=Z,12nm,1.2s,baz=233,slow=5.0,SNR=12			LR	LR	07 58 58.5	
ATAH	comp=Z,33nm,19.1s,baz=184,slow=32 **Atahualpa**	**35.76**	**42**	LR	LR	07 58 00.3	
PMSA	comp=Z,12nm,1.2s **Palmer Station**	**36.28**	**154**	LR	LR	07 58 07.7	
CPUP	comp=Z,237nm,20.6s,baz=226,slow=30 **Villa Florida**	**38.70**	**88**	LR	LR	08 01 54.8	
SIV	comp=Z,270nm,18.5s,baz=272,slow=30 **San Ignacio**	**41.08**	**71**	LR	LR	08 02 27.3	
AQDB	comp=Z,62nm,18.2s,baz=250,slow=34 **Aquidauana**	**42.80**	**81**	P	**P**	**07 48 01.4**	**-0.5**
AQDB	comp=Z,132nm,20.4s,baz=282,slow=33			IAmb	IAmb	07 48 04.8	
VILB	comp=Z,13nm,1.2s **Vilhena**	**43.62**	**69**	P	**P**	**07 48 09.9**	**+1.3**
VILB	comp=Z,17nm,1.1s			IAmb	IAmb	07 48 11.8	
SAML	**Samuel**	**44.07**	**62**	P	**P**	**07 48 12.3**	**+0.2**
SAML	comp=Z,8.6nm,1.1s			IAmb	IAmb	07 48 15.6	
ROSC	**El Rosal**	**48.05**	**38**	LR	LR	08 06 25.4	
JTS	comp=Z,155nm,19.4s,baz=220,slow=33 **Las Juntas de**	**48.74**	**22**	LR	LR	08 04 08.8	
BDFB	comp=Z,160nm,19.0s,baz=154,slow=30 **Brasilia**	**51.55**	**81**	LR	LR	08 08 52.2	
SDV	comp=Z,63nm,20.1s,baz=327,slow=33 **Santo Domingo**	**53.37**	**39**	LR	LR	08 08 37.6	
QSPA	comp=Z,42nm,21.5s,baz=182,slow=32 **South Pole Qui**	**54.06**	**180**	P	**P**	**07 49 27.9**	**-0.4**
QSPA	**South Pole Qui**	**54.06**	**180**	P	**P**	**07 49 28.8**	**+0.5**
VNDA	comp=Z,2.3nm,0.8s,baz=176,slow=2.7,SNR=7.1 comp=Z,2.3nm,0.8s **Vanda**	**56.45**	**195**	P	**P**	**07 49 45.4**	**+0.2**
PCRV	comp=Z,1.0nm,1.0s,baz=81,slow=4.6,SNR=3.8 comp=Z,1.0nm,1.0s **Puerto La Cruz**	**57.67**	**44**	LR	LR	08 13 12.3	
MDP	comp=Z,248nm,18.0s,slow=34 **Montagnes des**	**61.38**	**59**	LR	LR	08 14 10.7	
URZ	comp=Z,131nm,19.3s,baz=228,slow=33 **Urewera**	**62.80**	**241**	LR	LR	08 11 11.8	
THZ	comp=Z,128nm,18.5s,baz=198,slow=30 **Tophouse**	**64.17**	**236**	P	**P**	**07 50 39.0**	**+0.3**
INZ	**Inchbonnie**	**64.71**	**234**	P	**P**	**07 50 42.6**	**+0.4**
TXAR	**Lajitas Array**	**65.17**	**358**	P	**P**	**07 50 44.9**	**-0.3**
TXAR	**Lajitas Array**	**65.17**	**358**	P	**P**	**07 50 45.1**	**-0.1**
HNDO	comp=Z,1.1nm,0.9s,baz=181,slow=6.1,SNR=5.6 comp=Z,1.1nm,0.9s **Hondo**	**65.36**	**2**	P	**P**	**07 50 45.7**	**-0.6**
MNHN	**Monahans**	**67.15**	**359**	P	**P**	**07 50 56.2**	**-1.6**
MNHN	comp=Z,6.2nm,1.2s			IAmb	IAmb	07 51 12.5	
DUN6	**Lazy B Ranch**	**68.72**	**353**	P	**P**	**07 51 07.7**	**-0.1**
APMT	**Aspermont**	**69.13**	**1**	P	**P**	**07 51 09.8**	**-0.4**
X18A	**Snowflake**	**70.76**	**353**	P	**P**	**07 51 20.3**	**-0.1**
X16A	**Lo Mia Camp, P**	**70.82**	**351**	P	**P**	**07 51 21.0**	**+0.3**
MVCO	**Mesa Verde**	**73.28**	**354**	P	**P**	**07 51 34.9**	**-0.6**
MVCO	comp=Z,6.8nm,0.9s			IAmb	IAmb	07 51 36.4	
SHPR	**Sheep Range**	**73.40**	**349**	P	**P**	**07 51 36.0**	**-0.1**
CCUT	**Cedar City**	**74.16**	**350**	P	**P**	**07 51 40.9**	**+0.3**
CCUT	comp=Z,4.8nm,1.0s			IAmb	IAmb	07 51 42.1	
GMN	**Gold Mountain**	**74.54**	**347**	P	**P**	**07 51 42.7**	**-0.1**
MZP	**Montezuma Peak**	**74.95**	**347**	P	**P**	**07 51 45.5**	**+0.2**
SMCO	**Snowmass**	**75.13**	**356**	P	**P**	**07 51 46.6**	**+0.2**
SMCO	comp=Z,6.1nm,1.2s			IAmb	IAmb	07 51 50.6	
SRU	**San Rafael Swe**	**75.36**	**353**	P	**P**	**07 51 46.7**	**-0.8**
SRU	comp=Z,7.9nm,1.4s			IAmb	IAmb	07 51 48.6	
TMUT	**Trail Mountain**	**75.61**	**352**	P	**P**	**07 51 49.0**	**-0.1**
TMUT	comp=Z,5.3nm,1.1s			IAmb	IAmb	07 51 50.1	
LHV	**Little Huntoon**	**75.69**	**346**	P	**P**	**07 51 50.2**	**+1.1**
LHV	comp=Z,9.1nm,1.3s			IAmb	IAmb	07 51 51.0	
NV11	**Mina Array Sit**	**75.80**	**347**	P	**P**	**07 51 50.5**	**+0.5**
NV11	comp=Z,4.3nm,1.1s			IAmb	IAmb	07 51 51.3	
NVAR	**Mina Array Bea**	**75.83**	**346**	P	**P**	**07 51 50.1**	**-0.1**
NVAR	**Mina Array Bea**	**75.83**	**346**	P	**P**	**07 51 50.6**	**+0.4**
	comp=Z,1.5nm,0.8s,baz=170,slow=7.3,SNR=13 comp=Z,1.5nm,0.8s						
NLU	**North Lily Min**	**76.36**	**352**	P	**P**	**07 51 52.8**	**-0.4**
KVN	**Kaiserville**	**76.39**	**347**	P	**P**	**07 51 52.9**	**-0.5**
YERR	**Yerington**	**76.55**	**346**	P	**P**	**07 51 54.6**	**+0.3**
BSUT	**Blindstream Ca**	**76.79**	**353**	P	**P**	**07 51 55.4**	**-0.5**
BSUT	comp=Z,5.6nm,1.1s			IAmb	IAmb	07 52 11.2	
AFDM	**Forest Hills D**	**76.87**	**344**	P	**P**	**07 51 56.2**	**+0.3**
AFDM	comp=Z,6.1nm,1.3s			IAmb	IAmb	07 52 01.5	
PDAR	**Pinedale Array**	**78.89**	**354**	P	**P**	**07 52 06.5**	**-0.8**
PDAR	**Pinedale Array**	**78.89**	**354**	P	**P**	**07 52 06.8**	**-0.6**
	comp=Z,1.5nm,0.8s,baz=162,slow=6.6,SNR=13 comp=Z,1.5nm,0.8s						
DZM	**Mont Dzumac**	**78.94**	**251**	LR	LR	08 24 07.3	
TPAW	comp=Z,61nm,18.4s,baz=127,slow=34 **Teton Pass**	**79.74**	**353**	P	**P**	**07 52 12.1**	**+0.2**
TPAW	comp=Z,6.3nm,1.2s			IAmb	IAmb	07 52 21.9	
HLID	**Hailey**	**80.21**	**350**	P	**P**	**07 52 14.5**	**+0.1**
HLID	comp=Z,8.1nm,1.4s			IAmb	IAmb	07 52 16.3	
J05D	**Fort Rock, OR**	**81.09**	**346**	P	**P**	**07 52 19.6**	**+0.5**
J05D	comp=Z,5.7nm,1.0s			IAmb	IAmb	07 52 28.7	
RLMT	**Red Lodge**	**81.21**	**354**	P	**P**	**07 52 19.4**	**-0.4**
PINE	**Pine Mountain**	**81.52**	**346**	P	**P**	**07 52 20.9**	**-0.5**
PINE	comp=Z,5.4nm,1.0s			IAmb	IAmb	07 52 27.9	
LAO	**LASA Array**	**82.58**	**357**	P	**P**	**07 52 27.4**	**+0.7**
LAO	comp=Z,6.1nm,1.1s			IAmb	IAmb	07 52 37.0	
ULM	**Lac du Bonnet**	**86.17**	**4**	P	**P**	**07 52 45.6**	**+0.9**
	comp=Z,2.0nm,0.9s,baz=207,slow=6.8,SNR=3.1 comp=Z,2.0nm,0.9s						
STKA	**Stephens Creek**	**90.20**	**229**	LR	LR	08 24 51.5	
BOSA	comp=Z,60nm,21.3s,baz=203,slow=30 **Boshof**	**98.37**	**135**	LR	LR	08 31 19.9	
H01W1	comp=Z,85nm,21.4s,baz=197,slow=31 **Cape Leeuwin H**	**101.91**	**209**	T	T	09 48 20.9	
H01W2	baz=150,slow=76,SNR=14 **Cape Leeuwin H**	**101.92**	**209**	T	T	09 48 21.9	
H01W3	baz=150,slow=76,SNR=18 **Cape Leeuwin H**	**101.93**	**209**	T	T	09 48 21.4	
USRK	baz=150,slow=76,SNR=13 **Ussuriysk Ar.**	**139.01**	**298**	PKP	**PKPdf**	**07 59 30.1**	**-0.2**
BR131	comp=Z,5.8nm,0.8s,baz=68,slow=4.9,SNR=6.7 **Keskin Array S**	**144.68**	**70**	PKPdf	**PKPdf**	**07 59 40.2**	**-0.7**
BRTR	**Keskin Array B**	**144.68**	**70**		PKPbc	07 59 39.8	0.0
BRTR	**Keskin Array B**	**144.68**	**70**	PKP	**PKPdf**	**07 59 40.4**	**-0.4**
	comp=Z,2.4nm,0.9s,baz=192,slow=3.5,SNR=11						
ILGA	**Ilgaz**	**144.92**	**68**	PKPdf	**PKPdf**	**07 59 40.7**	**-0.6**
OBN	**Obninsk**	**145.73**	**43**	PKPdf	**PKPab**	**07 59 42.2**	**-0.5**
SRIT	**Nakonsritamara**	**146.53**	**220**	PKPdf	**PKPdf**	**07 59 43.3**	**-1.3**
KBZ	**Khabaz**	**151.80**	**63**	PKPbc	**PKiKP**	**07 59 59.3**	**+0.4**
	comp=Z,3.7nm,0.9s,baz=154,slow=3.0,SNR=7.5						
CMAR	**Chiang Mai Arr**	**154.81**	**231**	PKPab	**PKPab**	**08 00 20.8**	**-0.1**
	comp=Z,2.0nm,0.4s,baz=160,slow=2.9,SNR=7.0						

BJI ***04*** *07:47:01.8±0.0, 23.91S×175.38W, h6km, mb5.1/24, mB5.5/13*

IDC ***04*** *07:47:04.0±0.5, 23.37S×175.72W, h0km, mb4.3/17, mbtmp4.3/17, ML6.0/1, MS4.0/44, Error ellipse: s-maj=20.9km s-min=15.6km az=111.0*

MOS ***04*** *07:47:04.4±1.2, 23.52S×175.50W, h12km, mb5.0/19, Error ellipse: s-maj=12.0km s-min=10.8km az=97.9*

NEIC ***04*** *07:47:04.1±2.5, 23.52S±0.10×175.1W±0.1, h10km±1km, mb5.0/30, Error ellipse: s-maj=21.8km s-min=13.4km az=125.0*

GCMT ***04*** *07:47:11.1±0.2, 23.55S±0.02×175.14W±0.01, h34km±1km, MW5.0/98, Moment Tensor Solution. s42,c56; s98,c136; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.91±.17; Mθθ=2.37±.12; Mφφ=-3.28±.12; Mrθ=-0.84±.16; Mθφ=-1.28±.09; Mφr=1.16±.13; Best double couple: M0=3.47100×10^16 NP1:φs=330.00000°, δ80.00000°, λ=28.00000°. NP2: φs=235.00000°, δ62.00000°, λ=169.00000°. Principal axes: T 3.1820, Plg27.0000°, Azm196.0000°; N 0.5750, Plg60.0000°, Azm348.0000°; P -3.7600, Plg12.0000°, Azm100.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 07:47:04.1±0.3, **23.60S**±0.06×**175.17W**±0.05, **h10km**, **n212, e29s39/179, mb4.9/58, MS4.1/43, 8C-3D, Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.15**	**203**	Pn	**Pn**	**07 48 36.5**	**+1.5**
RAO	**Raoul Island**	**6.15**	**203**	Pn	**Pn**	**07 48 37.2**	**+2.2**
RAO	395nm,0.3s,baz=56,slow=10,SNR=13			Sn	**Sn**	**07 49 45.0**	**-0.4**
NIUE	51nm,0.3s,baz=98,slow=21,SNR=2.1 **Niue**	**6.64**	**48**	Pn	**Pn**	**07 48 39.1**	**-2.8**
MSVF	**Nonsavu**	**8.62**	**311**	Pn	**Pn**	**07 49 11.9**	**+2.8**
MSVF	**Nonsavu**	**8.62**	**311**	*i* P	**Pn**	**07 49 11.5**	**+2.5**
RAR	**Rarotonga**	**14.44**	**84**	Pn	**Pn**	**07 50 26.9**	**-1.8**
RAR	**Rarotonga**	**14.44**	**84**	Pn	**Pn**	**07 50 27.1**	**-1.6**
RAR	46nm,0.3s,baz=265,slow=7.8,SNR=100			Sn	Sn	07 52 52.6	-16
RAR	16nm,0.3s,baz=81,slow=17,SNR=5.5			LR	LR	07 54 29.4	
RAR	comp=Z,652nm,21.6s,baz=266,slow=30 **Rarotonga**	**14.44**	**84**	P	**Pn**	**07 50 26.9**	**-1.8**
WMGZ	**Waiomatatini S**	**15.20**	**200**	P	**Pn**	**07 50 33.7**	**-5.2**
HAZ	**Te Kaha**	**15.35**	**202**	P	**Pn**	**07 50 33.0**	**-7.9**
PKGZ	**Pakihiroa**	**15.37**	**201**	P	**Pn**	**07 50 33.3**	**-7.9**
RUGZ	**Raukumara Rang**	**15.57**	**201**	P	**Pn**	**07 50 37.0**	**-6.9**
TWGZ	**Tauwhareparae**	**15.67**	**200**	P	**Pn**	**07 50 39.4**	**-5.6**
CNGZ	**Carnagh Statio**	**15.88**	**199**	P	Pn	07 50 40.6	-7.2
MWZ	**Matawai**	**15.96**	**201**	P	Pn	07 50 41.3	-7.5
URZ	**Urewera**	**16.03**	**202**	Pn	Pn	07 50 42.6	-7.1
URZ	0.9nm,0.3s,baz=21,slow=4.1,SNR=9.3 2.3nm,0.3s,baz=78,slow=4.9,SNR=3.2			Sn	Sn	07 53 33.6	-14
RAGZ	**Rawiri**	**16.14**	**201**	P	**Pn**	**07 50 44.9**	**-6.3**
TOZ	**Tahuroa Road**	**16.20**	**207**	P	**Pn**	**07 50 51.6**	**-0.2**
RIGZ	**Rimuhau**	**16.22**	**200**	P	**Pn**	**07 50 47.1**	**-5.1**
RRRZ	**Republican Roa**	**16.32**	**204**	P	**Pn**	**07 50 47.8**	**-5.6**
MUGZ	**Murupara**	**16.35**	**203**	P	**Pn**	**07 50 46.9**	**-6.9**
SNGZ	**Shannon Statio**	**16.43**	**201**	P	**Pn**	**07 50 49.6**	**-5.2**
MHGZ	**Mahia Peninsul**	**16.59**	**199**	P	**Pn**	**07 50 50.3**	**-6.5**
RAHZ	**Arahi**	**16.63**	**202**	P	**Pn**	**07 50 55.0**	**-2.4**
NMHZ	**Naumai**	**16.89**	**202**	P	**Pn**	**07 50 59.3**	**-1.5**
DZM	**Mont Dzumac**	**17.02**	**272**	*e*P	**Pn**	**07 51 03.3**	**+0.9**
DZM	120nm,1.2s 1μm,30.2s			*e*S	**Sn**	**07 54 07.7**	**-4.1**
DZM	1μm,22.9s			*e*LR	LR	07 54 53.4	
DZM	**Mont Dzumac**	**17.02**	**272**		**Pn**	**07 51 02.9**	**+0.4**
DZM	**Mont Dzumac**	**17.02**	**272**	Pn	**Pn**	**07 51 02.2**	**-0.2**
DZM	0.2nm,0.3s,baz=78,slow=16,SNR=2.7 comp=Z,287nm,19.8s,baz=107,slow=28			LR	LR	07 54 50.2	
BKZ	**Black Stump Fm**	**17.06**	**203**	P	**Pn**	**07 51 02.0**	**-0.8**
OTVZ	**Oturere**	**17.36**	**205**	P	**Pn**	**07 51 00.1**	**-6.6**
KAHZ	**Kahuranaki**	**17.49**	**201**	P	**Pn**	**07 51 01.9**	**-6.3**
MRZ	**Mangatainoka R**	**18.71**	**202**	P	**P**	**07 51 22.0**	**-0.7**
TBI	**Tubuai**	**23.58**	**95**	*e*P	P	07 52 05.7	-9.4
TBI	287nm,29.8s 861nm,26.5s			*e*S	**S**	**07 56 22.4**	**-7.1**
TBI	4μm,27.5s			*e*LR	LR	07 58 01.1	
TBI	1μm,28.0s			*e*LR	LR	07 58 02.8	
PPT2	**Papeete2** 52nm,23.8s	**24.68**	**81**	*e*P	**P**	**07 52 21.8**	**-3.7**
PPT2	239nm,31.0s			*e*S	**S**	**07 56 46.1**	**-1.2**
PPT2	632nm,25.2s			*e*LR	LR	07 58 25.4	
PPT2	1μm,26.2s			*e*LR	LR	07 58 26.4	
PPT	**Papeete**	**24.68**	**81**	LR	LR	08 01 37.6	
CTAO	comp=Z,286nm,19.5s,baz=262,slow=35 **Charters Tower**	**35.90**	**268**	P	**P**	**07 54 02.7**	**-2.1**
CTAO	comp=Z,15nm,0.6s			IAmb	IAmb	07 54 17.5	
CTAO	**Charters Tower**	**35.90**	**268**	P	**P**	**07 54 02.7**	**-2.1**
CTAO	comp=Z,15nm,0.6s			pmax	pmax		
TOO	**Toolangi**	**36.35**	**238**	P	**P**	**07 54 09.2**	**+0.8**
TOO	**Toolangi**	**36.35**	**238**	P	**P**	**07 54 09.2**	**+0.8**
TOO	comp=Z,140nm,2.0s			pmax	pmax		
TAOE	**Nuku Hiva Isla** comp=Z,35nm,25.9s	**36.56**	**72**	*e*P	**P**	**07 54 09.5**	**-1.0**
TAOE	comp=Z,76nm,26.3s			*e*S	**S**	**07 59 49.9**	**-3.4**
TAOE	comp=Z,1μm,30.5s			*e*SS	**SnSn**	**08 02 26.1**	**+3.6**
TAOE	comp=Z,574nm,26.4s			*e*LR	LR	08 03 50.5	
PMG	**Port Moresby**	**38.63**	**285**	P	**P**	**07 54 27.6**	**-0.4**
PMG	comp=Z,42nm,1.0s			IAmb	IAmb	07 54 38.8	
PMG	**Port Moresby**	**38.63**	**285**	P	**P**	**07 54 27.6**	**-0.4**
PMG	comp=Z,42nm,1.0s			pmax	pmax		
STKA	**Stephens Creek**	**38.94**	**248**	P	**P**	**07 54 28.3**	**-2.1**
STKA	**Stephens Creek**	**38.94**	**248**	P	**P**	**07 54 28.9**	**-1.5**
STKA	comp=Z,3.2nm,0.5s,baz=105,slow=12,SNR=8.3 comp=Z,435nm,18.9s,baz=70,slow=34			LR	LR	08 09 08.5	
STKA	comp=Z,3.2nm,0.5s **Stephens Creek**	**38.94**	**248**	*i* P	**P**	**07 54 30.6**	**+0.2**
COEN	**Coen**	**40.46**	**276**	P	**P**	**07 54 40.5**	**-2.7**
BBOO	**Buckleboo**	**43.63**	**247**	P	**P**	**07 55 06.6**	**-2.4**
AS31	**Alice Springs**	**46.44**	**259**	P	**P**	**07 55 29.9**	**-1.6**
ASAR	**Alice Springs**	**46.44**	**259**	P	**P**	**07 55 30.2**	**-1.3**
ASAR	**Alice Springs**	**46.44**	**259**	P	**P**	**07 55 29.7**	**-1.8**
ASAR	comp=Z,8.2nm,0.9s,baz=84,slow=6.0,SNR=30 comp=Z,8.2nm,0.9s **Alice Springs**	**46.44**	**259**	P	**P**	**07 55 30.2**	**-1.3**
WR0	**Warramunga Arr**	**46.65**	**264**	P	**P**	**07 55 30.2**	**-3.0**
WR0	comp=Z,44nm,1.9s			IAmb	IAmb	07 55 46.4	
WRAB	**Tennant Creek**	**46.83**	**264**	*i* P	**P**	**07 55 34.3**	**-0.3**
WRAB	comp=Z,8.0nm,0.9s			pmax	pmax		
WRA	**Warramunga Arr**	**46.84**	**264**	P	**P**	**07 55 31.6**	**-3.1**
	comp=Z,4.9nm,0.7s,baz=102,slow=8.1,SNR=34 comp=Z,4.9nm,0.7s						
FORT	**Forrest**	**50.55**	**249**	P	**P**	**07 56 00.4**	**-2.6**
FORT	comp=Z,25nm,0.8s			IAmb	IAmb	07 56 21.9	
KNRA	**Kununurra**	**53.12**	**268**	P	**P**	**07 56 20.7**	**-1.6**
KNRA	comp=Z,10.0nm,0.6s			IAmb	IAmb	07 56 38.5	
GUMO	**Guam**	**53.79**	**309**	LR	LR	08 16 38.9	
SBA	comp=Z,98nm,21.6s,baz=110,slow=33 **Scott Base**	**54.99**	**185**	P	**P**	**07 56 39.2**	**+4.1**
SBA	comp=Z,22nm,0.9s			IAmb	IAmb	07 56 57.1	
SBA	**Scott Base**	**54.99**	**185**	P	**P**	**07 56 39.2**	**+4.1**
SBA	comp=Z,22nm,1.0s			pmax	pmax		
VNDA	**Vanda**	**55.09**	**186**	P	**P**	**07 56 39.0**	**+3.1**
VNDA	comp=Z,16nm,1.2s			IAmb	IAmb	07 56 56.7	
VNDA	**Vanda**	**55.09**	**186**	P	**P**	**07 56 39.7**	**+3.8**
VNDA	comp=Z,7.0nm,0.9s,baz=6.4,slow=7.1,SNR=30 comp=Z,49nm,18.0s,baz=54,slow=36			LR	LR	08 20 08.1	
VNDA	comp=Z,7.0nm,0.9s **Vanda**	**55.09**	**186**	P	**P**	**07 56 39.0**	**+3.1**
VNDA	comp=Z,16nm,1.2s			pmax	pmax		
RPN	**Rapa Nui**	**58.99**	**108**	LR	LR	08 19 04.1	
SOEI	comp=Z,62nm,18.3s,baz=27,slow=32 **Soe**	**59.24**

JNU	**Nakatsue**	**76.31**	**316**	LR	LR	08 30 17.7		
	comp=Z,46nm,19.2s,baz=129,slow=34							
SHEM	**Shemya Is, Ala**	**76.58**	**353**	LR	LR	08 26 46.4		
	comp=Z,248nm,21.9s,baz=85,slow=31							
ASAJ	**Asahikawa**	**77.69**	**330**	LR	LR	08 29 25.5		
	comp=Z,113nm,19.8s,baz=154,slow=33							
LPIG	**La Paz**	**78.79**	**58**	LR	LR	08 29 11.4		
	comp=Z,134nm,18.1s,baz=218,slow=32							
MAW	**Mawson**	**79.54**	**199**	P	**P**	**07 59 12.6**	**+1.8**	
	comp=Z,6.9nm,0.8s,baz=136,slow=6.0,SNR=10							
MAW				LR	LR	08 33 36.4		
	comp=Z,131nm,19.7s,baz=114,slow=35							
	comp=Z,6.9nm,0.8s							
PFO	**Pinyon Flats O**	**79.73**	**46**	LR	LR	08 33 01.6		
	comp=Z,105nm,18.2s,baz=238,slow=34							
PFO	**Pinyon Flats O**	**79.73**	**46**	*i* P	**P**	**07 59 13.0**	**+0.4**	
PFO				pmax	pmax			
	comp=Z,11nm,1.3s							
YSS	**Yuzh-Sakhalins**	**79.83**	**332**	*e*P	P	07 59 25.0	+12	
YSS				pmax	pmax			
	comp=Z,40nm,1.1s							
PETK	**Petropavlovsk-**	**79.94**	**344**	P	**P**	**07 59 12.7**	**-0.3**	
PETK	**Petropavlovsk-**	**79.94**	**344**	P	**P**	**07 59 12.9**	**-0.2**	
	comp=Z,5.7nm,0.9s,baz=160,slow=5.5,SNR=6.7							
PETK				LR	LR	08 27 43.7		
	comp=Z,90nm,21.1s,baz=147,slow=31							
	comp=Z,5.7nm,0.9s							
KSRS	**Korea Array**	**80.93**	**318**	P	**P**	**07 59 18.2**	**-0.6**	
	comp=Z,1.5nm,0.8s,baz=121,slow=4.7,SNR=2.6							
KSRS				LR	LR	08 30 08.6		
	comp=Z,43nm,21.9s,baz=145,slow=32							
	comp=Z,1.5nm,0.8s							
MPK	**Martis Peak**	**81.04**	**40**	P	**P**	**07 59 18.1**	**-1.5**	
MPK				IAmb	IAmb	07 59 40.7		
	comp=Z,21nm,1.5s							
YBH	**Yreka Blue Hor**	**81.12**	**37**	P	**P**	**07 59 22.4**	**+2.6**	
	comp=Z,0.5nm,0.8s,baz=306,slow=19,SNR=1.9							
YBH				LR	LR	08 29 59.2		
	comp=Z,77nm,19.3s,baz=222,slow=32							
	comp=Z,0.5nm,0.8s							
GMN	**Gold Mountain**	**81.47**	**43**	P	**P**	**07 59 20.8**	**-1.2**	
NVAR	**Mina Array Bea**	**81.52**	**42**	P	**P**	**07 59 20.8**	**-1.4**	
NVAR	**Mina Array Bea**	**81.52**	**42**	P	**P**	**07 59 24.2**	**+2.1**	
	comp=Z,0.5nm,0.7s,baz=221,slow=9.8,SNR=5.3							
NVAR				LR	LR	08 28 31.9		
	comp=Z,116nm,19.4s,baz=210,slow=30							
	comp=Z,0.5nm,0.7s							
NV11	**Mina Array Sit**	**81.61**	**42**	P	**P**	**07 59 23.6**	**+1.0**	
NV11				IAmb	IAmb	07 59 42.9		
	comp=Z,7.3nm,1.2s							
H03S2	**Juan Fernandez**	**82.09**	**123**	T	T	09 31 05.1		
	baz=245,slow=74,SNR=8.6							
H03S1	**Juan Fernandez**	**82.11**	**123**	T	T	09 31 06.2		
	baz=245,slow=74,SNR=12							
H03S3	**Juan Fernandez**	**82.11**	**123**	T	T	09 31 05.3		
	baz=245,slow=74,SNR=9.9							
H03N2	**Juan Fernandez**	**82.25**	**123**	T	T	09 31 18.3		
	baz=250,slow=72,SNR=32							
H03N3	**Juan Fernandez**	**82.25**	**123**	T	T	09 31 32.9		
	baz=250,slow=72,SNR=35							
H03N1	**Juan Fernandez**	**82.26**	**123**	T	T	09 31 09.4		
	baz=250,slow=72,SNR=31							
KDAK	**Kodiak Island**	**83.25**	**12**	LR	LR	08 31 32.9		
	comp=Z,137nm,19.6s,baz=222,slow=32							
ELIB	**Princess Elisa**	**83.86**	**186**	*d*P	**P**	**07 59 35.5**	**+1.7**	
	comp=Z,6.9nm,1.2s							
NJ2	**Nanjing**	**83.86**	**309**	*e*P	**P**	**07 59 33.8**	**-0.4**	
NJ2				pP	**sP**	**07 59 36.3**	**+0.6**	
NJ2				sP	**PcP**	**07 59 39.6**	**+1.4**	
NJ2				pmax	pmax			
	comp=Z,11nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,64nm,5.0s							
U15A	**North Rim**	**84.15**	**46**	P	**P**	**07 59 35.2**	**-0.8**	
U15A				IAmb	IAmb	07 59 57.4		
	comp=Z,5.0nm,0.9s							
MDJ	**Mudanjiang**	**84.55**	**324**	P	**P**	**07 59 37.8**	**+0.4**	
MDJ				S	**SKSac**	**08 09 59.9**	**-1.4**	
MDJ				pmax	pmax			
	comp=Z,16nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,250nm,5.2s							
TROLL	**Troll, Antarti**	**84.64**	**179**	⇑P	**P**	**07 59 39.7**	**+1.9**	
	comp=Z,400nm,0.6s							
ELK	**Elko**	**84.81**	**41**	LR	LR	08 31 42.9		
	comp=Z,113nm,19.5s,slow=32							
SNAA	**Sanae**	**84.84**	**178**	P	**P**	**07 59 39.4**	**+0.7**	
SNAA				IAmb	IAmb	07 59 41.4		
	comp=Z,8.7nm,1.1s							
SNAA	**Sanae**	**84.84**	**178**	⇑P	**P**	**07 59 37.9**	**-0.8**	
	comp=Z,106nm,1.0s							
SNAA	**Sanae**	**84.84**	**178**	P	**P**	**07 59 40.4**	**+1.7**	
	comp=Z,4.3nm,0.9s,baz=232,slow=5.5,SNR=6.5							
SNAA				LR	LR	08 32 42.6		
	comp=Z,71nm,21.9s,baz=164,slow=32							
	comp=Z,4.3nm,0.9s							
SNAA	**Sanae**	**84.84**	**178**	*i* P	**P**	**07 59 39.7**	**+1.0**	
SNAA				pmax	pmax			
	comp=Z,28nm,3.0s							
VNA3	**Neumayer Olymp**	**84.88**	**175**	⇑P	**P**	**07 59 40.5**	**+1.6**	
	comp=Z,12nm,0.7s							
PLCA	**Paso Flores**	**85.25**	**132**	P	**P**	**07 59 45.0**	**+3.6**	
	comp=Z,3.1nm,1.1s,baz=271,slow=3.0,SNR=3.2							
	comp=Z,3.1nm,1.1s							
PLCA	**Paso Flores**	**85.25**	**132**	P	**P**	**07 59 45.0**	**+3.6**	
VNA2	**Neumayer--Watz**	**85.34**	**176**	⇑P	**P**	**07 59 43.1**	**+2.0**	
	comp=Z,7.2nm,0.7s,baz=182,slow=5.5							
BBB	**Bella Bella**	**85.92**	**27**	LR	LR	08 34 32.3		
	comp=Z,105nm,18.1s,baz=249,slow=33							
DUG	**Dugway, Tooele**	**85.98**	**43**	P	**P**	**07 59 42.7**	**-2.2**	
DUG				pmax	pmax			
	comp=Z,2.0nm,1.6s							
CN2	**Changchun**	**86.34**	**321**	*e*P	**P**	**07 59 47.7**	**+1.3**	
CN2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
BNX	**BinXian**	**86.46**	**324**	⇓P	**P**	**07 59 46.0**	**-0.9**	
BNX				pmax	pmax			
	comp=Z,15nm,1.1s							
BNX				pmax	pmax			
	comp=Z,340nm,3.8s							
KLR	**Kul'dur**	**86.52**	**328**	LR	LR	08 34 47.1		
	comp=Z,114nm,20.2s,baz=147,slow=33							
KLR	**Kul'dur**	**86.52**	**328**	*i* P	**P**	**07 59 46.4**	**-0.7**	
KLR				pmax	pmax			
	comp=Z,12nm,2.3s							
TXAR	**Lajitas Array**	**86.56**	**56**	P	**P**	**07 59 50.4**	**+2.5**	
	comp=Z,1.1nm,0.9s,baz=206,slow=8.5,SNR=5.6							
TXAR				LR	LR	08 34 25.2		
	comp=Z,59nm,18.5s,baz=242,slow=33							
	comp=Z,1.1nm,0.9s							
EFI	**East Falkland**	**87.07**	**146**	*i* P	**P**	**07 59 50.5**	**+0.5**	
EFI				pmax	pmax			
	comp=Z,1.0nm,0.9s							
ANMO	**Albuquerque**	**87.33**	**50**	P	**P**	**07 59 55.7**	**+4.1**	
	comp=Z,0.3nm,0.3s,baz=316,slow=10,SNR=2.0							
ANMO				LR	LR	08 34 45.1		
	comp=Z,158nm,18.2s,baz=333,slow=33							
	comp=Z,0.3nm,0.3s							
ANMO	**Albuquerque**	**87.33**	**50**	*i* P	**P**	**07 59 50.5**	**-1.2**	
ANMO				pmax	pmax			
	comp=Z,10.0nm,2.9s							
MA2	**Magadan**	**87.47**	**343**	LR	LR	08 35 08.7		
	comp=Z,74nm,19.8s,baz=147,slow=33							
MA2	**Magadan**	**87.47**	**343**	*i* P	**P**	**07 59 52.6**	**+1.1**	
MA2				pmax	pmax			
	comp=Z,5.0nm,1.0s							
MA2	**Magadan**	**87.47**	**343**	P	**P**	**07 59 48.9**	**-2.6**	
	comp=Z,13nm,1.5s							
CMIG	**Matias Romero**	**88.18**	**71**	LR	LR	08 32 36.6		
	comp=Z,48nm,18.0s,baz=214,slow=31							
NEW	**Newport**	**88.38**	**35**	LR	LR	08 32 21.2		
	comp=Z,142nm,21.4s,baz=218,slow=31							
HEH	**HeiHe**	**89.32**	**327**	*e*P	**P**	**08 00 05.0**	**+4.6**	
HEH				pmax	pmax			
	comp=Z,8.0nm,1.2s							
HEH				pmax	pmax			
	comp=Z,220nm,3.7s							
PDAR	**Pinedale Array**	**89.45**	**42**	P	**P**	**08 00 04.2**	**+2.6**	
	comp=Z,0.5nm,0.8s,baz=74,slow=42,SNR=1.8							
PDAR				LR	LR	08 35 03.8		
	comp=Z,92nm,19.3s,baz=254,slow=32							
	comp=Z,0.5nm,0.8s							
HNS	**HongShan**	**89.56**	**312**	⇑P	**P**	**08 00 05.4**	**+3.5**	
HNS				pmax	pmax			
	comp=Z,8.0nm,1.1s							
SEY	**Seymchan**	**89.99**	**346**	LR	LR	08 37 32.6		
	comp=Z,74nm,19.1s,baz=188,slow=34							
SEY	**Seymchan**	**89.99**	**346**	*e*P	**P**	**08 00 04.8**	**+1.5**	
SEY				pmax	pmax			
	comp=Z,8.0nm,0.9s							
WRH	**Wood River Hil**	**90.28**	**11**	P	**P**	**08 00 03.4**	**-1.2**	
L27K	**Beaver Creek,**	**90.31**	**14**	P	**P**	**08 00 05.2**	**+0.4**	
L27K				IAmb	IAmb	08 00 32.5		
	comp=Z,31nm,1.9s							
BCAR	**Beaver Creek A**	**90.32**	**15**	P	**P**	**08 00 04.6**	**-0.3**	
GYA	**Guiyang**	**90.44**	**299**	P	**P**	**08 00 07.3**	**+0.8**	
GYA				pmax	pmax			
	comp=Z,62nm,0.5s							
GYA				pmax	pmax			
	comp=Z,180nm,4.2s							
COLA	**College**	**90.69**	**11**	*i* P	**P**	**08 00 08.3**	**+1.8**	
COLA				pmax	pmax			
	comp=Z,18nm,1.8s							
ILAR	**Eielson Array**	**90.77**	**12**	P	**P**	**08 00 08.2**	**+1.3**	
	comp=Z,0.6nm,0.9s,baz=82,slow=10,SNR=3.2							
ILAR				LR	LR	08 37 49.3		
	comp=Z,40nm,18.5s,baz=222,slow=34							
	comp=Z,0.6nm,0.9s							
F19K	**Shaleruckik Mo**	**91.10**	**7**	P	**P**	**08 00 08.5**	**+0.1**	
F19K				IAmb	IAmb	08 00 35.3		
	comp=Z,19nm,1.6s							
E19K	**Redstone River**	**91.76**	**7**	P	**P**	**08 00 11.9**	**+0.5**	
E19K				IAmb	IAmb	08 00 25.4		
	comp=Z,5.4nm,0.9s							
XLT	**XiLinHaoTe**	**91.99**	**318**	*e*P	**P**	**08 00 17.1**	**+3.9**	
XLT				pP	pwP	08 00 21.2	-1.8	
XLT				sP	sP	08 00 23.6	+8.8	
XLT				pmax	pmax			
	comp=Z,11nm,0.8s							
XLT				pmax	pmax			
	comp=Z,79nm,3.2s							
XAN	**Xi'an**	**92.08**	**306**	P	**P**	**08 00 10.2**	**-3.6**	
XAN				pmax	pmax			
	comp=Z,6.0nm,0.8s							
BILL	**Bilibino**	**92.39**	**353**	*i* P	**P**	**08 00 14.0**	**-0.3**	
BILL				pmax	pmax			
	comp=Z,6.0nm,1.5s							
NNA	**Nana**	**92.75**	**104**	LR	LR	08 34 16.9		
	comp=Z,104nm,19.6s,baz=214,slow=30							
ATAH	**Atahualpa**	**93.34**	**99**	LR	LR	08 31 58.3		
	comp=Z,67nm,21.6s,baz=226,slow=29							
HHC	**Hu-ho-hao-te**	**93.38**	**313**	*e*P	**P**	**08 00 18.2**	**-1.5**	
HHC				pmax	pmax			
	comp=Z,17nm,0.5s							
HHC				pmax	pmax			
	comp=Z,55nm,4.5s							
CMAR	**Chiang Mai Arr**	**93.60**	**288**	LR	LR	08 43 21.8		
	comp=Z,23nm,19.3s,baz=110,slow=36							
CMAR	**Chiang Mai Arr**	**93.60**	**288**	*e*P	**P**	**08 00 22.1**	**+1.0**	
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.4s							
JTS	**Las Juntas de**	**94.25**	**81**	LR	LR	08 36 21.8		
	comp=Z,29nm,18.1s,baz=199,slow=31							
PZH	**PanZhiHua**	**94.46**	**297**	P	**P**	**08 00 26.1**	**+1.1**	
PZH				pmax	pmax			
	comp=Z,20nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,6.1s							
LVC	**Limon Verde**	**94.89**	**117**	LR	LR	08 35 12.4		
	comp=Z,56nm,19.9s,baz=223,slow=30							
YAK	**Yakutsk**	**95.96**	**337**	LR	LR	08 38 34.8		
	comp=Z,50nm,21.8s,baz=108,slow=32							
INK	**Inuvik**	**96.58**	**14**	LR	LR	08 41 06.9		
	comp=Z,84nm,18.6s,baz=184,slow=34							
LZH	**Lanzhou**	**96.72**	**306**	*e*P	**P**	**08 00 33.8**	**-1.4**	
LZH				sP	pwP	08 00 43.8	-2.1	
LZH				pmax	pmax			
	comp=Z,13nm,1.2s							
YKA	**Yellowknife Ar**	**98.23**	**24**	P	Pdif	08 00 45.4	+4.2	
	comp=Z,0.2nm,0.7s,baz=251,slow=4.2,SNR=2.9							
YKA				PP	**PP**	**08 04 42.6**	**+1.5**	
	comp=Z,0.3nm,1.0s,baz=244,slow=7.6,SNR=3.8							
YKA				LR	LR	08 39 55.2		
	comp=Z,67nm,19.8s,baz=220,slow=32							
WMQ	**Urumqi**	**110.92**	**310**	*e*PKP	**PKiKP**	**08 05 37.2**	**-0.5**	
MK31	**Makanchi Array**	**115.22**	**312**	*i* PKIKP	**PKPdf**	**08 05 45.4**	**-0.4**	
MKAR	**Makanchi Array**	**115.22**	**312**	PKP	**PKPdf**	**08 05 45.4**	**-0.3**	
	comp=Z,0.3nm,0.6s,baz=48,slow=2.1,SNR=2.6							
KURK	**Kurchatov**	**118.04**	**316**	*i* PKIKP	**PKPdf**	**08 05 49.7**	**-1.3**	
KURBB	**Kurchatov Arra**	**118.09**	**316**	PKP	**PKPdf**	**08 05 50.2**	**-0.8**	
	comp=Z,1.0nm,0.9s,baz=89,slow=1.7,SNR=2.0							
AAK	**Ala-Archa**	**120.25**	**307**	*i* PKIKP	**PKPdf**	**08 05 53.7**	**-2.1**	
BVAR	**Borovoye Array**	**123.13**	**319**	PKP	**PKPdf**	**08 06 00.5**	**-0.2**	
	comp=Z,0.4nm,0.3s,baz=180,slow=1.5,SNR=3.9							
BRVK	**Borovoye**	**123.19**	**319**	*i* PKIKP	**PKiKP**	**08 06 01.9**	**+0.8**	
ARU	**Arti**	**129.23**	**325**	PKP	**PKPdf**	**08 06 12.6**	**+0.3**	
	comp=Z,6.4nm,0.2s,baz=326,slow=20,SNR=3.0							
ARU	**Arti**	**129.23**	**325**	*i* PKIKP	**PKPdf**	**08 06 11.7**	**-0.6**	
ARU						08 08 20.8		
ARU				SS	SS	08 25 41.4	-0.1	
ARCES	**ARCESS Array B**	**132.41**	**350**	PKP	**PKiKP**	**08 06 18.5**	**-0.6**	
	comp=Z,2.0nm,0.8s,baz=353,slow=3.8,SNR=1.8							
KLMR	**Klimovskoe**	**135.75**	**336**	*e*PKIKP	**PKiKP**	**08 06 27.9**	**+1.9**	
KLMR				pmax	pmax			
	comp=Z,10.0nm,1.2s							
OBN	**Obninsk**	**140.72**	**331**	*i* PKIKP	**PKPdf**	**08 06 33.7**	**0.0**	
OBN				pmax	pmax			
	comp=Z,3.0nm,0.7s							
KBZ	**Khabaz**	**142.91**	**312**	*i* PKIKP	**PKPdf**	**08 06 38.0**	**0.0**	
KBZ				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KIV	**Kislovodsk**	**142.98**	**313**	*i* PKIKP	**PKPdf**	**08 06 37.1**	**-1.2**	
KIV				pmax	pmax			
	comp=Z,4.0nm,0.9s							
MNK	**Minsk**	**144.65**	**337**	*i* PKHKP	PKPpre	08 06 25.3		
MNK				*i*		08 10 00.8		
MNK				pmax	pmax			
	comp=N,16nm,0.6s							
MNK				pmax	pmax			
	comp=Z,8.0nm,0.6s							
MNK				pmax	pmax			
	comp=E,11nm,0.9s							
MNK				MLR	MLR			
	comp=N,222nm,22.0s							
MNK				MLR	MLR			
	comp=E,122nm,24.0s							
MNK				MLR	MLR			
	comp=Z,89nm,23.0s							
ANN	**Anapa**	**146.07**	**317**	*e*PKHKP	PKPpre	08 06 38.0		
ANN				*i*		08 06 44.9		
ANN				pmax	pmax			
	comp=Z,40nm,0.9s							
SUW	**Suwalki**	**146.64**	**340**	*e*PKP	**PKiKP**	**08 06 50.9**	**+2.4**	
AKASG	**Malin Array Be**	**146.98**	**331**	PKPbc	**PKPbc**	**08 06 46.1**	**-0.7**	
	comp=Z,2.6nm,0.5s,baz=40,slow=3.9,SNR=11							
AKBB	**Malin Array Si**	**146.98**	**331**	PKPbc	**PKPdf**	**08 06 45.7**	**+0.9**	
AKBB	**Malin Array Si**	**146.98**	**331**	PKP2	**PKPdf**	**08 06 45.7**	**+0.9**	
AKBB	**Malin Array Si**	**146.98**	**331**	PKPdf	**PKPab**	**08 06 48.3**	**+0.1**	
KIEV	**Kiev**	**146.99**	**331**	PKPbc	**PKPdf**	**08 06 45.6**	**+0.7**	
KIEV	**Kiev**	**146.99**	**331**	PKIKP	**PKPdf**	**08 06 45.6**	**+0.7**	
AK05	**Malin Array Si**	**147.05**	**331**	PKPbc	**PKPdf**	**08 06 45.7**	**+0.7**	
MI28	**Mi28,Pidlybu**	**147.48**	**333**	PKPdf	**PKiKP**	**08 06 50.8**	**+0.4**	
EKA	**Eskdalemuir Ar**	**147.75**	**9**	PKPbc	**PKiKP**	**08 06 50.4**	**-0.5**	
	comp=Z,1.1nm,0.6s,baz=316,slow=4.0,SNR=3.3							
SIM	**Simferopol'**	**148.04**	**319**	*e*PKP2	**PKPab**	**08 06 53.0**	**+0.3**	
SIM				pmax	pmax			
	comp=Z,42nm,1.1s							
LUBAR	**Lubar, Ukraine**	**148.19**	**331**	PKPdf	**PKPbc**	**08 06 48.9**	**-1.3**	
BEL	**Belsk**	**149.25**	**341**	*e*PKP	**PKPab**	**08 07 01.0**	**+3.8**	
KWP	**Kalwaria Pacla**	**150.47**	**336**	*e*PKP	**PKiKP**	**08 06 57.0**	**+0.4**	
BRTR	**Keskin Array B**	**150.84**	**310**	PKPbc	**PKPbc**	**08 06 57.2**	**-0.1**	
	comp=Z,2.9nm,0.8s,baz=151,slow=2.8,SNR=15							
OJC	**Ojcow**	**150.97**	**340**	*e*PKP	**PKPbc**	**08 06 56.5**	**-0.6**	
KOLS	**Kolonicke sedl**	**151.21**	**336**	*e*PKP	**PKiKP**	**08 06 58.9**	**+0.7**	
KOLS	**Kolonicke sedl**	**151.21**	**336**	*e*PKIKP	**PKiKP**	**08 06 58.9**	**+0.7**	
NIE	**Niedzica**	**151.50**	**339**	*e*PKP	**PKiKP**	**08 06 59.9**	**+1.1**	
CRVS	**Cervenica-Dubn**	**151.53**	**337**	*e*PKP	**PKiKP**	**08 06 59.6**	**+0.8**	
CRVS				*e*		08 07 09.1		
CRVS	**Cervenica-Dubn**	**151.53**	**337**	*e*PKIKP	**PKiKP**	**08 06 59.6**	**+0.8**	
MMAI	**Mount Meron Ar**	**151.58**	**296**	PKPbc	**PKiKP**	**08 06 59.9**	**+0.3**	
	comp=Z,7.0nm,0.7s,baz=346,slow=2.1,SNR=4.5							
CLL	**Collm**	**151.62**	**349**	*e*PKPdf	**PKPdf**	**08 06 54.0**	**+1.8**	
CLL				*i* PKPbc	**PKiKP**	**08 06 58.7**	**-0.2**	
	comp=Z,8.0nm,0.9s							
CLL				*i* (PKiKP)		08 07 02.9		
	comp=Z,9.0nm,0.7s							
CLL				*i* PKPab	**PKPab**	**08 07 07.1**	**+0.1**	
	comp=Z,7.0nm,0.9s							
CLL				*i* x	x	08 07 13.8		
	comp=Z,16nm,1.1s							
CLL				*i* x	x	08 07 23.9		
	comp=Z,13nm,0.7s							
CLL	**Collm**	**151.62**	**349**	*e*PKIKP	**PKPdf**	**08 06 54.0**	**+1.8**	
CLL				*i*		08 06 58.7		
CLL				*i*		08 07 07.1		
CLL				pmax	pmax			
	comp=Z,8.0nm,0.9s							
CLL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
DPC	**Dobruska-Polom**	**151.83**	**344**	⇑*e*PKP	**PKiKP**	**08 07 01.0**	**+1.5**	
DPC	**Dobruska-Polom**	**151.83**	**344**	*e*PKIKP	**PKiKP**	**08 07 01.0**	**+1.5**	
DPC						08 07 03.8		
DPC				pmax	pmax			
	comp=Z,6.0nm,0.7s							
DPC				pmax	pmax			
	comp=Z,9.0nm,0.6s							
BRG	**Berggiesshubel**	**151.87**	**348**	⇓*i*PKP	**PKiKP**	**08 07 00.0**	**+0.6**	
BRG				Amp		08 07 00.4		
	comp=Z,5.8nm,0.7s							
BRG	**Berggiesshubel**	**151.87**	**348**	P	**PKPab**	**08 07 03.8**	**-4.3**	
BRG				Amp		08 07 06.4		
	comp=Z,7.0nm,0.7s							
BRG	**Berggiesshubel**	**151.87**	**348**	P	PKPab	08 07 16.1	+8.0	
BRG				Amp		08 07 19.5		
	comp=Z,9.0nm,0.6s							
LANS	**Liptovska Anna**	**152.01**	**339**	*e*PKP	**PKiKP**	**08 07 01.5**	**+1.6**	
LANS	**Liptovska Anna**	**152.01**	**339**	*e*PKIKP	**PKiKP**	**08 07 01.5**	**+1.6**	
MORC	**Moravsky Berou**	**152.03**	**342**	*e*PKP	**PKiKP**	**08 06 59.8**	**-0.1**	
MORC				*e*		08 07 15.2		
VRAC	**Vranov**	**152.72**	**343**	*e*PKP	**PKiKP**	**08 07 02.9**	**+1.6**	
VRAC				*e*		08 07 17.3		
KRUC	**Moravsky**	**152.99**	**343**	*e*PKP	**PKiKP**	**08 07 02.5**	**+0.7**	
KHC	**Kasperske Hory**	**153.60**	**347**	⇑*e*PKP	**PKiKP**	**08 07 04.1**	**+1.0**	
KHC				*ex*	x	08 07 22.9		
KHC	**Kasperske Hory**	**153.60**	**347**	*e*PKIKP	**PKiKP**	**08 07 04.1**	**+1.0**	
TORD	**Torodi Ar. Bea**	**169.19**	**164**	PKPab	**PKPab**	**08 08 26.6**	**+2.4**	
	comp=Z,1.1nm,0.8s,baz=163,slow=2.4,SNR=4.2							

NNC ***04*** *07:54:55.0±1.5, 41.°68N×73.°89E, h0km, mb2.7, mpv2.3,*
Error ellipse: s-maj=11.1km s-min=4.7km az=13.0

SOME 04 07:54:54.0, 41.°63N×73.°90E, h5km, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MRKS	**Merke**	**1.22**	**336**	P	Pg	07 55 17.0	-0.4
	1.9nm,0.1s						
MRKS				S	Sb	07 55 33.6	-0.1
	7.6nm,0.2s						
MRKS	**Merke**	**1.22**	**336**	*e*P	Pg	07 55 17.0	-0.4
	1.9nm,0.1s						
MRKS				*e*S	Sb	07 55 33.6	-0.1
	7.6nm,0.2s						
DGS	**Degeres**	**2.12**	**40**	Pg	Pb	07 55 32.9	-0.2
	1.4nm,0.3s						
DGS				Lg	Lg	07 56 00.6	
	6.5nm,0.5s						
DGS	**Degeres**	**2.12**	**40**	*e*P	Pb	07 55 32.9	-0.2
	1.4nm,0.3s						
DGS				*e*S	Sb	07 56 00.6	+0.9
	6.5nm,0.5s						
KRBS	**Karabastau**	**2.44**	**32**	Pg	Pb	07 55 39.4	+1.0
	0.4nm,0.7s						
KRBS				Lg	Lg	07 56 11.8	
	1.3nm,0.4s						
KRBS	**Karabastau**	**2.44**	**32**	*e*P	Pb	07 55 39.4	+1.0
	0.4nm,0.7s						
KRBS				*e*S	Sg	07 56 11.8	-0.7
	1.3nm,0.4s						
KTBS	**Karatobe**	**2.92**	**44**	Pg	Pb	07 55 48.0	+1.4
	0.5nm,0.6s						
KTBS				Lg	Lg	07 56 27.1	
	2.4nm,0.8s						
KTBS	**Karatobe**	**2.92**	**44**	*e*P	Pb	07 55 48.0	+1.4
	0.5nm,0.6s						
KTBS				*e*S	Sg	07 56 27.1	-0.7
	2.4nm,0.8s						

KRNET 04 07:55:20.9±0.1, 41.°62N×73.°86E, h14km, mb2.2, 8C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.43**	**55**	⇑*i*P	Pg	07 55 29.0	-0.4
	baz=56						
ARLS				⇑*i*S	Sg	07 55 35.2	-0.1
	baz=56						
ARSB	**Arslanbob**	**0.72**	**246**	⇓*i*P	Pg	07 55 34.5	-0.4
	baz=46						
ARSB				⇓*i*S	Sb	07 55 44.8	-0.2
	baz=46						
UCH	**Uchtor**	**0.78**	**38**	⇓*i*P	Pg	07 55 36.0	-0.2
	baz=38						
UCH				⇓*i*S	Sg	07 55 46.8	+0.2
	baz=38						
EKS2	**Erkin-Say**	**1.05**	**357**	⇑*i*P	Pb	07 55 40.6	-0.2
	baz=57	

HUH	**Hualalai**	**0.91**	**286**	Pg	Pg	08 00 54.5	-0.3

UPA ***04*** *08:06:25.3±1.2,5.˚46N×79.˚74W, h43km±56km, MW4.9*
RSNC ***04*** *08:06:25.0±0.0, 6.˚N±2.˚×8.˚0W±.˚, h10km±7km, M3.3, mB5.0, mb4.2, ML2.8, Mw(mB)4.4*
IDC ***04*** *08:06:57.7±16.0, 6.˚56N×73.˚45W, h367km±97km, mb3.0/2, mbtmp3.7/2, Error ellipse: s-maj=850.0km s-min=215.2km az=96.0*

ISC 04 08:06:24.5±4.3, 5.˚49N±0.˚04×79.˚83W±0.˚05, h13km±28km, n37, σ2$07/52, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**2.11**	**331**	*i* P	**Pn**	**08 06 58.2**	**-1.4**
CACAO				eS	**Sn**	**08 07 24.0**	**-1.7**
CACAO	**El Cacao, Vera**	**2.11**	**331**	P	**Pn**	**08 06 58.7**	**-0.9**
CACAO				S	**Sn**	**08 07 23.1**	**-2.6**
AZU	**Azuero**	**2.33**	**349**	*e*P	**Pn**	**08 07 02.2**	**-0.4**
AZU				*e*S	**Sn**	**08 07 29.1**	**-2.0**
AZU	**Azuero**	**2.33**	**349**	P	**Pn**	**08 07 02.0**	**-0.6**
AZU				S	**Sn**	**08 07 28.9**	**-2.3**
PIZC	**Pizarro, Choco**	**2.51**	**102**	P	**Pn**	**08 07 03.7**	**-1.4**
PIZC				S	**Sn**	**08 07 32.4**	**-3.3**
SOLC	**Bahia Solano**	**2.52**	**73**	P	Pn	08 07 02.4	-2.8
SOLC				S	Sn	08 07 27.9	-7.9
CHIT3	**Chitre**	**2.52**	**347**	*e*P	**Pn**	**08 07 04.9**	**-0.3**
CHIT3				*e*S	**Sn**	**08 07 33.5**	**-2.3**
PTAC	**Punta Ardita,**	**2.60**	**51**	*e*P	Pn	08 07 03.7	-2.6
PTAC				*e*S	**Sn**	**08 07 33.5**	**-4.3**
PTAC	**Punta Ardita,**	**2.60**	**51**	P	**Pn**	**08 07 04.7**	**-1.6**
PTAC				S	Sn	08 07 31.3	-6.5
GMAL	**Guarumal, Vera**	**2.66**	**328**	*e*P	**Pn**	**08 07 07.3**	**+0.2**
GMAL				*e*S	**Sn**	**08 07 39.3**	**+0.1**
GMAL	**Guarumal, Vera**	**2.66**	**328**	P	**Pn**	**08 07 07.8**	**+0.7**
GMAL				S	**Sn**	**08 07 39.6**	**+0.4**
MALC	**Bahia Malaga**	**2.88**	**120**	P	**Pn**	**08 07 09.8**	**-0.5**
GR1C	**Gorgona, Isla**	**2.97**	**146**	P	**Pn**	**08 07 10.2**	**-1.3**
PLMC	**San Jos del P**	**3.58**	**99**	P	**Pn**	**08 07 18.8**	**-1.1**
BCIP	**Isla Barro Col**	**3.65**	**360**	P	**Pn**	**08 07 21.6**	**+0.8**
BCIP				S	**Sn**	**08 08 01.0**	**-2.9**
JAMC	**Jamundi, Valle**	**3.87**	**126**	P	**Pn**	**08 07 22.8**	**-1.3**
JAMC				S	**Sn**	**08 08 05.2**	**-4.4**
DBBC	**Dabeiba**	**3.91**	**67**	P	**Pn**	**08 07 24.2**	**-0.2**
CAPC	**Capurgana**	**3.98**	**38**	P	**Pn**	**08 07 25.9**	**+0.6**
CAPC				S	**Sn**	**08 08 08.8**	**-3.1**
APAC	**Apartado, Choc**	**4.02**	**53**	P	**Pn**	**08 07 28.4**	**+2.5**
APAC				S	**Sn**	**08 08 12.3**	**-0.6**
POPC	**Popayan, Colom**	**4.30**	**133**	P	**Pn**	**08 07 29.3**	**-0.6**
BRU2	**Volcan**	**4.34**	**319**	*e*P	**Pn**	**08 07 29.7**	**-0.7**
BRU2				*e*S	**Sn**	**08 08 19.4**	**-1.6**
RECRC	**Villamaria, Ca**	**4.49**	**97**	P	**Pn**	**08 07 32.1**	**-0.7**
ANIL	**Santa Ana**	**4.52**	**102**	P	**Pn**	**08 07 33.2**	**+0.2**
ORTC	**Ortega, Tolima**	**4.83**	**109**	P	**Pn**	**08 07 38.8**	**+1.7**
ORTC				S	**Sn**	**08 08 35.0**	**+2.0**
GCUF	**Volcan Galeras**	**4.91**	**150**	P	**Pn**	**08 07 41.2**	**+2.7**
GCUF				S	**Sn**	**08 08 33.0**	**-2.5**
NORC	**Norcasia**	**4.94**	**89**	P	**Pn**	**08 07 41.4**	**+2.8**
PRAC	**Prado**	**5.23**	**109**	P	**Pn**	**08 07 43.9**	**+1.3**
	77nm,0.8s,1μm						
PRAC				S	**Sn**	**08 08 41.1**	**-1.8**
	77nm,0.8s,1μm						
ZARC	**Zaragoza, Cauc**	**5.33**	**68**	P	**Pn**	**08 07 44.3**	**+0.5**
	6.6nm,0.8s						
GARC	**Garzon, Huila**	**5.43**	**127**	P	**Pn**	**08 07 48.1**	**+2.6**
ROSC	**El Rosal**	**5.53**	**96**	P	**Pn**	**08 07 50.6**	**+3.7**
	11nm,0.4s,baz=103,slow=14,SNR=6.2						
FLOC	**Florencia**	**5.69**	**133**	P	**Pn**	**08 07 50.7**	**+1.8**
	26nm,1.1s,476nm						
VILC	**Villavicencio,**	**6.26**	**102**	P	**Pn**	**08 07 59.8**	**+2.9**
SJCC	**San Jacinto, C**	**6.36**	**46**	P	**Pn**	**08 07 59.3**	**+1.2**
	9.2nm,2.0s						
RUSC	**La Rusia**	**6.72**	**86**	P	**Pn**	**08 08 05.7**	**+2.2**
	10nm,0.9s						
MACC	**Macarena, Meta**	**6.83**	**119**	P	**Pn**	**08 08 06.1**	**+1.6**
	29nm,0.6s						
YKA	**Yellowknife Ar**	**62.37**	**343**	P	**P**	**08 16 48.8**	**+2.1**
	0.6nm,0.9s,baz=129,slow=6.3,SNR=11						
	0.6nm,0.9s						
ILAR	**Eielson Array**	**75.39**	**336**	P	**P**	**08 18 11.0**	**+3.3**
	1.1nm,1.1s,baz=120,slow=4.5,SNR=5.4						
	1.1nm,1.1s						

IDC 04 08:09:27.6±3.4, 54.˚33N×87.˚15E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=31.4km s-min=20.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**255**	I	I	08 17 50.0	
	baz=77,slow=324,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.43**	**255**	Pg	Pn	08 09 52.4	-2.4
	3.7nm,0.3s,baz=71,slow=16,SNR=36						
ZALV				Lg	Lg	08 10 13.3	
	2.0nm,0.3s,baz=74,slow=28,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.45**	**238**	Pn	Pn	08 11 04.4	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=9.2						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.16**	**204**	Pn	Pn	08 11 28.8	+1.6
	0.1nm,0.3s,baz=25,slow=13,SNR=2.7						
	0.1nm,0.3s						

IDC 04 08:10:40.8±3.8, 53.˚61N×87.˚96E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=37.2km s-min=18.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.90**	**282**	I	I	08 23 00.0	
	0.1nm,1.0s,baz=99,slow=329,SNR=8.4						
ZALV	**Zalesovo Beam**	**1.90**	**282**	Pg	Pb	08 11 15.3	-0.9
	1.6nm,0.3s,baz=95,slow=17,SNR=4.6						
ZALV				Lg	Lg	08 11 40.8	
	3.2nm,0.3s,baz=101,slow=21,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.53**	**247**	Pn	Pn	08 12 18.6	+0.6
	0.1nm,0.3s,baz=61,slow=14,SNR=5.9						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	08 12 35.6	+1.1
	0.1nm,0.3s,baz=26,slow=12,SNR=4.4						
	0.2nm,0.3s						

NNC ***04*** *08:11:43.2±3.1, 53.˚71N×90.˚64E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=23.6km s-min=17.6km az=58.0, Suspected Mining explosion.*
IDC ***04*** *08:11:48.0±2.5, 53.˚41N×90.˚43E, h0km, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=28.6km s-min=18.4km az=14.0*

ISC 04 08:11:46.5±1.6, 53.˚7N±0.˚1×90.˚33E±0.˚08, h0km, n11, σ1$69/15, 6C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.28**	**277**	I	I	08 35 35.0	
	0.1nm,1.3s,baz=91,slow=328,SNR=7.1						
ZAA0	**Zalesovo Array**	**3.28**	**277**	⇑Pg	**Pb**	**08 12 44.6**	**-0.8**
	1.1nm,0.5s						
ZAA0				⇑Lg	Lg	08 13 34.3	
	9.6nm,1.1s						
ZALV	**Zalesovo Beam**	**3.28**	**277**	Pn	**Pb**	**08 12 43.4**	**-2.0**
	2.7nm,0.3s,baz=96,slow=15,SNR=10						
ZALV				Lg	Lg	08 13 35.7	
	2.7nm,0.3s,baz=100,slow=26,SNR=7.5						
	6.6nm,0.4s						
KURK	**Kurchatov**	**7.79**	**252**	⇓Pn	**Pn**	**08 13 42.1**	**+1.2**
	1.0nm,0.6s						
KURK				⇑Sn	**Sn**	**08 15 13.7**	**+4.0**
	7.6nm,0.8s						
KURK				⇓Lg	Lg	08 16 00.8	
	25nm,1.1s						
KURBB	**Kurchatov Arra**	**7.88**	**252**	⇑Pn	**Pn**	**08 13 42.1**	**-0.1**
	2.3nm,0.5s						
KURBB				⇓Sn	**Sn**	**08 15 12.7**	**+0.7**
	34nm,0.8s						
KURBB				⇓Lg	Lg	08 16 00.4	
	57nm,1.1s						
KURBB	**Kurchatov Arra**	**7.88**	**252**	Pn	**Pn**	**08 13 42.8**	**+0.6**
	0.2nm,0.3s,baz=66,slow=16,SNR=8.1						
KURBB				Sn	**Sn**	**08 15 11.7**	**-0.3**
	baz=67,slow=25						
KURBB				Lg	Lg	08 15 59.1	
	baz=60,slow=26,SNR=1.8						
	1.0nm,0.3s						
MK31	**Makanchi Array**	**8.61**	**220**	⇑Pn	**Pn**	**08 13 51.6**	**-0.7**
	0.2nm,0.4s,baz=34,slow=12,SNR=14						
MK31				⇓Sn	**Sn**	**08 15 32.3**	**+2.3**
	1.2nm,0.6s,baz=44,slow=26,SNR=3.8						
MK31				⇑Lg	Lg	08 16 19.0	
	11nm,1.1s,baz=27,slow=22,SNR=3.5						
MKAR	**Makanchi Array**	**8.61**	**220**	Pn	**Pn**	**08 13 52.1**	**-0.1**
	0.5nm,0.3s,baz=40,slow=13,SNR=11						
MKAR				Lg	Lg	08 16 14.0	
	baz=35,slow=28						
	0.8nm,0.3s						
MAKZ	**Makanchi**	**8.71**	**221**	⇓Pn	**Pn**	**08 13 51.8**	**-2.0**
	0.5nm,0.4s						
MAKZ				⇓Sn	**Sn**	**08 15 31.8**	**-0.8**
	2.4nm,0.8s						
MAKZ				⇓Lg	Lg	08 16 26.2	
	7.7nm,1.1s						
SONM	**Songino Array**	**11.73**	**113**	Pn	**Pn**	**08 14 35.8**	**+0.7**
	0.5nm,0.4s,baz=306,slow=12,SNR=1.6						
BVAR	**Borovoye Array**	**11.93**	**275**	Sn	**Sn**	**08 16 51.7**	**+0.3**
	baz=90,slow=25,SNR=1.8						

IDC 04 08:19:05.8±3.6, 54.˚31N×87.˚46E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=32.8km s-min=19.6km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.60**	**258**	I	I	08 28 40.0	
	baz=79,slow=323,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.60**	**258**	Pg	Pn	08 19 33.3	-2.0
	1.1nm,0.3s,baz=74,slow=17,SNR=9.2						
ZALV				Lg	Lg	08 19 57.5	
	1.6nm,0.3s,baz=75,slow=28,SNR=6.6						
KURBB	**Kurchatov Arra**	**6.59**	**240**	Pn	Pn	08 20 44.1	+0.3
	0.1nm,0.3s,baz=56,slow=14,SNR=4.6						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.21**	**206**	Pn	Pn	08 21 07.7	+1.5
	0.2nm,0.3s,baz=24,slow=12,SNR=7.2						
	0.4nm,0.5s						

TIR ***04*** *08:29:51.2, 37.˚56N×21.˚99E, h44km±39km, Md4.1, MI3.9*
IDC ***04*** *08:29:57.0±1.3, 38.˚08N×21.˚64E, h0km, mb3.8/6, mbtmp3.8/7, ML3.2/1, MS2.6/1, Error ellipse: s-maj=33.1km s-min=24.0km az=157.0*
ATH ***04*** *08:29:59.7, 38.˚12N×21.˚61E, h19km±1km, ML3.5/15, Error ellipse: s-maj=1.7km s-min=0.7km az=206.0*
THE ***04*** *08:29:59.5, 38.˚10N×21.˚62E, h20km, ML3.6/8, Error ellipse: s-maj=0.8km s-min=0.3km az=173.0*

ISC 04 08:29:59.1±1.0, 38.˚10N±0.˚02×21.˚62E±0.˚02, h14km±7km, n79, σ1$17/110, mb3.7/6, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RLS	**Riolos of Patr**	**0.13**	**251**	P	**Pb**	**08 30 04.0**	**+0.7**
RLS				S	**Sb**	**08 30 06.9**	**+0.9**
	59μm,0.2s						
RLS	**Riolos of Patr**	**0.13**	**251**	P	**Pb**	**08 30 04.1**	**+0.9**
RLS				S	**Sb**	**08 30 07.2**	**+1.1**
RLS				AML	AML	08 30 08.2	
RLS				AML	AML	08 30 08.2	
	comp=N,76450μm,0.2s						
DRO	**Drossia**	**0.16**	**154**	P	**Pb**	**08 30 04.4**	**+0.5**
DRO				S	**Sb**	**08 30 07.5**	**+0.4**
	comp=N,63μm,0.2s						
DRO	**Drossia**	**0.16**	**154**	P	**Pb**	**08 30 04.4**	**+0.5**
DRO				S	**Sb**	**08 30 08.3**	**+1.2**
DRO				AML	AML	08 30 08.8	
	comp=N,89149μm,0.3s						
DRO				AML	AML	08 30 09.4	
UPR	**University Cam**	**0.23**	**36**	P	**Pb**	**08 30 05.0**	**0.0**
UPR				S	**Sb**	**08 30 08.7**	**-0.2**
EFP	**Efpalio**	**0.40**	**34**	P	**Pb**	**08 30 07.3**	**-0.6**
EFP				S	**Sb**	**08 30 13.7**	**-0.2**
	comp=N,11μm,0.5s						
EFP	**Efpalio**	**0.40**	**34**	P	**Pb**	**08 30 07.3**	**-0.6**
EFP				S	**Sg**	**08 30 13.1**	**+0.5**
EFP				AML	AML	08 30 14.4	
	comp=N,21735μm,0.5s						
EFP				AML	AML	08 30 15.1	
	comp=E,20338μm,0.4s						
ALIK	**Aliki, Aigiali**	**0.42**	**67**	P	**Pb**	**08 30 07.9**	**-0.4**
ALIK				S	**Sb**	**08 30 14.5**	**0.0**
KLV	**Kalavryta, Ach**	**0.42**	**97**	P	**Pb**	**08 30 07.8**	**-0.6**
KLV				S	**Sb**	**08 30 15.0**	**+0.4**
	comp=E,3μm,0.3s						
KLV	**Kalavryta, Ach**	**0.42**	**97**	P	**Pb**	**08 30 08.0**	**-0.4**
KLV				S	**Sb**	**08 30 14.5**	**-0.2**
KLV				AML	AML	08 30 16.0	
	comp=N,4686μm,0.1s						
KLV				AML	AML	08 30 17.7	
	comp=E,5780μm,0.2s						
TRIZ	**Trizonia**	**0.45**	**53**	P	**Pb**	**08 30 08.3**	**-0.4**
TRIZ				S	**Sb**	**08 30 15.4**	**+0.2**
	comp=E,3μm,0.3s						
PVO	**Paravola**	**0.52**	**352**	P	**Pb**	**08 30 09.6**	**-0.4**
PVO				S	**Sb**	**08 30 18.2**	**+0.8**
	comp=E,8μm,0.3s						
PVO	**Paravola**	**0.52**	**352**	P	**Pb**	**08 30 09.6**	**-0.4**
PVO				S	**Sg**	**08 30 16.9**	**+0.4**
ANX	**Ano Chora**	**0.55**	**26**	P	**Pg**	**08 30 09.8**	**-0.1**
ANX				S	**Sb**	**08 30 18.1**	**-0.2**
	comp=E,6μm,0.5s						
ANX	**Ano Chora**	**0.55**	**26**	P	**Pg**	**08 30 09.8**	**-0.1**
ANX				S	**Sg**	**08 30 17.4**	**+0.1**
ANX				AML	AML	08 30 18.9	
	comp=N,11467μm,0.4s						
ANX				AML	AML	08 30 25.9	
	comp=E,11318μm,0.5s						
GUR	**Goura**	**0.59**	**106**	P	**Pb**	**08 30 10.4**	**-0.9**
GUR				S	**Sb**	**08 30 19.9**	**+0.3**
	comp=E,11μm,0.4s						
GUR	**Goura**	**0.59**	**106**	P	**Pb**	**08 30 10.5**	**-0.8**
GUR				S	**Sb**	**08 30 19.6**	**0.0**
GUR				AML	AML	08 30 21.8	
	comp=E,16228μm,0.4s						
GUR				AML	AML	08 30 22.3	
	comp=N,25254μm,0.4s						
LTHK	**Lithakia**	**0.73**	**238**	P	**Pn**	**08 30 13.4**	**-1.5**
LTHK				S	**Sn**	**08 30 24.2**	**-1.7**
LTHK	**Lithakia**	**0.73**	**238**	P	**Pn**	**08 30 13.5**	**-1.4**
LTHK				AML	AML	08 30 30.7	
	comp=E,14117μm,0.5s						
LTHK				AML	AML	08 30 31.2	
	comp=N,15465μm,0.5s						
SMHA	**Samh**	**0.78**	**282**	P	**Pn**	**08 30 14.3**	**-1.4**
SMHA				S	**Sb**	**08 30 24.4**	**-0.4**
SMHA				AML	AML	08 30 28.1	
	comp=N,17390μm,0.4s						
SMHA				AML	AML	08 30 29.4	
	comp=E,12349μm,0.3s						
DLFA	**Delphi**	**0.79**	**61**	P	**Pg**	**08 30 13.3**	**-1.1**
DLFA				AML	AML	08 30 26.0	
	comp=N,3220μm,0.5s						
DLFA				AML	AML	08 30 31.1	
	comp=E,2904μm,0.6s						
VLS	**Valsamata**	**0.82**	**276**	P	**Pb**	**08 30 14.2**	**-0.8**
VLS				S	**Sn**	**08 30 26.9**	**-1.1**
VLS	**Valsamata**	**0.82**	**276**	P	**Pb**	**08 30 14.2**	**-0.8**
PSDA	**Pessada-Kefalo**	**0.82**	**271**	P	**Pb**	**08 30 14.1**	**-0.9**
PSDA				S	**Sn**	**08 30 26.9**	**-1.1**
PSDA	**Pessada-Kefalo**	**0.82**	**271**	P	**Pb**	**08 30 14.3**	**-0.7**
THAL	**Thalero**	**0.83**	**94**	P	**Pg**	**08 30 14.6**	**-0.5**
THAL				S	**Sb**	**08 30 26.4**	**+0.2**
EVR	**Evrytania**	**0.83**	**10**	P	**Pg**	**08 30 15.0**	**-0.2**
EVR	**Evrytania**	**0.83**	**10**	P	**Pn**	**08 30 15.8**	**-0.7**
EVR				AML	AML	08 30 34.6	
	comp=E,2047μm,0.5s						
EVR				AML	AML	08 30 38.6	
	comp=N,2509μm,0.5s						
VSK1	**VASILIKIADES**	**0.89**	**291**	P	**Pg**	**08 30 15.7**	**-0.6**
FSK	**Fiskardo**	**0.91**	**294**	P	**Pg**	**08 30 15.9**	**-0.8**
FSK	**Fiskardo**	**0.91**	**294**	P	**Pb**	**08 30 15.7**	**-0.8**
FSK				AML	AML	08 30 31.3	
	comp=N,6856μm,0.4s						
FSK				AML	AML	08 30 32.3	
	comp=E,9285μm,0.2s						
EVGl	**Lefkada island**	**0.92**	**305**	P	**Pb**	**08 30 16.1**	**-0.7**
EVGl	**Lefkada island**	**0.92**	**305**	P	**Pb**	**08 30 16.1**	**-0.7**
LXRA	**Lixouri, Kepha**	**0.94**	**277**	P	**Pn**	**08 30 16.9**	**-0.9**
NYDR	**Nydri-Lefkada**	**0.95**	**311**	P	**Pb**	**08 30 16.6**	**-0.7**
NYDR				S	**Sn**	**08 30 30.6**	**-0.7**
NYDR	**Nydri-Lefkada**	**0.95**	**311**	P	**Pb**	**08 30 16.6**	**-0.7**
DMLN	**Damoulianata-K**	**0.99**	**278**	P	**Pg**	**08 30 17.3**	**-1.0**
DMLN	**Damoulianata-K**	**0.99**	**278**	P	**Pn**	**08 30 17.6**	**-1.0**
MAKR	**Makrakomi, Fth**	**1.00**	**24**	P	**Pg**	**08 30 18.1**	**-0.3**
MAKR	**Makrakomi, Fth**	**1.00**	**24**	P	**Pb**	**08 30 17.8**	**-0.4**
MAKR				AML	AML	08 30 35.3	
	comp=E,5841μm,0.3s						
MAKR				AML	AML	08 30 37.9	
	comp=N,7792μm,0.4s						
DRAG	**Dragano-Lefkad**	**1.01**	**306**	P	**Pb**	**08 30 17.6**	**-0.7**
DRAG	**Dragano-Lefkad**	**1.01**	**306**	P	**Pb**	**08 30 17.6**	**-0.7**
KEF3	**Kipouria, Keph**	**1.01**	**276**	P	**Pb**	**08 30 17.0**	**-1.3**
KEF3	**Kipouria, Keph**	**1.01**	**276**	P	**Pb**	**08 30 17.2**	**-1.1**
LKD2	**Lefkada island**	**1.02**	**313**	P	**Pn**	**08 30 20.4**	**+1.4**
	baz=320						
LKD2				S	**Sn**	**08 30 36.5**	**+3.3**
	baz=320						
LKD2				AMP			
	comp=E,5.8nm,0.7s,baz=320						
LKD2	**Lefkada island**	**1.02**	**313**	P	**Pb**	**08 30 18.0**	**-0.6**
LKD2	**Lefkada island**	**1.02**	**313**	P	**Pb**	**08 30 18.0**	**-0.6**
TSLK	**Tsoukalades, L**	**1.05**	**314**	P	**Pg**	**08 30 18.7**	**-0.6**
AXAR	**Agios Charalam**	**1.05**	**50**	P	**Pn**	**08 30 18.5**	**-0.6**
AXAR				S	**Sg**	**08 30 33.3**	**+0.1**
AXAR	**Agios Charalam**	**1.05**	**50**	P	**Pb**	**08 30 18.4**	**-0.6**
AXAR				S	**Sb**	**08 30 32.5**	**-0.3**
AXAR				AML	AML	08 30 37.6	
	comp=N,8436μm,0.9s						
AXAR				AML	AML	08 30 40.2	
	comp=E,6967μm,0.5s						
LTK	**Loutraki**	**1.07**	**94**	P	**Pg**	**08 30 19.1**	**-0.6**
LTK				AML	AML	08 30 40.7	
	comp=E,1672μm,0.6s						
LTK				AML	AML	08 30 41.0	
	comp=N,1491μm,0.5s						
LOUT	**Loutraki**	**1.08**	**96**	P	**Pg**	**08 30 19.2**	**-0.7**
LOUT	**Loutraki**	**1.08**	**96**	P	**Pb**	**08 30 18.9**	**-0.5**
AGG	**Agios Georgios**	**1.08**	**31**	P	**Pb**	**08 30 18.8**	**-0.7**
AGG				S	**Sb**	**08 30 33.8**	**+0.3**
AGG	**Agios Georgios**	**1.08**	**31**	P	**Pb**	**08 30 19.2**	**-0.3**
PYL	**PYLOS**	**1.21**	**175**	P	**Pg**	**08 30 21.5**	**-0.8**
VIL2	**Platees**	**1.30**	**85**	P	**Pb**	**08 30 23.0**	**-0.3**
VIL2				AML	AML	08 30 48.9	
	comp=N,2096μm,0.4s						
VIL2				AML	AML	08 30 50.1	
	comp=E,2864μm,1.0s						
KRND	**KRANIDI**	**1.41**	**120**	P	**Pg**	**08 30 25.2**	**-1.0**
THL	**Klokotos Trika**	**1.50**	**12**	P	**Pb**	**08 30 26.3**	**-0.3**
TYRN	**Tyrnavos**	**1.68**	**16**	P	**Pb**	**08 30 28.9**	**-0.9**
ATHU	**Athens Univers**	**1.71**	**94**	P	**Pn**	**08 30 28.3**	**-0.2**
NEO	**Neokhori**	**1.74**	**46**	P	**Pn**	**08 30 29.3**	**+0.4**
IGT	**Igoumenitsa**	**1.75**	**325**	P	**Pg**	**08 30 31.4**	**-1.3**
	baz=328						
IGT				S	**Sg**	**08 31 00.1**	**+4.7**
	baz=328						
IGT				AMP			
	comp=E,1.1nm,0.6s,baz=328						
XOR	**Xorichi**	**1.77**	**44**	P	**Pn**	**08 30 29.4**	**+0.2**
DION	**Dionisos Attik**	**1.83**	**90**	P	**Pb**	**08 30 31.4**	**-0.9**
SRN	**Sarande**	**2.18**	**325**	P	**Pb**	**08 30 36.7**	**-1.6**
	baz=327						
LSK	**Leskovik**	**2.20**	**339**	P	**Pb**	**08 30 37.4**	**-1.2**
	baz=338						
LSK				S	**Sg**	**08 31 12.7**	**+3.0**
	baz=338						
LSK				AMP			
	comp=N,2.3nm,0.7s,baz=338						
FNA	**Florina**	**2.69**	**356**	P	**Pn**	**08 30 43.9**	**+1.9**
	baz=352						
FNA				AMP			
	comp=N,0.2nm,0.5s,baz=352						
OHR	**Ohrid**	**3.08**	**348**	*i* Pn	**Pb**	**08 30 50.1**	**-3.4**
OHR				*i* Sn	**Sb**	**08 31 30.7**	**-0.2**
VAY	**Valandovo**	**3.30**	**13**	*i* Pn	**Pb**	**08 30 54.2**	**-3.1**
VAY				*i* Sn	**Sb**	**08 31 34.0**	**-3.4**
PUK	**Puka**	**4.16**	**342**	P	**Pn**	**08 31 04.7**	**+2.6**
	baz=341						
BRTR	**Keskin Array B**	**9.51**	**76**	Pn	**Pn**	**08 32 18.3**	**+2.6**
	comp=N,0.2nm,0.3s,baz=260,slow=12,SNR=6.7						
BRTR				LR	LR	08 36 03.1	
	comp=N,40nm,20.9s,baz=310,slow=38						
	comp=N,0.9nm,0.5s						
HFS	**Hagfors**	**22.62**	**350**	P	**P**	**08 34 59.5**	**+0.3**
	comp=N,2.1nm,0.7s,baz=171,slow=10,SNR=3.2						
	comp=N,2.1nm,0.7s						
EKA	**Eskdalemuir Ar**	**24.00**	**324**	P	**P**	**08 35 13.3**	**+0.3**
	comp=N,1.2nm,0.7s,baz=124,slow=10,SNR=4.4						
	comp=N,1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**30.52**	**221**	P	**P**	**08 36 12.1**	**+0.1**
	comp=N,0.2nm,0.4s,baz=37,slow=11,SNR=2.4						
	comp=N,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**41.58**	**54**	P	**P**	**08 37 46.4**	**+0.2**
	comp=N,0.8nm,0.5s,baz=280,slow=8.8,SNR=8.5						
	comp=N,0.8nm,0.5s						
MKAR	**Makanchi Array**	**44.60**	**59**	P	**P**	**08 38 10.2**	**-0.5**
	comp=N,1.2nm,0.5s,baz=273,slow=7.1,SNR=15						
	comp=N,1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**45.10**	**48**	P	**P**	**08 38 14.8**	**+0.2**
	comp=N,1.8nm,0.4s,baz=281,slow=9.1,SNR=7.8						
	comp=N,1.8nm,0.4s						
VNDA	**Vanda**	**137.03**	**168**	PKP	**PKPdf**	**08 49 20.1**	**-0.1**
	comp=N,0.4nm,0.8s,baz=191,slow=5.2,SNR=1.9						

DJA 04 08:37:43.5±2.8, 0.˚S±4.˚×12.˚0E±.˚, h11km±24km, M4.1/6, mb4.5/3, mB5.1/2, MLv3.9/6, Mw(mB)4.4/2, Minahassa Peninsula, Sulawesi

| Code | Station Name |

0.9nm,0.3s,baz=79,slow=30,SNR=3.5
KURBB **Kurchatov Arra** 6.50 240 Pn Pn 09 01 00.2 +0.5
baz=56,slow=14,SNR=4.3
0.3nm,0.5s
MKAR **Makanchi Arraу** 8.13 205 Pn Pn 09 01 23.7 +1.5
0.1nm,0.3s,baz=25,slow=14,SNR=1.6
0.1nm,0.3s

*IDC **04** 08:59:31.4±5.7, 19°.23N×101°.02W, h0km, mb3.4/3, mbtmp3.6/4, ML4.5/1, MS2.6/1, Error ellipse: s-maj=186.1km s-min=32.4km az=36.0*
*MEX **04** 08:59:36.6±0.8, 18°.64N×101°.10W, h68km±11km, MD4.3*
ISC 04 08:59:35.2±1.0, 18°.65N±0°.02×101°.02W±0°.02, h58km±11km, n66, σ2s41/121, mb3.3/3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARIG	**Puente Sto Nin**	**0.74**	**120**	*i* P	**Pn**	**08 59 50.8**	**+0.9**
ARIG				eS	**Sn**	**09 00 02.2**	**+1.6**
TEJU	**Tejupilco**	**0.86**	**73**	*e*P	**Pn**	**08 59 52.8**	**+1.3**
TEJU				eS	**Sn**	**09 00 05.5**	**+2.1**
UON	**La Union**	**1.01**	**228**	*e*P	**Pn**	**08 59 52.6**	**-0.7**
UON				eS	**Sn**	**09 00 05.3**	**-1.3**
MOIG	**Morelia**	**1.03**	**351**	*e*P	**Pn**	**08 59 54.0**	**+0.1**
MOIG				eS	**Sn**	**09 00 07.3**	**-0.2**
ZIIG	**Zihuatanejo**	**1.12**	**202**	*i* P	**Pn**	**08 59 54.3**	**-0.5**
ZIIG				eS	**Sn**	**09 00 09.1**	**-0.2**
PET2	**Petatlan**	**1.13**	**192**	*e*P	**Pn**	**08 59 54.5**	**-0.5**
PET2				eS	**Sn**	**09 00 09.7**	**+0.1**
ACAM	**Acambaro**	**1.42**	**12**	*e*P	**Pn**	**08 59 56.4**	**-2.5**
ACAM				eS	**Sn**	**09 00 15.8**	**-0.9**
PLIG	**Platanillo**	**1.47**	**100**	*i* P	**Pn**	**09 00 01.2**	**+1.7**
PLIG				eS	**Sn**	**09 00 19.1**	**+1.4**
MEIG	**Mezcala**	**1.52**	**118**	*e*P	**Pn**	**09 00 01.7**	**+1.5**
MEIG				eS	**Sn**	**09 00 20.6**	**+1.7**
ATYC	**Atoyac**	**1.54**	**158**	*e*P	**Pn**	**08 59 59.7**	**-0.6**
ATYC				eS	**Sn**	**09 00 18.8**	**-0.4**
INVM	**La Marquesa**	**1.68**	**67**	*e*P	**Pn**	**09 00 04.5**	**+1.9**
INVM				eS	**Sn**	**09 00 19.3**	**-4.0**
ACIG	**Acambay**	**1.71**	**39**	*e*P	**Pn**	**09 00 03.8**	**+1.0**
ACIG				eS	**Sn**	**09 00 18.8**	**-4.9**
AOVM	**Tlapan**	**1.72**	**69**	*e*P	**Pn**	**09 00 05.2**	**+1.9**
AOVM				eS	**Sn**	**09 00 24.2**	**-0.3**
CAIG	**El Cayaco**	**1.75**	**156**	*e*P	**Pn**	**09 00 03.2**	**-0.1**
CAIG				eS	**Sn**	**09 00 23.4**	**-1.1**
CJVM	**Cuajimalpa**	**1.79**	**66**	*e*P	**Pn**	**09 00 04.0**	**0.0**
CJVM				eS	**Sn**	**09 00 22.1**	**-3.8**
TLVM	**San Miguel Top**	**1.85**	**72**	*e*P	**Pn**	**09 00 04.4**	**-0.6**
TLVM				eS	**Sn**	**09 00 23.6**	**-3.9**
YAIG	**Yautepec**	**1.87**	**83**	*e*P	**Pn**	**09 00 07.0**	**+2.0**
YAIG				eS	**Sn**	**09 00 29.2**	**+1.6**
AZVM	**Cuida Lopez Ma**	**1.89**	**60**	*e*P	**Pn**	**09 00 06.8**	**+1.4**
AZVM				eS	Sn	09 00 21.6	-6.7
COVM	**Coyoacan**	**1.90**	**68**	*e*P	Pn	09 00 10.9	+5.4
COVM				eS	**Sn**	**09 00 27.8**	**-0.7**
PBVM	**Pinon**	**2.00**	**66**	*e*P	**Pn**	**09 00 07.2**	**+0.6**
PBVM				eS	**Sn**	**09 00 27.1**	**-3.4**
THVM	**De Xico**	**2.05**	**71**	*e*P	**Pn**	**09 00 09.6**	**+2.0**
ACP2	**Acapulco**	**2.07**	**148**	*e*P	**Pn**	**09 00 10.9**	**+3.2**
ACP2				eS	**Sn**	**09 00 29.9**	**-2.4**
DAIG	**Los Arroyos**	**2.08**	**141**	*e*P	**Pn**	**09 00 08.4**	**+0.6**
DAIG				eS	**Sn**	**09 00 32.6**	**0.0**
JRQG	**Juriquilla Cam**	**2.11**	**15**	*e*P	**Pn**	**09 00 09.0**	**+0.6**
JRQG				eS	**Sn**	**09 00 32.5**	**-1.2**
AMVM	**AMECAMECA**	**2.17**	**77**	*e*P	**Pn**	**09 00 12.3**	**+3.1**
AMVM				eS	**Sn**	**09 00 31.7**	**-3.5**
ZUVM	**ZUMPANGO**	**2.18**	**57**	*e*P	Pn	09 00 18.7	+9.4
ZUVM				eS	**Sn**	**09 00 30.6**	**-4.8**
MMIG	**Aquila**	**2.23**	**261**	*e*P	**Pn**	**09 00 08.1**	**-1.7**
MMIG				eS	**Sn**	**09 00 35.3**	**-1.0**
PPM	**Popocatepetl**	**2.31**	**79**	*e*P	**Pn**	**09 00 13.4**	**+2.1**
PPM				eS	**Sn**	**09 00 34.7**	**-4.1**
VTVM	**Tizayuca**	**2.40**	**62**	*e*P	**Pn**	**09 00 14.8**	**+2.0**
VTVM				eS	Sn	09 00 34.3	-6.5
HMTT	**Tlapaneco**	**2.49**	**110**	*e*P	**Pn**	**09 00 15.4**	**+2.0**
HMTT				eS	**Sn**	**09 00 43.8**	**+1.0**
DEIG	**Demacu**	**2.49**	**48**	*e*P	**Pn**	**09 00 14.8**	**+1.2**
DEIG				eS	**Sn**	**09 00 48.0**	**+5.0**
JUBC	**Volcan de Coli**	**2.56**	**290**	*e*P	**Pn**	**09 00 15.0**	**+0.5**
JUBC				eS	**Sn**	**09 00 47.0**	**+2.4**
EZ5V		**2.57**	**289**	*e*P	**Pn**	**09 00 15.7**	**+1.0**
EZ5V				eS	**Sn**	**09 00 48.2**	**+3.2**
TLIG	**Tlapa**	**2.58**	**114**	*e*P	**Pn**	**09 00 17.0**	**+2.4**
TLIG				eS	**Sn**	**09 00 45.0**	**+0.2**
COIG	**Colima**	**2.58**	**282**	*e*P	**Pn**	**09 00 15.0**	**+0.4**
COIG				eS	**Sn**	**09 00 45.6**	**+0.7**
MNGA	**Volcan de Coli**	**2.59**	**289**	*e*P	**Pn**	**09 00 15.5**	**+0.6**
MNGA				eS	**Sn**	**09 00 51.4**	**+6.1**
INCO	**Volcan de Coli**	**2.59**	**290**	*e*P	**Pn**	**09 00 16.0**	**+1.0**
INCO				eS	**Sn**	**09 00 52.5**	**+6.8**
SOMAC	**Volcano de Col**	**2.61**	**290**	*e*P	**Pn**	**09 00 16.3**	**+0.9**
SOMAC				eS	**Sn**	**09 00 50.0**	**+3.8**
CRIG	**Cruz Grande**	**2.62**	**136**	*e*P	**Pn**	**09 00 16.5**	**+1.3**
CRIG				eS	**Sn**	**09 00 44.3**	**-1.6**
CEGR	**Campo Tres**	**2.78**	**286**	*e*P	**Pn**	**09 00 17.8**	**+0.4**
CEGR				eS	**Sn**	**09 00 51.5**	**+1.5**
CDAR	**Ciudad de Arme**	**2.84**	**276**	*e*P	**Pn**	**09 00 17.1**	**-1.1**
CDAR				eS	**Sn**	**09 00 50.8**	**-0.4**
FTIG	**Fresnillo de T**	**2.84**	**105**	*e*P	**Pn**	**09 00 20.7**	**+2.4**
FTIG				eS	**Sn**	**09 00 51.0**	**-0.5**
RPIG	**Rio Verde**	**3.36**	**17**	*e*P	**Pn**	**09 00 25.9**	**+0.5**
RPIG				eS	**Sn**	**09 01 06.0**	**+1.9**
TXIG	**Tlaxiaco**	**3.40**	**114**	*e*P	**Pn**	**09 00 28.6**	**+2.6**
TXIG				eS	**Sn**	**09 01 04.6**	**-0.7**
TPIG	**Tehuac#an**	**3.48**	**93**	*e*P	**Pn**	**09 00 30.0**	**+2.9**
TPIG				eS	**Sn**	**09 01 07.1**	**-0.1**
AAIG	**Aguscalientes**	**3.54**	**339**	*e*P	**Pn**	**09 00 28.3**	**+0.4**
AAIG				eS	**Sn**	**09 01 07.0**	**-1.6**
PNIG	**Pinotepa**	**3.56**	**129**	*e*P	**Pn**	**09 00 29.8**	**+1.8**
PNIG				eS	**Sn**	**09 01 04.1**	**-4.8**
CIHU	**Emiliano Zapat**	**3.56**	**280**	*e*P	**Pn**	**09 00 27.4**	**-0.7**
CIHU				eS	**Sn**	**09 01 09.4**	**+0.4**
CTUV	**Llano Grande**	**3.76**	**41**	*e*P	**Pn**	**09 00 30.5**	**-0.3**
CTUV				eS	**Sn**	**09 01 20.3**	**+6.4**
YOIG	**Yosondua**	**3.76**	**118**	*e*P	**Pn**	**09 00 33.8**	**+2.7**
YOIG				eS	**Sn**	**09 01 11.7**	**-2.6**
TOIG	**Toxpalan**	**3.80**	**98**	*e*P	**Pn**	**09 00 34.3**	**+2.9**
TOIG				eS	**Sn**	**09 01 14.8**	**-0.2**
ESTA	**Talpa de Allen**	**4.00**	**296**	*e*P	**Pn**	**09 00 34.8**	**+0.6**
ESTA				eS	**Sn**	**09 01 22.8**	**+2.9**
JAUV	**Jalcomulco**	**4.06**	**79**	*e*P	**Pn**	**09 00 36.9**	**+2.0**
JAUV				eS	**Sn**	**09 01 28.3**	**+7.2**
ZAIG	**Zacatecas**	**4.34**	**341**	*e*P	**Pn**	**09 00 38.2**	**-0.8**
ZAIG				eS	**Sn**	**09 01 27.7**	**-0.8**
VHO	**Vista Hermosa**	**4.38**	**110**	*e*P	**Pn**	**09 00 42.5**	**+3.1**
VHO				eS	**Sn**	**09 01 29.8**	**+0.6**
PEIG	**Puerto Escondi**	**4.55**	**125**	*e*P	**Pn**	**09 00 43.7**	**+2.2**
PEIG				eS	**Sn**	**09 01 29.9**	**-3.2**
GTIG	**Gomez Farias**	**4.72**	**21**	*e*P	**Pn**	**09 00 45.2**	**+1.3**
GTIG				eS	**Sn**	**09 01 35.2**	**-2.2**
NEUV	**Arroyo Zacate**	**5.05**	**100**	*e*P	**Pn**	**09 00 50.6**	**+2.2**
NEUV				eS	**Sn**	**09 01 43.7**	**-1.8**
PMUV	**Sontecomapan**	**5.60**	**90**	*e*P	**Pn**	**09 00 56.9**	**+0.9**
PMUV				eS	Sn	09 01 51.8	-7.2
CMIG	**Matias Romero**	**6.05**	**104**	Pn	**Pn**	**09 01 04.7**	**+2.6**
	10nm,0.3s,baz=282,slow=12,SNR=266						
CMIG				Sn	**Sn**	**09 02 10.0**	**0.0**
	8.3nm,0.3s,baz=139,slow=16,SNR=20						
	25nm,0.3s						
CMIG	**Matias Romero**	**6.05**	**104**	*e*P	**Pn**	**09 01 04.6**	**+2.6**
CMIG				eS	**Sn**	**09 02 07.3**	**-2.7**
LNIG	**Linares**	**6.38**	**13**	*e*P	**Pn**	**09 01 07.2**	**+0.5**
LNIG				eS	**Sn**	**09 02 12.2**	**-6.0**
ANMO	**Albuquerque**	**16.93**	**345**	LR	LR	09 10 09.7	
	comp=Z,20nm,19.4s,baz=251,slow=39						
NVAR	**Mina Array Bea**	**24.80**	**326**	P	**P**	**09 04 51.9**	**-0.1**
	0.7nm,0.7s,baz=152,slow=9.8,SNR=7.2						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**25.11**	**345**	P	**P**	**09 04 53.2**	**-1.7**
	0.8nm,0.7s,baz=150,slow=10.0,SNR=8.1						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**55.24**	**338**	P	**P**	**09 09 01.4**	**-0.8**
	0.1nm,0.3s,baz=158,slow=5.0,SNR=6.3						
	0.1nm,0.3s						

IDC 04 09:12:54.8±3.3, 53°.57N×87°.97E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=28.9km s-min=17.8km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**283**	I	I	09 25 30.1	
	baz=98,slow=328,SNR=11						
ZALV	**Zalesovo Beam**	**1.91**	**283**	Pg	Pb	09 13 29.5	-0.9
	1.4nm,0.3s,baz=101,slow=15,SNR=11						
ZALV				Lg	Lg	09 13 54.7	
	2.2nm,0.3s,baz=102,slow=25,SNR=9.9						
KURBB	**Kurchatov Arra**	**6.52**	**247**	Pn	Pn	09 14 32.9	+1.0
	0.1nm,0.3s,baz=60,slow=13,SNR=3.9						
KURBB				Lg	Lg	09 16 21.2	
	baz=62,slow=32,SNR=4.1						
	0.3nm,0.3s						
MKAR	**Makanchi Arraу**	**7.70**	**210**	Pn	Pn	09 14 49.0	+0.9
	0.1nm,0.3s,baz=26,slow=11,SNR=1.9						
MKAR				Lg	Lg	09 16 58.9	
	baz=32,slow=31,SNR=3.1						
	0.1nm,0.3s						

*TAP **04** 09:14:02.0, 24°.48N×122°.63E, h87km, ML3.1, C*
*JMA **04** 09:14:02.4±0.2, 24°.2°×122°.6E±0°.5, h81km±1km, MV2.2/11, NW OFF ISHIGAKIJIMA IS*
ISC 04 09:14:02.6±1.4, 24°.43N±0°.04×122°.63E±0°.03, h83km±7km, n79, σ0s96/158, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.29**	**85**	*i* P	**Pn**	**09 14 15.2**	**0.0**
JYNG				S	**Sn**	**09 14 24.4**	**-0.1**
EOS3	**EOS3**	**0.32**	**244**	*e*P	**Pn**	**09 14 15.8**	**+0.7**
	baz=242						
EOS3				S	**Sn**	**09 14 26.4**	**+2.0**
	baz=242						
YOJ	**Yonaguni jima**	**0.35**	**84**	P	**Pn**	**09 14 15.5**	**0.0**
YOJ				S	**Sn**	**09 14 24.8**	**-0.3**
YOJ	**Yonaguni jima**	**0.35**	**84**	*i* P	**Pn**	**09 14 15.6**	**+0.1**
	baz=91						
YOJ				*i* S	**Sn**	**09 14 24.9**	**-0.2**
	baz=91						
EOS2	**EOS2**	**0.36**	**269**	P	**Pn**	**09 14 15.7**	**+0.3**
	baz=268						
EOS2				*i* S	**Sn**	**09 14 26.4**	**+1.5**
	baz=268						
EOS4	**EOS4**	**0.41**	**223**	*i* P	**Pn**	**09 14 15.7**	**+0.2**
	baz=224						
EOS4				S	**Sn**	**09 14 26.3**	**+1.2**
	baz=224						
TWC	**Suao**	**0.73**	**285**	*i* P	**Pn**	**09 14 18.1**	**-0.7**
	baz=285						
TWC				*e*S	**Sn**	**09 14 29.7**	**-1.2**
	baz=285						
EGS		**0.76**	**304**	*e*P	**Pn**	**09 14 18.9**	**-0.2**
	baz=298						
EGS				*e*S	**Sn**	**09 14 32.5**	**+1.1**
	baz=298						
EWUT	**Wuta**	**0.78**	**272**	*e*P	**Pn**	**09 14 19.3**	**+0.1**
	baz=262						
EWUT				*e*S	**Sn**	**09 14 31.1**	**-0.5**
	baz=262						
ENA	**Nanau**	**0.81**	**270**	*e*P	**Pn**	**09 14 19.6**	**0.0**
	baz=262						
ENA				*e*S	**Sn**	**09 14 32.2**	**-0.2**
	baz=262						
EAHA	**Aohua**	**0.82**	**263**	P	**Pn**	**09 14 19.5**	**-0.2**
	baz=259						
EAHA				S	**Sn**	**09 14 32.7**	**+0.2**
	baz=259						
TWE	**Neicheng**	**0.92**	**289**	*i* P	**Pn**	**09 14 20.6**	**-0.3**
	baz=285						
TWE				S	**Sn**	**09 14 34.3**	**-0.3**
	baz=285						
ETL	**Fush Village**	**0.95**	**254**	P	**Pn**	**09 14 20.9**	**-0.4**
	baz=251						
ETL				S	**Sn**	**09 14 34.5**	**-0.8**
	baz=251						
SXI1	**Grass Mountain**	**0.95**	**314**	*e*P	**Pn**	**09 14 20.9**	**-0.5**
	baz=312						
SXI1				*i* S	**Sn**	**09 14 34.6**	**-0.8**
	baz=312						
NACB	**Ninganchiao**	**0.97**	**255**	*i* P	**Pn**	**09 14 21.0**	**-0.5**
	baz=245						
NACB				S	**Sn**	**09 14 34.9**	**-0.8**
	baz=245						
ENTT	**Nioudou**	**0.99**	**283**	*i* P	**Pn**	**09 14 21.8**	**+0.1**
	baz=284						
ENTT				S	**Sn**	**09 14 35.9**	**-0.2**
	baz=284						
NWF	**Wu-fen Shan**	**1.00**	**310**	P	**Pn**	**09 14 21.6**	**-0.3**
	baz=300						
NWF				*e*S	**Sn**	**09 14 34.9**	**-1.5**
	baz=300						
TWD	**Chiawan**	**1.00**	**250**	*i* P	**Pn**	**09 14 21.3**	**-0.5**
	baz=247						
TWD				*i* S	**Sn**	**09 14 35.3**	**-0.9**
	baz=247						
WFSB	**Wu-fen Shan**	**1.00**	**310**	P	**Pn**	**09 14 21.6**	**-0.2**
	baz=300						
WFSB				*e*S	**Sn**	**09 14 35.1**	**-1.2**
	baz=300						
FUSB	**Fushanzhiwuyua**	**1.00**	**290**	*i* P	**Pn**	**09 14 21.7**	**-0.2**
	baz=293						
FUSB				S	**Sn**	**09 14 35.5**	**-0.9**
	baz=293						
IRIF	**Iriomote-Funau**	**1.01**	**95**	P	**Pn**	**09 14 22.0**	**+0.1**
IRIF				S	**Sn**	**09 14 36.5**	**+0.1**
LATG	**Datong**	**1.01**	**276**	*i* P	**Pn**	**09 14 21.9**	**-0.1**
	baz=266						
LATG				*i* S	**Sn**	**09 14 36.4**	**-0.2**
	baz=266						
NDT	**Datong Townshi**	**1.03**	**280**	*i* P	**Pn**	**09 14 22.4**	**+0.2**
	baz=281						
NDT				*e*S	**Sn**	**09 14 36.5**	**-0.4**
	baz=281						
HWA	**Hwalien**	**1.03**	**245**	P	**Pn**	**09 14 22.3**	**+0.1**
	baz=241						
HWA				S	**Sn**	**09 14 37.3**	**+0.4**
	baz=241						
TNOU	**National Taiwa**	**1.06**	**313**	P	**Pn**	**09 14 22.2**	**-0.3**
	baz=305						
TNOU				*e*S	**Sn**	**09 14 37.7**	**+0.2**
	baz=305						
ETLH	**Xiulin Townshi**	**1.07**	**259**	*e*P	**Pn**	**09 14 22.5**	**-0.2**
	baz=250						
ETLH				*i* S	**Sn**	**09 14 36.8**	**-1.0**
	baz=250						
NWLT	**Wulai**	**1.08**	**289**	*i* P	**Pn**	**09 14 22.7**	**-0.1**
	baz=290						
NWLT				*i* S	**Sn**	**09 14 37.1**	**-0.9**
	baz=290						
TEYL	**Yanliau Villag**	**1.09**	**240**	*e*P	**Pn**	**09 14 22.4**	**-0.5**
	baz=238						
TEYL				*e*S	**Sn**	**09 14 37.9**	**-0.2**
	baz=238						
ETM	**Tongmen**	**1.13**	**246**	*i* P	**Pn**	**09 14 22.9**	**-0.5**
	baz=243						
ETM				S	**Sn**	**09 14 38.0**	**-1.1**
	baz=243						
NNSB	**Datong**	**1.14**	**270**	*e*P	**Pn**	**09 14 23.8**	**+0.2**
	baz=261						
NNSB				*i* S	**Sn**	**09 14 38.7**	**-0.6**
	baz=261						
NNSH	**Datong**	**1.14**	**270**	*e*P	**Pn**	**09 14 23.2**	**-0.3**
	baz=261						
NNSH				*e*S	**Sn**	**09 14 39.2**	**-0.1**
	baz=261						
NHDH	**Xindian Distri**	**1.14**	**298**	*e*P	**Pn**	**09 14 22.8**	**-0.7**
	baz=295						
NHDH				*e*S	**Sn**	**09 14 37.8**	**-1.3**
	baz=295						
NNS	**Nan Shan**	**1.14**	**271**	*i* P	**Pn**	**09 14 23.5**	**-0.2**
	baz=261						
NNS				*i* S	**Sn**	**09 14 38.6**	**-0.9**
	baz=261						
SHUL	**Shoufeng**	**1.16**	**237**	*e*P	**Pn**	**09 14 23.7**	**-0.1**
	baz=232						
SHUL				*i* S	**Sn**	**09 14 39.7**	**+0.1**
	baz=232						
YHNB	**Yeheng**	**1.17**	**282**	*e*P	**Pn**	**09 14 24.1**	**+0.2**
	baz=279						
YHNB				*e*S	**Sn**	**09 14 39.3**	**-0.6**
	baz=279						
LXIB	**Xiulin Townshi**	**1.18**	**250**	P	**Pn**	**09 14 23.6**	**-0.6**
	baz=247						
LXIB				*i* S	**Sn**	**09 14 39.1**	**-1.2**
	baz=247						
NSK	**Sanguang**	**1.18**	**282**	*e*P	**Pn**	**09 14 24.1**	**0.0**
	baz=279						
NSK				*e*S	**Sn**	**09 14 39.6**	**-0.6**
	baz=279						
YM01	**YM01**	**1.20**	**307**	*i* P	**Pn**	**09 14 23.8**	**-0.5**
	baz=297						
YM01				*i* S	**Sn**	**09 14 39.2**	**-1.4**
	baz=297						
ESL	**Shilin**	**1.25**	**241**	P	**Pn**	**09 14 24.4**	**-0.4**
	baz=244						
ESL				S	**Sn**	**09 14 40.2**	**-1.4**
	baz=244						
JKRS	**Kuro-shima**	**1.27**	**98**	P	**Pn**	**09 14 25.8**	**+0.6**
JKRS				*e*S	**Sn**	**09 14 42.9**	**+0.8**
WHF	**Hehuan Shan**	**1.27**	**258**	*e*P	**Pn**	**09 14 25.4**	**-0.2**
	baz=261						
WHF				*i* S	**Sn**	**09 14 41.9**	**-1.0**
	baz=261						
EGFH	**Guangfu**	**1.33**	**236**	*e*P	**Pn**	**09 14 25.8**	**-0.1**
	baz=233						
EGFH				S	**Sn**	**09 14 42.2**	**-1.2**
	baz=233						
TWT	**Tachien**	**1.34**	**263**	*i* P	**Pn**	**09 14 26.5**	**+0.4**
	baz=260						
TWT				*i* S	**Sn**	**09 14 43.8**	**0.0**
	baz=260						
WARBT	**Fenglin Townsh**	**1.34**	**238**	P	**Pn**	**09 14 25.4**	**-0.6**
	baz=243						
WARBT				*e*S	**Sn**	**09 14 42.5**	**-1.1**
	baz=243						
TDCB	**Techi**	**1.35**	**263**	*i* P	**Pn**	**09 14 26.8**	**+0.5**
	baz=260						
TDCB				S	**Sn**	**09 14 43.5**	**-0.6**
	baz=260						
CHGB	**Renai**	**1.38**	**255**	*e*P	**Pn**	**09 14 26.9**	**+0.2**
	baz=245						
CHGB				S	**Sn**	**09 14 44.3**	**-0.5**
	baz=245						
JIJ	**Ishigaki jima**	**1.38**	**92**	P	**Pn**	**09 14 26.4**	**-0.1**
JIJ				S	**Sn**	**09 14 44.0**	**-0.6**
NFF	**Wufeng Townshi**	**1.39**	**279**	*i* P	**Pn**	**09 14 26.9**	**+0.2**
	baz=285						
NFF				S	**Sn**	**09 14 44.4**	**-0.4**
	baz=285						
OWD	**Renai**	**1.41**	**251**	*e*P	**Pn**	**09 14 27.0**	**+0.1**
	baz=243						
OWD				*e*S	**Sn**	**09 14 44.3**	**-1.0**
	baz=243						
HGSD	**Ruisui**	**1.44**	**230**	P	**Pn**	**09 14 26.1**	**-1.2**
	baz=226						
HGSD				*e*S	**Sn**	**09 14 45.2**	**-0.7**
	baz=226						
WUSB	**Renai**	**1.45**	**253**	*e*P	**Pn**	**09 14 27.8**	**+0.3**
	baz=245						
WUSB				*i* S	**Sn**	**09 14 45.6**	**-0.6**
	baz=245						
LIOB	**Emei**	**1.48**	**279**	*e*P	**Pn**	**09 14 28.6**	**+0.7**
	baz=276						
LIOB				*i* S	**Sn**	**09 14 47.0**	**+0.1**
	baz=276						
EHYH	**Wanrong**	**1.50**	**232**	*e*P	**Pn**	**09 14 28.4**	**+0.4**
	baz=239						
EHYH				S	**Sn**	**09 14 46.1**	**-1.1**
	baz=239						
NSTT	**Nanjuang**	**1.50**	**278**	*i* P	**Pn**	**09 14 28.3**	**+0.3**
	baz=276						
NSTT				*i* S	**Sn**	**09 14 46.2**	**-0.9**
	baz=276						
EHY	**Hungye**	**1.50**	**233**	*i* P	**Pn**	**09 14 27.4**	**-0.7**
	baz=230						
EHY				*i* S	**Sn**	**09 14 45.7**	**-1.7**
	baz=230						
VWDT	**VWDT**	**1.51**	**244**	*e*P	**Pn**	**09 14 28.6**	**+0.4**
	baz=236						
VWDT				S	**Sn**	**09 14 47.5**	**0.0**
	baz=236						
JISG	**Ishigakijimahi**	**1.54**	**84**	P	**Pn**	**09 14 28.4**	**-0.1**
JISG				S	**Sn**	**09 14 48.0**	**-0.2**
WHP	**Taichung City**	**1.54**	**265**	*i* P	**Pn**	**09 14 30.6**	**+2.0**
	baz=259						
WHP				*e*S	**Sn**	**09 14 49.3**	**+1.0**
	baz=259						
ECBN	**Changbin**	**1.54**	**225**	*e*P	**Pn**	**09 14 26.5**	**-2.0**
	baz=217						
ECBN				S	**Sn**	**09 14 47.5**	**-0.7**
	baz=217						
YULB	**Yu-li**	**1.59**	**230**	*e*P	**Pn**	**09 14 29.1**	**-0.2**
	baz=236						
YULB				*e*S	**Sn**	**09 14 48.5**	**-0.9**
	baz=236						
EYUL	**Yuli**	**1.61**	**228**	*e*P	**Pn**	**09 14 29.3**	**-0.1**
	baz=236						
EYUL				S	**Sn**	**09 14 49.9**	**+0.1**
	baz=236						
WCS	**Beigang Elemen**	**1.61**	**257**	P	**Pn**	**09 14 30.8**	**+1.4**
	baz=252						
WCS				S	**Sn**	**09 14 50.5**	**+0.7**
	baz=252						
TWF1	**Yuli**	**1.62**	**229**	*i* P	**Pn**	**09 14 28.8**	**-0.8**
	baz=236						
TWF1				S	**Sn**	**09 14 48.7**	**-1.4**
	baz=236						
SSLB	**Suanglung**	**1.66**	**248**	P	**Pn**	**09 14 30.6**	**+0.5**
	baz=245						
SSLB				*i* S	**Sn**	**09 14 50.6**	**-0.3**
	baz=245						
CHKH	**Chenggong**	**1.67**	**223**	*e*P	**Pn**	**09 14 31.0**	**+0.8**
	baz=217						
CHKH				S	**Sn**	**09 14 49.8**	**-1.4**
	baz=217						
SMLT	**Sun Moon Lake**	**1.67**	**251**	*i* P	**Pn**	**09 14 31.4**	**+1.1**
	baz=245						
SMLT				S	**Sn**	**09 14 52.5**	**+1.2**
	baz=245						
TYC	**Yuchr**	**1.70**	**253**	*i* P	**Pn**	**09 14 32.3**	**+1.8**
	baz=245						
TYC				*i* S	**Sn**	**09 14 52.0**	**+0.2**
	baz=245						
CHKT	**Chengkung**	**1.75**	**221**	*e*P	**Pn**	**09 14 30.2**	**-1.2**
	baz=216						
CHKT				*i* S	**Sn**	**09 14 51.0**	**-2.2**
	baz=216						
WHYT	**Xinyi Township**	**1.78**	**246**	P	**Pn**	**09 14 33.5**	**+1.8**
	baz=244						
WHYT				S	**Sn**	**09 14 54.5**	**+0.7**
	baz=244						
EHD	**Haiduan**	**1.82**	**226**	P	**Pn**	**09 14 31.5**	**-0.8**
	baz=233						
EHD				S	**Sn**	**09 14 53.3**	**-1.4**
	baz=233						
EDH	**Donghe**	**1.89**	**220**	P	**Pn**	**09 14 32.7**	**-0.4**
	baz

ML2.3/2, Error ellipse: s-maj=25.7km s-min=17.3km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**260**	I	I	09 29 25.0	
	baz=79,slow=325,SNR=13						
ZALV	**Zalesovo Beam**	**1.61**	**260**	Pg	Pn	09 20 38.8	0.0
	0.5nm,0.3s,baz=74,slow=13,SNR=18						
ZALV				Lg	Lg	09 20 59.5	
	0.9nm,0.3s,baz=75,slow=24,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.58**	**240**	Pn	Pn	09 21 47.5	+0.4
	baz=55,slow=14,SNR=9.6						
KURBB				Lg	Lg	09 23 39.3	
	baz=52,slow=32,SNR=5.0						
	1.3nm,0.7s						
MKAR	**Makanchi Array**	**8.18**	**206**	Pn	Pn	09 22 10.3	+1.2
	0.1nm,0.3s,baz=25,slow=12,SNR=4.1						
MKAR				Sn	Sn	09 23 41.6	-0.7
	0.1nm,0.3s,baz=29,slow=28,SNR=9.0						
MKAR				Lg	Lg	09 24 30.6	
	0.1nm,0.3s,baz=26,slow=30,SNR=3.7						
	0.3nm,0.6s						

IDC 04 09:24:34.0±2.6, 54.04N×86.46E, h0km, mbtmp3.1/2, ML2.8/2, Error ellipse: s-maj=21.3km s-min=12.8km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**266**	I	I	09 31 30.0	
	baz=85,slow=323,SNR=6.5						
ZALV	**Zalesovo Beam**	**0.97**	**266**	Pg	Pg	09 24 51.3	-1.3
	1.2nm,0.3s,baz=83,slow=17,SNR=11						
ZALV				Lg	Lg	09 25 06.4	
	1.9nm,0.3s,baz=84,slow=29,SNR=6.1						
KURBB	**Kurchatov Arra**	**5.94**	**238**	Pn	Pn	09 26 04.3	+1.2
	0.2nm,0.3s,baz=56,slow=13,SNR=13						
KURBB				Lg	Lg	09 27 42.8	
	baz=60,slow=29,SNR=2.3						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**7.72**	**202**	Pn	Pn	09 26 28.5	+0.8
	0.2nm,0.3s,baz=20,slow=12,SNR=6.6						
MKAR				Sn	Sn	09 27 55.2	-0.6
	0.1nm,0.3s,baz=25,slow=28,SNR=2.6						
MKAR				Lg	Lg	09 28 39.7	
	baz=34,slow=35,SNR=3.4						
	0.4nm,0.4s						

IDC 04 09:29:14.5±3.0, 53.72N×86.96E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=28.2km s-min=16.7km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**281**	I	I	09 37 40.0	
	baz=101,slow=324,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.29**	**281**	Pg	Pg	09 29 38.0	-1.2
	0.7nm,0.3s,baz=99,slow=17,SNR=7.9						
ZALV				Lg	Lg	09 29 56.3	
	0.8nm,0.3s,baz=102,slow=29,SNR=5.6						
KURBB	**Kurchatov Arra**	**6.04**	**243**	Pn	Pn	09 30 45.9	+0.9
	0.1nm,0.3s,baz=57,slow=14,SNR=3.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.55**	**205**	Pn	Pn	09 31 07.2	+1.4
	0.1nm,0.3s,baz=26,slow=14,SNR=2.3						
	0.1nm,0.3s						

IDC 04 09:36:47.1±3.2, 53.51N×87.52E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=27.3km s-min=16.3km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.66**	**287**	I	I	09 48 10.0	
	baz=101,slow=328,SNR=2.7						
ZALV	**Zalesovo Beam**	**1.66**	**287**	Pg	Pn	09 37 16.8	-0.7
	0.6nm,0.3s,baz=103,slow=10,SNR=7.6						
ZALV				Lg	Lg	09 37 39.8	
	0.6nm,0.3s,baz=108,slow=27,SNR=9.6						
KURBB	**Kurchatov Arra**	**6.25**	**246**	Pn	Pn	09 38 21.4	+0.9
	baz=61,slow=14,SNR=3.5						
KURBB				Lg	Lg	09 40 04.8	
	baz=62,slow=30,SNR=4.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.51**	**209**	Pn	Pn	09 38 39.0	+1.1
	0.1nm,0.3s,baz=30,slow=12,SNR=2.9						
MKAR				Lg	Lg	09 40 44.8	
	baz=34,slow=30,SNR=7.4						
	0.2nm,0.4s						

*CATAC **04** 09:41:00.1±0.4, 13.27N×90.15W, h26km±3km, MB4.9, mb4.2, ML4.0*
*GCG **04** 09:41:02.4±0.8, 13.36N×90.26W, h35km±999km, MD3.8*
ISC 04 09:41:00.1±1.5, 13.27N±0.04×90.18W±0.04, h29km±13km, n67, σ0.51/113, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.74**	**32**	*i* P	**Pb**	**09 41 14.4**	**-0.2**
NUBE				*i* S	**Sb**	**09 41 24.5**	**+0.1**
NUBE				IAML		09 41 25.2	
	comp=Z,4μm,1.0s						
CEVE	**Cerro Verde**	**0.77**	**44**	*i* P	**Pn**	**09 41 15.3**	**0.0**
CEVE				*i* S	**Sb**	**09 41 26.2**	**+0.7**
CEVE				IAML		09 41 27.4	
	comp=Z,10μm,1.0s						
JAYA	**Jayaque - finc**	**0.80**	**62**	*i* P	**Pn**	**09 41 15.2**	**-0.5**
JAYA				*i* S	**Sb**	**09 41 26.0**	**-0.3**
JAYA				IAML		09 41 28.8	
	comp=Z,10μm,1.0s						
LOAL	**Lomas de Alarc**	**0.82**	**28**	*i* P	**Pn**	**09 41 15.9**	**+0.1**
LOAL				*i* S	**Sb**	**09 41 27.2**	**+0.6**
LOAL				IAML		09 41 28.9	
	comp=Z,10μm,1.0s						
LALI	**Alcalda de L**	**0.86**	**75**	*i* P	**Pn**	**09 41 15.7**	**-0.6**
LALI				*i* S	**Sn**	**09 41 27.3**	**-0.6**
LALI				IAML		09 41 31.0	
	comp=Z,820nm,1.0s						
CEDA	**San Andres**	**0.93**	**55**	*e*S	**Sn**	**09 41 29.4**	**-0.2**
CEDA	**San Andres**	**0.93**	**55**	*i* P	**Pn**	**09 41 16.4**	**-0.8**
CEDA				*i* S	**Sn**	**09 41 30.2**	**+0.6**
CEDA				IAML		09 41 39.5	
	comp=Z,8μm,1.0s						
UNIC	**Universidad Ca**	**0.93**	**41**	*i* P	**Pn**	**09 41 16.7**	**-0.7**
UNIC				*i* S	**Sn**	**09 41 29.4**	**-0.4**
UNIC				IAML		09 41 31.5	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**0.95**	**62**	*i* P	**Pn**	**09 41 16.9**	**-0.7**
PMON				*i* S	**Sn**	**09 41 30.9**	**+0.7**
PMON				IAML		09 41 37.3	
	comp=Z,6μm,1.0s						
ITCA	**Escuela Especi**	**0.96**	**65**	*i* P	**Pn**	**09 41 17.4**	**-0.4**
ITCA				*i* S	**Sn**	**09 41 30.4**	**-0.2**
ITCA				IAML		09 41 40.3	
	comp=Z,6μm,1.0s						
PANCS	**Alcalda de**	**1.03**	**71**	*i* P	**Pn**	**09 41 17.7**	**-1.0**
PANCS				IAML		09 41 19.6	
	comp=Z,8μm,1.0s						
PANCS				*i* S	**Sn**	**09 41 31.5**	**-0.6**
UTEC	**Universidad Te**	**1.04**	**66**	*i* P	**Pn**	**09 41 18.6**	**-0.3**
UTEC				*i* S	**Sn**	**09 41 32.8**	**+0.3**
UTEC				IAML		09 41 40.4	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.04**	**57**	*i* P	**Pn**	**09 41 19.4**	**+0.5**
QUEZ				*i* S	**Sn**	**09 41 33.1**	**+0.6**
QUEZ				IAML		09 41 34.8	
	comp=Z,8μm,1.0s						
LOMA	**Loma Larga**	**1.05**	**69**	*e*P	**Pn**	**09 41 18.0**	**-1.0**
LOMA	**Loma Larga**	**1.05**	**69**	*i* P	**Pn**	**09 41 18.7**	**-0.3**
LOMA				*i* S	**Sn**	**09 41 32.9**	**+0.2**
LOMA				IAML		09 41 36.3	
	comp=Z,4μm,1.0s						
IGN	**Direccin Gen**	**1.07**	**66**	*i* P	**Pn**	**09 41 19.1**	**-0.2**
IGN				*i* S	**Sn**	**09 41 33.3**	**0.0**
IGN				IAML		09 41 36.4	
	comp=Z,7μm,1.0s						
UDBS	**Universidad Do**	**1.09**	**66**	*i* P	**Pn**	**09 41 19.2**	**-0.3**
UDBS				*i* S	**Sn**	**09 41 33.0**	**-0.6**
UDBS				IAML		09 41 36.3	
	comp=Z,2μm,1.0s						
JUAM	**Asuncion Mita**	**1.15**	**23**	*i* P	**Pn**	**09 41 20.1**	**-0.3**
JUAM				*i* S	**Sn**	**09 41 35.7**	**+0.5**
JUAM				IAML		09 41 37.3	
	comp=Z,3μm,1.0s						
PAVA	**Las Pavas**	**1.28**	**70**	*e*P	**Pn**	**09 41 22.2**	**0.0**
PAVA	**Las Pavas**	**1.28**	**70**	*i* P	**Pn**	**09 41 22.6**	**+0.4**
PAVA				*i* S	**Sn**	**09 41 39.5**	**+1.0**
PAVA				IAML		09 41 44.8	
	comp=Z,3μm,1.0s						
COEG	**Centro de Oper**	**1.31**	**75**	*e*P	**Pn**	**09 41 22.0**	**-0.6**
COEG	**Centro de Oper**	**1.31**	**75**	*i* P	**Pn**	**09 41 22.5**	**0.0**
COEG				IAML		09 41 23.8	
	comp=Z,2μm,1.0s						
COEG				*i* S	**Sn**	**09 41 39.0**	**-0.1**
NBG	**Las Nubes**	**1.32**	**353**	*i* P	**Pb**	**09 41 24.3**	**-0.2**
NBG				*i* S	**Sb**	**09 41 40.7**	**-0.3**
GUNB	**GUNB**	**1.32**	**353**	*i* P	**Pn**	**09 41 22.2**	**-0.8**
GUNB				*i* S	**Sn**	**09 41 39.4**	**-0.4**
GUNB				IAML		09 41 41.5	
	comp=Z,1μm,1.0s						
FUG	**Fuego 3**	**1.33**	**331**	*i* P	**Pn**	**09 41 22.8**	**-0.2**
MTO3	**Montecristo**	**1.37**	**35**	*e*P	**Pn**	**09 41 23.2**	**-0.3**
MTO3	**Montecristo**	**1.37**	**35**	*i* P	**Pn**	**09 41 23.1**	**-0.5**
MTO3				*i* S	**Sn**	**09 41 41.4**	**+0.5**
MTO3				IAML		09 41 44.0	
	comp=Z,760nm,1.0s						
TECO	**Alcaldia de Te**	**1.39**	**79**	*e*S	**Sn**	**09 41 40.8**	**-0.1**
TECO	**Alcaldia de Te**	**1.39**	**79**	*i* P	**Pn**	**09 41 23.3**	**-0.2**
TECO				IAML		09 41 24.0	
	comp=Z,1μm,1.0s						
TECO				*i* S	**Sn**	**09 41 41.1**	**+0.2**
UESV	**Universidad de**	**1.40**	**75**	*i* P	**Pn**	**09 41 23.8**	**0.0**
UESV				*i* S	**Sn**	**09 41 41.6**	**+0.3**
UESV				IAML		09 41 46.3	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**1.47**	**73**	*e*P	**Pn**	**09 41 24.7**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.47**	**73**	*i* P	**Pn**	**09 41 25.1**	**+0.3**
SCLA				*i* S	**Sn**	**09 41 43.8**	**+0.7**
SCLA				IAML		09 41 51.7	
	comp=Z,660nm,1.0s						
LLGN	**La Laguna**	**1.49**	**53**	*i* P	**Pn**	**09 41 25.2**	**+0.1**
LLGN				*i* S	**Sn**	**09 41 43.8**	**+0.2**
LLGN				IAML		09 42 30.5	
	comp=Z,1μm,1.0s						
ESQI	**Esquipulas**	**1.52**	**32**	*i* P	**Pn**	**09 41 25.4**	**0.0**
ESQI				*i* S	**Sn**	**09 41 44.7**	**+0.4**
ESQI				IAML		09 41 54.0	
	comp=Z,830nm,1.0s						
PQSS	**Presa 15 de Se**	**1.61**	**77**	*e*P	**Pn**	**09 41 26.4**	**-0.3**
PQSS	**Presa 15 de Se**	**1.61**	**77**	*i* P	**Pn**	**09 41 26.3**	**-0.3**
PQSS				*i* S	**Sn**	**09 41 47.1**	**+0.6**
PQSS				IAML		09 41 51.7	
	comp=Z,810nm,1.0s						
COEB	**Comit de Eme**	**1.62**	**82**	*e*P	**Pn**	**09 41 26.2**	**-0.6**
COEB	**Comit de Eme**	**1.62**	**82**	*i* P	**Pn**	**09 41 26.3**	**-0.6**
COEB				*i* S	**Sn**	**09 41 46.5**	**-0.3**
COEB				IAML		09 41 49.3	
	comp=Z,1μm,1.0s						
TECA	**Tecapa**	**1.65**	**82**	*e*P	**Pn**	**09 41 26.5**	**-0.7**
SULM	**Suchitepequez,**	**1.69**	**307**	*i* P	**Pn**	**09 41 29.2**	**+1.5**
SULM				*i* S	**Sn**	**09 41 47.7**	**-0.8**
PACA	**Pacayal**	**1.82**	**84**	*e*P	**Pn**	**09 41 30.0**	**+0.4**
PACA	**Pacayal**	**1.82**	**84**	*i* P	**Pn**	**09 41 29.8**	**+0.2**
PACA				*i* S	**Sn**	**09 41 52.3**	**+0.6**
PACA				IAML		09 41 58.9	
	comp=Z,8μm,1.0s						
LCY	**Lacayo**	**1.84**	**85**	*e*P	**Pn**	**09 41 30.1**	**+0.2**
RANC	**El Ranchito**	**1.85**	**85**	*e*P	**Pn**	**09 41 29.6**	**-0.4**
BLLM	**Bellamira**	**1.90**	**85**	*e*P	**Pn**	**09 41 30.8**	**+0.2**
RTAL	**Retalhuleu**	**1.93**	**310**	*i* P	**Pn**	**09 41 31.5**	**+0.5**
RTAL				*i* S	**Sn**	**09 41 55.7**	**+1.4**
RTAL				IAML		09 42 08.0	
	comp=Z,430nm,1.0s						
STG3	**Santiaguito 3,**	**1.97**	**317**	*i* P	**Pn**	**09 41 32.4**	**+0.7**
STG3				*i* S	**Sn**	**09 41 56.3**	**+0.8**
LCND	**La Caada**	**2.23**	**89**	*e*P	**Pn**	**09 41 34.9**	**-0.2**
LCND	**La Caada**	**2.23**	**89**	*i* P	**Pn**	**09 41 35.3**	**+0.2**
LCND				*i* S	**Sn**	**09 42 01.8**	**+0.1**
LCND				IAML		09 42 05.5	
	comp=Z,710nm,1.0s						
CNCH	**Conchagua**	**2.28**	**90**	*e*P	**Pn**	**09 41 35.5**	**-0.5**
CNCH	**Conchagua**	**2.28**	**90**	*i* P	**Pn**	**09 41 36.1**	**+0.1**
CNCH				*i* S	**Sn**	**09 42 03.0**	**-0.2**
CNCH				IAML		09 42 11.6	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**2.45**	**89**	*e*P	**Pn**	**09 41 37.8**	**-0.4**
TGUH	**Tegucigalpa,Un**	**2.93**	**74**	*i* P	**Pn**	**09 41 44.7**	**-0.2**
TGUH				*i* S	**Sn**	**09 42 18.9**	**-0.3**
TGUH				IAML		09 42 28.3	
	comp=Z,130nm,1.0s						
CRIN	**San Cristobal**	**3.10**	**100**	*i* P	**Pn**	**09 41 47.4**	**+0.2**
CRIN				*i* S	**Sn**	**09 42 24.5**	**+1.1**
CRIN				IAML		09 42 33.9	
	comp=Z,870nm,1.0s						
POLN	**Al Sur del Vol**	**3.34**	**100**	*i* P	**Pn**	**09 41 49.7**	**-0.7**
POLN				IAML		09 42 32.4	
	comp=Z,140nm,1.0s						
CNGA	**Al SSO del Vol**	**3.48**	**102**	*i* P	**Pn**	**09 41 51.5**	**-0.9**
CNGA				*i* S	**Sn**	**09 42 32.3**	**-0.3**
CNGA				IAML		09 42 49.3	
	comp=Z,260nm,1.0s						
CNGN	**Cerro Negro**	**3.48**	**102**	*i* P	**Pn**	**09 41 52.3**	**-0.1**
CNGN				*i* S	**Sn**	**09 42 32.4**	**-0.3**
CNGN				IAML		09 42 50.6	
	comp=Z,270nm,1.0s						
PETF	**Flores**	**3.63**	**5**	*i* P	**Pn**	**09 41 54.5**	**0.0**
PETF				IAML		09 43 48.7	
	comp=Z,59nm,1.0s						
MOMN	**Momotombo**	**3.65**	**103**	*i* P	**Pn**	**09 41 55.4**	**+0.7**
MOMN				*i* S	**Sn**	**09 42 37.0**	**+0.1**
MOMN				IAML		09 42 43.7	
	comp=Z,9.4nm,1.0s						
COPN	**Copaltepe**	**3.66**	**107**	*i* P	**Pn**	**09 41 54.9**	**0.0**
SAJU	**San Juanillo,**	**5.41**	**126**	*i* P	**Pn**	**09 42 19.3**	**+0.4**
SAJU				IAML		09 42 20.6	
	comp=Z,70nm,1.0s						
SAJU				IVmB_BB		09 42 20.9	
	comp=Z,1μm,1.0s						
SAJU				*i* S	**Sn**	**09 43 20.4**	**+0.1**
ORTG	**Ortega, Santa**	**5.45**	**122**	*i* P	**Pn**	**09 42 19.4**	**-0.1**
ORTG				IAML		09 42 24.3	
	comp=Z,38nm,1.0s						
ORTG				IAmb	IAmb	09 42 24.4	
	comp=Z,26nm,0.5s						
ORTG				*i* S	**Sn**	**09 43 21.3**	**-0.1**
RIMA	**Rio Macho**	**7.10**	**119**	*i* P	**Pn**	**09 42 42.4**	**+0.1**
RIMA				IAML		09 42 47.0	
	comp=Z,27nm,1.0s						
RIMA				IVmB_BB		09 42 47.4	
	comp=Z,560nm,1.0s						
RIMA				IAmb	IAmb	09 42 50.5	
	comp=Z,12nm,0.7s						
RIMA				*i* S	**Sn**	**09 44 01.6**	**-0.6**
CDM	**Cerro de Muert**	**7.29**	**120**	*i* P	**Pn**	**09 42 44.7**	**-0.5**
CDM				IAmb	IAmb	09 42 50.5	
	comp=Z,9.5nm,0.7s						
CDM				*i* S	**Sn**	**09 44 06.8**	**-0.5**
CDM				IAML		09 44 22.5	
	comp=Z,23nm,1.0s						
OCHAL	**Ojochal**	**7.63**	**122**	*i* P	**Pn**	**09 42 49.0**	**-0.5**
OCHAL				IAmb	IAmb	09 42 57.3	
	comp=Z,16nm,0.6s						
OCHAL				IAML		09 43 16.5	
	comp=Z,40nm,1.0s						
OCHAL				*i* S	**Sn**	**09 44 16.2**	**+1.1**
SRBA	**San Rafael, Bu**	**7.80**	**120**	*i* P	**Pn**	**09 42 52.2**	**+0.3**
SRBA				IAML		09 42 55.5	
	comp=Z,26nm,1.0s						
SRBA				IAmb	IAmb	09 42 55.5	
	comp=Z,19nm,0.7s						
SRBA				*i* S	**Sn**	**09 44 19.5**	**+0.2**
PLAN	**Los Planes de**	**7.85**	**125**	*i* P	**Pn**	**09 42 53.2**	**+0.8**
PLAN				IVmB_BB		09 42 58.0	
	comp=Z,2μm,1.0s						
PLAN				IAML		09 43 02.8	
	comp=Z,130nm,1.0s						
PLAN				*i* S	**Sn**	**09 44 20.3**	**-0.1**

KRSC 04 09:49:55.7±0.6, 54.69N×161.69E, h46km±7km, MI3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.13**	**169**	*e*P	Pn	09 50 04.3	+1.1
MKZ				*e*S	Sn	09 50 09.1	+0.8
TUMD	**Tumrok D**	**0.91**	**305**	*e*P	Pn	09 50 12.2	+0.1
TUMD				*e*S	Sn	09 50 23.7	-0.4
TUMR	**Tumrok**	**1.07**	**305**	*e*P	Pn	09 50 15.4	+1.0
KMNR	**Kamenistaya**	**1.36**	**323**	*e*P	Pn	09 50 19.9	+1.6
ZLN	**Zelenaya**	**1.43**	**340**	*e*P	Pn	09 50 21.1	+1.9
ZLN				*e*S	Sn	09 50 39.9	+3.0
BZWR	**Bezymyannyi-We**	**1.45**	**333**	*e*P	Pn	09 50 21.3	+1.7
KII	**Karymskiy**	**1.46**	**245**	*e*P	Pn	09 50 21.8	+2.1
KII				*e*S	Sn	09 50 40.7	+3.1
KIRR	**Kirishev**	**1.49**	**329**	*e*P	Pn	09 50 22.0	+1.9
LGNR	**Loginova**	**1.51**	**338**	*e*P	Pn	09 50 22.7	+2.1
CIRR	**Tsirk**	**1.53**	**340**	*e*P	Pn	09 50 22.8	+2.1
KPT	**Kopyto**	**1.53**	**327**	*e*P	Pn	09 50 22.7	+2.0
KBTR	**Krutoberegovo**	**1.66**	**22**	*e*P	Pn	09 50 23.6	+1.3
KOZ	**Kozyrevsk**	**1.72**	**324**	*e*P	Pn	09 50 25.8	+2.6
KLY	**Klyuchi**	**1.73**	**341**	*e*P	Pn	09 50 24.6	+1.3
SPN	**Mys Shipunski**	**1.87**	**212**	*e*P	Pn	09 50 27.6	+2.5
SPN				*e*S	Sn	09 50 48.3	+0.8
SRDR	**Sredinnyy**	**1.98**	**326**	*e*P	Pn	09 50 28.8	+2.0
ESO	**Esso**	**2.11**	**307**	*e*P	Pn	09 50 29.8	+1.2
KRER	**Koryakskii**	**2.22**	**233**	*e*P	Pn	09 50 33.2	+3.0
SMAR	**Somma**	**2.22**	**231**	*e*P	Pn	09 50 33.0	+2.8
KRX	**Arik**	**2.23**	**235**	*e*P	Pn	09 50 33.1	+2.9
UGLR	**Uglovaya**	**2.25**	**230**	*e*P	Pn	09 50 33.5	+3.1
AVH	**Avacha**	**2.25**	**232**	*e*P	Pn	09 50 33.6	+3.1
KOK	**Koryaka**	**2.28**	**233**	*e*P	Pn	09 50 34.1	+3.2
DALK	**Dalny**	**2.40**	**228**	*e*P	Pn	09 50 35.0	+2.5
GNL	**Ganaly**	**2.41**	**247**	*e*P	Pn	09 50 35.9	+3.2
PET	**Petropavlovsk**	**2.45**	**228**	*e*P	Pn	09 50 35.9	+2.8
PET				*e*S	Sn	09 51 05.1	+3.3
BKI	**Bering**	**2.53**	**76**	*e*S	Sn	09 51 06.5	+2.8
KRMR	**Karymshinskiy**	**2.81**	**230**	*e*P	Pn	09 50 41.3	+3.2
KRMR				*e*S	Sn	09 51 15.1	+4.4
RUS	**Russkaya**	**2.94**	**221**	*e*P	Pn	09 50 42.4	+2.5
RUS				*e*S	Sn	09 51 16.1	+2.1
MTVR	**Mutnovka**	**3.04**	**225**	*e*P	Pn	09 50 44.7	+3.4
MTVR				*e*S	Sn	09 51 20.4	+3.9
ASAK	**Asacha**	**3.23**	**226**	*e*P	Pn	09 50 47.8	+3.9
KDTR	**Khodutka, Kamc**	**3.61**	**218**	*e*P	Pn	09 50 52.2	+3.3

*NNC **04** 09:52:20.4±1.8, 54.24N×86.30E, h0km, mb3.4, mpv2.9, Error ellipse: s-maj=18.7km s-min=8.5km az=178.0, Suspected Mining explosion.*
*IDC **04** 09:52:21.8±2.4, 54.15N×86.37E, h0km, mbtmp3.5/2, ML3.2/2, Error ellipse: s-maj=20.0km s-min=12.0km az=57.0.*
ISC 04 09:52:19.8±3.8, 54.7N±0.2×84.03E±0.08, h0km, n9, σ0.85/11, 5C-7D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.84**	**147**	I	I	09 59 10.0	
	baz=78,slow=319,SNR=1.8						
ZAA0	**Zalesovo Array**	**0.84**	**147**	⇑P	**Pb**	**09 52 37.9**	**+0.6**
	1.2nm,0.3s						
ZAA0				⇓S	**Sn**	**09 52 51.1**	**-0.9**
	2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**0.84**	**147**	Pg	**Pn**	**09 52 38.4**	**-0.5**
	9.5nm,0.3s,baz=77,slow=16,SNR=74						
ZALV				Lg	Lg	09 52 53.1	
	17nm,0.3s,baz=76,slow=29,SNR=39						
KURK	**Kurchatov**	**5.14**	**222**	⇑Pn	**Pb**	**09 53 51.3**	**+0.8**
	0.5nm,0.4s						
KURK				⇓Lg	Lg	09 55 30.4	
	11nm,0.8s						
KURBB	**Kurchatov Arra**	**5.25**	**222**	⇑Pn	**Pb**	**09 53 51.3**	**-1.0**
	1.4nm,0.3s						
KURBB				⇓Lg	Lg	09 55 29.9	
	18nm,0.7s						
KURBB	**Kurchatov Arra**	**5.25**	**222**	Pn	**Pb**	**09 53 52.1**	**-0.2**
	0.3nm,0.3s,baz=55,slow=13,SNR=20						
	2.0nm,0.4s						
MK31	**Makanchi Array**	**7.95**	**189**	⇓Pn	**Pn**	**09 54 17.0**	**+0.5**
	0.2nm,0.3s,baz=27,slow=14,SNR=25						
MK31				⇑Sn	**Sn**	**09 55 46.1**	**-1.0**
	0.8nm,0.6s,baz=170,slow=13,SNR=5.0						
MK31				⇓Lg	Lg	09 56 34.4	
	2.0nm,0.6s,baz=30,slow=31,SNR=5.3						
MKAR	**Makanchi Array**	**7.95**	**189**	Pn	**Pn**	**09 54 17.6**	**+1.1**
	0.7nm,0.3s,baz=24,slow=13,SNR=25						
MKAR				Lg	Lg	09 56 28.9	
	0.2nm,0.3s,baz=28,slow=32,SNR=8.3						
	0.9nm,0.3s						
MAKZ	**Makanchi**	**7.96**	**190**	⇓Pn	**Pn**	**09 54 16.8**	**+0.1**
	0.3nm,0.3s						
MAKZ				⇑Sn	**Sn**	**09 55 47.9**	**+0.5**
	0.6nm,0.6s						
MAKZ				⇓Lg	Lg	09 56 31.4	
	3.0nm,0.8s						

*IDC **04** 10:00:14.3±2.7, 54.16N×86.49E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.9km s-min=13.7km az=55.0*
ISC 04 10:00:14.3±5.1, 54.3N±0.2×86.5E±0.2, h10km, n9, σ2.6/81/7, 5C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.03**	**252**	I	I	10 07 00.0	
	baz=80,slow=325,SNR=0.9						
ZALV	**Zalesovo Beam**	**1.03**	**252**	Pg	**Pg**	**10 00 32.2**	**-1.9**
	1.4nm,0.3s,baz=77,slow=16,SNR=11						
ZALV				Lg	Lg	10 00 48.4	
	2.0nm,0.3s,baz=75,slow=29,SNR=12						
KURK	**Kurchatov**	**5.98**	**237**	⇑Pn	Pg	10 02 27.0	+18
	1.6nm,0.4s						
KURK				⇓Sn	**Sn**	**10 02 55.0**	**+3.8**
	3.2nm,0.6s						
KURBB	**Kurchatov Arra**	**6.08**	**236**	⇑Pn	Pg	10 02 24.6	+14
	2.7nm,0.3s						
KURBB				⇓Sn	**Sn**	**10 02 52.4**	**-1.3**

IBRJ	**Brojen**	**3.42**	**12**	Pn	**Pn**	**10 23 06.5**	**+1.4**
ZNGN	**Zangian**	**3.57**	**6**	Pn	**Pn**	**10 23 07.8**	**+0.6**
IRAM	**Rameshеh**	**3.66**	**27**	Pn	**Pn**	**10 23 10.0**	**+1.6**
JHBN	**Jahan bin**	**3.67**	**3**	Pn	**Pn**	**10 23 09.5**	**+0.9**
SMRA	**Abu-Samra**	**3.81**	**175**	P	**Pn**	**10 23 10.3**	**0.0**
TRNA	**Turayna**	**3.87**	**169**	P	**Pn**	**10 23 12.5**	**+1.4**
	SNR=12						
TRNA				S	**Sn**	**10 23 55.6**	**+0.2**
IGAR	**Gharneh**	**4.08**	**20**	Pn	**Pn**	**10 23 15.5**	**+1.3**
IPIR	**Pirpir**	**4.13**	**5**	Pn	**Pn**	**10 23 15.9**	**+0.9**
JRN	**Qarnain Island**	**4.20**	**148**	P	**Pn**	**10 23 16.0**	**+0.3**
JRN				S	**Sn**	**10 24 03.1**	**-0.4**
ISAD	**Sadrabad**	**4.38**	**39**	Pn	**Pn**	**10 23 20.3**	**+2.0**
SLWR	**Sila**	**4.61**	**165**	P	**Pn**	**10 23 21.4**	**+0.1**
SLWR				S	**Sn**	**10 24 14.0**	**+0.4**
IZEF	**Zefreh**	**4.62**	**20**	Pn	**Pn**	**10 23 23.3**	**+1.6**
IKLH	**Kolahrood**	**4.85**	**12**	Pn	**Pn**	**10 23 25.6**	**+0.8**
ICHK	**Chekchek**	**5.03**	**42**	Pn	**Pn**	**10 23 28.4**	**+1.1**
QAMS	**Qamsar**	**5.23**	**9**	Pn	**Pn**	**10 23 31.2**	**+1.2**
IBAF	**Bafgh**	**5.38**	**55**	Pn	**Pn**	**10 23 34.4**	**+2.3**
KHGB	**Koh Gabri**	**5.58**	**70**	Pn	**Pn**	**10 23 36.4**	**+1.6**
KRSH	**Karshahi**	**5.59**	**15**	Pn	**Pn**	**10 23 36.0**	**+1.1**
SHME	**Shamm**	**5.67**	**115**	P	**Pn**	**10 23 35.6**	**-0.2**
SHME	**Shamm**	**5.67**	**115**	P	**Pn**	**10 23 35.7**	**-0.1**
MZWR	**Madinat Zayed**	**5.70**	**146**	P	**Pn**	**10 23 38.4**	**+2.1**
MZWR				S	**Sn**	**10 24 41.7**	**+1.2**
NAZ	**Nazwa, Dubai**	**5.88**	**126**	P	**Pn**	**10 23 40.2**	**+1.4**
NAZ	**Nazwa, Dubai**	**5.88**	**126**	P	**Pn**	**10 23 40.6**	**+1.9**
NAZ				S	**Sn**	**10 24 46.5**	**+1.6**
ASUD	**Al Ashush, Dub**	**5.88**	**131**	P	**Pn**	**10 23 39.9**	**+1.1**
ASUD	**Al Ashush, Dub**	**5.88**	**131**	P	**Pn**	**10 23 40.1**	**+1.4**
ASUD				S	**Sn**	**10 24 47.3**	**+2.3**
ISFB	**Sefidab**	**5.98**	**15**	Pn	**Pn**	**10 23 40.6**	**+0.4**
FAQ	**Al Faqa, Dubai**	**5.98**	**128**	P	**Pn**	**10 23 41.4**	**+1.2**
FAQ	**Al Faqa, Dubai**	**5.98**	**128**	P	**Pn**	**10 23 41.6**	**+1.4**
FAQ				S	**Sn**	**10 24 48.2**	**+0.7**
MASF	**Masafi**	**6.02**	**120**	P	**Pn**	**10 23 41.0**	**+0.2**
MASF				S	**Sn**	**10 24 47.1**	**-1.4**
MDH	**Madha**	**6.17**	**120**	P	**Pn**	**10 23 43.2**	**+0.5**
MZR	**Muzera**	**6.18**	**153**	P	**Pn**	**10 23 42.9**	**0.0**
MZR	**Muzera**	**6.18**	**153**	P	**Pn**	**10 23 44.5**	**+1.6**
MZR				S	**Sn**	**10 24 49.4**	**-3.0**
IQOM	**Qom**	**6.29**	**5**	Pn	**Pn**	**10 23 45.0**	**+0.4**
UOSS	**Minazif**	**6.30**	**124**	Pn	**Pn**	**10 23 44.2**	**-0.3**
UOSS				Sn	**Sn**	**10 24 56.2**	**+1.0**
HATD	**Hatta, Dubai**	**6.31**	**125**	P	**Pn**	**10 23 45.4**	**+0.6**
HATD				S	**Sn**	**10 24 54.5**	**-1.2**
ASHO	**Ashiyiah**	**6.35**	**126**	P	**Pn**	**10 23 45.3**	**+0.1**
ASHO				S	**Sn**	**10 24 55.1**	**-1.4**
ASHO	**Ashiyiah**	**6.35**	**126**	P	**Pn**	**10 23 45.6**	**+0.4**
ASHO				S	**Sn**	**10 24 57.3**	**+0.7**
ALNE	**Al Ain**	**6.55**	**132**	P	**Pn**	**10 23 48.6**	**+0.6**
ALNE	**Al Ain**	**6.55**	**132**	P	**Pn**	**10 23 49.5**	**+1.5**
	SNR=12						
RAYN	**Ar Rayn**	**6.69**	**223**		**Pn**	**10 23 48.7**	**-1.2**
RAYN	**Ar Rayn**	**6.69**	**223**	P	**Pn**	**10 23 48.2**	**-1.7**
TPRV	**Parvadeh(Tabas**	**6.99**	**49**	Pn	**Pn**	**10 23 55.7**	**+1.7**
SOHO	**SOHO**	**7.03**	**127**	P	**Pn**	**10 23 54.0**	**-0.6**
SOHO	**SOHO**	**7.03**	**127**	P	**Pn**	**10 23 54.0**	**-0.6**
UMZA	**Um Al Zommool**	**7.22**	**143**	P	**Pn**	**10 23 56.1**	**-1.1**
ARQ	**Araqi**	**7.56**	**132**	P	**Pn**	**10 24 02.9**	**+1.0**
BSY	**Bisya**	**8.42**	**132**	P	**Pn**	**10 24 14.2**	**+0.6**
SMDO	**Samad**	**8.78**	**127**	P	**Pn**	**10 24 19.5**	**+0.8**
WSAR	**Wadi Sarin**	**9.09**	**124**	Pn	**Pn**	**10 24 22.4**	**-0.5**
	0.3nm,0.3s,baz=353,slow=4.5,SNR=6.6						
WSAR				Sn	**Sn**	**10 26 01.1**	**-2.8**
	0.5nm,0.3s,baz=196,slow=24,SNR=1.6						
	5.0nm,0.9s						
WSAR	**Wadi Sarin**	**9.09**	**124**	P	**Pn**	**10 24 22.7**	**-0.1**
WBK	**Wadi Bani Khal**	**9.72**	**126**	P	**Pn**	**10 24 31.4**	**-0.1**
MHTO	**MHTO**	**10.19**	**136**	P	**Pn**	**10 24 38.3**	**+0.4**
JLN	**Jalan Bani Buh**	**10.33**	**126**	P	**Pn**	**10 24 37.9**	**-1.9**
DOK	**Doka**	**10.46**	**160**	P	**Pn**	**10 24 39.9**	**-1.7**
DQM	**DQM**	**10.76**	**141**	P	**Pn**	**10 24 43.7**	**-2.1**
WHFO	**Wadi Hawf**	**11.03**	**163**	P	**Pn**	**10 24 48.0**	**-1.4**
	SNR=7.0						
ABTO	**Aybut**	**11.46**	**166**	P	**Pn**	**10 24 53.5**	**-1.9**
DMTO	**DMTO**	**11.56**	**158**	P	**Pn**	**10 24 55.7**	**-1.0**
KBL	**Kabul**	**16.95**	**65**	Pn	**Pn**	**10 26 07.5**	**-1.1**
SIMJ	**Simiganj**	**18.44**	**52**	P	**P**	**10 26 27.3**	**+0.6**
CHGR	**Chuyangaron**	**18.54**	**52**	P	**P**	**10 26 27.3**	**-0.4**
GAR	**Garm**	**19.50**	**53**	P	**P**	**10 26 39.1**	**+0.8**
GAR				IAmb	IAmb	10 26 42.0	
	comp=Z,5.9nm,0.6s						
BTK	**Batken**	**20.33**	**50**	P	**P**	**10 26 48.5**	**+1.2**
BTK				IAmb	IAmb	10 26 49.0	
	comp=Z,6.0nm,0.9s						
KKAR	**Karatay Array**	**21.74**	**43**	P	**P**	**10 27 00.8**	**-1.6**
ABKAR	**Akbulak array**	**21.92**	**17**	P	**P**	**10 27 03.9**	**-0.3**
BOOM	**Boomskoye usch**	**24.87**	**49**	P	**P**	**10 27 35.6**	**+2.0**
BOOM				IAmb	IAmb	10 27 36.4	
	comp=Z,2.7nm,0.6s						
BVAR	**Borovoye Array**	**28.55**	**26**	P	**P**	**10 28 07.5**	**+1.1**
	comp=Z,0.7nm,0.5s,baz=216,slow=7.1,SNR=2.8						
	comp=Z,0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**30.59**	**36**	P	**P**	**10 28 25.5**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=236,slow=9.2,SNR=5.0						
	comp=Z,0.6nm,0.3s						
MKAR	**Makanchi Array**	**30.81**	**45**	P	**P**	**10 28 27.3**	**+0.7**
MKAR	**Makanchi Array**	**30.81**	**45**	P	**P**	**10 28 27.1**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=237,slow=10.0,SNR=5.2						
	comp=Z,0.4nm,0.4s						
TATN	**Tataouine**	**34.45**	**287**	P	**P**	**10 28 56.8**	**-1.7**
ZALV	**Zalesovo Beam**	**35.64**	**35**	P	**P**	**10 29 09.0**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=249,slow=11,SNR=4.7						
	comp=Z,0.8nm,0.4s						
FIA1	**FINESS Array S**	**36.66**	**341**	P	**P**	**10 29 16.5**	**-0.5**
FINES	**FINESS Array B**	**36.66**	**341**	P	**P**	**10 29 16.5**	**-0.6**
FINES	**FINESS Array B**	**36.66**	**341**	P	**P**	**10 29 16.1**	**-1.0**
	comp=Z,1.1nm,0.5s,baz=142,slow=9.6,SNR=4.4						
	comp=Z,1.1nm,0.5s						
TOA0	**Torodi Ar. Sit**	**47.72**	**262**	P	**P**	**10 30 46.9**	**-0.9**
TOA0				IAmb	IAmb	10 31 17.4	
	comp=Z,3.6nm,1.2s						
TORD	**Torodi Ar. Bea**	**47.72**	**262**	P	**P**	**10 30 46.8**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=57,slow=8.9,SNR=5.5						
	comp=Z,0.4nm,0.4s						
A36M	**Sachs Harbour**	**79.68**	**359**	P	**P**	**10 34 18.1**	**+0.5**
A36M				IAmb	IAmb	10 34 18.9	
	comp=Z,3.0nm,0.9s						
B20K	**Meade River**	**79.72**	**9**	P	**P**	**10 34 18.7**	**+0.9**
B22K	**Teshekpuk Lake**	**79.91**	**8**	P	**P**	**10 34 19.8**	**+0.9**
B22K				IAmb	IAmb	10 34 20.7	
	comp=Z,3.5nm,1.1s						
B21K	**Ikpikpuk River**	**80.43**	**9**	P	**P**	**10 34 23.0**	**+1.3**
B21K				IAmb	IAmb	10 34 33.3	
	comp=Z,7.1nm,1.4s						
C23K	**Itkillik River**	**80.71**	**7**	P	**P**	**10 34 24.6**	**+1.4**
TOLK	**Toolik Lake Re**	**81.97**	**7**	P	**P**	**10 34 31.2**	**+1.2**
TOLK				IAmb	IAmb	10 34 37.5	
	comp=Z,3.1nm,1.4s						
E19K	**Redstone River**	**82.05**	**10**	P	**P**	**10 34 30.4**	**+0.1**
E19K				IAmb	IAmb	10 35 13.7	
	comp=Z,4.8nm,1.4s						
E22K	**Anaktuvuk Pass**	**82.19**	**8**	P	**P**	**10 34 31.4**	**+0.3**
E22K				IAmb	IAmb	10 34 31.7	
	comp=Z,4.8nm,1.5s						
F21K	**Alatna River**	**82.83**	**9**	P	**P**	**10 34 35.4**	**+0.9**
F21K				IAmb	IAmb	10 34 38.9	
	comp=Z,3.7nm,1.4s						
E25K	**Arctic Village**	**82.88**	**6**	P	**P**	**10 34 35.7**	**+1.0**
E25K				IAmb	IAmb	10 34 56.9	
	comp=Z,2.1nm,1.4s						
E29M	**Blow River**	**83.15**	**3**	P	**P**	**10 34 36.9**	**+0.8**
E29M				IAmb	IAmb	10 35 12.6	
	comp=Z,3.7nm,1.4s						
IMAR	**Indian Mountai**	**83.95**	**10**	P	**P**	**10 34 41.1**	**+0.9**
F31M	**Tsiigehtchic**	**84.25**	**2**	P	**P**	**10 34 42.3**	**+0.6**
G27K	**Doyon Strip**	**84.49**	**5**	P	**P**	**10 34 44.2**	**+1.2**
H23K	**Yukon River**	**84.67**	**8**	P	**P**	**10 34 45.7**	**+1.8**
G31M	**Satah River**	**84.75**	**2**	P	**P**	**10 34 44.9**	**+0.7**
G31M				IAmb	IAmb	10 35 27.9	
	comp=Z,1.8nm,1.2s						
H29M	**Whitestone**	**85.28**	**4**	P	**P**	**10 34 47.7**	**+0.7**
ILAR	**Eielson Array**	**86.00**	**7**	P	**P**	**10 34 50.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=306,slow=3.3,SNR=3.0						
	comp=Z,0.2nm,0.6s						
BPAW	**Bear Paw Mtn.**	**86.12**	**9**	P	**P**	**10 34 51.9**	**+0.7**
K20K	**Telida**	**86.35**	**11**	P	**P**	**10 34 52.8**	**+0.5**
I30M	**Mount Dempster**	**86.38**	**3**	P	**P**	**10 34 51.8**	**-0.8**
I30M				IAmb	IAmb	10 35 10.3	
	comp=Z,2.9nm,1.4s						
K27K	**Chicken**	**87.20**	**5**	P	**P**	**10 34 57.7**	**+1.2**
DAWY	**Dawson**	**87.36**	**4**	P	**P**	**10 34 58.0**	**+0.7**
DAWY				IAmb	IAmb	10 35 17.0	
	comp=Z,2.9nm,1.2s						
K29M	**Barlow Dome**	**87.70**	**4**	P	**P**	**10 34 59.6**	**+0.7**
K29M				IAmb	IAmb	10 35 27.0	
	comp=Z,3.7nm,1.4s						
BCAR	**Beaver Creek A**	**88.17**	**6**	P	**P**	**10 35 02.3**	**+1.1**
YKA	**Yellowknife Ar**	**88.47**	**353**	P	**P**	**10 35 02.4**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=4.9,slow=5.7,SNR=7.2						
	comp=Z,0.3nm,0.8s						

*IDC **04** 10:24:48.8±2.9, 64°.69N×31°.19E, h0km, mbtmp3.1/3, ML2.2/3, Error ellipse: s-maj=41.3km s-min=9.5km az=104.0*
*HEL **04** 10:24:48.6±0.2, 64°.78N×30°.63E, h0km, ML1.9, Suspected explosion*
*KOLA **04** 10:24:48.4, 64°.71N×31°.01E, h0km, ML2.2, Error ellipse: s-maj=21.6km s-min=15.3km az=110.0, Kostomuksha, Karelia*
*UPP **04** 10:24:48.2±2.7, 64°.56N×30°.67E, h0km, ML1.8*

ISC 04 10:24:47.8±0.9, 64°.80N±0°.02×30°.77E±0°.04, h0km, n53, σ1ş55/79, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.69**	**212**	PG	**Pg**	**10 25 00.6**	**-0.4**
	baz=29						
RMF				SG	**Sg**	**10 25 08.0**	**-1.9**
RMF				MSG		10 25 08.8	
	comp=Z,25nm,0.2s						
KU6	**Riekki**	**1.28**	**344**	PG	**Pg**	**10 25 11.7**	**-0.6**
	baz=167						
KU6				MSG		10 25 27.5	
	comp=Z,9.0nm,0.2s						
KU6				SB	**Sb**	**10 25 29.6**	**-0.1**
MSF	**Maaselka**	**1.33**	**328**	PG	**Pg**	**10 25 12.2**	**-1.0**
	baz=151						
MSF				SB	**Sg**	**10 25 30.9**	**+0.6**
OLKF	**Oulanka, Finla**	**1.63**	**340**	PG	**Pn**	**10 25 17.8**	**+0.1**
OLKF				MSG		10 25 37.3	
	comp=Z,9.4nm,0.2s						
OLKF				SN	**Sg**	**10 25 40.2**	**+0.2**
JOF	**Joensuu**	**1.91**	**172**	*e*P	**Pn**	**10 25 21.6**	**+0.1**
JOF	**Joensuu**	**1.91**	**172**	PB	**Pn**	**10 25 21.5**	**0.0**
	baz=355						
JOF				SG	**Sb**	**10 25 48.0**	**+0.2**
NIF	**Nilsia**	**1.92**	**224**	PG	**Pn**	**10 25 22.3**	**+0.6**
NIF				SG	**Sn**	**10 25 47.8**	**+1.2**
RANF	**Ranua**	**2.06**	**308**	PG	**Pn**	**10 25 24.9**	**+1.3**
	baz=127						
RANF				SG	**Sn**	**10 25 51.0**	**+1.0**
OUL	**Oulu**	**2.09**	**280**	PG	**Pn**	**10 25 24.8**	**+0.8**
	baz=101						
OUL				SG	**Sn**	**10 25 51.2**	**+0.4**
OBF4	**Vikkela, Lumij**	**2.42**	**273**	PG	**Pn**	**10 25 30.0**	**+1.4**
	baz=91						
OBF4				MSG		10 25 58.6	
	comp=Z,11nm,0.2s						
OBF4				SG	**Sb**	**10 26 02.6**	**+0.1**
OUF	**Merijarvi**	**2.64**	**263**	PB	**Pn**	**10 25 32.9**	**+1.4**
	baz=81						
OUF				MSG		10 26 04.8	
	comp=Z,10nm,0.2s						
OUF				SG	**Sb**	**10 26 07.6**	**-1.2**
RNF	**Rovaniemi**	**2.67**	**315**	PB	**Pn**	**10 25 33.6**	**+1.6**
	baz=135						
RNF				SG	**Sb**	**10 26 11.3**	**+1.5**
OBF0	**Syolatti, Pyha**	**2.83**	**267**	PB	**Pn**	**10 25 35.0**	**+0.9**
OBF0				MSG		10 26 10.0	
	comp=Z,8.0nm,0.2s						
OBF0				SG	**Sb**	**10 26 13.9**	**-0.2**
SUF	**Sumiainen**	**2.93**	**227**	PB	**Pn**	**10 25 37.8**	**+2.3**
SUF				MSG		10 26 13.1	
	comp=Z,2.7nm,0.2s						
SUF				SG	**Sb**	**10 26 17.9**	**+0.8**
APA0	**Apatity Array**	**2.96**	**17**	P	**Pn**	**10 25 37.0**	**+1.1**
APA0				S	**Sn**	**10 26 13.5**	**+1.5**
TOF	**Tornio**	**2.98**	**298**	PB	**Pn**	**10 25 38.9**	**+2.7**
TOF				MSG		10 26 14.9	
	comp=Z,2.3nm,0.2s						
TOF				SG	**Sb**	**10 26 18.0**	**-0.5**
VRF	**Varrio**	**3.00**	**352**	PB	**Pn**	**10 25 38.1**	**+1.6**
VRF				MSG		10 26 17.0	
	comp=Z,2.3nm,0.2s						
VRF				SG	**Sb**	**10 26 21.5**	**+2.5**
SGF	**Sodankyl**	**3.16**	**329**	PB	**Pn**	**10 25 40.8**	**+2.1**
KALU	**Kalix**	**3.28**	**292**	PB	**Pn**	**10 25 43.5**	**+3.1**
KALU				SG	**Sb**	**10 26 26.3**	**-1.0**
KALU	**Kalix**	**3.28**	**292**	P	**Pn**	**10 25 41.3**	**+0.9**
KALU				S	**Sn**	**10 26 22.2**	**+2.1**
KAF	**Kangasniemi**	**3.36**	**219**	PB	**Pn**	**10 25 44.0**	**+2.5**
	baz=31						
KAF				SG	**Sb**	**10 26 30.9**	**+1.4**
LVZ	**Lovozero**	**3.48**	**25**	P	**Pn**	**10 25 43.9**	**+0.8**
LVZ				S	**Sn**	**10 26 24.3**	**-0.7**
LVZ	**Lovozero**	**3.48**	**25**	PN	**Pn**	**10 25 44.5**	**+1.4**
RUF	**Ruokolahti**	**3.49**	**195**	PN	**Pn**	**10 25 44.4**	**+1.2**
KLF	**Kolari**	**3.70**	**314**	PN	**Pn**	**10 25 47.4**	**+1.3**
	baz=133						
KEF	**Keuruu**	**3.74**	**228**	*e*P	**Pn**	**10 25 48.7**	**+2.0**
KEF	**Keuruu**	**3.74**	**228**	PB	**Pn**	**10 25 49.1**	**+2.4**
	baz=44						
KEF				SG	**Sb**	**10 26 42.4**	**+1.9**
PAJU	**Pajala**	**3.85**	**309**	P	**Pn**	**10 25 49.6**	**+1.5**
SJUU	**Sjulsmark**	**3.93**	**284**	P	**Pn**	**10 25 49.2**	**-0.1**
VAF	**Ylistaro**	**3.99**	**247**	*e*P	**Pn**	**10 25 52.6**	**+2.6**
VAF	**Ylistaro**	**3.99**	**247**	PB	**Pb**	**10 25 55.3**	**-3.5**
	baz=64						
FIA0	**FINESS Array S**	**3.99**	**214**	PN	**Pn**	**10 25 51.2**	**+1.1**
	baz=31						
FINES	**FINESS Array B**	**3.99**	**214**	Pn	**Pn**	**10 25 50.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=38,slow=12,SNR=2.1						
FINES				Sn	**Sn**	**10 26 38.3**	**+0.9**
	comp=Z,0.2nm,0.3s,baz=32,slow=21,SNR=1.9						
FINES				Lg	Lg	10 26 53.0	
	comp=Z,1.1nm,0.3s,baz=31,slow=28,SNR=7.4						
	comp=Z,1.3nm,0.7s						
BURU	**Burvik**	**4.04**	**271**	PN	**Pn**	**10 25 50.8**	**0.0**
BURU	**Burvik**	**4.04**	**271**	P	**Pn**	**10 25 50.5**	**-0.2**
HARU	**Harads**	**4.30**	**293**	P	**Pn**	**10 25 55.3**	**+1.0**
ODEU	**Stanfors**	**4.35**	**269**	P	**Pn**	**10 25 54.3**	**-0.7**
MASU	**Masugnsbyn**	**4.45**	**311**	P	**Pn**	**10 25 58.1**	**+1.7**
UMAU	**Umeaa**	**4.48**	**263**	PN	**Pn**	**10 25 56.0**	**-0.9**
UMAU				SG	**Sb**	**10 27 06.3**	**+4.6**
UMAU	**Umeaa**	**4.48**	**263**	P	**Pn**	**10 25 55.9**	**-0.9**
VJF	**Virojoki**	**4.53**	**201**	SG	**Sb**	**10 27 07.6**	**+4.5**
HEF	**Hetta**	**4.59**	**325**	PN	**Pn**	**10 25 59.4**	**+1.0**
KMNF	**Kaamanen**	**4.61**	**343**	PN	**Pn**	**10 25 59.3**	**+0.7**
LILU	**Lilltraesk**	**4.65**	**281**	P	**Pn**	**10 25 60.0**	**+0.8**
LILU				S	**Sn**	**10 26 53.1**	**-0.7**
TERR	**Teriberka**	**4.73**	**19**	P	**Pn**	**10 26 01.1**	**+0.8**
TERR				S	**Sn**	**10 26 55.0**	**-0.7**
DUNU	**Dundret**	**4.77**	**304**	P	**Pn**	**10 26 02.7**	**+1.8**
LANU	**Lannavaara**	**4.79**	**317**	PN	**Pn**	**10 26 02.0**	**+0.9**
ARCES	**ARCESS Array B**	**5.17**	**339**	Pn	**Pn**	**10 26 06.6**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=154,slow=13,SNR=16						
ARCES				Sn	**Sn**	**10 27 08.2**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=159,slow=25,SNR=2.3						
	comp=Z,0.9nm,0.2s						
VADS	**Vadso**	**5.37**	**355**	P	**Pn**	**10 26 08.9**	**0.0**
VADS				S	**Sn**	**10 27 11.1**	**-0.3**
MEF	**Metsahovi**	**5.47**	**216**	*e*P	**Pn**	**10 26 09.4**	**-0.9**
RAF	**Rauma**	**5.59**	**231**	*e*P	**Pn**	**10 26 14.1**	**+2.0**
I37NO	**I37NO**	**6.41**	**317**	I	I	11 05 30.0	
	baz=126,slow=323,SNR=1.6						
HFS	**Hagfors**	**9.17**	**247**	Pn	**Pn**	**10 27 01.6**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=70,slow=14,SNR=1.7						
	comp=Z,0.7nm,0.5s						

*JMA **04** 10:32:19.0±0.2, 43°.2N×0°.5×145°.7E±0°.7, h63km±1km, MV3.3/40, OFF NEMURO PENINSULA*
*SKHL **04** 10:32:20.2±0.2, 43°.20N×145°.60E, h52km±5km, mb4.5/2*

ISC 04 10:32:19.6±1.6, 43°.25N±0°.06×145°.66E±0°.05, h57km±9km, n15, σ0ş51/28, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NEM2	**Nemuro 2**	**0.13**	**28**	P	**Pn**	**10 32 28.4**	**+0.1**
NEM2				S	**Sn**	**10 32 35.2**	**+0.5**
NMR	**Nemuro--Hokkai**	**0.13**	**23**	*i* P	**Pn**	**10 32 28.4**	**0.0**
NMR				*e*S	**Sn**	**10 32 34.7**	**0.0**
JKHN	**Kushirohamanak**	**0.40**	**246**	P	**Pn**	**10 32 30.3**	**+0.1**
JKHN				S	**Sn**	**10 32 38.5**	**+0.6**
AKK	**Akkeshi**	**0.64**	**249**	*e*P	**Pn**	**10 32 32.4**	**-0.5**
JNSB	**Nemuroshibetsu**	**0.71**	**318**	P	**Pn**	**10 32 33.4**	**-0.4**
JNSB				S	**Sn**	**10 32 44.3**	**+0.1**
JAK	**Akkeshi**	**0.75**	**251**	*i* P	**Pn**	**10 32 33.8**	**-0.4**
JAK				S	**Sn**	**10 32 44.8**	**-0.2**
JNK	**Nakash**	**0.76**	**297**	*i* P	**Pn**	**10 32 33.7**	**-0.7**
JNK				S	**Sn**	**10 32 44.3**	**-1.0**
JRA	**Rausu**	**0.79**	**331**	P	**Pn**	**10 32 34.7**	**-0.1**
JRA				S	**Sn**	**10 32 46.4**	**+0.4**
YUK	**Yuzh-Kuril'sk**	**0.80**	**11**	*e*P	**Pn**	**10 32 34.8**	**-0.1**
YUK				AMB	AMB	10 32 35.1	
	260nm,0.2s						
YUK				*e*S	**Sn**	**10 32 45.5**	**-0.6**
YUK				A	A	10 32 46.9	
	870nm,0.2s						
YUK				A	A	10 32 46.9	
	1μm,0.2s						
SHO	**Shikotan**	**1.05**	**53**	*e*P	**Pn**	**10 32 37.7**	**-0.5**
SHO				AMB	AMB	10 32 38.3	
	90nm,0.2s						
SHO				*e*S	**Sn**	**10 32 50.9**	**-1.1**
SHO				A	A	10 32 52.9	
	630nm,0.2s						
SHO				A	A	10 32 52.9	
	1μm,0.2s						
JOB	**Onbets**	**1.38**	**256**	P	**Pn**	**10 32 42.5**	**-0.1**
JOB				S	**Sn**	**10 33 00.0**	**+0.3**
JAR	**Ashorobuto**	**1.38**	**273**	*i* P	**Pn**	**10 32 42.5**	**-0.1**
JAR				S	**Sn**	**10 33 00.4**	**+0.6**
JTKR	**Abashiri--Toko**	**1.46**	**300**	*i* P	**Pn**	**10 32 43.7**	**+0.1**
JTKR				*e*S	**Sn**	**10 33 01.5**	**-0.3**
KUR	**Kuril'sk**	**2.54**	**38**	*e*P	**Pn**	**10 32 59.1**	**+0.8**
KUR				*e*S	**Sn**	**10 33 28.2**	**+0.2**
KUR				A	A	10 33 36.2	
	160nm,0.3s						
KUR				A	A	10 33 36.2	
	90nm,0.3s						
YSS	**Yuzh-Sakhalins**	**4.24**	**332**	*e*P	**Pn**	**10 33 22.1**	**+0.6**

IDC 04 10:40:22.4±2.9, 34°.55N×96°.45E, h0km, mb3.4/2, mbtmp3.6/5, ML3.8/3, Error ellipse: s-maj=73.8km s-min=36.9km az=74.0, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**15.22**	**26**	Pn	**Pn**	**10 43 58.5**	**-0.2**
	0.3nm,0.3s,baz=217,slow=14,SNR=5.0						
	1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**16.18**	**171**	Pn	**Pn**	**10 44 11.4**	**+0.2**
	0.5nm,0.3s,baz=348,slow=10,SNR=2.2						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**16.25**	**323**	Pn	**Pn**	**10 44 10.0**	**-2.0**
	0.1nm,0.3s,baz=130,slow=13,SNR=3.6						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**20.70**	**326**	P	P	**10 45 02.6**	**-1.4**
	1.6nm,0.6s,baz=132,slow=11,SNR=11						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**21.05**	**341**	P	P	**10 45 08.9**	**+1.0**
	0.9nm,0.5s,baz=159,slow=9.5,SNR=4.0						
	0.9nm,0.5s						

*SOME **04** 10:43:42.2, 39°.57N×74°.58E, h10km*
*IDC **04** 10:43:43.4±0.8, 39°.37N×74°.55E, h0km, mb3.8/10, mbtmp3.7/15, ML2.6/4, MS2.9/5, Error ellipse: s-maj=19.4km s-min=13.5km az=92.0*
*MOS **04** 10:43:44.7±1.5, 39°.56N×74°.70E, h31km, mb4.1/8, Error ellipse: s-maj=7.3km s-min=4.2km az=92.5*
*KRNET **04** 10:43:45.9±0.1, 39°.64N×74°.67E, mb3.9*
*NNC **04** 10:43:49.0±1.7, 39°.87N×74°.71E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=12.2km s-min=8.1km az=179.0*
*NEIC **04** 10:43:50.6±1.9, 39°.73N±0°.06×74°.73E±0°.08, h35km±2km, mb4.4/37, Error ellipse: s-maj=10.9km s-min=9.0km az=135.0*

**ISC 04 10:43:48.1±0.5, 39°.56N±0°.03×74°

comp=E,183nm,20.1s,baz=216,slow=42
AAK Ala-Archa 3.08 358 ⇓*i*P **Pn 10 44 37.1 +1.6**
baz=58
AAK ⇓*i*S **Sn 10 45 14.1 +2.4**
baz=58
AAK Ala-Archa 3.08 358 ⇓*i*PN **Pn 10 44 37.1 +1.6**
AAK *i* S **Sn 10 45 14.1 +2.4**
BOOM Boomskoye usch 3.09 18 Pn **Pn 10 44 37.6 +1.8**
BOOM Boomskoye usch 3.09 18 ⇓*i*P **Pn 10 44 37.1 +1.4**
baz=18
BOOM ⇓*i*S **Sn 10 45 14.4 +2.3**
baz=18
BOOM Boomskoye usch 3.09 18 PN **Pn 10 44 37.6 +1.8**
KBK Karagaybulak 3.10 4 P **Pn 10 44 39.3 +3.4**
SNR=20
KBK Karagaybulak 3.10 4 ⇓*i*P **Pn 10 44 37.4 +1.5**
baz=4.0
KBK ⇓*i*S **Sn 10 45 14.8 +2.4**
baz=4.0
KBK Karagaybulak 3.10 4 ⇓*i*PN **Pn 10 44 37.4 +1.5**
KBK *i* S **Sn 10 45 14.8 +2.4**
EKS2 Erkin-Say 3.16 349 P **Pn 10 44 40.4 +3.7**
SNR=23
EKS2 Erkin-Say 3.16 349 ⇑*i*P **Pn 10 44 38.4 +1.7**
baz=48
EKS2 ⇑*i*S **Sn 10 45 16.7 +2.9**
baz=48
EKS2 Erkin-Say 3.16 349 *i* PN **Pn 10 44 38.4 +1.7**
EKS2 *i* S **Sn 10 45 16.7 +2.9**
KDJ Kajisay 3.22 36 ⇓*e*P **Pn 10 44 38.7 +1.2**
baz=37
KDJ ⇓*e*S **Sn 10 45 17.4 +2.2**
baz=37
FRU1 Bishkek 3.25 0 P **Pn 10 44 39.0 +1.2**
FRU1 Bishkek 3.25 0 ⇓*i*P **Pn 10 44 39.6 +1.8**
baz=59
FRU1 ⇓*i*S **Sn 10 45 18.8 +3.0**
baz=59
FRU1 Bishkek 3.25 0 ⇓*i*PN **Pn 10 44 39.6 +1.8**
FRU1 *i* S **Sn 10 45 18.8 +3.0**
TARG Taragay, Kyrgy 3.25 47 Pn **Pn 10 44 37.6 -0.5**
TARG Taragay, Kyrgy 3.25 47 ⇑*i*P **Pn 10 44 39.5 +1.4**
baz=48
TARG ⇑*i*S **Sn 10 45 18.6 +2.3**
baz=48
TARG Taragay, Kyrgy 3.25 47 *i* PN **Pn 10 44 39.5 +1.4**
TARG *i* S **Sn 10 45 18.6 +2.3**
TRKS Terek-Say 3.31 308 ⇓*i*P **Pn 10 44 40.1 +1.4**
baz=5.0
TRKS ⇓*i*S **Sn 10 45 19.8 +2.4**
baz=5.0
TRKS Terek-Say 3.31 308 ⇓*i*PN **Pn 10 44 40.1 +1.4**
TRKS *i* S **Sn 10 45 19.8 +2.4**
MNAS Manas 3.33 332 ⇓*i*P **Pn 10 44 40.9 +1.8**
baz=31
MNAS ⇓*i*S **Sn 10 45 21.0 +2.9**
baz=31
MNAS Manas 3.33 332 *i* PN **Pn 10 44 40.9 +1.8**
MNAS *i* S **Sn 10 45 21.0 +2.9**
MRKS Merke 3.35 342 Pg **Pn 10 44 41.8 +2.5**
comp=E,29nm,0.5s
MRKS Lg Lg 10 45 24.3
comp=E,49nm,0.5s
MRKS Merke 3.35 342 *e*P **Pn 10 44 41.8 +2.5**
comp=E,30nm,0.3s
MRKS *e*S **Sn 10 45 24.3 +5.9**
GAR Garm 3.39 262 Pn 10 44 42.9 +3.1
GAR Garm 3.39 262 ⇓*i*P **Pn 10 44 43.1 +3.3**
baz=61
GAR ⇓*i*S **Sn 10 45 24.6 +5.2**
baz=61
GAR Garm 3.39 262 ⇓*i*PN **Pn 10 44 43.1 +3.3**
GAR *i* S **Sn 10 45 24.6 +5.2**
CHMS Chumysh 3.44 2 P **Pn 10 44 43.0 +2.7**
SNR=7.9
CHMS Chumysh 3.44 2 ⇑Pg **Pn 10 44 42.6 +2.2**
comp=E,29nm,0.6s
CHMS ⇓Lg Lg 10 45 28.0
comp=E,190nm,1.1s
CHMS Chumysh 3.44 2 ⇑*i*P **Pn 10 44 41.7 +1.3**
baz=1.0
CHMS ⇑*i*S **Sn 10 45 22.8 +2.4**
baz=1.0
CHMS Chumysh 3.44 2 *e*PN **Pn 10 44 41.7 +1.3**
TKM2 Tokmak 2 3.44 12 P **Pn 10 44 43.5 +2.9**
SNR=11
TKM2 Tokmak 2 3.44 12 ⇑Pg **Pn 10 44 42.8 +2.3**
comp=E,32nm,0.5s
TKM2 ⇓Lg Lg 10 45 25.3
comp=E,112nm,0.9s
TKM2 Tokmak 2 3.44 12 ⇓*i*P **Pn 10 44 41.9 +1.4**
baz=12
TKM2 ⇓*i*S **Sn 10 45 22.8 +2.1**
baz=12
TKM2 Tokmak 2 3.44 12 ⇓*i*PN **Pn 10 44 41.9 +1.4**
TKM2 *i* S Sb 10 45 45.2 +15
USP Ospenovka 3.71 359 P **Pn 10 44 46.9 +2.8**
SNR=12
USP Ospenovka 3.71 359 ⇓*i*P **Pn 10 44 45.5 +1.4**
baz=58
USP ⇓*i*S **Sn 10 45 29.1 +2.1**
baz=58
USP Ospenovka 3.71 359 ⇓*i*PN **Pn 10 44 45.5 +1.4**
USP *i* S **Sn 10 45 29.1 +2.1**
DGS Degeres 3.78 13 Pg **Pb 10 44 53.9 -0.3**
comp=E,51nm,0.7s
DGS Lg Lg 10 45 44.2
comp=E,76nm,0.7s
DGS Degeres 3.78 13 *e*P **Pb 10 44 53.9 -0.3**
comp=E,27nm,0.5s
DGS *e*S **Sb 10 45 44.2 +4.7**
comp=E,76nm,0.7s
MTBS Maitube 3.82 20 Pg **Pb 10 44 53.6 -1.2**
comp=E,30nm,1.1s
MTBS Lg Lg 10 45 43.9
comp=E,72nm,0.6s
MTBS Maitube 3.82 20 *e*P **Pb 10 44 53.6 -1.2**
comp=E,23nm,0.4s
MTBS *e*S **Sb 10 45 43.8 +3.2**
comp=E,74nm,0.6s
SGDS Sogindy 3.89 0 Pg **Pb 10 44 54.9 -1.1**
comp=E,15nm,0.6s
SGDS Lg Lg 10 45 46.1
comp=E,105nm,1.7s
ANVS Anan'yevo 3.95 35 ⇑*e*P **Pn 10 44 48.9 +1.3**
baz=35
ANVS ⇑*e*S **Sn 10 45 34.6 +1.2**
baz=35
MDOK Medeo 4.04 26 ⇑Pn **Pn 10 44 50.2 +1.5**
comp=E,10nm,0.6s
MDOK Pg **Pb 10 44 56.7 -1.9**
comp=E,12nm,0.9s
MDOK ⇑Lg Lg 10 45 46.5
comp=E,67nm,0.8s
MDOK Lg Lg 10 45 49.3
comp=E,89nm,1.4s
MDOK Medeo 4.04 26 *e*P **Pb 10 44 56.7 -1.9**
comp=E,12nm,0.9s
MDOK *e*S **Sb 10 45 49.4 +2.4**
comp=E,89nm,1.4s
MDOK Medeo 4.04 26 PN **Pn 10 44 49.1 +0.4**
PRZ Przheval'sk 4.08 43 ⇑*e*P **Pn 10 44 51.1 +1.7**
baz=43
PRZ ⇑*e*S **Sn 10 45 38.4 +1.8**
baz=43
KOTS Kotyrbulak 4.12 26 Pg **Pb 10 44 58.8 -1.2**
comp=E,24nm,0.8s
KOTS Lg Lg 10 45 53.0
comp=E,117nm,1.0s
KOTS Kotyrbulak 4.12 26 *e*P **Pb 10 44 58.8 -1.2**
comp=E,20nm,0.6s
KOTS *e*S **Sb 10 45 53.0 +3.6**
comp=E,123nm,0.6s
KRBS Karabastau 4.21 10 Pg Pb 10 44 59.0 -2.5
comp=E,12nm,0.3s
KRBS Lg Lg 10 45 53.4
comp=E,25nm,0.9s
KRBS Karabastau 4.21 10 *e*P Pb 10 44 59.0 -2.5
comp=E,12nm,0.3s
KRBS *e*S **Sb 10 45 53.4 +1.6**
comp=E,42nm,0.7s
IUG luzhnay 4.34 308 Pg **Pn 10 44 55.9 +3.1**
comp=E,73nm,0.4s
IUG Lg Lg 10 45 48.3
comp=E,125nm,0.6s
IUG luzhnay 4.34 308 *e*P Pn 10 44 59.2 +6.4
comp=E,54nm,0.4s
IUG *e*S **Sb 10 45 53.0 -2.6**
comp=E,147nm,0.6s
CHGR Chuyangaron 4.35 260 Pn **Pn 10 44 55.1 +2.2**
CHGR Chuyangaron 4.35 260 PN **Pn 10 44 55.1 +2.2**
KTBS Karatobe 4.42 20 Pg **Pb 10 45 03.9 -1.2**
comp=E,9.8nm,0.7s
KTBS Lg Lg 10 46 01.8
comp=E,76nm,1.1s
KTBS Karatobe 4.42 20 *e*P **Pb 10 45 03.9 -1.2**
comp=E,9.5nm,0.3s
KTBS *e*S **Sb 10 46 01.8 +3.8**
comp=E,91nm,0.8s
SIMJ Simiganj 4.46 260 Pn **Pn 10 44 57.3 +2.7**
SATY Saty 4.51 38 Pg **Pb 10 45 05.5 -1.1**
comp=E,27nm,0.8s
SATY Lg Lg 10 46 04.6
comp=E,47nm,1.5s
SATY Saty 4.51 38 *e*P **Pb 10 45 05.5 -1.1**
comp=E,27nm,0.8s
SATY *e*S **Sb 10 46 04.6 +4.0**
comp=E,46nm,0.8s
ZHN Zhinishke 4.61 37 Pg **Pb 10 45 07.0 -1.3**
comp=E,13nm,0.1s
ZHN Lg Lg 10 46 06.7
comp=E,41nm,0.6s
ZHN Zhinishke 4.61 37 *e*P **Pb 10 45 07.0 -1.3**
comp=E,8.8nm,0.3s
ZHN *e*S **Sb 10 46 06.7 +3.4**
comp=E,41nm,0.6s
CHKK Chushkaly 4.64 22 Pg **Pb 10 45 08.2 -0.5**
comp=E,6.3nm,0.5s
CHKK Lg Lg 10 46 09.5
comp=E,27nm,0.5s
CHKK Chushkaly 4.64 22 *e*P **Pb 10 45 08.5 -0.3**
comp=E,6.3nm,0.5s
CHKK *e*S **Sb 10 46 09.5 +5.2**
comp=E,26nm,0.7s
KK31 Karatay Array 4.70 320 ⇓Pn **Pn 10 44 59.5 +1.8**
comp=E,2.8nm,0.4s,baz=127,slow=13,SNR=46
KK31 ⇓Sn **Sn 10 45 55.2 +3.6**
comp=E,20nm,0.6s,baz=0.0,slow=0.1,SNR=6.8
KK31 ⇓Lg Lg 10 46 15.2
comp=E,23nm,0.6s,baz=126,slow=29,SNR=2.7
KK31 Karatay Array 4.70 320 Pn **Pn 10 44 59.6 +1.8**
KK31 Karatay Array 4.70 320 PN **Pn 10 44 59.6 +1.8**
KKAR Karatay Array 4.70 320 Pn **Pn 10 44 59.5 +1.8**
KKAR Karatay Array 4.70 320 ⇑*i*P **Pn 10 44 59.8 +2.1**
baz=19
KKAR ⇑*i*S **Sn 10 45 54.1 +2.5**
baz=19
KKAR Karatay Array 4.70 320 *e*PN **Pn 10 44 59.8 +2.1**
UZB Uzynbulak 4.88 41 Pg **Pb 10 45 11.6 -1.3**
comp=E,17nm,0.9s
UZB Lg Lg 10 46 14.4
comp=E,22nm,0.9s
UZB Uzynbulak 4.88 41 *e*P **Pb 10 45 11.1 -1.8**
comp=E,15nm,0.7s
UZB *e*S **Sb 10 46 13.9 +2.8**
comp=E,21nm,0.6s
SHLS Shalkode 5.11 44 Pg Pb 10 45 22.4 +5.5
comp=E,35nm,0.9s
SHLS Lg Lg 10 46 33.6
comp=E,40nm,1.4s
SHLS Shalkode 5.11 44 *e*P Pb 10 45 22.4 +5.5
comp=E,35nm,0.9s
SHLS *e*S Sb 10 46 33.6 +16
comp=E,40nm,1.4s
ARXS Arharly 5.23 26 *e*P **Pb 10 45 18.7 -0.1**
comp=E,12nm,0.6s
ARXS *e*S **Sb 10 46 26.6 +5.5**
comp=E,40nm,0.8s
PDGK Podgornoye 5.25 43 Pg **Pb 10 45 18.2 -1.0**
comp=E,4.6nm,0.9s
PDGK Lg Lg 10 46 26.0
comp=E,16nm,1.0s
PDGK Podgornoye 5.25 43 ⇑Pn **Pn 10 45 06.7 +1.4**
comp=E,3.1nm,0.6s
PDGK ⇑Pg **Pb 10 45 21.9 +2.7**
comp=E,11nm,0.8s
PDGK ⇑Lg Lg 10 46 26.8
comp=E,71nm,1.2s
PDGK Podgornoye 5.25 43 PN **Pn 10 45 06.7 +1.4**
PDGK 10 45 21.9
BLB Baldybastay 5.37 31 Pg **Pb 10 45 19.8 -1.4**
comp=E,26nm,0.9s
BLB Lg Lg 10 46 29.1
comp=E,23nm,0.9s
BTLS Baital 5.49 356 Pg **Pb 10 45 23.4 +0.1**
comp=E,2.2nm,0.7s
BTLS Lg Lg 10 46 35.5
comp=E,42nm,1.1s
BTLS Baital 5.49 356 *e*P **Pb 10 45 23.4 +0.1**
comp=E,2.8nm,0.5s
BTLS *e*S **Sb 10 46 35.5 +6.8**
comp=E,42nm,1.5s
KNOS Konyrlen 5.87 34 Pg **Pb 10 45 29.5 -0.4**
comp=E,14nm,0.8s
KNOS Lg Lg 10 46 45.5
comp=E,16nm,1.2s
NIL Nilore 6.00 191 Pn Pn 10 45 20.9 +5.3
NIL Nilore 6.00 191 PN Pn 10 45 21.0 +5.4
DJR Jarkent 6.13 37 Pg **Pb 10 45 36.6 +2.5**
comp=E,2.8nm,0.4s
DJR Lg Lg 10 46 57.8
comp=E,8.5nm,0.6s
DJR Jarkent 6.13 37 *e*P **Pb 10 45 36.6 +2.5**
comp=E,2.6nm,0.3s
DJR *e*S Sb 10 46 57.8 +11
comp=E,8.5nm,0.6s
KBL Kabul 6.71 223 Pn Pn 10 45 30.6 +5.1
KBL Kabul 6.71 223 PN Pn 10 45 30.6 +5.1
DHRM DHARAMSHALA 7.42 169 *e*P **Pn 10 45 38.1 +2.8**
DHRM *e*S **Sn 10 46 59.6 +0.8**
DHRM IAML 10 47 08.6
comp=N,92nm,0.5s
DHRM IAML 10 47 10.2
comp=E,110nm,0.3s
SMLA Simla 8.66 165 *e*P **Pn 10 45 49.6 -2.5**
SMLA *e*S **Sn 10 47 27.9 -1.2**
SMLA IAML 10 47 35.9
comp=N,31nm,0.4s
SMLA IAML 10 47 39.4
comp=E,39nm,0.4s
OTUK Ortayu 8.84 350 ⇑Lg Lg 10 48 20.6
comp=E,20nm,0.8s
MAKZ Makanchi 9.01 34 ⇑Pn **Pn 10 45 57.7 +0.8**
comp=E,0.3nm,0.4s
MAKZ ⇑Lg Lg 10 48 24.7
comp=E,4.9nm,1.0s
MAKZ Makanchi 9.01 34 Pn **Pn 10 45 55.5 -1.4**
MAKZ Makanchi 9.01 34 P **Pn 10 45 55.5 -1.4**
MK31 Makanchi Array 9.14 35 ⇑Pn **Pn 10 45 58.9 +0.3**
comp=E,0.3nm,0.4s
MK31 ⇓Lg Lg 10 48 32.0
comp=E,3.0nm,0.8s,baz=218,slow=27,SNR=3.6
MK31 Makanchi Array 9.14 35 Pn **Pn 10 45 56.8 -1.8**
MK31 Makanchi Array 9.14 35 *i* P **Pn 10 46 00.5 +1.9**
MKAR Makanchi Array 9.14 35 Pn **Pn 10 45 57.6 -1.0**
MKAR Makanchi Array 9.14 35 Pn **Pn 10 46 00.1 +1.4**
comp=E,0.1nm,0.3s,baz=208,slow=14,SNR=5.5
MKAR Lg Lg 10 48 34.2
comp=E,0.1nm,0.3s,baz=204,slow=27,SNR=3.0
MKAR LR LR 10 49 50.2
comp=E,51nm,21.7s,baz=142,slow=39
comp=E,0.6nm,0.7s
MKAR Makanchi Array 9.14 35 *i* P **Pn 10 46 01.3 +2.7**
MKAR pmax pmax
comp=E,1.0nm,0.7s
WMQ Urumqi 10.66 62 *e*P **Pn 10 46 20.9 +1.4**
HRA Herat 11.16 246 Pn **Pn 10 46 28.4 +1.8**
KURBB Kurchatov Arra 11.40 13 ⇓Lg Lg 10 49 38.3
comp=Z,19nm,1.0s
KURBB Kurchatov Arra 11.40 13 Pn **Pn 10 46 30.9 +1.4**
baz=188,slow=11,SNR=4.4
KURBB Lg Lg 10 49 43.1
baz=198,slow=29,SNR=8.7
comp=Z,0.2nm,0.2s
KURK Kurchatov 11.50 13 ⇑Lg Lg 10 49 40.8
comp=Z,31nm,1.4s
KURK Kurchatov 11.50 13 *i* P **Pn 10 46 33.6 +2.7**
KURK pmax pmax
comp=Z,1.0nm,1.1s
GEYT Alibeck 12.99 268 Pn **Pn 10 46 51.8 +0.4**
GEYT Alibeck 12.99 268 LR LR 10 52 52.9
comp=Z,36nm,19.2s,baz=188,slow=42
GEYT Alibeck 12.99 268 P **Pn 10 46 51.8 +0.4**
GYA0B ALIBECK ARRAY 12.99 268 Pn **Pn 10 46 52.6 +1.2**
BVAR Borovoye Array 13.78 349 Pn **Pn 10 47 00.7 -1.2**
baz=157,slow=7.8,SNR=2.6
BVAR Lg Lg 10 50 59.0
baz=161,slow=27
comp=Z,0.5nm,0.4s
BRVK Borovoye 13.83 349 Pn **Pn 10 47 02.2 -0.4**
BRVK Borovoye 13.83 349 *i* P **Pn 10 47 03.9 +1.3**
ABKAR Akbulak array 14.26 318 Pn 10 47 07.7 -0.9
AKTO Aktyubinsk 15.97 318 Pn **Pn 10 47 31.2 0.0**
comp=Z,0.1nm,0.3s,baz=123,slow=14,SNR=3.1
AKTO Sn **Sn 10 50 24.7 -2.8**
comp=Z,0.1nm,0.3s,baz=45,slow=12,SNR=1.8
ZAA0 Zalesovo Array 15.97 22 Pn **Pn 10 47 30.1 -1.1**
ZALV Zalesovo Beam 15.97 22 Pn **Pn 10 47 30.2 -1.0**
ZALV Zalesovo Beam 15.97 22 Pn **Pn 10 47 31.9 +0.7**
comp=Z,0.2nm,0.3s,baz=209,slow=12,SNR=4.0
ZALV LR LR 10 54 05.0
comp=Z,26nm,18.9s,baz=82,slow=38
comp=Z,1.2nm,0.6s
ZALV Zalesovo Beam 15.97 22 *e*P **Pn 10 47 33.3 +2.1**
ARU Arti 19.92 333 P **P 10 48 18.5 +0.4**
ARU S Sn 10 52 05.3 +2.2
SHL Shillong 20.11 129 P Pn 10 48 22.5 +0.1
SHL Shillong 20.11 129 P Pn 10 48 22.5 +0.1
SHL pmax pmax
comp=Z,12nm,1.5s
UOSS Minazif 21.27 232 P **P 10 48 35.4 +2.5**
UOSS IAmb IAmb 10 48 45.5
comp=Z,23nm,1.2s
BELG Belogornoye 22.57 314 *i* P **P 10 48 47.2 +0.5**
BELG pmax pmax
comp=Z,3.0nm,0.9s
ONI Oni 23.63 287 P **P 10 48 58.1 +0.5**
ONI Oni 23.63 287 P **P 10 48 58.1 +0.5**
ONI pmax pmax
comp=Z,5.0nm,1.2s
KIV Kislovodsk 24.14 291 *e*P **P 10 49 02.3 -0.2**
KIV pmax pmax
comp=Z,6.0nm,1.0s
TNCH TengChong 24.76 119 ⇑*e*P **P 10 49 10.5 +2.1**
TNCH pmax pmax
comp=Z,140nm,3.7s
HHC Hu-ho-hao-te 28.11 75 *e*P **P 10 49 39.9 +1.5**
HHC pP sP 10 49 53.3 +4.5
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,61nm,5.7s
GAZ Gaziantep 29.30 277 P **P 10 49 48.2 -0.7**
RAYN Ar Rayn 29.35 246 P **P 10 49 51.0 +1.5**
RAYN Ar Rayn 29.35 246 P **P 10 49 51.0 +1.5**
RAYN pmax pmax
comp=Z,1.0nm,0.9s
OBN Obninsk 29.67 314 *i* P **P 10 49 51.6 -0.3**
OBN pmax pmax
comp=Z,3.0nm,0.6s
BR131 Keskin Array S 31.37 284 P **P 10 50 05.9 -1.4**
BR131 Keskin Array S 31.37 284 P **P 10 50 05.9 -1.4**
BR131 pmax pmax
comp=Z,1.0nm,1.1s
BRTR Keskin Array B 31.37 284 P **P 10 50 06.9 -0.4**
BRTR Keskin Array B 31.37 284 P **P 10 50 05.9 -1.4**
comp=Z,0.5nm,0.6s,baz=89,slow=7.3,SNR=3.7
comp=Z,0.5nm,0.6s
BRTR Keskin Array B 31.37 284 *e*P **P 10 50 08.3 +1.0**
BRTR pmax pmax
comp=Z,1.0nm,0.6s
PALK Pallekele 32.61 169 LR LR 11 04 09.2
comp=Z,75nm,18.2s,baz=72,slow=38
FINES FINESS Array B 36.66 323 P **P 10 50 52.5 -0.2**
FINES FINESS Array B 36.66 323 P **P 10 50 52.2 -0.5**
comp=Z,1.3nm,0.5s,baz=109,slow=9.9,SNR=12
comp=Z,1.3nm,0.5s
FINES FINESS Array B 36.66 323 *i* P **P 10 50 52.5 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.5s
ARCES ARCESS Array B 39.49 335 P **P 10 51 16.2 -0.3**
ARCES IAmb IAmb 10 51 43.1
comp=Z,7.6nm,1.1s
ARCES ARCESS Array B 39.49 335 P **P 10 51 15.9 -0.6**
comp=Z,1.3nm,0.5s,baz=108,slow=8.6,SNR=11
comp=Z,1.3nm,0.5s
ARCES ARCESS Array B 39.49 335 *e*P **P 10 51 14.6 -1.9**
ARCES pmax pmax
comp=Z,2.0nm,0.6s
HFS Hagfors 42.51 320 P **P 10 51 41.0 -0.5**
comp=Z,1.0nm,0.5s,baz=111,slow=11,SNR=8.7
comp=Z,1.0nm,0.5s
HFS Hagfors 42.51 320 P **P 10 51 41.0 -0.5**
NC405 NORSAR Array S 43.49 321 P **P 10 51 49.2 -0.2**
NC405 IAmb IAmb 10 52 05.4
comp=Z,13nm,1.1s
GERES GERESS Array B 43.58 303 P **P 10 51 48.6 -1.8**
GERES GERESS Array B 43.58 303 P **P 10 51 48.6 -1.8**
NB2 NORSAR Subarra 43.73 321 P **P 10 51 50.7 -0.7**
comp=Z,0.5nm,0.5s,baz=90,slow=8.6
NOA NORSAR Array B 43.73 321 P **P 10 51 50.5 -0.9**
comp=Z,0.4nm,0.4s,baz=90,slow=8.0,SNR=4.0
comp=Z,0.4nm,0.4s
NC204 NORSAR Array S 43.95 321 P **P 10 51 52.5 -0.7**
B21K Ikpikpuk River 65.33 17 P **P 10 54 28.0 0.0**
B21K IAmb IAmb 10 54 49.6
comp=Z,6.7nm,1.4s
D19K Kuna River 65.35 19 P **P 10 54 27.7 -0.5**
E22K Anaktuvuk Pass 67.13 17 P **P 10 54 38.5 -1.1**
E22K IAmb IAmb 10 54 50.1
comp=Z,2.1nm,1.2s
TOLK Toolik Lake Re 67.22 16 P **P 10 54 39.6 -0.6**
TOLK IAmb IAmb 10 55 05.0
comp=Z,2.2nm,1.1s
H17K Granite Mounta 67.49 22 P **P 10 54 41.8 -0.1**
H17K IAmb IAmb 10 54 59.6
comp=Z,5.3nm,1.1s
H18K Honhosa River 67.77 21 P **P 10 54 44.0 +0.3**
H18K IAmb IAmb 10 54 51.3
comp=Z,10.0nm,1.5s
A36M Sachs Harbour 67.87 7 P **P 10 54 43.3 -0.8**
A36M IAmb IAmb 10 55 12.2
comp=Z,3.9nm,1.4s
E24K Your Creek 67.92 16 P **P 10 54 44.0 -0.6**
H19K Roundabout Mou 68.02 20 P **P 10 54 46.0 +0.8**
I17K Unalakleet 68.03 23 P **P 10 54 45.1 -0.2**
IMAR Indian Mountai 68.37 19 P **P 10 54 45.9 -1.5**
NRS Narsarsuaq 68.46 333 P **P 10 54 48.1 +0.1**
NRS Narsarsuaq 68.46 333 P **P 10 54 48.1 +0.1**
NRS pmax pmax
comp=Z,77nm,1.3s
TORD Torodi Ar. Bea 68.63 270 P **P 10 54 48.7 -1.1**
comp=Z,0.6nm,0.6s,baz=53,slow=6.0,SNR=9.2
comp=Z,0.6nm,0.6s
BMAR Burnt Mountain 69.27 15 P **P 10 54 53.3 +0.3**
K20K Telida 70.36 21 P **P 10 54 59.2 -0.6**
K20K IAmb IAmb 10 55 03.0
comp=Z,11nm,1.5s
INK Inuvik 70.40 11 P **P 10 54 59.4 -0.5**
INK IAmb IAmb 10 54 59.6
comp=Z,2.6nm,1.3s
INK Inuvik 70.40 11 P **P 10 54 58.8 -1.1**
comp=Z,0.5nm,0.5s,baz=317,slow=6.1,SNR=5.4
comp=Z,0.5nm,0.5s
INK Inuvik 70.40 11 P **P 10 54 59.4 -0.5**
INK pmax pmax
comp=Z,3.0nm,1.3s
C36M Paulatuk 70.53 7 P **P 10 54 58.9 -1.8**
C36M IAmb IAmb 10 55 08.4
comp=Z,6.4nm,1.5s
F31M Tsiigehtchic 71.17 11 P **P 10 55 04.1 -0.4**
H29M Whitestone 71.52 13 P **P 10 55 06.1 -0.7**
G31M Satah River 71.57 12 P **P 10 55 06.4 -0.5**
G31M IAmb IAmb 10 55 33.0
comp=Z,6.6nm,1.5s
I28M Miner Creek 71.92 14 P **P 10 55 08.6 -0.7**
J26L Joseph Creek 72.01 16 P **P 10 55 09.2 -0.7**
J26L IAmb IAmb 10 55 30.1
comp=Z,3.2nm,1.4s
H31M Peel River 72.59 12 P **P 10 55 11.7 -1.5**
H31M IAmb IAmb 10 55 17.3
comp=Z,6.4nm,1.4s
GHO Glory Hole Cre 73.04 20 P **P 10 55 14.6 -1.4**
BCAR Beaver Creek A 73.65 16 P **P 10 55 18.6 -1.0**
YKA Yellowknife Ar 78.02 4 P **P 10 55 44.4 0.0**
comp=Z,0.3nm,0.7s,baz=351,slow=6.3,SNR=4.3
comp=Z,0.3nm,0.7s
YKA Yellowknife Ar 78.02 4 *e*P **P 10 55 45.9 +1.5**

S34M	**Telegraph Cree**	**80.52**	**14**	P	**P**	**10 55 57.4**	**-0.8**
S34M				IAmb	IAmb	10 56 05.9		
	comp=Z,4.4nm,0.7s							
WB0	**Warramunga Arr**	**81.18**	**125**	P	**P**	**10 56 02.0**	**-0.2**
WB0				IAmb	IAmb	10 56 15.3		
	comp=Z,9.7nm,1.4s							
WRA	**Warramunga Arr**	**81.28**	**125**	P	**P**	**10 56 01.3**	**-1.4**
	comp=Z,0.7nm,0.6s,baz=325,slow=5.0,SNR=16							
	comp=Z,0.7nm,0.6s							
WB2	**Warramunga Arr**	**81.28**	**125**	P	**P**	**10 56 01.9**	**-0.8**
WB2				IAmb	IAmb	10 56 16.8		
	comp=Z,10nm,1.4s							
WR0	**Warramunga Arr**	**81.42**	**125**	P	**P**	**10 56 02.5**	**-0.9**
WR0				IAmb	IAmb	10 56 11.6		
	comp=Z,10nm,1.5s							
CRAG	**Craig**	**82.42**	**16**	P	**P**	**10 56 04.4**	**-3.9**
V35K	**Ketchikan**	**82.86**	**15**	P	**P**	**10 56 07.9**	**-2.5**
ASAR	**Alice Springs**	**83.75**	**128**	P	**P**	**10 56 15.0**	**-0.5**
ASAR	**Alice Springs**	**83.75**	**128**	P	**P**	**10 56 14.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=315,slow=5.2,SNR=8.6							
	comp=Z,0.5nm,0.7s							
ASAR	**Alice Springs**	**83.75**	**128**	*e*P	**P**	**10 56 14.3**	**-1.2**
ASAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							

*NEIC **04** 10:45:20.1±1.5,56.47N±0.09×148.56W±0.10,h20km±9km, ML3.7/72,ML3.4(AEIC),Error ellipse: s-maj=13.6km s-min=7.6km az=172.0*
*AEIC **04** 10:45:23.7±1.3,56.50N±0.09×148.60W±0.10,h12km±7km, Error ellipse: s-maj=12.7km s-min=7.8km az=170.0*
ISC 04 10:45:20.9±1.9,56.5N±0.1×148.60W±0.05,h35km,n255, σ1s05/26s,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.52**	**302**		**Pn**	**10 46 00.7**	**+1.4**
KDAK	**Kodiak Island**	**2.52**	**302**		**Sn**	**10 46 28.4**	**-0.4**
KDAK	**Kodiak Island**	**2.52**	**302**	S	**Sn**	**10 46 28.2**	**-0.6**
	baz=119						
OHAK	**Old Harbor**	**2.67**	**288**		**Pn**	**10 46 01.5**	**+0.1**
OHAK					**Sn**	**10 46 31.1**	**-1.4**
OHAK	**Old Harbor**	**2.67**	**288**	P	**Pn**	**10 46 01.4**	**+0.1**
	baz=104						
OHAK				S	**Sn**	**10 46 31.1**	**-1.4**
	baz=104						
SYI	**Shuyak Island**	**2.94**	**318**		**Pn**	**10 46 06.3**	**+1.4**
SYI					**Sn**	**10 46 40.2**	**+1.2**
Q20K	**Shuyak Island**	**2.94**	**318**	P	**Pn**	**10 46 06.0**	**+1.0**
	baz=134						
Q20K				S	**Sn**	**10 46 39.7**	**+0.6**
	baz=134						
Q23K	**Middleton Isla**	**3.17**	**21**		**Pn**	**10 46 08.7**	**+0.5**
Q23K					**Sn**	**10 46 43.6**	**-1.0**
Q23K				IAML		10 46 44.2	
	comp=E,168nm,1.0s						
Q23K				IAML		10 46 44.3	
	comp=N,147nm,1.0s						
Q23K	**Middleton Isla**	**3.17**	**21**	P	**Pn**	**10 46 08.3**	**+0.1**
	baz=203						
Q23K				S	**Sn**	**10 46 43.6**	**-1.0**
	baz=203						
MID	**Middleton Isla**	**3.17**	**21**		**Pn**	**10 46 08.6**	**+0.5**
MID					**Sn**	**10 46 43.8**	**-0.9**
MID				IAML		10 46 44.2	
	comp=E,160nm,0.9s						
MID				IAML		10 46 44.6	
	comp=N,143nm,0.7s						
CNPM	**China Poot**	**3.34**	**336**		**Pn**	**10 46 11.1**	**+0.6**
BRSE	**Bradley Lake S**	**3.44**	**342**		**Pn**	**10 46 12.2**	**+0.3**
BRSE					**Sn**	**10 46 50.4**	**-1.1**
BRSE	**Bradley Lake S**	**3.44**	**342**	P	**Pn**	**10 46 12.2**	**+0.3**
	baz=160						
BRSE				S	**Sn**	**10 46 50.4**	**-1.1**
	baz=160						
BRLK	**Bradley Lake**	**3.49**	**341**		**Pn**	**10 46 13.0**	**+0.5**
HOM	**Homer**	**3.55**	**334**		**Pn**	**10 46 14.4**	**+1.0**
HOM				IAML		10 48 26.1	
	comp=N,173nm,1.1s						
HOM				IAML		10 48 27.0	
	comp=E,187nm,1.2s						
HOM	**Homer**	**3.55**	**334**	P	**Pn**	**10 46 14.2**	**+0.8**
	baz=152						
P23K	**Montague Islan**	**3.56**	**10**		**Pn**	**10 46 13.6**	**+0.1**
P23K					**Sn**	**10 46 52.8**	**-1.6**
P23K	**Montague Islan**	**3.56**	**10**	P	**Pn**	**10 46 13.6**	**+0.1**
	baz=191						
P23K				S	**Sn**	**10 46 52.8**	**-1.6**
	baz=191						
Q19K	**Cape Douglas,**	**3.64**	**314**		**Pn**	**10 46 15.9**	**+1.3**
Q19K				IAML		10 47 03.1	
	comp=E,168nm,1.0s						
Q19K				IAML		10 47 04.9	
	comp=N,126nm,0.8s						
Q19K	**Cape Douglas,**	**3.64**	**314**	P	**Pn**	**10 46 16.4**	**+1.7**
	baz=130						
SEW	**Seward**	**3.64**	**353**		**Pn**	**10 46 14.6**	**0.0**
SEW	**Seward**	**3.64**	**353**	P	**Pn**	**10 46 14.5**	**0.0**
	baz=173						
P19K	**Oil Pt**	**4.00**	**324**		**Pn**	**10 46 20.5**	**+0.9**
P19K	**Oil Pt**	**4.00**	**324**	P	**Pn**	**10 46 20.7**	**+1.1**
	baz=140						
O22K	**Cooper Landing**	**4.03**	**352**		**Pn**	**10 46 20.8**	**+0.7**
O22K	**Cooper Landing**	**4.03**	**352**	P	**Pn**	**10 46 20.6**	**+0.6**
	baz=171						
HIN	**Hinchinbrook I**	**4.06**	**15**		**Pn**	**10 46 20.7**	**+0.3**
HIN	**Hinchinbrook I**	**4.06**	**15**	IAML		10 47 05.8	
	comp=N,117nm,0.8s						
HIN				IAML		10 47 06.4	
	comp=E,144nm,0.8s						
KAIM	**Kayak Island**	**4.08**	**31**		**Pn**	**10 46 21.4**	**+0.7**
KAIM				IAML		10 47 07.7	
	comp=N,140nm,1.0s						
KAIM	**Kayak Island**	**4.08**	**31**	P	**Pn**	**10 46 21.0**	**+0.3**
	baz=215						
SLKM	**Skilak Lake**	**4.11**	**349**		**Pn**	**10 46 21.2**	**+0.2**
O20K	**Slope Mountain**	**4.17**	**331**		**Pn**	**10 46 22.5**	**+0.5**
O20K	**Slope Mountain**	**4.17**	**331**	P	**Pn**	**10 46 22.5**	**+0.5**
	baz=148						
IVE	**Iliamna Volcan**	**4.23**	**328**		**Pn**	**10 46 22.9**	**+0.2**
ILSW	**Iliamna Southw**	**4.24**	**327**		**Pn**	**10 46 23.5**	**+0.5**
ILSW				IAML		10 47 14.0	
	comp=N,51nm,1.2s						
ILSW				IAML		10 47 15.0	
	comp=E,53nm,0.5s						
CNTC	**Contact Creek**	**4.32**	**297**		**Pn**	**10 46 25.0**	**+0.9**
Q17K	**Contact Creek**	**4.32**	**297**	P	**Pn**	**10 46 25.0**	**+0.9**
	baz=111						
EYAK	**Cordova Ski Ar**	**4.32**	**19**		**Pn**	**10 46 25.1**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.32**	**19**	P	**Pn**	**10 46 24.6**	**+0.6**
	baz=201						
SUCK	**Suckling Hills**	**4.39**	**33**		**Pn**	**10 46 25.8**	**+0.8**
SUCK				IAML		10 47 15.4	
	comp=N,116nm,0.8s						
SUCK				IAML		10 47 18.6	
	comp=E,83nm,0.9s						
FID	**Port Fidalgo**	**4.40**	**14**		**Pn**	**10 46 24.8**	**-0.3**
FID				IAML		10 47 13.4	
	comp=E,68nm,0.5s						
FID				IAML		10 47 15.7	
	comp=N,59nm,0.4s						
RAGM	**Ragged Mountai**	**4.41**	**26**		**Pn**	**10 46 25.8**	**+0.6**
GLI	**Glacier Island**	**4.46**	**9**		**Pn**	**10 46 26.4**	**+0.5**
GLI				IAML		10 47 15.5	
	comp=E,74nm,0.6s						
GLI				IAML		10 47 20.0	
	comp=N,47nm,0.5s						
GLI	**Glacier Island**	**4.46**	**9**	P	**Pn**	**10 46 26.1**	**+0.2**
	baz=191						
NICHA	**Nichawak Mount**	**4.47**	**31**		**Pn**	**10 46 27.0**	**+1.0**
HMT	**Hamilton**	**4.47**	**29**		**Pn**	**10 46 26.8**	**+0.7**
CAPN	**Captain Cook N**	**4.48**	**344**		**Pn**	**10 46 27.8**	**+1.6**
CAPN	**Captain Cook N**	**4.48**	**344**	P	**Pn**	**10 46 27.7**	**+1.6**
	baz=162						
RDSO	**Redoubt South**	**4.52**	**333**		**Pn**	**10 46 27.0**	**+0.2**
RDT	**Redoubt**	**4.54**	**336**		**Pn**	**10 46 27.3**	**+0.2**
GOAT	**Goat Mountain**	**4.56**	**25**		**Pn**	**10 46 28.1**	**+0.7**
P18K	**Big Mountain,**	**4.57**	**312**		**Pn**	**10 46 27.2**	**-0.2**
P18K	**Big Mountain,**	**4.57**	**312**	P	**Pn**	**10 46 27.0**	**-0.4**
	baz=127						
RDWB	**Redoubt West**	**4.57**	**333**		**Pn**	**10 46 27.6**	**0.0**
RC01	**Rabbit Creek A**	**4.64**	**353**		**Pn**	**10 46 29.2**	**+0.8**
RC01				IAML		10 47 21.6	
	comp=E,50nm,0.5s						
RC01				IAML		10 47 24.5	
	comp=N,41nm,0.5s						
RC01	**Rabbit Creek A**	**4.64**	**353**	P	**Pn**	**10 46 29.1**	**+0.8**
	baz=172						
NCT	**North Crescent**	**4.66**	**333**		**Pn**	**10 46 29.2**	**+0.4**
BERG	**Berg Lake**	**4.67**	**31**		**Pn**	**10 46 29.4**	**+0.6**
GRIN	**Grindle Hills**	**4.70**	**34**		**Pn**	**10 46 30.0**	**+0.9**
O19K	**Port Alsworth**	**4.77**	**323**		**Pn**	**10 46 30.7**	**+0.5**
O19K	**Port Alsworth**	**4.77**	**323**	P	**Pn**	**10 46 31.2**	**+1.0**
	baz=138						
SNH	**Sunshine Point**	**4.78**	**37**		**Pn**	**10 46 30.9**	**+0.7**
SNH				IAML		10 47 26.9	
	comp=E,62nm,0.9s						
SNH				IAML		10 48 36.8	
	comp=N,44nm,1.2s						
KHIT	**Khitrov Hills**	**4.85**	**33**		**Pn**	**10 46 31.8**	**+0.6**
O18K	**Koktuh Hills**	**4.85**	**317**		**Pn**	**10 46 31.9**	**+0.6**
O18K	**Koktuh Hills**	**4.85**	**317**	P	**Pn**	**10 46 31.9**	**+0.6**
	baz=131						
DIV	**Divide**	**4.87**	**16**		**Pn**	**10 46 31.2**	**-0.4**
KNK	**Knik Glacier**	**4.93**	**1**		**Pn**	**10 46 32.9**	**+0.6**
KNK				IAML		10 47 26.8	
	comp=E,36nm,1.2s						
KNK				IAML		10 47 27.3	
	comp=N,28nm,0.7s						
KNK	**Knik Glacier**	**4.93**	**1**	P	**Pn**	**10 46 33.2**	**+0.9**
	baz=181						
BMRM	**Bremner River**	**4.94**	**23**		**Pn**	**10 46 33.1**	**+0.6**
BMRM	**Bremner River**	**4.94**	**23**	P	**Pn**	**10 46 33.2**	**+0.8**
	baz=207						
WAX	**Waxell Ridge**	**4.97**	**35**		**Pn**	**10 46 33.8**	**+0.8**
BARK	**Barkley Ridge**	**5.06**	**37**		**Pn**	**10 46 34.9**	**+0.7**
N20K	**Mount Spurr**	**5.07**	**340**	P	**Pn**	**10 46 34.8**	**+0.4**
	baz=157						
SPCR	**Spurr Chakacha**	**5.07**	**340**		**Pn**	**10 46 34.8**	**+0.4**
MESA	**MESA**	**5.08**	**41**		**Pn**	**10 46 34.8**	**+0.2**
MESA				IAML		10 48 52.2	
	comp=E,65nm,1.2s						
MESA	**MESA**	**5.08**	**41**	P	**Pn**	**10 46 35.1**	**+0.4**
	baz=226						
SPCN	**Chakachatna No**	**5.09**	**340**		**Pn**	**10 46 35.6**	**+1.0**
SUA	**Susitna One**	**5.10**	**348**		**Pn**	**10 46 35.4**	**+0.6**
SUA	**Susitna One**	**5.10**	**348**	P	**Pn**	**10 46 35.5**	**+0.7**
	baz=166						
PMR	**Palmer**	**5.11**	**357**		**Pn**	**10 46 36.3**	**+1.5**
PMR				IAML		10 47 31.7	
	comp=N,24nm,0.5s						
PMR				IAML		10 47 32.2	
	comp=E,23nm,0.4s						
PMR	**Palmer**	**5.11**	**357**	P	**Pn**	**10 46 35.4**	**+0.6**
	baz=177						
SPCP	**Crater Peak Br**	**5.12**	**340**		**Pn**	**10 46 36.0**	**+0.9**
KLU	**Klutina**	**5.19**	**14**		**Pn**	**10 46 37.0**	**+1.0**
KLU				IAML		10 47 35.3	
	comp=E,49nm,0.5s						
KLU				IAML		10 47 36.5	
	comp=N,38nm,0.4s						
KLU	**Klutina**	**5.19**	**14**	P	**Pn**	**10 46 36.8**	**+0.8**
	baz=197						
ISLE	**Juniper Island**	**5.26**	**36**		**Pn**	**10 46 38.0**	**+1.0**
ISLE				IAML		10 47 35.1	
	comp=E,28nm,0.3s						
ISLE				IAML		10 47 45.9	
	comp=N,28nm,1.1s						
STLK	**Strandline Lak**	**5.28**	**343**		**Pn**	**10 46 38.1**	**+0.8**
GHO	**Glory Hole Cre**	**5.29**	**358**		**Pn**	**10 46 38.0**	**+0.7**
GHO				IAML		10 47 39.4	
	comp=N,43nm,0.6s						
GHO				IAML		10 47 40.5	
	comp=E,38nm,0.5s						
N19K	**Bonanza Creek**	**5.30**	**327**		**Pn**	**10 46 37.4**	**-0.1**
N19K	**Bonanza Creek**	**5.30**	**327**	P	**Pn**	**10 46 37.7**	**+0.2**
	baz=142						
SPNN	**North Nagishla**	**5.32**	**338**		**Pn**	**10 46 39.0**	**+1.2**
SML	**Sawmill**	**5.32**	**1**		**Pn**	**10 46 38.6**	**+0.8**
SML				IAML		10 47 38.7	
	comp=E,37nm,0.7s						
SML				IAML		10 47 43.5	
	comp=N,32nm,0.8s						
SML	**Sawmill**	**5.32**	**1**	P	**Pn**	**10 46 38.8**	**+1.1**
	baz=182						
M23K	**Glacier View**	**5.33**	**4**		**Pn**	**10 46 39.0**	**+1.3**
M23K	**Glacier View**	**5.33**	**4**	P	**Pn**	**10 46 39.0**	**+1.3**
	baz=185						
SCM	**Sheep Creek Mo**	**5.39**	**6**		**Pn**	**10 46 39.6**	**+1.0**
SCM	**Sheep Creek Mo**	**5.39**	**6**	P	**Pn**	**10 46 39.9**	**+1.2**
	baz=188						
VRDI	**Verde Repeater**	**5.44**	**27**		**Pn**	**10 46 40.4**	**+0.9**
SAMH	**Samovar Hills**	**5.49**	**45**		**Pn**	**10 46 41.1**	**+0.9**
KIAG	**Kiagna River**	**5.50**	**34**		**Pn**	**10 46 40.8**	**+0.5**
N25K	**Chitina, Valde**	**5.52**	**20**		**Pn**	**10 46 41.6**	**+1.1**
N25K	**Chitina, Valde**	**5.52**	**20**	P	**Pn**	**10 46 41.6**	**+1.1**
	baz=204						
GLB	**Gilahina Butte**	**5.54**	**25**		**Pn**	**10 46 41.0**	**+0.2**
N18K	**Kilae Creek**	**5.66**	**321**		**Pn**	**10 46 42.6**	**+0.2**
N18K	**Kilae Creek**	**5.66**	**321**	P	**Pn**	**10 46 42.5**	**+0.1**
	baz=135						
PTPK	**Patty Peak**	**5.67**	**32**		**Pn**	**10 46 43.5**	**+0.8**
MCARA	**McCarthy VSAT**	**5.68**	**28**		**Pn**	**10 46 43.5**	**+0.9**
MCARA	**McCarthy VSAT**	**5.68**	**28**	P	**Pn**	**10 46 43.9**	**+1.2**
	baz=213						
SKT	**Skwentna**	**5.70**	**346**		**Pn**	**10 46 43.4**	**+0.6**
SKT	**Skwentna**	**5.70**	**346**	P	**Pn**	**10 46 43.8**	**+0.9**
	baz=163						
M24K	**Tolsona, Glenn**	**5.76**	**11**		**Pn**	**10 46 43.9**	**+0.2**
M24K	**Tolsona, Glenn**	**5.76**	**11**	P	**Pn**	**10 46 44.9**	**+1.2**
	baz=194						
BARN	**Barnard Glacie**	**5.82**	**35**		**Pn**	**10 46 45.6**	**+0.8**
PNL	**Peninsula**	**5.82**	**53**		**Pn**	**10 46 45.3**	**+0.7**
PNL	**Peninsula**	**5.82**	**53**	P	**Pn**	**10 46 45.3**	**+0.7**
	baz=241						
CTG	**Chitna Glacier**	**5.86**	**37**	P	**Pn**	**10 46 45.8**	**+0.6**
	baz=223						
CTGM	**Chitina Glacie**	**5.86**	**37**		**Pn**	**10 46 45.9**	**+0.7**
BCPM	**Bancas Point**	**5.86**	**50**		**Pn**	**10 46 45.3**	**+0.1**
LOGN	**Logan Glacier**	**5.87**	**39**		**Pn**	**10 46 45.0**	**-0.3**
M20K	**Styx River**	**5.88**	**339**		**Pn**	**10 46 45.6**	**+0.2**
M20K	**Styx River**	**5.88**	**339**	P	**Pn**	**10 46 45.8**	**+0.4**
	baz=155						
WASW	**Wrangell South**	**5.90**	**21**		**Pn**	**10 46 47.2**	**+1.4**
WACK	**Wrangell Chich**	**5.92**	**20**		**Pn**	**10 46 47.4**	**+1.2**
N17K	**Nushagak Hills**	**6.04**	**315**		**Pn**	**10 46 48.1**	**+0.5**
N17K	**Nushagak Hills**	**6.04**	**315**	P	**Pn**	**10 46 48.1**	**+0.5**
	baz=128						
WAT6	**Susitna Watana**	**6.11**	**4**		**Pn**	**10 46 49.7**	**+1.0**
WAT6	**Susitna Watana**	**6.11**	**4**	P	**Pn**	**10 46 49.7**	**+1.0**
	baz=184						
O28M	**Mount Upton**	**6.13**	**42**		**Pn**	**10 46 50.0**	**+1.0**
O28M	**Mount Upton**	**6.13**	**42**	P	**Pn**	**10 46 50.0**	**+1.0**
	baz=229						
HARP	**HAARP**	**6.17**	**15**		**Pn**	**10 46 50.3**	**+0.9**
HARP	**HAARP**	**6.17**	**15**	P	**Pn**	**10 46 50.3**	**+0.9**
	baz=198						
M19K	**Big River Lodg**	**6.18**	**334**		**Pn**	**10 46 49.5**	**0.0**
M19K	**Big River Lodg**	**6.18**	**334**	P	**Pn**	**10 46 49.8**	**+0.3**
	baz=149						
M18K	**Stony River**	**6.24**	**326**		**Pn**	**10 46 50.7**	**+0.4**
M18K	**Stony River**	**6.24**	**326**	P	**Pn**	**10 46 50.7**	**+0.4**
	baz=140						
WAT1	**Susitna Watana**	**6.35**	**0**		**Pn**	**10 46 53.1**	**+1.3**
WAT1	**Susitna Watana**	**6.35**	**0**	P	**Pn**	**10 46 53.1**	**+1.3**
	baz=180						
WAT7	**Susitna Watana**	**6.35**	**359**		**Pn**	**10 46 53.1**	**+1.2**
L19K	**White Mountain**	**6.53**	**333**		**Pn**	**10 46 54.4**	**+0.1**
L19K	**White Mountain**	**6.53**	**333**	P	**Pn**	**10 46 54.3**	**-0.1**
	baz=148						
P29M	**Windy Craggy**	**6.56**	**57**		**Pn**	**10 46 54.8**	**+0.1**
P29M	**Windy Craggy**	**6.56**	**57**	P	**Pn**	**10 46 55.2**	**+0.5**
	baz=246						
M26K	**Nabesna, AK**	**6.57**	**23**		**Pn**	**10 46 55.1**	**+0.3**
M26K	**Nabesna, AK**	**6.57**	**23**	P	**Pn**	**10 46 55.9**	**+1.0**
	baz=208						
DHY	**Denali Highway**	**6.62**	**5**		**Pn**	**10 46 57.9**	**+2.2**
DHY	**Denali Highway**	**6.62**	**5**	P	**Pn**	**10 46 57.2**	**+1.5**
	baz=186						
YUK2	**White River**	**6.63**	**34**		**Pn**	**10 46 57.2**	**+1.5**
PAX	**Paxson**	**6.68**	**12**		**Pn**	**10 46 57.8**	**+1.4**
PAX	**Paxson**	**6.68**	**12**	P	**Pn**	**10 46 57.4**	**+1.0**
	baz=195						
M17K	**Holitna River**	**6.71**	**321**		**Pn**	**10 46 57.1**	**+0.4**
M17K	**Holitna River**	**6.71**	**321**	P	**Pn**	**10 46 57.5**	**+0.8**
	baz=133						
YUK3	**Moose Creek**	**6.74**	**35**		**Pn**	**10 46 58.5**	**+1.1**
YUK3	**Moose Creek**	**6.74**	**35**	P	**Pn**	**10 46 58.5**	**+1.1**
	baz=222						
M27K	**Edge Creek, AK**	**6.80**	**27**		**Pn**	**10 46 59.5**	**+1.4**
M27K	**Edge Creek, AK**	**6.80**	**27**	P	**Pn**	**10 46 59.3**	**+1.2**
	baz=213						
YUK7	**Dusty Glacier**	**6.80**	**49**		**Pn**	**10 46 59.5**	**+1.2**
S31K	**Pelican**	**6.87**	**73**	Pn	**Pn**	**10 46 58.2**	**-0.7**
RND	**Reindeer**	**6.93**	**359**		**Pn**	**10 46 60.0**	**+0.2**
YUK6	**Outpost Mounta**	**6.94**	**46**		**Pn**	**10 47 01.9**	**+1.8**
YUK6	**Outpost Mounta**	**6.94**	**46**	P	**Pn**	**10 47 01.9**	**+1.8**
	baz=235						
TRF	**Thorofare Moun**	**7.02**	**354**		**Pn**	**10 47 02.2**	**+1.0**
TRF	**Thorofare Moun**	**7.02**	**354**	P	**Pn**	**10 47 02.9**	**+1.7**
	baz=172						
M16K	**Timber Creek**	**7.04**	**314**		**Pn**	**10 47 01.9**	**+0.7**
M16K	**Timber Creek**	**7.04**	**314**	P	**Pn**	**10 47 02.3**	**+1.1**
	baz=126						
L18K	**Granite Mounta**	**7.06**	**328**		**Pn**	**10 47 01.4**	**-0.2**
L18K	**Granite Mounta**	**7.06**	**328**	P	**Pn**	**10 47 01.6**	**0.0**
	baz=141						
YUK4	**Talbot Arm**	**7.07**	**43**	P	**Pn**	**10 47 05.0**	**+3.0**
	baz=231						
N15K	**Kwethluk River**	**7.08**	**306**	Pn	**Pn**	**10 47 03.7**	**+1.9**
P30M	**Million Dollar**	**7.12**	**55**		**Pn**	**10 47 03.8**	**+1.3**
P30M	**Million Dollar**	**7.12**	**55**	P	**Pn**	**10 47 03.8**	**+1.3**
	baz=244						
PLBC	**Pleasant Camp**	**7.15**	**60**		**Pn**	**10 47 03.2**	**+0.5**
PLBC	**Pleasant Camp**	**7.15**	**60**	P	**Pn**	**10 47 03.2**	**+0.5**
	baz=251						
CAST	**Castle Rocks**	**7.16**	**347**		**Pn**	**10 47 04.0**	**+1.1**
CAST	**Castle Rocks**	**7.16**	**347**	P	**Pn**	**10 47 03.7**	**+0.9**
	baz=164						
KTH	**Kantishna Hill**	**7.17**	**352**		**Pn**	**10 47 04.9**	**+1.8**
HYT	**Haines Junctio**	**7.22**	**49**	Pn	**Pn**	**10 47 05.4**	**+1.5**
MCK	**McKinley**	**7.26**	**359**		**Pn**	**10 47 05.1**	**+0.9**
MCK	**McKinley**	**7.26**	**359**	P	**Pn**	**10 47 04.6**	**+0.4**
	baz=178						
K20K	**Telida**	**7.40**	**341**	Pn	**Pn**	**10 47 07.4**	**+1.1**
L27K	**Beaver Creek,**	**7.41**	**25**		**Pn**	**10 47 07.5**	**+1.2**
L27K	**Beaver Creek,**	**7.41**	**25**	P	**Pn**	**10 47 07.6**	**+1.2**
	baz=210						
BCAR	**Beaver Creek A**	**7.42**	**25**	Pn	**Pn**	**10 47 08.1**	**+1.6**
TTA	**Tatalina**	**7.45**	**333**	Pn	**Pn**	**10 47 07.3**	**+0.4**
L17K	**Donlin**	**7.51**	**323**		**Pn**	**10 47 08.1**	**+0.4**
L17K	**Donlin**	**7.51**	**323**	P	**Pn**	**10 47 08.1**	**+0.4**
	baz=134						
CHUM	**Lake Minchumin**	**7.63**	**348**		**Pn**	**10 47 10.2**	**+0.9**
CHUM	**Lake Minchumin**	**7.63**	**348**	P	**Pn**	**10 47 10.2**	**+0.9**
	baz=164						
L16K	**Owhat River**	**7.65**	**318**		**Pn**	**10 47 10.2**	**+0.6**
L16K	**Owhat River**	**7.65**	**318**	P	**Pn**	**10 47 09.9**	**+0.3**
	baz=128						
BESE	**Bessie Mountai**	**7.68**	**69**		**Pn**	**10 47 10.4**	**+0.2**
BPAW	**Bear Paw Mtn.**	**7.71**	**352**		**Pn**	**10 47 11.4**	**+0.8**
BPAW	**Bear Paw Mtn.**	**7.71**	**352**	P	**Pn**	**10 47 11.2**	**+0.7**
	baz=170						
S32K	**Killisnoo**	**7.72**	**77**	Pn	**Pn**	**10 47 09.5**	**-1.1**
N30M	**Aishikik Lake**	**7.74**	**45**		**Pn**	**10 47 12.2**	**+1.3**
N30M	**Aishikik Lake**	**7.74**	**45**	P	**Pn**	**10 47 12.1**	**+1.1**
	baz=235						
O30N	**Mendenhall**	**7.80**	**52**		**Pn**	**10 47 12.9**	**+1.2**
O30N	**Mendenhall**	**7.80**	**52**	P	**Pn**	**10 47 12.7**	**+1.0**
	baz=242						
SCRK	**Sand Creek**	**7.84**	**15**	Pn	**Pn**	**10 47 11.6**	**-0.7**
M29M	**Somme Creek**	**7.88**	**37**		**Pn**	**10 47 14.2**	**+1.4**
M29M	**Somme Creek**	**7.88**	**37**	P	**Pn**	**10 47 14.3**	**+1.5**
	baz=225						
K17K	**Iditarod**	**7.93**	**326**	Pn	**Pn**	**10 47 13.8**	**+0.3**
HDA	**Harding Lake**	**7.97**	**5**	Pn	**Pn**	**10 47 14.8**	**+0.7**
WRH	**Wood River Hil**	**8.00**	**2**	Pn	**Pn**	**10 47 15.8**	**+1.4**
J18K	**Innoko River**	**8.08**	**333**	Pn	**Pn**	**10 47 16.5**	**+1.0**
NEA2	**Nenana**	**8.12**	**359**	Pn	**Pn**	**10 47 16.5**	**+0.5**
J20K	**Nowinta River**	**8.17**	**343**		**Pn**	**10 47 17.4**	**+0.6**
J20K	**Nowinta River**	**8.17**	**343**	P	**Pn**	**10 47 17.8**	**+1.0**
	baz=158						
WHY	**Whitehorse**	**8.29**	**54**	Pn	**Pn**	**10 47 20.3**	**+1.8**
IL31		**8.34**	**5**		**Pn**	**10 47 20.0**	**+1.0**
ILAR	**Eielson Array**	**8.34**	**5**	Pn	**Pn**	**10 47 19.4**	**+0.4**
J26L	**Joseph Creek**	**8.40**	**15**		**Pn**	**10 47 21.6**	**+1.7**
J26L	**Joseph Creek**	**8.40**	**15**	P	**Pn**	**10 47 21.4**	**+1.4**
	baz=199						
COLA	**College**	**8.41**	**2**		**Pn**	**10 47 21.1**	**+1.1**
L29M	**L29M**	**8.46**	**34**		**Pn**	**10 47 22.6**	**+1.8**
L29M	**L29M**	**8.46**	**34**	P	**Pn**	**10 47 20.9**	**+0.1**
	baz=223						
P32M	**Atlin**	**8.48**	**62**		**Pn**	**10 47 21.7**	**+0.6**
P32M	**Atlin**	**8.48**	**62**	P	**Pn**	**10 47 21.6**	**+0.6**
	baz=255						
MDM	**Murphy Dome**	**8.49**	**1**		**Pn**	**10 47 22.3**	**+1.2**
MLY	**Manley**	**8.62**	**354**		**Pn**	**10 47 23.5**	**+0.5**

RES	**Resolute Bay**	**6.53**	**300**	SN	**Sn**	**10 49 27.9**	**-1.0**
RES				Trac		10 50 27.7	
	comp=Z,22nm,1.4s						
RES	**Resolute Bay**	**6.53**	**300**	*i* P	**Pn**	**10 48 16.6**	**+2.1**
RES				*i* S	**Sn**	**10 49 25.7**	**-3.1**
NEEM	**North Greenlan**	**7.57**	**39**	*i* P	Pn	10 48 36.0	+6.9
NEEM				*i* S	Sn	10 49 50.0	-5.0
NEEM				IAML		10 49 56.2	
	comp=Z,1.1nm,0.4s						
FRB	**Frobisher Bay**	**8.91**	**167**	PN	**Pn**	**10 48 47.9**	**+0.7**
FRB	**Frobisher Bay**	**8.91**	**167**	SN	**Sn**	**10 50 21.4**	**-6.0**
FRB				LG	Lg	10 51 18.7	
FRB				Trac		10 51 24.6	
	comp=Z,3.3nm,0.2s						
FRB	**Frobisher Bay**	**8.91**	**167**	*i* P	**Pn**	**10 48 49.6**	**+2.4**
FRB				*i* S	Sn	10 50 16.6	-11
BLKN	**Baker Lake**	**11.62**	**237**	SN	Sn	10 51 22.7	-11
BLKN				SN		10 51 24.4	
BLKN				LG	Lg	10 52 44.6	
BLKN				Trac		10 52 49.9	
	comp=Z,0.5nm,0.0s						

*BGSI **04** 10:57:38.8±4.2,25°.93S×29°.48E, h0km±167km, ML3.3*
*IDC **04** 10:57:39.2±4.9,25°.93S×28°.84E, h0km, mb3.7/2, mbtmp3.5/3, ML2.9/1, Error ellipse: s-maj=111.1km s-min=21.3km az=123.0*
*EAF **04** 10:57:42.1±1.0,26°.03S×29°.66E, h10km, MD3.6*
*BUL **04** 10:57:42.3±4.7,25°.92S×29°.59E, h10km±43km, MD3.8*
ISC 04 10:57:36.1±1.1,**26°.16S**±0°.06×**29°.39E**±0°.05,**h10**km,**n23,** ⌀2s**71**/37,**South Africa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOPA	**Mopani**	**3.21**	**35**	*i* P	**Pn**	**10 58 27.4**	**+0.8**
MOPA				*i* S	**Sn**	**10 59 00.2**	**-4.7**
MOPA	**Mopani**	**3.21**	**35**	*i* P	**Pn**	**10 58 27.4**	**+0.8**
MOPA				*i* S	**Sn**	**10 59 00.2**	**-4.7**
LBTB	**Lobatse**	**3.61**	**288**	*i* P	**Pb**	**10 58 40.9**	**+0.8**
LBTB				*i* S	**Sb**	**10 59 22.7**	**-1.3**
LBTB	**Lobatse**	**3.61**	**288**	*i* P	**Pb**	**10 58 40.9**	**+0.8**
LBTB				*i* S	**Sb**	**10 59 22.7**	**-1.3**
MUSN	**Musina, Limpop**	**3.88**	**6**	*i* P	**Pn**	**10 58 39.5**	**+3.6**
MUSN				*i* S	**Sn**	**10 59 21.1**	**-0.5**
MUSN	**Musina, Limpop**	**3.88**	**6**	*i* P	**Pn**	**10 58 39.5**	**+3.6**
MUSN				*i* S	**Sn**	**10 59 21.1**	**-0.5**
MAKGR	**Makgori**	**4.14**	**274**	*i* P	**Pn**	**10 58 40.6**	**+1.0**
MAKGR				*e*S	**Sn**	**10 59 31.7**	**+3.6**
MAKGR				IAML		10 59 51.1	
	comp=Z,148nm,0.5s						
BOSA	**Boshof**	**4.41**	**235**	*i* P	**Pb**	**10 58 52.8**	**-1.0**
BOSA				*i* S	**Sb**	**10 59 43.9**	**-3.2**
BOSA	**Boshof**	**4.41**	**235**	Pn	**Pn**	**10 58 43.3**	**0.0**
	comp=Z,0.4nm,0.3s,baz=54,slow=9.8,SNR=9.5						
BOSA				Pg	**Pb**	**10 58 55.3**	**+1.6**
	comp=Z,4.2nm,0.3s,baz=52,slow=18,SNR=14						
BOSA				Lg	Lg	10 59 52.7	
	comp=Z,18nm,0.3s,baz=146,slow=21,SNR=15						
	comp=Z,1.9nm,0.6s						
BOSA	**Boshof**	**4.41**	**235**	*i* P	**Pb**	**10 58 52.8**	**-1.0**
BOSA				*i* S	**Sb**	**10 59 43.9**	**-3.2**
KDWAN	**Kaudwane**	**5.11**	**302**	*i* P	**Pn**	**10 58 55.7**	**+2.8**
KDWAN				*e*S	**Sn**	**10 59 49.2**	**-2.9**
KDWAN				IAML		11 00 16.5	
	comp=Z,78nm,0.8s						
SKOMA	**Sekoma**	**5.20**	**287**	*i* P	**Pn**	**10 58 54.1**	**0.0**
SKOMA				IAML		11 00 21.1	
	comp=Z,152nm,0.6s						
MATP	**Matopo**	**5.77**	**352**	*i* P	**Pn**	**10 59 03.4**	**+1.5**
MATP				*i* S	**Sn**	**11 00 06.7**	**-1.6**
MATP	**Matopo**	**5.77**	**352**	*i* P	**Pn**	**10 59 03.4**	**+1.5**
MATP				*i* S	**Sn**	**11 00 06.7**	**-1.6**
SOOWA	**Sowa**	**6.29**	**332**	*i* P	**Pn**	**10 59 09.9**	**+0.8**
SOOWA				*i* S	Sn	11 00 12.7	-8.3
SOOWA				IAML		11 00 51.0	
	comp=Z,51nm,0.6s						
CHIPN	**CHIPINGE**	**6.62**	**28**	*i* P	**Pn**	**10 59 16.4**	**+2.8**
CHIPN				*i* S	**Sn**	**11 00 25.1**	**-4.1**
CHIPN	**CHIPINGE**	**6.62**	**28**	*i* P	**Pn**	**10 59 16.4**	**+2.8**
CHIPN				*i* S	**Sn**	**11 00 25.1**	**-4.1**
KGCAE	**Kacgae**	**7.32**	**295**	*i* P	**Pn**	**10 59 22.8**	**-0.5**
KGCAE				*e*S	**Sn**	**11 00 39.7**	**-6.9**
KGCAE				IAML		11 01 30.4	
	comp=Z,44nm,0.7s						
KRI	**Karoi**	**9.29**	**1**	*i* P	Pn	10 59 45.2	-5.1
KRI				*i* S	Sn	11 01 14.7	-20
KRI	**Karoi**	**9.29**	**1**	*i* P	Pn	10 59 45.2	-5.1
KRI				*i* S	Sn	11 01 14.7	-20
NE207	**NE207**	**10.04**	**309**	*i* P	**Pn**	**10 59 59.9**	**-0.7**
NE207				*e*S	Sn	11 01 43.8	-10
NE207				IAML		11 02 45.0	
	comp=Z,13nm,3.1s						
TORD	**Torodi Ar. Bea**	**47.46**	**322**	P	**P**	**11 06 11.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=127,slow=6.2,SNR=7.7						
	comp=Z,0.7nm,0.6s						
ESDC	**Sonseca Array**	**72.51**	**334**	P	**P**	**11 09 06.3**	**+3.2**
	comp=Z,0.3nm,0.4s,baz=130,slow=4.0,SNR=1.9						
	comp=Z,0.3nm,0.4s						

HEL 04 11:01:38.2±0.3,**65°.82N**×**24°.66E**,**h0**km,**ML0.9,**
Suspected explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOF	**Tornio**	**0.29**	**332**	PG	Pg	11 01 42.6	-1.2
TOF				SG	Sg	11 01 46.1	-1.5
KALU	**Kalix**	**0.54**	**275**	PG	Pg	11 01 48.7	+0.2
KALU				SG	Sg	11 01 55.7	+0.2
RANF	**Ranua**	**0.90**	**77**	PG	Pg	11 01 54.1	-1.2
RANF				SB	Sb	11 02 09.4	+0.4
OUL	**Oulu**	**0.90**	**144**	PG	Pg	11 01 53.4	-2.1
RNF	**Rovaniemi**	**0.96**	**34**	PG	Pg	11 01 56.5	-0.1
RNF				SB	Sn	11 02 14.5	+1.1
OBF4	**Vikkela, Lumij**	**1.03**	**169**	SG	Sg	11 02 09.5	-1.7
OBF4				MSG		11 02 09.6	
	comp=Z,0.6nm,0.2s						
PAJU	**Pajala**	**1.36**	**333**	PN	Pg	11 02 03.6	-0.6
	baz=154						
PAJU				SN	Sn	11 02 23.0	-0.1
KLF	**Kolari**	**1.45**	**349**	PN	Pn	11 02 04.8	-0.8
	baz=169						
KLF				MSG		11 02 21.8	
	comp=Z,1.6nm,0.2s						
KLF				SN	Sb	11 02 24.8	-0.1
BURU	**Burvik**	**1.86**	**230**	SG	Sb	11 02 37.1	+0.3
TRO	**Tromso**	**4.40**	**333**	SB	Sb	11 03 47.4	-2.5

*IDC **04** 11:05:12.9±1.3,56°.52N×148°.40W, h0km, mb3.5/5, mbtmp3.5/10, ML3.2/5, MS3.0/7, Error ellipse: s-maj=24.3km s-min=17.2km az=30.0*
*NEIC **04** 11:05:13.7±1.5,56°.41N±0°.09×148°.5W±0°.1, h21km±9km, mb3.9/2, ML3.7/66, ML3.5(AEIC), Error ellipse: s-maj=12.8km s-min=7.8km az=165.0*
*AEIC **04** 11:05:16.3±1.6,56°.35N±0°.07×148°.50W±0°.10, h10km±7km, Error ellipse: s-maj=11.4km s-min=5.4km az=145.0*
ISC 04 11:05:13.4±0.9,**56°.54N**±0°.08×**148°.49W**±0°.05,**h10**km,
n274, ⌀0s**99**/273,**mb3.8**/5,**MS3.0**/4,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.56**	**301**	Pn	**Pn**	**11 05 54.2**	**-0.6**
KDAK	**Kodiak Island**	**2.56**	**301**	Pn	**Pn**	**11 05 54.3**	**-0.4**
	8.9nm,0.3s,baz=108,slow=9.4,SNR=36						
KDAK				Sn	**Sn**	**11 06 23.7**	**-2.2**
	8.9nm,0.3s,baz=53,slow=23,SNR=13						
	42nm,0.5s						
OHAK	**Old Harbor**	**2.72**	**287**	Pn	**Pn**	**11 05 55.5**	**-1.6**
OHAK					**Sn**	**11 06 26.1**	**-3.8**
OHAK	**Old Harbor**	**2.72**	**287**	P	**Pn**	**11 05 55.5**	**-1.6**
	baz=107						
OHAK				S	**Sn**	**11 06 26.5**	**-3.5**
	baz=107						
SYI	**Shuyak Island**	**2.96**	**316**	Pn	**Pn**	**11 06 00.6**	**+0.3**
SYI					**Sn**	**11 06 35.3**	**-0.5**
Q20K	**Shuyak Island**	**2.96**	**316**	P	**Pn**	**11 06 00.6**	**+0.3**
	baz=136						
Q20K				S	**Sn**	**11 06 35.8**	**0.0**
	baz=136						
Q23K	**Middleton Isla**	**3.12**	**21**	Pn	**Pn**	**11 06 02.0**	**-0.4**
Q23K				IAML		11 06 46.2	
	comp=E,158nm,0.9s						
Q23K				IAML		11 06 52.0	
	comp=N,145nm,1.0s						
MID	**Middleton Isla**	**3.12**	**21**	Pn	**Pn**	**11 06 02.4**	**-0.1**
MID				IAML		11 06 48.3	
	comp=N,143nm,1.2s						
MID				IAML		11 06 50.8	
	comp=E,161nm,1.0s						
SII	**Sitkinak Islan**	**3.15**	**273**	Pn	Pn	11 06 00.6	-2.5
SII				IAML		11 06 37.3	
	comp=N,250nm,1.0s						
SII				IAML		11 06 49.2	
	comp=E,214nm,1.0s						
CNPM	**China Poot**	**3.33**	**335**	Pn	**Pn**	**11 06 05.9**	**+0.4**
CNPM					**Sn**	**11 06 44.9**	**-0.2**
BRSE	**Bradley Lake S**	**3.43**	**341**		**Pn**	**11 06 07.2**	**+0.4**
BRSE					**Sn**	**11 06 47.1**	**-0.4**
BRSE	**Bradley Lake S**	**3.43**	**341**	P	**Pn**	**11 06 07.2**	**+0.4**
	baz=160						
BRSE				S	**Sn**	**11 06 47.1**	**-0.4**
	baz=160						
BRLK	**Bradley Lake**	**3.48**	**340**		**Pn**	**11 06 07.7**	**+0.2**
P23K	**Montague Islan**	**3.52**	**9**		**Pn**	**11 06 07.9**	**-0.1**
P23K					**Sn**	**11 06 48.5**	**-1.2**
P23K	**Montague Islan**	**3.52**	**9**	P	**Pn**	**11 06 07.9**	**-0.1**
	baz=189						
P23K				S	**Sn**	**11 06 48.4**	**-1.2**
	baz=189						
HOM	**Homer**	**3.55**	**333**	Pn	**Pn**	**11 06 09.0**	**+0.5**
HOM	**Homer**	**3.55**	**333**	P	**Pn**	**11 06 09.4**	**+1.0**
	baz=152						
SEW	**Seward**	**3.61**	**352**		**Pn**	**11 06 08.8**	**-0.5**
SEW	**Seward**	**3.61**	**352**	P	**Pn**	**11 06 09.2**	**-0.1**
	baz=172						
Q19K	**Cape Douglas,**	**3.66**	**313**		**Pn**	**11 06 09.0**	**-1.0**
Q19K	**Cape Douglas,**	**3.66**	**313**	P	**Pn**	**11 06 09.4**	**-0.6**
	baz=131						
HIN	**Hinchinbrook I**	**4.01**	**14**	Pn	**Pn**	**11 06 15.3**	**+0.5**
HIN				IAML		11 07 10.0	
	comp=N,141nm,0.6s						
HIN				IAML		11 07 15.8	
	comp=E,142nm,1.0s						
O22K	**Cooper Landing**	**4.01**	**351**	Pn	**Pn**	**11 06 15.4**	**+0.6**
O22K	**Cooper Landing**	**4.01**	**351**	P	**Pn**	**11 06 15.2**	**+0.5**
	baz=171						
P19K	**Oil Pt**	**4.01**	**323**	Pn	**Pn**	**11 06 15.4**	**+0.6**
P19K				IAML		11 07 07.2	
	comp=E,118nm,0.7s						
P19K				IAML		11 07 11.8	
	comp=N,128nm,0.8s						
P19K	**Oil Pt**	**4.01**	**323**	P	**Pn**	**11 06 15.7**	**+0.9**
	baz=141						
KAIM	**Kayak Island**	**4.02**	**31**	Pn	**Pn**	**11 06 15.1**	**+0.2**
KAIM				IAML		11 07 11.4	
	comp=E,98nm,1.0s						
KAIM				IAML		11 07 19.7	
	comp=N,123nm,0.8s						
KAIM	**Kayak Island**	**4.02**	**31**	P	**Pn**	**11 06 14.9**	**0.0**
	baz=213						
ACHA	**Angle Creek He**	**4.06**	**297**		**Pn**	**11 06 16.1**	**+0.5**
SLKM	**Skilak Lake**	**4.08**	**348**		**Pn**	**11 06 16.1**	**+0.2**
KAHC	**Katmai Hardscr**	**4.10**	**304**		**Pn**	**11 06 16.7**	**+0.6**
KAHC	**Katmai Hardscr**	**4.10**	**304**	P	**Pn**	**11 06 16.7**	**+0.6**
	baz=121						
ANCK	**Angle Creek**	**4.14**	**297**		**Pn**	**11 06 17.2**	**+0.5**
O20K	**Slope Mountain**	**4.17**	**330**		**Pn**	**11 06 17.5**	**+0.5**
O20K	**Slope Mountain**	**4.17**	**330**	P	**Pn**	**11 06 17.5**	**+0.5**
	baz=148						
ILSW	**Iliamna Southw**	**4.24**	**327**		**Pn**	**11 06 18.4**	**+0.3**
ILSW				IAML		11 07 13.7	
	comp=N,82nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.27**	**18**	P	**Pn**	**11 06 18.8**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.27**	**18**		**Pn**	**11 06 18.5**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.27**	**18**	P	**Pn**	**11 06 18.6**	**+0.3**
	baz=200						
SUCK	**Suckling Hills**	**4.33**	**33**	Pn	**Pn**	**11 06 19.2**	**+0.1**
SUCK				IAML		11 07 30.0	
	comp=E,86nm,1.1s						
SUCK				IAML		11 07 40.8	
	comp=N,97nm,1.1s						
RAGM	**Ragged Mountai**	**4.35**	**26**	Pn	**Pn**	**11 06 19.9**	**+0.5**
FID	**Port Fidalgo**	**4.35**	**13**	Pn	**Pn**	**11 06 20.0**	**+0.5**
CNTC	**Contact Creek**	**4.36**	**296**		**Pn**	**11 06 19.8**	**+0.1**
Q17K	**Contact Creek**	**4.36**	**296**	P	**Pn**	**11 06 19.8**	**+0.1**
	baz=113						
NICHA	**Nichawak Mount**	**4.41**	**31**		**Pn**	**11 06 20.6**	**+0.4**
HMT	**Hamilton**	**4.41**	**28**	Pn	**Pn**	**11 06 20.6**	**+0.3**
GLI	**Glacier Island**	**4.42**	**9**	Pn	**Pn**	**11 06 20.8**	**+0.5**
GLI				IAML		11 07 20.1	
	comp=E,85nm,1.2s						
GLI				IAML		11 07 31.1	
	comp=N,58nm,1.0s						
GLI	**Glacier Island**	**4.42**	**9**	P	**Pn**	**11 06 20.6**	**+0.3**
	baz=190						
GOAT	**Goat Mountain**	**4.51**	**24**		**Pn**	**11 06 22.1**	**+0.4**
RDSO	**Redoubt South**	**4.52**	**332**		**Pn**	**11 06 21.4**	**-0.4**
RSO	**Redoubt South**	**4.53**	**332**		**Pn**	**11 06 22.4**	**+0.3**
RDT	**Redoubt**	**4.54**	**335**		**Pn**	**11 06 21.8**	**-0.2**
RDWB	**Redoubt West**	**4.57**	**332**		**Pn**	**11 06 22.1**	**-0.5**
P18K	**Big Mountain,**	**4.59**	**311**	Pn	**Pn**	**11 06 22.1**	**-0.7**
P18K	**Big Mountain,**	**4.59**	**311**	P	**Pn**	**11 06 22.6**	**-0.1**
	baz=128						
BERG	**Berg Lake**	**4.61**	**31**	Pn	**Pn**	**11 06 23.2**	**+0.2**
RC01	**Rabbit Creek A**	**4.61**	**352**	Pn	**Pn**	**11 06 24.0**	**+1.0**
RC01				IAML		11 07 19.4	
	comp=N,63nm,0.6s						
RC01				IAML		11 07 19.9	
	comp=E,65nm,0.5s						
RC01	**Rabbit Creek A**	**4.61**	**352**	P	**Pn**	**11 06 23.9**	**+0.8**
	baz=172						
DFR	**Drift River**	**4.62**	**333**		**Pn**	**11 06 23.1**	**-0.1**
GRIN	**Grindle Hills**	**4.63**	**34**		**Pn**	**11 06 23.8**	**+0.4**
SNH	**Sunshine Point**	**4.71**	**37**	Pn	**Pn**	**11 06 24.2**	**-0.3**
SNH				IAML		11 07 11.6	
	comp=N,61nm,1.1s						
SNH				IAML		11 07 31.6	
	comp=E,59nm,1.2s						
O19K	**Port Alsworth**	**4.78**	**322**		**Pn**	**11 06 26.1**	**+0.7**
O19K	**Port Alsworth**	**4.78**	**322**	P	**Pn**	**11 06 25.7**	**+0.4**
	baz=139						
KHIT	**Khitrov Hills**	**4.78**	**33**		**Pn**	**11 06 25.4**	**-0.1**
DIV	**Divide**	**4.82**	**16**		**Pn**	**11 06 26.1**	**+0.2**
O18K	**Koktuh Hills**	**4.87**	**316**	Pn	**Pn**	**11 06 26.1**	**-0.5**
O18K				IAML		11 07 39.5	
	comp=N,38nm,0.9s						
O18K	**Koktuh Hills**	**4.87**	**316**	P	**Pn**	**11 06 26.3**	**-0.3**
	baz=132						
BMRM	**Bremner River**	**4.88**	**23**		**Pn**	**11 06 26.8**	**0.0**
BMRM	**Bremner River**	**4.88**	**23**	P	**Pn**	**11 06 27.3**	**+0.5**
	baz=205						
KNK	**Knik Glacier**	**4.89**	**0**		**Pn**	**11 06 26.8**	**-0.1**
KNK				IAML		11 07 31.1	
	comp=E,42nm,0.8s						
KNK				IAML		11 07 33.2	
	comp=N,50nm,0.7s						
KNK	**Knik Glacier**	**4.89**	**0**	P	**Pn**	**11 06 27.6**	**+0.7**
	baz=180						
WAX	**Waxell Ridge**	**4.91**	**35**		**Pn**	**11 06 26.9**	**-0.3**
BARK	**Barkley Ridge**	**4.99**	**37**		**Pn**	**11 06 28.6**	**+0.3**
P17K	**Kvichak River**	**5.01**	**305**		**Pn**	**11 06 29.2**	**+0.7**
P17K	**Kvichak River**	**5.01**	**305**	P	**Pn**	**11 06 29.2**	**+0.7**
	baz=121						
MESA	**MESA**	**5.02**	**41**	Pn	**Pn**	**11 06 29.0**	**+0.2**
MESA				IAML		11 07 34.6	
	comp=E,45nm,0.9s						
MESA				IAML		11 07 35.2	
	comp=N,52nm,0.8s						
MESA	**MESA**	**5.02**	**41**	P	**Pn**	**11 06 29.0**	**+0.2**
	baz=225						
N20K	**Mount Spurr**	**5.06**	**339**	P	**Pn**	**11 06 29.0**	**-0.2**
	baz=157						
SPCR	**Spurr Chakacha**	**5.06**	**339**		**Pn**	**11 06 29.0**	**-0.2**
SUA	**Susitna One**	**5.08**	**348**	Pn	**Pn**	**11 06 30.1**	**+0.6**
SUA	**Susitna One**	**5.08**	**348**	P	**Pn**	**11 06 30.0**	**+0.5**
	baz=166						
PMR	**Palmer**	**5.08**	**357**	P	**Pn**	**11 06 30.3**	**+0.8**
PMR	**Palmer**	**5.08**	**357**		**Pn**	**11 06 30.2**	**+0.8**
PMR				IAML		11 07 27.8	
	comp=E,32nm,0.8s						
PMR				IAML		11 07 31.2	
	comp=N,37nm,0.7s						
PMR	**Palmer**	**5.08**	**357**	P	**Pn**	**11 06 30.1**	**+0.6**
	baz=176						
SPCG	**Spurr Capps Gl**	**5.11**	**340**		**Pn**	**11 06 30.3**	**+0.4**
KLU	**Klutina**	**5.14**	**14**	Pn	**Pn**	**11 06 31.0**	**+0.6**
KLU				IAML		11 07 32.1	
	comp=E,50nm,0.7s						
KLU				IAML		11 07 32.8	
	comp=N,49nm,0.8s						
KLU	**Klutina**	**5.14**	**14**	P	**Pn**	**11 06 31.3**	**+0.9**
	baz=196						
ISLE	**Juniper Island**	**5.19**	**36**		**Pn**	**11 06 31.2**	**+0.1**
ISLE				IAML		11 07 33.4	
	comp=N,47nm,1.2s						
ISLE				IAML		11 07 37.0	
	comp=E,40nm,1.0s						
GHO	**Glory Hole Cre**	**5.26**	**358**		**Pn**	**11 06 33.3**	**+1.3**
GHO				IAML		11 07 39.9	
	comp=E,57nm,1.0s						
GHO				IAML		11 07 45.3	
	comp=N,56nm,0.7s						
STLK	**Strandline Lak**	**5.27**	**342**		**Pn**	**11 06 32.7**	**+0.6**
M23K	**Glacier View**	**5.29**	**4**		**Pn**	**11 06 33.7**	**+1.4**
M23K	**Glacier View**	**5.29**	**4**	P	**Pn**	**11 06 33.7**	**+1.4**
	baz=184						
SML	**Sawmill**	**5.29**	**1**	Pn	**Pn**	**11 06 33.5**	**+1.1**
SML	**Sawmill**	**5.29**	**1**	P	**Pn**	**11 06 33.3**	**+0.9**
	baz=181						
N19K	**Bonanza Creek**	**5.31**	**326**		**Pn**	**11 06 32.9**	**+0.2**
N19K	**Bonanza Creek**	**5.31**	**326**	P	**Pn**	**11 06 33.0**	**+0.3**
	baz=142						
SPNN	**North Nagishla**	**5.31**	**338**		**Pn**	**11 06 33.5**	**+0.7**
SCM	**Sheep Creek Mo**	**5.34**	**6**		**Pn**	**11 06 33.8**	**+0.6**
SCM	**Sheep Creek Mo**	**5.34**	**6**	P	**Pn**	**11 06 34.3**	**+1.2**
	baz=187						
VRDI	**Verde Repeater**	**5.38**	**27**	Pn	**Pn**	**11 06 34.0**	**+0.3**
SAMH	**Samovar Hills**	**5.43**	**45**		**Pn**	**11 06 34.6**	**+0.3**
KIAG	**Kiagna River**	**5.43**	**33**		**Pn**	**11 06 34.6**	**+0.1**
N25K	**Chitina, Valde**	**5.46**	**20**		**Pn**	**11 06 35.6**	**+0.8**
N25K	**Chitina, Valde**	**5.46**	**20**	P	**Pn**	**11 06 35.7**	**+0.8**
	baz=202						
GLB	**Gilahina Butte**	**5.48**	**24**		**Pn**	**11 06 35.2**	**+0.2**
CHGN	**Chignik**	**5.52**	**272**	Pn	**Pn**	**11 06 34.5**	**-0.9**
PTPK	**Patty Peak**	**5.61**	**31**		**Pn**	**11 06 37.4**	**+0.4**
MCARA	**McCarthy VSAT**	**5.62**	**28**		**Pn**	**11 06 37.0**	**+0.1**
MCARA	**McCarthy VSAT**	**5.62**	**28**	P	**Pn**	**11 06 37.3**	**+0.4**
	baz=212						
N18K	**Kilae Creek**	**5.67**	**320**	Pn	**Pn**	**11 06 38.0**	**+0.4**
N18K	**Kilae Creek**	**5.67**	**320**	P	**Pn**	**11 06 37.4**	**-0.3**
	baz=135						
M24K	**Tolsona, Glenn**	**5.71**	**11**		**Pn**	**11 06 38.4**	**+0.2**
M24K	**Tolsona, Glenn**	**5.71**	**11**	P	**Pn**	**11 06 39.8**	**+1.6**
	baz=193						
PNL	**Peninsula**	**5.75**	**53**	P	**Pn**	**11 06 38.9**	**+0.2**
PNL	**Peninsula**	**5.75**	**53**		**Pn**	**11 06 38.5**	**-0.2**
PNL	**Peninsula**	**5.75**	**53**	P	**Pn**	**11 06 38.5**	**-0.2**
	baz=239						
BARN	**Barnard Glacie**	**5.76**	**35**		**Pn**	**11 06 39.4**	**+0.5**
CTG	**Chitna Glacier**	**5.79**	**37**	P	**Pn**	**11 06 39.3**	**-0.1**
	baz=222						
CTGM	**Chitina Glacie**	**5.79**	**37**		**Pn**	**11 06 38.7**	**-0.6**
BCPM	**Bancas Point**	**5.79**	**50**	Pn	**Pn**	**11 06 38.9**	**-0.4**
LOGN	**Logan Glacier**	**5.80**	**39**		**Pn**	**11 06 39.4**	**-0.1**
WASW	**Wrangell South**	**5.84**	**20**		**Pn**	**11 06 41.6**	**+1.5**
M20K	**Styx River**	**5.87**	**338**		**Pn**	**11 06 41.4**	**+1.1**
M20K	**Styx River**	**5.87**	**338**	P	**Pn**	**11 06 40.9**	**+0.6**
	baz=155						
WACK	**Wrangell Chich**	**5.87**	**20**		**Pn**	**11 06 41.8**	**+1.4**
O16K	**Kokwok River B**	**5.95**	**305**	Pn	**Pn**	**11 06 41.5**	**+0.2**
O16K	**Kokwok River B**	**5.95**	**305**	P	**Pn**	**11 06 41.8**	**+0.4**
	baz=118						
N17K	**Nushagak Hills**	**6.06**	**315**		**Pn**	**11 06 42.9**	**0.0**
N17K	**Nushagak Hills**	**6.06**	**315**	P	**Pn**	**11 06 43.1**	**+0.2**
	baz=129						
O28M	**Mount Upton**	**6.06**	**42**		**Pn**	**11 06 43.9**	**+0.7**
O28M	**Mount Upton**	**6.06**	**42**	P	**Pn**	**11 06 43.9**	**+0.7**
	baz=228						
WAT6	**Susitna Watana**	**6.07**	**3**		**Pn**	**11 06 44.1**	**+0.8**
WAT6	**Susitna Watana**	**6.07**	**3**	P	**Pn**	**11 06 44.1**	**+0.8**
	baz=184						
HARP	**HAARP**	**6.12**	**15**		**Pn**	**11 06 45.3**	**+1.5**
HARP	**HAARP**	**6.12**	**15**	P	**Pn**	**11 06 45.3**	**+1.5**
	baz=197						
M19K	**Big River Lodg**	**6.17**	**333**		**Pn**	**11 06 44.6**	**+0.1**
M18K	**Stony River**	**6.24**	**326**		**Pn**	**11 06 45.4**	**-0.1**
M18K	**Stony River**	**6.24**	**326**	P	**Pn**	**11 06 45.4**	**-0.1**
	baz=140						
WAT7	**Susitna Watana**	**6.32**	**359**		**Pn**	**11 06 47.5**	**+0.9**
P29M	**Windy Craggy**	**6.49**	**57**	Pn	**Pn**	**11 06 48.8**	**0.0**
P29M	**Windy Craggy**	**6.49**	**57**	P	**Pn**	**11 06 48.7**	**-0.1**
	baz=245						
M26K	**Nabesna, AK**	**6.51**	**23**	Pn	**Pn**	**11 06 50.1**	**+1.0**
L19K	**White Mountain**	**6.53**	**333**	Pn	**Pn**	**11 06 49.2**	**-0.2**
L19K	**White Mountain**	**6.53**	**333**	P	**Pn**	**11 06 49.2**	**-0.2**
	baz=148						
YUK2	**White River**	**6.57**	**34**		**Pn**	**11 06 51.1**	**+1.1**
DHY	**Denali Highway**	**6.58**	**4**		**Pn**	**11 06 52.2**	**+1.9**
DHY	**Denali Highway**	**6.58**	**4**	P	**Pn**	**11 06 52.2**	**+1.9**
	baz=185						
N16K	**Nishlik Lake**	**6.67**	**310**		**Pn**	**11 06 51.9**	**+0.5**
N16K	**Nishlik Lake**	**6.67**	**310**	P	**Pn**	**11 06 51.9**	**+0.5**

MDM	Murphy Dome	8.45	1			Pn		11 07 15.3	-0.4
MLY	Manley	8.59	354		Pn	Pn		11 07 17.0	-0.7
FALS	False Pass	8.60	265		P	Pn		11 07 16.9	-0.8
I23K	Minto, Yukon-K	8.65	358		Pn	Pn		11 07 19.1	+0.7
CRAG	Craig	8.68	91		P	Pn		11 07 14.1	-4.7
J17K	VABM Dome	8.68	327		Pn	Pn		11 07 19.0	+0.2
M13K	Dall Lake	8.70	303		Pn	Pn		11 07 18.6	-0.4
L14K	Kuka Creek	8.77	309		Pn	Pn		11 07 19.8	-0.2
DAWY	Dawson	8.79	27		Pn	Pn		11 07 21.3	+1.0
K15K	Wolf Creek Mou	8.79	316		Pn	Pn		11 07 21.9	+1.5
I21K	Tanana	8.84	350			Pn		11 07 22.2	+1.3
WRAK	Wrangell Islan	8.94	84		Pn	Pn		11 07 22.0	-0.3
EGAK	Eagle	9.01	20		Pn	Pn		11 07 24.4	+1.1
P33M	Teslin, Yukon	9.01	59		Pn	Pn		11 07 22.9	-0.6
J16K	Anvik River	9.09	323		Pn	Pn		11 07 24.1	-0.3
K29M	Barlow Dome	9.13	32			Pn		11 07 25.1	+0.1
M31M	Drury Creek, Y	9.15	46			Pn		11 07 26.6	+1.2
I26K	Coal Creek Min	9.17	14		Pn	Pn		11 07 26.7	+1.2
N32M	Quiet Lake	9.22	54		Pn	Pn		11 07 26.6	+0.4
H23K	Yukon River	9.33	357		Pn	Pn		11 07 30.5	+2.7
H24K	Noodor Dome	9.34	2		Pn	Pn		11 07 30.1	+2.3
H21K	Melozitna River	9.38	349			Pn		11 07 29.4	+0.9
J29N	Klondike Camp	9.40	28			Pn		11 07 29.0	+0.2
FARO	Faro, Yukon	9.59	47		Pn	Pn		11 07 32.1	+0.8
R33M	Jennings River	9.73	66		Pn	Pn		11 07 33.1	-0.3
IMAR	Indian Mountai	9.81	347		Pn	Pn		11 07 34.5	+0.3
I28M	Miner Creek	9.85	21		Pn	Pn		11 07 36.9	+2.0
H18K	Honhosa River	9.88	335		Pn	Pn		11 07 34.9	-0.3
DLBC	Dease Lake	10.12	71		Pn	Pn		11 07 38.2	-0.4
DLBC	Dease Lake	10.12	71		Pn	Pn		11 07 38.0	-0.6
	comp=N,0.3nm,0.3s,baz=269,slow=5.9,SNR=8.5								
DLBC					Sn	Sn		11 09 28.2	-3.8
	comp=N,0.3nm,0.3s,baz=233,slow=26,SNR=2.3								
	comp=N,0.7nm,0.3s								
G21K	Allakaket	10.29	349		Pn	Pn		11 07 40.9	0.0
H29M	Whitestone	10.84	22		Pn	Pn		11 07 49.1	+0.8
F21K	Alatna River	10.97	350		Pn	Pn		11 07 50.4	+0.2
F20K	Avaraart Lake	11.08	345			Pn		11 07 50.6	-0.9
BMAR	Burnt Mountain	11.08	8		Pn	Pn		11 07 52.8	+1.1
H31M	Peel River	11.50	30		Pn	Pn		11 07 59.5	+2.1
E24K	Your Creek	11.58	0		Pn	Pn		11 07 58.9	+0.4
F17K	Baldwin Pennin	11.62	334		Pn	Pn		11 07 59.1	+0.1
E19K	Redstone River	11.68	343		Pn	Pn		11 07 59.9	0.0
E25K	Arctic Village	11.70	5		Pn	Pn		11 08 00.9	+0.8
TOLK	Toolik Lake Re	12.16	358		Pn	Pn		11 08 08.3	+1.8
E21K	Killik River	12.21	350			Pn		11 08 09.3	+2.3
G31M	Satah River	12.36	27		Pn	Pn		11 08 12.4	+3.3
BBB	Bella Bella	12.64	102		LR	LR		11 12 04.9	
	comp=N,78nm,18.0s,baz=336,slow=33								
D19K	Kuna River	12.77	344		Pn	Pn		11 08 13.9	-0.8
E28M	Babbage River	12.77	15		Pn	Pn		11 08 14.7	0.0
F31M	Tsiigehtchic	12.90	26		Pn	Pn		11 08 17.5	+1.1
C23K	Itkillik River	13.38	357		Pn	Pn		11 08 24.6	+1.6
B21K	Ikpikpuk River	13.41	351		Pn	Pn		11 08 24.9	+1.5
INK	Inuvik	13.63	24		Pn	Pn		11 08 27.4	+1.0
INK	Inuvik	13.63	24		Pn	Pn		11 08 26.9	+0.5
	baz=210,slow=13,SNR=8.1								
INK					LR	LR		11 14 14.6	
	comp=N,55nm,18.4s,baz=82,slow=40								
	comp=N,3.3nm,1.1s								
B22K	Teshekpuk Lake	14.02	353		Pn	Pn		11 08 32.9	+1.1
B20K	Meade River	14.05	348		Pn	Pn		11 08 32.2	+0.1
WRGLY	Wrigley	14.17	52		Pn	Pn		11 08 33.9	+0.1
C36M	Paulatuk	16.80	30			Pn		11 09 07.5	-0.7
C36M					IAmb	IAmb		11 09 20.0	
	comp=Z,5.9nm,1.1s								
YKA	Yellowknife Ar	18.03	57			Pn		11 09 24.4	+0.7
YKA	Yellowknife Ar	18.03	57		P	Pn		11 09 23.8	+0.1
	baz=266,slow=11,SNR=14								
	comp=Z,1.7nm,1.1s								
A36M	Sachs Harbour	18.27	23			Pn		11 09 26.9	+0.4
A36M					IAmb	IAmb		11 09 37.7	
	comp=Z,13nm,0.9s								
NEW	Newport	20.70	100		LR	LR		11 16 39.3	
	comp=Z,31nm,21.6s,baz=274,slow=33								
YBH	Yreka Blue Hor	22.26	121		P	P		11 10 11.9	+1.5
	comp=Z,0.5nm,0.7s,baz=348,slow=4.2,SNR=7.2								
YBH					LR	LR		11 16 34.7	
	comp=Z,65nm,19.6s,baz=306,slow=31								
	comp=Z,0.5nm,0.7s								
NVAR	Mina Array Bea	26.95	119		P	P		11 10 56.3	+1.3
	comp=Z,0.3nm,0.7s,baz=297,slow=8.0,SNR=3.0								
	comp=Z,0.3nm,0.7s								
MA2	Magadan	31.30	301		LR	LR		11 24 45.5	
	comp=Z,34nm,20.7s,baz=70,slow=37								
YAK	Yakutsk	39.53	313		LR	LR		11 29 04.6	
	comp=Z,31nm,19.1s,baz=46,slow=36								
H11N2	WAKE ISLAND Hy	49.39	241		T	T		12 07 30.6	
	baz=29,slow=74								
H11N3	WAKE ISLAND Hy	49.40	241		T	T		12 07 50.4	
	baz=29,slow=74								
H11N1	WAKE ISLAND Hy	49.41	241		T	T		12 07 29.1	
	baz=29								
H11S1	WAKE ISLAND Hy	50.53	240		T	T		12 09 37.7	
	baz=29								
H11S2	WAKE ISLAND Hy	50.55	240		T	T		12 09 37.8	
	baz=29,slow=74								
H11S3	WAKE ISLAND Hy	50.55	240		T	T		12 09 30.5	
	baz=29,slow=74								
SONM	Songino Array	58.81	311		P	P		11 15 12.2	+0.5
	comp=Z,0.3nm,0.3s,baz=57,slow=5.3,SNR=1.9								
	comp=Z,0.3nm,0.3s								
BVAR	Borovoye Array	66.23	336		P	P		11 16 02.5	+1.5
	comp=Z,0.7nm,0.5s,baz=22,slow=4.8,SNR=4.2								
	comp=Z,0.7nm,0.5s								
KURBB	Kurchatov Arra	66.34	329		P	P		11 16 02.9	+1.2
	comp=Z,0.4nm,0.6s,baz=31,slow=6.7,SNR=2.5								
	comp=Z,0.4nm,0.6s								

MEX ***04*** *11:09:28.3±0.9, 13°.65N×92°.29W, h15km, MD4.7*
CATAC ***04*** *11:09:30.0±0.5, 13°.77N×91°.89W, h7km±5km, ML4.6*
GCG ***04*** *11:09:30.7±1.8, 13°.90N×92°.07W, h26km, MD4.8*
NEIC ***04*** *11:09:31.4±2.3, 13°.94N±0°.07×91°.88W±0°.07, h35km±2km, mb4.7/403, Error ellipse: s-maj=13.0km s-min=8.9km az=224.0*
GCMT ***04*** *11:09:32.4±0.4, 13°.87N±0°.02×92°.07W±0°.04, h28km, MW4.8/72, Moment Tensor Solution. s26,c29; s72,c90; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.05±.14; Mθθ-1.60±.08; Mϕϕ-0.45±.08; Mrθ0.55±.11; Mθϕ0.45±.05; Mϕr-0.16±.13; Best double couple: M₀1.98700×10¹⁶ NP1:ϕs108.00000°, δ53.00000°, λ89.00000°. NP2: ϕs290.00000°, δ37.00000°, λ91.00000°. Principal axes: T 2.1350, Plg82.0000°, Azm15.0000°; N -0.3000, Plg1.0000°, Azm109.0000°; P -1.8390, Plg8.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
IDC ***04*** *11:09:40.1±1.4, 14°.55N×91°.40W, h100km±9km, mb4.0/18, mbtmp4.3/20, MS3.8/37 Error ellipse: s-maj=22.5km s-min=13.2km az=52.0*

ISC 04 11:09:29.8±0.5, 13°.79N±0°.05×92°.11W±0°.04, h37km±1km, n791, σ1§69/755, mb4.7/176, MS3.8/34, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SULM	Suchitepequez,	0.73	46	*i*	P		Pn	11 09 44.7	+1.0
RTAL	Retalhuleu	0.83	29				Pn	11 09 44.3	-0.7
RTAL	Retalhuleu	0.83	29	*i*	P		Pn	11 09 44.4	-0.7
RTAL				*i*	S		Sn	11 09 57.0	+0.9
STG3	Santiaguito 3,	1.05	30	*i*	P		Pn	11 09 47.6	-0.6
THIG		1.12	352	*e*	P		Pn	11 09 47.7	-1.2
THIG				*e*	S		Sn	11 10 02.5	-0.6
SMSP	San Marcos	1.22	15	*i*	P		Pn	11 09 49.7	-0.9
SMSP				*i*	S		Sn	11 10 07.0	+1.1
CHUJ	Union Juarez	1.29	0	*e*	P		Pn	11 09 49.6	-1.9
CHUJ				*e*	S		Sn	11 10 08.0	+0.3
PATR	El Naranjo	1.32	355	*e*	P		Pn	11 09 49.9	-2.0
PATR				*e*	S		Sn	11 10 08.1	-0.3
FUG	Fuego 3	1.39	62	*i*	P		Pn	11 09 52.6	-0.2
PAVE	Pavencul	1.39	357	*e*	P		Pn	11 09 51.0	-1.9
PAVE				*e*	S		Sn	11 10 09.7	-0.5
PCG	Pacaya	1.57	68	*i*	P		Pn	11 09 55.9	+0.5
HUEH	Huehuetenango	1.62	21				Pn	11 09 56.3	+0.2
HUEH	Huehuetenango	1.62	21	*i*	P		Pn	11 09 56.0	-0.1
HUEH				*i*	S		Sn	11 10 18.2	+2.3
HUEH	Huehuetenango	1.62	21	*i*	P		Pn	11 09 57.8	+1.7
HUEH				*i*	S		Sn	11 10 19.5	+3.6
HUEH					IAML			11 10 26.1	
	comp=Z,12μm,1.0s								
GUMI	Mixco	1.67	60	*i*	P		Pn	11 09 56.8	+0.1
GUMI				*i*	S		Sn	11 10 17.3	+0.2
GUMI					IAML			11 10 24.8	
	comp=Z,16μm,1.0s								
GCG4	OSOP	1.72	63	*i*	P		Pn	11 09 57.6	+0.2
GCG4				*i*	S		Sn	11 10 18.4	+0.2
GCG4					IAML			11 10 31.7	
	comp=Z,12μm,1.0s								
NBG	Las Nubes	1.88	65	*i*	P		Pn	11 10 01.2	+1.5
NBG				*i*	S		Sn	11 10 25.7	+3.4
GUNB	GUNB	1.89	65	*i*	P		Pn	11 09 59.9	+0.1
GUNB				*i*	S		Sn	11 10 22.8	+0.3
GUNB					IAML			11 10 31.2	
	comp=Z,4μm,1.0s								
APG	El Apazote	2.00	53	P			Pn	11 10 01.8	+0.6
	comp=Z,133nm,0.7s,baz=192,slow=12,SNR=748								
APG					S		Sn	11 10 16.8	-8.3
	comp=Z,98nm,0.7s,baz=212,slow=16,SNR=10								
PCIG		2.18	331	*e*	P		Pn	11 10 01.9	-1.6
PCIG				*e*	S		Sn	11 10 27.0	-2.3
NUBE	Las Nubes	2.27	87	*i*	P		Pn	11 10 05.1	+0.3
NUBE				*i*	S		Sn	11 10 31.6	0.0
NUBE					IAML			11 10 42.1	
	comp=Z,2μm,1.0s								
LOAL	Lomas de Alarc	2.27	85	*i*	P		Pn	11 10 04.8	0.0
LOAL				*i*	S		Sn	11 10 31.9	+0.3
LOAL					IAML			11 10 42.0	
	comp=Z,6μm,1.0s								
JUAM	Asuncion Mita	2.39	77	*i*	P		Pn	11 10 06.7	+0.2
JUAM				*i*	S		Sn	11 10 35.5	+0.9
JUAM					IAML			11 10 42.2	
	comp=Z,3μm,1.0s								
CEVE	Cerro Verde	2.41	89	*i*	P		Pn	11 10 07.7	+0.7
CEVE				*i*	S		Sn	11 10 35.5	+0.1
CEVE					IAML			11 10 44.9	
	comp=Z,3μm,1.0s								
CCIG	Comitan	2.47	359				Pn	11 10 09.6	+1.9
CCIG	Comitan	2.47	359	*e*	P		Pn	11 10 10.0	+2.3
CCIG				*e*	S		Sn	11 10 41.4	+4.6
CCIG	Comitan	2.47	359	*i*	P		Pn	11 10 11.2	+3.5
CCIG				*i*	S		Sn	11 10 42.9	+6.1
CCIG					IAML			11 10 56.4	
	comp=Z,4μm,1.0s								
UNIC	Universidad Ca	2.49	85	*i*	P		Pn	11 10 08.0	+0.1
UNIC				*i*	S		Sn	11 10 37.7	+0.6
UNIC					IAML			11 10 41.4	
	comp=Z,980nm,1.0s								
JAYA	Jayaque - finc	2.59	93	*i*	P		Pn	11 10 09.4	+0.1
JAYA				*i*	S		Sn	11 10 40.0	+0.4
JAYA					IAML			11 10 41.7	
	comp=Z,5μm,1.0s								
MRL	Marmol	2.68	61	*i*	P		Pn	11 10 12.0	+1.5
PMON	Piamonte	2.72	91	*i*	P		Pn	11 10 11.6	+0.6
PMON				*i*	S		Sn	11 10 42.8	+0.1
PMON					IAML			11 10 50.4	
	comp=Z,3μm,1.0s								
JAYA	Jayaque - finc	2.59	93	*i*	P		Pn	11 10 09.4	+0.1
JAYA				*i*	S		Sn	11 10 40.0	+0.4
JAYA					IAML			11 10 41.7	
	comp=Z,5μm,1.0s								
MRL	Marmol	2.68	61	*i*	P		Pn	11 10 12.0	+1.5
PMON	Piamonte	2.72	91	*i*	P		Pn	11 10 11.6	+0.6
PMON				*i*	S		Sn	11 10 42.8	+0.1
PMON					IAML			11 10 50.4	
	comp=Z,3μm,1.0s								
LALI	Alcalda de L	2.73	96	*i*	P		Pn	11 10 10.6	-0.4
LALI				*i*	S		Sn	11 10 42.7	-0.1
LALI					IAML			11 11 03.2	
	comp=Z,590nm,1.0s								
MTO3	Montecristo	2.73	77				Pn	11 10 11.2	-0.2
MTO3	Montecristo	2.73	77	*i*	P		Pn	11 10 11.2	-0.2
MTO3					IAML			11 10 43.4	
	comp=Z,810nm,1.0s								
MTO3				*i*	S		Sn	11 10 43.5	+0.2
ESQI	Esquipulas	2.79	74				Pn	11 10 12.2	+0.2
ESQI	Esquipulas	2.79	74	*i*	P		Pn	11 10 12.4	+0.4
ESQI				*i*	S		Sn	11 10 44.4	-0.1
ESQI					IAML			11 11 04.3	
	comp=Z,2μm,1.0s								
SNET	Serv Nac Est T	2.80	92				Pn	11 10 11.5	-0.6
PANCS	Alcalda de	2.85	93	*i*	P		Pn	11 10 12.4	-0.4
PANCS				*i*	S		Sn	11 10 45.9	-0.1
PANCS					IAML			11 10 46.5	
	comp=Z,3μm,1.0s								
LOMA	Loma Larga	2.86	93	*i*	P		Pn	11 10 13.3	+0.3
LOMA				*i*	S		Sn	11 10 47.0	+0.8
LOMA					IAML			11 10 54.3	
	comp=Z,2μm,1.0s								
PAVA	Las Pavas	3.08	91	*i*	P		Pn	11 10 16.1	0.0
PAVA				*i*	S		Sn	11 10 52.0	+0.2
PAVA					IAML			11 11 03.8	
	comp=Z,2μm,1.0s								
LLGN	La Laguna	3.09	83	*i*	P		Pn	11 10 15.8	-0.4
LLGN				*i*	S		Sn	11 10 52.6	+0.6
LLGN					IAML			11 11 09.9	
	comp=Z,540nm,1.0s								
TGIG		3.12	342	*e*	P		Pn	11 10 16.5	0.0
TGIG				*e*	S		Sn	11 10 54.0	+1.4
COEG	Centro de Oper	3.14	93	*e*	P		Pn	11 10 16.8	0.0
COEG				*e*	S		Sn	11 10 51.9	-1.3
COEG	Centro de Oper	3.14	93	*i*	P		Pn	11 10 17.2	+0.4
COEG				*i*	S		Sn	11 10 53.2	0.0
COEG					IAML			11 11 20.1	
	comp=Z,820nm,1.0s								
TECO	Alcaldia de Te	3.25	94	*e*	P		Pn	11 10 18.3	+0.1
TECO	Alcaldia de Te	3.25	94	*i*	P		Pn	11 10 18.6	+0.4
TECO				*i*	S		Sn	11 10 56.4	+0.8
TECO					IAML			11 11 08.1	
	comp=Z,550nm,1.0s								
SCLA	Alcaldia de Sa	3.29	91	*e*	P		Pn	11 10 18.8	0.0
SCLA				*e*	S		Sn	11 10 56.3	-0.4
SCLA	Alcaldia de Sa	3.29	91	*i*	P		Pn	11 10 18.8	0.0
SCLA				*i*	S		Sn	11 10 56.4	-0.3
SCLA					IAML			11 11 41.2	
	comp=Z,510nm,1.0s								
COEB	Comit de Eme	3.49	94	*e*	P		Pn	11 10 21.9	+0.2
COEB				*e*	S		Sn	11 11 01.1	-0.7
COEB	Comit de Eme	3.49	94	*i*	P		Pn	11 10 22.1	+0.4
COEB				*i*	S		Sn	11 11 01.6	-0.2
COEB					IAML			11 11 27.2	
	comp=Z,500nm,1.0s								
NILT	Santiago Nilte	3.67	319	*e*	P		Pn	11 10 23.8	-0.2
NILT				*e*	S		Sn	11 11 05.1	-0.9
PACA	Pacayal	3.69	95	*i*	P		Pn	11 10 25.0	+0.5
PACA				*i*	S		Sn	11 11 06.4	-0.5
PACA					IAML			11 11 20.1	
	comp=Z,6μm,1.0s								
RANC	El Ranchito	3.73	95	*i*	P		Pn	11 10 25.6	+0.6
RANC				*i*	S		Sn	11 11 08.7	+0.9
RANC					IAML			11 11 39.0	
	comp=Z,560nm,1.0s								
PETF	Flores	3.78	35				Pn	11 10 26.5	+0.9
PETF	Flores	3.78	35	*e*	P		Pn	11 10 26.3	+0.7
PETF	Flores	3.78	35	*i*	P		Pn	11 10 27.0	+1.4
PETF				*i*	S		Sn	11 11 12.3	+3.4
PETF					IAML			11 11 35.4	
	comp=Z,700nm,1.0s								
LCND	La Caada	4.13	96	*e*	P		Pn	11 10 30.2	-0.1
LCND	La Caada	4.13	96	*i*	P		Pn	11 10 30.7	+0.3
LCND				*i*	S		Sn	11 11 18.1	+0.6
LCND					IAML			11 11 31.2	
	comp=Z,490nm,1.0s								
CNCH	Conchagua	4.19	97	*i*	P		Pn	11 10 31.6	+0.3
CNCH				*i*	S		Sn	11 11 19.5	+0.4
CNCH					IAML			11 11 37.6	
	comp=Z,1μm,1.0s								
CMIG	Matias Romero	4.23	321	P			Pn	11 10 32.1	+0.4
	comp=Z,88nm,0.5s,baz=148,slow=11,SNR=73								
CMIG					S		Sn	11 11 24.4	+4.5
	comp=Z,633nm,0.7s,baz=250,slow=18,SNR=8.5								
CMIG	Matias Romero	4.23	321	*e*	P		Pn	11 10 31.5	-0.3
CMIG				*e*	S		Sn	11 11 19.7	-0.2
HUIG	Huatulco	4.34	297	*e*	P		Pn	11 10 32.9	-0.3
HUIG				*e*	S		Sn	11 11 16.9	-5.6
AMPH	Amapala	4.36	96	*e*	P		Pn	11 10 32.8	-0.7
AMPH	Amapala	4.36	96	*i*	P		Pn	11 10 34.1	+0.6
AMPH				*i*	S		Sn	11 11 22.8	-0.2
COMHN	El Horno	4.46	81	*i*	P		Pn	11 10 34.9	-0.2
COMHN				*i*	S		Sn	11 11 26.9	+0.9
TGUH	Tegucigalpa,Un	4.70	86	Pn			Pn	11 10 36.0	-2.3
CRIN	San Cristobal	5.04	102				Pn	11 10 43.4	+0.4
SCIG	Sabancuy	5.22	10	*e*	P		Pn	11 10 43.0	-2.4
SCIG				*e*	S		Sn	11 11 51.0	+6.7
NEUV	Arroyo Zacate	5.28	318	*e*	P		Pn	11 10 46.5	+0.4
NEUV				*e*	S		Sn	11 11 44.6	-1.0
PEIG	Puerto Escondi	5.34	295	*e*	P		Pn	11 10 46.8	-0.3
PEIG				*e*	S		Sn	11 11 42.5	-4.8
CNGN	Cerro Negro	5.42	103				Pn	11 10 46.2	-2.0
VHO	Vista Hermosa	5.52	307	*e*	P		Pn	11 10 50.7	+1.0
VHO				*e*	S		Sn	11 11 57.7	+5.6
PMUV	Sontecomapan	5.54	329	*e*	P		Pn	11 10 50.1	+0.3
PMUV				*e*	S		Sn	11 11 46.2	-6.1
YOIG	Yosondua	6.07	301	*e*	P		Pn	11 10 59.1	+1.9
YOIG				*e*	S		Sn	11 12 05.2	-0.3
PNIG	Pinotepa	6.36	295	*e*	P		Pn	11 11 01.6	+0.6
PNIG				*e*	S		Sn	11 12 08.3	-4.2
TOIG	Toxpalan	6.40	313	*e*	P		Pn	11 11 04.4	+2.6
TOIG				*e*	S		Sn	11 12 15.4	+1.7
TXIG	Tlaxiaco	6.45	303	*e*	P		Pn	11 11 05.4	+2.9
TXIG				*e*	S		Sn	11 12 18.1	+3.1
ACON	Acoyapa	7.00	104		Pn		Pn	11 11 08.6	-1.3
HZTE	Horizontes, Gu	7.06	115		Pn		Pn	11 11 11.6	+0.9
FTIG	Fresnillo de T	7.09	306	*e*	P		Pn	11 11 14.1	+2.9
FTIG				*e*	S		Sn	11 12 25.1	-5.6
JAUV	Jalcomulco	7.14	322	*e*	P		Pn	11 11 10.0	-1.7
JAUV				*e*	S		Sn	11 12 27.9	-3.7
MGIG	Malinaltepec	7.16	299	*e*	P		Pn	11 11 13.7	+1.5
MGIG				*e*	S		Sn	11 12 31.6	-0.7
LVIG	Laguna Verde	7.20	326	*e*	P		Pn	11 11 09.9	-2.6
LVIG				*e*	S		Sn	11 12 24.0	-9.0
TLIG	Tlapa	7.26	302		Pn		Pn	11 11 16.9	+3.4
TLIG	Tlapa	7.26	302	*e*	P		Pn	11 11 15.2	+1.7
TLIG				*e*	S		Sn	11 12 34.7	-0.1
ORTG	Ortega, Santa	7.34	117				Pn	11 11 15.2	+0.6
TEIG	Tepich	7.37	29		Pn		Pn	11 11 14.3	-0.6
CRIG	Cruz Grande	7.38	294	*e*	P		Pn	11 11 16.0	+1.0
CRIG				*e*	S		Sn	11 12 29.8	-7.8
DUNO	Dulce Nombre,	7.45	119				Pn	11 11 17.0	+1.0
ESPN	Las Esperanzas	7.78	101				Pn	11 11 19.3	-1.1
JTS	Las Juntas de	7.82	116	P			Pn	11 11 23.1	+2.1
	comp=Z,4.3nm,0.5s,baz=295,slow=20,SNR=7.1								
JTS					S		Sn	11 12 56.7	+8.4
	comp=Z,9.6nm,0.7s,baz=16,slow=20,SNR=0.9								
JTS					LR		LR	11 14 26.8	
	comp=Z,664nm,21.3s,baz=303,slow=38								
SOCE	Pocosol	8.07	114		Pn		Pn	11 11 25.1	+0.5
PPM	Popocatepetl	8.16	311	*e*	P		Pn	11 11 30.6	+4.4
PPM				*e*	S		Sn	11 13 00.2	+2.7
JACO	JACO, Garabito	8.37	119		Pn		Pn	11 11 28.6	-0.1
LCR2	La Lucha 2	8.90	116		Pn		Pn	11 11 35.4	-0.7
RIMA	Rio Macho	9.01	115				Pn	11 11 38.6	+1.0
PEZE	Perez Zeledon,	9.35	117				Pn	11 11 43.2	+1.1
SRBA	San Rafael, Bu	9.70	117		Pn		Pn	11 11 48.7	+1.8
MOIG	Morelia	10.48	305		Pn		Pn	11 12 01.9	+4.2
BRU2	Volcan	10.49	117				Pn	11 11 58.6	+0.8
JRQG	Juriquilla Cam	10.52	312		Pn		Pn	11 12 00.2	+2.0
SOR	Soroa	12.44	43		Pn		Pn	11 12 22.3	-2.0
BCIP	Isla Barro Col	12.87	110		Pn		Pn	11 12 30.7	+0.4
ZAIG	Zacatecas	13.35	313		Pn		Pn	11 12 40.2	+3.2
CAMR	Camarioca	13.73	46		Pn		Pn	11 12 39.8	-2.2
HBVL	Hebbronville	14.56	336		Pn		Pn	11 12 54.8	+1.5
MTDJ	Mount Denham	14.69	71		Pn		Pn	11 12 52.5	-2.6
833A	Chaparral WMA,	15.97	336		Pn		Pn	11 13 13.0	+1.3
833A	Chaparral WMA,	15.97	336		P		P	11 13 13.6	-1.3
	baz=152								
HNDO	Hondo	17.01	338		Pn		Pn	11 13 25.6	+0.7
DRIO	Del Rio	17.44	334		P		P	11 13 31.3	+0.1
435B	Jarrell	17.64	344				Pn	11 13 32.9	+0.1
435B	Jarrell	17.64	344		P		P	11 13 34.4	+1.0
	baz=161								
346A	Big Creek Wild	17.68	7		Pn		Pn	11 13 30.7	-2.5
346A					IAmb		IAmb	11 13 46.5	
	comp=Z,35nm,0.6s								

MNHN IAmb IAmb 11 14 04.5
comp=Z,48nm,0.8s
CCAR Cane Creek 20.04 1 P P 11 13 59.5 -0.1
CCAR IAmb IAmb 11 14 02.1
comp=Z,39nm,0.7s
255A Hazlehurst 20.09 24 P P 11 13 59.0 -1.3
255A IAmb IAmb 11 14 08.6
comp=Z,42nm,1.1s
Y45A Yeager Farm, C 20.12 6 P P 11 14 00.4 -0.1
Y45A IAmb IAmb 11 14 05.4
comp=Z,25nm,0.8s
154A Montrose 20.46 22 P P 11 14 03.7 -0.6
PECS Pecos 20.56 330 P Pn 11 14 07.9 0.0
PECS IAmb IAmb 11 14 09.0
comp=Z,20nm,0.9s
ODSA Odessa 20.59 334 P Pn 11 14 07.6 -0.6
ODSA IAmb IAmb 11 14 08.3
comp=Z,43nm,0.8s
X40A Basin Creek Fa 20.61 358 P P 11 14 06.0 +0.1
SN05 Snyder 5 20.62 339 P P 11 14 07.1 +1.1
SN05 IAmb IAmb 11 14 08.9
comp=Z,28nm,0.8s
LOOK Love County 20.63 348 P 11 14 05.8 -0.3
LOOK IAmb IAmb 11 14 08.7
comp=Z,29nm,0.8s
Y49A Blount Mountai 20.63 14 P P 11 14 06.7 +0.5
Y49A IAmb IAmb 11 14 20.8
comp=Z,16nm,0.7s
VHRN Van Horn 20.65 327 P Pn 11 14 08.9 -0.1
MIAR Mount Ida 20.70 357 P P 11 14 06.5 -0.4
MIAR IAmb IAmb 11 14 28.2
comp=Z,24nm,1.1s
MIAR Mount Ida 20.70 357 P P 11 14 06.3 -0.5
baz=175,SNR=14
WTFS Witchita Falls 20.70 345 P 11 14 06.9 -0.1
APMT Aspermont 20.77 341 P P 11 14 08.4 +0.7
APMT IAmb IAmb 11 14 11.0
comp=Z,30nm,0.7s
OXF Oxford 20.77 6 P P 11 14 06.7 -0.9
baz=186
SN07 Snyder 07 20.81 339 P P 11 14 08.1 0.0
UALR University of 20.89 359 P P 11 14 08.3 -0.6
UALR IAmb IAmb 11 14 29.7
comp=Z,21nm,0.8s
X37A Clayton 20.91 352 P P 11 14 09.1 -0.1
X37A IAmb IAmb 11 14 31.3
comp=Z,21nm,0.9s
GOGA Godfrey 21.05 20 P P 11 14 10.0 -0.6
GOGA Godfrey 21.05 20 P P 11 14 08.8 -1.9
baz=203
X48A Hartselle 21.07 12 P P 11 14 09.0 -1.8
X48A IAmb IAmb 11 14 18.9
comp=Z,27nm,0.8s
Y52A Lilburn 21.28 19 P P 11 14 12.3 -0.7
Y52A IAmb IAmb 11 14 27.5
comp=Z,21nm,0.8s
DKNS Dickens 21.34 339 P P 11 14 14.4 +0.5
WHAR Wooly Hollow 21.41 360 P P 11 14 14.0 -0.4
FPAL Fort Paine 21.48 15 P P 11 14 15.3 +0.1
FPAL IAmb IAmb 11 14 36.9
comp=Z,34nm,0.9s
MNTX Cornudas Mount 21.58 328 P P 11 14 17.9 +1.5
baz=142,SNR=63
SDV Santo Domingo 21.61 101 LR LR 11 23 27.6
comp=Z,171nm,19.9s,baz=281,slow=39
X51A Calhoun 21.70 16 IAmb IAmb 11 14 26.0
comp=Z,20nm,0.9s
WMOK Wichita Mounta 21.71 345 P P 11 14 18.0 +0.3
baz=161,SNR=18
FNO Franklin 21.90 348 P 11 14 19.2 -0.5
FCAR Ozark Folk Cen 22.00 360 P P 11 14 19.9 -0.9
SWET Sewanee 22.05 14 IAmb IAmb 11 14 42.9
comp=Z,26nm,1.1s
W50A Signal Mountai 22.18 15 IAmb IAmb 11 14 40.3
comp=Z,19nm,0.7s
LCAR Lake Charles 22.20 2 P P 11 14 21.5 -1.4
LCAR IAmb IAmb 11 14 41.5
comp=Z,14nm,0.7s
TUL3 Leonard 22.27 352 P P 11 14 21.4 -2.3
RLO Rose Lookout 22.43 354 P P 11 14 24.7 -0.7
RLO IAmb IAmb 11 14 27.2
comp=Z,15nm,0.6s
SMWD Samnorwood 22.45 342 P P 11 14 25.8 0.0
HHAR Hobbs 22.45 356 P P 11 14 24.7 -1.0
OK052 Battle Ridge R 22.50 350 IAmb IAmb 11 14 27.1
comp=Z,18nm,0.7s
WVT Waverly 22.57 9 P P 11 14 24.6 -2.3
WVT Waverly 22.57 9 P P 11 14 25.9 -1.0
baz=190
CPCT Cooper Cave 22.62 16 P P 11 14 24.2 -3.3
CPCT IAmb IAmb 11 14 45.7
comp=Z,17nm,0.7s
QUOK Quay 22.66 350 P P 11 14 26.4 -1.6
QUOK IAmb IAmb 11 14 29.4
comp=Z,14nm,0.7s
AMTX Amarillo 22.71 339 P P 11 14 29.5 +0.9
baz=154
CLTN Cedars of Leba 22.80 12 P P 11 14 27.0 -2.3
CLTN IAmb IAmb 11 14 30.6
comp=Z,15nm,0.7s
PBMO Poplar Bluff 22.94 3 P P 11 14 28.5 -2.3
PBMO IAmb IAmb 11 14 30.7
comp=Z,17nm,0.8s
OK048 Pawnee Station 22.94 350 P P 11 14 29.0 -1.8
OK048 IAmb IAmb 11 14 32.2
comp=Z,21nm,0.6s
OK051 E0350 and S346 23.01 350 P P 11 14 30.6 -0.9
TKL Tuckaleechee C 23.03 18 P P 11 14 28.0 -3.7
comp=Z,9.0nm,0.6s,baz=182,slow=12,SNR=16
TKL LR LR 11 24 37.3
comp=Z,362nm,19.8s,baz=196,slow=41
comp=Z,9.0nm,0.6s
ELIS Ellis County 23.13 345 IAmb IAmb 11 14 33.3
comp=Z,27nm,0.8s
CROK Carrier 23.22 348 P P 11 14 31.8 -1.8
CROK IAmb IAmb 11 14 32.9
comp=Z,15nm,0.6s
BLOK Blackwell 23.32 350 P P 11 14 33.7 -1.0
BLOK IAmb IAmb 11 14 34.8
comp=Z,16nm,0.7s
U49A Red Boiling Sp 23.32 13 P P 11 14 32.5 -2.1
U49A IAmb IAmb 11 14 43.9
comp=Z,24nm,0.8s
V53A Saluda 23.33 19 IAmb IAmb 11 14 56.3
comp=Z,18nm,0.9s
T45A Paducah 23.34 7 P P 11 14 33.1 -1.6
KMSC Kings Mountain 23.38 23 P P 11 14 32.6 -2.6
KMSC IAmb IAmb 11 15 02.1
comp=Z,12nm,0.8s
KMSC Kings Mountain 23.38 23 P P 11 14 34.4 -0.8
baz=207
CGM3 Cape Girardeau 23.51 5 IAmb IAmb 11 14 36.6
comp=Z,13nm,0.8s
121A Cookes Peak, D 23.52 325 IAmb IAmb 11 14 41.9
comp=Z,35nm,1.0s
121A Cookes Peak, D 23.52 325 P P 11 14 38.3 +1.6
baz=138,SNR=19
T47A Sharon Grove 23.53 10 IAmb IAmb 11 14 37.5
comp=Z,33nm,0.8s
319A Douglas 23.55 321 IAmb IAmb 11 14 41.2
comp=Z,36nm,1.2s
OK032 Salt Plains WL 23.56 348 IAmb IAmb 11 14 39.2
comp=Z,13nm,0.6s
KAN17 Caldwell West 23.70 349 P P 11 14 36.8 -1.5
KAN17 IAmb IAmb 11 14 40.2
comp=Z,16nm,0.6s
S39A Bolivar 23.82 358 P P 11 14 37.4 -2.1
KAN08 Anthony NE Sta 23.92 348 P P 11 14 39.8 -0.5
KAN08 IAmb IAmb 11 14 42.6
comp=Z,20nm,0.6s
TZTN Tazewell 23.92 17 IAmb IAmb 11 14 42.2
comp=Z,12nm,0.8s
TZTN Tazewell 23.92 17 P P 11 14 38.8 -1.5
baz=200
T50A Nancy 24.03 14 IAmb IAmb 11 14 41.3
comp=Z,14nm,0.7s
V55A Taylorsville 24.05 22 P P 11 14 37.9 -3.7
V55A IAmb IAmb 11 14 41.7
comp=Z,21nm,0.6s
FVM French Village 24.14 3 P P 11 14 41.1 -1.2
BNM Barren Site 24.17 329 P P 11 14 45.4 +2.4
CCM Cathedral Cave 24.18 2 P P 11 14 41.5 -1.1
CCM IAmb IAmb 11 14 42.7
comp=Z,9.9nm,0.7s
CCM Cathedral Cave 24.18 2 P P 11 14 41.6 -1.1
baz=181

Y22D IRIS PASSCAL I 24.25 329 P P 11 14 44.7 +1.1
baz=142
Y22F Passcal Instru 24.25 329 P P 11 14 44.6 +1.0
baz=142
USIN University of 24.40 9 P P 11 14 43.7 -1.0
R40A Maddies Statio 24.40 360 P P 11 14 43.8 -0.9
U54A Nelsons Funny 24.44 20 P P 11 14 44.3 -0.9
U54A IAmb IAmb 11 14 59.5
comp=Z,13nm,0.8s
RTBA Rita Blanca 24.48 339 P P 11 14 46.9 +1.2
RTBA IAmb IAmb 11 14 49.3
comp=Z,16nm,0.7s
ANMO Albuquerque 24.73 331 P P 11 14 50.0 +2.0
ANMO IAmb IAmb 11 14 52.5
comp=Z,14nm,0.7s
ANMO Albuquerque 24.73 331 P P 11 14 49.6 +1.6
baz=144
U56A King 24.80 23 IAmb IAmb 11 14 49.5
comp=Z,14nm,0.7s
V58A Windy Hill, Pi 24.83 26 IAmb IAmb 11 14 49.0
comp=Z,11nm,0.8s
ATAH Atahualpa 24.85 146 LR LR 11 23 09.1
comp=Z,256nm,18.4s,baz=332,slow=32
WCI Wyandotte Cave 24.88 11 P P 11 14 47.5 -1.6
WCI IAmb IAmb 11 14 51.8
comp=Z,22nm,0.8s
WCI Wyandotte Cave 24.88 11 P P 11 14 48.8 -0.2
baz=193
S51A Beattyville 24.93 16 P P 11 14 48.2 -1.3
S51A IAmb IAmb 11 15 02.8
comp=Z,12nm,0.8s
TUC Tucson 25.12 320 P P 11 14 53.8 +2.3
TUC Tucson 25.12 320 P P 11 14 53.9 +2.4
baz=132
Q44A Meyer Farm, Va 25.16 6 IAmb IAmb 11 14 53.3
comp=Z,21nm,0.8s
R49A Shelbyville 25.16 13 IAmb IAmb 11 15 05.9
comp=Z,19nm,0.8s
R50A Paris 25.35 14 IAmb IAmb 11 14 54.9
comp=Z,14nm,0.7s
KSU1 Kansas State U 25.52 352 P P 11 14 54.3 -0.6
KSU1 IAmb IAmb 11 14 56.3
comp=Z,21nm,0.7s
KSU1 Kansas State U 25.52 352 P P 11 14 55.0 +0.1
baz=169,SNR=7.0
P40A Paris 25.64 0 P P 11 14 54.4 -1.5
T25A Trinidad 25.71 337 P P 11 14 59.0 +2.1
T25A Trinidad 25.71 337 P P 11 14 58.3 +1.4
baz=151,SNR=16
BLO Bloomington 25.76 10 IAmb IAmb 11 14 57.7
comp=Z,19nm,0.7s
CBKS Cedar Bluff 25.82 346 P P 11 14 57.1 -0.6
baz=162
P46A Rosedale 26.08 9 IAmb IAmb 11 15 02.9
comp=Z,24nm,0.7s
RCRC Randolf Colleg 26.18 24 P P 11 14 59.6 -1.2
214A Organ Pipe Nat 26.19 317 P P 11 15 02.1 +1.0
baz=128
P48A Milroy 26.24 12 IAmb IAmb 11 15 00.4
comp=Z,12nm,0.8s
Q51A Peebles 26.30 16 IAmb IAmb 11 15 29.3
comp=Z,11nm,0.7s
P49A Miami Univ. Ec 26.45 13 P P 11 15 03.0 -0.3
baz=196
W18A Petrified Fore 26.53 326 P P 11 15 05.8 +1.6
baz=138
Q52A Bidwell 26.54 17 P P 11 15 02.6 -1.5
Q52A IAmb IAmb 11 15 04.0
comp=Z,10nm,0.7s
R55A Marlinton 26.61 21 P P 11 15 03.7 -1.1
R55A IAmb IAmb 11 15 04.7
comp=Z,25nm,1.4s
SDCO Great Sand Dun 26.67 336 P P 11 15 07.5 +1.9
SDCO Great Sand Dun 26.67 336 P P 11 15 07.0 +1.3
baz=149,SNR=8.8
HDIL Hopedale 26.77 5 P P 11 15 05.0 -1.2
baz=185
KSCO Kaye Shedlock' 26.78 342 IAmb IAmb 11 15 12.3
comp=Z,14nm,0.7s
KSCO Kaye Shedlock' 26.78 342 P P 11 15 07.7 +1.3
baz=156
SFIN Lafayette 26.85 8 P P 11 15 04.6 -2.3
SFIN IAmb IAmb 11 15 07.2
comp=Z,16nm,0.7s
SFIN Lafayette 26.85 8 P P 11 15 04.7 -2.1
baz=190
Q54A Coxs Mills 27.00 20 IAmb IAmb 11 15 07.8
comp=Z,12nm,1.0s
O48B Farmland 27.06 12 P P 11 15 08.6 -0.1
baz=194
P52A Corning 27.20 17 IAmb IAmb 11 15 13.9
comp=Z,13nm,0.7s
P52A Corning 27.20 17 P P 11 15 10.1 0.0
baz=201
113A Mohawk Valley, 27.33 317 P P 11 15 14.6 +3.2
MVCO Mesa Verde 27.53 331 P P 11 15 15.2 +1.8
MVCO Mesa Verde 27.53 331 P P 11 15 15.7 +2.4
baz=143,SNR=22
Q56A Snyder Ridge, 27.62 22 P P 11 15 12.6 -1.2
WUAZ Wupatki 27.72 325 IAmb IAmb 11 15 18.8
comp=Z,9.6nm,0.9s
WUAZ Wupatki 27.72 325 P P 11 15 17.8 +2.8
baz=136,SNR=10
O52A Adamsville 27.73 17 P P 11 15 12.5 -2.3
O53A New Philadelph 28.04 18 P P 11 15 16.5 -1.0
baz=202
GLA Glamis 28.21 317 P P 11 15 21.9 +2.7
baz=127
OGNE Ogallala 28.41 344 P P 11 15 22.8 +1.9
baz=159
ISCO Idaho Springs 28.50 338 P P 11 15 24.2 +2.1
baz=151
PDMCI Parker Dam,Lak 28.55 319 P P 11 15 24.9 +2.7
baz=130
SWSC Sam W. Stewart 28.80 315 P P 11 15 27.4 +3.0
baz=125
L48A N Adams 28.83 12 IAmb IAmb 11 15 23.3
comp=Z,11nm,0.6s
BC3 Big Chuckawall 28.99 317 P P 11 15 29.5 +3.2
baz=127,SNR=6.5
IRM Iron Mountain 29.10 318 P P 11 15 29.9 +2.8
baz=128
HMU Henry Mountain 29.20 329 P P 11 15 31.0 +2.8
HMU IAmb IAmb 11 15 32.8
comp=Z,12nm,0.9s
MONP2 Monument Peak 29.20 315 P P 11 15 31.0 +2.8
baz=124
M53A WI Miller and 29.29 18 P P 11 15 27.5 -1.1
baz=203
SSPA Standing Stone 29.50 22 P P 11 15 30.1 -0.5
baz=208
BELC Belle Mtn. Jos 29.56 317 P P 11 15 34.0 +2.6
baz=126
N23A Red Feather La 29.58 338 P P 11 15 33.6 +2.0
baz=151
KNB Kanab 29.61 325 P P 11 15 34.8 +3.0
KNB IAmb IAmb 11 15 35.8
comp=Z,9.3nm,0.8s
TPFO Pinon Flats 29.63 316 P P 11 15 34.5 +2.6
baz=125
PFO Pinyon Flats O 29.64 316 P P 11 15 34.6 +2.6
baz=125
PFO Pinyon Flats O 29.64 316 LR LR 11 29 43.4
comp=Z,144nm,18.0s,baz=128,slow=41
PKCU Pink Cliffs 29.64 326 P P 11 15 35.3 +3.0
109C Camp Elliot, M 29.67 314 P P 11 15 34.4 +2.2
baz=123
NNA Nana 29.75 149 LR LR 11 25 13.5
comp=Z,143nm,20.8s,baz=320,slow=31
O20A White River Ci 29.82 335 P P 11 15 35.0 +1.4
O20A White River Ci 29.82 335 P P 11 15 35.0 +1.4
baz=146
GMRC Granite Mounta 29.82 319 P P 11 15 35.5 +1.9
baz=128
LCMT Little Creek M 29.85 325 P P 11 15 36.2 +2.4
V12A Nelson 29.91 321 P P 11 15 37.0 +2.6
V12A IAmb IAmb 11 15 38.3
comp=Z,10nm,0.9s
SRU San Rafael Swe 30.00 331 P P 11 15 36.6 +1.3
SRU IAmb IAmb 11 15 38.6
comp=Z,9.4nm,1.1s
MTPU Mount Pierson 30.02 327 IAmb IAmb 11 15 42.1
comp=Z,6.4nm,0.8s
ECSD EROS Data Cent 30.09 353 P P 11 15 35.3 -0.4
ECSD EROS Data Cent 30.09 353 P P 11 15 36.1 +0.4
baz=171
ERPA Erie 30.11 18 P P 11 15 34.1 -1.9

ERPA IAmb IAmb 11 15 36.1
comp=Z,12nm,1.1s
ERPA Erie 30.11 18 P P 11 15 35.5 -0.5
baz=203
MURC Murrieta 30.13 315 P P 11 15 38.2 +1.9
baz=124
Q16A Castle Valley 30.17 330 IAmb IAmb 11 15 40.5
comp=Z,12nm,1.0s
SZCU Shurtz Canyon 30.18 326 IAmb IAmb 11 15 41.0
comp=Z,12nm,0.9s
HEC Hector,Ludlow 30.28 318 P P 11 15 39.7 +2.1
baz=127
P18A Preston Nutter 30.28 332 P P 11 15 39.6 +1.7
CCUT Cedar City 30.30 325 IAmb IAmb 11 15 42.3
comp=Z,11nm,0.9s
WTNK Soaring Height 30.32 321 P P 11 15 39.2 +1.3
MSU Marysvale 30.37 328 P P 11 15 41.3 +2.8
MVU Marysvale 30.38 328 IAmb IAmb 11 15 51.3
comp=Z,20nm,1.0s
P17A Butcher Ranch, 30.39 331 IAmb IAmb 11 15 42.0
comp=Z,11nm,0.8s
TUQ Turquoise Moun 30.40 319 P P 11 15 41.5 +2.7
baz=128
TMUT Trail Mountain 30.48 330 IAmb IAmb 11 15 44.1
comp=Z,6.4nm,0.7s
TCRU Three Creeks R 30.58 328 IAmb IAmb 11 15 45.9
comp=Z,9.6nm,0.8s
SCI2 San Clemente I 30.73 313 P P 11 15 44.5 +2.9
baz=122
RWWY Rawlins 30.74 338 IAmb IAmb 11 15 44.6
comp=Z,6.4nm,0.8s
RDMU Red Mountain 30.74 333 P P 11 15 43.9 +2.1
BFSC Mount Baldy Ra 30.81 316 P P 11 15 45.7 +3.3
baz=124
CIS Catalina Islan 30.87 314 P P 11 15 45.6 +2.9
baz=122
GSC Goldstone, Bar 30.88 318 P P 11 15 44.8 +1.9
baz=127
SHOC Shoshone, Teco 30.91 320 P P 11 15 46.2 +3.1
baz=129
MPU Maple Canyon 31.24 330 IAmb IAmb 11 15 49.5
comp=Z,8.3nm,0.8s
PSUT Pine Spring 31.27 326 P P 11 15 49.6 +3.2
PSUT IAmb IAmb 11 15 50.5
comp=Z,8.9nm,0.9s
QSM Queen of Sheba 31.32 319 P P 11 15 49.5 +2.7
SPMN Marine on St. 31.33 359 IAmb IAmb 11 15 48.8
comp=Z,5.7nm,0.7s
SPMN Marine on St. 31.33 359 P P 11 15 46.4 -0.2
baz=178
K22A Casper 31.34 339 P P 11 15 47.7 +0.7
baz=152
EDW2 Edwards Air Fo 31.41 316 P P 11 15 50.5 +2.9
baz=125
LRMC Laurel Mtn Rad 31.55 318 P P 11 15 51.9 +3.0
baz=126
BINY Binghamton 31.56 23 P P 11 15 47.2 -1.6
baz=210
FURC Furnace Creek, 31.64 320 P P 11 15 51.6 +2.2
baz=128
S11A Rachel 31.73 323 P P 11 15 54.2 +3.8
S11A IAmb IAmb 11 15 55.0
comp=Z,16nm,1.0s
MPMC Manual Prospec 31.78 319 P P 11 15 52.3 +1.3
baz=127,SNR=7.0
CTU Camp Tracy 31.83 331 P P 11 15 53.6 +2.3
CTU IAmb IAmb 11 15 54.7
comp=Z,8.9nm,0.9s
SPR3 Spring Creek 3 31.86 326 IAmb IAmb 11 15 57.2
comp=Z,8.1nm,0.8s
DUG Dugway, Tooele 31.96 329 IAmb IAmb 11 15 56.3
comp=Z,9.7nm,1.3s
DUG Dugway, Tooele 31.96 329 P P 11 15 53.6 +1.2
baz=139,SNR=6.2
R11B Troy Canyon, C 32.11 324 P P 11 15 56.9 +3.0
baz=133,SNR=9.5
Q12A Willow Creek R 32.17 326 IAmb IAmb 11 15 58.4
comp=Z,11nm,1.2s
GRAC Grapevine Rang 32.28 320 IAmb IAmb 11 15 59.6
comp=Z,9.9nm,1.0s
GRAC Grapevine Rang 32.28 320 P P 11 15 57.3 +2.1
baz=128
SBC Santa Barbara 32.34 314 P P 11 15 58.2 +2.6
baz=122
CWC Cottonwood Cre 32.39 319 P P 11 15 59.2 +2.9
baz=127
GMN Gold Mountain 32.41 321 P P 11 15 59.4 +2.9
HWUT Hardware Ranch 32.47 332 P P 11 15 59.1 +2.2
HWUT IAmb IAmb 11 16 00.1
comp=Z,10nm,1.0s
BW06 Boulder Array 32.56 336 P P 11 15 59.7 +1.9
baz=147
PD31 Pinedale Array 32.56 336 P P 11 15 56.9 -0.9
PD31 PcP **PcP 11 18 43.6 -0.2**
PDAR Pinedale Array 32.56 336 P P 11 15 57.5 -0.4
PDAR Pinedale Array 32.56 336 P P 11 15 58.5 +0.6
comp=Z,0.8nm,0.6s,baz=144,slow=9.8,SNR=12
PDAR PcP **PcP 11 18 45.1 +1.3**
comp=Z,0.8nm,0.6s,baz=159,slow=5.0,SNR=8.7
PDAR LR LR 11 31 10.3
comp=Z,100nm,18.6s,baz=152,slow=40
comp=Z,0.8nm,0.6s
LCH Last Change Ra 32.60 320 P P 11 16 00.9 +2.8
BGU Big Grassy Mou 32.62 330 IAmb IAmb 11 16 01.8
comp=Z,6.0nm,0.9s
SPUT South Promonto 32.64 331 IAmb IAmb 11 16 01.9
comp=Z,21nm,1.5s
PKM Mcpherson Peak 32.65 315 P P 11 16 00.9 +2.3
baz=122
VES Vestal, Richgr 32.69 317 P P 11 16 01.4 +2.7
baz=125
UCCT U. Connecticut 32.81 28 P P 11 15 56.8 -2.8
J58A Remsen 32.82 23 P P 11 15 57.5 -2.3
J58A IAmb IAmb 11 15 58.7
comp=Z,7.1nm,0.9s
DSP Deep Springs 32.89 320 P P 11 16 03.4 +3.0
DELO Deloro Mine 33.02 19 IAmb IAmb 11 16 00.2
comp=Z,7.1nm,0.7s
L61B Northampton 33.13 27 P P 11 16 01.6 -0.9
baz=216
HVU Hansel Valley 33.16 331 P P 11 16 04.9 +2.0
HVU IAmb IAmb 11 16 06.4
comp=Z,14nm,1.0s
MLAC Mammoth, Mammo 33.59 320 P P 11 16 08.2 +1.4
baz=127
ELK Elko 33.61 327 P P 11 16 09.6 +2.7
ELK IAmb IAmb 11 16 12.5
comp=Z,6.9nm,0.8s
ELK Elko 33.61 327 LR LR 11 31 19.3
comp=Z,163nm,20.1s,slow=39
SNOW Snow King Moun 33.63 335 P P 11 16 09.1 +2.0
HRV Adam Dziewonsk 33.68 28 P P 11 16 06.1 -1.1
baz=218
NV11 Mina Array Sit 33.68 322 IAmb IAmb 11 16 11.9
comp=Z,13nm,1.0s
LOHW Long Hollow 33.69 335 IAmb IAmb 11 16 10.1
comp=Z,5.2nm,0.8s
TPAW Teton Pass 33.73 335 P P 11 16 10.0 +1.9
NVAR Mina Array Bea 33.77 321 P P 11 16 11.5 +3.2
NVAR Mina Array Bea 33.77 321 P P 11 16 11.7 +3.3
comp=Z,8.5nm,0.8s,baz=138,slow=8.9,SNR=61
NVAR PcP **PcP 11 18 49.6 +2.3**
comp=Z,1.0nm,0.6s,baz=124,slow=3.1,SNR=4.7
NVAR LR LR 11 31 57.9
comp=Z,199nm,18.0s,baz=151,slow=40
comp=Z,8.5nm,0.8s
LHV Little Huntoon 33.77 321 IAmb IAmb 11 16 12.9
comp=Z,8.2nm,0.8s
FXWY Fox Creek 33.88 335 P P 11 16 11.0 +1.7
RYN Ryan 34.02 321 P P 11 16 11.1 +0.6
KVN Kaiserville 34.04 322 P P 11 16 13.1 +2.4
KVN IAmb IAmb 11 16 14.8
comp=Z,10nm,1.0s
EYMN Ely 34.05 1 P P 11 16 09.4 -1.1
baz=180
IMW Indian Meadow 34.06 335 P P 11 16 12.6 +1.6
IMW PcP **PcP 11 18 49.6 +1.5**
LONY Lake Ozonia 34.16 23 P P 11 16 09.2 -2.2
baz=211
H17A Grant Village 34.33 336 P P 11 16 11.8 -1.4
baz=146
BMN Battle Mountai 34.46 325 IAmb IAmb 11 16 18.1
comp=Z,8.5nm,0.9s
RLMT Red Lodge 34.46 338 P P 11 16 16.1 +1.9
baz=149,SNR=6.0
B35A Bob, Littlefor 34.49 358 P P 11 16 13.8 -0.4
WAKR Walker 34.51 321 P P 11 16 18.1 +3.4

WAKR IAmb IAmb 11 16 19.3
comp=Z,14nm,1.5s
MDND Maddock 34.52 351 P **P** **11 16 14.8 +0.3**
baz=166
AGMN Agassiz Nation 34.54 356 P **P** **11 16 14.1 -0.6**
baz=173
YERR Yerington 34.68 321 IAmb IAmb 11 16 20.4
comp=Z,13nm,1.3s
ETMB Extrema 34.79 131 P **P** **11 16 17.2 0.0**
LAO LASA Array 34.87 343 P **P** **11 16 19.6 +2.0**
baz=155
LBNH Lisbon 34.90 26 P **P** **11 16 16.1 -1.7**
baz=215
PNTR Pine Nut 34.97 321 P **P** **11 16 22.0 +3.3**
PNTR IAmb IAmb 11 16 26.9
comp=Z,9.7nm,0.8s
EMB Emerald Bay 35.20 321 IAmb IAmb 11 16 25.3
comp=Z,13nm,1.0s
PAHR Pah Rah Range 35.23 322 P **P** **11 16 24.1 +3.3**
PAHR IAmb IAmb 11 16 24.9
comp=Z,6.1nm,1.0s
HLID Hailey 35.30 331 P **P** **11 16 23.5 +2.0**
HLID IAmb IAmb 11 16 24.8
comp=Z,9.8nm,0.9s
HLID Hailey 35.30 331 P **P** **11 16 23.6 +2.1**
baz=140,SNR=17
MPK Martis Peak 35.36 321 P **P** **11 16 25.5 +3.3**
MPK IAmb IAmb 11 16 26.6
comp=Z,12nm,1.0s
BOZ Bozeman (W) 35.75 336 P **P** **11 16 27.3 +2.0**
baz=146,SNR=8.0
MFID Camas Ranch 35.87 330 IAmb IAmb 11 16 31.5
comp=Z,9.4nm,1.2s
DGMT Dagmar 36.00 346 P **P** **11 16 27.5 +0.2**
baz=159
ULM Lac du Bonnet 36.48 356 P **P** **11 16 28.9 -2.4**
comp=Z,1.9nm,0.7s,baz=182,slow=10,SNR=6.6
ULM PcP **PcP** **11 18 54.4 -0.2**
comp=Z,3.3nm,0.9s,baz=97,slow=1.7,SNR=4.8
ULM LR LR 11 35 01.5
comp=Z,65nm,19.0s,baz=268,slow=42
comp=Z,1.9nm,0.7s
WVOR Wild Horse Val 36.60 326 P **P** **11 16 34.6 +2.0**
WVOR IAmb IAmb 11 16 39.9
comp=Z,8.9nm,0.7s
WVOR **PcP** **11 18 57.6 +2.3**
PKME Peaks-Kenny Pk 36.85 27 P **P** **11 16 32.3 -2.2**
baz=218
LYMT Lyon Mountain 37.14 337 P **P** **11 16 38.6 +1.3**
LYMT **PcP** **11 18 56.9 -0.1**
EGMT Eagleton 37.15 340 P **P** **11 16 37.9 +0.8**
EGMT Eagleton 37.15 340 P **P** **11 16 38.0 +0.8**
baz=150,SNR=13
J08A Circle Bar Ran 37.16 328 P **P** **11 16 39.6 +2.4**
BPMT Black Pine Rid 37.16 335 P **P** **11 16 37.7 +0.3**
PLID Pearl Lake 37.20 332 P **P** **11 16 39.2 +1.4**
PLID IAmb IAmb 11 16 40.4
comp=Z,15nm,1.1s
PLID **PcP** **11 19 00.9 +3.7**
BMO Blue Mountains 37.64 330 IAmb IAmb 11 16 43.7
comp=Z,9.1nm,1.3s
MSO Missoula 37.68 335 IAmb IAmb 11 16 44.6
comp=Z,14nm,1.5s
MSO Missoula 37.68 335 P **P** **11 16 43.2 +1.6**
baz=143,SNR=5.8
LPAZ La Paz 38.14 141 P P 11 16 52.4 +5.9
comp=Z,1.3nm,0.8s,baz=330,slow=6.3,SNR=5.2
LPAZ LR LR 11 31 20.6
comp=Z,117nm,20.9s,baz=316,slow=34
comp=Z,1.3nm,0.8s
KMRM Mail Ridge 38.19 320 P **P** **11 16 48.3 +2.3**
KMRM IAmb IAmb 11 16 49.8
comp=Z,13nm,1.0s
I07A Izee 38.20 328 IAmb IAmb 11 16 51.0
comp=Z,7.4nm,1.0s
F10A Beach Ranch, E 38.44 332 P **P** **11 16 49.3 +1.2**
YBH Yreka Blue Hor 38.46 322 P **P** **11 16 49.5 +1.1**
comp=Z,1.4nm,0.8s,baz=158,slow=2.8,SNR=6.8
YBH PcP **PcP** **11 19 01.5 +0.5**
comp=Z,0.4nm,0.2s,baz=266,slow=2.3,SNR=9.3
YBH LR LR 11 34 56.8
comp=Z,151nm,18.8s,baz=146,slow=40
comp=Z,1.4nm,0.8s
L04D Klamath Falls 38.52 323 IAmb IAmb 11 16 51.7
comp=Z,10nm,1.0s
KMPM Mount Pierce 38.56 320 IAmb IAmb 11 16 56.3
comp=Z,10nm,0.9s
KHMM Horse Mountain 38.58 320 IAmb IAmb 11 16 52.9
comp=Z,11nm,0.9s
I04A Tendick Farm, 39.57 325 P **P** **11 16 59.2 +1.7**
I04A IAmb IAmb 11 16 60.0
comp=Z,8.8nm,0.9s
G05A Wamic 39.93 328 IAmb IAmb 11 17 05.3
comp=Z,14nm,0.8s
I03D Drain, OR 40.04 324 IAmb IAmb 11 17 04.2
comp=Z,14nm,1.0s
J01E Myrtle Point 40.05 323 P **P** **11 17 04.2 +2.8**
NEW Newport 40.13 334 P **P** **11 17 03.2 +1.1**
baz=140
NEW Newport 40.13 334 P **P** **11 17 02.1 0.0**
comp=Z,3.1nm,0.8s,baz=120,slow=16,SNR=3.6
NEW LR LR 11 36 17.6
comp=Z,177nm,19.4s,baz=138,slow=40
comp=Z,3.1nm,0.8s
BUCK Buck Mountain 40.15 325 P **P** **11 17 03.1 +0.8**
HOOD Mount Hood Mea 40.16 327 P **P** **11 17 04.6 +2.1**
C09A Chrisman Ranch 40.28 333 P **P** **11 17 04.9 +1.6**
C09A IAmb IAmb 11 17 05.8
comp=Z,11nm,0.8s
LTY Liberty 41.00 330 IAmb IAmb 11 17 12.4
comp=Z,14nm,1.3s
LON Longmire 41.21 329 IAmb IAmb 11 17 15.8
comp=Z,13nm,0.8s
FFC Flin Flon 41.56 351 P **P** **11 17 13.4 -0.3**
D05A Enumclaw 41.60 329 P **P** **11 17 15.5 +1.4**
D05A IAmb IAmb 11 17 18.9
comp=Z,11nm,0.8s
E03A Lebam 41.97 327 IAmb IAmb 11 17 22.3
comp=Z,12nm,0.7s
NLWA Neilton Lookou 42.69 328 IAmb IAmb 11 17 27.8
comp=Z,9.6nm,0.8s
LVC Limon Verde 42.73 148 LR LR 11 35 10.3
comp=Z,96nm,18.3s,baz=336,slow=36
EDM Edmonton 42.79 341 IAmb IAmb 11 17 25.2
comp=Z,34nm,1.4s
RPN Rapa Nui 43.98 202 LR LR 11 31 34.6
comp=Z,114nm,18.3s,baz=46,slow=29
FCC Fort Churchill 44.91 359 P **P** **11 17 39.1 -1.6**
SCHQ Schefferville 45.45 20 P **P** **11 17 42.2 -2.9**
comp=Z,8.8nm,0.8s,baz=215,slow=6.6,SNR=13
SCHQ PcP **PcP** **11 19 22.6 -1.1**
comp=Z,3.5nm,0.6s,baz=213,slow=4.7,SNR=6.5
SCHQ LR LR 11 37 44.9
comp=Z,356nm,20.2s,baz=248,slow=38
comp=Z,8.8nm,0.8s
YKA Yellowknife Ar 51.20 347 P **P** **11 18 28.9 -0.4**
comp=Z,5.2nm,0.6s,baz=145,slow=6.7,SNR=88
YKA PcP **PcP** **11 19 45.4 +1.2**
comp=Z,2.1nm,0.7s,baz=148,slow=3.3,SNR=11
comp=Z,5.2nm,0.6s
TOAD Toad River Com 51.29 339 P **P** **11 18 30.9 +0.8**
baz=137
KOTAN Kotaneelee Air 51.85 340 P **P** **11 18 35.6 +1.5**
baz=139
T35M Bob Quinn 51.93 335 IAmb IAmb 11 18 39.8
comp=Z,12nm,1.2s
T35M Bob Quinn 51.93 335 P **P** **11 18 37.3 +2.4**
baz=130
LIRD Liard River Hi 52.01 339 P **P** **11 18 37.9 +2.5**
baz=136
CRAG Craig 52.25 332 P **P** **11 18 38.4 +1.2**
baz=126
WRAK Wrangell Islan 52.48 333 P **P** **11 18 39.7 +0.9**
baz=127
FRB Frobisher Bay 52.54 13 LR LR 11 42 38.8
comp=Z,252nm,18.9s,baz=204,slow=38
TAOE Nuku Hiva Isla 52.72 247 *e*LR LR 11 34 00.3
comp=Z,94nm,22.8s
DLBC Dease Lake 52.80 336 P **P** **11 18 42.7 +1.4**
baz=131,SNR=13
S34M Telegraph Cree 52.90 335 IAmb IAmb 11 18 45.8
comp=Z,5.0nm,0.8s
S34M Telegraph Cree 52.90 335 P **P** **11 18 43.2 +1.3**
baz=130
WTLY Watson Lake, Y 53.47 338 P **P** **11 18 48.3 +2.1**
baz=133,SNR=14
R33M Jennings River 53.80 337 P **P** **11 18 50.9 +2.1**
R33M IAmb IAmb 11 18 52.1
comp=Z,9.7nm,1.1s
R33M Jennings River 53.80 337 P **P** **11 18 49.5 +0.8**
baz=130,SNR=8.3
WRGLY Wrigley 54.06 343 IAmb IAmb 11 18 52.1
comp=Z,5.9nm,0.8s
WRGLY Wrigley 54.06 343 P **P** **11 18 51.1 +0.8**
baz=141
S32K Killisnoo 54.09 333 P **P** **11 18 52.6 +2.0**
baz=126
TGTN Hyland Airport 54.28 340 P **P** **11 18 54.4 +2.2**
baz=135,SNR=9.9
R32K Eaglecrest 54.54 334 P **P** **11 18 55.7 +1.7**
baz=126
P32M Atlin 55.00 336 P **P** **11 18 58.7 +1.3**
baz=128
P33M Teslin, Yukon 55.04 337 IAmb IAmb 11 19 01.9
comp=Z,4.7nm,0.8s
P33M Teslin, Yukon 55.04 337 P **P** **11 18 58.7 +1.0**
baz=129,SNR=5.2
S31K Pelican 55.10 333 P **P** **11 18 59.3 +1.3**
baz=124
N32M Quiet Lake 55.74 337 P **P** **11 19 04.2 +1.5**
baz=129
PLBC Pleasant Camp 56.01 335 P **P** **11 19 06.4 +1.9**
baz=125
WHY Whitehorse 56.12 336 P **P** **11 19 06.7 +1.2**
baz=127
FARO Faro, Yukon 56.53 338 IAmb IAmb 11 19 10.6
comp=Z,6.1nm,0.9s
FARO Faro, Yukon 56.53 338 P **P** **11 19 10.0 +1.7**
baz=129,SNR=6.2
P30M Million Dollar 56.64 335 P **P** **11 19 10.9 +1.8**
baz=124
O30N Mendenhall 56.66 336 P **P** **11 19 11.0 +1.7**
O30N IAmb IAmb 11 19 12.3
comp=Z,9.7nm,0.9s
O30N Mendenhall 56.66 336 P **P** **11 19 10.3 +1.1**
baz=126
P29M Windy Craggy 56.68 334 P **P** **11 19 10.3 +0.9**
baz=123
M31M Drury Creek, Y 56.89 338 IAmb IAmb 11 19 13.6
comp=Z,10nm,1.2s
M31M Drury Creek, Y 56.89 338 P **P** **11 19 11.8 +1.0**
baz=128
N31M Braeburn, Yuko 56.97 337 P **P** **11 19 13.0 +1.6**
N31M Braeburn, Yuko 56.97 337 P **P** **11 19 13.1 +1.7**
baz=126
HYT Haines Junctio 57.26 335 P **P** **11 19 15.5 +1.9**
baz=124
PNL Peninsula 57.41 334 P **P** **11 19 15.7 +1.2**
baz=122
N30M Aishikik Lake 57.46 336 IAmb IAmb 11 19 18.1
comp=Z,7.8nm,1.0s
N30M Aishikik Lake 57.46 336 P **P** **11 19 16.4 +1.5**
baz=125
YUK6 Outpost Mounta 57.67 335 P **P** **11 19 17.5 +0.8**
baz=123
PLCA Paso Flores 57.82 161 P P 11 19 24.1 +6.4
comp=Z,1.3nm,1.0s,baz=352,slow=12,SNR=2.2
comp=Z,1.3nm,1.0s
YUK4 Talbot Arm 58.01 336 P **P** **11 19 20.6 +1.6**
baz=124
MAYO Mao, Yukon 58.30 339 P **P** **11 19 22.8 +2.1**
baz=127,SNR=6.1
YUK8 Steele Glacier 58.43 335 P **P** **11 19 23.7 +1.7**
baz=122
M29M Somme Creek 58.56 337 P **P** **11 19 24.4 +1.8**
M29M Somme Creek 58.56 337 P **P** **11 19 24.4 +1.8**
baz=124,SNR=18
L29M L29M 58.82 338 P **P** **11 19 25.5 +1.1**
L29M L29M 58.82 338 P **P** **11 19 26.2 +1.9**
baz=125
CTG Chitna Glacier 58.91 334 P **P** **11 19 25.7 +0.5**
baz=120
YUK3 Moose Creek 58.98 336 P **P** **11 19 27.2 +1.5**
baz=122
K29M Barlow Dome 59.02 338 IAmb IAmb 11 19 28.5
comp=Z,4.3nm,0.9s
K29M Barlow Dome 59.02 338 P **P** **11 19 27.6 +1.8**
baz=126
J30M Hart River 59.05 339 IAmb IAmb 11 19 29.5
comp=Z,3.5nm,0.7s
J30M Hart River 59.05 339 P **P** **11 19 27.6 +1.5**
baz=127,SNR=5.8
H31M Peel River 59.18 341 P **P** **11 19 27.9 +1.1**
baz=130
BGLC Bering Glacier 59.33 333 P **P** **11 19 27.0 -0.8**
baz=118
I30M Mount Dempster 59.47 340 P **P** **11 19 29.7 +0.8**
I30M IAmb IAmb 11 19 30.7
comp=Z,8.6nm,0.9s
I30M Mount Dempster 59.47 340 P **P** **11 19 29.9 +1.0**
baz=128,SNR=9.8
J29N Klondike Camp 59.63 339 P **P** **11 19 30.8 +0.8**
J29N IAmb IAmb 11 19 31.9
comp=Z,5.5nm,1.0s
J29N Klondike Camp 59.63 339 P **P** **11 19 30.6 +0.7**
baz=125
SFJD Kangerlussuaq 59.74 18 LR LR 11 45 54.2
comp=Z,202nm,21.1s,baz=226,slow=37
DAWY Dawson 59.83 338 P **P** **11 19 31.9 +0.6**
baz=124
MCARA McCarthy VSAT 59.83 334 P **P** **11 19 31.7 +0.4**
baz=119
M27K Edge Creek, AK 59.85 336 P **P** **11 19 31.7 +0.1**
baz=120
G31M Satah River 59.89 342 P **P** **11 19 31.6 0.0**
baz=131,SNR=8.1
F31M Tsiigehtchic 60.08 343 P **P** **11 19 33.4 +0.5**
F31M Tsiigehtchic 60.08 343 P **P** **11 19 32.2 -0.7**
baz=131,SNR=8.3
BCAR Beaver Creek A 60.18 336 P **P** **11 19 35.2 +1.4**
L27K Beaver Creek, 60.20 336 P **P** **11 19 35.4 +1.5**
L27K Beaver Creek, 60.20 336 P **P** **11 19 33.9 +0.1**
baz=121,SNR=9.5
EPYK Eagle Plains 60.29 341 P **P** **11 19 34.8 +0.4**
baz=128
BMRM Bremner River 60.31 334 P **P** **11 19 35.9 +1.3**
baz=117
M26K Nabesna, AK 60.32 335 P **P** **11 19 35.5 +0.7**
baz=119
Q23K Middleton Isla 60.41 332 P **P** **11 19 35.8 +0.5**
baz=114
G30M tAoh Zraii Nji 60.52 342 P **P** **11 19 37.5 +1.5**
baz=129
N25K Chitina, Valde 60.60 334 P **P** **11 19 37.9 +1.2**
baz=117
INK Inuvik 60.61 344 P **P** **11 19 37.5 +1.0**
baz=132,SNR=13
INK Inuvik 60.61 344 LR LR 11 51 32.8
comp=Z,96nm,18.1s,baz=194,slow=42
EYAK Cordova Ski Ar 60.62 333 P **P** **11 19 37.6 +0.9**
baz=116
H29M Whitestone 60.73 340 IAmb IAmb 11 19 38.8
comp=Z,7.6nm,0.9s
H29M Whitestone 60.73 340 P **P** **11 19 38.0 +0.7**
baz=126,SNR=7.6
L26K Log Cabin Wild 60.78 336 IAmb IAmb 11 19 40.5
comp=Z,7.9nm,1.1s
L26K Log Cabin Wild 60.78 336 P **P** **11 19 39.0 +1.2**
baz=119
F30M Barrier River 60.79 342 P **P** **11 19 39.1 +1.3**
baz=129,SNR=11
K27K Chicken 60.80 337 P **P** **11 19 39.5 +1.6**
baz=121
I28M Miner Creek 60.80 339 P **P** **11 19 38.6 +0.5**
I28M IAmb IAmb 11 19 44.3
comp=Z,3.5nm,0.9s
I28M Miner Creek 60.80 339 P **P** **11 19 38.8 +0.8**
baz=124
EGAK Eagle 60.86 338 P **P** **11 19 38.4 +0.1**
EGAK IAmb IAmb 11 19 39.8
comp=Z,7.7nm,0.9s
EGAK Eagle 60.86 338 P **P** **11 19 38.4 +0.1**
baz=122,SNR=6.7
MENT Mentasta 60.88 336 IAmb IAmb 11 19 42.5
comp=Z,3.6nm,0.7s
RES Resolute Bay 60.90 359 LR LR 11 49 11.0
comp=Z,66nm,19.2s,baz=48,slow=39
G29M Pine Creek 61.03 341 P **P** **11 19 40.2 +0.7**
baz=127,SNR=7.6
KLU Klutina 61.11 334 P **P** **11 19 41.2 +1.0**
baz=116
P23K Montague Islan 61.13 332 P **P** **11 19 40.7 +0.5**
baz=114
GLI Glacier Island 61.36 333 P **P** **11 19 41.9 +0.2**
baz=114
A36M Sachs Harbour 61.43 349 P **P** **11 19 41.6 -0.4**
A36M IAmb IAmb 11 19 42.8
comp=Z,4.6nm,0.6s
A36M Sachs Harbour 61.43 349 P **P** **11 19 41.6 -0.4**
baz=142,SNR=7.3
I27K Kandik River 61.47 339 P **P** **11 19 43.3 +0.8**
baz=122,SNR=9.6
M24K Tolsona, Glenn 61.50 334 P **P** **11 19 44.4 +1.7**
baz=116
SCRK Sand Creek 61.50 337 P **P** **11 19 44.3 +1.5**
SCRK Sand Creek 61.50 337 P **P** **11 19 42.9 +0.2**
baz=119
PAX Paxson 61.60 335 P **P** **11 19 44.9 +1.5**
baz=117,SNR=5.4
J26L Joseph Creek 61.60 337 P **P** **11 19 44.3 +0.9**
baz=120,SNR=12
H27K Steamboat Moun 61.79 340 P **P** **11 19 45.0 +0.4**
baz=123,SNR=11
I26K Coal Creek Min 61.86 338 P **P** **11 19 46.0 +0.9**
baz=121
SCM Sheep Creek Mo 61.87 334 P **P** **11 19 45.1 -0.2**
baz=115
E29M Blow River 61.90 342 P **P** **11 19 45.2 -0.1**
baz=128,SNR=15
F28M Old Crow 62.03 341 P **P** **11 19 47.3 +1.1**
F28M Old Crow 62.03 341 P **P** **11 19 46.1 -0.1**
baz=125,SNR=38
K24K Donnelly Dome 62.11 336 P **P** **11 19 48.2 +1.4**
baz=117
G27K Doyon Strip 62.15 340 P **P** **11 19 47.7 +0.7**
G27K IAmb IAmb 11 19 48.3
comp=Z,3.7nm,0.8s
G27K Doyon Strip 62.15 340 P **P** **11 19 48.5 +1.5**
baz=123,SNR=7.1
J25K Salcha River, 62.34 337 P **P** **11 19 48.5 +0.2**
baz=118,SNR=7.5
WAT6 Susitna Watana 62.36 334 P **P** **11 19 49.3 +0.6**
baz=115,SNR=6.0
O22K Cooper Landing 62.39 332 P **P** **11 19 50.9 +2.3**
baz=112
E28M Babbage River 62.51 342 P **P** **11 19 49.7 +0.3**
baz=126
PMR Palmer 62.55 333 P **P** **11 19 50.6 +0.9**
baz=113
RC01 Rabbit Creek A 62.62 332 P **P** **11 19 52.0 +1.8**
baz=112
D28M Stokes Point 62.72 343 P **P** **11 19 52.1 +1.4**
baz=127,SNR=11
WAT1 Susitna Watana 62.80 335 P **P** **11 19 51.8 +0.3**
baz=114
PRP Porcupine Dome 62.83 338 P **P** **11 19 52.5 +0.9**
PRP Porcupine Dome 62.83 338 P **P** **11 19 51.8 +0.1**
baz=118,SNR=8.9
KDAK Kodiak Island 62.84 328 P **P** **11 19 52.9 +1.2**
baz=108
HDA Harding Lake 62.84 336 P **P** **11 19 52.4 +0.7**
HDA Harding Lake 62.84 336 P **P** **11 19 53.2 +1.5**
baz=116,SNR=5.5
E27K Coleen River 62.89 341 P **P** **11 19 53.1 +1.1**
E27K Coleen River 62.89 341 P **P** **11 19 53.2 +1.3**
baz=124,SNR=21
G26K Porcupine Rive 62.94 340 P **P** **11 19 53.5 +1.4**
baz=121,SNR=5.7
IL31 62.99 337 P **P** **11 19 53.1 +0.6**
ILAR Eielson Array 62.99 337 P **P** **11 19 53.2 +0.6**
ILAR Eielson Array 62.99 337 P **P** **11 19 53.5 +0.9**
comp=Z,19nm,1.2s,baz=122,slow=4.3,SNR=52
ILAR LR LR 11 52 44.2
comp=Z,76nm,18.2s,baz=113,slow=41
comp=Z,19nm,1.2s
RND Reindeer 63.17 335 P **P** **11 19 55.6 +1.7**
SUA Susitna One 63.22 333 P **P** **11 19 56.4 +2.1**
SUA Susitna One 63.22 333 P **P** **11 19 55.7 +1.4**
baz=111
H25L Birch Creek 63.30 339 P **P** **11 19 56.3 +1.7**
baz=118,SNR=6.4
D27M Malcolm River 63.31 343 P **P** **11 19 55.9 +1.2**
baz=125
MCK McKinley 63.34 335 P **P** **11 19 56.2 +1.2**
baz=114
POKR Poker Plat Res 63.35 337 P **P** **11 19 55.6 +0.6**
POKR IAmb IAmb 11 19 57.0
comp=Z,6.1nm,0.7s
POKR Poker Plat Res 63.35 337 P **P** **11 19 55.7 +0.7**
baz=116
CUT Chulitna 63.36 334 P **P** **11 19 56.8 +1.7**
CUT Chulitna 63.36 334 P **P** **11 19 56.6 +1.5**
baz=112
COLA College 63.40 337 P **P** **11 19 56.3 +1.0**
COLA College 63.40 337 P **P** **11 19 55.9 +0.6**
baz=116
F26K Sheenjek River 63.44 340 P **P** **11 19 55.9 +0.3**
baz=121,SNR=11
BMAR Burnt Mountain 63.45 340 P **P** **11 19 57.0 +1.3**
MDM Murphy Dome 63.58 337 P **P** **11 19 57.5 +1.0**
O20K Slope Mountain 63.59 331 P **P** **11 19 57.3 +0.6**
baz=109
G25K Bearman Lake 63.64 339 P **P** **11 19 58.2 +1.4**
baz=118,SNR=6.6
BWN Browne 63.73 336 P **P** **11 19 58.8 +1.3**
NEA2 Nenana 63.75 336 P **P** **11 19 58.7 +1.0**
NEA2 IAmb IAmb 11 19 59.6
comp=Z,15nm,1.4s
NEA2 Nenana 63.75 336 P **P** **11 19 58.6 +1.0**
baz=114
SKT Skwentna 63.75 333 P **P** **11 19 59.1 +1.4**
SKT IAmb IAmb 11 19 59.7
comp=Z,7.6nm,0.8s
SKT Skwentna 63.75 333 P **P** **11 19 58.3 +0.6**
baz=111
TRF Thorofare Moun 63.78 335 P **P** **11 19 59.2 +1.1**
TRF Thorofare Moun 63.78 335 P **P** **11 19 59.1 +1.0**
baz=113,SNR=6.8
N20K Mount Spurr 63.78 332 P **P** **11 19 58.7 +0.7**
baz=110
RSO Redoubt South 63.78 331 P **P** **11 19 59.6 +1.4**
H24K Noodor Dome 63.84 338 P **P** **11 19 59.6 +1.3**
H24K Noodor Dome 63.84 338 P **P** **11 19 58.4 +0.2**
baz=116,SNR=12
F25K Christian Rive 63.88 340 P **P** **11 19 59.1 +0.5**
baz=119,SNR=15
KTH Kantishna Hill 64.08 335 P **P** **11 20 00.6 +0.7**
KTH IAmb IAmb 11 20 04.5
comp=Z,6.5nm,0.9s
G24K Hadweenzic Riv 64.09 339 P **P** **11 20 01.6 +1.7**
G24K Hadweenzic Riv 64.09 339 P **P** **11 20 00.5 +0.6**
baz=117,SNR=7.2
I23K Minto, Yukon-K 64.10 337 P **P** **11 20 01.0 +1.1**
I23K Minto, Yukon-K 64.10 337 P **P** **11 20 01.2 +1.3**
baz=114,SNR=13
E25K Arctic Village 64.12 340 P **P** **11 20 01.6 +1.6**
E25K Arctic Village 64.12 340 P **P** **11 20 01.8 +1.7**
baz=119,SNR=13
ICESG Greenland Ices 64.30 18 *i* P P 11 19 56.6 -5.0
ICESG IAmb IAmb 11 20 00.1
comp=Z,9.9nm,0.7s
BPAW Bear Paw Mtn. 64.32 335 P **P** **11 20 02.2 +0.7**
BPAW IAmb IAmb 11 20 03.9
comp=Z,7.9nm,0.9s
BPAW Bear Paw Mtn. 64.32 335 P **P** **11 20 02.1 +0.7**
baz=112
C27K Jago River 64.33 342 P **P** **11 20 02.1 +0.8**
baz=122,SNR=19
PPLA Purkeypile 64.37 334 P **P** **11 20 02.3 +0.4**
baz=110
M20K Styx River 64.43 333 P **P** **11 20 02.0 -0.2**
baz=109
O19K Port Alsworth 64.44 331 P **P** **11 20 02.6 +0.5**
baz=107
H23K Yukon River 64.45 337 P **P** **11 20 03.5 +1.2**
H23K Yukon River 64.45 337 P **P** **11 20 03.4 +1.1**
baz=114
CAST Castle Rocks 64.51 334 P **P** **11 20 03.5 +0.8**
CAST IAmb IAmb 11 20 04.8
comp=Z,11nm,1.2s
CAST Castle Rocks 64.51 334 P **P** **11 20 03.2 +0.5**
baz=111,SNR=6.0
MLY Manley 64.58 336 P **P** **11 20 04.1 +1.0**
MLY Manley 64.58 336 P **P** **11 20 03.1 0.0**
baz=113,SNR=14
F24K Squaw Lake 64.61 339 P **P** **11 20 05.1 +1.8**
F24K IAmb IAmb 11 20 05.5
comp=Z,7.2nm,1.1s
F24K Squaw Lake 64.61 339 P **P** **11 20 03.6 +0.3**
baz=117,SNR=6.5
Q17K Contact Creek 64.66 328 P **P** **11 20 05.1 +1.2**
baz=105

N19K	**Bonanza Creek**	**64.70**	**331**	P	**P**	**11 20 05.5**	**+1.4**
	baz=107						
PPT2	**Papeete2**	**64.71**	**243**	*e*LR	LR	11 39 36.4	
PPT2	comp=Z,59nm,20.8s			*e*LR	LR	11 39 45.2	
	comp=Z,109nm,35.5s						
O18K	**Koktuh Hills**	**64.76**	**330**	P	**P**	**11 20 04.1**	**-0.3**
	baz=106						
CHUM	**Lake Minchumin**	**64.78**	**335**	P	**P**	**11 20 06.0**	**+1.7**
	baz=111						
C26K	**Camden Bay**	**64.84**	**342**	P	**P**	**11 20 05.2**	**+0.6**
	baz=121,SNR=16						
L20K	**Farewell, AK**	**64.96**	**333**	P	**P**	**11 20 06.7**	**+1.0**
	baz=109,SNR=7.2						
D25K	**Kavik River**	**64.97**	**341**	P	**P**	**11 20 06.8**	**+1.2**
	baz=119						
G23K	**Bananza Creek**	**65.00**	**338**	P	**P**	**11 20 06.7**	**+0.8**
	baz=114,SNR=6.6						
E24K	**Your Creek**	**65.06**	**340**	P	**P**	**11 20 07.5**	**+1.2**
	baz=116						
I21K	**Tanana**	**65.13**	**336**	P	**P**	**11 20 08.4**	**+1.8**
	baz=112,SNR=5.2						
H22K	**Ishtalitna Cre**	**65.17**	**337**	P	**P**	**11 20 07.9**	**+1.0**
	baz=113,SNR=6.4						
COLD	**Coldfoot**	**65.28**	**339**	P	**P**	**11 20 08.9**	**+1.3**
	baz=114,SNR=11						
L19K	**White Mountain**	**65.30**	**333**	P	**P**	**11 20 08.8**	**+1.0**
	baz=108						
N18K	**Kilae Creek**	**65.32**	**331**	P	**P**	**11 20 08.1**	**+0.1**
	baz=106						
K20K	**Telida**	**65.33**	**334**	IAmb	IAmb	11 20 11.6	
	comp=Z,6.5nm,0.8s						
K20K	**Telida**	**65.33**	**334**	P	**P**	**11 20 08.7**	**+0.7**
	baz=109						
R16K	**Pilot Point**	**65.36**	**327**	P	**P**	**11 20 08.4**	**+0.2**
	baz=103						
E23K	**Chandalar**	**65.44**	**340**	P	**P**	**11 20 09.2**	**+0.5**
	baz=115,SNR=23						
CHGN	**Chignik**	**65.52**	**326**	P	**P**	**11 20 09.9**	**+0.6**
	baz=102						
M18K	**Stony River**	**65.53**	**332**	P	**P**	**11 20 09.9**	**+0.6**
	baz=106						
G22K	**Bettles**	**65.62**	**338**	P	**P**	**11 20 11.1**	**+1.3**
	baz=113						
H21K	**Melozitna Rive**	**65.62**	**337**	P	**P**	**11 20 10.5**	**+0.7**
H21K				IAmb	IAmb	11 20 11.4	
	comp=Z,5.2nm,0.8s						
H21K	**Melozitna Rive**	**65.62**	**337**	P	**P**	**11 20 10.6**	**+0.7**
	baz=111,SNR=5.5						
J20K	**Nowinta River**	**65.64**	**335**	P	**P**	**11 20 11.2**	**+1.2**
J20K				IAmb	IAmb	11 20 11.9	
	comp=Z,6.0nm,0.8s						
J20K	**Nowinta River**	**65.64**	**335**	P	**P**	**11 20 10.5**	**+0.5**
	baz=109						
O17K	**Koliganek Bris**	**65.66**	**330**	P	**P**	**11 20 11.0**	**+0.9**
	baz=104						
D24K	**Happy Valley**	**65.66**	**341**	P	**P**	**11 20 11.1**	**+1.0**
D24K	**Happy Valley**	**65.66**	**341**	P	**P**	**11 20 10.4**	**+0.3**
	baz=116,SNR=9.5						
TOLK	**Toolik Lake Re**	**65.68**	**340**	P	**P**	**11 20 11.4**	**+1.2**
TOLK	**Toolik Lake Re**	**65.68**	**340**	P	**P**	**11 20 10.5**	**+0.3**
	baz=116,SNR=13						
C24K	**Franklin Bluff**	**65.89**	**341**	P	**P**	**11 20 12.7**	**+1.3**
	baz=117						
N17K	**Nushagak Hills**	**65.90**	**331**	P	**P**	**11 20 12.3**	**+0.6**
	baz=105						
P16K	**Nushagak River**	**65.92**	**329**	P	**P**	**11 20 11.6**	**-0.2**
	baz=103						
I20K	**Naaghedeneel**	**65.98**	**335**	P	**P**	**11 20 11.9**	**-0.2**
	baz=109						
TTA	**Tatalina**	**66.03**	**333**	IAmb	IAmb	11 20 13.8	
	comp=Z,8.2nm,0.9s						
TTA	**Tatalina**	**66.03**	**333**	P	**P**	**11 20 13.3**	**+0.7**
	baz=107,SNR=5.2						
O16K	**Kokwok River B**	**66.10**	**329**	P	**P**	**11 20 14.6**	**+1.6**
	baz=104						
L18K	**Granite Mounta**	**66.13**	**332**	P	**P**	**11 20 13.5**	**+0.3**
	baz=106						
S14K	**Fog Glacier**	**66.14**	**326**	P	**P**	**11 20 14.5**	**+1.1**
	baz=101						
D23K	**Nanushuk River**	**66.18**	**340**	P	**P**	**11 20 13.2**	**-0.1**
	baz=115						
J19K	**Poorman**	**66.19**	**334**	P	**P**	**11 20 13.9**	**+0.4**
J19K				IAmb	IAmb	11 20 14.1	
	comp=Z,6.2nm,0.9s						
J19K	**Poorman**	**66.19**	**334**	P	**P**	**11 20 14.5**	**+0.9**
	baz=108						
G21K	**Allakaket**	**66.20**	**337**	P	**P**	**11 20 14.8**	**+1.3**
G21K	**Allakaket**	**66.20**	**337**	P	**P**	**11 20 14.0**	**+0.4**
	baz=111,SNR=11						
M17K	**Holitna River**	**66.25**	**331**	P	**P**	**11 20 15.4**	**+1.5**
	baz=105						
EUNU	**Eureka**	**66.33**	**1**	P	**P**	**11 20 13.7**	**-0.6**
H20K	**Anotelneenega Mo**	**66.38**	**336**	P	**P**	**11 20 15.6**	**+0.9**
	baz=109						
F21K	**Alatna River**	**66.46**	**338**	P	**P**	**11 20 17.0**	**+1.8**
	baz=111,SNR=44						
SUMG	**Summit**	**66.46**	**15**	*i* P	**P**	**11 20 12.5**	**-3.1**
SUMG				IAmb	IAmb	11 20 14.6	
	comp=Z,32nm,0.1s						
SDPT	**Sand Point**	**66.48**	**325**	P	**P**	**11 20 17.2**	**+1.7**
	baz=100						
C23K	**Itkillik River**	**66.53**	**341**	P	**P**	**11 20 16.6**	**+1.0**
	baz=115,SNR=22						
D22K	**Ayikyak River**	**66.81**	**340**	P	**P**	**11 20 19.1**	**+1.7**
D22K	**Ayikyak River**	**66.81**	**340**	P	**P**	**11 20 17.9**	**+0.5**
	baz=113,SNR=14						
L17K	**Donlin**	**66.83**	**332**	P	**P**	**11 20 18.9**	**+1.2**
	baz=104						
NEEM	**North Greenlan**	**66.95**	**9**	*i* P	**P**	**11 20 15.5**	**-3.0**
NEEM				IAmb	IAmb	11 20 19.0	
	comp=Z,4.6nm,0.8s						
K17K	**Iditarod**	**66.98**	**333**	P	**P**	**11 20 19.1**	**+0.5**
	baz=105						
H19K	**Roundabout Mou**	**67.01**	**336**	P	**P**	**11 20 19.9**	**+1.2**
H19K	**Roundabout Mou**	**67.01**	**336**	P	**P**	**11 20 18.7**	**0.0**
	baz=108,SNR=7.0						
TBI	**Tubuai**	**67.15**	**237**	*e*LR	LR	11 40 52.0	
	comp=Z,203nm,21.2s						
F20K	**Avaraart Lake**	**67.22**	**338**	P	**P**	**11 20 22.0**	**+2.0**
	baz=109						
L16K	**Owhat River**	**67.27**	**332**	P	**P**	**11 20 22.1**	**+1.7**
	baz=103						
S12K	**Black Hills**	**67.43**	**325**	P	**P**	**11 20 22.7**	**+1.1**
	baz=98						
G19K	**Purcell Mounta**	**67.44**	**336**	IAmb	IAmb	11 20 23.6	
	comp=Z,8.5nm,0.8s						
G19K	**Purcell Mounta**	**67.44**	**336**	P	**P**	**11 20 22.8**	**+1.3**
	baz=107,SNR=7.1						
J17K	**VABM Dome**	**67.50**	**333**	P	**P**	**11 20 22.6**	**+0.7**
	baz=104						
O14K	**Tigyukauivet M**	**67.61**	**329**	P	**P**	**11 20 24.1**	**+1.6**
	baz=100						
C21K	**Knifeblade Rid**	**67.61**	**340**	P	**P**	**11 20 24.2**	**+1.7**
	baz=111,SNR=7.7						
M15K	**Kasigluk River**	**67.61**	**330**	P	**P**	**11 20 23.6**	**+1.0**
	baz=102						
B22K	**Teshekpuk Lake**	**67.62**	**341**	P	**P**	**11 20 23.7**	**+1.3**
	baz=112,SNR=11						
H18K	**Honhosa River**	**67.66**	**335**	P	**P**	**11 20 24.7**	**+1.8**
	baz=106						
B21K	**Ikpikpuk River**	**67.73**	**340**	P	**P**	**11 20 23.2**	**+0.1**
	baz=111						
E20K	**Nigu River**	**67.78**	**339**	P	**P**	**11 20 24.1**	**+0.5**
	baz=109,SNR=14						
E19K	**Redstone River**	**67.90**	**338**	P	**P**	**11 20 25.1**	**+0.8**
E19K				IAmb	IAmb	11 20 27.9	
	comp=Z,8.2nm,1.1s						
E19K	**Redstone River**	**67.90**	**338**	P	**P**	**11 20 25.1**	**+0.8**
	baz=108						
F19K	**Shaleruckik Mo**	**67.91**	**337**	P	**P**	**11 20 25.3**	**+0.9**
F19K				IAmb	IAmb	11 20 26.7	
	comp=Z,7.2nm,0.8s						
F19K	**Shaleruckik Mo**	**67.91**	**337**	P	**P**	**11 20 24.6**	**+0.2**
	baz=107,SNR=7.0						
N14K	**Kuskokwak Cree**	**67.95**	**329**	P	**P**	**11 20 26.7**	**+2.0**
	baz=100						
G18K	**Tagagawik**	**67.99**	**336**	P	**P**	**11 20 26.6**	**+1.7**
G18K				IAmb	IAmb	11 20 27.5	
	comp=Z,6.5nm,0.8s						
G18K	**Tagagawik**	**67.99**	**336**	P	**P**	**11 20 27.1**	**+2.2**
	baz=106						
FALS	**False Pass**	**68.08**	**324**	P	**P**	**11 20 26.8**	**+1.2**
FALS	**False Pass**	**68.08**	**324**	P	**P**	**11 20 26.4**	**+0.8**
	baz=97						
D20K	**Etivluk River**	**68.08**	**339**	P	**P**	**11 20 25.5**	**0.0**
	baz=109,SNR=22						
J16K	**Anvik River**	**68.14**	**333**	P	**P**	**11 20 27.9**	**+2.0**
J16K	**Anvik River**	**68.14**	**333**	P	**P**	**11 20 28.0**	**+2.1**
	baz=103						
L15K	**Ungalak Mounta**	**68.20**	**331**	P	**P**	**11 20 27.5**	**+1.2**
	baz=101						
M14K	**Bethel**	**68.24**	**330**	P	**P**	**11 20 27.8**	**+1.3**
M14K	**Bethel**	**68.24**	**330**	P	**P**	**11 20 27.1**	**+0.6**
	baz=100						
H17K	**Granite Mounta**	**68.24**	**335**	P	**P**	**11 20 26.7**	**+0.2**
	baz=104						
I17K	**Unalakleet**	**68.32**	**334**	P	**P**	**11 20 26.3**	**-0.6**
	baz=103						
K15K	**Wolf Creek Mou**	**68.34**	**332**	P	**P**	**11 20 28.9**	**+1.7**
K15K	**Wolf Creek Mou**	**68.34**	**332**	P	**P**	**11 20 27.9**	**+0.7**
	baz=101						
A22K	**Sinclair Lake**	**68.35**	**342**	P	**P**	**11 20 26.9**	**-0.2**
	baz=111						
D19K	**Kuna River**	**68.54**	**339**	P	**P**	**11 20 29.7**	**+1.3**
D19K	**Kuna River**	**68.54**	**339**	P	**P**	**11 20 29.1**	**+0.7**
	baz=107,SNR=9.9						
F18K	**Selawik**	**68.57**	**337**	P	**P**	**11 20 30.2**	**+1.8**
	baz=105						
G17K	**Kiwalik Mounta**	**68.68**	**335**	P	**P**	**11 20 30.1**	**+0.9**
	baz=104						
B20K	**Meade River**	**68.69**	**340**	P	**P**	**11 20 30.2**	**+1.0**
	baz=109						
L14K	**Kuka Creek**	**68.69**	**331**	P	**P**	**11 20 31.3**	**+1.9**
	baz=100						
E18K	**Tukpahlearik C**	**69.14**	**337**	P	**P**	**11 20 33.3**	**+1.3**
	baz=104						
H16K	**Elim**	**69.14**	**334**	P	**P**	**11 20 33.0**	**+0.9**
	baz=102						
F17K	**Baldwin Pennin**	**69.15**	**336**	P	**P**	**11 20 32.9**	**+0.9**
	baz=103						
C19K	**Lookout Ridge**	**69.23**	**339**	P	**P**	**11 20 34.5**	**+1.9**
C19K	**Lookout Ridge**	**69.23**	**339**	P	**P**	**11 20 33.8**	**+1.1**
	baz=106						
G16K	**Koyuk River**	**69.35**	**335**	P	**P**	**11 20 33.1**	**-0.3**
	baz=102						
J14K	**Nanvaranak Lak**	**69.35**	**332**	P	**P**	**11 20 35.0**	**+1.7**
	baz=100						
BORG	**Borgarnes**	**69.44**	**26**	LR	LR	11 51 18.6	
	comp=Z,65nm,18.4s,baz=193,slow=36						
E17K	**Hotham Inlet**	**69.52**	**337**	P	**P**	**11 20 35.4**	**+1.0**
	baz=103,SNR=9.4						
C18K	**Utukok River**	**69.67**	**339**	P	**P**	**11 20 36.0**	**+0.7**
	baz=104						
K13K	**Kusilvak Mount**	**69.72**	**331**	P	**P**	**11 20 37.1**	**+1.4**
	baz=98						
UNV	**Unalaska Valle**	**69.78**	**323**	P	**P**	**11 20 38.3**	**+2.1**
	baz=94						
G15K	**Niukluk**	**69.97**	**335**	P	**P**	**11 20 37.8**	**+0.6**
	baz=100						
A19K	**Wainwright**	**70.03**	**340**	P	**P**	**11 20 39.1**	**+1.7**
	baz=105						
B18K	**Kokolik River**	**70.06**	**339**	P	**P**	**11 20 39.3**	**+1.7**
	baz=104						
D17K	**Noatak River**	**70.13**	**337**	P	**P**	**11 20 39.5**	**+1.4**
	baz=102						
RDOG	**Red Dog Mine**	**70.14**	**338**	P	**P**	**11 20 39.9**	**+1.7**
	baz=102						
C17K	**DeLong Mountai**	**70.33**	**338**	P	**P**	**11 20 40.4**	**+0.9**
	baz=102						
F15K	**North Star Dit**	**70.35**	**335**	P	**P**	**11 20 40.6**	**+1.0**
	baz=100						
ANM	**Nome**	**70.46**	**334**	P	**P**	**11 20 41.5**	**+1.3**
	baz=99						
F14K	**Arctic Creek**	**71.00**	**335**	P	**P**	**11 20 43.6**	**+0.1**
	baz=98						
C16K	**Lisburne Hills**	**71.08**	**338**	P	**P**	**11 20 43.5**	**-0.4**
	baz=100						
DAG	**Danmarks Havn**	**72.89**	**13**	*i* P	**P**	**11 20 52.0**	**-2.6**
DAG				IAmb	IAmb	11 20 53.3	
	comp=Z,6.6nm,0.5s						
NOR	**Nord**	**74.32**	**8**	*i* P	**P**	**11 21 01.3**	**-1.7**
NOR				IAmb	IAmb	11 21 02.3	
	comp=Z,2.0nm,0.6s						
JMIC	**Jan Mayen**	**74.97**	**20**	LR	LR	11 53 50.4	
	comp=Z,87nm,21.6s,baz=78,slow=36						
EKA	**Eskdalemuir Ar**	**78.19**	**36**	P	**P**	**11 21 22.8**	**-2.6**
	comp=Z,5.3nm,0.7s,baz=272,slow=6.1,SNR=18						
	comp=Z,5.3nm,0.7s						
ESDC	**Sonseca Array**	**79.93**	**52**	P	**P**	**11 21 32.2**	**-3.1**
	comp=Z,0.7nm,0.7s,baz=263,slow=10,SNR=3.2						
	comp=Z,0.7nm,0.7s						
SPITS	**Spitsbergen Ar**	**80.31**	**11**	P	**P**	**11 21 35.7**	**-0.9**
	comp=Z,3.0nm,0.5s,baz=29,slow=1.9,SNR=8.7						
SPITS				LR	LR	11 58 39.3	
	comp=Z,107nm,20.6s,baz=216,slow=37						
	comp=Z,3.0nm,0.5s						
MDT	**Midelt**	**80.59**	**59**	LR	LR	11 50 49.7	
	comp=Z,41nm,19.4s,baz=303,slow=31						
BILL	**Bilibino**	**81.61**	**338**	P	**P**	**11 21 44.8**	**+1.1**
NOA	**NORSAR Array B**	**84.38**	**28**	P	**P**	**11 21 56.3**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=289,slow=5.3,SNR=3.8						
NOA				LR	LR	12 00 32.5	
	comp=Z,30nm,18.1s,baz=225,slow=37						
	comp=Z,1.0nm,0.8s						
MUD	**Monsted U'grnd**	**84.75**	**33**	*i* P	**P**	**11 21 57.5**	**-2.5**
MUD				IAML		11 22 24.2	
	comp=Z,9.6nm,0.6s						
MUD				IAmb	IAmb	11 22 24.2	
	comp=Z,9.6nm,0.6s						
HFS	**Hagfors**	**85.83**	**29**	P	**P**	**11 22 02.8**	**-2.6**
	comp=Z,3.1nm,0.7s,baz=228,slow=5.8,SNR=5.6						
HFS				LR	LR	11 58 26.3	
	comp=Z,45nm,21.9s,baz=282,slow=34						
	comp=Z,3.1nm,0.7s						
ARCES	**ARCESS Array B**	**86.36**	**18**	P	**P**	**11 22 06.1**	**-1.8**
	comp=Z,2.2nm,0.8s,baz=318,slow=3.3,SNR=7.6						
ARCES				LR	LR	11 59 54.4	
	comp=Z,92nm,21.9s,baz=330,slow=35						
	comp=Z,2.2nm,0.8s						
GERES	**GERESS Array B**	**89.83**	**39**	LR	LR	11 59 59.4	
	comp=Z,37nm,19.9s,baz=60,slow=34						
TIXI	**Tiksi**	**90.44**	**348**	P	**P**	**11 22 27.9**	**+0.7**
TIXI	**Tiksi**	**90.44**	**348**	LR	LR	12 07 07.8	
	comp=Z,35nm,20.8s,baz=64,slow=38						
FINES	**FINESS Array B**	**90.73**	**25**	LR	LR	12 03 45.8	
	comp=Z,38nm,19.2s,baz=290,slow=36						
FUNA	**Funafuti**	**90.75**	**261**	P	**P**	**11 22 32.1**	**+2.5**
PETK	**Petropavlovsk-**	**90.75**	**326**	P	**P**	**11 22 32.5**	**+3.5**
	comp=Z,1.0nm,0.7s,baz=92,slow=4.6,SNR=2.0						
	comp=Z,1.0nm,0.7s						
MA2	**Magadan**	**91.23**	**333**	LR	LR	12 09 07.9	
	comp=Z,18nm,19.9s,baz=67,slow=39						
PUK	**Puka**	**96.49**	**44**	P	**P**	**11 22 55.0**	**-0.8**
YAK	**Yakutsk**	**97.62**	**342**	LR	LR	12 13 19.3	
	comp=Z,36nm,20.5s,baz=33,slow=39						
AKASG	**Malin Array Be**	**97.96**	**33**	LR	LR	12 07 12.8	
	comp=Z,25nm,20.7s,baz=248,slow=36						
DZM	**Mont Dzumac**	**105.51**	**251**	*e*LR	LR	11 58 42.9	
	comp=Z,56nm,23.6s						
KURBB	**Kurchatov Arra**	**115.34**	**7**	PKP	**PKPdf**	**11 28 08.1**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=339,slow=1.9,SNR=6.6						
WRA	**Warramunga Arr**	**135.24**	**256**	PKP	**PKiKP**	**11 28 51.7**	**+3.8**
	comp=Z,0.7nm,0.6s,baz=88,slow=2.6,SNR=11						
ASAR	**Alice Springs**	**135.50**	**250**	PKP	**PKiKP**	**11 28 51.9**	**+3.5**
	comp=Z,0.4nm,0.7s,baz=81,slow=2.3,SNR=2.4						
CMAR	**Chiang Mai Arr**	**146.15**	**341**	PKPbc	**PKPab**	**11 29 07.8**	**+0.2**
	comp=Z,14nm,0.7s,baz=334,slow=3.5,SNR=68						

IDC ***04*** *11:18:34.9±1.6,5.˚26N×127.˚43E,h152km±13km,mb3.9/19, mbtmp4.3/20,MS3.4/3,Error ellipse: s-maj=21.0km s-min=13.2km az=74.0*

NEIC ***04*** *11:18:35.1±1.4,5.˚25N±0.˚07×127.˚3E±0.˚1,h142km±7km, mb4.4/114,Error ellipse: s-maj=15.5km s-min=9.7km az=73.0*

DJA ***04*** *11:18:36.2±0.5,5.˚N±4.˚×12.˚7E±.˚,h147km±12km,M4.3/9, mb4.5/7,mB4.7/6,MLv4.5/9,Mw(mB)4.0/6*

ISC 04 11:18:34.9±0.4,**5.19N**±0.˚04×**127.˚32E**±0.˚07,**h150**km,**n337,** σ0**s73**/335,**mb4.4**/76,**1D,Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**2.33**	**230**	P		P	**Pn**	**11 19 14.2**	**+0.2**
SGSI				S		S	**Sn**	**11 19 43.3**	**-0.7**
DAV	**Davao City (W)**	**2.54**	**317**	Pn		Pn	**Pn**	**11 19 15.9**	**-0.7**
DAV	**Davao City (W)**	**2.54**	**317**	P		P	**Pn**	**11 19 16.4**	**-0.2**
	176nm,0.3s,baz=117,slow=3.9,SNR=5.3								
DAV				S			**Sn**	**11 19 50.0**	**+1.3**
	212nm,0.3s,baz=283,slow=22,SNR=6.3								
TNTI	**Ternate**	**4.39**	**179**	Pn			**Pn**	**11 19 40.7**	**+0.4**
TNTI	**Ternate**	**4.39**	**179**	P			**Pn**	**11 19 41.3**	**+1.0**
TNTI				S			**Sn**	**11 20 30.2**	**-1.1**
KMSI	**Cibinong**	**5.67**	**216**	P			**Pn**	**11 19 58.2**	**+1.0**
	97nm,0.7s,3µm1.0nm								

LBMI	**Labuha**	**5.79**	**178**	P		**Pn**	**11 19 59.7**	**+0.8**
	48nm,0.8s,7.5nm							
GTOI	**Gorontalo**	**6.25**	**224**	P		**Pn**	**11 20 05.2**	**+0.3**
	32nm,1.1s,318nm0.1nm							
SWI	**Sorong**	**7.19**	**147**	P		**Pn**	**11 20 18.4**	**+0.9**
	44nm,0.5s,0.2nm							
TOLI2	**Tolitoli**	**7.68**	**238**	Pn		**Pn**	**11 20 24.1**	**0.0**
FAKI	**Fak Fak**	**9.44**	**148**	Pn		**Pn**	**11 20 47.7**	**+0.1**
FAKI	**Fak Fak**	**9.44**	**148**	P		**Pn**	**11 20 48.6**	**+1.0**
TGY	**Tagaytay City**	**10.86**	**325**	LR		LR	11 26 27.5	
	comp=Z,98nm,21.1s,baz=172,slow=44							
BKB	**Balikpapan**	**12.23**	**239**	Pn		**Pn**	**11 21 22.2**	**-2.0**
MMRI	**Maumere**	**14.64**	**200**	Pn		**Pn**	**11 21 54.2**	**-0.8**
SBUM	**Sibu**	**15.31**	**260**			**P**	**11 22 04.7**	**0.0**
SBUM				IAmb		IAmb	11 22 08.6	
	comp=Z,13nm,0.7s							
KSM	**Kuching**	**17.38**	**258**	P		**P**	**11 22 27.1**	**-0.4**
MTN	**Manton Dam**	**18.32**	**168**	P		**P**	**11 22 38.8**	**+1.1**
TWG	**Pinlang**	**18.54**	**342**	P		**P**	**11 22 38.8**	**-1.3**
YULB	**Yu-li**	**19.00**	**343**	P		**P**	**11 22 43.1**	**-2.1**
YULB				IAmb		IAmb	11 23 01.4	
	comp=Z,12nm,1.0s							
TPUB	**Ta-pu**	**19.12**	**341**	P		**P**	**11 22 45.6**	**-0.9**
SSLB	**Suanglung**	**19.48**	**342**	P		**P**	**11 22 50.5**	**+0.2**
SSLB				IAmb		IAmb	11 22 54.8	
	comp=Z,13nm,0.7s							
KNRA	**Kununurra**	**20.79**	**176**	P		**P**	**11 23 06.0**	**+1.6**
KNRA				IAmb		IAmb	11 23 06.8	
	comp=Z,8.7nm,0.7s							
KNMB	**Chin-men Tao**	**21.00**	**337**	P		**P**	**11 23 06.1**	**-0.4**
JOW	**Kunigami**	**21.54**	**2**	P		**P**	**11 23 12.8**	**+0.5**
JOW				IAmb		IAmb	11 23 31.2	
	comp=Z,19nm,1.2s							
JOW	**Kunigami**	**21.54**	**2**	P		**P**	**11 23 11.7**	**-0.7**
	comp=Z,9.0nm,0.6s,baz=208,slow=13,SNR=5.7							
	comp=Z,9.0nm,0.6s							
MYKOM	**Kota Tinggi**	**23.66**	**263**	P		**P**	**11 23 34.0**	**+1.0**
WRA	**Warramunga Arr**	**25.91**	**165**	P		**P**	**11 23 53.5**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=340,slow=11,SNR=6.8							
	comp=Z,0.4nm,0.3s							
JCJ	**Chichijima**	**25.99**	**31**	P		**P**	**11 23 52.1**	**-1.7**
NJ2	**Nanjing**	**27.87**	**344**	*e*P		**P**	**11 24 13.3**	**+2.7**
NJ2				pP		**pP**	**11 24 41.8**	**+1.4**
NJ2				sP		**sP**	**11 24 59.3**	**+2.3**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,150nm,4.0s							
JNU	**Nakatsue**	**27.98**	**6**	P		**P**	**11 24 11.3**	**-0.3**
ASAR	**Alice Springs**	**29.39**	**168**	P		**P**	**11 24 24.9**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=354,slow=7.9,SNR=4.9							
ASAR				PcP		**PcP**	**11 27 26.1**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=355,slow=2.1,SNR=4.9							
	comp=Z,0.3nm,0.5s							
CMAR	**Chiang Mai Arr**	**30.68**	**298**	P		**P**	**11 24 36.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=125,slow=7.5,SNR=4.9							
	comp=Z,0.5nm,0.3s							
TJN	**Taejon**	**31.04**	**0**	P		**P**	**11 24 39.2**	**+0.7**
JGF	**Kuroka**	**31.64**	**16**	P		**P**	**11 24 43.0**	**-1.0**
JGF				IAmb		IAmb	11 24 48.8	
	comp=Z,12nm,1.3s							
KSRS	**Korea Array**	**32.12**	**1**	P		**P**	**11 24 47.2**	**-0.7**
	comp=Z,2.8nm,0.8s,baz=179,slow=9.9,SNR=8.2							
	comp=Z,2.8nm,0.8s							
PZH	**PanZhiHua**	**32.34**	**314**	P		**P**	**11 24 50.8**	**+0.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,110nm,4.9s							
MJAR	**Matsushiro Arr**	**32.76**	**16**	P		**P**	**11 24 51.4**	**-2.3**
	comp=Z,0.6nm,0.5s,baz=196,slow=9.4,SNR=1.8							
	comp=Z,0.6nm,0.5s							
XAN	**Xi'an**	**33.40**	**332**	P		**P**	**11 24 59.1**	**-0.2**
XAN				pmax		pmax		
	comp=Z,40nm,0.7s							
TNCH	**TengChong**	**33.94**	**308**	*e*P		P	11 25 10.3	+6.0
TNCH				pP		pP	11 25 36.9	+0.8
TNCH				pmax		pmax		
	comp=Z,110nm,4.9s							
JMM	**Marumori**	**34.77**	**19**	P		**P**	**11 25 09.9**	**-1.0**
LZH	**Lanzhou**	**37.56**	**328**	*e*P		**P**	**11 25 35.1**	**+0.1**
LZH				pP		pP	11 26 08.2	+1.7
LZH				pmax		pmax		
	comp=Z,17nm,0.9s							
HHC	**Hu-ho-hao-te**	**38.21**	**341**	*e*P		**P**	**11 25 42.5**	**+2.2**
HHC				pmax		pmax		
	comp=Z,11nm,0.5s							
HHC				pmax		pmax		
	comp=Z,90nm,4.5s							
BBOO	**Buckleboo**	**38.70**	**168**	P		**P**	**11 25 45.2**	**+1.0**
USA0B	**Ussuriysk Arra**	**39.07**	**5**	P		**P**	**11 25 47.2**	**0.0**
USRK	**Ussuriysk Ar.**	**39.07**	**5**	P		**P**	**11 25 45.8**	**-1.4**
	comp=Z,1.1nm,0.4s,baz=191,slow=8.4,SNR=4.2							
	comp=Z,1.1nm,0.4s							
MDJ	**Mudanjiang**	**39.32**	**3**	P		**P**	**11 25 49.9**	**+0.7**
MDJ				pmax		pmax		
	comp=Z,7.0nm,1.0s							
MDJ				pmax		pmax		
	comp=Z,350nm,4.5s							
SHL	**Shillong**	**39.51**	**305**	P		**P**	**11 25 51.1**	**-0.3**
SHL				IAmb		IAmb	11 25 52.1	
	comp=Z,6.1nm,0.7s							
JKA	**Kamikawa-asahi**	**41.03**	**17**	P		**P**	**11 26 02.6**	**-0.8**
GTA	**Gaotai**	**42.16**	**328**	*e*P		**P**	**11 26 13.8**	**+0.9**
GTA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
ULN	**Ulaanbaatar**	**45.93**	**341**	P		**P**	**11 26 43.9**	**+1.

BVAR **Borovoye Array** 66.43 326 P P 11 29 08.1 +0.2
comp=Z,6.0nm,0.7s,baz=120,slow=8.7,SNR=19
comp=Z,6.0nm,0.7s
BRVK **Borovoye** 66.50 326 P P 11 29 08.8 +0.5
BRVK IAmb IAmb 11 29 09.7
comp=Z,6.6nm,1.0s
NIKH **Nikolski High** 70.29 35 P P 11 29 31.3 -0.6
baz=252
GEYT **Alibeck** 70.45 308 P P 11 29 33.8 +0.6
GEYT **Alibeck** 70.45 308 P P 11 29 32.9 -0.3
comp=Z,2.5nm,0.7s,baz=113,slow=3.4,SNR=4.4
comp=Z,2.5nm,0.7s
GYA0B **ALIBECK ARRAY** 70.45 308 P P 11 29 33.8 +0.6
GYA0B IAmb IAmb 11 29 35.1
comp=Z,5.1nm,0.6s
SPIA **Saint Paul Isl** 70.95 31 P P 11 29 35.5 -0.2
baz=249
ABKAR **Akbulak array** 71.40 320 P P 11 29 38.5 -0.1
ABKAR IAmb IAmb 11 29 39.4
comp=Z,3.3nm,0.8s
UNV **Unalaska Valle** 71.89 35 P P 11 29 41.5 0.0
baz=253
ARU **Arti** 74.02 327 P P 11 29 53.6 -0.5
ARU IAmb IAmb 11 29 53.9
comp=Z,5.1nm,0.4s
S12K **Black Hills** 74.86 34 P P 11 29 59.0 +0.1
baz=257
M13K **Dall Lake** 75.37 29 P P 11 30 01.8 +0.1
baz=254
F14K **Arctic Creek** 75.61 23 P P 11 30 02.2 -0.8
baz=250
SDPT **Sand Point** 75.66 34 P P 11 30 02.5 -1.0
baz=258
ANM **Nome** 75.70 24 P P 11 30 04.2 +0.7
baz=252
J14K **Nanvaranak Lak** 75.93 26 P P 11 30 04.9 +0.1
baz=254
L14K **Kuka Creek** 75.94 28 P P 11 30 06.0 +1.2
L14K **Kuka Creek** 75.94 28 P P 11 30 05.2 +0.3
baz=255
N14K **Kuskokwak Cree** 76.05 29 P P 11 30 05.4 -0.2
baz=256
O14K **Tigyukauivet M** 76.10 30 P P 11 30 05.9 0.0
baz=256
M14K **Bethel** 76.12 29 P P 11 30 07.0 +1.0
M14K **Bethel** 76.12 29 P P 11 30 06.9 +1.0
baz=256
K15K **Wolf Creek Mou** 76.71 27 P P 11 30 10.5 +1.3
M15K **Kasigluk River** 76.72 29 P P 11 30 09.8 +0.5
baz=257
O15K **Ungalikthiuk R** 76.81 30 P P 11 30 10.5 +0.7
baz=258
N15K **Kwethluk River** 76.89 29 P P 11 30 11.2 +0.9
J16K **Anvik River** 77.37 26 P P 11 30 14.2 +1.3
J16K IAmb IAmb 11 30 30.9
comp=Z,7.7nm,1.1s
J16K **Anvik River** 77.37 26 P P 11 30 13.0 +0.1
baz=256
I17K **Unalakleet** 77.47 26 P P 11 30 13.0 -0.5
baz=256
L16K **Owhat River** 77.52 28 P P 11 30 14.8 +1.0
L16K IAmb IAmb 11 30 43.8
comp=Z,13nm,1.4s
L16K **Owhat River** 77.52 28 P P 11 30 13.7 -0.1
baz=258
D17K **Noatak River** 77.55 21 P P 11 30 14.2 +0.4
baz=253
N16K **Nishlik Lake** 77.60 29 P P 11 30 13.9 -0.4
baz=258
M16K **Timber Creek** 77.61 29 P P 11 30 15.3 +1.0
M16K **Timber Creek** 77.61 29 P P 11 30 13.9 -0.5
baz=258
R16K **Pilot Point** 77.66 32 P P 11 30 15.0 +0.4
baz=260
RDOG **Red Dog Mine** 77.72 21 P P 11 30 15.1 +0.3
baz=253
C17K **DeLong Mountai** 77.75 21 P P 11 30 15.3 +0.4
baz=253
O16K **Kokwok River B** 77.76 30 P P 11 30 15.6 +0.4
O16K IAmb IAmb 11 30 26.2
comp=Z,14nm,1.2s
O16K **Kokwok River B** 77.76 30 P P 11 30 15.4 +0.3
baz=259
E17K **Hotham Inlet** 77.84 22 P P 11 30 16.5 +1.1
baz=254
G17K **Kiwalik Mounta** 77.89 24 P P 11 30 16.3 +0.5
baz=256
F17K **Baldwin Pennin** 77.89 23 P P 11 30 16.8 +1.1
F17K **Baldwin Pennin** 77.89 23 P P 11 30 15.9 +0.2
baz=255
H17K **Granite Mounta** 78.05 25 P P 11 30 17.1 +0.4
baz=256
J17K **VABM Dome** 78.06 26 P P 11 30 18.0 +1.3
J17K IAmb IAmb 11 30 18.2
comp=Z,7.6nm,0.9s
J17K **VABM Dome** 78.06 26 P P 11 30 16.9 +0.1
baz=258
L17K **Donlin** 78.15 28 P P 11 30 17.6 +0.3
baz=258
K17K **Iditarod** 78.27 27 P P 11 30 18.7 +0.8
K17K **Iditarod** 78.27 27 P P 11 30 18.1 +0.2
baz=258
O17K **Koliganek Bris** 78.29 30 P P 11 30 18.0 0.0
baz=260
Q16K **King Salmon** 78.33 31 P P 11 30 18.3 +0.1
baz=261
N17K **Nushagak Hills** 78.38 29 P P 11 30 19.9 +1.3
N17K **Nushagak Hills** 78.38 29 P P 11 30 18.5 0.0
baz=260
E18K **Tukpahlearik C** 78.39 22 P P 11 30 19.3 +0.9
E18K IAmb IAmb 11 30 19.8
comp=Z,4.9nm,0.7s
E18K **Tukpahlearik C** 78.39 22 P P 11 30 18.7 +0.2
baz=255
M17K **Holitna River** 78.41 28 P P 11 30 20.0 +1.2
M17K **Holitna River** 78.41 28 P P 11 30 18.3 -0.4
baz=260
C18K **Utukok River** 78.49 21 P P 11 30 19.8 +0.7
C18K IAmb IAmb 11 30 32.8
comp=Z,10nm,1.5s
F18K **Selawik** 78.55 23 P P 11 30 19.6 +0.2
baz=256
Q17K **Contact Creek** 78.66 32 P P 11 30 20.5 +0.2
baz=262
H18K **Honhosa River** 78.74 25 P P 11 30 21.0 +0.5
H18K IAmb IAmb 11 30 25.3
comp=Z,15nm,1.4s
H18K **Honhosa River** 78.74 25 P P 11 30 20.5 0.0
baz=258
L18K **Granite Mounta** 78.91 28 P P 11 30 22.6 +1.2
L18K IAmb IAmb 11 30 36.1
comp=Z,12nm,1.4s
L18K **Granite Mounta** 78.91 28 P P 11 30 21.4 0.0
baz=260
J18K **Innoko River** 79.12 26 P P 11 30 22.9 +0.3
P18K **Big Mountain,** 79.17 31 P P 11 30 23.2 +0.3
baz=262
C19K **Lookout Ridge** 79.17 20 P P 11 30 24.1 +1.3
C19K IAmb IAmb 11 30 25.9
comp=Z,8.2nm,1.2s
C19K **Lookout Ridge** 79.17 20 P P 11 30 23.3 +0.5
baz=256
M18K **Stony River** 79.19 28 P P 11 30 22.7 -0.3
baz=261
O18K **Koktuh Hills** 79.24 30 P P 11 30 23.2 -0.1
baz=262
GCSA **Galena City Sc** 79.28 25 P P 11 30 23.6 +0.3
baz=259
KIRV **Kirov** 79.28 329 LR LR 12 07 58.3
comp=Z,47nm,21.9s,baz=318,slow=37
F19K **Shaleruckik Mo** 79.33 23 P P 11 30 24.6 +1.0
baz=258
TTA **Tatalina** 79.34 27 P P 11 30 24.5 +0.6
TTA **Tatalina** 79.34 27 P P 11 30 23.4 -0.5
baz=260
G19K **Purcell Mounta** 79.46 24 P P 11 30 24.6 +0.3
baz=259
D19K **Kuna River** 79.55 21 P P 11 30 25.3 +0.4
D19K IAmb IAmb 11 30 27.4
comp=Z,14nm,1.5s
D19K **Kuna River** 79.55 21 P P 11 30 24.4 -0.4
baz=258
H19K **Roundabout Mou** 79.60 24 IAmb IAmb 11 30 27.1
comp=Z,8.5nm,1.1s
H19K **Roundabout Mou** 79.60 24 P P 11 30 25.4 +0.3
baz=260
BELG **Belogornoye** 79.62 322 LR LR 12 08 41.8
comp=Z,26nm,20.2s,baz=340,slow=38
E19K **Redstone River** 79.66 22 IAmb IAmb 11 30 27.3
comp=Z,8.2nm,1.1s
E19K **Redstone River** 79.66 22 P P 11 30 25.4 -0.1
baz=258,SNR=7.0
J19K **Poorman** 79.69 26 P P 11 30 25.5 -0.1
baz=261
N19K **Bonanza Creek** 79.73 29 P P 11 30 25.6 -0.4
baz=262
L19K **White Mountain** 79.75 28 P P 11 30 26.5 +0.5
L19K IAmb IAmb 11 30 40.7
comp=Z,8.0nm,1.3s
L19K **White Mountain** 79.75 28 P P 11 30 25.8 -0.2
baz=262
OHAK **Old Harbor** 79.91 33 P P 11 30 26.8 -0.1
baz=264
D20K **Etivluk River** 80.14 21 P P 11 30 27.4 -0.5
baz=259,SNR=5.3
F20K **Avaraart Lake** 80.16 23 P P 11 30 28.2 +0.1
baz=260
E20K **Nigu River** 80.21 22 P P 11 30 28.3 -0.1
baz=259,SNR=5.3
B20K **Meade River** 80.21 20 P P 11 30 29.0 +0.8
B20K IAmb IAmb 11 30 31.8
comp=Z,10nm,1.4s
B20K **Meade River** 80.21 20 P P 11 30 28.4 +0.1
baz=258
P19K **Oil Pt** 80.21 30 P P 11 30 27.5 -1.1
baz=264
H20K **Anotleneega Mo** 80.24 24 P P 11 30 28.6 0.0
baz=261
L20K **Farewell, AK** 80.24 28 P P 11 30 28.7 0.0
baz=262
K20K **Telida** 80.28 27 P P 11 30 28.3 -0.5
baz=262
I20K **Naaghedeneel** 80.30 25 P P 11 30 28.2 -0.7
baz=262
KDAK **Kodiak Island** 80.35 32 P P 11 30 29.6 +0.3
baz=264
J20K **Nowinta River** 80.36 26 P P 11 30 30.2 +1.0
J20K **Nowinta River** 80.36 26 P P 11 30 29.4 +0.2
baz=262
RAYN **Ar Rayn** 80.45 293 P P 11 30 31.1 +0.5
RAYN IAmb IAmb 11 30 31.7
comp=Z,3.8nm,0.8s
M20K **Styx River** 80.52 28 P P 11 30 30.5 +0.2
baz=263
Q20K **Shuyak Island** 80.53 32 P P 11 30 30.1 -0.1
baz=264
O20K **Slope Mountain** 80.56 30 P P 11 30 30.5 0.0
baz=264
A21K **Barrow** 80.65 18 P P 11 30 31.0 +0.4
baz=258
IMAR **Indian Mountai** 80.78 24 P P 11 30 31.8 +0.4
C21K **Knifeblade Rid** 80.87 21 P P 11 30 32.2 +0.4
baz=260
G21K **Allakaket** 80.95 23 IAmb IAmb 11 30 34.8
comp=Z,6.8nm,1.2s
G21K **Allakaket** 80.95 23 P P 11 30 32.4 +0.1
baz=262
B21K **Ikpikpuk River** 81.00 20 P P 11 30 33.5 +1.0
B21K IAmb IAmb 11 30 33.9
comp=Z,7.3nm,0.7s
B21K **Ikpikpuk River** 81.00 20 P P 11 30 33.3 +0.8
baz=261
E21K **Killik River** 81.05 22 IAmb IAmb 11 30 33.9
comp=Z,5.2nm,0.8s
E21K **Killik River** 81.05 22 P P 11 30 33.3 +0.5
baz=261
F21K **Alatna River** 81.06 23 P P 11 30 33.6 +0.7
F21K **Alatna River** 81.06 23 P P 11 30 33.6 +0.7
baz=262
PPLA **Purkeypile** 81.07 27 P P 11 30 32.9 -0.2
baz=264
A22K **Sinclair Lake** 81.12 19 P P 11 30 33.7 +0.6
baz=260
CHUM **Lake Minchumin** 81.12 26 P P 11 30 33.9 +0.7
baz=264
H21K **Melozitna Rive** 81.12 24 P P 11 30 34.2 +1.0
H21K **Melozitna Rive** 81.12 24 P P 11 30 33.9 +0.7
baz=263
CAST **Castle Rocks** 81.17 27 P P 11 30 33.7 +0.1
baz=264
SKT **Skwentna** 81.28 28 P P 11 30 34.3 +0.1
baz=265
I21K **Tanana** 81.41 25 P P 11 30 35.3 +0.5
baz=264
BRSE **Bradley Lake S** 81.47 30 P P 11 30 34.6 -0.6
baz=266
B22K **Teshekpuk Lake** 81.52 20 P P 11 30 35.9 +0.7
B22K IAmb IAmb 11 30 36.8
comp=Z,7.6nm,0.8s
B22K **Teshekpuk Lake** 81.52 20 P P 11 30 35.7 +0.5
baz=262,SNR=5.8
D22K **Ayiyak River** 81.58 21 P P 11 30 35.8 +0.2
baz=262
F22K **John River** 81.59 23 P P 11 30 36.8 +1.0
baz=263
SUA **Susitna One** 81.61 29 P P 11 30 36.0 0.0
baz=265
BPAW **Bear Paw Mtn.** 81.72 26 P P 11 30 37.2 +0.8
BPAW IAmb IAmb 11 30 37.5
comp=Z,4.2nm,0.7s
BPAW **Bear Paw Mtn.** 81.72 26 P P 11 30 36.8 +0.4
baz=265
H22K **Ishtalitna Cre** 81.73 24 P P 11 30 36.9 +0.4
baz=264
G22K **Bettles** 81.79 23 P P 11 30 36.7 0.0
baz=264
E22K **Anaktuvuk Pass** 81.80 22 P P 11 30 37.8 +0.9
E22K IAmb IAmb 11 30 38.8
comp=Z,5.3nm,0.9s
E22K **Anaktuvuk Pass** 81.80 22 P P 11 30 36.7 -0.1
baz=263
CUT **Chulitna** 81.91 28 P P 11 30 37.7 +0.3
baz=266
MLY **Manley** 81.91 25 P P 11 30 38.1 +0.6
MLY IAmb IAmb 11 30 38.6
comp=Z,4.1nm,0.6s
MLY **Manley** 81.91 25 P P 11 30 37.7 +0.2
baz=265,SNR=5.1
TRF **Thorofare Moun** 81.98 27 P P 11 30 38.1 +0.1
baz=266
RC01 **Rabbit Creek A** 82.07 29 P P 11 30 38.6 +0.3
baz=266
D23K **Nanushuk River** 82.31 21 P P 11 30 40.5 +1.1
baz=264
COLD **Coldfoot** 82.33 23 P P 11 30 40.7 +1.1
baz=265,SNR=5.7
G23K **Bananza Creek** 82.35 23 P P 11 30 39.5 -0.2
G23K IAmb IAmb 11 30 41.4
comp=Z,3.3nm,0.7s
G23K **Bananza Creek** 82.35 23 P P 11 30 40.5 +0.8
baz=266
PMR **Palmer** 82.39 29 P P 11 30 39.5 -0.4
PMR **Palmer** 82.39 29 P P 11 30 40.5 +0.6
baz=267
C23K **Itkillik River** 82.42 20 P P 11 30 40.9 +1.0
C23K **Itkillik River** 82.42 20 P P 11 30 40.9 +1.0
baz=264,SNR=6.2
H23K **Yukon River** 82.48 24 P P 11 30 40.4 0.0
baz=266
I23K **Minto, Yukon-K** 82.50 25 P P 11 30 41.0 +0.6
I23K IAmb IAmb 11 30 41.6
comp=Z,10nm,1.2s
I23K **Minto, Yukon-K** 82.50 25 P P 11 30 40.8 +0.3
baz=266
NEA2 **Nenana** 82.59 26 P P 11 30 41.4 +0.5
baz=266
MCK **McKinley** 82.60 26 P P 11 30 41.6 +0.5
baz=267
E23K **Chandalar** 82.62 22 P P 11 30 41.8 +0.6
baz=266,SNR=7.6
TOLK **Toolik Lake Re** 82.68 22 P P 11 30 41.4 0.0
baz=266
KNK **Knik Glacier** 82.70 29 P P 11 30 41.4 -0.2
baz=267
WAT1 **Susitna Watana** 82.72 27 P P 11 30 41.6 -0.2
baz=267
D24K **Happy Valley** 82.99 21 P P 11 30 43.3 +0.4
baz=266,SNR=6.5
E24K **Your Creek** 83.04 22 P P 11 30 44.7 +1.4
E24K **Your Creek** 83.04 22 P P 11 30 44.1 +0.8
baz=267
C24K **Franklin Bluff** 83.07 20 P P 11 30 44.2 +1.0
baz=266
WAT6 **Susitna Watana** 83.09 28 P P 11 30 44.1 +0.3
baz=268
H24K **Noodor Dome** 83.16 24 P P 11 30 44.9 +1.0
H24K IAmb IAmb 11 30 46.2
comp=Z,4.0nm,0.9s
H24K **Noodor Dome** 83.16 24 P P 11 30 44.0 +0.1
baz=267
P23K **Montague Islan** 83.17 30 P P 11 30 44.7 +0.7
baz=268
F24K **Squaw Lake** 83.24 23 P P 11 30 45.7 +1.5
F24K IAmb IAmb 11 30 46.1
comp=Z,4.1nm,1.0s
F24K **Squaw Lake** 83.24 23 P P 11 30 45.0 +0.7
baz=267
DHY **Denali Highway** 83.27 27 P P 11 30 45.5 +0.8
baz=268
POKR **Poker Plat Res** 83.32 25 P P 11 30 45.2 +0.6
baz=268
G24K **Hadweenzic Riv** 83.36 24 P P 11 30 45.6 +0.7
G24K IAmb IAmb 11 30 46.5
comp=Z,6.3nm,0.9s
G24K **Hadweenzic Riv** 83.36 24 P P 11 30 45.5 +0.6
baz=268,SNR=5.0
HDA **Harding Lake** 83.50 26 P P 11 30 45.0 -0.6
HDA IAmb IAmb 11 30 45.5
comp=Z,4.3nm,0.7s
HDA **Harding Lake** 83.50 26 P P 11 30 45.3 -0.4
baz=268
IL31 83.54 25 P P 11 30 44.9 -0.9
IL31 IAmb IAmb 11 30 45.7
comp=Z,2.8nm,0.7s
ILAR **Eielson Array** 83.54 25 P P 11 30 44.7 -1.1
ILAR **Eielson Array** 83.54 25 P P 11 30 44.6 -1.2
comp=Z,1.4nm,0.5s,baz=247,slow=5.4,SNR=40
comp=Z,1.4nm,0.5s
Q23K **Middleton Isla** 83.69 31 P P 11 30 46.5 -0.1
baz=270
M24K **Tolsona, Glenn** 83.81 28 P P 11 30 47.5 +0.2
baz=269
D25K **Kavik River** 83.87 21 P P 11 30 47.4 -0.1
baz=268
G25K **Bearman Lake** 83.91 23 P P 11 30 47.6 -0.1
baz=269
K24K **Donnelly Dome** 84.00 26 P P 11 30 48.0 -0.2
baz=270
H25L **Birch Creek** 84.01 24 P P 11 30 48.4 +0.3
baz=269
F25K **Christian Rive** 84.10 23 P P 11 30 49.1 +0.4
baz=269
PRP **Porcupine Dome** 84.13 25 P P 11 30 49.3 +0.4
baz=270
E25K **Arctic Village** 84.14 22 P P 11 30 49.7 +0.9
E25K **Arctic Village** 84.14 22 P P 11 30 49.2 +0.3
baz=269
PAX **Paxson** 84.14 27 P P 11 30 49.2 +0.2
baz=270
J25K **Salcha River,** 84.19 26 P P 11 30 48.7 -0.5
J25K **Salcha River,** 84.19 26 P P 11 30 48.7 -0.5
baz=270
HARP **HAARP** 84.28 28 P P 11 30 49.2 -0.4
baz=270
C26K **Camden Bay** 84.39 20 P P 11 30 50.8 +0.8
baz=270
BMAR **Burnt Mountain** 84.51 23 P P 11 30 52.4 +1.6
KAIM **Kayak Island** 84.67 30 P P 11 30 52.1 +0.5
baz=271
F26K **Sheenjek River** 84.67 23 P P 11 30 52.4 +0.9
baz=271
SCRK **Sand Creek** 84.80 26 P P 11 30 52.9 +0.6
baz=271
C27K **Jago River** 84.81 21 P P 11 30 53.7 +1.5
baz=271
G26K **Porcupine Rive** 84.83 23 P P 11 30 53.2 +0.9
baz=271
J26L **Joseph Creek** 84.97 26 P P 11 30 53.4 +0.3
J26L **Joseph Creek** 84.97 26 P P 11 30 53.1 -0.1
baz=271
L26K **Log Cabin Wild** 85.11 27 P P 11 30 54.1 +0.3
baz=272
I26K **Coal Creek Min** 85.12 25 P P 11 30 54.3 +0.5
I26K **Coal Creek Min** 85.12 25 P P 11 30 54.3 +0.5
baz=272
BGLC **Bering Glacier** 85.23 30 P P 11 30 54.4 +0.1
baz=272
M26K **Nabesna, AK** 85.29 28 P P 11 30 54.9 +0.2
baz=272
MCARA **McCarthy VSAT** 85.31 29 P P 11 30 55.5 +0.7
baz=272
E27K **Coleen River** 85.62 22 P P 11 30 57.0 +0.7
E27K **Coleen River** 85.62 22 P P 11 30 57.0 +0.7
baz=273
K27K **Chicken** 85.64 26 P P 11 30 57.3 +1.0
G27K **Doyon Strip** 85.67 23 P P 11 30 56.0 -0.5
G27K **Doyon Strip** 85.67 23 P P 11 30 56.9 +0.4
baz=273
I27K **Kandik River** 85.75 25 P P 11 30 57.1 +0.1
baz=273
H27K **Steamboat Moun** 85.75 24 P P 11 30 57.1 +0.1
baz=273
D27M **Malcolm River** 85.79 21 P P 11 30 57.4 +0.3
D27M **Malcolm River** 85.79 21 P P 11 30 58.1 +1.0
baz=273
L27K **Beaver Creek,** 85.80 27 P P 11 30 57.7 +0.5
L27K **Beaver Creek,** 85.80 27 P P 11 30 58.1 +0.9
baz=273
M27K **Edge Creek, AK** 85.81 28 P P 11 30 57.7 +0.3
baz=273
BCAR **Beaver Creek A** 85.82 27 P P 11 30 58.2 +0.8
MESA **MESA** 85.90 30 P P 11 30 57.9 -0.1
baz=273
EGAK **Eagle** 85.99 25 P P 11 30 58.2 +0.1
EGAK **Eagle** 85.99 25 P P 11 30 58.4 +0.3
baz=274
CTG **Chitna Glacier** 86.15 29 P P 11 30 59.6 +0.5
baz=274
F28M **Old Crow** 86.31 23 P P 11 30 59.4 -0.2
F28M IAmb IAmb 11 31 01.0
comp=Z,2.1nm,0.6s
F28M **Old Crow** 86.31 23 P P 11 31 00.4 +0.7
baz=275
E28M **Babbage River** 86.36 22 P P 11 31 00.1 +0.2
E28M **Babbage River** 86.36 22 P P 11 30 59.9 +0.1
baz=275
I28M **Miner Creek** 86.46 25 P P 11 31 00.9 +0.4
I28M IAmb IAmb 11 31 02.7
comp=Z,4.2nm,0.8s
I28M **Miner Creek** 86.46 25 P P 11 31 00.3 -0.2
baz=275
D28M **Stokes Point** 86.58 21 P P 11 31 01.7 +0.9
baz=276
O28M **Mount Upton** 86.73 29 P P 11 31 01.8 -0.3
baz=275
DAWY **Dawson** 86.81 26 P P 11 31 02.5 +0.4
E29M **Blow River** 86.98 22 P P 11 31 03.4 +0.5
baz=276
H29M **Whitestone** 87.03 24 P P 11 31 03.7 +0.6
H29M **Whitestone** 87.03 24 P P 11 31 03.4 +0.3
baz=276
G29M **Pine Creek** 87.09 23 P P 11 31 03.5 0.0
G29M **Pine Creek** 87.09 23 P P 11 31 03.4 0.0
baz=276
EPYK **Eagle Plains** 87.67 24 P P 11 31 06.0 -0.3
baz=278
G30M **tAoh Zraii Nji** 87.79 23 P P 11 31 06.3 -0.4
G30M IAmb IAmb 11 31 27.6
comp=Z,5.5nm,1.4s
G30M **tAoh Zraii Nji** 87.79 23 P P 11 31 06.4 -0.4
baz=278
F30M **Barrier River** 87.86 22 P P 11 31 07.2 +0.1
baz=278
J30M **Hart River** 88.08 25 P P 11 31 08.0 -0.3
baz=278
G31M **Satah River** 88.56 23 P P 11 31 10.8 +0.5
baz=280
INK **Inuvik** 88.59 22 P P 11 31 10.8 +0.3
baz=280
F31M **Tsiigehtchic** 88.67 22 P P 11 31 10.1 -0.7
F31M **Tsiigehtchic** 88.67 22 P P 11 31 10.6 -0.2
baz=280
N31M **Braeburn, Yuko** 88.77 28 P P 11 31 11.2 -0.3
baz=278
ARCES **ARCESS Array B** 89.29 340 P P 11 31 12.6 -1.1
ARCES **ARCESS Array B** 89.29 340 P P 11 31 11.9 -1.8
comp=Z,2.0nm,0.7s,baz=62,slow=4.2,SNR=8.7
comp=Z,2.0nm,0.7s
FARO **Faro, Yukon** 89.78 28 P P 11 31 16.6 +0.4
FARO IAmb IAmb 11 31 35.8
comp=Z,6.1nm,1.5s
FARO **Faro, Yukon** 89.78 28 P P 11 31 16.0 -0.2

baz=281
FINES FINESS Array B 90.83 332 P **P** **11 31 19.6 -1.4**
comp=Z,2.6nm,1.0s,baz=27,slow=9.0,SNR=4.9
comp=Z,2.6nm,1.0s
C36M Paulatuk 91.64 20 P **P** **11 31 24.0 -0.7**
C36M IAmb IAmb 11 31 24.4
comp=Z,2.9nm,1.2s
HFS Hagfors 97.00 332 P **P** **11 31 47.4 -1.9**
comp=Z,1.2nm,0.5s,baz=81,slow=9.2,SNR=4.9
comp=Z,1.2nm,0.5s
YKA Yellowknife Ar 97.93 24 P **P** **11 31 52.1 -1.4**
comp=Z,0.2nm,0.6s,baz=290,slow=3.8,SNR=3.6
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 123.01 289 PKP **PKPdf** **11 37 13.9 -0.6**
comp=Z,0.3nm,0.6s,baz=60,slow=1.5,SNR=2.5

*IDC **04** 11:32:36.5±1.6,0˚.18S×126˚.10E,h0km,mb3.7/4, mbtmp3.7/4,Error ellipse: s-maj=184.4km s-min=21.6km az=65.0*
*DJA **04** 11:32:42.3±1.5,0˚N±3˚×12˚7E±˚,h33km±27km,M3.9/10, mb4.2/3,mB4.9/1,MLv3.8/10,Mw(mB)4.2/1*
ISC 04 11:32:42.0±1.0,**0.04N**±0.05×**126.80E**±0.05,**h35km,n14,** σ1§**40/17,mb3.8/4,Northern Moluca Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.92**	**38**	P		**Pn**	**Pn**	**11 32 59.1**	**+0.6**
TNTI				S		**Sn**	**Sn**	**11 33 11.8**	**+1.2**
LBMI	**Labuha**	**0.97**	**134**	P		**Pn**	**Pn**	**11 33 00.1**	**+0.9**
LBMI				S		**Sn**	**Sn**	**11 33 13.2**	**+1.4**
SANI	**Sanana**	**2.23**	**201**	P		**Pn**	**Pn**	**11 33 16.4**	**0.0**
KMSI	**Cibinong**	**2.87**	**281**	P		**Pn**	**Pn**	**11 33 26.0**	**+0.8**
KMSI				S		**Sn**	**Sn**	**11 33 59.5**	**+1.0**
NLAI	**Namlea**	**3.27**	**175**	P		**Pn**	**Pn**	**11 33 30.9**	**+0.1**
GTOI	**Gorontalo**	**3.83**	**279**	P		**Pn**	**Pn**	**11 33 42.0**	**+3.5**
SGSI	**Sangihe**	**3.84**	**341**	P		**Pn**	**Pn**	**11 33 39.0**	**+0.4**
LUWI	**Luwuk**	**4.17**	**255**	P		**Pn**	**Pn**	**11 33 44.2**	**+1.1**
FAKI	**Fak Fak**	**6.19**	**118**	P		**Pn**	**Pn**	**11 34 12.3**	**+1.3**
TTSI	**Tana Toraja**	**7.62**	**246**	P		**Pn**	**Pn**	**11 34 30.6**	**0.0**
WRA	**Warramunga Arr** 0.7nm,0.3s,baz=336,slow=11,SNR=19 0.7nm,0.3s	**21.19**	**160**	P		**P**	**P**	**11 37 23.4**	**-1.2**
ASAR	**Alice Springs** 1.2nm,0.6s,baz=342,slow=9.9,SNR=25 1.2nm,0.6s	**24.55**	**164**	P		**P**	**P**	**11 37 58.6**	**-0.1**
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=123,slow=8.4,SNR=6.0 0.8nm,0.7s	**60.63**	**326**	P		**P**	**P**	**11 42 47.9**	**-1.6**
KURBB	**Kurchatov Arra** 1.1nm,0.9s,baz=125,slow=6.0,SNR=6.4 1.1nm,0.9s	**64.88**	**328**	P		**P**	**P**	**11 43 16.3**	**-1.4**

*IDC **04** 11:37:17.3±2.2,60˚.02N×24˚.53E,h0km,mbtmp2.9/3, ML2.1/3,Error ellipse: s-maj=28.9km s-min=8.6km az=158.0*
*HEL **04** 11:37:18.3±0.0,59˚.98N×24˚.24E,h0km,ML2.1,Explosion*
*EST **04** 11:37:18.2,59˚.98N×24˚.20E,h0km,ML2.1(HEL), Explosion*
*UPP **04** 11:37:24.6±1.3,60˚.07N×23˚.28E,h0km,ML1.9*
ISC 04 11:37:16.8±0.8,**59˚.96N**±0˚.03×**24˚.24E**±0˚.04,**h0km,n23,** σ1§**19/32,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.27**	**16**	*e*P		**Pg**		**11 37 22.9**	**+0.8**
MEF				*e*S		**Sg**		**11 37 26.3**	**+0.8**
MEF				MSG				11 37 26.5	
comp=Z,131nm,0.1s									
HEL1	**Helsinki**	**0.39**	**55**	*e*P		**Pg**		**11 37 25.0**	**+0.8**
HEL1				*e*S		**Sg**		**11 37 30.1**	**+0.8**
HEL1				MSG				11 37 30.8	
comp=Z,49nm,0.1s									
NUR	**Nurmijrvi**	**0.59**	**20**	*e*P		**Pg**		**11 37 28.6**	**+0.5**
NUR				*e*S		**Sg**		**11 37 35.7**	**0.0**
NUR				MSG				11 37 37.1	
comp=Z,33nm,0.1s									
EE02	**Kiisa, Saku**	**0.80**	**163**	*e*P		**Pb**		**11 37 33.0**	**-0.5**
EE02				*e*S		**Sg**		**11 37 42.9**	**+0.4**
EE01	**Perakula, Nova**	**0.82**	**203**	*e*P		**Pg**		**11 37 33.5**	**+1.1**
EE01				*e*S		**Sg**		**11 37 43.3**	**+0.4**
PVF	**Pernaja**	**1.00**	**53**	*e*P		**Pg**		**11 37 36.1**	**+0.2**
ARBE	**Arbavere**	**1.03**	**120**	*e*PB		**Pb**		**11 37 37.5**	**+0.1**
MTSE	**Matsula**	**1.27**	**190**	*e*P		**Pg**		**11 37 41.4**	**+0.4**
EE08	**Sarghaua, Vand**	**1.40**	**158**	*e*P		**Pg**		**11 37 43.5**	**-0.1**
RAF	**Rauma**	**1.63**	**312**	*e*PG		**Pn**		**11 37 47.1**	**+0.5**
FINES	**FINESS Array B** comp=Z,1.3nm,0.3s,baz=210,slow=16,SNR=54	**1.74**	**30**	Pn		**Pn**		**11 37 48.0**	**-0.3**
FINES				Sn		**Sn**		**11 38 11.1**	**-0.1**
comp=Z,1.0nm,0.3s,baz=207,slow=15,SNR=4.8									
AAL	**Aland**	**2.14**	**278**	P		**Pn**		**11 37 55.0**	**+1.3**
AAL				S		**Sn**		**11 38 17.2**	**-3.8**
NRTU	**Norrtaelje**	**2.85**	**267**	P		**Pn**		**11 38 04.6**	**+1.2**
GRAU	**Graesoe**	**2.88**	**280**	P		**Pn**		**11 38 04.4**	**+0.6**
FLYU	**Flymyra**	**3.19**	**276**	P		**Pn**		**11 38 09.5**	**+1.3**
FIBU	**Brunna**	**3.47**	**272**	P		**Pn**		**11 38 14.2**	**+2.3**
IGGU	**Iggoen**	**3.56**	**288**	P		**Pn**		**11 38 14.4**	**+1.3**
OSTU	**Oestervaala**	**3.57**	**277**	P		**Pn**		**11 38 14.5**	**+1.2**
BACU	**Backbrunna**	**3.59**	**271**	P		**Pn**		**11 38 14.8**	**+1.1**
ARNU	**Arnoeviken**	**3.79**	**300**	P		**Pn**		**11 38 17.5**	**+1.2**
HFS	**Hagfors** comp=Z,0.1nm,0.3s,baz=112,slow=12,SNR=6.8	**5.29**	**276**	Pn		**Pn**		**11 38 37.8**	**+0.8**
HFS				Sn		**Sn**		**11 39 37.6**	**-1.0**
comp=Z,0.2nm,0.3s,baz=94,slow=20,SNR=1.9									
HFS				Lg		Lg		11 40 07.2	
comp=Z,0.7nm,0.3s,baz=81,slow=30,SNR=6.4 comp=Z,1.0nm,0.7s									
NOA	**NORSAR Array B** baz=86,slow=19,SNR=5.2	**6.53**	**285**	Pn		**Pn**		**11 38 53.8**	**-0.3**
NOA				Sn		**Sn**		**11 40 08.7**	**-0.4**
baz=94,slow=11,SNR=2.4									
NOA				Lg		Lg		11 40 46.1	
comp=Z,0.1nm,0.3s,baz=245,slow=18,SNR=4.3 comp=Z,0.7nm,0.9s									
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=185,slow=12,SNR=17 comp=Z,0.6nm,0.5s	**9.63**	**3**	Pn		**Pn**		**11 39 34.5**	**-2.0**

*IDC **04** 11:40:47.4±0.5,36˚.26N×140˚.51E,h0km,mb4.1/22, mbtmp4.1/27,ML3.2/5,MS3.0/9,Error ellipse: s-maj=16.1km s-min=13.7km az=93.0*
*JMA **04** 11:40:48.1±0.1,36˚.5N±0˚.2×141˚.1E±0˚.5,h21km±1km, MD4.3/40,MV4.1/40,E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
*NIED **04** 11:40:48.1,36˚.48N×141˚.07E,h21km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.94; Mθθ-0.21; Mϕϕ 1.15; Mrθ-0.43; Mθϕ-0.24; Mϕr 0.27; Fault plane solution: M₀1.20000×10¹⁵ NP1: ϕs149.00000°,δ58.00000°,λ-117.00000°. NP2: ϕs13.00000°,δ41.00000°,λ-55.00000°.*
*NEIC **04** 11:40:53.2,36˚.87N×140˚.49E,h10km*
*NEIC **04** 11:40:54.3±1.9,36˚.85N±0˚.07×140˚.59E±0˚.10,h18km±5km, mb4.5/127,Mwr3.9/10,Error ellipse: s-maj=12.8km s-min=7.2km az=126.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr-4.44; Mθθ-4.41; Mϕϕ8.85; Mrθ-4.02; Mθϕ-1.17; Mϕr2.57; Fault plane solution: M₀9.10000×10¹⁴ NP1:ϕs31.14000°,δ48.43000°, λ-28.41000°. NP2:ϕs140.89000°,δ69.15000°, λ-134.76000°. Principal axes: T 9.6025, Plg13.0000°, Azm262.0000°; N -1.1030, Plg41.0000°, Azm160.0000°; P -8.4995, Plg46.0000°, Azm5.0000°;*
ISC 04 11:40:50.8±1.1,**36.60N**±0.03×**140.83E**±0.04,**h10km**±6**km,** **n223,** σ1§**65/180,mb4.4/80,MS3.0/6,4D,Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.21**	**273**	*i* P		**Pg**		**11 40 56.5**	**+1.3**
JHO				S		**Sg**		**11 41 02.9**	**+4.7**
JHO	**Hitachi** comp=E,10.0nm,0.4s,comp=N,7.0nm,1.5s	**0.21**	**273**	A		A		11 40 56.5	
JHYU	**Hitachinakayam**	**0.33**	**217**	*i* P		**Pg**		**11 40 56.6**	**-0.7**
JHYU				S		**Sg**		**11 41 03.0**	**+1.3**
JHYU	**Hitachinakayam** comp=E,21nm,1.1s,comp=N,16nm,0.5s	**0.33**	**217**	A		A		11 40 56.6	
ONAJ	**Iwakimizuishiy**	**0.50**	**357**	*i* P		**Pb**		**11 41 00.7**	**-1.1**
ONAJ				S		**Sb**		**11 41 09.8**	**+0.8**
ONAJ	**Iwakimizuishiy** comp=E,27nm,0.3s,comp=N,10.0nm,0.4s	**0.50**	**357**	A		A		11 41 00.7	
JFFD	**Fukushimafurud** comp=E,11nm,5.0s,comp=N,7.0nm,5.0s	**0.53**	**336**	A		A		11 41 01.9	
JYT	**Yasato**	**0.63**	**234**	⇓*i* P		**Pg**		**11 41 02.2**	**-0.9**
JYT				⇓S		**Sb**		**11 41 12.8**	**0.0**
JYT	**Yasato** comp=E,18nm,0.4s,comp=N,17nm,1.4s	**0.63**	**234**	A		A		11 41 02.2	
JIHU	**Itakohorinouch**	**0.68**	**201**	P		**Pg**		**11 41 01.6**	**-2.5**
JIHU				S		**Sg**		**11 41 12.2**	**-0.7**
JIHU	**Itakohorinouch** comp=E,64nm,1.9s,comp=N,72nm,1.3s	**0.68**	**201**	A		A		11 41 01.6	
JFK	**Kawauchi**	**0.76**	**3**	P		**Pg**		**11 41 04.2**	**-1.5**
JFK	**Kawauchi** comp=E,3.0nm,2.9s,comp=N,3.0nm,8.5s	**0.76**	**3**	A		A		11 41 04.2	
JSB	**Shiboa**	**0.82**	**297**	P		**Pn**		**11 41 07.5**	**-0.8**
JSB				*e*S		**Sn**		**11 41 21.7**	**+1.2**
JSB	**Shiboa** comp=E,64nm,1.0s,comp=N,24nm,1.3s	**0.82**	**297**	A		A		11 41 07.5	
JSMT	**Sammumatsuo**	**1.01**	**198**	P		Pg		11 41 06.2	-3.9
JSMT				S		**Sg**		**11 41 19.3**	**-4.0**
JSMT	**Sammumatsuo** comp=E,31nm,2.7s,comp=N,34nm,1.9s	**1.01**	**198**	A		A		11 41 06.2	
JOTO	**OTAMA OYAMA**	**1.03**	**338**	P		**Pb**		**11 41 10.1**	**-0.8**
JOTO				S		**Sn**		**11 41 26.4**	**+0.5**
JOTO	**OTAMA OYAMA** comp=E,16nm,0.9s,comp=N,21nm,0.8s	**1.03**	**338**	A		A		11 41 10.1	
JAG	**Ashikaga**	**1.12**	**261**	⇓P		**Pg**		**11 41 10.4**	**-2.0**
JAG				⇓*e*S		**Sn**		**11 41 27.9**	**-0.2**
JAG	**Ashikaga** comp=E,3.0nm,2.1s,comp=N,6.0nm,1.6s	**1.12**	**261**	A		A		11 41 10.4	
JMST	**Minamisoumatoc** comp=N,3.0nm,2.0s	**1.12**	**2**	A		A		11 41 10.4	
JFY	**Yanaizu** comp=E,9.0nm,1.1s,comp=N,5.0nm,4.3s	**1.21**	**312**	A		A		11 41 13.3	
TOK	**Tokyo** comp=E,14nm,1.5s,comp=N,17nm,1.6s	**1.26**	**224**	A		A		11 41 11.7	
JMM	**Marumori**	**1.26**	**359**	P		**Pg**		**11 41 12.5**	**-2.6**
JMM	**Marumori**	**1.26**	**359**			**Pg**		**11 41 11.9**	**-3.2**
JMM	**Marumori** comp=N,4.0nm,0.4s	**1.26**	**359**	A		A		11 41 12.7	
JKT	**Katashina** comp=E,10.0nm,1.2s,comp=N,8.0nm,5.2s	**1.28**	**278**	A		A		11 41 14.2	
JCN	**Nagara** comp=E,34nm,2.2s,comp=N,29nm,5.4s	**1.29**	**203**	A		A		11 41 10.8	
JYAR	**Yonezawaarcadi** comp=E,10.0nm,1.1s,comp=N,9.0nm,0.9s	**1.42**	**338**	A		A		11 41 15.9	
JKUC	**kamogawauchiur** comp=E,8.0nm,3.7s,comp=N,7.0nm,1.7s	**1.53**	**200**	A		A		11 41 14.3	
JYS	**Shirataka** comp=E,6.0nm,3.3s,comp=N,5.0nm,1.8s	**1.73**	**340**	A		A		11 41 20.4	
JOU	**Okura** comp=E,5.0nm,0.6s,comp=N,5.0nm,3.0s	**1.77**	**356**	A		A		11 41 20.3	
JOD2	**Odawara 2** comp=E,3.0nm,1.2s,comp=N,5.0nm,2.5s	**1.94**	**227**	A		A		11 41 21.9	
MJAR	**Matsushiro Arr** comp=N,1.8nm,0.3s,baz=173,slow=5.4,SNR=65	**2.11**	**269**	Pn		**Pn**		**11 41 25.3**	**-0.9**
MJAR				Sn		**Sg**		**11 41 54.9**	**-3.8**
comp=N,4.2nm,0.3s,baz=213,slow=36,SNR=6.0									
MJAR				LR		LR		11 42 16.2	
comp=N,187nm,18.5s,baz=12,slow=47									
MAJO	**Matsushiro**	**2.11**	**269**	P		**Pn**		**11 41 26.3**	**+0.1**
MAJO	**Matsushiro**	**2.11**	**269**			**Pn**		**11 41 26.3**	**+0.1**
MJB9	**Matsu-Tunnel**	**2.11**	**269**			**Pb**		**11 41 27.1**	**-2.1**
JYA	**Atsumi** comp=E,4.0nm,0.9s,comp=N,5.0nm,0.9s	**2.18**	**336**	A		A		11 41 26.9	
JHTM	**Izuhatsuma** comp=E,5.0nm,1.5s,comp=N,7.0nm,5.4s	**2.21**	**223**	A		A		11 41 25.5	
JSD	**Sado**	**2.50**	**306**	P		**Pn**		**11 41 31.8**	**+0.3**
JSD	**Sado**	**2.50**	**306**	Pn		**Pn**		**11 41 29.4**	**-2.0**
JSG	**Sagara**	**2.89**	**229**	P		**Pn**		**11 41 38.0**	**+1.2**
JSG	**Sagara**	**2.89**	**229**			**Pn**		**11 41 38.4**	**+1.6**
JGF	**Kuroka**	**2.98**	**251**	P		**Pn**		**11 41 39.1**	**+0.9**
JGF	**Kuroka**	**2.98**	**251**			**Pn**		**11 41 38.7**	**+0.5**
JHJ	**Hachijo jima 2** comp=N,11nm,0.3s,baz=239,slow=21,SNR=2.5	**3.58**	**194**	Pn		**Pn**		11 41 39.7	-6.6
JHJ				Sn		Sn		11 42 15.1	-14
comp=N,18nm,0.3s,baz=264,slow=23,SNR=2.2 comp=N,82nm,0.7s									
JHJ2	**Mitsune**	**3.58**	**194**	P		**Pn**		**11 41 45.9**	**-0.4**
JTM	**Tenmabayashi**	**4.18**	**2**	P		**Pn**		**11 41 54.0**	**-0.6**
JTM	**Tenmabayashi**	**4.18**	**2**	Pn		**Pn**		**11 41 54.3**	**-0.3**
ERM	**Erimo**	**5.70**	**18**	P		**Pn**		**11 42 14.8**	**-0.6**
ERM	**Erimo**	**5.70**	**18**	Pn		**Pn**		**11 42 15.8**	**+0.3**
JEM	**Erimo**	**5.70**	**18**	P		**Pn**		**11 42 14.5**	**-1.0**
JMN	**Monobe**	**6.37**	**245**	P		**Pn**		**11 42 25.0**	**+0.2**
JMN	**Monobe**	**6.37**	**245**	Pn		**Pn**		**11 42 24.5**	**-0.3**
ASAJ	**Asahikawa** comp=N,1.2nm,0.3s,baz=234,slow=13,SNR=8.7	**7.63**	**10**	Pn		**Pn**		**11 42 43.6**	**+1.7**
ASAJ				Sn		**Sn**		**11 44 05.7**	**-2.6**
baz=75,slow=31 comp=N,13nm,0.7s									
JKA	**Kamikawa-asahi**	**7.63**	**10**	Pn		**Pn**		**11 42 40.3**	**-1.6**
JNU	**Nakatsue**	**8.88**	**250**	Pn		**Pn**		**11 43 01.3**	**+2.1**
JNU	**Nakatsue** comp=N,0.1nm,0.3s,baz=263,slow=9.5,SNR=2.6	**8.88**	**250**	Pn		Pn		11 42 51.9	-7.4
JNU				LR		LR		11 45 55.2	
comp=N,46nm,21.8s,baz=42,slow=36 comp=N,9.7nm,1.0s									
JTU	**Tsushima**	**9.54**	**261**	Pn		**Pn**		**11 43 08.1**	**-0.1**
JCJ	**Chichijima** comp=N,14nm,0.3s,baz=271,slow=20,SNR=5.2	**9.55**	**173**	Pn		Pn		11 42 55.2	-13
USRK	**Ussuriysk Ar.** comp=N,0.1nm,0.3s,baz=360,slow=21,SNR=2.9 comp=N,0.7nm,0.6s	**10.15**	**321**	Pn		**Pn**		**11 43 16.4**	**0.0**
KSRS	**Korea Array** comp=N,0.1nm,0.3s,baz=95,slow=14,SNR=4.8	**10.36**	**279**	Pn		**Pn**		**11 43 19.7**	**+0.3**
KSRS				LR		LR		11 47 17.3	
comp=N,61nm,20.1s,baz=85,slow=38									
JOW	**Kunigami** comp=N,0.3nm,0.3s,baz=153,slow=14,SNR=2.6	**14.44**	**231**	Pn		Pn		11 44 07.7	-7.6
JOW				LR		LR		11 49 19.3	
comp=N,39nm,20.8s,baz=41,slow=36 comp=N,5.9nm,0.7s									
PEA0B	**Petropavlovsk-**	**20.30**	**30**	P		**P**		**11 45 27.1**	**+0.6**
PETK	**Petropavlovsk-**	**20.30**	**30**	P		**P**		**11 45 27.7**	**+1.1**
PETK	**Petropavlovsk-** comp=N,3.7nm,0.8s,baz=198,slow=8.8,SNR=6.1	**20.30**	**30**	P		**P**		**11 45 28.1**	**+1.5**
PETK				LR		LR		11 54 26.2	
comp=N,31nm,18.2s,baz=114,slow=40 comp=N,3.7nm,0.8s									
YHNB	**Yeheng**	**20.49**	**240**	P		**P**		**11 45 29.3**	**+0.3**
YHNB				IAmb		IAmb		11 45 32.0	
comp=Z,49nm,1.5s									
PET	**Petropavlovsk**	**20.63**	**32**	P		**P**		**11 45 29.6**	**-0.5**
PET				IAmb		IAmb		11 45 33.1	
comp=Z,27nm,1.2s									
NACB	**Ninganchiao**	**20.66**	**239**	P		**P**		**11 45 30.4**	**-0.3**
NACB				IAmb		IAmb		11 45 36.1	
comp=Z,38nm,1.4s									
MA2	**Magadan**	**23.88**	**13**	P		**P**		**11 46 04.3**	**+0.1**
MA2				IAmb		IAmb		11 46 07.8	
comp=Z,9.5nm,0.7s									
ENH	**Enshi**	**26.83**	**266**	P		**P**		**11 46 30.8**	**-0.6**
ENH				IAmb		IAmb		11 46 35.1	
comp=Z,5.7nm,0.6s									
SONM	**Songino Array** comp=Z,0.8nm,0.5s,baz=111,slow=7.9,SNR=2.3	**27.64**	**305**	P		**P**		**11 46 36.3**	**-2.3**
SONM				LR		LR		11 57 28.6	
comp=Z,49nm,21.9s,baz=234,slow=36 comp=Z,0.8nm,0.5s									
SHEM	**Shemya Is, Ala** comp=Z,28nm,19.1s,baz=330,slow=36	**28.30**	**45**	LR		LR		11 58 00.6	
H11N2	**WAKE ISLAND Hy** baz=312,slow=75,SNR=695	**28.34**	**119**	T		T		12 16 07.2	
H11N1	**WAKE ISLAND Hy** baz=312,slow=75,SNR=540	**28.34**	**119**	T		T		12 16 05.6	
H11N3	**WAKE ISLAND Hy** baz=312,slow=75,SNR=512	**28.36**	**119**	T		T		12 16 08.9	
H11S1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=2518	**29.03**	**121**	T		T		12 16 52.2	
H11S3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=1317	**29.03**	**121**	T		T		12 16 53.6	
H11S2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=1080	**29.04**	**121**	T		T		12 16 51.8	
TIXI	**Tiksi**	**35.66**	**354**	P		**P**		**11 47 48.6**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,20nm,18.4s,baz=40,slow=38	**40.93**	**255**	LR		LR		12 06 30.6	
ZAA0	**Zalesovo Array**	**41.86**	**313**	P		**P**		**11 48 39.4**	**-1.4**
ZALV	**Zalesovo Beam**	**41.86**	**313**	P		**P**		**11 48 39.2**	**-1.6**
ZALV	**Zalesovo Beam** comp=Z,2.7nm,0.6s,baz=98,slow=6.6,SNR=7.8 comp=Z,2.7nm,0.6s	**41.86**	**313**	P		**P**		**11 48 38.7**	**-2.1**
C16K	**Lisburne Hills**	**43.30**	**26**	P		**P**		**11 48 54.8**	**+2.5**
MK31	**Makanchi Array**	**43.95**	**302**	P		**P**		**11 48 56.1**	**-1.8**
MKAR	**Makanchi Array**	**43.95**	**302**	P		**P**		**11 48 56.2**	**-1.7**
MKAR	**Makanchi Array** comp=Z,0.3nm,0.5s,baz=98,slow=8.9,SNR=5.2	**43.95**	**302**	P		**P**		**11 48 55.5**	**-2.4**
comp=Z,0.3nm,0.5s									
F17K	**Baldwin Pennin**	**44.33**	**29**	P		**P**		**11 49 02.1**	**+1.6**
J17K	**VABM Dome**	**44.70**	**34**	P		**P**		**11 49 05.7**	**+2.0**
J17K				IAmb		IAmb		11 49 21.4	
comp=Z,10nm,1.2s									
E18K	**Tukpahlearik C**	**44.79**	**28**	P		**P**		**11 49 05.0**	**+0.8**
O16K	**Kokwok River B**	**44.84**	**39**	P		**P**		**11 49 07.5**	**+2.8**
C18K	**Utukok River**	**44.87**	**26**	P		**P**		**11 49 06.8**	**+1.9**
C18K				IAmb		IAmb		11 49 08.5	
comp=Z,8.0nm,0.8s									
R16K	**Pilot Point**	**45.06**	**42**	P		**P**		**11 49 07.6**	**+1.1**
G18K	**Tagagawik**	**45.26**	**30**	P		**P**		**11 49 08.8**	**+0.8**
G18K				IAmb		IAmb		11 49 35.7	
comp=Z,14nm,1.4s									
H18K	**Honhosa River**	**45.26**	**31**	P		**P**		**11 49 09.7**	**+1.7**
H18K				IAmb		IAmb		11 49 11.7	
comp=Z,9.4nm,1.2s									
C19K	**Lookout Ridge**	**45.55**	**26**	P		**P**		**11 49 11.8**	**+1.4**
C19K				IAmb		IAmb		11 49 15.4	
comp=Z,10nm,1.1s									
F19K	**Shaleruckik Mo**	**45.76**	**29**	P		**P**		**11 49 14.2**	**+2.2**
F19K				IAmb		IAmb		11 49 21.3	
comp=Z,7.8nm,1.4s									
KURK	**Kurchatov**	**45.83**	**308**	P		**P**		**11 49 10.1**	**-2.6**
KURK				IAmb		IAmb		11 49 28.1	
comp=Z,5.2nm,0.9s									
KURBB	**Kurchatov Arra** comp=Z,1.0nm,0.5s,baz=83,slow=7.6,SNR=12 comp=Z,1.0nm,0.5s	**45.90**	**308**	P		**P**		**11 49 10.8**	**-2.5**
G19K	**Purcell Mounta**	**45.93**	**30**	P		**P**		**11 49 15.1**	**+1.8**
G19K				IAmb		IAmb		11 49 17.0	
comp=Z,4.4nm,1.0s									
D19K	**Kuna River**	**45.94**	**27**	P		**P**		**11 49 16.1**	**+2.7**
D19K				IAmb		IAmb		11 49 17.1	
comp=Z,6.0nm,0.8s									
E19K	**Redstone River**	**46.08**	**28**	P		**P**		**11 49 16.2**	**+1.7**
E19K				IAmb		IAmb		11 49 18.3	
comp=Z,5.1nm,0.8s									
H19K	**Roundabout Mou**	**46.10**	**31**	P		**P**		**11 49 17.3**	**+2.6**
H19K				IAmb		IAmb		11 49 18.9	
comp=Z,7.9nm,1.1s									
B20K	**Meade River**	**46.58**	**25**	P		**P**		**11 49 20.5**	**+2.2**
Q19K	**Cape Douglas,**	**47.12**	**40**	P		**P**		**11 49 23.7**	**+0.9**
IMAR	**Indian Mountai**	**47.26**	**30**	P		**P**		**11 49 25.2**	**+1.4**
B21K	**Ikpikpuk River**	**47.38**	**25**	P		**P**		**11 49 24.9**	**+0.4**
OHAK	**Old Harbor**	**47.39**	**42**	P		**P**		**11 49 26.1**	**+1.3**
E21K	**Killik River**	**47.44**	**27**	P		**P**		**11 49 25.0**	**-0.1**
E21K				IAmb		IAmb		11 49 29.1	
comp=Z,6.0nm,0.9s									
KDAK	**Kodiak Island**	**47.73**	**42**	P		**P**		**11 49 29.2**	**+1.7**
CAST	**Castle Rocks**	**47.84**	**34**	P		**P**		**11 49 28.9**	**+0.6**
B22K	**Teshekpuk Lake**	**47.90**	**25**	P		**P**		**11 49 30.2**	**+1.6**
B22K				IAmb		IAmb		11 49 32.3	
comp=Z,7.3nm,1.1s									
D22K	**Ayikyak River**	**47.96**	**27**	P		**P**		**11 49 31.1**	**+1.9**
E22K	**Anaktuvuk Pass**	**48.20**	**28**	P		**P**		**11 49 32.9**	**+1.8**
E22K				IAmb		IAmb		11 49 35.5	
comp=Z,6.5nm,1.0s									
SUA	**Susitna One**	**48.48**	**37**	P		**P**		**11 49 34.3**	**+0.8**
SOEI	**Soe**	**48.67**	**202**	P		**P**		**11 49 37.4**	**+2.1**
C23K	**Itkillik River**	**48.79**	**25**	P		**P**		**11 49 37.6**	**+2.1**
TOLK	**Toolik Lake Re**	**49.07**	**27**	P		**P**		**11 49 38.7**	**+0.9**
PMR	**Palmer**	**49.25**	**36**	P		**P**		**11 49 40.4**	**+1.3**
PMR				IAmb		IAmb		11 49 42.4	
comp=Z,9.0nm,1.4s									
GHO	**Glory Hole Cre**	**49.34**	**36**	P		**P**		**11 49 40.5**	**+0.6**
D24K	**Happy Valley**	**49.37**	**26**	P		**P**		**11 49 41.8**	**+1.9**
D24K				IAmb		IAmb		11 49 44.4	
comp=Z,6.4nm,0.8s									
E24K	**Your Creek**	**49.45**	**28**	P		**P**		**11 49 41.6**	**+1.0**
E24K				IAmb		IAmb		11 49 45.3	
comp=Z,4.3nm,0.9s									
MDM	**Murphy Dome**	**49.53**	**32**	P		**P**		**11 49 43.0**	**+1.7**
MDM				IAmb		IAmb		11 49 45.5	
comp=Z,6.0nm,1.0s									
KNK	**Knik Glacier**	**49.58**	**37**	P		**P**		**11 49 42.3**	**+0.5**
SML	**Sawmill**	**49.62**	**36**	P		**P**		**11 49 44.4**	**+2.4**
H24K	**Noodor Dome**	**49.66**	**31**	P		**P**		**11 49 45.8**	**+3.5**
H24K	

comp=Z,0.5nm,0.7s
STKA Stephens Creek 68.13 179 P P 11 51 46.5 -4.3
comp=Z,1.8nm,0.8s,baz=305,slow=12,SNR=3.0
comp=Z,1.8nm,0.8s
H04A Detroit Lake 69.74 49 P **P** **11 52 03.6 +2.6**
H04A IAmb IAmb 11 52 04.4
comp=Z,6.4nm,1.2s
EDM Edmonton 69.97 38 P **P** **11 52 04.1 +1.9**
EDM IAmb IAmb 11 52 05.1
comp=Z,6.7nm,1.1s
KBZ Khabaz 70.83 311 P **P** **11 52 05.3 -2.2**
comp=Z,1.4nm,0.9s,baz=34,slow=3.7,SNR=2.5
comp=Z,1.4nm,0.9s
J05D Fort Rock, OR 71.07 50 P **P** **11 52 11.5 +2.3**
J05D IAmb IAmb 11 52 13.6
comp=Z,4.4nm,1.2s
K05A Summer Lake 71.58 50 IAmb IAmb 11 52 16.8
comp=Z,3.8nm,0.9s
BMO Blue Mountains 72.57 47 P **P** **11 52 19.1 +1.0**
ORV Oroville 72.93 53 P **P** **11 52 21.9 +1.6**
ORV IAmb IAmb 11 52 22.8
comp=Z,4.4nm,1.2s
PAHR Pah Rah Range 74.20 52 IAmb IAmb 11 52 31.6
comp=Z,4.0nm,1.0s
MFID Camas Ranch 74.26 47 P **P** **11 52 30.7 +2.5**
HFS Hagfors 74.29 336 P **P** **11 52 28.9 +1.0**
comp=Z,1.8nm,0.8s,baz=308,slow=7.1,SNR=1.6
comp=Z,1.8nm,0.8s
FFC Flin Flon 74.32 32 P **P** **11 52 29.5 +1.4**
FFC IAmb IAmb 11 52 31.5
comp=Z,5.4nm,1.2s
AKASG Malin Array Be 74.35 322 P **P** **11 52 28.2 -0.2**
comp=Z,0.3nm,0.3s,baz=45,slow=6.4,SNR=2.2
comp=Z,0.3nm,0.3s
NOA NORSAR Array B 74.40 337 P **P** **11 52 29.0 +0.4**
comp=Z,0.9nm,0.7s,baz=39,slow=5.8,SNR=4.2
comp=Z,0.9nm,0.7s
FCC Fort Churchill 74.60 26 P **P** **11 52 30.7 +1.1**
YERR Yerington 74.70 53 IAmb IAmb 11 52 34.6
comp=Z,4.3nm,0.9s
EGMT Eagleton 74.90 41 IAmb IAmb 11 52 35.4
comp=Z,5.1nm,0.9s
BOZ Bozeman (W) 75.38 44 IAmb IAmb 11 52 37.8
comp=Z,3.8nm,1.0s
NVAR Mina Array Bea 75.62 53 P **P** **11 52 38.0 +1.8**
comp=Z,1.8nm,0.7s,baz=280,slow=5.2,SNR=5.9
comp=Z,1.8nm,0.7s
YMP Mirror Lake Pl 76.73 44 P **P** **11 52 42.5 -0.1**
YMP IAmb IAmb 11 53 01.1
comp=Z,3.4nm,1.0s
IMW Indian Meadow 76.81 45 P **P** **11 52 44.9 +1.9**
IMW IAmb IAmb 11 52 47.0
comp=Z,4.2nm,1.2s
FXWY Fox Creek 76.92 45 P **P** **11 52 43.1 -0.5**
MOOW Moose Ponds 77.01 45 P **P** **11 52 46.1 +2.0**
DUG Dugway, Tooele 77.99 49 IAmb IAmb 11 52 53.0
comp=Z,3.3nm,0.9s
QSM Queen of Sheba 77.99 54 IAmb IAmb 11 52 54.0
comp=Z,8.8nm,1.3s
PDAR Pinedale Array 78.30 45 P **P** **11 52 51.2 -0.1**
comp=Z,0.8nm,0.6s,baz=270,slow=1.5,SNR=9.1
comp=Z,0.8nm,0.6s
SHPR Sheep Range 78.77 53 P **P** **11 52 56.1 +2.1**
BRTR Keskin Array B 78.78 311 P **P** **11 52 52.5 -1.5**
comp=Z,0.5nm,0.6s,baz=50,slow=2.3,SNR=2.5
comp=Z,0.5nm,0.6s
MPU Maple Canyon 78.81 48 P **P** **11 52 56.3 +2.2**
PFO Pinyon Flats O 79.67 56 LR LR 12 21 33.8
comp=Z,15nm,20.0s,baz=338,slow=31
KNB Kanab 79.94 51 IAmb IAmb 11 53 05.8
comp=Z,5.5nm,1.3s
SRU San Rafael Swe 80.05 48 P **P** **11 53 02.8 +1.9**
SRU IAmb IAmb 11 53 03.9
comp=Z,3.4nm,0.7s
ULM Lac du Bonnet 80.12 33 P **P** **11 53 01.6 +0.8**
comp=Z,2.7nm,0.8s,baz=299,slow=4.5,SNR=5.7
comp=Z,2.7nm,0.8s
U15A North Rim 80.64 51 P **P** **11 53 06.2 +1.9**
U15A IAmb IAmb 11 53 07.8
comp=Z,3.9nm,1.2s
HMU Henry Mountain 80.66 49 P **P** **11 53 06.2 +1.9**
HMU IAmb IAmb 11 53 07.2
comp=Z,3.3nm,0.6s
O20A White River Ci 80.75 47 P **P** **11 53 05.4 +0.7**
O20A IAmb IAmb 11 53 12.2
comp=Z,3.2nm,0.8s
ESJX Sierra Juarez 80.98 57 P **P** **11 53 07.5 +1.5**
ESJX IAmb IAmb 11 53 09.1
comp=Z,5.3nm,1.1s
PV21 Cone Mtn., Par 81.33 48 P **P** **11 53 08.9 +1.1**
PV21 IAmb IAmb 11 53 11.5
comp=Z,5.6nm,1.1s
PV23 Carpenter Ridg 81.38 48 P **P** **11 53 09.8 +1.6**
PV14 Lion Creek, Pa 81.42 48 P **P** **11 53 09.8 +1.5**
PV17 East Wray Mesa 81.52 48 P **P** **11 53 09.0 +0.2**
N23A Red Feather La 81.57 45 P **P** **11 53 10.5 +1.4**
N23A IAmb IAmb 11 53 12.6
comp=Z,3.2nm,0.8s
PHWY Pilot Hill 81.58 44 P **P** **11 53 10.9 +1.8**
CSS Mathiatis 81.96 308 P **P** **11 53 10.6 -0.3**
PPT Papeete 84.86 116 P **P** **11 53 24.2 -1.7**
comp=Z,8.0nm,0.6s,baz=234,slow=19,SNR=1.7
comp=Z,8.0nm,0.6s
T25A Trinidad 84.98 47 P **P** **11 53 28.0 +1.3**
T25A IAmb IAmb 11 53 29.8
comp=Z,3.9nm,0.9s
TXAR Lajitas Array 90.76 52 P **P** **11 53 54.7 +0.3**
comp=Z,1.0nm,0.8s,baz=302,slow=2.6,SNR=4.9
comp=Z,1.0nm,0.8s
LPAZ La Paz 147.32 59 PKPbc **PKPbc** **12 00 36.3 +0.5**
comp=Z,0.7nm,0.5s,baz=57,slow=1.8,SNR=4.5
H03N2 Juan Fernandez 147.44 96 T T 14 45 00.6
baz=291,slow=76,SNR=71
H03N3 Juan Fernandez 147.45 96 T T 14 45 01.0
baz=291,slow=76,SNR=85
H03N1 Juan Fernandez 147.46 96 T T 14 45 06.3
baz=291,slow=76,SNR=84

*IDC **04** 11:43:02.2±1.2,59°.22N×24°.49E,h0km,mbtmp3.0/5, ML2.2/4,Error ellipse: s-maj=12.0km s-min=9.1km az=147.0*
*HEL **04** 11:43:12.3±0.0,59°.98N×24°.22E,h0km,ML1.4,Explosion*
ISC 04 11:43:07.1±1.0,59.76N±0.05×24.10E±0.04,h0km,n21, σ1s91/25,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.48**	**18**	*e*P		**Pg**	**11 43 16.9**	**+0.6**
MEF	**Metsahovi**	**0.48**	**18**	*e*P		**Pg**	**11 43 16.8**	**+0.5**
MEF				*e*S		**Sg**	**11 43 20.4**	**-2.3**
MEF				MSG			11 43 20.8	
	comp=Z,11nm,0.1s							
HEL1	**Helsinki**	**0.58**	**43**	*e*P		**Pg**	**11 43 19.1**	**+0.9**
HEL1				*e*S		**Sg**	**11 43 24.2**	**-1.4**
HEL1				MSG			11 43 25.3	
	comp=Z,9.4nm,0.1s							
NUR	**Nurmijrvi**	**0.80**	**20**	*e*P		**Pg**	**11 43 22.5**	**0.0**
NUR				*e*S		**Sg**	**11 43 29.9**	**-3.0**
NUR				MSG			11 43 31.7	
	comp=Z,7.3nm,0.1s							
MTSE	**Matsula**	**1.06**	**188**	*e*P		Pn	11 43 35.4	+6.2
PVF	**Pernaja**	**1.18**	**47**	*e*P		**Pg**	**11 43 30.1**	**+0.4**
RAF	**Rauma**	**1.72**	**319**	*e*P		**Pg**	**11 43 41.1**	**+1.0**
RAF	**Rauma**	**1.72**	**319**	*e*PG		**Pg**	**11 43 41.0**	**+1.0**
VJF	**Virojoki**	**1.90**	**64**	*e*P		**Pb**	**11 43 43.2**	**+0.7**
FIA0	**FINESS Array S**	**1.95**	**29**	*e*PG		**Pn**	**11 43 43.3**	**+1.9**
FINES	**FINESS Array B**	**1.95**	**29**	Pn		**Pn**	**11 43 43.3**	**+1.9**
	comp=Z,2.0nm,0.3s,baz=201,slow=15,SNR=37							
FINES				Lg		Lg	11 44 15.2	
	comp=Z,2.7nm,0.3s,baz=220,slow=18,SNR=2.6							
	comp=Z,3.2nm,0.3s							
FIA1	**FINESS Array S**	**1.95**	**29**	*e*PG		**Pn**	**11 43 43.3**	**+1.8**
AAL	**Aland**	**2.11**	**283**	*e*P		**Pg**	**11 43 49.9**	**+2.4**
KEF	**Keuruu**	**2.45**	**9**	*e*P		**Pb**	**11 43 51.8**	**-0.1**
VAF	**Ylistaro**	**3.37**	**349**	*e*P		**Pn**	**11 44 04.3**	**+3.5**
VIKU	**Vikbolandet**	**4.02**	**255**	*e*P		**Pb**	**11 44 17.9**	**-0.8**
ISAL	**Salakas**	**4.34**	**165**	*e*P		**Pb**	**11 44 23.5**	**-0.6**
HFS	**Hagfors**	**5.25**	**279**	Pn		**Pn**	**11 44 25.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=80,slow=16,SNR=1.6							
HFS				Sn		**Sn**	**11 45 26.6**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=172,slow=33,SNR=1.9							
HFS				Lg		Lg	11 45 56.6	
	comp=Z,0.8nm,0.3s,baz=100,slow=26,SNR=6.4							
	comp=Z,1.9nm,0.9s							
NOA	**NORSAR Array B**	**6.51**	**287**	Pn		**Pn**	**11 44 40.3**	**-3.8**
	baz=225,slow=20,SNR=1.2							
NOA				Sn		**Sn**	**11 45 56.2**	**-2.8**
	baz=162,slow=20,SNR=1.3							
NOA				Lg		Lg	11 46 38.6	
	comp=Z,0.1nm,0.3s,baz=198,slow=14,SNR=1.9							
	comp=Z,0.6nm,0.8s							
AKASG	**Malin Array Be**	**9.53**	**160**	Pn		Pn	11 45 07.7	-18
	comp=Z,0.2nm,0.3s,baz=236,slow=44,SNR=1.3							
ARCES	**ARCESS Array B**	**9.84**	**3**	Pn		**Pn**	**11 45 29.3**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=181,slow=13,SNR=16							
ARCES				Sn		**Sn**	**11 47 22.7**	**+2.1**
	baz=188,slow=32,SNR=2.0							
	comp=Z,0.4nm,0.3s							

*ISN **04** 11:46:22.9±0.3,34°.72N×47°.46E,h3km±5km,ML3.3*
*TEH **04** 11:46:24.7,34°.62N×47°.44E,h6km±94km,ML3.5*
ISC 04 11:46:24.5±1.2,34°.65N±0°.04×47°.46E±0°.03,h8km±11km, n21,σ1s73/27,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
IBZA	**Bozab**	**0.37**	**118**	Pg		**Pg**	**11 46 31.3**	**-0.6**
ILIN	**Lien**	**0.49**	**303**	Pg		**Pg**	**11 46 33.8**	**-0.3**
ILIN				Sg		**Sg**	**11 46 41.6**	**+1.1**
KCHF	**Cheshme Sefid,**	**0.51**	**223**	Pg		**Pg**	**11 46 33.9**	**-0.5**
KCHF				Sg		**Sb**	**11 46 42.1**	**-1.4**
IGHG	**Ghaleghazi**	**0.81**	**247**	Pg		**Pg**	**11 46 39.7**	**-0.3**
IDHR	**Dehrash**	**0.89**	**274**	Pg		**Pg**	**11 46 41.2**	**-0.4**
HSAM	**Samen**	**1.04**	**115**	Pg		**Pg**	**11 46 44.2**	**-0.2**
IDOB	**Doab**	**1.04**	**145**	Pg		**Pg**	**11 46 44.5**	**-0.1**
IKFM	**Kafar-mosalman**	**1.17**	**164**	Pg		**Pb**	**11 46 46.6**	**-0.3**
BDRS	**Dareh Seyedi**	**1.36**	**120**	Pg		**Pn**	**11 46 49.1**	**-1.0**
HAGD	**Aghdareh**	**1.39**	**82**	Pg		**Pn**	**11 46 50.1**	**-0.4**
ILBA	**Ilam Banvizeh**	**1.46**	**226**	Pg		**Pg**	**11 46 52.3**	**-0.2**
ILBA				Sg		**Sg**	**11 47 12.4**	**+1.0**
KGS1	**Ghasr-e-Shirin**	**1.55**	**265**	Pg		**Pg**	**11 46 54.0**	**-0.2**
IRAZ	**Razeghan**	**2.16**	**69**	Pn		**Pb**	**11 47 03.7**	**-0.3**
IKRK	**Kirkuk**	**2.67**	**287**	*e*Pn		**Pn**	**11 47 08.5**	**+0.7**
IKRK				*e*Sn		**Sn**	**11 47 41.7**	**+1.3**
IKRK				AML		AML	11 48 01.3	
	comp=N,153nm,0.8s							
IKRK				AML		AML	11 48 02.3	
	comp=E,188nm,1.0s							
BHD	**Baghdad**	**2.91**	**243**	*e*Pn		**Pn**	**11 47 12.5**	**+1.4**
BHD				*e*Sn		**Sb**	**11 47 48.5**	**-3.8**
RAFI	**Al-Rafai**	**3.13**	**202**	*e*Pn		**Pn**	**11 47 16.0**	**+1.9**
RAFI				*e*Sn		**Sb**	**11 47 55.0**	**-3.7**
RAFI				AML		AML	11 48 21.4	
	comp=E,153nm,0.5s							
RAFI				AML		AML	11 48 35.2	
	comp=N,161nm,0.5s							
JHBN	**Jahan bin**	**3.60**	**131**	Pn		**Pn**	**11 47 23.1**	**+2.2**
ZNGN	**Zangian**	**3.80**	**131**	Pn		**Pn**	**11 47 26.2**	**+2.6**
IBRJ	**Brojen**	**4.19**	**130**	Pn		**Pn**	**11 47 31.9**	**+2.9**
IRAM	**Ramesheh**	**5.00**	**123**	Pn		**Pn**	**11 47 42.1**	**+2.0**
KLNJ	**Kolanjah**	**5.03**	**135**	Pn		**Pn**	**11 47 42.2**	**+1.7**

*IDC **04** 11:51:35.1±2.7,59°.64N×25°.00E,h0km,mbtmp3.0/3, ML1.7/2,Error ellipse: s-maj=30.1km s-min=11.1km az=149.0*
*EST **04** 11:51:38.8,59°.97N×24°.25E,h0km,ML1.4(HEL), Explosion*
*HEL **04** 11:51:38.8±0.0,59°.97N×24°.25E,h0km,ML1.4,Explosion*
ISC 04 11:51:37.2±0.8,59.95N±0.02×24.24E±0.03,h0km,n19, σ0s94/29,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MEF	**Metsahovi**	**0.28**	**16**	*e*P		**Pg**	**11 51 43.4**	**+0.8**
MEF				*e*S		**Sg**	**11 51 46.8**	**+0.6**
MEF				MSG			11 51 47.3	
	comp=Z,19nm,0.1s							
HEL1	**Helsinki**	**0.40**	**54**	*e*P		**Pg**	**11 51 45.5**	**+0.7**
HEL1				*e*S		**Sg**	**11 51 50.8**	**+0.8**
HEL1				MSG			11 51 51.1	
	comp=Z,8.3nm,0.1s							
NUR	**Nurmijrvi**	**0.60**	**20**	*e*P		**Pg**	**11 51 49.1**	**+0.4**
NUR				*e*S		**Sg**	**11 51 56.7**	**+0.2**
NUR				MSG			11 51 57.5	
	comp=Z,6.9nm,0.1s							
EE02	**Kiisa, Saku**	**0.80**	**163**	*e*P		**Pb**	**11 51 53.4**	**-0.5**
EE02				*e*S		**Sg**	**11 52 03.3**	**+0.6**
EE01	**Perakula, Nova**	**0.81**	**203**	*e*P		**Pg**	**11 51 53.2**	**+0.5**
PVF	**Pernaja**	**1.01**	**53**	*e*P		**Pg**	**11 51 56.6**	**+0.1**
ARBE	**Arbavere**	**1.02**	**119**	*e*P		**Pb**	**11 51 58.0**	**+0.2**
MTSE	**Matsula**	**1.26**	**190**	*e*P		**Pb**	**11 52 01.7**	**0.0**
EE09	**Sarghaua, Vand**	**1.39**	**158**	*e*P		**Pn**	**11 52 02.0**	**0.0**
EE08				*e*S		**Sg**	**11 52 21.9**	**0.0**
EE03	**Tooma soojaam,**	**1.50**	**135**	*e*P		**Pn**	**11 52 05.6**	**+0.3**
EE03				*e*SB		**Sb**	**11 52 25.6**	**+0.1**
RAF	**Rauma**	**1.63**	**312**	*e*P		**Pn**	**11 52 07.6**	**+0.4**
FIA0	**FINESS Array S**	**1.75**	**30**	*e*PG		**Pb**	**11 52 09.8**	**-0.4**
FINES	**FINESS Array B**	**1.75**	**30**	Pn		**Pb**	**11 52 09.8**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=198,slow=18,SNR=28							
FINES				Sn		**Sg**	**11 52 34.6**	**+1.1**
	comp=Z,4.3nm,0.3s,baz=215,slow=22,SNR=18							
VSU	**Vasula**	**1.97**	**138**	*e*S		**Sb**	**11 52 38.7**	**-0.2**
AAL	**Aland**	**2.14**	**278**	*e*PB		**Pb**	**11 52 16.3**	**-0.5**
SLIT	**Slitere, Latvi**	**2.54**	**204**	*e*PB		**Pb**	**11 52 22.8**	**-0.9**
SLIT				*e*SG		**Sb**	**11 52 56.1**	**+0.8**
HFS	**Hagfors**	**5.29**	**277**	Pn		**Pn**	**11 52 58.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=88,slow=10,SNR=1.5							
HFS				Sn		**Sn**	**11 53 58.7**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=67,slow=20,SNR=2.5							
HFS				Lg		Lg	11 54 36.4	
	comp=Z,0.7nm,0.3s,baz=90,slow=39,SNR=1.6							
	comp=Z,0.9nm,0.7s							
NOA	**NORSAR Array B**	**6.53**	**285**	Pn		**Pn**	**11 53 15.2**	**+0.8**
	baz=123,slow=11,SNR=4.2							
NOA				Lg		Lg	11 55 14.5	
	comp=Z,0.1nm,0.3s,baz=20,slow=13,SNR=3.8							
	comp=Z,0.3nm,0.6s							
ARCES	**ARCESS Array B**	**9.64**	**3**	Pn		**Pn**	**11 53 57.4**	**+0.4**
	comp=Z,1.3nm,0.7s,baz=182,slow=13,SNR=14							
ARCES				Sn		**Sn**	**11 55 42.1**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=182,slow=24,SNR=1.8							

DJA 04 12:03:20.0±0.4,0°S±4°×12°4E±°,h86km±9km,M3.9/11, mb4.4/1,mB5.0/1,MLv3.6/11,Mw(mB)4.3/1,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**0.70**	**7**	P		Pn	12 03 37.0	+0.8
KMSI				S		Sn	12 03 51.2	+2.9
LUWI	**Luwuk**	**1.45**	**231**	P		Pn	12 03 45.5	+0.6
SANI	**Sanana**	**2.83**	**132**	P		Pn	12 04 01.6	-1.5
TNTI	**Ternate**	**3.58**	**76**	P		Pn	12 04 14.1	+0.8
LBMI	**Labuha**	**3.64**	**98**	P		Pn	12 04 14.7	-0.4
TTSI	**Tana Toraja**	**5.00**	**235**	P		Pn	12 04 33.5	+0.8
BBSI	**Bau Bau**	**5.49**	**194**	P		Pn	12 04 39.3	0.0

*BGSI **04** 12:08:32.9±2.7,27°.10S×28°.09E,h30km±87km,ML3.7*
*BUL **04** 12:08:37.8±1.2,26°.03S×26°.94E,h10km,MD4.0*
*IDC **04** 12:08:38.7±0.9,26°.46S×27°.28E,h0km,mb3.9/6, mbtmp4.0/11,ML3.4/5,Error ellipse: s-maj=22.5km s-min=13.2km az=105.0*
*EAF **04** 12:08:38.0±0.7,25°.99S×26°.93E,h10km,MD3.7*
*NEIC **04** 12:08:39.0±0.8,26°.43S±0°.06×27°.51E±0°.04,h5km±1km, mb4.4/9,Error ellipse: s-maj=10.8km s-min=6.4km az=9.0*
*PRE **04** 12:08:38.0±2.0,26°.39S×27°.42E,h2km,ML3.0,Fault plane solution: NP1:φ±0.00000°,δ81.00000°,λ-22.00000°.*
ISC 04 12:08:38.6±0.9,26°.40S±0°.02×27°.46E±0°.03,h8km±6km, n82,σ1s76/126,mb4.3/8,11C-4D,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PRYS	**Parys**	**0.53**	**189**	*e*P		**Pg**	**12 08 49.0**	**+0.1**
PRYS				*e*S		**Sg**	**12 08 56.3**	**+0.5**
PRYS				IAML			12 09 00.8	
	comp=Z,309nm,0.5s							
HRAO	**HartRAO**	**0.55**	**22**	↑*i*P		**Pg**	**12 08 49.6**	**+0.3**
HRAO				*e*S		**Sg**	**12 08 56.8**	**+0.3**
NYAT	**Nyati, Northwe**	**1.04**	**6**	↑*i*P		**Pg**	**12 08 58.2**	**-0.3**
NYAT				*e*S		**Sg**	**12 09 10.9**	**-1.1**
NYAT				IAML			12 09 12.3	
	comp=Z,296nm,0.2s							
TSWA	**Tswaing Meteor**	**1.13**	**30**	↑*i*P		**Pg**	**12 08 59.9**	**-0.4**
TSWA				*e*S		**Sg**	**12 09 14.0**	**-0.9**
TSWA				IAML			12 09 19.0	
	comp=Z,256nm,0.1s							
NHAM	**Northam, North**	**1.49**	**355**	*e*P		**Pn**	**12 09 06.3**	**+0.5**
NHAM				*e*S		**Sg**	**12 09 25.6**	**-0.8**
NHAM				IAML			12 09 26.0	
	comp=Z,223nm,0.3s							
RUST	**Rust De Winter**	**1.51**	**40**	↑*i*P		**Pn**	**12 09 06.7**	**+0.7**
RUST				*e*S		**Sn**	**12 09 26.7**	**+0.7**
RUST				IAML			12 09 28.9	
	comp=Z,238nm,0.5s							
SNKL	**Senekal, Frees**	**1.89**	**172**	*i*P		**Pb**	**12 09 13.6**	**+0.1**
SNKL				*e*S		**Sn**	**12 09 37.4**	**+2.0**
SNKL				IAML			12 09 40.5	
	comp=Z,218nm,0.7s							
SWZ	**Schweizer**	**2.05**	**247**	*e*P		**Pn**	**12 09 14.8**	**+1.2**
SWZ				*e*S		**Sn**	**12 09 40.5**	**+1.0**
SWZ				IAML			12 09 43.5	
	comp=Z,227nm,0.6s							
LBTB	**Lobatse**	**2.17**	**309**	Pn		**Pn**	**12 09 17.0**	**+1.8**
LBTB	**Lobatse**	**2.17**	**309**	*i*P		Pn	12 09 04.8	-10
LBTB	**Lobatse**	**2.17**	**309**	↓*i*P		**Pn**	**12 09 17.3**	**+2.1**
LBTB				*e*S		**Sn**	**12 09 43.8**	**+1.4**
LBTB				IAML			12 09 47.4	
	comp=Z,238nm,0.7s							
LBTB	**Lobatse**	**2.17**	**309**	Pn		**Pn**	**12 09 16.6**	**+1.4**
	comp=Z,70nm,0.3s,baz=132,slow=14,SNR=691							
LBTB				Lg		Lg	12 09 46.2	
	comp=Z,134nm,0.3s,baz=248,slow=17,SNR=73							
	comp=Z,337nm,0.5s							
LBTB	**Lobatse**	**2.17**	**309**	*i*P		Pn	12 09 04.8	-10
CRLN	**Carolina, Mapu**	**2.34**	**81**	↑*i*P		**Pn**	**12 09 18.4**	**+0.8**
CRLN				*e*S		**Sn**	**12 09 48.1**	**+1.4**
CRLN				IAML			12 09 55.5	
	comp=Z,51nm,0.4s							
MAKGR	**Makgori**	**2.46**	**283**	*i*P		**Pn**	**12 09 20.3**	**+1.1**
MAKGR				*e*S		**Sb**	**12 09 53.8**	**+0.1**
MAKGR				IAML			12 10 03.5	
	comp=Z,491nm,0.4s							
WTBG	**Waterberg Wild**	**2.54**	**31**	↑*i*P		**Pn**	**12 09 22.1**	**+1.9**
WTBG				*e*S		**Sn**	**12 09 51.3**	**-0.2**
WTBG				IAML			12 09 58.5	
	comp=Z,181nm,0.6s							
NWCL	**Newcastle**	**2.54**	**122**	↓*i*P		**Pn**	**12 09 21.1**	**+0.7**
NWCL				*e*S		**Sn**	**12 09 53.9**	**+2.3**
NWCL				IAML			12 09 58.8	
	comp=Z,112nm,0.4s							
LEPH	**Lephalale, Lim**	**2.55**	**7**	↓*e*P		**Pn**	**12 09 22.5**	**+2.0**
LEPH				*e*S		**Sn**	**12 09 51.4**	**-0.4**
LEPH				IAML			12 10 01.1	
	comp=Z,109nm,0.4s							
MTLB	**Matlabas, Limp**	**2.60**	**352**	↓*i*P		**Pn**	**12 09 22.7**	**+1.5**
MTLB				*e*S		**Sn**	**12 09 53.9**	**+0.9**
MTLB				IAML			12 10 01.2	
	comp=Z,331nm,0.7s							
BOSA	**Boshof**	**2.94**	**221**	Pn		**Pn**	**12 09 26.5**	**+0.6**
BOSA	**Boshof**	**2.94**	**221**	*i*P		**Pn**	**12 09 25.5**	**-0.4**
BOSA	**Boshof**	**2.94**	**221**	↑*i*P		**Pn**	**12 09 26.5**	**+0.6**
BOSA				*e*S		**Sn**	**12 10 01.5**	**0.0**
BOSA				IAML			12 10 10.6	
	comp=Z,34nm,0.3s							
BOSA	**Boshof**	**2.94**	**221**	Pn		**Pn**	**12 09 25.7**	**-0.2**
	comp=Z,5.1nm,0.3s,baz=41,slow=13,SNR=87							
BOSA				Sn		**Sn**	**12 10 01.1**	**-0.4**
	comp=Z,7.9nm,0.3s,baz=358,slow=14,SNR=6.9							
BOSA				Lg		Lg	12 10 05.7	
	comp=Z,40nm,0.3s,baz=319,slow=18,SNR=19							
	comp=Z,17nm,0.4s							
BOSA	**Boshof**	**2.94**	**221**	*i*P		**Pn**	**12 09 25.5**	**-0.4**
PILG	**Pilgrimsrest,**	**3.28**	**64**	*e*P		**Pn**	**12 09 32.5**	**+1.9**
PILG				*e*S		**Sn**	**12 10 11.5**	**+1.5**
PILG				IAML			12 10 27.9	
	comp=Z,110nm,0.5s							
CRAIL	**Swartwater, Li**	**3.66**	**11**	↑*i*P		**Pn**	**12 09 36.8**	**+1.2**
CRAIL				*e*S		**Sn**	**12 10 18.6**	**-0.4**
SKOMA	**Sekoma**	**3.70**	**300**	*i*P		**Pn**	**12 09 38.8**	**+2.6**
SKOMA				*e*S		**Sn**	**12 10 25.9**	**+5.8**
SKOMA				IAML			12 10 52.8	
	comp=Z,497nm,2.2s							
HOED	**Hoedspruit, Li**	**3.72**	**59**	↑*i*P		**Pn**	**12 09 37.6**	**+1.2**
HOED				*e*S		**Sn**	**12 10 22.4**	**+2.0**
HOED				IAML			12 10 37.0	
	comp=Z,50nm,0.5s							
POGA	**Pongola**	**3.91**	**105**	Pn		**Pn**	**12 09 38.7**	**-0.3**
POGA	**Pongola**	**3.91**	**105**	↑*i*P		**Pn**	**12 09 39.8**	**+0.8**
POGA				*e*S		**Sn**	**12 10 27.1**	**+2.0**
POGA				IAML			12 10 41.4	
	comp=Z,106nm,0.5s							
KDWAN	**Kaudwane**	**3.94**	**319**	*i*P		**Pn**	**12 09 40.8**	**+1.3**
KDWAN				*e*S		**Sb**	**12 10 35.1**	**-1.2**
KDWAN				IAML			12 10 42.2	
	comp=Z,291nm,0.5s							
PMBG	**Pietermaritzbu**	**4.11**	**140**	*e*P		**Pn**	**12 09 43.8**	**+2.0**
PMBG				*e*S		**Sn**	**12 10 28.8**	**-1.3**
PMBG				IAML			12 10 50.5	
	comp=Z,54nm,0.6s							
MPHEP	**Siloam, Limpop**	**4.27**	**36**	*e*P		**Pn**	**12 09 44.9**	**+0.8**
MPHEP				*e*S		**Sn**	**12 10 35.7**	**+1.5**
KSTD	**Kokstad**	**4.50**	**159**	*e*P		**Pn**	**12 09 49.2**	**+1.8**
KSTD				*e*S		**Sn**	**12 10 39.9**	**-0.2**
KSTD				IAML			12 11 01.7	
	comp=Z,17nm,0.3s							
MOPA	**Mopani**	**4.59**	**52**	*i*P		**Pn**	**12 09 48.8**	**+0.5**
MOPA	**Mopani**	**4.59**	**52**	*e*P		**Pn**	**12 09 49.1**	**+0.7**
MOPA				*e*S		**Sn**	**12 10 40.0**	**-1.9**
MOPA				IAML			12 11 16.2	
	comp=Z,66nm,0.3s							
MOPA	**Mopani**	**4.59**	**52**	*i*P		**Pn**	**12 09 48.8**	**+0.5**
MUSN	**Musina, Limpop**	**4.65**	**29**	*i*P		**Pn**	**12 09

MERW IAML 12 12 55.4
comp=Z,10nm,0.5s
SUR Sutherland 8.31 223 Pn **Pn** **12 10 40.5 +0.9**
SUR Sutherland 8.31 223 Pn **Pn** **12 10 39.1 -0.5**
comp=Z,0.9nm,0.3s,baz=28,slow=10.0,SNR=19
SUR Sn **Sn** **12 12 09.3 -4.5**
comp=Z,1.0nm,0.3s,baz=159,slow=23,SNR=5.7
SUR Lg Lg 12 12 56.0
comp=Z,2.1nm,0.3s,baz=358,slow=8.1,SNR=4.4
comp=Z,8.1nm,0.6s
NE207 NE207 8.96 319 *i* P **Pn** **12 10 48.3 -0.2**
NE207 *e*S **Sn** **12 12 27.8 -1.9**
NE207 IAML 12 13 35.7
comp=Z,23nm,2.3s
MATJ Matjiesfontein 9.07 219 *e*P **Pn** **12 10 50.4 +0.3**
MATJ *e*S **Sn** **12 12 30.6 -1.9**
MATJ IAML 12 13 36.8
comp=Z,14nm,0.6s
KOMG Komaggas 9.43 247 *e*P **Pn** **12 10 55.2 +0.3**
KOMG *e*S **Sn** **12 12 35.6 -5.5**
KOMG IAML 12 13 28.1
comp=Z,5.2nm,0.6s
KRI Karoi 9.73 12 *i* P Pn 12 10 47.4 -12
KRI *i* S Sn 12 12 22.3 -27
KRI Karoi 9.73 12 *i* P Pn 12 10 47.4 -12
WIN Windhoek 10.18 290 Pn **Pn** **12 11 05.9 +0.6**
LSZ Lusaka 11.09 4 Pn **Pn** **12 11 17.8 +0.1**
LSZ Lusaka 11.09 4 Pn **Pn** **12 11 17.2 -0.5**
comp=Z,1.5nm,0.3s,baz=186,slow=12,SNR=6.1
LSZ Sn **Sn** **12 13 24.5 +2.3**
comp=Z,1.3nm,0.3s,baz=232,slow=4.5,SNR=4.2
LSZ Lg Lg 12 14 25.0
comp=Z,1.4nm,0.3s,baz=266,slow=17,SNR=4.4
TSUM Tsumeb 11.58 306 Pn **Pn** **12 11 25.4 +0.8**
TSUM Tsumeb 11.58 306 Pn **Pn** **12 11 24.9 +0.4**
comp=Z,1.7nm,0.3s,baz=128,slow=12,SNR=17
TSUM Sn **Sn** **12 13 32.8 -1.4**
comp=Z,0.3nm,0.3s,baz=83,slow=21,SNR=1.8
TSUM Lg Lg 12 14 36.5
comp=Z,0.9nm,0.3s,baz=251,slow=21,SNR=5.1
comp=Z,7.5nm,0.6s
FOMA Nahampoana Res 17.66 90 **Pn** **12 12 45.3 +0.2**
FOMA IAmb IAmb 12 12 48.4
comp=Z,37nm,1.3s
VOI Vohitsoka 18.20 80 P **Pn** **12 12 52.1 +0.1**
TOA0 Torodi Ar. Sit 46.62 324 P **P** **12 17 07.8 +0.2**
TOA0 IAmb IAmb 12 17 12.8
comp=Z,4.6nm,1.4s
TORD Torodi Ar. Bea 46.62 324 P **P** **12 17 07.9 +0.3**
comp=Z,1.6nm,0.7s,baz=138,slow=6.9,SNR=9.3
comp=Z,1.6nm,0.7s
SNAA Sanae 48.35 192 P **P** **12 17 21.1 +0.6**
SNAA IAmb IAmb 12 17 34.4
comp=Z,6.0nm,1.2s
SNAA Sanae 48.35 192 P **P** **12 17 21.5 +1.0**
comp=Z,2.0nm,0.8s,baz=31,slow=12,SNR=3.6
comp=Z,2.0nm,0.8s
UOSS Minazif 58.11 31 P **P** **12 18 33.5 +0.7**
BELA Belgrano 2 58.60 193 P **P** **12 18 35.7 +0.1**
BELA IAmb IAmb 12 18 42.9
comp=Z,5.6nm,1.4s
QSPA South Pole Qui 63.78 180 P **P** **12 19 11.8 +0.7**
QSPA IAmb IAmb 12 19 13.6
comp=Z,3.5nm,1.1s
QSPA South Pole Qui 63.78 180 P **P** **12 19 11.9 +0.7**
comp=Z,1.6nm,0.9s,baz=67,slow=2.9,SNR=6.3
comp=Z,1.6nm,0.9s
FNA Florina 67.08 355 P **P** **12 19 32.1 -0.4**
ESDC Sonseca Array 71.97 335 P **P** **12 20 03.3 +0.6**
comp=Z,0.7nm,0.6s,baz=138,slow=6.9,SNR=4.7
comp=Z,0.7nm,0.6s
VNDA Vanda 72.83 171 P **P** **12 20 08.3 +0.9**
VNDA Vanda 72.83 171 P **P** **12 20 08.7 +1.3**
comp=Z,0.4nm,0.5s,baz=259,slow=5.0,SNR=5.5
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 88.08 34 P **P** **12 21 30.8 +1.3**
comp=Z,0.3nm,0.5s,baz=242,slow=2.8,SNR=1.6
comp=Z,0.3nm,0.5s
NVAR Mina Array Bea 148.88 301 PKP **PKPdf** **12 28 23.4 -0.1**
comp=Z,0.2nm,0.5s,baz=125,slow=4.7,SNR=2.6
NVAR PKPbc **pPKPbc** **12 28 29.5 -1.1**
comp=Z,0.4nm,0.6s,baz=87,slow=3.7,SNR=4.1

NEIC 04 12:09:04.9±1.6, 20.5°N±0.1°×61.0°E±0.1°, 1 h10km±2km, mb4.2/13, 1D, Error ellipse: s-maj=26.0km s-min=18.7km az=230.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UOSS	**Minazif**	**6.26**	**316**	Pn	Pn	12 10 36.8	-0.5
SIMJ	**Simiganj**	**19.39**	**19**	P	Pn	12 13 34.0	+1.7
SIMJ				IAmb	IAmb	12 14 03.5	
	comp=Z,39nm,0.6s						
CHGR	**Chuyangaron**	**19.43**	**20**	P	P	12 13 32.2	+0.6
KAAM	**Kaadhehdhoo**	**23.08**	**148**	P	P	12 14 09.4	-1.5
ARSB	**Arslanbob**	**23.13**	**23**	P	P	12 14 08.1	-3.4
ARSB				IAmb	IAmb	12 14 52.1	
	comp=Z,2.9nm,0.8s						
PALK	**Pallekele**	**23.18**	**122**	P	P	12 14 10.6	-1.3
PALK				IAmb	IAmb	12 14 44.7	
	comp=Z,9.0nm,1.2s						
KK31	**Karatay Array**	**23.92**	**17**	P	P	12 14 18.9	-0.2
KK31	**Karatay Array**	**23.92**	**17**	⇓Pn	P	12 14 19.2	+0.1
	comp=Z,0.5nm,0.3s,baz=174,slow=12,SNR=9.4						
KKAR	**Karatay Array**	**23.92**	**17**	P	P	12 14 18.8	-0.3
AAK	**Ala-Archa**	**24.84**	**24**	P	P	12 14 26.9	-0.8
AAK				IAmb	IAmb	12 14 29.3	
	comp=Z,3.1nm,0.6s						
TARG	**Taragay, Kyrgy**	**25.52**	**30**	P	P	12 14 33.4	-0.7
TARG				IAmb	IAmb	12 14 50.6	
	comp=Z,2.1nm,0.8s						
ARPR	**Arapgir-MALATY**	**26.90**	**319**	P	P	12 14 46.0	-0.3
ABKAR	**Akbulak array**	**28.71**	**359**	P	P	12 15 02.8	+0.6
LODK	**Lodwar**	**30.18**	**239**	P	P	12 15 15.5	-0.2
LODK				IAmb	IAmb	12 15 21.6	
	comp=Z,3.5nm,0.9s						
BRTR	**Keskin Array B**	**30.26**	**315**	P	P	12 15 14.1	-2.2

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*SOME **04** 12:13:05.4, 39.°18N×71.°30E, h0km*
*NNC **04** 12:13:12.0±3.7, 38.°81N×70.°53E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=27.2km s-min=21.1km az=22.0*
ISC 04 12:13:09.3±4.5, 38.°7N±0.°2×70.°3E±0.°1, h10km, n6, σ2s33/11, 4C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**luzhnay**	**3.50**	**356**	*e*P	**Pn**	**12 14 05.6**	**+1.8**
IUG	18nm,0.5s			*e*S	**Sn**	**12 14 48.8**	**+3.4**
	49nm,0.5s						
BRLS	**Borolday**	**4.39**	**355**	*e*P	**Pn**	**12 14 14.1**	**-1.9**
	1.5nm,0.6s						
BRLS				*e*S	**Sn**	**12 15 03.2**	**-4.0**
KK31	**Karatay Array**	**4.45**	**2**	Sn	**Sn**	**12 15 10.3**	**+1.7**
	1.6nm,0.5s,baz=190,slow=23,SNR=4.4						
KK31				⇑Lg	Lg	12 15 25.9	
	4.4nm,0.8s,baz=168,slow=26,SNR=4.5						
MRKS	**Merke**	**4.64**	**27**	*e*P	**Pn**	**12 14 19.1**	**-0.5**
	2.2nm,0.4s						
MRKS				*e*S	**Sn**	**12 15 12.0**	**-1.7**
	5.7nm,0.9s						
AAK	**Ala-Archa**	**5.09**	**37**	⇑Pn	**Pn**	**12 14 25.6**	**-0.2**
	1.1nm,0.5s						
AAK				⇑Sn	**Sn**	**12 15 26.1**	**+1.4**
	3.5nm,0.8s						
TKM2	**Tokmak 2**	**5.85**	**42**	⇑Pn	**Pn**	**12 14 37.0**	**+0.7**
	1.1nm,0.4s						
TKM2				⇓Sn	**Sn**	**12 15 42.7**	**-0.7**
	3.9nm,0.8s						

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*IDC **04** 12:20:19.5±2.6, 4.°04S×142.°41E, h108km±24km, mb3.7/14, mbtmp4.2/17, MS3.3/2, Error ellipse: s-maj=21.0km s-min=11.2km az=90.0*
*NEIC **04** 12:20:21.7±1.2, 4.°11S±0.°09×142.°24E±0.°09, h121km±7km, mb4.5/99, Error ellipse: s-maj=13.0km s-min=12.3km az=114.0*
ISC 04 12:20:20.5±0.4, 4.°13S±0.°05×142.°28E±0.°06, h115km, n146, σ1s00/147, mb4.5/60, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.54**	**223**	P	**Pn**	**12 20 49.5**	**+1.3**

GENI	**Genyem**	**2.60**	**306**	P	**Pn**	**12 21 03.3**	**+1.9**
MANU	**Manus Island**	**5.49**	**68**	Pn	**Pn**	**12 21 41.7**	**+1.6**
PMG	**Port Moresby**	**7.14**	**137**		**Pn**	**12 22 03.5**	**+1.2**
PMG	**Port Moresby**	**7.14**	**137**	P	**Pn**	**12 22 02.6**	**+0.3**
	68nm,0.5s,baz=43,slow=3.3,SNR=20						
PMG				S	**Sn**	**12 23 20.2**	**-1.7**
	9.9nm,0.4s,baz=318,slow=20,SNR=1.4						
PMG				LR	LR	12 24 47.2	
	comp=Z,68nm,18.9s,baz=303,slow=38						
COEN	**Coen**	**9.80**	**175**	Pn	**Pn**	**12 22 41.2**	**+2.7**
FAKI	**Fak Fak**	**10.08**	**277**	Pn	**Pn**	**12 22 42.9**	**+0.6**
KDU	**Kakadu**	**12.89**	**228**	P	**Pn**	**12 23 17.7**	**-1.8**
MTN	**Manton Dam**	**14.01**	**231**	P	**Pn**	**12 23 32.2**	**-1.8**
MTN	**Manton Dam**	**14.01**	**231**		**Pn**	**12 23 32.5**	**-1.5**
CTAO	**Charters Tower**	**16.33**	**167**	P	**Pn**	**12 24 03.4**	**+0.2**
QIS	**Mount Isa**	**16.53**	**189**	P	**Pn**	**12 24 06.3**	**+0.6**
WB0	**Warramunga Arr**	**17.34**	**206**		**Pn**	**12 24 16.4**	**+1.0**
WR0	**Warramunga Arr**	**17.44**	**205**	P	**P**	**12 24 15.8**	**-0.5**
WRAB	**Tennant Creek**	**17.50**	**206**	P	**P**	**12 24 16.3**	**-0.7**
WRAB				IAmb	IAmb	12 24 19.7	
	comp=Z,33nm,0.8s						
WB2	**Warramunga Arr**	**17.51**	**206**	P	**P**	**12 24 16.0**	**-1.1**
WB2				IAmb	IAmb	12 24 19.9	
	comp=Z,40nm,0.8s						
WRA	**Warramunga Arr**	**17.52**	**206**	P	**P**	**12 24 16.4**	**-0.7**
	comp=Z,16nm,0.6s,baz=24,slow=12,SNR=114						
WRA				S	**Sn**	**12 27 27.8**	**-5.4**
	comp=Z,1.0nm,0.7s,baz=39,slow=21,SNR=3.7						
KNRA	**Kununurra**	**17.55**	**228**	P	**P**	**12 24 17.2**	**-0.3**
KNRA	**Kununurra**	**17.55**	**228**	P	**P**	**12 24 16.6**	**-0.9**
KNRA				IAmb	IAmb	12 24 18.4	
	comp=Z,21nm,0.5s						
SOEI	**Soe**	**18.72**	**252**	P	**P**	**12 24 31.3**	**+0.8**
SOEI	**Soe**	**18.72**	**252**	P	**P**	**12 24 31.6**	**+1.1**
BATI	**Baumata**	**19.42**	**251**	P	**P**	**12 24 39.6**	**+1.7**
	comp=Z,59nm,0.4s,baz=23,slow=0.6,SNR=9.4						
AS31	**Alice Springs**	**21.03**	**202**	P	**P**	**12 24 55.0**	**-0.3**
ASAR	**Alice Springs**	**21.04**	**202**	P	**P**	**12 24 54.5**	**-0.8**
ASAR	**Alice Springs**	**21.04**	**202**	P	**P**	**12 24 55.0**	**-0.3**
	comp=Z,6.7nm,0.8s,baz=34,slow=12,SNR=49						
ASAR				S	**S**	**12 28 47.0**	**+3.8**
	comp=Z,0.5nm,0.9s,baz=18,slow=28,SNR=1.2						
	comp=Z,6.7nm,0.8s						
QLP	**Quilpie**	**22.40**	**175**	P	**P**	**12 25 09.8**	**+0.2**
EIDS	**Eidsvold**	**22.75**	**159**	P	**P**	**12 25 14.5**	**+1.4**
INKA	**Innaminka**	**23.52**	**183**	P	**P**	**12 25 20.6**	**+0.3**
WRKA	**Warakurna**	**24.75**	**212**	P	**P**	**12 25 31.8**	**+0.2**
AULRC	**Lightning Ridg**	**25.73**	**168**	P	**P**	**12 25 40.9**	**+0.6**
STKA	**Stephens Creek**	**27.61**	**181**	P	**P**	**12 25 56.1**	**-1.0**
STKA	**Stephens Creek**	**27.61**	**181**	P	**P**	**12 25 57.3**	**+0.2**
	comp=Z,2.2nm,0.8s,baz=321,slow=9.7,SNR=3.1						
	comp=Z,2.2nm,0.8s						
MBWA	**Marble Bar**	**27.68**	**230**	P	**P**	**12 25 58.3**	**+0.4**
MBWA				IAmb	IAmb	12 26 16.3	
	comp=Z,19nm,1.2s						
PSA00	**Pilbara Seismi**	**27.83**	**230**	P	**P**	**12 26 00.2**	**+0.9**
BBOO	**Buckleboo**	**29.12**	**191**	P	**P**	**12 26 10.4**	**-0.1**
LIFNC	**LIFOU**	**29.38**	**126**	P	**P**	**12 26 12.0**	**-1.0**
FORT	**Forrest**	**29.70**	**205**	P	**P**	**12 26 16.9**	**+1.2**
SBUM	**Sibu**	**30.74**	**282**	P	**P**	**12 26 24.4**	**-0.8**
CAN	**Canberra**	**31.65**	**169**	P	**P**	**12 26 33.5**	**+0.6**
CAN				IAmb	IAmb	12 26 42.0	
	comp=Z,17nm,1.1s						
YULB	**Yu-li**	**34.17**	**324**	P	**P**	**12 26 53.9**	**-1.0**
TPUB	**Ta-pu**	**34.49**	**323**	P	**P**	**12 26 57.3**	**-0.4**
MORW	**Morawa**	**35.13**	**222**	P	**P**	**12 27 03.6**	**+0.5**
MORW				IAmb	IAmb	12 27 05.1	
	comp=Z,7.6nm,0.8s						
MJAR	**Matsushiro Arr**	**40.64**	**355**	P	**P**	**12 27 48.2**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=169,slow=9.7,SNR=1.3						
	comp=Z,0.5nm,0.4s						
MJB9	**Matsu-Tunnel**	**40.65**	**355**	P	**P**	**12 27 49.0**	**-0.4**
JMM	**Marumori**	**41.81**	**358**	P	**P**	**12 27 58.7**	**-0.1**
KSRS	**Korea Array**	**43.48**	**343**	P	**P**	**12 28 11.8**	**-0.6**
	comp=Z,0.6nm,0.5s,baz=147,slow=6.0,SNR=2.0						
	comp=Z,0.6nm,0.5s						
RTZ	**Ruatahuna**	**46.62**	**142**	P	**P**	**12 28 38.4**	**+1.0**
RTZ				IAmb	IAmb	12 28 39.7	
	comp=Z,17nm,1.1s						
TUWZ	**Tuamarina**	**46.72**	**147**	P	**P**	**12 28 38.7**	**+0.7**
TCW	**Tory Channel**	**46.75**	**147**	P	**P**	**12 28 38.4**	**+0.2**
MRZ	**Mangatainoka R**	**47.11**	**145**	P	**P**	**12 28 41.5**	**+0.5**
MRZ				IAmb	IAmb	12 28 43.0	
	comp=Z,18nm,1.3s						
JKA	**Kamikawa-asahi**	**48.03**	**0**	P	**P**	**12 28 47.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**48.23**	**299**	P	**P**	**12 28 50.2**	**+0.2**
	comp=Z,0.5nm,0.4s,baz=116,slow=4.1,SNR=1.8						
	comp=Z,0.5nm,0.4s						
USRK	**Ussuriysk Ar.**	**48.99**	**350**	P	**P**	**12 28 55.4**	**0.0**
	comp=Z,2.9nm,0.9s,baz=191,slow=9.8,SNR=4.4						
	comp=Z,2.9nm,0.9s						
MA2	**Magadan**	**63.87**	**5**	P	**P**	**12 30 40.6**	**0.0**
MA2				IAmb	IAmb	12 30 44.6	
	comp=Z,7.3nm,1.2s						
MKAR	**Makanchi Array**	**73.09**	**322**	P	**P**	**12 31 38.0**	**-0.3**
MKAR	**Makanchi Array**	**73.09**	**322**	P	**P**	**12 31 38.6**	**+0.3**
	comp=Z,0.6nm,0.4s,baz=115,slow=8.1,SNR=8.1						
	comp=Z,0.6nm,0.4s						
VNDA	**Vanda**	**74.08**	**176**	P	**P**	**12 31 44.0**	**+0.4**
VNDA	**Vanda**	**74.08**	**176**	P	**P**	**12 31 44.8**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=314,slow=9.3,SNR=7.9						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**74.97**	**329**	P	**P**	**12 31 48.4**	**-0.6**
ZALV	**Zalesovo Beam**	**74.97**	**329**	P	**P**	**12 31 48.2**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=95,slow=5.5,SNR=5.6						
	comp=Z,1.3nm,0.5s						
SDPT	**Sand Point**	**75.56**	**30**	P	**P**	**12 31 52.9**	**+0.6**
BOOM	**Boomskoye usch**	**75.64**	**316**	P	**P**	**12 31 54.4**	**+0.9**
KURK	**Kurchatov**	**76.93**	**324**	P	**P**	**12 32 00.1**	**-0.2**
KURBB	**Kurchatov Arra**	**76.95**	**324**	P	**P**	**12 31 59.6**	**-0.7**
	comp=Z,0.3nm,0.4s,baz=106,slow=5.4,SNR=4.1						
	comp=Z,0.3nm,0.4s						
L14K	**Kuka Creek**	**77.72**	**24**	P	**P**	**12 32 05.1**	**+0.7**
K15K	**Wolf Creek Mou**	**78.69**	**23**	P	**P**	**12 32 10.7**	**+1.0**
O16K	**Kokwok River B**	**78.76**	**27**	P	**P**	**12 32 10.8**	**+0.6**
O16K				IAmb	IAmb	12 32 19.7	
	comp=Z,8.0nm,1.1s						
L16K	**Owhat River**	**79.22**	**24**	P	**P**	**12 32 13.1**	**+0.4**
L16K				IAmb	IAmb	12 32 36.2	
	comp=Z,12nm,1.3s						
F15K	**North Star Dit**	**79.47**	**20**	P	**P**	**12 32 15.0**	**+1.0**
F15K				IAmb	IAmb	12 32 17.1	
	comp=Z,10nm,1.1s						
J16K	**Anvik River**	**79.58**	**23**	P	**P**	**12 32 15.8**	**+1.2**
J16K				IAmb	IAmb	12 32 49.0	
	comp=Z,14nm,1.2s						
K17K	**Iditarod**	**80.20**	**24**	P	**P**	**12 32 18.1**	**+0.1**
K17K				IAmb	IAmb	12 32 26.5	
	comp=Z,14nm,1.2s						
J17K	**VABM Dome**	**80.23**	**23**	P	**P**	**12 32 19.2**	**+1.1**
Q19K	**Cape Douglas,**	**80.51**	**28**	P	**P**	**12 32 19.3**	**-0.4**
KDAK	**Kodiak Island**	**80.55**	**30**	LR	LR	13 02 39.2	
	comp=Z,48nm,21.5s,baz=137,slow=32						
L18K	**Granite Mounta**	**80.61**	**25**	P	**P**	**12 32 21.0**	**+0.8**
L18K				IAmb	IAmb	12 32 58.8	
	comp=Z,12nm,1.4s						
H17K	**Granite Mounta**	**80.70**	**21**	P	**P**	**12 32 21.2**	**+0.6**
H17K				IAmb	IAmb	12 32 22.0	
	comp=Z,4.9nm,0.7s						
N19K	**Bonanza Creek**	**80.92**	**26**	P	**P**	**12 32 22.6**	**+0.6**
N19K				IAmb	IAmb	12 32 44.5	
	comp=Z,19nm,1.3s						
P19K	**Oil Pt**	**81.00**	**28**	P	**P**	**12 32 22.0**	**-0.3**
F17K	**Baldwin Pennin**	**81.03**	**20**	P	**P**	**12 32 23.0**	**+0.7**
F17K				IAmb	IAmb	12 32 37.4	
	comp=Z,14nm,1.4s						
J18K	**Innoko River**	**81.19**	**23**	P	**P**	**12 32 23.2**	**0.0**
L19K	**White Mountain**	**81.36**	**25**	P	**P**	**12 32 24.8**	**+0.6**
L19K				IAmb	IAmb	12 33 01.0	
	comp=Z,14nm,1.4s						
G18K	**Tagagawik**	**81.65**	**21**	P	**P**	**12 32 25.6**	**0.0**
J19K	**Poorman**	**81.87**	**23**	P	**P**	**12 32 27.4**	**+0.7**
J19K				IAmb	IAmb	12 32 58.1	
	comp=Z,9.8nm,1.4s						
M20K	**Styx River**	**81.97**	**26**	P	**P**	**12 32 28.2**	**+0.8**
M20K				IAmb	IAmb	12 32 29.2	
	comp=Z,6.8nm,1.1s						
K20K	**Telida**	**82.20**	**24**	P	**P**	**12 32 29.2**	**+0.7**
K20K				IAmb	IAmb	12 33 09.6	
	comp=Z,7.6nm,1.4s						
BVAR	**Borovoye Array**	**82.52**	**325**	P	**P**	**12 32 30.6**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=110,slow=7.1,SNR=11						
	comp=Z,2.1nm,0.6s						
J20K	**Nowinta River**	**82.53**	**23**	P	**P**	**12 32 31.0**	**+0.8**
E19K	**Redstone River**	**82.91**	**20**	P	**P**	**12 32 32.7**	**+0.5**
E19K				IAmb	IAmb	12 32 33.7	
	comp=Z,4.8nm,0.9s						
C19K	**Lookout Ridge**	**82.99**	**18**	P	**P**	**12 32 33.3**	**+0.8**
C19K				IAmb	IAmb	12 32 39.5	
	comp=Z,10nm,1.4s						
D19K	**Kuna River**	**83.14**	**19**	P	**P**	**12 32 33.6**	**+0.3**
D19K				IAmb	IAmb	12 32 34.1	
	comp=Z,6.6nm,1.2s						
F20K	**Avaraart Lake**	**83.24**	**20**	P	**P**	**12 32 34.7**	**+0.9**
IMAR	**Indian Mountai**	**83.47**	**22**	P	**P**	**12 32 35.1**	**+0.1**
KTH	**Kantishna Hill**	**83.58**	**24**	P	**P**	**12 32 35.3**	**-0.4**
KTH				IAmb	IAmb	12 32 46.3	
	comp=Z,11nm,1.4s						
BPAW	**Bear Paw Mtn.**	**83.76**	**24**	P	**P**	**12 32 36.4**	**-0.2**
SML	**Sawmill**	**84.05**	**27**	P	**P**	**12 32 38.2**	**+0.1**
B20K	**Meade River**	**84.18**	**18**	P	**P**	**12 32 40.2**	**+1.7**
B20K				IAmb	IAmb	12 32 41.8	
	comp=Z,9.4nm,1.4s						
MLY	**Manley**	**84.22**	**23**	P	**P**	**12 32 38.8**	**-0.1**
RND	**Reindeer**	**84.38**	**25**	P	**P**	**12 32 38.9**	**-0.9**
RND				IAmb	IAmb	12 32 39.7	
	comp=Z,7.0nm,0.9s						
SCM	**Sheep Creek Mo**	**84.50**	**27**	P	**P**	**12 32 40.5**	**0.0**
B21K	**Ikpikpuk River**	**84.78**	**18**	P	**P**	**12 32 42.0**	**+0.4**
I23K	**Minto, Yukon-K**	**84.81**	**23**	P	**P**	**12 32 42.4**	**+0.6**
DHY	**Denali Highway**	**84.90**	**25**	P	**P**	**12 32 42.7**	**+0.2**
DHY				IAmb	IAmb	12 32 51.4	
	comp=Z,17nm,1.5s						
H23K	**Yukon River**	**84.98**	**23**	P	**P**	**12 32 42.6**	**-0.1**
E22K	**Anaktuvuk Pass**	**85.06**	**20**	P	**P**	**12 32 43.5**	**+0.4**
WRH	**Wood River Hil**	**85.07**	**24**	P	**P**	**12 32 42.0**	**-1.2**
WRH				IAmb	IAmb	12 33 17.3	
	comp=Z,12nm,1.5s						
MDM	**Murphy Dome**	**85.19**	**24**	P	**P**	**12 32 42.8**	**-1.0**
MDM				IAmb	IAmb	12 32 58.1	
	comp=Z,6.6nm,1.5s						
CCB	**Clear Creek Bu**	**85.25**	**24**	P	**P**	**12 32 42.7**	**-1.3**
CCB				IAmb	IAmb	12 32 43.2	
	comp=Z,5.4nm,0.7s						
B22K	**Teshekpuk Lake**	**85.47**	**18**	P	**P**	**12 32 45.0**	**0.0**
B22K				IAmb	IAmb	12 32 45.8	
	comp=Z,5.6nm,1.3s						
H24K	**Noodor Dome**	**85.63**	**23**	P	**P**	**12 32 45.8**	**-0.2**
IL31		**85.66**	**24**	P	**P**	**12 32 44.4**	**-1.6**
IL31				IAmb	IAmb	12 32 45.0	
	comp=Z,3.9nm,0.8s						
ILAR	**Eielson Array**	**85.66**	**24**	P	**P**	**12 32 44.5**	**-1.6**
ILAR	**Eielson Array**	**85.66**	**24**	P	**P**	**12 32 44.2**	**-1.9**
	comp=Z,3.0nm,0.6s,baz=258,slow=4.7,SNR=44						
	comp=Z,3.0nm,0.6s						
QSPA	**South Pole Qui**	**85.82**	**180**	P	**P**	**12 32 47.0**	**0.0**
QSPA	**South Pole Qui**	**85.82**	**180**	P	**P**	**12 32 47.0**	**0.0**
	comp=Z,2.1nm,0.7s,baz=290,slow=0.6,SNR=16						
	comp=Z,2.1nm,0.7s						
GLB	**Gilahina Butte**	**85.98**	**28**	P	**P**	**12 32 48.2**	**+0.4**
GLB				IAmb	IAmb	12 33 11.0	
	comp=Z,9.1nm,1.2s						
TOLK	**Toolik Lake Re**	**86.02**	**20**	P	**P**	**12 32 48.6**	**+0.8**
TOLK				IAmb	IAmb	12 33 22.1	
	comp=Z,6.5nm,1.4s						
VRDI	**Verde Repeater**	**86.09**	**28**	P	**P**	**12 32 48.4**	**-0.1**
C23K	**Itkillik River**	**86.14**	**19**	P	**P**	**12 32 48.9**	**+0.6**
C23K				IAmb	IAmb	12 32 49.5	
	comp=Z,6.1nm,0.7s						
F24K	**Squaw Lake**	**86.21**	**21**	P	**P**	**12 32 49.7**	**+0.9**
J25K	**Salcha River,**	**86.23**	**24**	P	**P**	**12 32 48.2**	**-0.7**
J25K				IAmb	IAmb	12 32 53.4	
	comp=Z,6.0nm,1.3s						
D24K	**Happy Valley**	**86.46**	**20**	P	**P**	**12 32 50.4**	**+0.5**
D24K				IAmb	IAmb	12 32 51.5	
	comp=Z,6.1nm,0.9s						
MESA	**MESA**	**86.53**	**29**	P	**P**	**12 32 50.8**	**+0.1**
BARN	**Barnard Glacie**	**86.89**	**28**	P	**P**	**12 32 53.0**	**+0.6**
CTGM	**Chitina Glacie**	**87.02**	**28**	P	**P**	**12 32 53.5**	**+0.5**
M27K	**Edge Creek, AK**	**87.11**	**27**	P	**P**	**12 32 53.8**	**+0.4**
M27K				IAmb	IAmb	12 32 54.3	
	comp=Z,7.3nm,1.1s						
LOGN	**Logan Glacier**	**87.14**	**29**	P	**P**	**12 32 53.6**	**0.0**
L27K	**Beaver Creek,**	**87.31**	**26**	P	**P**	**12 32 54.5**	**+0.3**
L27K				IAmb	IAmb	12 33 20.6	
	comp=Z,5.1nm,1.4s						
BCAR	**Beaver Creek A**	**87.33**	**26**	P	**P**	**12 32 54.6**	**+0.2**
D25K	**Kavik River**	**87.34**	**20**	P	**P**	**12 32 54.5**	**+0.3**
D25K				IAmb	IAmb	12 32 55.6	
	comp=Z,5.3nm,1.3s						
BMAR	**Burnt Mountain**	**87.39**	**22**	P	**P**	**12 32 55.5**	**+1.0**
K27K	**Chicken**	**87.44**	**25**	P	**P**	**12 32 55.7**	**+0.9**
K27K				IAmb	IAmb	12 32 56.3	
	comp=Z,3.5nm,0.9s						
EGAK	**Eagle**	**88.02**	**25**	P	**P**	**12 32 57.2**	**-0.2**
EGAK				IAmb	IAmb	12 33 30.1	
	comp=Z,5.1nm,1.2s						
ABKAR	**Akbulak array**	**88.10**	**319**	P	**P**	**12 32 57.2**	**-1.1**
G27K	**Doyon Strip**	**88.32**	**23**	P	**P**	**12 32 60.0**	**+1.1**
DAWY	**Dawson**	**88.60**	**26**	P	**P**	**12 33 00.9**	**+0.5**
DAWY				IAmb	IAmb	12 33 32.6	
	comp=Z,7.5nm,1.4s						
M29M	**Somme Creek**	**88.68**	**27**	P	**P**	**12 33 01.

PMSA	**Palmer Station**	**19.48**	**233**	P	**P**	**12 44 23.4**	**0.0**
PMSA				IAmb	IAmb	12 44 55.4	
	comp=Z,71nm,1.2s						
EFI	**East Falkland**	**19.68**	**274**	P	**Pn**	**12 44 27.9**	**+0.6**
BELA	**Belgrano 2**	**20.30**	**186**	P	**P**	**12 44 32.0**	**-0.2**
COYC	**Coyhaique**	**30.77**	**273**	P	**P**	**12 46 10.4**	**-1.2**
COYC				IAmb	IAmb	12 46 51.1	
	comp=Z,14nm,1.3s						
QSPA	**South Pole Qui**	**32.33**	**180**	P	**P**	**12 46 26.1**	**+0.7**
QSPA				IAmb	IAmb	12 46 26.9	
	comp=Z,4.0nm,0.6s						
QSPA	**South Pole Qui**	**32.33**	**180**	P	**P**	**12 46 26.1**	**+0.7**
	comp=Z,4.4nm,0.5s,baz=26,slow=2.5,SNR=87						
	comp=Z,4.4nm,0.5s						
PLTB	**Pedras Altas**	**32.46**	**311**	P	**P**	**12 46 27.0**	**+0.3**
PLTB				IAmb	IAmb	12 47 01.9	
	comp=Z,21nm,1.5s						
PLCA	**Paso Flores**	**33.30**	**281**	P	**P**	**12 46 33.8**	**-0.1**
PLCA				IAmb	IAmb	12 47 02.1	
	comp=Z,7.1nm,1.4s						
PLCA	**Paso Flores**	**33.30**	**281**	P	**P**	**12 46 34.4**	**+0.4**
	comp=Z,0.8nm,0.4s,baz=127,slow=5.6,SNR=9.0						
PLCA				LR	LR	12 58 40.4	
	comp=Z,24nm,20.2s,baz=153,slow=34						
	comp=Z,0.8nm,0.4s						
LL05	**Los Muermos**	**34.35**	**277**	P	**P**	**12 46 43.1**	**+0.1**
GO06	**Curarrehue**	**34.62**	**282**	P	**P**	**12 46 45.7**	**+0.2**
GO06				IAmb	IAmb	12 47 19.2	
	comp=Z,7.5nm,1.4s						
LR04	**Corral**	**35.42**	**279**	P	**P**	**12 46 53.0**	**+0.8**
MT09	**Talagante**	**38.81**	**288**	P	**P**	**12 47 21.2**	**-0.1**
MT09				IAmb	IAmb	12 47 26.3	
	comp=Z,15nm,1.2s						
AC05	**El Transito**	**42.46**	**294**	P	**P**	**12 47 50.7**	**-0.7**
AC05				IAmb	IAmb	12 47 55.5	
	comp=Z,9.8nm,1.2s						
AC04	**Llanos de Chal**	**43.37**	**293**	P	**P**	**12 47 57.8**	**-0.9**
AC02	**Maricunga**	**43.58**	**296**	P	**P**	**12 48 00.4**	**-0.4**
SBA	**Scott Base**	**44.28**	**184**	P	**P**	**12 48 07.4**	**+2.1**
VNDA	**Vanda**	**44.75**	**182**	P	**P**	**12 48 10.2**	**+1.1**
VNDA	**Vanda**	**44.75**	**182**	P	**P**	**12 48 09.6**	**+0.5**
	comp=Z,3.3nm,0.6s,baz=188,slow=6.5,SNR=30						
	comp=Z,3.3nm,0.6s						
AC01	**Pan de Azucar**	**44.86**	**295**	P	**P**	**12 48 10.5**	**-0.1**
BDFB	**Brasilia**	**45.46**	**329**	P	**P**	**12 48 17.0**	**+1.5**
BDFB				IAmb	IAmb	12 48 17.9	
	comp=Z,4.4nm,0.8s						
BDFB	**Brasilia**	**45.46**	**329**	P	**P**	**12 48 16.0**	**+0.5**
	comp=Z,2.6nm,0.4s,baz=49,slow=10,SNR=4.2						
	comp=Z,2.6nm,0.4s						
BOSA	**Boshof**	**45.55**	**72**	P	**P**	**12 48 16.2**	**0.0**
	comp=Z,2.8nm,1.0s,baz=334,slow=16,SNR=1.5						
BOSA				LR	LR	13 02 55.4	
	comp=Z,40nm,19.9s,baz=199,slow=30						
	comp=Z,2.8nm,1.0s						
H04S2	**CROZET ISLANDS**	**45.94**	**111**	T	T	13 38 51.4	
	baz=225,slow=75,SNR=30						
H04S3	**CROZET ISLANDS**	**45.94**	**111**	T	T	13 38 52.6	
	baz=225,slow=75,SNR=34						
H04S1	**CROZET ISLANDS**	**45.95**	**111**	T	T	13 38 52.9	
	baz=225,slow=75,SNR=16						
LVC	**Limon Verde**	**47.07**	**300**	P	**P**	**12 48 28.3**	**-0.1**
LVC				IAmb	IAmb	12 48 28.8	
	comp=Z,6.6nm,1.1s						
LVC	**Limon Verde**	**47.07**	**300**	LR	LR	13 09 07.7	
	comp=Z,21nm,19.3s,baz=172,slow=37						
GO01	**Chusmiza**	**49.75**	**301**	P	**P**	**12 48 48.9**	**-0.3**
GO01				IAmb	IAmb	12 49 29.9	
	comp=Z,10nm,1.4s						
PB11	**IPOC Station P**	**49.88**	**301**	P	**P**	**12 48 49.5**	**-0.3**
PB11				IAmb	IAmb	12 48 51.8	
	comp=Z,9.4nm,1.1s						
H10N1	**ASCENSION HYDR**	**50.66**	**14**	T	T	13 44 45.4	
	baz=182,slow=72,SNR=14						
H10N3	**ASCENSION HYDR**	**50.66**	**14**	T	T	13 44 44.6	
	baz=182,slow=72,SNR=18						
H10N2	**ASCENSION HYDR**	**50.68**	**14**	T	T	13 44 47.6	
	baz=182,slow=72,SNR=22						
LPAZ	**La Paz**	**52.24**	**305**	P	**P**	**12 49 08.2**	**+0.1**
LPAZ	**La Paz**	**52.24**	**305**	P	**P**	**12 49 07.0**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=236,slow=6.9,SNR=4.4						
	comp=Z,1.4nm,0.5s						
SAML	**Samuel**	**56.80**	**314**	P	**P**	**12 49 40.4**	**0.0**
SAML				IAmb	IAmb	12 49 41.8	
	comp=Z,3.6nm,0.7s						
NNA	**Nana**	**59.99**	**298**	LR	LR	13 16 11.7	
	comp=Z,13nm,19.5s,baz=139,slow=36						
BOAV	**Boa Vista**	**66.34**	**321**	P	**P**	**12 50 44.9**	**0.0**
TOA0	**Torodi Ar. Sit**	**74.23**	**27**	P	**P**	**12 51 34.2**	**+1.2**
TORD	**Torodi Ar. Bea**	**74.23**	**27**	P	**P**	**12 51 33.8**	**+0.8**
	comp=Z,1.8nm,0.6s,baz=197,slow=6.0,SNR=18						
	comp=Z,1.8nm,0.6s						
THZ	**Tophouse**	**79.51**	**194**	P	**P**	**12 52 01.9**	**-0.7**
THZ				IAmb	IAmb	12 52 29.8	
	comp=Z,15nm,1.3s						
DSZ	**Denniston Nort**	**79.67**	**193**	P	**P**	**12 52 02.1**	**-1.3**
TCW	**Tory Channel**	**79.87**	**195**	P	**P**	**12 52 03.2**	**-1.3**
MRNZ	**Matariki Terra**	**79.89**	**194**	P	**P**	**12 52 04.6**	**0.0**
ASAR	**Alice Springs**	**96.91**	**161**	P	**P**	**12 53 26.1**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=179,slow=4.2,SNR=9.4						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**122.14**	**300**	PKP	**PKPdf**	**12 58 49.0**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=107,slow=4.5,SNR=5.9						
NVAR	**Mina Array Bea**	**122.99**	**291**	PKP	**PKPdf**	**12 58 51.8**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=174,slow=3.0,SNR=4.3						
CMAR	**Chiang Mai Arr**	**123.51**	**110**	PKP	**PKPdf**	**12 58 52.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=241,slow=3.7,SNR=2.1						
FINES	**FINESS Array B**	**125.58**	**28**	PKP	**PKPdf**	**12 58 54.9**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=132,slow=2.8,SNR=5.9						
ARCES	**ARCESS Array B**	**132.32**	**22**	PKP	**PKPdf**	**12 59 07.9**	**-0.5**
	comp=Z,3.2nm,0.9s,baz=280,slow=1.6,SNR=1.7						
KURBB	**Kurchatov Arra**	**137.21**	**66**	PKP	**PKPdf**	**12 59 19.2**	**+1.1**
	comp=Z,0.1nm,0.4s,baz=286,slow=0.7,SNR=2.0						
YKA	**Yellowknife Ar**	**138.19**	**316**	PKP	**PKPdf**	**12 59 19.4**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=119,slow=2.0,SNR=25						
SONM	**Songino Array**	**149.84**	**88**	PKPbc	**PKPbc**	**12 59 44.9**	**-0.3**
	comp=Z,1.9nm,0.6s,baz=234,slow=3.1,SNR=4.1						
ILAR	**Eielson Array**	**152.06**	**309**	PKPbc	**PKPbc**	**12 59 49.5**	**-0.2**
	comp=Z,2.5nm,0.4s,baz=151,slow=1.7,SNR=33						
ILAR				PKPab	**PKPab**	**12 59 60.0**	**+0.5**
	comp=Z,7.0nm,1.2s,baz=119,slow=1.2,SNR=7.5						

*NEIC **04** 12:48:10.7±1.7, 10°.82S±0°.10×166°.7E±0°.1, h10km±1km, mb4.4/14, Error ellipse: s-maj=20.8km s-min=13.9km az=55.0*

*IDC **04** 12:48:14.4±0.8, 11°.38S×166°.16E, h0km, mb4.0/13, mbtmp4.0/14, ML3.9/1, MS3.3/2, Error ellipse: s-maj=27.4km s-min=18.8km az=105.0*

ISC 04 12:48:20.0±0.7, 11°.39S±0°.09×166°.1E±0°.1, h37km, n39, σ1s 04/33, mb4.1/18, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.36**	**287**	Pn		**Pn**		**12 49 49.4**	**-1.8**
KOUNC	**Koumac, New Ca**	**9.28**	**191**	Pn		**Pn**		**12 50 33.2**	**+2.0**
LIFNC	**LIFOU**	**9.40**	**173**	Pn		**Pn**		**12 50 32.3**	**-0.6**
DZM	**Mont Dzumac**	**10.63**	**178**	Pn		**Pn**		**12 50 50.9**	**+1.1**
DZM	**Mont Dzumac**	**10.63**	**178**	Pn		**Pn**		**12 50 50.2**	**+0.3**
	0.8nm,0.3s,baz=287,slow=3.5,SNR=16								
	3.4nm,0.4s								
ONTNC	**Ouen Toro**	**10.87**	**178**	Pn		**Pn**		**12 50 52.6**	**-0.4**
OUENC	**Ouen Island, N**	**10.99**	**176**	Pn		**Pn**		**12 50 52.8**	**-1.9**
PINNC	**Pines Island,**	**11.24**	**174**	Pn		**Pn**		**12 50 57.2**	**-0.9**
EIDS	**Eidsvold**	**19.89**	**224**	P		**Pn**		**12 52 50.5**	**+0.5**
CTAO	**Charters Tower**	**20.95**	**243**	P		Pn		12 53 01.7	-1.0
CTAO				IAmb		IAmb		12 53 35.9	
	comp=Z,9.0nm,1.1s								
STKA	**Stephens Creek**	**30.44**	**224**	P		**P**		**12 54 31.1**	**+2.0**
STKA	**Stephens Creek**	**30.44**	**224**	P		**P**		**12 54 30.3**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=249,slow=21,SNR=1.5								
	comp=Z,1.0nm,0.6s								
WB0	**Warramunga Arr**	**31.61**	**251**	P		**P**		**12 54 40.0**	**+0.4**
WB0				IAmb		IAmb		12 54 40.7	
	comp=Z,6.0nm,0.8s								
WB2	**Warramunga Arr**	**31.69**	**250**	P		**P**		**12 54 38.6**	**-1.7**
WB2				IAmb		IAmb		12 54 58.2	
	comp=Z,4.8nm,0.9s								
WRA	**Warramunga Arr**	**31.70**	**250**	P		**P**		**12 54 39.8**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=83,slow=8.6,SNR=11								
	comp=Z,2.0nm,0.8s								
AS31	**Alice Springs**	**32.95**	**244**	P		**P**		**12 54 51.1**	**-0.3**
ASAR	**Alice Springs**	**32.95**	**244**	P		**P**		**12 54 51.6**	**+0.1**
ASAR	**Alice Springs**	**32.95**	**244**	P		**P**		**12 54 51.1**	**-0.3**
	comp=Z,2.5nm,0.7s,baz=69,slow=9.7,SNR=41								
	comp=Z,2.5nm,0.7s								

BBOO	**Buckleboo**	**34.85**	**228**	P	**P**	**12 55 08.5**	**+0.7**
PPT	**Papeete**	**43.27**	**104**	LR	LR	13 09 23.9	
	comp=Z,25nm,19.8s,baz=242,slow=29						
PSA00	**Pilbara Seismi**	**45.35**	**251**	P	**P**	**12 56 33.4**	**-1.5**
PSA00				IAmb	IAmb	12 57 15.8	
	comp=Z,3.7nm,1.0s						
MBWA	**Marble Bar**	**45.42**	**252**	P	**P**	**12 56 35.5**	**0.0**
PETK	**Petropavlovsk-**	**64.64**	**354**	P	**P**	**12 58 54.0**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=190,slow=5.1,SNR=1.2						
	comp=Z,0.4nm,0.5s						
VNDA	**Vanda**	**66.16**	**181**	P	**P**	**12 59 02.0**	**-1.3**
VNDA				IAmb	IAmb	12 59 21.1	
	comp=Z,1.8nm,1.1s						
VNDA	**Vanda**	**66.16**	**181**	P	**P**	**12 59 03.5**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=338,slow=7.2,SNR=5.7						
	comp=Z,1.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.57**	**294**	P	**P**	**12 59 45.4**	**+1.5**
	comp=Z,1.6nm,0.8s,baz=129,slow=4.9,SNR=9.3						
	comp=Z,1.6nm,0.8s						
QSPA	**South Pole Qui**	**78.62**	**180**	P	**P**	**13 00 16.9**	**-0.9**
QSPA				IAmb	IAmb	13 00 18.2	
	comp=Z,6.3nm,0.9s						
QSPA	**South Pole Qui**	**78.62**	**180**	P	**P**	**13 00 17.5**	**-0.3**
	comp=Z,4.6nm,0.8s,baz=221,slow=0.7,SNR=26						
	comp=Z,4.6nm,0.8s						
SONM	**Songino Array**	**79.15**	**324**	P	**P**	**13 00 21.4**	**+0.4**
	comp=Z,0.8nm,0.5s,baz=144,slow=7.1,SNR=1.9						
	comp=Z,0.8nm,0.5s						
J18K	**Innoko River**	**79.89**	**16**	P	P	13 00 14.7	-10
J18K				IAmb	IAmb	13 00 40.2	
	comp=Z,10nm,1.5s						
H18K	**Honhosa River**	**80.83**	**14**	P	P	13 00 21.5	-8.1
G18K	**Tagagawik**	**81.37**	**14**	P	P	13 00 23.2	-9.2
G18K				IAmb	IAmb	13 01 02.9	
	comp=Z,5.6nm,1.4s						
ILAR	**Eielson Array**	**83.72**	**18**	P	**P**	**13 00 44.2**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=247,slow=5.7,SNR=1.7						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**85.98**	**50**	P	**P**	**13 00 57.6**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=251,slow=5.6,SNR=3.0						
	comp=Z,0.2nm,0.6s						
LPIG	**La Paz**	**88.83**	**65**	LR	LR	13 36 56.2	
	comp=Z,23nm,18.1s,baz=34,slow=33						
MKAR	**Makanchi Array**	**94.01**	**317**	P	**P**	**13 01 34.7**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=100,slow=5.6,SNR=12						
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**94.04**	**324**	P	**P**	**13 01 34.0**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=90,slow=7.4,SNR=2.2						
	comp=Z,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**95.11**	**27**	P	**P**	**13 01 39.7**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=273,slow=5.0,SNR=2.9						
	comp=Z,0.1nm,0.6s						
ARCES	**ARCESS Array B**	**116.75**	**346**	PKP	**PKPdf**	**13 06 58.9**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=77,slow=1.7,SNR=10						

*IDC **04** 12:49:59.9±1.0, 18°.43S×167°.77E, h0km, mb4.0/7, mbtmp4.0/8, ML3.8/1, MS3.5/6, Error ellipse: s-maj=31.4km s-min=20.0km az=125.0*

*NOU **04** 12:49:59.9, 18°.30S×167°.73E, h0km, MLv4.3/10, Vanuatu Islands*

*NEIC **04** 12:50:09.2±2.6, 19°.01S±0°.09×167°.20E±0°.08, h10km±1km, mb4.4/17, Error ellipse: s-maj=15.5km s-min=13.0km az=1.0*

ISC 04 12:50:02.9±0.9, 18°.45S±0°.09×167°.61E±0°.09, h10km, n48, σ1s 35/38, mb4.3/15, MS3.5/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.34**	**189**	P		**Pn**		**12 50 41.5**	**0.0**
LIFNC	**LIFOU**	**2.34**	**189**	Pn		**Pn**		**12 50 39.1**	**-2.4**
MARNC	**Mare, Loyalty**	**3.04**	**173**	P		**Pn**		**12 50 51.2**	**+0.1**
DZM	**Mont Dzumac**	**3.77**	**197**	P		**Pn**		**12 51 01.2**	**0.0**
DZM	**Mont Dzumac**	**3.77**	**197**	Pn		**Pn**		**12 50 59.5**	**-1.6**
DZM	**Mont Dzumac**	**3.77**	**197**	Pn		**Pn**		**12 51 00.4**	**-0.8**
	7.2nm,0.3s,baz=300,slow=20,SNR=33								
DZM				Sn		**Sn**		**12 51 45.6**	**-0.1**
	19nm,0.3s,baz=283,slow=23,SNR=7.1								
	17nm,0.4s								
KOUNC	**Koumac, New Ca**	**3.77**	**236**	P		**Pn**		**12 51 01.6**	**+0.5**
KOUNC	**Koumac, New Ca**	**3.77**	**236**			**Pn**		**12 51 00.2**	**-1.0**
NOUC	**Port Laguerre**	**3.83**	**198**	P		**Pn**		**12 51 02.1**	**+0.1**
ONTNC	**Ouen Toro**	**3.99**	**196**	P		**Pn**		**12 51 05.1**	**+1.0**
ONTNC	**Ouen Toro**	**3.99**	**196**	Pn		Pn		12 51 00.4	-3.7
OUENC	**Ouen Island, N**	**4.01**	**190**	P		**Pn**		**12 51 05.4**	**+0.9**
OUENC	**Ouen Island, N**	**4.01**	**190**	Pn		Pn		12 51 00.4	-4.1
PINNC	**Pines Island,**	**4.14**	**182**	P		**Pn**		**12 51 06.6**	**+0.3**
PINNC	**Pines Island,**	**4.14**	**182**	Pn		**Pn**		**12 51 06.5**	**+0.2**
MSVF	**Nonsavu**	**9.95**	**88**	Pn		Pn		12 52 39.3	+13
EIDS	**Eidsvold**	**16.80**	**243**	Pn		**Pn**		**12 53 55.1**	**-3.4**
ARMA	**Armidale**	**18.78**	**228**	P		**P**		**12 54 21.8**	**-0.8**
CTAO	**Charters Tower**	**20.23**	**262**	P		**P**		**12 54 39.7**	**+1.3**
CTAO				IAmb		IAmb		12 54 41.7	
	comp=Z,9.6nm,0.7s								
URZ	**Urewera**	**21.41**	**159**	P		**P**		**12 54 49.0**	**-1.9**
	comp=Z,5.7nm,1.0s,baz=104,slow=8.3,SNR=1.7								
	comp=Z,5.7nm,1.0s								
RTZ	**Ruatahuna**	**21.69**	**160**	P		**P**		**12 54 56.2**	**+2.2**
RTZ				IAmb		IAmb		12 55 13.7	
	comp=Z,12nm,0.9s								
CAN	**Canberra**	**23.55**	**221**	P		**P**		**12 55 11.9**	**-1.7**
CAN				IAmb		IAmb		12 55 32.6	
	comp=Z,25nm,1.3s								
LTZ	**Lake Taylor**	**24.57**	**172**	P		**P**		**12 55 24.6**	**+1.5**
LTZ				IAmb		IAmb		12 55 50.6	
	comp=Z,20nm,1.3s								
STKA	**Stephens Creek**	**26.99**	**235**	P		**P**		**12 55 45.5**	**+0.4**
STKA	**Stephens Creek**	**26.99**	**235**	P		**P**		**12 55 46.4**	**+1.3**
	comp=Z,2.7nm,0.8s,baz=70,slow=6.9,SNR=3.3								
	comp=Z,2.7nm,0.8s								
TOO	**Toolangi**	**27.16**	**221**	P		**P**		**12 55 44.8**	**-1.8**
WB0	**Warramunga Arr**	**31.39**	**262**	P		**P**		**12 56 23.6**	**-0.7**
WB0				IAmb		IAmb		12 56 24.2	
	comp=Z,3.6nm,0.8s								
WRA	**Warramunga Arr**	**31.43**	**262**	P		**P**		**12 56 23.7**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=87,slow=5.9,SNR=11								
	comp=Z,0.8nm,0.7s								
BBOO	**Buckleboo**	**31.70**	**237**	P		**P**		**12 56 26.8**	**-0.1**
AS31	**Alice Springs**	**31.83**	**255**	P		**P**		**12 56 28.1**	**-0.1**
ASAR	**Alice Springs**	**31.83**	**255**	P		**P**		**12 56 28.2**	**-0.1**
ASAR	**Alice Springs**	**31.83**	**255**	P		**P**		**12 56 27.9**	**-0.3**
	comp=Z,3.2nm,0.5s,baz=82,slow=8.7,SNR=42								
	comp=Z,3.2nm,0.5s								
MTN	**Manton Dam**	**35.52**	**274**	P		**P**		**12 57 02.2**	**+1.9**
MTN				IAmb		IAmb		12 57 28.5	
	comp=Z,6.5nm,0.9s								
KNRA	**Kununurra**	**37.19**	**268**	P		**P**		**12 57 16.7**	**+2.1**
KNRA				IAmb		IAmb		12 57 39.3	
	comp=Z,7.6nm,1.1s								
FORT	**Forrest**	**37.81**	**243**	P		**P**		**12 57 21.2**	**+1.5**
GUMO	**Guam**	**38.94**	**323**	LR		LR		13 12 29.1	
	comp=Z,54nm,18.9s,baz=100,slow=35								
BATI	**Baumata**	**43.27**	**275**	LR		LR		13 15 40.7	
	comp=Z,98nm,19.3s,baz=128,slow=36								
MBWA	**Marble Bar**	**45.00**	**258**	P		**P**		**12 58 19.6**	**+0.7**
MBWA				IAmb		IAmb		12 58 29.9	
	comp=Z,11nm,1.0s								
JCJ	**Chichijima**	**51.56**	**331**	LR		LR		13 18 00.3	
	comp=Z,41nm,21.3s,baz=113,slow=33								
JMZ	**Minamidaito 2**	**56.46**	**320**	P		P		12 59 51.9	+6.7
SHEM	**Shemya Is, Ala**	**71.10**	**4**	LR		LR		13 27 21.2	
	comp=Z,52nm,20.9s,baz=312,slow=32								
QSPA	**South Pole Qui**	**71.60**	**180**	P		**P**		**13 01 25.4**	**+1.0**
QSPA				IAmb		IAmb		13 01 42.2	
	comp=Z,1.9nm,0.9s								
PETK	**Petropavlovsk-**	**71.78**	**354**	P		**P**		**13 01 25.4**	**+0.1**
	comp=Z,1.4nm,0.9s,baz=115,slow=6.7,SNR=2.0								
	comp=Z,1.4nm,0.9s								
KLR	**Ul'dur**	**74.53**	**337**	LR		LR		13 34 44.8	
	comp=Z,15nm,18.4s,baz=174,slow=36								
YAK	**Yakutsk**	**85.67**	**343**	LR		LR		13 40 28.8	
	comp=Z,23nm,18.4s,baz=122,slow=35								
NVAR	**Mina Array Bea**	**89.44**	**49**	P		**P**		**13 02 58.9**	**-1.7**
	comp=Z,0.3nm,0.6s,baz=228,slow=7.9,SNR=5.8								
	comp=Z,0.3nm,0.6s								
ILAR	**Eielson Array**	**89.95**	**18**	P		P		13 02 58.6	-3.4
	comp=Z,0.5nm,0.6s,baz=239,slow=5.1,SNR=7.9								
	comp=Z,0.5nm,0.6s								
YKA	**Yellowknife Ar**	**100.68**	**28**	P		**Pdif**		**13 03 49.4**	**-1.6**
	comp=Z,0.1nm,0.5s,baz=264,slow=4.7,SNR=5.8								

*IDC **04** 12:51:03.4±0.9, 54°.73N×111°.78E, h0km, mb3.5/9, mbtmp3.6/13, ML2.9/3, MS2.7/4, Error ellipse: s-maj=22.6km s-min=13.2km az=161.0*

*MOS **04** 12:51:04.3±1.4, 54°.80N×111°.77E, h13km, mb3.8/1, Error ellipse: s-maj=12.1km s-min=7.7km az=76.8*

*BYKL **04** 12:51:05.8±0.1, 54°.87N×111°.74E, h8km±2km*

ISC 04 12:51:03.8±0.5, 54°.82N±0°.02×111°.76E±0°.02, h10km, n68, σ2s 67/127, mb3.6/8, MS2.7/3, 6C, Lake Baikal region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YLYR	**Ulyunkhan**	**0.35**	**280**	⇑	*i*Pg	**Pb**		**12 51 11.7**	**-0.4**
YLYR					Pmax			12 51 11.9	
	2µm,0.4s								
YLYR					*e*Sg	**Sb**		**12 51 16.3**	**-1.4**
YLYR					Smax			12 51 16.6	
	12µm,0.3s								
YLYR	**Ulyunkhan**	**0.35**	**280**	⇑	*i*PG	**Pb**		**12 51 11.7**	**-0.4**
YLYR					*e*			12 51 16.3	
YLYR					pmax	pmax			
	comp=Z,2µm,0.4s								
YLYR					smax	smax			
	comp=N,12µm,0.5s								
KMO	**Kumora**	**1.12**	**344**	⇑	*i*Pg	**Pb**		**12 51 24.5**	**-0.7**
KMO					Pmax			12 51 25.1	
	comp=N,926nm,0.4s								
KMO					*e*Pb	**Pn**		**12 51 27.2**	**+1.7**
KMO					*e*Sg	**Sg**		**12 51 38.5**	**-1.3**
KMO					*e*			12 51 45.7	
KMO					max			12 51 48.0	
	comp=N,3µm,0.8s								
KMO	**Kumora**	**1.12**	**344**	⇑	*i*PG	**Pb**		**12 51 24.5**	**-0.7**
KMO					*e*			12 51 38.8	
KMO					pmax	pmax			
	comp=Z,906nm,0.3s								
KMO					smax	smax			
	comp=E,3µm,0.8s								
UKT	**Uakit**	**1.27**	**57**	⇑	*i*Pg	**Pg**		**12 51 27.9**	**-0.2**
UKT					*e*			12 51 30.5	
UKT					max			12 51 33.9	
	comp=E,403nm,0.5s								
UKT					*e*Sg	**Sn**		**12 51 44.7**	**0.0**
UKT					*e*			12 51 49.4	
UKT					max			12 51 50.1	
	comp=E,4µm,0.6s								
UKT	**Uakit**	**1.27**	**57**	⇑	*i*PG	**Pg**		**12 51 27.9**	**-0.2**
UKT					*e*			12 51 44.7	
UKT					pmax	pmax			
	comp=Z,277nm,0.3s								
UKT					smax	smax			
	comp=N,735nm,0.3s								
YOA	**Uoyan**	**1.32**	**359**		*e*Pg	**Pg**		**12 51 28.6**	**-0.5**
YOA					*e*			12 51 30.8	
YOA					max			12 51 31.7	
	comp=N,900nm,0.3s								
YOA					*e*Sg	**Sg**		**12 51 45.8**	**-0.4**
YOA					*e*			12 51 51.2	
YOA					max			12 51 52.5	
	comp=N,8µm,0.3s								
YOA	**Uoyan**	**1.32**	**359**		*e*PG	**Pg**		**12 51 29.3**	**+0.2**
YOA					*e*			12 51 45.6	
YOA					pmax	pmax			
	comp=Z,845nm,0.2s								
YOA					smax	smax			
	comp=N,8µm,0.4s								
SYVR	**Suvo**	**1.56**	**222**		*e*Pg	**Pg**		**12 51 34.3**	**+0.7**
SYVR					*e*			12 51 36.4	
SYVR					max			12 51 38.2	
	comp=N,264nm,0.8s								
SYVR					*e*			12 51 46.8	
SYVR					*e*Sg	**Sg**		**12 51 55.4**	**+1.7**
SYVR					Smax			12 52 02.3	
	comp=N,1µm,1.3s								
SYVR	**Suvo**	**1.56**	**222**		*e*PN	**Pg**		**12 51 34.3**	**+0.7**
SYVR					*e*			12 51 56.0	
SYVR					pmax	pmax			
	comp=Z,260nm,0.8s								
SYVR					smax

BOD				*e*Pg	**Pg**	**12 52 03.7**	**-2.4**		
BOD				Pmax		12 52 25.9			
	comp=E,80nm,0.8s								
BOD				*e*Sn	**Sn**	**12 52 34.8**	**+1.1**		
BOD				*e*Sg	**Sb**	**12 52 44.0**	**+2.7**		
BOD				Smax		12 52 46.9			
	comp=E,579nm,0.7s								
BOD	**Bodaibo**	**3.26**	**22**	*e*PN	**Pg**	**12 52 04.5**	**-1.6**		
BOD				*e*		12 52 43.9			
BOD				pmax	pmax				
	comp=Z,63nm,0.4s								
BOD				smax	smax				
	comp=E,578nm,0.9s								
TRG	**Tyrgan**	**3.81**	**239**	*e*Pn	**Pn**	**12 52 05.4**	**+2.8**		
TRG				*e*Pg	**Pg**	**12 52 14.3**	**-2.5**		
TRG				Pmax		12 52 19.5			
	comp=E,37nm,1.3s								
TRG				*e*		12 52 42.2			
TRG				*e*Sn	**Sn**	**12 52 48.9**	**+1.4**		
TRG				*e*Sg	**Sg**	**12 53 03.5**	**-2.7**		
TRG				Smax		12 53 16.8			
	comp=E,182nm,1.1s								
TRG	**Tyrgan**	**3.81**	**239**	*e*PN	**Pn**	**12 52 05.3**	**+2.7**		
TRG				*e*		12 52 14.4			
TRG				*e*S	**Sn**	**12 52 49.4**	**+1.9**		
TRG				*e*		12 53 02.8			
TRG				pmax	pmax				
	comp=Z,35nm,0.9s								
TRG				smax	smax				
	comp=N,162nm,0.8s								
UUDB	**Ulan-Yde**	**3.84**	**221**	*e*Pn	**Pn**	**12 52 06.3**	**+3.4**		
UUDB				*e*Pg	**Pg**	**12 52 15.9**	**-1.4**		
UUDB				*e*		12 52 19.5			
UUDB				max		12 52 19.9			
	comp=N,46nm,0.7s								
UUDB				*e*Sn	**Sn**	**12 52 50.2**	**+2.1**		
UUDB				*e*Sg	**Sg**	**12 53 05.7**	**-1.4**		
UUDB				Smax		12 53 10.4			
	comp=N,315nm,0.9s								
FFNB	**Fofonovo**	**4.08**	**229**	*e*Pg	**Pg**	**12 52 19.9**	**-1.9**		
FFNB				*e*Sg	**Sg**	**12 53 13.3**	**-1.3**		
CRS	**Chara**	**4.22**	**58**	*e*Pn	**Pn**	**12 52 11.0**	**+2.9**		
CRS				*e*Pg	**Pg**	**12 52 21.7**	**-2.8**		
CRS				Pmax		12 52 26.5			
	comp=N,98nm,1.1s								
CRS				*e*Sn	**Sn**	**12 52 57.3**	**-0.1**		
CRS				*e*Sg	**Sg**	**12 53 15.8**	**-3.3**		
CRS				Smax		12 53 20.1			
	comp=N,385nm,0.7s								
CRS	**Chara**	**4.22**	**58**	*e*PN	**Pn**	**12 52 11.0**	**+2.9**		
CRS				*e*		12 52 23.5			
CRS				*e*		12 53 16.3			
CRS				pmax	pmax				
	comp=Z,91nm,0.7s								
CRS				smax	smax				
	comp=E,342nm,0.8s								
HRMR	**Khuramsha**	**4.31**	**224**	*e*Pn	**Pn**	**12 52 12.7**	**+3.4**		
HRMR				*e*Pg	**Pg**	**12 52 23.8**	**-2.4**		
HRMR				Pmax		12 52 26.6			
	comp=E,93nm,0.6s								
HRMR				*e*		12 52 57.6			
HRMR				*e*Sg	**Sg**	**12 53 19.9**	**-2.0**		
HRMR				*e*		12 53 25.0			
HRMR				max		12 53 30.6			
	comp=E,600nm,0.7s								
HRMR				*e*		12 53 40.9			
VTMR	**Vitim**	**4.66**	**5**	*e*Pn	**Pn**	**12 52 15.5**	**+1.5**		
VTMR				*e*Pg	**Pg**	**12 52 29.0**	**-3.9**		
VTMR				*e*Sn	**Sn**	**12 53 07.4**	**-0.7**		
VTMR				*e*Sg	**Sg**	**12 53 28.4**	**-4.7**		
BGT	**Bolshoye Golou**	**4.71**	**236**	*e*Pg	**Pg**	**12 52 30.6**	**-3.2**		
BGT				Pmax		12 52 33.9			
	comp=E,33nm,1.3s								
BGT				*e*Sn	**Sn**	**12 53 11.5**	**+2.1**		
BGT				*e*Sg	**Sg**	**12 53 31.8**	**-2.9**		
BGT				Smax		12 53 53.0			
	comp=E,105nm,1.2s								
TUP	**Tupik**	**4.78**	**91**	Smax		12 52 18.7			
TUP				Smax		12 52 31.0			
TUP				*e*Sn	**Sn**	**12 53 12.0**	**+0.8**		
TUP				*e*Sg	**Sg**	**12 53 33.7**	**-3.4**		
TUP				*e*		12 53 45.1			
TUP				max		12 53 47.5			
	comp=E,527nm,0.9s								
KHNR	**Khani**	**5.09**	**62**	*e*Sg	**Sg**	**12 53 42.8**	**-4.1**		
LSTR	**Listvyanka**	**5.09**	**237**	*e*Pn	Pn	12 52 24.4	+4.3		
LSTR				*e*Pg	**Pg**	**12 52 37.5**	**-3.8**		
LSTR				Pmax		12 52 42.3			
	comp=E,13nm,1.5s								
LSTR				*e*		12 53 13.4			
LSTR				*e*Sg	**Sg**	**12 53 42.5**	**-4.7**		
LSTR				Smax		12 53 56.7			
	comp=E,88nm,1.1s								
KPC	**Khapcheranga**	**5.14**	**176**	*e*Pn	**Pn**	**12 52 24.0**	**+3.2**		
KPC				*e*Pg	**Pg**	**12 52 39.0**	**-3.1**		
KPC				Pmax		12 52 50.9			
	comp=E,25nm,0.6s								
KPC				*e*Sn	**Sn**	**12 53 23.0**	**+2.9**		
KPC				*e*Sg	**Sg**	**12 53 46.6**	**-2.0**		
KPC				Smax		12 53 49.2			
	comp=E,439nm,1.4s								
IRK	**Irkutsk**	**5.16**	**243**	*e*Sg	**Sg**	**12 53 45.8**	**-3.4**		
IRK				Smax		12 54 13.8			
	comp=E,358nm,0.4s								
IVK	**Ivanovka**	**5.34**	**239**	*e*	Pb	12 52 30.3	-6.8		
IVK				*e*Pg	**Pg**	**12 52 42.8**	**-3.2**		
IVK				Pmax		12 53 02.5			
	comp=E,15nm,1.2s								
IVK				*e*		12 53 21.6			
IVK				*e*		12 53 47.2			
IVK				*e*Sg	**Sg**	**12 53 51.5**	**-3.6**		
IVK				Smax		12 53 57.4			
	comp=E,110nm,1.1s								
TLY	**Talaya**	**5.80**	**240**	*e*Pn	**Pn**	**12 52 31.9**	**+2.1**		
TLY				*e*Pg	**Pg**	**12 52 50.3**	**-4.4**		
TLY				Pmax		12 53 22.0			
	comp=E,13nm,1.1s								
TLY				*e*Sn	**Sn**	**12 53 37.4**	**+1.1**		
TLY				*e*Sg	**Sg**	**12 54 04.2**	**-5.5**		
TLY				Smax		12 54 17.3			
	comp=E,91nm,1.3s								
YKLR	**Yuktali**	**5.87**	**68**	*e*Sg	**Sg**	**12 54 07.7**	**-4.3**		
ARS	**Arshan**	**6.30**	**246**	*e*Pn	**Pn**	**12 52 39.9**	**+3.2**		
ARS				*e*Pg	Pg	12 52 58.6	-5.7		
ARS				Pmax		12 53 04.7			
	comp=E,29nm,0.6s								
ARS				*e*Sn	**Sn**	**12 53 47.8**	**-0.8**		
ARS				*e*Sg	**Sg**	**12 54 20.5**	**-5.2**		
ARS				Smax		12 54 24.6			
	comp=E,457nm,0.9s								
ARS				*e*		12 54 34.2			
ZAK	**Zakamensk**	**6.81**	**233**	*e*Pg	Pg	12 53 08.1	-6.0		
ZAK				Pmax		12 53 22.8			
	comp=E,9.0nm,1.3s								
ZAK				*e*Sn	**Sn**	**12 54 02.0**	**+0.6**		
ZAK				*e*Sg	**Sg**	**12 54 36.8**	**-5.4**		
ZAK				Smax		12 55 00.5			
	comp=E,78nm,1.4s								
ZAK	**Zakamensk**	**6.81**	**233**	*e*PG	**Pg**	**12 53 15.2**	**+1.1**		
ZAK				*e*		12 54 38.1			
ZAK				pmax	pmax				
	comp=Z,7.0nm,0.4s								
ZAK				smax	smax				
	comp=N,78nm,1.1s								
MOY	**Mondy**	**7.19**	**248**	*e*PG	**Pg**	**12 53 17.5**	**-3.8**		
MOY				*e*		12 54 46.5			
MOY				pmax	pmax				
	comp=Z,18nm,0.8s								
MOY				smax	smax				
	comp=N,142nm,1.4s								
ORL	**Orlik**	**7.46**	**257**	*e*Pn	**Pn**	**12 52 55.5**	**+2.9**		
ORL				*e*		12 53 08.1			
ORL				max		12 53 09.3			
	comp=N,25nm,1.3s								
ORL				*e*		12 54 21.2			
ORL				*e*Sg	**Sg**	**12 54 55.6**	**-7.3**		
ORL				Smax		12 55 02.3			
	comp=N,152nm,1.2s								
ORL				*e*		12 55 10.6			
ORL	**Orlik**	**7.46**	**257**	*e*PN	**Pn**	**12 52 55.9**	**+3.3**		
ORL				*e*		12 53 20.1			
ORL				*e*		12 54 55.8			
ORL				pmax	pmax				
	comp=Z,29nm,1.2s								
ORL				smax	smax				
	comp=N,155nm,1.1s								
CLNS	**Chul'man**	**7.67**	**69**	*e*Sn	**Sn**	**12 54 21.7**	**-0.6**		
CLNS				*e*Sg	**Sg**	**12 55 02.5**	**-7.1**		
SONM	**Songino Array**	**7.76**	**208**	Pn	**Pn**	**12 52 56.8**	**+0.1**		
	comp=N,0.5nm,0.3s,baz=18,slow=12,SNR=6.8								
SONM				Sn	**Sn**	**12 54 31.5**	**+6.9**		
	comp=N,0.5nm,0.3s,baz=24,slow=23,SNR=4.1								
SONM				Lg	Lg	12 55 05.4			
	comp=N,0.5nm,0.3s,baz=37,slow=25,SNR=3.7								
	comp=N,1.2nm,0.6s								
YAK	**Yakutsk**	**11.82**	**45**	Pn	**Pn**	**12 53 49.9**	**-2.2**		
	comp=N,13nm,0.4s,baz=173,slow=2.7,SNR=2.7								
YAK				Sn	**Sn**	**12 55 56.3**	**-7.6**		
	comp=N,1.3nm,0.3s,baz=355,slow=1.3,SNR=1.1								
YAK				Lg	Lg	12 57 04.8			
	comp=N,3.2nm,0.3s,baz=196,slow=22,SNR=1.8								
KLR	**Kul'dur**	**13.50**	**106**	Pn	**Pn**	**12 54 16.2**	**+1.1**		
	comp=N,0.1nm,0.3s,baz=122,slow=3.8,SNR=1.8								
KLR				Sn	**Sn**	**12 56 46.4**	**+1.3**		
	comp=N,0.1nm,0.3s,baz=224,slow=8.2,SNR=2.0								
KLR				Lg	Lg	12 58 09.8			
	comp=N,0.3nm,0.3s,baz=230,slow=23,SNR=7.4								
KLR				LR	LR	12 59 58.5			
	comp=N,21nm,20.2s,baz=346,slow=40								
	comp=N,1.1nm,0.9s								
ZALV	**Zalesovo Beam**	**15.69**	**278**	Pn	**P**	**12 54 47.1**	**-1.6**		
	comp=N,0.1nm,0.3s,baz=73,slow=9.9,SNR=12								
ZALV				Sn	**Sn**	**12 57 39.8**	**+1.5**		
	comp=N,0.2nm,0.3s,baz=19,slow=16,SNR=1.2								
ZALV				Lg	Lg	12 59 16.1			
	comp=N,0.1nm,0.3s,baz=207,slow=28,SNR=2.5								
	comp=N,3.1nm,0.8s								
TIXI	**Tiksi**	**18.43**	**17**	P	**P**	**12 55 16.4**	**-2.5**		
	comp=N,1.9nm,0.3s,baz=183,slow=1.0,SNR=3.3								
TIXI				S	Sn	12 58 29.6	-15		
	comp=N,3.3nm,0.3s,baz=230,slow=2.0,SNR=5.1								
TIXI				Lg	Lg	13 00 44.5			
	baz=189,slow=22								
MKAR	**Makanchi Array**	**20.16**	**259**	P	Pn	12 55 39.0	-0.9		
	comp=N,0.1nm,0.5s,baz=72,slow=8.8,SNR=1.6								
MKAR	**Makanchi Array**	**20.16**	**259**	P	Pn	12 55 39.0	-0.9		
KURK	**Kurchatov**	**20.35**	**272**	P	Pn	12 55 42.2	+0.1		
KURBB	**Kurchatov Arra**	**20.44**	**272**	P	Pn	12 55 42.2	-1.0		
	comp=N,0.4nm,0.7s,baz=70,slow=12,SNR=4.0								
KURBB				Lg	Lg	13 01 41.7			
	baz=53,slow=9.7,SNR=2.2								
	comp=N,0.4nm,0.7s								
KSRS	**Korea Array**	**20.58**	**141**	LR	LR	13 04 43.6			
	comp=N,12nm,20.2s,baz=300,slow=40								
BVAR	**Borovoye Array**	**24.18**	**283**	P	**P**	**12 56 21.2**	**+1.2**		
	comp=N,1.1nm,0.7s,baz=61,slow=9.3,SNR=4.4								
BVAR				LR	LR	13 06 19.0			
	comp=N,34nm,18.8s,baz=336,slow=38								
	comp=N,1.1nm,0.7s								
MJAR	**Matsushiro Arr**	**25.74**	**124**	P	**P**	**12 56 35.2**	**+0.9**		
	comp=N,1.9nm,1.0s,baz=345,slow=13,SNR=2.6								
MJAR				LR	LR	13 05 51.2			
	comp=N,25nm,20.4s,baz=151,slow=35								
	comp=N,1.9nm,1.0s								
ILAR	**Eielson Array**	**46.53**	**35**	P	**P**	**12 59 32.4**	**+1.5**		
	comp=N,0.8nm,0.8s,baz=291,slow=5.6,SNR=8.8								
	comp=N,0.8nm,0.8s								
HFS	**Hagfors**	**48.29**	**318**	P	**P**	**12 59 46.4**	**+1.8**		
	comp=N,1.2nm,0.5s,baz=57,slow=5.5,SNR=2.8								
	comp=N,1.2nm,0.5s								
YKA	**Yellowknife Ar**	**57.53**	**23**	P	**P**	**13 00 52.6**	**-0.1**		
	comp=N,0.1nm,0.6s,baz=332,slow=7.6,SNR=1.9								
	comp=N,0.1nm,0.6s								
ESDC	**Sonseca Array**	**71.05**	**313**	P	**P**	**13 02 24.2**	**+2.4**		
	comp=N,0.3nm,0.7s,baz=22,slow=14,SNR=1.8								
	comp=N,0.3nm,0.7s								
PDAR	**Pinedale Array**	**76.61**	**30**	P	**P**	**13 02 55.5**	**+1.0**		
	comp=N,0.2nm,0.8s,baz=34,slow=5.5,SNR=1.7								
	comp=N,0.2nm,0.8s								
TORD	**Torodi Ar. Bea**	**90.52**	**294**	P	**P**	**13 04 07.7**	**+1.7**		
	comp=N,0.4nm,0.9s,baz=64,slow=6.6,SNR=2.2								
	comp=N,0.4nm,0.9s								

SSNC ***04*** *13:10:19.4±1.1, 19.°20N×73.°68W, h10km±9km, MD3.6, ML3.8, MW3.4*
JSN ***04*** *13:10:20.4±1.1, 19.°52N×73.°67W, h4km±16km, MD4.4*
SDD ***04*** *13:10:22.0±1.2, 19.°02N×73.°87W, h50km±53km, MD4.2, ML3.9, MW3.9*
OSPL ***04*** *13:10:23.3±2.7, 19.°40N×73.°70W, h31km±34km, ML3.6*

ISC 04 13:10:18.9±1.4, 19.°36N±0.°04×73.°75W±0.°02, h13km±11km, n50, σ2°07/78, 25C-12D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MASC	**Masc**	**0.93**	**331**	*e*P		**Pn**	**13 10 38.5**	**+0.8**
MASC				*e*S		**Sn**	**13 10 51.2**	**+0.3**
MASC				IAML			13 10 52.5	
	comp=N,724nm,0.2s							
MASC				IAML			13 10 52.7	
	comp=E,2μm,0.2s							
QMBU	**Quimbuelo**	**1.30**	**310**	*e*P		**Pn**	**13 10 42.7**	**-0.1**
QMBU				*e*S		**Sb**	**13 10 58.7**	**-1.3**
QMBU				IAML			13 11 02.0	
	comp=E,3μm,0.3s							
QMBU				IAML			13 11 02.6	
	comp=N,2μm,0.1s							
GTBY	**Guantanamo Bay**	**1.41**	**294**	↑*e*P		**Pn**	**13 10 44.7**	**+0.5**
GTBY				*i* S		**Sg**	**13 11 03.9**	**-0.2**
GTBY	**Guantanamo Bay**	**1.41**	**294**	↑*e*Pg		**Pb**	**13 10 45.4**	**+0.4**
GTBY				↑*e*Sg		**Sb**	**13 11 03.6**	**+0.7**
GTBY				IAML			13 11 07.3	
	comp=N,2μm,0.3s							
GTBY	**Guantanamo Bay**	**1.41**	**294**	↓*e*Pg		**Pg**	**13 10 46.2**	**+0.3**
GTBY				IAML			13 11 07.3	
	comp=N,2μm,0.3s							
GTBY				IAML			13 11 16.2	
	comp=E,838nm,0.4s							
GTBY	**Guantanamo Bay**	**1.41**	**294**	*i* P		**Pn**	**13 10 44.7**	**+0.5**
GTBY				*e*S		**Sn**	**13 11 02.6**	**+0.1**
GTBY				IAML			13 11 07.1	
	comp=Z,451nm,0.1s							
GTBY	**Guantanamo Bay**	**1.41**	**294**	↑*e*Sg		**Sb**	**13 11 03.3**	**+0.5**
PAPH	**Port-au-Prince**	**1.60**	**121**	IAML			13 11 11.3	
	comp=E,4μm,0.3s							
PAPH				IAML			13 11 14.8	
	comp=N,4μm,0.2s							
PAPH	**Port-au-Prince**	**1.60**	**121**	*i* P		**Pn**	**13 10 46.7**	**-0.2**
PAPH				*e*S		**Sn**	**13 11 06.5**	**-1.0**
PAPH				IAML			13 11 08.6	
	comp=Z,644nm,0.5s							
SABCS	**La Quijada**	**1.78**	**304**	*e*P		**Pn**	**13 10 49.6**	**+0.2**
SABCS				*e*S		**Sn**	**13 11 12.6**	**+0.7**
SABCS				IAML			13 11 14.4	
	comp=E,710nm,0.4s							
SABCS				IAML			13 11 14.8	
	comp=N,663nm,0.5s							
LODA1	**ITESIL, Dajabo**	**1.94**	**84**	IAML			13 11 18.0	
	comp=N,5μm,0.3s							
LODA1	**ITESIL, Dajabo**	**1.94**	**84**	*i* P		**Pb**	**13 10 53.0**	**-1.0**
LODA1				*e*S		**Sn**	**13 11 11.5**	**-4.1**
LODA1				IAML			13 11 18.2	
	comp=Z,977nm,0.5s							
RCC	**Rio Carpintero**	**1.94**	**289**	*e*P		**Pn**	**13 10 51.2**	**-0.4**
RCC				*e*S		**Sn**	**13 11 15.6**	**-0.3**
RCC				*e*Sg		**Sb**	**13 11 18.8**	**+0.4**
RCC				IAML			13 11 20.9	
	comp=N,1μm,0.2s							
RCC				IAML			13 11 21.0	
	comp=E,800nm,0.2s							
JIDR	**Jimani**	**1.99**	**115**	↑*e*Pg		**Pn**	**13 10 52.1**	**-0.2**
JIDR				IAML			13 11 33.1	
	comp=N,668nm,0.7s							
JIDR	**Jimani**	**1.99**	**115**	↓*e*Pg		**Pb**	**13 10 54.0**	**-1.0**
JIDR				*e*Sg		**Sn**	**13 11 17.7**	**+0.6**
JIDR				IAML			13 11 32.4	
	comp=E,885nm,0.6s							
MCDR	**Montecristi**	**2.04**	**75**	↑*e*Pg		**Pb**	**13 10 56.0**	**+0.3**
MCDR				IAML			13 11 33.2	
	comp=N,730nm,0.2s							
MCDR	**Montecristi**	**2.04**	**75**	↑*e*Pg		**Pb**	**13 10 55.2**	**-0.6**
MCDR				↓*e*Sg		**Sn**	**13 11 19.4**	**+1.2**
MARVS	**Santiago de Cu**	**2.13**	**288**	*e*P		**Pn**	**13 10 54.0**	**-0.2**
MARVS				*e*S		**Sn**	**13 11 19.9**	**-0.5**
MARVS				IAML			13 11 26.7	
	comp=N,1μm,0.2s							
MARVS				IAML			13 11 27.0	
	comp=E,831nm,0.2s							
REDR	**Restauracion**	**2.23**	**95**	↑*e*Pg		**Pn**	**13 10 52.8**	**-2.7**
REDR				↑*e*Sg		**Sn**	**13 11 17.3**	**-5.7**
REDR				IAML			13 11 17.9	
	comp=N,2μm,0.2s							
REDR	**Restauracion**	**2.23**	**95**	↑*e*Pg		**Pn**	**13 10 53.5**	**-2.0**
REDR				↑*e*Sg		**Sn**	**13 11 15.6**	**-7.4**
REDR				IAML			13 11 17.9	
	comp=N,2μm,0.2s							
SDDR	**Presa de Saban**	**2.35**	**99**	*e*P		**Pn**	**13 10 58.0**	**+0.7**
SDDR	**Presa de Saban**	**2.35**	**99**	↓*e*Pg		**Pb**	**13 10 59.9**	**-1.3**
SDDR				↓*e*Sg		**Sn**	**13 11 27.3**	**+1.2**
SDDR				IAML			13 11 30.8	
	comp=N,611nm,0.5s							
SDDR				IAML			13 11 40.4	
	comp=E,626nm,0.8s							
SDDR	**Presa de Saban**	**2.35**	**99**	*i* P		**Pn**	**13 10 58.0**	**+0.7**
SDDR				IAML			13 11 36.8	
	comp=Z,513nm,0.6s							
NEDR	**Neiba UASD**	**2.37**	**111**	↓*e*Pg		**Pb**	**13 11 00.9**	**-0.5**
NEDR				IAML			13 11 38.8	
	comp=N,487nm,0.8s							
NEDR				IAML			13 11 39.4	
	comp=E,529nm,1.1s							
CHIV	**Chivirico**	**2.59**	**284**	*e*P		**Pn**	**13 10 59.2**	**-1.3**
CHIV				*e*S		**Sn**	**13 11 32.1**	**+0.3**
CHIV				IAML			13 11 39.2	
	comp=E,180nm,0.3s							
CHIV				IAML			13 11 39.7	
	comp=N,228nm,0.3s							
PODR	**Polo**	**2.62**	**117**	↑*e*Pg		**Pb**	**13 11 05.5**	**-0.3**
PODR				↑*e*Sg		**Sn**	**13 11 34.5**	**+1.6**
PODR				IAML			13 11 48.5	
	comp=N,428nm,0.8s							
PODR				IAML			13 11 49.8	
	comp=E,460nm,0.5s							
PODR	**Polo**	**2.62**	**117**	*i* P		**Pn**	**13 11 01.8**	**+0.7**
HLGC	**Holguin**	**2.65**	**305**	*e*P		**Pb**	**13 11 05.7**	**-0.6**
HLGC				*e*S		**Sb**	**13 11 41.2**	**+2.4**
HLGC				IAML			13 11 56.5	
	comp=N,176nm,0.4s							
HLGC				IAML			13 11 57.0	
	comp=E,212nm,0.7s							
YAR	**Yar**	**2.66**	**293**	*e*P		**Pn**	**13 11 02.5**	**+1.1**
YAR				*e*S		**Sn**	**13 11 34.7**	**+1.1**
YAR				IAML			13 11 56.0	
	comp=E,139nm,1.0s							
YAR				IAML			13 11 56.9	
	comp=N,122nm,1.1s							
LUDR	**Luperon**	**2.69**	**78**	↓*e*Pg		**Pn**	**13 11 04.2**	**+2.4**
LUDR				↑*e*Sg		**Sn**	**13 11 34.3**	**+0.1**
LUDR				IAML			13 11 50.5	
	comp=E,999nm,0.3s							
LUDR				IAML			13 11 58.9	
	comp=N,1μm,0.3s							
SC01	**Santiago de lo**	**2.85**	**88**	↓*e*Pg		**Pb**	**13 11 07.1**	**-2.5**
SC01				IAML			13 12 03.7	
	comp=N,312nm,0.5s							
SC01				IAML			13 12 06.8	
	comp=E,321nm,1.1s							
SC01	**Santiago de lo**	**2.85**	**88**	*i* P		**Pn**	**13 11 05.8**	**+1.7**
SC01				IAML			13 11 56.9	
	comp=Z,209nm,0.7s							
ABDR	**Alto Bandera**	**3.00**	**100**	↓*e*Pg		**Pn**	**13 11 07.4**	**+0.9**
ABDR				IAML			13 12 00.4	
	comp=N,391nm,0.7s							
ABDR	**Alto Bandera**	**3.00**	**100**	↑*e*Pg		**Pb**	**13 11 10.3**	**-2.1**
ABDR				↓*e*Sg		**Sn**	**13 11 44.7**	**+2.2**
LMGC	**Las Mercedes**	**3.15**	**283**	*e*P		**Pn**	**13 11 06.8**	**-1.4**
LMGC				*e*S		**Sn**	**13 11 42.7**	**-3.0**
LMGC				IAML			13 11 50.9	
	comp=E,129nm,0.1s							
LMGC				IAML			13 11 54.1	
	comp=N,193nm,0.0s							
HOJ	**Hope**	**3.15**	**245**	*i* P		**Pn**	**13 11 11.1**	**+2.8**
STH	**Stony Hill**	**3.17**	**247**	*i* P		**Pb**	**13 11 12.6**	**-2.6**
GRTK	**Grand Turk**	**3.25**	**48**	*e*Pg		**Pn**	**13 11 11.7**	**+2.1**
GRTK				*e*Sg		**Sn**	**13 11 46.6**	**-1.7**
GRTK				IAML			13 11 58.9	
	comp=N,216nm,0.8s							
GRTK				IAML			13 12 15.2	
	comp=E,239nm,1.8s							
GRTK	**Grand Turk**	**3.25**	**48**	*i* P		**Pn**	**13 11 11.8**	**+2.1**
GRTK				IAML			13 11 52.2	
	comp=Z,101nm,0.2s							
BANI	**BANI**	**3.35**	**106**	↑*e*Pg		**Pn**	**13 11 12.3**	**+1.2**
BANI				IAML			13 12 07.6	
	comp=N,361nm,0.5s							
BANI	**BANI**	**3.35**	**106**	↓*e*Pg		**Pb**	**13 11 15.8**	**-2.4**
BANI				↓*e*Sg		**Sn**	**13 11 52.6**	**+1.9**
PILO	**Pilon**	**3.49**	**280**	*e*P		**Pn**	**13 11 11.2**	**-1.8**
PILO				*e*S		**Sn**	**13 11 48.7**	**-5.6**
PILO				IAML			13 11 57.1	
	comp=E,158nm,0.2s							
PILO				IAML			13 11 57.9	
	comp=N,211nm,0.3s							
DR08	**Loma La Naviza**	**3.54**	**96**	*e*Pg		**Pn**	**13 11 17.0**	**+3.3**
DR08				↑*e*Sg		**Sn**	**13 11 55.7**	**+0.2**
DR08				IAML			13 12 09.2	
	comp=N,485nm,0.2s							
DR08				IAML			13 12 13.4	
	comp=E,438nm,0.2s							
MTDJ	**Mount Denham**	**3.76**	**253**	*i* P		**Pn**	**13 11 20.2**	**+3.4**
MTDJ	**Mount Denham**	**3.76**	**253**	↑*e*Pg		**Pn**	**13 11 19.3**	**+2.5**
MTDJ				↑*e*Sg		**Sn**	**13 12 02.2**	**+1.2**
MTDJ				IAML			13 12 18.0	
	comp=E,216nm,0.3s							
MTDJ				IAML			13 12 18.5	
	comp=N,187nm,0.5s							
MTDJ	**Mount Denham**	**3.76**	**253**	*i* P		**Pn**	**13 11 19.3**	**+2.5**
MTDJ				IAML			13 12 18.3	
	comp=Z,106nm,0.5s							
HATOM	**Hato Mayor del**	**4.17**	**97**	↑*e*Pg		**Pn**	**13 11 24.5**	**+2.2**
HATOM				IAML			13 12 16.0	
	comp=N,86nm,0.8s		

ISC 04 13:29:55.3±0.7, 22°35S±0.04×67°73W±0.04, h167km±6km, n90, σ1°47/126, mb4.1/3, 10C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.73**	**214**	Pn	**Pn**	**13 30 20.0**	**-0.1**
AF01	**San Pedro de A**	**0.73**	**214**	*eP*	**Pn**	**13 30 21.0**	**+0.9**
LVC	**Limon Verde**	**1.12**	**256**	*eP*	**Pn**	**13 30 23.6**	**+0.5**
LVC				*eS*	**Sn**	**13 30 44.3**	**-0.1**
LVC	**Limon Verde**	**1.12**	**256**	P	**Pn**	**13 30 23.4**	**+0.4**
	182nm,0.3s,baz=74,slow=5.9,SNR=334						
LVC				S	**Sn**	**13 30 43.9**	**-0.5**
	214nm,0.4s,baz=131,slow=20,SNR=64						
LVC	**Limon Verde**	**1.12**	**256**	⇑*iP*	**Pn**	**13 30 23.6**	**+0.5**
LVC				*eS*	**Sn**	**13 30 44.5**	**+0.2**
LVC				IAML		13 30 45.1	
	2µm,0.6s						
LVC	**Limon Verde**	**1.12**	**256**	*eP*	**Pn**	**13 30 22.4**	**-0.6**
PB09	**IPOC Station P**	**1.50**	**291**		**Pn**	**13 30 27.1**	**+0.8**
PB09	**IPOC Station P**	**1.50**	**291**	*eP*	**Pn**	**13 30 26.9**	**+0.6**
PB09				*eS*	**Sn**	**13 30 51.4**	**+1.2**
PB09				IAML		13 30 51.7	
	comp=Z,526nm,0.8s						
PB09	**IPOC Station P**	**1.50**	**291**	⇑*iP*	**Pn**	**13 30 27.2**	**+0.9**
PB09				*eS*	**Sn**	**13 30 50.7**	**+0.5**
PB09	**IPOC Station P**	**1.50**	**291**	Pg	**Pn**	**13 30 27.3**	**+0.9**
PB06	**IPOC Station P**	**1.74**	**258**	*eP*	**Pn**	**13 30 28.7**	**0.0**
PB06				*iP*		13 30 29.2	
PB06				*eS*	**Sn**	**13 30 54.9**	**+0.4**
PB06				IAML		13 30 57.3	
	comp=Z,515nm,0.1s						
PB06	**IPOC Station P**	**1.74**	**258**	⇑*eP*	**Pn**	**13 30 29.0**	**+0.2**
PB06				*eS*	**Sn**	**13 30 54.1**	**-0.4**
PB06				IAML		13 30 56.0	
	comp=N,1µm,0.1s						
PB15	**IPOC Station P**	**1.82**	**241**	⇑*iP*	**Pn**	**13 30 30.2**	**+0.5**
PB15				*eS*	**Sn**	**13 30 56.5**	**+0.3**
PB15	**IPOC Station P**	**1.82**	**241**	Pg	**Pn**	**13 30 30.2**	**+0.5**
YJA	**Yavi**	**2.06**	**86**	*eP*	**Pn**	**13 30 34.0**	**+1.3**
YJA				*eS*	**Sn**	**13 31 02.8**	**+1.5**
PB01	**IPOC Station P**	**2.08**	**308**		**Pn**	**13 30 32.6**	**+0.1**
PB01	**IPOC Station P**	**2.08**	**308**	*eP*	**Pn**	**13 30 32.9**	**+0.5**
PB01				*eS*	**Sn**	**13 31 01.6**	**+0.3**
PB01				IAML		13 31 02.9	
	comp=Z,558nm,0.2s						
PB01	**IPOC Station P**	**2.08**	**308**	⇑*iP*	**Pn**	**13 30 32.8**	**+0.3**
PB01				*eS*	**Sn**	**13 31 00.7**	**-0.6**
PB01				IAML		13 31 02.0	
	comp=N,992nm,0.3s						
PB01	**IPOC Station P**	**2.08**	**308**	Pg	**Pn**	**13 30 33.0**	**+0.5**
PB01				Sg	**Sn**	**13 31 00.7**	**-0.6**
PB01				IAML		13 31 02.0	
	comp=N,930nm,0.3s						
PB07	**IPOC Station P**	**2.09**	**287**	*eP*	**Pn**	**13 30 32.5**	**-0.2**
PB07				*eS*	**Sn**	**13 31 01.2**	**-0.3**
PB07				IAML		13 31 02.1	
	comp=Z,810nm,0.4s						
PB07	**IPOC Station P**	**2.09**	**287**	⇑*eP*	**Pn**	**13 30 33.1**	**+0.5**
PB07				*eS*	**Sn**	**13 31 00.5**	**-1.0**
PB07				IAML		13 31 01.3	
	comp=E,1µm,0.4s						
MOCB	**Mochara**	**2.23**	**61**	Pg	**Pn**	**13 30 35.8**	**+1.2**
MOCB				Sg	**Sn**	**13 31 05.4**	**+0.5**
MOCB				IAML		13 31 07.8	
	comp=E,182nm,0.6s						
PB04	**IPOC Station P**	**2.24**	**270**	*eP*	**Pn**	**13 30 34.0**	**-0.3**
PB04				*eP*		13 30 34.8	
PB04				*eS*	**Sn**	**13 31 03.4**	**-1.1**
PB04				IAML		13 31 05.5	
	comp=Z,879nm,0.2s						
PB04	**IPOC Station P**	**2.24**	**270**	⇑*iP*	**Pn**	**13 30 34.3**	**0.0**
PB04				*eS*	**Sn**	**13 31 03.5**	**-0.9**
PB04				IAML		13 31 08.1	
	comp=N,1µm,0.3s						
PB02	**IPOC Station P**	**2.25**	**297**	*eP*	**Pn**	**13 30 34.8**	**+0.3**
PB02				*eS*	**Sn**	**13 31 04.8**	**+0.1**
PB02				IAML		13 31 09.9	
	comp=Z,768nm,0.3s						
PB02	**IPOC Station P**	**2.25**	**297**	⇑*eP*	**Pn**	**13 30 34.7**	**+0.3**
PB02				*eS*	**Sn**	**13 31 03.5**	**-1.2**
PB02				IAML		13 31 03.8	
	comp=N,909nm,0.4s						
PB02	**IPOC Station P**	**2.25**	**297**	Pg	**Pn**	**13 30 34.8**	**+0.3**
PB08	**IPOC Station P**	**2.56**	**329**	*eP*	**Pn**	**13 30 39.3**	**+0.9**
PB08				*eS*	**Sn**	**13 31 13.2**	**+1.5**
PB08	**IPOC Station P**	**2.56**	**329**	⇑*eP*	**Pn**	**13 30 39.7**	**+1.3**
PB08				*eS*	**Sn**	**13 31 12.5**	**+0.8**
PB08	**IPOC Station P**	**2.56**	**329**	Pg	**Pn**	**13 30 39.4**	**+1.0**
PB08				Sg	**Sn**	**13 31 12.1**	**+0.3**
PB08				IAML		13 31 15.2	
	comp=N,148nm,0.6s						
PATCX	**Punta Patache**	**2.71**	**304**		**Pn**	**13 30 40.0**	**+0.1**
PATCX	**Punta Patache**	**2.71**	**304**	*eP*	**Pn**	**13 30 39.9**	**-0.1**
PATCX				*eS*	**Sn**	**13 31 13.8**	**-0.7**
PATCX				IAML		13 31 17.8	
	comp=Z,225nm,0.4s						
PATCX	**Punta Patache**	**2.71**	**304**	*eP*	**Pn**	**13 30 39.8**	**-0.1**
PATCX				*eS*	**Sn**	**13 31 13.4**	**-1.2**
PATCX				IAML		13 31 14.6	
	comp=E,595nm,0.3s						
HMBC	**Humberstone**	**2.88**	**315**	*eP*	**Pn**	**13 30 41.0**	**-0.9**
HMBC				*eS*	**Sn**	**13 31 17.1**	**-1.0**
HMBC				IAML		13 31 26.3	
	comp=Z,378nm,0.4s						
HMBC	**Humberstone**	**2.88**	**315**	*eP*	**Pn**	**13 30 41.8**	**-0.2**
HMBC				*eS*	**Sn**	**13 31 16.7**	**-1.4**
TA01	**Diego Aracena**	**2.89**	**307**		**Pn**	**13 30 41.6**	**-0.3**
TA01	**Diego Aracena**	**2.89**	**307**	*eP*	**Pn**	**13 30 41.6**	**-0.3**
TA01				*eS*	**Sn**	**13 31 16.9**	**-1.2**
TA01	**Diego Aracena**	**2.89**	**307**	*eP*	**Pn**	**13 30 41.5**	**-0.5**
GO01	**Chusmiza**	**2.99**	**333**		**Pn**	**13 30 43.7**	**-0.1**
GO01	**Chusmiza**	**2.99**	**333**	⇑*eP*	**Pn**	**13 30 44.6**	**+0.8**
GO01				*eS*	**Sn**	**13 31 21.9**	**+0.6**
GO01				IAML		13 31 25.9	
	comp=N,337nm,0.1s						
GO01	**Chusmiza**	**2.99**	**333**	Pg	**Pn**	**13 30 44.6**	**+0.8**
PB11	**IPOC Station P**	**3.14**	**325**	*eP*	**Pn**	**13 30 44.7**	**-0.5**
PB11				*eS*	**Sn**	**13 31 22.6**	**-1.4**
PB11	**IPOC Station P**	**3.14**	**325**	Pg	**Pn**	**13 30 45.1**	**-0.1**
PB11				Sg	**Sn**	**13 31 22.5**	**-1.5**
PB11				IAML		13 31 23.6	
	comp=N,447nm,0.2s						
GO02	**Mina Guanaco**	**3.28**	**211**	Pn	**Pn**	**13 30 46.9**	**-0.2**
GO02	**Mina Guanaco**	**3.28**	**211**	*eP*	**Pn**	**13 30 46.9**	**-0.2**
GO02				*eS*	**Sn**	**13 31 26.5**	**-0.9**
GO02				IAML		13 31 27.1	
	comp=Z,531nm,0.5s						
GO02	**Mina Guanaco**	**3.28**	**211**	*eP*	**Pn**	**13 30 47.5**	**+0.4**
PB14	**IPOC Station P**	**3.34**	**227**	*eP*	**Pn**	**13 30 47.9**	**0.0**
PB14				*eS*	**Sn**	**13 31 27.3**	**-1.5**
PB14				IAML		13 31 30.4	
	comp=Z,243nm,0.2s						
SOEO	**Opoqueri**	**3.77**	**358**	Pg	**Pn**	**13 30 54.7**	**+1.2**
PB12	**IPOC Station P**	**4.44**	**326**	*eP*	**Pn**	**13 31 00.4**	**-1.4**
PB12				*eS*	**Sn**	**13 31 49.8**	**-4.0**
SOTI	**Planta Incahua**	**4.56**	**57**	Pg	**Pn**	**13 31 04.2**	**+0.8**
SOET	**ToroToro**	**4.58**	**24**	Pg	**Pn**	**13 31 05.2**	**+1.3**
AC01	**Pan de Azucar**	**4.60**	**214**		**Pn**	**13 31 02.8**	**-0.9**
AC01	**Pan de Azucar**	**4.60**	**214**	*eP*	**Pn**	**13 31 02.7**	**-1.1**
AC01				*eS*	Sn	13 31 49.0	-8.4
AC01				IAML		13 31 57.6	
	comp=Z,84nm,0.6s						
AC02	**Maricunga**	**4.65**	**196**		**Pn**	**13 31 04.5**	**-0.3**
AC02	**Maricunga**	**4.65**	**196**	*eP*	**Pn**	**13 31 04.5**	**-0.3**
AC02				*eS*	**Sn**	**13 31 54.2**	**-5.0**
AC02				IAML		13 32 46.1	
	comp=Z,93nm,0.8s						
AOEA	**Aiquile**	**4.76**	**30**	Pg	**Pn**	**13 31 06.8**	**+0.6**
SOEJ	**Jacaque**	**5.36**	**355**	Pg	**Pn**	**13 31 15.1**	**+0.8**
BBOE	**La Paz, Chanca**	**5.51**	**358**	Pg	**Pn**	**13 31 17.7**	**+1.4**
GO03	**Copiap**	**5.70**	**203**		**Pn**	**13 31 16.1**	**-2.1**
LPAZ	**La Paz**	**6.04**	**356**	P	**Pn**	**13 31 24.8**	**+1.5**
	comp=Z,2.8nm,0.3s,baz=159,slow=15,SNR=7.2						
LPAZ				S	**Sn**	**13 32 32.0**	**-0.3**
	comp=Z,2.6nm,0.2s,baz=101,slow=18,SNR=7.1						
AC05	**El Transito**	**6.86**	**199**		**Pn**	**13 31 31.6**	**-2.0**
LCO	**Las Campanas**	**7.16**	**201**	Pn	**Pn**	**13 31 34.6**	**-3.1**
CO01	**Juntas del Tor**	**7.89**	**195**	Pn	**Pn**	**13 31 45.5**	**-1.9**
BBSD	**Serra de San D**	**8.45**	**54**	*eP*	**Pn**	**13 31 52.0**	**-2.6**
CO03	**El Pedregal**	**8.86**	**197**	Pn	**Pn**	**13 31 57.3**	**-2.8**
SIV	**San Ignacio**	**8.92**	**46**	P	**Pn**	**13 31 58.4**	**-2.5**
	comp=Z,17nm,0.3s,baz=231,slow=12,SNR=76						
SIV				S	**Sn**	**13 33 31.7**	**-8.7**
	comp=Z,5.6nm,0.4s,baz=146,slow=23,SNR=3.8						
CO02	**Combarbal**	**9.29**	**198**	Pn	**Pn**	**13 32 02.3**	**-3.5**
BDQN	**Bodoquena, MS**	**10.41**	**82**	*eP*	**Pn**	**13 32 19.3**	**-1.1**
PTLB	**Pontes e Lacer**	**10.64**	**51**	Pn	**Pn**	**13 32 21.8**	**-1.7**
PTLB	**Pontes e Lacer**	**10.64**	**51**	*eP*	**Pn**	**13 32 22.7**	**-0.8**
VILB	**Vilhena**	**11.78**	**39**		**Pn**	**13 32 36.5**	**-1.8**
VILB	**Vilhena**	**11.78**	**39**	*eP*	**Pn**	**13 32 38.3**	**0.0**
AMBA	**Amambai (Brazi**	**11.78**	**95**	*eP*	**Pn**	**13 32 38.5**	**+0.1**
BO02	**Sierra Bellavi**	**12.69**	**191**	Pn	**Pn**	**13 32 50.0**	**+0.1**
UNIS	**Unistalda (Bra**	**13.23**	**123**	*eP*	**P**	**13 32 60.0**	**-0.7**
CRSM	**Crissiumal (Br**	**13.44**	**115**	*eP*	**P**	**13 33 02.2**	**-0.8**
RODS	**Rosario do Sul**	**13.77**	**128**	*eP*	**P**	**13 33 07.6**	**+0.9**
SAML	**Samuel**	**14.02**	**19**	*eP*	**P**	**13 33 10.5**	**+0.9**
PTGB	**Pitanga**	**14.57**	**102**	*eP*	**P**	**13 33 17.2**	**+1.5**
ITAB	**Concordia**	**14.98**	**112**	*eP*	**P**	**13 33 21.1**	**+1.0**
PDRB	**Porto dos Gac**	**14.98**	**46**	*eP*	**P**	**13 33 20.9**	**+0.7**
PCMB	**Pacaembu**	**15.30**	**90**	*eP*	**P**	**13 33 26.9**	**+3.1**
TRQA	**Tornquist**	**16.42**	**164**	P	**P**	**13 33 36.0**	**0.0**
VAO	**Valinhos**	**19.18**	**96**	P	**P**	**13 34 05.4**	**-1.0**
QSPA	**South Pole Qui**	**67.85**	**180**	P	**P**	**13 40 37.1**	**+1.8**
QSPA				IAmb	IAmb	13 41 15.8	
	comp=Z,6.4nm,1.4s						
QSPA	**South Pole Qui**	**67.85**	**180**	P	**P**	**13 40 37.1**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=357,slow=1.7,SNR=11						
	comp=Z,0.6nm,0.5s						
TOA0	**Torodi Ar. Sit**	**76.62**	**70**	P	**P**	**13 41 28.7**	**+0.7**
TOA0				IAmb	IAmb	13 42 09.9	
	comp=Z,5.2nm,1.3s						
TORD	**Torodi Ar. Bea**	**76.62**	**70**	P	**P**	**13 41 28.9**	**+0.8**
	comp=Z,2.8nm,0.6s,baz=251,slow=5.4,SNR=24						
	comp=Z,2.8nm,0.6s						
ASAR	**Alice Springs**	**129.65**	**206**	PKP	**PKPdf**	**13 48 47.0**	**+1.7**
	comp=Z,0.3nm,0.9s,baz=134,slow=1.6,SNR=2.1						
MKAR	**Makanchi Array**	**145.66**	**37**	PKPbc	**PKPbc**	**13 49 15.9**	**+1.5**
	comp=Z,0.3nm,0.7s,baz=326,slow=2.5,SNR=3.3						

*GII **04** 13:34:12.2±0.3, 33°53N±0°02×35°76E±0°009, h0km, Md1.1/3, confirmed*
*GRAL **04** 13:34:13.5±0.3, 33°36N×35°65E, h0km±4km, MD2.7*
ISC 04 13:34:14.9±1.0, 33°47N±0°02×35°70E±0°04, h0km, n26, σ0°89/28, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.08**	**349**	*eP*	**Pg**	**13 34 16.8**	**+0.2**
RCY	**Rachaya**	**0.12**	**75**	*eP*	**Pg**	**13 34 17.1**	**-0.1**
RCY				*eS*	**Sg**	**13 34 19.9**	**+1.2**
NATI	**Neve Ativ**	**0.20**	**172**	P	**Pg**	**13 34 18.5**	**-0.3**
NATI	**Neve Ativ**	**0.20**	**172**	S	**Sg**	**13 34 23.1**	**+1.6**
GEM	**Giv'at Ha'Em**	**0.26**	**187**	S	**Sg**	**13 34 25.5**	**+2.3**
GEM	**Giv'at Ha'Em**	**0.26**	**187**	P	**Pg**	**13 34 19.7**	**-0.1**
DQRL	**Deir Qamar**	**0.26**	**335**	*eP*	**Pg**	**13 34 19.8**	**-0.2**
DQRL				*eS*	**Sg**	**13 34 24.3**	**+0.8**
ZAHL	**Zahle**	**0.42**	**21**	*eP*	**Pg**	**13 34 23.1**	**0.0**
BHL	**Bhannes**	**0.44**	**355**	*eP*	**Pg**	**13 34 23.1**	**-0.3**
KSHT	**Keshet**	**0.49**	**169**	S	**Sb**	**13 34 33.4**	**-0.9**
KSHT	**Keshet**	**0.49**	**169**	P	**Pg**	**13 34 24.7**	**+0.3**
MMC7	**Mount Meron ar**	**0.51**	**210**	P	**Pg**	**13 34 24.8**	**+0.1**
MMA0B	**Mount Meron ar**	**0.51**	**209**	S	**Sb**	**13 34 35.3**	**+0.3**
MMA0B	**Mount Meron ar**	**0.51**	**209**	P	**Pg**	**13 34 24.8**	**0.0**
HNTI	**Hanita**	**0.58**	**229**	P	**Pg**	**13 34 26.3**	**+0.2**
HNTI	**Hanita**	**0.58**	**229**	S	**Sb**	**13 34 37.2**	**+0.3**
HWQ	**Hawqa**	**0.83**	**14**	*eP*	**Pg**	**13 34 30.4**	**-0.6**
OFRI	**`Ofer**	**1.03**	**216**	P	**Pg**	**13 34 34.3**	**-0.5**
OFRI	**`Ofer**	**1.03**	**216**	S	**Sn**	**13 34 50.9**	**-1.1**
MMLI	**Mount Malkishu**	**1.05**	**193**	P	**Pg**	**13 34 34.5**	**-0.6**
MMLI	**Mount Malkishu**	**1.05**	**193**	S	**Sn**	**13 34 51.4**	**-1.0**
BEIL	**Beino**	**1.15**	**20**	*eP*	**Pg**	**13 34 36.0**	**-0.9**
HMDT	**Nahal Hemdat**	**1.22**	**187**	P	**Pg**	**13 34 37.2**	**-1.1**
HMDT	**Nahal Hemdat**	**1.22**	**187**	S	**Sn**	**13 34 55.9**	**-0.6**
SLTI	**Sal'it**	**1.34**	**205**	P	**Pg**	**13 34 39.1**	**-1.6**
SLTI	**Sal'it**	**1.34**	**205**	S	**Sn**	**13 34 59.3**	**-0.3**

IDC 04 13:37:52.0±4.4, 28°12N×43°88W, h0km, mb3.6/4, mbtmp3.6/4, MS3.3/11, Error ellipse: s-maj=127.9km s-min=39.7km az=177.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDT	**Midelt**	**34.04**	**72**	LR	LR	13 55 10.3	
	comp=Z,42nm,18.9s,baz=344,slow=30						
TKL	**Tuckaleechee C**	**34.52**	**293**	LR	LR	13 56 45.9	
	comp=Z,42nm,20.4s,baz=147,slow=33						
FRB	**Frobisher Bay**	**39.02**	**343**	LR	LR	14 00 44.5	
	comp=Z,23nm,18.5s,baz=209,slow=35						
TEIG	**Tepich**	**41.08**	**269**	LR	LR	13 59 38.3	
	comp=Z,195nm,20.3s,slow=32						
DBIC	**Dimbokro**	**42.63**	**113**	LR	LR	14 00 54.7	
	comp=Z,50nm,19.3s,baz=228,slow=32						
H10N2	**ASCENSION HYDR**	**45.65**	**137**	T	T	14 34 52.1	
	baz=322,slow=75,SNR=23						
H10N3	**ASCENSION HYDR**	**45.65**	**137**	T	T	14 34 44.0	
	baz=322,slow=75,SNR=19						
H10N1	**ASCENSION HYDR**	**45.66**	**137**	T	T	14 34 52.5	
	baz=322,slow=75,SNR=26						
ATAH	**Atahualpa**	**48.36**	**229**	LR	LR	14 09 13.1	
	comp=Z,21nm,18.0s,baz=5.1,slow=39						
NOA	**NORSAR Array B**	**49.04**	**32**	LR	LR	14 05 18.5	
	comp=Z,9.8nm,18.8s,baz=345,slow=34						
ANMO	**Albuquerque**	**53.02**	**294**	LR	LR	14 08 28.0	
	comp=Z,27nm,19.4s,baz=120,slow=35						
PDAR	**Pinedale Array**	**54.19**	**304**	P	P	13 47 19.8	+0.1
	0.7nm,0.6s,baz=84,slow=8.3,SNR=7.6						
PDAR				PcP	PcP	13 48 23.7	-0.5
	0.4nm,0.7s,baz=96,slow=7.3,SNR=2.0						
PDAR				LR	LR	14 09 11.4	
	comp=Z,38nm,19.9s,baz=48,slow=35						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**56.59**	**328**	P	P	13 47 36.0	-0.3
	0.2nm,0.8s,baz=82,slow=6.4,SNR=5.1						
	0.2nm,0.8s						
AKASG	**Malin Array Be**	**58.33**	**46**	P	P	13 47 48.8	0.0
	0.6nm,0.5s,baz=277,slow=5.9,SNR=5.5						
	0.6nm,0.5s						
NEW	**Newport**	**58.74**	**312**	LR	LR	14 11 17.9	
	comp=Z,29nm,21.3s,baz=312,slow=34						
ILAR	**Eielson Array**	**70.22**	**334**	P	P	13 49 06.6	+0.1
	0.4nm,0.9s,baz=78,slow=4.8,SNR=4.1						
	0.4nm,0.9s						
LSZ	**Luska**	**81.97**	**112**	LR	LR	14 23 47.8	
	comp=Z,21nm,19.9s,baz=276,slow=34						

*IDC **04** 13:53:41.1±2.5, 55°31N×161°14W, h48km±22km, mb3.9/26, mbtmp4.2/30, ML4.0/4, MS3.2/37, Error ellipse: s-maj=20.5km s-min=11.5km az=1.0*
*NEIC **04** 13:53:42.4±1.9, 55°12N±0°06×160°94W±0°07, h65km±5km, mb4.6/47, ML4.7/24, ML4.5(AEIC), Error ellipse: s-maj=9.4km s-min=5.1km az=161.0*
*AEIC **04** 13:53:43.2±2.3, 55°07N±0°05×160°90W±0°07, h55km±5km, Error ellipse: s-maj=7.7km s-min=5.2km az=160.0*
ISC 04 13:53:42.3±0.8, 55°16N±0°07×160°95W±0°04, h67km±6km, n342, σ1°13/336, mb4.3/53, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.33**	**54**	P	**Pn**	**13 53 52.6**	**-0.7**
SDPT	**Sand Point**	**0.33**	**54**		**Pn**	**13 53 52.4**	**-1.0**
SDPT				Sn	**Sn**	**13 54 01.0**	**-0.4**
SDPT	**Sand Point**	**0.33**	**54**	P	**Pn**	**13 53 52.6**	**-0.7**
	baz=224						
SDPT				S	**Sn**	**13 54 00.7**	**-0.7**
	baz=224						
PS1A	**Pavlof South-1**	**0.53**	**301**		**Pn**	**13 53 55.0**	**-0.1**
PS1A					**Sn**	**13 54 05.3**	**+0.8**
PVV	**Pavlof Volcano**	**0.53**	**295**		**Pn**	**13 53 54.8**	**-0.3**
PVV					**Sn**	**13 54 04.7**	**+0.2**
S12K	**Black Hills**	**0.84**	**311**		**Pn**	**13 53 58.8**	**+0.1**
S12K				Sn	**Sn**	**13 54 11.9**	**+1.3**
S12K				IAML		13 54 12.3	
	comp=N,28µm,0.4s						
S12K	**Black Hills**	**0.84**	**311**	P	**Pn**	**13 53 58.9**	**+0.3**
	baz=133						
S12K				S	**Sn**	**13 54 11.4**	**+0.8**
	baz=133						
VNWF	**Veniaminof 8**	**1.27**	**38**		**Pn**	**13 54 04.9**	**+0.8**
VNSS	**Veniaminof 8**	**1.37**	**38**		**Pn**	**13 54 06.4**	**+0.9**
S14K	**Fog Glacier**	**1.38**	**34**	P	**Pn**	**13 54 06.8**	**+1.2**
	baz=213						
VNFG	**Fog Glacier, M**	**1.38**	**34**		**Pn**	**13 54 06.8**	**+1.2**
VNFG	**Fog Glacier, M**	**1.38**	**34**	IAML		13 54 37.8	
	comp=E,15µm,0.7s						
VNFG				IAML		13 54 38.8	
	comp=N,12µm,0.7s						
FALS	**False Pass**	**1.45**	**259**	P	**Pn**	**13 54 05.8**	**-0.7**
FALS	**False Pass**	**1.45**	**259**		**Pn**	**13 54 06.2**	**-0.2**
FALS					**Sn**	**13 54 25.7**	**+1.1**
FALS	**False Pass**	**1.45**	**259**	P	**Pn**	**13 54 06.0**	**-0.5**
	baz=80						
FALS				S	**Sn**	**13 54 25.3**	**+0.6**
	baz=80						
VNHG	**Veniaminof 1**	**1.47**	**43**		**Pn**	**13 54 07.3**	**+0.6**
ISLZ	**Isanotski Laza**	**1.65**	**256**		**Pn**	**13 54 08.7**	**-0.5**
ISNN	**Isanotski Nort**	**1.66**	**260**		**Pn**	**13 54 09.5**	**+0.2**
ISNN					**Sn**	**13 54 31.5**	**+1.8**
SSLS	**Shishaldin Sou**	**1.82**	**257**		**Pn**	**13 54 11.5**	**+0.1**
CHGN	**Chignik**	**1.84**	**50**	Pn	**Pn**	**13 54 11.8**	**+0.3**
CHGN				IAML		13 54 39.6	
	comp=E,5µm,0.7s						
CHGN	**Chignik**	**1.84**	**50**		**Sn**	**13 54 34.2**	**+0.4**
CHGN	**Chignik**	**1.84**	**50**	P	**Pn**	**13 54 11.9**	**+0.3**
	baz=230						
CHGN				S	**Sn**	**13 54 34.2**	**+0.4**
	baz=230						
WESE	**West Dahl East**	**2.21**	**253**		**Pn**	**13 54 17.1**	**+0.3**
WEBT	**Westdahl Beart**	**2.27**	**257**		**Pn**	**13 54 17.7**	**+0.2**
WECS	**Westdahl Cape**	**2.30**	**256**		**Pn**	**13 54 18.3**	**+0.4**
WECS					**Sn**	**13 54 44.5**	**-0.7**
ANNE	**Aniakchak Nort**	**2.39**	**41**		**Pn**	**13 54 19.6**	**+0.4**
AKSA	**Akutan Strait**	**2.94**	**252**		**Pn**	**13 54 27.2**	**+0.6**
AKSA					**Sn**	**13 55 02.1**	**+1.4**
AHB	**Akutan Harbor**	**3.02**	**252**		**Pn**	**13 54 28.1**	**+0.4**
R16K	**Pilot Point**	**3.06**	**36**	Pn	**Pn**	**13 54 29.3**	**+1.2**
R16K				IAML		13 55 28.3	
	comp=N,2µm,1.0s						
R16K				IAML		13 55 37.4	
	comp=E,2µm,0.8s						
R16K	**Pilot Point**	**3.06**	**36**	P	**Pn**	**13 54 29.4**	**+1.2**
	baz=218						
AKBBA	**Akutan Broad B**	**3.08**	**252**		**Pn**	**13 54 28.5**	**0.0**
ZRO	**Akutan Zero**	**3.11**	**252**		**Pn**	**13 54 29.2**	**+0.3**
LVA	**Lava Point**	**3.12**	**253**		**Pn**	**13 54 29.5**	**+0.5**
AKRB	**Akutan Reef Bi**	**3.15**	**253**		**Pn**	**13 54 29.6**	**+0.2**
PLBL	**Peulik Blue Cr**	**3.43**	**40**		**Pn**	**13 54 34.3**	**+1.1**
UNV	**Unalaska Valle**	**3.50**	**250**	P	**Pn**	**13 54 33.8**	**-0.3**
UNV	**Unalaska Valle**	**3.50**	**250**		**Pn**	**13 54 33.6**	**-0.5**
UNV	**Unalaska Valle**	**3.50**	**250**	P	**Pn**	**13 54 33.6**	**-0.5**
	baz=67						
MNAT	**Makushin Natee**	**3.58**	**251**		**Pn**	**13 54 35.1**	**-0.2**
PLK1	**Peulik 1**	**3.58**	**40**		**Pn**	**13 54 36.5**	**+1.3**
MSW	**Makushin Switc**	**3.62**	**252**		**Pn**	**13 54 36.0**	**+0.2**
PLK3	**Peulik 3**	**3.63**	**44**		**Pn**	**13 54 37.5**	**+1.5**
MAPS	**Pakushin South**	**3.75**	**251**		**Pn**	**13 54 37.6**	**+0.1**
SII	**Sitkinak Islan**	**4.06**	**67**	P	**Pn**	**13 54 43.0**	**+1.1**
SII	**Sitkinak Islan**	**4.06**	**67**	Pn	**Pn**	**13 54 40.9**	**-1.0**
O15K	**Ungalikthiuk R**	**4.08**	**8**		**Pn**	**13 54 42.6**	**+0.5**
O15K	**Ungalikthiuk R**	**4.08**	**8**	P	**Pn**	**13 54 42.6**	**+0.5**
	baz=189						
O14K	**Tigyukauivet M**	**4.11**	**358**	Pn	**Pn**	**13 54 43.7**	**+1.2**
O14K				IAML		13 56 02.3	
	comp=N,562nm,1.2s						
O14K	**Tigyukauivet M**	**4.11**	**358**	P	**Pn**	**13 54 43.5**	**+1.0**
	baz=177						
Q17K	**Contact Creek**	**4.18**	**40**	P	**Pn**	**13 54 44.5**	**+0.9**
	baz=223						
CNTC	**Contact Creek**	**4.18**	**40**		**Pn**	**13 54 44.5**	**+0.9**
P16K	**Nushagak River**	**4.21**	**21**		**Pn**	**13 54 44.7**	**+0.9**
P16K	**Nushagak River**	**4.21**	**21**	P	**Pn**	**13

MID Middleton Isla 8.99 56 P Pn 13 55 50.6 +1.5
KNK Knik Glacier 9.08 41 Pn 13 55 50.2 -0.2
CUT Chulitna 9.13 33 Pn 13 55 52.6 +1.6
GHO Glory Hole Cre 9.14 39 Pn 13 55 50.4 -0.8
J19K Poorman 9.26 15 Pn 13 55 53.6 +0.7
GLI Glacier Island 9.31 46 Pn Pn 13 55 53.1 -0.5
HIN Hinchinbrook I 9.32 50 Pn Pn 13 55 53.4 -0.3
SML Sawmill 9.37 40 Pn 13 55 54.2 -0.3
CAST Castle Rocks 9.44 25 Pn 13 55 55.9 +0.6
J20K Nowinta River 9.67 18 Pn Pn 13 55 58.5 +0.1
ANM Nome 9.69 349 Pn Pn 13 55 59.6 +0.8
EYAK Cordova Ski Ar 9.72 50 Pn 13 55 58.2 -1.0
SCM Sheep Creek Mo 9.76 41 Pn 13 55 58.8 -1.0
H17K Granite Mounta 9.83 3 Pn Pn 13 56 01.1 +0.6
GCSA Galena City Sc 9.83 10 Pn 13 56 01.0 +0.4
KTH Kantishna Hill 9.84 27 Pn 13 56 03.0 +2.2
WAT7 Susitna Watana 9.89 34 Pn 13 56 00.7 -0.9
TRF Thorofare Moun 9.93 29 Pn Pn 13 56 03.1 +1.0
WAT1 Susitna Watana 9.99 35 Pn 13 56 02.0 -0.8
DIV Divide 9.99 47 Pn 13 56 02.3 -0.6
KAIM Kayak Island 10.08 55 Pn Pn 13 56 04.3 +0.3
H18K Honhosa River 10.11 6 Pn Pn 13 56 05.5 +1.1
KLU Klutina 10.12 45 Pn 13 56 03.8 -0.8
I20K Naaghedeneel 10.19 16 Pn 13 56 06.7 +1.2
BPAW Bear Paw Mtn. 10.27 25 Pn Pn 13 56 08.4 +1.7
G16K Koyuk River 10.29 357 Pn 13 56 08.4 +1.5
RND Reindeer 10.31 32 Pn Pn 13 56 07.1 -0.1
M24K Tolsona, Glenn 10.36 42 Pn 13 56 07.9 -0.1
DHY Denali Highway 10.55 36 Pn Pn 13 56 09.2 -1.4
H19K Roundabout Mou 10.64 10 Pn Pn 13 56 12.2 +0.7
N25K Chitina, Valde 10.72 46 Pn 13 56 12.7 -0.2
BWP Browne 10.72 28 Pn Pn 13 56 15.8 +1.0
F15K North Star Dit 10.74 352 Pn 13 56 15.0 +2.0
G18K Tagagawik 10.83 5 Pn Pn 13 56 15.9 +1.7
SNH Sunshine Point 10.91 55 Pn Pn 13 56 16.2 +0.9
GLB Gilahina Butte 10.98 48 Pn Pn 13 56 16.0 -0.3
I21K Tanana 10.99 20 Pn 13 56 16.8 +0.5
WAX Waxell Ridge 11.00 54 Pn 13 56 16.3 -0.3
VRDI Verde Repeater 11.03 49 Pn 13 56 16.4 -0.9
MLY Manley 11.12 23 Pn Pn 13 56 19.0 +0.8
NEA2 Nenana 11.16 27 Pn 13 56 17.6 -1.1
G19K Purcell Mounta 11.18 8 Pn Pn 13 56 19.6 +0.6
H21K Melozitna Rive 11.26 17 Pn Pn 13 56 20.9 +0.7
ISLE Juniper Island 11.29 54 Pn 13 56 20.3 -0.3
MCARA McCarthy VSAT 11.29 49 Pn 13 56 21.2 +0.7
F17K Baldwin Pennin 11.32 359 Pn 13 56 22.9 +2.0
WRH Wood River Hil 11.34 29 Pn Pn 13 56 19.9 -1.3
IMAR Indian Mountai 11.41 15 Pn 13 56 23.2 +1.0
I23K Minto, Yukon-K 11.54 25 Pn 13 56 23.3 -0.5
CCB Clear Creek Bu 11.55 29 Pn 13 56 21.5 -2.6
HDA Harding Lake 11.62 31 Pn 13 56 23.0 -2.0
MDM Murphy Dome 11.68 28 Pn 13 56 24.3 -1.5
COLA College 11.71 28 P Pn 13 56 26.5 +0.3
BARN Barnard Glacie 11.76 52 Pn 13 56 27.1 0.0
M26K Nabesna, AK 11.78 45 Pn Pn 13 56 27.2 0.0
CTGM Chitina Glacie 11.88 53 Pn 13 56 28.7 0.0
IL31 11.90 30 Pn Pn 13 56 26.4 -2.4
ILAR Eielson Array 11.90 30 Pn Pn 13 56 28.6 -0.3
ILAR Eielson Array 11.90 30 P Pn 13 56 26.2 -2.7
comp=N,0.6nm,0.3s,baz=222,slow=13,SNR=35
ILAR S Sn 13 58 39.1 -0.6
comp=N,3.1nm,0.9s,baz=217,slow=22,SNR=3.5
ILAR LR LR 14 01 35.1
comp=N,176nm,19.1s,baz=258,slow=40
comp=N,2.4nm,0.5s
G21K Allakaket 11.95 15 Pn Pn 13 56 30.3 +0.8
LOGN Logan Glacier 11.98 54 Pn 13 56 30.5 +0.4
POKR Poker Plat Res 12.01 28 Pn 13 56 30.4 0.0
H23K Yukon River 12.06 23 Pn 13 56 31.1 +0.1
M27K Edge Creek, AK 12.21 46 Pn 13 56 34.0 +0.8
J25K Salcha River, 12.25 33 Pn Pn 13 56 31.1 -2.5
SCRK Sand Creek 12.29 37 Pn 13 56 33.1 -1.1
PNL Peninsula 12.44 60 P Pn 13 56 36.4 +0.2
H24K Noodor Dome 12.46 26 Pn Pn 13 56 37.1 +0.6
E19K Redstone River 12.47 7 Pn Pn 13 56 37.8 +1.3
L27K Beaver Creek, 12.57 43 Pn Pn 13 56 37.6 -0.4
BCAR Beaver Creek A 12.59 43 Pn 13 56 37.5 -0.8
G23K Bananza Creek 12.72 20 Pn Pn 13 56 40.6 +0.6
PRP Porcupine Dome 12.85 30 Pn Pn 13 56 40.6 -1.3
D19K Kuna River 13.45 4 Pn Pn 13 56 51.9 +2.0
HYT Haines Junctio 13.62 56 Pn 13 56 51.5 -0.8
M29M Somme Creek 13.69 49 Pn Pn 13 56 53.0 -0.1
EGAK Eagle 13.76 38 Pn Pn 13 56 52.2 -1.6
S31K Pelican 13.89 68 Pn Pn 13 56 55.2 -0.5
N30M Aishikik Lake 13.98 54 Pn 13 56 56.2 -0.8
E24K Your Creek 14.20 19 Pn Pn 13 56 60.0 +0.2
BMAR Burnt Mountain 14.53 26 Pn 13 57 03.1 -1.0
I28M Miner Creek 14.57 37 Pn Pn 13 57 03.6 -1.0
K29M Barlow Dome 14.65 44 Pn Pn 13 57 06.4 +0.7
S32K Killisnoo 14.78 70 Pn 13 57 08.0 +0.7
B21K Ikpikpuk River 14.80 9 Pn Pn 13 57 08.1 +0.7
E25K Arctic Village 14.85 23 Pn Pn 13 57 09.6 +1.5
WHY Whitehorse 14.85 58 Pn Pn 13 57 08.5 +0.2
JIS Juneau Island 14.87 67 P P 13 57 11.8 -0.8
G27K Doyon Strip 14.88 31 Pn Pn 13 57 07.7 -0.8
MAYO Mayo, Yukon 15.21 46 Pn 13 57 13.2 +0.4
M31M Drury Creek, Y 15.42 52 Pn 13 57 15.6 +0.1
M31M IAmb IAmb 13 57 23.5
comp=Z,54nm,0.8s
J30M Hart River 15.44 42 Pn Pn 13 57 15.9 +0.1
C23K Itkillik River 15.45 14 Pn 13 57 16.6 +0.8
C23K IAmb IAmb 13 57 23.6
comp=Z,45nm,0.9s
H29M Whitestone 15.54 36 Pn Pn 13 57 15.0 -2.0
H29M IAmb IAmb 13 57 42.9
comp=Z,30nm,0.7s
B22K Teshekpuk Lake 15.60 9 Pn 13 57 19.6 +1.9
B22K IAmb IAmb 13 57 32.6
comp=Z,26nm,1.0s
D25K Kavik River 15.68 19 Pn 13 57 20.4 +1.7
D25K IAmb IAmb 13 57 34.9
comp=Z,28nm,1.2s
I30M Mount Dempster 15.72 40 Pn Pn 13 57 19.1 -0.3
CRAG Craig 15.80 77 P P 13 57 22.2 -0.8
E27K Coleen River 15.86 27 Pn 13 57 22.1 +1.0
F28M Old Crow 15.93 30 Pn Pn 13 57 22.4 +0.5
G29M Pine Creek 16.05 34 Pn Pn 13 57 22.3 -1.2
G29M IAmb IAmb 13 57 28.0
comp=Z,61nm,0.8s
WRAK Wrangell Islan 16.09 74 Pn 13 57 23.7 -0.3
EPYK Eagle Plains 16.18 36 Pn 13 57 24.9 -0.2
EPYK IAmb IAmb 13 57 30.6
comp=Z,61nm,0.9s
S34M Telegraph Cree 16.61 68 Pn Pn 13 57 29.3 -1.1
S34M IAmb IAmb 13 57 36.2
comp=Z,23nm,1.0s
R33M Jennings River 16.67 63 Pn 13 57 31.6 +0.2
E28M Babbage River 16.70 28 P Pn 13 57 31.6 +0.1
H31M Peel River 16.74 40 Pn 13 57 31.6 -0.5
D27M Malcolm River 16.79 25 P Pn 13 57 33.5 +0.9
E29M Blow River 17.00 30 Pn 13 57 35.5 +0.2
T35M Bob Quinn 17.16 71 P Pn 13 57 36.5 -0.9
DLBC Dease Lake 17.17 66 P P 13 57 38.3 +0.1
DLBC Dease Lake 17.17 66 P P 13 57 38.0 -0.2
comp=Z,0.1nm,0.3s,baz=262,slow=12,SNR=17
comp=Z,7.2nm,0.9s
G31M Satah River 17.30 37 Pn 13 57 37.6 -1.3
G31M IAmb IAmb 13 58 02.9
comp=Z,19nm,0.7s
F31M Tsiigehtchic 17.74 35 Pn 13 57 43.7 -0.6
F31M IAmb IAmb 13 57 45.8
comp=Z,19nm,0.9s
INK Inuvik 18.27 33 P P 13 57 49.9 -0.1
INK IAmb IAmb 13 57 52.5
comp=Z,29nm,1.1s
INK Inuvik 18.27 33 P P 13 57 50.0 -0.1
comp=Z,1.1nm,0.3s,baz=228,slow=11,SNR=54
INK LR LR 14 05 45.1
comp=Z,140nm,18.6s,baz=198,slow=40
comp=Z,26nm,1.0s
BBB Bella Bella 19.58 85 LR LR 14 03 52.7
comp=Z,71nm,19.8s,baz=272,slow=31
BILL Bilibino 19.90 323 P P 13 58 08.9 +0.9
C36M Paulatuk 21.80 35 P P 13 58 27.2 -1.0
C36M IAmb IAmb 13 58 57.7
comp=Z,12nm,0.7s
A36M Sachs Harbour 22.59 28 P P 13 58 34.8 -2.0
A36M IAmb IAmb 13 58 37.2
comp=Z,14nm,0.8s
PEA0B Petropavlovsk- 24.07 282 P P 13 58 50.8 -0.1
PEA0B IAmb IAmb 13 59 32.6
comp=Z,13nm,0.9s
PETK Petropavlovsk- 24.07 282 P P 13 58 49.5 -1.4
PETK Petropavlovsk- 24.07 282 P P 13 58 50.5 -0.5
comp=Z,3.7nm,0.5s,baz=75,slow=12,SNR=15
comp=Z,3.7nm,0.5s
YKA Yellowknife Ar 24.60 54 P P 13 58 57.1 +1.4
YKA Yellowknife Ar 24.60 54 P P 13 58 56.2 +0.6
comp=Z,2.1nm,0.7s,baz=270,slow=9.1,SNR=19
comp=Z,2.1nm,0.7s
SEY Seymchan 24.72 307 P P 13 58 55.7 -1.1
comp=Z,1.8nm,0.7s,baz=101,slow=13,SNR=7.5
SEY LR LR 14 09 55.0
comp=Z,67nm,18.9s,baz=322,slow=40
comp=Z,1.8nm,0.7s
MA2 Magadan 25.93 300 LR LR 14 08 54.8
comp=Z,30nm,19.3s,baz=94,slow=36
YBH Yreka Blue Hor 28.30 102 LR LR 14 08 15.9
comp=Z,53nm,21.7s,baz=334,slow=31
RES Resolute Bay 31.64 28 LR LR 14 13 51.6
comp=Z,54nm,21.9s,baz=7.0,slow=38
NVAR Mina Array Bea 33.02 102 P P 14 00 14.1 +2.9
comp=Z,1.5nm,0.9s,baz=302,slow=8.5,SNR=9.3
NVAR PcP PcP 14 02 53.9 +0.6
comp=Z,0.2nm,0.5s,baz=316,slow=2.5,SNR=2.6
comp=Z,1.5nm,0.9s
TIXI Tiksi 33.03 327 LR LR 14 13 25.5
comp=Z,48nm,19.2s,baz=138,slow=36
YHH Holmes Hill 33.16 87 P P 14 00 13.6 +1.2
ELK Elko 33.18 96 P P 14 00 14.3 +1.8
R11B Troy Canyon, C 34.61 100 P P 14 00 26.4 +1.6
R11B IAmb IAmb 14 00 41.8
comp=Z,3.7nm,1.1s
PDAR Pinedale Array 35.14 89 P P 14 00 30.3 +0.8
PDAR Pinedale Array 35.14 89 P P 14 00 31.3 +1.9
comp=Z,0.4nm,0.5s,baz=309,slow=4.1,SNR=6.4
comp=Z,0.4nm,0.5s
YAK Yakutsk 35.16 310 LR LR 14 15 57.3
comp=Z,60nm,20.8s,baz=70,slow=38
FCC Fort Churchill 35.27 56 P P 14 00 29.2 -0.8
FCC IAmb IAmb 14 00 56.2
comp=Z,6.4nm,0.9s
ULM Lac du Bonnet 38.45 69 LR LR 14 15 56.7
comp=Z,31nm,19.0s,baz=6.0,slow=35
KLR Kul'dur 40.22 291 P P 14 01 11.3 -0.6
comp=Z,2.6nm,0.8s,baz=42,slow=9.6,SNR=9.1
KLR LR LR 14 17 29.5
comp=Z,22nm,21.4s,baz=43,slow=36
comp=Z,2.6nm,0.8s
NEEM North Greenlan 40.85 18 *i* P P 14 01 18.3 +1.1
NEEM IAmb IAmb 14 01 20.4
comp=Z,4.0nm,0.7s
KULLO Kullorsuaq 41.18 23 *i* P P 14 01 21.1 +1.6
KULLO IAmb IAmb 14 02 07.2
comp=Z,5.1nm,0.5s
EYMN Ely 42.13 70 P P 14 01 29.1 +1.5
NOR Nord 42.14 7 *i* P P 14 01 28.7 +1.4
NOR IAmb IAmb 14 01 58.3
comp=Z,2.9nm,0.9s
FRB Frobisher Bay 43.72 40 LR LR 14 20 48.8
comp=Z,28nm,18.4s,baz=210,slow=37
MJAR Matsushiro Arr 44.71 272 P P 14 01 48.3 -0.2
comp=Z,1.3nm,0.9s,baz=44,slow=6.9,SNR=6.7
MJAR LR LR 14 17 45.8
comp=Z,11nm,21.5s,baz=26,slow=32
comp=Z,3.1nm,0.9s
MAJO Matsushiro 44.71 272 P P 14 01 47.7 -0.8
MAJO IAmb IAmb 14 01 49.6
comp=Z,19nm,1.1s
E43A Lone Tree Farm 45.51 69 P P 14 01 55.8 +1.1
E43A IAmb IAmb 14 02 19.2
comp=Z,12nm,0.8s
JGF Kuroka 45.86 271 P P 14 01 57.6 -0.1
JGF IAmb IAmb 14 02 02.6
comp=Z,19nm,1.5s
DAG Danmarks Havn 46.19 11 *i* P P 14 01 59.0 -0.6
DAG IAmb IAmb 14 02 18.3
comp=Z,2.8nm,0.6s
SFJD Kangerlussuaq 47.57 30 LR LR 14 22 23.0
comp=Z,23nm,18.9s,baz=326,slow=36
TXAR Lajitas Array 47.93 98 P P 14 02 15.6 +1.6
comp=Z,0.7nm,0.7s,baz=309,slow=5.7,SNR=4.3
TXAR PcP PcP 14 03 40.3 -1.0
comp=Z,0.3nm,0.6s,baz=323,slow=1.4,SNR=1.0
TXAR LR LR 14 20 14.4
comp=Z,20nm,21.3s,baz=312,slow=33
comp=Z,0.7nm,0.7s
DBG Daneborg 48.16 13 *i* P P 14 02 15.0 +0.1
DBG IAmb IAmb 14 02 38.9
comp=Z,4.3nm,0.8s
LPIG La Paz 48.31 109 LR LR 14 19 27.3
comp=Z,23nm,18.8s,baz=37,slow=32
ICESG Greenland Ices 48.91 24 *i* P P 14 02 21.3 +0.1
ICESG IAmb IAmb 14 02 46.4
comp=Z,6.0nm,0.7s
SCHQ Schefferville 49.90 49 P P 14 02 29.9 +1.3
comp=Z,1.1nm,0.5s,baz=301,slow=5.9,SNR=5.7
comp=Z,1.1nm,0.5s
KSRS Korea Array 49.94 280 P P 14 02 28.5 -0.5
comp=Z,3.5nm,0.8s,baz=50,slow=7.3,SNR=10.0
KSRS LR LR 14 24 49.0
comp=Z,7.1nm,19.3s,baz=95,slow=38
comp=Z,3.5nm,0.8s
SADO Sadowa 50.73 66 LR LR 14 22 54.8
comp=Z,32nm,20.5s,baz=170,slow=34
JNU Nakatsue 51.36 274 LR LR 14 23 34.3
comp=Z,21nm,21.5s,baz=36,slow=35
XLT XiLinHaoTe 51.93 294 *eP* P 14 02 39.1 -4.9
XLT pP pP 14 02 59.7 -1.5
XLT sP sP 14 03 07.3 -1.5
XLT PcP PcP 14 03 48.7 -7.0
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,65nm,3.3s
WVT Waverly 52.00 79 P P 14 02 44.9 +0.4
NRS Narsarsuaq 53.40 33 P P 14 02 54.2 -0.2
NRS Narsarsuaq 53.40 33 *i* P P 14 02 54.0 -0.4
NRS IAmb IAmb 14 03 02.7
comp=Z,18nm,0.9s
SONM Songino Array 54.04 304 P P 14 02 59.5 -0.1
comp=Z,1.0nm,0.5s,baz=49,slow=7.0,SNR=5.9
SONM PcP PcP 14 04 04.2 +0.4
comp=Z,1.7nm,0.6s,baz=33,slow=2.7,SNR=5.3
SONM LR LR 14 28 33.0
comp=Z,32nm,18.9s,baz=64,slow=39
comp=Z,1.0nm,0.5s
R55A Marlinton 54.74 72 P P 14 03 04.7 0.0
F64A Sherman 55.42 58 P P 14 03 08.9 -0.5
BATG Bathurst New B 55.50 55 P P 14 03 09.9 0.0
ARCES ARCESS Array B 55.53 357 P P 14 03 08.6 -1.2
comp=Z,2.1nm,0.8s,baz=23,slow=7.2,SNR=3.9
ARCES LR LR 14 29 26.0
comp=Z,13nm,18.1s,baz=216,slow=39
comp=Z,2.1nm,0.8s
HHC Hu-ho-hao-te 56.45 295 *eP* P 14 03 15.7 -1.3
HHC pP pP 14 03 32.0 -2.3
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,72nm,5.2s
ZALV Zalesovo Beam 58.58 321 PcP PcP 14 04 20.6 -0.5
comp=Z,1.3nm,0.7s,baz=29,slow=3.3,SNR=5.2
ZALV LR LR 14 31 02.2
comp=Z,37nm,21.1s,baz=56,slow=38
KURBB Kurchatov Arra 63.54 322 P P 14 04 05.5 +0.3
comp=Z,0.8nm,0.2s,baz=43,slow=5.6,SNR=4.8
KURBB LR LR 14 34 35.5
comp=Z,25nm,18.6s,baz=172,slow=39
comp=Z,0.8nm,0.2s
FINES FINESS Array B 63.61 356 P P 14 04 04.9 -0.6
comp=Z,1.3nm,0.5s,baz=4.7,slow=7.6,SNR=11
comp=Z,1.3nm,0.5s
NC405 NORSAR Array S 63.93 4 P P 14 04 07.9 +0.3
NC405 IAmb IAmb 14 04 21.9
comp=Z,14nm,1.2s
NB2 NORSAR Subarra 63.98 4 P P 14 04 07.7 -0.3
comp=Z,2.3nm,0.8s,baz=357,slow=6.5
NOA NORSAR Array B 63.98 4 P P 14 04 08.1 +0.1
comp=Z,1.2nm,0.8s,baz=356,slow=6.5,SNR=5.1
NOA LR LR 14 30 46.4
comp=Z,10nm,20.4s,baz=15,slow=35
comp=Z,1.2nm,0.8s
KIRV Kirov 64.01 343 LR LR 14 34 39.7
comp=Z,15nm,19.6s,baz=31,slow=38
BVAR Borovoye Array 64.15 328 P P 14 04 09.2 +0.1
comp=Z,3.3nm,0.7s,baz=41,slow=8.0,SNR=13
comp=Z,3.3nm,0.7s
ARU Arti 64.22 337 P P 14 04 08.8 -0.8
ARU IAmb IAmb 14 04 09.6
comp=Z,5.3nm,0.5s
ARU Arti 64.22 337 P P 14 04 09.4 -0.1
comp=Z,4.4nm,0.4s,baz=55,slow=5.7,SNR=8.9
ARU LR LR 14 35 09.0
comp=Z,19nm,18.2s,baz=330,slow=39
comp=Z,4.4nm,0.4s
ARU Arti 64.22 337 P P 14 04 08.6 -0.9
comp=Z,9.6nm,0.7s
HFS Hagfors 64.98 3 P P 14 04 14.1 -0.3
comp=Z,1.5nm,0.4s,baz=7.1,slow=3.5,SNR=11
HFS LR LR 14 34 50.3
comp=Z,13nm,18.3s,baz=357,slow=38
comp=Z,1.5nm,0.4s
MKAR Makanchi Array 65.33 318 P P 14 04 15.9 -1.1
MKAR Makanchi Array 65.33 318 P P 14 04 16.3 -0.6
comp=Z,0.5nm,0.4s,baz=41,slow=6.3,SNR=8.2
MKAR LR LR 14 34 47.1
comp=Z,38nm,19.5s,baz=46,slow=38
comp=Z,0.5nm,0.4s
WMQ Urumqi 65.56 312 *eP* P 14 04 18.0 -0.6
WMQ pmax pmax
comp=Z,62nm,0.9s
TAOE Nuku Hiva Isla 66.11 157 *eLR* LR 14 24 20.8
comp=Z,256nm,28.2s
EKA Eskdalemuir Ar 68.38 13 P P 14 04 36.5 +0.4
comp=Z,2.1nm,0.6s,baz=335,slow=4.6,SNR=12
comp=Z,2.1nm,0.6s
ESK Eskdalemuir 68.39 13 P P 14 04 36.4 +0.2
AKTO Aktyubinsk 69.87 335 LR LR 14 39 56.3
comp=Z,25nm,18.3s,baz=204,slow=40
BELG Belogornoye 70.23 342 LR LR 14 40 23.7
comp=Z,30nm,18.2s,baz=327,slow=40
ABKAR Akbulak array 70.46 333 P P 14 04 49.1 0.0
ABKAR IAmb IAmb 14 04 49.7
comp=Z,5.6nm,0.5s
ABKAR Akbulak array 70.46 333 P P 14 04 49.4 +0.3
BOOM Boomskoye usch 71.38 319 P P 14 04 55.0 0.0
BOOM IAmb IAmb 14 04 56.2
comp=Z,2.8nm,0.6s
AAK Ala-Archa 71.79 320 LR LR 14 39 34.3
comp=Z,34nm,19.8s,baz=181,slow=38
PZH PanZhiHua 72.66 291 P P 14 05 02.0 -0.8
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,4.9s
PPT2 Papeete2 73.10 169 *eLR* LR 14 27 25.2
comp=Z,37nm,22.5s
KSH Kashi 73.94 318 P P 14 05 13.8 +3.6
KSH pmax pmax
comp=Z,8.0nm,0.9s
AKASG Malin Array Be 74.17 353 P P 14 05 10.6 -0.5
comp=Z,0.8nm,0.4s,baz=7.7,slow=6.0,SNR=8.8
AKASG LR LR 14 42 35.4
comp=Z,14nm,18.7s,baz=25,slow=40
comp=Z,0.8nm,0.4s
AKBB Malin Array Si 74.17 353 P P 14 05 09.1 -2.0
KIEV Kiev 74.18 353 P P 14 05 09.1 -2.1
comp=Z,28nm,1.9s
LUBAR Lubar, Ukraine 75.04 354 P P 14 05 14.3 -1.9
SLVN Son La 75.63 287 P P 14 05 19.9 -0.2
SLVN IAmb IAmb 14 05 21.1
comp=Z,7.9nm,0.9s
SHIU Shidnytsya 75.93 357 P P 14 05 22.0 +0.7
NDNU Novodnistrovsk 76.38 354 P P 14 05 23.1 -0.8
KMPD K-Podol'skiy 76.46 355 P P 14 05 23.2 -1.1
TBI Tubuai 78.80 169 *eLR* LR 14 30 04.3
comp=Z,482nm,37.0s
KBZ Khabaz 79.42 343 P P 14 05 41.8 +1.0
comp=Z,3.4nm,0.8s,baz=0.2,slow=5.0,SNR=11
KBZ LR LR 14 45 20.9
comp=Z,7.0nm,20.5s,baz=41,slow=39
comp=Z,3.4nm,0.8s
CMAR Chiang Mai Arr 80.67 289 P P 14 05 47.5 -0.4
CMAR Chiang Mai Arr 80.67 289 P P 14 05 47.6 -0.3
comp=Z,8.3nm,0.8s,baz=16,slow=5.5,SNR=56
CMAR LR LR 14 44 53.0
comp=Z,7.4nm,18.7s,baz=130,slow=38
comp=Z,8.3nm,0.8s
GEYT Alibeck 81.44 330 P P 14 05 52.8 +1.0
comp=Z,1.7nm,0.7s,baz=42,slow=16,SNR=4.2
comp=Z,1.7nm,0.7s
DZM Mont Dzumac 81.81 210 *eLR* LR 14 31 23.3
comp=Z,49nm,22.9s
DZM Mont Dzumac 81.81 210 LR LR 14 35 27.6
comp=Z,34nm,20.2s,baz=7.5,slow=31
GNI Garni 82.56 340 LR LR 14 46 01.0
comp=Z,16nm,21.5s,baz=9.5,slow=38
ESDC Sonseca Array 83.51 18 P P 14 06 03.4 +0.8
comp=Z,1.5nm,0.8s,baz=347,slow=4.3,SNR=8.2
comp=Z,1.5nm,0.8s
BR106 Keskin Array S 84.66 349 P P 14 06 08.6 +0.1
comp=Z,1.7nm,1.1s
BRTR Keskin Array B 84.67 349 P P 14 06 07.8 -0.8
BRTR Keskin Array B 84.67 349 P P 14 06 08.4 -0.2
comp=Z,1.2nm,0.7s,baz=16,slow=1.8,SNR=7.5
comp=Z,1.2nm,0.7s
BR105 Keskin Array S 84.68 349 P P 14 06 08.9 +0.3
comp=Z,2.4nm,0.8s
BR104 Keskin Array S 84.68 349 P P 14 06 08.7 +0.1

IDC 04 14:28:35.0±3.7, 6°84S×154°83E, h0km, mb3.4/3, mbtmp3.4/3, MS3.3/1, Error ellipse: s-maj=131.5km s-min=39.3km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.7nm,0.7s,baz=58,slow=9.4,SNR=6.6 0.7nm,0.7s	23.77	235	P	P		14 33 49.2	-0.3
ASAR	Alice Springs 0.4nm,0.6s,baz=62,slow=9.0,SNR=8.1 0.4nm,0.6s	26.16	228	P	P		14 34 11.2	0.0
NWAO	Narrogin (SRO)	43.48	228	LR	LR		14 53 47.3	
	comp=Z,36nm,18.3s,baz=204,slow=35							
MKAR	Makanchi Array 0.2nm,0.4s,baz=114,slow=4.3,SNR=2.2 0.2nm,0.4s	83.18	319	P	P		14 41 03.8	+0.6
TORD	Torodi Ar. Bea 0.5nm,0.8s,baz=60,slow=1.4,SNR=2.6	152.83	285	PKPbc	PKPbc		14 48 34.9	-0.3

IDC 04 14:34:15.9±0.7, 28°.14N×43°.90W, h0km, mb4.0/19, mbtmp4.0/19, MS3.4/2, Error ellipse: s-maj=20.3km s-min=16.5km az=157.0

ISC 04 14:34:18.8±0.7, 28°.1N±0°.1×43°.9W±0°.1, h19km, n27, σ0°72/22, mb4.2/19, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar 0.9nm,0.7s,baz=242,slow=7.6,SNR=3.2 0.9nm,0.7s	39.89	36	P	P		14 41 51.4	+0.1
ULM	Lac du Bonnet 3.8nm,1.0s,baz=52,slow=7.1,SNR=4.6 3.8nm,1.0s	44.86	314	P	P		14 42 31.9	+0.1
TORD	Torodi Ar. Bea 1.7nm,0.7s,baz=310,slow=8.3,SNR=12 1.7nm,0.7s	44.93	100	P	P		14 42 32.3	-0.4
H10N2	ASCENSION HYDR baz=322,slow=75,SNR=9.2	45.67	137	T	T		15 31 13.7	
H10N3	ASCENSION HYDR baz=322,slow=75,SNR=7.0	45.67	137	T	T		15 31 13.0	
H10N1	ASCENSION HYDR baz=322,slow=75,SNR=7.4	45.69	137	T	T		15 31 15.2	
NB2	NORSAR Subarra comp=Z,3.6nm,1.0s,baz=254,slow=7.9	49.04	32	P	P		14 43 05.2	+0.9
NOA	NORSAR Array B comp=Z,1.2nm,0.9s,baz=254,slow=8.0,SNR=4.8 comp=Z,1.2nm,0.9s	49.04	32	P	P		14 43 03.8	-0.5
HFS	Hagfors comp=Z,2.1nm,0.8s,baz=243,slow=9.7,SNR=4.1 comp=Z,2.1nm,0.8s	49.99	33	P	P		14 43 11.7	+0.1
LPAZ	La Paz comp=Z,3.4nm,0.8s,baz=14,slow=6.6,SNR=7.7 comp=Z,3.4nm,0.8s	50.00	211	P	P		14 43 12.5	-0.3
TXAR	Lajitas Array comp=Z,26nm,19.0s,baz=66,slow=36	51.91	287	LR	LR		15 05 38.3	
PDAR	Pinedale Array comp=Z,2.8nm,0.7s,baz=90,slow=8.2,SNR=22 comp=Z,2.8nm,0.7s	54.17	304	P	P		14 43 43.9	+0.7
FINES	FINESS Array B comp=Z,2.7nm,0.8s,baz=242,slow=4.1,SNR=6.0 comp=Z,2.7nm,0.8s	56.18	33	P	P		14 43 56.6	-0.5
YKA	Yellowknife Ar comp=Z,1.0nm,0.8s,baz=85,slow=7.3,SNR=18	56.57	328	P	P		14 43 59.1	-0.8

comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 56.75 23 P **P** **14 43 59.2 -1.9**
comp=Z,3.1nm,0.9s,baz=254,slow=8.6,SNR=5.0
comp=Z,3.1nm,0.9s
AKASG Malin Array Be 58.33 46 P **P** **14 44 12.2 -0.3**
comp=Z,3.0nm,0.7s,baz=276,slow=6.3,SNR=23
comp=Z,3.0nm,0.7s
NVAR Mina Array Bea 61.52 301 P **P** **14 44 34.4 -0.6**
comp=Z,0.5nm,0.7s,baz=80,slow=5.4,SNR=3.7
comp=Z,0.5nm,0.7s
BRTR Keskin Array B 63.55 57 P **P** **14 44 49.0 +0.7**
comp=Z,1.6nm,0.8s,baz=282,slow=6.1,SNR=9.9
comp=Z,1.6nm,0.8s
KBZ Khabaz 68.97 51 P **P** **14 45 23.5 +0.7**
comp=Z,1.8nm,0.9s,baz=293,slow=8.0,SNR=4.1
comp=Z,1.8nm,0.9s
ILAR Eielson Array 70.20 334 P **P** **14 45 30.9 +0.8**
comp=Z,1.5nm,0.7s,baz=70,slow=4.6,SNR=17
comp=Z,1.5nm,0.7s
PLCA Paso Flores 72.84 201 P **P** **14 45 46.4 +0.2**
comp=Z,2.2nm,0.9s,baz=23,slow=7.6,SNR=4.5
comp=Z,2.2nm,0.9s
BVAR Borovoye Array 81.12 34 P **P** **14 46 34.0 +1.2**
comp=Z,0.8nm,0.7s,baz=297,slow=6.5,SNR=5.6
comp=Z,0.8nm,0.7s
KURBB Kurchatov Arra 86.57 33 P **P** **14 47 00.9 +0.3**
comp=Z,0.3nm,0.5s,baz=324,slow=4.6,SNR=2.7
comp=Z,0.3nm,0.5s
MKAR Makanchi Array 91.01 34 P **P** **14 47 22.2 +0.4**
comp=Z,0.5nm,0.9s,baz=348,slow=4.2,SNR=4.9
comp=Z,0.5nm,0.9s
PETK Petropavlovsk- 96.94 347 LR LR 15 32 34.5
comp=Z,26nm,20.1s,baz=50,slow=36
CMAR Chiang Mai Arr 121.37 42 PKP **PKiKP** **14 53 11.3 -0.3**
comp=Z,0.7nm,0.6s,baz=297,slow=2.9,SNR=6.4
VNDA Vanda 129.11 187 PKP **PKiKP** **14 53 25.3 +0.1**
comp=Z,0.6nm,0.9s,baz=135,slow=8.6,SNR=3.8

*IDC **04** 14:35:45.6±1.0,28°.11N×43°.89W,h0km,mb3.9/14, mbtmp3.9/14,MS3.5/22,Error ellipse: s-maj=29.3km s-min=20.4km az=0.0*

ISC 04 14:35:48.5±0.9,28°.1N±0°.2×43°.9W±0°.1,h19km,n40, σ0s60/15,mb3.9/14,MS3.5/22,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**24.34**	**202**	LR	LR	14 48 38.0	
	comp=Z,56nm,19.7s,baz=44,slow=32						
SCHQ	**Schefferville**	**31.47**	**334**	LR	LR	14 53 49.9	
	comp=Z,95nm,18.8s,baz=238,slow=34						
SADO	**Sadowa**	**32.56**	**310**	LR	LR	14 53 48.5	
	comp=Z,224nm,18.7s,baz=92,slow=33						
MDT	**Midelt**	**34.05**	**72**	LR	LR	14 53 15.0	
	comp=Z,187nm,19.9s,baz=338,slow=31						
TKL	**Tuckaleechee C**	**34.51**	**293**	LR	LR	14 54 18.9	
	comp=Z,185nm,19.5s,baz=108,slow=32						
ESDC	**Sonseca Array**	**34.83**	**60**	P	**P**	**14 42 38.5**	**+0.2**
	0.4nm,0.6s,baz=281,slow=8.9,SNR=1.8						
ESDC				LR	LR	14 53 04.0	
	comp=Z,91nm,19.6s,baz=220,slow=30 0.4nm,0.6s						
ROSC	**El Rosal**	**37.03**	**237**	LR	LR	14 56 37.5	
	comp=Z,71nm,21.2s,baz=68,slow=34						
FRB	**Frobisher Bay**	**39.03**	**343**	LR	LR	14 58 08.4	
	comp=Z,93nm,19.3s,baz=188,slow=34						
SFJD	**Kangerlussuaq**	**39.13**	**356**	LR	LR	14 55 55.1	
	comp=Z,85nm,19.7s,baz=158,slow=31						
BORG	**Borgarnes**	**39.35**	**15**	LR	LR	14 55 25.0	
	comp=Z,65nm,21.1s,baz=175,slow=30						
EKA	**Eskdalemuir Ar**	**39.91**	**36**	P	**P**	**14 43 20.1**	**-1.0**
	1.1nm,0.7s,baz=251,slow=11,SNR=2.3 1.1nm,0.7s						
ULM	**Lac du Bonnet**	**44.88**	**314**	P	**P**	**14 44 01.2**	**-0.4**
	0.9nm,0.6s,baz=82,slow=7.1,SNR=1.8 0.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**44.91**	**100**	P	**P**	**14 44 02.4**	**0.0**
	1.1nm,0.7s,baz=312,slow=8.7,SNR=5.1 1.1nm,0.7s						
DAVOX	**Davos/Dischmat**	**45.63**	**51**	LR	LR	14 59 54.3	
	comp=Z,57nm,20.8s,baz=258,slow=32						
H10N2	**ASCENSION HYDR**	**45.65**	**137**	T	T	15 32 44.1	
	baz=322,slow=75,SNR=53						
H10N3	**ASCENSION HYDR**	**45.65**	**137**	T	T	15 32 41.3	
	baz=322,slow=75,SNR=67						
H10N1	**ASCENSION HYDR**	**45.66**	**137**	T	T	15 32 45.6	
	baz=322,slow=75,SNR=66						
H10S3	**ASCENSION HYDR**	**46.43**	**138**	T	T	15 33 41.6	
	baz=258,slow=74,SNR=12						
H10S2	**ASCENSION HYDR**	**46.45**	**138**	T	T	15 33 41.6	
	baz=322,slow=74,SNR=33						
SIV	**San Ignacio**	**46.89**	**203**	LR	LR	15 03 04.9	
	comp=Z,20nm,19.6s,baz=92,slow=35						
ATAH	**Atahualpa**	**48.35**	**229**	LR	LR	15 06 57.6	
	comp=Z,42nm,18.8s,baz=22,slow=39						
GERES	**GERESS Array B**	**48.35**	**48**	LR	LR	15 00 34.2	
	comp=Z,32nm,21.8s,baz=347,slow=31						
LPAZ	**La Paz**	**49.99**	**211**	P	**P**	**14 44 42.1**	**-0.2**
	1.2nm,0.6s,baz=22,slow=13,SNR=2.6 1.2nm,0.6s						
VRAC	**Vranov**	**50.27**	**48**	LR	LR	15 01 33.5	
	comp=Z,29nm,21.4s,baz=261,slow=31						
RES	**Resolute Bay**	**53.16**	**345**	LR	LR	15 05 24.8	
	comp=Z,55nm,20.5s,baz=28,slow=34						
PDAR	**Pinedale Array**	**54.19**	**304**	P	**P**	**14 45 13.6**	**+0.5**
	2.0nm,0.6s,baz=90,slow=7.4,SNR=8.1 2.0nm,0.6s						
CPUP	**Villa Florida**	**55.65**	**195**	LR	LR	15 07 17.2	
	comp=Z,20nm,20.0s,baz=42,slow=34						
FINES	**FINESS Array B**	**56.19**	**33**	P	**P**	**14 45 27.1**	**+0.3**
	1.8nm,0.8s,baz=268,slow=9.7,SNR=1.9						
FINES				LR	LR	15 06 12.5	
	comp=Z,14nm,21.3s,baz=226,slow=32 1.8nm,0.8s						
YKA	**Yellowknife Ar**	**56.60**	**328**	P	**P**	**14 45 29.3**	**-0.4**
	0.5nm,0.7s,baz=84,slow=7.6,SNR=5.8 0.5nm,0.7s						
ARCES	**ARCESS Array B**	**56.77**	**23**	P	**P**	**14 45 31.0**	**+0.1**
	2.3nm,0.7s,baz=278,slow=6.3,SNR=2.2 2.3nm,0.7s						
AKASG	**Malin Array Be**	**58.34**	**46**	P	**P**	**14 45 41.9**	**-0.4**
	1.9nm,0.7s,baz=276,slow=6.2,SNR=6.9 1.9nm,0.7s						
BRTR	**Keskin Array B**	**63.55**	**57**	P	**P**	**14 46 18.1**	**0.0**
	0.7nm,0.7s,baz=270,slow=6.9,SNR=2.6 0.7nm,0.7s						
EIL	**Elat**	**67.69**	**67**	LR	LR	15 16 19.1	
	comp=Z,14nm,20.1s,baz=245,slow=36						
ILAR	**Eielson Array**	**70.23**	**334**	P	**P**	**14 47 00.4**	**+0.5**
	0.9nm,0.7s,baz=76,slow=4.3,SNR=7.9 0.9nm,0.7s						
PLCA	**Paso Flores**	**72.82**	**201**	LR	LR	15 18 01.2	
	comp=Z,25nm,21.9s,baz=140,slow=35						
BVAR	**Borovoye Array**	**81.14**	**34**	P	**P**	**14 48 04.0**	**+1.4**
	0.6nm,0.7s,baz=320,slow=6.3,SNR=2.6 0.6nm,0.7s						
LSZ	**Lusaka**	**81.97**	**112**	LR	LR	15 22 35.3	
	comp=Z,39nm,18.8s,baz=300,slow=34						
KURBB	**Kurchatov Arra**	**86.58**	**33**	P	**P**	**14 48 30.8**	**+0.4**
	0.3nm,0.7s,baz=309,slow=5.1,SNR=4.4 0.3nm,0.7s						
SEY	**Seymchan**	**88.35**	**353**	LR	LR	15 26 42.4	
	comp=Z,12nm,20.8s,baz=324,slow=35						
CMAR	**Chiang Mai Arr**	**121.38**	**42**	PKP	**PKiKP**	**14 54 41.1**	**-0.2**
	0.6nm,0.7s,baz=301,slow=3.7,SNR=5.4						

*NEIC **04** 14:44:30.4±1.2,19°.44N±0°.02×154°.90W±0°.03,h5km±2km, Error ellipse: s-maj=5.2km s-min=3.0km az=293.0*

HVO 04 14:44:29.7±1.4,19°.43N±0°.02×154°.84W±0°.03,h3km±9km, ML2.7/9,ML2.6/50(NEIC),Error ellipse: s-maj=4.0km s-min=3.0km az=103.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.07**	**318**		Pg	14 44 31.6	+0.4
JOKA	**Jonika Flow**	**0.16**	**272**		Pg	14 44 32.7	-0.1
JCUZ	**Jacuzzi**	**0.25**	**260**		Pg	14 44 34.5	0.0
NPOC	**North of Pu'u**	**0.26**	**262**		Pg	14 44 34.1	-0.6
STCH	**Steam Cracks**	**0.27**	**261**		Pg	14 44 34.6	-0.4
KNHH	**Kane Nui o Ham**	**0.32**	**261**		Pg	14 44 36.5	+0.7
PUH	**Pauahi**	**0.36**	**261**		Pg	14 44 36.2	-0.4
PUH				IAML		14 44 46.0	
	comp=N,483nm,0.6s						
BYL	**Byron's Ledge**	**0.40**	**268**	Pg	Pg	14 44 36.6	-0.8
BYL				IAML		14 44 48.1	
	comp=N,590nm,0.3s						
BYL				IAML		14 44 50.9	
	comp=E,532nm,0.9s						
HATHI	**Halema'uma'u T**	**0.40**	**269**	Pg	Pg	14 44 36.7	-0.6
HATHI				IAML		14 44 44.0	
	comp=N,566nm,0.2s						
HATHI				IAML		14 44 51.7	
	comp=E,520nm,0.3s						
KKO	**Keanakako'i**	**0.40**	**266**	Pg	Pg	14 44 37.1	-0.3
KKO				IAML		14 44 49.9	
	comp=N,473nm,0.6s						
SBLHI	**Steaming Bluff**	**0.41**	**270**		Pg	14 44 37.6	+0.1
SBLHI					Sg	14 44 43.4	+0.6
SBLHI	**Steaming Bluff**	**0.41**	**270**	IAML		14 44 48.4	
	comp=E,430nm,0.4s						
SBLHI				IAML		14 44 48.4	
	comp=N,405nm,0.3s						
RIM	**Rim**	**0.41**	**265**	Pg	Pg	14 44 37.3	-0.3
RIM				IAML		14 44 48.5	
	comp=E,400nm,0.6s						
RIM				IAML		14 44 52.1	
	comp=N,607nm,0.6s						
UWB	**Uwekahuna B**	**0.41**	**270**		Pg	14 44 37.7	0.0
RSD	**Rainshed**	**0.42**	**275**		Pg	14 44 37.3	-0.4
RSD				IAML		14 44 44.6	
	comp=N,803nm,0.2s						
RSD				IAML		14 44 44.7	
	comp=E,724nm,0.1s						
NPH	**North Pit**	**0.42**	**268**	Pg	Pg	14 44 38.0	+0.3
OBL	**Observatory Le**	**0.42**	**269**	Pg	Pg	14 44 37.5	-0.3
OBL				IAML		14 44 47.8	
	comp=E,737nm,0.3s						
OBL				IAML		14 44 50.6	
	comp=N,816nm,0.4s						
UWE	**Uwekahuna**	**0.43**	**269**		Pg	14 44 38.2	+0.3
UWE	**Uwekahuna**	**0.43**	**269**	IAML		14 44 47.5	
	comp=N,575nm,0.6s						
UWE				IAML		14 44 53.1	
	comp=E,753nm,0.3s						
SDHHI	**Sand Hill**	**0.43**	**265**	Pg	Pg	14 44 37.4	-0.5
SDHHI				IAML		14 44 47.1	
	comp=N,548nm,0.5s						
SDHHI				IAML		14 44 51.6	
	comp=E,549nm,0.4s						
WRMHI	**West Rim**	**0.44**	**267**		Sg	14 44 44.5	+0.7
WRMHI	**West Rim**	**0.44**	**267**	Pg	Pg	14 44 37.3	-0.8
WRMHI				IAML		14 44 44.9	
	comp=N,684nm,0.6s						
WRMHI				IAML		14 44 48.5	
	comp=E,1μm,0.4s						
HLP	**Hilina Pali**	**0.46**	**253**		Pg	14 44 38.7	+0.2
MLH	**Mauna Loa**	**0.52**	**277**		Pg	14 44 39.4	-0.3
MLH	**Mauna Loa**	**0.52**	**277**		Sg	14 44 46.6	+0.1
HTC	**Hot Caves**	**0.56**	**250**		Pg	14 44 40.3	-0.1
HMH	**Humu'ula Sheep**	**0.63**	**286**		Pg	14 44 41.2	-0.7
MLOA	**Mauna Loa Obse**	**0.70**	**279**		Sg	14 44 51.8	-0.6
MLOA	**Mauna Loa Obse**	**0.70**	**279**	Pg	Pg	14 44 42.0	-1.2
MLOA	**Mauna Loa Obse**	**0.70**	**279**	IAML		14 44 52.7	
	comp=N,686nm,1.8s						
MLOA				IAML		14 44 55.2	
	comp=E,299nm,0.4s						
MWH	**Moku'aweowe**	**0.72**	**275**		Pg	14 44 42.0	-1.5
MWH				IAML		14 45 03.8	
	comp=N,446nm,0.3s						
POHA	**Pohakuloa**	**0.73**	**297**		Pg	14 44 42.4	-1.3
POHA				IAML		14 44 59.8	
	comp=N,407nm,0.5s						
KHU	**Kahuku**	**0.76**	**256**		Pg	14 44 42.6	-1.6
KHU	**Kahuku**	**0.76**	**256**	IAML		14 45 02.9	
	comp=N,370nm,3.1s						
KHU				IAML		14 45 06.4	
	comp=E,362nm,3.5s						
ALEP	**Alea Permanent**	**0.77**	**279**		Sg	14 44 53.6	-0.8
HUH	**Hualalai**	**0.97**	**285**		Pg	14 44 46.4	-2.0
HPAH	**Hawaii Prepara**	**1.01**	**307**	Pg	Pg	14 44 49.3	+0.3
HPAH				IAML		14 45 20.9	
	comp=E,253nm,2.8s						
HPAH				IAML		14 45 21.7	
	comp=N,174nm,2.1s						
MHA	**Mahukona**	**1.25**	**307**	Pg	Pg	14 44 53.5	-0.2

IDC 04 14:47:33.6±2.2,2°.84N×127°.96E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=149.5km s-min=26.7km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.49**	**165**	P	P	14 52 45.5	+0.3
	0.5nm,0.4s,baz=344,slow=10,SNR=7.4 0.5nm,0.4s						
ASAR	**Alice Springs**	**26.98**	**168**	P	P	14 53 16.6	-0.7
	0.5nm,0.9s,baz=353,slow=7.6,SNR=8.0 0.5nm,0.9s						
MKAR	**Makanchi Array**	**58.98**	**325**	P	P	14 57 35.5	+0.4
	0.2nm,0.5s,baz=125,slow=8.4,SNR=4.3 0.2nm,0.5s						

ROM 04 15:04:33.5±0.0,43°.033N±0°.002×13°.048E±0°.004, h9km,ML2.2/53,Error ellipse: s-maj=0.3km s-min=0.1km az=78.0,Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**83**	P	Pg	15 04 35.3	+0.1
FDMO				S	Sg	15 04 36.3	-0.1
T1219	**Muccia, Frazio**	**0.04**	**308**	P	Pg	15 04 35.4	+0.2
T1219				S	Sg	15 04 36.5	-0.1
T1219				AML	AML		
	comp=N,17650μm,0.2s						
T1219				AML	AML		
	comp=E,14450μm,0.3s						
T1219				AML	AML		
	comp=E,14470μm,0.3s						
T1219				AML	AML		
	comp=N,17638μm,0.2s						
FEMA	**Monte Fema**	**0.07**	**179**	P	Pg	15 04 36.1	+0.4
FEMA				S	Sg	15 04 37.6	+0.3
FEMA				AML	AML		
	comp=E,5140μm,0.4s						
FEMA				AML	AML		
	comp=N,4335μm,1.3s						
FEMA				AML	AML		
	comp=E,5140μm,0.5s						
FEMA				AML	AML		
	comp=N,4330μm,1.3s						
FEMA				AML	AML		
	comp=N,3950μm,0.2s						
FEMA				AML	AML		
	comp=E,4588μm,0.5s						
T1220	**Camerino, Fraz**	**0.08**	**21**	P	Pg	15 04 36.2	+0.5
T1220				S	Sg	15 04 37.9	+0.5
T1220				AML	AML		
	comp=E,8805μm,0.3s						
T1220				AML	AML		
	comp=N,7100μm,0.1s						
T1220				AML	AML		
	comp=E,17500μm,0.3s						
T1220				AML	AML		
	comp=N,14300μm,0.2s						
T1220				AML	AML		
	comp=N,14350μm,0.2s						
T1220				AML	AML		
	comp=N,14318μm,0.2s						
T1220				AML	AML		
	comp=N,7097μm,0.1s						
T1220				AML	AML		
	comp=E,8805μm,0.3s						
T1220				AML	AML		
	comp=E,17477μm,0.3s						
MML1	**Montelago di S**	**0.10**	**325**	P	Pg	15 04 36.4	+0.4
MML1				S	Sg	15 04 38.3	+0.5
MML1				AML	AML		
	comp=E,50000μm,1.6s						
MML1				AML	AML		
	comp=N,38000μm,1.6s						
MML1				AML	AML		
	comp=N,4875μm,0.1s						
MML1				AML	AML		
	comp=E,2930μm,0.4s						
MML1				AML	AML		
	comp=E,2593μm,0.1s						
MML1				AML	AML		
	comp=N,4873μm,0.1s						
CESI	**CESI - Serrava**	**0.11**	**255**	P	Pg	15 04 36.7	+0.6
CESI				S	Sg	15 04 38.8	+0.8
CESI				AML	AML		
	comp=N,2595μm,0.2s						
CESI				AML	AML		
	comp=E,2490μm,0.6s						
CESI				AML	AML		
	comp=E,1742μm,0.1s						
CESI				AML	AML		
	comp=N,2594μm,0.2s						
CSP1	**Cessapalombo**	**0.13**	**63**	P	Pg	15 04 37.0	+0.5
CSP1				S	Sg	15 04 39.4	+0.8
CSP1				AML	AML		
	comp=E,1050μm,0.6s						
CSP1				AML	AML		
	comp=E,1052μm,0.6s						
CSP1				AML	AML		
	comp=E,1052μm,0.6s						
CSP1				AML	AML		
	comp=N,318μm,0.2s						
CSP1				AML	AML		
	comp=E,831μm,0.4s						
CSP1				AML	AML		
	comp=N,318μm,0.2s						
SEF1	**Sefro**	**0.14**	**327**	P	Pg	15 04 37.1	+0.5
SEF1				S	Sg	15 04 39.2	+0.5
PIO1	**Pioraco**	**0.15**	**342**	P	Pg	15 04 36.9	+0.1
PIO1				S	Sg	15 04 40.1	+1.0
PF6	**Pievefavera**	**0.16**	**42**	P	Pg	15 04 37.3	+0.4
PF6				AML	AML		
	comp=E,1066μm,1.0s						
PF6				AML	AML		
	comp=N,283μm,1.4s						
PF6				AML	AML		
	comp=E,1067μm,1.0s						
PF6				AML	AML		
	comp=N,284μm,1.4s						
PF6				AML	AML		
	comp=E,791μm,0.3s						
PF6				AML	AML		
	comp=N,191μm,0.2s						
MC2	**Monte Cornacci**	**0.16**	**139**	P	Pg	15 04 37.7	+0.7
MDAR	**Monte D'Aria**	**0.17**	**23**	P	Pg	15 04 37.7	+0.5
MDAR				S	Sg	15 04 40.8	+1.0
FIU1	**Fiuminata**	**0.18**	**331**	P	Pg	15 04 37.3	+0.1
FIU1				S	Sg	15 04 41.1	+1.3
NRCA	**Norcia**	**0.20**	**166**	P	Pg	15 04 38.4	+0.7
NRCA				AML	AML		
	comp=E,1615μm,0.2s						
NRCA				AML	AML		
	comp=N,1450μm,0.8s						
NRCA				AML	AML		
	comp=E,1695μm,0.2s						
NRCA				AML	AML		
	comp=N,1505μm,0.8s						
NRCA				AML	AML		
	comp=E,1615μm,0.2s						
NRCA				AML	AML		
	comp=N,1450μm,0.8s						
NRCA				AML	AML		
	comp=N,1357μm,0.1s						
NRCA				AML	AML		
	comp=E,1698μm,0.2s						
NRCA				AML	AML		
	comp=E,1611μm,0.2s						
NRCA				AML	AML		
	comp=N,1257μm,0.1s						
GAG1	**Gagliole**	**0.21**	**4**	P	Pg	15 04 38.6	+0.9
GAG1				AML	AML		
	comp=E,3001μm,0.4s						
GAG1				AML	AML		
	comp=N,3247μm,0.3s						
GAG1				AML	AML		
	comp=N,3247μm,1.7s						
GUMA	**Gualdo di Mace**	**0.21**	**82**	P	Pg	15 04 38.8	+1.0
GUMA				AML	AML		
	comp=N,2545μm,1.3s						
GUMA				AML	AML		
	comp=N,2300μm,0.3s						
GUMA				AML	AML		
	comp=E,2280μm,0.4s						
GUMA				AML	AML		
	comp=N,2550μm,1.3s						
GUMA				AML	AML		
	comp=E,3125μm,0.3s						
GUMA				AML	AML		
	comp=E,2280μm,0.4s						
GUMA				AML	AML		
	comp=E,3125μm,0.3s						
GUMA				AML	AML		
	comp=N,2300μm,0.3s						
MTL1	**Matelica**	**0.23**	**353**	P	Pg	15 04 38.6	+0.5
MTL1				S	Sg	15 04 42.9	+1.7
T1221	**Campello sul C**	**0.23**	**221**	P	Pg	15 04 38.9	+0.8
T1221				S	Sg	15 04 42.8	+1.6
SNTG	**Esanatoglia**	**0.24**	**341**	P	Pg	15 04 38.9	+0.7
SNTG				AML	AML		
	comp=N,705μm,0.7s						
SNTG				AML	AML		
	comp=N,725μm,0.7s						
SNTG				AML	AML		
	comp=E,638μm,0.2s						
SNTG				AML	AML		
	comp=N,705μm,0.7s						
SNTG				AML	AML		
	comp=E,669μm,0.5s						
SNTG				AML	AML		
	comp=E,650μm,0.1s						
SNTG				AML	AML		
	comp=E,612μm,0.1s						
SNTG				AML	AML		
	comp=N,711μm,0.1s						
SNTG				AML	AML		
	comp=N,629μm,0.1s						
MMO1	**Montemonaco**	**0.24**	**123**	P	Pg	15 04 39.1	+0.7
ASSB	**Assisi San Ben**	**0.28**	**272**	P	Pg	15 04 39.8	+0.6
ASSB				AML	AML		
	comp=E,1190μm,0.3s						
ASSB				AML	AML		
	comp=N,1310μm,0.3s						
ASSB				AML	AML		
	comp=N,1190μm,0.1s						
ASSB				AML	AML		
	comp=E,1137μm,0.1s						
EL6	**Elcito**	**0.30**	**8**	P	Pg	15 04 40.1	+0.6
EL6				AML	AML		
	comp=E,2690μm,1.4s						
EL6				AML	AML		
	comp=N,2925μm,1.0s						
EL6				AML	AML		
	comp=N,2872μm,0.2s						
EL6				AML	AML		
	comp=E,2252μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.34**	**297**	P	Pg	15 04 40.9	+0.8
FOSV	**Fossato di Vic**	**0.34**	**321**	P	Pg	15 04 40.5	+0.4
FOSV				S	Sb	15 04 46.2	-1.0
CING	**Cingoli**	**0.36**	**17**	P	Pg	15 04 41.1	+0.5
CING				S	Sb	15 04 47.0	-0.8
CING				AML	AML		
	comp=E,442μm,0.6s						
CING				AML	AML		
	comp=N,684μm,0.1s						
CING				AML	AML		
	comp=N,419μm,0.2s						
CING				AML	AML		
	comp=E,424μm,0.7s						
GAVE	**Gavelli**	**0.36**	**198**	P	Pg	15 04 41.3	+0.7
GAVE				AML	AML		
	comp=E,1100μm,1.0s						
GAVE				AML	AML		
	comp=N,976μm,0.5s						
GAVE				AML	AML		
	comp=E,1045μm,0.3s						
GAVE				AML	AML		
	comp=N,806μm,0.2s						
GAVE				AML	AML		
	comp=E,977μm,0.3s						
GAVE				AML	AML		
	comp=N,361μm,0.3s						
GAVE				AML	AML		
	comp=N,806μm,1.8s						
MTRA	**Matera**	**0.38**	**137**	P	Pg	15 04 41.4	+0.5
MTRA				S	Sb	15 04 47.5	-0.8
MTRA				AML	AML		
	comp=E,244μm,0.2s						
MTRA				AML	AML		
	comp=E,243μm,0.2s						
MTRA				AML	AML		
	comp=N,274μm,1.3s						
MTRA				AML	AML		

	comp=N,219μm,0.3s						
MMUR	**Monte Murano**	**0.41**	**355**	P	Pb	15 04 42.5	-0.5
MMUR				S	Sb	15 04 49.0	-0.4
MOMA	**Monte Martano**	**0.42**	**237**	P	Pg	15 04 42.0	+0.3
MOMA				S	Sb	15 04 49.2	-0.4
MOMA				AML	AML		
	comp=N,314μm,0.9s						
MOMA				AML	AML		
	comp=E,290μm,1.5s						
MOMA				AML	AML		
	comp=E,253μm,0.2s						
MOMA				AML	AML		
	comp=E,274μm,0.2s						
MOMA				AML	AML		
	comp=E,274μm,1.8s						
MOMA				AML	AML		
	comp=E,253μm,1.8s						
MOMA				AML	AML		
	comp=N,288μm,0.1s						
LNSS	**Leonessa**	**0.43**	**181**	P	Pg	15 04 42.3	+0.4
LNSS				S	Sb	15 04 49.4	-0.5
MURB	**Monte Urbino**	**0.45**	**301**	P	Pg	15 04 42.8	+0.6
MURB				AML	AML		
	comp=N,570μm,1.6s						
MURB				AML	AML		
	comp=E,430μm,1.0s						
MURB				AML	AML		
	comp=E,584μm,1.3s						
MURB				AML	AML		
	comp=N,570μm,1.5s						
MURB				AML	AML		
	comp=N,350μm,0.2s						
SMA1	**SAN MARTINO**	**0.45**	**152**	P	Pg	15 04 42.6	+0.3
SMA1				AML	AML		
	comp=E,210μm,1.4s						
SMA1				AML	AML		
	comp=N,206μm,1.1s						
ATSC	**Scheggia e Pas**	**0.47**	**326**	P	Pg	15 04 43.1	+0.4
ATSC				S	Sb	15 04 50.8	-0.4
RM33	**Pellescritta (**	**0.54**	**167**	P	Pg	15 04 44.1	+0.2
RM33				S	Sb	15 04 52.5	-0.5
RM33				AML	AML		
	comp=E,120μm,0.2s						
RM33				AML	AML		
	comp=N,112μm,1.1s						
RM33				AML	AML		
	comp=N,97μm,0.9s						
RM33				AML	AML		
	comp=E,113μm,0.2s						
RM33				AML	AML		
	comp=N,97μm,1.1s						
CESX	**Cesi**	**0.55**	**219**	P	Pg	15 04 44.3	+0.3
CESX				S	Sb	15 04 52.6	-0.5
CESX				AML	AML		
	comp=E,374μm,1.3s						
CESX				AML	AML		
	comp=N,374μm,1.3s						
CESX				AML	AML		
	comp=N,330μm,0.2s						
CESX				AML	AML		
	comp=E,358μm,0.2s						
TERO	**Teramo**	**0.58**	**135**	P	Pg	15 04 44.6	-0.1
TERO				S	Sb	15 04 54.0	-0.2
TERO				AML	AML		
	comp=E,97μm,0.3s						
TERO				AML	AML		
	comp=N,126μm,0.1s						
TERO				AML	AML		
	comp=E,80μm,0.3s						
TERO				AML	AML		
	comp=N,73μm,0.5s						
MPAG	**Monte Paganucc**	**0.63**	**341**	P	Pb	15 04 46.6	-0.2
MPAG				AML	AML		
	comp=E,238μm,0.3s						
MPAG				AML	AML		
	comp=N,160μm,1.5s						
MPAG				AML	AML		
	comp=E,142μm,0.4s						
MPAG				AML	AML		
	comp=E,238μm,0.3s						
MPAG				AML	AML		
	comp=N,138μm,0.3s						

ROM 04 15:04:46.0±0.1, 43°.033N±0°.003×13°.039E±0°.005, h9km, ML2.4/22, 2C-5D, Error ellipse: s-maj=0.5km s-min=0.0km az=243.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1219	**Muccia, Frazio**	**0.03**	**314**	⇓P	Pg	15 04 47.9	+0.1
T1219				S	Sg	15 04 48.9	-0.1
T1219				AML	AML		
T1219				AML	AML		
	comp=E,576μm,1.2s						
T1219				AML	AML		
	comp=E,7307μm,0.1s						
T1219				AML	AML		
	comp=E,576μm,0.8s						
T1219				AML	AML		
	comp=N,8842μm,0.3s						
T1219				AML	AML		
FDMO	**Fiordimonte**	**0.04**	**84**	⇓P	Pg	15 04 47.9	+0.1
FDMO				S	Sg	15 04 48.8	-0.3
FDMO				AML	AML		
	comp=N,8139μm,0.1s						
FDMO				AML	AML		
	comp=E,12153μm,0.2s						
FEMA	**Monte Fema**	**0.07**	**174**	⇓P	Pg	15 04 48.6	+0.4
FEMA				S	Sg	15 04 50.1	+0.3
FEMA				AML	AML		
	comp=E,5120μm,0.2s						
FEMA				AML	AML		
	comp=N,4773μm,0.2s						
T1220	**Camerino, Fraz**	**0.09**	**25**	⇑P	Pg	15 04 48.7	+0.4
T1220				S	Sg	15 04 50.4	+0.4
T1220				AML	AML		
	comp=E,13620μm,0.3s						
T1220				AML	AML		
	comp=N,11197μm,0.1s						
T1220				AML	AML		
	comp=N,5563μm,0.1s						
T1220				AML	AML		
	comp=E,6797μm,0.3s						
MML1	**Montelago di S**	**0.10**	**328**	⇓P	Pg	15 04 48.9	+0.4
MML1				S	Sg	15 04 50.8	+0.5
MML1				AML	AML		
	comp=N,2449μm,0.2s						
MML1				AML	AML		
	comp=E,1383μm,0.1s						
MML1				AML	AML		
	comp=N,2449μm,1.8s						
CESI	**CESI - Serrava**	**0.10**	**254**	⇓P	Pg	15 04 49.3	+0.7
CESI				S	Sg	15 04 51.4	+1.0
CESI				AML	AML		
	comp=E,1339μm,0.2s						
CESI				AML	AML		
	comp=N,1570μm,0.2s						
SEF1	**Sefro**	**0.13**	**330**	P	Pg	15 04 49.4	+0.4
CSP1	**Cessapalombo**	**0.14**	**64**	⇑P	Pg	15 04 49.6	+0.5
CSP1				S	Sg	15 04 51.9	+0.7
CSP1				AML	AML		
	comp=N,411μm,0.2s						
CSP1				AML	AML		
	comp=E,816μm,0.1s						
PIO1	**Pioraco**	**0.15**	**344**	P	Pg	15 04 49.6	+0.3
PIO1				S	Sg	15 04 52.5	+1.0
PF6	**Pievefavera**	**0.16**	**44**	P	Pg	15 04 49.8	+0.4
PF6				AML	AML		
	comp=N,304μm,0.2s						
PF6				AML	AML		
	comp=E,760μm,0.1s						
MC2	**Monte Cornacci**	**0.16**	**137**	P	Pg	15 04 49.8	+0.3
MC2				S	Sg	15 04 53.6	+1.5
FIU1	**Fiuminata**	**0.17**	**333**	P	Pg	15 04 50.1	+0.4
FIU1				S	Sg	15 04 53.6	+1.4
MDAR	**Monte D'Aria**	**0.18**	**25**	P	Pg	15 04 50.1	+0.4
GAG1	**Gagliole**	**0.21**	**6**	P	Pg	15 04 51.1	+0.8
GAG1				S	Sg	15 04 54.7	+1.5
GAG1				AML	AML		
	comp=E,2179μm,0.4s						
GAG1				AML	AML		
	comp=E,2179μm,1.6s						
GAG1				AML	AML		
	comp=N,2756μm,0.4s						
NRCA	**Norcia**	**0.21**	**165**	P	Pg	15 04 50.9	+0.6
NRCA				S	Sg	15 04 54.7	+1.5
NRCA				AML	AML		
	comp=E,2670μm,0.2s						
NRCA				AML	AML		
	comp=E,2825μm,0.2s						
NRCA				AML	AML		
	comp=N,2915μm,0.1s						
NRCA				AML	AML		
	comp=N,3175μm,0.1s						
NRCA				AML	AML		
	comp=E,2673μm,0.1s						
NRCA				AML	AML		
	comp=N,3175μm,0.1s						
NRCA				AML	AML		
	comp=N,2918μm,0.1s						
NRCA				AML	AML		
	comp=E,2825μm,0.1s						
GUMA	**Gualdo di Mace**	**0.22**	**82**	P	Pg	15 04 51.3	+0.9
GUMA				S	Sg	15 04 55.5	+2.0
MTL1	**Matelica**	**0.23**	**354**	P	Pg	15 04 51.4	+0.8
SNTG	**Esanatoglia**	**0.23**	**342**	P	Pg	15 04 51.7	+0.9
SNTG				S	Sg	15 04 55.5	+1.5
MMO1	**Montemonaco**	**0.25**	**122**	P	Pg	15 04 51.6	+0.6
MMO1				S	Sg	15 04 55.8	+1.4
EL6	**Elcito**	**0.30**	**9**	P	Pg	15 04 52.5	+0.5
EL6				S	Sb	15 04 57.5	-1.2
ATCC	**AVT- Casa Cast**	**0.33**	**298**	P	Pg	15 04 52.1	-0.5
ATCC				S	Sb	15 04 58.9	-0.6
FOSV	**Fossato di Vic**	**0.33**	**322**	P	Pg	15 04 53.1	+0.6
FOSV				S	Sb	15 04 58.8	-0.8
CING	**Cingoli**	**0.36**	**18**	P	Pg	15 04 53.5	+0.4
CING				S	Sb	15 04 59.7	-0.7
MTRA	**Matera**	**0.38**	**136**	P	Pg	15 04 53.6	+0.1
MTRA				S	Sb	15 05 00.1	-0.9
MMUR	**Monte Murano**	**0.41**	**356**	P	Pb	15 04 55.7	+0.3
MMUR				S	Sb	15 05 01.5	-0.3
SMA1	**SAN MARTINO**	**0.46**	**151**	S	Pg	15 04 55.0	+0.1
SMA1				S	Sb	15 05 02.5	-0.7
ATSC	**Scheggia e Pas**	**0.47**	**327**	P	Pg	15 04 55.2	+0.1
ATSC				S	Sb	15 05 03.3	-0.2
TERO	**Teramo**	**0.58**	**134**	P	Pb	15 04 58.3	0.0
TERO				S	Sb	15 05 06.5	-0.2
TERO				AML	AML		
	comp=E,78μm,0.1s						
TERO				AML	AML		
	comp=N,126μm,0.1s						

ROM 04 15:05:41.5±0.1, 43°.037N±0°.004×13°.052E±0°.005, h8km, ML1.0/11, Error ellipse: s-maj=0.4km s-min=0.1km az=350.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**90**	P	Pg	15 05 43.2	+0.1
FDMO				S	Sg	15 05 44.1	-0.1
T1219	**Muccia, Frazio**	**0.04**	**300**	P	Pg	15 05 43.4	+0.2
T1219				S	Sg	15 05 44.5	+0.1
T1219				AML	AML		
	comp=N,1222μm,0.3s						
T1219				AML	AML		
	comp=E,1032μm,0.4s						
T1219				AML	AML		
	comp=N,1033μm,0.2s						
T1219				AML	AML		
	comp=E,827μm,0.1s						
FEMA	**Monte Fema**	**0.07**	**181**	P	Pg	15 05 44.1	+0.4
MML1	**Montelago di S**	**0.10**	**323**	P	Pg	15 05 44.4	+0.4
MML1				S	Sg	15 05 46.4	+0.7
MML1				AML	AML		
	comp=E,216μm,0.1s						
MML1				AML	AML		
	comp=N,364μm,0.1s						
MML1				AML	AML		
	comp=E,216μm,0.1s						
MML1				AML	AML		
	comp=N,365μm,0.1s						
CESI	**CESI - Serrava**	**0.11**	**254**	P	Pg	15 05 44.7	+0.5
CESI				S	Sg	15 05 46.8	+0.8
CESI				AML	AML		
	comp=E,190μm,0.2s						
CESI				AML	AML		
	comp=N,196μm,0.3s						
CESI				AML	AML		
	comp=E,130μm,0.2s						
CESI				AML	AML		
	comp=N,195μm,0.3s						
CSP1	**Cessapalombo**	**0.12**	**64**	P	Pg	15 05 45.0	+0.6
CSP1				S	Sg	15 05 47.4	+1.0
CSP1				AML	AML		
	comp=E,98μm,0.6s						
CSP1				AML	AML		
	comp=N,37μm,0.2s						
CSP1				AML	AML		
	comp=N,37μm,0.2s						
CSP1				AML	AML		
	comp=E,64μm,0.1s						
PF6	**Pievefavera**	**0.15**	**43**	P	Pg	15 05 45.2	+0.4
PF6				AML	AML		
	comp=E,65μm,0.1s						
PF6				AML	AML		
	comp=N,37μm,0.1s						
NRCA	**Norcia**	**0.21**	**167**	P	Pg	15 05 46.4	+0.6
T1221	**Campello sul C**	**0.23**	**221**	P	Pg	15 05 46.9	+0.7
SNTG	**Esanatoglia**	**0.23**	**340**	P	Pg	15 05 47.0	+0.7
SNTG				AML	AML		
	comp=N,46μm,0.1s						
SNTG				AML	AML		
	comp=E,49μm,0.1s						
MMO1	**Montemonaco**	**0.24**	**124**	P	Pg	15 05 47.0	+0.6
EL6	**Elcito**	**0.29**	**7**	P	Pg	15 05 48.0	+0.6
ARVD	**Arcevia**	**0.47**	**350**	P	Pg	15 05 51.0	+0.4
ARVD				AML	AML		
	comp=E,38μm,0.2s						

*IDC **04** 15:12:12.3±0.3, 44°.48N×142°.31E, h230km±3km, mb3.3/14, mbtmp3.9/20, Error ellipse: s-maj=13.5km s-min=11.0km az=110.0*
*SKHL **04** 15:12:12.5±0.6, 44°.50N×142°.60E, h202km±8km, mb4.6/5, msha5.1/6*
*JMA **04** 15:12:12.1±0.2, 44°.5N±1°.0×14°.2E±°, h238km±1km, MV3.7/37, KAMIKAWA-SORACHI REGION*
*NIED **04** 15:12:12.1, 44°.47N×142°.27E, h238km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr-4.57; Mθθ1.34; Mφφ3.23; Mrθ3.16; Mφθ-1.72; Mφr-2.77; Fault plane solution: M06.08000×10^14 NP1: φs317.00000°, δ67.00000°, λ-99.00000°. NP2: φs159.00000°, δ24.00000°, λ-71.00000°.*

ISC 04 15:12:12.3±0.6, 44°.46N±0°.05×142°.43E±0°.05, h236km±5km, n48, σ1s09/69, mb3.5/14, 14D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**0.37**	**161**	P	**Pn**	**15 12 43.5**	**+0.3**
	249nm,0.4s,baz=244,slow=3.9,SNR=840						
ASAJ				S	**S**	**15 13 07.2**	**-0.1**
	89nm,0.8s,baz=3.3,slow=30,SNR=14						
ASAJ	**Asahikawa**	**0.37**	**161**	⇓*i* P	**Pn**	**15 12 43.5**	**+0.3**
ASAJ				⇓S	**S**	**15 13 06.8**	**-0.6**
JSS	**Shosan**	**0.42**	**261**	P	**Pn**	**15 12 43.2**	**0.0**
JSS				e S	**S**	**15 13 07.2**	**-0.2**
JSE	**Soyaes**	**0.51**	**13**	⇓P	**Pn**	**15 12 43.8**	**+0.4**
JKK2	**Kamakawa 2**	**0.63**	**159**	⇓*i* P	**Pn**	**15 12 44.6**	**+0.5**
JKK2				⇓S	**S**	**15 13 09.2**	**+0.4**
JYG	**Yagishiri**	**0.72**	**267**	P	**Pn**	**15 12 44.0**	**-0.3**
JYG				e S	**S**	**15 13 08.1**	**-1.2**
JMP	**Maruseppu**	**0.81**	**124**	⇓*i* P	**Pn**	**15 12 45.5**	**+0.7**
JMP				⇓S	**S**	**15 13 11.2**	**+0.9**
JHR	**Hokuryu**	**0.88**	**215**	e P	**Pn**	**15 12 46.0**	**+0.9**
JHR				e S	**S**	**15 13 11.1**	**+0.3**
JWK2	**Keihoku**	**0.93**	**336**	⇓P	**Pn**	**15 12 45.3**	**0.0**
JAB	**Ashibetsu**	**0.97**	**189**	e S	**S**	**15 13 11.9**	**+0.1**
JRR	**Rishiri**	**1.04**	**311**	P	**Pn**	**15 12 45.8**	**-0.2**
JTKR	**Abashiri--Toko**	**1.17**	**114**	⇓*i* P	**Pn**	**15 12 48.0**	**+1.2**
JTKR				⇓e S	**S**	**15 13 15.3**	**+1.4**
JRBN	**Rebuntou**	**1.36**	**315**	⇓P	**Pn**	**15 12 47.0**	**-1.1**
JRBN				⇓S	**S**	**15 13 14.4**	**-1.8**
JAR	**Ashorobuto**	**1.52**	**140**	⇓*i* P	**Pn**	**15 12 50.4**	**+1.0**
JAR				⇓S	**S**	**15 13 19.6**	**+1.2**
JEW	**Eniwo**	**1.77**	**204**	P	**Pn**	**15 12 51.6**	**+0.1**
JEW				S	**S**	**15 13 22.5**	**+0.3**
JCH	**Churui**	**1.97**	**160**	P	**Pn**	**15 12 52.4**	**-1.0**
JCH				S	**S**	**15 13 22.9**	**-2.5**
JRA	**Rausu**	**2.01**	**104**	e P	**Pn**	**15 12 55.4**	**+1.8**
JNBK	**Urakawa-nobuka**	**2.20**	**174**	P	**Pn**	**15 12 55.5**	**+0.1**
JNBK				S	**S**	**15 13 29.4**	**+0.1**
JAK	**Akkeshi**	**2.20**	**131**	P	**Pn**	**15 12 55.1**	**-0.4**
JAK				S	**S**	**15 13 29.2**	**-0.1**
AKK	**Akkeshi**	**2.27**	**129**	e P	**Pn**	**15 12 55.6**	**-0.6**
AKK				e S	**S**	**15 13 28.8**	**-1.7**
YSS	**Yuzh-Sakhalins**	**2.50**	**5**	e P	**Pn**	**15 12 58.2**	**-0.2**
YSS				AMB	AMB	15 12 59.0	
	40nm,0.7s						
YSS				e S	**S**	**15 13 33.7**	**-1.0**
YSS				A	A	15 13 34.4	
	60nm,0.7s						
YSS				A	A	15 13 34.4	
	90nm,0.7s						
YUK	**Yuzh-Kuril'sk**	**2.50**	**99**	e P	**Pn**	**15 12 57.4**	**-1.1**
YUK				AMB	AMB	15 13 00.5	
	180nm,0.3s						
YUK				e S	**S**	**15 13 32.8**	**-1.9**
YUK				A	A	15 13 38.1	
	310nm,0.5s						
YUK				A	A	15 13 38.1	
	340nm,0.5s						
NMR	**Nemuro--Hokkai**	**2.62**	**114**	e P	**Pn**	**15 12 59.6**	**-0.2**
NMR				e S	**S**	**15 13 35.6**	**-1.4**
NEM2	**Nemuro 2**	**2.63**	**113**	P	**Pn**	**15 12 59.5**	**-0.4**
NEM2				S	**S**	**15 13 35.5**	**-1.7**
SHO	**Shikotan**	**3.22**	**99**	e P	**Pn**	**15 13 05.0**	**-1.3**
SHO				e S	**S**	**15 13 46.7**	**-2.2**
SHO				A	A	15 13 49.1	
	40nm,0.3s						
SHO				A	A	15 13 49.1	
	140nm,0.3s						
USRK	**Ussuriysk Ar.**	**7.49**	**272**	P	**Pn**	**15 13 57.8**	**-1.2**
	4.1nm,0.8s,baz=90,slow=16,SNR=5.5						
MJAR	**Matsushiro Arr**	**8.54**	**204**	P	**Pn**	**15 14 10.6**	**-1.9**
	1.3nm,0.4s,baz=12,slow=13,SNR=17						
JHJ	**Hachijo jima 2**	**11.51**	**191**	P	**Pn**	**15 14 47.4**	**-2.7**
	90nm,1.0s,baz=37,slow=20,SNR=1.8						
KSRS	**Korea Array**	**13.00**	**242**	P	**Pn**	**15 15 10.1**	**+1.5**
	1.0nm,0.8s,baz=48,slow=12,SNR=2.2						
PETK	**Petropavlovsk-**	**13.25**	**44**	P	**P**	**15 15 13.9**	**+0.5**
	1.8nm,0.4s,baz=229,slow=7.8,SNR=40						
MA2	**Magadan**	**15.96**	**16**	P	**Pn**	**15 15 44.7**	**+0.5**
	5.5nm,0.6s,baz=204,slow=11,SNR=9.1						
SEY	**Seymchan**	**19.38**	**14**	P	**P**	**15 16 20.7**	**+0.5**
	3.3nm,0.4s,baz=198,slow=10,SNR=21						
SONM	**Songino Array**	**25.05**	**291**	P	**P**	**15 17 15.6**	**+0.5**
	5.9nm,0.8s,baz=83,slow=8.1,SNR=24						
	5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**37.84**	**306**	P	**P**	**15 19 06.2**	**+0.1**
	0.4nm,0.3s,baz=87,slow=7.6,SNR=3.9						
ZALV				PcP	**PcP**	**15 21 17.3**	**+0.2**
	0.6nm,0.4s,baz=66,slow=2.7,SNR=2.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**41.22**	**295**	P	**P**	**15 19 34.0**	**-0.1**
	1.1nm,0.5s,baz=82,slow=8.6,SNR=17						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**42.37**	**302**	P	**P**	**15 19 43.2**	**-0.1**
	2.1nm,0.4s,baz=71,slow=8.8,SNR=8.1						
	2.1nm,0.4s						
ILAR	**Eielson Array**	**42.93**	**36**	P	**P**	**15 19 48.5**	**+0.9**
	0.8nm,0.8s,baz=275,slow=7.0,SNR=11						
	0.8nm,0.8s						
BVAR	**Borovoye Array**	**46.40**	**307**	P	**P**	**15 20 14.9**	**-0.1**
	0.9nm,0.4s,baz=78,slow=9.5,SNR=6.8						
	0.9nm,0.4s						
YKA	**Yellowknife Ar**	**57.07**	**33**	P	**P**	**15 21 34.4**	**+0.9**
	0.2nm,0.5s,baz=306,slow=7.4,SNR=6.7						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**62.65**	**331**	P	**P**	**15 22 10.6**	**-0.8**
	0.6nm,0.5s,baz=53,slow=9.8,SNR=6.8						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**64.52**	**188**	P	**P**	**15 22 24.4**	**+0.3**
	0.2nm,0.4s,baz=4.7,slow=7.0,SNR=7.2						
	0.2nm,0.4s						
KBZ	**Khabaz**	**66.74**	**309**	P	**P**	**15 22 38.4**	**+0.3**
	0.9nm,0.4s,baz=53,slow=4.6,SNR=4.0						
	0.9nm,0.4s						
NOA	**NORSAR Array B**	**67.66**	**337**	P	**P**	**15 22 41.8**	**-1.8**
	0.3nm,0.6s,baz=58,slow=4.3,SNR=2.6						
	0.3nm,0.6s						
HFS	**Hagfors**	**67.66**	**335**	P	**P**	**15 22 42.6**	**-0.9**
	0.7nm,0.3s,baz=60,slow=8.8,SNR=1.8						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**68.25**	**188**	P	**P**	**15 22 48.7**	**+1.1**
	0.4nm,0.5s,baz=3.9,slow=6.4,SNR=16						
	0.4nm,0.5s						
AKASG	**Malin Array Be**	**68.94**	**321**	P	**P**	**15 22 50.7**	**-0.9**
	0.2nm,0.3s,baz=66,slow=1.0,SNR=1.7						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**134.20**	**180**	PKP	**PKPdf**	**15 31 00.1**	**-0.5**
	0.3nm,0.5s,baz=44,slow=17,SNR=1.1						
SNAA	**Sanae**	**148.04**	**200**	PKPbc	**PKPdf**	**15 31 27.6**	**+2.5**
	1.6nm,1.0s,baz=62,slow=5.9,SNR=1.6						

*IDC **04** 15:16:53.8±0.6, 16°.23N×98°.96W, h0km, mb4.3/17, mbtmp4.3/20, ML3.5/4, MS3.9/51, Error ellipse: s-maj=19.3km s-min=11.7km az=45.0*
*MOS **04** 15:16:55.0±1.5, 16°.33N×98°.96W, h10km, mb5.2/19, Error ellipse: s-maj=14.1km s-min=5.9km az=96.9*
*MEX **04** 15:16:55.1±0.6, 16°.05N×99°.21W, h15km, MD4.9*
*NEIC **04** 15:16:56.2±2.3, 16°.28N±0°.09×98°.93W±0°.03, h10km±1km, mb5.0/372, Error ellipse: s-maj=16.1km s-min=3.1km az=195.0*
*GCMT **04** 15:16:58.2±0.4, 16°.21N±0°.02×98°.75W±0°.03, h14km±1km, MW4.8/90, Moment Tensor Solution. s14,c14; s90,c114; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.54±.12; Mθθ-1.25±.08; Mφφ-0.29±.07; Mrθ0.49±.15; Mφθ0.49±.04; Mφr1.10±.19; Best double couple: M0 1.81900×10^16 NP1: φs87.00000°, δ52.00000°, λ53.00000°. NP2: φs318.00000°, δ51.00000°, λ127.00000°. Principal axes: T 2.1800, Plg62.0000°, Azm294.0000°; N -0.7280, Plg28.0000°, Azm112.0000°; P -1.4590, Plg1.0000°, Azm202.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 15:16:53.1±1.3, 16°.13N±0°.04×99°.16W±0°.03, h1km±7km, n735, σ1s59/583, mb5.0/206, MS3.9/49, 2D, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.60**	**3**	*i* P	**Pg**	**15 17 05.7**	**+1.0**
CRIG				e S	**Sg**	**15 17 14.3**	**+1.8**
DAIG	**Los Arroyos**	**1.00**	**332**	*i* P	**Pg**	**15 17 11.5**	**-0.9**
DAIG				e S	**Sg**	**15 17 24.8**	**-0.6**
DAIG				*i* S	**Sb**	**15 17 27.8**	**+0.7**
ACP2	**Acapulco**	**1.02**	**317**	e P	**Pg**	**15 17 11.1**	**-1.5**
ACP2				e S	**Sg**	**15 17 24.1**	**-1.8**
PNIG	**Pinotepa**	**1.02**	**75**	*i* P	**Pg**	**15 17 11.9**	**-0.8**
PNIG				e S	**Sg**	**15 17 25.7**	**-0.4**
PNIG				*i* S	**Sn**	**15 17 31.0**	**+1.4**
CAIG	**El Cayaco**	**1.40**	**311**	e P	**Pn**	**15 17 17.1**	**-2.7**
CAIG				e S	**Sn**	**15 17 34.3**	**-4.6**
TLIG	**Tlapa**	**1.53**	**22**	Pn	**Pn**	**15 17 20.2**	**-1.5**
TLIG	**Tlapa**	**1.53**	**22**	*i* P	**Pn**	**15 17 20.4**	**-1.3**
TLIG				e S	**Sn**	**15 17 39.2**	**-3.2**
ATYC	**Atoyac**	**1.63**	**312**	e P	**Pn**	**15 17 22.0**	**-0.9**
YOIG	**Yosondua**	**1.71**	**65**	e P	**Pn**	**15 17 22.9**	**-1.3**
YOIG				e S	**Sn**	**15 17 43.6**	**-3.3**
TXIG	**Tlaxiaco**	**1.74**	**50**	*i* P	**Pn**	**15 17 23.4**	**-1.3**
TXIG				e S	**Sn**	**15 17 45.0**	**-2.7**
HMTT	**Tlapaneco**	**1.76**	**19**	e P	**Pn**	**15 17 23.0**	**-1.7**
MEIG	**Mezcala**	**1.84**	**346**	e P	**Pn**	**15 17 25.1**	**-0.8**
MEIG				e S	**Sn**	**15 17 46.4**	**-3.5**
PEIG	**Puerto Escondi**	**1.94**	**94**	e P	**Pn**	**15 17 25.3**	**-1.9**
PEIG				e S	**Sn**	**15 17 46.5**	**-5.7**
FTIG	**Fresnillo de T**	**2.02**	**29**	e P	**Pn**	**15 17 27.2**	**-1.3**
FTIG				e S	**Sn**	**15 17 49.9**	**-4.5**
PLIG	**Platanillo**	**2.27**	**352**	*i* P	**Pn**	**15 17 31.7**	**-0.2**
PLIG				e S	**Sb**	**15 18 04.0**	**+0.3**
ARIG	**Puente Sto Nin**	**2.42**	**332**	e P	**Pn**	**15 17 33.4**	**-0.4**
ARIG				e S	**Sn**	**15 18 01.0**	**-3.2**
VHO	**Vista Hermosa**	**2.51**	**68**	e P	**Pn**	**15 17 34.5**	**-0.7**
VHO				e S	**Sn**	**15 18 05.1**	**-1.4**
ZIIG	**Zihuatanejo**	**2.65**	**304**	e P	**Pn**	**15 17 35.7**	**-1.3**
ZIIG				e S	**Sn**	**15 18 08.3**	**-1.5**
YAIG	**Yautepec**	**2.72**	**2**	e P	**Pn**	**15 17 38.3**	**+0.2**

YAIG eS Sn 15 18 11.8 +0.1
TOIG Toxpalan 2.80 45 eP Pn 15 17 37.9 -1.2
TOIG eS Sn 15 18 14.8 +1.2
TPIG Tehuac#an 2.85 37 eP Pn 15 17 39.1 -0.8
TPIG eS Sn 15 18 16.1 +1.1
HUIG Huatulco 2.96 97 eP Pn 15 17 39.8 -1.4
HUIG eS Sn 15 18 11.4 -5.9
PPM Popocatepetl 2.96 10 eP Pn 15 17 41.7 -0.1
PPM eS Sn 15 18 16.6 -1.7
UNM Universidad Na 3.18 360 Pn Pn 15 17 47.0 +2.4
UNM Universidad Na 3.18 360 eP Pn 15 17 44.1 -0.4
UNM eS Sn 15 18 22.4 -0.9
UNM Universidad Na 3.18 360 P Pn 15 17 47.0 +2.4
MOIG Morelia 4.02 332 Pn 15 17 59.2 +3.1
MOIG Morelia 4.02 332 eP Pn 15 18 00.7 +4.6
MOIG eS Sn 15 18 46.4 +2.4
DEIG Demacu 4.15 2 eP Pb 15 18 04.2 -2.9
DEIG eS Sn 15 18 46.8 -0.4
CMIG Matias Romero 4.21 76 Pn Pn 15 17 56.9 -1.6
6.5nm,0.3s,baz=244,slow=11,SNR=47
CMIG Sn Sn 15 18 43.4 -4.9
23nm,0.3s,baz=313,slow=13,SNR=13
CMIG Lg Lg 15 19 02.9
28nm,0.3s,baz=302,slow=1.1,SNR=5.4
22nm,0.4s
CMIG Matias Romero 4.21 76 eP Pn 15 17 56.8 -1.6
CMIG eS Sn 15 18 45.2 -3.0
LVIG Laguna Verde 4.42 36 eP Pn 15 17 58.0 -3.3
LVIG eS Sn 15 18 54.8 +1.2
MMIG Aquila 4.54 299 eP Pn 15 18 02.4 -0.6
MMIG eS Sn 15 18 52.4 -4.0
JRQG Juriquilla Cam 4.71 345 eP Pn 15 18 09.4 +3.9
JRQG eS Sn 15 18 55.3 -5.7
UXUV UXUV 4.95 75 eP Pn 15 18 07.1 -1.5
UXUV eS Sn 15 18 59.9 -6.6
PCIG 5.73 93 eP Pn 15 18 18.7 -0.7
PCIG eS Sn 15 19 27.8 +2.0
CJM Chamela 6.53 302 eP Pn 15 18 29.5 -0.8
CJM eS Sn 15 19 37.4 -8.1
CCIG Comitan 6.75 88 Pn 15 18 34.9 +1.4
CCIG Comitan 6.75 88 eP Pn 15 18 33.1 -0.3
CCIG eS Sn 15 19 50.3 -0.9
APG El Apazote 8.45 96 Pn Pn 15 18 57.0 0.0
0.1nm,0.3s,baz=217,slow=15,SNR=12
APG Sn Sn 15 20 31.1 -2.1
0.1nm,0.3s,baz=235,slow=22,SNR=1.8
PETF Flores 8.95 84 Pn 15 19 03.1 -0.5
MTO3 Montecristo 9.61 99 Pn Pn 15 19 14.6 +1.7
TEIG Tepich 11.12 67 Pn Pn 15 19 31.3 -2.0
H06E1 SOCORRO T-PHAS 11.53 285 T T 15 31 22.7
SNR=25
833A Chaparral WMA, 12.14 359 P Pn 15 19 48.3 +1.1
baz=178
LPIG La Paz 13.13 309 LR LR 15 24 14.7
comp=Z,679nm,18.5s,baz=72,slow=33
TXAR Lajitas Array 13.78 343 Pn Pn 15 20 11.8 +2.0
baz=156,slow=16,SNR=11
TXAR Lg Lg 15 24 07.4
0.1nm,0.3s,baz=160,slow=30,SNR=1.2
TXAR LR LR 15 25 30.4
comp=Z,301nm,21.8s,baz=154,slow=38
1.6nm,0.9s
HKT Hockley 14.09 12 *i* P Pn 15 20 16.5 +2.7
ACON Acoyapa 14.18 105 Pn Pn 15 20 15.1 -0.1
HZTE Horizontes, Gu 14.25 111 P P 15 20 22.4 -1.3
JCT Junction City 14.30 358 P Pn 15 20 17.0 +0.2
baz=177
JCT Junction City 14.30 358 P Pn 15 20 17.6 +0.8
ORTG Ortega, Santa 14.51 112 P P 15 20 25.5 -1.2
DUNO Dulce Nombre, 14.60 113 P P 15 20 26.7 -0.9
435B Jarrell 14.66 5 P Pn 15 20 25.1 +3.4
baz=185
JTS Las Juntas de 14.99 111 Pn Pn 15 20 29.0 +2.7
1.4nm,0.3s,baz=306,slow=19,SNR=2.3
JTS Las Juntas de 14.99 111 *i* P P 15 20 30.7 -1.3
BRDY Brady 15.09 1 P 15 20 33.3 +0.3
MNHN Monahans 15.49 348 P P 15 20 39.0 +1.5
VHRN Van Horn 15.53 341 P 15 20 40.2 +2.2
PECS Pecos 15.77 345 P P 15 20 41.6 +1.0
WHTX Lake Whitney, 15.87 5 P P 15 20 40.6 -1.0
baz=185,SNR=7.3
NATX Nacogdoches 16.09 14 P Pn 15 20 42.4 +1.8
baz=195
ABTX Abilene, Hawle 16.43 359 P P 15 20 46.7 -1.2
baz=178,SNR=8.4
MNTX Cornudas Mount 16.50 341 P P 15 20 47.6 -1.0
baz=158,SNR=9.7
PLPT Palo Pinto 16.63 2 Pn Pn 15 20 46.9 -0.6
FW03 Perrin-Whitt E 16.87 3 P P 15 20 54.5 +1.8
APMT Aspermont 17.14 357 P P 15 20 57.0 +1.2
VBMS Vicksburg 17.84 25 P Pn 15 21 02.5 -0.1
baz=208
121A Cookes Peak, D 18.11 336 P 15 21 07.4 +0.8
121A Cookes Peak, D 18.11 336 P P 15 21 07.9 +1.3
baz=152,SNR=12
WMOK Wichita Mounta 18.53 1 Pn 15 21 11.7 +0.5
WMOK Wichita Mounta 18.53 1 P P 15 21 11.2 +0.1
baz=180
WMOK Wichita Mounta 18.53 1 P Pn 15 21 11.7 +0.5
WMOK pmax pmax
comp=Z,13nm,0.9s
BRAL Brewton 18.61 34 P P 15 21 11.5 -0.4
baz=219
AMTX Amarillo 18.81 354 P P 15 21 14.0 -0.3
AMTX Amarillo 18.81 354 P P 15 21 13.9 -0.3
baz=172
MIAR Mount Ida 19.01 14 P P 15 21 14.9 -1.4
MIAR Mount Ida 19.01 14 P P 15 21 14.9 -1.4
baz=196,SNR=10
MIAR Mount Ida 19.01 14 P P 15 21 15.0 -1.4
MIAR pmax pmax
comp=Z,37nm,1.0s
Y22D IRIS PASSCAL I 19.19 340 P Pn 15 21 20.5 +1.3
baz=156
Y22F Passcal Instru 19.19 340 P Pn 15 21 20.5 +1.3
baz=156
TUC Tucson 19.26 329 P Pn 15 21 21.9 +1.8
baz=143
TUC Tucson 19.26 329 P Pn 15 21 21.7 +1.6
TUC pmax pmax
comp=Z,41nm,1.6s
ANMO Albuquerque 19.85 342 P Pn 15 21 27.1 -0.1
baz=158
ANMO Albuquerque 19.85 342 P Pn 15 21 27.6 +0.4
comp=Z,0.4nm,0.3s,baz=240,slow=12,SNR=13
ANMO Lg Lg 15 27 19.8
baz=238,slow=9.1,SNR=1.2
ANMO LR LR 15 29 48.8
comp=Z,984nm,19.1s,baz=248,slow=39
comp=Z,7.6nm,0.8s
ANMO Albuquerque 19.85 342 *i* P Pn 15 21 27.8 +0.6
ANMO pmax pmax
comp=Z,36nm,1.4s
TUL3 Leonard 19.93 8 P P 15 21 26.8 +0.4
baz=189
214A Organ Pipe Nat 20.06 324 Pn 15 21 30.1 +0.6
214A Organ Pipe Nat 20.06 324 P Pn 15 21 30.7 +1.1
baz=138,SNR=12
LRAL Lakeview Retre 20.11 31 P P 15 21 27.9 -0.5
baz=216,SNR=5.4
OXF Oxford 20.29 24 P P 15 21 29.8 -0.5
baz=208
OK048 Pawnee Station 20.30 5 P P 15 21 29.8 -0.6
OK048 IAmb IAmb 15 21 40.0
comp=Z,140nm,1.2s
CROK Carrier 20.32 3 P P 15 21 29.1 -1.6
OK035 E0210 Rd and N 20.50 1 P P 15 21 32.2 -0.4
OK035 IAmb IAmb 15 21 41.3
comp=Z,81nm,1.1s
HHAR Hobbs 20.60 12 P P 15 21 32.4 -1.3
FCAR Ozark Folk Cen 20.66 16 P P 15 21 33.2 -1.1
FCAR IAmb IAmb 15 21 42.1
comp=Z,98nm,1.3s
MTDJ Mount Denham 20.77 81 P P 15 21 32.1 -3.6
TIGA Tifton 20.82 40 P P 15 21 34.7 -1.4
baz=226
T35A Sooner Cattle 20.84 6 P P 15 21 33.8 -2.4
T35A IAmb IAmb 15 21 45.5
comp=Z,67nm,1.0s
KAN17 Caldwell West 20.87 3 P P 15 21 34.7 -1.9
KAN09 Caldwell North 20.97 3 IAmb IAmb 15 21 42.7
comp=Z,52nm,0.8s
LCAR Lake Charles 21.10 18 P P 15 21 37.2 -1.9
W18A Petrified Fore 21.15 335 P P 15 21 42.2 +2.4
baz=150

113A Mohawk Valley, 21.20 324 IAmb IAmb 15 21 54.9
comp=Z,209nm,1.9s
PLAL Pickwick Lake 21.24 26 IAmb IAmb 15 21 45.5
comp=Z,80nm,0.9s
X48A Hartselle 21.25 29 IAmb IAmb 15 21 49.3
comp=Z,59nm,1.1s
X16A Lo Mia Camp, P 21.30 331 IAmb IAmb 15 21 55.6
comp=Z,64nm,1.0s
T25A Trinidad 21.44 348 IAmb IAmb 15 21 56.2
comp=Z,92nm,1.1s
T25A Trinidad 21.44 348 P P 15 21 44.5 +1.5
baz=166,SNR=30
PBMO Poplar Bluff 21.98 19 IAmb IAmb 15 21 52.4
comp=Z,73nm,1.1s
FPAL Fort Paine 22.00 31 IAmb IAmb 15 21 58.7
comp=Z,84nm,0.9s
GLA Glamis 22.02 323 P P 15 21 51.2 +2.1
baz=136,SNR=12
WUAZ Wupatki 22.18 333 P P 15 21 52.5 +1.6
WUAZ IAmb IAmb 15 22 03.8
comp=Z,104nm,1.2s
WUAZ Wupatki 22.18 333 P P 15 21 53.5 +2.6
baz=147,SNR=52
R32A Long Quarter, 22.21 1 IAmb IAmb 15 22 02.0
comp=Z,60nm,1.1s
SDCO Great Sand Dun 22.25 347 IAmb IAmb 15 22 03.6
comp=Z,83nm,1.8s
SDCO Great Sand Dun 22.25 347 P P 15 21 52.5 +0.8
baz=163,SNR=23
GOGA Godfrey 22.29 37 P P 15 21 50.8 -1.0
baz=223
Y52A Lilburn 22.29 35 P P 15 21 50.1 -1.8
WVT Waverly 22.33 25 P P 15 21 50.8 -1.5
WVT IAmb IAmb 15 21 54.8
comp=Z,87nm,1.0s
WVT Waverly 22.33 25 P P 15 21 52.5 +0.3
baz=209
WVT Waverly 22.33 25 P P 15 21 50.8 -1.5
WVT pmax pmax
comp=Z,87nm,1.0s
BLYC Blythe 22.35 325 IAmb IAmb 15 22 05.5
comp=Z,89nm,1.2s
YUH Yuha Desert 22.39 320 P P 15 21 54.6 +1.7
YUH IAmb IAmb 15 22 05.3
comp=Z,61nm,1.6s
SWET Sewanee 22.39 29 IAmb IAmb 15 22 02.3
comp=Z,75nm,1.2s
X51A Calhoun 22.40 32 IAmb IAmb 15 22 01.9
comp=Z,48nm,1.0s
V48A Smith Brothers 22.42 27 IAmb IAmb 15 21 55.8
comp=Z,45nm,0.9s
RMX La Rumorosa 22.45 320 P P 15 21 54.7 +0.8
IKP In-Ko-Pah, Jac 22.50 320 P P 15 21 56.9 +2.6
baz=132
SWSC Sam W. Stewart 22.52 321 P P 15 21 56.7 +2.3
baz=134
PDMCI Parker Dam,Lak 22.56 326 P P 15 21 57.1 +2.3
baz=139,SNR=12
MVCO Mesa Verde 22.57 340 P P 15 21 55.8 +0.7
MVCO Mesa Verde 22.57 340 P P 15 21 56.1 +1.0
baz=155,SNR=38
CBKS Cedar Bluff 22.61 359 IAmb IAmb 15 22 07.9
comp=Z,54nm,1.1s
CBKS Cedar Bluff 22.61 359 P P 15 21 54.7 -0.6
baz=178
CBX Cerro Bola 22.63 319 IAmb IAmb 15 22 16.0
comp=Z,61nm,1.4s
W50A Signal Mountai 22.68 31 IAmb IAmb 15 22 04.8
comp=Z,41nm,0.9s
CGM3 Cape Girardeau 22.70 20 IAmb IAmb 15 21 59.0
comp=Z,94nm,1.2s
BC3 Big Chuckawall 22.81 323 P P 15 21 59.9 +2.2
baz=135
MONP2 Monument Peak 22.86 320 P P 15 22 00.0 +1.8
baz=132,SNR=5.9
BAR Barrett 22.88 319 P P 15 21 59.4 +1.2
BAR IAmb IAmb 15 22 18.0
comp=Z,97nm,1.8s
R40A Maddies Statio 22.89 14 IAmb IAmb 15 22 00.3
comp=Z,66nm,1.1s
CCM Cathedral Cave 22.93 16 P P 15 21 58.6 0.0
CCM Cathedral Cave 22.93 16 P P 15 21 59.1 +0.4
baz=199
CCM Cathedral Cave 22.93 16 P P 15 21 58.6 0.0
CCM pmax pmax
comp=Z,24nm,0.9s
CLTN Cedars of Leba 22.93 27 IAmb IAmb 15 22 01.4
comp=Z,54nm,1.0s
KSU1 Kansas State U 22.99 5 IAmb IAmb 15 22 01.8
comp=Z,53nm,0.9s
KSU1 Kansas State U 22.99 5 P P 15 21 59.9 +0.6
baz=186,SNR=7.2
KSCO Kaye Shedlock' 23.00 353 IAmb IAmb 15 22 03.6
comp=Z,62nm,1.0s
KSCO Kaye Shedlock' 23.00 353 P P 15 22 00.1 +0.6
baz=171
IRM Iron Mountain 23.00 324 P P 15 21 01.9 +2.4
baz=137,SNR=27
FVM French Village 23.09 18 IAmb IAmb 15 22 01.8
comp=Z,50nm,0.8s
NEE2 Needles Airpor 23.17 326 P P 15 22 03.3 +2.1
baz=139
109C Camp Elliot, M 23.29 319 P P 15 22 04.5 +2.1
baz=131
Q24A Divide 23.35 348 IAmb IAmb 15 22 13.7
comp=Z,74nm,1.9s
Q24A Divide 23.35 348 P P 15 22 03.7 +0.4
baz=165,SNR=7.0
U15A North Rim 23.35 332 IAmb IAmb 15 22 16.0
comp=Z,41nm,1.1s
TPFO Pinon Flats 23.37 321 P P 15 22 06.0 +2.6
baz=133
BELC Belle Mtn. Jos 23.38 323 P P 15 22 05.7 +2.2
baz=135
PFO Pinyon Flats O 23.38 321 P P 15 22 02.6 -0.9
PFO Pinyon Flats O 23.38 321 P P 15 22 05.8 +2.4
baz=133
PFO Pinyon Flats O 23.38 321 P P 15 22 05.6 +2.2
comp=Z,6.6nm,0.9s,baz=115,slow=7.0,SNR=5.8
PFO LR LR 15 31 10.5
comp=Z,155nm,18.8s,baz=130,slow=37
comp=Z,6.6nm,0.9s
PFO Pinyon Flats O 23.38 321 *i* P P 15 22 06.4 +3.0
PFO pmax pmax
comp=Z,35nm,1.5s
U49A Red Boiling Sp 23.53 28 IAmb IAmb 15 22 13.4
comp=Z,70nm,1.2s
HODGE Hodges 23.58 37 IAmb IAmb 15 22 04.2
comp=Z,30nm,0.9s
GMRC Granite Mounta 23.75 325 P P 15 22 09.3 +2.2
baz=137,SNR=6.5
BG3 Lake Jocassee, 23.75 35 IAmb IAmb 15 22 15.3
comp=Z,36nm,0.8s
TKL Tuckaleechee C 23.81 32 LR LR 15 32 40.8
comp=Z,75nm,21.9s,baz=213,slow=40
MURC Murrieta 23.82 320 P P 15 22 09.9 +2.2
baz=132
P38A Dawn 23.92 11 IAmb IAmb 15 22 11.7
comp=Z,66nm,1.6s
SMCO Snowmass 23.96 345 IAmb IAmb 15 22 19.5
comp=Z,80nm,1.2s
V52A Sevierville 24.04 32 IAmb IAmb 15 22 17.7
comp=Z,64nm,1.1s
KNB Kanab 24.07 332 IAmb IAmb 15 22 29.0
comp=Z,96nm,1.6s
BBRC Big Bear Solar 24.10 322 P P 15 22 13.2 +2.5
baz=134
HEC Hector,Ludlow 24.16 324 P P 15 22 13.3 +2.3
baz=136
ISCO Idaho Springs 24.25 348 P P 15 22 10.3 -1.6
ISCO IAmb IAmb 15 22 22.3
comp=Z,76nm,1.4s
ISCO Idaho Springs 24.25 348 P P 15 22 13.5 +1.5
baz=164,SNR=20
ISCO Idaho Springs 24.25 348 P P 15 22 10.4 -1.6
ISCO pmax pmax
comp=Z,76nm,1.5s
PAULI Pauline 24.25 37 IAmb IAmb 15 22 20.4
comp=Z,58nm,1.2s
SCI2 San Clemente I 24.27 317 P P 15 22 14.4 +2.4
baz=29
V53A Saluda 24.32 34 IAmb IAmb 15 22 21.5
comp=Z,80nm,1.2s
T50A Nancy 24.37 29 IAmb IAmb 15 22 20.5
comp=Z,90nm,1.2s
TUQ Turquoise Moun 24.38 325 P P 15 22 15.0 +2.0
baz=137,SNR=31
CIS Catalina Islan 24.45 318 P P 15 22 15.7 +2.0
baz=130
OLIL Olney 24.52 21 IAmb IAmb 15 22 16.0
comp=Z,70nm,1.2s
BFSC Mount Baldy Ra 24.53 321 P P 15 22 17.0 +2.5
baz=132
FMP Fort Macarthur 24.58 319 P P 15 22 16.5 +1.9
baz=130
RRX Edison Barstow 24.58 323 P P 15 22 17.8 +3.1
baz=134
TZTN Tazewell 24.61 31 P P 15 22 14.8 -0.2
baz=218,SNR=12
WCI Wyandotte Cave 24.76 25 P P 15 22 15.7 -0.6
WCI Wyandotte Cave 24.76 25 P P 15 22 16.4 +0.1
baz=210
WCI Wyandotte Cave 24.76 25 P P 15 22 15.7 -0.6
WCI pmax pmax
comp=Z,66nm,0.9s
KMSC Kings Mountain 24.76 37 P P 15 22 16.1 -0.2
baz=224,SNR=9.5
GSC Goldstone, Bar 24.77 324 IAmb IAmb 15 22 29.8
comp=Z,88nm,1.6s
GSC Goldstone, Bar 24.77 324 P P 15 22 18.2 +1.6
baz=135,SNR=11
OGNE Ogallala 24.85 355 P P 15 22 18.2 +1.0
baz=173,SNR=6.9
P43A Skaggs, Pawnee 24.89 18 IAmb IAmb 15 22 25.3
comp=Z,82nm,1.4s
SHOC Shoshone, Teco 24.91 325 P P 15 22 19.6 +1.9
baz=137
BIRD Birdtown, Kers 24.93 39 IAmb IAmb 15 22 32.2
comp=Z,88nm,1.5s
DECC Green Verdugo 24.96 320 P P 15 22 20.0 +1.8
baz=131
Q16A Castle Valley 25.03 337 IAmb IAmb 15 22 30.7
comp=Z,59nm,1.2s
SNCC San Nicolas Is 25.08 317 P P 15 22 20.7 +1.5
baz=127
EDW2 Edwards Air Fo 25.17 321 P P 15 22 22.0 +1.9
baz=133
O20A White River Ci 25.19 343 P P 15 22 22.1 +1.7
baz=159,SNR=12
BGNE Belgrade 25.20 2 P P 15 22 21.1 +0.8
baz=182
GWY Greenwater Val 25.34 325 IAmb IAmb 15 22 34.2
comp=Z,44nm,1.1s
P17A Butcher Ranch, 25.36 339 P P 15 22 22.2 +0.2
P17A IAmb IAmb 15 22 32.9
comp=Z,52nm,1.3s
N23A Red Feather La 25.37 348 IAmb IAmb 15 22 32.9
comp=Z,35nm,0.9s
N23A Red Feather La 25.37 348 P P 15 22 23.6 +1.5
baz=164,SNR=12
CCAC Calif City Air 25.37 322 IAmb IAmb 15 22 35.3
comp=Z,76nm,1.4s
LRMC Laurel Mtn Rad 25.40 323 P P 15 22 24.7 +2.4
baz=134,SNR=16
OSI Osito Audit: C 25.44 320 P P 15 22 24.7 +2.1
baz=131
S51A Beattyville 25.46 30 IAmb IAmb 15 22 31.9
comp=Z,38nm,0.9s
N41A Harden Midland 25.53 15 IAmb IAmb 15 22 30.6
comp=Z,50nm,1.0s
X58A Rowland 25.55 40 P P 15 22 23.6 +0.1
FURC Furnace Creek, 25.65 326 P P 15 22 26.5 +2.1
baz=137
PHWY Pilot Hill 25.67 349 IAmb IAmb 15 22 28.5
comp=Z,25nm,0.9s
MPMC Manual Prospec 25.70 324 P P 15 22 26.9 +1.9
baz=135,SNR=43
WCT Wildcat Mounta 25.76 326 IAmb IAmb 15 22 38.9
comp=Z,45nm,1.2s
HDIL Hopedale 25.80 17 P P 15 22 25.7 0.0
baz=202,SNR=11
ARVC Arvin 25.84 321 P P 15 22 27.8 +1.6
baz=132
L34A Svendsen Farm, 25.86 5 IAmb IAmb 15 22 34.1
comp=Z,35nm,0.9s
SBC Santa Barbara 25.95 318 P P 15 22 29.1 +2.0
baz=129
ISA Isabella, Lake 25.99 322 IAmb IAmb 15 22 42.0
comp=Z,64nm,1.4s
ISA Isabella, Lake 25.99 322 P P 15 22 28.6 +1.0
baz=133,SNR=6.2
U56A King 26.16 36 IAmb IAmb 15 22 38.2
comp=Z,71nm,1.3s
P48A Milroy 26.16 25 IAmb IAmb 15 22 39.4
comp=Z,66nm,1.6s
SCIA State Center 26.19 10 P P 15 22 29.3 +0.1
baz=193
NLU North Lily Min 26.27 337 IAmb IAmb 15 22 42.3
comp=Z,68nm,1.6s
PKM Mcpherson Peak 26.29 319 P P 15 22 32.3 +1.9
baz=130
CWC Cottonwood Cre 26.31 324 P P 15 22 32.0 +1.4
baz=135
GRAC Grapevine Rang 26.31 326 P P 15 22 32.4 +2.0
baz=137
BSUT Blindstream Ca 26.32 340 IAmb IAmb 15 22 43.3
comp=Z,48nm,1.1s
SFIN Lafayette 26.34 21 IAmb IAmb 15 22 38.4
comp=Z,38nm,0.8s
SFIN Lafayette 26.34 21 P P 15 22 30.1 -0.5
baz=206
SPR3 Spring Creek 3 26.38 333 IAmb IAmb 15 22 43.6
comp=Z,45nm,1.5s
R11B Troy Canyon, C 26.43 330 IAmb IAmb 15 22 45.2
comp=Z,48nm,1.6s
R11B Troy Canyon, C 26.43 330 P P 15 22 33.4 +1.7
baz=142,SNR=23
VES Vestal, Richgr 26.48 322 P P 15 22 33.8 +1.9
baz=132
GMN Gold Mountain 26.48 326 IAmb IAmb 15 22 46.7
comp=Z,43nm,1.4s
P49A Miami Univ. Ec 26.51 26 P P 15 22 31.5 -0.7
baz=212,SNR=18
Q12A Willow Creek R 26.64 332 IAmb IAmb 15 22 54.1
comp=Z,27nm,1.1s
SMMC Simmler 26.68 320 P P 15 22 35.8 +2.0
baz=130
SDDR Tuesday de Saban 26.71 80 P P 15 22 30.1 -4.2
BLA Blacksburg 26.76 35 P P 15 22 32.8 -1.7
BLA Blacksburg 26.76 35 P P 15 22 33.2 -1.3
baz=223
BLA Blacksburg 26.76 35 P P 15 22 32.8 -1.7
BLA pmax pmax
comp=Z,79nm,1.2s
DUG Dugway, Tooele 26.76 336 IAmb IAmb 15 22 48.0
comp=Z,35nm,1.2s
DUG Dugway, Tooele 26.76 336 P P 15 22 36.3 +1.7
baz=149,SNR=13
DUG Dugway, Tooele 26.76 336 P P 15 22 37.4 +2.8
DUG pmax pmax
comp=Z,29nm,1.5s
TIN Tinemaha, Big 26.83 325 P P 15 22 36.5 +1.3
baz=135
ROSC El Rosal 26.84 112 P P 15 22 39.8 +4.0
comp=Z,4.8nm,0.3s,baz=36,slow=19,SNR=1.4
CNNC Cliffs of the 26.91 41 P P 15 22 34.3 -1.4
baz=230
O48B Farmland 26.95 24 P P 15 22 35.5 -0.6
baz=210,SNR=13
VOG Valley Oaks Go 26.98 322 P P 15 22 38.2 +1.8
baz=132
K22A Casper 27.18 348 IAmb IAmb 15 22 48.6
comp=Z,58nm,1.5s
K22A Casper 27.18 348 P P 15 22 38.9 +0.6
baz=164
O49A Covington 27.22 25 IAmb IAmb 15 22 46.0
comp=Z,44nm,0.8s
T57A Hurt 27.26 37 IAmb IAmb 15 22 49.8
comp=Z,83nm,1.4s
BGU Big Grassy Mou 27.48 337 IAmb IAmb 15 22 47.6
comp=Z,39nm,1.8s
HWUT Hardware Ranch 27.55 340 IAmb IAmb 15 22 47.1
comp=Z,27nm,1.2s
MLAC Mammoth, Mammo 27.58 325 P P 15 22 42.4 +0.3
baz=135
ECSD EROS Data Cent 27.60 4 IAmb IAmb 15 22 50.8
comp=Z,34nm,1.2s
ECSD EROS Data Cent 27.60 4 P P 15 22 41.9 0.0
baz=185,SNR=7.9
L44A Lake County Fo 27.70 18 P P 15 22 41.8 -1.0
baz=203
R55A Marlinton 27.70 34 IAmb IAmb 15 22 54.2
comp=Z,51nm,1.1s
MDPB Devils Postpil 27.71 324 IAmb IAmb 15 23 05.8
comp=Z,30nm,1.4s
P52A Corning 27.74 29 P P 15 22 41.6 -1.6

baz=217
JFWS Jewell Farm 27.76 14 P P 15 22 43.9 +0.5
baz=198
NV11 Mina Array Sit 27.79 327 P P 15 22 43.3 -0.5
NV11 IAmb IAmb 15 23 06.5
comp=Z,51nm,1.8s
ACSO Alum Creek Sta 27.83 27 P P 15 22 43.6 -0.5
baz=215,SNR=7.1
LHV Little Huntoon 27.84 326 IAmb IAmb 15 23 08.2
comp=Z,37nm,1.5s
NVAR Mina Array Bea 27.87 327 P P 15 22 46.4 +1.7
NVAR PcP PcP 15 25 60.0 -0.7
NVAR Mina Array Bea 27.87 327 P P 15 22 47.5 +2.8
comp=Z,3.9nm,0.9s,baz=151,slow=8.8,SNR=24
NVAR PcP PcP 15 26 02.7 +2.0
comp=Z,0.4nm,0.3s,baz=140,slow=3.5,SNR=3.1
NVAR LR LR 15 34 07.7
comp=Z,302nm,18.5s,baz=150,slow=37
comp=Z,3.9nm,0.9s
S57A Dark Hollow, R 27.96 36 IAmb IAmb 15 23 00.1
comp=Z,36nm,1.2s
P53A Whipple 27.97 30 IAmb IAmb 15 22 54.9
comp=Z,42nm,1.3s
BW06 Boulder Array 28.00 344 P P 15 22 47.0 +1.2
baz=158,SNR=54
PD31 Pinedale Array 28.00 344 IAmb IAmb 15 22 56.2
comp=Z,51nm,1.2s
PDAR Pinedale Array 28.00 344 P P 15 22 46.6 +0.8
PDAR Pinedale Array 28.00 344 P P 15 22 47.1 +1.3
comp=Z,9.1nm,0.9s,baz=141,slow=9.6,SNR=52
PDAR PcP PcP 15 26 01.3 +0.3
comp=Z,0.6nm,0.8s,baz=144,slow=3.4,SNR=2.5
PDAR LR LR 15 34 32.0
comp=Z,426nm,21.0s,baz=167,slow=38
comp=Z,9.1nm,0.9s
HVU Hansel Valley 28.12 338 IAmb IAmb 15 22 57.8
comp=Z,60nm,1.8s
RYN Ryan 28.13 327 IAmb IAmb 15 23 02.6
comp=Z,31nm,1.3s
RSSD Black Hills 28.21 353 P P 15 22 46.0 -1.6
RSSD IAmb IAmb 15 22 58.0
comp=Z,42nm,1.4s
RSSD Black Hills 28.21 353 P P 15 22 48.9 +1.3
baz=170
RSSD Black Hills 28.21 353 P P 15 22 46.0 -1.6
RSSD pmax pmax
comp=Z,42nm,1.5s
ELK Elko 28.21 334 P P 15 22 50.4 +2.7
KVN Kaiserville 28.23 328 IAmb IAmb 15 23 03.4
comp=Z,31nm,1.3s
AHID Auburn Hatcher 28.45 341 IAmb IAmb 15 23 01.0
comp=Z,28nm,1.4s
O53A New Philadelph 28.66 29 P P 15 22 51.5 +0.1
baz=218
SDV Santo Domingo 28.74 101 LR LR 15 34 36.5
comp=Z,149nm,20.8s,baz=297,slow=37
Q56A Snyder Ridge, 28.76 34 IAmb IAmb 15 23 01.5
comp=Z,24nm,1.0s
MCWV Mont Chateau 28.87 32 P P 15 22 52.6 -0.7
baz=221
SNOW Snow King Moun 28.98 342 IAmb IAmb 15 22 59.0
comp=Z,20nm,1.0s
O54A Avella 29.00 31 IAmb IAmb 15 23 03.3
comp=Z,25nm,1.1s
PNTR Pine Nut 29.04 326 IAmb IAmb 15 23 12.9
comp=Z,48nm,1.8s
TPAW Teton Pass 29.06 342 IAmb IAmb 15 23 07.3
comp=Z,35nm,1.3s
LOHW Long Hollow 29.07 343 IAmb IAmb 15 23 06.1
comp=Z,31nm,1.3s
CBN Corbin Frederi 29.17 37 P P 15 22 55.1 -0.8
baz=227
EMB Emerald Bay 29.23 325 IAmb IAmb 15 23 14.8
comp=Z,29nm,1.3s
AAM Ann Arbor 29.28 24 P P 15 22 56.4 -0.5
baz=211
MPK Martis Peak 29.42 326 IAmb IAmb 15 23 11.3
comp=Z,20nm,1.0s
SPMN Marine on St. 29.49 9 P P 15 22 58.4 -0.4
baz=192
M52A Chesterland 29.61 28 IAmb IAmb 15 23 07.3
comp=Z,40nm,1.0s
H17A Grant Village 29.79 343 P P 15 23 02.6 +0.9
baz=157
M53A WI Miller and 29.84 29 P P 15 23 01.0 -0.9
baz=217
LKWY Lake 29.90 344 IAmb IAmb 15 23 13.8
comp=Z,24nm,1.3s
RLMT Red Lodge 30.13 346 IAmb IAmb 15 23 15.2
comp=Z,29nm,1.1s
RLMT Red Lodge 30.13 346 P P 15 23 06.1 +1.4
baz=160,SNR=11
HLID Hailey 30.27 338 P P 15 23 07.3 +1.4
baz=150,SNR=13
SSPA Standing Stone 30.60 33 P P 15 23 07.4 -1.3
SSPA Standing Stone 30.60 33 P P 15 23 08.5 -0.1
baz=223
ERPA Erie 30.69 29 P P 15 23 08.6 -0.9
baz=218
ATAH Atahualpa 30.93 137 LR LR 15 33 00.7
comp=Z,201nm,20.1s,baz=319,slow=31
LAO LASA Array 31.03 351 P P 15 23 13.4 +1.0
baz=166
E38A The Farm, Brul 31.04 10 IAmb IAmb 15 23 20.7
comp=Z,58nm,1.7s
WVOR Wild Horse Val 31.08 331 IAmb IAmb 15 23 18.4
comp=Z,30nm,1.5s
WVOR Wild Horse Val 31.08 331 P P 15 23 15.6 +2.6
WVOR pmax pmax
comp=Z,14nm,1.4s
GLMI Grayling 31.13 20 P P 15 23 12.9 -0.3
baz=208
BAUV El Baul 31.17 99 P P 15 23 14.3 +0.4
BAUV IAmb IAmb 15 23 22.2
comp=Z,25nm,0.8s
BOZ Bozeman (W) 31.19 343 P P 15 23 15.2 +1.3
baz=156,SNR=13
DLMT Dillon 31.26 342 IAmb IAmb 15 23 25.9
comp=Z,43nm,1.2s
WVNY West Valley, N 31.57 30 IAmb IAmb 15 23 25.8
comp=Z,35nm,1.1s
MDND Maddock 31.63 359 P P 15 23 18.4 +0.7
baz=179
J08A Circle Bar Ran 31.74 333 IAmb IAmb 15 23 22.8
comp=Z,26nm,1.0s
E43A Lone Tree Farm 31.82 16 IAmb IAmb 15 23 20.9
comp=Z,23nm,0.9s
L56A Greenwood 31.87 31 IAmb IAmb 15 23 28.0
comp=Z,26nm,1.0s
PLID Pearl Lake 32.16 337 IAmb IAmb 15 23 34.3
comp=Z,24nm,1.3s
AGMN Agassiz Nation 32.19 4 P P 15 23 22.7 +0.1
baz=186,SNR=31
EYMN Ely 32.35 10 IAmb IAmb 15 23 24.7
comp=Z,16nm,1.1s
EYMN Ely 32.35 10 P P 15 23 23.4 -0.6
baz=194
B35A Bob, Littlefor 32.45 7 IAmb IAmb 15 23 25.6
comp=Z,19nm,0.9s
DGMT Dagmar 32.52 354 P P 15 23 26.5 +1.1
baz=171
KHMM Horse Mountain 32.56 324 IAmb IAmb 15 23 31.8
comp=Z,16nm,1.1s
YBH Yreka Blue Hor 32.59 326 P P 15 23 26.6 +0.4
comp=Z,1.7nm,0.7s,baz=116,slow=5.8,SNR=7.1
YBH LR LR 15 36 19.5
comp=Z,96nm,21.9s,baz=147,slow=36
comp=Z,1.7nm,0.7s
J55A Hilton 32.60 30 IAmb IAmb 15 23 27.9
comp=Z,37nm,1.1s
L04D Klamath Falls 32.72 327 IAmb IAmb 15 23 32.3
comp=Z,28nm,1.3s
BINY Binghamton 32.72 33 IAmb IAmb 15 23 29.7
comp=Z,20nm,1.1s
BINY Binghamton 32.72 33 P P 15 23 27.1 -0.2
baz=224
TRNY Table Rock, Ra 32.95 36 IAmb IAmb 15 23 30.6
comp=Z,22nm,1.1s
EGMT Eagleton 32.98 347 P P 15 23 29.6 0.0
baz=161,SNR=5.6
MSO Missoula 32.98 341 IAmb IAmb 15 23 40.2
comp=Z,20nm,1.2s
MSO Missoula 32.98 341 P P 15 23 30.1 +0.5
baz=153
PAL Palisades 33.03 36 P P 15 23 28.7 -1.3
baz=228
J56A Wolcott 33.06 31 IAmb IAmb 15 23 38.8
comp=Z,35nm,1.2s

SADO Sadowa 33.17 26 LR LR 15 39 14.1
comp=Z,144nm,20.9s,baz=234,slow=41
F10A Beach Ranch, E 33.37 337 IAmb IAmb 15 23 37.9
comp=Z,29nm,0.9s
G08A Pilot Rock 33.50 334 IAmb IAmb 15 23 36.7
comp=Z,17nm,1.1s
DELO Deloro Mine 33.65 28 IAmb IAmb 15 23 43.3
comp=Z,27nm,1.1s
PCRV Puerto La Cruz 34.10 96 LR LR 15 38 18.1
comp=Z,146nm,20.0s,slow=38
ULM Lac du Bonnet 34.14 4 P P 15 23 38.1 -1.4
comp=Z,28nm,0.9s,baz=191,slow=8.3,SNR=33
comp=Z,28nm,0.9s
ULM Lac du Bonnet 34.14 4 eP P 15 23 39.1 -0.4
ULM pmax pmax
comp=Z,28nm,0.9s
J01E Myrtle Point 34.23 327 IAmb IAmb 15 23 44.0
comp=Z,32nm,0.9s
H04A Detroit Lake 34.46 330 IAmb IAmb 15 23 45.1
comp=Z,26nm,1.1s
BUCK Buck Mountain 34.49 329 IAmb IAmb 15 23 47.5
comp=Z,56nm,1.6s
H04D Lebanon 34.61 330 IAmb IAmb 15 24 04.8
comp=Z,16nm,0.9s
LONY Lake Ozonia 35.17 31 P P 15 23 47.8 -0.7
baz=224
NEW Newport 35.28 339 P P 15 23 50.5 +1.0
baz=149
NEW Newport 35.28 339 P P 15 23 49.0 -0.5
comp=Z,4.8nm,0.9s,baz=153,slow=13,SNR=5.8
NEW PcP PcP 15 26 19.6 -0.6
comp=Z,2.3nm,0.7s,baz=82,slow=19,SNR=1.4
comp=Z,4.8nm,0.9s
NEW Newport 35.28 339 P P 15 23 50.0 +0.5
NEW pmax pmax
comp=Z,7.0nm,1.2s
C09A Chrisman Ranch 35.30 338 IAmb IAmb 15 23 52.5
comp=Z,16nm,0.8s
HRV Adam Dziewonsk 35.34 36 P P 15 23 48.7 -1.3
baz=230
NNA Nana 35.61 140 LR LR 15 35 31.0
comp=Z,143nm,18.7s,baz=329,slow=31
LTY Liberty 35.78 335 IAmb IAmb 15 23 57.0
comp=Z,34nm,1.4s
LBNH Lisbon 36.27 34 P P 15 23 56.6 -1.4
baz=228
TRQ Mont Tremblant 36.35 29 IAmb IAmb 15 24 08.5
comp=Z,68nm,1.7s
I62A Tamworth 36.35 35 IAmb IAmb 15 24 01.2
comp=Z,30nm,1.1s
RADR Rader Ridge 36.51 331 IAmb IAmb 15 24 10.1
comp=Z,30nm,0.9s
PKME Peaks-Kenny Pk 38.36 35 P P 15 24 13.8 -2.0
baz=230
FFC Flin Flon 38.58 357 P P 15 24 15.8 -1.6
FFC IAmb IAmb 15 24 26.8
comp=Z,38nm,1.1s
F64A Sherman 39.26 34 P P 15 24 21.0 -2.2
F64A IAmb IAmb 15 24 24.2
comp=Z,37nm,1.2s
D62A Allapoint, All 39.67 32 IAmb IAmb 15 24 34.9
comp=Z,32nm,1.2s
ETMB Extrema 41.57 126 P P 15 24 43.0 +0.2
BBB Bella Bella 42.66 334 LR LR 15 42 48.9
comp=Z,92nm,21.5s,baz=140,slow=36
FCC Fort Churchill 42.73 4 P P 15 24 51.9 +0.3
FCC IAmb IAmb 15 25 02.1
comp=Z,54nm,1.6s
FCC Fort Churchill 42.73 4 P P 15 24 51.9 +0.3
FCC pmax pmax
comp=Z,54nm,1.7s
SAML Samuel 43.47 122 P P 15 24 57.0 -1.1
SAML Samuel 43.47 122 P P 15 24 57.0 -1.1
SAML pmax pmax
comp=Z,6.0nm,0.8s
RPN Rapa Nui 44.12 193 LR LR 15 38 59.2
comp=Z,198nm,21.4s,baz=52,slow=30
HILA High Level 44.38 347 P P 15 25 04.4 -0.6
LPAZ La Paz 44.44 135 P P 15 25 07.6 +1.0
comp=Z,1.2nm,0.8s,baz=325,slow=8.1,SNR=4.2
LPAZ LR LR 15 42 32.3
comp=Z,129nm,18.5s,baz=308,slow=35
comp=Z,1.2nm,0.8s
LPAZ La Paz 44.44 135 eP P 15 25 10.8 +4.2
LPAZ pmax pmax
comp=Z,3.0nm,0.8s
SCHQ Schefferville 45.97 25 P P 15 25 16.7 -0.9
SCHQ IAmb IAmb 15 25 18.8
comp=Z,25nm,0.9s
SCHQ Schefferville 45.97 25 LR LR 15 46 39.4
comp=Z,83nm,20.0s,baz=164,slow=39
U35K Hyder 46.16 336 P P 15 25 19.8 +0.8
baz=137
V35K Ketchikan 46.37 335 P P 15 25 21.0 +0.3
baz=134
TOAD Toad River Com 46.79 342 P P 15 25 25.1 +1.0
baz=144
MDP Montagnes des 46.91 98 LR LR 15 45 19.6
comp=Z,42nm,21.9s,baz=343,slow=36
T35M Bob Quinn 47.03 337 P P 15 25 26.5 +0.5
baz=137
CRAG Craig 47.09 334 P P 15 25 26.3 0.0
baz=133
KOTAN Kotaneelee Air 47.51 343 P P 15 25 30.0 +0.3
baz=146
U33K Whale Pass 47.53 335 P P 15 25 30.3 +0.5
baz=133
YKA Yellowknife Ar 47.57 350 P P 15 25 30.0 0.0
YKA Yellowknife Ar 47.57 350 P P 15 25 30.3 +0.2
comp=Z,7.1nm,0.9s,baz=158,slow=6.8,SNR=65
YKA PcP PcP 15 26 59.6 -0.3
comp=Z,0.6nm,0.8s,baz=151,slow=2.8,SNR=2.9
YKA LR LR 15 45 07.3
comp=Z,266nm,19.9s,baz=188,slow=36
comp=Z,7.1nm,0.9s
YKA Yellowknife Ar 47.57 350 eP P 15 25 30.7 +0.6
YKA pmax pmax
comp=Z,8.0nm,0.9s
T33K Petersburg 47.95 336 P P 15 25 33.6 +0.6
baz=134
DLBC Dease Lake 48.03 339 P P 15 25 36.2 +2.4
DLBC IAmb IAmb 15 25 46.8
comp=Z,18nm,1.1s
DLBC Dease Lake 48.03 339 P P 15 25 33.8 0.0
baz=138
DLBC Dease Lake 48.03 339 P P 15 25 35.1 +1.3
comp=Z,5.8nm,1.0s,baz=145,slow=3.9,SNR=7.6
DLBC PcP PcP 15 27 02.9 +1.1
comp=Z,2.7nm,1.0s,baz=175,slow=12,SNR=1.7
DLBC LR LR 15 45 08.6
comp=Z,265nm,19.3s,baz=137,slow=35
comp=Z,5.8nm,1.0s
S34M Telegraph Cree 48.03 338 P P 15 25 34.1 +0.3
baz=136
WTLY Watson Lake, Y 48.90 341 P P 15 25 42.7 +2.3
WTLY IAmb IAmb 15 25 50.2
comp=Z,21nm,0.8s
WTLY Watson Lake, Y 48.90 341 P P 15 25 40.6 +0.2
baz=141,SNR=7.9
S32K Killisnoo 49.04 336 P P 15 25 42.3 +0.8
baz=132
R33M Jennings River 49.07 339 P P 15 25 43.6 +1.7
baz=138,SNR=7.9
R32K Eaglecrest 49.56 336 P P 15 25 46.7 +1.2
baz=133
TGTN Hyland Airport 49.85 342 P P 15 25 49.8 +2.0
baz=142,SNR=11
WRGLY Wrigley 49.99 346 IAmb IAmb 15 26 09.4
comp=Z,17nm,1.2s
WRGLY Wrigley 49.99 346 P P 15 25 49.7 +1.1
baz=148
S31K Pelican 50.03 335 P P 15 25 51.0 +2.0
baz=131
R31K City Hall, Gus 50.13 336 P P 15 25 51.6 +1.8
baz=131
P32M Atlin 50.18 338 P P 15 25 52.0 +1.8
baz=134
P33M Teslin, Yukon 50.31 339 IAmb IAmb 15 26 07.1
comp=Z,21nm,1.5s
P33M Teslin, Yukon 50.31 339 P P 15 25 53.2 +1.9
baz=136
PLBC Pleasant Camp 51.07 337 P P 15 25 58.5 +1.6
baz=131
N32M Quiet Lake 51.08 340 IAmb IAmb 15 26 08.0
comp=Z,24nm,1.0s
N32M Quiet Lake 51.08 340 P P 15 25 59.2 +2.2
baz=136
WHY Whitehorse 51.35 338 P P 15 26 01.0 +1.9
baz=134
AC06 Mina Casimiro 51.47 147 P P 15 26 01.0 +0.6
AC06 IAmb IAmb 15 26 31.9
comp=Z,26nm,1.5s
MMPY Sheldon Lake, 51.59 342 IAmb IAmb 15 26 11.9
comp=Z,21nm,1.0s
MMPY Sheldon Lake, 51.59 342 P P 15 26 03.2 +2.4
baz=139,SNR=9.3
P29M Windy Craggy 51.72 336 P P 15 26 03.8 +2.0
baz=130
P30M Million Dollar 51.74 337 P P 15 26 04.5 +2.6
baz=131
O30N Mendenhall 51.86 338 P P 15 26 04.8 +2.0
baz=132
FARO Faro, Yukon 51.95 340 P P 15 26 06.0 +2.5
baz=136,SNR=5.6
FRB Frobisher Bay 52.04 17 LR LR 15 50 42.1
comp=Z,107nm,19.7s,baz=209,slow=39
N31M Braeburn, Yuko 52.24 339 IAmb IAmb 15 26 16.1
comp=Z,22nm,0.9s
N31M Braeburn, Yuko 52.24 339 P P 15 26 07.4 +1.7
baz=133,SNR=7.6
M31M Drury Creek, Y 52.27 340 P P 15 26 07.8 +2.0
baz=135
PNL Peninsula 52.39 336 P P 15 26 08.5 +1.7
baz=128
HYT Haines Junctio 52.41 337 P P 15 26 08.6 +1.5
baz=131
YUK6 Outpost Mounta 52.80 337 P P 15 26 10.9 +0.8
baz=130
H03N2 Juan Fernandez 52.94 159 T T 16 23 20.5
baz=338,slow=76,SNR=42
H03N1 Juan Fernandez 52.95 159 T T 16 23 20.0
baz=338,slow=76,SNR=36
H03N3 Juan Fernandez 52.96 159 T T 16 23 19.1
baz=338,slow=76,SNR=65
YUK4 Talbot Arm 53.17 337 P P 15 26 15.1 +2.4
baz=130
O28M Mount Upton 53.39 336 P P 15 26 15.7 +1.2
baz=128
YUK8 Steele Glacier 53.55 337 P P 15 26 17.4 +1.8
baz=129
MESA MESA 53.73 335 P P 15 26 18.8 +1.9
baz=126
MAYO Mayo, Yukon 53.75 341 P P 15 26 19.1 +2.4
baz=134
M29M Somme Creek 53.82 339 P P 15 26 18.7 +1.3
M29M IAmb IAmb 15 26 28.1
comp=Z,15nm,1.1s
M29M Somme Creek 53.82 339 P P 15 26 19.0 +1.6
baz=131
CTG Chitna Glacier 53.95 336 P P 15 26 20.7 +2.3
baz=127
YUK3 Moose Creek 54.12 337 P P 15 26 21.9 +2.2
baz=128
L29M L29M 54.15 339 P P 15 26 19.0 -0.7
L29M IAmb IAmb 15 26 30.3
comp=Z,31nm,1.4s
L29M L29M 54.15 339 P P 15 26 22.4 +2.7
baz=132,SNR=7.0
BGLC Bering Glacier 54.24 335 P P 15 26 21.7 +1.4
baz=124
K29M Barlow Dome 54.44 340 P P 15 26 23.3 +1.3
K29M IAmb IAmb 15 26 32.1
comp=Z,12nm,1.1s
K29M Barlow Dome 54.44 340 P P 15 26 23.4 +1.5
baz=133
J30M Hart River 54.57 341 P P 15 26 23.9 +1.0
baz=134
KAIM Kayak Island 54.60 334 P P 15 26 25.1 +2.1
baz=123
MCARA McCarthy VSAT 54.86 336 P P 15 26 26.2 +1.3
baz=125
H31M Peel River 54.88 343 IAmb IAmb 15 26 35.7
comp=Z,16nm,1.1s
H31M Peel River 54.88 343 P P 15 26 26.0 +1.1
baz=137
M27K Edge Creek, AK 55.00 337 P P 15 26 27.5 +1.5
baz=127
I30M Mount Dempster 55.05 342 P P 15 26 27.3 +1.1
I30M IAmb IAmb 15 26 35.9
comp=Z,16nm,1.0s
I30M Mount Dempster 55.05 342 P P 15 26 27.4 +1.1
baz=135,SNR=9.9
Q23K Middleton Isla 55.17 333 P P 15 26 28.4 +1.3
baz=120
BMRM Bremner River 55.25 335 P P 15 26 29.2 +1.4
baz=123
L27K Beaver Creek, 55.41 338 IAmb IAmb 15 26 45.2
comp=Z,25nm,1.6s
L27K Beaver Creek, 55.41 338 P P 15 26 31.0 +2.2
baz=127
C36M Paulatuk 55.43 350 P P 15 26 28.4 -0.4
C36M Paulatuk 55.43 350 P P 15 26 29.8 +1.0
baz=150
M26K Nabesna, AK 55.45 337 P P 15 26 31.3 +2.1
baz=126
N25K Chitina, Valde 55.61 336 P P 15 26 31.9 +1.6
baz=124
G31M Satah River 55.69 344 P P 15 26 31.8 +1.1
G31M Satah River 55.69 344 P P 15 26 32.0 +1.3
baz=138,SNR=11
F31M Tsiigehtchic 55.94 345 IAmb IAmb 15 26 48.3
comp=Z,30nm,1.4s
F31M Tsiigehtchic 55.94 345 P P 15 26 33.7 +1.2
baz=138
L26K Log Cabin Wild 55.95 337 P P 15 26 34.4 +1.7
baz=126
EPYK Eagle Plains 55.96 343 IAmb IAmb 15 27 34.8
comp=Z,20nm,1.1s
EPYK Eagle Plains 55.96 343 P P 15 26 34.2 +1.5
baz=135
KLU Klutina 56.08 335 P P 15 26 35.2 +1.5
baz=122
K27K Chicken 56.10 339 IAmb IAmb 15 26 44.5
comp=Z,25nm,1.1s
K27K Chicken 56.10 339 P P 15 26 35.7 +2.0
baz=128
EGAK Eagle 56.25 340 IAmb IAmb 15 26 43.6
comp=Z,16nm,0.9s
EGAK Eagle 56.25 340 P P 15 26 36.6 +1.8
baz=129
G30M tAoh Zraii Nji 56.26 343 P P 15 26 36.6 +1.7
baz=136
I28M Miner Creek 56.29 341 P P 15 26 36.3 +1.1
baz=131
H29M Whitestone 56.33 342 IAmb IAmb 15 26 44.8
comp=Z,19nm,0.9s
H29M Whitestone 56.33 342 P P 15 26 36.2 +0.9
baz=139,SNR=8.5
INK Inuvik 56.55 345 P P 15 26 37.9 +1.1
INK Inuvik 56.55 345 P P 15 26 37.5 +0.7
baz=139,SNR=17
INK Inuvik 56.55 345 LR LR 15 52 57.4
comp=Z,219nm,20.4s,baz=184,slow=38
INK Inuvik 56.55 345 P P 15 26 37.9 +1.1
INK pmax pmax
comp=Z,30nm,1.1s
F30M Barrier River 56.60 344 P P 15 26 38.4 +1.2
baz=138,SNR=11
G29M Pine Creek 56.71 343 IAmb IAmb 15 26 47.5
comp=Z,12nm,0.9s
G29M Pine Creek 56.71 343 P P 15 26 39.3 +1.2
baz=134,SNR=5.8
J26L Joseph Creek 56.90 339 P P 15 26 40.7 +1.1
baz=126
I27K Kandik River 56.93 340 P P 15 26 40.6 +0.9
baz=129
KNK Knik Glacier 57.08 334 P P 15 26 42.3 +1.5
baz=120
SML Sawmill 57.22 335 P P 15 26 42.8 +1.0
baz=120
I26K Coal Creek Min 57.25 340 P P 15 26 42.0 +0.1
baz=127
BRSE Bradley Lake S 57.28 332 P P 15 26 42.9 +0.7
baz=116
K24K Donnelly Dome 57.29 337 P P 15 26 42.3 +0.1
baz=124
H27K Steamboat Moun 57.30 341 P P 15 26 43.0 +0.7
baz=129
KDAK Kodiak Island 57.32 329 P P 15 26 43.6 +1.1
baz=113
KDAK Kodiak Island 57.32 329 LR LR 15 51 02.1
comp=Z,136nm,19.3s,baz=185,slow=36
WAT6 Susitna Watana 57.38 336 P P 15 26 44.1 +1.1
baz=121
OHAK Old Harbor 57.45 328 P P 15 26 44.3 +0.9
baz=112

DHY Denali Highway 57.49 336 P P **15 26 44.8 +1.0**
baz=122
Q20K Shuyak Island 57.56 330 P P **15 26 45.4 +1.2**
baz=114
J25K Salcha River, 57.60 338 P P **15 26 45.4 +0.9**
baz=124
HOM Homer 57.66 332 P P **15 26 46.1 +1.3**
baz=115
SII Sitkinak Islan 57.66 328 P P **15 26 46.1 +1.2**
baz=111
E29M Blow River 57.71 344 IAmb IAmb 15 26 54.8
comp=Z,20nm,1.1s
E29M Blow River 57.71 344 P P **15 26 46.3 +1.2**
baz=134,SNR=26
G27K Doyon Strip 57.71 342 P P **15 26 45.6 +0.5**
baz=130,SNR=6.2
F28M Old Crow 57.72 343 IAmb IAmb 15 26 54.9
comp=Z,22nm,1.0s
F28M Old Crow 57.72 343 P P **15 26 46.1 +0.9**
baz=132,SNR=20
WAT1 Susitna Watana 57.83 336 P P **15 26 46.8 +0.8**
baz=120
CAPN Captain Cook N 57.92 333 P P **15 26 47.9 +1.3**
baz=116
A36M Sachs Harbour 57.93 351 IAmb IAmb 15 26 55.5
comp=Z,22nm,0.9s
A36M Sachs Harbour 57.93 351 P P **15 26 47.4 +0.9**
baz=150,SNR=25
M22K Willow 57.94 334 P P **15 26 47.8 +1.0**
baz=118
SUA Susitna One 58.07 334 P P **15 26 48.6 +0.7**
baz=117
PRP Porcupine Dome 58.17 339 P P **15 26 49.7 +1.2**
baz=125
O20K Slope Mountain 58.28 332 P P **15 26 50.4 +1.0**
baz=114
E28M Babbage River 58.30 344 IAmb IAmb 15 26 58.3
comp=Z,20nm,1.0s
E28M Babbage River 58.30 344 P P **15 26 50.1 +0.9**
baz=133,SNR=16
P19K Oil Pt 58.38 331 P P **15 26 51.2 +1.2**
baz=114
G26K Porcupine Rive 58.46 341 P P **15 26 51.5 +1.2**
baz=127
E27K Coleen River 58.59 343 IAmb IAmb 15 27 01.0
comp=Z,20nm,1.0s
E27K Coleen River 58.59 343 P P **15 26 52.4 +1.1**
baz=130,SNR=12
D28M Stokes Point 58.59 345 P P **15 26 51.8 +0.6**
baz=134,SNR=10
CPUP Villa Florida 58.61 135 P P **15 26 52.5 +0.5**
comp=Z,1.6nm,0.2s,baz=319,slow=8.1,SNR=5.9
CPUP LR LR 15 50 09.2
comp=Z,56nm,18.4s,baz=26,slow=34
comp=Z,1.6nm,0.2s
RES Resolute Bay 58.61 1 P P **15 26 50.8 -0.4**
RES Resolute Bay 58.61 1 LR LR 15 52 30.1
comp=Z,142nm,19.9s,baz=44,slow=36
RES Resolute Bay 58.61 1 P P **15 26 50.8 -0.4**
RES pmax pmax
comp=Z,5.0nm,0.8s
POKR Poker Plat Res 58.61 338 P P **15 26 52.2 +0.8**
baz=123
COLA College 58.63 338 P P **15 26 52.6 +1.1**
baz=122
SKT Skwentna 58.64 334 P P **15 26 52.9 +1.2**
baz=117
H25L Birch Creek 58.70 340 P P **15 26 53.1 +1.0**
baz=125
TRF Thorofare Moun 58.82 336 P P **15 26 53.9 +0.7**
baz=119
NEA2 Nenana 58.93 337 P P **15 26 54.7 +1.0**
baz=121
BMAR Burnt Mountain 58.99 341 P P **15 26 55.1 +1.0**
F26K Sheenjek River 59.02 342 P P **15 26 55.2 +0.9**
baz=127
G25K Bearman Lake 59.08 340 P P **15 26 55.9 +1.2**
baz=125
O19K Port Alsworth 59.10 331 P P **15 26 57.3 +2.4**
baz=113
D27M Malcolm River 59.11 344 IAmb IAmb 15 27 04.5
comp=Z,12nm,1.1s
D27M Malcolm River 59.11 344 P P **15 26 55.7 +0.7**
baz=131,SNR=8.3
Q17K Contact Creek 59.13 329 P P **15 26 56.1 +0.8**
baz=110
H24K Noodor Dome 59.16 339 P P **15 26 56.0 +0.7**
baz=122,SNR=7.5
P18K Big Mountain, 59.22 330 P P **15 26 57.0 +1.2**
baz=112
M20K Styx River 59.27 334 P P **15 26 57.2 +1.0**
baz=115
I23K Minto, Yukon-K 59.32 338 P P **15 26 57.3 +0.9**
baz=121
PPLA Purkeypile 59.32 335 P P **15 26 57.4 +0.8**
baz=116
O18K Koktuh Hills 59.38 331 P P **15 26 58.0 +1.1**
baz=112
BPAW Bear Paw Mtn. 59.41 336 P P **15 26 57.9 +0.9**
baz=119
F25K Christian Rive 59.42 341 P P **15 26 58.6 +1.4**
baz=126
N19K Bonanza Creek 59.42 332 P P **15 26 58.4 +1.1**
baz=113
G24K Hadweenzic Riv 59.50 340 IAmb IAmb 15 27 06.9
comp=Z,16nm,0.9s
G24K Hadweenzic Riv 59.50 340 P P **15 26 57.9 +0.3**
baz=123,SNR=8.1
CAST Castle Rocks 59.52 335 P P **15 26 58.7 +0.9**
baz=117
BDFB Brasilia 59.54 119 P P **15 26 58.7 0.0**
comp=Z,1.5nm,0.3s,baz=293,slow=11,SNR=3.9
BDFB LR LR 15 51 44.4
comp=Z,71nm,18.1s,baz=151,slow=35
comp=Z,1.5nm,0.3s
Q16K King Salmon 59.65 329 P P **15 26 59.7 +0.9**
baz=110
E25K Arctic Village 59.71 342 P P **15 26 60.0 +0.9**
baz=126
SFJD Kangerlussuaq 59.73 20 LR LR 15 55 35.2
comp=Z,125nm,18.2s,baz=231,slow=39
SFJD Kangerlussuaq 59.73 20 *i* P P **15 26 59.5 +0.3**
SFJD IAmb IAmb 15 27 03.3
comp=Z,7.8nm,0.8s
H23K Yukon River 59.74 338 P P **15 26 59.7 +0.4**
baz=121
MLY Manley 59.77 337 P P **15 27 00.3 +0.7**
baz=119
M19K Big River Lodg 59.82 333 P P **15 27 01.0 +1.0**
baz=114
L20K Farewell, AK 59.84 334 P P **15 27 00.9 +0.8**
baz=115
PPT Papeete 59.91 238 LR LR 15 46 51.4
comp=Z,98nm,21.3s,baz=32,slow=30
PPT2 Papeete2 59.92 238 *e*LR LR 15 44 39.7
comp=Z,100nm,40.2s
PPT2 *e*LR LR 15 44 43.6
comp=Z,86nm,21.2s
F24K Squaw Lake 60.09 341 P P **15 27 02.6 +0.9**
baz=123
C27K Jago River 60.10 344 P P **15 27 02.2 +0.6**
baz=129,SNR=7.4
L19K White Mountain 60.14 333 P P **15 27 02.5 +0.4**
baz=114
O17K Koliganek Bris 60.24 330 P P **15 27 03.9 +1.1**
baz=110
M18K Stony River 60.29 333 P P **15 27 03.9 +0.9**
baz=112
K20K Telida 60.30 335 P P **15 27 03.9 +0.8**
baz=115
I21K Tanana 60.30 337 P P **15 27 04.1 +1.0**
baz=118
G23K Bananza Creek 60.36 339 IAmb IAmb 15 27 13.2
comp=Z,9.7nm,1.0s
G23K Bananza Creek 60.36 339 P P **15 27 04.1 +0.6**
baz=121
S14K Fog Glacier 60.40 326 P P **15 27 04.5 +0.5**
baz=106
H22K Ishtalitna Cre 60.42 338 P P **15 27 04.6 +0.6**
baz=119
E24K Your Creek 60.59 341 IAmb IAmb 15 27 15.0
comp=Z,13nm,1.1s
E24K Your Creek 60.59 341 P P **15 27 06.2 +1.1**
baz=123
C26K Camden Bay 60.61 344 P P **15 27 06.1 +0.9**
baz=128,SNR=5.5
SDPT Sand Point 60.65 325 P P **15 27 07.0 +1.3**
baz=104

D25K Kavik River 60.66 343 IAmb IAmb 15 27 15.1
comp=Z,18nm,0.9s
D25K Kavik River 60.66 343 P P **15 27 06.9 +1.3**
baz=126,SNR=10
O16K Kokwok River B 60.66 330 P P **15 27 06.4 +0.8**
baz=109
J20K Nowinta River 60.68 336 P P **15 27 06.4 +0.7**
baz=115
COLD Coldfoot 60.69 340 P P **15 27 07.3 +1.5**
baz=121
H21K Melozitna Rive 60.83 338 P P **15 27 07.9 +1.2**
baz=117
TTA Tatalina 60.93 334 P P **15 27 08.8 +1.3**
baz=113
E23K Chandalar 60.93 341 P P **15 27 08.9 +1.4**
baz=122,SNR=7.3
L18K Granite Mounta 60.94 333 P P **15 27 08.3 +0.7**
baz=112
DY2G Dye2 60.95 21 *i* P P **15 27 07.6 -0.2**
DY2G IAmb IAmb 15 27 16.1
comp=Z,11nm,0.7s
G22K Bettles 60.98 339 P P **15 27 08.8 +1.1**
baz=119
M17K Holitna River 60.98 332 P P **15 27 08.3 +0.5**
baz=110
I20K Naaghedeneel 61.08 336 P P **15 27 09.9 +1.5**
baz=115
J19K Poorman 61.19 335 P P **15 27 10.0 +0.8**
J19K Poorman 61.19 335 P P **15 27 10.3 +1.1**
baz=114
TOLK Toolik Lake Re 61.23 341 IAmb IAmb 15 27 19.1
comp=Z,16nm,1.1s
TOLK Toolik Lake Re 61.23 341 P P **15 27 10.9 +1.4**
baz=122
N16K Nishlik Lake 61.27 331 P P **15 27 10.9 +1.0**
baz=109
D24K Happy Valley 61.28 342 IAmb IAmb 15 27 23.3
comp=Z,11nm,0.9s
D24K Happy Valley 61.28 342 P P **15 27 11.1 +1.4**
baz=123
O15K Ungalikthiuk R 61.37 329 P P **15 27 12.2 +1.7**
baz=107
J18K Innoko River 61.43 334 P P **15 27 12.4 +1.6**
baz=112
G21K Allakaket 61.48 338 P P **15 27 12.9 +1.8**
baz=117
F22K John River 61.49 340 P P **15 27 12.9 +1.7**
baz=119
H20K Anotleneega Mo 61.53 337 P P **15 27 12.3 +0.8**
baz=115
M16K Timber Creek 61.54 331 P P **15 27 12.8 +1.2**
baz=109
C24K Franklin Bluff 61.56 342 P P **15 27 12.8 +1.2**
baz=124
S12K Black Hills 61.61 325 P P **15 27 14.1 +1.9**
baz=103
L17K Donlin 61.62 333 P P **15 27 13.5 +1.4**
baz=110
NUUG Nuugaatsiaq 61.67 15 *i* P P **15 27 12.6 +0.4**
NUUG IAmb IAmb 15 27 22.3
comp=Z,9.7nm,0.9s
E22K Anaktuvuk Pass 61.68 340 IAmb IAmb 15 27 22.0
comp=Z,10.0nm,1.1s
E22K Anaktuvuk Pass 61.68 340 P P **15 27 13.7 +1.2**
baz=120
D23K Nanushuk River 61.75 341 P P **15 27 14.2 +1.4**
baz=121,SNR=8.2
F21K Alatna River 61.80 339 P P **15 27 14.3 +1.0**
baz=117,SNR=15
N15K Kwethluk River 61.80 330 P P **15 27 14.2 +0.8**
baz=107
K17K Iditarod 61.82 333 P P **15 27 14.1 +0.6**
baz=110
GCSA Galena City Sc 61.99 336 P P **15 27 15.9 +1.4**
baz=113
L16K Owhat River 62.00 332 P P **15 27 15.5 +0.8**
baz=109
O14K Tigyukauivet M 62.10 329 P P **15 27 16.1 +0.7**
baz=106
H19K Roundabout Mou 62.14 337 IAmb IAmb 15 27 24.4
comp=Z,10nm,1.0s
H19K Roundabout Mou 62.14 337 P P **15 27 16.7 +1.1**
baz=122
C23K Itkillik River 62.18 342 P P **15 27 16.6 +0.8**
baz=122
FALS False Pass 62.19 324 P P **15 27 17.0 +1.0**
baz=102
D22K Ayikyak River 62.33 341 P P **15 27 17.8 +1.0**
baz=119,SNR=9.8
J17K VABM Dome 62.39 334 P P **15 27 18.3 +1.0**
baz=110
N14K Kuskokwak Cree 62.49 330 P P **15 27 19.0 +1.0**
baz=106
PLCA Paso Flores 62.50 156 P P **15 27 19.1 +0.7**
comp=Z,2.0nm,0.9s,baz=314,slow=7.7,SNR=5.5
PLCA LR LR 15 48 44.2
comp=Z,73nm,21.6s,baz=326,slow=31
comp=Z,2.0nm,0.9s
F20K Avaraart Lake 62.51 338 IAmb IAmb 15 27 27.1
comp=Z,10nm,1.1s
F20K Avaraart Lake 62.51 338 P P **15 27 19.4 +1.4**
baz=115
E21K Killik River 62.53 340 P P **15 27 19.4 +1.2**
baz=117
G19K Purcell Mounta 62.63 337 P P **15 27 19.6 +0.7**
baz=113,SNR=7.7
H18K Honhosa River 62.73 336 P P **15 27 19.6 +0.1**
baz=112
KULLO Kullorsuaq 62.79 12 *i* P P **15 27 19.6 -0.1**
KULLO IAmb IAmb 15 28 03.0
comp=Z,9.7nm,0.8s
M14K Bethel 62.85 331 P P **15 27 21.1 +0.8**
baz=106
L15K Ungalak Mounta 62.90 332 P P **15 27 21.2 +0.5**
baz=107
TBI Tubuai 62.91 233 *e*LR LR 15 46 05.5
comp=Z,684nm,26.0s
J16K Anvik River 63.00 334 P P **15 27 22.1 +0.7**
baz=108
K15K Wolf Creek Mou 63.10 332 P P **15 27 22.6 +0.6**
baz=107
G18K Tagagawik 63.12 337 P P **15 27 23.4 +1.3**
baz=112
C21K Knifeblade Rid 63.13 341 P P **15 27 22.9 +0.8**
baz=117,SNR=6.1
F19K Shaleruckik Mo 63.15 338 P P **15 27 23.0 +0.8**
baz=113
E20K Nigu River 63.19 339 P P **15 27 23.4 +0.8**
baz=115
E19K Redstone River 63.21 338 IAmb IAmb 15 27 31.6
comp=Z,12nm,0.9s
E19K Redstone River 63.21 338 P P **15 27 24.0 +1.3**
baz=114
H17K Granite Mounta 63.27 335 IAmb IAmb 15 27 33.1
comp=Z,16nm,1.1s
H17K Granite Mounta 63.27 335 P P **15 27 24.4 +1.3**
baz=110
B22K Teshekpuk Lake 63.27 342 IAmb IAmb 15 27 32.2
comp=Z,20nm,1.1s
B22K Teshekpuk Lake 63.27 342 P P **15 27 24.1 +1.2**
baz=119
B21K Ikpikpuk River 63.29 341 IAmb IAmb 15 27 31.9
comp=Z,20nm,1.4s
B21K Ikpikpuk River 63.29 341 P P **15 27 23.7 +0.6**
baz=117
L14K Kuka Creek 63.35 331 P P **15 27 24.8 +1.1**
baz=106
D20K Etivluk River 63.52 340 P P **15 27 26.1 +1.3**
baz=115,SNR=5.8
G17K Kiwalik Mounta 63.75 336 P P **15 27 28.1 +1.8**
baz=109
F18K Selawik 63.76 337 P P **15 27 27.8 +1.6**
baz=111
UNV Unalaska Valle 63.78 322 P P **15 27 28.0 +1.3**
baz=98
D19K Kuna River 63.94 339 IAmb IAmb 15 27 36.9
comp=Z,9.4nm,1.0s
D19K Kuna River 63.94 339 P P **15 27 28.6 +1.1**
baz=113
A22K Sinclair Lake 64.04 342 P P **15 27 29.3 +1.3**
baz=118,SNR=6.7
H16K Elim 64.11 335 P P **15 27 29.8 +1.1**
baz=108
J14K Nanvaranak Lak 64.13 333 P P **15 27 29.3 +0.5**
baz=105
B20K Meade River 64.25 341 P P **15 27 30.1 +0.6**
baz=115
F17K Baldwin Pennin 64.30 337 P P **15 27 30.9 +1.0**
baz=109
ICESG Greenland Ices 64.36 20 *i* P P **15 27 30.1 -0.5**
ICESG IAmb IAmb 15 27 34.7
comp=Z,17nm,0.9s
G16K Koyuk River 64.39 336 P P **15 27 31.0 +0.5**
baz=108
E18K Tukpahlearik C 64.40 338 IAmb IAmb 15 27 40.0
comp=Z,20nm,1.1s
E18K Tukpahlearik C 64.40 338 P P **15 27 31.0 +0.5**
baz=110
K13K Kusilvak Mount 64.42 332 P P **15 27 31.8 +1.0**
baz=104
C19K Lookout Ridge 64.67 340 P P **15 27 34.1 +1.7**
baz=112
E17K Hotham Inlet 64.73 337 P P **15 27 34.2 +1.5**
baz=109,SNR=5.4
G15K Niukluk 64.95 335 P P **15 27 35.4 +1.2**
baz=106
C18K Utukok River 65.04 339 P P **15 27 35.9 +1.2**
baz=110
NIKH Nikolski High 65.07 321 P P **15 27 36.4 +1.3**
baz=96
D17K Noatak River 65.39 338 P P **15 27 38.3 +1.4**
baz=108
ANM Nome 65.39 334 P P **15 27 38.2 +1.2**
baz=104
F15K North Star Dit 65.40 336 IAmb IAmb 15 27 47.8
comp=Z,16nm,0.9s
F15K North Star Dit 65.40 336 P P **15 27 38.7 +1.6**
baz=106
RDOG Red Dog Mine 65.44 338 P P **15 27 38.7 +1.3**
baz=108
B18K Kokolik River 65.50 340 P P **15 27 38.3 +0.7**
baz=110
A19K Wainwright 65.56 341 P P **15 27 38.6 +0.6**
baz=111
C17K DeLong Mountai 65.67 339 P P **15 27 39.4 +0.6**
baz=108
NEEM North Greenlan 65.81 10 ‖ *i* P P **15 27 40.0 +0.1**
P08K Saint George I 65.89 325 P P **15 27 40.8 +0.4**
baz=97
F14K Arctic Creek 66.01 335 P P **15 27 41.5 +0.5**
baz=104
SUMG Summit 66.11 17 P P **15 27 43.3 +1.2**
SUMG pmax pmax
comp=Z,24nm,1.8s
SUMG Summit 66.11 17 ‖ *i* P P **15 27 42.5 +0.5**
SUMG IAmb IAmb 15 27 50.8
comp=Z,9.9nm,0.8s
C16K Lisburne Hills 66.38 338 P P **15 27 43.6 +0.4**
baz=106
RAR Rarotonga 70.08 240 LR LR 15 49 04.9
comp=Z,38nm,20.2s,baz=86,slow=28
BORG Borgarnes 70.35 26 LR LR 15 59 36.4
comp=Z,37nm,21.6s,baz=288,slow=36
DAG Danmarks Havn 72.23 14 *i* P P **15 28 19.0 -0.4**
DAG IAmb IAmb 15 28 27.4
comp=Z,6.6nm,0.7s
NOR Nord 73.05 9 *i* P P **15 28 23.4 -0.9**
NOR IAmb IAmb 15 28 30.6
comp=Z,4.2nm,0.9s
JMIC Jan Mayen 75.09 20 LR LR 16 04 06.6
comp=Z,93nm,18.8s,baz=232,slow=38
BILL Bilibino 76.88 337 P P **15 28 46.4 -0.3**
BILL IAmb IAmb 15 28 57.7
comp=Z,10.0nm,1.0s
BILL Bilibino 76.88 337 *i* P P **15 28 47.6 +1.0**
BILL pmax pmax
comp=Z,10.0nm,1.1s
SPITS Spitsbergen Ar 79.35 11 LR LR 16 06 52.4
comp=Z,103nm,19.6s,baz=286,slow=38
EKA Eskdalemuir Ar 80.26 35 P P **15 29 05.1 -0.4**
comp=Z,1.0nm,0.8s,baz=279,slow=4.7,SNR=2.0
comp=Z,1.0nm,0.8s
ESDC Sonseca Array 83.78 51 P P **15 29 24.2 -0.2**
comp=Z,0.7nm,0.8s,baz=320,slow=4.4,SNR=4.4
ESDC LR LR 16 04 25.3
comp=Z,72nm,18.6s,baz=300,slow=34
comp=Z,0.7nm,0.8s
SEY Seymchan 83.90 334 LR LR 16 09 21.9
comp=Z,76nm,18.8s,baz=339,slow=38
SEY Seymchan 83.90 334 *e*P P **15 29 24.2 -0.2**
SEY pmax pmax
comp=Z,7.0nm,1.1s
PETK Petropavlovsk- 84.92 324 LR LR 16 07 27.8
comp=Z,56nm,18.8s,baz=43,slow=36
MDT Midelt 85.14 57 LR LR 16 02 37.7
comp=Z,52nm,20.4s,baz=340,slow=32
NB2 NORSAR Subarra 85.51 27 P P **15 29 33.3 +0.6**
comp=Z,8.3nm,1.1s,baz=299,slow=5.1
NOA NORSAR Array B 85.51 27 P P **15 29 33.0 +0.3**
comp=Z,1.3nm,0.8s,baz=300,slow=4.9,SNR=6.9
NOA LR LR 16 08 01.8
comp=Z,34nm,21.9s,baz=300,slow=36
comp=Z,1.3nm,0.8s
NOA NORSAR Array B 85.51 27 *e*P P **15 29 33.0 +0.3**
NOA pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 86.20 17 LR LR 16 09 13.9
comp=Z,68nm,20.7s,baz=318,slow=36
TIXI Tiksi 86.66 346 P P **15 29 37.5 -0.6**
TIXI Tiksi 86.66 346 LR LR 16 11 39.9
comp=Z,75nm,20.8s,baz=68,slow=38
TIXI Tiksi 86.66 346 *i* P P **15 29 39.1 +1.0**
TIXI pmax pmax
comp=Z,14nm,1.2s
HFS Hagfors 87.01 28 LR LR 16 09 49.2
comp=Z,30nm,19.8s,baz=294,slow=37
CLL Collm 90.72 36 *i* P P 15 30 04.9 +7.1
DAVOX Davos/Dischmat 90.85 41 LR LR 16 11 59.7
comp=Z,57nm,19.9s,baz=265,slow=36
FINES FINESS Array B 91.39 23 P P **15 29 59.7 -0.9**
comp=Z,2.3nm,0.8s,baz=23,slow=6.2,SNR=5.7
FINES LR LR 16 12 57.7
comp=Z,77nm,20.2s,baz=271,slow=37
comp=Z,2.3nm,0.8s
GERES GERESS Array B 92.26 38 LR LR 16 13 11.9
comp=Z,51nm,19.3s,baz=281,slow=37
DBIC Dimbokro 92.28 82 LR LR 16 05 39.6
comp=Z,42nm,21.0s,baz=319,slow=32
YAK Yakutsk 93.14 339 LR LR 16 15 54.0
comp=Z,96nm,18.4s,baz=36,slow=38
YAK Yakutsk 93.14 339 *e*P P **15 30 10.2 +1.5**
YAK pmax pmax
comp=Z,14nm,0.9s
VRAC Vranov 93.70 36 LR LR 16 15 26.1
comp=Z,40nm,18.2s,baz=257,slow=38
KLMR Klimovskoe 96.47 19 *e*P P **15 30 22.3 -1.7**
KLMR *e* 15 34 14.0
KLMR pmax pmax
comp=Z,15nm,1.5s
MNK Minsk 96.51 28 *i* P P **15 30 23.7 -0.6**
MNK *i* 15 34 16.7
MNK *i* PPP PPP 15 36 19.5
MNK *i* S **SKSac** **15 41 00.1 -2.2**
MNK *i* PS **PS** **15 43 04.5 -1.1**
MNK *i* SS **SS** **15 48 16.5 -1.8**
MNK *i* SSS SSS 15 51 57.3
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,10.0nm,0.8s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK MLR MLR
comp=E,290nm,24.0s
MNK MLR MLR
comp=N,654nm,23.0s
TORD Torodi Ar. Bea 96.54 74 P P **15 30 23.9 -1.4**
comp=N,0.5nm,0.8s,baz=290,slow=4.3,SNR=2.3
TORD LR LR 16 10 37.9
comp=N,99nm,20.6s,baz=322,slow=34
comp=N,0.5nm,0.8s
VAE Valguarnera 97.96 47 LR LR 16 10 41.3
comp=N,120nm,18.7s,baz=336,slow=33
AKASG Malin Array Be 99.58 30 LR LR 16 15 33.4
comp=N,49nm,21.8s,baz=315,slow=35
OBN Obninsk 99.75 24 LR LR 16 18 17.7
comp=N,67nm,19.6s,baz=260,slow=37
OBN Obninsk 99.75 24 *i* P **Pdif** **15 30 40.9 +2.1**
OBN pmax pmax
comp=Z,8.0nm,1.4s
DZM Mont Dzumac 99.88 250 *e*LR LR 16 03 21.7
comp=Z,78nm,24.6s
KURK Kurchatov 113.42 2 *i* PKIKP **PKiKP** **15 35 35.6 +2.7**
MKAR Makanchi Array 117.36 359 PKP **PKPdf** **15 35 40.3 -0.4**
comp=Z,0.2nm,0.7s,baz=22,slow=2.8,SNR=1.9

STKA	Stephens Creek	123.00	242	PKP	PKiKP	15 35 52.8	+0.8
	comp=Z,0.8nm,0.6s,baz=45,slow=5.7,SNR=1.3						
WRA	Warramunga Arr	129.16	257	PKP	PKiKP	15 36 04.9	+0.3
	comp=Z,0.9nm,0.7s,baz=73,slow=2.2,SNR=5.5						
ASAR	Alice Springs	129.78	252	PKP	PKPdf	15 36 05.6	+0.5
	comp=Z,0.7nm,0.9s,baz=136,slow=1.9,SNR=4.0						
CMAR	Chiang Mai Arr	141.28	332	PKP	PKPdf	15 36 28.0	+1.4
	comp=Z,2.0nm,1.0s,baz=342,slow=2.8,SNR=8.9						
NWAO	Narrogin (SRO)	143.13	236	PKPdf	PKPdf	15 36 28.8	-0.6
NWAO	Narrogin (SRO)	143.13	236	PKIKP	PKPdf	15 36 28.8	-0.6
KSM	Kuching	146.04	298	PKPdf	PKPab	15 36 36.4	0.0
HYB	Hyderabad	146.59	4	*e*PKPab	PKPab	15 36 38.0	-0.3
KULM	Kulim	151.06	316		PKPbc	15 36 46.6	-2.4
IPM	Ipoh	151.40	314		PKPbc	15 36 50.0	+0.2

IDC 04 15:23:08.7±2.5, 3.18N×129.14E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=126.0km s-min=22.5km az=63.0, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.54	168	P	P	15 28 20.9	+0.1
	0.7nm,0.5s,baz=348,slow=11,SNR=11						
	0.7nm,0.5s						
ASAR	Alice Springs	27.09	170	P	P	15 28 53.3	0.0
	0.2nm,0.4s,baz=352,slow=7.9,SNR=9.9						
	0.2nm,0.4s						
CMAR	Chiang Mai Arr	33.23	299	P	P	15 29 48.1	+0.3
	0.2nm,0.3s,baz=119,slow=7.3,SNR=2.1						
	0.2nm,0.3s						
MKAR	Makanchi Array	59.38	324	P	P	15 33 12.6	-0.3
	0.3nm,0.5s,baz=112,slow=7.8,SNR=5.8						
	0.3nm,0.5s						

*IDC **04** 15:36:46.8±1.6, 30.12S×177.61W, h0km, mb3.9/4, mbtmp3.9/5, ML2.9/1, Error ellipse: s-maj=38.6km s-min=21.2km az=93.0*
*NEIC **04** 15:36:49.0±1.3, 29.96S±0.09×177.6W±0.2, h10km±2km, mb4.3/12, Error ellipse: s-maj=30.2km s-min=9.7km az=64.0*
ISC 04 15:36:48.6±1.1, 30.08S±0.07×177.7W±0.2, h10km, n22, σ1s04/23, mb4.2/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island	0.84	346		Pg	15 37 03.6	-1.3
RAO	Raoul Island	0.84	346	Pn	Pn	15 37 07.4	+0.9
	191nm,0.3s,baz=61,slow=8.5,SNR=19						
RAO				Sn	Sn	15 37 19.4	+0.4
	692nm,0.3s,baz=73,slow=23,SNR=9.2						
URZ	Urewera	9.23	206	Pn	Pn	15 38 59.6	-2.1
	0.1nm,0.3s,baz=354,slow=19,SNR=1.0						
URZ				Sn	Sn	15 40 35.6	-10
	0.7nm,0.3s,baz=37,slow=23,SNR=1.7						
	5.7nm,0.9s						
PINNC	Pines Island,	15.25	296	Pn	Pn	15 40 24.5	+0.6
CAN	Canberra	28.43	251	P	P	15 42 41.9	-1.7
TOO	Toolangi	31.34	246	P	P	15 43 10.3	+1.0
CTAO	Charters Tower	34.01	279	P	P	15 43 33.6	+0.7
CTAO				IAmb	IAmb	15 43 36.1	
	comp=Z,5.0nm,0.9s						
STKA	Stephens Creek	34.81	256	P	P	15 43 40.8	+1.1
STKA	Stephens Creek	34.81	256	P	P	15 43 40.8	+1.1
	comp=Z,1.0nm,0.5s,baz=115,slow=11,SNR=5.6						
	comp=Z,1.0nm,0.5s						
BBOO	Buckleboo	39.31	254	P	P	15 44 17.7	-0.3
BBOO				IAmb	IAmb	15 44 38.4	
	comp=Z,11nm,1.1s						
AS31	Alice Springs	43.39	266	P	P	15 44 51.9	+0.3
ASAR	Alice Springs	43.40	266	P	P	15 44 51.2	-0.4
ASAR	Alice Springs	43.40	266	P	P	15 44 51.6	+0.1
	comp=Z,0.7nm,0.5s,baz=104,slow=7.4,SNR=12						
	comp=Z,0.7nm,0.5s						
WR0	Warramunga Arr	44.17	272	P	P	15 44 58.3	+0.5
WR0				IAmb	IAmb	15 45 02.3	
	comp=Z,3.4nm,0.6s						
WB2	Warramunga Arr	44.34	272	P	P	15 44 59.7	+0.5
WB2				IAmb	IAmb	15 45 12.8	
	comp=Z,3.9nm,0.8s						
WRA	Warramunga Arr	44.35	272	P	P	15 44 59.1	-0.2
	comp=Z,1.2nm,0.4s,baz=110,slow=8.1,SNR=24						
	comp=Z,1.2nm,0.4s						
WB0	Warramunga Arr	44.38	272	P	P	15 44 58.9	-0.6
WB0				IAmb	IAmb	15 45 23.5	
	comp=Z,3.9nm,1.1s						
SBA	Scott Base	48.38	184	P	P	15 45 31.3	+1.2
QSPA	South Pole Qui	60.03	180	P	P	15 46 56.1	+0.7
QSPA				IAmb	IAmb	15 47 02.9	
	comp=Z,1.8nm,0.8s						
QSPA	South Pole Qui	60.03	180	P	P	15 46 56.3	+0.9
	comp=Z,1.2nm,1.0s,baz=346,slow=19,SNR=2.3						
	comp=Z,1.2nm,1.0s						
FINES	FINESS Array B	144.93	340	PKPbc	PKPab	15 56 23.2	-1.2
	comp=Z,2.8nm,0.5s,baz=63,slow=3.7,SNR=28						
AKASG	Malin Array Be	151.20	323	PKPbc	PKPbc	15 56 40.3	-1.4
	comp=Z,0.6nm,0.5s,baz=60,slow=1.6,SNR=1.6						

IDC 04 15:46:53.7±2.4, 5.86S×152.34E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=154.7km s-min=30.7km az=127.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	22.41	230	P	P	15 51 52.7	-1.4
	1.1nm,0.8s,baz=54,slow=9.8,SNR=7.6						
	1.1nm,0.8s						
ASAR	Alice Springs	25.07	223	P	P	15 52 20.8	+0.7
	0.6nm,0.4s,baz=59,slow=8.7,SNR=16						
	0.6nm,0.4s						
ILAR	Eielson Array	83.31	22	P	P	15 59 21.8	-0.3
	0.3nm,0.7s,baz=231,slow=5.7,SNR=2.3						
	0.3nm,0.7s						
TORD	Torodi Ar. Bea	150.18	286	PKPbc	PKPbc	16 06 48.0	+0.2
	0.4nm,0.6s,baz=61,slow=3.7,SNR=3.0						

*IDC **04** 15:52:30.3±2.3, 6.03S×130.50E, h0km, mb4.0/1, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=145.6km s-min=30.2km az=71.0*
ISC 04 15:52:33.5±1.1, 5.88S±0.08×130.4E±0.2, h10km, n12, σ2s00/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	2.26	158	P	Pg	15 53 16.6	-0.2
FAKI	Fak Fak	3.45	32	P	Pb	15 53 35.3	+0.6
DRS	Darwin Rock St	6.53	176	P	Pn	15 54 12.5	+2.9
MTN	Manton Dam	6.96	174	P	Pn	15 54 18.2	+2.7
KDU	Kakadu	7.06	164	P	Pn	15 54 17.8	+0.9
KNRA	Kununurra	9.88	189	P	Pn	15 54 57.4	+1.8
WRA	Warramunga Arr	14.48	165	Pn	Pn	15 55 53.4	-5.4
	0.5nm,0.3s,baz=348,slow=13,SNR=18						
WRA				Sn	Sn	15 58 22.2	-17
	0.3nm,0.3s,baz=344,slow=22,SNR=3.1						
	1.0nm,0.4s						
COEN	Coen	14.88	124	P	Pn	15 56 04.1	-0.1
QIS	Mount Isa	17.09	149	P	Pn	15 56 32.8	+0.1
ASAR	Alice Springs	18.00	170	P	Pn	15 56 41.0	-3.0
	0.3nm,0.3s,baz=346,slow=9.2,SNR=23						
ASAR				S	Sn	15 59 47.4	-18
	0.7nm,1.0s,baz=358,slow=26,SNR=4.3						
	0.8nm,0.5s						
WRKA	Warakurna	19.16	186	P	P	15 56 55.6	-1.6
MKAR	Makanchi Array	67.54	326	P	P	16 03 29.5	-0.5
	0.6nm,0.3s,baz=112,slow=8.0,SNR=13						
	0.6nm,0.3s						

*KRSC **04** 16:18:14.6±1.2, 54.44N×159.81E, h174km±14km, Ml4.3*
*MOS **04** 16:18:15.1±0.6, 54.53N×159.56E, h177km, mb4.0/1, Error ellipse: s-maj=20.2km s-min=5.1km az=77.8*
*IDC **04** 16:18:16.3±1.6, 54.11N×159.58E, h197km±11km, mb3.3/8, mbtmp3.8/8, Error ellipse: s-maj=30.3km s-min=21.0km az=102.0*
ISC 04 16:18:15.0±0.7, 54.47N±0.03×159.77E±0.05, h175km±5km, n91, σ1s25/120, mb3.5/8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KII	Karymskiy	0.47	204	*e*P	Pn	16 18 39.5	+0.3
KII	Karymskiy	0.47	204	PN	Pn	16 18 39.5	+0.3

TUMD	Tumrok D	0.82	26	*i* P	Pn	16 18 41.4	+0.5
TUMD				*e*S	Sn	16 18 60.0	-1.1
TUMR	Tumrok	0.85	15	*i* P	Pn	16 18 42.1	+1.0
TUMR				*e*S	Sn	16 19 01.5	-0.1
TUMR	Tumrok	0.85	15	PN	Pn	16 18 41.4	+0.2
TUMR				S	Sn	16 19 00.0	-1.5
MKZ	Mys Kozlova	1.15	85	*e*P	Pn	16 18 44.1	+0.8
MKZ				*e*S	Sn	16 19 03.9	-1.2
MKZ	Mys Kozlova	1.15	85	PN	Pn	16 18 44.1	+0.8
MKZ				S	Sn	16 19 03.9	-1.2
KRX	Arik	1.29	211	*e*P	Pn	16 18 45.8	+1.0
KRX	Arik	1.29	211	PN	Pn	16 18 45.8	+1.0
KRER	Koryakskii	1.31	208	*e*P	Pn	16 18 46.4	+1.4
KRER				*e*S	Sn	16 19 04.4	+1.3
KRER	Koryakskii	1.31	208	PN	Pn	16 18 46.4	+1.4
KRER				S	Sn	16 19 09.4	+1.3
KMNR	Kamenistaya	1.32	12	*e*P	Pn	16 18 45.6	+0.7
KMNR				*e*S	Sn	16 19 08.2	+0.1
KMNR	Kamenistaya	1.32	12	PN	Pn	16 18 45.6	+0.7
KMNR				S	Sn	16 19 08.2	+0.1
NLC	Nalytchevo	1.32	191	*e*P	Pn	16 18 45.7	+0.9
NLC				*e*S	Sn	16 19 08.1	+0.2
NLC	Nalytchevo	1.32	191	PN	Pn	16 18 45.7	+0.9
NLC				S	Sn	16 19 08.1	+0.2
GNL	Ganaly	1.33	235	*e*P	Pn	16 18 45.4	+0.4
GNL	Ganaly	1.33	235	PN	Pn	16 18 45.4	+0.4
SMAR	Somma	1.34	206	*e*P	Pn	16 18 46.5	+1.2
SMAR	Somma	1.34	206	PN	Pn	16 18 46.5	+1.2
AVH	Avacha	1.35	207	*e*P	Pn	16 18 46.9	+1.7
AVH	Avacha	1.35	207	PN	Pn	16 18 46.9	+1.7
KOK	Koryaka	1.36	210	*e*P	Pn	16 18 46.5	+1.2
KOK	Koryaka	1.36	210	PN	Pn	16 18 46.5	+1.2
UGLR	Uglovaya	1.38	204	*e*P	Pn	16 18 46.9	+1.4
UGLR	Uglovaya	1.38	204	PN	Pn	16 18 46.9	+1.4
SPN	Mys Shipunski	1.38	174	*e*P	Pn	16 18 46.5	+1.1
SPN				*e*S	Sn	16 19 08.0	-0.8
SPN	Mys Shipunski	1.38	174	PN	Pn	16 18 46.5	+1.1
SPN				S	Sn	16 19 08.0	-0.8
BZP	Bezymyannyi-Pe	1.51	17	*e*P	Pn	16 18 47.4	+0.6
KPT	Kopyto	1.52	10	*e*P	Pn	16 18 47.2	+0.4
KPT	Kopyto	1.52	10	PN	Pn	16 18 47.2	+0.4
KIRR	Kirishev	1.52	12	*e*P	Pn	16 18 47.1	+0.2
KIRR	Kirishev	1.52	12	PN	Pn	16 18 47.1	+0.2
BZMR	Bezymyannaya	1.53	15	*e*P	Pn	16 18 47.8	+0.9
BZMR	Bezymyannaya	1.53	15	PN	Pn	16 18 47.8	+0.9
BZWR	Bezymyannyi-We	1.56	15	*e*P	Pn	16 18 48.0	+0.8
BZWR	Bezymyannyi-We	1.56	15	PN	Pn	16 18 48.0	+0.8
DALK	Dalny	1.56	203	*e*P	Pn	16 18 48.0	+0.9
DALK	Dalny	1.56	203	PN	Pn	16 18 48.0	+0.9
BZGR	Bezymyannyi-Gr	1.57	19	*e*P	Pn	16 18 48.1	+0.9
BZGR	Bezymyannyi-Gr	1.57	19	PN	Pn	16 18 48.1	+0.9
ESO	Esso	1.58	338	*e*P	Pn	16 18 46.9	-0.4
ESO	Esso	1.58	338	PN	Pn	16 18 46.9	-0.4
PET	Petropavlovsk	1.59	205	*e*P	Pn	16 18 48.4	+1.0
PET	Petropavlovsk	1.59	205	PN	Pn	16 18 48.4	+1.0
KOZ	Kozyrevsk	1.59	2	*e*P	Pn	16 18 47.7	+0.3
KOZ	Kozyrevsk	1.59	2	PN	Pn	16 18 47.7	+0.3
ZLN	Zelenaya	1.66	20	*e*P	Pn	16 18 49.4	+1.2
ZLN	Zelenaya	1.66	20	PN	Pn	16 18 49.4	+1.2
LGNR	Loginova	1.70	18	*e*P	Pn	16 18 50.1	+1.3
LGNR	Loginova	1.70	18	PN	Pn	16 18 50.1	+1.3
PETK	Petropavlovsk- 13nm,0.6s,baz=59,slow=14,SNR=9.6	1.83	223	P	Pn	16 18 50.0	+0.1
PETK				S	Sn	16 19 15.6	-1.3
	6.0nm,0.3s,baz=73,slow=20,SNR=3.3						
SRDR	Sredinnyy	1.85	359	*i* P	Pn	16 18 50.5	+0.4
SRDR	Sredinnyy	1.85	359	PN	Pn	16 18 50.5	+0.4
KRMR	Karymshinskiy	1.91	211	*e*P	Pn	16 18 51.7	+1.0
KRMR				*e*S	Sn	16 19 19.2	+0.9
KRMR	Karymshinskiy	1.91	211	PN	Pn	16 18 51.7	+1.0
KRMR				S	Sn	16 19 19.2	+0.9
KLY	Klyuchi	1.92	15	*e*P	Pn	16 18 52.0	+1.3
KLY				*e*S	Sn	16 19 20.4	+1.9
KLY	Klyuchi	1.92	15	PN	Pn	16 18 52.0	+1.3
KLY				S	Sn	16 19 20.4	+1.9
RUS	Russkaya	2.17	201	*e*P	Pn	16 18 54.1	+0.5
RUS				*e*S	Sn	16 19 23.1	-0.3
RUS	Russkaya	2.17	201	PN	Pn	16 18 54.1	+0.5
RUS				S	Sn	16 19 23.1	-0.3
APC	Apacha	2.19	226	*e*P	Pn	16 18 55.0	+1.2
APC	Apacha	2.19	226	PN	Pn	16 18 55.0	+1.2
MTVR	Mutnovka	2.20	206	*e*P	Pn	16 18 55.6	+1.5
MTVR				*e*S	Sn	16 19 26.8	+2.4
MTVR	Mutnovka	2.20	206	PN	Pn	16 18 55.6	+1.5
MTVR				S	Sn	16 19 26.8	+2.4
ASAK	Asacha	2.37	209	*e*P	Pn	16 18 57.6	+1.7
ASAK				*e*S	Sn	16 19 29.3	+1.6
ASAK	Asacha	2.37	209	PN	Pn	16 18 57.6	+1.7
ASAK				S	Sn	16 19 29.3	+1.6
KBTR	Krutoberegovo	2.46	44	*e*P	Pn	16 18 58.5	+1.6
KBTR				*e*S	Sn	16 19 29.0	-0.5
KBTR	Krutoberegovo	2.46	44	PN	Pn	16 18 58.5	+1.6
KBTR				S	Sn	16 19 29.0	-0.5
KDTR	Khodutka, Kamc	2.85	202	*e*P	Pn	16 19 01.8	+0.3
KDTR				*e*S	Sn	16 19 36.2	-1.5
KDTR	Khodutka, Kamc	2.85	202	PN	Pn	16 19 01.8	+0.3
KDTR				S	Sn	16 19 36.2	-1.5
TIGL	Tigil	3.36	350	*e*P	Pn	16 19 07.6	-0.1
PAU	Pauzhetka	3.50	212	*e*P	Pn	16 19 12.0	+2.5
PAU	Pauzhetka	3.50	212	PN	Pn	16 19 12.0	+2.5
BKI	Bering	3.66	76	*e*P	Pn	16 19 13.2	+1.7
BKI				*e*S	Sn	16 19 54.6	-1.1
BKI	Bering	3.66	76	PN	Pn	16 19 13.2	+1.7
BKI				S	Sn	16 19 54.6	-1.1
SKR	Severo-Kuril's	4.40	212	*e*P	Pn	16 19 21.9	+1.0
SKR				*e*S	Sn	16 20 11.7	-0.9
SKR	Severo-Kuril's	4.40	212	PN	Pn	16 19 21.9	+1.0
SKR				S	Sn	16 20 11.7	-0.9
OSSR	Ossora	5.12	19	*e*P	Pn	16 19 32.4	+2.2
OSSR	Ossora	5.12	19	PN	Pn	16 19 32.4	+2.2
MJAR	Matsushiro Arr	23.28	228	P	P	16 23 05.0	-1.9
	0.9nm,1.0s,baz=16,slow=10.0,SNR=1.3						
	0.9nm,1.0s						
H11N2	WAKE ISLAND Hy	35.10	168	T	T	17 02 31.4	
	baz=355,slow=76,SNR=17						
H11N3	WAKE ISLAND Hy	35.12	168	T	T	17 02 31.4	
	baz=355,slow=76,SNR=16						
H11N1	WAKE ISLAND Hy	35.12	168	T	T	17 02 31.6	
	baz=355,slow=76,SNR=10						
SPITS	Spitsbergen Ar	45.74	350	P	P	16 26 19.2	+1.2
	6.4nm,1.0s,baz=57,slow=9.2,SNR=7.8						
	6.4nm,1.0s						
KURK	Kurchatov	46.85	301	P	P	16 26 27.6	+0.6
KURBB	Kurchatov Arra	46.96	301	P	P	16 26 27.6	-0.2
	0.8nm,0.4s,baz=58,slow=7.6,SNR=8.9						
	0.8nm,0.4s						
MKAR	Makanchi Array	47.40	294	P	P	16 26 30.9	-0.5
	0.5nm,0.5s,baz=61,slow=6.6,SNR=6.6						
	0.5nm,0.5s						
BVAR	Borovoye Array	49.39	307	P	P	16 26 46.4	0.0
	1.6nm,0.4s,baz=55,slow=7.4,SNR=12						
	1.6nm,0.4s						
FINES	FINESS Array B	58.78	336	P	P	16 27 54.8	+0.7
	0.3nm,0.4s,baz=15,slow=7.9,SNR=4.6						
	0.3nm,0.4s						
SCHQ	Schefferville	64.52	28	P	P	16 28 34.8	+2.2
	0.7nm,0.4s,baz=71,slow=10,SNR=1.8						
	0.7nm,0.4s						
ASAR	Alice Springs	80.94	204	P	P	16 30 04.9	-4.6
	0.3nm,0.8s,baz=13,slow=13,SNR=4.6						
	0.3nm,0.8s						
QSPA	South Pole Qui	144.22	180	PKP	PKPdf	16 37 28.2	-0.1
	0.5nm,0.5s,baz=353,slow=6.2,SNR=9.1						

*DJA **04** 16:18:59.7±0.3, 5.52S×133.97E±, h76km±12km, M4.1/10, mB5.0/2, mb4.2/10, MLv4.1/8, Mw(mB)4.3/2*
*IDC **04** 16:19:00.3±3.9, 5.38S×132.36E, h0km, mb3.3/1, mbtmp3.6/3, ML3.6/2, Error ellipse: s-maj=231.2km s-min=33.1km az=75.0*
ISC 04 16:18:57.6±1.1, 4.83S±0.06×133.97E±0.09, h35km, n21, σ2s84/24, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	Kaimana, Papua	1.19	347	P	Pn	16 19 19.1	+1.3
FAKI	Fak Fak	2.56	318	P	Pn	16 19 37.7	+1.1
FAKI	Fak Fak	2.56	318	P	Pn	16 19 37.3	+0.7
FAKI				S	Sn	16 20 04.8	-1.8
BNDI	Bandanaira	4.07	274	P	Pn	16 20 00.9	+3.5
BNDI	Bandanaira	4.07	274	P	Pn	16 19 57.9	+0.5
BNDI				S	Sn	16 20 44.8	+1.0

SAUI	Saumlaki	4.11	220	P	Pn	16 20 02.7	+4.8
SAUI				S	Sn	16 20 46.4	+1.6
SWI	Sorong	4.78	325	P	Pn	16 20 08.6	+1.4
SWI				S	Sn	16 20 58.5	-2.9
LBMI	Labuha	7.69	303	P	Pn	16 20 48.9	+1.7
	27nm,0.7s,960nm0.1nm						
KDU	Kakadu	7.95	191	P	Pn	16 20 52.9	+2.2
DRS	Darwin Rock St	8.14	202	P	Pn	16 20 55.9	+2.5
SANI	Sanana	8.44	289	P	Pn	16 20 56.9	-0.5
SANI	Sanana	8.44	289	P	Pn	16 20 56.0	-1.4
	9.2nm,0.8s						
MTN	Manton Dam	8.44	199	P	Pn	16 20 59.6	+2.1
SOEI	Soe	10.80	243	P	Pn	16 21 30.0	+0.1
	17nm,0.8s						
BATI	Baumata	11.53	242	P	Pn	16 21 42.0	+2.1
	36nm,1.7s						
KNRA	Kununurra	11.94	205	P	Pn	16 21 46.1	+0.7
EDFI	Ende, Flores	12.80	252	P	Pn	16 21 59.6	+2.2
	5.9nm,1.1s						
COEN	Coen	12.83	136	P	Pn	16 21 59.8	+2.2
WRA	Warramunga Arr	15.03	179	Pn	Pn	16 22 26.5	-1.0
	0.3nm,0.3s,baz=359,slow=13,SNR=14						
WRA				Sn	Sn	16 25 05.8	-7.1
	0.2nm,0.3s,baz=360,slow=23,SNR=4.7						
	0.5nm,0.3s						
ASAR	Alice Springs	18.73	180	P	Pn	16 23 16.0	+1.9
	0.2nm,0.3s,baz=358,slow=8.9,SNR=21						
ASAR				S	Sn	16 26 35.1	-7.6
	0.5nm,0.7s,baz=356,slow=28,SNR=5.4						
	3.4nm,1.0s						
MKAR	Makanchi Array	68.67	325	P	P	16 30 02.7	+5.2
	0.1nm,0.4s,baz=126,slow=5.9,SNR=2.2						
	0.1nm,0.4s						

*NNC **04** 16:22:26.5±4.2, 37.87N×71.69E, h227km±70km, mb2.6, mpv3.9, Error ellipse: s-maj=45.6km s-min=26.9km az=17.0*
ISC 04 16:22:24.3±3.5, 37.7N±0.2×71.4E±0.1, h100km, n12, σ2s13/17, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	Uchtor	5.14	27	P	Pn	16 23 39.4	+0.1
	SNR=38						
EKS2	Erkin-Say	5.31	19	P	Pn	16 23 42.2	+1.0
	SNR=14						
KK31	Karatay Array	5.47	353	⇓P	Pn	16 23 45.8	+2.5
	4.0nm,0.3s,baz=177,slow=17,SNR=88						
KK31				⇓S	Sn	16 24 48.5	+3.6
	19nm,0.6s,baz=167,slow=22,SNR=22						
AAK	Ala-Archa	5.50	25	P	Pn	16 23 44.4	+0.6
	SNR=35						
AAK	Ala-Archa	5.50	25	⇑P	Pn	16 23 44.3	+0.4
	6.5nm,0.3s						
AAK				⇑S	Sn	16 24 46.7	+0.9
	8.3nm,0.7s						
KBK	Karagaybulak	5.67	27	P	Pn	16 23 46.9	+0.7
	SNR=15						
CHMS	Chumysh	5.91	25	P	Pn	16 23 49.2	0.0
	SNR=8.6						
CHMS	Chumysh	5.91	25	⇓P	Pn	16 23 48.8	-0.5
	5.2nm,0.3s						
CHMS				⇑S	Sn	16 24 55.8	+0.3
	6.2nm,0.8s						
USP	Ospenovka	6.07	22	P	Pn	16 23 51.2	-0.3
	SNR=20						
TKM2	Tokmak 2	6.15	30	P	Pn	16 23 52.2	-0.5
	SNR=8.8						
TKM2	Tokmak 2	6.15	30	⇑P	Pn	16 23 51.6	-1.1
	3.9nm,0.5s						
TKM2				⇑S	Sn	16 25 02.8	+1.2
	2.2nm,0.7s						
AB31	Akbulak array	14.24	328	⇑P	Pn	16 25 41.8	+0.7
	0.2nm,0.3s,baz=159,slow=11,SNR=16						
AB31				⇑S	Sn	16 28 11.7	-6.2
	1.0nm,0.7s,baz=154,slow=22,SNR=5.2						

*IDC **04** 16:23:04.0±1.3, 11.89N×139.54E, h0km, mb3.6/6, mbtmp3.6/6, Error ellipse: s-maj=41.2km s-min=35.8km az=33.0*
ISC 04 16:23:09.1±1.0, 11.8N±0.1×139.5E±0.2, h35km, n9, σ0s68/9, mb3.6/6, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	Fak Fak	16.29	207	P	P	16 26 58.5	+0.5
FAKI	Fak Fak	16.29	207	P	P	16 26 58.5	+0.5
KNRA	Kununurra	29.28	202	P	P	16 29 07.1	-1.2
CMAR	Chiang Mai Arr	39.63	285	P	P	16 30 38.1	+0.2
	0.7nm,0.7s,baz=84,slow=6.9,SNR=6.3						
	0.7nm,0.7s						
MKAR	Makanchi Array	59.21	318	P	P	16 33 06.9	0.0
	0.4nm,0.7s,baz=98,slow=10,SNR=4.8						
	0.4nm,0.7s						
KURBB	Kurchatov Arra	62.66	321	P	P	16 33 29.9	-0.3
	0.3nm,0.2s,baz=114,slow=6.2,SNR=5.2						
	0.3nm,0.2s						
ILAR	Eielson Array	72.44	26	P	P	16 34 31.6	-0.1
	0.1nm,0.5s,baz=243,slow=6.0,SNR=1.1						
	0.1nm,0.5s						
YKA	Yellowknife Ar	86.84	27	P	P	16 35 49.7	-0.2
	0.1nm,0.3s,baz=288,slow=4.4,SNR=2.3						
	0.1nm,0.3s						
VNDA	Vanda	90.07	175	P	P	16 36 05.6	+0.9
	0.6nm,0.6s,baz=315,slow=2.0,SNR=6.9						
	0.6nm,0.6s						

CMAR Chiang Mai Arr 11.31 210 Pn **Pn** **16 39 28.4 +0.3**
0.3nm,0.3s,baz=16,slow=12,SNR=16
1.0nm,0.6s
SONM Songino Array 19.42 3 P **Pn** **16 41 13.3 -0.6**
0.3nm,0.3s,baz=182,slow=11,SNR=7.0
1.5nm,0.8s
JOW Kunigami 20.80 89 P **P** **16 41 28.6 +0.8**
7.2nm,0.8s,baz=59,slow=3.6,SNR=3.6
7.2nm,0.8s
KSRS Korea Array 21.31 59 P **P** **16 41 33.5 +0.4**
2.0nm,0.6s,baz=242,slow=9.9,SNR=9.2
2.0nm,0.6s
USRK Ussuriysk Ar. 26.77 47 P **P** **16 42 26.6 +0.4**
3.1nm,0.6s,baz=250,slow=8.7,SNR=16
3.1nm,0.6s
GEYT Alibeck 39.90 296 P **P** **16 44 20.4 0.0**
5.6nm,0.8s,baz=102,slow=6.4,SNR=9.5
5.6nm,0.8s
WRA Warramunga Arr 55.89 146 P **P** **16 46 23.1 -1.1**
1.8nm,0.7s,baz=335,slow=8.4,SNR=12
1.8nm,0.7s
ASAR Alice Springs 58.87 149 P **P** **16 46 44.8 -0.5**
1.2nm,0.7s,baz=328,slow=7.2,SNR=14
1.2nm,0.7s
YKA Yellowknife Ar 84.05 17 P **P** **16 49 16.3 -0.2**
0.5nm,0.6s,baz=329,slow=5.6,SNR=8.9
0.5nm,0.6s
TORD Torodi Ar. Bea 95.07 288 P **P** **16 50 10.2 +0.5**
0.3nm,0.8s,baz=67,slow=5.3,SNR=1.3
0.3nm,0.8s

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*IDC **04** 16:37:43.9±0.7,34˚.61N×96˚.69E,h0km,mb4.1/21, mbtmp4.2/25,ML3.8/3,MS4.1/27,Error ellipse: s-maj=22.6km s-min=13.4km az=39.0*
*MOS **04** 16:37:43.7±1.5,34˚.60N×96˚.46E,h10km,mb4.7/29, MS4.4/13,Error ellipse: s-maj=7.4km s-min=4.5km az=125.4*
*BJI **04** 16:37:45.8±0.0,34˚.56N×96˚.55E,h8km,mb4.6/32, mB4.9/20,ML4.3/11,Ms4.9/38,Ms7 4.7/36*
*NEIC **04** 16:37:45.3±2.4,34˚.59N±0˚.07×96˚.52E±0˚.08,h10km±1km, mb4.7/52,Error ellipse: s-maj=13.9km s-min=7.1km az=41.0*
*GCMT **04** 16:37:47.3±0.2,34˚.57N±0˚.01×96˚.60E±0˚.01,h24km±1km, MW4.9/107,Moment Tensor Solution. s45,c53; s107,c170; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}-0.43±.11; $M_{\theta\theta}$-1.20±.09; $M_{\phi\phi}$1.63±.08; $M_{r\theta}$-0.33±.14; $M_{\theta\phi}$2.74±.08; $M_{r\phi}$0.15±.11; Best double couple: M_o3.11000×10¹⁶ NP1:ϕ_s76.00000°,δ85.00000°, λ-6.00000°. NP2:ϕ_s167.00000°,δ84.00000°, λ-175.00000°. Principal axes: T 3.2990, Plg1.0000°, Azm121.0000°; N -0.3790, Plg82.0000°, Azm216.0000°; P -2.9210, Plg8.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 04 16:37:45.5±0.3,34˚.55N±0˚.03×96˚.41E±0˚.03,h10km,n255, σ2s01/264,**mb4.5**/90,**MS4.2**/41,**20C-2D,Qinghai**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GOMU	**GeErMu**	**2.10**	**322**	Pn	**Pb**	**16 38 23.7**	**-0.3**
GOMU				Sn	**Sg**	**16 38 54.2**	**+1.1**
GTA	**Gaotai**	**5.57**	**28**	Pn	**Pn**	**16 39 09.9**	**+1.3**
GTA				Pg	**Pb**	**16 39 25.7**	**+2.8**
GTA				Sn	**Sn**	**16 40 14.0**	**+1.3**
GTA				Sg	**Sb**	**16 40 34.6**	**+4.8**
GTA				smax	smax		
	comp=N,60nm,1.8s						
GTA				smax	smax		
	comp=E,71nm,1.2s						
GTA				LR	LR		
	comp=N,4μm,11.6s						
GTA				LR	LR		
	comp=E,3μm,10.5s						
GTA				LR	LR		
	comp=Z,5μm,11.3s						
LZH	**Lanzhou**	**6.27**	**74**	*e*Pn	**Pn**	**16 39 19.0**	**+0.7**
LZH				Pg	**Pb**	**16 39 34.6**	**-0.3**
LZH				Sg	**Sb**	**16 40 56.0**	**+6.0**
LZH				smax	smax		
	comp=N,450nm,1.8s						
LZH				smax	smax		
	comp=E,490nm,1.7s						
LZH				LR	LR		
	comp=E,5μm,8.6s						
LZH				LR	LR		
	comp=Z,5μm,6.7s						
LSA	**Lhasa**	**6.57**	**224**	Pn	Pn	16 39 27.7	+5.0
LSA	**Lhasa**	**6.57**	**224**	P	Pn	16 39 27.7	+5.0
LKP	**Lekhapani**	**7.21**	**184**⇑	*e*P	**Pn**	**16 39 33.0**	**+2.0**
ZIRO	**ZIRO**	**7.33**	**198**	*e*P	**Pn**	**16 39 34.7**	**+1.9**
ITAN	**ITANAGAR**	**7.73**	**198**	*e*P	**Pn**	**16 39 39.3**	**+1.1**
ITAN				*e*S	**Sn**	**16 41 09.9**	**+4.1**
ITAN				IAML		16 41 13.9	
	comp=E,461nm,1.0s						
ITAN				IAML		16 41 17.8	
	comp=E,298nm,0.9s						
JORH	**JORHAT**	**8.00**	**194**⇑	*e*P	**Pn**	**16 39 43.4**	**+1.6**
KOHI	**KOHIMA**	**9.02**	**193**	*e*P	**Pn**	**16 39 55.8**	**-0.2**
KOHI			⇑	*e*x	**Sn**	**16 41 37.1**	**-0.6**
KOHI				IAML		16 41 44.0	
	comp=E,257nm,1.3s						
KOHI				IAML		16 41 50.3	
	comp=E,227nm,0.9s						
PZH	**PanZhiHua**	**9.24**	**149**	P	**Pn**	**16 40 01.9**	**+2.9**
PZH				S	**Sn**	**16 41 44.6**	**+1.5**
PZH				pmax	pmax		
	comp=E,30nm,0.9s						
PZH				pmax	pmax		
	comp=E,200nm,3.5s						
PZH				LR	LR		
	comp=E,4μm,11.2s						
PZH				LR	LR		
	comp=E,6μm,10.2s						
TNCH	**TengChong**	**9.66**	**169**	P	**Pn**	**16 40 06.7**	**+1.9**
TNCH				sP		16 40 10.7	
TNCH				S	**Sn**	**16 41 56.6**	**+3.1**
TNCH				pmax	pmax		
	comp=E,20nm,0.9s						
TNCH				pmax	pmax		
	comp=E,240nm,4.0s						
TNCH				LR	LR		
	comp=E,8μm,6.5s						
TNCH				LR	LR		
	comp=E,6μm,5.3s						
TNCH				LR	LR		
	comp=E,5μm,9.2s						
SHL	**Shillong**	**9.77**	**205**	Pn	**Pn**	**16 40 06.1**	**-0.2**
SHL	**Shillong**	**9.77**	**205**	P	**Pn**	**16 40 06.1**	**-0.2**
GTK	**Tadong**	**9.84**	**225**⇑	*e*P	**Pn**	**16 40 10.6**	**+3.4**
GTK				*e*S	**Sn**	**16 42 01.5**	**+3.7**
GTK				IAML		16 42 07.7	
	comp=E,44nm,0.6s						
GTK				IAML		16 42 09.7	
	comp=E,38nm,1.4s						
IMP	**Imphal**	**9.91**	**193**	*e*P	**Pn**	**16 40 08.4**	**+0.2**
IMP				IAML		16 42 14.0	
	comp=E,33nm,0.8s						
IMP				IAML		16 42 15.6	
	comp=E,30nm,1.3s						
XAN	**Xi'an**	**10.37**	**89**	P	**Pn**	**16 40 15.0**	**+0.7**
XAN				pmax	pmax		
	comp=E,100nm,0.7s						
XAN				LR	LR		
	comp=E,15μm,13.6s						
XAN				LR	LR		
	comp=E,7μm,11.1s						
XAN				LR	LR		
	comp=E,7μm,12.7s						
KMI	**Kunming**	**10.88**	**148**	⇓P	**Pn**	**16 40 22.3**	**+0.8**
KMI				S	**Sn**	**16 42 22.3**	**-1.1**
KMI				LR	LR		
	comp=E,5μm,11.1s						
KMI				LR	LR		
	comp=E,12μm,11.2s						
KMI				LR	LR		
	comp=E,6μm,9.8s						
WMQ	**Urumqi**	**11.46**	**327**	*e*P	Pg	16 41 25.4	
WMQ	**Urumqi**	**11.46**	**327**	*e*P	**Pn**	**16 40 29.9**	**+0.6**
WMQ				S	**Sn**	**16 42 37.8**	**+0.4**
WMQ				pmax	pmax		
	comp=E,65nm,0.9s						
WMQ				LR	LR		
	comp=E,3μm,14.3s						
WMQ				LR	LR		
	comp=E,3μm,15.9s						
WMQ				LR	LR		
	comp=E,2μm,20.5s						
WMQ	**Urumqi**	**11.46**	**327**	pmax	pmax		
	comp=Z,32nm,1.3s						
GYA	**Guiyang**	**11.96**	**130**	P	**Pn**	**16 40 38.2**	**+2.0**
GYA				S	**Sn**	**16 42 54.0**	**+4.2**
GYA				pmax	pmax		
	comp=E,23nm,1.0s						
GYA				pmax	pmax		
	comp=E,160nm,3.7s						
GYA				LR	LR		
	comp=E,3μm,14.1s						
BELO	**BELONIA**	**12.06**	**202**⇑	*e*P	**Pn**	**16 40 38.1**	**+0.6**
BELO				*e*S	**Sn**	**16 42 51.9**	**-0.3**
BTO	**Baotou**	**12.37**	**57**	*e*P	**Pn**	**16 40 40.6**	**-1.2**
BTO				pP		16 40 43.9	
BTO				sP		16 40 47.0	
BTO				PP	**PnPn**	**16 40 50.6**	**+1.1**
BTO				S	**Sn**	**16 42 57.8**	**-2.0**
BTO				SS	**SnSn**	**16 43 12.6**	**+0.8**
BTO				pmax	pmax		
	comp=E,14nm,1.2s						
BTO				pmax	pmax		
	comp=Z,230nm,5.7s						
BTO				LR	LR		
	comp=E,9μm,13.1s						
BTO				LR	LR		
	comp=E,5μm,15.3s						
BTO				LR	LR		
	comp=E,3μm,11.9s						
LYN	**LuoYang**	**13.24**	**85**	*e*P	**Pn**	**16 40 52.2**	**-1.4**
LYN				pmax	pmax		
	comp=E,21nm,0.9s						
LYN				pmax	pmax		
	comp=E,220nm,3.8s						
LYN				LR	LR		
	comp=E,3μm,12.4s						
LYN				LR	LR		
	comp=Z,4μm,9.3s						
HHC	**Hu-ho-hao-te**	**13.54**	**58**	*e*P	**Pn**	**16 40 55.6**	**-2.2**
HHC				pP	P	16 40 59.5	-7.5
HHC				sP		16 41 02.2	
HHC				PP	**PnPn**	**16 41 08.2**	**+2.6**
HHC				*e*S	**Sn**	**16 43 24.7**	**-3.7**
HHC				pmax	pmax		
	comp=E,15nm,0.5s						
HHC				pmax	pmax		
	comp=E,57nm,3.7s						
HHC				LR	LR		
	comp=E,2μm,10.7s						
HHC				LR	LR		
	comp=E,3μm,10.6s						
HHC				LR	LR		
	comp=E,4μm,11.1s						
BOK	**Bokaro**	**14.10**	**223**	*e*P	**Pn**	**16 41 06.3**	**+0.9**
BOK				IAmb	IAmb	16 41 07.6	
	comp=E,24nm,0.7s						
CRAI	**Chiangrai**	**14.69**	**165**	Pn	**Pn**	**16 41 11.2**	**-2.3**
HNS	**HongShan**	**15.09**	**74**	⇑P	**P**	**16 41 29.0**	**+5.0**
HNS				LR	LR		
	comp=N,8μm,15.2s						
HNS				LR	LR		
	comp=E,3μm,10.5s						
HNS				LR	LR		
	comp=Z,3μm,10.8s						
SONM	**Songino Array**	**15.24**	**26**		**Pn**	**16 41 19.5**	**-1.3**
SONM	**Songino Array**	**15.24**	**26**	Pn	**Pn**	**16 41 19.2**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=194,slow=11,SNR=26						
	comp=Z,12nm,0.8s						
SONM	**Songino Array**	**15.24**	**26**	P	**Pn**	**16 41 19.5**	**-1.3**
SONM				pmax	pmax		
	comp=Z,15nm,0.9s						
ULN	**Ulaanbaatar**	**15.51**	**28**	Pn	**Pn**	**16 41 21.1**	**-3.3**
ULN	**Ulaanbaatar**	**15.51**	**28**	*i* P	**Pn**	**16 41 23.4**	**-1.0**
ULN				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WHN	**Wuhan**	**15.65**	**100**	P	**Pn**	**16 41 23.9**	**-2.2**
WHN				LR	LR		
	comp=Z,13μm,7.7s						
WHN				LR	LR		
	comp=Z,14μm,8.6s						
SHLS	**Shalkode**	**15.73**	**308**	*e*P	**Pn**	**16 41 21.0**	**-6.3**
UZB	**Uzynbulak**	**16.02**	**308**	*e*P	**Pn**	**16 41 28.4**	**-2.6**
CM31	**Chiang Mai Arr**	**16.18**	**171**	Pn	**Pn**	**16 41 32.2**	**-0.9**
CM31				IAmb	IAmb	16 41 38.5	
	comp=Z,51nm,0.9s						
CMAR	**Chiang Mai Arr**	**16.18**	**171**	Pn	**Pn**	**16 41 33.0**	**-0.1**
	comp=Z,25nm,0.8s,baz=344,slow=12,SNR=48						
CMAR	**Chiang Mai Arr**	**16.18**	**171**	P	**Pn**	**16 41 33.0**	**-0.1**
MK31	**Makanchi Array**	**16.23**	**323**	Pn	**Pn**	**16 41 31.4**	**-2.2**
MK31	**Makanchi Array**	**16.23**	**323**	*c*eP	**Pn**	**16 41 31.4**	**-2.2**
MKAR	**Makanchi Array**	**16.23**	**323**		**Pn**	**16 41 31.7**	**-1.9**
MKAR	**Makanchi Array**	**16.23**	**323**	Pn	**Pn**	**16 41 32.4**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=122,slow=12,SNR=46						
	comp=Z,7.2nm,1.0s						
PHRA	**Phrae**	**16.34**	**167**		**Pn**	**16 41 32.9**	**-2.2**
MAKZ	**Makanchi**	**16.39**	**323**		**Pn**	**16 41 34.6**	**-1.1**
MAKZ	**Makanchi**	**16.39**	**323**	P	**Pn**	**16 41 34.6**	**-1.1**
MAKZ				pmax	pmax		
	comp=Z,38nm,1.2s						
ZHN	**Zhinishke**	**16.41**	**307**	*e*P	**Pn**	**16 41 33.8**	**-2.2**
ZAK	**Zakamensk**	**16.61**	**16**	*e*P	**Pn**	**16 41 39.6**	**+1.2**
ZAK				pmax	pmax		
	comp=Z,11nm,1.6s						
DHRM	**DHARAMSHALA**	**16.95**	**268**	*e*P	**Pn**	**16 41 42.7**	**-0.3**
DHRM				IAmb	IAmb	16 41 53.6	
	comp=Z,13nm,0.5s						
KSH	**Kashi**	**17.05**	**293**	P	**P**	**16 41 48.6**	**+2.7**
KSH				pP	pP	16 41 50.8	+0.7
KSH				pmax	pmax		
	comp=Z,12nm,1.4s						
KSH				LR	LR		
	comp=Z,2μm,13.7s						
KSH				LR	LR		
	comp=Z,1μm,11.9s						
KSH				LR	LR		
	comp=Z,2μm,13.9s						
ARXS	**Arharly**	**17.27**	**309**	*e*P	**Pn**	**16 41 43.7**	**-3.2**
MOY	**Mondy**	**17.43**	**10**	*e*P	**P**	**16 41 51.8**	**+1.7**
MOY				pmax	pmax		
	comp=Z,43nm,2.3s						
XLT	**XiLinHaoTe**	**17.84**	**53**	*e*P	**Pn**	**16 41 50.5**	**-3.4**
XLT				pP	P	16 41 54.5	-0.1
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,120nm,4.1s						
BOOM	**Boomskoye usch**	**17.84**	**302**	P	**P**	**16 41 57.5**	**+2.7**
BOOM				pmax	pmax		
	comp=Z,14nm,1.3s						
TKM2	**Tokmak 2**	**18.23**	**303**	P	**P**	**16 42 00.5**	**+1.4**
	SNR=23						
IRK	**Irkutsk**	**18.57**	**15**	*e*P	**P**	**16 42 02.4**	**-0.1**
IRK				pmax	pmax		
	comp=Z,58nm,2.4s						
KBK	**Karagaybulak**	**18.59**	**302**	P	**Pn**	**16 42 06.3**	**+3.0**
	SNR=11						
UCH	**Uchtor**	**18.77**	**301**	P	**P**	**16 42 05.5**	**+0.2**
	SNR=17						
ARLS	**Aral**	**18.80**	**299**	P	**Pn**	**16 42 08.5**	**+2.7**
ARLS				pmax	pmax		
	comp=Z,20nm,1.4s						
AAK	**Ala-Archa**	**18.90**	**302**	P	**Pn**	**16 42 09.5**	**+2.5**
	SNR=7.1						
AAK	**Ala-Archa**	**18.90**	**302**	P	**P**	**16 42 03.9**	**-2.5**
AAK	**Ala-Archa**	**18.90**	**302**	P	**Pn**	**16 42 08.7**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=109,slow=7.6,SNR=16						
AAK				LR	LR	16 50 48.4	
	comp=Z,1μm,21.9s,baz=86,slow=41						
	comp=Z,3.2nm,0.8s						
AAK	**Ala-Archa**	**18.90**	**302**	*c*eP	**P**	**16 42 05.0**	**-1.4**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.3s						
NJ2	**Nanjing**	**18.92**	**91**	*e*P	**P**	**16 42 04.4**	**-2.1**
NJ2				pP	**Pn**	**16 42 08.0**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,220nm,4.7s						
NJ2				LR	LR		
	comp=Z,1μm,10.2s						
NJ2				LR	LR		
	comp=Z,2μm,12.8s						
USP	**Ospenovka**	**19.10**	**304**	P	**Pn**	**16 42 11.7**	**+2.4**
	SNR=9.9						
EKS2	**Erkin-Say**	**19.41**	**301**	P	**Pn**	**16 42 15.4**	**+2.3**
	SNR=6.8						
QIZ	**Qiongzhong**	**19.53**	**139**	P	**P**	**16 42 12.6**	**-0.6**
QIZ				S	**S**	**16 45 54.8**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,340nm,4.4s						
QIZ				LR	LR		
	comp=Z,2μm,12.6s						
QIZ				LR	LR		
	comp=Z,2μm,14.2s						
QIZ				LR	LR		
	comp=Z,3μm,8.8s						
BHPL	**Bhopal**	**20.04**	**241**	*e*P	**P**	**16 42 19.2**	**+0.4**
BHPL				IAmb	IAmb	16 42 23.8	
	comp=Z,20nm,0.6s						
BTLS	**Baital**	**20.07**	**308**	*e*P	**P**	**16 42 18.5**	**-0.4**
SRDT	**SRDT**	**20.26**	**172**	P	Pn	16 42 22.7	-0.4
ARK	**Arkit**	**20.50**	**298**	P	Pn	16 42 26.5	+0.6
ARK				pmax	pmax		
	comp=Z,12nm,0.8s						
KURBB	**Kurchatov Arra**	**20.68**	**326**	P	**P**	**16 42 26.8**	**+1.3**
	comp=Z,30nm,0.8s,baz=136,slow=11,SNR=145						
	comp=Z,30nm,0.8s						
KURK	**Kurchatov**	**20.71**	**327**	P	**P**	**16 42 26.1**	**+0.3**
KURK				IAmb	IAmb	16 42 28.0	
	comp=Z,39nm,0.9s						
KURK	**Kurchatov**	**20.71**	**327**	*c*eP	**P**	**16 42 26.6**	**+0.8**
KURK				pmax	pmax		
	comp=Z,83nm,1.7s						
UBPT	**Khong Chiam**	**20.85**	**155**	P	**P**	**16 42 27.6**	**0.0**
UBPT	**Khong Chiam**	**20.85**	**155**	P	**P**	**16 42 25.9**	**-1.7**
UBPT				IAmb	IAmb	16 42 29.4	
	comp=Z,44nm,1.0s						
TRKS	**Terek-Say**	**21.04**	**297**	P	**P**	**16 42 31.7**	**+2.0**
TRKS				pmax	pmax		
	comp=Z,24nm,1.2s						
ZAA0	**Zalesovo Array**	**21.05**	**341**	P	**P**	**16 42 30.0**	**+0.5**
ZAA0				IAmb	IAmb	16 42 34.8	
	comp=Z,38nm,1.0s						
ZALV	**Zalesovo Beam**	**21.05**	**341**	P	**P**	**16 42 28.9**	**-0.6**
ZALV	**Zalesovo Beam**	**21.05**	**341**	P	**P**	**16 42 30.2**	**+0.8**
	comp=Z,23nm,0.8s,baz=154,slow=10,SNR=54						
ZALV				LR	LR	16 51 00.0	
	comp=Z,419nm,18.0s,baz=181,slow=38						
	comp=Z,23nm,0.8s						
SSE	**Sheshan**	**21.09**	**92**	P	**P**	**16 42 27.4**	**-2.7**
SSE				S	**S**	**16 46 20.5**	**-4.4**
SSE				pmax	pmax		
	comp=E,13nm,0.8s						
SSE				pmax	pmax		
	comp=E,53nm,3.6s						
SSE				LR	LR		
	comp=Z,790nm,13.0s						
SSE				LR	LR		
	comp=Z,870nm,13.0s						
KK31	**Karatay Array**	**21.84**	**301**	P	**P**	**16 42 39.0**	**+0.8**
KK31				IAmb	IAmb	16 42 43.6	
	comp=Z,26nm,1.1s						
KK31	**Karatay Array**	**21.84**	**301**	P	**P**	**16 42 39.0**	**+0.8**
KK31				pmax	pmax		
	comp=Z,26nm,1.2s						
KKAR	**Karatay Array**	**21.84**	**301**	P	**P**	**16 42 38.0**	**-0.2**
KKAR				IAmb	IAmb	16 42 43.7	
	comp=Z,26nm,1.1s						
KKAR	**Karatay Array**	**21.84**	**301**	P	**P**	**16 42 38.0**	**-0.2**
KKAR				pmax	pmax		
	comp=Z,26nm,1.2s						
IUG	**Iuzhnay**	**21.98**	**298**	*e*P	**P**	**16 42 40.5**	**+0.8**
CHGR	**Chuyangaron**	**22.22**	**289**	P	**P**	**16 42 43.8**	**+1.4**
CHGR				pmax	pmax		
	comp=Z,119nm,1.1s						
SIMJ	**Simiganj**	**22.34**	**289**	P	**P**	**16 42 44.1**	**+0.4**
SNY	**Shenyang**	**22.50**	**63**	⇑P	**P**	**16 42 40.6**	**-4.5**
SNY				S	**S**	**16 46 53.8**	**+1.9**
SNY				pmax	pmax		
	comp=Z,6.0nm,0.4s						
SNY				pmax	pmax		
	comp=Z,100nm,3.6s						
SNY				LR	LR		
	comp=N,840nm,15.9s						
SNY				LR	LR		
	comp=E,1μm,12.0s						
SNY				LR	LR		
	comp=Z,1μm,11.8s						
KBL	**Kabul**	**22.52**	**278**	P	**P**	**16 42 46.6**	**+0.9**
KBL	**Kabul**	**22.52**	**278**	P	**P**	**16 42 46.6**	**+0.9**
KBL				pmax	pmax		
	comp=Z,108nm,1.3s						
NACB	**Ninganchiao**	**24.20**	**109**	P	**P**	**16 42 58.8**	**-3.6**
TJN	**Taejon**	**25.23**	**77**	*c*eP	**P**	**16 43 10.7**	**-0.9**
KS19	**Wonju Array Si**	**25.55**	**74**	P	**P**	**16 43 14.1**	**-0.5**
KS19				IAmb	IAmb	16 43 17.9	
	comp=Z,22nm,0.9s						
KSAR	**Wonju Array Be**	**25.57**	**74**	P	**P**	**16 43 13.0**	**-1.7**
KSAR	**Wonju Array Be**	**25.57**	**74**	P	**P**	**16 43 13.0**	**-1.7**
KSRS	**Korea Array**	**25.60**	**74**	P	**P**	**16 43 13.7**	**-1.2**
	comp=Z,12nm,0.8s,baz=273,slow=8.8,SNR=22						
KSRS				LR	LR	16 52 36.1	
	comp=Z,270nm,19.1s,baz=285,slow=35						
	comp=Z,12nm,0.8s						
SRIT	**Nakonsritamara**	**25.99**	**173**	P	**P**	**16 43 20.5**	**+1.9**
SRIT	**Nakonsritamara**	**25.99**	**173**	P	**P**	**16 43 17.3**	**-1.3**
SRIT				IAmb	IAmb	16 43 20.3	
	comp=Z,18nm,0.9s						
BVAR	**Borovoye Array**	**26.11**	**323**	P	**P**	**16 43 20.5**	**+1.1**
	comp=Z,3.8nm,0.8s,baz=116,slow=10,SNR=20						
	comp=Z,3.8nm,0.8s						
BOD	**Bodaibo**	**26.11**	**22**	*e*P	**P**	**16 43 21.0**	**+1.6**
BOD				pmax	pmax		
	comp=Z,12nm,1.7s						
BRVK	**Borovoye**	**26.18**	**323**	P	**P**	**16 43 20.1**	**0.0**
BRVK				IAmb	IAmb	16 43 35.6	
	comp=Z,12nm,1.0s						
BRVK	**Borovoye**	**26.18**	**323**	*c*eP	**P**	**16 43 20.7**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
MDJ	**Mudanjiang**	**27.32**	**58**	P	**P**	**16 43 26.5**	**-3.9**
MDJ				PP	**PnPn**	**16 44 13.3**	**-0.8**
MDJ				S	**S**	**16 48 07.2**	**-2.7**
MDJ				pmax	pmax		
	comp=Z,7.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,200nm,6.9s						
MDJ				LR	LR		
	comp=N,4μm,14.8s						
MDJ				LR	LR		
	comp=E,1μm,16.5s						
MDJ				LR	LR		
	comp=Z,1μm,17.2s						
HRA	**Herat**	**28.09**	**280**	P	**P**	**16 43 37.9**	**+0.3**
HRA				IAmb	IAmb	16 43 43.4	
	comp=Z,8.8nm,1.2s						
JOW	**Kunigami**	**28.38**	**97**	LR	LR	16 55 35.2	
	comp=Z,747nm,19.1s,baz=315,slow=38						
ZEA	**Zeya**	**28.94**	**39**	*e*P	**P**	**16 43 48.0**	**+3.2**
ZEA				MLR	MLR		
	comp=E,500nm,9.0s						
ZEA				MLR	MLR		
	comp=Z,500nm,14.0s						
USRK	**Ussuriysk Ar.**	**28.95**	**60**	LR	LR	16 56 40.2	
	comp=Z,243nm,18.5s,baz=262,slow=40						
KULM	**Kulim**	**29.38**	**171**	P	**P**	**16 43 47.3**	**-1.6**
KULM				IAmb	IAmb	16 43 50.0	
	comp=Z,8.1nm,1.1s						
KLR	**Kul'dur**	**29.81**	**50**	LR	LR	16 56 36.1	
	comp=Z,583nm,20.2s,baz=254,slow=38						
TGY	**Tagaytay City**	**30.09**	**127**	LR	LR	16 56 13.6	
	comp=Z,305nm,19.5s,baz=284,slow=37						
ABKAR	**Akbulak array**	**30.53**	**310**	P	**P**	**16 43 58.4**	**-0.4**
KCSI	**Kotacane, Aceh**	**30.89**	**177**	P	**P**	**16 44 05.2**	**+2.8**
	comp=Z,12nm,0.5s						
GEYT	**Alibeck**	**30.93**	**288**	P	**P**	**16 44 01.4**	**-1.2**
GEYT				IAmb	IAmb	16 44 22.1	
	comp=Z,8.6nm,0.8s						
GEYT	**Alibeck**	**30.93**	**288**	P	**P**	**16 44 05.7**	**+3.1**
	comp=Z,4.5nm,0.9s,baz=98,slow=11,SNR=12						
GEYT				LR	LR	16 58 57.9	
	comp=Z,495nm,18.2s,baz=120,slow=41						
	comp=Z,4.5nm,0.9s						
GYA0	**ALIBECK ARRAY**	**30.93**	**288**	P	**P**	**16 44 04.2**	**+1.6**
GYA0				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**30.93**	**288**	P	**P**	**16 44 01.0**	**-1.5**
GYA0B				IAmb	IAmb	16 44 22.0	

comp=Z,7.6nm,0.8s
SVE Sverdlovsk 32.89 324 *e*P **P** **16 44 21.6 +2.1**
SVE pmax pmax
comp=Z,21nm,1.0s
SVE MLR MLR
comp=Z,1μm,18.0s
GSI Gunungsitoli 33.09 178 P **P** **16 44 21.9 +0.3**
GSI Gunungsitoli 33.09 178 P **P** **16 44 21.2 -0.4**
comp=Z,40nm,1.3s
ARU Arti 33.75 322 P **P** **16 44 27.1 0.0**
ARU Arti 33.75 322*c i*P **P** **16 44 28.2 +1.2**
ARU 16 45 38.5
ARU S **S** **16 49 55.4 +5.1**
ARU SS **SnSn** **16 52 01.5 +7.1**
ARU pmax pmax
comp=Z,19nm,0.9s
ARU MLR MLR
comp=Z,1μm,19.0s
ARU Arti 33.75 322 P **P** **16 44 28.1 +1.1**
comp=Z,19nm,1.1s
MJAR Matsushiro Arr 33.88 74 LR LR 16 58 07.4
comp=Z,230nm,20.2s,baz=277,slow=36
SBUM Sibu 35.17 152 P **P** **16 44 38.0 -1.7**
KSM Kuching 35.37 155 P **P** **16 44 42.2 +0.8**
KSM Kuching 35.37 155 P **P** **16 44 40.6 -0.8**
KSM IAmb IAmb 16 44 44.1
comp=Z,12nm,1.2s
PDSI Padang 35.48 173 P **P** **16 44 40.1 -2.3**
comp=Z,7.5nm,0.8s
JHJ Hachijo jima 2 35.86 80 LR LR 16 59 01.0
comp=Z,214nm,19.1s,baz=101,slow=36
ASAJ Asahikawa 36.57 61 LR LR 17 01 50.0
comp=Z,81nm,19.3s,baz=297,slow=40
YSS Yuzh-Sakhalins 36.72 56 *e*P **P** **16 44 53.4 +0.7**
YSS *e*S **S** **16 50 38.0 +1.8**
YSS *e*SS **SS** **16 53 26.0 +10**
YSS pmax pmax
comp=Z,10.0nm,1.3s
ERM Erimo 37.07 64*ce*P **P** **16 44 52.9 -2.9**
ERM pmax pmax
comp=Z,52nm,1.7s
DAV Davao City (W) 38.34 129 LR LR 17 03 02.8
comp=Z,495nm,18.1s,baz=1,0,slow=40
MAK Makhachkala 38.59 298*d i*P P 16 45 03.4 -5.2
MAK *e*S **S** **16 50 58.4 -6.3**
MAK pmax pmax
comp=Z,142nm,1.3s
MAK MLR MLR
comp=Z,316nm,14.0s
BELG Belogornoye 38.80 313 *i* P **P** **16 45 10.0 -0.2**
BELG pmax pmax
comp=Z,5.0nm,0.9s
KIRV Kirov 39.13 323*ce*P **P** **16 45 13.5 +0.6**
JCJ Chichijima 39.74 88 LR LR 17 01 42.6
comp=Z,180nm,20.0s,baz=281,slow=36
GROC Groznyy 39.82 298 *e*P **P** **16 45 18.4 -0.5**
GROC pmax pmax
comp=Z,21nm,1.1s
TIXI Tiksi 40.88 15 P **P** **16 45 25.1 -2.2**
TIXI Tiksi 40.88 15 LR LR 17 03 00.9
comp=Z,322nm,19.8s,baz=248,slow=37
TIXI Tiksi 40.88 15 *i* P **P** **16 45 26.4 -0.9**
TIXI pmax pmax
comp=Z,18nm,2.0s
GNI Garni 40.98 294 P **P** **16 45 27.4 -1.3**
GNI IAmb IAmb 16 45 57.8
comp=Z,17nm,1.1s
GNI Garni 40.98 294*ce*P **P** **16 45 30.4 +1.7**
GNI pmax pmax
comp=Z,25nm,1.7s
GNI Garni 40.98 294 P **P** **16 45 31.2 +2.5**
comp=Z,14nm,1.3s
ONI Oni 41.60 297 P **P** **16 45 33.6 -0.1**
ONI Oni 41.60 297 P **P** **16 45 33.6 -0.1**
ONI pmax pmax
comp=Z,9.0nm,1.2s
KBZ Khabaz 41.87 299 P **P** **16 45 37.1 +1.4**
comp=Z,1.1nm,0.7s,baz=64,slow=3.3,SNR=4.6
comp=Z,1.1nm,0.7s
GTOI Gorontalo 41.91 138 P **P** **16 45 34.7 -1.6**
comp=Z,6.8nm,0.8s
KVAR Kislovodsk Arr 41.99 300 LR LR 17 06 33.4
comp=Z,337nm,18.4s,baz=254,slow=41
KIV Kislovodsk 42.00 300 *e*P **P** **16 45 37.2 +0.2**
KIV pmax pmax
comp=Z,5.0nm,1.0s
LEM Lembang 42.49 163 LR LR 17 06 50.0
comp=Z,162nm,18.3s,baz=342,slow=41
LABN Labinsk 43.32 301 *e*P P 16 45 43.2 -4.4
LABN *i* S **S** **16 52 09.7 -5.4**
LABN pmax pmax
comp=Z,27nm,0.6s
LABN MLR MLR
comp=Z,550nm,16.0s
GURO Guroymak-BITLI 43.34 292 P **P** **16 45 47.3 -0.6**
GURO IAmb IAmb 16 45 52.1
comp=Z,6.6nm,0.9s
ERBR Yeremizino-Bor 43.38 302 *e*P **P** **16 45 46.2 -1.9**
ERBR MLR MLR
comp=Z,507nm,14.0s
SOC Sochi 44.18 299 *e*P **P** **16 45 52.9 -1.6**
SOC *e* 16 47 32.9
SOC *e*PPP PPP 16 48 10.1
SOC *e*S **S** **16 52 27.3 -0.3**
SOC *e*SS **SS** **16 55 45.4 +0.3**
SOC MLR MLR
comp=Z,245nm,21.0s
SEY Seymchan 44.50 33 *i* P **P** **16 45 53.8 -3.0**
SEY pmax pmax
comp=Z,2.0nm,1.0s
KLMR Klimovskoe 44.52 324 *e*P **P** **16 45 56.0 -1.0**
KLMR *e* 16 47 39.6
KLMR pmax pmax
comp=Z,29nm,1.8s
KLMR MLR MLR
comp=Z,959nm,17.0s
MOS Moscow 44.97 317 *e*P **P** **16 46 01.4 +0.8**
RAYN Ar Rayn 45.43 270 P **P** **16 46 02.7 -2.1**
RAYN Ar Rayn 45.43 270 P **P** **16 46 02.7 -2.1**
RAYN pmax pmax
comp=Z,4.0nm,1.0s
OBN Obninsk 45.55 316 *i* P **P** **16 46 06.0 +0.8**
OBN *i* 16 46 14.1
OBN *i* 16 47 45.5
OBN *i* 16 47 55.9
OBN pmax pmax
comp=Z,6.0nm,0.9s
OBN MLR MLR
comp=Z,693nm,16.0s
ANN Anapa 45.63 301 *e*P **P** **16 46 04.4 -1.6**
ANN pmax pmax
comp=Z,20nm,1.3s
ANN MLR MLR
comp=Z,130nm,12.0s
NLAI Namlea 47.39 136 P **P** **16 46 21.8 +1.7**
comp=Z,187nm,1.0s,comp=Z,10μm
GUMO Guam 48.39 103 LR LR 17 05 36.7
comp=Z,286nm,21.4s,baz=326,slow=35
BR131 Keskin Array S 49.41 295 P **P** **16 46 36.0 +0.3**
BR131 IAmb IAmb 16 46 39.5
comp=Z,6.9nm,0.9s
BR131 Keskin Array S 49.41 295 *i* P **P** **16 46 35.3 -0.4**
BRTR Keskin Array B 49.41 295 P **P** **16 46 36.7 +1.0**
BRTR Keskin Array B 49.41 295 P **P** **16 46 37.1 +1.4**
comp=Z,4.5nm,0.9s,baz=100,slow=6.9,SNR=27
comp=Z,4.5nm,0.9s
BR104 Keskin Array S 49.41 295 P **P** **16 46 36.7 +1.0**
comp=Z,5.4nm,0.9s,comp=Z,47nm
BR106 Keskin Array S 49.42 295 P **P** **16 46 37.2 +1.4**
comp=Z,5.7nm,0.9s,comp=Z,44nm
BR105 Keskin Array S 49.43 295 P **P** **16 46 36.7 +0.8**
comp=Z,6.2nm,0.9s,comp=Z,48nm
ANTO Ankara 50.00 296 P **P** **16 46 41.6 +1.5**
ANTO Ankara 50.00 296 P **P** **16 46 41.6 +1.5**
comp=Z,11nm,1.2s
MMAI Mount Meron Ar 50.04 287 P **P** **16 46 41.8 +1.3**
comp=Z,3.9nm,0.9s,baz=64,slow=9.6,SNR=5.9
comp=Z,3.9nm,0.9s
BALJ Balqa 50.16 285 P **P** **16 46 40.8 -0.6**
BALJ IAmb IAmb 16 46 44.8
comp=Z,10nm,1.0s
AK09 Malin Array Si 50.24 310 P **P** **16 46 42.1 +0.4**
AKASG Malin Array Be 50.27 310 P **P** **16 46 42.3 +0.4**
comp=Z,0.3nm,0.3s,baz=76,slow=6.1,SNR=8.4
comp=Z,0.3nm,0.3s
AKBB Malin Array Si 50.27 310*ce*P **P** **16 46 42.0 +0.1**
AKBB pmax pmax
comp=Z,4.0nm,1.0s
AKBB Malin Array Si 50.27 310 P **P** **16 46 42.0 +0.1**
AK14 Malin Array Si 50.35 310 P **P** **16 46 42.8 +0.3**
MNK Minsk 50.60 315 *i* P **P** **16 46 41.0 -3.3**
comp=E,4.0nm,0.7s,baz=84
MNK *i* P **P** **16 46 41.0 -3.3**
comp=N,11nm,0.8s,baz=84
MNK *i* P **P** **16 46 41.0 -3.3**
comp=Z,5.0nm,0.8s,baz=84
MNK *i* PP **PP** **16 48 37.0 -2.9**
baz=84
MNK *i* PPP PPP 16 49 33.3
baz=84
MNK *i* S **S** **16 53 56.4 -2.3**
baz=84
MNK *i* SS **SS** **16 57 32.0 -0.3**
baz=84
MNK *i* SSS SSS 16 59 00.1
baz=84
MNK *i* LQ LQ 17 04 29.7
baz=84
MNK *i* LR LR 17 07 16.2
baz=84
MNK *i* LRM MLR 17 09 29.3
comp=E,270nm,17.4s,baz=84
MNK *i* LRM MLR 17 09 31.9
comp=Z,613nm,15.8s,baz=84
MNK *i* LRM MLR 17 09 39.5
comp=N,513nm,19.8s,baz=84
MNK Minsk 50.60 315 *i* P **P** **16 46 41.0 -3.3**
MNK *i* 16 47 58.4
MNK *i* 16 48 36.9
MNK *i* PPP PPP 16 49 33.2
MNK *i* S **S** **16 53 56.3 -2.3**
MNK *i* 16 56 32.0
MNK *i* SS **SS** **16 57 32.0 -0.3**
MNK *i* SSS SSS 16 59 00.1
MNK pmax pmax
comp=N,11nm,0.9s
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK pmax pmax
comp=E,4.0nm,0.7s
MNK MLR MLR
comp=E,270nm,17.0s
MNK MLR MLR
comp=Z,613nm,16.0s
MNK MLR MLR
comp=N,513nm,20.0s
BILL Bilibino 50.96 27 *i* P **P** **16 46 46.3 -0.5**
BILL pmax pmax
comp=Z,7.0nm,1.6s
MDUB Mudurnu 51.02 297 P **P** **16 46 47.0 -0.8**
FINES FINESS Array B 51.06 324 P **P** **16 46 48.1 +0.4**
comp=Z,2.4nm,0.8s,baz=100,slow=9.9,SNR=5.1
comp=Z,2.4nm,0.8s
FINES FINESS Array B 51.06 324*ce*P **P** **16 46 49.0 +1.4**
FINES pmax pmax
comp=Z,3.0nm,0.8s
NACGM Naroch 51.19 316 *e*P P 16 46 43.2 -5.5
comp=Z,28nm,1.0s,baz=83
MI28 Mi28,Pidlybu 51.21 311 P **P** **16 46 49.1 +0.2**
SORM Soroca 51.26 307 P **P** **16 46 49.6 +0.2**
SORM Soroca 51.26 307 P **P** **16 46 49.6 +0.2**
LUBAR Lubar, Ukraine 51.32 310 P **P** **16 46 49.6 -0.2**
ARCES ARCESS Array B 51.44 335 P **P** **16 46 50.0 -0.4**
comp=Z,2.9nm,0.8s,baz=79,slow=6.3,SNR=8.5
comp=Z,2.9nm,0.8s
ARCES ARCESS Array B 51.44 335 P **P** **16 46 50.0 -0.4**
BATI Baumata 51.47 145 LR LR 17 11 08.1
comp=Z,235nm,19.5s,baz=306,slow=39
NDNU Novodnistrovsk 51.82 308 P **P** **16 46 54.1 +0.5**
RNPP5 Staryi Chortor 52.27 311 P **P** **16 46 57.4 +0.6**
KMPD K-Podol'skiy 52.41 308 P **P** **16 46 58.0 0.0**
KMPD P **P** **16 46 57.2 -0.8**
VRI Vrincioaia 52.84 305 P **P** **16 47 02.6 +1.4**
VRI pmax pmax
comp=Z,7.0nm,0.9s
PLOR5 Plostina Array 52.88 305 P **P** **16 47 02.6 +1.0**
comp=Z,13nm,1.2s
PLOR3 Plostina Array 52.89 305 P **P** **16 47 02.2 +0.5**
comp=Z,7.7nm,1.2s
MLR Muntele Rosu 53.46 304 P **P** **16 47 05.1 -0.8**
MLR IAmb IAmb 16 47 16.2
comp=Z,6.5nm,0.8s
MLR Muntele Rosu 53.46 304 P **P** **16 47 05.1 -0.8**
MLR pmax pmax
comp=Z,7.0nm,0.8s
MORS Morshin 53.95 309 P **P** **16 47 10.3 +1.0**
MORS Morshin 53.95 309 P **P** **16 47 10.3 +1.0**
SPITS Spitsbergen Ar 54.42 346 LR LR 17 14 46.7
comp=Z,228nm,19.7s,baz=53,slow=41
HOLU Holmets 55.06 309 P **P** **16 47 18.4 +1.0**
HFS Hagfors 57.24 324 P **P** **16 47 32.4 -0.4**
comp=Z,3.7nm,1.0s,baz=67,slow=11,SNR=3.9
comp=Z,3.7nm,1.0s
MORC Moravsky Berou 57.78 311 P **P** **16 47 35.4 -1.5**
MORC IAmb IAmb 16 48 08.8
comp=Z,7.4nm,0.8s
MORC Moravsky Berou 57.78 311 P **P** **16 47 35.4 -1.5**
MORC pmax pmax
comp=Z,7.0nm,0.8s
KRLC Kraliky 58.17 312 P **P** **16 47 40.9 +1.4**
KRLC pmax pmax
comp=Z,7.0nm,0.6s
NB2 NORSAR Subarra 58.21 325 P **P** **16 47 39.0 -0.7**
comp=Z,2.6nm,1.0s,baz=74,slow=6.9
NOA NORSAR Array B 58.21 325 P **P** **16 47 38.6 -1.0**
comp=Z,1.4nm,0.9s,baz=75,slow=7.0,SNR=4.8
comp=Z,1.4nm,0.9s
DPC Dobruska-Polom 58.37 312 P **P** **16 47 42.6 +1.7**
DPC pmax pmax
comp=Z,4.0nm,0.8s
DPC Dobruska-Polom 58.37 312 P **P** **16 47 42.2 +1.3**
RONA Rosalia, Austr 59.20 309 *ep*P **P** **16 47 48.0 +1.2**
comp=Z,2.8nm,0.7s
CONA Conrad Observa 59.41 310 *i* pP **P** **16 47 49.4 +1.2**
comp=Z,4.1nm,0.9s
ARSA Arzberg 59.85 309 *i* pP **P** **16 47 52.8 +1.6**
comp=Z,0.9nm,0.4s
CLL Collm 60.07 314 *e*P **P** **16 47 53.0 +0.4**
CLL MLR MLR
comp=Z,300nm,19.3s
SOKA Soboth 60.36 308 *i* pP **P** **16 47 56.5 +1.7**
comp=Z,3.8nm,0.9s
KHC Kasperske Hory 60.44 311*ce*P **P** **16 47 56.0 +0.7**
KHC pmax pmax
comp=Z,5.0nm,1.3s
GERES GERESS Array B 60.46 311 P **P** **16 47 57.0 +1.5**
comp=Z,0.7nm,0.5s,baz=64,slow=4.5,SNR=3.2
comp=Z,0.7nm,0.5s
GERES GERESS Array B 60.46 311 P **P** **16 47 57.0 +1.5**
LESA Schwarzleotal 61.60 310 *ep*P **P** **16 48 04.3 +1.0**
comp=Z,4.8nm,0.6s
WATA Walderalm 62.33 310 *i* pP **P** **16 48 09.4 +1.2**
comp=Z,3.1nm,0.6s
SQTA Sankt Quirin 62.60 310 *e*P **P** **16 48 10.0 0.0**
comp=Z,6.1nm,1.4s
MOTA Moosalm 62.62 310 *e*P **P** **16 48 09.6 -0.6**
comp=Z,2.6nm,0.6s
PMG Port Moresby 64.93 122 LR LR 17 17 17.4
comp=Z,61nm,20.2s,baz=300,slow=37
WRA Warramunga Arr 65.09 140 P **P** **16 48 25.2 -1.3**
comp=Z,1.6nm,0.8s,baz=337,slow=6.9,SNR=7.1
comp=Z,1.6nm,0.8s
F21K Alatna River 65.83 24 P **P** **16 48 29.9 -0.9**
F21K IAmb IAmb 16 48 33.6
comp=Z,11nm,1.4s
TOLK Toolik Lake Re 66.29 21 IAmb IAmb 16 48 36.1
comp=Z,7.9nm,1.1s
IMAR Indian Mountai 66.40 25 P **P** **16 48 31.9 -2.5**
EKA Eskdalemuir Ar 67.36 322 P **P** **16 48 41.0 +0.3**
comp=Z,2.1nm,0.9s,baz=106,slow=6.7,SNR=3.1
comp=Z,2.1nm,0.9s
EKA Eskdalemuir Ar 67.36 322 P **P** **16 48 41.0 +0.3**
AS31 Alice Springs 67.97 143 P **P** **16 48 46.2 +1.4**
ASAR Alice Springs 67.97 143 P **P** **16 48 44.6 -0.2**
comp=Z,0.9nm,0.5s,baz=329,slow=6.8,SNR=13
comp=Z,0.9nm,0.5s
L19K White Mountain 68.03 29 P **P** **16 48 46.2 +1.4**
BMAR Burnt Mountain 68.52 21 P **P** **16 48 49.1 +1.3**
E28M Babbage River 69.18 19 P **P** **16 48 51.1 -0.7**
ILAR Eielson Array 69.45 24 P **P** **16 48 51.7 -1.8**
ILAR Eielson Array 69.45 24 P **P** **16 48 53.0 -0.6**
comp=Z,0.4nm,0.7s,baz=296,slow=4.7,SNR=3.1
comp=Z,0.4nm,0.7s
ILAR Eielson Array 69.45 24 P **P** **16 48 53.0 -0.6**
I28M Miner Creek 71.23 22 IAmb IAmb 16 49 26.9
comp=Z,11nm,1.5s
G31M Satah River 71.78 19 P **P** **16 49 07.3 -0.4**
G31M IAmb IAmb 16 49 10.9
comp=Z,4.1nm,0.8s
BCAR Beaver Creek A 72.28 24 P **P** **16 49 11.4 +0.5**
SFJD Kangerlussuaq 75.71 347 LR LR 17 25 03.2
comp=Z,178nm,20.9s,baz=24,slow=38
ESDC Sonseca Array 75.86 308 P **P** **16 49 31.9 -0.3**
comp=Z,0.9nm,0.8s,baz=46,slow=4.3,SNR=5.0
comp=Z,0.9nm,0.8s
STKA Stephens Creek 78.56 142 LR LR 17 27 04.1
comp=Z,67nm,18.4s,baz=12,slow=38
YKA Yellowknife Ar 80.13 14 P **P** **16 49 53.7 -1.7**
comp=Z,0.4nm,0.7s,baz=330,slow=5.3,SNR=6.7
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 80.13 14*ce*P **P** **16 49 56.7 +1.3**
TORD Torodi Ar. Bea 86.47 283 P **P** **16 50 31.0 +2.1**
comp=Z,0.6nm,0.8s,baz=32,slow=3.4,SNR=3.6
TORD LR LR 17 33 49.8
comp=Z,142nm,18.4s,baz=112,slow=39
comp=Z,0.6nm,0.8s
DZM Mont Dzumac 87.10 119 LR LR 17 26 22.2
comp=Z,74nm,21.5s,baz=320,slow=34
SCHQ Schefferville 89.82 350 LR LR 17 31 47.6
comp=Z,92nm,22.0s,baz=56,slow=36
SUR Sutherland 97.30 236 LR LR 17 33 16.0
comp=Z,102nm,19.9s,baz=52,slow=34
ELK Elko 99.61 24 LR LR 17 42 27.2
comp=Z,70nm,18.3s,slow=39

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*SJA **04** 16:38:24.0±0.8,30°.88S×71°.58W,h20km±3km,ML3.4, MW3.5*
*GUC **04** 16:38:28.5±0.7,30°.86S×71°.34W,h47km±2km,ML3.5*
ISC 04 16:38:29.5±1.6,30°.86S±0°.02×71°.49W±0°.05,h36km±1km, n55,σ1°84/92,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.23**	**326**	⇓*i* P	**Pn**	**16 38 37.0**	**-0.5**
CO06				*i* S	**Sn**	**16 38 43.6**	**-0.9**
CO06				IAML		16 38 44.3	
	comp=E,7μm,0.4s						
CO02	**Combarbal**	**0.54**	**129**	⇑*i* P	**Pn**	**16 38 38.7**	**-2.2**
CO02				*e*S	**Sn**	**16 38 46.4**	**-2.3**
CO03	**El Pedregal**	**0.69**	**88**	*e*P	**Pn**	**16 38 39.6**	**-3.2**
CO03				*e*S	**Sn**	**16 38 50.0**	**-2.4**
CO03				IAML		16 38 51.0	
	comp=Z,936nm,0.1s						
CO03	**El Pedregal**	**0.69**	**88**	⇑*i* P	**Pn**	**16 38 40.3**	**-2.6**
CO03				*e*S	**Sn**	**16 38 49.2**	**-3.1**
CO03				IAML		16 38 50.0	
	comp=E,5μm,0.5s						
GO04	**Tololo Observa**	**0.91**	**41**	*e*P	Pn	16 38 38.9	-7.1
GO04				*e*P		16 38 43.6	
GO04				*e*S	**Sn**	**16 38 56.8**	**-1.2**
GO04				IAML		16 38 57.4	
	comp=Z,2μm,0.1s						
GO04	**Tololo Observa**	**0.91**	**41**	⇑*i* P	**Pn**	**16 38 44.3**	**-1.7**
GO04				*i* S	**Sn**	**16 38 56.0**	**-2.1**
GO04				IAML		16 38 57.6	
	comp=E,5μm,0.3s						
CO05	**La Serena**	**0.97**	**13**	*e*P	**Pn**	**16 38 45.4**	**-1.1**
CO05				*e*S	**Sn**	**16 38 58.1**	**-0.9**
CO05				IAML		16 39 00.1	
	comp=E,1μm,0.2s						
CO01	**Juntas del Tor**	**1.49**	**54**	*e*P	**Pn**	**16 38 52.3**	**-1.7**
CO01				*e*S	**Sn**	**16 39 11.8**	**-0.6**
CO01	**Juntas del Tor**	**1.49**	**54**	*e*P	**Pn**	**16 38 53.0**	**-1.0**
CO01				*e*S	**Sn**	**16 39 11.1**	**-1.3**
VA06	**Catapilco**	**1.70**	**175**	*e*P	**Pn**	**16 38 55.4**	**-1.2**
VA06				*i* S	**Sn**	**16 39 17.2**	**+0.1**
AROD	**Rodeo**	**1.87**	**69**	*e*P	**Pn**	**16 38 59.7**	**+0.4**
AROD				*e*S	**Sn**	**16 39 23.5**	**+1.7**
LCO	**Las Campanas**	**1.97**	**21**	*e*P	**Pn**	**16 38 59.4**	**-1.1**
LCO				*e*P		16 38 59.7	
LCO				*e*S	**Sn**	**16 39 24.3**	**+0.2**
LCO				IAML		16 39 27.5	
	comp=Z,1μm,0.3s						
LCO	**Las Campanas**	**1.97**	**21**	*e*P	**Pn**	**16 38 59.7**	**-0.9**
LCO				*e*S	**Sn**	**16 39 23.1**	**-1.0**
VA03	**San Esteban**	**2.06**	**157**	*e*P	**Pn**	**16 38 59.7**	**-1.9**
VA03				*e*S	Sn	16 39 14.2	-12
VA03				IAML		16 39 28.8	
	comp=Z,296nm,0.4s						
VA03	**San Esteban**	**2.06**	**157**	*e*P	**Pn**	**16 39 00.4**	**-1.2**
VA03				*i* S	**Sn**	**16 39 24.6**	**+1.5**
RTLS	**Leoncito**	**2.10**	**117**	*e*P	**Pn**	**16 39 02.6**	**+0.3**
RTLS				*e*S	Sn	16 39 16.8	-10
RTLS				IAML		16 39 35.1	
	comp=Z,348nm,0.3s						
ACCO	**Cerro Coronel**	**2.10**	**83**	*e*P	**Pn**	**16 39 02.9**	**+0.4**
ACCO				*e*S	**Sn**	**16 39 31.1**	**+3.5**
ROCH	**El Roble**	**2.14**	**169**	*e*P	**Pn**	**16 39 03.4**	**+0.5**
ROCH				*e*S	**Sn**	**16 39 30.3**	**+2.0**
ROCH				IAML		16 39 31.5	
	comp=N,201nm,0.6s						
VA01	**Torpederas**	**2.16**	**184**	*e*P	**Pn**	**16 39 04.0**	**+1.1**
ACDV	**Cuesta del Vie**	**2.16**	**72**	*e*P	**Pn**	**16 39 04.0**	**+0.9**
ACDV				*e*S	**Sn**	**16 39 32.4**	**+3.8**
AC05	**El Transito**	**2.28**	**28**	*e*P	**Pn**	**16 39 03.8**	**-0.9**
AC05				*e*S	**Sn**	**16 39 34.4**	**+2.8**
AC05				IAML		16 39 36.7	
	comp=Z,134nm,0.3s						
AC05	**El Transito**	**2.28**	**28**	*e*P	**Pn**	**16 39 04.4**	**-0.3**
AC05				*i* S	**Sn**	**16 39 31.4**	**-0.2**
AC05				IAML		16 39 46.5	
	comp=N,388nm,0.4s						
PEL	**Peldehue**	**2.37**	**163**	*e*P	**Pn**	**16 39 05.2**	**-0.7**
PEL				*i* S	**Sn**	**16 39 33.4**	**-0.4**
MT02	**Curacav**	**2.41**	**173**	*e*P	**Pn**	**16 39 04.8**	**-1.6**
MT02				*e*S	**Sn**	**16 39 36.5**	**+1.9**
MT02				IAML		16 39 48.7	
	comp=Z,151nm,0.6s						
MT02	**Curacav**	**2.41**	**173**	*e*P	**Pn**	**16 39 04.7**	**-1.6**
MT10	**Hacienda Santa**	**2.54**	**162**	*e*P	**Pn**	**16 39 07.8**	**-0.4**
MT10				*e*S	**Sn**	**16 39 37.4**	**-0.5**
MT05	**Renca**	**2.60**	**166**	*e*P	**Pn**	**16 39 09.4**	**+0.3**
MT05				*e*S	**Sn**	**16 39 38.9**	**-0.5**
MT05				IAML		16 39 52.1	
	comp=Z,173nm,0.2s						
MT05	**Renca**	**2.60**	**166**	*e*P	**Pn**	**16 39 09.7**	**+0.7**
MT05				*i* S	**Sn**	**16 39 39.9**	**+0.5**
MT05				IAML		16 39 51.4	
	comp=E,410nm,0.5s						
MT14	**Cerro Cal¡n**	**2.65**	**162**	*e*P	**Pn**	**16 39 09.4**	**-0.4**
MT14				*e*S	**Sn**	**16 39 41.7**	**+1.0**
FCH	**Farellones**	**2.66**	**158**	*e*P	**Pn**	**16 39 10.0**	**-0.1**
FCH				*e*S	**Sn**	**16 39 42.2**	**+1.0**
FCH				IAML		16 39 51.7	
	comp=E,201nm,0.1s						
AC04	**Llanos de Chal**	**2.67**	**8**	*e*P	**Pn**	**16 39 08.9**	**-1.1**
AC04				*e*S	**Sn**	**16 39 42.4**	**+1.2**
AC04				IAML		16 39 51.2	
	comp=Z,167nm,0.6s						
AC04	**Llanos de Chal**	**2.67**	**8**	*e*P	**Pn**	**16 39 09.7**	**-0.3**
AC04				*i* S	**Sn**	**16 39 42.4**	**+1.2**
AC04				IAML		16 39 51.7	
	comp=N,228nm,0.6s						
MT04	**Ro Olivares**	**2.78**	**156**	*e*P	**Pn**	**16 39 11.6**	**-0.1**
MT04				*e*S	**Sn**	**16 39 45.0**	**+0.9**
MT04				IAML		16 39 53.6	
	comp=N,192nm,0.3s						
ASAL	**Salagasta**	**2.84**	**128**	*e*P	**Pn**	**16 39 13.1**	**+0.7**
ASAL				*e*S	Sn	16 39 31.2	-14
ASAL				IAML		16 39 32.4	
	comp=Z,67nm,0.6s						
MT08	**Bocatoma Ro**	**2.86**	**155**	*e*P	**Pn**	**16 39 13.6**	**+0.8**
MT09	**Talagante**	**2.94**	**172**	⇑*e*P	**Pn**	**16 39 12.7**	**-1.1**
MT09				*e*S	**Sn**	**16 39 46.2**	**-1.6**
AGUA	**GUANDACOL**	**2.94**	**63**	*e*P	**Pn**	**16 39 15.6**	**+1.9**
AGUA				IAML		16 39 59.1	
	comp=Z,80nm,0.5s						
ARCO	**CERRO ARCO**	**2.94**	**133**	*e*P	**Pn**	**16 39 14.8**	**+1.0**
ARCO				*e*S	Sn	16 39 32.7	-15
ARCO				IAML		16 39 33.3	
	comp=Z,172nm,0.4s						
MT12	**Pirque**	**2.97**	**165**	*e*P	**Pn**	**16 39 13.4**	**-0.8**
MT12				*e*S	**Sn**	**16 39 47.2**	**-1.3**
MT01	**Popeta**	**3.00**	**176**	*e*P	**Pn**	**16 39 13.2**	**-1.3**
MT01				*e*S	**Sn**	**16 39 49.4**	**+0.2**

MT01				IAML		16 39 56.2	
	comp=Z,84nm,0.2s						
MT01	**Popeta**	**3.00**	**176**	*eP*	**Pn**	**16 39 13.0**	**-1.4**
MT01				*eS*	**Sn**	**16 39 46.8**	**-2.4**
MT13	**San Alfonso**	**3.05**	**161**	*eP*	**Pn**	**16 39 17.2**	**+2.0**
LMEL	**Las Melosas**	**3.17**	**160**	*eP*	**Pn**	**16 39 16.9**	**0.0**
LMEL				*eS*	**Sn**	**16 39 53.4**	**-0.1**
LMEL				IAML		16 40 01.4	
	comp=N,227nm,0.2s						
BO04	**La Punta**	**3.20**	**167**	*eP*	**Pn**	**16 39 16.2**	**-1.1**
BO04				*eS*	**Sn**	**16 39 52.4**	**-1.9**
GO03	**Copiap**	**3.44**	**19**	*eP*	**Pn**	**16 39 20.1**	**-0.5**
GO03				*eS*	**Sn**	**16 40 02.4**	**+2.3**
GO03				IAML		16 40 14.4	
	comp=Z,99nm,0.5s						
GO03	**Copiap**	**3.44**	**19**	*eP*	**Pn**	**16 39 20.6**	**0.0**
BO01	**Tunca**	**3.54**	**175**	*eP*	**Pn**	**16 39 20.7**	**-1.2**
BO01				*eS*	**Sn**	**16 40 10.2**	**+7.8**
BO01				IAML		16 40 15.7	
	comp=Z,56nm,0.6s						
BO01	**Tunca**	**3.54**	**175**	*eP*	**Pn**	**16 39 20.1**	**-1.8**
AC06	**Mina Casimiro**	**3.63**	**16**	*eP*	**Pn**	**16 39 23.6**	**+0.3**
BO02	**Sierra Bellavi**	**3.96**	**172**	*eP*	**Pn**	**16 39 26.8**	**-1.0**
BO02				*eS*	**Sn**	**16 40 18.9**	**+5.9**
BO02				IAML		16 40 24.8	
	comp=Z,72nm,0.8s						
BO02	**Sierra Bellavi**	**3.96**	**172**	*eP*	**Pn**	**16 39 26.6**	**-1.2**
GO05	**Huala**	**4.15**	**185**	*eS*	**Sn**	**16 40 13.4**	**-4.2**
GO05				IAML		16 40 45.2	
	comp=Z,28nm,0.6s						
AC02	**Maricunga**	**4.52**	**28**	*eP*	**Pn**	**16 39 35.6**	**-0.2**
AC02				IAML		16 40 45.4	
	comp=Z,38nm,1.2s						
RFA	**San Rafael**	**4.65**	**148**	*eP*	**Pn**	**16 39 36.4**	**-0.8**
AC01	**Pan de Azucar**	**4.76**	**10**	*eP*	**Pn**	**16 39 36.3**	**-2.4**
AC01				*eS*	Sn	16 40 41.9	+9.2

DJA 04 16:39:21.6±0.7,2°N±6°×12°2E±°,h10km,M4.1/8,mb4.1/3, MLv4.0/8,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.78**	**125**	P	Pn	16 39 48.8	-3.6
GTOI				S	Sn	16 40 07.9	-7.2
MPSI	**Mapaga**	**2.11**	**232**	P	Pn	16 39 56.8	-0.2
KMSI	**Cibinong**	**2.66**	**114**	P	Pn	16 40 05.6	+1.1
LUWI	**Luwuk**	**2.95**	**156**	P	Pn	16 40 09.0	+0.5
LUWI				S	Sn	16 40 44.9	+0.9
TTSI	**Tana Toraja**	**4.98**	**200**	P	Pn	16 40 37.8	+1.3
SANI	**Sanana**	**5.77**	**130**	P	Pn	16 40 46.8	-0.5
	9.8nm,1.0s,0.1nm						
LBMI	**Labuha**	**6.37**	**111**	P	Pn	16 40 56.0	+0.3
	23nm,0.7s,0.1nm						
BKSI	**Bulukumba**	**7.08**	**192**	P	Pn	16 41 05.6	+0.2

*SOME **04** 16:45:43.3,43˚48N×86˚78E,h0km*
*IDC **04** 16:45:46.0±0.7,43˚79N×86˚77E,h0km,mb3.9/17, mbtmp3.9/23,ML3.6/6,Error ellipse: s-maj=16.6km s-min=9.7km az=39.0*
*NNC **04** 16:45:48.9±1.2,43˚89N×86˚63E,h0km,mb4.5,mpv4.2, Error ellipse: s-maj=9.4km s-min=6.7km az=120.0*
*BJI **04** 16:45:49.3±0.0,43˚68N×86˚68E,h26km,mb4.3/20, mB4.3/1,ML4.4/12,Ms3.9/1,Ms7 3.7/2*
*NEIC **04** 16:45:51.1±2.4,43˚77N±0˚08×86˚7E±0˚1,h35km±2km, mb4.6/28,Error ellipse: s-maj=15.3km s-min=13.3km az=76.0*

ISC 04 16:45:48.1±0.3,43°84N±0°04×86°88E±0°02,h10km,n348, σ1860/355,mb4.2/33,11C-17D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.59**	**91**	Pg	**Pn**	**16 46 04.5**	**+1.8**
WMQ				Sg	**Sn**	**16 46 15.3**	**+2.9**
WMQ				smax	smax		
	comp=N,6μm,0.7s						
WMQ				smax	smax		
	comp=E,3μm,0.7s						
ZSN	**Zaisan**	**3.88**	**339**	Pg	**Pg**	**16 47 02.7**	**+0.4**
	105nm,0.5s						
ZSN				Lg	Lg	16 47 58.9	
	505nm,1.0s						
ZSN	**Zaisan**	**3.88**	**339**	*eP*	**Pg**	**16 47 02.7**	**+0.4**
	105nm,0.5s						
ZSN				*eS*	**Sg**	**16 47 58.9**	**+6.4**
	505nm,1.0s						
MK31	**Makanchi Array**	**4.38**	**314**	⇓Pn	**Pn**	**16 46 55.8**	**+1.1**
	7.2nm,0.3s,baz=131,slow=14,SNR=949						
MK31				⇓Sn	**Sn**	**16 47 45.7**	**-0.1**
	31nm,0.5s,baz=131,slow=26,SNR=7.3						
MK31				⇓Lg	Lg	16 48 04.2	
	169nm,0.7s,baz=132,slow=28,SNR=6.5						
MK31	**Makanchi Array**	**4.38**	**314**	Pn	**Pn**	**16 46 55.9**	**+1.2**
MKAR	**Makanchi Array**	**4.38**	**314**	Pn	**Pn**	**16 46 55.7**	**+1.0**
MKAR	**Makanchi Array**	**4.38**	**314**	Pn	**Pn**	**16 46 56.1**	**+1.4**
	10.0nm,0.3s,baz=137,slow=14,SNR=443						
MKAR				Sn	**Sn**	**16 47 45.3**	**-0.4**
	40nm,0.3s,baz=139,slow=27,SNR=13						
MKAR				Lg	Lg	16 48 03.2	
	38nm,0.3s,baz=131,slow=29,SNR=5.2						
	18nm,0.4s						
MAKZ	**Makanchi**	**4.55**	**312**	⇓Pn	**Pn**	**16 46 58.3**	**+1.2**
	17nm,0.5s						
MAKZ				⇓Sn	**Sn**	**16 47 50.2**	**+0.1**
	98nm,0.6s						
MAKZ				⇑Lg	Lg	16 48 10.0	
	210nm,0.9s						
MAKZ	**Makanchi**	**4.55**	**312**	Pn	**Pn**	**16 46 58.2**	**+1.2**
DJR	**Jarkent**	**5.13**	**278**	Pg	**Pb**	**16 47 17.7**	**-0.2**
	26nm,0.9s						
DJR				Lg	Lg	16 48 24.5	
	116nm,0.8s						
DJR	**Jarkent**	**5.13**	**278**	*eP*	**Pb**	**16 47 17.7**	**-0.2**
	26nm,0.9s						
DJR				*eS*	**Sb**	**16 48 24.4**	**+4.8**
	116nm,0.8s						
PDGK	**Podgornoye**	**5.39**	**267**	Pg	**Pb**	**16 47 23.2**	**+0.8**
	12nm,0.6s						
PDGK				Lg	Lg	16 48 33.0	
	79nm,0.7s						
PDGK	**Podgornoye**	**5.39**	**267**	⇓Pn	**Pn**	**16 47 07.1**	**-1.6**
	5.1nm,0.4s						
PDGK				⇓Lg	Lg	16 48 33.5	
	199nm,0.6s						
SHLS	**Shalkode**	**5.44**	**265**	Pg	Pb	16 47 18.6	-4.6
	101nm,1.0s						
SHLS				Lg	Lg	16 48 25.3	
	419nm,0.9s						
SHLS	**Shalkode**	**5.44**	**265**	*eP*	Pb	16 47 18.6	-4.6
	101nm,1.0s						
SHLS				*eS*	**Sb**	**16 48 25.3**	**-3.2**
	419nm,0.9s						
KAPS	**Kapalarasan**	**5.56**	**288**	Pg	**Pb**	**16 47 27.5**	**+2.1**
	28nm,0.6s						
KAPS				Lg	Lg	16 48 41.3	
	123nm,0.6s						
KAPS	**Kapalarasan**	**5.56**	**288**	*eP*	**Pb**	**16 47 27.5**	**+2.1**
	28nm,0.6s						
KAPS				*eS*	Sb	16 48 41.3	+9.2
	123nm,0.6s						
KNOS	**Konyrlen**	**5.57**	**278**	Pg	**Pb**	**16 47 25.3**	**-0.2**
	67nm,0.6s						
KNOS				Lg	Lg	16 48 36.7	
	94nm,0.9s						
UZB	**Uzynbulak**	**5.75**	**266**	Pg	**Pb**	**16 47 29.7**	**+1.1**
	21nm,0.7s						
UZB				Lg	Lg	16 48 44.5	
	90nm,0.9s						
UZB	**Uzynbulak**	**5.75**	**266**	*eP*	**Pb**	**16 47 29.7**	**+1.1**
	21nm,0.7s						
UZB				*eS*	**Sb**	**16 48 44.5**	**+6.8**
	90nm,0.9s						
BLB	**Baldybastay**	**6.07**	**275**	Pg	**Pb**	**16 47 38.0**	**+4.0**
	104nm,0.7s						
BLB				Lg	Lg	16 48 58.6	
	123nm,0.5s						
SATY	**Saty**	**6.21**	**266**	Pg	**Pb**	**16 47 38.0**	**+1.5**
	18nm,0.6s						
SATY				Lg	Lg	16 48 58.7	
	85nm,0.9s						
SATY	**Saty**	**6.21**	**266**	*eP*	**Pb**	**16 47 38.0**	**+1.5**
	18nm,0.6s						
SATY				*eS*	**Sb**	**16 48 58.7**	**+7.8**
	85nm,0.9s						
KURS	**Kuram**	**6.33**	**270**	Pg	**Pb**	**16 47 39.8**	**+1.5**
	19nm,0.8s						
KURS				Lg	Lg	16 49 02.0	
	30nm,1.0s						
KURS	**Kuram**	**6.33**	**270**	*eP*	**Pb**	**16 47 39.8**	**+1.5**
	19nm,0.8s						
KURS				*eS*	**Sb**	**16 49 02.0**	**+8.0**
	30nm,1.0s						
ARXS	**Arharly**	**6.54**	**276**	Pg	Pb	16 47 46.8	+5.0
	18nm,1.1s						
ARXS				Lg	Lg	16 49 14.1	
	105nm,0.4s						
ARXS	**Arharly**	**6.54**	**276**	*eP*	Pb	16 47 46.8	+5.0
	18nm,1.1s						
ARXS				*eS*	**Sg**	**16 49 14.2**	**-3.6**
	105nm,0.4s						
TARG	**Taragay, Kyrgy**	**7.00**	**256**		**Pn**	**16 47 29.8**	**-1.2**
CHKK	**Chushkaly**	**7.15**	**274**	Pg	Pb	16 47 56.6	+4.3
	9.7nm,0.8s						
CHKK				Lg	Lg	16 49 30.8	
	46nm,1.1s						
CHKK	**Chushkaly**	**7.15**	**274**	*eP*	Pb	16 47 56.6	+4.3
	9.7nm,0.8s						
CHKK				*eS*	**Sg**	**16 49 30.8**	**-6.7**
	46nm,1.1s						
MDOK	**Medeo**	**7.18**	**268**	Pn	**Pn**	**16 47 31.9**	**-1.3**
	8.8nm,0.4s						
MDOK				Pg	**Pb**	**16 47 54.7**	**+1.8**
	7.7nm,1.1s						
MDOK				Lg	Lg	16 49 27.7	
	36nm,0.7s						
MDOK				Lg	Lg	16 49 33.2	
	111nm,0.9s						
MDOK	**Medeo**	**7.18**	**268**	*eP*	**Pb**	**16 47 54.7**	**+1.8**
	7.7nm,1.1s						
MDOK				*eS*	Sb	16 49 27.7	+9.1
	36nm,0.7s						
KNDC	**Almaty**	**7.23**	**268**	⇑Pn	**Pn**	**16 47 34.5**	**+0.7**
	15nm,0.5s						
KNDC				⇓Lg	Lg	16 49 38.0	
	226nm,0.8s						
TNSS	**Tian-Shan**	**7.27**	**267**	Pg	**Pb**	**16 47 55.6**	**+1.0**
	12nm,0.7s						
TNSS				Lg	Lg	16 49 28.5	
	18nm,1.0s						
TNSS	**Tian-Shan**	**7.27**	**267**	*eP*	**Pb**	**16 47 55.6**	**+1.0**
	12nm,0.7s						
TNSS				*eS*	**Sb**	**16 49 28.5**	**+7.0**
	18nm,1.0s						
KTBS	**Karatobe**	**7.38**	**273**	Pg	Pb	16 48 00.5	+4.2
	9.4nm,0.8s						
KTBS				Lg	Lg	16 49 37.5	
	55nm,0.9s						
KTBS	**Karatobe**	**7.38**	**273**	*eP*	Pb	16 48 00.5	+4.2
	9.4nm,0.8s						
KTBS				*eS*	**Sg**	**16 49 37.5**	**-7.4**
	55nm,0.9s						
MTBS	**Maitube**	**7.63**	**268**	Pg	**Pb**	**16 48 03.3**	**+2.7**
	5.4nm,0.7s						
MTBS				Lg	Lg	16 49 42.5	
	32nm,0.8s						
MTBS	**Maitube**	**7.63**	**268**	*eP*	**Pb**	**16 48 03.3**	**+2.7**
	5.4nm,0.7s						
MTBS				*eS*	Sb	16 49 42.5	+11
	32nm,0.8s						
BOOM	**Boomskoye usch**	**8.11**	**264**	Pn	**Pn**	**16 47 43.7**	**-2.3**
KRBS	**Karabastau**	**8.11**	**273**	Pg	Pb	16 48 13.4	+4.8
	8.0nm,0.6s						
KRBS				Lg	Lg	16 49 59.5	
	18nm,0.7s						
KRBS	**Karabastau**	**8.11**	**273**	*eP*	Pb	16 48 13.4	+4.8
	8.0nm,0.6s						
KRBS				*eS*	Sg	16 49 59.5	-8.8
	18nm,0.7s						
TKM2	**Tokmak 2**	**8.27**	**268**	⇓Pn	**Pn**	**16 47 47.5**	**-0.8**
	6.4nm,0.5s						
TKM2				⇓Sn	**Sn**	**16 49 22.2**	**+0.5**
	16nm,0.7s						
TKM2				⇓Lg	Lg	16 50 06.6	
	74nm,1.1s						
KURBB	**Kurchatov Arra**	**8.84**	**323**	⇑Pn	**Pn**	**16 47 55.2**	**-0.6**
	14nm,0.5s						
KURBB				⇓Lg	Lg	16 50 21.8	
	166nm,0.8s						
KURBB	**Kurchatov Arra**	**8.84**	**323**	Pn	**Pn**	**16 47 55.4**	**-0.5**
	0.7nm,0.3s,baz=118,slow=23,SNR=26						
KURBB				Sn	**Sn**	**16 49 33.7**	**-1.8**
	0.9nm,0.3s,baz=139,slow=26,SNR=5.4						
KURBB				Lg	Lg	16 50 25.9	
	1.0nm,0.3s,baz=139,slow=34,SNR=4.9						
	2.2nm,0.3s						
CHMS	**Chumysh**	**8.87**	**269**	⇑Pn	**Pn**	**16 47 57.3**	**+1.1**
	5.6nm,0.5s						
CHMS				⇑Lg	Lg	16 50 26.4	
	30nm,1.1s						
KURK	**Kurchatov**	**8.87**	**324**	⇓Pn	**Pn**	**16 47 55.2**	**-1.0**
	3.9nm,0.4s						
KURK				⇑Lg	Lg	16 50 23.1	
	167nm,1.1s						
KURK	**Kurchatov**	**8.87**	**324**		**Pn**	**16 47 55.7**	**-0.6**
AAK	**Ala-Archa**	**9.12**	**267**	⇓Pn	**Pn**	**16 48 03.5**	**+3.7**
	4.3nm,0.6s						
AAK				⇓Lg	Lg	16 50 39.5	
	49nm,1.1s						
AAK	**Ala-Archa**	**9.12**	**267**		**Pn**	**16 48 00.3**	**+0.4**
AAK	**Ala-Archa**	**9.12**	**267**	Pn	**Pn**	**16 47 59.9**	**0.0**
	0.8nm,0.3s,baz=117,slow=7.3,SNR=9.2						
AAK				Lg	Lg	16 50 30.7	
	0.6nm,0.3s,baz=5.2,slow=11,SNR=1.5						
	1.5nm,0.3s						
KSH	**Kashi**	**9.23**	**246**	P	Pn	16 48 08.9	+7.6
KSH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
GOMU	**GeErMu**	**9.76**	**139**	P	**Pn**	**16 48 09.5**	**+0.7**
GOMU				pP		16 48 12.9	
GOMU				pmax	pmax		
	comp=Z,12nm,0.5s						
ZAA0	**Zalesovo Array**	**10.21**	**353**	⇑Pn	**Pn**	**16 48 13.9**	**-0.7**
	2.0nm,0.7s						
ZAA0				⇑Sn	**Sn**	**16 50 07.9**	**-1.1**
	3.4nm,0.8s						
ZAA0	**Zalesovo Array**	**10.21**	**353**	Pn	**Pn**	**16 48 14.7**	**+0.2**
ZALV	**Zalesovo Beam**	**10.21**	**353**	Pn	**Pn**	**16 48 14.4**	**-0.1**
ZALV	**Zalesovo Beam**	**10.21**	**353**	Pn	**Pn**	**16 48 14.6**	**+0.1**
	3.1nm,0.3s,baz=176,slow=13,SNR=71						
ZALV				Sn	**Sn**	**16 50 05.4**	**-3.5**
	3.6nm,0.3s,baz=166,slow=26,SNR=8.3						
ZALV				Lg	Lg	16 51 10.6	
	baz=173,slow=26						
	17nm,0.6s						
GTA	**Gaotai**	**10.65**	**110**	*eP*	**Pn**	**16 48 22.8**	**+2.1**
GTA				sP		16 48 32.2	
GTA				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OTUK	**Ortayu**	**11.02**	**299**	⇑Pn	Pn	16 48 22.7	-3.1
	2.0nm,0.5s						
OTUK				⇓Sn	**Sn**	**16 50 30.0**	**+1.0**
	3.1nm,0.5s						
OTUK				⇑Lg	Lg	16 51 33.7	
	18nm,0.8s						
KK31	**Karatay Array**	**11.92**	**272**	⇓Pn	**Pn**	**16 48 39.2**	**+1.2**
	0.5nm,0.3s,baz=69,slow=14,SNR=4.1						
KK31				⇑Lg	Lg	16 52 03.7	
	15nm,0.8s,baz=74,slow=29,SNR=3.7						
GAR	**Garm**	**13.33**	**254**		**Pn**	**16 48 56.9**	**-0.5**
SONM	**Songino Array**	**14.18**	**67**	Pn	**Pn**	**16 49 10.7**	**+1.8**
	0.1nm,0.3s,baz=265,slow=12,SNR=1.8						
SONM				Lg	Lg	16 53 17.3	
	0.2nm,0.3s,baz=259,slow=29,SNR=2.1						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**14.26**	**316**	Pn	**Pn**	**16 49 08.0**	**-2.0**
	0.1nm,0.3s,baz=112,slow=14,SNR=10						
BVAR				Sn	Sn	16 51 37.3	-11
	0.1nm,0.3s,baz=123,slow=23,SNR=2.1						
BVAR				Lg	Lg	16 53 17.4	
	0.1nm,0.3s,baz=120,slow=21,SNR=3.6						
	1.3nm,0.4s						
CHGR	**Chuyangaron**	**14.29**	**255**	P	Pn	16 49 15.7	+5.1
BRVK	**Borovoye**	**14.33**	**316**		**Pn**	**16 49 10.3**	**-0.7**
SIMJ	**Simiganj**	**14.40**	**255**	Pn	**Pn**	**16 49 09.4**	**-2.6**
KBL	**Kabul**	**16.62**	**242**	Pn	**Pn**	**16 49 38.3**	**-3.0**
HHC	**Hu-ho-hao-te**	**18.47**	**91**	*eP*	**P**	**16 50 05.8**	**+1.7**
HHC				sP	sP	16 50 14.7	+6.1
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
ABKAR	**Akbulak array**	**19.25**	**296**		**P**	**16 50 10.7**	**-1.7**
ABKAR	**Akbulak array**	**19.25**	**296**		**P**	**16 50 11.4**	**-1.0**
AKTO	**Aktyubinsk**	**20.62**	**299**	P	**P**	**16 50 26.2**	**-1.2**
	0.8nm,0.4s,baz=131,slow=3.3,SNR=2.2						
AKTO				Lg	Lg	16 56 41.1	
	0.1nm,0.3s,baz=34,slow=23,SNR=2.1						
	0.8nm,0.4s						
XLT	**XiLinHaoTe**	**21.01**	**80**	*eP*	**P**	**16 50 34.4**	**+2.6**
XLT				pP	sP	16 50 39.4	+3.1
XLT				pmax	pmax		
	comp=Z,10.0nm,0.9s						
TNCH	**TengChong**	**21.04**	**149**	P	**P**	**16 50 33.8**	**+1.5**
TNCH				pP		16 50 36.6	
TNCH				PP	**PnPn**	**16 50 55.1**	**+4.0**
TNCH				S	**S**	**16 54 20.8**	**-5.8**
TNCH				sS	sS	16 54 28.7	-2.9
TNCH				pmax	pmax		
	comp=Z,8.0nm,0.9s						
TNCH				pmax	pmax		
	comp=Z,140nm,9.1s						
TNCH				LR	LR		
	comp=Z,120nm,8.2s						
PZH	**PanZhiHua**	**21.08**	**140**	P	**P**	**16 50 35.5**	**+2.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
ARU	**Arti**	**21.91**	**315**	P	**P**	**16 50 40.1**	**-1.0**
ARU	**Arti**	**21.91**	**315**	P	**P**	**16 50 40.1**	**-1.0**
	2.5nm,0.4s,baz=177,slow=3.0,SNR=6.1						
	2.5nm,0.4s						
GEYT	**Alibeck**	**22.46**	**265**	P	**P**	**16 50 42.5**	**-4.8**
GEYT	**Alibeck**	**22.46**	**265**	P	**P**	**16 50 46.7**	**-0.7**
	2.8nm,0.8s,baz=75,slow=11,SNR=7.2						
	2.8nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**22.46**	**265**	P	**P**	**16 50 43.2**	**-4.2**
GYA	**Guiyang**	**23.62**	**131**	*eP*	**P**	**16 50 56.6**	**-2.8**
GYA				pmax	pmax		
	comp=Z,6.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.27**	**154**	P	**P**	**16 51 33.1**	**+0.6**
	1.4nm,0.8s,baz=331,slow=9.5,SNR=12						
	1.4nm,0.8s						
NJ2	**Nanjing**	**27.66**	**104**	*eP*	**P**	**16 51 35.7**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KSRS	**Korea Array**	**31.54**	**87**	P	**P**	**16 52 10.2**	**-0.2**
	1.1nm,0.7s,baz=289,slow=8.3,SNR=4.8						
	1.1nm,0.7s						
AKASG	**Malin Array Be**	**38.84**	**301**	P	**P**	**16 53 12.0**	**-1.1**
	0.3nm,0.4s,baz=72,slow=9.3,SNR=3.2						
	0.3nm,0.4s						
FINES	**FINESS Array B**	**39.20**	**318**	P	**P**	**16 53 15.6**	**-0.3**
FINES	**FINESS Array B**	**39.20**	**318**	P	**P**	**16 53 15.1**	**-0.8**
	2.0nm,0.7s,baz=57,slow=7.0,SNR=8.5						
	2.0nm,0.7s						
BRTR	**Keskin Array B**	**39.34**	**283**	P	**P**	**16 53 17.2**	**-0.4**
	0.4nm,0.5s,baz=98,slow=7.7,SNR=2.6						
	0.4nm,0.5s						
RAYN	**Ar Rayn**	**39.44**	**253**	P	**P**	**16 53 18.4**	**0.0**
ARCES	**ARCESS Array B**	**39.82**	**331**	P	**P**	**16 53 20.9**	**-0.1**
	4.7nm,0.9s,baz=84,slow=8.2,SNR=15						
	4.7nm,0.9s						
GSI	**Gunungsitoli**	**43.41**	**164**	P	**P**	**16 53 49.0**	**-2.0**
GSI				IAmb	IAmb	16 53 51.4	
	comp=Z,11nm,0.9s						
HFS	**Hagfors**	**45.39**	**318**	P	**P**	**16 54 04.5**	**-1.8**
	comp=Z,0.7nm,0.3s,baz=101,slow=7.9,SNR=7.1						
	comp=Z,0.7nm,0.3s						
NC405	**NORSAR Array S**	**46.10**	**319**	P	**P**	**16 54 11.2**	**-0.8**
NC405				IAmb	IAmb	16 54 18.6	
	comp=Z,7.1nm,1.1s						
NB2	**NORSAR Subarra**	**46.36**	**319**	P	**P**	**16 54 13.0**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**46.36**	**319**	P	**P**	**16 54 13.0**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=74,slow=9.1,SNR=6.9						
	comp=Z,0.9nm,0.5s						
NBO00	**NORSAR Array S**	**46.56**	**319**	P	**P**	**16 54 14.3**	**-1.3**
AGG	**Agios Georgios**	**47.54**	**288**	P	**P**	**16 54 22.0**	**-1.6**
AGG				IAmb	IAmb	16 55 02.8	
	comp=Z,8.0nm,1.3s						
DAG	**Danmarks Havn**	**51.17**	**343**	*i* P	**P**	**16 54 50.0**	**-0.7**
EKA	**Eskdalemuir Ar**	**55.52**	**316**	P	**P**	**16 55 21.6**	**-1.4**
	comp=Z,0.8nm,0.5s,baz=58,slow=7.0,SNR=6.7						
	comp=Z,0.8nm,0.5s						
NEEM	**North Greenlan**	**56.22**	**350**	*i* P	**P**	**16 55 27.2**	**-1.0**
B18K	**Kokolik River**	**56.49**	**23**	P	**P**	**16 55 28.7**	**-1.0**
	baz=306						
C17K	**DeLong Mountai**	**56.61**	**25**	P	**P**	**16 55 29.0**	**-1.6**
	baz=306						
A21K	**Barrow**	**56.68**	**20**	P	**P**	**16 55 30.8**	**-0.2**
	baz=309						
TNA	**Tin City**	**56.72**	**29**	P	**P**	**16 55 31.9**	**+0.5**
	baz=303						
RDOG	**Red Dog Mine**	**56.93**	**25**	P	**P**	**16 55 33.0**	**0.0**
	baz=306						
D17K	**Noatak River**	**57.09**	**25**	P	**P**	**16 55 34.5**	**+0.5**
	baz=306						
C18K	**Utukok River**	**57.09**	**24**	P	**P**	**16 55 34.4**	**+0.3**
	baz=307						
C19K	**Lookout Ridge**	**57.28**	**23**	P	**P**	**16 55 35.9**	**+0.5**
	baz=308						
A22K	**Sinclair Lake**	**57.29**	**20**	P	**P**	**16 55 35.3**	**-0.1**
	baz=311						
F14K	**Arctic Creek**	**57.32**	**28**	P	**P**	**16 55 36.0**	**+0.3**
	baz=305						
B20K	**Meade River**	**57.37**	**22**	P	**P**	**16 55 36.1**	**+0.2**
	baz=310						
F15K	**North Star Dit**	**57.76**	**28**	P	**P**	**16 55 38.5**	**-0.2**
	baz=306						
E17K	**Hotham Inlet**	**57.85**	**26**	P	**P**	**16 55 38.9**	**-0.4**
	baz=307						
E18K	**Tukpahlearik C**	**58.02**	**25**	P	**P**	**16 55 40.5**	**-0.1**
	baz=308						
D19K	**Kuna River**	**58.08**	**23**	P	**P**	**16 55 40.8**	**-0.2**
	baz=310						
B22K	**Teshekpuk Lake**	**58.12**	**20**	P	**P**	**16 55 41.0**	**-0.2**
	baz=312						
ANM	**Nome**	**58.18**	**29**	P	**P**	**16 55 41.7**	**0.0**
	baz=306						
B21K	**Ikpikpuk River**	**58.30**	**21**	P	**P**	**16 55 42.9**	**+0.5**
	baz=312						
D20K	**Etivluk River**	**58.36**	**23**	P	**P**	**16 55 42.9**	**-0.1**
	baz=311						
G15K	**Niukluk**	**58.39**	**28**	P	**P**	**16 55 43.5**	**+0.4**
	baz=307						
F17K	**Baldwin Pennin**	**58.42**	**26**	P	**P**	**16 55 43.0**	**-0.4**
	baz=308						
C21K	**Knifeblade Rid**	**58.56**	**22**	P	**P**	**16 55 44.3**	**0.0**
	baz=312						
G16K	**Koyuk River**	**58.71**	**27**	P	**P**	**16 55 45.4**	**0.0**
	baz=308						
**E

comp=Z,4.2nm,0.8s
F21K **Alatna River** 60.24 23 P P 16 55 55.4 -0.6
baz=314
TOLK **Toolik Lake Re** 60.28 21 P P 16 55 56.8 +0.5
TOLK IAmb IAmb 16 55 58.3
comp=Z,5.1nm,0.8s
TOLK **Toolik Lake Re** 60.28 21 P P 16 55 55.5 -0.8
baz=316,SNR=7.5
M11K **Mekoryuk** 60.37 33 P P 16 55 56.7 -0.2
baz=307
F22K **John River** 60.40 22 P P 16 55 56.2 -0.9
baz=315
C26K **Camden Bay** 60.45 18 P P 16 55 56.1 -1.3
baz=319
H19K **Roundabout Mou** 60.52 25 P P 16 55 57.9 +0.1
baz=312
D25K **Kavik River** 60.57 19 P P 16 55 57.5 -0.7
baz=318
SPIA **Saint Paul Isl** 60.59 38 P P 16 55 57.6 -0.9
baz=306
J16K **Anvik River** 60.63 29 P P 16 55 58.7 0.0
baz=310
E23K **Chandalar** 60.69 21 P P 16 55 58.6 -0.5
baz=316
G21K **Allakaket** 60.72 24 P P 16 55 58.6 -0.6
baz=314
K15K **Wolf Creek Mou** 60.94 30 P P 16 56 00.4 -0.4
baz=310
C27K **Jago River** 60.95 18 P P 16 55 59.8 -1.0
baz=320
E24K **Your Creek** 60.97 21 P P 16 56 02.0 +1.0
E24K IAmb IAmb 16 56 02.7
comp=Z,4.5nm,0.8s
E24K **Your Creek** 60.97 21 P P 16 55 59.7 -1.3
baz=317,SNR=6.6
G22K **Bettles** 61.00 23 P P 16 56 00.3 -0.8
baz=315
H20K **Anotleneega Mo** 61.02 25 P P 16 56 00.3 -1.0
baz=313,SNR=5.7
J17K **VABM Dome** 61.08 28 P P 16 56 01.4 -0.4
baz=311
L14K **Kuka Creek** 61.13 31 P P 16 56 01.5 -0.6
baz=309
COLD **Coldfoot** 61.14 22 P P 16 56 01.2 -0.9
baz=316,SNR=5.5
L15K **Ungalakleet Mounta** 61.35 30 P P 16 56 03.8 +0.2
baz=310
H21K **Melozitna River** 61.53 24 P P 16 56 04.6 -0.2
baz=315
F24K **Squaw Lake** 61.54 21 P P 16 56 06.0 +1.1
F24K IAmb IAmb 16 56 06.9
comp=Z,3.6nm,0.8s
F24K **Squaw Lake** 61.54 21 P P 16 56 04.1 -0.7
baz=318
G23K **Bananza Creek** 61.56 22 P P 16 56 04.4 -0.6
baz=316
E25K **Arctic Village** 61.67 20 P P 16 56 04.4 -1.3
baz=319
H22K **Ishtalitna Cre** 61.77 23 P P 16 56 05.1 -1.4
baz=316
K17K **Iditarod** 61.80 28 P P 16 56 05.6 -1.0
baz=312
J19K **Poorman** 61.82 26 P P 16 56 06.2 -0.5
baz=313
J18K **Innoko River** 61.83 27 P P 16 56 06.8 0.0
baz=313
D27M **Malcolm River** 61.85 17 P P 16 56 07.9 +1.0
D27M IAmb IAmb 16 56 08.9
comp=Z,2.6nm,0.8s
D27M **Malcolm River** 61.85 17 P P 16 56 06.9 -0.1
baz=323
F25K **Christian River** 62.05 20 P P 16 56 08.1 -0.2
baz=320,SNR=7.6
L16K **Owhat River** 62.06 30 P P 16 56 08.4 +0.1
baz=312
I21K **Tanana** 62.11 24 P P 16 56 08.9 +0.3
baz=316
J20K **Nowinta River** 62.16 26 P P 16 56 09.2 +0.2
baz=314
L17K **Donlin** 62.19 29 P P 16 56 09.8 +0.5
baz=312
D28M **Stokes Point** 62.26 17 P P 16 56 10.3 +0.7
baz=324
G24K **Hadweenzic Riv** 62.26 21 P P 16 56 09.3 -0.4
baz=318
A36M **Sachs Harbour** 62.27 11 P P 16 56 09.8 +0.2
baz=334
M15K **Kasigluk River** 62.29 31 P P 16 56 09.5 -0.4
baz=311
F26K **Sheenjek River** 62.34 20 P P 16 56 10.2 -0.1
baz=321
H23K **Yukon River** 62.34 23 P P 16 56 10.0 -0.3
baz=317
N14K **Kuskokwak Cree** 62.42 32 P P 16 56 10.2 -0.6
baz=311
TTA **Tatalina** 62.43 27 P P 16 56 11.1 +0.2
baz=314
E27K **Coleen River** 62.56 18 P P 16 56 12.4 +0.8
E27K IAmb IAmb 16 56 13.4
comp=Z,3.8nm,0.8s
E27K **Coleen River** 62.56 18 P P 16 56 11.8 +0.2
baz=322,SNR=5.4
G25K **Bearman Lake** 62.57 21 P P 16 56 11.6 -0.1
baz=320
MLY **Manley** 62.59 24 P P 16 56 11.7 -0.2
baz=317
E28M **Babbage River** 62.68 17 P P 16 56 12.6 +0.2
baz=324
L18K **Granite Mounta** 62.69 28 P P 16 56 12.5 -0.1
baz=313
M16K **Timber Creek** 62.70 30 P P 16 56 13.1 +0.4
baz=312
K20K **Telida** 62.76 26 P P 16 56 13.1 0.0
baz=315
H24K **Noodor Dome** 62.80 22 P P 16 56 12.8 -0.5
baz=318
I23K **Minto, Yukon-K** 62.90 23 P P 16 56 13.6 -0.3
baz=318
CHUM **Lake Minchumin** 62.94 25 P P 16 56 13.9 -0.3
baz=316
M17K **Holitna River** 62.99 29 P P 16 56 14.6 0.0
baz=313
G26K **Porcupine Rive** 63.01 20 P P 16 56 14.8 +0.1
baz=321
O14K **Tigyukauivet M** 63.02 32 P P 16 56 15.3 +0.5
baz=311
H25L **Birch Creek** 63.02 21 P P 16 56 15.0 +0.3
baz=320
N16K **Nishlik Lake** 63.14 30 P P 16 56 15.8 +0.1
baz=312
BPAW **Bear Paw Mtn.** 63.19 25 P P 16 56 15.7 -0.3
baz=317
E29M **Blow River** 63.20 17 P P 16 56 15.2 -0.7
baz=325,SNR=12
L19K **White Mountain** 63.34 28 P P 16 56 16.8 -0.1
baz=315
CAST **Castle Rocks** 63.35 26 P P 16 56 15.8 -1.2
baz=316
NEA2 **Nenana** 63.39 24 P P 16 56 16.8 -0.5
baz=318
F28M **Old Crow** 63.41 18 P P 16 56 16.4 -0.9
baz=324
L20K **Farewell, AK** 63.45 27 P P 16 56 17.1 -0.6
baz=315
POKR **Poker Plat Res** 63.46 23 P P 16 56 17.4 -0.3
baz=319
M18K **Stony River** 63.49 28 P P 16 56 17.6 -0.3
baz=314
COLA **College** 63.53 23 P P 16 56 17.8 -0.3
baz=319
KTH **Kantishna Hill** 63.61 25 P P 16 56 18.8 0.0
O15K **Ungalikthiuk R** 63.62 32 P P 16 56 18.7 -0.1
baz=312
G27K **Doyon Strip** 63.64 19 P P 16 56 18.2 -0.6
baz=323
PRP **Porcupine Dome** 63.68 22 P P 16 56 19.0 -0.3
baz=320
PPLA **Purkeypile** 63.69 26 P P 16 56 19.1 -0.3
baz=316
NIKH **Nikolski High** 63.78 41 P P 16 56 19.2 -0.7
baz=309
ILAR **Eielson Array** 63.88 23 P P 16 56 20.4 0.0
comp=Z,2.4nm,0.7s,baz=311,slow=5.0,SNR=26
comp=Z,2.4nm,0.7s
TRF **Thorofare Moun** 63.88 25 P P 16 56 19.2 -1.5
baz=318
O16K **Kokwok River B** 63.99 31 P P 16 56 19.9 -1.3
baz=313

N18K **Kilae Creek** 64.03 29 P P 16 56 19.8 -1.7
baz=314
MCK **McKinley** 64.08 24 P P 16 56 21.0 -0.7
baz=318
M20K **Styx River** 64.12 27 P P 16 56 20.5 -1.7
baz=316
H27K **Steamboat Moun** 64.14 20 P P 16 56 21.1 -1.0
baz=323
INK **Inuvik** 64.16 16 P P 16 56 21.4 -0.8
baz=329
O17K **Koliganek Bris** 64.23 30 P P 16 56 21.8 -1.0
baz=314
F30M **Barrier River** 64.30 17 P P 16 56 21.9 -1.2
baz=327
UNV **Unalaska Valle** 64.32 39 P P 16 56 22.9 -0.6
baz=310
G29M **Pine Creek** 64.40 18 P P 16 56 22.6 -1.2
baz=326
P16K **Nushagak River** 64.42 31 P P 16 56 22.7 -1.3
baz=314
N19K **Bonanza Creek** 64.43 28 P P 16 56 23.0 -1.3
baz=315
SKT **Skwentna** 64.57 26 P P 16 56 23.3 -1.7
baz=317
I27K **Kandik River** 64.62 20 P P 16 56 25.2 -0.1
baz=323
CUT **Chulitna** 64.66 26 P P 16 56 25.2 -0.3
baz=318
G30M **tAoh Zraii Nji** 64.73 17 P P 16 56 24.5 -1.6
baz=327
C36M **Paulatuk** 64.84 12 P 16 56 26.4 -0.2
C36M **Paulatuk** 64.84 12 P P 16 56 25.5 -1.1
baz=336,SNR=14
O18K **Koktuh Hills** 64.86 30 P P 16 56 26.1 -0.8
baz=315
F31M **Tsiigehtchic** 64.86 16 P P 16 56 26.4 -0.4
baz=329
WAT1 **Susitna Watana** 64.87 25 P P 16 56 26.2 -0.8
baz=319
P17K **Kvichak River** 64.88 31 P P 16 56 25.9 -1.1
baz=314
H29M **Whitestone** 64.89 19 P P 16 56 26.6 -0.4
baz=326
N20K **Mount Spurr** 64.92 27 P P 16 56 26.4 -1.0
baz=317
K24K **Donnelly Dome** 64.93 23 P P 16 56 26.4 -1.0
baz=321
J26L **Joseph Creek** 64.99 22 P P 16 56 26.5 -1.4
J26L IAmb IAmb 16 56 56.9
comp=Z,10nm,1.4s
J26L **Joseph Creek** 64.99 22 P P 16 56 27.1 -0.7
baz=322
DHY **Denali Highway** 65.03 24 P P 16 56 26.6 -1.6
baz=320
FALS **False Pass** 65.04 37 P P 16 56 27.5 -0.6
baz=311
S12K **Black Hills** 65.05 36 P P 16 56 27.3 -1.0
baz=312
EPYK **Eagle Plains** 65.14 18 P P 16 56 27.8 -0.9
baz=327
I28M **Miner Creek** 65.16 20 P P 16 56 28.0 -0.9
baz=325
P18K **Big Mountain,** 65.18 30 P P 16 56 28.0 -1.1
baz=315
M22K **Willow** 65.19 26 P P 16 56 28.2 -0.8
baz=318
G31M **Satah River** 65.20 17 P P 16 56 28.0 -0.9
baz=328,SNR=8.6
SUA **Susitna One** 65.21 27 P P 16 56 27.5 -1.8
baz=318
SCRK **Sand Creek** 65.29 22 P P 16 56 28.8 -1.0
baz=322
WAT6 **Susitna Watana** 65.30 25 P P 16 56 29.3 -0.7
baz=320
EGAK **Eagle** 65.40 21 P P 16 56 29.7 -0.6
baz=324
CAPN **Captain Cook N** 65.59 27 P P 16 56 30.7 -0.9
baz=318
O20K **Slope Mountain** 65.60 28 P P 16 56 30.9 -0.9
baz=317
PMR **Palmer** 65.62 26 P P 16 56 31.4 -0.4
baz=319
PAX **Paxson** 65.67 23 P P 16 56 31.1 -1.2
baz=321
S14K **Fog Glacier** 65.70 34 P P 16 56 32.1 -0.4
baz=313
P19K **Oil Pt** 65.70 29 P P 16 56 32.0 -0.4
baz=317
SML **Sawmill** 65.71 25 P P 16 56 31.9 -0.6
baz=319
Q17K **Contact Creek** 65.74 31 P P 16 56 32.0 -0.8
baz=315
K27K **Chicken** 65.77 21 P P 16 56 32.2 -0.5
baz=323
M23K **Glacier View** 65.91 25 P P 16 56 32.9 -0.9
baz=320
SDPT **Sand Point** 65.96 35 P P 16 56 33.9 -0.2
baz=313
KNK **Knik Glacier** 65.97 26 P P 16 56 32.7 -1.4
baz=319
SCM **Sheep Creek Mo** 66.00 25 P P 16 56 33.7 -0.7
baz=320
M24K **Tolsona, Glenn** 66.14 24 P P 16 56 33.8 -1.4
baz=321
H31M **Peel River** 66.14 17 P P 16 56 33.8 -1.4
baz=329
I30M **Mount Dempster** 66.18 18 P P 16 56 34.6 -0.9
baz=327,SNR=8.8
O22K **Cooper Landing** 66.27 27 P P 16 56 35.8 -0.2
baz=319
J29N **Klondike Camp** 66.39 20 P P 16 56 36.0 -0.9
baz=326
BRSE **Bradley Lake S** 66.49 28 P P 16 56 37.0 -0.5
baz=318
L27K **Beaver Creek,** 66.61 22 P P 16 56 39.2 +1.0
L27K IAmb IAmb 16 56 40.4
comp=Z,4.8nm,0.8s
L27K **Beaver Creek,** 66.61 22 P P 16 56 37.3 -0.9
baz=324
BCAR **Beaver Creek A** 66.62 22 P P 16 56 39.6 +1.3
KLU **Klutina** 66.69 25 P P 16 56 37.3 -1.5
baz=321
J30M **Hart River** 66.74 19 P P 16 56 38.0 -1.2
baz=328
Q20K **Shuyak Island** 66.76 29 P P 16 56 38.3 -0.9
baz=318
GLI **Glacier Island** 66.81 25 P P 16 56 38.7 -0.7
baz=321
M26K **Nabesna, AK** 66.82 23 P P 16 56 38.4 -1.2
baz=323
N25K **Chitina, Valde** 67.00 24 P P 16 56 40.4 -0.4
baz=322
K29M **Barlow Dome** 67.07 20 P P 16 56 39.9 -1.4
baz=327
M27K **Edge Creek, AK** 67.17 22 P P 16 56 41.2 -0.7
baz=324
KDAK **Kodiak Island** 67.30 30 P P 16 56 42.1 -0.6
baz=318
OHAK **Old Harbor** 67.46 31 P P 16 56 43.3 -0.3
baz=317
EYAK **Cordova Ski Ar** 67.48 25 P P 16 56 43.6 -0.1
baz=322
BMRM **Bremner River** 67.50 24 P P 16 56 43.7 -0.3
baz=322
L29M **L29M** 67.54 20 P P 16 56 43.7 -0.4
baz=326
CHIR **Chirikof Islan** 67.59 33 P P 16 56 44.3 -0.2
baz=316
MCARA **McCarthy VSAT** 67.63 23 P P 16 56 44.0 -0.7
baz=323
M29M **Somme Creek** 68.01 21 P P 16 56 46.5 -0.7
baz=326
YUK3 **Moose Creek** 68.03 22 P P 16 56 46.9 -0.6
baz=325
Q23K **Middleton Isla** 68.17 26 P P 16 56 47.7 -0.3
baz=322
KAIM **Kayak Island** 68.38 25 P P 16 56 48.5 -0.9
baz=323
CTG **Chitna Glacier** 68.45 23 P P 16 56 48.9 -1.1
baz=325
YUK8 **Steele Glacier** 68.63 22 P P 16 56 50.6 -0.7
baz=326
YUK4 **Talbot Arm** 68.88 22 P P 16 56 51.6 -1.1
baz=327
MESA **MESA** 68.92 24 P P 16 56 52.4 -0.6
baz=324
O28M **Mount Upton** 68.93 23 P P 16 56 51.9 -1.3
baz=326

N30M **Aishikik Lake** 69.19 21 P P 16 56 53.1 -1.5
baz=328
M31M **Drury Creek, Y** 69.23 19 P P 16 56 53.3 -1.4
baz=329
YUK6 **Outpost Mounta** 69.29 22 P P 16 56 54.3 -1.1
baz=327
N31M **Braeburn, Yuko** 69.50 20 P P 16 56 55.6 -0.7
baz=328
MMPY **Sheldon Lake,** 69.58 18 P P 16 56 56.5 -0.5
baz=332
HYT **Haines Junctio** 69.62 21 IAmb IAmb 16 56 59.4
comp=Z,5.7nm,0.7s
HYT **Haines Junctio** 69.62 21 P P 16 56 55.7 -1.5
baz=327
O30N **Mendenhall** 70.03 21 P P 16 56 57.8 -1.9
baz=328
PNL **Peninsula** 70.07 23 P P 16 56 58.7 -1.2
baz=326
P30M **Million Dollar** 70.36 22 P P 16 57 00.5 -1.2
baz=328
WHY **Whitehorse** 70.44 20 P P 16 57 01.1 -1.2
baz=329
P29M **Windy Craggy** 70.56 22 P P 16 57 01.3 -1.7
baz=328
PLBC **Pleasant Camp** 71.08 22 P P 16 57 04.6 -1.5
baz=328
TGTN **Hyland Airport** 71.20 17 P P 16 57 05.8 -1.1
baz=334
P33M **Teslin, Yukon** 71.34 20 P P 16 57 07.3 -0.4
baz=331
P32M **Atlin** 71.66 20 P P 16 57 08.3 -1.2
baz=330
S31K **Pelican** 72.40 22 P P 16 57 12.3 -1.7
baz=329
R33M **Jennings River** 72.50 19 P P 16 57 13.1 -1.7
baz=332
R32K **Eaglecrest** 72.59 21 P P 16 57 14.9 -0.3
baz=330
YKA **Yellowknife Ar** 72.62 10 P P 16 57 15.2 0.0
comp=Z,1.8nm,0.7s,baz=339,slow=6.6,SNR=28
comp=Z,1.8nm,0.7s
DLBC **Dease Lake** 73.58 19 P P 16 57 21.4 +0.3
baz=333
LIRD **Liard River Hi** 73.58 17 P P 16 57 20.9 -0.1
baz=336
TOAD **Toad River Com** 74.28 17 P P 16 57 24.7 -0.4
baz=337
WRAK **Wrangell Islan** 74.79 21 P P 16 57 26.8 -1.3
baz=332
T35M **Bob Quinn** 74.83 20 P P 16 57 26.6 -1.7
baz=333
U33K **Whale Pass** 74.85 22 P P 16 57 27.6 -0.8
baz=331
V35K **Ketchikan** 75.95 22 P P 16 57 33.7 -1.1
baz=332
WRA **Warramunga Arr** 76.93 135 P P 16 57 40.0 -0.7
comp=Z,0.5nm,0.7s,baz=332,slow=4.6,SNR=5.2
comp=Z,0.5nm,0.7s
TORD **Torodi Ar. Bea** 77.57 276 P P 16 57 42.0 -2.6
comp=Z,0.6nm,0.5s,baz=43,slow=5.8,SNR=4.9
comp=Z,0.6nm,0.5s
ASAR **Alice Springs** 79.82 137 P P 16 57 55.8 -0.8
comp=Z,0.4nm,0.8s,baz=327,slow=5.3,SNR=4.4
comp=Z,0.4nm,0.8s
NEW **Newport** 85.88 16 P P 16 58 27.0 -0.9
baz=343
DGMT **Dagmar** 87.56 7 P P 16 58 35.1 -1.0
baz=352
MSO **Missoula** 87.86 14 P P 16 58 35.9 -1.8
baz=345
EYMN **Ely** 88.59 359 P P 16 58 39.4 -1.6
baz=1.3
PKME **Peaks-Kenny Pk** 88.78 343 P P 16 58 39.5 -2.5
baz=17
RLMT **Red Lodge** 90.27 11 P P 16 58 47.4 -1.8
baz=348
LONY **Lake Ozonia** 90.39 347 P P 16 58 48.2 -1.3
baz=13
RSSD **Black Hills** 91.88 8 P P 16 58 55.2 -1.5
baz=352
HRV **Adam Dziewonsk** 91.89 344 P P 16 58 55.3 -1.2
baz=16
WVT **Waverly** 100.26 356 P Pdif 16 59 32.8 -1.8
baz=4.0

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*KRSC **04** 16:57:05.4±0.8,49°.20N×153°.97E,h224km±12km,Ml4.5*
*MOS **04** 16:57:07.2±0.9,49°.52N×153°.44E,h213km,mb3.9/15,*
Error ellipse: s-maj=9.3km s-min=4.0km az=66.6
*IDC **04** 16:57:09.9±1.3,49°.74N×153°.31E,h210km±12km,*
mb3.7/30,mbtmp4.4/36,Error ellipse: s-maj=10.9km
s-min=7.5km az=148.0
*NEIC **04** 16:57:09.1±1.4,49°.7N±0°.1×153°.3E±0°.2,h201km±10km,*
mb4.3/72,Error ellipse: s-maj=26.3km s-min=11.0km
az=140.0

ISC 04 16:57:07.6±0.4, 49°.46N±0°.06×153°.54E±0°.05, h200km,
n229,σ1s34/240, mb4.2/85, 14C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.06**	**53**	*e*P	**Pn**	**16 57 47.6**	**+1.0**
SKR				*e*S	**Sn**	**16 58 17.8**	**+0.7**
SKR	**Severo-Kuril's**	**2.06**	**53**	*e*PN	**Pn**	**16 57 47.3**	**+0.7**
SKR				*e*S	**Sn**	**16 58 20.3**	**+3.2**
SKR				pmax	pmax		
	comp=Z,2μm,0.8s						
SKR				smax	smax		
	comp=N,932nm,0.8s						
SKR				smax	smax		
	comp=E,587nm,1.0s						
PAU	**Pauzhetka**	**2.90**	**45**	*i* P	**Pn**	**16 57 57.6**	**+1.7**
PAU				*e*S	**Sn**	**16 58 35.5**	**+1.7**
PAU	**Pauzhetka**	**2.90**	**45**	PN	**Pn**	**16 57 57.6**	**+1.7**
PAU				S	**Sn**	**16 58 35.5**	**+1.7**
KDTR	**Khodutka, Kamc**	**3.72**	**49**	*e*P	**Pn**	**16 58 05.1**	**-0.7**
KDTR	**Khodutka, Kamc**	**3.72**	**49**	PN	**Pn**	**16 58 05.1**	**-0.7**
ASAK	**Asacha**	**4.02**	**42**	*e*P	**Pn**	**16 58 10.3**	**+0.7**
ASAK	**Asacha**	**4.02**	**42**	PN	**Pn**	**16 58 10.3**	**+0.7**
APC	**Apacha**	**4.15**	**32**	*i* P	**Pn**	**16 58 12.1**	**+1.0**
APC				*e*S	**Sn**	**16 59 00.4**	**-0.6**
APC	**Apacha**	**4.15**	**32**	PN	**Pn**	**16 58 12.1**	**+1.0**
APC				S	**Sn**	**16 59 00.4**	**-0.6**
MTVR	**Mutnovka**	**4.21**	**42**	*e*P	**Pn**	**16 58 12.7**	**+0.6**
MTVR	**Mutnovka**	**4.21**	**42**	PN	**Pn**	**16 58 12.7**	**+0.6**
RUS	**Russkaya**	**4.33**	**45**	*e*P	**Pn**	**16 58 12.9**	**-0.4**
RUS	**Russkaya**	**4.33**	**45**	PN	**Pn**	**16 58 12.9**	**-0.4**
KRMR	**Karymshinskiy**	**4.44**	**39**	*e*P	**Pn**	**16 58 15.3**	**+0.6**
KRMR	**Karymshinskiy**	**4.44**	**39**	PN	**Pn**	**16 58 15.3**	**+0.6**
PEA0B	**Petropavlovsk-**	**4.49**	**34**		**Pn**	**16 58 15.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**4.49**	**34**	*ce*PN	**Pn**	**16 58 16.3**	**+0.9**
PETK	**Petropavlovsk-**	**4.49**	**34**		**Pn**	**16 58 15.4**	**+0.1**
PETK	**Petropavlovsk-**	**4.49**	**34**	P	**Pn**	**16 58 15.9**	**+0.6**
	comp=E,129nm,0.7s,baz=189,slow=7.5,SNR=258						
PETK				S	**Sn**	**16 59 07.6**	**-1.2**
	comp=E,9.4nm,0.8s,baz=183,slow=14,SNR=0.7						
PET	**Petropavlovsk**	**4.80**	**40**		**Pn**	**16 58 20.2**	**+0.9**
PET	**Petropavlovsk**	**4.80**	**40**	*e*P	**Pn**	**16 58 20.0**	**+0.7**
PET	**Petropavlovsk**	**4.80**	**40**	*e*PN	**Pn**	**16 58 19.7**	**+0.4**
PET				*e*S	**Sn**	**16 59 14.3**	**-1.5**
PET				pmax	pmax		
	comp=Z,24nm,0.4s						
PET				smax	smax		
	comp=E,102nm,0.5s						
PET				smax	smax		
	comp=N,65nm,0.4s						
DALK	**Dalny**	**4.84**	**40**	*e*P	**Pn**	**16 58 19.9**	**0.0**
DALK	**Dalny**	**4.84**	**40**	PN	**Pn**	**16 58 19.9**	**0.0**
KOK	**Koryaka**	**4.99**	**38**	*e*P	**Pn**	**16 58 23.3**	**+1.5**
KOK	**Koryaka**	**4.99**	**38**	PN	**Pn**	**16 58 23.3**	**+1.5**
UGLR	**Uglovaya**	**5.00**	**39**	*e*P	**Pn**	**16 58 23.7**	**+1.7**
UGLR	**Uglovaya**	**5.00**	**39**	PN	**Pn**	**16 58 23.7**	**+1.7**
AVH	**Avacha**	**5.01**	**39**	*e*P	**Pn**	**16 58 23.6**	**+1.6**
AVH	**Avacha**	**5.01**	**39**	PN	**Pn**	**16 58 23.6**	**+1.6**
SMAR	**Somma**	**5.03**	**39**	*e*P	**Pn**	**16 58 23.6**	**+1.1**
SMAR	**Somma**	**5.03**	**39**	PN	**Pn**	**16 58 23.6**	**+1.1**
KRER	**Koryakskii**	**5.04**	**38**	*e*P	**Pn**	**16 58 23.8**	**+1.2**
KRER	**Koryakskii**	**5.04**	**38**	PN	**Pn**	**16 58 23.8**	**+1.2**
KRX	**Arik**	**5.04**	**37**	*e*P	**Pn**	**16 58 23.8**	**+1.2**
KRX	**Arik**	**5.04**	**37**	PN	**Pn**	**16 58 23.8**	**+1.2**
GNL	**Ganaly**	**5.05**	**31**	*e*P	**Pn**	**16 58 23.5**	**+0.9**
GNL	**Ganaly**	**5.05**	**31**	PN	**Pn**	**16 58 23.5**	**+0.9**
NLC	**Nalytchevo**	**5.20**	**42**	*e*P	**Pn**	**16 58 23.4**	**-1.0**
NLC	**Nalytchevo**	**5.20**	**42**	PN	**Pn**	**16 58 23.4**	**-1.0**
SPN	**Mys Shipunski**	**5.46**	**46**	*e*P	**Pn**	**16 58 27.5**	**-0.2**

SPN	**Mys Shipunski**	**5.46**	**46**	PN	**Pn**	**16 58 27.5**	**-0.2**
KUR	**Kuril'sk**	**5.72**	**224**	*e*P	**Pn**	**16 58 31.0**	**-0.3**
KUR	**Kuril'sk**	**5.72**	**224**	*e*PN	**Pn**	**16 58 33.1**	**+1.9**
KUR				*i* S	**Sn**	**16 59 42.8**	**+5.5**
KUR				pmax	pmax		
	comp=Z,58nm,0.7s						
KUR				smax	smax		
	comp=N,83nm,0.7s						
KUR				smax	smax		
	comp=E,46nm,0.7s						
KII	**Karymskiy**	**5.87**	**36**	*e*P	**Pn**	**16 58 32.7**	**-0.3**
KII	**Karymskiy**	**5.87**	**36**	PN	**Pn**	**16 58 32.7**	**-0.3**
TUMR	**Tumrok**	**7.09**	**32**	*e*P	**Pn**	**16 58 50.0**	**+1.0**
TUMR	**Tumrok**	**7.09**	**32**	PN	**Pn**	**16 58 50.0**	**+1.0**
TUMD	**Tumrok D**	**7.12**	**34**	*e*P	**Pn**	**16 58 50.6**	**+1.4**
TYV	**Tymovskoe**	**7.13**	**285**	*e*PN	**Pn**	**16 58 52.7**	**+3.3**
TYV				pmax	pmax		
	comp=Z,4.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,200nm,3.8s						
ESO	**Esso**	**7.19**	**24**	*e*P	**Pn**	**16 58 51.9**	**+1.7**
ESO	**Esso**	**7.19**	**24**	PN	**Pn**	**16 58 51.9**	**+1.7**
SHO	**Shikotan**	**7.25**	**222**	*e*P	**Pn**	**16 58 49.4**	**-1.6**
SHO	**Shikotan**	**7.25**	**222**	*e*PN	**Pn**	**16 58 49.3**	**-1.7**
SHO				*e*S	**Sn**	**17 00 06.7**	**-6.5**
SHO				pmax	pmax		
	comp=E,40nm,0.7s						
SHO				pmax	pmax		
	comp=Z,71nm,0.7s						
SHO				pmax	pmax		
	comp=N,30nm,0.4s						
KMNR	**Kamenistaya**	**7.50**	**30**	*e*P	**Pn**	**16 58 55.4**	**+1.1**
KMNR	**Kamenistaya**	**7.50**	**30**	PN	**Pn**	**16 58 55.4**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**7.57**	**227**	*e*PN	**Pn**	**16 58 55.9**	**+0.7**
YUK				*e*S	**Sn**	**17 00 17.9**	**-2.8**
YUK				pmax	pmax		
	comp=N,60nm,0.2s						
YUK				pmax	pmax		
	comp=Z,496nm,0.2s						
YUK				pmax	pmax		
	comp=E,148nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.63**	**255⇑**	*e*PN	**Pn**	**16 58 59.8**	**+3.8**
YSS				pmax	pmax		
	comp=Z,30nm,1.1s						
SRDR	**Sredinnyy**	**7.81**	**26**	*e*P	**Pn**	**16 58 59.4**	**+1.1**
SRDR	**Sredinnyy**	**7.81**	**26**	PN	**Pn**	**16 58 59.4**	**+1.1**
RUSJ	**Misakicho**	**7.82**	**230**	*e*PN	**Pn**	**16 59 00.1**	**+1.7**
ZLN	**Zelenaya**	**7.90**	**31**	*e*P	**Pn**	**16 59 01.0**	**+1.5**
ZLN	**Zelenaya**	**7.90**	**31**	PN	**Pn**	**16 59 01.0**	**+1.5**
NMR	**Nemuro--Hokkai**	**8.14**	**224**	*e*PN	**Pn**	**16 59 00.3**	**-2.3**
JKA	**Kamikawa-asahi**	**9.21**	**239**		**Pn**	**16 59 19.8**	**+3.2**
ASAJ	**Asahikawa**	**9.21**	**239**	P	**Pn**	**16 59 20.0**	**+3.4**
	comp=Z,92nm,0.9s,baz=69,slow=13,SNR=85						
ASAJ	**Asahikawa**	**9.21**	**239**	PN	**Pn**	**16 59 19.8**	**+3.2**
BKI	**Bering**	**9.53**	**48**	*e*P	**Pn**	**16 59 19.2**	**-1.3**
BKI	**Bering**	**9.53**	**48**	PN	**Pn**	**16 59 19.2**	**-1.3**
MA2	**Magadan**	**10.26**	**352**	*i* PN	**Pn**	**16 59 30.0**	**0.0**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ERM	**Erimo**	**10.39**	**228**		**Pn**	**16 59 30.2**	**-1.6**
ERM	**Erimo**	**10.39**	**228**	*ce*PN	**Pn**	**16 59 30.8**	**-1.0**
ERM				pmax	pmax		
	comp=Z,22nm,0.5s						
SHEM	**Shemya Is, Ala**	**13.32**	**68**	P	**P**	**17 00 13.2**	**+1.6**
	comp=Z,40nm,0.6s,baz=297,slow=2.3,SNR=1.6						
KLR	**Kul'dur**	**14.21**	**277**	P	**P**	**17 00 22.5**	**+1.0**
	comp=Z,13nm,1.0s,baz=76,slow=13,SNR=22						
KLR	**Kul'dur**	**14.21**	**277**	*e*P	**Pn**	**17 00 21.0**	**+1.1**
KLR				pmax	pmax		
	comp=Z,18nm,1.1s						
USRK	**Ussuriysk Ar.**	**15.64**	**259**		**P**	**17 00 37.9**	**+0.5**
USRK	**Ussuriysk Ar.**	**15.64**	**259**	P	**P**	**17 00 38.0**	**+0.6**
	comp=Z,9.4nm,0.7s,baz=66,slow=12,SNR=17						
USA0B	**Ussuriysk Arra**	**15.64**	**259**		**P**	**17 00 38.2**	**+0.8**
USA0B				IAmb	IAmb	17 00 41.8	
	comp=Z,18nm,1.1s						
USA0B	**Ussuriysk Arra**	**15.64**	**259**	*i* P	**P**	**17 00 37.6**	**+0.2**
ZEA	**Zeya**	**16.84**	**295**	*e*P	**P**	**17 00 51.7**	**+1.2**
HEH	**HeiHe**	**16.84**	**283**	*e*P	**P**	**17 00 51.6**	**+1.0**
HEH				pmax	pmax		
	comp=Z,17nm,0.7s						
HEH				pmax	pmax		
	comp=Z,280nm,7.5s						
MDJ	**Mudanjiang**	**17.00**	**263**	P	**P**	**17 00 52.5**	**+0.1**
MDJ				pmax	pmax		
	comp=Z,15nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,470nm,6.5s						
MDJ	**Mudanjiang**	**17.00**	**263**	P	**P**	**17 00 52.2**	**-0.2**
MJB9	**Matsu-Tunnel**	**17.06**	**227**	P	**Pn**	**17 00 55.9**	**+1.4**
MAJO	**Matsushiro**	**17.06**	**227**	P	**Pn**	**17 00 55.0**	**+0.5**
MAJO	**Matsushiro**	**17.06**	**227**	*i* P	**P**	**17 00 54.3**	**+1.2**
MJAR	**Matsushiro Arr**	**17.06**	**227**	P	**Pn**	**17 00 55.3**	**+0.8**
	comp=Z,12nm,0.6s,baz=21,slow=13,SNR=44						
BNX	**BinXian**	**17.98**	**268**	⇓P	**P**	**17 01 03.0**	**0.0**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,230nm,3.8s						
JGF	**Kuroka**	**18.23**	**227**	P	**P**	**17 01 07.6**	**+1.8**
JGF				IAmb	IAmb	17 01 10.6	
	comp=Z,14nm,0.7s						
YAK	**Yakutsk**	**18.26**	**323**	P	**P**	**17 01 05.4**	**-0.5**
	comp=Z,26nm,0.7s,baz=130,slow=5.3,SNR=9.2						
YAK	**Yakutsk**	**18.26**	**323**	*e*P	**P**	**17 01 05.3**	**-0.6**
YAK				*e*S	**S**	**17 04 22.7**	**-1.3**
YAK				pmax	pmax		
	comp=Z,17nm,0.8s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
YAK				smax	smax		
	comp=E,20nm,1.8s						
YAK				smax	smax		
	comp=N,27nm,2.1s						
BILL	**Bilibino**	**19.69**	**14**	*i* P	**P**	**17 01 20.4**	**-0.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,2.0s						
KSRS	**Korea Array**	**22.02**	**247**	P	**P**	**17 01 48.0**	**+2.3**
	comp=Z,14nm,0.7s,baz=46,slow=10,SNR=32						
	comp=Z,14nm,0.7s						
KS19	**Wonju Array Si**	**22.02**	**247**	P	**P**	**17 01 48.0**	**+2.1**
KS19				IAmb	IAmb	17 01 50.0	
	comp=Z,12nm,0.7s						
JNU	**Nakatsue**	**23.45**	**234**	P	**P**	**17 01 59.9**	**+1.0**
TIXI	**Tiksi**	**24.96**	**342**	*ce*P	**P**	**17 02 11.0**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s						
F17K	**Baldwin Pennin**	**28.52**	**37**	P	**P**	**17 02 44.6**	**+0.7**
F17K				IAmb	IAmb	17 03 22.0	
	comp=Z,14nm,1.4s						
M16K	**Timber Creek**	**28.77**	**48**	P	**P**	**17 02 47.2**	**+0.9**
C18K	**Utukok River**	**29.15**	**32**	P	**P**	**17 02 49.2**	**-0.4**
C18K				IAmb	IAmb	17 02 59.7	
	comp=Z,12nm,1.4s						
H18K	**Honhosa River**	**29.43**	**40**	P	**P**	**17 02 50.4**	**-1.7**
H18K				IAmb	IAmb	17 02 56.8	
	comp=Z,16nm,1.4s						
G18K	**Tagagawik**	**29.43**	**38**	P	**P**	**17 02 52.6**	**+0.5**
G18K				IAmb	IAmb	17 03 30.9	
	comp=Z,7.1nm,1.4s						
N17K	**Nushagak Hills**	**29.63**	**49**	P	**P**	**17 02 54.6**	**+0.7**
N17K				IAmb	IAmb	17 02 55.8	
	comp=Z,15nm,1.2s						
JOW	**Kunigami**	**29.84**	**230**	P	**P**	**17 02 56.7**	**+0.6**
F19K	**Shaleruckim Mo**	**29.96**	**37**	P	**P**	**17 02 55.5**	**-1.1**
TTA	**Tatalina**	**30.24**	**44**	P	**P**	**17 02 59.2**	**0.0**
TTA				IAmb	IAmb	17 03 29.5	
	comp=Z,16nm,1.5s						
TTA	**Tatalina**	**30.24**	**44**	P	**P**	**17 02 59.3**	**0.0**
TTA				pmax	pmax		
	comp=Z,16nm,1.5s						
H19K	**Roundabout Mou**	**30.27**	**39**	P	**P**	**17 03 00.2**	**+0.7**
H19K				IAmb	IAmb	17 03 44.2	
	comp=Z,10nm,1.3s						
E19K	**Redstone River**	**30.29**	**35**	P	**P**	**17 02 59.5**	**-0.1**
E19K				IAmb	IAmb	17 02 59.6	
	comp=Z,7.4nm,1.5s						
ULN	**Ulaanbaatar**	**30.37**	**285**	*ce*P	**P**	**17 02 59.0**	**-1.8**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.7s						
HHC	**Hu-ho-hao-te**	**30.49**	**270**	*e*P	**P**	**17 03 02.7**	**+0.9**
HHC				sP	sP	17 04 09.5	+4.4
HHC				pmax	pmax		
	comp=Z,12nm,0.5s						
HHC				pmax	pmax		
	comp=Z,75nm,4.8s						
SONM	**Songino Array**	**30.80**	**285**	P	**P**	**17 03 03.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=77,slow=6.5,SNR=2.6						
SONM				PcP	**PcP**	**17 05 56.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=109,slow=24,SNR=3.6						
	comp=Z,0.4nm,0.3s						
B20K	**Meade River**	**30.92**	**30**	P	**P**	**17 03 05.6**	**+0.6**
B20K				IAmb	IAmb	17 03 06.5	
	comp=Z,4.6nm,0.9s						
J20K	**Nowinta River**	**31.13**	**42**	P	**P**	**17 03 06.5**	**-0.5**
J20K				IAmb	IAmb	17 03 08.4	
	comp=Z,12nm,1.4s						
IMAR	**Indian Mountai**	**31.43**	**39**	P	**P**	**17 03 10.1**	**+0.4**
B21K	**Ikpikpuk River**	**31.68**	**32**	P	**P**	**17 03 12.9**	**+1.1**
H21K	**Melozitna Rive**	**31.80**	**39**	P	**P**	**17 03 12.2**	**-0.7**
H21K				IAmb	IAmb	17 03 22.8	
	comp=Z,8.4nm,1.4s						
SYI	**Shuyak Island**	**32.21**	**53**	P	**P**	**17 03 16.0**	**-0.5**
KDAK	**Kodiak Island**	**32.22**	**54**	P	**P**	**17 03 16.9**	**+0.4**
KDAK	**Kodiak Island**	**32.22**	**54**	P	**P**	**17 03 17.0**	**+0.4**
KDAK				pmax	pmax		
	comp=Z,66nm,1.5s						
H11S1	**WAKE ISLAND Hy**	**32.65**	**156**	T	T	17 37 11.8	
	baz=344,slow=76,SNR=85						
H11S3	**WAKE ISLAND Hy**	**32.66**	**156**	T	T	17 37 13.0	
	baz=344,slow=76,SNR=51						
H11S2	**WAKE ISLAND Hy**	**32.67**	**156**	T	T	17 37 06.0	
	baz=344,slow=76,SNR=42						
SUA	**Susitna One**	**32.73**	**47**	P	**P**	**17 03 20.9**	**-0.2**
H23K	**Yukon River**	**33.15**	**39**	P	**P**	**17 03 25.5**	**+0.9**
H23K				IAmb	IAmb	17 03 27.3	
	comp=Z,12nm,1.5s						
I23K	**Minto, Yukon-K**	**33.22**	**40**	P	**P**	**17 03 24.8**	**-0.3**
GHO	**Glory Hole Cre**	**33.57**	**47**	P	**P**	**17 03 28.0**	**-0.3**
KNK	**Knik Glacier**	**33.83**	**47**	P	**P**	**17 03 30.2**	**-0.3**
SML	**Sawmill**	**33.85**	**46**	P	**P**	**17 03 30.2**	**-0.5**
SML	**Sawmill**	**33.85**	**46**	P	**P**	**17 03 30.2**	**-0.5**
SML				pmax	pmax		
	comp=Z,11nm,0.6s						
ILAR	**Eielson Array**	**34.28**	**41**	P	**P**	**17 03 34.7**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=265,slow=9.9,SNR=12						
	comp=Z,1.3nm,0.8s						
SCM	**Sheep Creek Mo**	**34.32**	**46**	P	**P**	**17 03 36.0**	**+1.2**
SCM	**Sheep Creek Mo**	**34.32**	**46**	P	**P**	**17 03 36.0**	**+1.2**
SCM				pmax	pmax		
	comp=Z,28nm,1.2s						
N25K	**Chitina, Valde**	**35.64**	**46**	P	**P**	**17 03 46.8**	**+0.7**
N25K				IAmb	IAmb	17 03 53.9	
	comp=Z,17nm,1.4s						
M26K	**Nabesna, AK**	**36.26**	**45**	P	**P**	**17 03 51.8**	**+0.5**
M26K				IAmb	IAmb	17 03 53.5	
	comp=Z,4.3nm,0.8s						
D27M	**Malcolm River**	**36.44**	**33**	P	**P**	**17 03 53.2**	**+0.5**
L27K	**Beaver Creek,**	**36.68**	**44**	P	**P**	**17 03 55.9**	**+1.1**
L27K				IAmb	IAmb	17 03 57.4	
	comp=Z,8.1nm,0.8s						
WAX	**Waxell Ridge**	**36.68**	**48**	P	**P**	**17 03 55.8**	**+0.9**
BCAR	**Beaver Creek A**	**36.70**	**44**	P	**P**	**17 03 55.6**	**+0.6**
TPUB	**Ta-pu**	**36.71**	**237**	P	**P**	**17 03 55.8**	**+0.3**
ISLE	**Juniper Island**	**36.90**	**48**	P	**P**	**17 03 58.2**	**+1.3**
F28M	**Old Crow**	**36.93**	**36**	P	**P**	**17 03 57.9**	**+1.0**
BARN	**Barnard Glacie**	**37.13**	**47**	P	**P**	**17 04 00.0**	**+1.2**
BARN				IAmb	IAmb	17 04 39.3	
	comp=Z,14nm,1.2s						
CTGM	**Chitina Glacie**	**37.30**	**47**	P	**P**	**17 04 00.7**	**+0.5**
CTGM				IAmb	IAmb	17 04 01.9	
	comp=Z,7.2nm,0.9s						
G29M	**Pine Creek**	**37.72**	**37**	P	**P**	**17 04 04.8**	**+1.2**
LZH	**Lanzhou**	**38.16**	**269**	*e*P	**P**	**17 04 09.1**	**+1.3**
LZH				pP	pP	17 04 16.2	-33
LZH				pmax	pmax		
	comp=Z,29nm,1.0s						
I30M	**Mount Dempster**	**38.66**	**39**	P	**P**	**17 04 11.3**	**-0.1**
GTA	**Gaotai**	**38.90**	**276**	*e*P	**P**	**17 04 14.2**	**+0.4**
GTA				pP	pP	17 05 00.7	+5.2
GTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
G31M	**Satah River**	**39.18**	**36**	P	**P**	**17 04 16.0**	**+0.4**
M31M	**Drury Creek, Y**	**40.22**	**44**	P	**P**	**17 04 25.7**	**+1.4**
ZALV	**Zalesovo Beam**	**41.31**	**303**	P	**P**	**17 04 31.7**	**-1.5**
	comp=Z,1.1nm,0.5s,baz=57,slow=7.5,SNR=5.8						
ZALV				PcP	**PcP**	**17 06 27.7**	**+0.1**
	comp=Z,1.3nm,0.6s,baz=82,slow=3.0,SNR=6.6						
	comp=Z,1.1nm,0.5s						
WMQ	**Urumqi**	**44.27**	**289**	*e*P	**P**	**17 04 58.5**	**+1.3**
WMQ				pmax	pmax		
	comp=Z,12nm,0.8s						
MK31	**Makanchi Array**	**46.00**	**295**	P	**P**	**17 05 09.8**	**-0.9**
MK31	**Makanchi Array**	**46.00**	**295**	*ce*P	**P**	**17 05 09.8**	**-0.9**
MKAR	**Makanchi Array**	**46.00**	**295**	P	**P**	**17 05 09.7**	**-1.0**
MKAR	**Makanchi Array**	**46.00**	**295**	P	**P**	**17 05 10.1**	**-0.6**
	comp=Z,4.8nm,0.8s,baz=63,slow=8.0,SNR=42						
MKAR				PcP	**PcP**	**17 06 43.8**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=74,slow=5.3,SNR=5.9						
	comp=Z,4.8nm,0.8s						
KURK	**Kurchatov**	**46.14**	**302**	P	**P**	**17 05 10.3**	**-1.4**
KURK	**Kurchatov**	**46.14**	**302**	*ce*P	**P**	**17 05 11.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,11nm,1.3s						
MAKZ	**Makanchi**	**46.17**	**295**	P	**P**	**17 05 10.5**	**-1.6**
MAKZ	**Makanchi**	**46.17**	**295**	P	**P**	**17 05 10.5**	**-1.6**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**46.24**	**302**	P	**P**	**17 05 11.6**	**-0.8**
	comp=Z,4.1nm,0.7s,baz=65,slow=8.1,SNR=14						
KURBB				PcP	**PcP**	**17 06 44.2**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=61,slow=3.0,SNR=6.2						
	comp=Z,4.1nm,0.7s						
EUNU	**Eureka**	**46.41**	**12**	P	**P**	**17 05 12.5**	**-1.0**
YKA	**Yellowknife Ar**	**48.59**	**38**	P	**P**	**17 05 31.4**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=301,slow=7.8,SNR=14						
	comp=Z,1.0nm,0.7s						
BVAR	**Borovoye Array**	**49.39**	**308**	P	**P**	**17 05 35.7**	**-0.9**
	comp=Z,1.5nm,0.4s,baz=56,slow=7.1,SNR=18						
BVAR				PcP	**PcP**	**17 06 55.8**	**0.0**
	comp=Z,2.7nm,0.5s,baz=62,slow=2.5,SNR=12						
	comp=Z,1.5nm,0.4s						
BRVK	**Borovoye**	**49.43**	**308**	*ce*P	**P**	**17 05 36.7**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SPITS	**Spitsbergen Ar**	**49.99**	**349**	P	**P**	**17 05 39.0**	**-1.8**
	comp=Z,6.5nm,0.8s,baz=54,slow=8.4,SNR=8.5						
	comp=Z,6.5nm,0.8s						
SPITS	**Spitsbergen Ar**	**49.99**	**349**	P	**P**	**17 05 39.0**	**-1.8**
CRAI	**Chiangrai**	**51.11**	**255**	P	**P**	**17 05 50.5**	**+0.6**
PHRA	**Phrae**	**52.49**	**254**	P	**P**	**17 06 01.6**	**+1.5**
AAK	**Ala-Archa**	**52.92**	**295**	P	**P**	**17 06 02.1**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=125,slow=4.4,SNR=8.8						
	comp=Z,1.9nm,0.7s						
AAK	**Ala-Archa**	**52.92**	**295**	*ce*P	**P**	**17 06 03.1**	**-0.1**
AAK				pmax	pmax		
	comp=Z,5.0nm,2.5s						
ARU	**Arti**	**53.23**	**316**	P	**P**	**17 06 03.5**	**-1.5**
	comp=Z,5.4nm,0.5s,baz=47,slow=2.9,SNR=12						
ARU				PcP	**PcP**	**17 07 09.7**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=206,slow=2.0,SNR=4.8						
	comp=Z,5.4nm,0.5s						
ARU	**Arti**	**53.23**	**316**	*d* iP	**P**	**17 06 03.8**	**-1.2**
ARU				*PP	**pP**	**17 06 51.8**	**+2.7**
ARU						17 07 08.6	
ARU						17 08 06.4	
ARU				S	**S**	**17 13 19.3**	**-0.7**
ARU				SS	**SKiKP**	**17 16 56.8**	**-2.6**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
CM31	**Chiang Mai Arr**	**53.33**	**255**	P	**P**	**17 06 07.9**	**+1.7**
CM31				IAmb	IAmb	17 06 09.7	
	comp=Z,5.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**53.33**	**255**	P	**P**	**17 06 07.9**	**+1.7**
	comp=Z,6.2nm,0.9s,baz=30,slow=7.1,SNR=41						
CMAR				PcP	**PcP**	**17 07 12.2**	**+1.2**
	comp=Z,0.9nm,0.8s,baz=18,slow=2.3,SNR=5.0						
	comp=Z,6.2nm,0.9s						
CMAR	**Chiang Mai Arr**	**53.33**	**255**	*ce*P	**P**	**17 06 08.1**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ARCES	**ARCESS Array B**	**55.39**	**340**	P	**P**	**17 06 18.4**	**-1.9**
	comp=Z,2.5nm,0.9s,baz=26,slow=10,SNR=5.9						
	comp=Z,2.5nm,0.9s						
J05D	**Fort Rock, OR**	**56.12**	**61**	P	**P**	**17 06 28.4**	**+2.3**
J05D				IAmb	IAmb	17 06 29.4	
	comp=Z,7.4nm,0.8s						
ABKAR	**Akbulak array**	**56.93**	**309**	IAmb	IAmb	17 06 31.2	
	comp=Z,2.4nm,0.5s						
AKTO	**Aktyubinsk**	**57.15**	**311**	PcP	**PcP**	**17 07 25.2**	**-0.1**
	comp=Z,2.4nm,0.6s,baz=48,slow=3.8,SNR=5.8						
PLID	**Pearl Lake**	**57.91**	**57**	P	**P**	**17 06 39.9**	**+1.1**
PLID				IAmb	IAmb	17 06 41.1	
	comp=Z,6.6nm,0.7s						
WAKR	**Walker**	**60.23**	**65**	P	**P**	**17 06 55.2**	**+0.4**
WAKR				IAmb	IAmb	17 06 57.5	
	comp=Z,3.7nm,0.8s						
KVN	**Kaiserville**	**60.66**	**63**	P	**P**	**17 06 59.0**	**+1.4**
KVN				IAmb	IAmb	17 07 00.3	
	comp=Z,5.6nm,1.0s						
KVN	**Kaiserville**	**60.66**	**63**	P	**P**	**17 06 58.0**	**+0.4**
KVN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
RYN	**Ryan**	**60.69**	**64**	IAmb	IAmb	17 07 00.3	
	comp=Z,4.2nm,0.9s						
NVAR	**Mina Array Bea**	**60.95**	**64**	P	**P**	**17 07 01.4**	**+1.8**
	comp=Z,3.1nm,0.7s,baz=295,slow=7.3,SNR=21						
	comp=Z,3.1nm,0.7s						
LHV	**Little Huntoon**	**60.95**	**64**	IAmb	IAmb	17 07 02.6	
	comp=Z,5.2nm,0.9s						
FINES	**FINESS Array B**	**61.71**	**334**	P	**P**	**17 07 02.8**	**-1.3**
	comp=Z,2.6nm,0.4s,baz=29,slow=7.6,SNR=38						
	comp=Z,2.6nm,0.4s						
HWUT	**Hardware Ranch**	**62.64**	**57**	IAmb	IAmb	17 07 13.1	
	comp=Z,3.0nm,0.7s						
SPR3	**Spring Creek 3**	**62.86**	**61**	P	**P**	**17 07 14.4**	**+1.9**
SPR3				IAmb	IAmb	17 07 15.2	
	comp=Z,2.8nm,0.7s						
DUG	**Dugway, Tooele**	**62.91**	**59**	IAmb	IAmb	17 07 15.3	
	comp=Z,3.5nm,0.8s						
PD31	**Pinedale Array**	**62.94**	**55**	IAmb	IAmb	17 07 15.1	
	comp=Z,4.8nm,1.2s						
PDAR	**Pinedale Array**	**62.94**	**55**	P	**P**	**17 07 13.7**	**+0.9**
PDAR	**Pinedale Array**	**62.94**	**55**	P	**P**	**17 07 14.2**	**+1.4**
	comp=Z,2.3nm,0.8s,baz=311,slow=2.5,SNR=14						
	comp=Z,2.3nm,0.8s						
OBN	**Obninsk**	**63.24**	**325**	*i* P	**P**	**17 07 12.4**	**-1.8**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GWY	**Greenwater Val**	**63.42**	**65**	IAmb	IAmb	17 07 18.2	
	comp=Z,3.2nm,0.7s						
NLU	**North Lily Min**	**63.49**	**59**	P	**P**	**17 07 17.4**	**+0.9**
NLU				IAmb	IAmb	17 07 19.0	
	comp=Z,3.0nm,0.8s						
SRU	**San Rafael Swe**	**64.94**	**59**	IAmb	IAmb	17 07 28.2	
	comp=Z,5.2nm,0.8s						
GEYT	**Alibeck**	**65.48**	**300**	P	**P**	**17 07 28.8**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=158,slow=0.8,SNR=5.5						
	comp=Z,1.5nm,0.5s						
NB2	**NORSAR Subarra**	**65.75**	**341**	P	**P**	**17 07 29.3**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**65.75**	**341**	P	**P**	**17 07 29.2**	**-1.2**
	comp=Z,1.3nm,0.7s,baz=27,slow=6.6,SNR=6.9						
	comp=Z,1.3nm,0.7s						
NORES	**NORESS Array B**	**65.96**	**341**	P	**P**	**17 07 31.6**	**-0.2**
HFS	**Hagfors**	**66.02**	**339**	P	**P**	**17 07 30.8**	**-1.3**
	comp=Z,2.9nm,0.5s,baz=64,slow=5.1,SNR=19						
	comp=Z,2.9nm,0.5s						
KIV	**Kislovodsk**	**69.12**	**314**	*e*P	**P**	**17 07 51.8**	**-0.2**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KBZ	**Khabaz**	**69.19**	**313**	P	**P**	**17 07 51.7**	**-0.6**
	comp=Z,1.6nm,0.7s,baz=68,slow=3.2,SNR=6.5						
	comp=Z,1.6nm,0.7s						
KBZ	**Khabaz**	**69.19**	**313**	*ce*P	**P**	**17 07 51.6**	**-0.6**
KBZ				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SHA1	**Shidzhatmaz**	**69.30**	**314**	*ce*P	**P**	**17 07 54.2**	**+1.0**
AKASG	**Malin Array Be**	**69.46**	**326**	P	**P**	**17 07 51.8**	**-2.0**
	comp=Z,1.2nm,0.5s,baz=31,slow=6.4,SNR=4.6						
	comp=Z,1.2nm,0.5s						
AKASG	**Malin Array Be**	**69.46**	**326**	*ce*P	**P**	**17 07 51.9**	**-1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**71.17**	**199**	P	**P**	**17 08 05.1**	**+0.7**
	comp=Z,6.6nm,0.4s,baz=14,slow=6.6,SNR=12						
	comp=Z,0.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**73.77**	**346**	P	**P**	**17 08 18.6**	**-0.8**
	comp=Z,1.8nm,0.5s,baz=14,slow=5.3,SNR=11						
	comp=Z,1.8nm,0.5s						
CLL	**Collm**	**74.11**	**335**	*e*P	**P**	**17 08 21.0**	**-0.5**
	comp=Z,3.0nm,0.7s						
CLL	**Collm**	**74.11**	**335**	*e*P	**P**	**17 08 21.0**	**-0.5**
CLL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**74.87**	**199**	P	**P**	**17 08 27.8**	**+1.7**
	comp=

AGL					S	Sb	17 14 19.8	+1.7	
DRK	**Karamyk**	**1.97**	**100**	⇓	*i*P	Pn	17 13 53.7	+0.5	
	baz=99								
DRK				⇓	*i*S	Sn	17 14 20.0	+1.9	
	baz=99								
FRG	**Fergana**	**1.97**	**74**		P	Pn	17 13 54.6	+1.5	
FRG					S	Sb	17 14 21.9	+1.6	
NAM	**Namangan**	**2.13**	**57**		P	Pn	17 13 56.7	+1.5	
NAM					S	Sb	17 14 26.0	+1.3	
KSNS	**Kasansay**	**2.13**	**52**		P	Pn	17 13 56.8	+1.5	
KSNS					S	Sb	17 14 26.1	+1.2	
TRKS	**Terek-Say**	**2.18**	**39**	⇑	*i*P	Pn	17 13 56.4	+0.4	
	baz=41								
TRKS				⇑	*i*S	Sn	17 14 24.8	+1.6	
	baz=41								
BAYS	**Baysun**	**2.32**	**225**		P	Pn	17 13 59.7	+1.8	
BAYS					S	Sb	17 14 31.5	+1.3	
IUG	**Iuzhnay**	**2.35**	**13**		Pg	Pb	17 14 02.0	-0.1	
	32nm,0.6s								
IUG					Lg	Lg	17 14 34.3		
	299nm,0.3s								
IUG	**Iuzhnay**	**2.35**	**13**		*e*P	Pb	17 14 02.0	-0.1	
	32nm,0.6s								
IUG					*e*S	Sb	17 14 34.3	+3.0	
	299nm,0.3s								
ANR	**Andizhan**	**2.51**	**68**		P	Pn	17 14 02.2	+1.8	
ANR					S	Sb	17 14 36.0	+0.4	
OHH	**Osh**	**2.75**	**75**	⇑	*i*P	Pn	17 14 04.4	+0.6	
	baz=74								
OHH				⇑	*i*S	Sn	17 14 38.9	+1.7	
	baz=74								
ARK	**Arkit**	**2.80**	**45**	⇑	*i*P	Pn	17 14 05.4	+0.9	
	baz=45								
ARK				⇑	*i*S	Sn	17 14 40.8	+2.4	
	baz=45								
NUT	**Nurota**	**2.86**	**285**		P	Pn	17 14 07.0	+1.8	
NUT					S	Sb	17 14 44.8	-0.9	
ARSB	**Arslanbob**	**3.16**	**61**	⇑	*i*P	Pn	17 14 10.3	+0.8	
	baz=61								
ARSB				⇑	*i*S	Sn	17 14 49.1	+1.7	
	baz=61								
BRLS	**Boroldoy**	**3.20**	**7**		Pg	Pn	17 14 13.0	+3.2	
	3.8nm,0.3s								
BRLS					Lg	Lg	17 14 53.2		
	46nm,0.2s								
BRLS	**Boroldoy**	**3.20**	**7**		*e*P	Pn	17 14 13.0	+3.2	
	3.8nm,0.3s								
BRLS					*e*S	Sn	17 14 53.2	+5.1	
	46nm,0.2s								
SFK	**Sufi-Kurgan**	**3.24**	**86**	⇓	*i*P	Pn	17 14 11.4	+0.8	
	baz=85								
SFK				⇓	*i*S	Sn	17 14 50.8	+1.5	
	baz=85								
KK31	**Karatay Array**	**3.37**	**15**	⇓	Pn	Pn	17 14 14.2	+1.9	
	0.4nm,0.3s,baz=196,slow=13,SNR=37								
KK31				⇑	Pg	Pb	17 14 21.0	+1.6	
	3.2nm,0.3s,baz=180,slow=16,SNR=4.4								
KK31				⇑	Lg	Lg	17 15 04.9		
	23nm,0.5s,baz=200,slow=28,SNR=14								
KKAR	**Karatay Array**	**3.37**	**15**	⇑	*i*P	Pn	17 14 13.4	+1.2	
	baz=15								
KKAR				⇑	*i*S	Sn	17 14 54.2	+1.9	
	baz=15								
MNAS	**Manas**	**3.57**	**42**	⇑	*i*P	Pn	17 14 16.2	+1.1	
	baz=41								
MNAS				⇑	*i*S	Sn	17 14 59.2	+1.7	
	baz=41								
BUXR	**Bukhara**	**3.82**	**270**		P	Pn	17 14 20.7	+2.3	
BUXR					S	Sb	17 15 10.8	-2.5	
TMD	**Tamdy-Bulak**	**4.01**	**300**		P	Pn	17 14 23.4	+2.4	
TMD					S	Sb	17 15 16.0	-2.8	
MRKS	**Merke**	**4.13**	**44**		Pg	Pb	17 14 33.8	+1.4	
	17nm,0.3s								
MRKS					Lg	Lg	17 15 28.5		
	17nm,0.5s								
MRKS	**Merke**	**4.13**	**44**		*e*P	Pb	17 14 33.8	+1.4	
	17nm,0.3s								
MRKS					*e*S	Sb	17 15 28.5	+6.0	
	17nm,0.5s								
ARLS	**Aral**	**4.30**	**61**	⇑	*i*P	Pn	17 14 26.0	+0.8	
	baz=60								
ARLS				⇑	*i*S	Sn	17 15 16.5	+1.0	
	baz=60								
EKS2	**Erkin-Say**	**4.39**	**49**		P	Pn	17 14 28.1	+1.8	
	SNR=11								
EKS2	**Erkin-Say**	**4.39**	**49**	⇑	*i*P	Pn	17 14 27.3	+1.0	
	baz=49								
EKS2				⇑	*i*S	Sn	17 15 18.8	+1.3	
	baz=49								
UCH	**Uchtor**	**4.60**	**57**		P	Pn	17 14 30.3	+0.7	
	SNR=13								
UCH	**Uchtor**	**4.60**	**57**	⇓	*i*P	Pn	17 14 30.4	+0.9	
	baz=57								
UCH				⇓	*i*S	Sn	17 15 24.1	+0.9	
	baz=57								
DZN	**Dzhankel'dy**	**4.66**	**284**		P	Pn	17 14 32.7	+2.8	
DZN					S	Sb	17 15 33.9	-3.6	
AAK	**Ala-Archa**	**4.80**	**53**		P	Pn	17 14 33.4	+1.3	
	SNR=24								
AAK	**Ala-Archa**	**4.80**	**53**	⇑	Pn	Pn	17 14 33.6	+1.6	
	7.1nm,0.3s								
AAK				⇑	Lg	Lg	17 15 51.4		
	11nm,0.7s								
AAK	**Ala-Archa**	**4.80**	**53**	⇑	*i*P	Pn	17 14 33.2	+1.1	
	baz=53								
AAK				⇑	*i*S	Sn	17 15 28.7	+0.9	
	baz=53								
FRU1	**Bishkek**	**4.98**	**52**	⇓	*i*P	Pn	17 14 35.7	+1.3	
	baz=52								
FRU1				⇓	*i*S	Sn	17 15 32.8	+0.7	
	baz=52								
KBK	**Karagaybulak**	**5.09**	**55**		P	Pn	17 14 37.8	+1.7	
	SNR=11								
KBK	**Karagaybulak**	**5.09**	**55**	⇑	*i*P	Pn	17 14 37.2	+1.1	
	baz=55								
KBK				⇑	*i*S	Sn	17 15 35.5	+0.5	
	baz=55								
CHMS	**Chumysh**	**5.16**	**51**		P	Pn	17 14 38.1	+1.1	
	SNR=9.8								
CHMS	**Chumysh**	**5.16**	**51**	⇑	Pn	Pn	17 14 37.3	+0.4	
	8.4nm,0.5s								
CHMS				⇑	Pg	Pb	17 14 52.2	+2.3	
	3.8nm,0.5s								
CHMS				⇑	Sn	Sn	17 15 37.8	+1.3	
	9.3nm,0.7s								
CHMS				⇑	Lg	Lg	17 16 01.7		
	7.2nm,0.7s								
CHMS	**Chumysh**	**5.16**	**51**	⇓	*i*P	Pn	17 14 38.0	+1.1	
	baz=51								
CHMS				⇓	*i*S	Sn	17 15 37.2	+0.7	
	baz=51								
USP	**Ospenovka**	**5.18**	**47**		P	Pn	17 14 37.6	+0.4	
	SNR=5.8								
USP	**Ospenovka**	**5.18**	**47**	⇓	*i*P	Pn	17 14 38.0	+0.9	
	baz=47								
USP				⇓	*i*S	Sn	17 15 37.4	+0.5	
	baz=47								
TKM2	**Tokmak 2**	**5.64**	**55**		P	Pn	17 14 44.5	+0.9	
	SNR=8.1								
TKM2	**Tokmak 2**	**5.64**	**55**	⇓	Pn	Pn	17 14 44.1	+0.5	
	1.7nm,0.3s								
TKM2				⇓	Pg	Pb	17 15 02.0	+3.9	
	3.9nm,0.4s								
TKM2				⇑	Lg	Lg	17 16 18.9		
	6.2nm,0.7s								
TKM2	**Tokmak 2**	**5.64**	**55**	⇓	*i*P	Pn	17 14 44.6	+0.9	
	baz=55								
TKM2				⇓	*e*S	Sn	17 15 48.5	0.0	
	baz=55								
BOOM	**Boomskoye usch**	**5.66**	**60**	⇓	*i*P	Pn	17 14 44.8	+0.9	
	baz=60								
BOOM				⇓	*i*S	Sn	17 15 49.0	0.0	
	baz=60								
DGS	**Degeres**	**5.92**	**53**		Pg	Pb	17 15 06.2	+3.4	
	2.8nm,0.6s								
DGS					Lg	Lg	17 16 24.3		
	5.7nm,0.9s								
DGS	**Degeres**	**5.92**	**53**		*e*P	Pb	17 15 06.2	+3.4	
	2.8nm,0.6s								
DGS					*e*S	Sg	17 16 24.3	-5.2	
	5.7nm,0.9s								
KST	**Kastek**	**5.93**	**55**		Pg	Pb	17 15 09.1	+6.0	
	3.3nm,0.4s								
KST					Lg	Lg	17 16 29.5		
	15nm,0.6s								
KST	**Kastek**	**5.93**	**55**		*e*P	Pb	17 15 09.1	+6.0	
	3.3nm,0.4s								
KST					*e*S	Sg	17 16 29.5	-0.5	
	15nm,0.6s								
KRBS	**Karabastau**	**6.12**	**49**		Pg	Pb	17 15 11.1	+4.9	
	2.3nm,0.5s								
KRBS					Lg	Lg	17 16 32.6		
	5.5nm,0.7s								
KRBS	**Karabastau**	**6.12**	**49**		*e*P	Pb	17 15 11.1	+4.9	
	2.3nm,0.5s								
KRBS					*e*S	Sg	17 16 32.6	-3.2	
	5.5nm,0.7s								
BTLS	**Baital**	**6.26**	**33**		Pg	Pb	17 15 14.9	+6.4	
	2.2nm,1.1s								
BTLS					Lg	Lg	17 16 39.1		
	4.5nm,0.5s								
BTLS	**Baital**	**6.26**	**33**		*e*P	Pb	17 15 14.9	+6.4	
	2.2nm,1.1s								
BTLS					*e*S	Sg	17 16 39.1	-1.2	
	4.5nm,0.5s								
KTBS	**Karatobe**	**6.73**	**53**		Pg	Pb	17 15 21.2	+4.6	
	1.6nm,0.7s								
KTBS					Lg	Lg	17 16 49.7		
	6.9nm,0.8s								
KTBS	**Karatobe**	**6.73**	**53**		*e*P	Pb	17 15 21.2	+4.6	
	1.6nm,0.7s								
KTBS					*e*S	Sg	17 16 49.7	-5.7	
	6.9nm,0.8s								
ARXS	**Arharly**	**7.70**	**53**		Pg	Pb	17 15 41.0	+8.0	
	1.3nm,0.6s								
ARXS					Lg	Lg	17 17 24.4		
	3.0nm,1.0s								
ARXS	**Arharly**	**7.70**	**53**		*e*P	Pb	17 15 41.0	+8.0	
	1.3nm,0.6s								
ARXS					*e*S	Sg	17 17 24.4	-2.0	
	3.0nm,1.0s								
AB31	**Akbulak array**	**11.52**	**328**	⇓	Pn	Pn	17 16 01.4	-2.5	
	0.3nm,0.4s,baz=158,slow=12,SNR=20								
AB31				⇓	Sn	Sn	17 18 07.6	-4.9	
	1.4nm,0.7s,baz=114,slow=26,SNR=4.8								

SOME ***04*** *17:28:41.6, 43°.53N×86°.35E, h9km*
IDC ***04*** *17:28:42.8±0.7, 43°.74N×86°.33E, h0km, mb3.8/15, mbtmp3.8/21, ML3.4/6, MS2.9/1, Error ellipse: s-maj=20.4km s-min=10.4km az=44.0*
NNC ***04*** *17:28:44.6±1.8, 43°.89N×86°.40E, h2km±7km, mb4.2, mpv4.0, Error ellipse: s-maj=11.9km s-min=9.2km az=114.0*
NEIC ***04*** *17:28:46.3±2.7, 43°.80N±0°.07×86°.6E±0°.1, h37km±9km, mb4.2/14, Error ellipse: s-maj=11.3km s-min=10.7km az=69.0*

ISC 04 17:28:45.8±0.5, **43°.78N**±0°.05×**86°.56E**±0°.04, **h30km**, **n83**, **σ2s29/97**, **mb3.9**/19, **20C-9D**, **Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.86**	**343**	Pg	**Pb**	**17 29 56.3**	**+3.2**
	53nm,0.7s						
ZSN				Lg	Lg	17 30 51.4	
	169nm,0.9s						
ZSN	**Zaisan**	**3.86**	**343**	*e*P	**Pb**	**17 29 56.3**	**+3.2**
	53nm,0.7s						
ZSN				*e*S	Sb	17 30 51.4	+12
	169nm,0.9s						
MK31	**Makanchi Array**	**4.26**	**316**	⇓Pn	**Pn**	**17 29 49.8**	**+1.1**
	8.4nm,0.4s,baz=136,slow=14,SNR=434						
MK31				⇑Sn	**Sn**	**17 30 38.7**	**+1.3**
	24nm,0.3s,baz=37,slow=56,SNR=7.4						
MK31				⇑Lg	Lg	17 30 56.5	
	136nm,0.6s,baz=130,slow=30,SNR=9.9						
MK31	**Makanchi Array**	**4.26**	**316**		**Pn**	**17 29 49.8**	**+1.1**
MK31				Sn	**Sn**	**17 30 37.7**	**+0.3**
MKAR	**Makanchi Array**	**4.26**	**316**	Pn	**Pn**	**17 29 49.9**	**+1.2**
	8.7nm,0.3s,baz=138,slow=14,SNR=466						
MKAR				Sn	**Sn**	**17 30 38.0**	**+0.6**
	34nm,0.3s,baz=129,slow=27,SNR=13						
MKAR				Lg	Lg	17 30 52.8	
	42nm,0.3s,baz=127,slow=31,SNR=14						
	13nm,0.3s						
MAKZ	**Makanchi**	**4.43**	**315**	⇑Pn	**Pn**	**17 29 51.9**	**+0.9**
	22nm,0.3s						
MAKZ				⇓Sn	**Sn**	**17 30 42.0**	**+0.4**
	70nm,0.4s						
MAKZ				⇑Lg	Lg	17 31 01.4	
	85nm,0.8s						
MAKZ	**Makanchi**	**4.43**	**315**		**Pn**	**17 29 52.0**	**+1.0**
MAKZ				Sn	**Sn**	**17 30 40.6**	**-0.9**
DJR	**Jarkent**	**4.91**	**279**	Pg	**Pb**	**17 30 09.1**	**-2.0**
	9.9nm,0.4s						
DJR				Lg	Lg	17 31 13.1	
	88nm,0.3s						
DJR	**Jarkent**	**4.91**	**279**	*e*P	**Pb**	**17 30 09.1**	**-2.0**
	9.9nm,0.4s						
DJR				*e*S	**Sb**	**17 31 13.1**	**+3.4**
	88nm,0.3s						
PDGK	**Podgornoye**	**5.16**	**267**	Pg	**Pb**	**17 30 14.7**	**-0.7**
	5.8nm,0.4s						
PDGK				Lg	Lg	17 31 22.8	
	34nm,0.6s						
PDGK	**Podgornoye**	**5.16**	**267**	⇓Pn	**Pn**	**17 30 01.4**	**+0.3**
	6.3nm,0.4s						
PDGK				⇓Pg	**Pb**	**17 30 19.4**	**+4.0**
	19nm,0.6s						
PDGK				⇑Sn	**Sn**	**17 31 00.6**	**+0.9**
	41nm,0.5s						
PDGK				⇑Lg	Lg	17 31 25.1	
	66nm,0.7s						
SHLS	**Shalkode**	**5.21**	**266**	Pg	Pn	17 30 08.8	+7.1
	18nm,0.7s						
SHLS				Lg	Lg	17 31 12.6	
	152nm,0.6s						
SHLS	**Shalkode**	**5.21**	**266**	*e*P	Pn	17 30 08.8	+7.0
	18nm,0.7s						
SHLS				*e*S	**Sb**	**17 31 12.6**	**-5.7**
	152nm,0.6s						
KNOS	**Konyrlen**	**5.35**	**279**	Pg	**Pb**	**17 30 19.0**	**+0.3**
	25nm,0.5s						
KNOS				Lg	Lg	17 31 30.1	
	56nm,0.4s						
KAPS	**Kapalarasan**	**5.37**	**289**	Pg	**Pb**	**17 30 19.1**	**+0.2**
	11nm,0.5s						
KAPS				Lg	Lg	17 31 30.3	
	69nm,0.4s						
KAPS	**Kapalarasan**	**5.37**	**289**	*e*P	**Pb**	**17 30 19.1**	**+0.2**
	11nm,0.5s						
KAPS				*e*S	**Sb**	**17 31 30.3**	**+7.5**
	69nm,0.4s						
UZB	**Uzynbulak**	**5.52**	**266**	Pg	**Pb**	**17 30 21.0**	**-0.6**
	8.4nm,0.5s						
UZB				Lg	Lg	17 31 33.1	
	32nm,0.9s						
UZB	**Uzynbulak**	**5.52**	**266**	*e*P	**Pb**	**17 30 21.0**	**-0.6**
	8.4nm,0.5s						
UZB				*e*S	**Sb**	**17 31 33.1**	**+5.7**
	32nm,0.9s						
SATY	**Saty**	**5.98**	**266**	Pg	**Pb**	**17 30 30.9**	**+1.5**
	8.4nm,0.2s						
SATY				Lg	Lg	17 31 50.2	
	40nm,0.3s						
SATY	**Saty**	**5.98**	**266**	*e*P	**Pb**	**17 30 30.9**	**+1.5**
	8.4nm,0.2s						
SATY				*e*S	Sb	17 31 50.2	+10
	40nm,0.3s						
ARXS	**Arharly**	**6.32**	**277**	Pg	**Pb**	**17 30 38.5**	**+3.5**
	9.3nm,0.6s						
ARXS				Lg	Lg	17 32 03.3	
	46nm,0.4s						
ARXS	**Arharly**	**6.32**	**277**	*e*P	**Pb**	**17 30 38.5**	**+3.5**
	9.3nm,0.6s						
ARXS				*e*S	Sb	17 32 03.2	+13
	46nm,0.4s						
TARG	**Taragay, Kyrgy**	**6.76**	**255**		**Pn**	**17 30 24.7**	**+1.3**
TARG				Sn	**Sn**	**17 31 38.9**	**-0.7**
MDOK	**Medeo**	**6.95**	**268**	Pn	**Pn**	**17 30 25.8**	**+0.1**
	3.6nm,0.5s						
MDOK				Lg	Lg	17 32 19.7	
	35nm,0.8s						
KNDC	**Almaty**	**7.00**	**269**	⇑Pn	**Pn**	**17 30 26.5**	**+0.1**
	9.6nm,0.4s						
KNDC				⇑Lg	Lg	17 32 24.4	
	70nm,0.8s						
BOOM	**Boomskoye usch**	**7.88**	**264**		**Pn**	**17 30 38.5**	**0.0**
TKM2	**Tokmak 2**	**8.04**	**268**	⇑Pn	**Pn**	**17 30 41.4**	**+0.7**
	2.8nm,0.6s						
TKM2				⇑Lg	Lg	17 33 01.6	
	16nm,0.9s						
CHMS	**Chumysh**	**8.64**	**269**	⇑Pn	**Pn**	**17 30 52.1**	**+3.3**
	1.0nm,0.5s						
CHMS				⇑Lg	Lg	17 33 17.8	
	16nm,1.0s						
KURBB	**Kurchatov Arra**	**8.76**	**324**	⇓Pn	**Pn**	**17 30 49.2**	**-1.1**
	3.1nm,0.4s						
KURBB				⇑Lg	Lg	17 33 21.5	
	66nm,0.6s						
KURBB	**Kurchatov Arra**	**8.76**	**324**	Pn	**Pn**	**17 30 49.8**	**-0.5**
	0.4nm,0.3s,baz=149,slow=9.6,SNR=20						
KURBB				Sn	**Sn**	**17 32 22.4**	**-5.4**
	0.3nm,0.3s,baz=142,slow=22,SNR=4.1						
KURBB				Lg	Lg	17 33 17.6	
	0.9nm,0.3s,baz=144,slow=30,SNR=6.8						
KURBB				LR	LR	17 34 41.4	
	comp=Z,73nm,20.3s,baz=170,slow=41						
	0.9nm,0.3s						
KURK	**Kurchatov**	**8.79**	**325**	⇓Pn	**Pn**	**17 30 50.2**	**-0.6**
	1.4nm,0.3s						
KURK				⇑Lg	Lg	17 33 18.0	
	40nm,0.8s						
KURK	**Kurchatov**	**8.79**	**325**		**Pn**	**17 30 49.5**	**-1.2**
AAK	**Ala-Archa**	**8.89**	**267**	⇓Pn	**Pn**	**17 30 51.4**	**-1.0**
	0.8nm,0.4s						
AAK				⇑Lg	Lg	17 33 28.0	
	11nm,0.8s						
AAK	**Ala-Archa**	**8.89**	**267**	Pn	**Pn**	**17 30 53.0**	**+0.6**
AAK	**Ala-Archa**	**8.89**	**267**	Pn	**Pn**	**17 30 52.9**	**+0.6**
	0.4nm,0.3s,baz=81,slow=7.1,SNR=3.0						
AAK				Lg	Lg	17 33 17.9	
	0.5nm,0.3s,baz=24,slow=9.9,SNR=1.9						
	0.7nm,0.3s						
ZAA0	**Zalesovo Array**	**10.24**	**354**	⇑Pn	**Pn**	**17 31 08.9**	**-1.7**
	0.4nm,0.5s						
ZAA0				⇑Sn	**Sn**	**17 33 01.2**	**-3.1**
	2.2nm,0.7s						
ZAA0	**Zalesovo Array**	**10.24**	**354**		**Pn**	**17 31 09.6**	**-1.0**
ZALV	**Zalesovo Beam**	**10.24**	**354**		**Pn**	**17 31 09.3**	**-1.3**
ZALV	**Zalesovo Beam**	**10.24**	**354**	Pn	**Pn**	**17 31 09.6**	**-1.0**
	1.6nm,0.3s,baz=176,slow=14,SNR=36						
ZALV				Sn	**Sn**	**17 32 58.0**	**-6.2**
	3.3nm,0.3s,baz=169,slow=24,SNR=14						
	5.6nm,0.5s						
OTUK	**Ortayu**	**10.85**	**299**	⇓Pn	**Pn**	**17 31 15.6**	**-3.4**
	2.2nm,0.6s						
OTUK				⇑Sn	**Sn**	**17 33 18.4**	**-0.9**
	2.9nm,0.5s						
OTUK				⇓Lg	Lg	17 34 24.7	
	13nm,1.1s						
KK31	**Karatay Array**	**11.69**	**272**	⇑Pn	**Pn**	**17 31 33.6**	**+3.1**
	0.3nm,0.4s,baz=66,slow=14,SNR=5.8						
KK31				⇑Lg	Lg	17 34 52.3	
	2.1nm,0.6s,baz=75,slow=30,SNR=4.6						
KK31	**Karatay Array**	**11.69**	**272**	Pn	**Pn**	**17 31 28.8**	**-1.7**
KKAR	**Karatay Array**	**11.69**	**272**	Pn	**Pn**	**17 31 29.1**	**-1.5**
DRK	**Karamyk**	**11.85**	**254**	Pn	**Pn**	**17 31 32.8**	**-0.2**
BTK	**Batken**	**12.30**	**258**	Pn	**Pn**	**17 31 39.1**	**+0.1**
GAR	**Garm**	**13.10**	**254**		**Pn**	**17 31 48.6**	**-1.3**
CHGR	**Chuyangaron**	**14.06**	**255**	Pn	**Pn**	**17 32 01.4**	**-1.6**
BVAR	**Borovoye Array**	**14.14**	**316**	Pn	**Pn**	**17 32 02.3**	**-1.6**
	0.1nm,0.3s,baz=113,slow=14,SNR=6.5						
BVAR				Sn	**Sn**	**17 34 31.4**	**-8.3**
	0.1nm,0.3s,baz=110,slow=26,SNR=5.7						
	0.8nm,0.3s						
SIMJ	**Simiganj**	**14.16**	**255**		**Pn**	**17 32 02.4**	**-2.1**
BRVK	**Borovoye**	**14.22**	**316**		**Pn**	**17 32 03.2**	**-1.7**
SONM	**Songino Array**	**14.41**	**67**	Pn	**Pn**	**17 32 06.5**	**-1.2**
SONM	**Songino Array**	**14.41**	**67**	Pn	**P**	**17 32 12.0**	**-2.3**
	0.1nm,0.3s,baz=264,slow=11,SNR=1.2						
SONM				Lg	Lg	17 36 25.7	
	0.2nm,0.3s,baz=258,slow=29,SNR=6.2						
	0.3nm,0.5s						
ABKAR	**Akbulak array**	**19.07**	**296**	P	**P**	**17 33 04.3**	**-1.3**
ABKAR	**Akbulak array**	**19.07**	**296**	P	**P**	**17 33 04.4**	**-1.2**
AKTO	**Aktyubinsk**	**20.45**	**299**	P	**P**	**17 33 21.4**	**+0.7**
	1.4nm,0.5s,baz=107,slow=11,SNR=7.0						
	1.4nm,0.5s						
ARU	**Arti**	**21.79**	**315**	P	**P**	**17 33 36.6**	**+1.6**
	1.4nm,0.4s,baz=65,slow=3.0,SNR=3.5						
	1.4nm,0.4s						
ENH	**Enshi**	**22.64**	**119**	P	**P**	**17 33 44.7**	**+0.3**
ENH				IAmb	IAmb	17 33 58.7	
	comp=Z,11nm,1.3s						
CMAR	**Chiang Mai Arr**	**27.32**	**154**	P	**P**	**17 34 31.4**	**+3.5**
	comp=Z,0.6nm,0.8s,baz=337,slow=8.4,SNR=5.9						
	comp=Z,0.6nm,0.8s						
AKASG	**Malin Array Be**	**38.68**	**301**	P	**P**	**17 36 06.3**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=62,slow=9.4,SNR=2.6						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**39.09**	**318**	P	**P**	**17 36 09.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=83,slow=11,SNR=1.5						
	comp=Z,0.3nm,0.3s						
BR131	**Keskin Array S**	**39.13**	**283**	P	**P**	**17 36 07.9**	**-2.8**
BR131				IAmb	IAmb	17 36 13.2	
	comp=Z,1.8nm,0.8s						
BRTR	**Keskin Array B**	**39.13**	**283**	P	**P**	**17 36 07.8**	**-2.9**
BRTR	**Keskin Array B**	**39.13**	**283**	P	**P**	**17 36 10.8**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=90,slow=7.4,SNR=8.2						
	comp=Z,1.1nm,0.8s						
RAYN	**Ar Rayn**	**39.20**	**253**	P	**P**	**17 36 10.8**	**-0.5**
ARCES	**ARCESS Array B**	**39.76**	**331**	P	**P**	**17 36 17.4**	**+1.9**
	comp=Z,7.4nm,1.2s,baz=76,slow=6.9,SNR=3.9						
	comp=Z,7.4nm,1.2s						
MMAI	**Mount Meron Ar**	**40.92**	**273**	P	**P**	**17 36 25.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=72,slow=9.3,SNR=2.1						
	comp=Z,0.3nm,0.4s						
IPM	**Ipoh**	**41.17**	**158**	P	**P**	**17 36 26.1**	**-1.5**
IPM				IAmb	IAmb	17 36 35.6	
	comp=Z,5.5nm,1.1s						
HFS	**Hagfors**	**45.27**	**318**	P	**P**	**17 37 00.3**	**0.0**
	comp=Z,0.8nm,0.5s,baz=92,slow=13,SNR=2.0						
	comp=Z,0.8nm,0.5s						
NC405	**NORSAR Array S**	**46.00**	**319**	P	**P**	**17 37 06.2**	**+0.2**
NB2	**NORSAR Subarra**	**46.25**	**319**	P	**P**	**17 37 08.8**	**+0.8**
	comp=Z,0.2nm,0.4s,baz=76,slow=7.9						
NOA	**NORSAR Array B**	**46.25**	**319**	P	**P**	**17 37 08.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=76,slow=7.9,SNR=1.5

comp=Z,1.9nm,0.7s
ESDC Sonseca Array 22.41 112 P **P** **17 34 43.5 +2.4**
comp=Z,0.5nm,0.4s,baz=316,slow=9.5,SNR=6.1
ESDC LR LR 17 40 36.0
comp=Z,36nm,20.0s,baz=316,slow=29
comp=Z,0.5nm,0.4s
NOA NORSAR Array B 24.72 52 LR LR 17 42 48.3
comp=Z,32nm,20.7s,baz=45,slow=32
BFO Black Forest 25.36 82 P **P** **17 35 09.0 -0.5**
BFO IAmb IAmb 17 35 11.2
comp=Z,12nm,1.5s
G62A West of Eustis 26.64 271 P **P** **17 35 16.3 -4.7**
CLL Collm 27.13 74 *e*P **P** **17 35 25.3 -0.1**
VRAC Vranov 30.00 76 LR LR 17 45 43.1
comp=Z,34nm,21.9s,baz=6.0,slow=32
FIA1 FINESS Array S 31.86 50 P **P** **17 36 07.6 +0.4**
FINES FINESS Array B 31.86 50 P **P** **17 36 07.6 +0.4**
FINES FINESS Array B 31.86 50 P **P** **17 36 07.3 +0.1**
FINES FINESS Array B 31.86 50 LR LR 17 47 45.5
comp=Z,44nm,19.1s,baz=332,slow=34
BURAR Bucovina Array 35.90 74 P **P** **17 36 42.1 -0.5**
AAM Ann Arbor 36.27 276 P P 17 36 42.1 -3.6
AKASG Malin Array Be 36.84 67 P **P** **17 36 48.3 -2.1**
comp=Z,0.5nm,0.6s,baz=291,slow=8.8,SNR=4.0
AKASG LR LR 17 52 43.0
comp=Z,24nm,18.2s,baz=198,slow=38
comp=Z,0.5nm,0.6s
P49A Miami Univ. Ec 38.53 273 P P 17 36 57.4 -7.4
BLO Bloomington 39.86 274 P P 17 37 10.0 -6.0
BLO IAmb IAmb 17 37 11.0
comp=Z,22nm,0.8s
YKA Yellowknife Ar 43.29 318 P **P** **17 37 44.6 +0.9**
comp=Z,0.4nm,0.7s,baz=54,slow=8.7,SNR=5.7
comp=Z,0.4nm,0.7s
KIRV Kirov 43.81 48 LR LR 17 54 54.6
comp=Z,21nm,19.5s,baz=315,slow=35
BRTR Keskin Array B 45.33 79 P **P** **17 38 01.3 +0.6**
comp=Z,0.4nm,0.7s,baz=324,slow=9.9,SNR=2.7
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea 46.80 134 P **P** **17 38 12.8 +0.6**
comp=Z,0.7nm,0.6s,baz=345,slow=8.8,SNR=5.3
comp=Z,0.7nm,0.6s
INK Inuvik 47.22 330 LR LR 17 55 27.6
comp=Z,31nm,19.5s,baz=311,slow=33
ARU Arti 49.15 47 LR LR 17 57 58.1
comp=Z,26nm,19.0s,baz=254,slow=35
C23K Itkillik River 50.92 337 P **P** **17 38 44.8 +1.5**
C23K IAmb IAmb 17 38 45.4
comp=Z,4.4nm,1.3s
I28M Miner Creek 50.98 329 P **P** **17 38 44.7 +0.8**
PDAR Pinedale Array 51.48 293 P **P** **17 38 48.5 +0.4**
comp=Z,0.4nm,0.7s,baz=53,slow=6.0,SNR=1.8
comp=Z,0.4nm,0.7s
H23K Yukon River 53.57 333 P **P** **17 39 04.6 +1.6**
H23K IAmb IAmb 17 39 14.8
comp=Z,5.8nm,1.3s
ILAR Eielson Array 53.58 331 LR LR 17 59 54.1
comp=Z,30nm,18.7s,baz=174,slow=34
BVAR Borovoye Array 56.61 45 P **P** **17 39 25.2 +0.2**
comp=Z,1.2nm,0.5s,baz=317,slow=7.8,SNR=5.0
BVAR LR LR 18 02 40.6
comp=Z,25nm,18.6s,baz=347,slow=35
comp=Z,1.2nm,0.5s
ZALV Zalesovo Beam 61.81 37 P **P** **17 40 00.8 -0.3**
comp=Z,0.8nm,0.6s,baz=305,slow=5.2,SNR=3.6
comp=Z,0.8nm,0.6s
KURBB Kurchatov Arra 61.84 43 P **P** **17 40 00.8 -0.5**
comp=Z,1.0nm,1.0s,baz=314,slow=7.9,SNR=4.4
comp=Z,1.0nm,1.0s
AAK Ala-Archa 66.04 51 LR LR 18 09 02.6
comp=Z,15nm,18.1s,baz=298,slow=36
MK31 Makanchi Array 66.38 43 P **P** **17 40 30.9 -0.4**
MK31 IAmb IAmb 17 40 31.6
comp=Z,3.7nm,1.4s
MKAR Makanchi Array 66.38 43 P **P** **17 40 31.4 +0.1**
comp=Z,1.0nm,0.5s,baz=325,slow=4.9,SNR=12
MKAR LR LR 18 08 43.0
comp=Z,21nm,19.2s,baz=20,slow=35
comp=Z,1.0nm,0.5s
TARG Taragay, Kyrgy 68.31 50 P **P** **17 40 43.9 -0.1**
TARG IAmb IAmb 17 40 46.7
comp=Z,1.1nm,0.6s

*NAO **04** 17:52:19.0±1.2, 77°.03N×18°.62E, h6km±12km, ML3.0*
*KOLA **04** 17:52:19.1, 77°.04N×18°.54E, h0km, ML3.1, Error ellipse: s-maj=15.6km s-min=7.4km az=120.0, Storfjorden zone*
*BER **04** 17:52:20.8±3.1, 76°.95N×18°.27E, h12km, ML2.9, ML3.0(NAO), Confirmed Earthquake*
*FCIAR **04** 17:52:21.0, 77°.11N×18°.77E, h10km, station OMEGA has station magnitude of 3.40 station ZFI2 has station magnitude of 3.40*
ISC 04 17:52:18.8±1.7, 77°.04N±0°.04×18°.73E±0°.05, h5km±14km, n26, σ1§25/45, 3C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.72**	**268**	Pg	**Pg**	**17 52 32.2**	**-0.4**
HSPB				Lg	Lg	17 52 41.7	
HSPB	**Hornsund (broa**	**0.72**	**268**	P	**Pg**	**17 52 31.8**	**-0.9**
HSPB				S	**Sg**	**17 52 43.1**	**+1.1**
HSPB	**Hornsund (broa**	**0.72**	**268**	*e*P	**Pg**	**17 52 32.2**	**-0.4**
HSPB				*e*S	**Sg**	**17 52 40.2**	**-1.8**
HSPB				*e*		17 52 44.6	
HSPB				IAML		17 52 46.1	
	comp=Z,150nm,0.3s						
SPA0	**Spitsbergen Ar**	**1.25**	**337**	Pn	**Pn**	**17 52 43.2**	**+0.2**
	baz=150,slow=22						
SPA0				Lg	Lg	17 52 59.7	
	baz=157,slow=28						
SPA0	**Spitsbergen Ar**	**1.25**	**337**	Pn	**Pn**	**17 52 43.2**	**+0.2**
	baz=150,slow=22						
SPA0				Sg	**Sb**	**17 52 59.7**	**+0.4**
	baz=157,slow=28						
SPA0	**Spitsbergen Ar**	**1.25**	**337**	⇑*i*P	**Pn**	**17 52 43.0**	**+0.1**
SPA0				*i* S	**Sb**	**17 52 59.6**	**+0.3**
SPITS	**Spitsbergen Ar**	**1.25**	**337**	P	**Pn**	**17 52 42.9**	**-0.1**
SPITS				S	**Sb**	**17 52 59.5**	**+0.3**
BRBA	**Barentsburg A**	**1.41**	**318**	Pn	**Pn**	**17 52 45.9**	**+0.7**
BRBA				Lg	Lg	17 53 04.1	
BRBA	**Barentsburg A**	**1.41**	**318**	*e*P	**Pn**	**17 52 46.0**	**+0.7**
BRBA				*e*S	**Sn**	**17 53 04.2**	**+0.1**
BRBA				IAML		17 53 06.2	
	comp=Z,670nm,0.3s						
BRBB	**Barentsburg B**	**1.44**	**319**	Pn	**Pn**	**17 52 45.9**	**+0.4**
BRBB				Lg	Lg	17 53 04.7	
BRBB	**Barentsburg B**	**1.44**	**319**	P	**Pn**	**17 52 45.5**	**-0.1**
BRBB				S	**Sn**	**17 53 03.8**	**-1.1**
BRBB	**Barentsburg B**	**1.44**	**319**	*e*P	**Pn**	**17 52 45.8**	**+0.2**
BRBB				*e*S	**Sn**	**17 53 03.6**	**-1.2**
HOPEN	**Hopen**	**1.54**	**107**	Pn	**Pn**	**17 52 48.0**	**+1.1**
HOPEN				Sn	**Sn**	**17 53 08.3**	**+1.0**
HOPEN				Lg	Lg	17 53 10.7	
HOPEN	**Hopen**	**1.54**	**107**	*e*P	**Pn**	**17 52 48.0**	**+1.1**
HOPEN				*e*S	**Sn**	**17 53 08.6**	**+1.3**
HOPEN				IAML		17 53 14.9	
	comp=Z,352nm,0.3s						
HOPEN	**Hopen**	**1.54**	**107**	*e*P	**Pn**	**17 52 47.8**	**+0.9**
HOPEN				*e*S	**Sn**	**17 53 07.3**	**0.0**
KBS	**Kingsbay**	**2.37**	**326**	Pn	**Pn**	**17 52 57.8**	**-0.5**
KBS				Pg	**Pb**	**17 53 03.7**	**+1.8**
KBS				Lg	Lg	17 53 32.5	
KBS	**Kingsbay**	**2.37**	**326**	P	**Pn**	**17 52 59.0**	**+0.7**
KBS				S	**Sn**	**17 53 29.6**	**+2.0**
KBS	**Kingsbay**	**2.37**	**326**	⇑*i*P	**Pn**	**17 52 57.7**	**-0.5**
KBS				*e*Pg	**Pb**	**17 53 03.0**	**+1.1**
KBS				*e*Sg	**Sb**	**17 53 32.7**	**+1.4**
KBS				IAML		17 53 38.3	
	comp=Z,295nm,0.3s						
KBS	**Kingsbay**	**2.37**	**326**	⇑*i*P	**Pn**	**17 52 57.7**	**-0.5**
KBS				*e*S	**Sn**	**17 53 25.6**	**-2.1**
BJO1	**Bjornoya**	**2.56**	**178**	Pg	**Pb**	**17 53 05.9**	**+0.8**
BJO1				Lg	Lg	17 53 38.1	
BJO1	**Bjornoya**	**2.56**	**178**	*e*Pg	**Pb**	**17 53 05.4**	**+0.3**
BJO1				*e*Sg	**Sb**	**17 53 37.4**	**+0.6**
BJO1				IAML		17 53 44.9	
	comp=Z,64nm,0.5s						
HAMF	**Hammerfest**	**6.58**	**165**	Pn	**Pn**	**17 53 55.4**	**-0.7**
HAMF				Sn	Sn	17 55 01.2	-10
ZFI2	**Zemlya Franca-**	**6.64**	**42**	*e*P	**Pn**	**17 53 58.0**	**+1.1**
ZFI2				*e*S	**Sn**	**17 55 09.4**	**-3.4**
	comp=Z,12nm,1.8s						
OMEGA	**Omega**	**6.65**	**42**	*e*P	**Pn**	**17 53 57.9**	**+1.0**
OMEGA				*e*S	**Sn**	**17 55 09.8**	**-3.2**
	comp=Z,12nm,1.4s						
ARA0	**ARCESS Array S**	**7.79**	**162**	Pn	**Pn**	**17 54 10.8**	**-1.9**
	baz=353,slow=10						
ARA0				Sn	Sn	17 55 31.9	-9.2
	baz=359,slow=22						
ARA0	**ARCESS Array S**	**7.79**	**162**	Pn	**Pn**	**17 54 10.8**	**-1.9**
	baz=353,slow=10						
ARA0				Sn	Sn	17 55 31.9	-9.2
	baz=359,slow=22						

*NEIC **04** 17:55:31.6±1.9, 19°.02N±0°.08×145°.4E±0°.1, h232km±9km, mb4.2/21, Error ellipse: s-maj=18.1km s-min=12.0km az=82.0*
*IDC **04** 17:55:36.3±4.8, 19°.02N×145°.45E, h291km±49km, mb3.1/10, mbtmp3.8/12, Error ellipse: s-maj=25.9km s-min=13.2km az=88.0*
ISC 04 17:55:32.3±0.6, 19°.09N±0°.07×145°.3E±0°.1, h250km, n40, σ1§07/36, mb3.8/18, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.49**	**184**	Pn	**Pn**	**17 56 52.9**	**-1.3**
JCJ	**Chichijima**	**8.46**	**341**	Pn	**Pn**	**17 57 30.2**	**-1.2**
JOW	**Kunigami**	**17.44**	**299**	Pn	**Pn**	**17 59 22.6**	**+1.3**
JOW				IAmb	IAmb	17 59 32.2	
	comp=Z,9.4nm,1.0s						
JOW	**Kunigami**	**17.44**	**299**	P	**Pn**	**17 59 22.8**	**+1.5**
	comp=Z,4.5nm,0.5s,baz=127,slow=5.7,SNR=7.1						
JGF	**Kuroka**	**17.87**	**339**	P	**Pn**	**17 59 25.1**	**-1.2**
JGF				IAmb	IAmb	18 00 06.4	
	comp=Z,9.3nm,1.2s						
MJAR	**Matsushiro Arr**	**18.46**	**342**	P	**Pn**	**17 59 31.9**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=162,slow=10,SNR=10						
MAJO	**Matsushiro**	**18.46**	**342**	P	**Pn**	**17 59 30.9**	**-2.3**
MJB9	**Matsu-Tunnel**	**18.47**	**342**	P	**Pn**	**17 59 32.1**	**-1.2**
MJB9				IAmb	IAmb	17 59 50.7	
	comp=Z,10.0nm,1.1s						
JMM	**Marumori**	**19.11**	**349**	P	**Pn**	**17 59 39.2**	**-1.5**
LUWI	**Luwuk**	**29.82**	**230**	P	**P**	**18 01 15.7**	**-0.9**
TOLI2	**Tolitoli**	**29.93**	**236**	P	**P**	**18 01 16.9**	**-0.7**
TOLI2				IAmb	IAmb	18 01 38.2	
	comp=Z,4.5nm,0.8s						
MTN	**Manton Dam**	**34.66**	**205**	P	**P**	**18 01 59.3**	**+0.8**
MTN				IAmb	IAmb	18 02 01.8	
	comp=Z,6.1nm,0.6s						
KNRA	**Kununurra**	**38.19**	**206**	P	**P**	**18 02 29.6**	**+1.4**
KNRA				IAmb	IAmb	18 02 56.2	
	comp=Z,10nm,1.4s						
WB0	**Warramunga Arr**	**40.07**	**196**	P	**P**	**18 02 43.5**	**-0.3**
WB0				IAmb	IAmb	18 02 44.4	
	comp=Z,11nm,1.4s						
WB2	**Warramunga Arr**	**40.25**	**196**	P	**P**	**18 02 44.7**	**-0.5**
WB2				IAmb	IAmb	18 03 25.5	
	comp=Z,7.7nm,1.2s						
WRA	**Warramunga Arr**	**40.25**	**196**	P	**P**	**18 02 45.2**	**0.0**
	comp=Z,2.5nm,0.5s,baz=16,slow=8.9,SNR=36						
	comp=Z,2.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.78**	**277**	P	P	18 03 16.8	+3.0
	comp=Z,0.5nm,0.8s,baz=64,slow=6.4,SNR=4.9						
	comp=Z,0.5nm,0.8s						
AS31	**Alice Springs**	**43.93**	**195**	P	**P**	**18 03 14.2**	**-0.6**
ASAR	**Alice Springs**	**43.93**	**195**	P	**P**	**18 03 14.4**	**-0.4**
ASAR	**Alice Springs**	**43.93**	**195**	P	**P**	**18 03 14.5**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=17,slow=7.6,SNR=42						
	comp=Z,1.5nm,0.6s						
FORT	**Forest**	**52.28**	**199**	P	**P**	**18 04 18.1**	**-0.2**
BBOO	**Buckleboo**	**52.36**	**190**	P	**P**	**18 04 19.7**	**+0.8**
MK31	**Makanchi Array**	**57.91**	**314**	P	**P**	**18 04 59.6**	**+1.2**
MKAR	**Makanchi Array**	**57.91**	**314**	P	**P**	**18 05 00.2**	**+1.8**
MKAR	**Makanchi Array**	**57.91**	**314**	P	**P**	**18 04 59.4**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=89,slow=10.0,SNR=3.8						
	comp=Z,0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**60.76**	**318**	P	**P**	**18 05 18.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=93,slow=7.1,SNR=4.9						
	comp=Z,0.2nm,0.3s						
B20K	**Meade River**	**61.33**	**19**	P	P	18 05 23.2	+2.0
B20K				IAmb	IAmb	18 05 30.4	
	comp=Z,8.5nm,1.5s						
C23K	**Itkillik River**	**63.37**	**20**	P	P	18 05 36.4	+1.7
C23K				IAmb	IAmb	18 05 42.1	
	comp=Z,8.9nm,1.5s						
ILAR	**Eielson Array**	**63.47**	**26**	P	**P**	**18 05 34.6**	**-0.9**
	comp=Z,0.1nm,0.4s,baz=285,slow=5.3,SNR=2.1						
	comp=Z,0.1nm,0.4s						
BMAR	**Burnt Mountain**	**64.91**	**24**	P	P	18 05 46.4	+1.6
BVAR	**Borovoye Array**	**65.92**	**320**	P	**P**	**18 05 51.8**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=95,slow=8.4,SNR=5.9						
	comp=Z,0.7nm,0.4s						
G31M	**Satah River**	**68.86**	**25**	P	**P**	**18 06 10.3**	**+0.8**
G31M				IAmb	IAmb	18 06 45.9	
	comp=Z,7.2nm,1.4s						
ABKAR	**Akbulak array**	**72.78**	**317**	P	**P**	**18 06 33.7**	**+0.2**
ABKAR	**Akbulak array**	**72.78**	**317**	P	**P**	**18 06 34.1**	**+0.6**
ABKAR				IAmb	IAmb	18 07 10.7	
	comp=Z,0.9nm,1.1s						
EUNU	**Eureka**	**77.39**	**8**	P	**P**	**18 07 00.0**	**+0.7**
YKA	**Yellowknife Ar**	**77.82**	**28**	P	**P**	**18 07 02.2**	**+0.4**
	comp=Z,0.2nm,0.5s,baz=297,slow=5.5,SNR=3.4						
	comp=Z,0.2nm,0.5s						
KVN	**Kaiserville**	**83.16**	**51**	P	**P**	**18 07 31.7**	**+0.8**
NVAR	**Mina Array Bea**	**83.20**	**52**	P	**P**	**18 07 32.3**	**+1.1**
NVAR	**Mina Array Bea**	**83.20**	**52**	P	**P**	**18 07 31.8**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=266,slow=5.4,SNR=6.8						
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**86.36**	**335**	P	**P**	**18 07 44.8**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=60,slow=3.9,SNR=2.2						
	comp=Z,0.5nm,0.3s						

*IDC **04** 18:10:06.8±1.4, 38°.88N×27°.65E, h0km, mb3.6/5, mbtmp3.5/8, ML3.7/3, MS2.7/10, Error ellipse: s-maj=27.7km s-min=19.0km az=7.0*
*ISK **04** 18:10:07.8, 38°.77N×27°.77E, h10km, ML3.9/52*
*ATH **04** 18:10:08.0, 38°.77N×27°.87E, h8km±2km, ML3.7/9, Error ellipse: s-maj=2.3km s-min=1.1km az=34.0*
*AFAD **04** 18:10:08.1±0.0, 38°.76N×27°.76E, h7km±2km, MW3.8*
*THE **04** 18:10:08.3, 38°.72N×27°.77E, h2km, ML3.6/16, Error ellipse: s-maj=0.6km s-min=0.2km az=100.0*
*CFUSG **04** 18:10:12.3, 39°.10N×28°.10E, h5km, mb2.7/3, Western Turkey Magtype MSH 3.3 from 1 stations*
ISC 04 18:10:08.1±0.7, 38°.76N±0°.02×27°.78E±0°.02, h10km±4km, n161, σ1§08/206, mb3.5/5, MS2.7/4, 12C-10D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.12**	**12**	Pg	**Pg**	**18 10 10.6**	**-0.4**
AKS				Sg	**Sg**	**18 10 13.2**	**+0.1**
GOMA	**Golmarmara-Man**	**0.12**	**117**	Pg	**Pg**	**18 10 11.3**	**+0.3**
GOMA				Sg	**Sg**	**18 10 13.9**	**+0.9**
GORD	**Gordes-Manisa**	**0.34**	**65**	Pg	**Pg**	**18 10 15.4**	**+0.4**
GORD				Sg	**Sg**	**18 10 20.5**	**+1.0**
SOMA	**Soma-Manisa**	**0.44**	**334**	Pg	**Pg**	**18 10 16.6**	**-0.1**
SOMA				Sg	**Sg**	**18 10 23.3**	**+0.8**
ODEM	**Odemis-Izmir**	**0.54**	**155**	Pg	**Pg**	**18 10 18.9**	**+0.3**
ODEM				Sg	**Sg**	**18 10 26.3**	**+0.6**
ZEDA	**zmir-Bergama**	**0.59**	**291**	P	**Pg**	**18 10 19.5**	**0.0**
STEP	**BALIKESİR_Sava**	**0.61**	**355**	P	**Pg**	**18 10 19.7**	**-0.4**
STEP				S	**Sb**	**18 10 29.1**	**-0.6**
STEP				*i* AML	AML	18 10 30.0	
	comp=N,8μm,0.7s						
IZMR	**zmir-demi**	**0.64**	**168**	P	**Pg**	**18 10 20.7**	**+0.2**
IZMR				P	**Pb**	**18 10 20.8**	**-0.5**
MANT	**Manisa**	**0.67**	**114**	P	**Pg**	**18 10 21.5**	**+0.4**
BLCB	**Balcova**	**0.69**	**237**	Pg	**Pg**	**18 10 21.2**	**-0.3**
BLCB				Sg	**Sb**	**18 10 31.7**	**-0.1**
BLCB	**Balcova**	**0.69**	**237**	P	**Pg**	**18 10 31.1**	**-0.4**
BLCB				S	**Sg**	**18 10 31.1**	**+0.6**
IZMD	**zmir-Dikili-**	**0.70**	**289**	P	**Pg**	**18 10 21.4**	**-0.3**
IZMD				P	**Pb**	**18 10 22.0**	**-0.5**
IZMD				S	**Sb**	**18 10 31.4**	**-0.8**
IZMD				*i* AML	AML	18 10 32.0	
	comp=N,1μm,0.7s						
IZMD				*i* AML	AML	18 10 32.0	
	comp=N,1μm,0.7s						
KULA	**Kula-Manisa**	**0.73**	**110**	Pg	**Pg**	**18 10 22.5**	**+0.2**
KULA	**Kula-Manisa**	**0.73**	**110**	P	**Pg**	**18 10 22.4**	**+0.2**
KULA				S	**Sb**	**18 10 33.3**	**+0.2**
KIRA	**zmir-Kiraz**	**0.75**	**139**	P	**Pg**	**18 10 22.7**	**+0.2**
DKL	**Dikili**	**0.75**	**295**	Pg	**Pg**	**18 10 22.5**	**-0.1**
CAND	**Candarli**	**0.79**	**284**	Pg	**Pg**	**18 10 23.3**	**0.0**
FOCM	**Foa**	**0.82**	**267**	Pg	**Pg**	**18 10 23.9**	**-0.1**
BUHA	**Balikesir, Bur**	**0.92**	**324**	P	**Pg**	**18 10 25.6**	**-0.2**
BUHA				S	**Sb**	**18 10 39.4**	**+0.9**
BUHA				*i* AML	AML	18 10 40.0	
	comp=N,3μm,0.6s						
GMLD	**Gumuldur**	**0.96**	**225**	Pg	**Pb**	**18 10 27.5**	**+0.6**
BALY	**Balya**	**0.98**	**353**	P	**Pg**	**18 10 27.0**	**-0.1**
BALY				S	**Sb**	**18 10 40.3**	**-0.1**
BALY				*i* AML	AML	18 10 41.0	
	comp=N,7μm,0.5s						
BALY				*i* AML	AML	18 10 41.0	
	comp=E,9μm,0.6s						
SMAA	**Simav-Kutahya**	**0.99**	**70**	Pg	**Pb**	**18 10 27.8**	**+0.3**
EAG3	**Mitilini, Lesv**	**1.00**	**289**	P	**Pb**	**18 10 27.8**	**+0.3**
EAG3				S	**Sn**	**18 10 42.6**	**+0.2**
DGB	**zmir**	**1.00**	**225**	P	**Pg**	**18 10 26.8**	**-0.6**
DGB				S	**Sg**	**18 10 39.8**	**-0.6**
DGB				*i* AML	AML	18 10 42.0	
	comp=N,2μm,0.4s						
AYVA	**Ayvalik**	**1.01**	**303**	P	**Pb**	**18 10 27.6**	**-0.1**
LESV	**Lesvos island,**	**1.01**	**290**	P	**Pb**	**18 10 27.6**	**-0.1**
LESV				S	**Sn**	**18 10 42.1**	**-0.5**
	23μm,0.4s						
URLA	**Izmir**	**1.01**	**247**	Pg	**Pg**	**18 10 27.2**	**-0.4**
URLA	**Izmir**	**1.01**	**247**	P	**Pg**	**18 10 27.1**	**-0.4**
DST	**Dursunbey**	**1.06**	**38**	Pg	**Pb**	**18 10 28.9**	**+0.2**
KARB	**zmir-Karabur**	**1.07**	**265**	P	**Pg**	**18 10 28.7**	**-0.1**
KARB				S	**Sb**	**18 10 43.0**	**+0.1**
KARB				*i* AML	AML	18 10 46.0	
	comp=N,3μm,0.4s						
KARB				*i* AML	AML	18 10 46.0	
	comp=E,3μm,0.8s						
ZEYE	**Izmir, Urla-Ze**	**1.13**	**243**	P	**Pg**	**18 10 29.3**	**-0.5**
ZEYE				S	**Sg**	**18 10 43.0**	**-1.5**
ZEYE				*i* AML	AML	18 10 51.0	
	comp=E,2μm,0.7s						
GCAM	**G?zelcami?**	**1.15**	**202**	Pn	**Pg**	**18 10 29.6**	**-0.5**
SUSR	**Susurluk-Balik**	**1.22**	**11**	Pn	**Pg**	**18 10 30.9**	**-0.7**
CESE	**eme**	**1.24**	**250**	Pn	**Pg**	**18 10 31.9**	**0.0**
YENI	**Yenice-Canakka**	**1.24**	**341**	Pn	**Pn**	**18 10 32.1**	**+0.5**
PRK	**Paraskevi**	**1.27**	**293**	P	**Pn**	**18 10 31.9**	**0.0**
PRK				S	**Sn**	**18 10 50.5**	**+1.4**
	4μm,0.5s						
PRK	**Paraskevi**	**1.27**	**293**	P	**Pn**	**18 10 32.1**	**+0.2**
PRK				S	**Sn**	**18 10 49.9**	**+0.8**
PRK				AML	AML	18 10 51.8	
	comp=E,8381μm,0.4s						
PRK				AML	AML	18 10 56.4	
	comp=N,9534μm,0.7s						
GONE	**Gonen-Balikesi**	**1.28**	**357**	Pn	**Pg**	**18 10 32.5**	**-0.3**
SMG	**Samos**	**1.29**	**216**	P	**Pn**	**18 10 31.3**	**-0.9**
SMG				S	**Sg**	**18 10 49.6**	**0.0**
	comp=N,5μm,0.5s						
SMG	**Samos**	**1.29**	**216**	P	**Pn**	**18 10 31.8**	**-0.4**
SMG				S	**Sg**	**18 10 49.7**	**+0.1**
SMG				AML	AML	18 10 52.8	
	comp=E,10786μm,0.7s						
SMG				AML	AML	18 10 54.2	
	comp=N,10072μm,0.4s						
GEDZ	**Gediz**	**1.30**	**77**	Pn	**Pg**	**18 10 33.3**	**+0.2**
EAG2	**Marmaro, Chios**	**1.33**	**261**	P	**Pn**	**18 10 32.8**	**+0.1**
EAG2				S	**Sn**	**18 10 51.1**	**+0.7**
CANM	**Can-anakkale**	**1.37**	**336**	Pn	**Pb**	**18 10 33.7**	**-0.1**
CHOS	**Chios island**	**1.40**	**255**	Pn	**Pn**	**18 10 34.0**	**+0.1**
CHOS	**Chios island**	**1.40**	**255**	P	**Pn**	**18 10 33.7**	**-0.1**
CHOS				S	**Sb**	**18 10 52.6**	**+0.1**
	comp=N,3μm,0.5s						
CHOS	**Chios island**	**1.40**	**255**	P	**Pn**	**18 10 33.9**	**0.0**
CHOS				S	**Sn**	**18 10 53.0**	**+0.5**
CHOS				AML	AML	18 10 56.3	
	comp=E,8086μm,0.3s						
CHOS				AML	AML	18 10 56.9	
	comp=N,4695μm,0.6s						
KHL	**Karahalli**	**1.44**	**107**	Pn	**Pn**	**18 10 34.8**	**+0.5**
GPNR	**Gulpinar-Canak**	**1.46**	**299**	Pn	**Pn**	**18 10 34.7**	**+0.2**
MLSB	**Milas**	**1.47**	**180**	Pn	**Pn**	**18 10 34.8**	**+0.2**
EZNE	**Ezine-Canakkal**	**1.48**	**313**	Pn	**Pn**	**18 10 34.8**	**0.0**
ORLT	**Orhaneli**	**1.55**	**34**	Pn	**Pn**	**18 10 36.1**	**+0.3**
EZN	**Ezine**	**1.55**	**314**	Pn	**Pn**	**18 10 35.7**	**-0.1**
EZN	**Ezine**	**1.55**	**314**	P	**Pn**	**18 10 35.7**	**-0.1**
EZN				S	**Sg**	**18 10 57.3**	**-0.7**
	comp=N,900nm,0.6s						
KCTX	**Karacabey (Bur**	**1.57**	**16**	Pn	**Pn**	**18 10 36.1**	**+0.1**
SIGR	**SIGRI**	**1.57**	**287**	Pn	**Pn**	**18 10 35.9**	**-0.1**
SIGR	**SIGRI**	**1.57**	**287**	P	**Pn**	**18 10 35.7**	**-0.3**
SIGR				S	**Sb**	**18 10 57.6**	**+0.6**
	comp=N,2μm,0.7s						
SIGR	**SIGRI**	**1.57**	**287**	P	**Pn**	**18 10 35.9**	**-0.1**
SIGR				S	**Sb**	**18 10 57.0**	**-0.1**
SIGR				AML	AML	18 11 00.8	
	comp=N,3875μm,0.8s						
SIGR				AML	AML	18 11 02.1	
	comp=E,3592μm,0.7s						
EDC	**Edincik**	**1.58**	**2**	Pn	**Pn**	**18 10 36.3**	**0.0**
KRBG	**Karabiga-Canak**	**1.67**	**347**	Pn	**Pn**	**18 10 37.4**	**0.0**
COMU	**Canakkale**	**1.68**	**323**	Pn	**Pn**	**18 10 37.8**	**+0.3**
YKAV	**Yalikavak-Bodr**	**1.68**	**194**	Pn	**Pn**	**18 10 38.1**	**+0.5**
BODT	**Bodrum**	**1.74**	**193**	Pn	**Pn**	**18 10 37.9**	**-0.5**
BODT	**Bodrum**	**1.74**	**193**	P	**Pn**	**18 10 37.7**	**-0.7**
BODT				S	**Sn**	**18 11 00.1**	**-0.5**
PSRA	**Psara**	**1.75**	**263**	P	**Pn**	**18 10 39.5**	**+1.0**
APMY	**Acipayam-Deniz**	**1.76**	**137**	Pn	**Pn**	**18 10 39.4**	**+0.6**
LPK	**Lapseki**	**1.79**	**334**	Pn	**Pn**	**18 10 39.3**	**+0.2**
MDNY	**Mudanya-Bursa**	**1.82**	**28**	Pn	**Pn**	**18 10 40.0**	**+0.6**
MRMT	**Marmara Adasi**	**1.84**	**356**	Pn	**Pn**	**18 10 40.2**	**+0.3**
GELI	**Tayfur-Gelibol**	**1.92**	**329**	Pn	**Pn**	**18 10 41.2**	**

comp=N,1521µm,1.0s
ARG AML AML 18 11 42.7
comp=E,1203µm,1.0s
RDO Rodhopi 2.94 325 P **Pn** **18 10 55.1 +0.3**
RDO S **Sn** **18 11 31.6 +1.4**
comp=E,278nm,0.5s
RDO Rodhopi 2.94 325 P **Pn** **18 10 55.2 +0.3**
RDO AML AML 18 11 49.3
comp=N,513µm,0.4s
RDO AML AML 18 11 49.6
comp=E,599µm,0.6s
KSL Kastellorizon 2.98 151 P **Pn** **18 10 55.2 -0.2**
THAS Thassos island 3.00 309 P **Pn** **18 10 55.5 -0.1**
THAS S **Sn** **18 11 33.0 +1.4**
comp=E,90nm,0.5s
THAS Thassos island 3.00 309 P **Pn** **18 10 55.6 -0.1**
DION Dionisos Attik 3.10 258 P **Pn** **18 10 57.8 +0.7**
DION S **Sn** **18 11 35.0 +0.8**
comp=E,545nm,1.0s
EDRB Edirne 3.18 346 P **Pn** **18 10 57.8 -0.4**
EDRB S **Sn** **18 11 38.5 +2.3**
comp=E,468nm,0.6s
KARP Karpathos 3.25 189 P **Pn** **18 10 59.3 +0.2**
OUR Ouranopolis 3.33 299 P **Pn** **18 11 00.7 +0.5**
OUR S **Sn** **18 11 41.2 +1.4**
comp=E,102nm,0.5s
OUR Ouranopolis 3.33 299 P **Pn** **18 11 00.5 +0.3**
KAVA Kavala 3.36 313 P **Pn** **18 11 00.9 +0.2**
PAIG Paliouri 3.39 291 P **Pn** **18 11 01.7 +0.7**
KOKK Kokkinochori, 3.56 306 P **Pn** **18 11 03.6 +0.1**
KOKK S **Sn** **18 11 47.3 +1.7**
KOKK Kokkinochori, 3.56 306 P **Pn** **18 11 03.7 +0.2**
NVR Nevrokopi 3.96 312 P **Pn** **18 11 10.1 +1.1**
NVR S **Sn** **18 11 57.2 +1.6**
IDI Anoyia 4.17 215 P **Pn** **18 11 12.2 +0.4**
ELND Elena 4.41 341 ⇑P **Pn** **18 11 15.7 +0.7**
KNT Kendrikon 4.45 304 P **Pn** **18 11 16.8 +1.1**
KNT S **Sn** **18 12 09.6 +2.0**
BRTR Keskin Array B 4.65 76 Pn **Pn** **18 11 20.3 +1.8**
comp=E,1.2nm,0.3s,baz=247,slow=14,SNR=36
BRTR Pg **Pg** **18 11 33.8 -3.4**
comp=E,1.5nm,0.3s,baz=259,slow=12,SNR=10
BRTR Sn **Sn** **18 12 11.7 -0.9**
comp=E,1.1nm,0.3s,baz=278,slow=19,SNR=3.6
BRTR Lg Lg 18 12 39.5
baz=258,slow=26
BRTR LR LR 18 13 35.7
comp=E,162nm,18.1s,baz=284,slow=44
comp=E,2.6nm,0.3s
RAZG Razgrad 4.89 349 ⇓P **Pn** **18 11 23.1 +1.3**
ICOR Ion Corvin 5.35 0 ⇑P **Pn** **18 11 28.9 +0.9**
TPGR Topolog 6.11 4 ⇓P **Pn** **18 11 39.0 +0.5**
BLKB Belogradchik 6.20 323 ⇓P **Pn** **18 11 40.2 +0.5**
DIKM Dikmen 6.41 61 ⇓P **Pn** **18 11 46.0 +3.4**
CFR Carcaliu 6.42 2 ⇑P **Pn** **18 11 42.8 +0.1**
BOVS Bovan 6.68 319 ⇑P **Pn** **18 11 46.8 +0.5**
MLR Muntele Rosu 6.86 349 ⇓P **Pn** **18 11 50.1 +1.2**
PLOR Plostina 7.13 354 ⇓P **Pn** **18 11 53.8 +1.3**
VRI Vrincioaia 7.14 354 ⇑P **Pn** **18 11 54.6 +2.0**
COVR Voineasa-Covas 7.17 351 ⇑P **Pn** **18 11 54.1 +1.1**
SEV Sevastopol' 7.26 35 ⇓*e*P **Pn** **18 11 54.2 -0.1**
SEV Pm 18 11 55.4
comp=Z,2.0nm,0.5s
SEV *e*S **Sn** **18 13 12.1 -4.7**
SEV Sm 18 13 12.5
comp=N,6.0nm,0.5s
SEV Sm 18 13 12.5
comp=E,8.0nm,0.5s
HERR Herculane 7.31 328 ⇓P **Pn** **18 11 54.4 -0.5**
TURR Turia 7.40 350 ⇑P **Pn** **18 11 57.1 +0.8**
YAL Yalta 7.45 38 *e*S **Sn** **18 13 18.5 -2.8**
YAL Sm 18 13 21.0
comp=N,10.0nm,0.4s
YAL Sm 18 13 21.0
comp=E,16nm,0.4s
TARU Tarkhankut 7.49 27 *e*P **Pn** **18 11 57.2 -0.2**
TARU Pm 18 11 58.0
comp=Z,5.0nm,0.3s
TARU *e*S **Sn** **18 13 18.0 -4.4**
TARU Sm 18 13 21.2
comp=N,22nm,0.6s
TARU Sm 18 13 21.2
comp=E,21nm,1.0s
MDVR Moldovita 7.53 325 ⇑P **Pn** **18 11 58.5 +0.5**
ALU Alushta 7.71 38 *e*S **Sn** **18 13 26.7 -1.1**
ALU Sm 18 13 27.6
comp=N,8.0nm,0.4s
ALU Sm 18 13 27.6
comp=E,12nm,0.5s
SIM Simferopol' 7.78 35 *e*S **Sn** **18 13 23.7 -5.8**
SIM Sm 18 13 24.6
comp=N,34nm,0.7s
SIM Sm 18 13 24.6
comp=E,41nm,0.7s
TESR Tescani 7.79 354 ⇓P **Pn** **18 12 02.5 +1.0**
SURR Surduc 8.15 331 ⇓P **Pn** **18 12 07.4 +1.0**
SUDU Sudak 8.15 39 *e*S **Sn** **18 13 34.6 -4.1**
SUDU Sm 18 13 37.9
comp=N,32nm,0.5s
SUDU Sm 18 13 37.9
comp=E,10.0nm,0.4s
BZS Buzias 8.23 328 ⇑P **Pn** **18 12 07.2 -0.4**
MMAI Mount Meron Ar 8.43 131 Pn **Pn** **18 12 10.3 -0.2**
comp=E,1.2nm,0.3s,baz=312,slow=12,SNR=12
MMAI Sn **Sn** **18 13 44.3 -1.4**
comp=E,0.7nm,0.3s,baz=308,slow=26,SNR=2.0
comp=E,0.7nm,0.3s
BURAR Bucovina Array 9.04 349 ⇑P **Pn** **18 12 20.5 +1.7**
AKASG Malin Array Be 11.98 4 LR LR 18 17 20.9
comp=E,36nm,21.2s,baz=200,slow=37
KBZ Khabaz 12.41 62 LR LR 18 18 59.7
comp=E,54nm,19.2s,baz=245,slow=43
GNI Garni 13.18 79 LR LR 18 18 26.2
comp=E,38nm,18.2s,baz=280,slow=38
VRAC Vranov 13.25 326 LR LR 18 18 26.2
comp=E,25nm,18.6s,baz=164,slow=38
GERES GERESS Array B 14.29 319 Pn **Pn** **18 13 28.2 -2.4**
comp=E,0.2nm,0.3s,baz=129,slow=14,SNR=2.8
comp=E,0.2nm,0.3s
DAVOX Davos/Dischmat 15.37 307 LR LR 18 19 14.8
comp=E,14nm,20.5s,baz=267,slow=36
CLL Collm 16.28 325 *e*P **P** **18 13 59.0 -0.8**
CLL *e*(sP) **sP** **18 14 03.0 -0.9**
CLL *e*PP **PnPn** **18 14 08.0 +2.4**
FINES FINESS Array B 22.73 358 P **P** **18 15 09.1 -0.9**
comp=E,2.7nm,1.0s,baz=161,slow=13,SNR=1.3
comp=E,2.7nm,1.0s
GEYT Alibeck 23.76 82 P **P** **18 15 23.0 +2.3**
comp=E,1.2nm,0.6s,baz=290,slow=8.4,SNR=3.1
comp=E,1.2nm,0.6s
NOA NORSAR Array B 24.58 341 LR LR 18 27 51.9
comp=E,9.5nm,19.6s,baz=280,slow=44
ARU Arti 26.93 39 LR LR 18 26 37.7
comp=E,16nm,20.1s,baz=344,slow=37
BVAR Borovoye Array 32.38 50 LR LR 18 30 54.4
comp=E,19nm,22.0s,baz=218,slow=38
TORD Torodi Ar. Bea 34.42 229 P **P** **18 16 56.5 +0.6**
comp=E,0.4nm,0.8s,baz=39,slow=7.6,SNR=2.6
comp=E,0.4nm,0.8s
KURBB Kurchatov Arra 37.27 55 P **P** **18 17 20.4 +0.5**
comp=E,0.2nm,0.3s,baz=270,slow=7.8,SNR=2.0
comp=E,0.2nm,0.3s
MKAR Makanchi Array 40.10 60 P **P** **18 17 44.5 +0.7**
comp=E,0.5nm,0.5s,baz=279,slow=8.0,SNR=8.4
comp=E,0.5nm,0.5s
KSRS Korea Array 74.45 54 LR LR 18 57 50.8
comp=E,7.3nm,20.5s,baz=235,slow=38

*TEH **04** 18:17:23.8,34.˚66N×45.˚61E,h10km±990km,ML2.5*
*ISN **04** 18:17:23.6±0.4,34.˚66N×45.˚61E,h12km±13km,ML2.4*
ISC 04 18:17:23.8±1.2,**34.˚65N**±0.˚05×**45.˚62E**±0.˚05,**h11**km±13km,
n7,σ0°**65**/10,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.14**	**189**	Pg	**Pg**	**18 17 27.2**	**0.0**
IDHR	**Dehrash**	**0.64**	**85**	Pg	**Pg**	**18 17 35.8**	**-0.5**
ILIN	**Lien**	**1.14**	**76**	Pg	**Pn**	**18 17 46.3**	**+0.4**
IKRK	**Kirkuk**	**1.29**	**306**	*e*Pg	**Pg**	**18 17 48.3**	**-0.3**
IKRK				*e*Sg	**Sg**	**18 18 06.0**	**+0.7**
IKRK				AML	AML	18 18 21.5	
	comp=E,87nm,0.6s						
IKRK				AML	AML	18 18 22.5	
	comp=N,74nm,0.4s						
IBDR	**Badra**	**1.56**	**170**	*e*Pn	**Pb**	**18 17 53.0**	**+0.4**
IBDR				*e*Sn	**Sg**	**18 18 14.6**	**+0.7**
BHD	**Baghdad**	**1.72**	**217**	*e*Pn	**Pb**	**18 17 55.0**	**-0.4**
BHD				*e*Sn	**Sg**	**18 18 18.2**	**-0.8**
IKFM	**Kafar-mosalman**	**2.16**	**121**	Pn	**Pb**	**18 18 02.5**	**-0.4**

JMA 04 18:22:33.0±0.2,**30.˚N**×2.˚×**14.˚0E**±.˚,**h278**km,**MV3.7**/16,
NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.86**	**147**	*e*P	Pn	18 23 26.1	+0.3
CBIJ				*e*S	S	18 24 06.5	-1.5
JHJ2	**Mitsune**	**3.63**	**352**	*e*P	Pn	18 23 34.2	+0.3
BSO1	**Boso 1**	**5.15**	**5**	*e*P	Pn	18 23 52.5	+1.7
JIE	**Ise**	**5.80**	**328**	*e*P	Pn	18 24 00.1	+0.9
JOD2	**Odawara 2**	**5.85**	**349**	*e*S	S	18 25 04.8	-4.7
JTNC	**Tanabenakahech**	**5.94**	**317**	*e*P	Pn	18 24 01.0	0.0
JRY	**Ryogami san**	**6.61**	**349**	*e*P	Pn	18 24 10.4	+1.2
JAG	**Ashikaga**	**6.94**	**353**	*e*P	Pn	18 24 12.9	-0.3
JAG				*e*S	S	18 25 26.4	-7.7
JMK	**Ichinoseki**	**9.44**	**4**	*e*S	S	18 26 23.4	-7.4

*IDC **04** 18:28:23.3±3.1,22.˚80N×11.˚68W,h0km,mb3.8/5,*
mbtmp3.8/7,ML3.5/2, Error ellipse: s-maj=110.0km
s-min=28.4km az=80.0
ISC 04 18:28:23.8±2.3,**22.˚7N**±0.˚2×**11.˚8W**±0.˚5,**h10**km,**n9**,σ0°**78**/9,
mb3.8/5,**Mauritania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.96**	**124**	Pn	**Pn**	**18 32 08.4**	**-0.2**
	0.1nm,0.3s,baz=312,slow=12,SNR=2.6						
	0.3nm,0.5s						
DBIC	**Dimbokro**	**17.30**	**156**	P	**Pn**	**18 32 24.9**	**-0.6**
	0.4nm,0.3s,baz=326,slow=13,SNR=4.4						
	2.3nm,0.6s						
EKA	**Eskdalemuir Ar**	**33.21**	**9**	P	**P**	**18 34 59.9**	**-0.8**
	0.4nm,0.5s,baz=185,slow=7.8,SNR=3.5						
	0.4nm,0.5s						
HFS	**Hagfors**	**41.45**	**19**	P	**P**	**18 36 10.1**	**-0.4**
	1.2nm,0.6s,baz=215,slow=8.8,SNR=2.3						
	1.2nm,0.6s						
FINES	**FINESS Array B**	**46.61**	**24**	P	**P**	**18 36 51.6**	**-0.3**
	1.3nm,0.8s,baz=237,slow=5.9,SNR=4.1						
	1.3nm,0.8s						
KURBB	**Kurchatov Arra**	**72.98**	**42**	P	**P**	**18 39 54.3**	**+0.7**
	0.6nm,0.2s,baz=284,slow=6.2,SNR=1.6						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**76.48**	**45**	P	**P**	**18 40 15.0**	**+1.0**
	0.2nm,0.6s,baz=300,slow=3.8,SNR=1.3						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**148.37**	**91**	PKPbc	**PKPbc**	**18 48 12.1**	**+0.8**
	0.3nm,0.5s,baz=296,slow=1.6,SNR=2.4						
ASAR	**Alice Springs**	**148.49**	**99**	PKPbc	**PKPbc**	**18 48 12.2**	**+0.7**
	0.3nm,0.6s,baz=280,slow=2.1,SNR=8.0						

*NOU **04** 18:48:34.1,15.˚77S×173.˚49W,h167km,mb4.7/34,Tonga*
Islands
*NEIC **04** 18:48:36.3±1.1,16.˚4S±0.˚1×173.˚8W±0.˚1,h140km±6km,*
mb4.5/137,Error ellipse: s-maj=15.6km s-min=13.4km
az=215.0
*IDC **04** 18:48:36.1±3.3,16.˚15S×174.˚01W,h140km±29km,*
mb4.1/22,mbtmp4.5/24,MS3.4/24,Error ellipse:
s-maj=15.4km s-min=9.5km az=125.0
*GCMT **04** 18:48:38.3±0.2,16.˚16S±0.˚02×173.˚54W±0.˚02,*
h153km±2km,MW5.0/102,Moment Tensor Solution.
s45,c49; s102,c145; Duration: 0 Moment tensor: Scale
10^{16}Nm; M_{rr}-1.27±.11; $M_{\theta\theta}$-0.54±.17; $M_{\phi\phi}$1.81±.15;
$M_{r\theta}$0.90±.09; $M_{\theta\phi}$-2.09±.13; $M_{\phi r}$2.78±.08; Best double
couple: M_o3.93700×10^{16} NP1:$\phi_1$187.00000°,δ78.00000°,
λ-53.00000°. NP2:$\phi_2$293.00000°,δ39.00000°,
λ-161.00000°. Principal axes: T 3.9050, Plg24.0000°,
Azm249.0000°; N 0.0640, Plg36.0000°, Azm358.0000°; P
-3.9690, Plg44.0000°, Azm134.0000°; nsta1 refers to
body waves, cutoff=40s. nsta2 refers to surface waves,
cutoff=50s. Triangular moment-rate function
ISC 04 18:48:36.6±0.3,**16.˚30S**±0.˚06×**173.˚81W**±0.˚04,**h150**km,
n231,σ1°**32**/189,**mb4.5**/89,**1D,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.62**	**127**	P	**Pn**	**18 49 43.9**	**-1.1**
NIUE	**Niue**	**4.62**	**127**	Pn	**Pn**	**18 49 44.0**	**-1.0**
NIUE				Sn	**Sn**	**18 50 34.7**	**-3.7**
TAVE	**Taveuni**	**5.86**	**265**	P	**Pn**	**18 50 03.8**	**+2.4**
MSVF	**Nonsavu**	**7.91**	**258**	P	**Pn**	**18 50 32.2**	**+3.2**
MSVF	**Nonsavu**	**7.91**	**258**	Pn	**Pn**	**18 50 31.8**	**+2.8**
RAO	**Raoul Island**	**13.43**	**196**	Pn	Pn	18 51 35.3	-6.0
RAR	**Rarotonga**	**14.16**	**112**	P	**Pn**	**18 51 46.8**	**-3.8**
RAR	**Rarotonga**	**14.16**	**112**		**Pn**	**18 51 50.9**	**+0.2**
RAR	**Rarotonga**	**14.16**	**112**	P	**P**	**18 51 53.1**	**-0.5**
	32nm,0.9s,baz=260,slow=10,SNR=6.3						
RAR				S	**Sn**	**18 54 25.0**	**-2.7**
	5.9nm,0.4s,baz=60,slow=18,SNR=1.4						
RAR				LR	LR	18 56 21.9	
	comp=Z,97nm,20.3s,baz=288,slow=32						
MARNC	**Mare, Loyalty**	**17.83**	**251**	P	**P**	**18 52 34.9**	**-0.3**
PINNC	**Pines Island,**	**18.74**	**247**	P	**P**	**18 52 44.0**	**0.0**
OUENC	**Ouen Island, N**	**19.23**	**249**	P	**Pn**	**18 52 51.1**	**-0.8**
OUENC	**Ouen Island, N**	**19.23**	**249**	P	**P**	**18 52 48.7**	**-0.6**
DZM	**Mont Dzumac**	**19.50**	**250**	P	**Pn**	**18 52 54.3**	**-0.9**
DZM	**Mont Dzumac**	**19.50**	**250**	*e*P	**Pn**	**18 52 55.7**	**+0.5**
	327nm,1.3s						
DZM				*e*S	**S**	**18 56 20.1**	**-4.7**
	296nm,31.0s						
DZM	**Mont Dzumac**	**19.50**	**250**	P	**P**	**18 52 51.9**	**-0.6**
DZM	**Mont Dzumac**	**19.50**	**250**	P	**P**	**18 52 51.5**	**-0.9**
	16nm,0.9s,baz=82,slow=18,SNR=5.9						
ONTNC	**Ouen Toro**	**19.55**	**249**	P	**P**	**18 52 52.2**	**-0.6**
NOUC	**Port Laguerre**	**19.64**	**250**	P	**Pn**	**18 52 55.5**	**-1.2**
KOUNC	**Koumac, New Ca**	**21.20**	**255**	P	**P**	**18 53 09.8**	**-0.7**
KUZ	**Kuaotunu**	**22.38**	**203**	P	**P**	**18 53 24.9**	**+2.4**
PPT	**Papeete**	**23.22**	**97**	LR	LR	19 01 07.4	
	comp=Z,56nm,19.2s,baz=284,slow=32						
PPT2	**Papeete2**	**23.22**	**97**	*e*P	**P**	**18 53 36.1**	**+5.5**
	160nm,31.2s						
PPT2				*e*sS	sS	18 58 35.4	+13
	493nm,32.5s						
PPT2				*e*sS	sS	18 58 35.5	+13
	315nm,33.8s						
URZ	**Urewera**	**23.29**	**198**	P	**P**	**18 53 30.9**	**0.0**
	36nm,0.9s,baz=49,slow=1.5,SNR=42						
URZ				S	**S**	**18 57 34.5**	**+2.6**
	2.1nm,0.6s,baz=283,slow=23,SNR=1.0						
	36nm,0.9s						
TOZ	**Tahuroa Road**	**23.34**	**202**	P	**P**	**18 53 30.6**	**-0.8**
RTZ	**Ruatahuna**	**23.66**	**198**	P	**P**	**18 53 34.4**	**+0.1**
RTZ				IAmb	IAmb	18 53 39.0	
	comp=Z,22nm,0.8s						
TBI	**Tubuai**	**23.94**	**111**	*e*P	**P**	**18 53 38.9**	**+1.9**
	comp=Z,61nm,1.0s						
TBI				*e*sS	sS	18 58 51.7	+15
	comp=Z,2µm,38.0s						
HIZ	**Hauiti**	**24.26**	**202**	P	**P**	**18 53 42.9**	**+3.1**
HIZ	**Hauiti**	**24.26**	**202**	P	**P**	**18 53 39.9**	**0.0**
BKZ	**Black Stump Fm**	**24.31**	**199**	P	**P**	**18 53 42.1**	**+1.8**
BFZ	**Birch Farm**	**25.78**	**198**	P	**P**	**18 53 54.4**	**+0.9**
BFZ	**Birch Farm**	**25.78**	**198**	P	**P**	**18 53 53.9**	**+0.4**
NNZ	**Nelson**	**27.18**	**201**	P	**P**	**18 54 05.5**	**-0.6**
GVZ	**Greta Valley S**	**28.86**	**200**	P	**P**	**18 54 20.2**	**-0.8**
INZ	**Inchbonnie**	**29.20**	**203**		**P**	**18 54 23.0**	**-1.0**
RPZ	**Rata Peaks**	**30.20**	**202**	P	**P**	**18 54 33.5**	**+0.7**
	comp=Z,5.3nm,0.5s,baz=357,slow=12,SNR=2.3						
	comp=Z,5.3nm,0.5s						
JCZ	**Jackson Bay**	**31.37**	**204**	P	**P**	**18 54 44.3**	**+1.1**
DCZ	**Deep Cove**	**33.17**	**205**	P	**P**	**18 54 59.7**	**+0.9**
WHZ	**Wether Hill Ro**	**33.21**	**204**	P	**P**	**18 54 59.0**	**-0.2**
EIDS	**Eidsvold**	**33.94**	**249**	P	**P**	**18 55 04.3**	**-1.5**
EIDS				IAmb	IAmb	18 55 39.5	
	comp=Z,18nm,1.4s						
ARMA	**Armidale**	**34.54**	**240**	P	**P**	**18 55 11.5**	**+0.5**
	comp=Z,19nm,2.8s						
ARMA	**Armidale**	**34.54**	**240**	P	**P**	**18 55 07.7**	**-3.3**
ARMA				IAmb	IAmb	18 55 33.7	
	comp=Z,16nm,1.2s						
RABL	**Rabaul**	**35.50**	**286**	P	**P**	**18 55 16.6**	**-2.7**
CTAO	**Charters Tower**	**38.06**	**258**	P	**P**	**18 55 40.5**	**-0.4**
CTAO	**Charters Tower**	**38.06**	**258**	P	**P**	**18 55 38.4**	**-2.5**
CTAO				IAmb	IAmb	18 56 19.5	
	comp=Z,12nm,1.2s						
CAN	**Canberra**	**38.17**	**233**	P	**P**	**18 55 41.9**	**+0.3**
H11S2	**WAKE ISLAND Hy**	**39.53**	**330**	T	T	19 37 16.3	
	baz=145,slow=74,SNR=22						
H11S3	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	19 37 06.2	
	baz=145,slow=74,SNR=19						
H11S1	**WAKE ISLAND Hy**	**39.55**	**330**	T	T	19 37 15.6	
	baz=145,SNR=18						
CMSA	**Cobar Meteorol**	**39.76**	**240**	P	**P**	**18 55 53.6**	**-1.3**
QLP	**Quilpie**	**40.21**	**248**	P	**P**	**18 55 56.9**	**-1.7**
H11N3	**WAKE ISLAND Hy**	**40.50**	**331**	T	T	19 38 55.4	
	baz=153,slow=80,SNR=17						
H11N1	**WAKE ISLAND Hy**	**40.50**	**331**	T	T	19 39 33.3	
	baz=153,slow=80,SNR=28						
H11N2	**WAKE ISLAND Hy**	**40.52**	**331**	T	T	19 38 56.8	
	baz=153,slow=80,SNR=24						
COEN	**Coen**	**41.53**	**267**	P	**P**	**18 56 09.0**	**-0.6**
COEN	**Coen**	**41.53**	**267**	P	**P**	**18 56 09.3**	**-0.4**
COEN				IAmb	IAmb	18 56 12.2	
	comp=Z,11nm,0.9s						
TOO	**Toolangi**	**41.59**	**231**	P	**P**	**18 56 09.4**	**-0.5**
STKA	**Stephens Creek**	**43.25**	**241**	P	**P**	**18 56 22.8**	**-0.5**
STKA	**Stephens Creek**	**43.25**	**241**	P	**P**	**18 56 22.5**	**-0.8**
STKA	**Stephens Creek**	**43.25**	**241**	P	**P**	**18 56 21.6**	**-1.7**
	comp=Z,4.1nm,0.4s,baz=67,slow=9.7,SNR=16						
STKA				LR	LR	19 11 26.6	
	comp=Z,62nm,20.4s,baz=116,slow=32						
	comp=Z,4.1nm,0.4s						
INKA	**Innaminka**	**43.42**	**247**	P	**P**	**18 56 24.1**	**-0.6**
HTT	**Hallett**	**45.74**	**239**	P	**P**	**18 56 42.5**	**-0.6**
LCRK	**Leigh Creek**	**45.90**	**243**	P	**P**	**18 56 43.4**	**-1.0**
OOD	**Oodnadatta**	**47.89**	**247**	P	**P**	**18 56 59.2**	**-0.6**
BBOO	**Buckleboo**	**48.02**	**240**	P	**P**	**18 56 59.7**	**-1.1**
BBOO	**Buckleboo**	**48.02**	**240**	P	**P**	**18 56 59.2**	**-1.6**
BBOO					**PcP**	**18 58 27.0**	**+0.6**
WRA	**Warramunga Arr**	**49.26**	**258**	P	**P**	**18 57 08.9**	**-1.5**
	comp=Z,3.4nm,0.6s,baz=90,slow=7.0,SNR=23						
	comp=Z,3.4nm,0.6s						
AS31	**Alice Springs**	**49.46**	**253**	P	**P**	**18 57 10.3**	**-1.6**
ASAR	**Alice Springs**	**49.46**	**253**	P	**P**	**18 57 10.3**	**-1.6**
	comp=Z,10.0nm,0.4s,baz=89,slow=8.1,SNR=178						
	comp=Z,10.0nm,0.4s						
MULG	**Mulgathing**	**49.46**	**244**	P	**P**	**18 57 10.5**	**-1.3**
KDU	**Kakadu**	**52.01**	**266**	P	**P**	**18 57 29.3**	**-1.8**
MTN	**Manton Dam**	**53.27**	**266**	P	**P**	**18 57 39.4**	**-0.9**
WRKA	**Warakurna**	**54.52**	**251**	P	**P**	**18 57 48.2**	**-1.2**
FORT	**Forrest**	**54.66**	**244**	P	**P**	**18 57 49.0**	**-1.2**
FORT	**Forrest**	**54.66**	**244**	P	**P**	**18 57 48.6**	**-1.6**
KNRA	**Kununurra**	**55.04**	**262**	P	**P**	**18 57 52.8**	**-0.4**
KNRA	**Kununurra**	**55.04**	**262**	P	**P**	**18 57 52.6**	**-0.5**
KNRA				IAmb	IAmb	18 57 53.7	
	comp=Z,15nm,1.2s						
SOEI	**Soe**	**60.49**	**268**		**P**	**18 58 31.9**	**+0.4**
BATI	**Baumata**	**60.97**	**267**	P	**P**	**18 58 35.2**	**+0.7**
	comp=Z,6.0nm,0.4s,baz=124,slow=11,SNR=4.0						
	comp=Z,6.0nm,0.4s						
SBA	**Scott Base**	**62.33**	**185**		**P**	**18 58 44.5**	**+1.9**
VNDA	**Vanda**	**62.44**	**186**		**P**	**18 58 45.4**	**+2.1**
VNDA				IAmb	IAmb	18 58 47.5	
	comp=Z,4.8nm,0.8s						
VNDA	**Vanda**	**62.44**	**186**	P	**P**	**18 58 45.5**	**+2.2**
	comp=Z,4.7nm,0.8s,baz=7.0,slow=7.2,SNR=34						
	comp=Z,4.7nm,0.8s						
PSA00	**Pilbara Seismi**	**62.57**	**254**	P	**P**	**18 58 43.9**	**-1.2**
PSA00	**Pilbara Seismi**	**62.57**	**254**	P	**P**	**18 58 43.8**	**-1.3**
MBWA	**Marble Bar**	**62.73**	**254**	P	**P**	**18 58 45.3**	**-0.9**
MBWA	**Marble Bar**	**62.73**	**254**	P	**P**	**18 58 45.2**	**-1.0**
NWAO	**Narrogin (SRO)**	**63.83**	**241**	P	**P**	**18 58 52.5**	**-0.7**
LUWI	**Luwuk**	**64.23**	**277**	P	**P**	**18 58 55.8**	**-0.3**
DAV	**Davao City (W)**	**64.30**	**286**	LR	LR	19 24 52.1	
	comp=Z,13nm,18.5s,baz=122,slow=34						
BLDU	**Ballidu**	**64.43**	**244**	P	**P**	**18 58 56.1**	**-1.1**
	comp=Z,18nm,2.4s						
JHJ2	**Mitsune**	**66.14**	**318**	P	**P**	**18 59 08.6**	**+0.6**
JHJ	**Hachijo jima 2**	**66.17**	**318**	LR	LR	19 23 57.4	
	comp=Z,11nm,19.3s,baz=111,slow=32						
GIRL	**Giralia**	**67.56**	**252**	P	**P**	**18 59 18.0**	**+0.6**
MJAR	**Matsushiro Arr**	**69.37**	**320**	P	**P**	**18 59 26.7**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=144,slow=8.6,SNR=1.6						
MJAR				LR	LR	19 23 46.4	
	comp=Z,21nm,22.0s,baz=170,slow=30						
	comp=Z,0.4nm,0.6s						
CASY	**Casey**	**69.43**	**205**	P	**P**	**18 59 29.0**	**+0.9**
CASY				IAmb	IAmb	18 59 33.5	
	comp=Z,7.7nm,1.1s						
JAGI	**Jajag, Banyuwa**	**70.50**	**267**	P	**P**	**18 59 33.6**	**-2.0**
JAGI	**Jajag, Banyuwa**	**70.50**	**267**	P	**P**	**18 59 33.9**	**-1.7**
JOW	**Kunigami**	**70.69**	**307**	LR	LR	19 27 06.8	
	comp=Z,26nm,18.0s,baz=54,slow=33						
JNU	**Nakatsue**	**72.12**	**314**	LR	LR	19 24 11.6	
	comp=Z,20nm,19.7s,baz=76,slow=30						
HOPS	**Hopland Field**	**72.62**	**39**	P	**P**	**18 59 48.8**	**+1.1**
HOPS				IAmb	IAmb	18 59 50.0	
	comp=Z,12nm,1.1s						
KCPM	**Cahto Peak**	**72.75**	**38**	P	**P**	**18 59 49.6**	**+0.9**
KCPM				IAmb	IAmb	18 59 50.9	
	comp=Z,9.5nm,1.1s						
KMPM	**Mount Pierce**	**72.89**	**38**	P	**P**	**18 59 50.1**	**+0.7**
KMPM				IAmb	IAmb	18 59 52.0	
	comp=Z,14nm,0.9s						
KMRM	**Mail Ridge**	**73.01**	**38**	P	**P**	**18 59 51.7**	**+1.6**
PETK	**Petropavlovsk-**	**73.36**	**343**	P	**P**	**18 59 53.2**	**+1.4**
PETK	**Petropavlovsk-**	**73.36**	**343**	P	**P**	**18 59 51.1**	**-0.7**
	comp=Z,4.5nm,0.9s,baz=145,slow=5.3,SNR=5.3						
	comp=Z,4.5nm,0.9s						
KHMM	**Horse Mountain**	**73.42**	**37**	P	**P**	**18 59 53.8**	**+1.2**
KHMM				IAmb	IAmb	18 59 55.1	
	comp=Z,7.4nm,1.0s						
KHMM				pP	**pP**	**19 00 27.8**	**-0.9**
ISA	**Isabella, Lake**	**73.57**	**44**	P	**P**	**18 59 54.1**	**+0.6**
ISA					**pP**	**19 00 29.4**	**-0.4**
YUH	**Yuha Desert**	**73.69**	**48**	P	**P**	**18 59 54.4**	**+0.2**
YUH				IAmb	IAmb	19 00 26.9	
	comp=Z,13nm,1.4s						
CMB	**Columbia Colle**	**73.70**	**41**	P	**P**	**18 59 54.8**	**+0.6**
KRMB	**Red Mountain**	**73.73**	**37**	P	**P**	**18 59 54.9**	**+0.6**
KRMB				IAmb	IAmb	18

comp=Z,3.9nm,0.8s,baz=228,slow=9.5,SNR=14
NVAR LR LR 19 24 42.3
comp=Z,38nm,21.4s,baz=330,slow=29
comp=Z,3.9nm,0.8s
GMN Gold Mountain 75.30 43 pP **pP** 19 00 38.5 -1.6
PAHR Pah Rah Range 75.32 40 IAmb IAmb 19 00 05.6
comp=Z,6.1nm,1.0s
NV11 Mina Array Sit 75.36 42 IAmb IAmb 19 00 05.9
comp=Z,9.5nm,1.1s
TPH Tonopah 75.76 43 P **P** **19 00 07.0 +0.8**
TPH **pP** **19 00 40.8 -1.9**
K05A Summer Lake 76.23 37 IAmb IAmb 19 00 11.0
comp=Z,8.8nm,0.9s
SHPR Sheep Range 76.27 45 **P** **19 00 09.9 +0.8**
J05D Fort Rock, OR 76.38 37 P **P** **19 00 10.5 +0.9**
J05D IAmb IAmb 19 00 11.7
comp=Z,9.5nm,0.9s
KSRS Korea Array 76.52 316 LR LR 19 32 37.0
comp=Z,5.2nm,18.2s,baz=120,slow=35
PINE Pine Mountain 76.86 36 P **P** **19 00 12.8 +0.5**
PINE IAmb IAmb 19 00 14.5
comp=Z,10nm,0.8s
PINE **pP** **19 00 47.4 -1.4**
BMN Battle Mountai 77.09 41 IAmb IAmb 19 00 15.5
comp=Z,5.4nm,0.8s
TUC Tucson 77.27 51 P **P** **19 00 15.4 +0.8**
TUC IAmb IAmb 19 00 17.3
comp=Z,8.0nm,1.1s
WVOR Wild Horse Val 77.38 39 IAmb IAmb 19 00 17.0
comp=Z,6.5nm,1.0s
X16A Lo Mia Camp, P 77.81 49 P **P** **19 00 18.5 +0.7**
X16A pP **pP** **19 00 52.8 -1.6**
Q12A Willow Creek R 77.86 43 IAmb IAmb 19 00 19.9
comp=Z,6.6nm,0.8s
319A Douglas 77.96 52 IAmb IAmb 19 00 21.1
comp=Z,11nm,1.0s
J08A Circle Bar Ran 78.02 38 IAmb IAmb 19 00 20.6
comp=Z,6.6nm,1.1s
KNB Kanab 78.14 46 P **P** **19 00 20.0 +0.4**
KNB IAmb IAmb 19 00 22.1
comp=Z,6.8nm,0.9s
U15A North Rim 78.21 46 IAmb IAmb 19 00 22.7
comp=Z,16nm,1.1s
PSUT Pine Spring 78.23 44 IAmb IAmb 19 00 22.0
comp=Z,5.5nm,0.7s
SZCU Shurtz Canyon 78.26 45 IAmb IAmb 19 00 22.6
comp=Z,9.7nm,1.2s
WUAZ Wupatki 78.40 48 IAmb IAmb 19 00 23.6
comp=Z,20nm,1.5s
ELK Elko 78.52 41 P **P** **19 00 22.0 +0.4**
ELK pP **pP** **19 00 57.7 -0.6**
ELK Elko 78.52 41 P **P** **19 00 22.3 +0.7**
comp=Z,2.4nm,0.8s
ELK LR LR 19 26 30.7
comp=Z,24nm,20.0s,slow=29
comp=Z,2.4nm,0.8s
BBB Bella Bella 78.86 27 LR LR 19 30 53.7
comp=Z,17nm,18.4s,baz=268,slow=32
G08A Pilot Rock 78.89 36 IAmb IAmb 19 00 25.1
comp=Z,10nm,1.3s
BMO Blue Mountains 79.58 37 P **P** **19 00 27.2 +0.1**
121A Cookes Peak, D 79.61 52 IAmb IAmb 19 00 30.4
comp=Z,7.0nm,0.9s
F10A Beach Ranch, E 80.28 36 IAmb IAmb 19 00 32.0
comp=Z,6.4nm,0.8s
NJ2 Nanjing 80.39 307 *eP* **P** **19 00 33.6 +2.0**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,84nm,5.0s
PLID Pearl Lake 80.47 37 P **P** **19 00 32.1 0.0**
HLID Hailey 80.57 39 P **P** **19 00 33.2 +0.6**
HLID **pP** **19 01 07.3 -2.1**
VHRN Van Horn 81.00 54 P **P** **19 00 35.7 +0.6**
VHRN IAmb IAmb 19 00 37.6
comp=Z,11nm,0.7s
KLR Kul'dur 81.06 327 LR LR 19 29 08.0
comp=Z,9.8nm,21.2s,baz=126,slow=30
TXAR Lajitas Array 81.44 56 P **P** **19 00 37.9 +0.5**
TXAR Lajitas Array 81.44 56 P **P** **19 00 38.4 +0.9**
comp=Z,4.3nm,1.0s,baz=224,slow=6.3,SNR=22
comp=Z,4.3nm,1.0s
J20K Nowinta River 81.65 9 P **P** **19 00 37.6 +0.1**
J20K IAmb IAmb 19 00 39.0
comp=Z,9.6nm,1.1s
NEW Newport 81.67 34 LR LR 19 30 37.7
comp=Z,16nm,19.8s,baz=28,slow=31
ANMO Albuquerque 81.68 50 P **P** **19 00 38.9 +0.2**
ANMO IAmb IAmb 19 00 41.1
comp=Z,14nm,1.3s
ANMO Albuquerque 81.68 50 P **P** **19 00 39.4 +0.8**
comp=Z,1.6nm,0.4s,baz=307,slow=4.4,SNR=15
ANMO LR LR 19 33 36.8
comp=Z,22nm,18.5s,baz=331,slow=33
comp=Z,1.6nm,0.4s
RND Reindeer 81.79 11 P **P** **19 00 39.0 +0.5**
RND IAmb IAmb 19 00 40.0
comp=Z,13nm,1.0s
DLMT Dillon 82.64 39 IAmb IAmb 19 00 45.2
comp=Z,7.3nm,0.8s
DLBC Dease Lake 82.68 22 P **P** **19 00 43.8 +0.7**
comp=Z,0.9nm,0.5s,baz=156,slow=20,SNR=3.0
comp=Z,0.9nm,0.5s
BPMT Black Pine Rid 82.71 37 P **P** **19 00 42.8 -1.0**
MLY Manley 82.97 10 IAmb IAmb 19 00 52.1
comp=Z,13nm,1.4s
BELA Belgrano 2 83.17 172 P **P** **19 00 45.9 +0.5**
BELA IAmb IAmb 19 00 48.4
comp=Z,8.0nm,1.0s
PDAR Pinedale Array 83.20 42 P **P** **19 00 46.7 +0.3**
comp=Z,4.8nm,0.7s,baz=196,slow=2.5,SNR=8.8
PDAR LR LR 19 32 34.3
comp=Z,23nm,19.1s,baz=270,slow=32
comp=Z,4.8nm,0.7s
MDM Murphy Dome 83.33 11 IAmb IAmb 19 00 54.7
comp=Z,14nm,1.1s
IL31 83.40 11 IAmb IAmb 19 00 55.2
comp=Z,15nm,1.4s
ILAR Eielson Array 83.40 11 P **P** **19 00 45.2 -1.4**
ILAR Eielson Array 83.40 11 P **P** **19 00 45.4 -1.2**
comp=Z,1.6nm,0.8s,baz=238,slow=6.1,SNR=14
comp=Z,1.6nm,0.8s
J25K Salcha River, 83.55 12 IAmb IAmb 19 00 55.9
comp=Z,13nm,1.2s
F19K Shaleruckik Mo 83.74 6 IAmb IAmb 19 00 49.8
comp=Z,6.5nm,0.8s
J26L Joseph Creek 83.82 13 IAmb IAmb 19 00 50.8
comp=Z,14nm,1.2s
L29M L29M 83.90 15 IAmb IAmb 19 00 51.7
comp=Z,19nm,1.5s
G21K Allakaket 83.95 8 IAmb IAmb 19 00 51.1
comp=Z,5.5nm,0.8s
E18K Tukpahlearik C 84.05 5 IAmb IAmb 19 00 51.5
comp=Z,6.8nm,0.8s
F20K Avaraart Lake 84.18 7 P **P** **19 00 50.8 +0.3**
F20K IAmb IAmb 19 00 52.2
comp=Z,5.9nm,0.9s
PRP Porcupine Dome 84.33 11 IAmb IAmb 19 00 52.7
comp=Z,10.0nm,1.0s
E19K Redstone River 84.41 6 IAmb IAmb 19 00 53.4
comp=Z,8.9nm,0.8s
CMIG Matias Romero 84.56 71 LR LR 19 32 10.5
comp=Z,32nm,18.8s,baz=346,slow=31
I26K Coal Creek Min 84.61 12 P **P** **19 00 53.4 +0.7**
I26K IAmb IAmb 19 00 54.4
comp=Z,12nm,1.4s
K29M Barlow Dome 84.66 15 IAmb IAmb 19 00 55.9
comp=Z,7.7nm,1.3s
J29N Klondike Camp 85.00 15 P **P** **19 00 55.4 +0.7**
J29N IAmb IAmb 19 00 57.6
comp=Z,8.4nm,1.1s
BILL Bilibino 85.34 353 P **P** **19 00 55.9 -0.4**
E21K Killik River 85.72 7 IAmb IAmb 19 00 60.0
comp=Z,5.8nm,1.0s
F24K Squaw Lake 85.72 10 IAmb IAmb 19 01 01.7
comp=Z,9.2nm,1.4s
ABTX Abilene, Rawle 85.91 54 P **P** **19 01 00.1 +0.2**
PLPT Palo Pinto 87.02 55 P **P** **19 01 05.5 +0.2**
G30M tAoh Zraii Nji 87.55 14 P **P** **19 01 06.8 -0.3**
G30M IAmb IAmb 19 01 09.2
comp=Z,11nm,1.4s
PLCA Paso Flores 89.20 132 P **P** **19 01 18.4 +2.7**
comp=Z,1.8nm,0.9s,baz=248,slow=16,SNR=3.0
PLCA LR LR 19 32 37.6
comp=Z,27nm,21.9s,baz=215,slow=30
comp=Z,1.8nm,0.9s
HHC Hu-ho-hao-te 89.34 313 *eP* **P** **19 01 17.4 +1.1**
HHC pmax pmax
comp=Z,17nm,0.6s
HHC pmax pmax
comp=Z,93nm,4.2s
YKA Yellowknife Ar 91.08 24 P **P** **19 01 23.5 -0.2**
comp=Z,0.9nm,1.0s,baz=250,slow=4.7,SNR=10
comp=Z,0.9nm,1.0s
ELIB Princess Elisa 91.20 185 *dP* **P** **19 01 26.4 +1.9**
comp=Z,8.5nm,1.0s
SNAA Sanae 92.03 177 P **P** **19 01 30.3 +2.1**
comp=Z,3.3nm,0.9s,baz=183,slow=6.0,SNR=4.4
comp=Z,3.3nm,0.9s
CMAR Chiang Mai Arr 92.52 288 P **P** **19 01 31.8 +0.4**
comp=Z,0.4nm,0.3s,baz=115,slow=4.1,SNR=7.4
comp=Z,0.4nm,0.3s
ULM Lac du Bonnet 94.88 39 LR LR 19 41 58.4
comp=Z,30nm,18.1s,baz=83,slow=34
TIXI Tiksi 95.76 344 LR LR 19 39 19.6
comp=Z,11nm,20.8s,baz=140,slow=32
GTA Gaotai 97.43 309 *eP* Pdif 19 02 02.8 +9.2
GTA pmax pmax
comp=Z,2.0nm,1.2s
TKL Tuckaleechee C 99.35 56 LR LR 19 42 34.7
comp=Z,27nm,18.2s,baz=167,slow=33
BVAR Borovoye Array 118.34 322 PKP **PKiKP** **19 07 06.7 +0.6**
comp=Z,0.6nm,0.4s,baz=139,slow=3.1,SNR=4.5
ARCES ARCESS Array B 125.44 352 PKP **PKPdf** **19 07 18.6 -0.6**
comp=Z,1.7nm,0.6s,baz=48,slow=1.3,SNR=8.8
FINES FINESS Array B 132.73 347 PKP **PKPdf** **19 07 33.3 +0.1**
comp=Z,0.7nm,0.7s,baz=27,slow=3.4,SNR=4.5
BRTR Keskin Array B 146.59 320 PKPbc **PKPbc** **19 08 01.1 +0.1**
comp=Z,2.7nm,0.9s,baz=90,slow=3.2,SNR=16
KHC Kasperske Hory 146.71 351 *e*PKP **PKPab** **19 08 02.0 -0.3**
GERES GERESS Array B 146.97 351 PKPbc **PKPbc** **19 08 01.8 +0.1**
comp=Z,0.3nm,0.4s,baz=243,slow=8.8,SNR=5.1
CONA Conrad Observa 147.47 348 *i* PKP **PKiKP** **19 08 04.4 -0.7**
comp=Z,3.4nm,0.7s
RONA Rosalia, Austr 147.60 347 *e*PKP **PKiKP** **19 08 04.6 -0.7**
comp=Z,5.5nm,1.0s
LESA Schwarzleotal 148.50 352 *e*PKP **PKPbc** **19 08 05.9 +0.1**
comp=Z,5.5nm,1.5s
WATA Walderalm 148.73 353 *i* PKP **PKiKP** **19 08 07.1 -0.7**
comp=Z,1.7nm,0.4s
MOTA Moosalm 148.78 354 *i* PKP **PKiKP** **19 08 07.3 -0.6**
comp=Z,5.5nm,1.0s
WTTA Wattenberg 148.80 353 *e*PKP **PKiKP** **19 08 07.5 -0.5**
comp=Z,5.4nm,0.6s
MMAI Mount Meron Ar 148.81 308 PKPbc **PKiKP** **19 08 07.8 -0.6**
comp=Z,1.3nm,0.6s,baz=71,slow=6.7,SNR=5.0
SOKA Soboth 148.83 348 *i* PKP **PKiKP** **19 08 07.3 -0.6**
comp=Z,5.5nm,1.6s
SQTA Sankt Quirin 148.89 353 *e*PKP **PKiKP** **19 08 07.7 -0.4**
comp=Z,8.7nm,1.5s
DAVA Damuels 148.95 355 *i* PKP **PKiKP** **19 08 07.6 -0.7**
comp=Z,8.8nm,1.0s
MYKA Terra Mystica 149.13 350 *e*PKP **PKPbc** **19 08 07.3 0.0**
comp=Z,5.6nm,1.1s
ABTA Abfaltersbach 149.19 351 *e*PKP **PKPbc** **19 08 07.9 +0.3**
comp=Z,7.6nm,1.1s
ESDC Sonseca Array 155.09 19 PKPbc PKPdf 19 08 22.2 +10
comp=Z,0.3nm,0.6s,baz=303,slow=3.3,SNR=2.1
TORD Torodi Ar. Bea 174.64 125 PKPab **PKPab** **19 10 04.3 +0.5**
comp=Z,0.8nm,0.9s,baz=247,slow=3.0,SNR=2.5

RSNC 04 18:54:02.7±0.0, 11°N±11°×7°3W±1°, h0km±5km, M2.0, mb3.6, ML2.0, Near north coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
CRJC	**Cerrejon, Guaj**	**0.07**	**174**	P	Pg	18 54 03.6	-0.5
CRJC				P		18 54 03.9	
CRJC				P		18 54 04.2	
SMRC	**Santa Marta, M**	**1.31**	**273**	P	Pg	18 54 26.1	-1.8
ARGC	**Ariguani, Magd**	**1.81**	**228**	P	Pn	18 54 24.3	-11
SJCC	**San Jacinto, C**	**2.54**	**242**	P	Pn	18 54 42.4	-2.9
PAMC	**Pamplona, Colo**	**3.73**	**177**	P	Pn	18 55 01.8	-0.2
ZARC	**Zaragoza, Cauc**	**4.07**	**209**	P	Pn	18 55 06.9	+0.6
BARC	**Barichara**	**4.48**	**184**	P	Pn	18 55 12.4	+0.3
CAPC	**Capurgana**	**5.03**	**241**	P	Pn	18 55 17.6	-1.8
	14nm,1.9s						
RUSC	**La Rusia**	**5.17**	**182**	P	Pn	18 55 20.6	-1.2

*IDC **04** 18:56:46.1±1.0, 3°.00N×128°.94E, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=48.9km s-min=17.7km az=74.0*
*DJA **04** 18:56:50.0±0.8, 3°N±.7°×12°9E±°, h81km±37km, M4.2/10, mb4.2/7, mB4.5/3, MLv4.2/10, Mw(mB)3.7/3*
ISC 04 18:56:51.8±0.8, 2°.93N±0°.08×128°.94E±0°.08, h44km, n24, σ1°20/20, mb3.7/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
TNTI	**Ternate**	**2.66**	**216**	P	**Pn**	**18 57 32.9**	**+0.7**
SGSI	**Sangihe**	**3.49**	**283**	P	**Pn**	**18 57 41.4**	**-2.2**
SGSI				S	**Sn**	**18 58 22.6**	**-1.1**
LBMI	**Labuha**	**3.83**	**202**	P	**Pn**	**18 57 48.3**	**+0.1**
SWI	**Sorong**	**4.42**	**148**	P	**Pn**	**18 57 57.0**	**+0.6**
SWI				S	**Sn**	**18 58 45.1**	**-1.6**
KMSI	**Cibinong**	**5.48**	**245**	P	**Pn**	**18 58 11.4**	**+0.4**
	124nm,0.9s,1μm0.7nm						
SANI	**Sanana**	**5.76**	**211**	P	**Pn**	**18 58 13.9**	**-0.9**
	16nm,1.0s,0.1nm						
GTOI	**Gorontalo**	**6.35**	**249**	P	**Pn**	**18 58 23.4**	**+0.5**
	18nm,0.7s,176nm0.1nm						
FAKI	**Fak Fak**	**6.68**	**150**	P	**Pn**	**18 58 25.3**	**-2.2**
	24nm,1.4s,0.1nm						
LUWI	**Luwuk**	**7.32**	**237**	P	**Pn**	**18 58 35.8**	**-0.5**
WRA	**Warramunga Arr**	**23.34**	**167**	P	**P**	**19 01 57.7**	**+1.3**
	2.4nm,0.7s,baz=346,slow=10,SNR=17						
	2.4nm,0.7s						
ASAR	**Alice Springs**	**26.87**	**170**	P	**P**	**19 02 29.0**	**+0.3**
	0.4nm,0.5s,baz=355,slow=7.4,SNR=15						
	0.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**33.18**	**300**	P	**P**	**19 03 25.1**	**+0.5**
	0.4nm,0.3s,baz=105,slow=6.8,SNR=4.3						
	0.4nm,0.3s						
KSRS	**Korea Array**	**34.37**	**359**	P	**P**	**19 03 34.5**	**-0.1**
	0.8nm,0.8s,baz=167,slow=9.8,SNR=2.4						
	0.8nm,0.8s						
MJAR	**Matsushiro Arr**	**34.52**	**13**	P	**P**	**19 03 35.4**	**-0.6**
	0.9nm,0.7s,baz=192,slow=9.7,SNR=2.2						
	0.9nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**40.05**	**65**	T	T	19 47 23.2	
	baz=253						
H11S2	**WAKE ISLAND Hy**	**40.07**	**65**	T	T	19 47 27.7	
	baz=253						
H11S1	**WAKE ISLAND Hy**	**40.07**	**65**	T	T	19 47 34.1	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**40.63**	**63**	T	T	19 48 05.8	
	baz=254						
H11N2	**WAKE ISLAND Hy**	**40.64**	**63**	T	T	19 48 09.4	
	baz=254						
H11N3	**WAKE ISLAND Hy**	**40.64**	**63**	T	T	19 48 21.0	
	baz=254						
SONM	**Songino Array**	**48.78**	**340**	P	**P**	**19 05 33.2**	**+0.6**
	0.3nm,0.7s,baz=151,slow=9.0,SNR=1.9						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**59.48**	**325**	P	**P**	**19 06 49.4**	**-1.1**
	0.5nm,0.6s,baz=122,slow=7.9,SNR=8.4						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.61**	**327**	P	**P**	**19 07 20.2**	**+2.0**
	0.9nm,0.2s,baz=124,slow=6.6,SNR=2.2						
	0.9nm,0.2s						
BVAR	**Borovoye Array**	**69.20**	**327**	P	**P**	**19 07 53.1**	**-0.8**
	0.4nm,0.5s,baz=105,slow=11,SNR=2.2						
	0.4nm,0.5s						

*IDC **04** 19:01:50.8±1.1, 2°.50N×127°.63E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=63.3km s-min=19.3km az=73.0*
*DJA **04** 19:01:53.4±0.8, 3°N±.8°×12°9E±°, h78km±49km, M4.1/10, mb4.1/7, MLv4.1/10*
ISC 04 19:01:53.4±1.1, 3°.0N±0°.1×129°.03E±0°.10, h35km, n21, σ0°86/15, mb3.7/6, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
TNTI	**Ternate**	**2.80**	**216**	P	**Pn**	**19 02 36.8**	**+1.1**
SGSI	**Sangihe**	**3.55**	**281**	P	**Pn**	**19 02 44.9**	**-1.2**
LBMI	**Labuha**	**3.96**	**203**	P	**Pn**	**19 02 51.5**	**-0.1**
SWI	**Sorong**	**4.47**	**150**	P	**Pn**	**19 02 59.3**	**+0.6**
SWI				S	**Sn**	**19 03 47.3**	**-2.2**
KMSI	**Cibinong**	**5.61**	**244**	P	**Pn**	**19 03 14.5**	**+0.2**
	62nm,0.6s,0.4nm						
SANI	**Sanana**	**5.90**	**211**	P	**Pn**	**19 03 18.4**	**+0.1**
	20nm,1.2s,0.1nm						
GTOI	**Gorontalo**	**6.47**	**248**	P	**Pn**	**19 03 26.5**	**+0.3**
	10nm,0.7s,0.0nm						
FAKI	**Fak Fak**	**6.74**	**151**	P	**Pn**	**19 03 30.5**	**+0.7**
	17nm,1.0s,0.1nm						
LUWI	**Luwuk**	**7.45**	**237**	P	**Pn**	**19 03 39.7**	**0.0**
WRA	**Warramunga Arr**	**23.43**	**167**	P	**P**	**19 06 59.8**	**+0.3**
	0.9nm,0.4s,baz=346,slow=11,SNR=11						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**26.96**	**170**	P	**P**	**19 07 32.0**	**+0.2**
	0.2nm,0.4s,baz=354,slow=7.2,SNR=16						
	0.2nm,0.4s						
MJAR	**Matsushiro Arr**	**34.40**	**13**	P	P	19 08 48.5	+11
	0.7nm,0.7s,baz=189,slow=9.1,SNR=1.6						
	0.8nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**39.93**	**65**	T	T	19 52 18.3	
	baz=252						
H11S2	**WAKE ISLAND Hy**	**39.94**	**65**	T	T	19 52 26.7	
	baz=252						
H11S1	**WAKE ISLAND Hy**	**39.95**	**65**	T	T	19 52 18.4	
	baz=252						
H11N1	**WAKE ISLAND Hy**	**40.50**	**63**	T	T	19 53 08.4	
	baz=252						
H11N2	**WAKE ISLAND Hy**	**40.51**	**63**	T	T	19 53 12.2	
	baz=252						
H11N3	**WAKE ISLAND Hy**	**40.52**	**63**	T	T	19 53 27.2	
	baz=252						
MKAR	**Makanchi Array**	**59.44**	**324**	P	**P**	**19 11 52.8**	**0.0**
	0.3nm,0.4s,baz=113,slow=8.0,SNR=6.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.56**	**327**	P	**P**	**19 12 20.7**	**+0.3**
	0.9nm,0.2s,baz=126,slow=5.9,SNR=1.1						
	0.9nm,0.2s						
BVAR	**Borovoye Array**	**69.15**	**326**	P	**P**	**19 12 56.6**	**+0.4**
	0.3nm,0.4s,baz=111,slow=7.9,SNR=2.0						
	0.3nm,0.4s						

*NEIC **04** 19:08:49.2±2.0, 19°.46N±0°.02×155°.03W±0°.04, h5km±1km, Error ellipse: s-maj=6.9km s-min=3.0km az=296.0*
HVO 04 19:08:46.5±1.2, 19°.45N±0°.02×154°.90W±0°.04, h3km±7km, ML2.4/14, ML2.4/34(NEIC), Error ellipse: s-maj=5.2km s-min=1.8km az=113.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
PHO	**Puu Honuaula**	**0.03**	**11**		Pg	19 08 48.9	+1.5
JOKA	**Jonika Flow**	**0.10**	**262**		Pg	19 08 49.0	+0.4
JCUZ	**Jacuzzi**	**0.20**	**252**	Pg	Pg	19 08 51.0	+0.6
JCUZ					Sg	19 08 54.3	+1.2
NPOC	**North of Pu'u**	**0.21**	**255**		Pg	19 08 51.1	+0.6
STCH	**Steam Cracks**	**0.23**	**254**		Pg	19 08 51.4	+0.5
STCH				Sg	Sg	19 08 54.8	+1.0
KNHH	**Kane Nui o Ham**	**0.27**	**255**		Pb	19 08 53.3	-0.7
PUH	**Pauahi**	**0.31**	**256**		Pg	19 08 52.8	+0.3
PUH				Sg	Sg	19 08 57.2	+0.6
PUH				IAML		19 09 00.8	
	comp=N,299nm,1.4s						
BYL	**Byron's Ledge**	**0.34**	**264**	Pg	Pg	19 08 53.8	+0.7
BYL				IAML		19 08 54.5	
	comp=N,383nm,2.4s						
BYL				IAML		19 08 57.2	
	comp=E,372nm,3.5s						
HATHI	**Halema'uma'u T**	**0.34**	**266**	Pg	Pg	19 08 53.2	0.0
HATHI				Sg	Sg	19 08 57.8	+0.1
HATHI				IAML		19 08 59.5	
	comp=N,549nm,0.7s						
HATHI				IAML		19 09 03.7	
	comp=E,618nm,0.7s						
SBLHI	**Steaming Bluff**	**0.35**	**267**		Pg	19 08 53.9	+0.6
SBLHI				IAML		19 09 03.2	
	comp=E,370nm,1.5s						
SBLHI				IAML		19 09 04.4	
	comp=N,312nm,1.0s						
KKO	**Keanakako`i**	**0.35**	**262**	Pg	Pg	19 08 53.8	+0.5
KKO				IAML		19 09 01.9	
	comp=E,438nm,1.4s						
RSD	**Rainshed**	**0.36**	**272**	Pg	Pg	19 08 53.8	+0.3
RSD				Sg	Sg	19 08 59.3	+1.1
RSD				IAML		19 09 00.9	
	comp=N,331nm,1.3s						
HLP	**Hilina Pali**	**0.42**	**249**		Pg	19 08 55.2	+0.7
HLP				Sg	Sg	19 09 00.1	+0.1
HLP				IAML		19 09 03.9	
	comp=E,594nm,3.7s						
HLP				IAML		19 09 03.9	
	comp=N,587nm,2.6s						
MLH	**Mauna Loa**	**0.46**	**276**		Pg	19 08 55.9	+0.5
MLH					Sg	19 09 01.8	+0.3
MLH				IAML		19 09 03.4	
	comp=N,351nm,0.5s						
MLH				IAML		19 09 07.8	
	comp=E,265nm,0.3s						
HMH	**Humu'ula Sheep**	**0.57**	**286**		Pg	19 08 57.2	-0.4
HMH					Sg	19 09 04.8	-0.2
MLOA	**Mauna Loa Obse**	**0.65**	**278**		Pg	19 08 59.4	+0.4
MLOA				IAML		19 09 12.6	
	comp=N,243nm,3.0s						
MLOA				IAML		19 09 18.7	
	comp=E,260nm,3.1s						
MWH	**Moku'aweowe**	**0.66**	**273**		Pg	19 08 58.5	-0.7
POHA	**Pohakuloa**	**0.67**	**297**		Pg	19 08 59.9	+0.4
POHA				IAML		19 09 19.7	
	comp=E,226nm,0.5s						
POHA				IAML		19 09 19.9	
	comp=E,235nm,1.3s						
KHU	**Kahuku**	**0.71**	**254**	Pg	Pg	19 08 59.4	-0.7
KHU				IAML		19 09 16.4	
	comp=E,221nm,3.0s						
ALEP	**Alea Permanent**	**0.71**	**278**		Pg	19 08 59.9	-0.2
ALEP					Sg	19 09 10.1	+0.7
HUH	**Hualalai**	**0.92**	**285**		Pg	19 09 03.1	-1.0
MHA	**Mahukona**	**1.20**	**308**	Pg	Pg	19 09 09.1	-0.4

*IDC **04** 19:13:46.1±1.1, 24°.43S×111°.51W, h0km, mb3.7/3, mbtmp3.7/4, ML3.5/1, MS3.4/4, Error ellipse: s-maj=70.3km s-min=31.8km az=70.0*
ISC 04 19:13:47.3±1.3, 24°.5S±0°.3×111°.6W±0°.5, h10km, n20, σ0°63/10, mb3.8/3, MS3.5/4, Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
						h m s	
RPN	**Rapa Nui**	**3.32**	**144**	P	**Pn**	**19 14 39.5**	**+0.2**
	4.6nm,0.3s,baz=301,slow=20,SNR=1.9						
RPN				T	T	19 18 18.2	
	68nm,0.5s,baz=90,slow=21,SNR=4.1						
	33nm,0.5s						
NNA	**Nana**	**35.11**	**76**	LR	LR	19 30 53.0	
	comp=Z,67nm,21.2s,baz=214,slow=29						
SIV	**San Ignacio**	**47.89**	**90**	LR	LR	19 38 29.6	
	comp=Z,47nm,21.6s,baz=300,slow=31						
CPUP	**Villa Florida**	**48.71**	**104**	LR	LR	19 39 05.4	
	comp=Z,47nm,20.0s,baz=219,slow=31						
BDFB	**Brasilia**	**59.89**	**94**	LR	LR	19 46 04.8	
	comp=Z,39nm,21.6s,baz=27,slow=32						
NVAR	**Mina Array Bea**	**62.88**	**354**	P	**P**	**19 24 15.0**	**+1.3**
	0.8nm,0.8s,baz=16,slow=23,SNR=7.3						
	0.8nm,0.8s						
PDAR	**Pinedale Array**	**66.91**	**2**	P	**P**	**19 24 39.5**	**-0.5**
	0.2nm,0.4s,baz=186,slow=2.5,SNR=3.6						
	0.2nm,0.4s						
YKA	**Yellowknife Ar**	**86.68**	**359**	P	**P**	**19 26 30.5**	**-0.2**
	0.5nm,0.9s,baz=173,slow=4.0,SNR=8.6						
	0.5nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**90.32**	**290**	T	T	21 06 39.2	
	baz=116,slow=75,SNR=42						
H11S1	**WAKE ISLAND Hy**	**90.34**	**290**	T	T	21 06 33.1	
	baz=116,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**90.34**	**290**	T	T	21 06 40.3	
	baz=116,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**90.68**	**291**	T	T	21 06 56.7	
	baz=117,slow=76,SNR=10.0						
H11N1	**WAKE ISLAND Hy**	**90.69**	**291**	T	T	21 07 03.4	
	baz=117,slow=76,SNR=4.2						
H11N2	**WAKE ISLAND Hy**	**90.69**	**291**	T	T	21 06 55.2	
	baz=117,slow=76,SNR=17						
BRTR	**Keskin Array B**	**147.05**	**54**	PKPbc	**PKPbc**	**19 33 30.6**	**-0.2**
	1.1nm,0.9s,baz=270,slow=5.8,SNR=6.6						
ZALV	**Zalesovo Beam**	**148.10**	**342**	PKPbc	**PKPbc**	**19 33 32.3**	**-0.6**
	1.2nm,0.6s,baz=45,slow=0.4,SNR=6.4						
CMAR	**Chiang Mai Arr**	**151.04**	**264**	PKPbc	**PKiKP**	**19 33 42.0**	**+0.1**
	1.0nm,0.7s,baz=119,slow=0.6,SNR=8.6						
BVAR	**Borovoye Array**	**151.44**	**358**	PKPbc	**PKiKP**	**19 33 41.5**	**-0.1**
	1.8nm,0.6s,baz=315,slow=0.8,SNR=10						

KBZ	**Khabaz**	**151.59**	**41**	PKPbc	**PKiKP**	**19 33 42.4**	**+0.2**
	1.3nm,0.7s,baz=342,slow=3.2,SNR=5.3						
KURBB	**Kurchatov Arra**	**152.74**	**346**	PKPbc	**PKPbc**	**19 33 43.5**	**-0.6**
	0.5nm,0.6s,baz=28,slow=1.3,SNR=4.6						

NEIC ***04*** *19:15:06.8±1.9,20.1°S±0.3×173.4°W±0.1,h10km±2km, mb4.6/9,Error ellipse: s-maj=44.7km s-min=16.2km az=342.0*

IDC ***04*** *19:15:21.6±12.0,21.01°S×173.72°W,h121km±108km, mb3.4/7,mbtmp3.8/8,ML3.7/1,MS3.0/1,Error ellipse: s-maj=74.8km s-min=29.7km az=154.0*

ISC 04 19:15:07.6±0.7,21.1°S±0.2×173.30°W±0.09,h10km,n24, σ1§24/21,mb4.0/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.77**	**58**				Pn	19 16 01.1	-4.7
NIUE					Sn		Sn	19 16 36.7	-14
MSVF	**Nonsavu**	**8.83**	**291**				**Pn**	**19 17 17.1**	**+1.6**
RAR	**Rarotonga**	**12.62**	**93**	Pn			**Pn**	**19 18 07.6**	**+0.3**
RAR	**Rarotonga**	**12.62**	**93**	LR			LR	19 23 53.4	
	comp=Z,62nm,18.1s,baz=302,slow=39								
DZM	**Mont Dzumac**	**18.86**	**263**	P			**P**	**19 19 28.9**	**+0.9**
DZM						IAmb	IAmb	19 20 09.1	
	comp=Z,26nm,1.5s								
DZM	**Mont Dzumac**	**18.86**	**263**	P			**P**	**19 19 29.1**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=77,slow=21,SNR=2.1								
	comp=Z,4.4nm,0.7s								
CAN	**Canberra**	**35.87**	**239**	P			**P**	**19 22 09.7**	**+1.8**
CTAO	**Charters Tower**	**37.80**	**264**	P			**P**	**19 22 23.1**	**-1.3**
CTAO						IAmb	IAmb	19 22 55.8	
	comp=Z,17nm,1.3s								
BBOO	**Buckleboo**	**46.22**	**244**	P			**P**	**19 23 32.8**	**-0.3**
AS31	**Alice Springs**	**48.65**	**257**	P			**P**	**19 23 51.0**	**-1.2**
ASAR	**Alice Springs**	**48.65**	**257**	P			**P**	**19 23 52.1**	**0.0**
ASAR	**Alice Springs**	**48.65**	**257**	P			**P**	**19 23 50.9**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=94,slow=7.5,SNR=17								
	comp=Z,0.5nm,0.5s								
WB0	**Warramunga Arr**	**48.84**	**262**				**P**	**19 23 51.7**	**-1.9**
WB0						IAmb	IAmb	19 24 22.9	
	comp=Z,7.3nm,1.3s								
WB2	**Warramunga Arr**	**48.85**	**262**				**P**	**19 23 52.7**	**-1.0**
WB2						IAmb	IAmb	19 23 57.6	
	comp=Z,8.0nm,1.1s								
WRA	**Warramunga Arr**	**48.86**	**262**	P			**P**	**19 23 52.2**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=92,slow=6.0,SNR=8.0								
	comp=Z,0.6nm,0.7s								
FORT	**Forrest**	**53.08**	**247**	P			**P**	**19 24 25.2**	**-0.2**
FORT						IAmb	IAmb	19 24 47.6	
	comp=Z,13nm,0.9s								
SBA	**Scott Base**	**57.58**	**185**	P			P	19 25 03.7	+6.7
MJAR	**Matsushiro Arr**	**73.39**	**321**	P			**P**	**19 26 38.0**	**-1.9**
	comp=Z,0.9nm,0.6s,baz=150,slow=6.0,SNR=6.0								
	comp=Z,0.9nm,0.6s								
NVAR	**Mina Array Bea**	**78.54**	**41**	P			**P**	**19 27 10.8**	**+1.3**
	comp=Z,1.3nm,0.7s,baz=223,slow=8.7,SNR=13								
	comp=Z,1.3nm,0.7s								
PDAR	**Pinedale Array**	**86.47**	**41**	P			**P**	**19 27 51.4**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=284,slow=3.6,SNR=3.0								
	comp=Z,0.3nm,0.6s								
ILAR	**Eielson Array**	**88.02**	**11**	P			**P**	**19 27 57.9**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=218,slow=5.7,SNR=2.7								
	comp=Z,0.4nm,0.8s								
YKA	**Yellowknife Ar**	**95.29**	**23**	P			**P**	**19 28 31.6**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=249,slow=5.2,SNR=2.6								
	comp=Z,0.2nm,0.7s								
EKA	**Eskdalemuir Ar**	**145.05**	**10**	PKP			**PKPbc**	**19 34 43.5**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=316,slow=3.0,SNR=1.8								
AKASG	**Malin Array Be**	**145.59**	**334**	PKPbc			**PKPdf**	**19 34 44.7**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=40,slow=4.1,SNR=9.0								

IDC 04 19:49:05.8±1.7,46.93N×27.83W,h0km,mb3.6/2, mbtmp3.5/3,ML3.9/1,MS3.0/4,Error ellipse: s-maj=127.3km s-min=28.6km az=29.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.78**	**104**	P			P	19 53 26.3	-0.2
	0.1nm,0.3s,baz=293,slow=13,SNR=7.5								
ESDC				LR			LR	19 59 13.1	
	comp=Z,43nm,18.8s,baz=310,slow=32								
	0.4nm,0.5s								
SFJD	**Kangerlussuaq**	**23.38**	**337**	LR			LR	20 01 04.8	
	comp=Z,35nm,18.8s,baz=116,slow=31								
GERES	**GERESS Array B**	**27.67**	**71**	LR			LR	20 05 54.6	
	comp=Z,25nm,18.1s,baz=72,slow=36								
VRAC	**Vranov**	**29.43**	**69**	LR			LR	20 06 24.3	
	comp=Z,27nm,18.5s,baz=232,slow=35								
TORD	**Torodi Ar. Bea**	**41.80**	**134**	P			P	19 56 57.1	0.0
	0.6nm,0.7s,baz=337,slow=9.1,SNR=4.5								
	0.6nm,0.7s								
PDAR	**Pinedale Array**	**55.58**	**298**	P			P	19 58 43.0	-0.2
	0.5nm,0.7s,baz=62,slow=6.2,SNR=4.9								
	0.5nm,0.7s								

NOU ***04*** *19:50:45.6,21.04S×168.88E,h0km,MLv4.0/9,Loyalty Islands*

IDC ***04*** *19:50:49.0±1.2,21.18S×168.54E,h0km,mb3.8/6, mbtmp3.8/7,ML3.4/1,MS3.0/2,Error ellipse: s-maj=31.7km s-min=26.6km az=150.0*

ISC 04 19:50:53.6±1.0,21.17S±0.09×168.4E±0.1,h30km,n18, σ1§00/18,mb3.8/6,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.49**	**231**	P			**Pb**	**19 51 03.3**	**-0.6**
LIFNC	**LIFOU**	**1.19**	**289**	P			**Pn**	**19 51 12.8**	**-1.3**
PINNC	**Pines Island,**	**1.71**	**212**	P			**Pn**	**19 51 20.9**	**-0.5**
OUENC	**Ouen Island, N**	**1.94**	**230**	P			**Pn**	**19 51 25.0**	**+0.5**
DZM	**Mont Dzumac**	**2.06**	**244**	P			**Pn**	**19 51 26.8**	**+0.5**
DZM	**Mont Dzumac**	**2.06**	**244**	Pn			**Pn**	**19 51 26.5**	**+0.2**
	11nm,0.3s,baz=88,slow=10,SNR=200								
DZM					Sn		**Sb**	**19 51 54.5**	**-1.2**
	114nm,0.3s,baz=112,slow=21,SNR=10								
DZM					LR		LR	19 51 55.1	
	comp=Z,194nm,20.9s,baz=110,slow=31								
	33nm,0.3s								
ONTNC	**Ouen Toro**	**2.17**	**238**	P			**Pn**	**19 51 29.5**	**+1.8**
NOUC	**Port Laguerre**	**2.19**	**245**	P			**Pn**	**19 51 29.2**	**+1.2**
KOUNC	**Koumac, New Ca**	**3.93**	**278**	P			**Pn**	**19 51 53.6**	**+1.7**
STKA	**Stephens Creek**	**26.21**	**240**	LR			LR	20 05 23.7	
	comp=Z,48nm,18.1s,baz=16,slow=33								
WRA	**Warramunga Arr**	**31.92**	**266**	P			**P**	**19 57 16.6**	**-0.2**
	1.1nm,0.9s,baz=100,slow=7.3,SNR=12								
	1.1nm,0.9s								
ASAR	**Alice Springs**	**31.98**	**259**	P			**P**	**19 57 17.9**	**+0.6**
	5.3nm,0.6s,baz=82,slow=9.1,SNR=91								
	5.3nm,0.6s								
VNDA	**Vanda**	**56.49**	**182**	P			**P**	**20 00 32.1**	**-0.2**
	0.3nm,0.7s,baz=148,slow=23,SNR=1.2								
	0.3nm,0.7s								
QSPA	**South Pole Qui**	**68.90**	**180**	P			**P**	**20 01 55.3**	**-0.1**
	1.3nm,0.9s,baz=354,slow=9.1,SNR=2.5								
	1.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**78.62**	**295**	P			**P**	**20 02 54.5**	**+1.4**
	0.5nm,0.7s,baz=133,slow=3.8,SNR=4.8								
	0.5nm,0.7s								
SONM	**Songino Array**	**88.31**	**323**	P			**P**	**20 03 41.8**	**-0.5**
	0.4nm,0.7s,baz=141,slow=5.5,SNR=4.1								
	0.4nm,0.7s								
EKA	**Eskdalemuir Ar**	**145.30**	**352**	PKPbc			**PKPbc**	**20 10 27.4**	**-0.4**
	0.3nm,0.5s,baz=4.8,slow=2.6,SNR=1.7								
GERES	**GERESS Array B**	**145.80**	**330**	PKPbc			**PKPab**	**20 10 30.1**	**-0.1**
	2.8nm,0.7s,baz=336,slow=2.2,SNR=6.4								

IDC ***04*** *20:05:26.1±4.8,6.60S×149.74E,h76km±39km,mb3.6/3, mbtmp4.1/5,ML4.3/1,MS2.8/2,Error ellipse: s-maj=67.5km s-min=24.3km az=113.0*

NEIC ***04*** *20:05:27.3±1.5,6.55S±0.08×149.5E±0.1,h62km±14km, mb4.1/5,Error ellipse: s-maj=15.2km s-min=10.7km az=115.0*

ISC 04 20:05:25.4±0.8,6.55S±0.08×149.6E±0.1,h49km,n17, σ1§69/17,mb3.8/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.46**	**48**				**Pn**	**20 06 18.8**	**+2.0**
PMG	**Port Moresby**	**3.73**	**220**	P			**Pn**	**20 06 21.8**	**+1.2**
	75nm,0.4s,baz=338,slow=3.9,SNR=36								
PMG					S		**Sn**	**20 07 06.1**	**+2.8**
	130nm,0.4s,baz=17,slow=19,SNR=12								
PMG					LR		LR	20 08 03.5	
	comp=Z,144nm,20.4s,baz=15,slow=42								
MANU	**Manus Island**	**5.00**	**333**				**Pn**	**20 06 39.7**	**+1.8**
COEN	**Coen**	**9.71**	**220**	Pn			**Pn**	**20 07 42.1**	**-0.4**
WB0	**Warramunga Arr**	**19.78**	**227**	P			**P**	**20 09 51.3**	**-0.4**
WB0						IAmb	IAmb	20 09 52.3	
	comp=Z,8.2nm,0.8s								
WB2	**Warramunga Arr**	**19.92**	**227**	P			**P**	**20 09 52.5**	**-0.8**
WB2						IAmb	IAmb	20 09 53.8	
	comp=Z,8.9nm,0.7s								
WRA	**Warramunga Arr**	**19.93**	**227**	P			**P**	**20 09 52.9**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=50,slow=11,SNR=50								
	comp=Z,6.1nm,0.6s								
AS31	**Alice Springs**	**22.75**	**220**	P			**P**	**20 10 23.7**	**0.0**
AS31						IAmb	IAmb	20 10 42.8	
	comp=Z,2.2nm,0.5s								
ASAR	**Alice Springs**	**22.75**	**220**	P			**P**	**20 10 23.6**	**-0.1**
ASAR	**Alice Springs**	**22.75**	**220**	P			**P**	**20 10 23.4**	**-0.3**
	comp=Z,1.4nm,0.5s,baz=55,slow=9.1,SNR=38								
	comp=Z,1.4nm,0.5s								
STKA	**Stephens Creek**	**26.29**	**196**	P			**P**	**20 10 52.7**	**-3.7**
	comp=Z,2.4nm,0.9s,baz=7.6,slow=15,SNR=2.8								
	comp=Z,2.4nm,0.9s								
BHW	**Baring Head**	**41.37**	**151**	P			**P**	**20 13 08.1**	**+1.4**
MJAR	**Matsushiro Arr**	**44.17**	**347**	LR			LR	20 32 03.4	
	comp=Z,10nm,18.5s,baz=198,slow=36								
PEA0B	**Petropavlovsk-**	**59.82**	**6**	P			**P**	**20 15 24.3**	**-1.3**
PETK	**Petropavlovsk-**	**59.82**	**6**	P			**P**	**20 15 24.1**	**-1.5**
PETK	**Petropavlovsk-**	**59.82**	**6**	P			**P**	**20 15 24.0**	**-1.6**
	comp=Z,1.0nm,0.5s,baz=162,slow=6.9,SNR=9.4								
	comp=Z,1.0nm,0.5s								
TORD	**Torodi Ar. Bea**	**147.74**	**284**	PKPbc			**PKPdf**	**20 25 03.0**	**0.0**
	comp=Z,0.4nm,0.4s,baz=66,slow=4.0,SNR=11								

IDC ***04*** *20:25:27.8±0.4,29.80S×71.26W,h0km,mb4.8/15, mbtmp4.6/21,ML4.3/6,MS3.9/31,Error ellipse: s-maj=18.1km s-min=12.6km az=84.0*

SJA ***04*** *20:25:28.5±0.7,29.79S×71.73W,h11km±3km,ML5.1, MW4.7*

VAO ***04*** *20:25:29.8±0.3,29.79S×71.33W,h10km,mb5.1*

GUC ***04*** *20:25:33.7±0.8,29.82S×71.38W,h49km±2km,ML5.0*

MOS ***04*** *20:25:33.8±1.1,29.69S×71.19W,h39km,mb5.2/23,Error ellipse: s-maj=10.8km s-min=6.8km az=94.4*

NEIC ***04*** *20:25:34.1±2.0,29.81S±0.03×71.42W±0.06,h38km±3km, mb5.0/236,Mwr4.8/81,Mwr5.0(GUC),Error ellipse: s-maj=7.6km s-min=4.3km az=101.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr1.45; Mθθ0.17; Mϕϕ-1.62; Mrθ0.38; Mθϕ0.21; Mϕr-0.65; Fault plane solution: M₀1.73000×10¹⁶ NP1:ϕs162.46000°, δ58.07000°,λ77.24000°. NP2:ϕs5.63000°,δ34.14000°, λ109.51000°. Principal axes: T 1.6595, Plg74.0000°, Azm39.0000°; N 0.1380, Plg11.0000°, Azm169.0000°; P -1.7975, Plg12.0000°, Azm262.0000°;*

NEIC ***04*** *20:25:34.1,29.82S×71.40W,h45km*

GCMT ***04*** *20:25:35.1±0.4,29.67S±0.03×71.72W±0.04,h52km±2km, MW5.1/61,Moment Tensor Solution. s34,c37; s61,c67; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.07±.23; Mθθ4.25±.26; Mϕϕ-5.32±.20; Mrθ1.34±.18; Mθϕ0.67±.17; Mϕr-0.65±.16; Best double couple: M₀5.10400×10¹⁶ NP1:ϕs133.00000°,δ81.00000°,λ19.00000°. NP2: ϕs40.00000°,δ71.00000°,λ171.00000°. Principal axes: T 4.7560, Plg20.0000°, Azm358.0000°; N 0.6970, Plg69.0000°, Azm157.0000°; P -5.4530, Plg7.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 20:25:33.5±0.4,29.83S±0.02×71.38W±0.04,h41km±3km, h41km:pP-P,n664,σ1§50/617,mb5.0/133,MS4.0/27, 17C-4D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.15**	**125**				**Pn**	**20 25 41.1**	**+0.5**
CO05						Sn	**Sn**	**20 25 46.3**	**+0.7**
CO05	**La Serena**	**0.15**	**125**	⇓	*P*		**Pn**	**20 25 41.3**	**+0.7**
CO05						eS	**Sn**	**20 25 46.5**	**+1.0**
GO04	**Tololo Observa**	**0.61**	**124**				**Pn**	**20 25 46.4**	**+0.4**
GO04						Sn	**Sn**	**20 25 55.3**	**+0.4**
GO04	**Tololo Observa**	**0.61**	**124**	*eP*			**Pn**	**20 25 46.3**	**+0.4**
GO04	**Tololo Observa**	**0.61**	**124**	⇓	*eP*		**Pn**	**20 25 46.6**	**+0.6**
GO04						eS	**Sn**	**20 25 56.0**	**+1.1**
GO04						IAML		20 25 56.7	
	comp=E,467μm,0.5s								
CO06	**Fray Jorge**	**0.87**	**195**				**Pn**	**20 25 49.9**	**+0.6**
CO06						Sn	**Sn**	**20 26 00.3**	**-0.4**
CO06	**Fray Jorge**	**0.87**	**195**	⇑	*eP*		**Pn**	**20 25 49.9**	**+0.6**
CO06						eS	**Sn**	**20 26 02.1**	**+1.3**
CO06						IAML		20 26 07.2	
	comp=E,35μm,0.2s								
LCO	**Las Campanas**	**1.01**	**36**				**Pn**	**20 25 51.5**	**0.0**
LCO						Sn	**Sn**	**20 26 04.9**	**+0.3**
LCO	**Las Campanas**	**1.01**	**36**	*eP*			**Pn**	**20 25 50.9**	**-0.6**
LCO						eS	**Sn**	**20 26 05.3**	**+0.7**
LCO						IAML		20 26 07.5	
	comp=Z,85μm,0.4s								
LCO	**Las Campanas**	**1.01**	**36**	*eP*			**Pn**	**20 25 51.8**	**+0.4**
LCO						eS	**Sn**	**20 26 04.9**	**+0.3**
LCO	**Las Campanas**	**1.01**	**36**	*eP*			**Pn**	**20 25 51.5**	**0.0**
CO01	**Juntas del Tor**	**1.13**	**98**				**Pn**	**20 25 54.1**	**+1.0**
CO01						Sn	**Sn**	**20 26 08.7**	**+1.2**
CO01	**Juntas del Tor**	**1.13**	**98**	⇓	*eP*		**Pn**	**20 25 54.3**	**+1.3**
CO01						eS	**Sn**	**20 26 09.1**	**+1.6**
CO01						IAML		20 26 11.2	
	comp=N,24μm,0.1s								
CO03	**El Pedregal**	**1.17**	**149**				**Pn**	**20 25 54.2**	**+0.7**
CO03						Sn	**Sn**	**20 26 09.1**	**+0.7**
CO03	**El Pedregal**	**1.17**	**149**	*eP*			**Pn**	**20 25 52.9**	**-0.6**
CO03						IAML		20 26 18.4	
	comp=Z,15μm,0.6s								
CO03	**El Pedregal**	**1.17**	**149**	*eP*			**Pn**	**20 25 54.4**	**+0.9**
CO03						eS	**Sn**	**20 26 09.2**	**+0.9**
AC05	**El Transito**	**1.39**	**45**				**Pn**	**20 25 57.4**	**+0.9**
AC05						Sn	**Sn**	**20 26 15.0**	**+1.3**
AC05	**El Transito**	**1.39**	**45**	*eP*			**Pn**	**20 25 57.3**	**+0.9**
AC05						IAML		20 26 26.8	
	comp=Z,6μm,1.0s								
AC05	**El Transito**	**1.39**	**45**	⇓	*eP*		**Pn**	**20 25 57.6**	**+1.1**
AC05						eS	**Sn**	**20 26 15.1**	**+1.5**
CO02	**Combarbal**	**1.41**	**167**				**Pn**	**20 25 57.6**	**+0.8**
CO02						Sn	**Sn**	**20 26 15.3**	**+1.1**
CO02	**Combarbal**	**1.41**	**167**	*eP*			**Pn**	**20 25 57.5**	**+0.8**
CO02						IAML		20 26 26.5	
	comp=Z,16μm,0.8s								
CO02	**Combarbal**	**1.41**	**167**	*eP*			**Pn**	**20 25 57.8**	**+1.0**
CO02						eS	**Sn**	**20 26 15.9**	**+1.7**
CO02						IAML		20 26 21.1	
	comp=N,97μm,0.4s								
AC04	**Llanos de Chal**	**1.64**	**10**				**Pn**	**20 26 00.5**	**+0.6**
AC04	**Llanos de Chal**	**1.64**	**10**	*eP*			**Pn**	**20 25 59.9**	**0.0**
AC04						eS	**Sn**	**20 26 23.2**	**+3.4**
AC04						IAML		20 26 30.9	
	comp=Z,10μm,0.5s								
AC04	**Llanos de Chal**	**1.64**	**10**	*eP*			**Pn**	**20 26 00.7**	**+0.8**
AC04						IAML		20 26 26.8	
	comp=E,19μm,0.8s								
AROD	**Rodeo**	**1.69**	**102**	*eP*			**Pn**	**20 26 03.8**	**+2.9**
ACDV	**Cuesta del Vie**	**1.99**	**100**	*eP*			**Pn**	**20 26 08.4**	**+3.5**
ACDV						IAML		20 26 45.9	
	comp=Z,3μm,0.7s								
ACCO	**Cerro Coronel**	**2.14**	**111**	*eP*			**Pn**	**20 26 10.9**	**+3.9**
DOCA	**Reserva Natura**	**2.28**	**120**	*eP*			**Pn**	**20 26 12.8**	**+3.8**
DOCA						eS	Sn	20 26 45.5	+9.5
DOCA						IAML		20 26 55.4	
	comp=Z,21μm,0.8s								
GO03	**Copiap**	**2.45**	**25**				**Pn**	**20 26 11.7**	**+0.7**
GO03	**Copiap**	**2.45**	**25**	*eP*			**Pn**	**20 26 11.5**	**+0.5**
GO03	**Copiap**	**2.45**	**25**	⇑	*eP*		**Pn**	**20 26 11.8**	**+0.7**
GO03						eS	**Sn**	**20 26 42.4**	**+2.7**
GO03						IAML		20 26 51.4	
	comp=E,11μm,0.3s								
AGUA	**GUANDACOL**	**2.54**	**83**	*eP*			**Pn**	**20 26 16.4**	**+4.1**
AGUA						eS	Sn	20 26 58.7	+17
AGUA						IAML		20 27 01.6	
	comp=Z,6μm,0.3s								
AC06	**Mina Casimiro**	**2.62**	**20**	Pn			**Pn**	**20 26 14.3**	**+0.9**
AC06						Sn	**Sn**	**20 26 46.8**	**+2.8**
AC06	**Mina Casimiro**	**2.62**	**20**	⇑	*eP*		**Pn**	**20 26 14.3**	**+0.9**
AC06						eS	**Sn**	**20 26 46.2**	**+2.1**
AC06						IAML		20 26 55.0	
	comp=E,6μm,0.5s								
RTLS	**Leoncito**	**2.66**	**138**	*eP*			**Pn**	**20 26 18.0**	**+3.9**
RTLS						eS	Sn	20 27 00.1	+15
RTLS						IAML		20 27 09.1	
	comp=Z,16μm,0.7s								
VA06	**Catapilco**	**2.72**	**178**	Pn			**Pn**	**20 26 16.3**	**+1.7**
VA06	**Catapilco**	**2.72**	**178**	*eP*			**Pn**	**20 26 16.4**	**+1.7**
VA06						eS	**Sn**	**20 26 48.5**	**+2.1**
ZON	**Zonda**	**2.89**	**127**	Pn			**Pn**	**20 26 20.3**	**+3.2**
ZON	**Zonda**	**2.89**	**127**	*eP*			**Pn**	**20 26 19.9**	**+2.8**
ZON						IAML		20 27 14.4	
	comp=Z,5μm,0.7s								
ZON	**Zonda**	**2.89**	**127**	P			**Pn**	**20 26 20.3**	**+3.2**
RTLL	**Cerro Villicun**	**2.92**	**122**	*eP*			**Pn**	**20 26 19.9**	**+2.4**
RTLL						IAML		20 27 14.3	
	comp=Z,7μm,0.5s								
VCA	**Vinchina**	**2.98**	**69**	*eP*			Pn	20 26 23.3	+4.9
VCA						eS	Sn	20 27 03.9	+11
VCA						IAML		20 27 11.4	
	comp=Z,13μm,0.6s								
VA03	**San Esteban**	**3.01**	**167**				**Pn**	**20 26 20.6**	**+1.8**
VA03						Sn	**Sn**	**20 26 55.9**	**+2.2**
VA03	**San Esteban**	**3.01**	**167**	*eP*			**Pn**	**20 26 20.9**	**+2.1**
VA03						eS	Sn	20 27 04.0	+10
VA03						IAML		20 27 18.6	
	comp=Z,7μm,0.6s								
VA03	**San Esteban**	**3.01**	**167**	*eP*			**Pn**	**20 26 20.5**	**+1.8**
ROCH	**El Roble**	**3.15**	**174**	⇑	*eP*		**Pn**	**20 26 22.5**	**+1.7**
RTCV	**Cerro Valdivia**	**3.17**	**130**	*eP*			**Pn**	**20 26 25.2**	**+4.2**
RTCV						eS	Sn	20 27 10.0	+12
VA01	**Torpederas**	**3.19**	**184**				**Pn**	**20 26 21.7**	**+0.6**
VA01	**Torpederas**	**3.19**	**184**	*eP*			**Pn**	**20 26 21.6**	**+0.4**
VA01						IAML		20 27 13.9	
	comp=Z,2μm,0.7s								
VA01	**Torpederas**	**3.19**	**184**	⇑	*eP*		**Pn**	**20 26 21.9**	**+0.7**
VA01						IAML		20 27 12.6	
	comp=Z,0.6s								
PEL	**Peldehue**	**3.36**	**170**				**Pn**	**20 26 25.3**	**+1.9**
PEL	**Peldehue**	**3.36**	**170**	*eP*			**Pn**	**20 26 25.6**	**+2.1**
PEL						eS	Sn	20 27 11.8	+10
PEL	**Peldehue**	**3.36**	**170**	*eP*			**Pn**	**20 26 25.4**	**+1.9**
PEL						eS	**Sn**	**20 27 03.4**	**+1.3**
PEL	**Peldehue**	**3.36**	**170**	P			**Pn**	**20 26 25.3**	**+1.9**
MT02	**Curacav**	**3.42**	**177**				**Pn**	**20 26 25.6**	**+1.3**
MT02	**Curacav**	**3.42**	**177**	*eP*			**Pn**	**20 26 25.6**	**+1.3**
MT02						eS	**Sn**	**20 27 12.3**	**+8.6**
MT02						IAML		20 27 23.3	
	comp=Z,4μm,0.8s								
AVFE	**Valle Fertil**	**3.50**	**105**	*eP*			**Pn**	**20 26 28.4**	**+3.0**
AVFE						eS	Sn	20 27 17.5	+12
AVFE						IAML		20 27 21.9	
	comp=Z,3μm,0.5s								
ASAL	**Salagasta**	**3.51**	**142**	*eP*			**Pn**	**20 26 29.6**	**+3.9**
ASAL						IAML		20 27 33.3	
	comp=Z,2μm,1.2s								
AC02	**Maricunga**	**3.58**	**34**	Pn			**Pn**	**20 26 28.7**	**+1.7**
AC02	**Maricunga**	**3.58**	**34**	*eP*			**Pn**	**20 26 28.9**	**+1.9**
AC02						eS	Sn	20 27 26.2	+18
AC02						IAML		20 27 30.1	
	comp=Z,3μm,0.8s								
AC02	**Maricunga**	**3.58**	**34**	⇑	*eP*		**Pn**	**20 26 29.0**	**+2.0**
MT05	**Renca**	**3.59**	**171**				**Pn**	**20 26 28.9**	**+2.2**
MT05	**Renca**	**3.59**	**171**	*eP*			**Pn**	**20 26 30.2**	**+4.5**
MT05						eS	**Sn**	**20 27 12.8**	**+4.9**
MT05						IAML		20 27 31.1	
	comp=Z,4μm,0.3s								
FCH	**Farellones**	**3.61**	**165**	⇑	*eP*		**Pn**	**20 26 30.2**	**+3.0**
MT14	**Cerro Cal¡n**	**3.63**	**169**	Pn			**Pn**	**20 26 29.4**	**+2.2**
MT16	**CCHEN**	**3.66**	**169**				**Pn**	**20 26 30.0**	**+2.3**
AC01	**Pan de Azucar**	**3.73**	**11**				**Pn**	**20 26 27.5**	**-1.2**
AC01	**Pan de Azucar**	**3.73**	**11**	*eP*			**Pn**	**20 26 27.3**	**-1.4**
AC01						eS	Sn	20 27 24.4	+13
AC01						IAML		20 27 33.8	
	comp=Z,3μm,0.8s								
MT08	**Bocatoma Ro**	**3.79**	**162**				**Pn**	**20 26 32.6**	**+3.0**
VA05	**Santo Domingo**	**3.82**	**183**				**Pn**	**20 26 30.5**	**+0.7**
VA05	**Santo Domingo**	**3.82**	**183**	*eP*			**Pn**

PB18 Visviri 12.31 9 Pn **Pn** 20 28 24.2 -2.5
LL01 San Ignacio de 12.55 184 **Pn** 20 28 27.2 -2.2
ITQB Itaqui 12.83 93 Pn **Pn** 20 28 30.5 -2.8
ITQB Itaqui 12.83 93 *e*P **Pn** 20 28 31.1 -2.1
CPUP Villa Florida 12.89 78 **Pn** 20 28 31.5 -2.6
CPUP Villa Florida 12.89 78 Pn **Pn** 20 28 31.3 -2.8
comp=Z,0.5nm,0.3s,baz=259,slow=14,SNR=8.2
CPUP Sn **Sn** **20 30 54.0 -2.2**
baz=132,slow=16
CPUP LR LR 20 34 04.9
comp=Z,959nm,19.9s,baz=256,slow=40
comp=Z,2.4nm,0.5s
CPUP Villa Florida 12.89 78 P **Pn** 20 28 33.3 -0.8
CPUP pmax pmax
comp=Z,64nm,0.8s
CPUP Villa Florida 12.89 78 *e*P **Pn** 20 28 31.5 -2.6
CPUP *e*S **Sn** 20 30 56.2 +0.1
TBOT Tacuaremb 13.41 102 *e*P **Pn** 20 28 39.9 -1.3
TBOT *e*S **Sn** 20 31 09.4 +0.5
LPAZ La Paz 13.81 13 Pn Pn 20 28 42.7 -4.6
LPAZ La Paz 13.81 13 Pn **Pn** 20 28 44.4 -2.9
comp=Z,0.3nm,0.3s,baz=199,slow=9.3,SNR=3.1
LPAZ Sn **Sn** **20 31 23.3 +3.7**
comp=Z,0.3nm,0.3s,baz=192,slow=16,SNR=1.8
LPAZ LR LR 20 34 23.0
comp=Z,551nm,19.6s,baz=189,slow=39
comp=Z,1.7nm,0.5s
LPAZ La Paz 13.81 13 *e*P **Pn** 20 28 43.9 -3.4
RODS Rosario do Sul 14.03 96 *e*P **Pn** 20 28 46.9 -2.8
UNIS Unistalda (Bra 14.23 91 *e*P **Pn** 20 28 50.9 -1.6
MURT Porto Murtinho 14.83 60 *e*P **Pn** 20 28 57.9 -2.6
CRSM Crissiumal (Br 15.40 86 *e*P **Pn** 20 29 05.9 -2.0
PLTB Pedras Altas 15.40 102 Pn **Pn** 20 29 05.0 -2.9
PLTB Pedras Altas 15.40 102 *e*P **Pn** 20 29 06.8 -1.2
CPSB Cacapava Do Su 15.54 97 *e*P **Pn** 20 29 07.7 -2.0
BBRB Robore, Bolivi 15.61 45 *e*P **Pn** 20 29 09.2 -1.5
COYC Coyhaique 15.72 182 P **Pn** 20 29 11.2 -0.8
BBSD Serra de San D 15.98 40 *e*P **Pn** 20 29 13.2 -2.4
ALGR Alto Alegre (B 16.05 91 *e*P **Pn** 20 29 14.7 -1.6
BDQN Bodoquena, MS 16.20 58 *e*P **Pn** 20 29 16.7 -1.4
AMBA Amambai (Brazi 16.21 69 *e*P **Pn** 20 29 17.1 -1.3
AMBA *e*S **Sn** 20 32 17.0 -0.1
SIV San Ignacio 16.72 37 Pn **Pn** 20 29 21.9 -2.8
comp=Z,0.5nm,0.3s,baz=227,slow=8.8,SNR=34
comp=Z,5.0nm,0.5s
AQDB Aquidauana 16.96 60 P **Pn** 20 29 24.9 -3.0
AQDB Aquidauana 16.96 60 *e*P **Pn** 20 29 25.7 -2.1
ITAB Concordia 17.11 86 P **Pn** 20 29 28.7 -0.9
ITAB Concordia 17.11 86 *e*P **Pn** 20 29 28.8 -0.9
CNLB Canela 17.87 93 *e*P **P** 20 29 39.5 +0.2
PTGB Pitanga 17.91 78 *e*P **Pn** 20 29 37.9 -1.6
TRCB Terra Rica 18.20 72 P **P** 20 29 40.6 -2.4
TRCB IAmb IAmb 20 29 47.7
comp=Z,74nm,0.7s
PTLB Pontes e Lacer 18.22 41 **P** 20 29 42.0 -1.2
PTLB Pontes e Lacer 18.22 41 *e*P **Pn** 20 29 43.5 +0.2
RVDE Rio Verde (Bra 18.41 58 *e*P **Pn** 20 29 45.8 +0.1
NNA Nana 18.47 343 Pn **Pn** 20 29 46.3 0.0
comp=Z,0.7nm,0.3s,baz=186,slow=17,SNR=2.0
NNA LR LR 20 35 19.0
comp=Z,258nm,20.4s,baz=170,slow=32
comp=Z,6.4nm,0.5s
NNA Nana 18.47 343 *i* P **Pn** 20 29 46.7 +0.3
NNA pmax pmax
comp=Z,19nm,0.9s
GO08 Villa O'Higgin 18.63 182 P **P** 20 29 47.1 -0.4
LDASE Londrina, Braz 19.21 75 *e*P **P** 20 29 53.9 -0.1
VILB Vilhena 19.74 34 P **P** 20 29 58.8 -1.0
VILB IAmb IAmb 20 30 08.2
comp=Z,64nm,0.8s
VILB Vilhena 19.74 34 *e*P **P** 20 30 00.2 +0.4
PCMB Pacaembu 19.87 70 *e*P **Pn** 20 30 01.9 -1.3
SALV Santo Antonio 20.00 50 *e*P **P** 20 30 02.5 -0.1
ETMB Extrema 20.49 15 P **P** 20 30 07.3 -0.6
ETMB IAmb IAmb 20 30 13.6
comp=Z,64nm,0.8s
ETMB Extrema 20.49 15 *e*P **P** 20 30 08.4 +0.4
FRTB Fartura 20.54 77 *e*P **P** 20 30 08.6 +0.1
ITRB Iturama 21.56 67 *e*P **P** 20 30 19.1 -0.4
CZSB Cruzeiro do Su 22.02 357 P **P** 20 30 24.2 -0.2
CZSB Cruzeiro do Su 22.02 357 *e*P **P** 20 30 25.5 +1.0
PET01 Itanhaem-SP 22.15 81 *e*P **P** 20 30 26.5 +0.7
SAML Samuel 22.15 22 P **P** 20 30 24.8 -1.1
SAML IAmb IAmb 20 30 28.6
comp=Z,64nm,1.3s
SAML Samuel 22.15 22 P **P** 20 30 24.8 -1.1
SAML pmax pmax
comp=Z,64nm,1.3s
SAML Samuel 22.15 22 *e*P **P** 20 30 25.5 -0.3
SPB Sao Paulo 22.26 79 P **P** 20 30 26.2 -0.8
SPB IAmb IAmb 20 30 29.2
comp=Z,38nm,0.9s
SPB Sao Paulo 22.26 79 *e*P **P** 20 30 28.2 +1.2
BB19B Bebedouro 22.38 72 *e*P **P** 20 30 27.1 -1.2
PDRB Porto dos Gac 22.68 40 *e*P **P** 20 30 30.3 -1.3
ARAG Araguaiana, MT 22.82 56 *e*P **P** 20 30 31.2 -1.9
VAO Valinhos 22.88 78 *e*P **P** 20 30 32.8 -0.8
ATAH Atahualpa 23.52 342 LR LR 20 39 01.1
comp=Z,170nm,18.8s,baz=182,slow=35
CLDB Colider 23.81 41 *e*P **P** 20 30 43.0 +0.4
EFI East Falkland 23.97 159 P **P** 20 30 42.8 -1.0
EFI East Falkland 23.97 159 P **P** 20 30 42.8 -1.0
EFI pmax pmax
comp=Z,386nm,2.0s
MG03 Isla Dawson 24.01 179 P **P** 20 30 44.1 -0.1
IPMB Ipameri, GO 24.19 66 *e*P **P** 20 30 45.2 -1.1
PMNB Patos De Minas 25.32 69 *e*P **P** 20 30 56.7 +0.1
BSCB Bom Sucesso 25.55 76 *e*P **P** 20 30 58.7 +0.1
TBTG Tabatinga, AM 25.55 3 P **P** 20 30 57.5 -1.0
TBTG Tabatinga, AM 25.55 3 *e*P **P** 20 30 59.1 +0.7
BDFB Brasilia 25.70 62 P **P** 20 30 59.1 -1.0
BDFB IAmb IAmb 20 31 00.6
comp=Z,40nm,0.6s
BDFB Brasilia 25.70 62 P **P** 20 30 59.0 -1.0
comp=Z,35nm,0.6s,baz=247,slow=9.4,SNR=67
BDFB LR LR 20 42 08.2
comp=Z,465nm,20.8s,baz=222,slow=39
comp=Z,35nm,0.6s
BDFB Brasilia 25.70 62 P **P** 20 30 59.1 -1.0
BDFB pmax pmax
comp=Z,40nm,0.6s
SNDB Serra Nova Dou 25.77 51 *e*P **P** 20 30 59.8 -0.8
TEFE Tefe 26.95 15 *e*P **P** 20 31 11.5 +0.3
DUB01 Friburgo-RJ 27.15 80 *e*P **P** 20 31 12.2 -0.9
NPGB Novo Progresso 27.22 37 *e*P **P** 20 31 12.6 -1.1
DIAM Diamantina, MG 27.71 72 *e*P **P** 20 31 18.5 +0.3
MACA Manacapuru-AM 28.40 23 P **P** 20 31 22.8 -1.3
MACA IAmb IAmb 20 31 43.9
comp=Z,31nm,0.7s
MACA Manacapuru-AM 28.40 23 *e*P **P** 20 31 23.3 -0.9
JANB Januaria 28.92 65 *e*P **P** 20 31 28.5 -0.4
ALF01 Guarapari-ES 29.14 79 *e*P **P** 20 31 30.2 -0.5
ITTB Itaituba 29.34 33 *e*P **P** 20 31 31.8 -0.7
SJMB Sao Joao De Ma 29.59 75 *e*P **P** 20 31 34.4 -0.4
RIB01 Linhares ES 29.98 77 *e*P **P** 20 31 38.1 -0.1
SDBA SAO DESIDERIO 30.06 60 *e*P **P** 20 31 38.5 -0.5
SMTB Santa Maria do 30.52 52 *e*P **P** 20 31 42.4 -0.6
GUA01 Guaratinga, BA 31.76 73 *e*P **P** 20 31 53.8 -0.2
RPN Rapa Nui 33.37 265 LR LR 20 41 36.7
comp=Z,258nm,18.6s,baz=79,slow=29
BOAV Boa Vista 33.69 20 P **P** 20 32 09.9 -0.8
BOAV Boa Vista 33.69 20 *e*P **P** 20 32 10.3 -0.4
ROSC El Rosal 34.59 355 P **P** 20 32 21.3 +2.4
comp=Z,13nm,0.5s,baz=53,slow=22,SNR=2.2
MCPB Macapa, AP 34.61 36 *e*P **P** 20 32 18.1 -0.6
PMSA Palmer Station 35.26 175 LR LR 20 46 21.0
comp=Z,333nm,18.8s,baz=360,slow=36
NBLA Lagarto - SE 36.44 66 *e*P **P** 20 32 33.8 -0.7
NBAN Anadia - AL 38.42 66 *e*P **P** 20 32 50.4 -0.9
SDV Santo Domingo 38.50 1 P **P** 20 32 51.0 -1.1
SDV IAmb IAmb 20 32 57.0
comp=Z,14nm,0.8s
SDV Santo Domingo 38.50 1 LR LR 20 50 22.9
comp=Z,142nm,18.9s,baz=199,slow=39
SDV Santo Domingo 38.50 1 *e*P **P** 20 32 51.3 -0.8
NBPB Pedra_Branca-C 38.50 57 *e*P **P** 20 32 51.3 -0.7
BAUV El Baul 38.68 5 P **P** 20 32 52.3 -1.1
MDP Montagnes des 39.11 30 LR LR 20 51 01.4
comp=Z,201nm,18.9s,baz=198,slow=39
MPGF Montagnes des 39.12 30 P **P** 20 32 56.6 -0.5
MPGF pP **pP** **20 33 08.0 -0.6**
MPGF sP **sP** **20 33 12.5 -1.0**
NBCA Caruaru-PE 39.49 64 *e*P **P** 20 32 59.5 -0.9

NBCL Cascavel-CE 40.34 57 *e*P **P** 20 33 07.1 -0.2
RCBR Riachuelo 41.07 62 P **P** 20 33 13.4 0.0
RCBR IAmb IAmb 20 33 14.8
comp=Z,25nm,0.9s
RCBR Riachuelo 41.07 62 LR LR 20 51 17.8
comp=Z,229nm,19.8s,baz=242,slow=38
RCBR Riachuelo 41.07 62 P **P** 20 33 13.4 0.0
RCBR pmax pmax
comp=Z,25nm,1.0s
RCBR Riachuelo 41.07 62 *e*P **P** 20 33 13.4 0.0
RCBR Riachuelo 41.07 62 P **P** 20 33 13.5 +0.1
RCBR sP **sP** 20 33 30.2 +0.1
JTS Las Juntas de 41.98 340 *i* P **P** 20 33 22.5 +1.8
JTS pmax pmax
comp=Z,5.0nm,0.9s
FDF Fort de France 45.39 14 P **P** 20 33 46.1 -2.0
MLPR Magueyes Islan 47.71 6 P **P** 20 34 05.5 -0.7
OBIP Obispado Ponce 47.82 6 P **P** 20 34 06.1 -1.0
CELP Cerrillos 47.85 6 P **P** 20 34 06.2 -1.1
AOPR Arecibo Observ 48.10 6 P **P** 20 34 08.6 -0.6
BELA Belgrano 2 50.88 171 P **P** 20 34 30.3 +0.5
BELA IAmb IAmb 20 34 32.0
comp=Z,18nm,1.4s
CMIG Matias Romero 51.86 331 LR LR 20 51 48.1
comp=Z,66nm,21.2s,baz=176,slow=30
TEIG Tepich 52.36 340 P **P** **20 34 41.5 +0.1**
TEIG Tepich 52.36 340 LR LR 20 54 12.2
comp=Z,231nm,21.7s,slow=33
TEIG Tepich 52.36 340 P **P** **20 34 42.2 +0.7**
VNA3 Neumayer Olymp 53.02 159 ⇑P **P** **20 34 46.4 +0.6**
comp=Z,14nm,0.9s
VNA2 Neumayer--Watz 53.65 158 ⇑P **P** **20 34 51.0 +0.6**
comp=Z,15nm,0.6s,baz=294,slow=8.1
SNAA Sanae 55.24 159 P **P** **20 35 02.1 0.0**
SNAA IAmb IAmb 20 35 03.8
comp=Z,19nm,0.8s
SNAA PcP **PcP** **20 36 01.2 -1.3**
SNAA Sanae 55.24 159 ⇑P **P** **20 35 02.6 +0.5**
comp=Z,354nm,0.7s
SNAA Sanae 55.24 159 P **P** **20 35 02.3 +0.2**
comp=Z,18nm,0.8s,baz=266,slow=6.5,SNR=34
SNAA LR LR 20 58 23.8
comp=Z,69nm,20.2s,baz=277,slow=36
comp=Z,18nm,0.8s
SNAA Sanae 55.24 159 *i* P **P** **20 35 03.0 +0.9**
SNAA pmax pmax
comp=Z,22nm,0.8s
TROLL Troll, Antarti 56.96 159 ⇑P **P** **20 35 15.0 +0.6**
comp=Z,692nm,0.8s
NVL N'lazarevskaya 59.94 158 *e*P **P** **20 35 35.7 +0.7**
NVL pmax pmax
comp=Z,13nm,0.8s
QSPA South Pole Qui 60.39 180 P **P** **20 35 39.4 +1.0**
comp=Z,4.9nm,0.8s,baz=136,slow=7.4,SNR=22
comp=Z,4.9nm,0.8s
QSPA South Pole Qui 60.39 180 P **P** **20 35 39.2 +0.8**
QSPA pP **pP** **20 35 50.9 +0.5**
QSPA sP **sP** **20 35 55.6 +0.4**
833A Chaparral WMA, 63.72 332 P **P** **20 36 00.6 -0.3**
baz=153
HKT Hockley 63.85 336 *i* P **P** **20 36 02.3 +0.7**
HKT pmax pmax
comp=Z,16nm,1.8s
GOGA Godfrey 63.93 349 P **P** **20 36 02.7 +0.6**
baz=168
LRAL Lakeview Retre 64.25 345 P **P** **20 36 05.0 +0.8**
baz=165
VBMS Vicksburg 64.33 342 P **P** **20 36 05.3 +0.6**
baz=162
NATX Nacogdoches 65.12 338 P **P** **20 36 10.9 +0.9**
baz=158
435B Jarrell 65.23 335 P **P** **20 36 12.4 +1.7**
baz=155
X51A Calhoun 65.30 348 P **P** **20 36 11.1 0.0**
KMSC Kings Mountain 65.30 351 P **P** **20 36 11.9 +0.8**
baz=171
LPIG La Paz 65.37 321 LR LR 20 58 41.4
comp=Z,42nm,20.1s,baz=278,slow=30
X48A Hartselle 65.63 346 P **P** **20 36 12.9 -0.3**
JCT Junction City 65.80 333 P **P** **20 36 15.8 +1.4**
baz=153
JCT Junction City 65.80 333 P **P** **20 36 16.0 +1.5**
W50A Signal Mountai 66.00 348 P **P** **20 36 15.2 -0.4**
W50A IAmb IAmb 20 36 16.6
comp=Z,12nm,0.6s
SWET Sewanee 66.14 347 P **P** **20 36 16.7 +0.1**
TKL Tuckaleechee C 66.18 349 IAmb IAmb 20 36 17.7
comp=Z,9.0nm,0.9s
BRDY Brady 66.21 334 IAmb IAmb 20 36 19.1
comp=Z,14nm,0.9s
OXF Oxford 66.22 344 P **P** **20 36 17.7 +0.7**
baz=163
SAND Sanderson 66.28 331 IAmb IAmb 20 36 20.3
comp=Z,26nm,1.2s
WHTX Lake Whitney, 66.28 336 P **P** **20 36 16.6 -0.9**
baz=156
V52A Sevierville 66.33 349 P **P** **20 36 17.4 -0.3**
V52A IAmb IAmb 20 36 18.2
comp=Z,13nm,0.9s
PLAL Pickwick Lake 66.36 345 IAmb IAmb 20 36 18.3
comp=Z,9.5nm,0.8s
TXAR Lajitas Array 66.41 329 P **P** **20 36 18.4 -0.1**
TXAR Lajitas Array 66.41 329 P **P** **20 36 19.5 +1.0**
comp=Z,8.8nm,0.5s,baz=148,slow=8.6,SNR=33
comp=Z,2.8nm,0.5s
T59A Double "B" Far 66.70 355 P **P** **20 36 20.3 +0.3**
OZNA Ozona 66.72 332 IAmb IAmb 20 36 22.5
comp=Z,21nm,1.1s
CLTN Cedars of Leba 67.06 347 IAmb IAmb 20 36 23.7
comp=Z,12nm,0.8s
BLA Blacksburg 67.23 352 P **P** **20 36 24.4 +0.9**
baz=172
TAOE Nuku Hiva Isla 67.25 273 *e*LR LR 20 56 43.1
comp=Z,270nm,27.0s
MIAR Mount Ida 67.37 340 P **P** **20 36 24.3 -0.1**
MIAR IAmb IAmb 20 36 26.2
comp=Z,13nm,1.2s
MIAR Mount Ida 67.37 340 P **P** **20 36 25.2 +0.9**
baz=159
MIAR Mount Ida 67.37 340 P **P** **20 36 24.3 -0.1**
MIAR pmax pmax
comp=Z,13nm,1.2s
WVT Waverly 67.41 346 P **P** **20 36 24.0 -0.6**
WVT Waverly 67.41 346 P **P** **20 36 24.4 -0.1**
baz=165
WVT Waverly 67.41 346 P **P** **20 36 24.0 -0.6**
WVT pmax pmax
comp=Z,72nm,1.0s
WVT Waverly 67.41 346 P **P** **20 36 24.7 +0.2**
WVT pP **pP** **20 36 37.1 +0.6**
FW03 Perrin-Whitt E 67.44 336 IAmb IAmb 20 36 26.9
comp=Z,19nm,1.0s
SGCY Sterling City 67.59 333 IAmb IAmb 20 36 27.7
comp=Z,9.4nm,0.8s
S57A Dark Hollow, R 67.61 354 P **P** **20 36 26.1 +0.3**
S57A IAmb IAmb 20 36 44.7
comp=Z,24nm,1.3s
ABTX Abilene, Hawle 67.65 334 IAmb IAmb 20 36 28.4
comp=Z,17nm,0.8s
ABTX Abilene, Hawle 67.65 334 P **P** **20 36 27.4 +1.2**
baz=154
R58B Mineral 67.72 354 P **P** **20 36 27.4 +1.0**
R58B IAmb IAmb 20 36 28.8
comp=Z,20nm,0.9s
MNHN Monahans 67.75 331 IAmb IAmb 20 36 29.1
comp=Z,13nm,0.8s
VHRN Van Horn 68.24 329 IAmb IAmb 20 36 32.2
comp=Z,17nm,1.6s
WTFS Witchita Falls 68.24 336 P **P** **20 36 30.2 +0.4**
VNDA Vanda 68.29 191 P **P** **20 36 31.0 +1.3**
comp=Z,1.7nm,1.0s,baz=114,slow=4.6,SNR=7.4
VNDA LR LR 21 02 34.9
comp=Z,20nm,21.7s,baz=128,slow=33
comp=Z,1.7nm,1.0s
VNDA Vanda 68.29 191 P **P** **20 36 31.4 +1.8**
APMT Aspermont 68.45 334 P **P** **20 36 32.1 +0.9**
APMT IAmb IAmb 20 36 33.3
comp=Z,20nm,0.9s
TBI Tubuai 68.90 255 *e*S **S** **20 45 33.0 -2.9**
comp=Z,223nm,27.0s
TBI *e*SS **SS** **20 50 09.7 +8.1**
comp=Z,174nm,36.5s
TBI *e*LR LR 20 57 29.8
comp=Z,552nm,27.2s
CGM3 Cape Girardeau 68.94 344 IAmb IAmb 20 36 53.0
comp=Z,23nm,1.3s

DKNS Dickens 69.06 334 P **P** **20 36 35.5 +0.4**
HHAR Hobbs 69.10 341 IAmb IAmb 20 36 36.8
comp=Z,12nm,0.9s
WCI Wyandotte Cave 69.13 347 P **P** **20 36 35.6 +0.4**
baz=166
WCI Wyandotte Cave 69.13 347 P **P** **20 36 35.0 -0.3**
MNTX Cornudas Mount 69.19 329 P **P** **20 36 36.2 +0.4**
baz=149
WMOK Wichita Mounta 69.23 336 P **P** **20 36 35.8 -0.2**
WMOK Wichita Mounta 69.23 336 P **P** **20 36 36.6 +0.6**
baz=155
WMOK Wichita Mounta 69.23 336 P **P** **20 36 35.8 -0.2**
WMOK pmax pmax
comp=Z,7.0nm,1.1s
P57A Homestead Farm 69.24 355 IAmb IAmb 20 36 55.5
comp=Z,32nm,1.2s
RLO Rose Lookout 69.31 340 P **P** **20 36 36.4 0.0**
RLO IAmb IAmb 20 36 37.5
comp=Z,11nm,0.6s
TUL3 Leonard 69.31 339 IAmb IAmb 20 36 37.9
comp=Z,21nm,0.9s
TUL3 Leonard 69.31 339 P **P** **20 36 37.0 +0.5**
baz=158
MCWV Mont Chateau 69.58 353 P **P** **20 36 39.1 +1.0**
baz=172
MVL Millersville 69.63 356 IAmb IAmb 20 36 40.7
comp=Z,22nm,1.1s
FVM French Village 69.78 344 IAmb IAmb 20 36 41.0
comp=Z,21nm,0.8s
P52A Corning 69.83 351 P **P** **20 36 40.1 +0.5**
baz=170
CCM Cathedral Cave 70.04 343 P **P** **20 36 41.2 +0.3**
CCM IAmb IAmb 20 36 42.5
comp=Z,22nm,1.1s
CCM Cathedral Cave 70.04 343 P **P** **20 36 41.4 +0.5**
baz=162
CCM Cathedral Cave 70.04 343 P **P** **20 36 41.2 +0.3**
CCM pmax pmax
comp=Z,22nm,1.1s
CCM Cathedral Cave 70.04 343 P **P** **20 36 41.6 +0.7**
CCM PcP **PcP** **20 37 04.0 +1.2**
P49A Miami Univ. Ec 70.12 349 P **P** **20 36 42.2 +0.9**
baz=168
S39A Bolivar 70.24 342 IAmb IAmb 20 36 43.9
comp=Z,18nm,1.1s
SSPA Standing Stone 70.37 355 P **P** **20 36 44.1 +1.3**
baz=174
SSPA Standing Stone 70.37 355 P **P** **20 36 43.7 +0.9**
SSPA pP **pP** **20 36 56.4 +1.3**
SSPA PcP **PcP** **20 37 05.5 +1.4**
AMTX Amarillo 70.43 334 IAmb IAmb 20 36 45.6
comp=Z,21nm,1.1s
AMTX Amarillo 70.43 334 P **P** **20 36 44.0 +0.6**
baz=152
N58A Sunbury 70.49 356 IAmb IAmb 20 36 45.9
comp=Z,17nm,0.9s
PAL Palisades 70.52 358 P **P** **20 36 45.4 +1.7**
baz=178
ACSO Alum Creek Sta 70.53 351 P **P** **20 36 43.8 0.0**
ACSO Alum Creek Sta 70.53 351 P **P** **20 36 44.2 +0.3**
baz=169
ODNJ Ogdensburg 70.62 357 IAmb IAmb 20 36 46.6
comp=Z,18nm,1.0s
P46A Rosedale 70.65 347 P **P** **20 36 44.3 -0.3**
P46A IAmb IAmb 20 36 45.2
comp=Z,21nm,0.9s
319A Douglas 70.73 326 P **P** **20 36 46.3 +0.9**
319A IAmb IAmb 20 36 48.5
comp=Z,12nm,1.0s
O48B Farmland 70.90 349 P **P** **20 36 46.6 +0.5**
baz=167
121A Cookes Peak, D 70.98 328 IAmb IAmb 20 36 50.3
comp=Z,13nm,0.9s
121A Cookes Peak, D 70.98 328 P **P** **20 36 47.8 +0.8**
baz=147
SFIN Lafayette 71.36 347 P **P** **20 36 49.4 +0.5**
baz=166
M53A WI Miller and 71.43 353 P **P** **20 36 49.5 +0.2**
baz=172
PPT2 Papeete2 71.44 260 *e*P **P** **20 36 47.3 -2.8**
comp=Z,40nm,31.0s
PPT2 *e*S **S** **20 46 04.0 -2.0**
comp=Z,89nm,28.8s
PPT2 *e*SS **SS** **20 50 39.4 -1.7**
comp=Z,29nm,24.2s
PPT2 *e*LR LR 20 58 32.5
comp=Z,200nm,24.0s
PPT2 *e*LR LR 20 58 36.6
comp=Z,177nm,25.8s
L59A Walton 71.74 357 IAmb IAmb 20 36 53.6
comp=Z,22nm,0.9s
BINY Binghamton 71.80 356 P **P** **20 36 52.9 +1.4**
baz=176
L61B Northampton 71.93 359 IAmb IAmb 20 36 54.6
comp=Z,20nm,0.9s
L61B Northampton 71.93 359 P **P** **20 36 53.6 +1.3**
baz=179
HDIL Hopedale 71.98 346 P **P** **20 36 53.2 +0.6**
baz=164
TUC Tucson 72.22 326 P **P** **20 36 54.7 +0.3**
TUC Tucson 72.22 326 P **P** **20 36 54.3 -0.1**
baz=145
TUC Tucson 72.22 326 P **P** **20 36 54.7 +0.3**
TUC pmax pmax
comp=Z,5.0nm,1.1s
ANMO Albuquerque 72.42 330 P **P** **20 36 56.1 +0.5**
ANMO Albuquerque 72.42 330 P **P** **20 36 56.1 +0.5**
baz=149
ANMO Albuquerque 72.42 330 LR LR 21 04 09.7
comp=Z,75nm,20.9s,baz=245,slow=32
ANMO Albuquerque 72.42 330 *i* P **P** **20 36 56.8 +1.1**
ANMO pmax pmax
comp=Z,8.0nm,1.3s
N41A Harden Midland 72.47 345 IAmb IAmb 20 36 56.2
comp=Z,15nm,0.7s
KSU1 Kansas State U 72.50 340 P **P** **20 36 57.0 +1.2**
baz=157
LIC Lamto 72.95 72⇑ *e*P **P** **20 36 59.0 0.0**
comp=Z,57nm,0.7s
214A Organ Pipe Nat 72.95 324 IAmb IAmb 20 37 01.9
comp=Z,17nm,1.0s
214A Organ Pipe Nat 72.95 324 P **P** **20 36 59.6 +1.0**
baz=143
N38A Joes South For 73.13 343 IAmb IAmb 20 37 00.8
comp=Z,32nm,1.2s
TIC Toumodi 73.19 72⇑ *e*P **P** **20 37 00.4 -0.1**
comp=Z,25nm,0.6s
CBKS Cedar Bluff 73.24 337 IAmb IAmb 20 37 02.4
comp=Z,19nm,0.8s
CBKS Cedar Bluff 73.24 337 P **P** **20 37 00.9 +0.7**
baz=155
KIC Kosan Boka 73.26 72⇑ *e*P **P** **20 37 01.0 +0.1**
comp=Z,63nm,0.8s
DBIC Dimbokro 73.34 72 P **P** **20 37 01.4 +0.1**
DBIC Dimbokro 73.34 72 P **P** **20 37 01.2 -0.1**
comp=Z,33nm,0.6s,baz=226,slow=6.7,SNR=59
DBIC LR LR 21 07 38.4
comp=Z,112nm,19.5s,baz=222,slow=35
comp=Z,33nm,0.6s
DBIC Dimbokro 73.34 72 P **P** **20 37 01.4 +0.1**
DBIC pmax pmax
comp=Z,34nm,0.7s
T25A Trinidad 73.46 333 IAmb IAmb 20 37 04.8
comp=Z,21nm,0.9s
T25A Trinidad 73.46 333 P **P** **20 37 03.4 +1.6**
baz=150,SNR=15
LBNH Lisbon 73.72 360 P **P** **20 37 04.5 +1.6**
baz=180
W18A Petrified Fore 74.03 328 IAmb IAmb 20 37 08.2
comp=Z,19nm,1.1s
W18A Petrified Fore 74.03 328 P **P** **20 37 07.1 +2.0**
baz=146
LONY Lake Ozonia 74.15 358 P **P** **20 37 07.4 +2.1**
baz=177
X16A Lo Mia Camp, P 74.26 326 IAmb IAmb 20 37 09.6
comp=Z,16nm,1.1s
FRNY Flat Rock 74.33 358 P **P** **20 37 07.2 +0.8**
FRNY IAmb IAmb 20 37 08.4
comp=Z,10nm,0.8s
SDCO Great Sand Dun 74.42 333 P **P** **20 37 08.8 +1.3**
baz=150,SNR=15
KSCO Kaye Shedlock' 74.42 335 P **P** **20 37 09.0 +1.7**
baz=152
JFWS Jewell Farm 74.44 346 P **P** **20 37 07.3 +0.2**
baz=163
WBO Williamsburg 74.56 357 IAmb IAmb 20 37 09.5
comp=Z,22nm,1.0s

G62A **West of Eustis** **74.70 1** P **P** **20 37 09.7 +1.1**
G62A IAmb IAmb 20 37 11.1
comp=Z,13nm,0.8s
PKME **Peaks-Kenny Pk** **74.76 2** P **P** **20 37 10.4 +1.6**
baz=182
BGNE **Belgrade** **75.08 339** P **P** **20 37 11.7 +0.8**
baz=156
WUAZ **Wupatki** **75.12 327** IAmb IAmb 20 37 14.7
comp=Z,18nm,1.0s
WUAZ **Wupatki** **75.12 327** P **P** **20 37 13.6 +2.2**
baz=145
MVCO **Mesa Verde** **75.22 330** P **P** **20 37 12.9 +0.9**
MVCO IAmb IAmb 20 37 15.0
comp=Z,22nm,1.0s
MVCO **Mesa Verde** **75.22 330** P **P** **20 37 13.7 +1.7**
baz=147
IKP **In-Ko-Pah, Jac** **75.22 322** P **P** **20 37 13.0 +1.1**
baz=141
SWSC **Sam W. Stewart** **75.29 323** P **P** **20 37 14.0 +1.8**
baz=141
Q24A **Divide** **75.33 333** IAmb IAmb 20 37 15.6
comp=Z,26nm,0.9s
Q24A **Divide** **75.33 333** P **P** **20 37 14.4 +1.6**
baz=150,SNR=8.6
LMN **Caledonia Moun** **75.56 5** P **P** **20 37 14.4 +0.9**
LMN IAmb IAmb 20 37 15.7
comp=Z,28nm,1.0s
MONP2 **Monument Peak** **75.58 322** P **P** **20 37 15.1 +0.9**
baz=141
BC3 **Big Chuckawall** **75.66 323** P **P** **20 37 16.0 +1.5**
baz=142,SNR=8.2
IRM **Iron Mountain** **75.89 324** P **P** **20 37 17.9 +2.2**
baz=142,SNR=5.2
OGNE **Ogallala** **75.93 337** P **P** **20 37 17.5 +1.7**
baz=153
E62A **Clayton Lake** **76.11 1** P **P** **20 37 17.3 +0.7**
E62A IAmb IAmb 20 37 19.1
comp=Z,36nm,1.5s
TPFO **Pinon Flats** **76.14 323** P **P** **20 37 19.4 +2.2**
baz=141
PFO **Pinyon Flats O** **76.15 323** P **P** **20 37 18.6 +1.3**
PFO IAmb IAmb 20 37 20.6
comp=Z,15nm,1.2s
PFO **Pinyon Flats O** **76.15 323** P **P** **20 37 19.6 +2.3**
baz=141
PFO **Pinyon Flats O** **76.15 323** *i* P **P** **20 37 18.8 +1.5**
PFO pmax pmax
comp=Z,14nm,1.1s
BELC **Belle Mtn. Jos** **76.21 323** P **P** **20 37 19.3 +1.6**
baz=141
ISCO **Idaho Springs** **76.24 334** P **P** **20 37 19.6 +1.7**
baz=150,SNR=9.4
ISCO **Idaho Springs** **76.24 334** P **P** **20 37 19.2 +1.3**
U15A **North Rim** **76.29 327** IAmb IAmb 20 37 21.6
comp=Z,12nm,0.9s
SUR **Sutherland** **76.37 120** LR LR 21 05 59.4
comp=Z,44nm,21.6s,baz=252,slow=32
MURC **Murrieta** **76.53 322** P **P** **20 37 20.9 +1.6**
baz=140
D62A **Allapoint, All** **76.58 2** P **P** **20 37 20.0 +0.7**
D62A IAmb IAmb 20 37 21.6
comp=Z,27nm,1.1s
GMRC **Granite Mounta** **76.64 324** P **P** **20 37 22.1 +2.0**
baz=142,SNR=7.7
ELS **Elsinore Mount** **76.69 322** IAmb IAmb 20 37 23.4
comp=Z,18nm,1.1s
ECSD **EROS Data Cent** **76.77 341** IAmb IAmb 20 37 22.2
comp=Z,18nm,0.9s
ECSD **EROS Data Cent** **76.77 341** P **P** **20 37 20.9 +0.4**
baz=158
SCI2 **San Clemente I** **76.80 321** P **P** **20 37 21.1 +0.3**
baz=139
BATG **Bathurst New B** **76.90 4** IAmb IAmb 20 37 23.1
comp=Z,14nm,0.9s
MAW **Mawson** **77.01 164** P **P** **20 37 22.2 +0.6**
comp=Z,7.2nm,0.7s,baz=220,slow=7.9,SNR=11
MAW LR LR 21 11 50.6
comp=Z,85nm,19.6s,baz=220,slow=36
comp=Z,7.2nm,0.7s
KNB **Kanab** **77.02 327** IAmb IAmb 20 37 25.6
comp=Z,19nm,1.1s
HEC **Hector,Ludlow** **77.03 323** P **P** **20 37 24.3 +2.1**
baz=141
BFSC **Mount Baldy Ra** **77.27 322** P **P** **20 37 25.8 +2.1**
baz=140
TUQ **Turquoise Moun** **77.29 324** P **P** **20 37 25.8 +2.1**
baz=142,SNR=5.1
N23A **Red Feather La** **77.31 334** P **P** **20 37 25.0 +1.1**
N23A IAmb IAmb 20 37 26.8
comp=Z,15nm,1.1s
N23A **Red Feather La** **77.31 334** P **P** **20 37 25.7 +1.8**
baz=150
PHWY **Pilot Hill** **77.48 334** IAmb IAmb 20 37 27.3
comp=Z,18nm,1.1s
MTPU **Mount Pierson** **77.55 328** IAmb IAmb 20 37 28.2
comp=Z,10.0nm,0.8s
O20A **White River Ci** **77.57 332** P **P** **20 37 27.1 +1.9**
baz=148,SNR=13
GSC **Goldstone, Bar** **77.64 323** P **P** **20 37 27.5 +1.9**
baz=141
DECC **Green Verdugo** **77.64 322** P **P** **20 37 27.7 +2.1**
baz=140
SRU **San Rafael Swe** **77.68 330** P **P** **20 37 26.4 +0.5**
SRU IAmb IAmb 20 37 28.4
comp=Z,14nm,0.8s
SRU **San Rafael Swe** **77.68 330** P **P** **20 37 26.4 +0.5**
SRU pmax pmax
comp=Z,14nm,0.8s
CCUT **Cedar City** **77.70 327** IAmb IAmb 20 37 29.7
comp=Z,13nm,0.9s
VLDQ **Val d'Or** **77.78 356** IAmb IAmb 20 37 27.7
comp=Z,18nm,1.0s
WIN **Windhoek** **77.87 109** P **P** **20 37 26.5 -1.0**
WIN IAmb IAmb 20 37 29.4
comp=Z,13nm,0.9s
WIN **Windhoek** **77.87 109** P **P** **20 37 26.5 -1.0**
WIN pmax pmax
comp=Z,13nm,0.9s
EDW2 **Edwards Air Fo** **77.94 322** P **P** **20 37 28.8 +1.6**
baz=140
F36A **Milaca** **77.97 344** IAmb IAmb 20 37 28.2
comp=Z,12nm,0.8s
P18A **Preston Nutter** **77.99 330** IAmb IAmb 20 37 30.7
comp=Z,23nm,0.9s
OSI **Osito Audit: C** **78.13 322** P **P** **20 37 29.9 +1.7**
baz=139
TMUT **Trail Mountain** **78.13 329** P **P** **20 37 28.9 +0.3**
LRMC **Laurel Mtn Rad** **78.23 323** P **P** **20 37 30.9 +1.9**
baz=140
RAR **Rarotonga** **78.42 252** LR LR 21 02 21.3
comp=Z,82nm,21.8s,baz=122,slow=28
RDMU **Red Mountain** **78.49 331** IAmb IAmb 20 37 32.9
comp=Z,23nm,0.8s
FURC **Furnace Creek,** **78.57 324** P **P** **20 37 32.3 +1.8**
baz=141
MPMC **Manual Prospec** **78.57 323** P **P** **20 37 32.2 +1.3**
baz=140
ISA **Isabella, Lake** **78.79 323** IAmb IAmb 20 37 35.2
comp=Z,11nm,0.9s
ISA **Isabella, Lake** **78.79 323** P **P** **20 37 33.8 +1.9**
baz=140
PKM **Mcpherson Peak** **78.92 321** P **P** **20 37 34.9 +2.0**
baz=139
BSUT **Blindstream Ca** **78.96 330** P **P** **20 37 34.2 +1.1**
BSUT IAmb IAmb 20 37 36.1
comp=Z,17nm,0.9s
K22A **Casper** **79.04 334** IAmb IAmb 20 37 36.0
comp=Z,26nm,0.9s
K22A **Casper** **79.04 334** P **P** **20 37 35.1 +1.8**
baz=150
CWC **Cottonwood Cre** **79.17 323** P **P** **20 37 35.6 +1.5**
baz=140
SPR3 **Spring Creek 3** **79.32 327** P **P** **20 37 35.0 -0.1**
SPR3 IAmb IAmb 20 37 37.8
comp=Z,19nm,1.4s
SMMC **Simmler** **79.34 321** P **P** **20 37 37.0 +2.1**
baz=139
R11B **Troy Canyon, C** **79.40 326** P **P** **20 37 37.5 +2.1**
baz=142,SNR=9.7
RSSD **Black Hills** **79.42 337** P **P** **20 37 36.0 +0.6**
RSSD IAmb IAmb 20 37 37.7
comp=Z,15nm,1.1s
RSSD **Black Hills** **79.42 337** P **P** **20 37 36.8 +1.4**
baz=152
RSSD **Black Hills** **79.42 337** P **P** **20 37 36.0 +0.6**
RSSD pmax pmax
comp=Z,15nm,1.1s

DUG **Dugway, Tooele** **79.58 329** P **P** **20 37 37.8 +1.6**
baz=144,SNR=10.0
TCUT **Toone Canyon** **79.72 330** IAmb IAmb 20 38 04.4
comp=Z,14nm,0.9s
TIN **Tinemaha, Big** **79.72 324** P **P** **20 37 38.9 +1.9**
baz=140
MZP **Montezuma Peak** **79.78 325** P **P** **20 37 38.0 +0.4**
TSUM **Tsumeb** **79.83 106** LR LR 21 09 11.3
comp=Z,102nm,18.9s,baz=228,slow=33
HWUT **Hardware Ranch** **80.19 331** IAmb IAmb 20 37 41.7
comp=Z,20nm,0.8s
BW06 **Boulder Array** **80.32 333** P **P** **20 37 40.8 +0.5**
baz=147
PDAR **Pinedale Array** **80.32 333** P **P** **20 37 40.3 0.0**
PDAR **Pinedale Array** **80.32 333** P **P** **20 37 41.1 +0.8**
comp=Z,2.2nm,0.6s,baz=134,slow=7.7,SNR=29
PDAR LR LR 21 10 21.7
comp=Z,38nm,20.1s,baz=167,slow=34
comp=Z,2.2nm,0.6s
SPUT **South Promonto** **80.32 330** IAmb IAmb 20 37 42.6
comp=Z,15nm,0.9s
B35A **Bob, Littlefor** **80.37 345** IAmb IAmb 20 37 41.4
comp=Z,14nm,0.9s
NVAR **Mina Array Bea** **80.81 324** P **P** **20 37 43.5 +0.5**
NVAR **Mina Array Bea** **80.81 324** P **P** **20 37 44.4 +1.4**
comp=Z,3.9nm,0.8s,baz=152,slow=6.1,SNR=22
comp=Z,3.9nm,0.8s
AGMN **Agassiz Nation** **80.81 344** IAmb IAmb 20 37 44.0
comp=Z,12nm,0.8s
AGMN **Agassiz Nation** **80.81 344** P **P** **20 37 43.1 +0.6**
baz=159
BBGB **Big Mountain B** **80.84 322** IAmb IAmb 20 37 48.8
comp=Z,22nm,0.8s
HVU **Hansel Valley** **80.85 330** IAmb IAmb 20 37 45.0
comp=Z,12nm,0.9s
ELK **Elko** **81.13 328** LR LR 21 09 50.9
comp=Z,56nm,19.7s,slow=33
ELK **Elko** **81.13 328** P **P** **20 37 46.0 +1.3**
LOHW **Long Hollow** **81.44 332** P **P** **20 37 46.2 0.0**
BOSA **Boshof** **81.52 118** P **P** **20 37 46.1 -1.0**
BOSA IAmb IAmb 20 37 48.0
comp=Z,10nm,0.7s
BOSA **Boshof** **81.52 118** P **P** **20 37 47.5 +0.3**
comp=Z,11nm,0.7s,baz=258,slow=4.7,SNR=27
BOSA LR LR 21 09 56.1
comp=Z,69nm,18.9s,baz=196,slow=33
comp=Z,11nm,0.7s
FLWY **Flagg Ranch** **81.88 333** IAmb IAmb 20 37 50.6
comp=Z,9.3nm,0.8s
PNTR **Pine Nut** **81.97 324** IAmb IAmb 20 37 52.2
comp=Z,18nm,0.8s
H17A **Grant Village** **82.08 333** P **P** **20 37 51.2 +1.5**
baz=146
RLMT **Red Lodge** **82.18 334** IAmb IAmb 20 37 52.2
comp=Z,8.4nm,0.7s
RLMT **Red Lodge** **82.18 334** P **P** **20 37 51.3 +1.2**
baz=148
TORD **Torodi Ar. Bea** **82.27 70** P **P** **20 37 51.3 +0.3**
comp=Z,12nm,0.6s,baz=278,slow=4.5,SNR=55
TORD LR LR 21 13 02.1
comp=Z,85nm,19.4s,baz=196,slow=35
comp=Z,12nm,0.6s
LAO **LASA Array** **82.42 337** P **P** **20 37 52.0 +0.9**
baz=150
ULM **Lac du Bonnet** **82.64 344** IAmb IAmb 20 37 53.3
comp=Z,17nm,0.8s
ULM **Lac du Bonnet** **82.64 344** P **P** **20 37 52.2 +0.2**
comp=Z,16nm,0.8s,baz=157,slow=3.9,SNR=17
comp=Z,16nm,0.8s
ULM **Lac du Bonnet** **82.64 344** *i* P **P** **20 37 51.8 -0.2**
HLID **Hailey** **83.00 330** IAmb IAmb 20 37 57.1
comp=Z,14nm,1.1s
HLID **Hailey** **83.00 330** P **P** **20 37 56.2 +1.9**
baz=143
ORV **Oroville** **83.29 323** IAmb IAmb 20 37 58.7
comp=Z,14nm,0.9s
DGMT **Dagmar** **83.31 339** P **P** **20 37 57.0 +1.4**
baz=152
BOZ **Bozeman (W)** **83.50 333** P **P** **20 37 58.3 +1.4**
baz=146
LBTB **Lobatse** **83.55 115** P **P** **20 37 57.6 -0.1**
LBTB **Lobatse** **83.55 115** LR LR 21 09 57.3
comp=Z,104nm,19.5s,baz=224,slow=32
LBTB **Lobatse** **83.55 115** P **P** **20 37 57.6 -0.1**
LBTB pmax pmax
comp=Z,27nm,0.7s
CASY **Casey** **84.19 181** P **P** **20 38 00.7 +0.7**
CASY IAmb IAmb 20 38 02.1
comp=Z,17nm,1.1s
SCHQ **Schefferville** **84.41 3** IAmb IAmb 20 38 02.4
comp=Z,23nm,1.2s
SCHQ **Schefferville** **84.41 3** P **P** **20 38 01.3 +0.2**
comp=Z,8.4nm,0.9s,baz=159,slow=6.1,SNR=8.6
SCHQ LR LR 21 16 12.7
comp=Z,22nm,21.0s,baz=275,slow=36
comp=Z,8.4nm,0.9s
J08A **Circle Bar Ran** **84.67 328** IAmb IAmb 20 38 05.4
comp=Z,21nm,1.1s
PLID **Pearl Lake** **84.90 330** IAmb IAmb 20 38 06.2
comp=Z,12nm,0.9s
KMRM **Mail Ridge** **84.94 323** IAmb IAmb 20 38 07.5
comp=Z,18nm,1.1s
KMPM **Mount Pierce** **85.29 322** IAmb IAmb 20 38 09.2
comp=Z,14nm,0.9s
KHMM **Horse Mountain** **85.42 323** IAmb IAmb 20 38 09.6
comp=Z,10nm,1.0s
MSO **Missoula** **85.43 332** P **P** **20 38 07.9 +1.4**
baz=144
I07A **Izee** **85.70 327** IAmb IAmb 20 38 10.6
comp=Z,8.1nm,1.0s
J05D **Fort Rock, OR** **85.93 326** IAmb IAmb 20 38 11.8
comp=Z,10nm,1.0s
KRMB **Red Mountain** **85.98 323** P **P** **20 38 10.0 +0.6**
KRMB IAmb IAmb 20 38 12.2
comp=Z,16nm,1.2s
KSXB **Camp Six Broad** **86.19 324** IAmb IAmb 20 38 13.3
comp=Z,16nm,1.3s
I04A **Tendick Farm,** **86.88 326** IAmb IAmb 20 38 15.5
comp=Z,12nm,1.2s
H04A **Detroit Lake** **87.43 326** IAmb IAmb 20 38 18.1
comp=Z,13nm,0.9s
NEW **Newport** **87.88 331** P **P** **20 38 19.7 +1.3**
baz=142
FFC **Flin Flon** **88.24 343** P **P** **20 38 19.2 -0.6**
FFC **Flin Flon** **88.24 343** P **P** **20 38 19.2 -0.6**
FFC pmax pmax
comp=Z,7.0nm,1.3s
LTY **Liberty** **88.64 329** IAmb IAmb 20 38 23.8
comp=Z,12nm,1.3s
MDT **Midelt** **88.76 51** LR LR 21 17 31.9
comp=Z,38nm,20.1s,baz=236,slow=35
LON **Longmire** **88.78 328** IAmb IAmb 20 38 24.2
comp=Z,5.2nm,0.8s
TAM **Tamanrasset** **90.51 64** P **P** **20 38 31.3 -0.2**
TAM IAmb IAmb 20 38 33.1
comp=Z,3.7nm,0.7s
TAM **Tamanrasset** **90.51 64** P **P** **20 38 31.3 -0.2**
TAM pmax pmax
comp=Z,4.0nm,0.7s
LSZ **Lusaka** **90.56 108** P **P** **20 38 32.2 +0.3**
LSZ IAmb IAmb 20 38 34.8
comp=Z,11nm,0.9s
LSZ **Lusaka** **90.56 108** LR LR 21 16 34.1
comp=Z,55nm,18.1s,baz=256,slow=34
LSZ **Lusaka** **90.56 108** P **P** **20 38 32.2 +0.3**
LSZ pmax pmax
comp=Z,11nm,0.9s
ESDC **Sonseca Array** **93.28 46** P **P** **20 38 43.0 -0.8**
ESDC **Sonseca Array** **93.28 46** P **P** **20 38 43.4 -0.4**
comp=Z,1.7nm,0.9s,baz=253,slow=3.7,SNR=9.8
ESDC LR LR 21 20 43.0
comp=Z,69nm,18.2s,baz=218,slow=36
comp=Z,1.7nm,0.9s
YKA **Yellowknife Ar** **98.30 341** P Pdif 20 39 05.8 -0.2
comp=Z,0.8nm,0.5s,baz=136,slow=4.1,SNR=18
comp=Z,0.8nm,0.5s
TOAD **Toad River Com** **99.00 335** P Pdif 20 39 10.0 +0.7
baz=135
CRAG **Craig** **99.94 329** P **Pdif** **20 39 14.4 +0.9**
baz=129
DLBC **Dease Lake** **100.55 333** P **Pdif** **20 39 17.1 +0.9**
baz=131
R33M **Jennings River** **101.55 333** P **Pdif** **20 39 21.7 +1.0**
baz=130
S32K **Killisnoo** **101.81 330** P **Pdif** **20 39 22.8 +1.0**
baz=128
SIT **Sitka** **101.89 330** P **Pdif** **20 39 22.6 +0.6**
baz=127

TGTN **Hyland Airport** **101.94 336** P **Pdif** **20 39 23.0 +0.7**
baz=132
P32M **Atlin** **102.76 332** P **Pdif** **20 39 26.7 +0.7**
baz=128
P33M **Teslin, Yukon** **102.79 333** P **Pdif** **20 39 26.7 +0.5**
baz=129
S31K **Pelican** **102.82 330** P **Pdif** **20 39 26.3 +0.1**
baz=126
MMPY **Sheldon Lake,** **103.72 336** P **Pdif** **20 39 31.0 +0.8**
baz=129
DZM **Mont Dzumac** **104.14 234** *e* LR LR 21 13 41.1
comp=Z,156nm,24.9s
G31M **Satah River** **107.38 338** P **PKiKP** **20 43 54.9 +0.3**
baz=126
KAIM **Kayak Island** **107.45 330** P **PKiKP** **20 43 55.5 +0.5**
baz=120
MCARA **McCarthy VSAT** **107.58 331** P **PKiKP** **20 43 55.8 +0.7**
baz=120
EPYK **Eagle Plains** **107.87 337** P **PKiKP** **20 43 56.3 +0.6**
baz=124
L27K **Beaver Creek,** **107.95 333** P **PKiKP** **20 43 56.3 +0.4**
baz=121
Q20K **Shuyak Island** **110.53 326** P **PKiKP** **20 44 01.6 +0.8**
baz=114
ILAR **Eielson Array** **110.73 334** Pdiff **Pdif** **20 40 00.9 -0.3**
comp=Z,0.4nm,0.8s,baz=129,slow=3.0,SNR=4.7
O20K **Slope Mountain** **111.22 328** P **PKiKP** **20 44 01.4 -0.7**
baz=113
Q19K **Cape Douglas,** **111.25 327** P **PKiKP** **20 44 01.8 -0.4**
baz=113
SKT **Skwentna** **111.47 330** P **PKiKP** **20 44 02.2 -0.3**
baz=113
H23K **Yukon River** **112.19 334** P **PKiKP** **20 44 04.4 +0.6**
baz=113
F24K **Squaw Lake** **112.27 336** P **PKiKP** **20 44 04.7 +0.9**
baz=114
O18K **Koktuh Hills** **112.34 327** P **PKiKP** **20 44 04.6 +0.4**
baz=111
D25K **Kavik River** **112.50 338** P **PKiKP** **20 44 05.1 +0.8**
baz=115
S14K **Fog Glacier** **113.29 323** P **PKiKP** **20 44 06.7 +0.5**
baz=109
SDPT **Sand Point** **113.48 321** P **PKiKP** **20 44 07.3 +0.8**
baz=109
O16K **Kokwok River B** **113.63 326** P **PKiKP** **20 44 07.3 +0.7**
baz=109
TTA **Tatalina** **113.76 330** P **PKiKP** **20 44 08.1 +1.2**
baz=109
F22K **John River** **113.79 335** P **PKiKP** **20 44 08.0 +1.2**
baz=110
L18K **Granite Mounta** **113.82 329** P **PKiKP** **20 44 07.8 +0.9**
baz=109
M17K **Holitna River** **113.90 328** P **PKiKP** **20 44 08.1 +1.0**
baz=109
J19K **Poorman** **113.94 331** P **PKiKP** **20 44 07.9 +0.8**
baz=109
H20K **Anotleneega Mo** **114.13 333** P **PKiKP** **20 44 08.1 +0.6**
baz=109
N16K **Nishlik Lake** **114.23 327** P **PKiKP** **20 44 08.3 +0.6**
baz=108
O15K **Ungalikthiuk R** **114.34 326** P **PKiKP** **20 44 08.4 +0.4**
baz=108
S12K **Black Hills** **114.45 322** P **PKiKP** **20 44 08.1 -0.3**
baz=107
M16K **Timber Creek** **114.48 328** P **PKiKP** **20 44 08.3 0.0**
baz=108
GCSA **Galena City Sc** **114.70 332** P **PKiKP** **20 44 09.3 +0.8**
baz=108
E21K **Killik River** **114.74 336** P **PKiKP** **20 44 09.1 +0.5**
baz=108
H19K **Roundabout Mou** **114.76 333** P **PKiKP** **20 44 08.2 -0.4**
baz=108
N15K **Kwethluk River** **114.76 327** P **PKiKP** **20 44 09.0 +0.2**
baz=107
F20K **Avaraart Lake** **114.94 335** P PKPdf 20 44 08.9 0.0
baz=108
O14K **Tigyukauivet M** **115.07 325** P **PKiKP** **20 44 08.8 -0.6**
baz=106
B22K **Teshekpuk Lake** **115.15 338** P **PKPdf** **20 44 09.0 -0.2**
baz=108
G19K **Purcell Mounta** **115.19 333** P **PKPdf** **20 44 10.1 +0.6**
baz=107
J17K **VABM Dome** **115.23 330** P **PKPdf** **20 44 09.0 -0.6**
baz=106
N14K **Kuskokwak Cree** **115.46 326** P **PKiKP** **20 44 10.4 +0.3**
baz=106
F19K **Shaleruckik Mo** **115.65 334** P **PKiKP** **20 44 10.7 +0.4**
baz=106
G18K **Tagagawik** **115.74 333** P **PKiKP** **20 44 11.5 +0.9**
baz=106
M14K **Bethel** **115.81 327** P **PKiKP** **20 44 11.8 +1.1**
baz=105
L15K **Ungalak Mounta** **115.83 328** P **PKiKP** **20 44 11.2 +0.4**
baz=105
J16K **Anvik River** **115.86 330** P **PKiKP** **20 44 11.9 +1.1**
baz=105
H17K **Granite Mounta** **116.00 332** P **PKiKP** **20 44 12.3 +1.2**
baz=105
K15K **Wolf Creek Mou** **116.02 329** P **PKiKP** **20 44 11.9 +0.7**
baz=105
I17K **Unalakleet** **116.05 330** P **PKiKP** **20 44 12.4 +1.3**
baz=105
B20K **Meade River** **116.28 338** P **PKiKP** **20 44 12.6 +1.2**
baz=105
L14K **Kuka Creek** **116.30 327** P **PKiKP** **20 44 12.1 +0.4**
baz=104
F18K **Selawik** **116.31 334** P **PKiKP** **20 44 12.6 +1.0**
baz=104
F17K **Baldwin Pennin** **116.90 333** P **PKiKP** **20 44 13.7 +1.0**
baz=103
J14K **Nanvaranak Lak** **117.03 329** P **PKiKP** **20 44 13.6 +0.5**
baz=103
F14K **Arctic Creek** **118.75 332** P **PKiKP** **20 44 17.5 +1.2**
baz=99
AKASG **Malin Array Be** **118.93 46** PKP **PKiKP** **20 44 16.4 -0.7**
comp=Z,0.2nm,0.2s,baz=268,slow=2.4,SNR=4.6
AKBB **Malin Array Si** **118.93 46** *c* iPKiKP **PKiKP** **20 44 17.1 0.0**
BR131 **Keskin Array S** **119.26 59** *i* PKiKP **PKiKP** **20 44 19.2 +0.8**
BRTR **Keskin Array B** **119.26 59** PKP **PKiKP** **20 44 18.5 +0.1**
comp=Z,1.1nm,0.9s,baz=169,slow=1.9,SNR=7.7
ARCES **ARCESS Array B** **120.00 24** PKKPbc PKKPbc 20 54 28.4 -0.8
comp=Z,2.6nm,0.8s,baz=108,slow=2.9,SNR=5.6
ASAR **Alice Springs** **121.52 207** PKP **PKPdf** **20 44 22.4 -0.7**
comp=Z,1.9nm,0.8s,baz=126,slow=1.6,SNR=16
ASAR PKKPbc **PKKPbc** **20 54 23.4 +0.5**
comp=Z,0.7nm,0.8s,baz=325,slow=3.5,SNR=5.9
OBN **Obninsk** **123.98 41** *i* PKiKP **PKiKP** **20 44 27.0 +0.1**
OBN pmax pmax
comp=Z,3.0nm,0.7s
WRA **Warramunga Arr** **124.66 210** PKP **PKiKP** **20 44 28.9 -0.6**
comp=Z,3.2nm,0.6s,baz=157,slow=1.7,SNR=40
KLMR **Klimovskoe** **125.69 34** *e* PKiKP **PKPdf** **20 44 29.1 -0.6**
KLMR pmax pmax
comp=Z,8.0nm,0.9s
KIV **Kislovodsk** **126.75 55** *e* PKiKP **PKPdf** **20 44 31.9 -0.6**
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ **Khabaz** **126.86 56** *i* PKiKP **PKiKP** **20 44 34.4 +1.4**
BILL **Bilibino** **129.31 336** *i* PKiKP **PKiKP** **20 44 37.7 +0.5**
BILL pmax pmax
comp=Z,3.0nm,1.1s
ARU **Arti** **136.18 38** *i* PKiKP **PKiKP** **20 44 50.8 -0.6**
ARU 20 47 29.9
ARU SS SS 21 05 19.8 -8.0
SEY **Seymchan** **136.65 333** PKP **PKiKP** **20 44 51.3 -0.9**
comp=Z,2.8nm,1.0s,baz=113,slow=15,SNR=4.9
SEY **Seymchan** **136.65 333** *i* PKiKP **PKiKP** **20 44 52.0 -0.2**
TIXI **Tiksi** **136.69 351** PKPdf **PKPdf** **20 44 49.2 -1.1**
TIXI **Tiksi** **136.69 351** PKiKP **PKPdf** **20 44 49.2 -1.1**
GEYT **Alibeck** **137.73 65** PKP **PKPdf** **20 44 51.3 -2.0**
comp=Z,2.2nm,0.7s,baz=284,slow=5.8,SNR=4.6
ABKAR **Akbulak array** **138.58 48** PKPpre 20 44 42.3
ABKAR PKPdf **PKPdf** **20 44 54.0 -0.4**
BRVK **Borovoye** **143.71 39** *c* iPKiKP **PKPdf** **20 45 02.9 -0.6**
BRVK pmax pmax
comp=Z,4.0nm,1.0s
BVAR **Borovoye Array** **143.78 39** PKP **PKPdf** **20 45 02.5 -1.2**
comp=Z,4.3nm,0.8s,baz=291,slow=4.0,SNR=13
YAK **Yakutsk** **144.96 343** **PKPdf** **20 45 04.6 -0.8**
YAK **Yakutsk** **144.96 343** PKP **PKPdf** **20 45 05.3 -0.1**
comp=Z,86nm,0.8s,baz=94,slow=0.7,SNR=47
YAK **Yakutsk** **144.96 343** *i* PKiKP **PKPdf** **20 45 05.1 -0.3**
YAK *e* 20 45 17.5
YAK *e* 20 48 21.3
YAK pmax pmax
comp=Z,110nm,0.9s
YAK pmax pmax

	comp=N,12nm,1.3s							
YAK					pmax	pmax		
	comp=E,10.0nm,1.3s							
YAK					pmax	pmax		
	comp=Z,84nm,3.0s							
YAK					pmax	pmax		
	comp=N,23nm,2.8s							
YAK					pmax	pmax		
	comp=E,40nm,3.5s							
SIMJ	**Simiganj**	**146.31**	**64**		**PKPbc**	**20 45 09.0**	**-0.9**	
KBL	**Kabul**	**146.33**	**72**		**PKPbc**	**20 45 09.0**	**-1.2**	
KBL	**Kabul**	**146.33**	**72**	PKP2	**PKPbc**	**20 45 09.0**	**-1.2**	
KKAR	**Karatay Array**	**146.90**	**56**		**PKPbc**	**20 45 10.2**	**-1.1**	
KKAR	**Karatay Array**	**146.90**	**56**	PKP2	**PKPbc**	**20 45 10.2**	**-1.1**	
TOLI2	**Tolitoli**	**149.18**	**204**	PKPdf	**PKPdf**	**20 45 12.2**	**-1.8**	
TOLI2					**PKPbc**	**20 45 16.9**	**-1.3**	
EKS2	**Erkin-Say**	**149.34**	**56**	P	**PKiKP**	**20 45 19.4**	**+0.4**	
	SNR=15							
KURBB	**Kurchatov Arra**	**149.37**	**39**	PKPbc	**PKiKP**	**20 45 18.5**	**-0.2**	
	comp=E,9.6nm,0.8s,baz=304,slow=2.8,SNR=30							
KURK	**Kurchatov**	**149.37**	**39**		**PKPdf**	**20 45 13.3**	**+0.2**	
KURK				PKPbc	**PKiKP**	**20 45 18.1**	**-0.6**	
KURK				PKPab	**PKPab**	**20 45 23.4**	**+1.0**	
KURK	**Kurchatov**	**149.37**	**39** *c*	*i*PKP2	**PKiKP**	**20 45 17.8**	**-0.9**	
KURK				pmax	pmax			
	comp=Z,12nm,1.0s							
USP	**Ospenovka**	**149.71**	**54**	P	**PKiKP**	**20 45 19.4**	**-0.3**	
	SNR=17							
AAK	**Ala-Archa**	**149.86**	**56**	P	**PKiKP**	**20 45 20.8**	**+0.6**	
	SNR=38							
AAK	**Ala-Archa**	**149.86**	**56**		**PKPdf**	**20 45 14.8**	**+0.4**	
AAK				PKPbc	**PKiKP**	**20 45 20.4**	**+0.2**	
AAK	**Ala-Archa**	**149.86**	**56**	PKHKP	PKPpre	20 45 14.8		
AAK						20 45 20.4		
HYB	**Hyderabad**	**149.91**	**107** *e*	PKiKP	**PKiKP**	**20 45 20.6**	**-0.3**	
CHMS	**Chumysh**	**149.96**	**55**	P	**PKiKP**	**20 45 20.4**	**+0.2**	
	SNR=14							
UCH	**Uchtor**	**149.97**	**56**	P	**PKiKP**	**20 45 21.6**	**+0.8**	
	SNR=31							
KBK	**Karagaybulak**	**150.18**	**55**	P	**PKiKP**	**20 45 21.6**	**+0.7**	
	SNR=17							
ZAA0	**Zalesovo Array**	**150.36**	**29**		**PKiKP**	**20 45 20.1**	**-0.5**	
ZALV	**Zalesovo Beam**	**150.36**	**29**	PKPdf	**PKPdf**	**20 45 14.6**	**0.0**	
ZALV				PKPbc	**PKiKP**	**20 45 20.3**	**-0.3**	
ZALV	**Zalesovo Beam**	**150.36**	**29**	PKPbc	**PKiKP**	**20 45 20.6**	**0.0**	
	comp=Z,44nm,0.8s,baz=298,slow=3.3,SNR=130							
ZALV	**Zalesovo Beam**	**150.36**	**29**	PKIKP	**PKPdf**	**20 45 14.6**	**0.0**	
TKM2	**Tokmak 2**	**150.58**	**55**	P	**PKiKP**	**20 45 22.1**	**+0.3**	
	SNR=38							
ULHL	**Ulahol**	**151.21**	**56**	P	**PKiKP**	**20 45 24.1**	**+1.0**	
	SNR=26							
BOD	**Bodaibo**	**151.77**	**354** *e*	PKIKP	**PKiKP**	**20 45 22.8**	**-0.6**	
BOD				pmax	pmax			
	comp=Z,16nm,1.0s							
ZEA	**Zeya**	**152.53**	**336** *e*	PKIKP	**PKiKP**	**20 45 26.0**	**+0.9**	
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.0s							
MAKZ	**Makanchi**	**153.28**	**43**	PKPdf	**PKPdf**	**20 45 18.3**	**-1.0**	
MAKZ				PKPbc	**PKiKP**	**20 45 26.6**	**-0.3**	
MAKZ				PKPab	**sPKPdf**	**20 45 39.3**	**+2.5**	
MAKZ	**Makanchi**	**153.28**	**43**	PKIKP	**PKPdf**	**20 45 18.3**	**-1.0**	
MAKZ						20 45 39.3		
MKAR	**Makanchi Array**	**153.47**	**43**	PKPdf	**PKPdf**	**20 45 18.1**	**-1.4**	
MKAR					**PKiKP**	**20 45 27.1**	**-0.2**	
MKAR				PKPab	**sPKPdf**	**20 45 39.8**	**+2.7**	
MKAR	**Makanchi Array**	**153.47**	**43**	PKPbc	**PKiKP**	**20 45 27.7**	**+0.4**	
	comp=Z,4.2nm,0.8s,baz=322,slow=2.1,SNR=37							
MKAR				PKPab	**pPKPbc**	**20 45 40.7**	**+0.6**	
	comp=Z,6.0nm,0.7s,baz=291,slow=3.6,SNR=22							
MKAR	**Makanchi Array**	**153.47**	**43**	PKIKP	**PKPdf**	**20 45 18.1**	**-1.4**	
MKAR						20 45 27.1		
MKAR						20 45 39.8		
IPM	**Ipoh**	**153.78**	**163**		**PKPdf**	**20 45 18.2**	**-2.8**	
IPM				PKPbc	**PKPbc**	**20 45 28.2**	**-0.7**	
KLR	**Kul'dur**	**153.84**	**324**	PKPab	**PKPab**	**20 45 41.6**	**+0.5**	
	comp=Z,1.3nm,0.6s,baz=54,slow=3.7,SNR=4.6							
MJAR	**Matsushiro Arr**	**154.41**	**293**	PKPab	**PKPab**	**20 45 44.3**	**+0.3**	
	comp=Z,1.8nm,0.8s,baz=88,slow=2.7,SNR=4.7							
ZAK	**Zakamensk**	**159.08**	**10** *e*	PKP2	**PKPab**	**20 46 04.5**	**+0.9**	
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.3s							
SONM	**Songino Array**	**161.94**	**5**	PKPab	**PKPab**	**20 46 17.4**	**+1.2**	
	comp=Z,4.3nm,0.9s,baz=335,slow=4.3,SNR=17							
SONM				PP	**PP**	**20 50 01.0**	**+1.6**	
	comp=Z,1.2nm,0.9s,baz=346,slow=4.2,SNR=8.1							
ULN	**Ulaanbaatar**	**161.95**	**3**	PKPdf	**PKPdf**	**20 45 30.1**	**-0.1**	
ULN				PKPab	**PKPab**	**20 46 16.9**	**+0.6**	
ULN	**Ulaanbaatar**	**161.95**	**3**	PKIKP	**PKPdf**	**20 45 30.1**	**-0.1**	
ULN						20 46 16.9		
CMAR	**Chiang Mai Arr**	**165.65**	**140**	PKP	**PKPdf**	**20 45 34.4**	**+0.2**	
	comp=Z,0.4nm,0.7s,baz=194,slow=3.4,SNR=4.6							
CMAR				PKPab	**PKPab**	**20 46 32.8**	**-0.3**	
	comp=Z,2.2nm,1.0s,baz=228,slow=5.8,SNR=10.0							
CRAI	**Chiangrai**	**167.87**	**140**	PKPdf	**PKPdf**	**20 45 34.0**	**-1.9**	
CRAI				PKPab	**PKPab**	**20 46 42.0**	**-0.9**	
HHC	**Hu-ho-hao-te**	**168.75**	**348** *e*	P	**PKPdf**	**20 45 42.0**	**+6.0**	
NJ2	**Nanjing**	**170.94**	**287** *e*	P	**PKPdf**	**20 45 37.1**	**-0.3**	
NJ2				pmax	pmax			
	comp=Z,5.0nm,0.5s							
PZH	**PanZhiHua**	**173.09**	**117**	PKP	**PKPdf**	**20 45 36.0**	**-2.7**	
GYA	**Guiyang**	**176.22**	**152** *e*	P	**PKPdf**	**20 45 37.0**	**-2.7**	
GYA				pmax	pmax			
	comp=Z,4.0nm,0.9s							

NEIC ***04*** *20:25:58.5±3.1, 39˚.29N±0˚.01×122˚.74W±0˚.02, h10km±2km, Error ellipse: s-maj=3.0km s-min=2.4km az=213.0*

NCEDC 04 20:26:00.1±3.4, 39˚.30N±0˚.01×122˚.77W±0˚.02, h12km±7km, ML3.0/31, ML3.0/94(NEIC), Error ellipse: s-maj=1.8km s-min=1.6km az=146.0, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTSM	**Trough Springs**	**0.13**	**86**		Pg	20 26 03.4	-0.1
GHMM	**Hull Mountain**	**0.23**	**328**		Pg	20 26 04.9	-0.1
GBMM	**Baldy Mountain**	**0.27**	**127**		Pg	20 26 05.5	-0.2
GHLM	**Highland Sprin**	**0.32**	**216**		Pg	20 26 07.0	+0.3
GCK	**Clark Valley**	**0.35**	**47**		Pb	20 26 08.3	0.0
GRTM	**Round Top Moun**	**0.37**	**167**		Pg	20 26 07.6	0.0
GFC	**Funks Creek**	**0.38**	**86**		Pb	20 26 08.8	+0.2
HOPS	**Hopland Field**	**0.39**	**217**		Pg	20 26 08.1	+0.2
HOPS				Sg	Sb	20 26 14.9	+0.1
GWRM	**Wonder Ranch**	**0.42**	**257**		Pg	20 26 08.8	+0.4
GSGM	**Seigler Mounta**	**0.44**	**174**		Pg	20 26 09.1	+0.3
DCMP	**DeCamp, Califo**	**0.47**	**291**		Pg	20 26 09.3	0.0
GPMM	**Pine Mountain**	**0.47**	**197**		Pb	20 26 10.0	-0.4
GVV	**Valley View**	**0.48**	**9**		Pg	20 26 09.9	+0.4
GBGM	**Boggs Mountain**	**0.49**	**171**		Pg	20 26 10.2	+0.4
GDXM	**Geysers**	**0.49**	**182**		Pg	20 26 09.8	-0.1
GDXM				IAML		20 26 13.9	
	comp=E,946nm,0.8s						
GDXM				IAML		20 26 14.5	
	comp=N,700nm,0.2s						
MNRC	**McLaughlin Min**	**0.50**	**149**		Pg	20 26 10.2	+0.4
GCRM	**Castle Rock Sp**	**0.53**	**175**		Pg	20 26 10.4	-0.1
GGPM	**Geyser Peak**	**0.54**	**186**		Pb	20 26 11.1	-0.4
NMTM	**Middletown**	**0.56**	**153**		Pg	20 26 11.2	+0.2
GCVM	**Cloverdale**	**0.56**	**199**		Pb	20 26 11.8	-0.1
KFPM	**Farley Peak**	**0.60**	**304**		Pg	20 26 12.2	+0.3
GTC	**Three Chop Rid**	**0.61**	**279**		Pg	20 26 12.3	+0.2
NHSM	**Mount Saint He**	**0.66**	**169**		Pg	20 26 12.9	0.0
KBNM	**Bluenose Ridge**	**0.67**	**331**		Pg	20 26 13.4	+0.2
OSUM	**Sutter Buttes**	**0.72**	**92**		Pg	20 26 13.4	-0.6
GGUM	**Gualala**	**0.72**	**232**		Pg	20 26 13.9	-0.1
KCPM	**Cahto Peak**	**0.73**	**302**		Pg	20 26 14.5	+0.2
KCPM				Sg	Sn	20 26 27.4	-0.1
KIPM	**Iron Peak**	**0.74**	**313**		Pg	20 26 14.7	+0.2
SUTB	**Sutter Butte**	**0.77**	**95**		Pg	20 26 13.7	-1.3
GHCM	**House Creek**	**0.77**	**206**		Pg	20 26 14.7	-0.3
NBPM	**Berryessa Peak**	**0.78**	**144**		Pg	20 26 15.2	0.0
NDHM	**Dunnigan Hills**	**0.86**	**128**		Pg	20 26 16.3	-0.3
O02D	**Mt. Diablo Mer**	**0.87**	**359**		Pb	20 26 17.1	-0.1
OSTM	**Stimpson Lane**	**0.92**	**86**		Pg	20 26 16.3	-1.5
NAPC	**Atlas Peak**	**0.95**	**155**		Pg	20 26 16.9	-1.6
OGOM	**Van Goodin Ran**	**0.96**	**68**		Pg	20 26 16.6	-2.1
OWYM	**Wyandotte**	**1.01**	**81**		Pb	20 26 17.2	-2.2
LBPM	**Beegum Peak**	**1.02**	**355**		Pb	20 26 19.7	0.0
ORV	**Oroville**	**1.02**	**75**		Pb	20 26 17.2	-2.4
LTCM	**Tuscan Springs**	**1.03**	**29**		Pb	20 26 18.4	-1.5
NADM	**Allendale**	**1.05**	**143**		Pb	20 26 19.4	-0.8
SNT	**Sears Point**	**1.15**	**167**		Pb	20 26 19.2	-2.6
MCCM	**Marconi Confer**	**1.16**	**184**		Pb	20 26 19.7	-2.3
KMRM	**Mail Ridge**	**1.17**	**322**		Pb	20 26 21.1	-1.1
O03E	**Paynes Creek**	**1.24**	**37**		Pn	20 26 20.5	-2.8
LCMM	**Colby Mountain**	**1.28**	**49**		Pn	20 26 22.2	-1.8
LDBM	**Digger Butte**	**1.36**	**34**		Pn	20 26 23.4	-1.5
KCRM	**Chalk Rock**	**1.38**	**325**		Pn	20 26 24.2	-1.0
KSMM	**Slide Mountain**	**1.39**	**310**		Pn	20 26 23.4	-2.0
KHBM	**Hayfork Bally**	**1.40**	**346**		Pn	20 26 25.3	-0.3
CTAM	**Taylor**	**1.41**	**155**		Pn	20 26 23.4	-2.1
AFDM	**Forest Hills D**	**1.45**	**104**		Pn	20 26 23.9	-2.1
AFDM				IAML		20 26 48.4	
	comp=E,131nm,0.5s						
CVPM	**Vollmer Peak**	**1.48**	**163**		Pn	20 26 24.1	-2.4
BKS	**Berkeley--Byer**	**1.49**	**163**		Pn	20 26 24.5	-2.1
KMPM	**Mount Pierce**	**1.52**	**317**	Pn	Pn	20 26 25.9	-1.2
KMPM				IAML		20 27 01.7	
	comp=E,282nm,1.1s						
KMPM				IAML		20 27 06.1	
	comp=N,290nm,0.8s						
LRDM	**Redding Peak**	**1.54**	**41**		Pn	20 26 26.0	-1.3
BGC	**Bolinger Road**	**1.59**	**159**		Pn	20 26 26.2	-1.8
LSHM	**Sage Hen Hill**	**1.59**	**20**		Pn	20 26 26.4	-1.7
LGPM	**Granite Peak**	**1.61**	**359**		Pn	20 26 28.3	-0.1
N02D	**Trinity Center**	**1.67**	**2**		Pn	20 26 28.6	-0.6
CMOB	**Morgan Territo**	**1.67**	**153**		Pn	20 26 27.4	-1.9
KCTM	**Capetown**	**1.68**	**315**		Pn	20 26 28.4	-0.9
KHMM	**Horse Mountain**	**1.73**	**335**		Pn	20 26 30.1	-0.1
KHMM				IAML		20 27 12.9	
	comp=N,183nm,1.5s						
KHMM				IAML		20 27 18.1	
	comp=E,206nm,1.1s						
LBKM	**Bonanza King**	**1.78**	**3**		Pn	20 26 30.0	-0.8
JCC	**Jacoby Creek,**	**1.79**	**328**		Pn	20 26 29.4	-1.4
JCC				IAML		20 27 19.6	
	comp=E,182nm,1.2s						
JCC				IAML		20 27 20.1	
	comp=N,108nm,1.4s						
DONR	**Donner Summit**	**1.90**	**88**		Pn	20 26 32.4	-0.2
CSTL	**Corral Hollow**	**1.94**	**149**		Pn	20 26 31.6	-1.2
JRSC	**Jaspar Ridge**	**1.94**	**167**		Pn	20 26 30.9	-2.0
BEKR	**Beckworth**	**1.95**	**72**		Pn	20 26 33.0	-0.2
JFP	**Foothills Park**	**1.99**	**167**		Pn	20 26 31.5	-2.0
LOY	**Loyalton**	**2.00**	**79**		Pn	20 26 34.5	+0.7
RUBR	**Rubicon Trail**	**2.05**	**96**		Pn	20 26 34.5	-0.1
BMRR	**Black Mountain**	**2.08**	**66**		Pn	20 26 35.2	+0.2
KRPM	**Rodgers**	**2.08**	**333**		Pn	20 26 34.3	-0.6
KRPM				IAML		20 27 29.0	
	comp=E,119nm,1.3s						
KRPM				IAML		20 27 36.8	
	comp=N,138nm,1.9s						
BABR	**Babbit Peak**	**2.09**	**81**		Pn	20 26 35.8	+0.6
CMMM	**Mount Mocho**	**2.10**	**151**		Pn	20 26 34.0	-1.2
EMB	**Emerald Bay**	**2.10**	**98**		Pn	20 26 35.1	-0.2
MTOS	**Mt Oso, Westle**	**2.12**	**147**		Pn	20 26 33.9	-1.5
MPK	**Martis Peak**	**2.13**	**89**		Pn	20 26 36.2	+0.5
LBFM	**Black Fox Moun**	**2.15**	**18**		Pn	20 26 35.9	-0.1
MHC	**Mount Hamilton**	**2.15**	**155**		Pn	20 26 34.7	-1.1
ARN	**Arnold Ranch**	**2.18**	**153**		Pn	20 26 35.1	-1.1
PEAR	**Peavine Mounta**	**2.20**	**81**		Pn	20 26 37.8	+1.1
CMB	**Columbia Colle**	**2.26**	**123**		Pn	20 26 36.2	-1.0
CMB				IAML		20 27 06.2	
	comp=N,64nm,0.9s						
JLAB	**Laurel Hill**	**2.30**	**159**		Pn	20 26 36.1	-1.7
LAMM	**Antelope Mount**	**2.31**	**3**		Pn	20 26 38.0	-0.1
KRMB	**Red Mountain**	**2.38**	**339**		Pn	20 26 38.3	-0.8
YBH	**Yreka Blue Hor**	**2.43**	**1**		Pn	20 26 38.4	-1.2
GHS	**Gilroy Hot Spr**	**2.44**	**154**		Pn	20 26 38.8	-1.0
PNTR	**Pine Nut**	**2.48**	**94**		Pn	20 26 41.0	+0.6
CDC	**Canada Road**	**2.49**	**156**		Pn	20 26 39.5	-0.9
HPCM	**Pacheco Lake**	**2.53**	**152**		Pn	20 26 39.9	-1.1
PAHR	**Pah Rah Range**	**2.65**	**80**		Pn	20 26 42.6	-0.2
PAHR				IAML		20 27 24.3	
	comp=E,49nm,0.9s						
PAHR				IAML		20 27 38.1	
	comp=N,72nm,1.5s						
KSXB	**Camp Six Broad**	**2.66**	**342**		Pn	20 26 43.9	+1.0
KSXB				IAML		20 27 42.9	
	comp=E,47nm,1.6s						
KSXB				IAML		20 27 45.5	
	comp=N,44nm,1.3s						
WAKR	**Walker**	**2.72**	**106**		Pn	20 26 44.6	+0.8
WAKR				IAML		20 27 24.6	
	comp=E,83nm,0.9s						
WAKR				IAML		20 27 25.5	
	comp=N,80nm,0.9s						
HJSM	**John Smith Roa**	**2.74**	**154**		Pn	20 26 40.2	-3.7
SAO	**San Andreas Ge**	**2.74**	**157**	Pn	Pn	20 26 42.1	-1.8
YERR	**Yerington**	**2.77**	**95**		Pn	20 26 43.8	-0.6
L04D	**Klamath Falls**	**2.93**	**7**		Pn	20 26 46.4	-0.2
L04D				IAML		20 27 54.8	
	comp=N,49nm,1.4s						
L04D				IAML		20 28 17.1	
	comp=E,42nm,1.4s						
BBGB	**Big Mountain B**	**3.05**	**153**	Pn	Pn	20 26 48.0	-0.2
BBGB				IAML		20 28 26.6	
	comp=E,66nm,1.0s						
KBO	**Bosley Butte**	**3.11**	**340**		Pn	20 26 49.9	+0.9
KBO				IAML		20 28 07.0	
	comp=N,44nm,1.6s						
KBO				IAML		20 28 09.5	
	comp=E,59nm,1.7s						
HUMO	**Hull Mountain**	**3.30**	**358**		Pn	20 26 52.0	+0.4
MDPB	**Devils Postpil**	**3.34**	**119**		Pn	20 26 51.3	-1.1
MDPB				IAML		20 27 41.5	
	comp=E,47nm,0.8s						
MDPB				IAML		20 27 59.5	
	comp=N,47nm,0.8s						
RYN	**Ryan**	**3.38**	**100**		Pn	20 26 52.3	-0.5
RYN				IAML		20 27 49.1	
	comp=E,26nm,0.7s						
RYN				IAML		20 28 01.6	
	comp=N,27nm,1.0s						
LHV	**Little Huntoon**	**3.50**	**106**		Pn	20 26 54.0	-0.2
NVAR	**Mina Array Bea**	**3.60**	**103**		Pn	20 26 55.6	-0.3
KVN	**Kaiserville**	**3.64**	**92**		Pn	20 26 55.7	-0.7
KVN				IAML		20 27 53.2	
	comp=N,16nm,0.7s						
KVN				IAML		20 28 00.9	
	comp=E,19nm,0.7s						
K05A	**Summer Lake**	**3.70**	**22**		Pn	20 26 56.9	-0.4
K05A				IAML		20 28 14.3	
	comp=E,18nm,1.5s						
NV11	**Mina Array Sit**	**3.71**	**102**		Pn	20 26 57.0	-0.3
NV11				IAML		20 27 57.7	
	comp=E,23nm,0.9s						
NV11				IAML		20 28 15.0	
	comp=N,29nm,1.6s						
J01E	**Myrtle Point**	**3.95**	**348**		Pn	20 27 00.7	+0.2
J01E				IAML		20 28 34.9	
	comp=N,23nm,2.0s						
J05D	**Fort Rock, OR**	**4.14**	**16**		Pn	20 27 03.2	-0.1
J05D				IAML		20 28 33.8	
	comp=N,13nm,1.2s						
J05D				IAML		20 28 47.8	
	comp=E,12nm,2.2s						
DSP	**Deep Springs**	**4.24**	**116**		Pn	20 27 04.7	+0.2
DSP				IAML		20 28 15.3	
	comp=E,13nm,1.0s						
I03D	**Drain, OR**	**4.41**	**355**		Pn	20 27 06.2	-0.6
I03D				IAML		20 28 34.5	
	comp=E,17nm,3.8s						
I03D				IAML		20 28 46.4	
	comp=N,17nm,1.9s						
BMN	**Battle Mountai**	**4.42**	**73**		Pn	20 27 07.6	+0.5
BMN				IAML		20 28 34.7	
	comp=N,11nm,1.2s						
WVOR	**Wild Horse Val**	**4.43**	**44**		Pn	20 27 04.8	-2.3
WVOR				IAML		20 28 42.1	
	comp=N,11nm,1.9s						
TPH	**Tonopah**	**4.51**	**104**		Pn	20 27 06.9	-1.5
MZP	**Montezuma Peak**	**4.52**	**109**		Pn	20 27 06.6	-1.9
GMN	**Gold Mountain**	**4.78**	**113**		Pn	20 27 09.6	-2.5
ISA	**Isabella, Lake**	**4.99**	**135**		Pn	20 27 13.8	-1.1
ISA				IAML		20 28 27.8	
	comp=N,7.6nm,0.8s						
ISA				IAML		20 28 57.1	
	comp=E,15nm,1.7s						
J08A	**Circle Bar Ran**	**5.18**	**37**		Pn	20 27 18.2	+0.6
J08A				IAML		20 27 56.1	
	comp=N,6.5nm,1.3s						
J08A				IAML		20 27 56.6	
	comp=E,6.9nm,0.9s						
R11B	**Troy Canyon, C**	**5.69**	**97**		Pn	20 27 23.4	-1.3
HOOD	**Mount Hood Mea**	**6.07**	**8**		Pn	20 27 28.2	-1.6

TEH ***04*** *20:55:03.5, 34˚.62N×46˚.23E, h10km±32km, ML2.6*
ISN ***04*** *20:55:03.7±0.6, 34˚.62N×45˚.21E, h11km±13km, ML2.6*

ISC 04 20:54:57.9±1.1, 34˚.89N±0˚.06×45˚.87E±0˚.04, h10km, n9, σ2§47/13, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.45**	**211**	Pg	**Pn**	**20 55 14.5**	**+4.0**
IDHR	**Dehrash**	**0.47**	**114**	Pg	**Pg**	**20 55 07.2**	**+0.1**
IDHR				Sg	**Sg**	**20 55 10.3**	**-3.0**
IGHG	**Ghaleghazi**	**0.80**	**134**	Pg	**Pg**	**20 55 12.0**	**-1.4**
ILIN	**Lien**	**0.90**	**88**	Pg	**Pg**	**20 55 16.4**	**+1.2**
ILIN				Sg	**Sg**	**20 55 27.4**	**+0.5**
KCHF	**Cheshme Sefid,**	**1.15**	**122**	Pg	Pb	20 55 18.1	-1.8
IKRK	**Kirkuk**	**1.35**	**292** *e*	Pg	**Pn**	**20 55 24.5**	**+1.6**
IKRK				*e*Sg	**Sb**	**20 55 39.0**	**-1.7**
IKRK				AML	AML	20 56 05.8	
	comp=N,120nm,0.3s						
IKRK				AML	AML	20 56 07.3	
	comp=E,102nm,0.4s						
IBZA	**Bozab**	**1.69**	**104**	Pg	**Pn**	**20 55 29.8**	**+2.0**
IBDR	**Badra**	**1.78**	**178** *e*	Pn	**Pg**	**20 55 34.0**	**+2.0**
IBDR				*e*Sn	**Sg**	**20 55 56.0**	**+0.9**
BHD	**Baghdad**	**2.04**	**218** *e*	Pn	**Pn**	**20 55 32.0**	**-0.2**
BHD				*e*Sn	**Sn**	**20 55 53.5**	**-4.2**
BHD				AML	AML	20 56 02.0	
	comp=E,182nm,0.4s						

NEIC ***04*** *21:32:44.4, 19˚.34N×155˚.03W, h12km*
IDC ***04*** *21:32:44.6±0.4, 19˚.55N×155˚.11W, h0km, mb5.0/27, mbtmp5.0/27, MS4.7/42, Error ellipse: s-maj=14.8km s-min=8.3km az=177.0*
NEIC ***04*** *21:32:44.4, 19˚.34N×155˚.03W, h6km*
NEIC ***04*** *21:32:44.4, 19˚.64N×154˚.82W, h12km, Moment Tensor Solution. Duration: 2s7 Moment tensor: Scale 10^17Nm; Mrr 1.26; Mθθ-0.86; Mφφ-0.41; Mrθ 0.56; Mrφ-0.39; Mθφ 0.99; Fault plane solution: Mo 1.62000×10^17 NP1:φs40.59000°, δ67.18000°, λ77.67000°. NP2:φs250.00000°, δ25.78000°, λ116.91000°. Principal axes: T 1.7703, Plg66.0000°, Azm289.0000°; N -0.3024, Plg11.0000°, Azm45.0000°; P -1.4680, Plg21.0000°, Azm140.0000°;*
BJI ***04*** *21:32:44.7±0.0, 19˚.91N×155˚.09W, h7km, mb5.3/80, mB5.7/71, Ms5.4/79, Ms7 5.0/76*
IPGP ***04*** *21:32:44.0, 19˚.34N×155˚.03W, h10km, Mw5.6, Fault plane solution: NP1:φs60.00000°, δ82.00000°, λ90.00000°. NP2:φs238.00000°, δ8.00000°, λ88.00000°.*
MOS ***04*** *21:32:44.4±1.0, 19˚.54N×155˚.14W, h7km, mb5.5/60, MS4.9/19, Error ellipse: s-maj=6.3km s-min=5.7km az=88.8*
HVO ***04*** *21:32:44.3±2.9, 19˚.34N±0˚.06×155˚.03W±0˚.04, h7km±3km, ML5.7/17, mb5.5/705(NEIC), ML5.6/50(NEIC), Ms_20 5.0/344(NEIC), Mwb5.6/57(NEIC), Mww5.4/10(NEIC), Error ellipse: s-maj=9.1km s-min=4.6km az=202.0*
NEIC ***04*** *21:32:45.9±1.9, 19˚.39N±0˚.04×155˚.13W±0˚.04, h4km±2km, Error ellipse: s-maj=7.1km s-min=4.7km az=216.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr 1.44; Mθθ-0.94; Mφφ-0.50; Mrθ 1.85; Mθφ-1.23; Mrφ 1.50; Fault plane solution: Mo 2.96000×10^17 NP1: φs228.75000°, δ17.79000°, λ88.03000°. NP2:φs50.82000°, δ72.22000°, λ90.63000°. Principal axes: T 2.6608, Plg63.0000°, Azm322.0000°; N 0.5279, Plg1.0000°, Azm231.0000°; P -3.1886, Plg27.0000°, Azm140.0000°;*
GCMT ***04*** *21:32:50.3±0.1, 19˚.19N±0˚.01×154˚.96W±0˚.01, h12km, MW5.5/153, Moment Tensor Solution. s88,c144; s153,c293; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr 1.07±.01; Mθθ-0.83±.01; Mφφ-0.24±.01; Mrθ 1.26±.04; Mθφ-0.43±.01; Mφr 0.86±.04; Best double couple: Mo 1.86100×10^17 NP1:φs57.00000°, δ73.00000°, λ87.00000°. NP2:φs247.00000°, δ18.00000°, λ100.00000°. Principal axes: T 1.8690, Plg62.0000°, Azm322.0000°; N -0.0200, Plg3.0000°, Azm58.0000°; P -1.8530, Plg28.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 04 21:32:45.7±0.4, 19˚.39N±0˚.03×155˚.11W±0˚.02, h10km±1km, h10km:pP-P, n1239, σ1§79/1259, mb5.5/436, MS5.0/256, 24C-5D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPOC	**North of Pu'u**	**0.00**	**107**	Pg	**Pg**	**21 32 46.8**	**-0.7**
NPOC				Sg	**Sg**	**21 32 47.9**	**-0.9**
**

MLOA Sb 21 33 02.8 -0.4
MWH Moku'aweowe 0.47 281 Pg 21 32 54.4 -0.5
MWH Sb 21 33 03.2 -0.3
KHU Kahuku 0.49 253 Pg Pg 21 32 54.7 -0.7
KHU Kahuku 0.49 253 P Pg 21 32 54.7 -0.7
HPO Honuapo 0.52 234 Pg 21 32 54.5 -1.2
POHA Pohakuloa 0.54 313 Pg 21 32 55.2 -0.9
POHA Pohakuloa 0.54 313 Sg 21 33 04.2 +1.0
HUH Hualalai 0.74 293 Pg 21 32 59.4 -0.7
I59US HAWAII INFRASO 0.76 285 Pg Pg 21 32 57.9 -2.5
baz=100,slow=26
I59US Lg Lg 21 33 10.9
baz=106,slow=22
HPAH Hawaii Prepara 0.84 319 Pg 21 32 59.4 -2.5
HPAH Pb 21 32 59.6 -2.9
MHA Mahukona 1.08 317 Pb 21 33 03.0 -3.6
MHA Mahukona 1.08 317 P Pb 21 33 03.0 -3.6
HLK Haleakala 1.73 322 Pn Pn 21 33 11.5 -4.5
HLK Pb 21 33 11.9 -5.8
KHLH Kahului Airpor 1.94 321 Pn 21 33 15.1 -3.7
KIP Kipapa 3.39 307 Pn Pn 21 33 34.3 -4.3
KIP IAML 21 34 17.7
comp=E,8μm,0.7s
KIP IAML 21 34 26.4
comp=E,11μm,0.8s
KEKH Kekaha 5.01 302 Pn Pn 21 33 56.0 -5.1
XMAS Kiritimati 17.39 188 Pn Pn 21 36 44.6 -4.1
XMAS IAmb IAmb 21 36 55.1
comp=Z,808nm,1.8s
MIDW Midway 22.15 298 P P 21 37 41.1 -0.6
MIDW IAmb IAmb 21 37 55.6
comp=Z,257nm,1.5s
MIDW IAMs_20 IAMs_20 21 43 48.4
comp=Z,6μm,18.0s
KMPM Mount Pierce 33.80 45 IAmb IAmb 21 39 38.1
comp=Z,59nm,1.0s
KCPM Cahto Peak 33.82 46 IAmb IAmb 21 39 41.3
comp=Z,88nm,1.4s
HOPS Hopland Field 33.86 48 IAmb IAmb 21 39 41.4
comp=Z,64nm,1.4s
JCC Jacoby Creek, 34.06 44 IAmb IAmb 21 39 43.8
comp=Z,107nm,1.6s
KHMM Horse Mountain 34.28 45 IAmb IAmb 21 39 44.5
comp=Z,66nm,1.2s
SNCC San Nicolas Is 34.58 59 P P 21 39 33.0 -1.9
baz=256
SNCC S S 21 45 06.5 +2.4
baz=256
PKM Mcpherson Peak 34.79 56 P P 21 39 36.1 -0.8
baz=253,SNR=12
PKM S S 21 45 09.4 +1.7
baz=253
NIKH Nikolski High 35.17 346 P P 21 39 39.5 -0.2
baz=157
SCI2 San Clemente I 35.31 60 P P 21 39 39.9 -1.2
baz=257
YBH Yreka Blue Hor 35.37 44 LR LR 21 50 07.0
comp=Z,1μm,21.1s,baz=249,slow=30
CMB Columbia Colle 35.40 51 IAmb IAmb 21 39 50.0
comp=Z,117nm,2.0s
UNV Unalaska Valle 35.49 348 P P 21 39 40.9 -1.5
baz=161
CIS Catalina Islan 35.51 59 P P 21 39 41.0 -1.9
baz=256
CIS S S 21 45 20.7 +2.2
baz=256
VOG Valley Oaks Go 35.56 54 S S 21 45 20.3 +1.1
baz=251
OSI Osito Audit: C 35.57 57 P P 21 39 42.5 -0.9
baz=254
OSI S S 21 45 20.6 +1.0
baz=254
ARVC Arvin 35.63 56 P P 21 39 42.6 -1.4
baz=254
ARVC S S 21 45 20.3 +0.1
baz=254
VES Vestal, Richgr 35.64 55 S S 21 45 22.4 +2.0
baz=252
FMP Fort Macarthur 35.69 59 P P 21 39 41.8 -2.5
baz=256
H11N3 WAKE ISLAND Hy 35.74 277 T T 22 17 03.4
baz=85,slow=74
H11N2 WAKE ISLAND Hy 35.75 277 T T 22 17 01.7
baz=85,slow=74
H11N1 WAKE ISLAND Hy 35.76 277 T T 22 17 01.9
baz=85,slow=74
DECC Green Verdugo 35.79 58 S S 21 45 23.9 +1.1
baz=255
FALS False Pass 35.96 352 P P 21 39 45.0 -1.4
baz=167
FALS S S 21 45 27.6 +2.8
baz=167
WAKE Wake Island 36.03 276 IAMs_20 IAMs_20 21 52 12.0
comp=Z,2μm,18.0s
ISA Isabella, Lake 36.06 56 IAmb IAmb 21 39 55.4
comp=Z,187nm,1.9s
ISA Isabella, Lake 36.06 56 P P 21 39 46.8 -0.9
baz=253,SNR=27
ISA S S 21 45 28.5 +1.4
baz=253
H11S2 WAKE ISLAND Hy 36.08 275 T T 22 17 26.8
baz=82,slow=74,SNR=498
H11S1 WAKE ISLAND Hy 36.08 275 T T 22 17 26.8
baz=82,slow=74,SNR=166
H11S3 WAKE ISLAND Hy 36.09 275 T T 22 17 27.9
baz=82,slow=74,SNR=289
SDPT Sand Point 36.12 355 P P 21 39 47.1 -0.7
baz=171
EDW2 Edwards Air Fo 36.22 57 P P 21 39 47.2 -1.9
baz=255,SNR=16
EDW2 S S 21 45 30.5 +1.0
baz=255
BFSC Mount Baldy Ra 36.33 58 P P 21 39 49.2 -0.8
baz=256,SNR=7.6
BFSC S S 21 45 32.6 +1.4
baz=256
CHIR Chirikof Islan 36.37 360 IAMs_20 IAMs_20 21 49 46.5
comp=Z,3μm,22.0s
MLAC Mammoth, Mammo 36.40 52 P P 21 39 50.2 -0.6
baz=250
MLAC S S 21 45 35.4 +2.9
baz=250
COR Corvallis 36.48 39 P P 21 39 54.3 +3.3
COR pmax pmax
comp=Z,30nm,1.1s
MURC Murrieta 36.55 59 P P 21 39 51.8 0.0
baz=257,SNR=7.1
MURC S S 21 45 36.5 +2.0
baz=257
CWC Cottonwood Cre 36.60 55 P P 21 39 53.0 +0.6
baz=252
CWC S S 21 45 37.2 +1.8
baz=252
S12K Black Hills 36.63 353 IAMs_20 IAMs_20 21 50 09.5
comp=Z,2μm,19.0s
LRMC Laurel Mtn Rad 36.63 56 P P 21 39 52.7 +0.1
baz=254,SNR=22
LRMC S S 21 45 39.9 +4.1
baz=254
TIN Tinemaha, Big 36.67 54 P P 21 39 53.6 +0.7
baz=252
TIN S S 21 45 39.1 +2.7
baz=252
G03D McMinnville, O 36.84 38 IAmb IAmb 21 40 07.7
comp=Z,68nm,1.1s
MPMC Manual Prospec 36.94 55 P P 21 39 55.2 -0.2
baz=254,SNR=24
MPMC S S 21 45 42.9 +2.1
baz=254
DSP Deep Springs 36.97 53 IAmb IAmb 21 40 03.8
comp=Z,162nm,2.0s
RYN Ryan 36.98 51 IAmb IAmb 21 40 03.4
comp=Z,195nm,2.0s
S14K Fog Glacier 36.98 356 P P 21 39 57.2 +1.9
baz=173
RRX Edison Barstow 37.01 57 P P 21 39 54.6 -1.2
baz=256
RRX S S 21 45 42.9 +1.4
baz=256
K05A Summer Lake 37.03 43 IAmb IAmb 21 40 18.0
comp=Z,96nm,1.4s
MONP2 Monument Peak 37.03 61 P P 21 39 55.4 -0.8
baz=258,SNR=15
MONP2 S S 21 45 44.7 +2.5
baz=258
NVAR Mina Array Bea 37.07 51 P P 21 39 56.9 +0.5
NVAR Mina Array Bea 37.07 51 P P 21 39 56.6 +0.2
comp=Z,11nm,0.9s,baz=240,slow=10.0,SNR=33
NVAR PcP PcP 21 42 18.4 +1.3
comp=Z,1.9nm,0.8s,baz=224,slow=5.0,SNR=3.1
NVAR LR LR 21 52 58.7
comp=Z,388nm,19.4s,baz=263,slow=33
comp=Z,11nm,0.9s
F03A Seaside 37.08 37 IAmb IAmb 21 39 59.9
comp=Z,82nm,1.2s
SII Sitkinak Islan 37.12 1 IAMs_20 IAMs_20 21 50 24.1
comp=Z,3μm,21.0s
SII Sitkinak Islan 37.12 1 P P 21 39 57.3 +1.0
baz=182
PPT Papeete 37.13 171 P P 21 39 59.8 +3.0
comp=Z,20nm,0.7s,baz=315,slow=13,SNR=3.7
PPT LR LR 21 52 13.1
comp=Z,3μm,18.2s,baz=338,slow=31
comp=Z,20nm,0.7s
PFO Pinyon Flats O 37.15 60 P P 21 39 59.0 +1.9
PFO IAmb IAmb 21 40 05.0
comp=Z,115nm,1.8s
PFO Pinyon Flats O 37.15 60 P P 21 39 57.3 +0.3
baz=258,SNR=11
PFO S S 21 45 47.0 +3.1
baz=258
PFO Pinyon Flats O 37.15 60 P P 21 39 59.0 +1.9
PFO pmax pmax
comp=Z,115nm,1.8s
TPFO Pinon Flats 37.16 60 P P 21 39 56.2 -0.9
baz=258,SNR=10
TPFO S S 21 45 47.3 +3.4
baz=258
IKP In-Ko-Pah, Jac 37.24 61 P P 21 39 57.6 -0.2
baz=259
IKP S S 21 45 47.5 +2.3
baz=259
GSC Goldstone, Bar 37.27 57 IAmb IAmb 21 40 05.7
comp=Z,110nm,1.8s
GSC Goldstone, Bar 37.27 57 P P 21 39 57.5 -0.6
baz=255,SNR=20
GSC S S 21 45 47.8 +2.3
baz=255
GRAC Grapevine Rang 37.31 54 P P 21 39 58.1 -0.2
baz=252
GRAC S S 21 45 47.5 +1.5
baz=252
QSM Queen of Sheba 37.40 56 IAmb IAmb 21 40 25.5
comp=Z,62nm,1.0s
HEC Hector,Ludlow 37.53 58 P P 21 39 59.2 -1.0
baz=256,SNR=16
HEC S S 21 45 51.0 +1.5
baz=256
FURC Furnace Creek, 37.54 55 P P 21 39 59.2 -1.0
baz=254,SNR=12
FURC S S 21 45 50.2 +0.8
baz=254
SWSC Sam W. Stewart 37.56 61 P P 21 39 57.5 -2.9
baz=259
SWSC S S 21 45 51.6 +1.9
baz=259
BELC Belle Mtn. Jos 37.61 59 P P 21 39 59.1 -1.9
baz=257,SNR=31
BELC S S 21 45 52.9 +2.0
baz=257
TPH Tonopah 37.76 52 IAmb IAmb 21 40 14.3
comp=Z,80nm,1.1s
NLWA Neilton Lookou 37.77 35 IAMs_20 IAMs_20 21 50 47.2
comp=Z,3μm,22.0s
OHAK Old Harbor 37.80 2 P P 21 40 02.1 +0.1
baz=183
SHOC Shoshone, Teco 37.85 56 P P 21 40 01.7 -1.2
baz=255
SHOC S S 21 45 56.1 +2.0
baz=255
BC3 Big Chuckawall 37.98 60 P P 21 40 02.9 -1.2
baz=258,SNR=16
BC3 S S 21 45 58.2 +1.8
baz=258
TUQ Turquoise Moun 38.01 57 P P 21 40 02.5 -1.8
baz=256,SNR=26
TUQ S S 21 45 58.9 +2.2
baz=256
G05A Wamic 38.02 40 IAmb IAmb 21 40 23.0
comp=Z,76nm,1.2s
DIB Dawson Inlet, 38.02 22 P P 21 40 05.8 +1.8
DIB IAmb IAmb 21 40 07.5
comp=Z,67nm,1.1s
H02S1 DAWSON INLET T 38.02 22 T T 22 20 08.3
SNR=6706
GMRC Granite Mounta 38.06 58 P P 21 40 03.9 -0.9
baz=257,SNR=25
GMRC S S 21 45 59.1 +1.5
baz=257
IRM Iron Mountain 38.34 59 P P 21 40 04.3 -2.7
baz=258,SNR=20
IRM S S 21 46 03.4 +1.8
baz=258
B04A Port Angeles 38.36 35 P P 21 40 09.2 +2.3
GLA Glamis 38.38 61 P P 21 40 07.3 -0.1
GLA IAmb IAmb 21 40 15.5
comp=Z,218nm,1.8s
GLA Glamis 38.38 61 P P 21 40 05.8 -1.6
baz=260
GLA S S 21 46 04.4 +2.1
baz=260
GLA Glamis 38.38 61 P P 21 40 07.3 -0.1
GLA pmax pmax
comp=Z,218nm,1.8s
KDAK Kodiak Island 38.38 2 P P 21 40 07.2 +0.3
baz=184
KDAK Kodiak Island 38.38 2 LR LR 21 52 20.9
comp=Z,2μm,21.2s,baz=211,slow=31
KDAK Kodiak Island 38.38 2 *i* P P 21 40 08.6 +1.7
KDAK pmax pmax
comp=Z,109nm,1.0s
WVOR Wild Horse Val 38.39 45 P P 21 40 07.8 +0.4
WVOR Wild Horse Val 38.39 45 P P 21 40 07.8 +0.4
WVOR pmax pmax
comp=Z,26nm,1.1s
G06A Carlson Farm, 38.43 40 P P 21 40 09.6 +1.9
GNW Green Mountain 38.44 36 P P 21 40 07.6 0.0
CLRS Cowichan Lake 38.50 33 P P 21 40 08.8 +0.7
LON Longmire 38.54 37 P P 21 40 08.2 -0.3
LON Longmire 38.54 37 P P 21 40 08.2 -0.3
LON pmax pmax
comp=Z,26nm,1.0s
I07A Izee 38.56 42 P P 21 40 09.1 +0.2
BMN Battle Mountai 38.57 49 P P 21 40 09.1 +0.1
BMN Battle Mountai 38.57 49 P P 21 40 09.1 +0.1
BMN pmax pmax
comp=Z,25nm,0.9s
D05A Enumclaw 38.69 37 P P 21 40 11.7 +2.0
D05A IAmb IAmb 21 40 28.6
comp=Z,139nm,1.4s
P08K Saint George I 38.69 347 P P 21 40 09.9 +0.4
baz=158
S11A Rachel 38.74 54 P P 21 40 11.8 +1.4
S11A IAmb IAmb 21 40 39.2
comp=Z,87nm,1.1s
PGC Sidney 38.75 34 P P 21 40 08.9 -1.2
Q17K Contact Creek 38.82 359 P P 21 40 10.5 -0.3
baz=179,SNR=12
SHPR Sheep Range 38.88 56 P P 21 40 13.0 +1.4
NEE2 Needles Airpor 38.89 58 S S 21 46 11.3 +1.3
baz=258
J08A Circle Bar Ran 38.90 44 P P 21 40 11.4 -0.2
V12A Nelson 38.92 57 P P 21 40 11.0 -1.0
BBB Bella Bella 38.93 26 LR LR 21 53 17.8
comp=Z,1μm,18.9s,baz=225,slow=32
R11B Troy Canyon, C 39.07 53 P P 21 40 15.1 +1.9
R11B Troy Canyon, C 39.07 53 P P 21 40 12.4 -0.8
baz=252,SNR=26
R11B S S 21 46 15.6 +2.7
baz=252
PDMCI Parker Dam,Lak 39.18 59 P P 21 40 12.5 -1.5
baz=258,SNR=16
PDMCI S S 21 46 15.4 +1.1
baz=258
113A Mohawk Valley, 39.21 62 IAmb IAmb 21 40 22.2
comp=Z,159nm,1.8s
Q20K Shuyak Island 39.22 2 P P 21 40 14.4 +0.5
baz=184
SYI Shuyak Island 39.22 2 IAmb IAmb 21 40 17.7
comp=Z,154nm,0.9s
SYI IAMs_20 IAMs_20 21 52 02.6
comp=Z,3μm,20.0s
SPIA Saint Paul Isl 39.37 347 P P 21 40 15.3 +0.2
baz=157
LTY Liberty 39.47 37 P P 21 40 17.8 +1.4
G08A Pilot Rock 39.48 41 P P 21 40 15.9 -0.7
Q19K Cape Douglas, 39.50 1 IAMs_20 IAMs_20 21 51 51.1
comp=Z,2μm,19.0s
Q19K Cape Douglas, 39.50 1 P P 21 40 16.2 -0.1
baz=182
W13A Hualapai Mount 39.55 58 P P 21 40 17.7 +0.3
W13A pP 21 40 19.1 -1.2
W13A IAmb IAmb 21 40 25.5
comp=Z,138nm,1.8s
P16K Nushagak River 39.64 358 P P 21 40 17.6 +0.1
baz=176
CRAG Craig 39.67 20 P P 21 40 18.7 +1.0
CRAG Craig 39.67 20 P P 21 40 17.6 -0.1
baz=214
CRAG S S 21 46 25.9 +4.9
baz=214
HAWA Hanford 39.68 39 P P 21 40 19.0 +1.0
HAWA IAMs_20 IAMs_20 21 52 21.0
comp=Z,2μm,19.0s
P17K Kvichak River 39.76 359 P P 21 40 18.3 -0.2
baz=178
O15K Ungalikthiuk R 39.88 356 P P 21 40 19.1 -0.4
baz=173
214A Organ Pipe Nat 39.89 63 P P 21 40 20.4 +0.4
214A Organ Pipe Nat 39.89 63 P P 21 40 19.9 -0.1
baz=262,SNR=12
214A S S 21 46 29.0 +4.0
baz=262
P18K Big Mountain, 39.95 360 IAMs_20 IAMs_20 21 51 37.1
comp=Z,2μm,19.0s
P18K Big Mountain, 39.95 360 P P 21 40 19.4 -0.7
baz=180
P18K S S 21 46 31.8 +6.6
baz=180
V35K Ketchikan 40.04 21 P P 21 40 20.2 -0.6
baz=216,SNR=9.6
V35K S S 21 46 30.7 +4.1
baz=216
O14K Tigyukauivet M 40.06 355 P P 21 40 22.5 +1.6
O14K IAmb IAmb 21 40 25.0
comp=Z,142nm,1.4s
O14K IAMs_20 IAMs_20 21 51 55.2
comp=Z,2μm,22.0s
O14K Tigyukauivet M 40.06 355 P P 21 40 20.4 -0.6
baz=171
ELK Elko 40.09 49 LR LR 21 53 37.3
comp=Z,544nm,19.1s,slow=31
ELK Elko 40.09 49 P P 21 40 21.9 +0.1
CNPM China Poot 40.18 3 IAMs_20 IAMs_20 21 52 06.1
comp=Z,3μm,20.0s
O16K Kokwok River B 40.21 358 P P 21 40 22.1 -0.1
baz=176,SNR=5.7
O16K S S 21 46 34.3 +5.3
baz=176
U33K Whale Pass 40.21 19 P P 21 40 20.9 -1.4
U33K Whale Pass 40.21 19 P P 21 40 21.4 -0.8
baz=213
U33K S S 21 46 35.1 +6.0
baz=213
P19K Oil Pt 40.23 1 IAMs_20 IAMs_20 21 52 46.5
comp=Z,2μm,19.0s
P19K Oil Pt 40.23 1 P P 21 40 21.8 -0.6
baz=183
HOM Homer 40.29 3 IAMs_20 IAMs_20 21 51 29.1
comp=Z,2μm,19.0s
HOM Homer 40.29 3 P P 21 40 22.0 -0.9
baz=185
O17K Koliganek Bris 40.36 358 P P 21 40 23.0 -0.4
baz=177
SIT Sitka 40.38 17 P P 21 40 22.9 -0.7
baz=210
O18K Koktuh Hills 40.41 360 IAmb IAmb 21 40 27.4
comp=Z,60nm,0.8s
O18K IAMs_20 IAMs_20 21 53 09.3
comp=Z,2μm,18.0s
O18K Koktuh Hills 40.41 360 P P 21 40 22.9 -1.0
baz=180,SNR=5.1
O18K S S 21 46 38.1 +6.0
baz=180
BRSE Bradley Lake S 40.42 3 P P 21 40 23.3 -0.8
baz=186
BRLK Bradley Lake 40.44 3 IAMs_20 IAMs_20 21 53 44.5
comp=Z,2μm,18.0s
Q23K Middleton Isla 40.49 7 P P 21 40 23.7 -0.7
baz=193
RAR Rarotonga 40.61 187 P P 21 40 27.0 +1.1
RAR Rarotonga 40.61 187 LR LR 21 52 54.7
comp=Z,2μm,19.2s,baz=2.5,slow=30
RAR Rarotonga 40.61 187 P P 21 40 27.0 +1.1
RAR pmax pmax
comp=Z,56nm,1.0s
O20K Slope Mountain 40.68 2 P P 21 40 25.4 -0.8
baz=184
WRAK Wrangell Islan 40.70 19 IAMs_20 IAMs_20 21 51 58.1
comp=Z,2μm,19.0s
WRAK Wrangell Islan 40.70 19 P P 21 40 25.3 -1.0
baz=214,SNR=9.6
WRAK S S 21 46 41.3 +4.9
baz=214
SZCU Shurtz Canyon 40.76 55 P P 21 40 28.1 +0.7
N14K Kuskokwak Cree 40.76 355 P P 21 40 26.6 -0.1
baz=170,SNR=9.0
N14K S S 21 46 43.4 +6.3
baz=170
O19K Port Alsworth 40.76 1 IAMs_20 IAMs_20 21 52 30.5
comp=Z,2μm,18.0s
SEW Seward 40.87 4 P P 21 40 27.9 +0.3
baz=188
N15K Kwethluk River 40.88 356 P P 21 40 28.1 +0.3
baz=173
N15K S S 21 46 43.7 +4.6
baz=173
P23K Montague Islan 40.93 6 P P 21 40 27.0 -1.2
baz=191
S31K Pelican 40.94 15 IAMs_20 IAMs_20 21 52 37.7
comp=Z,2μm,20.0s
S31K Pelican 40.94 15 P P 21 40 29.2 +1.0
baz=208
S32K Killisnoo 40.94 17 IAmb IAmb 21 40 43.6
comp=Z,108nm,1.7s
S32K IAMs_20 IAMs_20 21 52 26.7
comp=Z,2μm,18.0s
S32K Killisnoo 40.94 17 P P 21 40 28.7 +0.4
baz=210
SHEM Shemya Is, Ala 40.96 332 LR LR 21 53 47.1
comp=Z,1μm,21.4s,baz=126,slow=31
U35K Hyder 41.05 21 IAMs_20 IAMs_20 21 54 49.7
comp=Z,2μm,18.0s
U35K Hyder 41.05 21 S S 21 46 47.7 +6.1
baz=218
RSO Redoubt South 41.06 2 P P 21 40 30.6 +1.2
N17K Nushagak Hills 41.11 358 P P 21 40 29.4 -0.2
baz=177,SNR=10
N17K S S 21 46 48.3 +5.8
baz=177
N16K Nishlik Lake 41.12 357 P P 21 40 30.0 +0.2
baz=175,SNR=12
N16K S S 21 46 46.8 +4.2
baz=175
KAIM Kayak Island 41.21 8 P P 21 40 30.6 +0.1
baz=195
O22K Cooper Landing 41.22 4 P P 21 40 30.5 0.0
baz=188
N18K Kilae Creek 41.24 359 IAmb IAmb 21 40 34.1
comp=Z,110nm,1.1s
N18K IAMs_20 IAMs_20 21 53 32.4
comp=Z,2μm,19.0s
N18K Kilae Creek 41.24 359 P P 21 40 31.0 +0.2
baz=179
N18K S S 21 46 47.5 +3.0
baz=179
PLID Pearl Lake 41.25 43 IAMs_20 IAMs_20 21 53 04.7
comp=Z,2μm,21.0s
N19K Bonanza Creek 41.38 0 IAMs_20 IAMs_20 21 53 13.8
comp=Z,2μm,19.0s
N19K Bonanza Creek 41.38 0 P P 21 40 32.1 +0.2
baz=181,SNR=52
N19K S S 21 46 49.3 +2.7
baz=181
M13K Dall Lake 41.39 354 IAmb IAmb 21 40 34.3
comp=Z,123nm,1.0s
M13K IAMs_20 IAMs_20 21 53 47.5
comp=Z,2μm,21.0s
M13K Dall Lake 41.39 354 P P 21 40 33.2 +1.3
baz=168,SNR=5.7
M13K S S 21 46 49.1 +2.6
baz=168

CAPN Captain Cook N 41.43 3 P P 21 40 32.0 -0.2
baz=186
SUCK Suckling Hills 41.44 9 IAMs_20 IAMs_20 21 51 44.6
comp=Z,2µm,18.0s
M15K Kasigluk River 41.45 356 P P 21 40 33.1 +0.8
baz=172,SNR=16
TCRU Three Creeks R 41.50 53 P P 21 40 36.7 +3.2
BGLC Bering Glacier 41.55 9 P P 21 40 33.4 +0.2
baz=197
M14K Bethel 41.60 355 P P 21 40 33.6 0.0
M14K IAMs_20 IAMs_20 21 54 04.9
comp=Z,2µm,21.0s
M14K Bethel 41.60 355 P P 21 40 33.8 +0.2
baz=170,SNR=17
TUC Tucson 41.64 63 P P 21 40 36.7 +2.2
TUC Tucson 41.64 63 P P 21 40 34.6 +0.1
baz=263
TUC S S 21 46 55.1 +3.9
baz=263
TUC Tucson 41.64 63 P P 21 40 36.7 +2.2
TUC pmax pmax
comp=Z,47nm,1.5s
TUC MLR MLR
comp=Z,1µm,18.0s
WUAZ Wupatki 41.65 58 IAmb IAmb 21 40 42.9
comp=Z,168nm,1.7s
WUAZ Wupatki 41.65 58 P P 21 40 33.9 -0.8
baz=259,SNR=30
WUAZ S S 21 46 57.1 +5.6
baz=259
EYAK Cordova Ski Ar 41.65 7 P P 21 40 34.4 +0.4
baz=193
H06S1 SOCORRO T 41.65 83 T T 22 24 47.2
MVU Marysvale 41.65 53 IAmb IAmb 21 41 01.1
comp=Z,123nm,1.0s
R32K Eaglecrest 41.66 16 P P 21 40 35.6 +1.5
R32K Eaglecrest 41.66 16 P P 21 40 34.5 +0.4
baz=210,SNR=6.6
DUG Dugway, Tooele 41.67 51 P P 21 40 34.1 -0.7
baz=253,SNR=14
DUG S S 21 46 55.2 +3.6
baz=253
DUG Dugway, Tooele 41.67 51 P P 21 40 36.4 +1.7
DUG pmax pmax
comp=Z,19nm,1.1s
M16K Timber Creek 41.67 357 IAmb IAmb 21 40 37.6
comp=Z,97nm,1.1s
M16K IAMs_20 IAMs_20 21 54 05.8
comp=Z,2µm,21.0s
M16K Timber Creek 41.67 357 P P 21 40 34.8 +0.5
baz=175,SNR=15
M16K S S 21 46 56.1 +5.3
baz=175
HLID Hailey 41.68 45 IAmb IAmb 21 40 43.3
comp=Z,120nm,1.8s
HLID IAMs_20 IAMs_20 21 54 22.1
comp=Z,2µm,19.0s
HLID Hailey 41.68 45 P P 21 40 33.7 -1.1
baz=248,SNR=38
HLID S S 21 46 55.1 +3.4
baz=248
JIS Juneau Island 41.69 16 P P 21 40 34.5 +0.1
M11K Mekoryuk 41.70 352 P P 21 40 34.1 -0.4
baz=164
LPIG La Paz 41.75 75 LR LR 21 52 47.9
comp=Z,804nm,21.5s,baz=268,slow=29
PNL Peninsula 41.79 12 P P 21 40 35.0 -0.3
baz=203
MESA MESA 41.81 10 P P 21 40 36.0 +0.3
baz=199
RC01 Rabbit Creek A 41.83 4 IAmb IAmb 21 40 38.8
comp=Z,109nm,1.0s
RC01 IAMs_20 IAMs_20 21 53 29.5
comp=Z,2µm,19.0s
RC01 Rabbit Creek A 41.83 4 P P 21 40 35.9 +0.4
baz=188,SNR=7.7
GLI Glacier Island 41.83 6 IAMs_20 IAMs_20 21 52 54.0
comp=Z,3µm,22.0s
GLI Glacier Island 41.83 6 P P 21 40 34.8 -0.8
baz=191
T35M Bob Quinn 41.83 20 IAMs_20 IAMs_20 21 53 19.3
comp=Z,2µm,20.0s
T35M Bob Quinn 41.83 20 P P 21 40 36.4 +0.8
baz=216,SNR=13
T35M S S 21 47 00.3 +7.0
baz=216
WAX Waxell Ridge 41.93 9 IAmb IAmb 21 40 41.1
comp=Z,88nm,0.9s
M17K Holitna River 42.00 358 IAmb IAmb 21 40 40.2
comp=Z,135nm,1.2s
M17K IAMs_20 IAMs_20 21 54 16.3
comp=Z,2µm,20.0s
M17K Holitna River 42.00 358 P P 21 40 36.5 -0.4
baz=177
M17K S S 21 46 59.5 +3.9
baz=177
BCPM Bancas Point 42.01 12 IAMs_20 IAMs_20 21 56 53.8
comp=Z,2µm,18.0s
NEW Newport 42.04 38 IAMs_20 IAMs_20 21 55 10.4
comp=Z,2µm,18.0s
NEW Newport 42.04 38 P P 21 40 37.1 -0.4
baz=240,SNR=9.2
NEW S S 21 46 58.6 +1.9
baz=240
NEW Newport 42.04 38 LR LR 21 54 13.0
comp=Z,941nm,19.2s,baz=237,slow=31
NEW Newport 42.04 38 P P 21 40 38.0 +0.5
NEW pmax pmax
comp=Z,26nm,1.1s
M18K Stony River 42.06 359 P P 21 40 37.4 0.0
baz=179,SNR=29
M18K S S 21 46 59.2 +2.8
baz=179
P29M Windy Craggy 42.09 13 IAMs_20 IAMs_20 21 53 02.1
comp=Z,2µm,20.0s
P29M Windy Craggy 42.09 13 P P 21 40 38.1 +0.4
baz=205,SNR=14
SUA Susitna One 42.14 3 IAmb IAmb 21 40 41.2
comp=Z,109nm,1.0s
SUA Susitna One 42.14 3 P P 21 40 38.0 -0.2
baz=186,SNR=13
SUA S S 21 47 01.3 +3.4
baz=186
ISLE Juniper Island 42.16 9 IAmb IAmb 21 40 42.9
comp=Z,107nm,1.0s
ISLE IAMs_20 IAMs_20 21 53 26.7
comp=Z,3µm,21.0s
HVU Hansel Valley 42.19 49 IAmb IAmb 21 40 41.9
comp=Z,68nm,0.9s
BMRM Bremner River 42.19 8 P P 21 40 38.1 -0.4
baz=195
KNK Knik Glacier 42.24 5 IAmb IAmb 21 40 41.9
comp=Z,114nm,1.1s
KNK Knik Glacier 42.24 5 P P 21 40 38.3 -0.6
baz=189,SNR=11
KNK S S 21 47 02.8 +3.6
baz=189
PLBC Pleasant Camp 42.24 14 P P 21 40 39.4 +0.5
baz=207,SNR=19
L14K Kuka Creek 42.24 355 IAmb IAmb 21 40 41.3
comp=Z,93nm,1.0s
L14K Kuka Creek 42.24 355 P P 21 40 38.5 -0.4
baz=169,SNR=12
SPUT South Promonto 42.27 49 IAmb IAmb 21 40 48.1
comp=Z,171nm,1.8s
S34M Telegraph Cree 42.31 19 IAMs_20 IAMs_20 21 53 22.0
comp=Z,2µm,20.0s
S34M Telegraph Cree 42.31 19 P P 21 40 40.1 +0.6
baz=215,SNR=16
S34M S S 21 47 04.6 +4.3
baz=215
PMR Palmer 42.37 4 IAmb IAmb 21 40 42.8
comp=Z,92nm,1.1s
PMR Palmer 42.37 4 P P 21 40 40.1 +0.2
baz=188,SNR=15
PMR S S 21 47 04.6 +3.6
baz=188
L16K Owhat River 42.39 357 IAmb IAmb 21 40 42.9
comp=Z,122nm,1.1s
L16K IAMs_20 IAMs_20 21 55 02.6
comp=Z,2µm,18.0s
L16K Owhat River 42.39 357 P P 21 40 40.5 +0.4
baz=174,SNR=22
L16K S S 21 47 05.2 +3.9
baz=174
M22K Willow 42.46 4 IAMs_20 IAMs_20 21 53 57.4
comp=Z,2µm,19.0s
M22K Willow 42.46 4 P P 21 40 40.6 0.0
baz=187,SNR=6.9
M20K Styx River 42.47 1 IAmb IAmb 21 40 44.3
comp=Z,75nm,1.1s
M20K IAMs_20 IAMs_20 21 53 45.7
comp=Z,2µm,19.0s
M20K Styx River 42.47 1 P P 21 40 40.5 -0.4
baz=183,SNR=16
M20K S S 21 47 06.2 +3.4
baz=183
M19K Big River Lodg 42.47 1 IAmb IAmb 21 40 43.6
comp=Z,118nm,1.1s
M19K IAMs_20 IAMs_20 21 53 05.8
comp=Z,2µm,20.0s
M19K Big River Lodg 42.47 1 P P 21 40 40.3 -0.5
baz=181,SNR=20
M19K S S 21 47 05.5 +2.9
baz=181
L15K Ungalak Mounta 42.48 356 P P 21 40 40.1 -0.7
baz=171,SNR=18
L15K S S 21 47 05.6 +2.9
baz=171
SKAG Skagway 42.49 15 P P 21 40 41.4 +0.4
baz=208
KLU Klutina 42.55 7 P P 21 40 41.3 -0.2
baz=193,SNR=7.6
KLU S S 21 47 07.9 +3.9
baz=193
GHO Glory Hole Cre 42.56 4 IAmb IAmb 21 40 44.5
comp=Z,75nm,1.0s
GHO IAMs_20 IAMs_20 21 55 01.9
comp=Z,3µm,20.0s
LOGN Logan Glacier 42.58 10 IAMs_20 IAMs_20 21 57 48.9
comp=Z,2µm,18.0s
VRDI Verde Repeater 42.60 8 IAMs_20 IAMs_20 21 54 13.2
comp=Z,2µm,18.0s
SKT Skwentna 42.62 2 IAmb IAmb 21 40 44.5
comp=Z,104nm,1.0s
SKT IAMs_20 IAMs_20 21 54 23.6
comp=Z,2µm,19.0s
SKT Skwentna 42.62 2 P P 21 40 41.7 -0.3
baz=185,SNR=19
SKT S S 21 47 06.6 +1.9
baz=185
X18A Snowflake 42.63 60 IAmb IAmb 21 40 50.8
comp=Z,92nm,1.4s
SML Sawmill 42.64 5 IAmb IAmb 21 40 45.1
comp=Z,144nm,1.1s
SML IAMs_20 IAMs_20 21 54 19.4
comp=Z,2µm,22.0s
SML Sawmill 42.64 5 P P 21 40 42.0 -0.2
baz=190,SNR=16
SML S S 21 47 07.9 +2.7
baz=190
CTG Chitna Glacier 42.66 10 P P 21 40 42.3 -0.2
baz=199,SNR=11
CTG S S 21 47 11.9 +6.3
baz=199
CTGM Chitina Glacie 42.66 10 IAmb IAmb 21 40 47.1
comp=Z,70nm,1.0s
CTGM IAMs_20 IAMs_20 21 54 03.0
comp=Z,2µm,20.0s
O28M Mount Upton 42.67 11 P P 21 40 42.9 +0.1
baz=201,SNR=17
O28M S S 21 47 10.9 +4.8
baz=201
M23K Glacier View 42.67 5 P P 21 40 42.1 -0.4
baz=190
BARN Barnard Glacie 42.70 10 IAmb IAmb 21 40 47.2
comp=Z,49nm,0.8s
BARN IAMs_20 IAMs_20 21 52 39.0
comp=Z,2µm,21.0s
P30M Million Dollar 42.71 13 P P 21 40 43.1 +0.3
baz=206
P30M S S 21 47 11.5 +5.3
baz=206
L19K White Mountain 42.75 0 IAmb IAmb 21 40 45.5
comp=Z,122nm,0.9s
L19K IAMs_20 IAMs_20 21 53 53.1
comp=Z,2µm,22.0s
L19K White Mountain 42.75 0 P P 21 40 42.8 -0.3
baz=180,SNR=46
L19K S S 21 47 09.9 +3.2
baz=180
SCM Sheep Creek Mo 42.75 5 IAmb IAmb 21 40 46.4
comp=Z,72nm,0.9s
SCM Sheep Creek Mo 42.75 5 P P 21 40 42.9 -0.2
baz=191,SNR=8.6
SCM S S 21 47 11.6 +4.8
baz=191
GLB Gilahina Butte 42.75 8 IAMs_20 IAMs_20 21 53 46.4
comp=Z,2µm,21.0s
L17K Donlin 42.76 358 P P 21 40 43.4 +0.3
baz=176,SNR=14
L17K S S 21 47 11.5 +4.7
baz=176
L18K Granite Mounta 42.80 359 IAmb IAmb 21 40 46.3
comp=Z,83nm,1.0s
L18K Granite Mounta 42.80 359 P P 21 40 43.5 +0.1
baz=178,SNR=25
L18K S S 21 47 12.9 +5.5
baz=178
MCARA McCarthy VSAT 42.80 9 IAMs_20 IAMs_20 21 53 33.8
comp=Z,2µm,21.0s
MCARA McCarthy VSAT 42.80 9 P P 21 40 43.5 +0.1
baz=197
MCARA S S 21 47 13.1 +5.7
baz=197
N25K Chitina, Valde 42.81 7 IAMs_20 IAMs_20 21 56 17.0
comp=Z,2µm,18.0s
N25K Chitina, Valde 42.81 7 P P 21 40 43.9 +0.2
baz=195,SNR=5.4
W18A Petrified Fore 42.90 59 P P 21 40 43.8 -1.1
baz=261
W18A S S 21 47 11.6 +1.6
baz=261
HWUT Hardware Ranch 42.99 49 IAmb IAmb 21 40 53.6
comp=Z,99nm,1.6s
P32M Atlin 43.01 16 IAMs_20 IAMs_20 21 53 42.3
comp=Z,2µm,20.0s
P32M Atlin 43.01 16 P P 21 40 45.2 0.0
baz=210
P32M S S 21 47 15.0 +4.4
baz=210
K13K Kusilvak Mount 43.02 353 IAmb IAmb 21 40 48.3
comp=Z,90nm,1.1s
K13K IAMs_20 IAMs_20 21 55 33.5
comp=Z,2µm,19.0s
K13K Kusilvak Mount 43.02 353 P P 21 40 45.2 0.0
baz=167,SNR=6.2
K13K S S 21 47 16.9 +6.3
baz=167
L20K Farewell, AK 43.05 1 P P 21 40 44.9 -0.7
baz=182,SNR=34
L20K S S 21 47 13.8 +2.6
baz=182
DLBC Dease Lake 43.08 19 P P 21 40 45.6 -0.3
baz=216,SNR=11
DLBC Dease Lake 43.08 19 LR LR 21 54 18.5
comp=Z,1µm,20.8s,baz=222,slow=30
K15K Wolf Creek Mou 43.09 356 P P 21 40 46.1 +0.3
baz=171
K15K S S 21 47 17.1 +5.4
baz=171
CUT Chulitna 43.10 3 IAMs_20 IAMs_20 21 54 25.4
comp=Z,2µm,20.0s
CUT Chulitna 43.10 3 P P 21 40 45.8 0.0
baz=187,SNR=12
M24K Tolsona, Glenn 43.13 6 IAmb IAmb 21 41 46.0
comp=Z,60nm,1.0s
M24K Tolsona, Glenn 43.13 6 P P 21 40 46.2 0.0
baz=192
M24K S S 21 47 16.5 +4.2
baz=192
YUK6 Outpost Mounta 43.17 12 P P 21 40 46.9 +0.2
baz=203,SNR=6.8
YUK6 S S 21 47 17.5 +4.2
baz=203
YUK8 Steele Glacier 43.23 11 P P 21 40 46.9 -0.3
baz=201,SNR=7.0
HYT Haines Junctio 43.23 12 P P 21 40 47.9 +0.8
baz=205,SNR=16
HYT S S 21 47 18.7 +4.7
baz=205
MSO Missoula 43.29 41 IAMs_20 IAMs_20 21 55 38.7
comp=Z,2µm,19.0s
MSO Missoula 43.29 41 P P 21 40 46.9 -0.9
baz=245,SNR=8.6
MSO S S 21 47 15.2 -0.1
baz=245
K17K Iditarod 43.34 358 IAmb IAmb 21 40 50.6
comp=Z,60nm,0.9s
K17K IAMs_20 IAMs_20 21 54 35.8
comp=Z,2µm,19.0s
K17K Iditarod 43.34 358 P P 21 40 48.1 +0.3
baz=176,SNR=12
WAT6 Susitna Watana 43.45 5 P P 21 40 48.4 -0.5
baz=190,SNR=39
WAT6 S S 21 47 19.1 +1.9
baz=190
O30N Mendenhall 43.48 13 IAmb IAmb 21 40 54.2
comp=Z,110nm,1.9s
O30N IAMs_20 IAMs_20 21 54 18.8
comp=Z,2µm,19.0s
O30N Mendenhall 43.48 13 P P 21 40 50.1 +1.0
baz=207
O30N S S 21 47 19.6 +2.1
baz=207
YUK4 Talbot Arm 43.49 11 P P 21 40 50.7 +1.5
baz=203,SNR=8.5
YUK4 S S 21 47 23.4 +5.5
baz=203
TTA Tatalina 43.50 359 IAmb IAmb 21 40 51.5
comp=Z,60nm,1.0s
TTA Tatalina 43.50 359 P P 21 40 49.0 -0.2
baz=179,SNR=25
TTA S S 21 47 21.4 +3.6
baz=179
PPLA Purkeypile 43.51 2 P P 21 40 47.9 -1.4
baz=184,SNR=18
HARP HAARP 43.52 7 P P 21 40 49.8 +0.5
baz=194
YUK3 Moose Creek 43.57 10 P P 21 40 49.9 0.0
baz=200,SNR=16
YUK3 S S 21 47 21.4 +2.3
baz=200
R33M Jennings River 43.59 18 IAMs_20 IAMs_20 21 53 47.7
comp=Z,2µm,21.0s
R33M Jennings River 43.59 18 P P 21 40 50.7 +0.7
baz=214,SNR=34
R33M S S 21 47 24.0 +4.7
baz=214
WAT1 Susitna Watana 43.63 4 P P 21 40 50.8 +0.5
baz=189
WAT1 S S 21 47 21.0 +1.3
baz=189
WHY Whitehorse 43.66 14 P P 21 40 51.0 +0.5
baz=208,SNR=8.4
WHY S S 21 47 23.9 +3.7
baz=208
J14K Nanvaranak Lak 43.71 354 IAMs_20 IAMs_20 21 55 53.7
comp=Z,2µm,19.0s
J14K Nanvaranak Lak 43.71 354 P P 21 40 50.1 -0.6
baz=168,SNR=7.0
J14K S S 21 47 20.9 +0.3
baz=168
P33M Teslin, Yukon 43.77 16 IAMs_20 IAMs_20 21 54 05.5
comp=Z,2µm,20.0s
P33M Teslin, Yukon 43.77 16 P P 21 40 51.6 +0.2
baz=211
P33M S S 21 47 24.4 +2.6
baz=211
M26K Nabesna, AK 43.79 8 IAmb IAmb 21 40 55.3
comp=Z,104nm,1.0s
M26K IAMs_20 IAMs_20 21 54 18.7
comp=Z,2µm,22.0s
M26K Nabesna, AK 43.79 8 P P 21 40 51.9 +0.5
baz=197,SNR=43
M26K S S 21 47 24.3 +2.4
baz=197
N30M Aishikik Lake 43.89 12 IAMs_20 IAMs_20 21 54 41.7
comp=Z,2µm,21.0s
N30M Aishikik Lake 43.89 12 P P 21 40 52.5 +0.1
baz=205,SNR=11
N30M S S 21 47 26.6 +3.0
baz=205
M27K Edge Creek, AK 43.90 9 IAmb IAmb 21 40 56.7
comp=Z,98nm,1.1s
M27K IAMs_20 IAMs_20 21 53 28.8
comp=Z,2µm,19.0s
M27K Edge Creek, AK 43.90 9 P P 21 40 52.8 +0.3
baz=198,SNR=29
M27K S S 21 47 26.3 +2.5
baz=198
K20K Telida 43.93 1 IAMs_20 IAMs_20 21 53 52.4
comp=Z,2µm,18.0s
K20K Telida 43.93 1 P P 21 40 51.3 -1.3
baz=181
K20K S S 21 47 24.9 +0.9
baz=181
DHY Denali Highway 43.97 5 IAMs_20 IAMs_20 21 55 29.5
comp=Z,2µm,20.0s
DHY Denali Highway 43.97 5 P P 21 40 53.0 -0.1
baz=191,SNR=14
DHY S S 21 47 26.6 +1.7
baz=191
TPAW Teton Pass 44.01 47 IAmb IAmb 21 40 57.0
comp=Z,73nm,1.1s
J16K Anvik River 44.02 356 P P 21 40 53.2 0.0
baz=173,SNR=18
J16K S S 21 47 28.8 +3.7
baz=173
CAST Castle Rocks 44.04 2 P P 21 40 51.2 -2.2
baz=184,SNR=16
CAST S S 21 47 23.9 -1.7
baz=184
PAX Paxson 44.04 6 P P 21 40 52.8 -0.7
baz=193,SNR=46
PAX S S 21 47 27.9 +2.1
baz=193
J18K Innoko River 44.05 359 IAmb IAmb 21 40 56.0
comp=Z,84nm,1.1s
J18K IAMs_20 IAMs_20 21 54 31.5
comp=Z,2µm,18.0s
J18K Innoko River 44.05 359 P P 21 40 53.2 -0.3
baz=178,SNR=35
J18K S S 21 47 27.3 +1.6
baz=178
J17K VABM Dome 44.05 357 IAmb IAmb 21 40 56.6
comp=Z,59nm,1.0s
J17K VABM Dome 44.05 357 P P 21 40 52.8 -0.7
baz=175,SNR=14
J17K S S 21 47 28.4 +2.7
baz=175
TRF Thorofare Moun 44.15 3 IAMs_20 IAMs_20 21 54 59.9
comp=Z,2µm,21.0s
TRF Thorofare Moun 44.15 3 P P 21 40 54.2 -0.3
baz=187,SNR=28
TRF S S 21 47 28.3 +1.0
baz=187
IMW Indian Meadow 44.15 46 IAMs_20 IAMs_20 21 55 15.5
comp=Z,2µm,21.0s
RDMU Red Mountain 44.16 51 IAmb IAmb 21 40 57.4
comp=Z,45nm,0.9s
121A Cookes Peak, D 44.18 63 P P 21 40 53.8 -1.5
baz=265,SNR=17
121A S S 21 47 28.1 -0.8
baz=265
RND Reindeer 44.19 4 IAmb IAmb 21 40 57.5
comp=Z,110nm,1.0s
RND IAMs_20 IAMs_20 21 54 18.9
comp=Z,2µm,22.0s
RND Reindeer 44.19 4 P P 21 40 54.7 0.0
N31M Braeburn, Yuko 44.19 13 IAmb IAmb 21 40 59.8
comp=Z,56nm,1.1s
N31M IAMs_20 IAMs_20 21 54 52.6
comp=Z,2µm,20.0s
N31M Braeburn, Yuko 44.19 13 P P 21 40 55.1 +0.4
baz=207,SNR=8.9
MENT Mentasta 44.21 7 IAmb IAmb 21 40 59.0
comp=Z,93nm,1.5s
MVCO Mesa Verde 44.24 56 IAmb IAmb 21 41 03.9
comp=Z,188nm,1.8s
MVCO Mesa Verde 44.24 56 P P 21 40 54.7 -1.1
baz=260,SNR=20
MVCO S S 21 47 31.2 +1.5
baz=260
BOZ Bozeman (W) 44.28 44 IAmb IAmb 21 41 04.0
comp=Z,84nm,1.6s
BOZ Bozeman (W) 44.28 44 P P 21 40 54.6 -1.3
baz=248,SNR=31
BOZ S S 21 47 31.8 +1.9
baz=248
L26K Log Cabin Wild 44.34 8 IAmb IAmb 21 40 59.4
comp=Z,75nm,1.2s
L26K IAMs_20 IAMs_20 21 54 49.4
comp=Z,2µm,21.0s
L26K Log Cabin Wild 44.34 8 P P 21 40 55.9 0.0

baz=196,SNR=24
L26K S **S** **21 47 32.0 +2.0**

baz=196
CHUM Lake Minchumin **44.50 2** P **P** **21 40 55.8 -1.2**
baz=184,SNR=7.2
MCK McKinley **44.51 4** P **P** **21 40 56.3 -0.9**
baz=188,SNR=32
MCK S **S** **21 47 34.8 +2.5**

baz=188
MCK McKinley **44.51 4** P **P** **21 40 57.7 +0.5**
N32M Quiet Lake **44.52 15** IAmb IAmb 21 41 01.0
comp=Z,66nm,1.0s
N32M IAMs_20 IAMs_20 21 55 01.2

comp=Z,1µm,19.0s
N32M Quiet Lake **44.52 15** P **P** **21 40 57.6 +0.2**
baz=210
N32M S **S** **21 47 35.8 +3.2**

baz=210
M29M Somme Creek **44.54 11** IAmb IAmb 21 41 02.1
comp=Z,69nm,0.9s
M29M IAMs_20 IAMs_20 21 54 52.6

comp=Z,2µm,20.0s
M29M Somme Creek **44.54 11** P **P** **21 40 58.3 +0.7**
baz=203,SNR=49
M29M S **S** **21 47 36.8 +3.8**

baz=203
H17A Grant Village **44.56 46** P **P** **21 40 58.1 -0.1**
baz=251
J19K Poorman **44.57 360** IAMs_20 IAMs_20 21 54 24.2
comp=Z,2µm,21.0s
J19K Poorman **44.57 360** P **P** **21 40 57.8 +0.2**
baz=179,SNR=30
J19K S **S** **21 47 33.6 +0.4**

baz=179
L27K Beaver Creek, **44.58 9** IAmb IAmb 21 41 01.1
comp=Z,50nm,1.1s
L27K IAMs_20 IAMs_20 21 54 42.7

comp=Z,3µm,22.0s
L27K Beaver Creek, **44.58 9** P **P** **21 40 58.0 +0.2**
baz=198,SNR=30
L27K S **S** **21 47 36.8 +3.4**

baz=198
BCAR Beaver Creek A **44.59 9** P **P** **21 40 57.6 -0.3**
I17K Unalakleet **44.62 356** IAmb IAmb 21 41 01.6
comp=Z,95nm,1.0s
I17K IAMs_20 IAMs_20 21 55 14.7

comp=Z,2µm,21.0s
I17K Unalakleet **44.62 356** P **P** **21 40 58.3 +0.2**
baz=172,SNR=6.4
I17K S **S** **21 47 36.9 +3.0**

baz=172
J20K Nowinta River **44.76 1** IAMs_20 IAMs_20 21 55 54.1
comp=Z,2µm,18.0s
J20K Nowinta River **44.76 1** P **P** **21 40 57.9 -1.2**
baz=181
BW06 Boulder Array **44.76 48** P **P** **21 40 58.8 -1.1**
baz=253,SNR=8.4
BW06 S **S** **21 47 37.0 -0.1**

baz=253
PDAR Pinedale Array **44.76 48** P **P** **21 40 58.5 -1.4**
PDAR Pinedale Array **44.76 48** P **P** **21 40 59.3 -0.5**
comp=Z,17nm,0.9s,baz=251,slow=4.5,SNR=53
PDAR LR LR 21 55 46.2

comp=Z,209nm,19.8s,baz=258,slow=31
comp=Z,17nm,0.9s
BPAW Bear Paw Mtn. **44.76 3** IAmb IAmb 21 41 00.8
comp=Z,100nm,1.1s
BPAW IAMs_20 IAMs_20 21 56 33.2

comp=Z,2µm,18.0s
BPAW Bear Paw Mtn. **44.76 3** P **P** **21 40 57.4 -1.8**
baz=186,SNR=39
BPAW S **S** **21 47 35.8 -0.2**

baz=186
WTLY Watson Lake, Y **44.81 18** P **P** **21 40 59.7 0.0**
baz=216
K24K Donnelly Dome **44.83 6** P **P** **21 40 59.3 -0.4**
baz=193,SNR=18
BWN Browne **44.91 4** IAMs_20 IAMs_20 21 55 23.4
comp=Z,2µm,21.0s
TOAD Toad River Com **44.97 21** P **P** **21 41 01.9 +1.0**
baz=222,SNR=35
O20A White River Ci **45.04 52** P **P** **21 41 01.3 -0.7**
baz=257,SNR=8.2
O20A S **S** **21 47 40.9 -0.2**

baz=257
BRLDA Berland Lookou **45.04 31** IAmb IAmb 21 41 05.3
comp=Z,120nm,1.4s
Y22D IRIS PASSCAL I **45.06 61** P **P** **21 41 02.1 -0.1**
baz=264
Y22F Passcal Instru **45.06 61** P **P** **21 41 02.2 +0.1**
baz=264
LIRD Liard River Hi **45.10 20** P **P** **21 41 01.9 0.0**
baz=220
M31M Drury Creek, Y **45.13 14** IAMs_20 IAMs_20 21 55 11.4
comp=Z,2µm,22.0s
M31M Drury Creek, Y **45.13 14** P **P** **21 41 02.3 +0.1**
baz=208,SNR=14
M31M S **S** **21 47 45.1 +3.6**

baz=208
SCRK Sand Creek **45.19 7** IAmb IAmb 21 41 05.5
comp=Z,43nm,1.0s
SCRK IAMs_20 IAMs_20 21 56 25.7

comp=Z,2µm,19.0s
SCRK Sand Creek **45.19 7** P **P** **21 41 01.9 -0.8**
baz=195,SNR=26
SCRK S **S** **21 47 43.5 +1.1**

baz=195
L29M L29M **45.21 11** IAMs_20 IAMs_20 21 54 53.5
comp=Z,2µm,22.0s
L29M L29M **45.21 11** P **P** **21 41 02.5 -0.3**
baz=203,SNR=13
L29M S **S** **21 47 44.7 +2.1**

baz=203
WRH Wood River Hil **45.30 4** IAMs_20 IAMs_20 22 01 23.3
comp=Z,2µm,20.0s
HDA Harding Lake **45.32 5** IAMs_20 IAMs_20 21 56 34.3
comp=Z,2µm,20.0s
HDA Harding Lake **45.32 5** P **P** **21 41 02.8 -0.9**
baz=191,SNR=17
GCSA Galena City Sc **45.34 359** P **P** **21 41 03.7 0.0**
baz=178,SNR=38
GCSA S **S** **21 47 48.0 +3.8**

baz=178
MSVF Nonsavu **45.34 217** *i* P **P** **21 41 07.1 +2.7**
MSVF pmax pmax

comp=Z,14nm,1.2s
NEA2 Nenana **45.35 4** P **P** **21 41 02.8 -1.1**
baz=188,SNR=14
NEA2 S **S** **21 47 43.7 -0.8**

baz=188
I20K Naaghedeneel **45.38 0** IAMs_20 IAMs_20 21 57 05.5
comp=Z,2µm,21.0s
I20K Naaghedeneel **45.38 0** P **P** **21 41 03.0 -1.0**
baz=181
FARO Faro, Yukon **45.39 14** IAmb IAmb 21 41 09.0
comp=Z,49nm,1.1s
FARO Faro, Yukon **45.39 14** P **P** **21 41 03.6 -0.6**
baz=210,SNR=20
FARO S **S** **21 47 48.6 +3.4**

baz=210
H16K Elim **45.47 356** P **P** **21 41 05.2 +0.4**
baz=171
H16K S **S** **21 47 50.5 +4.4**

baz=171
K27K Chicken **45.47 8** IAMs_20 IAMs_20 21 55 22.3
comp=Z,2µm,20.0s
K27K Chicken **45.47 8** P **P** **21 41 03.8 -1.0**
baz=197
K27K S **S** **21 47 48.6 +2.4**

baz=197
ANMO Albuquerque **45.54 60** P **P** **21 41 07.7 +1.7**
ANMO IAmb IAmb 21 41 13.9
comp=Z,83nm,1.9s
ANMO Albuquerque **45.54 60** P **P** **21 41 04.3 -1.8**
baz=263
ANMO S **S** **21 47 52.0 +3.5**

baz=263
ANMO Albuquerque **45.54 60** LR LR 21 55 00.4
comp=Z,752nm,19.9s,baz=356,slow=29
ANMO Albuquerque **45.54 60***ce* P **P** **21 41 07.6 +1.6**
ANMO pmax pmax

comp=Z,25nm,1.3s
H17K Granite Mounta **45.63 357** IAmb IAmb 21 41 09.2
comp=Z,47nm,0.9s
H17K Granite Mounta **45.63 357** P **P** **21 41 05.7 -0.3**
baz=174,SNR=9.9
H17K S **S** **21 47 53.3 +4.8**

baz=174
J25K Salcha River, **45.66 6** P **P** **21 41 05.7 -0.7**
baz=193,SNR=69
J25K S **S** **21 47 50.1 +1.0**

baz=193
ANM Nome **45.66 354** IAMs_20 IAMs_20 21 55 59.4
comp=Z,2µm,19.0s
ANM Nome **45.66 354** P **P** **21 41 06.1 -0.3**
baz=166
ANM S **S** **21 47 51.0 +2.0**

baz=166
RLMT Red Lodge **45.68 45** P **P** **21 41 06.6 -0.5**
baz=251,SNR=16
RLMT S **S** **21 47 52.3 +2.0**

baz=251
IL31 **45.68 5** IAmb IAmb 21 41 08.6
comp=Z,78nm,1.1s
ILAR Eielson Array **45.68 5** P **P** **21 41 05.4 -1.1**
comp=Z,30nm,0.9s,baz=196,slow=6.4,SNR=105
ILAR PcP **PcP** **21 42 45.6 +1.3**
comp=Z,4.2nm,0.8s,baz=204,slow=5.1,SNR=1.9
ILAR LR LR 21 55 51.6

comp=Z,1µm,20.5s,baz=178,slow=30
comp=Z,30nm,0.9s
MLY Manley **45.70 3** IAMs_20 IAMs_20 21 57 04.1
comp=Z,2µm,21.0s
MLY Manley **45.70 3** P **P** **21 41 04.9 -1.8**
baz=186,SNR=47
MLY S **S** **21 47 47.2 -2.4**

baz=186
COLA College **45.71 4** P **P** **21 41 07.1 +0.4**
COLA IAmb IAmb 21 41 08.9
comp=Z,93nm,1.2s
COLA College **45.71 4** P **P** **21 41 05.8 -0.8**
baz=190
COLA S **S** **21 47 52.0 +2.4**

baz=190
COLA College **45.71 4** *i* P **P** **21 41 06.5 -0.2**
COLA pmax pmax

comp=Z,46nm,1.1s
J26L Joseph Creek **45.74 7** P **P** **21 41 06.6 -0.5**
J26L IAmb IAmb 21 41 10.2
comp=Z,65nm,1.1s
J26L Joseph Creek **45.74 7** P **P** **21 41 06.3 -0.8**
baz=195,SNR=38
J26L S **S** **21 47 52.6 +2.2**

baz=195
H18K Honhosa River **45.78 358** IAmb IAmb 21 41 10.4
comp=Z,84nm,1.1s
H18K IAMs_20 IAMs_20 21 55 12.4

comp=Z,1µm,19.0s
H18K Honhosa River **45.78 358** P **P** **21 41 07.5 +0.2**
baz=176,SNR=21
H18K S **S** **21 47 55.2 +4.4**

baz=176
SMCO Snowmass **45.79 54** IAmb IAmb 21 41 16.0
comp=Z,132nm,1.6s
I21K Tanana **45.81 2** IAmb IAmb 21 41 08.6
comp=Z,45nm,1.1s
I21K Tanana **45.81 2** P **P** **21 41 05.6 -1.8**
baz=184
I23K Minto, Yukon-K **45.89 3** IAMs_20 IAMs_20 21 54 42.9
comp=Z,2µm,18.0s
I23K Minto, Yukon-K **45.89 3** P **P** **21 41 07.0 -1.0**
baz=188,SNR=31
I23K S **S** **21 47 51.6 -0.6**

baz=188
G15K Niukluk **45.96 355** P **P** **21 41 08.8 +0.2**
baz=168,SNR=6.5
G15K S **S** **21 47 56.6 +3.4**

baz=168
POKR Poker Plat Res **45.98 5** P **P** **21 41 09.1 +0.3**
POKR Poker Plat Res **45.98 5** P **P** **21 41 07.8 -1.1**
baz=190,SNR=6.5
POKR S **S** **21 47 53.8 +0.2**

baz=190
K29M Barlow Dome **46.00 11** P **P** **21 41 09.0 -0.2**
K29M IAmb IAmb 21 41 13.2
comp=Z,49nm,1.2s
K29M IAMs_20 IAMs_20 21 55 50.2

comp=Z,2µm,19.0s
K29M Barlow Dome **46.00 11** P **P** **21 41 09.4 +0.3**
baz=203,SNR=20
K29M S **S** **21 47 56.7 +2.6**

baz=203
MAYO Mayo, Yukon **46.07 12** P **P** **21 41 09.0 -0.6**
baz=206
H20K Anotleneega Mo **46.07 0** P **P** **21 41 09.7 +0.1**
baz=180,SNR=36
H20K S **S** **21 47 55.6 +0.7**

baz=180
TGTN Hyland Airport **46.10 17** P **P** **21 41 10.3 +0.4**
baz=216,SNR=17
TGTN S **S** **21 47 59.6 +4.0**

baz=216
H19K Roundabout Mou **46.12 359** P **P** **21 41 10.3 +0.4**
H19K IAMs_20 IAMs_20 21 55 33.1
comp=Z,2µm,18.0s
H19K Roundabout Mou **46.12 359** P **P** **21 41 10.5 +0.6**
baz=178,SNR=26
H19K S **S** **21 47 57.8 +2.4**

baz=178
MNTX Cornudas Mount **46.16 64** P **P** **21 41 10.9 +0.1**
baz=267,SNR=51
MNTX S **S** **21 48 00.1 +3.0**

baz=267
RWWY Rawlins **46.16 50** P **P** **21 41 09.5 -1.5**
RWWY IAmb IAmb 21 41 16.8
comp=Z,61nm,1.1s
G16K Koyuk River **46.22 356** P **P** **21 41 08.5 -2.2**
G16K Koyuk River **46.22 356** P **P** **21 41 10.7 0.0**
baz=171,SNR=6.9
G16K S **S** **21 48 00.1 +3.1**

baz=171
MMPY Sheldon Lake, **46.22 15** P **P** **21 41 10.9 0.0**
MMPY IAmb IAmb 21 41 41.9
comp=Z,60nm,1.7s
MMPY Sheldon Lake, **46.22 15** P **P** **21 41 11.6 +0.7**
baz=212
MMPY S **S** **21 47 58.8 +1.5**

baz=212
G17K Kiwalik Mounta **46.23 357** P **P** **21 41 10.9 +0.1**
baz=173,SNR=15
G17K S **S** **21 47 58.7 +1.6**

baz=173
H21K Melozitna Rive **46.26 1** P **P** **21 41 09.2 -1.8**
H21K Melozitna Rive **46.26 1** P **P** **21 41 10.2 -0.8**
baz=183,SNR=14
EGAK Eagle **46.31 8** P **P** **21 41 11.4 0.0**
EGAK IAMs_20 IAMs_20 21 56 10.4
comp=Z,2µm,21.0s
EGAK Eagle **46.31 8** P **P** **21 41 11.4 0.0**
baz=198,SNR=34
EGAK S **S** **21 48 00.6 +2.4**

baz=198
KOTAN Kotaneelee Air **46.33 21** P **P** **21 41 11.3 -0.3**
baz=222
KOTAN S **S** **21 48 01.7 +2.9**

baz=222
EGMT Eagleton **46.38 41** P **P** **21 41 11.0 -1.3**
baz=248
EGMT S **S** **21 48 01.9 +2.0**

baz=248
J29N Klondike Camp **46.44 10** P **P** **21 41 14.3 +1.7**
J29N IAMs_20 IAMs_20 21 55 41.0
comp=Z,2µm,20.0s
J29N Klondike Camp **46.44 10** P **P** **21 41 12.4 -0.1**
baz=202,SNR=5.3
J29N S **S** **21 48 01.3 +0.9**

baz=202
VHRN Van Horn **46.46 66** P **P** **21 41 13.7 +0.4**
VHRN IAmb IAmb 21 41 20.4
comp=Z,63nm,1.2s
PRP Porcupine Dome **46.53 5** IAmb IAmb 21 41 15.9
comp=Z,65nm,1.0s
PRP IAMs_20 IAMs_20 21 56 16.3

comp=Z,2µm,19.0s
PRP Porcupine Dome **46.53 5** P **P** **21 41 13.0 -0.4**
baz=192,SNR=30
PRP S **S** **21 48 01.7 -0.1**

baz=192
G18K Tagagawik **46.54 358** IAmb IAmb 21 41 16.1
comp=Z,59nm,1.1s
G18K IAMs_20 IAMs_20 21 58 12.3

comp=Z,2µm,22.0s
G18K Tagagawik **46.54 358** P **P** **21 41 13.1 -0.1**
baz=175,SNR=28
G18K S **S** **21 48 07.3 +5.7**

baz=175
H22K Ishtalitna Cre **46.54 2** P **P** **21 41 12.9 -0.4**
baz=185,SNR=17
H23K Yukon River **46.55 3** P **P** **21 41 12.9 -0.4**
baz=187,SNR=51
H23K S **S** **21 48 01.5 -0.3**

baz=187
I26K Coal Creek Min **46.57 7** P **P** **21 41 14.0 +0.5**
I26K IAMs_20 IAMs_20 21 56 18.3
comp=Z,2µm,20.0s
I26K Coal Creek Min **46.57 7** P **P** **21 41 12.9 -0.6**
baz=196
I26K S **S** **21 48 04.2 +2.2**

baz=196
IMAR Indian Mountai **46.58 1** P **P** **21 41 12.1 -1.4**
EDM Edmonton **46.60 33** P **P** **21 41 12.9 -1.0**
EDM Edmonton **46.60 33** P **P** **21 41 12.9 -1.0**
EDM pmax pmax
comp=Z,136nm,1.0s
F14K Arctic Creek **46.65 354** P **P** **21 41 14.0 -0.1**
baz=165,SNR=6.6
F14K S **S** **21 48 06.7 +3.6**

baz=165
H24K Noodor Dome **46.66 4** P **P** **21 41 13.3 -0.9**
baz=189,SNR=34
H24K S **S** **21 48 02.4 -1.1**

baz=189
SDCO Great Sand Dun **46.68 56** P **P** **21 41 14.3 -0.8**
SDCO Great Sand Dun **46.68 56** P **P** **21 41 14.9 -0.2**
baz=261,SNR=23
SDCO S **S** **21 48 03.9 -1.0**

baz=261
F15K North Star Dit **46.72 355** IAMs_20 IAMs_20 21 58 19.1
comp=Z,2µm,20.0s
F15K North Star Dit **46.72 355** P **P** **21 41 14.8 +0.2**
baz=168
F15K S **S** **21 48 06.2 +2.1**

baz=168
G19K Purcell Mounta **46.74 359** P **P** **21 41 15.2 +0.4**
G19K IAMs_20 IAMs_20 21 57 46.8
comp=Z,1µm,19.0s
G19K Purcell Mounta **46.74 359** P **P** **21 41 15.9 +1.1**
baz=178,SNR=43
G19K S **S** **21 48 09.6 +5.1**

baz=178
J30M Hart River **46.88 11** P **P** **21 41 14.8 -1.2**
J30M IAmb IAmb 21 41 19.9
comp=Z,51nm,1.1s
J30M IAMs_20 IAMs_20 21 55 55.6

comp=Z,2µm,22.0s
J30M Hart River **46.88 11** P **P** **21 41 15.4 -0.7**
baz=205,SNR=22
J30M S **S** **21 48 09.1 +2.3**

baz=205
K22A Casper **46.88 49** P **P** **21 41 15.8 -0.8**
K22A IAmb IAmb 21 41 24.4
comp=Z,42nm,1.1s
K22A Casper **46.88 49** P **P** **21 41 15.7 -0.8**
baz=256,SNR=15
N23A Red Feather La **46.91 52** P **P** **21 41 16.4 -0.4**
N23A Red Feather La **46.91 52** P **P** **21 41 16.6 -0.3**
baz=258,SNR=41
N23A S **S** **21 48 09.1 +0.9**

baz=258
TNA Tin City **46.91 353** P **P** **21 41 15.8 -0.3**
baz=163
TNA S **S** **21 48 11.3 +4.5**

baz=163
ISCO Idaho Springs **46.94 53** P **P** **21 41 16.0 -1.2**
ISCO Idaho Springs **46.94 53** P **P** **21 41 15.1 -2.0**
baz=259,SNR=9.1
ISCO S **S** **21 48 10.4 +1.7**

baz=259
ISCO Idaho Springs **46.94 53** P **P** **21 41 16.0 -1.2**
ISCO pmax pmax
comp=Z,24nm,1.3s
ISCO MLR MLR

comp=Z,1µm,19.0s
I27K Kandik River **47.04 8** P **P** **21 41 16.9 -0.3**
baz=198,SNR=32
I27K S **S** **21 48 10.0 +1.1**

baz=198
G21K Allakaket **47.11 1** IAMs_20 IAMs_20 21 58 29.4
comp=Z,2µm,19.0s
G21K Allakaket **47.11 1** P **P** **21 41 17.3 -0.4**
baz=182
G21K S **S** **21 48 11.4 +1.6**

baz=182
I28M Miner Creek **47.11 9** IAmb IAmb 21 41 20.5
comp=Z,32nm,0.9s
I28M IAMs_20 IAMs_20 21 56 12.7

comp=Z,2µm,20.0s
I28M Miner Creek **47.11 9** P **P** **21 41 17.0 -0.9**
baz=200,SNR=26
I28M S **S** **21 48 12.7 +2.7**

baz=200
Q24A Divide **47.15 55** P **P** **21 41 19.4 +0.6**
Q24A Divide **47.15 55** P **P** **21 41 17.7 -1.2**
baz=260,SNR=19
F17K Baldwin Pennin **47.20 357** P **P** **21 41 19.0 +0.7**
baz=172,SNR=26
F17K S **S** **21 48 14.6 +3.7**

baz=172
H25L Birch Creek **47.24 5** P **P** **21 41 18.8 +0.1**
baz=192,SNR=46
H25L S **S** **21 48 12.3 +0.8**

baz=192
F18K Selawik **47.28 358** P **P** **21 41 19.6 +0.6**
baz=174,SNR=36
F18K S **S** **21 48 14.9 +2.9**

baz=174
G23K Bananza Creek **47.41 3** IAmb IAmb 21 41 22.0
comp=Z,64nm,1.2s
G23K IAMs_20 IAMs_20 21 56 52.3

comp=Z,2µm,20.0s
G23K Bananza Creek **47.41 3** P **P** **21 41 19.6 -0.5**
baz=187,SNR=30
G23K S **S** **21 48 15.1 +1.0**

baz=187
PECS Pecos **47.44 65** P **P** **21 41 22.4 +1.6**
F19K Shaleruckik Mo **47.45 359** IAMs_20 IAMs_20 21 56 18.4
comp=Z,2µm,21.0s
F19K Shaleruckik Mo **47.45 359** P **P** **21 41 20.9 +0.6**
baz=177,SNR=46
F19K S **S** **21 48 18.0 +3.5**

baz=177
T25A Trinidad **47.45 57** IAmb IAmb 21 41 31.0
comp=Z,24nm,0.9s
T25A Trinidad **47.45 57** P **P** **21 41 20.0 -1.1**
baz=263,SNR=8.0
T25A S **S** **21 48 16.9 +1.0**

baz=263
I30M Mount Dempster **47.46 11** P **P** **21 41 19.4 -1.2**
baz=204,SNR=64
I30M S **S** **21 48 16.5 +1.5**

baz=204
G24K Hadweenzic Riv **47.55 4** P **P** **21 41 19.9 -1.1**
baz=190,SNR=18
G24K S **S** **21 48 16.1 +0.2**

baz=190
G22K Bettles **47.56 2** P **P** **21 41 20.6 -0.6**
baz=185
G22K S **S** **21 48 16.0 -0.2**

baz=185
TX31 Lajitas Ar. Si **47.58 68** P **P** **21 41 22.9 +0.9**
TX31 IAmb IAmb 21 41 27.3
comp=Z,37nm,0.9s
TXAR Lajitas Array **47.58 68** P **P** **21 41 23.2 +1.2**
TXAR Lajitas Array **47.58 68** P **P** **21 41 22.7 +0.7**
comp=Z,27nm,0.8s,baz=260,slow=7.5,SNR=40
TXAR LR LR 21 56 55.0
comp=Z,300nm,19.8s,baz=255,slow=30
comp=Z,27nm,0.8s
FYU Fort Yukon **47.59 5** IAMs_20 IAMs_20 21 57 23.2
comp=Z,1µm,18.0s
ALPN Alpine **47.61 66** P **P** **21 41 23.0 +0.7**
ALPN IAmb IAmb 21 41 27.4
comp=Z,42nm,0.8s
F20K Avaraart Lake **47.64 360** IAmb IAmb 21 41 26.2
comp=Z,79nm,1.4s
F20K IAMs_20 IAMs_20 21 58 17.3

comp=Z,1µm,18.0s
F20K Avaraart Lake **47.64 360** P **P** **21 41 21.6 -0.1**
baz=179,SNR=29
F20K S **S** **21 48 20.5 +3.4**

baz=179
H27K Steamboat Moun **47.65 7** P **P** **21 41 21.9 -0.1**
baz=198,SNR=96
H27K S **S** **21 48 18.0 +0.5**

baz=198
G25K Bearman Lake 47.71 5 P P 21 41 21.2 -1.1
baz=192,SNR=17
G25K S **S** **21 48 20.0 +1.8**
baz=192
F21K Alatna River 47.82 1 P P 21 41 23.3 +0.1
baz=182,SNR=74
F21K S **S** **21 48 21.2 +1.3**
baz=182
E17K Hotham Inlet 47.87 356 P P 21 41 23.0 -0.6
baz=172,SNR=57
E17K S **S** **21 48 22.3 +1.9**
baz=172
COLD Coldfoot 47.92 3 P P 21 41 23.1 -0.9
baz=186,SNR=11
COLD S **S** **21 48 20.9 -0.3**
baz=186
BRIGG Briggsdale 48.06 53 P P 21 41 26.6 +0.9
BRIGG IAmb IAmb 21 41 35.2
comp=Z,57nm,1.2s
BRIGG IAMs_20 IAMs_20 21 58 13.2
comp=Z,1μm,19.0s
H29M Whitestone 48.06 9 IAMs_20 IAMs_20 21 56 01.9
comp=Z,2μm,21.0s
H29M Whitestone 48.06 9 P P 21 41 24.6 -0.5
baz=202,SNR=65
H29M S **S** **21 48 24.1 +0.8**
baz=202
E19K Redstone River 48.07 359 P P 21 41 25.4 +0.3
baz=177
E19K S **S** **21 48 26.0 +2.7**
baz=177
G26K Porcupine Rive 48.10 6 P P 21 41 25.2 -0.1
baz=194,SNR=72
G26K S **S** **21 48 27.6 +4.0**
baz=194
F22K John River 48.13 2 P P 21 41 25.2 -0.4
baz=184,SNR=76
F22K S **S** **21 48 26.5 +2.2**
baz=184
E18K Tukpahlearik C 48.14 357 IAMs_20 IAMs_20 21 57 25.7
comp=Z,2μm,21.0s
E18K Tukpahlearik C 48.14 357 P P 21 41 26.0 +0.3
baz=173,SNR=40
E18K S **S** **21 48 27.3 +3.0**
baz=173
G27K Doyon Strip 48.19 7 IAMs_20 IAMs_20 21 57 10.1
comp=Z,2μm,21.0s
G27K Doyon Strip 48.19 7 P P 21 41 25.6 -0.5
baz=197,SNR=26
G27K S **S** **21 48 27.3 +2.1**
baz=197
LAO LASA Array 48.19 44 P P 21 41 28.5 +2.0
LAO IAMs_20 IAMs_20 21 58 42.3
comp=Z,1μm,20.0s
LAO LASA Array 48.19 44 P P 21 41 25.5 -1.0
baz=253
LAO S **S** **21 48 27.2 +1.4**
baz=253
F24K Squaw Lake 48.33 4 IAmb IAmb 21 41 47.9
comp=Z,87nm,1.9s
F24K IAMs_20 IAMs_20 21 56 42.5
comp=Z,2μm,21.0s
F24K Squaw Lake 48.33 4 P P 21 41 26.3 -0.9
baz=189,SNR=12
F24K S **S** **21 48 27.3 +0.2**
baz=189
H31M Peel River 48.36 11 IAmb IAmb 21 41 30.2
comp=Z,72nm,1.4s
H31M IAMs_20 IAMs_20 21 56 12.6
comp=Z,2μm,20.0s
H31M Peel River 48.36 11 P P 21 41 26.6 -0.8
baz=207,SNR=18
H31M S **S** **21 48 28.5 +1.0**
baz=207
MNHN Monahans 48.38 65 P P 21 41 29.1 +0.9
MNHN IAmb IAmb 21 41 34.5
comp=Z,35nm,1.0s
EPYK Eagle Plains 48.46 10 IAmb IAmb 21 41 30.7
comp=Z,69nm,1.1s
EPYK IAMs_20 IAMs_20 21 58 49.3
comp=Z,1μm,20.0s
EPYK Eagle Plains 48.46 10 P P 21 41 27.6 -0.6
baz=204,SNR=41
EPYK S **S** **21 48 30.4 +1.4**
baz=204
MSTX Muleshoe 48.48 61 S S 21 48 30.2 -0.2
baz=266
BMAR Burnt Mountain 48.49 5 P P 21 41 28.1 -0.4
D17K Noatak River 48.56 356 P P 21 41 29.1 +0.2
baz=170,SNR=8.7
D17K S **S** **21 48 33.8 +3.7**
baz=170
F25K Christian Rive 48.56 5 P P 21 41 28.9 -0.1
baz=192,SNR=29
F25K S **S** **21 48 32.0 +1.6**
baz=192
ODSA Odessa 48.58 64 P P 21 41 30.8 +1.0
RTBA Rita Blanca 48.71 58 P P 21 41 30.9 +0.2
RTBA IAmb IAmb 21 41 40.6
comp=Z,48nm,1.2s
G29M Pine Creek 48.76 9 IAMs_20 IAMs_20 21 57 15.3
comp=Z,2μm,18.0s
G29M Pine Creek 48.76 9 P P 21 41 29.7 -0.8
baz=202,SNR=57
G29M S **S** **21 48 33.8 +0.6**
baz=202
E23K Chandalar 48.77 3 P P 21 41 30.1 -0.5
baz=187,SNR=25
E23K S **S** **21 48 35.1 +1.6**
baz=187
F26K Sheenjek River 48.79 6 P P 21 41 30.6 -0.1
baz=194,SNR=49
F26K S **S** **21 48 35.1 +1.6**
baz=194
WRGLY Wrigley 48.84 18 P P 21 41 30.4 -0.7
baz=221,SNR=14
WRGLY S **S** **21 48 36.8 +2.5**
baz=221
E24K Your Creek 48.85 3 IAmb IAmb 21 41 33.6
comp=Z,40nm,1.1s
E24K IAMs_20 IAMs_20 21 56 28.2
comp=Z,2μm,18.0s
E24K Your Creek 48.85 3 P P 21 41 30.9 -0.3
baz=188,SNR=30
E24K S **S** **21 48 34.2 -0.3**
baz=188
E20K Nigu River 48.85 359 P P 21 41 31.5 +0.2
baz=179
E20K S **S** **21 48 37.5 +3.0**
baz=179
PET Petropavlovsk 48.89 325 P P 21 41 32.6 +1.0
PET IAmb IAmb 21 41 34.5
comp=Z,60nm,1.0s
PET Petropavlovsk 48.89 325 *e*P **P 21 41 32.5 +0.9**
PET *e*S **S 21 48 29.9 -5.4**
PET pmax pmax
comp=Z,1μm,6.7s
PET pmax pmax
comp=Z,67nm,0.9s
PET pmax pmax
comp=Z,900nm,8.7s
PET MLR MLR
comp=Z,700nm,16.0s
PET Petropavlovsk 48.89 325 P **P 21 41 31.6 0.0**
comp=Z,61nm,0.9s,comp=Z,1μm
RDOG Red Dog Mine 48.90 356 P P 21 41 32.4 +0.9
RDOG IAmb IAmb 21 41 34.8
comp=Z,53nm,0.9s
RDOG Red Dog Mine 48.90 356 P P 21 41 31.8 +0.3
baz=170
RDOG S **S** **21 48 39.0 +4.0**
baz=170
SAND Sanderson 48.92 67 P P 21 41 33.3 +0.9
SAND IAmb IAmb 21 41 37.4
comp=Z,38nm,0.9s
RSSD Black Hills 49.00 48 P P 21 41 32.4 -0.5
RSSD IAmb IAmb 21 41 41.6
comp=Z,48nm,1.0s
RSSD Black Hills 49.00 48 P P 21 41 31.8 -1.1
baz=257
RSSD S **S** **21 48 36.9 -0.6**
baz=257
RSSD Black Hills 49.00 48 P P 21 41 32.4 -0.5
RSSD pmax pmax
comp=Z,48nm,1.0s
RSSD MLR MLR
comp=Z,400nm,22.0s

E21K Killik River 49.04 1 P P 21 41 32.6 0.0
baz=182,SNR=45
E21K S **S** **21 48 38.9 +1.9**
baz=182
E25K Arctic Village 49.09 5 IAmb IAmb 21 41 35.7
comp=Z,62nm,1.1s
E25K IAMs_20 IAMs_20 21 56 19.8
comp=Z,2μm,21.0s
E25K Arctic Village 49.09 5 P P 21 41 32.8 -0.2
baz=192,SNR=35
E25K S **S** **21 48 40.0 +2.2**
baz=192
KSCO Kaye Shedlock' 49.10 55 P P 21 41 34.2 +0.5
KSCO Kaye Shedlock' 49.10 55 P P 21 41 32.5 -1.2
baz=262,SNR=15
KSCO S **S** **21 48 39.4 +0.5**
baz=262
G30M tAoh Zraii Nji 49.10 10 IAmb IAmb 21 41 35.4
comp=Z,61nm,0.9s
G30M IAMs_20 IAMs_20 21 57 36.3
comp=Z,2μm,21.0s
G30M tAoh Zraii Nji 49.10 10 P P 21 41 32.3 -0.8
baz=204,SNR=36
G30M S **S** **21 48 37.8 -0.2**
baz=204
D19K Kuna River 49.12 359 IAMs_20 IAMs_20 21 59 58.7
comp=Z,2μm,18.0s
D19K Kuna River 49.12 359 P P 21 41 32.9 -0.4
baz=176
D19K S **S** **21 48 40.7 +2.4**
baz=176
F28M Old Crow 49.17 8 IAmb IAmb 21 41 36.4
comp=Z,76nm,1.2s
F28M Old Crow 49.17 8 P P 21 41 32.9 -0.8
baz=199,SNR=50
F28M S **S** **21 48 41.7 +2.7**
baz=199
C16K Lisburne Hills 49.29 355 P P 21 41 34.8 +0.4
baz=167,SNR=11
C16K S **S** **21 48 43.5 +3.0**
baz=167
D20K Etivluk River 49.32 359 P P 21 41 35.2 +0.5
baz=178
D20K S **S** **21 48 42.5 +1.6**
baz=178
C17K DeLong Mountai 49.33 356 P P 21 41 35.3 +0.5
baz=170,SNR=16
C17K S **S** **21 48 43.7 +2.6**
baz=170
TOLK Toolik Lake Re 49.36 3 IAmb IAmb 21 41 38.9
comp=Z,120nm,1.7s
TOLK Toolik Lake Re 49.36 3 P P 21 41 34.8 -0.3
baz=187,SNR=19
TOLK S **S** **21 48 44.2 +2.7**
baz=187
G31M Satah River 49.37 11 IAMs_20 IAMs_20 22 01 13.5
comp=Z,2μm,18.0s
G31M Satah River 49.37 11 P P 21 41 34.2 -0.9
baz=206,SNR=64
G31M S **S** **21 48 41.4 -0.3**
baz=206
C18K Utukok River 49.39 357 IAMs_20 IAMs_20 21 57 28.7
comp=Z,2μm,22.0s
C18K Utukok River 49.39 357 P P 21 41 34.9 -0.5
baz=172,SNR=38
C18K S **S** **21 48 44.9 +2.9**
baz=172
SKR Severo-Kuril's 49.42 321 *ce*P **P 21 41 38.0 +2.3**
AMTX Amarillo 49.44 60 P **P 21 41 36.5 +0.2**
AMTX IAmb IAmb 21 41 43.5
comp=Z,139nm,1.9s
AMTX Amarillo 49.44 60 P P 21 41 34.3 -2.0
baz=266
AMTX S **S** **21 48 43.4 -0.4**
baz=266
PEA0B Petropavlovsk- 49.45 324 *ce*P **P 21 41 36.8 +0.8**
PETK Petropavlovsk- 49.45 324 P **P 21 41 36.0 +0.1**
PETK Petropavlovsk- 49.45 324 P **P 21 41 36.5 +0.5**
comp=Z,45nm,0.9s,baz=108,slow=9.4,SNR=48
PETK LR LR 21 59 35.5
comp=Z,739nm,20.3s,baz=117,slow=33
comp=Z,45nm,0.9s
POST Post 49.50 63 P P 21 41 36.7 0.0
POST IAmb IAmb 21 41 41.6
comp=Z,46nm,0.8s
D22K Ayikyak River 49.50 1 P P 21 41 37.1 +1.0
baz=183,SNR=35
D22K S **S** **21 48 46.4 +3.0**
baz=183
E27K Coleen River 49.52 7 IAmb IAmb 21 41 39.2
comp=Z,46nm,1.0s
E27K IAMs_20 IAMs_20 21 58 10.3
comp=Z,2μm,22.0s
E27K Coleen River 49.52 7 P P 21 41 35.5 -0.8
baz=197,SNR=40
E27K S **S** **21 48 46.5 +2.7**
baz=197
D23K Nanushuk River 49.64 2 P P 21 41 36.6 -0.6
baz=186
D23K S **S** **21 48 47.5 +2.1**
baz=186
F30M Barrier River 49.75 10 P P 21 41 37.3 -0.7
baz=204,SNR=30
F30M S **S** **21 48 47.1 +0.2**
baz=204
C21K Knifeblade Rid 49.76 0 P P 21 41 37.6 -0.4
baz=180,SNR=46
C21K S **S** **21 48 48.7 +1.7**
baz=180
OZNA Ozona 49.78 66 P P 21 41 39.7 +0.8
OZNA IAmb IAmb 21 41 48.4
comp=Z,70nm,1.1s
C19K Lookout Ridge 49.78 358 IAmb IAmb 21 41 41.4
comp=Z,78nm,1.1s
C19K IAMs_20 IAMs_20 21 59 25.0
comp=Z,2μm,21.0s
C19K Lookout Ridge 49.78 358 P P 21 41 37.6 -0.7
baz=174
C19K S **S** **21 48 49.0 +1.5**
baz=174
SGCY Sterling City 49.79 64 P P 21 41 39.6 +0.6
SGCY IAmb IAmb 21 41 43.6
comp=Z,39nm,0.9s
OGNE Ogallala 49.83 52 P P 21 41 38.9 -0.3
OGNE Ogallala 49.83 52 P P 21 41 38.4 -0.8
baz=261
D24K Happy Valley 49.90 3 P P 21 41 38.7 -0.5
baz=188,SNR=49
D24K S **S** **21 48 51.3 +2.2**
baz=188
F31M Tsiigehtchic 49.93 11 P P 21 41 38.8 -0.5
baz=207,SNR=46
F31M S **S** **21 48 50.3 +0.9**
baz=207
DKNS Dickens 50.00 62 P P 21 41 41.3 +0.7
DKNS IAmb IAmb 21 41 48.8
comp=Z,90nm,1.2s
SN05 Snyder 5 50.01 63 P P 21 41 41.9 +1.3
SN07 Snyder 07 50.01 63 P P 21 41 42.8 +2.2
SN07 IAmb IAmb 21 41 47.8
comp=Z,52nm,1.3s
DGMT Dagmar 50.03 42 P P 21 41 40.9 +0.4
DGMT Dagmar 50.03 42 IAMs_20 IAMs_20 21 59 23.9
comp=Z,1μm,18.0s
DGMT Dagmar 50.03 42 P P 21 41 39.4 -1.1
baz=253,SNR=6.0
DGMT S **S** **21 48 53.3 +1.8**
baz=253
B18K Kokolik River 50.13 357 P P 21 41 41.0 +0.1
baz=172
B18K S **S** **21 48 54.9 +2.7**
baz=172
E28M Babbage River 50.16 7 IAmb IAmb 21 41 43.8
comp=Z,54nm,1.1s
E28M IAMs_20 IAMs_20 21 57 43.1
comp=Z,2μm,19.0s
E28M Babbage River 50.16 7 P P 21 41 41.2 +0.1
baz=199,SNR=50
E28M S **S** **21 48 55.0 +2.3**
baz=199
E29M Blow River 50.16 8 IAmb IAmb 21 41 43.6
comp=Z,49nm,1.1s
E29M IAMs_20 IAMs_20 21 58 23.3
comp=Z,2μm,21.0s
E29M Blow River 50.16 8 P P 21 41 41.0 -0.1
baz=201,SNR=50
E29M S **S** **21 48 54.3 +1.6**
baz=201

D25K Kavik River 50.21 4 IAmb IAmb 21 41 44.3
comp=Z,90nm,1.1s
D25K Kavik River 50.21 4 P P 21 41 41.4 -0.2
baz=191,SNR=73
D25K S **S** **21 48 55.4 +1.9**
baz=191
B21K Ikpikpuk River 50.22 0 IAmb IAmb 21 41 44.2
comp=Z,35nm,0.9s
B21K Ikpikpuk River 50.22 0 P P 21 41 41.8 +0.2
baz=181,SNR=23
B21K S **S** **21 48 55.9 +2.5**
baz=181
DRIO Del Rio 50.24 68 P P 21 41 43.0 +0.6
C24K Franklin Bluff 50.47 3 P P 21 41 43.5 0.0
baz=188
C24K S **S** **21 48 58.1 +1.2**
baz=188
C23K Itkillik River 50.51 2 P P 21 41 43.8 +0.1
baz=186,SNR=73
C23K S **S** **21 49 00.6 +3.1**
baz=186
D27M Malcolm River 50.60 6 IAmb IAmb 21 41 47.8
comp=Z,79nm,1.7s
D27M Malcolm River 50.60 6 P P 21 41 44.9 +0.3
baz=197,SNR=23
D27M S **S** **21 49 01.2 +2.3**
baz=197
B20K Meade River 50.62 359 P P 21 41 44.9 +0.3
baz=178,SNR=25
B20K S **S** **21 49 01.1 +2.1**
baz=178
SMWD Samnorwood 50.63 60 IAmb IAmb 21 41 53.9
comp=Z,74nm,1.0s
APMT Aspermont 50.66 62 P P 21 41 45.8 +0.3
C27K Jago River 50.71 5 P P 21 41 45.5 +0.3
baz=194,SNR=56
C27K S **S** **21 49 02.8 +2.5**
baz=194
INK Inuvik 50.75 10 P P 21 41 44.5 -1.0
baz=207,SNR=72
INK S **S** **21 49 00.5 -0.3**
baz=207
INK Inuvik 50.75 10 LR LR 21 59 59.5
comp=Z,1μm,19.1s,baz=184,slow=32
INK Inuvik 50.75 10 P P 21 41 44.6 -0.9
C26K Camden Bay 50.90 5 P P 21 41 47.3 +0.7
baz=192,SNR=80
C26K S **S** **21 49 03.9 +1.0**
baz=192
JCT Junction City 50.92 66 P P 21 41 48.7 +1.2
JCT Junction City 50.92 66 P P 21 41 46.2 -1.4
baz=271,SNR=7.8
JCT S **S** **21 49 03.6 -0.8**
baz=271
JCT Junction City 50.92 66 P P 21 41 48.7 +1.2
JCT pmax pmax
comp=Z,18nm,0.8s
JCT MLR MLR
comp=Z,1μm,21.0s
A19K Wainwright 50.94 357 P P 21 41 47.0 +0.1
baz=173,SNR=5.9
A19K S **S** **21 49 06.0 +2.7**
baz=173
D28M Stokes Point 50.94 7 P P 21 41 46.4 -0.5
baz=200,SNR=14
D28M S **S** **21 49 05.9 +2.6**
baz=200
B22K Teshekpuk Lake 50.95 1 P P 21 41 46.9 -0.1
baz=182,SNR=34
B22K S **S** **21 49 05.4 +1.8**
baz=182
ABTX Abilene, Hawle 51.05 63 IAmb IAmb 21 41 57.9
comp=Z,110nm,1.2s
ABTX Abilene, Hawle 51.05 63 P P 21 41 47.6 -0.8
baz=269,SNR=20
ABTX S **S** **21 49 05.7 -0.4**
baz=269
YKA Yellowknife Ar 51.28 23 P P 21 41 48.7 -0.9
comp=Z,24nm,0.9s,baz=237,slow=7.4,SNR=126
YKA PcP **PcP 21 43 04.5 -0.1**
comp=Z,2.8nm,1.0s,baz=248,slow=3.1,SNR=1.5
YKA LR LR 22 01 49.4
comp=Z,943nm,18.3s,baz=228,slow=34
comp=Z,24nm,0.9s
CBKS Cedar Bluff 51.31 55 IAmb IAmb 21 41 54.0
comp=Z,76nm,1.2s
CBKS Cedar Bluff 51.31 55 P P 21 41 49.4 -0.9
baz=264,SNR=6.8
CBKS S **S** **21 49 08.5 -1.1**
baz=264
833A Chaparral WMA, 51.35 69 P P 21 41 51.4 +0.6
833A IAmb IAmb 21 41 55.4
comp=Z,40nm,0.9s
833A Chaparral WMA, 51.35 69 P P 21 41 49.0 -1.8
baz=273,SNR=9.4
833A S **S** **21 49 10.1 -0.2**
baz=273
ELIS Ellis County 51.35 59 IAmb IAmb 21 41 58.0
comp=Z,46nm,1.2s
BRDY Brady 51.60 65 IAmb IAmb 21 41 56.6
comp=Z,30nm,0.8s
A22K Sinclair Lake 51.61 0 P P 21 41 51.6 -0.3
baz=180
A22K S **S** **21 49 14.7 +2.0**
baz=180
U32A Winter Ranch, 51.71 59 P P 21 41 54.1 +0.8
U32A IAmb IAmb 21 41 57.8
comp=Z,41nm,0.8s
WMOK Wichita Mounta 51.81 61 P P 21 41 52.7 -1.5
baz=268,SNR=9.9
WMOK S **S** **21 49 16.6 -0.1**
baz=268
WMOK Wichita Mounta 51.81 61 P P 21 41 55.1 +0.9
WMOK pmax pmax
comp=Z,15nm,1.1s
E28A Huff 51.84 46 P P 21 41 54.5 +0.3
OK038 West end E0370 51.92 58 P P 21 41 55.4 +0.5
OK038 IAmb IAmb 21 42 02.8
comp=Z,78nm,1.0s
A21K Barrow 51.94 359 P P 21 41 54.7 +0.3
baz=178,SNR=7.0
A21K S **S** **21 49 18.2 +1.1**
baz=178
WTFS Witchita Falls 52.05 62 IAmb IAmb 21 42 03.6
comp=Z,67nm,1.1s
HBVL Hebbronville 52.07 70 P P 21 41 58.0 +1.8
HBVL IAmb IAmb 21 42 07.1
comp=Z,62nm,1.1s
PLPT Palo Pinto 52.17 63 P P 21 41 56.8 0.0
OK032 Salt Plains WL 52.37 58 P P 21 41 58.5 +0.3
OK032 IAmb IAmb 21 42 05.9
comp=Z,49nm,1.0s
FW03 Perrin-Whitt E 52.38 63 P P 21 41 58.8 +0.4
FW03 IAmb IAmb 21 42 06.1
comp=Z,67nm,1.2s
CROK Carrier 52.53 58 P P 21 42 00.0 +0.6
CROK IAmb IAmb 21 42 07.9
comp=Z,35nm,0.8s
KAN14 Manchester OK 52.57 58 P P 21 42 00.4 +0.6
KAN14 IAmb IAmb 21 42 06.6
comp=Z,70nm,1.5s
FW07 Weatherford 52.62 63 P P 21 42 01.0 +0.9
SUSD Miller 52.64 48 P P 21 41 59.8 -0.3
SUSD Miller 52.64 48 P P 21 41 59.0 -1.1
baz=261
SUSD S **S** **21 49 27.2 -0.4**
baz=261
KAN06 Argonia West S 52.67 58 P P 21 42 01.2 +0.7
KAN06 IAmb IAmb 21 42 09.1
comp=Z,49nm,1.1s
735A Kenedy 52.72 68 P P 21 42 03.1 +2.2
735A IAmb IAmb 21 42 06.3
comp=Z,71nm,0.9s
KVTX Kingsville 52.73 70 IAMs_20 IAMs_20 21 57 46.5
comp=Z,2μm,22.0s
HNR Honiara 52.73 241 P P 21 42 01.5 +0.4
HNR Honiara 52.73 241 P P 21 42 01.5 +0.4
HNR pmax pmax
comp=Z,167nm,1.2s
KAN01 Argonia South 52.75 58 P P 21 42 01.3 +0.3
KAN01 IAmb IAmb 21 42 04.8
comp=Z,43nm,0.9s
BGNE Belgrade 52.80 52 P P 21 42 01.3 -0.1
baz=264,SNR=25
BGNE S **S** **21 49 31.3 +1.3**
baz=264
FW06 Azle 52.81 63 P P 21 42 01.7 +0.1

FW06 IAmb IAmb 21 42 05.9
comp=Z,63nm,0.7s
435B Jarrell 52.83 66 P **P** **21 42 02.8 +1.1**
435B IAmb IAmb 21 42 06.0
comp=Z,58nm,0.8s
435B Jarrell 52.83 66 P **P** **21 42 01.3 -0.4**
baz=272
435B S **S** **21 49 32.7 +2.2**
baz=272
MDND Maddock 52.84 44 P **P** **21 42 02.6 +1.1**
MDND Maddock 52.84 44 P **P** **21 42 00.8 -0.8**
baz=258
MDND S **S** **21 49 32.5 +2.2**
baz=258
KAN09 Caldwell North 52.86 58 P **P** **21 42 01.9 0.0**
KAN09 IAmb IAmb 21 42 09.6
comp=Z,70nm,1.3s
WHTX Lake Whitney, 52.91 64 P **P** **21 42 03.2 +0.9**
WHTX IAmb IAmb 21 42 06.8
comp=Z,40nm,0.8s
WHTX Lake Whitney, 52.91 64 P **P** **21 42 01.2 -1.1**
baz=271,SNR=6.9
WHTX S **S** **21 49 32.3 +0.7**
baz=271
FW13 Cleburne 52.92 64 P **P** **21 42 02.9 +0.5**
OK029 Liberty Lake 52.93 59 P **P** **21 42 03.0 +0.6**
OK029 IAmb IAmb 21 42 05.8
comp=Z,82nm,1.3s
OKCSW OKLAHOMA CITY 52.94 60 P **P** **21 42 01.9 -0.5**
FNO Franklin 52.96 60 P **P** **21 42 02.8 +0.1**
FNO IAmb IAmb 21 42 16.2
comp=Z,136nm,1.8s
KAN13 South Haven SW 52.96 58 P **P** **21 42 02.1 -0.5**
KAN13 IAmb IAmb 21 42 10.2
comp=Z,54nm,1.2s
Z35A Perchaven, San 53.06 62 IAmb IAmb 21 42 07.5
comp=Z,43nm,0.8s
FW14 Alvarado 53.12 64 P **P** **21 42 04.2 +0.4**
FW14 IAmb IAmb 21 42 08.3
comp=Z,51nm,0.8s
LOOK Love County 53.13 62 IAmb IAmb 21 42 08.3
comp=Z,48nm,0.8s
BLOK Blackwell 53.16 58 IAmb IAmb 21 42 07.5
comp=Z,49nm,1.1s
FFC Flin Flon 53.32 35 P **P** **21 42 02.3 -2.6**
OK033 Mehan 53.36 59 IAmb IAmb 21 42 11.4
comp=Z,39nm,1.0s
OK033 IAMs_20 IAMs_20 22 02 05.4
comp=Z,1µm,19.0s
OK048 Pawnee Station 53.37 59 P **P** **21 42 06.3 +0.7**
KUR Kuril'sk 53.37 312 P **P** **21 42 06.1 +0.7**
KUR S S 21 49 47.4 +10
FW16 Waxahatchie 53.37 64 P **P** **21 42 06.8 +1.1**
FW16 IAmb IAmb 21 42 11.8
comp=Z,109nm,1.4s
W35A Tecumseh 53.39 60 **P** **21 42 06.0 +0.2**
W35A IAmb IAmb 21 42 09.7
comp=Z,34nm,0.9s
OK031 S. Brethren Rd 53.44 59 P **P** **21 42 06.3 +0.2**
OK031 IAmb IAmb 21 42 14.7
comp=Z,47nm,0.9s
C36M Paulatuk 53.45 13 P **P** **21 42 04.9 -0.7**
C36M IAmb IAmb 21 42 06.9
comp=Z,61nm,1.4s
C36M IAMs_20 IAMs_20 21 58 21.2
comp=Z,1µm,18.0s
C36M Paulatuk 53.45 13 P **P** **21 42 03.9 -1.7**
baz=217,SNR=34
C36M S **S** **21 49 36.1 -1.7**
baz=217
OK051 E0350 and S346 53.46 59 IAmb IAmb 21 42 12.2
comp=Z,32nm,0.9s
TLIG Tlapa 53.46 82 P **P** **21 42 07.0 +0.3**
TLIG IAmb IAmb 21 42 12.2
comp=Z,38nm,1.0s
OK052 Battle Ridge R 53.47 59 P **P** **21 42 06.5 +0.1**
OK052 IAmb IAmb 21 42 15.0
comp=Z,56nm,1.0s
DEOK Depew 53.71 59 **P** **21 42 08.1 0.0**
DEOK IAmb IAmb 21 42 16.6
comp=Z,37nm,0.9s
T35A Sooner Cattle 53.73 58 IAmb IAmb 21 42 12.7
comp=Z,39nm,0.8s
KSU1 Kansas State U 53.77 55 IAmb IAmb 21 42 16.6
comp=Z,70nm,0.9s
KSU1 Kansas State U 53.77 55 P **P** **21 42 06.7 -1.8**
baz=266,SNR=8.9
KSU1 S **S** **21 49 43.1 -0.1**
baz=266
TREL Terrell 54.05 63 P **P** **21 42 11.1 +0.4**
TREL IAmb IAmb 21 42 15.2
comp=Z,65nm,0.9s
ECSD EROS Data Cent 54.20 50 IAmb IAmb 21 42 18.8
comp=Z,56nm,1.1s
ECSD EROS Data Cent 54.20 50 P **P** **21 42 10.4 -1.2**
baz=263,SNR=28
ECSD S **S** **21 49 48.2 -0.8**
baz=263
TUL3 Leonard 54.29 59 IAmb IAmb 21 42 16.2
comp=Z,33nm,0.8s
TUL3 Leonard 54.29 59 P **P** **21 42 10.9 -1.4**
baz=269
TUL3 S **S** **21 49 51.5 +1.3**
baz=269
237A Washetta, Mont 54.30 64 IAmb IAmb 21 42 22.4
comp=Z,54nm,1.1s
BILL Bilibino 54.32 343 P **P** **21 42 11.7 -0.4**
BILL Bilibino 54.32 343‖ *eP* **P** **21 42 12.1 +0.1**
BILL pmax pmax
comp=Z,77nm,0.9s
HKT Hockley 54.38 67 IAMs_20 IAMs_20 22 01 02.1
comp=Z,1µm,18.0s
HKT Hockley 54.38 67 *c i*P **P** **21 42 14.3 +1.3**
HKT pmax pmax
comp=Z,76nm,1.5s
D32A Dogwood Acres, 54.42 45 P **P** **21 42 13.1 -0.1**
X37A Clayton 54.62 61 IAmb IAmb 21 42 37.5
comp=Z,38nm,1.1s
NATX Nacogdoches 55.29 64 IAmb IAmb 21 42 25.9
comp=Z,70nm,1.0s
NATX IAMs_20 IAMs_20 21 59 36.4
comp=Z,1µm,18.0s
NATX Nacogdoches 55.29 64 P **P** **21 42 19.3 -0.4**
baz=273
A36M Sachs Harbour 55.36 11 P **P** **21 42 18.9 -0.6**
baz=215,SNR=48
A36M S **S** **21 50 03.0 -0.5**
baz=215
AGMN Agassiz Nation 55.39 44 IAmb IAmb 21 42 21.4
comp=Z,57nm,1.2s
AGMN Agassiz Nation 55.39 44 P **P** **21 42 18.4 -1.7**
baz=260,SNR=11
AGMN S **S** **21 50 03.4 -1.3**
baz=260
U38A Gravette 55.43 59 IAmb IAmb 21 42 26.4
comp=Z,38nm,1.1s
MA2 Magadan 55.55 330 P **P** **21 42 22.9 +1.9**
MA2 IAmb IAmb 21 42 24.1
comp=Z,53nm,1.2s
MA2 IAMs_20 IAMs_20 22 01 00.6
comp=Z,1µm,20.0s
MA2 Magadan 55.55 330 LR LR 22 01 46.0
comp=Z,864nm,21.8s,baz=110,slow=31
MA2 Magadan 55.55 330 *ce*P **P** **21 42 21.1 0.0**
MA2 pmax pmax
comp=Z,105nm,2.5s
MA2 Magadan 55.55 330 P **P** **21 42 21.3 +0.2**
comp=Z,46nm,2.0s,comp=Z,1µm
OUENC Ouen Island, N 55.76 224 P **P** **21 42 22.0 -1.0**
OUENC IAmb IAmb 21 42 43.7
comp=Z,44nm,0.9s
DZM Mont Dzumac 55.77 224 P **P** **21 42 24.2 +1.0**
DZM IAmb IAmb 21 42 30.7
comp=Z,52nm,1.2s
DZM Mont Dzumac 55.77 224 LR LR 22 01 09.0
comp=Z,494nm,20.3s,baz=38,slow=30
ONTNC Ouen Toro 55.93 224 P **P** **21 42 23.5 -0.8**
MIAR Mount Ida 56.10 61 IAmb IAmb 21 42 31.2
comp=Z,82nm,1.8s
MIAR IAMs_20 IAMs_20 22 01 33.0
comp=Z,1µm,20.0s
MIAR Mount Ida 56.10 61 P **P** **21 42 25.2 -0.3**
baz=271,SNR=14
MIAR S **S** **21 50 13.0 -1.6**
baz=271
P38A Dawn 56.18 55 IAmb IAmb 21 42 29.7
comp=Z,50nm,0.9s

SEY Seymchan 56.19 334 LR LR 22 02 08.9
comp=Z,510nm,21.6s,baz=96,slow=32
SEY Seymchan 56.19 334 *eP* **P** **21 42 24.7 -0.9**
SEY pmax pmax
comp=Z,36nm,1.1s
S39A Bolivar 56.29 57 IAmb IAmb 21 42 29.8
comp=Z,64nm,1.4s
ERM Erimo 56.41 308 P **P** **21 42 27.5 0.0**
ERM IAmb IAmb 21 42 31.2
comp=Z,52nm,0.9s
ERM Erimo 56.41 308 *ce*P **P** **21 42 29.4 +1.9**
ERM pmax pmax
comp=Z,58nm,1.0s
WLAR White Oak Lake 56.52 62 IAmb IAmb 21 43 31.5
comp=Z,46nm,1.1s
SCIA State Center 56.53 52 IAMs_20 IAMs_20 22 01 56.2
comp=Z,1µm,20.0s
SCIA State Center 56.53 52 P **P** **21 42 26.2 -2.2**
baz=267,SNR=7.1
SCIA S **S** **21 50 18.3 -1.7**
baz=267
F36A Milaca 56.64 47 P **P** **21 42 28.2 -0.8**
F36A IAmb IAmb 21 42 30.6
comp=Z,34nm,1.0s
X40A Basin Creek Fa 56.72 61 P **P** **21 42 29.4 -0.4**
Z41A Richland Creek 56.79 62 IAmb IAmb 21 42 35.4
comp=Z,75nm,1.3s
JKA Kamikawa-asahi 56.96 310 P **P** **21 42 32.2 +0.7**
ASAJ Asahikawa 56.97 310 LR LR 22 01 36.4
comp=Z,1µm,21.7s,baz=118,slow=30
ASAJ Asahikawa 56.97 310 P **P** **21 42 32.2 +0.8**
ASAJ pmax pmax
comp=Z,68nm,0.9s
CMIG Matias Romero 57.00 82 LR LR 22 03 08.1
comp=Z,543nm,18.6s,baz=288,slow=32
SPMN Marine on St. 57.08 48 IAmb IAmb 21 42 33.9
comp=Z,34nm,0.7s
SPMN Marine on St. 57.08 48 P **P** **21 42 29.9 -2.3**
baz=265,SNR=6.2
SPMN S **S** **21 50 26.2 -0.9**
baz=265
UALR University of 57.12 61 IAmb IAmb 21 42 35.4
comp=Z,81nm,1.7s
YSS Yuzh-Sakhalins 57.13 314 P **P** **21 42 30.7 -1.9**
YSS Yuzh-Sakhalins 57.13 314 IAMs_20 IAMs_20 22 00 47.1
comp=Z,1µm,21.0s
YSS Yuzh-Sakhalins 57.13 314 *eP* **P** **21 42 28.5 -4.0**
YSS *e* 21 44 34.1
YSS *e*PPP PPP 21 46 08.2
YSS *e*S S 21 50 16.5 -11
YSS *e*PS **PnS** **21 50 34.3 -3.8**
YSS pmax pmax
comp=Z,1µm,9.0s
YSS pmax pmax
comp=Z,30nm,1.4s
WHAR Wooly Hollow 57.15 60 IAmb IAmb 21 42 38.4
comp=Z,53nm,1.4s
P40A Paris 57.32 55 IAmb IAmb 21 42 41.3
comp=Z,36nm,0.9s
CCAR Cane Creek 57.62 62 P **P** **21 42 36.5 +0.3**
CCAR IAmb IAmb 21 42 40.2
comp=Z,35nm,0.7s
JCJ Chichijima 57.62 290 LR LR 22 01 11.1
comp=Z,354nm,21.7s,baz=79,slow=30
TYV Tymovskoe 57.72 318 *eP* **P** **21 42 37.8 +1.2**
TYV *eS* **S** **21 50 39.1 +3.7**
TYV pmax pmax
comp=Z,36nm,1.2s
TYV pmax pmax
comp=Z,500nm,7.0s
TYV smax smax
comp=N,300nm,8.7s
TYV smax smax
comp=E,600nm,8.7s
UGL Uglegorsk 57.84 316 *eP* **P** **21 42 38.1 +0.6**
UGL *eS* **S** **21 50 39.7 +2.6**
UGL pmax pmax
comp=Z,130nm,1.1s
UGL pmax pmax
comp=Z,2µm,7.0s
UGL smax smax
comp=E,2µm,9.0s
JTM Tenmabayashi 57.92 306 P **P** **21 42 39.3 +1.0**
CCM Cathedral Cave 57.94 57 P **P** **21 42 38.6 +0.2**
CCM Cathedral Cave 57.94 57 P **P** **21 42 36.1 -2.3**
baz=270
CCM S **S** **21 50 36.9 -1.8**
baz=270
CCM Cathedral Cave 57.94 57 P **P** **21 42 38.6 +0.2**
CCM pmax pmax
comp=Z,24nm,1.2s
CCM MLR MLR
comp=Z,700nm,19.0s
L40A Anamosa 58.02 52 IAmb IAmb 21 42 45.0
comp=Z,58nm,1.2s
LCAR Lake Charles 58.05 59 IAmb IAmb 21 42 41.4
comp=Z,73nm,1.7s
E38A The Farm, Brul 58.07 47 IAmb IAmb 21 42 40.0
comp=Z,41nm,1.0s
T42A Van Buren 58.07 58 IAmb IAmb 21 42 41.5
comp=Z,91nm,1.6s
EYMN Ely 58.24 45 P **P** **21 42 39.6 -0.8**
EYMN Ely 58.24 45 P **P** **21 42 37.9 -2.5**
baz=264
EYMN S **S** **21 50 40.3 -2.1**
baz=264
HBAR Harrisburg 58.47 60 P **P** **21 42 43.1 +1.0**
I40A Norwalk 58.54 50 IAmb IAmb 21 42 44.9
comp=Z,91nm,1.6s
FVM French Village 58.59 57 IAmb IAmb 21 42 50.9
comp=Z,31nm,0.9s
PBMO Poplar Bluff 58.61 58 IAmb IAmb 21 42 46.4
comp=Z,29nm,0.8s
JFWS Jewell Farm 58.77 51 IAmb IAmb 21 42 45.1
comp=Z,38nm,0.9s
JFWS Jewell Farm 58.77 51 P **P** **21 42 42.1 -2.1**
baz=268,SNR=9.4
JFWS S **S** **21 50 47.2 -2.3**
baz=268
VBMS Vicksburg 58.78 64 S **S** **21 50 49.3 -0.5**
baz=274
G40A Rib Lake 58.91 48 P **P** **21 42 44.7 -0.5**
CGM3 Cape Girardeau 59.21 58 IAmb IAmb 21 42 50.5
comp=Z,42nm,0.8s
HDIL Hopedale 59.44 54 IAMs_20 IAMs_20 22 02 52.4
comp=Z,1µm,22.0s
HDIL Hopedale 59.44 54 P **P** **21 42 46.9 -2.0**
baz=270
HDIL S **S** **21 50 58.3 +0.1**
baz=270
Y45A Yeager Farm, C 59.48 62 P **P** **21 42 49.9 +0.7**
S44A Carbondale 59.52 57 IAmb IAmb 21 42 52.8
comp=Z,41nm,1.0s
OXF Oxford 59.54 61 P **P** **21 42 49.8 +0.1**
OXF IAmb IAmb 21 42 53.3
comp=Z,54nm,0.9s
OXF IAMs_20 IAMs_20 22 05 00.1
comp=Z,981nm,18.0s
OXF Oxford 59.54 61 P **P** **21 42 47.9 -1.7**
baz=274,SNR=7.4
OXF S **S** **21 51 00.1 +0.4**
baz=274
OXF Oxford 59.54 61 P **P** **21 42 49.8 +0.1**
OXF pmax pmax
comp=Z,54nm,1.0s
OXF MLR MLR
comp=Z,1µm,18.0s
SIUC Southern Illin 59.55 57 IAmb IAmb 21 42 52.9
comp=Z,34nm,0.9s
Q44A Meyer Farm, Va 59.68 56 P **P** **21 42 50.8 +0.3**
Q44A IAmb IAmb 21 42 55.7
comp=Z,27nm,0.9s
COWI Conover 59.70 47 IAmb IAmb 21 42 51.5
comp=Z,42nm,1.0s
COWI IAMs_20 IAMs_20 22 02 53.1
comp=Z,860nm,18.0s
CCIG Comitan 59.74 82 P **P** **21 42 53.7 +2.2**
CCIG IAmb IAmb 21 43 16.2
comp=Z,47nm,1.2s
I42A Draeger Farm, 59.77 50 IAmb IAmb 21 42 51.4
comp=Z,37nm,1.0s
D41A Chassel 60.15 46 P **P** **21 42 53.2 -0.4**
D41A IAmb IAmb 21 43 17.8
comp=Z,50nm,1.2s
MJAR Matsushiro Arr 60.22 302 P **P** **21 42 54.7 +0.4**
comp=Z,27nm,0.9s,baz=95,slow=4.2,SNR=41
comp=Z,27nm,0.9s

MAJO Matsushiro 60.22 302 P **P** **21 42 55.2 +0.9**
MAJO Matsushiro 60.22 302 *i* P **P** **21 42 55.6 +1.3**
MAJO pmax pmax
comp=Z,30nm,0.8s
MJB9 Matsu-Tunnel 60.23 302 P **P** **21 42 55.8 +1.4**
F42A Maple Grove Fa 60.39 48 P **P** **21 42 53.8 -1.5**
M44A Midewin, Midew 60.39 53 P **P** **21 42 55.6 +0.2**
L44A Lake County Fo 60.48 52 IAMs_20 IAMs_20 22 04 14.9
comp=Z,845nm,18.0s
L44A Lake County Fo 60.48 52 P **P** **21 42 54.7 -1.3**
baz=270
L44A S **S** **21 51 09.5 -2.0**
baz=270
H43A Windswept, Lux 60.61 49 P **P** **21 42 56.6 -0.2**
PLAL Pickwick Lake 60.61 60 IAMs_20 IAMs_20 22 05 45.3
comp=Z,918nm,18.0s
WVT Waverly 60.73 59 P **P** **21 42 57.9 +0.1**
WVT Waverly 60.73 59 P **P** **21 42 56.1 -1.7**
baz=274
WVT S **S** **21 51 13.7 -1.3**
baz=274
WVT Waverly 60.73 59 P **P** **21 42 57.9 +0.1**
WVT pmax pmax
comp=Z,68nm,1.0s
WVT MLR MLR
comp=Z,600nm,18.0s
Z47A Carrollton 60.75 62 P **P** **21 42 58.9 +1.0**
Z47A IAmb IAmb 21 43 01.5
comp=Z,38nm,0.9s
USIN University of 60.77 57 P **P** **21 42 58.4 +0.4**
USIN IAmb IAmb 21 43 06.4
comp=Z,53nm,1.1s
JGF Kuroka 60.97 301 P **P** **21 43 00.4 +1.0**
P46A Rosedale 61.06 55 IAmb IAmb 21 43 07.5
comp=Z,48nm,0.9s
SFIN Lafayette 61.12 54 P **P** **21 43 00.8 +0.4**
SFIN Lafayette 61.12 54 P **P** **21 42 58.5 -1.8**
baz=272,SNR=5.6
SFIN S **S** **21 51 20.0 +0.2**
baz=272
E43A Lone Tree Farm 61.20 47 IAmb IAmb 21 43 01.7
comp=Z,36nm,0.9s
T47A Sharon Grove 61.26 58 IAmb IAmb 21 43 09.3
comp=Z,49nm,1.0s
X48A Hartselle 61.50 61 IAmb IAmb 21 43 09.3
comp=Z,30nm,1.2s
V48A Smith Brothers 61.58 59 IAmb IAmb 21 43 11.6
comp=Z,35nm,1.1s
BLO Bloomington 61.61 55 P **P** **21 43 03.3 -0.4**
BLO IAmb IAmb 21 43 08.7
comp=Z,21nm,0.8s
BLO Bloomington 61.61 55 P **P** **21 43 03.3 -0.4**
BLO pmax pmax
comp=Z,21nm,0.8s
APG El Apazote 61.61 83 LR LR 22 05 39.5
comp=Z,37nm,18.1s,baz=244,slow=32
GRNR Gornyy 61.64 318 *eP* P 21 42 55.7 -8.0
LRAL Lakeview Retre 61.66 62 IAmb IAmb 21 43 13.0
comp=Z,22nm,1.0s
LRAL IAMs_20 IAMs_20 22 06 55.2
comp=Z,842nm,18.0s
LRAL Lakeview Retre 61.66 62 P **P** **21 43 02.9 -1.3**
baz=276
LRAL S **S** **21 51 26.9 0.0**
baz=276
L46A Eue Claire 61.69 52 P **P** **21 43 03.7 -0.4**
PETF Flores 61.72 81 P **P** **21 43 06.1 +1.4**
BRAL Brewton 61.82 64 P **P** **21 43 04.3 -0.9**
WCI Wyandotte Cave 61.84 56 P **P** **21 43 05.8 +0.6**
WCI IAmb IAmb 21 43 12.8
comp=Z,35nm,0.9s
WCI Wyandotte Cave 61.84 56 P **P** **21 43 03.3 -1.9**
baz=273
WCI S **S** **21 51 29.9 +1.0**
baz=273
WCI Wyandotte Cave 61.84 56 P **P** **21 43 05.8 +0.6**
WCI pmax pmax
comp=Z,35nm,0.9s
WCI MLR MLR
comp=Z,500nm,19.0s
CLTN Cedars of Leba 61.95 59 IAmb IAmb 21 43 09.4
comp=Z,58nm,1.3s
Y49A Blount Mountai 62.07 61 IAmb IAmb 21 43 15.3
comp=Z,52nm,1.4s
SWET Sewanee 62.34 60 IAmb IAmb 21 43 16.5
comp=Z,29nm,1.0s
TEIG Tepich 62.48 77 LR LR 22 05 04.6
comp=Z,2µm,21.9s,slow=31
O48B Farmland 62.61 54 P **P** **21 43 08.7 -1.7**
baz=273,SNR=16
O48B S **S** **21 51 38.0 -0.6**
baz=273
FPAL Fort Paine 62.67 61 IAmb IAmb 21 43 13.9
comp=Z,40nm,1.1s
R49A Shelbyville 62.71 56 IAmb IAmb 21 43 17.8
comp=Z,65nm,1.5s
ESQI Esquipulas 62.77 83 P **P** **21 43 11.8 -0.2**
W50A Signal Mountai 62.85 60 IAmb IAmb 21 43 20.1
comp=Z,24nm,0.9s
GLMI Grayling 62.86 49 IAMs_20 IAMs_20 22 08 41.7
comp=Z,841nm,19.0s
P49A Miami Univ. Ec 62.99 55 P **P** **21 43 11.3 -1.6**
baz=274
P49A S **S** **21 51 42.0 -1.4**
baz=274
451A Vernon 63.00 65 P **P** **21 43 12.7 -0.5**
URZ Urewera 63.00 204 LR LR 22 06 08.1
comp=Z,984nm,20.8s,baz=120,slow=32
TOZ Tahuroa Road 63.19 206 IAMs_20 IAMs_20 22 04 59.3
comp=Z,1µm,20.0s
X51A Calhoun 63.28 60 IAmb IAmb 21 43 20.3
comp=Z,30nm,1.1s
N49A Columbus Grove 63.32 53 IAmb IAmb 21 43 21.7
comp=Z,45nm,1.2s
RTZ Ruatahuna 63.36 204 P **P** **21 43 16.0 +0.7**
RTZ IAmb IAmb 21 43 20.0
comp=Z,38nm,1.1s
R50A Paris 63.38 56 IAmb IAmb 21 43 22.8
comp=Z,20nm,0.8s
CPCT Cooper Cave 63.47 59 IAmb IAmb 21 43 23.2
comp=Z,24nm,1.0s
352A Blakely 63.58 64 P **P** **21 43 17.4 +0.4**
152A Waverly Hall 63.61 62 IAmb IAmb 21 43 23.8
comp=Z,55nm,1.4s
AAM Ann Arbor 63.64 52 IAMs_20 IAMs_20 22 11 14.4
comp=Z,815nm,18.0s
AAM Ann Arbor 63.64 52 P **P** **21 43 14.0 -3.1**
baz=273
PMG Port Moresby 63.66 249 LR LR 22 09 59.8
comp=Z,576nm,18.1s,baz=34,slow=35
RES Resolute Bay 63.72 15 IAmb IAmb 21 43 23.7
comp=Z,46nm,1.4s
RES Resolute Bay 63.72 15 LR LR 22 06 57.6
comp=Z,1µm,21.1s,baz=228,slow=32
RES Resolute Bay 63.72 15 P **P** **21 43 16.6 -0.5**
RES pmax pmax
comp=Z,45nm,1.3s
W52A Murphy 63.99 60 P **P** **21 43 20.4 +0.8**
JMN Monobe 63.99 299 P **P** **21 43 21.0 +1.3**
S51A Beattyville 64.01 57 IAmb IAmb 21 43 26.1
comp=Z,47nm,1.5s
TKL Tuckaleechee C 64.05 59 IAmb IAmb 21 43 26.8
comp=Z,32nm,1.1s
TKL Tuckaleechee C 64.05 59 LR LR 22 08 15.1
comp=Z,387nm,18.7s,baz=272,slow=33
Q51A Peebles 64.08 55 IAmb IAmb 21 43 27.8
comp=Z,36nm,0.9s
RPN Rapa Nui 64.09 135 LR LR 22 04 40.3
comp=Z,967nm,18.7s,baz=297,slow=30
V52A Sevierville 64.18 59 IAmb IAmb 21 43 25.9
comp=Z,63nm,1.8s
P51A Williamsport 64.27 55 IAmb IAmb 21 43 28.8
comp=Z,45nm,1.1s
ACSO Alum Creek Sta 64.27 54 IAmb IAmb 21 43 27.3
comp=Z,44nm,1.1s
ACSO Alum Creek Sta 64.27 54 P **P** **21 43 19.6 -1.8**
baz=274
ACSO S **S** **21 51 58.8 -0.5**
baz=274
GOGA Godfrey 64.56 62 IAmb IAmb 21 43 29.0
comp=Z,44nm,1.1s
GOGA Godfrey 64.56 62 IAMs_20 IAMs_20 22 06 44.0
comp=Z,785nm,18.0s
GOGA Godfrey 64.56 62 P **P** **21 43 21.7 -1.7**
baz=277,SNR=18
GOGA S **S** **21 52 01.8 -1.4**
baz=277

GOGA Godfrey 64.56 62 P **P** **21 43 23.2 -0.2**
USA0B Ussuriysk Arra 64.60 310 IAmb IAmb 21 43 25.8
comp=Z,34nm,1.2s
USA0B Ussuriysk Arra 64.60 310 *i* P **P** **21 43 24.7 +1.3**
USRK Ussuriysk Ar. 64.60 310 P **P** **21 43 24.1 +0.7**
USRK Ussuriysk Ar. 64.60 310 P **P** **21 43 23.1 -0.3**
comp=Z,14nm,0.9s,baz=91,slow=6.3,SNR=13
USRK LR LR 22 06 29.5
comp=Z,634nm,20.6s,baz=95,slow=31
comp=Z,14nm,0.9s
USRK Ussuriysk Ar. 64.60 310 P **P** **21 43 24.1 +0.7**
KLR Kul'dur 64.61 316 LR LR 22 06 31.9
comp=Z,450nm,21.3s,baz=105,slow=31
KLR Kul'dur 64.61 316 *ce*P **P** **21 43 22.5 -0.9**
KLR pmax pmax
comp=Z,52nm,2.5s
TIGA Tifton 64.72 64 P **P** **21 43 22.6 -1.9**
baz=278
TIGA S **S** **21 52 05.4 +0.2**
baz=278
VLA Vladivostok 64.73 309 *i* P **P** **21 43 25.2 +0.9**
VLA pmax pmax
comp=Z,21nm,1.1s
BG3 Lake Jocassee 64.81 60 IAmb IAmb 21 43 30.5
comp=Z,58nm,1.3s
TGUH Tegucigalpa,Un 64.84 83 P **P** **21 43 26.7 +1.0**
TGUH IAmb IAmb 21 43 34.2
comp=Z,29nm,0.7s
154A Montrose 64.97 62 P **P** **21 43 26.3 +0.3**
P52A Corning 64.97 55 P **P** **21 43 23.7 -2.3**
baz=275,SNR=7.5
P52A S **S** **21 52 06.7 -1.4**
baz=275
M52A Chesterland 65.40 52 P **P** **21 43 28.1 -0.7**
HODGE Hodges 65.46 60 P **P** **21 43 29.5 +0.3**
HODGE IAmb IAmb 21 43 34.5
comp=Z,45nm,1.4s
PSTR Posyet 65.55 309 *i* P **P** **21 43 31.3 +1.6**
255A Hazlehurst 65.59 63 P **P** **21 43 31.1 +0.9**
O53A New Philadelph 65.62 54 IAmb IAmb 21 43 37.8
comp=Z,51nm,1.1s
O53A New Philadelph 65.62 54 P **P** **21 43 27.4 -2.8**
baz=275
O53A S **S** **21 52 15.6 -0.4**
baz=275
MRZ Mangatainoka R 65.67 204 P **P** **21 43 30.3 0.0**
MRZ IAMs_20 IAMs_20 22 10 13.8
comp=Z,1μm,19.0s
PAULI Pauline 65.75 60 IAmb IAmb 21 43 36.2
comp=Z,65nm,1.7s
S54A Dingess, Beckl 65.79 57 P **P** **21 43 32.1 +0.7**
S54A IAmb IAmb 21 43 47.3
comp=Z,36nm,0.9s
M53A WI Miller and 65.92 52 P **P** **21 43 29.6 -2.5**
baz=275
M53A S **S** **21 52 18.3 -1.3**
baz=275
656A Willston 65.94 66 P **P** **21 43 31.9 -0.5**
KMSC Kings Mountain 66.09 59 P **P** **21 43 32.8 -0.5**
KMSC IAmb IAmb 21 43 38.5
comp=Z,42nm,1.3s
KMSC Kings Mountain 66.09 59 P **P** **21 43 31.2 -2.2**
baz=278
KMSC S **S** **21 52 20.1 -1.8**
baz=278
YAK Yakutsk 66.12 330 P **P** **21 43 32.1 -0.9**
YAK Yakutsk 66.12 330 IAMs_20 IAMs_20 22 07 54.2
comp=Z,1μm,22.0s
YAK Yakutsk 66.12 330 LR LR 22 08 23.9
comp=Z,939nm,21.8s,baz=94,slow=32
YAK Yakutsk 66.12 330 *eP* **P** **21 43 31.5 -1.5**
YAK *e**PP **sP** **21 43 38.1 +0.5**
YAK *e* 21 45 55.7
YAK *e*S **S** **21 52 21.1 -0.2**
YAK *e* 21 53 29.6
YAK *e*SS **SS** **21 56 32.8 -3.7**
YAK pmax pmax
comp=Z,90nm,0.9s
YAK pmax pmax
comp=E,22nm,1.5s
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,27nm,1.5s
YAK pmax pmax
comp=N,13nm,1.1s
YAK pmax pmax
comp=E,69nm,2.2s
YAK smax smax
comp=N,266nm,5.1s
YAK smax smax
comp=E,751nm,7.4s
456A Hilliard 66.16 64 P **P** **21 43 31.9 -1.9**
JSC Jenkinsville 66.27 60 IAmb IAmb 21 45 33.4
comp=Z,28nm,0.9s
MDJ Mudanjiang 66.28 311 P **P** **21 43 34.2 -0.2**
MDJ pP pP 21 43 36.9 -0.8
MDJ sP sP 21 43 38.5 -0.4
MDJ PP **PP** **21 45 58.0 -2.1**
MDJ S **S** **21 52 27.2 +3.3**
MDJ ScS **SKSac** **21 53 28.0 -3.0**
MDJ pmax pmax
comp=Z,59nm,0.9s
MDJ pmax pmax
comp=Z,1μm,8.0s
MDJ LR LR
comp=Z,830nm,14.4s
MDJ LR LR
comp=Z,760nm,21.0s
MDJ LR LR
comp=Z,2μm,21.9s
ERPA Erie 66.37 52 IAMs_20 IAMs_20 22 12 21.7
comp=Z,958nm,18.0s
ERPA Erie 66.37 52 P **P** **21 43 32.9 -2.0**
baz=275
JNU Nakatsue 66.56 298 LR LR 22 10 27.7
comp=Z,505nm,18.9s,baz=92,slow=34
BLA Blacksburg 66.56 57 P **P** **21 43 34.4 -2.0**
baz=277,SNR=8.7
BLA S **S** **21 52 27.5 -0.2**
baz=277
R55A Marlinton 66.67 56 IAmb IAmb 21 43 44.7
comp=Z,26nm,0.9s
U56A King 66.70 58 IAmb IAmb 21 43 43.0
comp=Z,39nm,1.1s
MCWV Mont Chateau 66.73 54 IAmb IAmb 21 43 43.0
comp=Z,38nm,0.9s
MCWV Mont Chateau 66.73 54 P **P** **21 43 36.1 -1.1**
baz=276
SADO Sadowa 66.76 49 LR LR 22 11 50.6
comp=Z,324nm,18.2s,baz=327,slow=35
BIRD Birdtown, Kers 66.87 60 P **P** **21 43 38.5 +0.2**
BIRD IAmb IAmb 21 43 43.8
comp=Z,41nm,1.2s
NNZ Nelson 67.02 205 IAMs_20 IAMs_20 22 10 01.5
comp=Z,1μm,19.0s
Y57A Sumter 67.02 60 P **P** **21 43 39.5 +0.3**
Y57A IAmb IAmb 21 43 45.0
comp=Z,49nm,1.1s
W57A Gilead 67.18 59 IAmb IAmb 21 43 47.6
comp=Z,33nm,0.9s
Q56A Snyder Ridge, 67.31 55 P **P** **21 43 41.0 -0.1**
Q56A IAmb IAmb 21 43 46.7
comp=Z,40nm,1.1s
ZEA Zeya 67.32 321 *eP* **P** **21 43 41.4 +0.6**
ZEA *e* 21 44 09.5
ZEA *e*S **S** **21 52 39.3 +3.2**
ZEA *e*PS **PnS** **21 52 58.9 +1.4**
ZEA *e*SP **SPn** **21 53 03.6 +7.6**
ZEA pmax pmax
comp=Z,30nm,1.3s
ZEA pmax pmax
comp=E,200nm,9.1s
ZEA pmax pmax
comp=N,100nm,4.1s
ZEA pmax pmax
comp=Z,500nm,7.3s
ZEA smax smax
comp=N,200nm,9.1s
ZEA smax smax
comp=E,500nm,8.8s
HZTE Horizontes, Gu 67.32 86 P **P** **21 43 43.7 +2.2**
TIXI Tiksi 67.34 341 P **P** **21 43 40.3 -0.2**
TIXI Tiksi 67.34 341 LR LR 22 12 21.7
comp=E,490nm,19.6s,baz=114,slow=35
TIXI Tiksi 67.34 341 *ce*P **P** **21 43 40.4 -0.2**
TIXI pmax pmax
comp=Z,97nm,2.5s
M55A Ridgway 67.34 52 IAmb IAmb 21 43 46.6
comp=Z,39nm,1.0s
WVNY West Valley, N 67.36 51 P **P** **21 43 39.9 -1.4**
WVNY IAmb IAmb 21 43 48.4
comp=Z,49nm,1.0s
HEH HeiHe 67.39 317 *eP* **P** **21 43 41.8 +0.5**
HEH pP **sP** **21 43 45.6 -0.2**
HEH S **S** **21 52 35.8 -1.2**
HEH sS **sS** **21 52 48.0 +5.5**
HEH pmax pmax
comp=Z,12nm,1.3s
HEH pmax pmax
comp=Z,810nm,10.8s
HEH LR LR
comp=Z,500nm,15.8s
HEH LR LR
comp=Z,1μm,17.3s
HEH LR LR
comp=Z,1μm,20.4s
RCRC Randolf Colleg 67.44 57 P **P** **21 43 41.6 -0.3**
T57A Hurt 67.52 57 IAmb IAmb 21 43 49.3
comp=Z,65nm,1.5s
ORTG Ortega, Santa 67.55 87 P **P** **21 43 44.0 +1.0**
ORTG IAmb IAmb 21 43 49.5
comp=Z,29nm,1.0s
Y58A Scranton 67.63 61 P **P** **21 43 42.7 -0.4**
S57A Dark Hollow, R 67.65 56 IAmb IAmb 21 43 48.8
comp=Z,33nm,1.1s
BNX BinXian 67.73 312 ⇓P **P** **21 43 44.2 +0.6**
BNX PcP **PcP** **21 44 12.1 +1.7**
BNX PP **PP** **21 46 13.2 +0.5**
BNX S **S** **21 52 43.4 +2.1**
BNX pmax pmax
comp=Z,41nm,1.1s
BNX pmax pmax
comp=Z,1μm,7.0s
BNX LR LR
comp=Z,570nm,15.7s
BNX LR LR
comp=Z,480nm,14.6s
BNX LR LR
comp=Z,910nm,17.3s
X58A Rowland 67.80 60 IAmb IAmb 21 43 52.0
comp=Z,43nm,1.0s
MMNY Mt. Morris Dam 67.84 51 P **P** **21 43 42.1 -2.2**
J55A Hilton 67.85 50 P **P** **21 43 42.8 -1.5**
DELO Deloro Mine 67.86 49 IAmb IAmb 21 43 47.0
comp=Z,58nm,1.2s
JTS Las Juntas de 68.05 86 P **P** **21 43 45.1 -0.9**
JTS Las Juntas de 68.05 86 LR LR 22 08 13.4
comp=Z,563nm,18.3s,baz=286,slow=31
JTS Las Juntas de 68.05 86 *i* P **P** **21 43 48.0 +1.9**
JTS pmax pmax
comp=Z,15nm,1.0s
SSPA Standing Stone 68.10 53 P **P** **21 43 46.1 +0.2**
SSPA IAmb IAmb 21 43 53.3
comp=Z,34nm,1.2s
SSPA Standing Stone 68.10 53 P **P** **21 43 44.2 -1.7**
baz=277
SSPA S **S** **21 52 46.3 +0.4**
baz=277
P57A Homestead Farm 68.15 54 IAmb IAmb 21 43 51.8
comp=Z,42nm,1.4s
L56A Greenwood 68.17 51 P **P** **21 43 46.1 -0.3**
KSRS Korea Array 68.33 303 P **P** **21 43 48.2 +0.8**
comp=Z,19nm,0.9s,baz=82,slow=6.4,SNR=37
KSRS LR LR 22 11 56.9
comp=Z,354nm,18.9s,baz=80,slow=34
comp=Z,19nm,0.9s
KSAR Wonju Array Be 68.36 303 P **P** **21 43 48.3 +0.7**
KSAR Wonju Array Be 68.36 303 P **P** **21 43 48.3 +0.7**
KS19 Wonju Array Si 68.36 304 P **P** **21 43 48.0 +0.3**
R58B Mineral 68.47 56 P **P** **21 43 48.1 -0.2**
R58B IAmb IAmb 21 43 54.1
comp=Z,54nm,1.2s
JACO JACO, Garabito 68.50 87 P **P** **21 43 49.4 +0.5**
JACO IAmb IAmb 21 44 01.0
comp=Z,35nm,1.1s
JSRW J. Sargeant Re 68.50 56 P **P** **21 43 48.5 0.0**
M57A Sunshine Farm, 68.58 52 IAmb IAmb 21 43 54.7
comp=Z,57nm,1.2s
CBN Corbin Frederi 68.83 56 IAMs_20 IAMs_20 22 07 18.8
comp=Z,726nm,18.0s
K57A Scipio Center 68.86 51 P **P** **21 43 49.8 -0.9**
T59A Double "B" Far 68.87 57 P **P** **21 43 51.2 +0.4**
T59A IAmb IAmb 21 43 56.8
comp=Z,47nm,1.3s
HDC Heredia 68.92 86 IAMs_20 IAMs_20 22 08 02.6
comp=Z,703nm,18.0s
TJN Taejon 68.93 302 *ce*P **P** **21 43 51.7 +0.5**
N58A Sunbury 68.96 53 IAmb IAmb 21 43 56.8
comp=Z,36nm,0.9s
LCR2 La Lucha 2 69.10 87 P **P** **21 43 53.5 +0.6**
LCR2 IAmb IAmb 21 44 00.6
comp=Z,29nm,1.0s
BINY Binghamton 69.32 51 IAmb IAmb 21 43 58.8
comp=Z,41nm,0.9s
BINY IAMs_20 IAMs_20 22 12 04.7
comp=Z,1μm,19.0s
BINY Binghamton 69.32 51 P **P** **21 43 51.5 -2.1**
baz=278,SNR=8.0
CN2 Changchun 69.33 310 ⇑P **P** **21 43 53.5 -0.1**
CN2 *es*P sP 21 43 59.5 +1.4
CN2 *eS* **S** **21 52 57.6 -2.8**
CN2 pmax pmax
comp=Z,30nm,1.1s
CN2 pmax pmax
comp=Z,700nm,6.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,300nm,13.0s
CN2 LR LR
comp=Z,500nm,14.0s
INCN Inchon 69.33 304 P **P** **21 43 53.7 -0.1**
INCN Inchon 69.33 304 P **P** **21 43 53.7 -0.1**
INCN pmax pmax
comp=Z,62nm,0.9s
MVL Millersville 69.35 54 IAmb IAmb 21 43 59.5
comp=Z,42nm,1.0s
WBO Williamsburg 69.47 48 IAmb IAmb 21 43 54.6
comp=Z,28nm,1.1s
PEZE Perez Zeledon, 69.51 87 P **P** **21 43 56.1 +0.8**
PEZE IAmb IAmb 21 44 02.2
comp=Z,59nm,1.2s
CTAO Charters Tower 69.57 239 P **P** **21 43 53.5 -1.9**
CTAO IAmb IAmb 21 44 09.4
comp=Z,43nm,1.6s
CTAO Charters Tower 69.57 239 P **P** **21 43 53.5 -1.9**
CTAO pmax pmax
comp=Z,43nm,1.7s
KSPA Keystone Colle 69.57 52 IAmb IAmb 21 44 00.5
comp=Z,42nm,1.0s
J58A Remsen 69.67 50 IAmb IAmb 21 44 02.7
comp=Z,31nm,1.1s
TRQ Mont Tremblant 69.81 47 IAmb IAmb 21 44 01.4
comp=Z,67nm,1.5s
V61A Roper 69.84 58 P **P** **21 43 57.7 +0.8**
SRBA San Rafael, Bu 69.86 87 P **P** **21 43 58.7 +1.3**
JOW Kunigami 69.91 292 LR LR 22 09 45.9
comp=Z,595nm,21.1s,baz=104,slow=32
LUPA Lehigh Univers 70.00 53 IAmb IAmb 21 44 05.4
comp=Z,48nm,1.1s
LONY Lake Ozonia 70.00 49 IAmb IAmb 21 44 04.5
comp=Z,33nm,1.2s
LONY Lake Ozonia 70.00 49 P **P** **21 43 55.3 -2.5**
baz=278
L59A Walton 70.01 51 IAmb IAmb 21 44 03.2
comp=Z,49nm,1.1s
RPZ Rata Peaks 70.05 205 LR LR 22 09 16.3
comp=Z,991nm,21.9s,baz=58,slow=31
TULEG Thule 70.42 14 P **P** **21 43 59.9 +0.3**
TULEG IAmb IAmb 21 44 01.5
comp=Z,55nm,1.2s
TULEG IAMs_20 IAMs_20 22 10 47.5
comp=Z,968nm,20.0s
ODNJ Ogdensburg 70.50 52 IAmb IAmb 21 44 06.3
comp=Z,30nm,1.1s
CDITO Canoas 70.51 88 P **P** **21 44 00.4 -0.9**
CDITO IAmb IAmb 21 44 08.7
comp=Z,41nm,1.0s
PRVC Isla de Provid 70.55 82 P **P** **21 44 01.7 +0.2**
MNTQ Montreal, Queb 70.56 48 IAmb IAmb 21 44 01.9
comp=Z,36nm,1.0s
BRNJ Basking Ridge 70.60 53 P **P** **21 44 01.5 +0.1**
BRNJ IAmb IAmb 21 44 07.2
comp=Z,69nm,1.2s
BRU2 Volcan 70.62 87 P **P** **21 44 03.1 +0.9**
TRNY Table Rock, Ra 70.78 52 IAmb IAmb 21 44 04.0
comp=Z,37nm,1.0s
ACCN Adirondack Com 70.83 50 IAmb IAmb 21 44 07.8
comp=Z,25nm,1.0s
SNY Shenyang 70.98 309 ⇑P **P** **21 44 03.4 -0.3**
SNY S **S** **21 53 21.6 +1.9**
SNY pmax pmax
comp=Z,28nm,1.1s
SNY pmax pmax
comp=Z,680nm,7.5s
SNY LR LR
comp=Z,470nm,17.2s
SNY LR LR
comp=Z,460nm,17.6s
SNY LR LR
comp=Z,800nm,18.2s
CPNY Central Park 71.03 52 P **P** **21 44 04.2 +0.2**
PAL Palisades 71.04 52 P **P** **21 44 04.3 +0.3**
PAL IAmb IAmb 21 44 09.8
comp=Z,47nm,1.0s
PAL Palisades 71.04 52 P **P** **21 44 01.8 -2.3**
baz=280
PAL S **S** **21 53 20.4 0.0**
baz=280
PAL Palisades 71.04 52 P **P** **21 44 04.4 +0.3**
PAL pmax pmax
comp=Z,47nm,1.0s
FRB Frobisher Bay 71.29 28 LR LR 22 13 14.0
comp=Z,294nm,18.7s,baz=278,slow=34
VT1 Waterbury 71.34 49 IAmb IAmb 21 44 13.2
comp=Z,34nm,1.1s
VT1 IAMs_20 IAMs_20 22 13 25.2
comp=Z,856nm,18.0s
WSPT Westport, CT 71.44 52 IAMs_20 IAMs_20 22 14 01.9
comp=Z,734nm,21.0s
J61A Chester 71.64 50 IAmb IAmb 21 44 13.4
comp=Z,39nm,1.3s
L61B Northampton 71.70 51 P **P** **21 44 05.6 -2.5**
baz=280
L61B S **S** **21 53 28.8 +0.7**
baz=280
YLE Yale 71.71 52 P **P** **21 44 07.5 -0.6**
YLE IAmb IAmb 21 44 13.9
comp=Z,67nm,1.1s
HNH Hanover 71.78 49 IAmb IAmb 21 44 14.5
comp=Z,31nm,1.0s
LDAQ Lac Daran 71.81 45 IAmb IAmb 21 44 10.1
comp=Z,31nm,0.9s
LBNH Lisbon 71.94 49 P **P** **21 44 09.5 0.0**
LBNH IAmb IAmb 21 44 15.4
comp=Z,26nm,0.9s
LBNH Lisbon 71.94 49 P **P** **21 44 06.3 -3.2**
baz=280
LBNH S **S** **21 53 30.6 -0.2**
baz=280
LBNH Lisbon 71.94 49 P **P** **21 44 09.5 0.0**
LBNH pmax pmax
comp=Z,26nm,0.9s
LBNH MLR MLR
comp=Z,1μm,18.0s
QUA2 Belchertown 71.97 51 IAmb IAmb 21 44 15.5
comp=Z,48nm,1.3s
I62A Tamworth 72.42 49 IAmb IAmb 21 44 14.1
comp=Z,41nm,1.3s
H62A Milan 72.43 48 IAmb IAmb 21 44 14.1
comp=Z,33nm,1.0s
HIA Hailar 72.44 317 IAMs_20 IAMs_20 22 10 22.0
comp=Z,846nm,22.0s
HIA Hailar 72.44 317 P **P** **21 44 11.6 -0.8**
LMQ La Malbaie 72.49 45 P **P** **21 44 10.4 -2.3**
LMQ IAmb IAmb 21 44 16.6
comp=Z,34nm,1.1s
HRV Adam Dziewonsk 72.51 50 P **P** **21 44 14.2 +1.3**
HRV IAmb IAmb 21 44 18.1
comp=Z,46nm,1.2s
HRV Adam Dziewonsk 72.51 50 P **P** **21 44 10.2 -2.7**
baz=280
HRV S **S** **21 53 37.7 +0.3**
baz=280
HRV Adam Dziewonsk 72.51 50 P **P** **21 44 14.2 +1.3**
HRV pmax pmax
comp=Z,46nm,1.2s
HRV MLR MLR
comp=Z,300nm,19.0s
WES Weston 72.70 50 IAMs_20 IAMs_20 22 10 43.3
comp=Z,730nm,21.0s
G62A West of Eustis 72.75 47 IAmb IAmb 21 44 15.7
comp=Z,25nm,0.9s
I63A Otisfield 72.93 49 IAmb IAmb 21 44 22.4
comp=Z,34nm,1.1s
DL2 Dalian 72.97 306 P **P** **21 44 13.3 -2.4**
DL2 S **S** **21 53 45.2 +2.5**
DL2 pmax pmax
comp=Z,47nm,1.4s
DL2 pmax pmax
comp=Z,1μm,6.3s
DL2 LR LR
comp=Z,510nm,14.7s
DL2 LR LR
comp=Z,530nm,13.1s
DL2 LR LR
comp=Z,930nm,22.1s
E62A Clayton Lake 73.19 46 IAmb IAmb 21 44 18.3
comp=Z,35nm,0.8s
BCIP Isla Barro Col 73.19 86 IAMs_20 IAMs_20 22 12 54.8
comp=Z,803nm,18.0s
SCHQ Schefferville 73.40 37 P **P** **21 44 15.4 -2.6**
SCHQ Schefferville 73.40 37 P **P** **21 44 16.3 -1.7**
comp=Z,6.1nm,0.7s,baz=269,slow=5.2,SNR=9.0
SCHQ LR LR 22 15 42.8
comp=Z,392nm,18.3s,baz=272,slow=35
comp=Z,6.1nm,0.7s
D62A Allapoint, All 73.43 45 IAmb IAmb 21 44 19.8
comp=Z,32nm,0.9s
WVL Waterville 73.48 48 IAmb IAmb 21 44 21.7
comp=Z,51nm,1.4s
KULLO Kullorsuaq 73.54 16 *i* P **P** **21 44 16.6 -1.8**
KULLO IAmb IAmb 21 44 20.8
comp=Z,32nm,0.9s
PKME Peaks-Kenny Pk 73.61 47 IAmb IAmb 21 44 22.6
comp=Z,63nm,1.2s
PKME Peaks-Kenny Pk 73.61 47 P **P** **21 44 16.6 -2.8**
baz=281,SNR=8.1
F63A Nahmakanta, Br 73.65 47 P **P** **21 44 19.2 -0.5**
F63A IAmb IAmb 21 44 21.3
comp=Z,32nm,1.0s
F64A Sherman 74.14 46 IAmb IAmb 21 44 29.9
comp=Z,135nm,2.0s
PQI Presque Isle 74.20 46 IAmb IAmb 21 44 24.0
comp=Z,34nm,0.9s
NEEM North Greenlan 74.22 13 *i* P **P** **21 44 21.3 -1.5**
NEEM IAmb IAmb 21 44 24.7
comp=Z,20nm,1.0s
UPNV Upernavik 74.26 18 *i* P **P** **21 44 20.9 -1.8**
UPNV IAmb IAmb 21 44 24.5
comp=Z,18nm,0.8s
BOD Bodaibo 74.27 326 *eP* **P** **21 44 22.4 -0.6**
BOD pmax pmax
comp=Z,105nm,1.8s
G65A Princeton 74.81 47 IAmb IAmb 21 44 27.9
comp=Z,40nm,1.1s
SSE Sheshan 75.02 298 P **P** **21 44 28.3 +0.5**
SSE S **S** **21 54 08.0 +1.9**
SSE pmax pmax
comp=Z,11nm,0.7s
SSE pmax pmax
comp=Z,120nm,4.3s
SSE LR LR
comp=Z,240nm,19.0s
SSE LR LR
comp=Z,230nm,18.4s
BATG Bathurst New B 75.38 45 IAmb IAmb 21 44 30.9
comp=Z,31nm,0.9s
NUUG Nuugaatsiaq 75.47 19 *i* P **P** **21 44 28.6 -1.1**
NUUG IAmb IAmb 21 44 31.5
comp=Z,17nm,0.7s
XLT XiLinHaoTe 75.98 312 *eP* **P** **21 44 34.1 +0.8**
XLT pP sP 21 44 38.0 +0.2
XLT sP PcP 21 44 41.9 -3.7
XLT PcP pP 21 44 45.4 +8.8
XLT S **S** **21 54 17.3 +0.8**
XLT pmax pmax
comp=Z,47nm,1.1s

XLT pmax pmax
comp=Z,280nm,6.2s
XLT LR LR
comp=Z,84nm,13.6s
XLT LR LR
comp=Z,660nm,17.9s
XLT LR LR
comp=Z,940nm,25.1s
UMMG Uummannaq 76.08 20 *i* P **P** **21 44 32.2 -1.0**
UMMG IAmb IAmb 21 44 35.2
comp=Z,13nm,1.0s
NACB Ninganchiao 76.40 291 IAmb IAmb 21 44 42.6
comp=Z,42nm,0.9s
YHNB Yeheng 76.46 292 IAMs_20 IAMs_20 22 19 37.0
comp=Z,682nm,19.0s
NJ2 Nanjing 76.72 299 ⇑*i* P **P** **21 44 37.6 +0.1**
NJ2 PP **PP** **21 47 29.3 -0.6**
NJ2 S **S** **21 54 27.3 +2.5**
NJ2 pmax pmax
comp=Z,41nm,0.9s
NJ2 pmax pmax
comp=Z,720nm,5.2s
NJ2 LR LR
comp=Z,570nm,15.2s
NJ2 LR LR
comp=Z,480nm,14.2s
NJ2 LR LR
comp=Z,1μm,19.9s
BJI Beijing 76.83 308 P **P** **21 44 38.9 +0.9**
BJI PP **PP** **21 47 27.0 -3.6**
BJI S **S** **21 54 26.7 +0.9**
BJI pmax pmax
comp=Z,24nm,1.1s
BJI pmax pmax
comp=Z,320nm,7.3s
BJT Baijiatuau 76.84 308 IAmb IAmb 21 44 40.4
comp=Z,43nm,1.0s
BJT Baijiatuau 76.84 308 P **P** **21 44 38.2 +0.1**
YULB Yu-li 76.87 290 IAmb IAmb 21 44 42.3
comp=Z,32nm,1.0s
ILULI Ilulissat 76.89 21 IAmb IAmb 21 44 39.5
comp=Z,42nm,1.2s
TIA Tai'an 77.06 304 P **P** **21 44 39.2 -0.2**
TIA PP **PP** **21 47 29.8 -2.9**
TIA S **S** **21 54 30.2 +1.7**
TIA pmax pmax
comp=Z,56nm,0.9s
TIA pmax pmax
comp=Z,500nm,6.9s
TIA LR LR
comp=Z,250nm,13.5s
TIA LR LR
comp=Z,180nm,13.3s
TIA LR LR
comp=Z,300nm,14.5s
SSLB Suanglung 77.07 291 IAmb IAmb 21 44 44.0
comp=Z,43nm,1.0s
ARNL Arenillas 77.13 98 P **P** **21 44 41.8 +1.7**
ARNL IAmb IAmb 21 44 47.8
comp=Z,38nm,1.0s
NOR Nord 77.14 6 *i* P **P** **21 44 37.6 -1.4**
TPUB Ta-pu 77.49 290 IAmb IAmb 21 44 44.1
comp=Z,46nm,0.9s
SLOR San Lorenzo - 77.63 95 P **P** **21 44 45.0 +1.5**
SLOR IAmb IAmb 21 44 51.1
comp=Z,33nm,1.3s
SFJD Kangerlussuaq 77.84 23 *i* P **P** **21 44 42.5 -0.7**
SFJD IAmb IAmb 21 44 45.5
comp=Z,24nm,0.9s
TNTI Ternate 77.97 267 P **P** **21 44 44.2 -0.7**
TNTI IAmb IAmb 21 44 49.8
comp=Z,116nm,2.0s
HNS HongShan 78.62 306 ⇑P **P** **21 44 48.6 +0.5**
HNS PP **PP** **21 47 45.7 0.0**
HNS S **S** **21 54 46.8 +1.5**
HNS SS **SS** **21 59 52.3 +3.6**
HNS pmax pmax
comp=Z,53nm,1.1s
HNS pmax pmax
comp=Z,960nm,9.1s
HNS LR LR
comp=Z,640nm,14.9s
HNS LR LR
comp=Z,510nm,15.1s
QZH Quanzhou 78.82 293 ⇑*i* P **P** **21 44 50.4 +1.0**
QZH sP **PcP** **21 44 57.2 -1.0**
QZH S **S** **21 54 51.3 +3.5**
QZH pmax pmax
comp=Z,630nm,5.5s
QZH LR LR
comp=Z,810nm,15.6s
QZH LR LR
comp=Z,750nm,16.5s
STKA Stephens Creek 79.19 231 P **P** **21 44 49.6 -1.6**
STKA Stephens Creek 79.19 231 P **P** **21 44 52.1 +0.9**
comp=Z,11nm,0.9s,baz=38,slow=6.4,SNR=12
comp=Z,11nm,0.9s
STKA Stephens Creek 79.19 231 *i* P **P** **21 44 52.3 +1.1**
SUMG Summit 79.21 16 P **P** **21 44 50.5 -0.7**
SUMG Summit 79.21 16 P **P** **21 44 50.5 -0.7**
SUMG pmax pmax
comp=Z,84nm,1.0s
SUMG Summit 79.21 16 *i* P **P** **21 44 50.0 -1.2**
SUMG IAmb IAmb 21 44 53.7
comp=Z,40nm,0.9s
WRA Warramunga Arr 79.41 244 P **P** **21 44 52.3 -0.3**
comp=Z,3.5nm,0.9s,baz=62,slow=5.7,SNR=8.5
comp=Z,3.5nm,0.9s
DY2G Dye2 79.64 23 *i* P **P** **21 44 52.4 -0.9**
DY2G IAmb IAmb 21 44 55.1
comp=Z,30nm,0.8s
ROSC El Rosal 79.74 88 P **P** **21 44 57.0 +1.9**
ROSC IAmb IAmb 21 45 08.9
comp=Z,59nm,1.1s
ROSC El Rosal 79.74 88 P **P** **21 44 57.6 +2.6**
comp=Z,24nm,0.9s,baz=252,slow=3.2,SNR=6.2
comp=Z,24nm,0.9s
ROSC El Rosal 79.74 88 P **P** **21 44 57.0 +1.9**
ROSC pmax pmax
comp=Z,59nm,1.2s
HHC Hu-ho-hao-te 80.00 310 ⇑*i* P **P** **21 44 56.1 +0.4**
HHC pP sP 21 45 00.8 +0.5
HHC PP **PP** **21 47 57.2 -0.1**
HHC S **S** **21 54 59.3 -0.8**
HHC ScS **SKKSac** **21 55 16.3 +0.9**
HHC pmax pmax
comp=Z,29nm,0.9s
HHC pmax pmax
comp=Z,560nm,5.8s
HHC LR LR
comp=Z,260nm,16.9s
HHC LR LR
comp=Z,470nm,16.5s
HHC LR LR
comp=Z,800nm,17.3s
BBSR BB Station 80.21 59 P **P** **21 44 57.7 +0.9**
TIY Taiyuan 80.27 306 ⇑P **P** **21 44 57.3 +0.1**
TIY PP **PP** **21 48 01.3 +1.8**
TIY S **S** **21 54 55.5 -7.4**
TIY SS **SS** **22 00 06.9 -6.7**
TIY pmax pmax
comp=Z,23nm,0.5s
TIY pmax pmax
comp=Z,490nm,7.5s
RUSC La Rusia 80.57 87 P **P** **21 44 59.6 -0.1**
RUSC IAmb IAmb 21 45 05.5
comp=Z,81nm,1.3s
DAG Danmarks Havn 80.58 9 P **P** **21 44 57.5 -0.5**
DAG Danmarks Havn 80.58 9 *i* P **P** **21 44 56.0 -2.0**
DAG IAmb IAmb 21 44 59.3
comp=Z,12nm,0.8s
ICESG Greenland Ices 80.66 19 *i* P **P** **21 44 56.9 -2.1**
ICESG IAmb IAmb 21 45 00.8
comp=Z,31nm,0.8s
WHN Wuhan 80.83 299 ⇓P **P** **21 45 01.2 +1.0**
WHN pP **sP** **21 45 05.5 +0.7**
WHN PP **PP** **21 48 04.5 +0.2**
WHN S **S** **21 55 10.3 +1.4**
WHN pmax pmax
comp=Z,130nm,1.0s
WHN pmax pmax
comp=Z,2μm,11.5s
WHN LR LR
comp=Z,2μm,17.5s
ULN Ulaanbaatar 80.94 318 P **P** **21 45 00.7 0.0**
ULN IAmb IAmb 21 45 03.4
comp=Z,44nm,1.1s
ULN Ulaanbaatar 80.94 318 IAMs_20 IAMs_20 22 18 11.9
comp=Z,577nm,20.0s
ULN Ulaanbaatar 80.94 318 *ce* P **P** **21 45 00.2 -0.5**
ULN pmax pmax
comp=Z,44nm,1.0s
LYN LuoYang 81.17 303 ⇓P **P** **21 45 02.6 +0.6**
LYN PP **PP** **21 48 06.4 -0.6**
LYN S **S** **21 55 10.8 -1.5**
LYN SKS **SKSac** **21 55 16.3 -5.3**
LYN pmax pmax
comp=Z,100nm,0.9s
LYN pmax pmax
comp=Z,930nm,6.9s
LYN LR LR
comp=Z,380nm,14.4s
LYN LR LR
comp=Z,760nm,17.5s
LYN LR LR
comp=Z,1μm,17.5s
IRK Irkutsk 81.18 322 *e* P **P** **21 45 02.3 +0.6**
IRK *e* 21 55 16.9
IRK pmax pmax
comp=Z,93nm,2.4s
BTO Baotou 81.20 310 *e* P **P** **21 45 03.4 +1.3**
BTO pP **PcP** **21 45 08.1 -0.3**
BTO sP **sP** **21 45 10.5 +3.8**
BTO PP **PP** **21 48 10.6 +3.4**
BTO S **S** **21 55 13.7 +1.1**
BTO sS **pS** **21 55 17.5 +0.6**
BTO SS **SS** **22 00 28.8 +1.5**
BTO pmax pmax
comp=Z,61nm,1.0s
BTO pmax pmax
comp=Z,2μm,7.3s
BTO LR LR
comp=Z,970nm,17.7s
BTO LR LR
comp=Z,750nm,24.4s
BTO LR LR
comp=Z,1μm,20.7s
ASAR Alice Springs 81.36 241 P **P** **21 45 02.5 -0.5**
comp=Z,9.8nm,1.0s,baz=66,slow=5.7,SNR=46
comp=Z,9.8nm,1.0s
SONM Songino Array 81.37 318 P **P** **21 45 02.7 -0.2**
SONM IAmb IAmb 21 45 05.6
comp=Z,43nm,1.2s
SONM Songino Array 81.37 318 P **P** **21 45 02.4 -0.6**
comp=Z,18nm,1.0s,baz=81,slow=4.3,SNR=50
comp=Z,18nm,1.0s
SONM Songino Array 81.37 318 P **P** **21 45 02.7 -0.2**
SONM pmax pmax
comp=Z,43nm,1.2s
SDV Santo Domingo 81.93 83 *e* P **P** **21 45 04.7 -1.9**
DBG Daneborg 82.17 11 *i* P **P** **21 45 05.2 -1.2**
DBG IAmb IAmb 21 45 11.8
comp=Z,7.1nm,1.0s
ZAK Zakamensk 82.42 321 *e* P **P** **21 45 09.0 +0.6**
ZAK pmax pmax
comp=Z,18nm,2.0s
MLPR Magueyes Islan 82.44 74 P **P** **21 45 09.0 0.0**
SPITS Spitsbergen Ar 82.50 2 P **P** **21 45 07.8 -0.4**
comp=Z,16nm,0.9s,baz=7.6,slow=4.4,SNR=7.8
comp=Z,16nm,0.9s
CNSH ChangSha 82.72 297 ⇑P **P** **21 45 10.4 +0.2**
CNSH S **SKSac** **21 55 31.6 -0.6**
CNSH pmax pmax
comp=Z,61nm,1.0s
CNSH LR LR
comp=Z,290nm,19.7s
CNSH LR LR
comp=Z,530nm,18.9s
CNSH LR LR
comp=Z,580nm,27.1s
OBIP Obispado Ponce 82.82 73 P **P** **21 45 11.4 +0.5**
CELP Cerrillos 82.83 73 P **P** **21 45 10.7 -0.3**
NNA Nana 83.13 105 *ce* P **P** **21 45 12.8 +0.2**
NNA pmax pmax
comp=Z,58nm,1.3s
MOY Mondy 83.28 322 *e* P **P** **21 45 13.7 +0.9**
MOY pmax pmax
comp=Z,65nm,2.1s
HUMP Col San Antoni 83.47 73 P **P** **21 45 15.0 +0.8**
TOLI2 Tolitoli 84.07 269 P **P** **21 45 17.2 -0.2**
TOLI2 IAmb IAmb 21 45 38.9
comp=Z,40nm,1.8s
XAN Xi'an 84.12 304 P **P** **21 45 17.0 -0.4**
XAN S **S** **21 55 44.3 +1.7**
XAN pmax pmax
comp=Z,50nm,1.3s
XAN pmax pmax
comp=Z,810nm,7.3s
XAN LR LR
comp=Z,690nm,17.5s
XAN LR LR
comp=Z,1μm,16.8s
XAN LR LR
comp=Z,1μm,17.1s
BAUV El Baul 84.34 83 P **P** **21 45 18.7 -0.1**
SOEI Soe 84.48 258 P **P** **21 45 21.1 +1.5**
SCO Scoresbysund 84.61 14 IAmb IAmb 21 45 21.5
comp=Z,26nm,1.0s
SCO Scoresbysund 84.61 14 *i* P **P** **21 45 18.4 -0.6**
SCO IAmb IAmb 21 45 21.8
comp=Z,11nm,0.9s
ENH Enshi 84.91 300 IAMs_20 IAMs_20 22 19 03.0
comp=Z,664nm,19.0s
SMRT St. Maarten 86.00 72 P **P** **21 45 27.7 +0.6**
TBTG Tabatinga, AM 86.86 96 P **P** **21 45 32.0 +0.6**
LZH Lanzhou 87.30 307 *e* P **P** **21 45 33.9 +0.6**
LZH pP pP 21 45 37.4 +0.7
LZH PP **PP** **21 48 55.8 -1.3**
LZH SKS **SKSac** **21 56 00.3 -1.2**
LZH S **S** **21 56 15.4 +1.4**
LZH SS **SS** **22 02 00.2 +2.5**
LZH pmax pmax
comp=Z,51nm,0.9s
LZH pmax pmax
comp=Z,710nm,7.0s
LZH LR LR
comp=Z,380nm,16.6s
LZH LR LR
comp=Z,550nm,14.4s
LZH LR LR
comp=Z,740nm,21.6s
QIZ Qiongzhong 88.37 289 P **P** **21 45 38.8 +0.3**
QIZ PP **PP** **21 49 03.0 -3.0**
QIZ S S 21 56 12.8 -12
QIZ SS **SS** **22 02 13.9 0.0**
QIZ pmax pmax
comp=Z,17nm,2.5s
QIZ pmax pmax
comp=Z,480nm,6.8s
QIZ LR LR
comp=Z,370nm,15.8s
QIZ LR LR
comp=Z,240nm,18.3s
QIZ LR LR
comp=Z,550nm,18.9s
QIZ Qiongzhong 88.37 289 IAMs_20 IAMs_20 22 21 32.5
comp=Z,548nm,19.0s
GYA Guiyang 88.55 297 P **P** **21 45 38.0 -1.4**
GYA SKS **SKSac** **21 56 06.3 -3.0**
GYA S **S** **21 56 27.4 +1.2**
GYA pmax pmax
comp=Z,7.0nm,0.9s
GYA pmax pmax
comp=Z,390nm,7.6s
GYA LR LR
comp=Z,370nm,21.6s
GYA LR LR
comp=Z,560nm,20.4s
GYA LR LR
comp=Z,710nm,21.8s
GTA Gaotai 88.94 312 P **P** **21 45 40.8 -0.2**
GTA pP sP 21 45 51.8 +6.2
GTA PP **PP** **21 49 11.4 +1.3**
GTA SKS **SKSac** **21 56 12.2 +1.0**
GTA S **S** **21 56 26.0 -3.4**
GTA pmax pmax
comp=Z,34nm,1.0s
GTA pmax pmax
comp=Z,530nm,7.6s
GTA LR LR
comp=Z,390nm,20.0s
GTA LR LR
comp=Z,400nm,20.4s
GTA LR LR
comp=Z,580nm,21.4s
FORT Forrest 89.02 237 P **P** **21 45 41.7 +0.5**
FORT IAmb IAmb 21 45 47.7
comp=Z,42nm,1.1s
CD2 Chengdu 89.30 302 P **P** **21 45 42.5 -0.3**
CD2 pP pP 21 45 46.4 +0.2
CD2 sP sP 21 45 47.6 +0.2
CD2 PP **PP** **21 49 11.3 -1.9**
CD2 SKS **SKSac** **21 56 10.5 -3.0**
CD2 S **S** **21 56 31.0 -2.0**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,480nm,5.6s
CD2 LR LR
comp=Z,360nm,14.5s
CD2 LR LR
comp=Z,570nm,14.3s
CD2 LR LR
comp=Z,560nm,17.6s
H03N2 Juan Fernandez 89.57 126 T T 23 24 40.9
baz=298,slow=76,SNR=8285
H03N3 Juan Fernandez 89.58 126 T T 23 24 41.9
baz=298,slow=76,SNR=7229
H03N1 Juan Fernandez 89.59 126 T T 23 24 42.2
baz=298,slow=76,SNR=7365
H03S2 Juan Fernandez 89.73 126 T T 23 25 04.9
baz=286,slow=78,SNR=16
H03S3 Juan Fernandez 89.74 126 T T 23 25 02.1
baz=286,slow=78,SNR=22
H03S1 Juan Fernandez 89.75 126 T T 23 25 03.0
baz=286,slow=78,SNR=13
ZAA0 Zalesovo Array 90.76 329 P **P** **21 45 49.1 +0.1**
ZAA0 IAmb IAmb 21 45 51.6
comp=Z,18nm,1.1s
ZALV Zalesovo Beam 90.76 329 P **P** **21 45 49.0 0.0**
comp=Z,9.7nm,0.9s,baz=46,slow=6.2,SNR=36
comp=Z,9.7nm,0.9s
ARCES ARCESS Array B 91.32 360 P **P** **21 45 50.0 -1.3**
ARCES ARCESS Array B 91.32 360 P **P** **21 45 49.9 -1.5**
comp=Z,12nm,1.0s,baz=355,slow=5.7,SNR=11
comp=Z,12nm,1.0s
ARCES ARCESS Array B 91.32 360 P **P** **21 45 50.0 -1.3**
ARCES pmax pmax
comp=Z,69nm,1.6s
SBUM Sibu 91.71 273 P **P** **21 45 54.9 +0.7**
ETMB Extrema 92.18 100 P **P** **21 45 55.3 -1.1**
ETMB IAmb IAmb 21 45 59.5
comp=Z,26nm,0.9s
PB11 IPOC Station P 92.32 110 P **P** **21 45 56.8 -0.3**
PB11 IAmb IAmb 21 45 59.5
comp=Z,18nm,0.9s
KMI Kunming 92.33 298 ⇑P **P** **21 45 57.7 +0.5**
KMI S **S** **21 57 02.1 +0.8**
KMI pmax pmax
comp=Z,19nm,0.9s
KMI pmax pmax
comp=Z,270nm,7.3s
KMI LR LR
comp=Z,320nm,13.7s
KMI LR LR
comp=Z,470nm,16.3s
KMI LR LR
comp=Z,610nm,26.5s
LPAZ La Paz 92.54 106 P **P** **21 45 58.0 -0.7**
comp=Z,4.9nm,0.7s,baz=259,slow=1.1,SNR=15
comp=Z,4.9nm,0.7s
LPAZ La Paz 92.54 106 *e* P **P** **21 45 57.5 -1.2**
PZH PanZhiHua 92.63 299 P **P** **21 45 58.5 +0.1**
PZH PP **PP** **21 49 40.6 +0.8**
PZH SKS **SKSac** **21 56 32.5 -0.3**
PZH S **S** **21 57 02.1 -1.6**
PZH pmax pmax
comp=Z,20nm,1.1s
PZH pmax pmax
comp=Z,260nm,6.4s
PZH LR LR
comp=Z,210nm,17.2s
PZH LR LR
comp=Z,380nm,18.1s
PZH LR LR
comp=Z,470nm,18.6s
SLVN Son La 92.77 294 IAmb IAmb 21 46 02.1
comp=Z,15nm,0.9s
APA Apatity 93.06 357 ⇓*i* P **P** **21 46 02.2 +2.8**
APA pmax pmax
comp=Z,6.0nm,1.0s
UBPT Khong Chiam 93.59 287 P **P** **21 45 58.8 -4.0**
GOMU GeErMu 93.90 310 P **P** **21 46 06.0 +1.6**
GOMU pP sP 21 46 13.1 +4.1
GOMU sP pP 21 46 15.8 +8.0
GOMU pmax pmax
comp=Z,35nm,1.1s
GOMU LR LR
comp=Z,600nm,21.8s
GOMU LR LR
comp=Z,360nm,20.8s
GOMU LR LR
comp=Z,730nm,19.6s
LVC Limon Verde 93.92 112 P **P** **21 46 01.9 -2.7**
LVC Limon Verde 93.92 112 P **P** **21 46 01.9 -2.7**
LVC pmax pmax
comp=Z,16nm,1.4s
AC06 Mina Casimiro 94.26 117 P **P** **21 46 03.9 -1.8**
LCO Las Campanas 94.52 119 P **P** **21 46 02.8 -4.4**
LCO Las Campanas 94.52 119 P **P** **21 46 07.6 +0.5**
LCO pmax pmax
comp=Z,47nm,1.2s
SAML Samuel 94.73 98 P **P** **21 46 04.7 -3.4**
SAML Samuel 94.73 98 P **P** **21 46 06.3 -1.8**
SAML pmax pmax
comp=Z,7.0nm,0.8s
SAML Samuel 94.73 98 *e* P **P** **21 46 06.2 -1.8**
AC05 El Transito 94.81 119 P **P** **21 46 08.3 0.0**
WMQ Urumqi 94.84 320 *e* P **P** **21 46 06.5 -1.7**
WMQ PP **PP** **21 49 55.6 -0.8**
WMQ SKS **SKSac** **21 56 41.0 -3.2**
WMQ S **S** **21 57 18.7 -3.7**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,290nm,8.5s
WMQ LR LR
comp=Z,640nm,19.7s
WMQ LR LR
comp=Z,500nm,24.7s
AC02 Maricunga 95.11 117 P **P** **21 46 09.7 -0.5**
AC02 IAmb IAmb 21 46 21.3
comp=Z,26nm,1.4s
CO01 Juntas del Tor 95.34 120 P **P** **21 46 09.8 -1.0**
CO01 IAmb IAmb 21 46 16.5
comp=Z,18nm,1.2s
KURK Kurchatov 95.75 329 P **P** **21 46 12.5 +0.5**
KURK Kurchatov 95.75 329 *i* P **P** **21 46 12.4 +0.3**
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 95.85 329 P **P** **21 46 13.0 +0.5**
comp=Z,1.4nm,0.9s,baz=46,slow=4.2,SNR=7.9
KURBB PP **PP** **21 50 06.3 +2.5**
comp=Z,1.9nm,0.9s,baz=43,slow=7.6,SNR=5.3
comp=Z,1.4nm,0.9s
TNCH TengChong 95.88 299 ⇑P **P** **21 46 12.3 -1.2**
TNCH pP PcP 21 46 14.6 +0.9
TNCH sP pP 21 46 17.4 +0.5
TNCH PP **PP** **21 50 02.6 -2.7**
TNCH SKS **SKSac** **21 56 49.3 -1.3**
TNCH S **SKKSac** **21 57 18.0 +3.2**
TNCH sS ScS 21 57 33.7 +0.7
TNCH pmax pmax
comp=Z,16nm,1.1s
TNCH pmax pmax
comp=Z,190nm,6.2s
TNCH LR LR
comp=Z,190nm,15.5s
TNCH LR LR
comp=Z,180nm,17.6s
TNCH LR LR
comp=Z,320nm,20.8s
MK31 Makanchi Array 96.29 324 P **P** **21 46 12.6 -2.1**
MK31 Makanchi Array 96.29 324 *ce* P **P** **21 46 15.7 +1.0**
MKAR Makanchi Array 96.29 324 P **P** **21 46 14.0 -0.7**
MKAR Makanchi Array 96.29 324 P **P** **21 46 13.9 -0.7**
comp=Z,2.3nm,0.8s,baz=54,slow=3.8,SNR=13
comp=Z,2.3nm,0.8s

MKAR	**Makanchi Array**	**96.29**	**324**	*i* P		**P**	**21 46 14.8**	**+0.1**
MKAR					pmax	pmax			
	comp=Z,2.0nm,0.8s								
MAKZ	**Makanchi**	**96.45**	**325**	IAMs_20		IAMs_20	22 25 29.6		
	comp=Z,551nm,21.0s								
MT08	**Bocatoma Ro**	**96.52**	**123**	P		**P**	**21 46 17.6**	**+1.4**
MT08				IAmb		IAmb	21 46 22.7		
	comp=Z,21nm,1.1s								
BVAR	**Borovoye Array**	**97.85**	**334**	P		**P**	**21 46 20.9**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=57,slow=5.3,SNR=10								
	comp=Z,3.1nm,0.7s								
BRVK	**Borovoye**	**97.87**	**334**	P	Pdif		21 46 22.4	+0.8	
BRVK	**Borovoye**	**97.87**	**334**	*ce*P		**P**	**21 46 21.3**	**-0.3**	
BRVK					pmax	pmax			
	comp=Z,3.0nm,1.0s								
CM31	**Chiang Mai Arr**	**98.18**	**293**	P		**P**	**21 46 23.7**	**0.0**	
CMAR	**Chiang Mai Arr**	**98.18**	**293**	P		**P**	**21 46 23.4**	**-0.3**	
CMAR	**Chiang Mai Arr**	**98.18**	**293**	P	Pdif		21 46 23.9	+0.1	
	comp=Z,2.1nm,0.8s,baz=44,slow=4.0,SNR=15								
	comp=Z,2.1nm,0.8s								
CMAR	**Chiang Mai Arr**	**98.18**	**293**	*i* P	Pdif		21 46 24.7	+0.9	
CMAR					pmax	pmax			
	comp=Z,2.0nm,0.9s								
SVE	**Sverdlovsk**	**98.36**	**341**	*e*P	Pdif		21 46 27.5	+3.7	
SVE				*e*S		**SKSac**	**21 57 04.6**	**+2.8**	
SVE					pmax	pmax			
	comp=Z,13nm,1.0s								
PLCA	**Paso Flores**	**98.43**	**130**	P	Pdif		21 46 26.6	+2.2	
	comp=Z,5.2nm,1.3s,baz=36,slow=3.8,SNR=2.8								
	comp=Z,5.2nm,1.3s								
NOA	**NORSAR Array B**	**99.09**	**7**	P		**Pdif**	**21 46 26.1**	**-0.9**	
	comp=Z,0.7nm,0.9s,baz=350,slow=5.3,SNR=3.4								
	comp=Z,0.7nm,0.9s								
KLMR	**Klimovskoe**	**99.17**	**353**	*e*P		**Pdif**	**21 46 25.3**	**-1.9**	
KLMR				*e*			21 50 27.6		
KLMR					pmax	pmax			
	comp=Z,29nm,1.4s								
ARU	**Arti**	**99.32**	**342**	P		**Pdif**	**21 46 29.3**	**+1.3**	
ARU							21 50 34.0		
ARU				S		**SKSac**	**21 57 08.2**	**+1.6**	
ARU				SP		**SP**	**21 59 29.3**	**+3.9**	
ARU				SS		**SS**	**22 04 48.2**	**+0.6**	
ARU				MLR		MLR			
	comp=Z,412nm,18.0s								
FINES	**FINESS Array B**	**99.44**	**359**	P		**Pdif**	**21 46 27.0**	**-1.5**	
	comp=Z,3.3nm,0.9s,baz=48,slow=5.9,SNR=7.6								
	comp=Z,3.3nm,0.9s								
FINES	**FINESS Array B**	**99.44**	**359**	*i* P		**Pdif**	**21 46 27.7**	**-0.8**	
FINES					pmax	pmax			
	comp=Z,3.0nm,0.9s								
VNDA	**Vanda**	**99.91**	**189**	P		**Pdif**	**21 46 32.1**	**+2.1**	
	comp=Z,1.2nm,1.1s,baz=7.7,slow=3.5,SNR=3.7								
SHL	**Shillong**	**101.04**	**302**	Pdif		**Pdif**	**21 46 36.0**	**-0.6**	
SHL	**Shillong**	**101.04**	**302**	P		**Pdif**	**21 46 36.0**	**-0.6**	
ABKAR	**Akbulak array**	**104.89**	**337**	Pdif		**Pdif**	**21 46 52.6**	**-0.4**	
OBN	**Obninsk**	**105.12**	**353**	*i* P		**Pdif**	**21 46 54.5**	**+0.6**	
OBN				*i*			21 51 14.9		
OBN				*i* SS		SS	22 06 05.9	-1.6	
OBN					pmax	pmax			
	comp=Z,3.0nm,0.8s								
PABE	**Paberze**	**105.40**	**1**	IAMs_20		IAMs_20	22 30 43.5		
	comp=Z,522nm,22.0s								
SUW	**Suwalki**	**106.88**	**1**	IAMs_20		IAMs_20	22 33 53.8		
	comp=Z,538nm,21.0s								
CLL	**Collm**	**108.84**	**8**	*e*P		**Pdif**	**21 47 08.0**	**-2.5**	
CLL				*i*			21 51 41.1		
CLL				*e*			21 57 52.0		
CLL					MLR	MLR			
	comp=Z,300nm,19.1s								
WLF	**Walferdange**	**109.27**	**13**	IAMs_20		IAMs_20	22 32 49.4		
	comp=Z,535nm,20.0s								
AKASG	**Malin Array Be**	**110.11**	**357**	PP		**PP**	**21 51 50.3**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=9.1,slow=7.6,SNR=7.7								
VRAC	**Vranov**	**111.21**	**6**	*e*PP		**PP**	**21 51 56.5**	**-1.5**	
KRUC	**Moravsky**	**111.44**	**6**	*e*PP		**PP**	**21 51 56.9**	**-2.7**	
PSZ	**Piszkesteto**	**112.85**	**4**	IAMs_20		IAMs_20	22 48 17.5		
	comp=Z,439nm,18.0s								
TUE	**Stuetta**	**112.95**	**12**	IAMs_20		IAMs_20	22 47 51.9		
	comp=Z,324nm,20.0s								
ERBR	**Yeremizino-Bor**	**113.67**	**348**	*i* PKIKP		**PKiKP**	**21 51 22.6**	**-2.0**	
ERBR				*e*			21 52 17.4		
ERBR				*e*SP		SP	22 01 51.3	+0.4	
ERBR					MLR	MLR			
	comp=Z,773nm,21.0s								
MAK	**Makhachkala**	**114.55**	**342**	*i* P		**Pdif**	**21 47 34.9**	**-1.2**	
MAK				*e*PPP		PPP	21 54 49.7		
MAK				*e*			21 58 15.4		
MAK				*e*PS		**PS**	**22 01 53.6**	**-7.2**	
MAK				*e*SS		SS	22 08 10.7	-3.7	
MAK				*e*SSS		SSS	22 12 28.0		
MAK					pmax	pmax			
	comp=Z,122nm,1.0s								
LABN	**Labinsk**	**114.65**	**348**	*i* PKIKP		**PKiKP**	**21 51 25.4**	**-1.2**	
LABN				*e*SP		SP	22 02 06.2	+6.3	
LABN					MLR	MLR			
	comp=Z,506nm,20.0s								
KIV	**Kislovodsk**	**114.88**	**346**	*i* PKIKP		PKPdf	21 51 28.2	+1.0	
KIV				*e*			21 52 06.8		
KIV				*e*PS		**PKKPbc**	**21 52 05.9**	**+1.0**	
KIV				*e*SS		SS	22 08 23.4	+4.5	
KIV				*e*SSS		SSS	22 12 38.2		
KIV					pmax	pmax			
	comp=Z,2.0nm,1.1s								
KIV					MLR	MLR			
	comp=Z,266nm,22.0s								
KBZ	**Khabaz**	**115.05**	**346**	PP		**PP**	**21 52 28.4**	**+3.0**	
	comp=Z,4.3nm,1.0s,baz=23,slow=11,SNR=5.6								
ANN	**Anapa**	**115.10**	**350**	*i* PKIKP		**PKiKP**	**21 51 25.2**	**-2.2**	
ANN				*e*			21 52 23.9		
ANN				*e*			21 58 14.1		
ANN				*i* SP		SP	22 02 02.3	-1.6	
ANN					MLR	MLR			
	comp=Z,309nm,16.0s								
ESDC	**Sonseca Array**	**115.36**	**24**	PP		**PP**	**21 52 27.1**	**-0.8**	
	comp=Z,4.2nm,1.0s,baz=325,slow=7.2,SNR=10								
ESDC					PKKPbc	**PKKPab**	**22 02 09.7**	**-0.2**	
	comp=Z,1.3nm,1.1s,baz=150,slow=2.8,SNR=4.1								
MLR	**Muntele Rosu**	**115.42**	**359**	IAMs_20		IAMs_20	22 37 34.7		
	comp=Z,496nm,22.0s								
SOC	**Sochi**	**115.87**	**348**	*i* PKIKP		**PKiKP**	**21 51 26.5**	**-2.4**	
SOC				*e*			21 52 28.2		
SOC				*e*PPP		PPP	21 54 55.4		
SOC					MLR	MLR			
	comp=Z,538nm,19.0s								
BRTR	**Keskin Array B**	**120.62**	**352**			**PKiKP**	**21 51 39.1**	**+0.6**	
BRTR				PP		**PP**	**21 53 04.5**	**+0.2**	
BRTR	**Keskin Array B**	**120.62**	**352**	PKP		**PKPdf**	**21 51 37.2**	**-1.2**	
	comp=Z,1.9nm,1.1s,baz=337,slow=6.3,SNR=6.0								
BRTR				PP		**PP**	**21 53 05.4**	**+1.1**	
	comp=Z,1.4nm,0.9s,baz=8.1,slow=3.1,SNR=4.0								
BRTR					PKKPbc	**PKKPab**	**22 01 48.6**	**+1.6**	
	comp=Z,0.8nm,0.8s,baz=107,slow=1.5,SNR=7.0								
BRTR	**Keskin Array B**	**120.62**	**352**	PKIKP		**PKiKP**	**21 51 39.1**	**+0.6**	
BRTR							21 53 04.5		
SNAA	**Sanae**	**125.28**	**170**	PKP		**PKPdf**	**21 51 46.3**	**+0.1**	
	comp=Z,1.3nm,0.7s,baz=239,slow=4.4,SNR=1.7								
ELIB	**Princess Elisa**	**127.43**	**179**	*d*PKP		**PKiKP**	**21 51 50.9**	**0.0**	
NVL	**N'lazarevskaya**	**128.04**	**175**	*e*PKIKP		**PKiKP**	**21 51 55.7**	**+3.8**	
NVL					pmax	pmax			
	comp=Z,10.0nm,1.0s								
NVL					MLR	MLR			
	comp=Z,850nm,17.0s								
RAYN	**Ar Rayn**	**132.84**	**334**			**PKiKP**	**21 52 03.3**	**+0.1**	
RAYN	**Ar Rayn**	**132.84**	**334**	PKIKP		**PKiKP**	**21 52 03.3**	**+0.1**	
TOA0	**Torodi Ar. Sit**	**140.41**	**37**	PKPdf		**PKPdf**	**21 52 12.8**	**-3.3**	
TOA0				PP		**PP**	**21 55 08.9**	**-4.4**	
TORD	**Torodi Ar. Bea**	**140.41**	**37**			**PKPdf**	**21 52 17.1**	**+1.0**	
TORD				PP		**PP**	**21 55 08.9**	**-4.4**	
TORD	**Torodi Ar. Bea**	**140.41**	**37**	PKhKP		PKPpre	21 52 07.3		
	comp=Z,1.5nm,0.8s,baz=340,slow=3.9,SNR=5.6								
TORD				PKP		**PKPdf**	**21 52 17.1**	**+1.0**	
	comp=Z,3.4nm,0.8s,baz=341,slow=3.8,SNR=11								
TORD				PP		**PP**	**21 55 09.6**	**-3.7**	
	comp=Z,2.7nm,1.0s,baz=327,slow=6.4,SNR=5.7								
DBIC	**Dimbokro**	**140.90**	**51**	PKP		**PKiKP**	**21 52 18.6**	**-1.1**	
	comp=Z,5.1nm,0.8s,baz=308,slow=4.8,SNR=2.9								
SUR	**Sutherland**	**166.56**	**165**	PKPab		**PKPab**	**21 53 54.4**	**+0.3**	
	comp=Z,24nm,1.0s,baz=169,slow=3.6,SNR=5.4								
BOSA	**Boshof**	**170.82**	**182**	PKPab		**PKPab**	**21 54 14.6**	**+1.8**	
	comp=Z,5.3nm,0.9s,baz=148,slow=4.3,SNR=3.2								
WIN	**Windhoek**	**172.07**	**115**			**PKPab**	**21 54 19.0**	**-0.1**	
WIN	**Windhoek**	**172.07**	**115**	PKP2		**PKPab**	**21 54 19.0**	**-0.1**	
TSUM	**Tsumeb**	**173.10**	**90**	PKP		**PKPdf**	**21 52 57.5**	**+1.2**	
	comp=Z,1.4nm,0.4s,baz=270,slow=2.0,SNR=1.9								
TSUM					PKPab	**pPKPab**	**21 54 25.9**	**-1.3**	
	comp=Z,7.6nm,1.1s,baz=243,slow=2.3,SNR=6.0								
LBTB	**Lobatse**	**174.37**	**187**	PKP		**PKPdf**	**21 52 56.9**	**+0.3**	
	comp=Z,3.8nm,0.8s,baz=198,slow=3.2,SNR=2.1								
LBTB				PKPab		**PKPab**	**21 54 29.0**	**+0.4**	
	comp=Z,3.0nm,0.8s,baz=18,slow=3.2,SNR=2.7								

*NNC **04** 21:33:14.4±1.7, 42°.28N×79°.78E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=11.2km s-min=6.9km az=133.0*
*KRNET **04** 21:33:14.6±0.1, 42°.25N×79°.62E, h18km, mb2.4*
*SOME **04** 21:33:14.2, 42°.22N×79°.68E, h15km*
ISC 04 21:33:14.3±1.8, 42°.24N±0°.06×79°.70E±0°.05, h12km±10km, n49,σ1§32/83, 15C-8D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
SHLS	**Shalkode**	**0.94**	**349**	P		**Pg**	**21 33 32.5**	**0.0**
	16nm,0.2s							
SHLS				S		**Sn**	**21 33 46.1**	**-0.7**
	11nm,0.3s							
SHLS	**Shalkode**	**0.94**	**349**	⇓*e*P		**Pg**	**21 33 32.4**	**0.0**
	16nm,0.2s							
SHLS				*e*S		**Sn**	**21 33 45.4**	**-1.5**
	42nm,0.2s							
SHLS	**Shalkode**	**0.94**	**349**	⇓*e*P		**Pg**	**21 33 32.4**	**0.0**
	baz=12							
SHLS				⇓*e*S		**Sn**	**21 33 45.4**	**-1.5**
	baz=12							
PRZ	**Przheval'sk**	**1.00**	**285**	⇓*e*P		**Pb**	**21 33 32.3**	**-1.3**
	baz=86							
PRZ				⇓*e*S		**Sb**	**21 33 45.8**	**-1.0**
	baz=86							
UZB	**Uzynbulak**	**1.04**	**331**	P		**Pb**	**21 33 33.8**	**-0.6**
	1.7nm,0.1s							
UZB				S		**Sg**	**21 33 47.8**	**-0.2**
	5.2nm,0.1s							
UZB	**Uzynbulak**	**1.04**	**331**	*e*P		**Pb**	**21 33 33.3**	**-1.1**
	1.7nm,0.1s							
UZB				*e*S		**Sb**	**21 33 47.1**	**-0.9**
	9.0nm,0.3s							
UZB	**Uzynbulak**	**1.04**	**331**	*e*P		**Pb**	**21 33 33.3**	**-1.1**
	baz=34							
UZB				*e*S		**Sb**	**21 33 47.1**	**-0.9**
	baz=34							
PDGK	**Podgornoye**	**1.10**	**352**	P		**Pb**	**21 33 34.8**	**-0.7**
	0.8nm,0.2s							
PDGK				S		**Sg**	**21 33 49.5**	**-0.5**
	3.7nm,0.3s							
PDGK	**Podgornoye**	**1.10**	**352**	⇑P		**Pb**	**21 33 34.3**	**-1.2**
	0.6nm,0.5s							
PDGK				⇑S		**Sb**	**21 33 49.0**	**-0.8**
	8.6nm,0.8s							
SATY	**Saty**	**1.26**	**311**	P		**Pg**	**21 33 38.5**	**-0.1**
	3.2nm,0.1s							
SATY				S		**Sg**	**21 33 55.9**	**+0.8**
	15nm,0.1s							
SATY	**Saty**	**1.26**	**311**	*e*P		**Pn**	**21 33 37.3**	**-0.6**
	3.2nm,0.1s							
SATY				*e*S		**Sn**	**21 33 54.1**	**-0.7**
	15nm,0.1s							
SATY	**Saty**	**1.26**	**311**	*e*P		**Pn**	**21 33 37.3**	**-0.6**
	baz=13							
SATY				*e*S		**Sn**	**21 33 54.2**	**-0.7**
	baz=13							
ZHN	**Zhinishke**	**1.32**	**315**	P		**Pg**	**21 33 42.2**	**+2.5**
	4.7nm,0.1s							
ZHN				S		**Sg**	**21 34 02.2**	**+5.3**
	27nm,0.2s							
ZHN	**Zhinishke**	**1.32**	**315**	*e*P		**Pg**	**21 33 39.7**	**-0.1**
	5.4nm,0.1s							
ZHN				*e*S		**Sg**	**21 33 58.1**	**+1.2**
	14nm,0.2s							
TARG	**Taragay, Kyrgy**	**1.50**	**251**	⇓*i*P		**Pn**	**21 33 41.5**	**0.0**
	baz=50							
TARG				⇓*i*S		**Sb**	**21 34 01.8**	**+0.2**
	baz=50							
ANVS	**Anan'yevo**	**1.60**	**291**	⇓*e*P		**Pb**	**21 33 43.2**	**-0.8**
	baz=91							
ANVS				⇑*e*S		**Sb**	**21 34 03.8**	**-0.4**
	baz=91							
KURS	**Kuram**	**1.69**	**319**	P		**Pg**	**21 33 47.4**	**+0.7**
	3.2nm,0.4s							
KURS				S		**Sg**	**21 34 11.1**	**+2.6**
	4.1nm,0.6s							
KURS	**Kuram**	**1.69**	**319**	*e*P		**Pb**	**21 33 44.2**	**-1.1**
	3.2nm,0.4s							
KURS				*e*S		**Sb**	**21 34 05.7**	**-0.8**
	4.1nm,0.6s							
KDJ	**Kajisay**	**1.88**	**266**	⇑*e*P		**Pb**	**21 33 47.7**	**-1.0**
	baz=67							
KDJ				⇑*e*S		**Sb**	**21 34 12.2**	**0.0**
	baz=67							
BLB	**Baldybastay**	**2.06**	**335**	Pg		**Pb**	**21 33 51.6**	**-0.2**
	15nm,0.2s							
BLB				Lg		Lg	21 34 18.7	
	34nm,0.4s							
DJR	**Jarkent**	**2.10**	**2**	Pg		**Pb**	**21 33 52.5**	**+0.2**
	3.3nm,0.3s							
DJR				Lg		Lg	21 34 20.4	
	40nm,0.3s							
DJR	**Jarkent**	**2.10**	**2**	*e*P		**Pb**	**21 33 52.5**	**+0.2**
	3.3nm,0.3s							
DJR				*e*S		**Sg**	**21 34 20.4**	**-1.4**
	40nm,0.3s							
KOTS	**Kotyrbulak**	**2.15**	**298**	Pg		**Pb**	**21 33 52.8**	**-0.5**
	0.9nm,0.4s							
KOTS				Lg		Lg	21 34 20.6	
	7.7nm,0.4s							
KOTS	**Kotyrbulak**	**2.15**	**298**	*e*P		**Pb**	**21 33 52.9**	**-0.5**
	0.9nm,0.4s							
KOTS				*e*S		**Sb**	**21 34 20.6**	**+0.5**
	7.7nm,0.4s							
KNOS	**Konyrlen**	**2.16**	**350**	Pg		**Pb**	**21 33 53.6**	**+0.2**
	2.8nm,0.1s							
KNOS				Lg		Lg	21 34 22.0	
	14nm,0.3s							
MDOK	**Medeo**	**2.17**	**296**	Pn		**Pb**	**21 33 52.4**	**-1.1**
	3.8nm,0.5s							
MDOK				Sn		**Sg**	**21 34 21.9**	**-2.0**
	2.4nm,0.7s							
MDOK	**Medeo**	**2.17**	**296**	*e*P		**Pb**	**21 33 53.0**	**-0.6**
	3.6nm,0.2s							
MDOK				*e*S		**Sb**	**21 34 21.1**	**+0.7**
	0.8nm,0.2s							
TNSS	**Tian-Shan**	**2.19**	**292**	Pg		**Pb**	**21 33 53.5**	**-0.5**
	3.6nm,0.3s							
TNSS				Lg		Lg	21 34 22.1	
	1.3nm,0.2s							
TNSS	**Tian-Shan**	**2.19**	**292**	*e*P		**Pb**	**21 33 53.4**	**-0.7**
	3.6nm,0.3s							
TNSS				*e*S		**Sb**	**21 34 21.5**	**+0.3**
	1.3nm,0.2s							
ARXS	**Arharly**	**2.41**	**326**	Pg		**Pb**	**21 33 57.0**	**-0.6**
	5.2nm,0.4s							
ARXS				Lg		Lg	21 34 28.1	
	11nm,0.5s							
ARXS	**Arharly**	**2.41**	**326**	*e*P		**Pb**	**21 33 57.0**	**-0.6**
	5.2nm,0.4s							
ARXS				*e*S		**Sb**	**21 34 28.1**	**+0.8**
	11nm,0.5s							
IZV	**Izvestkoviy**	**2.42**	**290**	Pg		**Pb**	**21 33 58.4**	**+0.6**
	1.7nm,0.2s							
IZV				Lg		Lg	21 34 30.2	
	5.8nm,0.3s							
IZV	**Izvestkoviy**	**2.42**	**290**	*e*P		**Pb**	**21 33 58.4**	**+0.6**
	1.7nm,0.2s							
IZV				*e*S		**Sg**	**21 34 30.2**	**-1.8**
	5.8nm,0.3s							
CHKK	**Chushkaly**	**2.56**	**310**	Pg		**Pb**	**21 34 00.1**	**-0.2**
	2.5nm,0.3s							
CHKK				Lg		Lg	21 34 33.1	
	13nm,0.6s							
CHKK	**Chushkaly**	**2.56**	**310**	*e*P		**Pb**	**21 34 00.1**	**-0.2**
	2.5nm,0.3s							
CHKK				*e*S		**Sb**	**21 34 33.1**	**+1.4**
	13nm,0.6s							
MTBS	**Maitube**	**2.58**	**291**	Pg		**Pb**	**21 34 01.2**	**+0.7**
	2.0nm,0.2s							
MTBS				Lg		Lg	21 34 34.8	
	5.0nm,0.2s							
MTBS	**Maitube**	**2.58**	**291**	*e*P		**Pb**	**21 34 01.2**	**+0.7**
	2.0nm,0.2s							
MTBS				*e*S		**Sg**	**21 34 34.8**	**-2.2**
	5.0nm,0.2s							
KTBS	**Karatobe**	**2.66**	**305**	*e*P		**Pb**	**21 34 02.4**	**+0.5**
KTBS				*e*S		**Sg**	**21 34 37.0**	**-2.9**
BOOM	**Boomskoye usch**	**2.80**	**276**	⇑*i*P		**Pn**	**21 34 01.2**	**+2.1**
	baz=76							
BOOM				⇑*i*S		**Sn**	**21 34 34.9**	**+2.0**
	baz=76							
KST	**Kastek**	**2.88**	**288**	Pg		**Pb**	**21 34 06.7**	**+1.1**
	1.5nm,0.2s							
KST				Lg		Lg	21 34 44.9	
	4.9nm,0.5s							
KST	**Kastek**	**2.88**	**288**	*e*P		**Pb**	**21 34 06.7**	**+1.1**
	1.5nm,0.2s							
KST				*e*S		**Sg**	**21 34 44.9**	**-1.8**
	4.9nm,0.5s							
DGS	**Degeres**	**3.07**	**290**	Pg		**Pg**	**21 34 11.2**	**-1.9**
	0.9nm,0.5s							
DGS				Lg		Lg	21 34 52.2	
	4.4nm,0.4s							
DGS	**Degeres**	**3.07**	**290**	*e*P		**Pg**	**21 34 11.2**	**-1.9**
	0.9nm,0.5s							
DGS				*e*S		**Sg**	**21 34 52.2**	**-0.6**
	4.4nm,0.4s							
TKM2	**Tokmak 2**	**3.11**	**284**	⇑Pg		**Pg**	**21 34 12.5**	**-1.5**
	0.5nm,0.5s							
TKM2				⇓Lg		Lg	21 34 52.6	
	1.3nm,0.5s							
TKM2	**Tokmak 2**	**3.11**	**284**	⇑*i*P		**Pn**	**21 34 05.8**	**+2.4**
	baz=84							
TKM2				⇑*i*S		**Sn**	**21 34 42.9**	**+2.4**
	baz=84							
KRBS	**Karabastau**	**3.30**	**298**	Pg		**Pb**	**21 34 13.8**	**+1.0**
	0.7nm,0.3s							
KRBS				Lg		Lg	21 34 56.4	
	1.3nm,0.5s							
KRBS	**Karabastau**	**3.30**	**298**	*e*P		**Pb**	**21 34 11.9**	**-0.9**
	0.7nm,0.3s							
KRBS				*e*S		**Sb**	**21 34 53.8**	**+0.9**
	1.3nm,0.5s							
MAKZ	**Makanchi**	**4.85**	**19**	⇑Pn		**Pn**	**21 34 28.8**	**+1.7**
	0.1nm,0.3s							
MAKZ				⇑Lg		Lg	21 35 46.9	
	0.5nm,0.8s							
MK31	**Makanchi Array**	**4.92**	**21**	⇑Pn		**Pn**	**21 34 28.8**	**+0.7**
	0.1nm,0.3s,baz=198,slow=13,SNR=3.6							
MK31				⇑Lg		Lg	21 35 47.7	
	0.2nm,0.5s,baz=192,slow=27							

RHSSO 04 21:34:54.6±0.3, 43°.16N×18°.79E, h5km±2km, ML1.5/8, 2C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time	Res ISC
UPM	**Unac-Piva**	**0.09**	**65**	⇓*i*P		Pg	21 34 57.2	+0.5
UPM				*e*Sg		Sg	21 34 59.5	+1.4
KLINJ	**Klinje**	**0.15**	**272**	⇑*i*P		Pg	21 34 57.6	0.0
KLINJ				*e*Sg		Sg	21 35 00.2	+0.6
BRY	**Bratogost**	**0.32**	**215**	*e*P		Pg	21 35 00.3	-0.5
BRY				*e*Sg		Sg	21 35 05.0	-0.1
NEVS	**Nevesinje**	**0.52**	**285**	*e*P		Pg	21 35 04.3	-0.3
NEVS				*e*Sg		Sg	21 35 11.7	+0.4
TREB	**Trebinje**	**0.55**	**216**	*e*P		Pg	21 35 04.9	-0.3
TREB				*e*Sg		Sg	21 35 13.0	+0.7
RUDO	**Rudo**	**0.62**	**43**	*e*Pg		Pg	21 35 05.0	-1.5
RUDO				*e*Sg		Sg	21 35 14.6	0.0
DBRK	**Dubrovnik**	**0.68**	**224**	*i* Pg		Pg	21 35 06.9	-0.8
DBRK				Sg		Sb	21 35 18.8	0.0
HCY	**Herceg Novi**	**0.75**	**197**	*e*Pg		Pg	21 35 07.5	-1.4
HCY				*e*Sg		Sg	21 35 19.5	+0.9
BBLS	**Lazi&#263i**	**0.83**	**32**	*e*Pg		Pg	21 35 09.6	-1.0
BBLS				*e*Sg		Sg	21 35 21.3	-0.1
STON	**Ston**	**0.85**	**250**	*e*Pg		Pg	21 35 10.2	-0.6
STON				Sg		Sb	21 35 24.3	+0.8
STON	**Ston**	**0.85**	**250**	⇑*i*Pg		Pg	21 35 10.1	-0.8
STON				*e*Sg		Sg	21 35 22.2	+0.3
SJES	**Sjenica**	**0.87**	**83**	*e*Pg		Pg	21 35 09.9	-1.4
SJES				*e*Sg		Sg	21 35 22.7	+0.1
DRME	**Dracevica, Mon**	**1.02**	**163**	*e*Pg		Pg	21 35 12.8	-1.3
DRME				*e*Sg		Sg	21 35 27.1	-0.2
RICI	**Ricice**	**1.25**	**286**	*e*Pg		Pg	21 35 17.1	-1.5
RICI				Sg		Sn	21 35 36.8	+0.8
MAKA	**Makarska**	**1.30**	**276**	Sg		Sn	21 35 37.4	+0.2
LSTV	**Lastovo**	**1.45**	**255**	*i* Pn		Pn	21 35 19.3	-2.1
LSTV				Sn		Sg	21 35 41.3	+0.3

*LDG **04** 21:36:41.6±0.1, 47°.75N×7°.47E, h20km, Md1.1/3, Ml3.6/51, Error ellipse: s-maj=1.2km s-min=1.1km az=16.0*
*BNS **04** 21:36:41.8±0.2, 47°.75N×7°.68E, h15km, ML3.1*
*ZUR **04** 21:36:41.8, 47°.77N×7°.52E, h15km, MLh3.4/111, Error ellipse: s-maj=977.9km s-min=476.5km az=105.0*
*STR **04** 21:36:41.4±0.2, 48°.N±1°×±°, h20km±1km, MLv3.6/37, Error ellipse: s-maj=0.0km s-min=0.0km az=109.7, preliminary*
*NEIC **04** 21:36:41±2.1, 47°.76N±0°.03×7°.54E±0°.03, h15km±9km, ML3.1/40, Error ellipse: s-maj=4.9km s-min=2.4km az=203.0*
*VIE **04** 21:36:42.1±0.5, 47°.74N×7°.65E, h15km, mb2.5/12, ml3.3/17, ms3.4/2, Error ellipse: s-maj=3.3km s-min=2.4km az=133.0*
*B

BREI				Sg	Sb	21 36 52.8	+1.7
SKAF	Kaiseraugst-Fr	0.28	144	⇓Pg	Pb	21 36 47.5	+0.9
SKAF				Sg	Sb	21 36 51.3	+0.1
SAUR	Augst-Roemermu	0.29	144	⇓Pg	Pb	21 36 47.6	+0.9
SAUR				Sg	Sb	21 36 51.5	+0.2
SFRA	Frenkendorf	0.31	149	⇓Pg	Pb	21 36 48.0	+1.0
SRFW	Rheinfelden, W	0.31	133	⇓Pg	Pb	21 36 47.9	+0.8
SRFW				Sg	Sb	21 36 52.0	0.0
VOGT	Vogtsburg - To	0.34	23	⇑Pg	Pb	21 36 49.1	+1.5
VOGT				Sg	Sb	21 36 54.1	+1.1
VOGT	Vogtsburg - To	0.34	23	Pg	Pb	21 36 49.1	+1.5
VOGT	Vogtsburg - To	0.34	23	Sg	Sb	21 36 53.8	+0.8
FBB	Freiburg im Br	0.35	47	⇑Pg	Pb	21 36 48.8	+1.1
FBB				Sg	Sb	21 36 53.7	+0.7
FREI	Freiburg, Haup	0.35	46	⇑Pg	Pb	21 36 48.9	+1.2
FREI				Sg	Sb	21 36 53.9	+0.8
KIZ	Kirchzarten	0.35	58	⇑Pg	Pb	21 36 48.8	+1.0
KIZ				Sg	Sb	21 36 53.5	+0.2
KIZ	Kirchzarten	0.35	58	⇑Pg	Pb	21 36 48.8	+1.0
KIZ				Sg	Sb	21 36 53.4	+0.2
KIZ	Kirchzarten	0.35	58	Pg	Pb	21 36 48.6	+0.8
FELD	Feldberg im Sc	0.37	73	⇑Pg	Pb	21 36 49.1	+0.9
FELD				Sg	Sb	21 36 54.0	+0.1
FELD	Feldberg im Sc	0.37	73	⇑Pg	Pb	21 36 49.1	+0.9
FELD				Sg	Sb	21 36 54.1	+0.1
FELD	Feldberg im Sc	0.37	73	Pg	Pb	21 36 48.9	+0.7
BOURR	Bourrignon	0.41	204	⇑Pg	Pb	21 36 50.5	+1.7
BOURR	Bourrignon	0.41	204	⇑Pg	Pb	21 36 50.5	+1.7
BOURR				Sg	Sb	21 36 56.4	+1.5
BOURR	Bourrignon	0.41	204	Pg	Pb	21 36 50.5	+1.7
BOURR	Bourrignon	0.41	204	Sg	Sb	21 36 56.1	+1.2
SDES	Delmont, Spi	0.41	193	⇑Pg	Pb	21 36 50.3	+1.6
HINF	Hinteralfeld	0.42	277	ePg	Pb	21 36 49.9	+0.9
HINF				eSg	Sb	21 36 55.4	+0.1
	3µm,0.2s,SNR=1.0						
MTI01	Mont Terri (ME	0.44	208	⇑Pg	Pb	21 36 51.0	+1.7
MTI01				Sg	Sb	21 36 57.2	+1.5
MTI02	Mont Terri, (H	0.44	208	⇑Pg	Pb	21 36 51.0	+1.7
MTI02				Sg	Sb	21 36 57.2	+1.5
MTI03	Mont Terri (fr	0.45	208	⇑Pg	Pb	21 36 51.2	+1.8
BALST	Balsthal	0.46	161	⇓Pg	Pb	21 36 50.8	+1.2
BALST				Sg	Sb	21 36 56.8	+0.5
BALST	Balsthal	0.46	161	⇓Pg	Pb	21 36 50.8	+1.2
BALST				Sg	Sb	21 36 56.9	+0.7
BALST	Balsthal	0.46	161	Pg	Pb	21 36 50.7	+1.2
BALST	Balsthal	0.46	161	Sg	Sb	21 36 56.7	+0.5
BERGE	Lenzkirch (DE)	0.49	77	⇑Pg	Pb	21 36 51.1	+1.0
BERGE	Lenzkirch (DE)	0.49	77	⇑Pg	Pb	21 36 51.1	+1.0
BERGE				Sg	Sb	21 36 57.4	+0.2
BERGE				SmS		21 36 59.2	
EMMET	Emmethof	0.49	132	⇓Pg	Pb	21 36 51.3	+1.1
SULZ	Cheisacher	0.49	119	⇓Pg	Pb	21 36 51.1	+0.8
SULZ				Sg	Sb	21 36 57.4	+0.1
SULZ	Cheisacher	0.49	119	⇓Pg	Pb	21 36 51.1	+0.8
SULZ				Sg	Sb	21 36 57.4	+0.1
SULZ	Cheisacher	0.49	119	Pg	Pb	21 36 51.0	+0.8
SULZ	Cheisacher	0.49	119	Sg	Sb	21 36 57.2	-0.1
ECH	Echery	0.50	335	Pg	Pb	21 36 51.4	+1.1
ECH				Sg	Sb	21 36 58.7	+1.3
ECH	Echery	0.50	335	⇓Pg	Pn	21 36 52.0	-0.5
ECH	Echery	0.50	335	⇓Pg	Pn	21 36 52.0	-0.5
ECH				Sg	Sb	21 36 59.5	+2.0
ECH	Echery	0.50	335	Pg	Pn	21 36 52.0	-0.5
ECH				Sg	Sb	21 36 59.0	+1.6
METMA	Mettma DE	0.53	96	⇑Pg	Pb	21 36 51.6	+0.8
METMA	Mettma DE	0.53	96	⇑Pg	Pb	21 36 51.6	+0.8
METMA				Sg	Sb	21 36 58.3	0.0
SAIRA	Les Sairains D	0.53	210	⇑Pg	Pn	21 36 52.7	-0.3
ACHB	Acheberg	0.56	108	⇓Pg	Pb	21 36 52.2	+0.9
RONF	Ronchamp	0.56	265	⇑Pg	Pn	21 36 53.1	-0.2
RONF	Ronchamp	0.56	265	Pg	Pn	21 36 53.1	-0.2
RONF				Sg	Sb	21 37 01.1	+1.9
SOLB	Solothurn Schu	0.56	177	⇓Pg	Pb	21 36 53.0	+1.6
SFEL	Villigen, Paul	0.56	114	⇓Pg	Pb	21 36 52.4	+1.1
BOBI	Bbikon, Wasse	0.63	110	⇓Pg	Pb	21 36 53.6	+1.2
DAGMA	Lutertal, Dagm	0.65	146	⇓Pg	Pb	21 36 54.2	+1.4
WLS	Welschbruch	0.65	353	P*	Pn	21 36 54.9	+0.3
WLS				S*	Sn	21 37 03.7	-1.0
WLS	Welschbruch	0.65	353	Pg	Pn	21 36 54.9	+0.3
WLS				Sg	Sn	21 37 03.7	-1.0
CDF	Champ du Feu	0.66	348	ePg	Pb	21 36 53.8	+0.7
	SNR=1.0						
CDF				eSg	Sb	21 37 02.5	+0.3
	472nm,0.3s,SNR=1.0						
SLE	Schleitheim	0.69	90	⇑Pg	Pb	21 36 54.6	+1.1
SLE	Schleitheim	0.69	90	⇑P*	Pb	21 36 54.6	+1.1
SLE				S*	Sb	21 37 03.4	+0.5
SLE	Schleitheim	0.69	90	Pg	Pb	21 36 54.6	+1.1
SLE	Schleitheim	0.69	90	Sg	Sb	21 37 03.2	+0.3
HAMIK	Hmikon, Dlik	0.75	134	⇓Pg	Pn	21 36 56.0	+0.1
CHMF	Charmoille	0.76	227	⇓Pg	Pn	21 36 56.6	+0.5
CHMF	Charmoille	0.76	227	⇓Pn	Pn	21 36 56.6	+0.5
CHMF				Sn	Sn	21 37 07.5	+0.1
CHMF	Charmoille	0.76	227	Pg	Pn	21 36 56.5	+0.5
CHMF				Sg	Sn	21 37 07.3	-0.1
FLACH	Flaach	0.77	104	Pg	Pn	21 36 56.2	+0.1
WOLEN	Wohlen bei Ber	0.77	185	⇓Pg	Pn	21 36 56.8	+0.5
SCHS	Schaffhausen,	0.79	94	⇓Pg	Pn	21 36 56.5	+0.1
HAU	Haudompre	0.79	288	ePn	Pn	21 36 56.6	0.0
	SNR=1.0						
HAU				eSg	Sg	21 37 05.7	+0.1
	3µm,0.3s,SNR=1.0						
HAU				eSn	Sb	21 37 07.3	+1.3
	3µm,0.2s						
SKLW	Kloten, Waffen	0.80	112	⇓Pg	Pn	21 36 56.8	+0.2
BFO	Black Forest	0.81	45	Pg	Pn	21 36 56.1	+0.5
BFO				Sg	Sb	21 37 06.6	+0.4
BFO	Black Forest	0.81	45	⇑Pn	Pb	21 36 56.2	+0.7
BFO				⇑PmP		21 36 57.0	
BFO				Sn	Sb	21 37 06.9	+0.6
EWZT2	Wettswil, ZR	0.81	122	Pg	Pn	21 36 57.1	+0.3
SZUZ	Zrich, Zeugha	0.81	118	⇓Pg	Pn	21 36 57.2	+0.4
TRULL	Truellikon	0.82	98	⇑Pg	Pn	21 36 57.3	+0.3
SLCF	La Chaux de Fo	0.83	214	⇑Pn	Pn	21 36 57.6	+0.5
STR	Strasbourg	0.84	13	Pn	Pn	21 36 58.5	+1.3
STR				Sg	Sn	21 37 10.3	+1.0
STIEG	Stiegenhof Hun	0.84	108	⇓Pg	Pn	21 36 57.3	+0.1
SNES2	Neuenburg, Obs	0.84	205	⇑Pn	Pn	21 36 57.7	+0.5
ZUR	Degenried	0.85	118	⇓Pg	Pn	21 36 57.5	+0.2
ZUR	Degenried	0.85	118	Pg	Pn	21 36 57.5	+0.2
ZUR	Degenried	0.85	118	Sg	Sb	21 37 08.3	+0.3
XAFF	Xaffevillers	0.86	319	Pg	Pn	21 36 58.2	+0.7
XAFF				Pn	Pb	21 36 58.8	+2.4
XAFF				Sg	Sn	21 37 10.3	+0.5
OPP	Oppenau	0.87	33	⇑Pn	Pn	21 36 57.3	+0.6
OPP				PmP		21 36 58.5	
OPP				Sn	Sb	21 37 08.5	+0.3
OPP	Oppenau	0.87	33	Pn	Pn	21 36 58.5	+0.9
OPP	Oppenau	0.87	33	Pg	Pb	21 36 57.3	+0.6
OPP	Oppenau	0.87	33	Sg	Sn	21 37 09.5	-0.6
ROTE	Rottweil	0.89	64	⇑Pn	Pb	21 36 57.6	+0.5
ROTE				PmP		21 36 58.6	
STFL	Fournets-Luisa	0.90	224	Pg	Pn	21 36 58.7	+0.7
STFL				Pn	Pg	21 36 59.5	+2.3
SBAS	Baar Spital, Z	0.91	129	⇓Pn	Pn	21 36 58.9	+0.8
EMING	Emmingen-Lipti	0.93	82	⇑Pn	Pg	21 36 58.3	+0.6
EMING	Emmingen-Lipti	0.93	82	⇑Pn	Pg	21 36 58.3	+0.6
EMING				Pg	Pg	21 36 59.0	+0.6
EMING				Sg	Sn	21 37 11.1	-0.5
STEIN	Stein am Rhein	0.95	95	Pn	Pn	21 36 59.0	+0.3
STEIN				Sg	Sn	21 37 11.7	-0.3
BOUC	Bouclans	0.98	238	Pg	Pn	21 36 59.6	+0.5
BOUC				Sg	Sn	21 37 13.7	+1.1
WILA	Wila	1.03	109	⇓Pn	Pn	21 37 00.3	+0.4
WILA				Sg	Sn	21 37 14.6	+0.4
TORNY	Torny/Romont	1.05	200	Pg	Pn	21 37 00.7	+0.6
TORNY	Torny/Romont	1.05	200	Sg	Sn	21 37 16.0	+1.4
BABA	Baden-Baden-Ne	1.07	26	⇑Pn	Pb	21 37 00.0	0.0
BABA				Pg	Pn	21 37 01.8	+1.5
BABA				Sn	Sb	21 37 13.1	-0.6
BABA				Sg	Sn	21 37 15.6	+0.8
BABA	Baden-Baden-Ne	1.07	26	Pn	Pb	21 37 00.0	0.0
BABA	Baden-Baden-Ne	1.07	26	Sg	Sb	21 37 13.0	-0.8
BABA	Baden-Baden-Ne	1.07	26	Sn	Sn	21 37 15.7	+0.8
CIEL	Dossenheim-sur	1.07	356	Pn	Pn	21 37 00.7	+0.4
MSS	Messtetten	1.08	67	⇑Pn	Pb	21 37 00.3	+0.1
MSS				Pg	Pn	21 37 01.9	+1.4
MSS				Sn	Sb	21 37 13.7	-0.6
MSS				Sg	Sn	21 37 15.8	+0.4
BNALP	Bannalp	1.11	144	⇓P	Pg	21 37 01.7	+0.6
BNALP				S	Sg	21 37 16.2	+0.7
BNALP				AML	AML		
	comp=E,556µm,0.4s						
BNALP				AML	AML		
	comp=N,468µm,0.4s						
BNALP				AML	AML		
	comp=E,556µm,0.4s						
BNALP				AML	AML		
	comp=N,468µm,0.4s						
BNALP				AML	AML		
	comp=E,555µm,0.4s						
BNALP				AML	AML		
	comp=E,555µm,1.6s						
BNALP				AML	AML		
	comp=N,396µm,0.3s						
WALHA	Wallhausen, DE	1.11	90	Pn	Pb	21 37 01.1	+0.3
WALHA				Sg	Sn	21 37 16.8	+0.8
GUT	Gutenstein	1.15	74	⇑Pn	Pb	21 37 01.2	-0.2
GUT				Sg	Sn	21 37 17.2	+0.3
GUT	Gutenstein	1.15	74	Pn	Pb	21 37 01.1	-0.2
SZBH	soultz borehol	1.20	12	Pn	Pn	21 37 00.3	-1.7
SZBH				Sg	Sg	21 37 20.7	+2.4
FREU	Neufra-Freuden	1.21	67	⇑Pn	Pn	21 37 02.0	-0.3
FREU				Sg	Sg	21 37 19.6	+0.7
ROMAN	Romanshorn, Fo	1.27	98	Pn	Pn	21 37 03.5	+0.4
ROMAN				Sg	Sg	21 37 21.5	+0.7
LEMB	Lembach	1.28	8	Pn	Pn	21 37 03.2	0.0
LEMB				Sg	Sg	21 37 22.9	+1.8
PEB	Petersbachel	1.31	6	Pn	Pn	21 37 03.6	0.0
PEB				Pg	Pg	21 37 06.9	+2.0
PEB				Sg	Sg	21 37 23.8	+1.9
TUBL	Tuebingen-Lenn	1.32	54	Pn	Pn	21 37 02.9	-0.8
TUBL				Pg	Pg	21 37 05.6	+0.6
GALG	Neuhausen (Enz	1.34	40	⇑Pn	Pn	21 37 03.5	-0.6
GALG				Pg	Pg	21 37 07.2	+1.7
GALG				Sn	Sb	21 37 19.6	-2.1
GALG				Sg	Sg	21 37 24.0	+1.0
LAUCH	Lauchernalp	1.37	171	P	Pb	21 37 05.6	+0.4
FIESA	Fiescheralp	1.40	162	P	Pb	21 37 06.2	+0.3
SENIN	Lac Senin/Sane	1.41	185	Pn	Pn	21 37 05.9	+0.7
SENIN	Lac Senin/Sane	1.41	185	P	Pn	21 37 05.9	+0.7
PAGF	Fort de Pagny	1.41	305	ePn	Pn	21 37 05.5	+0.5
PAGF	Fort de Pagny	1.41	305	ePg	Pg	21 37 07.1	+0.2
PAGF				eSn	Sn	21 37 22.6	-0.8
	comp=N,44nm,0.2s						
PAGF				eSg	Sg	21 37 25.1	-0.1
	comp=N,121nm,0.2s						
ZWI	Zwiefalten, Ha	1.41	69	⇑Pn	Pn	21 37 04.6	-0.4
ZWI				Pg	Pg	21 37 08.0	+1.1
ZWI				Sn	Sn	21 37 21.4	-2.1
ZWI				Sg	Sg	21 37 25.5	+0.3
BUCH	Bad Urach	1.43	61	⇑Pn	Pn	21 37 05.0	-0.4
BUCH				Pg	Pg	21 37 08.7	+1.5
BUCH				Sg	Sg	21 37 26.7	+0.8
LIENZ	Kamor/St.Gall	1.45	108	⇓Pn	Pb	21 37 06.7	+0.1
LIENZ				Sg	Sg	21 37 27.4	+1.0
TETT	Tettnang	1.45	93	Sn	Sn	21 37 22.7	-1.7
TETT				Sg	Sg	21 37 27.0	+0.6
RIVEL	MONT RIVEL	1.46	227	Pn	Pn	21 37 06.2	+0.4
RIVEL				Pg	Pg	21 37 09.5	+1.7
AIGLE	Aigle	1.47	194	Pn	Pn	21 37 06.3	+0.5
AIGLE	Aigle	1.47	194	Pg	Pg	21 37 09.3	+1.3
PLONS	Plons/SG	1.48	118	⇓P	Pb	21 37 07.1	0.0
PLONS				AML	AML		
	comp=E,450µm,1.1s						
PLONS				AML	AML		
	comp=N,616µm,0.7s						
PLONS				AML	AML		
	comp=N,616µm,0.7s						
PLONS				AML	AML		
	comp=N,602µm,0.3s						
PLONS				AML	AML		
	comp=E,419µm,0.1s						
PLONS	Plons/SG	1.48	118	ePn	Pb	21 37 07.1	0.0
	SNR=40						
PLONS				eSg	Sg	21 37 27.7	+0.3
GIMEL	St. Georges /	1.48	214	P	Pn	21 37 06.6	+0.6
GIMEL				S	Sn	21 37 26.0	+0.7
GIMEL				AML	AML		
	comp=E,682µm,1.6s						
GIMEL				AML	AML		
	comp=N,572µm,1.0s						
GIMEL				AML	AML		
	comp=E,682µm,1.6s						
GIMEL				AML	AML		
	comp=N,572µm,1.0s						
GIMEL				AML	AML		
	comp=E,646µm,0.4s						
GIMEL				AML	AML		
	comp=N,569µm,0.2s						
GIMEL	St. Georges /	1.48	214	Pg	Pg	21 37 10.4	+2.2
GIMEL	St. Georges /	1.48	214	Pn	Pn	21 37 06.7	+0.6
BRET	Bretten	1.49	33	⇓Pn	Pn	21 37 05.9	-0.2
BRET				Pg	Pg	21 37 10.0	+1.7
BRET				Sg	Sg	21 37 28.8	+1.1
CABF	La Chapelle	1.49	220	ePn	Pn	21 37 06.6	+0.4
	SNR=1.0						
CABF	La Chapelle	1.49	220	ePg	Pb	21 37 08.5	+1.2
	SNR=1.0						
CABF				eSn	Sn	21 37 23.8	-1.7
	comp=N,58nm,0.3s						
CABF				eSg	Sg	21 37 28.5	+0.7
	comp=N,150nm,0.2s,SNR=1.0						
A104C	Biberach, Ahle	1.51	75	⇓Pn	Pn	21 37 06.3	-0.1
A104C				Pg	Pg	21 37 10.2	+1.5
STU	Stuttgart	1.53	48		Pn	21 37 06.8	+0.2
STU				IAML		21 37 35.8	
	comp=E,344nm,0.8s						
STU				IAML		21 37 38.8	
	comp=N,322nm,0.5s						
STU	Stuttgart	1.53	48	Pg	Pg	21 37 10.5	+1.4
FUSIO	Fusio	1.54	148	⇓P	Pb	21 37 08.4	+0.2
FUSIO				AML	AML		
	comp=E,210µm,0.4s						
FUSIO				AML	AML		
	comp=N,172µm,1.5s						
FUSIO				AML	AML		
	comp=E,210µm,0.4s						
FUSIO				AML	AML		
	comp=N,172µm,1.5s						
FUSIO				AML	AML		
	comp=E,182µm,0.2s						
FUSIO	Fusio	1.54	148	P	Pb	21 37 08.4	+0.2
EMBD	Embd, Matterta	1.57	171	P	Pn	21 37 08.4	+1.1
EMBD	Embd, Matterta	1.57	171	Pg	Pg	21 37 11.2	+1.3
EMBD	Embd, Matterta	1.57	171	Pn	Pn	21 37 08.4	+1.1
EMBD	Embd, Matterta	1.57	171	Sg	Sg	21 37 30.8	+0.5
EMBD	Embd, Matterta	1.57	171	Sn	Sn	21 37 26.5	-1.0
A108A	Ulm, Ringingen	1.69	69	Pn	Pn	21 37 08.4	-0.4
A108A				Pg	Pg	21 37 13.6	+1.5
DIX	Grande Dixence	1.69	182	⇓P	Pn	21 37 10.3	+1.2
DIX				AML	AML		
	comp=E,1030µm,0.4s						
DIX				AML	AML		
	comp=N,758µm,0.7s						
DIX				AML	AML		
	comp=N,758µm,0.8s						
DIX				AML	AML		
	comp=E,1033µm,0.4s						
DIX	Grande Dixence	1.69	182	P	Pn	21 37 10.3	+1.2
DIX	Grande Dixence	1.69	182	Sg	Sg	21 37 34.6	+0.6
DIX	Grande Dixence	1.69	182	Pn	Pn	21 37 10.2	+1.2
SFTF	Sexfontaines	1.69	286	ePn	Pn	21 37 08.6	-0.3
SFTF	Sexfontaines	1.69	286	ePg	Pb	21 37 12.0	+1.3
SFTF				eSg	Sb	21 37 33.6	+1.8
	comp=E,312nm,0.2s						
DAVA	Damuels	1.70	106	iPn	Pn	21 37 10.2	+1.1
	comp=E,1.3nm,0.1s,SNR=6.8						
DAVA				eSg	Sg	21 37 35.5	+1.1
	comp=E,186nm,0.2s						
DAVA	Damuels	1.70	106	⇓Pn	Pn	21 37 10.2	+1.1
DAVA				Sg	Sg	21 37 35.8	+1.3
DEGG	Deggingen-Nord	1.72	60	⇑Pn	Pn	21 37 08.7	-0.6
MMK	Mattmark	1.75	169	⇓P	Pn	21 37 11.3	+1.4
MMK				S	Sn	21 37 32.1	0.0
MMK				AML	AML		
	comp=N,233µm,1.3s						
MMK				AML	AML		
	comp=E,250µm,0.7s						
MMK				AML	AML		
	comp=N,230µm,0.4s						
MMK				AML	AML		
	comp=E,194µm,0.3s						
MMK	Mattmark	1.75	169	P	Pn	21 37 11.3	+1.4
OGSI	Sixt	1.77	196	Pn	Pn	21 37 10.9	+0.9
OGSI				Pg	Pg	21 37 15.4	+1.7
URBA	Urbach, Forsts	1.77	52	⇑Pn	Pn	21 37 08.9	-1.0
URBA				Pg	Pg	21 37 15.0	+1.2
URBA				Sn	Sn	21 37 30.2	-2.1
MEZF	Maizieres J'vi	1.78	295	ePn	Pn	21 37 10.5	+0.4
	SNR=1.0						
MEZF	Maizieres J'vi	1.78	295	ePg	Pb	21 37 13.5	+1.4
	SNR=1.0						
MEZF				eSn	Sn	21 37 31.1	-1.4
	comp=E,189nm,0.3s,SNR=1.0						
MEZF				eSg	Sg	21 37 36.7	-0.3
	comp=E,190nm,0.3s						
UBR	Ueberruh	1.78	92	Pn	Pn	21 37 10.9	+0.7
UBR				Pg	Pg	21 37 15.6	+1.7
UBR				eSg	Sg	21 37 37.3	+0.3
TUE	Stuetta	1.82	135	Pn	Pn	21 37 11.9	+1.0
TUE				IAML		21 37 45.6	
	comp=E,91nm,0.5s						
TUE				IAML		21 37 45.7	
	comp=N,96nm,0.5s						
TUE	Stuetta	1.82	135	⇓P	Pb	21 37 12.8	-0.1
TUE				S	Sn	21 37 34.0	+0.2
TUE				AML	AML		
	comp=E,200µm,0.4s						
TUE				AML	AML		
	comp=N,208µm,0.6s						
TUE				AML	AML		
	comp=E,232µm,0.4s						
TUE				AML	AML		
	comp=N,248µm,0.5s						
TUE				AML	AML		
	comp=N,215µm,0.4s						
TUE				AML	AML		
	comp=E,199µm,0.4s						
TUE				AML	AML		
	comp=E,232µm,0.4s						
TUE				AML	AML		
	comp=N,178µm,0.4s						
TUE	Stuetta	1.82	135	P	Pb	21 37 12.8	-0.1
FLIN	Helmstadt-Barg	1.85	33	Pn	Pn	21 37 10.5	-0.5
FLIN				Pg	Pg	21 37 16.7	+1.6
FLIN				Sg	Sg	21 37 39.8	+0.7
IMS	Imsbach	1.85	9	Pn	Pn	21 37 11.2	+0.1
IMS				Pg	Pg	21 37 16.9	+1.6
IMS				Sg	Sg	21 37 40.5	+1.3
A107C	Memmingen - Ei	1.85	81	Pn	Pn	21 37 11.4	+0.3
A107C				Pg	Pg	21 37 16.7	+1.4
A107C				Sg	Sg	21 37 39.6	+0.3
DAVOX	Davos/Dischmat	1.91	120	S	Sn	21 37 37.1	+1.1
DAVOX	Davos/Dischmat	1.91	120	AML	AML		
	comp=E,209µm,0.2s						
DAVOX	Davos/Dischmat	1.91	120	AML	AML		
	comp=N,369µm,0.5s						
DAVOX	Davos/Dischmat	1.91	120	AML	AML		
	comp=E,210µm,0.2s						
DAVOX	Davos/Dischmat	1.91	120	AML	AML		
	comp=N,370µm,1.4s						
DAVOX	Davos/Dischmat	1.91	120	AML	AML		
	comp=N,369µm,1.5s						
DAVOX	Davos/Dischmat	1.91	120	AML	AML		
	comp=N,243µm,0.8s						
DAVOX	Davos/Dischmat	1.91	120	AML	AML		
	comp=E,209µm,0.2s						
DAVOX	Davos/Dischmat	1.91	120	⇓P	Pb	21 37 13.8	-0.7
OBER	Oberstdorf	1.94	100	ePn	Pn	21 37 13.5	+1.1
	SNR=19						
OBER				eSg	Sg	21 37 43.1	+0.9
RIVT	Riveris	2.00	347	ePn	Pn	21 37 14.4	+1.4
	SNR=47						
RIVT				ePg	Pg	21 37 19.8	+1.8
	SNR=10						
RIVT				eSn	Sn	21 37 37.0	-0.9
	SNR=2.2						
RIVT				eSg	Sg	21 37 44.4	+0.5
HDH	Heidenheim-Cha	2.00	65	Pn	Pn	21 37 12.3	-0.9
HDH				Pg	Pg	21 37 19.3	+1.2
MRGE	Morge	2.02	188	P	Pn	21 37 14.6	+1.1
MRGE				AML	AML		
	comp=E,352µm,0.4s						
MRGE				AML	AML		
	comp=N,394µm,0.6s						
MRGE				AML	AML		
	comp=N,253µm,1.5s						
MRGE				AML	AML		
	comp=E,351µm,0.4s						
MRGE	Morge	2.02	188	P	Pn	21 37 14.6	+1.1
PLYF	Puligny Montra	2.02	247	Pn	Pn	21 37 13.3	-0.1
PLYF				Pg	Pg	21 37 20.4	+1.8
WBA	Furth	2.09	25	⇑Pn	Pn	21 37 13.3	-1.0
WBA				Pg	Pg	21 37 20.9	+1.1
WBA				Sg	Sg	21 37 47.5	+0.7
WLF	Walferdange	2.09	336	P	Pb	21 37 16.6	-0.9
WLF	Walferdange	2.09	336	dP	Pb	21 37 16.9	-0.6
WLF				dS	Sn	21 37 40.7	+0.5
WLF	Walferdange	2.09	336	ePn	Pb	21 37 16.8	-0.6
	SNR=24						
WLF				Pg	Pg	21 37 21.6	+1.7
WLF				eSg	Sg	21 37 48.3	+1.4
WLF	Walferdange	2.09	336	Pn	Pb	21 37 16.6	-0.9
VARE	Varese	2.10	154	P	Pn	21 37 16.1	+1.5
VARE				S	Sn	21 37 39.9	-0.6
VARE				AML	AML		
	comp=E,202µm,1.3s						
VARE				AML	AML		
	comp=N,198µm,1.0s						
VARE				AML	AML		
	comp=N,191µm,0.5s						
VARE				AML	AML		
	comp=E,185µm,1.1s						
VARE				AML	AML		
	comp=N,191µm,1.5s						
VARE	Varese	2.10	154	P	Pn	21 37 16.1	+1.5
ABH	Alteburg	2.12	1	Pn	Pn	21 37 15.6	+0.9
ABH				ePg	Pg	21 37 21.7	+1.4
	SNR=3.3						
ABH				eSg	Sg	21 37 48.5	+0.7
ABH	Alteburg	2.12	1	Pn	Pn	21 37 15.6	+0.9
SIND	Sindeldorf	2.12	41	Pn	Pn	21 37 13.6	-1.2
SIND				Pg	Pg	21 37 21.6	+1.2
MUGIO	Muggio	2.14	149	P	Pn	21 37 16.4	+1.4
MUGIO				S	Sn	21 37 41.4	0.0
MUGIO				AML	AML		
	comp=E,138µm,0.5s						
MUGIO				AML	AML		
	comp=N,160µm,0.6s						
MUGIO				AML	AML		
	comp=N,130µm,0.5s						
MUGIO				AML	AML		
	comp=N,128µm,0.3s						
MUGIO				AML	AML		
	comp=E,79µm,3.1s						
MUGIO				AML	AML		
	comp=E,120µm,0.3s						
MUGIO				AML	AML		
	comp=N,130µm,1.5s						
MUGIO	Muggio	2.14	149	P	Pn	21 37 16.4	+1.4
OG35	Corcelles	2.16	218	Pn	Pn	21 37 15.3	-0.1
OG35				Pg	Pg	21 37 23.0	+1.9
CIRO	Champorcher	2.17	178	P	Pn	21 37 17.2	+1.6
CIRO				S	Sn	21 37 42.5	+0.1
CIRO				AML	AML		
	comp=E,336µm,0.3s						
CIRO				AML	AML		
	comp=N,127µm,0.8s						
CIRO				AML	AML		
	comp=E,336µm,0.3s						
CIRO				AML	AML		
	comp=N,126µm,0.5s						
CIRO	Champorcher	2.17	178	P	Pn	21 37 17.4	+1.7
CIRO	Champorcher	2.17	178	Pn	Pn	21 37 17.1	+1.4
OGMY	Moye	2.18	211	Pn	Pn	21 37 15.7	+0.1
BODE	Bodenheim	2.21	14	eSg	Sg	21 37 52.0	+1.1
FUORN	Ofenpass-Fuorn	2.22	120	Pn	Pn	21 37 18.3	+2.0
FUORN				IAML		21 37 55.9	
	comp=N,58nm,0.7s						
RETA	Reutte	2.24	96	ePg	Pg	21 37 23.3	+0.5
	comp=N,4.8nm,0.2s,SNR=16						
RETA				eSg	Sg	21 37 52.1	+0.3
	comp=N,36nm,0.1s						
TRAV	Traversella	2.26	175	S	Sn	21 37 44.9	+0.4
TRAV	Traversella	2.26	175	P	Pn	21 37 18.9	+2.1
TRAV	Traversella	2.26	175	Pn	Pn	21 37 18.9	+2.1
TRAV	Traversella	2.26	175	Sg	Sn	21 37 45.0	+0.4
TRAV	Traversella	2.26	175	AML	AML		

	comp=N,256µm,0.2s							
TRAV	**Traversella**	**2.26**	**175**	AML	AML			
	comp=N,256µm,1.8s							
TRAV	**Traversella**	**2.26**	**175**	AML	AML			
	comp=E,333µm,0.3s							
TRAV	**Traversella**	**2.26**	**175**	AML	AML			
	comp=N,187µm,0.4s							
TRAV	**Traversella**	**2.26**	**175**	AML	AML			
	comp=E,333µm,0.3s							
TRAV	**Traversella**	**2.26**	**175**	AML	AML			
	comp=E,191µm,0.2s							
TRAV	**Traversella**	**2.26**	**175**	AML	AML			
	comp=E,333µm,0.3s							
TRAV	**Traversella**	**2.26**	**175**	AML	AML			
	comp=N,256µm,0.2s							
TRAV	**Traversella**	**2.26**	**175**	P	**Pn**	**21 37 18.8**	**+2.0**	
LPL	**La Plagne**	**2.31**	**193**	*e*Pn	**Pn**	**21 37 18.4**	**+0.9**	
	SNR=1.0							
LPL	**La Plagne**	**2.31**	**193**	*e*Pg	**Pg**	**21 37 24.1**	**+0.1**	
LPL				*e*Sg	**Sb**	**21 37 52.2**	**+2.5**	
	comp=N,58nm,0.4s,SNR=1.0							
NORI	**Noerdlinger Ri**	**2.31**	**64**	*e*Pn	**Pn**	**21 37 16.5**	**-0.9**	
	SNR=21							
NORI				*e*Pg	**Pg**	**21 37 24.8**	**+0.7**	
	SNR=2.1							
NORI				*e*Sg	**Sg**	**21 37 54.4**	**+0.4**	
LSD	**Lago del Serru**	**2.32**	**186**	P	**Pn**	**21 37 19.4**	**+1.7**	
LSD				S	**Sn**	**21 37 46.2**	**0.0**	
LSD				AML	AML			
	comp=E,188µm,1.5s							
LSD				AML	AML			
	comp=N,178µm,0.8s							
LSD				AML	AML			
	comp=E,136µm,0.2s							
LSD				AML	AML			
	comp=N,143µm,0.3s							
LSD				AML	AML			
	comp=E,180µm,0.5s							
LSD				AML	AML			
	comp=N,175µm,0.6s							
LSD	**Lago del Serru**	**2.32**	**186**	Pn	**Pn**	**21 37 19.4**	**+1.7**	
LPG	**La Plagne**	**2.32**	**193**	*e*Pn	**Pn**	**21 37 18.8**	**+1.0**	
	SNR=1.0							
LPG	**La Plagne**	**2.32**	**193**	*e*Pg	**Pg**	**21 37 24.3**	**0.0**	
LPG				*e*Sg	**Sg**	**21 37 53.5**	**-0.9**	
	comp=N,76nm,0.4s,SNR=1.0							
FETA	**Feichten**	**2.33**	**107**	*e*Pn	**Pn**	**21 37 19.6**	**+1.7**	
	comp=N,0.1nm,0.1s,SNR=11							
FETA				*e*Pg	**Pg**	**21 37 25.0**	**+0.5**	
	comp=N,1.4nm,0.2s							
FETA				*e*Sn	**Sn**	**21 37 46.3**	**-0.1**	
	comp=N,2.9nm,0.1s							
FETA				*i* Sg	**Sg**	**21 37 55.6**	**+0.8**	
	comp=N,18nm,0.2s							
BRMO	**Bormio**	**2.36**	**122**	P	**Pn**	**21 37 20.5**	**+2.3**	
BRMO				AML	AML			
	comp=E,82µm,0.3s							
BRMO				AML	AML			
	comp=N,117µm,1.0s							
BRMO				AML	AML			
	comp=N,109µm,0.5s							
BRMO				AML	AML			
	comp=E,82µm,0.3s							
BRMO				AML	AML			
	comp=N,81µm,0.4s							
BRMO				AML	AML			
	comp=E,54µm,3.3s							
BRMO				AML	AML			
	comp=E,82µm,1.7s							
MILB	**Miltenberg**	**2.39**	**30**	*e*Pn	**Pn**	**21 37 17.4**	**-1.1**	
	SNR=3.8							
MILB				*e*Pg	**Pg**	**21 37 26.6**	**+1.1**	
	SNR=2.9							
MILB				*e*Sg	**Sg**	**21 37 57.1**	**+0.6**	
MOSI	**Grossmontoni**	**2.39**	**118**	P	**Pn**	**21 37 20.9**	**+2.2**	
MOSI				AML	AML			
	comp=E,410µm,1.3s							
MOSI				AML	AML			
	comp=N,612µm,0.5s							
MOSI				AML	AML			
	comp=N,548µm,0.7s							
MOSI				AML	AML			
	comp=E,297µm,0.3s							
MOSI				AML	AML			
	comp=N,613µm,0.5s							
MOSI				AML	AML			
	comp=E,398µm,0.4s							
BGG	**Burgeitz**	**2.44**	**358**	*e*Pg	**Pn**	**21 37 20.2**	**+1.1**	
OGSM	**Saint Maurice**	**2.48**	**210**	Pn	**Pn**	**21 37 19.8**	**+0.1**	
OGSM				Pg	**Pg**	**21 37 28.8**	**+1.5**	
MOTA	**Moosalm**	**2.50**	**98**	*e*Pn	**Pn**	**21 37 21.5**	**+1.4**	
	comp=E,0.3nm,0.1s,SNR=9.4							
MOTA				*e*Sg	**Sg**	**21 37 59.2**	**-0.7**	
	comp=E,75nm,0.1s							
LOR	**Lormes**	**2.50**	**260**	*e*Pn	**Pn**	**21 37 19.5**	**-0.5**	
	SNR=1.0							
LOR	**Lormes**	**2.50**	**260**	*e*Pg	**Pg**	**21 37 26.9**	**-0.7**	
LOR				*e*Sg	**Sg**	**21 37 58.4**	**-1.6**	
	comp=E,203nm,0.2s,SNR=1.0							
LOR	**Lormes**	**2.50**	**260**	Pg	**Pg**	**21 37 29.3**	**+1.7**	
LOR	**Lormes**	**2.50**	**260**	Pn	**Pn**	**21 37 19.9**	**0.0**	
TNS	**Taunus Mts**	**2.54**	**14**	*e*Pn	**Pn**	**21 37 20.6**	**0.0**	
	SNR=4.0							
TNS				*e*Sg	**Sg**	**21 38 01.3**	**0.0**	
HILG	**Hillesheim**	**2.58**	**349**	*e*Pn	**Pn**	**21 37 22.5**	**+1.4**	
FUR	**Furstenfeldbru**	**2.59**	**80**	*e*Pg	**Pg**	**21 37 30.2**	**+0.9**	
FUR				*e*Sg	**Sg**	**21 38 02.6**	**-0.2**	
SQTA	**Sankt Quirin**	**2.59**	**101**	*e*Pn	**Pn**	**21 37 23.6**	**+2.2**	
	comp=E,0.3nm,0.1s,SNR=7.1							
SQTA				*i* Pg	**Pg**	**21 37 29.9**	**+0.5**	
	comp=E,7.7nm,0.2s							
SQTA				*i* Sn	**Sn**	**21 37 52.8**	**+0.1**	
	comp=E,11nm,0.2s							
SQTA				*i* Sg	**Sg**	**21 38 02.8**	**-0.2**	
	comp=E,42nm,0.1s							
OGMO	**Fort Saint-Gob**	**2.62**	**192**	Pg	**Pg**	**21 37 33.1**	**+3.2**	
ZONE	**Zone**	**2.71**	**137**	P	**Pn**	**21 37 24.7**	**+1.9**	
ZONE				AML	AML			
	comp=E,152µm,0.3s							
ZONE				AML	AML			
	comp=N,142µm,0.7s							
ZONE				AML	AML			
	comp=N,127µm,0.5s							
ZONE				AML	AML			
	comp=N,119µm,0.2s							
ZONE				AML	AML			
	comp=E,149µm,0.3s							
ZONE				AML	AML			
	comp=E,152µm,0.3s							
SMF	**Signal de Mont**	**2.72**	**247**	*e*Pn	**Pn**	**21 37 22.7**	**-0.3**	
	SNR=1.0							
SMF	**Signal de Mont**	**2.72**	**247**	*e*Pg	**Pg**	**21 37 31.0**	**-0.8**	
	SNR=1.0							
SMF				*e*Sn	**Sn**	**21 37 53.6**	**-2.1**	
	SNR=1.0							
SMF				*e*Sg	**Sg**	**21 38 05.9**	**-1.1**	
	comp=E,76nm,0.2s,SNR=1.0							
BHOU	**Houvegnez**	**2.76**	**340**	*d*P	**Pn**	**21 37 23.5**	**-0.1**	
BNI	**Bardonecchia**	**2.77**	**192**	Pn	**Pn**	**21 37 26.7**	**+2.9**	
SSF	**Saint Saulge**	**2.79**	**257**	*e*Pn	**Pn**	**21 37 23.4**	**-0.5**	
	SNR=1.0							
SSF	**Saint Saulge**	**2.79**	**257**	*e*Pg	**Pg**	**21 37 32.2**	**-0.9**	
SSF				*e*Sn	**Sn**	**21 37 54.6**	**-2.7**	
	SNR=1.0							
SSF				*e*Sg	**Sg**	**21 38 07.0**	**-2.2**	
	comp=E,87nm,0.2s,SNR=1.0							
AHRW	**Bad Neuenahr-A**	**2.79**	**355**	*e*Pn	**Pn**	**21 37 25.9**	**+2.0**	
	SNR=5.5							
AHRW				*e*Sg	**Sg**	**21 38 08.6**	**-0.7**	
RCHB	**Rochefort**	**2.81**	**329**	*d*P	**Pn**	**21 37 26.2**	**+2.0**	
RCHB				*d*S	**Sn**	**21 37 59.0**	**+1.1**	
RCHB	**Rochefort**	**2.81**	**329**	Pg	**Pg**	**21 37 35.4**	**+1.8**	
RCHB	**Rochefort**	**2.81**	**329**	Pn	**Pn**	**21 37 26.0**	**+1.7**	
WATA	**Walderalm**	**2.81**	**97**	*e*Pn	**Pn**	**21 37 26.9**	**+2.5**	
	comp=E,0.4nm,0.1s							
WATA				*e*Sg	**Sg**	**21 38 09.5**	**-0.5**	
	comp=E,27nm,0.2s							
STB	**Steinbach**	**2.86**	**352**	*e*Pn	**Pn**	**21 37 26.1**	**+1.2**	
STB				*e*Sn	**Sn**	**21 37 59.7**	**+0.6**	
	comp=E,40nm,0.5s							
WTTA	**Wattenberg**	**2.87**	**99**	*e*Pn	**Pn**	**21 37 27.6**	**+2.5**	
	comp=E,1.0nm,0.1s,SNR=7.2							
WTTA				*i* Sg	**Sg**	**21 38 11.5**	**-0.3**	
	comp=E,57nm,0.3s							
WTTA	**Wattenberg**	**2.87**	**99**	P	**Pn**	**21 37 27.6**	**+2.5**	
GIVF	**Givet**	**2.92**	**324**	*e*Pn	**Pn**	**21 37 26.6**	**+0.9**	
	SNR=1.0							
GIVF	**Givet**	**2.92**	**324**	*e*Pg	**Pg**	**21 37 35.4**	**-0.2**	
GIVF				*e*Sn	**Sn**	**21 37 58.5**	**-2.0**	
	SNR=1.0							
GIVF				*e*Sg	**Sg**	**21 38 12.9**	**-0.5**	
	comp=E,66nm,0.4s,SNR=1.0							
BHB	**Bricherasio**	**2.93**	**183**	Pn	**Pn**	**21 37 27.2**	**+1.3**	
BTNL	**Ternell**	**2.96**	**343**	*d*P	**Pn**	**21 37 28.0**	**+1.8**	
BTNL				*d*S	**Sn**	**21 38 00.3**	**-1.2**	
AVF	**Avril sur Loir**	**2.97**	**252**	*e*Pn	**Pn**	**21 37 26.1**	**-0.3**	
	SNR=1.0							
AVF	**Avril sur Loir**	**2.97**	**252**	*e*Pg	**Pg**	**21 37 35.6**	**-1.0**	
AVF				*e*Sn	**Sn**	**21 37 58.7**	**-3.1**	
	SNR=1.0							
AVF				*e*Sg	**Sb**	**21 38 12.6**	**+4.1**	
	comp=E,65nm,0.5s,SNR=1.0							
KLL	**Kalltalsperre**	**2.98**	**346**	*e*Pn	**Pn**	**21 37 27.9**	**+1.3**	
LUSI	**Trento, Gardas**	**2.99**	**126**	P	**Pn**	**21 37 30.1**	**+3.4**	
LUSI				AML	AML			
	comp=E,81µm,0.8s							
LUSI				AML	AML			
	comp=N,113µm,0.6s							
LUSI				AML	AML			
	comp=N,106µm,0.3s							
LUSI				AML	AML			
	comp=E,73µm,0.6s							
MEM	**Membach**	**3.00**	**342**	*d*P	**Pn**	**21 37 28.7**	**+1.8**	
MEM				*d*S	**Sn**	**21 38 01.4**	**-1.3**	
SALO	**Salr**	**3.00**	**135**		**Pn**	**21 37 27.9**	**+0.9**	
SALO				IAML		21 38 32.5		
	comp=N,43nm,0.8s							
SALO				IAML		21 38 34.3		
	comp=E,39nm,0.8s							
SALO	**Salr**	**3.00**	**135**	P	**Pn**	**21 37 28.1**	**+1.1**	
SALO				AML	AML			
	comp=E,105µm,0.7s							
SALO				AML	AML			
	comp=N,113µm,0.5s							
DOU	**Dourbes**	**3.01**	**322**	*d*P	**Pn**	**21 37 29.1**	**+2.1**	
DOU				*d*S	**Sn**	**21 38 03.6**	**+0.9**	
DREG	**Dreilaegerbach**	**3.01**	**345**	*e*Pn	**Pn**	**21 37 28.4**	**+1.4**	
BCLA	**Clavier**	**3.01**	**333**	*d*P	**Pn**	**21 37 29.1**	**+2.1**	
BCLA				*d*S	**Sn**	**21 38 02.0**	**-0.9**	
BGES	**Gesves**	**3.05**	**330**	*d*P	**Pn**	**21 37 29.5**	**+1.9**	
BGES				*d*S	**Sn**	**21 38 03.8**	**-0.1**	
ORIF	**Oris-en-Rattie**	**3.06**	**202**	*e*Pn	**Pn**	**21 37 27.3**	**-0.4**	
	SNR=1.0							
ORIF	**Oris-en-Rattie**	**3.06**	**202**	*e*Pg	**Pg**	**21 37 37.2**	**-1.1**	
	SNR=1.0							
ORIF				*e*Sg	**Sg**	**21 38 16.1**	**-1.8**	
	comp=N,45nm,0.3s,SNR=1.0							
MBDF	**Montbardon**	**3.08**	**189**	*e*Pn	**Pn**	**21 37 28.9**	**+0.8**	
	SNR=1.0							
MBDF	**Montbardon**	**3.08**	**189**	*e*Pg	**Pg**	**21 37 38.3**	**-0.4**	
	SNR=1.0							
MBDF				*e*Sg	**Sg**	**21 38 19.4**	**+0.8**	
	comp=N,28nm,0.4s,SNR=1.0							
BSTI	**Sart Tilman**	**3.08**	**337**	*d*P	**Pn**	**21 37 29.7**	**+1.7**	
BMRD	**Maredsous**	**3.10**	**326**	*d*P	**Pn**	**21 37 29.8**	**+1.6**	
BMRD				*d*S	**Sn**	**21 38 04.8**	**-0.2**	
MBAL	**Monte Baldo -**	**3.12**	**130**	P	**Pn**	**21 37 31.1**	**+2.5**	
GRFO	**Grafenberg**	**3.14**	**51**		**Pn**	**21 37 27.8**	**-1.0**	
GRFO				IAML		21 38 25.4		
	comp=N,61nm,0.6s							
GRFO				IAML		21 38 31.2		
	comp=N,71nm,0.8s							
GRA1	**Grafenberg Arr**	**3.14**	**51**		**Pn**	**21 37 28.4**	**-0.4**	
GRF	**Grafenberg Arr**	**3.14**	**51**	*e*Pg	**Pg**	**21 37 40.3**	**+0.4**	
GRF				*e*Sg	**Sg**	**21 38 19.1**	**-1.5**	
BAIF	**Baives**	**3.15**	**318**	*e*Pn	**Pn**	**21 37 30.2**	**+1.4**	
	SNR=1.0							
BAIF	**Baives**	**3.15**	**318**	*e*Pg	**Pg**	**21 37 39.7**	**-0.3**	
	SNR=1.0							
BAIF				*e*Sg	**Sg**	**21 38 19.7**	**-1.1**	
	comp=N,30nm,0.4s,SNR=1.0							
SSB	**Saint Sauveur**	**3.21**	**220**	Pn	**Pn**	**21 37 28.4**	**-1.3**	
SSB				IAML		21 38 27.9		
	comp=E,43nm,0.2s							
SSB				IAML		21 38 31.1		
	comp=N,32nm,0.5s							
SSB	**Saint Sauveur**	**3.21**	**220**	Pn	**Pn**	**21 37 28.5**	**-1.3**	
SSB				Pg	**Pg**	**21 37 42.0**	**+0.8**	
HOBG	**Hohbusch**	**3.22**	**358**	*e*Pn	**Pn**	**21 37 31.1**	**+1.2**	
BEBN	**Eben Emael**	**3.25**	**339**	*d*P	**Pn**	**21 37 32.4**	**+2.2**	
BEBN				*d*S	**Sn**	**21 38 09.1**	**+0.3**	
ROVR	**Rover Verones**	**3.26**	**129**	P	**Pn**	**21 37 32.8**	**+2.3**	
ROVR				AML	AML			
	comp=E,19µm,0.7s							
ROVR				AML	AML			
	comp=N,37µm,0.3s							
ROVR				AML	AML			
	comp=N,37µm,0.3s							
PCP	**Piancastagn**	**3.31**	**167**	P	**Pn**	**21 37 33.4**	**+2.2**	
HYF	**Humbligny**	**3.31**	**263**	*e*Pn	**Pn**	**21 37 30.2**	**-1.0**	
HYF	**Humbligny**	**3.31**	**263**	*e*Pg	**Pg**	**21 37 42.1**	**-1.1**	
HYF				*e*Sg	**Sb**	**21 38 23.0**	**+4.6**	
	comp=N,601nm,0.3s							
BGF	**Bois d'Agland**	**3.38**	**251**	*e*Pn	**Pn**	**21 37 31.8**	**-0.3**	
	SNR=1.0							
BGF	**Bois d'Agland**	**3.38**	**251**	*e*Pg	**Pg**	**21 37 43.3**	**-1.2**	
BGF				*e*Sn	**Sn**	**21 38 09.7**	**-2.3**	
	SNR=1.0							
BGF				*e*Sg	**Sg**	**21 38 26.5**	**-1.8**	
	comp=N,133nm,0.4s,SNR=1.0							
COLF	**Collangettes**	**3.44**	**231**	Pn	**Pn**	**21 37 32.2**	**-0.7**	
UBBA	**Unterbreizbach**	**3.47**	**27**	*e*Pg	**Pg**	**21 37 46.2**	**-0.1**	
UBBA				*e*Sg	**Sg**	**21 38 31.1**	**-0.1**	
VIVF	**Saint-Julien-l**	**3.50**	**215**	*e*Pn	**Pn**	**21 37 32.5**	**-1.2**	
	SNR=1.0							
VIVF	**Saint-Julien-l**	**3.50**	**215**	*e*Pg	**Pg**	**21 37 45.7**	**-1.0**	
	SNR=1.0							
VIVF				*e*Sn	**Sn**	**21 38 11.5**	**-3.4**	
VIVF				*e*Sg	**Sg**	**21 38 29.6**	**-2.5**	
	comp=N,33nm,0.2s,SNR=1.0							
CLF	**Chambon-Foret**	**3.52**	**276**		**Pn**	**21 37 34.3**	**+0.4**	
CGRP	**Cima Grappa**	**3.52**	**121**	P	**Pn**	**21 37 37.0**	**+2.8**	
CGRP				AML	AML			
	comp=E,90µm,1.3s							
CGRP				AML	AML			
	comp=N,124µm,1.2s							
LESA	**Schwarzleotal**	**3.54**	**94**	*i* Pn	**Pn**	**21 37 36.7**	**+2.4**	
	comp=N,2.5nm,0.3s							
LESA				*i* Sn	**Sn**	**21 38 14.4**	**-1.6**	
	comp=N,2.3nm,0.1s							
LESA				*e*Sg	**Sg**	**21 38 32.4**	**-0.9**	
	comp=N,11nm,0.3s							
ABTA	**Abfaltersbach**	**3.58**	**105**	*i* Pn	**Pn**	**21 37 37.8**	**+2.9**	
	comp=N,0.5nm,0.1s							
ABTA				*i* Sn	**Sn**	**21 38 19.0**	**+2.0**	
	comp=N,3.9nm,0.2s							
ABTA				*i* Sg	**Sg**	**21 38 34.2**	**-0.4**	
	comp=N,17nm,0.4s							
RJOB	**Jochberg**	**3.59**	**89**	*e*Pn	**Pn**	**21 37 37.1**	**+2.1**	
	SNR=13							
RJOB				*e*Sg	**Sg**	**21 38 35.8**	**+0.8**	
VARN	**Col Varnada, M**	**3.64**	**117**	P	**Pn**	**21 37 38.5**	**+2.8**	
VARN				AML	AML			
	comp=E,154µm,0.7s							
VARN				AML	AML			
	comp=N,121µm,0.4s							
VARN				AML	AML			
	comp=N,121µm,0.4s							
VARN				AML	AML			
	comp=N,114µm,0.4s							
ROTZ	**Rotzenmuhle**	**3.72**	**56**	*e*Pn	**Pn**	**21 37 36.4**	**-0.3**	
	SNR=8.4							
ROTZ				*e*Pg	**Pg**	**21 37 50.2**	**-0.6**	
	SNR=8.4							
MSSA	**Maissana**	**3.73**	**157**	Pn	**Pn**	**21 37 39.4**	**+2.4**	
MSSA				IAML		21 38 22.1		
	comp=N,18nm,2.5s							
MSSA	**Maissana**	**3.73**	**157**	P	**Pn**	**21 37 40.0**	**+3.0**	
TEOL	**Teolo**	**3.77**	**128**		**Pn**	**21 37 38.3**	**+1.0**	
TEOL				IAML		21 38 49.5		
	comp=E,48nm,0.8s							
TEOL				IAML		21 38 52.0		
	comp=N,47nm,0.8s							
MANZ	**Manzenberg**	**3.78**	**52**	*e*Pn	**Pn**	**21 37 36.3**	**-1.3**	
	SNR=2.7							
MANZ				*e*Pg	**Pg**	**21 37 52.0**	**-0.1**	
	SNR=2.7							
WET	**Wettzell**	**3.85**	**67**	*e*Pn	**Pn**	**21 37 38.4**	**-0.2**	
	SNR=6.1							
WET				*e*Pg	**Pg**	**21 37 53.1**	**-0.4**	
	SNR=6.1							
WET				*e*Sn	**Sn**	**21 38 21.7**	**-1.9**	
	SNR=2.4							
WET				*e*Sg	**Sg**	**21 38 41.3**	**-2.1**	
LBL	**Lubilhac**	**3.87**	**231**	Pn	**Pn**	**21 37 38.0**	**-0.8**	
TCF	**Toulx Ste Croi**	**3.89**	**250**	*e*Pn	**Pn**	**21 37 39.2**	**+0.1**	
	SNR=1.0							
TCF	**Toulx Ste Croi**	**3.89**	**250**	*e*Pg	**Pg**	**21 37 53.1**	**-1.2**	
TCF				*e*Sn	**Sn**	**21 38 21.4**	**-3.2**	
	comp=N,22nm,0.2s,SNR=1.0							
TCF				*e*Sg	**Sg**	**21 38 42.5**	**-2.2**	
	comp=N,34nm,0.4s							
SBF	**Sospel**	**3.90**	**180**	*e*Pn	**Pn**	**21 37 39.7**	**+0.4**	
	SNR=1.0							
SBF	**Sospel**	**3.90**	**180**	*e*Pg	**Pg**	**21 37 54.2**	**-0.3**	
	SNR=1.0							
SBF				*e*Sn	**Sn**	**21 38 23.4**	**-1.6**	
SBF				*e*Sg	**Sg**	**21 38 45.8**	**+0.7**	
	comp=N,25nm,0.4s,SNR=1.0							
MOX	**Moxa**	**3.96**	**42**	*e*Pn	**Pn**	**21 37 39.3**	**-0.7**	
	SNR=3.0							
MOX				*e*Pg	**Pg**	**21 37 55.2**	**-0.4**	
	SNR=3.0							
MOX				*e*Sg	**Sg**	**21 38 45.2**	**-1.6**	
VERF	**Verneugheol**	**3.98**	**241**	Pn	**Pn**	**21 37 39.8**	**-0.5**	
SMRF	**Simiane la Rot**	**4.02**	**200**	*e*Pn	**Pn**	**21 37 41.7**	**+0.8**	
	SNR=1.0							
SMRF	**Simiane la Rot**	**4.02**	**200**	*e*Pg	**Pg**	**21 37 57.7**	**+1.1**	
	SNR=1.0							
SMRF				*e*Sn	**Sn**	**21 38 26.2**	**-1.5**	
	comp=N,6.8nm,0.4s,SNR=1.0							
KBA	**Koelnbreinsper**	**4.04**	**98**	*i* Sn	**Sn**	**21 38 30.3**	**+1.7**	
	comp=N,7.3nm,0.2s							
KBA				*i* Sg	**Sg**	**21 38 49.5**	**0.0**	
	comp=N,12nm,0.3s							
NKC	**Novy Kostel**	**4.10**	**51**	*e*PG	**Pg**	**21 37 58.0**	**-0.2**	
FRNF	**Fournols**	**4.14**	**237**	Pn	**Pn**	**21 37 42.0**	**-0.5**	
FRNF				Pg	**Pg**	**21 37 59.3**	**+0.3**	
FRNF				Sn	**Sn**	**21 38 29.4**	**-1.3**	
BIOA	**Bad Ischl, Aus**	**4.16**	**89**	*i* Pn	**Pn**	**21 37 44.7**	**+1.9**	
	comp=N,1.6nm,0.3s							
BIOA				*e*Pg	**Pg**	**21 38 00.1**	**+0.6**	
	comp=N,5.1nm,0.2s							
BIOA				*i* Sn	**Sn**	**21 38 29.9**	**-1.4**	
	comp=N,7.6nm,0.3s							
BIOA				*e*Sg	**Sg**	**21 38 53.5**	**+0.2**	
	comp=N,18nm,0.3s							
ZCCA	**Zocca**	**4.20**	**143**	Pn	**Pn**	**21 37 44.4**	**+1.0**	
ZCCA				IAML		21 38 57.2		
	comp=N,28nm,2.8s							
ZCCA				IAML		21 39 17.0		
	comp=E,25nm,3.5s							
KHC	**Kasperske Hory**	**4.29**	**69**	Pn	**Pn**	**21 37 43.9**	**-0.7**	
KHC				IAML		21 39 07.9		
	comp=E,20nm,0.7s							
KHC	**Kasperske Hory**	**4.29**	**69**	*e*PN	**Pn**	**21 37 44.5**	**0.0**	
KHC				*e*PG	**Pg**	**21 38 01.0**	**-0.8**	
KHC				*e*SN	**Sn**	**21 38 31.0**	**-3.3**	
KHC				*e*SG	**Sg**	**21 38 54.9**	**-2.4**	
	comp=E,19nm,0.3s							
GEC2	**GERESS Array S**	**4.29**	**73**		**Pn**	**21 37 44.7**	**-0.1**	
GEC2				IAML		21 38 59.5		
	comp=E,20nm,0.6s							
GEC2	**GERESS Array S**	**4.29**	**73**	*e*Pn	**Pn**	**21 37 45.0**	**+0.3**	
	SNR=4.9							
GEC2				*e*Pg	**Pg**	**21 38 00.9**	**-1.1**	
	SNR=4.9							
GERES	**GERESS Array B**	**4.29**	**73**	Pn	**Pn**	**21 37 43.7**	**-1.0**	
MYKA	**Terra Mystica**	**4.36**	**103**	*i* Sn	**Sn**	**21 38 37.3**	**+1.2**	
	comp=E,1.4nm,0.2s							
MYKA				*e*Sg	**Sg**	**21 39 00.6**	**+1.1**	
	comp=E,3.3nm,0.3s							
POPM	**Popiglio**	**4.37**	**147**	P	**Pn**	**21 37 48.4**	**+2.7**	
LASF	**Ste Croix**	**4.47**	**216**	*e*Pn	**Pn**	**21 37 46.2**	**-0.9**	
	SNR=1.0							
LASF				*e*Sn	**Sn**	**21 38 35.6**	**-3.3**	
	SNR=1.0							
LASF				*e*Sg	**Sg**	**21 38 59.8**	**-3.4**	
	comp=E,32nm,0.4s,SNR=1.0							
LMR	**La Mourre**	**4.49**	**189**	*e*Pn	**Pn**	**21 37 47.7**	**+0.5**	
	SNR=1.0							
LMR				*e*Sn	**Sn**	**21 38 36.0**	**-3.2**	
	comp=E,2.1nm,0.2s							
LMR				*e*Sg	**Sg**	**21 39 00.3**	**-3.4**	
	comp=E,7.5nm,0.5s,SNR=1.0							
PII	**Pisa**	**4.57**	**151**	P	**Pn**	**21 37 50.1**	**+1.6**	
PII				AML	AML			
	comp=E,43µm,1.6s							
PII				AML	AML			
	comp=N,34µm,0.9s							
MOA	**Molln**	**4.58**	**86**	*i* Pn	**Pn**	**21 37 49.9**	**+1.4**	
	comp=N,0.7nm,0.2s							
MOA				*e*Pg	**Pg**	**21 38 07.3**	**0.0**	
	comp=N,1.8nm,0.2s							
MOA				*e*Sn	**Sn**	**21 38 38.8**	**-2.8**	
	comp=N,2.1nm,0.1s							
MOA				*e*Sg	**Sg**	**21 39 05.5**	**-1.2**	
	comp=N,10.0nm,0.2s							
CKRC	**Cesky Krumlov**	**4.68**	**74**	*e*SG	**Sg**	**21 39 06.6**	**-3.4**	
CAF	**Calviac**	**4.70**	**235**	*e*Pn	**Pn**	**21 37 49.9**	**-0.3**	
	SNR=1.0							
CAF	**Calviac**	**4.70**	**235**	*e*Pg	**Pg**	**21 38 07.9**	**-1.8**	
	SNR=1.0							
CAF				*e*Sn	**Sn**	**21 38 40.9**	**-3.7**	
	comp=N,3.2nm,0.2s,SNR=1.0							
CAF				*e*Sg	**Sg**	**21 39 07.8**	**-2.8**	
ZVC	**Zvikov**	**4.76**	**67**	*e*SG	**Sg**	**21 39 09.0**	**-3.5**	
	comp=N,9.0nm,0.4s							
RJF	**Les Rejaudoux**	**4.79**	**241**	*e*Pn	**Pn**	**21 37 51.1**	**-0.4**	
	SNR=1.0							
RJF	**Les Rejaudoux**	**4.79**	**241**	*e*Pg	**Pg**	**21 38 09.4**	**-2.1**	
	SNR=1.0							
RJF

GRR	**Gorron**	**5.62**	**279**	*e*Pn		**Pn**	**21 38 02.5**	**-0.3**
	SNR=1.0							
GRR				*e*Sn		**Sn**	**21 39 01.2**	**-5.9**
	comp=Z,6.6nm,0.2s,SNR=1.0							
GRR				*e*Sg		**Sg**	**21 39 36.8**	**-3.2**
	comp=Z,13nm,0.2s							
CONA	**Conrad Observa**	**5.65**	**85**	*i* Pn		**Pn**	**21 38 05.2**	**+1.9**
	comp=Z,0.5nm,0.1s							
CONA				*e*Pg		**Pg**	**21 38 28.2**	**+0.3**
	comp=Z,1.6nm,0.2s							
CONA				*i* Sn		**Sn**	**21 39 04.6**	**-3.4**
	comp=Z,2.4nm,0.2s							
CONA				*e*Sg		**Sg**	**21 39 40.1**	**-0.8**
	comp=Z,10nm,0.4s							
MTLF	**Montolieu**	**5.76**	**222**	*e*Pn		**Pn**	**21 38 04.4**	**-0.4**
	SNR=1.0							
MTLF	**Montolieu**	**5.76**	**222**	*e*Pg		**Pg**	**21 38 27.2**	**-2.8**
MTLF				*e*Sn		**Sn**	**21 39 06.5**	**-4.2**
	comp=Z,4.3nm,0.4s,SNR=1.0							
MTLF				*e*Sg		**Sg**	**21 39 40.1**	**-4.5**
	comp=Z,3.6nm,0.3s							
RONA	**Rosalia, Austr**	**5.95**	**87**	*e*Sg		**Sg**	**21 39 49.0**	**-1.7**
	comp=Z,7.0nm,0.4s							
KRUC	**Moravsky**	**6.08**	**74**	*e*PN		**Pn**	**21 38 09.9**	**+0.8**
KRUC				*e*PG		**Pg**	**21 38 33.1**	**-3.0**
KRUC				*e*SG		**Sg**	**21 39 50.9**	**-3.8**
UPC	**Upice**	**6.24**	**61**	*e*PG		**Pg**	**21 38 36.5**	**-2.6**
UPC				*e*SG		**Sg**	**21 39 56.4**	**-3.4**
VRAC	**Vranov**	**6.25**	**72**	*e*PN		**Pn**	**21 38 13.2**	**+1.7**
VRAC				*e*PG		**Pg**	**21 38 35.9**	**-3.4**
VRAC				*e*SG		**Sg**	**21 39 56.1**	**-4.1**
ZST	**Bratislava**	**6.48**	**83**	*e*SG		**Sg**	**21 40 06.7**	**-0.8**
MODS	**Modra-Piesok**	**6.60**	**81**	*e*SG		**Sg**	**21 40 10.5**	**-0.9**
SGMF	**Saint Gilles**	**6.75**	**278**	*e*Pn		**Pn**	**21 38 18.3**	**0.0**
	SNR=1.0							
SGMF				*e*Sn		**Sn**	**21 39 27.8**	**-7.1**
	comp=Z,3.6nm,0.2s,SNR=1.0							
SGMF				*e*Sg		**Sg**	**21 40 11.0**	**-5.2**
	comp=Z,7.3nm,0.4s							
JAVC	**Velka Javorina**	**6.89**	**77**	*e*SG		**Sg**	**21 40 24.1**	**+3.4**
EPF	**Esparros**	**6.90**	**229**	*e*Pn		**Pn**	**21 38 19.4**	**-1.1**
	SNR=1.0							
EPF				*e*Sg		**Sg**	**21 40 15.6**	**-5.5**
	comp=Z,2.6nm,0.3s,SNR=1.0							
MORC	**Moravsky Berou**	**6.95**	**69**	*e*SG		**Sg**	**21 40 21.4**	**-1.3**
QUIF	**Quistinic**	**7.16**	**275**	*e*Pn		**Pn**	**21 38 23.3**	**-0.7**
	SNR=1.0							
QUIF				*e*Sn		**Sn**	**21 39 37.1**	**-8.0**
	comp=Z,6.6nm,0.4s,SNR=1.0							
QUIF				*e*Sg		**Sg**	**21 40 24.0**	**-5.4**
	comp=Z,22nm,0.5s							
ROSF	**Rostrenen**	**7.23**	**278**	*e*Pn		**Pn**	**21 38 26.2**	**+1.3**
ROSF				*e*Sn		**Sn**	**21 39 39.0**	**-7.7**
	comp=Z,3.7nm,0.3s							
ROSF				*e*Sg		**Sg**	**21 40 28.6**	**-2.9**
	comp=Z,16nm,0.4s							
SGRT	**San Giovanni R**	**8.41**	**133**	Pn		**Pn**	**21 38 40.5**	**-0.7**

*IDC **04** 21:38:23.3±1.7, 19°53N×155°31W, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=44.6km s-min=27.1km az=164.0*
*HVO **04** 21:38:23.9±0.9, 19°34N±0°02×155°02W±0°02, h1km±8km, ML4.4/46, ML4.4/48(NEIC), Error ellipse: s-maj=3.7km s-min=2.2km az=122.0*
*NEIC **04** 21:38:24.4±0.8, 19°36N±0°02×155°01W±0°02, h5km±1km, Error ellipse: s-maj=4.6km s-min=3.1km az=315.0*
ISC 04 21:38:24.6±0.7, 19°44N±0°06×155°08W±0°03, h13km±4km, n54, σ1908/57, mb3.8/8, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPOC	**North of Pu'u**	**0.05**	**217**		**Pg**	**21 38 26.8**	**-0.3**
NPOC				Sg	**Sg**	**21 38 28.7**	**-0.2**
NPOC				IAML		21 38 29.0	
	comp=E,174μm,0.6s						
NPOC				IAML		21 38 29.1	
	comp=N,226μm,0.4s						
JCUZ	**Jacuzzi**	**0.06**	**206**	Pg	**Pg**	**21 38 26.6**	**-0.6**
JCUZ				Sg	**Sg**	**21 38 28.3**	**-0.7**
STCH	**Steam Cracks**	**0.07**	**223**	Pg	**Pg**	**21 38 27.0**	**-0.3**
STCH				Sg	**Sg**	**21 38 28.8**	**-0.4**
KNHH	**Kane Nui o Ham**	**0.11**	**238**		**Pg**	**21 38 27.6**	**-0.1**
PUH	**Pauahi**	**0.15**	**245**	Pg	**Pg**	**21 38 28.2**	**-0.1**
HATHI	**Halema'uma'u T**	**0.18**	**266**		**Pg**	**21 38 29.1**	**+0.3**
HATHI				Sg	**Sg**	**21 38 32.5**	**+1.0**
HATHI				IAML		21 38 35.8	
	comp=E,57μm,0.3s						
HATHI				IAML		21 38 36.0	
	comp=N,68μm,0.2s						
BYL	**Byron's Ledge**	**0.18**	**262**	Pg	**Pg**	**21 38 28.8**	**+0.1**
BYL				Sg	**Sg**	**21 38 32.6**	**+1.0**
BYL				IAML		21 38 33.8	
	comp=N,65μm,0.2s						
BYL				IAML		21 38 34.2	
	comp=E,42μm,0.4s						
PHO	**Puu Honuaula**	**0.18**	**75**		**Pg**	**21 38 28.3**	**-0.3**
SBLHI	**Steaming Bluff**	**0.18**	**267**		**Pg**	**21 38 29.1**	**+0.3**
SBLHI				IAML		21 38 34.1	
	comp=N,64μm,0.3s						
SBLHI	**Steaming Bluff**	**0.18**	**267**		**Sb**	**21 38 33.4**	**-0.1**
KKO	**Keanakako`i**	**0.18**	**258**		**Pg**	**21 38 29.1**	**+0.2**
KKO				Sg	**Sb**	**21 38 33.1**	**-0.5**
KKO				IAML		21 38 34.1	
	comp=N,46μm,0.6s						
UWB	**Uwekahuna B**	**0.19**	**267**		**Pg**	**21 38 29.3**	**+0.3**
RIM	**Rim**	**0.19**	**258**		**Pg**	**21 38 29.1**	**+0.2**
RIM				Sg	**Sg**	**21 38 32.7**	**+0.7**
RIM				IAML		21 38 35.0	
	comp=N,60μm,0.5s						
RIM				IAML		21 38 35.7	
	comp=E,46μm,0.5s						
RSD	**Rainshed**	**0.19**	**278**		**Pg**	**21 38 29.7**	**+0.7**
RSD					**Sb**	**21 38 33.6**	**-0.2**
RSD				IAML		21 38 35.6	
	comp=N,65μm,0.3s						
NPH	**North Pit**	**0.20**	**263**		**Pg**	**21 38 29.2**	**+0.2**
OBL	**Observatory Le**	**0.20**	**265**		**Pg**	**21 38 29.4**	**+0.4**
OBL					**Sb**	**21 38 34.3**	**+0.4**
OBL	**Observatory Le**	**0.20**	**265**	IAML		21 38 36.7	
	comp=E,183μm,0.5s						
OBL				IAML		21 38 37.0	
	comp=N,108μm,0.5s						
UWE	**Uwekahuna**	**0.21**	**266**		**Pg**	**21 38 29.9**	**+0.7**
UWE				IAML		21 38 36.6	
	comp=N,76μm,0.4s						
UWE				IAML		21 38 37.5	
	comp=E,62μm,0.5s						
SDHHI	**Sand Hill**	**0.21**	**257**		**Pg**	**21 38 29.5**	**+0.2**
SDHHI				IAML		21 38 36.1	
	comp=E,60μm,0.5s						
SDHHI				IAML		21 38 36.7	
	comp=N,67μm,0.4s						
WRMHI	**West Rim**	**0.21**	**262**		**Pg**	**21 38 29.7**	**+0.4**
WRMHI				IAML		21 38 37.1	
	comp=E,92μm,0.4s						
WRMHI				IAML		21 38 37.8	
	comp=N,51μm,0.7s						
HLP	**Hilina Pali**	**0.26**	**238**		**Pg**	**21 38 30.1**	**0.0**
HLP				IAML		21 38 35.9	
	comp=E,57μm,0.2s						
HLP				IAML		21 38 36.0	
	comp=N,85μm,0.5s						
MLH	**Mauna Loa**	**0.30**	**281**		**Pb**	**21 38 31.9**	**-0.1**
MLH				Sg	**Sb**	**21 38 37.9**	**+0.9**
MLH				IAML		21 38 38.1	
	comp=E,63μm,0.9s						
MLH				IAML		21 38 38.3	
	comp=N,47μm,0.5s						
HTC	**Hot Caves**	**0.36**	**237**		**Pg**	**21 38 32.0**	**+0.1**
HMH	**Humu'ula Sheep**	**0.42**	**293**		**Sb**	**21 38 41.6**	**+1.2**
HMH	**Humu'ula Sheep**	**0.42**	**293**		**Pb**	**21 38 34.1**	**0.0**
HMH	**Humu'ula Sheep**	**0.42**	**293**	IAML		21 38 48.5	
	comp=N,114μm,0.3s						
HMH				IAML		21 38 48.5	
	comp=E,214μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.48**	**282**		**Pg**	**21 38 34.7**	**+0.5**
MWH	**Moku'aweowe**	**0.49**	**276**	Pg	**Pg**	**21 38 34.7**	**+0.2**
MWH					**Sg**	**21 38 42.4**	**+1.2**
MWH				IAML		21 38 53.5	
	comp=N,37μm,0.7s						
POHA	**Pohakuloa**	**0.54**	**307**		**Pg**	**21 38 35.5**	**+0.3**
POHA					**Sb**	**21 38 44.4**	**+0.6**
KHU	**Kahuku**	**0.54**	**250**	Pg	**Pg**	**21 38 34.5**	**-0.8**
KHU				IAML		21 38 45.2	
	comp=E,26μm,0.1s						
KHU				IAML		21 38 45.3	
	comp=N,28μm,0.6s						
ALEP	**Alea Permanent**	**0.55**	**281**		**Pg**	**21 38 35.6**	**+0.2**
ALEP					**Sb**	**21 38 45.2**	**+1.0**
HUH	**Hualalai**	**0.76**	**289**		**Pg**	**21 38 38.8**	**-0.6**
CPH	**Captain Cook**	**0.80**	**274**		**Pg**	**21 38 38.1**	**-1.9**
MHA	**Mahukona**	**1.08**	**314**		**Pb**	**21 38 43.0**	**-2.1**
MHA					**Sn**	**21 39 00.8**	**+0.5**
WMR	**Waimanalo Ridg**	**3.08**	**308**		**Pn**	**21 39 10.4**	**-2.7**
WMR					**Sn**	**21 39 46.3**	**-3.5**
OPA	**Opana**	**3.55**	**310**	Pn	**Pn**	**21 39 17.0**	**-2.4**
YBH	**Yreka Blue Hor**	**35.31**	**44**	P	**P**	**21 45 21.9**	**+2.2**
	comp=N,0.6nm,0.6s,baz=292,slow=11,SNR=2.0						
	comp=N,0.6nm,0.6s						
H11N3	**WAKE ISLAND Hy**	**35.77**	**277**	T	T	22 22 42.5	
	baz=84,slow=74,SNR=157						
H11N2	**WAKE ISLAND Hy**	**35.78**	**277**	T	T	22 22 30.2	
	baz=84,slow=74,SNR=166						
H11N1	**WAKE ISLAND Hy**	**35.79**	**277**	T	T	22 22 30.7	
	baz=84,slow=74,SNR=158						
H11S2	**WAKE ISLAND Hy**	**36.11**	**275**	T	T	22 22 54.2	
	baz=83,slow=75,SNR=22						
H11S1	**WAKE ISLAND Hy**	**36.11**	**275**	T	T	22 22 54.5	
	baz=83,slow=75,SNR=22						
H11S3	**WAKE ISLAND Hy**	**36.13**	**275**	T	T	22 22 55.5	
	baz=83,slow=75,SNR=31						
NVAR	**Mina Array Bea**	**37.02**	**51**	P	**P**	**21 45 36.2**	**+1.8**
	comp=N,0.2nm,0.3s,baz=232,slow=4.2,SNR=2.7						
	comp=N,0.2nm,0.3s						
H02S1	**DAWSON INLET T**	**37.97**	**22**	T	T	22 25 46.9	
	SNR=111						
PDAR	**Pinedale Array**	**44.70**	**48**	P	**P**	**21 46 37.5**	**-0.3**
	comp=N,1.2nm,1.0s,baz=258,slow=12,SNR=3.5						
	comp=N,1.2nm,1.0s						
ILAR	**Eielson Array**	**45.64**	**5**	P	**P**	**21 46 45.5**	**+0.9**
	comp=N,1.1nm,0.6s,baz=195,slow=7.5,SNR=7.6						
	comp=N,1.1nm,0.6s						
TXAR	**Lajitas Array**	**47.53**	**68**	P	**P**	**21 47 01.8**	**+1.7**
	comp=N,1.1nm,0.8s,baz=250,slow=10,SNR=4.5						
	comp=N,1.1nm,0.8s						
PETK	**Petropavlovsk-**	**49.44**	**324**	P	**P**	**21 47 12.5**	**-1.8**
	comp=N,16nm,0.4s,baz=119,slow=17,SNR=124						
YKA	**Yellowknife Ar**	**51.22**	**23**	P	**P**	**21 47 28.4**	**+0.7**
	comp=N,1.2nm,0.8s,baz=236,slow=7.3,SNR=6.4						
	comp=N,1.2nm,0.8s						
ASAR	**Alice Springs**	**81.41**	**241**	P	**P**	**21 50 42.3**	**+0.5**
	comp=N,0.5nm,0.9s,baz=61,slow=7.6,SNR=2.7						
	comp=N,0.5nm,0.9s						
H03N2	**Juan Fernandez**	**89.57**	**126**	T	T	23 30 16.1	
	baz=298,slow=76,SNR=25						
H03N3	**Juan Fernandez**	**89.58**	**126**	T	T	23 30 16.0	
	baz=298,slow=76,SNR=41						
H03N1	**Juan Fernandez**	**89.58**	**126**	T	T	23 30 15.7	
	baz=298,slow=76,SNR=30						

*NEIC **04** 21:41:53.8±0.7, 19°27N±0°04×154°97W±0°02, h5km±2km, Error ellipse: s-maj=6.2km s-min=3.4km az=158.0*
HVO 04 21:41:53.6±1.0, 19°33N±0°03×154°98W±0°03, h0km±9km, ML3.7/43, ML3.7/50(NEIC), Error ellipse: s-maj=4.9km s-min=1.7km az=135.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.11**	**348**		**Pg**	**21 41 52.0**	**+1.3**
JOKA				Sg	**Sg**	**21 41 59.4**	**+2.2**
JCUZ	**Jacuzzi**	**0.13**	**295**		**Pg**	**21 41 57.1**	**+1.0**
JCUZ				Sg	**Sg**	**21 41 59.1**	**+1.3**
NPOC	**North of Pu'u**	**0.14**	**297**		**Pg**	**21 41 57.3**	**+1.0**
NPOC				Sg	**Sg**	**21 41 59.7**	**+1.6**
NPOC				IAML		21 42 00.1	
	comp=E,24μm,0.6s						
STCH	**Steam Cracks**	**0.15**	**292**		**Pg**	**21 41 57.4**	**+0.9**
STCH					**Sg**	**21 41 59.6**	**+1.2**
STCH				IAML		21 42 00.3	
	comp=E,21μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.18**	**286**		**Pg**	**21 41 58.1**	**+0.9**
PUH	**Pauahi**	**0.23**	**281**		**Pg**	**21 41 58.7**	**+0.7**
PUH				Sg	**Sg**	**21 42 02.5**	**+1.5**
BYL	**Byron's Ledge**	**0.28**	**287**		**Pg**	**21 41 59.5**	**+0.6**
BYL				IAML		21 42 07.3	
	comp=N,8μm,1.1s						
KKO	**Keanakako`i**	**0.28**	**284**		**Pg**	**21 41 59.7**	**+0.7**
KKO				Sg	**Sg**	**21 42 03.9**	**+1.3**
KKO				IAML		21 42 05.5	
	comp=E,9μm,0.5s						
KKO				IAML		21 42 07.7	
	comp=N,14μm,0.6s						
HATHI	**Halema'uma'u T**	**0.28**	**289**		**Pg**	**21 41 59.6**	**+0.6**
HATHI				Sg	**Sg**	**21 42 04.8**	**+2.1**
HATHI				IAML		21 42 06.6	
	comp=N,11μm,0.4s						
HATHI				IAML		21 42 07.1	
	comp=E,10μm,0.6s						
RIM	**Rim**	**0.28**	**283**		**Pg**	**21 41 59.8**	**+0.7**
RIM				Sg	**Sg**	**21 42 04.8**	**+1.9**
RIM				IAML		21 42 05.1	
	comp=E,14μm,0.5s						
RIM				IAML		21 42 07.0	
	comp=N,11μm,0.6s						
SBLHI	**Steaming Bluff**	**0.29**	**290**		**Pg**	**21 41 59.7**	**+0.5**
SBLHI				IAML		21 42 06.6	
	comp=E,7μm,0.7s						
NPH	**North Pit**	**0.30**	**286**		**Pg**	**21 42 00.1**	**+0.8**
UWB	**Uwekahuna B**	**0.30**	**289**		**Pg**	**21 41 60.0**	**+0.6**
OBL	**Observatory Le**	**0.30**	**287**		**Pg**	**21 42 00.4**	**+1.0**
SDHHI	**Sand Hill**	**0.30**	**281**		**Pg**	**21 42 00.3**	**+0.9**
SDHHI					**Sb**	**21 42 05.5**	**-2.1**
SDHHI				IAML		21 42 08.4	
	comp=E,10μm,0.4s						
UWE	**Uwekahuna**	**0.31**	**287**		**Pg**	**21 42 00.5**	**+0.9**
UWE				Sg	**Sg**	**21 42 05.5**	**+1.9**
UWE				IAML		21 42 06.1	
	comp=N,17μm,0.4s						
UWE				IAML		21 42 07.8	
	comp=E,18μm,0.4s						
HLP	**Hilina Pali**	**0.31**	**264**		**Pg**	**21 42 00.8**	**+1.2**
HLP				Sg	**Sb**	**21 42 06.0**	**-1.8**
HLP				IAML		21 42 06.3	
	comp=N,16μm,0.6s						
HLP				IAML		21 42 06.4	
	comp=E,15μm,0.3s						
RSD	**Rainshed**	**0.31**	**295**		**Pg**	**21 42 00.3**	**+0.7**
RSD				Sg	**Sg**	**21 42 05.2**	**+1.5**
RSD				IAML		21 42 06.1	
	comp=E,13μm,0.3s						
RSD				IAML		21 42 06.4	
	comp=N,14μm,0.4s						
WRMHI	**West Rim**	**0.31**	**284**		**Pg**	**21 42 00.5**	**+0.9**
WRMHI				IAML		21 42 06.2	
	comp=N,11μm,0.9s						
WRMHI				IAML		21 42 08.0	
	comp=E,13μm,0.5s						
HTC	**Hot Caves**	**0.41**	**257**		**Pg**	**21 42 02.4**	**+1.0**
MLH	**Mauna Loa**	**0.42**	**293**		**Pg**	**21 42 02.4**	**+0.7**
MLH	**Mauna Loa**	**0.42**	**293**		**Sg**	**21 42 08.8**	**+1.7**
MLH	**Mauna Loa**	**0.42**	**293**	IAML		21 42 09.4	
	comp=N,11μm,0.9s						
MLH				IAML		21 42 09.6	
	comp=E,8μm,0.5s						
HMH	**Humu'ula Sheep**	**0.55**	**300**		**Pg**	**21 42 04.5**	**+0.4**
MLOA	**Mauna Loa Obse**	**0.60**	**290**	Pg	**Pg**	**21 42 05.1**	**0.0**
MLOA					**Sg**	**21 42 13.4**	**+0.5**
MWH	**Moku'aweowe**	**0.60**	**285**		**Pg**	**21 42 05.2**	**0.0**
MWH					**Sb**	**21 42 15.1**	**-1.5**
MWH				IAML		21 42 22.8	
	comp=E,7μm,0.6s						
KHU	**Kahuku**	**0.60**	**262**		**Pg**	**21 42 05.0**	**-0.3**
KHU				IAML		21 42 19.9	
	comp=N,4μm,0.4s						
KHU				IAML		21 42 21.9	
	comp=E,5μm,0.9s						
POHA	**Pohakuloa**	**0.67**	**309**		**Pg**	**21 42 05.9**	**-0.6**
HUH	**Hualalai**	**0.88**	**294**		**Pg**	**21 42 09.3**	**-1.3**
HPAH	**Hawaii Prepara**	**0.97**	**316**	IAML		21 42 37.9	
	comp=E,2μm,0.7s						
HPAH				IAML		21 42 37.9	
	comp=N,2μm,0.7s						
MHA	**Mahukona**	**1.22**	**315**	Pg	**Pg**	**21 42 13.8**	**-3.3**
HON	**Honolulu**	**3.46**	**306**	Pn	**Pn**	**21 42 44.4**	**-4.4**
KEKH	**Kekaha**	**5.16**	**302**	Pn	**Pn**	**21 43 08.4**	**-3.7**

*NEIC **04** 21:43:54.9±1.2, 19°41N±0°02×155°06W±0°01, h5km±1km, Error ellipse: s-maj=4.5km s-min=2.6km az=154.0*
HVO 04 21:43:53.8±0.7, 19°33N±0°03×155°02W±0°02, h6km±5km, ML3.8/46, ML3.9/46(NEIC), Error ellipse: s-maj=5.5km s-min=2.0km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.09**	**304**		**Pg**	**21 43 56.4**	**+0.5**
JCUZ				Sg	**Sg**	**21 43 57.6**	**+0.3**
JCUZ				IAML		21 43 58.4	
	comp=E,46μm,0.4s						
JOKA	**Jonika Flow**	**0.10**	**8**		**Pg**	**21 43 56.3**	**+0.3**
NPOC	**North of Pu'u**	**0.10**	**306**		**Pg**	**21 43 56.5**	**+0.5**
NPOC				Sg	**Sg**	**21 43 57.4**	**-0.2**
NPOC				IAML		21 43 58.7	
	comp=E,49μm,0.3s						
NPOC				IAML		21 43 59.3	
	comp=N,52μm,0.4s						
STCH	**Steam Cracks**	**0.11**	**298**		**Pg**	**21 43 56.7**	**+0.5**
STCH				Sg	**Sg**	**21 43 58.5**	**+0.7**
KNHH	**Kane Nui o Ham**	**0.15**	**288**		**Pg**	**21 43 57.4**	**+0.5**
PUH	**Pauahi**	**0.19**	**283**		**Pg**	**21 43 57.9**	**+0.3**
PUH				Sg	**Sg**	**21 44 00.8**	**+0.7**
PHO	**Puu Honuaula**	**0.19**	**40**		**Pg**	**21 43 58.0**	**+0.3**
BYL	**Byron's Ledge**	**0.24**	**289**		**Pg**	**21 43 58.2**	**-0.3**
BYL				Sg	**Sg**	**21 44 02.5**	**+0.8**
BYL				IAML		21 44 03.7	
	comp=N,20μm,0.4s						
BYL				IAML		21 44 04.6	
	comp=E,22μm,0.3s						
KKO	**Keanakako`i**	**0.24**	**286**		**Pg**	**21 43 58.9**	**+0.3**
KKO				IAML		21 44 04.1	
	comp=N,18μm,0.6s						
HATHI	**Halema'uma'u T**	**0.24**	**292**		**Pg**	**21 43 58.2**	**-0.4**
HATHI				Sg	**Sg**	**21 44 02.2**	**+0.3**
HATHI				IAML		21 44 04.8	
	comp=E,21μm,0.3s						
HATHI				IAML		21 44 05.8	
	comp=N,20μm,0.6s						
RIM	**Rim**	**0.25**	**285**		**Pg**	**21 43 58.7**	**0.0**
RIM				Sg	**Sg**	**21 44 02.2**	**+0.3**
RIM				IAML		21 44 04.7	
	comp=N,17μm,0.4s						
RIM				IAML		21 44 04.7	
	comp=E,18μm,0.4s						
SBLHI	**Steaming Bluff**	**0.25**	**292**		**Pg**	**21 43 58.5**	**-0.3**
SBLHI				IAML		21 44 03.7	
	comp=E,17μm,0.6s						
NPH	**North Pit**	**0.26**	**288**		**Pg**	**21 43 58.9**	**0.0**
NPH					**Sg**	**21 44 03.3**	**+1.0**
NPH	**North Pit**	**0.26**	**288**	IAML		21 44 05.2	
	comp=E,4μm,0.7s						
NPH				IAML		21 44 07.4	
	comp=N,8μm,0.3s						
UWB	**Uwekahuna B**	**0.26**	**291**		**Pg**	**21 43 58.6**	**-0.4**
OBL	**Observatory Le**	**0.26**	**289**		**Pg**	**21 43 59.1**	**+0.1**
OBL	**Observatory Le**	**0.26**	**289**	IAML		21 44 05.4	
	comp=N,31μm,0.5s						
OBL				IAML		21 44 06.6	
	comp=E,52μm,0.5s						
SDHHI	**Sand Hill**	**0.27**	**282**		**Pg**	**21 43 59.1**	**+0.1**
SDHHI	**Sand Hill**	**0.27**	**282**	IAML		21 44 06.5	
	comp=N,19μm,0.3s						
SDHHI				IAML		21 44 06.7	
	comp=E,17μm,0.3s						
UWE	**Uwekahuna**	**0.27**	**289**		**Pg**	**21 43 59.1**	**0.0**
UWE					**Sg**	**21 44 04.4**	**+1.6**
UWE	**Uwekahuna**	**0.27**	**289**	IAML		21 44 05.8	
	comp=N,25μm,0.5s						
UWE				IAML		21 44 08.1	
	comp=E,23μm,0.5s						
HLP	**Hilina Pali**	**0.27**	**262**		**Pg**	**21 43 59.7**	**+0.5**
HLP	**Hilina Pali**	**0.27**	**262**	IAML		21 44 05.7	
	comp=E,17μm,0.2s						
HLP				IAML		21 44 06.0	
	comp=N,18μm,0.7s						
WRMHI	**West Rim**	**0.27**	**286**		**Pg**	**21 43 59.4**	**+0.2**
WRMHI	**West Rim**	**0.27**	**286**	IAML		21 44 05.5	
	comp=N,17μm,0.6s						
WRMHI				IAML		21 44 06.7	
	comp=E,22μm,0.4s						
RSD	**Rainshed**	**0.28**	**298**		**Pg**	**21 43 59.4**	**+0.2**
RSD					**Sg**	**21 44 04.4**	**+1.4**
RSD	**Rainshed**	**0.28**	**298**	IAML		21 44 04.5	
	comp=E,37μm,0.3s						
RSD				IAML		21 44 04.8	
	comp=N,35μm,0.3s						
HTC	**Hot Caves**	**0.37**	**255**		**Pg**	**21 44 01.8**	**+0.9**
MLH	**Mauna Loa**	**0.38**	**295**		**Pg**	**21 44 01.7**	**+0.4**
MLH					**Sg**	**21 44 07.7**	**+1.4**
MLH	**Mauna Loa**	**0.38**	**295**	IAML		21 44 08.0	
	comp=E,19μm,0.4s						
MLH				IAML		21 44 08.3	
	comp=N,20μm,0.7s						
HMH	**Humu'ula Sheep**	**0.51**	**302**		**Pg**	**21 44 03.8**	**0.0**
HPO	**Honuapo**	**0.56**	**244**		**Pg**	**21 44 04.1**	**-0.5**
MLOA	**Mauna Loa Obse**	**0.56**	**291**		**Pg**	**21 44 04.4**	**-0.3**
MLOA					**Sg**	**21 44 12.2**	**+0.1**
MLOA	**Mauna Loa Obse**	**0.56**	**291**	IAML		21 44 13.5	
	comp=E,23μm,0.5s						
MLOA				IAML		21 44 21.0	
	comp=N,14μm,0.2s						
MWH	**Moku'aweowe**	**0.56**	**286**		**Pg**	**21 44 04.4**	**-0.4**
KHU	**Kahuku**	**0.57**	**261**	IAML		21 44 14.9	
	comp=N,8μm,0.6s						
KHU				IAML		21 44 25.1	
	comp=E,7μm,0.5s						
ALEP	**Alea Permanent**	**0.62**	**290**		**Pg**	**21 44 05.0**	**-0.8**
POHA	**Pohakuloa**	**0.64**	**311**		**Pg**	**21 44 05.2**	**-1.0**
POHA					**Sg**	**21 44 14.5**	**-0.1**
HUH	**Hualalai**	**0.85**	**295**		**Pg**	**21 44 08.5**	**-1.6**
KKH	**Kailua Kona**	**1.00**	**289**		**Pg**	**21 44 09.9**	**-3.0**
MHA	**Mahukona**	**1.19**	**316**		**Pg**	**21 44 12.6**	**-4.0**
HLK	**Haleakala**	**1.83**	**321**	Pn	**Pn**	**21 44 23.2**	**-2.8**
KHLH	**Kahului Airpor**	**2.04**	**320**	Pn	**Pn**	**21 44 25.2**	**-3.5**

**IDC 04 21:47:42.1±9.5, 20°13S×172°09W, h

OPO	**Ambohidratompo**	**52.08**	**245**	LR	LR	22 20 24.6	
	comp=Z,70nm,18.6s,baz=158,slow=34						
ZALV	**Zalesovo Beam**	**52.77**	**352**	P	P	22 00 21.8	-0.1
	0.9nm,0.5s,baz=181,slow=6.5,SNR=6.1						
	0.9nm,0.5s						
BVAR	**Borovoye Array**	**55.28**	**341**	P	P	22 00 40.0	-0.2
	0.6nm,0.6s,baz=134,slow=8.5,SNR=4.2						
BVAR				LR	LR	22 28 07.9	
	comp=Z,574nm,21.5s,baz=50,slow=40						
	0.6nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.61**	**213**	T	T	23 08 56.7	
	baz=52,slow=75,SNR=638						
H04N1	**CROZET ISLANDS**	**61.62**	**213**	T	T	23 08 59.7	
	baz=52,slow=75,SNR=682						
H04N3	**CROZET ISLANDS**	**61.62**	**213**	T	T	23 08 56.0	
	baz=52,slow=75,SNR=630						
H04S1	**CROZET ISLANDS**	**61.96**	**213**	T	T	23 09 21.6	
	baz=51,slow=75,SNR=113						
H04S3	**CROZET ISLANDS**	**61.97**	**213**	T	T	23 09 20.1	
	baz=51,slow=75,SNR=6.6						
H04S2	**CROZET ISLANDS**	**61.98**	**213**	T	T	23 09 21.4	
	baz=51,slow=75,SNR=6.6						

*NEIC **04** 21:54:01.9±0.7, 19°.40N±0°.02×155°.00W±0°.03, h5km±1km, Error ellipse: s-maj=5.7km s-min=3.0km az=298.0*

HVO 04 21:54:02.9±0.6, 19°.38N±0°.02×155°.08W±0°.02, h7km±2km, ML3.5/44, ML3.5/46(NEIC), Error ellipse: s-maj=3.7km s-min=3.0km az=124.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.02**	**286**		Pg	21 54 04.7	+0.4
JCUZ				Sg	Sg	21 54 06.0	+0.8
JCUZ				IAML		21 54 06.0	
	comp=N,50μm,0.6s						
JCUZ				IAML		21 54 06.1	
	comp=E,53μm,0.4s						
NPOC	**North of Pu'u**	**0.04**	**297**		Pg	21 54 04.8	+0.5
NPOC				Sg	Sg	21 54 06.2	+0.8
STCH	**Steam Cracks**	**0.05**	**280**		Pg	21 54 04.9	+0.5
KNHH	**Kane Nui o Ham**	**0.09**	**271**		Pg	21 54 05.5	+0.4
PUH	**Pauahi**	**0.13**	**269**		Pg	21 54 06.1	+0.4
PUH				Sg	Sg	21 54 08.4	+0.7
BYL	**Byron's Ledge**	**0.18**	**281**		Pg	21 54 06.7	+0.2
BYL				Sg	Sg	21 54 09.7	+0.8
BYL				IAML		21 54 12.8	
	comp=E,8μm,0.4s						
HATHI	**Halema'uma'u T**	**0.18**	**285**		Pg	21 54 06.8	+0.2
HATHI				Sg	Sg	21 54 09.9	+0.9
HATHI				IAML		21 54 12.3	
	comp=E,8μm,0.4s						
HATHI				IAML		21 54 13.0	
	comp=N,9μm,0.2s						
KKO	**Keanakako`i**	**0.18**	**277**		Pg	21 54 06.8	+0.3
KKO				Sg	Sg	21 54 10.1	+1.0
KKO				IAML		21 54 10.3	
	comp=N,8μm,0.7s						
KKO				IAML		21 54 12.1	
	comp=E,8μm,0.5s						
RIM	**Rim**	**0.19**	**276**		Pg	21 54 07.0	+0.2
RIM				Sg	Sg	21 54 10.0	+0.7
RIM				IAML		21 54 10.4	
	comp=N,12μm,0.4s						
RIM				IAML		21 54 10.4	
	comp=E,8μm,0.3s						
SBLHI	**Steaming Bluff**	**0.19**	**285**		Pg	21 54 06.9	+0.2
SBLHI				Sg	Sg	21 54 09.8	+0.6
SBLHI				IAML		21 54 13.0	
	comp=N,7μm,0.3s						
SBLHI				IAML		21 54 13.3	
	comp=E,9μm,0.4s						
UWB	**Uwekahuna B**	**0.20**	**284**		Pg	21 54 07.0	+0.1
NPH	**North Pit**	**0.20**	**280**		Pg	21 54 07.1	+0.2
OBL	**Observatory Le**	**0.20**	**282**		Pg	21 54 07.2	+0.3
OBL				IAML		21 54 12.9	
	comp=N,16μm,0.4s						
OBL				IAML		21 54 13.7	
	comp=E,13μm,0.5s						
SDHHI	**Sand Hill**	**0.20**	**273**		Pg	21 54 07.2	+0.2
SDHHI				IAML		21 54 14.4	
	comp=N,11μm,0.6s						
RSD	**Rainshed**	**0.21**	**294**		Pg	21 54 07.5	+0.4
RSD				Sg	Sg	21 54 10.8	+0.9
RSD				IAML		21 54 11.1	
	comp=E,12μm,0.1s						
RSD				IAML		21 54 11.8	
	comp=N,10μm,0.2s						
UWE	**Uwekahuna**	**0.21**	**282**		Pg	21 54 07.3	+0.2
UWE				Sg	Sg	21 54 10.9	+1.0
UWE				IAML		21 54 14.6	
	comp=N,11μm,0.4s						
UWE				IAML		21 54 14.6	
	comp=E,13μm,0.5s						
WRMHI	**West Rim**	**0.21**	**278**		Pg	21 54 07.4	+0.2
HLP	**Hilina Pali**	**0.23**	**250**		Pg	21 54 07.9	+0.4
HLP				IAML		21 54 13.7	
	comp=E,9μm,0.1s						
HLP				IAML		21 54 13.7	
	comp=N,10μm,0.1s						
MLH	**Mauna Loa**	**0.31**	**292**		Pg	21 54 09.3	+0.2
MLH				IAML		21 54 17.4	
	comp=E,5μm,0.2s						
MLH				IAML		21 54 17.7	
	comp=N,7μm,0.3s						
HTC	**Hot Caves**	**0.33**	**245**		Pg	21 54 10.3	+0.9
HMH	**Humu'ula Sheep**	**0.44**	**300**		Pg	21 54 11.6	0.0
HMH					Sg	21 54 18.3	+0.8
MLOA	**Mauna Loa Obse**	**0.50**	**289**		Pg	21 54 12.4	-0.1
MLOA					Sg	21 54 19.6	+0.5
MWH	**Moku'aweowe**	**0.50**	**282**		Pg	21 54 12.7	0.0
MWH					Sg	21 54 19.8	+0.5
MWH				IAML		21 54 20.5	
	comp=E,5μm,0.8s						
KHU	**Kahuku**	**0.53**	**256**		Pg	21 54 12.7	-0.3
KHU					Sg	21 54 20.1	+0.1
KHU				IAML		21 54 21.2	
	comp=E,2μm,0.2s						
HPO	**Honuapo**	**0.53**	**238**		Pg	21 54 13.4	+0.2
ALEP	**Alea Permanent**	**0.56**	**287**		Pg	21 54 13.3	-0.5
ALEP					Sg	21 54 21.6	+0.4
POHA	**Pohakuloa**	**0.57**	**311**		Pg	21 54 13.5	-0.5
POHA					Sg	21 54 21.0	-0.5
POHA	**Pohakuloa**	**0.57**	**311**	IAML		21 54 21.6	
	comp=E,6μm,0.3s						
POHA				IAML		21 54 22.6	
	comp=E,6μm,0.4s						
HUH	**Hualalai**	**0.78**	**293**		Pg	21 54 16.6	-1.3
HPAH	**Hawaii Prepara**	**0.87**	**318**	Pg	Pg	21 54 16.1	-3.6
MHA	**Mahukona**	**1.12**	**316**	Pg	Pg	21 54 21.0	-3.4
HON	**Honolulu**	**3.36**	**306**	Pn	Pn	21 54 51.5	-4.3

*IDC **04** 22:01:59.6±0.9, 28°.07N×43°.73W, h0km, mb3.7/9, mbtmp3.7/9, Error ellipse: s-maj=31.3km s-min=22.8km az=128.0*

ISC 04 22:02:01.2±0.8, 28°.1N±0°.2×43°.7W±0°.2, h10km, n12, σ0s78/9, mb3.9/9, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**44.74**	**100**	P	**P**	**22 10 15.4**	**+0.3**
	0.3nm,0.6s,baz=305,slow=7.5,SNR=2.1						
	0.3nm,0.6s						
H10N2	**ASCENSION HYDR**	**45.50**	**137**	T	T	22 59 03.6	
	baz=322,slow=76,SNR=94						
H10N3	**ASCENSION HYDR**	**45.50**	**137**	T	T	22 59 03.7	
	baz=322,slow=76,SNR=69						
H10N1	**ASCENSION HYDR**	**45.52**	**137**	T	T	22 59 05.0	
	baz=322,slow=76,SNR=84						
GERES	**GERESS Array B**	**48.26**	**48**	P	**P**	**22 10 42.2**	**-0.2**
	0.7nm,0.7s,baz=264,slow=8.8,SNR=3.8						
	0.7nm,0.7s						
LPAZ	**La Paz**	**50.03**	**211**	P	**P**	**22 10 56.7**	**-0.1**
	1.2nm,0.5s,baz=359,slow=8.7,SNR=4.4						
	1.2nm,0.5s						
FINES	**FINESS Array B**	**56.14**	**33**	P	**P**	**22 11 40.6**	**-0.1**
	1.0nm,0.7s,baz=309,slow=8.8,SNR=2.1						
	1.0nm,0.7s						
YKA	**Yellowknife Ar**	**56.72**	**328**	P	**P**	**22 11 46.1**	**+1.3**
	0.3nm,0.8s,baz=88,slow=7.6,SNR=3.5						
	0.3nm,0.8s						
AKASG	**Malin Array Be**	**58.26**	**46**	P	**P**	**22 11 55.3**	**-0.5**
	0.4nm,0.4s,baz=269,slow=6.3,SNR=5.0						
	0.4nm,0.4s						
BRTR	**Keskin Array B**	**63.44**	**57**	P	**P**	**22 12 31.9**	**+0.5**
	0.8nm,0.9s,baz=265,slow=8.4,SNR=5.4						
	0.8nm,0.9s						
ILAR	**Eielson Array**	**70.34**	**334**	P	**P**	**22 13 13.7**	**-1.2**
	0.4nm,0.7s,baz=62,slow=4.9,SNR=5.0						
	0.4nm,0.7s						
PLCA	**Paso Flores**	**72.84**	**201**	P	**P**	**22 13 30.1**	**-0.1**
	1.2nm,0.7s,baz=35,slow=5.9,SNR=3.7						
	1.2nm,0.7s						

*IDC **04** 22:10:56.9±4.4, 2°.42N×95°.56E, h0km, mb4.0/6, mbtmp3.9/7, Error ellipse: s-maj=88.4km s-min=66.5km az=157.0*

*NEIC **04** 22:11:02.0±1.3, 2°.55N±0°.09×95°.8E±0°.1, h28km±8km, mb4.1/11, Error ellipse: s-maj=21.4km s-min=10.6km az=69.0*

ISC 04 22:11:00.9±1.0, 2°.5N±0°.1×95°.7E±0°.1, h25km, n35, σ0s75/24, mb4.1/12, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**2.20**	**123**	Pn	**Pn**	**22 11 35.8**	**-0.2**
LHMI	**Lhok Sumawe**	**2.95**	**24**		**Pn**	**22 11 45.6**	**-0.6**
KULM	**Kulim**	**5.62**	**61**	Pn	**Pn**	**22 12 22.2**	**-0.8**
IPM	**Ipoh**	**5.63**	**70**	Pn	**Pn**	**22 12 22.7**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.14**	**11**	Pn	**Pn**	**22 14 48.3**	**+1.9**
	1.2nm,0.6s,baz=198,slow=12,SNR=7.6						
MNCI	**Minicoy**	**23.28**	**285**	P	**P**	**22 16 07.0**	**+0.1**
H08S2	**Diego Garcia H**	**25.29**	**246**	T	T	22 42 44.2	
	baz=67,slow=76,SNR=49						
H08S3	**Diego Garcia H**	**25.29**	**246**	T	T	22 42 39.8	
	baz=67,slow=76,SNR=81						
H08S1	**Diego Carcia H**	**25.31**	**246**	T	T	22 42 43.1	
	baz=67,slow=76,SNR=57						
GTA	**Gaotai**	**36.90**	**5**	*e*P	**P**	**22 18 07.5**	**-0.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
H01W3	**Cape Leeuwin H**	**41.02**	**157**	T	T	23 02 14.3	
	baz=332,slow=76						
H01W2	**Cape Leeuwin H**	**41.04**	**157**	T	T	23 02 15.1	
	baz=332,slow=76						
H01W1	**Cape Leeuwin H**	**41.04**	**157**	T	T	23 02 16.4	
	baz=332,slow=76						
TARG	**Taragay, Kyrgy**	**42.23**	**340**	P	**P**	**22 18 53.2**	**+0.6**
BOOM	**Boomskoye usch**	**43.55**	**339**	P	**P**	**22 19 04.0**	**+0.9**
BOOM				IAmb	IAmb	22 19 05.6	
	comp=Z,3.4nm,1.4s						
BTK	**Batken**	**43.66**	**332**	P	**P**	**22 19 02.9**	**-0.9**
BTK				IAmb	IAmb	22 19 06.7	
	comp=Z,7.7nm,1.3s						
ARSB	**Arslanbob**	**43.72**	**335**	P	**P**	**22 19 05.4**	**+1.1**
MK31	**Makanchi Array**	**45.62**	**347**	P	**P**	**22 19 19.7**	**+0.4**
MK31				IAmb	IAmb	22 19 20.4	
	comp=Z,1.5nm,0.7s						
MKAR	**Makanchi Array**	**45.62**	**347**	P	**P**	**22 19 19.4**	**+0.1**
MKAR	**Makanchi Array**	**45.62**	**347**	P	**P**	**22 19 19.8**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=164,slow=7.7,SNR=24						
	comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	**45.71**	**347**	P	**P**	**22 19 20.2**	**+0.3**
MAKZ				IAmb	IAmb	22 19 21.4	
	comp=Z,1.6nm,0.6s						
SONM	**Songino Array**	**46.07**	**10**	P	**P**	**22 19 23.1**	**+0.1**
SONM				IAmb	IAmb	22 19 31.7	
	comp=Z,1.6nm,0.9s						
SONM	**Songino Array**	**46.07**	**10**	P	**P**	**22 19 22.6**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=192,slow=8.8,SNR=10.0						
SONM				PcP	**PcP**	**22 20 60.0**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=204,slow=3.2,SNR=2.7						
	comp=Z,1.5nm,0.7s						
GEYT	**Alibeck**	**49.27**	**320**	P	**P**	**22 19 46.5**	**-1.3**
	comp=Z,0.8nm,0.5s,baz=106,slow=9.4,SNR=2.6						
	comp=Z,0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**50.09**	**346**	P	**P**	**22 19 54.3**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=163,slow=7.4,SNR=11						
	comp=Z,1.1nm,0.7s						
KURK	**Kurchatov**	**50.15**	**346**	P	**P**	**22 19 54.3**	**+0.1**
KURK				IAmb	IAmb	22 19 55.5	
	comp=Z,3.2nm,1.4s						
ZALV	**Zalesovo Beam**	**52.04**	**352**	P	**P**	**22 20 08.7**	**+0.3**
	comp=Z,1.4nm,0.5s,baz=165,slow=6.0,SNR=9.2						
	comp=Z,1.4nm,0.5s						
BVAR	**Borovoye Array**	**54.53**	**341**	P	**P**	**22 20 27.0**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=153,slow=9.7,SNR=6.1						
	comp=Z,1.2nm,0.6s						
H04N2	**CROZET ISLANDS**	**62.06**	**213**	T	T	23 28 48.5	
	baz=52,slow=75,SNR=756						
H04N1	**CROZET ISLANDS**	**62.07**	**213**	T	T	23 28 49.0	
	baz=52,slow=75,SNR=708						
H04N3	**CROZET ISLANDS**	**62.08**	**213**	T	T	23 28 48.2	
	baz=52,slow=75,SNR=632						
H04S1	**CROZET ISLANDS**	**62.42**	**212**	T	T	23 29 10.1	
	baz=52,slow=76,SNR=25						
H04S3	**CROZET ISLANDS**	**62.43**	**212**	T	T	23 29 09.5	
	baz=52,slow=76,SNR=40						
H04S2	**CROZET ISLANDS**	**62.44**	**212**	T	T	23 29 09.9	
	baz=52,slow=76,SNR=22						
K13K	**Kusilvak Mount**	**92.31**	**28**	P	**P**	**22 24 08.7**	**-0.2**

*TIR **04** 22:11:57.8, 40°.86N×21°.21E, h0km±1km, Md3.1, Ml2.7*
*SKO **04** 22:11:59.2, 40°.86N×21°.34E, h15km, ML2.5*
*THE **04** 22:11:59.0, 40°.88N×21°.25E, h8km, ML2.4/15, Error ellipse: s-maj=0.8km s-min=0.3km az=146.0*
*BEO **04** 22:11:59.4±0.6, 40°.80N×21°.32E, h9km±2km, ML2.3/10*
*ATH **04** 22:12:01.4, 40°.78N×21°.47E, h6km±1km, ML2.5/5, Error ellipse: s-maj=2.9km s-min=1.0km az=328.0*

ISC 04 22:11:59.6±0.8, 40°.85N±0°.02×21°.31E±0°.02, h12km±4km, n94, σ0s83/139, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FNA	**Florina**	**0.09**	**143**	P	**Pg**	**22 12 01.2**	**-1.1**
	baz=120						
FNA				S	**Sg**	**22 12 04.5**	**+0.3**
	baz=120						
FNA				AMP			
	comp=N,86nm,0.4s,baz=120						
FNA	**Florina**	**0.09**	**143**	P	**Pg**	**22 12 02.3**	**+0.1**
FNA				S	**Sg**	**22 12 04.3**	**+0.1**
	comp=N,49μm,0.3s						
FNA	**Florina**	**0.09**	**143**	*i* Pg	**Pg**	**22 12 02.4**	**+0.1**
FNA				*i* Sg	**Sg**	**22 12 04.7**	**+0.4**
FNA	**Florina**	**0.09**	**143**	P	**Pg**	**22 12 02.4**	**+0.1**
FNA				S	**Sg**	**22 12 04.4**	**+0.1**
FNA				AML	AML	22 12 04.9	
	comp=E,92243μm,0.4s						
FNA				AML	AML	22 12 05.1	
OHR	**Ohrid**	**0.47**	**304**	*e*Pg	**Pg**	**22 12 08.6**	**-0.2**
OHR				*e*Sg	**Sb**	**22 12 16.5**	**-0.2**
OHR	**Ohrid**	**0.47**	**304**	*i* Pg	**Pg**	**22 12 08.9**	**+0.1**
OHR				*i* Sg	**Sb**	**22 12 16.7**	**+0.1**
OHR				*e*Lg	Lg	22 12 16.8	
	comp=N,624nm,0.6s						
OHR				*e*Lg	Lg	22 12 17.2	
	comp=E,553nm,0.7s						
NEST	**Nestorio**	**0.48**	**205**	P	**Pg**	**22 12 08.3**	**-0.7**
NEST				S	**Sg**	**22 12 15.6**	**+0.2**
	comp=E,2μm,0.4s						
PENT	**Pentalofos**	**0.67**	**191**	P	**Pg**	**22 12 11.7**	**-0.9**
PENT				S	**Sb**	**22 12 22.5**	**0.0**
KTI	**Kastanea**	**0.77**	**126**	P	**Pg**	**22 12 13.8**	**-0.6**
GRG	**Griva**	**0.83**	**82**	P	**Pb**	**22 12 15.6**	**-0.4**
GRG				S	**Sb**	**22 12 28.2**	**+1.0**
	comp=E,262nm,0.5s						
GRG	**Griva**	**0.83**	**82**	*i* Pg	**Pg**	**22 12 15.1**	**-0.6**
GRG				*i* Sg	**Sb**	**22 12 27.4**	**+0.2**
GRG	**Griva**	**0.83**	**82**	P	**Pg**	**22 12 15.2**	**-0.6**
GRG				S	**Sg**	**22 12 24.3**	**-2.4**
GRG				AML	AML	22 12 28.5	
	comp=E,322μm,0.4s						
GRG				AML	AML	22 12 32.7	
	comp=N,449μm,0.3s						
LSK	**Leskovik**	**0.89**	**218**	P	**Pg**	**22 12 14.8**	**-1.9**
	baz=214						
LSK				S	**Sg**	**22 12 28.4**	**+0.1**
	baz=214						
LSK				AMP			
	comp=N,2.3nm,0.4s,baz=214						
LSK	**Leskovik**	**0.89**	**218**	P	**Pg**	**22 12 15.5**	**-1.2**
LSK				S	**Sg**	**22 12 28.3**	**+0.1**
	comp=N,512nm,0.6s						
KPRO	**Kipourio**	**0.90**	**177**	P	**Pg**	**22 12 16.6**	**-0.3**
KPRO				S	**Sb**	**22 12 30.1**	**+1.1**
	comp=N,435nm,0.5s						
KPRO	**Kipourio**	**0.90**	**177**	P	**Pg**	**22 12 16.5**	**-0.3**
KPRO				S	**Sg**	**22 12 28.1**	**-0.5**
KPRO				AML	AML	22 12 35.6	
	comp=N,681μm,0.4s						
KPRO				AML	AML	22 12 36.7	
	comp=E,926μm,0.3s						
VAY	**Valandovo**	**1.06**	**63**	*e*Pg	**Pg**	**22 12 19.2**	**-0.8**
VAY				*e*Sg	**Sb**	**22 12 33.7**	**-0.1**
VAY	**Valandovo**	**1.06**	**63**	*i* Pg	**Pg**	**22 12 19.2**	**-0.8**
VAY				*i* Sg	**Sb**	**22 12 34.4**	**+0.6**
VAY				*e*Lg	Lg	22 12 36.5	
	comp=E,37nm,0.3s						
VAY				*e*Lg	Lg	22 12 36.8	
	comp=N,42nm,0.4s						
SKO	**Skopje**	**1.12**	**5**	*e*Pg	**Pg**	**22 12 20.7**	**-0.5**
SKO				*e*Sg	**Sn**	**22 12 36.7**	**+0.1**
SKO	**Skopje**	**1.12**	**5**	*i* Pg	**Pb**	**22 12 20.9**	**-0.1**
SKO				*i* Sg	**Sn**	**22 12 37.3**	**+0.7**
KNT	**Kendrikon**	**1.24**	**75**	P	**Pb**	**22 12 22.7**	**-0.3**
KNT				S	**Sn**	**22 12 40.2**	**+0.7**
	comp=N,115nm,0.7s						
KNT	**Kendrikon**	**1.24**	**75**	*i* Pg	**Pb**	**22 12 22.8**	**-0.3**
KNT	**Kendrikon**	**1.24**	**75**	P	**Pb**	**22 12 22.6**	**-0.3**
KNT				S	**Sb**	**22 12 39.1**	**+0.2**
KNT				AML	AML	22 12 45.6	
	comp=N,326μm,0.6s						
KNT				AML	AML	22 12 46.0	
	comp=E,96μm,0.5s						
JAN	**Janina**	**1.24**	**197**	P	**Pn**	**22 12 21.9**	**-0.9**
JAN				S	**Sn**	**22 12 40.4**	**+0.9**
	comp=E,130nm,0.4s						
JAN	**Janina**	**1.24**	**197**	P	**Pg**	**22 12 23.3**	**-0.2**
JAN				S	**Sn**	**22 12 40.9**	**+1.4**
JAN				AML	AML	22 12 45.8	
	comp=E,266μm,0.5s						
JAN				AML	AML	22 12 47.2	
	comp=N,250μm,0.3s						
THE	**Thessaloniki**	**1.28**	**99**	P	**Pn**	**22 12 23.0**	**-0.2**
THE				S	**Sn**	**22 12 41.5**	**+1.2**
	comp=N,48nm,0.6s						
THE	**Thessaloniki**	**1.28**	**99**	*i* Pg	**Pn**	**22 12 23.0**	**-0.2**
THE	**Thessaloniki**	**1.28**	**99**	P	**Pn**	**22 12 23.0**	**-0.2**
TYRN	**Tyrnavos**	**1.34**	**148**	P	**Pn**	**22 12 23.7**	**-0.4**
TYRN				S	**Sg**	**22 12 43.2**	**+0.5**
	comp=N,142nm,0.5s						
TYRN	**Tyrnavos**	**1.34**	**148**	P	**Pn**	**22 12 23.1**	**-1.0**
HORT	**Hortiatis**	**1.38**	**100**	P	**Pn**	**22 12 24.6**	**-0.2**
HORT				S	**Sg**	**22 12 44.3**	**+0.1**
	comp=N,40nm,0.5s						
HORT	**Hortiatis**	**1.38**	**100**	P	**Pn**	**22 12 24.8**	**0.0**
SRN	**Sarande**	**1.39**	**226**	P	**Pb**	**22 12 25.6**	**+0.1**
	baz=224						
SRN				S	**Sg**	**22 12 45.5**	**+1.1**
	baz=224						
SRN				AMP			
	comp=E,0.3nm,0.7s,baz=224						
SRN	**Sarande**	**1.39**	**226**	P	**Pn**	**22 12 24.1**	**-0.7**
SRN				S	**Sb**	**22 12 43.0**	**-0.2**
	comp=E,108nm,0.3s						
THL	**Klokotos Trika**	**1.39**	**157**	P	**Pn**	**22 12 24.2**	**-0.6**
THL				S	**Sg**	**22 12 44.2**	**-0.2**
	comp=E,128nm,0.6s						
THL	**Klokotos Trika**	**1.39**	**157**	P	**Pn**	**22 12 24.0**	**-0.8**
IGT	**Igoumenitsa**	**1.52**	**210**	P	**Pb**	**22 12 27.4**	**-0.2**
	baz=208						
IGT				S	**Sg**	**22 12 48.9**	**+0.6**
	baz=208						
IGT				AMP			
	comp=N,0.4nm,0.7s,baz=208						
IGT	**Igoumenitsa**	**1.52**	**210**	P	**Pn**	**22 12 26.1**	**-0.4**
IGT				S	**Sn**	**22 12 47.0**	**+0.8**
	comp=N,95nm,0.6s						
IGT	**Igoumenitsa**	**1.52**	**210**	*i* Pn	**Pb**	**22 12 27.8**	**+0.2**
IGT	**Igoumenitsa**	**1.52**	**210**	P	**Pb**	**22 12 27.8**	**+0.2**
SOH	**Sokhos**	**1.55**	**90**	P	**Pn**	**22 12 27.1**	**+0.1**
SOH				S	**Sg**	**22 12 49.1**	**-0.4**
	comp=N,52nm,0.5s						
SOH	**Sokhos**	**1.55**	**90**	*i* Pn	**Pn**	**22 12 27.2**	**+0.1**
SOH				*i* Sn	**Sg**	**22 12 49.2**	**-0.4**
SOH	**Sokhos**	**1.55**	**90**	P	**Pn**	**22 12 27.1**	**+0.1**
PUK	**Puka**	**1.60**	**319**	P	**Pn**	**22 12 28.3**	**+0.6**
	baz=321						
PUK				S	**Sg**	**22 12 50.7**	**-0.3**
	baz=321						
PUK				AMP			
	comp=N,0.2nm,0.3s,baz=321						
KKB	**Krupnik**	**1.69**	**54**	*i* Pn	**Pn**	**22 12 29.7**	**+0.7**
SRS	**Serrai**	**1.75**	**81**	P	**Pn**	**22 12 29.6**	**-0.2**
SRS	**Serrai**	**1.75**	**81**	*e*Pn	**Pn**	**22 12 29.3**	**-0.4**
SRS	**Serrai**	**1.75**	**81**	*i* Pn	**Pn**	**22 12 29.6**	**-0.2**
SRS	**Serrai**	**1.75**	**81**	P	**Pn**	**22 12 29.6**	**-0.2**
PRVS	**Prvonek**	**1.75**	**19**	*e*Pn	**Pn**	**22 12 30.5**	**+0.7**
PRVS				*e*Sn	**Sn**	**22 12 52.9**	**+0.8**
BCI	**Bajram Curri**	**1.78**	**329**	P	**Pb**	**22 12 31.6**	**-0.5**
	baz=331						
BCI				AMP			
	comp=E,0.3nm,0.5s,baz=331						
MAKR	**Makrakomi, Fth**	**1.94**	**161**	P	**Pn**	**22 12 32.7**	**+0.3**
MMB	**Musomishta**	**1.97**	**69**	*i* Pn	**Pn**	**22 12 33.4**	**+0.6**
EVR	**Evrytania**	**1.97**	**169**	P	**Pn**	**22 12 32.5**	**-0.4**
EVR				S	**Sb**	**22 12 59.3**	**-0.7**
	comp=E,65nm,0.5s						
EVR	**Evrytania**	**1.97**	**169**	P	**Pn**	**22 12 33.1**	**+0.3**
AGG	**Agios Georgios**	**1.99**	**156**	P	**Pn**	**22 12 33.1**	**0.0**
AGG	**Agios Georgios**	**1.99**	**156**	P	**Pn**	**22 12 33.2**	**+0.2**
NVR	**Nevrokopi**	**1.99**	**75**	P	**Pn**	**22 12 33.0**	**-0.1**
NVR	**Nevrokopi**	**1.99**	**75**	P	**Pn**	**22 12 34.2**	**+1.1**
BARS	**Barje**	**2.00**	**11**	*e*Pn	**Pn**	**22 12 34.0**	**+0.7**
BARS				*e*Sn	**Sn**	**22 12 59.2**	**+1.0**
BARS	**Barje**	**2.00**	**11**	*i* Pn	**Pn**	**22 12 33.9**	**+0.7**
KOKK	**Kokkinochori,**	**2.04**	**90**	P	**Pn**	**22 12 33.8**	**+0.1**
XOR	**Xorichti**	**2.07**	**135**	P	**Pn**	**22 12 34.0**	**-0.1**
XOR	**Xorichti**	**2.07**	**135**	P	**Pn**	**22 12 34.1**	**-0.1**
OUR	**Ouranopolis**	**2.10**	**103**	P	**Pn**	**22 12 34.7**	**+0.2**
LKD2	**Lefkada island**	**2.12**	**194**	P	**Pn**	**22 12 36.4**	**+1.6**
	baz

2020/07/14 05:37:14 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km Longitude uncertainty: 0 km

ISC 04 22:19:22.3±1.0, 39.90N±0.03×20.64E±0.02, h10km±10km, n25, σ0.75/36, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	**0.25**	**353**	P	**Pg**	**22 19 27.4**	**-0.1**
	baz=358						
LSK				S	**Sg**	**22 19 33.3**	**+2.2**
	baz=358						
LSK				AMP			
	comp=E,1.9nm,0.6s,baz=358						
JAN	**Janina**	**0.29**	**146**	P	**Pb**	**22 19 29.3**	**-0.3**
JAN				S	**Sb**	**22 19 34.1**	**-0.4**
IGT	**Igoumenitsa**	**0.44**	**213**	P	**Pg**	**22 19 30.2**	**-0.6**
	baz=214						
IGT				S	**Sg**	**22 19 36.0**	**-0.6**
	baz=214						
IGT				AMP			
	comp=E,0.5nm,0.2s,baz=214						
PENT	**Pentalofos**	**0.48**	**52**	P	**Pg**	**22 19 31.5**	**-0.2**
PENT				S	**Sg**	**22 19 37.3**	**-0.8**
SRN	**Sarande**	**0.49**	**268**	P	**Pb**	**22 19 31.9**	**-1.1**
	baz=272						
SRN				S	**Sb**	**22 19 39.9**	**-0.4**
	baz=272						
SRN				AMP			
	comp=E,0.8nm,0.5s,baz=272						
KPRO	**Kipourio**	**0.56**	**84**	P	**Pg**	**22 19 33.3**	**+0.1**
KPRO				S	**Sb**	**22 19 41.4**	**-0.9**
KASA	**Kassiopi**	**0.57**	**255**	P	**Pb**	**22 19 33.8**	**-0.5**
KASA				S	**Sb**	**22 19 41.9**	**-0.5**
NEST	**Nestorio**	**0.60**	**31**	P	**Pb**	**22 19 34.1**	**-0.9**
NEST				S	**Sg**	**22 19 41.1**	**-0.8**
FNA	**Florina**	**1.05**	**32**	P	**Pb**	**22 19 42.3**	**-0.3**
	baz=32						
FNA	**Florina**	**1.05**	**32**	P	**Pb**	**22 19 42.3**	**-0.3**
TSLK	**Tsoukalades, L**	**1.07**	**179**	P	**Pn**	**22 19 44.1**	**+0.8**
LKD2	**Lefkada island**	**1.11**	**179**	P	**Pg**	**22 19 43.0**	**-0.6**
	baz=178						
LKD2				S	**Sn**	**22 19 59.9**	**+0.7**
	baz=178						
LKD2				AMP			
	comp=N,294nm,0.2s,baz=178						
LKD2	**Lefkada island**	**1.11**	**179**	P	**Pn**	**22 19 44.8**	**+0.9**
THL	**Klokotos Trika**	**1.11**	**107**	P	**Pn**	**22 19 44.1**	**+0.3**
THL				S	**Sb**	**22 19 58.4**	**+0.4**
TYRN	**Tyrnavos**	**1.24**	**98**	P	**Pg**	**22 19 45.6**	**-0.5**
EVGI	**Lefkada island**	**1.27**	**180**	P	**Pg**	**22 19 47.1**	**+0.3**
EVR	**Evrytania**	**1.33**	**137**	P	**Pg**	**22 19 47.7**	**-0.2**
MAKR	**Makrakomi, Fth**	**1.45**	**127**	P	**Pg**	**22 19 50.1**	**0.0**
AGG	**Agios Georgios**	**1.57**	**123**	P	**Pb**	**22 19 51.4**	**-0.1**
ANX	**Ano Chora**	**1.64**	**142**	P	**Pb**	**22 19 52.9**	**+0.3**
SCTE	**Santa Cesarea**	**1.68**	**277**	P	**Pb**	**22 19 52.8**	**-0.5**
	baz=278						
SCTE				S	**Sg**	**22 20 17.4**	**+1.1**
	baz=278						
GRG	**Griva**	**1.71**	**51**	P	**Pb**	**22 19 53.4**	**-0.4**
EFP	**Efpalio**	**1.77**	**146**	P	**Pb**	**22 19 55.1**	**+0.4**
AXAR	**Agios Charalam**	**1.93**	**125**	P	**Pb**	**22 19 57.0**	**-0.6**
GUR	**Goura**	**2.37**	**145**	P	**Pb**	**22 20 03.6**	**-1.4**

*IDC **04** 22:27:52.2±2.0, 28°.49N×130°.04E, h0km, mb3.7/14, mbtmp3.7/15, ML3.3/1, Error ellipse: s-maj=48.9km s-min=24.3km az=122.0*

*JMA **04** 22:27:55.6±0.2, 28°.4N±0°.8×130°.1E±0°.6, h27km, MV3.5/27, NEAR AMAMI-OSHIMA ISLAND.*

JMA Felt I J1 at NEAR AMAMI-OSHIMA ISLAND.

ISC 04 22:27:54.1±1.7, 28°.42N±0°.03×130°.08E±0°.04, h15km±11km, n36, σ1.9/17/52, mb3.8/14, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	**Kikaishima**	**0.14**	**223**	*i* P	**Pb**	**22 28 00.3**	**+1.8**
JZK				S	**Sb**	**22 28 04.2**	**+2.8**
JAM	**Amami Oshima**	**0.42**	**269**	*i* P	**Pn**	**22 28 04.1**	**-1.5**
JAM				S	**Sb**	**22 28 09.6**	**+0.2**
JAMN	**Amaminishikomi**	**0.82**	**258**	*i* P	**Pn**	**22 28 10.2**	**-0.9**
JAMN				S	**Sn**	**22 28 21.6**	**-1.3**
JTAJ	**Takarajima**	**1.06**	**314**	*i* P	**Pn**	**22 28 14.8**	**+0.3**
JTAJ				*eS*	**Sn**	**22 28 28.6**	**-0.4**
JTK	**Tokunoshima**	**1.18**	**238**	*i* P	**Pb**	**22 28 16.0**	**-0.2**
JTK				*eS*	**Sb**	**22 28 31.1**	**-0.3**
JNN	**Nakanoshima**	**1.43**	**353**	P	**Pg**	**22 28 21.4**	**-0.2**
JOKE	**Okinoerabujima**	**1.70**	**232**	*i* P	**Pn**	**22 28 23.7**	**+0.4**
JYAK	**Yakushimahirau**	**1.85**	**12**	P	**Pb**	**22 28 27.2**	**-0.5**
JYAK				*eS*	**Sb**	**22 28 50.7**	**0.0**
JYRO	**Yoronjima**	**2.00**	**227**	*i* P	**Pn**	**22 28 27.6**	**+0.1**
JYRO				*eS*	**Sn**	**22 28 51.4**	**-0.9**
JKC	**Kuchinoerabu**	**2.04**	**3**	P	**Pb**	**22 28 30.5**	**-0.4**
JKC				*eS*	**Sb**	**22 28 55.6**	**-0.5**
JMTN	**Minamitane**	**2.10**	**20**	P	**Pb**	**22 28 31.3**	**-0.6**
JMTN				*eS*	**Sb**	**22 28 58.3**	**+0.5**
JOW	**Kunigami**	**2.25**	**226**	Pn	**Pn**	**22 28 30.9**	**0.0**
	12nm,0.3s,baz=94,slow=14,SNR=83						
JOW				Sn	**Sb**	**22 29 01.6**	**-0.5**
	17nm,0.3s,baz=92,slow=28,SNR=5.7 39nm,0.2s						
JOW	**Kunigami**	**2.25**	**226**	P	**Pn**	**22 28 30.8**	**0.0**
JIH	**Iheya**	**2.33**	**234**	*i* P	**Pn**	**22 28 32.0**	**+0.1**
JTN	**Tanegashima 3**	**2.36**	**19**	P	**Pb**	**22 28 34.6**	**-1.8**
JTN				*eS*	**Sb**	**22 29 03.5**	**-1.9**
JNTH	**Nagotoyohara**	**2.63**	**225**	P	**Pn**	**22 28 36.1**	**0.0**
JNTH				*eS*	**Sn**	**22 29 06.2**	**-1.6**
JKDJ	**Kitadaitoujima**	**2.69**	**156**	*eS*	**Sn**	**22 29 06.7**	**-2.4**
JMZ	**Minamidaito 2**	**2.78**	**158**	*eP*	**Pn**	**22 28 39.0**	**+0.8**
JMZ				*eS*	**Sn**	**22 29 09.0**	**-2.5**
JJT3	**Tamagusuku3**	**3.05**	**223**	*eP*	**Pn**	**22 28 42.8**	**+1.0**
JJT3				*eS*	**Sn**	**22 29 17.0**	**-1.1**
JAGN	**Aguni-jima**	**3.11**	**235**	P	**Pn**	**22 28 42.9**	**+0.2**
JAGN				*eS*	**Sn**	**22 29 18.6**	**-1.0**
JKE	**Kume jima 2**	**3.60**	**235**	P	**Pn**	**22 28 49.4**	**+0.1**
JNU	**Nakatsue**	**4.74**	**8**	Pn	**Pn**	**22 29 07.8**	**+2.7**
	2.5nm,0.3s,baz=54,slow=14,SNR=24						
JNU				Sn	**Sn**	**22 30 02.3**	**+2.5**
	1.0nm,0.3s,baz=161,slow=22,SNR=1.2						
SONM	**Songino Array**	**26.71**	**323**	P	**P**	**22 33 32.0**	**-0.9**
	0.3nm,0.5s,baz=147,slow=8.6,SNR=2.3 0.3nm,0.5s						
MKAR	**Makanchi Array**	**41.36**	**310**	P	**P**	**22 35 40.1**	**+0.6**
	0.2nm,0.6s,baz=86,slow=7.4,SNR=1.7 0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**41.55**	**321**	P	**P**	**22 35 40.8**	**-0.1**
	0.4nm,0.4s,baz=70,slow=6.3,SNR=1.9 0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**44.45**	**315**	P	**P**	**22 36 05.5**	**+1.0**
	0.5nm,0.3s,baz=83,slow=7.6,SNR=1.6 0.5nm,0.3s						
BVAR	**Borovoye Array**	**49.77**	**317**	P	**P**	**22 36 46.4**	**+0.4**
	0.7nm,0.5s,baz=89,slow=13,SNR=5.4 0.7nm,0.5s						
ARCES	**ARCESS Array B**	**68.58**	**339**	P	**P**	**22 38 55.7**	**-0.3**
	1.6nm,0.8s,baz=70,slow=7.9,SNR=5.0 1.6nm,0.8s						
KBZ	**Khabaz**	**69.05**	**309**	P	**P**	**22 38 59.7**	**+0.4**
	1.5nm,1.0s,baz=63,slow=6.8,SNR=3.7 1.5nm,1.0s						
FINES	**FINESS Array B**	**71.77**	**331**	P	**P**	**22 39 15.0**	**-0.6**
	1.2nm,0.6s,baz=68,slow=5.7,SNR=19 1.2nm,0.6s						
AKASG	**Malin Array Be**	**74.94**	**320**	P	**P**	**22 39 33.6**	**-0.9**
	0.5nm,0.3s,baz=55,slow=5.3,SNR=4.9 0.5nm,0.3s						
YKA	**Yellowknife Ar**	**75.85**	**26**	P	**P**	**22 39 41.2**	**+1.7**
	0.1nm,0.6s,baz=311,slow=5.6,SNR=2.1 0.1nm,0.6s						
BRTR	**Keskin Array B**	**76.99**	**308**	P	**P**	**22 39 47.0**	**+0.4**
	0.6nm,0.9s,baz=76,slow=6.1,SNR=3.7 0.6nm,0.9s						
HFS	**Hagfors**	**77.65**	**333**	P	**P**	**22 39 49.7**	**0.0**
	1.1nm,0.8s,baz=64,slow=3.4,SNR=4.1 1.1nm,0.8s						
NOA	**NORSAR Array B**	**78.08**	**334**	P	**P**	**22 39 51.5**	**-0.6**
	0.8nm,0.9s,baz=53,slow=5.8,SNR=2.0 0.8nm,0.9s						
EKA	**Eskdalemuir Ar**	**87.49**	**335**	P	**P**	**22 40 41.2**	**+0.2**
	0.2nm,0.4s,baz=42,slow=4.7,SNR=4.1 0.2nm,0.4s						

*BJI **04** 22:32:53.6±0.0, 19°.41N×155°.13W, h10km, mb5.4/88, mB6.4/71, Ms6.8/99, Ms7 6.8/93*

*HVO **04** 22:32:54.4±2.9, 19°.31N±0°.08×155°.00W±0°.05, h2km±3km, ML5.9/17, mb6.0/1034(NEIC), ML5.7/48(NEIC), Ms_20 6.4/825(NEIC), Mww6.9/31(NEIC), Error ellipse: s-maj=12.4km s-min=4.4km az=203.0*

*MOS **04** 22:32:54.3±1.1, 19°.53N×155°.12W, h8km, mb6.0/53, MS6.4/61, Error ellipse: s-maj=5.3km s-min=4.9km az=126.2*

*NEIC **04** 22:32:55.8, 19°.37N×155°.04W, h12km*

*NEIC **04** 22:32:55.8±2.8, 19°.39N±0°.08×155°.03W±0°.04, h5km±1km, Error ellipse: s-maj=13.9km s-min=5.4km az=8.0*

*NEIC **04** 22:32:55.8, 19°.27N×154°.93W, h12km, Moment Tensor Solution. Duration: 12s9 Moment tensor: Scale 10^19Nm; Mrr1.66; Mθθ-0.92; Mφφ-0.74; Mrθ1.11; Mθφ-0.85; Mφr1.86; Fault plane solution: M0 2.74000×10^19 NP1:φs34.54000°, δ71.50000°, λ81.30000°. NP2:φs240.28000°, δ20.38000°, λ114.32000°. Principal axes: T 2.7679, Plg63.0000°, Azm291.0000°; N -0.0653, Plg8.0000°, Azm37.0000°; P -2.7026, Plg26.0000°, Azm131.0000°;*

*IPGP **04** 22:32:55.0, 19°.37N×155°.03W, h32km, Mw6.8, Fault plane solution: NP1:φ230.00000°, δ87.00000°, λ-89.00000°. NP2:φ29.00000°, δ3.00000°, λ-110.00000°.*

*IDC **04** 22:32:55.1±0.4, 19°.44N×155°.05W, h0km, mb5.1/30, mbtmp5.1/30, MS6.3/79, Error ellipse: s-maj=13.5km s-min=8.2km az=2.0*

*GCMT **04** 22:33:10.4±0.0, 19°.12N×154°.76W, h12km, MW6.9/169, Moment Tensor Solution. s163,c375; s169,c845; Duration: 6s7 Moment tensor: Scale 10^19Nm; Mrr1.53±.00; Mθθ-0.90±.00; Mφφ-0.63±.00; Mrθ1.34±.01; Mθφ-0.78±.00; Mθr1.66±.01; Best double couple: M0 2.63400×10^19 NP1:φs41.00000°, δ72.00000°, λ85.00000°. NP2:φs238.00000°, δ19.00000°, λ106.00000°. Principal axes: T 2.6370, Plg62.0000°, Azm303.0000°; N -0.0100, Plg5.0000°, Azm43.0000°; P -2.6310, Plg27.0000°, Azm135.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 04 22:32:55.9±0.4, 19°.38N±0°.03×155°.07W±0°.02, h7km±2km, h7km:pP-P, n2184, σ2s45/2066, mb6.0/627, MS6.4/594, 115C-42D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.03**	**270**		**Pg**	**22 32 56.7**	**-0.7**
NPOC	**North of Pu'u**	**0.04**	**282**		**Pg**	**22 32 57.2**	**-0.3**
STCH	**Steam Cracks**	**0.06**	**271**		**Pg**	**22 32 57.6**	**0.0**
JOKA	**Jonika Flow**	**0.08**	**50**		**Pg**	**22 32 57.5**	**-0.4**
JOKA					**Sg**	**22 33 00.8**	**+1.4**
KNHH	**Kane Nui o Ham**	**0.10**	**267**		**Pg**	**22 32 58.6**	**+0.4**
PUH	**Pauahi**	**0.14**	**266**	Pg	**Pg**	**22 32 58.8**	**-0.1**
BYL	**Byron's Ledge**	**0.18**	**279**		**Pg**	**22 32 59.7**	**+0.1**
BYL				IAML		22 33 06.7	
	comp=N,966μm,1.2s						
BYL				IAML		22 33 07.9	
	comp=E,954μm,1.2s						
HATHI	**Halema'uma'u T**	**0.19**	**282**		**Pg**	**22 32 59.8**	**+0.1**
HATHI					**Sg**	**22 33 01.0**	**-1.4**
HATHI				IAML		22 33 07.3	
	comp=E,1418μm,1.4s						
HATHI				IAML		22 33 08.6	
	comp=N,1387μm,1.1s						
KKO	**Keanakako'i**	**0.19**	**274**		**Pg**	**22 32 59.8**	**0.0**
KKO				IAML		22 33 07.4	
	comp=E,1197μm,1.4s						
KKO				IAML		22 33 07.7	
	comp=N,1322μm,0.7s						
PHO	**Puu Honuaula**	**0.19**	**60**		**Pg**	**22 32 58.9**	**-0.9**
SBLHI	**Steaming Bluff**	**0.19**	**283**	Pg	**Pg**	**22 33 00.6**	**+0.7**
SBLHI				IAML		22 33 07.4	
	comp=E,1025μm,1.4s						
SBLHI				IAML		22 33 09.2	
	comp=N,939μm,1.1s						
RIM	**Rim**	**0.20**	**273**		**Pg**	**22 33 00.2**	**+0.3**
RIM	**Rim**	**0.20**	**273**	IAML		22 33 07.8	
	comp=N,989μm,0.7s						
RIM				IAML		22 33 07.9	
	comp=E,811μm,0.9s						
UWB	**Uwekahuna B**	**0.20**	**281**		**Pg**	**22 33 00.3**	**+0.3**
UWB	**Uwekahuna B**	**0.20**	**281**	IAML		22 33 09.5	
	comp=N,690μm,1.2s						
UWB				IAML		22 33 09.8	
	comp=E,1023μm,0.9s						
OBL	**Observatory Le**	**0.21**	**279**		**Pg**	**22 33 00.4**	**+0.3**
OBL					**Sg**	**22 33 05.0**	**+2.0**
OBL	**Observatory Le**	**0.21**	**279**	IAML		22 33 05.7	
	comp=E,934μm,1.3s						
OBL				IAML		22 33 09.5	
	comp=N,1332μm,1.2s						
RSD	**Rainshed**	**0.21**	**291**		**Pg**	**22 33 00.7**	**+0.5**
RSD				IAML		22 33 08.5	
	comp=N,1048μm,1.2s						
RSD				IAML		22 33 10.0	
	comp=E,1244μm,1.5s						
SDHHI	**Sand Hill**	**0.21**	**271**		**Pg**	**22 33 00.4**	**+0.2**
SDHHI	**Sand Hill**	**0.21**	**271**	IAML		22 33 08.5	
	comp=N,1015μm,0.5s						
SDHHI				IAML		22 33 09.3	
	comp=E,1580μm,0.9s						
UWE	**Uwekahuna**	**0.22**	**280**		**Pg**	**22 33 00.7**	**+0.4**
UWE				IAML		22 33 08.4	
	comp=E,1177μm,1.0s						
UWE				IAML		22 33 08.7	
	comp=N,1129μm,1.6s						
WRMHI	**West Rim**	**0.22**	**276**		**Sg**	**22 33 05.3**	**+1.9**
WRMHI	**West Rim**	**0.22**	**276**	Pg	**Pg**	**22 33 00.5**	**+0.1**
WRMHI	**West Rim**	**0.22**	**276**	IAML		22 33 08.6	
	comp=E,1731μm,1.0s						
WRMHI				IAML		22 33 09.6	
	comp=N,1143μm,1.1s						
HLP	**Hilina Pali**	**0.24**	**249**		**Pg**	**22 33 00.9**	**+0.1**
HLP	**Hilina Pali**	**0.24**	**249**	IAML		22 33 07.5	
	comp=N,876μm,0.7s						
HLP				IAML		22 33 08.5	
	comp=E,391μm,1.3s						
MLH	**Mauna Loa**	**0.32**	**290**	Sg	**Sb**	**22 33 08.7**	**-0.8**
MLH				IAML		22 33 09.6	
	comp=E,567μm,1.4s						
MLH				IAML		22 33 09.7	
	comp=N,644μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.50**	**288**		**Sb**	**22 33 15.1**	**+0.1**
MWH	**Moku'aweowe**	**0.51**	**281**		**Pg**	**22 33 05.2**	**-0.6**
MWH					**Sb**	**22 33 14.1**	**-1.1**
KHU	**Kahuku**	**0.54**	**255**		**Pg**	**22 33 05.5**	**-0.8**
KHU				Sg	**Sg**	**22 33 14.4**	**+1.1**
KHU				IAML		22 33 23.6	
	comp=N,623μm,1.9s						
KHU	**Kahuku**	**0.54**	**255**	P	**Pg**	**22 33 05.5**	**-0.8**
KHU						22 33 14.4	
POHA	**Pohakuloa**	**0.57**	**310**	P	**Pg**	**22 33 07.2**	**+0.2**
POHA	**Pohakuloa**	**0.57**	**310**		**Pg**	**22 33 05.9**	**-1.1**
POHA	**Pohakuloa**	**0.57**	**310**		**Sb**	**22 33 16.0**	**-0.8**
I59US	**HAWAII INFRASO**	**0.81**	**285**	Pg	**Pg**	**22 33 09.9**	**-1.5**
	baz=118,slow=19						
I59US				Lg	Lg	22 33 24.0	
	baz=112,slow=15						
MHA	**Mahukona**	**1.12**	**316**		**Pg**	**22 33 14.3**	**-3.1**
MHA	**Mahukona**	**1.12**	**316**	P	**Pg**	**22 33 14.3**	**-3.1**
HLK	**Haleakala**	**1.76**	**321**	Pn	**Pn**	**22 33 23.5**	**-3.5**
KHLH	**Kahului Airpor**	**1.97**	**320**		**Pn**	**22 33 27.3**	**-2.4**
HON	**Honolulu**	**3.36**	**306**		**Pn**	**22 33 44.9**	**-3.9**
HON	**Honolulu**	**3.36**	**306**	P	**Pn**	**22 33 44.9**	**-3.9**
KIP	**Kipapa**	**3.43**	**307**	P	**Pn**	**22 33 46.8**	**-2.9**
KIP	**Kipapa**	**3.43**	**307**	Pn	**Pn**	**22 33 46.8**	**-2.9**
KIP	**Kipapa**	**3.43**	**307**	*ce*P	**Pn**	**22 33 47.1**	**-2.6**
KIP				pmax	pmax		
	comp=Z,7μm,1.3s						
KIP				MLR	MLR		
	comp=Z,88μm,3.0s						
OPA	**Opana**	**3.58**	**310**		**Pn**	**22 33 48.6**	**-3.3**
OPA	**Opana**	**3.58**	**310**	P	**Pn**	**22 33 48.6**	**-3.3**
KEKH	**Kekaha**	**5.06**	**302**	Pn	**Pn**	**22 34 09.8**	**-2.3**
JOHN	**Johnston Islan**	**14.00**	**261**	Pn	**Pn**	**22 36 12.6**	**-2.2**
XMAS	**Kiritimati**	**17.39**	**188**		**Pn**	**22 36 57.7**	**-1.4**
XMAS	**Kiritimati**	**17.39**	**188**	⇓P	**Pn**	**22 36 58.6**	**-0.5**
MIDW	**Midway**	**22.19**	**298**	P	**P**	**22 37 55.7**	**+3.0**
MIDW	**Midway**	**22.19**	**298**	P	**P**	**22 37 53.7**	**+0.9**
MIDW				IAmb	IAmb	22 38 12.9	
	comp=Z,947nm,1.5s						
MIDW				IAMs_20	IAMs_20	22 44 05.6	
	comp=Z,186μm,21.0s						
TAOE	**Nuku Hiva Isla**	**31.68**	**151**	P	**P**	**22 39 16.4**	**-3.9**
TAOE				IAmb	IAmb	22 39 27.7	
	comp=Z,471nm,1.5s						
MCCM	**Marconi Confer**	**33.61**	**49**	P	**P**	22 39 31.8	-5.1
KMPM	**Mount Pierce**	**33.78**	**45**	P	**P**	**22 39 37.4**	**-1.1**
KMPM				IAmb	IAmb	22 39 55.4	
	comp=Z,367nm,1.2s						
KMPM				IAMs_20	IAMs_20	22 49 29.8	
	comp=Z,63μm,19.0s						
KCPM	**Cahto Peak**	**33.79**	**46**	P	**P**	**22 39 37.0**	**-1.6**
KCPM				IAmb	IAmb	22 39 54.9	
	comp=Z,290nm,1.2s						
HOPS	**Hopland Field**	**33.83**	**48**	P	**P**	**22 39 36.4**	**-2.5**
HOPS				IAmb	IAmb	22 39 54.9	
	comp=Z,261nm,1.4s						
HOPS				IAMs_20	IAMs_20	22 50 15.1	
	comp=Z,58μm,18.0s						
GDXM	**Geysers**	**33.95**	**48**	P	**P**	**22 39 41.6**	**+1.7**
KMRM	**Mail Ridge**	**33.96**	**46**	P	**P**	**22 39 39.8**	**-0.2**
KMRM				IAmb	IAmb	22 40 12.1	
	comp=Z,260nm,1.4s						
KMRM				IAMs_20	IAMs_20	22 50 35.4	
	comp=Z,64μm,21.0s						
JCC	**Jacoby Creek,**	**34.03**	**44**	P	**P**	**22 39 40.5**	**0.0**
JCC				IAmb	IAmb	22 39 59.6	
	comp=Z,168nm,1.1s						
SAO	**San Andreas Ge**	**34.12**	**52**	P	**P**	**22 39 41.4**	**0.0**
SAO				IAmb	IAmb	22 39 57.0	
	comp=Z,392nm,1.3s						
SAO	**San Andreas Ge**	**34.12**	**52**	⇑P	**P**	**22 39 42.6**	**+1.3**
SAO	**San Andreas Ge**	**34.12**	**52**	P	**P**	**22 39 41.4**	**0.0**
SAO				pmax	pmax		
	comp=Z,392nm,1.3s						
SAO				MLR	MLR		
	comp=Z,20μm,18.0s						
KRPM	**Rodgers**	**34.21**	**44**	P	**P**	**22 39 41.0**	**-1.1**
KRPM				IAmb	IAmb	22 40 38.8	
	comp=Z,342nm,1.7s						
KHMM	**Horse Mountain**	**34.26**	**44**	P	**P**	**22 39 42.0**	**-0.7**
KHMM				IAmb	IAmb	22 39 59.7	
	comp=Z,282nm,1.3s						
KHMM				IAMs_20	IAMs_20	22 50 55.5	
	comp=Z,55μm,18.0s						
BBGB	**Big Mountain B**	**34.36**	**53**	P	**P**	**22 39 39.4**	**-4.1**
BBGB				IAmb	IAmb	22 40 00.6	
	comp=Z,426nm,1.2s						
PMPB	**Monarch Peak**	**34.41**	**54**	P	**P**	**22 39 43.6**	**-0.3**
KRMB	**Red Mountain**	**34.47**	**43**	P	**P**	**22 39 44.3**	**-0.1**
SNCC	**San Nicolas Is**	**34.54**	**59**	P	**P**	**22 39 43.2**	**-1.9**
SNCC				IAmb	IAmb	22 40 11.2	
	comp=Z,250nm,1.4s						
SNCC	**San Nicolas Is**	**34.54**	**59**	P	**P**	**22 39 44.9**	**-0.1**
	baz=255						
SNCC				S	**S**	**22 45 16.5**	**+2.2**
	baz=255						
KBO	**Bosley Butte**	**34.62**	**42**	P	**P**	**22 39 45.5**	**-0.2**
KBO				IAmb	IAmb	22 40 17.2	
	comp=Z,283nm,1.4s						
KSXB	**Camp Six Broad**	**34.64**	**43**	P	**P**	**22 39 43.0**	**-2.9**
SBC	**Santa Barbara**	**34.71**	**57**	P	**P**	**22 39 45.8**	**-0.6**
	baz=253						
SBC				S	**S**	**22 45 17.4**	**+0.6**
	baz=253						
SMMC	**Simmler**	**34.74**	**56**	P	**P**	**22 39 46.3**	**-0.6**
	baz=252						
SMMC				S	**S**	**22 45 20.5**	**+3.0**
	baz=252						
PKM	**Mcpherson Peak**	**34.76**	**56**	P	**P**	**22 39 46.5**	**-0.6**
	baz=253,SNR=14						
PKM				S	**S**	**22 45 20.0**	**+2.1**
L02F	**Cave Junction**	**34.98**	**43**	P	**P**	**22 39 49.6**	**+0.8**
BCW	**Bitter Crk WRg**	**35.09**	**56**	P	**P**	**22 39 47.5**	**-2.4**
BCW				IAmb	IAmb	22 40 14.4	
	comp=Z,256nm,1.2s						
ORV	**Oroville**	**35.18**	**48**	P	**P**	**22 39 48.0**	**-2.5**
ORV	**Oroville**	**35.18**	**48**	P	**P**	**22 39 48.0**	**-2.5**
ORV				pmax	pmax		
	comp=Z,152nm,1.2s						
ORV				MLR	MLR		
	comp=Z,42μm,20.0s						
NIKH	**Nikolski High**	**35.19**	**346**	P	**P**	**22 39 51.5**	**+1.2**
	baz=157						
NIKH				S	**S**	**22 45 28.0**	**+4.2**
	baz=157						
K02D	**Willamette Mer**	**35.22**	**42**	P	**P**	**22 39 50.0**	**-0.9**
SCI2	**San Clemente I**	**35.27**	**60**	P	**P**	**22 39 52.3**	**+0.9**
	baz=256						
SCI2				S	**S**	**22 45 28.2**	**+2.7**
	baz=256						
AFDM	**Forest Hills D**	**35.30**	**49**	P	**P**	**22 39 52.1**	**+0.5**
J01E	**Myrtle Point**	**35.30**	**41**	P	**P**	**22 39 52.5**	**+1.1**
J01E				IAmb	IAmb	22 40 22.5	
	comp=Z,232nm,1.3s						
YBH	**Yreka Blue Hor**	**35.35**	**44**	P	**P**	**22 39 52.4**	**+0.4**
YBH	**Yreka Blue Hor**	**35.35**	**44**	LR	LR	22 51 23.3	
	comp=Z,28μm,20.4s,baz=244,slow=31						
YBH	**Yreka Blue Hor**	**35.35**	**44**	P	**P**	**22 39 52.4**	**+0.4**
YBH				pmax	pmax		
	comp=Z,138nm,1.2s						
YBH				MLR	MLR		
	comp=Z,34μm,20.0s						
CMB	**Columbia Colle**	**35.37**	**51**	P	**P**	**22 39 52.4**	**+0.2**
CMB	**Columbia Colle**	**35.37**	**51**	P	**P**	**22 39 52.4**	**+0.2**
CMB				pmax	pmax		
	comp=Z,171nm,1.4s						
CMB				MLR	MLR		
	comp=Z,33μm,22.0s						
CIS	**Catalina Islan**	**35.48**	**59**	P	**P**	**22 39 52.1**	**-1.1**
	baz=256						
CIS				S	**S**	**22 45 28.9**	**+0.1**
	baz=256						
UNV	**Unalaska Valle**	**35.51**	**348**	P	**P**	**22 39 55.0**	**+1.9**
UNV	**Unalaska Valle**	**35.51**	**348**	P	**P**	**22 39 54.2**	**+1.1**
	baz=161						
UNV				S	**S**	**22 45 32.4**	**+3.8**
	baz=161						
VOG	**Valley Oaks Go**	**35.53**	**54**	P	**P**	**22 39 53.0**	**-0.5**
	baz=251						
VOG				S	**S**	**22 45 28.9**	**-0.5**
	baz=251						
OSI	**Osito Audit: C**	**35.54**	**57**	P	**P**	**22 39 53.5**	**-0.2**
	baz=254						
OSI				S	**S**	**22 45 31.7**	**+1.9**

ISA S **S** **22 45 38.1 +0.8**
baz=253
ISA Isabella, Lake 36.03 56 P **P** **22 39 58.5 +0.5**
ISA pmax pmax
comp=Z,890nm,1.9s
TARA Tarawa 36.10 244 P **P** **22 40 03.0 +4.4**
TARA Tarawa 36.10 244 P **P** **22 39 57.5 -1.1**
MPK Martis Peak 36.11 49 P **P** **22 39 59.2 +0.4**
H11S2 WAKE ISLAND Hy 36.12 275 T T 23 17 45.1
baz=83,slow=74
H11S1 WAKE ISLAND Hy 36.12 275 T T 23 17 45.6
baz=83,slow=74
H11S3 WAKE ISLAND Hy 36.14 275 T T 23 17 46.4
baz=83,slow=74
SDPT Sand Point 36.14 355 P **P** **22 40 00.7 +2.3**
SDPT Sand Point 36.14 355 P **P** **22 39 55.2 -3.3**
SDPT IAmb IAmb 22 40 39.4
comp=Z,652nm,1.5s
SDPT IAMs_20 IAMs_20 22 51 39.7
comp=Z,68µm,21.0s
SDPT Sand Point 36.14 355 P **P** **22 39 59.6 +1.1**
baz=171
SDPT S **S** **22 45 42.1 +3.9**
baz=171
EDW2 Edwards Air Fo 36.19 57 P **P** **22 39 59.3 0.0**
baz=254,SNR=26
EDW2 S **S** **22 45 41.0 +1.3**
baz=254
MDPB Devils Postpil 36.19 52 P **P** **22 39 59.8 +0.2**
MDPB IAmb IAmb 22 40 16.4
comp=Z,259nm,1.2s
WAKR Walker 36.24 51 IAmb IAmb 22 40 16.9
comp=Z,294nm,1.3s
CCAC Calif City Air 36.25 57 P **P** **22 40 00.7 +0.9**
BFSC Mount Baldy Ra 36.29 58 P **P** **22 40 00.8 +0.5**
baz=255
ELS Elsinore Mount 36.34 59 P **P** **22 40 01.0 +0.4**
ELS IAmb IAmb 22 40 26.8
comp=Z,275nm,1.4s
MLAC Mammoth, Mammo 36.37 52 P **P** **22 40 01.6 +0.6**
baz=250
MLAC S **S** **22 45 46.8 +4.0**
baz=250
CHIR Chirikof Islan 36.38 359 IAMs_20 IAMs_20 22 51 27.2
comp=Z,80µm,21.0s
CHIR Chirikof Islan 36.38 359 P **P** **22 40 01.1 +0.6**
baz=179
CHIR S **S** **22 45 44.7 +2.8**
baz=179
K04D Chiloquin, OR 36.40 43 P **P** **22 40 00.6 -0.5**
109C Camp Elliot, M 36.44 61 P **P** **22 40 00.6 -0.7**
109C IAmb IAmb 22 40 27.8
comp=Z,273nm,1.4s
109C IAMs_20 IAMs_20 22 50 38.9
comp=Z,55µm,20.0s
109C Camp Elliot, M 36.44 61 P **P** **22 40 01.5 +0.2**
baz=258
109C S **S** **22 45 46.3 +2.9**
baz=258
COR Corvallis 36.45 39 P **P** **22 40 01.0 -0.3**
COR IAmb IAmb 22 40 34.2
comp=Z,337nm,1.4s
COR Corvallis 36.45 39 P **P** **22 40 01.0 -0.3**
COR pmax pmax
comp=Z,337nm,1.5s
COR MLR MLR
comp=Z,29µm,21.0s
MURC Murrieta 36.52 59 P **P** **22 40 01.8 -0.3**
baz=257,SNR=15
MURC S **S** **22 45 47.1 +2.3**
baz=257
HEBO Mount Hebo 36.54 38 P **P** **22 40 01.3 -0.8**
YERR Yerington 36.56 50 P **P** **22 40 01.6 -1.0**
CWC Cottonwood Cre 36.57 55 P **P** **22 40 02.3 -0.3**
baz=252
CWC S **S** **22 45 48.6 +3.0**
baz=252
I04A Tendick Farm, 36.58 41 P **P** **22 40 02.1 -0.4**
I04A IAmb IAmb 22 40 20.4
comp=Z,337nm,1.5s
LRMC Laurel Mtn Rad 36.60 56 P **P** **22 40 03.0 +0.1**
baz=254,SNR=32
LRMC S **S** **22 45 48.9 +2.8**
baz=254
CCX Cicese 36.60 62 P **P** **22 40 04.2 +1.4**
TIN Tinemaha, Big 36.64 53 P **P** **22 40 03.5 +0.3**
baz=251
TIN S **S** **22 45 49.9 +3.1**
baz=251
S12K Black Hills 36.64 353 P **P** **22 40 02.3 -0.5**
S12K IAmb IAmb 22 40 14.4
comp=Z,524nm,1.7s
S12K IAMs_20 IAMs_20 22 51 58.1
comp=Z,91nm,21.0s
S12K Black Hills 36.64 353 P **P** **22 40 03.9 +1.1**
baz=169
S12K S **S** **22 45 51.3 +5.3**
baz=169
CBX Cerro Bola 36.69 62 P **P** **22 40 04.0 +0.3**
CBX IAmb IAmb 22 40 50.8
comp=Z,400nm,1.7s
PAHR Pah Rah Range 36.73 49 P **P** **22 40 04.1 +0.1**
BAR Barrett 36.75 61 P **P** **22 40 05.5 +1.4**
BAR IAMs_20 IAMs_20 22 49 19.1
comp=Z,49µm,18.0s
H04D Lebanon 36.76 40 IAmb IAmb 22 40 35.6
comp=Z,344nm,1.3s
TKX Tecate 36.78 61 P **P** **22 40 07.0 +2.6**
G03D McMinnville, O 36.82 38 P **P** **22 40 04.3 -0.2**
LHV Little Huntoon 36.83 51 P **P** **22 40 04.5 -0.2**
BBRC Big Bear Solar 36.89 58 P **P** **22 40 05.1 -0.4**
baz=256
BBRC S **S** **22 45 52.4 +1.6**
baz=256
MPMC Manual Prospec 36.91 55 P **P** **22 40 05.1 -0.5**
baz=253,SNR=41
MPMC S **S** **22 45 52.7 +1.6**
baz=253
DSP Deep Springs 36.94 53 P **P** **22 40 05.4 -0.2**
DSP IAmb IAmb 22 40 22.2
comp=Z,338nm,1.5s
CHGN Chignik 36.95 357 P **P** **22 40 00.8 -4.5**
CHGN IAMs_20 IAMs_20 22 50 57.1
comp=Z,80µm,22.0s
CHGN Chignik 36.95 357 P **P** **22 40 05.7 +0.4**
baz=175
CHGN S **S** **22 45 57.7 +7.2**
baz=175
RYN Ryan 36.95 51 P **P** **22 40 05.5 -0.4**
RYN IAmb IAmb 22 40 21.9
comp=Z,316nm,1.5s
RRX Edison Barstow 36.98 57 P **P** **22 40 05.6 -0.4**
baz=255
RRX S **S** **22 45 53.8 +2.0**
baz=255
S14K Fog Glacier 37.00 356 P **P** **22 40 06.0 +0.1**
baz=173
S14K S **S** **22 45 55.9 +4.4**
baz=173
MONP2 Monument Peak 37.00 61 P **P** **22 40 05.5 -0.9**
baz=258,SNR=20
MONP2 S **S** **22 45 54.4 +2.0**
baz=258
K05A Summer Lake 37.01 43 P **P** **22 40 04.9 -1.4**
K05A IAmb IAmb 22 40 45.5
comp=Z,489nm,1.7s
NVAR Mina Array Bea 37.04 51 P **P** **22 40 06.4 -0.3**
NVAR Mina Array Bea 37.04 51 P **P** **22 40 06.2 -0.5**
comp=Z,6.8nm,0.6s,baz=241,slow=9.2,SNR=26
NVAR LR LR 22 52 39.3
comp=Z,33µm,18.1s,baz=256,slow=32
comp=Z,6.8nm,0.6s
J05D Fort Rock, OR 37.06 42 IAmb IAmb 22 40 38.2
comp=Z,295nm,1.4s
F03A Seaside 37.06 37 P **P** **22 40 10.5 +4.0**
F03A IAmb IAmb 22 40 39.9
comp=Z,566nm,1.6s
PPT Papeete 37.12 171 P **P** **22 40 08.0 +0.8**
comp=Z,17nm,0.4s,baz=333,slow=4.5,SNR=5.5
PPT LR LR 22 51 30.8
comp=Z,176µm,21.8s,baz=346,slow=30
comp=Z,17nm,0.4s
PPT Papeete 37.12 171 P **P** **22 40 08.0 +0.8**
PFO Pinyon Flats O 37.12 60 P **P** **22 40 07.7 +0.4**
PFO Pinyon Flats O 37.12 60 P **P** **22 40 06.6 -0.7**
baz=257,SNR=20
PFO S **S** **22 45 58.2 +4.1**
baz=257
PFO Pinyon Flats O 37.12 60 P **P** **22 40 07.7 +0.4**
PFO pmax pmax
comp=Z,108nm,1.1s
TPFO Pinon Flats 37.12 60 P **P** **22 40 06.9 -0.4**
baz=257,SNR=20
TPFO S **S** **22 45 58.2 +4.1**
baz=257
SII Sitkinak Islan 37.12 1 IAMs_20 IAMs_20 22 51 57.8
comp=Z,87µm,21.0s
SII Sitkinak Islan 37.12 1 P **P** **22 40 07.9 +1.0**
baz=181
PPTF Pamatai, Papee 37.14 171 P P 22 40 15.2 +7.8
PPTF Pamatai, Papee 37.14 171 P **P** **22 40 05.5 -2.0**
NV11 Mina Array Sit 37.15 51 P **P** **22 40 06.3 -1.3**
H04A Detroit Lake 37.18 40 P **P** **22 40 09.7 +2.1**
IKP In-Ko-Pah, Jac 37.21 61 P **P** **22 40 07.9 -0.1**
baz=259,SNR=5.4
IKP S **S** **22 45 59.5 +4.1**
baz=259
RADR Rader Ridge 37.21 36 P **P** **22 40 08.5 +0.7**
ESJX Sierra Juarez 37.23 62 P **P** **22 40 09.0 +0.7**
RMX La Rumorosa 37.23 61 P **P** **22 40 06.9 -1.4**
GSC Goldstone, Bar 37.24 57 P **P** **22 40 06.2 -2.1**
GSC Goldstone, Bar 37.24 57 P **P** **22 40 07.7 -0.6**
baz=255,SNR=30
GSC S **S** **22 46 00.3 +4.5**
baz=255
GSC Goldstone, Bar 37.24 57 P **P** **22 40 06.2 -2.1**
GSC pmax pmax
comp=Z,163nm,1.2s
VTX Valle De La Tr 37.26 63 P **P** **22 40 07.9 -0.6**
GRAC Grapevine Rang 37.28 54 P **P** **22 40 10.3 +1.7**
GRAC IAmb IAmb 22 40 35.6
comp=Z,863nm,1.9s
GRAC Grapevine Rang 37.28 54 P **P** **22 40 08.5 0.0**
baz=252,SNR=5.0
GRAC S **S** **22 46 00.2 +3.9**
baz=252
YUH Yuha Desert 37.36 61 P **P** **22 40 05.0 -4.3**
QSM Queen of Sheba 37.37 56 P **P** **22 40 09.2 -0.1**
QSM IAmb IAmb 22 40 25.2
comp=Z,431nm,1.4s
KVN Kaiserville 37.41 50 P **P** **22 40 08.5 -1.3**
KVN Kaiserville 37.41 50 P **P** **22 40 08.5 -1.3**
KVN pmax pmax
comp=Z,196nm,1.4s
E03A Lebam 37.41 36 P **P** **22 40 07.9 -1.6**
GMN Gold Mountain 37.45 53 P **P** **22 40 08.8 -1.4**
F04D Rainier, OR 37.46 37 P **P** **22 40 10.6 +0.7**
MZP Montezuma Peak 37.49 53 P **P** **22 40 10.0 -0.5**
HEC Hector,Ludlow 37.50 58 P **P** **22 40 09.6 -0.9**
baz=256,SNR=20
HEC S **S** **22 46 01.4 +1.7**
baz=256
FURC Furnace Creek, 37.51 55 P **P** **22 40 10.6 +0.2**
baz=253,SNR=21
FURC S **S** **22 46 01.0 +1.4**
baz=253
I05D Terrebonne, OR 37.52 41 P **P** **22 40 10.6 +0.2**
SWSC Sam W. Stewart 37.52 61 P **P** **22 40 10.6 0.0**
baz=259,SNR=6.6
SWSC S **S** **22 46 02.1 +2.1**
baz=259
BELC Belle Mtn. Jos 37.58 59 P **P** **22 40 10.8 -0.4**
baz=257,SNR=52
BELC S **S** **22 46 03.1 +2.1**
baz=257
FUNA Funafuti 37.58 225 P **P** **22 40 09.3 -1.9**
FUNA IAmb IAmb 22 40 23.3
comp=Z,594nm,1.8s
GWY Greenwater Val 37.59 55 P **P** **22 40 09.0 -2.3**
WISH Wishkah 37.64 36 P **P** **22 40 11.1 -0.2**
C03A Quillayute Air 37.72 34 P **P** **22 40 13.7 +1.7**
C03A IAMs_20 IAMs_20 22 50 50.8
comp=Z,74µm,20.0s
F04A Amboy 37.72 38 P **P** **22 40 13.7 +1.7**
TPH Tonopah 37.73 52 IAmb IAmb 22 40 28.5
comp=Z,598nm,1.2s
NLWA Neilton Lookou 37.75 35 P **P** **22 40 12.5 +0.2**
NLWA Neilton Lookou 37.75 35 ⇑P **P** **22 40 13.1 +0.7**
HG4B Hotspring 37.76 24 P **P** **22 40 09.7 -2.6**
AMKA Amchitka 37.77 334 P **P** **22 40 09.2 -3.2**
HOLB Holberg 37.79 28 P **P** **22 40 10.4 -2.2**
OHAK Old Harbor 37.81 2 P **P** **22 40 15.0 +2.4**
OHAK Old Harbor 37.81 2 IAmb IAmb 22 40 24.4
comp=Z,380nm,1.5s
OHAK IAMs_20 IAMs_20 22 52 19.8
comp=Z,63µm,20.0s
OHAK Old Harbor 37.81 2 P **P** **22 40 13.4 +0.8**
baz=183
SHOC Shoshone, Teco 37.81 56 P **P** **22 40 13.5 +0.4**
baz=254,SNR=16
SHOC S **S** **22 46 07.4 +3.0**
baz=254
CPBX Cerro Prieto 37.84 62 P **P** **22 40 12.6 -0.6**
CPBX IAmb IAmb 22 41 05.3
comp=Z,256nm,1.1s
HOOD Mount Hood Mea 37.84 39 P **P** **22 40 11.9 -1.4**
OZB Mount Ozzard 37.88 32 P **P** **22 40 13.2 -0.3**
BC3 Big Chuckawall 37.95 60 P **P** **22 40 14.8 +0.5**
baz=258,SNR=26
BC3 S **S** **22 46 07.9 +1.2**
baz=258
TUQ Turquoise Moun 37.97 57 P **P** **22 40 15.2 +0.7**
baz=255,SNR=39
TUQ S **S** **22 46 10.3 +3.3**
baz=255
G05A Wamic 38.00 40 P **P** **22 40 14.2 -0.3**
SFX San Felipe 38.00 64 P **P** **22 40 13.6 -1.1**
Q09A Carvers 38.01 51 P **P** **22 40 13.5 -1.4**
DIB Dawson Inlet, 38.01 22 P **P** **22 40 14.2 -0.2**
H02S1 DAWSON INLET T 38.01 22 T T 23 20 28.5
GMRC Granite Mounta 38.03 58 P **P** **22 40 15.0 -0.1**
baz=256,SNR=31
GMRC S **S** **22 46 08.6 +0.7**
baz=256
R16K Pilot Point 38.17 358 P **P** **22 40 16.5 +0.8**
baz=176
IRM Iron Mountain 38.30 59 P **P** **22 40 17.3 0.0**
baz=258,SNR=36
IRM S **S** **22 46 13.6 +1.7**
baz=258
GLA Glamis 38.34 61 P **P** **22 40 17.9 +0.3**
GLA Glamis 38.34 61 P **P** **22 40 18.1 +0.5**
baz=259,SNR=6.7
GLA S **S** **22 46 16.1 +3.6**
baz=259
GLA Glamis 38.34 61 P **P** **22 40 17.9 +0.3**
GLA pmax pmax
comp=Z,358nm,1.6s
B04A Port Angeles 38.35 34 P **P** **22 40 17.1 -0.2**
WVOR Wild Horse Val 38.36 45 ⇑P **P** **22 40 18.0 +0.2**
WVOR Wild Horse Val 38.36 45 P **P** **22 40 18.1 +0.4**
WVOR pmax pmax
comp=Z,80nm,1.3s
KDAK Kodiak Island 38.39 2 P **P** **22 40 18.2 +0.7**
KDAK IAmb IAmb 22 40 29.3
comp=Z,898nm,2.0s
KDAK Kodiak Island 38.39 2 P **P** **22 40 18.5 +0.9**
baz=184
KDAK S **S** **22 46 17.4 +5.1**
baz=184
KDAK Kodiak Island 38.39 2 ⇓P **P** **22 40 21.2 +3.7**
KDAK Kodiak Island 38.39 2 LR LR 22 52 47.3
comp=Z,80µm,21.9s,baz=212,slow=31
KDAK Kodiak Island 38.39 2 *i* P **P** **22 40 17.3 -0.2**
KDAK pmax pmax
comp=Z,517nm,2.0s
KDAK MLR MLR
comp=Z,32µm,9.0s
GNW Green Mountain 38.42 36 P **P** **22 40 18.8 +0.9**
CBB Campbell River 38.65 31 P **P** **22 40 21.5 +1.6**
D05A Enumclaw 38.67 37 P **P** **22 40 21.2 +1.2**
D05A IAmb IAmb 22 40 53.7
comp=Z,354nm,1.3s
P08K Saint George I 38.71 347 P **P** **22 40 21.0 +0.8**
baz=158
S11A Rachel 38.71 54 IAmb IAmb 22 40 43.5
comp=Z,524nm,1.4s
PGC Sidney 38.73 34 P **P** **22 40 19.4 -1.1**
Q17K Contact Creek 38.83 359 P **P** **22 40 21.5 +0.1**
baz=179,SNR=9.5
Q17K S **S** **22 46 21.2 +1.8**
baz=179
NEE2 Needles Airpor 38.86 58 P **P** **22 40 22.8 +0.9**
baz=257
NEE2 S **S** **22 46 20.5 +0.3**
baz=257
WTNK Soaring Height 38.88 56 P **P** **22 40 22.8 +0.7**
BBB Bella Bella 38.92 26 P **P** **22 40 21.4 -0.7**
BBB Bella Bella 38.92 26 ⇑P **P** **22 40 22.8 +0.8**
BBB Bella Bella 38.92 26 LR LR 22 52 17.7
comp=Z,22µm,21.1s,baz=225,slow=30
R11B Troy Canyon, C 39.04 53 P **P** **22 40 23.6 +0.1**
baz=252,SNR=54
R11B S **S** **22 46 25.2 +2.0**
baz=252
PDMCI Parker Dam,Lak 39.15 59 P **P** **22 40 24.0 -0.3**
baz=258,SNR=23
PDMCI S **S** **22 46 22.3 -2.2**
baz=258
F07A Phinny Hill Vi 39.17 40 P **P** **22 40 22.7 -1.6**
Q20K Shuyak Island 39.22 2 P **P** **22 40 25.3 +0.8**
baz=184
Q20K S **S** **22 46 24.4 -0.5**
baz=184
SYI Shuyak Island 39.22 2 P **P** **22 40 21.0 -3.5**
SYI IAMs_20 IAMs_20 22 52 52.3
comp=Z,80µm,22.0s
PIX Pinacate 39.25 64 P **P** **22 40 23.6 -1.5**
Q16K King Salmon 39.26 359 P **P** **22 40 25.2 +0.4**
baz=178
Q16K S **S** **22 46 26.9 +1.5**
baz=178
SPIA Saint Paul Isl 39.39 347 P **P** **22 40 26.1 +0.2**
baz=157
SPIA S **S** **22 46 30.2 +2.7**
baz=157
GRNB Grenville Isla 39.44 23 P **P** **22 40 26.2 -0.3**
LTY Liberty 39.45 37 IAMs_20 IAMs_20 22 51 32.1
comp=Z,61µm,19.0s
Q19K Cape Douglas, 39.51 1 P **P** **22 40 26.2 -0.8**
Q19K IAMs_20 IAMs_20 22 52 51.9
comp=Z,63µm,21.0s
Q19K Cape Douglas, 39.51 1 P **P** **22 40 27.1 +0.1**
baz=182
Q19K S **S** **22 46 32.2 +2.9**
baz=182
W13A Hualapai Mount 39.52 58 P **P** **22 40 27.2 -0.4**
E07A Sunnyside 39.56 39 P **P** **22 40 28.7 +1.2**
P16K Nushagak River 39.65 358 P **P** **22 40 28.5 +0.4**
baz=176
P16K S **S** **22 46 35.1 +3.7**
baz=176
HAWA Hanford 39.66 39 P **P** **22 40 28.6 +0.2**
HAWA Hanford 39.66 39 ⇑P **P** **22 40 28.9 +0.5**
CRAG Craig 39.66 19 P **P** **22 40 30.3 +2.1**
CRAG Craig 39.66 19 P **P** **22 40 28.5 +0.3**
CRAG Craig 39.66 19 P **P** **22 40 29.7 +1.5**
baz=213
CRAG S **S** **22 46 33.9 +2.3**
baz=213
CRAG Craig 39.66 19 ⇑P **P** **22 40 32.5 +4.3**
RUBB Prince Rupert 39.71 23 P **P** **22 40 27.0 -1.6**
P17K Kvichak River 39.77 359 P **P** **22 40 29.0 -0.1**
baz=178
P17K S **S** **22 46 36.6 +3.4**
baz=178
Q12A Willow Creek R 39.81 52 IAmb IAmb 22 40 56.9
comp=Z,587nm,1.5s
Q12A IAMs_20 IAMs_20 22 53 51.5
comp=Z,43µm,19.0s
214A Organ Pipe Nat 39.85 63 P **P** **22 40 29.1 -1.1**
baz=262,SNR=18
214A S **S** **22 46 36.3 +1.1**
baz=262
O15K Ungalikthiuk R 39.89 356 P **P** **22 40 30.3 +0.2**
baz=173
O15K S **S** **22 46 36.0 +1.0**
baz=173
SRIG Santa Rosalia 39.95 70 P **P** **22 40 32.7 +1.7**
P18K Big Mountain, 39.96 360 P **P** **22 40 29.9 -0.8**
P18K IAMs_20 IAMs_20 22 53 16.8
comp=Z,58µm,22.0s
P18K Big Mountain, 39.96 360 P **P** **22 40 29.9 -0.8**
baz=180
P18K S **S** **22 46 37.6 +1.5**
baz=180
E08A Dider Farm, El 39.99 39 P **P** **22 40 30.0 -1.2**
V35K Ketchikan 40.03 21 P **P** **22 40 31.1 -0.2**
V35K IAmb IAmb 22 40 49.1
comp=Z,493nm,1.5s
V35K Ketchikan 40.03 21 P **P** **22 40 32.6 +1.3**
baz=216,SNR=15
V35K S **S** **22 46 38.0 +0.8**
baz=216
ELK Elko 40.06 49 ⇑P **P** **22 40 31.4 -0.7**
ELK Elko 40.06 49 LR LR 22 52 57.3
comp=Z,21µm,22.0s,slow=30
O14K Tigyukauivet M 40.07 355 P **P** **22 40 29.0 -2.6**
O14K IAMs_20 IAMs_20 22 53 22.9
comp=Z,74µm,22.0s
O14K Tigyukauivet M 40.07 355 P **P** **22 40 31.7 +0.1**
baz=171
O14K S **S** **22 46 38.0 +0.4**
baz=171
CNPM China Poot 40.19 3 P **P** **22 40 32.3 -0.3**
CNPM IAMs_20 IAMs_20 22 53 19.7
comp=Z,77µm,22.0s
U33K Whale Pass 40.20 19 P **P** **22 40 34.4 +1.7**
U33K IAMs_20 IAMs_20 22 52 54.9
comp=Z,53µm,22.0s
U33K Whale Pass 40.20 19 P **P** **22 40 33.8 +1.2**
baz=213
U33K S **S** **22 46 41.1 +1.4**
baz=213
O16K Kokwok River B 40.22 358 IAMs_20 IAMs_20 22 53 38.7
comp=Z,64µm,21.0s
O16K Kokwok River B 40.22 358 P **P** **22 40 33.4 +0.6**
baz=176
O16K S **S** **22 46 42.0 +2.1**
baz=176
P19K Oil Pt 40.24 1 P **P** **22 40 33.7 +0.7**
P19K IAMs_20 IAMs_20 22 53 24.2
comp=Z,67µm,22.0s
P19K Oil Pt 40.24 1 P **P** **22 40 32.9 -0.2**
baz=183
P19K S **S** **22 46 42.1 +1.8**
baz=183
BMO Blue Mountains 40.29 42 ⇑P **P** **22 40 33.6 -0.2**
HOM Homer 40.30 3 IAMs_20 IAMs_20 22 53 45.7
comp=Z,71µm,20.0s
HOM Homer 40.30 3 P **P** **22 40 33.8 +0.3**
baz=185
D08A Wollman Farm, 40.36 39 IAMs_20 IAMs_20 22 51 54.8
comp=Z,55µm,19.0s
O17K Koliganek Bris 40.37 358 P **P** **22 40 34.2 +0.2**
baz=177
O17K S **S** **22 46 42.6 +0.6**
baz=177
SIT Sitka 40.38 17 P **P** **22 40 35.9 +1.8**
SIT Sitka 40.38 17 IAMs_20 IAMs_20 22 52 36.5
comp=Z,49µm,20.0s
SIT Sitka 40.38 17 P **P** **22 40 35.1 +1.0**
baz=209,SNR=5.5
SIT S **S** **22 46 46.0 +3.7**
baz=209
O18K Koktuh Hills 40.42 360 IAMs_20 IAMs_20 22 54 05.0
comp=Z,48µm,20.0s
O18K Koktuh Hills 40.42 360 P **P** **22 40 34.5 0.0**
baz=180
O18K S **S** **22 46 45.8 +2.8**
baz=180
BRSE Bradley Lake S 40.43 3 P **P** **22 40 35.8 +1.2**
baz=186
BRLK Bradley Lake 40.45 3 IAMs_20 IAMs_20 22 53 39.2
comp=Z,71µm,21.0s
Q23K Middleton Isla 40.49 7 P **P** **22 40 36.3 +1.3**
baz=193
Q23K S **S** **22 46 48.0 +4.1**
baz=193
E09A Wood Farm, Sta 40.55 40 P **P** **22 40 35.1 -0.7**
RAR Rarotonga 40.61 187 P P 22 40 41.7 +5.3
RAR Rarotonga 40.61 187 LR LR 22 53 13.2
comp=Z,108µm,20.9s,baz=7.0,slow=30
RAR Rarotonga 40.61 187 P **P** **22 40 38.0 +1.6**
O20K Slope Mountain 40.69 2 P **P** **22 40 37.5 +0.7**
baz=183
O20K S **S** **22 46 48.5 +1.5**
baz=183
WRAK Wrangell Islan 40.70 19 IAmb IAmb 22 40 54.6

comp=Z,310nm,1.2s
WRAK Wrangell Islan 40.70 19 P **P** **22 40 38.1 +1.3**
baz=214,SNR=16
WRAK S **S** **22 46 48.4 +1.3**
baz=214
WRAK Wrangell Islan 40.70 19 ⇑P **P** **22 40 38.1 +1.3**
O19K Port Alsworth 40.77 1 P **P** **22 40 35.7 -1.6**
O19K Port Alsworth 40.77 1 P **P** **22 40 37.5 +0.2**
baz=181
O19K S **S** **22 46 49.2 +1.2**
baz=181
N14K Kuskokwak Cree 40.77 355 P **P** **22 40 37.6 +0.3**
baz=170,SNR=12
N14K S **S** **22 46 49.2 +1.2**
baz=170
B08A Colville Reser 40.81 37 P **P** **22 40 37.1 -0.8**
T33K Petersburg 40.84 18 P **P** **22 40 39.0 +1.0**
baz=213
T33K S **S** **22 46 52.4 +3.1**
baz=213
F10A Beach Ranch, E 40.85 41 ⇑P **P** **22 40 38.3 -0.1**
SEW Seward 40.87 4 P **P** **22 40 38.5 +0.4**
baz=188
SEW S **S** **22 46 51.1 +1.5**
baz=188
N15K Kwethluk River 40.90 356 P **P** **22 40 37.2 -1.2**
N15K IAMs_20 IAMs_20 22 54 42.7
comp=Z,63µm,21.0s
N15K Kwethluk River 40.90 356 P **P** **22 40 38.1 -0.3**
baz=173
N15K S **S** **22 46 49.7 -0.3**
baz=173
NIUE Niue 40.91 202 P **P** **22 40 39.6 +0.7**
NIUE IAmb IAmb 22 41 08.5
comp=Z,779nm,1.5s
S32K Killisnoo 40.94 17 IAMs_20 IAMs_20 22 52 53.3
comp=Z,59µm,21.0s
S32K Killisnoo 40.94 17 P **P** **22 40 40.1 +1.3**
baz=210
S32K S **S** **22 46 50.4 -0.2**
baz=210
P23K Montague Islan 40.94 6 P **P** **22 40 39.6 +0.8**
baz=191
S31K Pelican 40.94 15 P **P** **22 40 40.0 +1.2**
S31K IAMs_20 IAMs_20 22 52 51.4
comp=Z,59µm,21.0s
S31K Pelican 40.94 15 P **P** **22 40 38.8 +0.1**
baz=208
S31K S **S** **22 46 53.7 +3.1**
baz=208
SHEM Shemya Is, Ala 40.99 332 LR LR 22 54 25.1
comp=Z,64µm,21.4s,baz=119,slow=32
U35K Hyder 41.05 21 P **P** **22 40 39.0 -0.6**
U35K IAmb IAmb 22 41 10.3
comp=Z,896nm,1.7s
U35K IAMs_20 IAMs_20 22 53 22.1
comp=Z,46µm,20.0s
U35K Hyder 41.05 21 P **P** **22 40 40.9 +1.2**
baz=217
U35K S **S** **22 46 55.1 +2.8**
baz=217
RSO Redoubt South 41.07 2 P **P** **22 40 40.0 0.0**
U15A North Rim 41.07 56 IAmb IAmb 22 41 06.3
comp=Z,503nm,1.8s
C09A Chrisman Ranch 41.12 38 IAmb IAmb 22 40 55.9
comp=Z,351nm,1.6s
N17K Nushagak Hills 41.12 358 IAmb IAmb 22 41 02.9
comp=Z,456nm,1.6s
N17K IAMs_20 IAMs_20 22 54 16.6
comp=Z,59µm,22.0s
N17K Nushagak Hills 41.12 358 P **P** **22 40 40.8 +0.5**
baz=177,SNR=13
N17K S **S** **22 46 55.4 +2.0**
baz=177
N16K Nishlik Lake 41.13 357 P **P** **22 40 41.0 +0.6**
baz=175,SNR=17
N16K S **S** **22 46 55.5 +1.9**
baz=175
HSIG 41.17 68 P **P** **22 40 41.9 +0.7**
HSIG 41.17 68 ⇓P **P** **22 40 42.0 +0.9**
O22K Cooper Landing 41.23 4 P **P** **22 40 38.6 -2.5**
O22K IAmb IAmb 22 41 09.3
comp=Z,328nm,1.1s
O22K IAMs_20 IAMs_20 22 54 22.2
comp=Z,63µm,20.0s
O22K Cooper Landing 41.23 4 P **P** **22 40 41.5 +0.3**
baz=188
O22K S **S** **22 46 56.8 +1.9**
baz=188
PLID Pearl Lake 41.23 43 IAMs_20 IAMs_20 22 53 14.7
comp=Z,54µm,22.0s
N18K Kilae Creek 41.26 359 IAmb IAmb 22 41 09.7
comp=Z,301nm,1.2s
N18K IAMs_20 IAMs_20 22 54 10.1
comp=Z,55µm,22.0s
N18K Kilae Creek 41.26 359 P **P** **22 40 41.5 +0.1**
baz=179,SNR=13
N18K S **S** **22 46 58.1 +2.7**
baz=179
PKCU Pink Cliffs 41.29 55 IAmb IAmb 22 41 08.8
comp=Z,542nm,1.4s
N19K Bonanza Creek 41.39 0 IAMs_20 IAMs_20 22 53 51.5
comp=Z,65µm,22.0s
N19K Bonanza Creek 41.39 0 P **P** **22 40 42.6 0.0**
baz=181,SNR=46
N19K S **S** **22 47 01.9 +4.4**
baz=181
M13K Dall Lake 41.41 354 IAmb IAmb 22 40 53.4
comp=Z,656nm,1.6s
M13K IAMs_20 IAMs_20 22 54 49.2
comp=Z,60µm,21.0s
M13K Dall Lake 41.41 354 P **P** **22 40 42.6 +0.1**
baz=168
M13K S **S** **22 47 01.0 +3.5**
baz=168
HIN Hinchinbrook I 41.42 6 P **P** **22 40 39.2 -3.5**
HIN IAmb IAmb 22 41 06.4
comp=Z,385nm,1.2s
HIN IAMs_20 IAMs_20 22 53 42.3
comp=Z,72µm,22.0s
CAPN Captain Cook N 41.43 3 P **P** **22 40 42.8 0.0**
baz=186
SUCK Suckling Hills 41.44 9 P **P** **22 40 41.3 -1.6**
SUCK IAmb IAmb 22 41 20.1
comp=Z,378nm,1.2s
M15K Kasigluk River 41.46 356 P **P** **22 40 42.4 -0.6**
baz=172,SNR=19
M15K S **S** **22 47 00.9 +2.6**
baz=172
TCRU Three Creeks R 41.47 53 P **P** **22 40 41.4 -2.4**
TCRU IAmb IAmb 22 41 16.4
comp=Z,492nm,1.4s
BGLC Bering Glacier 41.56 9 P **P** **22 40 43.9 +0.1**
baz=197
YKU2 Yakutat 41.59 12 IAMs_20 IAMs_20 22 53 09.7
comp=Z,59µm,20.0s
TUC Tucson 41.60 63 P **P** **22 40 44.9 +0.2**
TUC Tucson 41.60 63 P **P** **22 40 45.2 +0.5**
baz=263
TUC S **S** **22 47 02.2 +0.8**
baz=263
TUC Tucson 41.60 63 ⇑P **P** **22 40 46.4 +1.7**
TUC Tucson 41.60 63 P **P** **22 40 44.9 +0.2**
TUC pmax pmax
comp=Z,95nm,0.6s
TUC MLR MLR
comp=Z,39µm,22.0s
H06S1 SOCORRO T 41.61 83 T T 23 25 00.1
SNR=370
M14K Bethel 41.61 355 IAmb IAmb 22 41 15.2
comp=Z,387nm,1.1s
M14K IAMs_20 IAMs_20 22 54 19.6
comp=Z,71µm,22.0s
M14K Bethel 41.61 355 P **P** **22 40 44.1 -0.1**
baz=170,SNR=16
M14K S **S** **22 47 03.8 +3.2**
baz=170
WUAZ Wupatki 41.61 58 P **P** **22 40 45.4 +0.5**
baz=259,SNR=44
WUAZ S **S** **22 47 04.0 +2.3**
baz=259
WUAZ Wupatki 41.61 58 ⇑P **P** **22 40 45.6 +0.7**
HMT Hamilton 41.63 8 P **P** **22 40 42.8 -1.7**
HMT IAmb IAmb 22 41 21.6
comp=Z,171nm,0.8s
DUG Dugway, Tooele 41.64 51 IAMs_20 IAMs_20 22 57 04.9
comp=Z,38µm,18.0s
DUG Dugway, Tooele 41.64 51 P **P** **22 40 45.1 0.0**
baz=253,SNR=16
DUG S **S** **22 47 03.8 +1.8**
baz=253
DUG Dugway, Tooele 41.64 51 P **P** **22 40 45.9 +0.9**
DUG pmax pmax
comp=Z,98nm,1.5s
EYAK Cordova Ski Ar 41.65 7 P **P** **22 40 46.8 +2.2**
EYAK Cordova Ski Ar 41.65 7 P **P** **22 40 45.1 +0.5**
baz=193
EYAK S **S** **22 47 04.0 +2.9**
baz=193
HLID Hailey 41.65 45 IAMs_20 IAMs_20 22 55 06.9
comp=Z,45µm,18.0s
HLID Hailey 41.65 45 P **P** **22 40 44.8 -0.4**
baz=248,SNR=83
HLID S **S** **22 47 06.1 +4.0**
baz=248
HLID Hailey 41.65 45 ⇑P **P** **22 40 45.2 +0.1**
R32K Eaglecrest 41.65 16 P **P** **22 40 43.5 -1.2**
R32K IAMs_20 IAMs_20 22 53 38.2
comp=Z,53µm,21.0s
R32K Eaglecrest 41.65 16 P **P** **22 40 45.8 +1.1**
baz=210
SVW2 Sparrevohn 41.67 360 P **P** **22 40 47.2 +2.4**
SNH Sunshine Point 41.68 9 P **P** **22 40 41.4 -3.6**
M16K Timber Creek 41.69 357 IAmb IAmb 22 41 16.8
comp=Z,335nm,1.2s
M16K IAMs_20 IAMs_20 22 54 21.6
comp=Z,62µm,22.0s
M16K Timber Creek 41.69 357 P **P** **22 40 45.4 +0.5**
baz=174,SNR=12
M16K S **S** **22 47 05.5 +3.7**
baz=174
JIS Juneau Island 41.69 16 P **P** **22 40 46.7 +1.8**
JIS Juneau Island 41.69 16 P **P** **22 40 43.8 -1.2**
JIS IAmb IAmb 22 41 02.8
comp=Z,336nm,1.3s
JIS IAMs_20 IAMs_20 22 53 40.2
comp=Z,53µm,21.0s
BGU Big Grassy Mou 41.71 50 IAmb IAmb 22 41 16.5
comp=Z,399nm,1.5s
LPIG La Paz 41.71 75 LR LR 22 53 14.7
comp=Z,62µm,21.8s,baz=270,slow=29
M11K Mekoryuk 41.72 352 P **P** **22 40 45.7 +0.6**
baz=164
M11K S **S** **22 47 05.7 +3.6**
baz=164
BERG Berg Lake 41.76 8 P **P** **22 40 44.3 -1.2**
BERG IAmb IAmb 22 41 22.8
comp=Z,294nm,1.1s
PNL Peninsula 41.79 12 P **P** **22 40 46.6 +0.8**
baz=202
PNL S **S** **22 47 06.7 +3.4**
baz=202
MESA MESA 41.82 10 P **P** **22 40 45.7 -0.5**
MESA IAMs_20 IAMs_20 22 53 50.7
comp=Z,64µm,20.0s
MESA MESA 41.82 10 P **P** **22 40 46.7 +0.5**
baz=199
MESA S **S** **22 47 05.3 +1.3**
baz=199
N20K Mount Spurr 41.82 2 P **P** **22 40 46.4 +0.3**
baz=184
N20K S **S** **22 47 04.9 +1.0**
baz=184
T35M Bob Quinn 41.83 20 P **P** **22 40 47.2 +1.1**
T35M IAmb IAmb 22 41 04.5
comp=Z,358nm,1.4s
T35M IAMs_20 IAMs_20 22 53 47.7
comp=Z,68µm,22.0s
T35M Bob Quinn 41.83 20 P **P** **22 40 47.5 +1.3**
baz=216,SNR=31
T35M S **S** **22 47 10.2 +6.2**
baz=216
RC01 Rabbit Creek A 41.83 4 IAMs_20 IAMs_20 22 55 21.2
comp=Z,52µm,19.0s
RC01 Rabbit Creek A 41.83 4 P **P** **22 40 46.1 0.0**
baz=187
RC01 S **S** **22 47 06.1 +2.2**
baz=187
GLI Glacier Island 41.84 6 P **P** **22 40 41.6 -4.5**
GLI IAMs_20 IAMs_20 22 53 54.3
comp=Z,71µm,21.0s
GLI Glacier Island 41.84 6 P **P** **22 40 46.4 +0.3**
baz=191
GLI S **S** **22 47 06.6 +2.7**
baz=191
WAX Waxell Ridge 41.94 9 P **P** **22 40 45.2 -1.8**
M17K Holitna River 42.01 358 IAmb IAmb 22 41 10.2
comp=Z,411nm,1.4s
M17K IAMs_20 IAMs_20 22 55 06.7
comp=Z,50µm,20.0s
M17K Holitna River 42.01 358 P **P** **22 40 48.3 +0.8**
baz=177
M17K S **S** **22 47 05.9 -0.6**
baz=177
NEW Newport 42.02 38 P **P** **22 40 47.4 -0.5**
baz=240,SNR=10
NEW S **S** **22 47 07.6 +0.5**
baz=240
NEW Newport 42.02 38 ⇑P **P** **22 40 47.4 -0.5**
NEW Newport 42.02 38 LR LR 22 55 37.1
comp=Z,13µm,18.9s,baz=240,slow=32
NEW Newport 42.02 38 P **P** **22 40 47.7 -0.2**
NEW pmax pmax
comp=Z,62nm,1.1s
SLBS Sierra La Lagu 42.06 76 P **P** **22 40 47.9 -0.7**
SLBS Sierra La Lagu 42.06 76 ⇑P **P** **22 40 53.3 +4.7**
M18K Stony River 42.07 359 P **P** **22 40 48.8 +0.8**
baz=179,SNR=28
M18K S **S** **22 47 09.6 +2.3**
baz=179
P29M Windy Craggy 42.09 13 IAmb IAmb 22 41 06.1
comp=Z,337nm,1.5s
P29M IAMs_20 IAMs_20 22 53 27.9
comp=Z,62µm,22.0s
P29M Windy Craggy 42.09 13 P **P** **22 40 49.2 +1.0**
baz=205,SNR=9.6
P29M S **S** **22 47 11.4 +3.5**
baz=205
SUA Susitna One 42.15 3 P **P** **22 40 48.0 -0.8**
SUA IAmb IAmb 22 41 20.4
comp=Z,199nm,0.9s
SUA Susitna One 42.15 3 P **P** **22 40 48.6 -0.2**
baz=186
SUA S **S** **22 47 09.7 +1.0**
baz=186
HVU Hansel Valley 42.16 49 IAmb IAmb 22 41 15.1
comp=Z,294nm,1.0s
ISLE Juniper Island 42.16 9 IAmb IAmb 22 41 12.9
comp=Z,456nm,1.3s
BMRM Bremner River 42.20 8 P **P** **22 40 49.7 +0.5**
baz=195
BMRM S **S** **22 47 11.7 +2.3**
baz=195
PLBC Pleasant Camp 42.24 14 P **P** **22 40 50.1 +0.7**
baz=207,SNR=9.3
PLBC S **S** **22 47 13.1 +3.1**
baz=207
KNK Knik Glacier 42.24 5 IAmb IAmb 22 41 11.9
comp=Z,367nm,1.3s
KNK IAMs_20 IAMs_20 22 54 09.1
comp=Z,76µm,22.0s
KNK Knik Glacier 42.24 5 P **P** **22 40 49.1 -0.4**
baz=189
KNK S **S** **22 47 12.7 +2.7**
baz=189
L14K Kuka Creek 42.26 355 IAmb IAmb 22 41 19.6
comp=Z,280nm,1.2s
L14K IAMs_20 IAMs_20 22 54 53.7
comp=Z,58µm,22.0s
L14K Kuka Creek 42.26 355 P **P** **22 40 49.1 -0.4**
baz=169,SNR=14
L14K S **S** **22 47 13.9 +3.8**
baz=169
S34M Telegraph Cree 42.31 19 IAmb IAmb 22 41 08.1
comp=Z,391nm,1.4s
S34M IAMs_20 IAMs_20 22 53 59.5
comp=Z,56µm,22.0s
S34M Telegraph Cree 42.31 19 P **P** **22 40 51.7 +1.7**
baz=214,SNR=33
S34M S **S** **22 47 16.9 +5.9**
baz=214
PMR Palmer 42.37 4 P **P** **22 40 52.5 +2.1**
PMR Palmer 42.37 4 P **P** **22 40 50.4 0.0**
baz=188
PMR S **S** **22 47 16.5 +4.7**
baz=188
L16K Owhat River 42.40 357 IAMs_20 IAMs_20 22 55 39.3
comp=Z,54µm,20.0s
L16K Owhat River 42.40 357 P **P** **22 40 50.7 0.0**
baz=174,SNR=20
M22K Willow 42.47 3 IAmb IAmb 22 41 23.4
comp=Z,558nm,1.2s
M22K IAMs_20 IAMs_20 22 54 33.1
comp=Z,53µm,22.0s
M22K Willow 42.47 3 P **P** **22 40 50.9 -0.3**
baz=187
M22K S **S** **22 47 16.2 +3.0**
baz=187
M20K Styx River 42.48 1 IAmb IAmb 22 41 18.9
comp=Z,376nm,1.4s
M20K IAMs_20 IAMs_20 22 54 49.4
comp=Z,74µm,22.0s
M20K Styx River 42.48 1 P **P** **22 40 51.2 -0.3**
baz=183,SNR=8.8
M20K S **S** **22 47 16.2 +2.6**
baz=183
M19K Big River Lodg 42.48 0 IAmb IAmb 22 41 14.5
comp=Z,460nm,1.4s
M19K IAMs_20 IAMs_20 22 54 34.6
comp=Z,58µm,21.0s
M19K Big River Lodg 42.48 0 P **P** **22 40 51.5 +0.1**
baz=181
M19K S **S** **22 47 14.1 +0.6**
baz=181
SKAG Skagway 42.49 15 P **P** **22 40 54.2 +2.8**
SKAG Skagway 42.49 15 P **P** **22 40 53.1 +1.7**
SKAG Skagway 42.49 15 P **P** **22 40 52.8 +1.3**
baz=208
SKAG S **S** **22 47 17.3 +3.7**
baz=208
L15K Ungalak Mounta 42.49 355 P **P** **22 40 50.8 -0.6**
baz=171,SNR=16
L15K S **S** **22 47 16.4 +2.8**
baz=171
Q16A Castle Valley 42.52 53 IAmb IAmb 22 41 19.3
comp=Z,655nm,1.6s
KLU Klutina 42.56 6 P **P** **22 40 53.1 +1.0**
KLU IAMs_20 IAMs_20 22 54 17.3
comp=Z,74µm,22.0s
KLU Klutina 42.56 6 P **P** **22 40 51.4 -0.7**
baz=193
KLU S **S** **22 47 16.8 +2.1**
baz=193
GHO Glory Hole Cre 42.57 4 IAmb IAmb 22 41 15.4
comp=Z,403nm,1.5s
GHO IAMs_20 IAMs_20 22 55 03.6
comp=Z,61µm,20.0s
LOGN Logan Glacier 42.58 10 P **P** **22 40 52.4 0.0**
LOGN IAmb IAmb 22 41 29.8
comp=Z,316nm,1.3s
LOGN IAMs_20 IAMs_20 22 54 16.4
comp=Z,60µm,19.0s
TMUT Trail Mountain 42.58 53 IAmb IAmb 22 41 19.1
comp=Z,318nm,1.3s
VRDI Verde Repeater 42.60 8 IAMs_20 IAMs_20 22 54 17.4
comp=Z,61µm,21.0s
HMU Henry Mountain 42.61 55 IAmb IAmb 22 41 18.5
comp=Z,332nm,1.3s
SKT Skwentna 42.63 2 IAMs_20 IAMs_20 22 55 23.3
comp=Z,60µm,20.0s
SKT Skwentna 42.63 2 P **P** **22 40 52.4 -0.2**
baz=185,SNR=21
SKT S **S** **22 47 16.9 +1.2**
baz=185
SML Sawmill 42.65 5 IAmb IAmb 22 41 16.6
comp=Z,556nm,1.5s
SML IAMs_20 IAMs_20 22 54 19.7
comp=Z,63µm,21.0s
SML Sawmill 42.65 5 P **P** **22 40 53.0 +0.2**
baz=189,SNR=8.2
SML S **S** **22 47 18.7 +2.7**
baz=189
CTG Chitna Glacier 42.66 10 P **P** **22 40 53.6 +0.5**
baz=199,SNR=15
CTG S **S** **22 47 20.9 +4.5**
baz=199
CTGM Chitina Glacie 42.66 10 IAmb IAmb 22 41 29.4
comp=Z,608nm,1.7s
O28M Mount Upton 42.67 11 P **P** **22 40 54.3 +1.0**
baz=201,SNR=17
O28M S **S** **22 47 20.5 +3.6**
baz=201
M23K Glacier View 42.68 5 P **P** **22 40 52.6 -0.4**
baz=190
M23K S **S** **22 47 20.0 +3.6**
baz=190
BARN Barnard Glacie 42.70 10 IAmb IAmb 22 41 29.9
comp=Z,799nm,1.9s
BARN IAMs_20 IAMs_20 22 53 46.5
comp=Z,72µm,22.0s
P30M Million Dollar 42.71 13 P **P** **22 40 54.0 +0.7**
baz=206
P30M S **S** **22 47 21.8 +4.8**
baz=206
SCM Sheep Creek Mo 42.75 5 IAMs_20 IAMs_20 22 54 47.5
comp=Z,53µm,22.0s
SCM Sheep Creek Mo 42.75 5 P **P** **22 40 53.4 -0.3**
baz=191,SNR=8.8
SCM S **S** **22 47 20.1 +2.4**
baz=191
JLU Jordanelle 42.76 51 P **P** **22 40 56.1 +1.8**
L19K White Mountain 42.76 0 IAmb IAmb 22 41 20.9
comp=Z,264nm,1.0s
L19K IAMs_20 IAMs_20 22 55 17.8
comp=Z,47µm,21.0s
L19K White Mountain 42.76 0 P **P** **22 40 52.8 -0.9**
baz=180,SNR=29
L19K S **S** **22 47 19.1 +1.5**
baz=180
L17K Donlin 42.77 358 P **P** **22 40 53.9 +0.2**
baz=175,SNR=16
L17K S **S** **22 47 19.7 +2.0**
baz=175
319A Douglas 42.78 65 P **P** **22 40 56.4 +2.0**
MCARA McCarthy VSAT 42.81 9 P **P** **22 40 53.8 -0.3**
MCARA IAmb IAmb 22 41 52.9
comp=Z,458nm,1.7s
MCARA IAMs_20 IAMs_20 22 54 56.9
comp=Z,48µm,20.0s
MCARA McCarthy VSAT 42.81 9 P **P** **22 40 54.1 +0.1**
baz=197
MCARA S **S** **22 47 21.6 +3.3**
baz=197
L18K Granite Mounta 42.81 359 IAMs_20 IAMs_20 22 55 20.2
comp=Z,60µm,21.0s
L18K Granite Mounta 42.81 359 P **P** **22 40 53.9 -0.2**
baz=178,SNR=20
L18K S **S** **22 47 20.6 +2.3**
baz=178
N25K Chitina, Valde 42.82 7 IAMs_20 IAMs_20 22 54 26.2
comp=Z,63µm,21.0s
N25K Chitina, Valde 42.82 7 P **P** **22 40 54.4 +0.1**
baz=194
N25K S **S** **22 47 20.6 +2.0**
baz=194
W18A Petrified Fore 42.86 59 P **P** **22 40 55.2 0.0**
W18A Petrified Fore 42.86 59 P **P** **22 40 54.9 -0.2**
baz=261
TCUT Toone Canyon 42.93 50 IAmb IAmb 22 41 21.7
comp=Z,310nm,1.1s
HWUT Hardware Ranch 42.97 49 ⇑P **P** **22 40 55.5 -0.3**
P17A Butcher Ranch, 42.98 52 IAmb IAmb 22 41 21.9
comp=Z,371nm,1.3s
P32M Atlin 43.00 16 IAMs_20 IAMs_20 22 54 28.9
comp=Z,51µm,21.0s
P32M Atlin 43.00 16 P **P** **22 40 56.7 +1.0**
baz=210
P32M S **S** **22 47 25.2 +3.9**
baz=210
K13K Kusilvak Mount 43.03 353 IAmb IAmb 22 41 18.6
comp=Z,493nm,1.8s
K13K Kusilvak Mount 43.03 353 P **P** **22 40 56.2 +0.3**
baz=167,SNR=5.7
K13K S **S** **22 47 20.8 -0.8**
baz=167
SRU San Rafael Swe 43.05 53 IAmb IAmb 22 41 23.0
comp=Z,278nm,1.2s
L20K Farewell, AK 43.06 1 P **P** **22 40 55.7 -0.4**
baz=182,SNR=39
L20K S **S** **22 47 23.2 +1.1**
baz=182
DLBC Dease Lake 43.08 19 IAmb IAmb 22 41 14.2

comp=Z,501nm,1.4s
DLBC IAMs_20 IAMs_20 22 54 00.8
comp=Z,59µm,22.0s
DLBC Dease Lake 43.08 19 P **P** **22 40 57.4 +1.1**
baz=216,SNR=29
DLBC S **S** **22 47 27.2 +4.8**
baz=216
DLBC Dease Lake 43.08 19 LR LR 22 54 56.7
comp=Z,42µm,21.1s,baz=222,slow=31
K15K Wolf Creek Mou 43.11 356 P **P** **22 40 55.2 -1.2**
K15K IAmb IAmb 22 41 55.8
comp=Z,379nm,1.8s
K15K IAMs_20 IAMs_20 22 55 17.1
comp=Z,56µm,21.0s
K15K Wolf Creek Mou 43.11 356 P **P** **22 40 56.3 -0.2**
baz=171
K15K S **S** **22 47 25.7 +3.1**
baz=171
CUT Chulitna 43.11 3 P **P** **22 40 56.3 -0.2**
baz=186
CUT S **S** **22 47 24.6 +2.0**
baz=186
M24K Tolsona, Glenn 43.13 6 IAMs_20 IAMs_20 22 55 01.5
comp=Z,57µm,21.0s
M24K Tolsona, Glenn 43.13 6 P **P** **22 40 56.7 0.0**
baz=192
M24K S **S** **22 47 26.9 +3.8**
baz=192
YUK6 Outpost Mounta 43.17 12 P **P** **22 40 58.5 +1.2**
baz=203,SNR=6.0
YUK6 S **S** **22 47 29.9 +5.8**
baz=203
YUK8 Steele Glacier 43.23 11 P **P** **22 40 58.8 +1.0**
baz=201,SNR=8.1
YUK8 S **S** **22 47 28.8 +3.8**
baz=201
HYT Haines Junctio 43.23 12 P **P** **22 40 59.1 +1.5**
baz=204,SNR=17
HYT S **S** **22 47 29.3 +4.5**
baz=204
MSO Missoula 43.27 41 P **P** **22 40 57.5 -0.7**
baz=245,SNR=8.3
MSO S **S** **22 47 27.5 +1.8**
baz=245
MSO Missoula 43.27 41 ⇑P **P** **22 40 57.5 -0.7**
K17K Iditarod 43.35 358 P **P** **22 40 58.2 -0.3**
K17K IAmb IAmb 22 41 30.0
comp=Z,301nm,1.4s
K17K IAMs_20 IAMs_20 22 56 08.5
comp=Z,53µm,20.0s
K17K Iditarod 43.35 358 P **P** **22 40 58.6 +0.1**
baz=176,SNR=12
K17K S **S** **22 47 29.3 +3.1**
baz=176
P18A Preston Nutter 43.39 52 IAmb IAmb 22 41 34.9
comp=Z,288nm,1.2s
TAVE Taveuni 43.39 216 P P 22 41 04.8 +5.6
BPMT Black Pine Rid 43.42 42 P **P** **22 40 58.7 -0.8**
WAT6 Susitna Watana 43.46 5 P **P** **22 40 59.4 -0.1**
baz=190,SNR=34
WAT6 S **S** **22 47 29.6 +1.5**
baz=190
O30N Mendenhall 43.48 13 IAmb IAmb 22 41 17.4
comp=Z,370nm,1.7s
O30N IAMs_20 IAMs_20 22 54 55.6
comp=Z,54µm,21.0s
O30N Mendenhall 43.48 13 P **P** **22 41 00.8 +1.2**
baz=206,SNR=12
O30N S **S** **22 47 34.0 +5.8**
baz=206
YUK4 Talbot Arm 43.49 11 P **P** **22 41 01.2 +1.4**
baz=203,SNR=10
YUK4 S **S** **22 47 34.4 +5.7**
baz=203
TTA Tatalina 43.52 359 P **P** **22 40 59.1 -0.7**
TTA Tatalina 43.52 359 P **P** **22 40 59.2 -0.7**
baz=179,SNR=19
TTA S **S** **22 47 35.5 +6.8**
baz=179
TTA Tatalina 43.52 359 ⇑P **P** **22 40 59.2 -0.6**
PPLA Purkeypile 43.52 2 P **P** **22 40 58.9 -1.1**
baz=184,SNR=11
PPLA S **S** **22 47 31.2 +2.2**
baz=184
HARP HAARP 43.52 7 P **P** **22 41 00.4 +0.6**
baz=194
HARP S **S** **22 47 32.8 +4.0**
baz=194
ECR Eagle Creek 43.55 47 P **P** **22 40 59.7 -0.9**
YUK3 Moose Creek 43.57 10 P **P** **22 41 01.0 +0.6**
baz=200,SNR=16
YUK3 S **S** **22 47 34.2 +4.4**
baz=200
R33M Jennings River 43.58 18 P **P** **22 41 00.9 +0.5**
R33M IAmb IAmb 22 41 18.4
comp=Z,556nm,1.4s
R33M IAMs_20 IAMs_20 22 55 12.2
comp=Z,43µm,21.0s
R33M Jennings River 43.58 18 P **P** **22 41 01.9 +1.4**
baz=214,SNR=58
R33M S **S** **22 47 33.7 +3.7**
baz=214
WAT1 Susitna Watana 43.64 4 P **P** **22 41 00.5 -0.3**
baz=189
WAT1 S **S** **22 47 32.7 +2.1**
baz=189
WHY Whitehorse 43.66 14 IAmb IAmb 22 41 18.8
comp=Z,419nm,1.9s
WHY IAMs_20 IAMs_20 22 54 50.2
comp=Z,42µm,21.0s
WHY Whitehorse 43.66 14 P **P** **22 41 01.8 +0.8**
baz=208,SNR=6.6
WHY S **S** **22 47 36.5 +5.6**
baz=208
J14K Nanvaranak Lak 43.72 354 P **P** **22 41 01.1 -0.2**
J14K IAMs_20 IAMs_20 22 55 48.4
comp=Z,62µm,22.0s
J14K Nanvaranak Lak 43.72 354 P **P** **22 41 00.9 -0.5**
baz=168,SNR=7.9
J14K S **S** **22 47 34.5 +2.9**
baz=168
P33M Teslin, Yukon 43.77 16 IAMs_20 IAMs_20 22 54 17.2
comp=Z,66µm,22.0s
P33M Teslin, Yukon 43.77 16 P **P** **22 41 02.6 +0.6**
baz=211,SNR=8.7
P33M S **S** **22 47 36.3 +3.7**
baz=211
M26K Nabesna, AK 43.79 8 IAmb IAmb 22 41 25.3
comp=Z,425nm,1.4s
M26K Nabesna, AK 43.79 8 P **P** **22 41 02.2 +0.1**
baz=196,SNR=35
M26K S **S** **22 47 34.9 +2.2**
baz=196
N30M Aishikik Lake 43.89 12 IAmb IAmb 22 41 20.0
comp=Z,394nm,1.7s
N30M IAMs_20 IAMs_20 22 55 20.6
comp=Z,48µm,21.0s
N30M Aishikik Lake 43.89 12 P **P** **22 41 04.3 +1.4**
baz=205,SNR=13
N30M S **S** **22 47 38.4 +4.1**
baz=205
M27K Edge Creek, AK 43.90 9 IAmb IAmb 22 41 40.0
comp=Z,303nm,1.2s
M27K IAMs_20 IAMs_20 22 55 43.9
comp=Z,59µm,20.0s
M27K Edge Creek, AK 43.90 9 P **P** **22 41 03.2 +0.2**
baz=198,SNR=22
M27K S **S** **22 47 38.0 +3.4**
baz=198
K20K Telida 43.94 1 IAMs_20 IAMs_20 22 55 32.1
comp=Z,56µm,22.0s
K20K Telida 43.94 1 P **P** **22 41 01.6 -1.6**
baz=181
K20K S **S** **22 47 36.2 +1.3**
baz=181
DHY Denali Highway 43.98 5 IAmb IAmb 22 41 26.6
comp=Z,340nm,1.4s
DHY IAMs_20 IAMs_20 22 55 24.8
comp=Z,63µm,22.0s
DHY Denali Highway 43.98 5 P **P** **22 41 03.3 -0.3**
baz=190,SNR=11
DHY S **S** **22 47 37.0 +1.3**
baz=190
TPAW Teton Pass 43.99 47 IAmb IAmb 22 41 28.4
comp=Z,305nm,1.1s
J16K Anvik River 44.03 356 IAmb IAmb 22 41 26.6
comp=Z,393nm,1.4s
J16K Anvik River 44.03 356 P **P** **22 41 04.5 +0.6**
baz=172,SNR=14
J16K S **S** **22 47 40.2 +4.1**
baz=172
CAST Castle Rocks 44.05 2 P **P** **22 41 01.7 -2.4**
baz=184,SNR=9.3
CAST S **S** **22 47 37.6 +1.2**
baz=184
PAX Paxson 44.05 6 P **P** **22 41 03.9 -0.2**
baz=193,SNR=41
PAX S **S** **22 47 39.2 +2.6**
baz=193
J18K Innoko River 44.06 359 IAMs_20 IAMs_20 22 55 46.2
comp=Z,58µm,21.0s
J18K Innoko River 44.06 359 P **P** **22 41 03.6 -0.6**
baz=178,SNR=37
J18K S **S** **22 47 39.9 +3.3**
baz=178
J17K VABM Dome 44.06 357 IAmb IAmb 22 41 32.2
comp=Z,339nm,1.4s
J17K IAMs_20 IAMs_20 22 57 10.3
comp=Z,49µm,18.0s
J17K VABM Dome 44.06 357 P **P** **22 41 04.1 0.0**
baz=174,SNR=13
J17K S **S** **22 47 39.4 +2.8**
baz=174
BVCY Beaver Creek 44.11 9 P **P** **22 41 04.9 +0.4**
baz=199
BVCY S **S** **22 47 41.8 +4.5**
baz=199
SNOW Snow King Moun 44.11 47 IAmb IAmb 22 41 38.5
comp=Z,462nm,1.4s
RDMU Red Mountain 44.13 51 IAmb IAmb 22 41 30.5
comp=Z,270nm,1.1s
121A Cookes Peak, D 44.15 63 P **P** **22 41 04.3 -1.2**
baz=265,SNR=30
121A S **S** **22 47 39.2 +0.1**
baz=265
TRF Thorofare Moun 44.15 3 P **P** **22 41 03.2 -1.9**
TRF IAmb IAmb 22 41 40.6
comp=Z,290nm,1.0s
TRF Thorofare Moun 44.15 3 P **P** **22 41 04.8 -0.3**
baz=186,SNR=21
TRF S **S** **22 47 40.1 +1.8**
baz=186
N31M Braeburn, Yuko 44.19 13 P **P** **22 41 05.0 -0.3**
N31M IAmb IAmb 22 41 39.4
comp=Z,184nm,1.1s
N31M IAMs_20 IAMs_20 22 55 07.4
comp=Z,53µm,21.0s
N31M Braeburn, Yuko 44.19 13 P **P** **22 41 06.0 +0.7**
baz=206,SNR=7.3
N31M S **S** **22 47 44.6 +6.0**
baz=206
RND Reindeer 44.19 4 IAmb IAmb 22 41 38.1
comp=Z,226nm,1.0s
MVCO Mesa Verde 44.21 56 IAmb IAmb 22 41 31.6
comp=Z,437nm,1.5s
MVCO IAMs_20 IAMs_20 22 54 37.0
comp=Z,51µm,19.0s
MVCO Mesa Verde 44.21 56 P **P** **22 41 06.4 +0.4**
baz=259,SNR=34
MVCO S **S** **22 47 40.8 +0.9**
baz=259
MVCO Mesa Verde 44.21 56 ⇓P **P** **22 41 06.6 +0.6**
MENT Mentasta 44.22 7 P **P** **22 41 07.7 +2.3**
BOZ Bozeman (W) 44.26 44 IAMs_20 IAMs_20 22 55 02.9
comp=Z,46µm,22.0s
BOZ Bozeman (W) 44.26 44 P **P** **22 41 05.7 -0.5**
baz=248,SNR=51
BOZ S **S** **22 47 41.4 +1.1**
baz=248
BOZ Bozeman (W) 44.26 44 ⇑P **P** **22 41 06.0 -0.2**
LOHW Long Hollow 44.26 47 IAmb IAmb 22 41 34.6
comp=Z,296nm,1.5s
L26K Log Cabin Wild 44.35 8 P **P** **22 41 06.6 +0.2**
baz=196,SNR=15
L26K S **S** **22 47 43.7 +2.9**
baz=196
FLWY Flagg Ranch 44.35 46 IAmb IAmb 22 41 42.3
comp=Z,236nm,1.3s
LYMT Lyon Mountain 44.36 42 P **P** **22 41 06.1 -1.0**
YFT Old Faithful 44.38 46 P **P** **22 41 09.2 +1.9**
CHUM Lake Minchumin 44.51 2 P **P** **22 41 05.3 -2.3**
baz=184
CHUM S **S** **22 47 44.0 +1.0**
baz=184
MCK McKinley 44.51 4 P **P** **22 41 07.6 -0.1**
baz=188,SNR=23
MCK S **S** **22 47 45.6 +2.4**
baz=188
N32M Quiet Lake 44.52 15 IAmb IAmb 22 41 25.3
comp=Z,499nm,1.4s
N32M IAMs_20 IAMs_20 22 54 40.9
comp=Z,60µm,21.0s
N32M Quiet Lake 44.52 15 P **P** **22 41 08.4 +0.5**
baz=210
N32M S **S** **22 47 46.6 +3.3**
baz=210
M29M Somme Creek 44.54 11 IAmb IAmb 22 41 24.7
comp=Z,421nm,1.5s
M29M IAMs_20 IAMs_20 22 55 42.6
comp=Z,51µm,22.0s
M29M Somme Creek 44.54 11 P **P** **22 41 08.8 +0.7**
baz=202,SNR=69
M29M S **S** **22 47 47.4 +3.7**
baz=202
H17A Grant Village 44.54 46 P **P** **22 41 09.0 +0.4**
H17A Grant Village 44.54 46 P **P** **22 41 09.0 +0.4**
baz=250
H17A S **S** **22 47 46.3 +1.7**
baz=250
YNM Yellowstone No 44.56 45 IAMs_20 IAMs_20 22 55 59.0
comp=Z,48µm,18.0s
YNR Norris Junctio 44.58 45 P **P** **22 41 09.7 +0.9**
YNR IAmb IAmb 22 41 28.5
comp=Z,269nm,1.7s
YNR IAMs_20 IAMs_20 22 56 57.3
comp=Z,51µm,20.0s
J19K Poorman 44.58 360 IAmb IAmb 22 41 19.0
comp=Z,366nm,1.4s
J19K IAMs_20 IAMs_20 22 55 00.9
comp=Z,59µm,22.0s
J19K Poorman 44.58 360 P **P** **22 41 08.4 +0.1**
baz=179,SNR=28
J19K S **S** **22 47 46.2 +2.1**
baz=179
L27K Beaver Creek, 44.58 9 IAmb IAmb 22 41 24.4
comp=Z,257nm,1.4s
L27K IAMs_20 IAMs_20 22 55 21.8
comp=Z,54µm,21.0s
L27K Beaver Creek, 44.58 9 P **P** **22 41 08.5 +0.1**
baz=198,SNR=39
L27K S **S** **22 47 47.2 +3.0**
baz=198
BCAR Beaver Creek A 44.59 9 P **P** **22 41 08.3 -0.2**
I17K Unalakleet 44.63 356 P **P** **22 41 08.8 +0.2**
I17K IAmb IAmb 22 41 41.8
comp=Z,598nm,1.8s
I17K IAMs_20 IAMs_20 22 56 28.4
comp=Z,40µm,21.0s
I17K Unalakleet 44.63 356 P **P** **22 41 09.3 +0.6**
baz=172
I17K S **S** **22 47 48.3 +3.5**
baz=172
LKWY Lake 44.71 46 P **P** **22 41 07.9 -2.1**
LKWY IAmb IAmb 22 41 56.2
comp=Z,393nm,1.9s
LKWY Lake 44.71 46 P **P** **22 41 07.9 -2.1**
LKWY pmax pmax
comp=Z,393nm,1.9s
BW06 Boulder Array 44.73 48 P **P** **22 41 09.6 -0.6**
baz=253
BW06 S **S** **22 47 47.3 -0.1**
baz=253
PD31 Pinedale Array 44.73 48 P **P** **22 41 09.2 -1.0**
PDAR Pinedale Array 44.73 48 P **P** **22 41 08.3 -1.8**
PDAR Pinedale Array 44.73 48 P **P** **22 41 09.3 -0.8**
comp=Z,19nm,0.9s,baz=242,slow=6.3,SNR=51
PDAR LR LR 22 55 58.1
comp=Z,10µm,19.3s,baz=260,slow=31
comp=Z,19nm,0.9s
J20K Nowinta River 44.77 1 P **P** **22 41 09.0 -0.7**
J20K IAMs_20 IAMs_20 22 55 56.8
comp=Z,63nm,21.0s
J20K Nowinta River 44.77 1 P **P** **22 41 09.2 -0.5**
baz=181
J20K S **S** **22 47 51.5 +4.7**
baz=181
BPAW Bear Paw Mtn. 44.77 3 P **P** **22 41 08.3 -1.5**
BPAW IAmb IAmb 22 41 19.4
comp=Z,429nm,1.4s
BPAW IAMs_20 IAMs_20 22 56 39.9
comp=Z,62µm,21.0s
BPAW Bear Paw Mtn. 44.77 3 P **P** **22 41 08.4 -1.5**
baz=185,SNR=32
BPAW S **S** **22 47 47.7 +0.8**
baz=185
WTLY Watson Lake, Y 44.81 18 P **P** **22 41 09.7 -0.5**
WTLY IAmb IAmb 22 41 27.8
comp=Z,436nm,1.4s
WTLY Watson Lake, Y 44.81 18 P **P** **22 41 10.1 0.0**
baz=216,SNR=6.0
WTLY S **S** **22 47 51.6 +4.1**
baz=216
K24K Donnelly Dome 44.84 6 P **P** **22 41 09.7 -0.7**
baz=192,SNR=13
K24K S **S** **22 47 53.1 +5.2**
baz=192
BWN Browne 44.92 3 P **P** **22 41 10.4 -0.5**
BWN IAMs_20 IAMs_20 22 56 10.0
comp=Z,53µm,21.0s
YMP Mirror Lake Pl 44.94 45 P **P** **22 41 11.7 -0.1**
YMP IAmb IAmb 22 41 46.7
comp=Z,476nm,1.8s
YMP IAMs_20 IAMs_20 22 57 57.8
comp=Z,40µm,19.0s
TOAD Toad River Com 44.97 21 P **P** **22 41 12.4 +0.9**
baz=222,SNR=35
O20A White River Ci 45.01 52 P **P** **22 41 11.3 -1.0**
O20A IAmb IAmb 22 41 57.3
comp=Z,252nm,1.4s
O20A White River Ci 45.01 52 P **P** **22 41 11.5 -0.8**
baz=257,SNR=15
O20A S **S** **22 47 51.0 -0.4**
baz=257
Y22D IRIS PASSCAL I 45.02 61 P **P** **22 41 12.0 -0.5**
Y22D IRIS PASSCAL I 45.02 61 P **P** **22 41 11.6 -0.9**
baz=264
Y22D S **S** **22 47 53.8 +2.1**
baz=264
Y22F Passcal Instru 45.02 61 P **P** **22 41 13.2 +0.7**
baz=264
Y22F S **S** **22 47 54.9 +3.2**
baz=264
BRLDA Berland Lookou 45.02 31 P **P** **22 41 11.8 -0.2**
LIRD Liard River Hi 45.10 20 P **P** **22 41 12.9 +0.5**
baz=220
LIRD S **S** **22 47 57.2 +5.4**
baz=220
M31M Drury Creek, Y 45.13 14 IAMs_20 IAMs_20 22 55 36.3
comp=Z,63µm,22.0s
M31M Drury Creek, Y 45.13 14 P **P** **22 41 13.3 +0.6**
baz=208,SNR=17
M31M S **S** **22 47 55.9 +3.7**
baz=208
EPT El Paso 45.17 64 P **P** **22 41 14.2 +0.6**
EPT IAmb IAmb 22 41 36.1
comp=Z,195nm,1.3s
EPT IAMs_20 IAMs_20 22 55 27.2
comp=Z,41µm,20.0s
SCRK Sand Creek 45.19 7 IAmb IAmb 22 41 28.9
comp=Z,368nm,1.6s
SCRK Sand Creek 45.19 7 P **P** **22 41 13.0 -0.3**
baz=195,SNR=22
SCRK S **S** **22 47 54.3 +1.0**
baz=195
L29M L29M 45.21 11 IAmb IAmb 22 41 49.4
comp=Z,488nm,1.8s
L29M IAMs_20 IAMs_20 22 56 54.4
comp=Z,47µm,20.0s
L29M L29M 45.21 11 P **P** **22 41 13.5 +0.2**
baz=203,SNR=9.9
L29M S **S** **22 47 58.2 +4.8**
baz=203
HDA Harding Lake 45.33 5 IAMs_20 IAMs_20 22 56 39.6
comp=Z,46µm,21.0s
HDA Harding Lake 45.33 5 P **P** **22 41 13.3 -0.9**
baz=191,SNR=12
HDA S **S** **22 47 58.1 +3.2**
baz=191
HDA S **S** **22 47 58.1 +3.2**
baz=191
GCSA Galena City Sc 45.35 359 P **P** **22 41 14.9 +0.6**
baz=178,SNR=28
GCSA S **S** **22 47 59.9 +4.8**
baz=178
NEA2 Nenana 45.36 4 IAMs_20 IAMs_20 22 55 48.4
comp=Z,50µm,22.0s
NEA2 Nenana 45.36 4 P **P** **22 41 13.5 -1.0**
baz=188,SNR=16
NEA2 S **S** **22 47 57.8 +2.4**
baz=188
MSVF Nonsavu 45.36 217 P P 22 41 21.7 +6.6
MSVF Nonsavu 45.36 217 P **P** **22 41 15.5 +0.4**
MSVF IAmb IAmb 22 41 47.0
comp=Z,576nm,1.9s
MSVF Nonsavu 45.36 217 ⇑P P 22 41 21.0 +5.9
MSVF Nonsavu 45.36 217 *i* P **P** **22 41 16.6 +1.5**
MSVF pmax pmax
comp=Z,119nm,1.3s
MSVF MLR MLR
comp=Z,26µm,15.0s
I20K Naaghedeneel 45.38 0 P **P** **22 41 13.0 -1.6**
I20K IAmb IAmb 22 42 25.5
comp=Z,355nm,1.4s
I20K IAMs_20 IAMs_20 22 56 17.2
comp=Z,51µm,20.0s
I20K Naaghedeneel 45.38 0 P **P** **22 41 13.7 -0.9**
baz=181
I20K S **S** **22 48 01.3 +5.6**
baz=181
FARO Faro, Yukon 45.39 14 IAMs_20 IAMs_20 22 56 18.1
comp=Z,45µm,19.0s
FARO Faro, Yukon 45.39 14 P **P** **22 41 15.7 +0.9**
baz=209,SNR=16
FARO S **S** **22 48 00.1 +4.2**
baz=209
K27K Chicken 45.48 8 P **P** **22 41 16.1 +0.7**
baz=197
K27K S **S** **22 48 00.3 +3.3**
baz=197
H16K Elim 45.48 356 P **P** **22 41 15.9 +0.5**
baz=170
H16K S **S** **22 48 01.5 +4.4**
baz=170
ANMO Albuquerque 45.50 60 P **P** **22 41 16.4 +0.1**
ANMO IAmb IAmb 22 41 41.6
comp=Z,238nm,1.7s
ANMO Albuquerque 45.50 60 IAMs_20 IAMs_20 22 55 09.9
comp=Z,38µm,18.0s
ANMO Albuquerque 45.50 60 P **P** **22 41 15.8 -0.5**
baz=263
ANMO S **S** **22 48 00.9 +2.2**
baz=263
ANMO Albuquerque 45.50 60 ⇓P **P** **22 41 16.4 +0.1**
ANMO Albuquerque 45.50 60 LR LR 22 55 45.1
comp=Z,28µm,21.3s,baz=346,slow=30
ANMO Albuquerque 45.50 60 *i* P **P** **22 41 15.2 -1.1**
ANMO pmax pmax
comp=Z,86nm,1.6s
ANMO MLR MLR
comp=Z,18µm,8.0s
H17K Granite Mounta 45.64 357 IAmb IAmb 22 42 16.3
comp=Z,304nm,1.8s
H17K IAMs_20 IAMs_20 22 56 37.0
comp=Z,50µm,22.0s
H17K Granite Mounta 45.64 357 P **P** **22 41 16.3 -0.4**
baz=174,SNR=12
H17K S **S** **22 48 03.3 +3.9**
baz=174
RLMT Red Lodge 45.66 45 IAmb IAmb 22 41 58.0
comp=Z,220nm,1.6s
RLMT IAMs_20 IAMs_20 22 57 59.9
comp=Z,38µm,19.0s
RLMT Red Lodge 45.66 45 P **P** **22 41 17.1 -0.3**
baz=251
RLMT S **S** **22 48 01.7 +1.1**
baz=251
RLMT Red Lodge 45.66 45 ⇓P **P** **22 41 18.1 +0.7**
J25K Salcha River, 45.67 6 IAmb IAmb 22 41 52.0
comp=Z,345nm,1.2s
J25K IAMs_20 IAMs_20 22 55 52.5
comp=Z,66µm,22.0s
J25K Salcha River, 45.67 6 P **P** **22 41 16.5 -0.5**
baz=193,SNR=36

J25K S S 22 48 02.4 +2.4
baz=193
ANM Nome 45.68 354 IAmb IAmb 22 41 44.1
ANM IAMs_20 IAMs_20 22 57 54.2
comp=Z,317nm,1.4s
ANM Nome 45.68 354 P P 22 41 17.6 +0.6
comp=Z,60µm,20.0s
ANM S S 22 48 02.0 +2.0
baz=166
ILAR Eielson Array 45.69 5 P P 22 41 15.1 -2.0
ILAR Eielson Array 45.69 5 P P 22 41 16.0 -1.1
baz=166
comp=Z,12nm,0.8s,baz=196,slow=4.8,SNR=66
ILAR S S 22 48 02.6 +2.5
comp=Z,0.6nm,1.0s,baz=191,slow=14,SNR=1.0
ILAR LR LR 22 56 29.3
comp=Z,36µm,21.6s,baz=181,slow=31
comp=Z,12nm,0.8s
MLY Manley 45.71 3 IAmb IAmb 22 41 26.9
comp=Z,362nm,1.4s
MLY IAMs_20 IAMs_20 22 56 37.7
comp=Z,67µm,22.0s
MLY Manley 45.71 3 P P 22 41 15.9 -1.4
baz=186,SNR=60
MLY S S 22 48 00.0 -0.5
baz=186
COLA College 45.72 4 P P 22 41 17.5 +0.3
COLA College 45.72 4 P P 22 41 16.8 -0.5
COLA College 45.72 4 P P 22 41 16.6 -0.6
baz=189
COLA S S 22 48 00.6 +0.2
baz=189
COLA College 45.72 4 ⇑P P 22 41 16.4 -0.8
COLA College 45.72 4 *i* P P 22 41 16.2 -1.0
COLA pmax pmax
comp=Z,34nm,1.1s
COLA MLR MLR
comp=Z,21µm,10.0s
J26L Joseph Creek 45.75 7 IAmb IAmb 22 41 51.6
comp=Z,194nm,1.2s
J26L IAMs_20 IAMs_20 22 56 32.6
comp=Z,44µm,21.0s
J26L Joseph Creek 45.75 7 P P 22 41 17.8 +0.1
baz=195,SNR=27
J26L S S 22 48 03.6 +2.4
baz=195
SMCO Snowmass 45.76 54 IAmb IAmb 22 41 43.7
comp=Z,176nm,1.1s
SMCO IAMs_20 IAMs_20 22 56 30.9
comp=Z,42µm,20.0s
SMCO Snowmass 45.76 54 ⇑P P 22 41 18.1 -0.5
H18K Honhosa River 45.79 358 IAmb IAmb 22 41 49.8
comp=Z,296nm,1.4s
H18K IAMs_20 IAMs_20 22 56 51.1
comp=Z,56µm,22.0s
H18K Honhosa River 45.79 358 P P 22 41 17.9 0.0
baz=176,SNR=13
H18K S S 22 48 06.2 +4.5
baz=176
HPIG 45.81 71 P P 22 41 18.4 -0.4
I21K Tanana 45.81 2 P P 22 41 16.8 -1.2
baz=184
I21K S S 22 48 06.3 +4.4
baz=184
I23K Minto, Yukon-K 45.90 3 IAMs_20 IAMs_20 22 55 39.6
comp=Z,50µm,21.0s
I23K Minto, Yukon-K 45.90 3 P P 22 41 17.6 -1.1
baz=187,SNR=29
I23K S S 22 48 06.4 +3.4
baz=187
G15K Niukluk 45.98 355 P P 22 41 19.3 0.0
baz=168,SNR=5.4
G15K S S 22 48 07.0 +2.8
baz=168
POKR Poker Plat Res 45.99 4 IAmb IAmb 22 41 34.6
comp=Z,430nm,1.7s
POKR Poker Plat Res 45.99 4 P P 22 41 19.0 -0.4
baz=190,SNR=5.5
POKR S S 22 48 06.7 +2.2
baz=190
K29M Barlow Dome 46.00 11 IAmb IAmb 22 41 55.5
comp=Z,254nm,1.4s
K29M Barlow Dome 46.00 11 P P 22 41 19.9 +0.2
baz=203,SNR=20
K29M S S 22 48 07.1 +2.3
baz=203
MAYO Mayo, Yukon 46.07 12 IAMs_20 IAMs_20 22 56 17.1
comp=Z,50µm,22.0s
MAYO Mayo, Yukon 46.07 12 P P 22 41 20.7 +0.6
baz=205
MAYO S S 22 48 09.9 +4.2
baz=205
H20K Anotleneega Mo 46.08 0 P P 22 41 19.8 -0.4
baz=180,SNR=50
H20K S S 22 48 09.5 +3.7
baz=180
TGTN Hyland Airport 46.10 17 P P 22 41 21.0 +0.6
baz=216,SNR=23
TGTN S S 22 48 09.5 +3.2
baz=216
MNTX Cornudas Mount 46.12 64 P P 22 41 19.8 -1.2
baz=267,SNR=61
MNTX S S 22 48 06.8 -0.5
baz=267
MNTX Cornudas Mount 46.12 64 ⇑P P 22 41 21.0 0.0
H19K Roundabout Mou 46.13 359 IAMs_20 IAMs_20 22 57 55.8
comp=Z,36µm,20.0s
H19K Roundabout Mou 46.13 359 P P 22 41 21.3 +0.8
baz=178,SNR=21
H19K S S 22 48 11.0 +4.6
baz=178
MMPY Sheldon Lake, 46.22 15 IAmb IAmb 22 41 39.0
comp=Z,466nm,1.8s
MMPY IAMs_20 IAMs_20 22 56 34.0
comp=Z,44µm,22.0s
MMPY Sheldon Lake, 46.22 15 P P 22 41 22.0 +0.6
baz=212,SNR=13
MMPY S S 22 48 13.2 +5.2
baz=212
G16K Koyuk River 46.24 356 IAmb IAmb 22 41 54.1
comp=Z,211nm,1.4s
G16K IAMs_20 IAMs_20 22 57 39.8
comp=Z,38µm,20.0s
G16K Koyuk River 46.24 356 P P 22 41 21.8 +0.5
baz=170
G16K S S 22 48 12.4 +4.4
baz=170
G17K Kiwalik Mounta 46.24 357 P P 22 41 21.4 0.0
baz=173,SNR=15
G17K S S 22 48 09.7 +1.6
baz=173
H21K Melozitna Rive 46.27 1 P P 22 41 20.6 -1.1
baz=183,SNR=14
H21K S S 22 48 13.7 +5.2
baz=183
EGAK Eagle 46.31 8 IAMs_20 IAMs_20 22 56 47.0
comp=Z,59µm,21.0s
EGAK Eagle 46.31 8 P P 22 41 22.2 +0.3
baz=198,SNR=17
EGAK Eagle 46.31 8 ⇑P P 22 41 22.2 +0.3
KOTAN Kotaneelee Air 46.32 21 P P 22 41 22.2 0.0
baz=222,SNR=14
KOTAN S S 22 48 10.7 +1.3
baz=222
EGMT Eagleton 46.35 41 P P 22 41 22.4 -0.3
EGMT Eagleton 46.35 41 P P 22 41 22.0 -0.7
baz=248
EGMT S S 22 48 11.1 +0.7
baz=248
VHRN Van Horn 46.42 66 IAmb IAmb 22 41 54.3
comp=Z,232nm,1.2s
J29N Klondike Camp 46.44 10 IAmb IAmb 22 41 39.3
comp=Z,303nm,1.9s
J29N Klondike Camp 46.44 10 P P 22 41 23.4 +0.2
baz=202
J29N S S 22 48 13.9 +2.8
baz=202
PRP Porcupine Dome 46.54 5 P P 22 41 23.4 -0.5
baz=192,SNR=14
PRP S S 22 48 14.7 +2.1
baz=192
G18K Tagagawik 46.55 358 IAmb IAmb 22 41 46.0
comp=Z,194nm,1.4s
G18K IAMs_20 IAMs_20 22 57 26.0
comp=Z,49µm,22.0s
G18K Tagagawik 46.55 358 P P 22 41 23.7 -0.2
baz=175,SNR=18
G18K S S 22 48 15.9 +3.4
baz=175
H22K Ishtalitna Cre 46.55 2 P P 22 41 22.4 -1.5
baz=185
H22K S S 22 48 15.9 +3.4
baz=185
H23K Yukon River 46.56 3 IAMs_20 IAMs_20 22 57 03.2
comp=Z,54µm,22.0s
H23K Yukon River 46.56 3 P P 22 41 23.0 -0.9
baz=187,SNR=37
H23K S S 22 48 13.2 +0.6
baz=187
I26K Coal Creek Min 46.57 7 P P 22 41 24.4 +0.4
baz=195
I26K S S 22 48 13.3 +0.5
baz=195
IMAR Indian Mountai 46.58 1 P P 22 41 22.9 -1.2
SDCO Great Sand Dun 46.65 56 IAmb IAmb 22 41 50.6
comp=Z,180nm,1.3s
SDCO Great Sand Dun 46.65 56 P P 22 41 25.0 -0.4
baz=261,SNR=68
SDCO S S 22 48 15.9 +0.6
baz=261
SDCO Great Sand Dun 46.65 56 ⇑P P 22 41 25.1 -0.3
F14K Arctic Creek 46.66 354 P P 22 41 25.4 +0.7
baz=165
F14K S S 22 48 17.9 +3.8
baz=165
H24K Noodor Dome 46.67 4 IAmb IAmb 22 41 53.4
comp=Z,167nm,1.0s
H24K IAMs_20 IAMs_20 22 56 39.1
comp=Z,48µm,22.0s
H24K Noodor Dome 46.67 4 P P 22 41 24.0 -0.8
baz=189,SNR=31
H24K S S 22 48 14.6 +0.3
baz=189
F15K North Star Dit 46.73 355 IAMs_20 IAMs_20 22 58 47.9
comp=Z,47µm,21.0s
F15K North Star Dit 46.73 355 P P 22 41 25.3 +0.1
baz=168
F15K S S 22 48 19.5 +4.4
baz=168
G19K Purcell Mounta 46.76 359 P P 22 41 26.0 +0.5
baz=177,SNR=31
G19K S S 22 48 19.1 +3.7
baz=177
K22A Casper 46.86 49 IAmb IAmb 22 42 02.4
comp=Z,276nm,1.4s
K22A Casper 46.86 49 P P 22 41 25.5 -1.3
baz=256
K22A S S 22 48 16.6 -1.4
baz=256
J30M Hart River 46.88 11 IAmb IAmb 22 42 02.4
comp=Z,184nm,1.2s
J30M Hart River 46.88 11 P P 22 41 26.6 0.0
baz=204,SNR=38
J30M S S 22 48 21.1 +3.6
baz=204
N23A Red Feather La 46.88 52 P P 22 41 26.7 -0.4
baz=258,SNR=70
N23A S S 22 48 16.2 -2.3
baz=258
ISCO Idaho Springs 46.91 53 IAMs_20 IAMs_20 22 57 22.4
comp=Z,45µm,22.0s
ISCO Idaho Springs 46.91 53 P P 22 41 27.2 -0.3
baz=259,SNR=29
ISCO S S 22 48 20.2 +1.1
baz=259
ISCO Idaho Springs 46.91 53 ⇓P P 22 41 27.6 +0.1
ISCO Idaho Springs 46.91 53 P P 22 41 27.8 +0.3
ISCO pmax pmax
comp=Z,63nm,2.2s
TNA Tin City 46.93 353 P P 22 41 26.6 -0.1
baz=163
TNA S S 22 48 21.6 +3.8
baz=163
PATS Pohnpei 46.93 261 P P 22 41 30.1 +2.5
I27K Kandik River 47.04 8 P P 22 41 27.7 -0.1
baz=197,SNR=26
I27K S S 22 48 21.9 +2.2
baz=197
I28M Miner Creek 47.12 9 IAMs_20 IAMs_20 22 56 40.8
comp=Z,60µm,22.0s
I28M Miner Creek 47.12 9 P P 22 41 27.8 -0.6
baz=200,SNR=23
I28M S S 22 48 22.4 +1.6
baz=200
Q24A Divide 47.12 54 IAmb IAmb 22 41 51.4
comp=Z,117nm,1.0s
Q24A Divide 47.12 54 P P 22 41 28.7 -0.4
baz=260,SNR=39
Q24A S S 22 48 22.9 +0.9
baz=260
G21K Allakaket 47.12 1 IAmb IAmb 22 41 38.9
comp=Z,189nm,1.5s
G21K IAMs_20 IAMs_20 22 56 58.1
comp=Z,63µm,22.0s
G21K Allakaket 47.12 1 P P 22 41 27.9 -0.4
baz=182,SNR=8.9
G21K S S 22 48 22.0 +1.3
baz=182
F17K Baldwin Pennin 47.21 357 IAMs_20 IAMs_20 22 57 35.5
comp=Z,30µm,22.0s
F17K Baldwin Pennin 47.21 357 P P 22 41 29.4 +0.5
baz=172,SNR=27
F17K S S 22 48 27.0 +5.2
baz=172
H25L Birch Creek 47.25 5 P P 22 41 29.0 -0.3
baz=192,SNR=36
H25L S S 22 48 25.7 +3.3
baz=192
F18K Selawik 47.29 358 P P 22 41 29.8 +0.2
baz=174,SNR=31
F18K S S 22 48 25.5 +2.5
baz=174
G23K Bananza Creek 47.42 3 IAmb IAmb 22 41 40.5
comp=Z,205nm,1.4s
G23K Bananza Creek 47.42 3 P P 22 41 29.5 -1.2
baz=186,SNR=19
G23K S S 22 48 26.5 +1.5
baz=186
T25A Trinidad 47.42 57 IAmb IAmb 22 41 48.8
comp=Z,214nm,1.5s
T25A Trinidad 47.42 57 P P 22 41 29.4 -2.0
baz=262,SNR=34
T25A S S 22 48 26.9 +0.7
baz=262
F19K Shaleruckik Mo 47.46 359 IAMs_20 IAMs_20 22 58 03.1
comp=Z,42µm,20.0s
F19K Shaleruckik Mo 47.46 359 P P 22 41 31.2 +0.3
baz=176,SNR=39
F19K S S 22 48 29.0 +3.6
baz=176
I30M Mount Dempster 47.47 11 IAmb IAmb 22 42 06.5
comp=Z,207nm,1.1s
I30M Mount Dempster 47.47 11 P P 22 41 31.1 -0.1
baz=204,SNR=85
I30M S S 22 48 27.3 +1.5
baz=204
TX31 Lajitas Ar. Si 47.54 68 IAmb IAmb 22 41 53.9
comp=Z,203nm,1.1s
TXAR Lajitas Array 47.54 68 P P 22 41 32.6 +0.3
TXAR Lajitas Array 47.54 68 P P 22 41 33.0 +0.7
comp=Z,39nm,0.8s,baz=254,slow=8.0,SNR=85
TXAR LR LR 22 57 00.2
comp=Z,19µm,21.8s,baz=255,slow=30
comp=Z,39nm,0.8s
TXAR Lajitas Array 47.54 68 P P 22 41 33.0 +0.7
G24K Hadweenzic Riv 47.55 4 P P 22 41 30.4 -1.3
baz=190,SNR=9.2
G24K S S 22 48 29.1 +2.3
baz=190
ALPN Alpine 47.57 66 IAmb IAmb 22 41 53.3
comp=Z,149nm,0.9s
G22K Bettles 47.57 2 P P 22 41 31.2 -0.5
baz=184
G22K S S 22 48 29.3 +2.3
baz=184
F20K Avaraart Lake 47.65 360 IAmb IAmb 22 41 56.1
comp=Z,280nm,1.4s
F20K IAMs_20 IAMs_20 22 57 49.0
comp=Z,44µm,21.0s
F20K Avaraart Lake 47.65 360 P P 22 41 32.8 +0.4
baz=179,SNR=34
F20K S S 22 48 32.1 +4.0
baz=179
H27K Steamboat Moun 47.65 7 P P 22 41 32.4 -0.1
baz=197,SNR=83
H27K S S 22 48 31.0 +2.6
baz=197
G25K Bearman Lake 47.72 5 P P 22 41 31.7 -1.2
baz=191,SNR=18
G25K S S 22 48 30.9 +1.9
baz=191
F21K Alatna River 47.83 1 P P 22 41 33.0 -0.8
F21K IAMs_20 IAMs_20 22 58 28.8
comp=Z,56µm,22.0s
F21K Alatna River 47.83 1 P P 22 41 34.2 +0.4
baz=182,SNR=56
F21K S S 22 48 33.5 +2.7
baz=182
E17K Hotham Inlet 47.88 356 P P 22 41 34.2 +0.1
baz=171,SNR=42
E17K S S 22 48 34.4 +3.1
baz=171
COLD Coldfoot 47.93 3 P P 22 41 33.8 -0.8
baz=186
COLD S S 22 48 33.1 +1.0
baz=186
BRIGG Briggsdale 48.03 52 P P 22 41 35.6 -0.4
BRIGG IAmb IAmb 22 42 03.7
comp=Z,267nm,1.3s
BRIGG IAMs_20 IAMs_20 22 57 46.9
comp=Z,45µm,21.0s
H29M Whitestone 48.07 9 P P 22 41 34.9 -0.8
H29M IAMs_20 IAMs_20 22 57 29.9
comp=Z,53µm,22.0s
H29M Whitestone 48.07 9 P P 22 41 35.2 -0.5
baz=201,SNR=45
H29M S S 22 48 35.8 +1.7
baz=201
E19K Redstone River 48.08 359 IAMs_20 IAMs_20 22 58 57.4
comp=Z,43µm,21.0s
E19K Redstone River 48.08 359 P P 22 41 36.0 +0.3
baz=177
E19K S S 22 48 37.6 +3.4
baz=177
G26K Porcupine Rive 48.10 6 P P 22 41 35.7 -0.2
baz=194,SNR=33
G26K S S 22 48 35.5 +1.0
baz=194
F22K John River 48.14 1 P P 22 41 36.7 +0.5
baz=184,SNR=85
F22K S S 22 48 37.0 +1.8
baz=184
E18K Tukpahlearik C 48.15 357 P P 22 41 35.0 -1.2
E18K IAmb IAmb 22 41 47.5
comp=Z,270nm,1.2s
E18K IAMs_20 IAMs_20 22 58 03.4
comp=Z,57µm,22.0s
E18K Tukpahlearik C 48.15 357 P P 22 41 36.7 +0.4
baz=173,SNR=41
E18K S S 22 48 37.6 +2.4
baz=173
LAO LASA Array 48.16 44 P P 22 41 36.8 0.0
baz=252,SNR=9.9
LAO S S 22 48 37.1 +1.0
baz=252
G27K Doyon Strip 48.19 7 P P 22 41 36.0 -0.7
G27K IAmb IAmb 22 41 52.3
comp=Z,219nm,1.7s
G27K IAMs_20 IAMs_20 22 58 10.3
comp=Z,54µm,22.0s
G27K Doyon Strip 48.19 7 P P 22 41 36.0 -0.7
baz=197,SNR=12
G27K S S 22 48 37.9 +1.9
baz=197
F24K Squaw Lake 48.34 4 IAmb IAmb 22 42 11.3
comp=Z,232nm,1.8s
F24K IAMs_20 IAMs_20 22 57 56.1
comp=Z,41µm,22.0s
F24K Squaw Lake 48.34 4 P P 22 41 36.3 -1.4
baz=189,SNR=11
F24K S S 22 48 38.4 +0.5
baz=189
MNHN Monahans 48.34 65 IAmb IAmb 22 41 58.6
comp=Z,107nm,1.0s
H31M Peel River 48.36 11 IAmb IAmb 22 42 46.3
comp=Z,235nm,1.4s
H31M IAMs_20 IAMs_20 22 58 01.5
comp=Z,49µm,22.0s
H31M Peel River 48.36 11 P P 22 41 36.5 -1.4
baz=206,SNR=19
H31M S S 22 48 41.2 +2.9
baz=206
EPYK Eagle Plains 48.46 10 IAMs_20 IAMs_20 22 58 05.3
comp=Z,48µm,22.0s
EPYK Eagle Plains 48.46 10 P P 22 41 37.9 -0.8
baz=203,SNR=26
EPYK S S 22 48 39.4 -0.4
baz=203
BMAR Burnt Mountain 48.49 5 P P 22 41 38.5 -0.5
ODSA Odessa 48.55 64 P P 22 41 40.6 +0.6
F25K Christian Rive 48.57 5 P P 22 41 39.1 -0.4
baz=192,SNR=27
F25K S S 22 48 42.4 +1.1
baz=192
D17K Noatak River 48.57 356 P P 22 41 39.8 +0.3
baz=170,SNR=7.1
D17K S S 22 48 44.6 +3.5
baz=170
RTBA Rita Blanca 48.68 58 IAmb IAmb 22 42 08.4
comp=Z,128nm,1.1s
G29M Pine Creek 48.77 9 IAMs_20 IAMs_20 22 57 52.4
comp=Z,54µm,22.0s
G29M Pine Creek 48.77 9 P P 22 41 40.5 -0.5
baz=202,SNR=39
G29M S S 22 48 44.4 +0.4
baz=202
E23K Chandalar 48.78 3 P P 22 41 40.9 -0.3
baz=187
E23K S S 22 48 46.2 +1.9
baz=187
F26K Sheenjek River 48.79 6 P P 22 41 41.2 -0.1
baz=194,SNR=26
F26K S S 22 48 47.4 +3.0
baz=194
WRGLY Wrigley 48.84 18 IAmb IAmb 22 41 58.1
comp=Z,395nm,1.5s
WRGLY IAMs_20 IAMs_20 22 58 30.1
comp=Z,43µm,22.0s
WRGLY Wrigley 48.84 18 P P 22 41 41.5 -0.1
baz=221,SNR=16
WRGLY S S 22 48 48.1 +3.2
baz=221
E24K Your Creek 48.85 3 IAmb IAmb 22 42 07.0
comp=Z,149nm,1.3s
E24K IAMs_20 IAMs_20 22 58 35.8
comp=Z,49µm,22.0s
E24K Your Creek 48.85 3 P P 22 41 40.9 -0.9
baz=188,SNR=19
E24K S S 22 48 47.3 +2.0
baz=188
E20K Nigu River 48.87 359 P P 22 41 41.8 -0.1
baz=178,SNR=38
E20K S S 22 48 48.0 +2.5
baz=178
SAND Sanderson 48.88 67 IAmb IAmb 22 42 03.4
comp=Z,119nm,0.9s
ZAIG Zacatecas 48.90 76 P P 22 41 44.5 +1.4
ZAIG IAmb IAmb 22 42 06.2
comp=Z,295nm,1.8s
RDOG Red Dog Mine 48.91 356 IAmb IAmb 22 42 04.0
comp=Z,262nm,1.4s
RDOG IAMs_20 IAMs_20 22 58 29.4
comp=Z,44µm,22.0s
RDOG Red Dog Mine 48.91 356 P P 22 41 42.5 +0.4
baz=170
RDOG S S 22 48 48.9 +2.9
baz=170
PET Petropavlovsk 48.92 325 P P 22 41 43.0 +0.6
PET Petropavlovsk 48.92 325 *ce* P P 22 41 42.7 +0.3
PET IAmb IAmb 22 42 07.9
comp=Z,413nm,1.7s
PET IAMs_20 IAMs_20 22 59 12.1
comp=Z,43µm,20.0s
PET Petropavlovsk 48.92 325 ⇑P P 22 41 42.8 +0.3
PET Petropavlovsk 48.92 325 *ce* P P 22 41 43.0 +0.6
PET *eS* S S 22 48 48.1 +1.6
PET pmax pmax
comp=Z,94nm,1.1s
PET pmax pmax
comp=Z,12µm,17.4s
PET smax smax
comp=N,24µm,20.7s
PET smax smax
comp=E,67µm,19.8s

PET MLR MLR
comp=Z,24µm,14.0s
PET Petropavlovsk 48.92 325 P **P** **22 41 41.9 -0.5**
comp=Z,130nm,1.6s,comp=Z,9µmcomp=Z,71µm
RSSD Black Hills 48.97 48 P **P** **22 41 42.2 -1.0**
RSSD IAmb IAmb 22 42 10.1
comp=Z,296nm,1.2s
RSSD Black Hills 48.97 48 P **P** **22 41 42.1 -1.1**
baz=256
RSSD S **S** **22 48 47.1 -0.8**
baz=256
RSSD Black Hills 48.97 48 ⇑P **P** **22 41 42.0 -1.1**
RSSD Black Hills 48.97 48 P **P** **22 41 42.2 -1.1**
RSSD pmax pmax
comp=Z,296nm,1.2s
RSSD MLR MLR
comp=Z,24µm,18.0s
E21K Killik River 49.05 1 IAMs_20 IAMs_20 22 58 47.1
comp=Z,59µm,22.0s
E21K Killik River 49.05 1 P **P** **22 41 43.2 0.0**
baz=181,SNR=23
E21K S **S** **22 48 49.9 +1.9**
baz=181
KSCO Kaye Shedlock' 49.07 55 P **P** **22 41 43.6 -0.4**
baz=262
KSCO S **S** **22 48 51.0 +1.7**
baz=262
E25K Arctic Village 49.09 5 IAmb IAmb 22 42 06.5
comp=Z,307nm,1.6s
E25K IAMs_20 IAMs_20 22 58 25.1
comp=Z,45µm,22.0s
E25K Arctic Village 49.09 5 P **P** **22 41 43.4 -0.2**
baz=192,SNR=30
E25K S **S** **22 48 48.6 0.0**
baz=192
G30M tAoh Zraii Nji 49.10 10 IAMs_20 IAMs_20 22 58 24.3
comp=Z,47µm,21.0s
G30M tAoh Zraii Nji 49.10 10 P **P** **22 41 42.9 -0.8**
baz=204,SNR=24
G30M S **S** **22 48 50.3 +1.5**
baz=204
D19K Kuna River 49.14 359 P **P** **22 41 44.1 +0.2**
baz=176
D19K S **S** **22 48 52.2 +3.0**
baz=176
F28M Old Crow 49.18 8 IAmb IAmb 22 42 19.6
comp=Z,165nm,1.2s
F28M Old Crow 49.18 8 P **P** **22 41 44.0 -0.2**
baz=199,SNR=31
F28M S **S** **22 48 52.5 +2.7**
baz=199
C16K Lisburne Hills 49.30 355 P **P** **22 41 43.1 -2.0**
C16K IAmb IAmb 22 42 07.0
comp=Z,368nm,1.6s
C16K IAMs_20 IAMs_20 22 58 28.1
comp=Z,47µm,21.0s
C16K Lisburne Hills 49.30 355 P **P** **22 41 45.6 +0.5**
baz=167
C16K S **S** **22 48 54.1 +2.6**
baz=167
D20K Etivluk River 49.33 359 P **P** **22 41 45.2 -0.1**
baz=178,SNR=35
D20K S **S** **22 48 55.3 +3.5**
baz=178
C17K DeLong Mountai 49.34 356 P **P** **22 41 45.8 +0.4**
baz=170,SNR=13
C17K S **S** **22 48 54.3 +2.3**
baz=170
TOLK Toolik Lake Re 49.37 3 IAmb IAmb 22 42 08.8
comp=Z,291nm,1.6s
TOLK Toolik Lake Re 49.37 3 P **P** **22 41 45.5 -0.2**
baz=187,SNR=21
TOLK S **S** **22 48 52.9 +0.4**
baz=187
G31M Satah River 49.38 11 IAMs_20 IAMs_20 22 58 22.5
comp=Z,53µm,22.0s
G31M Satah River 49.38 11 P **P** **22 41 44.8 -0.8**
baz=206,SNR=64
G31M S **S** **22 48 52.3 -0.1**
baz=206
C18K Utukok River 49.40 357 P **P** **22 41 44.8 -1.2**
C18K IAmb IAmb 22 41 56.8
comp=Z,275nm,1.4s
C18K IAMs_20 IAMs_20 22 59 30.6
comp=Z,46µm,22.0s
C18K Utukok River 49.40 357 P **P** **22 41 45.8 -0.2**
baz=172,SNR=32
C18K S **S** **22 48 55.9 +2.9**
baz=172
AMTX Amarillo 49.41 60 IAMs_20 IAMs_20 22 59 41.3
comp=Z,35µm,18.0s
AMTX Amarillo 49.41 60 P **P** **22 41 46.1 -0.4**
baz=266
AMTX S **S** **22 48 53.5 -0.5**
baz=266
AMTX Amarillo 49.41 60 ⇑P **P** **22 41 47.5 +0.9**
SKR Severo-Kuril's 49.46 321 *e*P **P** **22 41 46.9 +0.4**
SKR *e*PPP PPP 22 43 35.3
SKR *e*S S 22 49 09.0 +15
SKR pmax pmax
comp=Z,135nm,0.8s
SKR pmax pmax
comp=Z,5µm,8.2s
POST Post 49.46 63 IAmb IAmb 22 42 05.3
comp=Z,134nm,0.9s
PEA0B Petropavlovsk- 49.48 324 *ce*P **P** **22 41 46.7 0.0**
PETK Petropavlovsk- 49.48 324 P **P** **22 41 47.0 +0.2**
comp=Z,43nm,0.8s,baz=97,slow=12,SNR=43
PETK LR LR 23 00 02.1
comp=Z,51µm,20.5s,baz=111,slow=33
comp=Z,43nm,0.8s
D22K Ayikyak River 49.51 1 P **P** **22 41 47.2 +0.4**
baz=183,SNR=22
D22K S **S** **22 48 56.7 +2.3**
baz=183
E27K Coleen River 49.52 7 IAmb IAmb 22 42 09.9
comp=Z,369nm,1.6s
E27K Coleen River 49.52 7 P **P** **22 41 46.4 -0.4**
baz=197,SNR=26
E27K S **S** **22 48 56.8 +2.1**
baz=197
D23K Nanushuk River 49.65 2 P **P** **22 41 48.4 +0.6**
baz=185
D23K S **S** **22 48 57.7 +1.5**
baz=185
OZNA Ozona 49.74 66 IAmb IAmb 22 42 16.8
comp=Z,228nm,1.2s
SGCY Sterling City 49.75 64 IAmb IAmb 22 42 08.0
comp=Z,168nm,1.0s
F30M Barrier River 49.75 10 P **P** **22 41 48.0 -0.6**
baz=204,SNR=22
F30M S **S** **22 48 59.0 +1.2**
baz=204
C21K Knifeblade Rid 49.76 0 P **P** **22 41 48.6 0.0**
baz=180,SNR=43
C21K S **S** **22 48 59.2 +1.3**
baz=180
C19K Lookout Ridge 49.79 358 IAmb IAmb 22 42 10.6
comp=Z,271nm,1.4s
C19K Lookout Ridge 49.79 358 P **P** **22 41 48.6 -0.3**
baz=174,SNR=19
C19K S **S** **22 49 00.5 +2.1**
baz=174
OGNE Ogallala 49.80 52 IAMs_20 IAMs_20 23 00 21.8
comp=Z,36µm,20.0s
OGNE Ogallala 49.80 52 P **P** **22 41 48.7 -0.9**
baz=261
OGNE S **S** **22 48 59.9 +0.5**
baz=261
D24K Happy Valley 49.91 3 P **P** **22 41 50.1 +0.4**
baz=188
D24K S **S** **22 49 01.9 +2.0**
baz=188
F31M Tsiigehtchic 49.93 11 IAMs_20 IAMs_20 22 58 38.2
comp=Z,54µm,22.0s
F31M Tsiigehtchic 49.93 11 P **P** **22 41 49.0 -0.9**
baz=206
F31M S **S** **22 49 00.9 +0.7**
baz=206
DKNS Dickens 49.97 62 IAmb IAmb 22 42 18.2
comp=Z,193nm,1.1s
SN05 Snyder 5 49.98 63 P **P** **22 41 52.1 +1.2**
SN05 IAmb IAmb 22 42 08.6
comp=Z,475nm,1.9s
SN07 Snyder 07 49.98 63 P **P** **22 41 50.5 -0.4**
SN07 IAmb IAmb 22 42 08.4
comp=Z,425nm,1.9s
DGMT Dagmar 50.01 42 IAmb IAmb 22 42 06.8
comp=Z,364nm,1.2s
DGMT Dagmar 50.01 42 P **P** **22 41 50.4 -0.4**
baz=253
DGMT S **S** **22 49 03.8 +1.8**
baz=253
DGMT Dagmar 50.01 42 ⇑P **P** **22 41 50.7 -0.1**
B18K Kokolik River 50.15 357 P **P** **22 41 52.0 +0.5**
baz=172
B18K S **S** **22 49 05.9 +2.7**
baz=172
E28M Babbage River 50.16 7 IAmb IAmb 22 42 14.6
comp=Z,401nm,1.9s
E28M Babbage River 50.16 7 P **P** **22 41 51.4 -0.3**
baz=199,SNR=33
E28M S **S** **22 49 05.9 +2.5**
baz=199
E29M Blow River 50.17 8 IAMs_20 IAMs_20 22 59 11.4
comp=Z,47µm,21.0s
E29M Blow River 50.17 8 P **P** **22 41 50.7 -1.0**
baz=201,SNR=28
E29M S **S** **22 49 04.3 +0.8**
baz=201
D25K Kavik River 50.22 4 IAmb IAmb 22 42 17.6
comp=Z,256nm,1.2s
D25K IAMs_20 IAMs_20 22 59 48.9
comp=Z,30µm,18.0s
D25K Kavik River 50.22 4 P **P** **22 41 51.6 -0.6**
baz=191,SNR=41
D25K S **S** **22 49 06.9 +2.6**
baz=191
B21K Ikpikpuk River 50.23 0 IAmb IAmb 22 42 27.6
comp=Z,174nm,1.3s
B21K Ikpikpuk River 50.23 0 P **P** **22 41 51.7 -0.4**
baz=180,SNR=21
B21K S **S** **22 49 07.1 +2.7**
baz=180
PTCN Pitcairn Islan 50.43 150 P P 22 42 00.7 +6.5
PTCN Pitcairn Islan 50.43 150 P **P** **22 41 54.2 0.0**
C24K Franklin Bluff 50.48 3 P **P** **22 41 54.0 0.0**
baz=188,SNR=107
C24K S **S** **22 49 10.6 +2.8**
baz=188
C23K Itkillik River 50.52 2 P **P** **22 41 54.6 +0.2**
baz=185,SNR=67
C23K S **S** **22 49 10.9 +2.5**
baz=185
MOIG Morelia 50.59 80 P **P** **22 41 56.7 +0.8**
MOIG IAmb IAmb 22 42 24.0
comp=Z,324nm,1.1s
SMWD Samnorwood 50.60 60 IAmb IAmb 22 42 20.1
comp=Z,423nm,1.5s
D27M Malcolm River 50.61 6 IAmb IAmb 22 42 31.0
comp=Z,211nm,1.4s
D27M IAMs_20 IAMs_20 22 59 14.1
comp=Z,55µm,22.0s
D27M Malcolm River 50.61 6 P **P** **22 41 55.3 +0.2**
baz=197,SNR=22
D27M S **S** **22 49 12.0 +2.3**
baz=197
APMT Aspermont 50.63 62 IAmb IAmb 22 42 14.0
comp=Z,430nm,1.8s
B20K Meade River 50.64 359 IAMs_20 IAMs_20 22 59 14.0
comp=Z,47µm,22.0s
B20K Meade River 50.64 359 P **P** **22 41 55.1 -0.1**
baz=177,SNR=31
B20K S **S** **22 49 13.4 +3.4**
baz=177
C27K Jago River 50.72 5 P **P** **22 41 55.9 +0.1**
baz=194,SNR=61
C27K S **S** **22 49 13.4 +2.3**
baz=194
INK Inuvik 50.75 10 IAmb IAmb 22 42 30.6
comp=Z,332nm,1.3s
INK IAMs_20 IAMs_20 22 59 12.7
comp=Z,50µm,22.0s
INK Inuvik 50.75 10 P **P** **22 41 54.6 -1.4**
baz=206,SNR=45
INK S **S** **22 49 14.2 +2.6**
baz=206
INK Inuvik 50.75 10 ⇑P **P** **22 41 54.6 -1.4**
INK Inuvik 50.75 10 LR LR 23 00 46.8
comp=Z,37µm,19.8s,baz=201,slow=33
INK Inuvik 50.75 10 P **P** **22 41 55.0 -1.1**
INK pmax pmax
comp=Z,166nm,1.2s
JCT Junction City 50.89 66 IAMs_20 IAMs_20 22 59 10.7
comp=Z,45µm,19.0s
JCT Junction City 50.89 66 P **P** **22 41 57.0 -0.8**
baz=271,SNR=12
JCT S **S** **22 49 14.0 -0.7**
baz=271
JCT Junction City 50.89 66 ⇓P **P** **22 41 58.1 +0.3**
JCT Junction City 50.89 66 P **P** **22 41 57.9 +0.1**
C26K Camden Bay 50.91 4 P **P** **22 41 57.0 -0.2**
baz=192,SNR=34
C26K S **S** **22 49 16.5 +2.8**
baz=192
D28M Stokes Point 50.94 7 P **P** **22 41 56.9 -0.6**
baz=200,SNR=15
D28M S **S** **22 49 18.4 +4.2**
baz=200
A19K Wainwright 50.95 357 P **P** **22 41 57.2 -0.3**
baz=173
A19K S **S** **22 49 15.2 +0.9**
baz=173
B22K Teshekpuk Lake 50.96 1 P **P** **22 41 57.4 -0.2**
baz=182,SNR=32
B22K S **S** **22 49 20.2 +5.7**
baz=182
ABTX Abilene, Hawle 51.02 63 IAmb IAmb 22 42 22.9
comp=Z,481nm,1.5s
ABTX Abilene, Hawle 51.02 63 P **P** **22 41 58.2 -0.5**
baz=269,SNR=28
ABTX S **S** **22 49 16.6 +0.2**
baz=269
JRQG Juriquilla Cam 51.12 79 P **P** **22 41 59.5 -0.4**
YKAB2 New Yellowknif 51.23 23 P **P** **22 41 58.9 -0.8**
YKA Yellowknife Ar 51.27 23 P **P** **22 41 59.3 -0.8**
comp=Z,31nm,0.9s,baz=238,slow=7.3,SNR=122
YKA LR LR 22 59 53.1
comp=Z,15µm,21.7s,baz=228,slow=32
YKA PKPPKP P'P'df 23 12 37.8 -8.6
comp=Z,1.6nm,1.1s,baz=72,slow=3.8,SNR=6.6
comp=Z,31nm,0.9s
CBKS Cedar Bluff 51.28 55 IAmb IAmb 22 42 25.2
comp=Z,249nm,1.1s
CBKS Cedar Bluff 51.28 55 P **P** **22 41 59.7 -1.0**
baz=264
CBKS S **S** **22 49 19.8 -0.2**
baz=264
CBKS Cedar Bluff 51.28 55 ⇑P **P** **22 42 01.8 +1.1**
YKAW1 Yellowknife Wh 51.30 23 IAMs_20 IAMs_20 22 59 07.3
comp=Z,27µm,22.0s
YKAW3 Yellowknife Wh 51.31 23 IAMs_20 IAMs_20 22 59 07.4
comp=Z,30µm,22.0s
833A Chaparral WMA, 51.31 69 IAmb IAmb 22 42 31.0
comp=Z,261nm,1.2s
833A Chaparral WMA, 51.31 69 P **P** **22 42 00.3 -0.7**
baz=273,SNR=12
833A S **S** **22 49 23.8 +3.2**
baz=273
ELIS Ellis County 51.32 59 P **P** **22 42 00.8 -0.2**
ELIS IAmb IAmb 22 42 18.5
comp=Z,595nm,1.9s
HNDO Hondo 51.36 67 IAmb IAmb 22 42 32.3
comp=Z,207nm,1.3s
A22K Sinclair Lake 51.62 0 P **P** **22 42 02.9 +0.4**
baz=180
A22K S **S** **22 49 25.6 +2.1**
baz=180
U32A Winter Ranch, 51.68 59 IAmb IAmb 22 42 27.1
comp=Z,165nm,0.9s
WMOK Wichita Mounta 51.78 61 P **P** **22 42 03.9 -0.5**
baz=268,SNR=18
WMOK S **S** **22 49 26.7 -0.2**
baz=268
WMOK Wichita Mounta 51.78 61 ⇓P **P** **22 42 05.0 +0.6**
OK038 West end E0370 51.89 58 IAmb IAmb 22 42 26.8
comp=Z,165nm,1.0s
OK038 IAMs_20 IAMs_20 23 00 17.0
comp=Z,35µm,22.0s
CSTR Hydro, Custer 51.89 60 **P** **22 42 06.9 +1.6**
OK035 E0210 Rd and N 51.93 58 **P** **22 42 04.4 -1.1**
OK035 IAMs_20 IAMs_20 23 00 05.0
comp=Z,33µm,21.0s
A21K Barrow 51.95 359 P **P** **22 42 04.6 -0.4**
baz=178
A21K S **S** **22 49 32.5 +4.4**
baz=178
WTFS Witchita Falls 52.02 62 P **P** **22 42 07.0 +0.8**
WTFS IAmb IAmb 22 42 22.5
comp=Z,408nm,1.5s
HBVL Hebbronville 52.03 70 P **P** **22 42 06.7 +0.3**
HBVL IAmb IAmb 22 42 37.2
comp=Z,401nm,1.4s
EF01 Eagle Ford 01 52.16 68 P **P** **22 42 07.7 +0.3**
EF01 IAmb IAmb 22 42 27.5
comp=Z,134nm,1.0s
OK032 Salt Plains WL 52.34 58 IAMs_20 IAMs_20 23 00 17.8
comp=Z,34µm,21.0s
FW03 Perrin-Whitt E 52.35 63 P **P** **22 42 08.7 +0.1**
FW03 IAmb IAmb 22 42 32.7
comp=Z,408nm,1.4s
KAN10 Anthony SW Sta 52.45 58 P **P** **22 42 07.7 -1.6**
CROK Carrier 52.50 58 P **P** **22 42 09.6 -0.2**
CROK IAmb IAmb 22 42 32.8
comp=Z,163nm,1.1s
UNM Universidad Na 52.52 80 P **P** **22 42 08.6 -1.9**
UNM IAmb IAmb 22 42 29.9
comp=Z,323nm,1.1s
UNM Universidad Na 52.52 80 P **P** **22 42 08.6 -1.9**
UNM pmax pmax
comp=Z,323nm,1.1s
UNM MLR MLR
comp=Z,61µm,18.0s
KAN12 Harper NE Stat 52.53 57 P **P** **22 42 07.9 -2.1**
KAN12 IAmb IAmb 22 42 34.1
comp=Z,589nm,1.8s
KAN14 Manchester OK 52.54 58 P **P** **22 42 08.4 -1.6**
KAN14 IAmb IAmb 22 42 33.2
comp=Z,172nm,1.3s
KAN08 Anthony NE Sta 52.55 58 P **P** **22 42 09.4 -0.7**
KAN08 IAmb IAmb 22 42 26.5
comp=Z,290nm,1.5s
FW07 Weatherford 52.58 63 P **P** **22 42 12.4 +2.0**
FW07 IAmb IAmb 22 42 34.7
comp=Z,373nm,1.5s
SUSD Miller 52.61 48 P **P** **22 42 09.3 -1.1**
baz=260
SUSD S **S** **22 49 37.9 -0.1**
baz=260
KAN06 Argonia West S 52.64 58 P **P** **22 42 11.1 +0.3**
KAN06 IAmb IAmb 22 42 34.0
comp=Z,183nm,1.3s
735A Kenedy 52.68 68 P **P** **22 42 11.9 +0.8**
735A IAmb IAmb 22 42 32.3
comp=Z,370nm,1.1s
KVTX Kingsville 52.69 70 P **P** **22 42 10.9 -0.4**
KAN17 Caldwell West 52.70 58 P **P** **22 42 10.1 -1.1**
KAN17 IAmb IAmb 22 42 34.4
comp=Z,154nm,1.1s
KAN01 Argonia South 52.72 58 IAmb IAmb 22 42 34.6
comp=Z,207nm,1.1s
HNR Honiara 52.77 241 P P 22 42 18.0 +6.1
HNR Honiara 52.77 241 P **P** **22 42 11.2 -0.7**
HNR Honiara 52.77 241 P **P** **22 42 11.2 -0.7**
HNR pmax pmax
comp=Z,395nm,1.1s
HNR MLR MLR
comp=Z,71µm,21.0s
BGNE Belgrade 52.77 52 P **P** **22 42 11.1 -0.6**
BGNE Belgrade 52.77 52 P **P** **22 42 10.9 -0.8**
baz=263,SNR=17
BGNE S **S** **22 49 40.7 +0.4**
baz=263
FW06 Azle 52.77 63 IAmb IAmb 22 42 35.2
comp=Z,186nm,1.0s
435B Jarrell 52.79 66 P **P** **22 42 11.7 -0.2**
435B IAmb IAmb 22 42 29.3
comp=Z,178nm,0.9s
435B Jarrell 52.79 66 P **P** **22 42 10.8 -1.1**
baz=272
435B S **S** **22 49 41.8 +1.0**
baz=272
MDND Maddock 52.82 44 P **P** **22 42 10.8 -1.1**
MDND IAMs_20 IAMs_20 23 02 03.5
comp=Z,31µm,20.0s
MDND Maddock 52.82 44 P **P** **22 42 11.4 -0.5**
baz=257
MDND S **S** **22 49 42.2 +1.5**
baz=257
WHTX Lake Whitney, 52.87 64 IAmb IAmb 22 42 42.1
comp=Z,253nm,1.4s
WHTX Lake Whitney, 52.87 64 P **P** **22 42 12.2 -0.3**
baz=271,SNR=6.9
WHTX S **S** **22 49 43.0 +1.1**
baz=271
FW13 Cleburne 52.89 64 IAmb IAmb 22 42 43.1
comp=Z,394nm,1.7s
OK029 Liberty Lake 52.90 59 P **P** **22 42 12.9 +0.2**
OK029 IAMs_20 IAMs_20 22 59 47.8
comp=Z,26µm,18.0s
OKCSW OKLAHOMA CITY 52.90 60 P **P** **22 42 11.2 -1.6**
FNO Franklin 52.93 60 **P** **22 42 12.0 -1.0**
FNO IAmb IAmb 22 42 37.2
comp=Z,392nm,1.5s
KAN13 South Haven SW 52.93 58 P **P** **22 42 12.7 -0.2**
KAN13 IAmb IAmb 22 42 37.0
comp=Z,506nm,1.8s
ADOK Arcadia Dam 52.96 60 P **P** **22 42 10.2 -3.0**
Z35A Perchaven, San 53.03 62 IAmb IAmb 22 42 36.8
comp=Z,167nm,1.0s
FW14 Alvarado 53.09 64 IAmb IAmb 22 42 32.5
comp=Z,252nm,1.2s
LOOK Love County 53.09 62 P **P** **22 42 15.4 +1.3**
BLOK Blackwell 53.13 58 P **P** **22 42 14.1 -0.3**
BLOK IAmb IAmb 22 42 38.5
comp=Z,328nm,1.4s
RAO Raoul Island 53.14 205 IAMs_20 IAMs_20 22 58 50.6
comp=Z,47µm,20.0s
RAO Raoul Island 53.14 205 LR LR 23 01 02.0
comp=Z,27µm,21.9s,baz=28,slow=32
MLDN Muldoon 53.28 67 P **P** **22 42 15.7 +0.1**
MLDN IAmb IAmb 22 42 50.1
comp=Z,427nm,1.7s
FFC Flin Flon 53.30 35 P **P** **22 42 13.7 -1.6**
FFC Flin Flon 53.30 35 ⇑P **P** **22 42 13.7 -1.6**
FFC Flin Flon 53.30 35 P **P** **22 42 13.7 -1.6**
FFC pmax pmax
comp=Z,94nm,1.2s
FFC MLR MLR
comp=Z,26µm,19.0s
OK033 Mehan 53.33 59 P **P** **22 42 15.8 -0.1**
OK033 IAmb IAmb 22 42 39.0
comp=Z,199nm,1.1s
OK033 IAMs_20 IAMs_20 23 00 12.1
comp=Z,35µm,18.0s
FW16 Waxahatchie 53.34 64 P **P** **22 42 18.9 +3.0**
OK048 Pawnee Station 53.34 59 P **P** **22 42 15.9 0.0**
W35A Tecumseh 53.36 60 IAmb IAmb 22 42 32.4
comp=Z,556nm,1.7s
OK031 S. Brethren Rd 53.41 59 IAmb IAmb 22 42 39.7
comp=Z,191nm,1.0s
OK031 IAMs_20 IAMs_20 23 00 14.1
comp=Z,32µm,19.0s
KUR Kuril'sk 53.41 312 *e*P **P** **22 42 17.3 +1.1**
KUR *e*S S 22 50 01.5 +13
KUR pmax pmax
comp=Z,883nm,1.4s
KUR pmax pmax
comp=Z,13µm,12.0s
KUR MLR MLR
comp=N,23µm,18.0s
KUR MLR MLR
comp=E,25µm,18.0s
KUR MLR MLR
comp=Z,36µm,18.0s
OK051 E0350 and S346 53.42 59 P **P** **22 42 16.3 -0.3**
OK051 IAmb IAmb 22 42 39.9
comp=Z,152nm,1.0s
OK051 IAMs_20 IAMs_20 23 00 05.6
comp=Z,35µm,22.0s
OK052 Battle Ridge R 53.44 59 IAmb IAmb 22 42 40.0
comp=Z,245nm,1.0s
OK052 IAMs_20 IAMs_20 23 00 14.9
comp=Z,34µm,18.0s
C36M Paulatuk 53.45 13 IAMs_20 IAMs_20 23 00 32.2
comp=Z,35µm,22.0s
C36M Paulatuk 53.45 13 P **P** **22 42 14.5 -1.7**
baz=217,SNR=34
C36M S **S** **22 49 48.9 +0.3**
baz=217
QUOK Quay 53.52 59 P **P** **22 42 17.3 0.0**
QUOK IAmb IAmb 22 42 41.3

DEOK Depew 53.68 59 P 22 42 17.1 -1.4
DEOK IAmb IAmb 22 42 41.5
comp=Z,189nm,1.1s
T35A Sooner Cattle 53.70 58 P 22 42 17.0 -1.6
T35A IAmb IAmb 22 42 42.0
comp=Z,196nm,1.1s
KSU1 Kansas State U 53.74 55 P **P 22 42 17.7 -1.1**
KSU1 IAmb IAmb 22 42 43.3
comp=Z,248nm,1.1s
KSU1 IAMs_20 IAMs_20 23 01 13.6
comp=Z,31µm,22.0s
KSU1 Kansas State U 53.74 55 P **P 22 42 17.7 -1.1**
baz=266
KSU1 S **S 22 49 54.9 +1.4**
baz=266
KSU1 Kansas State U 53.74 55 ⇓P **P 22 42 18.9 0.0**
TREL Terrell 54.01 63 P **P 22 42 22.1 +1.2**
ECSD EROS Data Cent 54.18 50 IAmb IAmb 22 42 44.9
comp=Z,220nm,1.2s
ECSD EROS Data Cent 54.18 50 P **P 22 42 20.5 -1.5**
baz=263,SNR=53
ECSD S **S 22 49 58.7 -0.7**
baz=263
ECSD EROS Data Cent 54.18 50 ⇑P **P 22 42 20.5 -1.5**
TUL3 Leonard 54.25 59 IAmb IAmb 22 42 45.9
comp=Z,180nm,1.1s
TUL3 IAMs_20 IAMs_20 23 00 39.6
comp=Z,28µm,19.0s
TUL3 Leonard 54.25 59 P **P 22 42 21.6 -1.0**
baz=269,SNR=7.8
TUL3 S **S 22 50 00.8 +0.2**
baz=269
237A Washetta, Mont 54.27 64 P **P 22 42 23.5 +0.7**
237A IAmb IAmb 22 42 50.8
comp=Z,269nm,1.3s
HKT Hockley 54.34 67 P **P 22 42 23.7 +0.4**
HKT IAmb IAmb 22 42 50.8
comp=Z,381nm,1.5s
HKT IAMs_20 IAMs_20 23 01 08.0
comp=Z,41µm,20.0s
HKT Hockley 54.34 67 ⇑P **P 22 42 23.4 +0.1**
HKT Hockley 54.34 67 *i* P **P 22 42 22.3 -0.9**
HKT pmax pmax
comp=Z,164nm,1.8s
HKT MLR MLR
comp=Z,18µm,9.0s
BILL Bilibino 54.34 343 P **P 22 42 22.8 0.0**
BILL IAMs_20 IAMs_20 23 02 05.8
comp=Z,29µm,21.0s
BILL Bilibino 54.34 343 *e*P **P 22 42 22.7 0.0**
BILL pmax pmax
comp=Z,168nm,0.8s
BILL MLR MLR
comp=Z,9µm,12.2s
LIFNC LIFOU 54.36 225 P **P 22 42 24.7 +1.2**
LIFNC LIFOU 54.36 225 P **P 22 42 24.5 +1.0**
D32A Dogwood Acres, 54.40 45 P **P 22 42 22.5 -1.0**
D32A IAMs_20 IAMs_20 23 01 11.4
comp=Z,36µm,20.0s
X37A Clayton 54.59 61 IAmb IAmb 22 43 02.0
comp=Z,254nm,1.4s
HNVL Huntsville, TX 54.61 66 P **P 22 42 24.6 -0.8**
HNVL IAmb IAmb 22 42 37.2
comp=Z,221nm,0.9s
YUK Yuzh-Kuril'sk 54.66 311 *e*P **P 22 42 22.5 -2.9**
YUK *e* 22 43 21.6
YUK *e*S **S 22 50 07.3 +1.6**
YUK *e*SS **SKiKP 22 53 39.8 +4.9**
YUK *e*SSS SSS 22 55 41.0
YUK pmax pmax
comp=Z,897nm,1.3s
YUK pmax pmax
comp=E,320nm,1.0s
F33A 5 Mile Ranch, 54.69 47 P **P 22 42 26.0 +0.3**
F33A IAmb IAmb 22 42 58.7
comp=Z,200nm,1.4s
RLO Rose Lookout 54.88 59 P **P 22 42 26.0 -1.2**
RLO IAmb IAmb 22 42 50.4
comp=Z,183nm,1.2s
Z38A Mt. Pleasant 54.93 63 P **P 22 42 29.8 +2.3**
Z38A IAmb IAmb 22 42 54.9
comp=Z,363nm,1.4s
NATX Nacogdoches 55.25 64 P **P 22 42 29.7 -0.3**
NATX IAmb IAmb 22 42 41.6
comp=Z,173nm,0.9s
NATX IAMs_20 IAMs_20 23 02 10.3
comp=Z,38µm,18.0s
NATX Nacogdoches 55.25 64 P **P 22 42 29.4 -0.5**
baz=272,SNR=6.9
NATX S **S 22 50 11.8 -2.3**
baz=272
NATX Nacogdoches 55.25 64 ⇑P **P 22 42 29.8 -0.1**
A36M Sachs Harbour 55.36 11 P **P 22 42 28.4 -1.6**
A36M IAmb IAmb 22 42 50.9
comp=Z,180nm,0.9s
A36M IAMs_20 IAMs_20 23 02 03.8
comp=Z,37µm,22.0s
A36M Sachs Harbour 55.36 11 P **P 22 42 28.9 -1.1**
baz=215,SNR=43
A36M S **S 22 50 16.9 +2.6**
baz=215
AGMN Agassiz Nation 55.37 44 P **P 22 42 29.5 -1.0**
AGMN IAmb IAmb 22 42 45.6
comp=Z,267nm,1.4s
AGMN IAMs_20 IAMs_20 23 02 14.5
comp=Z,33µm,21.0s
AGMN Agassiz Nation 55.37 44 P **P 22 42 28.8 -1.7**
baz=260
AGMN S **S 22 50 14.4 -0.7**
baz=260
U38A Gravette 55.40 59 P **P 22 42 28.8 -2.1**
U38A IAmb IAmb 22 42 54.1
comp=Z,154nm,1.1s
PINNC Pines Island, 55.53 223 P P 22 42 36.7 +4.8
PINNC Pines Island, 55.53 223 P **P 22 42 34.8 +2.9**
MA2 Magadan 55.58 330 P **P 22 42 32.1 +0.3**
MA2 Magadan 55.58 330 P **P 22 42 30.5 -1.3**
MA2 IAmb IAmb 22 43 04.3
comp=Z,173nm,1.3s
MA2 Magadan 55.58 330 ⇑P **P 22 42 32.0 +0.2**
MA2 Magadan 55.58 330 LR LR 23 02 12.7
comp=Z,65µm,21.9s,baz=117,slow=32
MA2 Magadan 55.58 330 *ce*P **P 22 42 31.0 -0.8**
MA2 pmax pmax
comp=Z,183nm,2.5s
MA2 MLR MLR
comp=Z,23µm,21.0s
MA2 Magadan 55.58 330 P **P 22 42 31.6 -0.2**
comp=Z,168nm,2.3s,comp=Z,9µmcomp=Z,80µm
ULM Lac du Bonnet 55.71 42 P **P 22 42 31.9 -1.0**
ULM IAmb IAmb 22 42 47.2
comp=Z,187nm,1.1s
ULM Lac du Bonnet 55.71 42 ⇑P **P 22 42 31.0 -1.9**
ULM Lac du Bonnet 55.71 42 P **P 22 42 31.6 -1.4**
comp=Z,47nm,1.1s,baz=269,slow=7.4,SNR=16
ULM LR LR 23 04 11.0
comp=Z,10µm,19.4s,baz=262,slow=34
comp=Z,47nm,1.1s
ULM Lac du Bonnet 55.71 42 P **P 22 42 31.9 -1.0**
ULM pmax pmax
comp=Z,187nm,1.1s
HHAR Hobbs 55.76 59 P **P 22 42 31.9 -1.7**
HHAR IAmb IAmb 22 42 56.6
comp=Z,129nm,1.1s
OUENC Ouen Island, N 55.78 224 P **P 22 42 38.4 +4.7**
OUENC Ouen Island, N 55.78 224 P **P 22 42 35.7 +2.0**
OUENC IAmb IAmb 22 43 02.5
comp=Z,335nm,1.4s
DZM Mont Dzumac 55.80 224 P **P 22 42 36.5 +2.5**
DZM Mont Dzumac 55.80 224 P **P 22 42 36.3 +2.3**
DZM Mont Dzumac 55.80 224 ⇑P **P 22 42 37.0 +3.1**
DZM Mont Dzumac 55.80 224 LR LR 23 01 49.0
comp=Z,38µm,20.2s,baz=42,slow=31
NOUC Port Laguerre 55.91 224 P **P 22 42 36.9 +2.2**
ONTNC Ouen Toro 55.95 224 P **P 22 42 37.7 +2.7**
ONTNC Ouen Toro 55.95 224 P **P 22 42 36.5 +1.5**
MIAR Mount Ida 56.07 61 IAmb IAmb 22 42 59.8
comp=Z,273nm,1.4s
MIAR IAMs_20 IAMs_20 23 03 19.3
comp=Z,28µm,20.0s
MIAR Mount Ida 56.07 61 P **P 22 42 35.3 -0.5**
baz=271,SNR=23
MIAR S **S 22 50 25.3 +0.4**
baz=271
MIAR Mount Ida 56.07 61 ⇑P **P 22 42 35.5 -0.3**

P38A Dawn 56.15 55 IAmb IAmb 22 42 51.7
comp=Z,166nm,1.1s
KOUNC Koumac, New Ca 56.21 227 P **P 22 42 40.7 +3.8**
KOUNC Koumac, New Ca 56.21 227 **P 22 42 37.4 +0.5**
KOUNC IAmb IAmb 22 42 50.3
comp=Z,375nm,1.7s
KOUNC Koumac, New Ca 56.21 227 ⇑P **P 22 42 41.4 +4.6**
SEY Seymchan 56.22 334 LR LR 23 02 35.8
comp=Z,35µm,21.9s,baz=110,slow=32
SEY Seymchan 56.22 334 *e*P **P 22 42 34.8 -1.6**
SEY pmax pmax
comp=Z,170nm,1.4s
S39A Bolivar 56.26 57 IAmb IAmb 22 42 53.0
comp=Z,136nm,1.1s
ERM Erimo 56.45 308 P **P 22 42 41.4 +3.1**
ERM Erimo 56.45 308 P **P 22 42 38.2 -0.1**
ERM IAmb IAmb 22 43 04.2
comp=Z,290nm,1.1s
ERM Erimo 56.45 308 ⇑P **P 22 42 38.4 +0.1**
ERM Erimo 56.45 308 P **P 22 42 38.2 -0.1**
JEM Erimo 56.45 308 P **P 22 42 41.3 +3.0**
WLAR White Oak Lake 56.48 62 P **P 22 42 40.3 +1.6**
WLAR IAmb IAmb 22 44 12.0
comp=Z,195nm,1.4s
SCIA State Center 56.50 52 IAMs_20 IAMs_20 23 03 19.2
comp=Z,34µm,22.0s
SCIA State Center 56.50 52 P **P 22 42 37.0 -1.7**
baz=266,SNR=12
SCIA S **S 22 50 29.0 -1.4**
baz=266
SCIA State Center 56.50 52 ⇑P **P 22 42 37.3 -1.4**
441A DeRidder 56.57 65 P **P 22 42 40.0 +0.7**
F36A Milaca 56.61 47 IAmb IAmb 22 42 54.1
comp=Z,156nm,1.1s
Z41A Richland Creek 56.76 62 IAmb IAmb 22 43 04.0
comp=Z,258nm,1.3s
B35A Bob, Littlefor 56.78 44 P **P 22 42 36.8 -3.9**
B35A IAmb IAmb 22 42 54.9
comp=Z,232nm,1.3s
B35A IAMs_20 IAMs_20 23 04 44.4
comp=Z,31µm,20.0s
RABL Rabaul 56.93 251 P **P 22 42 44.2 +2.1**
RABL IAmb IAmb 22 43 06.2
comp=Z,210nm,1.4s
CMIG Matias Romero 56.96 82 LR LR 23 01 19.5
comp=Z,35µm,21.4s,baz=292,slow=30
JKA Kamikawa-asahi 57.00 310 P **P 22 42 42.9 +0.7**
JKA IAmb IAmb 22 43 05.9
comp=Z,209nm,1.0s
JKA Kamikawa-asahi 57.00 310 ⇑P **P 22 42 42.8 +0.5**
ASAJ Asahikawa 57.01 310 P **P 22 42 43.1 +0.9**
comp=Z,58nm,1.0s,baz=117,slow=6.5,SNR=20
ASAJ LR LR 23 02 03.3
comp=Z,75µm,21.9s,baz=118,slow=31
comp=Z,58nm,1.0s
SPMN Marine on St. 57.05 48 IAmb IAmb 22 42 57.4
comp=Z,304nm,1.4s
SPMN Marine on St. 57.05 48 P **P 22 42 41.3 -1.3**
baz=265,SNR=11
SPMN S **S 22 50 38.4 +0.8**
baz=265
UALR University of 57.08 61 P **P 22 42 43.2 +0.2**
UALR IAmb IAmb 22 43 07.2
comp=Z,516nm,1.9s
MGMO Mountain Grove 57.10 58 IAmb IAmb 22 43 07.0
comp=Z,296nm,1.6s
KRVT Keravat (AS076 57.10 251 LR LR 23 02 22.3
comp=Z,6µm,21.9s,baz=101,slow=31
WHAR Wooly Hollow 57.11 60 IAmb IAmb 22 43 06.9
comp=Z,309nm,1.6s
YSS Yuzh-Sakhalins 57.17 314 P **P 22 42 43.6 +0.3**
YSS Yuzh-Sakhalins 57.17 314 P **P 22 42 41.9 -1.5**
YSS IAmb IAmb 22 43 08.9
comp=Z,273nm,1.5s
YSS Yuzh-Sakhalins 57.17 314 *ce*P **P 22 42 43.7 +0.4**
YSS *e*S **S 22 50 37.4 -1.6**
YSS pmax pmax
comp=Z,10.0nm,1.6s
YSS pmax pmax
comp=Z,10µm,8.5s
YSS pmax pmax
comp=E,4µm,8.4s
FCAR Ozark Folk Cen 57.23 59 IAmb IAmb 22 43 07.3
comp=Z,300nm,1.6s
P40A Paris 57.29 55 IAmb IAmb 22 43 00.3
comp=Z,135nm,1.1s
CCAR Cane Creek 57.59 62 P **P 22 42 47.2 +0.7**
GUMO Guam 57.65 274 P **P 22 42 48.3 +1.1**
GUMO Guam 57.65 274 IAMs_20 IAMs_20 23 02 28.6
comp=Z,29µm,19.0s
GUMO Guam 57.65 274 LR LR 23 02 28.4
comp=Z,22µm,21.4s,baz=72,slow=31
GUMO Guam 57.65 274 P **P 22 42 48.3 +1.1**
GUMO pmax pmax
comp=Z,822nm,1.4s
GUMO MLR MLR
comp=Z,29µm,19.0s
JCJ Chichijima 57.67 290 LR LR 23 02 51.9
comp=Z,21µm,20.4s,baz=77,slow=31
TYV Tymovskoe 57.76 318 *e*P **P 22 42 47.7 +0.3**
TYV *e*S **S 22 50 47.8 +1.1**
TYV pmax pmax
comp=Z,50nm,1.0s
TYV pmax pmax
comp=Z,1µm,6.1s
TYV smax smax
comp=N,2µm,8.7s
TYV smax smax
comp=E,3µm,8.7s
UGL Uglegorsk 57.88 316 *ci*P **P 22 42 48.7 +0.4**
UGL *e*S **S 22 50 51.3 +3.0**
UGL pmax pmax
comp=E,5µm,7.0s
UGL pmax pmax
comp=Z,340nm,1.0s
UGL pmax pmax
comp=N,2µm,4.5s
UGL pmax pmax
comp=Z,11µm,7.0s
UGL smax smax
comp=E,6µm,12.0s
UGL smax smax
comp=N,4µm,10.0s
CCM Cathedral Cave 57.91 57 P **P 22 42 47.9 -0.9**
CCM Cathedral Cave 57.91 57 IAMs_20 IAMs_20 23 03 44.1
comp=Z,28µm,22.0s
CCM Cathedral Cave 57.91 57 P **P 22 42 46.2 -2.6**
baz=270
CCM S **S 22 50 48.7 -0.4**
baz=270
CCM Cathedral Cave 57.91 57 ⇓P **P 22 42 47.3 -1.4**
CCM Cathedral Cave 57.91 57 P **P 22 42 47.9 -0.9**
CCM pmax pmax
comp=Z,141nm,1.4s
CCM MLR MLR
comp=Z,28µm,22.0s
143A Socs Landing, 57.96 63 P **P 22 42 50.3 +1.1**
143A IAmb IAmb 22 43 00.9
comp=Z,156nm,0.8s
143A IAMs_20 IAMs_20 23 03 14.4
comp=Z,37µm,21.0s
JTM Tenmabayashi 57.97 306 P **P 22 42 49.1 0.0**
JTM Tenmabayashi 57.97 306 IAmb IAmb 22 43 22.2
comp=Z,205nm,1.1s
JTM Tenmabayashi 57.97 306 ⇑P **P 22 42 49.0 0.0**
L40A Anamosa 57.99 52 IAmb IAmb 22 43 15.5
comp=Z,189nm,1.4s
LCAR Lake Charles 58.01 59 IAmb IAmb 22 43 05.2
comp=Z,284nm,1.7s
T42A Van Buren 58.04 58 P **P 22 42 49.0 -0.7**
T42A IAmb IAmb 22 43 13.2
comp=Z,312nm,1.4s
T42A IAMs_20 IAMs_20 23 02 59.3
comp=Z,29µm,22.0s
E38A The Farm, Brul 58.05 47 IAmb IAmb 22 43 03.5
comp=Z,371nm,1.5s
JMM Marumori 58.16 303 P **P 22 42 52.3 +1.8**
JMM Marumori 58.16 303 IAmb IAmb 22 43 16.2
comp=Z,222nm,1.2s
JMM Marumori 58.16 303 ⇑P **P 22 42 51.0 +0.4**
EYMN Ely 58.22 45 IAmb IAmb 22 43 15.5
comp=Z,140nm,1.3s
EYMN Ely 58.22 45 IAMs_20 IAMs_20 23 04 58.4
comp=Z,31µm,20.0s
EYMN Ely 58.22 45 P **P 22 42 48.3 -2.5**
baz=264
EYMN S **S 22 50 50.4 -2.5**
baz=264
EYMN Ely 58.22 45 ⇑P **P 22 42 50.2 -0.6**
HBAR Harrisburg 58.44 60 P **P 22 42 55.0 +2.6**
I40A Norwalk 58.51 50 IAmb IAmb 22 43 06.8
comp=Z,196nm,1.4s
FVM French Village 58.55 57 IAmb IAmb 22 43 08.0
comp=Z,125nm,1.1s
FVM IAMs_20 IAMs_20 23 04 03.8
comp=Z,33µm,21.0s
PBMO Poplar Bluff 58.58 58 IAmb IAmb 22 43 16.2
comp=Z,214nm,1.3s
PBMO IAMs_20 IAMs_20 23 03 14.5
comp=Z,34µm,19.0s
FCC Fort Churchill 58.65 32 IAMs_20 IAMs_20 23 03 50.4
comp=Z,28µm,21.0s
SLM Saint Louis 58.70 56 P **P 22 42 54.5 +0.3**
SLM IAmb IAmb 22 43 17.8
comp=Z,302nm,1.6s
SLM Saint Louis 58.70 56 P **P 22 42 54.5 +0.3**
SLM pmax pmax
comp=Z,302nm,1.6s
SLM MLR MLR
comp=Z,7µm,18.0s
JFWS Jewell Farm 58.74 51 IAmb IAmb 22 43 09.2
comp=Z,242nm,1.2s
JFWS Jewell Farm 58.74 51 P **P 22 42 52.6 -1.9**
baz=268
JFWS S **S 22 50 58.4 -1.5**
baz=268
JFWS Jewell Farm 58.74 51 ⇑P **P 22 42 52.8 -1.7**
VBMS Vicksburg 58.74 64 P **P 22 42 54.4 -0.3**
VBMS IAMs_20 IAMs_20 23 03 00.1
comp=Z,24µm,20.0s
VBMS Vicksburg 58.74 64 P **P 22 42 54.0 -0.6**
baz=274
VBMS S **S 22 51 01.1 +1.0**
baz=274
545A Edgard 58.95 66 IAMs_20 IAMs_20 23 11 46.9
comp=Z,33µm,18.0s
MET Memphis--Engin 59.05 60 P **P 22 42 57.9 +1.2**
PEBM Pemiscott Bayo 59.06 59 P **P 22 42 56.6 -0.2**
PARMO Parma 59.13 58 P **P 22 42 58.4 +1.2**
PARMO IAMs_20 IAMs_20 23 04 39.1
comp=Z,29µm,22.0s
L42A Oliver, Polo 59.15 52 IAMs_20 IAMs_20 23 04 49.3
comp=Z,43µm,22.0s
PVMO Portageville 59.18 59 IAMs_20 IAMs_20 23 02 26.5
comp=Z,26µm,19.0s
CGM3 Cape Girardeau 59.18 58 IAMs_20 IAMs_20 23 05 36.5
comp=Z,26µm,19.0s
JHJ Hachijo jima 2 59.18 298 LR LR 23 05 09.9
comp=Z,15µm,20.1s,baz=108,slow=33
P43A Skaggs, Pawnee 59.24 55 IAMs_20 IAMs_20 23 03 19.0
comp=Z,35µm,18.0s
LNXT Lenox 59.36 59 P **P 22 42 58.2 -0.7**
HDIL Hopedale 59.41 54 P **P 22 42 58.2 -1.0**
baz=270
HDIL S **S 22 51 07.4 -1.2**
baz=270
Y45A Yeager Farm, C 59.44 62 IAMs_20 IAMs_20 23 03 57.6
comp=Z,22µm,18.0s
S44A Carbondale 59.49 57 IAMs_20 IAMs_20 23 04 09.6
comp=Z,29µm,20.0s
HALT Halls 59.49 59 P **P 22 43 00.5 +0.7**
OXF Oxford 59.51 61 P **P 22 43 01.1 +1.2**
OXF IAMs_20 IAMs_20 23 03 26.4
comp=Z,30µm,19.0s
OXF Oxford 59.51 61 P **P 22 42 59.1 -0.8**
baz=273,SNR=8.4
OXF S **S 22 51 09.7 -0.3**
baz=273
OXF Oxford 59.51 61 ⇓P **P 22 43 00.3 +0.3**
OXF Oxford 59.51 61 P **P 22 43 01.1 +1.2**
OXF pmax pmax
comp=Z,583nm,1.6s
OXF MLR MLR
comp=Z,30µm,19.0s
GLAT Glass 59.52 59 P **P 22 43 00.2 +0.2**
SIUC Southern Illin 59.52 57 IAMs_20 IAMs_20 23 04 11.4
comp=Z,28µm,20.0s
HICK Hickman 59.55 58 P **P 22 42 59.5 -0.7**
HICK IAMs_20 IAMs_20 23 02 38.4
comp=Z,24µm,18.0s
Q44A Meyer Farm, Va 59.65 56 IAmb IAmb 22 43 16.6
comp=Z,204nm,1.6s
Q44A IAMs_20 IAMs_20 23 05 32.7
comp=Z,29µm,19.0s
COWI Conover 59.68 47 IAmb IAmb 22 43 16.4
comp=Z,119nm,1.1s
COWI Conover 59.68 47 ⇓P **P 22 42 59.6 -1.3**
CCIG Comitan 59.70 82 P **P 22 43 02.5 +0.8**
CCIG IAmb IAmb 22 43 29.2
comp=Z,190nm,1.2s
CCIG Comitan 59.70 82 ⇓P **P 22 43 01.9 +0.1**
346A Big Creek Wild 59.70 64 P **P 22 43 02.9 +1.6**
I42A Draeger Farm, 59.74 50 IAmb IAmb 22 43 14.8
comp=Z,98nm,1.1s
UTMT University of 59.85 59 P **P 22 43 02.5 +0.2**
146A Union 59.94 63 P **P 22 43 02.6 -0.3**
146A IAMs_20 IAMs_20 23 03 08.8
comp=Z,34µm,22.0s
T45A Paducah 60.00 58 P **P 22 43 01.6 -1.7**
T45A IAmb IAmb 22 43 29.8
comp=Z,150nm,1.1s
T45A IAMs_20 IAMs_20 23 05 57.2
comp=Z,25µm,18.0s
D41A Chassel 60.12 46 P **P 22 43 03.4 -0.6**
D41A IAmb IAmb 22 43 19.6
comp=Z,225nm,1.2s
D41A IAMs_20 IAMs_20 23 04 54.9
comp=Z,28µm,21.0s
K43A Burlington 60.15 51 P **P 22 43 02.6 -1.6**
K43A IAMs_20 IAMs_20 23 05 08.7
comp=Z,30µm,22.0s
JSD Sado 60.16 303 P **P 22 43 04.2 -0.2**
JSD IAmb IAmb 22 43 30.4
comp=Z,134nm,1.0s
MJAR Matsushiro Arr 60.26 302 P **P 22 43 05.1 -0.1**
comp=Z,44nm,1.0s,baz=97,slow=4.9,SNR=37
comp=Z,44nm,1.0s
MAJO Matsushiro 60.27 302 P **P 22 43 05.3 +0.1**
MAJO Matsushiro 60.27 302 P **P 22 43 05.5 +0.3**
MAJO Matsushiro 60.27 302 IAMs_20 IAMs_20 23 01 48.8
comp=Z,26µm,21.0s
MAJO Matsushiro 60.27 302 ⇑P **P 22 43 05.5 +0.3**
MAJO Matsushiro 60.27 302 *i* P **P 22 43 04.7 -0.5**
MAJO pmax pmax
comp=Z,66nm,1.0s
MAJO MLR MLR
comp=Z,6µm,15.0s
M44A Midewin, Midew 60.36 53 IAmb IAmb 22 43 20.2
comp=Z,229nm,1.2s
M44A IAMs_20 IAMs_20 23 05 36.4
comp=Z,33µm,19.0s
F42A Maple Grove Fa 60.36 48 IAmb IAmb 22 43 19.8
comp=Z,195nm,1.4s
F42A IAMs_20 IAMs_20 23 05 30.3
comp=Z,23µm,20.0s
OLIL Olney 60.37 56 IAMs_20 IAMs_20 23 05 14.8
comp=Z,29µm,20.0s
MANU Manus Island 60.38 256 P **P 22 43 05.4 -0.8**
JSG Sagara 60.40 299 P **P 22 43 05.8 -0.2**
L44A Lake County Fo 60.45 52 P **P 22 43 04.5 -1.8**
baz=270
L44A S **S 22 51 21.1 -0.9**
baz=270
HQIL Hanson Quary C 60.50 52 IAMs_20 IAMs_20 23 05 33.1
comp=Z,39µm,21.0s
HUEH Huehuetenango 60.52 83 P **P 22 43 07.2 -0.2**
RTAL Retalhuleu 60.53 84 P **P 22 43 06.3 -0.9**
WVT Waverly 60.70 59 P **P 22 43 07.6 -0.5**
WVT Waverly 60.70 59 IAMs_20 IAMs_20 23 04 22.8
comp=Z,26µm,19.0s
WVT Waverly 60.70 59 P **P 22 43 06.2 -1.9**
baz=273
WVT S **S 22 51 24.4 -0.9**
baz=273
WVT Waverly 60.70 59 ⇓P **P 22 43 07.2 -1.0**
WVT Waverly 60.70 59 P **P 22 43 07.6 -0.5**
WVT pmax pmax
comp=Z,752nm,1.8s
WVT MLR MLR
comp=Z,26µm,19.0s
Z47A Carrollton 60.72 62 P **P 22 43 08.9 +0.7**
Z47A IAMs_20 IAMs_20 23 05 11.5

comp=Z,25µm,19.0s
USIN University of 60.74 57 IAmb IAmb 22 43 35.1
comp=Z,186nm,1.2s
JGF Kuroka 61.01 301 P **P** **22 43 11.7 +1.4**
JGF Kuroka 61.01 301 ⇑P **P** **22 43 10.3 0.0**
P46A Rosedale 61.03 55 IAmb IAmb 22 43 33.4
comp=Z,230nm,1.2s
P46A IAMs_20 IAMs_20 23 05 29.3
comp=Z,32µm,21.0s
SFIN Lafayette 61.09 54 IAMs_20 IAMs_20 23 06 52.9
comp=Z,21µm,18.0s
SFIN Lafayette 61.09 54 P **P** **22 43 09.5 -1.2**
baz=271,SNR=12
SFIN S **S** **22 51 30.9 +0.7**
baz=271
E43A Lone Tree Farm 61.17 47 IAmb IAmb 22 43 26.6
comp=Z,244nm,1.4s
E43A IAMs_20 IAMs_20 23 08 50.8
comp=Z,24µm,20.0s
T47A Sharon Grove 61.23 58 P **P** **22 43 10.5 -1.2**
T47A IAmb IAmb 22 43 28.3
comp=Z,194nm,1.1s
T47A IAMs_20 IAMs_20 23 05 32.8
comp=Z,26µm,21.0s
TEY Ternei 61.33 311 *e*P **P** **22 43 10.1 -2.1**
TEY *e* 22 51 37.7
X48A Hartselle 61.46 61 IAmb IAmb 22 43 29.1
comp=Z,166nm,1.4s
X48A IAMs_20 IAMs_20 23 05 04.1
comp=Z,25µm,21.0s
V48A Smith Brothers 61.54 59 IAmb IAmb 22 43 29.5
comp=Z,280nm,1.6s
APG El Apazote 61.57 83 LR LR 23 04 40.7
comp=Z,3µm,20.4s,baz=249,slow=31
BLO Bloomington 61.58 55 IAMs_20 IAMs_20 23 06 43.9
comp=Z,27µm,21.0s
LRAL Lakeview Retre 61.63 62 IAmb IAmb 22 43 41.0
comp=Z,281nm,1.6s
LRAL IAMs_20 IAMs_20 23 05 49.6
comp=Z,25µm,19.0s
LRAL Lakeview Retre 61.63 62 P **P** **22 43 13.8 -0.7**
baz=276,SNR=17
LRAL S **S** **22 51 37.2 0.0**
baz=276
LRAL Lakeview Retre 61.63 62 ⇑P **P** **22 43 13.9 -0.5**
GRNR Gornyy 61.68 318 *e*P **P** **22 43 14.3 -0.2**
PETF Flores 61.68 81 P **P** **22 43 16.9 +1.9**
I45A Fountain 61.68 50 P **P** **22 43 14.0 -0.6**
I45A IAmb IAmb 22 43 40.7
comp=Z,198nm,1.3s
BRAL Brewton 61.78 64 P **P** **22 43 15.7 +0.2**
BRAL IAMs_20 IAMs_20 23 06 48.9
comp=Z,26µm,18.0s
BRAL Brewton 61.78 64 P **P** **22 43 15.2 -0.3**
baz=276
BRAL S **S** **22 51 41.5 +2.3**
baz=276
WCI Wyandotte Cave 61.80 56 P **P** **22 43 15.1 -0.5**
WCI Wyandotte Cave 61.80 56 P **P** **22 43 14.9 -0.7**
baz=273
WCI S **S** **22 51 39.5 +0.2**
baz=273
WCI Wyandotte Cave 61.80 56 ⇓P **P** **22 43 16.1 +0.5**
WCI Wyandotte Cave 61.80 56 P **P** **22 43 15.1 -0.5**
WCI pmax pmax
comp=Z,298nm,1.5s
WCI MLR MLR
comp=Z,22µm,20.0s
CLTN Cedars of Leba 61.91 59 IAMs_20 IAMs_20 23 05 07.9
comp=Z,24µm,18.0s
KUZ Kuaotunu 62.27 206 P P 22 43 25.9 +7.4
250A Grady 62.35 63 IAMs_20 IAMs_20 23 05 35.8
comp=Z,27µm,21.0s
P48A Milroy 62.41 55 IAmb IAmb 22 43 35.4
comp=Z,239nm,1.4s
TEIG Tepich 62.44 77 P **P** **22 43 20.1 +0.1**
TEIG IAmb IAmb 22 43 46.1
comp=Z,289nm,1.8s
TEIG Tepich 62.44 77 ⇓P **P** **22 43 17.7 -2.4**
TEIG Tepich 62.44 77 LR LR 23 06 59.1
comp=Z,140µm,19.9s,slow=33
O48B Farmland 62.58 54 P **P** **22 43 18.9 -1.8**
baz=273,SNR=21
O48B S **S** **22 51 50.2 +1.1**
baz=273
FPAL Fort Paine 62.63 61 IAmb IAmb 22 43 44.1
comp=Z,217nm,1.3s
R49A Shelbyville 62.68 56 IAmb IAmb 22 43 37.5
comp=Z,223nm,1.6s
R49A IAMs_20 IAMs_20 23 06 35.1
comp=Z,34µm,22.0s
ESQI Esquipulas 62.73 83 P **P** **22 43 23.5 +1.3**
W50A Signal Mountai 62.82 60 IAmb IAmb 22 43 38.3
comp=Z,105nm,1.1s
GLMI Grayling 62.83 49 IAMs_20 IAMs_20 23 05 32.7
comp=Z,22µm,20.0s
GLMI Grayling 62.83 49 P **P** **22 43 20.9 -1.5**
baz=271
GLMI S **S** **22 51 51.3 -0.8**
baz=271
P49A Miami Univ. Ec 62.96 55 IAmb IAmb 22 43 39.2
comp=Z,196nm,1.1s
P49A IAMs_20 IAMs_20 23 06 46.3
comp=Z,24µm,20.0s
P49A Miami Univ. Ec 62.96 55 P **P** **22 43 21.8 -1.4**
baz=273,SNR=6.8
P49A S **S** **22 51 53.8 0.0**
baz=273
451A Vernon 62.96 65 P **P** **22 43 23.1 -0.3**
451A IAMs_20 IAMs_20 23 06 18.0
comp=Z,27µm,19.0s
URZ Urewera 63.01 204 LR LR 23 06 26.6
comp=Z,51µm,20.9s,baz=128,slow=32
E46A Sault Ste Mari 63.04 47 IAMs_20 IAMs_20 23 06 27.0
comp=Z,26µm,19.0s
T50A Nancy 63.04 58 IAmb IAmb 22 43 39.7
comp=Z,239nm,1.4s
T50A IAMs_20 IAMs_20 23 05 57.7
comp=Z,20µm,19.0s
L48A N Adams 63.05 52 IAmb IAmb 22 43 38.0
comp=Z,176nm,1.1s
SNET Serv Nac Est T 63.05 84 P **P** **22 43 25.5 +1.2**
SNET IAMs_20 IAMs_20 23 05 10.5
comp=Z,33µm,19.0s
TOZ Tahuroa Road 63.20 206 P **P** **22 43 23.2 -1.5**
TOZ IAmb IAmb 22 43 59.6
comp=Z,155nm,1.8s
O49A Covington 63.21 54 IAMs_20 IAMs_20 23 07 43.0
comp=Z,29µm,22.0s
X51A Calhoun 63.25 60 IAmb IAmb 22 43 48.0
comp=Z,105nm,1.2s
X51A IAMs_20 IAMs_20 23 07 42.4
comp=Z,20µm,19.0s
N49A Columbus Grove 63.29 53 IAmb IAmb 22 43 48.1
comp=Z,202nm,1.4s
N49A IAMs_20 IAMs_20 23 08 07.9
comp=Z,26µm,21.0s
R50A Paris 63.34 56 IAmb IAmb 22 43 41.9
comp=Z,95nm,1.1s
R50A IAMs_20 IAMs_20 23 07 16.7
comp=Z,25µm,21.0s
RTZ Ruatahuna 63.37 204 IAmb IAmb 22 43 58.5
comp=Z,115nm,1.1s
352A Blakely 63.55 64 P **P** **22 43 28.4 +1.1**
352A IAMs_20 IAMs_20 23 06 24.5
comp=Z,21µm,20.0s
152A Waverly Hall 63.58 62 P **P** **22 43 28.1 +0.6**
152A IAmb IAmb 22 43 43.5
comp=Z,123nm,1.1s
152A IAMs_20 IAMs_20 23 06 03.1
comp=Z,32µm,22.0s
AAM Ann Arbor 63.61 52 P **P** **22 43 28.8 +1.3**
AAM IAmb IAmb 22 43 56.6
comp=Z,100nm,1.1s
AAM IAMs_20 IAMs_20 23 07 03.4
comp=Z,35µm,22.0s
AAM Ann Arbor 63.61 52 P **P** **22 43 25.7 -1.8**
baz=273
AAM S **S** **22 51 59.7 -2.1**
baz=273
AAM Ann Arbor 63.61 52 P **P** **22 43 28.8 +1.3**
AAM pmax pmax
comp=Z,100nm,1.2s
AAM MLR MLR
comp=Z,35µm,22.0s
PMG Port Moresby 63.70 249 LR LR 23 05 21.7
comp=Z,25µm,20.7s,baz=46,slow=30

RES Resolute Bay 63.71 15 IAmb IAmb 22 43 59.5
comp=Z,257nm,1.4s
RES Resolute Bay 63.71 15 ⇑P **P** **22 43 26.6 -1.0**
RES Resolute Bay 63.71 15 LR LR 23 07 34.8
comp=Z,33µm,21.6s,baz=246,slow=33
W52A Murphy 63.96 60 IAmb IAmb 22 43 45.7
comp=Z,246nm,1.7s
S51A Beattyville 63.98 57 IAmb IAmb 22 43 53.8
comp=Z,330nm,1.9s
Y52A Lilburn 63.98 61 IAMs_20 IAMs_20 23 06 30.8
comp=Z,28µm,19.0s
VA02 Isla de Pascua 64.00 135 P **P** **22 43 26.0 -4.2**
TKL Tuckaleechee C 64.02 59 IAmb IAmb 22 43 45.8
comp=Z,171nm,1.4s
TKL Tuckaleechee C 64.02 59 LR LR 23 08 11.0
comp=Z,12µm,20.5s,baz=274,slow=33
BKZ Black Stump Fm 64.04 204 P P 22 43 37.0 +6.7
BKZ Black Stump Fm 64.04 204 P **P** **22 43 26.8 -3.5**
JMN Monobe 64.04 299 P **P** **22 43 31.5 +0.9**
JMN Monobe 64.04 299 ⇑P **P** **22 43 31.1 +0.5**
RPN Rapa Nui 64.05 135 LR LR 23 04 15.4
comp=Z,64µm,21.7s,baz=310,slow=29
Q51A Peebles 64.05 55 IAMs_20 IAMs_20 23 07 30.4
comp=Z,26µm,18.0s
TZTN Tazewell 64.11 58 S **S** **22 52 08.0 -0.4**
baz=276
I49A Point Hope 64.14 50 P **P** **22 43 29.0 -2.0**
V52A Sevierville 64.15 59 IAmb IAmb 22 43 57.3
comp=Z,119nm,1.4s
V52A IAMs_20 IAMs_20 23 06 27.0
comp=Z,24µm,21.0s
ACSO Alum Creek Sta 64.24 54 IAmb IAmb 22 43 46.6
comp=Z,194nm,1.2s
ACSO IAMs_20 IAMs_20 23 07 53.3
comp=Z,21µm,18.0s
ACSO Alum Creek Sta 64.24 54 P **P** **22 43 30.7 -1.0**
baz=274,SNR=7.5
ACSO S **S** **22 52 10.4 +0.6**
baz=274
ACSO Alum Creek Sta 64.24 54 ⇓P **P** **22 43 32.3 +0.6**
K50A Casco 64.35 51 P **P** **22 43 33.1 +0.8**
K50A IAMs_20 IAMs_20 23 07 48.9
comp=Z,24µm,20.0s
GOGA Godfrey 64.53 62 IAMs_20 IAMs_20 23 06 57.6
comp=Z,21µm,20.0s
GOGA Godfrey 64.53 62 P **P** **22 43 32.9 -0.8**
baz=277,SNR=13
GOGA S **S** **22 52 12.3 -1.2**
baz=277
GOGA Godfrey 64.53 62 ⇓P **P** **22 43 32.9 -0.8**
GOGA Godfrey 64.53 62 P **P** **22 43 33.0 -0.7**
USA0B Ussuriysk Arra 64.64 310 IAmb IAmb 22 43 58.8
comp=Z,129nm,1.4s
USA0B Ussuriysk Arra 64.64 310 *c* *i*P **P** **22 43 32.8 -1.4**
USRK Ussuriysk Ar. 64.64 310 P **P** **22 43 33.7 -0.5**
USRK Ussuriysk Ar. 64.64 310 P **P** **22 43 33.5 -0.7**
comp=Z,20nm,0.9s,baz=97,slow=5.9,SNR=32
comp=Z,20nm,0.9s
USRK Ussuriysk Ar. 64.64 310 P **P** **22 43 33.7 -0.5**
KLR Kul'dur 64.65 316 LR LR 23 06 36.8
comp=Z,29µm,21.6s,baz=116,slow=31
KLR Kul'dur 64.65 316 *e*P **P** **22 43 31.9 -2.3**
KLR pmax pmax
comp=Z,41nm,1.4s
N51A Ashland 64.65 53 P **P** **22 43 34.7 +0.3**
TIGA Tifton 64.69 64 P **P** **22 43 33.8 -1.0**
baz=278
TIGA S **S** **22 52 17.2 +1.7**
baz=278
VLA Vladivostok 64.77 309 *i* P **P** **22 43 34.9 -0.2**
VLA pmax pmax
comp=Z,38nm,1.0s
VLA MLR MLR
comp=Z,8µm,18.7s
BG3 Lake Jocassee 64.78 60 IAMs_20 IAMs_20 23 06 57.8
comp=Z,31µm,22.0s
TGUH Tegucigalpa,Un 64.80 83 P **P** **22 43 34.8 -1.1**
TGUH IAMs_20 IAMs_20 23 05 28.6
comp=Z,31µm,22.0s
V53A Saluda 64.80 59 P **P** **22 43 33.8 -1.8**
V53A IAmb IAmb 22 43 58.0
comp=Z,200nm,1.6s
Q52A Bidwell 64.90 55 IAMs_20 IAMs_20 23 07 55.7
comp=Z,30µm,19.0s
154A Montrose 64.93 62 P **P** **22 43 34.7 -1.7**
154A IAMs_20 IAMs_20 23 07 43.0
comp=Z,30µm,20.0s
P52A Corning 64.94 55 IAMs_20 IAMs_20 23 06 47.8
comp=Z,22µm,18.0s
P52A Corning 64.94 55 P **P** **22 43 34.9 -1.4**
baz=275,SNR=14
P52A S **S** **22 52 18.8 +0.4**
baz=275
CRIN San Cristobal 65.36 85 P **P** **22 43 39.9 +0.4**
M52A Chesterland 65.37 52 P **P** **22 43 36.6 -2.5**
HODGE Hodges 65.42 60 IAmb IAmb 22 43 55.2
comp=Z,149nm,1.3s
HODGE IAMs_20 IAMs_20 23 07 25.9
comp=Z,22µm,22.0s
BFZ Birch Farm 65.44 204 P **P** **22 43 42.5 +3.1**
BFZ Birch Farm 65.44 204 P **P** **22 43 39.7 +0.3**
BFZ IAmb IAmb 22 44 01.5
comp=Z,235nm,1.3s
P53A Whipple 65.53 55 IAMs_20 IAMs_20 23 07 32.3
comp=Z,26µm,22.0s
O53A New Philadelph 65.59 54 IAMs_20 IAMs_20 23 07 36.5
comp=Z,27µm,20.0s
O53A New Philadelph 65.59 54 P **P** **22 43 38.9 -1.6**
baz=275
O53A S **S** **22 52 26.3 -0.1**
baz=275
PSTR Posyet 65.59 309 *i* P **P** **22 43 40.2 -0.3**
MRZ Mangatainoka R 65.68 204 P **P** **22 43 42.2 +1.3**
MRZ IAmb IAmb 22 44 08.3
comp=Z,208nm,1.6s
PAULI Pauline 65.71 60 IAmb IAmb 22 43 56.9
comp=Z,150nm,1.4s
S54A Dingess, Beckl 65.76 57 IAMs_20 IAMs_20 23 06 54.2
comp=Z,20µm,19.0s
N53A Lisbon 65.82 53 P **P** **22 43 42.4 +0.3**
N53A IAmb IAmb 22 44 05.0
comp=Z,166nm,1.2s
M53A WI Miller and 65.89 52 P **P** **22 43 41.4 -1.1**
M53A IAmb IAmb 22 44 08.9
comp=Z,160nm,1.4s
M53A WI Miller and 65.89 52 P **P** **22 43 40.5 -1.9**
baz=275
M53A S **S** **22 52 30.4 +0.4**
baz=275
Q54A Coxs Mills 66.01 55 IAMs_20 IAMs_20 23 08 39.6
comp=Z,30µm,20.0s
KMSC Kings Mountain 66.06 59 IAmb IAmb 22 43 59.1
comp=Z,258nm,1.5s
KMSC Kings Mountain 66.06 59 P **P** **22 43 42.0 -1.7**
baz=277,SNR=10
KMSC S **S** **22 52 30.4 -1.9**
baz=277
V55A Taylorsville 66.07 59 P **P** **22 43 42.0 -1.6**
V55A IAmb IAmb 22 44 19.6
comp=Z,63nm,0.7s
456A Hilliard 66.12 64 P **P** **22 43 42.4 -1.7**
YAK Yakutsk 66.16 330 P **P** **22 43 43.0 -0.7**
YAK IAmb IAmb 22 44 03.8
comp=Z,157nm,0.9s
YAK Yakutsk 66.16 330 ⇑P **P** **22 43 42.5 -1.2**
YAK Yakutsk 66.16 330 LR LR 23 09 01.2
comp=Z,64µm,21.7s,baz=91,slow=33
YAK Yakutsk 66.16 330 *c* *i*P **P** **22 43 42.2 -1.5**
YAK *e* 22 46 12.0
YAK *eS* **S** **22 52 29.6 -2.9**
YAK *e**SS sS 22 52 56.7 +20
YAK *e* 22 53 33.7
YAK pmax pmax
comp=Z,92nm,0.8s
YAK pmax pmax
comp=N,6.0nm,1.2s
YAK pmax pmax
comp=E,34nm,1.1s
YAK pmax pmax
comp=Z,2µm,6.6s
YAK pmax pmax
comp=N,20nm,1.3s
YAK pmax pmax
comp=E,71nm,1.8s
YAK smax smax
comp=N,2µm,6.9s
YAK smax smax
comp=E,3µm,7.4s
O54A Avella 66.23 54 IAMs_20 IAMs_20 23 09 41.5
comp=Z,29µm,19.0s
ALLY Alegheny Colle 66.27 52 P **P** **22 43 44.2 -0.6**
ALLY IAmb IAmb 22 44 07.6
comp=Z,196nm,1.2s
MDJ Mudanjiang 66.33 311 P **P** **22 43 45.0 -0.2**
MDJ pmax pmax
comp=Z,50nm,1.2s
MDJ pmax pmax
comp=Z,8µm,12.0s
MDJ LR LR
comp=Z,26µm,21.3s
MDJ LR LR
comp=Z,50µm,28.9s
MDJ LR LR
comp=Z,167µm,33.0s
MDJ Mudanjiang 66.33 311 IAMs_20 IAMs_20 23 07 10.7
comp=Z,30µm,22.0s
ERPA Erie 66.34 52 P **P** **22 43 42.8 -2.5**
ERPA IAMs_20 IAMs_20 23 09 31.2
comp=Z,31µm,21.0s
ERPA Erie 66.34 52 P **P** **22 43 43.5 -1.8**
baz=275
ERPA S **S** **22 52 34.4 -1.1**
baz=275
PAYG Puerto Ayora 66.53 100 P **P** **22 43 44.6 -2.3**
PAYG IAmb IAmb 22 44 03.7
comp=Z,142nm,1.2s
BLA Blacksburg 66.53 57 IAMs_20 IAMs_20 23 08 05.7
comp=Z,21µm,18.0s
BLA Blacksburg 66.53 57 P **P** **22 43 45.0 -1.7**
baz=277,SNR=11
BLA S **S** **22 52 38.9 +0.8**
baz=277
BLA Blacksburg 66.53 57 ⇓P **P** **22 43 46.1 -0.6**
PLWZ Palliser 66.59 204 P **P** **22 43 48.0 +1.2**
BHW Baring Head 66.60 204 P **P** **22 43 45.7 -1.0**
BHW IAmb IAmb 22 44 11.8
comp=Z,88nm,1.2s
BHW IAMs_20 IAMs_20 23 06 48.8
comp=Z,23µm,21.0s
JNU Nakatsue 66.61 298 P **P** **22 43 47.7 +0.4**
JNU Nakatsue 66.61 298 IAmb IAmb 22 44 18.5
comp=Z,134nm,1.2s
JNU Nakatsue 66.61 298 ⇑P **P** **22 43 47.6 +0.4**
JNU Nakatsue 66.61 298 LR LR 23 13 33.1
comp=Z,13µm,18.0s,baz=92,slow=37
R55A Marlinton 66.64 56 IAmb IAmb 22 44 03.7
comp=Z,206nm,1.4s
R55A IAMs_20 IAMs_20 23 09 10.4
comp=Z,28µm,20.0s
JAY Jayapura 66.69 258 P **P** **22 43 49.7 +1.7**
comp=Z,59nm,2.2s,comp=Z,4µmcomp=Z,35µm
MCWV Mont Chateau 66.70 54 P **P** **22 43 46.9 -0.8**
baz=276
MCWV S **S** **22 52 39.4 -0.5**
baz=276
SOR Soroa 66.71 73 P **P** **22 43 50.9 +2.9**
SOR Soroa 66.71 73 P **P** **22 43 50.9 +2.9**
SOR pmax pmax
comp=Z,423nm,1.7s
SADO Sadowa 66.73 49 LR LR 23 11 42.4
comp=Z,9µm,20.1s,baz=293,slow=35
257A Skidaway Islan 66.77 63 P **P** **22 43 48.0 -0.2**
TUWZ Tuamarina 66.98 205 P **P** **22 43 48.1 -1.0**
Y57A Sumter 66.99 60 P **P** **22 43 50.8 +1.2**
LHI Lord Howe Isla 67.06 222 P P 22 43 55.7 +5.8
LHI Lord Howe Isla 67.06 222 P **P** **22 43 51.0 +1.1**
GENI Genyem 67.22 259 P **P** **22 43 53.1 +1.8**
comp=Z,145nm,1.5s,comp=Z,9µmcomp=Z,35µm
J54A Appleton 67.22 50 P **P** **22 43 51.3 +0.4**
J54A IAmb IAmb 22 44 05.8
comp=Z,180nm,1.2s
J54A IAMs_20 IAMs_20 23 08 36.5
comp=Z,24µm,22.0s
BSWZ Blackbirch Sta 67.25 205 P **P** **22 43 51.2 +0.4**
Q56A Snyder Ridge, 67.28 55 IAMs_20 IAMs_20 23 09 21.2
comp=Z,26µm,18.0s
HZTE Horizontes, Gu 67.28 86 P **P** **22 43 53.1 +1.4**
TABU Tabubil 67.28 255 P **P** **22 43 54.6 +2.8**
M55A Ridgway 67.32 52 IAmb IAmb 22 44 14.3
comp=Z,145nm,1.1s
M55A IAMs_20 IAMs_20 23 09 52.1
comp=Z,32µm,20.0s
ZEA Zeya 67.36 321 *e*P **P** **22 43 51.6 +0.1**
ZEA *e* 22 46 26.9
ZEA *e*S **S** **22 52 53.5 +6.2**
ZEA *e*PS PnS 22 53 39.7 +31
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=Z,60nm,1.6s
ZEA pmax pmax
comp=N,1µm,5.8s
ZEA pmax pmax
comp=Z,5µm,9.1s
ZEA pmax pmax
comp=N,500nm,6.0s
ZEA pmax pmax
comp=Z,2µm,14.9s
ZEA smax smax
comp=N,2µm,13.3s
ZEA smax smax
comp=E,5µm,13.3s
TIXI Tiksi 67.36 341 P **P** **22 43 50.8 -0.5**
TIXI Tiksi 67.36 341 IAMs_20 IAMs_20 23 12 27.7
comp=Z,22µm,20.0s
TIXI Tiksi 67.36 341 ⇑P **P** **22 43 51.0 -0.2**
TIXI Tiksi 67.36 341 LR LR 23 12 58.9
comp=Z,16µm,19.7s,baz=122,slow=36
TIXI Tiksi 67.36 341 *ce*P **P** **22 43 50.9 -0.3**
TIXI pmax pmax
comp=Z,90nm,1.7s
TIXI MLR MLR
comp=Z,20µm,20.0s
MEDO Medina 67.37 50 P **P** **22 43 48.0 -3.9**
RCRC Randolf Colleg 67.41 57 P **P** **22 43 50.1 -2.1**
HEH HeiHe 67.42 317 *e*P **P** **22 43 50.3 -1.7**
HEH pP **sP** **22 43 57.4 +2.1**
HEH S **S** **22 52 47.8 -0.4**
HEH sS sS 22 53 01.6 +10
HEH pmax pmax
comp=Z,13nm,1.2s
HEH pmax pmax
comp=Z,3µm,8.6s
HEH LR LR
comp=Z,17µm,25.0s
HEH LR LR
comp=Z,61µm,23.1s
HEH LR LR
comp=Z,106µm,23.8s
T57A Hurt 67.48 57 IAmb IAmb 22 44 09.1
comp=Z,245nm,1.5s
ORTG Ortega, Santa 67.51 87 IAmb IAmb 22 44 10.1
comp=Z,201nm,1.3s
DUNO Dulce Nombre, 67.55 87 P **P** **22 43 52.1 -1.4**
DUNO IAmb IAmb 22 44 24.5
comp=Z,142nm,1.1s
JMZ Minamidaito 2 67.57 291 P **P** **22 43 56.4 +3.0**
JTU Tsushima 67.61 300 P **P** **22 43 53.8 +0.3**
S57A Dark Hollow, R 67.62 56 IAmb IAmb 22 44 16.5
comp=Z,187nm,1.4s
S57A IAMs_20 IAMs_20 23 10 30.4
comp=Z,23µm,20.0s
VLDQ Val d'Or 67.63 45 P **P** **22 43 51.1 -2.3**
THZ Tophouse 67.68 205 P **P** **22 43 52.1 -1.6**
THZ IAmb IAmb 22 44 12.8
comp=Z,122nm,1.5s
X58A Rowland 67.77 60 P **P** **22 43 53.8 -0.7**
GD1S Gladstone Soft 67.77 233 P P 22 44 01.7 +7.1
BNX BinXian 67.77 312 ⇓P **P** **22 43 51.8 -2.5**
BNX pP **pP** **22 43 55.3 -1.7**
BNX PP **PP** **22 46 19.8 -3.8**
BNX S **S** **22 52 50.5 -2.1**
BNX pmax pmax
comp=Z,31nm,1.1s
BNX pmax pmax
comp=Z,10µm,7.3s
BNX LR LR
comp=Z,14µm,26.0s
BNX LR LR
comp=Z,44µm,29.8s
BNX LR LR
comp=Z,119µm,34.7s

J55A Hilton 67.82 50 P **P** **22 43 52.2 -2.4**
J55A IAmb IAmb 22 44 16.9
comp=Z,100nm,1.1s
DELO Deloro Mine 67.83 49 P **P** **22 43 54.7 -0.1**
DELO IAmb IAmb 22 44 10.3
comp=Z,204nm,1.4s
061Z Ochoppi 67.96 69 P **P** **22 43 53.1 -2.7**
JTS Las Juntas de 68.00 86 P **P** **22 43 57.1 +0.8**
JTS Las Juntas de 68.00 86 LR LR 23 06 17.9
comp=Z,39µm,21.1s,baz=290,slow=30
JTS Las Juntas de 68.00 86 *i* P **P** **22 43 55.1 -1.2**
JTS pmax pmax
comp=Z,60nm,1.4s
JTS MLR MLR
comp=Z,8µm,16.0s
RK1H Rockhampton Ha 68.03 234 P **P** **22 44 00.2 +4.0**
SSPA Standing Stone 68.07 53 P **P** **22 43 55.2 -1.1**
SSPA Standing Stone 68.07 53 P **P** **22 43 54.6 -1.7**
baz=277
SSPA S **S** **22 52 55.2 -1.2**
baz=277
SSPA Standing Stone 68.07 53 ⇓P **P** **22 43 57.0 +0.7**
ESPN Las Esperanzas 68.08 84 P **P** **22 43 57.3 +0.5**
ESPN IAmb IAmb 22 44 23.2
comp=Z,201nm,1.4s
P57A Homestead Farm 68.12 54 IAMs_20 IAMs_20 23 09 03.6
comp=Z,26µm,22.0s
CAMR Camarioca 68.13 72 P **P** **22 43 57.5 +0.6**
CAMR IAmb IAmb 22 44 14.1
comp=Z,665nm,1.5s
L56A Greenwood 68.14 51 IAmb IAmb 22 44 19.4
comp=Z,190nm,1.1s
L56A IAMs_20 IAMs_20 23 09 54.8
comp=Z,31µm,22.0s
SOCE Pocosol 68.29 86 P **P** **22 43 57.2 -1.0**
SOCE IAmb IAmb 22 44 14.4
comp=Z,112nm,1.1s
KSRS Korea Array 68.37 303 P **P** **22 43 58.9 +0.7**
comp=Z,25nm,0.9s,baz=85,slow=5.7,SNR=26
KSRS LR LR 23 12 17.4
comp=Z,13µm,19.1s,baz=75,slow=34
comp=Z,25nm,0.9s
KSAR Wonju Array Be 68.40 303 P **P** **22 43 57.8 -0.6**
KSAR Wonju Array Be 68.40 303 P **P** **22 43 57.8 -0.6**
W59A Clinton 68.40 59 P **P** **22 43 59.2 +0.7**
KS19 Wonju Array Si 68.41 304 P **P** **22 43 57.3 -1.1**
R58B Mineral 68.44 56 IAmb IAmb 22 44 14.8
comp=Z,222nm,1.4s
R58B IAMs_20 IAMs_20 23 09 28.9
comp=Z,28µm,19.0s
JACO JACO, Garabito 68.46 87 P **P** **22 44 01.5 +2.4**
JACO IAmb IAmb 22 44 16.9
comp=Z,175nm,1.2s
JSRW J. Sargeant Re 68.47 56 P **P** **22 43 58.2 -0.6**
AUWSH Wavell State H 68.47 229 P **P** **22 44 01.3 +2.4**
J56A Wolcott 68.52 50 P **P** **22 43 58.5 -0.5**
J56A IAmb IAmb 22 44 21.3
comp=Z,120nm,1.1s
J56A IAMs_20 IAMs_20 23 10 07.7
comp=Z,27µm,18.0s
M57A Sunshine Farm, 68.55 52 IAmb IAmb 22 44 26.2
comp=Z,191nm,1.2s
GC1S Gold Coast 1 S 68.60 228 P P 22 44 05.2 +5.5
GVZ Greta Valley S 68.64 205 P **P** **22 44 01.4 +1.8**
EIDS Eidsvold 68.70 232 P **P** **22 44 02.2 +1.8**
EIDS Eidsvold 68.70 232 IAmb IAmb 22 44 28.7
comp=Z,223nm,1.8s
EIDS Eidsvold 68.70 232 ⇑P **P** **22 44 02.8 +2.4**
Y60A Bolivia 68.77 60 P **P** **22 43 59.6 -1.2**
CBN Corbin Frederi 68.80 56 P **P** **22 43 58.8 -2.0**
CBN IAmb IAmb 22 44 23.2
comp=Z,68nm,0.7s
CBN IAMs_20 IAMs_20 23 10 28.4
comp=Z,29µm,21.0s
CBN Corbin Frederi 68.80 56 P **P** **22 43 59.8 -1.0**
baz=278
CBN S **S** **22 53 04.6 -0.4**
baz=278
K57A Scipio Center 68.83 51 P **P** **22 44 00.9 -0.1**
K57A IAmb IAmb 22 44 23.3
comp=Z,148nm,1.2s
K57A IAMs_20 IAMs_20 23 11 10.1
comp=Z,25µm,21.0s
T59A Double "S" Far 68.84 57 IAMs_20 IAMs_20 23 09 17.6
comp=Z,20µm,18.0s
CNNC Cliffs of the 68.84 59 P **P** **22 43 59.1 -2.1**
CNNC IAMs_20 IAMs_20 23 10 27.7
comp=Z,18µm,20.0s
CNNC Cliffs of the 68.84 59 P **P** **22 44 00.4 -0.8**
baz=279
CNNC S **S** **22 53 06.0 +0.4**
baz=279
HDC Heredia 68.88 87 P **P** **22 44 00.4 -1.6**
N58A Sunbury 68.93 53 IAmb IAmb 22 44 24.4
comp=Z,180nm,1.2s
N58A IAMs_20 IAMs_20 23 11 34.8
comp=Z,29µm,20.0s
TJN Taejon 68.97 302 P **P** **22 44 02.3 +0.3**
TJN Taejon 68.97 302 P **P** **22 43 60.0 -2.1**
TJN Taejon 68.97 302 *ce*P **P** **22 44 01.0 -1.0**
SDMD Soldier's Deli 69.03 54 IAmb IAmb 22 44 17.5
comp=Z,99nm,1.3s
LCR2 La Lucha 2 69.06 87 P **P** **22 44 03.4 +0.2**
LCR2 IAmb IAmb 22 44 19.8
comp=Z,175nm,1.3s
GAC Glen Almond 69.21 47 ⇓P **P** **22 44 06.9 +3.6**
COEN Coen 69.23 246 P P 22 44 09.2 +5.3
COEN Coen 69.23 246 P **P** **22 44 01.2 -2.7**
COEN IAmb IAmb 22 44 32.8
comp=Z,199nm,1.6s
BINY Binghamton 69.29 51 IAmb IAmb 22 44 26.5
comp=Z,142nm,0.9s
BINY IAMs_20 IAMs_20 23 11 04.2
comp=Z,25µm,19.0s
BINY Binghamton 69.29 51 P **P** **22 44 02.0 -1.9**
baz=278,SNR=7.9
BINY S **S** **22 53 09.8 -1.0**
baz=278
BINY Binghamton 69.29 51 ⇑P **P** **22 44 03.1 -0.8**
MVL Millersville 69.32 54 IAmb IAmb 22 44 27.1
comp=Z,194nm,1.2s
OXZ Oxford 69.34 205 P **P** **22 44 04.3 +0.4**
CN2 Changchun 69.37 310 ⇑P **P** **22 44 03.0 -1.4**
CN2 *es*P sP 22 44 09.0 +1.3
CN2 *e*S **S** **22 53 07.1 -4.6**
CN2 pmax pmax
comp=Z,20nm,1.2s
CN2 pmax pmax
comp=Z,2µm,6.0s
CN2 LR LR
comp=Z,6µm,18.0s
CN2 LR LR
comp=Z,10µm,18.0s
CN2 LR LR
comp=Z,16µm,19.0s
INCN Inchon 69.38 304 P **P** **22 44 05.1 +0.5**
INCN Inchon 69.38 304 P **P** **22 44 05.4 +0.8**
INCN Inchon 69.38 304 IAMs_20 IAMs_20 23 08 35.1
comp=Z,26µm,22.0s
INCN Inchon 69.38 304 P **P** **22 44 05.4 +0.8**
INCN pmax pmax
comp=Z,664nm,1.9s
INCN MLR MLR
comp=Z,26µm,22.0s
MQZ McQueen's Vall 69.41 204 P **P** **22 44 04.3 0.0**
MQZ IAmb IAmb 22 44 13.4
comp=Z,290nm,1.6s
WBO Williamsburg 69.44 48 P **P** **22 44 03.8 -1.0**
WBO IAmb IAmb 22 44 31.4
comp=Z,174nm,1.6s
PEZE Perez Zeledon, 69.47 87 P **P** **22 44 05.0 -0.6**
KSPA Keystone Colle 69.54 52 P **P** **22 44 05.3 -0.1**
KSPA IAmb IAmb 22 44 21.4
comp=Z,248nm,1.4s
CTAO Charters Tower 69.60 239 P **P** **22 44 09.6 +3.5**
CTAO Charters Tower 69.60 239 P **P** **22 44 07.3 +1.2**
CTAO IAmb IAmb 22 44 22.9
comp=Z,180nm,1.7s
CTAO Charters Tower 69.60 239 P **P** **22 44 07.3 +1.2**
CTAO pmax pmax
comp=Z,180nm,1.7s
CTAO MLR MLR
comp=Z,40µm,22.0s
J58A Remsen 69.64 50 IAmb IAmb 22 44 28.6
comp=Z,120nm,1.2s
J58A IAMs_20 IAMs_20 23 10 49.6
comp=Z,21µm,20.0s
TRQ Mont Tremblant 69.79 47 IAmb IAmb 22 44 22.3
comp=Z,138nm,1.2s
TRQ IAMs_20 IAMs_20 23 12 45.3
comp=Z,25µm,20.0s
V61A Roper 69.80 58 P **P** **22 44 06.0 -1.1**
WUPA West Chester U 69.90 54 IAMs_20 IAMs_20 23 09 42.5
comp=Z,28µm,22.0s
JOW Kunigami 69.95 292 P **P** **22 44 09.2 +0.9**
JOW Kunigami 69.95 292 ⇑P **P** **22 44 08.9 +0.6**
JOW Kunigami 69.95 292 LR LR 23 09 58.7
comp=Z,18µm,21.9s,baz=94,slow=32
LUPA Lehigh Univers 69.97 53 IAmb IAmb 22 44 23.7
comp=Z,253nm,1.3s
LUPA IAMs_20 IAMs_20 23 12 18.5
comp=Z,29µm,20.0s
LONY Lake Ozonia 69.98 49 IAmb IAmb 22 44 34.1
comp=Z,287nm,1.7s
LONY Lake Ozonia 69.98 49 P **P** **22 44 06.4 -1.7**
baz=278
LONY S **S** **22 53 17.9 -0.9**
baz=278
L59A Walton 69.98 51 IAMs_20 IAMs_20 23 10 52.6
comp=Z,28µm,21.0s
RPZ Rata Peaks 70.06 205 LR LR 23 09 57.2
comp=Z,64µm,21.7s,baz=46,slow=32
S61A Accomac 70.20 56 IAMs_20 IAMs_20 23 10 57.8
comp=Z,21µm,21.0s
MTSU Mount Surprise 70.22 242 P P 22 44 15.6 +5.6
NCB Newcomb 70.32 49 P **P** **22 44 10.6 +0.3**
NCB IAMs_20 IAMs_20 23 11 41.5
comp=Z,23µm,20.0s
TULEG Thule 70.41 14 P **P** **22 44 09.2 -1.0**
TULEG IAmb IAmb 22 44 34.9
comp=Z,137nm,1.2s
TULEG IAMs_20 IAMs_20 23 10 54.1
comp=Z,24µm,21.0s
CDITO Canoas 70.47 88 P **P** **22 44 11.6 0.0**
ODNJ Ogdensburg 70.47 52 IAmb IAmb 22 44 27.2
comp=Z,142nm,1.3s
PRVC Isla de Provid 70.51 82 P **P** **22 44 11.8 0.0**
PRVC IAmb IAmb 22 44 37.8
comp=Z,224nm,1.5s
MNTQ Montreal, Queb 70.53 48 IAmb IAmb 22 44 26.1
comp=Z,199nm,1.3s
P61A Hammonton 70.56 54 P **P** **22 44 12.1 +0.3**
P61A IAMs_20 IAMs_20 23 11 04.0
comp=Z,30µm,21.0s
BRNJ Basking Ridge 70.57 53 P **P** **22 44 10.7 -1.1**
BRNJ IAmb IAmb 22 44 34.9
comp=Z,246nm,1.1s
BRU2 Volcan 70.57 87 P **P** **22 44 13.2 +0.7**
BRU2 IAmb IAmb 22 44 30.5
comp=Z,281nm,1.3s
FRNY Flat Rock 70.65 48 IAmb IAmb 22 44 34.7
comp=Z,208nm,1.1s
FRNY IAMs_20 IAMs_20 23 13 27.0
comp=Z,19µm,20.0s
TRNY Table Rock, Ra 70.75 52 IAmb IAmb 22 44 35.8
comp=Z,164nm,1.1s
ACCN Adirondack Com 70.81 50 IAmb IAmb 22 44 38.0
comp=Z,157nm,1.4s
LBZ Lake Benmore 70.96 206 P **P** **22 44 12.0 -2.0**
PAL Palisades 71.01 52 P **P** **22 44 13.3 -1.2**
baz=279
PAL S **S** **22 53 30.7 -0.2**
baz=279
SNY Shenyang 71.02 309 ⇑P **P** **22 44 13.9 -0.6**
SNY S **S** **22 53 33.4 +2.4**
SNY pmax pmax
comp=Z,21nm,1.6s
SNY pmax pmax
comp=Z,2µm,8.6s
SNY LR LR
comp=Z,11µm,24.0s
SNY LR LR
comp=Z,24µm,22.4s
SNY LR LR
comp=Z,81µm,23.7s
ARMA Armidale 71.27 227 P **P** **22 44 19.0 +2.8**
ARMA Armidale 71.27 227 P **P** **22 44 18.0 +1.8**
ARMA IAmb IAmb 22 44 26.5
comp=Z,275nm,1.7s
ARMA Armidale 71.27 227 ⇓P **P** **22 44 17.8 +1.5**
FRB Frobisher Bay 71.28 28 ⇑P **P** **22 44 13.9 -1.7**
FRB Frobisher Bay 71.28 28 LR LR 23 10 35.4
comp=Z,8µm,22.0s,baz=280,slow=32
JCZ Jackson Bay 71.29 207 P **P** **22 44 19.5 +3.5**
VT1 Waterbury 71.31 49 IAmb IAmb 22 44 43.5
comp=Z,149nm,1.2s
VT1 IAMs_20 IAMs_20 23 11 07.8
comp=Z,24µm,20.0s
ODZ Otahua Downs 71.32 205 P **P** **22 44 15.5 -0.5**
ODZ IAmb IAmb 22 44 43.7
comp=Z,209nm,1.7s
N62A Caumsett State 71.35 52 P **P** **22 44 17.3 +0.8**
N62A IAMs_20 IAMs_20 23 12 03.8
comp=Z,25µm,20.0s
WSPT Westport, CT 71.41 52 P **P** **22 44 14.9 -2.0**
WSPT IAmb IAmb 22 44 42.2
comp=Z,170nm,1.4s
J61A Chester 71.62 50 IAmb IAmb 22 44 33.5
comp=Z,129nm,1.4s
L61B Northampton 71.67 51 IAMs_20 IAMs_20 23 12 39.3
comp=Z,27µm,21.0s
L61B Northampton 71.67 51 P **P** **22 44 17.6 -0.9**
baz=280
L61B S **S** **22 53 39.1 +0.5**
baz=280
YLE Yale 71.68 52 P **P** **22 44 18.0 -0.5**
YLE IAmb IAmb 22 44 41.5
comp=Z,183nm,1.0s
YLE IAMs_20 IAMs_20 23 10 50.8
comp=Z,25µm,20.0s
HNH Hanover 71.75 49 IAmb IAmb 22 44 35.3
comp=Z,247nm,1.5s
HNH IAMs_20 IAMs_20 23 12 32.2
comp=Z,29µm,22.0s
LDAQ Lac Daran 71.79 45 IAmb IAmb 22 44 34.3
comp=Z,170nm,1.1s
LDAQ IAMs_20 IAMs_20 23 11 30.9
comp=Z,21µm,20.0s
LBNH Lisbon 71.92 49 IAmb IAmb 22 44 45.6
comp=Z,252nm,1.5s
LBNH IAMs_20 IAMs_20 23 11 25.6
comp=Z,28µm,21.0s
LBNH Lisbon 71.92 49 P **P** **22 44 18.9 -1.0**
baz=280,SNR=7.3
LBNH Lisbon 71.92 49 ⇑P **P** **22 44 19.7 -0.2**
QUA2 Belchertown 71.94 51 P **P** **22 44 19.0 -1.1**
QUA2 IAmb IAmb 22 44 36.3
comp=Z,197nm,1.4s
K62A Royalston 71.96 50 IAmb IAmb 22 44 36.4
comp=Z,167nm,1.4s
UCCT U. Connecticut 72.12 51 P **P** **22 44 21.5 +0.3**
UCCT IAmb IAmb 22 44 47.6
comp=Z,292nm,1.9s
AUPHS Peel High Scho 72.19 227 P **P** **22 44 25.9 +4.3**
M63A Gales Ferry 72.32 52 P **P** **22 44 22.2 -0.1**
M63A IAmb IAmb 22 44 47.6
comp=Z,308nm,1.6s
I62A Tamworth 72.40 49 IAmb IAmb 22 44 48.4
comp=Z,373nm,1.8s
I62A IAMs_20 IAMs_20 23 11 41.4
comp=Z,19µm,21.0s
H62A Milan 72.40 48 IAmb IAmb 22 44 45.9
comp=Z,186nm,1.2s
H62A IAMs_20 IAMs_20 23 17 24.4
comp=Z,21µm,18.0s
LMQ La Malbaie 72.46 45 IAmb IAmb 22 44 38.8
comp=Z,215nm,1.3s
HIA Hailar 72.47 317 P **P** **22 44 19.8 -3.4**
HIA Hailar 72.47 317 P **P** **22 44 19.8 -3.4**
HIA pmax pmax
comp=Z,109nm,1.5s
HIA MLR MLR
comp=Z,51µm,22.0s
HRV Adam Dziewonsk 72.48 50 P **P** **22 44 19.9 -3.4**
HRV IAmb IAmb 22 44 39.5
comp=Z,183nm,1.5s
HRV Adam Dziewonsk 72.48 50 P **P** **22 44 22.0 -1.3**
baz=280
HRV S **S** **22 53 47.2 -0.6**
baz=280
HRV Adam Dziewonsk 72.48 50 P **P** **22 44 19.9 -3.4**
HRV pmax pmax
comp=Z,183nm,1.5s
HRV MLR MLR
comp=Z,13µm,19.0s
WES Weston 72.67 50 IAmb IAmb 22 44 49.0
comp=Z,307nm,1.7s
WES IAMs_20 IAMs_20 23 12 23.8
comp=Z,21µm,22.0s
G62A West of Eustis 72.73 47 IAmb IAmb 22 44 51.2
comp=Z,352nm,1.8s
G62A IAMs_20 IAMs_20 23 13 54.0
comp=Z,25µm,20.0s
MTDJ Mount Denham 72.77 76 P **P** **22 44 25.9 +0.4**
MTDJ Mount Denham 72.77 76 ⇓P **P** **22 44 24.9 -0.6**
BCX Boston College 72.80 51 P **P** **22 44 24.6 -0.6**
BCX IAmb IAmb 22 44 51.9
comp=Z,275nm,1.8s
BCX IAMs_20 IAMs_20 23 12 29.0
comp=Z,20µm,22.0s
I63A Otisfield 72.90 49 IAMs_20 IAMs_20 23 11 10.7
comp=Z,20µm,19.0s
DL2 Dalian 73.01 306 P **P** **22 44 25.9 -0.6**
DL2 S **S** **22 53 52.5 -1.5**
DL2 pmax pmax
comp=Z,170nm,1.8s
DL2 pmax pmax
comp=Z,10µm,6.7s
DL2 LR LR
comp=Z,14µm,21.6s
DL2 LR LR
comp=Z,35µm,26.5s
DL2 LR LR
comp=Z,98µm,32.6s
WHZ Wether Hill Ro 73.11 206 P **P** **22 44 27.2 +0.4**
WHZ IAmb IAmb 22 44 50.2
comp=Z,300nm,1.8s
L64A Middleborough 73.11 51 P **P** **22 44 22.7 -4.3**
L64A IAmb IAmb 22 44 50.3
comp=Z,151nm,1.2s
BCIP Isla Barro Col 73.15 86 P **P** **22 44 29.6 +1.9**
BCIP Isla Barro Col 73.15 86 P **P** **22 44 29.6 +1.9**
BCIP pmax pmax
comp=Z,1µm,2.0s
BCIP MLR MLR
comp=Z,41µm,20.0s
E62A Clayton Lake 73.17 46 IAmb IAmb 22 44 42.6
comp=Z,151nm,1.1s
AULRC Lightning Ridg 73.27 230 P P 22 44 35.3 +7.2
M65A Busby, Falmout 73.33 51 P **P** **22 44 27.1 -1.2**
baz=281
M65A S **S** **22 53 56.1 -1.4**
baz=281
SCHQ Schefferville 73.39 37 IAmb IAmb 22 44 53.3
comp=Z,309nm,1.9s
SCHQ Schefferville 73.39 37 P **P** **22 44 28.8 +0.3**
comp=Z,20nm,0.8s,baz=309,slow=4.8,SNR=20
SCHQ LR LR 23 14 28.5
comp=Z,11µm,21.3s,baz=282,slow=34
comp=Z,20nm,0.8s
D62A Allapoint, All 73.40 45 IAmb IAmb 22 44 44.0
comp=Z,178nm,1.1s
D62A IAMs_20 IAMs_20 23 12 40.7
comp=Z,25µm,22.0s
WVL Waterville 73.46 48 IAmb IAmb 22 44 43.7
comp=Z,162nm,1.3s
WVL IAMs_20 IAMs_20 23 17 25.3
comp=Z,21µm,18.0s
KULLO Kullorsuaq 73.54 16 ⇑P **P** **22 44 27.7 -1.2**
KULLO Kullorsuaq 73.54 16 *i* P **P** **22 44 27.6 -1.4**
KULLO IAmb IAmb 22 44 44.6
comp=Z,55nm,1.0s
PKME Peaks-Kenny Pk 73.58 47 IAmb IAmb 22 44 45.3
comp=Z,231nm,1.3s
PKME Peaks-Kenny Pk 73.58 47 P **P** **22 44 28.1 -1.7**
baz=281,SNR=10
PKME S **S** **22 53 58.6 -1.6**
baz=281
PKME Peaks-Kenny Pk 73.58 47 ⇓P **P** **22 44 29.2 -0.5**
F63A Nahmakanta, Br 73.62 47 IAmb IAmb 22 44 46.3
comp=Z,229nm,1.4s
F63A IAMs_20 IAMs_20 23 13 14.7
comp=Z,22µm,18.0s
SYDH Sydney Hard Ro 73.88 225 P P 22 44 37.8 +6.2
F64A Sherman 74.11 46 IAmb IAmb 22 45 00.2
comp=Z,332nm,1.8s
PQI Presque Isle 74.18 46 IAmb IAmb 22 44 48.3
comp=Z,184nm,1.1s
PQI IAMs_20 IAMs_20 23 15 03.1
comp=Z,22µm,19.0s
NEEM North Greenlan 74.22 13 ⇑P **P** **22 44 31.9 -1.5**
NEEM North Greenlan 74.22 13 *i* P **P** **22 44 32.5 -0.8**
NEEM *i* P **P** **22 44 33.5 +0.2**
NEEM IAmb IAmb 22 44 58.5
comp=Z,38nm,1.0s
UPNV Upernavik 74.26 18 *i* P **P** **22 44 31.2 -2.0**
UPNV IAmb IAmb 22 44 48.3
comp=Z,32nm,0.8s
BOD Bodaibo 74.31 326 *e*P **P** **22 44 33.3 -0.4**
BOD pmax pmax
comp=Z,551nm,1.6s
AUDCS Dubbo College 74.41 227 P **P** **22 44 37.8 +3.1**
QLP Quilpie 74.52 234 P **P** **22 44 38.8 +3.3**
QLP Quilpie 74.52 234 ⇑P **P** **22 44 36.1 +0.6**
GTBY Guantanamo Bay 74.53 74 P **P** **22 44 34.9 -0.9**
GTBY IAmb IAmb 22 45 01.4
comp=Z,407nm,1.6s
FAKI Fak Fak 74.70 261 P P 22 44 41.7 +4.9
FAKI Fak Fak 74.70 261 P **P** **22 44 36.4 -0.5**
FAKI IAmb IAmb 22 45 02.9
comp=Z,108nm,1.0s
FAKI Fak Fak 74.70 261 P **P** **22 44 38.6 +1.8**
comp=Z,119nm,1.6s,comp=Z,7µmcomp=Z,31µm
G65A Princeton 74.79 47 IAmb IAmb 22 44 52.2
comp=Z,205nm,1.4s
SWI Sorong 74.91 264 P **P** **22 44 36.6 -1.4**
comp=Z,144nm,1.2s,comp=Z,5µmcomp=Z,31µm
EMMW East Machias 74.97 48 IAmb IAmb 22 44 53.7
comp=Z,237nm,1.5s
AUUHS Ulladulla High 75.03 224 P P 22 44 44.8 +6.6
SSE Sheshan 75.06 298 P **P** **22 44 38.3 -0.3**
SSE S **S** **22 54 20.4 +3.0**
SSE SS **SS** **22 59 01.2 -4.8**
SSE pmax pmax
comp=Z,15nm,0.7s
SSE pmax pmax
comp=Z,1µm,11.4s
SSE LR LR
comp=Z,4µm,17.9s
YOJ Yonaguni jima 75.12 291 P **P** **22 44 38.2 -0.8**
YOJ Yonaguni jima 75.12 291 P **P** **22 44 38.3 -0.8**
YOJ pmax pmax
comp=Z,631nm,1.8s
QIS Mount Isa 75.28 242 P **P** **22 44 43.2 +3.2**
GGN Saint George 75.30 47 IAmb IAmb 22 45 05.0
comp=Z,393nm,2.0s
NUUG Nuugaatsiaq 75.47 19 ⇑P **P** **22 44 39.2 -1.0**
NUUG Nuugaatsiaq 75.47 19 *i* P **P** **22 44 38.2 -2.1**
NUUG IAmb IAmb 22 44 55.7
comp=Z,34nm,0.9s
CNB Canberra Magne 75.72 224 P **P** **22 44 45.1 +2.8**
YNG Young 75.77 225 P **P** **22 44 44.8 +2.3**
CIT Chita 75.80 320 *e*P **P** **22 44 42.6 0.0**
CIT *e* 22 47 29.0
CIT pmax pmax
comp=Z,356nm,2.7s
CAN Canberra 75.97 224 P **P** **22 44 46.7 +3.0**
CAN Canberra 75.97 224 P **P** **22 44 44.2 +0.5**
CAN IAmb IAmb 22 44 53.8
comp=Z,305nm,2.0s
CAN Canberra 75.97 224 ⇑P **P** **22 44 46.0 +2.4**
CAN Canberra 75.97 224 P **P** **22 44 44.2 +0.5**
CAN pmax pmax
comp=Z,305nm,2.0s
CAN MLR MLR
comp=Z,31µm,21.0s
XLT XiLinHaoTe 76.02 312 *e*P **P** **22 44 43.6 -0.4**
XLT pP sP 22 44 48.5 +1.2
XLT sP PcP 22 44 51.8 -4.6
XLT PP **PP** **22 47 35.1 +0.8**
XLT S **S** **22 54 27.5 -0.3**
XLT sS sS 22 54 39.9 +8.2
XLT SKS **SKSac** **22 54 48.4 -7.0**
XLT ScS **SKKSac** **22 54 55.2 -0.6**
XLT SS **SS** **22 59 21.4 +1.3**
XLT pmax pmax
comp=Z,31nm,1.4s
XLT pmax pmax
comp=Z,7µm,6.4s

XLT LR LR
comp=Z,38µm,24.2s
XLT LR LR
comp=Z,80µm,28.5s
UMMG Uummannaq 76.07 20 *i* P **P** **22 44 46.2 +2.5**
UMMG IAmb IAmb 22 45 01.8
comp=Z,25nm,0.9s
CMSA Cobar Meteorol 76.08 229 P **P** **22 44 45.4 +1.0**
TATO Taipei 76.33 292 P P 22 44 51.5 +5.5
TATO Taipei 76.33 292 P **P** **22 44 44.7 -1.3**
TATO IAmb IAmb 22 45 30.0
comp=Z,238nm,1.6s
TATO Taipei 76.33 292 IAMs_20 IAMs_20 23 13 05.2
comp=Z,21µm,22.0s
NACB Ninganchiao 76.44 291 P **P** **22 44 47.3 +0.6**
NACB Ninganchiao 76.44 291 IAMs_20 IAMs_20 23 14 53.5
comp=Z,19µm,20.0s
YHNB Yeheng 76.51 292 P **P** **22 44 44.8 -2.4**
YHNB IAmb IAmb 22 45 09.7
comp=Z,172nm,1.7s
YHNB IAMs_20 IAMs_20 23 11 52.2
comp=Z,21µm,21.0s
LMN Caledonia Moun 76.53 46 IAmb IAmb 22 45 01.8
comp=Z,144nm,1.1s
NJ2 Nanjing 76.76 300 ⇑P **P** **22 44 48.2 -0.1**
NJ2 pmax pmax
comp=Z,31nm,1.0s
NJ2 pmax pmax
comp=Z,2µm,5.2s
NJ2 LR LR
comp=Z,19µm,23.7s
NJ2 LR LR
comp=Z,24µm,20.9s
NJ2 LR LR
comp=Z,41µm,20.9s
NJ2 Nanjing 76.76 300 pmax pmax
comp=Z,8.0nm,0.6s
AUSMG Snowy Mountain 76.87 224 P **P** **22 44 53.0 +4.2**
BJI Beijing 76.87 308 P **P** **22 44 48.1 -0.7**
BJI S **S** **22 54 37.5 +0.5**
BJI pmax pmax
comp=Z,17nm,1.9s
BJI pmax pmax
comp=Z,650nm,4.7s
BJI LR LR
comp=Z,5µm,26.9s
BJI LR LR
comp=Z,8µm,28.2s
BJI LR LR
comp=Z,22µm,26.8s
BJT Baijiatuau 76.88 308 IAmb IAmb 22 45 13.3
comp=Z,297nm,1.4s
ILULI Ilulissat 76.89 21 IAmb IAmb 22 45 02.8
comp=Z,184nm,1.4s
ILULI IAMs_20 IAMs_20 23 14 42.4
comp=Z,24µm,20.0s
ILULI Ilulissat 76.89 21 ⇓P **P** **22 44 50.9 +2.5**
ILULI Ilulissat 76.89 21 *i* P **P** **22 44 49.5 +1.2**
ILULI IAmb IAmb 22 45 03.5
comp=Z,30nm,0.9s
MILA Mila 76.89 223 P P 22 44 55.5 +6.6
YULB Yu-li 76.92 290 P **P** **22 44 52.4 +3.0**
YULB Yu-li 76.92 290 P **P** **22 44 47.5 -1.9**
YULB IAmb IAmb 22 45 22.0
comp=Z,423nm,2.0s
TIA Tai'an 77.10 304 P **P** **22 44 49.6 -0.6**
TIA S **S** **22 54 42.6 +2.9**
TIA pmax pmax
comp=Z,22nm,1.1s
TIA pmax pmax
comp=Z,2µm,6.3s
TIA LR LR
comp=Z,7µm,17.3s
TIA LR LR
comp=Z,15µm,32.6s
TIA LR LR
comp=Z,60µm,37.2s
SSLB Suanglung 77.11 291 P **P** **22 44 53.3 +2.8**
SSLB Suanglung 77.11 291 P **P** **22 44 48.2 -2.4**
NOR Nord 77.14 6 ⇑P **P** **22 44 48.1 -1.5**
NOR Nord 77.14 6 *i* P **P** **22 44 48.8 -0.9**
NOR IAmb IAmb 22 45 14.2
comp=Z,9.7nm,0.9s
TWG Pinlang 77.27 290 P **P** **22 44 52.8 +1.4**
BNDI Bandanaira 77.45 261 P **P** **22 44 57.0 +4.5**
comp=Z,217nm,1.0s,comp=Z,30µm
CHSH Refugio Sur-Vo 77.49 96 P **P** **22 44 52.0 -1.5**
CHSH IAmb IAmb 22 45 11.6
comp=Z,183nm,1.0s
IMBA Imbabura, San 77.52 94 P **P** **22 44 54.0 +0.6**
TPUB Ta-pu 77.53 290 P **P** **22 44 55.2 +2.3**
TPUB Ta-pu 77.53 290 IAmb IAmb 22 45 16.6
comp=Z,328nm,1.6s
SLOR San Lorenzo - 77.58 95 P **P** **22 44 52.5 -1.3**
SLOR IAmb IAmb 22 45 12.6
comp=Z,270nm,1.9s
HAL Halifax 77.66 47 P **P** **22 44 49.7 -3.5**
HAL Halifax 77.66 47 P **P** **22 44 49.7 -3.5**
HAL pmax pmax
comp=Z,387nm,1.5s
HAL MLR MLR
comp=Z,36µm,20.0s
DAV Davao City (W) 77.68 273 LR LR 23 13 19.4
comp=Z,16µm,21.8s,baz=76,slow=31
INKA Innaminka 77.79 235 P **P** **22 44 56.2 +2.2**
SFJD Kangerlussuaq 77.83 23 P **P** **22 44 52.9 -0.7**
SFJD IAmb IAmb 22 45 08.3
comp=Z,230nm,1.2s
SFJD Kangerlussuaq 77.83 23 IAMs_20 IAMs_20 23 15 12.4
comp=Z,19µm,21.0s
SFJD Kangerlussuaq 77.83 23 ⇑P **P** **22 44 52.8 -0.9**
SFJD Kangerlussuaq 77.83 23 LR LR 23 15 36.3
comp=Z,17µm,21.6s,baz=296,slow=33
SFJD Kangerlussuaq 77.83 23 P **P** **22 44 52.9 -0.7**
SFJD pmax pmax
comp=Z,230nm,1.3s
SFJD MLR MLR
comp=Z,19µm,21.0s
SFJD Kangerlussuaq 77.83 23 *i* P **P** **22 44 56.8 +3.2**
SFJD IAmb IAmb 22 44 59.5
comp=Z,37nm,0.9s
TNTI Ternate 78.02 267 P **P** **22 45 00.2 +4.5**
TNTI Ternate 78.02 267 P **P** **22 44 56.0 +0.4**
TNTI IAmb IAmb 22 45 22.0
comp=Z,309nm,1.7s
TNTI Ternate 78.02 267 P **P** **22 44 57.7 +2.0**
comp=Z,97nm,2.3s,comp=Z,5µmcomp=Z,16µm
KDU Kakadu 78.13 252 P P 22 45 01.5 +5.3
SDDR Presa de Saban 78.26 74 P **P** **22 44 53.9 -3.1**
SDDR Presa de Saban 78.26 74 ⇓P **P** **22 44 58.5 +1.4**
LBMI Labuha 78.36 265 P **P** **22 44 57.3 -0.3**
comp=Z,224nm,1.2s,comp=Z,10µm
NUUK Nuuk 78.39 26 ⇑P **P** **22 45 01.5 +4.7**
SC01 Santiago de lo 78.64 73 P **P** **22 44 59.7 +0.6**
HNS HongShan 78.66 306 ⇑P **P** **22 44 58.6 -0.2**
HNS S **S** **22 54 59.7 +3.2**
HNS pmax pmax
comp=Z,33nm,2.1s
HNS LR LR
comp=Z,8µm,24.1s
HNS LR LR
comp=Z,30µm,23.3s
HNS LR LR
comp=Z,40µm,23.5s
SGSI Sangihe 78.80 270 P **P** **22 45 02.1 +2.1**
comp=Z,367nm,2.1s,comp=Z,11µmcomp=Z,36µm
QZH Quanzhou 78.87 293 ⇑ *i* P **P** **22 45 00.7 +0.5**
QZH S **S** **22 55 03.8 +4.7**
QZH pmax pmax
comp=Z,920nm,5.3s
QZH LR LR
comp=Z,19µm,22.8s
QZH LR LR
comp=Z,17µm,21.2s
QZH LR LR
comp=Z,47µm,26.3s
GBN Guysborough 78.88 46 P **P** **22 44 58.3 -1.6**
KNMB Chin-men Tao 79.18 292 P **P** **22 44 57.8 -4.2**
KNMB IAmb IAmb 22 45 27.8
comp=Z,300nm,1.8s
KNMB IAMs_20 IAMs_20 23 15 04.9
comp=Z,16µm,21.0s
SUMG Summit 79.21 16 IAmb IAmb 22 45 26.9
comp=Z,345nm,1.4s
SUMG Summit 79.21 16 S **S** **22 54 58.9 -3.0**
SUMG P **P** **22 45 00.9 -0.8**
SUMG Summit 79.21 16 ⇑P **P** **22 45 01.1 -0.7**
SUMG Summit 79.21 16 *i* P **P** **22 45 00.7 -1.0**
SUMG IAmb IAmb 22 45 10.4
comp=Z,59nm,0.9s
STKA Stephens Creek 79.22 231 P **P** **22 45 04.9 +3.0**
STKA Stephens Creek 79.22 231 P **P** **22 45 02.0 +0.1**
comp=Z,18nm,0.9s,baz=50,slow=6.9,SNR=16
STKA LR LR 23 16 01.7
comp=Z,20µm,19.4s,baz=53,slow=33
comp=Z,18nm,0.9s
STKA Stephens Creek 79.22 231 *i* P **P** **22 45 01.4 -0.5**
AUMAG Moama Anglican 79.25 226 P **P** **22 45 05.9 +4.0**
MTN Manton Dam 79.40 252 P P 22 45 08.7 +5.5
MTN Manton Dam 79.40 252 P **P** **22 45 03.2 0.0**
WRA Warramunga Arr 79.44 245 P **P** **22 45 02.5 -0.9**
comp=Z,9.4nm,1.1s,baz=65,slow=5.7,SNR=14
WRA LR LR 23 16 38.7
comp=Z,43µm,20.6s,baz=62,slow=33
comp=Z,9.4nm,1.1s
DRS Darwin Rock St 79.45 253 P P 22 45 08.7 +5.2
TOO Toolangi 79.57 224 P **P** **22 45 07.7 +4.0**
TOO Toolangi 79.57 224 P **P** **22 45 01.3 -2.4**
TOO Toolangi 79.57 224 P **P** **22 45 01.3 -2.4**
TOO pmax pmax
comp=Z,99nm,1.3s
DY2G Dye2 79.63 23 *i* P **P** **22 45 02.9 -0.9**
DY2G IAmb IAmb 22 45 19.2
comp=Z,64nm,0.8s
ROSC El Rosal 79.69 88 P **P** **22 45 04.6 -0.8**
ROSC El Rosal 79.69 88 P **P** **22 45 07.2 +1.8**
comp=Z,17nm,0.8s,baz=291,slow=7.4,SNR=12
comp=Z,17nm,0.8s
TGY Tagaytay City 79.88 281 LR LR 23 15 51.3
comp=Z,17µm,19.8s,baz=72,slow=32
ATAH Atahualpa 79.91 101 LR LR 23 12 32.3
comp=Z,39µm,21.6s,baz=292,slow=30
GLAD Gladstone 79.95 220 P **P** **22 45 10.1 +4.5**
HHC Hu-ho-hao-te 80.05 310 *i* P **P** **22 45 06.0 -0.5**
HHC sP PcP 22 45 13.3 -0.6
HHC S **S** **22 55 10.2 -1.1**
HHC SS **SS** **23 00 22.6 +1.7**
HHC pmax pmax
comp=Z,18nm,1.0s
HHC pmax pmax
comp=Z,620nm,4.0s
HHC LR LR
comp=Z,6µm,16.7s
HHC LR LR
comp=Z,24µm,19.6s
HHC LR LR
comp=Z,37µm,20.6s
HHC Hu-ho-hao-te 80.05 310 pmax pmax
comp=Z,7.0nm,0.5s
HHC Hu-ho-hao-te 80.05 310 pmax pmax
comp=Z,730nm,6.7s
BBSR BB Station 80.18 59 P **P** **22 45 06.3 -0.9**
BBSR IAmb IAmb 22 45 32.7
comp=Z,520nm,1.8s
BBSR BB Station 80.18 59 ⇑P **P** **22 45 09.0 +1.8**
SANI Sanana 80.26 264 P **P** **22 45 05.8 -2.1**
SANI S **SKSac** **22 55 20.5 -6.2**
TIY Taiyuan 80.31 307 ⇑P **P** **22 45 07.8 -0.1**
TIY S **S** **22 55 07.3 -6.9**
TIY SS **SS** **23 00 27.0 +2.1**
TIY LR LR
comp=Z,12µm,19.6s
TIY LR LR
comp=Z,18µm,25.0s
TIY LR LR
comp=Z,42µm,23.0s
DRLN Deer Lake 80.34 41 P **P** **22 45 06.7 -1.0**
DRLN IAmb IAmb 22 45 22.8
comp=Z,260nm,1.3s
DRLN Deer Lake 80.34 41 ⇓P **P** **22 45 06.6 -1.2**
RUSC La Rusia 80.53 87 P **P** **22 45 09.1 -0.9**
RUSC IAmb IAmb 22 45 26.3
comp=Z,268nm,1.4s
DAG Danmarks Havn 80.58 9 S **S** **22 55 12.6 -2.9**
DAG P **P** **22 45 06.1 -2.4**
DAG Danmarks Havn 80.58 9 P **P** **22 45 07.3 -1.3**
DAG Danmarks Havn 80.58 9 *i* P **P** **22 45 07.8 -0.7**
DAG IAmb IAmb 22 45 24.3
comp=Z,26nm,0.9s
BRAT Ballarat 80.59 225 P **P** **22 45 13.5 +4.4**
ICESG Greenland Ices 80.65 19 ⇑P **P** **22 45 08.1 -1.4**
ICESG Greenland Ices 80.65 19 *i* P **P** **22 45 07.5 -2.0**
WHN Wuhan 80.88 299 ⇑P **P** **22 45 10.9 -0.1**
WHN pP **sP** **22 45 15.1 +0.8**
WHN sP **PcP** **22 45 18.6 +1.0**
WHN S **SKSac** **22 55 24.6 -5.9**
WHN SS **SS** **23 00 33.6 0.0**
WHN pmax pmax
comp=Z,320nm,1.2s
WHN pmax pmax
comp=Z,18µm,6.2s
WHN LR LR
comp=Z,23µm,16.4s
WHN LR LR
comp=Z,67µm,17.9s
WHN LR LR
comp=Z,105µm,24.1s
ULN Ulaanbaatar 80.98 318 P **P** **22 45 11.3 -0.2**
ULN IAmb IAmb 22 45 36.4
comp=Z,374nm,1.8s
ULN Ulaanbaatar 80.98 318 ⇑P **P** **22 45 11.3 -0.2**
ULN Ulaanbaatar 80.98 318 *ce* P **P** **22 45 11.2 -0.2**
ULN pmax pmax
comp=Z,101nm,2.5s
LCRK Leigh Creek 81.03 233 P **P** **22 45 12.6 +0.9**
IVI Ivigtut 81.03 28 P **P** **22 45 09.0 -2.2**
IVI IAMs_20 IAMs_20 23 16 14.4
comp=Z,16µm,18.0s
IVI Ivigtut 81.03 28 ⇓P **P** **22 45 13.7 +2.5**
IRK Irkutsk 81.21 322 *e* P **P** **22 45 11.7 -0.7**
IRK *e* 22 55 27.9
IRK pmax pmax
comp=Z,598nm,2.3s
LYN LuoYang 81.21 303 ⇑P **P** **22 45 12.1 -0.6**
LYN PP **PP** **22 48 16.3 -1.6**
LYN S **SKSac** **22 55 27.2 -5.5**
LYN SS **SS** **23 00 35.1 -3.3**
LYN pmax pmax
comp=Z,53nm,1.4s
LYN pmax pmax
comp=Z,8µm,10.3s
LYN LR LR
comp=Z,14µm,17.2s
LYN LR LR
comp=Z,28µm,19.9s
LYN LR LR
comp=Z,63µm,23.4s
BTO Baotou 81.24 310 *e* P **P** **22 45 12.4 -0.5**
BTO pP **sP** **22 45 17.0 +0.8**
BTO sP **PcP** **22 45 19.5 +0.4**
BTO PP **PP** **22 48 19.7 +1.7**
BTO S **S** **22 55 23.9 +0.1**
BTO sS **sS** **22 55 28.7 +0.9**
BTO SS **SS** **23 00 38.8 +0.1**
BTO pmax pmax
comp=Z,54nm,2.4s
BTO pmax pmax
comp=Z,4µm,8.7s
BTO LR LR
comp=Z,50µm,23.3s
BTO LR LR
comp=Z,46µm,24.9s
BTO LR LR
comp=Z,94µm,23.4s
KMSI Cibinong 81.27 268 P **P** **22 45 16.8 +3.4**
comp=Z,183nm,1.3s,comp=Z,7µmcomp=Z,27µm
ASAR Alice Springs 81.39 241 P **P** **22 45 12.6 -1.2**
ASAR Alice Springs 81.39 241 P **P** **22 45 13.4 -0.4**
comp=Z,23nm,1.0s,baz=64,slow=5.9,SNR=34
ASAR LR LR 23 16 34.9
comp=Z,25µm,20.6s,baz=64,slow=32
comp=Z,23nm,1.0s
SONM Songino Array 81.41 318 P **P** **22 45 13.4 -0.3**
SONM IAmb IAmb 22 45 43.8
comp=Z,281nm,1.6s
SONM Songino Array 81.41 318 P **P** **22 45 13.4 -0.3**
comp=Z,5.9nm,0.7s,baz=68,slow=1.9,SNR=44
SONM LR LR 23 19 15.6
comp=Z,29µm,20.9s,baz=61,slow=34
comp=Z,5.9nm,0.7s
SONM Songino Array 81.41 318 P **P** **22 45 13.4 -0.3**
SONM pmax pmax
comp=Z,281nm,1.6s
AUTAR Taroona High S 81.50 219 P **P** **22 45 20.0 +6.1**
TAU Tasmania Unive 81.51 219 P **P** **22 45 18.4 +4.5**
TAU Tasmania Unive 81.51 219 P **P** **22 45 14.0 +0.1**
TAU IAmb IAmb 22 45 25.9
comp=Z,199nm,1.4s
TAU Tasmania Unive 81.51 219 P **P** **22 45 14.0 +0.1**
TAU pmax pmax
comp=Z,199nm,1.4s
ARPS Mount Arapiles 81.58 226 P **P** **22 45 17.6 +3.1**
KBS Kingsbay 81.61 3 P **P** **22 45 11.3 -2.7**
KBS IAmb IAmb 22 45 45.2
comp=Z,233nm,1.6s
KBS Kingsbay 81.61 3 IAMs_20 IAMs_20 23 16 44.1
comp=Z,14µm,21.0s
KBS Kingsbay 81.61 3 P **P** **22 45 11.3 -2.7**
KBS pmax pmax
comp=Z,233nm,1.6s
KBS MLR MLR
comp=Z,14µm,21.0s
KBS Kingsbay 81.61 3 *i* P P 22 45 20.1 +6.1
OOD Oodnadatta 81.76 237 P **P** **22 45 18.1 +2.5**
SDV Santo Domingo 81.89 83 P **P** **22 45 17.3 +0.4**
SDV IAmb IAmb 22 45 38.5
comp=Z,122nm,0.8s
SDV IAMs_20 IAMs_20 23 16 09.6
comp=Z,19µm,21.0s
SDV Santo Domingo 81.89 83 LR LR 23 14 52.2
comp=Z,18µm,21.7s,baz=280,slow=31
SDV Santo Domingo 81.89 83 *eP* **P** **22 45 14.0 -2.9**
SDV eS **S** **22 55 30.1 -1.5**
HTT Hallett 81.95 230 P **P** **22 45 19.5 +2.9**
HTT Hallett 81.95 230 ⇓P **P** **22 45 19.5 +2.9**
DBG Daneborg 82.17 11 ⇑P **P** **22 45 21.4 +4.4**
DBG Daneborg 82.17 11 *i* P **P** **22 45 19.4 +2.4**
DBG IAmb IAmb 22 45 42.7
comp=Z,14nm,0.9s
GTOI Gorontalo 82.17 268 P **P** **22 45 18.2 +0.1**
comp=Z,59nm,1.5s,comp=Z,2µmcomp=Z,11µm
PRSN Puerto Rico Se 82.24 73 P **P** **22 45 15.8 -2.6**
PRSN IAmb IAmb 22 45 41.8
comp=Z,165nm,1.6s
NRS Narsarsuaq 82.26 27 IAMs_20 IAMs_20 23 17 04.8
comp=Z,17µm,19.0s
NRS Narsarsuaq 82.26 27 *i* P **P** **22 45 20.7 +3.0**
NRS IAmb IAmb 22 45 47.7
comp=Z,22nm,0.9s
CRPR Cabo Rojo, PR 82.33 74 P **P** **22 45 16.3 -2.6**
CRPR IAmb IAmb 22 45 42.7
comp=Z,165nm,1.0s
MLPR Magueyes Islan 82.41 74 P **P** **22 45 18.6 -0.7**
HATO Hato, Curacao 82.43 80 IAMs_20 IAMs_20 23 15 56.9
comp=Z,15µm,22.0s
ZAK Zakamensk 82.45 321 *eP* **P** **22 45 18.5 -0.6**
ZAK pmax pmax
comp=Z,76nm,2.0s
SPB5 Spitsbergen Ar 82.51 2 P **P** **22 45 17.3 -1.4**
SPA1 Spitsbergen Ar 82.51 2 P **P** **22 45 18.7 0.0**
SPB4 Spitsbergen Ar 82.51 2 P **P** **22 45 17.8 -1.0**
SPB4 IAmb IAmb 22 45 45.0
comp=Z,146nm,1.2s
SPB1 Spitsbergen Ar 82.51 2 P **P** **22 45 16.9 -1.9**
SPB1 IAmb IAmb 22 45 45.0
comp=Z,145nm,1.4s
SPA0 Spitsbergen Ar 82.51 2 P **P** **22 45 16.4 -2.4**
SPA0 IAmb IAmb 22 45 41.9
comp=Z,140nm,1.3s
SPA3 Spitsbergen Ar 82.51 2 P **P** **22 45 15.9 -2.9**
SPITS Spitsbergen Ar 82.51 2 P **P** **22 45 22.5 +3.8**
comp=Z,13nm,0.8s,baz=57,slow=5.3,SNR=9.2
SPITS LR LR 23 18 26.1
comp=Z,14µm,21.5s,baz=320,slow=33
SPITS Spitsbergen Ar 82.51 2 P **P** **22 45 17.8 -1.0**
SPITS pmax pmax
comp=Z,149nm,1.4s
SPA2 Spitsbergen Ar 82.51 2 P **P** **22 45 16.9 -1.9**
SPA2 IAmb IAmb 22 45 41.8
comp=Z,142nm,1.3s
SPB2 Spitsbergen Ar 82.51 2 P **P** **22 45 16.9 -1.9**
SPB2 IAmb IAmb 22 45 43.7
comp=Z,197nm,1.6s
SPB3 Spitsbergen Ar 82.51 2 P **P** **22 45 16.4 -2.4**
AOPR Arecibo Observ 82.55 73 P **P** **22 45 17.5 -2.6**
AOPR IAmb IAmb 22 45 41.8
comp=Z,97nm,1.1s
AOPR Arecibo Observ 82.55 73 *eP* P 22 45 13.1 -7.0
KNRA Kununurra 82.60 251 P P 22 45 25.6 +5.3
KNRA Kununurra 82.60 251 P **P** **22 45 20.2 0.0**
KNRA IAmb IAmb 22 45 36.2
comp=Z,135nm,1.6s
UUPR Utuado, UPR, P 82.61 73 P **P** **22 45 18.2 -2.1**
WHYH Whyalla 82.75 231 P **P** **22 45 23.7 +3.1**
CNSH ChangSha 82.77 297 ⇑P **P** **22 45 21.2 +0.2**
CNSH S **S** **22 55 43.4 +3.6**
CNSH SS **SS** **23 01 02.6 +0.7**
CNSH pmax pmax
comp=Z,32nm,1.2s
CNSH LR LR
comp=Z,15µm,26.7s
CNSH LR LR
comp=Z,26µm,30.8s
CNSH LR LR
comp=Z,68µm,31.2s
OBIP Obispado Ponce 82.78 73 P **P** **22 45 20.5 -0.7**
OBIP IAmb IAmb 22 45 44.6
comp=Z,148nm,1.1s
CELP Cerrillos 82.79 73 P **P** **22 45 19.7 -1.7**
LUWI Luwuk 82.95 266 P P 22 45 27.0 +4.8
LUWI Luwuk 82.95 266 P **P** **22 45 22.1 -0.1**
LUWI Luwuk 82.95 266 P **P** **22 45 21.3 -0.9**
LUWI S **S** **22 55 49.5 +7.5**
LUWI Luwuk 82.95 266 P **P** **22 45 24.4 +2.2**
comp=Z,127nm,1.5s,comp=Z,7µmcomp=Z,30µm
NNA Nana 83.08 105 P **P** **22 45 23.1 +0.2**
NNA IAmb IAmb 22 45 38.5
comp=Z,97nm,1.1s
NNA Nana 83.08 105 LR LR 23 13 14.8
comp=Z,35µm,20.8s,baz=290,slow=29
NNA Nana 83.08 105 *i* P **P** **22 45 21.6 -1.3**
NNA pmax pmax
comp=Z,32nm,1.0s
ANGG Ammassalik, Gr 83.13 22 IAMs_20 IAMs_20 23 17 50.5
comp=Z,24µm,22.0s
ANGG Ammassalik, Gr 83.13 22 *i* P **P** **22 45 25.4 +3.3**
ANGG IAmb IAmb 22 45 32.2
comp=Z,10nm,0.8s
GCPR Guaynabo City 83.17 73 IAmb IAmb 22 45 51.9
comp=Z,266nm,1.8s
IGPR InterUniversit 83.25 73 IAmb IAmb 22 45 46.5
comp=Z,108nm,1.1s
MOY Mondy 83.31 323 *eP* **P** **22 45 23.4 -0.1**
MOY pmax pmax
comp=Z,191nm,3.0s
HUMP Col San Antoni 83.43 73 IAmb IAmb 22 45 47.9
comp=Z,202nm,1.1s
HSPB Hornsund (broa 83.65 2 *eP* **P** **22 45 24.8 +0.1**
HSPB *eS* S 22 55 59.1 +12
BBOO Buckleboo 83.77 232 P **P** **22 45 28.0 +2.0**
BBOO Buckleboo 83.77 232 P **P** **22 45 28.6 +2.6**
BBOO IAmb IAmb 22 45 44.5
comp=Z,285nm,1.9s
GZH Guangzhou 84.00 292 P **P** **22 45 24.3 -3.1**
GZH pmax pmax
comp=Z,46nm,1.2s
GZH LR LR
comp=Z,2µm,14.8s
GZH LR LR
comp=Z,3µm,14.7s
TOLI2 Tolitoli 84.11 269 P **P** **22 45 32.5 +4.3**
TOLI2 Tolitoli 84.11 269 P **P** **22 45 26.2 -2.0**
MULG Mulgathing 84.14 235 P **P** **22 45 29.5 +1.6**
XAN Xi'an 84.16 304 ⇑P **P** **22 45 26.8 -1.4**
XAN pP sP 22 45 31.5 0.0
XAN S **S** **22 55 54.5 +0.7**
XAN sS ScS 22 56 04.0 -2.0
XAN pmax pmax
comp=Z,43nm,1.8s
XAN pmax pmax
comp=Z,9µm,7.0s
XAN LR LR
comp=Z,29µm,20.6s
XAN LR LR
comp=Z,37µm,23.5s
XAN LR LR

comp=Z,52µm,22.9s
BAUV El Baul 84.30 83 *e*P **P** **22 45 27.9 -1.2**
SOEI Soe 84.53 258 P **P** **22 45 35.1 +4.7**
SOEI Soe 84.53 258 P **P** **22 45 30.6 +0.3**
SOEI Soe 84.53 258 P **P** **22 45 30.7 +0.3**
SOEI S **S** **22 56 04.5 +6.4**
SOEI Soe 84.53 258 P **P** **22 45 33.1 +2.7**
comp=Z,220nm,1.9s,comp=Z,10µmcomp=Z,31µm
SCO Scoresbysund 84.61 14 P **P** **22 45 30.9 +1.3**
SCO IAmb IAmb 22 45 54.9
comp=Z,187nm,1.4s
SCO Scoresbysund 84.61 14 ⇓P **P** **22 45 32.7 +3.1**
SCO Scoresbysund 84.61 14 P **P** **22 45 31.0 +1.3**
SCO pmax pmax
comp=Z,187nm,1.4s
SCO MLR MLR
comp=Z,24µm,21.0s
SCO Scoresbysund 84.61 14 *i* P **P** **22 45 31.4 +1.7**
SCO IAmb IAmb 22 45 46.7
comp=Z,34nm,0.9s
BBSI Bau Bau 84.63 262 P **P** **22 45 33.1 +2.3**
comp=Z,81nm,1.8s,comp=Z,6µmcomp=Z,28µm
MPSI Mapaga 85.20 269 P **P** **22 45 34.0 +0.3**
BATI Baumata 85.24 258 LR LR 23 20 19.3
comp=Z,9µm,20.9s,baz=102,slow=33
BATI Baumata 85.24 258 P **P** **22 45 36.6 +2.7**
comp=Z,104nm,1.4s,comp=Z,7µmcomp=Z,25µm
GULI GuiLin 85.86 295 ⇑P **P** **22 45 36.4 -0.4**
GULI S **S** **22 56 15.3 +4.4**
GULI pmax pmax
comp=Z,70nm,1.3s
GULI LR LR
comp=Z,8µm,23.9s
GULI LR LR
comp=Z,13µm,22.8s
GULI LR LR
comp=Z,48µm,24.1s
SABA Saba 85.95 73 P **P** **22 45 36.6 -0.7**
SABA IAMs_20 IAMs_20 23 21 01.2
comp=Z,15µm,20.0s
MMRI Maumere 86.02 259 P **P** **22 45 37.6 -0.1**
MMRI IAmb IAmb 22 46 10.4
comp=Z,161nm,1.4s
MMRI Maumere 86.02 259 P **P** **22 45 40.6 +2.9**
comp=Z,49nm,1.0s,comp=Z,5µmcomp=Z,18µm
SEUS St. Eustatius 86.23 73 IAMs_20 IAMs_20 23 21 18.5
comp=Z,14µm,20.0s
TTSI Tana Toraja 86.39 266 P **P** **22 45 41.9 +2.3**
comp=Z,61nm,2.5s,comp=Z,4µmcomp=Z,22µm
EDFI Ende, Flores 86.56 260 P **P** **22 45 38.0 -2.5**
comp=Z,62nm,1.0s,comp=Z,2µmcomp=Z,18µm
WRKA Warakurna 86.61 242 P **P** **22 45 42.5 +2.0**
WRKA Warakurna 86.61 242 ⇓P **P** **22 45 41.0 +0.6**
TBTG Tabatinga, AM 86.82 96 P **P** **22 45 40.9 -0.8**
BKSI Bulukumba 86.87 263 P **P** **22 45 42.2 +0.3**
comp=Z,43nm,1.5s,comp=Z,3µmcomp=Z,18µm
JMIC Jan Mayen 86.93 10 LR LR 23 21 34.4
comp=Z,12µm,21.9s,baz=330,slow=34
PCRV Puerto La Cruz 87.08 80 LR LR 23 21 30.8
comp=Z,19µm,19.6s,slow=34
PCRV Puerto La Cruz 87.08 80 *e*P **P** **22 45 43.5 +0.5**
KAPI Kappang 87.11 264 P **P** **22 45 47.2 +4.1**
KAPI Kappang 87.11 264 P **P** **22 45 41.5 -1.6**
KAPI IAmb IAmb 22 46 09.1
comp=Z,136nm,1.5s
KAPI Kappang 87.11 264 *i* P **P** **22 45 42.2 -0.9**
KAPI pmax pmax
comp=Z,31nm,1.2s
MBFL Flemmings, Mon 87.17 73 *e*P P 22 45 33.0 -10
LZH Lanzhou 87.34 307 *e*P **P** **22 45 43.8 -0.3**
LZH pP sP 22 45 51.3 +3.9
LZH PP **PP** **22 49 03.7 -4.3**
LZH S **S** **22 56 23.6 -1.6**
LZH pmax pmax
comp=Z,60nm,1.5s
LZH pmax pmax
comp=Z,7µm,7.6s
LZH LR LR
comp=Z,18µm,19.2s
LZH LR LR
comp=Z,28µm,20.6s
LZH LR LR
comp=Z,72µm,19.9s
ANBD Bethesda, Anti 87.47 73 *e*P **P** **22 45 43.6 -1.2**
GDHS Morne Mazeau, 87.73 74 P **P** **22 45 47.4 +1.3**
GDHS IAMs_20 IAMs_20 23 21 55.1
comp=Z,18µm,22.0s
ABD La Joyeuse, An 87.91 73 IAMs_20 IAMs_20 23 22 22.1
comp=Z,15µm,20.0s
ABD La Joyeuse, An 87.91 73 *e*P P 22 45 54.9 +8.0
CBE Ff, Capester 87.94 74 *e*P **P** **22 45 49.6 +2.5**
BASI Baing, Sumba 88.09 259 P **P** **22 45 46.9 -0.9**
comp=Z,499nm,1.7s,comp=Z,11µmcomp=Z,21µm
CRUV Carupano 88.22 79 *e*P **P** **22 45 46.1 -2.3**
MAGL Barre de l'ile 88.27 74 IAMs_20 IAMs_20 23 21 58.7
comp=Z,15µm,20.0s
GDSD La Dsirade Is 88.35 73 P **P** **22 45 46.4 -2.6**
GDSD IAMs_20 IAMs_20 23 22 34.7
comp=Z,13µm,21.0s
QIZ Qiongzhong 88.41 289 P **P** **22 45 50.3 +1.0**
QIZ PP **PP** **22 49 20.6 +3.7**
QIZ S **S** **22 56 31.8 -3.9**
QIZ SS **SS** **23 02 23.3 -2.1**
QIZ pmax pmax
comp=Z,46nm,1.1s
QIZ pmax pmax
comp=Z,4µm,10.7s
QIZ LR LR
comp=Z,8µm,19.6s
QIZ LR LR
comp=Z,9µm,20.6s
QIZ LR LR
comp=Z,16µm,30.9s
QIZ Qiongzhong 88.41 289 P **P** **22 45 47.7 -1.6**
QIZ IAmb IAmb 22 46 14.4
comp=Z,242nm,1.7s
BKB Balikpapan 88.56 268 P **P** **22 45 50.0 0.0**
comp=Z,148nm,1.4s,comp=Z,7µmcomp=Z,31µm
GYA Guiyang 88.60 297 ⇓P **P** **22 45 50.0 -0.2**
GYA PP **PP** **22 49 20.4 +2.1**
GYA S **S** **22 56 40.3 +2.9**
GYA pmax pmax
comp=Z,14nm,2.2s
GYA LR LR
comp=Z,30µm,22.0s
GYA LR LR
comp=Z,27µm,23.8s
GYA LR LR
comp=Z,45µm,24.0s
SVN Savane Anatole 88.75 75 *e*P **P** **22 45 47.0 -3.9**
BIM Bigot 88.94 75 *e*P **P** **22 45 52.4 +0.6**
BORG Borgarnes 88.97 18 IAMs_20 IAMs_20 23 22 02.5
comp=Z,13µm,20.0s
BORG Borgarnes 88.97 18 LR LR 23 22 58.7
comp=Z,8µm,21.6s,baz=319,slow=34
GTA Gaotai 88.98 312 ⇑P **P** **22 45 51.5 -0.3**
GTA PP **PP** **22 49 26.4 +5.5**
GTA S **S** **22 56 35.3 -5.3**
GTA pmax pmax
comp=Z,19nm,2.0s
GTA pmax pmax
comp=Z,1µm,8.4s
GTA LR LR
comp=Z,16µm,21.4s
GTA LR LR
comp=Z,32µm,24.0s
GTA LR LR
comp=Z,51µm,23.3s
ILAM Ilet Lapin Mar 89.03 75 *e*P P 22 45 58.6 +6.4
FORT Forrest 89.05 237 P **P** **22 45 54.3 +2.3**
FORT Forrest 89.05 237 P **P** **22 45 52.9 +0.9**
FORT Forrest 89.05 237 ⇑P **P** **22 45 52.9 +0.9**
MPOM Morne Pois Mar 89.16 75 *e*P P 22 45 58.4 +5.6
GRHS Sauteurs 89.18 77 *e*P **P** **22 45 53.3 +0.4**
SLBI Saint Lucia, B 89.19 76 *e*P **P** **22 45 55.4 +2.4**
GRGR Grenville 89.20 78 *e*P **P** **22 45 52.4 -0.6**
GCMP Grenada, Carri 89.29 77 *e*P **P** **22 45 58.2 +4.7**
CD2 Chengdu 89.35 303 P **P** **22 45 52.9 -0.7**
CD2 sP sP 22 45 59.6 +2.7
CD2 PP **PP** **22 49 21.4 -2.7**
CD2 SKS **SKSac** **22 56 22.8 -1.7**
CD2 S **SKKSac** **22 56 37.2 +0.5**
CD2 sS ScS 22 56 54.2 +5.2
CD2 SS **SS** **23 02 39.1 +0.7**
CD2 pmax pmax
comp=Z,30nm,1.3s
CD2 pmax pmax
comp=Z,700nm,6.0s
CD2 LR LR
comp=Z,33µm,22.3s
CD2 LR LR
comp=Z,40µm,28.3s
CD2 LR LR
comp=Z,41µm,31.2s
H03N2 Juan Fernandez 89.53 126 T T 00 24 49.9
baz=298,slow=76
H03N3 Juan Fernandez 89.54 126 T T 00 24 52.8
baz=298,slow=76
H03N1 Juan Fernandez 89.55 126 T T 00 24 51.0
baz=298,slow=76
H03S2 Juan Fernandez 89.69 126 T T 00 25 11.1
baz=286,slow=78
H03S3 Juan Fernandez 89.70 126 T T 00 25 08.9
baz=286,slow=78
H03S1 Juan Fernandez 89.71 126 T T 00 25 10.1
baz=286,slow=78
TRN Trinidad (W) 89.93 79 *e*P **P** **22 45 58.4 +2.0**
PLAI Plampang 90.23 261 P **P** **22 45 57.1 -0.7**
comp=Z,162nm,1.9s,comp=Z,5µm
MTKI Muara Teweh, K 90.34 269 P **P** **22 45 57.5 -0.9**
BBGH Gun Hill 90.79 76 IAMs_20 IAMs_20 23 21 37.4
comp=Z,15µm,22.0s
BBGH Gun Hill 90.79 76 *e*P P 22 46 06.8 +6.3
ZAA0 Zalesovo Array 90.79 329 P **P** **22 45 59.4 -0.4**
ZALV Zalesovo Beam 90.79 329 P **P** **22 46 00.2 +0.5**
comp=Z,26nm,1.1s,baz=55,slow=5.6,SNR=20
ZALV LR LR 23 24 55.3
comp=Z,33µm,20.7s,baz=67,slow=34
comp=Z,26nm,1.1s
TWSI Taliwang, Sumb 91.03 261 P **P** **22 45 59.8 -1.8**
comp=Z,85nm,1.7s,comp=Z,3µmcomp=Z,13µm
KEV Kevo 91.09 359 IAMs_20 IAMs_20 23 22 33.0
comp=Z,19µm,22.0s
PB12 IPOC Station P 91.29 109 P **P** **22 46 02.0 -0.8**
ARCES ARCESS Array B 91.33 360 P **P** **22 46 02.3 +0.3**
ARCES ARCESS Array B 91.33 360 P **P** **22 46 03.8 +1.8**
comp=Z,14nm,0.9s,baz=1.4,slow=3.7,SNR=13
ARCES LR LR 23 22 50.7
comp=Z,14µm,21.8s,baz=11,slow=33
comp=Z,14nm,0.9s
ARCES ARCESS Array B 91.33 360 P **P** **22 46 02.3 +0.3**
PB18 Visviri 91.71 108 P **P** **22 46 05.8 +0.6**
PB18 IAmb IAmb 22 46 22.3
comp=Z,144nm,1.3s
SBUM Sibu 91.75 273 P **P** **22 46 03.9 -1.1**
TA02 Huaiquique 92.03 111 P **P** **22 46 04.5 -1.5**
TA02 IAmb IAmb 22 46 30.2
comp=Z,56nm,1.1s
DLV T Lat 92.06 283 P **P** 22 46 12.1 +5.5
DLV T Lat 92.06 283 P **P** **22 46 03.8 -2.8**
TA01 Diego Aracena 92.08 111 P **P** **22 46 05.2 -1.1**
ETMB Extrema 92.14 100 IAmb IAmb 22 46 27.3
comp=Z,71nm,1.1s
PATCX Punta Patache 92.19 111 P **P** **22 46 02.4 -4.6**
PATCX IAmb IAmb 22 46 29.1
comp=Z,102nm,1.2s
PB11 IPOC Station P 92.28 110 IAmb IAmb 22 46 34.3
comp=Z,79nm,1.1s
KMI Kunming 92.37 298 ⇑P **P** **22 46 07.7 -0.3**
KMI PP **PP** **22 49 50.2 +1.7**
KMI SKS **SKSac** **22 56 34.6 -7.9**
KMI SS **SS** **23 03 23.3 +0.5**
KMI pmax pmax
comp=Z,34nm,1.2s
KMI pmax pmax
comp=Z,3µm,6.5s
KMI LR LR
comp=Z,17µm,26.4s
KMI LR LR
comp=Z,23µm,28.1s
KMI LR LR
comp=Z,54µm,31.7s
SRBI Singaraja 92.38 262 P **P** **22 46 09.5 +1.7**
comp=Z,43nm,1.6s,comp=Z,2µmcomp=Z,13µm
LPAZ La Paz 92.49 106 P **P** **22 46 08.5 -0.5**
LPAZ La Paz 92.49 106 ⇓P **P** **22 46 09.3 +0.3**
LPAZ La Paz 92.49 106 P **P** **22 46 09.1 +0.1**
comp=Z,8.9nm,0.8s,baz=283,slow=2.9,SNR=16
LPAZ LR LR 23 20 08.0
comp=Z,17µm,20.1s,baz=295,slow=31
comp=Z,8.9nm,0.8s
LPAZ La Paz 92.49 106 *e*P **P** **22 46 05.5 -3.5**
PB02 IPOC Station P 92.59 112 P **P** **22 46 09.0 +0.2**
PB02 IAmb IAmb 22 46 24.7
comp=Z,61nm,1.3s
PSA00 Pilbara Seismi 92.60 248 P **P** **22 46 05.9 -2.8**
PSA00 IAmb IAmb 22 47 00.5
comp=Z,92nm,1.6s
PSA00 Pilbara Seismi 92.60 248 P **P** **22 46 07.3 -1.4**
PSA00 IAmb IAmb 22 46 32.6
comp=Z,115nm,1.9s
GO01 Chusmiza 92.66 110 P **P** **22 46 05.5 -4.1**
GO01 IAmb IAmb 22 46 41.9
comp=Z,95nm,1.6s
PZH PanZhiHua 92.67 299 P **P** **22 46 08.6 -0.6**
PZH S **S** **22 57 11.7 -3.2**
PZH pmax pmax
comp=Z,60nm,1.7s
PZH pmax pmax
comp=Z,3µm,9.8s
PZH LR LR
comp=Z,21µm,29.9s
PZH LR LR
comp=Z,22µm,29.4s
PZH LR LR
comp=Z,54µm,34.3s
LVZ Lovozero 92.68 356 P **P** **22 46 03.8 -4.4**
LVZ Lovozero 92.68 356 *i* P **P** **22 46 07.2 -1.1**
LVZ pmax pmax
comp=Z,44nm,1.9s
LVZ MLR MLR
comp=Z,13µm,22.0s
PB04 IPOC Station P 92.71 113 P **P** **22 46 05.7 -3.6**
PB10 IPOC Station P 92.75 114 P **P** **22 46 06.4 -2.9**
SLVN Son La 92.81 294 IAMs_20 IAMs_20 23 23 48.0
comp=Z,13µm,21.0s
PB05 IPOC Station P 92.83 113 P **P** **22 46 09.6 -0.3**
PB05 IAmb IAmb 22 46 43.8
comp=Z,117nm,1.8s
PB08 IPOC Station P 92.85 110 P **P** **22 46 08.8 -1.6**
PB08 IAmb IAmb 22 46 37.7
comp=Z,86nm,1.5s
PB08 IPOC Station P 92.85 110 P P 22 46 03.5 -6.9
PB08 S **SKSac** **22 56 54.8 +9.4**
APA Apatity 93.08 357 ⇓*i* P **P** **22 46 11.5 +1.5**
APA *i* 22 50 00.0
APA *i* 22 56 46.0
APA *i* S **S** **22 57 13.0 -3.6**
APA *i* PS **PS** **22 58 31.0 +1.9**
APA *i* SS **SS** **23 03 28.0 -1.6**
APA *i* SSS SSS 23 07 05.0
APA pmax pmax
comp=Z,9.0nm,1.0s
ABJI Asem Bagus 93.20 263 P **P** **22 46 16.0 +4.4**
comp=Z,45nm,1.0s,comp=Z,4µmcomp=Z,13µm
PB14 IPOC Station P 93.26 115 P **P** **22 46 09.7 -2.4**
PB14 IAmb IAmb 22 46 38.5
comp=Z,60nm,1.3s
JAGI Jajag, Banyuwa 93.50 262 P **P** **22 46 16.5 +3.5**
comp=Z,16nm,1.8s,comp=Z,2µmcomp=Z,10µm
BOAV Boa Vista 93.50 86 IAmb IAmb 22 46 37.3
comp=Z,80nm,1.6s
PB15 IPOC Station P 93.59 113 P **P** **22 46 12.6 -0.8**
PB15 IAmb IAmb 22 46 40.0
comp=Z,70nm,1.4s
AC01 Pan de Azucar 93.60 116 P **P** **22 46 11.3 -1.9**
AC01 IAmb IAmb 22 46 33.4
comp=Z,108nm,1.6s
UBPT Khong Chiam 93.63 287 P **P** **22 46 17.6 +4.0**
UBPT Khong Chiam 93.63 287 P **P** **22 46 09.7 -3.9**
LVC Limon Verde 93.88 112 P **P** **22 46 16.4 +1.4**
LVC Limon Verde 93.88 112 LR LR 23 18 45.3
comp=Z,42µm,20.5s,baz=278,slow=29
LVC Limon Verde 93.88 112 P **P** **22 46 16.4 +1.4**
LVC pmax pmax
comp=Z,56nm,1.3s
LVC MLR MLR
comp=Z,42µm,21.0s
KSM Kuching 93.88 273 P P 22 46 20.5 +5.7
KSM Kuching 93.88 273 P **P** **22 46 11.8 -3.0**
AC04 Llanos de Chal 93.89 118 P **P** **22 46 13.1 -1.4**
AC04 IAmb IAmb 22 46 42.2
comp=Z,120nm,1.6s
GOMU GeErMu 93.94 310 P **P** **22 46 15.2 +0.1**
GOMU pP sP 22 46 21.6 +3.1
GOMU sP pP 22 46 25.9 +8.3
GOMU PP **PP** **22 50 06.0 +5.5**
GOMU pmax pmax
comp=Z,28nm,1.7s
GOMU LR LR
comp=Z,44µm,21.1s
GOMU LR LR
comp=Z,42µm,20.5s
GOMU LR LR
comp=Z,84µm,22.0s
KMBL Kambalda 94.20 238 P P 22 46 21.6 +5.8
AC06 Mina Casimiro 94.21 117 IAmb IAmb 22 46 54.6
comp=Z,111nm,1.4s
CO06 Fray Jorge 94.27 121 P **P** **22 46 15.3 -0.9**
CO06 IAmb IAmb 22 46 42.8
comp=Z,102nm,1.4s
GO03 Copiap 94.39 118 P **P** **22 46 14.0 -2.9**
LCO Las Campanas 94.47 119 P **P** **22 46 17.8 +0.3**
LCO IAmb IAmb 22 46 34.8
comp=Z,102nm,1.1s
LCO Las Campanas 94.47 119 ⇓P **P** **22 46 18.2 +0.7**
LCO Las Campanas 94.47 119 P **P** **22 46 17.8 +0.3**
LCO pmax pmax
comp=Z,102nm,1.1s
LCO MLR MLR
comp=Z,42µm,22.0s
ZSN Zaisan 94.51 324 *e*P **P** **22 46 15.9 -1.2**
baz=324
ZSN *e*PP **PP** **22 50 02.5 -1.7**
baz=324
ZSN Zaisan 94.51 324 *e*P **P** **22 46 15.9 -1.2**
ZSN *e* 22 50 02.4
AF01 San Pedro de A 94.63 113 P **P** **22 46 16.5 -1.9**
SAML Samuel 94.68 98 P **P** **22 46 17.1 -1.3**
SAML Samuel 94.68 98 ⇑P **P** **22 46 16.8 -1.7**
SAML Samuel 94.68 98 P **P** **22 46 17.1 -1.3**
SAML pmax pmax
comp=Z,29nm,1.1s
SAML MLR MLR
comp=Z,20µm,20.0s
SAML Samuel 94.68 98 *e*P **P** **22 46 15.5 -2.9**
GO04 Tololo Observa 94.78 120 P **P** **22 46 17.6 -1.2**
GO04 IAmb IAmb 22 46 46.4
comp=Z,94nm,1.1s
WMQ Urumqi 94.88 320 ⇑P **P** **22 46 19.9 +1.0**
WMQ SKS **SKSac** **22 56 47.9 -7.3**
WMQ pmax pmax
comp=Z,22nm,0.7s
WMQ pmax pmax
comp=Z,3µm,9.1s
WMQ LR LR
comp=Z,29µm,17.9s
WMQ LR LR
comp=Z,16µm,23.8s
WMQ LR LR
comp=Z,38µm,24.2s
CO02 Combarbal 94.96 121 P **P** **22 46 18.0 -1.5**
CO02 IAmb IAmb 22 46 49.3
comp=Z,102nm,1.4s
AC02 Maricunga 95.07 117 P **P** **22 46 19.0 -1.6**
AC02 IAmb IAmb 22 46 55.7
comp=Z,199nm,1.9s
CO03 El Pedregal 95.09 121 P **P** **22 46 16.7 -3.4**
CO03 IAmb IAmb 22 46 54.1
comp=Z,123nm,1.8s
MACA Manacapuru-AM 95.17 92 P **P** **22 46 16.7 -4.0**
MACA IAmb IAmb 22 46 55.1
comp=Z,75nm,1.7s
SEM Semipalatinsk 95.17 328 *e*P **P** **22 46 18.4 -1.9**
baz=328
SEM *e*PP **PP** **22 50 07.7 -1.7**
baz=328
SEM LR LR 23 24 48.6
comp=Z,9µm,22.5s,baz=328
SEM Semipalatinsk 95.17 328 *e*P **P** **22 46 18.4 -1.9**
SEM *e* 22 50 07.7
CO01 Juntas del Tor 95.29 120 P **P** **22 46 19.3 -1.9**
CO01 IAmb IAmb 22 46 37.9
comp=Z,64nm,1.4s
MEEK Meekatharra 95.33 244 P P 22 46 27.7 +6.5
MT02 Curacav 95.53 123 P **P** **22 46 18.3 -3.6**
MT02 IAmb IAmb 22 46 34.2
comp=Z,63nm,1.4s
PWJI Pagerwojo 95.55 263 P **P** **22 46 26.4 +4.0**
comp=Z,27nm,1.7s,comp=Z,2µm
NGJI Ngawi 95.67 264 P **P** **22 46 24.2 +1.3**
comp=Z,33nm,0.5s,comp=Z,15µm
KURK Kurchatov 95.78 329 P **P** **22 46 22.3 -0.4**
KURK Kurchatov 95.78 329 *i* P **P** **22 46 21.4 -1.4**
KURK pmax pmax
comp=Z,5.0nm,1.2s
KURK MLR MLR
comp=Z,30µm,20.0s
MT09 Talagante 95.82 124 P **P** **22 46 20.5 -2.9**
VA03 San Esteban 95.84 123 P **P** **22 46 20.6 -2.9**
VA03 IAmb IAmb 22 46 35.5
comp=Z,93nm,1.6s
PEL Peldehue 95.85 123 P **P** **22 46 18.8 -4.6**
PEL IAmb IAmb 22 46 50.3
comp=Z,61nm,1.4s
PEL Peldehue 95.85 123 P **P** **22 46 18.8 -4.6**
PEL pmax pmax
comp=Z,61nm,1.4s
PEL MLR MLR
comp=Z,39µm,22.0s
KURBB Kurchatov Arra 95.88 329 P **P** **22 46 24.4 +1.2**
comp=Z,1.2nm,0.6s,baz=47,slow=3.7,SNR=6.6
KURBB LR LR 23 27 47.2
comp=Z,36µm,21.9s,baz=57,slow=34
comp=Z,1.2nm,0.6s
TNCH TengChong 95.92 299 ⇑*i* P **P** **22 46 21.6 -2.6**
TNCH S S 22 57 31.5 -12
TNCH sS ScS 22 57 44.4 +0.2
TNCH pmax pmax
comp=Z,6.0nm,0.4s
TNCH pmax pmax
comp=Z,570nm,5.6s
TNCH LR LR
comp=Z,7µm,24.2s
TNCH LR LR
comp=Z,12µm,26.2s
TNCH LR LR
comp=Z,47µm,28.3s
BO01 Tunca 95.95 124 P **P** **22 46 21.1 -2.7**
BO01 IAmb IAmb 22 46 35.9
comp=Z,80nm,1.7s
BO04 La Punta 96.19 124 P **P** **22 46 23.1 -1.9**
CRAI Chiangrai 96.28 294 IAmb IAmb 22 46 50.4
comp=Z,89nm,1.8s
BO02 Sierra Bellavi 96.32 125 P **P** **22 46 22.8 -2.8**
BO02 IAmb IAmb 22 46 53.4
comp=Z,56nm,1.6s
MK31 Makanchi Array 96.32 324 *i* P **P** **22 46 24.8 -0.6**
MKAR Makanchi Array 96.32 324 P **P** **22 46 24.5 -0.9**
comp=Z,2.7nm,1.0s,baz=57,slow=5.8,SNR=15
MKAR LR LR 23 27 21.3
comp=Z,23µm,21.8s,baz=62,slow=34
comp=Z,2.7nm,1.0s
MKAR Makanchi Array 96.32 324 *i* P **P** **22 46 27.3 +1.9**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MT13 San Alfonso 96.36 123 P **P** **22 46 23.9 -1.9**
MT13 IAmb IAmb 22 46 51.2
comp=Z,101nm,1.6s
MT08 Bocatoma Ro 96.48 123 P **P** **22 46 25.9 -0.7**
MT08 IAmb IAmb 22 46 39.6
comp=Z,75nm,1.4s
MAKZ Makanchi 96.49 325 P **P** **22 46 24.1 -2.0**
MAKZ IAmb IAmb 22 46 50.7
comp=Z,63nm,1.9s
MAKZ Makanchi 96.49 325 P **P** **22 46 24.1 -2.0**
MAKZ pmax pmax
comp=Z,63nm,2.0s
MAKZ MLR MLR
comp=Z,30µm,22.0s
ZON Zonda 96.95 121 P **P** **22 46 26.1 -2.4**
ZON IAmb IAmb 22 47 01.5
comp=Z,107nm,1.8s
ZON Zonda 96.95 121 P **P** **22 46 26.1 -2.4**
ZON pmax pmax
comp=Z,107nm,1.8s
LL04 Puerto Octay 97.11 131 P **P** **22 46 25.9 -3.0**

LL04 IAmb IAmb 22 46 56.5
comp=Z,116nm,2.0s
LKP Lekhapani 97.12 302 *e*P P 22 46 19.3 -10
LKP IAmb IAmb 22 46 27.6
comp=Z,106nm,0.4s
LKP IAMs_20 IAMs_20 23 00 41.7
comp=Z,12µm,21.3s
LR05 Currie 97.18 130 P P 22 46 23.4 -5.8
LR05 IAmb IAmb 22 46 46.0
comp=Z,79nm,1.5s
GO06 Curarrehue 97.36 129 P **P** **22 46 27.0 -3.2**
LL01 San Ignacio de 97.59 132 P **P** **22 46 28.5 -2.5**
BVAR Borovoye Array 97.88 334 P **P** **22 46 31.7 -0.6**
comp=Z,2.6nm,0.7s,baz=72,slow=9.3,SNR=12
BVAR PKKP **PKKPdf** **23 03 12.6 +3.2**
comp=Z,1.5nm,0.8s,baz=263,slow=2.5,SNR=3.9
BVAR LR LR 23 31 54.6
comp=Z,8µm,19.5s,baz=47,slow=36
comp=Z,2.6nm,0.7s
BRVK Borovoye 97.90 334 P **P** **22 46 28.6 -3.7**
BRVK IAmb IAmb 22 46 58.3
comp=Z,48nm,1.4s
CHTO Chiang Mai 98.08 293 IAMs_20 IAMs_20 23 28 01.6
comp=Z,12µm,22.0s
CMAR Chiang Mai Arr 98.22 293 P **P** **22 46 33.4 -1.1**
CMAR Chiang Mai Arr 98.22 293 P Pdif 22 46 35.7 +1.2
comp=Z,1.4nm,0.3s,baz=72,slow=2.9,SNR=1.6
CMAR PKKP **PKKPdf** **23 03 08.9 +0.2**
comp=Z,0.4nm,0.3s,baz=262,slow=2.6,SNR=4.4
CMAR LR LR 23 30 24.4
comp=Z,8µm,19.3s,baz=60,slow=35
comp=Z,1.4nm,0.3s
LL02 Futaleuf 98.25 133 P **P** **22 46 30.6 -3.4**
LEWI Lewis, Hebride 98.38 16 *e*P Pdif 22 46 48.2 +14
LEWI IAMs_20 IAMs_20 23 20 31.2
comp=Z,44µm,40.2s
SVE Sverdlovsk 98.39 341 *e*P Pdif 22 46 38.5 +4.1
SVE *e* 22 50 37.7
SVE *e*S **SKSac** **22 57 16.4 +3.7**
SVE pmax pmax
comp=Z,40nm,1.5s
SVE MLR MLR
comp=Z,29µm,23.0s
PLCA Paso Flores 98.39 130 P **P** **22 46 31.7 -3.1**
PLCA IAmb IAmb 22 46 56.4
comp=Z,50nm,1.6s
PLCA Paso Flores 98.39 130 P Pdif 22 46 36.4 +1.6
comp=Z,2.2nm,1.0s,baz=321,slow=6.5,SNR=3.7
PLCA LR LR 23 20 43.0
comp=Z,48µm,21.2s,baz=271,slow=29
comp=Z,2.2nm,1.0s
NWAO Narrogin (SRO) 98.43 238 LR LR 23 27 30.5
comp=Z,17µm,21.6s,baz=66,slow=33
VILB Vilhena 98.72 101 P **P** **22 46 34.5 -2.2**
VILB IAmb IAmb 22 46 58.7
comp=Z,86nm,1.8s
LINV Loch Inver, As 98.82 16 *e*P Pdif 22 46 52.0 +16
LINV IAMs_20 IAMs_20 23 21 39.4
comp=Z,41µm,36.7s
BIGH Upper Bighouse 98.83 15 *e*P Pdif 22 46 46.9 +11
BIGH IAMs_20 IAMs_20 23 23 49.0
comp=Z,36µm,27.3s
SIV San Ignacio 98.83 104 P Pdif 22 46 37.7 +0.4
comp=Z,1.7nm,0.8s,baz=309,slow=5.7,SNR=7.0
SIV LR LR 23 24 28.4
comp=Z,41µm,20.0s,baz=301,slow=31
comp=Z,1.7nm,0.8s
BRZS Berezniki 99.08 331 *e*P **Pdif** **22 46 35.3 -2.4**
baz=331
BRZS *e*PP **PP** **22 50 37.3 -1.9**
baz=331
BRZS Berezniki 99.08 331 *e*P **Pdif** **22 46 35.3 -2.4**
BRZS *e* 22 50 37.2
NB2 NORSAR Subarra 99.10 7 P **Pdif** **22 46 38.2 +0.6**
comp=Z,4.4nm,0.8s,baz=350,slow=5.3
NOA NORSAR Array B 99.10 7 P **Pdif** **22 46 36.9 -0.7**
comp=Z,1.3nm,0.9s,baz=348,slow=5.2,SNR=6.8
NOA LR LR 23 29 08.0
comp=Z,10µm,21.0s,baz=335,slow=34
comp=Z,1.3nm,0.9s
LEM Lembang 99.11 266 LR LR 23 27 35.7
comp=Z,5µm,21.1s,baz=84,slow=33
KLMR Klimovskoe 99.18 353*c* *i*P **Pdif** **22 46 36.2 -1.7**
KLMR *i* 22 50 40.9
KLMR S **SKSac** **22 57 14.9 -1.6**
KLMR PS **PS** **22 59 28.5 -7.4**
KLMR SS SS 23 05 10.6 +15
KLMR pmax pmax
comp=Z,63nm,1.6s
KLMR MLR MLR
comp=Z,24µm,23.0s
ARU Arti 99.34 342 P **Pdif** **22 46 38.8 +0.1**
ARU Arti 99.34 342 LR LR 23 31 54.9
comp=Z,26µm,21.9s,baz=40,slow=36
ARU Arti 99.34 342*c* *i*P **Pdif** **22 46 38.0 -0.7**
ARU 22 50 40.9
ARU S **SKSac** **22 57 16.3 -1.2**
ARU SP **SP** **22 59 40.1 +3.7**
ARU pmax pmax
comp=Z,5.0nm,1.3s
ARU pmax pmax
comp=Z,814nm,9.2s
ARU MLR MLR
comp=Z,27µm,22.0s
KPL Plockton 99.41 16 *e*P **Pdif** **22 46 54.5 +16**
KPL IAMs_20 IAMs_20 23 20 59.2
comp=Z,43µm,38.0s
FIA1 FINESS Array S 99.45 359 P **Pdif** **22 46 38.3 -0.7**
FIA1 IAmb IAmb 22 47 01.6
comp=Z,100nm,1.5s
FINES FINESS Array B 99.45 359 P **Pdif** **22 46 37.9 -1.2**
FINES FINESS Array B 99.45 359 P **Pdif** **22 46 40.0 +0.9**
comp=Z,3.8nm,0.7s,baz=7.6,slow=4.2,SNR=12
FINES PP **PP** **22 50 38.0 -3.4**
comp=Z,1.4nm,0.7s,baz=360,slow=15,SNR=4.2
comp=Z,3.8nm,0.7s
FINES FINESS Array B 99.45 359 P **Pdif** **22 46 40.0 +0.9**
SBA Scott Base 99.51 188 P **Pdif** **22 46 39.6 +0.8**
SBA IAmb IAmb 22 50 39.1
comp=Z,58nm,2.0s
SBA Scott Base 99.51 188 P **Pdif** **22 46 39.6 +0.8**
SBA pmax pmax
comp=Z,58nm,2.0s
SBA MLR MLR
comp=Z,62µm,20.0s
TDK Taldyqorghan 99.56 325 *e*P **Pdif** **22 46 38.3 -1.7**
baz=325
TDK *e*PP **PP** **22 50 42.3 -0.8**
baz=325
TDK LR LR 23 26 52.3
comp=Z,16µm,20.3s,baz=325
TDK Taldyqorghan 99.56 325 *e*P **Pdif** **22 46 38.3 -1.7**
TDK *e* 22 50 42.2
LSA Lhasa 99.71 306 Pdif **Pdif** **22 46 40.1 -1.4**
LSA IAMs_20 IAMs_20 23 29 59.1
comp=Z,12µm,21.0s
LSA Lhasa 99.71 306 P **Pdif** **22 46 40.1 -1.4**
LSA pmax pmax
comp=Z,58nm,1.9s
LSA MLR MLR
comp=Z,12µm,21.0s
KIRV Kirov 99.73 347 LR LR 23 33 44.4
comp=Z,23µm,20.1s,baz=28,slow=37
KIRV Kirov 99.73 347 *i*P **Pdif** **22 46 39.9 -0.4**
IMP Imphal 99.75 301 *e*P **Pdif** **22 46 28.8 -13**
IMP IAmb IAmb 22 47 04.8
comp=Z,37nm,1.6s
IMP IAMs_20 IAMs_20 23 00 45.0
comp=Z,9µm,21.4s
MYKOM Kota Tinggi 99.85 275 IAMs_20 IAMs_20 23 27 20.2
comp=Z,16µm,21.0s
VNDA Vanda 99.91 189 Pdif **Pdif** **22 46 39.9 -0.7**
VNDA Vanda 99.91 189 P **Pdif** **22 46 41.7 +1.2**
comp=Z,0.4nm,0.3s,baz=4.9,slow=7.3,SNR=7.4
VNDA PP **PP** **22 50 50.5 +4.8**
comp=Z,1.5nm,1.0s,baz=38,slow=7.4,SNR=4.1
VNDA LR LR 23 24 39.1
comp=Z,38µm,19.2s,baz=36,slow=31
comp=Z,0.4nm,0.3s
MDP Montagnes des 99.97 81 LR LR 23 27 05.1
comp=Z,10µm,21.9s,baz=284,slow=32
SHLS Shalkode 100.14 323 *e*P **Pdif** **22 46 40.4 -2.4**
baz=323
SHLS *e*PP **PP** **22 50 44.3 -3.3**
baz=323
SHLS Shalkode 100.14 323 *e*P **Pdif** **22 46 40.3 -2.4**
SHLS *e* 22 50 44.2
KONO Kongsberg 100.26 8 IAMs_20 IAMs_20 23 28 50.7
comp=Z,14µm,22.0s
UZB Uzunbulak 100.39 323 *e*P **Pdif** **22 46 42.3 -1.7**
baz=323
UZB *e*PP **PP** **22 50 48.1 -1.5**
baz=323
UZB Uzunbulak 100.39 323 *e*P **Pdif** **22 46 42.2 -1.7**
UZB *e* 22 50 48.0
LAWE Loch Awe, Argy 100.42 17 *e*P Pdif 22 47 08.2 +25
LAWE IAMs_20 IAMs_20 23 21 05.1
comp=Z,47µm,42.5s
DRUM Mains of Drumt 100.59 15 *e*P Pdif 22 47 05.0 +21
DRUM IAMs_20 IAMs_20 23 24 37.7
comp=Z,40µm,29.6s
INVG Invergeldie, C 100.63 16 *e*P Pdif 22 47 05.2 +21
SATY Saty 100.80 323 *e*P **Pdif** **22 46 44.1 -1.7**
baz=323
SATY *e*PP **PP** **22 50 51.6 -1.0**
baz=323
SATY Saty 100.80 323 *e*P **Pdif** **22 46 44.0 -1.7**
SATY *e* 22 50 51.5
PUL Pulkovo 101.01 357 *i*P **Pdif** **22 46 45.6 -0.4**
PUL pmax pmax
comp=Z,21nm,0.7s
PUL MLR MLR
comp=Z,9µm,19.0s
SHL Shillong 101.08 302 *e*P **Pdif** **22 46 32.1 -15**
CLGH Cloghs, Cushen 101.25 18 *e*P Pdif 22 47 11.5 +24
CLGH IAMs_20 IAMs_20 23 21 30.3
comp=Z,45µm,50.3s
EDI Edinburgh 101.30 16 IAMs_20 IAMs_20 23 23 42.9
comp=Z,41µm,32.1s
SRIT Nakonsritamara 101.41 283 Pdif **Pdif** **22 46 48.5 -0.2**
H07S1 FLORES T-PHASE 101.49 41 *e*PKiKP PKiKP 22 51 24.9 +12
MDOK Medeo 101.49 324 *e*P **Pdif** **22 46 47.2 -1.7**
baz=324
MDOK *e*PP **PP** **22 50 56.9 -1.0**
baz=324
MDOK LR LR 23 28 42.2
comp=Z,14µm,20.5s,baz=324
MDOK Medeo 101.49 324 *e*P **Pdif** **22 46 47.1 -1.7**
MDOK *e* 22 50 56.8
MDOK MLR MLR
comp=Z,14µm,21.0s
AAA Alma-Ata 101.54 324 *e*P **Pdif** **22 46 47.0 -1.9**
baz=324
AAA LR LR 23 29 31.5
comp=Z,18µm,19.3s,baz=324
AAA Alma-Ata 101.54 324 *e*P **Pdif** **22 46 47.0 -1.9**
AAA MLR MLR
comp=Z,18µm,19.0s
IPM Ipoh 101.57 279 Pdif **Pdif** **22 46 46.0 -3.5**
TNSS Tian-Shan 101.63 324 *e*P **Pdif** **22 46 47.4 -2.4**
baz=324
TNSS Tian-Shan 101.63 324 *e*P **Pdif** **22 46 47.3 -2.4**
KULM Kulim 101.64 280 IAMs_20 IAMs_20 23 24 35.2
comp=Z,14µm,22.0s
NEWG New Galloway 101.74 17 *e*P Pdif 22 47 12.5 +23
NEWG IAMs_20 IAMs_20 23 22 04.5
comp=Z,41µm,39.9s
GAL1 Galloway 101.83 17 *e*P **Pdif** **22 46 54.7 +4.9**
GAL1 IAMs_20 IAMs_20 23 23 07.9
comp=Z,31µm,36.5s
ESK Eskdalemuir 101.84 16 *e*P **Pdif** **22 47 05.7 +16**
ESK *e*P **sPdif** **22 47 06.8 +14**
ESK *e*P pP 22 47 09.3 +17
ESK IAMs_20 IAMs_20 23 23 58.8
comp=Z,44µm,33.1s
BTLS Baital 101.85 327 *e*P **Pdif** **22 46 48.2 -1.9**
baz=327
BTLS Baital 101.85 327 *e*P **Pdif** **22 46 48.2 -1.9**
TARG Taragay, Kyrgy 101.99 322 Pdif **Pdif** **22 46 52.0 +0.7**
TARG Taragay, Kyrgy 101.99 322 P **Pdif** **22 46 52.0 +0.7**
IOMK Kirk Michael 102.41 17 *e*P Pdif 22 47 16.4 +24
IOMK IAMs_20 IAMs_20 23 22 23.3
comp=Z,88µm,42.8s
VSU Vasula 102.43 359 *i*P **Pdif** **22 46 54.0 +1.6**
VSU pmax pmax
comp=Z,12nm,1.0s
VSU MLR MLR
comp=Z,12µm,20.0s
BELO BELONIA 102.50 300 *e*P **Pdif** **22 46 40.4 -13**
BOOM Boomskoye usch 102.55 324 Pdif **Pdif** **22 46 48.4 -5.1**
BOOM Boomskoye usch 102.55 324 P **Pdif** **22 46 48.4 -5.1**
EDMD Edmundbyers 102.59 16 *e*P **Pdif** **22 47 09.6 +16**
EDMD IAMs_20 IAMs_20 23 24 51.2
comp=Z,35µm,30.6s
SGDS Sogindy 102.63 325 *e*P **Pdif** **22 46 51.9 -1.9**
baz=325
SGDS Sogindy 102.63 325 *e*P **Pdif** **22 46 51.8 -1.9**
DSB Dublin 102.77 19 IAMs_20 IAMs_20 23 28 12.5
comp=Z,14µm,22.0s
DSB Dublin 102.77 19 PKP **PKiKP** **22 51 13.4 -1.2**
GTK Tadong 102.82 305 *e*P **Pdif** **22 46 40.0 -15**
GTK IAmb IAmb 22 47 19.4
comp=Z,28nm,1.2s
GTK IAMs_20 IAMs_20 23 00 44.1
comp=Z,6µm,18.0s
BKNI Bangkinang 102.99 275 PKP **PKiKP** **22 51 14.9 -1.1**
FRU1 Bishkek 103.06 325 Pdif **Pdif** **22 46 56.3 +0.6**
FRU1 Bishkek 103.06 325 P **Pdif** **22 46 56.3 +0.6**
AAK Ala-Archa 103.25 325 Pdif **Pdif** **22 46 55.3 -1.3**
AAK Ala-Archa 103.25 325 P **Pdif** **22 46 55.3 -1.3**
GDLE Glaisdale, N Y 103.25 15 *e*P Pdif 22 47 18.4 +22
GDLE IAMs_20 IAMs_20 23 25 38.3
comp=Z,27µm,28.5s
IWEX Carrickbyrne, 103.40 19 *e*P Pdif 22 47 22.5 +26
HPK Haverah Park 103.47 16 IAMs_20 IAMs_20 23 25 16.1
comp=Z,35µm,30.2s
PCED Cedros 103.49 40 *e*PKiKP PKiKP 22 51 35.7 +19
CALA Caldeira 103.52 40 *e*PKiKP PKiKP 22 51 36.4 +20
ROSA Rosais 103.72 40 *e*PKiKP PKiKP 22 51 40.1 +23
PICO Pico 103.74 40 *e*PKiKP PKiKP 22 51 38.6 +22
PPNO Prainha do Nor 103.86 40 *e*PKiKP PKiKP 22 51 41.6 +24
PMAN Manadas 103.86 40 *e*PKiKP PKiKP 22 51 39.4 +22
LLW Llanuwchllyn 103.91 17 *e*P Pdif 22 47 17.2 +18
LBWR Ladybower, Pea 103.94 16 *e*P Pdif 22 47 21.4 +22
LBWR IAMs_20 IAMs_20 23 24 22.7
comp=Z,38µm,33.2s
PID Ribeirinha 103.96 40 *e*PKiKP PKiKP 22 51 39.4 +22
FOEL Foel Wylfa 104.00 17 *e*P Pdif 22 47 21.4 +22
FOEL IAMs_20 IAMs_20 23 24 59.6
comp=Z,31µm,33.9s
STNC Stoke 104.09 16 *e*P Pdif 22 47 23.9 +24
PAGU Agualva, Azore 104.32 40 *e*PKiKP PKiKP 22 51 35.3 +17
MOS Moscow 104.40 353 *i*P **Pdif** **22 47 01.9 +0.7**
MOS *e* 22 51 25.4
MOS *e*PPP PPP 22 53 35.4
MOS *e* 22 57 37.6
MOS *e* 22 58 29.7
MOS *e*SS SS 23 06 08.5 +0.1
MOS *e*SSS SSS 23 10 05.4
MOS MLR MLR
comp=Z,23µm,23.0s
PSCM Serra do Cume 104.41 40 *e*PKiKP PKiKP 22 51 39.7 +22
HLM1 Long Mynd 104.42 17 *e*P Pdif 22 47 18.7 +17
HLM1 IAMs_20 IAMs_20 23 24 19.2
comp=Z,36µm,40.4s
KSH Kashi 104.48 322 P **PKiKP** **22 51 25.6 +7.3**
KSH Kashi 104.48 322 pmax pmax
comp=Z,4µm,7.2s
CWF Charnwood Fore 104.65 16 *e*P Pdif 22 47 26.6 +24
CWF IAMs_20 IAMs_20 23 25 17.3
comp=Z,42µm,34.0s
DZA Taraz 104.76 327 *e*PKiKP **PKiKP** **22 51 16.8 -1.8**
baz=327
MCH1 Michaelchurch 104.85 17 *e*P **Pdif** **22 47 18.0 +15**
MCH1 IAMs_20 IAMs_20 23 23 32.1
comp=Z,37µm,41.0s
ABKAR Akbulak array 104.91 337 Pdif **Pdif** **22 47 03.1 -0.5**
ABKAR Akbulak array 104.91 337 Pdif **Pdif** **22 47 04.5 +0.9**
ARSB Arslanbob 104.97 325 Pdif **Pdif** **22 47 04.8 +0.5**
ARSB Arslanbob 104.97 325 P **Pdif** **22 47 04.8 +0.5**
MONM Monmouth 105.05 17 *e*P Pdif 22 47 29.5 +25
MONM IAMs_20 IAMs_20 23 23 36.9
comp=Z,36µm,39.6s
LHMI Lhok Sumawe 105.09 281 IAMs_20 IAMs_20 23 28 56.7
comp=Z,15µm,22.0s
OBN Obninsk 105.14 353 *i*P **Pdif** **22 47 11.4 +6.9**
OBN *i* 22 57 37.1
OBN *i*S SS 23 06 21.0 +2.5
OBN pmax pmax
comp=Z,548µm,18.0s
OBN MLR MLR
comp=Z,27µm,23.0s
STRD Stroud 105.28 17 *e*P Pdif 22 47 28.6 +23
HTL Hartland 105.30 19 *e*P **Pdif** **22 47 18.9 +14**
PABE Paberze 105.41 1 IAMs_20 IAMs_20 23 37 06.3
comp=Z,14µm,20.0s
BRLS Borolday 105.42 328 *e*PKiKP **PKiKP** **22 51 19.3 -0.5**
baz=327
BRLS *e*PP **PP** **22 51 28.4 +1.5**
baz=327
DGPR DIGLIPUR 105.65 290 *e*P **Pdif** **22 46 52.9 -15**
DGPR IAMs_20 IAMs_20 23 01 16.6
comp=Z,9µm,22.0s
RGN Rugen 105.70 7 IAMs_20 IAMs_20 23 40 45.5
comp=Z,11µm,22.0s
CCA1 Carnmenellis 105.78 20 *e*P Pdif 22 47 29.5 +22
CCA1 IAMs_20 IAMs_20 23 28 16.1
comp=Z,18µm,20.0s
PSET Sete Cidades 105.81 40 *e*PKiKP PKiKP 22 51 42.7 +22
GSI Gunungsitoli 105.91 277 IAMs_20 IAMs_20 23 31 50.5
comp=Z,11µm,20.0s
IUG Iuzhnay 105.96 327 *e*PP **PP** **22 51 29.6 -1.4**
baz=327
PCALD Caldeiras da R 105.97 39 *e*PKiKP PKiKP 22 51 37.5 +17
PGRON Lagoa das Cont 106.05 39 *e*PKiKP PKiKP 22 51 38.6 +17
CHM Chimkent 106.06 327 LR LR 23 31 58.0
comp=Z,8µm,21.3s,baz=327
BART Pico Bartolome 106.17 39 *e*PKiKP PKiKP 22 51 35.3 +14
MNK Minsk 106.37 358 *i*P **Pdif** **22 47 06.8 -3.2**
MNK *i* 22 51 31.1
MNK *i* PPP PPP 22 53 45.3
MNK *i* 22 58 30.3
MNK *i* PS **PS** **23 00 50.0 -1.9**
MNK *i* SS SS 23 06 34.9 -0.4
MNK *i* SSS SSS 23 10 34.8
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,6.0nm,0.6s
MNK pmax pmax
comp=N,7.0nm,0.9s
PBA Port Blair 106.44 289 IAMs_20 IAMs_20 23 07 07.1
comp=Z,5µm,18.5s
LPA La Plata 106.52 122 SSS SSS 23 10 37.3
LPA La Plata 106.52 122 PKiKP **PKiKP** **22 51 20.5 -1.4**
LPA La Plata 106.52 122 PP PKiKP 22 51 31.8 +10
LPA La Plata 106.52 122 pPP 22 51 43.5
LPA La Plata 106.52 122 PPP PPP 22 53 46.7
LPA La Plata 106.52 122 SKIKP 22 54 51.4
LPA La Plata 106.52 122 PKIKS 22 54 57.5
LPA La Plata 106.52 122 SKS **SKSac** **22 58 00.1 +8.4**
LPA La Plata 106.52 122 SKIKS 22 58 22.4
LPA La Plata 106.52 122 SDIFF 22 59 18.6
LPA La Plata 106.52 122 PS PS 23 00 47.7 -7.5
LPA La Plata 106.52 122 PSP PSP 23 02 02.6
LPA La Plata 106.52 122 PPS PPS 23 02 16.6
LPA La Plata 106.52 122 SS SS 23 06 57.3 +17
LPA La Plata 106.52 122 PPP PPP 23 10 30.1
BOK Bokaro 106.71 303 *e*P **Pdif** **22 47 00.1 -12**
BOK IAMs_20 IAMs_20 23 07 42.3
comp=Z,10µm,20.1s
PSMA Santa Maria 106.71 40 *e*PKiKP PP **22 51 42.7 +6.1**
ELSH Elham, Standar 106.72 15 IAMs_20 IAMs_20 23 28 17.0
comp=Z,31µm,28.4s
PSMN Pico do Norte, 106.74 40 *e*PKiKP PP 22 51 47.1 +10
HMNX Herstmonceux 106.78 16 *e*P Pdif 22 47 30.5 +19
HMNX IAMs_20 IAMs_20 23 26 16.8
comp=Z,40µm,32.8s
JSA Saint Aubin 107.60 18 IAMs_20 IAMs_20 23 28 32.5
comp=Z,29µm,29.3s
CLL Collm 108.84 8 IAMs_20 IAMs_20 23 40 04.6
comp=Z,11µm,21.0s
CLL Collm 108.84 8 *e*P **Pdif** **22 47 23.0 +1.9**
CLL *e* 22 51 48.0
CLL *e* 22 58 06.0
CLL pmax pmax
comp=Z,24nm,1.7s
CLL MLR MLR
comp=Z,10µm,20.5s
DDI Dehra Dun 108.91 313 *e*P **Pdif** **22 47 06.8 -15**
DDI IAMs_20 IAMs_20 23 01 45.7
comp=Z,9µm,20.1s
DHRM DHARAMSHALA 108.92 316 *e*P **Pdif** **22 47 07.1 -15**
DHRM IAMs_20 IAMs_20 23 01 50.0
comp=Z,7µm,21.9s
SMLA Simla 109.03 314 *e*P **Pdif** **22 47 07.6 -15**
SMLA IAMs_20 IAMs_20 22 58 28.9
comp=Z,5µm,16.0s
QSPA South Pole Qui 109.23 180 PP **PP** **22 51 47.9 -7.2**
comp=Z,4.3nm,1.0s,baz=71,slow=6.1,SNR=4.3
QSPA PKKPbc **PKKPbc** **23 02 34.3 -1.0**
comp=Z,2.6nm,0.8s,baz=225,slow=2.2,SNR=7.2
WLF Walferdange 109.27 13 IAMs_20 IAMs_20 23 35 21.1
comp=Z,13µm,21.0s
HSKC Hora Svate Kat 109.58 8 AMS AMS 23 33 20.0
comp=Z,15µm,25.6s
RICC Richard 109.73 7 AMS AMS 23 38 20.0
comp=Z,11µm,20.7s
NKC Novy Kostel 109.82 8 *e*SKS **SKSac** **22 58 10.8 +5.1**
NKC AMS AMS 23 40 40.0
comp=Z,12µm,19.9s
CHVC Chvalec 109.90 6 *e*SKS SKSdf 22 58 20.0 -20
OSTC Ostas 109.94 6 *e*SKS **SKSac** **22 58 13.8 +7.6**
UPC Upice 109.97 6 *e*SKS **SKSac** **22 58 14.5 +8.2**
AKASG Malin Array Be 110.12 357 PP **PP** **22 52 00.2 -0.5**
comp=Z,0.5nm,0.4s,baz=17,slow=4.7,SNR=5.7
AKASG PKKPbc **PKKPbc** **23 02 34.9 +3.6**
comp=Z,0.5nm,0.5s,baz=199,slow=5.0,SNR=5.1
AKASG PKKP **PKKPab** **23 02 43.0 -0.8**
comp=Z,0.3nm,0.4s,baz=189,slow=5.0,SNR=5.4
DPC Dobruska-Polom 110.16 6 *e*SKS **SKSac** **22 58 12.9 +5.8**
GRA1 Grafenberg Arr 110.16 9 IAMs_20 IAMs_20 23 43 58.7
comp=Z,12µm,21.0s
GRFO Grafenberg 110.17 9 IAMs_20 IAMs_20 23 43 58.7
comp=Z,12µm,21.0s
PRA Prague 110.23 7 AMS AMS 23 39 00.0
comp=Z,15µm,21.9s
PRU Pruhonice 110.33 7 *e*SKS **SKSac** **22 58 17.7 +10**
PRU AMS AMS 23 39 10.0
comp=Z,13µm,20.0s
GOPC GO Pecny, Ondr 110.43 7 *e*SKS **SKSac** **22 58 13.1 +4.9**
GOPC AMS AMS 23 39 30.0
comp=Z,11µm,19.1s
KRLC Kraliky 110.47 6 *e*PDIFF **Pdif** **22 47 33.9 +5.4**
KRLC *e*PP **PP** **22 52 08.8 +5.5**
KRLC *e*SKS SKSdf 22 58 23.5 -18
KRLC *ex* x 23 02 02.7
KRLC *e*SS SS 23 07 45.3 +14
KRLC AMS AMS 23 36 20.0
comp=Z,12µm,18.7s
STU Stuttgart 110.71 11 IAMs_20 IAMs_20 23 40 55.3
comp=Z,11µm,22.0s
ZVC Zvikov 110.82 7 AMS AMS 23 39 10.0
comp=Z,6µm,23.2s
OKC Ostrava-Krasne 110.83 5 AMS AMS 23 43 00.0
comp=Z,10µm,21.9s
MORC Moravsky Berou 110.84 5 IAMs_20 IAMs_20 23 40 17.4
comp=Z,10µm,22.0s
MORC Moravsky Berou 110.84 5 *e*PDIFF **Pdif** **22 47 29.7 -0.4**
MORC *e*PP **PP** **22 52 04.6 -1.3**
MORC *e* 22 58 17.4
MORC *e* 23 01 54.9
MORC *e*SS SS 23 07 33.4 -2.3
ECH Echery 110.85 13 IAMs_20 IAMs_20 23 34 49.0
comp=Z,10µm,20.0s
BFO Black Forest 110.98 12 IAMs_20 IAMs_20 23 34 24.2
comp=Z,10µm,21.0s
KHC Kasperske Hory 111.05 8 IAMs_20 IAMs_20 23 43 40.3
comp=Z,12µm,21.0s
KHC Kasperske Hory 111.05 8 *e*PP **PP** **22 52 04.6 -2.9**
KHC *e*SKS **SKSac** **22 58 14.0 +3.1**
KHC AMS AMS 23 34 10.0
comp=Z,13µm,22.1s
VRAC Vranov 111.22 6 *e*PDIFF **Pdif** **22 47 31.9 +0.2**
VRAC *e*PP **PP** **22 52 07.3 -1.3**
VRAC *e* 22 58 21.8
VRAC *e* 23 01 58.8
VRAC *e*SS SS 23 07 41.8 +1.1
STHS Stebnicka Huta 111.43 3 *e*PP **PP** **22 52 14.0 +3.9**
KRUC Moravsky 111.44 6 *e*PDIFF **Pdif** **22 47 33.9 +1.2**
KRUC *e*PP **PP** **22 52 08.8 -1.4**
KRUC *e* 22 58 23.5
KRUC *e* 23 02 02.7
KRUC *e*SS SS 23 07 45.3 +1.6

CKRC Cesky Krumlov 111.45 8 *e*SKS **SKSac 22 58 15.4 +3.0**
CKRC AMS AMS 23 41 50.0
comp=Z,9μm,20.3s
LANS Liptovska Anna 111.60 4 *e*PP **PP 22 52 15.2 +3.8**
PGAV Gavieira, Arco 111.67 26 *e*SS SS 23 08 05.1 +17
PGAV Gavieira, Arco 111.67 26 *e*LQ LQ 23 19 42.1
PGAV *e*LR LR 23 25 24.7
comp=Z,10μm,20.0s
JAVC Velka Javorina 111.76 5 *e*PDIFF **Pdif 22 47 38.4 +4.2**
JAVC *e*PP **PP 22 52 15.3 +2.7**
JAVC *e* 22 58 27.3
JAVC *e*SS SS 23 07 54.7 +6.7
KOLS Kolonicke sedl 111.95 2 *e*PP **PP 22 52 18.8 +4.9**
CRVS Cervenica-Dubn 111.95 2 *e*PP **PP 22 52 19.0 +5.1**
CRVS *e* 22 58 26.0
CRVS *e* 23 01 55.1
CRVS *e*SS SS 23 08 08.9 +18
CRVS *e*L L 23 38 04.4
CRVS *e* 23 55 21.2
MODS Modra-Piesok 112.21 6 *e*PP **PP 22 52 16.9 +1.2**
MODS *e* 22 58 31.6
MODS *e* 23 02 01.8
MODS *e*SS SS 23 08 07.8 +14
MODS *e*L L 23 27 30.2
VYHS Vyhne 112.21 4 *e*PP **PP 22 52 18.0 +2.2**
VYHS *e* 22 58 28.2
VYHS *e* 23 01 56.2
VYHS *e*SS SS 23 08 06.6 +13
VYHS *e*L L 23 27 24.1
RETA Reutte 112.23 10 *e*PP **PP 22 52 15.0 -1.0**
comp=Z,12nm,1.2s
RETA *e*PKKP **PKKPbc 23 02 17.6 -6.9**
comp=Z,9.5nm,2.1s
DAVA Damuels 112.27 11 PP **PP 22 52 16.2 -0.2**
comp=Z,16nm,1.4s
DAVA *e*PKKP **PKKPbc 23 02 17.6 -6.8**
comp=Z,3.5nm,0.9s
MOA Molln 112.39 8 *e*PP **PP 22 52 13.1 -4.0**
comp=Z,10nm,1.6s
MOA *i* PKKP **PKKPbc 23 02 19.7 -4.2**
comp=Z,4.8nm,1.5s
MOTA Moosalm 112.42 10 *e*PP **PP 22 52 13.2 -4.3**
comp=Z,22nm,1.4s
MOTA *i* PKKP **PKKPbc 23 02 19.4 -4.5**
comp=Z,1.8nm,1.1s
BIOA Bad Ischl, Aus 112.47 8 *e*PP **PP 22 52 16.2 -1.4**
comp=Z,9.3nm,1.3s
BIOA *i* PKKP **PKKPbc 23 02 19.5 -4.1**
comp=Z,2.5nm,1.0s
CONA Conrad Observa 112.51 7 *e*PP **PP 22 52 18.6 +0.7**
comp=Z,11nm,1.2s
CONA *i* PKKP **PKKPbc 23 02 17.7 -5.9**
comp=Z,0.9nm,1.0s
CONA *i* P'P' 23 10 54.5
comp=Z,1.9nm,0.9s
WATA Walderalm 112.51 10 *e*PP **PP 22 52 19.0 +0.9**
comp=Z,28nm,1.9s
WATA *e*PKKP **PKKPbc 23 02 19.1 -4.5**
comp=Z,1.0nm,0.5s
WATA *i* P'P' 23 10 54.6
comp=Z,4.4nm,1.5s
SQTA Sankt Quirin 112.56 10 *e*PP **PP 22 52 22.1 +3.7**
comp=Z,33nm,1.8s
SQTA *e*PKKP **PKKPbc 23 02 20.2 -3.2**
comp=Z,0.9nm,0.6s
SQTA *i* P'P' 23 10 55.7
comp=Z,3.8nm,1.0s
WTTA Wattenberg 112.59 10 *e*PP **PP 22 52 25.7 +7.0**
comp=Z,30nm,1.6s
WTTA *e*PKKP **PKKPbc 23 02 19.4 -4.0**
comp=Z,1.9nm,0.9s
LESA Schwarzleotal 112.59 9 *e*PP **PP 22 52 19.9 +1.3**
comp=Z,12nm,1.5s
LESA *i* PKKP **PKKPbc 23 02 20.2 -3.0**
comp=Z,1.6nm,0.7s
LESA *i* P'P' 23 10 53.8
comp=Z,2.1nm,1.0s
FETA Feichten 112.67 10 *e*PP **PP 22 52 20.8 +1.5**
comp=Z,14nm,1.5s
FETA *i* PKKP **PKKPbc 23 02 21.7 -1.4**
comp=Z,2.2nm,1.2s
SORM Soroca 112.72 358 ⇑P PP 22 52 08.1 -11
RONA Rosalia, Austr 112.78 6 *e*PP **PP 22 52 16.8 -3.0**
comp=Z,24nm,1.5s
RONA *i* PKKP **PKKPbc 23 02 22.0 -0.6**
comp=Z,1.7nm,0.7s
MVO Moncorvo 112.85 26 *e*SS SS 23 08 10.9 +7.6
MVO Moncorvo 112.85 26 *e*LQ LQ 23 19 21.5
MVO *e*LR LR 23 26 03.3
comp=Z,9μm,22.0s
TUE Stuetta 112.95 12 IAMs_20 IAMs_20 23 37 49.6
comp=Z,11μm,19.0s
KBA Koelnbreinsper 113.03 9 *e*PP **PP 22 52 18.8 -3.0**
comp=Z,14nm,1.3s
KBA *i* PKKP **PKKPbc 23 02 22.0 +0.1**
comp=Z,1.6nm,0.5s
COI Coimbra 113.07 27 IAMs_20 IAMs_20 23 43 19.6
comp=Z,9μm,21.0s
ARSA Arzberg 113.14 7 *e*PP **PP 22 52 18.8 -3.6**
comp=Z,22nm,1.9s
ARSA *i* PKKP **PKKPbc 23 02 21.3 -0.1**
comp=Z,0.7nm,0.5s
ARSA *i* P'P' 23 10 54.1
comp=Z,2.5nm,1.2s
ABTA Abfaltersbach 113.23 9 *e*PP PP 22 52 14.3 -8.9
comp=Z,19nm,1.5s
ABTA *i* PKKP **PKKPbc 23 02 15.4 -5.7**
comp=Z,1.2nm,0.6s
MTE Manteigas 113.28 27 *e*LQ LQ 23 19 24.0
MTE *e*LR LR 23 26 00.8
comp=Z,9μm,22.0s
MYKA Terra Mystica 113.51 8 *e*PP **PP 22 52 22.4 -2.7**
comp=Z,7.0nm,1.1s
MYKA *e*PKKP **PKKPbc 23 02 16.2 -3.9**
comp=Z,1.6nm,0.8s
MYKA *i* P'P' 23 10 52.7
comp=Z,2.1nm,0.5s
SOKA Soboth 113.64 7 *e*PP **PP 22 52 21.7 -4.4**
comp=Z,12nm,1.7s
SOKA *e*PKKP **PKKPbc 23 02 16.3 -3.4**
comp=Z,1.0nm,0.6s
PRED Cave del Predi 113.68 9 IAMs_20 IAMs_20 23 42 10.7
comp=Z,11μm,22.0s
ERBR Yeremizino-Bor 113.69 348 *i* PKIKP **PKiKP 22 51 33.0 -2.2**
ERBR *e* 22 52 22.6
ERBR *e*SP SP 23 01 59.6 -2.3
ERBR *e*SS **SS 23 08 20.7 +7.0**
ERBR pmax pmax
comp=Z,16nm,0.5s
ERBR MLR MLR
comp=N,38μm,19.0s
ERBR MLR MLR
comp=Z,30μm,21.0s
ERBR MLR MLR
comp=E,12μm,23.0s
OBKA Obir 113.75 8 *e*PP **PP 22 52 22.1 -4.7**
comp=E,37nm,1.5s
OBKA *i* PKKP **PKKPbc 23 02 17.4 -2.0**
comp=E,1.0nm,0.4s
LIS Lisbon 113.96 29 *e*PP **PP 22 52 28.6 0.0**
LIS *e*SS SS 23 08 21.0 +3.1
LIS IAMs_20 IAMs_20 23 31 57.4
comp=Z,14μm,22.4s
SALO Salr 114.00 11 IAMs_20 IAMs_20 23 37 49.1
comp=Z,12μm,20.0s
SABO M.te Sabotino 114.14 9 IAMs_20 IAMs_20 23 40 36.8
comp=Z,12μm,22.0s
PMRV Marv??o 114.15 27 *e*SS SS 23 08 32.8 +12
PMRV Marv??o 114.15 27 *e*LQ LQ 23 19 47.9
PMRV *e*LR LR 23 26 36.4
comp=Z,5μm,20.0s
PMOZ Porto Moniz, M 114.30 38 *e*SS SS 23 08 42.3 +19
PMOZ Porto Moniz, M 114.30 38 *e*LR LR 23 26 53.8
comp=Z,5μm,20.0s
PESTR Estremoz 114.53 27 IAMs_20 IAMs_20 23 34 15.4
comp=Z,9μm,20.0s
MAK Makhachkala 114.57 342 *i* P **Pdif 22 47 42.7 -4.0**
MAK *e* 22 58 22.9
MAK *e*PS **PS 23 02 07.2 -4.3**
MAK *e*SS SS 23 08 26.3 +0.8
MAK *e*SSS SSS 23 12 41.2
MAK pmax pmax
comp=Z,142nm,1.4s
LABN Labinsk 114.67 348 *i* PKIKP **PKiKP 22 51 32.8 -4.4**
LABN *e*PPP PPP 22 54 57.9
LABN *e* 22 58 20.7
LABN *e*SP SP 23 02 12.6 +1.7
LABN *e*SS **SS 23 08 24.4 -2.2**
LABN pmax pmax
comp=Z,23nm,1.1s
LABN MLR MLR
comp=E,40μm,24.0s
LABN MLR MLR
comp=N,14μm,25.0s
LABN MLR MLR
comp=Z,29μm,24.0s
GROC Groznyy 114.83 343 *i* PKIKP **PKiKP 22 51 35.5 -2.0**
GROC *e* 22 52 34.4
GROC *e*PS **PKKPbc 23 02 16.5 +1.1**
GROC pmax pmax
comp=Z,13nm,1.3s
KIV Kislovodsk 114.90 346 *i* P **Pdif 22 47 48.5 +0.1**
KIV *i* 22 51 36.9
KIV *e* 22 52 35.2
KIV *e*PS **PKKPbc 23 02 15.2 -0.2**
KIV *e*SS SS 23 08 32.1 +2.2
KIV *e*SSS SSS 23 12 46.3
KIV pmax pmax
comp=Z,6.0nm,1.1s
KIV MLR MLR
comp=Z,24μm,22.0s
KBZ Khabaz 115.07 346 PP **PP 22 52 37.8 +1.7**
comp=Z,10nm,1.0s,baz=27,slow=2.3,SNR=5.3
MESJ Messejana 115.10 29 IAMs_20 IAMs_20 23 34 10.5
comp=Z,12μm,22.0s
MESJ Messejana 115.10 29 *e*PP **PP 22 52 36.7 0.0**
MESJ *e*SS SS 23 08 36.0 +3.0
MESJ IAMs_20 IAMs_20 23 34 00.1
comp=Z,11μm,19.7s
ANN Anapa 115.12 350 *i* PKIKP **PKiKP 22 51 35.4 -2.6**
ANN *e* 22 52 37.0
ANN *e*PPP PPP 22 55 02.6
ANN *e* 22 58 26.5
ANN *i* PS **PS 23 02 17.7 +1.3**
ANN *e*SS SS 23 08 38.0 +5.7
ANN *e*SSS SSS 23 12 50.6
ANN pmax pmax
comp=Z,38nm,0.9s
ANN MLR MLR
comp=N,55μm,23.0s
ANN MLR MLR
comp=Z,18μm,23.0s
ANN MLR MLR
comp=E,8μm,23.0s
PAB San Pablo 115.31 25 IAMs_20 IAMs_20 23 39 34.6
comp=Z,12μm,21.0s
ES17 SONSECA Array 115.32 24 IAMs_20 IAMs_20 23 39 59.0
comp=Z,9μm,20.0s
ES18 SONSECA Array 115.32 24 IAMs_20 IAMs_20 23 39 59.0
comp=Z,9μm,20.0s
ES16 SONSECA Array 115.32 24 IAMs_20 IAMs_20 23 39 58.1
comp=Z,9μm,20.0s
ES07 SONSECA Array 115.34 24 IAMs_20 IAMs_20 23 39 59.5
comp=Z,9μm,20.0s
ES15 SONSECA Array 115.34 24 IAMs_20 IAMs_20 23 39 58.5
comp=Z,9μm,20.0s
MORF Marmelete 115.34 29 IAMs_20 IAMs_20 23 38 50.0
comp=Z,8μm,20.0s
MORF Marmelete 115.34 29 *e*PP **PP 22 52 38.5 0.0**
MORF *e*SS SS 23 08 39.1 +2.9
MORF IAMs_20 IAMs_20 23 21 20.4
comp=E,18μm,39.6s
ES08 SONSECA Array 115.34 24 IAMs_20 IAMs_20 23 40 00.7
comp=Z,9μm,20.0s
ESBB Sonseca Array 115.34 24 IAMs_20 IAMs_20 23 39 58.7
comp=Z,8μm,20.0s
ESDC Sonseca Array 115.34 24 IAMs_20 IAMs_20 23 39 59.7
comp=Z,9μm,19.0s
ESDC Sonseca Array 115.34 24 PKP **PKPdf 22 51 39.0 +0.4**
comp=Z,0.5nm,0.9s,baz=337,slow=2.4,SNR=5.5
ESDC PP **PP 22 52 36.9 -1.5**
comp=Z,8.2nm,1.1s,baz=326,slow=7.6,SNR=12
ESDC PKKPbc **PKKPab 23 02 22.1 +1.6**
comp=Z,6.1nm,1.2s,baz=170,slow=4.0,SNR=7.7
ES19 SONSECA Array 115.35 24 IAMs_20 IAMs_20 23 41 13.7
comp=Z,9μm,20.0s
ES06 SONSECA Array 115.35 24 IAMs_20 IAMs_20 23 39 59.8
comp=Z,9μm,20.0s
ES02 SONSECA Array 115.35 24 IAMs_20 IAMs_20 23 39 59.9
comp=Z,9μm,20.0s
ES14 SONSECA Array 115.36 24 IAMs_20 IAMs_20 23 39 58.9
comp=Z,8μm,20.0s
ES05 SONSECA Array 115.36 24 IAMs_20 IAMs_20 23 39 59.0
comp=Z,10μm,20.0s
ES03 SONSECA Array 115.36 24 IAMs_20 IAMs_20 23 40 00.2
comp=Z,9μm,20.0s
ES13 SONSECA Array 115.36 24 IAMs_20 IAMs_20 23 39 58.2
comp=Z,9μm,20.0s
ES09 SONSECA Array 115.37 24 IAMs_20 IAMs_20 23 40 00.2
comp=Z,9μm,20.0s
ES04 SONSECA Array 115.37 24 IAMs_20 IAMs_20 23 39 59.3
comp=Z,9μm,20.0s
ES10 SONSECA Array 115.38 24 IAMs_20 IAMs_20 23 41 15.7
comp=Z,9μm,20.0s
ES11 SONSECA Array 115.38 24 IAMs_20 IAMs_20 23 39 59.7
comp=Z,9μm,20.0s
ES12 SONSECA Array 115.38 24 IAMs_20 IAMs_20 23 39 58.7
comp=Z,8μm,20.0s
PVAQ Vaqueiros 115.68 28 *e*SS SS 23 08 59.7 +19
PVAQ Vaqueiros 115.68 28 *e*LR LR 23 27 03.8
comp=Z,8μm,22.0s
PVAQ Vaqueiros 115.68 28 IAMs_20 IAMs_20 23 37 21.0
comp=Z,8μm,20.0s
HYB Hyderabad 115.88 301 *e*PP **PP 22 52 44.5 +1.2**
HYB *e*SKSac **SKSac 22 58 28.4 -2.5**
HYB IVMs_BB IVMs_BB 23 31 21.5
comp=Z,6μm,31.8s
SOC Sochi 115.89 348 *i* P **Pdif 22 47 48.4 -4.2**
SOC *i* 22 51 38.0
SOC *e* 22 52 43.7
SOC *e*PPP PPP 22 55 16.1
SOC *e*PS **PKKPab 23 02 18.4 +0.3**
SOC *e*SS SS 23 08 42.7 +0.1
SOC MLR MLR
comp=Z,20μm,19.0s
OSSC Osservatorio P 116.15 11 IAMs_20 IAMs_20 23 42 57.2
comp=Z,13μm,22.0s
MDRS Chennai 116.70 296 IAMs_20 IAMs_20 23 03 02.1
comp=Z,7μm,18.1s
CASP Castiglione de 116.79 12 IAMs_20 IAMs_20 23 39 46.1
comp=Z,9μm,22.0s
FDMO Fiordimonte 116.94 10 IAMs_20 IAMs_20 23 45 51.0
comp=Z,10μm,21.0s
SFS San Fernando 117.14 28 IAMs_20 IAMs_20 23 39 06.4
comp=Z,12μm,21.0s
NRCA Norcia 117.14 10 IAMs_20 IAMs_20 23 51 20.3
comp=Z,12μm,21.0s
CESX Cesi 117.27 10 IAMs_20 IAMs_20 23 45 54.8
comp=Z,10μm,21.0s
CAMP Campotosto 117.48 10 IAMs_20 IAMs_20 23 46 50.2
comp=Z,10μm,20.0s
BCA Borcka 117.53 346 ⇑P PP 22 52 33.4 -20
INTR Introdacqua 118.07 9 IAMs_20 IAMs_20 23 48 25.8
comp=Z,10μm,20.0s
PDG Podgorica 118.27 5 IAMs_20 IAMs_20 23 41 37.1
comp=Z,9μm,21.0s
VTS Vitosha 118.29 1 *e*P **PKiKP 22 51 49.0 +4.6**
CART Cartagena 118.30 23 IAMs_20 IAMs_20 23 42 56.7
comp=Z,8μm,20.0s
JMB Yambol 118.42 359 *e*P **PKiKP 22 51 49.4 +4.9**
POO Poona 118.97 305 IAMs_20 IAMs_20 23 06 33.5
comp=Z,5μm,23.9s
KKB Krupnik 119.06 2 *e*P **PKPdf 22 51 45.7 0.0**
PAOL Paolisi 119.13 9 IAMs_20 IAMs_20 23 46 30.1
comp=Z,11μm,21.0s
RZN Rozhen 119.23 0 *e*P **PKiKP 22 51 52.3 +6.0**
KDZ Kurdzhali 119.30 360 *e*P **PKiKP 22 51 52.3 +6.1**
MMB Musomishta 119.37 1 *e*P **PKiKP 22 51 50.2 +3.8**
RCBR Riachuelo 119.41 86 IAMs_20 IAMs_20 23 40 18.0
comp=Z,10μm,20.0s
ARPR Arapgir-MALATY 120.49 348 IAMs_20 IAMs_20 23 46 05.0
comp=Z,11μm,21.0s
ANTO Ankara 120.60 353 ⇓P **PKiKP 22 51 53.0 +4.1**
ANTO Ankara 120.60 353 IAMs_20 IAMs_20 23 45 19.6
comp=Z,12μm,21.0s
ANTO Ankara 120.60 353 ⇓PKIKP **PKiKP 22 51 53.0 +4.1**
BRTR Keskin Array B 120.64 352 PKP **PKPdf 22 51 48.1 -0.9**
comp=Z,1.0nm,0.9s,baz=293,slow=1.1,SNR=5.9
BRTR PKKPab **PKKPab 23 01 59.0 +1.5**
comp=Z,1.6nm,0.9s,baz=189,slow=7.0,SNR=7.5
GOA Goa 120.72 302 IAMs_20 IAMs_20 23 06 55.2
comp=Z,4μm,19.4s
TIP Timpagrande 121.25 7 IAMs_20 IAMs_20 23 50 23.0
comp=Z,12μm,21.0s
TRD Trivandrum 121.74 294 IAMs_20 IAMs_20 23 03 44.2
comp=Z,8μm,20.9s
CEL Celeste 122.04 8 IAMs_20 IAMs_20 23 53 52.1
comp=Z,10μm,22.0s
ISP Isparta 122.86 355 IAMs_20 IAMs_20 23 45 47.2
comp=Z,11μm,22.0s
KEST Kesra 123.23 15 IAMs_20 IAMs_20 23 52 04.0
comp=Z,12μm,21.0s
KEST Kesra 123.23 15 PKP **PKiKP 22 51 57.1 +2.9**
comp=Z,3.4nm,0.9s,baz=270,slow=5.1,SNR=1.9
VNA3 Neumayer Olymp 124.30 167 ⇑PKPdf **PKiKP 22 51 57.2 +2.1**
comp=Z,18nm,0.7s
VNA2 Neumayer--Watz 125.02 168 ⇑PKPdf **PKPdf 22 51 56.0 -0.1**
comp=Z,24nm,0.6s,baz=278,slow=2.1
VNA1 Neumayer--Stat 125.06 167 ⇑PKPdf **PKiKP 22 51 56.5 0.0**
comp=Z,21nm,0.9s
SNAA Sanae 125.26 170 ⇑PKPdf **PKiKP 22 51 59.3 +2.2**
comp=Z,181nm,0.7s
SNAA Sanae 125.26 170 PKP **PKiKP 22 51 58.5 +1.5**
comp=Z,5.4nm,0.8s,baz=184,slow=2.4,SNR=12
TROLL Troll, Antarti 125.79 172 ⇑PKPdf **PKiKP 22 52 01.4 +3.2**
comp=Z,836nm,1.4s
TATN Tataouine 126.52 15 IAMs_20 IAMs_20 23 52 19.2
comp=Z,9μm,22.0s
MBO M'Bour 126.83 54 IAMs_20 IAMs_20 23 55 04.5
comp=Z,9μm,20.0s
MMAI Mount Meron Ar 126.94 349 PKP **PKiKP 22 52 03.7 +2.1**
comp=Z,16nm,1.2s,baz=3.8,slow=4.3,SNR=5.3
ELIB Princess Elisa 127.42 179 *d*PKP **PKiKP 22 52 03.4 +2.0**
NVL N'lazarevskaya 128.02 175 *e*PKIKP **PKiKP 22 52 04.6 +2.1**
NVL *e*PS **PS 23 04 04.1 -7.4**
NVL *e*SS SS 23 11 14.7 -3.0
NVL *e*SSS SSS 23 16 06.1
NVL pmax pmax
comp=Z,48nm,1.3s
NVL MLR MLR
comp=Z,27μm,17.0s
GHAJ Ghor Haditha 128.58 348 IAMs_20 IAMs_20 23 52 22.1
comp=Z,12μm,22.0s
DGAR Diego Garcia 132.42 278 IAMs_20 IAMs_20 23 42 24.1
comp=Z,10μm,22.0s
TAM Tamanrasset 133.99 25 IAMs_20 IAMs_20 00 00 30.9
comp=Z,8μm,21.0s
TORD Torodi Ar. Bea 140.39 37 PKPpre 22 52 19.6
TORD Torodi Ar. Bea 140.39 37 PKhKP PKPpre 22 52 17.5
comp=Z,2.9nm,0.8s,baz=349,slow=4.5,SNR=15
TORD PP **PP 22 55 22.6 -1.1**
comp=Z,6.3nm,0.9s,baz=335,slow=6.9,SNR=4.6
TIC Toumodi 140.77 52⇑ *e*PKP2 **PKPdf 22 52 26.6 -0.8**
comp=Z,8.2nm,0.8s
DBIC Dimbokro 140.87 51 PKP **PKPdf 22 52 27.3 -0.3**
comp=Z,13nm,0.9s,baz=302,slow=4.3,SNR=4.7
LIC Lamto 141.04 52⇑ *e*PKP2 **PKPdf 22 52 26.1 -1.8**
comp=Z,31nm,0.9s
KIC Kosan Boka 141.16 52⇑ *e*PKP2 **PKPdf 22 52 27.4 -0.7**
comp=Z,11nm,0.7s
ROCAM Rodrigues Isla 143.83 263 IAMs_20 IAMs_20 23 55 52.7
comp=Z,6μm,20.0s
EKNA AfricaArray - 151.95 35⇓ *e*P **PKiKP 22 52 53.2 +0.1**
LODK Lodwar 155.12 335 **PKPdf 22 52 57.4 +6.5**
GETA Geita 161.68 333 *i* P **PKPdf 22 52 59.3 +0.4**
DODT Dodoma, Tanzan 163.18 320 *i* P **PKPdf 22 53 03.5 +3.2**
PDHT Panda Hill 166.90 321 *i* P **PKPdf 22 53 02.4 -1.1**
BOSA Boshof 170.81 182 PKP **PKPdf 22 53 05.7 +0.1**
comp=Z,3.6nm,0.8s,baz=63,slow=2.3,SNR=5.4
BOSA PKPab **pPKPab 22 54 25.9 -0.1**
comp=Z,12nm,1.1s,baz=161,slow=4.2,SNR=4.9

NEIC ***04*** *22:37:19.5±0.8, 19°.30N±0°.03×155°.24W±0°.03, h5km±1km, Error ellipse: s-maj=6.2km s-min=2.8km az=137.0*
HVO 04 22:37:18.6±0.6, **19°.27N**±0°.02×**155°.25W**±0°.03, **h8**km±3km,
ML4.6/36, **ML4.7**/44(NEIC), **Error ellipse: s-maj=4.6km s-min=2.5km az=130.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HLP	**Hilina Pali**	**0.06**	**291**	Pg	Pg	22 37 20.9	+0.4
HLP	comp=N,268μm,0.3s			IAML		22 37 23.0	
HLP	comp=E,366μm,0.7s			IAML		22 37 23.2	
PUH	**Pauahi**	**0.10**	**15**		Pg	22 37 21.5	+0.3
PUH	comp=N,181μm,0.2s			IAML		22 37 24.0	
PUH	**Pauahi**	**0.10**	**15**		Sg	22 37 23.6	+0.7
RIM	**Rim**	**0.12**	**347**		Pg	22 37 21.7	+0.3
RIM					Sg	22 37 24.1	+0.6
RIM	**Rim**	**0.12**	**347**	IAML		22 37 24.7	
RIM	comp=E,295μm,0.7s			IAML		22 37 24.7	
SDHHI	**Sand Hill**	**0.12**	**338**		Pg	22 37 21.7	+0.3
SDHHI					Sg	22 37 24.1	+0.6
SDHHI	**Sand Hill**	**0.12**	**338**	IAML		22 37 24.4	
SDHHI	comp=E,360μm,0.5s			IAML		22 37 25.0	
KKO	**Keanakako`i**	**0.13**	**351**		Pg	22 37 21.9	+0.4
KKO					Sg	22 37 24.3	+0.8
KKO	**Keanakako`i**	**0.13**	**351**	IAML		22 37 24.5	
KNHH	**Kane Nui o Ham**	**0.13**	**34**		Pg	22 37 21.9	+0.4
BYL	**Byron's Ledge**	**0.14**	**354**		Pg	22 37 21.9	+0.2
BYL					Sg	22 37 24.5	+0.7
BYL	**Byron's Ledge**	**0.14**	**354**	IAML		22 37 24.8	
BYL	comp=E,246μm,0.8s			IAML		22 37 25.0	
WRMHI	**West Rim**	**0.14**	**339**		Pg	22 37 21.8	+0.1
WRMHI					Sg	22 37 23.8	-0.1
HTC	**Hot Caves**	**0.15**	**256**		Pg	22 37 22.3	+0.5
OBL	**Observatory Le**	**0.15**	**346**		Pg	22 37 21.9	+0.1
OBL						22 37 26.9	
OBL	comp=N,188μm,1.0s			IAML		22 37 27.1	
HATHI	**Halema`uma`u T**	**0.15**	**354**		Pg	22 37 22.1	+0.2
HATHI					Sg	22 37 24.9	+0.7
HATHI	**Halema`uma`u T**	**0.15**	**354**	IAML		22 37 25.2	
HATHI	comp=N,183μm,1.2s			IAML		22 37 27.4	
UWB	**Uwekahuna B**	**0.15**	**348**		Pg	22 37 22.1	+0.2
UWB	**Uwekahuna B**	**0.15**	**348**	IAML		22 37 25.3	
UWB	comp=N,83μm,1.4s			IAML		22 37 25.5	
UWE	**Uwekahuna**	**0.15**	**343**		Pg	22 37 22.2	+0.2
UWE	**Uwekahuna**	**0.15**	**343**	IAML		22 37 25.6	
UWE	comp=E,204μm,0.8s			IAML		22 37 27.1	
SBLHI	**Steaming Bluff**	**0.15**	**352**		Pg	22 37 22.2	+0.2
SBLHI					Sg	22 37 25.1	+0.8
SBLHI	**Steaming Bluff**	**0.15**	**352**	IAML		22 37 25.3	
SBLHI	comp=E,152μm,1.3s			IAML		22 37 25.3	
STCH	**Steam Cracks**	**0.16**	**45**		Pg	22 37 22.5	+0.5
STCH	**Steam Cracks**	**0.16**	**45**	IAML		22 37 25.8	
STCH	comp=E,45μm,0.9s			IAML		22 37 26.4	
JCUZ	**Jacuzzi**	**0.17**	**51**		Pg	22 37 22.6	+0.3
JCUZ	**Jacuzzi**	**0.17**	**51**	IAML		22 37 26.2	
JCUZ	comp=E,40μm,0.5s			IAML		22 37 27.2	
NPOC	**North of Pu'u**	**0.17**	**47**		Pg	22 37 22.8	+0.5
NPOC	**North of Pu'u**	**0.17**	**47**	IAML		22 37 26.3	
NPOC	comp=E,59μm,0.7s			IAML		22 37 26.4	
RSD	**Rainshed**	**0.19**	**351**		Pg	22 37 22.6	0.0
RSD					Sg	22 37 25.9	+0.6
MLH	**Mauna Loa**	**0.26**	**329**		Pg	22 37 23.9	0.0
MLH					Sg	22 37 28.5	+1.2
MLH	comp=N,127μm,0.2s			IAML		22 37 30.0	
MLH	comp=E,107μm,0.3s			IAML		22 37 30.1	
HPO	**Honuapo**	**0.34**	**238**		Pg	22 37 25.6	+0.2
KHU	**Kahuku**	**0.35**	**266**		Pg	22 37 25.5	-0.1

KHU IAML 22 37 31.7
comp=E,62µm,0.6s
KHU Kahuku 0.35 266 Sg 22 37 31.3 +1.0
MWH Moku'aweowe 0.39 302 Pg 22 37 26.4 -0.1
MWH Moku'aweowe 0.39 302 IAML 22 37 33.6
comp=E,124µm,0.9s
MWH IAML 22 37 36.5
comp=N,73µm,1.6s
HMH Humu'ula Sheep 0.40 326 Pg 22 37 26.7 +0.2
HMH Sg 22 37 32.9 +1.1
HMH Humu'ula Sheep 0.40 326 IAML 22 37 33.6
comp=E,118µm,0.4s
HMH IAML 22 37 33.6
comp=N,202µm,0.6s
ALEP Alea Permanent 0.46 305 Pg 22 37 27.6 -0.1
ALEP Sg 22 37 34.4 +0.6
POHA Pohakuloa 0.55 331 IAML 22 37 37.7
comp=N,62µm,0.3s
POHA IAML 22 37 37.8
comp=N,30µm,0.5s
POHA Pohakuloa 0.55 331 Pg Pg 22 37 28.7 -0.7
CPH Captain Cook 0.67 289 Pg 22 37 31.1 -0.5
HUH Hualalai 0.69 306 Pg 22 37 32.5 +0.5
HPAH Hawaii Prepara 0.87 331 Sg 22 37 44.2 -2.3
HPAH Hawaii Prepara 0.87 331 Pg 22 37 32.9 -2.4
MHA Mahukona 1.10 326 Pg Pg 22 37 36.9 -2.9
HLK Haleakala 1.75 328 Pn Pn 22 37 48.0 -1.6
KHLH Kahului Airpor 1.96 326 Pn Pn 22 37 50.8 -1.4
KIP Kipapa 3.37 310 Pn Pn 22 38 11.9 +0.4

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*HVO **04** 22:39:31.5±1.0, 19°.39N±0°.07×155°.25W±0°.04, h-0km±8km, ML4.0/16, ML3.2/23(NEIC), Error ellipse: s-maj=12.2km s-min=1.3km az=152.0*

NEIC 04 22:39:32.0±1.1, 19°.41N±0°.05×155°.26W±0°.02, h5km±2km, Error ellipse: s-maj=9.9km s-min=2.9km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**24**	Pg	Pg	22 39 32.5	-0.6
KKO	**Keanakako`i**	**0.01**	**200**	Pg	Pg	22 39 32.4	-0.7
RIM	**Rim**	**0.01**	**225**	Pg	Pg	22 39 32.5	-0.6
HATHI	**Halema'uma'u T**	**0.02**	**6**	Pg	Pg	22 39 32.7	-0.5
HATHI				IAML		22 39 33.2	
comp=E,32µm,2.7s							
HATHI					Sg	22 39 33.9	-0.1
SBLHI	**Steaming Bluff**	**0.02**	**347**		Pg	22 39 33.1	0.0
SBLHI				IAML		22 39 33.7	
comp=N,66µm,0.7s							
SBLHI				IAML		22 39 33.9	
comp=E,42µm,0.3s							
OBL	**Observatory Le**	**0.02**	**301**		Pg	22 39 33.1	-0.1
OBL				IAML		22 39 33.7	
comp=N,21µm,0.8s							
UWB	**Uwekahuna B**	**0.02**	**323**		Pg	22 39 33.0	-0.1
UWB				IAML		22 39 33.2	
comp=E,20µm,3.3s							
UWE	**Uwekahuna**	**0.03**	**298**		Pg	22 39 33.3	0.0
SDHHI	**Sand Hill**	**0.03**	**241**		Pg	22 39 33.0	-0.2
WRMHI	**West Rim**	**0.04**	**271**	Pg	Pg	22 39 32.9	-0.4
WRMHI				IAML		22 39 33.0	
comp=E,16µm,2.5s							
PUH	**Pauahi**	**0.05**	**125**	Pg	Pg	22 39 33.0	-0.5
RSD	**Rainshed**	**0.06**	**346**		Pg	22 39 33.6	0.0
RSD				IAML		22 39 35.2	
comp=N,19µm,0.9s							
RSD				IAML		22 39 35.3	
comp=E,10µm,0.3s							
KNHH	**Kane Nui o Ham**	**0.09**	**106**		Pg	22 39 34.4	+0.3
HLP	**Hilina Pali**	**0.12**	**201**	Pg	Pg	22 39 34.6	+0.1
HLP				IAML		22 39 36.7	
comp=E,19µm,1.3s							
HLP				IAML		22 39 37.2	
comp=N,16µm,1.9s							
STCH	**Steam Cracks**	**0.13**	**99**	Pg	Pg	22 39 34.8	+0.1
STCH				IAML		22 39 38.1	
comp=E,14µm,0.3s							
NPOC	**North of Pu'u**	**0.14**	**95**	Pg	Pg	22 39 35.7	+0.7
NPOC				IAML		22 39 37.0	
comp=E,14µm,2.0s							
MLH	**Mauna Loa**	**0.15**	**307**		Pg	22 39 36.5	+1.4
MLH	**Mauna Loa**	**0.15**	**307**	IAML		22 39 38.8	
comp=N,13µm,2.4s							
MLH	**Mauna Loa**	**0.15**	**307**		Sg	22 39 39.5	+2.4
JCUZ	**Jacuzzi**	**0.15**	**98**	Pg	Pg	22 39 36.1	+0.9

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*IDC **04** 22:42:41.9±0.8, 19°.32N×155°.27W, h0km, mb4.3/16, mbtmp4.3/16, Error ellipse: s-maj=22.7km s-min=9.0km az=12.0.*

*HVO **04** 22:42:42.5±1.0, 19°.31N±0°.08×155°.2W±0°.1, h8km±5km, ML4.6/32, mb4.9/47(NEIC), ML4.7/43(NEIC), Error ellipse: s-maj=22.2km s-min=7.0km az=66.0*

*NEIC **04** 22:42:43.3±1.5, 19°.33N±0°.06×155°.3W±0°.1, h8km±5km, Error ellipse: s-maj=20.2km s-min=8.5km az=89.0*

ISC 04 22:42:43.4±0.7, 19°.36N±0°.04×155°.24W±0°.02, h11km±3km, n316, σ0.99/308, mb4.8/45, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.03**	**55**		**Pg**	**22 42 44.6**	**-0.8**
PUH				IAML		22 42 46.8	
comp=E,368µm,1.0s							
KKO	**Keanakako`i**	**0.05**	**328**		**Sg**	**22 42 47.8**	**+0.5**
KKO	**Keanakako`i**	**0.05**	**328**		**Pg**	**22 42 45.3**	**-0.3**
KKO				IAML		22 42 48.0	
comp=N,86µm,0.8s							
KKO				IAML		22 42 48.0	
comp=E,559µm,0.7s							
RIM	**Rim**	**0.05**	**319**		**Pg**	**22 42 45.4**	**-0.3**
RIM				IAML		22 42 48.1	
comp=E,355µm,0.8s							
BYL	**Byron's Ledge**	**0.06**	**340**		**Pg**	**22 42 45.3**	**-0.3**
BYL	**Byron's Ledge**	**0.06**	**340**		**Sg**	**22 42 48.0**	**+0.7**
BYL				IAML		22 42 48.1	
comp=N,479µm,1.0s							
BYL				IAML		22 42 48.5	
comp=E,218µm,0.5s							
SDHHI	**Sand Hill**	**0.06**	**301**		**Pg**	**22 42 45.3**	**-0.4**
SDHHI					**Sg**	**22 42 47.3**	**-0.1**
SDHHI				IAML		22 42 48.0	
comp=E,347µm,0.9s							
SDHHI				IAML		22 42 48.1	
comp=N,411µm,0.9s							
HATHI	**Halema'uma'u T**	**0.07**	**342**	IAML		22 42 48.5	
comp=E,337µm,0.7s							
HATHI				IAML		22 42 49.0	
comp=N,223µm,1.3s							
HATHI	**Halema'uma'u T**	**0.07**	**342**		**Pg**	**22 42 45.5**	**-0.3**
HATHI					**Sg**	**22 42 47.8**	**+0.3**
KNHH	**Kane Nui o Ham**	**0.07**	**72**		**Pg**	**22 42 45.0**	**-0.8**
OBL	**Observatory Le**	**0.07**	**325**		**Sg**	**22 42 48.1**	**+0.4**
OBL	**Observatory Le**	**0.07**	**325**		**Pg**	**22 42 45.6**	**-0.3**
OBL				IAML		22 42 48.5	
comp=N,202µm,0.7s							
OBL				IAML		22 42 49.4	
comp=E,500µm,0.8s							
SBLHI	**Steaming Bluff**	**0.07**	**339**		**Pg**	**22 42 45.6**	**-0.3**
SBLHI					**Sg**	**22 42 48.0**	**+0.3**
SBLHI	**Steaming Bluff**	**0.07**	**339**	IAML		22 42 48.5	
comp=N,253µm,1.2s							
SBLHI				IAML		22 42 48.5	
comp=E,225µm,0.8s							
UWB	**Uwekahuna B**	**0.07**	**331**		**Pg**	**22 42 45.6**	**-0.3**
UWB					**Sg**	**22 42 47.9**	**+0.2**
UWB	**Uwekahuna B**	**0.07**	**331**	IAML		22 42 48.3	
comp=E,98µm,1.3s							
UWB				IAML		22 42 48.5	
comp=N,161µm,1.4s							
WRMHI	**West Rim**	**0.07**	**310**		**Pg**	**22 42 45.5**	**-0.4**
WRMHI	**West Rim**	**0.07**	**310**	IAML		22 42 48.6	
comp=E,289µm,1.1s							
UWE	**Uwekahuna**	**0.08**	**321**		**Pg**	**22 42 45.7**	**-0.2**
UWE	**Uwekahuna**	**0.08**	**321**		**Sg**	**22 42 48.0**	**+0.2**
UWE				IAML		22 42 49.0	
comp=N,251µm,1.1s							
UWE				IAML		22 42 49.0	
comp=E,302µm,1.1s							
HLP	**Hilina Pali**	**0.09**	**226**		**Pg**	**22 42 45.3**	**-0.7**
HLP				IAML		22 42 47.4	
comp=E,269µm,1.5s							
RSD	**Rainshed**	**0.11**	**341**	IAML		22 42 49.7	
comp=N,179µm,1.3s							
RSD	**Rainshed**	**0.11**	**341**		**Pg**	**22 42 46.1**	**-0.2**
RSD					**Sg**	**22 42 49.0**	**+0.5**
STCH	**Steam Cracks**	**0.11**	**76**		**Sg**	**22 42 47.6**	**-0.7**
STCH	**Steam Cracks**	**0.11**	**76**	Pg	**Pg**	**22 42 45.6**	**-0.7**
STCH				IAML		22 42 48.2	
comp=E,262µm,1.0s							
STCH				IAML		22 42 48.2	
comp=N,201µm,0.8s							
NPOC	**North of Pu'u**	**0.13**	**74**	Pg	**Pg**	**22 42 45.9**	**-0.6**
NPOC				IAML		22 42 48.8	
comp=E,184µm,1.1s							
NPOC				IAML		22 42 48.8	
comp=N,296µm,0.6s							
NPOC	**North of Pu'u**	**0.13**	**74**		**Sg**	**22 42 48.3**	**-0.4**
JCUZ	**Jacuzzi**	**0.13**	**79**		**Sg**	**22 42 48.3**	**-0.6**
JCUZ	**Jacuzzi**	**0.13**	**79**	Pg	**Pg**	**22 42 45.9**	**-0.7**
JCUZ				IAML		22 42 49.0	
comp=E,236µm,0.7s							
JCUZ				IAML		22 42 49.4	
comp=N,190µm,1.0s							
HTC	**Hot Caves**	**0.19**	**231**		**Pg**	**22 42 47.0**	**-0.4**
MLH	**Mauna Loa**	**0.19**	**314**	Pg	**Pg**	**22 42 47.8**	**+0.1**
MLH				Sg	**Sg**	**22 42 51.7**	**+1.1**
JOKA	**Jonika Flow**	**0.23**	**71**		**Pg**	**22 42 47.3**	**-0.9**
HMH	**Humu'ula Sheep**	**0.34**	**317**	IAML		22 42 57.8	
comp=N,71µm,0.3s							
MWH	**Moku'aweowe**	**0.36**	**291**	Pg	**Pg**	**22 42 50.5**	**-0.2**
MWH				IAML		22 43 01.6	
comp=E,95µm,1.1s							
MWH				IAML		22 43 02.0	
comp=N,81µm,0.9s							
KHU	**Kahuku**	**0.37**	**253**		**Pg**	**22 42 50.0**	**-0.8**
KHU					**Sg**	**22 42 56.2**	**+0.3**
KHU	**Kahuku**	**0.37**	**253**	IAML		22 42 56.4	
comp=N,122µm,0.7s							
KHU				IAML		22 42 56.6	
comp=E,122µm,0.8s							
HPO	**Honuapo**	**0.40**	**228**		**Pg**	**22 42 50.2**	**-1.1**
ALEP	**Alea Permanent**	**0.42**	**296**		**Pg**	**22 42 51.2**	**-0.6**
ALEP					**Sb**	**22 42 58.4**	**-1.2**
POHA	**Pohakuloa**	**0.48**	**325**	Sg	**Sg**	**22 43 00.1**	**+0.7**
POHA	**Pohakuloa**	**0.48**	**325**		**Pg**	**22 42 52.5**	**-0.4**
HUH	**Hualalai**	**0.65**	**300**	Pg	**Pb**	**22 42 56.5**	**-0.4**
I59US	**HAWAII INFRASO**	**0.66**	**291**	Pg	**Pg**	**22 42 54.6**	**-1.6**
baz=117,slow=20							
I59US				Lg	Lg	22 43 03.5	
baz=110,slow=30							
HPAH	**Hawaii Prepara**	**0.80**	**327**		**Pg**	**22 42 56.7**	**-2.1**
MHA	**Mahukona**	**1.03**	**323**	Pg	**Pg**	**22 43 00.4**	**-2.9**
HLK	**Haleakala**	**1.69**	**326**	Pn	**Pn**	**22 43 13.3**	**+0.3**
KHLH	**Kahului Airpor**	**1.89**	**324**	Pn	**Pn**	**22 43 12.7**	**-2.9**
HON	**Honolulu**	**3.25**	**308**	Pn	**Pn**	**22 43 30.0**	**-4.3**
KIP	**Kipapa**	**3.32**	**309**	Pn	**Pn**	**22 43 31.2**	**-4.1**
KEKH	**Kekaha**	**4.93**	**303**	Pn	**Pn**	**22 43 55.2**	**-2.3**
H11N3	**WAKE ISLAND Hy**	**35.62**	**277**	T	T	23 26 53.2	
baz=84,slow=74,SNR=82							
H11N2	**WAKE ISLAND Hy**	**35.64**	**277**	T	T	23 26 45.8	
baz=84,slow=74,SNR=101							
H11N1	**WAKE ISLAND Hy**	**35.64**	**277**	T	T	23 26 46.3	
baz=84,slow=74,SNR=116							
H11S2	**WAKE ISLAND Hy**	**35.96**	**275**	T	T	23 27 10.4	
baz=83,slow=74,SNR=10							
H11S1	**WAKE ISLAND Hy**	**35.96**	**275**	T	T	23 27 12.2	
baz=83,slow=74,SNR=6.0							
H11S3	**WAKE ISLAND Hy**	**35.98**	**275**	T	T	23 27 10.3	
baz=83,slow=74,SNR=7.5							
NVAR	**Mina Array Bea**	**37.19**	**51**	P	**P**	**22 49 55.4**	**+0.5**
comp=E,0.7nm,0.8s,baz=241,slow=10,SNR=3.3							
NVAR				PcP	**PcP**	**22 52 17.9**	**+2.9**
comp=E,0.3nm,0.6s,baz=232,slow=4.2,SNR=2.6							
comp=E,0.7nm,0.8s							
QSM	**Queen of Sheba**	**37.52**	**56**	P	**P**	**22 49 57.9**	**+0.4**
H02S1	**DAWSON INLET T**	**38.10**	**22**	T	T	23 30 08.7	
SNR=56							
R11B	**Troy Canyon, C**	**39.18**	**53**	P	**P**	**22 50 10.7**	**-1.0**
E07A	**Sunnyside**	**39.68**	**39**	P	**P**	**22 50 13.3**	**-2.2**
E07A				IAmb	IAmb	22 50 14.4	
comp=Z,17nm,0.8s							
SIT	**Sitka**	**40.45**	**17**	P	**P**	**22 50 22.2**	**+0.5**
baz=210							
N16K	**Nishlik Lake**	**41.15**	**357**	P	**P**	**22 50 28.2**	**+0.7**
baz=175							
N18K	**Kilae Creek**	**41.28**	**360**	P	**P**	**22 50 30.4**	**+1.8**
baz=179							
N19K	**Bonanza Creek**	**41.41**	**1**	P	**P**	**22 50 30.6**	**+0.8**
N19K	**Bonanza Creek**	**41.41**	**1**	P	**P**	**22 50 30.6**	**+0.8**
baz=181,SNR=8.2							
RAGM	**Ragged Mountai**	**41.67**	**8**	P	**P**	**22 50 31.6**	**-0.3**
N20K	**Mount Spurr**	**41.85**	**2**	P	**P**	**22 50 34.6**	**+1.3**
baz=184							
GLI	**Glacier Island**	**41.88**	**6**	P	**P**	**22 50 34.1**	**+0.7**
baz=192							
T35M	**Bob Quinn**	**41.91**	**20**	P	**P**	**22 50 34.6**	**+0.9**
baz=217							
M17K	**Holitna River**	**42.03**	**358**	P	**P**	**22 50 36.0**	**+1.3**
baz=177							
M18K	**Stony River**	**42.09**	**360**	P	**P**	**22 50 36.0**	**+0.8**
baz=179							
NEW	**Newport**	**42.14**	**38**	P	**P**	**22 50 36.5**	**+0.6**
baz=240							
SUA	**Susitna One**	**42.18**	**3**	P	**P**	**22 50 36.1**	**+0.1**
SUA				IAmb	IAmb	22 50 41.3	
comp=Z,28nm,1.0s							
SUA	**Susitna One**	**42.18**	**3**	P	**P**	**22 50 36.7**	**+0.6**
baz=186							
KNK	**Knik Glacier**	**42.28**	**5**	P	**P**	**22 50 38.0**	**+1.2**
baz=190							
HVU	**Hansel Valley**	**42.30**	**49**	P	**P**	**22 50 38.3**	**+0.9**
S34M	**Telegraph Cree**	**42.38**	**19**	P	**P**	**22 50 38.2**	**+0.6**
baz=215							
L16K	**Owhat River**	**42.42**	**357**	P	**P**	**22 50 39.1**	**+1.3**
baz=174							
L15K	**Ungalak Mounta**	**42.51**	**356**	P	**P**	**22 50 39.8**	**+1.3**
baz=171							
M22K	**Wow**	**42.51**	**4**	P	**P**	**22 50 39.6**	**+1.1**
baz=187							
M19K	**Big River Lodg**	**42.51**	**1**	P	**P**	**22 50 39.3**	**+0.7**
M19K				IAmb	IAmb	22 50 43.1	
comp=Z,30nm,1.4s							
M19K	**Big River Lodg**	**42.51**	**1**	P	**P**	**22 50 39.4**	**+0.8**
baz=181							
M20K	**Styx River**	**42.51**	**1**	P	**P**	**22 50 39.1**	**+0.4**
M20K	**Styx River**	**42.51**	**1**	P	**P**	**22 50 39.6**	**+0.9**
baz=183							
KLU	**Klutina**	**42.60**	**7**	P	**P**	**22 50 39.8**	**+0.3**
baz=193							
SKT	**Skwentna**	**42.66**	**3**	P	**P**	**22 50 40.0**	**+0.1**
SKT				IAmb	IAmb	22 50 41.4	
comp=Z,19nm,1.1s							
SKT	**Skwentna**	**42.66**	**3**	P	**P**	**22 50 40.4**	**+0.5**
baz=185							
SML	**Sawmill**	**42.68**	**5**	P	**P**	**22 50 40.1**	**+0.1**
SML				IAmb	IAmb	22 50 45.3	
comp=Z,23nm,1.0s							
SML	**Sawmill**	**42.68**	**5**	P	**P**	**22 50 40.8**	**+0.7**
baz=190							
BARN	**Barnard Glacie**	**42.75**	**10**	P	**P**	**22 50 42.5**	**+1.7**
BARN				IAmb	IAmb	22 50 46.7	
comp=Z,18nm,0.9s							
L19K	**White Mountain**	**42.78**	**0**	P	**P**	**22 50 41.3**	**+0.5**
L19K				IAmb	IAmb	22 50 45.7	
comp=Z,24nm,1.0s							
L19K	**White Mountain**	**42.78**	**0**	P	**P**	**22 50 42.0**	**+1.1**
baz=180							
L17K	**Donlin**	**42.79**	**358**	P	**P**	**22 50 42.2**	**+1.4**
baz=176							
SCM	**Sheep Creek Mo**	**42.80**	**6**	P	**P**	**22 50 41.4**	**+0.4**
SCM	**Sheep Creek Mo**	**42.80**	**6**	P	**P**	**22 50 42.0**	**+1.0**
baz=191							
L18K	**Granite Mounta**	**42.83**	**359**	P	**P**	**22 50 42.0**	**+0.8**
L18K				IAmb	IAmb	22 50 47.5	
comp=Z,20nm,1.2s							
L18K	**Granite Mounta**	**42.83**	**359**	P	**P**	**22 50 42.1**	**+0.9**
baz=178							
L20K	**Farewell, AK**	**43.09**	**1**	P	**P**	**22 50 44.0**	**+0.6**
baz=182							
CUT	**Chulitna**	**43.15**	**3**	P	**P**	**22 50 44.5**	**+0.8**
baz=187							
DLBC	**Dease Lake**	**43.15**	**19**	P	**P**	**22 50 44.8**	**+0.8**
baz=216							
YUK6	**Outpost Mounta**	**43.23**	**12**	P	**P**	**22 50 45.9**	**+1.2**
baz=204							
YUK8	**Steele Glacier**	**43.28**	**11**	P	**P**	**22 50 46.0**	**+0.8**
baz=202							
HYT	**Haines Junctio**	**43.29**	**13**	P	**P**	**22 50 46.1**	**+1.0**
baz=205							
K17K	**Iditarod**	**43.37**	**358**	P	**P**	**22 50 46.0**	**+0.4**
baz=176							
WAT6	**Susitna Watana**	**43.50**	**5**	P	**P**	**22 50 47.2**	**+0.4**
baz=190,SNR=8.6							
TTA	**Tatalina**	**43.54**	**359**	P	**P**	**22 50 47.3**	**+0.3**
TTA	**Tatalina**	**43.54**	**359**	P	**P**	**22 50 47.8**	**+0.8**
baz=179							
O30N	**Mendenhall**	**43.54**	**14**	P	**P**	**22 50 48.1**	**+1.0**
baz=207							
YUK4	**Talbot Arm**	**43.54**	**12**	P	**P**	**22 50 48.8**	**+1.6**
baz=203							
BPMT	**Black Pine Rid**	**43.55**	**42**	P	**P**	**22 50 47.5**	**0.0**
YUK3	**Moose Creek**	**43.62**	**10**	P	**P**	**22 50 48.8**	**+0.9**
baz=200							
R33M	**Jennings River**	**43.66**	**18**	P	**P**	**22 50 49.2**	**+1.1**
baz=214							
WAT1	**Susitna Watana**	**43.68**	**4**	P	**P**	**22 50 48.9**	**+0.8**
baz=189							
M26K	**Nabesna, AK**	**43.84**	**8**	P	**P**	**22 50 50.4**	**+1.0**
M26K				IAmb	IAmb	22 50 54.8	
comp=Z,17nm,0.8s							
M26K	**Nabesna, AK**	**43.84**	**8**	P	**P**	**22 50 50.8**	**+1.4**
baz=197							
M27K	**Edge Creek, AK**	**43.95**	**9**		**P**	**22 50 51.8**	**+1.3**
M27K	**Edge Creek, AK**	**43.95**	**9**	P	**P**	**22 50 51.3**	**+0.9**
baz=198							
N30M	**Aishikik Lake**	**43.95**	**12**	P	**P**	**22 50 51.3**	**+0.9**
baz=205							
K20K	**Telida**	**43.97**	**1**	P	**P**	**22 50 50.1**	**-0.3**
K20K				IAmb	IAmb	22 50 53.0	
comp=Z,21nm,1.4s							
K20K	**Telida**	**43.97**	**1**	P	**P**	**22 50 51.6**	**+1.2**
baz=182							
DHY	**Denali Highway**	**44.02**	**5**	P	**P**	**22 50 51.8**	**+0.9**
baz=191							
J16K	**Anvik River**	**44.05**	**357**	P	**P**	**22 50 51.8**	**+0.8**
baz=173							
CAST	**Castle Rocks**	**44.08**	**2**	P	**P**	**22 50 51.1**	**-0.2**
CAST	**Castle Rocks**	**44.08**	**2**	P	**P**	**22 50 50.9**	**-0.4**
baz=184							
J17K	**VABM Dome**	**44.08**	**358**	P	**P**	**22 50 52.3**	**+1.0**
J17K				IAmb	IAmb	22 51 02.8	
comp=Z,30nm,1.4s							
J17K	**VABM Dome**	**44.08**	**358**	P	**P**	**22 50 52.2**	**+0.9**
baz=175							
J18K	**Innoko River**	**44.08**	**359**	P	**P**	**22 50 51.3**	**0.0**
J18K				IAmb	IAmb	22 50 56.7	
comp=Z,15nm,1.0s							
J18K	**Innoko River**	**44.08**	**359**	P	**P**	**22 50 51.9**	**+0.6**
baz=178							
PAX	**Paxson**	**44.09**	**6**	P	**P**	**22 50 52.4**	**+0.9**
baz=193,SNR=10							
TRF	**Thorofare Moun**	**44.19**	**3**	P	**P**	**22 50 53.8**	**+1.5**
TRF				IAmb	IAmb	22 50 58.5	
comp=Z,26nm,1.1s							
TRF	**Thorofare Moun**	**44.19**	**3**	P	**P**	**22 50 52.8**	**+0.4**
baz=187							
RND	**Reindeer**	**44.23**	**4**	P	**P**	**22 50 53.3**	**+0.8**
RND				IAmb	IAmb	22 50 57.6	
comp=Z,18nm,1.0s							
KTH	**Kantishna Hill**	**44.26**	**3**	P	**P**	**22 50 53.1**	**+0.3**
121A	**Cookes Peak, D**	**44.30**	**63**	P	**P**	**22 50 52.7**	**-1.1**
baz=265							
MVCO	**Mesa Verde**	**44.36**	**56**	P	**P**	**22 50 53.9**	**-0.3**
baz=260							
BOZ	**Bozeman (W)**	**44.39**	**44**	P	**P**	**22 50 53.9**	**-0.3**
baz=248							
L26K	**Log Cabin Wild**	**44.39**	**8**	P	**P**	**22 50 54.2**	**+0.3**
L26K	**Log Cabin Wild**	**44.39**	**8**	P	**P**	**22 50 54.1**	**+0.3**
baz=196							
CHUM	**Lake Minchumin**	**44.54**	**2**	P	**P**	**22 50 55.8**	**+0.9**
baz=184							
MCK	**McKinley**	**44.55**	**4**	P	**P**	**22 50 56.2**	**+1.1**
baz=188							
N32M	**Quiet Lake**	**44.58**	**15**	P	**P**	**22 50 56.6**	**+1.2**
baz=210							
M29M	**Somme Creek**	**44.59**	**11**	P	**P**	**22 50 56.4**	**+0.9**
baz=203							
J19K	**Poorman**	**44.60**	**360**	P	**P**	**22 50 56.0**	**+0.6**
J19K				IAmb	IAmb	22 51 01.1	
comp=Z,12nm,1.1s							
J19K	**Poorman**	**44.60**	**360**	P	**P**	**22 50 56.2**	**+0.8**
baz=180							
L27K	**Beaver Creek,**	**44.63**	**9**	P	**P**	**22 50 56.6**	**+0.9**
L27K	**Beaver Creek,**	**44.63**	**9**	P	**P**	**22 50 56.6**	**+0.9**
baz=198							
BCAR	**Beaver Creek A**	**44.64**	**9**	P	**P**	**22 50 57.1**	**+1.3**
H17A	**Grant Village**	**44.67**	**46**	P	**P**	**22 50 56.3**	**-0.3**
baz=251							
J20K	**Nowinta River**	**44.79**	**1**	P	**P**	**22 50 57.0**	**+0.1**
J20K	**Nowinta River**	**44.79**	**1**	P	**P**	**22 50 57.4**	**+0.4**
baz=181							
BPAW	**Bear Paw Mtn.**	**44.80**	**3**	P	**P**	**22 50 57.0**	**-0.1**
BPAW				IAmb	IAmb	22 50 57.6	
comp=Z,15nm,0.8s							
BPAW	**Bear Paw Mtn.**	**44.80**	**3**	P	**P**	**22 50 56.9**	**-0.2**
baz=186							
BW06	**Boulder Array**	**44.87**	**48**	P	**P**	**22 50 58.2**	**0.0**
baz=253							
PDAR	**Pinedale Array**	**44.87**	**48**	P	**P**	**22 50 57.4**	**-0.9**
PDAR	**Pinedale Array**	**44.87**	**48**	P	**P**	**22 50 58.6**	**+0.4**
comp=Z,4.4nm,1.0s,baz=240,slow=5.1,SNR=8.8							
comp=Z,4.4nm,1.0s							
K24K	**Donnelly Dome**	**44.88**	**6**	P	**P**	**22 50 58.8**	**+1.1**
baz=193							
M31M	**Drury Creek, Y**	**45.20**	**14**	P	**P**	**22 51 01.1**	**+0.9**
baz=208							
SCRK	**Sand Creek**	**45.24**	**7**	P	**P**	**22 51 01.6**	**+1.0**
baz=195							
L29M	**L29M**	**45.27**	**11**	P	**P**	**22 51 02.6**	**+1.7**
L29M	**L29M**	**45.27**	**11**	P	**P**	**22 51 02.0**	**+1.1**
baz=203							
WRH	**Wood River Hil**	**45.34**	**4**	P	**P**	**22 51 01.2**	**-0.1**
HDA	**Harding Lake**	**45.37**	**5**	P	**P**	**22 51 02.4**	**+0.9**
baz=191							
GCSA	**Galena City Sc**	**45.37**	**359**	P	**P**	**22 51 02.5**	**+1.0**
baz=178							
NEA2	**Nenana**	**45.40**	**4**	P	**P**	**22 51 02.3**	**+0.6**
baz=188							
I20K	**Naaghedeneel**	**45.41**	**0**	P	**P**	**22 51 02.4**	**+0.6**
baz=181							
FARO	**Faro, Yukon**	**45.46**	**14**	P	**P**	**22 51 03.6**	**+1.3**
baz=210							
H16K	**Elim**	**45.49**	**356**	P	**P**	**22 51 03.6**	**+1.1**
baz=171							
K27K	**Chicken**	**45.52**	**8**	P	**P**	**22 51 03.7**	**+1.0**
K27K	**Chicken**	**45.52**	**8**	P	**P**	**22 51 03.9**	**+1.1**
baz=198							
ANMO	**Albuquerque**	**45.66**	**60**	P	**P**	**22 51 04.6**	**+0.1**
baz=263							
H17K	**Granite Mounta**	**45.66**	**357**	P	**P**	**22 51 05.1**	**+1.3**
baz=174	

comp=Z,12nm,1.1s
I23K **Minto, Yukon-K** 45.93 3 P P 22 51 05.6 -0.3
baz=188
POKR **Poker Plat Res** 46.03 5 P P 22 51 06.7 0.0
baz=190
K29M **Barlow Dome** 46.05 11 P P 22 51 07.4 +0.2
baz=204
H20K **Anotleneega Mo** 46.11 0 P P 22 51 07.6 +0.2
baz=180,SNR=5.8
H19K **Roundabout Mou** 46.15 359 P P 22 51 08.5 +0.9
H19K IAmb IAmb 22 51 13.5
comp=Z,18nm,1.4s
H19K **Roundabout Mou** 46.15 359 P P 22 51 08.5 +0.9
baz=178
TGTN **Hyland Airport** 46.17 18 P P 22 51 08.8 +0.8
baz=216
G16K **Koyuk River** 46.25 356 P P 22 51 06.7 -1.8
G16K IAmb IAmb 22 51 24.2
comp=Z,14nm,1.1s
G16K **Koyuk River** 46.25 356 P P 22 51 09.4 +1.0
baz=171
G17K **Kiwalik Mounta** 46.26 357 P P 22 51 09.7 +1.2
baz=173
MNTX **Cornudas Mount** 46.28 64 P P 22 51 09.3 +0.1
baz=267
MMPY **Sheldon Lake,** 46.29 15 P P 22 51 10.3 +1.4
baz=212
H21K **Melozitna Rive** 46.30 1 P P 22 51 09.0 +0.1
H21K **Melozitna Rive** 46.30 1 P P 22 51 10.5 +1.6
baz=183
EGAK **Eagle** 46.36 8 P P 22 51 10.6 +1.2
baz=198
KOTAN **Kotaneelee Air** 46.41 21 P P 22 51 10.6 +0.8
baz=222
G18K **Tagagawik** 46.57 358 P P 22 51 11.7 +0.7
baz=176
PRP **Porcupine Dome** 46.58 6 P P 22 51 11.5 +0.3
baz=193
H22K **Ishtalitna Cre** 46.58 2 P P 22 51 11.4 +0.3
baz=185
H23K **Yukon River** 46.59 3 P P 22 51 11.6 +0.4
H23K IAmb IAmb 22 51 15.1
comp=Z,16nm,1.1s
H23K **Yukon River** 46.59 3 P P 22 51 11.6 +0.4
baz=187
IMAR **Indian Mountai** 46.61 1 P P 22 51 10.7 -0.7
I26K **Coal Creek Min** 46.62 7 P P 22 51 12.3 +0.9
baz=196
F14K **Arctic Creek** 46.67 354 P P 22 51 12.8 +1.1
baz=166
H24K **Noodor Dome** 46.71 4 P P 22 51 12.3 +0.1
H24K IAmb IAmb 22 51 16.7
comp=Z,16nm,1.1s
H24K **Noodor Dome** 46.71 4 P P 22 51 12.6 +0.5
baz=190
G19K **Purcell Mounta** 46.78 359 P P 22 51 13.8 +1.2
baz=178
SDCO **Great Sand Dun** 46.80 56 P P 22 51 13.0 -0.6
baz=261
J30M **Hart River** 46.94 11 P P 22 51 15.6 +1.6
baz=205
N23A **Red Feather La** 47.03 52 P P 22 51 15.2 -0.1
baz=258
I27K **Kandik River** 47.09 8 P P 22 51 15.8 +0.7
baz=198
G21K **Aliakaket** 47.15 1 P P 22 51 16.3 +0.8
baz=182
I28M **Miner Creek** 47.17 9 P P 22 51 16.6 +0.8
baz=200
F17K **Baldwin Pennin** 47.23 357 P P 22 51 17.4 +1.3
baz=172
Q24A **Divide** 47.27 55 P P 22 51 17.0 -0.2
baz=260
H25L **Birch Creek** 47.29 5 P P 22 51 17.8 +1.3
baz=192
F18K **Selawik** 47.31 358 P P 22 51 17.8 +1.1
baz=174
G23K **Bananza Creek** 47.45 3 P P 22 51 18.0 0.0
baz=187
F19K **Shaleruckik Mo** 47.48 359 P P 22 51 19.2 +1.2
baz=177
I30M **Mount Dempster** 47.52 11 P P 22 51 18.9 +0.3
baz=204,SNR=8.6
T25A **Trinidad** 47.57 57 P P 22 51 18.1 -1.4
baz=262
G24K **Hadweenzic Riv** 47.59 4 P P 22 51 18.9 0.0
baz=190
G22K **Bettles** 47.60 2 P P 22 51 19.7 +0.7
baz=185
F20K **Avaraart Lake** 47.67 360 P P 22 51 20.6 +1.1
baz=179
H27K **Steamboat Moun** 47.70 7 P P 22 51 20.9 +1.0
baz=198,SNR=11
TXAR **Lajitas Array** 47.70 68 P P 22 51 21.6 +1.1
comp=Z,8.2nm,0.9s,baz=253,slow=8.3,SNR=20
comp=Z,8.2nm,0.9s
G25K **Bearman Lake** 47.76 5 P P 22 51 20.6 +0.5
baz=192
F21K **Alatna River** 47.86 1 P P 22 51 22.2 +1.1
baz=182,SNR=10
E17K **Hotham Inlet** 47.89 357 P P 22 51 22.1 +0.8
baz=172
COLD **Coldfoot** 47.96 3 P P 22 51 22.2 +0.4
baz=186
E19K **Redstone River** 48.10 359 P P 22 51 24.0 +1.1
baz=177
H29M **Whitestone** 48.12 9 P P 22 51 23.5 +0.5
baz=202
G26K **Porcupine Rive** 48.15 6 P P 22 51 23.9 +0.7
baz=194
E18K **Tukpahlearik C** 48.17 357 P P 22 51 24.3 +0.9
baz=173,SNR=8.2
F22K **John River** 48.17 2 P P 22 51 24.4 +1.0
baz=184,SNR=10
G27K **Doyon Strip** 48.24 7 P P 22 51 24.9 +0.9
baz=197
LAO **LASA Array** 48.30 44 P P 22 51 24.6 -0.2
baz=253
F24K **Squaw Lake** 48.37 4 P P 22 51 25.4 +0.4
baz=189
H31M **Peel River** 48.41 11 P P 22 51 25.9 +0.5
baz=207
EPYK **Eagle Plains** 48.52 10 P P 22 51 26.8 +0.6
baz=204
D17K **Noatak River** 48.58 356 P P 22 51 26.9 +0.4
baz=170
F25K **Christian Rive** 48.61 5 P P 22 51 27.3 +0.4
baz=192
E23K **Chandalar** 48.82 3 P P 22 51 29.3 +0.8
baz=187
G29M **Pine Creek** 48.82 9 P P 22 51 28.7 +0.2
baz=202
F26K **Sheenjek River** 48.84 6 P P 22 51 29.3 +0.7
baz=194
E20K **Nigu River** 48.89 360 P P 22 51 30.5 +1.5
baz=179,SNR=8.7
E24K **Your Creek** 48.89 3 P P 22 51 29.4 +0.3
baz=188
E21K **Killik River** 49.08 1 P P 22 51 31.5 +1.1
baz=182
RSSD **Black Hills** 49.11 48 P P 22 51 31.1 -0.2
baz=257
E25K **Arctic Village** 49.13 5 P P 22 51 31.8 +0.9
baz=192
G30M **tAoh Zraii Nji** 49.16 10 P P 22 51 31.4 +0.3
baz=204
D19K **Kuna River** 49.16 359 P P 22 51 32.2 +1.2
baz=176
F28M **Old Crow** 49.23 8 P P 22 51 32.7 +1.1
baz=199
C16K **Lisburne Hills** 49.32 355 P P 22 51 33.3 +1.1
baz=167
D20K **Etivluk River** 49.35 359 P P 22 51 33.1 +0.6
baz=178
C17K **DeLong Mountai** 49.36 356 P P 22 51 33.4 +0.8
baz=170
TOLK **Toolik Lake Re** 49.40 3 P P 22 51 33.4 +0.5
baz=187
PETK **Petropavlovsk-** 49.41 324 P P 22 51 33.7 +0.5
comp=Z,8.1nm,1.0s,baz=104,slow=12,SNR=5.5
comp=Z,8.1nm,1.0s
C18K **Utukok River** 49.42 357 P P 22 51 34.0 +0.9
baz=173
G31M **Satah River** 49.43 11 P P 22 51 34.0 +0.9
baz=206
D22K **Ayikyak River** 49.54 1 P P 22 51 35.2 +1.3
baz=183
E27K **Coleen River** 49.57 7 P P 22 51 35.4 +1.2
baz=197
D23K **Nanushuk River** 49.68 2 P P 22 51 36.3 +1.3
baz=186
C21K **Knifeblade Rid** 49.79 0 P P 22 51 37.0 +1.2
baz=180
F30M **Barrier River** 49.80 10 P P 22 51 36.5 +0.6
baz=204
C19K **Lookout Ridge** 49.81 358 P P 22 51 37.4 +1.4
baz=175
D24K **Happy Valley** 49.95 3 IAmb IAmb 22 51 38.8
comp=Z,12nm,1.1s
D24K **Happy Valley** 49.95 3 P P 22 51 38.1 +1.1
baz=188
F31M **Tsiigehtchic** 49.99 11 P P 22 51 38.2 +0.9
baz=207
E28M **Babbage River** 50.21 7 P P 22 51 40.0 +1.0
baz=199,SNR=8.0
E29M **Blow River** 50.22 8 P P 22 51 40.1 +1.0
baz=201
D25K **Kavik River** 50.26 4 P P 22 51 40.4 +1.0
baz=191,SNR=8.3
B21K **Ikpikpuk River** 50.26 0 P P 22 51 39.9 +0.5
baz=181
C24K **Franklin Bluff** 50.52 3 P P 22 51 42.5 +1.2
baz=188
C23K **Ikpikpuk River** 50.55 2 P P 22 51 43.0 +1.4
baz=186,SNR=15
D27M **Malcolm River** 50.65 7 P P 22 51 43.5 +1.1
baz=198
B20K **Meade River** 50.66 359 P P 22 51 43.2 +0.9
baz=178
C27K **Jago River** 50.76 5 P P 22 51 43.9 +0.8
baz=194
INK **Inuvik** 50.80 10 P P 22 51 43.6 +0.2
baz=207,SNR=8.9
C26K **Camden Bay** 50.95 5 P P 22 51 45.6 +1.1
baz=193,SNR=12
A19K **Wainwright** 50.97 357 P P 22 51 45.8 +1.1
baz=173
D28M **Stokes Point** 50.99 7 P P 22 51 45.4 +0.6
baz=200
B22K **Teshekpuk Lake** 50.99 1 P P 22 51 45.7 +0.9
baz=182
ABTX **Abilene, Hawle** 51.17 63 P P 22 51 46.5 -0.5
baz=269
YKA **Yellowknife Ar** 51.35 23 P P 22 51 47.6 -0.1
comp=Z,2.6nm,0.8s,baz=237,slow=7.3,SNR=11
comp=Z,2.6nm,0.8s
A22K **Sinclair Lake** 51.65 0 P P 22 51 51.0 +1.2
baz=180
A21K **Barrow** 51.97 359 P P 22 51 52.6 +0.4
baz=178
C36M **Paulatuk** 53.51 13 P P 22 52 03.9 +0.4
baz=217
ECSD **EROS Data Cent** 54.32 50 P P 22 52 09.5 -0.5
baz=263
A36M **Sachs Harbour** 55.42 11 P P 22 52 17.9 +0.5
baz=215
ULM **Lac du Bonnet** 55.84 42 P P 22 52 19.8 -1.1
comp=Z,6.8nm,0.9s,baz=283,slow=10,SNR=4.1
comp=Z,6.8nm,0.9s
JFWS **Jewell Farm** 58.88 51 P P 22 52 41.7 -0.8
baz=268
MJAR **Matsushiro Arr** 60.14 302 P P 22 52 52.2 +0.9
comp=Z,4.5nm,0.9s,baz=123,slow=4.5,SNR=7.2
comp=Z,4.5nm,0.9s
USRK **Ussuriysk Ar.** 64.53 310 P P 22 53 19.2 -1.3
comp=Z,1.6nm,0.8s,baz=95,slow=7.2,SNR=3.7
comp=Z,1.6nm,0.8s
P52A **Corning** 65.09 55 P P 22 53 23.0 -1.3
baz=275
NJ2 **Nanjing** 76.63 299 *e*P P 22 54 35.5 +0.9
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,570nm,4.5s
STKA **Stephens Creek** 79.08 231 P P 22 54 48.8 +0.8
comp=Z,3.9nm,1.1s,baz=34,slow=3.6,SNR=3.0
comp=Z,3.9nm,1.1s
WRA **Warramunga Arr** 79.28 244 P P 22 54 48.0 -1.5
comp=Z,0.8nm,0.9s,baz=54,slow=5.6,SNR=2.7
comp=Z,0.8nm,0.9s
HHC **Hu-ho-hao-te** 79.94 310 *e*P P 22 54 50.7 -2.2
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,650nm,8.5s
ASAR **Alice Springs** 81.24 241 P P 22 54 59.5 -0.5
comp=Z,1.5nm,1.0s,baz=55,slow=5.5,SNR=5.2
comp=Z,1.5nm,1.0s
SONM **Songino Array** 81.32 318 P P 22 55 00.7 +0.6
comp=Z,5.1nm,1.0s,baz=63,slow=4.7,SNR=11
comp=Z,5.1nm,1.0s
GTA **Gaotai** 88.87 312 *e*P P 22 55 38.9 +0.7
GTA pP sP 22 55 42.4 -1.1
GTA pmax pmax
comp=Z,5.0nm,1.0s
H03N2 **Juan Fernandez** 89.65 126 T T 00 34 45.7
baz=298,slow=76,SNR=15
H03N3 **Juan Fernandez** 89.66 126 T T 00 34 45.7
baz=298,slow=76,SNR=13
H03N1 **Juan Fernandez** 89.66 126 T T 00 34 43.1
baz=298,slow=76,SNR=7.7
ZALV **Zalesovo Beam** 90.73 329 P P 22 55 47.1 +0.7
comp=Z,4.7nm,1.0s,baz=63,slow=3.9,SNR=5.0
comp=Z,4.7nm,1.0s
PZH **PanZhiHua** 92.54 299 P P 22 55 59.1 +3.6
PZH pmax pmax
comp=Z,10.0nm,1.2s
MKAR **Makanchi Array** 96.25 324 P P 22 56 12.1 +0.1
comp=Z,0.6nm,0.8s,baz=32,slow=3.8,SNR=2.4
comp=Z,0.6nm,0.8s
BVAR **Borovoye Array** 97.83 334 P P 22 56 19.1 +0.1
comp=Z,1.0nm,0.8s,baz=41,slow=4.6,SNR=3.0
comp=Z,1.0nm,0.8s

HVO ***04*** *22:48:19.6±2.8,19˚.4N±0˚.1×155˚.3W±0˚.2,h3km±6km, mb4.8/22,Md4.7/8,ML4.7/30,mb4.8/56(NEIC), ML4.1/42(NEIC),Error ellipse: s-maj=27.7km s-min=9.8km az=47.0*

NEIC ***04*** *22:48:20.6±4.6, 19˚.41N±0˚.09×155˚.4W±0˚.1, h5km±1km, Error ellipse: s-maj=20.8km s-min=12.5km az=240.0*

IDC ***04*** *22:48:20.4±0.9, 19˚.43N×155˚.25W, h0km, mb4.2/16, mbtmp4.2/16, Error ellipse: s-maj=24.5km s-min=8.5km az=2.0*

ISC 04 22:48:21.3±0.4, 19˚.42N±0˚.04×155˚.35W±0˚.03, h10km, n284, σ2§02/267, mb4.7/48, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRMHI	**West Rim**	0.05	109		Pg	22 48 20.7	-2.8
UWE	**Uwekahuna**	0.06	93		Pg	22 48 20.9	-2.7
UWE				IAML		22 48 21.5	
	comp=N,136μm,0.4s						
UWE				IAML		22 48 21.8	
	comp=E,240μm,0.6s						
OBL	**Observatory Le**	0.07	96		Pg	22 48 20.9	-2.7
SDHHI	**Sand Hill**	0.07	121		Pg	22 48 20.9	-2.7
SDHHI				IAML		22 48 22.0	
	comp=E,235μm,0.8s						
NPH	**North Pit**	0.07	100	Pg	Pg	22 48 20.7	-3.0
UWB	**Uwekahuna B**	0.07	90		Pg	22 48 21.0	-2.7
UWB				IAML		22 48 21.9	
	comp=E,145μm,0.7s						
MLH	**Mauna Loa**	0.08	337		Pg	22 48 22.4	-1.5
MLH				IAML		22 48 23.8	
	comp=E,196μm,1.0s						
RIM	**Rim**	0.08	111		Pg	22 48 21.1	-2.7
SBLHI	**Steaming Bluff**	0.08	88		Pg	22 48 21.1	-2.6
SBLHI				IAML		22 48 22.1	
	comp=E,267μm,1.2s						
SBLHI				IAML		22 48 22.2	
	comp=N,270μm,0.4s						
RSD	**Rainshed**	0.08	62		Pg	22 48 21.4	-2.4
RSD				IAML		22 48 23.2	
	comp=N,230μm,0.4s						
KKO	**Keanakako'i**	0.09	108		Pg	22 48 21.3	-2.6
KKO				IAML		22 48 21.9	
	comp=E,93μm,1.7s						
HATHI	**Halema'uma'u T**	0.09	91		Pg	22 48 21.2	-2.6
HATHI				IAML		22 48 22.1	
	comp=N,87μm,0.6s						
HATHI				IAML		22 48 22.2	
	comp=E,204μm,1.4s						
BYL	**Byron's Ledge**	0.09	98		Pg	22 48 21.2	-2.7
BYL				IAML		22 48 22.4	

comp=E,113μm,1.7s
HLP **Hilina Pali** 0.14 161 Pg 22 48 22.4 -2.1
HLP IAML 22 48 25.4
comp=E,140μm,0.8s
PUH **Pauahi** 0.14 111 Sg 22 48 27.4 +0.5
PUH **Pauahi** 0.14 111 Pg 22 48 22.0 -2.6
PUH IAML 22 48 24.3
comp=E,69μm,0.9s
PUH IAML 22 48 24.5
comp=N,104μm,1.3s
KNHH **Kane Nui o Ham** 0.18 104 Pg 22 48 25.3 +0.1
HMH **Humu'ula Sheep** 0.21 326 Pg 22 48 24.9 -1.0
HMH Sg Sg 22 48 29.1 0.0
STCH **Steam Cracks** 0.22 100 Pg 22 48 23.5 -2.4
STCH IAML 22 48 26.8
comp=E,58μm,1.4s
STCH IAML 22 48 27.4
comp=N,48μm,1.0s
NPOC **North of Pu'u** 0.23 98 Pg 22 48 23.8 -2.4
NPOC IAML 22 48 28.0
comp=E,73μm,0.8s
NPOC IAML 22 48 28.4
comp=N,63μm,0.8s
MWH **Moku'aweowe** 0.24 285 Pg 22 48 25.6 -0.9
MWH Sg 22 48 25.8 -4.1
JCUZ **Jacuzzi** 0.24 99 Pg 22 48 23.9 -2.4
JCUZ IAML 22 48 27.8
comp=E,66μm,0.7s
JCUZ IAML 22 48 30.5
comp=N,47μm,0.8s
ALEP **Alea Permanent** 0.30 293 Pg 22 48 26.2 -1.2
ALEP Sg 22 48 29.0 -2.5
KHU **Kahuku** 0.30 234 Pg 22 48 26.1 -1.4
POHA **Pohakuloa** 0.37 333 Sg 22 48 32.5 -1.3
POHA **Pohakuloa** 0.37 333 Pg 22 48 27.4 -1.3
POHA **Pohakuloa** 0.37 333 IAML 22 48 38.2
comp=N,79μm,1.6s
POHA IAML 22 48 41.0
comp=N,38μm,0.8s
HUH **Hualalai** 0.52 300 Pg 22 48 31.0 -0.5
I59US **HAWAII INFRASO** 0.54 288 Pg Pg 22 48 31.4 -0.4
baz=115,slow=27
I59US Lg Lg 22 48 42.2
baz=117,slow=38
CPH **Captain Cook** 0.54 277 Pg 22 48 30.2 -1.5
HPAH **Hawaii Prepara** 0.68 332 Pg 22 48 32.1 -2.4
MHA **Mahukona** 0.92 326 Pg 22 48 35.5 -3.5
KHLH **Kahului Airpor** 1.78 326 Pn 22 48 46.9 -5.2
HON **Honolulu** 3.12 308 Pn 22 49 05.2 -5.4
KIP **Kipapa** 3.19 309 Pn Pn 22 49 07.7 -3.9
OPA **Opana** 3.36 313 Pn Pn 22 49 07.9 -5.9
KEKH **Kekaha** 4.81 303 Pn Pn 22 49 28.2 -5.6
H11N3 **WAKE ISLAND Hy** 35.51 277 T T 23 32 26.7
baz=84,slow=74,SNR=29
H11N2 **WAKE ISLAND Hy** 35.52 277 T T 23 32 20.3
baz=84,slow=74,SNR=28
H11N1 **WAKE ISLAND Hy** 35.53 277 T T 23 32 21.5
baz=84,slow=74,SNR=37
H11S2 **WAKE ISLAND Hy** 35.85 275 T T 23 32 50.5
baz=82
H11S1 **WAKE ISLAND Hy** 35.85 275 T T 23 32 47.7
baz=82
H11S3 **WAKE ISLAND Hy** 35.87 275 T T 23 32 48.8
baz=82
NVAR **Mina Array Bea** 37.23 51 P P 22 55 32.7 -0.7
comp=N,1.7nm,0.9s,baz=243,slow=9.9,SNR=4.0
comp=N,1.7nm,0.9s
BELC **Belle Mtn. Jos** 37.79 59 P P 22 55 39.2 +1.1
baz=258
H02S1 **DAWSON INLET T** 38.08 22 T T 23 35 42.8
SNR=39
TUQ **Turquoise Moun** 38.18 57 P P 22 55 43.1 +1.8
baz=256
GMRC **Granite Mounta** 38.24 58 P P 22 55 43.3 +1.5
baz=257
KDAK **Kodiak Island** 38.36 2 P P 22 55 45.0 +2.7
baz=184
Q17K **Contact Creek** 38.79 360 P P 22 55 48.7 +2.7
baz=179
R11B **Troy Canyon, C** 39.23 53 P P 22 55 51.8 +1.6
baz=253
O15K **Ungalikthiuk R** 39.84 356 P P 22 55 56.0 +1.3
baz=173
P18K **Big Mountain,** 39.92 0 P P 22 55 57.7 +2.3
baz=180
O18K **Koktuh Hills** 40.38 0 P P 22 56 02.5 +3.3
baz=180
BRSE **Bradley Lake S** 40.41 4 P P 22 56 02.1 +2.7
baz=187
SIT **Sitka** 40.42 17 P P 22 56 02.5 +3.0
baz=210
F10A **Beach Ranch, E** 41.00 41 P P 22 56 07.1 +2.4
N19K **Bonanza Creek** 41.35 1 P P 22 56 09.7 +2.4
N19K IAmb IAmb 22 56 13.9
comp=Z,46nm,1.5s
N19K **Bonanza Creek** 41.35 1 P P 22 56 09.4 +2.2
baz=181
M15K **Kasigluk River** 41.40 356 P P 22 56 10.1 +2.6
baz=172
HLID **Hailey** 41.82 46 P P 22 56 14.3 +2.8
baz=248
WUAZ **Wupatki** 41.82 58 P P 22 56 14.1 +2.5
baz=259
GLI **Glacier Island** 41.82 6 P P 22 56 14.3 +3.2
baz=192
DUG **Dugway, Tooele** 41.83 51 P P 22 56 14.8 +3.2
baz=253
M17K **Holitna River** 41.96 359 P P 22 56 17.2 +5.1
baz=177
M18K **Stony River** 42.03 360 P P 22 56 15.5 +2.8
baz=179
NEW **Newport** 42.16 38 P P 22 56 14.4 +0.4
baz=240
PLBC **Pleasant Camp** 42.27 14 P P 22 56 16.8 +2.1
baz=207
HVU **Hansel Valley** 42.34 49 P P 22 56 19.2 +3.5
S34M **Telegraph Cree** 42.36 19 P P 22 56 18.0 +2.5
baz=215
SPUT **South Promonto** 42.42 49 P P 22 56 20.4 +3.9
M20K **Styx River** 42.45 2 P P 22 56 20.2 +3.9
baz=183
SML **Sawmill** 42.63 5 P P 22 56 20.1 +2.4
baz=190
L19K **White Mountain** 42.72 0 P P 22 56 20.8 +2.5
baz=181
P30M **Million Dollar** 42.73 13 P P 22 56 22.1 +3.5
baz=206
SCM **Sheep Creek Mo** 42.74 6 P P 22 56 20.7 +2.1
baz=191
L18K **Granite Mounta** 42.77 359 P P 22 56 21.0 +2.3
baz=178
HMU **Henry Mountain** 42.81 55 P P 22 56 22.0 +2.2
L20K **Farewell, AK** 43.03 1 P P 22 56 22.1 +1.2
baz=182
P32M **Atlin** 43.04 16 P P 22 56 22.2 +1.2
baz=211
DLBC **Dease Lake** 43.13 19 P P 22 56 23.9 +2.1
baz=216
HWUT **Hardware Ranch** 43.15 49 P P 22 56 21.2 -1.1
YUK6 **Outpost Mounta** 43.19 12 P P 22 56 24.8 +2.3
baz=204
YUK8 **Steele Glacier** 43.24 11 P P 22 56 24.2 +1.3
baz=202
SRU **San Rafael Swe** 43.24 53 P P 22 56 29.2 +6.0
HYT **Haines Junctio** 43.25 13 P P 22 56 24.8 +1.9
baz=205
MSO **Missoula** 43.42 41 P P 22 56 25.4 +1.0
baz=245
BSUT **Blindstream Ca** 43.43 51 P P 22 56 25.0 +0.1
BSUT IAmb IAmb 22 57 12.2
comp=Z,35nm,2.0s
WAT6 **Susitna Watana** 43.44 5 P P 22 56 26.1 +1.7
baz=190
TTA **Tatalina** 43.47 360 P P 22 56 27.4 +2.9
baz=179
HARP **HAARP** 43.52 7 P P 22 56 28.5 +3.7
baz=194
YUK3 **Moose Creek** 43.58 10 P P 22 56 27.4 +1.9
baz=200
WAT1 **Susitna Watana** 43.62 5 P P 22 56 27.3 +1.6
baz=189
R33M **Jennings River** 43.63 18 P P 22 56 29.2 +3.3
R33M **Jennings River** 43.63 18 P P 22 56 27.5 +1.6
baz=214
WHY **Whitehorse** 43.68 14 P P 22 56 28.7 +2.4
baz=208
M26K **Nabesna, AK** 43.79 8 P P 22 56 29.1 +2.1

baz=197
M27K Edge Creek, AK 43.91 9 P P 22 56 30.3 +2.2
baz=198
K20K Telida 43.91 1 P P 22 56 30.6 +2.7
baz=182
N30M Aishikik Lake 43.91 13 P P 22 56 30.8 +2.8
baz=205
J18K Innoko River 44.02 359 P P 22 56 30.8 +2.0
baz=178
CAST Castle Rocks 44.02 2 P P 22 56 30.2 +1.4
baz=184
PAX Paxson 44.04 6 P P 22 56 31.2 +2.1
baz=193
TPAW Teton Pass 44.16 47 P P 22 56 32.7 +2.2
TPAW IAmb IAmb 22 56 48.6
comp=Z,24nm,1.5s
REDW Red Top Meadow 44.19 47 P P 22 56 34.1 +3.3
N31M Braeburn, Yuko 44.22 13 P P 22 56 33.5 +3.0
baz=207
L26K Log Cabin Wild 44.34 8 P P 22 56 33.0 +1.6
baz=196
121A Cookes Peak, D 44.37 63 P P 22 56 33.4 +1.1
baz=265
MVCO Mesa Verde 44.41 56 P P 22 56 33.8 +1.2
baz=260
BOZ Bozeman (W) 44.42 44 P P 22 56 34.1 +1.6
baz=249
MCK McKinley 44.49 4 P P 22 56 34.3 +1.6
baz=189
J19K Poorman 44.54 360 P P 22 56 35.2 +2.2
baz=180
N32M Quiet Lake 44.55 15 P P 22 56 35.9 +2.7
baz=211
M29M Somme Creek 44.55 11 P P 22 56 35.9 +2.7
baz=203
L27K Beaver Creek, 44.58 9 P P 22 56 35.0 +1.6
baz=198
BCAR Beaver Creek A 44.59 9 P 22 56 34.0 +0.5
YNR Norris Junctio 44.74 45 P P 22 56 50.4 +15
BPAW Bear Paw Mtn. 44.74 3 P P 22 56 37.5 +2.9
baz=186
K24K Donnelly Dome 44.82 6 P P 22 56 37.6 +2.4
baz=193
BW06 Boulder Array 44.91 48 P P 22 56 37.4 +0.8
baz=253
PDAR Pinedale Array 44.91 48 P P 22 56 37.8 +1.3
comp=Z,3.1nm,1.0s,baz=251,slow=4.5,SNR=9.2
comp=Z,3.1nm,1.0s
TOAD Toad River Com 45.03 22 P P 22 56 39.8 +2.9
baz=222
M31M Drury Creek, Y 45.16 14 P P 22 56 39.7 +1.7
baz=208
SCRK Sand Creek 45.18 7 P P 22 56 39.0 +0.7
baz=195
L29M L29M 45.23 11 P P 22 56 42.1 +3.5
baz=203
WRH Wood River Hil 45.28 4 P P 22 56 38.9 0.0
FARO Faro, Yukon 45.42 14 P P 22 56 43.0 +3.0
baz=210
K27K Chicken 45.47 8 P P 22 56 43.1 +2.7
K27K IAmb IAmb 22 57 15.5
comp=Z,26nm,1.6s
K27K Chicken 45.47 8 P P 22 56 42.0 +1.6
baz=198
J25K Salcha River, 45.66 6 P P 22 56 43.1 +1.2
baz=193,SNR=6.5
IL31 45.67 5 P P 22 56 42.3 +0.4
IL31 IAmb IAmb 22 56 59.5
comp=Z,14nm,1.4s
ILAR Eielson Array 45.67 5 P P 22 56 41.4 -0.6
comp=Z,2.9nm,0.9s,baz=196,slow=6.9,SNR=16
ILAR PcP PcP 22 58 21.2 +1.3
comp=Z,0.6nm,1.0s,baz=165,slow=3.7,SNR=1.6
comp=Z,2.9nm,0.9s
MLY Manley 45.68 3 P P 22 56 42.7 +0.6
baz=186
ANMO Albuquerque 45.72 60 P P 22 56 44.1 +1.1
baz=263
J26L Joseph Creek 45.74 7 P P 22 56 44.8 +2.2
J26L IAmb IAmb 22 56 59.0
comp=Z,13nm,1.2s
J26L Joseph Creek 45.74 7 P P 22 56 44.1 +1.5
baz=196
MDM Murphy Dome 45.76 4 P P 22 56 44.0 +1.4
RLMT Red Lodge 45.82 45 P P 22 56 44.4 +0.7
baz=251
I23K Minto, Yukon-K 45.87 4 P P 22 56 46.7 +3.2
baz=188
SMCO Snowmass 45.96 54 P P 22 56 46.5 +1.3
K29M Barlow Dome 46.01 11 P P 22 56 46.7 +1.9
baz=204
H20K Anotleneega Mo 46.04 0 P P 22 56 46.3 +1.4
baz=181
TGTN Hyland Airport 46.15 18 P P 22 56 47.2 +1.4
baz=216
G16K Koyuk River 46.18 356 P P 22 56 48.9 +3.0
baz=171
H21K Melozitna Rive 46.24 1 P P 22 56 49.6 +3.2
baz=183
MMPY Sheldon Lake, 46.25 15 P P 22 56 49.1 +2.4
baz=212
EGAK Eagle 46.31 8 P P 22 56 49.6 +2.7
EGAK IAmb IAmb 22 57 05.7
comp=Z,16nm,1.3s
EGAK Eagle 46.31 8 P P 22 56 49.1 +2.1
baz=199
MNTX Cornudas Mount 46.35 64 P P 22 56 50.6 +2.8
baz=267,SNR=6.8
KOTAN Kotaneelee Air 46.38 21 P P 22 56 50.8 +3.1
baz=222
G18K Tagagawik 46.50 358 P P 22 56 51.9 +3.4
baz=176
H22K Ishtalitna Cre 46.52 2 P P 22 56 51.8 +3.2
baz=185
PRP Porcupine Dome 46.53 6 P P 22 56 54.1 +5.2
H23K Yukon River 46.53 3 P P 22 56 50.0 +1.2
H23K Yukon River 46.53 3 P P 22 56 50.6 +1.9
baz=188
IMAR Indian Mountai 46.55 1 P P 22 56 48.8 0.0
I26K Coal Creek Min 46.57 7 P P 22 56 50.7 +1.7
I26K Coal Creek Min 46.57 7 P P 22 56 50.9 +1.9
baz=196
H24K Noodor Dome 46.65 4 P P 22 56 51.5 +1.8
baz=190
VHRN Van Horn 46.65 66 P P 22 56 52.4 +2.0
G19K Purcell Mounta 46.71 359 P P 22 56 53.3 +3.2
baz=178
SDCO Great Sand Dun 46.85 56 P P 22 56 52.9 +0.8
SDCO Great Sand Dun 46.85 56 P P 22 56 52.3 +0.3
baz=261
J30M Hart River 46.89 11 P P 22 56 53.9 +2.1
baz=205
I27K Kandik River 47.04 8 P P 22 56 53.8 +1.0
baz=198
N23A Red Feather La 47.07 52 P P 22 56 54.8 +1.1
N23A Red Feather La 47.07 52 P P 22 56 54.6 +0.9
baz=258
ISCO Idaho Springs 47.11 53 P P 22 56 54.8 +0.8
baz=259
I28M Miner Creek 47.12 9 P P 22 56 55.1 +1.7
baz=200
F17K Baldwin Pennin 47.15 357 P P 22 56 56.3 +2.7
baz=172
H25L Birch Creek 47.23 5 P P 22 56 56.6 +2.4
baz=192
Q24A Divide 47.32 55 P P 22 56 56.6 +1.0
Q24A IAmb IAmb 22 57 09.6
comp=Z,9.0nm,1.1s
Q24A Divide 47.32 55 P P 22 56 56.2 +0.5
baz=260
F19K Shaleruckim Mo 47.42 359 P P 22 56 58.0 +2.5
baz=177
I30M Mount Dempster 47.48 11 P P 22 56 55.7 -0.6
I30M IAmb IAmb 22 57 01.8
comp=Z,12nm,1.1s
I30M Mount Dempster 47.48 11 P P 22 56 58.1 +1.8
baz=204,SNR=9.4
G24K Hadweenzic Riv 47.53 4 P P 22 56 58.6 +2.1
baz=190
FYU Fort Yukon 47.58 5 P P 22 56 55.1 -1.7
F20K Avaraait Lake 47.61 360 P P 22 56 58.0 +0.9
baz=180
T25A Trinidad 47.63 57 P P 22 56 56.1 -1.9
T25A IAmb IAmb 22 57 04.1
comp=Z,7.9nm,1.1s
T25A Trinidad 47.63 57 P P 22 56 58.6 +0.6
baz=263

H27K Steamboat Moun 47.65 8 P P 22 56 59.0 +1.5
baz=198,SNR=7.8
TX31 Lajitas Ar. Si 47.78 68 P P 22 56 57.3 -1.8
TX31 IAmb IAmb 22 57 05.4
comp=Z,8.8nm,1.0s
TXAR Lajitas Array 47.78 68 P P 22 56 57.3 -1.8
TXAR Lajitas Array 47.78 68 P P 22 57 00.5 +1.3
comp=Z,4.1nm,0.8s,baz=247,slow=7.2,SNR=19
comp=Z,4.1nm,0.8s
F21K Alatna River 47.80 1 P P 22 57 00.7 +2.1
baz=182
E17K Hotham Inlet 47.82 357 P P 22 57 01.4 +2.7
baz=172
COLD Coldfoot 47.90 3 P P 22 57 02.5 +3.1
baz=186
E19K Redstone River 48.03 359 P P 22 57 04.1 +3.7
baz=178
H29M Whitestone 48.07 9 P P 22 57 00.2 -0.5
H29M Whitestone 48.07 9 P P 22 57 02.8 +2.1
baz=202,SNR=5.8
G26K Porcupine Rive 48.09 6 P P 22 57 03.0 +2.2
baz=195,SNR=6.8
E18K Tukpahlearik C 48.10 357 P P 22 57 03.1 +2.2
baz=173
F22K John River 48.11 2 P P 22 57 03.0 +2.0
baz=184,SNR=7.5
G27K Doyon Strip 48.19 7 P P 22 57 00.7 -0.9
G27K Doyon Strip 48.19 7 P P 22 57 03.2 +1.5
baz=197
LAO LASA Array 48.33 44 P P 22 57 04.7 +1.6
baz=253
H31M Peel River 48.37 11 P P 22 57 02.5 -0.5
H31M IAmb IAmb 22 57 11.4
comp=Z,21nm,1.6s
H31M Peel River 48.37 11 P P 22 57 04.5 +1.5
baz=207
EPYK Eagle Plains 48.47 10 P P 22 57 04.8 +1.0
baz=204
BMAR Burnt Mountain 48.48 6 P P 22 57 02.6 -1.3
MNHN Monahans 48.57 65 P P 22 57 06.6 +1.4
E23K Chandalar 48.76 3 P P 22 57 08.6 +2.5
baz=187
G29M Pine Creek 48.77 9 P P 22 57 07.1 +1.0
baz=202
ODSA Odessa 48.77 64 P P 22 57 05.3 -1.5
F26K Sheenjek River 48.78 6 P P 22 57 07.7 +1.5
baz=194
E20K Nigu River 48.82 360 P P 22 57 08.6 +2.1
baz=179
E24K Your Creek 48.83 3 P P 22 57 22.4 +16
E24K Your Creek 48.83 3 P P 22 57 08.6 +2.0
baz=189
E21K Killik River 49.01 1 P P 22 57 10.1 +2.1
baz=182
E25K Arctic Village 49.08 5 P P 22 57 10.0 +1.5
baz=192
D19K Kuna River 49.09 359 P P 22 57 09.9 +1.3
baz=176
G30M tAoh Zraii Nji 49.11 10 P P 22 57 10.0 +1.2
baz=204
SAND Sanderson 49.12 67 P P 22 57 11.3 +1.9
SAND IAmb IAmb 22 57 12.6
comp=Z,5.6nm,0.8s
RSSD Black Hills 49.14 48 P P 22 57 08.8 -0.8
RSSD IAmb IAmb 22 57 14.5
comp=Z,10.0nm,1.1s
RSSD Black Hills 49.14 48 P P 22 57 09.6 0.0
baz=257
F28M Old Crow 49.17 8 P P 22 57 10.6 +1.4
F28M IAmb IAmb 22 57 14.8
comp=Z,8.7nm,1.1s
F28M Old Crow 49.17 8 P P 22 57 11.2 +2.0
baz=199
D20K Etivluk River 49.28 359 P P 22 57 11.4 +1.3
baz=178
PETK Petropavlovsk- 49.29 324 P P 22 57 11.4 +1.1
comp=Z,1.4nm,0.7s,baz=116,slow=13,SNR=3.3
comp=Z,1.4nm,0.7s
TOLK Toolik Lake Re 49.34 3 P P 22 57 12.5 +2.0
baz=187
C18K Utukok River 49.35 357 P P 22 57 11.9 +1.3
baz=173
G31M Satah River 49.39 11 IAmb IAmb 22 57 12.8
comp=Z,7.9nm,0.9s
G31M Satah River 49.39 11 P P 22 57 12.6 +1.8
baz=206
D22K Ayikyak River 49.47 1 P P 22 57 13.8 +2.3
baz=183
E27K Coleen River 49.52 7 P P 22 57 13.8 +2.0
baz=197
D23K Nanushuk River 49.62 2 P P 22 57 14.9 +2.3
baz=186
POST Post 49.69 63 P P 22 57 15.3 +1.6
POST IAmb IAmb 22 57 18.7
comp=Z,7.6nm,0.8s
C21K Whifeblade Rid 49.73 0 P P 22 57 16.5 +3.1
baz=181
F30M Barrier River 49.76 10 P P 22 57 14.6 +1.0
baz=204
D24K Happy Valley 49.88 3 P P 22 57 17.0 +2.4
D24K Happy Valley 49.88 3 P P 22 57 16.7 +2.1
baz=188
F31M Tsiigehtchic 49.95 11 P P 22 57 16.6 +1.6
F31M IAmb IAmb 22 57 35.5
comp=Z,19nm,1.2s
OZNA Ozona 49.97 66 P P 22 57 18.0 +2.1
OZNA IAmb IAmb 22 57 31.5
comp=Z,12nm,1.2s
SGCY Sterling City 49.98 64 P P 22 57 18.6 +2.6
SGCY IAmb IAmb 22 58 01.6
comp=Z,28nm,1.8s
B18K Kokolik River 50.09 357 P P 22 57 20.3 +4.2
baz=172
E28M Babbage River 50.16 7 P P 22 57 17.6 +1.0
baz=200,SNR=6.3
E29M Blow River 50.16 8 P P 22 57 15.9 -0.8
E29M IAmb IAmb 22 57 38.7
comp=Z,25nm,1.7s
E29M Blow River 50.16 8 P P 22 57 18.2 +1.5
baz=202
B21K Ikpikpuk River 50.19 0 P P 22 57 18.2 +1.4
baz=181
D25K Kavik River 50.20 4 P P 22 57 18.8 +1.8
D25K IAmb IAmb 22 57 23.4
comp=Z,17nm,1.4s
D25K Kavik River 50.20 4 P P 22 57 18.8 +1.8
baz=191
DRIO Del Rio 50.44 68 P P 22 57 22.0 +2.6
C24K Franklin Bluff 50.45 3 P P 22 57 20.2 +1.4
baz=188
C23K Itkillik River 50.49 2 P P 22 57 18.8 -0.4
C23K IAmb IAmb 22 57 27.7
comp=Z,16nm,1.2s
C23K Itkillik River 50.49 2 P P 22 57 20.5 +1.3
baz=186
B20K Meade River 50.59 359 P P 22 57 21.0 +1.1
baz=178
D27M Malcolm River 50.60 7 P P 22 57 25.4 +5.3
D27M IAmb IAmb 22 58 15.7
comp=Z,20nm,1.9s
D27M Malcolm River 50.60 7 P P 22 57 22.0 +2.0
baz=198
C27K Jago River 50.70 5 P P 22 57 22.6 +1.8
baz=194
INK Inuvik 50.76 10 P P 22 57 19.9 -1.3
INK Inuvik 50.76 10 P P 22 57 21.6 +0.4
baz=207,SNR=6.4
INK Inuvik 50.76 10 P P 22 57 20.6 -0.6
comp=Z,7.1nm,1.0s,baz=204,slow=9.4,SNR=12
comp=Z,7.1nm,1.0s
C26K Camden Bay 50.89 5 P P 22 57 24.0 +1.8
baz=193
B22K Teshekpuk Lake 50.93 1 P P 22 57 24.5 +2.1
baz=182
ABTX Abilene, Hawle 51.24 63 P P 22 57 26.9 +1.5
ABTX IAmb IAmb 22 57 27.2
comp=Z,7.7nm,0.9s
ABTX Abilene, Hawle 51.24 63 P P 22 57 26.1 +0.7
baz=270
YKA Yellowknife Ar 51.34 23 P P 22 57 24.9 -0.7
comp=Z,1.7nm,0.9s,baz=237,slow=7.6,SNR=12
YKA PcP PcP 22 58 41.2 +0.9
comp=Z,0.8nm,1.0s,baz=233,slow=6.1,SNR=1.6
comp=Z,1.7nm,0.9s
A22K Sinclair Lake 51.58 0 P P 22 57 29.9 +2.6
baz=180
WMOK Wichita Mounta 52.00 61 P P 22 57 32.3 +1.2
baz=268
C36M Paulatuk 53.47 13 P P 22 57 42.2 +0.9
baz=218
KSU1 Kansas State U 53.94 55 P P 22 57 44.6 -0.7
baz=266
ECSD EROS Data Cent 54.36 50 P P 22 57 49.8 +1.5
baz=263
A36M Sachs Harbour 55.38 11 IAmb IAmb 22 57 59.9
comp=Z,9.3nm,0.9s
A36M Sachs Harbour 55.38 11 P P 22 57 57.0 +1.9
baz=215,SNR=6.7
ULM Lac du Bonnet 55.86 42 P P 22 57 58.3 -0.7
comp=Z,4.4nm,0.9s,baz=271,slow=7.7,SNR=4.0
comp=Z,4.4nm,0.9s
R40A Maddies Statio 57.30 56 P P 22 58 07.2 -2.3
R40A IAmb IAmb 22 58 13.3
comp=Z,7.0nm,1.0s
PBMO Poplar Bluff 58.79 58 P P 22 58 18.9 -1.1
PBMO IAmb IAmb 22 58 23.9
comp=Z,8.1nm,1.0s
MJAR Matsushiro Arr 60.01 302 P P 22 58 30.1 +1.7
comp=Z,4.0nm,1.0s,baz=99,slow=4.8,SNR=6.6
comp=Z,4.0nm,1.0s
O48B Farmland 62.78 54 P P 22 58 47.4 +0.3
baz=273
RES Resolute Bay 63.74 15 P P 22 58 52.7 -0.1
comp=Z,2.1nm,0.7s,baz=249,slow=9.5,SNR=8.9
comp=Z,2.1nm,0.7s
MDJ Mudanjiang 66.09 311 P P 22 59 09.3 +0.6
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,350nm,10.5s
NJ2 Nanjing 76.50 299 eP P 23 00 11.5 -0.4
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,73nm,4.2s
STKA Stephens Creek 79.04 231 P P 23 00 26.2 +0.3
comp=Z,1.9nm,0.7s,baz=37,slow=10,SNR=2.2
comp=Z,1.9nm,0.7s
HHC Hu-ho-hao-te 79.81 310 eP P 23 00 30.6 +0.4
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,2μm,6.3s
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,980nm,6.9s
ASAR Alice Springs 81.17 241 P P 23 00 37.9 +0.2
comp=Z,1.9nm,0.8s,baz=62,slow=6.5,SNR=13
comp=Z,1.9nm,0.8s
SONM Songino Array 81.20 318 P P 23 00 40.2 +2.6
comp=Z,1.2nm,1.0s,baz=90,slow=4.9,SNR=4.4
comp=Z,1.2nm,1.0s
ZALV Zalesovo Beam 90.62 329 P P 23 01 25.5 +1.6
comp=Z,1.8nm,0.8s,baz=35,slow=5.3,SNR=7.5
comp=Z,1.8nm,0.8s
PZH PanZhiHua 92.41 299 P P 23 01 32.7 -0.3
PZH pmax pmax
comp=Z,10.0nm,0.6s
WMQ Urumqi 94.68 320 eP P 23 01 41.0 -2.0
WMQ pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 96.13 324 P P 23 01 51.6 +2.0
comp=Z,0.7nm,0.9s,baz=108,slow=7.7,SNR=3.9
comp=Z,0.7nm,0.9s
BVAR Borovoye Array 97.72 334 P Pdif 23 01 58.8 +2.2
comp=Z,0.3nm,0.5s,baz=5.7,slow=4.3,SNR=2.7
comp=Z,0.3nm,0.5s
BRTR Keskin Array B 120.56 352 PKP PKiKP 23 07 14.9 +0.9
comp=Z,0.3nm,0.7s,baz=29,slow=3.3,SNR=2.1
TORD Torodi Ar. Bea 140.52 37 PKhKP PKPpre 23 07 47.0
comp=Z,0.9nm,1.0s,baz=344,slow=4.9,SNR=3.6
TORD PKP PKiKP 23 07 54.0 -0.4
comp=Z,0.8nm,0.8s,baz=358,slow=4.7,SNR=3.6

NEIC ***04*** *22:50:59.3±1.3, 19°.413N±0°.009×155°.28W±0°.02, h5km±1km, Error ellipse: s-maj=3.7km s-min=1.6km az=97.0*

HVO 04 22:50:59.3±1.3**, 19°.412N**±0°.009×**155°.31W**±0°.02**, h4**km±4km**, ML3.6**/16**, ML3.1**/29(NEIC)**, Error ellipse: s-maj=2.5km s-min=1.1km az=110.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.02**	**66**	Pg	Pg	Pg	22 50 59.9	-0.4
UWE						Sg	22 51 00.6	-0.4
OBL	**Observatory Le**	**0.03**	**79**			Pg	22 51 00.3	0.0
OBL				IAML			22 51 00.8	
comp=E,16μm,1.3s								
SDHHI	**Sand Hill**	**0.03**	**140**			Pg	22 51 00.4	+0.1
NPH	**North Pit**	**0.03**	**90**			Pg	22 51 00.5	+0.2
UWB	**Uwekahuna B**	**0.04**	**70**	Pg		Pg	22 51 00.4	0.0
UWB						Sg	22 51 00.5	-0.7
UWB				IAML			22 51 01.9	
comp=E,12μm,0.2s								
RIM	**Rim**	**0.04**	**114**			Pg	22 51 00.1	-0.4
RIM				IAML			22 51 01.6	
comp=N,10μm,2.6s								
SBLHI	**Steaming Bluff**	**0.05**	**71**			Pg	22 51 00.6	+0.1
SBLHI						Sg	22 51 00.7	-0.6
SBLHI				IAML			22 51 02.1	
comp=E,22μm,0.5s								
SBLHI				IAML			22 51 02.2	
comp=N,41μm,0.6s								
KKO	**Keanakako'i**	**0.05**	**107**			Pg	22 51 00.7	+0.1
BYL	**Byron's Ledge**	**0.05**	**90**			Pg	22 51 00.5	-0.1
BYL				IAML			22 51 02.4	
comp=E,21μm,1.1s								
HATHI	**Halema'uma'u T**	**0.05**	**78**			Pg	22 51 00.8	+0.2
HATHI				IAML			22 51 02.5	
comp=N,19μm,0.2s								
HATHI				IAML			22 51 02.6	
comp=E,10μm,0.3s								
RSD	**Rainshed**	**0.06**	**34**	Pg		Pg	22 51 00.6	-0.2
RSD						Sg	22 51 00.8	-1.0
RSD				IAML			22 51 02.8	
comp=N,28μm,0.9s								
RSD				IAML			22 51 02.8	
comp=E,34μm,1.2s								
MLH	**Mauna Loa**	**0.11**	**320**			Pg	22 51 01.3	-0.2
MLH						Sg	22 51 01.4	-1.6
HLP	**Hilina Pali**	**0.12**	**177**			Pg	22 51 00.9	-0.7
HLP				IAML			22 51 03.7	
comp=E,12μm,2.6s								
HLP				IAML			22 51 05.4	
comp=N,8μm,0.4s								
STCH	**Steam Cracks**	**0.18**	**98**	Pg	Pg	Pg	22 51 00.2	-2.7
STCH				IAML			22 51 06.3	
comp=N,6μm,2.4s								
STCH				IAML			22 51 06.8	
comp=E,5μm,1.3s								
HMH	**Humu'ula Sheep**	**0.25**	**320**			Pg	22 51 04.1	-0.1
HMH				IAML			22 51 09.5	
comp=E,8μm,2.5s								
MWH	**Moku'aweowe**	**0.28**	**285**	Pg		Pg	22 51 05.7	+0.9
HPO	**Honuapo**	**0.39**	**215**			Pg	22 51 07.3	+0.4

IDC ***04*** *22:55:43.8±2.0, 29°.33S×177°.23W, h55km±13km, mb3.6/5, mbtmp3.9/5, Error ellipse: s-maj=31.6km s-min=28.3km az=172.0*

ISC 04 22:55:40.7±0.8**, 29°.54S**±0°.10×**177°.1W**±0°.1**, h31**km**, n18, σ1°38/18, mb4.0/5, Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.77**	**292**	P		**Pn**	**22 55 55.6**	**+0.1**
1μm,0.4s,baz=86,slow=19,SNR=11								
RAO				S		**Sn**	**22 56 08.4**	**+2.3**
2μm,0.3s,baz=72,slow=20,SNR=7.1								
URZ	**Urewera**	**9.93**	**207**	P		**Pn**	**22 58 02.0**	**+0.8**
1.5nm,0.3s,baz=29,slow=20,SNR=1.7								
URZ				S		**Sn**	**22 59 50.2**	**-1.4**
3.0nm,0.3s,baz=150,slow=20,SNR=8.3								
STKA	**Stephens Creek**	**35.44**	**256**	P		**P**	**23 02 33.7**	**-0.5**
1.3nm,0.3s,baz=90,slow=10,SNR=4.1								
1.3nm,0.3s								
ASAR	**Alice Springs**	**43.95**	**266**	P		**P**	**23 03 44.0**	**-1.2**
1.2nm,0.7s,baz=108,slow=7.3,SNR=8.4								
1.2nm,0.7s								
WRA	**Warramunga Arr**	**44.86**	**271**	P		**P**	**23 03 51.4**	**-1.0**
1.2nm,0.6s,baz=110,slow=7.6,SNR=5.7								
1.2nm,0.6s								

QSPA	**South Pole Qui**	**60.56**	**180**	P		**P**	**23 05 50.4**	**+2.4**
	2.8nm,1.0s,baz=6.2,slow=2.9,SNR=8.0							
	2.8nm,1.0s							
H03S2	**Juan Fernandez**	**80.28**	**123**	T		T	00 36 07.4	
	baz=240							
H03S1	**Juan Fernandez**	**80.29**	**123**	T		T	00 36 09.0	
	baz=240,slow=74							
H03S3	**Juan Fernandez**	**80.30**	**123**	T		T	00 36 08.7	
	baz=240,slow=74							
TXAR	**Lajitas Array**	**91.27**	**57**	P		**P**	**23 08 45.2**	**+1.8**
	0.1nm,0.4s,baz=225,slow=2.2,SNR=1.5							
	0.1nm,0.4s							
BVAR	**Borovoye Array**	**126.34**	**316**	PKP		**PKPdf**	**23 14 39.5**	**-0.4**
	0.3nm,0.5s,baz=77,slow=7.6,SNR=2.4							
FINES	**FINESS Array B**	**144.60**	**341**	PKP		**PKPab**	**23 15 10.6**	**-1.5**
	2.2nm,0.7s,baz=66,slow=3.5,SNR=10.0							
KBZ	**Khabaz**	**145.27**	**305**	PKPbc		**PKPab**	**23 15 14.5**	**-0.5**
	1.5nm,0.9s,baz=225,slow=2.9,SNR=4.3							
NOA	**NORSAR Array B**	**148.02**	**352**	PKPbc		**PKPbc**	**23 15 21.4**	**-1.0**
	0.3nm,0.7s,baz=5.7,slow=3.8,SNR=3.3							
HFS	**Hagfors**	**148.56**	**350**	PKPbc		**PKPbc**	**23 15 22.1**	**-1.7**
	0.7nm,0.5s,baz=0.0,slow=4.3,SNR=5.4							
AKASG	**Malin Array Be**	**151.08**	**324**	PKPbc		**PKPbc**	**23 15 29.1**	**-1.1**
	0.7nm,0.5s,baz=37,slow=2.6,SNR=5.2							
AKASG				PKPab		**sPKPdf**	**23 15 36.3**	**-0.3**
	0.8nm,0.4s,baz=42,slow=3.5,SNR=9.7							
MMAI	**Mount Meron Ar**	**152.07**	**285**	PKPbc		**PKiKP**	**23 15 34.3**	**+0.7**
	3.5nm,0.7s,baz=88,slow=7.2,SNR=7.3							
BRTR	**Keskin Array B**	**152.87**	**300**	PKPbc		**PKPbc**	**23 15 34.3**	**-0.6**
	0.5nm,0.7s,baz=104,slow=4.6,SNR=4.3							

NEIC ***04*** *22:56:49.0±0.7, 19°.25N±0°.04×155°.15W±0°.03, h5km±2km, Error ellipse: s-maj=7.3km s-min=3.1km az=215.0*

HVO 04 22:56:50.7±0.7, 19°.31N±0°.03×155°.25W±0°.02, h3km±6km, Md3.0/6, ML2.9/18(NEIC), **Error ellipse: s-maj=5.4km s-min=1.3km az=207.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.05**	**256**		Pg	22 56 52.3	+0.4
PUH	**Pauahi**	**0.07**	**28**		Pg	22 56 52.6	+0.3
RIM	**Rim**	**0.09**	**347**	Pg	Pg	22 56 52.6	0.0
RIM				IAML		22 56 54.8	
	comp=E,3μm,1.1s						
KKO	**Keanakako`i**	**0.09**	**352**	Pg	Pg	22 56 52.3	-0.3
KKO				IAML		22 56 55.1	
	comp=E,3μm,0.2s						
SDHHI	**Sand Hill**	**0.09**	**334**	Pg	Pg	22 56 52.7	+0.1
SDHHI				IAML		22 56 54.2	
	comp=E,6μm,0.6s						
SDHHI				IAML		22 56 54.5	
	comp=N,7μm,0.6s						
BYL	**Byron's Ledge**	**0.10**	**356**	Pg	Pg	22 56 52.8	-0.1
BYL				IAML		22 56 54.7	
	comp=N,7μm,3.9s						
WRMHI	**West Rim**	**0.11**	**336**	Pg	Pg	22 56 52.7	-0.2
WRMHI				IAML		22 56 55.7	
	comp=E,4μm,0.6s						
HATHI	**Halema'uma'u T**	**0.11**	**356**	Pg	Pg	22 56 53.0	-0.1
HATHI				IAML		22 56 55.1	
	comp=N,6μm,3.9s						
HATHI				IAML		22 56 55.9	
	comp=E,3μm,0.8s						
KHU	**Kahuku**	**0.35**	**260**		Pg	22 56 57.5	+0.1
KHU	**Kahuku**	**0.35**	**260**	IAML		22 57 03.0	
	comp=E,4μm,4.2s						
KHU				IAML		22 57 07.9	
	comp=N,7μm,4.0s						
HMH	**Humu'ula Sheep**	**0.36**	**323**		Pg	22 56 57.6	-0.3
HMH				IAML		22 57 04.4	
	comp=N,5μm,0.2s						
HMH	**Humu'ula Sheep**	**0.36**	**323**		Sg	22 57 04.3	+1.6
MWH	**Moku'aweowe**	**0.37**	**298**		Pg	22 56 58.0	0.0
MWH	**Moku'aweowe**	**0.37**	**298**	IAML		22 57 05.8	
	comp=N,7μm,5.0s						
MWH				IAML		22 57 07.8	
	comp=E,9μm,4.1s						
HUH	**Hualalai**	**0.67**	**304**	Pg	Pg	22 57 03.8	+0.2
HPAH	**Hawaii Prepara**	**0.83**	**330**	Pg	Pg	22 57 06.6	-0.1
MHA	**Mahukona**	**1.07**	**325**	Pg	Pg	22 57 10.9	-0.3

GRAL ***04*** *22:58:21.9±0.3, 34°.66N×33°.96E, h24km±63km, MD3.1*
NIC ***04*** *22:58:22.9, 34°.65N×33°.86E, h27km±1km, Ml1.4/4*
GII ***04*** *22:58:24.0±0.4, 34°.502N±0°.003×34°.305E±0°.001, h7km, Mws1.9, confirmed*

ISC 04 22:58:21.4±1.3, 34°.67N±0°.04×33°.98E±0°.04, h27km±14km, n35, σ0s97/43, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PARAL	**Paralimni**	**0.33**	**9**	P	**Pn**	**22 58 31.1**	**+0.6**
PARAL				S	**Sn**	**22 58 38.6**	**+2.2**
PARAL				AML	AML	22 58 40.0	
	0.1nm,0.4s						
PARAL				AML	AML	22 58 40.4	
	0.2nm,0.5s						
MVOU	**Mavrovouni**	**0.45**	**321**	P	**Pn**	**22 58 31.7**	**-0.4**
MVOU				S	**Sn**	**22 58 39.1**	**-0.1**
MVOU				AML	AML	22 58 39.5	
	0.2nm,0.3s						
MVOU				AML	AML	22 58 40.0	
	0.2nm,0.3s						
CSS	**Mathiatis**	**0.61**	**299**	*i*P	**Pn**	**22 58 33.7**	**-0.6**
CSS				S	**Sb**	**22 58 42.0**	**+0.3**
CSS				AML	AML	22 58 43.1	
	0.1nm,0.4s						
CSS				AML	AML	22 58 43.3	
	0.1nm,0.4s						
ASGA	**Asgata**	**0.61**	**281**	P	**Pn**	**22 58 33.9**	**-0.4**
ASGA				S	**Sn**	**22 58 42.8**	**-0.5**
ASGA				AML	AML	22 58 44.1	
	0.1nm,0.3s						
ASGA				AML	AML	22 58 44.3	
	0.1nm,0.1s						
APOL	**The Sanctuary**	**0.92**	**271**	P	**Pb**	**22 58 38.2**	**-0.4**
APOL				S	**Sn**	**22 58 50.5**	**-0.3**
TROD	**Troodos**	**0.95**	**287**	P	**Pb**	**22 58 39.1**	**-0.3**
NATA	**Nata**	**1.16**	**276**	P	**Pb**	**22 58 42.2**	**-0.7**
NATA				S	**Sb**	**22 58 58.1**	**+0.5**
BHL	**Bhannes**	**1.58**	**118**	*e*P	**Pn**	**22 58 47.9**	**+0.1**
DQRL	**Deir Qamar**	**1.63**	**125**	*e*P	**Pn**	**22 58 48.4**	**0.0**
HWQ	**Hawqa**	**1.67**	**103**	*e*P	**Pn**	**22 58 49.1**	**+0.1**
HWQ				*e*S	**Sn**	**22 59 09.2**	**-0.4**
ZAHL	**Zahle**	**1.78**	**116**	*e*P	**Pn**	**22 58 50.4**	**-0.1**
BEIL	**Beino**	**1.83**	**93**	*e*P	**Pn**	**22 58 51.2**	**+0.1**
BEIL				*e*S	**Sn**	**22 59 12.8**	**-0.5**
HNTI	**Hanita**	**1.87**	**147**	S	**Sn**	**22 59 13.2**	**-1.1**
HNTI	**Hanita**	**1.87**	**147**	P	**Pn**	**22 58 52.5**	**+0.9**
RCY	**Rachaya**	**1.94**	**127**	*e*P	**Pn**	**22 58 52.7**	**0.0**
GEM	**Giv'at Ha'Em**	**2.02**	**136**	S	**Sn**	**22 59 16.5**	**-1.6**
GEM	**Giv'at Ha'Em**	**2.02**	**136**	P	**Pn**	**22 58 53.5**	**-0.1**
NATI	**Neve Ativ**	**2.03**	**133**	S	**Sn**	**22 59 16.6**	**-1.5**
NATI	**Neve Ativ**	**2.03**	**133**	P	**Pn**	**22 58 53.8**	**+0.1**
MMA0B	**Mount Meron ar**	**2.03**	**144**	P	**Pn**	**22 58 53.4**	**-0.5**
OFRI	**`Ofer**	**2.21**	**157**	P	**Pn**	**22 58 57.6**	**+1.3**
OFRI	**`Ofer**	**2.21**	**157**	S	**Sn**	**22 59 21.3**	**-1.4**
KSHT	**Keshet**	**2.27**	**137**	S	**Sn**	**22 59 23.1**	**-1.2**
KSHT	**Keshet**	**2.27**	**137**	P	**Pn**	**22 58 58.1**	**+0.9**
MMLI	**Mount Malkishu**	**2.53**	**151**	P	**Pn**	**22 59 01.4**	**+0.7**
MMLI	**Mount Malkishu**	**2.53**	**151**	S	**Sn**	**22 59 29.7**	**-1.0**
HMDT	**Nahal Hemdat**	**2.73**	**151**	P	**Pn**	**22 59 04.8**	**+1.3**
HMDT	**Nahal Hemdat**	**2.73**	**151**	S	**Sn**	**22 59 35.0**	**-0.6**
AMAZ	**Amatzia**	**3.22**	**166**	P	**Pn**	**22 59 12.2**	**+1.9**
AMAZ	**Amatzia**	**3.22**	**166**	S	**Sn**	**22 59 48.4**	**+0.7**
DSI	**Dead Sea**	**3.31**	**159**	S	**Sn**	**22 59 49.3**	**-0.4**
DSI	**Dead Sea**	**3.31**	**159**	P	**Pn**	**22 59 12.6**	**+1.3**
YTIR	**Yattir**	**3.43**	**163**	P	**Pn**	**22 59 15.0**	**+1.8**
YTIR	**Yattir**	**3.43**	**163**	S	**Sn**	**22 59 53.7**	**+0.7**
GHAJ	**Ghor Haditha**	**3.61**	**158**	P	**Pn**	**22 59 17.1**	**+1.5**

NEIC ***04*** *22:59:04.6±1.6, 19°.47N±0°.01×155°.343W±0°.009, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=156.0*

HVO 04 22:59:05.1±1.3, 19°.41N±0°.01×155°.32W±0°.01, h5km±1km, ML2.9/31, **ML2.8**/35(NEIC), **Error ellipse: s-maj=2.3km s-min=1.2km az=146.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**96**	Pg	Pg	22 59 06.3	+0.1
WRMHI					Sg	22 59 07.7	+0.7
UWE	**Uwekahuna**	**0.03**	**66**	Pg	Pg	22 59 06.5	+0.2
UWE					Sg	22 59 07.9	+0.8
SDHHI	**Sand Hill**	**0.03**	**126**	Pg	Pg	22 59 06.5	+0.2
SDHHI					Sg	22 59 06.8	-0.3
SDHHI				IAML		22 59 07.3	
	comp=E,12μm,0.2s						
SDHHI				IAML		22 59 07.5	
	comp=N,10μm,0.2s						
OBL	**Observatory Le**	**0.04**	**77**		Pg	22 59 05.7	-0.7
OBL				IAML		22 59 07.9	
	comp=E,8μm,0.4s						
UWB	**Uwekahuna B**	**0.04**	**69**		Pg	22 59 06.3	-0.2
UWB					Sg	22 59 06.7	-0.7
UWB				IAML		22 59 08.1	
	comp=E,8μm,1.1s						
UWB				IAML		22 59 08.3	
	comp=N,11μm,1.4s						
RIM	**Rim**	**0.05**	**106**		Pg	22 59 06.1	-0.3
KKO	**Keanakako`i**	**0.05**	**102**		Pg	22 59 06.3	-0.2
SBLHI	**Steaming Bluff**	**0.05**	**71**	Pg	Pg	22 59 06.4	-0.2
SBLHI					Sg	22 59 07.0	-0.6
SBLHI				IAML		22 59 08.4	
	comp=E,9μm,0.2s						
BYL	**Byron's Ledge**	**0.06**	**87**		Pg	22 59 06.8	+0.1
BYL				IAML		22 59 08.7	
	comp=N,6μm,0.5s						
BYL				IAML		22 59 08.7	
	comp=E,4μm,0.5s						
HATHI	**Halema'uma'u T**	**0.06**	**76**		Pg	22 59 06.6	-0.1
HATHI				IAML		22 59 06.9	
	comp=N,8μm,3.8s						
HATHI					Sg	22 59 06.9	-0.8
HATHI				IAML		22 59 08.9	
	comp=E,11μm,0.2s						
RSD	**Rainshed**	**0.07**	**38**		Pg	22 59 06.8	0.0
RSD				IAML		22 59 09.0	
	comp=N,7μm,3.0s						
RSD				IAML		22 59 09.9	
	comp=E,5μm,0.2s						
MLH	**Mauna Loa**	**0.10**	**325**		Pg	22 59 07.7	+0.3
PUH	**Pauahi**	**0.11**	**109**		Pg	22 59 07.5	+0.1
PUH				IAML		22 59 08.2	
	comp=E,4μm,4.5s						
PUH				IAML		22 59 09.1	
	comp=N,4μm,3.3s						
HLP	**Hilina Pali**	**0.11**	**173**		Pg	22 59 07.6	+0.1
HLP				IAML		22 59 08.1	
	comp=N,5μm,3.5s						
KNHH	**Kane Nui o Ham**	**0.15**	**101**		Pg	22 59 08.5	+0.4
STCH	**Steam Cracks**	**0.19**	**97**	Pg	Pg	22 59 07.7	-1.2
STCH				IAML		22 59 13.3	
	comp=N,2μm,1.9s						
NPOC	**North of Pu'u**	**0.20**	**94**	Pg	Pg	22 59 08.6	-0.5
HMH	**Humu'ula Sheep**	**0.24**	**322**		Pg	22 59 10.1	+0.1
HMH					Sg	22 59 10.4	-2.9
HMH				IAML		22 59 12.7	
	comp=N,3μm,4.2s						
HMH				IAML		22 59 18.1	
	comp=E,2μm,1.8s						
MWH	**Moku'aweowe**	**0.27**	**286**		Pg	22 59 10.4	-0.1
MWH				IAML		22 59 17.6	
	comp=E,2μm,2.0s						
KHU	**Kahuku**	**0.32**	**240**		Pg	22 59 10.3	-1.1
KHU					Sg	22 59 11.2	-4.5
HUH	**Hualalai**	**0.56**	**300**	Pg	Pg	22 59 15.9	0.0
HPAH	**Hawaii Prepara**	**0.71**	**330**		Pg	22 59 17.6	-1.2
MHA	**Mahukona**	**0.95**	**325**	Pg	Pg	22 59 21.1	-2.3

HVO ***04*** *23:08:18.7±1.3, 19°.38N±0°.02×154°.99W±0°.03, h-1km±9km, Md2.5/3, ML2.8/22(NEIC), Error ellipse: s-maj=4.5km s-min=1.6km az=132.0*

NEIC 04 23:08:20.4±1.7, 19°.37N±0°.03×155°.04W±0°.02, h5km±2km, Error ellipse: s-maj=5.9km s-min=2.9km az=318.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.06**	**280**	Pg	Pg	23 08 21.9	0.0
JOKA	**Jonika Flow**	**0.07**	**30**		Pg	23 08 21.2	-0.8
NPOC	**North of Pu'u**	**0.07**	**286**		Pg	23 08 21.7	-0.3
NPOC				IAML		23 08 24.6	
	comp=N,4μm,0.3s						
STCH	**Steam Cracks**	**0.08**	**278**	Pg	Pg	23 08 21.7	-0.5
STCH				IAML		23 08 25.0	
	comp=E,4μm,1.6s						
PUH	**Pauahi**	**0.17**	**270**	Pg	Pg	23 08 23.8	+0.1
PUH				IAML		23 08 28.5	
	comp=E,2μm,2.6s						
BYL	**Byron's Ledge**	**0.21**	**280**	Pg	Pg	23 08 23.7	-0.8
BYL				IAML		23 08 29.4	
	comp=E,1μm,1.9s						
BYL				IAML		23 08 32.3	
	comp=N,2μm,2.2s						
HATHI	**Halema'uma'u T**	**0.21**	**283**		Sg	23 08 28.8	+1.3
HATHI	**Halema'uma'u T**	**0.21**	**283**	Pg	Pg	23 08 24.0	-0.6
HATHI	**Halema'uma'u T**	**0.21**	**283**	IAML		23 08 29.5	
	comp=N,2μm,2.2s						
HATHI				IAML		23 08 31.5	
	comp=E,2μm,0.4s						
RIM	**Rim**	**0.22**	**275**	Pg	Pg	23 08 24.2	-0.6
RIM				IAML		23 08 27.2	
	comp=N,2μm,2.5s						
RIM				IAML		23 08 31.5	
	comp=E,1μm,0.6s						
SBLHI	**Steaming Bluff**	**0.22**	**284**	Pg	Pg	23 08 23.8	-0.9
SBLHI				IAML		23 08 28.5	
	comp=E,2μm,4.8s						
SBLHI				IAML		23 08 30.5	
	comp=N,1μm,2.1s						
NPH	**North Pit**	**0.23**	**279**	Pg	Pg	23 08 24.8	-0.1
NPH				IAML		23 08 25.0	
	comp=N,1μm,3.0s						
NPH				IAML		23 08 28.6	
	comp=E,1μm,4.7s						
MLH	**Mauna Loa**	**0.35**	**290**	Pg	Pg	23 08 27.3	+0.1
HMH	**Humu'ula Sheep**	**0.47**	**299**		Sb	23 08 37.4	-1.4
HMH	**Humu'ula Sheep**	**0.47**	**299**	Pg	Pg	23 08 29.4	-0.1
HMH	**Humu'ula Sheep**	**0.47**	**299**	IAML		23 08 39.3	
	comp=N,5μm,1.9s						
HMH				IAML		23 08 44.6	
	comp=E,3μm,2.7s						
KHU	**Kahuku**	**0.56**	**257**		Sg	23 08 39.6	+1.2

NEIC ***04*** *23:11:09.8±1.5, 19°.41N±0°.03×155°.33W±0°.01, h3km±7km, Error ellipse: s-maj=4.3km s-min=1.4km az=170.0*

HVO 04 23:11:09.5±1.7, 19°.41N±0°.02×155°.33W±0°.01, h4km±4km, ML3.0/37, **ML2.6**/33(NEIC), **Error ellipse: s-maj=2.9km s-min=1.3km az=163.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**90**	Pg	Pg	23 11 09.9	-0.6
WRMHI					Sg	23 11 11.4	+0.2
SDHHI	**Sand Hill**	**0.03**	**120**	Pg	Pg	23 11 10.7	+0.1
SDHHI					Sg	23 11 11.3	-0.1
SDHHI				IAML		23 11 11.7	
	comp=E,10μm,0.3s						
SDHHI				IAML		23 11 11.7	
	comp=N,8μm,0.3s						
UWE	**Uwekahuna**	**0.03**	**64**	Pg	Pg	23 11 08.2	-2.5
UWE				IAML		23 11 10.7	
	comp=E,5μm,0.4s						
OBL	**Observatory Le**	**0.04**	**74**	Pg	Pg	23 11 09.2	-1.5
OBL				IAML		23 11 11.0	
	comp=N,5μm,0.6s						
OBL				IAML		23 11 11.2	
	comp=E,5μm,0.6s						
NPH	**North Pit**	**0.04**	**82**	Pg	Pg	23 11 09.3	-1.4
NPH					Sg	23 11 12.0	+0.4
NPH				IAML		23 11 12.3	
	comp=E,5μm,0.4s						
NPH				IAML		23 11 12.4	
	comp=N,11μm,2.2s						
UWB	**Uwekahuna B**	**0.05**	**68**		Pg	23 11 10.6	-0.2
UWB				IAML		23 11 12.6	
	comp=N,6μm,0.5s						
RIM	**Rim**	**0.05**	**103**		Pg	23 11 10.7	-0.1
KKO	**Keanakako`i**	**0.06**	**99**		Pg	23 11 10.7	-0.3
BYL	**Byron's Ledge**	**0.06**	**85**		Pg	23 11 11.4	+0.4
BYL				IAML		23 11 12.3	
	comp=E,3μm,0.8s						
HATHI	**Halema'uma'u T**	**0.06**	**75**		Pg	23 11 10.7	-0.4
HATHI				IAML		23 11 13.1	
	comp=N,4μm,0.5s						
HATHI				IAML		23 11 13.1	
	comp=E,4μm,0.2s						
RSD	**Rainshed**	**0.07**	**38**	Pg	Pg	23 11 11.4	+0.2
RSD				IAML		23 11 13.2	
	comp=E,5μm,0.3s						
MLH	**Mauna Loa**	**0.10**	**327**		Pg	23 11 12.5	+0.7
MLH	**Mauna Loa**	**0.10**	**327**	IAML		23 11 15.0	
	comp=E,13μm,0.3s						
MLH				IAML		23 11 15.4	
	comp=N,18μm,0.2s						
PUH	**Pauahi**	**0.11**	**107**		Pg	23 11 12.8	+1.1
PUH				IAML		23 11 14.6	
	comp=N,4μm,3.1s						
PUH				IAML		23 11 14.9	
	comp=E,4μm,0.7s						
HTC	**Hot Caves**	**0.18**	**202**		Pg	23 11 13.5	+0.4
STCH	**Steam Cracks**	**0.19**	**96**		Pg	23 11 13.4	+0.1
STCH				IAML		23 11 17.2	
	comp=E,2μm,3.3s						
JCUZ	**Jacuzzi**	**0.21**	**96**		Pg	23 11 11.8	-1.8
JCUZ				IAML		23 11 16.3	
	comp=N,2μm,2.9s						
JCUZ				IAML		23 11 18.0	
	comp=E,2μm,2.4s						
HMH	**Humu'ula Sheep**	**0.25**	**323**		Pg	23 11 13.4	-0.9
HMH	**Humu'ula Sheep**	**0.25**	**323**		Sg	23 11 18.8	+1.2
MWH	**Moku'aweowe**	**0.27**	**287**		Pg	23 11 14.3	-0.5
KHU	**Kahuku**	**0.32**	**240**		Pg	23 11 10.9	-4.8
ALEP	**Alea Permanent**	**0.33**	**294**		Pg	23 11 16.0	0.0
ALEP					Sg	23 11 20.8	+0.3
POHA	**Pohakuloa**	**0.40**	**331**		Sg	23 11 23.5	+0.8
HUH	**Hualalai**	**0.56**	**300**		Pg	23 11 20.1	-0.2
HPAH	**Hawaii Prepara**	**0.71**	**331**		Pg	23 11 22.0	-1.2
MHA	**Mahukona**	**0.95**	**325**	Pg	Pg	23 11 25.1	-2.6
HLK	**Haleakala**	**1.60**	**327**	Pn	Pn	23 11 37.8	-1.1
KHLH	**Kahului Airpor**	**1.81**	**325**	Pn	Pn	23 11 39.0	-2.5

NEIC ***04*** *23:20:43.8±1.9, 10°.29N±0°.03×62°.68W±0°.08, h10km±1km, mb4.2/5, Mwr4.1(CAR), Error ellipse: s-maj=13.9km s-min=5.4km az=100.0*
TRN ***04*** *23:20:45.7, 10°.34N×62°.59W, h15km, MD4.0, Gulf of Paria.*
FUNV ***04*** *23:20:46.2, 10°.40N×62°.51W, h23km, MW4.2*
CAR ***04*** *23:20:46.1±3.0, 10°.34N±0°.05×62°.55W±0°.08, h16km±6km, Error ellipse: s-maj=0.0km s-min=0.0km az=175.0*

ISC 04 23:20:46.2±1.0, 10°.31N±0°.04×62°.66W±0°.04, h47km±15km, n60, σ1s67/89, 3C-8D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.67**	**303**	*i*P	**Pn**	**23 20 58.9**	**-0.6**
CRUV				*e*S	**Sn**	**23 21 08.8**	**-0.3**
CRUV	**Carupano**	**0.67**	**303**	*e*P	**Pn**	**23 20 59.0**	**-0.5**
CRUV				*e*S	**Sn**	**23 21 09.4**	**+0.3**
TPP	**Pointe-a-Pierr**	**1.19**	**90**	*e*P	**Pn**	**23 21 06.5**	**0.0**
TPP				*e*S	**Sn**	**23 21 22.4**	**+0.8**
TRN	**Trinidad (W)**	**1.28**	**75**	*e*P	**Pn**	**23 21 06.7**	**-1.0**
TRN				*e*S	**Sn**	**23 21 23.2**	**-0.6**
CUMV	**Cumana_UDO**	**1.51**	**274**	*i*P	**Pn**	**23 21 14.3**	**+3.4**
CUMV				*e*S	**Sn**	**23 21 33.6**	**+4.1**
TBH	**Brigand Hill**	**1.58**	**84**	*e*P	**Pn**	**23 21 12.4**	**+0.6**
PCRV	**Puerto La Cruz**	**1.95**	**266**	*i*P	**Pn**	**23 21 19.0**	**+2.0**
PCRV				*e*S	**Sn**	**23 21 43.2**	**+2.9**
PCRV	**Puerto La Cruz**	**1.95**	**266**	*e*S	**Sn**	**23 21 48.4**	**+8.1**
GRFF	**Grenada Fort F**	**1.95**	**28**	*e*P	**Pn**	**23 21 18.1**	**+1.1**
GRFF				*e*S	**Sn**	**23 21 41.7**	**+1.5**
TPR	**Prospect**	**2.04**	**65**	*e*P	**Pn**	**23 21 18.6**	**+0.4**
GRGR	**Grenville**	**2.06**	**29**		**Pn**	**23 21 19.0**	**+0.5**
GRGR	**Grenville**	**2.06**	**29**	*e*P	**Pn**	**23 21 19.5**	**+1.0**
GRGR				*e*S	**Sn**	**23 21 42.9**	**-0.1**
GRW	**Mount Saint Ca**	**2.08**	**28**	*e*P	**Pn**	**23 21 19.1**	**+0.3**
GRW				*e*S	**Sn**	**23 21 44.4**	**+0.8**
GRHS	**Sauteurs**	**2.15**	**28**	*e*P	**Pn**	**23 21 20.5**	**+0.9**
GRHS				*e*S	**Sn**	**23 21 45.9**	**+0.8**
GRSS	**Sisters**	**2.23**	**27**	*e*P	**Pn**	**23 21 21.5**	**+0.8**
GRSS				*e*S	**Sn**	**23 21 48.7**	**+1.7**
GCMP	**Grenada, Carri**	**2.48**	**29**	*e*P	**Pn**	**23 21 24.9**	**+0.8**
GCMP				*e*S	**Sn**	**23 21 54.0**	**+0.8**
SVOC	**Richmond Hill,**	**3.16**	**26**	*e*P	**Pn**	**23 21 33.6**	**+0.1**
SVOC				*e*S	**Sn**	**23 22 09.6**	**-0.4**
SVT	**Saint Vincent**	**3.16**	**26**	*e*P	**Pn**	**23 21 33.5**	**-0.1**
SVT				*e*S	**Sn**	**23 22 09.7**	**-0.4**
SVB	**Belmont**	**3.25**	**25**	*e*P	**Pn**	**23 21 35.2**	**+0.5**
SVB				*e*S	**Sn**	**23 22 11.4**	**-0.8**
SLCP	**Castries, St.**	**4.02**	**24**	*e*P	**Pn**	**23 21 46.1**	**+0.7**
SLCP				*e*S	**Sn**	**23 22 31.1**	**-0.2**
SLBI	**Saint Lucia, B**	**4.04**	**24**	*e*P	**Pn**	**23 21 46.4**	**+0.7**
SLBI				*e*S	**Sn**	**23 22 31.3**	**-0.4**
FUNV	**FUNVISIS**	**4.09**	**273**	*i*P	**Pn**	**23 21 48.2**	**+1.9**
FUNV				*e*S	**Sn**	**23 22 33.9**	**+0.9**
TACV	**Tcata**	**4.30**	**268**	*i*P	**Pn**	**23 21 51.2**	**+2.0**
TACV				*e*S	**Sn**	**23 22 39.2**	**+1.0**
BIM	**Bigot**	**4.46**	**20**	Pn	**Pn**	**23 21 52.2**	**+0.8**
BIM	**Bigot**	**4.46**	**20**	*e*P	**Pn**	**23 21 52.8**	**+1.4**
BIM				*e*S	**Sn**	**23 22 42.0**	**-0.1**
MPOM	**Morne Pois Mar**	**4.47**	**23**	Pn	**Pn**	**23 21 51.7**	**+0.2**
MPOM	**Morne Pois Mar**	**4.47**	**23**	*e*P	**Pn**	**23 21 52.1**	**+0.6**
MPOM				*e*S	**Sn**	**23 22 41.8**	**-0.5**
LUEV	**Luepa**	**4.59**	**165**	*i*P	**Pn**	**23 21 54.0**	**+0.6**
LUEV				*e*S	**Sn**	**23 22 43.6**	**-2.0**
FDF	**Fort de France**	**4.64**	**18**	Pn	**Pn**	**23 21 53.8**	**-0.1**
CACV	**CAICARA DEL OR**	**4.71**	**235**	*i*P	Pn	23 21 51.5	-3.2
CACV				*e*S	Sn	23 22 39.2	-8.9
SVN	**Savane Anatole**	**4.73**	**18**

ISC 04 23:21:25.6±1.0, 41°15N±0°02×73°28E±0°01, h2^{km}±10^{km}, n102, σ1966/164, 50C-36D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
ARSB	**Arslanbob**	**0.28**	**307**	⇑*iP* **Pg**	**23 21 31.4**	**+0.3**
	baz=17					
ARSB				⇑*iS* **Sg**	**23 21 35.0**	**+0.2**
	baz=17					
OHH	**Osh**	**0.73**	**211**	⇓*iP* **Pg**	**23 21 38.9**	**-0.8**
	baz=9.0					
OHH				⇓*iS* **Sg**	**23 21 48.3**	**-0.9**
	baz=9.0					
ANR	**Andizhan**	**0.80**	**241**	P **Pb**	**23 21 41.9**	**-0.4**
ANR				S **Sn**	**23 21 54.7**	**-1.8**
ARLS	**Aral**	**1.05**	**48**	⇓*iP* **Pg**	**23 21 46.4**	**+0.5**
	baz=48					
ARLS				⇓*iS* **Sb**	**23 22 01.2**	**+0.2**
	baz=48					
SFK	**Sufi-Kurgan**	**1.15**	**171**	⇓*iP* **Pg**	**23 21 47.0**	**-0.7**
	baz=69					
SFK				⇓*iS* **Sg**	**23 22 02.3**	**-0.3**
	baz=69					
ARK	**Arkit**	**1.18**	**303**	⇑*iP* **Pb**	**23 21 47.4**	**-1.4**
	baz=6.0					
ARK				⇑*iS* **Sg**	**23 22 03.4**	**-0.2**
	baz=6.0					
NAM	**Namangan**	**1.24**	**263**	P **Pg**	**23 21 50.7**	**+1.3**
NAM				S **Sn**	**23 22 10.1**	**+2.9**
KSNS	**Kasansay**	**1.33**	**271**	P **Pg**	**23 21 52.4**	**+1.3**
KSNS				S **Sg**	**23 22 13.1**	**+4.7**
FRG	**Fergana**	**1.38**	**236**	P **Pg**	**23 21 51.6**	**-0.4**
FRG				S **Sg**	**23 22 11.7**	**+1.8**
UCH	**Uchtor**	**1.42**	**40**	⇓P **Pg**	**23 21 53.4**	**+0.6**
	60nm,0.2s,SNR=128					
UCH				⇓S **Sg**	**23 22 13.0**	**+1.9**
	146nm,0.2s					
UCH	**Uchtor**	**1.42**	**40**	⇓*iP* **Pb**	**23 21 53.0**	**0.0**
	baz=41					
UCH				⇓*iS* **Sg**	**23 22 12.7**	**+1.5**
	baz=41					
MNAS	**Manas**	**1.45**	**337**	⇑*iP* **Pb**	**23 21 52.8**	**-0.7**
	baz=39					
MNAS				⇑*iS* **Sg**	**23 22 12.7**	**+0.3**
	baz=39					
EKS2	**Erkin-Say**	**1.55**	**14**	⇑P **Pg**	**23 21 55.5**	**+0.1**
	47nm,0.2s,SNR=84					
EKS2				⇓S **Sg**	**23 22 16.2**	**+0.7**
	50nm,0.2s					
EKS2	**Erkin-Say**	**1.55**	**14**	⇓*iP* **Pb**	**23 21 55.0**	**-0.2**
	baz=15					
EKS2				⇓*iS* **Sg**	**23 22 16.4**	**+0.9**
	baz=15					
MRKS	**Merke**	**1.59**	**359**	P **Pg**	**23 21 56.4**	**+0.2**
	42nm,0.1s					
MRKS				S **Sg**	**23 22 17.3**	**+0.5**
	116nm,0.3s					
MRKS	**Merke**	**1.59**	**359**	*e*P **Pg**	**23 21 56.4**	**+0.2**
	42nm,0.1s					
MRKS				*e*S **Sg**	**23 22 17.3**	**+0.5**
	116nm,0.3s					
CHMI	**Chimion**	**1.60**	**237**	P **Pg**	**23 21 55.5**	**-0.8**
CHMI				S **Sg**	**23 22 18.4**	**+1.3**
TRKS	**Terek-Say**	**1.66**	**284**	⇑*iP* **Pn**	**23 21 55.1**	**-0.7**
	baz=83					
TRKS				⇑*iS* **Sn**	**23 22 16.3**	**-1.5**
	baz=83					
AAK	**Ala-Archa**	**1.74**	**31**	⇑P **Pg**	**23 21 59.2**	**+0.2**
	71nm,0.2s,SNR=106					
AAK				⇓S **Sg**	**23 22 22.8**	**+1.3**
	105nm,0.2s					
AAK	**Ala-Archa**	**1.74**	**31**	⇑Pn **Pg**	**23 22 00.8**	**+1.8**
	27nm,0.3s					
AAK				⇑Sn **Sg**	**23 22 22.5**	**+1.0**
	98nm,0.7s					
AAK	**Ala-Archa**	**1.74**	**31**	⇓*iP* **Pb**	**23 21 58.5**	**+0.1**
	baz=32					
AAK				⇓*iS* **Sg**	**23 22 22.3**	**+0.8**
	baz=32					
MINT	**Mingtut**	**1.88**	**249**	P **Pg**	**23 22 00.8**	**-0.9**
MINT				S **Sg**	**23 22 27.8**	**+1.8**
CHDK	**Chadak**	**1.92**	**265**	P **Pg**	**23 22 02.3**	**-0.2**
CHDK				S **Sg**	**23 22 30.4**	**+3.0**
FRU1	**Bishkek**	**1.94**	**31**	⇑*iP* **Pb**	**23 22 01.9**	**+0.2**
	baz=31					
FRU1				⇑*iS* **Sg**	**23 22 28.2**	**+0.3**
	baz=31					
KBK	**Karagaybulak**	**1.95**	**39**	⇓P **Pg**	**23 22 03.4**	**+0.3**
	40nm,0.1s,SNR=83					
KBK				⇓S **Sg**	**23 22 29.7**	**+1.4**
	202nm,0.3s					
KBK	**Karagaybulak**	**1.95**	**39**	⇑*iP* **Pb**	**23 22 02.0**	**0.0**
	baz=40					
KBK				⇑*iS* **Sg**	**23 22 28.5**	**+0.2**
	baz=40					
DRK	**Karamyk**	**2.02**	**215**	⇑*iP* **Pb**	**23 22 01.7**	**-1.5**
	baz=14					
DRK				⇑*iS* **Sb**	**23 22 27.7**	**-1.2**
	baz=14					
NRN	**Naryn**	**2.07**	**81**	⇓*e*P **Pb**	**23 22 03.4**	**-0.7**
	baz=81					
NRN				⇓*e*S **Sb**	**23 22 30.2**	**-0.1**
	baz=81					
CHMS	**Chumysh**	**2.14**	**30**	⇑P **Pg**	**23 22 06.5**	**-0.3**
	42nm,0.2s,SNR=67					
CHMS				⇑S **Sg**	**23 22 35.1**	**+0.6**
	164nm,0.6s					
CHMS	**Chumysh**	**2.14**	**30**	⇑Pn **Pg**	**23 22 06.4**	**-0.3**
	16nm,0.3s					
CHMS				Pg **Sn**	**23 22 23.3**	**-6.4**
	32nm,0.2s					
CHMS				⇓Sn **Sg**	**23 22 34.8**	**+0.3**
	107nm,0.6s					
CHMS				Lg Lg	23 23 03.9	
	87nm,0.5s					
CHMS	**Chumysh**	**2.14**	**30**	⇓*iP* **Pb**	**23 22 04.5**	**-0.7**
	baz=31					
CHMS				⇓*iS* **Sb**	**23 22 32.6**	**+0.3**
	baz=31					
BTK	**Batken**	**2.17**	**241**	⇑*iP* **Pb**	**23 22 03.4**	**-2.3**
	baz=41					
BTK				⇑*iS* **Sb**	**23 22 31.1**	**-2.0**
	baz=41					
DZA	**Taraz**	**2.27**	**321**	Pg **Pg**	**23 22 08.8**	**-0.3**
	105nm,0.4s					
DZA				Lg Lg	23 22 38.9	
	309nm,0.3s					
DZA	**Taraz**	**2.27**	**321**	*e*P **Pg**	**23 22 08.8**	**-0.3**
	105nm,0.4s					
DZA				*e*S **Sg**	**23 22 38.9**	**+0.5**
	309nm,0.3s					
USP	**Ospenovka**	**2.30**	**23**	⇓P **Pb**	**23 22 08.6**	**+0.8**
	34nm,0.2s,SNR=152					
USP				⇓S **Sg**	**23 22 39.4**	**-0.1**
	162nm,0.2s					
USP	**Ospenovka**	**2.30**	**23**	⇑*iP* **Pb**	**23 22 06.5**	**-1.3**
	baz=24					
USP				⇑*iS* **Sb**	**23 22 36.4**	**-0.3**
	baz=24					
BOOM	**Boomskoye usch**	**2.39**	**55**	⇓*iP* **Pb**	**23 22 08.1**	**-1.4**
	baz=55					
BOOM				⇓*iS* **Sb**	**23 22 39.1**	**-0.5**
	baz=55					
TKM2	**Tokmak 2**	**2.47**	**44**	⇑Pg **Pb**	**23 22 11.4**	**+0.6**
	26nm,0.3s					
TKM2				⇑Lg Lg	23 22 45.5	
	86nm,0.8s					
TKM2	**Tokmak 2**	**2.47**	**44**	⇑*iP* **Pb**	**23 22 09.2**	**-1.6**
	baz=44					
TKM2				⇑*iS* **Sb**	**23 22 40.8**	**-1.0**
	baz=44					
ULHL	**Ulahol**	**2.47**	**63**	⇑P **Pb**	**23 22 12.1**	**+1.2**
	12nm,0.1s,SNR=29					
ULHL	**Ulahol**	**2.47**	**63**	⇑*iP* **Pb**	**23 22 09.3**	**-1.6**
	baz=63					
ULHL				⇑*iS* **Sb**	**23 22 41.1**	**-0.7**
	baz=63					
CHMG	**Chimgan**	**2.49**	**280**	P **Pb**	**23 22 11.0**	**-0.2**
CHMG				S **Sg**	**23 22 46.8**	**+1.0**
SGDS	**Sogindy**	**2.51**	**23**	Pg **Pg**	**23 22 13.5**	**-0.2**
	26nm,0.4s					
SGDS				Lg Lg	23 22 46.7	
	99nm,0.2s					
CHRV	**Charvak**	**2.55**	**282**	P **Pb**	**23 22 11.9**	**-0.3**
CHRV				S **Sg**	**23 22 48.4**	**+0.8**
IUG	**Iuzhnay**	**2.63**	**293**	Pg **Pg**	**23 22 15.1**	**-1.0**
	44nm,0.4s					
IUG				Lg Lg	23 22 49.7	
	234nm,0.5s					
IUG	**Iuzhnay**	**2.63**	**293**	*e*P **Pb**	**23 22 13.9**	**+0.3**
	44nm,0.4s					
IUG				*e*S **Sg**	**23 22 47.6**	**-2.5**
	234nm,0.5s					
KST	**Kastek**	**2.75**	**46**	Pg **Pb**	**23 22 16.9**	**+1.4**
	11nm,0.4s					
KST				Lg Lg	23 22 52.7	
	56nm,0.5s					
KST	**Kastek**	**2.75**	**46**	*e*P **Pb**	**23 22 16.9**	**+1.4**
	11nm,0.4s					
KST				*e*S **Sg**	**23 22 52.7**	**-1.2**
	56nm,0.5s					
DGS	**Degeres**	**2.79**	**41**	Pg **Pg**	**23 22 19.3**	**+0.2**
	43nm,0.4s					
DGS				Lg Lg	23 22 57.0	
	77nm,0.5s					
DGS	**Degeres**	**2.79**	**41**	*e*P **Pg**	**23 22 18.9**	**-0.2**
	43nm,0.4s					
DGS				*e*S **Sg**	**23 22 56.7**	**+1.4**
	77nm,0.5s					
KK31	**Karatay Array**	**2.84**	**314**	⇑Pg **Pb**	**23 22 14.9**	**-2.0**
	4.0nm,0.3s,baz=130,slow=14,SNR=146					
KK31				⇓Lg Lg	23 22 54.1	
	41nm,0.5s,baz=133,slow=24,SNR=17					
KKAR	**Karatay Array**	**2.84**	**314**	⇑*iP* **Pn**	**23 22 13.4**	**+1.5**
	baz=15					
KKAR				⇑*iS* **Sb**	**23 22 48.2**	**-3.9**
	baz=15					
TGS	**TashGRES**	**2.85**	**277**	P **Pb**	**23 22 17.6**	**+0.4**
TGS				S **Sg**	**23 22 59.7**	**+2.6**
CHM	**Chimkent**	**2.99**	**294**	*e*P **Pg**	**23 22 23.3**	**+0.4**
	32nm,0.2s					
CHM				*e*S **Sg**	**23 23 03.9**	**+2.2**
	87nm,0.5s					
MTBS	**Maitube**	**3.06**	**49**	Pg **Pg**	**23 22 23.2**	**-1.1**
	8.0nm,0.2s					
MTBS				Lg Lg	23 23 03.4	
	38nm,0.8s					
MTBS	**Maitube**	**3.06**	**49**	*e*P **Pg**	**23 22 23.2**	**-1.1**
	8.0nm,0.2s					
MTBS				*e*S **Sg**	**23 23 03.4**	**-0.6**
	38nm,0.8s					
KDJ	**Kajisay**	**3.08**	**70**	⇑*e*P **Pn**	**23 22 18.1**	**+2.6**
	baz=70					
KDJ				⇑*e*S **Sb**	**23 22 56.4**	**-2.9**
	baz=70					
KRBS	**Karabastau**	**3.10**	**34**	Pg **Pb**	**23 22 22.2**	**+0.7**
	17nm,0.5s					
KRBS				Lg Lg	23 23 01.7	
	76nm,0.3s					
KRBS	**Karabastau**	**3.10**	**34**	*e*P **Pb**	**23 22 22.2**	**+0.7**
	17nm,0.5s					
KRBS				*e*S **Sb**	**23 23 01.7**	**+2.0**
	76nm,0.3s					
IZV	**Izvestkoviy**	**3.11**	**52**	Pg **Pg**	**23 22 25.4**	**+0.1**
	13nm,0.6s					
IZV				Lg Lg	23 23 07.3	
	94nm,0.6s					
IZV	**Izvestkoviy**	**3.11**	**52**	*e*P **Pg**	**23 22 25.4**	**+0.1**
	13nm,0.6s					
IZV				*e*S **Sg**	**23 23 07.3**	**+1.7**
	94nm,0.6s					
GAR	**Garm**	**3.13**	**228**	⇑*iP* **Pn**	**23 22 16.9**	**+0.8**
	baz=27					
GAR				⇑*iS* **Sn**	**23 22 54.4**	**+0.3**
	baz=27					
BRLS	**Borolday**	**3.18**	**307**	Pg **Pb**	**23 22 24.1**	**+1.3**
	4.7nm,0.4s					
BRLS				Lg Lg	23 23 05.6	
	26nm,0.7s					
BRLS	**Borolday**	**3.18**	**307**	*e*P **Pb**	**23 22 24.1**	**+1.3**
	4.7nm,0.4s					
BRLS				*e*S **Sg**	**23 23 05.6**	**-2.1**
	26nm,0.7s					
KASK	**Kaskelen**	**3.24**	**49**	⇑Pg **Pb**	**23 22 25.6**	**+1.7**
KASK				⇑Lg Lg	23 23 10.5	
TNSS	**Tian-Shan**	**3.31**	**54**	Pg **Pg**	**23 22 28.3**	**-0.9**
	7.4nm,0.3s					
TNSS				Lg Lg	23 23 12.0	
	21nm,0.6s					
TNSS	**Tian-Shan**	**3.31**	**54**	*e*P **Pg**	**23 22 28.3**	**-0.9**
	7.4nm,0.3s					
TNSS				*e*S **Sg**	**23 23 12.0**	**-0.1**
	21nm,0.6s					
KNDC	**Almaty**	**3.43**	**52**	⇑Pg **Pg**	**23 22 30.1**	**-1.2**
	7.4nm,0.5s					
KNDC				⇑Lg Lg	23 23 15.4	
	89nm,0.6s					
MDOK	**Medeo**	**3.45**	**53**	⇓Pg **Pb**	**23 22 29.7**	**+2.2**
	4.7nm,0.4s					
MDOK				Pg **Pg**	**23 22 30.2**	**-1.4**
	7.0nm,0.6s					
MDOK				Lg Lg	23 23 15.5	
	29nm,1.1s					
MDOK				⇓Lg Lg	23 23 16.0	
	41nm,0.8s					
MDOK	**Medeo**	**3.45**	**53**	*e*P **Pg**	**23 22 30.2**	**-1.4**
	7.0nm,0.6s					
MDOK				*e*S **Sg**	**23 23 15.5**	**-0.9**
	29nm,1.1s					
KOTS	**Kotyrbulak**	**3.52**	**53**	Pg **Pg**	**23 22 32.6**	**-0.5**
	14nm,0.6s					
KOTS				Lg Lg	23 23 19.8	
	44nm,0.7s					
KOTS	**Kotyrbulak**	**3.52**	**53**	*e*P **Pg**	**23 22 32.6**	**-0.5**
	14nm,0.6s					
KOTS				*e*S **Sg**	**23 23 19.8**	**+0.9**
	44nm,0.7s					
KTBS	**Karatobe**	**3.59**	**43**	Pg **Pg**	**23 22 32.7**	**-1.7**
	5.2nm,0.3s					
KTBS				Lg Lg	23 23 19.8	
	37nm,0.5s					
KTBS	**Karatobe**	**3.59**	**43**	*e*P **Pg**	**23 22 32.7**	**-1.7**
	5.2nm,0.3s					
KTBS				*e*S **Sg**	**23 23 19.8**	**-1.1**
	37nm,0.5s					
ANVS	**Anan'yevo**	**3.65**	**62**	⇑*e*P **Pn**	**23 22 25.6**	**+2.3**
	baz=62					
ANVS				⇑*e*S **Sn**	**23 23 09.3**	**+2.2**
	baz=62					
CHKK	**Chushkaly**	**3.85**	**44**	Pg **Pg**	**23 22 37.8**	**-1.6**
	4.8nm,0.6s					
CHKK				Lg Lg	23 23 28.8	
	53nm,0.5s					
CHKK	**Chushkaly**	**3.85**	**44**	*e*P **Pg**	**23 22 37.8**	**-1.6**
	4.8nm,0.6s					
CHKK				*e*S **Sg**	**23 23 28.8**	**-0.4**
	53nm,0.5s					
BTLS	**Baital**	**3.93**	**8**	Pg **Pg**	**23 22 39.2**	**-1.6**
	5.2nm,0.4s					
BTLS				Lg Lg	23 23 31.4	
	2.8nm,0.4s					
BTLS	**Baital**	**3.93**	**8**	*e*P **Pg**	**23 22 39.2**	**-1.6**
	5.2nm,0.4s					
BTLS				*e*S **Sg**	**23 23 31.4**	**-0.4**
	2.8nm,0.4s					
PRZ	**Przheval'sk**	**4.05**	**69**	⇑*e*P **Pn**	**23 22 31.3**	**+2.5**
	baz=69					
PRZ				⇑*e*S **Sn**	**23 23 19.3**	**+2.5**
	baz=69					
SATY	**Saty**	**4.26**	**62**	Pg **Pg**	**23 22 45.9**	**-1.3**
	5.7nm,0.8s					
SATY				Lg Lg	23 23 43.0	
	19nm,0.6s					
SATY	**Saty**	**4.26**	**62**	*e*P **Pg**	**23 22 46.0**	**-1.3**
	5.7nm,0.8s					
SATY				*e*S **Sg**	**23 23 43.0**	**+0.4**
	19nm,0.6s					
KURS	**Kuram**	**4.31**	**56**	Pg **Pg**	**23 22 46.3**	**-2.0**
	6.0nm,0.6s					
KURS				Lg Lg	23 23 43.0	
	6.6nm,0.8s					
KURS	**Kuram**	**4.31**	**56**	*e*P **Pg**	**23 22 46.3**	**-2.0**
	6.0nm,0.6s					
KURS				*e*S **Sg**	**23 23 43.0**	**-1.1**
	6.6nm,0.8s					
ZHN	**Zhinishke**	**4.33**	**61**	Pg **Pb**	**23 22 45.6**	**+3.1**
	2.3nm,0.1s					
ZHN				Lg Lg	23 23 41.7	
	9.8nm,0.2s					
ZHN	**Zhinishke**	**4.33**	**61**	*e*P **Pb**	**23 22 45.6**	**+3.1**
	2.3nm,0.1s					
ZHN				*e*S **Sg**	**23 23 41.7**	**-2.9**
	9.8nm,0.2s					
KRSA	**Karasay**	**4.34**	**258**	P **Pb**	23 22 36.9	-5.7
KRSA				S **Sb**	**23 23 38.3**	**+2.9**
ARXS	**Arharly**	**4.54**	**46**	Lg Lg	23 23 49.9	
	19nm,0.6s					
ARXS	**Arharly**	**4.54**	**46**	*e*P **Pg**	**23 22 49.9**	**-2.7**
ARXS				*e*S **Sg**	**23 23 49.9**	**-1.4**
	19nm,0.6s					
UZB	**Uzunybulak**	**4.71**	**63**	Pg **Pg**	**23 22 53.6**	**-2.3**
	6.2nm,0.6s					
UZB				Lg Lg	23 23 55.4	
	6.8nm,0.6s					
UZB	**Uzunybulak**	**4.71**	**63**	*e*P **Pg**	**23 22 53.6**	**-2.3**
	6.2nm,0.6s					
UZB				*e*S **Sg**	**23 23 55.4**	**-1.5**
	6.8nm,0.6s					
BLB	**Baldybastay**	**4.83**	**51**	Pg **Pb**	**23 22 54.9**	**+3.8**
	21nm,0.5s					
BLB				Lg Lg	23 23 58.4	
	20nm,0.9s					
SHLS	**Shalkode**	**5.01**	**64**	Pg **Pg**	**23 23 05.6**	**+4.0**
	11nm,0.4s					
SHLS				Lg Lg	23 24 16.1	
	23nm,0.7s					
SHLS	**Shalkode**	**5.01**	**64**	*e*P **Pg**	**23 23 05.6**	**+4.0**
	11nm,0.4s					
SHLS				*e*S Sg	23 24 16.1	+9.5
	23nm,0.7s					
PDGK	**Podgornoye**	**5.10**	**63**	Pg **Pg**	**23 23 01.6**	**-1.7**
	2.7nm,0.9s					
PDGK				Lg Lg	23 24 09.2	
	5.8nm,0.8s					
PDGK	**Podgornoye**	**5.10**	**63**	⇓Pg **Pg**	**23 23 00.8**	**-2.5**
	4.9nm,0.6s					
PDGK				⇓Lg Lg	23 24 07.4	
	13nm,0.6s					
KNOS	**Konyrlen**	**5.39**	**52**	Pg **Pg**	**23 23 05.8**	**-3.2**
	4.6nm,0.5s					
KNOS				Lg Lg	23 24 16.5	
	9.0nm,0.8s					
OTUK	**Ortayu**	**7.12**	**355**	⇓Lg Lg	23 25 12.9	
	31nm,0.8s					
MAKZ	**Makanchi**	**8.44**	**45**	⇑Pn **Pn**	**23 23 32.0**	**+3.1**
	0.4nm,0.5s					
MAKZ				⇓Lg Lg	23 25 54.9	
	2.9nm,0.8s					
MK31	**Makanchi Array**	**8.60**	**46**	⇑Pn Pn	23 23 36.6	+5.5
	0.5nm,0.5s,baz=230,slow=14,SNR=7.3					
MK31				⇑Lg Lg	23 26 00.7	
	1.3nm,0.7s,baz=232,slow=27,SNR=3.8					
KURBB	**Kurchatov Arra**	**10.15**	**19**	⇓Lg Lg	23 26 47.7	
	7.4nm,0.7s					
KURK	**Kurchatov**	**10.26**	**19**	⇓Lg Lg	23 26 50.3	
	7.4nm,0.9s					

*NEIC **04** 23:22:49.6±1.0, 18°98N±0°03×154°81W±0°04, h10^{km}±2^{km}, Error ellipse: s-maj=6.3km s-min=4.8km az=96.0*

HVO 04 23:22:53.5±0.8, 19°21N±0°03×154°86W±0°03, h9^{km}±6^{km}, ML3.4/46, ML3.7/45(NEIC), Error ellipse: s-maj=4.4km s-min=3.6km az=121.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.26**	**328**	**Pg**	**23 22 58.7**	**-0.1**
JOKA				Sb	23 23 03.9	-1.0
JCUZ	**Jacuzzi**	**0.28**	**307**	**Pg**	**23 22 58.7**	**-0.5**
JCUZ				IAML	23 23 08.1	
	comp=N,8μm,1.5s					
NPOC	**North of Pu'u**	**0.30**	**307**	**Pg**	**23 22 59.0**	**-0.4**
STCH	**Steam Cracks**	**0.30**	**305**	**Pg**	**23 22 59.4**	**-0.2**
STCH				IAML	23 23 10.5	
	comp=E,8μm,0.9s					
STCH	**Steam Cracks**	**0.30**	**305**	**Sb**	**23 23 05.0**	**-1.2**
KNHH	**Kane Nui o Ham**	**0.34**	**300**	**Pg**	**23 23 00.0**	**-0.2**
PUH	**Pauahi**	**0.37**	**296**	**Pg**	**23 23 00.6**	**-0.2**
PUH	**Pauahi**	**0.37**	**296**	IAML	23 23 10.1	
	comp=N,6μm,1.3s					
KKO	**Keanakako`i**	**0.43**	**296**	**Pg**	**23 23 01.1**	**-0.7**
KKO				**Sg**	**23 23 06.5**	**-0.9**
KKO				IAML	23 23 15.7	
	comp=E,5μm,1.0s					
BYL	**Byron's Ledge**	**0.43**	**298**	**Pg**	**23 23 01.1**	**-0.8**
BYL				IAML	23 23 10.3	
	comp=N,7μm,0.6s					
BYL				IAML	23 23 15.8	
	comp=E,7μm,0.7s					
RIM	**Rim**	**0.43**	**295**	**Pg**	**23 23 01.3**	**-0.7**
RIM				IAML	23 23 14.1	
	comp=E,8μm,0.5s					
RIM				IAML	23 23 14.1	
	comp=N,9μm,0.4s					
HLP	**Hilina Pali**	**0.43**	**281**	**Pg**	**23 23 01.0**	**-0.9**
HLP				**Sb**	**23 23 09.0**	**-0.9**
HLP				IAML	23 23 14.6	
	comp=E,9μm,1.0s					
HATHI	**Halema'uma'u T**	**0.43**	**299**	**Pg**	**23 23 01.1**	**-0.9**
HATHI				IAML	23 23 11.9	
	comp=N,6μm,1.1s					
HATHI				IAML	23 23 15.3	
	comp=E,7μm,1.0s					
SBLHI	**Steaming Bluff**	**0.44**	**299**	**Pg**	**23 23 01.4**	**-0.7**
SBLHI				IAML	23 23 13.1	
	comp=E,5μm,0.6s					
SBLHI				IAML	23 23 15.9	
	comp=N,6μm,0.5s					
NPH	**North Pit**	**0.45**	**297**	**Pg**	**23 23 01.6**	**-0.6**
SDHHI	**Sand Hill**	**0.45**	**293**	**Pg**	**23 23 02.0**	**-0.2**
UWB	**Uwekahuna B**	**0.45**	**298**	**Pg**	**23 23 01.9**	**-0.4**
UWB				IAML	23 23 11.8	
	comp=N,4μm,0.8s					
OBL	**Observatory Le**	**0.45**	**297**	**Pg**	**23 23 02.8**	**+0.5**
WRMHI	**West Rim**	**0.46**	**295**	**Pg**	**23 23 02.1**	**-0.4**
WRMHI				IAML	23 23 16.4	
	comp=N,9μm,0.7s					
UWE	**Uwekahuna**	**0.46**	**297**	**Pg**	**23 23 01.9**	**-0.6**
UWE				**Sg**	**23 23 03.2**	**-5.3**
RSD	**Rainshed**	**0.47**	**302**	**Pg**	**23 23 02.0**	**-0.6**
RSD	**Rainshed**	**0.47**	**302**	IAML	23 23 15.1	
	comp=N,6μm,1.7s					
RSD				IAML	23 23 16.0	
	comp=E,4μm,1.4s					
MLH	**Mauna Loa**	**0.57**	**299**	**Pg**	**23 23 03.8**	**-0.8**
MLH				IAML	23 23 24.2	
	comp=N,4μm,0.9s					
HMH	**Humu'ula Sheep**	**0.70**	**304**	**Pg**	**23 23 05.7**	**-1.4**
HMH	**Humu'ula Sheep**	**0.70**	**304**	**Pg**	**23 23 06.6**	**-0.5**
HMH				IAML	23 23 19.1	
	comp=E,4μm,0.7s					
HMH				IAML	23 23 27.3	
	comp=N,5μm,0.9s					
KHU	**Kahuku**	**0.71**	**273**	**Pg**	**23 23 05.2**	**-2.1**
KHU				IAML	23 23 31.5	
	comp=E,3μm,1.1s					
MWH	**Moku'aweowe**	**0.75**	**291**	**Pg**	**23 23 07.3**	**-0.7**
MWH				IAML	23 23 31.7	
	comp=N,4μm,0.7s					
HUH	**Hualalai**	**1.03**	**297**	**Pg**	**23 23 12.9**	**-0.5**
HPAH	**Hawaii Prepara**	**1.13**	**316**	**Pg**	**23 23 14.9**	**-0.3**
HPAH				IAML	23 23 41.8	
	comp=N,1μm,3.1s					
MHA	**Mahukona**	**1.38**	**315**	**Pn**	**23 23 18.4**	**-0.6**
HLK	**Haleakala**	**2.02**	**320**	Pn Pn	**23 23 27.0**	**-0.9**
KHLH	**Kahului Airpor**	**2.23**	**319**	Pn Pn	**23 23 29.0**	**-1.6**

*NEIC **04** 23:26:20.3±0.5, 19°43N±0°07×155°32W±0°02, h6^{km}±1^{km}, Error ellipse: s-maj=10.3km s-min=1.4km az=162.0*

HVO 04 23:26:20.2±0.5, 19°42N±0°04×155°31W±0°03, h5^{km}±4^{km}, ML2.9/20, ML2.7/33(NEIC), Error ellipse: s-maj=6.4km s-min=3.4km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Time	Res
				Op ISC	h m s	ISC
UWE	**Uwekahuna**	**0.01**	**97**	**Pg**	**23 26 21.6**	**+0.3**
UWE				**Sg**	**23 26 22.8**	**+0.7**
WRMHI	**West Rim**	**0.02**	**154**	**Pg**	**23 26 21.5**	**+0.2**
WRMHI				**Sg**	**23 26 22.6**	**+0.5**
WRMHI				IAML	23 26 22.7	
	comp=N,12μm,0.1s

UWB					Sg		23 26 22.8	+0.6
UWB				IAML			23 26 22.9	
	comp=E,111µm,0.2s							
UWB				IAML			23 26 23.0	
	comp=N,10µm,0.3s							
SDHHI	**Sand Hill**	**0.04**	**158**		Pg		23 26 21.8	+0.4
SDHHI				IAML			23 26 23.1	
	comp=N,8µm,0.2s							
SBLHI	**Steaming Bluff**	**0.04**	**84**		Pg		23 26 21.8	+0.3
SBLHI				IAML			23 26 23.3	
	comp=N,10µm,0.1s							
RIM	**Rim**	**0.04**	**130**	Pg	Pg		23 26 21.7	+0.2
HATHI	**Halema'uma'u T**	**0.04**	**90**		Pg		23 26 21.4	-0.1
HATHI				IAML			23 26 23.5	
	comp=N,9µm,0.1s							
BYL	**Byron's Ledge**	**0.05**	**103**		Pg		23 26 22.1	+0.5
BYL				IAML			23 26 23.5	
	comp=E,4µm,0.4s							
BYL				IAML			23 26 23.6	
	comp=N,5µm,0.2s							
KKO	**Keanakako`i**	**0.05**	**122**		Pg		23 26 21.6	+0.1
KKO				IAML			23 26 23.6	
	comp=E,4µm,0.3s							
RSD	**Rainshed**	**0.05**	**36**		Pg		23 26 22.0	+0.4
RSD				IAML			23 26 23.8	
	comp=N,6µm,0.4s							
MLH	**Mauna Loa**	**0.10**	**314**		Pg		23 26 22.4	0.0
MLH	**Mauna Loa**	**0.10**	**314**		Sg		23 26 25.2	+1.2
HLP	**Hilina Pali**	**0.13**	**180**		Pg		23 26 23.4	+0.6
HLP	**Hilina Pali**	**0.13**	**180**	IAML			23 26 25.9	
	comp=N,3µm,0.3s							
HLP				IAML			23 26 26.1	
	comp=E,3µm,0.3s							
STCH	**Steam Cracks**	**0.18**	**102**	IAML			23 26 29.2	
	comp=E,3µm,0.9s							
HMH	**Humu'ula Sheep**	**0.24**	**317**		Pg		23 26 25.1	+0.2
HMH					Sg		23 26 29.0	+0.8
HMH				IAML			23 26 29.4	
	comp=E,2µm,0.3s							
MWH	**Moku'aweowe**	**0.28**	**283**	Pg	Pg		23 26 25.1	-0.7
MWH				IAML			23 26 30.7	
	comp=E,979nm,1.4s							
KHU	**Kahuku**	**0.34**	**239**		Sg		23 26 31.9	+0.6
HUH	**Hualalai**	**0.56**	**298**	Pg	Pg		23 26 31.2	+0.2

*IDC **04** 23:26:28.9±1.2,40°.71N×51°.72E,h48km±14km,mb3.5/13, mbtmp3.8/24,ML3.8/11,Error ellipse: s-maj=17.2km s-min=8.6km az=11.0*
*MOS **04** 23:26:28.3±1.7,40°.99N×51°.80E,h42km,mb4.2/1,Error ellipse: s-maj=7.3km s-min=6.7km az=98.7*
*TEH **04** 23:26:28.2,40°.52N×51°.78E,h15km,ML4.2*
*AZER **04** 23:26:29.9,40°.53N×51°.66E,h62km,ml3.9*
*NNC **04** 23:26:37.0±6.0,41°.28N×53°.38E,h0km,mb3.8,Error ellipse: s-maj=61.6km s-min=19.9km az=79.0*

ISC 04 23:26:28.1±0.7, 40°.74N±0°.04×51°.85E±0°.04, h40km±7km, n121,σ2s31/168, mb3.7/15, 11C-6D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
GALA	**Gala**	**1.34**	**256**	S		**Sn**	**23**	**27**	**07.6**	**+0.8**
NDR	**Nardaran**	**1.43**	**264**	P		**Pn**	**23**	**26**	**55.0**	**+3.5**
NDR				Sg		**Sn**	**23**	**27**	**14.9**	**+5.8**
GOBA	**Gobu**	**1.65**	**259**	Pn		Pn	23	27	00.5	+5.9
GOBA				Sg		**Sn**	**23**	**27**	**23.0**	**+8.4**
ATGJ	**Altiaghaj**	**2.22**	**274**	Pn		**Pn**	**23**	**27**	**05.1**	**+2.7**
ATGJ				Sn		**Sn**	**23**	**27**	**30.4**	**+1.7**
GBS	**Qobustan**	**2.23**	**266**	Pn		**Pn**	**23**	**27**	**05.9**	**+3.3**
GBS	**Qobustan**	**2.23**	**266**	Pg		**Pn**	**23**	**27**	**06.4**	**+3.8**
GBS				Sn		**Sn**	**23**	**27**	**30.7**	**+1.8**
SIZA	**Siyzn**	**2.26**	**279**	Pn		**Pn**	**23**	**27**	**06.8**	**+3.7**
SIZA	**Siyzn**	**2.26**	**279**	Pn		**Pn**	**23**	**27**	**06.8**	**+3.7**
SIZA				Sn		**Sn**	**23**	**27**	**32.2**	**+2.3**
ALIB	**&Aumlli-Bayram**	**2.31**	**251**	Pn		**Pn**	**23**	**27**	**07.1**	**+3.4**
ALIB	**&Aumlli-Bayram**	**2.31**	**251**	Pn		**Pn**	**23**	**27**	**05.8**	**+2.1**
ALIB				Sn		**Sn**	**23**	**27**	**32.0**	**+1.1**
PQL	**Pirkuli**	**2.48**	**272**	Pn		**Pn**	**23**	**27**	**08.9**	**+2.8**
PQL	**Pirkuli**	**2.48**	**272**	Pn		**Pn**	**23**	**27**	**08.7**	**+2.6**
PQL				Sn		**Sn**	**23**	**27**	**34.0**	**-1.2**
QUBA	**Quba, Azerbaij**	**2.61**	**285**	Pn		**Pn**	**23**	**27**	**10.4**	**+2.5**
QUBA				Sn		**Sn**	**23**	**27**	**40.6**	**+2.2**
SAAT	**Saatly**	**2.77**	**253**	Sn		**Sn**	**23**	**27**	**44.8**	**+2.7**
IML	**Ismayilli**	**2.79**	**272**	Pn		**Pn**	**23**	**27**	**12.6**	**+2.3**
IML				Sn		**Sn**	**23**	**27**	**43.2**	**+0.4**
QSAR	**Qusar**	**2.82**	**287**	Pn		**Pn**	**23**	**27**	**13.5**	**+2.8**
QSAR				Sn		**Sn**	**23**	**27**	**45.5**	**+2.1**
KDMR	**Kurdemir**	**2.82**	**264**	Pn		**Pn**	**23**	**27**	**11.2**	**+0.6**
KDMR				Sn		**Sn**	**23**	**27**	**45.5**	**+2.1**
XNQ	**Khinaliq**	**2.84**	**280**	Pn		**Pn**	**23**	**27**	**13.4**	**+2.2**
XNQ				Sn		**Sn**	**23**	**27**	**45.5**	**+1.1**
GLBA	**Clilabad**	**3.05**	**242**	Pn		**Pn**	**23**	**27**	**15.3**	**+1.5**
GLBA				Sn		**Sn**	**23**	**27**	**48.8**	**-0.3**
QBL	**Gabala**	**3.05**	**275**	Pn		**Pn**	**23**	**27**	**15.7**	**+1.8**
QBL				Sn		**Sn**	**23**	**27**	**49.0**	**-0.3**
LKRN	**Lenkeran, Azer**	**3.12**	**230**	Pn		**Pn**	**23**	**27**	**15.8**	**+1.0**
LKRN	**Lenkeran, Azer**	**3.12**	**230**	Pn		**Pn**	**23**	**27**	**15.8**	**+1.0**
LKRN				Sn		**Sn**	**23**	**27**	**49.2**	**-1.6**
LKRN	**Lenkeran, Azer**	**3.12**	**230**	P		**Pn**	**23**	**27**	**15.8**	**+1.0**
ZRD	**Zardab**	**3.21**	**263**	Pn		**Pn**	**23**	**27**	**17.8**	**+1.7**
ZRD				Sn		**Sn**	**23**	**27**	**54.9**	**+1.8**
ASTR	**Astara**	**3.22**	**228**	Pn		**Pn**	**23**	**27**	**16.9**	**+0.8**
ASTR	**Astara**	**3.22**	**228**	Pn		**Pn**	**23**	**27**	**16.4**	**+0.3**
ASTR				Sn		**Sn**	**23**	**27**	**50.9**	**-2.3**
YRD	**Yardimli**	**3.33**	**238**	Pn		**Pn**	**23**	**27**	**18.2**	**+0.4**
YRD	**Yardimli**	**3.33**	**238**	Pn		**Pn**	**23**	**27**	**18.3**	**+0.4**
YRD				Sn		**Sn**	**23**	**27**	**53.5**	**-2.7**
LRK	**Lerik**	**3.43**	**233**	Pn		**Pn**	**23**	**27**	**19.3**	**+0.2**
LRK				Sn		**Sn**	**23**	**27**	**56.1**	**-2.5**
BLQ	**Beylaqan**	**3.44**	**254**	Pn		**Pn**	**23**	**27**	**20.4**	**+1.2**
BLQ				Sn		**Sn**	**23**	**27**	**57.1**	**-1.6**
SEKA	**Sheki**	**3.56**	**279**	Pn		**Pn**	**23**	**27**	**22.6**	**+1.8**
SEKA				Sn		**Sn**	**23**	**28**	**01.0**	**-0.6**
SEKA	**Sheki**	**3.56**	**279**	P		**Pn**	**23**	**27**	**23.0**	**+2.2**
BRDA	**Brd**	**3.60**	**264**	Pn		**Pn**	**23**	**27**	**23.1**	**+1.8**
BRDA				Sn		**Sn**	**23**	**28**	**03.3**	**+0.8**
MNGR	**Mingechevir, A**	**3.62**	**272**	Pn		**Pn**	**23**	**27**	**23.9**	**+2.3**
MNGR				Sn		**Sn**	**23**	**28**	**04.7**	**+1.5**
MNGR	**Mingechevir, A**	**3.62**	**272**	P		**Pn**	**23**	**27**	**23.9**	**+2.3**
AGDM	**Agdam**	**3.68**	**262**	Pn		**Pn**	**23**	**27**	**23.3**	**+0.8**
AGDM				Sn		**Sn**	**23**	**28**	**04.2**	**-0.4**
QRD	**Qoradiz**	**3.71**	**251**	Pn		**Pn**	**23**	**27**	**23.4**	**+0.6**
QRD				Sn		**Sn**	**23**	**28**	**03.0**	**-2.3**
ZKTA	**Zakatala**	**4.05**	**284**	Pn		**Pn**	**23**	**27**	**29.9**	**+2.4**
ZKTA				Sn		**Sn**	**23**	**28**	**15.9**	**+2.2**
ZKTA	**Zakatala**	**4.05**	**284**	P		**Pn**	**23**	**27**	**30.5**	**+3.0**
GANJ	**Ganja**	**4.21**	**270**	Pn		**Pn**	**23**	**27**	**29.9**	**+0.1**
GANJ				Sn		**Sn**	**23**	**28**	**14.8**	**-2.8**
GANJ	**Ganja**	**4.21**	**270**	P		**Pn**	**23**	**27**	**29.8**	**+0.1**
KLST	**Kelardasht - M**	**4.26**	**189**	Pn		**Pn**	**23**	**27**	**31.0**	**+0.2**
MZPU	**Pul - Mazandar**	**4.30**	**183**	Pn		**Pn**	**23**	**27**	**32.2**	**+0.9**
ISRB	**Sarab**	**4.36**	**229**	Pn		**Pn**	**23**	**27**	**33.6**	**+1.5**
IHRS	**Heris**	**4.44**	**238**	Pn		**Pn**	**23**	**27**	**34.6**	**+1.4**
IMND	**Minoodasht**	**4.45**	**140**	Pn		**Pn**	**23**	**27**	**35.7**	**+2.7**
IGLO	**Ghaloghah**	**4.51**	**159**	Pn		**Pn**	**23**	**27**	**35.4**	**+1.3**
IPRN	**Peran**	**4.51**	**175**	Pn		**Pn**	**23**	**27**	**34.6**	**+0.6**
GDB	**GEDABAY**	**4.63**	**272**	Pn		**Pn**	**23**	**27**	**36.2**	**+0.5**
GDB				Sn		**Sn**	**23**	**28**	**25.1**	**-3.2**
IALA	**Alasht**	**4.71**	**171**	Pn		**Pn**	**23**	**27**	**38.6**	**+1.6**
ORD	**Ordubad**	**4.86**	**250**	Pn		**Pn**	**23**	**27**	**39.8**	**+1.0**
ORD				Sn		**Sn**	**23**	**28**	**31.2**	**-2.7**
QZX	**Qazax, Azerbai**	**4.92**	**276**	Pn		**Pn**	**23**	**27**	**39.9**	**+0.4**
QZX				Sn		**Sn**	**23**	**28**	**32.6**	**-2.7**
IHSH	**Hashtrud**	**4.96**	**228**	Pn		**Pn**	**23**	**27**	**41.2**	**+0.9**
SBZ	**Shahbuz**	**5.02**	**256**	Pn		**Pn**	**23**	**27**	**42.3**	**+1.3**
SBZ				Sn		**Sn**	**23**	**28**	**35.5**	**-2.2**
ITBZ	**Tabriz**	**5.08**	**242**	Pn		**Pn**	**23**	**27**	**42.7**	**+0.9**
NAX	**Nakhchivan**	**5.13**	**254**	Pn		**Pn**	**23**	**27**	**46.2**	**+3.7**
NAX				Sn		**Sn**	**23**	**28**	**38.4**	**-2.1**
IMHD	**Mahdasht**	**5.14**	**191**	Pn		**Pn**	**23**	**27**	**45.3**	**+2.7**
GROC	**Groznyy**	**5.14**	**301**	*eP*		**Pn**	**23**	**27**	**43.7**	**+1.2**
GROC				*e*			23	28	45.8	
GROC				pmax		pmax				
	comp=Z,7.0nm,0.5s									
GROC				pmax		pmax				
	comp=Z,6.0nm,0.5s									
GROC				smax		smax				
	comp=E,29nm,0.5s									
GROC				smax		smax				
	comp=E,30nm,0.5s									
GROC				MLR		MLR				
	comp=Z,45nm,2.0s									

IMRD	**Marand**	**5.16**	**249**	Pn		**Pn**	**23**	**27**	**44.4**	**+1.4**
QABG	**Abgarm-Qazvin**	**5.34**	**200**	Pn		**Pn**	**23**	**27**	**46.4**	**+1.0**
ISHB	**Shabestar**	**5.41**	**245**	Pn		**Pn**	**23**	**27**	**46.8**	**+0.3**
ILAS	**Lasjerd**	**5.42**	**170**	Pn		**Pn**	**23**	**27**	**47.7**	**+1.1**
HYR	**Heyderabad**	**5.46**	**261**	Sn		**Sn**	**23**	**28**	**48.4**	**-0.1**
GNI	**Garni**	**5.46**	**266**	P		**Pn**	**23**	**27**	**47.9**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=309,slow=14,SNR=6.9									
GNI					S	**Sn**	**23**	**28**	**46.0**	**-2.7**
	comp=Z,6.8nm,0.6s,baz=292,slow=18,SNR=3.6									
	comp=Z,3.9nm,0.5s									
GNI	**Garni**	**5.46**	**266**	*i* P		**Pn**	**23**	**27**	**48.7**	**+1.6**
IAZR	**Azarshahr**	**5.49**	**238**	Pn		**Pn**	**23**	**27**	**49.5**	**+1.9**
IRAZ	**Razeghan**	**5.54**	**197**	Pn		**Pn**	**23**	**27**	**49.3**	**+1.0**
GEYT	**Alibeck**	**5.61**	**118**	P		**Pn**	**23**	**27**	**52.2**	**+3.1**
	comp=Z,1.5nm,0.3s,baz=304,slow=15,SNR=9.8									
GEYT					S	**Sn**	**23**	**28**	**54.1**	**+1.9**
	comp=Z,6.6nm,0.4s,baz=282,slow=31,SNR=6.7									
	comp=Z,2.9nm,0.3s									
GYA0	**ALIBECK ARRAY**	**5.61**	**118**	P		**Pn**	**23**	**27**	**51.7**	**+2.7**
GYA0					S	**Sn**	**23**	**28**	**52.7**	**+0.5**
GYA0B	**ALIBECK ARRAY**	**5.61**	**118**	⇑Pn		**Pn**	**23**	**27**	**51.7**	**+2.7**
GYA0B				⇓Sn		**Sn**	**23**	**28**	**52.7**	**+0.5**
IQOM	**Qom**	**5.92**	**186**	Pn		**Pn**	**23**	**27**	**55.4**	**+1.8**
IEMG	**Emamgholi**	**6.25**	**120**	Pn		**Pn**	**23**	**28**	**01.0**	**+3.0**
IAKL	**Akhelmad**	**6.80**	**125**	Pn		**Pn**	**23**	**28**	**08.7**	**+3.1**
IKRD	**Kardeh**	**7.18**	**121**	Pn		**Pn**	**23**	**28**	**13.7**	**+3.0**
KBZ	**Khabaz**	**7.28**	**297**	P		**Pn**	**23**	**28**	**12.6**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=115,slow=6.3,SNR=8.7									
KBZ					S	**Sn**	**23**	**29**	**34.5**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=304,slow=16,SNR=4.1									
	comp=Z,0.8nm,0.2s									
KBZ	**Khabaz**	**7.28**	**297**	*ce*P		**Pn**	**23**	**28**	**12.7**	**+0.8**
KVAR	**Kislovodsk Arr**	**7.50**	**298**	P		**Pn**	**23**	**28**	**15.4**	**+0.3**
	baz=268,slow=19									
KVAR					S	**Sn**	**23**	**29**	**36.0**	**-2.8**
	comp=Z,3.5nm,0.3s,baz=179,slow=15,SNR=4.6									
	comp=Z,0.8nm,0.4s									
KIV	**Kislovodsk**	**7.51**	**298**	*eP*		**Pn**	**23**	**28**	**14.5**	**-0.6**
KIV				*eS*		**Sn**	**23**	**29**	**38.6**	**-0.4**
KIV				pmax		pmax				
	comp=Z,4.0nm,1.0s									
AB31	**Akbulak array**	**10.25**	**31**	⇑Pn		Pn	23	28	48.4	-4.2
	comp=Z,0.7nm,0.3s,baz=203,slow=13,SNR=49									
AB31				⇑Sn		**Sn**	**23**	**30**	**38.5**	**-7.6**
	comp=Z,4.4nm,0.5s,baz=206,slow=22,SNR=14									
AB31	**Akbulak array**	**10.25**	**31**	P		Pn	23	28	48.4	-4.2
AB31				S		**Sn**	**23**	**30**	**38.5**	**-7.6**
AKTO	**Aktyubinsk**	**10.61**	**22**	P		**Pn**	**23**	**28**	**57.1**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=213,slow=8.8,SNR=34									
AKTO					S	**Sn**	**23**	**30**	**49.3**	**-5.4**
	comp=Z,12nm,0.5s,baz=204,slow=20,SNR=15									
	comp=Z,11nm,0.5s									
BELG	**Belogornoye**	**12.01**	**347**	P		**Pn**	**23**	**29**	**16.1**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=225,slow=5.7,SNR=13									
BELG					S	Sn	23	31	19.4	-10
	comp=Z,18nm,0.7s,baz=143,slow=20,SNR=14									
	comp=Z,5.2nm,0.3s									
BELG	**Belogornoye**	**12.01**	**347**	*i* P		**Pn**	**23**	**29**	**14.0**	**-2.5**
BRTR	**Keskin Array B**	**13.96**	**272**	P		**P**	**23**	**29**	**51.2**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=95,slow=9.5,SNR=8.1									
KK31	**Karatay Array**	**14.09**	**74**	⇑Pn		**Pn**	**23**	**29**	**43.5**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=318,slow=9.8,SNR=4.1									
KK31				⇓Sn		Sn	23	32	07.2	-13
	comp=Z,2.7nm,0.5s,baz=269,slow=26,SNR=12									
KK31	**Karatay Array**	**14.09**	**74**	P		**Pn**	**23**	**29**	**43.5**	**-1.5**
ARU	**Arti**	**16.30**	**13**	P		**Pn**	**23**	**30**	**11.6**	**-2.2**
	comp=Z,2.0nm,0.3s,baz=125,slow=12,SNR=6.2									
ARU					S	Sn	23	33	02.6	-11
	comp=Z,2.8nm,0.3s,baz=270,slow=20,SNR=9.1									
ARU	**Arti**	**16.30**	**13**	P		**Pn**	**23**	**30**	**09.6**	**-4.2**
ARU				S		**Sn**	**23**	**33**	**06.4**	**-7.0**
AAK	**Ala-Archa**	**17.01**	**76**	P		**P**	**23**	**30**	**26.4**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=262,slow=6.6,SNR=3.1									
	comp=Z,1.4nm,0.4s									
AAK	**Ala-Archa**	**17.01**	**76**	*i*eP		**P**	**23**	**30**	**26.4**	**+1.8**
AAK				pmax		pmax				
	comp=Z,5.0nm,1.7s									
BRVK	**Borovoye**	**17.55**	**39**	⇓Pn		**Pn**	**23**	**30**	**27.8**	**-1.7**
	comp=Z,1.0nm,0.4s									
BRVK				⇓Sn		Sn	23	33	30.5	-13
	comp=Z,8.3nm,0.9s									
BRVK	**Borovoye**	**17.55**	**39**	*i* P		**Pn**	**23**	**30**	**27.5**	**-2.0**
BRVK				pmax		pmax				
	comp=Z,3.0nm,1.0s									
BVA0	**Borovoye Array**	**17.58**	**39**	⇓Pn		**Pn**	**23**	**30**	**28.9**	**-1.0**
	comp=Z,1.3nm,0.4s,baz=227,slow=14,SNR=17									
BVA0				⇓Sn		Sn	23	33	33.0	-12
	comp=Z,5.0nm,0.8s,baz=237,slow=24,SNR=8.7									
BVA0	**Borovoye Array**	**17.58**	**39**	P		**Pn**	**23**	**30**	**28.9**	**-1.0**
BVA0				S		Sn	23	33	33.0	-12
BVAR	**Borovoye Array**	**17.58**	**39**	P		**Pn**	**23**	**30**	**30.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=229,slow=14,SNR=18									
BVAR					S	Sn	23	33	31.2	-13
	comp=Z,1.1nm,0.5s,baz=236,slow=19,SNR=3.6									
	comp=Z,2.3nm,0.4s									
KIRV	**Kirov**	**17.93**	**356**	P		**P**	**23**	**30**	**35.5**	**+1.2**
	comp=Z,1.4nm,0.3s,baz=91,slow=5.5,SNR=6.0									
	comp=Z,9.5nm,0.5s									
KIRV	**Kirov**	**17.93**	**356**	*ce*P		**P**	**23**	**30**	**34.8**	**+0.5**
WSAR	**Wadi Sarin**	**18.36**	**160**	P		**Pn**	**23**	**30**	**40.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=342,slow=7.9,SNR=2.6									
	comp=Z,6.6nm,1.0s									
AKASG	**Malin Array Be**	**18.61**	**310**	P		**P**	**23**	**30**	**41.4**	**-0.4**
	comp=Z,1.3nm,0.3s,baz=109,slow=11,SNR=4.7									
	comp=Z,0.3nm,0.3s									
KURBB	**Kurchatov Arra**	**20.99**	**53**	P		**P**	**23**	**31**	**09.7**	**+1.9**
	comp=Z,3.1nm,0.7s,baz=253,slow=11,SNR=20									
	comp=Z,3.1nm,0.7s									
KURK	**Kurchatov**	**21.07**	**53**	*ce*P		**P**	**23**	**31**	**09.6**	**+0.9**
KURK				pmax		pmax				
	comp=Z,12nm,1.3s									
MNK	**Minsk**	**21.08**	**319**	*i* P		**P**	**23**	**31**	**06.9**	**-1.9**
	comp=E,4.0nm,0.8s,baz=120									
MNK				*i* P		**P**	**23**	**31**	**06.9**	**-1.9**
	comp=N,3.0nm,0.6s,baz=120									
MNK				*i* P		**P**	**23**	**31**	**06.9**	**-1.9**
	comp=Z,3.0nm,0.7s,baz=120									
MNK				*i* PP		**sP**	**23**	**31**	**24.9**	**+1.1**
	baz=120									
MNK				*i* S		**S**	**23**	**34**	**59.5**	**-1.5**
	baz=120									
MNK				*i* SS		**SnSn**	**23**	**35**	**20.6**	**-3.4**
	baz=120									
MNK				*i* LR		LR	23	37	53.2	
	baz=120									
MNK				*i* LRM		MLR	23	39	33.2	
	comp=Z,14µm,20.2s,baz=120									
MNK				*i* LRM		MLR	23	39	39.2	
	comp=N,10µm,20.6s,baz=120									
MNK				*i* LRM		MLR	23	39	46.0	
	comp=E,4µm,19.0s,baz=120									
MNK	**Minsk**	**21.08**	**319**	*i* P		**P**	**23**	**31**	**06.8**	**-1.9**
MNK				*i*			23	31	24.9	
MNK				*i* S		**S**	**23**	**34**	**59.5**	**-1.5**
MNK				*i* SS		**SnSn**	**23**	**35**	**20.5**	**-3.4**
MNK				pmax		pmax				
	comp=Z,3.0nm,0.6s									
MNK				pmax		pmax				
	comp=N,3.0nm,0.6s									
MNK				pmax		pmax				
	comp=E,4.0nm,0.8s									
MK31	**Makanchi Array**	**22.71**	**64**	*ce*P		**P**	**23**	**31**	**26.5**	**+0.2**
MKAR	**Makanchi Array**	**22.71**	**64**	P		**P**	**23**	**31**	**27.7**	**+1.4**
	comp=E,1.0nm,0.5s,baz=260,slow=10,SNR=12									
MKAR					S	**S**	**23**	**35**	**32.7**	**+0.8**
	comp=E,0.2nm,0.7s,baz=258,slow=20,SNR=2.0									
	comp=E,1.0nm,0.5s									
ZALV	**Zalesovo Beam**	**25.68**	**48**	P		**P**	**23**	**31**	**55.5**	**+1.4**
	comp=E,1.8nm,0.7s,baz=267,slow=13,SNR=9.3									
	comp=E,1.8nm,0.7s									
FINES	**FINESS Array B**	**25.98**	**332**	P		**P**	**23**	**31**	**58.5**	**+1.8**
	comp=E,1.8nm,0.3s,baz=134,slow=12,SNR=37									
	comp=E,1.8nm,0.3s									
FINES	**FINESS Array B**	**25.98**	**332**	*eP*		**P**	**23**	**31**	**57.7**	**+1.0**
FINES				pmax		pmax				
	comp=Z,2.0nm,0.3s									
HFS	**Hagfors**	**30.47**	**322**	P		**P**	**23**	**32**	**35.8**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=100,slow=12,SNR=6.6									
	comp=Z,0.3nm,0.3s									
NOA	**NORSAR Array B**	**31.94**	**323**	P		**P**	**23**	**32**	**50.1**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=123,slow=8.3,SNR=1.9									
	comp=Z,0.7nm,0.9s									
ARCES	**ARCESS Array B**	**32.00**	**343**	P		**P**	**23**	**32**	**49.8**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=149,slow=11,SNR=6.6									
	comp=Z,2.5nm,0.9s									
ARCES	**ARCESS Array B**	**32.00**	**343**	*eP*		**P**	**23**	**32**	**51.8**	**+1.7**
ARCES				pmax		pmax				

	comp=Z,2.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**38.51**	**311**	P		**P**	**23**	**33**	**45.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=96,slow=8.9,SNR=7.4									
	comp=Z,0.3nm,0.3s									
SPITS	**Spitsbergen Ar**	**40.20**	**349**	P		**P**	**23**	**34**	**00.6**	**+0.4**
	comp=Z,6.0nm,0.9s,baz=158,slow=9.3,SNR=7.2									
	comp=Z,6.0nm,0.9s									
ESDC	**Sonseca Array**	**42.02**	**287**	P		**P**	**23**	**34**	**13.4**	**-2.2**
	comp=Z,0.2nm,0.7s,baz=52,slow=8.9,SNR=1.4									
	comp=Z,0.2nm,0.7s									
DGAR	**Diego Garcia**	**51.53**	**154**	*ce*P		P	23	35	37.2	+7.2
TORD	**Torodi Ar. Bea**	**51.60**	**253**	P		**P**	**23**	**35**	**29.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=60,slow=6.6,SNR=1.1									
	comp=Z,0.1nm,0.3s									
USRK	**Ussuriysk Ar.**	**56.95**	**58**	P		**P**	**23**	**36**	**09.8**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=293,slow=7.4,SNR=3.2									
	comp=Z,0.7nm,0.7s									
BILL	**Bilibino**	**61.03**	**23**	*i* P		**P**	**23**	**36**	**40.0**	**+2.9**
BILL				pmax		pmax				
	comp=Z,2.0nm,1.1s									
PET	**Petropavlovsk**	**67.33**	**39**	*ce*P		**P**	**23**	**37**	**22.0**	**+3.4**
YKA	**Yellowknife Ar**	**76.53**	**354**	P		**P**	**23**	**38**	**13.5**	**-0.1**
	comp=Z,0.1nm,0.6s,baz=23,slow=6.7,SNR=2.7									
	comp=Z,0.1nm,0.6s									

*NEIC **04** 23:45:53.3±0.4, 19°.30N±0°.04×155°.22W±0°.04, h9km±3km, Error ellipse: s-maj=7.3km s-min=1.0km az=138.0*

HVO 04 23:45:53.3±0.5, 19°.30N±0°.03×155°.21W±0°.04, h6km±4km, ML2.6/6, ML2.7/37(NEIC), Error ellipse: s-maj=6.6km s-min=1.5km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time			Res
				Op		ISC	h	m	s	ISC
PUH	**Pauahi**	**0.08**	**355**			Pg	23	45	55.8	+0.5
PUH				IAML			23	45	57.4	
	comp=E,3µm,0.6s									
HLP	**Hilina Pali**	**0.09**	**270**			Pg	23

NPOC	**North of Pu'u**	**0.19**	**96**	IAML			23 48 02.2		
	comp=E,13µm,0.4s								
NPOC				IAML			23 48 02.2		
	comp=N,17µm,0.5s								
HTC	**Hot Caves**	**0.19**	**205**			Pg	23 47 59.0	+0.5	
JCUZ	**Jacuzzi**	**0.20**	**98**			Pg	23 47 58.9	+0.3	
JCUZ						Sg	23 48 02.1	+0.8	
JCUZ	**Jacuzzi**	**0.20**	**98**	IAML			23 48 02.4		
	comp=E,14µm,0.4s								
JCUZ				IAML			23 48 05.3		
	comp=N,6µm,0.5s								
HMH	**Humu'ula Sheep**	**0.25**	**319**			Pg	23 48 00.1	+0.5	
HMH						Sg	23 48 04.1	+1.2	
HMH	**Humu'ula Sheep**	**0.25**	**319**	IAML			23 48 04.3		
	comp=E,20µm,0.3s								
HMH				IAML			23 48 07.8		
	comp=N,34µm,0.4s								
MWH	**Moku'aweowe**	**0.28**	**285**			Pg	23 48 00.5	+0.2	
MWH	**Moku'aweowe**	**0.28**	**285**	IAML			23 48 07.9		
	comp=E,11µm,0.7s								
MWH				IAML			23 48 09.9		
	comp=N,12µm,0.5s								
KHU	**Kahuku**	**0.33**	**240**			Pg	23 48 01.2	0.0	
KHU						Sg	23 48 06.2	+0.6	
KHU	**Kahuku**	**0.33**	**240**	IAML			23 48 06.5		
	comp=E,4µm,0.2s								
KHU				IAML			23 48 06.6		
	comp=N,3µm,0.3s								
ALEP	**Alea Permanent**	**0.34**	**292**			Pg	23 48 01.4	0.0	
HPO	**Honuapo**	**0.40**	**216**			Pg	23 48 02.9	+0.6	
HPO						Sb	23 48 09.2	-1.4	
POHA	**Pohakuloa**	**0.40**	**329**			Sg	23 48 09.1	+1.2	
POHA				IAML			23 48 09.5		
	comp=N,7µm,0.3s								
POHA				IAML			23 48 09.9		
	comp=N,5µm,0.3s								
POHA	**Pohakuloa**	**0.40**	**329**			Pg	23 48 02.3	-0.3	
CPH	**Captain Cook**	**0.58**	**278**			Pg	23 48 05.4	-0.4	
HLK	**Haleakala**	**1.60**	**327**	Pn	Pn		23 48 24.2	+0.1	

*CNRM **05** 00:03:31.8, 36˚.86N×9˚.01W, h28km, ML2.7*
*MDD **05** 00:03:32.3±0.5, 36˚.92N×9˚.02W, h22km±1km, mb_Lg3.0/9, Error ellipse: s-maj=4.2km s-min=2.9km az=75.0*
*SFS **05** 00:03:33.6, 36˚.93N×8˚.93W, h25km, ML3.0/24, ML3.2/19, MLv2.7/24*
*IGIL **05** 00:03:34.2, 36˚.93N×8˚.93W, h27km, ML2.8*
*INMG **05** 00:03:34.2±1.7, 36˚.93N×8˚.92W, h25km±2km, ML2.6, Error ellipse: s-maj=4.5km s-min=2.3km az=79.0*

ISC 05 00:03:33.2±0.9, **36˚.93N**±0˚.03×**8˚.89W**±0˚.03, **h30**km±4km, **n110**, σ1§**44**/180, **3C-1D**, **West of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSVI	**Cabo S. Vicent**	**0.13**	**315**	⇑*i*Pg	**Pb**	**00 03 38.8**	**+0.1**
PSVI				*e*Sg	**Sb**	**00 03 42.0**	**-0.5**
PSVI				A	A	00 03 42.0	
	551nm,0.8s						
PFVI	**Vila Bisbo**	**0.20**	**13**	⇓*i*Pg	**Pb**	**00 03 39.9**	**+0.4**
PFVI				*e*Sg	**Sb**	**00 03 44.0**	**+0.3**
PFVI				A	A	00 03 44.2	
	1µm,0.1s						
PFVI	**Vila Bisbo**	**0.20**	**13**	Pg	**Pb**	**00 03 39.9**	**+0.4**
PFVI				Sg	**Sn**	**00 03 43.5**	**-0.3**
PFVI	**Vila Bisbo**	**0.20**	**13**	P	**Pb**	**00 03 39.5**	**0.0**
PFVI	**Vila Bisbo**	**0.20**	**13**	S	**Sb**	**00 03 44.0**	**+0.3**
PLAGO	**Lagos**	**0.23**	**44**	*e*Pg	**Pn**	**00 03 40.2**	**-0.4**
PLAGO				*e*Sg	**Sn**	**00 03 44.7**	**+0.6**
PLAGO				A	A	00 03 45.1	
	621nm,0.1s						
PPOR	**Portimao**	**0.34**	**55**	*e*Pg	**Pn**	**00 03 41.8**	**-0.4**
PPOR				*e*Sg	**Sb**	**00 03 47.5**	**+0.8**
PPOR				A	A	00 03 48.8	
	660nm,0.2s						
PALJ	**Aljezur**	**0.39**	**10**	*e*Pg	**Pn**	**00 03 42.5**	**-0.3**
PALJ				*e*Sg	**Sb**	**00 03 48.3**	**+0.4**
MORF	**Marmelete**	**0.41**	**27**	*e*Pg	**Pn**	**00 03 42.9**	**-0.4**
MORF				*e*Sg	**Sb**	**00 03 49.2**	**+0.6**
MORF				A	A	00 03 49.5	
	805nm,0.1s						
MORF	**Marmelete**	**0.41**	**27**	*e*P	**Pn**	**00 03 42.8**	**-0.4**
MORF				*e*S	**Sb**	**00 03 48.8**	**+0.2**
MORF				IAML		00 03 49.5	
	comp=E,713nm,0.1s						
PALBU	**Albufeira**	**0.54**	**72**	*e*Pg	**Pb**	**00 03 44.8**	**+0.6**
PALBU				*e*Sg	**Sn**	**00 03 53.0**	**+0.2**
PALBU				A	A	00 03 54.2	
	comp=E,260nm,0.6s						
PTEO	**Sao Teotonio**	**0.62**	**12**	*e*Pg	**Pb**	**00 03 45.9**	**+0.2**
PTEO				*e*Sg	**Sn**	**00 03 54.7**	**-0.3**
PTEO				A	A	00 03 54.9	
	comp=E,310nm,0.2s						
PFARO	**Faro**	**0.78**	**83**	*e*P	**Pb**	**00 03 49.1**	**+0.9**
PFARO				*e*S	**Sb**	**00 04 00.2**	**+1.8**
PBDV	**Barranco-do-Ve**	**0.82**	**68**	⇑*i*P	**Pb**	**00 03 48.9**	**-0.1**
PBDV				*e*S	**Sb**	**00 04 01.0**	**+1.2**
PBDV				A	A	00 04 04.8	
	comp=E,42nm,0.1s						
PBDV	**Barranco-do-Ve**	**0.82**	**68**	Pg	**Pb**	**00 03 48.9**	**-0.1**
PBDV				Sn	**Sn**	**00 04 00.1**	**+0.1**
PCVE	**Castro Verde**	**0.97**	**44**	*e*P	**Pb**	**00 03 51.0**	**-0.5**
PCVE				*e*S	**Sb**	**00 04 04.5**	**+0.5**
PCVE				A	A	00 04 06.5	
	comp=E,104nm,0.2s						
PCVE	**Castro Verde**	**0.97**	**44**	Pg	**Pb**	**00 03 50.9**	**-0.5**
PCVE				Sn	**Sn**	**00 04 02.9**	**-0.7**
PSINE	**Sines**	**1.02**	**1**	*e*P	**Pb**	**00 03 53.0**	**+0.7**
PSINE				*e*S	**Sb**	**00 04 06.1**	**+0.7**
PSINE				A	A	00 04 08.0	
	comp=E,269nm,0.5s						
PVAQ	**Vaqueiros**	**1.04**	**63**	⇑*i*P	**Pn**	**00 03 51.8**	**0.0**
PVAQ				*e*S	**Sb**	**00 04 06.8**	**+0.7**
PVAQ				A	A	00 04 10.3	
	comp=E,91nm,0.1s						
PVAQ	**Vaqueiros**	**1.04**	**63**	Pn	**Pn**	**00 03 51.8**	**0.0**
PVAQ	**Vaqueiros**	**1.04**	**63**	P	**Pn**	**00 03 51.8**	**0.0**
PVAQ	**Vaqueiros**	**1.04**	**63**	S	**Sb**	**00 04 07.1**	**+1.1**
MESJ	**Messejana**	**1.05**	**30**	*e*P	**Pn**	**00 03 52.0**	**+0.1**
MESJ				*e*S	**Sb**	**00 04 07.1**	**+0.9**
MESJ				A	A	00 04 07.4	
	comp=E,170nm,0.3s						
MESJ	**Messejana**	**1.05**	**30**	*e*P	**Pn**	**00 03 51.9**	**0.0**
MESJ				*e*S	**Sn**	**00 04 05.1**	**-0.5**
MESJ				IAML		00 04 07.5	
	comp=N,142nm,0.2s						
PNCL	**Nicolau / Gran**	**1.21**	**13**	*e*P	**Pn**	**00 03 53.7**	**-0.4**
PNCL				*e*S	**Sn**	**00 04 09.8**	**+0.3**
PNCL				A	A	00 04 11.9	
	comp=N,98nm,0.2s						
PNCL	**Nicolau / Gran**	**1.21**	**13**	Pn	**Pn**	**00 03 53.7**	**-0.4**
PNCL				Sn	**Sb**	**00 04 10.6**	**-0.2**
EGRO	**El Granado**	**1.27**	**61**	Pn	**Pn**	**00 03 54.9**	**-0.1**
EGRO				Sn	**Sb**	**00 04 12.4**	**-0.1**
EGRO	**El Granado**	**1.27**	**61**	Pn	**Pn**	**00 03 54.9**	**-0.1**
EGRO				Sg	**Sb**	**00 04 13.7**	**+1.2**
EGRO				*i* Vmb_Lg		00 04 15.0	
PBEJ	**Beja**	**1.36**	**36**	*e*P	**Pn**	**00 03 56.0**	**-0.2**
PBEJ				*e*S	**Sn**	**00 04 14.3**	**+1.1**
PBEJ				A	A	00 04 19.0	
	comp=N,44nm,0.2s						
ARNO	**Arenosillo**	**1.73**	**84**	Pn	**Pn**	**00 04 01.0**	**-0.3**
EVO	**Evora**	**1.74**	**23**	*e*Pn	**Pn**	**00 04 01.0**	**-0.4**
EVO				*e*Sn	**Sn**	**00 04 21.8**	**-0.8**
EVO				A	A	00 04 34.3	
	comp=N,32nm,0.1s						
EVO	**Evora**	**1.74**	**23**	Pn	**Pn**	**00 04 01.0**	**-0.4**
PACT	**Alcochete**	**1.83**	**1**	*e*Pn	**Pn**	**00 04 03.1**	**+0.5**
PACT				*e*Sg	**Sn**	**00 04 26.3**	**+1.5**
PACT				A	A	00 04 40.4	
	comp=N,33nm,0.7s						
PBAR	**Barrancos**	**1.92**	**49**	*e*Pn	**Pn**	**00 04 03.8**	**-0.1**
PBAR				*e*Sg	**Sb**	**00 04 32.8**	**+1.7**
PBAR				A	A	00 04 37.0	
	comp=N,16nm,0.1s						
PBAR	**Barrancos**	**1.92**	**49**	Pn	**Pn**	**00 04 03.4**	**-0.4**
PBAR				Sg	**Sb**	**00 04 31.4**	**+0.3**
EMIN	**Mina Concepcio**	**1.95**	**64**	Pn	**Pn**	**00 04 03.8**	**-0.5**
EMIN	**Mina Concepcio**	**1.95**	**64**	Pn	**Pn**	**00 04 03.9**	**-0.3**
EMIN				Sg	**Sb**	**00 04 34.2**	**+2.3**
PMAFR	**Mafra**	**2.04**	**351**	*e*Pn	**Pn**	**00 04 05.9**	**+0.3**
PMAFR				*e*Sn	**Sn**	**00 04 29.4**	**-0.7**
PMAFR				A	A	00 04 32.8	
	comp=N,19nm,0.3s						
PMAFR	**Mafra**	**2.04**	**351**	Pn	**Pn**	**00 04 05.9**	**+0.3**
PMAFR				Sn	**Sn**	**00 04 30.3**	**+0.2**
PESTR	**Estremoz**	**2.19**	**28**	*e*Pn	**Pn**	**00 04 07.1**	**-0.5**
PESTR				*e*Sn	**Sn**	**00 04 32.6**	**-1.0**
PESTR				*e*Sg	**Sb**	**00 04 40.7**	**+1.9**
PESTR				A	A	00 04 46.7	
	comp=N,15nm,0.6s						
PESTR	**Estremoz**	**2.19**	**28**	Pn	**Pn**	**00 04 07.1**	**-0.5**
PESTR				Sn	**Sn**	**00 04 32.4**	**-1.3**
PMTG	**Montargil**	**2.19**	**14**	*e*Pn	**Pn**	**00 04 07.3**	**-0.4**
PMTG				*e*Sn	**Sn**	**00 04 33.6**	**-0.2**
PMTG				A	A	00 04 43.9	
	comp=N,27nm,0.2s						
EBAD	**Badajoz**	**2.35**	**39**	Pn	**Pn**	**00 04 09.1**	**-0.6**
EBAD				Sn	**Sn**	**00 04 36.4**	**-1.2**
EBAD	**Badajoz**	**2.35**	**39**	Pn	**Pn**	**00 04 09.3**	**-0.4**
EBAD				Sn	**Sn**	**00 04 37.1**	**-0.5**
EBAD				Sg	**Sb**	**00 04 47.8**	**+4.4**
EBAD				*i* Vmb_Lg		00 04 47.9	
ESPR	**Espera**	**2.43**	**91**	Pn	**Pn**	**00 04 11.2**	**+0.4**
ESPR				Sn	**Sn**	**00 04 39.5**	**-0.1**
ESPR	**Espera**	**2.43**	**91**	Pn	**Pn**	**00 04 11.3**	**+0.4**
ESPR				Sn	**Sn**	**00 04 39.7**	**+0.2**
ESPR				*i* Vmb_Lg		00 04 45.2	
PSBE	**So Bento**	**2.58**	**2**	*e*Pn	**Pn**	**00 04 13.1**	**+0.1**
PSBE				*e*Sg	**Sb**	**00 04 54.1**	**+4.1**
PSBE				A	A	00 05 08.2	
	comp=N,12nm,0.7s						
PMRV	**Marv??o**	**2.75**	**25**	*e*Pn	**Pn**	**00 04 15.0**	**-0.4**
PMRV				*e*Sn	**Sn**	**00 04 46.4**	**-1.3**
PMRV				A	A	00 05 01.6	
	comp=N,22nm,0.4s						
EJIF	**Jimena Fronter**	**2.79**	**99**	Pn	**Pn**	**00 04 17.9**	**+2.1**
ECAB	**El Cabril**	**2.98**	**67**	Pn	**Pn**	**00 04 18.5**	**-0.1**
ECAB	**El Cabril**	**2.98**	**67**	Pn	**Pn**	**00 04 18.4**	**-0.1**
ECAB				Sn	**Sn**	**00 04 52.1**	**-1.2**
ECAB				*i* Vmb_Lg		00 05 10.6	
CEU	**Ceuta**	**3.02**	**109**	Pn	**Pn**	**00 04 20.2**	**+1.3**
SMIR	**Smir Dam**	**3.09**	**113**	P	**Pn**	**00 04 19.5**	**-0.5**
SMIR	**Smir Dam**	**3.09**	**113**	S	**Sn**	**00 04 56.7**	**+0.7**
PCBR	**Castelo Branco**	**3.11**	**20**	*e*Pn	**Pn**	**00 04 20.0**	**-0.2**
PCBR				*e*Sn	**Sn**	**00 04 55.1**	**-1.2**
PCBR				*e*Sg	**Sb**	**00 05 10.1**	**+4.9**
PCBR				A	A	00 05 18.1	
	comp=N,9.8nm,0.3s						
PCAS	**Casmilo, Conde**	**3.13**	**5**	*e*Pn	**Pn**	**00 04 20.2**	**-0.3**
PCAS				*e*Sn	**Sn**	**00 04 55.1**	**-1.8**
PCAS				A	A	00 05 21.1	
	comp=N,6.5nm,0.8s						
EMIJ	**Mijas**	**3.32**	**95**	Pn	**Pn**	**00 04 23.3**	**+0.1**
EMIJ	**Mijas**	**3.32**	**95**	Pn	**Pn**	**00 04 23.3**	**+0.1**
CHEFC	**Chefchaouen**	**3.40**	**121**	P	**Pn**	**00 04 24.3**	**0.0**
CHEFC	**Chefchaouen**	**3.40**	**121**	S	**Sn**	**00 05 04.7**	**+0.9**
MTE	**Manteigas**	**3.62**	**16**	*e*Pn	**Pn**	**00 04 26.9**	**-0.4**
MTE				*e*Sn	**Sn**	**00 05 06.3**	**-2.7**
MTE				A	A	00 05 36.5	
	comp=N,8.6nm,0.5s						
EADA	**Adamuz**	**3.64**	**69**	Pn	**Pn**	**00 04 27.3**	**-0.3**
EADA				Sn	**Sn**	**00 05 07.8**	**-1.7**
EADA	**Adamuz**	**3.64**	**69**	Pn	**Pn**	**00 04 27.2**	**-0.3**
EADA				Sn	**Sn**	**00 05 09.4**	**-0.1**
EADA				*i* Vmb_Lg		00 05 11.1	
EPLA	**Plasencia**	**3.82**	**34**	Pn	**Pn**	**00 04 29.4**	**-0.6**
EPLA				Sn	**Sn**	**00 05 12.8**	**-1.3**
EPLA				*i* Vmb_Lg		00 05 14.0	
EGOR	**Sierra Gorda,**	**3.83**	**86**	Pn	**Pn**	**00 04 31.0**	**+0.8**
EGOR				Sn	**Sn**	**00 05 13.2**	**-1.1**
EGOR	**Sierra Gorda,**	**3.83**	**86**	Pn	**Pn**	**00 04 31.0**	**+0.8**
EGOR				Sn	**Sn**	**00 05 13.2**	**0.0**
PVIS	**Viseu**	**3.85**	**11**	*e*Pn	**Pn**	**00 04 30.5**	**0.0**
PVIS				*e*Sn	**Sn**	**00 05 12.8**	**-2.0**
ZHG	**ZHG**	**3.94**	**152**	P	**Pn**	**00 04 31.7**	**0.0**
ZHG	**ZHG**	**3.94**	**152**	S	**Sn**	**00 05 16.7**	**-0.2**
ELGU	**Los Guajares,**	**4.22**	**89**	Pn	**Pn**	**00 04 37.7**	**+2.2**
ELGU	**Los Guajares,**	**4.22**	**89**	Pn	**Pn**	**00 04 37.7**	**+2.2**
ELGU				Sn	**Sn**	**00 05 20.6**	**-3.2**
ELGU				*i* Vmb_Lg		00 05 27.9	
PAB	**San Pablo**	**4.42**	**52**	Pn	**Pn**	**00 04 37.9**	**-0.5**
PAB				Sn	**Sn**	**00 05 26.3**	**-2.6**
PVRL	**Vila Real**	**4.43**	**11**	*e*Pn	**Pn**	**00 04 38.2**	**-0.2**
PVRL				*e*Sn	**Sn**	**00 05 25.6**	**-3.4**
MVO	**Moncorvo**	**4.46**	**18**	*e*Pn	**Pn**	**00 04 38.7**	**-0.2**
MVO				*e*Sn	**Sn**	**00 05 26.7**	**-3.2**
MVO				A	A	00 06 00.3	
	comp=N,4.1nm,0.4s						
PSIM	**Granatula de C**	**4.47**	**64**	Pn	**Pn**	**00 04 38.2**	**-0.8**
PSIM				Sn	**Sn**	**00 05 28.1**	**-2.0**
IFR	**Ifrane**	**4.59**	**137**	Pn	**Pn**	**00 04 40.6**	**-0.2**
IFR				Sn	**Sn**	**00 05 31.1**	**-2.1**
LCRM	**LCR**	**4.62**	**133**	P	**Pn**	**00 04 41.3**	**+0.2**
LCRM	**LCR**	**4.62**	**133**	S	**Sn**	**00 05 36.4**	**+2.5**
EQES	**Quesada**	**4.71**	**78**	Pn	**Pn**	**00 04 41.7**	**-0.7**
EQES				Sn	**Sn**	**00 05 34.8**	**-1.3**
EQES				*i* Vmb_Lg		00 05 42.9	
AKLM	**AKL**	**4.75**	**119**	P	**Pn**	**00 04 40.7**	**-2.1**
AKLM	**AKL**	**4.75**	**119**	S	**Sn**	**00 05 34.5**	**-2.4**
EBER	**Berja**	**4.80**	**89**	Pn	**Pn**	**00 04 45.0**	**+1.3**
EBER	**Berja**	**4.80**	**89**	Pn	**Pn**	**00 04 43.9**	**+0.2**
ELOB	**Lobios**	**4.97**	**7**	Pn	**Pn**	**00 04 44.7**	**-1.2**
ELOB				Sn	**Sn**	**00 05 38.7**	**-3.6**
ELOB				*i* Vmb_Lg		00 05 43.3	
PGAV	**Gavieira, Arco**	**5.05**	**5**	*e*Pn	**Pn**	**00 04 46.8**	**-0.2**
PGAV				*e*Sn	**Sn**	**00 05 40.7**	**-3.6**
PBRG	**Braganca**	**5.14**	**18**	*e*Pn	**Pn**	**00 04 47.9**	**-0.3**
PBRG				*e*Sn	**Sn**	**00 05 43.5**	**-3.0**
PBRG				A	A	00 06 21.2	
	comp=N,3.4nm,0.7s						
GUD	**Guadarrama**	**5.23**	**43**	Pn	**Pn**	**00 04 49.1**	**-0.4**
GUD				Sn	**Sn**	**00 05 44.6**	**-4.3**
ECAL	**Calabor**	**5.27**	**18**	Pn	**Pn**	**00 04 48.8**	**-1.2**
ECAL				Sn	**Sn**	**00 05 47.3**	**-2.5**
MD31	**MD31**	**5.29**	**139**	P	**Pn**	**00 04 50.0**	**-0.3**
MD31	**MD31**	**5.29**	**139**	S	**Sn**	**00 05 50.0**	**-0.3**
ENIJ	**Nijar**	**5.35**	**88**	Pn	**Pn**	**00 04 52.0**	**+1.0**
MDT	**Midelt**	**5.41**	**138**	P	**Pn**	**00 04 51.4**	**-0.6**
MDT	**Midelt**	**5.41**	**138**	S	**Sn**	**00 05 52.4**	**-0.9**
UCM	**Universidad Co**	**5.55**	**51**	Pn	**Pn**	**00 04 54.0**	**+0.1**
TISM	**Timmit**	**5.58**	**158**	P	**Pn**	**00 04 51.9**	**-2.3**
TISM	**Timmit**	**5.58**	**158**	S	**Sn**	**00 05 53.6**	**-1.7**
EZAR	**Zarzadilla de**	**5.80**	**79**	Pn	**Pn**	**00 04 57.3**	**-0.1**
EZAR				Sn	**Sn**	**00 06 01.9**	**-1.0**
E1002	**Yechar (Murcia**	**6.03**	**77**	Pn	**Pn**	**00 05 00.1**	**-0.2**
ETOB	**Tobarra**	**6.06**	**71**	Pn	**Pn**	**00 05 00.0**	**-0.8**
ETOB	**Tobarra**	**6.06**	**71**	Pn	**Pn**	**00 04 59.7**	**-1.1**
ETOB				Sn	**Sn**	**00 06 06.3**	**-2.9**
TIO	**Tiouine**	**6.14**	**167**	Pn	**Pn**	**00 05 01.8**	**-0.3**
TIO				Sn	**Sn**	**00 06 06.3**	**-5.1**
TIO	**Tiouine**	**6.14**	**167**	P	**Pn**	**00 05 01.8**	**-0.3**
TIO	**Tiouine**	**6.14**	**167**	S	**Sn**	**00 06 10.3**	**-1.1**
OUZM	**OUZ**	**6.26**	**163**	P	**Pn**	**00 05 03.7**	**0.0**
OUZM	**OUZ**	**6.26**	**163**	S	**Sn**	**00 06 13.4**	**-0.9**
TTIG	**Tnine Tigouga,**	**6.38**	**177**	P	**Pn**	**00 05 01.7**	**-3.6**
TTIG	**Tnine Tigouga,**	**6.38**	**177**	S	**Sn**	**00 06 16.6**	**-0.6**
ETOR	**Torete**	**6.59**	**52**	Pn	**Pn**	**00 05 08.5**	**+0.3**
ETOR				Sn	**Sn**	**00 06 18.1**	**-4.2**
E0901	**Celadas (Teruе**	**7.02**	**57**	Pn	**Pn**	**00 05 14.8**	**+0.7**
EMOS	**Mosqueruela**	**7.42**	**60**	Pn	**Pn**	**00 05 20.2**	**+0.6**
EMOS				Sn	**Sn**	**00 06 40.2**	**-2.6**

*PNSN **05** 00:03:56.8, 46˚.92N×122˚.50W, h22km, MD2.0, Fault plane solution: NP1:φs195.00000°, δ85.00000°, λ30.00000°.*
*NEIC **05** 00:03:56.1±1.6, 46˚.88N±0˚.02×122˚.50W±0˚.02, h21km±10km, Error ellipse: s-maj=3.9km s-min=1.4km az=147.0*

SEA 05 00:03:56.8±0.9, **46˚.92N**±0˚.03×**122˚.50W**±0˚.03, **h22**km±6km, **ML2.0**/32, **ML2.0**/38(NEIC), **Error ellipse: s-maj=3.8km s-min=3.4km az=194.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCFR	**Pierce County**	**0.08**	**29**		Pb	00 04 00.6	-0.3
PCFR					Sb	00 04 03.3	-0.3
GHW	**Garrison Hill**	**0.20**	**52**		Pb	00 04 01.6	-0.9
GHW					Sb	00 04 05.1	-1.2
B941	**Kapowsin**	**0.20**	**71**		Pb	00 04 01.4	-1.0
B941					Sb	00 04 05.2	-1.1
PCEP	**Pierce County**	**0.24**	**36**		Sb	00 04 07.0	+0.1
LCW	**Lucas Creek**	**0.29**	**209**		Pb	00 04 03.0	-0.5
LCW					Sb	00 04 07.3	-0.7
PAYL	**Puyallup Schoo**	**0.30**	**24**		Pb	00 04 03.3	-0.3
PAYL					Sb	00 04 09.1	+0.9
RVC	**Mount Rainier-**	**0.36**	**86**		Pb	00 04 04.3	-0.3
D05A	**Enumclaw**	**0.44**	**52**		Sb	00 04 12.6	+0.6
D05A				IAML		00 04 12.7	
	comp=E,86nm,0.2s						
D05A	**Enumclaw**	**0.44**	**52**		Pb	00 04 05.6	-0.3
CPW	**Capitol Peak**	**0.44**	**277**		Pb	00 04 05.4	-0.6
CPW					Sb	00 04 12.2	0.0
REMR	**Mount Rainier-**	**0.46**	**103**		Pb	00 04 05.6	-0.7
OBSR	**Observation Ro**	**0.47**	**92**		Pb	00 04 06.0	-0.5
LON	**Longmire**	**0.50**	**110**		Pb	00 04 06.2	-0.8
LON	**Longmire**	**0.50**	**110**		Pb	00 04 06.3	-0.7
LON	**Longmire**	**0.50**	**110**		Sb	00 04 13.3	-0.6
VVHS	**Vashon High Sc**	**0.50**	**3**		Pb	00 04 06.4	-0.6
KOSW	**Kosmos**	**0.51**	**155**		Pb	00 04 06.5	-0.6
GSM	**Grass Mountain**	**0.56**	**59**		Pb	00 04 07.5	-0.6
TDL	**Tradedollar La**	**0.60**	**161**		Pb	00 04 07.9	-0.9
TDL					Sb	00 04 16.5	-0.5
ERK	**Elk Rock**	**0.62**	**170**		Pb	00 04 07.9	-1.3
ERK					Sb	00 04 16.4	-1.1
B201	**Coldwater, Mou**	**0.64**	**166**		Pb	00 04 08.2	-1.2
B201					Sb	00 04 17.0	-0.9
GMW	**Gold Mountain**	**0.66**	**343**		Pb	00 04 08.4	-1.3
BMW	**Boistfort Moun**	**0.67**	**229**		Pb	00 04 09.0	-1.0
JRO	**Jston Ridge Ob**	**0.67**	**163**		Pb	00 04 09.0	-1.0
GNW	**Green Mountain**	**0.68**	**341**		Pb	00 04 08.6	-1.5
RATT	**Rattlesnake La**	**0.69**	**43**		Pb	00 04 09.3	-0.9
STD	**Studebaker Rid**	**0.71**	**165**		Pb	00 04 09.5	-1.1
STD					Sb	00 04 19.3	-0.7
SOSW	**Source of Smit**	**0.72**	**160**		Pb	00 04 09.8	-1.0
B017	**Montesano**	**0.73**	**276**		Pb	00 04 10.5	-0.3
FL2	**Flat Top 2**	**0.73**	**172**		Pb	00 04 09.7	-1.2
FL2					Sb	00 04 19.7	-0.9
VALT	**Mount Saint He**	**0.74**	**163**		Pb	00 04 10.3	-0.8
SHW	**Mount Saint He**	**0.75**	**166**		Pb	00 04 10.3	-1.0
SEPW	**September Lobe**	**0.75**	**164**		Pb	00 04 10.5	-0.9
B203	**Quarry, Mount**	**0.76**	**172**		Pb	00 04 10.1	-1.3
B203					Sb	00 04 20.5	-0.8
ESD	**East Dome**	**0.76**	**162**		Pb	00 04 10.8	-0.8
SWF2	**Southwest Flan**	**0.77**	**165**		Pb	00 04 10.5	-1.1
HSR	**South Ridge**	**0.78**	**164**		Pb	00 04 11.0	-0.8
RVW	**Rose Valley**	**0.79**	**193**		Pb	00 04 10.7	-1.2
JLK	**June Lake**	**0.81**	**163**		Pb	00 04 11.3	-1.0
HDW	**Hoodsport**	**0.82**	**333**		Pb	00 04 10.9	-1.6
E03A	**Lebam**	**0.82**	**243**		Pb	00 04 11.6	-0.8
E03A				IAML		00 04 28.8	
	comp=N,40nm,3.0s						
E03A				IAML		00 04 39.3	
	comp=E,41nm,3.8s						
C04A	**Brinnon**	**0.86**	**338**		Pb	00 04 11.4	-1.6
CDFW	**Cedar Flats**	**0.86**	**159**		Pb	00 04 12.2	-1.0
WISH	**Wishkah**	**0.89**	**283**		Pb	00 04 13.0	-0.6
WISH				IAML		00 04 31.4	
	comp=E,67nm,4.5s						
B023	**Clatskanie**	**0.91**	**207**		Pb	00 04 12.7	-1.1
F04D	**Rainier, OR**	**0.91**	**203**		Pb	00 04 13.5	-0.5
ASR	**Mount Adams--S**	**0.99**	**141**		Pb	00 04 15.1	-0.3
F04A	**Amboy**	**0.99**	**177**		Pb	00 04 13.9	-1.4
F04A				IAML		00 04 27.8	
	comp=N,35nm,0.2s						
F04A				IAML		00 04 33.8	
	comp=E,48nm,3.7s						
RADR	**Rader Ridge**	**1.03**	**241**	Pn	Pb	00 04 14.4	-1.6
RADR				IAML		00 04 34.2	
	comp=E,55nm,4.2s						
RADR				IAML		00 04 38.8	
	comp=N,42nm,3.9s						
NLWA	**Neilton Lookou**	**1.05**	**297**		Pn	00 04 15.1	-1.2
NLWA				IAML		00 04 33.4	
	comp=N,30nm,0.5s						
F03A	**Seaside**	**1.23**	**217**	Pn	Pn	00 04 17.9	-0.9
F03A				IAML		00 04 42.0	
	comp=E,48nm,0.3s		

MWH				IAML		00 04 49.7	
	comp=E,381nm,2.4s						
MWH				IAML		00 04 52.7	
	comp=N,577nm,4.1s						
HUH	**Hualalai**	**0.72**	**305**	Pg	Pg	00 04 50.2	-0.2

DJA 05 00:06:40.2±0.4, 6°S±3°×10°4E±°, h10km, M4.1/7, mb4.6/1, MLv3.9/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**0.61**	**46**	P	Pg	00 06 52.4	+0.3
KASI				S	Sg	00 07 00.9	+0.7
LWLI	**Liwa**	**0.93**	**1**	P	Pg	00 06 57.9	-0.2
LWLI				S	Sb	00 07 11.1	+0.2
MNAI	**Manna**	**1.92**	**325**	P	Pn	00 07 13.9	+0.9
MNAI				S	Sn	00 07 38.0	+0.8
CNJI	**Cibinong**	**3.34**	**114**	P	Pn	00 07 34.6	+2.0
CMJI	**Cimerak**	**4.73**	**113**	P	Pn	00 07 52.2	+0.5
PPSI	**Pulau Pagai**	**5.12**	**308**	P	Pn	00 07 56.4	-0.7

*IDC **05** 00:08:47.5±0.7, 6°26S×143°26E, h0km, mb4.3/13, mbtmp4.3/15, ML2.4/1, Error ellipse: s-maj=28.7km s-min=14.2km az=78.0*
*DJA **05** 00:08:51.2±0.5, 6°S±4°×14°3E±°, h10km, M4.9/18, mB5.1/1, mb4.6/18, MLv5.0/4, Mw(mB)4.5/1*
ISC 05 00:08:52.6±0.6, 6°47S±0°06×143°06E±0°08, h35km, n39, σ2°07/40, mb4.3/15, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.18**	**303**	P	**Pn**	**00 09 27.2**	**+0.7**
MMPI	**Merauke**	**3.32**	**233**	P	**Pn**	**00 09 43.5**	**+1.4**
JAY	**Jayapura**	**4.58**	**329**	P	**Pn**	**00 09 58.6**	**-0.9**
GENI	**Genyem**	**4.81**	**323**	P	**Pn**	**00 10 04.8**	**+2.2**
GENI	**Genyem**	**4.81**	**323**	P	**Pn**	**00 10 02.0**	**-0.6**
PMG	**Port Moresby**	**5.00**	**126**	Pn	**Pn**	**00 10 04.8**	**-0.5**
	10.0nm,0.3s,baz=301,slow=10,SNR=11						
PMG				Sn	**Sn**	**00 11 00.4**	**-1.5**
	1.7nm,0.3s,baz=182,slow=3.1,SNR=3.8						
	38nm,0.4s						
COEN	**Coen**	**7.44**	**179**	P	**Pn**	**00 10 41.6**	**+2.7**
FAKI	**Fak Fak**	**11.34**	**288**	P	**Pn**	**00 11 33.4**	**+1.1**
FAKI	**Fak Fak**	**11.34**	**288**	P	Pn	00 11 27.8	-4.5
	29nm,0.9s						
KDU	**Kakadu**	**12.13**	**239**	P	**Pn**	**00 11 42.9**	**-0.2**
DRS	**Darwin Rock St**	**13.38**	**243**	P	**Pn**	**00 12 00.7**	**+0.6**
QIS	**Mount Isa**	**14.40**	**193**	P	**Pn**	**00 12 17.1**	**+3.0**
WRA	**Warramunga Arr**	**15.85**	**211**	Pn	**Pn**	**00 12 32.1**	**-1.2**
	1.1nm,0.3s,baz=30,slow=11,SNR=15						
WRA				Sn	**Sn**	**00 15 20.7**	**-7.2**
	0.5nm,0.3s,baz=29,slow=22,SNR=3.8						
WRA				Lg	Lg	00 17 17.7	
	0.5nm,0.3s,baz=30,slow=29,SNR=6.2						
KNRA	**Kununurra**	**16.74**	**236**	P	**Pn**	**00 12 45.7**	**+1.1**
SOEI	**Soe**	**18.89**	**259**	P	**Pn**	**00 13 13.0**	**+1.8**
	67nm,0.8s						
ASAR	**Alice Springs**	**19.23**	**206**	P	**Pn**	**00 13 17.4**	**+2.2**
	51nm,0.6s,baz=32,slow=9.7,SNR=193						
ASAR				S	**S**	**00 16 44.4**	**-5.8**
	1.4nm,0.6s,baz=22,slow=28,SNR=4.0						
ASAR				Lg	Lg	00 19 08.2	
	0.1nm,0.3s,baz=24,slow=28,SNR=4.3						
LUWI	**Luwuk**	**20.95**	**284**	P	**P**	**00 13 32.2**	**-0.5**
	50nm,1.1s						
EDFI	**Ende, Flores**	**21.30**	**263**	P	**P**	**00 13 34.6**	**-2.1**
	12nm,0.9s						
OOD	**Oodnadatta**	**22.34**	**197**	P	**P**	**00 13 50.1**	**+2.6**
BKSI	**Bulukumba**	**22.85**	**272**	P	**P**	**00 13 51.8**	**-1.3**
	49nm,0.9s						
WRKA	**Warakurna**	**23.26**	**216**	P	**P**	**00 13 58.7**	**+1.5**
LCRK	**Leigh Creek**	**24.29**	**190**	P	**P**	**00 14 08.5**	**+1.7**
MULG	**Mulgathing**	**25.16**	**199**	P	**P**	**00 14 16.4**	**+1.7**
STKA	**Stephens Creek**	**25.32**	**183**	P	**P**	**00 14 17.6**	**+1.5**
	5.6nm,0.8s,baz=348,slow=9.3,SNR=9.2						
	5.6nm,0.8s						
FORT	**Forrest**	**27.98**	**208**	P	**P**	**00 14 40.4**	**+0.2**
MJAR	**Matsushiro Arr**	**43.02**	**354**	P	**P**	**00 16 48.0**	**-1.0**
	1.1nm,0.8s,baz=185,slow=6.8,SNR=1.7						
	1.1nm,0.8s						
KSRS	**Korea Array**	**45.92**	**343**	P	**P**	**00 17 11.7**	**-0.3**
	1.8nm,0.8s,baz=167,slow=9.0,SNR=5.0						
	1.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**50.06**	**300**	P	**P**	**00 17 44.8**	**+0.3**
	1.3nm,0.3s,baz=112,slow=6.3,SNR=4.2						
	1.3nm,0.3s						
PETK	**Petropavlovsk-**	**60.63**	**10**	P	**P**	**00 18 59.6**	**-0.3**
	4.5nm,0.8s,baz=190,slow=5.9,SNR=7.0						
	4.5nm,0.8s						
SONM	**Songino Array**	**62.98**	**333**	P	**P**	**00 19 16.1**	**+0.1**
	0.5nm,0.8s,baz=142,slow=4.9,SNR=2.4						
	0.5nm,0.8s						
VNDA	**Vanda**	**71.71**	**176**	P	**P**	**00 20 12.3**	**+1.7**
	1.5nm,1.0s,baz=334,slow=6.4,SNR=6.4						
	1.5nm,1.0s						
MKAR	**Makanchi Array**	**75.40**	**322**	P	**P**	**00 20 33.1**	**+0.2**
	3.2nm,0.7s,baz=108,slow=6.9,SNR=32						
	3.2nm,0.7s						
ZALV	**Zalesovo Beam**	**77.36**	**329**	P	**P**	**00 20 42.8**	**-1.0**
	1.1nm,0.4s,baz=94,slow=5.9,SNR=6.4						
	1.1nm,0.4s						
KURBB	**Kurchatov Arra**	**79.28**	**324**	P	**P**	**00 20 54.0**	**-0.5**
	2.5nm,0.8s,baz=115,slow=4.7,SNR=10						
	2.5nm,0.8s						
QSPA	**South Pole Qui**	**83.50**	**180**	P	**P**	**00 21 17.9**	**+1.1**
	6.6nm,0.9s,baz=340,slow=1.9,SNR=19						
	6.6nm,0.9s						
BVAR	**Borovoye Array**	**84.86**	**325**	P	**P**	**00 21 23.7**	**0.0**
	7.8nm,0.7s,baz=111,slow=6.5,SNR=34						
	7.8nm,0.7s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**00 21 34.2**	**-2.1**
	1.5nm,0.8s,baz=250,slow=5.0,SNR=10						
	1.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**141.40**	**283**	PKhKP	PKPpre	00 28 16.1	
	0.7nm,0.9s,baz=52,slow=5.1,SNR=3.6						
DBIC	**Dimbokro**	**148.13**	**272**	PKPbc	**PKiKP**	**00 28 37.5**	**-0.1**
	7.7nm,0.9s,baz=88,slow=4.6,SNR=6.5						

*NEIC **05** 00:14:03.3±1.0, 19°36N±0°04×154°82W±0°02, h10km±1km, Error ellipse: s-maj=6.3km s-min=3.6km az=164.0*
HVO 05 00:14:04.1±1.3, 19°36N±0°03×154°87W±0°03, h9km±4km, ML3.3/32, ML3.4/47(NEIC), Error ellipse: s-maj=4.4km s-min=2.7km az=142.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.12**	**352**		Pg	00 14 07.3	+0.4
PHO					Sg	00 14 09.7	+0.8
JOKA	**Jonika Flow**	**0.15**	**301**		Pg	00 14 07.5	+0.2
JOKA					Sg	00 14 09.8	+0.3
JCUZ	**Jacuzzi**	**0.22**	**277**		Pg	00 14 08.6	0.0
NPOC	**North of Pu'u**	**0.23**	**279**		Pg	00 14 08.8	0.0
STCH	**Steam Cracks**	**0.24**	**276**		Pg	00 14 09.3	+0.2
PUH	**Pauahi**	**0.33**	**273**		Pg	00 14 10.7	+0.1
BYL	**Byron's Ledge**	**0.37**	**278**		Sg	00 14 17.0	+0.6
HATHI	**Halema'uma'u T**	**0.37**	**280**		Pg	00 14 11.6	+0.1
HATHI				IAML		00 14 21.2	
	comp=E,3μm,0.4s						
HATHI				IAML		00 14 24.3	
	comp=N,4μm,0.4s						
KKO	**Keanakako`i**	**0.37**	**276**	Pg	Pg	00 14 11.3	-0.2
KKO				IAML		00 14 23.0	
	comp=E,2μm,0.4s						
SBLHI	**Steaming Bluff**	**0.38**	**280**		Pg	00 14 11.5	-0.1
SBLHI				IAML		00 14 17.8	
	comp=N,2μm,0.3s						
SBLHI				IAML		00 14 25.3	
	comp=E,2μm,0.7s						
RIM	**Rim**	**0.38**	**275**		Pg	00 14 11.6	-0.1
RIM				IAML		00 14 24.6	
	comp=E,4μm,0.4s						
RIM				IAML		00 14 24.8	
	comp=N,6μm,0.4s						
UWB	**Uwekahuna B**	**0.39**	**280**	Pg	Pg	00 14 11.5	-0.3
UWB					Sg	00 14 17.5	+0.5
NPH	**North Pit**	**0.39**	**278**		Pg	00 14 11.4	-0.4
NPH				IAML		00 14 24.9	
	comp=N,4μm,0.4s						
OBL	**Observatory Le**	**0.39**	**279**		Pg	00 14 11.8	-0.1
OBL				Sg	Sg	00 14 17.9	+0.8
OBL				IAML		00 14 22.8	
	comp=N,5μm,0.4s						
RSD	**Rainshed**	**0.40**	**285**		Pg	00 14 11.7	-0.3
RSD					Sg	00 14 17.9	+0.6
RSD				IAML		00 14 20.3	
	comp=N,2μm,0.2s						
RSD				IAML		00 14 21.2	
	comp=E,2μm,0.2s						
SDHHI	**Sand Hill**	**0.40**	**274**	Pg	Pg	00 14 12.2	+0.2
SDHHI					Sg	00 14 18.6	+1.2
SDHHI				IAML		00 14 26.6	
	comp=N,7μm,0.3s						
UWE	**Uwekahuna**	**0.40**	**279**	Pg	Pg	00 14 11.9	-0.1
UWE				Sg	Sb	00 14 19.6	-0.3
UWE				IAML		00 14 25.4	
	comp=E,5μm,0.6s						
UWE				IAML		00 14 26.6	
	comp=N,5μm,0.4s						
WRMHI	**West Rim**	**0.41**	**277**	Pg	Pg	00 14 11.7	-0.4
WRMHI				Sg	Sb	00 14 18.9	-1.1
WRMHI				IAML		00 14 26.8	
	comp=N,6μm,0.5s						
HLP	**Hilina Pali**	**0.42**	**261**	Pg	Pb	00 14 13.8	+0.1
MLH	**Mauna Loa**	**0.50**	**286**	Pg	Pg	00 14 13.6	-0.4
MLH					Sg	00 14 21.2	+0.6
MLH				IAML		00 14 30.7	
	comp=E,2μm,0.3s						
MLH				IAML		00 14 31.7	
	comp=N,4μm,0.3s						
HMH	**Humu'ula Sheep**	**0.63**	**293**		Pg	00 14 15.5	-0.8
HMH					Sg	00 14 24.9	+0.3
HMH				IAML		00 14 38.6	
	comp=N,4μm,0.4s						
MWH	**Moku'aweowe**	**0.70**	**280**		Pg	00 14 16.5	-1.2
MWH					Sg	00 14 25.0	-1.8
KHU	**Kahuku**	**0.71**	**261**		Pg	00 14 17.1	-0.8
KHU				IAML		00 14 43.0	
	comp=E,4μm,0.8s						
HUH	**Hualalai**	**0.96**	**290**		Pg	00 14 21.9	-0.8
HPAH	**Hawaii Prepara**	**1.02**	**311**	Pg	Pg	00 14 22.8	-1.1
HPAH				IAML		00 14 51.5	
	comp=E,797nm,0.7s						
HPAH				IAML		00 14 55.1	
	comp=N,882nm,0.8s						
MHA	**Mahukona**	**1.27**	**310**	Pn	Pb	00 14 28.3	0.0
MHA					Sn	00 14 47.6	+2.2
HLK	**Haleakala**	**1.90**	**317**	Pn	Pn	00 14 36.3	-0.7
HLK				IAML		00 15 43.4	
	comp=E,341nm,3.7s						
HLK				IAML		00 15 45.8	
	comp=N,261nm,4.2s						
KHLH	**Kahului Airpor**	**2.12**	**317**	Pn	Pn	00 14 39.3	-0.5
KHLH				IAML		00 15 44.2	
	comp=N,269nm,4.9s						
KHLH				IAML		00 15 53.2	
	comp=E,306nm,4.2s						

*NEIC **05** 00:19:21.3±0.5, 19°31N±0°02×155°22W±0°02, h10km±1km, Error ellipse: s-maj=4.6km s-min=2.2km az=317.0*
HVO 05 00:19:21.0±0.5, 19°28N±0°01×155°21W±0°01, h9km±2km, ML3.1/36, ML3.1/43(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=168.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.09**	**279**	Pg	Pg	00 19 23.5	+0.1
HLP					Sg	00 19 26.2	+1.0
PUH	**Pauahi**	**0.09**	**358**		Pg	00 19 23.6	+0.1
PUH					Sg	00 19 25.4	+0.2
PUH				IAML		00 19 25.9	
	comp=E,13μm,0.3s						
PUH				IAML		00 19 26.1	
	comp=N,7μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**23**		Pg	00 19 23.9	+0.2
KKO	**Keanakako`i**	**0.12**	**337**		Pg	00 19 23.9	0.0
KKO					Sg	00 19 26.0	-0.1
KKO				IAML		00 19 28.1	
	comp=E,9μm,0.4s						
RIM	**Rim**	**0.13**	**333**		Pg	00 19 24.0	0.0
RIM					Sg	00 19 26.8	+0.7
SDHHI	**Sand Hill**	**0.13**	**324**	Pg	Pg	00 19 24.1	0.0
STCH	**Steam Cracks**	**0.13**	**39**		Pg	00 19 24.0	0.0
STCH					Sg	00 19 26.7	+0.5
STCH				IAML		00 19 27.0	
	comp=E,4μm,0.2s						
STCH				IAML		00 19 27.3	
	comp=N,4μm,0.2s						
BYL	**Byron's Ledge**	**0.14**	**341**		Pg	00 19 24.1	0.0
BYL				IAML		00 19 28.9	
	comp=E,6μm,0.5s						
NPH	**North Pit**	**0.14**	**334**		Pg	00 19 24.0	-0.2
NPH				IAML		00 19 28.4	
	comp=N,4μm,0.3s						
JCUZ	**Jacuzzi**	**0.15**	**46**		Sg	00 19 27.4	+0.9
JCUZ	**Jacuzzi**	**0.15**	**46**		Pg	00 19 24.7	+0.4
JCUZ				IAML		00 19 28.0	
	comp=E,3μm,0.3s						
JCUZ				IAML		00 19 28.1	
	comp=N,3μm,0.4s						
HATHI	**Halema'uma'u T**	**0.15**	**342**		Pg	00 19 24.4	+0.1
HATHI					Sg	00 19 27.1	+0.5
HATHI	**Halema'uma'u T**	**0.15**	**342**	IAML		00 19 27.8	
	comp=E,10μm,0.4s						
HATHI				IAML		00 19 29.6	
	comp=N,6μm,0.4s						
NPOC	**North of Pu'u**	**0.15**	**42**		Pg	00 19 24.6	+0.3
NPOC				IAML		00 19 28.2	
	comp=N,4μm,0.5s						
WRMHI	**West Rim**	**0.15**	**326**	Pg	Pg	00 19 23.9	-0.5
WRMHI				IAML		00 19 29.6	
	comp=N,6μm,0.3s						
OBL	**Observatory Le**	**0.15**	**334**		Pg	00 19 24.1	-0.3
OBL				IAML		00 19 29.9	
	comp=E,10μm,0.7s						
SBLHI	**Steaming Bluff**	**0.15**	**340**		Pg	00 19 24.4	0.0
SBLHI				IAML		00 19 27.7	
	comp=E,9μm,0.4s						
SBLHI				IAML		00 19 28.0	
	comp=N,7μm,0.5s						
UWB	**Uwekahuna B**	**0.15**	**337**		Pg	00 19 24.4	0.0
UWB				IAML		00 19 29.1	
	comp=N,4μm,0.4s						
UWE	**Uwekahuna**	**0.16**	**331**		Pg	00 19 24.3	-0.2
UWE				IAML		00 19 28.2	
	comp=E,7μm,0.4s						
UWE				IAML		00 19 29.9	
	comp=N,8μm,0.4s						
HTC	**Hot Caves**	**0.18**	**256**		Pg	00 19 25.4	+0.6
RSD	**Rainshed**	**0.19**	**341**		Pg	00 19 24.8	-0.3
MLH	**Mauna Loa**	**0.27**	**322**	Pg	Pg	00 19 26.4	0.0
HPO	**Honuapo**	**0.38**	**239**		Pg	00 19 28.4	0.0
HPO					Sg	00 19 34.2	+0.8
KHU	**Kahuku**	**0.38**	**265**	Pg	Pg	00 19 28.0	-0.6
KHU	**Kahuku**	**0.38**	**265**		Sg	00 19 34.3	+0.7
KHU	**Kahuku**	**0.38**	**265**	IAML		00 19 34.6	
	comp=E,1μm,0.5s						
KHU				IAML		00 19 40.9	
	comp=N,1μm,0.5s						
HMH	**Humu'ula Sheep**	**0.41**	**321**	Pg	Pg	00 19 29.0	-0.1
HMH				IAML		00 19 36.0	
	comp=E,2μm,0.4s						
MWH	**Moku'aweowe**	**0.41**	**299**	Pg	Pg	00 19 29.1	-0.2
MWH					Sg	00 19 35.7	+0.9
MWH				IAML		00 19 36.5	
	comp=E,3μm,0.7s						
MWH				IAML		00 19 37.4	
	comp=N,2μm,0.3s						
ALEP	**Alea Permanent**	**0.48**	**302**		Pg	00 19 30.0	-0.5
POHA	**Pohakuloa**	**0.56**	**328**	Pg	Pg	00 19 30.9	-1.1
HUH	**Hualalai**	**0.71**	**304**	Pg	Pg	00 19 34.5	-0.3
HPAH	**Hawaii Prepara**	**0.87**	**329**	Pg	Pg	00 19 35.1	-2.8

*NEIC **05** 00:33:43.6±1.2, 19°385N±0°007×155°298W±0°008, h5km±1km, Error ellipse: s-maj=1.2km s-min=1.0km az=53.0*
HVO 05 00:33:43.5±0.7, 19°41N±0°01×155°318W±0°007, h4km±2km, ML2.9/27, ML2.5/41(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=192.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**104**		Pg	00 33 44.2	-0.3
UWE	**Uwekahuna**	**0.03**	**65**		Pg	00 33 44.9	+0.4
SDHHI	**Sand Hill**	**0.03**	**133**		Pg	00 33 45.0	+0.4
SDHHI				IAML		00 33 45.6	
	comp=E,5μm,0.2s						
SDHHI				IAML		00 33 45.7	
	comp=N,6μm,0.2s						
OBL	**Observatory Le**	**0.03**	**78**		Pg	00 33 44.9	+0.3
NPH	**North Pit**	**0.03**	**88**		Pg	00 33 44.8	+0.2
NPH				IAML		00 33 45.9	
	comp=E,4μm,0.2s						
NPH				IAML		00 33 46.1	
	comp=N,6μm,0.2s						
UWB	**Uwekahuna B**	**0.04**	**69**		Pg	00 33 45.0	+0.3
UWB				IAML		00 33 46.2	
	comp=N,5μm,0.3s						
UWB				IAML		00 33 46.2	
	comp=E,8μm,0.3s						
RIM	**Rim**	**0.04**	**110**		Pg	00 33 45.2	+0.4
RIM				IAML		00 33 46.4	
	comp=E,4μm,0.3s						
KKO	**Keanakako`i**	**0.05**	**105**		Pg	00 33 45.0	+0.2
SBLHI	**Steaming Bluff**	**0.05**	**71**		Pg	00 33 45.0	+0.2
BYL	**Byron's Ledge**	**0.05**	**88**		Pg	00 33 45.5	+0.6
BYL				IAML		00 33 46.8	
	comp=E,4μm,0.4s						
BYL				IAML		00 33 46.9	
	comp=N,4μm,0.2s						
HATHI	**Halema'uma'u T**	**0.06**	**77**		Pg	00 33 45.2	+0.3
HATHI				IAML		00 33 46.8	
	comp=N,6μm,0.2s						
RSD	**Rainshed**	**0.06**	**36**		Pg	00 33 45.2	+0.1
RSD				IAML		00 33 47.1	
	comp=N,6μm,0.1s						
RSD				IAML		00 33 47.5	
	comp=E,5μm,0.1s						
PUH	**Pauahi**	**0.10**	**111**	Pg	Pg	00 33 45.9	+0.2
PUH				IAML		00 33 48.8	
	comp=N,2μm,0.7s						
MLH	**Mauna Loa**	**0.10**	**322**		Pg	00 33 46.3	+0.5
HLP	**Hilina Pali**	**0.11**	**175**		Pg	00 33 46.5	+0.6
STCH	**Steam Cracks**	**0.18**	**98**		Pg	00 33 47.0	-0.1
STCH				IAML		00 33 53.0	
	comp=E,1μm,0.4s						
NPOC	**North of Pu'u**	**0.20**	**95**	Pg	Pg	00 33 46.0	-1.4
NPOC				IAML		00 33 51.0	
	comp=N,1μm,0.9s						
NPOC				IAML		00 33 54.1	
	comp=E,1μm,0.7s						
JCUZ	**Jacuzzi**	**0.20**	**97**	Pg	Pg	00 33 46.8	-0.7
JCUZ				IAML		00 33 51.2	
	comp=E,1μm,0.4s						
JCUZ				IAML		00 33 51.7	
	comp=N,1μm,1.2s						
HMH	**Humu'ula Sheep**	**0.25**	**321**		Pg	00 33 48.6	+0.2
MWH	**Moku'aweowe**	**0.27**	**286**		Pg	00 33 48.9	0.0
MWH				IAML		00 33 57.8	
	comp=N,1μm,0.6s						
MWH				IAML		00 33 58.1	
	comp=E,1μm,0.5s						
KHU	**Kahuku**	**0.33**	**240**	Pg	Pg	00 33 49.7	-0.2
KHU				IAML		00 33 55.0	
	comp=N,704nm,0.1s						
HUH	**Hualalai**	**0.56**	**299**		Pg	00 33 54.2	-0.1
HPAH	**Hawaii Prepara**	**0.71**	**330**		Pg	00 33 55.7	-1.5
MHA	**Mahukona**	**0.95**	**325**	Pg	Pg	00 33 59.6	-2.2

*IDC **05** 00:37:09.9±0.8, 19°26N×155°47W, h0km, mb4.4/16, mbtmp4.3/16, MS4.5/4, Error ellipse: s-maj=28.2km s-min=16.1km az=156.0*
*BJI **05** 00:37:09.5±0.0, 19°30N×155°30W, h5km, mb4.9/32, mB5.8/10, Ms5.6/6, Ms7 5.5/6*
*HVO **05** 00:37:10.6±2.6, 19°21N±0°03×155°32W±0°04, h9km±3km, ML4.9/37, mb5.3/122(NEIC), ML5.0/48(NEIC), Error ellipse: s-maj=6.5km s-min=4.3km az=119.0*
*NEIC **05** 00:37:11.8±2.5, 19°28N±0°05×155°42W±0°02, h5km±1km, Error ellipse: s-maj=8.1km s-min=2.9km az=175.0*
*MOS **05** 00:37:11.3±1.4, 19°33N×155°70W, h12km, mb5.0/34, Error ellipse: s-maj=8.3km s-min=7.1km az=88.0*
ISC 05 00:37:11.7±0.6, 19°29N±0°03×155°36W±0°02, h10km±3km, n583, σ1°69/519, mb5.2/114, MS4.7/6, 5C-2D, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.04**	**80**	Pg	**Pg**	**00 37 12.6**	**-1.2**
HLP				IAML		00 37 16.0	
	comp=N,562μm,1.3s						
HTC	**Hot Caves**	**0.06**	**218**		**Pg**	**00 37 13.0**	**-0.9**
SDHHI	**Sand Hill**	**0.12**	**30**		**Pg**	**00 37 14.1**	**-0.6**
SDHHI				IAML		00 37 18.4	
	comp=N,623μm,0.8s						
WRMHI	**West Rim**	**0.13**	**24**	Pg	**Pg**	**00 37 14.3**	**-0.6**
RIM	**Rim**	**0.13**	**36**		**Pg**	**00 37 14.3**	**-0.6**
RIM				IAML		00 37 18.6	
	comp=N,338μm,0.7s						
RIM				IAML		00 37 18.9	
	comp=E,387μm,0.7s						
RIM	**Rim**	**0.13**	**36**		**Sg**	**00 37 18.1**	**+0.9**
KKO	**Keanakako`i**	**0.14**	**38**	Pg	**Pg**	**00 37 14.7**	**-0.3**
KKO				IAML		00 37 18.8	
	comp=E,426μm,0.4s						
NPH	**North Pit**	**0.14**	**30**		**Pg**	**00 37 14.8**	**-0.3**
NPH					**Sg**	**00 37 18.1**	**+0.7**
NPH	**North Pit**	**0.14**	**30**	IAML		00 37 18.9	
	comp=N,184μm,0.6s						
NPH				IAML		00 37 19.4	
	comp=E,102μm,1.0s						
OBL	**Observatory Le**	**0.14**	**28**	Pg	**Pg**	**00 37 14.6**	**-0.6**
UWE	**Uwekahuna**	**0.14**	**24**		**Pg**	**00 37 15.1**	**-0.1**
UWE					**Sg**	**00 37 19.0**	**+1.5**
UWE	**Uwekahuna**	**0.14**	**24**	IAML		00 37 21.9	
	comp=N,525μm,0.8s						
UWE				IAML		00 37 22.4	
	comp=E,714μm,0.7s						
BYL	**Byron's Ledge**	**0.15**	**36**	Pg	**Pg**	**00 37 14.6**	**-0.6**
BYL				IAML		00 37 19.6	
	comp=N,353μm,0.6s						
BYL				IAML		00 37 20.4	
	comp=E,363μm,0.6s						
UWB	**Uwekahuna B**	**0.15**	**28**		**Pg**	**00 37 14.9**	**-0.3**
UWB					**Sg**	**00 37 18.8**	**+1.0**
UWB	**Uwekahuna B**	**0.15**	**28**	IAML		00 37 19.2	
	comp=N,179μm,1.0s						
UWB				IAML		00 37 22.1	
	comp=E,166μm,0.7s						
PUH	**Pauahi**	**0.16**	**57**		**Pg**	**00 37 14.0**	**-1.2**
PUH				IAML		00 37 18.8	
	comp=E,416μm,0.6s						
PUH				IAML		00 37 18.9	
	comp=N,221μm,0.7s						
HATHI	**Halema'uma'u T**	**0.16**	**34**	Pg	**Pg**	**00 37 14.8**	**-0.6**
HATHI				IAML		00 37 20.4	
	comp=E,380μm,0.6s						
HATHI				IAML		00 37 21.6	
	comp=N,216μm,0.9s						
SBLHI	**Steaming Bluff**	**0.16**	**31**	Pg	**Pg**	**00 37 14.6**	**-0.7**
SBLHI				IAML		00 37 19.5	
	comp=N,321μm,1.3s						
SBLHI				IAML		00 37 19.5	
	comp=E,330μm,0.6s						
RSD	**Rainshed**	**0.19**	**23**		**Pg**	**00 37 15.3**	**-0.5**
RSD	**Rainshed**	**0.19**	**23**		**Sg**	**00 37 19.7**	**+1.1**

HPO	**Honuapo**	0.27	224			Pg		00 37 16.6	-0.7
HPO						Sg		00 37 21.2	+0.2
MWH	**Moku'aweowe**	0.30	311			Pg		00 37 18.1	+0.1
MWH						Sb		00 37 24.4	-0.3
MWH	**Moku'aweowe** comp=E,250µm,0.7s	0.30	311	IAML				00 37 26.1	
MWH	comp=N,197µm,0.6s			IAML				00 37 26.2	
HMH	**Humu'ula Sheep**	0.34	339			Sb		00 37 25.7	+0.2
HMH	**Humu'ula Sheep**	0.34	339	Pg		Pg		00 37 18.7	+0.1
HMH	**Humu'ula Sheep** comp=N,159µm,0.5s	0.34	339	IAML				00 37 26.6	
HMH	comp=E,264µm,0.4s			IAML				00 37 27.0	
JOKA	**Jonika Flow**	0.36	66			Sg		00 37 23.6	-0.2
ALEP	**Alea Permanent**	0.37	313			Pg		00 37 18.8	-0.4
ALEP						Sg		00 37 25.7	+1.5
PHO	**Puu Honuaula**	0.48	66			Pg		00 37 19.9	-1.2
POHA	**Pohakuloa**	0.50	340			Pg		00 37 21.0	-0.4
POHA						Sb		00 37 29.9	-0.2
POHA	**Pohakuloa** comp=E,132µm,0.8s	0.50	340	IAML				00 37 34.5	
POHA	comp=E,84µm,1.5s			IAML				00 37 42.2	
I59US	**HAWAII INFRASO** baz=170,slow=10	0.59	301	Pg		Pg		00 37 21.7	-1.5
I59US	baz=132,slow=35			Lg		Lg		00 37 31.8	
HUH	**Hualalai**	0.60	311			Pg		00 37 23.0	-0.5
HPAH	**Hawaii Prepara**	0.81	336			Pg		00 37 25.2	-2.1
MHA	**Mahukona**	1.03	330			Pb		00 37 28.3	-3.4
MHA	**Mahukona**	1.03	330	P		Pb		00 37 28.3	-3.4
HLK	**Haleakala**	1.69	330	Pn		Pn		00 37 37.5	-4.0
KHLH	**Kahului Airpor**	1.89	328			Pn		00 37 40.7	-3.3
HON	**Honolulu**	3.21	310			Pn		00 37 57.6	-4.5
HON	**Honolulu**	3.21	310	P		Pn		00 37 57.6	-4.5
KIP	**Kipapa**	3.28	311	Pn		Pn		00 37 58.5	-4.6
KIP	**Kipapa** comp=Z,275nm,0.7s	3.28	311	*ce*P pmax		Pn pmax		00 37 58.4	-4.6
OPA	**Opana**	3.45	314			Pn		00 38 00.2	-5.2
OPA	**Opana**	3.45	314	P		Pn		00 38 00.3	-5.2
SNCC	**San Nicolas Is** baz=255	34.83	59	P		P		00 44 00.3	-2.6
SBC	**Santa Barbara** baz=254	34.99	57	P		P		00 44 02.6	-1.7
PKM	**Mcpherson Peak** baz=253	35.04	56	P		P		00 44 03.3	-1.7
NIKH	**Nikolski High** baz=158	35.22	346	P		P		00 44 05.5	-0.5
H11N3	**WAKE ISLAND Hy** baz=84,slow=73,SNR=1488	35.52	277	T		T		01 21 11.5	
H11N2	**WAKE ISLAND Hy** baz=84,slow=73,SNR=1454	35.54	277	T		T		01 21 12.3	
H11N1	**WAKE ISLAND Hy** baz=84,slow=73,SNR=1221	35.54	277	T		T		01 21 12.7	
UNV	**Unalaska Valle** baz=162	35.55	349	P		P		00 44 09.2	+0.4
SCI2	**San Clemente I** baz=256	35.56	60	P		P		00 44 07.1	-2.1
H11S2	**WAKE ISLAND Hy** baz=82,slow=74,SNR=164	35.86	275	T		T		01 21 36.0	
H11S1	**WAKE ISLAND Hy** baz=82,slow=74,SNR=119	35.86	275	T		T		01 21 36.2	
H11S3	**WAKE ISLAND Hy** baz=82,slow=74,SNR=147	35.88	275	T		T		01 21 37.3	
ARVC	**Arvin** baz=253	35.88	56	P		P		00 44 10.7	-1.2
VES	**Vestal, Richgr** baz=252	35.89	55	P		P		00 44 10.1	-1.9
FMP	**Fort Macarthur** baz=256	35.94	59	P		P		00 44 11.2	-1.2
FALS	**False Pass** baz=167	36.04	352	P		P		00 44 12.5	-0.5
DECC	**Green Verdugo** baz=255	36.04	58	P		P		00 44 09.8	-3.5
SDPT	**Sand Point** baz=172	36.21	355	P		P		00 44 11.1	-3.4
ISA	**Isabella, Lake** baz=253	36.31	56	P		P		00 44 12.0	-3.7
EDW2	**Edwards Air Fo** baz=254,SNR=6.1	36.47	57	P		P		00 44 14.5	-2.6
CHIR	**Chirikof Islan** baz=180	36.48	360	P		P		00 44 14.5	-2.2
BFSC	**Mount Baldy Ra** baz=256	36.58	58	P		P		00 44 15.9	-2.2
MLAC	**Mammoth, Mammo** baz=250	36.65	52	P		P		00 44 18.6	-0.2
S12K	**Black Hills** baz=169	36.71	354	P		P		00 44 18.7	0.0
109C	**Camp Elliot, M** baz=258	36.72	61	P		P		00 44 18.3	-0.9
MURC	**Murrieta** baz=257	36.80	59	P		P		00 44 16.3	-3.6
CWC	**Cottonwood Cre** baz=252	36.84	55	P		P		00 44 21.4	+1.0
LRMC	**Laurel Mtn Rad** baz=254	36.88	56	P		P		00 44 20.2	-0.5
TIN	**Tinemaha, Big** baz=251	36.92	54	P		P		00 44 21.1	+0.1
CHGN	**Chignik** baz=175	37.03	357	P		P		00 44 23.3	+2.0
PPT	**Papeete** comp=Z,1µm,21.8s,baz=285,slow=29	37.06	171	LR		LR		00 54 58.8	
BBRC	**Big Bear Solar** baz=256	37.17	58	P		P		00 44 24.1	+0.8
MPMC	**Manual Prospec** baz=253,SNR=11	37.19	55	P		P		00 44 24.1	+0.7
SII	**Sitkinak Islan** baz=182	37.22	1	P		P		00 44 24.0	+0.8
RRX	**Edison Barstow** baz=255	37.26	57	P		P		00 44 24.3	+0.5
MONP2	**Monument Peak** baz=258,SNR=8.2	37.28	61	P		P		00 44 22.3	-1.9
NVAR	**Mina Array Bea** comp=Z,3.7nm,1.0s,baz=243,slow=11,SNR=12 comp=Z,3.7nm,1.0s	37.31	51	P		P		00 44 26.2	+1.8
PFO	**Pinyon Flats O** baz=257	37.40	60	P		P		00 44 23.1	-2.0
PFO	**Pinyon Flats O** comp=Z,16nm,2.1s	37.40	60	P pmax		P pmax		00 44 30.1	+5.0
TPFO	**Pinon Flats** baz=257	37.40	60	P		P		00 44 22.9	-2.3
IKP	**In-Ko-Pah, Jac** baz=259,SNR=6.6	37.49	61	P		P		00 44 23.1	-2.8
GSC	**Goldstone, Bar** baz=255,SNR=8.9	37.52	57	P		P		00 44 22.7	-3.4
GRAC	**Grapevine Rang** baz=252	37.56	54	P		P		00 44 25.5	-0.8
QSM	**Queen of Sheba**	37.65	56	P		P		00 44 28.4	+1.4
KVN	**Kaiserville**	37.68	50	P		P		00 44 28.2	+0.8
KVN	**Kaiserville** comp=Z,22nm,1.4s	37.68	50	P pmax		P pmax		00 44 28.3	+0.8
HEC	**Hector,Ludlow** baz=256	37.78	58	P		P		00 44 28.5	+0.3
FURC	**Furnace Creek,** baz=253	37.79	55	P		P		00 44 27.9	-0.2
SWSC	**Sam W. Stewart** baz=259	37.81	61	P		P		00 44 27.5	-0.9
BELC	**Belle Mtn. Jos** baz=257,SNR=12	37.86	59	P		P		00 44 27.9	-1.1
OHAK	**Old Harbor** baz=183	37.91	2	P		P		00 44 30.5	+1.7
WCT	**Wildcat Mounta**	38.07	55	P		P		00 44 31.7	+1.1
SHOC	**Shoshone, Teco** baz=255,SNR=6.8	38.09	56	P		P		00 44 32.6	+1.8
BC3	**Big Chuckawall** baz=258,SNR=7.3	38.23	60	P		P		00 44 32.3	+0.1
TUQ	**Turquoise Moun** baz=256	38.25	57	P		P		00 44 32.3	0.0
GMRC	**Granite Mounta** baz=256,SNR=7.0	38.31	58	P		P		00 44 32.0	-0.8
KDAK	**Kodiak Island** baz=184	38.49	2	P		P		00 44 34.1	+0.3
IRM	**Iron Mountain** baz=258,SNR=9.0	38.59	59	P		P		00 44 35.0	0.0
WVOR	**Wild Horse Val**	38.62	45	P		P		00 44 39.1	+3.8
GLA	**Glamis** baz=259	38.63	61	P		P		00 44 35.3	-0.1
GNW	**Green Mountain**	38.66	36	P		P		00 44 34.7	-0.6
LON	**Longmire**	38.77	37	P		P		00 44 37.7	+1.4
LON	**Longmire** comp=Z,22nm,1.1s	38.77	37	P pmax		P pmax		00 44 37.7	+1.4
Q17K	**Contact Creek**	38.92	360	P		P		00 44 38.3	+0.8
NEE2	**Needles Airpor** baz=257	39.14	58	P		P		00 44 38.9	-0.7
R11B	**Troy Canyon, C** baz=252,SNR=12	39.31	53	P		P		00 44 40.7	-0.5
Q20K	**Shuyak Island** baz=184	39.33	2	P		P		00 44 41.4	+0.6
PDMCI	**Parker Dam,Lak** baz=258	39.43	59	P		P		00 44 40.1	-1.9
CRAG	**Craig** baz=214	39.84	20	P		P		00 44 47.7	+2.6
P17K	**Kvichak River** baz=178	39.87	359	P		P		00 44 46.6	+1.4
O15K	**Ungalikthiuk R** baz=173	39.97	356	P		P		00 44 47.5	+1.4
P18K	**Big Mountain,** baz=180	40.05	0	P		P		00 44 49.4	+2.5
214A	**Organ Pipe Nat** baz=262,SNR=5.5	40.14	63	P		P		00 44 46.2	-1.8
O14K	**Tigyukauivet M** baz=171	40.15	355	P		P		00 44 49.3	+1.7
V35K	**Ketchikan** baz=216	40.22	21	P		P		00 44 49.1	+0.8
O16K	**Kokwok River B** baz=176	40.31	358	P		P		00 44 49.0	+0.1
ELK	**Elko**	40.33	49	P		P		00 44 53.5	+3.8
P19K	**Oil Pt** baz=183	40.34	2	P		P		00 44 50.9	+1.6
U33K	**Whale Pass** baz=213	40.38	19	P		P		00 44 49.6	0.0
O17K	**Koliganek Bris** baz=177	40.46	359	P		P		00 44 49.1	-1.1
RAR	**Rarotonga** comp=Z,942nm,19.7s,baz=258,slow=32	40.48	186	LR		LR		00 58 34.8	
O18K	**Koktuh Hills** baz=180	40.52	0	P		P		00 44 51.0	+0.3
BRSE	**Bradley Lake S** baz=187	40.54	4	P		P		00 44 50.8	-0.1
SIT	**Sitka** baz=210	40.55	17	P		P		00 44 50.4	-0.5
O20K	**Slope Mountain** baz=184	40.79	2	P		P		00 44 52.1	-1.0
N14K	**Kuskokwak Cree** baz=171	40.84	355	P		P		00 44 54.2	+0.9
N15K	**Kwethluk River** baz=173	40.98	356	P		P		00 44 55.0	+0.6
SEW	**Seward** baz=188	40.99	5	P		P		00 44 54.9	+0.4
P23K	**Montague Islan** baz=191	41.06	6	P		P		00 44 53.3	-1.9
S31K	**Pelican** baz=208	41.10	15	P		P		00 44 55.7	+0.2
S32K	**Killisnoo** baz=210	41.11	17	P		P		00 44 55.9	+0.4
N16K	**Nishlik Lake** baz=175	41.21	357	P		P		00 44 55.5	-0.9
N17K	**Nushagak Hills** baz=177	41.21	359	P		P		00 44 53.4	-3.0
U35K	**Hyder** baz=218	41.23	21	P		P		00 44 57.6	+1.1
O22K	**Cooper Landing** baz=188	41.34	4	P		P		00 44 57.4	-0.1
KAIM	**Kayak Island** baz=196	41.35	8	P		P		00 44 54.4	-3.1
N18K	**Kilae Creek** baz=179	41.35	360	P		P		00 44 55.9	-1.6
N19K	**Bonanza Creek** baz=181,SNR=7.4	41.48	1	P		P		00 44 57.5	-1.3
M15K	**Kasigluk River** baz=172	41.54	356	P		P		00 44 57.6	-1.4
M14K	**Bethel** baz=171	41.69	355	P		P		00 44 58.7	-1.5
M16K	**Timber Creek** baz=175	41.77	357	P		P		00 45 00.7	-0.3
M11K	**Mekoryuk** baz=164	41.78	352	P		P		00 45 01.5	+0.5
EYAK	**Cordova Ski Ar** baz=194	41.78	7	P		P		00 45 01.8	+0.7
TUC	**Tucson** baz=263	41.89	63	P		P		00 45 00.1	-2.3
TUC	**Tucson** comp=Z,22nm,1.2s	41.89	63	P pmax		P pmax		00 45 06.0	+3.5
WUAZ	**Wupatki** baz=259,SNR=28	41.90	58	P		P		00 45 00.0	-2.6
DUG	**Dugway, Tooele** baz=253,SNR=11	41.91	51	P		P		00 45 00.6	-2.1
DUG	**Dugway, Tooele** comp=Z,16nm,1.3s	41.91	51	P pmax		P pmax		00 45 07.8	+5.1
HLID	**Hailey** baz=248,SNR=22	41.91	45	P		P		00 45 01.9	-0.7
RC01	**Rabbit Creek A** baz=188	41.95	4	P		P		00 45 01.8	-0.6
MESA	**MESA** baz=199	41.96	10	P		P		00 45 02.3	-0.5
T35M	**Bob Quinn** baz=217	42.01	20	P		P		00 45 03.0	-0.1
M17K	**Holitna River** baz=177	42.10	359	P		P		00 45 02.5	-1.2
M18K	**Stony River** baz=179,SNR=6.9	42.16	360	P		P		00 45 01.5	-2.6
P29M	**Windy Craggy** baz=205	42.25	13	P		P		00 45 03.3	-1.7
SUA	**Susitna One** baz=186	42.26	3	P		P		00 45 04.3	-0.8
NEW	**Newport** baz=240,SNR=5.7	42.26	38	P		P		00 45 01.7	-3.5
NEW	**Newport** comp=Z,17nm,1.3s	42.26	38	P pmax		P pmax		00 45 08.2	+2.9
BMRM	**Bremner River** baz=195	42.33	8	P		P		00 45 03.4	-2.2
L14K	**Kuka Creek** baz=170	42.33	355	P		P		00 45 04.9	-0.5
KNK	**Knik Glacier** baz=190	42.36	5	P		P		00 45 06.0	+0.2
NLU	**North Lily Min**	42.39	51	P		P		00 45 09.3	+2.7
PLBC	**Pleasant Camp** baz=207	42.40	14	P		P		00 45 04.2	-1.9
L16K	**Owhat River** baz=174	42.48	357	P		P		00 45 06.7	0.0
S34M	**Telegraph Cree** baz=215	42.49	19	P		P		00 45 06.6	-0.3
PMR	**Palmer** baz=189	42.49	4	P		P		00 45 05.6	-1.2
L15K	**Ungalak Mounta** baz=171	42.57	356	P		P		00 45 06.3	-1.2
M19K	**Big River Lodg** baz=181	42.58	1	P		P		00 45 05.5	-2.1
M20K	**Styx River** baz=183	42.58	2	P		P		00 45 07.0	-0.7
M22K	**Willow** baz=187	42.58	4	P		P		00 45 05.2	-2.3
SKAG	**Skagway** baz=208	42.65	15	P		P		00 45 07.7	-0.5
KLU	**Klutina** baz=193	42.68	7	P		P		00 45 06.6	-1.9
SKT	**Skwentna** baz=185	42.74	3	P		P		00 45 07.3	-1.5
SML	**Sawmill** baz=190	42.76	5	P		P		00 45 07.5	-1.6
M23K	**Glacier View** baz=191	42.80	5	P		P		00 45 09.3	-0.1
CTG	**Chitna Glacier** baz=200	42.80	10	P		P		00 45 09.8	+0.3
O28M	**Mount Upton** baz=201,SNR=5.2	42.82	11	P		P		00 45 09.7	-0.2
L19K	**White Mountain** baz=181	42.85	0	P		P		00 45 09.5	-0.4
L17K	**Donlin** baz=176	42.86	358	P		P		00 45 10.7	+0.9
P30M	**Million Dollar** baz=206	42.86	13	P		P		00 45 10.0	0.0
SCM	**Sheep Creek Mo** baz=191	42.88	6	P		P		00 45 10.8	+0.7
L18K	**Granite Mounta** baz=178	42.90	359	P		P		00 45 09.3	-0.9
MCARA	**McCarthy VSAT** baz=197	42.94	9	P		P		00 45 09.2	-1.3
N25K	**Chitina, Valde** baz=195	42.95	8	P		P		00 45 09.0	-1.7
K13K	**Kusilvak Mount** baz=167	43.10	354	P		P		00 45 12.0	+0.3
W18A	**Petrified Fore** baz=261,SNR=10	43.15	59	P		P		00 45 11.6	-1.2
L20K	**Farewell, AK** baz=182	43.16	1	P		P		00 45 13.1	+0.8
P32M	**Atlin** baz=210	43.17	16	P		P		00 45 12.1	-0.3
K15K	**Wolf Creek Mou** baz=171	43.18	356	P		P		00 45 13.6	+1.1
CUT	**Chulitna** baz=187	43.22	3	P		P		00 45 14.2	+1.4
DLBC	**Dease Lake** baz=216,SNR=7.5	43.25	19	P		P		00 45 15.4	+2.2
M24K	**Tolsona, Glenn** baz=193	43.26	6	P		P		00 45 14.1	+1.0
YUK6	**Outpost Mounta** baz=204	43.32	12	P		P		00 45 15.7	+1.9
YUK8	**Steele Glacier** baz=202	43.37	11	P		P		00 45 14.4	+0.1
HYT	**Haines Junctio** baz=205	43.38	13	P		P		00 45 14.2	-0.1
K17K	**Iditarod** baz=176	43.44	358	P		P		00 45 16.7	+2.2
MSO	**Missoula** baz=245,SNR=11	43.52	41	P		P		00 45 15.0	-0.6
WAT6	**Susitna Watana** baz=190,SNR=6.0	43.58	5	P		P		00 45 17.2	+1.4
TTA	**Tatalina**	43.61	360	P		P		00 45 18.9	+3.0
TTA	**Tatalina** baz=179	43.61	360	P		P		00 45 18.0	+2.0
TTA	**Tatalina** comp=Z,13nm,1.0s	43.61	360	P pmax		P pmax		00 45 19.0	+3.0
PPLA	**Purkeypile** baz=184,SNR=5.3	43.63	2	P		P		00 45 17.4	+1.2
YUK4	**Talbot Arm** baz=203	43.63	12	P		P		00 45 17.9	+1.6
O30N	**Mendenhall** baz=207	43.64	14	P		P		00 45 18.4	+2.2
YUK3	**Moose Creek** baz=200	43.71	10	P		P		00 45 17.2	+0.2
R33M	**Jennings River** baz=214,SNR=14	43.76	18	P		P		00 45 18.0	+0.7
WAT1	**Susitna Watana** baz=189	43.76	5	P		P		00 45 17.6	+0.5
WHY	**Whitehorse** baz=208	43.82	14	P		P		00 45 16.1	-1.6
M26K	**Nabesna, AK** comp=Z,55nm,1.1s	43.92	8	IAmb		IAmb		00 45 24.5	
M26K	**Nabesna, AK** baz=197,SNR=23	43.92	8	P		P		00 45 17.7	-0.8
P33M	**Teslin, Yukon** baz=211	43.94	16	P		P		00 45 19.5	+0.8
M27K	**Edge Creek, AK** comp=Z,52nm,1.1s	44.04	9	IAmb		IAmb		00 45 26.0	
M27K	**Edge Creek, AK** baz=198,SNR=13	44.04	9	P		P		00 45 19.2	-0.3
K20K	**Telida** baz=182	44.04	1	P		P		00 45 19.6	+0.2
N30M	**Aishikik Lake** baz=205	44.05	13	P		P		00 45 19.5	0.0
DHY	**Denali Highway** baz=191	44.09	5	P		P		00 45 20.0	0.0
J16K	**Anvik River** baz=173	44.11	357	P		P		00 45 20.7	+0.8
J17K	**VABM Dome** baz=175	44.15	358	P		P		00 45 20.1	0.0
J18K	**Innoko River** baz=178	44.15	359	P		P		00 45 22.1	+1.8
CAST	**Castle Rocks** baz=184	44.15	2	P		P		00 45 21.3	+1.1
PAX	**Paxson** baz=193,SNR=28	44.17	6	P		P		00 45 21.7	+1.2
TRF	**Thorofare Moun** baz=187,SNR=10	44.26	3	P		P		00 45 20.5	-0.9
N31M	**Braeburn, Yuko** baz=207	44.35	13	P		P		00 45 21.0	-0.9
RDMU	**Red Mountain** comp=Z,48nm,1.2s	44.40	51	IAmb		IAmb		00 45 28.1	
121A	**Cookes Peak, D** baz=265,SNR=23	44.43	63	P		P		00 45 21.9	-1.3
L26K	**Log Cabin Wild** baz=196	44.48	8	P		P		00 45 23.6	+0.7
MVCO	**Mesa Verde** baz=259,SNR=20	44.49	56	P		P		00 45 22.4	-1.2
BOZ	**Bozeman (W)** comp=Z,43nm,1.4s	44.52	44	IAmb		IAmb		00 45 29.4	
BOZ	**Bozeman (W)** baz=248,SNR=18	44.52	44	P		P		00 45 22.9	-0.7
MCK	**McKinley** baz=189,SNR=6.3	44.63	4	P		P		00 45 22.2	-1.9
J19K	**Poorman** baz=180	44.67	360	P		P		00 45 23.2	-1.2
N32M	**Quiet Lake** baz=210	44.68	15	P		P		00 45 23.9	-0.6
M29M	**Somme Creek** comp=Z,33nm,0.9s	44.68	11	IAmb		IAmb		00 45 31.3	
M29M	**Somme Creek** baz=203,SNR=18	44.68	11	P		P		00 45 23.7	-0.9
I17K	**Unalakleet** baz=173	44.71	357	P		P		00 45 26.0	+1.3
L27K	**Beaver Creek,** comp=Z,28nm,1.1s	44.72	9	IAmb		IAmb		00 45 30.9	
L27K	**Beaver Creek,** baz=198,SNR=7.2	44.72	9	P		P		00 45 24.0	-0.8
BCAR	**Beaver Creek A**	44.73	9	P		P		00 45 26.5	+1.5
H17A	**Grant Village** baz=251,SNR=6.3	44.80	46	P		P		00 45 24.8	-1.2
J20K	**Nowinta River** baz=182	44.87	1	P		P		00 45 27.2	+1.3
BPAW	**Bear Paw Mtn.** baz=186	44.88	3	P		P		00 45 27.5	+1.5
K24K	**Donnelly Dome** baz=193	44.96	6	P		P		00 45 28.4	+1.7
WTLY	**Watson Lake, Y** baz=217	44.98	18	P		P		00 45 25.7	-1.3
BW06	**Boulder Array** baz=253,SNR=8.0	45.00	48	P		P		00 45 26.1	-1.6
PDAR	**Pinedale Array**	45.00	48	P		P		00 45 28.5	+0.8
PDAR	**Pinedale Array** comp=Z,14nm,1.0s,baz=242,slow=6.4,SNR=38 comp=Z,14nm,1.0s	45.00	48	P		P		00 45 28.1	+0.5
O20A	**White River Ci** baz=257,SNR=7.1	45.28	52	P		P		00 45 27.9	-1.9
M31M	**Drury Creek, Y** baz=208	45.29	14	P		P		00 45 26.2	-3.2
Y22D	**IRIS PASSCAL I** baz=264	45.31	61	P		P		00 45 25.0	-5.1
Y22F	**Passcal Instru** baz=264	45.31	61	P		P		00 45 24.8	-5.3
SCRK	**Sand Creek** comp=Z,39nm,1.3s	45.32	7	P IAmb		P IAmb		00 45 31.3	+1.6
SCRK	**Sand Creek** baz=195,SNR=5.7	45.32	7	P		P		00 45 35.3	
L29M	**L29M** baz=203	45.36	11	P		P		00 45 27.3	-2.4
GCSA	**Galena City Sc** baz=178,SNR=6.0	45.44	359	P		P		00 45 29.7	-0.3
HDA	**Harding Lake** baz=191	45.45	5	P		P		00 45 31.6	+1.1
NEA2	**Nenana** baz=188,SNR=8.2	45.47	4	P		P		00 45 30.4	-0.1
I20K	**Naaghedeneel** baz=181	45.48	1	P		P		00 45 30.9	+0.2
FARO	**Faro, Yukon** comp=Z,28nm,1.1s	45.48	1	P		P		00 45 29.2	-1.6
FARO	**Faro, Yukon** baz=210,SNR=5.6	45.55	14	IAmb		IAmb		00 45 38.1	
H16K	**Elim** baz=171	45.55	14	P		P		00 45 30.5	-0.9
K27K	**Chicken** baz=198,SNR=14	45.56	356	P		P		00 45 30.6	-0.7
H17K	**Granite Mounta** baz=174	45.61	8	P		P		00 45 31.9	+0.1
ANMO	**Albuquerque**	45.72	357	P		P		00 45 32.3	-0.4
ANMO	**Albuquerque** baz=263	45.79	60	P		P		00 45 36.3	+2.3
ANMO	**Albuquerque** comp=Z,30nm,1.7s	45.79	60	P		P		00 45 31.5	-2.5
J25K	**Salcha River,** baz=193,SNR=22	45.79	60	*ce*P pmax		P pmax		00 45 37.0	+3.1
IL31	comp=Z,29nm,1.1s	45.81	5	IAmb		IAmb		00 45 38.4	
ILAR	**Eielson Array**	45.81	5	P		P		00 45 32.9	-0.5
ILAR	**Eielson Array** comp=Z,11nm,0.9s,baz=195,slow=7.1,SNR=26 comp=Z,11nm,0.9s	45.81	5	P		P		00 45 33.5	+0.1
ILAR	**Eielson Array** comp=Z,11nm,0.9s	45.81	5	*e*P pmax		P pmax		00 45 37.3	+3.9
MLY	**Manley**	45.82	3	IAmb		IAmb		00 45 38.1	

comp=Z,43nm,1.3s
MLY **Manley** 45.82 3 P P 00 45 32.2 -1.4
baz=186,SNR=6.4
COLA **College** 45.83 4 P P 00 45 31.4 -2.1
baz=190
COLA **College** 45.83 4 *i* P P 00 45 34.3 +0.8
COLA pmax pmax
comp=Z,21nm,1.1s
J26L **Joseph Creek** 45.88 7 IAmb IAmb 00 45 40.0
comp=Z,32nm,1.1s
J26L **Joseph Creek** 45.88 7 P P 00 45 32.0 -2.0
baz=196,SNR=20
H18K **Honhosa River** 45.88 358 P P 00 45 31.5 -2.5
baz=176
RLMT **Red Lodge** 45.92 45 P P 00 45 31.1 -3.8
baz=251,SNR=11
I21K **Tanana** 45.92 2 P P 00 45 33.9 -0.4
baz=184
I23K **Minto, Yukon-K** 46.01 4 P P 00 45 34.8 -0.1
baz=188,SNR=8.7
DAWY **Dawson** 46.03 10 IAmb IAmb 00 45 41.1
comp=Z,28nm,1.0s
SMCO **Snowmass** 46.04 54 IAmb IAmb 00 45 41.5
comp=Z,51nm,1.4s
POKR **Poker Plat Res** 46.10 5 P P 00 45 35.9 +0.1
baz=190
K29M **Barlow Dome** 46.14 11 P P 00 45 38.2 +2.0
K29M IAmb IAmb 00 45 43.0
comp=Z,61nm,1.7s
K29M **Barlow Dome** 46.14 11 P P 00 45 36.4 +0.2
baz=204,SNR=7.0
H20K **Anotleneega Mo** 46.18 0 P P 00 45 37.1 +0.7
baz=181,SNR=5.8
H19K **Roundabout Mou** 46.22 359 P P 00 45 37.1 +0.5
baz=178,SNR=7.2
TGTN **Hyland Airport** 46.27 18 P P 00 45 36.5 -0.7
baz=216,SNR=6.5
G16K **Koyuk River** 46.31 356 P P 00 45 36.0 -1.3
baz=171
G17K **Kiwalik Mounta** 46.32 357 P P 00 45 38.2 +0.8
baz=173
H21K **Melozitna Rive** 46.38 1 P P 00 45 38.3 +0.4
baz=183
MMPY **Sheldon Lake,** 46.38 15 P P 00 45 38.0 -0.1
baz=212,SNR=5.8
RWWY **Rawlins** 46.40 50 IAmb IAmb 00 45 42.3
comp=Z,46nm,1.4s
MNTX **Cornudas Mount** 46.41 64 P P 00 45 35.7 -3.0
baz=267,SNR=45
EGAK **Eagle** 46.45 8 P P 00 45 37.3 -1.1
baz=199,SNR=20
KOTAN **Kotaneelee Air** 46.51 21 P P 00 45 38.6 -0.4
baz=222
J29N **Klondike Camp** 46.59 10 P P 00 45 40.3 +0.7
baz=202
EGMT **Eagleton** 46.61 41 P P 00 45 38.3 -1.8
baz=248
G18K **Tagagawik** 46.63 358 P P 00 45 39.5 -0.4
baz=176
H22K **Ishtalitna Cre** 46.66 2 P P 00 45 40.2 +0.1
baz=185
PRP **Porcupine Dome** 46.66 6 P P 00 45 41.6 +1.4
PRP IAmb IAmb 00 45 45.7
comp=Z,44nm,1.2s
PRP **Porcupine Dome** 46.66 6 P P 00 45 40.5 +0.2
baz=193,SNR=5.8
H23K **Yukon River** 46.67 3 P P 00 45 38.3 -1.9
baz=188,SNR=16
I26K **Coal Creek Min** 46.70 7 P P 00 45 42.1 +1.7
baz=196,SNR=19
F14K **Arctic Creek** 46.73 354 P P 00 45 42.4 +1.8
baz=166
H24K **Noodor Dome** 46.78 4 IAmb IAmb 00 45 46.3
comp=Z,38nm,1.2s
H24K **Noodor Dome** 46.78 4 P P 00 45 39.2 -2.0
baz=190,SNR=15
F15K **North Star Dit** 46.80 355 P P 00 45 42.1 +0.9
baz=168
G19K **Purcell Mounta** 46.85 359 P P 00 45 40.8 -0.7
baz=178
SDCO **Great Sand Dun** 46.93 56 P P 00 45 42.0 -1.0
baz=261,SNR=31
TNA **Tin City** 46.99 353 P P 00 45 39.0 -3.6
baz=164
J30M **Hart River** 47.03 11 IAmb IAmb 00 45 49.1
comp=Z,40nm,1.4s
J30M **Hart River** 47.03 11 P P 00 45 41.0 -2.2
baz=205,SNR=13
K22A **Casper** 47.13 49 P P 00 45 42.8 -1.6
baz=256,SNR=8.5
N23A **Red Feather La** 47.16 52 P P 00 45 39.4 -5.3
baz=258,SNR=46
I27K **Kandik River** 47.17 8 P P 00 45 45.4 +1.2
baz=198,SNR=17
ISCO **Idaho Springs** 47.19 53 P P 00 45 40.5 -4.5
baz=259,SNR=11
ISCO **Idaho Springs** 47.19 53 P P 00 45 48.3 +3.3
ISCO pmax pmax
comp=Z,11nm,1.3s
G21K **Allakaket** 47.22 1 P P 00 45 45.5 +1.0
baz=182
I28M **Miner Creek** 47.25 9 P P 00 45 46.2 +1.4
I28M IAmb IAmb 00 45 50.2
comp=Z,30nm,1.1s
I28M **Miner Creek** 47.25 9 P P 00 45 43.3 -1.5
baz=200,SNR=8.1
F17K **Baldwin Pennin** 47.29 357 P P 00 45 44.6 -0.4
baz=172
H25L **Birch Creek** 47.37 5 P P 00 45 43.1 -2.5
baz=192,SNR=21
F18K **Selawik** 47.37 358 P P 00 45 44.6 -1.0
baz=174
Q24A **Divide** 47.40 54 IAmb IAmb 00 45 52.0
comp=Z,39nm,1.2s
Q24A **Divide** 47.40 54 P P 00 45 45.3 -1.3
baz=260,SNR=20
G23K **Bananza Creek** 47.53 3 P P 00 45 45.8 -1.1
baz=187,SNR=5.5
F19K **Shaleruckik Mo** 47.55 359 IAmb IAmb 00 45 53.5
comp=Z,46nm,1.4s
F19K **Shaleruckik Mo** 47.55 359 P P 00 45 47.5 +0.5
baz=177
PHWY **Pilot Hill** 47.60 51 IAmb IAmb 00 45 53.2
comp=Z,41nm,1.3s
I30M **Mount Dempster** 47.61 11 P P 00 45 48.6 +1.0
I30M **Mount Dempster** 47.61 11 P P 00 45 48.8 +1.0
baz=204,SNR=29
G24K **Hadweenzic Riv** 47.67 4 P P 00 45 49.5 +1.6
baz=190,SNR=5.5
G22K **Bettles** 47.68 2 P P 00 45 50.2 +2.2
baz=185
T25A **Trinidad** 47.70 57 P P 00 45 46.5 -2.4
baz=262,SNR=13
F20K **Avaraart Lake** 47.74 360 IAmb IAmb 00 45 55.1
comp=Z,57nm,1.7s
F20K **Avaraart Lake** 47.74 360 P P 00 45 50.4 +1.9
baz=180,SNR=5.3
H27K **Steamboat Moun** 47.78 8 P P 00 45 49.5 +0.6
baz=198,SNR=37
TXAR **Lajitas Array** 47.83 68 P P 00 45 51.2 +1.3
TXAR **Lajitas Array** 47.83 68 P P 00 45 51.0 +1.1
comp=Z,29nm,1.0s,baz=258,slow=6.3,SNR=49
TXAR **Lajitas Array** 47.83 68 P P 00 45 51.2 +1.3
G25K **Bearman Lake** 47.84 5 P P 00 45 49.6 +0.4
baz=192,SNR=5.1
F21K **Alatna River** 47.93 1 P P 00 45 51.3 +1.3
F21K IAmb IAmb 00 46 04.9
comp=Z,36nm,1.1s
F21K **Alatna River** 47.93 1 P P 00 45 51.5 +1.5
baz=182,SNR=14
E17K **Hotham Inlet** 47.96 357 P P 00 45 52.2 +2.1
baz=172
COLD **Coldfoot** 48.04 3 P P 00 45 52.9 +2.2
baz=186,SNR=5.8
E19K **Redstone River** 48.17 359 P P 00 45 53.2 +1.4
baz=178
H29M **Whitestone** 48.21 9 P P 00 45 53.4 +1.2
baz=202,SNR=28
G26K **Porcupine Rive** 48.23 6 P P 00 45 53.5 +1.3
baz=195,SNR=29
E18K **Tukpahlearik C** 48.23 357 P P 00 45 54.3 +2.0
E18K IAmb IAmb 00 46 06.4
comp=Z,23nm,1.1s
E18K **Tukpahlearik C** 48.23 357 P P 00 45 53.8 +1.5
baz=173
F22K **John River** 48.25 2 P P 00 45 53.6 +1.2
baz=184,SNR=30
G27K **Doyon Strip** 48.32 7 P P 00 45 53.6 +0.6
baz=197,SNR=6.6
LAO **LASA Array** 48.42 44 P P 00 45 53.8 -0.4
baz=253,SNR=11
F24K **Squaw Lake** 48.45 4 P P 00 45 52.9 -1.1
baz=189
H31M **Peel River** 48.51 11 IAmb IAmb 00 45 59.3
comp=Z,25nm,1.2s
H31M **Peel River** 48.51 11 P P 00 45 53.8 -0.6
baz=207
EPYK **Eagle Plains** 48.60 10 P P 00 45 56.8 +1.6
baz=204
BMAR **Burnt Mountain** 48.62 6 P P 00 45 56.4 +1.1
D17K **Noatak River** 48.65 356 P P 00 45 57.8 +2.3
baz=170
F25K **Christian Rive** 48.69 5 P P 00 45 57.5 +1.6
baz=192
E22K **Anaktuvuk Pass** 48.88 2 P P 00 45 58.0 +0.6
baz=184
E23K **Chandalar** 48.89 3 P P 00 45 57.8 +0.3
baz=187,SNR=7.5
G29M **Pine Creek** 48.90 9 P P 00 45 56.6 -0.9
baz=202,SNR=22
F26K **Sheenjek River** 48.92 6 P P 00 45 56.5 -1.2
baz=194,SNR=23
E20K **Nigu River** 48.96 360 P P 00 45 58.6 +0.6
baz=179,SNR=7.0
E24K **Your Creek** 48.97 3 IAmb IAmb 00 46 11.6
comp=Z,37nm,1.7s
E24K **Your Creek** 48.97 3 P P 00 45 55.7 -2.3
baz=189
RDOG **Red Dog Mine** 48.99 356 P P 00 45 56.5 -1.6
baz=170
WRGLY **Wrigley** 49.01 18 IAmb IAmb 00 46 04.1
comp=Z,26nm,1.2s
WRGLY **Wrigley** 49.01 18 P P 00 45 57.0 -1.3
baz=221
E21K **Killik River** 49.15 1 IAmb IAmb 00 46 05.2
comp=Z,53nm,1.4s
E21K **Killik River** 49.15 1 P P 00 45 59.4 +0.1
baz=182
E25K **Arctic Village** 49.21 5 P P 00 45 59.3 -0.6
baz=192,SNR=18
D19K **Kuna River** 49.23 359 IAmb IAmb 00 46 17.4
comp=Z,42nm,1.3s
D19K **Kuna River** 49.23 359 P P 00 45 59.1 -0.8
baz=176,SNR=5.7
RSSD **Black Hills** 49.24 48 P P 00 46 01.3 +0.6
RSSD IAmb IAmb 00 46 05.2
comp=Z,43nm,1.1s
RSSD **Black Hills** 49.24 48 P P 00 45 59.1 -1.6
baz=257
RSSD **Black Hills** 49.24 48 P P 00 46 01.3 +0.6
RSSD pmax pmax
comp=Z,43nm,1.2s
G30M **tAoh Zrail Nji** 49.24 10 IAmb IAmb 00 46 05.2
comp=Z,43nm,1.1s
G30M **tAoh Zrail Nji** 49.24 10 P P 00 45 59.8 -0.3
baz=204,SNR=7.8
F28M **Old Crow** 49.31 8 P P 00 46 01.6 +1.0
baz=199,SNR=28
KSCO **Kaye Shedlock'** 49.34 55 P P 00 45 58.6 -2.9
baz=262,SNR=17
C16K **Lisburne Hills** 49.38 355 P P 00 46 03.6 +2.6
baz=168
PEA0B **Petropavlovsk-** 49.40 325 *i* P P 00 46 03.9 +2.4
PETK **Petropavlovsk-** 49.40 325 P P 00 46 01.5 0.0
comp=Z,2.1nm,0.8s,baz=119,slow=11,SNR=2.9
comp=Z,2.1nm,0.8s
C17K **DeLong Mountai** 49.42 356 P P 00 46 00.9 -0.5
baz=170
D20K **Etivluk River** 49.42 359 P P 00 46 02.8 +1.4
baz=178
TOLK **Toolik Lake Re** 49.47 3 IAmb IAmb 00 46 07.8
comp=Z,34nm,1.5s
TOLK **Toolik Lake Re** 49.47 3 P P 00 46 03.6 +1.8
baz=187,SNR=6.0
C18K **Utukok River** 49.48 357 P P 00 46 03.0 +1.1
baz=173
G31M **Satah River** 49.52 11 P P 00 46 02.6 +0.5
baz=206,SNR=30
D22K **Ayikyak River** 49.61 1 IAmb IAmb 00 46 09.3
comp=Z,43nm,1.2s
D22K **Ayikyak River** 49.61 1 P P 00 46 04.0 +1.1
baz=183,SNR=5.8
E27K **Coleen River** 49.65 7 P P 00 46 04.3 +1.1
E27K IAmb IAmb 00 46 09.0
comp=Z,33nm,1.2s
E27K **Coleen River** 49.65 7 P P 00 46 04.3 +1.1
baz=197,SNR=22
AMTX **Amarillo** 49.69 60 P P 00 46 03.5 -0.7
baz=266
D23K **Nanushuk River** 49.75 2 P P 00 46 04.0 +0.1
baz=186,SNR=27
C21K **Knifeblade Rid** 49.86 0 P P 00 46 07.0 +2.3
baz=181
C19K **Lookout Ridge** 49.88 358 P P 00 46 05.6 +0.6
baz=175
F30M **Barrier River** 49.89 10 P P 00 46 06.5 +1.5
baz=204,SNR=18
D24K **Happy Valley** 50.02 3 IAmb IAmb 00 46 12.1
comp=Z,54nm,1.4s
D24K **Happy Valley** 50.02 3 P P 00 46 08.2 +2.2
baz=188
OZNA **Ozona** 50.03 65 IAmb IAmb 00 46 12.1
comp=Z,56nm,1.1s
F31M **Tsiigehtchic** 50.08 11 P P 00 46 07.9 +1.5
baz=207,SNR=7.0
OGNE **Ogallala** 50.08 52 P P 00 46 05.7 -1.3
baz=261,SNR=8.9
DGMT **Dagmar** 50.26 42 P P 00 46 06.6 -1.5
baz=253
E28M **Babbage River** 50.29 7 IAmb IAmb 00 46 13.7
comp=Z,29nm,1.1s
E28M **Babbage River** 50.29 7 P P 00 46 09.1 +1.0
baz=200,SNR=26
E29M **Blow River** 50.30 8 IAmb IAmb 00 46 14.1
comp=Z,46nm,1.4s
E29M **Blow River** 50.30 8 P P 00 46 08.8 +0.7
baz=202,SNR=36
B21K **Ikpikpuk River** 50.33 0 P P 00 46 10.0 +1.7
baz=181
D25K **Kavik River** 50.33 4 IAmb IAmb 00 46 14.0
comp=Z,33nm,1.2s
D25K **Kavik River** 50.33 4 P P 00 46 09.3 +1.0
baz=191,SNR=23
DRIO **Del Rio** 50.49 67 IAmb IAmb 00 46 15.4
comp=Z,28nm,1.1s
C24K **Franklin Bluff** 50.59 3 P P 00 46 11.1 +0.8
baz=188
C23K **Itkillik River** 50.63 2 P P 00 46 11.9 +1.4
baz=186,SNR=31
B20K **Meade River** 50.73 359 IAmb IAmb 00 46 17.4
comp=Z,62nm,1.4s
B20K **Meade River** 50.73 359 P P 00 46 10.5 -0.8
baz=178,SNR=5.9
D27M **Malcolm River** 50.73 7 IAmb IAmb 00 46 17.7
comp=Z,59nm,1.8s
D27M **Malcolm River** 50.73 7 P P 00 46 12.2 +0.8
baz=198,SNR=5.7
C27K **Jago River** 50.84 5 P P 00 46 13.6 +1.4
baz=194,SNR=22
INK **Inuvik** 50.89 10 IAmb IAmb 00 46 17.3
comp=Z,46nm,1.1s
INK **Inuvik** 50.89 10 P P 00 46 12.7 +0.3
baz=207,SNR=36
INK **Inuvik** 50.89 10 P P 00 46 12.8 +0.3
INK pmax pmax
comp=Z,39nm,1.8s
C26K **Camden Bay** 51.02 5 P P 00 46 14.4 +0.9
baz=193,SNR=6.0
A19K **Wainwright** 51.03 357 P P 00 46 12.2 -1.3
baz=173
B22K **Teshekpuk Lake** 51.06 1 IAmb IAmb 00 46 19.6
comp=Z,54nm,1.4s
B22K **Teshekpuk Lake** 51.06 1 P P 00 46 12.7 -1.1
baz=182
D28M **Stokes Point** 51.07 8 P P 00 46 14.8 +0.9
baz=200,SNR=5.7
JCT **Junction City** 51.17 66 P P 00 46 14.6 -0.7
baz=271
JCT **Junction City** 51.17 66 P P 00 46 18.3 +2.9
ABTX **Abilene, Hawle** 51.30 63 IAmb IAmb 00 46 21.0
comp=Z,54nm,1.1s
ABTX **Abilene, Hawle** 51.30 63 P P 00 46 16.8 +0.5
baz=269,SNR=25
YKA **Yellowknife Ar** 51.46 23 P P 00 46 17.8 +0.9
YKA **Yellowknife Ar** 51.46 23 P P 00 46 16.4 -0.5
comp=Z,2.3nm,0.7s,baz=237,slow=7.0,SNR=25
comp=Z,2.3nm,0.7s
YKA **Yellowknife Ar** 51.46 23 *e* P P 00 46 17.2 +0.3
YKA pmax pmax
comp=Z,5.0nm,0.8s
CBKS **Cedar Bluff** 51.56 55 P P 00 46 16.8 -1.4
baz=264
833A **Chaparral WMA,** 51.60 69 P P 00 46 19.6 +1.0
baz=273,SNR=7.8
A22K **Sinclair Lake** 51.72 0 P P 00 46 18.2 -0.5
baz=180
WMOK **Wichita Mounta** 52.07 61 P P 00 46 21.1 -0.9
baz=268,SNR=8.3
WMOK **Wichita Mounta** 52.07 61 P P 00 46 25.0 +3.1
WMOK pmax pmax
comp=Z,9.0nm,2.4s
BGNE **Belgrade** 53.05 52 P P 00 46 31.0 +1.9
baz=263,SNR=8.7
435B **Jarrell** 53.08 66 P P 00 46 27.0 -2.5
baz=272
MDND **Maddock** 53.08 44 P P 00 46 28.1 -1.1
baz=258
WHTX **Lake Whitney,** 53.16 64 P P 00 46 27.9 -2.1
baz=271,SNR=7.9
FFC **Flin Flon** 53.54 35 P P 00 46 35.3 +2.9
FFC **Flin Flon** 53.54 35 P P 00 46 35.3 +2.9
FFC pmax pmax
comp=Z,13nm,1.4s
C36M **Paulatuk** 53.60 13 IAmb IAmb 00 46 36.8
comp=Z,45nm,1.4s
C36M **Paulatuk** 53.60 13 P P 00 46 31.9 -0.8
baz=218,SNR=33
OK031 **S. Brethren Rd** 53.69 59 IAmb IAmb 00 46 38.3
comp=Z,52nm,1.2s
KSU1 **Kansas State U** 54.02 55 P P 00 46 35.5 -0.8
baz=266,SNR=5.2
BILL **Bilibino** 54.35 343 P P 00 46 38.0 -0.2
BILL **Bilibino** 54.35 343 *e* P P 00 46 38.9 +0.7
BILL pmax pmax
comp=Z,38nm,2.5s
ECSD **EROS Data Cent** 54.45 50 IAmb IAmb 00 46 43.4
comp=Z,35nm,1.3s
ECSD **EROS Data Cent** 54.45 50 P P 00 46 37.5 -1.8
baz=263,SNR=12
TUL3 **Leonard** 54.54 59 P P 00 46 39.8 -0.3
baz=269,SNR=6.8
HKT **Hockley** 54.63 67 *i* P P 00 46 44.7 +4.0
HKT pmax pmax
comp=Z,19nm,1.2s
A36M **Sachs Harbour** 55.51 11 P P 00 46 46.7 +0.3
baz=215,SNR=36
MA2 **Magadan** 55.53 330 *i* P P 00 46 48.3 +1.5
MA2 pmax pmax
comp=Z,8.0nm,1.1s
NATX **Nacogdoches** 55.54 64 P P 00 46 47.4 0.0
baz=272
AGMN **Agassiz Nation** 55.63 44 P P 00 46 47.0 -0.7
baz=260,SNR=5.2
ULM **Lac du Bonnet** 55.97 42 IAmb IAmb 00 46 53.9
comp=Z,36nm,1.2s
ULM **Lac du Bonnet** 55.97 42 P P 00 46 49.0 -1.2
comp=Z,18nm,1.1s,baz=266,slow=8.1,SNR=19
comp=Z,18nm,1.1s
ULM **Lac du Bonnet** 55.97 42 *e* P P 00 46 52.2 +2.1
ULM pmax pmax
comp=Z,18nm,1.1s
SEY **Seymchan** 56.19 334 *e* P P 00 46 49.9 -1.6
SEY pmax pmax
comp=Z,10.0nm,1.2s
MIAR **Mount Ida** 56.36 61 P P 00 46 51.1 -2.1
baz=271,SNR=8.9
SCIA **State Center** 56.77 52 P P 00 46 55.9 -0.1
baz=267
YSS **Yuzh-Sakhalins** 57.04 314 *e* P P 00 46 53.8 -4.0
YSS pmax pmax
comp=Z,10.0nm,1.2s
B35A **Bob, Littlefor** 57.04 44 IAmb IAmb 00 47 01.6
comp=Z,40nm,1.4s
SPMN **Marine on St.** 57.32 48 P P 00 47 00.1 +0.3
baz=265
CCM **Cathedral Cave** 58.19 57 P P 00 47 06.6 +0.5
baz=270
EYMN **Ely** 58.48 45 P P 00 47 07.1 -0.8
baz=264
FVM **French Village** 58.84 57 P P 00 47 13.5 +2.9
FVM IAmb IAmb 00 47 14.4
comp=Z,19nm,1.1s
FVM **French Village** 58.84 57 P P 00 47 13.5 +2.9
FVM pmax pmax
comp=Z,19nm,1.2s
FCC **Fort Churchill** 58.88 32 IAmb IAmb 00 47 14.8
comp=Z,25nm,1.1s
JFWS **Jewell Farm** 59.01 51 P P 00 47 11.9 +0.2
baz=268
HDIL **Hopedale** 59.69 54 P P 00 47 14.8 -1.6
baz=270
OXF **Oxford** 59.79 61 P P 00 47 17.3 0.0
baz=274,SNR=6.8
COWI **Conover** 59.94 47 IAmb IAmb 00 47 32.2
comp=Z,34nm,1.6s
MJAR **Matsushiro Arr** 60.08 302 P P 00 47 19.5 +0.2
comp=Z,2.5nm,0.9s,baz=88,slow=4.7,SNR=4.1
comp=Z,2.5nm,0.9s
MAJO **Matsushiro** 60.08 302 *i* P P 00 47 17.6 -1.7
MAJO pmax pmax
comp=Z,17nm,1.1s
L44A **Lake County Fo** 60.73 52 P P 00 47 21.4 -2.2
baz=270
PLAL **Pickwick Lake** 60.86 60 P P 00 47 26.8 +2.2
WVT **Waverly** 60.98 59 P P 00 47 25.7 +0.3
baz=273
WVT **Waverly** 60.98 59 P P 00 47 28.5 +3.1
Z47A **Carrollton** 61.00 62 P P 00 47 27.8 +2.2
Z47A IAmb IAmb 00 47 30.1
comp=Z,44nm,1.4s
SFIN **Lafayette** 61.37 54 P P 00 47 25.4 -2.5
baz=272
E43A **Lone Tree Farm** 61.44 47 P P 00 47 30.0 +1.6
E43A IAmb IAmb 00 47 31.9
comp=Z,28nm,1.4s
LRAL **Lakeview Retre** 61.91 62 P P 00 47 30.5 -1.3
baz=276,SNR=6.6
BRAL **Brewton** 62.07 64 P P 00 47 34.3 +1.5
baz=276
WCI **Wyandotte Cave** 62.08 56 P P 00 47 35.3 +2.5
baz=273
WCI **Wyandotte Cave** 62.08 56 P P 00 47 36.0 +3.2
O48B **Farmland** 62.86 54 P P 00 47 37.7 -0.2
baz=273,SNR=6.2
MTO3 **Montecristo** 63.03 83 P P 00 47 40.0 +0.2
MTO3 IAmb IAmb 00 47 44.0
comp=Z,21nm,1.1s
P49A **Miami Univ. Ec** 63.23 55 P P 00 47 39.1 -1.4
baz=274
RES **Resolute Bay** 63.88 15 P P 00 47 44.4 +0.3
RES **Resolute Bay** 63.88 15 P P 00 47 44.4 +0.3
RES pmax pmax
comp=Z,66nm,1.9s
AAM **Ann Arbor** 63.88 52 P P 00 47 46.1 +1.4
baz=273
TZTN **Tazewell** 64.39 58 P P 00 47 45.8 -2.4
baz=276
KLR **Kul'dur** 64.53 316 *e* P P 00 47 52.5 +3.7
KLR pmax pmax
comp=Z,6.0nm,1.4s
GOGA **Godfrey** 64.81 61 P P 00 47 49.7 -1.2
baz=277,SNR=8.3
GOGA **Godfrey** 64.81 61 P P 00 47 53.7 +2.7
TIGA **Tifton** 64.97 64 P P 00 47 51.6 -0.4
baz=278,SNR=6.4
BG3 **Lake Jocassee** 65.06 60 IAmb IAmb 00 47 56.5
comp=Z,37nm,1.4s
P52A **Corning** 65.22 55 P P 00 47 51.5 -2.0
baz=275
O53A **New Philadelph** 65.87 54 P P 00 47 56.9 -0.8
baz=275
YAK **Yakutsk** 66.10 330 *e* P P 00 47 51.8 -6.9
YAK *e* 00 48 23.1
YAK *e* S **S** 00 56 38.8 -8.1
YAK *e* 00 57 47.8
YAK *e* SSS SSS 01 03 55.2
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,5.0nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK smax smax

comp=E,621nm,14.4s
YAK smax smax
comp=N,315nm,9.1s
YAK MLR MLR
comp=N,1µm,27.0s
YAK MLR MLR
comp=E,2µm,25.0s
KMSC Kings Mountain 66.34 59 P **P** **00 48 00.2 -0.7**
baz=278
BLA Blacksburg 66.81 57 P **P** **00 48 03.2 -0.7**
baz=277
MCWV Mont Chateau 66.97 54 P **P** **00 48 05.2 +0.4**
baz=276
ZEA Zeya 67.26 321 *e*P **P** **00 48 10.4 +4.1**
TIXI Tiksi 67.36 341 *i* P **P** **00 48 08.7 +2.1**
TIXI pmax pmax
comp=Z,6.0nm,1.5s
EUNU Eureka 67.52 10 P **P** **00 48 08.8 +1.1**
ACON Acoyapa 67.60 85 IAmb IAmb 00 48 13.7
comp=Z,30nm,1.1s
KSRS Korea Array 68.19 303 P **P** **00 48 13.7 +1.2**
comp=Z,0.7nm,0.5s,baz=88,slow=5.5,SNR=1.9
comp=Z,0.7nm,0.5s
SSPA Standing Stone 68.35 53 P **P** **00 48 12.6 -0.8**
baz=277
CN2 Changchun 69.23 310 *e*P **P** **00 48 18.4 -0.5**
BINY Binghamton 69.56 51 P **P** **00 48 20.3 -0.7**
baz=278
LBNH Lisbon 72.18 49 P **P** **00 48 36.2 -0.7**
baz=280
HRV Adam Dziewonsk 72.75 50 P **P** **00 48 39.9 -0.4**
baz=280
PKME Peaks-Kenny Pk 73.84 47 P **P** **00 48 44.7 -1.9**
baz=281
BOD Bodaibo 74.23 326 *e*P **P** **00 48 48.1 -0.6**
BOD pmax pmax
comp=Z,36nm,2.0s
XLT XiLinHaoTe 75.88 312 *e*P **P** **00 49 03.3 +4.7**
XLT XiLinHaoTe 75.88 312 *e*P **P** **00 48 55.2 -3.4**
XLT PcP **PcP** **00 49 11.6 +0.5**
XLT pmax pmax
comp=Z,9.0nm,0.6s
HNS HongShan 78.50 306 ⇓P **P** **00 49 13.9 +0.6**
HNS S **S** **00 59 11.8 +2.0**
HNS pmax pmax
comp=Z,13nm,1.4s
HNS LR LR
comp=Z,550nm,17.3s
HNS LR LR
comp=Z,1µm,18.0s
HNS LR LR
comp=Z,2µm,18.8s
STKA Stephens Creek 78.95 231 P **P** **00 49 15.2 -0.6**
comp=Z,1.7nm,0.7s,baz=21,slow=8.6,SNR=2.0
comp=Z,1.7nm,0.7s
STKA Stephens Creek 78.95 231 *e*P **P** **00 49 20.2 +4.4**
STKA pmax pmax
comp=Z,3.0nm,0.8s
WRA Warramunga Arr 79.16 244 P **P** **00 49 16.5 -0.7**
comp=Z,0.9nm,1.0s,baz=66,slow=5.7,SNR=4.1
comp=Z,0.9nm,1.0s
SUMG Summit 79.38 16 P **P** **00 49 17.7 -0.3**
SUMG IAmb IAmb 00 49 23.1
comp=Z,39nm,1.4s
SUMG Summit 79.38 16 P **P** **00 49 17.7 -0.3**
SUMG pmax pmax
comp=Z,39nm,1.4s
HHC Hu-ho-hao-te 79.90 310 *e*P **P** **00 49 18.6 -2.5**
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,540nm,5.4s
ROSC El Rosal 79.97 88 P **P** **00 49 23.3 +1.1**
comp=Z,5.0nm,0.3s,baz=41,slow=8.0,SNR=4.6
comp=Z,5.0nm,0.3s
ULN Ulaanbaatar 80.87 317 *c*e**P** **P** **00 49 26.3 +0.1**
ULN pmax pmax
comp=Z,17nm,1.7s
LYN LuoYang 81.04 303 *e*P **P** **00 49 26.2 -1.0**
LYN pmax pmax
comp=Z,10.0nm,0.5s
BTO Baotou 81.09 310 *e*P **P** **00 49 27.9 +0.4**
BTO pP **sP** **00 49 32.7 +0.4**
BTO sP **PcP** **00 49 34.8 +1.0**
BTO PP **PP** **00 52 35.2 +3.0**
BTO pmax pmax
comp=Z,18nm,0.6s
BTO pmax pmax
comp=Z,2µm,10.9s
ASAR Alice Springs 81.11 241 P **P** **00 49 26.2 -1.4**
comp=Z,1.4nm,0.8s,baz=72,slow=5.7,SNR=10
comp=Z,1.4nm,0.8s
SONM Songino Array 81.30 318 P **P** **00 49 28.6 +0.2**
SONM IAmb IAmb 00 49 34.2
comp=Z,42nm,2.0s
SONM Songino Array 81.30 318 P **P** **00 49 27.2 -1.2**
comp=Z,1.3nm,0.8s,baz=73,slow=4.0,SNR=9.2
comp=Z,1.3nm,0.8s
SONM Songino Array 81.30 318 *e*P **P** **00 49 29.0 +0.5**
SONM pmax pmax
comp=Z,2.0nm,0.9s
ZAK Zakamensk 82.35 321 *e*P **P** **00 49 34.2 +0.3**
ZAK pmax pmax
comp=Z,7.0nm,1.7s
NNA Nana 83.32 105 *c*e**P** **P** **00 49 41.5 +2.0**
NNA pmax pmax
comp=Z,27nm,1.3s
XAN Xi'an 83.99 304 P **P** **00 49 43.2 +0.5**
XAN pmax pmax
comp=Z,8.0nm,1.3s
LZH Lanzhou 87.18 307 *e*P **P** **00 50 03.4 +4.7**
LZH sP sP 00 50 11.6 +8.0
LZH pmax pmax
comp=Z,15nm,1.1s
GYA Guiyang 88.40 297 *e*P **P** **00 50 04.9 +0.3**
GYA pmax pmax
comp=Z,15nm,1.2s
GTA Gaotai 88.83 311 *e*P **P** **00 50 11.1 +4.6**
GTA pP sP 00 50 18.1 +6.7
GTA pmax pmax
comp=Z,9.0nm,1.5s
CD2 Chengdu 89.17 302 P **P** **00 50 05.7 -2.4**
H03N2 Juan Fernandez 89.69 126 T T 02 29 20.4
baz=299,slow=76,SNR=223
H03N3 Juan Fernandez 89.71 126 T T 02 29 21.4
baz=299,slow=76,SNR=193
H03N1 Juan Fernandez 89.71 126 T T 02 29 21.7
baz=299,slow=76,SNR=111
ZAA0 Zalesovo Array 90.74 329 P **P** **00 50 15.6 +0.8**
ZAA0 IAmb IAmb 00 50 20.4
comp=Z,17nm,1.4s
ZALV Zalesovo Beam 90.74 329 P **P** **00 50 14.8 -0.1**
comp=Z,5.0nm,1.0s,baz=46,slow=4.3,SNR=12
comp=Z,5.0nm,1.0s
ZALV Zalesovo Beam 90.74 329 *e*P **P** **00 50 17.6 +2.8**
ZALV pmax pmax
comp=Z,4.0nm,0.9s
ETMB Extrema 92.39 99 P **P** **00 50 22.8 -0.4**
PZH PanZhiHua 92.48 299 P **P** **00 50 23.5 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
APA Apatity 93.16 357 ⇓*i* P P 00 50 35.7 +10
APA pmax pmax
comp=Z,5.0nm,1.1s
LCO Las Campanas 94.67 119 P **P** **00 50 33.6 -0.1**
LCO Las Campanas 94.67 119 P **P** **00 50 33.7 -0.1**
LCO pmax pmax
comp=Z,24nm,1.2s
WMQ Urumqi 94.78 320 *e*P **P** **00 50 33.2 -0.6**
WMQ pmax pmax
comp=Z,11nm,0.7s
MKAR Makanchi Array 96.24 324 P **P** **00 50 39.5 -0.9**
comp=Z,0.3nm,0.4s,baz=72,slow=4.7,SNR=4.7
comp=Z,0.3nm,0.4s
MKAR Makanchi Array 96.24 324 *e*P **P** **00 50 42.1 +1.7**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
BVAR Borovoye Array 97.84 334 P **P** **00 50 46.3 -1.2**
comp=Z,0.2nm,0.3s,baz=87,slow=5.9,SNR=1.9
comp=Z,0.2nm,0.3s
CMAR Chiang Mai Arr 98.01 293 LR LR 01 33 41.2
comp=Z,118nm,19.4s,baz=125,slow=35
NOA NORSAR Array B 99.22 7 LR LR 01 33 54.2
comp=Z,179nm,21.2s,baz=60,slow=34
ARU Arti 99.35 342 *i* P **Pdif** **00 50 55.2 +1.1**
ARU pmax pmax
comp=Z,2.0nm,1.2s

CLL Collm 108.97 8 *e*Pdif **Pdif** **00 51 38.0 +1.0**
CLL Collm 108.97 8 *e*P **Pdif** **00 51 38.0 +1.0**
MAK Makhachkala 114.58 342 *i* P **Pdif** **00 51 53.7 -8.4**
MAK *e*SS SS 01 12 34.5 -6.2
MAK pmax pmax
comp=Z,72nm,0.9s
TORD Torodi Ar. Bea 140.63 37 PKP **PKPdf** **00 56 43.6 +1.1**
comp=Z,2.0nm,1.0s,baz=350,slow=3.5,SNR=6.2
DBIC Dimbokro 141.14 51 PKP **PKPdf** **00 56 44.4 +1.0**
comp=Z,4.5nm,1.0s,baz=295,slow=4.8,SNR=2.9

*HVO **05** 00:46:36.0±0.7, 19°.22N±0°.02×155°.31W±0°.02, h-1km±10km, Md2.7/6, ML2.7/26(NEIC), Error ellipse: s-maj=3.9km s-min=0.7km az=142.0*
NEIC 05 00:46:36.5±0.6, **19°.19N**±0°.02×**155°.30W**±0°.02, **h7**km±8km, **Error ellipse: s-maj=2.5km s-min=2.3km az=125.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.11**	**299**		Pg	00 46 39.0	0.0
HLP	**Hilina Pali**	**0.11**	**356**	IAML		00 46 39.0	
comp=N,7µm,1.4s							
HLP					Pg	00 46 39.0	-0.1
PUH	**Pauahi**	**0.20**	**23**		Sg	00 46 44.2	+0.7
PUH	**Pauahi**	**0.20**	**23**		Pg	00 46 40.9	+0.2
PUH				IAML		00 46 45.5	
comp=E,2µm,1.0s							
PUH	**Pauahi**	**0.20**	**23**	IAML		00 46 41.5	
comp=N,3µm,1.2s							
SDHHI	**Sand Hill**	**0.20**	**1**		Pg	00 46 40.6	-0.1
SDHHI	**Sand Hill**	**0.20**	**1**	IAML		00 46 43.9	
comp=E,2µm,0.7s							
SDHHI				IAML		00 46 44.3	
comp=N,2µm,0.5s							
RIM	**Rim**	**0.21**	**7**	Pg	Pg	00 46 40.7	-0.1
RIM				IAML		00 46 44.5	
comp=N,1µm,0.7s							
KKO	**Keanakako`i**	**0.21**	**8**		Pg	00 46 40.8	-0.1
KKO				IAML		00 46 44.5	
comp=E,2µm,1.3s							
KKO				IAML		00 46 45.0	
comp=N,3µm,1.2s							
WRMHI	**West Rim**	**0.22**	**360**	Pg	Pg	00 46 40.7	-0.3
WRMHI				IAML		00 46 40.7	
comp=E,2µm,1.5s							
NPH	**North Pit**	**0.23**	**4**	Pg	Pg	00 46 40.4	-0.7
BYL	**Byron's Ledge**	**0.23**	**9**	Pg	Pg	00 46 41.3	+0.1
BYL				IAML		00 46 43.2	
comp=E,1µm,1.4s							
OBL	**Observatory Le**	**0.23**	**4**	Pg	Pg	00 46 40.9	-0.3
OBL				IAML		00 46 46.4	
comp=N,1µm,0.4s							
UWE	**Uwekahuna**	**0.23**	**1**	Pg	Pg	00 46 40.5	-0.8
UWE				IAML		00 46 41.8	
comp=N,1µm,1.8s							
UWE				IAML		00 46 44.5	
comp=E,2µm,1.5s							
KHU	**Kahuku**	**0.30**	**281**		Pg	00 46 42.8	+0.1
KHU	**Kahuku**	**0.30**	**281**	IAML		00 46 43.7	
comp=N,585nm,1.5s							
KHU				IAML		00 46 48.9	
comp=E,637nm,0.9s							
MLH	**Mauna Loa**	**0.32**	**345**		Sg	00 46 47.3	+0.2
MLH	**Mauna Loa**	**0.32**	**345**	Pg	Pg	00 46 43.0	+0.1
MLH				IAML		00 46 48.1	
comp=N,1µm,1.4s							
MLH				IAML		00 46 48.8	
comp=E,2µm,0.2s							
HMH	**Humu'ula Sheep**	**0.45**	**337**		Pn	00 46 51.6	+1.9
HMH				IAML	Sg	00 46 52.1	+0.8
comp=E,705nm,1.6s							
HMH					Sg	00 46 52.1	+0.8

*IDC **05** 00:48:19.2±6.7, 6°.03S×151°.42E, h53km±55km, mb3.5/5, mbtmp3.8/6, ML2.2/1, Error ellipse: s-maj=54.1km s-min=29.4km az=103.0*
ISC 05 00:48:17.7±1.2, **6°.0S**±0°.2×**151°.6E**±0°.2, **h41**km, **n7**, σ0s**96**/8, **mb3.7**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**232**	P	**Pn**	**00 49 38.6**	**+1.4**
5.2nm,0.3s,baz=47,slow=9.3,SNR=6.0							
PMG				S	**Sn**	**00 50 38.5**	**-0.8**
12nm,0.3s,baz=279,slow=21,SNR=1.7							
25nm,0.7s							
WRA	**Warramunga Arr**	**21.71**	**229**	P	**P**	**00 53 04.3**	**-1.2**
1.2nm,0.4s,baz=54,slow=11,SNR=15							
1.2nm,0.4s							
ASAR	**Alice Springs**	**24.41**	**222**	P	**P**	**00 53 32.5**	**-0.2**
4.7nm,0.9s,baz=55,slow=9.4,SNR=22							
4.7nm,0.9s							
SONM	**Songino Array**	**66.73**	**329**	P	**P**	**00 59 05.1**	**+0.2**
0.3nm,0.4s,baz=117,slow=7.9,SNR=2.3							
0.3nm,0.4s							
ILAR	**Eielson Array**	**83.76**	**22**	P	**P**	**01 00 42.1**	**-0.2**
0.3nm,0.6s,baz=250,slow=4.8,SNR=4.1							
0.3nm,0.6s							
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**01 00 43.4**	**+0.1**
0.8nm,0.7s,baz=318,slow=1.4,SNR=7.5							
0.8nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.50**	**286**	PKPbc	**PKPbc**	**01 08 03.0**	**-0.7**
1.3nm,0.6s,baz=58,slow=3.7,SNR=7.8							

*NEIC **05** 01:04:39.5±0.9, 19°.34N±0°.03×154°.99W±0°.03, h7km±4km, Error ellipse: s-maj=5.8km s-min=1.8km az=129.0*
HVO 05 01:04:39.6±0.8, **19°.37N**±0°.02×**154°.99W**±0°.03, **h5**km±5km, **Md2.3**/6, **ML2.6**/30(NEIC), **Error ellipse: s-maj=5.5km s-min=1.1km az=123.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.07**	**350**		Pg	01 04 41.8	+0.6
JCUZ	**Jacuzzi**	**0.10**	**279**		Pg	01 04 42.0	+0.1
JCUZ				Sg	Sg	01 04 43.1	-0.4
JCUZ				IAML		01 04 43.7	
comp=E,2µm,0.6s							
NPOC	**North of Pu'u**	**0.11**	**283**		Pg	01 04 42.1	+0.1
NPOC				IAML		01 04 44.4	
comp=E,3µm,0.5s							
NPOC				IAML		01 04 44.5	
comp=N,3µm,0.3s							
STCH	**Steam Cracks**	**0.13**	**278**		Pg	01 04 42.3	0.0
STCH				Sg	Sg	01 04 44.0	0.0
STCH				IAML		01 04 45.0	
comp=E,1µm,0.4s							
PUH	**Pauahi**	**0.21**	**272**	Pg	Pg	01 04 43.6	-0.2
PUH				IAML		01 04 45.9	
comp=N,1µm,1.0s							
HATHI	**Halema'uma'u T**	**0.26**	**282**	Pg	Pg	01 04 45.2	+0.5
HATHI				IAML		01 04 50.6	
comp=N,1µm,1.1s							
HATHI				IAML		01 04 51.3	
comp=E,1µm,0.9s							
SBLHI	**Steaming Bluff**	**0.27**	**283**	Pg	Pg	01 04 45.2	+0.3
SBLHI				IAML		01 04 52.4	
comp=N,719nm,0.7s							
UWB	**Uwekahuna B**	**0.28**	**282**	Pg	Pg	01 04 45.3	+0.3
RSD	**Rainshed**	**0.29**	**289**	Pg	Pg	01 04 45.4	+0.1
RSD				IAML		01 04 51.0	
comp=E,597nm,0.2s							
UWE	**Uwekahuna**	**0.29**	**281**	Pg	Pg	01 04 45.3	0.0
UWE				IAML		01 04 47.9	
comp=N,1µm,1.0s							
UWE				Sg	Sg	01 04 50.0	+0.8
UWE				IAML		01 04 51.5	
comp=E,1µm,0.7s							
WRMHI	**West Rim**	**0.29**	**278**	Pg	Pg	01 04 45.8	+0.4
MLH	**Mauna Loa**	**0.39**	**289**		Sg	01 04 53.5	+0.9
MLH	**Mauna Loa**	**0.39**	**289**	Pg	Pg	01 04 47.5	+0.1
MLH	**Mauna Loa**	**0.39**	**289**	IAML		01 04 56.2	
comp=E,419nm,0.2s							
MLH				IAML		01 05 00.8	
comp=N,649nm,0.8s							
HMH	**Humu'ula Sheep**	**0.52**	**297**		Pg	01 04 49.6	-0.1
HMH				IAML		01 04 57.2	
comp=E,878nm,0.5s							
MWH	**Moku'aweowe**	**0.58**	**282**		Pg	01 04 50.1	-0.8
KHU	**Kahuku**	**0.60**	**259**		Sg	01 04 58.9	-0.2
KHU	**Kahuku**	**0.60**	**259**		Pg	01 04 50.5	-0.7
KHU	**Kahuku**	**0.60**	**259**	IAML		01 05 03.2	
comp=E,441nm,1.4s							
KHU				IAML		01 05 06.0	
comp=N,517nm,3.7s							
ALEP	**Alea Permanent**	**0.64**	**286**		Pg	01 04 51.3	-0.7
HUH	**Hualalai**	**0.86**	**292**	Pg	Pg	01 04 55.1	-1.0

IDC 05 01:05:44.4±2.2, **6°.73S**×**150°.89E**, **h0**km, **mb3.4**/3, **mbtmp3.5**/3, **Error ellipse: s-maj=133.3km s-min=30.5km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**20.76**	**229**	P	P	01 10 25.7	-1.4
1.4nm,0.8s,baz=54,slow=11,SNR=6.0							
1.4nm,0.8s							
ASAR	**Alice Springs**	**23.46**	**222**	P	P	01 10 56.1	+0.3
0.5nm,0.5s,baz=57,slow=8.4,SNR=6.8							
0.5nm,0.5s							
ILAR	**Eielson Array**	**84.65**	**22**	P	P	01 18 19.6	-0.1
0.3nm,0.6s,baz=260,slow=4.8,SNR=4.1							
0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**149.02**	**284**	PKPbc	PKPbc	01 25 35.8	+0.1
0.4nm,0.5s,baz=98,slow=2.1,SNR=3.8							

*IDC **05** 01:13:03.4±1.1, 3°.07S×139°.65E, h0km, mb3.9/6, mbtmp3.9/7, ML4.0/1, Error ellipse: s-maj=55.5km s-min=15.4km az=94.0*
*NEIC **05** 01:13:05.1±1.9, 3°.1S±0°.1×139°.16E±0°.08, h10km±1km, mb4.3/9, Error ellipse: s-maj=22.6km s-min=8.9km az=32.0*
ISC 05 01:13:05.3±0.8, **3°.12S**±0°.10×**139°.1E**±0°.1, **h10**km, **n25**, σ1s**20**/24, **mb4.0**/10, **Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**6.86**	**272**	Pn	**Pn**	**01 14 45.3**	**-0.8**
COEN	**Coen**	**11.49**	**160**	Pn	**Pn**	**01 15 50.3**	**+0.7**
MTN	**Manton Dam**	**12.48**	**219**		**Pn**	**01 16 02.0**	**-1.1**
KNRA	**Kununurra**	**16.11**	**219**		**P**	**01 16 55.9**	**+0.5**
KNRA				IAmb	IAmb	01 17 06.9	
comp=Z,9.4nm,0.6s							
WB0	**Warramunga Arr**	**17.17**	**195**		**P**	**01 17 06.3**	**-0.9**
WRA	**Warramunga Arr**	**17.36**	**195**	P	**P**	**01 17 09.0**	**-0.3**
comp=Z,0.5nm,0.3s,baz=17,slow=13,SNR=13							
comp=Z,2.1nm,0.7s							
AS31	**Alice Springs**	**21.03**	**193**	P	**P**	**01 17 50.3**	**+0.8**
ASAR	**Alice Springs**	**21.04**	**193**	P	**P**	**01 17 49.9**	**+0.4**
ASAR	**Alice Springs**	**21.04**	**193**	P	**P**	**01 17 51.9**	**+2.4**
comp=Z,1.4nm,0.5s,baz=21,slow=9.3,SNR=14							
ASAR				S	Sn	01 21 48.1	-2.0
comp=Z,0.7nm,0.6s,baz=19,slow=26,SNR=4.3							
comp=Z,1.4nm,0.5s							
EIDS	**Eidsvold**	**24.94**	**154**	P	**P**	**01 18 27.0**	**-1.9**
EIDS				IAmb	IAmb	01 18 43.5	
comp=Z,15nm,1.5s							
MK31	**Makanchi Array**	**70.36**	**322**	P	**P**	**01 24 18.9**	**-0.7**
MK31				IAmb	IAmb	01 24 22.4	
comp=Z,1.8nm,1.3s							
MKAR	**Makanchi Array**	**70.36**	**322**	P	**P**	**01 24 19.7**	**+0.1**
MKAR	**Makanchi Array**	**70.36**	**322**	P	**P**	**01 24 21.4**	**+1.9**
comp=Z,0.8nm,0.6s,baz=106,slow=7.5,SNR=9.8							
comp=Z,0.8nm,0.6s							
BOOM	**Boomskoye usch**	**72.73**	**316**	P	**P**	**01 24 34.9**	**+0.8**
VNDA	**Vanda**	**75.34**	**175**	P	**P**	**01 24 49.3**	**+0.9**
comp=Z,0.9nm,0.8s,baz=335,slow=6.4,SNR=6.5							
comp=Z,0.9nm,0.8s							
BVAR	**Borovoye Array**	**79.88**	**325**	P	**P**	**01 25 15.5**	**+1.2**
comp=Z,0.9nm,0.5s,baz=111,slow=7.3,SNR=5.7							
comp=Z,0.9nm,0.5s							
J20K	**Nowinta River**	**82.87**	**24**	P	**P**	**01 25 28.6**	**-1.3**
J20K				IAmb	IAmb	01 25 30.1	
comp=Z,6.0nm,1.4s							
E19K	**Redstone River**	**83.05**	**20**	P	**P**	**01 25 30.7**	**-0.1**
ILAR	**Eielson Array**	**86.04**	**24**	P	**P**	**01 25 43.2**	**-2.7**
comp=Z,0.5nm,0.7s,baz=262,slow=3.9,SNR=4.4							
comp=Z,0.5nm,0.7s							
C23K	**Itkillik River**	**86.21**	**19**	P	**P**	**01 25 46.2**	**-0.5**
C23K				IAmb	IAmb	01 25 47.0	
comp=Z,4.0nm,1.1s							
QSPA	**South Pole Qui**	**86.83**	**180**	P	**P**	**01 25 49.6**	**-0.4**
QSPA	**South Pole Qui**	**86.83**	**180**	P	**P**	**01 25 50.0**	**+0.1**
comp=Z,1.8nm,1.1s,baz=128,slow=2.3,SNR=5.6							
comp=Z,1.8nm,1.1s							
BMAR	**Burnt Mountain**	**87.63**	**22**	P	**P**	**01 25 52.9**	**-0.8**
BCAR	**Beaver Creek A**	**87.83**	**27**	P	**P**	**01 25 54.6**	**-0.2**
DBIC	**Dimbokro**	**143.94**	**277**	PKP	PKPbc	01 32 40.9	+0.8
comp=Z,6.9nm,0.6s,baz=105,slow=3.6,SNR=12							

*NEIC **05** 01:20:27.0±1.2, 19°.19N±0°.05×154°.82W±0°.04, h10km±2km, Error ellipse: s-maj=9.9km s-min=5.1km az=216.0*
*IDC **05** 01:20:27.3±1.1, 19°.46N×155°.07W, h0km, mb4.0/14, mbtmp4.0/14, Error ellipse: s-maj=33.2km s-min=18.6km az=149.0*
*HVO **05** 01:20:27.9±1.2, 19°.31N±0°.09×154°.78W±0°.05, h10km±6km, ML4.7/40, mb4.3/30(NEIC), ML5.0/50(NEIC), Error ellipse: s-maj=13.6km s-min=5.4km az=196.0*
ISC 05 01:20:29.6±0.6, **19°.46N**±0°.07×**154°.92W**±0°.04, **h20**km±2km, **n93**, σ1s**42**/109, **mb4.2**/35, **1C, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.04**	**54**		**Pb**	**01 20 32.2**	**-1.0**
PHO					**Sb**	**01 20 35.3**	**-0.4**
JOKA	**Jonika Flow**	**0.08**	**252**		**Pb**	**01 20 32.8**	**-0.7**
JCUZ	**Jacuzzi**	**0.18**	**246**		**Pb**	**01 20 34.0**	**-1.0**
JCUZ				Sg	**Sb**	**01 20 38.5**	**-0.3**
JCUZ				IAML		01 20 39.7	
comp=E,185µm,0.9s							
JCUZ				IAML		01 20 43.5	
comp=N,148µm,0.7s							
NPOC	**North of Pu'u**	**0.19**	**250**		**Pb**	**01 20 34.2**	**-0.9**
NPOC				Sg	**Sb**	**01 20 38.8**	**+0.1**
NPOC				IAML		01 20 42.5	
comp=N,192µm,0.8s							
STCH	**Steam Cracks**	**0.20**	**249**		**Pb**	**01 20 34.4**	**-0.8**
STCH					**Sb**	**01 20 39.0**	**0.0**
STCH				IAML		01 20 40.0	
comp=E,173µm,0.9s							
STCH				IAML		01 20 44.3	
comp=N,126µm,0.8s							
KNHH	**Kane Nui o Ham**	**0.24**	**251**		**Pb**	**01 20 35.1**	**-0.6**
PUH	**Pauahi**	**0.29**	**253**		**Pb**	**01 20 35.7**	**-0.5**
PUH				Sg	**Sb**	**01 20 41.1**	**+0.4**
PUH				IAML		01 20 42.4	
comp=N,148µm,0.9s							
HATHI	**Halema'uma'u T**	**0.32**	**264**		**Pb**	**01 20 36.3**	**-0.4**
HATHI				Sg	**Sb**	**01 20 42.6**	**+1.1**
HATHI				IAML		01 20 50.4	
comp=N,140µm,0.7s							
HATHI				IAML		01 20 51.4	
comp=E,119µm,0.9s							
BYL	**Byron's Ledge**	**0.32**	**262**		**Pb**	**01 20 36.2**	**-0.5**
BYL					**Sb**	**01 20 42.3**	**+0.8**
BYL				IAML		01 20 44.0	
comp=E,113µm,0.5s							
BYL				IAML		01 20 49.7	
comp=N,86µm,1.0s							
SBLHI	**Steaming Bluff**	**0.33**	**265**		**Pb**	**01 20 36.3**	**-0.5**
SBLHI					**Sb**	**01 20 43.1**	**+1.4**
SBLHI				IAML		01 20 48.2	
comp=N,90µm,0.4s							
SBLHI				IAML		01 20 50.9	
comp=E,103µm,0.6s							
KKO	**Keanakako`i**	**0.33**	**259**		**Pb**	**01 20 36.4**	**-0.4**
KKO				Sg	**Sb**	**01 20 42.6**	**+0.9**
KKO				IAML		01 20 46.4	
comp=E,102nm,0.7s							
RSD	**Rainshed**	**0.33**	**271**		**Pb**	**01 20 36.8**	**-0.1**
RSD					**Sb**	**01 20 43.1**	**+1.2**
RSD				IAML		01 20 46.1	
comp=N,82µm,0.5s							
RSD				IAML		01 20 48.5	
comp=E,84µm,0.7s							
RIM	**Rim**	**0.34**	**259**		**Pb**	**01 20 36.5**	**-0.4**
RIM				Sg	**Sb**	**01 20 42.4**	**+0.5**
RIM				IAML		01 20 43.4	
comp=E,80µm,0.7s							
RIM				IAML		01 20 43.8	
comp=N,135µm,0.6s							
UWB	**Uwekahuna B**	**0.34**	**264**		**Pb**	**01 20 36.4**	**-0.5**
UWB				Sg	**Sb**	**01 20 42.7**	**+0.8**

NPH	**North Pit**	**0.34**	**262**			**Pb**	**01 20 36.4 -0.6**
NPH						**Sb**	**01 20 42.6 +0.6**
OBL	**Observatory Le**	**0.34**	**263**			**Pb**	**01 20 36.5 -0.6**
OBL						**Sb**	**01 20 43.0 +0.9**
UWE	**Uwekahuna**	**0.35**	**264**			**Pb**	**01 20 36.8 -0.4**
UWE						**Sb**	**01 20 43.5 +1.2**
SDHHI	**Sand Hill**	**0.36**	**259**			**Pb**	**01 20 36.7 -0.6**
SDHHI					IAML		01 20 49.4
	comp=E,139µm,0.9s						
SDHHI					IAML		01 20 49.4
	comp=N,106µm,0.7s						
WRMHI	**West Rim**	**0.36**	**262**			**Pb**	**01 20 36.6 -0.7**
WRMHI						**Sb**	**01 20 43.2 +0.7**
WRMHI					IAML		01 20 49.7
	comp=N,138µm,0.7s						
HLP	**Hilina Pali**	**0.40**	**246**			**Pb**	**01 20 37.1 -0.8**
HLP						**Sb**	**01 20 43.9 +0.4**
HLP					IAML		01 20 54.4
	comp=E,86µm,1.1s						
HLP					IAML		01 20 54.8
	comp=N,134µm,0.7s						
MLH	**Mauna Loa**	**0.44**	**275**			**Pb**	**01 20 38.2 -0.5**
MLH						**Sn**	**01 20 47.0 -1.5**
MLH					IAML		01 20 49.0
	comp=N,62µm,0.6s						
HMH	**Humu'ula Sheep**	**0.55**	**285**			**Pb**	**01 20 40.2 -0.5**
HMH						**Sb**	**01 20 49.0 +0.7**
MWH	**Moku'aweowe**	**0.64**	**272**			**Pb**	**01 20 40.8 -1.5**
MWH					IAML		01 21 07.9
	comp=N,70µm,0.6s						
POHA	**Pohakuloa**	**0.65**	**297**			**Pb**	**01 20 41.3 -1.1**
ALEP	**Alea Permanent**	**0.68**	**277**			**Pb**	**01 20 41.6 -1.4**
KHU	**Kahuku**	**0.69**	**252**			**Pb**	**01 20 41.0 -2.1**
KHU					IAML		01 20 56.2
	comp=N,48µm,0.5s						
HPO	**Honuapo**	**0.70**	**238**			**Pb**	**01 20 40.8 -2.3**
HUH	**Hualalai**	**0.89**	**285**			**Pb**	**01 20 44.8 -1.7**
HPAH	**Hawaii Prepara**	**0.92**	**308**			**Pb**	**01 20 45.1 -1.9**
HPAH					IAML		01 21 21.5
	comp=E,25µm,0.7s						
I59US	**HAWAII INFRASO**	**0.92**	**278**	Pg		**Pb**	**01 20 45.0 -2.0**
	baz=103,slow=15						
I59US				Lg	Lg		01 20 53.9
	baz=97,slow=18						
CPH	**Captain Cook**	**0.94**	**272**			**Pb**	**01 20 45.0 -2.2**
MHA	**Mahukona**	**1.17**	**308**			**Pn**	**01 20 48.9 -1.9**
HLK	**Haleakala**	**1.79**	**316**			**Pn**	**01 20 57.1 -2.5**
HON	**Honolulu**	**3.43**	**303**			**Pn**	**01 21 19.9 -2.0**
KIP	**Kipapa**	**3.50**	**305**	Pn		**Pn**	**01 21 20.8 -2.0**
OPA	**Opana**	**3.64**	**308**	Pn		**Pn**	**01 21 22.2 -2.7**
KEKH	**Kekaha**	**5.14**	**300**			**Pn**	**01 21 43.8 -1.6**
AFDM	**Forest Hills D**	**35.15**	**49**	P		**P**	**01 27 21.3 -0.7**
AFDM				IAmb	IAmb		01 27 27.9
	comp=Z,5.0nm,1.2s						
ISA	**Isabella, Lake**	**35.88**	**56**	P		**P**	**01 27 27.1 -1.3**
MDPB	**Devils Postpil**	**36.04**	**52**	P		**P**	**01 27 26.8 -3.2**
DSP	**Deep Springs**	**36.79**	**53**	P		**P**	**01 27 35.0 -1.0**
DSP				IAmb	IAmb		01 27 42.5
	comp=Z,8.9nm,1.4s						
NVAR	**Mina Array Bea**	**36.89**	**51**	P		**P**	**01 27 35.9 -1.2**
NVAR	**Mina Array Bea**	**36.89**	**51**	P		**P**	**01 27 39.6 +2.5**
	comp=Z,1.2nm,0.9s,baz=240,slow=11,SNR=8.5						
	comp=Z,1.2nm,0.9s						
WVOR	**Wild Horse Val**	**38.22**	**45**	P		**P**	**01 27 46.1 -2.2**
WVOR				IAmb	IAmb		01 28 05.9
	comp=Z,3.9nm,1.1s						
BMN	**Battle Mountai**	**38.39**	**49**	P		**P**	**01 27 48.2 -1.6**
BMN				IAmb	IAmb		01 27 56.0
	comp=Z,6.5nm,1.4s						
R11B	**Troy Canyon, C**	**38.88**	**53**	P		**P**	**01 27 53.4 -0.6**
G08A	**Pilot Rock**	**39.32**	**41**	P		**P**	**01 27 56.8 -0.6**
Q12A	**Willow Creek R**	**39.66**	**52**	P		**P**	**01 27 59.3 -1.1**
Q12A				IAmb	IAmb		01 28 12.2
	comp=Z,8.3nm,1.2s						
LCMT	**Little Creek M**	**40.31**	**55**	P		**P**	**01 28 04.4 -1.4**
F10A	**Beach Ranch, E**	**40.71**	**41**	P		**P**	**01 28 08.6 -0.3**
F10A				IAmb	IAmb		01 28 15.9
	comp=Z,5.1nm,1.0s						
X16A	**Lo Mia Camp, P**	**41.21**	**60**	P		**P**	**01 28 12.3 -1.0**
X16A				IAmb	IAmb		01 28 21.2
	comp=Z,6.1nm,1.1s						
WUAZ	**Wupatki**	**41.46**	**58**	P		**P**	**01 28 13.8 -1.6**
WUAZ				IAmb	IAmb		01 28 23.9
	comp=Z,5.6nm,1.0s						
HLID	**Hailey**	**41.51**	**45**	P		**P**	**01 28 14.8 -0.8**
HVU	**Hansel Valley**	**42.01**	**49**	P		**P**	**01 28 19.0 -0.8**
HVU				IAmb	IAmb		01 28 42.0
	comp=Z,5.4nm,0.9s						
SPUT	**South Promonto**	**42.09**	**49**	P		**P**	**01 28 18.2 -2.2**
HMU	**Henry Mountain**	**42.46**	**55**	P		**P**	**01 28 22.3 -1.3**
HMU				IAmb	IAmb		01 28 36.0
	comp=Z,5.0nm,1.0s						
HWUT	**Hardware Ranch**	**42.82**	**49**	P		**P**	**01 28 25.9 -0.5**
DLBC	**Dease Lake**	**42.96**	**19**	P		**P**	**01 28 29.4 +2.2**
	comp=Z,3.9nm,1.1s,baz=229,slow=9.3,SNR=3.6						
	comp=Z,3.9nm,1.1s						
MOOW	**Moose Ponds**	**44.06**	**47**	P		**P**	**01 28 35.4 -1.0**
PD31	**Pinedale Array**	**44.58**	**48**	P		**P**	**01 28 39.7 -1.0**
PDAR	**Pinedale Array**	**44.58**	**48**	P		**P**	**01 28 41.4 +0.8**
	comp=Z,0.7nm,0.9s,baz=251,slow=5.6,SNR=3.7						
	comp=Z,0.7nm,0.9s						
ILAR	**Eielson Array**	**45.60**	**5**	P		**P**	**01 28 47.0 -1.1**
	comp=Z,2.0nm,0.8s,baz=196,slow=7.5,SNR=13						
	comp=Z,2.0nm,0.8s						
TXAR	**Lajitas Array**	**47.39**	**68**	P		**P**	**01 29 01.0 -1.8**
TXAR	**Lajitas Array**	**47.39**	**68**	P		**P**	**01 29 04.5 +1.7**
	comp=Z,1.9nm,0.8s,baz=261,slow=7.5,SNR=11						
	comp=Z,1.9nm,0.8s						
G27K	**Doyon Strip**	**48.10**	**7**	P		**P**	**01 29 09.0 +1.3**
G27K				IAmb	IAmb		01 29 29.4
	comp=Z,3.5nm,1.4s						
BMAR	**Burnt Mountain**	**48.41**	**5**	P		**P**	**01 29 11.3 +1.3**
E22K	**Anaktuvuk Pass**	**48.70**	**2**	P		**P**	**01 29 13.9 +1.7**
E25K	**Arctic Village**	**49.01**	**5**	P		**P**	**01 29 15.8 +1.2**
E25K				IAmb	IAmb		01 29 49.3
	comp=Z,5.9nm,1.4s						
F28M	**Old Crow**	**49.09**	**8**	P		**P**	**01 29 16.8 +1.6**
G31M	**Satah River**	**49.28**	**11**	P		**P**	**01 29 17.7 +1.1**
PETK	**Petropavlovsk-**	**49.50**	**324**	P		**P**	**01 29 18.6 0.0**
	comp=Z,3.4nm,1.0s,baz=107,slow=12,SNR=2.9						
	comp=Z,3.4nm,1.0s						
OZNA	**Ozona**	**49.59**	**66**	P		**P**	**01 29 18.0 -1.7**
E29M	**Blow River**	**50.07**	**8**	P		**P**	**01 29 24.2 +1.5**
E29M				IAmb	IAmb		01 29 24.4
	comp=Z,6.1nm,1.4s						
INK	**Inuvik**	**50.65**	**10**	P		**P**	**01 29 28.1 +1.0**
	comp=Z,1.7nm,0.8s,baz=210,slow=7.8,SNR=4.7						
	comp=Z,1.7nm,0.8s						
YKA	**Yellowknife Ar**	**51.15**	**23**	P		**P**	**01 29 32.2 +1.3**
	comp=Z,1.1nm,0.7s,baz=237,slow=7.3,SNR=18						
	comp=Z,1.1nm,0.7s						
ULM	**Lac du Bonnet**	**55.57**	**42**	P		**P**	**01 30 05.7 +2.1**
	comp=Z,2.2nm,0.9s,baz=274,slow=9.6,SNR=2.6						
	comp=Z,2.2nm,0.9s						
MJAR	**Matsushiro Arr**	**60.34**	**302**	P		**P**	**01 30 37.9 +0.6**
	comp=Z,2.0nm,0.8s,baz=88,slow=6.1,SNR=5.1						
	comp=Z,2.0nm,0.8s						
NEEM	**North Greenlan**	**74.12**	**13**	*i* P		**P**	**01 32 05.0 +0.7**
NEEM				IAmb	IAmb		01 32 11.5
	comp=Z,2.0nm,0.8s						
NJ2	**Nanjing**	**76.84**	**300**	*e*P		**P**	**01 32 20.0 -0.4**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
SUMG	**Summit**	**79.10**	**16**	*i* P		**P**	**01 32 34.0 +1.3**
SUMG				IAML			01 32 42.5
	comp=Z,3.8nm,1.1s						
SUMG				IAmb	IAmb		01 32 42.5
	comp=Z,3.8nm,1.1s						
STKA	**Stephens Creek**	**79.37**	**231**	P		**P**	**01 32 34.6 +0.3**
	comp=Z,1.4nm,0.7s,baz=55,slow=12,SNR=2.9						
	comp=Z,1.4nm,0.7s						
HHC	**Hu-ho-hao-te**	**80.10**	**310**	*e*P		**P**	**01 32 38.3 -0.1**
HHC				pmax	pmax		
	comp=Z,13nm,0.7s						
HHC				pmax	pmax		
	comp=Z,350nm,4.0s						
ICESG	**Greenland Ices**	**80.53**	**19**	*i* P		**P**	**01 32 39.4 -1.1**
ICESG				IAmb	IAmb		01 32 47.0
	comp=Z,3.7nm,0.8s						
IVI	**Ivigtut**	**80.91**	**28**	*i* P		**P**	**01 32 37.8 -4.3**
SONM	**Songino Array**	**81.45**	**318**	P		**P**	**01 32 46.1 +0.6**
	comp=Z,0.3nm,0.5s,baz=66,slow=4.9,SNR=5.1						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**81.55**	**241**	P		**P**	**01 32 46.2 0.0**
	comp=Z,2.1nm,0.9s,baz=66,slow=5.7,SNR=11						
	comp=Z,2.1nm,0.9s						
DBG	**Daneborg**	**82.07**	**11**	*i* P		**P**	**01 32 52.1 +4.0**
DBG				IAmb	IAmb		01 32 57.2
	comp=Z,3.4nm,1.2s						
H03N2	**Juan Fernandez**	**89.46**	**126**	T	T		03 12 22.3
	baz=298,slow=76,SNR=56						
H03N3	**Juan Fernandez**	**89.48**	**126**	T	T		03 12 18.5
	baz=298,slow=76,SNR=107						
H03N1	**Juan Fernandez**	**89.48**	**126**	T	T		03 12 23.6
	baz=298,slow=76,SNR=89						
ZALV	**Zalesovo Beam**	**90.80**	**329**	P		**P**	**01 33 34.0 +2.7**
	comp=Z,0.6nm,0.5s,baz=48,slow=2.1,SNR=1.9						
	comp=Z,0.6nm,0.5s						
KMI	**Kunming**	**92.46**	**298**	⇑P		**P**	**01 33 41.3 +1.4**
KMI				pmax	pmax		
	comp=Z,18nm,1.0s						
PZH	**PanZhiHua**	**92.75**	**299**	P		**P**	**01 33 40.2 -0.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,4.9s						

NEIC ***05*** *01:23:27.7±0.5, 19°.24N±0°.03×155°.36W±0°.02, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.9km az=334.0*

HVO 05 01:23:27.7±0.7, 19°.27N±0°.02×155°.37W±0°.01, h1km±8km, Md2.6/4, ML2.6/31(NEIC), Error ellipse: s-maj=3.5km s-min=0.5km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.04**	**216**		Pg	01 23 29.3	+0.9
HLP	**Hilina Pali**	**0.07**	**67**	Pg	Pg	01 23 29.9	+0.9
HLP					Sg	01 23 31.8	+1.8
SDHHI	**Sand Hill**	**0.14**	**32**	Pg	Pg	01 23 31.0	+0.5
SDHHI				IAML		01 23 31.2	
	comp=N,2µm,1.2s						
SDHHI				IAML		01 23 34.1	
	comp=E,2µm,0.4s						
WRMHI	**West Rim**	**0.15**	**27**	Pg	Pg	01 23 31.2	+0.5
WRMHI				Sg	Sg	01 23 33.7	+1.0
WRMHI				IAML		01 23 33.9	
	comp=E,3µm,1.0s						
RIM	**Rim**	**0.16**	**37**	Pg	Pg	01 23 31.1	+0.3
KKO	**Keanakako`i**	**0.16**	**38**	Pg	Pg	01 23 31.3	+0.4
KKO				Sg	Sg	01 23 33.8	+0.8
KKO				IAML		01 23 34.2	
	comp=E,2µm,1.1s						
UWE	**Uwekahuna**	**0.17**	**27**	Pg	Pg	01 23 31.3	+0.3
UWE				IAML		01 23 33.5	
	comp=N,2µm,1.2s						
OBL	**Observatory Le**	**0.17**	**30**	Pg	Pg	01 23 31.4	+0.4
BYL	**Byron's Ledge**	**0.18**	**37**	Pg	Pg	01 23 31.4	+0.3
UWB	**Uwekahuna B**	**0.18**	**30**	Pg	Pg	01 23 31.4	+0.2
PUH	**Pauahi**	**0.18**	**55**	Pg	Pg	01 23 31.4	+0.2
PUH				IAML		01 23 32.9	
	comp=E,993nm,1.1s						
PUH				Sg	Sg	01 23 33.8	+0.2
HATHI	**Halema'uma'u T**	**0.19**	**35**	Pg	Pg	01 23 31.6	+0.3
HATHI				IAML		01 23 35.2	
	comp=N,2µm,1.2s						
HATHI				IAML		01 23 35.3	
	comp=E,2µm,1.1s						
SBLHI	**Steaming Bluff**	**0.19**	**32**	Pg	Pg	01 23 31.7	+0.4
SBLHI				IAML		01 23 34.8	
	comp=E,1µm,1.1s						
RSD	**Rainshed**	**0.21**	**25**	Pg	Pg	01 23 32.0	+0.1
MLH	**Mauna Loa**	**0.22**	**357**		Pg	01 23 32.6	+0.5
MLH					Sg	01 23 36.4	+1.5
MLH				IAML		01 23 37.5	
	comp=N,1µm,0.9s						
KHU	**Kahuku**	**0.23**	**264**	Pg	Pg	01 23 32.4	+0.3
KHU				IAML		01 23 33.1	
	comp=E,2µm,0.9s						
KHU				Sg	Sg	01 23 36.0	+0.9
KHU				IAML		01 23 36.0	
	comp=N,628nm,1.0s						
STCH	**Steam Cracks**	**0.26**	**64**	Pg	Pg	01 23 33.2	+0.5
STCH				IAML		01 23 36.1	
	comp=N,560nm,1.1s						
STCH				IAML		01 23 40.9	
	comp=E,830nm,1.1s						
JCUZ	**Jacuzzi**	**0.28**	**66**	Pg	Pg	01 23 33.9	+0.8
JCUZ				IAML		01 23 36.3	
	comp=N,990nm,1.1s						
JCUZ				IAML		01 23 36.6	
	comp=E,522nm,0.9s						
MWH	**Moku'aweowe**	**0.30**	**316**	Pg	Pg	01 23 33.9	+0.4
HMH	**Humu'ula Sheep**	**0.35**	**343**	Pg	Pg	01 23 34.7	+0.3
HMH				IAML		01 23 38.9	
	comp=N,966nm,1.0s						

NEIC ***05*** *01:24:54.4±0.8, 5°.6S±0°.1×154°.6E±0°.1, h93km±9km, mb4.1/8, Error ellipse: s-maj=19.8km s-min=16.5km az=48.0*

IDC ***05*** *01:24:56.7±6.5, 5°.52S×154°.50E, h122km±54km, mb3.5/5, mbtmp4.0/6, Error ellipse: s-maj=57.7km s-min=29.2km az=109.0*

ISC 05 01:24:56.6±0.8, 5°.5S±0°.1×154°.4E±0°.1, h118km, n19, σ0s77/20, mb3.9/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.61**	**300**	Pn	**Pn**	**01 25 37.4**	**-0.5**
RABL				Sn	**Sn**	**01 26 08.9**	**-0.6**
PMG	**Port Moresby**	**8.18**	**241**		**Pn**	**01 26 52.8**	**+0.1**
PMG	**Port Moresby**	**8.18**	**241**	P	**Pn**	**01 26 53.7**	**+1.0**
	52nm,0.6s,baz=48,slow=9.6,SNR=12						
WR0	**Warramunga Arr**	**24.09**	**232**	P	**P**	**01 30 01.2**	**-0.2**
WR0				IAmb	IAmb	01 30 03.8	
	comp=Z,4.0nm,0.8s						
MTN	**Manton Dam**	**24.11**	**251**	P	**P**	**01 30 01.6**	**-0.1**
MTN				IAmb	IAmb	01 30 22.6	
	comp=Z,24nm,1.3s						
WRA	**Warramunga Arr**	**24.24**	**232**	P	**P**	**01 30 03.6**	**+0.8**
	comp=Z,3.7nm,0.7s,baz=55,slow=9.7,SNR=35						
	comp=Z,3.7nm,0.7s						
ASAR	**Alice Springs**	**26.77**	**226**	P	**P**	**01 30 24.9**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=58,slow=8.8,SNR=7.1						
	comp=Z,0.5nm,0.4s						
BFZ	**Birch Farm**	**40.11**	**154**	P	**P**	**01 32 19.7**	**-1.1**
VNDA	**Vanda**	**72.07**	**178**	P	**P**	**01 36 07.9**	**+0.4**
CAST	**Castle Rocks**	**79.56**	**22**	P	**P**	**01 36 50.6**	**+0.4**
CAST				IAmb	IAmb	01 36 51.7	
	comp=Z,2.1nm,1.0s						
SML	**Sawmill**	**80.10**	**24**	P	**P**	**01 36 53.6**	**+0.3**
E19K	**Redstone River**	**80.38**	**17**	P	**P**	**01 36 55.8**	**+1.2**
E19K				IAmb	IAmb	01 37 05.0	
	comp=Z,5.2nm,1.4s						
IMAR	**Indian Mountai**	**80.51**	**19**	P	**P**	**01 36 56.8**	**+1.5**
MKAR	**Makanchi Array**	**81.93**	**319**	P	**P**	**01 37 04.2**	**+0.9**
MKAR	**Makanchi Array**	**81.93**	**319**	P	**P**	**01 37 03.7**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=104,slow=6.1,SNR=3.1						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**82.21**	**22**	P	**P**	**01 37 03.7**	**-0.6**
	comp=Z,0.3nm,0.7s,baz=253,slow=4.6,SNR=4.6						
	comp=Z,0.3nm,0.7s						
BMAR	**Burnt Mountain**	**84.35**	**20**	P	**P**	**01 37 15.7**	**+0.4**
QSPA	**South Pole Qui**	**84.45**	**180**	P	**P**	**01 37 15.6**	**-0.4**
QSPA	**South Pole Qui**	**84.45**	**180**	P	**P**	**01 37 15.5**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=33,slow=0.3,SNR=7.9						
	comp=Z,0.9nm,0.5s						

NEIC ***05*** *01:28:38.9±0.5, 19°.341N±0°.010×155°.003W±0°.009, h5km±2km, Error ellipse: s-maj=3.1km s-min=1.7km az=339.0*

HVO 05 01:28:38.1±0.6, 19°.34N±0°.02×154°.99W±0°.02, h1km±10km, ML3.4/37, ML3.4/44(NEIC), Error ellipse: s-maj=3.8km s-min=2.0km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.10**	**351**		Pg	01 28 40.7	+0.6
JOKA					Sg	01 28 42.9	+1.6
JCUZ	**Jacuzzi**	**0.12**	**294**	Pg	Pg	01 28 41.3	+0.8
JCUZ					Sg	01 28 43.7	+1.7
JCUZ				IAML		01 28 44.3	
	comp=N,18µm,0.7s						
NPOC	**North of Pu'u**	**0.13**	**296**	Pg	Pg	01 28 41.3	+0.7
NPOC					Sg	01 28 43.1	+0.8
NPOC				IAML		01 28 44.7	
	comp=E,22µm,0.5s						
NPOC				IAML		01 28 44.9	
	comp=N,18µm,0.6s						
STCH	**Steam Cracks**	**0.14**	**291**		Pg	01 28 41.5	+0.7
STCH					Sg	01 28 43.3	+0.7
STCH				IAML		01 28 45.1	
	comp=N,12µm,0.6s						
STCH				IAML		01 28 45.6	
	comp=E,15µm,0.8s						
KNHH	**Kane Nui o Ham**	**0.18**	**284**		Pg	01 28 42.4	+0.8
PUH	**Pauahi**	**0.22**	**280**	Pg	Pg	01 28 42.9	+0.5
BYL	**Byron's Ledge**	**0.27**	**286**	Pg	Pg	01 28 43.7	+0.4
BYL				IAML		01 28 50.9	
	comp=N,6µm,0.7s						
BYL				IAML		01 28 51.7	
	comp=E,6µm,0.9s						
KKO	**Keanakako`i**	**0.27**	**283**		Pg	01 28 43.9	+0.5
KKO				IAML		01 28 52.5	
	comp=N,6µm,0.7s						
HATHI	**Halema'uma'u T**	**0.27**	**288**		Pg	01 28 43.9	+0.5
HATHI				IAML		01 28 52.1	
	comp=E,7µm,0.8s						
RIM	**Rim**	**0.28**	**282**		Pg	01 28 43.9	+0.4
RIM				IAML		01 28 51.1	
	comp=N,7µm,0.6s						
SBLHI	**Steaming Bluff**	**0.28**	**289**		Pg	01 28 44.0	+0.4
NPH	**North Pit**	**0.29**	**285**		Pg	01 28 44.4	+0.7
UWB	**Uwekahuna B**	**0.29**	**288**		Pg	01 28 43.8	+0.1
OBL	**Observatory Le**	**0.29**	**286**		Pg	01 28 44.4	+0.6
SDHHI	**Sand Hill**	**0.29**	**280**		Pg	01 28 44.0	+0.2
UWE	**Uwekahuna**	**0.30**	**286**		Pg	01 28 44.2	+0.2
UWE				IAML		01 28 52.3	
	comp=N,6µm,0.6s						
UWE				IAML		01 28 52.5	
	comp=E,10µm,1.6s						
RSD	**Rainshed**	**0.30**	**295**		Pg	01 28 44.4	+0.4
RSD				IAML		01 28 52.2	
	comp=E,5µm,1.9s						
RSD				IAML		01 28 53.1	
	comp=N,6µm,0.6s						
WRMHI	**West Rim**	**0.30**	**283**		Pg	01 28 44.6	+0.6
HLP	**Hilina Pali**	**0.30**	**262**	Pg	Pg	01 28 44.8	+0.8
HLP				IAML		01 28 53.0	
	comp=N,6µm,1.0s						
HLP				IAML		01 28 53.5	
	comp=E,5µm,1.6s						
HTC	**Hot Caves**	**0.40**	**256**		Pb	01 28 47.3	-0.7
MLH	**Mauna Loa**	**0.41**	**293**	Pg	Pg	01 28 46.4	+0.4
MLH				IAML		01 28 54.7	
	comp=E,3µm,0.9s						
MLH				IAML		01 28 59.5	
	comp=N,4µm,1.8s						
HMH	**Humu'ula Sheep**	**0.54**	**300**		Pg	01 28 49.0	+0.5
MWH	**Moku'aweowe**	**0.59**	**285**		Pg	01 28 49.7	+0.1
KHU	**Kahuku**	**0.60**	**261**		Pg	01 28 49.8	+0.2
KHU				IAML		01 29 07.4	
	comp=N,4µm,0.8s						
KHU				IAML		01 29 09.1	
	comp=E,3µm,1.1s						
POHA	**Pohakuloa**	**0.66**	**309**	Pg	Pg	01 28 50.2	-0.6
POHA				IAML		01 29 10.8	
	comp=E,3µm,2.5s						
POHA				IAML		01 29 14.0	
	comp=E,2µm,1.6s						
HUH	**Hualalai**	**0.87**	**294**		Pg	01 28 50.0	-4.9

NOU ***05*** *01:33:04.9, 45°.63S×167°.57E, h0km, MLv4.1/5, South Island, New Zealand*

WEL ***05*** *01:33:05.0±0.4, 46°.5S±2°×167°.8E±°, h5km, M4.0/18, ML4.1/18, MLv4.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=60.2, confirmed*

ISC 05 01:33:04.8±1.1, 45°.65S±0°.02×167°.62E±0°.03, h4km±12km, n37, σ0s80/48, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHZ	**Wether Hill Ro**	**0.33**	**136**	P	**Pb**	**01 33 13.2**	**-0.1**
WHZ				S	**Sb**	**01 33 19.1**	**+0.1**
DCZ	**Deep Cove**	**0.38**	**300**	P	**Pg**	**01 33 12.3**	**+0.2**
DCZ				S	**Sg**	**01 33 17.3**	**+0.4**
PYZ	**Puysegur Point**	**0.83**	**231**	P	**Pg**	**01 33 20.5**	**-0.3**
PYZ	**Puysegur Point**	**0.83**	**231**	P	**Pg**	**01 33 20.7**	**-0.1**
PYZ				S	**Sg**	**01 33 32.1**	**+0.6**
GLNY	**Glenorchy**	**0.96**	**36**	P	**Pg**	**01 33 22.2**	**-1.1**
MSZ	**Milford Sound**	**1.00**	**13**	P	**Pg**	**01 33 23.5**	**-0.6**
MSZ				S	**Sg**	**01 33 36.4**	**-0.6**
GODC	**Gore District**	**1.03**	**116**	P	**Pg**	**01 33 24.2**	**-0.3**
APZ	**The Paps**	**1.21**	**168**	P	**Pn**	**01 33 27.2**	**-1.3**
APZ				S	**Sg**	**01 33 44.1**	**+0.5**
EAZ	**Earnscleugh**	**1.26**	**71**	P	**Pg**	**01 33 29.2**	**+0.2**
WKZ	**Wanaka**	**1.29**	**51**	P	**Pg**	**01 33 29.5**	**0.0**
SYZ	**Scrubby Hill**	**1.38**	**130**	P	**Pg**	**01 33 31.3**	**0.0**
SYZ	**Scrubby Hill**	**1.38**	**130**	P	**Pb**	**01 33 30.9**	**-0.3**
SYZ				S	**Sg**	**01 33 50.1**	**+0.9**
TUZ	**Tuapeka**	**1.44**	**103**	P	**Pb**	**01 33 31.9**	**-0.3**
TUZ				S	**Sg**	**01 33 52.0**	**+0.9**
WNPS	**Wanaka Nationa**	**1.44**	**49**	S	**Sg**	**01 33 52.1**	**+1.0**
BDCS	**Balclutha Dist**	**1.58**	**113**	P	**Pb**	**01 33 34.2**	**-0.4**
BDCS				S	**Sg**	**01 33 56.6**	**+0.9**
JCZ	**Jackson Bay**	**1.78**	**28**	P	**Pb**	**01 33 37.2**	**-0.9**
JCZ	**Jackson Bay**	**1.78**	**28**	P	**Pb**	**01 33 37.3**	**-0.9**
MECS	**Makarora Emerg**	**1.83**	**39**	P	**Pb**	**01 33 39.0**	**+0.2**
MECS				S	**Sg**	**01 34 02.8**	**-0.7**
TMBS	**Taieri Mouth B**	**1.85**	**104**	P	**Pn**	**01 33 37.1**	**-0.2**
TMBS				S	**Sb**	**01 34 01.8**	**-0.8**
HHSZ	**Highcliff Hill**	**2.10**	**97**	P	**Pb**	**01 33 41.9**	**-1.5**
HHSZ				S	**Sn**	**01 34 07.5**	**+0.3**
LBZ	**Lake Benmore**	**2.22**	**56**	P	**Pn**	**01 33 42.9**	**+0.5**
ODZ	**Otahua

	comp=N,1µm,0.4s							
OBL	**Observatory Le**	**0.18**	**13**			**Pg**	01 34 51.6	-0.1
BYL	**Byron's Ledge**	**0.18**	**21**	Pg		Pg	01 34 51.7	0.0
BYL				Sg		Sg	01 34 54.7	+0.3
BYL				IAML			01 34 56.2	
	comp=E,2µm,0.2s							
BYL				IAML			01 34 56.3	
	comp=N,2µm,0.5s							
UWE	**Uwekahuna**	**0.18**	**10**			**Pg**	01 34 51.5	-0.3
UWE				Sg		Sg	01 34 53.7	-0.7
UWE				IAML			01 34 57.0	
	comp=N,3µm,0.5s							
UWE				IAML			01 34 57.4	
	comp=E,3µm,0.2s							
UWB	**Uwekahuna B**	**0.19**	**14**			**Pg**	01 34 51.8	-0.1
UWB				IAML			01 34 58.2	
	comp=N,907nm,0.5s							
HATHI	**Halema'uma'u T**	**0.19**	**19**			**Pg**	01 34 51.9	0.0
HATHI				IAML			01 34 56.4	
	comp=N,2µm,0.2s							
HATHI				IAML			01 34 57.0	
	comp=E,1µm,0.4s							
SBLHI	**Steaming Bluff**	**0.19**	**17**			**Pg**	01 34 51.8	-0.1
SBLHI				IAML			01 34 56.0	
	comp=E,1µm,0.9s							
SBLHI				IAML			01 34 56.0	
	comp=N,2µm,0.4s							
RSD	**Rainshed**	**0.23**	**12**			**Pg**	01 34 52.3	-0.2
RSD				IAML			01 34 59.8	
	comp=E,840nm,0.1s							
STCH	**Steam Cracks**	**0.24**	**53**	Pg		Pg	01 34 52.7	0.0
NPOC	**North of Pu'u**	**0.25**	**54**	Pg		Pg	01 34 52.8	-0.2
JCUZ	**Jacuzzi**	**0.26**	**56**	Pg		Pg	01 34 53.0	0.0
MLH	**Mauna Loa**	**0.26**	**348**			**Pg**	01 34 53.4	+0.3
HPO	**Honuapo**	**0.26**	**235**			**Pg**	01 34 53.6	+0.4
KHU	**Kahuku**	**0.27**	**271**	Pg		Pg	01 34 53.3	-0.1
KHU				IAML			01 35 02.1	
	comp=E,1µm,0.3s							
MWH	**Moku'aweowe**	**0.35**	**314**	Pg		Pg	01 34 54.8	-0.2
MWH				IAML			01 35 01.9	
	comp=E,1µm,0.3s							
MWH				IAML			01 35 05.7	
	comp=N,1µm,0.4s							
HMH	**Humu'ula Sheep**	**0.39**	**338**			**Pg**	01 34 55.5	-0.1
POHA	**Pohakuloa**	**0.55**	**339**	Pg		Pg	01 34 58.0	-0.6
POHA				IAML			01 35 12.2	
	comp=N,506nm,0.5s							
POHA				IAML			01 35 12.2	
	comp=N,450nm,0.6s							
HUH	**Hualalai**	**0.65**	**313**			**Pg**	01 34 59.9	-0.6

*HVO **05** 01:41:21.3±0.8, 19°.201N±0°.009×155°.33W±0°.01, h-0km±8km, ML2.9/33, ML2.8/46(NEIC), Error ellipse: s-maj=1.7km s-min=0.9km az=133.0*
NEIC 05 01:41:22.7±0.4, 19°.248N±0°.009×155°.335W±0°.009, h9km±2km, Error ellipse: s-maj=1.6km s-min=1.0km az=138.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.06**	**28**		**Pg**	01 41 24.6	-0.1
HLP					IAML	01 41 26.5	
	comp=N,3µm,0.2s						
HTC	**Hot Caves**	**0.06**	**260**		**Pg**	01 41 24.2	-0.5
SDHHI	**Sand Hill**	**0.15**	**15**		**Pg**	01 41 26.1	+0.1
RIM	**Rim**	**0.16**	**21**		**Pg**	01 41 26.3	+0.1
RIM				Sg	Sg	01 41 27.6	-1.0
RIM				IAML		01 41 30.6	
	comp=E,2µm,0.4s						
RIM				IAML		01 41 31.3	
	comp=N,2µm,0.2s						
WRMHI	**West Rim**	**0.16**	**12**		**Pg**	01 41 26.3	+0.1
WRMHI				IAML		01 41 30.9	
	comp=E,4µm,0.4s						
WRMHI				IAML		01 41 32.4	
	comp=N,4µm,0.3s						
KKO	**Keanakako'i**	**0.16**	**24**		**Pg**	01 41 26.4	+0.1
PUH	**Pauahi**	**0.17**	**42**		**Pg**	01 41 26.5	+0.1
PUH				IAML		01 41 30.7	
	comp=E,2µm,0.2s						
PUH				IAML		01 41 31.1	
	comp=N,2µm,0.2s						
NPH	**North Pit**	**0.17**	**17**		**Pg**	01 41 26.3	-0.1
OBL	**Observatory Le**	**0.18**	**16**		**Pg**	01 41 26.3	-0.2
OBL				IAML		01 41 31.3	
	comp=E,3µm,0.3s						
UWE	**Uwekahuna**	**0.18**	**13**		**Pg**	01 41 26.5	-0.1
UWE				IAML		01 41 31.3	
	comp=E,3µm,0.4s						
UWE				IAML		01 41 32.5	
	comp=N,3µm,0.4s						
BYL	**Byron's Ledge**	**0.18**	**23**		**Pg**	01 41 26.5	0.0
BYL				IAML		01 41 31.3	
	comp=E,2µm,0.4s						
BYL				IAML		01 41 32.6	
	comp=N,2µm,0.4s						
UWB	**Uwekahuna B**	**0.18**	**17**		**Pg**	01 41 26.5	-0.2
HATHI	**Halema'uma'u T**	**0.19**	**22**		**Pg**	01 41 26.7	0.0
HATHI				IAML		01 41 31.4	
	comp=N,2µm,0.2s						
HATHI				IAML		01 41 31.8	
	comp=E,2µm,0.5s						
SBLHI	**Steaming Bluff**	**0.19**	**19**		**Pg**	01 41 26.6	-0.2
SBLHI				IAML		01 41 31.6	
	comp=E,2µm,0.4s						
SBLHI				IAML		01 41 31.6	
	comp=N,2µm,0.4s						
KNHH	**Kane Nui o Ham**	**0.20**	**50**		**Pg**	01 41 27.0	0.0
RSD	**Rainshed**	**0.22**	**14**		**Pg**	01 41 27.0	-0.3
STCH	**Steam Cracks**	**0.24**	**55**		**Pg**	01 41 27.2	-0.4
STCH				IAML		01 41 33.4	
	comp=N,960nm,0.3s						
MLH	**Mauna Loa**	**0.25**	**349**		**Pg**	01 41 28.2	+0.3
NPOC	**North of Pu'u**	**0.26**	**56**	Pg	Pg	01 41 27.7	-0.2
NPOC				IAML		01 41 33.8	
	comp=E,980nm,0.3s						
JCUZ	**Jacuzzi**	**0.26**	**58**	Pg	Pg	01 41 28.0	+0.1
JCUZ				IAML		01 41 33.6	
	comp=E,877nm,0.3s						
HPO	**Honuapo**	**0.26**	**233**		**Pg**	01 41 27.8	-0.2
KHU	**Kahuku**	**0.27**	**270**		**Pg**	01 41 27.7	-0.4
KHU				IAML		01 41 33.7	
	comp=N,1µm,0.3s						
KHU				IAML		01 41 34.8	
	comp=E,2µm,0.4s						
MWH	**Moku'aweowe**	**0.34**	**314**		**Pg**	01 41 29.6	-0.1
MWH				IAML		01 41 37.9	
	comp=E,1µm,0.6s						
MWH				IAML		01 41 40.4	
	comp=N,1µm,0.5s						
HMH	**Humu'ula Sheep**	**0.38**	**338**		**Pg**	01 41 30.2	-0.1
POHA	**Pohakuloa**	**0.54**	**340**	Pg	Pg	01 41 32.9	-0.4
POHA					Sg	01 41 40.4	-0.1
POHA				IAML		01 41 46.9	
	comp=N,649nm,0.5s						
HUH	**Hualalai**	**0.64**	**313**		**Pg**	01 41 34.5	-0.7
HPAH	**Hawaii Prepara**	**0.85**	**336**	Pg	Pg	01 41 36.0	-3.1
MHA	**Mahukona**	**1.08**	**330**	Pg	Pg	01 41 40.3	-3.1

*NEIC **05** 01:54:52.3±0.6, 19°.9N±0°.1×64°.2W±0°.2, h35km±2km, ML3.1/24, Md3.6/7(RSPR), Error ellipse: s-maj=30.2km s-min=16.7km az=135.0*
*RSPR **05** 01:54:52.9, 19°.91N×64°.17W, h66km±18km, MD3.6/7*
ISC 05 01:54:50.5±2.9, 20°.0N±0°.2×64°.06W±0°.06, h35km, n35, σ0s68/44, 8C-3D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**2.47**	**224**	*eP*	**Pn**	**01 55 28.9**	**+0.6**
HUMP	**Col San Antoni**	**2.47**	**224**	*eS*	**Sn**	**01 55 56.9**	**-0.3**
HUMP	**Col San Antoni**	**2.47**	**224**		**Pn**	**01 55 28.7**	**+0.4**
HUMP					**Sn**	**01 55 56.8**	**-0.3**
GCPR	**Guaynabo City**	**2.51**	**230**	*eP*	**Pn**	**01 55 29.3**	**+0.4**
GCPR	**Guaynabo City**	**2.51**	**230**	*eS*	**Sn**	**01 55 57.9**	**-0.4**
GCPR	**Guaynabo City**	**2.51**	**230**		**Pn**	**01 55 28.8**	**-0.1**
GCPR					**Sn**	**01 55 57.3**	**-1.0**
EMPR	**Esperanza - Ma**	**2.75**	**238**	*eP*	**Pn**	**01 55 32.5**	**+0.3**
EMPR	**Esperanza - Ma**	**2.75**	**238**	*eS*	**Sn**	**01 56 03.4**	**-0.8**
EMPR	**Esperanza - Ma**	**2.75**	**238**		**Pn**	**01 55 31.9**	**-0.3**
EMPR				IAML		01 56 31.7	
	comp=E,162nm,2.0s						
EMPR				IAML		01 57 06.1	
	comp=N,131nm,2.8s						
IGPR	**InterUniversit**	**2.76**	**225**	*eP*	**Pn**	**01 55 33.4**	**+1.0**
IGPR	**InterUniversit**	**2.76**	**225**	*eS*	**Sn**	**01 56 04.4**	**-0.1**
IGPR	**InterUniversit**	**2.76**	**225**		**Pn**	**01 55 33.1**	**+0.8**
IGPR					**Sn**	**01 56 04.1**	**-0.4**
IGPR				IAML		01 56 10.8	
	comp=E,71nm,0.3s						
IGPR				IAML		01 56 13.3	
	comp=N,59nm,0.4s						
AOPR	**Arecibo Observ**	**3.00**	**238**	*eP*	**Pn**	**01 55 35.8**	**+0.1**
AOPR	**Arecibo Observ**	**3.00**	**238**	*eS*	**Sn**	**01 56 10.5**	**+0.1**
AOPR	**Arecibo Observ**	**3.00**	**238**		**Pn**	**01 55 35.6**	**0.0**
AOPR					**Sn**	**01 56 09.9**	**-0.6**
AOPR				IAML		01 56 23.8	
	comp=N,62nm,0.8s						
AOPR				IAML		01 56 25.1	
	comp=E,76nm,0.4s						
AOPR	**Arecibo Observ**	**3.00**	**238**	*eP*	**Pn**	**01 55 35.6**	**0.0**
AOPR				*eS*	**Sn**	**01 56 09.9**	**-0.6**
CELP	**Cerrillos**	**3.02**	**232**	*eP*	**Pn**	**01 55 36.5**	**+0.6**
CELP	**Cerrillos**	**3.02**	**232**	*eS*	**Sn**	**01 56 11.0**	**+0.1**
CELP	**Cerrillos**	**3.02**	**232**		**Pn**	**01 55 36.3**	**+0.4**
CELP					**Sn**	**01 56 10.1**	**-0.8**
CELP				IAML		01 56 17.4	
	comp=N,36nm,1.9s						
UUPR	**Utuado, UPR, P**	**3.03**	**237**	*eP*	**Pn**	**01 55 36.6**	**+0.6**
UUPR	**Utuado, UPR, P**	**3.03**	**237**	*eS*	**Sn**	**01 56 10.8**	**-0.2**
UUPR	**Utuado, UPR, P**	**3.03**	**237**		**Pn**	**01 55 36.2**	**+0.2**
UUPR					**Sn**	**01 56 10.3**	**-0.7**
OBIP	**Obispado Ponce**	**3.06**	**232**	*eP*	**Pn**	**01 55 37.3**	**+0.8**
OBIP	**Obispado Ponce**	**3.06**	**232**	*eS*	**Sn**	**01 56 11.3**	**-0.7**
OBIP	**Obispado Ponce**	**3.06**	**232**		**Pn**	**01 55 36.8**	**+0.3**
OBIP					**Sn**	**01 56 11.1**	**-0.8**
OBIP				IAML		01 56 19.3	
	comp=N,34nm,2.5s						
AGPR	**Aguadilla, PR**	**3.24**	**243**	Pn	**Pn**	**01 55 39.6**	**+0.7**
LSP	**Las Mesas**	**3.36**	**239**	*eP*	**Pn**	**01 55 41.7**	**+1.1**
LSP	**Las Mesas**	**3.36**	**239**		**Pn**	**01 55 41.7**	**+1.1**
MLPR	**Magueyes Islan**	**3.44**	**236**	*eP*	**Pn**	**01 55 42.4**	**+0.7**
MLPR	**Magueyes Islan**	**3.44**	**236**		**Pn**	**01 55 42.1**	**+0.4**
MLPR				IAML		01 56 39.6	
	comp=N,38nm,3.1s						
MLPR				IAML		01 56 59.4	
	comp=E,35nm,2.9s						
CRPR	**Cabo Rojo, PR**	**3.47**	**237**	*eP*	**Pn**	**01 55 42.7**	**+0.7**
CRPR	**Cabo Rojo, PR**	**3.47**	**237**		**Pn**	**01 55 42.4**	**+0.3**
CRPR				IAML		01 56 26.2	
	comp=E,49nm,2.6s						
CRPR				IAML		01 56 29.4	
	comp=N,40nm,2.4s						
ANBD	**Bethesda, Anti**	**3.62**	**143**	*eP*	**Pn**	**01 55 44.3**	**+0.2**
ANBD				*eS*	**Sn**	**01 56 23.8**	**-1.7**
MBFL	**Flemmings, Mon**	**3.64**	**151**	*eP*	**Pn**	**01 55 45.8**	**+1.4**
PCDR	**Punta Cana, DR**	**4.32**	**251**	Pn	**Pn**	**01 55 54.0**	**+0.2**

*ISN **05** 01:56:06.8±1.1, 35°.33N×46°.65E, h9km±20km, ML2.7*
*TEH **05** 01:56:07.6, 35°.27N×46°.65E, h13km±44km, ML2.7*
ISC 05 01:56:08.3±1.6, 35°.29N±0°.09×46°.67E±0°.06, h10km, n11, σ1s07/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILIN	**Lien**	**0.45**	**147**	Pg	**Pb**	**01 56 17.6**	**-0.9**
IDHR	**Dehrash**	**0.63**	**201**	Pg	**Pb**	**01 56 20.5**	**-1.1**
IGHG	**Ghaleghazi**	**0.96**	**185**	Pg	**Pn**	**01 56 27.3**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.06**	**163**	Pg	**Pn**	**01 56 29.0**	**-0.4**
KCHF				Sg	**Sn**	**01 56 44.2**	**-0.1**
IBZA	**Bozab**	**1.28**	**130**	Pg	**Pg**	**01 56 33.3**	**+0.3**
IKRK	**Kirkuk**	**1.90**	**274**	*ePn*	**Pn**	**01 56 41.0**	**+0.1**
IKRK				*eSn*	**Sb**	**01 57 06.0**	**-1.0**
IDOB	**Doab**	**1.95**	**140**	Pn	**Pg**	**01 56 47.2**	**+1.4**
IKFM	**Kafar-mosalman**	**2.02**	**151**	Pn	**Pg**	**01 56 47.2**	**+0.2**
IBDR	**Badra**	**2.26**	**196**	*ePn*	**Pn**	**01 56 46.0**	**+0.2**
IBDR				*eSn*	**Sb**	**01 57 16.0**	**-1.3**
BHD	**Baghdad**	**2.77**	**224**	*ePn*	**Pn**	**01 56 53.3**	**+0.6**
BHD				*eSn*	**Sn**	**01 57 27.5**	**+1.4**
RAFI	**Al-Rafai**	**3.59**	**188**	*ePn*	**Pn**	**01 57 06.0**	**+2.0**
RAFI				*eSn*	**Sn**	**01 57 47.5**	**+1.0**

*NEIC **05** 01:58:04.5±0.6, 19°.34N±0°.01×155°.13W±0°.02, h5km±1km, Error ellipse: s-maj=3.3km s-min=2.1km az=60.0*
HVO 05 01:58:03.8±0.6, 19°.33N±0°.03×155°.12W±0°.03, h0km±9km, ML2.7/27, ML2.7/44(NEIC), Error ellipse: s-maj=4.6km s-min=3.5km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.06**	**16**		**Pg**	01 58 05.7	+0.8
STCH	**Steam Cracks**	**0.06**	**353**		**Pg**	01 58 06.0	+1.1
STCH				IAML		01 58 06.5	
	comp=E,5µm,0.1s						
NPOC	**North of Pu'u**	**0.06**	**7**		**Pg**	01 58 05.6	+0.5
KNHH	**Kane Nui o Ham**	**0.07**	**316**		**Pg**	01 58 06.2	+1.1
PUH	**Pauahi**	**0.10**	**296**		**Pg**	01 58 06.7	+0.9
PUH				IAML		01 58 09.0	
	comp=N,2µm,0.4s						
KKO	**Keanakako'i**	**0.15**	**296**	Pg	Pg	01 58 07.6	+0.8
KKO				IAML		01 58 10.6	
	comp=E,2µm,0.4s						
KKO				IAML		01 58 10.8	
	comp=N,2µm,0.7s						
BYL	**Byron's Ledge**	**0.16**	**301**		**Pg**	01 58 07.4	+0.6
BYL				IAML		01 58 10.8	
	comp=N,3µm,0.5s						
BYL				IAML		01 58 11.8	
	comp=E,2µm,0.4s						
RIM	**Rim**	**0.16**	**294**		**Pg**	01 58 07.6	+0.7
RIM				IAML		01 58 11.2	
	comp=E,2µm,0.3s						
HATHI	**Halema'uma'u T**	**0.16**	**305**		**Pg**	01 58 07.4	+0.5
HATHI				IAML		01 58 11.8	
	comp=E,2µm,0.4s						
SBLHI	**Steaming Bluff**	**0.17**	**304**		**Pg**	01 58 07.6	+0.5
SBLHI				Sg	Sg	01 58 08.5	-0.8
SBLHI				IAML		01 58 11.0	
	comp=E,1µm,0.7s						
SBLHI				IAML		01 58 11.6	
	comp=N,2µm,0.5s						
NPH	**North Pit**	**0.17**	**298**		**Pg**	01 58 07.7	+0.6
SDHHI	**Sand Hill**	**0.18**	**290**		**Pg**	01 58 07.9	+0.7
SDHHI				IAML		01 58 12.8	
	comp=E,2µm,0.3s						
SDHHI				IAML		01 58 12.8	
	comp=N,3µm,0.3s						
UWB	**Uwekahuna B**	**0.18**	**302**		**Pg**	01 58 07.8	+0.5
OBL	**Observatory Le**	**0.18**	**299**	Pg	Pg	01 58 07.9	+0.6
OBL				IAML		01 58 11.8	
	comp=N,3µm,0.6s						
HLP	**Hilina Pali**	**0.18**	**259**		**Pg**	01 58 08.2	+0.9
UWE	**Uwekahuna**	**0.19**	**299**		**Pg**	01 58 07.7	+0.3
UWE				IAML		01 58 12.5	
	comp=E,2µm,0.6s						
UWE				IAML		01 58 13.4	
	comp=N,2µm,0.4s						
WRMHI	**West Rim**	**0.19**	**294**	Pg	Pg	01 58 07.7	+0.3
WRMHI				IAML		01 58 11.6	
	comp=N,1µm,0.9s						
WRMHI				IAML		01 58 13.2	
	comp=E,3µm,0.6s						
RSD	**Rainshed**	**0.20**	**311**		**Pg**	01 58 08.1	+0.4
RSD				IAML		01 58 12.2	
	comp=N,1µm,1.0s						
RSD				IAML		01 58 14.7	
	comp=E,1µm,0.1s						
MLH	**Mauna Loa**	**0.30**	**303**		**Pg**	01 58 10.4	+0.8
MLH				IAML		01 58 18.2	
	comp=E,1µm,0.2s						
HMH	**Humu'ula Sheep**	**0.44**	**308**		**Pg**	01 58 13.0	+0.8
KHU	**Kahuku**	**0.48**	**260**		**Pg**	01 58 13.1	+0.2
MWH	**Moku'aweowe**	**0.48**	**289**		**Pg**	01 58 13.3	+0.3
MWH					Sg	01 58 19.4	+0.2
POHA	**Pohakuloa**	**0.58**	**318**	Pg	Pg	01 58 14.4	-0.5
POHA				IAML		01 58 23.8	
	comp=E,601nm,0.2s						
POHA				IAML		01 58 27.5	
	comp=E,608nm,0.3s						
HUH	**Hualalai**	**0.76**	**298**		**Pg**	01 58 17.5	-0.9

*NEIC **05** 02:00:12.5±0.8, 5°.6S±0°.1×154°.46E±0°.06, h110km±9km, mb4.2/11, Error ellipse: s-maj=17.6km s-min=6.9km az=202.0*
*IDC **05** 02:00:16.2±5.9, 5°.58S×154°.25E, h146km±49km, mb3.4/9, mbtmp3.9/10, Error ellipse: s-maj=44.5km s-min=20.8km az=91.0*
ISC 05 02:00:12.9±0.8, 5°.57S±0°.09×154°.4E±0°.1, h118km, n24, σ0s71/25, mb3.7/13, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.63**	**301**		Pn	**02 00 53.3**	**-1.0**
RABL					Sn	**02 01 27.1**	**+0.9**
PMG	**Port Moresby**	**8.15**	**242**		**Pn**	**02 02 07.2**	**-1.2**
PMG	**Port Moresby**	**8.15**	**242**	P	**Pn**	**02 02 09.9**	**+1.5**
	43nm,0.6s,baz=61,slow=7.4,SNR=12						
EIDS	**Eidsvold**	**19.95**	**189**	P	**P**	**02 04 35.3**	**-0.4**
EIDS				IAmb	IAmb	02 04 46.0	
	comp=Z,11nm,1.5s						
DZM	**Mont Dzumac**	**20.11**	**146**	P	**P**	**02 04 37.0**	**-0.6**
DZM				IAmb	IAmb	02 04 50.8	
	comp=Z,21nm,1.3s						
WB0	**Warramunga Arr**	**24.06**	**232**	P	**P**	**02 05 17.4**	**0.0**
WB0				IAmb	IAmb	02 05 18.4	
	comp=Z,6.3nm,0.8s						
WRA	**Warramunga Arr**	**24.20**	**232**	P	**P**	**02 05 18.4**	**-0.2**
	comp=Z,4.7nm,0.7s,baz=54,slow=9.6,SNR=38						
	comp=Z,4.7nm,0.7s						
AS31	**Alice Springs**	**26.72**	**226**	P	**P**	**02 05 41.2**	**-0.2**
ASAR	**Alice Springs**	**26.72**	**226**	P	**P**	**02 05 40.9**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=58,slow=9.5,SNR=10.0						
	comp=Z,0.7nm,0.4s						
KNRA	**Kununurra**	**27.11**	**246**	P	**P**	**02 05 44.9**	**-0.1**
KNRA				IAmb	IAmb	02 05 50.6	
	comp=Z,9.6nm,1.1s						
STKA	**Stephens Creek**	**28.80**	**203**	P	**P**	**02 05 59.8**	**0.0**
STKA	**Stephens Creek**	**28.80**	**203**	P	**P**	**02 05 59.0**	**-0.8**
	comp=Z,1.4nm,0.5s,baz=26,slow=15,SNR=4.3						
	comp=Z,1.4nm,0.5s						
FORT	**Forrest**	**35.25**	**221**	P	**P**	**02 06 55.8**	**-0.5**
SONM	**Songino Array**	**67.83**	**327**	P	**P**	**02 10 59.0**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=130,slow=5.2,SNR=3.0						
	comp=Z,0.4nm,0.4s						
VNDA	**Vanda**	**72.01**	**178**	P	**P**	**02 11 24.2**	**+0.8**
VNDA				IAmb	IAmb	02 11 27.7	
	comp=Z,3.1nm,1.4s						
VNDA	**Vanda**	**72.01**	**178**	P	**P**	**02 11 24.2**	**+0.8**
	comp=Z,0.6nm,0.7s,baz=328,slow=5.9,SNR=7.0						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**81.96**	**319**	P	**P**	**02 12 19.8**	**+0.1**
MKAR	**Makanchi Array**	**81.96**	**319**	P	**P**	**02 12 19.6**	**-0.1**
	comp=Z,0.4nm,0.5s,baz=99,slow=6.8,SNR=4.9						
	comp=Z,0.4nm,0.5s						
B20K	**Meade River**	**82.14**	**15**	P	**P**	**02 12 20.9**	**+0.8**
ILAR	**Eielson Array**	**82.27**	**22**	P	**P**	**02 12 21.2**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=243,slow=6.0,SNR=5.2						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**82.69**	**326**	P	**P**	**02 12 22.3**	**-0.9**
	comp=Z,0.4nm,0.4s,baz=107,slow=4.8,SNR=2.3						
	comp=Z,0.4nm,0.4s						
J25K	**Salcha River,**	**82.75**	**22**	P	**P**	**02 12 23.8**	**+0.3**
J25K				IAmb	IAmb	02 12 29.1	
	comp=Z,3.1nm,1.1s						
QSPA	**South Pole Qui**	**84.40**	**180**	P	**P**	**02 12 32.3**	**+0.3**
QSPA				IAmb	IAmb	02 12 35.8	
	comp=Z,9.9nm,1.5s						
KURBB	**Kurchatov Arra**	**85.40**	**322**	P	**P**	**02 12 36.6**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=95,slow=6.0,SNR=2.4						
	comp=Z,0.2nm,0.5s						

*NEIC **05** 02:02:55.2±0.7, 19°.38N±0°.01×155°.16W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.3km az=142.0*
HVO 05 02:02:54±0.6, 19°.332N±0°.008×155°.11W±0°.02, h6km±4km, ML2.9, ML3.1/46(NEIC), Error ellipse: s-maj=2.6km s-min=1.0km az=101.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**8**		**Pg**	02 02 55.8	+0.3
JCUZ				IAML		02 02 57.4	
	comp=E,15µm,0.4s						
JCUZ				IAML		02 02 57.5	
	comp=N,17µm,0.4s						
STCH	**Steam Cracks**	**0.06**	**344**		**Pg**	02 02 55.9	+0.3
STCH				IAML		02 02 57.7	
	comp=E,14µm,0.2s						
NPOC	**North of Pu'u**	**0.06**	**359**		**Pg**	02 02 56.0	+0.3
NPOC				IAML		02 02 58.1	
	comp=E,14µm,0.4s						
KNHH	**Kane Nui o Ham**	**0.07**	**310**		**Pg**	02 02 56.2	+0.3
PUH	**Pauahi**	**0.11**	**292**		**Pg**	02 02 56.7	+0.3
PUH				IAML		02 02 59.1	
	comp=E,6µm,0.8s						
PUH				IAML		02 02 59.5	
	comp=N,6µm,0.8s						
JOKA	**Jonika Flow**	**0.14**	**44**		**Pg**	02 02 59.4	+2.4
KKO	**Keanakako'i**	**0.16**	**294**		**Pg**	02 02 57.6	+0.2
KKO				IAML		02 03 00.6	
	comp=E,4µm,0.6s						
BYL	**Byron's Ledge**	**0.16**	**299**		**Pg**	02 02 57.5	+0.2
BYL				IAML		02 03 00.7	
	comp=E,5µm,0.6s						
BYL				IAML		02 03 00.7	
	comp=N,7µm,0.5s						
RIM	**Rim**	**0.17**	**292**		**Pg**	02 02 57.6	+0.2
RIM				IAML		02 03 00.7	
	comp=E,4µm,0.5s						
HATHI	**Halema'uma'u T**	**0.17**	**302**		**Pg**	02 02 57.5	+0.1
HATHI				IAML		02 03 02.5	
	comp=E,4µm,0.9s						
HATHI				IAML		02 03 02.8	
	comp=N,4µm,0.5s						
SBLHI	**Steaming Bluff**	**0.18**	**302**		**Pg**	02 02 57.6	0.0
NPH	**North Pit**	**0.18**	**296**		**Pg**	02 02 57.7	+0.1
SDHHI	**Sand Hill**	**0.18**	**288**		**Pg**	02 02 57.7	0.0
SDHHI				IAML		02 03 03.0	
	comp=E,5µm,0.6s						
SDHHI				IAML		02 03 04.0	
	comp=N,6µm,0.4s						
UWB	**Uwekahuna B**	**0.18**	**300**		**Pg**	02 02 57.7	0.0
OBL	**Observatory Le**	**0.19**	**297**		**Pg**	02 02 57.8	+0.1
HLP	**Hilina Pali**	**0.19**	**259**		**Pg**	02 02 58.2	+0.3
HLP				IAML		02 03 03.6	
	comp=E,4µm,0.2s			

*NEIC **05** 02:12:27.1±1.0,21.°95S±0.°04×68.°74W±0.°07,h102km±6km, mb4.0/7,Error ellipse: s-maj=9.7km s-min=5.4km az=70.0*
*GUC **05** 02:12:27.1±0.8,21.°97S×68.°68W,h98km±4km,ML3.6*
ISC 05 02:12:26.7±0.7,**21.°96S**±0.°03×**68.°76W**±0.°04,**h104**km±6km, **n66,σ0.85/93,mb3.9/3,7C-1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.47**	**290**			**Pn**	**02 12 43.5**	**+0.7**
PB09				Sn		**Sn**	**02 12 55.2**	**+0.2**
PB09	**IPOC Station P**	**0.47**	**290**	*i* P		**Pn**	**02 12 43.6**	**+0.7**
PB09				⇓*e*S		**Sn**	**02 12 56.3**	**+1.2**
PB09				IAML			02 12 56.4	
	comp=Z,2μm,0.3s							
PB09	**IPOC Station P**	**0.47**	**290**	⇑*e*P		**Pn**	**02 12 43.6**	**+0.7**
PB09				*e*S		**Sn**	**02 12 56.0**	**+0.9**
PB09				IAML			02 12 57.3	
	comp=N,3μm,0.2s							
LVC	**Limon Verde**	**0.66**	**192**			**Pn**	**02 12 44.7**	**0.0**
LVC				Sn		**Sn**	**02 12 57.5**	**-0.5**
LVC	**Limon Verde**	**0.66**	**192**	*i* P		**Pn**	**02 12 44.8**	**+0.2**
LVC				*e*S		**Sn**	**02 12 58.1**	**+0.1**
LVC				IAML			02 12 58.2	
	comp=Z,1μm,0.5s							
LVC	**Limon Verde**	**0.66**	**192**	⇑*e*P		**Pn**	**02 12 44.2**	**-0.5**
LVC				*e*S		**Sn**	**02 12 57.5**	**-0.5**
PB06	**IPOC Station P**	**1.06**	**225**			**Pn**	**02 12 48.7**	**+0.5**
PB06				Sn		**Sn**	**02 13 04.7**	**+0.3**
PB06	**IPOC Station P**	**1.06**	**225**	*i* P		**Pn**	**02 12 48.8**	**+0.6**
PB06				*e*S		**Sn**	**02 13 05.5**	**+1.1**
PB06				IAML			02 13 06.5	
	comp=Z,602nm,0.3s							
PB06	**IPOC Station P**	**1.06**	**225**	⇑*e*P		**Pn**	**02 12 48.7**	**+0.5**
PB06				*e*S		**Sn**	**02 13 04.9**	**+0.5**
PB06				IAML			02 13 06.8	
	comp=E,1μm,0.1s							
PB07	**IPOC Station P**	**1.07**	**282**			**Pn**	**02 12 48.7**	**+0.5**
PB07				Sn		**Sn**	**02 13 05.0**	**+0.4**
PB07	**IPOC Station P**	**1.07**	**282**	*i* P		**Pn**	**02 12 48.8**	**+0.5**
PB07				*e*S		**Sn**	**02 13 05.7**	**+1.0**
PB07				IAML			02 13 06.7	
	comp=Z,1μm,0.4s							
PB07	**IPOC Station P**	**1.07**	**282**	⇑*e*P		**Pn**	**02 12 48.9**	**+0.6**
PB07				*e*S		**Sn**	**02 13 05.3**	**+0.7**
PB07				IAML			02 13 06.4	
	comp=E,2μm,0.4s							
AF01	**San Pedro de A**	**1.13**	**151**			**Pn**	**02 12 49.8**	**+0.7**
AF01	**San Pedro de A**	**1.13**	**151**	*e*P		**Pn**	**02 12 48.6**	**-0.5**
AF01				*e*S		**Sn**	**02 13 04.8**	**-1.3**
PB01	**IPOC Station P**	**1.13**	**323**			**Pn**	**02 12 49.2**	**+0.2**
PB01	**IPOC Station P**	**1.13**	**323**	*e*P		**Pn**	**02 12 49.6**	**+0.6**
PB01				*e*S		**Sn**	**02 13 07.4**	**+1.7**
PB01				IAML			02 13 09.5	
	comp=Z,828nm,0.2s							
PB01	**IPOC Station P**	**1.13**	**323**	*e*P		**Pn**	**02 12 49.4**	**+0.4**
PB01				*e*S		**Sn**	**02 13 06.5**	**+0.7**
PB01				IAML			02 13 07.8	
	comp=E,956nm,0.4s							
PB02	**IPOC Station P**	**1.23**	**301**			**Pn**	**02 12 50.1**	**0.0**
PB02	**IPOC Station P**	**1.23**	**301**	*i* P		**Pn**	**02 12 50.8**	**+0.7**
PB02				*e*S		**Sn**	**02 13 08.2**	**+0.4**
PB02				IAML			02 13 12.4	
	comp=Z,2μm,0.3s							
PB02	**IPOC Station P**	**1.23**	**301**	⇑*e*P		**Pn**	**02 12 50.6**	**+0.5**
PB02				*e*S		**Sn**	**02 13 08.1**	**+0.4**
PB04	**IPOC Station P**	**1.34**	**253**			**Pn**	**02 12 51.5**	**+0.1**
PB04	**IPOC Station P**	**1.34**	**253**	*i* P		**Pn**	**02 12 51.8**	**+0.4**
PB04				IAML			02 13 16.5	
	comp=Z,628nm,0.5s							
PB04	**IPOC Station P**	**1.34**	**253**	⇑*e*P		**Pn**	**02 12 51.7**	**+0.3**
PB04				*e*S		**Sn**	**02 13 10.7**	**+0.7**
PB04				IAML			02 13 12.8	
	comp=E,934nm,0.5s							
PB04				IAML			02 13 13.8	
	comp=N,887nm,0.4s							
PB15	**IPOC Station P**	**1.41**	**208**			**Pn**	**02 12 52.8**	**+0.5**
PB15	**IPOC Station P**	**1.41**	**208**	*i* P		**Pn**	**02 12 52.3**	**0.0**
PB15				*e*S		**Sn**	**02 13 12.7**	**+1.1**
PB15				IAML			02 13 16.1	
	comp=Z,3μm,0.3s							
PB15	**IPOC Station P**	**1.41**	**208**	*e*P		**Pn**	**02 12 52.8**	**+0.5**
PB15				*e*S		**Sn**	**02 13 12.6**	**+1.0**
PB05	**IPOC Station P**	**1.60**	**236**	Pn		**Pn**	**02 12 54.5**	**0.0**
PB05	**IPOC Station P**	**1.60**	**236**	*i* P		**Pn**	**02 12 54.7**	**+0.1**
PB05				IAML			02 13 25.1	
	comp=Z,195nm,0.4s							
PB05	**IPOC Station P**	**1.60**	**236**	⇑*i*P		**Pn**	**02 12 54.6**	**0.0**
PB05				*i* S		**Sn**	**02 13 16.2**	**+0.6**
PB05				IAML			02 13 21.0	
	comp=N,447nm,0.5s							
PATCX	**Punta Patache**	**1.72**	**311**	Pn		**Pn**	**02 12 55.7**	**-0.2**
PATCX	**Punta Patache**	**1.72**	**311**	*e*P		**Pn**	**02 12 56.3**	**+0.3**
PATCX				*e*S		**Sn**	**02 13 19.0**	**+0.8**
PATCX				IAML			02 13 24.2	
	comp=E,804nm,0.4s							
PB08	**IPOC Station P**	**1.84**	**349**			**Pn**	**02 12 59.0**	**+1.2**
PB08	**IPOC Station P**	**1.84**	**349**	*i* P		**Pn**	**02 12 58.9**	**+1.1**
PB08				IAML			02 13 26.4	
	comp=Z,101nm,0.4s							
PB08	**IPOC Station P**	**1.84**	**349**	*e*P		**Pn**	**02 12 59.4**	**+1.6**
PB08				*e*S		**Sn**	**02 13 22.6**	**+1.2**
TA01	**Diego Aracena**	**1.91**	**316**			**Pn**	**02 12 58.4**	**+0.1**
TA01	**Diego Aracena**	**1.91**	**316**	*i* P		**Pn**	**02 12 59.2**	**+0.9**
TA01				IAML			02 13 26.2	
	comp=Z,252nm,0.4s							
TA01	**Diego Aracena**	**1.91**	**316**	*e*P		**Pn**	**02 12 58.6**	**+0.3**
TA01				*e*S		**Sn**	**02 13 22.8**	**+0.4**
TA01				IAML			02 13 24.0	
	comp=N,590nm,0.3s							
HMBC	**Humberstone**	**1.97**	**328**	Pn		**Pn**	**02 12 59.4**	**+0.2**
HMBC	**Humberstone**	**1.97**	**328**	*e*P		**Pn**	**02 12 59.4**	**+0.2**
HMBC				*e*S		**Sn**	**02 13 24.1**	**+0.1**
HMBC				IAML			02 13 26.8	
	comp=N,628nm,0.5s							
TA02	**Huaiquique**	**2.11**	**323**			**Pn**	**02 13 00.8**	**-0.1**
TA02	**Huaiquique**	**2.11**	**323**	*e*P		**Pn**	**02 13 00.3**	**-0.5**
TA02				*e*S		**Sn**	**02 13 26.8**	**-0.2**
TA02				IAML			02 13 33.0	
	comp=N,608nm,0.2s							
PB10	**IPOC Station P**	**2.27**	**227**	Pn		**Pn**	**02 13 04.0**	**+1.2**
GO01	**Chusmiza**	**2.31**	**350**			**Pn**	**02 13 04.9**	**+0.9**
GO01	**Chusmiza**	**2.31**	**350**	*i* P		**Pn**	**02 13 05.7**	**+1.8**
GO01				IAML			02 13 47.7	
	comp=Z,78nm,0.3s							
GO01	**Chusmiza**	**2.31**	**350**	*e*P		**Pn**	**02 13 05.3**	**+1.4**
GO01				*e*S		**Sn**	**02 13 32.5**	**+0.1**
GO01				IAML			02 13 41.9	
	comp=N,399nm,0.2s							
PB11	**IPOC Station P**	**2.34**	**339**			**Pn**	**02 13 04.4**	**+0.5**
PB11	**IPOC Station P**	**2.34**	**339**	*i* P		**Pn**	**02 13 03.7**	**-0.3**
PB11				IAML			02 13 40.3	
	comp=Z,160nm,0.3s							
YJA	**Yavi**	**3.02**	**95**	*i* P		**Pn**	**02 13 16.0**	**+2.8**
YJA				IAML			02 13 57.8	
	comp=Z,1.6nm,0.3s							
PB14	**IPOC Station P**	**3.05**	**209**	Pn		**Pn**	**02 13 14.6**	**+1.1**
GO02	**Mina Guanaco**	**3.28**	**193**	Pn		**Pn**	**02 13 16.9**	**+0.3**
GO02	**Mina Guanaco**	**3.28**	**193**	*i* P		**Pn**	**02 13 16.4**	**-0.2**
GO02				IAML			02 14 25.1	
	comp=Z,135nm,0.3s							
PB12	**IPOC Station P**	**3.63**	**336**	Pn		**Pn**	**02 13 20.8**	**-0.3**
AC01	**Pan de Azucar**	**4.50**	**202**	*i* P		**Pn**	**02 13 30.0**	**-2.6**
AC01				IAML			02 14 44.6	
	comp=Z,43nm,0.7s							
AC02	**Maricunga**	**4.87**	**184**	Pn		**Pn**	**02 13 38.1**	**0.0**
AC02	**Maricunga**	**4.87**	**184**	*i* P		**Pn**	**02 13 38.3**	**+0.2**
AC02				IAML			02 15 12.2	
	comp=Z,27nm,0.7s							
AC06	**Mina Casimiro**	**5.57**	**195**	Pn		**Pn**	**02 13 47.8**	**+0.6**
CO01	**Juntas del Tor**	**8.08**	**188**	Pn		**Pn**	**02 14 22.2**	**+0.8**
CO03	**El Pedregal**	**9.01**	**191**	Pn		**Pn**	**02 14 35.6**	**+1.6**
PTLB	**Pontes e Lacer**	**11.18**	**56**	Pn		**Pn**	**02 15 01.1**	**-2.4**
ITAB	**Concordia**	**16.01**	**112**			**Pn**	**02 16 06.3**	**+0.5**
ITAB				IAmb		IAmb	02 16 19.9	
	comp=Z,16nm,1.3s							
TRQA	**Tornquist**	**17.08**	**161**			**Pn**	**02 16 19.3**	**+0.3**
LL04	**Puerto Octay**	**19.14**	**188**	P		**P**	**02 16 42.0**	**+0.3**
LL04				IAmb		IAmb	02 17 00.7	
	comp=Z,13nm,1.4s							
BOAV	**Boa Vista**	**25.51**	**19**	P		**P**	**02 17 45.2**	**-0.4**
BOAV				IAmb		IAmb	02 17 46.2	
	comp=Z,3.4nm,0.8s							
QSPA	**South Pole Qui**	**68.24**	**180**	P		**P**	**02 23 17.2**	**+1.2**
TOA0	**Torodi Ar. Sit**	**77.38**	**70**	P		**P**	**02 24 10.2**	**-0.5**
TOA0				IAmb		IAmb	02 24 24.8	
	comp=Z,3.6nm,1.4s							
TORD	**Torodi Ar. Bea**	**77.38**	**70**	P		**P**	**02 24 09.8**	**-0.9**
TORD				IAmb		IAmb	02 24 38.1	
	comp=Z,2.4nm,1.4s							

*NEIC **05** 02:18:27.5±1.3, 13.°39N±0.°10×124.°6E±0.°1, h38km±9km, mb4.3/13, Error ellipse: s-maj=18.2km s-min=14.0km az=91.0*
*IDC **05** 02:18:28.3±3.4, 13.°32N×124.°46E, h53km±33km, mb3.9/14, mbtmp4.2/15, ML4.3/2, Error ellipse: s-maj=25.2km s-min=13.0km az=74.0*
ISC 05 02:18:26.1±0.5,**13.°30N**±0.°04×**124.°43E**±0.°05,**h31**km,**n56, σ1.9/72/54,mb4.2/21,9C-3D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GQP	**Guinayangan**	**2.02**	**287**	⇑*e*P		**Pb**	**02 19 00.4**	**-1.7**
GQP				*i* S		**Sb**	**02 19 24.7**	**-2.2**
PLP	**Palo**	**2.19**	**166**	⇑*e*P		**Pb**	**02 19 05.6**	**+0.6**
PLP				*e*S		**Sb**	**02 19 32.2**	**+0.4**
RCP	**Roxas**	**2.39**	**224**	⇑*e*P		**Pb**	**02 19 07.7**	**-0.7**
RCP				*i* S		**Sb**	**02 19 38.1**	**+0.6**
IBAJ	**Ibajay, Aklan**	**2.65**	**236**	⇓*e*P		**Pb**	**02 19 10.8**	**-2.1**
LQP	**Lukban**	**2.92**	**286**	⇑*e*P		**Pb**	**02 19 13.2**	**-4.4**
LLP	**Lapu-Lapu**	**3.00**	**189**	⇑*e*P		**Pb**	**02 19 15.8**	**-3.0**
LLP				*i* S		**Sb**	**02 19 53.7**	**-1.4**
TGY	**Tagaytay City**	**3.49**	**284**	P		**Pn**	**02 19 21.4**	**+3.1**
	20nm,0.3s,baz=12,slow=16,SNR=1.2							
TGY	**Tagaytay City**	**3.49**	**284**	⇓*e*P		**Pb**	**02 19 28.2**	**+1.1**
TGY				*e*S		Sb	02 20 20.9	+12
TBP	**Tagbilaran**	**3.63**	**189**	⇑*e*P		**Pb**	**02 19 25.0**	**-4.6**
TBP				*e*S		**Sb**	**02 20 08.9**	**-4.4**
SCPH	**Surigao**	**3.65**	**163**	⇑*e*P		**Pb**	**02 19 26.3**	**-3.6**
DCPH	**Dipolog City**	**4.81**	**193**	⇓*e*P		Pn	02 19 41.5	+5.1
DCPH				*e*S		**Sn**	**02 20 35.9**	**+4.9**
PIP	**Pasuquin**	**6.20**	**324**	⇑*e*P		**Pn**	**02 19 54.8**	**-0.6**
KCP	**Kidapawan**	**6.29**	**174**	⇑*e*P		**Pn**	**02 19 58.6**	**+1.8**
YULB	**Yu-li**	**10.47**	**344**	Pn		**Pn**	**02 20 53.1**	**-1.0**
NACB	**Ninganchiao**	**11.14**	**346**	Pn		**Pn**	**02 21 02.3**	**-1.0**
YOJ	**Yonaguni jima**	**11.18**	**353**	Pn		**Pn**	**02 21 03.3**	**-0.5**
YHNB	**Yeheng**	**11.67**	**346**			**Pn**	**02 21 10.6**	**0.0**
JOW	**Kunigami**	**13.94**	**14**	Pn		**Pn**	**02 21 41.8**	**+0.3**
JOW	**Kunigami**	**13.94**	**14**	P		**Pn**	**02 21 42.1**	**+0.6**
	3.8nm,0.3s,baz=234,slow=16,SNR=12							
	9.1nm,0.3s							
SBUM	**Sibu**	**16.19**	**229**	Pn		**P**	**02 22 14.9**	**+0.6**
FAKI	**Fak Fak**	**17.89**	**154**	P		**Pn**	**02 22 33.2**	**+0.5**
KSRS	**Korea Array**	**24.25**	**7**	P		**P**	**02 23 40.4**	**+0.1**
	3.1nm,0.8s,baz=179,slow=9.9,SNR=9.8							
	3.1nm,0.8s							
CMAR	**Chiang Mai Arr**	**25.03**	**285**	P		**P**	**02 23 47.8**	**+0.1**
	1.1nm,0.3s,baz=92,slow=7.7,SNR=7.2							
	1.1nm,0.3s							
USRK	**Ussuriysk Ar.**	**31.46**	**10**	P		**P**	**02 24 45.3**	**+0.5**
	4.0nm,0.5s,baz=192,slow=8.0,SNR=17							
	4.0nm,0.5s							
WRA	**Warramunga Arr**	**34.45**	**163**	P		**P**	**02 25 10.2**	**-0.9**
	1.4nm,0.6s,baz=342,slow=9.3,SNR=14							
	1.4nm,0.6s							
WR0	**Warramunga Arr**	**34.52**	**163**	P		**P**	**02 25 10.5**	**-1.3**
WR0				IAmb		IAmb	02 25 22.6	
	comp=Z,4.1nm,0.9s							
KLR	**Kul'dur**	**36.33**	**8**	P		**P**	**02 25 26.2**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=177,slow=6.2,SNR=9.7							
	comp=Z,1.7nm,0.6s							
ULN	**Ulaanbaatar**	**37.38**	**341**	P		**P**	**02 25 36.0**	**-0.2**
SONM	**Songino Array**	**37.57**	**340**	P		**P**	**02 25 38.1**	**+0.4**
SONM				IAmb		IAmb	02 25 58.2	
	comp=Z,6.4nm,1.3s							
SONM	**Songino Array**	**37.57**	**340**	P		**P**	**02 25 38.0**	**+0.2**
	comp=Z,2.4nm,0.8s,baz=161,slow=9.1,SNR=13							
	comp=Z,2.4nm,0.8s							
AS31	**Alice Springs**	**37.89**	**166**	P		**P**	**02 25 41.0**	**+0.4**
AS31				IAmb		IAmb	02 25 42.2	
	comp=Z,2.5nm,0.5s							
ASAR	**Alice Springs**	**37.89**	**166**	P		**P**	**02 25 40.5**	**-0.1**
ASAR	**Alice Springs**	**37.89**	**166**	P		**P**	**02 25 41.0**	**+0.4**
	comp=Z,3.3nm,0.5s,baz=348,slow=7.0,SNR=68							
	comp=Z,3.3nm,0.5s							
H11S3	**WAKE ISLAND Hy**	**40.90**	**77**	T		T	03 09 42.6	
	baz=275,slow=74,SNR=344							
H11S1	**WAKE ISLAND Hy**	**40.91**	**77**	T		T	03 09 43.5	
	baz=275,slow=74,SNR=185							
H11S2	**WAKE ISLAND Hy**	**40.92**	**77**	T		T	03 09 43.8	
	baz=275,slow=74,SNR=151							
H11N1	**WAKE ISLAND Hy**	**41.12**	**75**	T		T	03 09 58.3	
	baz=267,slow=74,SNR=774							
H11N2	**WAKE ISLAND Hy**	**41.13**	**75**	T		T	03 09 58.7	
	baz=267,slow=74,SNR=450							
H11N3	**WAKE ISLAND Hy**	**41.14**	**75**	T		T	03 09 59.6	
	baz=267,slow=74,SNR=536							
STKA	**Stephens Creek**	**47.84**	**160**	P		**P**	**02 27 01.4**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=337,slow=7.7,SNR=2.4							
	comp=Z,1.7nm,0.7s							
MK31	**Makanchi Array**	**48.54**	**322**	P		**P**	**02 27 05.9**	**-0.5**
MKAR	**Makanchi Array**	**48.54**	**322**	P		**P**	**02 27 06.2**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=113,slow=9.3,SNR=8.7							
	comp=Z,0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**51.12**	**331**	P		**P**	**02 27 24.8**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=108,slow=8.4,SNR=8.7							
	comp=Z,1.6nm,0.6s							
KURK	**Kurchatov**	**52.56**	**325**	P		**P**	**02 27 36.3**	**-0.3**
KURBB	**Kurchatov Arra**	**52.57**	**325**	P		**P**	**02 27 36.5**	**-0.1**
	comp=Z,5.5nm,0.8s,baz=121,slow=7.7,SNR=34							
	comp=Z,5.5nm,0.8s							
KK31	**Karatay Array**	**54.86**	**314**	P		**P**	**02 27 54.1**	**+0.5**
KK31				IAmb		IAmb	02 28 14.2	
	comp=Z,3.3nm,0.9s							
BVAR	**Borovoye Array**	**58.16**	**325**	P		**P**	**02 28 17.0**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=101,slow=7.7,SNR=4.9							
	comp=Z,0.9nm,0.5s							
ABKAR	**Akbulak array**	**63.42**	**319**	P		**P**	**02 28 52.8**	**0.0**
ABKAR				IAmb		IAmb	02 29 14.2	
	comp=Z,1.8nm,0.8s							
ARU	**Arti**	**65.72**	**326**	P		**P**	**02 29 06.3**	**-1.4**
	comp=Z,2.7nm,0.5s,baz=90,slow=14,SNR=5.1							
	comp=Z,2.7nm,0.5s							
IMAR	**Indian Mountai**	**74.62**	**25**	P		**P**	**02 30 02.3**	**+0.3**
H21K	**Melozitna Rive**	**75.00**	**25**	P		**P**	**02 30 04.3**	**+0.1**
CAST	**Castle Rocks**	**75.29**	**28**	P		**P**	**02 30 05.5**	**-0.5**
CAST				IAmb		IAmb	02 30 31.2	
	comp=Z,4.3nm,1.1s							
BMAR	**Burnt Mountain**	**78.20**	**23**	P		**P**	**02 30 22.1**	**-0.3**
FINES	**FINESS Array B**	**82.38**	**331**	P		**P**	**02 30 46.4**	**+1.5**
	comp=Z,1.4nm,0.9s,baz=77,slow=6.3,SNR=3.6							
	comp=Z,1.4nm,0.9s							
BUR08	**Bucovina Ar. S**	**86.40**	**318**	P		**P**	**02 31 05.1**	**-0.6**
BUR08				IAmb		IAmb	02 31 26.5	
	comp=Z,1.8nm,0.8s							
YKA	**Yellowknife Ar**	**91.72**	**23**	P		P	02 31 43.3	+13
	comp=Z,0.3nm,0.9s,baz=306,slow=5.6,SNR=4.3							

*IDC **05** 02:20:03.2±4.4, 24.°23S×179.°91W, h479km±44km, mb3.5/7, mbtmp4.4/9, Error ellipse: s-maj=33.8km s-min=17.7km az=61.0*
*NEIC **05** 02:20:06.7±1.8, 24.°3S±0.°1×179.°8W±0.°2, h509km±8km, mb4.3/13, Error ellipse: s-maj=23.3km s-min=18.0km az=91.0*
ISC 05 02:20:05.8±0.7,**24.°27S**±0.°08×**179.°9W**±0.°1,**h500**km,**n69, σ1.9/64/65,mb4.1/12,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.77**	**344**	P		**P**	**02 21 50.4**	**+0.5**
PINNC	**Pines Island,**	**11.70**	**276**	P		**P**	**02 22 43.5**	**+2.3**
DZM	**Mont Dzumac**	**12.71**	**277**	P		**P**	**02 22 54.4**	**+2.2**
DZM	**Mont Dzumac**	**12.71**	**277**	P		**P**	**02 22 51.0**	**-1.1**
	12nm,0.7s,baz=77,slow=16,SNR=7.0							
WSRZ	**White Island S**	**13.44**	**190**	P		**P**	02 23 05.2	+5.8
WIZ	**White Island**	**13.45**	**190**	P		**P**	**02 23 03.4**	**+3.9**
WMGZ	**Waiomatatini S**	**13.58**	**186**	P		**P**	**02 23 03.4**	**+2.5**
HAZ	**Te Kaha**	**13.59**	**188**	P		**P**	**02 22 59.7**	**-1.3**
PKGZ	**Pakihiroa**	**13.68**	**187**	P		**P**	**02 23 03.1**	**+1.0**
RUGZ	**Raukumara Rang**	**13.81**	**188**	P		**P**	**02 23 02.8**	**-0.6**
TWGZ	**Tauwhareparae**	**13.98**	**187**	P		**P**	**02 23 05.5**	**+0.3**
KMRZ	**Kaimai**	**13.99**	**194**	P		**P**	02 23 00.4	-4.9
URZ	**Urewera**	**14.17**	**190**	P		**P**	**02 23 05.7**	**-1.5**
	11nm,0.4s,baz=134,slow=2.8,SNR=20							
URZ				S		**S**	**02 25 36.1**	**-0.6**
	9.2nm,0.5s,baz=312,slow=20,SNR=9.9							
MWZ	**Matawai**	**14.19**	**188**	P		**P**	**02 23 07.4**	**0.0**
CNGZ	**Carnagh Statio**	**14.26**	**186**	P		**P**	**02 23 10.1**	**+2.0**
MUGZ	**Murupara**	**14.44**	**190**	P		**P**	**02 23 09.6**	**-0.4**
RIGZ	**Rimuhau**	**14.53**	**187**	P		**P**	**02 23 11.2**	**+0.2**
TLZ	**Tolley Road**	**14.54**	**194**	P		**P**	**02 23 10.7**	**-0.3**
SNGZ	**Shannon Statio**	**14.65**	**188**	P		**P**	**02 23 14.4**	**+2.2**
HIZ	**Hauiti**	**14.88**	**196**	P		**P**	**02 23 15.6**	**+1.0**
HIZ	**Hauiti**	**14.88**	**196**	P		**P**	**02 23 18.0**	**+3.5**
RATZ	**Rangitukua**	**15.00**	**193**	P		**P**	**02 23 16.2**	**+0.2**
TMVZ	**Te Maari**	**15.26**	**193**	P		**P**	**02 23 19.0**	**+0.3**
TWVZ	**Taurewa**	**15.27**	**194**	P		**P**	**02 23 18.7**	**-0.1**
ETVZ	**East Tongariro**	**15.28**	**193**	P		**P**	**02 23 18.3**	**-0.6**
WTVZ	**West Tongariro**	**15.28**	**193**	P		**P**	**02 23 18.7**	**-0.3**
OTVZ	**Oturere**	**15.31**	**193**	P		**P**	**02 23 16.9**	**-2.4**
SNVZ	**South Ngauruho**	**15.34**	**193**	P		**P**	**02 23 19.3**	**-0.3**
KWHZ	**Kaweka Forest**	**15.42**	**191**	P		**P**	**02 23 18.9**	**-1.4**
WNVZ	**Wahianoa**	**15.48**	**193**	P		**P**	**02 23 18.9**	**-2.2**
BHHZ	**Black Hill Sta**	**15.55**	**192**	P		**P**	**02 23 17.2**	**-4.4**
KRHZ	**Kereru**	**15.64**	**191**	P		**P**	**02 23 20.2**	**-2.5**
KAHZ	**Kahuranaki**	**15.71**	**189**	P		P	02 23 16.8	-6.5
TSZ	**Takapari Road**	**16.12**	**191**	P		**P**	**02 23 26.3**	**-1.3**
BFZ	**Birch Farm**	**16.68**	**190**	P		**P**	**02 23 29.8**	**-3.6**
MRZ	**Mangatainoka R**	**16.77**	**192**	P		**P**	**02 23 31.5**	**-2.9**
BHW	**Baring Head**	**17.64**	**193**	P		**P**	**02 23 40.7**	**-2.0**
RPZ	**Rata Peaks**	**20.76**	**199**	P		**P**	**02 24 09.6**	**-1.6**
	14nm,0.5s,baz=242,slow=1.5,SNR=9.3							
	14nm,0.5s							
ARMA	**Armidale**	**25.95**	**250**	P		**P**	**02 24 59.4**	**+1.5**
ARMA				IAmb		IAmb	02 25 19.0	
	comp=Z,14nm,1.2s							
CTAO	**Charters Tower**	**31.53**	**271**	P		**P**	**02 25 47.1**	**+0.5**
CTAO				IAmb		IAmb	02 25 47.6	
	comp=Z,6.7nm,0.5s							
TOO	**Toolangi**	**32.30**	**238**	P		**P**	**02 25 53.4**	**+0.5**
TOO				IAmb		IAmb	02 26 01.9	
	comp=Z,18nm,1.3s							
STKA	**Stephens Creek**	**34.64**	**249**	P		**P**	**02 26 12.9**	**+0.2**
STKA	**Stephens Creek**	**34.64**	**249**	P		**P**	**02 26 10.9**	**-1.8**
	comp=Z,2.0nm,0.7s,baz=98,slow=10,SNR=5.5							
	comp=Z,2.0nm,0.7s							
AS31	**Alice Springs**	**42.03**	**261**	P		**P**	**02 27 13.0**	**-0.2**
ASAR	**Alice Springs**	**42.03**	**261**	P		**P**	**02 27 11.9**	**-1.2**
	comp=Z,2.1nm,0.8s,baz=90,slow=8.7,SNR=9.8							
	comp=Z,2.1nm,0.8s							
WR0	**Warramunga Arr**	**42.25**	**267**	P		**P**	**02 27 13.8**	**-1.0**
WR0				IAmb		IAmb	02 27 14.7	
	comp=Z,4.5nm,0.8s							
WRA	**Warramunga Arr**	**42.44**	**267**	P		**P**	**02 27 15.4**	**-0.9**
	comp=Z,4.0nm,0.5s,baz=98,slow=8.1,SNR=25							
	comp=Z,4.0nm,0.5s							
FORT	**Forrest**	**46.24**	**250**	P		**P**	**02 27 44.4**	**-1.2**
MTN	**Manton Dam**	**47.54**	**275**	P		**P**	**02 27 54.5**	**-1.1**
MTN				IAmb		IAmb	02 28 06.1	
	comp=Z,16nm,1.1s							
KNRA	**Kununurra**	**48.74**	**270**	P		**P**	**02 28 04.2**	**-0.4**
KNRA				IAmb		IAmb	02 28 26.6	
	comp=Z,8.4nm,1.0s							
SBA	**Scott Base**	**54.02**	**183**	P		**P**	**02 28 43.0**	**+1.0**
QSPA	**South Pole Qui**	**65.82**	**180**	P		**

NPOC				IAML		02 53 44.7		
	comp=E,567nm,0.3s							
NPOC				IAML		02 53 45.6		
	comp=N,569nm,0.7s							
JCUZ	**Jacuzzi**	**0.26**	**61**	Pg	Pg	02 53 38.8	-0.2	
JCUZ				IAML		02 53 44.6		
	comp=E,783nm,0.3s							
MWH	**Moku'aweowe**	**0.33**	**314**		Pg	02 53 40.3	-0.1	
MWH				IAML		02 53 49.0		
	comp=E,649nm,0.6s							
MWH				IAML		02 53 49.6		
	comp=N,566nm,0.3s							
HMH	**Humu'ula Sheep**	**0.37**	**339**		Pg	02 53 41.2	+0.1	
POHA	**Pohakuloa**	**0.53**	**341**		Sg	02 53 51.4	+0.3	
HUH	**Hualalai**	**0.63**	**313**		Pg	02 53 45.3	-0.6	

*NEIC **05** 02:59:08.9±0.4, 19°.35N±0°.02×155°.13W±0°.02, h5km±2km, Error ellipse: s-maj=4.8km s-min=2.8km az=307.0*

HVO 05 02:59:08.4±0.5, 19°.35N±0°.02×155°.13W±0°.03, h6km±3km, ML3.0/24, ML3.0/44(NEIC), Error ellipse: s-maj=4.8km s-min=2.1km az=118.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.04**	**8**		Pg	02 59 10.2	+0.4
STCH				IAML		02 59 10.9	
	comp=E,17μm,0.9s						
JCUZ	**Jacuzzi**	**0.05**	**36**		Pg	02 59 10.1	+0.2
KNHH	**Kane Nui o Ham**	**0.05**	**313**		Pg	02 59 10.4	+0.5
NPOC	**North of Pu'u**	**0.05**	**23**	Pg	Pg	02 59 10.2	+0.3
NPOC				IAML		02 59 12.1	
	comp=N,16μm,0.4s						
PUH	**Pauahi**	**0.09**	**289**	Pg	Pg	02 59 10.9	+0.4
PUH					Sg	02 59 12.6	+0.7
PUH				IAML		02 59 13.2	
	comp=N,8μm,0.6s						
KKO	**Keanakako`i**	**0.14**	**292**		Pg	02 59 11.6	+0.2
KKO				IAML		02 59 12.1	
	comp=N,5μm,0.9s						
KKO					Sg	02 59 13.8	+0.5
KKO				IAML		02 59 14.5	
	comp=E,7μm,1.0s						
BYL	**Byron's Ledge**	**0.14**	**298**		Pg	02 59 11.7	+0.3
BYL					Sg	02 59 14.0	+0.7
BYL				IAML		02 59 15.2	
	comp=E,6μm,0.4s						
RIM	**Rim**	**0.14**	**290**		Pg	02 59 11.6	+0.2
RIM					Sg	02 59 14.0	+0.5
RIM				IAML		02 59 15.8	
	comp=N,4μm,0.7s						
RIM				IAML		02 59 16.3	
	comp=E,4μm,0.9s						
HATHI	**Halema'uma'u T**	**0.14**	**302**	Pg	Pg	02 59 11.6	+0.1
HATHI				IAML		02 59 14.7	
	comp=E,6μm,0.7s						
HATHI				IAML		02 59 15.3	
	comp=N,5μm,0.8s						
SBLHI	**Steaming Bluff**	**0.15**	**302**		Pg	02 59 11.7	+0.1
SBLHI					Sg	02 59 14.3	+0.5
NPH	**North Pit**	**0.16**	**295**	Pg	Pg	02 59 11.5	-0.2
SDHHI	**Sand Hill**	**0.16**	**286**	Pg	Pg	02 59 11.7	-0.1
SDHHI				IAML		02 59 15.1	
	comp=E,4μm,0.7s						
SDHHI				IAML		02 59 15.3	
	comp=N,4μm,0.7s						
UWB	**Uwekahuna B**	**0.16**	**299**		Pg	02 59 12.0	+0.2
UWB					Sg	02 59 14.3	+0.3
OBL	**Observatory Le**	**0.16**	**296**	Pg	Pg	02 59 12.1	+0.3
UWE	**Uwekahuna**	**0.17**	**296**	Pg	Pg	02 59 12.3	+0.3
UWE				IAML		02 59 17.0	
	comp=N,4μm,0.8s						
WRMHI	**West Rim**	**0.17**	**291**	Pg	Pg	02 59 12.4	+0.5
WRMHI				IAML		02 59 12.7	
	comp=N,3μm,1.0s						
WRMHI				IAML		02 59 13.3	
	comp=E,3μm,0.9s						
HLP	**Hilina Pali**	**0.17**	**254**		Pg	02 59 12.5	+0.6
HLP				IAML		02 59 16.1	
	comp=E,3μm,0.2s						
HLP				IAML		02 59 16.4	
	comp=N,5μm,0.8s						
RSD	**Rainshed**	**0.18**	**310**	Pg	Pg	02 59 12.4	+0.2
RSD					Sg	02 59 14.8	+0.2
RSD				IAML		02 59 16.8	
	comp=N,3μm,0.6s						
MLH	**Mauna Loa**	**0.28**	**302**		Pg	02 59 14.5	+0.4
HMH	**Humu'ula Sheep**	**0.42**	**308**		Pg	02 59 17.1	+0.4
HMH					Sg	02 59 23.6	+1.4
MWH	**Moku'aweowe**	**0.46**	**288**		Pg	02 59 17.6	+0.2
KHU	**Kahuku**	**0.47**	**258**		Pg	02 59 17.6	+0.1
KHU					Sg	02 59 24.2	+0.5
KHU				IAML		02 59 29.5	
	comp=N,1μm,0.8s						
KHU				IAML		02 59 29.6	
	comp=E,1μm,0.7s						
ALEP	**Alea Permanent**	**0.52**	**292**		Pg	02 59 18.5	-0.1
POHA	**Pohakuloa**	**0.56**	**317**		Pg	02 59 18.9	-0.3
POHA				IAML		02 59 27.2	
	comp=E,979nm,0.3s						
POHA				IAML		02 59 27.6	
	comp=E,979nm,0.5s						
HUH	**Hualalai**	**0.74**	**297**	Pg	Pg	02 59 21.8	-1.0
HPAH	**Hawaii Prepara**	**0.86**	**322**		Pg	02 59 22.6	-2.5
HPAH					Sg	02 59 33.1	-3.2
MHA	**Mahukona**	**1.11**	**319**	Pg	Pg	02 59 26.3	-3.4
HLK	**Haleakala**	**1.75**	**323**	Pn	Pn	02 59 34.4	-5.3

*HVO **05** 03:26:00.8±0.9, 19°.21N±0°.02×155°.32W±0°.02, h-1km±9km, ML2.6/32, ML2.7/46(NEIC), Error ellipse: s-maj=2.8km s-min=1.4km az=134.0*

NEIC 05 03:26:02.1±0.7, 19°.26N±0°.02×155°.34W±0°.01, h10km±2km, Error ellipse: s-maj=3.2km s-min=1.3km az=153.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.05**	**35**		Pg	03 26 03.9	-0.3
HTC	**Hot Caves**	**0.06**	**251**		Pg	03 26 03.6	-0.6
SDHHI	**Sand Hill**	**0.14**	**17**		Pg	03 26 05.4	+0.1
SDHHI				Sg	Sg	03 26 09.3	+1.7
SDHHI				IAML		03 26 10.6	
	comp=E,3μm,0.5s						
RIM	**Rim**	**0.15**	**23**		Pg	03 26 05.5	-0.1
RIM				IAML		03 26 09.4	
	comp=N,2μm,0.4s						
RIM				IAML		03 26 09.9	
	comp=E,2μm,0.3s						
WRMHI	**West Rim**	**0.15**	**13**		Pg	03 26 05.5	0.0
WRMHI				Sg	Sg	03 26 09.2	+1.2
WRMHI				IAML		03 26 11.4	
	comp=N,2μm,0.3s						
KKO	**Keanakako`i**	**0.15**	**25**		Pg	03 26 05.5	-0.2
KKO				IAML		03 26 09.9	
	comp=E,3μm,0.4s						
KKO				IAML		03 26 10.3	
	comp=N,3μm,0.3s						
NPH	**North Pit**	**0.16**	**19**		Pg	03 26 04.9	-0.9
PUH	**Pauahi**	**0.16**	**44**		Pg	03 26 05.7	0.0
PUH				IAML		03 26 09.4	
	comp=E,1μm,0.3s						
OBL	**Observatory Le**	**0.17**	**17**		Pg	03 26 05.2	-0.6
OBL				Sg	Sg	03 26 09.3	+0.9
OBL				IAML		03 26 10.9	
	comp=E,3μm,0.3s						
UWE	**Uwekahuna**	**0.17**	**14**		Pg	03 26 05.6	-0.2
UWE				Sg	Sg	03 26 09.6	+1.2
UWE				IAML		03 26 10.7	
	comp=E,2μm,0.3s						
UWE				IAML		03 26 12.4	
	comp=N,2μm,0.4s						
BYL	**Byron's Ledge**	**0.17**	**25**		Pg	03 26 05.4	-0.5
BYL				IAML		03 26 11.4	
	comp=E,1μm,0.4s						
BYL				IAML		03 26 11.6	
	comp=N,1μm,0.4s						
UWB	**Uwekahuna B**	**0.18**	**18**		Pg	03 26 05.8	-0.1
HATHI	**Halema'uma'u T**	**0.18**	**23**		Pg	03 26 06.0	0.0
HATHI				Sg	Sg	03 26 09.6	+0.9
HATHI				IAML		03 26 11.0	
	comp=E,1μm,0.8s						
HATHI				IAML		03 26 11.9	
	comp=N,1μm,0.4s						
SBLHI	**Steaming Bluff**	**0.18**	**21**		Pg	03 26 05.9	-0.2
SBLHI				IAML		03 26 10.7	
	comp=N,1μm,0.4s						
SBLHI				IAML		03 26 10.9	
	comp=E,1μm,0.4s						
RSD	**Rainshed**	**0.21**	**15**		Pg	03 26 06.3	-0.3
STCH	**Steam Cracks**	**0.24**	**57**		Pg	03 26 06.7	-0.3
MLH	**Mauna Loa**	**0.24**	**349**		Pg	03 26 07.5	+0.4
NPOC	**North of Pu'u**	**0.25**	**58**		Pg	03 26 06.9	-0.4
NPOC				IAML		03 26 14.8	
	comp=E,758nm,0.5s						
NPOC				IAML		03 26 15.1	
	comp=N,634nm,0.3s						
JCUZ	**Jacuzzi**	**0.26**	**60**		Pg	03 26 07.1	-0.3
JCUZ				IAML		03 26 12.9	
	comp=E,826nm,0.2s						
JCUZ				IAML		03 26 12.9	
	comp=N,717nm,0.4s						
KHU	**Kahuku**	**0.26**	**268**		Pg	03 26 07.3	-0.3
KHU				IAML		03 26 16.8	
	comp=N,1μm,0.4s						
KHU				IAML		03 26 16.8	
	comp=E,738nm,0.5s						
MWH	**Moku'aweowe**	**0.33**	**313**		Pg	03 26 09.0	+0.1
MWH				IAML		03 26 17.5	
	comp=E,822nm,0.4s						
MWH				IAML		03 26 19.8	
	comp=N,956nm,0.6s						
HMH	**Humu'ula Sheep**	**0.37**	**338**		Pg	03 26 09.6	+0.1
HMH					Sg	03 26 16.3	-0.6
POHA	**Pohakuloa**	**0.53**	**340**	Pg	Pg	03 26 12.1	-0.4
HUH	**Hualalai**	**0.64**	**312**		Pg	03 26 13.8	-0.6
MHA	**Mahukona**	**1.07**	**330**	Pg	Pg	03 26 19.5	-3.1

*HVO **05** 03:27:49.0±1.0, 19°.226N±0°.009×155°.329W±0°.008, h-1km±9km, ML2.7/29, ML2.5/34(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=168.0*

NEIC 05 03:27:50.3±0.9, 19°.245N±0°.007×155°.333W±0°.009, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.3km az=346.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.06**	**25**		Pg	03 27 52.0	+0.2
HTC	**Hot Caves**	**0.06**	**263**		Pg	03 27 51.7	-0.1
SDHHI	**Sand Hill**	**0.15**	**14**	Pg	Pg	03 27 53.3	-0.1
WRMHI	**West Rim**	**0.16**	**11**		Pg	03 27 53.4	-0.3
WRMHI				IAML		03 27 58.9	
	comp=E,2μm,0.3s						
WRMHI				IAML		03 27 59.0	
	comp=N,2μm,0.4s						
PUH	**Pauahi**	**0.17**	**41**		Pg	03 27 53.5	-0.3
PUH				IAML		03 27 57.3	
	comp=E,1μm,0.6s						
PUH				IAML		03 27 58.8	
	comp=N,1μm,0.4s						
NPH	**North Pit**	**0.17**	**16**		Pg	03 27 53.0	-0.9
NPH				IAML		03 27 59.5	
	comp=N,751nm,0.3s						
UWE	**Uwekahuna**	**0.18**	**12**		Pg	03 27 53.5	-0.5
UWE				IAML		03 27 58.3	
	comp=N,1μm,0.5s						
UWB	**Uwekahuna B**	**0.19**	**16**		Pg	03 27 54.1	0.0
UWB				IAML		03 27 59.7	
	comp=N,598nm,0.6s						
HATHI	**Halema'uma'u T**	**0.19**	**21**		Pg	03 27 53.7	-0.5
HATHI				IAML		03 27 58.7	
	comp=N,690nm,0.2s						
HATHI				IAML		03 27 58.9	
	comp=E,1μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.20**	**49**		Pg	03 27 54.4	0.0
RSD	**Rainshed**	**0.22**	**13**		Pg	03 27 54.3	-0.4
RSD				IAML		03 27 59.1	
	comp=E,487nm,0.3s						
STCH	**Steam Cracks**	**0.24**	**54**	Pg	Pg	03 27 54.9	-0.2
MLH	**Mauna Loa**	**0.25**	**349**	Pg	Pg	03 27 55.6	+0.3
MLH				IAML		03 28 02.0	
	comp=E,1μm,0.1s						
MLH				IAML		03 28 02.0	
	comp=N,1μm,0.1s						
NPOC	**North of Pu'u**	**0.26**	**55**	Pg	Pg	03 27 55.1	-0.3
NPOC				IAML		03 28 00.4	
	comp=N,449nm,1.5s						
KHU	**Kahuku**	**0.27**	**270**		Pg	03 27 55.4	-0.2
KHU				IAML		03 28 00.9	
	comp=N,752nm,0.5s						
KHU				IAML		03 28 03.8	
	comp=E,479nm,0.5s						
MWH	**Moku'aweowe**	**0.35**	**314**	Pg	Pg	03 27 57.0	-0.2
MWH				IAML		03 28 06.2	
	comp=E,628nm,0.7s						
MWH				IAML		03 28 08.7	
	comp=N,580nm,0.3s						
HMH	**Humu'ula Sheep**	**0.38**	**338**	Pg	Pg	03 27 57.7	-0.2
POHA	**Pohakuloa**	**0.54**	**340**	Pg	Pg	03 28 01.2	+0.3
POHA	**Pohakuloa**	**0.54**	**340**	IAML		03 28 10.0	
	comp=N,667nm,0.2s						
POHA				IAML		03 28 10.6	
	comp=N,484nm,0.3s						
HUH	**Hualalai**	**0.65**	**313**		Pg	03 28 02.0	-0.8

IDC 05 03:30:13.2±8.6, 22°.33S×148°.38E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=100.9km s-min=64.6km az=178.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.31**	**278**	Pn	Pn	03 33 22.2	-1.4
WRA	baz=103,slow=14,SNR=1.2			Lg	Lg	03 37 15.0	
	0.1nm,0.3s,baz=104,slow=29,SNR=4.8 0.2nm,0.6s						
ASAR	**Alice Springs**	**13.39**	**261**	Pn	Pn	03 33 26.1	+1.4
ASAR	0.1nm,0.3s,baz=90,slow=13,SNR=2.1			Lg	Lg	03 37 19.8	
	0.1nm,0.3s,baz=86,slow=28,SNR=5.3 0.2nm,0.5s						
I22FR	**PORTLAGUERRE I17.10**	**93**		I	I	05 10 40.0	
	0.2nm,0.8s,baz=266,slow=314,SNR=8.2						

*IDC **05** 03:30:15.5±0.9, 19°.25N×155°.18W, h0km, mb4.0/10, mbtmp4.0/10, MS3.7/7, Error ellipse: s-maj=43.5km s-min=18.3km az=141.0*

*HVO **05** 03:30:15.9±0.9, 19°.07N±0°.03×155°.05W±0°.04, h9km±5km, ML4.4/45, mb4.6/61(NEIC), ML4.5/49(NEIC), Error ellipse: s-maj=6.1km s-min=4.0km az=103.0*

*NEIC **05** 03:30:15.4±1.0, 19°.05N±0°.03×155°.03W±0°.04, h4km±1km, Error ellipse: s-maj=5.9km s-min=3.9km az=99.0*

ISC 05 03:30:17.5±0.5, 19°.18N±0°.05×155°.13W±0°.04, h21km±1km, n133, σ1§17/136, mb4.6/43, MS4.0/9, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.20**	**348**		**Pb**	**03 30 22.5**	**-1.1**
JCUZ	**Jacuzzi**	**0.20**	**6**		**Pb**	**03 30 22.2**	**-1.3**
JCUZ				IAML		03 30 30.8	
	comp=N,59μm,0.9s						
STCH	**Steam Cracks**	**0.20**	**360**		**Pb**	**03 30 22.2**	**-1.3**
STCH					**Sb**	**03 30 27.1**	**-0.6**
STCH				IAML		03 30 30.1	
	comp=N,53μm,1.0s						
HLP	**Hilina Pali**	**0.21**	**304**		**Pb**	**03 30 23.1**	**-0.4**
HLP					**Sb**	**03 30 28.6**	**+0.8**
PUH	**Pauahi**	**0.21**	**336**		**Pb**	**03 30 22.6**	**-1.0**
PUH					**Sb**	**03 30 27.7**	**-0.1**
PUH				IAML		03 30 31.0	
	comp=N,45μm,1.2s						
PUH				IAML		03 30 32.9	
	comp=E,44μm,1.1s						
NPOC	**North of Pu'u**	**0.21**	**4**		**Pb**	**03 30 22.4**	**-1.2**
NPOC					**Sb**	**03 30 27.4**	**-0.4**
NPOC				IAML		03 30 30.9	
	comp=N,63μm,0.9s						
NPOC				IAML		03 30 34.0	
	comp=E,49μm,0.6s						
KKO	**Keanakako`i**	**0.26**	**329**		**Pb**	**03 30 23.4**	**-0.5**
KKO					**Sb**	**03 30 28.7**	**+0.4**
KKO				IAML		03 30 30.1	
	comp=E,57μm,0.5s						
RIM	**Rim**	**0.26**	**327**		**Pb**	**03 30 23.4**	**-0.5**
RIM					**Sb**	**03 30 28.9**	**+0.7**
RIM				IAML		03 30 29.6	
	comp=E,70μm,0.4s						
SDHHI	**Sand Hill**	**0.26**	**323**		**Pb**	**03 30 23.4**	**-0.5**
HTC	**Hot Caves**	**0.26**	**283**		**Pb**	**03 30 23.7**	**-0.1**
BYL	**Byron's Ledge**	**0.27**	**331**		**Pb**	**03 30 23.4**	**-0.5**
BYL					**Sb**	**03 30 29.0**	**+0.7**
BYL				IAML		03 30 30.3	
	comp=E,68μm,0.5s						
HATHI	**Halema'uma'u T**	**0.28**	**332**		**Pb**	**03 30 23.5**	**-0.5**
HATHI					**Sb**	**03 30 28.9**	**+0.4**
HATHI				IAML		03 30 32.0	
	comp=N,67μm,0.5s						
HATHI				IAML		03 30 36.7	
	comp=E,60μm,0.7s						
NPH	**North Pit**	**0.28**	**328**		**Pb**	**03 30 23.5**	**-0.5**
NPH					**Sb**	**03 30 29.2**	**+0.6**
JOKA	**Jonika Flow**	**0.28**	**24**		**Pb**	**03 30 23.1**	**-0.9**
JOKA					**Sb**	**03 30 28.2**	**-0.3**
WRMHI	**West Rim**	**0.28**	**324**		**Pb**	**03 30 23.6**	**-0.5**
WRMHI					**Sb**	**03 30 29.9**	**+1.2**
WRMHI				IAML		03 30 35.5	
	comp=E,66μm,0.6s						
WRMHI				IAML		03 30 35.0	
	comp=N,62μm,1.0s						
OBL	**Observatory Le**	**0.28**	**328**		**Pb**	**03 30 23.7**	**-0.4**
SBLHI	**Steaming Bluff**	**0.28**	**331**		**Pb**	**03 30 23.6**	**-0.5**
SBLHI					**Sb**	**03 30 29.3**	**+0.6**
SBLHI				IAML		03 30 30.1	
	comp=E,58μm,0.5s						
SBLHI				IAML		03 30 30.2	
	comp=N,56μm,0.5s						
UWB	**Uwekahuna B**	**0.28**	**329**		**Pb**	**03 30 23.7**	**-0.5**
UWB					**Sb**	**03 30 29.5**	**+0.8**
UWB				IAML		03 30 34.9	
	comp=N,47μm,1.6s						
UWE	**Uwekahuna**	**0.29**	**327**		**Pb**	**03 30 23.8**	**-0.4**
UWE					**Sb**	**03 30 29.8**	**+1.0**
UWE				IAML		03 30 33.2	
	comp=E,57μm,1.0s						
RSD	**Rainshed**	**0.32**	**333**		**Pb**	**03 30 24.1**	**-0.5**
RSD					**Sb**	**03 30 31.1**	**+1.7**
RSD				IAML		03 30 35.3	
	comp=N,35μm,1.1s						
PHO	**Puu Honuaula**	**0.37**	**36**		**Pb**	**03 30 24.2**	**-1.1**
PHO					**Sb**	**03 30 30.3**	**-0.4**
MLH	**Mauna Loa**	**0.40**	**322**		**Pb**	**03 30 25.6**	**-0.3**
MLH					**Sb**	**03 30 33.8**	**+2.2**
HPO	**Honuapo**	**0.42**	**258**		**Pb**	**03 30 24.9**	**-1.1**
KHU	**Kahuku**	**0.47**	**278**		**Pb**	**03 30 26.0**	**-1.1**
KHU				Sg	**Sb**	**03 30 34.2**	**+0.6**
KHU				IAML		03 30 44.5	
	comp=E,23μm,0.8s						
HMH	**Humu'ula Sheep**	**0.54**	**321**		**Pb**	**03 30 27.8**	**-0.8**
HMH				IAML		03 30 43.2	
	comp=E,17μm,0.6s						
HMH				IAML		03 30 46.2	
	comp=N,21μm,0.9s						
MWH	**Moku'aweowe**	**0.54**	**304**		**Pb**	**03 30 27.5**	**-1.2**
MWH					**Sn**	**03 30 38.7**	**-0.4**
MWH				IAML		03 30 49.7	
	comp=N,27μm,0.9s						
ALEP	**Alea Permanent**	**0.61**	**306**		**Pb**	**03 30 28.3**	**-1.5**
POHA	**Pohakuloa**	**0.69**	**326**		**Pb**	**03 30 29.4**	**-1.6**
POHA	**Pohakuloa**	**0.69**	**326**	IAML		03 30 46.2	
	comp=N,21μm,0.5s						
POHA				IAML		03 30 46.4	
	comp=N,15μm,0.7s						
CPH	**Captain Cook**	**0.81**	**292**		**Pb**	**03 30 30.6**	**-2.2**
I59US	**HAWAII INFRASO**	**0.83**	**300**	Pg	**Pb**	**03 30 30.4**	**-2.9**
	baz=174,slow=7.0						
HUH	**Hualalai**	**0.84**	**307**		**Pb**	**03 30 32.0**	**-1.5**
HUH				IAML		03 30 57.2	
	comp=E,17μm,0.5s						
HPAH	**Hawaii Prepara**	**1.00**	**328**		**Pb**	**03 30 33.5**	**-2.7**
MHA	**Mahukona**	**1.24**	**324**		**Pn**	**03 30 37.1**	**-2.5**
HLK	**Haleakala**	**1.89**	**326**	Pn	**Pn**	**03 30 45.9**	**-2.9**
KHLH	**Kahului Airpor**	**2.10**	**325**		**Pn**	**03 30 49.4**	**-2.1**
HON	**Honolulu**	**3.44**	**309**		**Pn**	**03 31 07.1**	**-2.8**
KIP	**Kipapa**	**3.51**	**310**	Pn	**Pn**	**03 31 07.8**	**-3.1**
KEKH	**Kekaha**	**5.12**	**304**		**Pn**	**03 31 30.2**	**-2.7**
YBH	**Yreka Blue Hor**	**35.53**	**44**	P	**P**	**03 37 13.0**	**-0.1**
YBH				IAmb	IAmb	03 37 23.5	
	comp=Z,6.6nm,1.3s						
H11N3	**WAKE ISLAND Hy**	**35.76**	**277**	T	T	04 14 26.7	
	baz=84,slow=74,SNR=122						
H11N2	**WAKE ISLAND Hy**	**35.77**	**277**	T	T	04 14 27.2	
	baz=84,slow=74,SNR=125						
H11N1	**WAKE ISLAND Hy**	**35.77**	**277**	T	T	04 14 27.9	
	baz=84,slow=74,SNR=67						
H11S2	**WAKE ISLAND Hy**	**36.09**	**275**	T	T	04 15 01.0	
	baz=83,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**36.09**	**275**	T	T	04 14 57.5	
	baz=83,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**36.10**	**275**	T	T	04 14 54.8	
	baz=83,slow=75,SNR=11						
NVAR	**Mina Array Bea**	**37.21**	**51**	P	**P**	**03 37 27.6**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=235,slow=10,SNR=2.1 comp=Z,0.3nm,0.6s						
GRAC	**Grapevine Rang**	**37.45**	**54**	P	**P**	**03 37 29.0**	**-0.5**
GRAC				IAmb	IAmb	03 37 39.7	
	comp=Z,12nm,1.2s						
QSM	**Queen of Sheba**	**37.53**	**56**	P	**P**	**03 37 30.3**	**+0.1**
GMN	**Gold Mountain**	**37.62**	**53**	P	**P**	**03 37 31.7**	**+0.5**
WCT	**Wildcat Mounta**	**37.95**	**54**	P	**P**	**03 37 34.0**	**+0.2**
WCT				IAmb	IAmb	03 37 44.7	
	comp=Z,5.9nm,0.9s						
I07A	**Izee**	**38.73**	**42**	P	**P**	**03 37 40.6**	**+0.3**
S11A	**Rachel**	**38.87**	**53**	P	**P**	**03 37 42.0**	**+0.4**
S11A				IAmb	IAmb	03 37 51.0	
	comp=Z,13nm,1.2s						
SHPR	**Sheep Range**	**39.00**	**55**	P	**P**	**03 37 42.5**	**-0.3**
WTNK	**Soaring Height**	**39.04**	**56**	P	**P**	**03 37 42.9**	**0.0**
BBB	**Bella Bella**	**39.12**	**26**	LR	LR	03 49 28.4	
	comp=Z,60nm,22.0s,baz=238,slow=30						
R11B	**Troy Canyon, C**	**39.20**	**52**	P	**P**	**03 37 43.8**	**-0.7**
G08A	**Pilot Rock**	**39.65**	**41**	P	**P**	**03 37 48.7**	**+0.7**
ELK	**Elko**	**40.24**	**49**	P	**P**	**03 37 53.0**	**0.0**
SHEM	**Shemya Is, Ala**	**41.14**	**332**	LR	LR	03 50 50.3	
	comp=Z,45nm,20.6s,baz=305,slow=30						
N19K	**Bonanza Creek**	**41.59**	**0**	P	**P**	**03 38 04.8**	**+1.1**
HLID	**Hailey**	**41.84**	**45**	P	**P**	**03 38 05.7**	**-0.5**
HVU	**Hansel Valley**	**42.34**	**48**	P	**P**	**03 38 10.2**	**0.0**
HVU				IAmb	IAmb	03 38 25.4	
	comp=Z,6.7nm,0.9s						
HWUT	**Hardware Ranch**	**43.14**	**49**	P	**P**	**03 38 16.3**	**-0.5**
DLBC	**Dease Lake**	**43.28**	**19**	LR	LR	03 53 06.1	
	comp=Z,62nm,20.7s,baz=257,slow=32						
BPMT	**Black Pine Rid**	**43.61**	**42**	P	**P**	**03 38 20.6**	**0.0**
TPAW	**Teton Pass**	**44.16**	**47**	P	**P**	**03 38 25.6**	**+0.5**
TPAW				IAmb	IAmb	03 38 34.6	
	comp=Z,11nm,0.9s						
REDW	**Red Top Meadow**	**44.19**	**47**	P	**P**	**03 38 23.7**	**-1.6**
121A	**Cookes Peak, D**	**44.29**	**63**	P	**P**	**03 38 24.8**	**-1.4**
121A				IAmb	IAmb	03 38 34.1	
	comp=Z,7.4nm,0.9s						
MVCO	**Mesa Verde**	**44.37**	**56**	P	**P**	**03 38 26.4**	**-0.3**
MVCO				IAmb	IAmb	03 38 45.6	
	comp=Z,18nm,1.5s						
KTH	**Kantishna Hill**	**44.43**	**3**	P	**P**	**03 38 27.0**	**+0.3**
BOZ	**Bozeman (W)**	**44.44**	**44**	P	**P**	**03 38 27.4**	**+0.2**
PD31	**Pinedale Array**	**44.91**	**48**	P	**P**	**03 38 31.1**	**0.0**
PDAR	**Pinedale Array**	**44.91**	**48**	P	**

MDM	**Murphy Dome**	**45.98**	**4**	P	**P**	**03 38 39.5**	**+0.6**
EGAK	**Eagle**	**46.52**	**8**	P	**P**	**03 38 44.4**	**+1.3**
VHRN	**Van Horn**	**46.56**	**65**	P	**P**	**03 38 43.8**	**-0.3**
VHRN				IAmb	IAmb	03 38 52.2	
	comp=Z,9.0nm,0.9s						
EDM	**Edmonton**	**46.78**	**33**	P	**P**	**03 38 45.5**	**+0.1**
SDCO	**Great Sand Dun**	**46.81**	**56**	P	**P**	**03 38 46.0**	**-0.2**
SDCO				IAmb	IAmb	03 38 54.3	
	comp=Z,4.1nm,0.9s						
K22A	**Casper**	**47.03**	**49**	P	**P**	**03 38 47.9**	**+0.2**
I28M	**Miner Creek**	**47.33**	**9**	P	**P**	**03 38 50.4**	**+0.9**
I28M				IAmb	IAmb	03 38 59.8	
	comp=Z,5.2nm,1.1s						
F19K	**Shaleruckik Mo**	**47.66**	**359**	P	**P**	**03 38 53.4**	**+1.4**
F19K				IAmb	IAmb	03 39 00.5	
	comp=Z,8.3nm,1.1s						
TXAR	**Lajitas Array**	**47.67**	**67**	P	**P**	**03 38 53.7**	**+1.0**
TXAR	**Lajitas Array**	**47.67**	**67**	P	**P**	**03 38 55.4**	**+2.7**
	comp=Z,4.3nm,1.0s,baz=246,slow=8.6,SNR=14						
	comp=Z,4.3nm,1.0s						
I30M	**Mount Dempster**	**47.68**	**11**	P	**P**	**03 38 53.3**	**+1.0**
I30M				IAmb	IAmb	03 39 00.5	
	comp=Z,6.6nm,1.0s						
H29M	**Whitestone**	**48.28**	**9**	P	**P**	**03 38 57.8**	**+1.0**
E19K	**Redstone River**	**48.28**	**359**	P	**P**	**03 38 58.6**	**+1.8**
BMAR	**Burnt Mountain**	**48.70**	**5**	P	**P**	**03 39 00.3**	**+0.2**
ZAIG	**Zacatecas**	**49.00**	**76**	P	**P**	**03 39 01.8**	**-1.6**
ZAIG				IAmb	IAmb	03 39 11.5	
	comp=Z,12nm,1.5s						
SAND	**Sanderson**	**49.01**	**67**	P	**P**	**03 39 02.0**	**-1.0**
SAND				IAmb	IAmb	03 39 11.6	
	comp=Z,8.1nm,0.9s						
RSSD	**Black Hills**	**49.15**	**48**	P	**P**	**03 39 03.7**	**-0.4**
RSSD				IAmb	IAmb	03 39 12.6	
	comp=Z,9.5nm,1.1s						
KSCO	**Kaye Shedlock'**	**49.23**	**55**	P	**P**	**03 39 04.4**	**-0.3**
C23K	**Itkillik River**	**50.73**	**2**	P	**P**	**03 39 16.1**	**+0.8**
D27M	**Malcolm River**	**50.82**	**6**	P	**P**	**03 39 17.2**	**+1.1**
D27M				IAmb	IAmb	03 39 24.5	
	comp=Z,8.2nm,1.4s						
B20K	**Meade River**	**50.84**	**359**	P	**P**	**03 39 17.0**	**+0.8**
INK	**Inuvik**	**50.96**	**10**	P	**P**	**03 39 18.1**	**+1.0**
INK				IAmb	IAmb	03 39 24.5	
	comp=Z,8.3nm,1.1s						
ABTX	**Abilene, Hawle**	**51.16**	**63**	P	**P**	**03 39 18.6**	**-0.7**
ABTX				IAmb	IAmb	03 39 26.8	
	comp=Z,10.0nm,0.9s						
YKA	**Yellowknife Ar**	**51.48**	**23**	P	**P**	**03 39 22.1**	**+1.0**
	comp=Z,1.3nm,0.9s,baz=237,slow=7.4,SNR=20						
	comp=Z,1.3nm,0.9s						
BRDY	**Brady**	**51.70**	**65**	P	**P**	**03 39 23.1**	**-0.3**
BRDY				IAmb	IAmb	03 39 30.4	
	comp=Z,7.2nm,0.9s						
C36M	**Paulatuk**	**53.66**	**13**	P	**P**	**03 39 37.5**	**+0.3**
C36M				IAmb	IAmb	03 39 43.4	
	comp=Z,4.6nm,1.1s						
ECSD	**EROS Data Cent**	**54.35**	**50**	P	**P**	**03 39 42.3**	**-0.4**
ECSD				IAmb	IAmb	03 39 49.6	
	comp=Z,8.5nm,1.3s						
A36M	**Sachs Harbour**	**55.58**	**11**	P	**P**	**03 39 52.0**	**+1.0**
A36M				IAmb	IAmb	03 39 58.9	
	comp=Z,6.0nm,0.9s						
ULM	**Lac du Bonnet**	**55.90**	**42**	P	**P**	**03 39 53.4**	**-0.3**
ULM				IAmb	IAmb	03 40 00.5	
	comp=Z,14nm,1.3s						
ULM	**Lac du Bonnet**	**55.90**	**42**	P	**P**	**03 39 54.0**	**+0.3**
	comp=Z,3.6nm,0.9s,baz=273,slow=6.5,SNR=6.7						
	comp=Z,3.6nm,0.9s						
MIAR	**Mount Ida**	**56.22**	**61**	P	**P**	**03 39 56.0**	**-0.3**
MIAR				IAmb	IAmb	03 40 14.7	
	comp=Z,6.6nm,1.4s						
FCC	**Fort Churchill**	**58.85**	**32**	P	**P**	**03 40 14.0**	**-0.4**
FCC				IAmb	IAmb	03 40 25.1	
	comp=Z,7.9nm,1.1s						
O48B	**Farmland**	**62.74**	**54**	P	**P**	**03 40 39.9**	**-1.3**
KSRS	**Korea Array**	**68.44**	**304**	LR	LR	04 05 09.8	
	comp=Z,225nm,21.9s,baz=165,slow=31						
STKA	**Stephens Creek**	**79.05**	**231**	P	**P**	**03 42 21.2**	**+0.9**
	comp=Z,2.6nm,0.9s,baz=59,slow=5.9,SNR=3.1						
	comp=Z,2.6nm,0.9s						
WRA	**Warramunga Arr**	**79.31**	**245**	P	**P**	**03 42 24.0**	**+2.0**
	comp=Z,1.3nm,1.0s,baz=64,slow=5.9,SNR=4.2						
	comp=Z,1.3nm,1.0s						
HHC	**Hu-ho-hao-te**	**80.13**	**310**	*e*P	**P**	**03 42 26.2**	**-0.2**
HHC				pmax	pmax		
	comp=Z,16nm,0.7s						
HHC				pmax	pmax		
	comp=Z,69nm,4.6s						
HHC				LR	LR		
	comp=N,330nm,16.8s						
HHC				LR	LR		
	comp=E,180nm,16.8s						
HHC				LR	LR		
	comp=Z,340nm,16.8s						
ASAR	**Alice Springs**	**81.25**	**241**	P	**P**	**03 42 32.5**	**+0.1**
ASAR	**Alice Springs**	**81.25**	**241**	P	**P**	**03 42 33.9**	**+1.4**
	comp=Z,2.7nm,1.1s,baz=65,slow=5.3,SNR=10.0						
	comp=Z,2.7nm,1.1s						
LYN	**LuoYang**	**81.28**	**303**	*e*P	**P**	**03 42 33.2**	**+0.7**
LYN				pmax	pmax		
	comp=Z,11nm,0.5s						
LYN				pmax	pmax		
	comp=Z,170nm,4.3s						
SONM	**Songino Array**	**81.52**	**318**	P	**P**	**03 42 35.0**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=116,slow=3.4,SNR=3.9						
	comp=Z,0.3nm,0.4s						
CZSB	**Cruzeiro do Su**	**85.42**	**100**	P	**P**	**03 42 53.1**	**-1.0**
LZH	**Lanzhou**	**87.42**	**307**	*e*P	**P**	**03 43 08.2**	**+4.4**
LZH				sP	sP	03 43 13.3	+0.6
LZH				pmax	pmax		
	comp=Z,17nm,0.9s						
H03N2	**Juan Fernandez**	**89.45**	**126**	T	T	05 22 22.3	
	baz=299,slow=76,SNR=39						
H03N3	**Juan Fernandez**	**89.47**	**126**	T	T	05 22 18.1	
	baz=299,slow=76,SNR=54						
H03N1	**Juan Fernandez**	**89.47**	**126**	T	T	05 22 23.7	
	baz=299,slow=76,SNR=50						
PZH	**PanZhiHua**	**92.72**	**299**	P	**P**	**03 43 27.8**	**-1.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,3.7s						
WMQ	**Urumqi**	**95.00**	**320**	*e*P	**P**	**03 43 40.8**	**+2.0**
WMQ				LR	LR		
	comp=Z,150nm,18.7s						
BVAR	**Borovoye Array**	**98.04**	**334**	LR	LR	04 30 25.1	
	comp=Z,80nm,19.1s,baz=100,slow=37						
PLCA	**Paso Flores**	**98.30**	**130**	LR	LR	04 18 52.1	
	comp=Z,44nm,20.1s,baz=194,slow=30						
TORD	**Torodi Ar. Bea**	**140.59**	**37**	PKP	**PKPdf**	**03 49 45.4**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=327,slow=3.6,SNR=2.5						

NEIC ***05*** *03:35:14.2±0.6, 19°.48N±0°.06×155°.37W±0°.05, h10km±5km, Error ellipse: s-maj=10.7km s-min=3.7km az=217.0*

HVO 05 03:35:14.1±0.7,**19°.47N**±0°.06×**155°.38W**±0°.04,**h1**km±9km,
ML2.7/12,**ML2.5**/40(NEIC),**Error ellipse: s-maj=9.7km s-min=1.2km az=211.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.03**	**352**	Pg	Pg	03 35 15.5	+0.8
MLH					Sg	03 35 16.4	+1.3
UWE	**Uwekahuna**	**0.10**	**120**		Pg	03 35 16.9	+0.9
UWE					Sg	03 35 19.0	+1.8
UWE				IAML		03 35 19.4	
	comp=E,3µm,0.1s						
RSD	**Rainshed**	**0.10**	**94**		Pg	03 35 17.0	+1.0
RSD					Sg	03 35 19.2	+1.9
RSD				IAML		03 35 19.6	
	comp=E,3µm,0.1s						
WRMHI	**West Rim**	**0.10**	**129**		Pg	03 35 16.7	+0.7
WRMHI					Sg	03 35 18.9	+1.6
OBL	**Observatory Le**	**0.11**	**119**		Pg	03 35 16.8	+0.6
OBL					Sg	03 35 19.1	+1.6
UWB	**Uwekahuna B**	**0.11**	**114**		Pg	03 35 16.8	+0.6
UWB					Sg	03 35 19.0	+1.4
UWB				IAML		03 35 19.7	
	comp=E,2µm,0.5s						
NPH	**North Pit**	**0.11**	**121**		Pg	03 35 16.8	+0.6
NPH				IAML		03 35 19.5	
	comp=N,3µm,0.4s						
SBLHI	**Steaming Bluff**	**0.12**	**111**	Pg	Pg	03 35 17.0	+0.7
HATHI	**Halema'uma'u T**	**0.12**	**112**		Pg	03 35 17.2	+0.7
HATHI				IAML		03 35 20.4	
	comp=N,2µm,0.3s						
HATHI				IAML		03 35 20.6	
	comp=E,2µm,0.3s						
RIM	**Rim**	**0.13**	**126**	Pg	Pg	03 35 17.3	+0.8
RIM				IAML		03 35 20.5	
	comp=E,2µm,0.4s						
BYL	**Byron's Ledge**	**0.13**	**116**		Pg	03 35 17.2	+0.7
BYL				IAML		03 35 20.2	
	comp=E,2µm,0.3s						
KKO	**Keanakako`i**	**0.13**	**123**		Pg	03 35 17.3	+0.7
KKO					Sg	03 35 19.6	+1.2
KKO				IAML		03 35 20.5	
	comp=E,2µm,0.4s						
KKO				IAML		03 35 20.9	
	comp=N,1µm,1.4s						
HMH	**Humu'ula Sheep**	**0.16**	**324**		Pg	03 35 18.1	+0.8
HMH					Sg	03 35 20.9	+1.5
HMH				IAML		03 35 22.1	
	comp=E,1µm,0.1s						
HMH				IAML		03 35 22.1	
	comp=N,1µm,0.2s						
PUH	**Pauahi**	**0.18**	**121**		Pg	03 35 18.1	+0.5
PUH				IAML		03 35 23.7	
	comp=N,874nm,0.8s						
HLP	**Hilina Pali**	**0.19**	**158**		Pg	03 35 18.4	+0.7
HLP				IAML		03 35 21.8	
	comp=E,2µm,2.7s						
HLP				IAML		03 35 22.8	
	comp=N,1µm,0.6s						
MWH	**Moku'aweowe**	**0.20**	**274**		Pg	03 35 18.5	+0.4
MWH				IAML		03 35 18.9	
	comp=E,1µm,1.9s						
MWH				IAML		03 35 23.9	
	comp=N,876nm,0.3s						
KNHH	**Kane Nui o Ham**	**0.22**	**114**		Pg	03 35 18.8	+0.5
STCH	**Steam Cracks**	**0.26**	**109**		Pg	03 35 19.2	+0.2
STCH					Sg	03 35 23.2	+0.9
STCH				IAML		03 35 26.8	
	comp=E,574nm,0.5s						
NPOC	**North of Pu'u**	**0.27**	**106**	Pg	Pg	03 35 19.5	+0.2
NPOC				IAML		03 35 24.2	
	comp=N,546nm,1.0s						
JCUZ	**Jacuzzi**	**0.28**	**108**	Pg	Pg	03 35 19.7	+0.3
POHA	**Pohakuloa**	**0.32**	**334**	Pg	Pg	03 35 21.4	+1.1
POHA	**Pohakuloa**	**0.32**	**334**	IAML		03 35 28.6	
	comp=N,464nm,0.1s						
POHA				IAML		03 35 30.4	
	comp=N,367nm,0.6s						
HUH	**Hualalai**	**0.48**	**297**	Pg	Pg	03 35 24.3	+1.0
HPAH	**Hawaii Prepara**	**0.63**	**332**	Pg	Pg	03 35 25.7	-0.5
HPAH					Sg	03 35 34.3	-0.1
MHA	**Mahukona**	**0.87**	**326**	Pg	Pg	03 35 29.2	-1.5

NEIC ***05*** *03:36:15.7±0.5, 19°.28N±0°.02×155°.36W±0°.02, h9km±5km, Error ellipse: s-maj=3.8km s-min=1.1km az=127.0*

HVO 05 03:36:15.0±0.7,**19°.24N**±0°.02×**155°.36W**±0°.01,**h1**km±9km,
ML2.9/30,**ML2.8**/44(NEIC),**Error ellipse: s-maj=3.0km s-min=1.0km az=141.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.04**	**265**		Pg	03 36 16.8	+1.0
HLP	**Hilina Pali**	**0.07**	**39**		Pg	03 36 17.5	+1.1
HLP					Sg	03 36 19.5	+2.1
SDHHI	**Sand Hill**	**0.16**	**21**		Pg	03 36 18.9	+0.8
SDHHI					Sg	03 36 21.1	+0.9
RIM	**Rim**	**0.17**	**26**	Pg	Pg	03 36 18.5	+0.2
RIM				IAML		03 36 22.5	
	comp=N,4µm,0.4s						
WRMHI	**West Rim**	**0.17**	**17**		Pg	03 36 18.9	+0.5
KKO	**Keanakako`i**	**0.18**	**28**	Pg	Pg	03 36 19.0	+0.5
KKO				IAML		03 36 23.9	
	comp=E,2µm,0.8s						
KKO				IAML		03 36 24.4	
	comp=N,3µm,0.6s						
NPH	**North Pit**	**0.18**	**22**		Pg	03 36 19.1	+0.5
NPH				IAML		03 36 23.1	
	comp=N,2µm,0.6s						
PUH	**Pauahi**	**0.19**	**45**		Pg	03 36 19.1	+0.5
PUH				IAML		03 36 22.7	
	comp=E,2µm,0.5s						
PUH				IAML		03 36 23.9	
	comp=N,2µm,0.4s						
OBL	**Observatory Le**	**0.19**	**21**	Pg	Pg	03 36 19.2	+0.6
UWE	**Uwekahuna**	**0.19**	**18**		Pg	03 36 19.1	+0.4
UWE				IAML		03 36 24.5	
	comp=N,4µm,0.5s						
UWE				IAML		03 36 24.7	
	comp=E,4µm,0.3s						
BYL	**Byron's Ledge**	**0.19**	**28**	Pg	Pg	03 36 19.0	+0.3
BYL				IAML		03 36 24.3	
	comp=N,2µm,0.7s						
BYL				IAML		03 36 24.8	
	comp=E,2µm,0.7s						
UWB	**Uwekahuna B**	**0.20**	**22**		Pg	03 36 19.4	+0.6
UWB				IAML		03 36 23.0	
	comp=N,2µm,0.8s						
HATHI	**Halema'uma'u T**	**0.20**	**26**	Pg	Pg	03 36 19.3	+0.4
HATHI				IAML		03 36 23.5	
	comp=E,2µm,0.8s						
HATHI				IAML		03 36 23.9	
	comp=N,2µm,0.7s						
SBLHI	**Steaming Bluff**	**0.20**	**24**	Pg	Pg	03 36 19.2	+0.3
SBLHI				IAML		03 36 23.3	
	comp=E,2µm,0.7s						
SBLHI				IAML		03 36 24.5	
	comp=N,2µm,0.6s						
RSD	**Rainshed**	**0.23**	**18**		Pg	03 36 19.7	+0.2
HPO	**Honuapo**	**0.24**	**231**		Pg	03 36 21.1	+1.9
KHU	**Kahuku**	**0.25**	**271**		Pg	03 36 20.5	+0.7
KHU				IAML		03 36 25.9	
	comp=E,2µm,0.3s						
KHU				IAML		03 36 28.1	
	comp=N,2µm,0.3s						
MLH	**Mauna Loa**	**0.25**	**353**		Pg	03 36 20.6	+0.7
MLH				IAML		03 36 27.2	
	comp=E,3µm,0.2s						
MLH				IAML		03 36 27.3	
	comp=N,3µm,0.2s						
STCH	**Steam Cracks**	**0.26**	**57**	Pg	Pg	03 36 20.4	+0.3
NPOC	**North of Pu'u**	**0.28**	**57**		Pg	03 36 20.1	-0.2
MWH	**Moku'aweowe**	**0.33**	**317**		Pg	03 36 21.8	+0.4
MWH				IAML		03 36 29.1	
	comp=E,2µm,0.4s						
MWH				IAML		03 36 29.6	
	comp=N,2µm,0.5s						
HMH	**Humu'ula Sheep**	**0.38**	**341**		Pg	03 36 22.8	+0.4
HMH				IAML		03 36 32.7	
	comp=N,2µm,0.3s						
POHA	**Pohakuloa**	**0.54**	**342**	Pg	Pg	03 36 25.6	+0.2
CPH	**Captain Cook**	**0.59**	**295**		Pg	03 36 26.7	+0.5
HUH	**Hualalai**	**0.63**	**314**		Pg	03 36 27.5	+0.3
HPAH	**Hawaii Prepara**	**0.85**	**338**		Pg	03 36 30.3	-1.0

SOME ***05*** *03:50:37.1, 41°.25N×83°.83E, h0km*
NNC ***05*** *03:50:41.0±2.5, 41°.37N×83°.84E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=20.0km s-min=15.1km az=164.0*

ISC 05 03:50:45.5±2.3,**41°.5N**±0°.1×**83°.58E**±0°.08,**h10**km,**n27,**
σ1§**84**/41,**7C-6D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.10**	**311**	Pg	**Pb**	**03 51 39.4**	**-1.4**
	12nm,0.3s						
KTMS				Lg	Lg	03 52 24.8	
	31nm,0.6s						
KTMS	**Ketmen**	**3.10**	**311**	*e*P	**Pb**	**03 51 40.2**	**-0.6**
	12nm,0.3s						
KTMS				*e*S	**Sg**	**03 52 25.1**	**0.0**
	34nm,0.4s						
SHLS	**Shalkode**	**3.49**	**300**	Pg	**Pn**	**03 51 42.4**	**+2.5**
	40nm,0.5s						
SHLS				Lg	Lg	03 52 29.5	
	161nm,0.5s						
SHLS	**Shalkode**	**3.49**	**300**	*e*P	**Pn**	**03 51 42.4**	**+2.5**
	40nm,0.5s						
SHLS				*e*S	**Sb**	**03 52 29.5**	**-0.4**
	161nm,0.5s						
PDGK	**Podgornoye**	**3.56**	**303**	Pg	**Pb**	**03 51 47.8**	**-0.7**
	5.5nm,0.3s						
PDGK				Lg	Lg	03 52 38.1	
	22nm,0.4s						
PDGK	**Podgornoye**	**3.56**	**303**	⇓Pn	**Pn**	**03 51 40.1**	**-0.7**
	5.9nm,0.6s						
PDGK				⇑Pg	**Pg**	**03 51 53.2**	**-0.4**
	41nm,0.8s						
PDGK				⇑Lg	Lg	03 52 44.7	
	78nm,0.5s						
UZB	**Uzynbulak**	**3.77**	**298**	Pg	**Pb**	**03 51 51.9**	**-0.4**
	9.0nm,0.2s						
UZB				Lg	Lg	03 52 45.7	
	49nm,0.5s						
UZB	**Uzynbulak**	**3.77**	**298**	*e*P	**Pb**	**03 51 51.9**	**-0.4**
	9.0nm,0.2s						
UZB				*e*S	**Sg**	**03 52 45.7**	**-0.9**
	49nm,0.5s						
DJR	**Jarkent**	**4.00**	**317**	Pg	**Pb**	**03 51 57.1**	**+1.2**
	12nm,0.6s						
DJR				Lg	Lg	03 52 55.2	
	32nm,0.7s						
DJR	**Jarkent**	**4.00**	**317**	*e*P	**Pb**	**03 51 57.1**	**+1.2**
	12nm,0.6s						
DJR				*e*S	**Sg**	**03 52 55.2**	**+1.5**
	32nm,0.7s						
KNOS	**Konyrlen**	**4.34**	**313**	Pg	**Pb**	**03 52 03.8**	**+2.0**
	26nm,0.6s						
KNOS				Lg	Lg	03 53 06.6	
	37nm,0.4s						
KURS	**Kuram**	**4.48**	**299**	*e*P	**Pb**	**03 52 04.8**	**+0.5**
	2.1nm,0.5s						
KURS				*e*S	**Sg**	**03 53 07.8**	**-1.5**
	14nm,0.6s						
BLB	**Baldybastay**	**4.58**	**307**	Pg	**Pb**	**03 52 07.5**	**+1.5**
	44nm,0.3s						
BLB				Lg	Lg	03 53 13.0	
	56nm,0.3s						
KAPS	**Kapalarasan**	**4.90**	**323**	Pg	**Pb**	**03 52 11.6**	**+0.1**
	15nm,0.5s						
KAPS				Lg	Lg	03 53 22.4	
	23nm,0.5s						
KAPS	**Kapalarasan**	**4.90**	**323**	*e*P	**Pb**	**03 52 12.9**	**+1.5**
	5.4nm,0.2s						
KAPS				*e*S	**Sg**	**03 53 21.7**	**-1.2**
	28nm,0.3s						
ARXS	**Arharly**	**5.04**	**305**	*e*P	**Pb**	**03 52 15.4**	**+1.6**
	2.5nm,0.4s						
ARXS				*e*S	**Sg**	**03 53 26.3**	**-1.0**
	18nm,0.5s						
MDOK	**Medeo**	**5.13**	**292**	Pn	**Pn**	**03 52 03.1**	**+0.7**
	4.9nm,0.6s						
MDOK				⇓Pg	**Pg**	**03 52 20.5**	**-3.2**
	17nm,0.6s						
MDOK				Lg	Lg	03 53 36.7	
	23nm,0.6s						
TNSS	**Tian-Shan**	**5.17**	**290**	*e*P	**Pb**	**03 52 18.3**	**+2.2**
	5.5nm,0.5s						
TNSS				*e*S	**Sg**	**03 53 31.0**	**-0.4**
	8.0nm,0.6s						
MK31	**Makanchi Array**	**5.41**	**351**	⇑Pn	**Pn**	**03 52 07.0**	**+0.9**
	0.1nm,0.2s,baz=157,slow=14,SNR=20						
MK31				⇓Pg	**Pb**	**03 52 22.3**	**+2.2**
	4.0nm,0.5s,baz=169,slow=9.8,SNR=8.3						
MK31				⇓Lg	Lg	03 53 38.9	
	25nm,0.5s,baz=160,slow=27,SNR=13						
CHKK	**Chushkaly**	**5.41**	**298**	Pg	**Pb**	**03 52 22.6**	**+2.5**
	3.8nm,0.5s						
CHKK				Lg	Lg	03 53 37.0	
	20nm,0.6s						
CHKK	**Chushkaly**	**5.41**	**298**	*e*P	**Pb**	**03 52 22.6**	**+2.5**
	2.4nm,0.2s						
CHKK				*e*S	**Sg**	**03 53 38.2**	**-1.0**
	20nm,0.3s						
MAKZ	**Makanchi**	**5.47**	**348**	⇑Pg	**Pb**	**03 52 21.8**	**+0.8**
	1.8nm,0.4s						
MAKZ				⇑Lg	Lg	03 53 41.5	
	36nm,1.1s						
KTBS	**Karatobe**	**5.56**	**296**	Pg	**Pb**	**03 52 23.3**	**+0.6**
	3.9nm,0.5s						
KTBS				Lg	Lg	03 53 41.4	
	20nm,0.7s						
KTBS	**Karatobe**	**5.56**	**296**	*e*P	**Pb**	**03 52 24.5**	**+1.9**
	3.1nm,0.4s						
KTBS				*e*S	**Sg**	**03 53 41.3**	**-2.7**
	23nm,0.3s						
ZSN	**Zaisan**	**6.06**	**8**	Pg	Pb	03 52 33.0	+2.0
	5.2nm,0.4s						
ZSN				Lg	Lg	03 53 56.3	
	41nm,0.7s						
ZSN	**Zaisan**	**6.06**	**8**	*e*P	Pb	03 52 33.0	+2.0
	5.2nm,0.4s						
ZSN				*e*S	**Sg**	**03 53 56.3**	**-3.5**
	41nm,0.7s						
TKM2	**Tokmak 2**	**6.10**	**286**	⇑Pn	**Pn**	**03 52 15.4**	**-0.5**
	2.7nm,0.5s						
TKM2				⇑Pg	**Pg**	**03 52 38.7**	**-3.6**
	6.7nm,0.7s						
TKM2				⇓Sn	**Sn**	**03 53 30.2**	**+4.3**
	5.0nm,0.5s						
TKM2				⇓Lg	Lg	03 54 06.6	
	19nm,0.7s						

IDC ***05*** *03:51:41.4±1.1, 0°.55S×124°.79E, h0km, mb3.7/6, mbtmp3.7/6, MS3.4/3, Error ellipse: s-maj=138.5km s-min=18.9km az=65.0*
DJA ***05*** *03:51:47.1±1.2, 0°.5S±4°×12°.6E±°, h12km±9km, M4.1/8, mb4.2/1, MLv4.0/8*

ISC 05 03:51:48.0±0.8,**0°.03S**±0°.06×**125°.84E**±0°.05,**h35**km,**n15,**
σ2§**82**/16,**mb3.7/6,Southern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.73**	**62**	P	**Pn**	**03 52 17.4**	**+1.9**
LBMI	**Labuha**	**1.77**	**110**	P	**Pn**	**03 52 18.5**	**+2.3**
LBMI				S	**Sn**	**03 52 40.2**	**+2.7**
KMSI	**Cibinong**	**1.95**	**288**	P	**Pn**	**03 52 18.6**	**0.0**
KMSI				S	**Sn**	**03 52 45.4**	**+3.5**
SANI	**Sanana**	**2.01**	**176**	P	**Pn**	**03 52 19.8**	**+0.3**
SANI				S	**Sn**	**03 52 45.0**	**+1.6**
LUWI	**Luwuk**	**3.23**	**252**	P	**Pn**	**03 52 37.8**	**+1.6**
LUWI				S	**Sn**	**03 53 18.4**	**+5.0**
NLAI	**Namlea**	**3.43**	**158**	P	**Pn**	**03 52 41.3**	**+2.3**
DAV	**Davao City (W)**	**7.06**	**358**	LR	LR	03 56 29.7	
	comp=Z,95nm,21.7s,baz=12,slow=38						
WRA	**Warramunga Arr**	**21.47**	**158**	P	**P**	**03 56 30.2**	**-3.4**
	1.3nm,0.5s,baz=335,slow=11,SNR=19						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**24.77**	**162**	P	**P**	**03 57 03.9**	**-2.8**
	0.7nm,0.5s,baz=341,slow=8.6,SNR=13						
	0.7nm,0.5s						
STKA	**Stephens Creek**	**35.01**	**156**	P	**P**	**03 58 36.6**	**-0.7**
	1.4nm,0.5s,baz=320,slow=8.0,SNR=3.7						
	1.4nm,0.5s						
SONM	**Songino Array**	**50.58**	**343**	P	**P**	**04 00 45.1**	**+1.6**
	1.0nm,0.7s,baz=157,slow=7.8,SNR=3.1						
	1.0nm,0.7s						
MKAR	**Makanchi Array**	**60.16**	**327**	P	**P**	**04 01 50.2**	**-2.1**
	0.4nm,0.5s,baz=126,slow=7.5,SNR=5.1						
	0.4nm,0.5s						
AAK	**Ala-Archa**	**62.57**	**320**	LR	LR	04 31 28.2	
	comp=Z,76nm,19.6s,baz=94,slow=38						
KURBB	**Kurchatov Arra**	**64.

comp=N,2µm,0.4s
KKO Keanakako'i 0.20 13 Pg Pg 03 55 57.0 +0.8
KKO IAML 03 56 02.7
comp=N,3µm,0.4s
KKO IAML 03 56 03.2
comp=E,2µm,0.3s
WRMHI West Rim 0.21 4 Pg 03 55 56.9 +0.7
WRMHI IAML 03 56 01.8
comp=N,3µm,1.0s
NPH North Pit 0.21 9 Pg Pg 03 55 56.8 +0.4
BYL Byron's Ledge 0.22 14 Pg 03 55 56.9 +0.4
BYL IAML 03 56 01.6
comp=E,2µm,0.4s
BYL IAML 03 56 02.1
comp=N,2µm,0.4s
OBL Observatory Le 0.22 8 Pg 03 55 56.8 +0.4
OBL IAML 03 56 03.5
comp=N,4µm,0.4s
UWE Uwekahuna 0.22 6 Pg 03 55 57.0 +0.5
UWE Sg Sg 03 55 59.2 -0.2
UWE IAML 03 56 02.8
comp=N,4µm,0.4s
UWE IAML 03 56 03.5
comp=E,3µm,0.4s
KNHH Kane Nui o Ham 0.23 38 Pg 03 55 57.5 +1.0
UWB Uwekahuna B 0.23 9 Pg Pg 03 55 57.1 +0.5
HATHI Halema'uma'u T 0.23 13 Pg 03 55 57.2 +0.5
HATHI IAML 03 56 02.0
comp=N,2µm,0.8s
HATHI IAML 03 56 03.6
comp=E,3µm,0.5s
SBLHI Steaming Bluff 0.23 11 Pg Pg 03 55 57.3 +0.6
SBLHI IAML 03 56 01.9
comp=N,2µm,0.4s
SBLHI IAML 03 56 03.7
comp=E,2µm,0.8s
HPO Honuapo 0.25 244 Pb 03 55 58.4 -1.2
STCH Steam Cracks 0.26 44 Pg 03 55 57.8 +0.6
RSD Rainshed 0.26 8 Pg 03 55 57.6 +0.3
RSD IAML 03 56 06.2
comp=E,1µm,0.6s
JCUZ Jacuzzi 0.27 48 Pg Pg 03 55 58.2 +0.7
JCUZ IAML 03 56 04.2
comp=E,1µm,0.3s
NPOC North of Pu'u 0.27 45 Pg Pg 03 55 57.9 +0.4
NPOC IAML 03 56 05.5
comp=E,1µm,0.7s
KHU Kahuku 0.29 279 Pg 03 55 58.2 +0.5
KHU IAML 03 56 07.7
comp=E,2µm,0.4s
KHU IAML 03 56 07.8
comp=N,3µm,0.5s
MLH Mauna Loa 0.30 347 Pg 03 55 58.4 +0.4
MLH IAML 03 56 05.4
comp=N,3µm,0.5s
MWH Moku'aweowe 0.39 317 Pg 03 56 00.3 +0.6
HMH Humu'ula Sheep 0.43 339 Pg 03 56 00.8 +0.3
HMH IAML 03 56 09.3
comp=E,2µm,0.3s
HMH IAML 03 56 09.3
comp=N,2µm,0.2s
ALEP Alea Permanent 0.46 318 Pg 03 56 01.4 +0.3
POHA Pohakuloa 0.59 340 Pg 03 56 03.6 0.0
POHA Pohakuloa 0.59 340 Sg 03 56 11.7 +0.4
HUH Hualalai 0.69 315 Pg 03 56 05.5 +0.1
HPAH Hawaii Prepara 0.90 337 Sg 03 56 21.2 0.0

*IDC **05** 03:59:22.0±0.5,30˚.69N×131˚.26E,h0km,mb4.3/27, mbtmp4.3/33,ML3.6/6,MS3.9/30,Error ellipse: s-maj=14.7km s-min=11.4km az=93.0*
*MOS **05** 03:59:25.6±1.0,30˚.68N×131˚.35E,h37km,mb4.7/31,Error ellipse: s-maj=9.9km s-min=5.5km az=99.0*
*JMA **05** 03:59:26.0±0.2,30˚.7N±0˚.6×13˚.2E±˚,h31km±2km, MD4.3/36,MV4.2/36,SE OFF OSUMI PEN*
JMA Felt I J1 at SE OFF OSUMI PEN .
*NIED **05** 03:59:26.0,30˚.66N×131˚.53E,h31km,MW4.6,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr=6.03; Mθθ3.90; Mϕϕ2.12; Mrθ=4.84; Mθϕ-4.41; Mϕr0.69; Fault plane solution: M₀8.45000×10¹⁵ NP1: ϕs=284.00000°,δ63.00000°,λ-118.00000°. NP2: ϕs=154.00000°,δ38.00000°,λ-47.00000°.*
*NEIC **05** 03:59:27.9±1.2,30˚.66N±0˚.05×131˚.39E±0˚.08,h39km±5km, mb4.6/63 Error ellipse: s-maj=10.5km s-min=6.9km az=82.0*
ISC 05 03:59:26.7±0.9,30˚.68N±0˚.03×131˚.38E±0˚.04,h31km±6km, n248,σ1§13/229,mb4.5/84,MS4.0/34,15C-3D,Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTN	**Tanegashima 3**	**0.34**	**265**	P	**Pn**	**03 59 35.5**	**-0.1**
JTN				S	**Sn**	**03 59 42.8**	**+1.3**
JTN	**Tanegashima 3**	**0.34**	**265**	A	A	03 59 35.5	
comp=E,35nm,1.3s,comp=N,82nm,1.6s							
JMTN	**Minamitane**	**0.50**	**235**	P	**Pn**	**03 59 38.2**	**+0.5**
JMTN				S	**Sn**	**03 59 47.8**	**+2.5**
JMTN	**Minamitane**	**0.50**	**235**	A	A	03 59 38.2	
comp=E,79nm,0.9s,comp=N,147nm,1.3s							
JTSR	**Tashiro 2**	**0.62**	**321**	P	**Pn**	**03 59 39.7**	**+0.2**
JTSR				S	**Sn**	**03 59 49.7**	**+1.4**
JTSR	**Tashiro 2**	**0.62**	**321**	A	A	03 59 39.7	
comp=E,23nm,2.4s,comp=N,24nm,0.8s							
JNAR	**Kushima--Naru**	**0.85**	**354**	P	**Pb**	**03 59 42.6**	**-0.3**
JNAR				*e*S	**Sn**	**03 59 55.6**	**+1.7**
JNAR	**Kushima--Naru**	**0.85**	**354**	A	A	03 59 42.6	
comp=E,35nm,3.3s,comp=N,25nm,1.7s							
JYAK	**Yakushimahirau**	**0.87**	**240**	⇓*i*P	**Pb**	**03 59 43.5**	**+0.2**
JYAK				⇓*e*S	**Sn**	**03 59 57.1**	**+2.7**
JYAK	**Yakushimahirau**	**0.87**	**240**	A	A	03 59 43.5	
comp=E,13nm,0.9s,comp=N,21nm,1.0s							
JNKG	**Nichinankitago**	**0.98**	**0**	P	**Pn**	**03 59 44.4**	**+0.1**
JNKG				*e*S	**Sn**	**03 59 58.5**	**+1.4**
JNKG	**Nichinankitago**	**0.98**	**0**	A	A	03 59 44.4	
comp=E,22nm,0.8s,comp=N,22nm,1.2s							
JKC	**Kuchinoerabu**	**1.04**	**258**	P	**Pb**	**03 59 46.2**	**+0.1**
JKC	**Kuchinoerabu**	**1.04**	**258**	A	A	03 59 46.2	
comp=E,8.0nm,1.6s,comp=N,11nm,3.4s							
JSU	**Suzuyama**	**1.14**	**316**	*e*P	**Pn**	**03 59 47.1**	**+0.6**
JSU	**Suzuyama**	**1.14**	**316**	A	A	03 59 47.1	
comp=E,7.0nm,3.9s,comp=N,6.0nm,2.9s							
JTZ	**Takazaki**	**1.24**	**349**	*i* P	**Pn**	**03 59 48.4**	**+0.5**
JTZ				*e*S	**Sb**	**04 00 05.3**	**+0.2**
JTZ	**Takazaki**	**1.24**	**349**	A	A	03 59 48.4	
comp=E,15nm,2.4s,comp=N,11nm,3.1s							
JNN	**Nakanoshima**	**1.55**	**238**	A	A	03 59 53.7	
comp=E,11nm,1.4s,comp=N,11nm,1.3s							
JTSN	**Tsuno**	**1.56**	**4**	P	**Pn**	**03 59 51.8**	**-0.5**
JKIT	**Kitakata**	**1.94**	**2**	A	A	03 59 58.3	
comp=E,6.0nm,1.5s,comp=N,6.0nm,2.3s							
JHD	**Hondo**	**2.07**	**330**	A	A	04 00 01.1	
comp=E,6.0nm,2.7s,comp=N,5.0nm,2.3s							
JNU	**Nakatsue**	**2.47**	**350**	P	**Pn**	**04 00 05.2**	**+0.3**
JNU	**Nakatsue**	**2.47**	**350**	Pn	**Pn**	**04 00 05.4**	**+0.6**
comp=N,9.9nm,0.3s,baz=190,slow=11,SNR=92							
JNU				Sn	**Sn**	**04 00 35.1**	**+1.1**
comp=N,27nm,0.3s,baz=16,slow=21,SNR=6.2							
comp=N,52nm,0.6s							
JMN	**Monobe**	**3.71**	**34**	P	**Pn**	**04 00 21.5**	**-0.4**
JMN	**Monobe**	**3.71**	**34**	Pn	**Pn**	**04 00 20.9**	**-1.0**
JTU	**Tsushima**	**4.18**	**337**	Pn	**Pn**	**04 00 28.6**	**+0.2**
JOW	**Kunigami**	**4.70**	**216**	P	**Pn**	**04 00 35.8**	**+0.2**
JOW	**Kunigami**	**4.70**	**216**	Pn	**Pn**	**04 00 35.3**	**-0.3**
JOW	**Kunigami**	**4.70**	**216**	Pn	**Pn**	**04 00 35.1**	**-0.5**
comp=N,7.3nm,0.3s,baz=89,slow=19,SNR=24							
JOW				Sn	**Sn**	**04 01 27.6**	**-1.5**
comp=N,7.1nm,0.3s,baz=199,slow=26,SNR=5.5							
comp=N,20nm,0.3s							
JMZ	**Minamidaito 2**	**4.85**	**182**	P	**Pn**	**04 00 37.0**	**-0.6**
JMZ	**Minamidaito 2**	**4.85**	**182**	Pn	**Pn**	**04 00 37.0**	**-0.6**
JGF	**Kuroka**	**7.01**	**44**	P	**Pn**	**04 01 06.9**	**-0.4**
JGF	**Kuroka**	**7.01**	**44**	Pn	**Pn**	**04 01 06.4**	**-1.0**
KSRS	**Korea Array**	**7.34**	**338**	Pn	**Pn**	**04 01 14.0**	**+2.3**
comp=N,0.5nm,0.3s,baz=147,slow=14,SNR=6.8							
KSRS	**Korea Array**	**7.34**	**338**	P	**Pn**	**04 01 14.0**	**+2.3**
JHJ	**Hachijo jima 2**	**7.55**	**69**	Pn	**Pn**	**04 01 14.6**	**-0.1**
comp=N,14nm,0.3s,baz=101,slow=23,SNR=5.1							
JHJ				LR	LR	04 02 59.5	
comp=N,129nm,20.1s,baz=346,slow=28							
comp=N,128nm,0.8s							
JHJ2	**Mitsune**	**7.58**	**69**	P	**Pn**	**04 01 14.8**	**-0.2**
JHJ2	**Mitsune**	**7.58**	**69**	Pn	**Pn**	**04 01 14.5**	**-0.5**
MAJO	**Matsushiro**	**8.16**	**42**	P	**Pn**	**04 01 22.9**	**-0.2**
MAJO	**Matsushiro**	**8.16**	**42**	Pn	**Pn**	**04 01 22.8**	**-0.2**
MAJO	**Matsushiro**	**8.16**	**42**	P	**Pn**	**04 01 22.8**	**-0.2**
MJB9	**Matsu-Tunnel**	**8.16**	**42**	Pn	**Pn**	**04 01 23.7**	**+0.7**
MJAR	**Matsushiro Arr**	**8.16**	**42**	Pn	**Pn**	**04 01 22.9**	**-0.1**
comp=N,0.5nm,0.3s,baz=246,slow=14,SNR=18							
comp=N,3.3nm,0.3s							
SSE	**Sheshan**	**8.77**	**275**	P	**Pn**	**04 01 31.3**	**0.0**
SSE				S	**Sn**	**04 03 08.8**	**-0.3**
SSE				pmax	pmax		
comp=Z,13nm,0.8s							
SSE				pmax	pmax		
comp=Z,57nm,4.3s							
SSE				LR	LR		
comp=N,390nm,19.0s							
SSE				LR	LR		
comp=E,120nm,19.0s							
JCJ	**Chichijima**	**10.12**	**108**	LR	LR	04 05 10.9	
comp=E,263nm,18.6s,baz=290,slow=34							
JMM	**Marumori**	**10.58**	**45**	Pn	**Pn**	**04 01 57.5**	**+1.3**
NJ2	**Nanjing**	**10.79**	**280**	*e*P	**Pn**	**04 01 58.6**	**-0.5**
NJ2				pmax	pmax		
comp=Z,3.0nm,0.5s							
NJ2				LR	LR		
comp=N,680nm,15.1s							
NJ2				LR	LR		
comp=E,390nm,15.5s							
NJ2				LR	LR		
comp=Z,580nm,19.1s							
USA0B	**Ussuriysk Arra**	**13.50**	**2**	*i* P	**Pn**	**04 02 38.3**	**+2.2**
USRK	**Ussuriysk Ar.**	**13.50**	**2**	Pn	**Pn**	**04 02 36.5**	**+0.4**
comp=Z,0.1nm,0.3s,baz=133,slow=10,SNR=2.6							
USRK				LR	LR	04 08 04.1	
comp=Z,681nm,18.6s,baz=176,slow=39							
comp=Z,1.6nm,0.8s							
TEY	**Ternei**	**14.91**	**15**	*e*P	**P**	**04 03 01.1**	**+0.6**
BNX	**BinXian**	**15.35**	**349**	⇓P	**P**	**04 03 06.3**	**+0.9**
BNX				pmax	pmax		
comp=Z,9.0nm,1.0s							
BNX				pmax	pmax		
comp=Z,210nm,4.3s							
BJT	**Baijiatuau**	**15.50**	**311**	Pn	**Pn**	**04 03 03.2**	**+0.3**
BJT	**Baijiatuau**	**15.50**	**311**	P	**Pn**	**04 03 03.3**	**+0.3**
BJT				pmax	pmax		
comp=Z,10.0nm,0.7s							
ASAJ	**Asahikawa**	**16.08**	**30**	LR	LR	04 09 51.1	
comp=Z,654nm,19.3s,baz=224,slow=39							
YSS	**Yuzh-Sakhalins**	**18.48**	**25**	*e*P	**P**	**04 03 40.2**	**+0.2**
YSS				pmax	pmax		
comp=Z,10.0nm,1.0s							
KLR	**Kul'dur**	**18.53**	**1**	P	**Pn**	**04 03 41.2**	**+0.3**
comp=Z,0.3nm,0.3s,baz=186,slow=7.5,SNR=11							
KLR				LR	LR	04 11 02.6	
comp=Z,340nm,18.7s,baz=184,slow=38							
comp=Z,3.3nm,0.8s							
KLR	**Kul'dur**	**18.53**	**1**	*e*P	**P**	**04 03 40.4**	**-0.1**
KLR				pmax	pmax		
comp=Z,7.0nm,1.1s							
HHC	**Hu-ho-hao-te**	**18.97**	**308**	*e*P	**P**	**04 03 46.4**	**+0.8**
HHC				sP	pP	04 03 54.4	+0.7
HHC				S	**Sn**	**04 07 13.4**	**-4.6**
HHC				pmax	pmax		
comp=Z,37nm,4.3s							
HHC				LR	LR		
comp=N,320nm,16.0s							
HHC				LR	LR		
comp=E,160nm,16.0s							
HHC				LR	LR		
comp=Z,340nm,16.7s							
XAN	**Xi'an**	**19.25**	**286**	⇑P	**Pn**	**04 03 55.9**	**+6.1**
XAN				pP	sP	04 04 03.3	+2.5
XAN				pmax	pmax		
comp=Z,11nm,0.7s							
XAN				LR	LR		
comp=N,620nm,15.2s							
XAN				LR	LR		
comp=E,730nm,15.2s							
XAN				LR	LR		
comp=Z,1µm,13.3s							
HIA	**Hailar**	**20.55**	**338**	P	**P**	**04 04 02.6**	**0.0**
HIA	**Hailar**	**20.55**	**338**	P	**P**	**04 04 02.6**	**0.0**
HIA				pmax	pmax		
comp=Z,6.0nm,0.6s							
GUMO	**Guam**	**21.07**	**141**	LR	LR	04 11 21.0	
comp=Z,128nm,18.0s,baz=44,slow=34							
TYV	**Tymovskoe**	**21.85**	**19**	*e*P	**P**	**04 04 18.8**	**+2.3**
TYV				*e*S	Sn	04 08 22.8	-4.0
TYV				pmax	pmax		
comp=Z,5.0nm,1.0s							
TYV				pmax	pmax		
comp=Z,100nm,5.6s							
GYA	**Guiyang**	**22.09**	**265**	⇑P	**P**	**04 04 18.8**	**-0.7**
GYA				pmax	pmax		
comp=Z,16nm,0.8s							
QIZ	**Qiongzhong**	**22.68**	**244**	P	**P**	**04 04 25.6**	**-0.1**
QIZ				S	**S**	**04 08 33.6**	**+1.5**
QIZ				LR	LR		
comp=N,170nm,16.7s							
QIZ				LR	LR		
comp=E,300nm,21.0s							
QIZ				LR	LR		
comp=Z,420nm,19.6s							
ZEA	**Zeya**	**23.23**	**354**	*e*P	**P**	**04 04 30.2**	**-0.9**
ZEA				pmax	pmax		
comp=Z,10.0nm,0.7s							
ZEA				MLR	MLR		
comp=Z,200nm,14.0s							
LZH	**Lanzhou**	**23.57**	**291**	*e*P	**P**	**04 04 30.9**	**-3.9**
LZH				pP	pP	04 04 39.3	-4.1
LZH				pmax	pmax		
comp=Z,9.0nm,1.0s							
LZH				LR	LR		
comp=N,340nm,12.5s							
LZH				LR	LR		
comp=E,280nm,13.1s							
LZH				LR	LR		
comp=Z,380nm,15.6s							
CD2	**Chengdu**	**23.70**	**278**	P	**P**	**04 04 36.2**	**+0.2**
CD2				S	**S**	**04 08 50.2**	**+1.0**
CD2				pmax	pmax		
comp=Z,10.0nm,0.5s							
CD2				LR	LR		
comp=N,300nm,15.3s							
CD2				LR	LR		
comp=E,400nm,15.7s							
CD2				LR	LR		
comp=Z,380nm,15.7s							
ULN	**Ulaanbaatar**	**25.31**	**320**	P	**P**	**04 04 49.5**	**-1.2**
ULN	**Ulaanbaatar**	**25.31**	**320**	*ce*P	**P**	**04 04 50.9**	**+0.2**
ULN				pmax	pmax		
comp=Z,13nm,1.3s							
SONM	**Songino Array**	**25.66**	**319**	P	**P**	**04 04 52.8**	**-1.1**
SONM	**Songino Array**	**25.66**	**319**	P	**P**	**04 04 52.9**	**-0.9**
comp=Z,2.3nm,0.6s,baz=138,slow=9.2,SNR=7.8							
comp=Z,2.3nm,0.6s							
PZH	**PanZhiHua**	**26.31**	**268**	P	**P**	**04 04 59.8**	**-0.1**
PZH				pmax	pmax		
comp=Z,10.0nm,0.5s							
PZH				pmax	pmax		
comp=Z,90nm,4.7s							
PEA0B	**Petropavlovsk-**	**29.47**	**33**	*ce*P	**P**	**04 05 27.0**	**-0.7**
PETK	**Petropavlovsk-**	**29.47**	**33**	P	**P**	**04 05 27.6**	**-0.1**
PETK	**Petropavlovsk-**	**29.47**	**33**	P	**P**	**04 05 28.8**	**+1.1**
comp=Z,3.5nm,0.8s,baz=209,slow=11,SNR=4.7							
PETK				LR	LR	04 18 05.3	
comp=Z,235nm,18.9s,baz=219,slow=38							
comp=Z,3.5nm,0.8s							
CRAI	**Chiangrai**	**29.78**	**257**	P	**P**	**04 05 30.3**	**-0.5**
YAK	**Yakutsk**	**31.38**	**358**	LR	LR	04 18 52.4	
comp=Z,190nm,19.3s,baz=174,slow=37							
MA2	**Magadan**	**31.72**	**19**	P	**P**	**04 05 47.1**	**-0.4**
comp=Z,2.5nm,0.3s,baz=194,slow=12,SNR=4.3							
MA2				LR	LR	04 20 13.8	
comp=Z,153nm,18.1s,baz=252,slow=39							
comp=Z,2.5nm,0.3s							
MA2	**Magadan**	**31.72**	**19**	*ce*P	**P**	**04 05 47.9**	**+0.4**
MA2				pmax	pmax		
comp=Z,12nm,1.7s							
CMAR	**Chiang Mai Arr**	**31.79**	**255**	P	**P**	**04 05 48.1**	**-0.4**
CMAR	**Chiang Mai Arr**	**31.79**	**255**	P	**P**	**04 05 47.1**	**-1.4**
comp=Z,1.2nm,0.3s,baz=45,slow=8.0,SNR=7.9							
CMAR				PcP	**PcP**	**04 08 40.3**	**+0.9**
comp=Z,1.6nm,0.3s,baz=63,slow=1.9,SNR=5.3							
CMAR				LR	LR	04 20 10.0	
comp=Z,93nm,19.1s,baz=65,slow=39							
comp=Z,1.2nm,0.3s							
CMAR	**Chiang Mai Arr**	**31.79**	**255**	*ce*P	**P**	**04 05 48.7**	**+0.1**
CMAR				pmax	pmax		
comp=Z,2.0nm,0.3s							
FAKI	**Fak Fak**	**33.42**	**178**	P	**P**	**04 06 02.3**	**-0.6**
H11N2	**WAKE ISLAND Hy**	**33.81**	**100**	T	T	04 41 53.2	
baz=296,slow=74,SNR=82							
H11N1	**WAKE ISLAND Hy**	**33.81**	**100**	T	T	04 41 53.3	
baz=296,slow=74,SNR=61							
H11N3	**WAKE ISLAND Hy**	**33.82**	**100**	T	T	04 41 54.4	
baz=296,slow=74,SNR=71							
H11S3	**WAKE ISLAND Hy**	**34.18**	**102**	T	T	04 42 50.5	
baz=303,slow=74							
H11S1	**WAKE ISLAND Hy**	**34.19**	**102**	T	T	04 43 05.6	
baz=303,slow=74							
H11S2	**WAKE ISLAND Hy**	**34.20**	**102**	T	T	04 43 05.1	
baz=303							
SEY	**Seymchan**	**34.97**	**17**	P	**P**	**04 06 16.3**	**+0.5**
comp=Z,2.5nm,0.2s,baz=178,slow=5.6,SNR=6.5							
SEY				LR	LR	04 21 47.4	
comp=Z,95nm,18.2s,baz=220,slow=38							
comp=Z,2.5nm,0.2s							
SEY	**Seymchan**	**34.97**	**17**	*e*P	**P**	**04 06 15.5**	**-0.3**
SEY				pmax	pmax		
comp=Z,4.0nm,0.9s							
WMQ	**Urumqi**	**36.74**	**303**	*e*P	**P**	**04 06 30.5**	**-0.8**
WMQ				pmax	pmax		
comp=Z,39nm,0.7s							
WMQ				pmax	pmax		
comp=Z,26nm,3.7s							
WMQ				LR	LR		
comp=N,270nm,23.9s							
WMQ				LR	LR		
comp=Z,120nm,18.9s							
ZAA0	**Zalesovo Array**	**40.56**	**319**	P	**P**	**04 07 01.5**	**-1.6**
ZALV	**Zalesovo Beam**	**40.56**	**319**	P	**P**	**04 07 01.8**	**-1.3**
comp=Z,2.7nm,0.9s,baz=95,slow=7.4,SNR=6.7							
ZALV				PcP	**PcP**	**04 09 04.0**	**-0.8**
comp=Z,0.4nm,0.3s,baz=90,slow=5.9,SNR=3.8							
comp=Z,2.7nm,0.9s							
MK31	**Makanchi Array**	**40.84**	**307**	P	**P**	**04 07 04.2**	**-1.3**
MK31	**Makanchi Array**	**40.84**	**307**	P	**P**	**04 07 04.2**	**-1.3**
MK31				pmax	pmax		
comp=Z,3.0nm,1.2s							
MKAR	**Makanchi Array**	**40.84**	**307**	P	**P**	**04 07 04.1**	**-1.4**
MKAR	**Makanchi Array**	**40.84**	**307**	P	**P**	**04 07 04.5**	**-1.0**
comp=Z,0.8nm,0.6s,baz=94,slow=11,SNR=7.9							
comp=Z,0.8nm,0.6s							
MKAR	**Makanchi Array**	**40.84**	**307**	*i* P	**P**	**04 07 04.9**	**-0.6**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
TIXI	**Tiksi**	**41.04**	**359**	P	**P**	**04 07 06.6**	**-0.2**
TIXI	**Tiksi**	**41.04**	**359**	LR	LR	04 25 02.8	
comp=Z,287nm,19.4s,baz=174,slow=38							
TIXI	**Tiksi**	**41.04**	**359**	*ce*P	**P**	**04 07 08.9**	**+2.1**
TIXI				pmax	pmax		
comp=Z,4.0nm,1.3s							
BILL	**Bilibino**	**42.59**	**19**	P	**P**	**04 07 19.7**	**+0.1**
BILL	**Bilibino**	**42.59**	**19**	⇓*e*P	P	04 07 27.3	+7.8
BILL				pmax	pmax		
comp=Z,11nm,1.2s							
PMG	**Port Moresby**	**42.64**	**157**	LR	LR	04 22 23.7	
comp=Z,81nm,21.3s,baz=288,slow=32							
MTN	**Manton Dam**	**43.27**	**180**	P	**P**	**04 07 25.0**	**-0.6**
MTN				IAmb	IAmb	04 07 25.9	
comp=Z,17nm,0.8s							
KURK	**Kurchatov**	**43.66**	**313**	P	**P**	**04 07 27.6**	**-0.9**
KURK				IAmb	IAmb	04 07 28.9	
comp=Z,6.6nm,0.8s							
KURK	**Kurchatov**	**43.66**	**313**	*ce*P	**P**	**04 07 27.3**	**-1.1**
KURK				pmax	pmax		
comp=Z,11nm,1.3s							
KURBB	**Kurchatov Arra**	**43.71**	**313**	P	**P**	**04 07 27.9**	**-0.9**
comp=Z,3.6nm,0.8s,baz=98,slow=9.0,SNR=18							
KURBB				LR	LR	04 27 29.0	
comp=Z,191nm,19.8s,baz=159,slow=39							
comp=Z,3.6nm,0.8s							
KNRA	**Kununurra**	**46.16**	**183**	P	**P**	**04 07 48.4**	**-0.2**
AAK	**Ala-Archa**	**46.37**	**301**	*ce*P	**P**	**04 07 51.1**	**+0.8**
AAK				pmax	pmax		
comp=Z,5.0nm,2.5s							
BVAR	**Borovoye Array**	**48.92**	**316**	P	**P**	**04 08 08.9**	**-0.8**
comp=Z,5.5nm,0.5s,baz=97,slow=9.8,SNR=17							
comp=Z,5.0nm,0.5s							
BVAR	**Borovoye Array**	**48.92**	**316**	P	**P**	**04 08 09.0**	**-0.8**
BRVK	**Borovoye**	**48.99**	**316**	P	**P**	**04 08 09.9**	**-0.3**
BRVK				IAmb	IAmb	04 08 11.1	
comp=Z,8.1nm,0.7s							
BRVK	**Borovoye**	**48.99**	**316**	*ce*P	**P**	**04 08 10.6**	**+0.3**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.8s							
KK31	**Karatay Array**	**49.24**	**302**	P	**P**	**04 08 12.1**	**-0.3**
KK31				IAmb	IAmb	04 08 13.4	
comp=Z,3.2nm,0.8s							
KK31	**Karatay Array**	**49.24**	**302**	P	**P**	**04 08 12.1**	**-0.3**
KK31				pmax	pmax		
comp=Z,3.0nm,0.8s							
GAR	**Garm**	**49.98**	**297**	P	**P**	**04 08 18.0**	**-0.2**
GAR				IAmb	IAmb	04 08 34.9	
comp=Z,5.1nm,0.7s							
WRAB	**Tennant Creek**	**50.41**	**176**	*i* P	**P**	**04 08 21.1**	**-0.2**
WRAB				pmax	pmax		
comp=Z,16nm,0.9s							
WRA	**Warramunga Arr**	**50.41**	**176**	P	**P**	**04 08 21.3**	**-0.1**
comp=Z,11nm,0.9s,baz=354,slow=8.1,SNR=43							
comp=Z,11nm,0.9s							
SIMJ	**Simiganj**	**51.05**	**297**	P	**P**	**04 08 25.8**	**-0.4**
SIMJ				IAmb	IAmb	04 08 27.5	
comp=Z,7.6nm,1.2s							
KBL	**Kabul**	**51.92**	**292**	P	**P**	**04 08 32.2**	**-0.7**
KBL				IAmb	IAmb	04 08 35.3	
comp=Z,3.9nm,0.7s							
KBL	**Kabul**	**51.92**	**292**	P	**P**	**04 08 32.2**	**-0.7**
KBL				pmax	pmax		
comp=Z,4.0nm,0.7s							
PALK	**Pallekele**	**52.74**	**255**	LR	LR	04 33 05.1	
comp=Z,85nm,20.0s,baz=168,slow=38							
F17K	**Baldwin Pennin**	**53.26**	**28**	P	**P**	**04 08 43.1**	**+1.0**
F17K				IAmb	IAmb	04 09 16.2	
comp=Z,9.6nm,1.0s							
C18K	**Utukok River**	**53.59**	**25**	P	**P**	**04 08 44.4**	**-0.2**
AS31	**Alice Springs**	**54.09**	**177**	P	**P**	**04 08 48.9**	**+0.2**
ASAR	**Alice Springs**	**54.09**	**177**	P	**P**	**04 08 48.4**	**-0.3**
ASAR	**Alice Springs**	**54.09**	**177**	P	**P**	**04 08 48.6**	**0.0**
comp=Z,6.3nm,0.8s,baz=10,slow=13,SNR=75							
comp=Z,6.3nm,0.8s							
K17K	**Iditarod**	**54.25**	**32**	P	**P**	**04 08 50.1**	**+0.7**
D19K	**Kuna River**	**54.69**	**25**	P	**P**	**04 08 53.0**	**+0.5**
E19K	**Redstone River**	**54.94**	**27**	P	**P**	**04 08 54.9**	**+0.6**
E19K				IAmb	IAmb	04 08 56.0	
comp=Z,6.8nm,1.1s							
B20K	**Meade River**	**55.18**	**23**	P	**P**	**04 08 56.2**	**+0.2**
ARU	**Arti**	**55.70**	**320**	P	**P**	**04 08 59.6**	**-0.4**
ARU				IAmb	IAmb	04 09 10.1	
comp=Z,10nm,0.9s							
ARU	**Arti**	**55.70**	**320**	P	**P**	**04 08 59.1**	**-0.8**
comp=Z,4.4nm,0.2s,baz=82,slow=4.3,SNR=5.8							
comp=Z,4.4nm,0.2s							
ARU	**Arti**	**55.70**	**320**	*c* P	**P**	**04 08 59.5**	**-0.4**
ARU				*PP	**pP**	**04 09 08.1**	**-1.1**
ARU						04 11 00.2	
ARU				S	**S**	**04 16 43.7**	**-0.

DZM	**Mont Dzumac**	**62.33**	**143**	P	**P**	**04 09 45.9**	**-0.5**
STKA	**Stephens Creek**	**62.97**	**170**	P	**P**	**04 09 50.7**	**+0.4**
STKA				IAmb	IAmb	04 09 51.7	
	comp=Z,2.7nm,0.8s						
STKA	**Stephens Creek**	**62.97**	**170**	P	**P**	**04 09 50.9**	**+0.5**
	comp=Z,12nm,0.7s,baz=346,slow=6.9,SNR=24						
	comp=Z,12nm,0.7s						
STKA	**Stephens Creek**	**62.97**	**170**	*i* P	**P**	**04 09 50.4**	**0.0**
BBOO	**Buckleboo**	**63.30**	**176**	P	**P**	**04 09 52.3**	**-0.3**
INK	**Inuvik**	**63.71**	**24**	P	**P**	**04 09 55.1**	**+0.2**
INK				IAmb	IAmb	04 10 06.8	
	comp=Z,3.7nm,1.1s						
INK	**Inuvik**	**63.71**	**24**	LR	LR	04 39 27.7	
	comp=Z,47nm,20.0s,baz=2.0,slow=38						
INK	**Inuvik**	**63.71**	**24**	P	**P**	**04 09 55.1**	**+0.2**
INK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
H31M	**Peel River**	**64.14**	**27**	P	**P**	**04 09 58.4**	**+0.6**
H31M				IAmb	IAmb	04 10 20.9	
	comp=Z,8.7nm,1.2s						
SPITS	**Spitsbergen Ar**	**65.06**	**348**	LR	LR	04 40 51.3	
	comp=Z,111nm,19.8s,baz=20,slow=38						
A36M	**Sachs Harbour**	**65.13**	**19**	P	**P**	**04 10 04.6**	**+0.5**
C36M	**Paulatuk**	**66.55**	**22**	P	**P**	**04 10 13.2**	**-0.1**
C36M				IAmb	IAmb	04 10 14.9	
	comp=Z,5.8nm,0.8s						
ARCES	**ARCESS Array B**	**66.89**	**338**	LR	LR	04 45 20.9	
	comp=Z,246nm,18.4s,baz=54,slow=41						
OBN	**Obninsk**	**68.03**	**322**	*e*P	**P**	**04 10 23.6**	**+0.7**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OBN				MLR	MLR		
	comp=Z,83nm,15.0s						
KBZ	**Khabaz**	**68.51**	**309**	P	**P**	**04 10 27.0**	**+0.9**
	comp=Z,6.0nm,0.8s,baz=79,slow=4.5,SNR=24						
	comp=Z,6.0nm,0.8s						
KBZ	**Khabaz**	**68.51**	**309**	*c*e P	**P**	**04 10 26.7**	**+0.6**
KBZ				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KIV	**Kislovodsk**	**68.57**	**309**	P	**P**	**04 10 26.6**	**-0.1**
KIV				IAmb	IAmb	04 10 38.5	
	comp=Z,8.8nm,0.8s						
KIV	**Kislovodsk**	**68.57**	**309**	*e*P	**P**	**04 10 26.9**	**+0.3**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,58nm,17.0s						
DLBC	**Dease Lake**	**68.65**	**34**	LR	LR	04 42 43.9	
	comp=Z,60nm,18.2s,baz=340,slow=38						
SHA1	**Shidzhatmaz**	**68.67**	**309**	*c*e P	**P**	**04 10 26.2**	**-1.2**
TOO	**Toolangi**	**69.17**	**168**	P	**P**	**04 10 30.9**	**+0.8**
TOO	**Toolangi**	**69.17**	**168**	P	**P**	**04 10 30.9**	**+0.8**
TOO				pmax	pmax		
	comp=Z,13nm,1.1s						
FIA1	**FINESS Array S**	**70.36**	**331**	P	**P**	**04 10 36.8**	**-0.5**
FINES	**FINESS Array B**	**70.36**	**331**	P	**P**	**04 10 36.3**	**-0.9**
FINES	**FINESS Array B**	**70.36**	**331**	P	**P**	**04 10 35.8**	**-1.4**
	comp=Z,2.0nm,0.5s,baz=73,slow=5.7,SNR=21						
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**70.36**	**331**	P	**P**	**04 10 36.3**	**-0.9**
RES	**Resolute Bay**	**70.66**	**12**	P	**P**	**04 10 38.9**	**+0.1**
RES				IAmb	IAmb	04 10 39.8	
	comp=Z,4.7nm,0.8s						
RES	**Resolute Bay**	**70.66**	**12**	P	**P**	**04 10 38.9**	**+0.1**
RES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SOC	**Sochi**	**70.69**	**310**	*e*P	**P**	**04 10 37.9**	**-1.7**
SOC				*e*		04 13 13.6	
SOC				*e*PPP	PPP	04 14 55.5	
SOC				*e*S	**S**	**04 19 51.4**	**-0.4**
SOC				*e*SS	**SS**	**04 24 26.4**	**+3.0**
SOC				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YKA	**Yellowknife Ar**	**73.33**	**26**	P	**P**	**04 10 55.2**	**+0.2**
	comp=Z,0.5nm,0.7s,baz=307,slow=6.2,SNR=14						
	comp=Z,0.5nm,0.7s						
AKASG	**Malin Array Be**	**73.95**	**320**	P	**P**	**04 10 58.4**	**-0.5**
	comp=Z,0.8nm,0.4s,baz=54,slow=6.1,SNR=12						
AKASG				LR	LR	04 46 29.9	
	comp=Z,123nm,19.6s,baz=66,slow=38						
	comp=Z,0.8nm,0.4s						
AKBB	**Malin Array Si**	**73.95**	**320**	P	**P**	**04 10 58.5**	**-0.4**
AKBB				IAmb	IAmb	04 11 08.9	
	comp=Z,3.8nm,0.8s						
AKBB	**Malin Array Si**	**73.95**	**320**	*c*e P	**P**	**04 10 57.8**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIEV	**Kiev**	**73.96**	**320**	P	**P**	**04 10 58.5**	**-0.4**
KIEV	**Kiev**	**73.96**	**320**	P	**P**	**04 10 58.6**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
RAYN	**Ar Rayn**	**75.02**	**289**	P	**P**	**04 11 05.5**	**-0.2**
RAYN				IAmb	IAmb	04 11 07.2	
	comp=Z,4.7nm,0.8s						
RAYN	**Ar Rayn**	**75.02**	**289**	P	**P**	**04 11 05.5**	**-0.2**
RAYN				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HFS	**Hagfors**	**76.16**	**333**	P	**P**	**04 11 11.1**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=101,slow=4.7,SNR=9.8						
HFS				LR	LR	04 48 28.7	
	comp=Z,89nm,18.4s,baz=34,slow=39						
	comp=Z,1.6nm,0.6s						
NC405	**NORSAR Array S**	**76.30**	**334**	P	**P**	**04 11 12.1**	**-0.2**
NC405				IAmb	IAmb	04 11 21.2	
	comp=Z,13nm,1.2s						
BR131	**Keskin Array S**	**76.48**	**308**	P	**P**	**04 11 13.4**	**-0.5**
BR131				IAmb	IAmb	04 11 15.2	
	comp=Z,6.5nm,0.8s						
BR131	**Keskin Array S**	**76.48**	**308**	*i* P	**P**	**04 11 14.0**	**+0.2**
BRTR	**Keskin Array B**	**76.48**	**308**	P	**P**	**04 11 13.8**	**-0.1**
BRTR	**Keskin Array B**	**76.48**	**308**	P	**P**	**04 11 14.1**	**+0.2**
	comp=Z,4.7nm,0.8s,baz=105,slow=5.4,SNR=37						
	comp=Z,4.7nm,0.8s						
NB2	**NORSAR Subarra**	**76.53**	**334**	P	**P**	**04 11 13.1**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=47,slow=5.6						
NOA	**NORSAR Array B**	**76.53**	**334**	P	**P**	**04 11 13.4**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=51,slow=5.7,SNR=6.9						
NOA				LR	LR	04 48 09.9	
	comp=Z,83nm,19.1s,baz=40,slow=38						
	comp=Z,1.0nm,0.6s						
SUMG	**Summit**	**76.78**	**357**	P	**P**	**04 11 15.3**	**0.0**
SUMG				IAmb	IAmb	04 11 16.4	
	comp=Z,4.2nm,0.7s						
SUMG	**Summit**	**76.78**	**357**	P	**P**	**04 11 15.3**	**0.0**
SUMG				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BUR08	**Bucovina Ar. S**	**77.77**	**318**	P	**P**	**04 11 20.6**	**-0.3**
BURAR	**Bucovina Array**	**77.78**	**318**	P	**P**	**04 11 20.6**	**-0.4**
BURAR				IAmb	IAmb	04 11 22.6	
	comp=Z,2.7nm,0.7s						
KWP	**Kalwaria Pacla**	**78.08**	**321**	P	**P**	**04 11 23.0**	**+0.5**
KWP				IAmb	IAmb	04 11 35.0	
	comp=Z,6.8nm,0.9s						
KWP	**Kalwaria Pacla**	**78.08**	**321**	P	**P**	**04 11 23.0**	**+0.5**
KWP				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MMAI	**Mount Meron Ar**	**78.46**	**301**	P	**P**	**04 11 24.6**	**-0.4**
	comp=Z,3.6nm,0.9s,baz=57,slow=8.8,SNR=4.0						
	comp=Z,3.6nm,0.9s						
LANS	**Liptovska Anna**	**80.10**	**322**	*e*P	**P**	**04 11 37.2**	**+3.6**
LANS	**Liptovska Anna**	**80.10**	**322**	*e*P	**P**	**04 11 37.2**	**+3.6**
ELL	**Elmali**	**80.51**	**307**	P	**P**	**04 11 36.2**	**+0.1**
ELL	**Elmali**	**80.51**	**307**	P	**P**	**04 11 36.2**	**+0.1**
ELL				pmax	pmax		
	comp=Z,58nm,1.4s						
VYHS	**Vyhne**	**80.83**	**322**	*e*P	**P**	**04 11 41.2**	**+3.8**
VYHS				*e*		04 11 49.6	
VYHS	**Vyhne**	**80.83**	**322**	*e*P	**P**	**04 11 41.3**	**+3.8**
VYHS				*e*		04 11 49.6	
J05D	**Fort Rock, OR**	**80.86**	**45**	P	**P**	**04 11 38.2**	**+0.3**
MODS	**Modra-Piesok**	**81.73**	**322**	*e*P	**P**	**04 11 43.4**	**+1.1**
MODS	**Modra-Piesok**	**81.73**	**322**	*e*P	**P**	**04 11 43.4**	**+1.1**
CLL	**Collm**	**82.05**	**326**	*e*P	**P**	**04 11 44.0**	**+0.1**
CLL				AMS	AMS	04 52 00.0	
	comp=N,100nm,19.5s						
CLL				AMS	AMS	04 52 00.0	
	comp=E,100nm,19.1s						
CLL				AMS	AMS	04 52 00.0	
	comp=Z,200nm,19.3s						
CLL	**Collm**	**82.05**	**326**	*e*P	**P**	**04 11 44.0**	**+0.1**
CONA	**Conrad Observa**	**82.75**	**322**	*i* PcP	**P**	**04 11 49.2**	**+1.5**
	comp=Z,4.4nm,0.8s						
FCC	**Fort Churchill**	**83.20**	**22**	P	**P**	**04 11 49.4**	**-0.2**
FCC				IAmb	IAmb	04 12 03.8	
	comp=Z,3.4nm,0.9s						
FCC	**Fort Churchill**	**83.20**	**22**	P	**P**	**04 11 49.4**	**-0.2**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**83.29**	**324**	LR	LR	04 54 19.8	
	comp=Z,80nm,18.8s,baz=60,slow=40						
ARSA	**Arzberg**	**83.35**	**322**	*i* P	**P**	**04 11 51.8**	**+1.0**
	comp=Z,2.0nm,0.6s						
SOKA	**Soboth**	**83.97**	**322**	*i* P	**P**	**04 11 54.6**	**+0.5**
	comp=Z,4.1nm,0.9s						
OBKA	**Obir**	**84.34**	**322**	*e*PcP	**P**	**04 11 56.8**	**+0.9**
	comp=Z,4.6nm,0.6s						
FRB	**Frobisher Bay**	**84.57**	**9**	LR	LR	04 52 49.3	
	comp=Z,114nm,18.6s,baz=354,slow=38						
KBA	**Koelnbreinsper**	**84.61**	**323**	*i* P	**P**	**04 11 57.7**	**+0.4**
	comp=Z,4.9nm,0.7s						
LESA	**Schwarzleotal**	**84.73**	**323**	*i* PcP	**P**	**04 11 59.0**	**+1.1**
	comp=Z,5.5nm,0.8s						
MYKA	**Terra Mystica**	**84.74**	**322**	*i* P	**P**	**04 11 58.1**	**+0.2**
	comp=Z,4.4nm,0.6s						
KVN	**Kaiserville**	**85.22**	**47**	P	**P**	**04 12 00.7**	**+0.1**
KVN				IAmb	IAmb	04 12 02.0	
	comp=Z,3.4nm,0.8s						
KVN	**Kaiserville**	**85.22**	**47**	P	**P**	**04 12 00.7**	**+0.1**
KVN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ABTA	**Abfaltersbach**	**85.26**	**323**	*i* P	**P**	**04 12 00.5**	**0.0**
	comp=Z,3.9nm,0.8s						
WATA	**Walderalm**	**85.35**	**324**	*i* P	**P**	**04 12 00.7**	**-0.4**
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**85.45**	**48**	P	**P**	**04 12 02.1**	**+0.3**
NVAR	**Mina Array Bea**	**85.45**	**48**	P	**P**	**04 12 02.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=286,slow=5.8,SNR=9.2						
	comp=Z,1.5nm,0.8s						
SQTA	**Sankt Quirin**	**85.62**	**324**	*e*P	**P**	**04 12 02.5**	**+0.2**
	comp=Z,2.1nm,0.6s						
EKA	**Eskdalemuir Ar**	**85.90**	**336**	P	**P**	**04 12 03.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=50,slow=4.6,SNR=5.2						
	comp=Z,0.2nm,0.3s						
FETA	**Feichten**	**85.99**	**324**	*i* PcP	**P**	**04 12 04.7**	**+0.5**
	comp=Z,2.0nm,0.9s						
DAVOX	**Davos/Dischmat**	**86.59**	**324**	LR	LR	04 55 40.5	
	comp=Z,135nm,18.3s,baz=48,slow=39						
SGRT	**San Giovanni R**	**86.67**	**317**	P	**P**	**04 12 08.0**	**+0.3**
HVU	**Hansel Valley**	**86.78**	**42**	P	**P**	**04 12 08.5**	**+0.2**
HVU	**Hansel Valley**	**86.78**	**42**	P	**P**	**04 12 08.5**	**+0.2**
HVU				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PDAR	**Pinedale Array**	**87.98**	**40**	P	**P**	**04 12 14.0**	**-0.1**
PDAR	**Pinedale Array**	**87.98**	**40**	P	**P**	**04 12 14.2**	**+0.1**
	comp=Z,0.9nm,0.7s,baz=300,slow=0.9,SNR=9.9						
	comp=Z,0.9nm,0.7s						
ULM	**Lac du Bonnet**	**89.20**	**28**	P	**P**	**04 12 19.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=346,slow=5.4,SNR=3.0						
ULM				LR	LR	04 57 59.5	
	comp=Z,31nm,19.3s,baz=324,slow=39						
	comp=Z,0.5nm,0.3s						
PPT2	**Papete2**	**89.79**	**111**	*e*LR	LR	04 40 54.8	
	comp=Z,129nm,27.8s						
TAOE	**Nuku Hiva Isla**	**93.15**	**98**	*e*LR	LR	04 42 43.3	
	comp=Z,68nm,26.4s						
SCHQ	**Schefferville**	**93.40**	**10**	LR	LR	04 59 48.6	
	comp=Z,43nm,18.1s,baz=1.5,slow=39						
KEST	**Kesra**	**94.39**	**316**	LR	LR	05 00 32.9	
	comp=Z,65nm,18.4s,baz=282,slow=39						
ESDC	**Sonseca Array**	**98.63**	**327**	P	**P**	**04 13 03.3**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=27,slow=5.9,SNR=2.6						
ESDC				LR	LR	05 03 11.9	
	comp=Z,36nm,19.1s,baz=22,slow=39						
	comp=Z,0.4nm,0.8s						
SADO	**Sadowa**	**99.92**	**22**	LR	LR	05 03 39.5	
	comp=Z,41nm,18.4s,baz=12,slow=39						
TXAR	**Lajitas Array**	**100.58**	**47**	P	**Pdif**	**04 13 13.7**	**+1.8**
	comp=Z,0.2nm,0.5s,baz=188,slow=1.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**114.90**	**304**	PKKPbc	PKKPbc	04 28 41.5	+0.7
	comp=Z,4.0nm,0.9s,baz=235,slow=2.4,SNR=3.5						
QSPA	**South Pole Qui**	**120.44**	**180**	PKP	**PKPdf**	**04 18 14.1**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=326,slow=1.5,SNR=12						

*NEIC **05** 04:01:45.7±1.3, 19°.25N±0°.03×154°.80W±0°.03, h5km±2km, Error ellipse: s-maj=5.1km s-min=3.8km az=313.0*
HVO 05 04:01:51.3±0.9, 19°.34N±0°.02×155°.11W±0°.03, h7km±4km, ML2.5/27, ML2.5/44(NEIC), Error ellipse: s-maj=4.8km s-min=1.4km az=122.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**8**	Pg	Pg	04 01 52.8	-0.1
JCUZ				IAML		04 01 54.5	
	comp=N,4μm,0.4s						
JCUZ				IAML		04 01 55.1	
	comp=E,4μm,0.3s						
STCH	**Steam Cracks**	**0.05**	**343**	Pg	Pg	04 01 52.8	-0.2
STCH				IAML		04 01 55.6	
	comp=E,4μm,0.1s						
NPOC	**North of Pu'u**	**0.06**	**359**	Pg	Pg	04 01 53.0	0.0
KNHH	**Kane Nui o Ham**	**0.07**	**307**		Pg	04 01 53.4	+0.2
PUH	**Pauahi**	**0.11**	**291**	Pg	Pg	04 01 54.0	+0.2
PUH				IAML		04 01 56.4	
	comp=E,2μm,0.6s						
KKO	**Keanakako'i**	**0.16**	**293**	Pg	Pg	04 01 54.6	-0.1
KKO				IAML		04 02 00.3	
	comp=N,1μm,0.4s						
BYL	**Byron's Ledge**	**0.16**	**298**	Pg	Pg	04 01 54.7	0.0
BYL				IAML		04 01 57.8	
	comp=E,1μm,0.6s						
BYL				IAML		04 01 57.9	
	comp=N,1μm,0.6s						
RIM	**Rim**	**0.17**	**291**	Pg	Pg	04 01 54.8	0.0
RIM				IAML		04 02 00.6	
	comp=N,1μm,0.6s						
HATHI	**Halema'uma'u T**	**0.17**	**301**	Pg	Pg	04 01 54.5	-0.3
HATHI				IAML		04 02 00.5	
	comp=E,994nm,0.4s						
SBLHI	**Steaming Bluff**	**0.18**	**301**	Pg	Pg	04 01 54.5	-0.4
NPH	**North Pit**	**0.18**	**295**	Pg	Pg	04 01 54.8	-0.2
SDHHI	**Sand Hill**	**0.18**	**287**	Pg	Pg	04 01 54.9	-0.1
SDHHI				IAML		04 02 01.4	
	comp=N,2μm,0.4s						
SDHHI				IAML		04 02 01.7	
	comp=E,2μm,0.5s						
UWB	**Uwekahuna B**	**0.18**	**299**	Pg	Pg	04 01 54.7	-0.3
OBL	**Observatory Le**	**0.18**	**296**	Pg	Pg	04 01 54.4	-0.6
OBL				IAML		04 01 58.7	
	comp=N,1μm,0.6s						
HLP	**Hilina Pali**	**0.19**	**258**	Pg	Pg	04 01 55.0	-0.2
HLP				IAML		04 02 00.3	
	comp=E,1μm,0.1s						
HLP				IAML		04 02 00.6	
	comp=N,1μm,0.2s						
UWE	**Uwekahuna**	**0.19**	**296**	Pg	Pg	04 01 55.1	-0.1
UWE				IAML		04 02 01.3	
	comp=E,1μm,0.6s						
UWE				IAML		04 02 02.4	
	comp=N,1μm,0.3s						
WRMHI	**West Rim**	**0.19**	**291**	Pg	Pg	04 01 55.1	-0.2
WRMHI				IAML		04 02 00.8	
	comp=E,917nm,0.5s						
WRMHI				IAML		04 02 01.4	
	comp=N,1μm,0.5s						
RSD	**Rainshed**	**0.20**	**308**	Pg	Pg	04 01 54.7	-0.8
RSD				IAML		04 01 59.6	
	comp=E,801nm,0.3s						
HTC	**Hot Caves**	**0.29**	**250**		Pg	04 01 56.6	-0.4
MLH	**Mauna Loa**	**0.31**	**301**	Pg	Pg	04 01 57.7	+0.3
MLH				IAML		04 02 06.6	
	comp=E,667nm,0.2s						
HMH	**Humu'ula Sheep**	**0.44**	**307**	Pg	Pg	04 01 59.9	-0.1
HMH					Sg	04 02 06.6	+0.8
MWH	**Moku'aweowe**	**0.48**	**288**	Pg	Pg	04 02 00.4	-0.3
MWH				Sg	Sg	04 02 08.0	+0.8
KHU	**Kahuku**	**0.49**	**260**	Pg	Pg	04 02 00.1	-0.7
KHU				IAML		04 02 08.5	
	comp=N,374nm,0.9s						
KHU				IAML		04 02 17.3	
	comp=E,382nm,0.3s						
ALEP	**Alea Permanent**	**0.55**	**292**		Pg	04 02 01.4	-0.5
POHA	**Pohakuloa**	**0.58**	**316**	Pg	Pg	04 02 01.3	-1.2
POHA				Sg	Sg	04 02 09.0	-1.1
POHA	**Pohakuloa**	**0.58**	**316**	IAML		04 02 10.7	
	comp=E,911nm,0.3s						
POHA				IAML		04 02 11.9	
	comp=E,734nm,0.1s						
HUH	**Hualalai**	**0.77**	**297**	Pg	Pg	04 02 05.0	-1.1
MHA	**Mahukona**	**1.13**	**319**	Pg	Pg	04 02 09.1	-3.9

*NNC **05** 04:07:54.9±1.6, 41°.20N×78°.46E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=10.5km s-min=6.8km az=175.0*
*KRNET **05** 04:07:54.9±0.1, 41°.21N×78°.52E, h17km, mb2.6*
*SOME **05** 04:07:55.0, 41°.23N×78°.50E, h10km*
ISC 05 04:07:55.1±2.0, 41°.15N±0°.08×78°.45E±0°.04, h3km±14km, n44, σ1§10/70, 15C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.75**	**320**	⇓*i*P	**Pg**	**04 08 09.3**	**-0.3**
TARG	baz=14			⇓*i*S	**Sg**	**04 08 20.0**	**+0.7**
	baz=14						
PRZ	**Przheval'sk**	**1.33**	**359**	⇑*e*P	**Pn**	**04 08 18.9**	**-1.9**
PRZ	baz=56			⇑*e*S	**Sb**	**04 08 36.7**	**-1.6**
	baz=56						
KDJ	**Kajisay**	**1.36**	**316**	⇑*e*P	**Pn**	**04 08 20.0**	**-1.2**
KDJ	baz=13			⇑*e*S	**Sb**	**04 08 38.2**	**-1.0**
	baz=13						
ANVS	**Anan'yevo**	**1.73**	**341**	⇑*e*P	**Pn**	**04 08 26.2**	**0.0**
ANVS	baz=38			⇑*e*S	**Sb**	**04 08 49.1**	**-0.7**
	baz=38						
NRN	**Naryn**	**1.86**	**279**	⇑*e*P	**Pb**	**04 08 30.2**	**+0.2**
NRN	baz=77			⇑*e*S	**Sg**	**04 08 56.0**	**+1.0**
	baz=77						
SATY	**Saty**	**1.91**	**359**	P	**Pb**	**04 08 30.1**	**-0.5**
SATY	20nm,0.3s			S	**Sb**	**04 08 55.4**	**+0.6**
	41nm,0.1s						
SATY	**Saty**	**1.91**	**359**	*e*P	**Pn**	**04 08 29.4**	**+0.8**
SATY	12nm,0.3s			*e*S	**Sb**	**04 08 54.0**	**-0.7**
	41nm,0.1s						
SATY	**Saty**	**1.91**	**359**	*e*P	**Pn**	**04 08 29.4**	**+0.8**
SATY	baz=57			*e*S	**Sb**	**04 08 54.1**	**-0.7**
	baz=57						
ULHL	**Ulahol**	**1.98**	**304**	⇓*i*P	**Pb**	**04 08 31.6**	**-0.3**
ULHL	baz=2.0			⇓*i*S	**Sg**	**04 08 58.5**	**-0.2**
	baz=2.0						
UZB	**Uzynbulak**	**2.04**	**12**	Pg	**Pn**	**04 08 31.5**	**+1.0**
UZB	5.4nm,0.3s			Lg	Lg	04 08 58.2	
	14nm,0.2s						
UZB	**Uzynbulak**	**2.04**	**12**	*e*P	**Pn**	**04 08 31.5**	**+1.0**
UZB	5.4nm,0.3s			*e*S	**Sb**	**04 08 58.2**	**-0.5**
	14nm,0.2s						
UZB	**Uzynbulak**	**2.04**	**12**	*e*P	**Pn**	**04 08 31.5**	**+1.0**
UZB	baz=11			*e*S	**Sb**	**04 08 58.2**	**-0.5**
	baz=11						
SHLS	**Shalkode**	**2.14**	**20**	Pg	**Pg**	**04 08 36.4**	**+0.3**
SHLS	9.1nm,0.2s			Lg	Lg	04 09 06.9	
	35nm,0.3s						
SHLS	**Shalkode**	**2.14**	**20**	*e*P	**Pg**	**04 08 35.9**	**-0.3**
SHLS	9.1nm,0.2s			*e*S	**Sg**	**04 09 05.2**	**+1.3**
	35nm,0.3s						
TNSS	**Tian-Shan**	**2.19**	**330**	Pg	**Pb**	**04 08 35.2**	**-0.4**
TNSS	10nm,0.4s			Lg	Lg	04 09 04.3	
	11nm,0.4s						
TNSS	**Tian-Shan**	**2.19**	**330**	*e*P	**Pb**	**04 08 35.2**	**-0.4**
TNSS	10nm,0.4s			*e*S	**Sg**	**04 09 04.3**	**-1.1**
	11nm,0.4s						
MDOK	**Medeo**	**2.26**	**333**	Pg	**Pb**	**04 08 36.1**	**-0.6**
MDOK	13nm,0.3s			Lg	Lg	04 09 05.8	
	36nm,0.4s						
MDOK	**Medeo**	**2.26**	**333**	*e*P	**Pb**	**04 08 36.1**	**-0.6**
MDOK	13nm,0.3s			*e*S	**Sb**	**04 09 05.8**	**+0.7**
	36nm,0.4s						
BOOM	**Boomskoye usch**	**2.30**	**306**	⇓*i*P	**Pb**	**04 08 35.6**	**-1.8**
BOOM	baz=5.0			⇓*i*S	**Sb**	**04 09 05.1**	**-1.1**
	baz=5.0						
KOTS	**Kotyrbulak**	**2.30**	**335**	Pg	**Pb**	**04 08 37.4**	**0.0**
KOTS	0.6nm,0.2s			Lg	Lg	04 09 07.5	
	43nm,0.4s						
KOTS	**Kotyrbulak**	**2.30**	**335**	*e*P	**Pb**	**04 08 36.6**	**-0.8**
KOTS	0.3nm,0.2s			*e*S	**Sb**	**04 09 06.4**	**0.0**
	73nm,0.4s						
PDGK	**Podgornoye**	**2.31**	**19**	Pg	**Pb**	**04 08 36.5**	**-0.9**
PDGK	4.4nm,0.2s			Lg	Lg	04 09 06.7	
	10nm,0.5s						
PDGK	**Podgornoye**	**2.31**	**19**	⇑Pg	**Pn**	**04 08 34.3**	**+0.2**
PDGK	3.1nm,0.3s			⇑Lg	Lg	04 09 06.2	
	19nm,0.6s						
KNDC	**Almaty**	**2.34**	**332**	⇑Pg	**Pn**	**04 08 35.2**	**+0.7**
KNDC	42nm,0.5s			⇓Lg	Lg	04 09 08.6	
	46nm,0.3s						
KURS	**Kuram**	**2.34**	**355**	Pg	**Pb**	**04 08 37.4**	**-0.6**
KURS	9.1nm,0.6s			Lg	Lg	04 09 08.0	
	12nm,0.5s						
KURS	**Kuram**	**2.34**	**355**	*e*P	**Pn**	**04 08 35.9**	**+1.4**
KURS	1.6nm,0.5s			*e*S	**Sb**	**04 09 05.2**	**-2.1**
	12nm,0.5s						
MTBS	**Maitube**	**2.48**	**323**	Pg	**Pb**	**04 08 39.5**	**-0.9**
MTBS	2.3nm,0.2s			Lg	Lg	04 09 11.5	
	13nm,0.3s						
MTBS	**Maitube**	**2.48**	**323**	*e*P	**Pb**	**04 08 39.5**	**-0.9**
MTBS	2.3nm,0.2s			*e*S	**Sb**	**04 09 11.5**	**+0.2**
	13nm,0.3s						
KST	**Kastek**	**2.64**	**316**	Pg	**Pb**	**04 08 42.5**	**-0.6**
KST	1.0nm,0.2s			Lg	Lg	04 09 16.7	
	10nm,0.4s						
KST	**

KNOS				Lg	Lg	04 09 35.1		
	11nm,0.4s							
KRBS	**Karabastau**	**3.27**	**322**	Pg	**Pb**	**04 08 53.8**	**0.0**	
	1.1nm,0.2s							
KRBS				Lg	Lg	04 09 36.0		
	3.2nm,0.5s							
KRBS	**Karabastau**	**3.27**	**322**	*e*P	**Pb**	**04 08 53.8**	**0.0**	
	1.1nm,0.2s							
KRBS				*e*S	**Sb**	**04 09 36.0**	**+2.1**	
	3.2nm,0.5s							
DJR	**Jarkent**	**3.33**	**17**	Pg	**Pb**	**04 08 54.4**	**-0.4**	
	1.1nm,0.3s							
DJR				Lg	Lg	04 09 37.1		
	30nm,0.4s							
DJR	**Jarkent**	**3.33**	**17**	*e*P	**Pb**	**04 08 54.4**	**-0.4**	
	1.1nm,0.3s							
DJR				*e*S	**Sb**	**04 09 37.1**	**+1.4**	
	30nm,0.4s							

*MDD **05** 04:25:35.5±0.5,36˚.05N×0˚.14E,h0km,mb_Lg2.5/10,Error ellipse: s-maj=4.4km s-min=3.6km az=141.0*
*CRAAG **05** 04:25:38.8,35˚.62N×0˚.64E,Ml2.5,Algerie 13km SE Relizane*
*CNRM **05** 04:25:45.2,37˚.29N×2˚.37W,h54km,ML2.0*
ISC 05 04:25:33.7±2.1,36˚.09N±0˚.04×0˚.04E±0˚.06,h0km±18km, n43,σ1s53/58,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJBR	**Djebel Berber**	**0.56**	**153**	P	**Pg**	**04 25 44.0**	**-0.5**
USTO	**Oran**	**0.59**	**234**	P	**Sn**	**04 26 00.0**	**+0.3**
ODJA	**Bouhanifia**	**0.77**	**191**	P	**Pn**	**04 26 54.0**	**+2.1**
EANR	**'Ain N'Sour**	**0.87**	**99**	P	**Pg**	**04 25 50.0**	**-0.4**
CART	**Cartagena**	**1.71**	**331**	Pn	**Pg**	**04 26 04.7**	**-0.1**
CART				Sn	**Sn**	**04 26 24.0**	**-3.3**
CART	**Cartagena**	**1.71**	**331**	P	**Pn**	**04 26 04.7**	**-0.1**
CART	**Cartagena**	**1.71**	**331**	S	Sn	04 26 19.5	-7.8
ENIJ	**Nijar**	**2.01**	**297**	Pn	**Pn**	**04 26 09.5**	**+0.5**
ENIJ				Sn	**Sn**	**04 26 31.5**	**-3.3**
ENIJ	**Nijar**	**2.01**	**297**	P	**Pn**	**04 26 09.5**	**+0.5**
ENIJ				S	**Sn**	**04 26 33.1**	**-1.7**
ENIJ				*i* Vmb_Lg		04 26 36.9	
EMUR	**La Murta**	**2.03**	**330**	Pn	**Pn**	**04 26 09.4**	**+0.2**
EMUR	**La Murta**	**2.03**	**330**	P	**Pn**	**04 26 09.4**	**+0.2**
EMUR				S	**Sn**	**04 26 36.2**	**+0.9**
EMUR				*i* Vmb_Lg		04 26 37.0	
TLOR	**Lorca, Murcia**	**2.09**	**319**	Sn	**Sn**	**04 26 35.4**	**-1.4**
EZAR	**Zarzadilla de**	**2.26**	**323**	P	**Pn**	**04 26 13.2**	**+0.8**
EZAR				S	**Sn**	**04 26 41.3**	**+0.3**
EZAR				*i* Vmb_Lg		04 26 41.5	
EBER	**Berja**	**2.49**	**290**	Pn	**Pn**	**04 26 15.6**	**+0.2**
EBER				Sn	**Sn**	**04 26 45.6**	**-1.3**
EBER	**Berja**	**2.49**	**290**	P	**Pn**	**04 26 16.2**	**+0.5**
EBER				S	**Sn**	**04 26 47.9**	**+1.0**
EBER				*i* Vmb_Lg		04 26 51.2	
EBEN2	**Beniarda presa**	**2.59**	**356**	P	**Pn**	**04 26 17.8**	**+0.9**
EBEN2				S	**Sn**	**04 26 48.6**	**-0.5**
EBEN2				*i* Vmb_Lg		04 26 56.0	
AFON	**Font Roja**	**2.61**	**350**	P	**Pn**	**04 26 18.1**	**+0.8**
AFON				S	**Sn**	**04 26 50.5**	**+0.7**
GOG	**Mont Gurugu**	**2.62**	**252**	P	**Pn**	**04 26 18.0**	**+0.7**
GOG	**Mont Gurugu**	**2.62**	**252**	S	**Sn**	**04 26 45.3**	**-4.5**
ETOB	**Tobarra**	**2.85**	**334**	Pn	**Pn**	**04 26 21.9**	**+1.4**
ETOB				Sn	**Sn**	**04 26 52.9**	**-2.7**
ETOB	**Tobarra**	**2.85**	**334**	P	**Pn**	**04 26 22.2**	**+1.7**
ETOB				S	**Sn**	**04 26 56.6**	**+1.1**
ETOB				*i* Vmb_Lg		04 27 00.5	
EQES	**Quesada**	**3.02**	**305**	P	**Pn**	**04 26 26.0**	**+3.1**
EQES				S	**Sn**	**04 27 02.5**	**+2.6**
EQES				*i* Vmb_Lg		04 27 09.6	
ELGU	**Los Guajares,**	**3.05**	**286**	Pn	**Pn**	**04 26 23.5**	**+0.2**
ELGU				Sn	**Sn**	**04 26 58.2**	**-2.4**
ELGU	**Los Guajares,**	**3.05**	**286**	P	**Pn**	**04 26 23.7**	**+0.4**
ELGU				S	**Sn**	**04 27 01.4**	**+0.8**
ELGU				*i* Vmb_Lg		04 27 03.3	
EIBI	**Ibiza**	**3.11**	**19**	Pn	**Pn**	**04 26 23.4**	**-0.6**
EIBI	**Ibiza**	**3.11**	**19**	P	**Pn**	**04 26 23.7**	**-0.3**
EIBI				S	**Sn**	**04 27 00.1**	**-1.9**
EVIV	**Cofrentes, Val**	**3.30**	**344**	P	**Pn**	**04 26 27.7**	**+1.0**
EVIV				*i* Vmb_Lg		04 27 06.9	
EVIV				S	**Sn**	**04 27 08.6**	**+1.8**
PALE	**Palemas**	**3.35**	**256**	P	Pn	04 26 22.0	-5.3
PALE	**Palemas**	**3.35**	**256**	S	Sn	04 26 51.9	-16
EGOR	**Sierra Gorda,**	**3.49**	**288**	Pn	**Pn**	**04 26 30.4**	**+1.0**
AKLM	**AKL**	**3.56**	**245**	P	**Pn**	**04 26 31.5**	**+1.3**
AKLM	**AKL**	**3.56**	**245**	S	Sn	04 27 03.7	-9.3
ECHE	**Chera**	**3.59**	**347**	Pn	**Pn**	**04 26 31.7**	**+1.1**
ECHE	**Chera**	**3.59**	**347**	P	**Pn**	**04 26 31.2**	**+0.6**
ECOL	**Islas Columbre**	**3.84**	**7**	P	**Pn**	**04 26 34.2**	**+0.2**
ECOL				S	**Sn**	**04 27 20.0**	**+0.2**
EMIJ	**Mijas**	**3.91**	**278**	Pn	**Pn**	**04 26 34.8**	**-0.2**
EMIJ	**Mijas**	**3.91**	**278**	P	**Pn**	**04 26 36.2**	**+1.1**
PSIM	**Granatula de C**	**4.07**	**313**	P	**Pn**	**04 26 40.2**	**+2.9**
PSIM				S	**Sn**	**04 27 27.0**	**+1.4**
EMOS	**Mosqueruela**	**4.29**	**355**	P	**Pn**	**04 26 41.2**	**+0.8**
ECAB	**El Cabril**	**4.79**	**296**	Pn	**Pn**	**04 26 47.7**	**+0.5**
ECAB	**El Cabril**	**4.79**	**296**	P	**Pn**	**04 26 48.1**	**+1.0**
ECAB				S	**Sn**	**04 27 41.9**	**-1.5**
PAB	**San Pablo**	**4.90**	**316**	P	**Pn**	**04 26 49.7**	**+1.1**
EPOB	**Poblet**	**5.32**	**8**	P	**Pn**	**04 26 55.7**	**+1.2**

*NEIC **05** 04:26:12.4±1.1,19˚.25N±0˚.01×155˚.35W±0˚.01,h5km±1km, Error ellipse: s-maj=3.1km s-min=1.9km az=147.0*
HVO 05 04:26:11.2±1.6,19˚.22N±0˚.03×155˚.33W±0˚.01,h0km±7km, ML3.0/37,ML2.9/46(NEIC),Error ellipse: s-maj=4.2km s-min=1.7km az=164.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.07**	**285**		Pg	04 26 13.8	+1.3
HLP	**Hilina Pali**	**0.08**	**13**		Pg	04 26 13.8	+1.0
HLP				Sg	Sg	04 26 15.9	+2.2
SDHHI	**Sand Hill**	**0.17**	**10**	Pg	Pg	04 26 15.3	+0.8
SDHHI				Sg	Sg	04 26 18.3	+1.5
SDHHI				IAML		04 26 19.8	
	comp=E,6μm,0.2s						
RIM	**Rim**	**0.18**	**16**	Pg	Pg	04 26 15.6	+0.9
RIM				Sg	Sg	04 26 19.1	+2.0
RIM				IAML		04 26 19.9	
	comp=E,3μm,0.3s						
RIM				IAML		04 26 20.3	
	comp=N,2μm,0.5s						
PUH	**Pauahi**	**0.19**	**34**	Pg	Pg	04 26 15.8	+1.0
PUH				Sg	Sg	04 26 18.6	+1.4
PUH				IAML		04 26 19.9	
	comp=E,3μm,0.3s						
PUH				IAML		04 26 20.1	
	comp=N,3μm,0.3s						
KKO	**Keanakako`i**	**0.19**	**18**	Pg	Pg	04 26 15.7	+0.9
KKO				Sg	Sg	04 26 19.4	+2.1
KKO				IAML		04 26 20.1	
	comp=E,4μm,0.4s						
WRMHI	**West Rim**	**0.19**	**8**	Pg	Pg	04 26 15.5	+0.6
WRMHI				Sg	Sg	04 26 19.4	+2.1
WRMHI				IAML		04 26 21.1	
	comp=E,5μm,0.3s						
WRMHI				IAML		04 26 21.4	
	comp=N,4μm,0.4s						
NPH	**North Pit**	**0.20**	**13**	Pg	Pg	04 26 15.7	+0.7
NPH				Sg	Sg	04 26 17.8	+0.3
BYL	**Byron's Ledge**	**0.20**	**18**	Pg	Pg	04 26 15.0	-0.1
BYL				Sg	Sg	04 26 19.3	+1.5
BYL				IAML		04 26 20.7	
	comp=N,3μm,0.4s						
BYL				IAML		04 26 21.9	
	comp=E,3μm,0.3s						
OBL	**Observatory Le**	**0.20**	**11**	Pg	Pg	04 26 15.1	0.0
OBL				Sg	Sg	04 26 18.0	+0.3
UWE	**Uwekahuna**	**0.20**	**9**	Pg	Pg	04 26 15.9	+0.8
UWE				Sg	Sg	04 26 18.1	+0.3
UWE				IAML		04 26 20.7	
	comp=E,4μm,0.4s						
UWE				IAML		04 26 21.7	
	comp=N,4μm,0.5s						
UWB	**Uwekahuna B**	**0.21**	**13**	Pg	Pg	04 26 16.1	+0.8
UWB				Sg	Sg	04 26 19.4	+1.4
HATHI	**Halema'uma'u T**	**0.21**	**17**	Pg	Pg	04 26 15.9	+0.6
HATHI				IAML		04 26 20.9	
	comp=N,2μm,0.2s						
HATHI				IAML		04 26 21.1	
	comp=E,2μm,0.5s						
SBLHI	**Steaming Bluff**	**0.21**	**15**	Pg	Pg	04 26 15.6	+0.3
SBLHI				Sg	Sg	04 26 19.9	+1.7
SBLHI				IAML		04 26 20.7	
	comp=E,2μm,0.4s						
SBLHI				IAML		04 26 21.1	
	comp=N,2μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.22**	**43**		Pg	04 26 16.5	+1.1
RSD	**Rainshed**	**0.25**	**11**	Pg	Pg	04 26 16.1	+0.2
RSD				Sg	Sg	04 26 20.4	+1.2
STCH	**Steam Cracks**	**0.25**	**49**	Pg	Pg	04 26 16.8	+0.7
STCH				IAML		04 26 24.0	
	comp=N,1μm,0.3s						
STCH				IAML		04 26 24.8	
	comp=E,1μm,0.4s						
NPOC	**North of Pu'u**	**0.27**	**50**	Pg	Pg	04 26 17.1	+0.8
NPOC				Sg	Sg	04 26 21.5	+1.7
NPOC				IAML		04 26 24.3	
	comp=E,1μm,0.5s						
JCUZ	**Jacuzzi**	**0.27**	**52**	Pg	Pg	04 26 17.2	+0.9
JCUZ				Sg	Sb	04 26 22.5	-1.6
JCUZ				IAML		04 26 23.2	
	comp=E,1μm,0.5s						
KHU	**Kahuku**	**0.27**	**276**	Pg	Pg	04 26 17.4	+0.9
KHU				Sg	Sg	04 26 22.1	+2.1
KHU				IAML		04 26 25.7	
	comp=E,1μm,0.4s						
MLH	**Mauna Loa**	**0.28**	**348**	Pg	Pg	04 26 17.5	+1.0
MLH				Sg	Sb	04 26 22.8	-1.8
MWH	**Moku'aweowe**	**0.37**	**316**		Pg	04 26 19.2	+1.0
MWH				IAML		04 26 27.0	
	comp=N,2μm,0.4s						
MWH				IAML		04 26 30.3	
	comp=E,2μm,0.4s						
HMH	**Humu'ula Sheep**	**0.41**	**339**	Pg	Pg	04 26 19.4	+0.4
HMH				Sg	Sg	04 26 26.0	+1.6
HMH				IAML		04 26 28.0	
	comp=E,2μm,0.2s						
ALEP	**Alea Permanent**	**0.44**	**317**		Pg	04 26 20.2	+0.6
POHA	**Pohakuloa**	**0.57**	**340**	Pg	Pg	04 26 21.9	-0.2
POHA				Sg	Sg	04 26 29.6	+0.1
HUH	**Hualalai**	**0.67**	**314**		Pg	04 26 23.9	-0.1
HPAH	**Hawaii Prepara**	**0.88**	**337**	Pg	Pg	04 26 27.6	-0.5
MHA	**Mahukona**	**1.11**	**331**		Pg	04 26 31.4	-1.1
HLK	**Haleakala**	**1.76**	**331**	Pn	Pn	04 26 40.9	-2.3

*NEIC **05** 04:34:40.8±0.6,19˚.11N±0˚.02×155˚.24W±0˚.02,h5km±2km, Error ellipse: s-maj=4.5km s-min=3.0km az=311.0*
HVO 05 04:34:39.6±0.6,19˚.03N±0˚.02×155˚.19W±0˚.03,h7km±7km, Md2.6/10,ML2.5/36(NEIC),Error ellipse: s-maj=4.4km s-min=2.3km az=133.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HLP	**Hilina Pali**	**0.29**	**336**	Pg	Pg	04 34 44.7	-0.6
PUH	**Pauahi**	**0.34**	**355**	Pg	Pg	04 34 45.9	-0.4
PUH				IAML		04 34 57.8	
	comp=N,496nm,0.5s						
KNHH	**Kane Nui o Ham**	**0.35**	**3**		Pg	04 34 46.4	-0.1
STCH	**Steam Cracks**	**0.36**	**9**	Pg	Pg	04 34 46.3	-0.3
NPOC	**North of Pu'u**	**0.37**	**11**	Pg	Pg	04 34 46.6	-0.2
NPOC				IAML		04 34 55.3	
	comp=N,300nm,1.1s						
SDHHI	**Sand Hill**	**0.37**	**344**	Pg	Pg	04 34 46.3	-0.6
RIM	**Rim**	**0.37**	**347**	Pg	Pg	04 34 46.4	-0.5
RIM				IAML		04 34 57.3	
	comp=E,520nm,0.8s						
KKO	**Keanakako`i**	**0.37**	**348**	Pg	Pg	04 34 46.4	-0.5
KKO				IAML		04 34 48.9	
	comp=N,588nm,0.8s						
KKO				IAML		04 34 51.9	
	comp=E,530nm,0.8s						
BYL	**Byron's Ledge**	**0.39**	**350**	Pg	Pg	04 34 46.3	-0.9
BYL				IAML		04 34 53.5	
	comp=E,457nm,0.5s						
BYL				IAML		04 34 58.8	
	comp=N,530nm,1.0s						
WRMHI	**West Rim**	**0.39**	**344**	Pg	Pg	04 34 46.5	-0.7
WRMHI					Sg	04 34 51.0	-1.4
HATHI	**Halema'uma'u T**	**0.40**	**350**	Pg	Pg	04 34 46.5	-0.8
SBLHI	**Steaming Bluff**	**0.40**	**349**	Pg	Pg	04 34 46.8	-0.7
SBLHI				IAML		04 34 59.1	
	comp=N,531nm,0.6s						
SBLHI				IAML		04 35 01.7	
	comp=E,384nm,0.7s						
UWB	**Uwekahuna B**	**0.40**	**348**	Pg	Pg	04 34 47.0	-0.5
RSD	**Rainshed**	**0.44**	**349**	Pg	Pg	04 34 47.0	-1.1
KHU	**Kahuku**	**0.46**	**298**	Pg	Pg	04 34 48.0	-0.5
KHU				Sg	Sg	04 34 54.1	-0.5
KHU				IAML		04 35 03.3	
	comp=N,270nm,1.3s						
MLH	**Mauna Loa**	**0.50**	**338**	Pg	Pg	04 34 48.6	-0.7
MLH				IAML		04 34 56.4	
	comp=E,333nm,0.3s						
MLH				IAML		04 35 00.2	
	comp=N,327nm,0.6s						
MWH	**Moku'aweowe**	**0.59**	**319**	Pg	Pg	04 34 49.9	-1.4
MWH				IAML		04 35 08.0	
	comp=E,316nm,1.0s						
MWH				IAML		04 35 10.2	
	comp=N,253nm,0.7s						
HMH	**Humu'ula Sheep**	**0.63**	**334**	Pg	Pg	04 34 50.5	-1.4
HMH				Sg	Sg	04 34 59.0	-1.2
HMH				IAML		04 35 03.8	
	comp=E,149nm,1.0s						
HMH				IAML		04 35 13.1	
	comp=N,183nm,0.8s						
HUH	**Hualalai**	**0.89**	**317**	Pg	Pg	04 34 55.0	-1.8
HUH				IAML		04 35 18.8	
	comp=E,182nm,1.5s						
HUH				IAML		04 35 24.6	
	comp=N,160nm,0.8s						

*HVO **05** 04:46:32.3±0.9,19˚.28N±0˚.02×155˚.19W±0˚.03,h-1km±9km, ML2.7/28,ML2.5/44(NEIC),Error ellipse: s-maj=3.6km s-min=1.4km az=121.0*
NEIC 05 04:46:32.9±0.7,19˚.26N±0˚.02×155˚.19W±0˚.03,h5km±1km, Error ellipse: s-maj=5.1km s-min=3.0km az=297.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.12**	**346**		Pg	04 46 35.5	+0.2
KNHH	**Kane Nui o Ham**	**0.12**	**8**		Pg	04 46 35.6	+0.2
HLP	**Hilina Pali**	**0.12**	**287**		Pg	04 46 35.6	+0.2
HLP				IAML		04 46 37.7	
	comp=E,2μm,0.2s						
HLP				IAML		04 46 37.8	
	comp=N,2μm,0.2s						
STCH	**Steam Cracks**	**0.14**	**25**	Pg	Pg	04 46 35.5	-0.2
STCH				IAML		04 46 39.1	
	comp=E,2μm,0.2s						
JCUZ	**Jacuzzi**	**0.15**	**33**	Pg	Pg	04 46 36.0	+0.1
JCUZ				IAML		04 46 39.7	
	comp=E,1μm,0.3s						
NPOC	**North of Pu'u**	**0.15**	**29**	Pg	Pg	04 46 36.1	+0.2
NPOC				IAML		04 46 37.2	
	comp=E,2μm,0.1s						
NPOC				IAML		04 46 39.8	
	comp=N,1μm,0.4s						
KKO	**Keanakako`i**	**0.15**	**331**	Pg	Pg	04 46 36.3	+0.2
KKO				IAML		04 46 39.6	
	comp=E,3μm,0.5s						
KKO				IAML		04 46 39.9	
	comp=N,2μm,0.2s						
RIM	**Rim**	**0.16**	**328**	Pg	Pg	04 46 36.0	-0.1
RIM				IAML		04 46 39.8	
	comp=N,2μm,0.3s						
SDHHI	**Sand Hill**	**0.16**	**322**	Pg	Pg	04 46 36.3	+0.1
SDHHI				IAML		04 46 39.8	
	comp=N,2μm,0.4s						
SDHHI				IAML		04 46 39.9	
	comp=E,2μm,0.2s						
BYL	**Byron's Ledge**	**0.17**	**335**	Pg	Pg	04 46 36.1	-0.1
BYL				IAML		04 46 40.1	
	comp=E,2μm,0.5s						
NPH	**North Pit**	**0.17**	**329**	Pg	Pg	04 46 36.3	-0.1
HATHI	**Halema'uma'u T**	**0.17**	**336**	Pg	Pg	04 46 36.1	-0.3
HATHI				IAML		04 46 40.5	
	comp=N,2μm,0.4s						
HATHI				IAML		04 46 40.9	
	comp=E,1μm,0.5s						
OBL	**Observatory Le**	**0.18**	**329**	Pg	Pg	04 46 36.1	-0.4
WRMHI	**West Rim**	**0.18**	**323**	Pg	Pg	04 46 36.2	-0.3
WRMHI				IAML		04 46 40.6	
	comp=N,2μm,0.6s						
WRMHI				IAML		04 46 41.1	
	comp=E,2μm,0.5s						
SBLHI	**Steaming Bluff**	**0.18**	**335**	Pg	Pg	04 46 36.4	-0.2
SBLHI				IAML		04 46 40.3	
	comp=N,1μm,0.5s						
SBLHI				IAML		04 46 40.5	
	comp=E,1μm,0.5s						
UWB	**Uwekahuna B**	**0.18**	**332**	Pg	Pg	04 46 36.3	-0.3
UWE	**Uwekahuna**	**0.19**	**328**	Pg	Pg	04 46 36.6	-0.1
UWE				IAML		04 46 39.7	
	comp=E,2μm,0.3s						
UWE				IAML		04 46 41.4	
	comp=N,1μm,0.4s						
HTC	**Hot Caves**	**0.20**	**263**		Pg	04 46 38.0	+1.1
RSD	**Rainshed**	**0.22**	**337**	Pg	Pg	04 46 36.6	-0.6
MLH	**Mauna Loa**	**0.30**	**321**	Pg	Pg	04 46 38.3	-0.5
MLH				IAML		04 46 46.1	
	comp=E,764nm,0.2s						
MLH				IAML		04 46 46.4	
	comp=N,767nm,0.3s						
KHU	**Kahuku**	**0.41**	**268**	Pg	Pg	04 46 40.5	-0.2
HMH	**Humu'ula Sheep**	**0.44**	**321**	Pg	Pg	04 46 41.0	-0.5
MWH	**Moku'aweowe**	**0.45**	**300**	Pg	Pg	04 46 41.5	-0.1
ALEP	**Alea Permanent**	**0.51**	**303**		Pg	04 46 42.4	-0.4
POHA	**Pohakuloa**	**0.59**	**327**		Sg	04 46 51.9	-0.2
POHA	**Pohakuloa**	**0.59**	**327**	Pg	Pg	04 46 43.7	-0.6
POHA				IAML		04 46 53.2	
	comp=N,539nm,0.5s						
POHA				IAML		04 46 53.2	
	comp=N,732nm,0.3s						
HUH	**Hualalai**	**0.74**	**305**	Pg	Pg	04 46 46.6	-0.6
HPAH	**Hawaii Prepara**	**0.90**	**328**	Pg	Pg	04 46 47.7	-2.5
MHA	**Mahukona**	**1.14**	**324**	Pg	Pg	04 46 51.3	-3.5

*IDC **05** 04:52:57.1±10.0,5˚.00S×150˚.53E,h283km±104km, mb3.3/6,mbtmp3.9/6,Error ellipse: s-maj=74.0km s-min=39.4km az=111.0*
ISC 05 04:52:58.2±2.0,5˚.1S±0˚.3×150˚.6E±0˚.5,h300km,n7, σ0s94/7,mb3.6/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.66**	**226**	P	**P**	**04 57 25.4**	**+0.2**
	8.0nm,0.6s,baz=52,slow=11,SNR=119						
	8.0nm,0.6s						
ASAR	**Alice Springs**	**24.51**	**219**	P	**P**	**04 57 51.4**	**+0.3**
	1.0nm,0.3s,baz=50,slow=8.3,SNR=18						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**79.12**	**319**	P	**P**	**05 04 30.8**	**+0.9**
	0.3nm,0.6s,baz=119,slow=5.1,SNR=3.4						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**80.20**	**327**	P	**P**	**05 04 34.9**	**-0.5**
	0.7nm,0.5s,baz=120,slow=6.0,SNR=4.1						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**82.69**	**322**	P	**P**	**05 04 48.2**	**-0.2**
	0.6nm,0.6s,baz=112,slow=4.8,SNR=4.8						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**83.25**	**23**	P	**P**	**05 04 51.6**	**+0.5**
	0.3nm,0.5s,baz=256,slow=5.9,SNR=4.7						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**148.32**	**287**	PKPbc	**PKiKP**	**05 12 10.2**	**-1.4**
	0.7nm,0.3s,baz=88,slow=2.9,SNR=17						

*NAO **05** 05:00:16.2,38˚.08N×21˚.09E,h33km,mb3.1*
*BEO **05** 05:00:25.0±1.4,38˚.86N×19˚.79E,h83km±9km,ML3.2/10*
*IDC **05** 05:00:25.0±1.1,39˚.42N×20˚.32E,h0km,mb3.3/8, mbtmp3.4/10,ML1.5/2,Error ellipse: s-maj=22.0km s-min=18.9km az=96.0*
*TIR **05** 05:00:28.7,39˚.31N×20˚.13E,h40km±4km,Md3.8,Ml3.5*
*THE **05** 05:00:30.2,39˚.27N×20˚.10E,h19km,ML3.4/22,Error ellipse: s-maj=1.0km s-min=0.4km az=268.0*
*ATH **05** 05:00:30.3,39˚.26N×20˚.09E,h17km±1km,ML3.3/23,Error ellipse: s-maj=2.4km s-min=0.8km az=274.0*
ISC 05 05:00:29.4±0.9,39˚.31N±0˚.02×20˚.14E±0˚.02,h33km±3km, n140,σ1s55/207,mb3.4/8,9C-3D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGT	**Igoumenitsa**	**0.27**	**34**	P	**Pb**	**05 00 36.6**	**-0.3**
	baz=34						
IGT				S	**Sb**	**05 00 41.7**	**-0.2**
	baz=34						
IGT	**Igoumenitsa**	**0.27**	**34**	P	**Pb**	**05 00 36.7**	**-0.2**
IGT				S	**Sb**	**05 00 41.5**	**-0.4**
	14μm,0.1s						
IGT	**Igoumenitsa**	**0.27**	**34**	P	**Pb**	**05 00 36.7**	**-0.2**
IGT				S	**Sb**	**05 00 41.2**	**-0.7**
IGT				AML	AML	05 00 42.1	
	comp=E,13772μm,0.2s						
IGT				AML	AML	05 00 42.1	
	comp=N,42506μm,0.2s						
KASA	**Kassiopi**	**0.47**	**340**	P	**Pn**	**05 00 40.6**	**+0.8**
KASA				S	**Sn**	**05 00 47.8**	**+0.9**
KASA				AML	AML	05 00 49.3	
	comp=E,11091μm,0.3s						
KASA				AML	AML	05 00 49.5	
	comp=N,8150μm,0.2s						
SRN	**Sarande**	**0.58**	**349**	P	**Pn**	**05 00 42.2**	**+0.9**
	baz=350						
SRN				S	**Sn**	**05 00 51.2**	**+1.5**
	baz=350						
SRN				AMP			
	comp=N,4.0nm,0.2s,baz=350						
SRN	**Sarande**	**0.58**	**349**	P	**Pn**	**05 00 42.0**	**+0.7**
SRN				S	**Sn**	**05 00 51.3**	**+1.6**
	comp=N,1μm,0.2s						
TSLK	**Tsoukalades, L**	**0.63**	**140**	P	**Pn**	**05 00 42.4**	**+0.5**
TSLK				S	**Sn**	**05 00 51.4**	**+0.6**
	comp=N,4μm,0.4s						
TSLK	**Tsoukalades, L**	**0.63**	**140**	P	**Pn**	**05 00 42.4**	**+0.5**
TSLK				S	**Sn**	**05 00 51.5**	**+0.7**
TSLK				AML	AML	05 00 54.6	
	comp=N,11012μm,0.4s						
TSLK				AML	AML	05 00 55.0	
	comp=E,7439μm,0.3s						
JAN	**Janina**	**0.65**	**57**	P	**Pn**	**05 00 44.0**	**+1.7**
JAN				S	**Sn**	**05 00 53.5**	**+2.0**
	comp=E,5μm,0.3s						
JAN	**Janina**	**0.65**	**57**	P	**Pn**	**05 00 44.4**	**+2.0**
JAN				S	**Sn**	**05 00 53.8**	**+2.3**
JAN				AML	AML	05 00 56.1	
	comp=N,8688μm,0.4s						
JAN				AML	AML	05 00 56.4	
	comp=E,9798μm,0.3s						
LKD2	**Lefkada island**	**0.66**	**142**	P

comp=N,1932μm,0.2s
LSK Leskovik 0.91 23 P Pb 05 00 47.4 +0.5
baz=23
LSK S Sb 05 00 59.0 +0.2
baz=23
LSK AMP
comp=N,11nm,0.7s,baz=23
LSK Leskovik 0.91 23 P Pb 05 00 47.6 +0.7
LSK S Sb 05 01 00.8 +2.0
comp=N,3μm,0.6s
AST1 Astakos 1.06 136 P Pb 05 00 49.3 0.0
AST1 S Sb 05 01 04.6 +1.7
DMLN Damoulianata-K 1.08 170 P Pn 05 00 49.1 +0.8
DMLN S Sb 05 01 04.4 +0.9
comp=N,1μm,0.4s
DMLN Damoulianata-K 1.08 170 P Pn 05 00 48.8 +0.6
KEF3 Kipouria, Keph 1.11 172 P Pn 05 00 49.1 +0.4
KEF3 S Sb 05 01 04.9 +0.5
KEF3 Kipouria, Keph 1.11 172 P Pn 05 00 49.1 +0.4
KPRO Kipourio 1.15 55 P Pb 05 00 50.9 +0.2
KPRO S Sb 05 01 06.6 +1.3
comp=N,2μm,0.5s
PENT Pentalofos 1.18 41 P Pb 05 00 51.5 +0.2
PENT Pentalofos 1.18 41 P Pb 05 00 51.5 +0.2
PENT S Sb 05 01 07.2 +0.9
VLS Valsamata 1.18 163 P Pn 05 00 50.1 +0.5
VLS S Sb 05 01 06.1 -0.2
comp=N,1μm,0.2s
VLS Valsamata 1.18 163 P Pn 05 00 50.3 +0.7
VLS AML AML 05 01 11.0
comp=N,2286μm,0.3s
VLS AML AML 05 01 13.2
comp=E,2010μm,0.2s
PSDA Pessada-Kefalo 1.24 164 P Pn 05 00 51.1 +0.7
PSDA S Sb 05 01 08.3 +0.3
comp=E,2μm,0.2s
VLO Vlora 1.26 337 P Pb 05 00 52.0 -0.6
VLO S Sb 05 01 09.4 +0.8
PVO Paravola 1.28 122 P Pb 05 00 52.4 -0.6
PVO S Sb 05 01 08.7 -0.4
comp=E,5μm,0.5s
PVO Paravola 1.28 122 P Pb 05 00 52.5 -0.6
NEST Nestorio 1.31 32 P Pb 05 00 54.4 +0.8
NEST S Sb 05 01 11.6 +1.6
comp=E,965nm,0.3s
NEST Nestorio 1.31 32 P Pb 05 00 54.3 +0.8
NEST S Sb 05 01 11.7 +1.7
NEST AML AML 05 01 16.8
comp=E,2262μm,0.4s
NEST AML AML 05 01 18.4
comp=N,2746μm,0.4s
EVR Evrytania 1.36 106 P Pb 05 00 54.9 +0.6
EVR S Sb 05 01 11.9 +0.5
comp=N,670nm,0.6s
EVR Evrytania 1.36 106 P Pb 05 00 54.9 +0.6
EVR S Sb 05 01 11.3 -0.1
EVR AML AML 05 01 16.5
comp=N,1274μm,0.8s
EVR AML AML 05 01 17.4
comp=E,1401μm,0.4s
THL Klokotos Trika 1.47 79 P Pb 05 00 56.2 0.0
THL S Sb 05 01 14.6 0.0
comp=E,655nm,0.6s
THL Klokotos Trika 1.47 79 P Pb 05 00 55.7 -0.6
THL S Sb 05 01 14.7 +0.1
THL AML AML 05 01 17.0
comp=N,884μm,0.5s
THL AML AML 05 01 19.6
comp=E,1724μm,0.6s
SCTE Santa Cesarea 1.50 301 P Pb 05 00 55.7 -1.0
baz=302
SCTE S Sn 05 01 13.6 +1.2
baz=302
ANX Ano Chora 1.56 117 P Pb 05 00 57.1 -0.7
ANX S Sb 05 01 17.2 0.0
comp=E,830nm,0.5s
ANX Ano Chora 1.56 117 P Pb 05 00 57.0 -0.8
ANX AML AML 05 01 25.9
comp=N,1944μm,0.7s
ANX AML AML 05 01 33.0
comp=E,1777μm,0.7s
MAKR Makrakomi, Fth 1.58 100 P Pb 05 00 57.8 -0.1
MAKR S Sb 05 01 17.6 0.0
comp=E,2μm,0.5s
MAKR Makrakomi, Fth 1.58 100 P Pb 05 00 57.9 -0.1
MAKR AML AML 05 01 23.5
comp=E,5937μm,0.4s
MAKR AML AML 05 01 24.8
comp=N,3358μm,0.7s
RLS Riolos of Patr 1.62 140 P Pn 05 00 56.7 +1.0
EFP Efpalio 1.64 122 P Pb 05 00 58.0 -0.9
EFP S Sb 05 01 18.5 -0.7
comp=N,675nm,0.6s
LTHK Lithakia 1.69 161 P Pn 05 00 58.3 +1.8
LTHK AML AML 05 01 33.7
comp=N,1226μm,0.5s
LTHK AML AML 05 01 33.9
comp=E,1173μm,0.6s
AGG Agios Georgios 1.73 99 P Pb 05 00 59.3 -1.2
AGG S Sb 05 01 22.3 +0.4
comp=E,700nm,0.4s
AGG Agios Georgios 1.73 99 P Pb 05 00 59.6 -0.9
AGG AML AML 05 01 25.0
comp=N,1876μm,0.5s
AGG AML AML 05 01 27.9
comp=E,2320μm,0.4s
FNA Florina 1.75 32 P Pn 05 00 59.6 +2.0
baz=32
FNA S Sb 05 01 23.6 +0.9
baz=32
FNA Florina 1.75 32 P Pn 05 00 59.5 +2.0
FNA S Sb 05 01 22.8 +0.1
comp=E,978nm,0.4s
FNA Florina 1.75 32 *e*Pn Pb 05 00 59.8 -1.2
FNA *e*Sn Sb 05 01 22.4 -0.3
FNA Florina 1.75 32 P Pb 05 00 60.0 -1.1
FNA S Sb 05 01 22.2 -0.5
FNA AML AML 05 01 28.3
comp=N,2035μm,0.4s
FNA AML AML 05 01 29.7
comp=E,1864μm,0.4s
DRO Drossia 1.83 137 P Pn 05 00 59.9 +1.4
DRO AML AML 05 01 31.6
comp=N,2022μm,0.3s
DRO AML AML 05 01 33.3
comp=E,2193μm,0.3s
KTI Kastanea 1.87 54 P Pn 05 01 01.4 +2.2
OHR Ohrid 1.87 15 *i* Pn Pb 05 01 02.4 -0.6
OHR *i* Sn Sb 05 01 32.0 +5.9
KLV Kalavryta, Ach 2.02 128 P Pn 05 01 02.8 +1.7
KLV AML AML 05 01 40.9
comp=N,389μm,0.7s
KLV AML AML 05 01 40.9
comp=E,365μm,0.9s
AXAR Agios Charalam 2.04 105 P Pb 05 01 04.5 -1.2
AXAR AML AML 05 01 39.4
comp=E,1670μm,0.3s
AXAR AML AML 05 01 43.0
comp=N,1881μm,0.5s
GUR Goura 2.20 128 P Pn 05 01 06.0 +2.2
GUR AML AML 05 01 43.9
comp=N,874μm,0.5s
GUR AML AML 05 01 45.3
comp=E,625μm,0.3s
GRG Griva 2.39 46 P Pn 05 01 08.3 +2.0
GRG AML AML 05 01 51.6
comp=N,358μm,0.7s
GRG AML AML 05 01 54.0
comp=E,221μm,0.5s
NEO Neokhori 2.39 89 P Pn 05 01 07.8 +1.5
NEO AML AML 05 01 45.6
comp=E,536μm,0.3s
NEO AML AML 05 01 49.9
comp=N,641μm,0.7s
HORT Hortiatis 2.62 60 P Pn 05 01 10.9 +1.5
HORT AML AML 05 01 42.4
comp=E,141μm,0.4s
HORT AML AML 05 01 48.6
comp=N,147μm,0.2s
TIP Timpagrande 2.63 268 ⇓P Pn 05 01 11.2 +1.6
VIL2 Platees 2.68 113 P Pn 05 01 12.4 +2.1
VIL2 AML AML 05 02 01.6
comp=E,314μm,0.7s
VIL2 AML AML 05 02 01.8
comp=N,282μm,0.5s
PYL PYLOS 2.72 152 P Pn 05 01 11.6 +0.8
VAY Valandovo 2.74 42 *i* Pn Pn 05 01 12.9 +1.9
VAY *i* Sn Sn 05 01 46.9 +4.0
PUK Puka 2.74 356 P Pn 05 01 12.8 +1.7
baz=357
MATE Matera 2.96 298 ⇑P Pn 05 01 15.8 +1.7
DRME Dracevica, Mon 2.97 346 *e*Pn Pn 05 01 15.4 +1.2
PDG Podgorica 3.19 348 ⇓P Pn 05 01 18.1 +0.9
PDG Podgorica 3.19 348 *e*Pn Pn 05 01 17.8 +0.6
SRS Serrai 3.20 55 *e*Pn Pn 05 01 18.9 +1.5
SRS *e*Sn Sn 05 01 52.8 -1.6
HCV Herceg Novi 3.38 339 *e*Pn Pn 05 01 20.4 +0.6
VLI Veliai 3.40 139 P Pn 05 01 21.8 +1.7
PRVS Prvonek 3.52 24 *e*Pn Pn 05 01 22.6 +0.8
PRVS *e*Sn Sn 05 02 02.6 +0.4
TREB Trebinje 3.67 339 *e*Pn Pn 05 01 23.7 -0.1
DBRK Dubrovnik 3.68 336 *e*Pn Pn 05 01 23.9 -0.1
DBRK Sn Sn 05 02 04.5 -1.8
BARS Barje 3.73 19 *e*Pn Pn 05 01 25.7 +1.1
BARS *e*Sn Sn 05 02 07.4 0.0
BRY Bratogost 3.79 342 *e*Pn Pn 05 01 25.4 -0.2
SJES Sjenica 3.95 358 *e*Pn Pn 05 01 28.1 +0.3
SJES *e*Sn Sn 05 02 10.7 -2.4
SJES Sjenica 3.95 358 *e*Pn Pn 05 01 29.6 +1.8
SELS Selova 3.98 10 *e*Pn Pn 05 01 28.9 +0.8
SELS *e*Sn Sn 05 02 13.0 -0.6
UPM Unac-Piva 4.00 347 *e*Pn Pn 05 01 29.6 +1.0
STON Ston 4.01 333 *i* Pn Pn 05 01 28.6 +0.2
STON Sn Sn 05 02 12.8 -1.4
STON Ston 4.01 333 *e*Pn Pn 05 01 28.3 -0.2
VTS Vitosha 4.05 34 *e*Pn Pn 05 01 31.1 +1.9
VTS *e*Sn Sn 05 02 13.5 -2.1
LSTV Lastovo 4.24 326 *e*Pn Pn 05 01 31.8 +0.1
NEVS Nevesinje 4.27 340 *e*Pn Pn 05 01 31.9 -0.3
RUDO Rudo 4.35 353 *e*Pn Pn 05 02 32.5 -0.6
ZAPS Zavoj 4.38 25 *e*Pn Pn 05 01 34.6 +0.9
BOVS Bovan 4.48 15 ⇑P Pn 05 01 35.1 +0.1
BBLS Lazi&#263i 4.59 353 *e*Pn Pn 05 01 36.9 +0.4
BBLS *e*Sn Sn 05 02 25.8 -2.9
BBLS Lazi&#263i 4.59 353 *e*Pn Pn 05 01 36.4 -0.1
GRUS Gruza 4.60 5 *e*Pn Pn 05 01 36.9 +0.3
BLKB Belogradchik 4.71 23 ⇑P Pn 05 01 39.3 +1.1
HVAR Hvar 4.76 325 *e*Pn Pn 05 01 38.9 0.0
HVAR Sn Sn 05 02 29.6 -3.3
ZAGS Zajecar 4.77 19 *e*Pn Pn 05 01 39.1 +0.2
DIVS Divibare 4.79 359 *e*Pn Pn 05 01 39.8 +0.5
DIVS *e*Sn Sn 05 02 29.0 -4.6
APE Apeiranthos 4.80 116 ⇓P Pn 05 01 43.0 +3.6
VAE Valguarnera 4.86 250 Pn Pn 05 01 44.1 +3.9
comp=N,1.1nm,0.3s,baz=110,slow=4.2,SNR=1.3
VAE Sn Sn 05 02 42.0 +6.7
comp=N,3.1nm,0.3s,baz=336,slow=23,SNR=2.5
comp=N,5.7nm,0.5s
TRUS Trudelj 4.92 2 *e*Pn Pn 05 01 41.1 +0.2
KUBS Kucevo 5.23 12 *e*Pn Pn 05 01 45.2 0.0
TEKS Tekeris 5.26 355 *e*Pn Pn 05 01 44.4 -1.3
TEKS *e*Sn Sn 05 02 41.1 -4.0
ZIRJ Zirje 5.50 324 *e*Pn Pn 05 01 49.5 +0.5
ZIRJ Sn Sn 05 02 47.9 -3.1
IDI Anoyia 5.52 135 Pn Pn 05 01 49.2 -0.1
comp=N,0.7nm,0.3s,baz=258,slow=13,SNR=8.1
IDI Sn Sn 05 02 47.3 -4.3
comp=N,3.1nm,0.3s,baz=314,slow=11,SNR=11
MGRS Mrkonjic Grad 5.59 337 *e*Pn Pn 05 01 49.6 -0.6
MDVR Moldovita 5.59 12 ⇑P Pn 05 01 50.8 +0.5
ELND Elena 5.64 48 ⇑P Pn 05 01 51.7 +0.8
A050A Klekovaca 5.83 334 *e*Pn Pn 05 01 55.0 +1.5
FRGS Fruska Gora 5.85 358 ⇑P Pn 05 01 53.7 -0.1
FRGS Fruska Gora 5.85 358 *e*Pn Pn 05 01 53.2 -0.6
FRGS Fruska Gora 5.85 358 *e*Pn Pn 05 01 53.1 -0.7
A051A Mrakovica 6.19 338 *e*Pn Pn 05 01 58.7 +0.3
TIM Timisoara 6.47 7 ⇑P Pn 05 02 03.9 +1.6
NVLJ Novalja 6.56 325 *e*Pn Pn 05 02 04.2 +0.7
NVLJ Sn Sn 05 03 13.8 -3.2
BOJS Bojanci 7.17 331 *e*Pn Pn 05 02 12.1 +0.2
BRJN Brijuni 7.34 322 *e*Pn Pn 05 02 14.7 +0.6
BRJN Sn Sn 05 03 32.3 -3.9
CRES Cresnjev 7.37 334 *e*Pn Pn 05 02 14.3 -0.4
MLR Muntele Rosu 7.52 33 ⇑P Pn 05 02 18.3 +1.4
CEY Cerknica 7.69 329 *e*Pn Pn 05 02 19.4 +0.4
VRI Vrincioaia 8.16 34 ⇑P Pn 05 02 27.6 +2.2
SOKA Soboth 8.26 335 *i* Pn Pn 05 02 27.0 +0.1
comp=N,1.3nm,0.3s
SOKA *i* Sn Sn 05 03 53.3 -5.8
comp=N,2.0nm,0.6s
OBKA Obir 8.28 332 *i* Pn Pn 05 02 27.5 +0.2
comp=N,1.3nm,0.4s
OBKA *i* Sn Sn 05 03 55.6 -4.0
comp=N,4.1nm,0.4s
MOA Molln 9.54 335 *i* Pn Pn 05 02 45.6 +1.2
comp=N,0.9nm,0.2s
MOA *e*Sn Sn 05 04 26.8 -3.5
comp=N,1.0nm,0.4s
LESA Schwarzleotal 9.76 329 *i* Pn Pn 05 02 49.0 +1.5
comp=N,1.5nm,0.3s
WTTA Wattenberg 10.08 325 *i* Pn Pn 05 02 52.8 +0.9
comp=N,1.3nm,0.3s
GERES GERESS Array B 10.60 336 Pn Pn 05 02 57.9 -1.0
comp=N,0.3nm,0.3s,baz=138,slow=12,SNR=1.3
HFS Hagfors 21.24 351 P P 05 05 11.9 -0.5
comp=N,0.9nm,0.6s,baz=186,slow=13,SNR=5.1
comp=N,0.9nm,0.6s
EKA Eskdalemuir Ar 22.34 324 P P 05 05 24.5 +0.3
comp=N,0.4nm,0.5s,baz=128,slow=10.0,SNR=3.4
comp=N,0.4nm,0.5s
NB2 NORSAR Subarra 22.45 349 P P 05 05 24.9 -0.5
comp=Z,0.4nm,0.5s,baz=160,slow=10
NOA NORSAR Array B 22.45 349 P P 05 05 24.9 -0.5
comp=Z,0.3nm,0.5s,baz=153,slow=9.0,SNR=3.2
comp=Z,0.3nm,0.5s
FINES FINESS Array B 22.46 7 P P 05 05 24.6 -0.8
comp=Z,1.4nm,0.7s,baz=170,slow=12,SNR=7.9
comp=Z,1.4nm,0.7s
TORD Torodi Ar. Bea 30.73 217 P P 05 06 42.7 +1.1
comp=Z,0.4nm,0.5s,baz=29,slow=9.2,SNR=5.5
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 44.97 59 P P 05 08 39.9 -1.4
comp=Z,0.4nm,0.5s,baz=274,slow=7.6,SNR=4.4
comp=Z,0.4nm,0.5s
ZALV Zalesovo Beam 45.17 49 P P 05 08 41.6 -1.1
comp=Z,0.4nm,0.3s,baz=293,slow=7.5,SNR=3.0
comp=Z,0.4nm,0.3s
YKA Yellowknife Ar 72.23 340 P P 05 11 51.3 +0.6
comp=Z,0.1nm,0.7s,baz=23,slow=17,SNR=2.3
comp=Z,0.1nm,0.7s

AFAD ***05*** *05:00:58.8±0.0, 39.12N×29.05E, h7km±3km, ML2.7*
ISK ***05*** *05:00:58.9, 39.11N×29.04E, h8km, ML2.7/17*
ISC 05 05:00:59.2±0.9, 39.13N±0.02×29.05E±0.02, h14km±7km, n33, σ0.75/44, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SMAA	**Simav-Kutahya**	**0.06**	**246**	Pg	**Pg**	**05 01 01.7**	**-0.2**
DEMI	**Demirci**	**0.27**	**253**	P	**Pg**	**05 01 04.8**	**-0.2**
DEMI				S	**Sg**	**05 01 08.8**	**-0.1**
DEMI				*i* AML	AML	05 01 09.0	
comp=E,1μm,0.3s							
GEDZ	**Gediz**	**0.29**	**106**	Pg	**Pg**	**05 01 05.5**	**+0.2**
GEDZ				Sg	**Sg**	**05 01 09.9**	**+0.4**
EMET	**Ktahya-Emet**	**0.33**	**40**	P	**Pg**	**05 01 05.7**	**-0.2**
EMET				S	**Sg**	**05 01 10.4**	**-0.1**
EMET				*i* AML	AML	05 01 11.0	
comp=N,1μm,0.2s							
GDZ	**Gediz**	**0.34**	**96**	P	**Pg**	**05 01 06.0**	**-0.1**
GDZ				S	**Sg**	**05 01 10.5**	**-0.3**
GDZ				*i* AML	AML	05 01 11.0	
comp=E,2μm,0.3s							
USAK	**Uak-Merkez**	**0.41**	**183**	P	**Pg**	**05 01 07.2**	**-0.3**
DURS	**Dursunbey**	**0.65**	**317**	P	**Pg**	**05 01 11.4**	**-0.5**
KULA	**Kula-Manisa**	**0.68**	**207**	Pg	**Pb**	**05 01 12.3**	**-0.6**
KULA				Sg	**Sg**	**05 01 21.1**	**-0.4**
GORD	**Gordes-Manisa**	**0.71**	**253**	Pg	**Pb**	**05 01 13.3**	**-0.1**
GORD				Sg	**Sb**	**05 01 22.9**	**-0.2**
MANT	**Manisa**	**0.74**	**211**	P	**Pb**	**05 01 13.6**	**-0.4**
ANDZ	**Kutahya, Merke**	**0.76**	**60**	P	**Pg**	**05 01 13.2**	**-0.8**
ANDZ				S	**Sg**	**05 01 23.7**	**-0.4**
ANDZ				*i* AML	AML	05 01 25.0	
comp=N,161nm,0.2s							
ANDZ				*i* AML	AML	05 01 29.0	
comp=E,184nm,0.4s							
BNAZ	**Uak-Banaz**	**0.79**	**124**	P	**Pb**	**05 01 15.1**	**+0.3**
BNAZ				*i* AML	AML	05 01 25.0	
comp=E,787nm,0.2s							
BNAZ				S	**Sb**	**05 01 25.2**	**-0.1**
DOMA	**Ktahya-Doman**	**0.83**	**37**	P	**Pb**	**05 01 15.4**	**0.0**
DOMA				S	**Sg**	**05 01 25.4**	**-0.8**
DOMA				*i* AML	AML	05 01 30.0	
comp=N,360nm,0.3s							
PASA	**Karahalli, USA**	**0.85**	**156**	P	**Pb**	**05 01 15.6**	**-0.2**
PASA				S	**Sg**	**05 01 26.0**	**-0.7**
PASA				*i* AML	AML	05 01 31.0	
comp=N,165nm,0.4s							
ORLT	**Orhaneli**	**0.93**	**353**	Pg	**Pg**	**05 01 16.7**	**-0.4**
ORLT				Sg	**Sb**	**05 01 30.7**	**+1.4**
GOMA	**Golmarmara-Man**	**0.98**	**245**	Pg	**Pb**	**05 01 17.8**	**-0.1**
AUBOZ	**BOZOYUK**	**1.09**	**44**	P	**Pg**	**05 01 19.6**	**-0.7**
AUKUT	**KUTAHYA**	**1.12**	**42**	P	**Pg**	**05 01 17.1**	**-3.7**
AUKUT				S	Sg	05 01 25.4	-10
SUSR	**Susurluk-Balik**	**1.12**	**319**	Pn	**Pn**	**05 01 20.9**	**+0.4**
ODEM	**Odemis-Izmir**	**1.14**	**222**	Pn	**Pb**	**05 01 20.6**	**-0.1**
AUKIR	**Kırka- Seyitga**	**1.16**	**82**	P	**Pn**	**05 01 22.0**	**+0.8**
SOMA	**Soma-Manisa**	**1.18**	**272**	Pn	**Pn**	**05 01 21.7**	**+0.4**
KZIL	**AFYON_Kizioren**	**1.22**	**135**	P	**Pn**	**05 01 23.0**	**+1.1**
CAVI	**Cavuskoy**	**1.24**	**29**	Pn	**Pg**	**05 01 23.1**	**+0.1**
MDNY	**Mudanya-Bursa**	**1.25**	**354**	Pn	**Pb**	**05 01 22.9**	**+0.3**
KCTX	**Karacabey (Bur**	**1.26**	**335**	Pn	**Pg**	**05 01 23.5**	**+0.1**
SHUT	**Suhut-Afyon**	**1.30**	**115**	Pn	**Pg**	**05 01 23.9**	**-0.4**
GEMT	**Gemlik**	**1.31**	**5**	Pn	**Pg**	**05 01 24.2**	**-0.3**
GONE	**Gonen-Balikesi**	**1.40**	**312**	Pn	**Pb**	**05 01 25.1**	**0.0**
ADVT	**Abdulvahap**	**1.41**	**22**	Pn	**Pb**	**05 01 25.7**	**+0.4**
BASM	**Basmaki-Afyon**	**1.44**	**147**	Pn	**Pb**	**05 01 25.7**	**-0.1**
ARMT	**Armutlu**	**1.45**	**354**	Pn	**Pn**	**05 01 25.2**	**+0.2**
EDC	**Edincik**	**1.52**	**324**	Pn	**Pb**	**05 01 27.1**	**-0.2**

UCR ***05*** *05:01:48.6±0.7, 10.49N×86.36W, h23km±8km, MW3.5*
CATAC ***05*** *05:01:49.5±0.6, 10.44N×86.27W, h15km±3km, ML2.8*
ISC 05 05:01:49.5±1.9, 10.46N±0.06×86.27W±0.09, h16km±12km, n17, σ0.81/25, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.68**	**125**	*i* P	**Pg**	**05 02 02.4**	**-0.5**
SAJU				*i* S	**Sb**	**05 02 12.0**	**-0.2**
SAJU				IAML		05 02 14.4	
comp=Z,430nm,1.0s							
HZTE	**Horizontes, Gu**	**0.71**	**69**	*i* P	**Pb**	**05 02 04.1**	**+0.5**
HZTE				IAML		05 02 04.7	
comp=Z,560nm,1.0s							
HZTE				*i* S	**Sn**	**05 02 15.0**	**-0.6**
HZTE	**Horizontes, Gu**	**0.71**	**69**	*e*P	**Pb**	**05 02 04.1**	**+0.5**
ORTG	**Ortega, Santa**	**0.81**	**97**	*i* P	**Pg**	**05 02 04.8**	**-0.5**
ORTG				*i* S	**Sb**	**05 02 16.7**	**+0.8**
ORTG				IAML		05 02 21.5	
comp=Z,250nm,1.0s							
ORTG	**Ortega, Santa**	**0.81**	**97**	*e*P	**Pg**	**05 02 04.9**	**-0.5**
DUNO	**Dulce Nombre,**	**0.86**	**116**	*i* P	**Pg**	**05 02 06.0**	**-0.2**
DUNO				*i* S	**Sn**	**05 02 18.7**	**-0.5**
DUNO				IAML		05 02 21.7	
comp=Z,240nm,1.0s							
DUNO	**Dulce Nombre,**	**0.86**	**116**	*e*P	**Pg**	**05 02 06.2**	**-0.1**
DUNO				*e*S	**Sn**	**05 02 18.8**	**-0.3**
VMAR	**Armenia, Volca**	**1.19**	**73**	*e*P	**Pn**	**05 02 11.6**	**0.0**
CONN	**Concepcion**	**1.27**	**30**	*i* P	**Pn**	**05 02 12.9**	**+0.3**
CONN				*i* S	**Sb**	**05 02 29.2**	**+0.1**
CONN				IAML		05 02 40.8	
comp=Z,1μm,1.0s							
NADN	**Granada**	**1.30**	**10**	*i* P	**Pn**	**05 02 13.1**	**+0.1**
NADN				IAML		05 02 38.4	
comp=Z,240nm,1.0s							
JTS	**Las Juntas de**	**1.31**	**97**	*e*P	**Pn**	**05 02 12.3**	**-0.9**
COPN	**Copaltepe**	**1.73**	**350**	*i* P	**Pn**	**05 02 20.0**	**+1.0**
COPN				IAML		05 02 57.8	
comp=Z,68nm,1.0s							
JACO	**JACO, Garabito**	**1.78**	**116**	*i* P	**Pn**	**05 02 19.8**	**+0.2**
JACO				*i* S	**Sb**	**05 02 43.1**	**-0.7**
JACO				IAML		05 02 53.5	
comp=Z,50nm,1.0s							
JACO	**JACO, Garabito**	**1.78**	**116**	*e*P	**Pb**	**05 02 22.0**	**+0.2**
CNGA	**Al SSO del Vol**	**2.06**	**348**	*i* P	**Pn**	**05 02 23.0**	**-0.6**
CNGA				IAML		05 02 34.8	
comp=Z,48nm,1.0s							
VICA	**Volcano Irazu**	**2.44**	**101**	*e*P	**Pn**	**05 02 30.9**	**+1.8**
CDM	**Cerro de Muert**	**2.63**	**110**	*i* P	**Pn**	**05 02 33.5**	**+1.7**
CDM				*i* S	**Sn**	**05 03 02.1**	**-1.5**
CDM				IAML		05 03 13.0	
comp=Z,27nm,1.0s							

IDC ***05*** *05:04:33.3±3.8, 8.40S×119.51E, h165km±30km, mb2.7/2, mbtmp3.1/3, Error ellipse: s-maj=83.8km s-min=17.8km az=45.0*
DJA ***05*** *05:04:34.2±0.7, 9°S±5°×11°E±°, h142km±9km, M3.6/7, MLv3.6/7*
ISC 05 05:04:32.9±1.0, 8.54S±0.08×119.37E±0.05, h170km, n10, σ1.9/26, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.60**	**259**	P	**Pn**	**05 05 04.6**	**-0.4**
PLAI				S	**Sn**	**05 05 28.2**	**-1.5**
BASI	**Baing, Sumba**	**2.06**	**145**	P	**Pn**	**05 05 09.7**	**-0.2**
BASI				S	**Sn**	**05 05 37.4**	**-1.2**
EDFI	**Ende, Flores**	**2.31**	**95**	P	**Pn**	**05 05 12.3**	**-0.6**
EDFI				S	**Sn**	**05 05 41.9**	**-1.9**
TWSI	**Taliwang, Sumb**	**2.46**	**265**	P	**Pn**	**05 05 14.7**	**+0.1**
BKSI	**Bulukumba**	**3.28**	**13**	P	**Pn**	**05 05 24.8**	**+0.2**
BATI	**Baumata**	**4.55**	**112**	P	**Pn**	**05 05 41.9**	**+1.0**
81nm,0.8s,baz=294,slow=16,SNR=2.0							
BATI				S	**Sn**	**05 06 31.7**	**-2.4**
42nm,0.4s,baz=356,slow=15,SNR=1.7							
SOEI	**Soe**	**4.99**	**104**	P	**Pn**	**05 05 47.1**	**+0.5**
WRA	**Warramunga Arr**	**18.40**	**130**	P	**P**	**05 08 36.0**	**+0.7**
0.3nm,0.6s,baz=305,slow=13,SNR=3.3							
WRA				S	**S**	**05 11 57.8**	**+1.2**
0.2nm,0.3s,baz=300,slow=21,SNR=2.1							
ASAR	**Alice Springs**	**20.50**	**139**	P	**P**	**05 08 59.3**	**+1.5**
0.2nm,0.4s,baz=309,slow=9.7,SNR=2.6							
0.2nm,0.4s							
MKAR	**Makanchi Array**	**64.21**	**333**	P	**P**	**05 14 49.8**	**+0.3**
0.2nm,0.4s,baz=154,slow=8.2,SNR=2.5							
0.2nm,0.4s							

IDC ***05*** *05:09:00.0±18.0, 41.48N×142.53E, h0km, mb4.0/7, mbtmp4.0/7, Error ellipse: s-maj=416.4km s-min=63.9km az=163.0*
JMA ***05*** *05:09:26.2±0.1, 42.26N±0.4×141.3E±0.5, h131km, MV3.1/38, IBURI REGION*
ISC 05 05:09:25.9±0.9, 42.63N±0.08×141.30E±0.05, h134km±7km, n31, σ0.43/31, mb3.8/7, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JEW	**Eniwo**	**0.24**	**28**	P	**Pn**	**05 09 44.5**	**+0.1**
JEW				S	**Sn**	**05 09 58.0**	**-0.3**
JNB	**Noboribetsu**	**0.25**	**230**	*i* P	**Pn**	**05 09 44.1**	**-0.3**
JNB				S	**Sn**	**05 09 57.9**	**-0.4**
JIAM	**Iburiatsuma**	**0.46**	**91**	P	**Pn**	**05 09 45.6**	**+0.3**
JIAM				S	**Sn**	**05 10 00.6**	**+0.7**
JISS	**Ishikarishitsu**	**0.65**	**8**	P	Pn	05 09 46.6	+0.2
JISS				S	Sn	05 10 02.5	+0.5
JKB	**Kayabe**	**0.77**	**195**	P	**Pn**	**05 09 47.4**	**+0.1**
JKB				*e*S	**Sn**	**05 10 03.2**	**-0.2**
JBT2	**Biratori 2**	**0.80**	**79**	*i* P	Pn	05 09 47.5	0.0
JBT2				*e*S	**Sn**	**05 10 04.2**	**+0.4**
JYM2	**Yakumo 2**	**0.86**	**233**	P	Pn	05 09 48.1	+0.1
JYM2				*e*S	**Sn**	**05 10 04.0**	**-0.6**
JSH	**Shimam**	**0.92**	**271**	*i* P	**Pn**	**05 09 48.5**	**0.0**
JHST	**Hiyamasetana**	**1.07**	**259**	P	**Pn**	**05 09 49.8**	**0.0**
JFR	**Furan**	**1.09**	**60**	*i* P	**Pn**	**05 09 49.8**	**-0.3**
JNBK	**Urakawa-nobuka**	**1.13**	**108**	*i* P	**Pn**	**05 09 50.6**	**+0.2**
JHR	**Hokuryu**	**1.15**	**16**	*e*P	Pn	05 09 51.4	+0.8
JOT	**Ohata**	**1.26**	**189**	P	**Pn**	**05 09 52.0**	**+0.2**
JOSM	**Okushiri--Mats**	**1.46**	**248**	P	**Pn**	**05 09 53.8**	**0.0**
JCH	**Churui**	**1.52**	**90**	P	**Pn**	**05 09 54.4**	**-0.2**
JCH				S	**Sn**	**05 10 16.1**	**-0.3**
JKK2	**Kamakawa 2**	**1.63**	**40**	*i* P	**Pn**	**05 09 56.0**	**+0.3**
JKK2				S	**Sn**	**05 10 18.9**	**+0.2**
JSS	**Shosan**	**1.81**	**13**	P	Pn	05 09 58.8	+1.0
JAR	**Ashorobuto**	**1.93**	**69**	*i* P	**Pn**	**05 09 59.0**	**-0.3**
JAR				S	**Sn**	**05 10 24.1**	**-0.7**
SONM	**Songino Array**	**24.98**	**294**	P	**P**	**05 14 37.3**	**+0.2**
1.3nm,0.7s,baz=74,slow=11,SNR=2.6							

1.3nm,0.7s
H11N2 WAKE ISLAND Hy 31.42 129 T T 05 47 34.9
baz=327,slow=75,SNR=3.7
H11N1 WAKE ISLAND Hy 31.43 129 T T 05 47 38.4
baz=327,slow=75,SNR=4.2
H11N3 WAKE ISLAND Hy 31.43 129 T T 05 47 36.3
baz=327,slow=75,SNR=3.8
H11S1 WAKE ISLAND Hy 32.27 130 T T 05 48 46.1
baz=329,slow=76,SNR=10.0
H11S3 WAKE ISLAND Hy 32.28 130 T T 05 48 45.5
baz=329,slow=76,SNR=3.7
H11S2 WAKE ISLAND Hy 32.29 130 T T 05 48 44.5
baz=329,slow=76,SNR=4.5
ZALV Zalesovo Beam 38.26 307 P **P** **05 16 34.0 +1.2**
2.7nm,0.4s,baz=78,slow=9.0,SNR=11
2.7nm,0.4s
MKAR Makanchi Array 41.29 297 P **P** **05 16 57.8 -0.1**
0.2nm,0.5s,baz=73,slow=7.8,SNR=2.4
0.2nm,0.5s
KURBB Kurchatov Arra 42.66 303 P **P** **05 17 09.0 0.0**
1.9nm,0.5s,baz=75,slow=8.8,SNR=8.9
1.9nm,0.5s
BVAR Borovoye Array 46.87 309 P **P** **05 17 42.7 +0.4**
2.3nm,0.4s,baz=69,slow=8.3,SNR=8.0
2.3nm,0.4s
FINES FINESS Array B 63.85 331 P **P** **05 19 42.9 -0.7**
0.5nm,0.5s,baz=52,slow=9.0,SNR=8.0
0.5nm,0.5s
HFS Hagfors 68.97 335 P **P** **05 20 15.9 -0.2**
0.6nm,0.4s,baz=51,slow=7.8,SNR=4.3
0.6nm,0.4s

*NEIC **05** 05:14:41.2±1.0, 19°.325N±0°.010×155°.05W±0°.01, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.1km az=333.0*

HVO 05 05:14:40.5±0.9, 19°.35N±0°.02×155°.02W±0°.02, h6km±3km, ML3.3/39, ML3.5/46(NEIC), Error ellipse: s-maj=3.3km s-min=1.7km az=146.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.08**	**296**		Pg	05 14 42.8	+0.2
JCUZ				IAML		05 14 45.3	
	comp=N,22μm,1.2s						
JOKA	**Jonika Flow**	**0.09**	**10**		Pg	05 14 42.8	+0.3
JOKA					Sg	05 14 45.4	+1.4
NPOC	**North of Pu'u**	**0.10**	**298**		Pg	05 14 43.0	+0.3
NPOC				IAML		05 14 46.2	
	comp=E,24μm,1.0s						
STCH	**Steam Cracks**	**0.10**	**291**		Pg	05 14 43.0	+0.1
STCH				IAML		05 14 46.5	
	comp=E,25μm,0.8s						
STCH				IAML		05 14 46.5	
	comp=N,21μm,1.0s						
KNHH	**Kane Nui o Ham**	**0.14**	**283**		Pg	05 14 44.0	+0.5
PHO	**Puu Honuaula**	**0.18**	**43**		Pg	05 14 45.0	+0.8
PUH	**Pauahi**	**0.19**	**278**		Pg	05 14 44.3	0.0
BYL	**Byron's Ledge**	**0.23**	**286**		Pg	05 14 45.2	0.0
BYL				IAML		05 14 52.1	
	comp=E,7μm,0.8s						
KKO	**Keanakako`i**	**0.24**	**282**		Pg	05 14 45.5	+0.3
KKO				IAML		05 14 52.7	
	comp=E,8μm,1.0s						
KKO				IAML		05 14 52.9	
	comp=N,9μm,0.8s						
HATHI	**Halema'uma'u T**	**0.24**	**288**		Pg	05 14 45.5	+0.3
HATHI				IAML		05 14 52.1	
	comp=E,7μm,0.8s						
HATHI				IAML		05 14 53.2	
	comp=N,6μm,0.6s						
RIM	**Rim**	**0.24**	**281**		Pg	05 14 45.6	+0.3
RIM				IAML		05 14 53.2	
	comp=N,10μm,1.0s						
RIM				IAML		05 14 53.5	
	comp=E,8μm,0.9s						
SBLHI	**Steaming Bluff**	**0.25**	**289**		Pg	05 14 45.6	+0.2
SBLHI				IAML		05 14 53.5	
	comp=E,9μm,0.9s						
NPH	**North Pit**	**0.25**	**285**		Pb	05 14 46.8	-0.8
UWB	**Uwekahuna B**	**0.25**	**288**		Pg	05 14 45.8	+0.3
UWB				IAML		05 14 53.9	
	comp=N,6μm,0.8s						
OBL	**Observatory Le**	**0.26**	**286**		Pg	05 14 45.9	+0.3
SDHHI	**Sand Hill**	**0.26**	**279**		Pg	05 14 46.1	+0.4
SDHHI				IAML		05 14 53.5	
	comp=N,6μm,0.7s						
UWE	**Uwekahuna**	**0.27**	**286**		Pg	05 14 45.9	+0.1
UWE				IAML		05 14 53.9	
	comp=N,7μm,1.0s						
RSD	**Rainshed**	**0.27**	**295**		Pg	05 14 46.2	+0.3
RSD				IAML		05 14 53.7	
	comp=E,6μm,1.2s						
RSD				IAML		05 14 54.5	
	comp=N,7μm,0.8s						
WRMHI	**West Rim**	**0.27**	**283**		Pg	05 14 46.3	+0.4
WRMHI				IAML		05 14 54.4	
	comp=N,7μm,1.0s						
WRMHI				IAML		05 14 54.6	
	comp=E,9μm,1.4s						
HLP	**Hilina Pali**	**0.28**	**259**		Pg	05 14 46.6	+0.6
HLP				IAML		05 14 54.3	
	comp=N,8μm,0.9s						
HLP				IAML		05 14 55.2	
	comp=E,6μm,1.0s						
HTC	**Hot Caves**	**0.37**	**253**		Pb	05 14 48.7	-0.8
MLH	**Mauna Loa**	**0.37**	**293**		Pg	05 14 48.3	+0.4
HMH	**Humu'ula Sheep**	**0.50**	**300**		Pg	05 14 50.2	-0.1
HMH	**Humu'ula Sheep**	**0.50**	**300**		Sb	05 14 59.0	-0.7
MWH	**Moku'aweowe**	**0.56**	**284**		Pg	05 14 51.3	-0.1
MWH	**Moku'aweowe**	**0.56**	**284**		Sb	05 15 00.8	-0.8
KHU	**Kahuku**	**0.57**	**260**		Pg	05 14 51.1	-0.5
KHU				IAML		05 15 09.9	
	comp=N,3μm,0.7s						
ALEP	**Alea Permanent**	**0.62**	**288**		Pg	05 14 52.1	-0.4
ALEP					Sg	05 15 01.8	+1.2
POHA	**Pohakuloa**	**0.63**	**310**		Pg	05 14 51.8	-0.9
POHA				IAML		05 15 12.1	
	comp=N,3μm,1.6s						
POHA				IAML		05 15 14.3	
	comp=N,3μm,0.8s						
POHA	**Pohakuloa**	**0.63**	**310**		Sg	05 15 02.0	+1.0
HUH	**Hualalai**	**0.84**	**294**		Pg	05 14 55.5	-1.1
HPAH	**Hawaii Prepara**	**0.93**	**317**		Pg	05 14 56.3	-2.1
MHA	**Mahukona**	**1.18**	**315**		Pg	05 14 59.9	-3.3

RSNC 05 05:24:34.5±0.0, 7°N±1°×77°W±°, h137km±3km, M2.7, mb3.0, mB4.5, ML2.7, Mw(mB)3.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**194**	P	Pn	05 24 52.6	-1.0
BARC				S	Sn	05 25 07.1	-0.9
PAMC	**Pamplona, Colo**	**0.69**	**39**	P	Pn	05 24 55.2	-0.9
PAMC				P	P	05 24 55.3	-0.8
PAMC				P	P	05 24 55.3	-0.8
PAMC				S	Sn	05 25 12.4	0.0
PAMC				S	Sn	05 25 12.4	0.0
RUSC	**La Rusia**	**0.90**	**177**	P	Pn	05 24 56.5	-1.3
RUSC				P	Pn	05 24 56.5	-1.3
RUSC				P	Pn	05 24 56.5	-1.3
RUSC				S	Sn	05 25 15.3	-0.1
PTBC	**PUERTO BERRIO,**	**1.34**	**259**	P	Pn	05 24 59.0	-2.4
PTBC				P	Pn	05 24 59.0	-2.4
PTBC				S	Sn	05 25 20.1	-1.8
TAMC	**Tame, Arauca**	**1.38**	**105**	P	Pn	05 25 00.7	-1.1
TAMC				S	Sn	05 25 21.3	-1.3
OCAC	**Ocana**	**1.44**	**353**	P	Pn	05 25 01.0	-1.7
OCAC				P	Pn	05 25 01.0	-1.7
OCAC				P		05 25 01.1	
OCAC				S	Sn	05 25 22.4	-1.7
SPBC	**San Pablo de B**	**1.48**	**219**	P	Pn	05 25 01.5	-1.4
SPBC				P	Pn	05 25 01.5	-1.4
SPBC				S	Sn	05 25 24.1	-0.5
ZARC	**Zaragoza, Cauc**	**1.85**	**292**	P	Pn	05 25 05.1	-2.0
ZARC				P		05 25 05.2	
ZARC				S	Sn	05 25 30.9	-1.1
NORC	**Norcasia**	**2.12**	**235**	P	Pn	05 25 08.5	-1.9
NORC				S	Sn	05 25 36.9	-1.0
CHIC	**Chingaza**	**2.24**	**196**	P	Pn	05 25 10.8	-1.4
CHIC				S	Sn	05 25 40.6	-0.5
ROSC	**El Rosal**	**2.28**	**211**	P	Pn	05 25 12.3	-0.4
ROSC				S	Sn	05 25 44.5	+2.6
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	05 25 12.7	-3.1
UREC				P		05 25 12.8	
UREC				P		05 25 13.0	
UREC				S	Sn	05 25 43.9	-3.8
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	05 25 16.2	-1.9
VILC				P		05 25 16.7	
VILC				P		05 25 16.8	
VILC				S	Sn	05 25 50.2	-1.4
PTGC	**Puerto Gaitan,**	**2.77**	**159**	P	Pn	05 25 16.0	-2.4
PTGC				S	Sn	05 25 49.3	-3.0
RECRC	**Villamaria, Ca**	**2.87**	**231**	P	Pn	05 25 21.0	+0.8
RECRC				S	Sn	05 25 56.3	+0.9
NIZA	**Niza - Manizal**	**2.90**	**234**	P	Pn	05 25 22.2	+1.8
NIZA				S	Sn	05 26 00.0	+4.3
DBBC	**Dabeiba**	**3.06**	**274**	P	Pn	05 25 20.4	-1.9
DBBC				S	Sn	05 25 55.0	-4.2
ANIL	**Santa Ana**	**3.22**	**225**	P	Pn	05 25 23.8	-0.7
ANIL				S	Sn	05 26 04.8	+1.6
ARGC	**Ariguani, Magd**	**3.23**	**340**	P	Pn	05 25 23.1	-1.3
ARGC				P		05 25 23.7	
ARGC				P		05 25 24.3	
ARGC				S	Sn	05 26 01.1	-1.9
PRAC	**Prado**	**3.53**	**210**	P	Pn	05 25 26.1	-2.2
PRAC				P		05 25 26.3	
PRAC				S	Sn	05 26 07.6	-2.4
ORTC	**Ortega, Tolima**	**3.56**	**216**	P	Pn	05 25 26.7	-2.0
ORTC				P		05 25 27.2	
ORTC				P		05 25 27.5	
ORTC				S	Sn	05 26 10.2	-0.5
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	05 25 26.5	-2.6
APAC				S	Sn	05 26 09.6	-1.7
PLMC	**San Jos del P**	**3.66**	**239**	P	Pn	05 25 28.6	-1.4
PLMC				S	Sn	05 26 10.3	-2.7
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	05 25 26.2	-4.2
SJCC				S	Sn	05 26 07.7	-6.0
URMC	**La Uribe, Meta**	**3.74**	**199**	P	Pn	05 25 29.8	-1.4
URMC				S	Sn	05 26 13.4	-1.7
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	05 25 32.7	-4.5
CRJC				S	Sn	05 26 19.8	-6.1
GUVC	**San Jose del G**	**4.26**	**173**	P	Pn	05 25 35.3	-2.6
GUVC				S	Sn	05 26 23.9	-3.2
SMRC	**Santa Marta, M**	**4.47**	**346**	P	Pn	05 25 38.0	-2.7
CAPC	**Capurgana**	**4.56**	**294**	P	Pn	05 25 37.8	-4.1
CAPC				S	Sn	05 26 28.2	-6.1
MACC	**Macarena, Meta**	**4.68**	**189**	P	Pn	05 25 40.2	-3.3
MACC				S	Sn	05 26 33.0	-4.2
GARC	**Garzon, Huila**	**5.15**	**207**	P	Pn	05 25 46.8	-3.2
GARC				S	Sn	05 26 44.0	-4.8
POPC	**Popayan, Colom**	**5.51**	**220**	P	Pn	05 25 52.9	-1.9
	3.1nm,2.7s						
POPC				S	Sn	05 26 54.3	-3.1
	3.1nm,2.7s						
FLOC	**Florencia**	**5.76**	**206**	P	Pn	05 25 55.5	-2.5
FLOC				S	Sn	05 26 59.7	-3.4

*NEIC **05** 05:27:28.8±0.9, 19°.229N±0°.010×155°.367W±0°.008, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=331.0*

HVO 05 05:27:28.1±0.9, 19°.19N±0°.01×155°.36W±0°.01, h10km±3km, ML3.1/38, ML3.2/46(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=146.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.05**	**324**		Pg	05 27 29.9	-0.3
HLP	**Hilina Pali**	**0.11**	**28**		Pg	05 27 30.9	-0.1
SDHHI	**Sand Hill**	**0.20**	**19**		Pg	05 27 32.2	-0.3
SDHHI				IAML		05 27 36.5	
	comp=E,9μm,0.6s						
HPO	**Honuapo**	**0.21**	**240**		Pg	05 27 33.4	+0.9
RIM	**Rim**	**0.22**	**23**		Pg	05 27 32.5	-0.2
RIM				IAML		05 27 38.8	
	comp=N,5μm,0.3s						
RIM				IAML		05 27 40.6	
	comp=E,3μm,0.4s						
WRMHI	**West Rim**	**0.22**	**16**		Pg	05 27 32.6	-0.2
WRMHI				IAML		05 27 38.5	
	comp=N,7μm,0.4s						
KKO	**Keanakako`i**	**0.22**	**25**		Pg	05 27 33.0	+0.2
KKO				IAML		05 27 37.6	
	comp=N,5μm,0.5s						
KKO				IAML		05 27 41.2	
	comp=E,4μm,0.4s						
PUH	**Pauahi**	**0.23**	**38**		Pg	05 27 32.9	0.0
PUH				IAML		05 27 41.0	
	comp=E,3μm,0.5s						
PUH				IAML		05 27 41.1	
	comp=N,5μm,0.9s						
NPH	**North Pit**	**0.23**	**20**		Pg	05 27 32.8	-0.2
OBL	**Observatory Le**	**0.23**	**19**	Pg	Pg	05 27 32.8	-0.2
UWE	**Uwekahuna**	**0.24**	**17**		Pg	05 27 32.6	-0.4
UWE				IAML		05 27 40.1	
	comp=N,5μm,0.5s						
UWE				IAML		05 27 40.2	
	comp=E,3μm,0.6s						
BYL	**Byron's Ledge**	**0.24**	**24**		Pg	05 27 32.8	-0.3
BYL				IAML		05 27 41.1	
	comp=N,3μm,0.7s						
BYL				IAML		05 27 41.4	
	comp=E,3μm,0.5s						
KHU	**Kahuku**	**0.24**	**282**		Pg	05 27 33.2	0.0
KHU				IAML		05 27 41.0	
	comp=E,5μm,0.4s						
KHU				IAML		05 27 42.1	
	comp=N,4μm,0.4s						
UWB	**Uwekahuna B**	**0.24**	**20**		Pg	05 27 32.9	-0.3
HATHI	**Halema'uma'u T**	**0.25**	**23**		Pg	05 27 33.1	-0.1
HATHI				IAML		05 27 37.4	
	comp=E,3μm,0.5s						
HATHI				IAML		05 27 38.5	
	comp=N,4μm,0.5s						
SBLHI	**Steaming Bluff**	**0.25**	**21**		Pg	05 27 32.9	-0.4
SBLHI				IAML		05 27 40.3	
	comp=E,4μm,0.4s						
SBLHI				IAML		05 27 40.5	
	comp=N,4μm,0.4s						
RSD	**Rainshed**	**0.28**	**17**		Pg	05 27 33.4	-0.5
STCH	**Steam Cracks**	**0.29**	**50**		Pg	05 27 33.8	-0.4
MLH	**Mauna Loa**	**0.30**	**356**		Pg	05 27 34.2	0.0
MLH				IAML		05 27 42.2	
	comp=E,3μm,0.3s						
MLH				IAML		05 27 44.1	
	comp=N,3μm,0.5s						
NPOC	**North of Pu'u**	**0.31**	**51**		Pg	05 27 34.4	0.0
NPOC				IAML		05 27 45.5	
	comp=N,2μm,0.7s						
NPOC	**North of Pu'u**	**0.31**	**51**		Sb	05 27 40.3	-0.8
JCUZ	**Jacuzzi**	**0.31**	**53**		Pg	05 27 34.5	+0.1
MWH	**Moku'aweowe**	**0.36**	**323**		Pg	05 27 35.1	-0.5
MWH				IAML		05 27 47.1	
	comp=N,3μm,0.7s						
MWH				IAML		05 27 47.9	
	comp=E,3μm,0.8s						
JOKA	**Jonika Flow**	**0.41**	**55**		Sb	05 27 43.0	-1.1
HMH	**Humu'ula Sheep**	**0.42**	**345**		Pg	05 27 36.3	-0.2
HMH				IAML		05 27 45.3	
	comp=N,3μm,0.2s						
ALEP	**Alea Permanent**	**0.43**	**323**		Pg	05 27 36.4	-0.4
POHA	**Pohakuloa**	**0.58**	**344**		Pg	05 27 39.0	-0.5
CPH	**Captain Cook**	**0.60**	**299**		Pg	05 27 39.4	-0.4
HUH	**Hualalai**	**0.66**	**318**		Pg	05 27 40.5	-0.5

*NEIC **05** 05:40:51.0±1.2, 19°.298N±0°.010×155°.269W±0°.008, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.7km az=102.0*

HVO 05 05:40:50.5±0.7, 19°.29N±0°.02×155°.23W±0°.02, h9km±2km, ML2.8/22, ML3.1/26(NEIC), Error ellipse: s-maj=3.2km s-min=1.2km az=132.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.07**	**272**		Pg	05 40 52.9	+0.2
HLP	**Hilina Pali**	**0.07**	**272**	IAML		05 40 55.3	
	comp=E,31μm,0.3s						
HLP				IAML		05 40 55.3	
	comp=N,43μm,0.3s						
PUH	**Pauahi**	**0.08**	**12**	Pg	Pg	05 40 52.9	0.0
PUH				IAML		05 40 55.0	
	comp=E,8μm,0.3s						
PUH				IAML		05 40 55.1	
	comp=N,6μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.10**	**36**		Pg	05 40 53.2	0.0
KKO	**Keanakako`i**	**0.11**	**344**	Pg	Pg	05 40 53.3	+0.1
KKO				IAML		05 40 57.6	
	comp=E,6μm,0.4s						
RIM	**Rim**	**0.11**	**340**	Pg	Pg	05 40 53.1	-0.1
RIM				IAML		05 40 56.2	
	comp=N,13μm,0.4s						
RIM				IAML		05 40 56.3	
	comp=E,7μm,0.4s						
BYL	**Byron's Ledge**	**0.12**	**348**	Pg	Pg	05 40 53.4	0.0
BYL				IAML		05 40 56.2	
	comp=N,8μm,0.4s						
BYL				IAML		05 40 57.8	
	comp=E,4μm,0.7s						
STCH	**Steam Cracks**	**0.14**	**49**		Pg	05 40 53.5	-0.1
JCUZ	**Jacuzzi**	**0.15**	**54**		Pg	05 40 54.0	+0.1
NPOC	**North of Pu'u**	**0.15**	**50**		Pg	05 40 53.8	-0.1
HTC	**Hot Caves**	**0.16**	**250**		Pg	05 40 54.6	+0.6
JOKA	**Jonika Flow**	**0.26**	**57**		Sg	05 41 00.6	+1.3
KHU	**Kahuku**	**0.36**	**263**		Pg	05 40 57.5	-0.2
KHU				IAML		05 41 03.8	
	comp=N,2μm,0.3s						
KHU				IAML		05 41 04.0	
	comp=E,1μm,0.3s						
KHU	**Kahuku**	**0.36**	**263**		Sg	05 41 03.3	+0.7
HPO	**Honuapo**	**0.36**	**236**		Pg	05 40 57.6	-0.1
HMH	**Humu'ula Sheep**	**0.39**	**323**	Pg	Pg	05 40 58.3	0.0
HMH				IAML		05 41 05.8	
	comp=N,3μm,0.2s						
HMH				IAML		05 41 05.8	
	comp=E,3μm,0.3s						
MWH	**Moku'aweowe**	**0.39**	**299**		Pg	05 40 58.1	-0.3
MWH				IAML		05 41 07.5	
	comp=E,2μm,0.9s						
MWH				IAML		05 41 12.7	
	comp=N,1μm,0.6s						
ALEP	**Alea Permanent**	**0.46**	**303**		Pg	05 40 59.1	-0.4
POHA	**Pohakuloa**	**0.54**	**329**		Pg	05 41 00.4	-0.7
POHA				IAML		05 41 11.6	
	comp=N,2μm,0.2s						
POHA	**Pohakuloa**	**0.54**	**329**		Sg	05 41 08.5	+0.3
CPH	**Captain Cook**	**0.67**	**287**		Pg	05 41 02.5	-1.1
HUH	**Hualalai**	**0.69**	**305**		Pg	05 41 03.5	-0.4

*NEIC **05** 05:43:31.5±0.9, 19°.32N±0°.02×154°.84W±0°.03, h5km±2km, Error ellipse: s-maj=5.1km s-min=3.0km az=298.0*

HVO 05 05:43:31.3±1.0, 19°.33N±0°.03×154°.83W±0°.03, h7km±5km, ML2.5/14, ML2.6/38(NEIC), Error ellipse: s-maj=4.6km s-min=2.8km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.16**	**340**		Pg	05 43 35.0	+0.4
PHO					Sg	05 43 37.9	+0.9
JOKA	**Jonika Flow**	**0.20**	**303**		Pg	05 43 35.5	+0.2
JOKA					Sg	05 43 38.7	+0.7
JCUZ	**Jacuzzi**	**0.26**	**282**		Pg	05 43 36.4	-0.1
JCUZ				IAML		05 43 45.1	
	comp=E,943nm,0.9s						
NPOC	**North of Pu'u**	**0.27**	**284**		Pg	05 43 36.9	+0.2
NPOC				IAML		05 43 45.4	
	comp=E,834nm,0.9s						
NPOC				IAML		05 43 45.5	
	comp=N,1μm,0.4s						
STCH	**Steam Cracks**	**0.28**	**282**		Pg	05 43 37.2	+0.3
KNHH	**Kane Nui o Ham**	**0.32**	**279**		Pg	05 43 38.0	+0.3
PUH	**Pauahi**	**0.37**	**277**		Pg	05 43 38.8	+0.2
PUH	**Pauahi**	**0.37**	**277**	IAML		05 43 44.5	
	comp=E,333nm,0.7s						
PUH				IAML		05 43 48.9	
	comp=N,289nm,1.0s						
BYL	**Byron's Ledge**	**0.41**	**282**	Pg	Pg	05 43 39.2	-0.3
BYL				IAML		05 43 49.9	
	comp=N,506nm,0.4s						
BYL				IAML		05 43 53.3	
	comp=E,456nm,0.8s						
HATHI	**Halema'uma'u T**	**0.42**	**283**	Pg	Pg	05 43 39.1	-0.4
HATHI				IAML		05 43 46.6	
	comp=E,653nm,0.2s						
HATHI				IAML		05 43 52.0	
	comp=N,682nm,0.6s						
KKO	**Keanakako`i**	**0.42**	**280**		Pg	05 43 39.5	0.0
KKO	**Keanakako`i**	**0.42**	**280**	IAML		05 43 47.6	
	comp=E,429nm,0.6s						
KKO				IAML		05 43 48.9	
	comp=N,571nm,0.8s						
RIM	**Rim**	**0.42**	**279**	Pg	Pg	05 43 39.4	-0.2
RIM				IAML		05 43 46.5	
	comp=E,499nm,0.4s						
RIM				IAML		05 43 49.0	
	comp=N,595nm,0.3s						
SBLHI	**Steaming Bluff**	**0.42**	**283**	Pg	Pg	05 43 39.3	-0.3
SBLHI				IAML		05 43 48.2	
	comp=N,615nm,0.6s						
SBLHI				IAML		05 43 51.8	
	comp=E,459nm,0.5s						
UWB	**Uwekahuna B**	**0.43**	**283**	Pg	Pg	05 43 39.4	-0.4
SDHHI	**Sand Hill**	**0.44**	**278**	Pg	Pg	05 43 39.6	-0.3
SDHHI				IAML		05 43 47.1	
	comp=E,605nm,0.6s						
SDHHI				IAML		05 43 52.3	
	comp=N,772nm,0.6s						
RSD	**Rainshed**	**0.44**	**288**		Pg	05 43 39.7	-0.3
RSD				IAML		05 43 47.5	
	comp=E,543nm,0.3s						
RSD				IAML		05 43 51.0	
	comp=N,494nm,0.3s						
UWE	**Uwekahuna**	**0.45**	**282**	Pg	Pg	05 43 39.7	-0.4
HLP	**Hilina Pali**	**0.45**	**266**	Pg	Pg	05 43 40.1	0.0
HLP				IAML		05 43 52.5	
	comp=N,579nm,0.6s						
HLP				IAML		05 43 55.8	
	comp=E,663nm,0.7s						
MLH	**Mauna Loa**	**0.55**	**288**	Pg	Pg	05 43 41.3	-0.7
MLH				IAML		05 43 59.9	
	comp=N,381nm,0.9s						
HMH	**Humu'ula Sheep**	**0.67**	**294**		Pg	05 43 43.8	-0.6
MWH	**Moku'aweowe**	**0.74**	**282**		Pg	05 43 44.1	-1.5
KHU	**Kahuku**	**0.75**	**264**		Pg	05 43 44.9	-0.8
KHU				IAML		05 44 06.0	
	comp=N,367nm,1.1s						
ALEP	**Alea Permanent**	**0.80**	**286**		Pg	05 43 46.1	-0.6
HUH	**Hualalai**	**1.01**	**291**	Pg	Pg	05 43 49.9	-0.9

*KRNET **05** 05:52:05.7±0.1, 39°.74N×70°.28E, h13km, mb3.5*
*SOME **05** 05:52:05.8, 39°.77N×70°.40E, h10km*
*NNC **05** 05:52:06.2±3.1, 39°.80N×70°.07E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=24.3km s-min=14.7km az=13.0*
*ISU **05** 05:52:06.1, 39°.67N×70°.39E, h28km*

ISC 05 05:52:07.4±1.1, 39°.73N±0°.02×70°.36E±0°.02, h6km±9km, n62, σ2s06/108, 33C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTK	**Batken**	**0.48**	**47**	⇑*iP*	**Pg**	**05 52 15.5**	**-1.2**
	baz=52						
BTK				⇑*iS*	**Sg**	**05 52 22.9**	**-0.1**
	baz=52						
GAR	**Garm**	**0.73**	**183**	⇑*iP*	**Pg**	**05 52 20.0**	**-1.4**
	baz=78						
GAR				⇑*iS*	**Sg**	**05 52 30.0**	**-0.9**
	baz=78						
MINT	**Mingtut**	**0.87**	**32**	P	**Pg**	**05 52 23.8**	**-0.4**
MINT				S	**Sb**	**05 52 37.0**	**+0.1**
CHMI	**Chimion**	**1.04**	**58**	P	**Pg**	**05 52 26.3**	**-1.1**
CHMI				S	**Sg**	**05 52 41.8**	**+0.9**
DRK	**Karamyk**	**1.14**	**102**	⇑*iP*	**Pg**	**05 52 28.4**	**-0.9**
	baz=2.0						
DRK				⇑*iS*	**Sg**	**05 52 45.1**	**+1.1**
	baz=2.0						
FRG	**Fergana**	**1.27**	**59**	P	**Pn**	**05 52 30.2**	**-1.5**
FRG				S	**Sb**	**05 52 48.8**	**+0.5**
CHDK	**Chadak**	**1.28**	**13**	P	**Pb**	**05 52 31.1**	**-0.8**
CHDK				S	**Sn**	**05 52 50.5**	**+1.1**
CHGR	**Chu

KUMR S Sg 05 53 03.3 +0.4
BXML Bakhmal 1.80 269 P Pb 05 52 42.2 +1.3
BXML S Sg 05 53 10.2 +5.0
TGS TashGRES 1.81 340 P Pn 05 52 40.1 +1.0
TGS S Sg 05 53 06.2 +0.6
CHMG Chimgan 1.84 352 P Pn 05 52 40.3 +0.6
CHMG S Sg 05 53 06.7 +0.2
ANR Andizhan 1.84 56 P Pn 05 52 39.7 +0.1
ANR S Sb 05 53 05.4 +0.6
TRKS Terek-Say 1.89 18⇓*i*P Pn 05 52 40.0 -0.4
baz=21
TRKS ⇓*i*S Sn 05 53 04.7 0.0
baz=21
CHRV Charvak 1.94 351 P Pn 05 52 41.7 +0.8
CHRV S Sg 05 53 09.3 -0.3
DZI Dzhizak 1.99 282 P Pn 05 52 42.0 +0.4
DZI S Sb 05 53 09.9 +0.8
OHH Osh 2.02 66⇑*i*P Pn 05 52 43.1 +1.0
baz=67
OHH ⇑*i*S Sb 05 53 10.3 +0.3
baz=67
KRSA Karasay 2.05 282 P Pn 05 52 43.2 +0.7
KRSA S Sb 05 53 12.1 +1.2
ARK Arkit 2.40 30⇑*i*P Pn 05 52 48.4 +1.1
baz=31
ARK ⇑*i*S Sn 05 53 18.8 +1.7
baz=31
IUG luzhnay 2.43 354 Pg Pb 05 52 50.8 -0.8
88nm,0.2s
IUG Lg Lg 05 53 22.6
376nm,0.7s
IUG luzhnay 2.43 354 *e*P Pb 05 52 50.8 -0.8
88nm,0.2s
IUG *e*S Sb 05 53 22.6 +0.8
SFK Sufi-Kurgan 2.43 82⇑*i*P Pn 05 52 49.1 +1.2
baz=83
SFK ⇑*i*S Sn 05 53 20.5 +2.4
baz=83
ARSB Arslanbob 2.55 51⇑*e*P Pn 05 52 50.2 +0.7
baz=52
ARSB ⇑*e*S Sn 05 53 23.0 +2.0
baz=52
AGL Agalyk 2.70 267 P Pn 05 52 51.9 +0.5
AGL S Sn 05 53 27.9 +3.5
MNAS Manas 3.20 30⇓*i*P Pn 05 52 58.9 +0.6
baz=31
MNAS ⇓*i*S Sn 05 53 38.1 +1.3
baz=31
PKMR Pachkamar 3.31 250 P Pn 05 53 00.4 +0.6
PKMR S Sn 05 53 44.0 +4.6
BRLS Boroldaу 3.32 353 Pg Pn 05 53 02.0 +2.1
4.3nm,0.2s
BRLS Lg Lg 05 53 41.6
75nm,0.3s
BRLS Boroldaу 3.32 353 *e*P Pn 05 53 02.0 +2.1
4.3nm,0.2s
BRLS *e*S Sn 05 53 41.6 +1.9
75nm,0.3s
KK31 Karatay Array 3.37 2 Pn Pn 05 53 01.6 +1.0
1.3nm,0.3s,baz=194,slow=14,SNR=53
KK31 Lg Lg 05 53 51.2
11nm,0.3s,baz=193,slow=30,SNR=8.9
ZRB Zarabog 3.57 244 P Pn 05 53 02.3 -1.1
ZRB S Sn 05 53 47.8 +1.8
ARLS Aral 3.68 53⇑*e*P Pn 05 53 05.9 +0.9
baz=54
ARLS ⇑*e*S Sn 05 53 50.0 +1.1
baz=54
MRKS Merke 3.71 35 Pg Pb 05 53 14.4 +1.1
18nm,0.4s
MRKS Lg Lg 05 54 03.8
46nm,0.2s
MRKS Merke 3.71 35 *e*P Pb 05 53 14.4 +1.1
18nm,0.4s
MRKS *e*S Sg 05 54 03.8 -2.7
46nm,0.2s
EKS2 Erkin-Say 3.90 40 P Pb 05 53 18.4 +1.7
SNR=9.0
EKS2 Erkin-Say 3.90 40⇓*i*P Pn 05 53 09.0 +1.0
baz=41
EKS2 ⇓*i*S Sn 05 53 55.2 +1.0
baz=41
UCH Uchtor 4.01 50 P Pn 05 53 10.8 +1.0
SNR=8.6
UCH Uchtor 4.01 50⇑*i*P Pn 05 53 10.7 +0.9
baz=51
UCH ⇑*i*S Sn 05 53 58.2 +0.8
baz=51
AAK Ala-Archa 4.26 46 P Pn 05 53 17.1 +4.1
SNR=5.2
AAK Ala-Archa 4.26 46 ⇓Pn Pn 05 53 14.2 +1.3
11nm,0.6s
AAK ⇓Lg Lg 05 54 24.2
25nm,0.7s
AAK Ala-Archa 4.26 46⇑*i*P Pn 05 53 14.3 +1.3
baz=46
AAK ⇑*i*S Sn 05 54 04.1 +1.0
baz=46
KBK Karagaybulak 4.53 48 P Pn 05 53 19.0 +2.3
SNR=8.7
KBK Karagaybulak 4.53 48⇑*i*P Pn 05 53 18.0 +1.3
baz=49
KBK ⇑*i*S Sn 05 54 10.4 +0.7
baz=49
NRN Naryn 4.62 67⇓*e*P Pn 05 53 19.1 +1.1
baz=67
NRN ⇓*e*S Sn 05 54 12.5 +0.4
baz=67
BUXR Bukhara 4.64 272 P Pn 05 53 19.5 +1.5
BUXR S Sb 05 54 20.7 -4.6
CHMS Chumysh 4.64 44 ⇑Pn Pn 05 53 18.4 +0.3
13nm,1.0s
CHMS ⇓Lg Lg 05 54 37.9
8.8nm,0.6s
CHMS Chumysh 4.64 44⇑*i*P Pn 05 53 19.1 +1.0
baz=44
CHMS ⇑*i*S Sn 05 54 12.9 +0.5
baz=44
USP Ospenovka 4.71 40⇑*i*P Pn 05 53 19.9 +0.9
baz=41
USP ⇑*i*S Sn 05 54 14.0 +0.1
baz=41
BOOM Boomskoye usch 5.04 55⇓*i*P Pn 05 53 25.0 +1.4
baz=55
BOOM ⇓*i*S Sn 05 54 22.6 +0.4
baz=55
TKM2 Tokmak 2 5.07 49 P Pn 05 53 25.5 +1.3
SNR=12
TKM2 Tokmak 2 5.07 49 ⇑Pn Pn 05 53 25.3 +1.2
6.2nm,0.6s
TKM2 ⇑Sn Sn 05 54 26.6 +3.5
10nm,0.8s
TKM2 ⇓Lg Lg 05 54 50.6
7.6nm,0.6s
TKM2 Tokmak 2 5.07 49⇓*i*P Pn 05 53 25.4 +1.3
baz=50
TKM2 ⇓*i*S Sn 05 54 23.3 +0.2
baz=50
KST Kastek 5.36 50 Pg Pb 05 53 44.8 +3.3
5.3nm,0.8s
KST Lg Lg 05 54 56.3
17nm,0.6s
KST Kastek 5.36 50 *e*P Pb 05 53 44.8 +3.3
5.3nm,0.8s
KST *e*S Sg 05 54 56.3 -3.2
17nm,0.6s
DGS Degeres 5.37 47 Pg Pb 05 53 45.1 +3.4
6.2nm,0.8s
DGS Lg Lg 05 54 56.1
14nm,0.8s
DGS Degeres 5.37 47 *e*P Pb 05 53 45.1 +3.4
6.2nm,0.8s
DGS *e*S Sg 05 54 56.1 -3.7
14nm,0.8s
KRBS Karabastau 5.61 43 Pg Pb 05 53 48.9 +3.1
3.0nm,0.6s
KRBS Lg Lg 05 55 03.2
7.8nm,0.8s
KRBS Karabastau 5.61 43 *e*P Pb 05 53 48.9 +3.1
3.0nm,0.6s
KRBS *e*S Sg 05 55 03.2 -4.4
7.8nm,0.8s
KTBS Karatobe 6.18 48 Pg Pb 05 54 00.1 +4.7
3.4nm,0.5s
KTBS Lg Lg 05 55 21.8
7.6nm,0.5s
KTBS Karatobe 6.18 48 *e*P Pb 05 54 00.1 +4.7
3.4nm,0.5s
KTBS *e*S Sg 05 55 21.8 -3.9
7.6nm,0.5s
AB31 Akbulak array 12.07 325 ⇑Pn Pn 05 54 55.6 -4.3
0.4nm,0.2s,baz=128,slow=14,SNR=33
AB31 Sn Sn 05 57 07.5 -7.2
0.4nm,0.4s,baz=148,slow=24,SNR=5.0

CATAC ***05*** *05:52:20.3±0.6, 10°.37N×86°.36W, h3km±3km, ML4.2*
IDC ***05*** *05:52:22.5±0.7, 11°.31N×85°.52W, h0km, mb4.0/8, mbtmp4.0/10, ML2.9/3, MS3.2/5, Error ellipse: s-maj=34.6km s-min=9.9km az=59.0*
UCR ***05*** *05:52:22.1±0.5, 10°.40N×86°.29W, h17km±7km, MW4.6*
SNET ***05*** *05:52:25.4±1.0, 10°.51N×86°.31W, h35km±999km, ML4.2*
NEIC ***05*** *05:52:26.1±1.4, 10°.57N±0°.08×86°.06W±0°.08, h35km±2km, mb4.5/52, Error ellipse: s-maj=17.6km s-min=7.4km az=222.0*
ISC 05 05:52:23.8±1.2**, 10°.44N**±0°.04×**86°.24W**±0°.04**, h31**km±8km**, n167**, σ1°32/176**, mb4.4**/31**, MS3.1**/4**, 15C-14D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
SAJU	**San Juanillo,**	**0.63**	**125**	⇓*i*P		**Pb**	**05 52 34.9**	**-1.5**
SAJU				*i*S		**Sb**	**05 52 43.7**	**-1.4**
SAJU				IAML			05 52 46.4	
	comp=Z,10μm,1.0s							
HZTE	**Horizontes, Gu**	**0.69**	**66**			**Pb**	**05 52 35.8**	**-1.6**
HZTE	**Horizontes, Gu**	**0.69**	**66**	⇓*i*P		**Pb**	**05 52 36.7**	**-0.6**
HZTE				IAML			05 52 37.4	
	comp=Z,26μm,1.0s							
HZTE				*i*S		**Sn**	**05 52 47.4**	**+0.4**
HZTE	**Horizontes, Gu**	**0.69**	**66**	*e*P		**Pb**	**05 52 36.7**	**-0.6**
HZTE				*e*S		**Sn**	**05 52 47.5**	**+0.6**
ORTG	**Ortega, Santa**	**0.77**	**95**			**Pb**	**05 52 37.4**	**-1.3**
ORTG	**Ortega, Santa**	**0.77**	**95**	*i*P		**Pb**	**05 52 37.4**	**-1.3**
ORTG				*i*S		**Sn**	**05 52 48.4**	**-0.7**
ORTG				IAML			05 52 54.2	
	comp=Z,9μm,1.0s							
ORTG	**Ortega, Santa**	**0.77**	**95**	*e*P		**Pb**	**05 52 37.5**	**-1.3**
DUNO	**Dulce Nombre,**	**0.81**	**116**			**Pb**	**05 52 37.4**	**-2.0**
DUNO	**Dulce Nombre,**	**0.81**	**116**	*i*P		**Pb**	**05 52 37.7**	**-1.8**
DUNO				IAML			05 53 02.4	
	comp=Z,6μm,1.0s							
DUNO	**Dulce Nombre,**	**0.81**	**116**	*e*P		**Pb**	**05 52 37.6**	**-1.8**
VMAR	**Armenia, Volca**	**1.16**	**71**	*e*P		**Pn**	**05 52 44.0**	**0.0**
JAPN	**Al SSO del Vol**	**1.21**	**27**	⇓*i*P		**Pb**	**05 52 45.5**	**-0.7**
JAPN				IAML			05 52 46.5	
	comp=Z,7μm,1.0s							
OMEN	**Al SSO del Vol**	**1.22**	**29**	⇓*i*P		**Pb**	**05 52 45.2**	**-1.2**
OMEN				IAML			05 53 09.9	
	comp=Z,7μm,1.0s							
MORN	**Al O del Volca**	**1.25**	**27**	⇑*i*P		**Pb**	**05 52 45.5**	**-1.3**
MORN				IAML			05 53 09.0	
	comp=Z,9μm,1.0s							
JTS	**Las Juntas de**	**1.27**	**96**			**Pn**	**05 52 44.4**	**-1.0**
JTS	**Las Juntas de**	**1.27**	**96**	Pg		**Pn**	**05 52 44.9**	**-0.5**
	comp=Z,139nm,0.3s,baz=294,slow=22,SNR=291							
JTS				Lg		Lg	05 53 00.8	
	comp=Z,190nm,0.3s,baz=217,slow=20,SNR=5.5							
JTS	**Las Juntas de**	**1.27**	**96**	*e*P		**Pn**	**05 52 44.6**	**-0.8**
CONN	**Concepcion**	**1.27**	**28**	⇑*i*P		**Pn**	**05 52 45.7**	**+0.3**
CONN				IAML			05 53 12.4	
	comp=Z,26μm,1.0s							
NADN	**Granada**	**1.32**	**9**	⇑*i*P		**Pn**	**05 52 46.4**	**+0.3**
NADN				*i*S		**Sb**	**05 53 05.5**	**+0.9**
NADN				IAML			05 53 09.8	
	comp=Z,12μm,1.0s							
LAFE	**Finca La Fe, P**	**1.45**	**115**	*i*P		**Pn**	**05 52 46.3**	**-1.5**
LAFE				IAML			05 53 22.4	
	comp=Z,21nm,1.0s							
RB213	**Mirador 2 Volc**	**1.54**	**2**	*i*P		**Pb**	**05 52 51.7**	**0.0**
RB213				IAML			05 53 28.2	
	comp=Z,2μm,1.0s							
MASN	**Masaya**	**1.54**	**3**	*i*P		**Pn**	**05 52 50.0**	**+0.8**
MASN				IAML			05 53 15.5	
	comp=Z,690nm,1.0s							
MAS3	**Al N del Volca**	**1.58**	**2**	⇓*i*P		**Pn**	**05 52 50.0**	**+0.3**
MAS3				IAML			05 53 30.5	
	comp=Z,2μm,1.0s							
SOCE	**Pocosol**	**1.59**	**92**			**Pn**	**05 52 49.8**	**-0.1**
SOCE	**Pocosol**	**1.59**	**92**	⇓*i*P		**Pn**	**05 52 50.3**	**+0.5**
SOCE				*i*S		**Sb**	**05 53 13.6**	**+1.2**
SOCE				IAML			05 53 21.7	
	comp=Z,2μm,1.0s							
SOCE	**Pocosol**	**1.59**	**92**	*e*P		**Pn**	**05 52 50.1**	**+0.3**
ARZA	**Esparza**	**1.60**	**106**	*e*P		**Pn**	**05 52 50.7**	**+0.7**
ENAN	**Enatrel Managu**	**1.67**	**359**	*i*P		**Pn**	**05 52 51.6**	**+0.7**
ENAN				IAML			05 53 38.5	
	comp=Z,7μm,1.0s							
RE6B4	**Centro civico**	**1.68**	**358**	⇓*i*P		**Pn**	**05 52 51.8**	**+0.7**
RE6B4				IAML			05 53 06.2	
	comp=Z,3μm,1.0s							
TISN	**Laguna Tiscapa**	**1.70**	**359**	⇓*i*P		**Pn**	**05 52 51.9**	**+0.6**
TISN				IAML			05 53 27.2	
	comp=Z,190nm,1.0s							
R4DEC	**Barrio San Lui**	**1.70**	**360**	*i*P		**Pn**	**05 52 52.0**	**+0.7**
R4DEC				IAML			05 53 38.9	
	comp=Z,2μm,1.0s							
WILN	**Americas 2**	**1.71**	**2**	⇑*i*P		**Pn**	**05 52 52.0**	**+0.5**
WILN				*i*S		**Sb**	**05 53 16.2**	**+0.3**
WILN				IAML			05 53 42.1	
	comp=Z,2μm,1.0s							
JACO	**JACO, Garabito**	**1.73**	**116**			**Pn**	**05 52 52.0**	**+0.3**
JACO	**JACO, Garabito**	**1.73**	**116**	⇑*i*P		**Pn**	**05 52 52.0**	**+0.3**
JACO				*i*S		**Sb**	**05 53 20.8**	**+4.5**
JACO				IAML			05 53 26.3	
	comp=Z,2μm,1.0s							
JACO	**JACO, Garabito**	**1.73**	**116**	*e*P		**Pn**	**05 52 51.8**	**+0.1**
SRA1	**San Ramn**	**1.76**	**101**	*e*P		**Pn**	**05 52 52.4**	**+0.1**
COPN	**Copaltepe**	**1.77**	**349**	⇑*i*P		**Pn**	**05 52 52.6**	**+0.3**
COPN				IAML			05 53 20.8	
	comp=Z,2μm,1.0s							
APYN	**Apoyeque**	**1.79**	**356**	⇑*i*P		**Pn**	**05 52 53.1**	**+0.5**
APYN				*i*S		**Sb**	**05 53 17.3**	**-0.8**
APYN				IAML			05 53 27.5	
	comp=Z,2μm,1.0s							
COVE	**Coope Vega, Sa**	**1.82**	**81**			**Pn**	**05 52 52.3**	**-0.7**
COVE	**Coope Vega, Sa**	**1.82**	**81**	*i*P		**Pn**	**05 52 52.6**	**-0.4**
COVE				IAML			05 53 41.3	
	comp=Z,2μm,1.0s							
COVE	**Coope Vega, Sa**	**1.82**	**81**	*e*P		**Pn**	**05 52 52.6**	**-0.4**
APQ3	**Volcan Apoyequ**	**1.83**	**356**	⇑*i*P		**Pn**	**05 52 53.7**	**+0.6**
APQ3				IAML			05 53 28.1	
	comp=Z,2μm,1.0s							
CPMI	**Catarata Coope**	**1.83**	**95**	⇑*i*P		**Pn**	**05 52 53.9**	**+0.6**
CPMI				IAML			05 53 36.0	
	comp=Z,3μm,1.0s							
ACON	**Acoyapa**	**1.84**	**34**			**Pn**	**05 52 52.8**	**-0.5**
ACON	**Acoyapa**	**1.84**	**34**	⇑*i*P		**Pn**	**05 52 53.6**	**+0.3**
ACON				IAML			05 53 25.1	
	comp=Z,2μm,1.0s							
ITAL	**Pital**	**1.93**	**89**	*e*P		**Pn**	**05 52 54.6**	**+0.1**
MOMN	**Momotombo**	**1.98**	**351**	⇓*i*P		**Pn**	**05 52 55.5**	**+0.2**
MOMN				IAML			05 53 08.4	
	comp=Z,59nm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.99**	**349**	*i*P		**Pn**	**05 52 55.7**	**+0.4**
LEVN				IAML			05 53 36.0	
	comp=Z,1μm,1.0s							
MOM2	**El Cardon**	**2.00**	**353**	⇑*i*P		**Pn**	**05 52 55.9**	**+0.4**
MOM2				IAML			05 53 34.5	
	comp=Z,1μm,1.0s							
CNGA	**Al SSO del Vol**	**2.10**	**347**	⇓*i*P		**Pn**	**05 52 56.0**	**-0.8**
CNGA				IAML			05 53 32.8	
	comp=Z,1μm,1.0s							
CNGN	**Cerro Negro**	**2.10**	**348**			**Pn**	**05 52 57.1**	**+0.2**
CNGN	**Cerro Negro**	**2.10**	**348**	*e*P		**Pn**	**05 52 56.7**	**-0.2**
CNGN	**Cerro Negro**	**2.10**	**348**	⇑*i*P		**Pn**	**05 52 57.1**	**+0.2**
CNGN				IAML			05 53 50.0	
	comp=Z,1μm,1.0s							
PACN	**Al O del Volca**	**2.12**	**345**	⇓*i*P		**Pn**	**05 52 58.1**	**+0.9**
PACN				IAML			05 53 35.0	
	comp=Z,2μm,1.0s							
ROCN	**Rota Cerro Neg**	**2.13**	**347**	⇓*i*P		**Pn**	**05 52 55.7**	**-1.6**
ROCN				IAML			05 53 23.7	
	comp=Z,630nm,1.0s							
HDC	**Heredia**	**2.13**	**101**			**Pn**	**05 52 57.4**	**0.0**
HDC	**Heredia**	**2.13**	**101**	*e*P		**Pn**	**05 52 57.9**	**+0.5**
HDC3	**Heredia 3**	**2.13**	**101**	*i*P		**Pn**	**05 52 58.0**	**+0.6**
HDC3				*i*S		**Sb**	**05 53 29.0**	**+1.0**
HDC3				IAML			05 53 48.2	
	comp=Z,2μm,1.0s							
PLRN	**Geotermica Pol**	**2.20**	**346**	*i*P		**Pn**	**05 52 56.1**	**-2.1**
PLRN				IAML			05 53 28.6	
	comp=Z,700nm,1.0s							
HERN	**Volcan Telica**	**2.24**	**345**	*i*P		**Pn**	**05 52 58.9**	**+0.1**
HERN				IAML			05 53 45.0	
	comp=Z,1μm,1.0s							
ABE2	**San Pablo**	**2.27**	**108**	*e*P		**Pn**	**05 52 59.5**	**+0.2**
POLN	**Al Sur del Vol**	**2.27**	**346**	*i*P		**Pn**	**05 52 59.6**	**+0.4**
POLN				IAML			05 53 08.5	
	comp=Z,580nm,1.0s							
BRAN	**Las Pilas**	**2.27**	**357**	*i*P		Pn	05 52 51.3	-7.9
BRAN				IAML			05 53 19.9	
	comp=Z,1μm,1.0s							
RIFO	**Rio Frio, Sara**	**2.28**	**93**⇑	*i*P		**Pn**	**05 52 59.4**	**+0.1**
RIFO				*i*S		**Sb**	**05 53 36.0**	**+4.0**
RIFO				IAML			05 53 52.1	
	comp=Z,3μm,1.0s							
LCR2	**La Lucha 2**	**2.30**	**107**			**Pn**	**05 52 59.7**	**0.0**
OCM	**Ochomogo**	**2.30**	**103**	*i*P		**Pn**	**05 53 00.7**	**+0.9**
OCM				IAML			05 53 51.2	
	comp=Z,640nm,1.0s							
CRIN	**San Cristobal**	**2.39**	**341**	Pn		**Pn**	**05 53 01.2**	**+0.3**
CRIN	**San Cristobal**	**2.39**	**341**	*e*P		**Pn**	**05 53 01.1**	**+0.3**
CRIN	**San Cristobal**	**2.39**	**341**	⇓*i*P		**Pn**	**05 53 01.4**	**+0.5**
CRIN				*i*S		**Sn**	**05 53 30.5**	**+1.4**
CRIN				IAML			05 53 36.3	
	comp=Z,3μm,1.0s							
VICA	**Volcano Irazu**	**2.40**	**101**	*e*P		**Pn**	**05 53 01.9**	**+0.6**
REPA	**Paraso**	**2.41**	**104**	*e*P		**Pn**	**05 53 03.1**	**+1.9**
RIMA	**Rio Macho**	**2.43**	**106**			**Pn**	**05 53 01.5**	**0.0**
RIMA	**Rio Macho**	**2.43**	**106**	*e*P		**Pn**	**05 53 02.1**	**+0.6**
VTUN	**Crater Central**	**2.47**	**99**	*i*P		**Pb**	**05 53 05.3**	**-2.4**
VTUN				IAML			05 53 09.7	
	comp=Z,930nm,1.0s							
VERB	**Verbena**	**2.55**	**101**	*e*P		**Pn**	**05 53 04.2**	**+1.1**
ESPN	**Las Esperanzas**	**2.58**	**47**			**Pn**	**05 53 03.6**	**+0.2**
ESPN	**Las Esperanzas**	**2.58**	**47**⇑	*i*P		**Pn**	**05 53 03.8**	**+0.4**
ESPN				IAML			05 53 53.9	
	comp=Z,790nm,1.0s							
CDM	**Cerro de Muert**	**2.59**	**110**⇑	*i*P		**Pn**	**05 53 04.2**	**+0.3**
CDM				IAML			05 54 01.4	
	comp=Z,580nm,1.0s							
PEZE	**Perez Zeledon,**	**2.73**	**112**			**Pn**	**05 53 06.0**	**+0.5**
PEZE	**Perez Zeledon,**	**2.73**	**112**	*i*P		**Pn**	**05 53 06.4**	**+0.9**
PEZE				IAML			05 54 03.2	
	comp=Z,660nm,1.0s							
BATAN	**Batan**	**2.83**	**97**			**Pn**	**05 53 07.1**	**+0.2**
BATAN	**Batan**	**2.83**	**97**	⇓*i*P		**Pn**	**05 53 09.5**	**+2.6**
BATAN				*i*S		**Sb**	**05 53 55.1**	**+7.1**
BATAN				IAML			05 54 19.5	
	comp=Z,1μm,1.0s							
OCHAL	**Ojochal**	**2.88**	**117**	*i*P		**Pn**	**05 53 08.9**	**+1.4**
OCHAL				IAML			05 54 11.5	
	comp=Z,390nm,1.0s							
SRBA	**San Rafael, Bu**	**3.08**	**113**			**Pn**	**05 53 10.7**	**+0.4**
SRBA	**San Rafael, Bu**	**3.08**	**113**	*e*P		**Pn**	**05 53 10.0**	**-0.3**
CNCH	**Conchagua**	**3.23**	**331**	*e*P		**Pn**	**05 53 13.5**	**+1.0**
CNCH				*e*S		**Sn**	**05 53 49.9**	**0.0**
LCND	**La Caada**	**3.28**	**331**	*e*P		**Pn**	**05 53 13.8**	**+0.7**
PACA	**Pacayal**	**3.64**	**326**	IAML			05 54 18.4	
	comp=Z,1μm,0.3s							
TGUH	**Tegucigalpa,Un**	**3.74**	**344**			**Pn**	**05 53 19.9**	**+0.4**
CDITO	**Canoas**	**3.80**	**119**	Pn		**Pn**	**05 53 21.2**	**+1.1**
BRU2	**Volcan**	**3.86**	**115**	Pn		**Pn**	**05 53 22.7**	**+1.6**
COEG	**Centro de Oper**	**4.09**	**321**	*e*P		**Pn**	**05 53 24.8**	**+0.6**
COEG				IAML			05 54 22.2	
	comp=Z,129nm,0.2s							
CEVE	**Cerro Verde**	**4.73**	**316**	*e*P		**Pn**	**05 53 33.6**	**+0.4**
CEVE				IAML			05 54 39.5	
	comp=Z,170nm,0.3s							
MTO3	**Montecristo**	**4.98**	**323**	Pn		**Pn**	**05 53 38.1**	**+1.4**
ESQI	**Esquipulas**	**5.10**	**324**	Pn		**Pn**	**05 53 40.2**	**+2.0**
APG	**El Apazote**	**6.13**	**318**	Pn		**Pn**	**05 53 53.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=131,slow=12,SNR=4.5							
BCIP	**Isla Barro Col**	**6.43**	**101**	Pn		**Pn**	**05 53 56.1**	**-0.3**
PETF	**Flores**	**7.34**	**332**	Pn		**Pn**	**05 54 09.9**	**+0.9**
CCIG	**Comitan**	**8.17**	**316**			**Pn**	**05 54 22.8**	**+2.3**
TEIG	**Tepich**	**9.93**	**349**	LR		LR	05 58 53.7	
	comp=Z,2μm,19.0s,slow=42							
CMIG	**Matias Romero**	**10.69**	**309**	Pn		**Pn**	**05 54 57.5**	**+2.6**
	comp=Z,0.6nm,0.3s,baz=122,slow=13,SNR=7.0							
	comp=Z,2.0nm,0.3s							
ROSC	**El Rosal**	**13.05**	**114**	Pn		**Pn**	**05 55 25.7**	**-1.8**
	comp=Z,0.9nm,0.3s,baz=277,slow=16,SNR=1.5							
	comp=Z,2.2nm,0.4s							
TLIG	**Tlapa**	**13.90**	**302**	Pn		**Pn**	**05 55 40.6**	**+1.7**
ATAH	**Atahualpa**	**19.12**	**156**	LR		LR	06 03 19.9	
	comp=Z,140nm,18.6s,baz=337,slow=34							
451A	**Vernon**	**20.09**	**1**	P		Pn	05 56 56.3	-0.4
HBVL	**Hebbronville**	**20.28**	**326**	P		Pn	05 56 58.7	-0.3
HBVL				IAmb		IAmb	05 57 07.4	
	comp=Z,17nm,1.0s							
CELP	**Cerrillos**	**20.50**	**66**	P		**P**	**05 56 59.3**	**0.0**
CELP				IAmb		IAmb	05 57 03.3	
	comp=Z,37nm,1.2s							
352A	**Blakely**	**20.98**	**3**	P		**P**	**05 57 05.4**	**+0.9**
250A	**Grady**	**21.44**	**360**	P		**P**	**05 57 08.5**	**-0.9**
250A				IAmb		IAmb	05 57 14.8	
	comp=Z,9.2nm,0.7s							
833A	**Chaparral WMA,**	**21.66**	**327**	P		**P**	**05 57 12.8**	**+1.0**
833A				IAmb		IAmb	05 57 16.0	
	comp=Z,14nm,0.7s							
MLDN	**Muldoon**	**21.74**	**334**	P		**P**	**05 57 13.9**	**+1.2**
MLDN				IAmb		IAmb	05 57 15.7	
	comp=Z,22nm,1.1s							
VBMS	**Vicksburg**	**22.04**	**350**	P		**P**	**05 57 16.5**	**+0.7**
VBMS				IAmb		IAmb	05 57 25.6	
	comp=Z,32nm,1.3s							
152A	**Waverly Hall**	**22.17**	**3**	P		**P**	**05 57 18.0**	**+0.8**
152A				IAmb		IAmb	05 57 20.6	
	comp=Z,18nm,0.8s							
LRAL	**Lakeview Retre**	**22.50**	**358**	P		**P**	**05 57 21.2**	**+0.4**
LRAL				IAmb		IAmb	05 57 23.8	
	comp=Z,12nm,0.8s							
HNDO	**Hondo**	**22.57**	**329**	P		**P**	**05 57 21.7**	**+0.1**
NATX	**Nacogdoches**	**22.61**	**341**	P		**P**	**05 57 21.4**	**-0.5**
435B	**Jarrell**	**22.83**	**334**	P		**P**	**05 57 24.3**	**0.0**
435B				IAmb		IAmb	05 57 27.8	
	comp=Z,12nm,0.7s							
GOGA	**Godfrey**	**23.01**	**6**	P		**P**	**05 57 26.6**	**+0.5**
Y49A	**Blount Mountai**	**23.31**	**360**	P		**P**	**05 57 29.0**	**-0.2**
Y45A	**Yeager Farm, C**	**23.52**	**353**	P		**P**	**05 57 30.9**	**-0.3**
Y45A				IAmb		IAmb	05 57 32.6	
	comp=Z,17nm,0.8s							
BRDY	**Brady**	**23.89**	**332**	P		**P**	**05 57 34.6**	**-0.2**
BRDY				IAmb		IAmb	05 57 36.3	
	comp=Z,8.7nm,0.6s							
X48A	**Hartselle**	**23.92**	**358**	P		**P**	**05 57 35.2**	**+0.3**
HODGE	**Hodges**	**23.96**	**8**	P		**P**	**05 57 35.1**	**-0.3**
TREL	**Terrell**	**23.98**	**339**	P		**P**	**05 57 36.9**	**+1.4**
WLAR	**White Oak Lake**	**23.99**	**346**	P		**P**	**05 57 36.0**	**+0.4**
WLAR				IAmb		IAmb	05 57 37.0	
	comp=Z,11nm,0.7s							
FPAL	**Fort Paine**	**24.00**	**1**	P		**P**	**05 57 35.5**	**-0.3**
X51A	**Calhoun**	**24.05**	**3**	P		**P**	**05 57 36.1**	**-0.2**
X51A				IAmb		IAmb	05 57 37.1	
	comp=Z,12nm,0.7s							
JSC	**Jenkinsville**	**24.17**	**10**	P		**P**	**05 57 37.1**	**-0.2**
JSC				IAmb		IAmb	05 57 38.4	
	comp=Z,8.0nm,0.6s							
PLAL	**Pickwick Lake**	**24.49**	**356**	P		**P**	**05 57 40.3**	**0.0**
PLAL				IAmb		IAmb	05 57 41.3	
	comp=Z,9.1nm,0.8s							
PAULI	**Pauline**	**24.61**	**9**	P		**P**	**05 57 41.5**	**+0.2**
PAULI				IAmb		IAmb	05 57 42.8	
	comp=Z,9.6nm,0.8s							
**W50A

V53A				IAmb	IAmb	05 57 55.5	
	comp=Z,6.2nm,0.7s						
LOOK	**Love County**	**25.50**	**339**	P	**P**	**05 57 50.6**	**+1.1**
FCAR	**Ozark Folk Cen**	**25.90**	**349**	P	**P**	**05 57 52.4**	**-0.6**
POST	**Post**	**26.55**	**330**	P	**P**	**05 57 59.7**	**+0.7**
POST				IAmb	IAmb	05 58 01.9	
	comp=Z,4.7nm,0.6s						
BOAV	**Boa Vista**	**26.75**	**106**	P	**P**	**05 58 01.0**	**+0.1**
BOAV				IAmb	IAmb	05 58 28.2	
	comp=Z,13nm,1.3s						
WMOK	**Wichita Mounta**	**26.77**	**337**	P	**P**	**05 58 02.8**	**+1.8**
WMOK				IAmb	IAmb	05 58 04.5	
	comp=Z,9.3nm,0.8s						
WCI	**Wyandotte Cave**	**27.68**	**360**	P	**P**	**05 58 07.8**	**-1.1**
WCI				IAmb	IAmb	05 58 09.1	
	comp=Z,11nm,0.8s						
ETMB	**Extrema**	**28.31**	**135**	P	**P**	**05 58 15.5**	**+0.7**
Q44A	**Meyer Farm, Va**	**28.46**	**355**	P	**P**	**05 58 14.8**	**-1.1**
Q51A	**Peebles**	**28.59**	**5**	P	**P**	**05 58 16.4**	**-0.7**
Q52A	**Bidwell**	**28.63**	**6**	P	**P**	**05 58 16.8**	**-0.6**
MACA	**Manacapuru-AM**	**28.80**	**117**	P	**P**	**05 58 20.2**	**+0.9**
P48A	**Milroy**	**28.91**	**1**	P	**P**	**05 58 18.3**	**-1.7**
P48A				IAmb	IAmb	05 58 19.2	
	comp=Z,8.3nm,0.8s						
N49A	**Columbus Grove**	**30.42**	**3**	P	**P**	**05 58 32.4**	**-0.9**
MDP	**Montagnes des**	**33.69**	**96**	LR	LR	06 14 48.5	
	comp=Z,23nm,19.4s,baz=273,slow=41						
SADO	**Sadowa**	**34.75**	**9**	LR	LR	06 13 17.7	
	comp=Z,54nm,20.5s,baz=76,slow=37						
SPR3	**Spring Creek 3**	**37.91**	**323**	P	**P**	**05 59 40.3**	**+1.6**
PDAR	**Pinedale Array**	**38.10**	**332**	P	**P**	**05 59 39.6**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=131,slow=9.4,SNR=10						
PDAR				PcP	**PcP**	**06 01 56.6**	**+1.8**
	comp=Z,0.2nm,0.6s,baz=123,slow=3.3,SNR=2.7						
	comp=Z,0.9nm,0.6s						
HWUT	**Hardware Ranch**	**38.20**	**329**	P	**P**	**05 59 42.0**	**+1.1**
REDW	**Red Top Meadow**	**39.16**	**331**	P	**P**	**05 59 48.9**	**-0.1**
NVAR	**Mina Array Bea**	**40.00**	**320**	P	**P**	**05 59 59.2**	**+3.2**
	comp=Z,3.3nm,0.7s,baz=131,slow=7.5,SNR=28						
NVAR				PcP	**PcP**	**06 02 03.6**	**+2.7**
	comp=Z,1.2nm,0.7s,baz=126,slow=4.6,SNR=8.0						
	comp=Z,3.3nm,0.7s						
ULM	**Lac du Bonnet**	**40.49**	**350**	P	**P**	**05 59 56.5**	**-3.2**
	comp=Z,3.4nm,0.8s,baz=178,slow=7.7,SNR=4.2						
ULM				LR	LR	06 18 28.5	
	comp=Z,39nm,18.5s,baz=84,slow=39						
	comp=Z,3.4nm,0.8s						
YERR	**Yerington**	**40.92**	**320**	P	**P**	**06 00 06.3**	**+2.7**
LYMT	**Lyon Mountain**	**42.58**	**334**	P	**P**	**06 00 17.4**	**+0.2**
H04A	**Detroit Lake**	**46.04**	**324**	P	**P**	**06 00 45.6**	**+1.0**
H04A				IAmb	IAmb	06 00 47.5	
	comp=Z,4.0nm,0.5s						
J01E	**Myrtle Point**	**46.20**	**322**	P	**P**	**06 00 47.2**	**+1.4**
SCHQ	**Schefferville**	**46.88**	**15**	P	**P**	**06 00 47.9**	**-3.0**
	comp=Z,2.3nm,0.7s,baz=215,slow=5.8,SNR=9.4						
	comp=Z,2.3nm,0.7s						
YKA	**Yellowknife Ar**	**55.86**	**345**	P	**P**	**06 01 56.2**	**-1.9**
	comp=Z,0.8nm,0.9s,baz=134,slow=7.0,SNR=16						
YKA				PcP	**PcP**	**06 02 56.9**	**+0.3**
	comp=Z,0.2nm,0.7s,baz=138,slow=3.6,SNR=5.7						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**68.33**	**336**	P	**P**	**06 03 21.1**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=134,slow=4.5,SNR=9.2						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**77.50**	**52**	P	**P**	**06 04 14.0**	**-2.7**
	comp=Z,0.5nm,0.7s,baz=270,slow=6.4,SNR=3.2						
	comp=Z,0.5nm,0.7s						

*NEIC **05** 06:10:46.5±1.1, 19°.44N±0°.02×155°.14W±0°.03, h7km±3km, Error ellipse: s-maj=4.7km s-min=1.5km az=134.0*
HVO 05 06:10:45.1±0.7, 19°.38N±0°.03×155°.07W±0°.03, h8km±3km, ML3.8/43, ML3.0/46(NEIC), Error ellipse: s-maj=5.5km s-min=1.8km az=132.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.03**	**271**		Pg	06 10 46.9	+0.2
NPOC	**North of Pu'u**	**0.04**	**285**		Pg	06 10 47.1	+0.4
STCH	**Steam Cracks**	**0.05**	**272**		Pg	06 10 47.3	+0.4
JOKA	**Jonika Flow**	**0.08**	**52**		Pg	06 10 49.0	+1.7
KNHH	**Kane Nui o Ham**	**0.09**	**267**		Pg	06 10 47.8	+0.4
PUH	**Pauahi**	**0.14**	**266**		Pg	06 10 48.6	+0.5
BYL	**Byron's Ledge**	**0.18**	**279**		Pg	06 10 49.2	+0.4
HATHI	**Halema'uma'u T**	**0.18**	**283**		Pg	06 10 49.1	+0.2
HATHI				IAML		06 10 52.8	
	comp=E,3μm,0.1s						
HATHI				IAML		06 10 54.9	
	comp=N,3μm,0.2s						
KKO	**Keanakako`i**	**0.18**	**274**		Pg	06 10 49.1	+0.2
KKO				IAML		06 10 54.5	
	comp=E,2μm,0.4s						
SBLHI	**Steaming Bluff**	**0.19**	**283**		Pg	06 10 49.2	+0.2
SBLHI				IAML		06 10 55.7	
	comp=N,2μm,0.3s						
RIM	**Rim**	**0.19**	**274**		Pg	06 10 49.4	+0.3
RIM				IAML		06 10 54.6	
	comp=N,3μm,0.4s						
UWB	**Uwekahuna B**	**0.20**	**282**		Pg	06 10 49.6	+0.4
NPH	**North Pit**	**0.20**	**278**	Pg	Pg	06 10 49.3	+0.1
OBL	**Observatory Le**	**0.20**	**280**		Pg	06 10 49.8	+0.5
OBL				IAML		06 10 55.3	
	comp=N,4μm,0.5s						
OBL				IAML		06 10 56.0	
	comp=E,4μm,0.5s						
RSD	**Rainshed**	**0.21**	**292**		Pg	06 10 49.8	+0.4
RSD				IAML		06 10 53.5	
	comp=E,3μm,0.1s						
RSD				IAML		06 10 54.2	
	comp=N,3μm,0.2s						
SDHHI	**Sand Hill**	**0.21**	**272**		Pg	06 10 49.6	+0.2
SDHHI				IAML		06 10 55.1	
	comp=E,2μm,0.2s						
SDHHI				IAML		06 10 56.9	
	comp=N,3μm,0.5s						
UWE	**Uwekahuna**	**0.21**	**280**		Pg	06 10 49.5	+0.1
UWE				IAML		06 10 57.0	
	comp=N,3μm,0.4s						
UWE				IAML		06 10 57.0	
	comp=E,4μm,0.5s						
WRMHI	**West Rim**	**0.22**	**276**	Pg	Pg	06 10 49.9	+0.4
WRMHI				IAML		06 10 56.4	
	comp=E,2μm,0.7s						
WRMHI				IAML		06 10 57.2	
	comp=N,2μm,0.7s						
HLP	**Hilina Pali**	**0.24**	**249**		Pg	06 10 51.0	+1.1
HLP				IAML		06 10 56.1	
	comp=E,3μm,0.1s						
HLP				IAML		06 10 56.2	
	comp=N,4μm,0.1s						
MLH	**Mauna Loa**	**0.32**	**290**		Pg	06 10 51.7	+0.3
MLH				IAML		06 11 00.0	
	comp=N,2μm,0.1s						
MLH				IAML		06 11 00.2	
	comp=E,2μm,0.2s						
HTC	**Hot Caves**	**0.34**	**245**		Pg	06 10 52.3	+0.5
HMH	**Humu'ula Sheep**	**0.44**	**299**		Pg	06 10 54.3	+0.4
HMH	**Humu'ula Sheep**	**0.44**	**299**		Sb	06 11 01.1	-1.2
MWH	**Moku'aweowe**	**0.51**	**282**		Pg	06 10 55.0	0.0
MWH				IAML		06 11 02.8	
	comp=N,1μm,0.5s						
MWH				IAML		06 11 03.0	
	comp=E,1μm,0.9s						
KHU	**Kahuku**	**0.53**	**255**	Pg	Pg	06 10 55.5	+0.1
KHU				IAML		06 11 03.6	
	comp=E,854nm,0.1s						
KHU				IAML		06 11 04.5	
	comp=N,579nm,0.2s						
ALEP	**Alea Permanent**	**0.56**	**286**		Pg	06 10 56.0	-0.1
POHA	**Pohakuloa**	**0.57**	**311**		Pg	06 10 55.8	-0.4
POHA	**Pohakuloa**	**0.57**	**311**		Sg	06 11 03.7	0.0
HUH	**Hualalai**	**0.78**	**293**		Pg	06 10 59.8	-0.4
HUH	**Hualalai**	**0.78**	**293**		Sg	06 11 09.8	-0.5
HPAH	**Hawaii Prepara**	**0.87**	**318**		Pg	06 10 59.8	-2.1
HPAH	**Hawaii Prepara**	**0.87**	**318**	IAML		06 11 33.1	
	comp=N,597nm,0.7s						

*HVO **05** 06:11:09.0±1.4, 19°.32N±0°.03×154°.98W±0°.02, h2km±5km, ML4.1/40, mb4.4/15(NEIC), ML4.1/48(NEIC), Error ellipse: s-maj=4.1km s-min=2.8km az=152.0*
*NEIC **05** 06:11:10.1±1.1, 19°.50N±0°.02×155°.05W±0°.02, h5km±1km, Error ellipse: s-maj=4.0km s-min=2.8km az=164.0*
*IDC **05** 06:11:11.4±4.8, 19°.94N×155°.30W, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=100.7km s-min=47.5km az=27.0*
ISC 05 06:11:09.9±0.8, 19°.45N±0°.07×155°.07W±0°.04, h9km±6km, n64, σ1s17/57, mb4.3/16, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.07**	**105**		**Pg**	**06 11 11.8**	**-0.1**
JOKA					**Sg**	**06 11 13.9**	**+0.5**
NPOC	**North of Pu'u**	**0.07**	**211**	Pg	**Pg**	**06 11 12.5**	**+0.6**
NPOC				IAML		06 11 15.6	
	comp=N,80μm,1.0s						
NPOC				IAML		06 11 15.7	
	comp=E,81μm,0.5s						
JCUZ	**Jacuzzi**	**0.07**	**202**	Pg	**Pg**	**06 11 12.3**	**+0.3**
STCH	**Steam Cracks**	**0.08**	**217**	Pg	**Pg**	**06 11 12.6**	**+0.5**
STCH				IAML		06 11 15.9	
	comp=E,51μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.12**	**232**		**Pg**	**06 11 13.3**	**+0.7**
PUH	**Pauahi**	**0.15**	**241**	Pg	**Pg**	**06 11 13.9**	**+0.6**
HATHI	**Halema'uma'u T**	**0.18**	**261**	Pg	**Pg**	**06 11 14.5**	**+0.8**
HATHI				IAML		06 11 22.6	
	comp=E,38μm,0.8s						
HATHI				IAML		06 11 22.9	
	comp=N,45μm,1.1s						
BYL	**Byron's Ledge**	**0.18**	**258**	Pg	**Pg**	**06 11 14.5**	**+0.8**
BYL				IAML		06 11 22.7	
	comp=N,34μm,1.1s						
SBLHI	**Steaming Bluff**	**0.19**	**263**	Pg	**Pg**	**06 11 14.7**	**+0.9**
SBLHI				IAML		06 11 20.1	
	comp=N,32μm,0.4s						
KKO	**Keanakako`i**	**0.19**	**254**	Pg	**Pg**	**06 11 14.5**	**+0.7**
KKO				IAML		06 11 20.4	
	comp=N,26μm,0.6s						
RSD	**Rainshed**	**0.19**	**274**	Pg	**Pg**	**06 11 15.3**	**+1.4**
RSD				IAML		06 11 20.8	
	comp=E,26μm,0.4s						
RSD				IAML		06 11 23.1	
	comp=N,25μm,0.7s						
UWB	**Uwekahuna B**	**0.20**	**262**	Pg	**Pg**	**06 11 14.9**	**+1.0**
RIM	**Rim**	**0.20**	**254**	Pg	**Pg**	**06 11 14.8**	**+0.7**
RIM				IAML		06 11 22.0	
	comp=N,23μm,0.9s						
RIM				IAML		06 11 22.7	
	comp=E,33μm,0.6s						
NPH	**North Pit**	**0.20**	**259**	Pg	**Pg**	**06 11 14.8**	**+0.8**
OBL	**Observatory Le**	**0.20**	**261**		**Pg**	**06 11 15.2**	**+1.2**
UWE	**Uwekahuna**	**0.21**	**262**	Pg	**Pg**	**06 11 15.2**	**+1.0**
UWE				IAML		06 11 21.9	
	comp=N,34μm,0.6s						
UWE				IAML		06 11 22.6	
	comp=E,31μm,0.7s						
SDHHI	**Sand Hill**	**0.22**	**254**	Pg	**Pg**	**06 11 15.1**	**+0.8**
SDHHI				IAML		06 11 21.9	
	comp=E,34μm,1.2s						
SDHHI				IAML		06 11 24.6	
	comp=N,27μm,0.7s						
WRMHI	**West Rim**	**0.22**	**258**	Pg	**Pg**	**06 11 15.1**	**+0.7**
WRMHI				IAML		06 11 26.3	
	comp=N,31μm,0.6s						
HLP	**Hilina Pali**	**0.27**	**235**	Pg	**Pg**	**06 11 16.2**	**+0.8**
HLP				IAML		06 11 22.0	
	comp=N,29μm,1.0s						
HLP				IAML		06 11 22.5	
	comp=E,24μm,0.5s						
MLH	**Mauna Loa**	**0.30**	**278**	Pg	**Pg**	**06 11 17.4**	**+1.5**
MLH				IAML		06 11 24.5	
	comp=E,20μm,0.6s						
HMH	**Humu'ula Sheep**	**0.42**	**291**	Pg	**Pb**	**06 11 19.4**	**-0.2**
MWH	**Moku'aweowe**	**0.50**	**274**	Pg	**Pg**	**06 11 20.3**	**+0.6**
POHA	**Pohakuloa**	**0.53**	**305**	Pg	**Pg**	**06 11 21.1**	**+0.8**
KHU	**Kahuku**	**0.55**	**248**	Pg	**Pg**	**06 11 21.1**	**+0.5**
KHU				IAML		06 11 31.1	
	comp=N,12μm,0.6s						
KHU				IAML		06 11 38.2	
	comp=E,9μm,0.7s						
HUH	**Hualalai**	**0.76**	**288**	Pg	**Pg**	**06 11 25.3**	**+0.8**
I59US	**HAWAII INFRASO**	**0.79**	**280**	Pg	**Pg**	**06 11 24.9**	**-0.2**
	baz=84,slow=9.4						
I59US				Lg	Lg	06 11 34.1	
	baz=102,slow=19						
KHLH	**Kahului Airpor**	**1.92**	**319**	Pn	**Pn**	**06 11 40.5**	**-2.3**
HON	**Honolulu**	**3.32**	**305**	Pn	**Pn**	**06 11 59.3**	**-2.7**
KIP	**Kipapa**	**3.38**	**306**	Pn	**Pn**	**06 12 00.9**	**-2.1**
KIP				IAML		06 13 01.0	
	comp=E,293nm,0.6s						
KIP				IAML		06 13 01.0	
	comp=E,293nm,0.7s						
OPA	**Opana**	**3.54**	**309**	Pn	**Pn**	**06 12 02.7**	**-2.4**
KEKH	**Kekaha**	**5.02**	**301**	Pn	**Pn**	**06 12 23.4**	**-2.1**
YBH	**Yreka Blue Hor**	**35.30**	**44**	P	**P**	**06 18 06.3**	**+0.9**
H11N3	**WAKE ISLAND Hy**	**35.77**	**277**	T	T	06 55 30.9	
	baz=84,slow=74,SNR=17						
H11N2	**WAKE ISLAND Hy**	**35.78**	**277**	T	T	06 55 15.7	
	baz=84,slow=74,SNR=16						
H11N1	**WAKE ISLAND Hy**	**35.79**	**277**	T	T	06 55 16.4	
	baz=84,slow=74,SNR=14						
H11S2	**WAKE ISLAND Hy**	**36.11**	**275**	T	T	06 55 51.8	
	baz=83,slow=75,SNR=9.8						
H11S1	**WAKE ISLAND Hy**	**36.11**	**275**	T	T	06 55 40.8	
	baz=83,slow=75,SNR=11						
H11S3	**WAKE ISLAND Hy**	**36.13**	**275**	T	T	06 55 42.2	
	baz=83,slow=75,SNR=12						
NVAR	**Mina Array Bea**	**37.01**	**51**	P	**P**	**06 18 20.9**	**+0.7**
	comp=E,0.3nm,0.6s,baz=236,slow=13,SNR=2.3						
	comp=E,0.3nm,0.6s						
F10A	**Beach Ranch, E**	**40.81**	**41**	P	**P**	**06 18 51.9**	**+0.1**
F10A				IAmb	IAmb	06 18 56.9	
	comp=Z,3.9nm,0.9s						
SVW2	**Sparrevohn**	**41.61**	**360**	P	**P**	**06 18 58.1**	**0.0**
HLID	**Hailey**	**41.61**	**45**	P	**P**	**06 18 57.9**	**-0.7**
HVU	**Hansel Valley**	**42.12**	**49**	P	**P**	**06 19 03.5**	**+0.7**
HVU				IAmb	IAmb	06 19 08.4	
	comp=Z,4.0nm,0.7s						
PDAR	**Pinedale Array**	**44.69**	**48**	P	**P**	**06 19 24.0**	**+0.4**
	comp=Z,1.0nm,0.9s,baz=238,slow=5.1,SNR=6.7						
	comp=Z,1.0nm,0.9s						
ILAR	**Eielson Array**	**45.62**	**5**	P	**P**	**06 19 29.6**	**-0.8**
	comp=Z,0.7nm,0.7s,baz=197,slow=6.9,SNR=9.3						
ILAR				PcP	**PcP**	**06 21 08.9**	**+0.4**
	comp=Z,0.6nm,1.0s,baz=205,slow=4.0,SNR=2.3						
	comp=Z,0.7nm,0.7s						
TX31	**Lajitas Ar. Si**	**47.52**	**68**	P	**P**	**06 19 47.2**	**+1.3**
TX31				IAmb	IAmb	06 19 57.5	
	comp=Z,7.2nm,1.5s						
TXAR	**Lajitas Array**	**47.52**	**68**	P	**P**	**06 19 47.1**	**+1.2**
TXAR	**Lajitas Array**	**47.52**	**68**	P	**P**	**06 19 49.5**	**+3.6**
	comp=Z,1.1nm,0.8s,baz=269,slow=7.9,SNR=13						
	comp=Z,1.1nm,0.8s						
H29M	**Whitestone**	**48.00**	**9**	P	**P**	**06 19 49.8**	**+0.8**
H29M				IAmb	IAmb	06 20 08.0	
	comp=Z,6.9nm,1.4s						
G29M	**Pine Creek**	**48.70**	**9**	P	**P**	**06 19 54.8**	**+0.4**
D19K	**Kuna River**	**49.07**	**359**	P	**P**	**06 19 57.0**	**-0.2**
D19K				IAmb	IAmb	06 20 03.9	
	comp=Z,9.5nm,1.5s						
G31M	**Satah River**	**49.31**	**11**	P	**P**	**06 19 58.9**	**-0.1**
G31M				IAmb	IAmb	06 20 04.1	
	comp=Z,3.2nm,0.9s						
F31M	**Tsiigehtchic**	**49.87**	**11**	P	**P**	**06 20 03.7**	**+0.5**
YKA	**Yellowknife Ar**	**51.21**	**23**	P	**P**	**06 20 13.4**	**-0.1**
YKA	**Yellowknife Ar**	**51.21**	**23**	P	**P**	**06 20 13.7**	**+0.3**
	comp=Z,1.4nm,0.7s,baz=237,slow=7.2,SNR=22						
	comp=Z,1.4nm,0.7s						
ECSD	**EROS Data Cent**	**54.14**	**50**	P	**P**	**06 20 34.8**	**-0.7**
ECSD				IAmb	IAmb	06 20 38.2	
	comp=Z,4.3nm,1.1s						
A36M	**Sachs Harbour**	**55.30**	**11**	P	**P**	**06 20 43.1**	**-0.3**
A36M				IAmb	IAmb	06 21 03.2	
	comp=Z,3.3nm,1.1s						
ULM	**Lac du Bonnet**	**55.67**	**42**	P	**P**	**06 20 48.5**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=243,slow=6.8,SNR=3.0						
	comp=Z,0.9nm,0.5s						
FCC	**Fort Churchill**	**58.60**	**32**	P	**P**	**06 21 06.9**	**-0.1**
FCC				IAmb	IAmb	06 21 10.4	
	comp=Z,2.5nm,0.9s						
G40A	**Rib Lake**	**58.85**	**48**	P	**P**	**06 21 08.4**	**-0.6**
HHC	**Hu-ho-hao-te**	**80.00**	**310**	eP	**P**	**06 23 18.2**	**-1.9**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,64nm,5.0s						
H03N2	**Juan Fernandez**	**89.57**	**126**	T	T	08 03 02.0	
	baz=298,slow=76,SNR=476						
H03N3	**Juan Fernandez**	**89.59**	**126**	T	T	08 03 02.9	
	baz=298,slow=76,SNR=564						
H03N1	**Juan Fernandez**	**89.59**	**126**	T	T	08 03 03.2	
	baz=298,slow=76,SNR=457						

*IDC **05** 06:13:07.0±1.5, 5°.24N×94°.16E, h0km, mb4.0/8, mbtmp4.0/9, ML4.5/1, Error ellipse: s-maj=63.2km s-min=19.6km az=58.0*
ISC 05 06:13:12.1±1.4, 5°.2N±0°.2×94°.2E±0°.3, h34km, n18, σ0s55/9, mb3.9/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**13.94**	**19**	Pn	**Pn**	**06 16 27.9**	**+0.6**
	0.8nm,0.3s,baz=218,slow=12,SNR=1.7						
	1.1nm,0.3s						
H08S2	**Diego Garcia H**	**25.14**	**240**	T	T	06 44 32.8	
	baz=59,slow=74						
H08S3	**Diego Garcia H**	**25.14**	**240**	T	T	06 44 30.8	
	baz=59,slow=74						
H08S1	**Diego Garcia H**	**25.16**	**240**	T	T	06 44 32.2	
	baz=59						
MKAR	**Makanchi Array**	**42.66**	**348**	P	**P**	**06 21 05.2**	**-0.3**
	3.0nm,0.6s,baz=168,slow=8.0,SNR=33						
	3.0nm,0.6s						
SONM	**Songino Array**	**43.72**	**12**	P	**P**	**06 21 13.3**	**-0.8**
	0.6nm,0.5s,baz=198,slow=8.9,SNR=3.5						
	0.6nm,0.5s						
WRA	**Warrarunga Arr**	**46.73**	**124**	P	**P**	**06 21 38.5**	**+0.1**
	0.6nm,0.6s,baz=306,slow=8.6,SNR=7.3						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**47.10**	**346**	P	**P**	**06 21 40.8**	**+0.1**
	1.0nm,0.3s,baz=167,slow=7.0,SNR=9.6						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**48.23**	**128**	P	**P**	**06 21 49.9**	**0.0**
	0.5nm,0.6s,baz=295,slow=7.8,SNR=7.2						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**49.16**	**353**	P	**P**	**06 21 56.4**	**-0.2**
	1.9nm,0.3s,baz=186,slow=7.0,SNR=6.7						
	1.9nm,0.3s						
BVAR	**Borovoye Array**	**51.49**	**342**	P	**P**	**06 22 13.7**	**-0.5**
	0.8nm,0.6s,baz=162,slow=6.2,SNR=5.7						
	0.8nm,0.6s						
H04N2	**CROZET ISLANDS**	**63.51**	**212**	T	T	07 32 49.4	
	baz=48,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**63.52**	**212**	T	T	07 32 50.5	
	baz=48,slow=75,SNR=10						
H04N3	**CROZET ISLANDS**	**63.53**	**212**	T	T	07 32 50.0	
	baz=48,slow=75,SNR=12						
H04S1	**CROZET ISLANDS**	**63.90**	**211**	T	T	07 33 17.1	
	baz=48						
H04S3	**CROZET ISLANDS**	**63.91**	**211**	T	T	07 33 11.7	
	baz=48						
H04S2	**CROZET ISLANDS**	**63.92**	**211**	T	T	07 33 07.6	
	baz=48						
GERES	**GERESS Array B**	**79.82**	**319**	P	**P**	**06 25 17.9**	**+0.6**
	0.9nm,0.7s,baz=97,slow=8.0,SNR=2.2						
	0.9nm,0.7s						

*AUST **05** 06:16:59.8±2.5, 32°.35S×149°.66E, h0km, Error ellipse: s-maj=29.7km s-min=9.2km az=90.0, Mining explosion.*
*NOU **05** 06:17:02.1, 32°.40S×149°.86E, h0km, MLv3.2/4, New South Wales, Australia*
ISC 05 06:16:57.6±1.7, 32°.27S±0°.05×149°.76E±0°.09, h0km, n7, σ0s42/10, New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYDH	**Sydney Hard Ro**	**1.71**	**151**	P	**Pg**	**06 17 29.9**	**-0.4**
NTLH	**Newcastle Hard**	**1.76**	**111**	P	**Pg**	**06 17 31.4**	**+0.1**
AUTKS	**The King's Sch**	**1.85**	**145**	P	**Pg**	**06 17 32.8**	**-0.2**
	baz=1.8						
AUTKS				S	**Sg**	**06 17 57.5**	**+0.5**
	baz=1.8						
RIV	**Riverview**	**1.95**	**143**	P	**Pb**	**06 17 33.9**	**-0.1**
	baz=1.9						
RIV				S	**Sg**	**06 18 00.7**	**+0.3**
	baz=1.9						
RIV	**Riverview**	**1.95**	**143**	P	**Pg**	**06 17 34.4**	**-0.6**
YNG	**Young**	**2.32**	**209**	P	**Pb**	**06 17 40.6**	**+0.2**
ARMA	**Armidale**	**2.44**	**41**	P	**Pb**	**06 17 42.2**	**-0.2**
	baz=2.6,SNR=21						
ARMA				S	**Sg**	**06 18 16.5**	**+0.5**
	baz=2.6,SNR=6.1						

*NEIC **05** 06:18:11.4±0.8, 19°.05N±0°.02×154°.93W±0°.04, h5km±2km, Error ellipse: s-maj=6.3km s-min=3.1km az=298.0*
HVO 05 06:18:12.3±0.9, 19°.08N±0°.02×154°.99W±0°.04, h1km±10km, Md2.4/14, ML2.6/34(NEIC), Error ellipse: s-maj=5.3km s-min=1.8km az=112.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPOC	**North of Pu'u**	**0.33**	**340**		Sg	06 18 24.1	+1.2
KNHH	**Kane Nui o Ham**	**0.34**	**330**		Pg	06 18 19.4	+0.5
PUH	**Pauahi**	**0.36**	**324**		Pg	06 18 18.7	-0.5
HLP	**Hilina Pali**	**0.37**	**305**		Pg	06 18 20.1	+0.7
KKO	**Keanakako`i**	**0.41**	**320**		Pg	06 18 20.5	+0.3
KKO	**Keanakako`i**	**0.41**	**320**	IAML		06 18 27.3	
	comp=N,748nm,0.7s						
KKO				IAML		06 18 32.0	
	comp=E,506nm,0.4s						
RIM	**Rim**	**0.41**	**319**		Pg	06 18 20.4	+0.2
RIM	**Rim**	**0.41**	**319**	IAML		06 18 27.2	
	comp=N,745nm,0.4s						
RIM				IAML		06 18 27.3	
	comp=E,622nm,0.5s						
BYL	**Byron's Ledge**	**0.42**	**322**	IAML		06 18 29.8	
	comp=N,441nm,0.4s						
BYL				IAML		06 18 32.4	
	comp=E,557nm,0.6s						
BYL	**Byron's Ledge**	**0.42**	**322**		Pg	06 18 20.7	+0.4
BYL					Sg	06 18 26.9	+1.2
HTC	**Hot Caves**	**0.42**	**292**		Pg	06 18 20.9	+0.7
SDHHI	**Sand Hill**	**0.42**	**317**		Pg	06 18 20.8	+0.4
SDHHI	**Sand Hill**	**0

MAN INTENSITY V - PANDAN AND PANGANIBAN CATANDUANES; INTENSITY IV - GIGMOTO VIGA AND VIRAC CATANDUANES; IROSIN SORSOGON; LEGAZPI CITY; LIGAO CITY; TABACO CITY; BACAYCAY AND SANTO DOMINGO ALBAY; JOSE PANGANIBAN ; CAMARINES NORTE; POLILIO QUEZON; NAGA CITY; BAAO CAMARINES SUR; INTENSITY III - BURDEOS GUINAYANGAN INFANTA LOPEZ MULANAY AND PANUKULAN QUEZON; BULUSAN AND DONSOL SORSOGON; MERCEDES CAMARINES NORTE; CARAMOAN AND SIPOCOT; CAMARINES SUR; PASAY CITY; CITY OF MANILA; CAINTA RIZAL; IMUS CAVITE; OBANDO BULACAN; INTENSITY II - QUEZON CITY; TAGUIG CITY; MALOLOS BULACAN; MASBATE CITY; PALO LEYTE; INTENSITY I - PASIG CITY.

*NEIC **05** 06:19:04.8, 14˚.49N× 123˚.94E, h18km*

*IPGP **05** 06:19:04.0, 14˚.50N× 123˚.93E, h22km, Mw6.3, Fault plane solution: NP1:φs348.00000°, δ69.00000°, λ.91.00000°. NP2:φs165.00000°, δ21.00000°, λ.87.00000°.*

*MOS **05** 06:19:04.6± 0.9, 14˚.42N× 123˚.92E, h40km, mb6.1/112, MS6.0/53, Error ellipse: s-maj=6.4km s-min=3.8km az=111.9*

*NEIC **05** 06:19:04.7, 14˚.49N× 123˚.93E, h18km*

*NEIC **05** 06:19:04.8, 14˚.59N× 124˚.04E, h18km, Moment Tensor Solution. Duration: 5s7 Moment tensor: Scale 10¹⁸Nm; Mrr1.12; Mθθ-0.02; Mφφ-1.10; Mrθ-0.10; Mθφ0.40; Mφr1.16; Fault plane solution: M₀1.66000×10¹⁸ NP1: φs351.35000°, δ67.50000°, λ.98.24000°. NP2: φs150.63000°, δ23.89000°, λ.70.92000°. Principal axes: T 1.6164, Plg67.0000°, Azm276.0000°; N 0.0778, Plg8.0000°, Azm168.0000°; P -1.6942, Plg22.0000°, Azm75.0000°;*

*NEIC **05** 06:19:05.0± 2.0, 14˚.57N± 0˚.06× 123˚.92E± 0˚.03, h18km± 1km, mb6.0/174, Ms_20 6.1/874, Mwb6.1/63, Mww6.1/32 Error ellipse: s-maj=10.4km s-min=4.9km az=188.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr1.36; Mθθ-0.31; Mφφ-1.05; Mrθ-0.29; Mθφ0.36; Mφr1.50; Fault plane solution: M₀2.00000×10¹⁸ NP1: φs152.20000°, δ20.42000°, λ.76.81000°. NP2: φs346.24000°, δ70.14000°, λ.94.86000°. Principal axes: T 2.0898, Plg65.0000°, Azm264.0000°; N -0.1915, Plg5.0000°, Azm165.0000°; P -1.8983, Plg25.0000°, Azm72.0000°;*

*DJA **05** 06:19:07.4± 0.3, 15˚N± 2˚× 12˚4E± ˚, h57km± 4km, M6.2/67, mb5.9/67, mB6.5/67, Mw(mB)6.3/67, MwMwp6.2/57, Mwp6.2/57*

*GCMT **05** 06:19:08.0± 0.1, 14˚.55N× 124˚.02E, h24km, MW6.2/168, Moment Tensor Solution. s168,c400; s168,c581; Duration: 3s1 Moment tensor: Scale 10¹⁸Nm; Mrr1.60±.01; Mθθ-0.24±.01; Mφφ-1.37±.01; Mrθ-0.67±.02; Mθφ0.56±.01; Mφr2.03±.03; Best double couple: M₀2.67000×10¹⁸ NP1:φs341.00000°, δ72.00000°, λ.92.00000°. NP2:φs155.00000°, δ18.00000°, λ.84.00000°. Principal axes: T 2.6730, Plg63.0000°, Azm254.0000°; N -0.0130, Plg2.0000°, Azm160.0000°; P -2.6670, Plg27.0000°, Azm69.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 05 06:19:04.4± 0.3, 14˚.49N± 0˚.02× 124˚.04E± 0˚.02, h24km± 1km, h24km:pP-P, n2179, σ1s95/2392, mb5.9/352, MS6.0/558, 207C-81D, Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.89**	**173**	⇓*eP*		**Pb**		**06 19 21.0**	**-0.3**
PVCP				*eS*		**Sn**		**06 19 33.6**	**-0.1**
SCSP	**San Jose Seism**	**0.97**	**211**	⇓*eP*		**Pb**		**06 19 22.1**	**-0.4**
SCSP				*eS*		**Sn**		**06 19 36.2**	**+0.7**
JCNP	**Jose Panganiba**	**1.31**	**262**	⇓*eP*		**Pn**		**06 19 26.9**	**-0.4**
JCNP				*eS*		**Sb**		**06 19 43.8**	**-1.0**
GQP	**Guinayangan**	**1.65**	**250**	⇑*eP*		**Pb**		**06 19 33.3**	**-0.8**
GQP				*eS*		**Sb**		**06 19 56.0**	**+1.6**
LQP	**Lukban**	**2.45**	**262**	⇑*iP*		**Pn**		**06 19 44.2**	**+1.0**
CAAP	**Casiguran, Aur**	**2.58**	**312**	⇑*eP*		**Pn**		**06 19 42.2**	**-2.5**
CAAP				*eS*		**Sn**		**06 20 10.0**	**-5.3**
LBLP	**Los Banos, Lag**	**2.75**	**264**	⇑*eP*		**Pn**		**06 19 47.7**	**+0.6**
LBLP				*eS*		**Sn**		**06 20 21.7**	**+2.0**
OTRP	**Odiongan**	**2.88**	**223**	⇑*eP*		**Pn**		**06 19 50.0**	**+1.1**
OTRP				*eS*		**Sn**		**06 20 23.7**	**+0.8**
RTBP	**Dona Remedios**	**2.91**	**280**	⇑*eP*		**Pn**		**06 19 48.7**	**-0.6**
RTBP				*eS*		**Sb**		**06 20 29.7**	**-1.0**
QVP	**Quezon City--P**	**2.94**	**273**	⇑*eP*		**Pn**		**06 19 50.0**	**+0.3**
QVP				*eS*		**Sn**		**06 20 25.4**	**+1.1**
TGY	**Tagaytay City**	**3.03**	**263**	Pn		**Pn**		**06 19 51.9**	**+0.9**
	2µm,0.3s,baz=105,slow=2.9,SNR=64								
TGY				LR		LR		06 20 18.2	
	comp=Z,151µm,19.1s,baz=86,slow=27								
TGY				Sn		**Sn**		**06 20 24.8**	**-1.8**
	5µm,0.3s,baz=179,slow=13,SNR=7.0								
TGY	**Tagaytay City**	**3.03**	**263**	⇓*eP*		**Pn**		**06 19 52.9**	**+1.9**
TGY				*eS*		**Sb**		**06 20 37.0**	**+2.7**
RCP	**Roxas**	**3.17**	**204**	⇓*eP*		**Pn**		**06 19 55.3**	**+2.4**
RCP				*i S*		**Sb**		**06 20 41.6**	**+3.3**
BESP	**Borongan**	**3.18**	**154**	*eP*		**Pn**		**06 19 54.0**	**+1.0**
BESP				*eS*		**Sb**		**06 20 42.2**	**+3.7**
IBAJ	**Ibajay, Aklan**	**3.21**	**215**	⇑*eP*		**Pn**		**06 19 54.8**	**+1.3**
MACP	**Maragondon, Ca**	**3.22**	**266**	*eP*		**Pn**		**06 19 54.9**	**+1.3**
MACP				*eS*		**Sb**		**06 20 42.6**	**+2.8**
CAUP	**Cauayan**	**3.24**	**319**	⇓*eP*		**Pn**		**06 19 54.6**	**+0.7**
CAUP				*eS*		Sb		06 20 52.0	+12
MECP	**Medelin, Cebu**	**3.31**	**181**	⇑*eP*		**Pn**		**06 19 56.5**	**+1.7**
MECP				*eS*		**Sb**		**06 20 45.5**	**+3.2**
PLP	**Palo**	**3.43**	**164**	⇑*eP*		**Pn**		**06 19 57.9**	**+1.5**
PLP				*eS*		**Sb**		**06 20 44.9**	**-0.8**
OCLP	**Ormoc**	**3.46**	**171**	*eP*		**Pn**		**06 19 59.5**	**+2.7**
OCLP				*eS*		Sb		06 20 59.4	+13
ABPP	**Abucay Bataan**	**3.48**	**275**	⇑*eP*		**Pn**		**06 19 57.6**	**+0.5**
ABPP				*eS*		**Sb**		**06 20 47.0**	**-0.3**
CADP	**Cadiz City**	**3.62**	**192**	⇑*eP*		**Pn**		**06 20 00.6**	**+1.5**
CADP				*eS*		**Sb**		**06 20 51.1**	**-0.1**
SMPP	**San Manuel, Pa**	**3.64**	**297**	*eP*		**Pn**		**06 19 57.7**	**-1.6**
SMPP				*eS*		**Sn**		**06 20 40.5**	**-1.0**
LUBP	**Lubang**	**3.75**	**259**	⇑*eP*		**Pn**		**06 20 01.3**	**+0.4**
LUBP				*eS*		**Sb**		**06 21 01.3**	**+6.3**
SFCP	**San Francisco,**	**3.84**	**175**	⇑*eP*		**Pn**		**06 20 03.2**	**+1.1**
SFCP				*eS*		**Sb**		**06 20 56.9**	**-0.7**
SAMP	**Sagada Mountai**	**3.97**	**311**	⇑*eP*		**Pn**		**06 20 03.1**	**-0.8**
SAMP				*eS*		**Sb**		**06 20 55.3**	**-6.0**
IBZP	**Iba, Zambales**	**3.98**	**284**	⇑*eP*		**Pn**		**06 20 01.4**	**-2.6**
IBZP				*eS*		**Sb**		**06 21 02.0**	**+0.3**
LLP	**Lapu-Lapu**	**4.14**	**181**	⇑*iP*		**Pn**		**06 20 08.3**	**+2.0**
LLP				*eS*		**Sb**		**06 21 12.7**	**+6.3**
GNOP	**Guihulngan Cit**	**4.30**	**190**	⇑*eP*		**Pn**		**06 20 10.6**	**+2.0**
GNOP				*eS*		**Sb**		**06 21 18.4**	**+7.3**
TABP	**Talibon, Bohol**	**4.38**	**176**	⇑*eP*		**Pn**		**06 20 10.1**	**+0.5**
TABP				*eS*		**Sn**		**06 21 06.4**	**+6.6**
MSLP	**Maasin**	**4.40**	**169**	⇓*eP*		**Pn**		**06 20 12.0**	**+2.2**
MSLP				*eS*		**Sb**		**06 21 19.6**	**+5.9**
SZP	**Santa**	**4.60**	**312**	P		**Pn**		**06 20 14.7**	**+2.2**
PACPP	**Pamplona Cagay**	**4.71**	**327**	⇑*eP*		**Pn**		**06 20 13.2**	**-0.9**
PACPP				*eS*		**Sn**		**06 21 05.6**	**-2.5**
DACP	**Dalaguete, Ceb**	**4.71**	**186**	⇑*eP*		**Pn**		**06 20 15.4**	**+1.3**
DACP				*eS*		**Sn**		**06 21 10.8**	**+2.7**
TBP	**Tagbilaran**	**4.77**	**182**	⇑*eP*		**Pn**		**06 20 16.3**	**+1.4**
CNOP	**Candoni, Negro**	**4.83**	**197**	⇑*eP*		**Pn**		**06 20 17.7**	**+2.0**
CNOP				*eS*		**Sb**		**06 21 33.9**	**+7.9**
GHBP	**Garcia Hernand**	**4.83**	**177**	⇑*eP*		**Pn**		**06 20 17.0**	**+1.2**
GHBP				*eS*		**Sn**		**06 21 17.3**	**+6.2**
SIPP	**Brgy, Tapao**	**4.85**	**315**	⇓*eP*		**Pn**		**06 20 17.8**	**+1.9**
SIPP				*eS*		**Sn**		**06 21 17.2**	**+5.8**
SCPH	**Surigao**	**4.89**	**163**	⇑*eP*		**Pn**		**06 20 19.4**	**+2.9**
SCPH				*eS*		**Sb**		**06 21 26.1**	**-1.6**
PIP	**Pasuquin**	**5.03**	**320**	⇑*eP*		**Pn**		**06 20 15.9**	**-2.6**
GLSP	**General Luna,**	**5.10**	**156**	⇓*eP*		**Pn**		**06 20 21.3**	**+1.8**
GLSP				*eS*		**Sb**		**06 21 26.3**	**-7.6**
SNPH	**Sibulan**	**5.17**	**189**	⇑*iP*		**Pn**		**06 20 22.8**	**+2.4**
SNPH				*i S*		**Sb**		**06 21 44.6**	**+8.6**
LSIP	**Lazi, Siquijor**	**5.34**	**184**	⇑*eP*		**Pn**		**06 20 23.8**	**+1.1**
LSIP				*eS*		**Sb**		**06 21 41.8**	**+1.1**
CICP	**Calayan Island**	**5.34**	**333**	⇑*eP*		**Pn**		**06 20 20.9**	**-1.8**
CICP				*eS*		**Sn**		**06 21 24.8**	**+1.2**
ENPP	**El Nido**	**5.55**	**235**	*eP*		**Pn**		**06 20 27.4**	**+1.7**
ENPP				*eS*		**Sn**		**06 21 26.1**	**-2.7**
DCPH	**Dipolog City**	**5.91**	**187**	⇑*eP*		**Pn**		**06 20 32.0**	**+1.5**
CGP	**Cagayan de Oro**	**6.03**	**174**	⇑*eP*		**Pb**		**06 20 46.1**	**-2.7**
CGP				*eS*		**Sb**		**06 22 01.0**	**+0.4**
BBPB	**Basco Batanes**	**6.24**	**342**	⇓*eP*		**Pn**		**06 20 30.5**	**-4.6**
BBPB				*eS*		**Sn**		**06 21 39.3**	**-6.3**
BBP	**Basco**	**6.24**	**342**	⇓*eP*		**Pn**		**06 20 34.2**	**-0.9**
BBP				*eS*		**Sn**		**06 21 39.9**	**-5.9**
TASP	**Talacogon, Agu**	**6.24**	**164**	⇓*eP*		**Pn**		**06 20 39.2**	**+4.0**
TASP				*eS*		**Sb**		**06 21 60.0**	**-6.8**
BLNP	**Bacolod Lanao**	**6.29**	**180**	⇑*eP*		**Pn**		**06 20 37.0**	**+1.1**
BLNP				*eS*		**Sn**		**06 21 49.5**	**+2.3**
PAGZ	**Pagadian**	**6.63**	**186**	*eP*		**Pn**		**06 20 43.3**	**+2.9**
PAGZ				*eS*		**Sn**		**06 22 01.4**	**+6.1**
BUKP	**Musuan**	**6.64**	**171**	*eP*		**Pn**		**06 20 43.4**	**+2.7**
BUKP				*eS*		**Sb**		**06 22 15.1**	**-3.2**
PPR	**Puerto Princes**	**6.99**	**229**	⇓*eP*		Pn		06 20 50.3	+4.9
CDOP	**Cateel, Davao**	**7.07**	**160**	⇑*eP*		**Pn**		**06 20 48.7**	**+2.3**
CDOP				*eS*		**Sb**		**06 22 21.8**	**-8.6**
PICP	**Pikit**	**7.41**	**175**	⇑*eP*		**Pn**		**06 20 53.2**	**+2.1**
PICP				*eS*		**Sb**		**06 22 46.5**	**+6.3**
KCP	**Kidapawan**	**7.50**	**172**	⇑*eP*		Pn		06 20 59.5	+7.0
DAV	**Davao City (W)**	**7.53**	**168**	Pn		Pn		06 20 60.0	+7.2
DAV	**Davao City (W)**	**7.53**	**168**	Pn		**Pn**		**06 20 56.4**	**+3.6**
	88nm,0.3s,baz=177,slow=9.6,SNR=1.3								
DAV				Lg		Lg		06 23 02.8	
	98nm,0.3s,baz=246,slow=11,SNR=4.0								
DAV				LR		LR		06 24 26.1	
	comp=Z,438µm,19.5s,baz=2.0,slow=43								
DAV	**Davao City (W)**	**7.53**	**168**	P		Pn		06 20 58.5	+5.7
DAV				P		Pn		06 20 58.5	+5.7
DAV				P		Pn		06 20 58.5	+5.7
DAV				S		**Sn**		**06 22 20.1**	**+2.7**
DAV				S		**Sn**		**06 22 20.1**	**+2.7**
DAV				S		**Sn**		**06 22 20.1**	**+2.7**
ZCP	**Zamboanga City**	**7.75**	**195**	⇓*eP*		**Pn**		**06 21 00.1**	**+4.2**
MATI	**Mati**	**7.80**	**164**	⇓*eP*		**Pn**		**06 20 59.5**	**+2.9**
MATI				*eS*		Sb		06 22 42.2	-10
SKMP	**Bagumbayan, Su**	**7.93**	**176**	⇓*eP*		**Pn**		**06 21 00.2**	**+1.8**
BATP	**Bataraza**	**8.32**	**228**	⇓*eP*		**Pn**		**06 21 07.2**	**+3.5**
GSPH	**General Santos**	**8.40**	**174**	⇑*iP*		Pb		06 21 17.8	-11
DDMP	**Don Marcelino,**	**8.49**	**169**	⇓*eP*		**Pn**		**06 21 09.1**	**+3.1**
DDMP				*eS*		Sb		06 22 57.2	-14
TWGBT	**Beinan**	**8.75**	**342**	P		**Pn**		**06 21 10.4**	**+0.9**
TWG	**Pinlang**	**8.75**	**342**			**Pn**		**06 21 09.9**	**+0.4**
YULB	**Yu-li**	**9.23**	**344**	P		**Pn**		**06 21 19.0**	**+2.9**
YULB	**Yu-li**	**9.23**	**344**	Pn		**Pn**		**06 21 15.4**	**-0.7**
TPUB	**Ta-pu**	**9.34**	**340**	P		**Pn**		**06 21 21.3**	**+3.6**
TPUB	**Ta-pu**	**9.34**	**340**	Pn		**Pn**		**06 21 16.3**	**-1.4**
SSLB	**Suanglung**	**9.70**	**343**	P		**Pn**		**06 21 25.4**	**+2.8**
SSLB	**Suanglung**	**9.70**	**343**	Pn		**Pn**		**06 21 22.8**	**+0.2**
NACB	**Ninganchiao**	**9.91**	**347**	P		**Pn**		**06 21 25.7**	**+0.3**
NACB	**Ninganchiao**	**9.91**	**347**			**Pn**		**06 21 25.1**	**-0.4**
YOJ	**Yonaguni jima**	**9.97**	**355**	P		**Pn**		**06 21 28.5**	**+2.2**
YOJ	**Yonaguni jima**	**9.97**	**355**			**Pn**		**06 21 25.5**	**-0.7**
YOJ	**Yonaguni jima**	**9.97**	**355**	⇑P		**Pn**		**06 21 25.7**	**-0.6**
YOJ	**Yonaguni jima**	**9.97**	**355**	P		**Pn**		**06 21 26.2**	**-0.1**
YOJ				pmax		pmax			
	comp=Z,615nm,0.8s								
BTTP	**Bongao, Tawi-T**	**10.30**	**205**	⇑*eP*		**Pn**		**06 21 33.6**	**+2.7**
BTTP				*eS*		**Sn**		**06 23 34.0**	**+8.3**
JMJ	**Miyako jima 2**	**10.34**	**6**	P		**Pn**		**06 21 33.6**	**+2.2**
YHNB	**Yeheng**	**10.44**	**347**	P		**Pn**		**06 21 34.5**	**+1.8**
YHNB	**Yeheng**	**10.44**	**347**	Pn		**Pn**		**06 21 33.8**	**+1.0**
TATO	**Taipei**	**10.71**	**347**	P		**Pn**		**06 21 40.0**	**+3.6**
TATO	**Taipei**	**10.71**	**347**			**Pn**		**06 21 35.4**	**-0.9**
TATO	**Taipei**	**10.71**	**347**	P		**Pn**		**06 21 39.2**	**+2.9**
TATO				P		Pn		**06 21 39.2**	**+2.9**
TATO				P		Pn		**06 21 39.2**	**+2.9**
TATO				S		**Sn**		**06 23 30.7**	**-4.8**
TATO				S		**Sn**		**06 23 30.7**	**-4.8**
TATO				S		**Sn**		**06 23 30.7**	**-4.8**
SGSI	**Sangihe**	**10.83**	**172**	P		Pn		06 21 45.7	+7.5
	comp=Z,1µm,1.5s,comp=Z,23µmcomp=Z,47µm								
KNMB	**Chin-men Tao**	**11.26**	**333**	Pn		**Pn**		**06 21 42.2**	**-1.7**
QZH	**Quanzhou**	**11.59**	**335**	⇑*iP*		**Pn**		**06 21 48.0**	**-0.5**
QZH				S		**Sn**		**06 23 56.3**	**-1.0**
QZH				pmax		pmax			
	comp=Z,4µm,9.8s								
QZH				LR		LR			
	comp=Z,52µm,15.1s								
QZH				LR		LR			
	comp=Z,39µm,14.7s								
QZH				LR		LR			
	comp=Z,67µm,15.2s								
HKC	**Hong Kong Obse**	**12.16**	**311**	⇑P		**Pn**		**06 21 58.0**	**+1.7**
HKPS	**Hong Kong Po S**	**12.17**	**311**	Pn		**Pn**		**06 21 57.2**	**+0.8**
I39PW	**PALAU INFRASON**	**12.41**	**123**	I		I		07 37 00.0	
	baz=299,slow=317,SNR=1.1								
MCO	**Taipa Grande**	**12.51**	**309**	P		**Pn**		**06 22 02.0**	**+0.9**
JOW	**Kunigami**	**12.90**	**17**	P		**Pn**		**06 22 06.9**	**+0.4**
JOW	**Kunigami**	**12.90**	**17**	Pn		**Pn**		**06 22 05.7**	**-0.7**
JOW	**Kunigami**	**12.90**	**17**	⇓P		**Pn**		**06 22 04.8**	**-1.7**
JOW	**Kunigami**	**12.90**	**17**	Pn		**Pn**		**06 22 06.0**	**-0.5**
	comp=Z,13nm,0.3s,baz=178,slow=12,SNR=21								
JOW				Sn		Sn		06 24 18.2	-11
	comp=Z,2.0nm,0.3s,baz=249,slow=25,SNR=0.8								
JOW				LR		LR		06 27 13.6	
	comp=Z,75µm,19.0s,baz=196,slow=38								
	comp=Z,66nm,0.5s								
JMZ	**Minamidaito 2**	**13.13**	**30**	P		**Pn**		**06 22 11.7**	**+2.1**
JMZ	**Minamidaito 2**	**13.13**	**30**	Pn		**Pn**		**06 22 09.7**	**+0.1**
GZH	**Guangzhou**	**13.25**	**312**	P		**Pn**		**06 22 11.8**	**+0.7**
GZH				S		**Sn**		**06 24 45.6**	**+7.8**
GZH				pmax		pmax			
	comp=Z,54nm,1.0s								
GZH				pmax		pmax			
	comp=Z,6µm,4.0s								
GZH				LR		LR			
	comp=Z,48µm,14.9s								
GZH				LR		LR			
	comp=Z,35µm,14.5s								
TOLI2	**Tolitoli**	**13.67**	**194**	P		**Pn**		**06 22 18.6**	**+1.6**
TOLI2	**Tolitoli**	**13.67**	**194**	Pn		**Pn**		**06 22 18.1**	**+1.1**
GTOI	**Gorontalo**	**13.80**	**184**	P		**Pn**		**06 22 20.5**	**+1.8**
	comp=Z,338nm,2.9s,comp=Z,11µmcomp=Z,20µm								
KMSI	**Cibinong**	**13.82**	**180**	P		**Pn**		**06 22 22.9**	**+3.9**
	comp=Z,3µm,1.2s,comp=Z,32µmcomp=Z,46µm								
TNTI	**Ternate**	**14.02**	**166**	Pn		**Pn**		**06 22 23.2**	**+1.5**
TNTI	**Ternate**	**14.02**	**166**	P		**Pn**		**06 22 24.9**	**+3.2**
	comp=Z,303nm,1.2s,comp=Z,6µmcomp=Z,13µm								
QIZ	**Qiongzhong**	**14.32**	**290**	P		**Pn**		**06 22 26.9**	**+1.0**
QIZ	**Qiongzhong**	**14.32**	**290**	P		**Pn**		**06 22 24.6**	**-1.3**
QIZ				S		**Sn**		**06 25 03.1**	**-1.0**
QIZ				pmax		pmax			
	comp=Z,8µm,6.7s								
QIZ				LR		LR			
	comp=Z,58µm,15.3s								
QIZ				LR		LR			
	comp=Z,119µm,16.9s								
QIZ				LR		LR			
	comp=Z,175µm,16.7s								
QIZ	**Qiongzhong**	**14.32**	**290**			**Pn**		**06 22 25.2**	**-0.6**
MPSI	**Mapaga**	**14.64**	**197**	P		**Pn**		**06 22 32.6**	**+2.4**
	comp=Z,414nm,1.3s,comp=Z,13µmcomp=Z,63µm								
DLV	**T Lat**	**15.35**	**262**	Pn		**Pn**		**06 22 41.0**	**+1.2**
DLV				IAmb		IAmb		06 22 45.2	
	comp=Z,872nm,1.5s								
DLV	**T Lat**	**15.35**	**262**	⇑P		**Pn**		**06 22 41.6**	**+1.8**
LBMI	**Labuha**	**15.41**	**167**	P		**P**		**06 22 43.3**	**-1.6**
	comp=Z,454nm,1.4s,comp=Z,10µm								
LUWI	**Luwuk**	**15.48**	**185**	P		**Pn**		**06 22 42.7**	**+1.3**
LUWI	**Luwuk**	**15.48**	**185**			**P**		**06 22 44.5**	**-1.2**
LUWI				IAmb		IAmb		06 22 49.4	
	comp=Z,2µm,1.0s								
LUWI	**Luwuk**	**15.48**	**185**	P		**Pn**		**06 22 41.2**	**-0.1**
LUWI	**Luwuk**	**15.48**	**185**	⇑P		**Pn**		**06 22 43.3**	**+1.9**
LUWI	**Luwuk**	**15.48**	**185**	P		**P**		**06 22 45.2**	**-0.4**
	comp=Z,2µm,1.2s,comp=Z,45µmcomp=Z,85µm								
SMKI	**Samarinda**	**16.30**	**205**	P		**P**		**06 22 56.9**	**+2.1**
	comp=Z,1µm,1.5s,comp=Z,57µmcomp=Z,158µm								
SANI	**Sanana**	**16.54**	**173**	P		**Pn**		**06 22 48.6**	**-6.4**
SANI	**Sanana**	**16.54**	**173**	⇑P		**Pn**		**06 22 49.8**	**-5.3**
SANI	**Sanana**	**16.54**	**173**	P		**Pn**		**06 22 52.6**	**-2.4**
	comp=Z,384nm,1.1s,comp=Z,7µmcomp=Z,21µm								
SBUM	**Sibu**	**16.71**	**225**			**P**		**06 22 58.5**	**-0.8**
SBUM	**Sibu**	**16.71**	**225**	⇑P		**Pn**		**06 22 58.0**	**+0.8**
SSE	**Sheshan**	**16.74**	**351**	P		**P**		**06 23 00.8**	**+1.3**
SSE				S		**Sn**		**06 26 05.7**	**+3.0**
SSE				pmax		pmax			
	comp=Z,3µm,4.9s								
SSE				LR		LR			
	comp=Z,9µm,18.4s								
SSE				LR		LR			
	comp=Z,7µm,18.4s								
GULI	**GuiLin**	**16.74**	**312**	⇓P		**P**		**06 22 58.5**	**-1.1**
GULI				pmax		pmax			
	comp=Z,560nm,1.3s								
GULI				LR		LR			
	comp=Z,62µm,18.4s								
GULI				LR		LR			
	comp=Z,49µm,18.4s								
GULI				LR		LR			
	comp=Z,78µm,15.7s								
SWI	**Sorong**	**16.84**	**154**	P		**P**		**06 23 00.5**	**-0.3**
	comp=Z,524nm,1.0s,comp=Z,13µmcomp=Z,26µm								
SWI	**Sorong**	**16.84**	**154**	P		**Pn**		**06 22 59.5**	**+0.7**
SWI				pmax		pmax			
	comp=Z,527nm,1.0s								
CNSH	**ChangSha**	**17.09**	**325**	⇓P		**P**		**06 23 03.0**	**-0.5**
CNSH				S		**Sn**		**06 26 14.1**	**+2.8**
CNSH				pmax		pmax			
	comp=Z,160nm,1.2s								
CNSH				LR		LR			
	comp=Z,47µm,20.8s								
CNSH				LR		LR			
	comp=Z,43µm,22.0s								
CNSH				LR		LR			
	comp=Z,52µm,16.9s								
BKB	**Balikpapan**	**17.17**	**205**	P		**Pn**		**06 23 02.6**	**-0.3**
BKB				IAmb		IAmb		06 23 08.4	
	comp=Z,2µm,1.6s								
MTKI	**Muara Teweh, K**	**17.80**	**211**	P		**P**		**06 23 12.9**	**+1.5**
	comp=Z,2µm,1.4s,comp=Z,82µmcomp=Z,122µm								
TTSI	**Tana Toraja**	**17.91**	**194**	P		**P**		**06 23 14.2**	**+1.6**
	comp=Z,1µm,1.0s,comp=Z,20µmcomp=Z,66µm								
UBPT	**Khong Chiam**	**17.96**	**275**	P		**P**		**06 23 13.3**	**+0.1**
UBPT	**Khong Chiam**	**17.96**	**275**	⇑P		**P**		**06 23 13.5**	**+0.3**
NJ2	**Nanjing**	**18.11**	**346**	⇑*iP*		**Pn**		**06 23 14.6**	**+0.1**
NJ2				pP		**pP**		**06 23 19.3**	**-1.9**
NJ2				sP		**sP**		**06 23 22.5**	**-1.5**
NJ2				PP		**PnPn**		**06 23 28.6**	**+2.6**
NJ2				S		**Sn**		**06 26 35.1**	**-0.9**
NJ2				pmax		pmax			
	comp=Z,50nm,0.7s								
NJ2				pmax		pmax			
	comp=Z,6µm,8.4s								
NJ2				LR		LR			
	comp=Z,23µm,14.9s								
NJ2				LR		LR			
	comp=Z,18µm,11.4s								
NJ2				LR		LR			
	comp=Z,26µm,18.1s								
WHN	**Wuhan**	**18.30**	**332**	⇑*iP*		**P**		**06 23 18.2**	**+1.5**
WHN				sP		**sP**		**06 23 25.7**	**-0.5**
WHN				S		**S**		**06 26 48.6**	**+3.8**
WHN				pmax		pmax			
	comp=Z,2µm,1.3s								
WHN				pmax		pmax			
	comp=Z,40µm,8.5s								
WHN				LR		LR			
	comp=Z,59µm,18.5s								
WHN				LR		LR			
	comp=Z,48µm,11.1s								
WHN				LR		LR			
	comp=Z,135µm,17.7s								
KSM	**Kuching**	**18.74**	**228**	P		**Pn**		**06 23 21.9**	**-0.4**
KSM				IAmb		IAmb		06 23 25.3	
	comp=Z,2µm,1.9s								
KSM	**Kuching**	**18.74**	**228**	⇑P		**P**		**06 23 21.4**	**-0.4**
FAKI	**Fak Fak**	**19.11**	**154**	P		**Pn**		**06 23 26.6**	**-0.2**
FAKI	**Fak Fak**	**

LYN pmax pmax
comp=Z,14µm,5.3s
LYN LR LR
comp=Z,25µm,16.8s
LYN LR LR
comp=Z,50µm,20.6s
LYN LR LR
comp=Z,50µm,20.3s
KMI Kunming 22.62 301 ⇑P **P** **06 24 04.9 +0.9**
KMI S **S** **06 28 11.1 +0.2**
KMI pmax pmax
comp=Z,410nm,1.3s
KMI pmax pmax
comp=Z,17µm,5.6s
KMI LR LR
comp=Z,36µm,15.2s
KMI LR LR
comp=Z,52µm,20.2s
KMI LR LR
comp=Z,73µm,17.3s
INCN Inchon 23.02 5 P **P** **06 24 09.3 +1.5**
INCN P **P** **06 24 09.3 +1.5**
INCN S **S** **06 28 15.7 -1.5**
INCN S **S** **06 28 15.7 -1.5**
MMRI Maumere 23.04 185 P **P** **06 24 09.1 +0.9**
MMRI Maumere 23.04 185 P **P** **06 24 08.3 +0.1**
MMRI Maumere 23.04 185 ⇑P **P** **06 24 07.0 -1.2**
MMRI Maumere 23.04 185 P **P** **06 24 08.9 +0.7**
comp=Z,886nm,1.6s,comp=Z,16µmcomp=Z,44µm
KSAR Wonju Array Be 23.12 8 P **P** **06 24 09.2 +0.4**
KSAR Wonju Array Be 23.12 8 P **P** **06 24 09.2 +0.4**
KSRS Korea Array 23.13 8 P **P** **06 24 09.8 +0.9**
comp=Z,26nm,0.7s,baz=190,slow=11,SNR=55
KSRS LR LR 06 32 59.8
comp=Z,22µm,19.6s,baz=195,slow=36
comp=Z,26nm,0.7s
PHRA Phrae 23.17 283 P **P** **06 24 08.2 -1.2**
KS19 Wonju Array Si 23.17 8 P **P** **06 24 08.8 -0.6**
EDFI Ende, Flores 23.20 186 P **P** **06 24 09.6 -0.3**
comp=Z,738nm,0.9s,comp=Z,17µmcomp=Z,46µm
CRAI Chiangrai 23.28 288 P **P** **06 24 10.0 -0.6**
GENI Genyem 23.31 135 P **P** **06 24 11.9 +1.0**
JHJ Hachijo jima 2 23.43 35 P **P** **06 24 12.8 +0.8**
comp=Z,94nm,0.7s,baz=68,slow=18,SNR=1.9
JHJ LR LR 06 32 39.1
comp=Z,62µm,18.0s,baz=232,slow=35
comp=Z,94nm,0.7s
JHJ2 Mitsune 23.44 35 IAMs_20 IAMs_20 06 31 22.7
comp=Z,63µm,20.0s
TPRI Tanjung Pinang 23.53 237 P **P** **06 24 13.6 +0.5**
comp=Z,320nm,0.8s,comp=Z,16µmcomp=Z,61µm
MYKOM **Kota Tinggi 23.60 240** P **P** **06 24 12.7 -1.0**
JAY Jayapura 23.62 134 P **P** **06 24 15.3 +1.3**
comp=Z,154nm,1.2s,comp=Z,8µmcomp=Z,17µm
XAN Xi'an 23.79 328 ⇑P **P** **06 24 15.2 -0.3**
XAN S **S** **06 28 28.4 -1.5**
XAN sS pS 06 28 36.7 -0.6
XAN pmax pmax
comp=Z,780nm,1.3s
XAN pmax pmax
comp=Z,16µm,8.2s
XAN LR LR
comp=Z,39µm,14.9s
XAN LR LR
comp=Z,38µm,14.9s
XAN LR LR
comp=Z,55µm,15.2s
JSG Sagara 23.81 30 P **P** **06 24 16.4 +0.7**
JSG IAmb IAmb 06 24 25.0
comp=Z,740nm,1.2s
PLAI Plampang 23.98 195 P **P** **06 24 17.6 +0.3**
comp=Z,2µm,1.0s,comp=Z,55µm
PZH PanZhiHua 24.02 303 P **P** **06 24 17.5 -0.3**
PZH sP **sP** **06 24 27.6 -0.1**
PZH PP pP 06 24 51.6 +27
PZH S **S** **06 28 34.3 +0.5**
PZH pmax pmax
comp=Z,250nm,1.1s
PZH pmax pmax
comp=Z,9µm,6.3s
PZH LR LR
comp=Z,36µm,17.4s
PZH LR LR
comp=Z,43µm,18.2s
PZH LR LR
comp=Z,69µm,21.9s
SRBI Singaraja 24.07 202 P **P** **06 24 17.9 -0.3**
comp=Z,1µm,1.2s,comp=Z,22µmcomp=Z,55µm
SOEI Soe 24.09 179 P **P** **06 24 16.6 -1.9**
SOEI Soe 24.09 179 P **P** **06 24 17.2 -1.3**
SOEI IAmb IAmb 06 24 39.6
comp=Z,532nm,0.8s
SOEI IAMs_20 IAMs_20 06 34 30.8
comp=Z,47µm,21.0s
SOEI Soe 24.09 179 P **P** **06 24 15.6 -2.8**
SOEI Soe 24.09 179 ⇑P **P** **06 24 16.1 -2.3**
SOEI Soe 24.09 179 P **P** **06 24 17.1 -1.4**
comp=Z,699nm,0.8s,comp=Z,11µmcomp=Z,33µm
TWSI Taliwang, Sumb 24.14 198 P **P** **06 24 18.1 -0.7**
comp=Z,536nm,1.3s,comp=Z,27µmcomp=Z,51µm
GRJI Gresik 24.16 209 P **P** **06 24 20.4 +1.4**
comp=Z,1µm,1.2s,comp=Z,34µmcomp=Z,71µm
ABJI Asem Bagus 24.18 204 P **P** **06 24 19.4 +0.2**
comp=Z,670nm,1.1s,comp=Z,23µmcomp=Z,61µm
JGF Kuroka 24.19 27 P **P** **06 24 19.1 -0.1**
JGF Kuroka 24.19 27 ⇓P **P** **06 24 19.1 -0.1**
PPBI Pangkal Pinang 24.25 228 P **P** **06 24 19.7 -0.2**
comp=Z,374nm,2.3s,comp=Z,18µmcomp=Z,55µm
HNS HongShan 24.28 342 ⇑P **P** **06 24 20.1 +0.2**
HNS S **S** **06 28 34.3 -3.2**
HNS SS **SnSn** **06 29 25.1 +3.9**
HNS pmax pmax
comp=Z,470nm,1.3s
HNS LR LR
comp=Z,25µm,13.7s
HNS LR LR
comp=Z,24µm,12.9s
DSRI Dabo 24.33 234 P **P** **06 24 20.1 -0.5**
comp=Z,332nm,0.9s,comp=Z,14µmcomp=Z,58µm
CM31 Chiang Mai Arr 24.38 283 P **P** **06 24 20.8 -0.3**
CM31 IAmb IAmb 06 24 32.2
comp=Z,459nm,0.8s
CM31 Chiang Mai Arr 24.38 283 P **P** **06 24 20.4 -0.6**
SNR=202
CM31 P **P** **06 24 20.4 -0.6**
SNR=202
CM31 P **P** **06 24 20.4 -0.6**
SNR=202
CM31 S **S** **06 28 38.0 -1.4**
CM31 S **S** **06 28 38.0 -1.4**
CM31 S **S** **06 28 38.0 -1.4**
CMAR Chiang Mai Arr 24.38 283 P **P** **06 24 20.3 -0.8**
CMAR Chiang Mai Arr 24.38 283 P **P** **06 24 20.3 -0.8**
comp=Z,163nm,0.7s,baz=93,slow=7.9,SNR=313
CMAR LR LR 06 34 17.2
comp=Z,57µm,18.9s,baz=100,slow=38
CMAR PKiKP **PKiKP** **06 35 42.8 0.0**
comp=Z,1.1nm,0.4s,baz=296,slow=0.9,SNR=4.3
comp=Z,163nm,0.7s
CMAR Chiang Mai Arr 24.38 283 *i* P **P** **06 24 20.2 -0.8**
CMAR pmax pmax
comp=Z,172nm,0.7s
BLJI Banyuglugur 24.40 206 P **P** **06 24 23.1 +1.9**
comp=Z,420nm,1.8s,comp=Z,15µmcomp=Z,59µm
CHTO Chiang Mai 24.41 284 IAMs_20 IAMs_20 06 34 21.2
comp=Z,60µm,20.0s
DL2 Dalian 24.42 355 ⇓P **P** **06 24 23.5 +2.3**
DL2 S **S** **06 28 45.4 +5.8**
DL2 pmax pmax
comp=Z,210nm,1.0s
DL2 pmax pmax
comp=Z,7µm,7.3s
DL2 LR LR
comp=Z,11µm,20.0s
DL2 LR LR
comp=Z,49µm,18.6s
DL2 LR LR
comp=Z,30µm,19.0s
UWJI Ujung Watu 24.50 213 P **P** **06 24 23.8 +1.7**
comp=Z,1µm,1.8s,comp=Z,25µmcomp=Z,47µm
BATI Baumata 24.54 181 P **P** **06 24 21.5 -1.0**
comp=Z,1µm,1.0s,comp=Z,16µmcomp=Z,27µm
SRIT Nakonsritamara 24.63 259 P **P** **06 24 21.2 -2.2**
SRIT IAmb IAmb 06 24 51.6
comp=Z,713nm,1.6s
IPM Ipoh 24.75 249 P **P** **06 24 22.9 -1.6**
IPM Ipoh 24.75 249 P **P** **06 24 22.2 -2.2**
IPM IAmb IAmb 06 24 24.9
comp=Z,1µm,1.8s
IPM Ipoh 24.75 249 ⇑P **P** **06 24 22.3 -2.2**
KULM Kulim 24.76 251 P **P** **06 24 22.9 -1.7**
KULM IAmb IAmb 06 24 25.6
comp=Z,672nm,1.7s
KULM IAMs_20 IAMs_20 06 35 09.6
comp=Z,43µm,19.0s
KULM Kulim 24.76 251 ⇑P **P** **06 24 22.9 -1.7**
CD2 Chengdu 24.77 315 P **P** **06 24 24.6 0.0**
CD2 pP pP 06 24 30.3 -1.2
CD2 sP sP 06 24 33.3 -1.2
CD2 S **S** **06 28 46.3 +0.6**
CD2 sS sS 06 28 55.7 -1.5
CD2 pmax pmax
comp=Z,730nm,0.9s
CD2 pmax pmax
comp=Z,12µm,7.2s
CD2 LR LR
comp=Z,60µm,15.1s
CD2 LR LR
comp=Z,52µm,14.5s
CD2 LR LR
comp=Z,59µm,15.9s
IGBI Denpasar 24.78 201 P **P** **06 24 26.0 +1.4**
comp=Z,510nm,1.3s,comp=Z,12µmcomp=Z,28µm
BASI Baing, Sumba 24.78 188 P **P** **06 24 23.8 -0.9**
comp=Z,700nm,1.2s,comp=Z,14µmcomp=Z,23µm
JAGI Jajag, Banyuwa 24.83 204 P **P** **06 24 24.6 -0.5**
JAGI Jajag, Banyuwa 24.83 204 P **P** **06 24 23.7 -1.4**
JAGI IAmb IAmb 06 24 26.9
comp=Z,573nm,1.2s
JAGI Jajag, Banyuwa 24.83 204 ⇑P **P** **06 24 22.8 -2.3**
JAGI Jajag, Banyuwa 24.83 204 P **P** **06 24 24.9 -0.2**
comp=Z,421nm,1.4s,comp=Z,14µmcomp=Z,47µm
NGJI Ngawi 25.04 211 P **P** **06 24 28.7 +1.7**
comp=Z,554nm,0.9s,comp=Z,20µmcomp=Z,92µm
SMRI Semarang 25.29 213 P **P** **06 24 29.1 -0.2**
SMRI Semarang 25.29 213 ⇑P **P** **06 24 29.0 -0.4**
SMRI Semarang 25.29 213 P **P** **06 24 30.2 +0.9**
comp=Z,822nm,0.8s,comp=Z,35µmcomp=Z,77µm
TIY Taiyuan 25.32 338 ⇑P **P** **06 24 30.0 +0.5**
TIY S **S** **06 28 53.1 -1.4**
TIY pmax pmax
comp=Z,300nm,1.3s
TIY pmax pmax
comp=Z,6µm,4.5s
TIY LR LR
comp=Z,11µm,12.7s
TIY LR LR
comp=Z,14µm,13.7s
TIY LR LR
comp=Z,9µm,12.2s
MAJO Matsushiro 25.35 27 P **P** **06 24 29.9 +0.2**
MAJO Matsushiro 25.35 27 P **P** **06 24 28.6 -1.1**
MAJO Matsushiro 25.35 27 IAMs_20 IAMs_20 06 32 26.2
comp=Z,43µm,21.0s
MAJO Matsushiro 25.35 27 ⇓P **P** **06 24 28.3 -1.5**
MAJO Matsushiro 25.35 27 P **P** **06 24 28.6 -1.1**
MAJO pmax pmax
comp=Z,335nm,1.6s
MAJO MLR MLR
comp=Z,43µm,21.0s
MJAR Matsushiro Arr 25.35 27 P **P** **06 24 28.8 -0.9**
comp=Z,46nm,1.1s,baz=194,slow=6.5,SNR=35
MJAR ScP **ScP** **06 31 41.0 +1.0**
comp=Z,4.6nm,1.1s,baz=217,slow=4.1,SNR=4.2
MJAR LR LR 06 33 47.5
comp=Z,31µm,18.7s,baz=212,slow=35
comp=Z,46nm,1.1s
MJB9 Matsu-Tunnel 25.36 27 P **P** **06 24 28.9 -0.9**
PWJI Pagerwoju 25.44 209 P **P** **06 24 29.7 -0.9**
comp=Z,346nm,1.2s,comp=Z,10µmcomp=Z,48µm
PMBI Palembang 25.76 229 P **P** **06 24 33.2 -0.4**
JMBI JAMBI 25.78 233 P **P** **06 24 37.3 +3.6**
comp=Z,506nm,1.1s,comp=Z,15µm
UGM Wanagama 25.98 212 P **P** **06 24 36.0 +0.4**
UGM Wanagama 25.98 212 P **P** **06 24 36.1 +0.4**
UGM Wanagama 25.98 212 P **P** **06 24 36.4 +0.8**
comp=Z,579nm,1.7s,comp=Z,15µmcomp=Z,51µm
TABU Tabubil 26.00 138 P **P** **06 24 36.7 +0.9**
YOGI Yogyakarta 26.02 212 P **P** **06 24 36.1 +0.2**
comp=Z,562nm,1.2s,comp=Z,10µmcomp=Z,24µm
TNCH TengChong 26.16 298 ⇑P **P** **06 24 37.1 -0.3**
TNCH sP pP 06 24 42.6 -1.7
TNCH S **S** **06 29 10.0 +1.9**
TNCH sS sS 06 29 20.2 +0.5
TNCH SS **SnSn** **06 30 09.1 +1.7**
TNCH pmax pmax
comp=Z,430nm,1.9s
TNCH pmax pmax
comp=Z,6µm,5.1s
TNCH LR LR
comp=Z,20µm,14.3s
TNCH LR LR
comp=Z,30µm,17.2s
TNCH LR LR
comp=Z,56µm,16.9s
KPJI Karang Pucung 26.35 216 P **P** **06 24 39.4 +0.5**
comp=Z,345nm,1.9s,comp=Z,16µm
BJT Baijiatuao 26.35 346 P **P** **06 24 40.6 +1.9**
BJT Baijiatuao 26.35 346 P **P** **06 24 39.0 +0.4**
BJT Baijiatuao 26.35 346 P **P** **06 24 39.1 +0.4**
BJT pmax pmax
comp=Z,214nm,0.9s
BJI Beijing 26.37 346 P **P** **06 24 39.2 +0.3**
BJI pP **pP** **06 24 42.1 -3.6**
BJI S **S** **06 29 12.7 +1.9**
BJI pmax pmax
comp=Z,20nm,1.0s
BJI pmax pmax
comp=Z,2µm,3.9s
BJI LR LR
comp=Z,6µm,20.4s
BJI LR LR
comp=Z,8µm,18.1s
BJI LR LR
comp=Z,6µm,22.7s
LEM Lembang 26.71 219 P **P** **06 24 41.2 -1.2**
comp=Z,48nm,0.7s,baz=61,slow=11,SNR=8.4
LEM LR LR 06 37 10.1
comp=Z,37µm,19.4s,baz=35,slow=41
comp=Z,48nm,0.7s
BKNI Bangkinang 26.74 240 P **P** **06 24 41.5 -1.0**
BKNI IAmb IAmb 06 25 20.5
comp=Z,385nm,1.0s
BKNI Bangkinang 26.74 240 P **P** **06 24 39.1 -3.4**
BKNI Bangkinang 26.74 240 P P 06 24 52.3 +10
CBJI Citeko 26.87 221 P **P** **06 24 50.2 +6.6**
CMJI Cimerak 26.99 216 P **P** **06 24 50.8 +6.1**
SBJI Serang 27.10 222 P P 06 24 58.1 +12
BBJI Bungbulang 27.20 218 P **P** **06 24 45.4 -1.2**
SNY Shenyang 27.25 359 ⇑P **P** **06 24 50.2 +3.5**
SNY S **S** **06 29 29.7 +5.2**
SNY pmax pmax
comp=Z,86nm,1.4s
SNY pmax pmax
comp=Z,2µm,4.9s
SNY LR LR
comp=Z,22µm,18.3s
SNY LR LR
comp=Z,16µm,16.1s
SNY LR LR
comp=Z,35µm,17.6s
CNJI Cibinong 27.39 219 P **P** **06 24 53.1 +4.8**
comp=Z,170nm,1.9s,comp=Z,4µmcomp=Z,15µm
JMM Marumori 27.63 29 P **P** **06 24 51.6 +1.4**
JMM Marumori 27.63 29 P **P** **06 24 49.1 -1.0**
JMM Marumori 27.63 29 ⇑P **P** **06 24 51.2 +1.0**
LWLI Liwa 27.71 227 P **P** **06 24 50.8 -0.5**
comp=Z,1µm,1.1s,comp=Z,14µmcomp=Z,42µm
KASI Kota Agung 27.76 226 P **P** **06 24 51.6 0.0**
comp=Z,159nm,1.4s,comp=Z,5µmcomp=Z,36µm
PDSI Padang 27.90 239 P **P** **06 24 54.2 +1.2**
comp=Z,107nm,0.8s,comp=Z,6µmcomp=Z,40µm
MTN Manton Dam 28.05 165 P **P** **06 24 53.4 -0.7**
MTN Manton Dam 28.05 165 P **P** **06 24 52.8 -1.3**
MTN IAmb IAmb 06 24 55.5
comp=Z,553nm,1.5s
MTN Manton Dam 28.05 165 ⇑P **P** **06 24 52.4 -1.8**
KCSI Kotacane, Aceh 28.10 250 P **P** **06 24 54.3 -0.4**
LZH Lanzhou 28.10 324 ⇑P **P** **06 24 55.7 +1.0**
LZH sP sP 06 25 05.9 +1.3
LZH PcP **PcP** **06 28 11.1 +2.3**
LZH S **S** **06 29 36.7 -1.8**
LZH pmax pmax
comp=Z,450nm,1.3s
LZH pmax pmax
comp=Z,5µm,4.1s
LZH LR LR
comp=Z,50µm,13.4s
LZH LR LR
comp=Z,27µm,15.5s
LZH LR LR
comp=Z,41µm,15.6s
LHMI Lhok Sumawe 28.20 254 P P 06 25 07.1 +12
KDU Kakadu 28.26 162 P **P** **06 24 54.7 -1.3**
KDU Kakadu 28.26 162 ⇑P **P** **06 24 54.3 -1.8**
MANU Manus Island 28.35 124 P **P** **06 24 57.1 +0.2**
HHC Hu-ho-hao-te 28.43 340 *eP* **P** **06 24 58.2 +0.7**
HHC sP sP 06 25 06.7 -0.4
HHC S **S** **06 29 42.9 -0.6**
HHC sS sS 06 29 58.2 +3.3
HHC pmax pmax
comp=Z,270nm,1.0s
HHC pmax pmax
comp=Z,4µm,7.3s
HHC LR LR
comp=Z,16µm,15.3s
HHC LR LR
comp=Z,14µm,14.5s
HHC LR LR
comp=Z,12µm,15.3s
MSHR Mys Shultsa 28.66 11 *i* P **P** **06 25 01.9 +2.6**
MSHR pmax pmax
comp=Z,39nm,0.9s
MSHR MLR MLR
comp=Z,9µm,19.0s
PSTR Posyet 28.67 10 *i* P **P** **06 25 01.9 +2.5**
BTO Baotou 28.76 337 *eP* **P** **06 25 02.3 +1.9**
BTO pP **pP** **06 25 08.3 +0.9**
BTO sP **sP** **06 25 11.3 +1.3**
BTO PP **PnPn** **06 25 56.2 +4.7**
BTO S **S** **06 29 52.0 +3.4**
BTO sS **sS** **06 30 01.0 +1.0**
BTO pmax pmax
comp=Z,58nm,0.9s
BTO pmax pmax
comp=Z,10µm,7.9s
BTO LR LR
comp=Z,48µm,19.5s
BTO LR LR
comp=Z,66µm,18.3s
BTO LR LR
comp=Z,27µm,21.0s
MLSI Meulaboh, Aceh 29.05 252 P **P** **06 25 03.7 +0.5**
comp=Z,75nm,0.8s,comp=Z,2µm
LKP Lekhapani 29.19 300 *eP* P 06 24 58.8 -5.5
LKP IAMs_20 IAMs_20 06 37 13.1
comp=Z,43µm,21.1s
CN2 Changchun 29.24 2 *eP* **P** **06 25 06.1 +1.6**
CN2 *eS* **S** **06 29 57.7 +1.8**
CN2 *es*S sS 06 30 07.6 +0.4
CN2 *eS*S ScP 06 31 29.9 -22
CN2 pmax pmax
comp=Z,40nm,1.8s
CN2 pmax pmax
comp=Z,2µm,5.0s
CN2 LR LR
comp=Z,6µm,15.0s
CN2 LR LR
comp=Z,9µm,15.0s
CN2 LR LR
comp=Z,6µm,17.0s
GSI Gunungsitoli 29.25 246 P **P** **06 25 01.9 -3.0**
GSI IAmb IAmb 06 25 32.5
comp=Z,239nm,1.0s
GSI IAMs_20 IAMs_20 06 36 31.1
comp=Z,48µm,21.0s
GSI Gunungsitoli 29.25 246 ⇑P **P** **06 25 02.0 -2.9**
GSI Gunungsitoli 29.25 246 P **P** **06 25 03.5 -1.4**
comp=Z,254nm,1.2s,comp=Z,7µmcomp=Z,38µm
SISI Saibi 29.27 240 P **P** **06 25 08.1 +3.0**
comp=Z,206nm,1.3s,comp=Z,8µmcomp=Z,36µm
VLA Vladivostok 29.32 12 *i* P **P** **06 25 07.9 +2.7**
VLA pmax pmax
comp=Z,39nm,1.0s
VLA MLR MLR
comp=Z,14µm,18.1s
MOKO MOKOCHONG 29.99 298 *eP* **P** **06 25 10.2 -1.3**
MOKO IAmb IAmb 06 25 29.9
comp=Z,286nm,1.2s
MOKO IAMs_20 IAMs_20 06 36 49.5
comp=Z,28µm,21.9s
DIBR DIBRUGARH 30.02 300 *eP* **P** **06 25 09.7 -1.9**
DIBR IAMs_20 IAMs_20 06 38 03.8
comp=Z,29µm,17.0s
IMP Imphal 30.08 295 *eP* **P** **06 25 10.5 -1.8**
IMP IAmb IAmb 06 25 15.1
comp=Z,181nm,1.2s
IMP IAMs_20 IAMs_20 06 38 30.5
comp=Z,77µm,20.3s
XLT XiLinHaoTe 30.09 348 *eP* **P** **06 25 12.8 +0.6**
XLT sP pP 06 25 20.4 +1.4
XLT S **S** **06 30 11.7 +2.2**
XLT PcS **PcS** **06 31 55.9 -1.1**
XLT pmax pmax
comp=Z,130nm,1.2s
XLT pmax pmax
comp=Z,3µm,3.9s
XLT LR LR
comp=Z,16µm,17.2s
XLT LR LR
comp=Z,13µm,16.6s
JTM Tenmabayashi 30.12 26 IAMs_20 IAMs_20 06 35 31.0
comp=Z,49µm,22.0s
KOHI KOHIMA 30.17 296 *eP* **P** **06 25 13.1 -0.1**
KOHI IAmb IAmb 06 25 23.6
comp=Z,654nm,1.4s
KOHI IAMs_20 IAMs_20 06 38 15.3
comp=Z,68µm,17.7s
KNRA Kununurra 30.33 171 P **P** **06 25 14.3 -0.1**
KNRA Kununurra 30.33 171 P **P** **06 25 14.2 -0.2**
KNRA IAmb IAmb 06 25 16.0
comp=Z,287nm,1.5s
JORH JORHAT 30.34 298 *eP* **P** **06 25 10.7 -3.8**
JORH IAMs_20 IAMs_20 06 37 46.4
comp=Z,19µm,20.3s
USA0B Ussuriysk Arra 30.38 11 P **P** **06 25 15.1 +0.5**
USA0B Ussuriysk Arra 30.38 11 *i* P **P** **06 25 16.9 +2.3**
USRK Ussuriysk Ar. 30.38 11 P **P** **06 25 14.3 -0.3**
USRK Ussuriysk Ar. 30.38 11 P **P** **06 25 15.1 +0.5**
comp=Z,45nm,0.8s,baz=183,slow=6.3,SNR=75
USRK LR LR 06 39 12.0
comp=Z,11µm,18.1s,baz=192,slow=40
comp=Z,45nm,0.8s
MDJ Mudanjiang 30.40 8 P **P** **06 25 16.2 +1.4**
MDJ S **S** **06 30 15.7 +1.6**
MDJ pmax pmax
comp=Z,59nm,2.3s
MDJ pmax pmax
comp=Z,3µm,9.0s
MDJ LR LR
comp=Z,18µm,24.0s
MDJ LR LR
comp=Z,13µm,17.2s
MDJ LR LR
comp=Z,35µm,23.7s
MDJ Mudanjiang 30.40 8 P **P** **06 25 16.0 +1.3**
ITAN ITANAGAR 30.92 299 *eP* **P** **06 25 20.4 +0.9**
ITAN IAMs_20 IAMs_20 06 38 43.0
comp=Z,26µm,21.8s
AZL Aizawl 30.95 292 *eP* **P** **06 25 19.0 -1.1**
AZL IAmb IAmb 06 25 22.6
comp=Z,197nm,0.8s
AZL IAMs_20 IAMs_20 06 39 46.3
comp=Z,74µm,17.8s
SILR SILCHAR 31.08 294 *eP* **P** **06 25 21.5 +0.5**
SILR IAMs_20 IAMs_20 06 39 34.0
comp=Z,86µm,18.3s
BNX BinXian 31.28 5 ⇑P **P** **06 25 22.8 +0.3**
BNX pP **pP** **06 25 25.7 -3.7**
BNX S **S** **06 30 30.5 +2.6**
BNX pmax pmax
comp=Z,85nm,1.2s
BNX pmax pmax
comp=Z,800nm,4.3s
BNX LR LR
comp=Z,9µm,16.8s
BNX LR LR

comp=Z,16µm,16.3s
BNX LR LR
comp=Z,14µm,15.2s
ERM Erimo 32.03 27 IAMs_20 IAMs_20 06 38 05.7
comp=Z,45µm,20.0s
ERM Erimo 32.03 27 *i* P **P** **06 25 31.9 +2.7**
ERM pmax pmax
comp=Z,45nm,1.1s
ERM MLR MLR
comp=Z,43µm,19.0s
SHL Shillong 32.07 295 P **P** **06 25 28.4 -1.5**
SHL Shillong 32.07 295 *eP* **P** **06 25 29.3 -0.7**
SHL IAmb IAmb 06 25 33.9
comp=Z,486nm,1.3s
SHL Shillong 32.07 295 P **P** **06 25 29.2 -0.7**
SNR=152
SHL Shillong 32.07 295 P **P** **06 25 28.5 -1.5**
SHL pmax pmax
comp=Z,810nm,1.4s
TEY Ternei 32.26 17⇑ *eP* **P** **06 25 31.6 +0.5**
TEY *e* 06 26 46.5
TEY pmax pmax
comp=N,30nm,1.8s
TEY pmax pmax
comp=E,20nm,1.8s
PASG PASIGHAT 32.64 299 *eP* P 06 25 10.1 -25
PASG IAmb IAmb 06 25 24.2
comp=Z,520nm,0.9s
PASG IAMs_20 IAMs_20 06 37 56.3
comp=Z,83µm,19.0s
GTA Gaotai 32.70 324 ⇑P **P** **06 25 35.8 +0.5**
GTA pP sP 06 25 45.9 +0.7
GTA sP pP 06 25 51.2 +8.9
GTA PcP **PcP** **06 28 23.2 +2.5**
GTA S **S** **06 30 51.2 +0.7**
GTA sS sS 06 31 04.2 +2.1
GTA ScP **ScP** **06 32 03.7 +0.3**
GTA pmax pmax
comp=Z,160nm,1.2s
GTA pmax pmax
comp=Z,4µm,5.1s
GTA LR LR
comp=Z,16µm,16.4s
GTA LR LR
comp=Z,15µm,16.4s
GTA LR LR
comp=Z,25µm,16.4s
PMG Port Moresby 33.01 135 P **P** **06 25 38.9 +0.9**
comp=Z,8.0nm,0.5s,baz=4.5,slow=7.6,SNR=5.3
comp=Z,8.0nm,0.5s
KRVT Keravat (AS076 33.45 122 LR LR 06 36 50.0
comp=Z,6µm,20.7s,baz=282,slow=32
RABL Rabaul 33.50 122 P **P** **06 25 44.1 +1.8**
RABL IAmb IAmb 06 25 46.1
comp=Z,431nm,1.4s
ASAJ Asahikawa 33.51 25 P **P** **06 25 42.3 +0.3**
comp=Z,41nm,1.1s,baz=230,slow=15,SNR=8.6
ASAJ LR LR 06 39 33.2
comp=Z,25µm,19.2s,baz=206,slow=37
comp=Z,41nm,1.1s
JKA Kamikawa-asahi 33.51 25 P **P** **06 25 42.0 0.0**
JKA IAmb IAmb 06 25 46.0
comp=Z,248nm,1.7s
LSA Lhasa 33.88 302 P **P** **06 25 46.9 +0.9**
LSA LR LR
comp=Z,12µm,17.7s
LSA LR LR
comp=Z,16µm,18.1s
LSA LR LR
comp=Z,25µm,16.7s
LSA Lhasa 33.88 302 P **P** **06 25 45.9 -0.2**
LSA IAmb IAmb 06 25 59.1
comp=Z,140nm,1.0s
LSA Lhasa 33.88 302 P **P** **06 25 46.5 +0.4**
LSA Lhasa 33.88 302 P **P** **06 25 46.6 +0.5**
LSA P **P** **06 25 46.6 +0.5**
LSA Lhasa 33.88 302 P **P** **06 25 45.9 -0.2**
LSA pmax pmax
comp=Z,140nm,1.0s
LSA MLR MLR
comp=Z,41µm,19.0s
GOMU GeErMu 33.91 315 P **P** **06 25 47.3 +1.2**
GOMU pP pP 06 25 53.4 +0.2
GOMU sP sP 06 25 58.0 +1.9
GOMU S **S** **06 31 12.9 +3.1**
GOMU pmax pmax
comp=Z,310nm,1.1s
GOMU LR LR
comp=Z,49µm,15.3s
GOMU LR LR
comp=Z,53µm,16.5s
GOMU LR LR
comp=Z,104µm,16.6s
COEN Coen 34.02 145 P **P** **06 25 46.0 -0.8**
COEN Coen 34.02 145 P **P** **06 25 46.6 -0.2**
COEN IAmb IAmb 06 25 57.9
comp=Z,329nm,1.5s
COEN Coen 34.02 145 ⇑P **P** **06 25 46.7 -0.2**
PATS Pohnpei 34.50 99 P **P** **06 25 52.1 +1.1**
YUK Yuzh-Kuril'sk 34.84 28 *eP* P 06 25 58.6 +5.0
YUK *e* 06 27 13.8
YUK *eS* **S** **06 31 20.7 -2.5**
YUK pmax pmax
comp=Z,603nm,1.2s
HIA Hailar 34.86 355 P **P** **06 25 54.4 +0.6**
HIA Hailar 34.86 355*c i* P **P** **06 25 54.1 +0.3**
HIA pmax pmax
comp=Z,73nm,1.2s
HIA MLR MLR
comp=Z,24µm,16.0s
KLR Kul'dur 35.22 9 P **P** **06 25 56.9 +0.1**
comp=Z,30nm,0.8s,baz=204,slow=5.5,SNR=84
KLR LR LR 06 41 21.5
comp=Z,9µm,19.0s,baz=192,slow=38
comp=Z,30nm,0.8s
KLR Kul'dur 35.22 9 *eP* **P** **06 25 57.2 +0.4**
KLR pmax pmax
comp=Z,43nm,0.8s
GTK Tadong 35.35 297 *eP* **P** **06 25 58.8 +0.4**
GTK IAmb IAmb 06 26 00.8
GTK IAMs_20 IAMs_20 06 41 05.7
comp=Z,282nm,1.0s
comp=Z,16µm,18.2s
MBWA Marble Bar 35.67 187 P **P** **06 25 59.4 -1.6**
MBWA Marble Bar 35.67 187 P **P** **06 26 00.2 -0.8**
MBWA IAmb IAmb 06 26 03.2
comp=Z,141nm,1.0s
MBWA Marble Bar 35.67 187 ⇑P **P** **06 25 59.6 -1.4**
MBWA Marble Bar 35.67 187 P **P** **06 25 59.4 -1.6**
MBWA P **P** **06 25 59.4 -1.6**
MBWA P **P** **06 25 59.4 -1.6**
MBWA S **S** **06 31 33.8 -2.6**
MBWA S **S** **06 31 33.8 -2.6**
MBWA S **S** **06 31 33.8 -2.6**
WRAB Tennant Creek 35.68 163*c i* P **P** **06 25 57.8 -3.3**
WRAB pmax pmax
comp=Z,220nm,1.0s
WRAB MLR MLR
comp=Z,11µm,18.0s
WRA Warramunga Arr 35.68 163 P **P** **06 26 00.2 -0.9**
comp=Z,477nm,1.3s,baz=342,slow=9.0,SNR=104
WRA LR LR 06 41 50.8
comp=Z,12µm,19.7s,baz=342,slow=38
comp=Z,477nm,1.3s
HEH HeiHe 35.78 4 *eP* **P** **06 26 02.2 +0.6**
HEH pP **pP** **06 26 04.7 -3.8**
HEH PP **PP** **06 27 24.2 +1.1**
HEH S **S** **06 31 38.4 +1.0**
HEH pmax pmax
comp=Z,99nm,1.1s
HEH LR LR
comp=Z,11µm,16.2s
HEH LR LR
comp=Z,46µm,19.0s
HEH LR LR
comp=Z,23µm,17.4s
YSS Yuzh-Sakhalins 35.95 22 P **P** **06 26 01.9 -1.2**
YSS Yuzh-Sakhalins 35.95 22 *eP* **P** **06 26 03.0 -0.1**
YSS *e**SP **sP** **06 26 14.3 +1.3**
YSS *e* 06 27 27.1
YSS *eS* **S** **06 31 37.6 -2.6**
YSS pmax pmax
comp=Z,90nm,1.0s
YSS pmax pmax
comp=Z,1µm,6.0s
YSS pmax pmax
comp=N,500nm,5.8s
YSS pmax pmax
comp=N,1µm,8.1s
YSS smax smax
comp=N,3µm,9.2s
PSA00 Pilbara Seismi 36.07 187 P **P** **06 26 03.0 -1.4**
PSA00 Pilbara Seismi 36.07 187 P **P** **06 26 03.4 -1.0**
PSA00 IAmb IAmb 06 26 07.4
comp=Z,431nm,1.4s
ULN Ulaanbaatar 36.14 341 P **P** **06 26 04.8 -0.2**
ULN Ulaanbaatar 36.14 341 ⇑P **P** **06 26 05.9 +0.9**
ULN Ulaanbaatar 36.14 341 P **P** **06 26 05.9 +0.9**
ULN P **P** **06 26 05.9 +0.9**
ULN P **P** **06 26 05.9 +0.9**
ULN S **S** **06 31 42.3 -1.1**
ULN S **S** **06 31 42.3 -1.1**
ULN S **S** **06 31 42.3 -1.1**
ULN Ulaanbaatar 36.14 341*c i* P **P** **06 26 05.7 +0.7**
ULN pmax pmax
comp=Z,547nm,1.3s
ULN MLR MLR
comp=Z,14µm,17.0s
SONM Songino Array 36.33 340 P **P** **06 26 06.6 0.0**
SONM Songino Array 36.33 340 P **P** **06 26 07.3 +0.7**
comp=Z,328nm,0.9s,baz=157,slow=9.7,SNR=135
SONM LR LR 06 43 29.1
comp=Z,20µm,18.0s,baz=154,slow=40
comp=Z,328nm,0.9s
SONM Songino Array 36.33 340 P **P** **06 26 06.6 0.0**
SONM pmax pmax
comp=Z,388nm,1.0s
KUR Kuril'sk 36.68 29 *eP* **P** **06 26 11.7 +2.3**
KUR *eS* **S** **06 31 52.8 +1.4**
KUR 06 36 26.7
KUR pmax pmax
comp=Z,588nm,1.6s
KUR pmax pmax
comp=Z,3µm,5.1s
BOK Bokaro 37.11 290 *eP* **P** **06 26 13.6 +0.2**
BOK IAmb IAmb 06 26 25.7
comp=Z,598nm,1.5s
UGL Uglegorsk 37.54 20 *eP* **P** **06 26 19.3 +2.7**
UGL *eS* **S** **06 32 00.3 -4.1**
UGL *eSS* **SnSn** **06 34 36.6 -6.7**
UGL pmax pmax
comp=Z,200nm,0.9s
UGL pmax pmax
comp=Z,3µm,4.0s
UGL smax smax
comp=E,6µm,6.3s
UGL smax smax
comp=N,5µm,7.8s
UGL MLR MLR
comp=N,17µm,16.0s
GRNR Gornyy 37.55 13⇑ *iP* **P** **06 26 18.3 +1.5**
GRNR pmax pmax
comp=Z,30nm,0.9s
COCO West Island 37.80 227 P **P** **06 26 18.3 -0.9**
COCO West Island 37.80 227 P **P** **06 26 16.5 -2.7**
COCO IAmb IAmb 06 26 33.0
comp=Z,407nm,1.4s
COCO West Island 37.80 227 P **P** **06 26 17.3 -1.9**
COCO P **P** **06 26 17.3 -1.9**
COCO West Island 37.80 227 P **P** **06 26 16.5 -2.7**
COCO pmax pmax
comp=Z,407nm,1.5s
QIS Mount Isa 38.04 156 P **P** **06 26 20.0 -1.2**
MTSU Mount Surprise 38.09 148 P **P** **06 26 22.3 +0.7**
GIRL Giralia 38.13 195 P **P** **06 26 21.6 -0.3**
GIRL Giralia 38.13 195 P **P** **06 26 20.9 -1.0**
GIRL Giralia 38.13 195 ⇑P **P** **06 26 21.5 -0.3**
CIT Chita 38.37 350 *eP* **P** **06 26 24.1 +0.4**
CIT *e* 06 26 32.4
CIT *e* 06 26 42.1
CIT *e* 06 27 51.7
CIT *e* 06 28 33.5
CIT *eS* **S** **06 32 15.6 -1.4**
CIT *e* 06 36 32.8
CIT pmax pmax
comp=Z,728nm,3.1s
AS31 Alice Springs 39.13 166 P **P** **06 26 29.4 -1.0**
ASAR Alice Springs 39.13 166 P **P** **06 26 29.9 -0.4**
comp=Z,189nm,0.9s,baz=342,slow=6.4,SNR=265
ASAR LR LR 06 44 36.1
comp=Z,9µm,20.1s,baz=344,slow=39
comp=Z,189nm,0.9s
VIS Vishakhapatnam 39.19 280 *eP* **P** **06 26 30.4 -0.6**
VIS IAmb IAmb 06 26 34.4
comp=Z,142nm,0.8s
ZEA Zeya 39.24 3 *eP* **P** **06 26 32.6 +1.7**
ZEA *eS* **S** **06 32 30.0 0.0**
ZEA pmax pmax
comp=N,800nm,6.4s
ZEA pmax pmax
comp=Z,1µm,6.0s
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=Z,50nm,1.2s
ZEA MLR MLR
comp=N,8µm,14.0s
ZEA MLR MLR
comp=Z,10µm,16.0s
TYV Tymovskoe 39.29 19 *eP* **P** **06 26 32.1 +0.8**
TYV *eS* **S** **06 32 33.1 +2.4**
TYV pmax pmax
comp=Z,71nm,1.5s
TYV pmax pmax
comp=Z,2µm,4.2s
TYV smax smax
comp=N,20nm,2.7s
TYV smax smax
comp=N,2µm,7.9s
TYV smax smax
comp=E,4µm,7.9s
WRKA Warakurna 39.50 174 P **P** **06 26 31.7 -1.7**
WRKA Warakurna 39.50 174 ⇑P **P** **06 26 30.6 -2.8**
ZAK Zakamensk 39.57 339 *eP* **P** **06 26 33.5 -0.3**
ZAK pmax pmax
comp=Z,119nm,2.0s
TV1H Townsville Har 40.33 146 P **P** **06 26 42.1 +1.8**
CTAO Charters Tower 40.72 147 P **P** **06 26 43.8 +0.2**
CTAO Charters Tower 40.72 147 P **P** **06 26 43.5 -0.1**
CTAO Charters Tower 40.72 147 IAMs_20 IAMs_20 06 42 57.5
comp=Z,23µm,22.0s
CTAO Charters Tower 40.72 147 ⇑P **P** **06 26 44.0 +0.5**
CTAO Charters Tower 40.72 147 P **P** **06 26 43.5 -0.1**
CTAO pmax pmax
comp=Z,232nm,1.3s
CTAO MLR MLR
comp=Z,23µm,22.0s
IRK Irkutsk 40.84 341 *eP* **P** **06 26 46.0 +1.8**
IRK *eS* **S** **06 32 46.5 -7.5**
IRK pmax pmax
comp=Z,575nm,2.7s
H11S3 WAKE ISLAND Hy 41.02 78 T T 07 10 35.7
baz=271,slow=75
H11S1 WAKE ISLAND Hy 41.03 78 T T 07 10 33.6
baz=271,slow=75,SNR=6404
H11S2 WAKE ISLAND Hy 41.04 78 T T 07 10 37.7
baz=271,slow=75
H11N1 WAKE ISLAND Hy 41.21 77 T T 07 10 53.8
baz=266,slow=74,SNR=5344
H11N2 WAKE ISLAND Hy 41.22 77 T T 07 10 49.1
baz=266,slow=74,SNR=4908
MEEK Meekatharra 41.22 187 P **P** **06 26 45.6 -2.0**
H11N3 WAKE ISLAND Hy 41.23 77 T T 07 10 55.1
baz=266,slow=74,SNR=5790
MOY Mondy 41.44 338 *eP* **P** **06 26 50.1 +0.8**
MOY pmax pmax
comp=Z,731nm,2.9s
MDRS Chennai 42.51 274 *eP* **P** **06 26 58.8 +0.4**
MDRS IAmb IAmb 06 27 02.4
comp=Z,313nm,1.4s
WMQ Urumqi 42.59 321 P **P** **06 27 01.2 +2.5**
WMQ sP sP 06 27 09.8 +1.0
WMQ PcP **PcP** **06 28 51.0 +0.2**
WMQ PcS **PcS** **06 32 42.1 -0.8**
WMQ S **S** **06 33 20.3 +0.1**
WMQ pmax pmax
comp=Z,91nm,1.7s
WMQ pmax pmax
comp=Z,4µm,6.3s
WMQ LR LR
comp=Z,19µm,15.5s
WMQ LR LR
comp=Z,31µm,17.9s
WMQ LR LR
comp=Z,15µm,15.5s
MALK Mahakanadarawa 43.00 267 P **P** **06 26 59.3 -3.1**
MALK Mahakanadarawa 43.00 267 ⇑P **P** **06 27 01.8 -0.6**
PALK Pallekele 43.10 265 P **P** **06 27 01.9 -1.3**
PALK Pallekele 43.10 265 ⇑P **P** **06 27 02.3 -0.9**
PALK Pallekele 43.10 265 LR LR 06 45 04.3
comp=Z,33µm,18.6s,baz=176,slow=36
PALK Pallekele 43.10 265 P **P** **06 27 02.6 -0.7**
PALK P **P** **06 27 02.6 -0.7**
PALK P **P** **06 27 02.6 -0.7**
PALK S **S** **06 33 28.2 -0.2**
PALK S **S** **06 33 28.2 -0.2**
PALK S **S** **06 33 28.2 -0.2**
PALK Pallekele 43.10 265 P **P** **06 27 03.7 +0.5**
HALK Hakmana 43.40 264 ⇑P **P** **06 27 04.9 -0.7**
OOD Oodnadatta 43.52 165 P **P** **06 27 05.7 -0.6**
HYB Hyderabad 43.75 280⇑ *eP* **P** **06 27 08.1 -0.4**
HYB *e*PP **PP** **06 28 51.2 +0.6**
HYB *e*ScP **ScP** **06 32 45.6 0.0**
HYB *e*PcS **PcS** **06 32 47.8 -0.5**
HYB *e*S **S** **06 33 38.2 +0.3**
HYB *e*ScS **ScS** **06 37 06.3 -0.8**
HYB IVMs_BB IVMs_BB 06 48 26.7
comp=Z,7µm,16.5s
BOD Bodaibo 43.91 352 *eP* **P** **06 27 10.1 +1.0**
BOD pmax pmax
comp=Z,117nm,1.6s
MORW Morawa 43.98 190 P **P** **06 27 08.1 -1.9**
MORW Morawa 43.98 190 P **P** **06 27 08.4 -1.6**
MORW Morawa 43.98 190 ⇑P **P** **06 27 08.2 -1.8**
SKR Severo-Kuril's 44.45 29 *eP* **P** **06 27 15.4 +1.9**
SKR *e* 06 28 57.2
SKR *e*PPP PPP 06 29 40.7
SKR *eS* **S** **06 33 42.4 -4.6**
SKR pmax pmax
comp=Z,166nm,1.0s
SKR pmax pmax
comp=Z,2µm,4.1s
SKR MLR MLR
comp=Z,12µm,17.0s
BHPL Bhopal 44.80 288 *eP* **P** **06 27 16.1 -0.7**
BHPL IAmb IAmb 06 27 19.6
comp=Z,174nm,1.1s
INKA Innaminka 44.99 159 P **P** **06 27 18.2 +0.1**
DDI Dehra Dun 45.02 298 *eP* **P** **06 27 18.6 +0.1**
DDI IAmb IAmb 06 27 21.8
comp=Z,1µm,1.2s
FORT Forrest 45.17 175 P **P** **06 27 18.5 -0.9**
FORT Forrest 45.17 175 P **P** **06 27 18.0 -1.4**
FORT IAmb IAmb 06 27 21.4
comp=Z,183nm,0.8s
FORT Forrest 45.17 175 ⇑P **P** **06 27 17.8 -1.7**
QLP Quilpie 45.30 154 P **P** **06 27 20.4 -0.2**
QLP Quilpie 45.30 154 ⇑P **P** **06 27 20.0 -0.5**
BLDU Balildu 45.39 189 P **P** **06 27 19.5 -1.7**
MULG Mulgathing 45.54 168 P **P** **06 27 20.9 -1.5**
KMBL Kambalda 45.64 183 P **P** **06 27 21.5 -1.7**
RK1H Rockhampton Ha 45.68 145 P **P** **06 27 24.7 +1.1**
SMLA Simla 45.91 299 *eP* **P** **06 27 25.2 -0.2**
SMLA IAmb IAmb 06 27 29.0
comp=Z,1µm,1.5s
ZSN Zaisan 46.19 324 *eP* **P** **06 27 27.5 0.0**
comp=Z,129nm,1.5s,baz=324
ZSN *eS* **S** **06 34 13.2 +0.7**
baz=324
ZSN Zaisan 46.19 324 *eP* **P** **06 27 27.4 0.0**
ZSN *eS* **S** **06 34 13.2 +0.7**
ZSN pmax pmax
comp=Z,129nm,1.5s
KLBR Kellerberrin 46.21 187 P **P** **06 27 25.8 -1.9**
LCRK Leigh Creek 46.71 163 P **P** **06 27 31.1 -0.5**
MUN Mundaring 46.81 189 P **P** **06 27 31.3 -1.0**
PEA0B Petropavlovsk- 46.81 27 P **P** **06 27 33.7 +1.5**
PEA0B Petropavlovsk- 46.81 27*ce*P **P** **06 27 32.3 +0.1**
PETK Petropavlovsk- 46.81 27 P **P** **06 27 32.6 +0.4**
PETK Petropavlovsk- 46.81 27 P **P** **06 27 33.2 +1.0**
comp=Z,92nm,0.8s,baz=214,slow=5.0,SNR=37
PETK LR LR 06 47 21.3
comp=Z,11µm,19.4s,baz=219,slow=36
comp=Z,92nm,0.8s
PET Petropavlovsk 47.19 28 P **P** **06 27 36.0 +1.0**
PET Petropavlovsk 47.19 28 P **P** **06 27 35.8 +0.7**
PET IAMs_20 IAMs_20 06 45 14.0
comp=Z,21µm,22.0s
PET Petropavlovsk 47.19 28 ⇑P **P** **06 27 35.8 +0.7**
PET Petropavlovsk 47.19 28 *eP* **P** **06 27 35.2 +0.1**
PET *e**SP **pP** **06 27 42.4 +0.1**
PET *eS* **S** **06 34 28.1 +1.7**
PET pmax pmax
comp=Z,247nm,1.2s
PET pmax pmax
comp=Z,2µm,11.0s
PET MLR MLR
comp=Z,10µm,18.0s
PET Petropavlovsk 47.19 28 P **P** **06 27 36.1 +1.0**
comp=Z,270nm,1.8s,comp=Z,8µm
MK31 Makanchi Array 47.38 322 P **P** **06 27 37.0 +0.2**
MK31 IAmb IAmb 06 27 39.8
comp=Z,158nm,1.1s
MK31 Makanchi Array 47.38 322 *i* P **P** **06 27 37.0 +0.2**
MKAR Makanchi Array 47.38 322 P **P** **06 27 37.2 +0.4**
MKAR Makanchi Array 47.38 322 P **P** **06 27 37.0 +0.2**
comp=Z,119nm,0.9s,baz=115,slow=8.2,SNR=220
MKAR PcP **PcP** **06 29 07.2 -0.1**
comp=Z,83nm,1.2s,baz=140,slow=4.7,SNR=4.0
MKAR LR LR 06 50 39.7
comp=Z,12µm,18.4s,baz=138,slow=40
comp=Z,119nm,0.9s
MKAR Makanchi Array 47.38 322 P **P** **06 27 37.2 +0.4**
MAKZ Makanchi 47.57 321 P **P** **06 27 38.9 +0.6**
MAKZ IAmb IAmb 06 27 49.7
comp=Z,247nm,1.2s
MAKZ Makanchi 47.57 321 ⇑P **P** **06 27 38.5 +0.2**
MAKZ Makanchi 47.57 321 P **P** **06 27 38.1 -0.2**
EIDS Eidsvold 47.58 146 P **P** **06 27 39.1 +0.6**
EIDS Eidsvold 47.58 146 P **P** **06 27 39.0 +0.6**
EIDS IAmb IAmb 06 27 52.8
comp=Z,355nm,1.4s
NWAO Narrogin (SRO) 47.59 188 P **P** **06 27 37.1 -1.3**
NWAO Narrogin (SRO) 47.59 188 P **P** **06 27 37.5 -0.9**
NWAO Narrogin (SRO) 47.59 188 LR LR 06 48 20.0
comp=Z,6µm,21.9s,baz=4.5,slow=37
NWAO Narrogin (SRO) 47.59 188 P **P** **06 27 37.4 -1.1**
NWAO P **P** **06 27 37.4 -1.1**
NWAO P **P** **06 27 37.4 -1.1**
NWAO S **S** **06 34 27.2 -5.4**
NWAO S **S** **06 34 27.2 -5.4**
NWAO S **S** **06 34 27.2 -5.4**
NWAO Narrogin (SRO) 47.59 188 P **P** **06 27 37.5 -0.9**
NWAO pmax pmax
comp=Z,500nm,1.2s
SHLS Shalkode 47.60 316 *eP* **P** **06 27 36.2 -2.4**
comp=Z,216nm,1.6s,baz=316
SHLS *e*PP **PP** **06 29 27.3 -3.0**
baz=316
SHLS Shalkode 47.60 316 *eP* **P** **06 27 36.2 -2.4**
SHLS *e* 06 29 27.3
SHLS pmax pmax
comp=Z,216nm,1.6s
PDGK Podgornoye 47.65 316 P **P** **06 27 38.7 -0.3**
YAK Yakutsk 47.65 4 P **P** **06 27 38.9 +0.4**
YAK IAmb IAmb 06 27 41.4
comp=Z,179nm,0.9s
YAK Yakutsk 47.65 4 P **P** **06 27 39.6 +1.1**
comp=Z,145nm,0.8s,baz=182,slow=12,SNR=34
YAK LR LR 06 48 13.6
comp=Z,14µm,19.9s,baz=188,slow=37
comp=Z,145nm,0.8s
YAK Yakutsk 47.65 4 *eP* **P** **06 27 38.4 -0.1**
YAK *e**PP **pP** **06 27 46.2 +0.5**
YAK *e* 06 29 08.2
YAK *e* 06 29 29.3
YAK *e*PPP PPP 06 30 15.8
YAK *eS* **S** **06 34 32.8 +0.1**
YAK *e* 06 37 21.5
YAK *e*SSS SSS 06 39 08.3
YAK pmax pmax
comp=Z,253nm,1.3s

YAK pmax pmax
comp=N,92nm,1.4s
YAK pmax pmax
comp=E,28nm,2.0s
YAK pmax pmax
comp=Z,3µm,8.8s
YAK pmax pmax
comp=N,1µm,6.8s
YAK pmax pmax
comp=E,355nm,6.6s
YAK MLR MLR
comp=Z,10µm,17.0s
YAK MLR MLR
comp=N,6µm,20.0s
YAK MLR MLR
comp=E,2µm,21.0s
UZB Uzynbulak 47.89 316 *e*P **P 06 27 40.5 -0.5**
comp=E,204nm,1.6s,baz=316
UZB *e*PP **PP 06 29 32.7 -0.2**
baz=316
UZB Uzynbulak 47.89 316 *e*P **P 06 27 40.4 -0.5**
UZB *e* 06 29 32.7
UZB pmax pmax
comp=Z,204nm,1.6s
POO Poona 48.17 282 *e*P **P 06 27 45.7 +2.4**
TARG Taragay, Kyrgy 48.21 314 P **P 06 27 44.4 +0.6**
TARG IAmb IAmb 06 27 58.1
comp=Z,219nm,1.3s
TARG Taragay, Kyrgy 48.21 314 P **P 06 27 44.4 +0.6**
TARG pmax pmax
comp=Z,219nm,1.3s
TARG MLR MLR
comp=Z,29µm,21.0s
SATY Saty 48.27 315 *e*P **P 06 27 43.8 -0.2**
comp=Z,184nm,1.8s,baz=316
SATY *e*PP **PP 06 29 36.4 0.0**
baz=316
SATY Saty 48.27 315 *e*P **P 06 27 43.7 -0.2**
SATY *e* 06 29 36.3
SATY pmax pmax
comp=Z,184nm,1.8s
ZHN Zhinishke 48.30 316 *e*P **P 06 27 43.6 -0.4**
comp=Z,157nm,1.6s,baz=316
ZHN *e*PP **PP 06 29 36.5 -0.1**
baz=316
ZHN Zhinishke 48.30 316 *e*P **P 06 27 43.6 -0.4**
ZHN *e* 06 29 36.5
ZHN pmax pmax
comp=Z,157nm,1.6s
BBOO Buckleboo 48.41 166 P **P 06 27 43.6 -1.2**
BBOO Buckleboo 48.41 166 P **P 06 27 44.5 -0.3**
GOA Goa 48.42 278 *e*P **P 06 27 43.9 -1.4**
KSH Kashi 48.83 310 P **P 06 27 50.6 +2.4**
KSH sP sP 06 28 00.0 +1.6
KSH PP **PP 06 29 44.3 +2.7**
KSH S **S 06 34 53.0 +2.5**
KSH pmax pmax
comp=Z,220nm,1.4s
KSH pmax pmax
comp=Z,4µm,8.1s
KSH LR LR
comp=Z,28µm,18.2s
KSH LR LR
comp=Z,18µm,19.9s
KSH LR LR
comp=Z,39µm,15.5s
TDK Taldyqorghan 49.02 318 LR LR 06 50 50.6
comp=Z,9µm,14.9s,baz=318
STKA Stephens Creek 49.08 160 P **P 06 27 49.9 -0.1**
STKA Stephens Creek 49.08 160 P **P 06 27 49.9 -0.1**
STKA Stephens Creek 49.08 160 P **P 06 27 50.7 +0.7**
comp=Z,108nm,1.1s,baz=333,slow=7.7,SNR=61
STKA LR LR 06 50 55.4
comp=Z,8µm,21.0s,baz=338,slow=39
comp=Z,108nm,1.1s
STKA Stephens Creek 49.08 160*c i*P **P 06 27 49.7 -0.2**
MA2 Magadan 49.14 18 P **P 06 27 51.8 +1.7**
MA2 Magadan 49.14 18 ⇑P **P 06 27 51.5 +1.4**
MA2 Magadan 49.14 18 LR LR 06 47 37.3
comp=Z,7µm,21.6s,baz=219,slow=35
MA2 Magadan 49.14 18*ce*P **P 06 27 51.7 +1.6**
MA2 pmax pmax
comp=Z,101nm,1.0s
MA2 MLR MLR
comp=Z,9µm,18.0s
MA2 Magadan 49.14 18 P **P 06 27 51.7 +1.6**
comp=Z,109nm,1.1s,comp=Z,4µm
MDOK Medeo 49.24 315 *e*P **P 06 27 51.1 -0.2**
baz=315
MDOK *e*S **S 06 34 57.0 +0.9**
baz=315
MDOK LR LR 06 50 59.4
comp=Z,11µm,15.1s,baz=315
MDOK Medeo 49.24 315 *e*P **P 06 27 51.1 -0.2**
MDOK *e*S **S 06 34 57.0 +0.9**
MDOK MLR MLR
comp=Z,11µm,15.0s
AAA Alma-Ata 49.35 315 *e*P **P 06 27 52.1 0.0**
comp=Z,164nm,1.2s,baz=315
AAA Alma-Ata 49.35 315 *e*P **P 06 27 52.0 0.0**
AAA pmax pmax
comp=Z,164nm,1.2s
ULHL Ulahol 49.48 314 P **P 06 27 53.8 +0.5**
SNR=126
CHKK Chushkaly 49.53 316 *e*P **P 06 27 53.0 -0.4**
baz=316
CHKK Chushkaly 49.53 316 *e*P **P 06 27 53.0 -0.4**
HTT Hallett 49.72 164 P **P 06 27 54.5 -0.4**
HTT Hallett 49.72 164 P **P 06 27 54.8 -0.1**
BOOM Boomskoye usch 49.77 314 P **P 06 27 54.7 -0.8**
BOOM Boomskoye usch 49.77 314 P **P 06 27 54.7 -0.8**
BOOM pmax pmax
comp=Z,88nm,1.1s
ZAA0 Zalesovo Array 49.90 331 P **P 06 27 55.6 -0.4**
ZAA0 IAmb IAmb 06 28 06.6
comp=Z,107nm,0.9s
ZALV Zalesovo Beam 49.90 331 P **P 06 27 55.5 -0.5**
comp=Z,29nm,0.6s,baz=114,slow=6.3,SNR=69
ZALV PcP **PcP 06 29 15.9 -0.2**
comp=Z,76nm,1.1s,baz=123,slow=5.5,SNR=5.0
ZALV LR LR 06 49 59.6
comp=Z,12µm,19.8s,baz=127,slow=37
comp=Z,29nm,0.6s
ZALV Zalesovo Beam 49.90 331 *i* P **P 06 27 55.5 -0.5**
ZALV pmax pmax
comp=Z,46nm,0.9s
TARA Tarawa 50.02 101 IAMs_20 IAMs_20 06 45 32.2
comp=Z,13µm,20.0s
TKM2 Tokmak 2 50.16 314 P **P 06 27 58.9 +0.5**
SNR=75
TKM2 Tokmak 2 50.16 314 P **P 06 27 58.0 -0.4**
CMSA Cobar Meteorol 50.26 156 P **P 06 27 59.0 0.0**
MNCY Minicoy 50.30 269 *e*P **P 06 27 59.2 -0.3**
SEM Semipalatinsk 50.32 325 *e*P **P 06 27 59.8 +0.2**
comp=Z,187nm,1.6s,baz=325
SEM *e*PP **PP 06 29 55.3 +0.3**
baz=325
SEM LR LR 06 51 46.0
baz=325
SEM Semipalatinsk 50.32 325 *e*P **P 06 27 59.7 +0.2**
SEM *e* 06 29 55.3
SEM pmax pmax
comp=Z,187nm,1.6s
KBK Karagaybulak 50.52 314 P **P 06 28 02.0 +0.9**
SNR=97
UCH Uchtor 50.69 313 P **P 06 28 04.0 +1.2**
SNR=417
CHMS Chumysh 50.77 314 P **P 06 28 03.2 +0.4**
SNR=50
FRU1 Bishkek 50.79 314 P **P 06 28 02.9 -0.1**
FRU1 IAmb IAmb 06 28 06.3
comp=Z,337nm,1.5s
FRU1 Bishkek 50.79 314 P **P 06 28 02.9 -0.1**
FRU1 pmax pmax
comp=Z,337nm,1.5s
AAK Ala-Archa 50.83 314 P **P 06 28 03.7 +0.3**
SNR=48
AAK Ala-Archa 50.83 314 *i* P **P 06 28 04.0 +0.5**
SNR=49
AAK Ala-Archa 50.83 314 LR LR 06 49 46.9
comp=Z,24µm,20.4s,baz=96,slow=36
AAK Ala-Archa 50.83 314 P **P 06 28 04.5 +1.0**
AAK P **P 06 28 04.5 +1.0**
AAK P **P 06 28 04.5 +1.0**
AAK S **S 06 35 22.0 +3.6**
AAK S **S 06 35 22.0 +3.6**
AAK S **S 06 35 22.0 +3.6**
AAK Ala-Archa 50.83 314*ce*P **P 06 28 04.0 +0.5**
AAK pmax pmax
comp=Z,108nm,1.3s
AAK MLR MLR
comp=Z,22µm,20.0s
SGDS Sogindy 51.00 315 *e*P **P 06 28 04.4 -0.2**
baz=315
SGDS Sogindy 51.00 315 *e*P **P 06 28 04.4 -0.2**
USP Ospenovka 51.03 314 P **P 06 28 04.6 -0.2**
SNR=33
EKS2 Erkin-Say 51.34 313 P **P 06 28 08.0 +0.7**
SNR=87
KURK Kurchatov 51.38 325 P **P 06 28 07.5 +0.3**
KURK Kurchatov 51.38 325 IAMs_20 IAMs_20 06 52 08.5
comp=Z,12µm,18.0s
KURK Kurchatov 51.38 325 P **P 06 28 07.3 +0.1**
KURK P **P 06 28 07.3 +0.1**
KURK P **P 06 28 07.3 +0.1**
KURK S **S 06 35 25.5 +0.1**
KURK S **S 06 35 25.5 +0.1**
KURK S **S 06 35 25.5 +0.1**
KURK Kurchatov 51.38 325*ce*P **P 06 28 07.3 +0.1**
KURK pmax pmax
comp=Z,411nm,1.0s
KURK MLR MLR
comp=Z,14µm,16.0s
KURBB Kurchatov Arra 51.39 324 P **P 06 28 07.5 +0.2**
comp=Z,236nm,1.0s,baz=121,slow=7.7,SNR=243
KURBB LR LR 06 52 21.2
comp=Z,14µm,18.9s,baz=130,slow=39
comp=Z,236nm,1.0s
KURBB Kurchatov Arra 51.39 324 P **P 06 28 06.9 -0.4**
BTLS Baital 51.92 316 *e*P **P 06 28 11.3 0.0**
baz=316
BTLS *e*S **S 06 35 34.6 +1.6**
baz=316
BTLS Baital 51.92 316 *e*P **P 06 28 11.3 0.0**
BTLS *e*S **S 06 35 34.5 +1.6**
DRK Karamyk 51.94 309 P **P 06 28 12.5 +0.5**
DRK IAmb IAmb 06 28 16.4
comp=Z,263nm,0.9s
DRK Karamyk 51.94 309 P **P 06 28 12.5 +0.5**
DRK pmax pmax
comp=Z,263nm,0.9s
DRK MLR MLR
comp=Z,32µm,18.0s
BHUJ Bhuj 51.95 288 *e*P **P 06 28 13.2 +1.4**
ARMA Armidale 51.95 149 P **P 06 28 13.4 +1.5**
KAAM Kaadhehdhoo 52.33 259 P **P 06 28 15.1 +0.2**
KAAM IAMs_20 IAMs_20 06 47 44.1
comp=Z,20µm,22.0s
KAAM Kaadhehdhoo 52.33 259 P **P 06 28 12.9 -2.0**
SEY Seymchan 52.34 16 LR LR 06 52 12.6
comp=Z,14µm,18.5s,baz=210,slow=38
SEY Seymchan 52.34 16 *e*P **P 06 28 14.3 +0.2**
SEY pmax pmax
comp=Z,62nm,0.8s
KOUNC Koumac, New Ca 52.70 130 P **P 06 28 19.5 +2.1**
BTK Batken 52.81 309 P **P 06 28 17.8 -0.4**
BTK IAmb IAmb 06 28 21.8
comp=Z,393nm,1.3s
BTK IAMs_20 IAMs_20 06 52 38.2
comp=Z,18µm,20.0s
BTK Batken 52.81 309 P **P 06 28 17.8 -0.4**
BTK pmax pmax
comp=Z,393nm,1.3s
BTK MLR MLR
comp=Z,18µm,20.0s
GAR Garm 52.96 308 P **P 06 28 19.5 +0.2**
KBL Kabul 53.20 302 P **P 06 28 21.2 -0.1**
KBL IAMs_20 IAMs_20 06 53 11.6
comp=Z,15µm,18.0s
KBL Kabul 53.20 302 P **P 06 28 21.5 +0.2**
SNR=136
KBL P **P 06 28 21.5 +0.2**
SNR=136
KBL P **P 06 28 21.5 +0.2**
SNR=136
KBL S **S 06 35 47.3 -4.0**
KBL S **S 06 35 47.3 -4.0**
KBL S **S 06 35 47.3 -4.0**
KBL Kabul 53.20 302 P **P 06 28 21.2 -0.1**
KBL pmax pmax
comp=Z,656nm,1.7s
KBL MLR MLR
comp=Z,15µm,18.0s
ARPS Mount Arapiles 53.68 162 P **P 06 28 24.5 +0.2**
KK31 Karatay Array 53.77 313 P **P 06 28 25.4 +0.2**
KK31 IAmb IAmb 06 28 28.5
comp=Z,222nm,1.0s
KK31 Karatay Array 53.77 313 *i* P **P 06 28 25.1 0.0**
KKAR Karatay Array 53.77 313 P **P 06 28 25.4 +0.3**
KKAR IAmb IAmb 06 28 28.5
comp=Z,221nm,1.0s
KKAR Karatay Array 53.77 313 P **P 06 28 25.4 +0.3**
KKAR pmax pmax
comp=Z,221nm,1.0s
CHGR Chuyangaron 53.78 307 P **P 06 28 25.3 0.0**
CHGR Chuyangaron 53.78 307 P **P 06 28 25.3 0.0**
CHGR pmax pmax
comp=Z,855nm,0.9s
CHGR MLR MLR
comp=Z,36µm,18.0s
IUG luznay 53.88 312 *e*P **P 06 28 25.9 -0.2**
comp=Z,174nm,1.2s,baz=312
IUG *e*S **S 06 36 01.3 +1.2**
baz=312
IUG luznay 53.88 312 *e*P **P 06 28 25.8 -0.2**
IUG *e*S **S 06 36 01.2 +1.2**
IUG pmax pmax
comp=Z,174nm,1.2s
SIMJ Simiganj 53.89 307 P **P 06 28 26.1 -0.1**
OTUK Ortayu 54.11 320 P **P 06 28 27.3 -0.2**
BRLS Boroldaу 54.23 313 *e*P **P 06 28 28.8 +0.2**
comp=Z,126nm,1.4s,baz=313
BRLS Boroldaу 54.23 313 *e*P **P 06 28 28.7 +0.2**
BRLS pmax pmax
comp=Z,126nm,1.4s
BRZS Berezniki 54.53 322 *e*P **P 06 28 30.7 +0.2**
comp=Z,212nm,1.9s,baz=322
BRZS *e*S **S 06 36 10.6 +2.2**
baz=322
BRZS Berezniki 54.53 322 *e*P **P 06 28 30.6 +0.2**
BRZS *e*S **S 06 36 10.5 +2.2**
BRZS pmax pmax
comp=Z,212nm,1.9s
RIV Riverview 54.56 152 P **P 06 28 32.2 +1.4**
SHEM Shemya Is, Ala 54.87 35 LR LR 06 50 57.2
comp=Z,8µm,19.4s,baz=244,slow=35
CAN Canberra 54.90 155 P **P 06 28 34.7 +1.4**
CAN Canberra 54.90 155 P **P 06 28 34.5 +1.2**
CAN IAmb IAmb 06 28 46.3
comp=Z,146nm,1.1s
CAN Canberra 54.90 155 P **P 06 28 34.5 +1.2**
CAN pmax pmax
comp=Z,146nm,1.1s
CAN MLR MLR
comp=Z,9µm,20.0s
LIFNC LIFOU 55.04 129 P **P 06 28 37.3 +2.7**
CNB Canberra Magne 55.04 155 P **P 06 28 35.2 +0.8**
DZM Mont Dzumac 55.21 130 P **P 06 28 36.3 +0.4**
DZM Mont Dzumac 55.21 130 P **P 06 28 38.1 +2.2**
DZM Mont Dzumac 55.21 130 LR LR 06 48 32.7
comp=Z,7µm,21.8s,baz=320,slow=32
TOO Toolangi 55.57 159 P **P 06 28 38.2 +0.1**
TOO Toolangi 55.57 159 P **P 06 28 38.5 +0.4**
TOO IAmb IAmb 06 28 41.3
comp=Z,150nm,1.1s
TOO Toolangi 55.57 159 P **P 06 28 38.5 +0.4**
TOO pmax pmax
comp=Z,151nm,1.2s
DGAR Diego Garcia 55.59 250 IAMs_20 IAMs_20 06 52 18.8
comp=Z,13µm,19.0s
DGAR Diego Garcia 55.59 250 P **P 06 28 37.9 -0.8**
DGAR P **P 06 28 37.9 -0.8**
DGAR S **S 06 36 22.6 -0.9**
DGAR S **S 06 36 22.6 -0.9**
DGAR Diego Garcia 55.59 250*ce*P **P 06 28 38.1 -0.6**
DGAR pmax pmax
comp=Z,294nm,1.3s
DGAR MLR MLR
comp=Z,12µm,19.0s
OUENC Ouen Island, N 55.72 130 P **P 06 28 41.2 +1.8**
MIDW Midway 55.78 66 IAMs_20 IAMs_20 06 48 33.7
comp=Z,16µm,20.0s
MILA Mila 56.47 156 P **P 06 28 46.2 +1.6**
BVA0 Borovoye Array 56.98 325 *i* P **P 06 28 48.3 +0.3**
BVAR Borovoye Array 56.98 325 P **P 06 28 48.0 -0.1**
comp=Z,42nm,0.5s,baz=118,slow=6.4,SNR=101
BVAR PcP **PcP 06 29 42.9 -0.2**
comp=Z,54nm,0.9s,baz=126,slow=7.5,SNR=5.6
BVAR LR LR 06 53 02.9
comp=Z,11µm,20.3s,baz=122,slow=36
BVAR PKP2bc **P'P'bc 06 58 51.8 -3.1**
comp=Z,11nm,1.1s,baz=243,slow=3.0,SNR=13
comp=Z,42nm,0.5s
BRVK Borovoye 57.05 325 P **P 06 28 48.7 +0.2**
BRVK IAmb IAmb 06 28 59.8
comp=Z,216nm,1.0s
BRVK Borovoye 57.05 325 IAMs_20 IAMs_20 06 56 06.5
comp=Z,12µm,18.0s
BRVK Borovoye 57.05 325 P **P 06 28 48.9 +0.4**
BRVK P **P 06 28 48.9 +0.4**
BRVK P **P 06 28 48.9 +0.4**
BRVK S **S 06 36 39.4 -2.4**
BRVK S **S 06 36 39.4 -2.4**
BRVK S **S 06 36 39.4 -2.4**
BRVK Borovoye 57.05 325*ce*P **P 06 28 48.6 +0.1**
BRVK pmax pmax
comp=Z,303nm,1.3s
BRVK MLR MLR
comp=Z,11µm,16.0s
TIXI Tiksi 57.21 2 P **P 06 28 48.8 -0.6**
TIXI IAmb IAmb 06 28 52.0
comp=Z,117nm,1.0s
TIXI Tiksi 57.21 2 LR LR 06 54 42.6
comp=Z,26µm,20.8s,baz=198,slow=37
TIXI Tiksi 57.21 2*c i*P **P 06 28 48.7 -0.6**
TIXI pmax pmax
comp=Z,163nm,1.3s
TIXI MLR MLR
comp=Z,26µm,20.0s
HRA Herat 58.78 302 P **P 06 29 00.2 -1.0**
HRA IAmb IAmb 06 29 03.7
comp=Z,348nm,1.9s
HRA IAMs_20 IAMs_20 06 56 24.3
comp=Z,14µm,19.0s
NGCH Negor - Chabah 59.66 291 P **P 06 29 06.5 -0.7**
SNR=5.3
NGCH S **S 06 37 16.9 +0.2**
BILL Bilibino 59.99 17⇑ *e*P **P 06 29 09.5 +0.7**
BILL pmax pmax
comp=Z,205nm,1.0s
TAU Tasmania Unive 60.98 161 P **P 06 29 17.1 +1.3**
JLN Jalan Bani Buh 61.45 288 P **P 06 29 18.1 -1.4**
SNR=16
JLN P **P 06 29 18.1 -1.4**
SNR=16
ATKA Atka Island 61.45 38 P **P 06 29 20.9 +2.0**
ATKA Atka Island 61.45 38 P **P 06 29 20.2 +1.3**
WBK Wadi Bani Khal 61.81 288 P **P 06 29 21.1 -0.9**
SNR=16
WBK P **P 06 29 21.1 -0.9**
SNR=16
WBK P **P 06 29 21.1 -0.9**
SNR=16
WBK S **S 06 37 43.1 -1.3**
WBK S **S 06 37 43.1 -1.3**
WBK S **S 06 37 43.1 -1.3**
WSAR Wadi Sarin 62.07 289 LR LR 06 59 40.5
comp=Z,4µm,18.6s,baz=107,slow=39
WSAR Wadi Sarin 62.07 289 P **P 06 29 22.5 -1.2**
SNR=15
WSAR S **S 06 37 46.4 -1.3**
MSVF Nonsavu 62.15 119 P **P 06 29 26.4 +2.1**
MSVF Nonsavu 62.15 119 P **P 06 29 27.2 +2.9**
MSVF IAmb IAmb 06 29 42.5
comp=Z,240nm,1.2s
MSVF Nonsavu 62.15 119 P **P 06 29 25.9 +1.6**
MSVF pmax pmax
comp=Z,221nm,1.4s
AB31 Akbulak array 62.28 318 *i* P **P 06 29 24.2 -0.4**
ABKAR Akbulak array 62.28 318 P **P 06 29 24.4 -0.2**
ABKAR IAmb IAmb 06 29 35.7
comp=Z,173nm,0.9s
ABKAR Akbulak array 62.28 318 P **P 06 29 24.7 +0.1**
GEYT Alibeck 62.31 305 P **P 06 29 25.4 +0.3**
GEYT IAmb IAmb 06 29 37.0
comp=Z,188nm,1.2s
GEYT Alibeck 62.31 305 P **P 06 29 25.1 0.0**
comp=Z,39nm,0.9s,baz=91,slow=6.2,SNR=48
GEYT LR LR 06 59 15.4
comp=Z,25µm,19.8s,baz=96,slow=39
comp=Z,39nm,0.9s
GEYT Alibeck 62.31 305 P **P 06 29 25.4 +0.3**
GEYT pmax pmax
comp=Z,188nm,1.2s
GYA0B ALIBECK ARRAY 62.31 305 P **P 06 29 25.3 +0.2**
GYA0B IAmb IAmb 06 29 28.3
comp=Z,177nm,1.4s
BIDO Bidbid 62.51 289 P **P 06 29 26.1 -0.5**
SNR=24
BIDO P **P 06 29 26.1 -0.5**
SNR=24
JASK Jask - Hormozg 62.58 292 P **P 06 29 28.2 +1.1**
SNR=21
JASK S **S 06 37 47.8 -6.1**
SMDO Samad 62.62 289 P **P 06 29 26.4 -1.1**
SNR=14
SMDO P **P 06 29 26.4 -1.1**
SNR=14
SMDO P **P 06 29 26.4 -1.1**
SNR=14
SMDO S **S 06 37 49.0 -5.7**
SMDO S **S 06 37 49.0 -5.7**
SMDO S **S 06 37 49.0 -5.7**
JMDO Jabal Madar 62.63 288 P **P 06 29 26.1 -1.4**
SNR=14
JMDO P **P 06 29 26.1 -1.4**
SNR=14
JMDO P **P 06 29 26.1 -1.4**
SNR=14
JMDO S **S 06 37 52.6 -2.1**
JMDO S **S 06 37 52.6 -2.1**
JMDO S **S 06 37 52.6 -2.1**
MHTO MHTO 62.89 286 P **P 06 29 27.8 -1.3**
SNR=47
MHTO P **P 06 29 27.8 -1.3**
SNR=47
MHTO P **P 06 29 27.8 -1.3**
SNR=47
MHTO S **S 06 37 54.9 -3.1**
MHTO S **S 06 37 54.9 -3.1**
MHTO S **S 06 37 54.9 -3.1**
HOQ Hoqain 63.25 289 P **P 06 29 31.1 -0.5**
SNR=17
HOQ P **P 06 29 31.1 -0.5**
SNR=17
HOQ P **P 06 29 31.1 -0.5**
SNR=17
HOQ S **S 06 38 01.8 -0.6**
HOQ S **S 06 38 01.8 -0.6**
HOQ S **S 06 38 01.8 -0.6**
DQM DQM 63.41 285 P **P 06 29 31.6 -1.0**
SNR=26
DQM P **P 06 29 31.6 -1.0**
SNR=26
DQM P **P 06 29 31.6 -1.0**
SNR=26
DQM S **S 06 38 12.0 +7.6**
DQM S **S 06 38 12.0 +7.6**
DQM S **S 06 38 12.0 +7.6**
BSY Bisya 63.43 288 P **P 06 29 32.1 -0.7**
SNR=17
BSY P **P 06 29 32.1 -0.7**
SNR=17
BSY P **P 06 29 32.1 -0.7**
SNR=17
SVE Sverdlovsk 63.51 327*de*P **P 06 29 32.5 -0.1**
SVE *eS* **S 06 38 02.9 -1.6**
SVE pmax pmax
comp=Z,346nm,1.0s
SVE MLR MLR
comp=Z,8µm,17.0s
AKTO Aktyubinsk 63.71 319 LR LR 06 57 09.9
comp=Z,8µm,20.0s,baz=108,slow=36
JOHN Johnston Islan 63.76 78 IAMs_20 IAMs_20 06 52 40.6
comp=Z,14µm,21.0s
SOHO SOHO 63.92 290 *i* P **P 06 29 34.6 -1.3**
SNR=28

SOHO	**SOHO**	**63.92**	**290**	P	**P**	**06 29 35.1**	**-0.7**
SOHO				P	**P**	**06 29 35.1**	**-0.7**
SOHO				P	**P**	**06 29 35.1**	**-0.7**
SOHO				S	**S**	**06 38 17.7**	**+7.1**
SOHO				S	**S**	**06 38 17.7**	**+7.1**
SOHO				S	**S**	**06 38 17.7**	**+7.1**
ARQ	**Araqi**	**64.00**	**289**	P	**P**	**06 29 37.0**	**+0.5**
	SNR=28						
ARQ				P	**P**	**06 29 37.0**	**+0.5**
	SNR=28						
ARQ				P	**P**	**06 29 37.0**	**+0.5**
	SNR=28						
ARQ				S	**S**	**06 38 10.1**	**-1.6**
ARQ				S	**S**	**06 38 10.1**	**-1.6**
ARQ				S	**S**	**06 38 10.1**	**-1.6**
MDH	**Madha**	**64.03**	**291**	P	**P**	**06 29 34.8**	**-1.9**
MDH	**Madha**	**64.03**	**291**	P	**P**	**06 29 35.4**	**-1.2**
MDH				P	**P**	**06 29 35.4**	**-1.2**
SHME	**Shamm**	**64.12**	**292** *i*	P	**P**	**06 29 37.0**	**-0.2**
	SNR=6.4						
UOSS	**Minazif**	**64.15**	**291**	P	**P**	**06 29 37.3**	**-0.1**
UOSS				IAmb	IAmb	06 29 48.3	
	comp=Z,140nm,1.2s						
UOSS	**Minazif**	**64.15**	**291** *i*	P	**P**	**06 29 36.4**	**-1.1**
	SNR=8.5						
UOSS	**Minazif**	**64.15**	**291**	P	**P**	**06 29 36.3**	**-1.1**
UOSS				P	**P**	**06 29 36.3**	**-1.1**
CLES	**Cleveland East**	**64.15**	**38**	IAMs_20	IAMs_20	06 52 29.4	
	comp=Z,13µm,22.0s						
MASF	**Masafi**	**64.16**	**291**	P	**P**	**06 29 37.1**	**-0.4**
	SNR=6.3						
MASF				S	**S**	**06 38 12.4**	**-1.3**
MSFE	**Esma-Masafi**	**64.16**	**291** *i*	P	**P**	**06 29 36.8**	**-0.7**
	SNR=11						
HATD	**Hatta, Dubai**	**64.22**	**291** *i*	P	**P**	**06 29 37.3**	**-0.7**
	SNR=15						
HATD	**Hatta, Dubai**	**64.22**	**291**	P	**P**	**06 29 38.0**	**+0.1**
	SNR=11						
ASHO	**Ashiyiah**	**64.30**	**291** *i*	P	**P**	**06 29 38.0**	**-0.5**
	SNR=26						
ASHO	**Ashiyiah**	**64.30**	**291**	P	**P**	**06 29 38.4**	**-0.1**
	SNR=18						
ASHO				P	**P**	**06 29 38.4**	**-0.1**
	SNR=18						
ASHO				S	**S**	**06 38 15.6**	**+0.1**
ASHO				S	**S**	**06 38 15.6**	**+0.1**
ARU	**Arti**	**64.53**	**326**	P	**P**	**06 29 38.6**	**-0.7**
ARU	**Arti**	**64.53**	**326**	LR	LR	07 01 28.9	
	comp=Z,6µm,18.2s,baz=102,slow=40						
ARU	**Arti**	**64.53**	**326** *c i*	P	**P**	**06 29 38.5**	**-0.8**
ARU						06 30 14.9	
ARU						06 31 59.5	
ARU				S	**S**	**06 38 12.1**	**-5.1**
ARU						06 39 25.2	
ARU				SSS	SSS	06 45 10.4	
ARU				pmax	pmax		
	comp=Z,215nm,0.9s						
ARU				MLR	MLR		
	comp=Z,7µm,17.0s						
ARU	**Arti**	**64.53**	**326**	P	**P**	**06 29 38.0**	**-1.3**
	comp=Z,252nm,1.0s,comp=Z,4µm						
ALNE	**Al Ain**	**64.64**	**290** *i*	P	**P**	**06 29 40.2**	**-0.5**
	SNR=20						
ALNE	**Al Ain**	**64.64**	**290**	P	**P**	**06 29 40.9**	**+0.2**
	SNR=39						
ALNE				P	**P**	**06 29 40.9**	**+0.2**
	SNR=39						
ALNE				S	**S**	**06 38 17.8**	**-1.8**
ALNE				S	**S**	**06 38 17.8**	**-1.8**
NAZ	**Nazwa, Dubai**	**64.64**	**291** *i*	P	**P**	**06 29 40.5**	**-0.1**
	SNR=8.0						
NAZ	**Nazwa, Dubai**	**64.64**	**291**	P	**P**	**06 29 40.4**	**-0.1**
	SNR=7.9						
NAZ				P	**P**	**06 29 40.4**	**-0.1**
	SNR=7.9						
NAZ				S	**S**	**06 38 17.8**	**-1.7**
NAZ				S	**S**	**06 38 17.8**	**-1.7**
FAQ	**Al Faqa, Dubai**	**64.72**	**291** *i*	P	**P**	**06 29 40.3**	**-0.8**
	SNR=13						
FAQ	**Al Faqa, Dubai**	**64.72**	**291**	P	**P**	**06 29 40.9**	**-0.2**
	SNR=12						
FAQ				P	**P**	**06 29 40.9**	**-0.2**
	SNR=12						
FAQ				S	**S**	**06 38 14.9**	**-5.7**
FAQ				S	**S**	**06 38 14.9**	**-5.7**
NIKH	**Nikolski High**	**64.80**	**38**	P	**P**	**06 29 44.1**	**+3.0**
NIKH	**Nikolski High**	**64.80**	**38**	P	**P**	**06 29 40.2**	**-1.0**
	baz=261						
NIKH				S	**S**	**06 38 22.5**	**+1.9**
	baz=261						
SPIA	**Saint Paul Isl**	**64.82**	**33**	P	**P**	**06 29 41.3**	**+0.1**
	baz=257						
ASUD	**Al Ashush, Dub**	**64.97**	**291** *i*	P	**P**	**06 29 42.7**	**-0.1**
	SNR=16						
ASUD	**Al Ashush, Dub**	**64.97**	**291**	P	**P**	**06 29 42.7**	**-0.1**
	SNR=9.4						
ASUD				P	**P**	**06 29 42.7**	**-0.1**
	SNR=9.4						
ASUD				P	**P**	**06 29 42.7**	**-0.1**
	SNR=9.4						
P08K	**Saint George I**	**65.08**	**34**	P	**P**	**06 29 42.7**	**-0.1**
	baz=258						
AJN	**Ajban**	**65.28**	**291** *i*	P	**P**	**06 29 44.0**	**-0.8**
	SNR=7.8						
AJN	**Ajban**	**65.28**	**291**	P	**P**	**06 29 44.1**	**-0.8**
	SNR=7.5						
AJN				P	**P**	**06 29 44.1**	**-0.8**
	SNR=7.5						
AJN				S	**S**	**06 38 32.4**	**+4.9**
AJN				S	**S**	**06 38 32.4**	**+4.9**
UMZA	**Um Al Zommool**	**65.31**	**289**	P	**P**	**06 29 43.9**	**-1.1**
UMZA				P	**P**	**06 29 43.9**	**-1.1**
UMZA				P	**P**	**06 29 43.9**	**-1.1**
UMZA				S	**S**	**06 38 24.5**	**-3.4**
UMZA				S	**S**	**06 38 24.5**	**-3.4**
UMZA				S	**S**	**06 38 24.5**	**-3.4**
SHAO	**Shalim**	**65.44**	**283** *i*	P	**P**	**06 29 45.6**	**-0.3**
	SNR=11						
SHAO	**Shalim**	**65.44**	**283**	P	**P**	**06 29 45.9**	**-0.1**
	SNR=14						
SHAO				P	**P**	**06 29 45.9**	**-0.1**
	SNR=14						
SHAO				P	**P**	**06 29 45.9**	**-0.1**
	SNR=14						
SHAO				S	**S**	**06 38 25.3**	**-4.4**
SHAO				S	**S**	**06 38 25.3**	**-4.4**
SHAO				S	**S**	**06 38 25.3**	**-4.4**
GAMB	**Gambell**	**65.82**	**26**	S	**S**	**06 38 35.6**	**+2.9**
	baz=253						
DMTO	**DMTO**	**66.13**	**283**	P	**P**	**06 29 50.3**	**-0.1**
	SNR=13						
DMTO				P	**P**	**06 29 50.3**	**-0.1**
	SNR=13						
DMTO				P	**P**	**06 29 50.3**	**-0.1**
	SNR=13						
DMTO				S	**S**	**06 38 36.7**	**-1.3**
DMTO				S	**S**	**06 38 36.7**	**-1.3**
DMTO				S	**S**	**06 38 36.7**	**-1.3**
UNV	**Unalaska Valle**	**66.32**	**37**	P	**P**	**06 29 53.2**	**+2.3**
UNV	**Unalaska Valle**	**66.32**	**37**	P	**P**	**06 29 51.0**	**+0.1**
	baz=262						
UNV				S	**S**	**06 38 40.2**	**+1.1**
	baz=262						
MZWR	**Madinat Zayed**	**66.37**	**290**	P	**P**	**06 29 51.1**	**-0.8**
MZWR				P	**P**	**06 29 51.1**	**-0.8**
MZWR				P	**P**	**06 29 51.1**	**-0.8**
MZWR				S	**S**	**06 38 40.6**	**-0.2**
MZWR				S	**S**	**06 38 40.6**	**-0.2**
MZWR				S	**S**	**06 38 40.6**	**-0.2**
DOK	**Doka**	**66.77**	**284**	P	**P**	**06 29 53.7**	**-0.8**
	SNR=34						
DOK				P	**P**	**06 29 53.7**	**-0.8**
	SNR=34						
DOK				P	**P**	**06 29 53.7**	**-0.8**
	SNR=34						
DOK				S	**S**	**06 38 43.1**	**-2.7**
DOK				S	**S**	**06 38 43.1**	**-2.7**
DOK				S	**S**	**06 38 43.1**	**-2.7**
MZR	**Muzera**	**66.82**	**289** *i*	P	**P**	**06 29 54.0**	**-0.7**
	SNR=50						
MZR	**Muzera**	**66.82**	**289**	P	**P**	**06 29 54.4**	**-0.4**
	SNR=46						
MZR				P	**P**	**06 29 54.4**	**-0.4**
	SNR=46						
RBK	**Rabkut**	**66.86**	**283**	P	**P**	**06 29 54.9**	**-0.3**
	SNR=34						
RBK				P	**P**	**06 29 54.9**	**-0.3**
	SNR=34						
RBK				P	**P**	**06 29 54.9**	**-0.3**
	SNR=34						
RBK				S	**S**	**06 38 43.7**	**-3.3**
RBK				S	**S**	**06 38 43.7**	**-3.3**
RBK				S	**S**	**06 38 43.7**	**-3.3**
JRN	**Qarnain Island**	**67.18**	**291**	P	**P**	**06 29 56.1**	**-0.9**
	SNR=12						
JRN				P	**P**	**06 29 56.1**	**-0.9**
	SNR=12						
JRN				P	**P**	**06 29 56.1**	**-0.9**
	SNR=12						
JRN				S	**S**	**06 38 44.6**	**-5.9**
JRN				S	**S**	**06 38 44.6**	**-5.9**
JRN				S	**S**	**06 38 44.6**	**-5.9**
WHFO	**Wadi Hawf**	**67.21**	**284**	P	**P**	**06 29 56.6**	**-0.8**
	SNR=22						
WHFO				P	**P**	**06 29 56.6**	**-0.8**
	SNR=22						
WHFO				P	**P**	**06 29 56.6**	**-0.8**
	SNR=22						
WHFO				S	**S**	**06 38 50.5**	**-0.6**
WHFO				S	**S**	**06 38 50.5**	**-0.6**
WHFO				S	**S**	**06 38 50.5**	**-0.6**
GHWR	**Ruwais**	**67.26**	**290**	P	**P**	**06 29 57.1**	**-0.4**
GHWR				P	**P**	**06 29 57.1**	**-0.4**
GHWR				P	**P**	**06 29 57.1**	**-0.4**
M11K	**Mekoryuk**	**67.53**	**30**	P	**P**	**06 29 59.0**	**+0.5**
	baz=260						
M11K				S	**S**	**06 38 58.4**	**+4.9**
	baz=260						
ABTO	**Aybut**	**67.74**	**283**	P	**P**	**06 30 00.3**	**-0.4**
	SNR=25						
ABTO				P	**P**	**06 30 00.3**	**-0.4**
	SNR=25						
ABTO				P	**P**	**06 30 00.3**	**-0.4**
	SNR=25						
ABTO				S	S	06 38 48.1	-9.5
ABTO				S	S	06 38 48.1	-9.5
ABTO				S	S	06 38 48.1	-9.5
TNA	**Tin City**	**67.87**	**25**	P	**P**	**06 30 01.6**	**+1.0**
	baz=256						
TNA				S	**S**	**06 39 01.5**	**+4.0**
	baz=256						
FALS	**False Pass**	**68.23**	**36**	P	**P**	**06 30 03.5**	**+0.5**
	baz=264						
SLWR	**Sila**	**68.33**	**290**	P	**P**	**06 30 04.2**	**0.0**
SLWR				P	**P**	**06 30 04.2**	**0.0**
SLWR				P	**P**	**06 30 04.2**	**0.0**
SLWR				S	**S**	**06 39 02.3**	**-2.0**
SLWR				S	**S**	**06 39 02.3**	**-2.0**
SLWR				S	**S**	**06 39 02.3**	**-2.0**
F14K	**Arctic Creek**	**68.49**	**25**	P	**P**	**06 30 06.0**	**+1.5**
	baz=258,SNR=6.5						
F14K				S	**S**	**06 39 09.7**	**+4.7**
	baz=258						
K13K	**Kusilvak Mount**	**68.54**	**29**	P	**P**	**06 30 06.4**	**+1.6**
	baz=260,SNR=6.4						
K13K				S	**S**	**06 39 08.7**	**+3.1**
	baz=260						
TRNA	**Turayna**	**68.68**	**291**	P	**P**	**06 30 06.4**	**0.0**
	SNR=46						
TRNA				S	**S**	**06 39 06.8**	**-1.7**
ROCAM	**Rodrigues Isla**	**68.69**	**242**	P	**P**	**06 30 07.0**	**+0.6**
ROCAM				IAMs_20	IAMs_20	06 57 12.1	
	comp=Z,9µm,20.0s						
ANM	**Nome**	**68.70**	**26**	P	**P**	**06 30 05.5**	**-0.3**
	baz=259						
ANM				S	**S**	**06 39 11.0**	**+3.5**
	baz=259						
SHMA	**Al-Shehemyia**	**68.78**	**292**	P	**P**	**06 30 06.9**	**-0.1**
	SNR=27						
SHMA				S	**S**	**06 39 08.6**	**-1.1**
M13K	**Dall Lake**	**68.93**	**30**	P	**P**	**06 30 07.7**	**+0.4**
	baz=262						
M13K				S	**S**	**06 39 14.1**	**+3.8**
	baz=262						
SMRA	**Abu-Samra**	**69.03**	**291**	P	**P**	**06 30 08.5**	**-0.1**
	SNR=53						
SMRA				S	**S**	**06 39 11.3**	**-1.4**
S12K	**Black Hills**	**69.09**	**36**	P	**P**	**06 30 08.2**	**-0.3**
	baz=265						
SAKB	**Bahrain**	**69.15**	**293**	S	**S**	**06 39 13.2**	**-0.8**
J14K	**Nanvaranak Lak**	**69.18**	**28**	P	**P**	**06 30 11.8**	**+3.0**
J14K				IAmb	IAmb	06 30 21.8	
	comp=Z,325nm,1.9s						
J14K	**Nanvaranak Lak**	**69.18**	**28**	P	**P**	**06 30 09.2**	**+0.4**
	baz=261						
J14K				S	**S**	**06 39 15.9**	**+2.8**
	baz=261						
F15K	**North Star Dit**	**69.23**	**25**	P	**P**	**06 30 12.3**	**+3.2**
F15K	**North Star Dit**	**69.23**	**25**	P	**P**	**06 30 10.3**	**+1.2**
	baz=259,SNR=8.5						
F15K				S	**S**	**06 39 16.8**	**+3.2**
	baz=259						
G15K	**Niukluk**	**69.34**	**26**	P	**P**	**06 30 11.1**	**+1.2**
	baz=260,SNR=7.1						
G15K				S	**S**	**06 39 18.6**	**+3.6**
	baz=260						
L14K	**Kuka Creek**	**69.38**	**30**	P	**P**	**06 30 12.9**	**+2.8**
L14K	**Kuka Creek**	**69.38**	**30**	P	**P**	**06 30 10.6**	**+0.5**
	baz=262,SNR=16						
L14K				S	**S**	**06 39 19.5**	**+4.0**
	baz=262						
C16K	**Lisburne Hills**	**69.49**	**22**	P	**P**	**06 30 11.7**	**+1.1**
C16K				IAmb	IAmb	06 30 23.7	
	comp=Z,364nm,1.8s						
C16K	**Lisburne Hills**	**69.49**	**22**	P	**P**	**06 30 11.1**	**+0.4**
	baz=257,SNR=7.5						
C16K				S	**S**	**06 39 20.1**	**+3.5**
	baz=257						
M14K	**Bethel**	**69.66**	**30**	P	**P**	**06 30 13.6**	**+1.8**
M14K				IAmb	IAmb	06 30 23.9	
	comp=Z,115nm,1.1s						
M14K	**Bethel**	**69.66**	**30**	P	**P**	**06 30 12.8**	**+1.1**
	baz=263,SNR=7.1						
M14K				S	**S**	**06 39 22.8**	**+4.1**
	baz=263						
N14K	**Kuskokwak Cree**	**69.70**	**31**	P	**P**	**06 30 12.9**	**+0.9**
	baz=264,SNR=9.2						
N14K				S	**S**	**06 39 21.8**	**+2.5**
	baz=264						
KIRV	**Kirov**	**69.74**	**327**	LR	LR	07 03 26.3	
	comp=Z,12µm,18.8s,baz=99,slow=38						
KIRV	**Kirov**	**69.74**	**327** *ce*	P	**P**	**06 30 11.8**	**-0.5**
O14K	**Tigyukauivet M**	**69.84**	**32**	P	**P**	**06 30 14.8**	**+1.8**
O14K	**Tigyukauivet M**	**69.84**	**32**	P	**P**	**06 30 14.4**	**+1.4**
	baz=264						
O14K				S	**S**	**06 39 22.7**	**+1.6**
	baz=264						
SDPT	**Sand Point**	**69.96**	**36**	P	**P**	**06 30 15.3**	**+1.6**
SDPT	**Sand Point**	**69.96**	**36**	P	**P**	**06 30 15.3**	**+1.6**
	baz=267						
SDPT				S	**S**	**06 39 24.4**	**+1.9**
	baz=267						
L15K	**Ungalak Mounta**	**69.99**	**29**	P	**P**	**06 30 15.7**	**+1.9**
	baz=264,SNR=5.2						
L15K				S	**S**	**06 39 24.2**	**+1.5**
	baz=264						
H16K	**Elim**	**70.05**	**26**	P	**P**	**06 30 16.4**	**+2.2**
	baz=262,SNR=6.4						
H16K				S	**S**	**06 39 26.2**	**+2.9**
	baz=262						
K15K	**Wolf Creek Mou**	**70.05**	**29**	P	**P**	**06 30 14.7**	**+0.4**
K15K				IAmb	IAmb	06 30 26.5	
	comp=Z,104nm,1.1s						
K15K	**Wolf Creek Mou**	**70.05**	**29**	P	**P**	**06 30 16.6**	**+2.4**
	baz=263						
K15K				S	**S**	**06 39 26.5**	**+3.2**
	baz=263						
G16K	**Koyuk River**	**70.11**	**25**	IAMs_20	IAMs_20	07 03 38.0	
	comp=Z,9µm,18.0s						
G16K	**Koyuk River**	**70.11**	**25**	P	**P**	**06 30 16.3**	**+1.8**
	baz=261						
G16K				S	**S**	**06 39 26.9**	**+2.9**
	baz=261						
D17K	**Noatak River**	**70.21**	**23**	P	**P**	**06 30 16.3**	**+1.3**
	baz=260,SNR=19						
D17K				S	**S**	**06 39 28.5**	**+3.4**
	baz=260						
M15K	**Kasigluk River**	**70.27**	**30**	P	**P**	**06 30 17.3**	**+1.7**
	baz=264,SNR=8.4						
M15K				S	**S**	**06 39 28.3**	**+2.2**
	baz=264						
C17K	**DeLong Mountai**	**70.32**	**22**	P	**P**	**06 30 18.1**	**+2.3**
	baz=259						
C17K				S	**S**	**06 39 29.5**	**+3.1**
	baz=259						
RDOG	**Red Dog Mine**	**70.34**	**22**	P	**P**	**06 30 18.5**	**+2.5**
	baz=260,SNR=6.1						
RDOG				S	**S**	**06 39 29.6**	**+2.9**
	baz=260						
BELG	**Belogornoye**	**70.37**	**321**	LR	LR	07 04 53.5	
	comp=Z,6µm,19.7s,baz=142,slow=39						
BELG	**Belogornoye**	**70.37**	**321** *c i*	P	**P**	**06 30 15.1**	**-1.2**
BELG				pmax	pmax		
	comp=Z,61nm,1.0s						
BELG				MLR	MLR		
	comp=Z,985nm,18.0s						
MAK	**Makhachkala**	**70.46**	**311** *d i*	P	**P**	**06 30 14.8**	**-2.3**
MAK			*e*			06 32 49.6	
MAK			*e*	PPP	PPP	06 34 39.4	
MAK			*eS*	**S**	**S**	**06 39 26.3**	**-2.6**
MAK			*eSS*	**SS**	**SS**	**06 44 02.4**	**+2.5**
MAK				pmax	pmax		
	comp=Z,238nm,1.5s						
MAK				MLR	MLR		
	comp=Z,12µm,16.0s						
N15K	**Kwethluk River**	**70.52**	**31**	P	**P**	**06 30 19.4**	**+2.2**
N15K				IAmb	IAmb	06 30 29.2	
	comp=Z,115nm,0.9s						
N15K	**Kwethluk River**	**70.52**	**31**	P	**P**	**06 30 19.4**	**+2.2**
	baz=265,SNR=8.1						
N15K				S	**S**	**06 39 30.8**	**+1.8**
	baz=265						
S14K	**Fog Glacier**	**70.53**	**35**	P	**P**	**06 30 19.1**	**+1.7**
	baz=267						
S14K				S	**S**	**06 39 28.6**	**-0.9**
	baz=267						
MSEY	**Mahe Island**	**70.56**	**260**	P	**P**	**06 30 18.0**	**-0.3**
O15K	**Ungaliktiuk R**	**70.57**	**32**	P	**P**	**06 30 19.7**	**+2.3**
	baz=266						
O15K				S	**S**	**06 39 30.4**	**+0.8**
	baz=266						
E17K	**Hotham Inlet**	**70.58**	**24**	P	**P**	**06 30 19.0**	**+1.6**
	baz=261,SNR=12						
E17K				S	**S**	**06 39 32.7**	**+3.3**
	baz=261						
J16K	**Anvik River**	**70.59**	**28**	P	**P**	**06 30 20.1**	**+2.7**
J16K				IAmb	IAmb	06 30 30.9	
	comp=Z,170nm,1.6s						
J16K	**Anvik River**	**70.59**	**28**	P	**P**	**06 30 20.0**	**+2.5**
	baz=264						
J16K				S	**S**	**06 39 32.1**	**+2.5**
	baz=264						
I17K	**Unalakleet**	**70.61**	**27**	P	**P**	**06 30 20.2**	**+2.6**
I17K				IAmb	IAmb	06 31 00.6	
	comp=Z,120nm,1.2s						
I17K	**Unalakleet**	**70.61**	**27**	P	**P**	**06 30 19.0**	**+1.4**
	baz=263						
I17K				S	**S**	**06 39 33.0**	**+3.1**
	baz=263						
F17K	**Baldwin Pennin**	**70.72**	**24**	P	**P**	**06 30 20.8**	**+2.6**
F17K				IAmb	IAmb	06 31 13.0	
	comp=Z,126nm,1.3s						
F17K	**Baldwin Pennin**	**70.72**	**24**	P	**P**	**06 30 20.2**	**+2.0**
	baz=262,SNR=11						
F17K				S	**S**	**06 39 33.5**	**+2.6**
	baz=262						
G17K	**Kiwalik Mounta**	**70.83**	**25**	P	**P**	**06 30 21.1**	**+2.2**
	baz=263,SNR=15						
G17K				S	**S**	**06 39 35.2**	**+2.8**
	baz=263						
RAO	**Raoul Island**	**70.91**	**128**	IAMs_20	IAMs_20	06 59 03.6	
	comp=Z,8µm,20.0s						
RAO	**Raoul Island**	**70.91**	**128**	LR	LR	06 57 30.8	
	comp=Z,6µm,21.1s,baz=332,slow=32						
TOZ	**Tahuroa Road**	**70.92**	**139**	P	**P**	**06 30 22.0**	**+2.2**
TOZ				IAMs_20	IAMs_20	07 00 47.8	
	comp=Z,7µm,19.0s						
L16K	**Owhat River**	**70.95**	**29**	P	**P**	**06 30 21.7**	**+2.0**
L16K				IAmb	IAmb	06 30 32.5	
	comp=Z,200nm,1.6s						
L16K	**Owhat River**	**70.95**	**29**	P	**P**	**06 30 21.3**	**+1.6**
	baz=265,SNR=13						
L16K				S	**S**	**06 39 35.7**	**+1.8**
	baz=265						
B18K	**Kokolik River**	**70.96**	**21**	P	**P**	**06 30 21.8**	**+2.1**
	baz=260,SNR=6.4						
B18K				S	**S**	**06 39 36.3**	**+2.5**
	baz=260						
C18K	**Utukok River**	**71.06**	**22**	P	**P**	**06 30 22.3**	**+2.0**
C18K				IAmb	IAmb	06 30 33.4	
	comp=Z,153nm,1.4s						
C18K	**Utukok River**	**71.06**	**22**	P	**P**	**06 30 22.4**	**+2.0**
	baz=261,SNR=8.2						
C18K				S	**S**	**06 39 36.6**	**+1.4**
	baz=261						
H17K	**Granite Mounta**	**71.07**	**26**	P	**P**	**06 30 22.2**	**+1.7**
H17K	**Granite Mounta**	**71.07**	**26**	P	**P**	**06 30 22.6**	**+2.2**
	baz=264,SNR=14						
H17K				S	**S**	**06 39 38.0**	**+2.8**
	baz=264						
E18K	**Tukpahlearik C**	**71.11**	**23**	P	**P**	**06 30 23.1**	**+2.6**
E18K	**Tukpahlearik C**	**71.11**	**23**	P	**P**	**06 30 23.3**	**+2.8**
	baz=262,SNR=14						
E18K				S	**S**	**06 39 37.5**	**+2.0**
	baz=262						
M16K	**Timber Creek**	**71.14**	**30**	P	**P**	**06 30 23.3**	**+2.4**
M16K				IAmb	IAmb	06 30 32.9	
	comp=Z,85nm,1.1s						
M16K	**Timber Creek**	**71.14**	**30**	P	**P**	**06 30 22.4**	**+1.5**
	baz=266,SNR=9.2						
M16K				S	**S**	**06 39 39.2**	**+2.9**
	baz=266						
CHGN	**Chignik**	**71.17**	**35**	P	**P**	**06 30 22.6**	**+1.5**
	baz=268						
CHGN				S	**S**	**06 39 35.4**	**-1.2**
	baz=268						
DSZ	**Denniston Nort**	**71.20**	**144**	IAMs_20	IAMs_20	07 00 47.7	
	comp=Z,11µm,20.0s						
N16K	**Nishlik Lake**	**71.20**	**31**	P	**P**	**06 30 22.2**	**+0.9**
	baz=266,SNR=7.0						
N16K				S	**S**	**06 39 39.8**	**+2.9**
	baz=266						
DCZ	**Deep Cove**	**71.28**	**149**	IAMs_20	IAMs_20	07 05 26.6	
	comp=Z,8µm,20.0s						
J17K	**VABM Dome**	**71.28**	**28**	P	**P**	**06 30 24.6**	**+2.9**
J17K				IAmb	IAmb	06 30 38.8	
	comp=Z,242nm,1.6s						
J17K	**VABM Dome**	**71.28**	**28**	P	**P**	**06 30 23.1**	**+1.3**
	baz=265,SNR=16						
J17K				S	**S**	**06 39 41.0**	**+3.2**
	baz=265						
KBD	**Kabd**	**71.30**	**296**	P	**P**	**06 30 21.9**	**-0.6**
KBD				S	**S**	**06 39 36.9**	**-2.3**
A19K	**Wainwright**	**71.35**	**20**	P	**P**	**06 30 23.6**	**+1.6**
	baz=261						
A19K				S	**S**	**06 39 41.7**	**+3.4**
	baz=261						
F18K	**Selawik**	**71.37**	**24**	P	**P**	**06 30 23.6**	**+1.4**
	baz=263,SNR=27						
F18K				S	**S**	**06 39 41.5**	**+2.9**
	baz=263						
TKNZ	**Takaka Hill**	**71.40**	**143**	P	**P**	**06 30 24.2**	**+1.5**
O16K	**Kokwok River B**	**71.48**	**32**	P	**P**	**06 30 25.4**	**+2.4**
	baz=267,SNR=8.9						
O16K				S	**S**	**06 39 42.9**	**+2.7**
	baz=267						
P16K	**Nushagak River**	**71.51**	**32**	P	**P**	**06 30 25.5**	**+2.4**
	baz=268						
P16K				S	**S**	**06 39 43.0**	**+2.6**
	baz=268						
MRNZ	**Matariki Terra**	**71.52**	**143**	P	**P**	**06 30 25.2**	**+1.8**
L17K	**Donlin**	**71.54**	**29**	P	**P**	**06 30 26.1**	**+2.8**
	baz=266,SNR=21						
L17K				S	**S**	**06 39 43.8**	**+3.1**
	baz=266						
PYZ	**Puysegur Point**	**71.55**	**150**	IAMs_20	IAMs_20	07 05 53.8	
	comp=Z,10µm,18.0s						
K17K	**Iditarod**	**71.58**	**28**	P	**P**	**06 30 25.9**	**+2.4**
	baz=266,SNR=12						
K17K				S	**S**	**06 39 44.4**	**+3.2**
	baz=266						
INZ	**Inchbonnie**	**71.64**	**145**	IAMs_20	IAMs_20	07 05 39.3	
	comp=Z,10µm,18.0s						
R16K	**Pilot Point**	**71.67**	**34**	P	**P**	**06 30 27.3**	**+3.2**
	baz=268						
G18K	**Tagagawik**	**71.70**	**25**	P	**P**	**06 30 26.1**	**+1.9**
	baz=265,SNR=23						
G18K				S	**S**	**06 39 44.4**	**+1.9**

baz=265
GROC Groznyy 71.70 311 *e*P **P** **06 30 24.3 -0.3**
GROC *e* 06 30 43.5
GROC *e* 06 33 05.7
GROC *e*S **S** **06 39 41.6 -1.7**
GROC pmax pmax
comp=Z,107nm,1.1s
C19K Lookout Ridge 71.71 22 P **P** **06 30 26.4 +2.1**
baz=263,SNR=21
C19K S **S** **06 39 45.1 +2.5**
baz=263
H18K Honhosa River 71.75 26 P **P** **06 30 26.7 +2.1**
baz=265,SNR=11
H18K S **S** **06 39 45.7 +2.6**
baz=265
NNZ Nelson 71.77 143 IAMs_20 IAMs_20 07 05 56.8
comp=Z,9µm,18.0s
WKZ Wanaka 71.77 148 IAMs_20 IAMs_20 07 01 54.6
comp=Z,8µm,20.0s
THZ Tophouse 71.84 144 IAMs_20 IAMs_20 06 59 19.7
comp=Z,11µm,22.0s
M17K Holitna River 71.90 30 P **P** **06 30 27.7 +2.2**
baz=267,SNR=11
M17K S **S** **06 39 48.0 +3.0**
baz=267
WHZ Wether Hill Ro 71.97 149 IAMs_20 IAMs_20 07 05 59.0
comp=Z,8µm,20.0s
N17K Nushagak Hills 71.98 31 P **P** **06 30 28.3 +2.3**
baz=268
N17K S **S** **06 39 49.2 +3.2**
baz=268
O17K Koliganek Bris 72.00 31 P **P** **06 30 27.2 +1.1**
baz=268
O17K S **S** **06 39 46.9 +0.9**
baz=268
LBZ Lake Benmore 72.07 147 P **P** **06 30 28.3 +1.6**
LBZ IAmb IAmb 06 31 09.7
comp=Z,302nm,1.5s
LBZ IAMs_20 IAMs_20 07 00 46.7
comp=Z,10µm,20.0s
RPZ Rata Peaks 72.08 146 P **P** **06 30 28.4 +1.6**
RPZ Rata Peaks 72.08 146 P **P** **06 30 27.2 +0.4**
RPZ IAMs_20 IAMs_20 07 03 12.0
comp=Z,8µm,20.0s
RPZ Rata Peaks 72.08 146 LR LR 07 01 43.9
comp=Z,4µm,20.3s,baz=307,slow=36
LTZ Lake Taylor 72.14 145 P **P** **06 30 28.0 +0.8**
F19K Shaleruckik Mo 72.14 24 P **P** **06 30 28.5 +1.7**
baz=265,SNR=12
F19K S **S** **06 39 49.7 +2.2**
baz=265
D19K Kuna River 72.17 22 P **P** **06 30 29.0 +2.0**
baz=264,SNR=48
D19K S **S** **06 39 50.2 +2.3**
baz=264
KEKH Kekaha 72.17 71 IAMs_20 IAMs_20 07 02 37.7
comp=Z,9µm,18.0s
Q16K King Salmon 72.19 33 P **P** **06 30 29.5 +2.3**
baz=269
Q16K S **S** **06 39 48.1 -0.2**
baz=269
URZ Urewera 72.25 139 LR LR 07 01 44.0
comp=Z,6µm,20.6s,baz=30,slow=35
L18K Granite Mounta 72.30 29 P **P** **06 30 30.3 +2.5**
baz=268,SNR=15
L18K S **S** **06 39 52.3 +2.9**
baz=268
P17K Kvichak River 72.32 32 P **P** **06 30 30.0 +2.0**
baz=269,SNR=16
P17K S **S** **06 39 51.1 +1.4**
baz=269
J18K Innoko River 72.35 28 P **P** **06 30 30.2 +2.1**
baz=267,SNR=13
J18K S **S** **06 39 50.0 -0.1**
baz=267
GCSA Galena City Sc 72.35 26 P **P** **06 30 29.7 +1.6**
baz=267,SNR=5.3
GCSA S **S** **06 39 52.6 +2.7**
baz=267
G19K Purcell Mounta 72.36 25 P **P** **06 30 29.6 +1.5**
baz=266,SNR=22
G19K S **S** **06 39 52.3 +2.3**
baz=266
OXZ Oxford 72.36 145 IAMs_20 IAMs_20 07 05 55.5
comp=Z,10µm,18.0s
BKZ Black Stump Fm 72.39 140 P **P** **06 30 30.3 +1.5**
E19K Redstone River 72.40 23 P **P** **06 30 30.3 +1.9**
baz=265,SNR=38
E19K S **S** **06 39 52.9 +2.4**
baz=265
H19K Roundabout Mou 72.58 25 IAMs_20 IAMs_20 07 00 26.7
comp=Z,8µm,21.0s
H19K Roundabout Mou 72.58 25 P **P** **06 30 31.7 +2.3**
baz=267,SNR=56
H19K S **S** **06 39 55.0 +2.5**
baz=267
Q17K Contact Creek 72.59 33 P **P** **06 30 31.7 +1.9**
baz=270,SNR=8.8
Q17K S **S** **06 39 50.1 -3.0**
baz=270
SNZO South Karori 72.60 142 IAMs_20 IAMs_20 07 01 09.4
comp=Z,9µm,21.0s
N18K Kilae Creek 72.63 31 P **P** **06 30 31.7 +1.8**
baz=269,SNR=7.9
N18K S **S** **06 39 55.6 +2.3**
baz=269
B20K Meade River 72.66 21 P **P** **06 30 32.5 +2.7**
baz=265
B20K S **S** **06 39 55.4 +2.1**
baz=265
M18K Stony River 72.68 30 P **P** **06 30 31.4 +1.3**
baz=269,SNR=18
M18K S **S** **06 39 55.9 +2.1**
baz=269
GVZ Greta Valley S 72.69 145 IAMs_20 IAMs_20 07 01 56.0
comp=Z,9µm,19.0s
GNI Garni 72.69 308 P **P** **06 30 31.5 +0.7**
GNI IAmb IAmb 06 31 15.8
comp=Z,227nm,1.4s
GNI Garni 72.69 308 P **P** **06 30 31.2 +0.4**
GNI Garni 72.69 308 LR LR 07 06 09.6
comp=Z,4µm,19.9s,baz=106,slow=39
GNI Garni 72.69 308 P **P** **06 30 32.0 +1.1**
GNI P **P** **06 30 32.0 +1.1**
GNI Garni 72.69 308*ce*P **P** **06 30 30.9 +0.1**
GNI pmax pmax
comp=Z,91nm,1.3s
GNI Garni 72.69 308 P **P** **06 30 31.9 +1.1**
comp=Z,79nm,1.7s,comp=Z,4µm
GUDG Gudauri 72.72 310 P **P** **06 30 31.5 +0.5**
CHIR Chirikof Islan 72.73 36 IAMs_20 IAMs_20 07 04 31.5
comp=Z,9µm,20.0s
CHIR Chirikof Islan 72.73 36 P **P** **06 30 32.1 +1.6**
baz=270
CHIR S **S** **06 39 56.6 +2.0**
baz=270
D20K Etivluk River 72.73 22 P **P** **06 30 31.8 +1.4**
baz=266
D20K S **S** **06 39 56.9 +2.5**
baz=266
ODZ Otahua Downs 72.76 147 IAMs_20 IAMs_20 07 00 14.8
comp=Z,9µm,21.0s
SVW2 Sparrevohn 72.79 30 P **P** **06 30 33.6 +2.8**
SVW2 IAmb IAmb 06 30 41.1
comp=Z,212nm,2.0s
KZRT Kazreti 72.85 309 P **P** **06 30 32.1 +0.5**
E20K Nigu River 72.86 23 P **P** **06 30 33.5 +2.3**
baz=266,SNR=46
E20K S **S** **06 39 57.6 +1.8**
baz=266
J19K Poorman 72.86 27 P **P** **06 30 32.9 +1.8**
baz=268,SNR=17
J19K S **S** **06 39 57.6 +1.8**
baz=268
P18K Big Mountain, 72.94 32 P **P** **06 30 33.1 +1.3**
baz=270
P18K S **S** **06 39 56.5 -0.5**
baz=270
O18K Koktuh Hills 72.95 31 P **P** **06 30 33.8 +1.9**
baz=270,SNR=19
O18K S **S** **06 39 59.9 +2.8**
baz=270
F20K Avaraart Lake 72.96 24 P **P** **06 30 33.3 +1.6**
baz=267
F20K S **S** **06 39 58.5 +1.7**
baz=267
A21K Barrow 72.96 19 P **P** **06 30 33.4 +1.8**
baz=265,SNR=5.5
A21K S **S** **06 39 58.5 +1.8**
baz=265
TRLG Trialeti 73.06 309 P **P** **06 30 33.1 +0.1**
L19K White Mountain 73.16 29 P **P** **06 30 34.6 +1.6**
baz=269,SNR=21
L19K S **S** **06 40 00.7 +1.4**
baz=269
H20K Anotleneega Mo 73.23 25 P **P** **06 30 35.0 +1.6**
baz=268,SNR=59
H20K S **SKiKP** **06 40 02.8 -1.0**
baz=268
NCK Nalchik 73.29 311 *i* P **P** **06 30 34.2 +0.1**
NCK pmax pmax
comp=Z,288nm,2.8s
N19K Bonanza Creek 73.32 30 P **P** **06 30 36.3 +2.2**
baz=270,SNR=20
N19K S **SKiKP** **06 40 03.7 -0.4**
baz=270
M19K Big River Lodg 73.37 29 P **P** **06 30 36.4 +2.2**
baz=270
M19K S **SKiKP** **06 40 04.0 -0.1**
baz=270
I20K Naaghedeneel 73.38 26 P **P** **06 30 36.1 +1.9**
baz=269,SNR=12
I20K S **SKiKP** **06 40 04.6 +0.7**
baz=269
O19K Port Alsworth 73.40 31 P **P** **06 30 35.8 +1.4**
baz=270
O19K S **SKiKP** **06 40 03.5 -0.6**
baz=270
C21K Knifeblade Rid 73.42 22 P **P** **06 30 36.4 +2.0**
baz=267,SNR=35
C21K S **SKiKP** **06 40 04.2 +0.3**
baz=267
ONI Oni 73.46 311 IAMs_20 IAMs_20 07 07 43.3
comp=Z,10µm,18.0s
ONI Oni 73.46 311 P **P** **06 30 36.1 +0.9**
A22K Sinclair Lake 73.47 20 P **P** **06 30 36.0 +1.4**
baz=266,SNR=50
A22K S **SKiKP** **06 40 04.8 +0.9**
baz=266
B21K Ikpikpuk River 73.51 21 IAMs_20 IAMs_20 07 05 49.0
comp=Z,8µm,19.0s
B21K Ikpikpuk River 73.51 21 P **P** **06 30 36.6 +1.7**
baz=267,SNR=62
B21K S **SKiKP** **06 40 04.7 +0.7**
baz=267
J20K Nowinta River 73.51 27 P **P** **06 30 37.5 +2.5**
baz=269,SNR=33
J20K S **SKiKP** **06 40 05.7 +1.6**
baz=269
SII Sitkinak Islan 73.52 35 P **P** **06 30 37.6 +2.4**
baz=272
SII S **S** **06 40 04.2 +0.6**
baz=272
K20K Telida 73.53 28 P **P** **06 30 37.2 +2.1**
baz=270,SNR=24
K20K S **SKiKP** **06 40 06.2 +2.0**
baz=270
GOF Gofitskoye 73.57 313*c* *i*P **P** **06 30 35.6 -0.1**
GOF *e*S **SKiKP** **06 40 05.4 +0.6**
L20K Farewell, AK 73.61 29 P **P** **06 30 37.5 +1.8**
baz=270,SNR=11
L20K S **S** **06 40 06.7 +2.2**
baz=270
E21K Killik River 73.69 22 P **P** **06 30 37.0 +1.0**
E21K Killik River 73.69 22 P **P** **06 30 38.0 +2.0**
baz=268
E21K S **S** **06 40 06.1 +0.9**
baz=268
Q19K Cape Douglas, 73.76 32 IAMs_20 IAMs_20 06 58 04.5
comp=Z,8µm,22.0s
Q19K Cape Douglas, 73.76 32 P **P** **06 30 38.2 +1.6**
baz=271
KBZ Khabaz 73.78 312 P **P** **06 30 36.2 -0.7**
comp=Z,33nm,1.1s,baz=90,slow=6.4,SNR=68
KBZ LR LR 07 05 01.3
comp=Z,9µm,20.2s,baz=74,slow=38
comp=Z,33nm,1.1s
KBZ Khabaz 73.78 312*ce*P **P** **06 30 36.6 -0.3**
KBZ pmax pmax
comp=Z,101nm,1.5s
KBZ MLR MLR
comp=Z,9µm,19.0s
OPA Opana 73.78 71 IAMs_20 IAMs_20 07 03 20.2
comp=Z,9µm,19.0s
G21K Allakaket 73.82 24 P **P** **06 30 38.4 +1.6**
baz=269,SNR=71
G21K S **S** **06 40 09.2 +2.5**
baz=269
KIP Kipapa 73.82 72 P **P** **06 30 38.2 +0.6**
KIP Kipapa 73.82 72 IAMs_20 IAMs_20 07 03 49.4
comp=Z,7µm,18.0s
KIP Kipapa 73.82 72*ce*P **P** **06 30 39.8 +2.2**
KIP pmax pmax
comp=Z,161nm,1.7s
F21K Alatna River 73.84 24 P **P** **06 30 39.1 +2.2**
baz=269,SNR=21
F21K S **S** **06 40 10.0 +3.1**
baz=269
HON Honolulu 73.85 72 IAMs_20 IAMs_20 06 59 34.2
comp=Z,8µm,19.0s
KIV Kislovodsk 73.91 312 ⇑P **P** **06 30 38.6 +0.8**
KIV Kislovodsk 73.91 312 P **P** **06 30 37.2 -0.7**
KIV IAmb IAmb 06 31 16.0
comp=Z,108nm,0.9s
KIV IAMs_20 IAMs_20 07 08 37.1
comp=Z,9µm,19.0s
KIV Kislovodsk 73.91 312 *i* P **P** **06 30 37.5 -0.4**
SNR=70
KIV Kislovodsk 73.91 312 P **P** **06 30 38.2 +0.3**
KIV P **P** **06 30 38.2 +0.3**
KIV S **S** **06 40 08.7 +0.1**
KIV S **S** **06 40 08.7 +0.1**
KIV Kislovodsk 73.91 312 *e*P **P** **06 30 38.2 +0.3**
KIV *e* 06 33 23.1
KIV *e*S **S** **06 40 10.1 +1.4**
KIV pmax pmax
comp=Z,72nm,1.0s
KIV pmax pmax
comp=Z,1µm,4.3s
KIV MLR MLR
comp=Z,7µm,18.0s
KIV Kislovodsk 73.91 312 P **P** **06 30 37.4 -0.4**
comp=Z,129nm,1.3s,comp=Z,4µm
SHA1 Shidzhatmaz 73.95 312*ce*P **P** **06 30 37.6 -0.7**
B22K Teshekpuk Lake 73.95 20 IAMs_20 IAMs_20 07 08 00.6
comp=Z,7µm,18.0s
B22K Teshekpuk Lake 73.95 20 P **P** **06 30 39.5 +2.1**
baz=268,SNR=41
B22K S **S** **06 40 08.9 +1.0**
baz=268
P19K Oil Pt 73.96 32 P **P** **06 30 39.6 +1.9**
baz=271
P19K S **SKiKP** **06 40 05.4 +0.4**
baz=271
M20K Styx River 73.97 29 P **P** **06 30 39.7 +1.8**
baz=271
M20K S **S** **06 40 10.8 +2.1**
baz=271
OHAK Old Harbor 73.99 34 P **P** **06 30 38.6 +0.7**
OHAK Old Harbor 73.99 34 P **P** **06 30 39.3 +1.4**
baz=272
OHAK S **S** **06 40 10.0 +1.1**
baz=272
RAYN Ar Rayn 74.01 291 P **P** **06 30 38.0 -0.8**
RAYN Ar Rayn 74.01 291 IAMs_20 IAMs_20 07 09 04.5
comp=Z,10µm,19.0s
RAYN Ar Rayn 74.01 291 *i* P **P** **06 30 38.2 -0.6**
SNR=224
RAYN Ar Rayn 74.01 291 P **P** **06 30 38.9 +0.1**
VRH Novokhopyorsk 74.05 320 *e*P **P** **06 30 38.2 -0.2**
VRH *e*S **S** **06 40 12.4 +2.7**
VRH pmax pmax
comp=Z,396nm,1.8s
H21K Melozitna Rive 74.09 25 P **P** **06 30 39.3 +0.9**
baz=270,SNR=58
H21K S **S** **06 40 12.4 +2.6**
baz=270
D22K Ayikyak River 74.17 22 P **P** **06 30 40.6 +1.7**
D22K IAmb IAmb 06 30 56.6
comp=Z,249nm,1.4s
D22K Ayikyak River 74.17 22 P **P** **06 30 41.0 +2.2**
baz=269,SNR=25
D22K S **S** **06 40 12.9 +2.3**
baz=269
O20K Slope Mountain 74.25 31 P **P** **06 30 41.4 +1.9**
baz=272
CHUM Lake Minchumin 74.32 27 P **P** **06 30 41.7 +2.0**
baz=271,SNR=26
CHUM S **S** **06 40 13.7 +1.5**
baz=271
F22K John River 74.35 23 P **P** **06 30 42.0 +2.1**
baz=270
F22K S **S** **06 40 14.9 +2.3**
baz=270
KDAK Kodiak Island 74.35 34 IAMs_20 IAMs_20 07 03 26.3
comp=Z,11µm,20.0s
KDAK Kodiak Island 74.35 34 P **P** **06 30 41.5 +1.5**
baz=272
KDAK S **S** **06 40 11.4 -1.5**
baz=272
KDAK Kodiak Island 74.35 34 P **P** **06 30 40.8 +0.8**
comp=Z,48nm,0.8s,baz=278,slow=4.2,SNR=22
KDAK LR LR 07 03 56.4
comp=Z,6µm,18.8s,baz=270,slow=36
comp=Z,48nm,0.8s
PPLA Purkeypile 74.39 28 P **P** **06 30 41.9 +1.5**
baz=271,SNR=7.5
PPLA S **S** **06 40 13.9 +0.4**
baz=271
Q20K Shuyak Island 74.42 33 P **P** **06 30 41.4 +1.0**
baz=272
Q20K S **S** **06 40 12.8 -0.8**
baz=272
CAST Castle Rocks 74.43 28 P **P** **06 30 42.4 +2.0**
baz=271,SNR=88
CAST S **S** **06 40 14.4 +0.8**
baz=271
I21K Tanana 74.44 26 P **P** **06 30 42.3 +1.9**
baz=271
I21K S **S** **06 40 17.1 +3.5**
baz=271
E22K Anaktuvuk Pass 74.49 23 P **P** **06 30 42.5 +1.8**
baz=270
E22K S **S** **06 40 15.4 +1.2**
baz=270
G22K Bettles 74.61 24 P **P** **06 30 43.0 +1.7**
baz=271
G22K S **S** **06 40 16.8 +1.3**
baz=271
H22K Ishtalitna Cre 74.68 25 P **P** **06 30 44.1 +2.3**
baz=271,SNR=67
H22K S **S** **06 40 20.1 +3.8**
baz=271
SKT Skwentna 74.72 29 P **P** **06 30 42.7 +0.5**
baz=272,SNR=18
SKT S **S** **06 40 16.1 -0.8**
baz=272
HOM Homer 74.76 32 P **P** **06 30 43.8 +1.5**
baz=273
KLMR Klimovskoe 74.81 330*c* *i*P **P** **06 30 41.9 -0.7**
KLMR *e* 06 30 50.7
KLMR S **S** **06 40 13.3 -4.5**
KLMR pmax pmax
comp=Z,310nm,1.4s
BATM Batumi 74.86 310 P **P** **06 30 43.6 +0.3**
BPAW Bear Paw Mtn. 74.90 27 P **P** **06 30 44.1 +1.0**
BPAW IAMs_20 IAMs_20 07 07 47.1
comp=Z,7µm,19.0s
BPAW Bear Paw Mtn. 74.90 27 P **P** **06 30 44.6 +1.5**
baz=272,SNR=116
BPAW S **S** **06 40 19.7 +0.9**
baz=272
D23K Nanushuk River 74.90 22 P **P** **06 30 44.4 +1.4**
baz=271
D23K S **S** **06 40 19.4 +0.7**
baz=271
C23K Itkillik River 74.91 21 IAMs_20 IAMs_20 07 03 54.9
comp=Z,8µm,20.0s
C23K Itkillik River 74.91 21 P **P** **06 30 44.1 +1.1**
baz=271,SNR=86
C23K S **S** **06 40 19.7 +1.1**
baz=271
BCA Borcka 74.93 309 ⇑P **P** **06 30 45.1 +1.3**
CAPN Captain Cook N 74.95 30 P **P** **06 30 44.7 +1.3**
baz=273
MLY Manley 74.97 26 P **P** **06 30 44.7 +1.1**
baz=272,SNR=95
MLY S **S** **06 40 20.5 +0.8**
baz=272
COLD Coldfoot 75.12 24 P **P** **06 30 46.3 +2.0**
baz=272,SNR=66
COLD S **S** **06 40 23.3 +2.1**
baz=272
SUA Susitna One 75.12 30 P **P** **06 30 46.1 +1.6**
baz=273
SUA S **S** **06 40 19.4 -2.2**
baz=273
G23K Bananza Creek 75.20 24 P **P** **06 30 46.8 +1.9**
baz=272,SNR=39
G23K S **S** **06 40 24.8 +2.6**
baz=272
BRSE Bradley Lake S 75.21 31 P **P** **06 30 46.5 +1.4**
baz=274,SNR=5.3
BRSE S **S** **06 40 20.6 -1.9**
baz=274
TRF Thorofare Moun 75.23 28 P **P** **06 30 46.4 +1.2**
baz=273,SNR=19
TRF S **S** **06 40 21.4 -1.5**
baz=273
ADZR Andozero 75.24 333 *e*P **P** **06 30 43.8 -1.2**
ADZR pmax pmax
comp=Z,107nm,1.0s
LABN Labinsk 75.25 313 *e*P **P** **06 30 44.6 -0.9**
LABN *e* 06 30 54.5
LABN *e* 06 33 38.4
LABN *e*S **S** **06 40 24.2 +0.8**
LABN pmax pmax
comp=E,34nm,0.9s
LABN pmax pmax
comp=Z,125nm,1.6s
LABN pmax pmax
comp=N,14nm,0.5s
CUT Chulitna 75.30 29 P **P** **06 30 47.8 +2.4**
baz=273,SNR=15
CUT S **S** **06 40 20.7 -2.5**
baz=273
TOLK Toolik Lake Re 75.31 22 P **P** **06 30 47.1 +1.7**
baz=272,SNR=73
TOLK S **S** **06 40 24.4 +1.1**
baz=272
ERBR Yeremizino-Bor 75.31 314 *e*P **P** **06 30 45.5 -0.3**
ERBR *e* 06 33 42.7
ERBR *e*S **S** **06 40 23.5 -0.5**
ERBR pmax pmax
comp=N,16nm,0.5s
ERBR pmax pmax
comp=E,62nm,1.3s
ERBR pmax pmax
comp=Z,195nm,1.1s
E23K Chandalar 75.31 23 P **P** **06 30 47.6 +2.1**
baz=272
E23K S **S** **06 40 25.4 +1.9**
baz=272
KHLH Kahului Airpor 75.37 72 IAMs_20 IAMs_20 07 00 14.4
comp=Z,9µm,20.0s
M22K Willow 75.40 29 P **P** **06 30 47.8 +1.8**
baz=274,SNR=10
M22K S **S** **06 40 23.3 -1.1**
baz=274
H23K Yukon River 75.44 25 IAMs_20 IAMs_20 07 03 19.2
comp=Z,7µm,20.0s
H23K Yukon River 75.44 25 P **P** **06 30 47.9 +1.7**
baz=273,SNR=69
H23K S **S** **06 40 27.1 +2.3**
baz=273
I23K Minto, Yukon-K 75.55 26 IAMs_20 IAMs_20 07 02 20.2
comp=Z,7µm,21.0s
I23K Minto, Yukon-K 75.55 26 P **P** **06 30 48.5 +1.8**
baz=273,SNR=48
I23K S **S** **06 40 26.8 +0.8**
baz=273
D24K Happy Valley 75.56 22 P **P** **06 30 48.1 +1.3**
baz=273
D24K S **S** **06 40 26.8 +0.8**
baz=273
HLK Haleakala 75.56 72 IAMs_20 IAMs_20 07 00 50.4
comp=Z,11µm,20.0s
C24K Franklin Bluff 75.58 21 P **P** **06 30 48.3 +1.4**
baz=273
C24K S **S** **06 40 26.9 +0.8**
baz=273
VORR Voronezh 75.59 320 *e*P **P** **06 30 47.7 +0.4**
VORR S **S** **06 40 32.9 +6.1**

VORR					pmax	pmax				
	comp=Z,279nm,1.8s									
VORD	**Divnogorie**	**75.60**	**319**	*e*P	**P**	**06 30 45.4**	**-1.9**			
VORD				pmax	pmax					
	comp=Z,80nm,1.0s									
RC01	**Rabbit Creek A**	**75.63**	**30**	P	**P**	**06 30 48.7**	**+1.3**			
	baz=274									
RC01				S	**S**	**06 40 25.6**	**-1.4**			
	baz=274									
VSR	**Storozhevoye**	**75.66**	**320**	*e*P	**P**	**06 30 45.6**	**-2.1**			
VSR				pmax	pmax					
	comp=Z,100nm,1.1s									
O22K	**Cooper Landing**	**75.67**	**31**	IAMs_20	IAMs_20	07 03 11.0				
	comp=Z,10µm,20.0s									
O22K	**Cooper Landing**	**75.67**	**31**	P	**P**	**06 30 48.6**	**+1.0**			
	baz=274									
O22K				S	**S**	**06 40 24.2**	**-3.2**			
	baz=274									
LPSR	**Galich'ya Gora**	**75.68**	**321**	*e*P	**P**	**06 30 46.4**	**-1.4**			
LPSR				pmax	pmax					
	comp=Z,130nm,0.9s									
NEA2	**Nenana**	**75.71**	**26**	P	**P**	**06 30 49.6**	**+1.9**			
NEA2				IAmb	IAmb	06 31 00.0				
	comp=Z,127nm,1.1s									
NEA2	**Nenana**	**75.71**	**26**	P	**P**	**06 30 49.3**	**+1.6**			
	baz=274,SNR=26									
NEA2				S	**S**	**06 40 27.7**	**-0.1**			
	baz=274									
E24K	**Your Creek**	**75.73**	**23**	P	**P**	**06 30 48.4**	**+0.4**			
E24K				IAmb	IAmb	06 30 52.5				
	comp=Z,138nm,1.1s									
E24K				IAMs_20	IAMs_20	07 08 23.2				
	comp=Z,7µm,19.0s									
E24K	**Your Creek**	**75.73**	**23**	P	**P**	**06 30 49.2**	**+1.3**			
	baz=273									
E24K				S	**S**	**06 40 30.4**	**+2.4**			
	baz=273									
RER	**Riviere de l'E**	**75.81**	**243**	P	**P**	**06 30 49.5**	**+0.4**			
MCK	**McKinley**	**75.82**	**27**	P	**P**	**06 30 49.9**	**+1.4**			
	baz=274,SNR=106									
MCK				S	**S**	**06 40 27.3**	**-1.8**			
	baz=274									
MCK	**McKinley**	**75.82**	**27**	P	**P**	**06 30 49.1**	**+0.7**			
SEW	**Seward**	**75.84**	**31**	P	**P**	**06 30 50.1**	**+1.6**			
	baz=274,SNR=5.3									
SEW				S	**S**	**06 40 28.1**	**-1.1**			
	baz=274									
VSLR	**Vesyoloye**	**75.87**	**312**	*d* iP	**P**	**06 30 49.8**	**+0.7**			
RND	**Reindeer**	**75.88**	**28**	P	**P**	**06 30 49.3**	**+0.5**			
PMR	**Palmer**	**75.88**	**29**	P	**P**	**06 30 50.3**	**+1.5**			
	baz=274,SNR=16									
PMR				S	**S**	**06 40 28.1**	**-1.7**			
	baz=274									
F24K	**Squaw Lake**	**76.00**	**23**	P	**P**	**06 30 50.9**	**+1.5**			
	baz=274,SNR=95									
F24K				S	**S**	**06 40 32.9**	**+2.0**			
	baz=274									
WAT1	**Susitna Watana**	**76.06**	**28**	P	**P**	**06 30 51.5**	**+1.6**			
	baz=275									
WAT1				S	**S**	**06 40 30.0**	**-1.8**			
	baz=275									
SOC	**Sochi**	**76.09**	**312**	*e*P	**P**	**06 30 48.1**	**-2.2**			
SOC				*e*PPP	PPP	06 35 25.4				
SOC				*e*S	**S**	**06 40 30.4**	**-2.3**			
SOC				pmax	pmax					
	comp=Z,46nm,0.8s									
SOC				MLR	MLR					
	comp=Z,6µm,20.0s									
H24K	**Noodor Dome**	**76.12**	**25**	P	**P**	**06 30 52.1**	**+2.0**			
	baz=274,SNR=46									
H24K				S	**S**	**06 40 34.3**	**+1.9**			
	baz=274									
HUH	**Hualalai**	**76.13**	**73**	IAMs_20	IAMs_20	07 07 40.6				
	comp=Z,7µm,19.0s									
WRH	**Wood River Hil**	**76.14**	**26**	IAMs_20	IAMs_20	07 02 18.8				
	comp=Z,8µm,22.0s									
MOS	**Moscow**	**76.15**	**324**	*e*P	**P**	**06 30 48.6**	**-1.8**			
MOS				*e*		06 30 59.3				
MOS				*e*		06 33 39.0				
MOS				*e*S	**S**	**06 40 26.7**	**-6.2**			
MOS				pmax	pmax					
	comp=Z,2µm,4.0s									
MOS				pmax	pmax					
	comp=Z,212nm,1.4s									
MOS				pmax	pmax					
	comp=E,1µm,4.0s									
MOS				smax	smax					
	comp=E,1µm,4.0s									
MOS				smax	smax					
	comp=N,3µm,6.0s									
MOS				MLR	MLR					
	comp=Z,6µm,17.0s									
MOS				MLR	MLR					
	comp=E,5µm,16.0s									
HPAH	**Hawaii Prepara**	**76.19**	**73**	IAMs_20	IAMs_20	07 00 43.3				
	comp=Z,7µm,20.0s									
COLA	**College**	**76.21**	**26**	P	**P**	**06 30 51.1**	**+0.6**			
COLA	**College**	**76.21**	**26**	P	**P**	**06 30 51.8**	**+1.2**			
COLA				IAmb	IAmb	06 31 01.6				
	comp=Z,360nm,2.0s									
COLA	**College**	**76.21**	**26**	P	**P**	**06 30 51.7**	**+1.2**			
	baz=275									
COLA				S	**S**	**06 40 32.8**	**-0.4**			
	baz=275									
COLA	**College**	**76.21**	**26**	*i* P	**P**	**06 30 51.2**	**+0.7**			
COLA				pmax	pmax					
	comp=Z,157nm,2.2s									
G24K	**Hadweenzic Riv**	**76.22**	**24**	P	**P**	**06 30 52.6**	**+1.9**			
	baz=275,SNR=60									
G24K				S	**S**	**06 40 35.2**	**+1.8**			
	baz=275									
KNK	**Knik Glacier**	**76.22**	**30**	P	**P**	**06 30 52.1**	**+1.3**			
	baz=275,SNR=11									
KNK				S	**S**	**06 40 32.9**	**-0.6**			
	baz=275									
SML	**Sawmill**	**76.25**	**29**	P	**P**	**06 30 52.5**	**+1.6**			
	baz=275,SNR=22									
SML				S	**S**	**06 40 34.1**	**+0.2**			
	baz=275									
POKR	**Poker Plat Res**	**76.36**	**26**	P	**P**	**06 30 53.1**	**+1.6**			
	baz=275,SNR=12									
POKR				S	**S**	**06 40 34.0**	**-1.0**			
	baz=275									
KTUT	**Trabzon**	**76.37**	**309**	⇓P	**P**	**06 30 52.7**	**+0.7**			
MWH	**Moku'aweowe**	**76.39**	**73**	IAMs_20	IAMs_20	07 00 24.5				
	comp=Z,7µm,19.0s									
D25K	**Kavik River**	**76.42**	**21**	P	**P**	**06 30 52.2**	**+0.5**			
D25K				IAmb	IAmb	06 30 56.0				
	comp=Z,152nm,1.1s									
D25K				IAMs_20	IAMs_20	07 05 04.8				
	comp=Z,8µm,21.0s									
D25K	**Kavik River**	**76.42**	**21**	P	**P**	**06 30 52.7**	**+0.9**			
	baz=275,SNR=160									
D25K				S	**S**	**06 40 35.6**	**+0.1**			
	baz=275									
WAT6	**Susitna Watana**	**76.45**	**28**	P	**P**	**06 30 53.4**	**+1.1**			
	baz=275,SNR=52									
WAT6				S	**S**	**06 40 34.9**	**-1.5**			
	baz=275									
LVZ	**Lovozero**	**76.47**	**337**	*ce*P	**P**	**06 30 51.3**	**-0.7**			
LVZ				pmax	pmax					
	comp=Z,148nm,2.5s									
LVZ	**Lovozero**	**76.47**	**337**	P	**P**	**06 30 52.8**	**+0.8**			
	comp=Z,83nm,2.5s,comp=Z,3µm									
HMH	**Humu'ula Sheep**	**76.47**	**73**	IAMs_20	IAMs_20	07 00 53.7				
	comp=Z,8µm,20.0s									
M23K	**Glacier View**	**76.53**	**29**	P	**P**	**06 30 53.6**	**+1.1**			
	baz=276,SNR=14									
M23K				S	**S**	**06 40 36.4**	**-0.6**			
	baz=276									
DHY	**Denali Highway**	**76.57**	**28**	P	**P**	**06 30 54.1**	**+1.3**			
DHY	**Denali Highway**	**76.57**	**28**	P	**P**	**06 30 54.8**	**+1.9**			
	baz=276,SNR=16									
DHY				S	**S**	**06 40 36.2**	**-1.4**			
	baz=276									
MLH	**Mauna Loa**	**76.58**	**73**	IAMs_20	IAMs_20	07 00 29.6				
	comp=Z,8µm,20.0s									
ILAR	**Eielson Array**	**76.63**	**26**	P	**P**	**06 30 54.0**	**+1.0**			
ILAR	**Eielson Array**	**76.63**	**26**	P	**P**	**06 30 53.6**	**+0.7**			
	comp=Z,12nm,0.8s,baz=265,slow=5.2,SNR=78									
ILAR				PKKPbc	**PKKPbc**	**06 50 04.2**	**-1.8**			
	comp=Z,1.2nm,1.0s,baz=37,slow=2.9,SNR=5.0									
ILAR				PKPPKP		06 58 06.6				
	comp=Z,2.5nm,1.1s,baz=125,slow=1.6,SNR=6.2									
ILAR				LR	LR	07 03 05.4				
	comp=Z,4µm,21.8s,baz=262,slow=34									
	comp=Z,12nm,0.8s									

HDA	**Harding Lake**	**76.64**	**27**	P	**P**	**06 30 54.2**	**+1.2**			
	baz=276,SNR=26									
HDA				S	**S**	**06 40 34.9**	**-3.1**			
	baz=276									
HDA				S	**S**	**06 40 34.9**	**-3.1**			
	baz=276									
WRMHI	**West Rim**	**76.68**	**73**	IAMs_20	IAMs_20	07 01 00.2				
	comp=Z,7µm,20.0s									
UWE	**Uwekahuna**	**76.68**	**73**	IAMs_20	IAMs_20	07 00 50.3				
	comp=Z,8µm,20.0s									
OBL	**Observatory Le**	**76.69**	**73**	IAMs_20	IAMs_20	07 00 52.5				
	comp=Z,7µm,19.0s									
HLP	**Hilina Pali**	**76.69**	**73**	IAMs_20	IAMs_20	07 00 32.5				
	comp=Z,7µm,20.0s									
NPH	**North Pit**	**76.69**	**73**	IAMs_20	IAMs_20	07 00 52.6				
	comp=Z,7µm,19.0s									
UWB	**Uwekahuna B**	**76.69**	**73**	IAMs_20	IAMs_20	07 00 52.6				
	comp=Z,8µm,20.0s									
SBLHI	**Steaming Bluff**	**76.70**	**73**	IAMs_20	IAMs_20	07 00 39.8				
	comp=Z,8µm,18.0s									
RIM	**Rim**	**76.70**	**73**	IAMs_20	IAMs_20	07 00 32.9				
	comp=Z,7µm,20.0s									
HATHI	**Halema'uma'u T**	**76.71**	**73**	IAMs_20	IAMs_20	07 00 41.0				
	comp=Z,8µm,19.0s									
KKO	**Keanakako`i**	**76.71**	**73**	IAMs_20	IAMs_20	07 00 52.0				
	comp=Z,7µm,20.0s									
SCM	**Sheep Creek Mo**	**76.72**	**29**	P	**P**	**06 30 55.4**	**+1.8**			
	baz=276,SNR=24									
SCM				S	**S**	**06 40 39.0**	**-0.1**			
	baz=276									
G25K	**Bearman Lake**	**76.75**	**24**	P	**P**	**06 30 55.9**	**+2.3**			
	baz=276,SNR=26									
G25K				S	**S**	**06 40 41.8**	**+2.7**			
	baz=276									
PUH	**Pauahi**	**76.76**	**73**	IAMs_20	IAMs_20	07 00 43.4				
	comp=Z,7µm,19.0s									
OBN	**Obninsk**	**76.82**	**324**	LR	LR	07 07 18.9				
	comp=Z,5µm,18.9s,baz=80,slow=38									
OBN	**Obninsk**	**76.82**	**324**	*c i* P	**P**	**06 30 53.1**	**-1.1**			
OBN				*e*		06 31 06.9				
OBN				*i*		06 33 48.0				
OBN				*e* PPP	PPP	06 35 35.7				
OBN				*i* S	**S**	**06 40 35.5**	**-4.7**			
OBN				*e* SS	**SS**	**06 45 39.5**	**+3.4**			
OBN				pmax	pmax					
	comp=Z,186nm,1.3s									
OBN				MLR	MLR					
	comp=Z,6µm,17.0s									
OBN	**Obninsk**	**76.82**	**324**	P	**P**	**06 30 54.5**	**+0.3**			
	comp=Z,134nm,1.4s,comp=Z,4µm									
E25K	**Arctic Village**	**76.82**	**23**	IAMs_20	IAMs_20	07 08 08.6				
	comp=Z,9µm,20.0s									
E25K	**Arctic Village**	**76.82**	**23**	P	**P**	**06 30 56.2**	**+2.1**			
	baz=276,SNR=80									
E25K				S	**S**	**06 40 42.9**	**+2.9**			
	baz=276									
F25K	**Christian Rive**	**76.85**	**23**	P	**P**	**06 30 56.6**	**+2.3**			
	baz=276,SNR=115									
F25K				S	**S**	**06 40 43.0**	**+2.7**			
	baz=276									
NPOC	**North of Pu'u**	**76.86**	**73**	IAMs_20	IAMs_20	07 01 06.9				
	comp=Z,9µm,21.0s									
JCUZ	**Jacuzzi**	**76.87**	**73**	IAMs_20	IAMs_20	07 00 48.1				
	comp=Z,9µm,20.0s									
C26K	**Camden Bay**	**76.87**	**21**	P	**P**	**06 30 57.0**	**+2.8**			
	baz=276,SNR=38									
C26K				S	**S**	**06 40 41.8**	**+1.5**			
	baz=276									
P23K	**Montague Islan**	**76.87**	**31**	P	**P**	**06 30 56.1**	**+1.7**			
	baz=276,SNR=6.4									
H25L	**Birch Creek**	**76.92**	**25**	P	**P**	**06 30 57.2**	**+2.6**			
	baz=276,SNR=54									
H25L				S	**S**	**06 40 45.4**	**+4.5**			
	baz=276									
GLI	**Glacier Island**	**76.93**	**30**	P	**P**	**06 30 55.9**	**+1.2**			
	baz=276,SNR=5.6									
GLI				S	**S**	**06 40 41.6**	**+0.3**			
	baz=276									
APA	**Apatity**	**76.97**	**337**	⇓*i* P	**P**	**06 30 54.3**	**-0.5**			
APA				*i*		06 31 02.8				
APA				*i*		06 33 44.0				
APA				*i* S	**S**	**06 40 39.0**	**-2.5**			
APA				*i*		06 41 05.0				
APA				*i* PS	**PnS**	**06 41 27.0**	**+5.3**			
APA				*i* SS	**SS**	**06 45 44.0**	**+6.1**			
APA				pmax	pmax					
	comp=Z,62nm,1.0s									
PRP	**Porcupine Dome**	**77.12**	**25**	P	**P**	**06 30 57.1**	**+1.2**			
	baz=277,SNR=12									
PRP				S	**S**	**06 40 42.9**	**-0.6**			
	baz=277									
K24K	**Donnelly Dome**	**77.21**	**27**	P	**P**	**06 30 58.0**	**+1.7**			
	baz=277,SNR=30									
K24K				S	**S**	**06 40 42.4**	**-1.9**			
	baz=277									
M24K	**Tolsona, Glenn**	**77.23**	**29**	P	**P**	**06 30 57.6**	**+1.1**			
M24K				IAmb	IAmb	06 31 00.7				
	comp=Z,160nm,0.8s									
M24K	**Tolsona, Glenn**	**77.23**	**29**	P	**P**	**06 30 58.3**	**+1.8**			
	baz=277,SNR=19									
M24K				S	**S**	**06 40 45.9**	**+1.2**			
	baz=277									
HIN	**Hinchinbrook I**	**77.27**	**31**	IAMs_20	IAMs_20	07 04 21.2				
	comp=Z,10µm,20.0s									
J25K	**Salcha River,**	**77.29**	**26**	P	**P**	**06 30 57.5**	**+0.7**			
	baz=277,SNR=16									
J25K				S	**S**	**06 40 42.2**	**-3.0**			
	baz=277									
C27K	**Jago River**	**77.32**	**21**	P	**P**	**06 30 58.2**	**+1.4**			
	baz=277,SNR=95									
C27K				S	**S**	**06 40 45.6**	**+0.4**			
	baz=277									
F26K	**Sheenjek River**	**77.41**	**23**	P	**P**	**06 30 59.5**	**+2.2**			
	baz=277,SNR=126									
F26K				S	**S**	**06 40 49.1**	**+2.8**			
	baz=277									
KLU	**Klutina**	**77.42**	**29**	P	**P**	**06 30 59.4**	**+1.7**			
KLU				IAmb	IAmb	06 31 09.9				
	comp=Z,236nm,1.7s									
KLU	**Klutina**	**77.42**	**29**	P	**P**	**06 30 58.7**	**+1.1**			
	baz=277,SNR=8.2									
KLU				S	**S**	**06 40 45.3**	**-1.5**			
	baz=277									
PAX	**Paxson**	**77.45**	**28**	P	**P**	**06 30 59.4**	**+1.6**			
	baz=277,SNR=28									
PAX				S	**S**	**06 40 45.4**	**-1.7**			
	baz=277									
Q23K	**Middleton Isla**	**77.47**	**32**	P	**P**	**06 30 59.0**	**+1.3**			
	baz=277									
ANN	**Anapa**	**77.56**	**313**	*e*P	**P**	**06 30 56.7**	**-1.9**			
ANN				*e*		06 31 06.2				
ANN				*e*		06 33 53.8				
ANN				*e* PPP	PPP	06 35 40.4				
ANN				*e*S	**S**	**06 40 45.5**	**-3.2**			
ANN				pmax	pmax					
	comp=Z,281nm,1.3s									
ANN				pmax	pmax					
	comp=N,43nm,1.1s									
ANN				pmax	pmax					
	comp=E,42nm,1.2s									
EYAK	**Cordova Ski Ar**	**77.62**	**30**	P	**P**	**06 31 00.3**	**+1.7**			
	baz=278									
G26K	**Porcupine Rive**	**77.64**	**24**	P	**P**	**06 31 01.6**	**+3.0**			
	baz=278,SNR=87									
G26K				S	**S**	**06 40 51.8**	**+3.0**			
	baz=278									
HARP	**HAARP**	**77.67**	**28**	P	**P**	**06 31 00.5**	**+1.6**			
	baz=278,SNR=9.2									
HARP				S	**S**	**06 40 51.3**	**+2.0**			
	baz=278									
ARPR	**Arapgir-MALATY**	**77.72**	**307**	IAMs_20	IAMs_20	07 11 01.2				
	comp=Z,8µm,19.0s									
SCRK	**Sand Creek**	**77.97**	**27**	P	**P**	**06 31 02.0**	**+1.3**			
SCRK				IAmb	IAmb	06 31 12.8				
	comp=Z,230nm,1.6s									
SCRK	**Sand Creek**	**77.97**	**27**	P	**P**	**06 31 03.1**	**+2.4**			
	baz=278,SNR=42									
SCRK				S	**S**	**06 40 50.6**	**-2.2**			
	baz=278									
N25K	**Chitina, Valde**	**78.03**	**29**	P	**P**	**06 31 02.5**	**+1.5**			
	baz=278,SNR=14									
N25K				S	**S**	**06 40 52.3**	**-1.1**			
	baz=278									
VADS	**Vadso**	**78.08**	**340**	*e*P	**P**	**06 31 01.2**	**+0.3**			
VADS				IVmB_BB		06 31 10.9				
	comp=Z,3µm,3.3s									
VADS				*e*S	**S**	**06 40 55.8**	**+2.4**			

VADS				IVMs_BB	IVMs_BB	07 12 12.2				
	comp=Z,3µm,12.6s									
J26L	**Joseph Creek**	**78.08**	**26**	P	**P**	**06 31 02.7**	**+1.4**			
	baz=279,SNR=34									
J26L				S	**S**	**06 40 51.9**	**-2.0**			
	baz=279									
HOPEN	**Hopen**	**78.11**	**346**	*e*P	**P**	**06 31 02.7**	**+1.6**			
HOPEN				IVmB_BB		06 31 11.7				
	comp=Z,3µm,3.9s									
HOPEN				*e*S	**S**	**06 40 55.5**	**+1.9**			
HOPEN				IVMs_BB	IVMs_BB	07 17 25.7				
	comp=Z,4µm,17.2s									
BMRM	**Bremner River**	**78.12**	**30**	P	**P**	**06 31 03.7**	**+2.2**			
	baz=278,SNR=10									
BMRM				S	**S**	**06 40 52.8**	**-1.5**			
	baz=278									
I26K	**Coal Creek Min**	**78.13**	**25**	P	**P**	**06 31 02.8**	**+1.4**			
	baz=279,SNR=45									
I26K				S	**S**	**06 40 52.8**	**-1.3**			
	baz=279									
RAGM	**Ragged Mountai**	**78.17**	**30**	IAMs_20	IAMs_20	07 01 58.0				
	comp=Z,10µm,22.0s									
MENT	**Mentasta**	**78.25**	**28**	IAMs_20	IAMs_20	07 02 28.7				
	comp=Z,9µm,22.0s									
E27K	**Coleen River**	**78.29**	**22**	P	**P**	**06 31 04.0**	**+1.7**			
E27K				IAmb	IAmb	06 31 06.8				
	comp=Z,163nm,1.2s									
E27K				IAMs_20	IAMs_20	07 08 44.3				
	comp=Z,7µm,18.0s									
E27K	**Coleen River**	**78.29**	**22**	P	**P**	**06 31 03.5**	**+1.3**			
	baz=280,SNR=127									
E27K				S	**S**	**06 40 57.3**	**+1.4**			
	baz=280									
D27M	**Malcolm River**	**78.34**	**21**	P	**P**	**06 31 03.9**	**+1.3**			
	baz=280,SNR=147									
D27M				S	**S**	**06 40 55.9**	**-0.5**			
	baz=280									
KAIM	**Kayak Island**	**78.37**	**31**	P	**P**	**06 31 05.2**	**+2.4**			
	baz=279									
HMT	**Hamilton**	**78.39**	**31**	IAMs_20	IAMs_20	07 02 01.6				
	comp=Z,8µm,21.0s									
L26K	**Log Cabin Wild**	**78.40**	**28**	IAMs_20	IAMs_20	07 02 32.8				
	comp=Z,10µm,22.0s									
L26K	**Log Cabin Wild**	**78.40**	**28**	P	**P**	**06 31 05.9**	**+3.0**			
	baz=279,SNR=16									
L26K				S	**S**	**06 40 57.0**	**-0.2**			
	baz=279									
GLB	**Gilahina Butte**	**78.43**	**29**	P	**P**	**06 31 05.0**	**+1.8**			
GLB				IAmb	IAmb	06 31 07.1				
	comp=Z,159nm,1.1s									
GLB				IAMs_20	IAMs_20	07 02 52.8				
	comp=Z,9µm,22.0s									
JOF	**Joensuu**	**78.47**	**332**	*e*P	**P**	**06 31 03.1**	**-0.1**			
G27K	**Doyon Strip**	**78.50**	**24**	P	**P**	**06 31 06.2**	**+2.7**			
	baz=280,SNR=63									
G27K				S	**S**	**06 41 00.8**	**+2.6**			
	baz=280									
VRDI	**Verde Repeater**	**78.64**	**30**	IAMs_20	IAMs_20	07 03 17.2				
	comp=Z,7µm,22.0s									
H27K	**Steamboat Moun**	**78.65**	**24**	P	**P**	**06 31 06.4**	**+2.1**			
	baz=280,SNR=65									
H27K				S	**S**	**06 41 02.6**	**+2.8**			
	baz=280									
M26K	**Nabesna, AK**	**78.66**	**28**	P	**P**	**06 31 06.5**	**+2.0**			
M26K				IAmb	IAmb	06 31 08.4				
	comp=Z,120nm,1.0s									
M26K	**Nabesna, AK**	**78.66**	**28**	P	**P**	**06 31 06.4**	**+2.0**			
	baz=280,SNR=44									
M26K				S	**S**	**06 40 59.1**	**-1.0**			
	baz=280									
I27K	**Kandik River**	**78.72**	**25**	P	**P**	**06 31 06.2**	**+1.5**			
	baz=280,SNR=147									
I27K				S	**S**	**06 41 03.0**	**+2.4**			
	baz=280									
ATD	**Arta Tunnel**	**78.77**	**279**	LR	LR	07 04 41.3				
	comp=Z,226nm,20.1s,baz=72,slow=35									
ATD	**Arta Tunnel**	**78.77**	**279**	P	**P**	**06 31 06.8**	**+0.9**			
	SNR=6.3									
ATD				S	**S**	**06 41 05.0**	**+2.2**			
PLTM	**Poltava**	**78.79**	**318**	P	**P**	**06 31 06.5**	**+1.2**			
K27K	**Chicken**	**78.80**	**27**	IAMs_20	IAMs_20	07 10 15.5				
	comp=Z,6µm,20.0s									
K27K	**Chicken**	**78.80**	**27**	P	**P**	**06 31 06.8**	**+1.7**			
	baz=280									
K27K				S	**S**	**06 41 01.8**	**+0.4**			
	baz=280									
MCARA	**McCarthy VSAT**	**78.82**	**29**	IAMs_20	IAMs_20	07 03 01.9				
	comp=Z,8µm,22.0s									
MCARA	**McCarthy VSAT**	**78.82**	**29**	P	**P**	**06 31 07.2**	**+1.9**			
	baz=280,SNR=9.1									
MCARA				S	**S**	**06 41 01.6**	**-0.1**			
	baz=280									
BGLC	**Bering Glacier**	**78.90**	**31**	P	**P**	**06 31 07.7**	**+2.0**			
	baz=280									
GAZ	**Gaziantep**	**78.91**	**306**	P	**P**	**06 31 07.1**	**+0.7**			
GAZ				IAmb	IAmb	06 31 09.2				
	comp=Z,165nm,1.3s									
MSF	**Maaselka**	**78.93**	**335**	P	**P**	**06 31 05.7**	**-0.1**			
KEV	**Kevo**	**78.94**	**339**	IAMs_20	IAMs_20	07 08 14.3				
	comp=Z,7µm,21.0s									
KEV	**Kevo**	**78.94**	**339**	P	**P**	**06 31 06.5**	**+0.8**			
E28M	**Babbage River**	**78.96**	**22**	IAMs_20	IAMs_20	07 09 41.1				
	comp=Z,6µm,20.0s									
E28M	**Babbage River**	**78.96**	**22**	P	**P**	**06 31 07.5**	**+1.6**			
	baz=281,SNR=114									
E28M				S	**S**	**06 41 03.6**	**+0.6**			
	baz=281									
F28M	**Old Crow**	**79.03**	**23**	P	**P**	**06 31 07.5**	**+1.2**			
	baz=281,SNR=144									
F28M				S	**S**	**06 41 04.3**	**+0.5**			
	baz=281									
EGAK	**Eagle**	**79.06**	**26**	P	**P**	**06 31 07.7**	**+1.2**			
	baz=281,SNR=45									
EGAK				S	**S**	**06 41 04.8**	**+0.8**			
	baz=281									
WAX	**

ARCES comp=Z,120nm,1.0s,baz=76,slow=7.6,SNR=73 LR LR 07 10 12.1

BARN **Barnard Glacie** **79.52 30** P **P** **06 31 11.6 +2.3**
BARN comp=Z,6μm,19.9s,baz=82,slow=39 IAmb IAmb 06 31 13.7

MESA **MESA** **79.55 30** IAMs_20 IAMs_20 07 02 55.3
MESA comp=Z,120nm,1.0s **MESA** **79.55 30** P **P** **06 31 11.2 +1.7**
E29M baz=281 **Blow River** **79.60 22** IAMs_20 IAMs_20 07 12 00.9
E29M comp=Z,8μm,22.0s **Blow River** **79.60 22** P **P** **06 31 11.8 +2.5**
E29M comp=Z,6μm,18.0s S **S** **06 41 08.7 -1.0**

SGF baz=283 **Sodankyl** **79.60 337** P **P** **06 31 09.9 +0.5**
DIKM **Dikmen** **79.63 310** P **P** **06 31 10.7 +0.6**
HAMF comp=Z,44nm,1.2s,comp=Z,3μm IVmB_BB 06 31 20.5

CTG **Chitna Glacier** **79.69 30** P **P** **06 31 11.7 +1.5**
CTG baz=281,SNR=31 S **S** **06 41 13.3 +2.0**

HAMF baz=281 **Hammerfest** **79.84 341** *e*P **P** **06 31 10.5 -0.2**
HAMF comp=Z,3μm,3.2s IVmB_BB 06 31 20.5

HAMF *e*S **S** **06 41 13.1 +0.9**
HAMF comp=Z,4μm,18.2s IVMs_BB IVMs_BB 07 15 00.5

SIM **Simferopol'** **79.86 314** *e*P **P** **06 31 12.1 +0.8**
SIM *e*S **S** **06 41 12.0 -1.4**
SIM comp=Z,244nm,1.1s pmax pmax

SIM comp=Z,1μm,8.9s pmax pmax

G29M **Pine Creek** **79.88 23** P **P** **06 31 12.1 +1.1**
G29M baz=283,SNR=169 S **S** **06 41 13.2 +0.4**

LOGN baz=283 **Logan Glacier** **79.88 30** IAMs_20 IAMs_20 07 04 46.3
H29M comp=Z,6μm,21.0s **Whitestone** **79.90 24** IAMs_20 IAMs_20 07 08 43.2
H29M comp=Z,7μm,20.0s **Whitestone** **79.90 24** P **P** **06 31 12.5 +1.4**
H29M baz=283,SNR=105 S **S** **06 41 14.4 +1.3**

YUK3 baz=283 **Moose Creek** **79.95 29** P **P** **06 31 13.1 +1.4**
YUK3 baz=282,SNR=20 S **S** **06 41 15.0 +0.9**

KBS baz=282 **Kingsbay** **80.01 350** P **P** **06 31 12.9 +1.5**
KBS IAmb IAmb 06 31 15.8

KBS comp=Z,157nm,1.1s **Kingsbay** **80.01 350** *e*P **P** **06 31 13.1 +1.6**
KBS IVmB_BB 06 31 21.7

KBS comp=Z,2μm,3.3s **Kingsbay** **80.01 350** *ce*P **P** **06 31 12.0 +0.6**
KBS comp=Z,131nm,1.0s pmax pmax

KBS **Kingsbay** **80.01 350** *i* P **P** **06 31 12.5 +1.1**
HSPB **Hornsund (broa** **80.06 347** *e*P **P** **06 31 12.0 +0.2**
BJO1 **Bjornoya** **80.10 345** *e*P **P** **06 31 13.1 +1.1**
BJO1 *e*S **S** **06 41 15.4 +0.6**
BJO1 comp=Z,4μm,12.9s IVMs_BB IVMs_BB 07 16 03.1

O28M **Mount Upton** **80.28 30** P **P** **06 31 15.4 +1.8**
O28M baz=282,SNR=20 S **S** **06 41 17.8 0.0**

J29N baz=282 **Klondike Camp** **80.36 26** IAMs_20 IAMs_20 07 05 19.5
J29N comp=Z,8μm,21.0s **Klondike Camp** **80.36 26** P **P** **06 31 15.9 +2.2**
J29N baz=283,SNR=44 S **S** **06 41 20.2 +2.1**

YUK8 baz=283 **Steele Glacier** **80.38 29** P **P** **06 31 15.8 +1.8**
YUK8 baz=283,SNR=21 S **S** **06 41 19.6 +0.9**

OUL baz=283 **Oulu** **80.38 335** P **P** **06 31 13.6 0.0**
KTK1 **Kautokeino** **80.42 339** *e*P **P** **06 31 13.9 +0.1**
KTK1 comp=Z,3μm,3.5s IVmB_BB 06 31 23.3

KTK1 *e*S **S** **06 41 17.7 -0.6**
KTK1 comp=Z,3μm,17.9s IVMs_BB IVMs_BB 07 14 41.9

EPYK **Eagle Plains** **80.52 24** P **P** **06 31 14.9 +0.5**
EPYK baz=284,SNR=98 S **S** **06 41 18.6 -0.9**

G30M baz=284 **tAoh Zraii Nji** **80.56 23** IAMs_20 IAMs_20 07 10 44.3
G30M comp=Z,7μm,20.0s **tAoh Zraii Nji** **80.56 23** P **P** **06 31 14.8 +0.2**
G30M baz=285,SNR=85 S **S** **06 41 18.2 -1.8**

F30M baz=285 **Barrier River** **80.56 22** P **P** **06 31 15.9 +1.4**
F30M baz=285,SNR=94 S **S** **06 41 18.5 -1.4**

L29M baz=285 **L29M** **80.71 27** IAMs_20 IAMs_20 07 04 27.9
L29M comp=Z,9μm,22.0s **L29M** **80.71 27** P **P** **06 31 17.2 +1.6**
L29M baz=284,SNR=71 S **S** **06 41 24.0 +2.3**

M29M baz=284 **Somme Creek** **80.72 28** P **P** **06 31 17.6 +1.9**
M29M baz=284,SNR=40 S **S** **06 41 24.7 +2.7**

K29M baz=284 **Barlow Dome** **80.81 26** IAMs_20 IAMs_20 07 05 23.2
K29M comp=Z,8μm,22.0s **Barlow Dome** **80.81 26** P **P** **06 31 17.8 +1.6**
K29M baz=284,SNR=34 S **S** **06 41 23.8 +1.0**

YUK4 baz=284 **Talbot Arm** **80.89 29** P **P** **06 31 18.5 +1.8**
YUK4 baz=284,SNR=11 S **S** **06 41 25.1 +1.1**

PNL baz=284 **Peninsula** **80.91 31** P **P** **06 31 17.6 +1.0**
PNL **Peninsula** **80.91 31** P **P** **06 31 18.6 +1.9**
PNL baz=283 S **S** **06 41 24.8 +0.9**

I30M baz=283 **Mount Dempster** **80.94 25** IAMs_20 IAMs_20 07 06 51.7
I30M comp=Z,8μm,20.0s **Mount Dempster** **80.94 25** P **P** **06 31 18.2 +1.4**
I30M baz=285,SNR=103 S **S** **06 41 24.5 +0.3**

YUK6 baz=285 **Outpost Mounta** **81.12 29** P **P** **06 31 20.1 +2.1**
YUK6 baz=284,SNR=16 S **S** **06 41 28.5 +2.1**

J30M baz=284 **Hart River** **81.13 26** IAMs_20 IAMs_20 07 05 42.6
J30M comp=Z,9μm,22.0s **Hart River** **81.13 26** P **P** **06 31 20.5 +2.6**
J30M baz=285,SNR=33 S **S** **06 41 27.5 +1.3**

MMAI baz=285 **Mount Meron Ar** **81.13 302** P **P** **06 31 18.6 +0.1**
MMAI comp=Z,29nm,0.9s,baz=72,slow=8.0,SNR=22 LR LR 07 12 45.7

FINES comp=Z,2μm,20.6s,baz=32,slow=40 comp=Z,29nm,0.9s **FINESS Array B** **81.17 331** P **P** **06 31 17.2 -0.7**
FINES comp=Z,93nm,1.0s,baz=72,slow=5.0,SNR=95 PKKPbc **PKKPbc** **06 49 54.9 -0.9**
FINES comp=Z,3.8nm,1.0s,baz=143,slow=6.7,SNR=5.7 LR LR 07 10 27.1

INK comp=Z,7μm,18.7s,baz=80,slow=38 comp=Z,93nm,1.0s **Inuvik** **81.19 22** P **P** **06 31 18.2 +0.4**
INK baz=287,SNR=108 S **S** **06 41 25.5 -0.8**

INK baz=287 **Inuvik** **81.19 22** P **P** **06 31 17.4 -0.5**
INK comp=Z,84nm,1.0s,baz=284,slow=5.7,SNR=106 LR LR 07 10 46.9

BR131 comp=Z,3μm,19.9s,baz=268,slow=38 comp=Z,84nm,1.0s **Keskin Array S** **81.19 309** P **P** **06 31 17.4 -1.4**
BR131 **Keskin Array S** **81.19 309** P **P** **06 31 17.9 -0.8**
BR131 SNR=30 P **P** **06 31 17.9 -0.8**

BR131 S **S** **06 41 24.0 -3.8**
BR131 S **S** **06 41 24.0 -3.8**
BR131 **Keskin Array S** **81.19 309** *c* *i* P **P** **06 31 17.3 -1.4**
BRTR **Keskin Array B** **81.19 309** P **P** **06 31 17.7 -1.0**
BRTR comp=Z,6.6nm,0.8s,baz=101,slow=1.5,SNR=35 PKKPbc **PKKPbc** **06 49 56.7 +1.5**

BR104 comp=Z,0.6nm,0.4s,baz=193,slow=5.1,SNR=6.5 **Keskin Array S** **81.20 309** P **P** **06 31 18.3 -0.4**
BR106 comp=Z,6.6nm,0.8s **Keskin Array S** **81.21 309** P **P** **06 31 18.1 -0.7**
BR105 comp=Z,15nm,0.9s,comp=Z,267nm **Keskin Array S** **81.21 309** P **P** **06 31 18.2 -0.6**
JETT comp=Z,12nm,1.0s,comp=Z,250nm **Jettan, Norway** **81.22 340** *e*P **P** **06 31 18.4 +0.2**
JETT *e*S **S** **06 41 28.5 +1.7**
JETT comp=Z,15nm,1.2s,comp=Z,281nm ⇑*i* 06 46 08.7
JETT IVMs_BB IVMs_BB 07 15 22.4

G31M comp=Z,4μm,15.4s **Satah River** **81.31 23** P **P** **06 31 18.7 +0.1**
G31M baz=286,SNR=85 S **S** **06 41 25.8 -1.8**

GHAJ baz=286 **Ghor Haditha** **81.33 300** P **P** **06 31 19.3 -0.1**
GHAJ comp=Z,220nm,1.1s IAmb IAmb 06 31 22.5

F31M comp=Z,6μm,18.0s **Tsiigehtchic** **81.36 22** P **P** **06 31 19.1 +0.2**
F31M baz=287,SNR=84 S **S** **06 41 26.1 -2.1**

KEF baz=287 **Keuruu** **81.54 332** *e*P **P** **06 31 21.4 +1.5**
HYT **Haines Junctio** **81.55 29** P **P** **06 31 22.5 +2.3**
HYT comp=Z,133nm,1.0s IAmb IAmb 06 31 24.7

HYT **Haines Junctio** **81.55 29** P **P** **06 31 21.6 +1.5**
HYT baz=285,SNR=37 S **S** **06 41 31.8 +1.1**

VSU baz=285 **Vasula** **81.56 328** *ce*P **P** **06 31 20.0 0.0**
VSU comp=Z,456nm,1.7s pmax pmax

MAYO comp=Z,10μm,17.0s **Mayo, Yukon** **81.57 26** P **P** **06 31 21.8 +1.7**
MAYO baz=286,SNR=20 S **S** **06 41 31.2 +0.6**

N30M baz=286 **Aishikik Lake** **81.59 29** IAMs_20 IAMs_20 07 04 35.2
N30M comp=Z,7μm,22.0s **Aishikik Lake** **81.59 29** P **P** **06 31 21.9 +1.7**
N30M baz=285,SNR=51 S **S** **06 41 33.3 +2.3**

H31M baz=285 **Peel River** **81.60 24** P **P** **06 31 21.5 +1.3**
H31M baz=287,SNR=119 S **S** **06 41 30.0 -0.8**

TRO baz=287 **Tromso** **81.69 340** *e*P **P** **06 31 20.3 -0.2**
TRO comp=Z,4μm,3.1s IVmB_BB 06 31 30.0

TRO *e*S **S** **06 41 33.3 +1.8**
TRO comp=Z,4μm,14.0s IVMs_BB IVMs_BB 07 15 40.1

ARBE **Arbavere** **81.70 329** *e*P **P** **06 31 21.4 +0.6**
NE56 **Odesa** **81.73 316** P **P** **06 31 19.9 -1.3**
P29M **Windy Craggy** **81.74 31** IAMs_20 IAMs_20 07 08 19.3
P29M comp=Z,7μm,20.0s **Windy Craggy** **81.74 31** P **P** **06 31 22.4 +1.3**
P29M baz=284,SNR=23 S **S** **06 41 34.8 +2.3**

ANTO baz=284 **Ankara** **81.80 309** ⇑P **P** **06 31 21.9 0.0**
ANTO **Ankara** **81.80 309** P **P** **06 31 20.7 -1.1**
ANTO **Ankara** **81.80 309** S **S** **06 41 31.9 -2.1**
ANTO **Ankara** **81.80 309** P **P** **06 31 21.8 0.0**
ANTO **Ankara** **81.80 309** P **P** **06 31 22.5 +0.6**
MNK comp=Z,24nm,1.3s,comp=Z,2μm **Minsk** **81.87 324** *i* P **P** **06 31 21.0 -0.8**
MNK *i* 06 34 28.6
MNK *i* PPP PPP 06 36 19.0
MNK *i* S **S** **06 41 31.3 -2.6**
MNK *i* PS **PnS** **06 42 19.0 -4.8**
MNK pmax pmax

MNK comp=Z,252nm,0.9s pmax pmax

MNK comp=E,43nm,0.9s pmax pmax

MNK comp=N,20nm,0.8s MLR MLR

MNK comp=E,2μm,18.0s MLR MLR

MNK comp=Z,5μm,18.0s MLR MLR

MNK comp=N,5μm,16.0s

AK09 **Malin Array Si** **81.92 320** P **P** **06 31 21.7 -0.4**
AKASG **Malin Array Be** **81.94 320** P **P** **06 31 20.8 -1.5**
AKASG comp=N,64nm,1.1s,baz=62,slow=5.1,SNR=81 LR LR 07 09 28.4

AKASG comp=N,5μm,19.1s,baz=85,slow=37 comp=N,64nm,1.1s **Malin Array Be** **81.94 320** *i* P **P** **06 31 20.7 -1.5**
AKASG pmax pmax

AKBB comp=Z,69nm,1.0s **Malin Array Si** **81.94 320** *c* *i* P **P** **06 31 20.9 -1.3**
AKBB pmax pmax

AKBB comp=Z,118nm,1.2s MLR MLR

AKBB comp=Z,5μm,17.0s **Malin Array Si** **81.94 320** P **P** **06 31 21.6 -0.6**
KIEV **Kiev** **81.95 320** ⇑P **P** **06 31 21.7 -0.6**
KIEV **Kiev** **81.95 320** IAMs_20 IAMs_20 07 11 25.1

KIEV comp=Z,6μm,18.0s **Kiev** **81.95 320** *i* P **P** **06 31 21.0 -1.3**
SNR=19
KIEV **Kiev** **81.95 320** P **P** **06 31 21.6 -0.6**
KIEV **Kiev** **81.95 320** P **P** **06 31 21.5 -0.8**
P30M comp=Z,364nm,1.1s,comp=Z,12μm **Million Dollar** **81.99 30** P **P** **06 31 24.4 +2.0**
P30M baz=285 S **S** **06 41 37.7 +2.6**

N31M baz=285 **Braeburn, Yuko** **82.19 28** IAMs_20 IAMs_20 07 04 41.0
N31M comp=Z,8μm,22.0s **Braeburn, Yuko** **82.19 28** P **P** **06 31 24.7 +1.3**
N31M baz=286,SNR=37 S **S** **06 41 39.4 +2.3**

EIL baz=286 **Elat** **82.19 299** LR LR 07 13 39.7
NOR comp=Z,6μm,19.6s,baz=82,slow=40 **Nord** **82.20 355** *i* P **P** **06 31 22.4 -0.7**
NOR IAmb IAmb 06 31 26.7

O30N comp=Z,36nm,0.8s **Mendenhall** **82.24 29** IAMs_20 IAMs_20 07 04 03.3
O30N comp=Z,7μm,22.0s **Mendenhall** **82.24 29** P **P** **06 31 25.6 +1.9**
O30N baz=286,SNR=26 S **S** **06 41 40.6 +3.0**

MEF baz=286 **Metsahovi** **82.28 330** *e*P **P** **06 31 24.8 +1.0**
VAF **Ylistaro** **82.28 333** *e*P **P** **06 31 23.8 +0.1**
IDID **Didziasalis** **82.32 325** *e*P **P** **06 31 26.8 +2.7**
BAL3X **Bal3x, Balta** **82.32 317** P **P** **06 31 24.8 +0.5**
PURM **Purcari** **82.46 316** P **P** **06 31 24.9 -0.1**
PLBC comp=Z,253nm,1.2s,comp=Z,6μm **Pleasant Camp** **82.46 31** P **P** **06 31 26.6 +1.8**
PLBC baz=286,SNR=13 S **S** **06 41 40.8 +1.0**

OPO baz=286 **Ambohidratompo** **82.51 249** LR LR 07 03 38.3
A36M comp=Z,3μm,21.4s,baz=210,slow=32 **Sachs Harbour** **82.55 17** P **P** **06 31 25.5 +0.5**
A36M baz=294,SNR=110 S **S** **06 41 37.5 -2.8**

MI30 baz=294 **MI30,Zelenitsa** **82.57 320** P **P** **06 31 24.9 -0.6**
ISAL **Salakas** **82.59 325** *e*P **P** **06 31 28.8 +3.3**
ABPO **Ambohimpanom** **82.61 248** IAMs_20 IAMs_20 07 03 29.2
M31M comp=Z,9μm,21.0s **Drury Creek, Y** **82.62 28** IAMs_20 IAMs_20 07 14 16.3
M31M comp=Z,7μm,20.0s **Drury Creek, Y** **82.62 28** P **P** **06 31 27.0 +1.3**
M31M baz=287,SNR=34 S **S** **06 41 42.6 +1.2**

RAR baz=287 **Rarotonga** **82.75 114** IAMs_20 IAMs_20 07 01 51.7
RAR comp=Z,10μm,22.0s **Rarotonga** **82.75 114** LR LR 07 02 03.0
WHY comp=Z,9μm,21.8s,baz=291,slow=31 **Whitehorse** **82.84 29** P **P** **06 31 28.3 +1.4**
WHY baz=287,SNR=32 S **S** **06 41 45.4 +1.5**

MI29 baz=287 **MI29, Kamyanyy** **82.86 320** P **P** **06 31 26.5 -0.5**
S31K **Pelican** **82.93 32** P **P** **06 31 29.0 +1.7**
S31K baz=286 S **S** **06 41 46.9 +2.3**

SKAG baz=286 **Skagway** **82.97 30** P **P** **06 31 28.8 +1.4**
SKAG baz=287,SNR=7.0 S **S** **06 41 47.4 +2.5**

MTSE baz=287 **Matsula** **82.97 329** *e*P **P** **06 31 28.1 +0.7**
LUBAR **Lubar, Ukraine** **83.04 320** P **P** **06 31 26.6 -1.4**
KIS **Kishinev** **83.05 317** ⇑*i*P **P** **06 31 26.0 -2.1**
KIS comp=Z,1μm,8.9s **Kishinev** **83.05 317** *i* PP PP 06 34 38.0 -0.9
KIS *i* S **S** **06 41 40.0 -6.3**
KIS *i* ScS **SKSac** **06 41 50.0 +1.3**
KIS **Kishinev** **83.05 317** *c* *i* P **P** **06 31 26.0 -2.1**
KIS *i* 06 34 38.0
KIS *i* S **S** **06 41 40.0 -6.3**
KIS *e*PS **PnS** **06 42 43.0 +4.3**
KIS pmax pmax

R31K comp=Z,1μm,8.9s **City Hall, Gus** **83.06 31** P **P** **06 31 29.7 +1.9**
MILM baz=286 **Milestii Mici** **83.08 317** ⇑P **P** **06 31 28.5 +0.3**
MILM **Milestii Mici** **83.08 317** P **P** **06 31 28.5 +0.3**
FARO **Faro, Yukon** **83.08 27** IAMs_20 IAMs_20 07 06 31.4
FARO comp=Z,6μm,21.0s **Faro, Yukon** **83.08 27** P **P** **06 31 29.4 +1.4**
FARO baz=288,SNR=116 S **S** **06 41 47.0 +0.9**

SORM baz=288 **Soroca** **83.09 318** ⇓P **P** **06 31 27.8 -0.5**
SORM **Soroca** **83.09 318** P **P** **06 31 27.8 -0.5**
SORM **Soroca** **83.09 318** P **P** **06 31 27.3 -1.0**
RAF comp=Z,85nm,1.2s,comp=Z,5μm **Rauma** **83.29 331** *e*P **P** **06 31 29.3 +0.3**
TLCR **83.49 315** ⇑P **P** **06 31 30.8 +0.4**
TLCR **83.49 315** P **P** **06 31 30.8 +0.4**
N32M **Quiet Lake** **83.53 28** P **P** **06 31 32.0 +1.6**
N32M baz=288 S **S** **06 41 51.3 +0.5**

JURR baz=288 **Jurilovca** **83.55 314** ⇑P **P** **06 31 31.1 +0.4**
STEI **Steigen** **83.56 339** *e*P **P** **06 31 30.0 -0.3**
STEI IVmB_BB 06 31 39.6

STEI comp=Z,4μm,2.0s *e*S **S** **06 41 51.2 +0.7**
STEI IVMs_BB IVMs_BB 07 14 32.6

SIT comp=Z,4μm,15.1s **Sitka** **83.66 33** IAMs_20 IAMs_20 07 02 56.2
SIT comp=Z,7μm,21.0s **Sitka** **83.66 33** P **P** **06 31 32.2 +1.2**
SIT baz=287,SNR=11 S **SKSac** **06 41 54.3 +2.1**

VSVD baz=287 **Vaisvydziai** **83.68 326** *e*P **P** **06 31 32.2 +1.1**
R32K **Eaglecrest** **83.71 31** P **P** **06 31 31.9 +0.6**
P32M baz=287,SNR=11 **Atlin** **83.72 30** IAMs_20 IAMs_20 07 09 52.5
P32M comp=Z,6μm,20.0s **Atlin** **83.72 30** P **P** **06 31 32.1 +0.7**
P32M baz=288,SNR=12 S **SKSac** **06 41 55.2 +2.5**

FAUS baz=288 **Fauske** **83.75 338** *e*P **P** **06 31 30.6 -0.7**
FAUS IVmB_BB 06 31 40.3

FAUS comp=Z,3μm,2.9s *e*S **S** **06 41 52.7 +0.1**
FAUS comp=Z,4μm,13.9s IVMs_BB IVMs_BB 07 14 26.7

PABE **Paberze** **83.79 326** *e*P **P** **06 31 32.4 +0.7**
RNPP9 **Sopachiv** **83.81 321** P **P** **06 31 31.2 -0.7**
VASR **Vaslui** **83.82 316** ⇓P **P** **06 31 32.0 -0.1**
TPGR **Topolog** **83.84 315** ⇓P **P** **06 31 32.2 0.0**
RNPP8 **Varash** **83.85 321** P **P** **06 31 31.7 -0.4**
RNPP5 **Staryi Chortor** **83.86 321** P **P** **06 31 31.7 -0.5**
EFOR **EFORIE** **83.88 314** ⇑P **P** **06 31 33.7 +1.3**
VOI **Vohitsoka** **83.89 246** P **P** **06 31 33.1 +0.1**
VOI **Vohitsoka** **83.89 246** IAMs_20 IAMs_20 07 03 00.2
VOI comp=Z,9μm,22.0s **Vohitsoka** **83.89 246** P **P** **06 31 32.8 -0.2**
SNR=21
S32K **Killisnoo** **83.92 32** IAMs_20 IAMs_20 07 03 20.2
S32K comp=Z,6μm,19.0s **Killisnoo** **83.92 32** P **P** **06 31 32.6 +0.3**
S32K baz=287,SNR=7.0 S **S** **06 41 57.3 +2.6**

SCTR baz=287 **Scanteiesti** **83.93 315** ⇓P **P** **06 31 33.3 +0.7**
P33M **Teslin, Yukon** **83.95 29** IAMs_20 IAMs_20 07 07 49.7
P33M comp=Z,8μm,20.0s **Teslin, Yukon** **83.95 29** P **P** **06 31 34.1 +1.6**
P33M baz=289,SNR=35 S **S** **06 41 57.1 +2.0**

CFR baz=289 **Carcaliu** **83.95 315** ⇓P **P** **06 31 32.6 -0.2**
CFR **Carcaliu** **83.95 315** P **P** **06 31 32.5 -0.2**
MANR **Mangalia** **83.98 314** ⇑P **P** **06 31 32.6 -0.3**
ISP **Isparta** **83.98 307** IAMs_20 IAMs_20 07 15 32.0
ISP comp=Z,7μm,22.0s **Isparta** **83.98 307** *ce*P **P** **06 31 32.4 -0.9**
ISP comp=Z,193nm,1.3s pmax pmax

MFTR **Murfatlar** **84.00 314** ⇑P **P** **06 31 34.2 +1.2**
C36M **Paulatuk** **84.01 19** P **P** **06 31 33.5 +1.0**
NEGRR baz=296,SNR=113 **Negrea** **84.04 315** ⇓P **P** **06 31 33.5 +0.3**
SLIT **Slitere, Latvi** **84.06 328** *e*P **P** **06 31 33.1 +0.1**
LOF **Lofoten** **84.06 339** *e*P **P** **06 31 32.6 -0.2**
LOF IVmB_BB 06 31 41.2

LOF comp=Z,3μm,3.2s *e*S **SKSac** **06 41 55.9 +1.4**
LOF IVMsBB 07 16 55.1

SLCR comp=Z,3μm,9.9s **Slobozia Conac** **84.10 315** ⇓P **P** **06 31 34.1 +0.6**
TUDR **84.17 315** ⇑P **P** **06 31 34.7 +0.9**
KMPD **K-Podol'skiy** **84.20 319** P **P** **06 31 32.9 -1.1**
HARR **Harsova** **84.22 315** ⇑P **P** **06 31 34.6 +0.4**
HARR **Harsova** **84.22 315** P **P** **06 31 34.5 +0.4**
KLYT **Kilyos** **84.28 311** P **P** **06 31 34.3 -0.2**
ISK **Istanbul-Kandi** **84.31 311** P **P** **06 31 33.9 -0.8**
AAL **Aland** **84.39 331** *e*P **P** **06 31 34.2 -0.4**
PANC **Panciu** **84.45 316** ⇓P **P** **06 31 35.8 +0.5**
ICOR **Ion Corvin** **84.45 314** ⇑P **P** **06 31 35.9 +0.5**
MOR8 **Moi Rana** **84.54 337** *e*P **P** **06 31 33.1 -2.3**
MOR8 comp=Z,3μm,3.7s IVmB_BB 06 31 43.3

MOR8 *e*PP **PP** **06 34 45.4 -5.1**
MOR8 *e*SKSac **SKSac** **06 41 55.8 -1.9**
MOR8 IVMs_BB IVMs_BB 07 18 11.4

ODBI comp=Z,5μm,15.0s **Odobesti** **84.54 316** ⇑P **P** **06 31 37.0 +1.2**
ODBI **Odobesti** **84.54 316** P **P** **06 31 37.0 +1.2**
TESR comp=Z,162nm,1.1s,comp=Z,1μm **Tescani** **84.62 317** ⇓P **P** **06 31 36.3 +0.1**
TESR **Tescani** **84.62 317** P **P** **06 31 36.1 -0.1**
CHRU comp=Z,382nm,1.2s,comp=Z,5μm **Chernivtsi** **84.62 318** P **P** **06 31 36.5 +0.4**
AMRR comp=Z,97nm,1.2s,comp=Z,3μm **Amara** **84.65 315** ⇑P **P** **06 31 36.8 +0.5**
AMRR **Amara** **84.65 315** P **P** **06 31 36.8 +0.5**
SUW **Suwalki** **84.66 324** *e*P **P** **06 31 35.5 -0.7**
SUW **Suwalki** **84.66 324** IAMs_20 IAMs_20 07 09 34.9

SUW comp=Z,8μm,20.0s **Suwalki** **84.66 324** *e*P **P** **06 31 36.7 +0.5**
PRAR **RASCA** **84.67 317** ⇓P **P** **06 31 36.9 +0.4**
FOMA **Nahampoana Res** **84.69 243** P **P** **06 31 36.7 -0.1**
GRER SNR=9.5 **84.70 315** ⇑P **P** **06 31 36.9 +0.3**
VRI **Vrincioaia** **84.74 316** ⇑P **P** **06 31 36.9 +0.1**
VRI **Vrincioaia** **84.74 316** P **P** **06 31 36.9 +0.1**
VRI **Vrincioaia** **84.74 316** P **P** **06 31 37.1 +0.3**

PBUR comp=Z,462nm,1.3s,comp=Z,8μm **Paburge** **84.74 327** *e*P **P** **06 31 37.4 +0.8**
SPBR **Spulber** **84.75 316** ⇓P **P** **06 31 37.5 +0.6**
CTYL **Yalikoy Yolu** **84.77 311** P **P** **06 31 36.4 -0.6**
PLOR5 comp=Z,183nm,1.1s,comp=Z,3μm **Plostina Array** **84.78 316** P **P** **06 31 37.4 +0.3**

comp=Z,224nm,1.0s,comp=Z,5µm
PLOR Plostina 84.79 316 ⇓P **P 06 31 37.5 +0.4**
PLOR Plostina 84.79 316 P **P 06 31 37.5 +0.4**
PLOR3 Plostina Array 84.80 316 P **P 06 31 37.4 +0.3**
comp=Z,236nm,1.1s,comp=Z,6µm
BISRR Bisoca 84.83 316 ⇓P **P 06 31 38.5 +1.2**
BISRR Bisoca 84.83 316 P **P 06 31 38.1 +0.8**
comp=Z,955nm,1.3s,comp=Z,22µm
KONS Konsvik 84.89 338 *e*P **P 06 31 37.5 +0.4**
KONS *e*S **SKSac 06 42 00.9 +1.1**
T33K Petersburg 84.97 33 P **P 06 31 39.9 +2.2**
baz=289
PRD Provadia 84.97 313 ⇑*i*P **P 06 31 37.7 -0.3**
STOK Stokkvaagen 85.00 338 *e*P **P 06 31 36.6 -1.0**
STOK IVmB_BB 06 31 46.2
comp=Z,2µm,7.4s
ISR Istrita 85.06 315 ⇑P **P 06 31 39.6 +1.1**
ISR Istrita 85.06 315 P **P 06 31 39.6 +1.1**
ISR Istrita 85.06 315 P **P 06 31 39.5 +1.0**
comp=Z,284nm,1.1s,comp=Z,6µm
COVR Voineasa-Covas 85.09 316 ⇑P **P 06 31 38.9 +0.3**
R33M Jennings River 85.10 30 P **P 06 31 40.5 +2.0**
baz=290,SNR=44
R33M S **S 06 42 09.5 +2.7**
baz=290
U33K Whale Pass 85.10 33 P **P 06 31 40.0 +1.7**
baz=289,SNR=9.0
U33K S **S 06 42 09.2 +2.7**
baz=289
NEHR Nehoiu 85.15 316 ⇓P **P 06 31 39.4 +0.5**
KSV Kosov 85.17 319 P **P 06 31 38.1 -0.8**
KSV Kosov 85.17 319 P **P 06 31 38.1 -0.8**
TURR Turia 85.17 316 ⇓P **P 06 31 39.7 +0.8**
BURAR Bucovina Array 85.26 318 ⇓P **P 06 31 39.9 +0.3**
BURAR Bucovina Array 85.26 318 P **P 06 31 39.2 -0.3**
BURAR Bucovina Array 85.26 318 P **P 06 31 39.8 +0.3**
OZUR 85.31 316 ⇑P **P 06 31 40.3 +0.6**
CRAG Craig 85.31 34 P **P 06 31 41.0 +1.7**
baz=289,SNR=7.6
CRAG S **S 06 42 11.9 +3.3**
baz=289
MLR Muntele Rosu 85.37 316 ⇓P **P 06 31 40.2 +0.1**
MLR Muntele Rosu 85.37 316 P **P 06 31 40.0 -0.1**
MLR IAMs_20 IAMs_20 07 16 07.1
comp=Z,8µm,20.0s
MLR Muntele Rosu 85.37 316 P **P 06 31 40.0 -0.1**
MLR pmax pmax
comp=Z,278nm,1.2s
MLR Muntele Rosu 85.37 316 P **P 06 31 39.9 -0.2**
comp=Z,202nm,0.9s,comp=Z,3µm
EDC Edincik 85.37 310 P **P 06 31 39.3 -0.8**
SULR 85.38 315 ⇓P **P 06 31 39.9 0.0**
LVV L'vov 85.39 320 *e*P **P 06 31 39.9 0.0**
LVV *e* 06 35 01.0
LVV *e*PPP PPP 06 36 50.0
LVV *e* 06 41 53.5
LVV *e*S **SKSac 06 42 07.0 +3.3**
LVV *e*PS **PnS 06 43 09.9 +2.9**
LVV *e*SSS SSS 06 51 15.2
LVV pmax pmax
comp=Z,650nm,1.4s
LVV L'vov 85.39 320 P **P 06 31 40.2 +0.3**
STNU Starunia 85.41 319 P **P 06 31 39.8 -0.3**
WRAK Wrangell Islan 85.41 33 P **P 06 31 41.8 +1.9**
WRAK IAmb IAmb 06 31 44.2
comp=Z,106nm,1.0s
WRAK IAMs_20 IAMs_20 07 03 21.7
comp=Z,7µm,22.0s
WRAK Wrangell Islan 85.41 33 P **P 06 31 41.8 +1.9**
baz=289,SNR=13
WRAK S **S 06 42 12.7 +3.2**
baz=289
RAZG Razgrad 85.50 314 ⇑P **P 06 31 40.7 0.0**
S34M Telegraph Cree 85.53 31 P **P 06 31 42.7 +2.2**
baz=290,SNR=30
S34M S **S 06 42 12.9 +2.2**
baz=290
TGTN Hyland Airport 85.58 27 P **P 06 31 42.0 +1.3**
baz=292,SNR=74
TGTN S **S 06 42 12.1 +1.0**
baz=292
DOPR Dopca 85.61 316 ⇓P **P 06 31 41.6 +0.4**
UPP Uppsala 85.61 331 *e*P **P 06 31 40.8 0.0**
MORS Morshin 85.67 320 P **P 06 31 41.6 +0.2**
MORS Morshin 85.67 320 P **P 06 31 41.6 +0.2**
SGRR Singureni 85.69 314 ⇑P **P 06 31 42.6 +1.1**
JMB Yambol 85.77 313 ⇑*i*P **P 06 31 41.2 -0.8**
RAKU Rahkiv 85.83 318 P **P 06 31 41.7 -0.5**
WTLY Watson Lake, Y 85.87 29 P **P 06 31 43.7 +1.5**
WTLY IAMs_20 IAMs_20 07 11 28.4
comp=Z,5µm,20.0s
WTLY Watson Lake, Y 85.87 29 P **P 06 31 43.4 +1.2**
baz=292,SNR=81
WTLY S **S 06 42 14.9 +0.8**
baz=292
DLBC Dease Lake 85.90 30 P **P 06 31 43.9 +1.5**
baz=291,SNR=42
DLBC S **S 06 42 16.7 +2.3**
baz=291
DLBC Dease Lake 85.90 30 P **P 06 31 43.0 +0.5**
comp=Z,53nm,1.0s,baz=300,slow=5.8,SNR=49
DLBC LR LR 07 11 41.2
comp=Z,3µm,19.0s,baz=298,slow=37
comp=Z,53nm,1.0s
SZH Strazhitsa 85.95 314 ⇑*i*P **P 06 31 42.2 -0.7**
ARCR ARCALIA 85.98 318 ⇑P **P 06 31 43.6 +0.6**
SHIU Shidnytsya 85.98 320 P **P 06 31 43.3 +0.3**
VOIR 85.99 316 ⇓P **P 06 31 42.6 -0.6**
VOIR 85.99 316 P **P 06 31 42.5 -0.6**
VOIR 85.99 316 P **P 06 31 42.6 -0.6**
comp=Z,56nm,1.3s,comp=Z,2µm
MEZ Mezhgor'ye 86.10 319 P **P 06 31 43.4 -0.1**
ELND Elena 86.12 313 ⇑P **P 06 31 43.4 -0.3**
KLNR Kaliningrad 86.13 326*c i*P **P 06 31 41.6 -1.9**
KLNR pmax pmax
comp=Z,259nm,1.2s
KLNR MLR MLR
comp=Z,8µm,21.0s
V35K Ketchikan 86.17 34 P **P 06 31 45.3 +1.6**
baz=290
V35K S **S 06 42 19.4 +2.4**
baz=290
NSS Namsos 86.17 336 *e*P **P 06 31 44.4 +0.9**
NSS *e*SKSac **SKSac 06 42 11.5 +3.5**
NSS IVMs_BB IVMs_BB 07 14 39.6
comp=Z,4µm,16.6s
ARG Arkhangelos 86.24 306 P **P 06 31 43.5 -1.0**
COPA Copaceanca 86.24 315 ⇓P **P 06 31 44.5 +0.2**
KWP Kalwaria Pacla 86.27 320 *e*P **P 06 31 44.2 -0.1**
KWP Kalwaria Pacla 86.27 320 IAMs_20 IAMs_20 07 14 17.4
comp=Z,5µm,20.0s
KWP Kalwaria Pacla 86.27 320 P **P 06 31 44.7 +0.4**
KWP Kalwaria Pacla 86.27 320 P **P 06 31 44.7 +0.4**
comp=Z,538nm,1.1s,comp=Z,5µm
HUMR Humele 86.29 315 ⇑P **P 06 31 45.1 +0.6**
DAG Danmarks Havn 86.30 352 P **P 06 31 42.8 -1.2**
DAG Danmarks Havn 86.30 352 P **P 06 31 42.8 -1.2**
DAG Danmarks Havn 86.30 352 *i* P **P 06 31 42.7 -1.2**
DAG IAmb IAmb 06 31 46.8
comp=Z,75nm,0.8s
T35M Bob Quinn 86.31 32 IAMs_20 IAMs_20 07 04 55.2
comp=Z,7µm,22.0s
T35M Bob Quinn 86.31 32 P **P 06 31 45.9 +1.5**
baz=291,SNR=13
T35M S **S 06 42 22.4 +4.0**
baz=291
BMR Baia Mare 86.36 318 ⇑P **P 06 31 45.5 +0.6**
BMR Baia Mare 86.36 318 P **P 06 31 45.4 +0.6**
KORU Korolevo 86.45 319 P **P 06 31 45.8 +0.6**
BRIU Brid 86.46 319 P **P 06 31 45.5 +0.2**
ALN Alexandroupoli 86.56 311 P **P 06 31 43.5 -2.4**
VIKU Vikbolandet 86.56 330 *e*P **P 06 31 46.2 +0.7**
TRSU Trosnyk 86.58 319 P **P 06 31 47.8 +2.0**
CJR Cluj-Napoca 86.58 317 ⇓P **P 06 31 46.8 +0.8**
CJR Cluj-Napoca 86.58 317 P **P 06 31 46.8 +0.8**
MUKU Mukachevo 86.64 319 P **P 06 31 46.4 +0.3**
EZN Ezine 86.65 310 P **P 06 31 45.2 -1.2**
KIBK Kibwezi 86.70 267 P **P 06 31 46.9 -0.3**
KIBK Kibwezi 86.70 267 P **P 06 31 48.1 +0.9**
SNR=14
BEL Belsk 86.72 323 *e*P **P 06 31 48.0 +1.5**
BERU Beregovo 86.73 319 P **P 06 31 47.6 +1.0**
KOLS Kolonicke sedl 86.75 320 *e*P **P 06 31 47.1 +0.4**
KOLS Kolonicke sedl 86.75 320 *e*P **P 06 31 47.1 +0.4**
KOLS pmax pmax
comp=Z,82nm,0.8s
U35K Hyder 86.81 33 IAMs_20 IAMs_20 07 03 49.5
comp=Z,7µm,22.0s
U35K Hyder 86.81 33 P **P 06 31 47.7 +0.9**
baz=291
U35K S **S 06 42 24.8 +1.7**
baz=291
HOLU Holmets 86.81 319 P **P 06 31 47.6 +0.6**
UZHM Uzhgorod 86.84 319 P **P 06 31 47.4 +0.3**
VLAD Vladila 86.84 315 ⇓P **P 06 31 47.8 +0.6**
LOT Lotru 86.84 316 ⇓P **P 06 31 47.4 0.0**
KDZ Kurdzhali 86.86 312 ⇑*i*P **P 06 31 46.5 -0.9**
MESR Meseseni 86.87 318 ⇑P **P 06 31 47.4 +0.1**
MARR Marisel-Cluj 86.91 317 ⇑P **P 06 31 47.5 -0.1**
WRGLY Wrigley 86.92 25 P **P 06 31 48.2 +1.0**
WRGLY IAmb IAmb 06 31 51.2
comp=Z,100nm,1.1s
WRGLY IAMs_20 IAMs_20 07 09 27.7
comp=Z,7µm,22.0s
WRGLY Wrigley 86.92 25 P **P 06 31 47.8 +0.6**
baz=296,SNR=48
WRGLY S **S 06 42 23.3 -0.7**
baz=296
DRGR 87.14 318 ⇑P **P 06 31 48.6 -0.2**
DRGR 87.14 318 P **P 06 31 48.5 -0.2**
KMBO Kilima Mbogo 87.16 268 LR LR 07 08 36.2
comp=Z,54nm,19.7s,baz=74,slow=34
KMBO Kilima Mbogo 87.16 268 *i* P **P 06 31 50.3 +0.6**
STHS Stebnicka Huta 87.24 320 *e*P **P 06 31 49.1 0.0**
STHS Stebnicka Huta 87.24 320 *e*P **P 06 31 49.1 0.0**
STHS pmax pmax
comp=Z,76nm,1.0s
CRVS Cervenica-Dubn 87.27 320 *e*P **P 06 31 49.7 +0.5**
CRVS Cervenica-Dubn 87.27 320 *e*P **P 06 31 49.7 +0.5**
CRVS pmax pmax
comp=Z,633nm,1.2s
RZN Rozhen 87.28 312 ⇑*i*P **P 06 31 48.6 -1.1**
DEV Deva 87.29 317 ⇑P **P 06 31 50.1 +0.7**
DEV Deva 87.29 317 P **P 06 31 50.1 +0.7**
HFS Hagfors 87.32 332 P **P 06 31 48.2 -1.1**
comp=Z,91nm,1.0s,baz=76,slow=6.3,SNR=43
HFS LR LR 07 11 52.7
comp=Z,12µm,21.9s,baz=64,slow=36
comp=Z,91nm,1.0s
LIRD Liard River Hi 87.41 29 P **P 06 31 51.0 +1.3**
baz=294,SNR=30
LIRD S **S 06 42 30.6 +1.7**
baz=294
TBLU Trondheim 87.42 336 *e*P **P 06 31 48.9 -0.8**
TBLU IVmB_BB 06 31 58.0
comp=Z,2µm,3.5s
TBLU *e*S **S 06 42 27.7 -1.2**
TBLU IVMs_BB IVMs_BB 07 15 33.8
comp=Z,5µm,16.6s
PGB Panagyurishte 87.44 313 ⇑*i*P **P 06 31 49.3 -0.9**
SRE Strehaia 87.46 315 ⇓P **P 06 31 51.3 +1.0**
SRE Strehaia 87.46 315 P **P 06 31 51.3 +1.0**
MPEP Malo Peshtene 87.49 314 ⇑*i*P **P 06 31 49.7 -0.7**
VALD Valchedram 87.60 314 *i* P **P 06 31 52.2 +1.3**
BORR Bors 87.65 318 ⇓P **P 06 31 52.2 +1.2**
RES Resolute Bay 87.74 10 P **P 06 31 50.1 -0.8**
comp=Z,80nm,0.9s,baz=319,slow=5.8,SNR=118
RES LR LR 07 13 32.2
comp=Z,5µm,20.7s,baz=322,slow=37
comp=Z,80nm,0.9s
NC405 NORSAR Array S 87.78 333 P **P 06 31 51.3 -0.2**
NIE Niedzica 87.82 321 *e*P **P 06 31 52.2 +0.3**
NIE Niedzica 87.82 321 P **P 06 31 51.9 0.0**
NIE Niedzica 87.82 321 P **P 06 31 51.9 0.0**
comp=Z,49nm,1.0s,comp=Z,1µm
SURR Surduc 87.85 317 ⇓P **P 06 31 51.7 -0.3**
OJC Ojcow 87.85 321 *e*P **P 06 31 51.6 -0.4**
OJC Ojcow 87.85 321 P **P 06 31 51.4 -0.6**
OJC Ojcow 87.85 321 P **P 06 31 51.4 -0.6**
comp=Z,116nm,0.9s,comp=Z,3µm
LODK Lodwar 87.87 273 P **P 06 31 53.7 +0.8**
SNR=5.8
DJES Djerdap 87.93 316 ⇓P **P 06 31 53.1 +0.6**
HERR Herculane 87.93 316 ⇓P **P 06 31 53.2 +0.7**
SIRR Siria 87.99 317 ⇓P **P 06 31 52.4 -0.4**
KECS Kecovo 88.02 320 *e*P **P 06 31 52.9 +0.1**
KECS Kecovo 88.02 320 *e*P **P 06 31 52.9 +0.1**
KECS pmax pmax
comp=Z,143nm,1.0s
MMB Musomishta 88.03 312 ⇑*i*P **P 06 31 51.8 -1.3**
NC602 NORSAR Array S 88.03 333 *e*P **P 06 31 52.2 -0.4**
NC602 IVmB_BB 06 31 52.7
comp=Z,2µm,3.6s
NC602 *e*S **S 06 42 33.7 -1.1**
NC602 IVMs_BB IVMs_BB 07 13 47.0
comp=Z,5µm,17.6s
NB2 NORSAR Subarra 88.03 333 P **P 06 31 50.9 -1.8**
comp=Z,301nm,1.7s,baz=62,slow=5.3
NB2 NORSAR Subarra 88.03 333 P **P 06 31 50.9 -1.8**
baz=62,slow=5.3
NOA NORSAR Array B 88.03 333 P **P 06 31 51.1 -1.6**
comp=Z,48nm,1.1s,baz=63,slow=4.9,SNR=38
NOA PKKPbc **PKKPbc 06 49 37.6 -2.2**
comp=Z,2.5nm,1.0s,baz=70,slow=3.6,SNR=4.0
NOA LR LR 07 14 20.2
comp=Z,12µm,20.7s,baz=65,slow=38
comp=Z,48nm,1.1s
KOTAN Kotaneelee Air 88.04 28 P **P 06 31 54.1 +1.4**
baz=296
KOTAN S **S 06 42 36.9 +2.0**
baz=296
TOAD Toad River Com 88.04 29 P **P 06 31 54.3 +1.5**
baz=295,SNR=34
TOAD S **S 06 42 35.0 -0.1**
baz=295
VTS Vitosha 88.07 313 ⇑*i*P **P 06 31 52.7 -0.7**
BLKB Belogradchik 88.15 315 ⇓P **P 06 31 53.3 -0.3**
NEEM North Greenlan 88.20 359 *i* P **P 06 31 53.8 +0.3**
NEEM IAmb IAmb 06 32 06.0
comp=Z,117nm,0.8s
OUR Ouranopolis 88.22 311 P **P 06 31 52.5 -1.4**
BZS Buzias 88.23 317 ⇓P **P 06 31 53.4 -0.5**
BZS Buzias 88.23 317 P **P 06 31 53.4 -0.5**
KKB Krupnik 88.38 313 ⇑*i*P **P 06 31 53.4 -1.3**
LANS Liptovska Anna 88.42 321 *e*P **P 06 31 55.6 +0.8**
LANS Liptovska Anna 88.42 321 *e*P **P 06 31 55.7 +0.9**
LANS pmax pmax
comp=Z,17nm,0.9s
MDVR Moldovita 88.44 316 ⇓P **P 06 31 54.5 -0.5**
DOMB Dombas 88.48 335 *e*P **P 06 31 53.4 -1.4**
DOMB IVmB_BB 06 31 59.5
comp=Z,904nm,2.3s
DOMB *e*S **S 06 42 40.1 +1.0**
DOMB *e*SS **SS 06 48 28.9 +0.2**
DOMB IVMs_BB IVMs_BB 07 15 24.7
comp=Z,4µm,15.3s
DBG Daneborg 88.55 351 *i* P **P 06 31 53.8 -1.1**
DBG IAmb IAmb 06 32 08.0
comp=Z,26nm,0.9s
PAIG Paliouri 88.57 311 P **P 06 31 53.9 -1.7**
PSZ Piszkesteto 88.58 319 ⇓P **P 06 31 55.4 -0.3**
PSZ Piszkesteto 88.58 319 P **P 06 31 55.3 -0.3**
OSL Oslo 88.75 332 *e*P **P 06 31 57.1 +1.1**
OSL IVmB_BB 06 32 05.1
comp=Z,3µm,3.6s
OSL *e*S **S 06 42 42.2 +0.6**
OSL IVMs_BB IVMs_BB 07 14 30.9
comp=Z,5µm,19.7s
DEL Delary 88.77 329 *e*P **P 06 31 57.0 +0.8**
BSD Bornholm Skovb 88.79 327 *e*P **P 06 31 56.1 -0.2**
BSD Bornholm Skovb 88.79 327 *i* P **P 06 31 53.5 -2.7**
BSD IAmb IAmb 06 31 57.5
comp=Z,33nm,0.8s
BOVS Bovan 88.81 315 ⇓P **P 06 31 56.7 0.0**
TULEG Thule 88.83 3 *i* P **P 06 31 57.4 +1.3**
TULEG IAmb IAmb 06 32 02.9
comp=Z,22nm,0.5s
MOL Molde 88.84 336 *e*P **P 06 31 57.3 +1.0**
MOL *e*S **S 06 42 41.1 -1.2**
MOL IVMs_BB IVMs_BB 07 16 40.0
comp=Z,4µm,14.7s
JMIC Jan Mayen 88.84 346 LR LR 07 16 03.4
comp=Z,6µm,19.1s,baz=50,slow=38
JMI Jan Mayen 88.94 346 *e*P **P 06 31 59.8 +3.1**
JMI IVmB_BB 06 32 13.7
comp=Z,9µm,3.7s
VAY Valandovo 88.94 312 *i* P **P 06 31 55.9 -1.5**
OKC Ostrava-Krasne 88.98 321 *e*P **P 06 31 57.2 -0.1**
OKC AMS AMS 07 14 30.0
comp=Z,5µm,17.3s
OKC Ostrava-Krasne 88.98 321 *e*P **P 06 31 57.2 -0.1**
OKC MLR MLR
comp=Z,5µm,17.3s
IDI Anoyia 89.03 306 P **P 06 31 56.6 -1.4**
IDI Anoyia 89.03 306 LR LR 07 15 43.2
comp=Z,29nm,20.9s,baz=82,slow=38
VYHS Vyhne 89.04 320 *e*P **P 06 31 57.6 -0.1**
VYHS *e* 06 57 44.8
VYHS Vyhne 89.04 320 *e*P **P 06 31 57.6 -0.1**
VYHS pmax pmax
comp=Z,84nm,1.2s
AKN Aaknes 89.26 335 *e*P **P 06 31 57.9 -0.5**
AKN IVmB_BB 06 32 03.9
comp=Z,2µm,2.9s
AKN *e*S **S 06 42 47.7 +1.3**
AKN *e*SS **SS 06 48 45.0 +5.0**
AKN *i* 06 55 30.8
AKN IVMs_BB IVMs_BB 07 16 52.7
comp=Z,5µm,15.6s
BUD Budapest 89.28 319 P **P 06 31 58.8 0.0**
MAUC Maruska 89.35 321 *e*P **P 06 32 00.1 +1.0**
MORC Moravsky Berou 89.37 322 ⇑P **P 06 31 58.9 -0.4**
MORC Moravsky Berou 89.37 322 ⇑*i*P **P 06 31 58.7 -0.5**
MORC Moravsky Berou 89.37 322 *e*S **S 06 42 46.4 -1.6**
MORC Moravsky Berou 89.37 322 P **P 06 31 58.8 -0.4**
KONO Kongsberg 89.39 332 P **P 06 31 59.0 -0.1**
KONO IAmb IAmb 06 32 10.6
comp=Z,116nm,1.6s
KONO Kongsberg 89.39 332 *e*P **P 06 31 59.8 +0.8**
KONO IVmB_BB 06 32 08.0
comp=Z,2µm,3.5s
KONO *e*S **S 06 42 48.3 +0.7**
KONO *i* 06 49 04.0
KONO *i* 06 52 18.6
KONO IVMs_BB IVMs_BB 07 14 50.0
comp=Z,4µm,17.0s
KONO Kongsberg 89.39 332*ce*P **P 06 31 59.2 +0.2**
KONO pmax pmax
comp=Z,37nm,1.0s
KONO MLR MLR
comp=Z,13µm,20.0s
SKAR Skarslia 89.46 334 *e*P **P 06 32 00.2 +0.8**
SKAR IVmB_BB 06 32 08.9
comp=Z,2µm,4.2s
SKAR *e*S **S 06 42 48.3 -0.1**
SKAR IVMs_BB IVMs_BB 07 14 49.9
comp=Z,4µm,22.7s
SKO Skopje 89.53 313 *i* P **P 06 32 00.3 +0.2**
FRGS Fruska Gora 89.58 317 ⇑P **P 06 32 00.4 +0.1**
FRGS Fruska Gora 89.58 317 ⇑*i*P **P 06 31 59.6 -0.7**
FRGS Fruska Gora 89.58 317 P **P 06 31 59.8 -0.5**
comp=Z,82nm,1.2s,comp=Z,2µm
SRO Srobarova 89.61 320 *e*P **P 06 32 01.9 +1.6**
SRO Srobarova 89.61 320 *e*P **P 06 32 01.9 +1.6**
SRO pmax pmax
comp=Z,72nm,1.2s
JAVC Velka Javorina 89.63 321 ⇑*i*P **P 06 32 01.4 +0.9**
JAVC Velka Javorina 89.63 321 *e*S **S 06 42 50.3 -0.2**
KRLC Kraliky 89.71 322 *e*P **P 06 32 00.6 -0.2**
KRLC AMS AMS 07 15 30.0
comp=Z,6µm,17.2s
KRLC Kraliky 89.71 322 *e*P **P 06 32 00.6 -0.2**
KRLC MLR MLR
comp=Z,6µm,17.2s
COP Copenhagen 89.83 328 *i* P **P 06 32 00.3 -0.8**
COP IAmb IAmb 06 32 03.9
comp=Z,60nm,1.1s
RGN Rugen 89.86 327 P **P 06 32 01.8 +0.5**
RGN IAmb IAmb 06 32 04.1
comp=Z,162nm,1.1s
RGN Rugen 89.86 327 *e*P **P 06 32 01.7 +0.5**
OSTC Ostas 89.86 323 *e*P **P 06 32 01.3 -0.2**
OSTC AMS AMS 07 14 50.0
comp=Z,6µm,18.3s
OSTC Ostas 89.86 323 *e*P **P 06 32 01.3 -0.2**
OSTC MLR MLR
comp=Z,6µm,18.3s
DODT Dodoma, Tanzan 89.88 264 *i* P **P 06 31 58.5 -3.9**
DPC Dobruska-Polom 89.88 322 *e*P **P 06 32 01.5 -0.1**
DPC AMS AMS 07 20 50.0
comp=Z,6µm,20.0s
DPC Dobruska-Polom 89.88 322 *e*P **P 06 32 01.5 -0.1**
DPC MLR MLR
comp=Z,6µm,20.0s
DPC Dobruska-Polom 89.88 322 P **P 06 32 01.6 -0.1**
comp=Z,41nm,1.4s,comp=Z,2µm
SMOL Smolenice 89.91 320 *e*P **P 06 32 03.3 +1.6**
SMOL pmax pmax
comp=Z,22nm,1.1s
CHVC Chvalec 89.95 323 *e*P **P 06 32 01.5 -0.4**
CHVC AMS AMS 07 15 00.0
comp=Z,6µm,18.4s
CHVC Chvalec 89.95 323 *e*P **P 06 32 01.5 -0.4**
CHVC MLR MLR
comp=Z,6µm,18.4s
FNA Florina 89.97 312 P **P 06 32 00.0 -2.2**
MORH Mrgy, Hungar 89.98 318 ⇓P **P 06 32 01.6 -0.5**
MORH Mrgy, Hungar 89.98 318 P **P 06 32 02.3 +0.2**
comp=Z,44nm,2.2s,comp=Z,2µm
TEKS Tekeris 89.98 316 *e*P **P 06 32 02.1 -0.1**
UPC Upice 90.00 323 *e*P **P 06 32 02.2 +0.1**
UPC AMS AMS 07 15 00.0
comp=Z,7µm,17.8s
UPC Upice 90.00 323 *e*P **P 06 32 02.2 +0.1**
UPC MLR MLR
comp=Z,7µm,17.8s
MODS Modra-Piesok 90.06 320 *e*P **P 06 32 03.9 +1.5**
MODS Modra-Piesok 90.06 320 *e*P **P 06 32 03.9 +1.5**
MODS pmax pmax
comp=Z,114nm,1.4s
LLD Lille Linde 90.10 328 *i* P **P 06 32 00.9 -1.5**
HYA Hoyanger 90.11 335 *e*P **P 06 32 03.3 +1.0**
HYA *e*S **S 06 42 54.5 +0.2**
HYA *e*SS **SS 06 49 01.2 +9.0**
HYA IVMs_BB IVMs_BB 07 16 31.6
comp=Z,4µm,14.7s
VRAC Vranov 90.12 321 ⇓P **P 06 32 02.8 0.0**
VRAC Vranov 90.12 321 ⇑*i*P **P 06 32 02.0 -0.7**
VRAC Vranov 90.12 321 *e*S **S 06 42 53.3 -1.6**
VRAC Vranov 90.12 321 LR LR 07 15 22.9
comp=Z,4µm,19.1s,baz=72,slow=38
VRAC Vranov 90.12 321 P **P 06 32 02.7 0.0**
SJES Sjenica 90.12 315 ⇑*i*P **P 06 32 02.8 -0.2**
ZST Bratislava 90.23 320 *e*P **P 06 32 04.2 +1.0**
ZST Bratislava 90.23 320 *e*P **P 06 32 04.3 +1.0**
OHR Ohrid 90.27 313 *i* P **P 06 32 02.3 -1.4**
BBLS Lazi&#263i 90.30 316 ⇑*i*P **P 06 32 03.3 -0.5**
IVA Berane 90.31 315 ⇑*i*P **P 06 32 03.2 -0.6**
KRUC Moravsky 90.33 321 ⇑*i*P **P 06 32 03.4 -0.3**
KRUC Moravsky 90.33 321 *e*S **S 06 42 55.7 -1.2**
MPLH Magyarpolny 90.34 319 P **P 06 32 03.8 0.0**
comp=Z,237nm,1.3s,comp=Z,5µm
FOO Floro 90.35 335 *e*P **P 06 32 04.4 +1.0**
FOO *e*S **S 06 42 54.2 -2.2**
FOO *e*SS **SS 06 48 56.9 +1.2**
FOO IVMs_BB IVMs_BB 07 17 44.5
comp=Z,4µm,17.0s
RUDO Rudo 90.41 315 *e*P **P 06 32 02.9 -1.3**
RUE Ruedersdorf 90.48 325 *e*P **P 06 32 04.7 +0.4**
PLE Pljevlja 90.50 315 ⇑*i*P **P 06 32 04.2 -0.6**
ODD1 Odda 90.57 333 *e*P **P 06 32 05.2 +0.6**
ODD1 *e*S **S 06 42 59.1 +0.4**
ODD1 IVMs_BB IVMs_BB 07 17 29.5
comp=Z,4µm,17.7s
KOME Kolasin 90.58 315 ⇑*i*P **P 06 32 05.0 -0.1**
SUE Sulen 90.76 335 *e*P **P 06 32 06.1 +0.7**
SUE *e*S **S 06 43 04.8 +4.6**
SUE IVMs_BB IVMs_BB 07 17 02.0
comp=Z,5µm,15.0s
TREC Trest 90.79 322 *e*P **P 06 32 06.4 +0.5**
TREC AMS AMS 07 18 20.0
comp=Z,8µm,19.4s
TREC Trest 90.79 322 *e*P **P 06 32 06.4 +0.5**
TREC MLR MLR
comp=Z,8µm,19.4s
YKA Yellowknife Ar 90.79 23 P **P 06 32 05.5 0.0**
comp=Z,38nm,1.0s,baz=304,slow=4.8,SNR=115
YKA PKKPbc **PKKPdf 06 49 30.4 +2.0**
comp=Z,3.1nm,0.9s,baz=119,slow=2.0,SNR=19
YKA LR LR 07 17 34.7
comp=Z,4µm,18.5s,baz=307,slow=39
comp=Z,38nm,1.0s
PVCC Panska Ves 90.84 323 *e*P **P 06 32 06.1 +0.1**

PVCC AMS AMS 07 19 50.0
comp=Z,5µm,16.8s
PVCC Panska Ves 90.84 323 *eP* **P 06 32 06.1 +0.1**
PVCC MLR MLR
comp=Z,5µm,16.8s
UPM Unac-Piva 90.88 315 *eP* **P 06 32 06.0 -0.6**
UPM Unac-Piva 90.88 315 ⇑*iP* **P 06 32 05.2 -1.4**
ASK Askoy 90.88 334 *eS* **S 06 43 02.9 +1.6**
BLS5 Blasjo 90.89 333 *eP* **P 06 32 07.0 +0.9**
BLS5 IVmB_BB 06 32 15.4
comp=Z,2µm,3.1s
BLS5 *eS* **S 06 43 00.3 -1.3**
BLS5 *eSS* **SS 06 49 12.0 +8.2**
BLS5 IVMs_BB IVMs_BB 07 16 05.4
comp=Z,6µm,19.9s
PDG Podgorica 90.91 314 ⇑*iP* **P 06 32 06.0 -0.5**
PDG Podgorica 90.91 314 ⇑*iP* **P 06 32 05.0 -1.5**
PDG Podgorica 90.91 314 ⇑*iP* **P 06 32 06.2 -0.3**
RONA Rosalia, Austr 90.92 320 *iP* **P 06 32 05.8 -0.7**
comp=Z,44nm,1.2s,SNR=18
RONA *ePP* **PP 06 35 40.5 -1.8**
comp=Z,8.2nm,0.9s
PPT Papeete 90.94 108 LR LR 07 05 29.5
comp=Z,8µm,20.6s,baz=252,slow=31
GOPC GO Pecny, Ondr 90.96 322 *eP* **P 06 32 06.8 +0.2**
GOPC GO Pecny, Ondr 90.96 322 *eP* **P 06 32 06.8 +0.2**
NKME Niksic 91.00 315 ⇑*iP* **P 06 32 05.5 -1.5**
DRME Dracevica, Mon 91.04 314 ⇑*iP* **P 06 32 06.1 -1.0**
DRME Dracevica, Mon 91.04 314 ⇑*iP* **P 06 32 06.2 -0.9**
BRG Berggiesshubel 91.06 323 *iP* **P 06 32 06.4 -0.7**
BRG Amp 06 32 07.5
comp=Z,5.6nm,0.8s
BRG Berggiesshubel 91.06 323 P **P 06 32 08.2 +1.2**
BRG Amp 06 32 09.8
comp=Z,58nm,1.2s
BRG Berggiesshubel 91.06 323 P P 06 32 17.5 +10
BRG Amp 06 32 18.6
comp=Z,54nm,1.3s
BRG Berggiesshubel 91.06 323 *iP* **P 06 32 06.3 -0.7**
BRG 06 32 17.5
BRG 06 32 23.4
BRG 06 35 44.6
BRG S S 06 42 54.0 -9.4
BRG SP SP 06 44 13.0 +2.4
BRG SS **SS 06 49 16.0 +9.4**
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG pmax pmax
comp=Z,25nm,1.4s
BRG smax smax
comp=Z,8µm,18.1s
PRU Pruhonice 91.08 323 *eP* **P 06 32 07.4 +0.3**
PRU AMS AMS 07 15 30.0
comp=Z,6µm,18.3s
PRU Pruhonice 91.08 323 *eP* **P 06 32 07.4 +0.3**
PRU MLR MLR
comp=Z,6µm,18.3s
ULC Ulcinj 91.08 314 ⇑*iP* **P 06 32 06.6 -0.7**
CEME Cevo 91.10 314 ⇑*iP* **P 06 32 06.8 -0.7**
CONA Conrad Observa 91.10 320 *iP* **P 06 32 07.2 -0.2**
comp=Z,87nm,1.3s,SNR=39
CONA *ePP* **PP 06 35 39.7 -4.1**
comp=Z,25nm,1.4s
PRA Prague 91.11 323 AMS AMS 07 15 30.0
comp=Z,6µm,18.5s
RICC Richard 91.11 323 *eP* **P 06 32 07.6 +0.4**
RICC AMS AMS 07 20 10.0
comp=Z,5µm,17.3s
MUD Monsted U'grnd 91.11 330 *iP* **P 06 32 05.2 -1.8**
SNART Snartemo 91.11 332 *eP* **P 06 32 08.5 +1.5**
SNART IVmB_BB 06 32 15.8
comp=Z,2µm,2.7s
SNART IVMs_BB IVMs_BB 07 15 50.0
comp=Z,8µm,21.9s
KULLO Kullorsuaq 91.12 0 *iP* **P 06 32 06.5 -0.3**
KULLO IAmb IAmb 06 32 18.6
comp=Z,60nm,1.0s
BUM Brajici-Budva 91.20 314 ⇑*iP* **P 06 32 07.2 -0.8**
BRY Bratogost 91.23 315 *eP* **P 06 32 06.8 -1.4**
BRY Bratogost 91.23 315 ⇑*iP* **P 06 32 07.0 -1.2**
SSRD Sdr. Stenderup 91.34 329 *iP* **P 06 32 07.2 -1.0**
SSRD IAmb IAmb 06 32 10.7
comp=Z,47nm,0.9s
NEVS Nevesinje 91.39 315 *eP* **P 06 32 08.2 -0.6**
CLL Collm 91.42 324 *iP* **P 06 32 07.5 -1.1**
CLL *e**SP **pP 06 32 17.0 +0.8**
CLL *i* 06 42 38.0
CLL *eS* **S 06 43 05.0 -1.6**
CLL pmax pmax
comp=Z,76nm,1.4s
CLL Collm 91.42 324 P **P 06 32 07.8 -0.8**
comp=Z,43nm,1.2s,comp=Z,1µm
HCY Herceg Novi 91.43 314 *eP* **P 06 32 07.8 -1.1**
HCY Herceg Novi 91.43 314 ⇑*iP* **P 06 32 07.0 -1.9**
TREB Trebinje 91.43 315 *eP* **P 06 32 08.5 -0.4**
KOGS Kog 91.43 319 *iP* **P 06 32 08.0 -0.8**
KOGS *iPP* **PP 06 35 48.0 +1.8**
KOGS *eSS* SS 06 49 32.4 +20
HSKC Hora Svate Kat 91.47 323 *eP* **P 06 32 08.8 -0.2**
HSKC AMS AMS 07 21 00.0
comp=Z,6µm,16.6s
BLY Banja Luka 91.47 317 ⇑*iP* **P 06 32 08.4 -0.7**
ZVC Zvikov 91.51 322 *eP* **P 06 32 09.0 -0.1**
ZVC AMS AMS 07 22 20.0
comp=Z,3µm,16.9s
KMY Karmoy 91.53 333 *eP* **P 06 32 10.9 +1.9**
KMY IVmB_BB 06 32 18.0
comp=Z,1µm,3.0s
KMY *eS* **S 06 43 05.6 -1.7**
KMY *eSS* **SS 06 49 17.2 +4.3**
KMY IVMs_BB IVMs_BB 07 18 15.2
comp=Z,4µm,15.8s
A051A Mrakovica 91.56 317 ⇑*iP* **P 06 32 08.6 -0.9**
ARSA Arzberg 91.58 320 *iP* **P 06 32 08.8 -0.8**
comp=Z,55nm,1.4s,SNR=21
MGRS Mrkonjic Grad 91.66 317 *eP* **P 06 32 11.6 +1.6**
CKRC Cesky Krumlov 91.69 322 *eP* **P 06 32 10.0 0.0**
CKRC AMS AMS 07 19 00.0
comp=Z,8µm,20.5s
CKRC Cesky Krumlov 91.69 322 *eP* **P 06 32 10.0 0.0**
CKRC MLR MLR
comp=Z,8µm,20.5s
SRKY Kupres RS 91.74 316 *eP* **P 06 32 08.7 -1.8**
STON Ston 91.82 315 ⇑*iP* **P 06 32 09.0 -1.7**
KHC Kasperske Hory 92.00 322 P **P 06 32 11.2 -0.3**
KHC Kasperske Hory 92.00 322 *eP* **P 06 32 11.7 +0.2**
KHC *ePP* **PP 06 35 53.6 +2.9**
KHC *ex* x 06 43 01.1
KHC AMS AMS 07 22 40.0
comp=Z,6µm,16.8s
KHC Kasperske Hory 92.00 322 P **P 06 32 11.2 -0.3**
KHC pmax pmax
comp=Z,42nm,1.3s
KHC Kasperske Hory 92.00 322 P **P 06 32 11.3 -0.2**
comp=Z,32nm,1.2s,comp=Z,1µm
A050A Klekovaca 92.00 317 ⇑*iP* **P 06 32 10.6 -1.0**
SCO Scoresbysund 92.05 349 IAMs_20 IAMs_20 07 18 47.6
comp=Z,5µm,19.0s
GERES GERESS Array B 92.05 322 P **P 06 32 11.5 -0.3**
comp=Z,14nm,0.9s,baz=50,slow=8.9,SNR=21
comp=Z,14nm,0.9s
SOKA Soboth 92.11 319 *iP* **P 06 32 11.4 -0.8**
comp=Z,70nm,1.1s,SNR=30
SOKA *ePP* **PP 06 35 53.8 +2.0**
comp=Z,13nm,1.3s
MOA Molln 92.12 321 *iP* **P 06 32 11.6 -0.4**
comp=Z,127nm,1.3s,SNR=57
MOA *ePP* **PP 06 35 52.1 +0.5**
comp=Z,17nm,1.4s
CRES Cresnjev 92.18 318 ⇑*iP* **P 06 32 11.8 -0.6**
NKC Novy Kostel 92.20 323 *eP* **P 06 32 12.3 0.0**
NKC AMS AMS 07 21 20.0
comp=Z,7µm,18.7s
NKC Novy Kostel 92.20 323 *eP* **P 06 32 12.3 0.0**
NKC MLR MLR
comp=Z,7µm,18.7s
SUMG Summit 92.36 355 IAMs_20 IAMs_20 07 15 59.3
comp=Z,5µm,21.0s
SUMG Summit 92.36 355 P **P 06 32 12.9 -0.2**
SUMG Summit 92.36 355 *iP* **P 06 32 11.6 -1.5**
SUMG IAmb IAmb 06 32 19.6
comp=Z,39nm,0.9s
BOJS Bojanci 92.44 318 ⇑*iP* **P 06 32 13.3 -0.2**
OBKA Obir 92.49 319 *iP* **P 06 32 13.1 -0.7**
comp=Z,65nm,1.1s,SNR=15
OBKA Obir 92.49 319 ⇑*iP* **P 06 32 13.0 -0.9**
BIOA Bad Ischl, Aus 92.57 321 *iP* **P 06 32 13.6 -0.5**
comp=Z,50nm,1.1s,SNR=19
LJU Ljubljana 92.69 319 *iP* **P 06 32 14.0 -0.7**
LJU *ePP* **PP 06 35 57.1 +0.9**
LJU *e* 06 42 43.5
LJU *eS* **S 06 43 15.0 -3.4**
LJU *eSP* SPn 06 44 34.6 +4.4
LJU *iSS* SS 06 49 46.8 +16
CEY Cerknica 92.88 319 ⇑*iP* **P 06 32 14.9 -0.7**
MAW Mawson 92.90 200 P **P 06 32 15.0 +0.1**
comp=Z,62nm,1.3s,baz=55,slow=7.4,SNR=28
MAW LR LR 07 13 04.4
comp=Z,2µm,19.7s,baz=54,slow=35
comp=Z,62nm,1.3s
UPNV Upernavik 92.93 0 *iP* **P 06 32 13.2 -2.0**
PDHT Panda Hill 92.97 262 *iP* **P 06 32 13.2 -3.5**
KBA Koelnbreinsper 93.01 320 *iP* **P 06 32 15.3 -1.1**
comp=Z,69nm,1.1s,SNR=35
KBA Koelnbreinsper 93.01 320 P **P 06 32 15.6 -0.7**
MYKA Tepa Mystica 93.01 320 *iP* **P 06 32 15.0 -1.2**
comp=Z,36nm,1.2s,SNR=12
C03A Quillayute Air 93.07 39 IAMs_20 IAMs_20 07 09 07.8
comp=Z,5µm,20.0s
ROBS Robic 93.25 319 *iP* **P 06 32 15.9 -1.4**
ROBS *eS* **S 06 43 18.6 -4.7**
LESA Schwarzleotal 93.27 321 *iP* **P 06 32 16.6 -0.9**
comp=Z,60nm,1.0s
LESA *ePP* **PP 06 35 59.5 -1.3**
comp=Z,13nm,1.1s
MATE Matera 93.34 313 ⇑*iP* **P 06 32 18.0 +0.3**
MBAR Mbarara 93.34 270 LR LR 07 11 58.0
comp=Z,15µm,21.1s,baz=64,slow=34
SGRT San Giovanni R 93.59 315 IAMs_20 IAMs_20 07 19 57.6
comp=Z,5µm,20.0s
ABTA Abfaltersbach 93.66 320 *iP* **P 06 32 18.5 -0.8**
comp=Z,101nm,1.1s,SNR=41
ABTA *iPP* **PP 06 36 02.1 -1.8**
comp=Z,11nm,1.2s
NLWA Neilton Lookou 93.73 39 IAMs_20 IAMs_20 07 06 42.6
comp=Z,6µm,21.0s
TIP Timpagrande 93.85 312 ⇓P **P 06 32 19.7 -0.6**
TIP Timpagrande 93.85 312 P **P 06 32 19.9 -0.4**
comp=Z,85nm,1.2s,comp=Z,1µm
WISH Wishkah 93.92 39 IAMs_20 IAMs_20 07 06 59.4
comp=Z,7µm,22.0s
WTTA Wattenberg 93.98 321 *iP* **P 06 32 19.9 -0.9**
comp=Z,114nm,1.0s,SNR=39
WTTA *ePP* **PP 06 36 06.4 0.0**
comp=Z,24nm,1.1s
WATA Walderalm 93.98 321 *iP* **P 06 32 19.6 -1.2**
comp=Z,90nm,1.3s,SNR=22
WATA *ePP* **PP 06 36 06.0 -0.4**
comp=Z,23nm,1.2s
BRLDA Berland Lookou 94.12 31 IAMs_20 IAMs_20 07 19 44.0
comp=Z,5µm,20.0s
NUUG Nuugaatsiaq 94.16 359 *iP* **P 06 32 18.7 -2.2**
NUUG IAmb IAmb 06 32 34.5
comp=Z,18nm,0.9s
RADR Rader Ridge 94.20 40 IAMs_20 IAMs_20 07 13 55.1
comp=Z,5µm,20.0s
SQTA Sankt Quirin 94.26 321 *iP* **P 06 32 21.0 -1.0**
comp=Z,104nm,1.1s,SNR=40
SQTA *ePP* **PP 06 36 05.8 -2.8**
comp=Z,20nm,1.2s
MOTA Moosalm 94.27 321 *iP* **P 06 32 20.9 -1.2**
comp=Z,84nm,1.0s,SNR=28
MOTA *ePP* **PP 06 36 07.7 -0.9**
comp=Z,12nm,1.1s
GNW Green Mountain 94.29 39 IAMs_20 IAMs_20 07 07 26.4
comp=Z,5µm,22.0s
E03A Lebam 94.30 40 IAMs_20 IAMs_20 07 14 18.4
comp=Z,6µm,20.0s
VNDA Vanda 94.37 172 P **P 06 32 20.6 -1.0**
comp=Z,26nm,1.1s,baz=309,slow=5.6,SNR=43
VNDA PKKPbc **PKKPdf 06 49 23.4 -0.8**
comp=Z,3.4nm,1.0s,baz=188,slow=0.9,SNR=7.7
VNDA LR LR 07 15 07.8
comp=Z,3µm,19.8s,baz=332,slow=36
comp=Z,26nm,1.1s
RETA Reutte 94.41 321 *iP* **P 06 32 21.9 -0.7**
comp=Z,20nm,1.0s,SNR=10
RETA *ePP* **PP 06 36 09.2 -0.5**
comp=Z,34nm,1.5s
F03A Seaside 94.57 40 IAMs_20 IAMs_20 07 16 30.8
comp=Z,7µm,19.0s
FETA Fetan 94.64 321 *iP* **P 06 32 22.8 -1.0**
comp=Z,93nm,1.1s,SNR=48
STU Stuttgart 94.75 323 P **P 06 32 25.7 +1.6**
CEL Celeste 94.83 311 IAMs_20 IAMs_20 07 21 50.6
comp=Z,5µm,21.0s
CEL Celeste 94.83 311 P **P 06 32 25.2 +0.5**
comp=Z,136nm,1.1s,comp=Z,2µm
F04D Rainier, OR 94.84 40 IAMs_20 IAMs_20 07 15 38.1
comp=Z,6µm,19.0s
D05A Enumclaw 94.97 39 IAMs_20 IAMs_20 07 07 36.3
comp=Z,5µm,21.0s
UMMG Uummannaq 95.01 359 *iP* **P 06 32 24.3 -0.5**
UMMG IAmb IAmb 06 32 36.3
comp=Z,10nm,1.0s
DAVA Damuels 95.03 321 *iP* **P 06 32 24.9 -0.7**
comp=Z,66nm,1.0s,SNR=20
DAVA *ePP* **PP 06 36 14.1 -0.6**
comp=Z,32nm,1.9s
G03D McMinnville, O 95.07 41 IAMs_20 IAMs_20 07 19 21.2
comp=Z,6µm,19.0s
FUORN Ofenpass-Fuorn 95.11 321 IAMs_20 IAMs_20 07 20 49.3
comp=Z,5µm,19.0s
DAVOX Davos/Dischmat 95.27 321 LR LR 07 18 07.8
comp=Z,5µm,20.0s,baz=71,slow=37
LON Longmire 95.28 39 IAMs_20 IAMs_20 07 07 20.5
comp=Z,5µm,21.0s
SBA Scott Base 95.29 172 P **P 06 32 27.2 +1.4**
BFO Black Forest 95.47 323 P **P 06 32 27.3 -0.1**
BTNL Ternell 95.59 326 *dP* **P 06 32 25.7 -2.3**
comp=Z,25nm,1.2s
SOEG Soedalen 95.64 351 *iP* **P 06 32 28.2 +0.5**
SOEG IAmb IAmb 06 32 32.1
comp=Z,21nm,0.7s
MEM Membach 95.65 326 *dP* **P 06 32 28.6 +0.5**
comp=Z,33nm,1.1s
I03D Drain, OR 95.68 42 IAMs_20 IAMs_20 07 06 58.6
comp=Z,7µm,22.0s
BEBN Eben Emael 95.73 326 *dP* **P 06 32 27.6 -0.9**
LTY Liberty 95.73 38 IAMs_20 IAMs_20 07 10 45.5
comp=Z,5µm,21.0s
TUE Stuetta 95.74 321 IAMs_20 IAMs_20 07 19 03.0
comp=Z,6µm,19.0s
TUE Stuetta 95.74 321 P **P 06 32 29.4 +0.5**
comp=Z,228nm,1.3s,comp=Z,5µm
KBO Bosley Butte 95.75 44 IAMs_20 IAMs_20 07 10 42.4
comp=Z,5µm,21.0s
BHOU Houvegnez 95.78 325 *dP* **P 06 32 29.1 +0.3**
comp=Z,26nm,1.1s
ICESG Greenland Ices 95.84 354 *iP* **P 06 32 28.1 -1.0**
BSTI Sart Tilman 95.90 326 *dP* **P 06 32 29.2 -0.1**
comp=Z,11nm,1.1s
K02D Willamette Mer 95.91 43 IAMs_20 IAMs_20 07 18 47.7
comp=Z,6µm,18.0s
H04A Detroit Lake 95.99 41 IAMs_20 IAMs_20 07 07 24.6
comp=Z,5µm,22.0s
HOOD Mount Hood Mea 96.04 40 IAMs_20 IAMs_20 07 17 33.7
comp=Z,6µm,19.0s
CDF Champ du Feu 96.04 323 *eP* **P 06 32 29.5 -0.6**
CDF pmax pmax
comp=Z,69nm,1.2s
WLF Walferdange 96.05 325 IAMs_20 IAMs_20 07 22 04.0
comp=Z,7µm,19.0s
WLF Walferdange 96.05 325 *dP* **P 06 32 30.3 +0.3**
comp=Z,75nm,1.1s
WLF Walferdange 96.05 325 P **P 06 32 29.8 -0.2**
BCLA Clavier 96.13 326 *dP* **P 06 32 31.7 +1.4**
comp=Z,17nm,1.3s
KSXB Camp Six Broad 96.14 44 IAMs_20 IAMs_20 07 11 04.0
comp=Z,6µm,20.0s
VLC Villacollemand 96.15 318 P **P 06 32 28.2 -2.4**
ECH Echery 96.20 323 IAMs_20 IAMs_20 07 20 34.2
comp=Z,7µm,20.0s
ECH Echery 96.20 323 P **P 06 32 30.3 -0.5**
VAE Valguarnera 96.21 311 LR LR 07 22 34.7
comp=Z,2µm,19.4s,baz=55,slow=40
L02F Cave Junction 96.22 44 IAMs_20 IAMs_20 07 11 10.1
comp=Z,7µm,21.0s
I04A Tendick Farm, 96.25 42 IAMs_20 IAMs_20 07 07 28.5
comp=Z,7µm,22.0s
KRMB Red Mountain 96.25 44 IAMs_20 IAMs_20 07 11 26.0
comp=Z,6µm,20.0s
BGES Gesves 96.27 326 *dP* **P 06 32 30.3 -0.7**
comp=Z,10nm,1.4s
G05A Wamic 96.28 40 IAMs_20 IAMs_20 07 17 51.2
comp=Z,5µm,19.0s
RCHB Rochefort 96.31 325 *dP* **P 06 32 30.4 -0.7**
comp=Z,32nm,1.1s
HUMO Hull Mountain 96.42 43 IAMs_20 IAMs_20 07 07 21.2
comp=Z,7µm,22.0s
ILULI Ilulissat 96.45 358 IAMs_20 IAMs_20 07 21 58.3
comp=Z,4µm,19.0s
ILULI Ilulissat 96.45 358 *iP* **P 06 32 31.2 -0.1**
ILULI IAmb IAmb 06 32 44.2
comp=Z,12nm,1.0s
BMRD Maredsous 96.48 326 *dP* **P 06 32 31.6 -0.3**
comp=Z,21nm,1.2s
E07A Sunnyside 96.56 39 IAMs_20 IAMs_20 07 13 23.3
comp=Z,5µm,19.0s
GIVF Givet 96.56 326 *eP* **P 06 32 32.7 +0.4**
GIVF pmax pmax
comp=Z,52nm,1.2s
HINF Hinteralfeld 96.58 323 *eP* **P 06 32 30.9 -1.6**
HINF pmax pmax
comp=Z,36nm,1.3s
DOU Dourbes 96.69 326 *dP* **P 06 32 32.0 -0.9**
comp=Z,19nm,1.2s
I05D Terrebonne, OR 96.69 41 IAMs_20 IAMs_20 07 20 30.0
comp=Z,6µm,18.0s
G06A Carlson Farm, 96.71 40 IAMs_20 IAMs_20 07 18 42.5
comp=Z,5µm,19.0s
BORG Borgarnes 96.74 346 LR LR 07 20 25.3
comp=Z,4µm,19.5s,baz=29,slow=38
HAU Haudompre 96.78 323 *eP* **P 06 32 32.4 -1.0**
HAU pmax pmax
comp=Z,19nm,1.0s
HAWA Hanford 96.83 39 IAMs_20 IAMs_20 07 13 20.6
comp=Z,6µm,20.0s
F07A Phinny Hill Vi 96.83 39 IAMs_20 IAMs_20 07 16 18.7
comp=Z,5µm,19.0s
BAIF Baives 96.92 326 *eP* **P 06 32 34.3 +0.4**
BAIF pmax pmax
comp=Z,37nm,1.3s
YBH Yreka Blue Hor 96.97 44 IAMs_20 IAMs_20 07 09 42.9
comp=Z,6µm,22.0s
YBH Yreka Blue Hor 96.97 44 LR LR 07 08 08.6
comp=Z,5µm,21.9s,baz=312,slow=30
L04D Klamath Falls 97.03 43 IAMs_20 IAMs_20 07 11 39.2
comp=Z,6µm,22.0s
E08A Dider Farm, El 97.07 38 IAMs_20 IAMs_20 07 13 09.8
comp=Z,6µm,20.0s
K04D Chiloquin, OR 97.21 43 IAMs_20 IAMs_20 07 17 12.9
comp=Z,6µm,19.0s
J05D Fort Rock, OR 97.24 42 IAMs_20 IAMs_20 07 07 26.8
comp=Z,7µm,22.0s
KCPM Cahto Peak 97.27 46 IAMs_20 IAMs_20 07 19 20.9
comp=Z,5µm,19.0s
NEW Newport 97.31 36 IAMs_20 IAMs_20 07 15 50.9
comp=Z,6µm,19.0s
NEW Newport 97.31 36 P Pdif 06 32 36.6 +0.7
baz=301
NEW S **S 06 43 57.8 -0.8**
baz=301
NEW Newport 97.31 36 LR LR 07 13 41.6
comp=Z,3µm,19.6s,baz=310,slow=34
EKA Eskdalemuir Ar 97.50 333 P **P 06 32 35.4 -1.0**
comp=Z,45nm,1.1s,baz=56,slow=3.5,SNR=44
EKA PKKPbc **PKKPbc 06 49 13.1 -2.0**
comp=Z,3.9nm,1.1s,baz=270,slow=4.2,SNR=4.2
comp=Z,45nm,1.1s
ESK Eskdalemuir 97.53 333 P **P 06 32 36.1 -0.5**
E09A Wood Farm, Sta 97.61 38 IAMs_20 IAMs_20 07 13 48.0
comp=Z,5µm,20.0s
G08A Pilot Rock 97.72 39 IAMs_20 IAMs_20 07 19 36.2
comp=Z,5µm,19.0s
K05A Summer Lake 97.72 42 IAMs_20 IAMs_20 07 14 20.6
comp=Z,6µm,20.0s
PGF Pioggiola 97.78 317 *eP* **P 06 32 37.3 -0.9**
PGF pmax pmax
comp=Z,63nm,1.1s
LPG La Plagne 97.79 321 *eP* Pdif 06 32 38.8 +0.4
LPG pmax pmax
comp=Z,57nm,1.2s
LPL La Plagne 97.79 321 *eP* **P 06 32 37.2 -1.1**
LPL pmax pmax
comp=Z,42nm,1.1s
I07A Izee 97.97 41 IAMs_20 IAMs_20 07 18 35.9
comp=Z,6µm,19.0s
BNI Bardonecchia 98.06 321 IAMs_20 IAMs_20 07 24 46.4
comp=Z,7µm,20.0s
BNI Bardonecchia 98.06 321 P Pdif 06 32 39.7 +0.3
SBF Sospel 98.17 319 *eP* **P 06 32 39.5 -0.3**
SBF pmax pmax
comp=Z,29nm,0.9s
MCCM Marconi Confer 98.43 47 IAMs_20 IAMs_20 07 13 26.8
comp=Z,4µm,20.0s
F10A Beach Ranch, E 98.43 38 IAMs_20 IAMs_20 07 14 11.8
comp=Z,6µm,21.0s
LOR Lormes 98.60 323 *eP* **P 06 32 40.4 -1.2**
LOR pmax pmax
comp=Z,46nm,1.2s
ORIF Oris-en-Rattie 98.61 321 *eP* Pdif 06 32 42.1 +0.3
ORIF pmax pmax
comp=Z,50nm,1.5s
SFJD Kangerlussuaq 98.65 358 *iP* **P 06 32 40.2 -1.2**
ORV Oroville 98.77 45 IAMs_20 IAMs_20 07 17 46.6
comp=Z,5µm,19.0s
SSF Saint Saulge 98.92 323 *eP* Pdif 06 32 43.1 +0.1
SSF pmax pmax
comp=Z,28nm,1.1s
SMF Signal de Mont 98.94 323 *eP* Pdif 06 32 43.3 +0.1
SMF pmax pmax
comp=Z,36nm,1.4s
ANGG Ammassalik, Gr 98.95 352 IAMs_20 IAMs_20 07 22 26.2
comp=Z,5µm,20.0s
DY2G Dye2 98.95 356 *iP* **P 06 32 42.6 -0.4**
DY2G IAmb IAmb 06 32 52.9
comp=Z,14nm,0.7s
J08A Circle Bar Ran 98.98 41 IAMs_20 IAMs_20 07 16 36.6
comp=Z,5µm,20.0s
AVF Avril sur Loir 99.15 323 *eP* **Pdif 06 32 42.8 -1.2**
AVF pmax pmax
comp=Z,24nm,1.1s
LSZ Lusaka 99.23 257 LR LR 07 16 36.2
comp=Z,8µm,18.1s,baz=89,slow=35
LSZ Lusaka 99.23 257 P **Pdif 06 32 44.4 -0.7**
LSZ S **SKSac 06 43 21.1 -1.7**
SSB Saint Sauveur 99.25 321 IAMs_20 IAMs_20 07 23 40.8
comp=Z,4µm,18.0s
VIVF Saint-Julien-l 99.39 321 *eP* **Pdif 06 32 45.4 +0.2**
VIVF pmax pmax
comp=Z,27nm,1.3s
AFDM Forest Hills D 99.41 46 IAMs_20 IAMs_20 07 16 44.7
comp=Z,5µm,19.0s
BGF Bois d'Agland 99.57 323 *eP* **Pdif 06 32 46.1 +0.2**
BGF pmax pmax
comp=Z,19nm,1.1s
PLID Pearl Lake 99.63 38 IAMs_20 IAMs_20 07 10 20.5
comp=Z,5µm,21.0s
MPK Martis Peak 99.90 45 IAMs_20 IAMs_20 07 18 31.4
comp=Z,4µm,19.0s
MSO Missoula 99.90 36 IAMs_20 IAMs_20 07 20 48.4
comp=Z,5µm,20.0s
MSO Missoula 99.90 36 P **Pdif 06 32 48.5 +0.9**
baz=304
EMB Emerald Bay 100.00 45 IAMs_20 IAMs_20 07 16 55.2
comp=Z,5µm,19.0s
TCF Toulx Ste Croi 100.08 323 *eP* **Pdif 06 32 47.7 -0.6**
TCF pmax pmax
comp=Z,18nm,1.1s
PAHR Pah Rah Range 100.15 44 IAMs_20 IAMs_20 07 18 25.9
comp=Z,6µm,19.0s
FLN La Foliniere 100.18 326 *eP* **Pdif 06 32 49.1 +0.5**
FLN pmax pmax
comp=Z,18nm,1.4s
CMB Columbia Colle 100.23 46 IAMs_20 IAMs_20 07 21 38.5
comp=Z,5µm,18.0s
PNTR Pine Nut 100.29 45 IAMs_20 IAMs_20 07 17 24.9
comp=Z,5µm,19.0s
YERR Yerington 100.59 45 IAMs_20 IAMs_20 07 17 44.7
comp=Z,5µm,19.0s
GRR Gorron 100.61 326 *eP* **Pdif 06 32 53.6 +3.1**
GRR pmax pmax
comp=Z,22nm,1.3s
MFID Camas Ranch 100.61 40 IAMs_20 IAMs_20 07 22 51.6
comp=Z,5µm,18.0s
KEST Kesra 100.64 311 P **Pdif 06 32 50.8 -0.2**
comp=Z,13nm,1.1s,baz=59,slow=3.6,SNR=4.8

KEST PP **PP** 06 36 56.5 -1.4
comp=Z,12nm,1.0s,baz=290,slow=3.6,SNR=4.0
KEST Kesra 100.64 311 P **Pdif** 06 32 51.1 +0.1
WAKR Walker 100.68 46 IAMs_20 IAMs_20 07 14 58.1
comp=Z,6µm,20.0s
CAF Calviac 100.92 322 *e*P **Pdif** 06 32 55.1 +3.1
CAF pmax pmax
comp=Z,19nm,1.4s
RJF Les Rejaudoux 101.03 323 *e*P **Pdif** 06 32 53.4 +0.9
RJF pmax pmax
comp=Z,33nm,1.4s
RYN Ryan 101.25 45 IAMs_20 IAMs_20 07 24 25.2
comp=Z,4µm,19.0s
KVN Kaiserville 101.33 45 IAMs_20 IAMs_20 07 19 22.4
comp=Z,4µm,19.0s
MDPB Devils Postpil 101.34 46 IAMs_20 IAMs_20 07 22 13.7
comp=Z,4µm,18.0s
HLID Hailey 101.40 39 IAMs_20 IAMs_20 07 14 03.5
comp=Z,5µm,22.0s
HLID Hailey 101.40 39 P **Pdif** 06 32 55.0 +0.6
baz=303
NVAR Mina Array Bea 101.50 45 P **Pdif** 06 32 56.1 +1.2
comp=Z,3.1nm,0.9s,baz=279,slow=5.5,SNR=19
NVAR PP **PP** 06 37 03.6 -0.8
comp=Z,3.3nm,1.1s,baz=299,slow=6.6,SNR=4.3
NVAR PKKPbc **PKKPbc** 06 49 02.4 -1.3
comp=Z,2.5nm,1.0s,baz=133,slow=3.6,SNR=11
MLAC Mammoth, Mamm 101.51 46 P **Pdif** 06 32 54.8 -0.3
baz=299
EGMT Eagleton 101.53 34 P **Pdif** 06 32 55.1 +0.3
baz=307
SGMF Saint Gilles 101.59 327 *e*P **Pdif** 06 32 58.2 +3.3
SGMF pmax pmax
comp=Z,34nm,1.5s
NV11 Mina Array Sit 101.60 45 IAMs_20 IAMs_20 07 22 34.4
comp=Z,6µm,18.0s
MTLF Montolieu 101.69 321 *e*P **Pdif** 06 32 56.9 +1.5
MTLF pmax pmax
comp=Z,19nm,1.2s
VOG Valley Oaks Go 101.74 48 P **Pdif** 06 32 55.8 +0.1
baz=298
SMMC Simmler 101.76 49 P **Pdif** 06 32 54.4 -1.6
baz=297
BOZ Bozeman (W) 101.92 36 IAMs_20 IAMs_20 07 14 55.9
comp=Z,5µm,22.0s
BOZ Bozeman (W) 101.92 36 P **Pdif** 06 32 55.3 -1.3
baz=305
PKM Mcpherson Peak 102.09 49 P **Pdif** 06 32 55.0 -2.6
baz=298
VES Vestal, Richgr 102.17 48 P **Pdif** 06 32 56.9 -0.8
baz=298
SBC Santa Barbara 102.36 49 P **Pdif** 06 32 57.1 -1.5
baz=298
LCH Last Change Ra 102.53 46 IAMs_20 IAMs_20 07 11 57.3
comp=Z,4µm,20.0s
CWC Cottonwood Cre 102.61 47 P **Pdif** 06 32 58.1 -1.8
baz=299
ARVC Arvin 102.69 48 P **Pdif** 06 32 58.9 -1.1
baz=298
ISA Isabella, Lake 102.70 48 P **Pdif** 06 32 58.5 -1.6
baz=298
GRAC Grapevine Rang 102.84 46 IAMs_20 IAMs_20 07 20 35.5
comp=Z,5µm,19.0s
GRAC Grapevine Rang 102.84 46 P **Pdif** 06 32 59.7 -1.1
baz=300
VAL Valentia 102.91 333 PKP **PKiKP** 06 37 19.8 -1.0
YNM Yellowstone No 102.96 37 IAMs_20 IAMs_20 07 20 28.4
comp=Z,5µm,20.0s
YNR Norris Junctio 102.98 37 IAMs_20 IAMs_20 07 17 03.9
comp=Z,4µm,20.0s
OSI Osito Audit: C 103.01 49 P **Pdif** 06 33 00.1 -1.4
baz=298
SNCC San Nicolas Is 103.05 50 P **Pdif** 06 33 00.9 -0.8
baz=297
MPMC Manual Prospec 103.21 47 P **Pdif** 06 33 00.5 -2.2
baz=299
ETOS Mallorca 103.21 317 PKP **PP** 06 37 19.2 +2.2
H17A Grant Village 103.23 37 P **Pdif** 06 33 01.9 -0.7
baz=306
IMW Indian Meadow 103.30 37 IAMs_20 IAMs_20 07 26 08.6
comp=Z,4µm,20.0s
FLWY Flagg Ranch 103.34 37 IAMs_20 IAMs_20 07 18 29.5
comp=Z,4µm,20.0s
LRMC Laurel Mtn Rad 103.35 48 P **Pdif** 06 33 01.3 -1.9
baz=299
R11B Troy Canyon, C 103.39 44 IAMs_20 IAMs_20 07 21 25.7
comp=Z,4µm,19.0s
R11B Troy Canyon, C 103.39 44 P **Pdif** 06 33 01.1 -2.2
baz=301
HVU Hansel Valley 103.39 40 IAMs_20 IAMs_20 07 19 46.2
comp=Z,5µm,20.0s
EDW2 Edwards Air Fo 103.41 48 P **Pdif** 06 33 00.9 -2.5
baz=299
FURC Furnace Creek, 103.45 46 P **Pdif** 06 33 00.2 -3.2
baz=300
DECC Green Verdugo 103.46 49 P **Pdif** 06 33 00.7 -2.8
baz=298
Q12A Willow Creek R 103.54 43 IAMs_20 IAMs_20 07 18 50.6
comp=Z,4µm,20.0s
RLMT Red Lodge 103.55 36 IAMs_20 IAMs_20 07 17 29.8
comp=Z,5µm,22.0s
RLMT Red Lodge 103.55 36 P **Pdif** 06 32 60.0 -4.0
baz=307
SNOW Snow King Moun 103.67 38 IAMs_20 IAMs_20 07 12 55.2
comp=Z,5µm,22.0s
BGU Big Grassy Mou 103.70 41 IAMs_20 IAMs_20 07 21 19.6
comp=Z,5µm,20.0s
GWY Greenwater Val 103.73 47 IAMs_20 IAMs_20 07 12 37.0
comp=Z,5µm,20.0s
FMP Fort Macarthur 103.75 49 P **Pdif** 06 33 02.4 -2.4
baz=298
CIS Catalina Islan 103.80 50 P **Pdif** 06 33 03.3 -1.8
baz=298
SPUT South Promonto 103.85 40 IAMs_20 IAMs_20 07 12 18.5
comp=Z,5µm,22.0s
SPR3 Spring Creek 3 103.89 43 IAMs_20 IAMs_20 07 16 26.9
comp=Z,5µm,20.0s
SCI2 San Clemente I 103.90 50 P **Pdif** 06 33 03.5 -2.0
baz=298
BFSC Mount Baldy Ra 103.96 49 P **Pdif** 06 33 03.0 -2.9
baz=299
GSC Goldstone, Bar 104.06 47 IAMs_20 IAMs_20 07 12 16.0
comp=Z,7µm,21.0s
GSC Goldstone, Bar 104.06 47 P **Pdif** 06 33 02.2 -4.1
baz=300
DGMT Dagmar 104.11 31 IAMs_20 IAMs_20 07 20 19.2
comp=Z,5µm,20.0s
DGMT Dagmar 104.11 31 P **Pdif** 06 33 02.6 -3.6
baz=312
GRHM Grahamstown, E 104.12 239 IAMs_20 IAMs_20 07 13 40.1
comp=Z,5µm,22.0s
RRX Edison Barstow 104.13 48 P **Pdif** 06 33 02.8 -3.7
baz=299
NRS Narsarsuaq 104.14 355 IAMs_20 IAMs_20 07 26 10.4
comp=Z,5µm,19.0s
SHOC Shoshone, Teco 104.15 47 P **Pdif** 06 33 03.3 -3.3
baz=300
DUG Dugway, Tooele 104.24 41 P **Pdif** 06 33 03.6 -3.5
baz=304
LAO LASA Array 104.24 33 IAMs_20 IAMs_20 07 25 44.8
comp=Z,4µm,19.0s
LAO LASA Array 104.24 33 P **Pdif** 06 33 02.6 -4.2
baz=310
QSPA South Pole Qui 104.33 180 IAMs_20 IAMs_20 07 22 33.5
comp=Z,6µm,20.0s
QSPA South Pole Qui 104.33 180 Pdiff **Pdif** 06 33 07.2 +0.6
comp=Z,8.5nm,1.2s,baz=277,slow=0.6,SNR=5.8
QSPA PKKPbc **PKKPbc** 06 48 55.1 -1.7
comp=Z,1.4nm,0.8s,baz=249,slow=0.9,SNR=5.2
BOSA Boshof 104.38 244 IAMs_20 IAMs_20 07 15 45.3
comp=Z,6µm,20.0s
BOSA Boshof 104.38 244 PP **PKiKP** 06 37 25.7 +1.4
comp=Z,14nm,1.3s,baz=72,slow=8.9,SNR=3.9
BBRC Big Bear Solar 104.49 48 P **Pdif** 06 33 05.1 -3.3
baz=299
EIBI Ibiza 104.57 317 PKP **PP** 06 37 26.8 -0.3
MURC Murrieta 104.61 49 P **Pdif** 06 33 05.1 -3.5
baz=299
TCUT Toone Canyon 104.61 40 IAMs_20 IAMs_20 07 27 20.5
comp=Z,5µm,20.0s
TUQ Turquoise Moun 104.62 47 P **Pdif** 06 33 05.8 -3.0
baz=300
HEC Hector,Ludlow 104.63 48 P **Pdif** 06 33 04.9 -3.9
baz=300
CTU Camp Tracy 104.64 41 IAMs_20 IAMs_20 07 20 36.3
comp=Z,5µm,19.0s
BW06 Boulder Array 104.78 38 P **Pdif** 06 33 06.4 -3.2
baz=306

PDAR Pinedale Array 104.78 38 Pdiff **Pdif** 06 33 11.3 +1.8
comp=Z,1.6nm,1.1s,baz=325,slow=2.3,SNR=5.6
PDAR PKiKP **PKiKP** 06 37 25.1 +0.3
comp=Z,2.3nm,1.1s,baz=318,slow=2.0,SNR=5.5
JLU Jordanelle 104.88 40 IAMs_20 IAMs_20 07 20 44.6
comp=Z,6µm,20.0s
109C Camp Elliot, M 105.01 50 P **Pdif** 06 33 08.0 -2.4
baz=299
MPU Maple Canyon 105.09 41 IAMs_20 IAMs_20 07 22 29.3
comp=Z,6µm,19.0s
GMRC Granite Mounta 105.14 47 P **PKiKP** 06 37 22.4 -3.2
baz=300
PFO Pinyon Flats O 105.14 49 P **PKiKP** 06 37 23.3 -2.3
baz=299
TPFO Pinon Flats 105.14 49 P **PKiKP** 06 37 22.0 -3.6
baz=299
V12A Nelson 105.23 46 IAMs_20 IAMs_20 07 13 21.8
comp=Z,5µm,21.0s
BELC Belle Mtn. Jos 105.28 48 P **PKiKP** 06 37 24.0 -1.9
baz=300
CCUT Cedar City 105.30 44 IAMs_20 IAMs_20 07 20 52.4
comp=Z,5µm,20.0s
TCRU Three Creeks R 105.34 43 IAMs_20 IAMs_20 07 17 04.2
comp=Z,6µm,20.0s
BSUT Blindstream Ca 105.34 40 IAMs_20 IAMs_20 07 22 16.0
comp=Z,4µm,20.0s
SZCU Shurtz Canyon 105.46 44 IAMs_20 IAMs_20 07 29 10.6
comp=Z,5µm,18.0s
MONP2 Monument Peak 105.51 49 P **PKiKP** 06 37 24.0 -2.5
baz=299
LCMT Little Creek M 105.67 44 IAMs_20 IAMs_20 07 24 41.1
comp=Z,6µm,19.0s
IRM Iron Mountain 105.82 48 P **PKiKP** 06 37 25.7 -1.0
baz=300
MTPU Mount Pierson 105.82 43 IAMs_20 IAMs_20 07 17 08.0
comp=Z,4µm,20.0s
BC3 Big Chuckawall 105.85 48 P **PKiKP** 06 37 25.6 -1.3
baz=300
IKP In-Ko-Pah, Jac 105.86 50 P **PKiKP** 06 37 24.8 -2.2
baz=299
NEE2 Needles Airpor 105.88 47 P **PKiKP** 06 37 25.7 -1.1
baz=301
SWSC Sam W. Stewart 105.94 49 P **PKiKP** 06 37 25.6 -1.3
baz=300
KNB Kanab 105.95 44 IAMs_20 IAMs_20 07 18 14.6
comp=Z,5µm,20.0s
P17A Butcher Ranch, 105.96 41 IAMs_20 IAMs_20 07 26 02.7
comp=Z,6µm,19.0s
Q16A Castle Valley 106.00 42 IAMs_20 IAMs_20 07 13 32.5
comp=Z,6µm,22.0s
PKCU Pink Cliffs 106.06 44 IAMs_20 IAMs_20 07 30 47.5
comp=Z,5µm,18.0s
RDMU Red Mountain 106.07 40 IAMs_20 IAMs_20 07 26 16.0
comp=Z,5µm,19.0s
P18A Preston Nutter 106.19 41 IAMs_20 IAMs_20 07 23 15.4
comp=Z,6µm,19.0s
W13A Hualapai Mount 106.23 46 IAMs_20 IAMs_20 07 14 10.3
comp=Z,6µm,20.0s
SRU San Rafael Swe 106.31 41 IAMs_20 IAMs_20 07 20 25.6
comp=Z,6µm,19.0s
PDMCI Parker Dam,Lak 106.46 47 P **PKiKP** 06 37 27.1 -0.8
baz=301
CPBX Cerro Prieto 106.57 49 IAMs_20 IAMs_20 07 14 19.5
comp=Z,5µm,22.0s
GLA Glamis 106.60 49 P **PKiKP** 06 37 27.3 -0.9
baz=300
K22A Casper 106.63 36 IAMs_20 IAMs_20 07 19 12.4
comp=Z,4µm,21.0s
K22A Casper 106.63 36 P **PKiKP** 06 37 28.0 -0.2
baz=309
ULM Lac du Bonnet 106.64 25 IAMs_20 IAMs_20 07 27 32.4
comp=Z,5µm,19.0s
ULM Lac du Bonnet 106.64 25 Pdiff **Pdif** 06 33 18.6 +1.3
comp=Z,0.9nm,0.5s,baz=300,slow=9.0,SNR=2.9
ULM PKKPbc **PKKPbc** 06 48 45.1 -3.3
comp=Z,5.1nm,1.1s,baz=44,slow=1.8,SNR=4.9
MDND Maddock 106.76 29 P **PKiKP** 06 37 26.8 -1.3
baz=316
GUVIX Guadalupe Vict 106.79 49 IAMs_20 IAMs_20 07 19 30.5
comp=Z,5µm,20.0s
RWWY Rawlins 106.82 38 IAMs_20 IAMs_20 07 26 57.8
comp=Z,5µm,19.0s
HMU Henry Mountain 106.83 42 IAMs_20 IAMs_20 07 18 23.6
comp=Z,6µm,20.0s
ELIB Princess Elisa 106.99 199 *d*PKP **PKiKP** 06 37 35.4 +7.5
RSSD Black Hills 107.08 34 P **PKiKP** 06 37 28.3 -0.8
baz=311
E28A Huff 107.14 31 IAMs_20 IAMs_20 07 20 25.3
comp=Z,5µm,21.0s
O20A White River Ci 107.14 39 IAMs_20 IAMs_20 07 21 01.4
comp=Z,5µm,21.0s
O20A White River Ci 107.14 39 P **PKiKP** 06 37 31.5 +2.3
baz=307
ESDC Sonseca Array 107.59 320 Pdiff **Pdif** 06 33 23.3 +1.5
comp=Z,0.8nm,0.9s,baz=42,slow=4.3,SNR=4.1
ESDC PKiKP **PKiKP** 06 37 30.5 +0.6
comp=Z,1.4nm,1.0s,baz=64,slow=6.8,SNR=2.2
ESDC PKKPab **PKKPab** 06 49 01.1 +0.7
comp=Z,0.8nm,0.8s,baz=262,slow=2.6,SNR=6.1
WUAZ Wupatki 107.75 45 IAMs_20 IAMs_20 07 15 04.2
comp=Z,6µm,21.0s
WUAZ Wupatki 107.75 45 P **PKiKP** 06 37 29.1 -1.4
baz=303
PAB San Pablo 107.90 320 IAMs_20 IAMs_20 07 28 35.0
comp=Z,4µm,19.0s
PBRG Braganca 107.93 323 *e*Pdif **Pdif** 06 33 24.4 +1.1
PBRG Braganca 107.93 323 *e*PP **PP** 06 37 54.0 +2.3
N23A Red Feather La 108.06 38 P **PKiKP** 06 37 28.4 -2.6
baz=309
PHWY Pilot Hill 108.09 37 IAMs_20 IAMs_20 07 27 07.3
comp=Z,4µm,19.0s
AGMN Agassiz Nation 108.13 27 IAMs_20 IAMs_20 07 22 11.9
comp=Z,6µm,21.0s
AGMN Agassiz Nation 108.13 27 P **PKiKP** 06 37 29.6 -0.9
baz=319
X16A Lo Mia Camp, P 108.30 46 IAMs_20 IAMs_20 07 23 29.9
comp=Z,5µm,19.0s
PIX Pinacate 108.35 49 IAMs_20 IAMs_20 07 20 36.8
comp=Z,6µm,20.0s
D32A Dogwood Acres, 108.48 28 IAMs_20 IAMs_20 07 22 10.5
comp=Z,6µm,22.0s
SMCO Snowmass 108.50 40 IAMs_20 IAMs_20 07 23 53.4
comp=Z,4µm,21.0s
MVO Moncorvo 108.51 323 *e*Pdif **Pdif** 06 33 25.9 0.0
MVO Moncorvo 108.51 323 *e*PP **PP** 06 37 56.6 +0.7
MVO Moncorvo 108.51 323 *e*SS SS 06 53 14.0 +3.6
MVO Moncorvo 108.51 323 *e*LQ LQ 07 11 34.4
MVO *e*LR LR 07 15 50.1
comp=Z,5µm,20.0s
214A Organ Pipe Nat 108.62 49 P **PKiKP** 06 37 31.5 -0.6
baz=307
PGAV Gavieira, Arco 108.70 324 *e*Pdif **Pdif** 06 33 26.6 -0.2
PGAV Gavieira, Arco 108.70 324 *e*PP **PP** 06 38 00.7 +3.4
PGAV Gavieira, Arco 108.70 324 *e*SS SS 06 53 18.6 +5.7
PGAV Gavieira, Arco 108.70 324 *e*LQ LQ 07 12 14.0
PGAV *e*LR LR 07 19 49.5
comp=Z,4µm,20.0s
MVCO Mesa Verde 108.70 42 IAMs_20 IAMs_20 07 18 45.5
comp=Z,5µm,20.0s
ISCO Idaho Springs 108.94 38 IAMs_20 IAMs_20 07 16 28.0
comp=Z,4µm,22.0s
ISCO Idaho Springs 108.94 38 P **PKiKP** 06 37 31.3 -1.5
baz=309
B35A Bob, Littlefor 108.99 26 IAMs_20 IAMs_20 07 27 58.7
comp=Z,4µm,20.0s
W18A Petrified Fore 109.08 44 IAMs_20 IAMs_20 07 16 18.5
comp=Z,6µm,21.0s
W18A Petrified Fore 109.08 44 P **PKiKP** 06 37 32.3 -0.7
baz=304
BRIGG Briggsdale 109.22 37 IAMs_20 IAMs_20 07 22 39.0
comp=Z,4µm,20.0s
X18A Snowflake 109.27 45 IAMs_20 IAMs_20 07 15 28.4
comp=Z,4µm,21.0s
MTE Manteigas 109.30 323 *e*Pdif **Pdif** 06 33 31.6 +2.2
MTE Manteigas 109.30 323 *e*PP **PP** 06 38 04.9 +3.2
MTE *e*LQ LQ 06 47 31.4
MTE *e*SS SS 06 53 30.6 +10
MTE Manteigas 109.30 323 *e*LQ LQ 07 12 18.8
MTE *e*LR LR 07 17 55.3
comp=Z,4µm,20.0s
MTE Manteigas 109.30 323 IAMs_20 IAMs_20 07 26 43.6
comp=Z,5µm,20.0s
PVIS Viseu 109.30 323 *e*Pdif **Pdif** 06 33 31.1 +1.7
PVIS Viseu 109.30 323 *e*PP **PP** 06 38 05.2 +3.5
SUSD Miller 109.51 31 P **PKiKP** 06 37 30.4 -3.0
baz=316
PCBR Castelo Branco 109.61 322 *e*PP **PP** 06 38 05.8 +1.9

Q24A Divide 109.75 39 IAMs_20 IAMs_20 07 14 52.3
comp=Z,5µm,22.0s
Q24A Divide 109.75 39 P **PKiKP** 06 37 33.5 -0.8
baz=309
F33A 5 Mile Ranch, 109.78 29 IAMs_20 IAMs_20 07 22 29.9
comp=Z,4µm,21.0s
PMRV Marv??o 109.82 322 *e*Pdif **Pdif** 06 33 34.7 +3.0
PMRV Marv??o 109.82 322 *e*PP **PP** 06 38 05.7 +0.2
PMRV Marv??o 109.82 322 *e*SS SS 06 53 36.0 +7.9
PMRV Marv??o 109.82 322 *e*LQ LQ 07 12 42.6
PMRV *e*LR LR 07 19 20.0
comp=Z,3µm,20.0s
TUC Tucson 109.90 47 P **PKiKP** 06 37 32.5 -2.0
baz=303
TSUM Tsumeb 109.91 255 IAMs_20 IAMs_20 07 20 36.3
comp=Z,6µm,20.0s
COI Coimbra 109.93 323 *e*Pdif **Pdif** 06 33 34.0 +1.9
COI Coimbra 109.93 323 *e*PP **PP** 06 38 07.5 +1.4
PCAS Casmilo, Conde 110.08 323 *e*Pdif **Pdif** 06 33 33.4 +0.6
PCAS Casmilo, Conde 110.08 323 *e*PP **PP** 06 38 07.4 +0.1
EYMN Ely 110.24 25 IAMs_20 IAMs_20 07 26 38.4
comp=Z,5µm,20.0s
EYMN Ely 110.24 25 P **PKiKP** 06 37 33.7 -0.8
baz=323
SDCO Great Sand Dun 110.29 40 IAMs_20 IAMs_20 07 15 58.8
comp=Z,5µm,22.0s
SDCO Great Sand Dun 110.29 40 P **PKiKP** 06 37 34.5 -0.8
baz=308
OGNE Ogallala 110.29 36 IAMs_20 IAMs_20 07 24 52.2
comp=Z,5µm,20.0s
OGNE Ogallala 110.29 36 P **PKiKP** 06 37 33.1 -1.9
baz=312
PESTR Estremoz 110.30 322 *e*Pdif **Pdif** 06 33 36.0 +2.2
PESTR Estremoz 110.30 322 *e*PP **PP** 06 38 10.0 +1.1
PBAR Barrancos 110.40 321 *e*Pdif **Pdif** 06 33 36.0 +1.7
PBAR Barrancos 110.40 321 *e*PP **PP** 06 38 11.3 +1.6
K30B Basset 110.43 33 IAMs_20 IAMs_20 07 29 42.5
comp=Z,4µm,20.0s
PMTG Montargil 110.55 322 *e*Pdif **Pdif** 06 33 36.3 +1.4
PMTG Montargil 110.55 322 *e*PP **PP** 06 38 11.7 +1.0
PSBE So Bento 110.60 323 *e*Pdif **Pdif** 06 33 36.7 +1.5
PSBE So Bento 110.60 323 *e*PP **PP** 06 38 12.4 +1.3
EVO Evora 110.77 321 *e*Pdif **Pdif** 06 33 38.9 +3.0
EVO Evora 110.77 321 *e*PP **PP** 06 38 12.9 +0.6
PBEJ Beja 111.00 321 *e*PP **PP** 06 38 16.0 +2.0
F36A Milaca 111.02 27 IAMs_20 IAMs_20 07 22 53.5
comp=Z,5µm,22.0s
PACT Alcochete 111.11 322 *e*Pdif **Pdif** 06 33 39.5 +2.1
PACT Alcochete 111.11 322 *e*PP **PP** 06 38 17.0 +2.3
ECSD EROS Data Cent 111.19 30 IAMs_20 IAMs_20 07 30 24.4
comp=Z,4µm,19.0s
ECSD EROS Data Cent 111.19 30 P **PKiKP** 06 37 35.6 -0.9
baz=318
KSCO Kaye Shedlock' 111.23 37 IAMs_20 IAMs_20 07 28 29.3
comp=Z,5µm,19.0s
KSCO Kaye Shedlock' 111.23 37 P **PKiKP** 06 37 36.6 -0.3
baz=311
PMAFR Mafra 111.25 323 *e*Pdif **Pdif** 06 33 41.7 +3.6
PMAFR Mafra 111.25 323 *e*PP **PP** 06 38 17.3 +1.6
PVAQ Vaqueiros 111.30 320 *e*Pdif **Pdif** 06 33 39.7 +1.4
PVAQ Vaqueiros 111.30 320 *e*PP **PP** 06 38 17.0 +0.8
PVAQ Vaqueiros 111.30 320 *e*SS SS 06 53 49.3 +1.4
PVAQ Vaqueiros 111.30 320 *e*LQ LQ 07 11 45.9
PVAQ *e*LR LR 07 18 49.9
comp=Z,3µm,18.0s
LIS Lisbon 111.33 322 *e*PP **PP** 06 38 17.6 +1.3
LIS Lisbon 111.33 322 *e*Pdif **Pdif** 06 33 38.3 -0.1
LIS *e*PP **PP** 06 38 16.7 +0.4
LIS IAMs_20 IAMs_20 07 27 49.5
comp=E,5µm,17.1s
LIS Lisbon 111.33 322 *e*P **Pdif** 06 33 38.3 -0.1
LIS *e* 06 38 16.7
MESJ Messejana 111.33 321 *e*Pdif **Pdif** 06 33 40.9 +2.5
MESJ Messejana 111.33 321 *e*PP **PP** 06 38 18.8 +2.4
MESJ Messejana 111.33 321 *e*Pdif **Pdif** 06 33 38.4 -0.1
MESJ *e*PP **PP** 06 38 16.8 +0.4
MESJ *e*SS SS 06 53 50.5 +2.2
MESJ IAMs_20 IAMs_20 07 38 38.5
comp=Z,5µm,20.1s
MESJ Messejana 111.33 321 *e*P **Pdif** 06 33 38.3 -0.1
MESJ *e* 06 38 16.8
MESJ *e*SS SS 06 53 50.5 +2.2
T25A Trinidad 111.34 40 P **PKiKP** 06 37 36.8 -0.4
baz=309
PNCL Nicolau / Gran 111.35 321 *e*Pdif **Pdif** 06 33 41.0 +2.5
PNCL Nicolau / Gran 111.35 321 *e*PP **PP** 06 38 17.9 +1.5
PCVE Castro Verde 111.36 321 *e*Pdif **Pdif** 06 33 40.4 +1.9
PCVE Castro Verde 111.36 321 *e*PP **PP** 06 38 18.2 +1.6
ANMO Albuquerque 111.37 43 IAMs_20 IAMs_20 07 21 47.0
comp=Z,4µm,20.0s
ANMO Albuquerque 111.37 43 P **PKiKP** 06 37 35.7 -1.6
baz=307
PBDV Barranco-do-Ve 111.54 320 *e*Pdif **Pdif** 06 33 42.6 +3.2
PBDV Barranco-do-Ve 111.54 320 *e*PP **PP** 06 38 19.9 +2.0
Y22F Passcal Instru 111.58 44 P **PKiKP** 06 37 36.5 -1.2
baz=306
PTEO Sao Teotonio 111.83 321 *e*PP **PP** 06 38 24.7 +4.8
SPMN Marine on St. 111.84 27 IAMs_20 IAMs_20 07 24 26.1
comp=Z,5µm,22.0s
SPMN Marine on St. 111.84 27 P **PKiKP** 06 37 37.5 -0.2
baz=322
121A Cookes Peak, D 111.88 46 P **PKiKP** 06 37 38.8 +0.4
baz=305
MORF Marmelete 111.94 321 *e*Pdif **Pdif** 06 33 44.3 +3.1
MORF Marmelete 111.94 321 *e*PP **PP** 06 38 22.5 +1.7
MORF Marmelete 111.94 321 *e*Pdif **Pdif** 06 33 41.0 -0.2
MORF *e*PP **PP** 06 38 21.3 +0.5
MORF *e*SS SS 06 53 58.7 +2.2
MORF IAMs_20 IAMs_20 07 34 45.2
comp=Z,5µm,17.8s
MORF Marmelete 111.94 321 *e*P **Pdif** 06 33 41.0 -0.2
MORF *e* 06 38 21.3
MORF *e*SS SS 06 53 58.7 +2.2
BGNE Belgrade 112.09 33 IAMs_20 IAMs_20 07 29 54.5
comp=Z,4µm,20.0s
BGNE Belgrade 112.09 33 P **PKiKP** 06 37 37.5 -0.8
baz=316
D41A Chassel 112.11 23 IAMs_20 IAMs_20 07 29 49.9
comp=Z,6µm,20.0s
PFVI Vila Bisbo 112.16 321 *e*Pdif **Pdif** 06 33 43.7 +1.6
PFVI Vila Bisbo 112.16 321 *e*PP **PP** 06 38 24.4 +2.1
I37A Lemond, Waseca 112.50 28 IAMs_20 IAMs_20 07 23 42.9
comp=Z,4µm,20.0s
L34A Svendsen Farm, 112.61 32 IAMs_20 IAMs_20 07 26 26.0
comp=Z,4µm,22.0s
CBKS Cedar Bluff 113.03 36 IAMs_20 IAMs_20 07 26 34.8
comp=Z,6µm,20.0s
CBKS Cedar Bluff 113.03 36 P **PKiKP** 06 37 40.8 +0.6
baz=314
TROLL Troll, Antarti 113.18 197 ⇑PKiKP **PKiKP** 06 37 39.8 +0.3
comp=Z,286nm,0.8s
E43A Lone Tree Farm 113.28 23 IAMs_20 IAMs_20 07 35 23.8
comp=Z,4µm,19.0s
F42A Maple Grove Fa 113.36 24 IAMs_20 IAMs_20 07 29 46.9
comp=Z,5µm,20.0s
I40A Norwalk 113.85 27 IAMs_20 IAMs_20 07 26 51.2
comp=Z,5µm,20.0s
R32A Long Quarter, 113.88 36 IAMs_20 IAMs_20 07 27 01.3
comp=Z,4µm,19.0s
MNTX Cornudas Mount 114.02 45 P **PKiKP** 06 37 42.7 +0.5
baz=307
SCIA State Center 114.21 30 IAMs_20 IAMs_20 07 26 16.2
comp=Z,6µm,22.0s
SCIA State Center 114.21 30 P **PKiKP** 06 37 40.8 -1.5
baz=320
AMTX Amarillo 114.48 40 P **PKiKP** 06 37 42.8 -0.3
baz=311
KSU1 Kansas State U 114.56 34 IAMs_20 IAMs_20 07 24 14.1
comp=Z,5µm,21.0s
KSU1 Kansas State U 114.56 34 P PKPdf 06 37 43.7 +0.7
baz=316
I42A Draeger Farm, 114.58 26 IAMs_20 IAMs_20 07 26 12.4
comp=Z,5µm,20.0s
JFWS Jewell Farm 114.79 27 P **PKiKP** 06 37 41.9 -1.5
baz=323
SNAA Sanae 114.82 196 IAMs_20 IAMs_20 07 21 00.4
comp=Z,4µm,21.0s
SNAA Sanae 114.82 196 PKKPbc **PKKPbc** 06 48 17.1 -5.3
comp=Z,104nm,1.1s
SNAA ⇑PKPdf **PKiKP** 06 37 42.2 -0.4
comp=Z,39nm,0.8s
G45A Suttons Bay 114.91 23 IAMs_20 IAMs_20 07 27 48.9
comp=Z,5µm,22.0s
SLBS Sierra La Lagu 115.02 55 IAMs_20 IAMs_20 07 17 46.3
comp=Z,6µm,21.0s

L40A	**Anamosa**	**115.03**	**28**	IAMs_20	IAMs_20	07 28 48.6			
	comp=Z,5µm,20.0s								
N38A	**Joes South For**	**115.05**	**30**	IAMs_20	IAMs_20	07 25 57.6			
	comp=Z,5µm,22.0s								
OK035	**E0210 Rd and N**	**115.07**	**37**	IAMs_20	IAMs_20	07 29 05.9			
	comp=Z,5µm,20.0s								
OK038	**West end E0370**	**115.21**	**37**	IAMs_20	IAMs_20	07 28 34.6			
	comp=Z,4µm,20.0s								
OK032	**Salt Plains WL**	**115.29**	**37**	IAMs_20	IAMs_20	07 24 33.8			
	comp=Z,5µm,22.0s								
GLMI	**Grayling**	**115.48**	**22**	IAMs_20	IAMs_20	07 34 27.8			
	comp=Z,4µm,19.0s								
L42A	**Oliver, Polo**	**115.78**	**27**	IAMs_20	IAMs_20	07 30 39.3			
	comp=Z,4µm,21.0s								
K43A	**Burlington**	**115.79**	**26**	IAMs_20	IAMs_20	07 29 51.5			
	comp=Z,6µm,21.0s								
T35A	**Sooner Cattle**	**116.18**	**35**	IAMs_20	IAMs_20	07 27 03.4			
	comp=Z,5µm,22.0s								
N41A	**Harden Midland**	**116.26**	**29**	IAMs_20	IAMs_20	07 34 05.6			
	comp=Z,5µm,19.0s								
OK051	**E0350 and S346**	**116.29**	**36**	IAMs_20	IAMs_20	07 30 02.1			
	comp=Z,4µm,20.0s								
OK048	**Pawnee Station**	**116.29**	**36**	IAMs_20	IAMs_20	07 25 24.1			
	comp=Z,5µm,21.0s								
WMOK	**Wichita Mounta**	**116.37**	**39**	IAMs_20	IAMs_20	07 19 36.8			
	comp=Z,4µm,22.0s								
WMOK	**Wichita Mounta**	**116.37**	**39**	P	**PKPdf**	**06 37 43.9**	**-2.8**		
	baz=313								
OK029	**Liberty Lake**	**116.43**	**37**	IAMs_20	IAMs_20	07 20 40.9			
	comp=Z,4µm,21.0s								
VNA2	**Neumayer--Watz**	**116.45**	**196**	⇑PKPdf	**PKiKP**	**06 37 47.4**	**+1.8**		
	comp=Z,30nm,0.5s,baz=211,slow=2.1								
OK033	**Mehan**	**116.55**	**36**	IAMs_20	IAMs_20	07 27 40.4			
	comp=Z,5µm,20.0s								
P40A	**Paris**	**116.60**	**31**	IAMs_20	IAMs_20	07 26 55.9			
	comp=Z,5µm,21.0s								
TXAR	**Lajitas Array**	**116.62**	**46**	PKP	**PKiKP**	**06 37 47.6**	**+0.2**		
	comp=Z,8.6nm,0.9s,baz=259,slow=0.9,SNR=30								
TXAR				PKKPbc	**PKKPbc**	**06 48 13.5**	**-1.6**		
	comp=Z,0.9nm,1.1s,baz=187,slow=4.3,SNR=3.0								
TORD	**Torodi Ar. Bea**	**116.65**	**293**	PKP	**PKPdf**	**06 37 46.5**	**-1.1**		
	comp=Z,6.4nm,0.8s,baz=34,slow=2.8,SNR=21								
TORD				PKKPbc	**PKKPbc**	**06 48 16.6**	**+2.2**		
	comp=Z,6.1nm,1.2s,baz=322,slow=2.8,SNR=10								
OK052	**Battle Ridge R**	**116.67**	**36**	IAMs_20	IAMs_20	07 27 43.4			
	comp=Z,5µm,20.0s								
OK031	**S. Brethren Rd**	**116.68**	**36**	IAMs_20	IAMs_20	07 27 42.6			
	comp=Z,4µm,20.0s								
HQIL	**Hanson Quary C**	**116.73**	**26**	IAMs_20	IAMs_20	07 29 49.6			
	comp=Z,5µm,20.0s								
FNO	**Franklin**	**116.83**	**37**	IAMs_20	IAMs_20	07 21 59.9			
	comp=Z,4µm,22.0s								
VNA1	**Neumayer--Stat**	**116.85**	**196**	⇑PKPdf	**PKiKP**	**06 37 47.5**	**+1.1**		
	comp=Z,20nm,1.1s								
VNA3	**Neumayer Olymp**	**116.85**	**195**	⇑PKPdf	**PKiKP**	**06 37 47.0**	**+0.5**		
	comp=Z,7.9nm,0.6s								
HDIL	**Hopedale**	**117.11**	**28**	IAMs_20	IAMs_20	07 29 34.6			
	comp=Z,4µm,19.0s								
HDIL	**Hopedale**	**117.11**	**28**	P	**PKPdf**	**06 37 46.2**	**-1.7**		
	baz=324								
ABTX	**Abilene, Hawle**	**117.24**	**41**	P	**PKPdf**	**06 37 46.4**	**-2.0**		
	baz=312								
TUL3	**Leonard**	**117.30**	**36**	P	**PKPdf**	**06 37 45.6**	**-2.8**		
	baz=316								
S39A	**Bolivar**	**117.35**	**33**	IAMs_20	IAMs_20	07 27 00.9			
	comp=Z,4µm,22.0s								
P43A	**Skaggs, Pawnee**	**117.73**	**29**	IAMs_20	IAMs_20	07 24 37.4			
	comp=Z,4µm,22.0s								
LOOK	**Love County**	**117.84**	**38**	IAMs_20	IAMs_20	07 20 59.7			
	comp=Z,4µm,20.0s								
FW03	**Perrin-Whitt E**	**117.95**	**40**	IAMs_20	IAMs_20	07 33 22.9			
	comp=Z,4µm,18.0s								
AAM	**Ann Arbor**	**118.01**	**23**	P	**PKPdf**	**06 37 49.4**	**-0.2**		
	baz=330								
CCM	**Cathedral Cave**	**118.14**	**31**	IAMs_20	IAMs_20	07 24 32.6			
	comp=Z,4µm,21.0s								
CCM	**Cathedral Cave**	**118.14**	**31**	P	**PKPdf**	**06 37 49.7**	**-0.2**		
	baz=321								
PQI	**Presque Isle**	**118.17**	**9**	IAMs_20	IAMs_20	07 30 57.3			
	comp=Z,5µm,21.0s								
SLM	**Saint Louis**	**118.18**	**30**	IAMs_20	IAMs_20	07 28 04.6			
	comp=Z,5µm,21.0s								
Z35A	**Perchaven, San**	**118.25**	**39**	IAMs_20	IAMs_20	07 29 11.7			
	comp=Z,5µm,21.0s								
MGMO	**Mountain Grove**	**118.31**	**32**	IAMs_20	IAMs_20	07 38 13.2			
	comp=Z,4µm,18.0s								
JCT	**Junction City**	**118.53**	**43**	IAMs_20	IAMs_20	07 26 27.8			
	comp=Z,4µm,20.0s								
JCT	**Junction City**	**118.53**	**43**	P	**PKPdf**	**06 37 49.7**	**-1.2**		
	baz=310								
Q44A	**Meyer Farm, Va**	**118.55**	**29**	IAMs_20	IAMs_20	07 31 41.3			
	comp=Z,5µm,20.0s								
LONY	**Lake Ozonia**	**118.78**	**15**	IAMs_20	IAMs_20	07 36 03.3			
	comp=Z,4µm,20.0s								
LONY	**Lake Ozonia**	**118.78**	**15**	P	**PKPdf**	**06 37 49.1**	**-1.9**		
	baz=340								
T42A	**Van Buren**	**119.00**	**32**	IAMs_20	IAMs_20	07 36 08.6			
	comp=Z,4µm,20.0s								
WHTX	**Lake Whitney,**	**119.04**	**40**	P	**PKPdf**	**06 37 51.2**	**-0.7**		
	baz=313								
O48B	**Farmland**	**119.15**	**25**	P	**PKPdf**	**06 37 50.7**	**-1.1**		
	baz=328								
PKME	**Peaks-Kenny Pk**	**119.32**	**11**	IAMs_20	IAMs_20	07 29 16.9			
	comp=Z,5µm,22.0s								
PKME	**Peaks-Kenny Pk**	**119.32**	**11**	P	**PKPdf**	**06 37 49.7**	**-2.2**		
	baz=345								
PMPST	**Porto Santo, M**	**119.43**	**322**	*e*Pdif	**Pdif**	**06 34 23.3**	**+8.8**		
PMPST	**Porto Santo, M**	**119.43**	**322**	*e*PP	**PP**	**06 39 16.0**	**+2.7**		
PMPS	**Porto Santo**	**119.44**	**322**	*e*PP	PP	06 39 22.1	+8.7		
ERPA	**Erie**	**119.48**	**20**	IAMs_20	IAMs_20	07 33 07.4			
	comp=Z,5µm,21.0s								
ERPA	**Erie**	**119.48**	**20**	P	**PKPdf**	**06 37 49.9**	**-2.5**		
	baz=333								
CGM3	**Cape Girardeau**	**119.52**	**31**	IAMs_20	IAMs_20	07 25 47.0			
	comp=Z,4µm,21.0s								
PBMO	**Poplar Bluff**	**119.54**	**31**	IAMs_20	IAMs_20	07 37 44.6			
	comp=Z,4µm,18.0s								
MIAR	**Mount Ida**	**119.54**	**35**	IAMs_20	IAMs_20	07 26 03.3			
	comp=Z,4µm,20.0s								
MIAR	**Mount Ida**	**119.54**	**35**	P	**PKPdf**	**06 37 49.9**	**-2.9**		
	baz=318								
Z38A	**Mt. Pleasant**	**119.66**	**37**	IAMs_20	IAMs_20	07 27 29.7			
	comp=Z,5µm,21.0s								
WHAR	**Wooly Hollow**	**119.70**	**34**	IAMs_20	IAMs_20	07 31 06.3			
	comp=Z,5µm,21.0s								
LCAR	**Lake Charles**	**119.71**	**33**	IAMs_20	IAMs_20	07 30 24.4			
	comp=Z,4µm,20.0s								
LBNH	**Lisbon**	**119.77**	**13**	P	**PKPdf**	**06 37 50.1**	**-2.8**		
	baz=342								
435B	**Jarrell**	**119.77**	**41**	P	**PKPdf**	**06 37 51.3**	**-2.1**		
	baz=312								
M53A	**WI Miller and**	**119.85**	**21**	IAMs_20	IAMs_20	07 33 07.2			
	comp=Z,4µm,20.0s								
M53A	**WI Miller and**	**119.85**	**21**	P	**PKPdf**	**06 37 50.8**	**-2.3**		
	baz=332								
USIN	**University of**	**119.94**	**29**	IAMs_20	IAMs_20	07 35 07.9			
	comp=Z,5µm,20.0s								
P49A	**Miami Univ. Ec**	**119.94**	**25**	IAMs_20	IAMs_20	07 29 26.3			
	comp=Z,6µm,22.0s								
P49A	**Miami Univ. Ec**	**119.94**	**25**	P	**PKPdf**	**06 37 51.7**	**-1.6**		
	baz=328								
PARMO	**Parma**	**119.97**	**31**	IAMs_20	IAMs_20	07 36 43.9			
	comp=Z,4µm,20.0s								
X40A	**Basin Creek Fa**	**120.00**	**35**	IAMs_20	IAMs_20	07 24 59.3			
	comp=Z,5µm,22.0s								
PMAR	**Madeira**	**120.02**	**322**	*e*Pdif	**Pdif**	**06 34 26.5**	**+9.1**		
PMAR	**Madeira**	**120.02**	**322**	*e*PP	**PP**	**06 39 21.5**	**+3.9**		
ACSO	**Alum Creek Sta**	**120.05**	**24**	P	**PKPdf**	**06 37 51.4**	**-2.2**		
	baz=330								
FUL	**Funchal**	**120.06**	**322**	*e*PP	**PP**	**06 39 22.2**	**+4.5**		
PMOZ	**Porto Moniz, M**	**120.12**	**322**	*e*PP	**PP**	**06 39 19.0**	**+0.8**		
PMOZ	**Porto Moniz, M**	**120.12**	**322**	*e*SS	SS	06 55 55.0	+11		
PMOZ	**Porto Moniz, M**	**120.12**	**322**	*e*LQ	LQ	07 19 12.2			
PMOZ				*e*LR	LR	07 24 42.4			
	comp=Z,2µm,18.0s								
833A	**Chaparral WMA,**	**120.19**	**45**	P	**PKPdf**	**06 37 52.1**	**-2.1**		
	baz=310								
PVMO	**Portageville**	**120.19**	**31**	IAMs_20	IAMs_20	07 29 54.8			
	comp=Z,4µm,21.0s								
HICK	**Hickman**	**120.32**	**31**	IAMs_20	IAMs_20	07 29 09.3			
	comp=Z,5µm,20.0s								
PEBM	**Pemiscott Bayo**	**120.34**	**32**	IAMs_20	IAMs_20	07 37 38.9			
	comp=Z,3µm,21.0s								
WCI	**Wyandotte Cave**	**120.35**	**27**	IAMs_20	IAMs_20	07 32 14.3			
	comp=Z,5µm,20.0s								
WCI	**Wyandotte Cave**	**120.35**	**27**	P	**PKPdf**	**06 37 49.7**	**-4.5**		
	baz=326								
EF01	**Eagle Ford 01**	**120.35**	**43**	IAMs_20	IAMs_20	07 28 19.8			
	comp=Z,5µm,20.0s								
HBAR	**Harrisburg**	**120.36**	**33**	IAMs_20	IAMs_20	07 35 51.7			
	comp=Z,5µm,20.0s								
GNAR	**Gosnell**	**120.38**	**32**	IAMs_20	IAMs_20	07 36 10.9			
	comp=Z,4µm,19.0s								
WLAR	**White Oak Lake**	**120.43**	**36**	IAMs_20	IAMs_20	07 34 28.9			
	comp=Z,4µm,19.0s								
BART	**Pico Bartolome**	**120.51**	**332**	*e*PP	**PP**	**06 39 18.3**	**-2.2**		
PAGU	**Agualva, Azore**	**120.57**	**334**	*e*PP	**PP**	**06 39 15.4**	**-5.4**		
PSCM	**Serra do Cume**	**120.60**	**334**	*e*PP	**PP**	**06 39 19.7**	**-1.3**		
BINY	**Binghamton**	**120.66**	**17**	IAMs_20	IAMs_20	07 34 16.0			
	comp=Z,3µm,19.0s								
BINY	**Binghamton**	**120.66**	**17**	P	**PKPdf**	**06 37 52.5**	**-2.2**		
	baz=338								
UTMT	**University of**	**120.66**	**31**	IAMs_20	IAMs_20	07 38 51.1			
	comp=Z,5µm,20.0s								
CMLA	**Cha da Macela**	**120.68**	**332**	*e*PP	**PP**	**06 39 17.5**	**-4.1**		
PGRA	**Graciosa**	**120.69**	**335**	*e*PP	**PP**	**06 39 24.7**	**+3.2**		
O53A	**New Philadelph**	**120.70**	**22**	P	**PKPdf**	**06 37 52.8**	**-2.0**		
	baz=332								
SRBC	**Serra Branca**	**120.70**	**335**	*e*PP	PP	06 39 10.4	-11		
PSET	**Sete Cidades**	**120.72**	**332**	*e*PP	**PP**	**06 39 20.4**	**-1.4**		
PDA	**Ponta Delgada**	**120.76**	**332**	*e*PP	**PP**	**06 39 26.1**	**+4.1**		
P52A	**Corning**	**120.89**	**23**	P	**PKPdf**	**06 37 52.0**	**-3.2**		
	baz=330								
NATX	**Nacogdoches**	**120.91**	**38**	P	**PKPdf**	**06 37 53.4**	**-2.1**		
	baz=315								
Z41A	**Richland Creek**	**120.92**	**36**	IAMs_20	IAMs_20	07 32 08.9			
	comp=Z,5µm,20.0s								
T47A	**Spring Grove**	**120.99**	**29**	IAMs_20	IAMs_20	07 30 45.7			
	comp=Z,5µm,20.0s								
CCAR	**Cane Creek**	**121.01**	**35**	IAMs_20	IAMs_20	07 29 48.0			
	comp=Z,4µm,22.0s								
PMAN	**Manadas**	**121.07**	**335**	*e*PP	**PP**	**06 39 18.3**	**-5.8**		
MET	**Memphis--Engin**	**121.07**	**32**	IAMs_20	IAMs_20	07 26 20.4			
	comp=Z,5µm,22.0s								
PSMN	**Pico do Norte,**	**121.09**	**331**	*e*PP	**PP**	**06 39 21.1**	**-3.3**		
PSMA	**Santa Maria**	**121.13**	**331**	*e*PP	**PP**	**06 39 21.1**	**-3.5**		
PID	**Ribeirinha**	**121.24**	**335**	*e*PP	PP	06 39 17.5	-7.8		
L61B	**Northampton**	**121.29**	**14**	P	**PKPdf**	**06 37 53.2**	**-2.7**		
	baz=341								
PICO	**Pico**	**121.32**	**335**	*e*PP	**PP**	**06 39 21.1**	**-4.8**		
PCED	**Cedros**	**121.32**	**335**	*e*PP	**PP**	**06 39 25.4**	**-0.4**		
WVT	**Waverly**	**121.33**	**30**	IAMs_20	IAMs_20	07 30 02.0			
	comp=Z,4µm,20.0s								
WVT	**Waverly**	**121.33**	**30**	P	**PKPdf**	**06 37 53.6**	**-2.6**		
	baz=324								
CALA	**Caldeira**	**121.36**	**335**	*e*PP	PP	06 39 18.3	-7.9		
HKT	**Hockley**	**121.45**	**41**	IAMs_20	IAMs_20	07 27 03.3			
	comp=Z,5µm,21.0s								
HRV	**Adam Dziewonsk**	**121.50**	**13**	IAMs_20	IAMs_20	07 32 27.0			
	comp=Z,4µm,21.0s								
HRV	**Adam Dziewonsk**	**121.50**	**13**	P	**PKPdf**	**06 37 53.9**	**-2.4**		
	baz=342								
SSPA	**Standing Stone**	**121.50**	**19**	P	**PKPdf**	**06 37 55.2**	**-1.2**		
	baz=335								
QUA2	**Belchertown**	**121.53**	**14**	IAMs_20	IAMs_20	07 33 34.9			
	comp=Z,5µm,19.0s								
MCWV	**Mont Chateau**	**121.72**	**22**	P	**PKPdf**	**06 37 55.1**	**-1.7**		
	baz=333								
OXF	**Oxford**	**121.82**	**32**	IAMs_20	IAMs_20	07 31 49.1			
	comp=Z,5µm,20.0s								
OXF	**Oxford**	**121.82**	**32**	P	**PKPdf**	**06 37 56.3**	**-0.9**		
	baz=321								
CLTN	**Cedars of Leba**	**122.08**	**29**	IAMs_20	IAMs_20	07 35 58.6			
	comp=Z,4µm,21.0s								
PLAL	**Pickwick Lake**	**122.13**	**31**	IAMs_20	IAMs_20	07 26 53.1			
	comp=Z,5µm,22.0s								
V48A	**Smith Brothers**	**122.13**	**30**	IAMs_20	IAMs_20	07 31 08.1			
	comp=Z,4µm,20.0s								
Y45A	**Yeager Farm, C**	**122.25**	**33**	IAMs_20	IAMs_20	07 30 30.6			
	comp=Z,4µm,20.0s								
YLE	**Yale**	**122.30**	**15**	IAMs_20	IAMs_20	07 38 14.3			
	comp=Z,4µm,20.0s								
WSPT	**Westport, CT**	**122.34**	**15**	IAMs_20	IAMs_20	07 40 11.3			
	comp=Z,4µm,18.0s								
PAL	**Palisades**	**122.34**	**16**	P	**PKPdf**	**06 37 56.2**	**-1.7**		
	baz=340								
M65A	**Busby, Falmout**	**122.61**	**13**	IAMs_20	IAMs_20	07 32 34.2			
	comp=Z,5µm,22.0s								
TZTN	**Tazewell**	**122.95**	**26**	IAMs_20	IAMs_20	07 41 12.3			
	comp=Z,3µm,19.0s								
TZTN	**Tazewell**	**122.95**	**26**	P	**PKPdf**	**06 37 58.0**	**-1.3**		
	baz=328								
VBMS	**Vicksburg**	**122.98**	**35**	P	**PKPdf**	**06 37 58.2**	**-1.2**		
	baz=319								
SWET	**Sewanee**	**122.98**	**29**	IAMs_20	IAMs_20	07 31 43.5			
	comp=Z,5µm,20.0s								
W50A	**Signal Mountai**	**123.28**	**29**	IAMs_20	IAMs_20	07 37 02.5			
	comp=Z,4µm,20.0s								
146A	**Union**	**123.45**	**34**	IAMs_20	IAMs_20	07 40 06.6			
	comp=Z,5µm,20.0s								
Z47A	**Carrollton**	**123.54**	**32**	IAMs_20	IAMs_20	07 34 55.6			
	comp=Z,5µm,20.0s								
BLA	**Blacksburg**	**123.66**	**23**	P	**PKPdf**	**06 37 59.2**	**-1.5**		
	baz=332								
FPAL	**Fort Paine**	**123.68**	**29**	IAMs_20	IAMs_20	07 37 11.1			
	comp=Z,4µm,20.0s								
Y49A	**Blount Mountai**	**123.85**	**31**	IAMs_20	IAMs_20	07 37 59.7			
	comp=Z,4µm,19.0s								
CBN	**Corbin Frederi**	**123.87**	**20**	P	**PKPdf**	**06 37 59.4**	**-1.6**		
	baz=335								
X51A	**Calhoun**	**124.02**	**29**	IAMs_20	IAMs_20	07 43 16.9			
	comp=Z,4µm,18.0s								
LRAL	**Lakeview Retre**	**124.22**	**32**	P	**PKPdf**	**06 38 00.5**	**-1.3**		
	baz=323								
Y52A	**Lilburn**	**124.97**	**29**	IAMs_20	IAMs_20	07 38 55.0			
	comp=Z,4µm,20.0s								
DBIC	**Dimbokro**	**125.13**	**289**	IAMs_20	IAMs_20	07 33 39.5			
	comp=Z,4µm,22.0s								
DBIC	**Dimbokro**	**125.13**	**289**	PKP	**PKPdf**	**06 38 03.1**	**-0.9**		
	comp=Z,23nm,1.1s,baz=48,slow=1.9,SNR=11								
KIC	**Kosan Boka**	**125.14**	**289**	⇑*e*PKIKP	**PKPdf**	**06 38 03.6**	**-0.4**		
	comp=Z,65nm,1.1s								
TIC	**Toumodi**	**125.29**	**289**	⇑*e*PKIKP	**PKPdf**	**06 38 03.7**	**-0.6**		
	comp=Z,28nm,0.9s								
LIC	**Lamto**	**125.46**	**289**	⇑*e*PKIKP	**PKPdf**	**06 38 03.2**	**-1.4**		
	comp=Z,71nm,1.1s								
GOGA	**Godfrey**	**125.62**	**28**	IAMs_20	IAMs_20	07 43 18.0			
	comp=Z,4µm,19.0s								
GOGA	**Godfrey**	**125.62**	**28**	P	**PKPdf**	**06 38 04.2**	**-0.3**		
	baz=327								
152A	**Waverly Hall**	**125.64**	**30**	IAMs_20	IAMs_20	07 30 49.0			
	comp=Z,5µm,22.0s								
BRAL	**Brewton**	**125.66**	**33**	IAMs_20	IAMs_20	07 36 09.0			
	comp=Z,5µm,20.0s								
BRAL	**Brewton**	**125.66**	**33**	P	**PKPdf**	**06 38 02.4**	**-2.2**		
	baz=322								
CNNC	**Cliffs of the**	**126.35**	**22**	P	**PKPdf**	**06 38 04.5**	**-1.3**		
	baz=334								
TIGA	**Tifton**	**127.19**	**30**	IAMs_20	IAMs_20	07 37 44.1			
	comp=Z,3µm,20.0s								
TIGA	**Tifton**	**127.19**	**30**	P	**PKPdf**	**06 38 06.1**	**-1.4**		
	baz=326								
SHEL	**Horse Pasture**	**131.62**	**261**	IAMs_20	IAMs_20	07 31 20.3			
	comp=Z,4µm,22.0s								
TEIG	**Tepich**	**133.10**	**43**	IAMs_20	IAMs_20	07 39 58.7			
	comp=Z,3µm,20.0s								
HUEH	**Huehuetenango**	**134.05**	**51**	IAMs_20	IAMs_20	07 31 54.0			
	comp=Z,4µm,21.0s								
RTAL	**Retalhuleu**	**134.39**	**52**	IAMs_20	IAMs_20	07 37 06.2			
	comp=Z,3µm,20.0s								
SOR	**Soroa**	**134.46**	**36**	IAMs_20	IAMs_20	07 50 26.4			
	comp=Z,3µm,18.0s								
CAMR	**Camarioca**	**135.16**	**34**	IAMs_20	IAMs_20	07 41 28.6			
	comp=Z,5µm,22.0s								
MTO3	**Montecristo**	**136.23**	**50**	IAMs_20	IAMs_20	07 31 03.8			
	comp=Z,4µm,20.0s								
TGUH	**Tegucigalpa,Un**	**138.00**	**49**	IAMs_20	IAMs_20	07 40 40.1			
	comp=Z,3µm,20.0s								
ESPN	**Las Esperanzas**	**141.39**	**48**	IAMs_20	IAMs_20	07 31 26.8			
	comp=Z,3µm,21.0s								
HZTE	**Zozontes, Gu**	**141.40**	**51**	IAMs_20	IAMs_20	07 41 08.7			
	comp=Z,2µm,20.0s								
ORTG	**Ortega, Santa**	**141.73**	**51**	IAMs_20	IAMs_20	07 31 04.4			
	comp=Z,3µm,21.0s								
DUNO	**Dulce Nombre,**	**141.88**	**52**	IAMs_20	IAMs_20	07 30 32.5			
	comp=Z,4µm,22.0s								
COVE	**Coope Vega, Sa**	**142.29**	**50**	IAMs_20	IAMs_20	07 31 26.0			
	comp=Z,3µm,21.0s								
JACO	**JACO, Garabito**	**142.78**	**52**	IAMs_20	IAMs_20	07 30 45.2			
	comp=Z,4µm,22.0s								
HDC	**Heredia**	**142.97**	**51**	IAMs_20	IAMs_20	07 37 55.2			
	comp=Z,3µm,21.0s								
RIMA	**Rio Macho**	**143.31**	**51**	IAMs_20	IAMs_20	07 48 48.2			
	comp=Z,3µm,22.0s								
BATAN	**Batan**	**143.46**	**50**	IAMs_20	IAMs_20	07 32 00.9			
	comp=Z,4µm,22.0s								
SRBA	**San Rafael, Bu**	**144.03**	**51**	IAMs_20	IAMs_20	07 43 16.4			
	comp=Z,3µm,20.0s								
BRU2	**Volcan**	**144.82**	**50**	IAMs_20	IAMs_20	07 52 00.2			
	comp=Z,3µm,20.0s								
CDITO	**Canoas**	**144.82**	**51**	IAMs_20	IAMs_20	07 40 41.4			
	comp=Z,4µm,21.0s								
BCIP	**Isla Barro Col**	**146.64**	**47**	IAMs_20	IAMs_20	07 32 56.8			
	comp=Z,3µm,21.0s								
SMRT	**St. Maarten**	**146.92**	**12**	IAMs_20	IAMs_20	07 49 03.9			
	comp=Z,3µm,20.0s								
SABA	**Saba**	**147.30**	**13**	IAMs_20	IAMs_20	07 43 49.1			
	comp=Z,4µm,21.0s								
SEUS	**St. Eustatius**	**147.48**	**13**	IAMs_20	IAMs_20	07 44 28.8			
	comp=Z,3µm,21.0s								
GDSD	**La Dsirade Is**	**148.98**	**10**	IAMs_20	IAMs_20	07 54 39.4			
	comp=Z,4µm,21.0s								
ILAM	**Ilet Lapin Mar**	**150.52**	**10**	IAMs_20	IAMs_20	07 45 39.2			
	comp=Z,3µm,21.0s								
HATO	**Hato, Curacao**	**150.54**	**27**	IAMs_20	IAMs_20	07 54 35.0			
	comp=Z,3µm,20.0s								
MPOM	**Morne Pois Mar**	**150.85**	**10**	IAMs_20	IAMs_20	07 48 11.7			
	comp=Z,3µm,21.0s								
PLCA	**Paso Flores**	**150.92**	**157**	PKP	**PKPdf**	**06 38 51.0**	**+1.1**		
	comp=Z,18nm,0.9s,baz=228,slow=2.5,SNR=15								
PLCA				PKPbc	**PKPbc**	**06 38 55.7**	**+0.1**		
	comp=Z,131nm,1.1s,baz=227,slow=3.1,SNR=59								
GRGR	**Grenville**	**152.96**	**12**	IAMs_20	IAMs_20	07 49 16.0			
	comp=Z,3µm,21.0s								
ROSC	**El Rosal**	**153.54**	**45**	IAMs_20	IAMs_20	07 42 44.2			
	comp=Z,4µm,22.0s								
ROSC	**El Rosal**	**153.54**	**45**	PKP	**PKPdf**	**06 38 54.4**	**-0.6**		
	comp=Z,43nm,1.1s,baz=235,slow=1.5,SNR=10.0								
ROSC				PKPbc	**sPKPdf**	**06 39 04.6**	**-0.9**		
	comp=Z,32nm,0.9s,baz=323,slow=9.9,SNR=11								
SLOR	**San Lorenzo -**	**153.86**	**60**	IAMs_20	IAMs_20	07 35 41.3			
	comp=Z,3µm,22.0s								
ARNL	**Arenillas**	**153.87**	**68**	IAMs_20	IAMs_20	07 32 35.4			
	comp=Z,3µm,22.0s								
CHSH	**Refugio Sur-Vo**	**153.94**	**62**	IAMs_20	IAMs_20	07 49 49.8			
	comp=Z,3µm,20.0s								
RCBR	**Riachuelo**	**158.48**	**292**	PKPab	**PKPab**	**06 39 35.8**	**0.0**		
	comp=Z,28nm,1.0s,baz=59,slow=7.0,SNR=9.0								
**NN

AHB	**Akutan Harbor**	**0.41**	**284**			Pn	06 35 21.0	-0.3
AKBBA	**Akutan Broad B**	**0.47**	**280**			Pn	06 35 21.7	0.0
AKBBA						Sn	06 35 31.4	-0.1
ZRO	**Akutan Zero**	**0.50**	**279**			Pn	06 35 22.0	0.0
LVA	**Lava Point**	**0.55**	**285**			Pn	06 35 22.4	0.0
WECS	**Westdahl Cape**	**0.56**	**22**			Pn	06 35 22.5	-0.1
WECS						Sn	06 35 33.0	+0.1
AKRB	**Akutan Reef Bi**	**0.56**	**282**			Pn	06 35 22.2	-0.3
WESE	**West Dahl East**	**0.56**	**35**			Pn	06 35 22.4	-0.2
WEBT	**Westdahl Beart**	**0.62**	**21**			Pn	06 35 22.6	-0.5
WEBT						Sn	06 35 33.5	-0.4
UNV	**Unalaska Valle**	**0.82**	**258**			Pn	06 35 25.5	+0.2
UNV						Sn	06 35 37.4	-0.4
MTBL	**Makushin Table**	**0.91**	**267**			Pn	06 35 26.9	+0.6
MNAT	**Makushin Natee**	**0.92**	**262**			Pn	06 35 26.7	+0.2
SSLS	**Shishaldin Sou**	**0.96**	**43**		Pn	Pn	06 35 26.8	-0.2
MSW	**Makushin Switc**	**0.98**	**264**			Pn	06 35 27.2	+0.2
MAPS	**Pakushin South**	**1.09**	**259**			Pn	06 35 29.0	+0.6
ISLZ	**Isanotski Laza**	**1.10**	**49**			Pn	06 35 28.4	-0.2
ISLZ						Sn	06 35 43.5	-0.1
ISNN	**Isanotski Nort**	**1.14**	**44**			Pn	06 35 29.1	0.0
FALS	**False Pass**	**1.31**	**50**			Pn	06 35 31.6	+0.4
OKFG	**Magazine Ridge**	**1.76**	**251**			Pn	06 35 37.4	+0.4
S12K	**Black Hills**	**2.45**	**45**		Pn	Pn	06 35 45.5	-0.9
SDPT	**Sand Point**	**3.02**	**62**		Pn	Pn	06 35 54.4	+0.5
SDPT					IAML		06 36 31.0	
	comp=E,122nm,3.1s							
SDPT					IAML		06 37 49.1	
	comp=N,87nm,3.5s							
CLES	**Cleveland East**	**3.09**	**249**		Pn	Pn	06 35 55.9	+1.0
CHGN	**Chignik**	**4.48**	**57**		Pn	Pn	06 36 15.6	+1.8
CHGN					IAML		06 37 14.5	
	comp=N,54nm,2.0s							
CHGN					IAML		06 38 34.8	
	comp=E,51nm,2.2s							
N15K	**Kwethluk River**	**6.75**	**22**		Pn	Pn	06 36 47.0	+2.3
O16K	**Kokwok River B**	**6.79**	**32**		Pn	Pn	06 36 43.7	-1.6
OHAK	**Old Harbor**	**7.44**	**60**		Pn	Pn	06 36 54.6	+0.4
M16K	**Timber Creek**	**7.77**	**23**		Pn	Pn	06 36 59.5	+0.9
KDAK	**Kodiak Island**	**8.00**	**57**		Pn	Pn	06 37 02.2	+0.5
N19K	**Bonanza Creek**	**8.90**	**36**		Pn	Pn	06 37 16.6	+2.3
SCM	**Sheep Creek Mo**	**12.25**	**43**		Pn	Pn	06 37 59.0	-0.7
M24K	**Tolsona, Glenn**	**12.86**	**43**		Pn	Pn	06 38 08.3	+0.3
GLB	**Gilahina Butte**	**13.55**	**48**		Pn	Pn	06 38 17.6	+0.4
SCRK	**Sand Creek**	**14.69**	**39**		P	P	06 38 35.0	-1.2
BCAR	**Beaver Creek A**	**15.10**	**44**		Pn	Pn	06 38 38.1	+0.8
I26K	**Coal Creek Min**	**15.74**	**35**		P	P	06 38 47.9	+0.2
I26K					IAmb	IAmb	06 39 08.8	
	comp=Z,2.6nm,1.1s							
D22K	**Ayikyak River**	**16.00**	**16**		P	Pn	06 38 49.3	+0.9
D22K					IAmb	IAmb	06 39 15.7	
	comp=Z,5.7nm,1.1s							
O30N	**Mendenhall**	**16.94**	**55**		P	Pn	06 39 00.5	+0.2
O30N					IAmb	IAmb	06 39 21.1	
	comp=Z,8.1nm,1.1s							

JMA ***05*** *06:43:32.9±0.1, 37°.1N±0°.4×141°.2E±0°.8, h49km, MD4.2/39, MV4.4/39, E OFF FUKUSHIMA PREF*
JMA Felt III J1 at E OFF FUKUSHIMA PREF .
NEIC ***05*** *06:43:34.2±1.9, 37°.16N±0°.06×141°.2E±0°.1, h50km±8km, mb4.5/39, Error ellipse: s-maj=12.8km s-min=8.0km az=102.0*
IDC ***05*** *06:43:36.2±2.0, 37°.08N×141°.12E, h79km±17km, mb3.8/20, mbtmp4.0/25, Error ellipse: s-maj=18.0km s-min=15.0km az=152.0*

ISC 05 06:43:32.5±1.0, 37°.07N±0°.04×141°.27E±0°.07, h45km±8km, n121, σ1§03/113, mb4.4/40, 17D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**276**	⇓P		**Pn**	**06**	**43**	**41.9**	**-0.2**
ONAJ				⇓S		**Sn**	**06**	**43**	**48.2**	**-0.7**
ONAJ	**Iwakimizuishiy**	**0.38**	**276**	A		A	06	43	41.9	
	comp=E,195nm,0.3s,comp=N,182nm,0.3s									
JFK	**Kawauchi**	**0.44**	**314**	⇓P		**Pn**	**06**	**43**	**42.5**	**-0.3**
JFK				⇓S		**Sn**	**06**	**43**	**49.3**	**-0.7**
JFK	**Kawauchi**	**0.44**	**314**	A		A	06	43	42.5	
	comp=E,34nm,1.0s,comp=N,25nm,0.4s									
JFFD	**Fukushimafurud**	**0.57**	**273**	⇓P		**Pn**	**06**	**43**	**43.9**	**-0.4**
JFFD				⇓*e*S		**Sn**	**06**	**43**	**51.7**	**-1.1**
JFFD	**Fukushimafurud**	**0.57**	**273**	A		A	06	43	43.9	
	comp=E,23nm,0.6s,comp=N,14nm,0.3s									
JHO	**Hitachi**	**0.72**	**231**	⇓*i*P		**Pn**	**06**	**43**	**45.6**	**-0.7**
JHO				⇓S		**Sn**	**06**	**43**	**54.8**	**-1.5**
JHO	**Hitachi**	**0.72**	**231**	A		A	06	43	45.6	
	comp=E,8.0nm,1.2s,comp=N,8.0nm,1.0s									
JMST	**Minamisoumatoc**	**0.73**	**335**	A		A	06	43	46.4	
	comp=E,19nm,0.4s,comp=N,12nm,0.3s									
JMM	**Marumori**	**0.89**	**335**	P		**Pn**	**06**	**43**	**48.3**	**-0.3**
JMM	**Marumori**	**0.89**	**335**			**Pn**	**06**	**43**	**48.1**	**-0.4**
JMM	**Marumori**	**0.89**	**335**	⇓*i*P		**Pn**	**06**	**43**	**48.2**	**-0.3**
JMM				⇓S		**Sn**	**06**	**43**	**59.5**	**-0.8**
JMM	**Marumori**	**0.89**	**335**	A		A	06	43	48.2	
	comp=E,13nm,0.7s,comp=N,8.0nm,0.5s									
JOTO	**OTAMA OYAMA**	**0.90**	**304**	*i* P		**Pn**	**06**	**43**	**49.0**	**+0.3**
JOTO				*e*S		**Sn**	**06**	**44**	**00.6**	**0.0**
JOTO	**OTAMA OYAMA**	**0.90**	**304**	A		A	06	43	49.0	
	comp=E,38nm,0.3s,comp=N,31nm,0.3s									
JSB	**Shiboa**	**1.08**	**265**	A		A	06	43	51.0	
	comp=E,11nm,1.5s,comp=N,12nm,1.0s									
JYT	**Yasato**	**1.20**	**226**	A		A	06	43	53.1	
	comp=E,19nm,0.4s,comp=N,12nm,0.3s									
JYAR	**Yonezawaarcadi**	**1.23**	**314**	A		A	06	43	53.1	
	comp=E,13nm,1.0s,comp=N,9.0nm,2.0s									
JIHU	**Itakohorinouch**	**1.25**	**209**	A		A	06	43	54.1	
	comp=E,14nm,2.2s,comp=N,10.0nm,0.5s									
JFY	**Yanaizu**	**1.29**	**286**	⇓*i*P		**Pn**	**06**	**43**	**54.0**	**-0.2**
JOU	**Okura**	**1.38**	**340**	⇓*i*P		**Pn**	**06**	**43**	**55.4**	**0.0**
JOU	**Okura**	**1.38**	**340**	A		A	06	43	55.4	
	comp=E,7.0nm,0.8s,comp=N,6.0nm,0.8s									
JIO	**Ouri**	**1.39**	**3**	⇓*i*P		**Pn**	**06**	**43**	**55.2**	**-0.2**
JIO				⇓S		**Sn**	**06**	**44**	**11.2**	**-1.3**
JYS	**Shirataka**	**1.50**	**321**	⇓*i*P		**Pn**	**06**	**43**	**57.3**	**+0.4**
JOFO	**Osakifurukawao**	**1.56**	**350**	A		A	06	43	58.4	
	comp=E,12nm,1.4s,comp=N,10.0nm,0.8s									
JAG	**Ashikaga**	**1.59**	**247**	⇓*i*P		**Pn**	**06**	**43**	**57.8**	**-0.4**
JAG				⇓S		**Sn**	**06**	**44**	**16.8**	**-0.8**
JYA	**Atsumi**	**1.96**	**322**	A		A	06	44	03.6	
	comp=E,4.0nm,1.7s,comp=N,6.0nm,0.8s									
MJAR	**Matsushiro Arr**	**2.51**	**259**	P		**Pn**	**06**	**44**	**11.6**	**+0.7**
MJAR				S		**Sn**	**06**	**44**	**42.7**	**+2.5**
	comp=N,36nm,0.3s,baz=83,slow=15,SNR=118									
MAJO	**Matsushiro**	**2.51**	**259**	P		**Pn**	**06**	**44**	**11.5**	**+0.6**
MAJO	**Matsushiro**	**2.51**	**259**			**Pn**	**06**	**44**	**11.4**	**+0.6**
MJB9	**Matsu-Tunnel**	**2.51**	**259**			**Pn**	**06**	**44**	**12.4**	**+1.5**
JSG	**Sagara**	**3.46**	**227**	P		**Pn**	**06**	**44**	**24.4**	**+0.6**
JSG	**Sagara**	**3.46**	**227**	Pn		**Pn**	**06**	**44**	**26.6**	**+2.8**
JGF	**Kuroka**	**3.48**	**246**	P		**Pn**	**06**	**44**	**25.2**	**+1.0**
JGF	**Kuroka**	**3.48**	**246**			**Pn**	**06**	**44**	**25.2**	**+1.0**
JTM	**Tenmabayashi**	**3.72**	**358**	P		**Pn**	**06**	**44**	**29.0**	**+1.6**
JTM	**Tenmabayashi**	**3.72**	**358**			**Pn**	**06**	**44**	**29.1**	**+1.7**
JHJ2	**Mitsune**	**4.12**	**197**	P		**Pn**	**06**	**44**	**33.4**	**+0.5**
JHJ	**Hachijo jima 2**	**4.12**	**198**	P		**Pn**	**06**	**44**	**33.1**	**+0.2**
	comp=N,115nm,0.3s,baz=80,slow=23,SNR=20									
JHJ				S		**Sn**	**06**	**45**	**18.5**	**-1.3**
	comp=N,160nm,0.4s,baz=229,slow=23,SNR=8.2									
ERM	**Erimo**	**5.15**	**16**	P		**Pn**	**06**	**44**	**48.2**	**+1.2**
ERM	**Erimo**	**5.15**	**16**	Pn		**Pn**	**06**	**44**	**47.5**	**+0.4**
JEM	**Erimo**	**5.16**	**16**	P		**Pn**	**06**	**44**	**48.4**	**+1.3**
ASAJ	**Asahikawa**	**7.12**	**8**	P		**Pn**	**06**	**45**	**12.7**	**-1.2**
	comp=N,9.6nm,0.3s,baz=203,slow=10.0,SNR=24									
ASAJ				S		**Sn**	**06**	**46**	**31.7**	**-1.8**
	comp=N,6.0nm,0.4s,baz=204,slow=16,SNR=1.5									
JKA	**Kamikawa-asahi**	**7.12**	**8**			**Pn**	**06**	**45**	**13.1**	**-0.8**
USRK	**Ussuriysk Ar.**	**10.02**	**318**	P		**Pn**	**06**	**45**	**55.4**	**+1.7**
	comp=N,14nm,0.8s,baz=136,slow=12,SNR=24									
KSRS	**Korea Array**	**10.65**	**276**	P		**Pn**	**06**	**46**	**04.5**	**+2.1**
	comp=N,4.6nm,0.8s,baz=88,slow=14,SNR=11									
KLR	**Kul'dur**	**13.99**	**333**	P		**Pn**	**06**	**46**	**49.3**	**+1.4**
	comp=N,0.5nm,0.4s,baz=170,slow=19,SNR=1.9									
PETK	**Petropavlovsk-**	**19.72**	**30**	P		**P**	**06**	**47**	**56.9**	**-1.1**
PETK	**Petropavlovsk-**	**19.72**	**30**	P		**P**	**06**	**47**	**59.6**	**+1.6**
	comp=N,1.3nm,0.9s,baz=209,slow=11,SNR=1.2									
MA2	**Magadan**	**23.35**	**12**	P		**P**	**06**	**48**	**36.4**	**-0.2**
SONM	**Songino Array**	**27.67**	**304**	P		**P**	**06**	**49**	**16.1**	**-0.1**
SONM	**Songino Array**	**27.67**	**304**	P		**P**	**06**	**49**	**15.7**	**-0.4**
	comp=N,2.3nm,0.5s,baz=87,slow=9.0,SNR=6.7									
	comp=N,2.3nm,0.5s									
H11N2	**WAKE ISLAND Hy**	**28.26**	**121**	T		T	07	19	34.2	
	baz=314,slow=75,SNR=8.3									
H11N1	**WAKE ISLAND Hy**	**28.27**	**121**	T		T	07	19	27.0	
	baz=314,slow=75,SNR=8.8									
H11N3	**WAKE ISLAND Hy**	**28.28**	**121**	T		T	07	19	35.8	
	baz=314,slow=75,SNR=8.7									
H11S1	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	07	20	20.7	
	baz=315,slow=76,SNR=11									
H11S3	**WAKE ISLAND Hy**	**28.97**	**123**	T		T	07	20	24.9	
	baz=315,slow=76,SNR=12									
H11S2	**WAKE ISLAND Hy**	**28.99**	**123**	T		T	07	20	22.1	
	baz=315,slow=76,SNR=5.4									
CHTO	**Chiang Mai**	**41.19**	**256**	P		**P**	**06**	**51**	**15.0**	**+2.2**
CHTO				IAmb		IAmb	06	51	57.3	
	comp=Z,6.2nm,0.8s									
CM31	**Chiang Mai Arr**	**41.39**	**255**	P		**P**	**06**	**51**	**14.9**	**+0.5**
CMAR	**Chiang Mai Arr**	**41.39**	**255**	P		**P**	**06**	**51**	**15.3**	**+0.9**
ZAA0	**Zalesovo Array**	**41.81**	**312**	P		**P**	**06**	**51**	**17.0**	**-0.4**
ZAA0				IAmb		IAmb	06	51	18.1	
	comp=Z,6.5nm,0.7s									
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**	**06**	**51**	**16.6**	**-0.9**
ZALV	**Zalesovo Beam**	**41.81**	**312**	P		**P**	**06**	**51**	**16.9**	**-0.5**
	comp=Z,6.1nm,0.5s,baz=97,slow=6.5,SNR=21									
ZALV				PcP		**PcP**	**06**	**53**	**11.7**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=100,slow=2.0,SNR=3.6									
	comp=Z,6.1nm,0.5s									
L16K	**Owhat River**	**43.74**	**36**	P		**P**	**06**	**51**	**33.7**	**+0.7**
L16K				IAmb		IAmb	06	51	43.6	
	comp=Z,21nm,1.4s									
MK31	**Makanchi Array**	**44.01**	**302**	P		**P**	**06**	**51**	**34.6**	**-0.8**
MKAR	**Makanchi Array**	**44.01**	**302**	P		**P**	**06**	**51**	**34.7**	**-0.7**
MKAR	**Makanchi Array**	**44.01**	**302**	P		**P**	**06**	**51**	**34.9**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=83,slow=11,SNR=20									
MKAR				PcP		**PcP**	**06**	**53**	**18.9**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=112,slow=1.6,SNR=2.9									
	comp=Z,1.8nm,0.6s									
MAKZ	**Makanchi**	**44.22**	**302**	P		**P**	**06**	**51**	**35.8**	**-1.2**
MAKZ				IAmb		IAmb	06	52	13.8	
	comp=Z,3.5nm,0.5s									
C18K	**Utukok River**	**44.30**	**26**	P		**P**	**06**	**51**	**37.4**	**-0.1**
C18K				IAmb		IAmb	06	51	55.4	
	comp=Z,17nm,1.2s									
H18K	**Honhosa River**	**44.68**	**31**	P		**P**	**06**	**51**	**41.5**	**+1.0**
H18K				IAmb		IAmb	06	51	56.5	
	comp=Z,20nm,1.4s									
C19K	**Lookout Ridge**	**44.98**	**26**	P		**P**	**06**	**51**	**44.4**	**+1.6**
L18K	**Granite Mounta**	**45.10**	**36**	P		**P**	**06**	**51**	**45.0**	**+1.1**
L18K				IAmb		IAmb	06	52	13.1	
	comp=Z,11nm,1.3s									
F19K	**Shaleruckik Mo**	**45.19**	**29**	P		**P**	**06**	**51**	**45.1**	**+0.7**
D19K	**Kuna River**	**45.37**	**27**	P		**P**	**06**	**51**	**47.1**	**+1.2**
E19K	**Redstone River**	**45.50**	**28**	P		**P**	**06**	**51**	**48.3**	**+1.3**
H19K	**Roundabout Mou**	**45.53**	**31**	P		**P**	**06**	**51**	**48.6**	**+1.5**
H19K				IAmb		IAmb	06	52	03.2	
	comp=Z,11nm,1.4s									
J19K	**Poorman**	**45.72**	**33**	P		**P**	**06**	**51**	**49.6**	**+0.9**
J19K				IAmb		IAmb	06	52	10.6	
	comp=Z,11nm,1.4s									
KURK	**Kurchatov**	**45.82**	**308**	P		**P**	**06**	**51**	**48.7**	**-1.0**
KURK				IAmb		IAmb	06	51	51.7	
	comp=Z,6.6nm,0.7s									
KURBB	**Kurchatov Arra**	**45.89**	**308**	P		**P**	**06**	**51**	**49.4**	**-0.9**
	comp=Z,3.3nm,0.4s,baz=84,slow=8.2,SNR=21									
KURBB				PcP		**PcP**	**06**	**53**	**25.9**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=97,slow=4.8,SNR=4.2									
	comp=Z,3.3nm,0.4s									
B20K	**Meade River**	**46.01**	**25**	P		**P**	**06**	**51**	**52.2**	**+1.3**
K20K	**Telida**	**46.37**	**34**	P		**P**	**06**	**51**	**54.8**	**+1.0**
K20K				IAmb		IAmb	06	52	08.7	
	comp=Z,9.0nm,1.4s									
B21K	**Ikpikpuk River**	**46.81**	**26**	P		**P**	**06**	**51**	**58.0**	**+0.8**
B21K				IAmb		IAmb	06	52	14.2	
	comp=Z,6.5nm,0.9s									
G21K	**Allakaket**	**46.83**	**30**	P		**P**	**06**	**51**	**59.1**	**+1.7**
G21K				IAmb		IAmb	06	52	20.8	
	comp=Z,7.2nm,1.5s									
CAST	**Castle Rocks**	**47.26**	**34**	P		**P**	**06**	**52**	**01.7**	**+0.8**
CAST				IAmb		IAmb	06	52	34.0	
	comp=Z,5.7nm,1.2s									
B22K	**Teshekpuk Lake**	**47.33**	**25**	P		**P**	**06**	**52**	**02.2**	**+1.0**
E22K	**Anaktuvuk Pass**	**47.63**	**28**	P		**P**	**06**	**52**	**04.3**	**+0.6**
MLY	**Manley**	**47.88**	**32**	P		**P**	**06**	**52**	**06.9**	**+1.2**
MLY				IAmb		IAmb	06	52	31.9	
	comp=Z,6.0nm,1.4s									
C23K	**Itkillik River**	**48.22**	**26**	P		**P**	**06**	**52**	**09.0**	**+0.8**
C23K				IAmb		IAmb	06	52	30.0	
	comp=Z,8.7nm,1.2s									
H23K	**Yukon River**	**48.40**	**31**	P		**P**	**06**	**52**	**11.2**	**+1.6**
H23K				IAmb		IAmb	06	52	41.5	
	comp=Z,5.6nm,1.3s									
RND	**Reindeer**	**48.72**	**34**	P		**P**	**06**	**52**	**12.6**	**+0.5**
RND				IAmb		IAmb	06	52	33.2	
	comp=Z,9.5nm,1.4s									
GHO	**Glory Hole Cre**	**48.76**	**36**	P		**P**	**06**	**52**	**12.8**	**+0.3**
D24K	**Happy Valley**	**48.80**	**27**	P		**P**	**06**	**52**	**13.4**	**+0.8**
D24K				IAmb		IAmb	06	52	40.7	
	comp=Z,5.2nm,1.1s									
H24K	**Noodor Dome**	**49.09**	**31**	P		**P**	**06**	**52**	**16.0**	**+1.1**
BOOM	**Boomskoye usch**	**49.40**	**298**	P		**P**	**06**	**52**	**17.6**	**-0.2**
ILAR	**Eielson Array**	**49.53**	**32**	P		**P**	**06**	**52**	**19.0**	**+0.7**
	comp=Z,1.3nm,0.7s,baz=270,slow=6.7,SNR=10									
	comp=Z,1.3nm,0.7s									
D25K	**Kavik River**	**49.67**	**26**	P		**P**	**06**	**52**	**19.7**	**+0.3**
BVAR	**Borovoye Array**	**50.47**	**312**	P		**P**	**06**	**52**	**24.7**	**-0.8**
	comp=Z,2.2nm,0.5s,baz=73,slow=7.3,SNR=9.9									
BVAR				PcP		**PcP**	**06**	**53**	**43.0**	**-0.1**
	comp=Z,2.2nm,0.6s,baz=71,slow=3.0,SNR=5.8									
	comp=Z,2.2nm,0.5s									
I30M	**Mount Dempster**	**53.91**	**31**	P		**P**	**06**	**52**	**52.5**	**+1.5**
I30M				IAmb		IAmb	06	52	53.5	
	comp=Z,5.1nm,0.8s									
CHGR	**Chuyangaron**	**55.55**	**295**	P		**P**	**06**	**53**	**02.6**	**-0.7**
ARU	**Arti**	**56.26**	**318**	P		**P**	**06**	**53**	**07.0**	**-0.9**
WRA	**Warramunga Arr**	**57.08**	**188**	P		**P**	**06**	**53**	**13.3**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=5.3,slow=7.3,SNR=12									
	comp=Z,1.0nm,0.6s									
ABKAR	**Akbulak array**	**57.83**	**310**	P		**P**	**06**	**53**	**18.6**	**-0.6**
GEYT	**Alibeck**	**63.72**	**299**	P		**P**	**06**	**53**	**59.4**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=48,slow=2.1,SNR=4.5									
	comp=Z,1.5nm,0.3s									
YKA	**Yellowknife Ar**	**63.84**	**30**	P		**P**	**06**	**54**	**00.0**	**+0.2**
	comp=Z,0.4nm,0.7s,baz=307,slow=7.3,SNR=6.8									
	comp=Z,0.4nm,0.7s									
ARCES	**ARCESS Array B**	**63.93**	**339**	P		**P**	**06**	**53**	**59.8**	**-0.5**
	comp=Z,2.0nm,0.8s,baz=52,slow=7.9,SNR=7.5									
	comp=Z,2.0nm,0.8s									
FINES	**FINESS Array B**	**68.73**	**332**	P		**P**	**06**	**54**	**30.4**	**-0.7**
	comp=Z,1.6nm,0.6s,baz=38,slow=9.6,SNR=8.2									
	comp=Z,1.6nm,0.6s									
KBZ	**Khabaz**	**70.80**	**311**	P		**P**	**06**	**54**	**44.1**	**0.0**
	comp=Z,2.8nm,0.8s,baz=61,slow=19,SNR=7.2									
	comp=Z,2.8nm,0.8s									
HFS	**Hagfors**	**74.01**	**336**	P		**P**	**06**	**55**	**02.3**	**-0.7**
	comp=Z,0.9nm,0.5s,baz=74,slow=6.2,SNR=7.9									
	comp=Z,0.9nm,0.5s									
NB2	**NORSAR Subarra**	**74.11**	**337**	P		**P**	**06**	**55**	**02.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=41,slow=6.2									
NOA	**NORSAR Array B**	**74.11**	**337**	P		**P**	**06**	**55**	**03.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=39,slow=5.8,SNR=5.4									
	comp=Z,1.2nm,0.7s									
AKASG	**Malin Array Be**	**74.20**	**322**	P		**P**	**06**	**55**	**03.2**	**-1.1**
	comp=Z,1.3nm,0.5s,baz=46,slow=6.2,SNR=9.0									
	comp=Z,1.3nm,0.5s									
NVAR	**Mina Array Bea**	**75.06**	**53**	P		**P**	**06**	**55**	**11.1**	**+1.3**
	comp=Z,0.4nm,0.8s,baz=300,slow=4.4,SNR=2.7									
	comp=Z,0.4nm,0.8s									
PDAR	**Pinedale Array**	**77.73**	**45**	P		**P**	**06**	**55**	**25.6**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=280,slow=5.4,SNR=3.9									
	comp=Z,0.3nm,0.6s									
BRTR	**Keskin Array B**	**78.75**	**311**	P		**P**	**06**	**55**	**30.5**	**+0.1**
	comp=Z,1.0nm,0.7s,baz=79,slow=9.0,SNR=4.9									
	comp=Z,1.0nm,0.7s									
EKA	**Eskdalemuir Ar**	**83.06**	**340**	P		**P**	**06**	**55**	**52.1**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=6.7,slow=6.6,SNR=2.3									
	comp=Z,0.8nm,0.7s									
TXAR	**Lajitas Array**	**90.19**	**52**	P		**P**	**06**	**56**	**29.3**	**+0.9**
	comp=Z,0.2nm,0.5s,baz=302,slow=3.4,SNR=3.6									
	comp=Z,0.2nm,0.5s									
LPAZ	**La Paz**	**146.78**	**59**	PKPbc		**PKPbc**	**07**	**03**	**11.0**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=323,slow=5.1,SNR=10									
H03N2	**Juan Fernandez**	**147.14**	**96**	T		T	09	48	07.9	
	baz=291,slow=76,SNR=15									
H03N3	**Juan Fernandez**	**147.15**	**96**	T		T	09	48	08.9	
	baz=291,slow=76,SNR=12									
H03N1	**Juan Fernandez**	**147.16**	**96**	T		T	09	48	11.4	
	baz=291,slow=76,SNR=16									

HVO ***05*** *06:53:15.7±0.8, 19°.16N±0°.02×155°.345W±0°.006, h-0km±10km, ML2.6/18, ML2.7/40(NEIC), Error ellipse: s-maj=2.2km s-min=0.7km az=182.0*

NEIC 05 06:53:17.1±0.6, 19°.20N±0°.02×155°.35W±0°.01, h5km±7km, Error ellipse: s-maj=2.5km s-min=1.1km az=156.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
HTC	**Hot Caves**	**0.05**	**311**			Pg	06	53	18.5	-0.1
HLP	**Hilina Pali**	**0.10**	**25**			Pg	06	53	19.4	+0.1
SDHHI	**Sand Hill**	**0.20**	**17**			Pg	06	53	21.2	+0.2
RIM	**Rim**	**0.21**	**22**	Pg		Pg	06	53	21.1	-0.1
RIM				IAML			06	53	26.4	
	comp=N,1µm,0.5s									
RIM				IAML			06	53	28.6	
	comp=E,911nm,0.5s									
WRMHI	**West Rim**	**0.21**	**14**	Pg		Pg	06	53	20.1	-1.2
WRMHI				IAML			06	53	26.8	
	comp=N,2µm,0.7s									
WRMHI				IAML			06	53	28.3	
	comp=E,2µm,0.6s									
KKO	**Keanakako'i**	**0.21**	**23**	Pg		Pg	06	53	21.3	0.0
KKO				IAML			06	53	26.7	
	comp=E,1µm,0.4s									
KKO				IAML			06	53	28.8	
	comp=N,1µm,0.7s									
PUH	**Pauahi**	**0.21**	**37**			Pg	06	53	21.4	0.0
PUH				IAML			06	53	26.6	
	comp=E,814nm,0.3s									
OBL	**Observatory Le**	**0.22**	**17**	Pg		Pg	06	53	21.1	-0.5
UWE	**Uwekahuna**	**0.23**	**15**	Pg		Pg	06	53	21.1	-0.5
UWE				IAML			06	53	27.7	
	comp=E,1µm,0.3s									
UWE				IAML			06

HMH	**Humu'ula Sheep**	**0.38**	**325**	Pg	Pg	07 04 39.5	-0.1
MWH	**Moku'aweowe**	**0.38**	**300**		Pg	07 04 39.4	-0.3
MWH				IAML		07 04 48.5	
	comp=E,434nm,0.7s						
ALEP	**Alea Permanent**	**0.44**	**304**		Pg	07 04 40.4	-0.5
ALEP					Sg	07 04 47.2	+0.5
POHA	**Pohakuloa**	**0.53**	**330**		Sg	07 04 49.5	0.0
POHA	**Pohakuloa**	**0.53**	**330**	Pg	Pg	07 04 42.0	-0.5
POHA				IAML		07 04 49.9	
	comp=E,724nm,0.4s						
POHA				IAML		07 04 50.0	
	comp=E,706nm,0.3s						
CPH	**Captain Cook**	**0.66**	**287**		Pg	07 04 44.5	-0.3
HUH	**Hualalai**	**0.67**	**305**		Pg	07 04 44.2	-1.0

NEIC ***05*** *07:11:04.2±0.8, 19°.393N×0°.008×155°.333W±0°.008, h5km, 1km, Error ellipse: s-maj=2.7km s-min=1.4km az=88.0*

HVO 05 07:11:03.9±0.7, **19°.415N**±0°.009×**155°.32W**±0°.01, **h4**km±4km, **ML2.5**/17, **ML2.3**/42(NEIC), **Error ellipse: s-maj=1.7km s-min=1.4km az=100.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**116**		Pg	07 11 05.3	+0.4
WRMHI	**West Rim**	**0.02**	**116**	IAML		07 11 05.6	
	comp=E,4μm,0.1s						
WRMHI				IAML		07 11 05.9	
	comp=N,3μm,0.2s						
UWE	**Uwekahuna**	**0.02**	**74**		Pg	07 11 05.4	+0.5
UWE	**Uwekahuna**	**0.02**	**74**	IAML		07 11 05.9	
	comp=N,2μm,0.3s						
UWE				IAML		07 11 06.4	
	comp=E,1μm,0.1s						
OBL	**Observatory Le**	**0.03**	**85**		Pg	07 11 05.4	+0.4
OBL	**Observatory Le**	**0.03**	**85**	IAML		07 11 06.0	
	comp=N,1μm,0.3s						
OBL				IAML		07 11 06.5	
	comp=E,2μm,0.2s						
SDHHI	**Sand Hill**	**0.03**	**139**		Pg	07 11 05.5	+0.5
SDHHI	**Sand Hill**	**0.03**	**139**	IAML		07 11 06.0	
	comp=E,6μm,0.2s						
SDHHI				IAML		07 11 06.5	
	comp=N,5μm,0.2s						
NPH	**North Pit**	**0.03**	**94**		Pg	07 11 05.2	+0.2
UWB	**Uwekahuna B**	**0.04**	**75**		Pg	07 11 05.5	+0.4
UWB	**Uwekahuna B**	**0.04**	**75**	IAML		07 11 06.6	
	comp=N,3μm,0.5s						
UWB				IAML		07 11 06.7	
	comp=E,3μm,0.3s						
RIM	**Rim**	**0.04**	**115**		Pg	07 11 05.3	+0.2
RIM				IAML		07 11 06.6	
	comp=N,2μm,0.4s						
RIM				IAML		07 11 07.1	
	comp=E,2μm,0.2s						
SBLHI	**Steaming Bluff**	**0.05**	**75**		Pg	07 11 05.6	+0.4
SBLHI	**Steaming Bluff**	**0.05**	**75**	IAML		07 11 06.9	
	comp=N,4μm,0.2s						
SBLHI				IAML		07 11 07.0	
	comp=E,5μm,0.2s						
KKO	**Keanakako`i**	**0.05**	**109**		Pg	07 11 05.8	+0.5
KKO	**Keanakako`i**	**0.05**	**109**	IAML		07 11 06.9	
	comp=N,939nm,0.6s						
KKO				IAML		07 11 07.3	
	comp=E,2μm,0.3s						
BYL	**Byron's Ledge**	**0.05**	**93**		Pg	07 11 05.5	+0.2
BYL				IAML		07 11 07.3	
	comp=E,2μm,0.4s						
BYL				IAML		07 11 07.4	
	comp=N,2μm,0.2s						
HATHI	**Halema'uma'u T**	**0.05**	**81**		Pg	07 11 05.9	+0.6
HATHI				IAML		07 11 07.1	
	comp=N,3μm,0.3s						
HATHI				IAML		07 11 07.4	
	comp=E,4μm,0.2s						
RSD	**Rainshed**	**0.06**	**37**		Pg	07 11 05.8	+0.5
RSD	**Rainshed**	**0.06**	**37**	IAML		07 11 07.8	
	comp=E,3μm,0.1s						
RSD				IAML		07 11 07.9	
	comp=N,4μm,0.1s						
MLH	**Mauna Loa**	**0.10**	**321**		Pg	07 11 06.8	+0.7
MLH	**Mauna Loa**	**0.10**	**321**	IAML		07 11 09.3	
	comp=E,10μm,0.4s						
MLH				IAML		07 11 09.3	
	comp=N,5μm,0.2s						
PUH	**Pauahi**	**0.10**	**113**		Pg	07 11 06.3	+0.3
HLP	**Hilina Pali**	**0.12**	**176**		Pg	07 11 06.8	+0.5
HLP				IAML		07 11 09.3	
	comp=N,2μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.14**	**104**		Pg	07 11 07.2	+0.3
STCH	**Steam Cracks**	**0.18**	**99**		Pg	07 11 07.2	-0.4
NPOC	**North of Pu'u**	**0.20**	**96**		Sg	07 11 11.2	+0.8
NPOC	**North of Pu'u**	**0.20**	**96**	Pg	Pg	07 11 07.6	-0.2
NPOC	**North of Pu'u**	**0.20**	**96**	IAML		07 11 11.4	
	comp=E,533nm,0.3s						
NPOC				IAML		07 11 11.5	
	comp=N,736nm,0.5s						
JCUZ	**Jacuzzi**	**0.21**	**98**		Sg	07 11 11.5	+0.9
HMH	**Humu'ula Sheep**	**0.24**	**320**		Pg	07 11 09.2	+0.5
HMH					Sg	07 11 13.1	+1.2
HMH	**Humu'ula Sheep**	**0.24**	**320**	IAML		07 11 13.3	
	comp=E,1μm,0.3s						
HMH				IAML		07 11 16.9	
	comp=N,2μm,0.5s						
MWH	**Moku'aweowe**	**0.27**	**285**		Pg	07 11 09.4	+0.1
MWH	**Moku'aweowe**	**0.27**	**285**	IAML		07 11 13.4	
	comp=E,908nm,0.3s						
MWH				IAML		07 11 14.5	
	comp=N,898nm,0.3s						
KHU	**Kahuku**	**0.33**	**239**		Pg	07 11 10.2	-0.1
KHU	**Kahuku**	**0.33**	**239**	IAML		07 11 15.2	
	comp=N,350nm,0.1s						
KHU				IAML		07 11 15.2	
	comp=E,427nm,0.1s						
ALEP	**Alea Permanent**	**0.33**	**292**		Pg	07 11 10.3	-0.2
ALEP					Sg	07 11 15.2	+0.3
POHA	**Pohakuloa**	**0.40**	**329**	Pg	Pg	07 11 11.9	+0.3
HUH	**Hualalai**	**0.56**	**299**		Pg	07 11 14.8	+0.1
CPH	**Captain Cook**	**0.57**	**277**		Pg	07 11 14.3	-0.6

MEX ***05*** *07:33:19.8±0.9, 15°.19N×93°.07W, h82km±9km, MD4.1*
IDC ***05*** *07:33:20.4±3.5, 15°.41N×92°.94W, h63km±19km, mb3.1/3, mbtmp3.4/5, Error ellipse: s-maj=89.5km s-min=14.8km az=30.0*
CATAC ***05*** *07:33:21.6±0.8, 15°.26N×92°.94W, h70km±11km, ML3.9*

ISC 05 07:33:19.3±0.9, **15°.16N**±0°.05×**93°.12W**±0°.03, **h72**km±8km, **n39**, **σ2s14/71**, **mb3.5/3**, **1D**, **Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**0.55**	**350**	*e*P	**Pn**	**07 33 32.8**	**0.0**
PCIG				*e*S	**Sn**	**07 33 43.0**	**+0.3**
PATR	**El Naranjo**	**0.86**	**93**	*e*P	**Pn**	**07 33 35.6**	**-0.9**
PATR				*e*S	**Sn**	**07 33 47.8**	**-1.4**
THIG		**0.87**	**107**	*e*P	**Pn**	**07 33 35.5**	**-0.8**
THIG				*e*S	**Sn**	**07 33 47.6**	**-1.2**
CHUJ	**Union Juarez**	**0.98**	**94**	*e*P	**Pn**	**07 33 37.1**	**-0.9**
CHUJ				*e*S	**Sn**	**07 33 50.6**	**-1.2**
SMSP	**San Marcos**	**1.31**	**98**	*e*P	**Pn**	**07 33 42.1**	**-0.1**
SMSP				*e*S	**Sn**	**07 33 58.7**	**-0.6**
SMSP	**San Marcos**	**1.31**	**98**	*i* P	**Pn**	**07 33 41.5**	**-0.6**
SMSP				*i* S	**Sn**	**07 33 58.9**	**-0.4**
SMSP				IAML		07 34 27.0	
	comp=Z,9μm,1.0s						
CARR	**Arriaga**	**1.32**	**325**	*i* P	**Pn**	**07 33 43.1**	**+1.1**
CARR				*i* S	**Sn**	**07 34 00.4**	**+1.3**
CCIG	**Comitan**	**1.47**	**40**	*e*P	**Pn**	**07 33 44.6**	**+0.6**
CCIG				*e*S	**Sn**	**07 34 01.9**	**-0.7**
CCIG	**Comitan**	**1.47**	**40**	*i* P	**Pn**	**07 33 44.3**	**+0.2**
CCIG				*i* S	**Sn**	**07 34 00.9**	**-1.8**
CCIG				IAML		07 34 11.0	
	comp=Z,700nm,1.0s						
RTAL	**Retalhuleu**	**1.52**	**114**	*i* P	**Pn**	**07 33 44.0**	**-0.6**
RTAL				*e*S	**Sn**	**07 34 02.4**	**-1.3**
RTAL	**Retalhuleu**	**1.52**	**114**	*i* P	**Pn**	**07 33 44.7**	**+0.1**
RTAL				*i* S	**Sn**	**07 34 02.6**	**-1.1**
RTAL				IAML		07 34 05.3	
	comp=Z,880nm,1.0s						
HUEH	**Huehuetenango**	**1.57**	**84**	*e*P	**Pn**	**07 33 45.4**	**-0.1**
HUEH				⇓*e*S	**Sn**	**07 34 05.2**	**-0.1**
HUEH	**Huehuetenango**	**1.57**	**84**	*i* P	**Pn**	**07 33 45.7**	**+0.2**
HUEH				*i* S	**Sn**	**07 34 06.9**	**+1.6**
HUEH				IAML		07 34 16.3	
	comp=Z,2μm,1.0s						
TGIG		**1.61**	**0**	*e*P	**Pn**	**07 33 45.0**	**-0.8**
TGIG				*e*S	**Sn**	**07 34 03.2**	**-2.7**
NILT	**Santiago Nilte**	**2.00**	**314**	*i* P	**Pn**	**07 33 51.2**	**+0.1**
NILT				*e*S	**Sn**	**07 34 16.1**	**+0.9**
UXUV	**UXUV**	**2.36**	**336**	*e*P	**Pn**	**07 33 56.3**	**+0.4**
UXUV				*e*S	**Sn**	**07 34 23.4**	**-0.5**
CMIG	**Matias Romero**	**2.56**	**319**	P	**Pn**	**07 33 58.8**	**+0.2**
	comp=Z,12nm,0.3s,baz=159,slow=12,SNR=29						
CMIG				S	**Sn**	**07 34 28.7**	**0.0**
	comp=Z,94nm,0.5s,baz=131,slow=17,SNR=16						
CMIG	**Matias Romero**	**2.56**	**319**	*e*P	**Pn**	**07 33 58.8**	**+0.2**
CMIG				*e*S	**Sn**	**07 34 28.6**	**-0.1**
APG	**El Apazote**	**2.57**	**93**	P	**Pn**	**07 33 58.0**	**-1.0**
	comp=Z,1.6nm,0.5s,baz=197,slow=13,SNR=13						
APG				S	Sn	07 34 18.7	-11
	comp=Z,5.1nm,0.6s,baz=70,slow=20,SNR=15						
HUIG	**Huatulco**	**2.94**	**282**	*e*P	**Pn**	**07 34 03.9**	**+0.1**
HUIG				*e*S	**Sn**	**07 34 35.7**	**-2.3**
NUBE	**Las Nubes**	**3.47**	**111**	*i* P	**Pn**	**07 34 11.9**	**+0.8**
NUBE				*i* S	**Sn**	**07 34 50.7**	**-0.5**
NUBE				IAML		07 34 57.5	
	comp=Z,88nm,1.0s						
PETF	**Flores**	**3.59**	**60**	*e*P	**Pn**	**07 34 12.0**	**-0.6**
PETF				*e*S	**Sn**	**07 34 49.2**	**-4.5**
PETF	**Flores**	**3.59**	**60**	*i* P	**Pn**	**07 34 12.3**	**-0.2**
PETF				IAML		07 34 13.8	
	comp=Z,320nm,1.0s						
PETF				*i* S	**Sn**	**07 34 50.4**	**-3.3**
NEUV	**Arroyo Zacate**	**3.61**	**315**	*e*P	**Pn**	**07 34 13.9**	**+1.0**
NEUV				*e*S	**Sn**	**07 34 55.0**	**+0.6**
CEVE	**Cerro Verde**	**3.64**	**111**	*i* P	**Pn**	**07 34 14.0**	**+0.5**
CEVE				*i* S	**Sn**	**07 34 56.5**	**+1.1**
CEVE				IAML		07 35 03.5	
	comp=Z,160nm,1.0s						
MTO3	**Montecristo**	**3.72**	**101**	*i* P	**Pn**	**07 34 14.0**	**-0.6**
MTO3				IAML		07 35 26.2	
	comp=Z,53nm,1.0s						
JAYA	**Jayaque - finc**	**3.86**	**112**	*i* P	**Pn**	**07 34 17.4**	**+0.9**
JAYA				*i* S	**Sn**	**07 34 59.9**	**-0.9**
JAYA				IAML		07 35 04.8	
	comp=Z,310nm,1.0s						
VHO	**Vista Hermosa**	**3.96**	**299**	*e*P	**Pn**	**07 34 22.6**	**+4.8**
VHO				*e*S	**Sn**	**07 35 00.1**	**-3.0**
PMON	**Piamonte**	**3.96**	**111**	*i* P	**Pn**	**07 34 18.4**	**+0.6**
PMON				IAML		07 35 16.1	
	comp=Z,120nm,1.0s						
YOIG	**Yosondua**	**4.57**	**292**	*e*P	**Pn**	**07 34 28.5**	**+2.2**
YOIG				*e*S	**Sn**	**07 35 12.3**	**-6.1**
TOIG	**Toxpalan**	**4.77**	**308**	*e*P	**Pn**	**07 34 30.1**	**+1.2**
TOIG				*e*S	**Sn**	**07 35 17.9**	**-5.1**
TXIG	**Tlaxiaco**	**4.92**	**296**	*e*P	**Pn**	**07 34 33.6**	**+2.5**
TXIG				*e*S	**Sn**	**07 35 23.7**	**-3.2**
PNIG	**Pinotepa**	**4.97**	**285**	*e*P	**Pn**	**07 34 31.8**	**+0.3**
PNIG				*e*S	**Sn**	**07 35 20.2**	**-7.4**
JAUV	**Jalcomulco**	**5.46**	**320**	*e*P	**Pn**	**07 34 37.8**	**-0.5**
JAUV				*e*S	**Sn**	**07 35 32.5**	**-7.3**
FTIG	**Fresnillo de T**	**5.53**	**300**	*e*P	**Pn**	**07 34 38.2**	**-0.9**
FTIG				*e*S	**Sn**	**07 35 41.0**	**-0.5**
TXAR	**Lajitas Array**	**17.14**	**327**	P	**P**	**07 37 15.6**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=149,slow=13,SNR=9.5						
ANMO	**Albuquerque**	**23.06**	**331**	P	**P**	**07 38 19.5**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=140,slow=5.4,SNR=4.0						
	comp=Z,0.5nm,0.5s						
NVAR	**Mina Array Bea**	**32.09**	**321**	P	**P**	**07 39 41.2**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=122,slow=9.7,SNR=5.8						
	comp=Z,0.5nm,0.6s						
ILAR	**Eielson Array**	**61.35**	**337**	P	**P**	**07 43 28.0**	**+0.6**
	comp=Z,0.4nm,0.9s,baz=134,slow=5.2,SNR=4.3						
	comp=Z,0.4nm,0.9s						

MOS ***05*** *07:50:12.5±0.7, 55°.77N×110°.21E, h12km, mb3.8/1, Error ellipse: s-maj=13.3km s-min=8.1km az=66.6*
BYKL ***05*** *07:50:13.2±0.1, 55°.73N×110°.19E, h8km±2km*
IDC ***05*** *07:50:16.9±5.2, 55°.72N×109°.45E, h0km, mb3.5/1, mbtmp3.7/5, ML3.3/4, MS4.1/1, Error ellipse: s-maj=65.2km s-min=28.2km az=69.0*

ISC 05 07:50:12.0±1.0, **55°.73N**±0°.03×**110°.27E**±0°.02, **h2**km±8km, **n58**, **σ2s57/134**, **8C-1D**, **Lake Baykal region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZB	**Nizh Angarsk**	**0.41**	**276**	⇑*i*Pg	**Pg**	**07 50 20.3**	**+0.3**
NIZB				*e*Sg	**Sg**	**07 50 25.9**	**+0.6**
NIZB				Pmax			
	675nm,0.3s						
NIZB				Smax			
	6μm,0.5s						
KMO	**Kumora**	**0.55**	**73**	⇑*i*Pg	**Pg**	**07 50 23.7**	**+1.2**
KMO				*e*Sg	**Sg**	**07 50 31.6**	**+2.0**
KMO				Pmax			
	242nm,0.3s						
KMO				Smax			
	3μm,1.0s						
KMO	**Kumora**	**0.55**	**73**	⇑*i*PG	**Pg**	**07 50 23.6**	**+1.1**
KMO				*e*		07 50 31.6	
KMO				pmax	pmax		
	comp=Z,234nm,0.2s						
KMO				smax	smax		
	comp=N,3μm,1.1s						
YOA	**Uoyan**	**0.91**	**63**	*e*Pg	**Pb**	**07 50 30.7**	**+0.1**
YOA				*e*Sg	**Sb**	**07 50 43.1**	**-0.1**
YOA				Pmax			
	comp=N,354nm,0.2s						
YOA				Smax			
	comp=N,2μm,0.8s						
YOA	**Uoyan**	**0.91**	**63**	*e*PG	**Pb**	**07 50 30.7**	**+0.1**
YOA				*e*		07 50 43.1	
YOA				pmax	pmax		
	comp=Z,336nm,0.2s						
YOA				smax	smax		
	comp=E,1μm,0.3s						
YLYR	**Ulyunkhan**	**0.99**	**149**	⇑*i*Pg	**Pb**	**07 50 31.7**	**-0.3**
YLYR				*e*Sg	**Sb**	**07 50 46.2**	**+0.6**
YLYR				*e*Sb	**Sn**	**07 50 51.1**	**+3.4**
YLYR				Pmax			
	comp=E,353nm,0.4s						
YLYR				max			
	comp=E,903nm,0.1s						
YLYR	**Ulyunkhan**	**0.99**	**149**	⇑*i*PG	**Pb**	**07 50 31.7**	**-0.3**
YLYR				*e*		07 50 45.5	
YLYR				pmax	pmax		
	comp=Z,354nm,0.3s						
YLYR				smax	smax		
	comp=N,891nm,0.1s						
SVKR	**Severomuysk**	**1.89**	**77**	*e*Pg	**Pg**	**07 50 48.4**	**+0.2**
SVKR				*e*Sg	**Sg**	**07 51 13.9**	**+1.2**
SVKR				*e*SgSg	**SnSn**	**07 51 20.5**	**+0.1**
SVKR				Pmax			
	comp=N,278nm,0.4s						
SVKR				Smax			
	comp=N,3μm,0.6s						
UKT	**Uakit**	**1.92**	**96**	⇑*i*Pg	**Pb**	**07 50 48.0**	**+0.2**
UKT				*e*		07 50 51.4	
UKT				*e*Sg	**Sg**	**07 51 14.1**	**+0.5**
UKT				Pmax			
	comp=N,320nm,0.9s						
UKT				Smax			
	comp=N,1μm,0.7s						
UKT	**Uakit**	**1.92**	**96**	⇑*i*PN	**Pb**	**07 50 48.0**	**+0.2**
UKT				*e*		07 51 14.7	
UKT				pmax	pmax		
	comp=Z,287nm,0.5s						
UKT				smax	smax		
	comp=N,1μm,0.4s						
SYVR	**Suvo**	**2.08**	**184**	*e*Pg	**Pb**	**07 50 50.7**	**+0.2**
SYVR				*e*		07 50 52.0	
SYVR				*e*Sg	**Sb**	**07 51 18.7**	**+1.9**
SYVR				Pmax			
	comp=N,230nm,0.6s						
SYVR				Smax			
	comp=N,4μm,0.7s						
SYVR	**Suvo**	**2.08**	**184**	⇑*i*PN	**Pb**	**07 50 50.6**	**+0.1**
SYVR				*e*		07 51 19.0	
SYVR				pmax	pmax		
	comp=Z,235nm,0.6s						
SYVR				smax	smax		
	comp=E,4μm,0.7s						
OGRR	**Ongreny**	**2.60**	**218**	*e*Pn	**Pn**	**07 50 56.3**	**+1.1**
OGRR				*e*Pg	**Pb**	**07 51 00.3**	**+0.9**
OGRR				*e*		07 51 28.5	
OGRR				*e*Sg	**Sb**	**07 51 33.0**	**+1.1**
OGRR				Pmax			
	comp=E,68nm,0.4s						
OGRR				Smax			
	comp=E,567nm,0.4s						
OGRR	**Ongreny**	**2.60**	**218**	*e*PN	**Pn**	**07 50 56.4**	**+1.2**
OGRR				*e*		07 51 00.4	
OGRR				*e*		07 51 33.1	
OGRR				pmax	pmax		
	comp=Z,67nm,0.5s						
OGRR				smax	smax		
	comp=E,568nm,0.5s						
MXMB	**Maximikha**	**2.63**	**200**	*e*Pg	**Pb**	**07 51 01.5**	**+1.7**
MXMB				*e*Sn	**Sn**	**07 51 28.3**	**+0.4**
MXMB				*e*Sg	**Sg**	**07 51 35.5**	**-0.9**
UZR	**Uzur**	**2.83**	**213**	*e*Pn	**Pn**	**07 50 59.5**	**+1.3**
UZR				*e*Pg	**Pb**	**07 51 03.3**	**+0.1**
UZR				*e*		07 51 35.6	
UZR				*e*Sg	**Sb**	**07 51 39.8**	**+1.5**
UZR				Pmax			
	comp=E,53nm,0.4s						
UZR				Smax			
	comp=E,1μm,0.6s						
BOD	**Bodaibo**	**2.93**	**43**	*e*Pn	**Pn**	**07 51 01.1**	**+1.4**
BOD				*e*Pg	**Pb**	**07 51 06.1**	**+1.1**
BOD				*e*Sn	**Sn**	**07 51 35.8**	**+0.3**
BOD				*e*Sg	**Sg**	**07 51 44.3**	**-1.9**
BOD				Pmax			
	comp=E,40nm,0.7s						
BOD				Smax			
	comp=E,347nm,0.8s						
BOD	**Bodaibo**	**2.93**	**43**	*e*PN	**Pn**	**07 51 00.7**	**+1.0**
BOD				*e*		07 51 06.4	
BOD				*e*		07 51 44.7	
BOD				pmax	pmax		
	comp=Z,40nm,0.5s						
BOD				smax	smax		
	comp=N,303nm,0.7s						
GORB	**Goryachinsk**	**2.98**	**204**	*e*Pn	**Pn**	**07 51 01.1**	**+0.7**
GORB				*e*Pg	**Pb**	**07 51 06.3**	**+0.4**
GORB				*e*Sn	**Sn**	**07 51 36.2**	**-0.6**
GORB				*e*Sg	**Sb**	**07 51 45.0**	**+2.2**
NLYR	**Nelyaty**	**3.13**	**74**	*e*Pn	**Pn**	**07 51 04.2**	**+1.8**
NLYR				*e*Pg	**Pb**	**07 51 10.6**	**+2.1**
NLYR				*e*Sn	**Sn**	**07 51 40.6**	**+0.1**
NLYR				*e*Sg	**Sg**	**07 51 51.5**	**-1.2**
NLYR				*e*		07 52 07.0	
NLYR				Pmax			
	comp=N,89nm,0.8s						
NLYR				Smax			
	comp=N,463nm,1.2s						
NLYR	**Nelyaty**	**3.13**	**74**	*e*PN	**Pn**	**07 51 04.3**	**+1.8**
NLYR				*e*		07 51 11.2	
NLYR				*e*		07 51 50.4	
NLYR				pmax	pmax		
	comp=Z,89nm,0.8s						
NLYR				smax	smax		
	comp=N,464nm,1.4s						
KELR	**Kotokel**	**3.24**	**204**	*e*Pn	**Pn**	**07 51 04.4**	**+0.5**
KELR				*e*Pg	**Pb**	**07 51 10.4**	**+0.1**
KELR				*e*Sn	**Sn**	**07 51 41.0**	**-2.1**
KELR				*e*Sg	**Sb**	**07 51 53.1**	**+2.9**
TRG	**Tyrgan**	**3.76**	**219**	*e*Pn	**Pn**	**07 51 12.1**	**+1.0**
TRG				*e*		07 51 16.2	
TRG				*e*Pg	**Pb**	**07 51 20.5**	**+1.3**
TRG				*e*Sn	**Sn**	**07 51 55.6**	**-0.4**
TRG				*e*Sg	**Sb**	**07 52 08.2**	**+3.0**
TRG				Pmax			
	comp=N,51nm,0.6s						
TRG				Smax			
	comp=N,282nm,0.7s						
TRG	**Tyrgan**	**3.76**	**219**	⇓*i*PN	**Pn**	**07 51 12.3**	**+1.2**
TRG				*e*		07 51 20.4	
TRG				*e*S	**Sn**	**07 51 55.3**	**-0.7**
TRG				*e*		07 52 08.3	
TRG				pmax	pmax		
	comp=Z,41nm,0.5s						
TRG				smax	smax		
	comp=E,282nm,0.3s						
VTMR	**Vitim**	**3.92**	**17**	*e*Pg	**Pg**	**07 51 24.5**	**-2.6**
VTMR				*e*		07 52 01.6	
VTMR				*e*Sg	**Sg**	**07 52 15.1**	**-2.7**
VTMR				*e*		07 52 31.0	
UUDB	**Ulan-Yde**	**4.17**	**203**	*e*Pn	**Pn**	**07 51 16.7**	**0.0**
UUDB				*e*Pg	**Pb**	**07 51 27.8**	**+1.7**
UUDB				*e*		07 51 32.1	
UUDB				*e*		07 51 59.1	
UUDB				*e*Sn	**Sn**	**07 52 03.8**	**-2.1**
UUDB				*e*Sg	**Sb**	**07 52 21.5**	**+4.7**
UUDB				max			
	comp=E,34nm,0.5s						
UUDB				Smax			
	comp=E,192nm,0.7s						
CIT	**Chita**	**4.19**	**151**	*e*Pg	**Pb**	**07 51 29.3**	**+2.8**
CIT				*e*Sg	**Sg**	**07 52 24.4**	**-2.2**
CIT				Pmax			
	comp=E,156nm,0.7s						
CIT				Smax			
	comp=E,336nm,0.3s						
CIT	**Chita**	**4.19**	**151**	*e*PN	**Pn**	**07 51 17.8**	**+0.8**
CIT				*e*		07 51 28.7	
CIT				*e*S	**Sn**	**07 52 05.8**	**-0.8**
CIT				*e*		07 52 21.9	
CIT				pmax	pmax		
	comp=Z,156nm,0.8s						
CIT				smax	smax		
	comp=E,271nm,0.4s						
FFNB	**Fofonovo**	**4.23**	**211**	*e*Pn	**Pn**	**07 51 19.2**	**+1.6**
FFNB				*e*Pg	**Pb**	**07 51 28.3**	**+1.1**
FFNB				*e*Sn	**Sn**	**07 52 05.0**	**-2.5**
FFNB				*e*Sg	**Sg**	**07 52 24.2**	**-3.7**
STDB	**Stepnoy Dvoret**	**4.25**	**215**	*e*Pg	**Pb**	**07 51 30.2**	**+2.8**
STDB				*e*Sn	**Sn**	**07 52 07.4**	**-0.5**
STDB				*e*Sg	**Sg**	**07 52 25.1**	**-3.3**
KAB	**Kabansk**	**4.26**	**212**	*e*Pg	**Pb**	**07 51 28.5**	**+0.8**
KAB				*e*Sg	**Sg**	**07 52 24.8**	**-4.0**
KAB				Pmax			
	comp=E,346nm,0.4s						
KAB				Smax			
	comp=E,524nm,1.3s						
HRMR	**Khuramsha**	**4.56**	**207**	*e*Pn	**Pn**	**07 51 22.8**	**+0.8**
HRMR				*e*Pg	**Pb**	**07 51 35.1**	**+2.4**
HRMR				*e*		07 51 38.2	
HRMR				*e*Sn	**Sn**	**07 52 13.6**	**-2.0**
HRMR				*e*Sg	**Sb**	**07 52 33.5**	**+5.4**
HRMR				max			
	comp=E,71nm,0.7s						
HRMR				Smax			
	comp=E,686nm,0.7s						
CRS	**Chara**	**4.61**	**72**	*e*Pn	**Pn**	**07 51 24.3**	**+1.6**
CRS				*e*Pg	**Pb**	**07 51 37.1**	**+3.6**
CRS				*e*Sg	**Sg**	**07 52 37.2**	**-2.6**
CRS				Pmax			
	comp=E,82nm,1.1s						
CRS				Smax			
	comp=E,197nm,1.6s						
CRS	**Chara**	**4.61**	**72**	*e*PN	**Pg**	**07 51 38.3**	**-1.9**
CRS				*e*		07 52 38.3	
CRS				pmax	pmax		
	comp=Z,78nm,0.8s						
CRS				smax	smax		
	comp=N,155nm,1.4s						
BGT	**Bolshoye Golou**	**4.68**	**220**	*e*Pn	**Pn**	**07 51 23.9**	**+0.2**

LSTR				Pmax				
	comp=E,19nm,0.9s							
LSTR				Smax				
	comp=E,143nm,1.4s							
IVK	**Ivanovka**	**5.25**	**224**	*e*Pn	**Pn**	**07 51 31.7**	**+0.2**
IVK				*e*		07 51 36.5	
IVK				*e*Pg	**Pb**	**07 51 47.2**	**+2.7**
IVK				*e*Sn	**Sn**	**07 52 31.0**	**-1.6**
IVK				*e*Sg	**Sb**	**07 52 53.9**	**+6.0**
IVK				Pmax			
	comp=E,19nm,0.8s						
IVK				Smax			
	comp=E,146nm,1.3s						
KHNR	**Khani**	**5.53**	**74**	*e*Sg	**Sg**	**07 53 05.4**	**-4.2**
TLY	**Talaya**	**5.65**	**227**	*e*Pn	**Pn**	**07 51 36.7**	**-0.3**
TLY				*e*Sn	**Sn**	**07 52 39.8**	**-2.7**
TLY				*e*Sg	**Sg**	**07 53 06.7**	**-6.7**
TLY				*e*		07 53 11.9	
TLY				max			
	comp=E,16nm,0.7s						
TLY				max			
	comp=E,128nm,1.4s						
TUP	**Tupik**	**5.71**	**99**	*e*Pn	**Pn**	**07 51 39.0**	**+1.1**
TUP				*e*Pg	**Pb**	**07 51 56.4**	**+4.0**
TUP				*e*Sn	**Sn**	**07 52 42.5**	**-1.5**
TUP				*e*Sg	**Sg**	**07 53 11.8**	**-3.6**
TUP				Pmax			
	comp=E,22nm,1.5s						
TUP				Smax			
	comp=E,319nm,0.9s						
TUP	**Tupik**	**5.71**	**99**	*e*PN	**Pn**	**07 51 38.7**	**+0.8**
TUP				*e*		07 51 55.7	
TUP				*e*S	**Sn**	**07 52 44.6**	**+0.6**
TUP				*e*		07 53 12.5	
TUP				pmax	pmax		
	comp=Z,15nm,0.7s						
TUP				smax	smax		
	comp=N,317nm,0.9s						
ARS	**Arshan**	**6.01**	**234**	*e*Pn	**Pn**	**07 51 42.2**	**+0.2**
ARS				max		07 51 42.9	
	comp=N,59nm,0.6s						
ARS				*e*		07 51 54.2	
ARS				*e*Pg	**Pb**	**07 52 00.3**	**+2.8**
ARS				*e*Sn	**Sn**	**07 52 47.7**	**-3.8**
ARS				*e*Sg	**Sb**	**07 53 17.0**	**+7.1**
ARS				Smax			
	comp=N,97nm,2.2s						
KPC	**Khapcheranga**	**6.17**	**167**	*e*Pn	**Pn**	**07 51 45.4**	**+1.2**
KPC				*e*Pg	**Pb**	**07 52 04.2**	**+4.0**
KPC				*e*Sn	**Sn**	**07 52 52.4**	**-2.9**
KPC				*e*		07 53 04.4	
KPC				*e*Sg	**Sg**	**07 53 24.2**	**-5.8**
KPC				Pmax			
	comp=N,21nm,0.7s						
KPC				Smax			
	comp=N,164nm,1.2s						
YKLR	**Yuktali**	**6.42**	**78**	*e*Sg	**Sg**	**07 53 31.7**	**-6.3**
ZAK	**Zakamensk**	**6.81**	**221**	*e*Pn	**Pn**	**07 51 54.1**	**+1.0**
ZAK				*e*		07 52 09.4	
ZAK				max		07 52 33.8	
	comp=N,15nm,1.3s						
ZAK				*e*Sg	**Sg**	**07 53 43.1**	**-7.6**
ZAK				Smax			
	comp=N,106nm,1.4s						
ZAK	**Zakamensk**	**6.81**	**221**	*e*PN	**Pn**	**07 51 54.0**	**+1.0**
ZAK				*e*S	Sg	07 53 42.7	-8.0
ZAK				smax	smax		
	comp=N,93nm,0.8s						
MOY	**Mondy**	**6.85**	**237**	*e*Pn	**Pn**	**07 51 55.3**	**+1.8**
MOY				*e*		07 52 03.3	
MOY				*e*Sn	**Sn**	**07 53 09.3**	**-2.8**
MOY				*e*Sg	Sg	07 53 43.7	-8.1
MOY				max			
	comp=N,80nm,1.0s						
MOY				Smax			
	comp=N,192nm,1.4s						
MOY	**Mondy**	**6.85**	**237**	*e*PN	**Pn**	**07 51 55.4**	**+1.9**
MOY				*e*		07 52 16.7	
MOY				*e*S	**Sn**	**07 53 09.5**	**-2.6**
MOY				*e*		07 53 43.8	
MOY				pmax	pmax		
	comp=Z,21nm,1.2s						
MOY				smax	smax		
	comp=E,192nm,1.4s						
ORL	**Orlik**	**6.93**	**247**	*e*Pn	**Pn**	**07 51 56.1**	**+1.4**
ORL				*e*		07 52 03.3	
ORL				*e*Pg	**Pb**	**07 52 16.9**	**+3.8**
ORL				*e*Sn	**Sn**	**07 53 10.5**	**-3.6**
ORL				*e*Sg	Sg	07 53 46.2	-8.2
ORL				max			
	comp=E,29nm,0.8s						
ORL				Smax			
	comp=E,93nm,1.5s						
ORL	**Orlik**	**6.93**	**247**	*e*PN	**Pn**	**07 51 55.9**	**+1.2**
ORL				*e*		07 52 17.7	
ORL				*e*S	**Sn**	**07 52 12.2**	**-1.9**
ORL				*e*		07 53 47.1	
ORL				pmax	pmax		
	comp=Z,30nm,0.7s						
ORL				smax	smax		
	comp=N,95nm,1.3s						
CLNS	**Chul'man**	**8.21**	**76**	*e*Sn	**Sn**	**07 53 41.5**	**-4.0**
CLNS				*e*Sg	**Sg**	**07 54 28.1**	**-7.4**
CLNS				*e*		07 54 43.4	
SONM	**Songino Array**	**8.26**	**198**	Pn	**Pn**	**07 52 16.5**	**+3.5**
	comp=N,0.3nm,0.3s,baz=18,slow=9.7,SNR=2.7						
SONM				Pg	Pg	07 52 45.8	-4.4
	comp=N,0.6nm,0.3s,baz=10,slow=16,SNR=5.0						
SONM				Lg	Lg	07 54 34.0	
	comp=N,3.7nm,0.3s,baz=13,slow=29,SNR=16						
	comp=N,0.9nm,0.4s						
ZALV	**Zalesovo Bam**	**14.75**	**274**	Pn	**Pn**	**07 53 42.0**	**+0.5**
	comp=N,0.2nm,0.3s,baz=68,slow=11,SNR=3.6						
ZALV				Lg	Lg	07 57 50.5	
	comp=N,0.2nm,0.3s,baz=164,slow=27,SNR=1.5						
ZALV				LR	LR	07 58 40.6	
	comp=N,724nm,18.4s,baz=284,slow=35						
	comp=N,0.6nm,0.3s						
KURK	**Kurchatov**	**19.50**	**268**	P	**Pn**	**07 54 41.2**	**-0.1**
MKAR	**Makanchi Array**	**19.54**	**255**	P	**Pn**	**07 54 41.2**	**-0.8**
	comp=N,0.3nm,0.3s,baz=62,slow=11,SNR=26						
	comp=N,2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**19.59**	**268**	P	**Pn**	**07 54 41.2**	**-1.3**
	comp=N,0.1nm,0.3s,baz=67,slow=12,SNR=8.2						
	comp=N,2.0nm,0.7s						
BVAR	**Borovoye Array**	**23.16**	**280**	P	**P**	**07 55 19.2**	**-0.4**
	comp=N,1.1nm,0.6s,baz=82,slow=10,SNR=4.0						
	comp=N,1.1nm,0.6s						

*NEIC **05** 07:53:09.6±0.6, 19°.33N±0°.02×155°.22W±0°.02, h5km±1km, Error ellipse: s-maj=3.7km s-min=2.6km az=314.0*
HVO 05 07:53:09.1±0.5, 19°.31N±0°.01×155°.20W±0°.02, h7km±2km, ML2.5/24, ML2.6/46(NEIC), Error ellipse: s-maj=2.9km s-min=1.2km az=116.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**346**		Pg	07 53 10.9	-0.1
PUH				IAML		07 53 12.8	
	comp=N,3μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.07**	**24**		Pg	07 53 11.2	+0.1
STCH	**Steam Cracks**	**0.10**	**45**		Pg	07 53 11.4	-0.1
STCH				IAML		07 53 13.6	
	comp=E,3μm,0.2s						
STCH				IAML		07 53 14.0	
	comp=N,3μm,0.1s						
HLP	**Hilina Pali**	**0.10**	**260**		Pg	07 53 11.8	+0.3
HLP				IAML		07 53 14.5	
	comp=N,4μm,0.2s						
KKO	**Keanakako`i**	**0.10**	**324**		Pg	07 53 11.6	0.0
KKO				IAML		07 53 13.9	
	comp=E,3μm,0.4s						
KKO				IAML		07 53 14.8	
	comp=N,3μm,0.7s						
RIM	**Rim**	**0.11**	**320**		Pg	07 53 11.8	+0.2
RIM				IAML		07 53 14.3	
	comp=N,4μm,0.3s						
BYL	**Byron's Ledge**	**0.11**	**330**		Pg	07 53 11.9	+0.2
BYL				IAML		07 53 14.3	
	comp=N,2μm,0.7s						
JCUZ	**Jacuzzi**	**0.12**	**53**		Pg	07 53 12.0	+0.2
NPOC	**North of Pu'u**	**0.12**	**47**		Pg	07 53 11.9	+0.2
NPOC				IAML		07 53 14.3	
	comp=N,4μm,0.5s						
NPOC				IAML		07 53 15.4	
	comp=E,2μm,0.5s						
SDHHI	**Sand Hill**	**0.12**	**311**		Pg	07 53 11.8	+0.1
SDHHI				IAML		07 53 14.4	
	comp=N,4μm,0.3s						
SDHHI				IAML		07 53 15.9	
	comp=E,2μm,0.4s						
HATHI	**Halema'uma'u T**	**0.12**	**332**		Pg	07 53 11.9	0.0
HATHI				IAML		07 53 14.8	
	comp=E,2μm,0.8s						
HATHI				IAML		07 53 16.1	
	comp=N,2μm,0.4s						
NPH	**North Pit**	**0.12**	**322**		Pg	07 53 11.7	-0.2
OBL	**Observatory Le**	**0.13**	**323**		Pg	07 53 12.1	+0.1
OBL	**Observatory Le**	**0.13**	**323**	IAML		07 53 15.2	
	comp=N,3μm,0.6s						
OBL				IAML		07 53 16.7	
	comp=E,4μm,0.5s						
SBLHI	**Steaming Bluff**	**0.13**	**331**		Pg	07 53 11.9	-0.1
SBLHI				IAML		07 53 14.4	
	comp=E,2μm,0.5s						
SBLHI				IAML		07 53 14.6	
	comp=N,2μm,0.3s						
WRMHI	**West Rim**	**0.13**	**315**		Pg	07 53 12.0	-0.1
WRMHI				IAML		07 53 16.2	
	comp=N,2μm,0.5s						
WRMHI				IAML		07 53 17.1	
	comp=E,3μm,0.3s						
UWB	**Uwekahuna B**	**0.13**	**327**		Pg	07 53 12.0	-0.1
UWE	**Uwekahuna**	**0.14**	**321**		Pg	07 53 12.1	0.0
UWE				IAML		07 53 15.3	
	comp=E,2μm,0.5s						
UWE				IAML		07 53 16.7	
	comp=N,1μm,0.7s						
RSD	**Rainshed**	**0.17**	**334**		Pg	07 53 12.4	-0.2
HTC	**Hot Caves**	**0.20**	**248**		Pg	07 53 14.2	+1.0
MLH	**Mauna Loa**	**0.25**	**316**		Pg	07 53 14.2	0.0
MLH				IAML		07 53 20.3	
	comp=N,1μm,0.2s						
HMH	**Humu'ula Sheep**	**0.39**	**317**		Pg	07 53 16.7	-0.2
KHU	**Kahuku**	**0.40**	**260**		Pg	07 53 17.0	0.0
KHU				IAML		07 53 23.5	
	comp=E,657nm,0.5s						
KHU				IAML		07 53 23.6	
	comp=N,675nm,0.5s						
MWH	**Moku'aweowe**	**0.41**	**295**		Pg	07 53 17.0	-0.3
ALEP	**Alea Permanent**	**0.48**	**299**		Pg	07 53 17.9	-0.6
POHA	**Pohakuloa**	**0.54**	**325**		Pg	07 53 19.0	-0.7
POHA	**Pohakuloa**	**0.54**	**325**		Sg	07 53 26.6	-0.2
CPH	**Captain Cook**	**0.70**	**285**		Pg	07 53 21.6	-1.0
HUH	**Hualalai**	**0.70**	**302**		Pg	07 53 21.5	-1.2

*NEIC **05** 07:55:16.4±2.7, 19°.56N±0°.01×154°.97W±0°.02, h5km±2km, Error ellipse: s-maj=3.3km s-min=3.1km az=230.0*
HVO 05 07:55:13.4±1.3, 19°.27N±0°.02×154°.76W±0°.03, h11km±5km, ML3.7/22, ML3.8/48(NEIC), Error ellipse: s-maj=4.7km s-min=2.2km az=117.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.25**	**329**		Pg	07 55 18.6	+0.1
PHO					Sg	07 55 22.2	+0.2
JOKA	**Jonika Flow**	**0.29**	**305**		Pg	07 55 19.0	-0.3
JOKA					Sg	07 55 23.3	+0.1
JCUZ	**Jacuzzi**	**0.35**	**290**		Pg	07 55 20.2	-0.2
JCUZ				IAML		07 55 26.3	
	comp=N,9μm,0.5s						
JCUZ				IAML		07 55 29.0	
	comp=E,8μm,0.4s						
JCUZ	**Jacuzzi**	**0.35**	**290**		Sg	07 55 25.3	+0.3
NPOC	**North of Pu'u**	**0.36**	**291**		Pg	07 55 20.5	0.0
NPOC				IAML		07 55 26.1	
	comp=E,13μm,0.4s						
NPOC				IAML		07 55 26.3	
	comp=N,12μm,0.6s						
NPOC	**North of Pu'u**	**0.36**	**291**		Sg	07 55 25.8	+0.4
STCH	**Steam Cracks**	**0.37**	**289**		Pg	07 55 20.4	-0.4
STCH				IAML		07 55 29.8	
	comp=N,8μm,0.5s						
STCH	**Steam Cracks**	**0.37**	**289**		Sg	07 55 26.0	+0.3
KNHH	**Kane Nui o Ham**	**0.41**	**286**		Pg	07 55 21.2	-0.3
PUH	**Pauahi**	**0.45**	**284**		Pg	07 55 21.8	-0.5
PUH				IAML		07 55 31.6	
	comp=N,9μm,0.7s						
PUH	**Pauahi**	**0.45**	**284**		Sg	07 55 28.2	0.0
BYL	**Byron's Ledge**	**0.50**	**287**		Pg	07 55 22.5	-0.7
BYL				IAML		07 55 32.3	
	comp=E,6μm,0.6s						
BYL				IAML		07 55 34.0	
	comp=N,6μm,0.7s						
BYL	**Byron's Ledge**	**0.50**	**287**		Sg	07 55 29.5	-0.3
KKO	**Keanakako`i**	**0.50**	**285**		Pg	07 55 22.6	-0.6
KKO	**Keanakako`i**	**0.50**	**285**		Sg	07 55 29.4	-0.5
KKO	**Keanakako`i**	**0.50**	**285**	IAML		07 55 38.1	
	comp=N,8μm,0.8s						
HATHI	**Halema'uma'u T**	**0.50**	**288**		Pg	07 55 22.5	-0.7
HATHI	**Halema'uma'u T**	**0.50**	**288**		Sg	07 55 29.4	-0.5
HATHI	**Halema'uma'u T**	**0.50**	**288**	IAML		07 55 36.9	
	comp=N,9μm,0.7s						
HATHI				IAML		07 55 41.9	
	comp=E,9μm,0.7s						
RIM	**Rim**	**0.51**	**285**		Pg	07 55 22.5	-0.8
RIM	**Rim**	**0.51**	**285**		Sg	07 55 29.4	-0.7
RIM	**Rim**	**0.51**	**285**	IAML		07 55 32.1	
	comp=E,7μm,0.4s						
SBLHI	**Steaming Bluff**	**0.51**	**288**		Pg	07 55 22.6	-0.8
SBLHI				IAML		07 55 32.8	
	comp=N,7μm,0.4s						
SBLHI				IAML		07 55 34.7	
	comp=E,6μm,0.3s						
SBLHI	**Steaming Bluff**	**0.51**	**288**		Sg	07 55 29.4	-0.8
NPH	**North Pit**	**0.52**	**286**		Pg	07 55 22.6	-0.9
UWB	**Uwekahuna B**	**0.52**	**288**		Pg	07 55 22.6	-1.0
UWB	**Uwekahuna B**	**0.52**	**288**		Sg	07 55 29.4	-1.0
OBL	**Observatory Le**	**0.52**	**287**		Pg	07 55 22.8	-0.8
HLP	**Hilina Pali**	**0.52**	**273**		Pg	07 55 23.2	-0.4
HLP				IAML		07 55 34.4	
	comp=E,7μm,0.5s						
HLP				IAML		07 55 42.9	
	comp=N,8μm,0.7s						
HLP	**Hilina Pali**	**0.52**	**273**		Sg	07 55 31.1	+0.6
SDHHI	**Sand Hill**	**0.52**	**284**		Pg	07 55 23.1	-0.6
UWE	**Uwekahuna**	**0.53**	**287**		Pg	07 55 23.0	-0.8
UWE				IAML		07 55 37.0	
	comp=N,8μm,0.6s						
UWE	**Uwekahuna**	**0.53**	**287**		Sg	07 55 30.6	-0.3
RSD	**Rainshed**	**0.53**	**292**		Pg	07 55 23.3	-0.5
RSD	**Rainshed**	**0.53**	**292**		Sg	07 55 30.1	-0.7
RSD	**Rainshed**	**0.53**	**292**	IAML		07 55 33.8	
	comp=E,6μm,0.4s						
RSD				IAML		07 55 35.3	
	comp=N,6μm,0.7s						
WRMHI	**West Rim**	**0.53**	**285**		Pg	07 55 23.0	-0.8
WRMHI				IAML		07 55 43.8	
	comp=N,8μm,0.6s						
HTC	**Hot Caves**	**0.61**	**267**		Pb	07 55 25.9	-0.2
MLH	**Mauna Loa**	**0.64**	**291**		Pg	07 55 24.7	-1.1
HMH	**Humu'ula Sheep**	**0.76**	**296**		Pg	07 55 26.8	-1.4
HMH	**Humu'ula Sheep**	**0.76**	**296**		Sg	07 55 36.3	-2.0
KHU	**Kahuku**	**0.81**	**269**		Pg	07 55 28.7	-0.5
MWH	**Moku'aweowe**	**0.82**	**285**		Pg	07 55 27.3	-2.2
MWH				IAML		07 55 56.4	
	comp=N,4μm,0.8s						
MWH				IAML		07 55 56.8	
	comp=E,4μm,1.1s						
POHA	**Pohakuloa**	**0.88**	**304**		Pg	07 55 27.7	-2.8
POHA	**Pohakuloa**	**0.88**	**304**	IAML		07 55 54.5	
	comp=E,4μm,0.6s						
POHA				IAML		07 56 01.4	
	comp=E,3μm,0.6s						
ALEP	**Alea Permanent**	**0.88**	**288**		Sg	07 55 38.8	-3.2
HUH	**Hualalai**	**1.10**	**292**		Pg	07 55 31.4	-3.3
HPAH	**Hawaii Prepara**	**1.17**	**311**		Pb	07 55 31.6	-4.2
MHA	**Mahukona**	**1.42**	**310**		Pn	07 55 35.4	-3.8
HLK	**Haleakala**	**2.04**	**317**	Pn	Pn	07 55 43.7	-4.4
KHLH	**Kahului Airpor**	**2.26**	**316**		Pn	07 55 47.5	-3.3

*NEIC **05** 07:59:42.2±0.9, 19°.12N±0°.03×155°.24W±0°.02, h5km±2km, Error ellipse: s-maj=5.4km s-min=3.0km az=322.0*
HVO 05 07:59:40.7±0.4, 19°.07N±0°.03×155°.14W±0°.03, h9km±8km, ML2.7/3, ML2.8/28(NEIC), Error ellipse: s-maj=5.6km s-min=2.6km az=134.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.28**	**325**		Pg	07 59 45.9	-0.4
HLP				IAML		07 59 56.1	
	comp=E,2μm,0.3s						
PUH	**Pauahi**	**0.31**	**346**		Pg	07 59 46.9	-0.1
PUH				IAML		07 59 53.7	
	comp=N,1μm,0.8s						
PUH				IAML		07 59 56.7	
	comp=E,933nm,0.5s						
JCUZ	**Jacuzzi**	**0.32**	**6**	Pg	Pg	07 59 47.6	+0.6
NPOC	**North of Pu'u**	**0.32**	**5**		Pb	07 59 48.0	-0.7
NPOC	**North of Pu'u**	**0.32**	**5**	IAML		07 59 55.0	
	comp=N,720nm,0.5s						
NPOC				IAML		07 59 57.8	
	comp=E,521nm,0.6s						
KKO	**Keanakako`i**	**0.35**	**340**	Pg	Pg	07 59 47.5	-0.2
KKO				IAML		07 59 52.8	
	comp=E,1μm,0.5s						
KKO				IAML		07 59 59.4	
	comp=N,2μm,1.0s						
RIM	**Rim**	**0.35**	**338**	Pg	Pg	07 59 47.2	-0.5
RIM				IAML		07 59 57.2	
	comp=N,1μm,0.5s						
RIM				IAML		07 59 57.8	
	comp=E,1μm,0.5s						
SDHHI	**Sand Hill**	**0.35**	**335**	Pg	Pg	07 59 47.4	-0.4
WRMHI	**West Rim**	**0.37**	**336**	Pg	Pg	07 59 48.0	0.0
HATHI	**Halema'uma'u T**	**0.37**	**342**	Pg	Pg	07 59 47.9	-0.2
HATHI				IAML		07 59 56.5	
	comp=E,999nm,0.6s						
HATHI				IAML		07 59 59.8	
	comp=N,1μm,0.6s						
SBLHI	**Steaming Bluff**	**0.38**	**341**	Pg	Pg	07 59 47.8	-0.4
SBLHI				IAML		07 59 55.7	
	comp=N,1μm,0.6s						
SBLHI				IAML		07 59 58.6	
	comp=E,830nm,0.4s						
UWB	**Uwekahuna B**	**0.38**	**340**	Pg	Pg	07 59 48.0	-0.2
UWE	**Uwekahuna**	**0.38**	**337**		Pg	07 59 48.0	-0.2
UWE	**Uwekahuna**	**0.38**	**337**	IAML		07 59 54.8	
	comp=E,2μm,0.4s						
UWE				IAML		07 59 56.0	
	comp=N,1μm,0.3s						
RSD	**Rainshed**	**0.41**	**341**		Sg	07 59 54.4	+0.1
KHU	**Kahuku**	**0.48**	**292**		Pg	07 59 49.5	-0.7
KHU					Sg	07 59 56.4	-0.2
KHU	**Kahuku**	**0.48**	**292**	IAML		08 00 05.6	
	comp=N,478nm,0.4s						
MLH	**Mauna Loa**	**0.48**	**331**		Pg	07 59 50.0	-0.1
MLH	**Mauna Loa**	**0.48**	**331**		Sg	07 59 56.5	-0.1
MLH	**Mauna Loa**	**0.48**	**331**	IAML		07 59 57.0	
	comp=N,1μm,0.6s						
MLH				IAML		07 59 57.3	
	comp=E,766nm,0.5s						

*NEIC **05** 08:06:54.5±0.9, 19°.16N±0°.02×155°.32W±0°.01, h5km±2km, Error ellipse: s-maj=3.7km s-min=3.0km az=325.0*
HVO 05 08:06:53.2±1.1, 19°.08N±0°.01×155°.27W±0°.01, h10km±6km, Md2.4/14, ML2.6/24(NEIC), Error ellipse: s-maj=2.0km s-min=1.7km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.20**	**323**		Pg	08 06 57.5	+0.1
HLP	**Hilina Pali**	**0.22**	**351**		Pg	08 06 57.7	-0.2
HLP				IAML		08 07 05.8	
	comp=E,1μm,0.4s						
HLP				IAML		08 07 06.1	
	comp=N,1μm,0.3s						
PUH	**Pauahi**	**0.30**	**10**	Pg	Pg	08 06 58.9	-0.5
PUH				IAML		08 07 05.7	
	comp=N,759nm,0.3s						
PUH				IAML		08 07 06.8	
	comp=E,533nm,0.3s						
SDHHI	**Sand Hill**	**0.31**	**356**	Pg	Pg	08 06 58.9	-0.7
KKO	**Keanakako`i**	**0.32**	**1**	Pg	Pg	08 06 59.1	-0.6
KKO				IAML		08 07 04.2	
	comp=E,743nm,0.3s						
KKO				IAML		08 07 08.6	
	comp=N,681nm,0.4s						
STCH	**Steam Cracks**	**0.34**	**24**	Pg	Pg	08 06 59.7	-0.3
HATHI	**Halema'uma'u T**	**0.34**	**2**	Pg	Pg	08 06 59.5	-0.7
HATHI				IAML		08 07 08.1	
	comp=N,563nm,0.7s						
HATHI				IAML		08 07 11.3	
	comp=E,623nm,0.7s						
KHU	**Kahuku**	**0.37**	**297**	Pg	Pg	08 07 00.4	-0.2
KHU				IAML		08 07 06.9	
	comp=E,518nm,0.3s						
RSD	**Rainshed**	**0.38**	**359**	Pg	Pg	08 07 00.1	-0.8
MLH	**Mauna Loa**	**0.43**	**345**	Pg	Pg	08 07 01.0	-0.7
MWH	**Moku'aweowe**	**0.51**	**323**		Pg	08 07 02.5	-0.8
MWH	**Moku'aweowe**	**0.51**	**323**	IAML		08 07 13.6	
	comp=N,352nm,1.0s						
MWH				IAML		08 07 21.4	
	comp=E,452nm,0.9s						
HMH	**Humu'ula Sheep**	**0.56**	**339**		Pg	08 07 03.3	-0.9
HMH					Sg	08 07 10.9	-0.7
HMH	**Humu'ula Sheep**	**0.56**	**339**	IAML		08 07 15.3	
	comp=E,308nm,0.3s						
ALEP	**Alea Permanent**	**0.58**	**323**		Pg	08 07 03.4	-1.2
ALEP					Sg	08 07 11.3	-1.1
HUH	**Hualalai**	**0.81**	**319**	Pg	Pg	08 07 07.9	-1.0

*CATAC **05** 08:16:13.5±0.5, 12°.87N×88°.90W, h29km±3km, ML3.8*
*SNET **05** 08:16:14.7±1.7, 12°.92N×88°.91W, h32km±3km, ML3.6*
ISC 05 08:16:13.2±1.4, 12°.83N±0°.06×88°.92W±0°.03, h29km±12km, n68, σ0°.58/110, 1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.71**	**11**	*e*P	**Pn**	**08 16 27.4**	**+0.1**
TECO				*e*S	**Sn**	**08 16 37.1**	**-0.3**
TECO	**Alcaldia de Te**	**0.71**	**11**	*i* P	**Pn**	**08 16 27.4**	**+0.1**
TECO				*i* S	**Sn**	**08 16 37.0**	**-0.3**
TECO				IAML		08 16 39.8	
	comp=Z,3μm,1.0s						
COEB	**Comit de Eme**	**0.76**	**30**	⇓ *i* P	**Pn**	**08 16 28.4**	**+0.3**
COEB				*e*S	**Sn**	**08 16 38.7**	**0.0**
COEB	**Comit de Eme**	**0.76**	**30**	*i* P	**Pn**	**08 16 28.2**	**+0.1**
COEB				IAML		08 16 28.5	
	comp=Z,3μm,1.0s						
COEB				*i* S	**Sn**	**08 16 38.6**	**-0.1**
LALI	**Alcalda de L**	**0.76**	**329**	*e*P	**Pn**	**08 16 28.2**	**+0.2**
LALI				*e*S	**Sb**	**08 16 37.8**	**-0.1**
LALI	**Alcalda de L**	**0.76**	**329**	*i* P	**Pn**	**08 16 28.2**	**+0.2**
LALI				*i* S	**Sb**	**08 16 37.8**	**-0.1**
LALI				IAML		08 16 38.1	
	comp=Z,3μm,1.0s						
TECA	**Tecapa**	**0.77**	**32**	*e*P	**Pn**	**08 16 28.8**	**+0.5**
COEG	**Centro de Oper**	**0.78**	**3**	*i* P	**Pn**	**08 16 28.4**	**0.0**
COEG				*e*S	**Sn**	**08 16 38.7**	**-0.4**
COEG	**Centro de Oper**	**0.78**	**3**	*i* P	**Pn**	**08 16 28.3**	**0.0**
COEG				*i* S	**Sn**	**08 16 38.8**	**-0.4**
COEG				IAML		08 16 42.8	
	comp=Z,2μm,1.0s						
UESV	**Universidad de**	**0.81**	**9**	*i* P	**Pb**	**08 16 28.7**	**-0.1**
UESV				IAML		08 16 29.2	
	comp=Z,5μm,1.0s						
UESV				*i* S	**Sn**	**08 16 39.4**	**-0.3**
PANCS	**Alcalda de**	**0.81**	**342**	*i* P	**Pn**	**08 16 28.

PQSS	**Presa 15 de Se**	**0.86**	**24**	*eP*		**Pb**	**08 16 29.8**	**+0.2**
PQSS				*eS*		**Sn**	**08 16 41.8**	**+0.9**
PQSS	**Presa 15 de Se**	**0.86**	**24**	*i* P		**Pb**	**08 16 29.7**	**+0.1**
PQSS				*i* S		**Sn**	**08 16 41.8**	**+0.9**
PQSS				IAML			08 16 42.3	
	comp=Z,10μm,1.0s							
PAVA	**Las Pavas**	**0.88**	**359**	*eP*		**Pb**	**08 16 29.9**	**-0.1**
PAVA	**Las Pavas**	**0.88**	**359**	*i* P		**Pb**	**08 16 29.8**	**-0.1**
PAVA				*i* S		**Sn**	**08 16 41.2**	**-0.3**
PAVA				IAML			08 16 42.1	
	comp=Z,10μm,1.0s							
AEIL	**Aeropuerto Ilo**	**0.88**	**347**	IAML			08 16 43.7	
	comp=Z,2μm,0.2s							
SCLA	**Alcaldia de Sa**	**0.88**	**12**	*eP*		**Pb**	**08 16 30.0**	**-0.1**
SCLA				*eS*		**Sn**	**08 16 42.2**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.88**	**12**	*i* P		**Pb**	**08 16 29.9**	**-0.1**
SCLA				*i* S		**Sn**	**08 16 42.1**	**+0.5**
SCLA				IAML			08 16 45.6	
	comp=Z,1μm,1.0s							
BLLM	**Bellamira**	**0.90**	**47**	*i* P		**Pn**	**08 16 30.2**	**+0.3**
SNET	**Serv Nac Est T**	**0.90**	**340**	*i* P		**Pn**	**08 16 30.0**	**0.0**
SNET				*i* S		**Sb**	**08 16 41.2**	**-0.9**
SNET				IAML			08 16 44.8	
	comp=Z,3μm,1.0s							
ITCA	**Escuela Especi**	**0.91**	**337**	*i* P		**Pn**	**08 16 30.2**	**+0.1**
ITCA				*i* S		**Sn**	**08 16 42.0**	**-0.2**
ITCA				IAML			08 16 48.4	
	comp=Z,3μm,1.0s							
UTEC	**Universidad Te**	**0.91**	**342**	*i* P		**Pn**	**08 16 30.2**	**+0.2**
UTEC				*i* S		**Sn**	**08 16 41.6**	**-0.6**
UTEC				IAML			08 16 45.7	
	comp=Z,1μm,1.0s							
UDBS	**Universidad Do**	**0.91**	**345**	*eP*		**Pn**	**08 16 30.2**	**+0.2**
IGN	**Direccin Gen**	**0.91**	**344**	*i* P		**Pb**	**08 16 30.3**	**-0.2**
IGN				*i* S		**Sb**	**08 16 41.7**	**-0.5**
IGN				IAML			08 16 46.5	
	comp=Z,7μm,1.0s							
MAGS	**Ministerio de**	**0.92**	**337**	*eP*		**Pn**	**08 16 30.3**	**+0.1**
LFU	**La Fuente**	**0.93**	**348**	*eP*		**Pb**	**08 16 30.7**	**-0.1**
UEES	**Universidad Ev**	**0.93**	**340**	*i* P		**Pn**	**08 16 30.5**	**+0.1**
UEES				*i* S		**Sb**	**08 16 42.5**	**-0.4**
UEES				IAML			08 16 44.6	
	comp=Z,1μm,1.0s							
PMON	**Piamonte**	**0.96**	**336**	*eP*		**Pn**	**08 16 30.9**	**+0.1**
PMON	**Piamonte**	**0.96**	**336**	*i* P		**Pn**	**08 16 30.8**	**+0.1**
PMON				*i* S		**Sb**	**08 16 43.2**	**-0.4**
PMON				IAML			08 16 46.4	
	comp=Z,3μm,1.0s							
BOQS	**Boqueron**	**0.96**	**339**	*eP*		**Pb**	**08 16 35.1**	**+3.6**
JAYA	**Jayaque - finc**	**0.97**	**328**	*eP*		**Pn**	**08 16 31.3**	**+0.3**
JAYA				*eS*		**Sb**	**08 16 44.0**	**0.0**
JAYA	**Jayaque - finc**	**0.97**	**328**	*i* P		**Pn**	**08 16 31.1**	**+0.1**
JAYA				*i* S		**Sn**	**08 16 43.2**	**-0.6**
JAYA				IAML			08 16 44.8	
	comp=Z,10μm,1.0s							
CNRM	**Centro Naciona**	**0.97**	**49**	*eS*		**Sb**	**08 16 44.6**	**+0.8**
CNRM	**Centro Naciona**	**0.97**	**49**	*i* P		**Pn**	**08 16 31.1**	**+0.3**
CNRM				IAML			08 16 31.3	
	comp=Z,3μm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.05**	**341**	*i* P		**Pn**	**08 16 32.1**	**+0.1**
QUEZ				*i* S		**Sb**	**08 16 45.8**	**-0.5**
QUEZ				IAML			08 16 47.6	
	comp=Z,3μm,1.0s							
LCND	**La Caada**	**1.11**	**65**	*eP*		**Pn**	**08 16 33.3**	**+0.5**
LCND				*eS*		**Sb**	**08 16 47.6**	**-0.2**
LCND	**La Caada**	**1.11**	**65**	*i* P		**Pn**	**08 16 33.1**	**+0.4**
LCND				*i* P		**Pb**	**08 16 33.4**	**-0.3**
LCND				*i* S		**Sn**	**08 16 47.3**	**+0.2**
LCND				*i* S		**Sb**	**08 16 47.5**	**-0.3**
LCND				IAML			08 16 49.5	
	comp=Z,1μm,1.0s							
LCND				IAML			08 17 08.9	
	comp=Z,12μm,1.0s							
CNCH	**Conchagua**	**1.15**	**67**	*eP*		**Pn**	**08 16 33.7**	**+0.4**
CNCH				*eS*		**Sb**	**08 16 49.0**	**+0.1**
CNCH	**Conchagua**	**1.15**	**67**	*i* P		**Pn**	**08 16 33.5**	**+0.1**
CNCH				IAML			08 16 34.3	
	comp=Z,2μm,1.0s							
CNCH				*i* S		**Sb**	**08 16 49.1**	**+0.1**
CEVE	**Cerro Verde**	**1.20**	**325**	*eP*		**Pn**	**08 16 35.0**	**+0.7**
CEVE				IAML			08 16 56.9	
	comp=Z,1μm,0.6s							
CEVE	**Cerro Verde**	**1.20**	**325**	*i* P		**Pn**	**08 16 35.0**	**+0.7**
CEVE				*i* S		**Sb**	**08 16 50.1**	**-0.7**
CEVE				IAML			08 16 58.3	
	comp=Z,2μm,1.0s							
SBLS	**San Blas**	**1.21**	**326**	*eP*		**Pb**	**08 16 35.3**	**-0.4**
SNJE	**San Jose**	**1.23**	**327**	*eP*		**Pn**	**08 16 35.1**	**+0.5**
SNJE				*eS*		**Sb**	**08 16 50.8**	**-0.7**
RTR	**El Retiro**	**1.27**	**326**	*eP*		**Pn**	**08 16 35.8**	**+0.6**
UNIC	**Universidad Ca**	**1.30**	**332**	*i* P		**Pn**	**08 16 35.9**	**+0.5**
UNIC				*i* S		**Sn**	**08 16 51.9**	**+0.1**
UNIC				IAML			08 16 53.6	
	comp=Z,590nm,1.0s							
AMPH	**Amapala**	**1.31**	**70**	*eP*		**Pn**	**08 16 36.0**	**+0.5**
AMPH				*eS*		**Sb**	**08 16 53.6**	**+0.1**
LLGN	**La Laguna**	**1.32**	**359**	*eP*		**Pn**	**08 16 35.9**	**+0.1**
LLGN				*eS*		**Sb**	**08 16 52.9**	**-1.2**
LLGN	**La Laguna**	**1.32**	**359**	*i* P		**Pn**	**08 16 35.7**	**-0.1**
LLGN				*i* S		**Sb**	**08 16 52.8**	**-1.3**
LLGN				IAML			08 16 55.5	
	comp=Z,570nm,1.0s							
NUBE	**Las Nubes**	**1.35**	**322**	*eP*		**Pn**	**08 16 36.7**	**+0.5**
NUBE				*eS*		**Sn**	**08 16 53.2**	**-0.2**
NUBE	**Las Nubes**	**1.35**	**322**	*i* P		**Pn**	**08 16 36.6**	**+0.3**
NUBE				*i* S		**Sn**	**08 16 53.0**	**-0.4**
NUBE				IAML			08 16 54.7	
	comp=Z,2μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.46**	**325**	*eP*		**Pn**	**08 16 38.4**	**+0.8**
MTO3	**Montecristo**	**1.61**	**345**	*eP*		**Pn**	**08 16 40.1**	**+0.2**
MTO3	**Montecristo**	**1.61**	**345**	*i* P		**Pn**	**08 16 40.1**	**+0.2**
MTO3				IAML			08 17 06.6	
	comp=Z,190nm,1.0s							
ESQI	**Esquipulas**	**1.77**	**347**	*eP*		**Pn**	**08 16 42.6**	**+0.7**
ESQI	**Esquipulas**	**1.77**	**347**	*i* P		**Pn**	**08 16 42.4**	**+0.5**
ESQI				IAML			08 17 09.6	
	comp=Z,220nm,1.0s							
CRIN	**San Cristobal**	**1.83**	**94**	*eP*		**Pn**	**08 16 44.0**	**+1.3**
POLN	**Al Sur del Vol**	**2.06**	**95**	*i* P		**Pn**	**08 16 46.2**	**+0.3**
POLN				*i* S		**Sn**	**08 17 10.0**	**-0.7**
POLN				IAML			08 17 15.3	
	comp=Z,390nm,1.0s							
PLRN	**Geotermica Pol**	**2.11**	**96**	*i* P		**Pn**	**08 16 47.0**	**+0.4**
PLRN				*i* S		**Sn**	**08 17 10.8**	**-1.1**
PLRN				IAML			08 17 15.6	
	comp=Z,370nm,1.0s							
ROCN	**Rota Cerro Neg**	**2.15**	**98**	*i* P		**Pn**	**08 16 45.6**	**-1.4**
ROCN				IAML			08 17 15.8	
	comp=Z,190nm,1.0s							
CNGA	**Al SSO del Vol**	**2.19**	**99**	*i* P		**Pn**	**08 16 47.0**	**-0.7**
CNGA				IAML			08 17 23.9	
	comp=Z,400nm,1.0s							
COPN	**Copaltepe**	**2.36**	**106**	*i* P		**Pn**	**08 16 50.3**	**+0.3**
COPN				IAML			08 17 24.4	
	comp=Z,160nm,1.0s							

*NEIC **05** 08:18:39.0±0.7, 19°.389N±0°.007×155°.20W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.0km az=303.0*

HVO 05 08:18:37.5±0.5, 19°.35N±0°.02×155°.12W±0°.01, h7km±4km, ML2.4/14, ML2.5/36(NEIC), Error ellipse: s-maj=2.6km s-min=1.5km az=148.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.06**	**307**		Pg	08 18 39.4	+0.1
PUH	**Pauahi**	**0.09**	**288**		Pg	08 18 39.9	+0.1
PUH				IAML		08 18 42.2	
	comp=N,3μm,0.7s						
JOKA	**Jonika Flow**	**0.14**	**52**		Sg	08 18 43.2	+0.7
KKO	**Keanakako`i**	**0.14**	**291**	Pg	Pg	08 18 40.8	+0.1
KKO				IAML		08 18 44.6	
	comp=N,1μm,0.5s						
BYL	**Byron's Ledge**	**0.15**	**297**	Pg	Pg	08 18 40.7	0.0
BYL				IAML		08 18 43.5	
	comp=N,2μm,0.4s						
BYL				IAML		08 18 43.5	
	comp=E,2μm,0.5s						
RIM	**Rim**	**0.15**	**289**	Pg	Pg	08 18 40.7	0.0
RIM				IAML		08 18 43.8	
	comp=N,2μm,0.5s						
HATHI	**Halema`uma`u T**	**0.15**	**300**		Pg	08 18 40.8	0.0
HATHI	**Halema`uma`u T**	**0.15**	**300**		IAML	08 18 43.8	
HATHI					IAML	08 18 44.5	
	comp=N,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.16**	**300**	Pg	Pg	08 18 40.8	0.0
SBLHI					IAML	08 18 46.7	
	comp=E,996nm,0.4s						
UWB	**Uwekahuna B**	**0.17**	**298**	Pg	Pg	08 18 41.0	0.0
OBL	**Observatory Le**	**0.17**	**295**	Pg	Pg	08 18 40.9	-0.1
OBL					IAML	08 18 47.2	
	comp=N,2μm,0.3s						
SDHHI	**Sand Hill**	**0.17**	**285**		Pg	08 18 41.2	+0.2
SDHHI	**Sand Hill**	**0.17**	**285**	IAML		08 18 46.5	
	comp=E,1μm,0.5s						
SDHHI					IAML	08 18 46.7	
	comp=N,1μm,0.5s						
UWE	**Uwekahuna**	**0.18**	**295**	Pg	Pg	08 18 41.1	-0.1
UWE					IAML	08 18 44.7	
	comp=E,1μm,0.6s						
UWE				IAML		08 18 47.0	
	comp=N,1μm,0.5s						
HLP	**Hilina Pali**	**0.18**	**254**	Pg	Pg	08 18 41.5	+0.2
HLP					IAML	08 18 45.0	
	comp=E,1μm,0.2s						
HLP				IAML		08 18 45.1	
	comp=N,1μm,0.1s						
RSD	**Rainshed**	**0.19**	**308**		Pg	08 18 41.4	+0.1
RSD				IAML		08 18 44.8	
	comp=N,978nm,0.6s						
HTC	**Hot Caves**	**0.28**	**248**		Pb	08 18 44.1	-0.8
MLH	**Mauna Loa**	**0.29**	**301**	Pg	Pg	08 18 43.2	-0.1
MLH				IAML		08 18 52.3	
	comp=N,643nm,0.2s						
HMH	**Humu`ula Sheep**	**0.42**	**307**		Pg	08 18 46.1	+0.2
MWH	**Moku`aweowe**	**0.47**	**287**		Pg	08 18 46.7	0.0
KHU	**Kahuku**	**0.48**	**258**	Pg	Pg	08 18 46.7	-0.1
KHU				IAML		08 18 59.1	
	comp=N,316nm,0.6s						
KHU				IAML		08 19 01.1	
	comp=E,329nm,0.4s						
ALEP	**Alea Permanent**	**0.53**	**292**		Pg	08 18 47.6	-0.3
POHA	**Pohakuloa**	**0.56**	**317**		Pg	08 18 47.7	-0.7
POHA	**Pohakuloa**	**0.56**	**317**	IAML		08 18 56.4	
	comp=E,766nm,0.2s						
POHA				IAML		08 18 57.2	
	comp=E,649nm,0.2s						
HUH	**Hualalai**	**0.75**	**297**		Pg	08 18 51.4	-0.7
CPH	**Captain Cook**	**0.76**	**281**		Pg	08 18 51.5	-0.8

*NEIC **05** 08:19:51.5±1.1, 19°.29N±0°.02×155°.22W±0°.01, h5km±2km, Error ellipse: s-maj=4.3km s-min=2.5km az=22.0*

HVO 05 08:19:50.9±1.5, 19°.29N±0°.04×155°.20W±0°.01, h1km±9km, ML2.5/17, ML2.4/32(NEIC), Error ellipse: s-maj=5.2km s-min=1.4km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.09**	**349**	Sg	Sg	08 19 53.4	-0.5
HLP	**Hilina Pali**	**0.10**	**276**	Pg	Pg	08 19 53.5	+0.6
HLP				IAML		08 19 56.4	
	comp=N,2μm,0.3s						
HLP				IAML		08 19 56.5	
	comp=E,2μm,0.1s						
STCH	**Steam Cracks**	**0.12**	**34**	Pg	Pg	08 19 54.1	+0.9
KKO	**Keanakako`i**	**0.13**	**330**	Pg	Pg	08 19 54.2	+0.8
KKO				IAML		08 19 57.2	
	comp=N,2μm,0.8s						
RIM	**Rim**	**0.13**	**326**		Pg	08 19 54.2	+0.8
RIM				IAML		08 19 57.7	
	comp=N,2μm,0.5s						
SDHHI	**Sand Hill**	**0.14**	**319**	Pg	Pg	08 19 54.0	+0.5
SDHHI				IAML		08 19 57.3	
	comp=E,1μm,0.4s						
SDHHI				IAML		08 19 58.4	
	comp=N,1μm,0.2s						
BYL	**Byron's Ledge**	**0.14**	**335**	Pg	Pg	08 19 54.3	+0.7
BYL				IAML		08 19 57.5	
	comp=E,1μm,0.4s						
BYL				IAML		08 19 57.5	
	comp=N,2μm,0.3s						
NPH	**North Pit**	**0.15**	**328**	Pg	Pg	08 19 54.0	+0.2
HATHI	**Halema`uma`u T**	**0.15**	**336**	Pg	Pg	08 19 54.2	+0.5
HATHI				IAML		08 19 57.6	
	comp=N,2μm,0.3s						
HATHI				IAML		08 19 57.9	
	comp=E,2μm,0.2s						
WRMHI	**West Rim**	**0.15**	**321**	Pg	Pg	08 19 54.1	+0.2
WRMHI				IAML		08 19 58.1	
	comp=N,1μm,0.5s						
WRMHI				IAML		08 19 59.0	
	comp=E,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.16**	**335**		Sg	08 19 57.6	+1.6
SBLHI	**Steaming Bluff**	**0.16**	**335**	Pg	Pg	08 19 54.4	+0.5
SBLHI	**Steaming Bluff**	**0.16**	**335**	IAML		08 19 57.9	
	comp=N,1μm,0.2s						
SBLHI				IAML		08 19 58.0	
	comp=E,737nm,0.3s						
UWB	**Uwekahuna B**	**0.16**	**331**		Sg	08 19 57.6	+1.5
UWB	**Uwekahuna B**	**0.16**	**331**	Pg	Pg	08 19 54.4	+0.5
UWB	**Uwekahuna B**	**0.16**	**331**	IAML		08 19 57.9	
	comp=N,493nm,0.4s						
UWB				IAML		08 19 58.6	
	comp=E,418nm,0.6s						
UWE	**Uwekahuna**	**0.16**	**326**		Sg	08 19 58.5	+2.4
UWE	**Uwekahuna**	**0.16**	**326**	Pg	Pg	08 19 54.6	+0.5
UWE				IAML		08 19 58.5	
	comp=N,710nm,0.7s						
UWE	**Uwekahuna**	**0.16**	**326**	IAML		08 19 58.7	
	comp=E,1μm,0.3s						
HTC	**Hot Caves**	**0.20**	**256**		Pg	08 19 55.6	+0.9
JOKA	**Jonika Flow**	**0.23**	**51**		Sg	08 20 02.0	+3.5
KHU	**Kahuku**	**0.40**	**264**	Pg	Pg	08 19 58.8	+0.3
KHU				IAML		08 20 06.7	
	comp=E,464nm,0.3s						
HMH	**Humu`ula Sheep**	**0.41**	**320**	Pg	Pg	08 19 59.5	+0.6
MWH	**Moku`aweowe**	**0.43**	**298**		Sb	08 20 07.2	-1.5
MWH	**Moku`aweowe**	**0.43**	**298**	Pg	Pg	08 19 59.4	+0.3
MWH	**Moku`aweowe**	**0.43**	**298**	IAML		08 20 07.5	
	comp=E,786nm,0.7s						
MWH				IAML		08 20 10.4	
	comp=N,485nm,0.7s						
ALEP	**Alea Permanent**	**0.49**	**301**		Pg	08 20 00.7	+0.3
ALEP					Sg	08 20 08.3	+1.6
POHA	**Pohakuloa**	**0.57**	**326**		Sg	08 20 10.3	+1.2
POHA	**Pohakuloa**	**0.57**	**326**	Pg	Pg	08 20 01.5	-0.2
POHA				IAML		08 20 10.7	
	comp=N,546nm,0.2s						
POHA				IAML		08 20 10.9	
	comp=N,390nm,0.5s						
HUH	**Hualalai**	**0.72**	**304**	Pg	Pg	08 20 04.1	-0.6

NNC 05 08:40:44.7±2.7, 36°.80N×70°.76E, h0km, mb4.2, mpv3.8, 3C-2D, Error ellipse: s-maj=25.7km s-min=20.5km az=77.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.30**	**358**	⇓Pn	Pn	08 42 19.3	+0.4
	1.0nm,0.3s,baz=188,slow=14,SNR=23						
KK31				⇑Sn	Sn	08 43 32.5	+1.0
	1.4nm,0.4s,baz=182,slow=27,SNR=6.4						
AAK	**Ala-Archa**	**6.50**	**25**	⇑Pn	Pn	08 42 22.0	+0.2
	5.9nm,0.4s						
AAK				⇓Sn	Sn	08 43 38.0	+1.3
	4.3nm,0.8s						
TKM2	**Tokmak 2**	**7.15**	**30**	⇑Pn	Pn	08 42 30.1	-0.7
	4.8nm,0.4s						

*DJA **05** 08:48:52.1±0.4, 11°.S±4°×11°.8E±°, h10km, M4.4/11, mb4.6/7, mB5.1/3, MLv4.3/11, Mw(mB)4.5/3*

ISC 05 08:48:55.2±0.8, 11°.42S±0°.07×118°.23E±0°.07, h36km, n20, σ1°.39/22, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**2.59**	**63**	P	**Pn**	**08 49 33.8**	**-0.8**
BASI				S	**Sn**	**08 50 07.2**	**+2.3**
TWSI	**Taliwang, Sumb**	**2.97**	**333**	P	**Pn**	**08 49 39.3**	**-0.5**
TWSI				S	**Sn**	**08 50 12.1**	**-2.2**
EDFI	**Ende, Flores**	**4.31**	**52**	P	**Pn**	**08 49 56.4**	**-2.0**
SRBI	**Singaraja**	**4.45**	**318**	P	**Pn**	**08 50 00.8**	**+0.7**
JAGI	**Jajag, Banyuwa**	**4.97**	**306**	P	**Pn**	**08 50 05.7**	**-1.6**
	28nm,0.6s,2μm0.4nm						
ABJI	**Asem Bagus**	**5.34**	**312**	P	**Pn**	**08 50 12.6**	**+0.3**
	33nm,0.8s,0.2nm						
BLJI	**Banyuglugur**	**5.85**	**308**	P	**Pn**	**08 50 19.3**	**-0.1**
	73nm,0.9s,2μm0.5nm						
SOEI	**Soe**	**6.16**	**75**	P	**Pn**	**08 50 24.3**	**+0.6**
BKSI	**Bulukumba**	**6.34**	**17**	P	**Pn**	**08 50 27.2**	**+1.1**
	37nm,0.5s,832nm0.2nm						
PWJI	**Pagerwojo**	**7.18**	**297**	P	**Pn**	**08 50 38.7**	**+1.1**
UGM	**Wanagama**	**8.36**	**294**	P	**Pn**	**08 50 57.2**	**+3.3**
UGM	**Wanagama**	**8.36**	**294**	P	**Pn**	**08 50 54.0**	**+0.1**
	104nm,1.9s						
MBWA	**Marble Bar**	**9.79**	**172**	P	**Pn**	**08 51 13.0**	**-0.5**
PSA00	**Pilbara Seismi**	**10.22**	**172**	P	**Pn**	**08 51 18.6**	**-0.7**
GIRL	**Giralia**	**11.80**	**198**	P	**Pn**	**08 51 42.2**	**+1.2**
MTN	**Manton Dam**	**12.69**	**98**	P	**Pn**	**08 51 53.4**	**+0.1**
MEEK	**Meekatharra**	**15.15**	**179**	P	**Pn**	**08 52 26.8**	**+0.3**
FAKI	**Fak Fak**	**16.26**	**60**	P	**P**	**08 52 42.9**	**-0.7**
WRKA	**Warakurna**	**16.57**	**146**	P	**Pn**	**08 52 43.6**	**-1.2**
MORW	**Morawa**	**17.68**	**186**	P	**P**	**08 52 58.8**	**-0.5**

*HVO **05** 08:52:26.3±0.7, 19°.36N±0°.01×155°.556W±0°.009, h-1km±10km, ML2.5/16, ML2.4/22(NEIC), Error ellipse: s-maj=2.2km s-min=1.1km az=165.0*

NEIC 05 08:52:26.8±0.4, 19°.37N±0°.02×155°.550W±0°.007, h5km±2km, Error ellipse: s-maj=3.5km s-min=2.2km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku`aweowe**	**0.13**	**339**		Pg	08 52 29.7	0.0
MWH				IAML		08 52 33.5	
	comp=N,1μm,0.2s						
KHU	**Kahuku**	**0.13**	**207**		Pg	08 52 29.7	+0.1
KHU	**Kahuku**	**0.13**	**207**	IAML		08 52 32.5	
	comp=E,2μm,0.4s						
KHU				IAML		08 52 32.8	
	comp=N,1μm,0.1s						
HTC	**Hot Caves**	**0.19**	**132**		Pg	08 52 30.8	+0.2
ALEP	**Alea Permanent**	**0.20**	**333**		Pg	08 52 30.7	-0.1
MLH	**Mauna Loa**	**0.20**	**50**	Pg	Pg	08 52 31.5	+0.7
MLH				IAML		08 52 36.9	
	comp=N,484nm,0.2s						
HLP	**Hilina Pali**	**0.24**	**107**	Pg	Pg	08 52 31.5	0.0
HLP				IAML		08 52 37.8	
	comp=N,626nm,0.3s						
HLP				IAML		08 52 38.1	
	comp=E,794nm,1.1s						
WRMHI	**West Rim**	**0.24**	**80**	Pg	Pg	08 52 31.5	0.0
SDHHI	**Sand Hill**	**0.24**	**84**	Pg	Pg	08 52 31.5	-0.1
HMH	**Humu`ula Sheep**	**0.24**	**15**	Pg	Pg	08 52 31.7	0.0
UWE	**Uwekahuna**	**0.25**	**77**	Pg	Pg	08 52 31.5	-0.2
UWE				IAML		08 52 39.4	
	comp=N,978nm,0.7s						
PUH	**Pauahi**	**0.32**	**89**	Pg	Pg	08 52 32.6	-0.4
PUH				IAML		08 52 39.7	
	comp=N,208nm,0.7s						
STCH	**Steam Cracks**	**0.40**	**87**	Pg	Pg	08 52 34.1	-0.5
STCH				IAML		08 52 40.9	
	comp=E,273nm,0.4s						
STCH				IAML		08 52 44.6	
	comp=N,251nm,0.7s						
HUH	**Hualalai**	**0.42**	**320**		Pg	08 52 35.2	+0.2
HUH				IAML		08 52 48.6	
	comp=N,468nm,0.3s						
HUH				IAML		08 52 48.7	
	comp=E,496nm,0.4s						

*MOS **05** 08:58:04.6±1.3, 50°.14N×18°.77E, h7km, mb4.3/5, Error ellipse: s-maj=4.5km s-min=4.3km az=66.2*
*NEIC **05** 08:58:05.5±1.5, 50°.12N±0°.07×18°.68E±0°.09, h1km±2km, ML3.7/22, Error ellipse: s-maj=11.8km s-min=10.2km az=179.0*
*IPEC **05** 08:58:06.9±0.1, 49°.99N×18°.64E, h1km, ML3.6/7, Error ellipse: s-maj=1.3km s-min=0.9km az=1.0, Mining induced.*
*BGR **05** 08:58:06.6±0.3, 49°.80N×18°.62E, h1km, ML4.0/15, Error ellipse: s-maj=10.0km s-min=4.4km az=173.0*
*VIE **05** 08:58:06.5±0.4, 50°.02N×18°.61E, h0km, mb3.0/16, ml3.4/11, ms4.0/4, Error ellipse: s-maj=6.6km s-min=1.9km az=156.0, Suspected Mining induced.*
*MCSM **05** 08:58:07.5±0.8, 50°.N±2°.×1°.9E±°, h13km±6km, mB5.2, mb4.0, MLv4.2, Mw(mB)4.5*
*LDG **05** 08:58:07.3±0.2, 50°.06N×18°.70E, h1km, Ml4.6/18, Error ellipse: s-maj=5.9km s-min=2.2km az=7.0, Suspected Mining induced.*
*IDC **05** 08:58:10.8±2.0, 49°.92N×18°.52E, h29km±18km, mb3.6/8, mbtmp3.8/17, ML3.2/7, Error ellipse: s-maj=10.7km s-min=6.4km az=151.0*

ISC 05 08:58:04.6±0.4, 50°.04N±0°.02×18°.64E±0°.02, h0km, n307, σ1°.77/379, mb3.9/12, 20C-10D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.29**	**278**	*e*PG	**Pb**	**08 58 14.1**	**+1.4**
RAC				*e*SG	**Sb**	**08 58 19.2**	**+1.2**
RAC	**Raciborz**	**0.29**	**278**	*e*P	**Pb**	**08 58 14.1**	**+1.4**
RAC				*e*		08 58 19.2	
OKC	**Ostrava-Krasne**	**0.38**	**237**	*e*PG	**Pb**	**08 58 14.2**	**0.0**
OKC				*e*SG	**Sg**	**08 58 19.3**	**+2.6**
	comp=Z,3μm,0.9s						
OKC	**Ostrava-Krasne**	**0.38**	**237**	*e*Pg	**Pb**	**08 58 14.2**	**0.0**
OKC	**Ostrava-Krasne**	**0.38**	**237**	*e*P	**Pb**	**08 58 14.2**	**0.0**
MORC	**Moravsky Berou**	**0.76**	**250**	⇓P	**Pb**	**08 58 20.9**	**+0.1**
MORC				⇑S	**Sb**	**08 58 32.0**	**+0.5**
MORC	**Moravsky Berou**	**0.76**	**250**	Pg	**Pg**	**08 58 20.5**	**+1.4**
MORC	**Moravsky Berou**	**0.76**	**250**	*e*Pg	**Pb**	**08 58 20.8**	**+0.1**
	baz=73						
MORC				*e*Sg	**Sg**	**08 58 30.3**	**+1.4**
	829nm,1.3s,baz=73						
MORC	**Moravsky Berou**	**0.76**	**250**	*e*Pg	**Pb**	**08 58 20.8**	**+0.1**
MORC				*e*Sg	**Sg**	**08 58 28.7**	**-0.2**
MORC	**Moravsky Berou**	**0.76**	**250**	P	**Pb**	**08

DPC Dobruska-Polom 1.52 283 *e*PG **Pg 08 58 34.7 +1.0**
DPC *e*SG **Sn 08 58 55.8 +2.2**
comp=N,326nm,0.8s
DPC Dobruska-Polom 1.52 283 *e*Pg **Pg 08 58 34.8 +1.1**
DPC *e*Sg **Sn 08 58 56.0 +2.4**
DPC Dobruska-Polom 1.52 283 *e*P **Pg 08 58 34.7 +1.0**
DPC *e* 08 58 55.8
DPC smax smax
comp=N,326nm,0.8s
DPC Dobruska-Polom 1.52 283 Pn **Pg 08 58 34.7 +1.0**
DPC Sn **Sn 08 58 55.6 +2.0**
VYHS Vyhne 1.56 175 *e*PN **Pn 08 58 33.4 -0.2**
VYHS *e*SN **Sn 08 58 54.8 +0.4**
VYHS Vyhne 1.56 175 *e*P **Pn 08 58 33.4 -0.2**
VYHS *e* 08 58 54.8
OSTC Ostas 1.64 289 *e*PG **Pg 08 58 36.6 +0.7**
OSTC Ostas 1.64 289 *e*P **Pg 08 58 36.6 +0.7**
CHVC Chvalec 1.74 289 *e*PG **Pg 08 58 38.6 +0.6**
CHVC Chvalec 1.74 289 *e*P **Pg 08 58 38.6 +0.6**
UPC Upice 1.75 286 *e*PG **Pb 08 58 37.9 +0.4**
UPC Upice 1.75 286 *e*P **Pb 08 58 37.9 +0.4**
KRUC Moravsky 1.76 237 *e*PN **Pb 08 58 38.0 +0.2**
KRUC *e*SG **Sb 08 59 01.3 +0.9**
KRUC Moravsky 1.76 237 *e*Pn **Pb 08 58 37.9 +0.2**
baz=57
KRUC *e*Sg **Sb 08 59 01.2 +0.9**
comp=N,584nm,1.1s,baz=57
KRUC Moravsky 1.76 237 P **Pn 08 58 36.5 +0.2**
STHS Stebnicka Huta 1.80 109 *e*PN **Pn 08 58 37.6 +0.6**
STHS *e*SG **Sg 08 59 06.5 +4.0**
STHS *e*LG Lg 08 59 09.8
STHS Stebnicka Huta 1.80 109 *e*P **Pn 08 58 37.6 +0.6**
STHS *e* 08 59 06.5
STHS pmax pmax
comp=N,270nm,0.5s
MODS Modra-Piesok 1.90 209 *e*PN **Pn 08 58 38.6 +0.4**
MODS *e*LG Lg 08 59 11.1
MODS Modra-Piesok 1.90 209 *e*P **Pn 08 58 38.7 +0.5**
MODS pmax pmax
comp=N,784nm,1.1s
KECS Kecovo 1.98 142 *e*PN **Pn 08 58 40.1 +0.8**
KECS *e*SN **Sb 08 59 06.7 +0.1**
KECS *e*LG Lg 08 59 17.2
KECS Kecovo 1.98 142 *e*P **Pn 08 58 40.1 +0.8**
KECS *e* 08 59 06.7
KECS pmax pmax
comp=N,340nm,0.8s
ZST Bratislava 2.11 209 *e*SN **Sn 08 59 10.0 +2.0**
ZST Bratislava 2.11 209 P **Pb 08 58 43.5 -0.1**
CRVS Cervenica-Dubn 2.17 121 *e*PG **Pg 08 58 46.6 +0.5**
CRVS *e*LG Lg 08 59 22.1
CRVS Cervenica-Dubn 2.17 121 *e*P **Pg 08 58 46.7 +0.6**
CRVS pmax pmax
comp=N,652nm,1.1s
TREC Trest 2.18 251 *e*PN **Pn 08 58 43.0 +0.9**
TREC *e*PG **Pb 08 58 45.3 +0.4**
TREC Trest 2.18 251 *e*P **Pn 08 58 43.0 +0.9**
SRO Srobarova 2.24 186 *e*PG **Pg 08 58 49.1 +1.5**
SRO Srobarova 2.24 186 *e*P **Pg 08 58 49.1 +1.5**
BEL Belsk 2.25 36 P **Pg 08 58 47.1 -0.6**
PSZ Piszkesteto 2.28 158 ⇑P **Pn 08 58 44.5 +0.9**
PSZ Piszkesteto 2.28 158 **Pn 08 58 45.6 +2.0**
PSZ IAML 08 59 34.9
comp=N,292nm,1.4s
PSZ IAML 08 59 39.1
comp=E,224nm,1.1s
PSZ Piszkesteto 2.28 158 P **Pn 08 58 44.5 +0.9**
GOPC GO Pecny, Ondr 2.49 268 *e*PG **Pb 08 58 50.8 +0.6**
GOPC *e*SG **Sg 08 59 24.1 -0.4**
comp=E,510nm,1.1s
GOPC GO Pecny, Ondr 2.49 268 *e*P **Pb 08 58 50.8 +0.6**
GOPC *e* 08 59 24.1
GOPC smax smax
comp=N,510nm,1.1s
KOLS Kolonicke sedl 2.62 114 *e*PN **Pn 08 58 49.5 +1.3**
KOLS *e*SG **Sg 08 59 30.8 +2.1**
KOLS *e*LG Lg 08 59 43.9
KOLS Kolonicke sedl 2.62 114 *e*P **Pn 08 58 49.5 +1.3**
KOLS pmax pmax
comp=N,369nm,0.6s
PRU Pruhonice 2.64 270 *e*PG **Pb 08 58 54.2 +1.4**
PRU *e*SG **Sg 08 59 29.0 -0.5**
comp=N,238nm,0.9s
PRU Pruhonice 2.64 270 *e*P **Pb 08 58 54.2 +1.4**
PRU *e* 08 59 29.0
PRU smax smax
comp=N,238nm,0.9s
PVCC Panska Ves 2.65 282 P **Pn 08 58 49.8 +1.2**
KWP Kalwaria Pacla 2.67 97 **Pn 08 58 49.0 +0.2**
KWP IAML 09 00 06.4
comp=N,299nm,1.5s
KWP IAML 09 00 18.5
comp=E,265nm,1.6s
KWP Kalwaria Pacla 2.67 97 P **Pn 08 58 49.0 +0.2**
KWP Kalwaria Pacla 2.67 97 Pn **Pn 08 58 49.2 +0.4**
PRA Prague 2.71 272 *e*PG **Pg 08 58 56.0 -0.5**
PRA Prague 2.71 272 *e*P **Pg 08 58 56.0 -0.5**
CONA Conrad Observa 2.80 222 *i* Pn **Pn 08 58 51.0 +0.3**
comp=E,8.1nm,0.4s,SNR=21
CONA *e*Sn **Sn 08 59 26.1 +1.0**
comp=E,57nm,0.7s
RONA Rosalia, Austr 2.81 214 *e*Pn **Pn 08 58 51.4 +0.6**
comp=E,12nm,0.4s,SNR=25
RONA Sn **Sn 08 59 27.0 +1.6**
comp=E,23nm,0.4s
HOLU Holmets 2.88 120 Pn **Pn 08 58 52.8 +1.0**
RICC Richard 2.95 281 *e*PG **Pg 08 59 00.6 -0.6**
MPLH Magyarpolny 2.97 195 Pn **Pn 08 58 54.3 +1.4**
CKRC Cesky Krumlov 3.08 248 *e*PN **Pn 08 58 55.7 +1.2**
CKRC *e*PG **Pb 08 59 01.6 +1.4**
CKRC Cesky Krumlov 3.08 248 *e*P **Pn 08 58 55.7 +1.2**
MUKU Mukachevo 3.09 119 Pn **Pn 08 58 55.9 +1.2**
BRG Berggiesshubel 3.11 287 Pn **Pn 08 58 56.7 +1.8**
BRG Pg **Pg 08 59 04.5 +0.3**
BRG Sg **Sg 08 59 46.3 +1.7**
BRG Amp 08 59 50.4
comp=Z,154nm,0.8s
BRG Amp 09 00 15.0
comp=E,0.5nm,4.9s
BRG Amp 09 00 15.0
comp=N,0.5nm,4.7s
BRG Amp 09 00 15.0
comp=Z,0.6nm,5.3s
BRG Berggiesshubel 3.11 287 *e*Pn **Pn 08 58 57.8 +2.8**
BRG *e*Pg **Pg 08 59 04.6 +0.3**
BRG *e*Sg **Sg 08 59 46.5 +2.0**
BRG Berggiesshubel 3.11 287 P **Pn 08 58 56.7 +1.8**
BERU Beregovo 3.19 123 Pn **Pn 08 58 57.1 +1.1**
BRIU Brid 3.34 119 Pn **Pn 08 58 59.5 +1.4**
GKP Gorka Klasztor 3.35 345 *e*P **Pn 08 58 56.4 -1.7**
HSKC Hora Svate Kat 3.38 282 *e*PN **Pn 08 59 00.9 +2.2**
HSKC *e*PG **Pb 08 59 08.0 +2.6**
KHC Kasperske Hory 3.42 256 Pn **Pn 08 58 60.0 +0.8**
KHC IAML 09 00 00.8
comp=E,111nm,1.1s
KHC IAML 09 00 19.7
comp=N,142nm,1.4s
KHC Kasperske Hory 3.42 256 *e*PN **Pn 08 58 59.9 +0.8**
KHC *e*PG **Pb 08 59 07.2 +1.2**
KHC *e*SG **Sg 08 59 52.9 -1.4**
comp=N,128nm,0.7s
KHC Kasperske Hory 3.42 256 *e*P **Pn 08 58 59.9 +0.8**
KHC *e* 08 59 52.9
KHC smax smax
comp=N,129nm,0.7s
KHC Kasperske Hory 3.42 256 Pn **Pn 08 59 00.4 +1.2**
GEC2 GERESS Array S 3.44 251 Pn **Pn 08 59 00.2 +0.8**
GEC2 IAML 09 00 04.7
comp=E,113nm,1.7s
GEC2 IAML 09 00 16.0
comp=N,230nm,1.5s
GEC2 GERESS Array S 3.44 251 *e*Pn **Pn 08 59 00.6 +1.1**
GEC2 *e*Pg **Pg 08 59 10.0 -0.5**
GEC2 *e*Sg **Sb 08 59 51.2 +2.5**
GERES GERESS Array B 3.44 251 **Pn 08 58 59.5 0.0**
GERES GERESS Array B 3.44 251 Pn **Pn 08 59 00.5 +1.1**
comp=N,1.7nm,0.3s,baz=64,slow=15,SNR=14
GERES Lg Lg 08 59 56.5
comp=N,12nm,0.3s,baz=70,slow=25,SNR=8.5
comp=N,4.3nm,0.4s
GERES GERESS Array B 3.44 251 P **Pn 08 58 59.5 0.0**
ARSA Arzberg 3.48 218 *e*Pn **Pn 08 59 01.0 +1.0**
comp=N,5.1nm,0.4s
ARSA *i* Sn **Sn 08 59 44.2 +2.4**
comp=N,14nm,0.6s
FBE Freiberg 3.49 287 *e*Pn **Pn 08 59 02.2 +2.1**
FBE *e*Pg **Pg 08 59 12.5 +1.1**
FBE *e*Sg **Sg 09 00 00.2 +3.6**
LVV L'vov 3.49 92 *e*P **Pn 08 59 01.2 +1.1**
LVV *e* 08 59 41.1
LVV pmax pmax
comp=Z,80nm,1.2s
LVV smax smax
comp=N,120nm,1.1s
LVV smax smax
comp=E,200nm,1.1s
LVV L'vov 3.49 92 Pn **Pn 08 59 01.8 +1.7**
KORU Korolevo 3.51 121 Pn **Pn 08 59 01.2 +0.9**
MORS Morshin 3.54 103 Pn **Pn 08 59 02.8 +2.0**
MEZ Mezhgor'ye 3.54 114 Pn **Pn 08 59 02.5 +1.7**
MOA Molln 3.62 234 *i* Pn **Pn 08 59 02.2 +0.2**
comp=E,0.8nm,0.2s
MOA *e*Sn **Sn 08 59 47.2 +1.7**
comp=E,7.9nm,0.3s
CLL Collm 3.80 292 Pn **Pn 08 59 05.9 +1.5**
CLL IAML 09 00 19.9
comp=E,126nm,0.9s
CLL IAML 09 00 23.4
comp=N,153nm,1.1s
CLL Collm 3.80 292 *e*Pn **Pn 08 59 07.0 +2.6**
CLL *ex* x 08 59 17.0
CLL *e*Pg **Pg 08 59 20.0 +2.6**
CLL *e*Sn **Sn 08 59 54.0 +4.2**
CLL *e*Sg **Sg 09 00 08.0 +1.4**
comp=Z,233nm,1.1s
CLL Collm 3.80 292 *e*Pn **Pn 08 59 07.0 +2.6**
CLL *e*Pg **Pg 08 59 20.3 +2.9**
CLL *e*Sg **Sg 09 00 08.8 +2.1**
CLL Collm 3.80 292 P **Pn 08 59 05.9 +1.5**
CLL Collm 3.80 292 Pn **Pn 08 59 07.0 +2.6**
MORH Mrgy, Hungar 3.83 180 ⇓P **Pn 08 59 05.2 +0.4**
MORH Mrgy, Hungar 3.83 180 Pn **Pn 08 59 05.6 +0.8**
WET Wettzell 3.85 259 *e*Pn **Pn 08 59 06.3 +1.2**
WET *e*Sg **Sg 09 00 05.6 -2.7**
WET Wettzell 3.85 259 P **Pn 08 59 06.3 +1.2**
RUE Ruedersdorf 3.91 311 *e*P **Pn 08 59 10.1 +4.3**
TANN Tannenbergstha 3.98 278 *e*Pn **Pn 08 59 07.9 +1.0**
TANN *e*Pg **Pg 08 59 20.6 -0.3**
TANN *e*Sg **Sg 09 00 13.8 +1.3**
NKC Novy Kostel 3.99 275 *e*PN **Pn 08 59 08.9 +1.9**
NKC *e*PG **Pg 08 59 20.6 -0.4**
NKC Novy Kostel 3.99 275 *e*P **Pn 08 59 08.9 +1.9**
BMR Baia Mare 3.99 125 P **Pn 08 59 08.1 +1.1**
BIOA Bad Ischl, Aus 4.05 236 *i* Pn **Pn 08 59 09.1 +1.3**
comp=Z,3.0nm,0.3s
BIOA *e*Sn **Sn 08 59 58.9 +2.9**
comp=Z,55nm,0.9s
STNU Starunia 4.06 107 Pn **Pn 08 59 09.1 +1.2**
WERD Werda 4.08 278 *e*Pg **Pg 08 59 22.3 -0.5**
WERD *e*Sg **Sg 09 00 15.9 +0.2**
SOKA Soboth 4.14 217 *i* Pn **Pn 08 59 11.0 +1.9**
comp=Z,0.5nm,0.2s
RAKU Rahkiv 4.16 117 Pn **Pn 08 59 10.4 +1.1**
ROTZ Rotzenmuhle 4.17 269 *e*Pn **Pn 08 59 10.3 +0.9**
ROTZ *e*Pg **Pg 08 59 23.0 -1.4**
ROTZ *e*Sg **Sg 09 00 15.7 -2.7**
MANZ Manzenberg 4.21 272 *e*Pn **Pn 08 59 11.6 +1.5**
MANZ *e*Pg **Pg 08 59 24.6 -0.7**
MANZ *e*Sg **Sg 09 00 21.1 +1.3**
DRGR 4.24 139 ⇓P **Pn 08 59 11.8 +1.3**
DRGR ⇑S **Sn 09 00 00.6 -0.1**
DRGR 4.24 139 P **Pn 08 59 11.7 +1.3**
SIRR Siria 4.29 151 ⇑P **Pn 08 59 11.9 +0.9**
OBKA Obir 4.47 219 *i* Pn **Pn 08 59 16.0 +2.3**
comp=Z,2.2nm,0.3s
MARR Marisel-Cluj 4.50 137 ⇑P **Pn 08 59 15.6 +1.4**
PTJ Puntijarka 4.51 204 P **Pn 08 59 18.0 +3.8**
MOX Moxa 4.54 280 *e*Pn **Pn 08 59 16.3 +1.8**
MOX *e*Pg **Pg 08 59 33.0 +1.5**
MOX *e*Sg **Sg 09 00 34.4 +4.1**
MOX Moxa 4.54 280 P **Pn 08 59 16.5 +2.0**
KSV Kosov 4.56 110 Pn **Pn 08 59 16.9 +2.1**
KLNR Kaliningrad 4.67 11 *i* P **Pn 08 59 14.7 -1.6**
LESA Schwarzleotal 4.74 239 *e*Sg **Sg 09 00 40.6 +4.0**
comp=Z,73nm,0.7s
RNPP5 Staryi Chortor 4.76 73 Pn **Pn 08 59 18.3 +0.7**
RNPP8 Varash 4.77 71 Pn **Pn 08 59 20.4 +2.8**
RNPP9 Sopachiv 4.81 71 Pn **Pn 08 59 20.9 +2.7**
GRA1 Grafenberg Arr 4.81 269 Pn **Pn 08 59 20.3 +2.0**
GRF Grafenberg Arr 4.81 269 *e*Pg **Pg 08 59 36.3 -0.5**
GRF *e*Sg **Sg 09 00 40.2 +1.2**
GRF Grafenberg Arr 4.81 269 P **Pn 08 59 20.3 +2.0**
GRFO Grafenberg 4.81 269 Pn **Pn 08 59 20.7 +2.4**
GRFO Grafenberg 4.81 269 P **Pn 08 59 20.7 +2.4**
BZS Buzias 4.86 155 ⇑P **Pn 08 59 20.2 +1.2**
BZS Buzias 4.86 155 P **Pn 08 59 20.1 +1.2**
SUW Suwalki 4.86 33 Pn **Pn 08 59 20.1 +1.2**
SUW IAML 09 01 04.0
comp=N,141nm,0.8s
SUW Suwalki 4.86 33 *e*P **Pb 08 59 30.2 -0.4**
SUW Suwalki 4.86 33 P **Pn 08 59 20.1 +1.2**
SURR Surduc 4.89 150 ⇓P **Pn 08 59 19.9 +0.6**
PRED Cave del Predi 4.95 225 Pn **Pn 08 59 21.8 +1.6**
PRED IAML 09 00 53.2
comp=E,21nm,2.0s
FRGS Fruska Gora 4.95 170 ⇑P **Pn 08 59 21.2 +0.9**
FRGS Fruska Gora 4.95 170 Pn **Pn 08 59 21.2 +0.9**
BUR08 Bucovina Ar. S 4.95 116 Pn **Pn 08 59 22.2 +1.9**
BURAR Bucovina Array 4.98 117 Pn **Pn 08 59 22.2 +1.5**
ABTA Abfaltersbach 5.25 233 Pg **Pg 08 59 42.9 -2.2**
comp=E,16nm,0.6s
ABTA Sg **Sg 09 00 53.6 +0.6**
comp=E,50nm,0.8s
KMPD K-Podol'skiy 5.33 103 Pn **Pn 08 59 26.5 +1.1**
KMPD Pn **Pn 08 59 26.4 +1.1**
WATA Walderalm 5.40 243 Sg **Sg 09 01 01.2 +3.1**
comp=E,58nm,0.7s
WTTA Wattenberg 5.41 242 Sg **Sg 09 00 57.9 -0.4**
comp=E,62nm,0.7s
STAL STALIGIAL 5.48 229 Pn **Pn 08 59 29.3 +1.8**
CLZ Clausthal 5.53 292 *e*Pn **Pn 08 59 31.9 +3.8**
CLZ *e*Sg **Sg 09 01 06.1 +4.1**
BSD Bornholm Skovb 5.56 337 *e*P **Pn 08 59 29.2 +0.6**
BSD Bornholm Skovb 5.56 337 IAML 09 00 02.6
comp=Z,22nm,0.7s
BSD Bornholm Skovb 5.56 337 *i* P **Pn 08 59 28.9 +0.4**
MDVR Moldovita 5.66 157 ⇓P **Pn 08 59 31.0 +1.0**
MOTA Moosalm 5.67 244 *e*Pn **Pn 08 59 32.6 +2.4**
comp=Z,2.7nm,0.4s
MOTA Sg **Sg 09 01 08.7 +1.9**
comp=Z,85nm,0.9s
SQTA Sankt Quirin 5.68 243 *e*Sg **Sg 09 01 10.1 +3.2**
comp=Z,72nm,1.3s
LOT Lotru 5.75 141 ⇓P **Pn 08 59 32.8 +1.5**
HERR Herculane 5.76 152 ⇑P **Pn 08 59 32.9 +1.5**
RETA Reutte 5.80 247 Sg **Sg 09 01 19.1 +8.3**
comp=Z,131nm,1.2s
LUBAR Lubar, Ukraine 5.88 88 Pn **Pn 08 59 32.6 -0.4**
MI29 MI29, Kamyanyy 5.92 83 Pn **Pn 08 59 34.3 +0.8**
FETA Feichten 6.06 243 *e*Pn **Pn 08 59 37.5 +1.9**
comp=Z,3.1nm,0.7s
DOPR Dopca 6.09 129 ⇓P **Pn 08 59 38.1 +2.2**
MI30 MI30,Zelenitsa 6.15 80 Pn **Pn 08 59 37.8 +1.2**
CTI Castel Tesino 6.16 232 **Pn 08 59 38.9 +2.0**
CTI Castel Tesino 6.16 232 P **Pn 08 59 38.9 +2.0**
STU Stuttgart 6.29 262 Pn **Pn 08 59 39.6 +1.0**
STU Stuttgart 6.29 262 P **Pn 08 59 39.6 +1.0**
VOIR 6.32 134 ⇓P **Pn 08 59 40.3 +1.3**
VOIR 6.32 134 P **Pn 08 59 40.3 +1.3**
VOIR 6.32 134 Pn **Pn 08 59 40.2 +1.2**
comp=Z,11nm,0.9s,comp=Z,0.1nm
PABE Paberze 6.35 29 Pn **Pn 08 59 41.3 +1.9**
PABE Paberze 6.35 29 *e*P Pn 08 59 47.1 +7.7
LUNU Lund 6.42 333 *i* P **Pn 08 59 41.0 +0.7**
BLEU Blekinge 6.50 346 *i* S **Pg 09 00 11.3 +2.3**
BLEU Blekinge 6.50 346 *i* P **Pn 08 59 40.6 -0.7**
FUORN Ofenpass-Fuorn 6.55 242 Pn **Pn 08 59 44.8 +2.5**
TNS Taunus Mts 6.55 275 P **Pn 08 59 44.9 +2.6**
LLD Lille Linde 6.58 326 IAML 09 00 24.3
comp=Z,50nm,0.9s
LLD Lille Linde 6.58 326 *i* S Pg 09 00 21.0 +10
AK19 Malin Array Si 6.67 80 Pn **Pn 08 59 43.8 0.0**
AK20 Malin Array Si 6.67 80 Pn **Pn 08 59 44.2 +0.4**
DAVOX Davos/Dischmat 6.68 244 Pn **Pn 08 59 46.3 +2.2**
comp=Z,1.3nm,0.3s,baz=42,slow=20,SNR=9.5
DAVOX Sn **Sn 09 00 58.5 -2.5**
comp=Z,0.4nm,0.3s,baz=51,slow=11,SNR=3.3
DAVOX Lg Lg 09 01 38.9
comp=Z,0.8nm,0.3s,baz=302,slow=23,SNR=8.0
comp=Z,2.9nm,0.3s
AK21 Malin Array Si 6.69 80 Pn **Pn 08 59 44.7 +0.6**
AK13 Malin Array Si 6.70 81 Pn **Pn 08 59 44.4 +0.2**
AK18 Malin Array Si 6.71 80 Pn **Pn 08 59 44.9 +0.6**
MLR Muntele Rosu 6.71 130 ⇓P **Pn 08 59 45.2 +0.7**
MLR Muntele Rosu 6.71 130 P **Pn 08 59 45.1 +0.7**
KIEV Kiev 6.79 80 **Pn 08 59 45.3 -0.2**
KIEV Kiev 6.79 80 P **Pn 08 59 45.3 -0.2**
KIEV Kiev 6.79 80 Pn **Pn 08 59 45.6 +0.1**
comp=Z,42nm,0.9s,comp=Z,0.6nm
AKASG Malin Array Be 6.80 80 Pn **Pn 08 59 45.9 +0.3**
AKASG Malin Array Be 6.80 80 Pn **Pn 08 59 45.1 -0.5**
comp=Z,1.8nm,0.3s,baz=264,slow=13,SNR=16
AKASG Sn **Sn 09 01 00.9 -2.8**
comp=Z,2.4nm,0.3s,baz=262,slow=24,SNR=4.9
comp=Z,0.7nm,0.4s
AKASG Malin Array Be 6.80 80 *i* P **Pn 08 59 45.7 +0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKBB Malin Array Si 6.80 80 **Pn 08 59 45.7 +0.1**
AKBB Malin Array Si 6.80 80 P **Pn 08 59 45.7 +0.1**
AKBB Malin Array Si 6.80 80 Pn **Pn 08 59 45.6 0.0**
PLOR3 Plostina Array 6.82 125 Pn **Pn 08 59 47.0 +1.1**
comp=Z,8.2nm,1.0s,comp=Z,0.0nm
PLOR Plostina 6.82 125 ⇑P **Pn 08 59 48.4 +2.4**
PLOR Plostina 6.82 125 P **Pn 08 59 48.3 +2.4**
PLOR5 Plostina Array 6.83 125 Pn **Pn 08 59 47.1 +1.0**
comp=Z,9.4nm,1.1s,comp=Z,0.1nm
AK09 Malin Array Si 6.84 81 Pn **Pn 08 59 45.8 -0.3**
VRI Vrincioaia 6.85 125 ⇓P **Pn 08 59 48.1 +1.8**
VRI Vrincioaia 6.85 125 P **Pn 08 59 48.1 +1.8**
VRI Vrincioaia 6.85 125 Pn **Pn 08 59 47.7 +1.4**
comp=Z,4.9nm,1.0s,comp=Z,741nmcomp=Z,0.0nm
NACGM Naroch 6.96 42 *e*P **Pn 08 59 50.8 +3.1**
comp=Z,22nm,0.9s,baz=233
BFO Black Forest 6.97 260 Pn **Pn 08 59 48.9 +0.9**
BFO Black Forest 6.97 260 P **Pn 08 59 48.9 +0.9**
DEL Delary 7.04 338 *e*P **Pn 08 59 46.4 -2.4**
DEL Delary 7.04 338 *i* P **Pn 08 59 49.0 +0.1**
BISRR Bisoca 7.05 127 Pn **Pn 08 59 49.8 +0.7**
comp=Z,158nm,0.8s,comp=Z,27µmcomp=Z,1.5nm
GHRR 7.10 121 Pn **Pn 08 59 50.7 +1.0**
TUE Stuetta 7.16 244 Pn **Pn 08 59 51.9 +1.2**
TUE Stuetta 7.16 244 Pn **Pn 08 59 52.2 +1.5**
comp=Z,27nm,1.1s,comp=Z,0.5nm
MNK Minsk 7.22 48 *i* P **Pn 08 59 52.7 +1.5**
comp=E,6.0nm,0.7s
MNK *i* P **Pn 08 59 52.7 +1.5**
comp=N,20nm,0.9s
MNK *i* P **Pn 08 59 52.7 +1.5**
comp=Z,21nm,0.7s,baz=235
MNK *i* PP **PnPn 08 59 58.5 0.0**
MNK *i* S **Sn 09 01 16.6 +2.7**
MNK *i* SS **SnSn 09 01 24.3 -0.6**
MNK *i* LQ LQ 09 01 46.4
MNK *i* LR LR 09 02 24.2
MNK *i* LRM MLR 09 02 46.1
comp=Z,39nm,0.9s
MNK *i* LRM MLR 09 02 47.2
comp=E,64nm,1.2s
MNK Minsk 7.22 48 *i* P **Pn 08 59 52.7 +1.5**
MNK *i* S **Sn 09 01 16.5 +2.7**
MNK pmax pmax
comp=N,20nm,0.9s
MNK pmax pmax
comp=Z,21nm,0.6s
MNK pmax pmax
comp=E,6.0nm,0.6s
MNK MLR MLR
comp=Z,39nm,1.0s
MNK MLR MLR
comp=E,64nm,1.0s
CDF Champ du Feu 7.62 262 *e*Pn **Pn 08 59 57.1 +0.2**
CDF Champ du Feu 7.62 262 *e*Pg **Pg 09 00 29.0 -1.5**
CDF *e*Sg **Sg 09 02 06.8 -2.3**
comp=E,269nm,1.5s
ECH Echery 7.75 261 Pn **Pn 09 00 00.1 +1.5**
ECH Echery 7.75 261 P **Pn 09 00 00.1 +1.5**
FABU Falkenberg 7.81 335 *i* P **Pn 08 59 59.2 -0.1**
SLIT Slitere, Latvi 7.90 14 *e*P **Pn 09 00 03.0 +2.4**
HINF Hinteralfeld 8.07 258 *e*Pn **Pn 09 00 03.8 +0.7**
HINF Hinteralfeld 8.07 258 *e*Pg **Pg 09 00 37.7 -1.5**
HINF *e*Sg **Sg 09 02 21.4 -2.4**
comp=E,136nm,1.2s
HAU Haudompre 8.33 261 *e*Pn **Pn 09 00 06.7 +0.1**
HAU *e*Sg **Sg 09 02 29.4 -2.6**
comp=E,70nm,1.0s
VIKU Vikbolandet 8.55 353 *e*P **Pn 09 00 07.2 -2.3**
PAGF Fort de Pagny 8.57 265 *e*Pn **Pn 09 00 09.9 0.0**
PAGF *e*Sg **Sg 09 02 36.6 -3.1**
comp=E,346nm,1.7s
GIVF Givet 8.89 276 *e*Sg **Sg 09 02 48.3 -1.5**
comp=E,181nm,1.4s
SAVF Savonnieres en 8.94 266 *e*Pn **Pn 09 00 14.9 0.0**
SAVF *e*Sg **Sg 09 02 48.2 -3.3**
MEZF Maizieres J'vi 9.02 265 *e*Pn **Pn 09 00 15.6 -0.4**
MEZF *e*Sg Sn 09 02 50.6 +52
comp=E,194nm,1.6s
CABF La Chapelle 9.04 252 *e*Pn **Pn 09 00 17.5 +1.1**
CABF La Chapelle 9.04 252 *e*Pg Pn 09 00 56.2 +40
CABF *e*Sg Sn 09 02 51.7 +53
comp=E,333nm,1.6s
SFTF Sexfontaines 9.11 264 *e*Pn **Pn 09 00 17.0 -0.2**
SFTF Sexfontaines 9.11 264 *e*Pg Pn 09 00 56.8 +40
SFTF *e*Sg Sn 09 02 53.4 +53
comp=E,109nm,1.2s
MTSE Matsula 9.20 17 *e*P **Pn 09 00 19.9 +1.5**
LPG La Plagne 9.20 245 *e*Pn **Pn 09 00 19.8 +1.0**
LPG *e*Sg Sn 09 02 57.2 +54
comp=E,121nm,1.4s
LPL La Plagne 9.20 245 *e*Pn **Pn 09 00 20.2 +1.4**
LPL *e*Sg Sn 09 02 56.9 +54
comp=E,82nm,1.3s
BAIF Baives 9.29 276 *e*Pn **Pn 09 00 19.0 -0.7**
BAIF *e*Sg Sn 09 02 58.8 +54
comp=E,77nm,1.2s
VSU Vasula 9.67 26*ce*P **Pn 09 00 23.3 -1.5**
VSU pmax pmax
comp=Z,110nm,1.7s
ORIF Oris-en-Rattie 10.04 244 *e*Pn **Pn 09 00 31.1 +1.0**
ORIF *e*Sg Sn 09 03 23.5 +60
comp=Z,118nm,1.6s
LOR Lormes 10.17 260 *e*Pn **Pn 09 00 31.4 -0.3**
baz=69
LOR Lormes 10.17 260 *e*Pg Pn 09 01 16.8 +45
LOR *e*Sg 09 03 27.6
comp=Z,36nm,1.1s
AAL Aland 10.19 4 *e*P **Pn 09 00 30.4 -1.5**
SMF Signal de Mont 10.42 257 *e*Pn **Pn 09 00 35.8 +0.6**
SMF Signal de Mont 10.42 257 *e*Pg Pn 09 01 21.6 +46
SMF *e*Sg 09 03 36.5
comp=Z,86nm,1.4s
SSF Saint Saulge 10.47 259 *e*Pn **Pn 09 00 36.2 +0.4**
SSF *e*Sg 09 03 35.5
comp=Z,80nm,1.3s
HFS Hagfors 10.50 346 Pn **Pn 09 00 35.6 -0.6**
comp=Z,0.1nm,0.3s,baz=181,slow=26,SNR=2.5
HFS Sn **Sn 09 02 25.8 -8.6**
comp=Z,0.1nm,0.3s,baz=174,slow=15,SNR=1.9
HFS Lg Lg 09 03 45.1
comp=Z,0.1nm,0.3s,baz=159,slow=29,SNR=1.3
comp=Z,1.1nm,0.6s
AVF Avril sur Loir 10.67 258 *e*Pn **Pn 09 00 39.1 +0.5**
AVF Avril sur Loir 10.67 258 *e*Pg Pn 09 01 26.0 +47
AVF *e*Sg 09 03 43.1
comp=Z,51nm,1.2s
MEF Metsahovi 10.71 16 *e*P **Pn 09 00 40.9 +1.8**
BGF Bois d'Agland 11.08 258 *e*Pn **Pn 09 00 44.4 +0.2**
BGF Bois d'Agland 11.08 258 *e*Pg Pn 09 01 33.2 +49
BGF *e*Sg 09 03 54.9
comp=Z,92nm,1.4s
RAF Rauma 11.14 8 *e*P **Pn 09 00 44.9 -0.1**
TCF Toulx Ste Croi 11.59 257 *e*Pn **Pn 09 00 51.5 +0.2**
TCF *e*Sn **Sn 09 02 54.3 -7.1**
NAO01 NORSAR Array S 11.67 341 Pn **Pn 09 00 51.4 -0.8**
NOA NORSAR Array B 11.78 342 Pn **Pn 09 00 53.4 -0.5**
baz=92,slow=3.8,SNR=6.0
NOA Sn Sn 09 02 57.0 -9.0
comp=Z,0.9nm,0.7s
OBN Obninsk 12.02 58 Pn **Pn 09 00 55.8 -1.1**

comp=Z,24nm,0.4s,baz=238,slow=22,SNR=7.7

OBN	**Obninsk**	**12.02**	**58**	*i* P	**Pn**	09 00 56.1	-0.9
OBN				*e*S	**Sn**	09 03 08.5	-3.1
OBN				pmax	pmax		
	comp=Z,55nm,1.5s						
OBN				MLR	MLR		
	comp=Z,157nm,18.0s						
OBN	**Obninsk**	**12.02**	**58**	Pn	**Pn**	09 00 56.3	-0.7
	comp=Z,33nm,0.5s						
FINES	**FINESS Array B**	**12.16**	**17**		**Pn**	09 00 57.6	-1.2
FINES	**FINESS Array B**	**12.16**	**17**	Pn	**Pn**	09 00 57.9	-1.0
	comp=Z,1.0nm,0.3s,baz=192,slow=11,SNR=35						
	comp=Z,2.8nm,0.3s						
FIA1	**FINESS Array S**	**12.16**	**17**	Pn	**Pn**	09 00 57.7	-1.2
KEF	**Keuruu**	**12.63**	**13**	*e*P	**Pn**	09 01 04.6	-0.8
MOS	**Moscow**	**12.79**	**56**	*e*P	Pn	09 01 01.3	-6.1
LPSR	**Galich'ya Gora**	**12.94**	**71**	*e*P	**Pn**	09 01 05.1	-4.5
LPSR				pmax	pmax		
	comp=Z,30nm,1.0s						
VORR	**Voronezh**	**13.10**	**75**	*i* P	Pn	09 01 05.2	-6.5
VORR				pmax	pmax		
	comp=Z,17nm,0.5s						
EKA	**Eskdalemuir Ar**	**14.21**	**300**	Pn	**Pn**	09 01 24.7	-2.3
	baz=214,slow=41						
JOF	**Joensuu**	**14.64**	**23**	*e*P	**Pn**	09 01 33.4	+0.7
VRH	**Novokhopyorsk**	**14.69**	**77**	*e*P	Pn	09 01 27.3	-6.2
VRH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
BRTR	**Keskin Array B**	**14.79**	**129**	Pn	**P**	09 01 43.8	+2.6
	comp=Z,0.2nm,0.3s,baz=316,slow=7.0,SNR=15						
KLMR	**Klimovskoe**	**15.96**	**39**	*e*P	**Pn**	09 01 44.3	-6.0
KLMR				*e*		09 04 39.2	
KLMR				pmax	pmax		
	comp=Z,47nm,1.2s						
KIV	**Kislovodsk**	**17.46**	**101**	*e*P	**Pn**	09 02 07.1	-2.4
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s						
SHA1	**Shidzhatmaz**	**17.55**	**102**	*ce*P	**Pn**	09 02 07.7	-3.0
KBZ	**Khabaz**	**17.70**	**102**	*ce*P	**Pn**	09 02 09.9	-2.4
SGF	**Sodankyl**	**17.89**	**10**	P	**Pn**	09 02 14.6	0.0
BELG	**Belogornoye**	**18.26**	**71**	*i* P	**Pn**	09 02 16.0	-3.1
BELG				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ESDC	**Sonseca Array**	**19.01**	**246**	P	**P**	09 02 28.2	+0.3
	comp=Z,2.4nm,1.2s,baz=57,slow=11,SNR=6.0						
KIRV	**Kirov**	**19.73**	**53**	*i* P	**P**	09 02 32.7	-2.8
ARCES	**ARCESS Array B**	**19.83**	**7**	P	**Pn**	09 02 38.4	+0.4
	comp=Z,0.1nm,0.3s,baz=191,slow=13,SNR=13						
	comp=Z,1.1nm,0.5s						
GNI	**Garni**	**20.82**	**108**	*i* P	**P**	09 02 45.7	-2.0
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
ARU	**Arti**	**24.46**	**59**	*c i* P	**P**	09 03 22.5	-2.4
ARU						09 03 52.5	
ARU				S	**S**	09 07 44.9	-0.7
ARU				SS	**SnSn**	09 08 29.5	+0.9
ARU				pmax	pmax		
	comp=Z,10.0nm,2.4s						
ARU	**Arti**	**24.46**	**59**	P	**P**	09 03 25.7	+0.8
SVE	**Sverdlovsk**	**25.59**	**58**	*e*P	**P**	09 03 37.9	+2.8
SVE				pmax	pmax		
	comp=Z,27nm,1.1s						
BRVK	**Borovoye**	**31.69**	**64**	*ce*P	**P**	09 04 28.9	-0.6
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.3s						
BVAR	**Borovoye Array**	**31.76**	**64**	P	**P**	09 04 33.2	+3.1
	comp=Z,1.8nm,0.6s,baz=302,slow=8.5,SNR=11						
	comp=Z,1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**37.32**	**65**	P	**P**	09 05 20.2	+2.0
	comp=Z,1.9nm,1.0s,baz=295,slow=9.0,SNR=5.8						
	comp=Z,1.9nm,1.0s						
KURK	**Kurchatov**	**37.34**	**65**	*ce*P	**P**	09 05 15.5	-2.9
KURK				pmax	pmax		
	comp=Z,7.0nm,2.5s						
AAK	**Ala-Archa**	**38.47**	**79**	P	**P**	09 05 30.8	+2.6
	comp=Z,1.4nm,0.6s,baz=306,slow=6.6,SNR=6.5						
	comp=Z,1.4nm,0.6s						
AAK	**Ala-Archa**	**38.47**	**79**	*ce*P	**P**	09 05 26.6	-1.7
AAK				pmax	pmax		
	comp=Z,9.0nm,2.5s						
TORD	**Torodi Ar. Bea**	**39.33**	**207**	P	**P**	09 05 35.8	+0.4
	comp=Z,0.6nm,0.7s,baz=25,slow=8.8,SNR=3.7						
	comp=Z,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**39.60**	**58**	P	**P**	09 05 40.5	+3.1
	comp=Z,0.4nm,0.3s,baz=311,slow=9.6,SNR=4.2						
	comp=Z,0.4nm,0.3s						
MK31	**Makanchi Array**	**41.23**	**69**	*ce*P	**P**	09 05 49.1	-2.0
MKAR	**Makanchi Array**	**41.23**	**69**	P	**P**	09 05 54.0	+3.0
	comp=Z,0.5nm,0.7s,baz=301,slow=5.0,SNR=6.9						
	comp=Z,0.5nm,0.7s						
SONM	**Songino Array**	**54.42**	**56**	P	**P**	09 07 36.7	+3.4
	comp=Z,0.5nm,0.5s,baz=290,slow=9.1,SNR=2.1						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**61.84**	**337**	P	**P**	09 08 27.1	+2.2
	comp=Z,0.9nm,0.8s,baz=24,slow=6.9,SNR=11						
	comp=Z,0.9nm,0.8s						

*NEIC **05** 08:59:19.7±1.4, 19°.27N±0°.02×155°.17W±0°.02, h5km±1km, Error ellipse: s-maj=4.3km s-min=2.8km az=305.0*

HVO 05 08:59:20.1±0.6, 19°.30N±0°.02×155°.21W±0°.02, h8km±2km, ML3.6/41, ML3.7/44(NEIC), Error ellipse: s-maj=3.0km s-min=1.6km az=130.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.07**	**358**		Sg	08 59 24.2	+0.4
PUH	**Pauahi**	**0.07**	**358**	Pg	Pg	08 59 22.4	+0.1
PUH	**Pauahi**	**0.07**	**358**	IAML		08 59 24.4	
	comp=E,38μm,0.3s						
PUH				IAML		08 59 24.4	
	comp=N,20μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.09**	**29**		Pg	08 59 22.8	+0.3
HLP	**Hilina Pali**	**0.09**	**265**		Pg	08 59 22.9	+0.5
HLP					Sg	08 59 25.1	+1.0
HLP	**Hilina Pali**	**0.09**	**265**	IAML		08 59 25.5	
	comp=N,215μm,0.4s						
HLP				IAML		08 59 25.5	
	comp=E,145μm,0.2s						
KKO	**Keanakako`i**	**0.11**	**332**		Pg	08 59 23.0	+0.2
KKO				IAML		08 59 26.4	
	comp=E,33μm,0.5s						
RIM	**Rim**	**0.11**	**327**		Pg	08 59 23.1	+0.3
SDHHI	**Sand Hill**	**0.11**	**318**		Pg	08 59 23.0	+0.1
SDHHI				IAML		08 59 25.7	
	comp=N,44μm,0.4s						
SDHHI				IAML		08 59 25.7	
	comp=E,34μm,0.6s						
BYL	**Byron's Ledge**	**0.12**	**337**		Pg	08 59 23.0	+0.1
BYL				IAML		08 59 27.4	
	comp=E,30μm,0.5s						
STCH	**Steam Cracks**	**0.12**	**46**		Pg	08 59 23.2	+0.3
STCH				IAML		08 59 25.8	
	comp=N,17μm,0.2s						
NPH	**North Pit**	**0.12**	**329**		Pg	08 59 23.2	+0.1
HATHI	**Halema'uma'u T**	**0.13**	**339**		Pg	08 59 23.2	+0.2
HATHI				IAML		08 59 26.2	
	comp=E,41μm,0.4s						
HATHI				IAML		08 59 28.0	
	comp=N,24μm,0.4s						
NPOC	**North of Pu'u**	**0.13**	**48**		Pg	08 59 23.5	+0.3
OBL	**Observatory Le**	**0.13**	**329**		Pg	08 59 23.4	+0.3
OBL				IAML		08 59 26.9	
	comp=N,30μm,0.4s						
WRMHI	**West Rim**	**0.13**	**321**		Pg	08 59 23.3	+0.2
WRMHI				IAML		08 59 26.3	
	comp=E,41μm,0.6s						
WRMHI				IAML		08 59 28.0	
	comp=N,16μm,0.5s						
JCUZ	**Jacuzzi**	**0.13**	**53**		Pg	08 59 23.4	+0.3
SBLHI	**Steaming Bluff**	**0.13**	**337**		Pg	08 59 23.3	+0.1
SBLHI				IAML		08 59 26.2	
	comp=E,28μm,0.5s						
SBLHI				IAML		08 59 26.6	
	comp=N,26μm,0.6s						
UWB	**Uwekahuna B**	**0.14**	**333**		Pg	08 59 23.3	+0.1
UWB				IAML		08 59 26.2	
	comp=N,15μm,0.7s						
UWE	**Uwekahuna**	**0.14**	**327**		Pg	08 59 23.5	+0.2
UWE				IAML		08 59 26.7	
	comp=E,29μm,0.5s						
UWE				IAML		08 59 28.4	
	comp=N,20μm,0.4s						
RSD	**Rainshed**	**0.17**	**339**		Pg	08 59 23.8	0.0
HTC	**Hot Caves**	**0.19**	**249**		Pg	08 59 24.7	+0.6
JOKA	**Jonika Flow**	**0.23**	**57**		Pg	08 59 25.0	0.0
MLH	**Mauna Loa**	**0.25**	**319**		Pg	08 59 25.4	+0.1
MLH				IAML		08 59 31.5	
	comp=E,7μm,0.3s						
MLH				IAML		08 59 33.4	
	comp=N,9μm,0.3s						
PHO	**Puu Honuaula**	**0.35**	**60**		Pg	08 59 27.5	+0.4
KHU	**Kahuku**	**0.38**	**261**		Pg	08 59 27.6	-0.2
KHU	**Kahuku**	**0.38**	**261**		Sg	08 59 33.5	+0.7
KHU	**Kahuku**	**0.38**	**261**	IAML		08 59 33.8	
	comp=N,5μm,0.5s						
KHU				IAML		08 59 34.0	
	comp=E,7μm,0.5s						
HMH	**Humu'ula Sheep**	**0.39**	**319**		Pg	08 59 27.9	-0.1
HMH	**Humu'ula Sheep**	**0.39**	**319**		Sb	08 59 34.6	-1.2
MWH	**Moku'aweowe**	**0.41**	**296**		Pg	08 59 28.1	-0.1
MWH				IAML		08 59 35.5	
	comp=E,11μm,0.7s						
MWH				IAML		08 59 38.2	
	comp=N,10μm,0.3s						
MWH	**Moku'aweowe**	**0.41**	**296**		Sg	08 59 34.9	+1.2
ALEP	**Alea Permanent**	**0.47**	**300**		Pg	08 59 28.9	-0.5
ALEP					Sg	08 59 36.5	+0.9
POHA	**Pohakuloa**	**0.54**	**326**		Pg	08 59 30.0	-0.7
POHA	**Pohakuloa**	**0.54**	**326**		Sg	08 59 37.4	-0.5
CPH	**Captain Cook**	**0.69**	**285**		Pg	08 59 32.2	-1.3
HUH	**Hualalai**	**0.70**	**303**	Pg	Pg	08 59 33.1	-0.6
HPAH	**Hawaii Prepara**	**0.85**	**328**		Pg	08 59 34.2	-2.4

*AEIC **05** 09:01:14.4±1.3, 56°.4N±0°.1×148°.6W±0°.1, h12km±8km, Error ellipse: s-maj=17.8km s-min=9.4km az=174.0*

NEIC 05 09:01:12.0±1.1, 56°.4N±0°.1×148°.6W±0°.1, h20km±10km, ML3.3/34, ML3.1(AEIC), Error ellipse: s-maj=15.6km s-min=9.4km az=172.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.54**	**304**		Pn	09 01 52.0	-0.1
OHAK	**Old Harbor**	**2.68**	**289**	Pn	Pn	09 01 53.1	-0.8
SYI	**Shuyak Island**	**2.98**	**318**		Pn	09 01 58.4	+0.4
SYI					Sn	09 02 32.5	-0.6
MID	**Middleton Isla**	**3.23**	**21**		Pn	09 02 01.2	-0.3
Q23K	**Middleton Isla**	**3.23**	**21**		Pn	09 02 01.2	-0.3
Q23K				IAML		09 03 25.8	
	comp=N,109nm,1.1s						
CNPM	**China Poot**	**3.39**	**337**		Pn	09 02 03.8	0.0
CNPM				IAML		09 02 47.3	
	comp=E,19nm,1.2s						
BRSE	**Bradley Lake S**	**3.50**	**342**		Pn	09 02 05.5	+0.2
BRSE					Sn	09 02 45.5	-0.4
BRLK	**Bradley Lake**	**3.54**	**341**		Pn	09 02 05.9	0.0
BRLK				IAML		09 02 53.1	
	comp=N,21nm,1.0s						
BRLK				IAML		09 02 53.2	
	comp=E,21nm,1.1s						
P23K	**Montague Islan**	**3.62**	**10**		Pn	09 02 06.9	0.0
Q19K	**Cape Douglas,**	**3.67**	**315**		Pn	09 02 08.4	+0.7
Q19K	**Cape Douglas,**	**3.67**	**315**	IAML		09 03 08.3	
	comp=N,62nm,1.1s						
SEW	**Seward**	**3.70**	**354**		Pn	09 02 07.5	-0.4
P19K	**Oil Pt**	**4.04**	**325**		Pn	09 02 13.8	+1.0
HIN	**Hinchinbrook I**	**4.12**	**15**		Pn	09 02 13.9	+0.1
HIN				IAML		09 03 06.1	
	comp=E,48nm,1.1s						
ANCK	**Angle Creek**	**4.12**	**298**		Pn	09 02 13.7	-0.1
KAIM	**Kayak Island**	**4.14**	**31**		Pn	09 02 13.5	-0.6
KAIM				IAML		09 04 23.3	
	comp=N,52nm,0.9s						
SLKM	**Skilak Lake**	**4.16**	**349**		Pn	09 02 13.9	-0.5
IVE	**Iliamna Volcan**	**4.27**	**329**		Pn	09 02 15.6	-0.4
CNTC	**Contact Creek**	**4.34**	**298**		Pn	09 02 16.9	+0.1
EYAK	**Cordova Ski Ar**	**4.38**	**19**		Pn	09 02 17.1	-0.3
SUCK	**Suckling Hills**	**4.45**	**33**		Pn	09 02 18.2	-0.1
SUCK				IAML		09 04 30.3	
	comp=N,45nm,0.8s						
GLI	**Glacier Island**	**4.52**	**10**		Pn	09 02 19.6	+0.3
GLI				IAML		09 03 03.6	
	comp=N,44nm,1.1s						
GLI				IAML		09 03 35.1	
	comp=E,41nm,1.2s						
RDSO	**Redoubt South**	**4.57**	**333**		Pn	09 02 19.6	-0.5
RSO	**Redoubt South**	**4.58**	**333**	Pn	Pn	09 02 19.8	-0.4
P18K	**Big Mountain,**	**4.60**	**313**		Pn	09 02 20.4	0.0
O18K	**Koktuh Hills**	**4.88**	**317**	Pn	Pn	09 02 24.8	+0.5
WAX	**Waxell Ridge**	**5.03**	**35**	Pn	Pn	09 02 26.2	-0.1
WAX				IAML		09 05 35.1	
	comp=E,24nm,1.1s						
ISLE	**Juniper Island**	**5.31**	**36**	Pn	Pn	09 02 30.5	+0.3
ISLE				IAML		09 05 23.8	
	comp=N,22nm,1.1s						
ISLE				IAML		09 05 53.8	
	comp=E,16nm,1.1s						
VRDI	**Verde Repeater**	**5.50**	**27**	Pn	Pn	09 02 32.8	-0.1
N25K	**Chitina, Valde**	**5.58**	**20**	Pn	Pn	09 02 34.7	+0.8
GLB	**Gilahina Butte**	**5.60**	**24**	Pn	Pn	09 02 30.7	-3.4
N18K	**Kilae Creek**	**5.70**	**321**	Pn	Pn	09 02 36.0	+0.5
MCARA	**McCarthy VSAT**	**5.74**	**28**	Pn	Pn	09 02 36.5	+0.5
BARN	**Barnard Glacie**	**5.88**	**35**	Pn	Pn	09 02 37.9	-0.2
CTGM	**Chitina Glacie**	**5.91**	**37**	Pn	Pn	09 02 38.6	+0.1
LOGN	**Logan Glacier**	**5.93**	**39**	Pn	Pn	09 02 38.7	0.0
M20K	**Styx River**	**5.93**	**339**	Pn	Pn	09 02 37.0	-1.6
O16K	**Kokwok River B**	**5.94**	**306**	Pn	Pn	09 02 39.4	+0.6
M19K	**Big River Lodg**	**6.23**	**334**	Pn	Pn	09 02 41.8	-0.9
L19K	**White Mountain**	**6.58**	**334**	Pn	Pn	09 02 46.3	-1.2
P29M	**Windy Craggy**	**6.60**	**57**	Pn	Pn	09 02 48.0	+0.1
S31K	**Pelican**	**6.90**	**72**	Pn	Pn	09 02 50.5	-1.4
M16K	**Timber Creek**	**7.07**	**315**	Pn	Pn	09 02 53.0	-1.2
HYT	**Haines Junctio**	**7.28**	**48**	Pn	Pn	09 02 57.6	+0.5
M29M	**Somme Creek**	**7.93**	**36**	Pn	Pn	09 03 07.2	+1.0
K27K	**Chicken**	**8.27**	**20**	Pn	Pn	09 03 06.4	-4.4
P32M	**Atlin**	**8.52**	**62**	Pn	Pn	09 03 13.6	-0.5
L29M	**L29M**	**8.52**	**34**	Pn	Pn	09 03 13.6	-0.6
P33M	**Teslin, Yukon**	**9.13**	**59**	Pn	Pn	09 03 20.9	-1.7
M31M	**Drury Creek, Y**	**9.27**	**46**	Pn	Pn	09 03 25.6	+1.1

*AEIC **05** 09:03:02.9±1.9, 55°.9N±0°.1×150°.02W±0°.10, h2km±9km, Error ellipse: s-maj=20.0km s-min=7.6km az=175.0*

NEIC 05 09:02:59.3±1.2, 55°.9N±0°.1×149°.9W±0°.1, h7km±8km, ML3.2/30, ML3.0(AEIC), Error ellipse: s-maj=20.2km s-min=9.8km az=170.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.26**	**306**		Pn	09 03 35.5	-1.5
KDAK	**Kodiak Island**	**2.35**	**323**		Pn	09 03 38.2	-0.1
SYI	**Shuyak Island**	**2.99**	**334**		Pn	09 03 47.0	-0.1
SYI				IAML		09 04 23.2	
	comp=E,26nm,0.8s						
Q19K	**Cape Douglas,**	**3.61**	**328**		Pn	09 03 56.9	+1.4
Q19K				IAML		09 04 42.7	
	comp=N,91nm,0.7s						
Q19K				IAML		09 04 47.8	
	comp=E,122nm,1.1s						
CNPM	**China Poot**	**3.66**	**350**		Pn	09 03 56.1	-0.2
CNPM				IAML		09 05 20.9	
	comp=E,16nm,1.2s						
ANCK	**Angle Creek**	**3.79**	**309**		Pn	09 03 58.4	+0.3
BRSE	**Bradley Lake S**	**3.84**	**354**		Pn	09 03 58.1	-0.6
BRSE					Sn	09 04 40.8	-3.2
BRLK	**Bradley Lake**	**3.87**	**353**	Pn	Pn	09 03 58.1	-1.0
BRLK				IAML		09 04 45.1	
	comp=E,22nm,1.1s						
BRLK				IAML		09 04 45.2	
	comp=N,15nm,0.7s						
Q23K	**Middleton Isla**	**3.99**	**27**	Pn	Pn	09 04 00.2	-0.6
MID	**Middleton Isla**	**3.99**	**27**	Pn	Pn	09 04 00.3	-0.4
MID				IAML		09 05 35.1	
	comp=N,123nm,1.2s						
CNTC	**Contact Creek**	**4.00**	**308**		Pn	09 04 00.7	-0.2
P19K	**Oil Pt**	**4.12**	**336**	Pn	Pn	09 04 01.5	-1.1
P19K				IAML		09 04 53.9	
	comp=E,51nm,1.1s						
P19K				IAML		09 04 56.2	
	comp=N,52nm,1.1s						
P19K	**Oil Pt**	**4.12**	**336**	IAML		09 04 53.9	
	comp=E,51nm,1.1s						
P19K				IAML		09 04 54.1	
	comp=N,51nm,0.6s						
P23K	**Montague Islan**	**4.29**	**17**		Pn	09 04 04.6	-0.2
IVE	**Iliamna Volcan**	**4.41**	**339**		Pn	09 04 07.2	+0.6
P18K	**Big Mountain,**	**4.48**	**323**		Pn	09 04 07.3	-0.3
P18K				IAML		09 04 59.7	
	comp=N,10nm,1.2s						
P18K	**Big Mountain,**	**4.48**	**323**	IAML		09 04 59.7	
	comp=N,10nm,1.1s						
R16K	**Pilot Point**	**4.51**	**294**	Pn	Pn	09 04 07.4	-0.5
O22K	**Cooper Landing**	**4.55**	**1**	Pn	Pn	09 04 07.7	-0.8
CHGN	**Chignik**	**4.76**	**278**	Pn	Pn	09 04 11.7	+0.3
CHGN				IAML		09 06 12.9	
	comp=N,22nm,1.2s						
CHGN				IAML		09 06 31.4	
	comp=E,28nm,1.1s						
P17K	**Kvichak River**	**4.79**	**316**		Pn	09 04 11.6	-0.2
HIN	**Hinchinbrook I**	**4.82**	**21**		Pn	09 04 11.9	-0.3
HIN				IAML		09 07 11.8	
	comp=E,57nm,1.2s						
HIN				IAML		09 07 19.5	
	comp=N,42nm,0.9s						
O18K	**Koktuh Hills**	**4.83**	**327**		Pn	09 04 12.2	-0.1
O18K				IAML		09 05 22.1	
	comp=E,11nm,0.8s						
O18K				IAML		09 05 28.8	
	comp=N,9.3nm,1.1s						
O18K	**Koktuh Hills**	**4.83**	**327**	IAML		09 05 22.2	
	comp=E,11nm,0.8s						
O18K				IAML		09 05 28.8	
	comp=N,9.3nm,1.1s						
KNK	**Knik Glacier**	**5.54**	**7**	Pn	Pn	09 04 21.4	-0.7
O16K	**Kokwok River B**	**5.70**	**313**	Pn	Pn	09 04 24.9	+0.7
WAX	**Waxell Ridge**	**5.87**	**37**	Pn	Pn	09 04 26.6	0.0
KLU	**Klutina**	**5.95**	**19**	Pn	Pn	09 04 27.2	-0.5
ISLE	**Juniper Island**	**6.15**	**37**	Pn	Pn	09 04 30.4	-0.2
GLB	**Gilahina Butte**	**6.37**	**27**	Pn	Pn	09 04 33.6	+0.1
MCARA	**McCarthy VSAT**	**6.54**	**31**	Pn	Pn	09 04 36.1	+0.3
M17K	**Holitna River**	**6.73**	**328**		Pn	09 04 39.0	+0.6
CTGM	**Chitina Glacie**	**6.76**	**38**	Pn	Pn	09 04 39.0	0.0
LOGN	**Logan Glacier**	**6.78**	**40**	Pn	Pn	09 04 38.8	-0.5
N15K	**Kwethluk River**	**6.86**	**312**	Pn	Pn	09 04 41.2	+1.1
M16K	**Timber Creek**	**6.95**	**321**	Pn	Pn	09 04 42.5	+1.1
P29M	**Windy Craggy**	**7.49**	**55**	Pn	Pn	09 04 49.2	+0.3
L16K	**Owhat River**	**7.61**	**323**	Pn	Pn	09 04 50.6	+0.2
M29M	**Somme Creek**	**8.77**	**37**	Pn	Pn	09 05 07.6	+1.1
N31M	**Braeburn, Yuko**	**9.21**	**47**	Pn	Pn	09 05 13.2	+0.7
L29M	**L29M**	**9.35**	**35**	Pn	Pn	09 05 14.2	-0.1

*HVO **05** 09:12:26.4±0.5, 19°.33N±0°.03×155°.04W±0°.02, h-1km±9km, ML3.1/20, ML2.6/8(NEIC), Error ellipse: s-maj=4.3km s-min=1.7km az=144.0*

NEIC 05 09:12:28.2±0.3, 19°.34N±0°.02×155°.06W±0°.02, h2km±13km, Error ellipse: s-maj=2.7km s-min=1.9km az=151.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.06**	**321**	Pg	Pg	09 12 29.3	-0.1
NPOC	**North of Pu'u**	**0.07**	**320**		Pg	09 12 29.5	-0.1
NPOC				IAML		09 12 30.9	
	comp=N,3μm,1.1s						
STCH	**Steam Cracks**	**0.07**	**308**		Pg	09 12 29.7	0.0
STCH				IAML		09 12 31.4	
	comp=E,4μm,1.0s						
STCH				IAML		09 12 31.5	
	comp=N,3μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.11**	**292**		Pg	09 12 30.4	+0.1
PUH	**Pauahi**	**0.15**	**284**		Pg	09 12 31.0	-0.1
PUH				IAML		09 12 33.8	
	comp=E,2μm,1.3s						
HMH	**Humu'ula Sheep**	**0.48**	**304**		Sg	09 12 45.3	+1.8

*NEIC **05** 09:24:59.3±0.7, 19°.420N±0°.010×155°.340W±0°.007, h6km±2km, Error ellipse: s-maj=1.4km s-min=0.9km az=177.0*

HVO 05 09:24:59.2±0.4, 19°.427N±0°.010×155°.321W±0°.007, h5km±2km, ML2.8/35, ML2.8/42(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=176.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.03**	**102**		Pg	09 25 00.8	+0.4
WRMHI	**West Rim**	**0.03**	**135**		Pg	09 25 00.8	+0.4
OBL	**Observatory Le**	**0.04**	**105**		Pg	09 25 00.9	+0.5
OBL				IAML		09 25 01.8	
	comp=N,5μm,0.3s						
OBL				IAML		09 25 02.0	
	comp=E,7μm,0.3s						
NPH	**North Pit**	**0.04**	**111**		Pg	09 25 00.8	+0.3
NPH				IAML		09 25 02.1	
	comp=E,6μm,0.4s						
NPH				IAML		09 25 02.2	
	comp=N,11μm,0.3s						
UWB	**Uwekahuna B**	**0.04**	**93**		Pg	09 25 00.9	+0.4
UWB				IAML		09 25 02.2	
	comp=N,6μm,0.4s						
UWB				IAML		09 25 02.2	
	comp=E,5μm,0.3s						
SDHHI	**Sand Hill**	**0.04**	**145**		Pg	09 25 01.0	+0.5
SBLHI	**Steaming Bluff**	**0.05**	**90**		Pg	09 25 00.9	+0.4
SBLHI				IAML		09 25 02.5	
	comp=E,10μm,0.3s						
SBLHI				IAML		09 25 02.6	
	comp=N,10μm,0.4s						
RSD	**Rainshed**	**0.05**	**49**		Pg	09 25 01.1	+0.4
RSD				IAML		09 25 02.7	
	comp=N,6μm,0.3s						
RSD				IAML		09 25 02.8	
	comp=E,5μm,0.3s						
RIM	**Rim**	**0.06**	**125**		Pg	09 25 01.1	+0.5
RIM				IAML		09 25 02.6	
	comp=N,5μm,0.5s						
RIM				IAML		09 25 02.8	
	comp=E,10μm,0.7s						
HATHI	**Halema'uma'u T**	**0.06**	**94**		Pg	09 25 01.1	+0.4
HATHI				IAML		09 25 02.8	
	comp=E,10μm,0.3s						
HATHI				IAML		09 25 02.9	
	comp=N,7μm,0.3s						
BYL	**Byron's Ledge**	**0.06**	**104**	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.03**	**252**		Pg	09 27 37.0	-0.3
HLP	**Hilina Pali**	**0.07**	**48**		Pg	09 27 37.8	+0.1
HLP				Sg	Sg	09 27 40.1	+0.7
SDHHI	**Sand Hill**	**0.16**	**25**		Pg	09 27 39.0	0.0
SDHHI				IAML		09 27 45.0	
	comp=N,3μm,0.3s						
WRMHI	**West Rim**	**0.17**	**21**	Pg	Pg	09 27 39.1	-0.1
WRMHI				IAML		09 27 45.6	
	comp=N,2μm,0.5s						
RIM	**Rim**	**0.17**	**30**		Pg	09 27 39.2	0.0
RIM				IAML		09 27 44.0	
	comp=E,993nm,0.7s						
RIM				IAML		09 27 46.2	
	comp=N,1μm,0.4s						
KKO	**Keanakako`i**	**0.18**	**32**		Pg	09 27 39.3	0.0
KKO				IAML		09 27 46.2	
	comp=N,1μm,0.5s						
UWE	**Uwekahuna**	**0.18**	**21**	Pg	Pg	09 27 39.5	0.0
UWE				IAML		09 27 43.4	
	comp=N,2μm,0.4s						
UWE				IAML		09 27 45.6	
	comp=E,2μm,0.3s						
PUH	**Pauahi**	**0.19**	**48**		Pg	09 27 39.5	0.0
PUH				IAML		09 27 43.0	
	comp=E,892nm,0.2s						
BYL	**Byron's Ledge**	**0.19**	**31**	Pg	Pg	09 27 39.1	-0.4
BYL				IAML		09 27 47.2	
	comp=N,817nm,0.5s						
BYL				IAML		09 27 47.4	
	comp=E,895nm,0.3s						
UWB	**Uwekahuna B**	**0.19**	**25**	Pg	Pg	09 27 39.5	-0.1
HATHI	**Halema'uma'u T**	**0.20**	**29**	Pg	Pg	09 27 39.6	0.0
HATHI					Sg	09 27 40.0	-2.7
HATHI				IAML		09 27 44.5	
	comp=N,934nm,0.7s						
SBLHI	**Steaming Bluff**	**0.20**	**27**	Pg	Pg	09 27 39.8	+0.1
SBLHI				IAML		09 27 47.7	
	comp=N,809nm,0.3s						
SBLHI				IAML		09 27 47.8	
	comp=E,931nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.23**	**54**		Pg	09 27 40.1	-0.1
RSD	**Rainshed**	**0.23**	**21**	Pg	Pg	09 27 40.0	-0.2
KHU	**Kahuku**	**0.24**	**270**		Pg	09 27 40.5	+0.1
KHU				IAML		09 27 49.3	
	comp=N,956nm,0.4s						
KHU				IAML		09 27 49.0	
	comp=E,904nm,0.5s						
MLH	**Mauna Loa**	**0.25**	**355**		Pg	09 27 41.0	+0.4
MLH				IAML		09 27 46.3	
	comp=E,1μm,0.2s						
STCH	**Steam Cracks**	**0.26**	**59**	Pg	Pg	09 27 40.9	+0.1
MWH	**Moku'aweowe**	**0.32**	**317**		Pg	09 27 42.1	0.0
MWH				IAML		09 27 51.6	
	comp=N,751nm,0.6s						
MWH				IAML		09 27 53.9	
	comp=E,1μm,0.6s						
HMH	**Humu'ula Sheep**	**0.37**	**342**		Pg	09 27 43.1	+0.2
HMH				IAML		09 27 49.6	
	comp=E,869nm,0.3s						
HMH				IAML		09 27 51.4	
	comp=N,644nm,0.1s						
POHA	**Pohakuloa**	**0.53**	**343**	Pg	Pg	09 27 45.5	-0.3
HUH	**Hualalai**	**0.62**	**314**		Pg	09 27 47.2	-0.3

NEIC ***05*** *09:46:06.3±1.6, 19°.11N±0°.02×155°.29W±0°.02, h10km±1km, Error ellipse: s-maj=3.4km s-min=2.8km az=139.0*

HVO 05 09:46:05.4±0.9, 19°.07N±0°.02×155°.20W±0°.02, h10km±4km, ML3.5/44, ML3.8/46(NEIC), Error ellipse: s-maj=4.1km s-min=0.9km az=146.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.25**	**335**		Pg	09 46 10.9	+0.4
HTC	**Hot Caves**	**0.25**	**312**		Pg	09 46 11.0	+0.4
PUH	**Pauahi**	**0.30**	**357**		Pg	09 46 11.6	-0.1
PUH				IAML		09 46 21.1	
	comp=E,10μm,0.5s						
PUH				IAML		09 46 21.3	
	comp=N,12μm,0.5s						
PUH	**Pauahi**	**0.30**	**357**		Sb	09 46 17.0	-1.1
KNHH	**Kane Nui o Ham**	**0.31**	**5**		Pg	09 46 11.7	0.0
STCH	**Steam Cracks**	**0.32**	**12**		Pg	09 46 11.9	0.0
STCH	**Steam Cracks**	**0.32**	**12**		Sg	09 46 17.1	+0.9
JCUZ	**Jacuzzi**	**0.33**	**16**		Pg	09 46 12.1	0.0
SDHHI	**Sand Hill**	**0.33**	**344**		Pg	09 46 12.0	-0.1
SDHHI					Sg	09 46 17.4	+0.8
RIM	**Rim**	**0.33**	**348**		Pg	09 46 11.9	-0.2
RIM				IAML		09 46 22.9	
	comp=E,14μm,0.8s						
RIM				IAML		09 46 24.6	
	comp=N,14μm,0.6s						
KKO	**Keanakako`i**	**0.33**	**349**		Pg	09 46 12.1	-0.1
KKO				IAML		09 46 24.1	
	comp=N,13μm,0.7s						
NPOC	**North of Pu'u**	**0.33**	**15**		Pg	09 46 12.2	0.0
NPOC					Sg	09 46 17.7	+1.1
NPOC				IAML		09 46 20.6	
	comp=N,6μm,0.5s						
BYL	**Byron's Ledge**	**0.35**	**350**		Pg	09 46 12.1	-0.3
BYL				IAML		09 46 22.5	
	comp=E,7μm,0.7s						
BYL				IAML		09 46 24.7	
	comp=N,11μm,0.6s						
WRMHI	**West Rim**	**0.35**	**344**		Pg	09 46 12.2	-0.3
WRMHI				IAML		09 46 25.7	
	comp=N,11μm,0.7s						
NPH	**North Pit**	**0.35**	**347**		Pg	09 46 12.3	-0.1
OBL	**Observatory Le**	**0.35**	**347**		Pg	09 46 12.3	-0.3
HATHI	**Halema'uma'u T**	**0.36**	**350**		Pg	09 46 12.3	-0.3
HATHI				IAML		09 46 26.3	
	comp=E,12μm,0.8s						
HATHI	**Halema'uma'u T**	**0.36**	**350**		Sg	09 46 18.1	+0.7
UWB	**Uwekahuna B**	**0.36**	**348**		Pg	09 46 12.2	-0.4
UWE	**Uwekahuna**	**0.36**	**346**		Pg	09 46 12.4	-0.3
UWE				IAML		09 46 24.7	
	comp=N,12μm,0.4s						
SBLHI	**Steaming Bluff**	**0.36**	**350**		Pg	09 46 12.3	-0.4
SBLHI				IAML		09 46 26.2	
	comp=E,8μm,0.6s						
SBLHI				IAML		09 46 26.4	
	comp=N,11μm,0.5s						
RSD	**Rainshed**	**0.40**	**349**		Pg	09 46 12.8	-0.6
RSD					Sg	09 46 18.8	+0.1
JOKA	**Jonika Flow**	**0.41**	**27**		Pg	09 46 13.3	-0.2
KHU	**Kahuku**	**0.43**	**294**		Pg	09 46 13.7	-0.3
KHU					Sg	09 46 19.9	+0.1
KHU				IAML		09 46 27.0	
	comp=E,5μm,0.6s						
KHU				IAML		09 46 29.4	
	comp=N,5μm,0.5s						
MLH	**Mauna Loa**	**0.46**	**337**		Pg	09 46 14.2	-0.3
MLH				IAML		09 46 22.2	
	comp=N,9μm,0.3s						
MLH				IAML		09 46 23.6	
	comp=E,10μm,0.3s						
MLH	**Mauna Loa**	**0.46**	**337**		Sg	09 46 21.4	+0.8
MWH	**Moku'aweowe**	**0.56**	**318**		Pg	09 46 15.5	-1.0
MWH				IAML		09 46 32.5	
	comp=E,7μm,0.6s						
MWH				IAML		09 46 35.2	
	comp=N,6μm,0.5s						
HMH	**Humu'ula Sheep**	**0.59**	**333**		Pg	09 46 16.2	-0.9
HMH				IAML		09 46 28.0	
	comp=E,3μm,0.4s						
HMH				IAML		09 46 33.2	
	comp=N,4μm,0.4s						
ALEP	**Alea Permanent**	**0.63**	**318**		Pg	09 46 16.3	-1.5
POHA	**Pohakuloa**	**0.75**	**335**		Pg	09 46 18.1	-2.0
POHA	**Pohakuloa**	**0.75**	**335**	IAML		09 46 36.0	
	comp=N,4μm,0.4s						
POHA				IAML		09 46 43.5	
	comp=N,3μm,0.7s						
CPH	**Captain Cook**	**0.80**	**302**		Pg	09 46 19.5	-1.4
HUH	**Hualalai**	**0.86**	**316**		Pg	09 46 20.0	-2.1
HUH				IAML		09 46 45.5	
	comp=N,4μm,0.4s						
HPAH	**Hawaii Prepara**	**1.06**	**334**		Pg	09 46 22.3	-3.7
MHA	**Mahukona**	**1.30**	**329**	Pn	Pn	09 46 25.6	-4.0

NEIC ***05*** *09:46:10.6±1.0, 59°.20N±0°.03×153°.18W±0°.05, h85km±4km, Error ellipse: s-maj=5.0km s-min=3.0km az=140.0*

AEIC ***05*** *09:46:11.5±1.0, 59°.20N±0°.01×153°.16W±0°.06, h80km±4km, ML3.3,mb3.6/2(NEIC), ML3.4/128(NEIC), Error ellipse: s-maj=4.6km s-min=1.4km az=82.0*

ISC 05 09:46:09.9±1.0, 59°.18N±0°.04×153°.19W±0°.04, h87km±8km, n281,n0s68/299, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AU22	**Augustine Moun**	**0.21**	**335**		Pn	09 46 22.9	+0.3
AUCH	**Augustine Cone**	**0.23**	**324**		Pn	09 46 23.1	+0.3
AUL	**Augustine Lava**	**0.24**	**328**		Pn	09 46 23.2	+0.4
Q19K	**Cape Douglas,**	**0.35**	**224**		Pn	09 46 23.5	+0.2
Q19K					Sn	09 46 33.2	-0.1
Q19K				IAML		09 46 34.0	
	comp=N,2μm,0.5s						
Q19K	**Cape Douglas,**	**0.35**	**224**	P	Pn	09 46 23.5	+0.2
	baz=42						
Q19K				S	Sn	09 46 33.3	0.0
	baz=42						
P19K	**Oil Pt**	**0.47**	**357**		Pn	09 46 24.4	+0.2
P19K				Sn	Sn	09 46 34.3	-0.5
P19K	**Oil Pt**	**0.47**	**357**	P	Pn	09 46 24.4	+0.2
	baz=176						
P19K				S	Sn	09 46 34.9	0.0
	baz=176						
Q20K	**Shuyak Island**	**0.70**	**144**	P	Pn	09 46 26.7	+0.5
	baz=326						
Q20K				S	Sn	09 46 38.8	+0.5
	baz=326						
SYI	**Shuyak Island**	**0.70**	**144**		Pn	09 46 26.7	+0.6
SYI					Sn	09 46 39.2	+0.9
SYI				IAML		09 46 39.6	
	comp=E,727nm,0.5s						
SYI				IAML		09 46 39.9	
	comp=N,2μm,0.7s						
IVE	**Iliamna Volcan**	**0.84**	**6**		Pn	09 46 27.6	-0.2
IVE					Sn	09 46 40.1	-1.0
HOM	**Homer**	**0.92**	**58**		Pn	09 46 29.1	+0.6
HOM				Sn	Sn	09 46 43.3	+0.8
HOM	**Homer**	**0.92**	**58**	P	Pn	09 46 29.3	+0.9
	baz=240						
HOM				S	Sn	09 46 43.2	+0.8
	baz=240						
O20K	**Slope Mountain**	**0.95**	**17**		Pn	09 46 29.3	+0.4
O20K					Sn	09 46 43.4	+0.3
O20K	**Slope Mountain**	**0.95**	**17**	P	Pn	09 46 29.3	+0.4
	baz=198						
O20K				S	Sn	09 46 43.4	+0.3
	baz=198						
CNPM	**China Poot**	**1.06**	**70**		Pn	09 46 30.3	+0.2
CNPM					Sn	09 46 45.4	+0.2
CNPM				IAML		09 46 45.9	
	comp=E,1μm,0.5s						
CNPM				IAML		09 46 47.2	
	comp=N,1μm,0.6s						
P18K	**Big Mountain,**	**1.07**	**282**		Pn	09 46 30.3	0.0
P18K					Sn	09 46 45.3	-0.3
P18K	**Big Mountain,**	**1.07**	**282**	P	Pn	09 46 30.2	0.0
	baz=100						
P18K				S	Sn	09 46 44.8	-0.7
	baz=100						
KAHC	**Katmai Hardscr**	**1.09**	**241**		Pn	09 46 31.0	+0.5
KAHC	**Katmai Hardscr**	**1.09**	**241**	P	Pn	09 46 31.0	+0.5
	baz=59						
O19K	**Port Alsworth**	**1.17**	**331**		Pn	09 46 31.6	+0.2
O19K					Sn	09 46 47.4	-0.1
O19K	**Port Alsworth**	**1.17**	**331**	P	Pn	09 46 31.6	+0.2
	baz=149						
O19K				S	Sn	09 46 47.0	-0.5
	baz=149						
O18K	**Koktuh Hills**	**1.23**	**304**		Pn	09 46 32.4	+0.2
O18K					Sn	09 46 48.8	-0.1
O18K				IAML		09 46 49.3	
	comp=N,410nm,0.6s						
O18K	**Koktuh Hills**	**1.23**	**304**	P	Pn	09 46 32.4	+0.2
	baz=121						
O18K				S	Sn	09 46 48.7	-0.3
	baz=121						
RDSO	**Redoubt South**	**1.30**	**10**		Pn	09 46 33.2	+0.1
RSO	**Redoubt South**	**1.30**	**9**		Pn	09 46 33.5	+0.2
BRLK	**Bradley Lake**	**1.31**	**62**		Pn	09 46 33.0	-0.1
BRLK				IAML		09 46 52.9	
	comp=E,492nm,0.5s						
BRLK				IAML		09 46 52.9	
	comp=N,636nm,0.5s						
RDWB	**Redoubt West**	**1.32**	**7**		Pn	09 46 33.6	+0.1
KVTA	**Katmai Vly 10**	**1.36**	**235**		Pn	09 46 34.2	+0.5
BRSE	**Bradley Lake S**	**1.37**	**65**		Pn	09 46 33.8	-0.1
BRSE	**Bradley Lake S**	**1.37**	**65**	P	Pn	09 46 33.8	-0.1
	baz=247						
NCT	**North Crescent**	**1.39**	**5**		Pn	09 46 34.4	+0.2
KCE	**Katmai Mt Cerb**	**1.40**	**229**		Pn	09 46 35.6	+1.3
KDAK	**Kodiak Island**	**1.44**	**167**	Pn	Pn	09 46 35.1	+0.5
KDAK				IAML		09 46 53.9	
	comp=N,297nm,0.5s						
KDAK				IAML		09 46 57.0	
	comp=N,408nm,0.7s						
RDT	**Redoubt**	**1.45**	**15**		Pn	09 46 35.0	+0.1
ACHA	**Angle Creek He**	**1.48**	**230**		Pn	09 46 36.2	+0.8
KELA	**Mount Kelaz**	**1.52**	**242**		Pn	09 46 36.5	+0.7
ANCK	**Angle Creek**	**1.56**	**232**		Pn	09 46 37.2	+0.9
P17K	**Kvichak River**	**1.68**	**272**		Pn	09 46 38.5	+0.8
P17K	**Kvichak River**	**1.68**	**272**	P	Pn	09 46 38.3	+0.6
	baz=88						
CNTC	**Contact Creek**	**1.68**	**238**		Pn	09 46 38.7	+0.8
Q17K	**Contact Creek**	**1.68**	**238**	P	Pn	09 46 38.7	+0.7
	baz=55						
N19K	**Bonanza Creek**	**1.76**	**339**		Pn	09 46 39.5	+0.6
N19K				IAML		09 47 01.3	
	comp=E,662nm,0.6s						
N19K				IAML		09 47 01.4	
	comp=N,294nm,0.6s						
N19K	**Bonanza Creek**	**1.76**	**339**	P	Pn	09 46 39.6	+0.6
	baz=157						
Q16K	**King Salmon**	**1.87**	**256**		Pn	09 46 41.3	+1.1
Q16K	**King Salmon**	**1.87**	**256**	P	Pn	09 46 41.0	+0.8
	baz=72						
CAPN	**Captain Cook N**	**1.89**	**32**		Pn	09 46 42.5	+2.0
CAPN	**Captain Cook N**	**1.89**	**32**	P	Pn	09 46 42.4	+1.8
	baz=214						
OHAK	**Old Harbor**	**1.96**	**182**	Pn	Pn	09 46 41.9	+0.4
OHAK				IAML		09 47 05.7	
	comp=N,319nm,0.3s						
OHAK				IAML		09 47 06.5	
	comp=E,202nm,0.3s						
OHAK	**Old Harbor**	**1.96**	**182**	P	Pn	09 46 41.9	+0.4
	baz=1.8						
SLKM	**Skilak Lake**	**2.00**	**47**		Pn	09 46 42.1	+0.1
N18K	**Kilae Creek**	**2.03**	**319**		Pn	09 46 42.8	+0.4
N18K	**Kilae Creek**	**2.03**	**319**	P	Pn	09 46 42.8	+0.4
	baz=136						
O17K	**Koliganek Bris**	**2.08**	**288**		Pn	09 46 43.5	+0.5
O17K	**Koliganek Bris**	**2.08**	**288**	P	Pn	09 46 43.3	+0.3
	baz=104						
SEW	**Seward**	**2.11**	**62**		Pn	09 46 43.1	-0.2
SEW	**Seward**	**2.11**	**62**	P	Pn	09 46 43.1	-0.2
	baz=246						
SPCN	**Chakachatna No**	**2.11**	**13**		Pn	09 46 43.6	+0.1
SPBG	**Spurr Blockage**	**2.13**	**11**		Pn	09 46 44.3	+0.6
SPCP	**Crater Peak Br**	**2.16**	**13**		Pn	09 46 44.8	+0.6
O22K	**Cooper Landing**	**2.18**	**52**		Pn	09 46 44.9	+0.5
O22K	**Cooper Landing**	**2.18**	**52**	P	Pn	09 46 44.4	0.0
	baz=225						
SPCG	**Spurr Capps Gl**	**2.20**	**15**		Pn	09 46 45.2	+0.5
PLK3	**Peulik 3**	**2.21**	**229**		Pn	09 46 46.2	+1.5
SPNN	**North Nagishla**	**2.21**	**6**		Pn	09 46 45.7	+0.9
PLK1	**Peulik 1**	**2.27**	**234**		Pn	09 46 46.9	+1.4
SVW2	**Sparrevohn**	**2.27**	**329**		Pn	09 46 46.0	+0.4
STLK	**Strandline Lak**	**2.42**	**16**		Pn	09 46 48.1	+0.5
N17K	**Nushagak Hills**	**2.43**	**306**		Pn	09 46 48.0	+0.4
N17K	**Nushagak Hills**	**2.43**	**306**	P	Pn	09 46 48.1	+0.4
	baz=122						
O16K	**Kokwok River B**	**2.55**	**281**		Pn	09 46 50.0	+0.8
O16K	**Kokwok River B**	**2.55**	**281**	P	Pn	09 46 49.8	+0.6
	baz=97						
RC01	**Rabbit Creek A**	**2.58**	**41**	Pn	Pn	09 46 49.9	+0.3
RC01				IAML		09 47 21.5	
	comp=E,299nm,0.3s						
RC01				IAML		09 47 22.4	
	comp=N,164nm,0.5s						
RC01	**Rabbit Creek A**	**2.58**	**41**	P	Pn	09 46 49.8	+0.1
	baz=224						
SUA	**Susitna One**	**2.59**	**27**		Pn	09 46 50.9	+1.0
SUA				IAML		09 47 23.3	
	comp=E,257nm,1.0s						
SUA				IAML		09 47 26.2	
	comp=N,296nm,1.0s						
SUA	**Susitna One**	**2.59**	**27**	P	Pn	09 46 50.7	+0.7
	baz=209						
M18K	**Stony River**	**2.66**	**332**		Pn	09 46 51.5	+0.7
M18K	**Stony River**	**2.66**	**332**	P	Pn	09 46 51.1	+0.4
	baz=149						
SII	**Sitkinak Islan**	**2.68**	**192**	Pn	Pn	09 46 51.7	+0.6
M20K	**Styx River**	**2.71**	**1**		Pn	09 46 52.6	+1.1
M20K	**Styx River**	**2.71**	**1**	P	Pn	09 46 52.4	+0.9
	baz=180						
M19K	**Big River Lodg**	**2.80**	**348**		Pn	09 46 53.2	+0.6
M19K	**Big River Lodg**	**2.80**	**348**	P	Pn	09 46 53.0	+0.4
	baz=167						
R16K	**Pilot Point**	**2.82**	**237**		Pn	09 46 54.4	+1.6
R16K				IAML		09 47 24.6	
	comp=N,143nm,1.2s						
R16K				IAML		09 48 07.6	
	comp=E,139nm,1.1s						
R16K	**Pilot Point**	**2.82**	**237**	P	Pn	09 46 54.5	+1.6
	baz=53						
SKT	**Skwentna**	**2.93**	**15**	Pn	Pn	09 46 54.8	+0.5
SKT	**Skwentna**	**2.93**	**15**	P	Pn	09 46 54.6	+0.3
	baz=197						
M22K	**Willow**	**3.00**	**29**		Pn	09 46 56.1	+0.9
M22K	**Willow**	**3.00**	**29**	P	Pn	09 46 55.8	+0.6
	baz=212						
P23K	**Montague Islan**	**3.05**	**72**		Pn	09 46 56.2	+0.2
P23K	**Montague Islan**	**3.05**	**72**	P	Pn	09 46 56.2	+0.2
	baz=257						
M17K	**Holitna River**	**3.07**	**318**		Pn	09 46 57.1	+0.8
M17K				IAML		09 47 35.1	
	comp=E,87nm,0.7s						
M17K				IAML		09 47 55.1	
	comp=N,105nm,0.7s						
M17K	**Holitna River**	**3.07**	**318**	P	Pn	09 46 56.9	+0.6
	baz=134						
N16K	**Nishlik Lake**	**3.10**	**297**		Pn	09 46 57.7	+1.0
N16K	**Nishlik Lake**	**3.10**	**297**	P	Pn	09 46 57.5	+0.7
	baz=112						
L19K	**White Mountain**	**3.12**	**345**		Pn	09 46 57.6	+0.6
L19K				IAML		09 47 50.3	
	comp=N,60nm,0.8s						
L19K				IAML		09 47 52.5	
	comp=E,60nm,0.7s						
L19K	**White Mountain**	**3.12**	**345**	P	Pn	09 46 57.6	+0.6
	baz=164						
PMR	**Palmer**	**3.15**	**38**		Pn	09 46 56.8	-0.4
PMR				IAML		09 47 41.6	
	comp=E,82nm,0.7s						
PMR				IAML		09 47 42.4	
	comp=N,56nm,0.9s						
PMR	**Palmer**	**3.15**	**38**	P	Pn	09 46 56.7	-0.5
	baz=222						
KNK	**Knik Glacier**	**3.25**	**44**		Pn	09 46 58.3	-0.4
KNK				IAML		09 47 35.9	
	comp=E,146nm,0.6s						
KNK				IAML		09 47 36.2	
	comp=N,156nm,0.6s						
KNK	**Knik Glacier**	**3.25**	**44**	P	Pn	09 46 58.2	-0.4
	baz=229						
L20K	**Farewell, AK**	**3.33**	**354**		Pn	09 47 00.8	+1.0
L20K	**Farewell, AK**	**3.33**	**354**	P	Pn	09 47 00.8	+1.0
	baz=174						
GHO	**Glory Hole Cre**	**3.35**	**37**		Pn	09 46 59.9	-0.1
GHO				IAML		09 47 46.3	
	comp=N,134nm,0.7s						
GHO				IAML		09 47 48.7	
	comp=E,178nm,0.8s						
O15K	**Ungalikthiuk R**	**3.42**	**273**		Pn	09 47 02.1	+1.2
O15K	**Ungalikthiuk R**	**3.42**	**273**	P	Pn	09 47 02.2	+1.2
	baz=87						
M16K	**Timber Creek**	**3.43**	**305**		Pn	09 47 02.1	+1.0
M16K	**Timber Creek**	**3.43**	**305**	P	Pn	09 47 02.1	+1.0
	baz=120						
ANNE	**Aniakchak Nort**	**3.45**	**231**		Pn	09 47 02.1	+0.7
GLI	**Glacier Island**	**3.50**	**58**	Pn	Pn	09 47 00.9	-1.1
GLI				IAML		09 47 41.8	
	comp=E,134nm,0.6s						
GLI				IAML		09 47 42.5	
	comp=N,95nm,0.8s						
GLI	**Glacier Island**	**3.50**	**58**	P	Pn	09 47 01.0	-1.1
	baz=244						
L18K	**Granite Mounta**	**3.50**	**332**		Pn	09 47 02.5	+0.4
L18K				IAML		09 47 43.0	
	comp=N,79nm,0.4s						
L18K				IAML		09 47 43.5	
	comp=E,65nm,0.5s						
L18K	**Granite Mounta**	**3.50**	**332**	P	Pn	09 47 02.4	+0.3
	baz=149						
Q23K	**Middleton Isla**	**3.51**	**83**		Pn	09 47 02.5	+0.3
Q23K	**Middleton Isla**	**3.51**	**83**	P	Pn	09 47 02.2	+0.1
	baz=269						
MID	**Middleton Isla**	**3.52**	**83**	Pn	Pn	09 47 02.4	+0.1
MID				IAML		09 47 43.6	
	comp=N,142nm,1.1s						
CUT	**Chulitna**	**3.54**	**23**		Pn	09 47 03.0	+0.4
CUT				IAML		09 47 49.9	
	comp=E,152nm,0.7s						
CUT				IAML		09 47 50.8	
	comp=N,139nm,0.7s						
SML	**Sawmill**	**3.56**	**40**	Pn	Pn	09 47 02.9	-0.1
SML				IAML		09 47 53.8	
	comp=E,77nm,0.7s						
SML				IAML		09 48 03.8	
	comp=N,84nm,0.9s						
SML	**Sawmill**	**3.56**	**40**	P	Pn	09 47 02.7	-0.3
	baz=224						
HIN	**Hinchinbrook I**	**3.59**	**67**	Pn	Pn	09 47 03.2	-0.1
CHIR	**Chirikof Islan**	**3.62**	**202**	Pn	Pn	09 47 03.8	+0.2
CHIR				IAML		09 47 44.2	
	comp=N,107nm,1.2s						
CHIR				IAML		09 48 11.4	
	comp=E,88nm,1.1s						
N15K	**Kwethluk River**	**3.64**	**289**		Pn	09 47 05.8	+1.9
N15K				IAML		09 47 49.4	
	comp=E,76nm,0.7s						
N15K	**Kwethluk River**	**3.64**	**289**	P	Pn	09 47 05.3	+1.4
	baz=102						
PPLA	**Purkeypile**	**3.76**	**7**		Pn	09 47 07.2	+1.5
PPLA	**Purkeypile**	**3.76**	**7**	P	Pn	09 47 06.6	+0.9
	baz=186						
M23K	**Glacier View**	**3.76**	**44**		Pn	09 47 05.4	-0.2
M23K	**Glacier View**	**3.76**	**44**	P	Pn	09 47 05.4	-0.2
	baz=228						
L17K	**Donlin**	**3.89**	**322**		Pn	09 47 07.9	+0.6
L17K	**Donlin**	**3.89**	**322**	P	Pn	09 47 07.4	+0.2
	baz=137						
SCM	**Sheep Creek Mo**	**3.93**	**45**		Pn	09 47 08.0	0.0
SCM				IAML		09 47 55.8	
	comp=N,82nm,0.8s						
SCM	**Sheep Creek Mo**	**3.93**	**45**	P	Pn	09 47 07.7	-0.3
	baz=230						
EYAK	**Cordova Ski Ar**	**3.99**	**67**		Pn	09 47 08.3	-0.4
EYAK	**Cordova Ski Ar**	**3.99**	**67**	P	Pn	09 47 08.3	-0.4
	baz=253						
L16K	**Owhat River**	**4.02**	**312**		Pn	09 47 09.9	+0.8
L16K	**Owhat River**	**4.02**	**312**	P	Pn	09 47 09.6	+0.6
	baz=126						
CHGN	**Chignik**	**4.02**	**226**	Pn	Pn	09 47 10.4	+1.3
CHGN				IAML		09 47 58.8	
	comp=E,38nm,1.0s		

baz=214
WAT6 Susitna Watana 4.33 36 Pn 09 47 13.3 0.0
WAT6 Susitna Watana 4.33 36 P Pn 09 47 13.3 0.0
baz=220
K17K Iditarod 4.34 327 Pn 09 47 14.2 +0.8
K17K IAML 09 48 18.6
comp=E,45nm,0.8s
K17K IAML 09 48 30.8
comp=N,23nm,1.1s
K17K Iditarod 4.34 327 P Pn 09 47 14.0 +0.6
baz=142
N14K Kuskokwak Cree 4.39 283 Pn 09 47 15.8 +1.8
N14K Kuskokwak Cree 4.39 283 P Pn 09 47 15.1 +1.1
baz=96
GOAT Goat Mountain 4.49 68 Pn 09 47 15.3 -0.2
KAIM Kayak Island 4.52 77 Pn Pn 09 47 16.6 +0.7
KAIM Kayak Island 4.52 77 P Pn 09 47 16.3 +0.4
baz=264
M24K Tolsona, Glenn 4.53 47 Pn 09 47 16.3 +0.2
M24K IAML 09 48 16.1
comp=N,74nm,1.0s
M24K Tolsona, Glenn 4.53 47 P Pn 09 47 15.7 -0.4
baz=233
J18K Innoko River 4.62 340 Pn 09 47 18.1 +0.8
J18K Innoko River 4.62 340 P Pn 09 47 17.7 +0.4
baz=157
BMRM Bremner River 4.66 64 Pn Pn 09 47 17.6 -0.2
BMRM Bremner River 4.66 64 P Pn 09 47 17.6 -0.2
baz=251
HMT Hamilton 4.66 72 Pn Pn 09 47 18.0 +0.2
RND Reindeer 4.73 24 Pn Pn 09 47 19.1 +0.3
RND IAML 09 48 13.7
comp=N,31nm,0.6s
RND IAML 09 48 15.1
comp=E,23nm,0.4s
DHY Denali Highway 4.82 33 Pn 09 47 20.3 +0.3
DHY IAML 09 48 16.9
comp=E,40nm,0.3s
DHY IAML 09 48 18.2
comp=N,39nm,0.3s
DHY Denali Highway 4.82 33 P Pn 09 47 19.9 -0.1
baz=218
L15K Ungalak Mounta 4.82 305 Pn 09 47 21.0 +1.1
L15K Ungalak Mounta 4.82 305 P Pn 09 47 20.8 +1.0
baz=118
N25K Chitina, Valde 4.90 57 Pn 09 47 21.0 -0.2
N25K IAML 09 48 17.5
comp=E,21nm,0.8s
N25K IAML 09 48 19.3
comp=N,27nm,0.4s
N25K Chitina, Valde 4.90 57 P Pn 09 47 20.6 -0.6
baz=244
J19K Poorman 4.97 348 Pn 09 47 22.6 +0.6
J19K IAML 09 48 50.5
comp=N,15nm,0.8s
J19K Poorman 4.97 348 P Pn 09 47 22.0 +0.1
baz=165
MCK McKinley 5.00 22 Pn 09 47 23.1 +0.7
MCK McKinley 5.00 22 P Pn 09 47 22.6 +0.1
baz=206
J20K Nowinta River 5.04 355 P Pn 09 47 23.3 +0.4
baz=174
BPAW Bear Paw Mtn. 5.05 11 P Pn 09 47 22.7 -0.4
baz=193
HARP HAARP 5.09 47 Pn 09 47 23.5 -0.1
HARP HAARP 5.09 47 P Pn 09 47 23.5 -0.1
baz=234
J17K VABM Dome 5.09 329 Pn 09 47 24.1 +0.5
J17K IAML 09 48 49.2
comp=E,14nm,1.0s
J17K IAML 09 48 55.0
comp=N,13nm,1.2s
J17K VABM Dome 5.09 329 P Pn 09 47 23.9 +0.2
baz=143
GRIN Grindle Hills 5.11 73 Pn 09 47 24.0 0.0
K15K Wolf Creek Mou 5.15 311 Pn 09 47 25.8 +1.4
K15K Wolf Creek Mou 5.15 311 P Pn 09 47 25.2 +0.8
baz=123
KHIT Khitrov Hills 5.17 72 Pn 09 47 24.6 -0.2
GLB Gilahina Butte 5.18 60 Pn 09 47 24.7 -0.3
GLB IAML 09 48 24.2
comp=E,21nm,1.1s
WACK Wrangell Chich 5.19 53 Pn 09 47 24.7 -0.6
L14K Kuka Creek 5.20 299 Pn Pn 09 47 26.2 +1.1
L14K IAML 09 49 00.6
comp=N,18nm,1.1s
L14K IAML 09 50 41.8
comp=E,15nm,1.2s
L14K Kuka Creek 5.20 299 P Pn 09 47 26.4 +1.3
baz=110
VRDI Verde Repeater 5.27 63 Pn Pn 09 47 26.0 -0.3
VRDI IAML 09 48 25.6
comp=E,17nm,0.4s
VRDI IAML 09 48 25.9
comp=N,33nm,0.6s
PAX Paxson 5.33 41 Pn 09 47 27.1 +0.1
PAX Paxson 5.33 41 P Pn 09 47 26.9 -0.1
baz=228
SNH Sunshine Point 5.34 75 Pn 09 47 26.8 -0.2
WAX Waxell Ridge 5.37 72 Pn 09 47 27.4 -0.1
J16K Anvik River 5.46 322 Pn 09 47 29.0 +0.4
J16K Anvik River 5.46 322 P Pn 09 47 29.0 +0.4
baz=136
MCARA McCarthy VSAT 5.52 62 Pn 09 47 30.0 +0.6
MCARA McCarthy VSAT 5.52 62 P Pn 09 47 30.3 +0.8
baz=251
ISLE Juniper Island 5.64 71 Pn 09 47 31.0 -0.3
KIAG Kiagna River 5.70 68 Pn 09 47 32.1 0.0
PTPK Patty Peak 5.71 65 Pn 09 47 32.3 0.0
NEA2 Nenana 5.77 18 Pn 09 47 32.9 0.0
NEA2 Nenana 5.77 18 P Pn 09 47 32.7 -0.1
baz=202
MESA MESA 5.78 75 Pn 09 47 33.7 +0.5
MESA MESA 5.78 75 P Pn 09 47 33.4 +0.2
baz=265
WRH Wood River Hil 5.83 22 Pn 09 47 33.9 +0.2
K24K Donnelly Dome 5.84 34 Pn 09 47 34.6 +0.8
K24K Donnelly Dome 5.84 34 P Pn 09 47 34.6 +0.8
baz=221
GCSA Galena City Sc 5.85 344 Pn 09 47 34.3 +0.4
GCSA Galena City Sc 5.85 344 P Pn 09 47 34.1 +0.2
baz=161
M26K Nabesna, AK 5.94 53 Pn 09 47 35.7 +0.4
M26K Nabesna, AK 5.94 53 P Pn 09 47 35.3 0.0
baz=242
MLY Manley 5.98 10 Pn 09 47 36.7 +0.9
MLY Manley 5.98 10 P Pn 09 47 36.2 +0.5
baz=192
HDA Harding Lake 6.02 27 Pn 09 47 36.5 +0.3
HDA Harding Lake 6.02 27 P Pn 09 47 36.3 0.0
baz=212
I21K Tanana 6.05 5 Pn 09 47 37.6 +1.0
I21K Tanana 6.05 5 P Pn 09 47 36.8 +0.2
baz=186
BARN Barnard Glacie 6.06 67 Pn 09 47 37.8 +0.7
CTG Chitna Glacier 6.19 68 P Pn 09 47 38.9 +0.1
baz=258
COLA College 6.24 21 Pn 09 47 39.5 +0.3
MDM Murphy Dome 6.25 20 Pn 09 47 39.5 +0.1
I23K Minto, Yukon-K 6.25 15 Pn 09 47 39.9 +0.5
I23K Minto, Yukon-K 6.25 15 P Pn 09 47 39.3 0.0
baz=198
LOGN Logan Glacier 6.33 70 Pn 09 47 40.9 +0.2
IL31 6.34 25 Pn 09 47 40.5 -0.1
SAMH Samovar Hills 6.36 76 Pn 09 47 41.4 +0.4
M27K Edge Creek, AK 6.39 55 Pn 09 47 41.9 +0.5
M27K Edge Creek, AK 6.39 55 P Pn 09 47 41.5 +0.1
baz=245
H18K Honhosa River 6.46 340 Pn 09 47 43.0 +0.7
H18K Honhosa River 6.46 340 P Pn 09 47 42.5 +0.2
baz=156
H21K Melozitna Rive 6.50 1 Pn 09 47 43.3 +0.4
H21K Melozitna Rive 6.50 1 P Pn 09 47 43.2 +0.4
baz=182
SCRK Sand Creek 6.51 38 Pn 09 47 42.6 -0.5
SCRK Sand Creek 6.51 38 P Pn 09 47 42.0 -1.0
baz=226
POKR Poker Plat Res 6.54 22 Pn 09 47 43.7 +0.4
POKR Poker Plat Res 6.54 22 P Pn 09 47 42.7 -0.6
baz=207
J25K Salcha River, 6.58 31 P Pn 09 47 43.6 -0.3
baz=218
H17K Granite Mounta 6.58 334 Pn 09 47 44.8 +0.9
H17K Granite Mounta 6.58 334 P Pn 09 47 44.1 +0.2
baz=148
YUK2 White River 6.63 62 Pn 09 47 45.1 +0.4
O28M Mount Upton 6.71 71 Pn 09 47 46.6 +0.7
O28M Mount Upton 6.71 71 P Pn 09 47 46.3 +0.3
baz=262
L27K Beaver Creek, 6.74 50 Pn 09 47 46.4 +0.3
L27K Beaver Creek, 6.74 50 P Pn 09 47 46.1 0.0
baz=240
H22K Ishtalitna Cre 6.79 6 Pn 09 47 47.0 +0.3
H22K Ishtalitna Cre 6.79 6 P Pn 09 47 47.0 +0.3
baz=188
YUK3 Moose Creek 6.80 62 Pn 09 47 47.9 +0.8
YUK3 Moose Creek 6.80 62 P Pn 09 47 47.4 +0.3
baz=253
H23K Yukon River 6.88 13 Pn 09 47 48.7 +0.7
H23K Yukon River 6.88 13 P Pn 09 47 48.3 +0.3
baz=196
J26L Joseph Creek 7.01 36 Pn 09 47 49.9 0.0
J26L Joseph Creek 7.01 36 P Pn 09 47 49.3 -0.5
baz=225
PNL Peninsula 7.05 80 Pn 09 47 50.1 -0.2
PNL Peninsula 7.05 80 P Pn 09 47 50.1 -0.2
baz=272
H24K Noodor Dome 7.12 18 Pn 09 47 51.6 +0.4
P29M Windy Craggy 7.90 80 Pn 09 48 02.3 +0.5
M29M Somme Creek 7.90 59 Pn 09 48 02.5 +0.5
F19K Shaleruckik Mo 7.96 347 Pn Pn 09 48 04.2 +1.6
G24K Hadweenzic Riv 7.98 17 Pn Pn 09 48 03.1 +0.2
F20K Avaraart Lake 7.98 353 Pn Pn 09 48 04.7 +1.8
HYT Haines Junctio 8.03 71 Pn Pn 09 48 04.8 +1.0
DAWY Dawson 8.19 47 Pn Pn 09 48 07.0 +1.2
L29M L29M 8.27 55 Pn Pn 09 48 07.8 +0.8
N30M Aishikik Lake 8.31 67 Pn 09 48 07.9 +0.4
I28M Miner Creek 8.79 39 Pn Pn 09 48 14.5 +0.4
N31M Braeburn, Yuko 8.93 68 Pn Pn 09 48 16.7 +0.7
J30M Hart River 9.60 49 Pn Pn 09 48 27.1 +2.0
TOLK Toolik Lake Re 9.63 8 Pn Pn 09 48 26.4 +1.1
M31M Drury Creek, Y 9.69 64 Pn Pn 09 48 26.8 +0.6
FARO Faro, Yukon 10.18 64 Pn Pn 09 48 32.9 0.0
D24K Happy Valley 10.19 9 Pn Pn 09 48 33.4 +0.4
P33M Teslin, Yukon 10.34 76 Pn Pn 09 48 34.8 -0.3
C23K Itkillik River 10.76 5 Pn Pn 09 48 41.3 +0.6
U33K Whale Pass 11.17 97 Pn Pn 09 48 45.5 -0.8
R33M Jennings River 11.35 79 Pn Pn 09 48 50.2 +1.2
INK Inuvik 12.56 35 Pn Pn 09 49 05.5 +0.6
C36M Paulatuk 16.04 39 Pn Pn 09 49 48.0 -1.8
C36M IAmb IAmb 09 49 48.3
comp=Z,3.0nm,0.8s
A36M Sachs Harbour 17.01 30 Pn Pn 09 50 02.3 +0.5
A36M IAmb IAmb 09 50 04.9
comp=Z,3.8nm,0.8s
YKA Yellowknife Ar 18.89 63 P P 09 50 21.8 -1.3
YKAB2 New Yellowknif 18.90 64 P Pn 09 50 24.8 +0.2

*NEIC **05** 09:56:27.6±1.7,24˚66N±0˚07×127˚77E±0˚07,h10km±2km, mb4.1/6,Error ellipse: s-maj=15.4km s-min=5.1km az=141.0*
*IDC **05** 09:56:29.1±0.8,24˚91N×127˚77E,h0km,mb4.1/16, mbtmp4.0/18,ML3.2/2,MS3.4/2,Error ellipse: s-maj=30.9km s-min=15.7km az=75.0*
*JMA **05** 09:56:30.3±0.3,25˚N±1˚×12˚8E±˚,h69km,MV4.0/29, NEAR OKINAWAJIMA ISLAND*
*NIED **05** 09:56:30.3,24˚75N×127˚76E,h69km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.69; Mθθ0.84; Mϕϕ-0.14; Mrθ-0.76; Mθϕ0.56; Mϕr-0.93; Fault plane solution: M₀1.52000×10¹⁵ NP1:ϕ±42.00000°, δ74.00000°,λ-111.00000°. NP2:ϕ±276.00000°, δ26.00000°,λ-39.00000°.*

ISC 05 09:56:28.8±0.7,**24.73N**±0.06×**127.74E**±0.05,**h10**km,**n72,** σ1ᵽ**70**/78,**mb4.0**/18,**Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT3	**Tamagusuku3**	**1.41**	**2**	P	**Pn**	**09 56 54.4**	**-0.2**
JJT3				S	**Sn**	**09 57 11.3**	**-1.8**
JNTH	**Nagotoyohara**	**1.80**	**8**	P	**Pn**	**09 56 59.1**	**-0.8**
JKE	**Kume jima 2**	**1.81**	**332**	P	**Pn**	**09 56 60.0**	**-0.1**
JAGN	**Aguni-jima**	**1.90**	**346**	P	**Pn**	**09 57 01.5**	**+0.2**
JOGS	**Gusukube**	**2.12**	**271**	P	**Pn**	**09 57 04.8**	**+0.4**
JOGS				S	**Sn**	**09 57 29.3**	**-1.5**
JOW	**Kunigami**	**2.15**	**13**	P	**Pn**	**09 57 04.3**	**-0.4**
JOW	**Kunigami**	**2.15**	**13**	Pn	**Pn**	**09 57 04.4**	**-0.4**
JOW	**Kunigami**	**2.15**	**13**	Pn	**Pn**	**09 57 04.3**	**-0.4**
JOW	21nm,0.3s,baz=125,slow=26,SNR=136			Sn	**Sn**	**09 57 27.3**	**-4.1**
JOW	54nm,0.3s,baz=142,slow=29,SNR=5.1			LR	LR	09 57 50.7	
JOW	comp=Z,258nm,19.4s,baz=187,slow=41 **Kunigami**	**2.15**	**13**	P	**Pn**	**09 57 04.3**	**-0.4**
JMJ2	**Miyako jima3**	**2.19**	**271**	P	**Pn**	**09 57 05.8**	**+0.4**
JMJ	**Miyako jima 2**	**2.23**	**273**	P	**Pn**	**09 57 05.9**	**+0.1**
JIKM	**Ikemajima**	**2.27**	**275**	P	**Pn**	**09 57 06.8**	**+0.4**
JIKM				eS	**Sn**	**09 57 32.7**	**-1.9**
JIH	**Iheya**	**2.30**	**5**	eS	**Sn**	**09 57 32.6**	**-2.6**
JIRB	**Irabujima**	**2.34**	**273**	P	**Pn**	**09 57 07.3**	**0.0**
JYRO	**Yoronjima**	**2.37**	**15**	P	**Pn**	**09 57 07.1**	**-0.6**
JOKE	**Okinoerabujima**	**2.72**	**16**	P	**Pn**	**09 57 12.6**	**-0.1**
JTJ	**Tarama**	**2.77**	**269**	P	**Pn**	**09 57 13.4**	**+0.1**
JTJ				eS	**Sn**	**09 57 43.7**	**-3.0**
JISG	**Ishigakijimahi**	**3.12**	**268**	P	**Pn**	**09 57 17.7**	**-0.4**
JTK	**Tokunoshima**	**3.23**	**19**	P	**Pn**	**09 57 19.0**	**-0.6**
JIJ	**Ishigaki jima**	**3.30**	**264**	P	**Pn**	**09 57 20.3**	**-0.3**
JIJ				S	**Sn**	**09 57 55.3**	**-4.5**
JMZ	**Minamidaito 2**	**3.33**	**70**	P	**Pn**	**09 57 20.0**	**-1.0**
JMZ	**Minamidaito 2**	**3.33**	**70**	Pn	**Pn**	**09 57 19.7**	**-1.4**
JMZ	**Minamidaito 2**	**3.33**	**70**	P	**Pn**	**09 57 19.6**	**-1.4**
JKDJ	**Kitadaitoujima**	**3.44**	**69**	P	**Pn**	**09 57 21.6**	**-0.8**
JKDJ				eS	**Sn**	**09 57 59.5**	**-3.7**
JKRS	**Kuro-shima**	**3.44**	**263**	P	**Pn**	**09 57 22.5**	**+0.1**
HATJ	**Hateruma jima**	**3.65**	**260**	eS	**Sn**	**09 58 03.1**	**-5.4**
IRIF	**Iriomote-Funau**	**3.67**	**265**	P	**Pn**	**09 57 26.5**	**+0.7**
JAMN	**Amaminishikomi**	**3.72**	**20**	P	**Pn**	**09 57 26.7**	**+0.3**
JAM	**Amami Oshima**	**4.03**	**24**	P	**Pn**	**09 57 30.3**	**-0.3**
JZK	**Kikaishima**	**4.09**	**29**	P	**Pn**	**09 57 32.3**	**+0.9**
YOJ	**Yonaguni jima**	**4.32**	**267**	P	**Pn**	**09 57 34.4**	**-0.1**
YOJ	**Yonaguni jima**	**4.32**	**267**	Pn	**Pn**	**09 57 33.7**	**-0.9**
NACB	**Ninganchiao**	**5.63**	**266**	P	**Pn**	**09 57 51.6**	**-1.0**
NACB	**Ninganchiao**	**5.63**	**266**		**Pn**	**09 57 51.0**	**-1.6**
YHNB	**Yeheng**	**5.79**	**271**	P	**Pn**	**09 57 54.9**	**0.0**
YHNB	**Yeheng**	**5.79**	**271**		**Pn**	**09 57 55.4**	**+0.5**
YULB	**Yu-li**	**6.04**	**259**	P	**Pn**	**09 57 56.2**	**-2.1**
YULB	**Yu-li**	**6.04**	**259**		**Pn**	**09 57 55.8**	**-2.5**
SSLB	**Suanglung**	**6.27**	**263**	P	**Pn**	**09 57 59.9**	**-1.5**
SSLB	**Suanglung**	**6.27**	**263**		**Pn**	**09 57 59.7**	**-1.7**
TWGBT	**Beinan**	**6.39**	**254**	P	**Pn**	**09 58 01.2**	**-1.9**
TWG	**Pinlang**	**6.40**	**254**	Pn	**Pn**	**09 58 01.1**	**-2.1**
TPUB	**Ta-pu**	**6.66**	**259**	P	**Pn**	**09 58 06.7**	**-0.1**
TPUB	**Ta-pu**	**6.66**	**259**		**Pn**	**09 58 06.5**	**-0.3**
KSRS	**Korea Array**	**12.68**	**1**	Pn	**Pn**	**09 59 28.9**	**-0.3**
KSRS	0.2nm,0.3s,baz=173,slow=14,SNR=3.1			LR	LR	10 04 48.6	
ENH	comp=Z,108nm,18.6s,baz=175,slow=40 0.7nm,0.6s **Enshi**	**17.10**	**293**	P	**Pn**	**10 00 24.9**	**-3.2**
ENH				IAmb	IAmb	10 00 49.6	
USRK	comp=Z,7.0nm,0.4s **Ussuriysk Ar.**	**19.73**	**9**	P	**P**	**10 00 57.0**	**-1.5**
USRK	**Ussuriysk Ar.**	**19.73**	**9**	P	**P**	**10 00 57.0**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=203,slow=10,SNR=0.8 comp=Z,0.3nm,0.4s						
SONM	**Songino Array**	**28.59**	**329**	P	**P**	**10 02 23.0**	**-2.2**
SONM	**Songino Array**	**28.59**	**329**	P	**P**	**10 02 27.3**	**+2.0**
	comp=Z,0.7nm,0.5s,baz=135,slow=9.2,SNR=3.2 comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**42.22**	**313**	P	**P**	**10 04 20.6**	**-1.4**
MK31				IAmb	IAmb	10 04 25.6	
	comp=Z,1.8nm,1.1s						
MKAR	**Makanchi Array**	**42.22**	**313**	P	**P**	**10 04 20.9**	**-1.2**
MKAR	**Makanchi Array**	**42.22**	**313**	P	**P**	**10 04 22.3**	**+0.2**
	comp=Z,1.3nm,0.5s,baz=99,slow=11,SNR=18 comp=Z,1.3nm,0.5s						
MAKZ	**Makanchi**	**42.43**	**313**	P	**P**	**10 04 23.3**	**-0.5**
MAKZ				IAmb	IAmb	10 04 25.0	
	comp=Z,2.3nm,1.0s						
ZALV	**Zalesovo Beam**	**43.18**	**324**	P	**P**	**10 04 29.1**	**-0.5**
ZALV	**Zalesovo Beam**	**43.18**	**324**	P	**P**	**10 04 29.3**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=114,slow=8.7,SNR=5.6 comp=Z,1.6nm,0.5s						
WRA	**Warramunga Arr**	**44.87**	**171**	P	**P**		**10 04 45.6** **+2.1**
	comp=Z,2.7nm,0.5s,baz=352,slow=8.8,SNR=19 comp=Z,2.7nm,0.5s						
WR0	**Warramunga Arr**	**44.91**	**171**	P	**P**		**10 04 41.3** **-2.6**
KURBB	**Kurchatov Arra**	**45.64**	**318**	P	**P**		**10 04 49.9** **+0.5**
	comp=Z,0.7nm,0.5s,baz=108,slow=9.2,SNR=1.6 comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**48.48**	**172**	P	**P**	10 05 15.5	+3.6
ASAR	comp=Z,0.9nm,0.8s,baz=360,slow=12,SNR=7.4			PcP	**PcP**		**10 06 41.6** **+3.6**
	comp=Z,0.4nm,0.6s,baz=338,slow=3.5,SNR=1.9 comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**51.10**	**319**	P	**P**		**10 05 32.3** **+0.7**
	comp=Z,1.2nm,0.6s,baz=91,slow=6.1,SNR=5.8 comp=Z,1.2nm,0.6s						
GEYT	**Alibeck**	**59.67**	**301**	P	**P**		**10 06 35.5** **+1.9**
	comp=Z,4.0nm,0.7s,baz=64,slow=3.4,SNR=8.0 comp=Z,4.0nm,0.7s						
KBZ	**Khabaz**	**69.77**	**310**	P	**P**		**10 07 41.3** **+2.0**
	comp=Z,3.3nm,0.8s,baz=106,slow=5.8,SNR=9.4 comp=Z,3.3nm,0.8s						
ARCES	**ARCESS Array B**	**71.23**	**339**	P	**P**		**10 07 48.6** **+0.8**
	comp=Z,2.1nm,0.9s,baz=71,slow=7.0,SNR=3.9 comp=Z,2.1nm,0.9s						
FINES	**FINESS Array B**	**73.94**	**331**	P	**P**		**10 08 05.4** **+1.3**
	comp=Z,3.0nm,0.6s,baz=64,slow=6.3,SNR=20 comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**76.38**	**320**	P	**P**		**10 08 18.9** **+0.6**
	comp=Z,0.6nm,0.4s,baz=68,slow=6.1,SNR=3.5 comp=Z,0.6nm,0.4s						
BRTR	**Keskin Array B**	**77.60**	**308**	P	**P**		**10 08 27.4** **+1.7**
	comp=Z,0.9nm,0.7s,baz=69,slow=7.9,SNR=5.8 comp=Z,0.9nm,0.7s						
RPZ	**Rata Peaks**	**78.86**	**150**	LR	LR	10 43 28.0	
	comp=Z,28nm,18.0s,baz=128,slow=36						
HFS	**Hagfors**	**79.94**	**332**	P	**P**		**10 08 39.1** **+1.2**
	comp=Z,1.9nm,0.8s,baz=35,slow=5.5,SNR=3.5 comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**80.06**	**25**	P	**P**		**10 08 39.7** **+1.2**
	comp=Z,0.4nm,0.9s,baz=302,slow=5.7,SNR=5.4 comp=Z,0.4nm,0.9s						
NB2	**NORSAR Subarra**	**80.46**	**334**	P	**P**		**10 08 41.6** **+0.9**
	comp=Z,0.7nm,0.6s,baz=55,slow=5.3						
NOA	**NORSAR Array B**	**80.46**	**334**	P	**P**		**10 08 41.9** **+1.2**
	comp=Z,0.9nm,0.6s,baz=54,slow=5.3,SNR=4.8 comp=Z,0.9nm,0.6s						

*IDC **05** 09:58:31.9±0.7,6˚68N×123˚75E,h591km±8km, mb3.2/16, mbtmp4.2/16,Error ellipse: s-maj=21.4km s-min=7.4km az=66.0*
*NEIC **05** 09:58:33.6±1.1,6˚70N±0˚09×123˚65E±0˚07,h597km±8km, mb4.2/50,Error ellipse: s-maj=13.5km s-min=8.0km az=153.0*

ISC 05 09:58:32.8±0.4,**6˚71N**±0˚05×**123˚67E**±0˚08,**h600**km,**n87,** σ1ᵽ**18**/96,**mb4.2**/40,**1C-5D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCP	**Kidapawan**	**1.44**	**78**	⇑*iP*	**P**	**09 59 44.3**	**-0.8**
DCPH	**Dipolog City**	**1.89**	**350**	⇓*eP*	**P**	**09 59 45.3**	**-1.3**
DCPH				*eS*	**S**	**10 00 48.2**	**+1.5**
DAV	**Davao City (W)**	**1.93**	**79**	P	**P**	**09 59 46.4**	**-0.4**
DAV	**Davao City (W)**	**1.93**	**79**	P	**P**	**09 59 46.2**	**-0.6**
DAV	146nm,0.4s,baz=41,slow=6.2,SNR=5.1			S	**S**	**10 00 42.4**	**-4.5**
	86nm,0.3s,baz=360,slow=22,SNR=1.2						
CGP	**Cagayan de Oro**	**2.01**	**30**	⇓*eP*	**P**	**09 59 45.3**	**-1.7**
TBP	**Tagbilaran**	**2.97**	**4**	⇓*eP*	**P**	**09 59 49.7**	**-2.0**
LLP	**Lapu-Lapu**	**3.60**	**5**	⇓*eP*	**P**	**09 59 53.2**	**-2.3**
LLP				*i*S	**S**	**10 00 59.4**	**-3.6**
PLP	**Palo**	**4.61**	**16**	⇓*eP*	**P**	**10 00 01.8**	**-0.8**
PLP				*e*S	**S**	**10 01 13.8**	**-2.2**
TOLI2	**Tolitoli**	**6.26**	**208**	P	**P**	**10 00 15.7**	**-0.6**
SBUM	**Sibu**	**12.17**	**250**	P	**P**	**10 01 13.2**	**-0.1**
KSM	**Kuching**	**14.30**	**249**	P	**P**	**10 01 34.1**	**-0.5**
TPUB	**Ta-pu**	**16.75**	**350**	P	**P**	**10 01 58.0**	**+0.9**
TPUB				IAmb	IAmb	10 02 03.0	
	comp=Z,19nm,1.0s						
UGM	**Wanagama**	**19.57**	**222**	P	**P**	**10 02 23.9**	**+1.1**
MYKOM	**Kota Tinggi**	**20.36**	**257**	P	**P**	**10 02 30.2**	**+0.3**
MTN	**Manton Dam**	**20.79**	**159**	P	**P**	**10 02 34.0**	**+0.3**
MTN				IAmb	IAmb	10 02 44.5	
	comp=Z,8.4nm,1.1s						
PHRA	**Phrae**	**25.66**	**299**	P	**P**	**10 03 17.9**	**+1.0**
CRAI	**Chiangrai**	**26.29**	**303**	P	**P**	**10 03 22.9**	**+0.4**
CRAI				IAmb	IAmb	10 03 23.8	
	comp=Z,4.4nm,0.7s						
GSI	**Gunungsitoli**	**26.57**	**259**	P	**P**	**10 03 24.2**	**-0.9**
CM31	**Chiang Mai Arr**	**26.77**	**298**	P	**P**	**10 03 27.3**	**+0.7**
CM31				IAmb	IAmb	10 03 28.3	
	comp=Z,4.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**26.77**	**298**	P	**P**	**10 03 27.1**	**+0.4**
CMAR	**Chiang Mai Arr**	**26.77**	**298**	P	**P**	**10 03 27.4**	**+0.8**
	comp=Z,2.1nm,0.3s,baz=116,slow=7.1,SNR=16 comp=Z,2.1nm,0.3s						
COEN	**Coen**	**28.22**	**137**	P	**P**	**10 03 38.5**	**-0.8**
WB0	**Warramunga Arr**	**28.35**	**158**	P	**P**	**10 03 39.9**	**-0.5**
WB0				IAmb	IAmb	10 03 40.6	
	comp=Z,4.4nm,0.7s						
PSA00	**Pilbara Seismi**	**28.36**	**188**	P	**P**	**10 03 39.7**	**-0.7**
PSA00				IAmb	IAmb	10 03 40.6	
	comp=Z,6.6nm,1.0s						
WRAB	**Tennant Creek**	**28.48**	**159**	P	**P**	**10 03 41.5**	**-0.1**
WRA	**Warramunga Arr**	**28.49**	**159**	P	**P**	**10 03 41.3**	**-0.3**
	comp=Z,5.2nm,0.5s,baz=332,slow=11,SNR=116			S	**S**	**10 07 45.2**	**-3.4**
WRA	comp=Z,2.1nm,0.5s,baz=334,slow=15,SNR=14			ScP	**ScP**	**10 09 18.4**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=343,slow=3.2,SNR=15 comp=Z,5.2nm,0.5s						
WB2	**Warramunga Arr**	**28.49**	**159**	P	**P**	**10 03 41.4**	**-0.2**
WR0	**Warramunga Arr**	**28.58**	**158**	P	**P**	**10 03 42.2**	**-0.2**
WR0				IAmb	IAmb	10 03 51.6	
	comp=Z,5.2nm,1.1s						
PZH	**PanZhiHua**	**28.70**	**316**	P	**P**	**10 03 45.3**	**+1.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.5s						
RABL	**Rabaul**	**30.43**	**110**	P	**P**	**10 03 59.2**	**+0.8**
GIRL	**Giralia**	**30.60**	**197**	P	**P**	**10 04 00.8**	**+1.1**
KSAR	**Wonju Array Be**	**30.83**	**7**	P	**P**	**10 04 01.6**	**+0.2**
AS31	**Alice Springs**	**31.80**	**162**	P	**P**	**10 04 10.8**	**+0.8**
AS31				IAmb	IAmb	10 04 10.9	
	comp=Z,3.6nm,0.3s						
ASAR	**Alice Springs**	**31.80**	**162**	P	**P**	**10 04 10.6**	**+0.6**
ASAR	**Alice Springs**	**31.80**	**162**	P	**P**	**10 04 10.5**	**+0.5**
	comp=Z,3.1nm,0.3s,baz=341,slow=7.3,SNR=176						
ASAR				S	**S**	**10 08 38.8**	**-0.6**
	comp=Z,5.2nm,0.8s,baz=349,slow=23,SNR=28						
ASAR				ScP	**ScP**	**10 09 29.2**	**-0.4**
	comp=Z,1.0nm,0.6s,baz=350,slow=2.6,SNR=6.0 comp=Z,3.1nm,0.3s						
MJAR	**Matsushiro Arr**	**32.53**	**22**	P	**P**	**10 04 14.9**	**-1.0**
	comp=Z,1.6nm,0.7s,baz=160,slow=11,SNR=4.7 comp=Z,1.6nm,0.7s						
CTAO	**Charters Tower**	**34.68**	**141**	P	**P**	**10 04 35.2**	**+1.0**
CTAO				IAmb	IAmb	10 04 35.9	
	comp=Z,5.4nm,0.8s						
JMM	**Marumori**	**34.69**	**24**	P	**P**	**10 04 34.5**	**+0.5**
SHL	**Shillong**	**35.67**	**305**	P	**P**	**10 04 42.9**	**+0.4**
HHC	**Hu-ho-hao-te**	**35.67**	**344**	*eP*	**P**	**10 04 43.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,50nm,5.0s						
HHC				LR	LR		
	comp=N,220nm,18.3s						
HHC				LR	LR		
	comp=E,220nm,17.6s						
MORW	**Morawa**	**36.32**	**191**	P	**P**	**10 04 47.6**	**0.0**
MORW				IAmb	IAmb	10 04 47.8	
	comp=Z,5.

comp=Z,3.0nm,0.5s,baz=333,slow=8.8,SNR=14
comp=Z,3.0nm,0.5s

ULN Ulaanbaatar 43.39 344 P **P** **10 05 44.3 +0.5**
ULN IAmb IAmb 10 06 09.2
comp=Z,5.3nm,0.4s

SONM Songino Array 43.55 343 P **P** **10 05 45.1 +0.1**
SONM Songino Array 43.55 343 P **P** **10 05 45.8 +0.8**
comp=Z,1.0nm,0.7s,baz=194,slow=11,SNR=3.6
comp=Z,1.0nm,0.7s

MK31 Makanchi Array 53.39 326 P **P** **10 06 58.3 +0.7**
MK31 IAmb IAmb 10 06 58.4
comp=Z,4.0nm,0.5s

MKAR Makanchi Array 53.39 326 P **P** **10 06 58.1 +0.5**
comp=Z,4.3nm,0.4s,baz=121,slow=8.3,SNR=45
MKAR PcP **PcP** **10 07 54.4 -0.5**
comp=Z,0.6nm,0.4s,baz=115,slow=4.7,SNR=3.5
MKAR ScP **ScP** **10 10 54.9 -1.1**
comp=Z,0.4nm,0.5s,baz=121,slow=4.8,SNR=2.4
comp=Z,4.3nm,0.4s

TARG Taragay, Kyrgy 53.51 318 P **P** **10 07 00.2 +1.2**
TARG IAmb IAmb 10 07 08.4
comp=Z,3.3nm,0.7s

MAKZ Makanchi 53.57 325 P **P** **10 06 59.4 +0.5**
MAKZ IAmb IAmb 10 06 59.6
comp=Z,5.2nm,0.5s

PEA0B Petropavlovsk- 53.92 25 P **P** **10 07 01.9 +0.7**
PEA0B IAmb IAmb 10 07 25.1
comp=Z,9.1nm,1.0s

PETK Petropavlovsk- 53.92 25 P **P** **10 07 01.9 +0.7**
PETK Petropavlovsk- 53.92 25 P **P** **10 07 02.8 +1.6**
comp=Z,1.4nm,0.6s,baz=202,slow=7.1,SNR=5.7
comp=Z,1.4nm,0.6s

BOOM Boomskoye usch 55.09 318 P **P** **10 07 11.3 +1.5**
BOOM IAmb IAmb 10 07 29.2
comp=Z,23nm,1.2s

ZALV Zalesovo Beam 56.58 334 P **P** **10 07 19.1 -0.5**
comp=Z,0.8nm,0.4s,baz=107,slow=5.7,SNR=2.3
comp=Z,0.8nm,0.4s

ARSB Arslanbob 56.61 316 P **P** **10 07 21.1 +0.8**
KURBB Kurchatov Arra 57.61 328 P **P** **10 07 26.8 +0.2**
comp=Z,4.5nm,0.6s,baz=129,slow=6.4,SNR=29
comp=Z,4.5nm,0.6s

KURK Kurchatov 57.61 328 P **P** **10 07 27.0 +0.4**
KURK IAmb IAmb 10 07 27.5
comp=Z,10nm,0.7s

GAR Garm 57.68 312 P **P** **10 07 28.0 +0.5**
CHGR Chuyangaron 58.42 312 P **P** **10 07 33.2 +0.7**
CHGR IAmb IAmb 10 07 42.7
comp=Z,5.0nm,0.6s

SIMJ Simiganj 58.54 312 P **P** **10 07 33.4 +0.1**
BVAR Borovoye Array 63.18 327 P **P** **10 08 03.5 +0.3**
comp=Z,1.3nm,0.6s,baz=65,slow=5.4,SNR=6.5
comp=Z,1.3nm,0.6s

GEYT Alibeck 66.67 308 P **P** **10 08 26.0 +0.6**
comp=Z,1.3nm,0.5s,baz=93,slow=7.5,SNR=1.8
comp=Z,1.3nm,0.5s

BKZ Black Stump Fm 66.82 138 P **P** **10 08 27.5 +1.2**
BKZ IAmb IAmb 10 08 27.7
comp=Z,8.0nm,0.6s

ABKAR Akbulak array 67.93 321 P **P** **10 08 32.7 -0.1**
CASY Casey 73.43 186 P **P** **10 09 05.0 +0.3**
C18K Utukok River 78.39 21 P **P** **10 09 32.8 +0.8**
D19K Kuna River 79.47 22 P **P** **10 09 39.0 +1.2**
H19K Roundabout Mou 79.73 25 P **P** **10 09 41.2 +2.1**
VOI Vohitsoka 80.43 247 P **P** **10 09 42.8 -1.0**
VOI IAmb IAmb 10 09 50.4
comp=Z,3.7nm,1.1s

J20K Nowinta River 80.59 26 P **P** **10 09 45.2 +1.6**
IMAR Indian Mountai 80.89 24 P **P** **10 09 46.5 +1.4**
TOLK Toolik Lake Re 82.61 22 P **P** **10 09 55.6 +1.8**
ILAR Eielson Array 83.74 26 P **P** **10 09 59.4 -0.1**
comp=Z,0.2nm,0.5s,baz=238,slow=5.0,SNR=4.3
comp=Z,0.2nm,0.5s

BMAR Burnt Mountain 84.53 23 P **P** **10 10 04.7 +1.3**
BRTR Keskin Array B 85.79 309 P **P** **10 10 09.0 -1.2**
BRTR Keskin Array B 85.79 309 P **P** **10 10 08.6 -1.6**
comp=Z,0.5nm,0.5s,baz=141,slow=5.5,SNR=3.7
comp=Z,0.5nm,0.5s

I28M Miner Creek 86.60 25 P **P** **10 10 14.4 +1.0**
ARCES ARCESS Array B 86.62 340 P **P** **10 10 12.3 -1.0**
comp=Z,2.0nm,0.9s,baz=82,slow=6.5,SNR=1.7
comp=Z,2.0nm,0.9s

FINES FINESS Array B 87.78 332 P **P** **10 10 17.6 -1.2**
comp=Z,0.5nm,0.5s,baz=77,slow=6.1,SNR=4.6
comp=Z,0.5nm,0.5s

TORD Torodi Ar. Bea 119.09 289 PKP **PKPdf** **10 16 14.4 -1.0**
comp=Z,0.3nm,0.4s,baz=61,slow=2.5,SNR=6.3
PLCA Paso Flores 143.81 162 PKP PKPbc 10 17 00.3 -0.1
comp=Z,1.1nm,1.0s,baz=164,slow=3.5,SNR=3.4

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*NEIC **05** 10:02:11.8±0.8, 19°.37N±0°.02×155°.10W±0°.03, h5km±1km, Error ellipse: s-maj=4.7km s-min=2.8km az=303.0*
HVO 05 10:02:11.6±0.5, 19°.32N±0°.02×155°.11W±0°.02, h5km±4km, ML2.7/28, ML2.9/42(NEIC), Error ellipse: s-maj=3.8km s-min=2.1km az=119.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.06**	**11**		Pg	10 02 13.4	+0.3
JCUZ				IAML		10 02 15.2	
	comp=E,13μm,0.5s						
JCUZ				IAML		10 02 15.2	
	comp=N,10μm,0.4s						
STCH	**Steam Cracks**	**0.06**	**351**		Pg	10 02 13.5	+0.3
STCH				IAML		10 02 15.2	
	comp=N,8μm,0.2s						
STCH				IAML		10 02 15.2	
	comp=E,9μm,0.2s						
NPOC	**North of Pu'u**	**0.07**	**4**		Pg	10 02 13.5	+0.2
KNHH	**Kane Nui o Ham**	**0.08**	**317**		Pg	10 02 13.7	+0.3
PUH	**Pauahi**	**0.11**	**298**		Pg	10 02 14.1	+0.2
PUH				IAML		10 02 16.7	
	comp=E,5μm,0.8s						
PUH				IAML		10 02 17.0	
	comp=N,6μm,0.8s						
KKO	**Keanakako`i**	**0.16**	**297**		Pg	10 02 15.0	+0.1
KKO				IAML		10 02 18.2	
	comp=E,3μm,0.7s						
BYL	**Byron's Ledge**	**0.16**	**303**		Pg	10 02 15.0	0.0
BYL				IAML		10 02 18.3	
	comp=E,5μm,0.6s						
RIM	**Rim**	**0.17**	**295**		Pg	10 02 15.1	+0.1
RIM				IAML		10 02 18.3	
	comp=E,3μm,0.6s						
RIM				IAML		10 02 20.4	
	comp=N,3μm,0.5s						
HATHI	**Halema'uma'u T**	**0.17**	**306**		Pg	10 02 15.1	0.0
HATHI				IAML		10 02 20.1	
	comp=E,4μm,0.8s						
SBLHI	**Steaming Bluff**	**0.18**	**305**		Pg	10 02 15.2	0.0
SDHHI	**Sand Hill**	**0.18**	**291**		Pg	10 02 15.5	+0.2
SDHHI				IAML		10 02 20.5	
	comp=E,3μm,0.8s						
SDHHI				IAML		10 02 21.8	
	comp=N,4μm,0.5s						
UWB	**Uwekahuna B**	**0.18**	**303**		Pg	10 02 15.5	+0.2
HLP	**Hilina Pali**	**0.18**	**261**		Pg	10 02 15.8	+0.5
HLP				IAML		10 02 21.1	
	comp=N,3μm,0.5s						
HLP				IAML		10 02 21.1	
	comp=E,3μm,0.5s						
OBL	**Observatory Le**	**0.18**	**300**		Pg	10 02 15.6	+0.2
OBL				IAML		10 02 20.0	
	comp=N,5μm,0.6s						
WRMHI	**West Rim**	**0.19**	**295**		Pg	10 02 15.6	+0.1
WRMHI				IAML		10 02 20.4	
	comp=N,3μm,0.6s						
WRMHI				IAML		10 02 22.3	
	comp=E,3μm,0.6s						
UWE	**Uwekahuna**	**0.20**	**300**		Pg	10 02 15.5	0.0
UWE				IAML		10 02 20.9	
	comp=E,3μm,0.8s						
UWE				IAML		10 02 21.4	
	comp=N,4μm,0.5s						
RSD	**Rainshed**	**0.21**	**312**		Pg	10 02 15.5	-0.3
HTC	**Hot Caves**	**0.28**	**252**		Pg	10 02 18.0	+0.9
MLH	**Mauna Loa**	**0.31**	**303**		Pg	10 02 17.8	+0.1
MLH				IAML		10 02 23.6	
	comp=N,1μm,0.5s						
HMH	**Humu'ula Sheep**	**0.45**	**309**		Pg	10 02 20.6	+0.3
KHU	**Kahuku**	**0.48**	**261**		Pg	10 02 20.7	-0.2
KHU				IAML		10 02 37.3	
	comp=N,1μm,0.5s						
MWH	**Moku'aweowe**	**0.48**	**289**		Pg	10 02 20.9	-0.1
ALEP	**Alea Permanent**	**0.55**	**293**		Pg	10 02 21.6	-0.5
ALEP					Sg	10 02 29.9	+0.6
POHA	**Pohakuloa**	**0.58**	**318**		Pg	10 02 22.1	-0.8
POHA					Sg	10 02 30.6	0.0
HUH	**Hualalai**	**0.77**	**298**	Pg	Pg	10 02 25.2	-1.3
CPH	**Captain Cook**	**0.78**	**282**		Pg	10 02 26.3	-0.3

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*NEIC **05** 10:05:45.5±1.1, 19°.10N±0°.02×155°.25W±0°.01, h10km±1km, Error ellipse: s-maj=3.4km s-min=2.9km az=336.0*
HVO 05 10:05:45.1±1.1, 19°.07N±0°.02×155°.21W±0°.02, h9km±5km, ML3.7/45, ML4.0/46(NEIC), Error ellipse: s-maj=3.8km s-min=1.5km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.25**	**337**		Pg	10 05 50.6	+0.5
HTC	**Hot Caves**	**0.25**	**313**		Pg	10 05 50.6	+0.5
PUH	**Pauahi**	**0.30**	**358**		Pg	10 05 51.1	-0.1
PUH				IAML		10 06 00.6	
	comp=E,18μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.31**	**6**		Pg	10 05 51.3	0.0
STCH	**Steam Cracks**	**0.33**	**14**		Pg	10 05 51.5	0.0
STCH				IAML		10 06 01.4	
	comp=N,11μm,0.8s						
STCH	**Steam Cracks**	**0.33**	**14**		Sg	10 05 56.7	+0.7
JCUZ	**Jacuzzi**	**0.33**	**17**		Pg	10 05 51.6	-0.1
JCUZ				IAML		10 05 57.8	
	comp=E,12μm,0.3s						
JCUZ				IAML		10 06 01.2	
	comp=N,13μm,0.8s						
JCUZ	**Jacuzzi**	**0.33**	**17**		Sb	10 05 57.6	-1.0
SDHHI	**Sand Hill**	**0.33**	**345**		Pg	10 05 51.6	-0.1
SDHHI				IAML		10 05 59.5	
	comp=N,21μm,0.5s						
RIM	**Rim**	**0.33**	**349**		Pg	10 05 51.5	-0.2
RIM				IAML		10 06 02.4	
	comp=E,25μm,0.9s						
KKO	**Keanakako`i**	**0.33**	**350**		Pg	10 05 51.6	-0.1
KKO				IAML		10 06 01.6	
	comp=N,22μm,0.7s						
KKO				IAML		10 06 02.4	
	comp=E,19μm,0.7s						
NPOC	**North of Pu'u**	**0.34**	**16**		Pg	10 05 51.8	0.0
NPOC				IAML		10 05 59.1	
	comp=N,13μm,0.4s						
NPOC	**North of Pu'u**	**0.34**	**16**		Sg	10 05 57.2	+0.9
BYL	**Byron's Ledge**	**0.35**	**352**		Pg	10 05 51.8	-0.2
BYL				IAML		10 06 02.1	
	comp=E,19μm,0.7s						
BYL				IAML		10 06 04.2	
	comp=N,17μm,0.6s						
WRMHI	**West Rim**	**0.35**	**345**		Pg	10 05 51.8	-0.2
WRMHI				IAML		10 06 03.5	
	comp=N,21μm,0.5s						
NPH	**North Pit**	**0.35**	**348**		Pg	10 05 51.9	-0.2
OBL	**Observatory Le**	**0.35**	**348**		Pg	10 05 51.9	-0.2
HATHI	**Halema'uma'u T**	**0.36**	**352**		Pg	10 05 52.0	-0.2
HATHI				IAML		10 06 01.9	
	comp=E,17μm,0.6s						
HATHI	**Halema'uma'u T**	**0.36**	**352**		Sg	10 05 57.4	+0.4
UWB	**Uwekahuna B**	**0.36**	**349**		Pg	10 05 51.9	-0.3
UWE	**Uwekahuna**	**0.36**	**347**		Pg	10 05 52.1	-0.2
UWE				IAML		10 06 04.8	
	comp=N,21μm,0.7s						
SBLHI	**Steaming Bluff**	**0.36**	**351**		Pg	10 05 51.9	-0.4
SBLHI				IAML		10 06 03.3	
	comp=E,12μm,0.7s						
SBLHI				IAML		10 06 03.9	
	comp=N,13μm,0.8s						
RSD	**Rainshed**	**0.40**	**350**		Pg	10 05 52.5	-0.5
RSD					Sg	10 05 58.0	-0.3
JOKA	**Jonika Flow**	**0.41**	**28**		Pg	10 05 52.9	-0.2
JOKA					Sg	10 05 58.8	+0.2
KHU	**Kahuku**	**0.42**	**295**		Pg	10 05 53.2	-0.3
KHU					Sg	10 05 59.4	+0.3
MLH	**Mauna Loa**	**0.46**	**338**		Pg	10 05 53.9	-0.2
MLH				IAML		10 06 03.2	
	comp=E,10μm,0.4s						
MLH				IAML		10 06 04.6	
	comp=N,10μm,0.6s						
PHO	**Puu Honuaula**	**0.51**	**36**		Pg	10 05 54.9	-0.1
MWH	**Moku'aweowe**	**0.56**	**318**		Pg	10 05 55.1	-0.9
MWH				IAML		10 06 13.0	
	comp=E,9μm,0.7s						
MWH				IAML		10 06 14.9	
	comp=N,10μm,0.5s						
HMH	**Humu'ula Sheep**	**0.59**	**334**		Pg	10 05 55.8	-0.9
HMH				IAML		10 06 06.6	
	comp=N,6μm,0.4s						
HMH	**Humu'ula Sheep**	**0.59**	**334**		Sg	10 06 04.0	-0.5
ALEP	**Alea Permanent**	**0.63**	**319**		Pg	10 05 55.9	-1.4
ALEP					Sg	10 06 04.1	-1.5
POHA	**Pohakuloa**	**0.75**	**336**		Pg	10 05 57.6	-2.0
POHA	**Pohakuloa**	**0.75**	**336**	IAML		10 06 23.5	
	comp=N,5μm,0.7s						
POHA				IAML		10 06 24.2	
	comp=N,4μm,0.6s						
CPH	**Captain Cook**	**0.79**	**302**		Pg	10 05 58.8	-1.5
HUH	**Hualalai**	**0.85**	**316**		Pg	10 05 59.6	-2.0
HUH				IAML		10 06 27.6	
	comp=N,6μm,0.6s						
HPAH	**Hawaii Prepara**	**1.06**	**334**		Pg	10 06 01.8	-3.7
MHA	**Mahukona**	**1.29**	**330**		Pn	10 06 05.2	-4.0
KHLH	**Kahului Airpor**	**2.15**	**328**	Pn	Pn	10 06 17.7	-3.4
KHLH					Pb	10 06 19.3	-4.9
HON	**Honolulu**	**3.45**	**311**	Pn	Pn	10 06 34.8	-4.2

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*IDC **05** 10:27:43.3±0.5, 28°.14N×43°.97W, h0km, mb4.3/27, mbtmp4.3/27, MS3.9/9, Error ellipse: s-maj=15.4km s-min=12.4km az=144.0*
*NEIC **05** 10:27:45.7±1.3, 28°.13N±0°.09×43°.8W±0°.1, h10km±1km, mb4.7/213, Error ellipse: s-maj=18.2km s-min=13.2km az=130.0*
ISC 05 10:27:46.3±0.3, 28°.10N±0°.07×43°.88W±0°.06, h19km, n513, σ0s71/459, mb4.7/145, MS3.9/11, 3D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMLA	**Cha da Macela**	**18.15**	**53**	P	**Pn**	**10 31 57.0**	**-0.3**
CMLA				IAmb	IAmb	10 32 14.2	
	comp=Z,40nm,0.4s						
BBSR	**BB Station**	**18.48**	**288**	P	**P**	**10 32 01.0**	**-0.2**
BBSR				IAmb	IAmb	10 32 09.1	
	comp=Z,72nm,1.4s						
AOPR	**Arecibo Observ**	**23.12**	**250**	P	**P**	**10 32 51.1**	**-0.3**
MDP	**Montagnes des**	**24.34**	**202**	LR	LR	10 40 54.5	
	comp=Z,75nm,18.8s,baz=302,slow=32						
PKME	**Peaks-Kenny Pk**	**26.46**	**317**	P	**P**	**10 33 21.6**	**-0.5**
	baz=122						
HRV	**Adam Dziewonsk**	**26.63**	**310**	P	**P**	**10 33 24.7**	**+1.0**
HRV				IAmb	IAmb	10 33 34.8	
	comp=Z,39nm,1.4s						
HRV	**Adam Dziewonsk**	**26.63**	**310**	P	**P**	**10 33 23.6**	**-0.1**
	baz=114						
L61B	**Northampton**	**27.37**	**309**	P	**P**	**10 33 30.3**	**0.0**
	baz=112						
PAL	**Palisades**	**27.74**	**306**	P	**P**	**10 33 33.7**	**+0.1**
	baz=108						
LONY	**Lake Ozonia**	**29.49**	**312**	P	**P**	**10 33 48.9**	**-0.4**
	baz=114						
BINY	**Binghamton**	**29.59**	**307**	P	**P**	**10 33 49.6**	**-0.6**
	baz=108						
BAUV	**El Baul**	**29.69**	**235**	P	**P**	**10 33 51.3**	**+0.1**
CNNC	**Cliffs of the**	**29.71**	**292**	P	**P**	**10 33 50.8**	**-0.4**
	baz=94						
SSPA	**Standing Stone**	**30.54**	**303**	P	**P**	**10 33 58.4**	**-0.2**
	baz=104						
SDV	**Santo Domingo**	**31.63**	**238**	P	**P**	**10 34 10.5**	**+1.9**
SDV				IAmb	IAmb	10 34 12.0	
	comp=Z,6.9nm,0.7s						
BIRD	**Birdtown, Kers**	**31.79**	**291**	P	**P**	**10 34 10.6**	**+1.0**
BIRD				IAmb	IAmb	10 34 12.7	
	comp=Z,15nm,1.3s						
R55A	**Marlinton**	**31.81**	**298**	P	**P**	**10 34 10.4**	**+0.5**
R55A				IAmb	IAmb	10 34 21.6	
	comp=Z,11nm,1.3s						
MCWV	**Mont Chateau**	**31.81**	**301**	P	**P**	**10 34 09.7**	**-0.1**
U56A	**King**	**31.81**	**294**	P	**P**	**10 34 10.1**	**+0.2**
BLA	**Blacksburg**	**31.92**	**296**	P	**P**	**10 34 10.6**	**-0.2**
	baz=96						
ERPA	**Erie**	**32.43**	**305**	P	**P**	**10 34 14.8**	**-0.4**
	baz=104						
M53A	**WI Miller and**	**32.78**	**304**	P	**P**	**10 34 18.2**	**0.0**
	baz=102						
O53A	**New Philadelph**	**32.95**	**301**	P	**P**	**10 34 20.2**	**+0.5**
	baz=100						
P52A	**Corning**	**33.55**	**300**	P	**P**	**10 34 24.9**	**-0.1**
	baz=98						
ITTB	**Itaituba**	**34.24**	**201**	*e*P	**P**	**10 34 31.6**	**+0.4**
ACSO	**Alum Creek Sta**	**34.28**	**301**	P	**P**	**10 34 31.2**	**-0.1**
	baz=98						
GOGA	**Godfrey**	**34.29**	**289**	P	**P**	**10 34 31.9**	**+0.4**
	baz=88						
TZTN	**Tazewell**	**34.37**	**294**	P	**P**	**10 34 33.1**	**+0.9**
TZTN				IAmb	IAmb	10 34 40.3	
	comp=Z,11nm,1.0s						
TZTN	**Tazewell**	**34.37**	**294**	P	**P**	**10 34 32.1**	**-0.1**
	baz=93						
V52A	**Sevierville**	**34.39**	**293**	P	**P**	**10 34 33.4**	**+1.1**
V52A				IAmb	IAmb	10 34 41.0	
	comp=Z,11nm,1.2s						
Q51A	**Peebles**	**34.41**	**299**	P	**P**	**10 34 33.9**	**+1.4**
Q51A				IAmb	IAmb	10 34 40.0	
	comp=Z,12nm,1.1s						
K50A	**Casco**	**34.48**	**306**	P	**P**	**10 34 33.7**	**+0.8**
K50A				IAmb	IAmb	10 34 42.0	
	comp=Z,21nm,1.2s						
TIGA	**Tifton**	**34.51**	**285**	P	**P**	**10 34 33.2**	**-0.1**
	baz=85						
TKL	**Tuckaleechee C**	**34.53**	**293**	P	**P**	**10 34 33.5**	**0.0**
TKL				IAmb	IAmb	10 34 41.5	
	comp=Z,14nm,1.1s						
RCBR	**Riachuelo**	**34.59**	**166**	LR	LR	10 46 25.5	
	comp=Z,174nm,18.3s,baz=64,slow=32						
ESDC	**Sonseca Array**	**34.83**	**60**	P	**P**	**10 34 36.5**	**+0.3**
	comp=Z,1.7nm,1.2s,baz=261,slow=8.8,SNR=5.2						
	comp=Z,1.7nm,1.2s						
MACA	**Manacapuru-AM**	**35.03**	**210**	P	**P**	**10 34 38.4**	**+0.4**
MACA				IAmb	IAmb	10 34 40.5	
	comp=Z,17nm,1.0s						
AAM	**Ann Arbor**	**35.13**	**304**	P	**P**	**10 34 39.7**	**+1.0**
T50A	**Nancy**	**35.43**	**295**	P	**P**	**10 34 42.4**	**+1.1**
T50A				IAmb	IAmb	10 34 49.5	
	comp=Z,8.9nm,1.1s						
P49A	**Miami Univ. Ec**	**35.52**	**299**	P	**P**	**10 34 42.0**	**0.0**
	baz=96						
O48B	**Farmland**	**35.94**	**301**	P	**P**	**10 34 44.9**	**-0.7**
O48B				IAmb	IAmb	10 34 47.6	
	comp=Z,8.6nm,1.1s						
O48B	**Farmland**	**35.94**	**301**	P	**P**	**10 34 45.7**	**+0.1**
	baz=97						
GLMI	**Grayling**	**36.34**	**308**	P	**P**	**10 34 48.6**	**-0.4**
	baz=103						
CLTN	**Cedars of Leba**	**36.61**	**294**	P	**P**	**10 34 52.5**	**+1.1**
CLTN				IAmb	IAmb	10 35 00.0	
	comp=Z,11nm,0.9s						
WCI	**Wyandotte Cave**	**36.64**	**297**	P	**P**	**10 34 51.1**	**-0.6**
	baz=93						
NPGB	**Novo Progresso**	**36.65**	**199**	*e*P	**P**	**10 34 52.3**	**+0.4**
V48A	**Smith Brothers**	**37.01**	**293**	P	**P**	**10 34 55.9**	**+1.1**
T47A	**Sharon Grove**	**37.24**	**295**	P	**P**	**10 34 57.6**	**+0.8**
T47A				IAmb	IAmb	10 35 05.2	
	comp=Z,12nm,1.1s						
LRAL	**Lakeview Retre**	**37.26**	**288**	P	**P**	**10 34 56.8**	**-0.2**
	baz=86						
SFIN	**Lafayette**	**37.43**	**301**	P	**P**	**10 34 58.5**	**+0.2**
SFIN	**Lafayette**	**37.43**	**301**	P	**P**	**10 34 58.3**	**0.0**
	baz=95						
BRAL	**Brewton**	**37.48**	**285**	P	**P**	**10 34 59.2**	**+0.4**
	baz=83						
WVT	**Waverly**	**37.82**	**294**	P	**P**	**10 35 02.1**	**+0.4**
WVT	**Waverly**	**37.82**	**294**	P	**P**	**10 35 02.1**	**+0.4**
	baz=89						
PLAL	**Pickwick Lake**	**38.05**	**292**	P	**P**	**10 35 04.6**	**+1.0**
Z47A	**Carrollton**	**38.15**	**289**	P	**P**	**10 35 05.3**	**+0.9**
Z47A				IAmb	IAmb	10 35 12.6	
	comp=Z,19nm,1.1s						
L44A	**Lake County Fo**	**38.23**	**303**	P	**P**	**10 35 05.6**	**+0.5**
SIUC	**Southern Illin**	**38.94**	**296**	P	**P**	**10 35 12.7**	**+1.6**
SIUC				IAmb	IAmb	10 35 19.1	
	comp=Z,16nm,1.1s						
HALT	**Halls**	**39.05**	**293**	P	**P**	**10 35 13.5**	**+1.5**
HDIL	**Hopedale**	**39.11**	**301**	P	**P**	**10 35 12.8**	**+0.3**
	baz=94						
OXF	**Oxford**	**39.17**	**291**	P	**P**	**10 35 13.4**	**+0.4**
	baz=86						
I42A	**Draeger Farm,**	**39.19**	**306**	P	**P**	**10 35 14.5**	**+1.4**
BORG	**Borgarnes**	**39.36**	**15**	LR	LR	10 47 22.7	
	comp=Z,151nm,18.5s,baz=238,slow=30						
L42A	**Oliver, Polo**	**39.51**	**303**	P	**P**	**10 35 16.0**	**+0.2**
L42A				IAmb	IAmb	10 35 24.9	
	comp=Z,16nm,1.0s						
EKA	**Eskdalemuir Ar**	**39.91**	**36**	P	**P**	**10 35 18.6**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=254,slow=5.1,SNR=5.2						
	comp=Z,2.5nm,0.9s						
PBMO	**Poplar Bluff**	**39.91**	**295**	P	**P**	**10 35 20.0**	**+0.8**
JFWS	**Jewell Farm**	**40.03**	**304**	P	**P**	**10 35 20.9**	**+0.7**
JFWS	**Jewell Farm**	**40.03**	**304**	P	**P**	**10 35 20.3**	**+0.2**
	baz=96						
VBMS	**Vicksburg**	**40.30**	**288**	P	**P**	**10 35 23.0**	**+0.5**
	baz=83						
G40A	**Rib Lake**	**40.31**	**308**	P	**P**	**10 35 23.7**	**+1.3**
I40A	**Norwalk**	**40.41**	**306**	P	**P**	**10 35 23.9**	**+0.6**
T42A	**Van Buren**	**40.43**	**295**	P	**P**	**10 35 24.3**	**+0.8**
T42A				IAmb	IAmb	10 35 31.4	
	comp=Z,13nm,0.9s						
LCAR	**Lake Charles**	**40.52**	**294**	P	**P**	**10 35 24.8**	**+0.6**
CCM	**Cathedral Cave**	**40.54**	**297**	P	**P**	**10 35 25.1**	**+0.7**
CCM	**Cathedral Cave**	**40.54**	**297**	P	**P**	**10 35 24.7**	**+0.3**
	baz=90						
CLF	**Chambon-Foret**	**40.70**	**48**	P	**P**	**10 35 25.6**	**+0.1**
CLF				IAmb	IAmb	10 35 27.7	
	comp=Z,22nm,0.9s						
P40A	**Paris**	**41.18**	**299**	P	**P**	**10 35 29.6**	**0.0**
SAML	**Samuel**	**41.29**	**210**	P	**P**	**10 35 30.1**	**-0.6**
SAML	**Samuel**	**41.29**	**210**	*e*P	**P**	**10 35 30.1**	**-0.6**
FCAR	**Ozark Folk Cen**	**41.31**	**293**	P	**P**	**10 35 30.9**	**+0.1**
MGMO	**Mountain Grove**	**41.37**	**295**	P	**P**	**10 35 32.2**	**+0.9**
EYMN	**Ely**	**41.65**	**312**	P	**P**	**10 35 33.5**	**+0.1**
	baz=101						
N38A	**Joes South For**	**42.12**	**301**	P	**P**	**10 35 37.8**	**+0.5**
N38A				IAmb	IAmb	10 35 45.1	
	comp=Z,13nm,0.9s						
SPMN	**Marine on St.**	**42.13**	**307**	P	**P**	**10 35 38.1**	**+0.7**
SPMN	**Marine on St.**	**42.13**	**307**	P	**P**	**10 35 37.7**	**+0.4**
	baz=97						
S39A	**Bolivar**	**42.19**	**296**	P	**P**	**10 35 38.1**	**+0.1**
P38A	**Dawn**	**42.33**	**299**	P	**P**	**10 35 39.3**	**+0.2**
P38A				IAmb	IAmb	10 35 41.4	
	comp=Z,27nm,1.4s						
TULM	**Tulcn-Chalpat**	**42.36**	**236**	P	**P**	**10 35 40.1**	**0.0**
TULM				IAmb	IAmb	10 35 43.8	
	comp=Z,16nm,1.2s						
I37A	**Lemond, Waseca**	**42.42**	**306**	P	**P**	**10 35 39.2**	**-0.6**
I37A				IAmb	IAmb	10 35 42.3	
	comp=Z,24nm,1.5s						
MIAR	**Mount Ida**	**42.60**	**292**	P	**P**	**10 35 41.5**	**+0.2**
MIAR	**Mount Ida**	**42.60**	**292**	P	**P**	**10 35 41.9**	**+0.6**
	baz=84						
DBIC	**Dimbokro**	**42.62**	**113**	P	**P**	**10 35 41.7**	**+0.1**
DBIC				IAmb	IAmb

comp=Z,9,4nm,0.8s
NATX Nacogdoches 43.84 288 P P 10 35 52.2 +0.8
baz=81
ARAG Araguaiana, MT 44.22 191 *e*P P 10 35 54.8 +0.4
MTO3 Montecristo 44.28 262 P P 10 35 55.4 +0.1
MTO3 lAmb lAmb 10 35 58.6
comp=Z,12nm,1.3s
TUL3 Leonard 44.28 294 lAmb lAmb 10 36 01.9
comp=Z,11nm,0.9s
TUL3 Leonard 44.28 294 P P 10 35 55.5 +0.7
baz=85,SNR=5.6
L34A Svendsen Farm, 44.50 302 P P 10 35 56.5 -0.1
AGMN Agassiz Nation 44.60 311 P P 10 35 57.4 +0.1
AGMN Agassiz Nation 44.60 311 P P 10 35 57.1 -0.1
baz=98
CHSH Refugio Sur-Vo 44.65 235 P P 10 35 58.8 +0.1
CHSH lAmb lAmb 10 36 02.0
comp=Z,8.4nm,0.9s
TAM Tamanrasset 44.68 85 P P 10 35 58.5 +0.1
KSU1 Kansas State U 44.72 298 P P 10 35 58.1 -0.2
KSU1 lAmb lAmb 10 36 05.4
comp=Z,8.3nm,0.9s
KSU1 Kansas State U 44.72 298 P P 10 35 58.3 -0.1
baz=88
ECSD EROS Data Cent 44.73 305 P P 10 35 57.9 -0.4
baz=92
BFO Black Forest 44.75 49 P P 10 35 57.8 -0.7
BFO lAmb lAmb 10 36 00.6
comp=Z,15nm,1.2s
T35A Sooner Cattle 44.77 295 lAmb lAmb 10 36 06.3
comp=Z,15nm,1.0s
ULM Lac du Bonnet 44.90 314 P P 10 35 58.7 -0.9
ULM Lac du Bonnet 44.90 314 P P 10 35 57.9 -1.6
comp=Z,2.2nm,0.8s,baz=91,slow=8.4,SNR=5.0
comp=Z,2.2nm,0.8s
TOA0 Torodi Ar. Sit 44.90 100 P P 10 35 59.6 -0.5
TORD Torodi Ar. Bea 44.90 100 P P 10 35 59.2 -0.8
TORD Torodi Ar. Bea 44.90 100 P P 10 36 00.4 +0.3
comp=Z,3.7nm,0.8s,baz=308,slow=9.1,SNR=20
comp=Z,3.7nm,0.8s
APG El Apazote 44.99 263 LR LR 10 52 05.3
comp=Z,11nm,21.1s,baz=78,slow=33
OK048 Pawnee Station 45.16 295 lAmb lAmb 10 36 02.4
comp=Z,12nm,1.3s
SALV Santo Antonio 45.21 196 *e*P P 10 36 02.4 0.0
CZSB Cruzeiro do Su 45.21 222 *e*P P 10 36 02.7 +0.2
TUE Stuetta 45.24 51 P P 10 36 02.9 +0.3
comp=Z,26nm,1.9s
KEST Kesra 45.35 66 P P 10 36 04.2 +0.7
comp=Z,14nm,0.9s,baz=240,slow=5.7,SNR=11
comp=Z,14nm,0.9s
H10N2 ASCENSION HYDR 45.63 137 T T 11 24 50.1
baz=323
H10N3 ASCENSION HYDR 45.63 137 T T 11 24 48.4
baz=323
KAN09 Caldwell North 45.64 296 lAmb lAmb 10 36 12.8
comp=Z,12nm,0.9s
H10N1 ASCENSION HYDR 45.65 137 T T 11 24 45.7
baz=323
DAVA Damuels 45.67 50 *e*P P 10 36 06.8 +0.8
comp=Z,18nm,1.1s
DAVA *i* PcP PcP 10 37 42.9 -1.0
comp=Z,24nm,1.3s
BGNE Belgrade 45.83 302 P P 10 36 06.5 -0.7
baz=89
WHTX Lake Whitney, 46.16 289 P P 10 36 10.8 +1.0
baz=80
FETA Feichten 46.23 51 *e*P P 10 36 10.7 +0.3
comp=Z,11nm,1.1s
FETA *e*PcP PcP 10 37 45.6 -0.3
comp=Z,12nm,1.0s
RETA Reutte 46.29 50 *e*P P 10 36 11.3 +0.6
comp=Z,12nm,1.1s
RETA *e*PcP PcP 10 37 46.1 +0.1
comp=Z,10.0nm,1.0s
H10S3 ASCENSION HYDR 46.42 138 T T 11 25 43.1
H10S2 ASCENSION HYDR 46.43 138 T T 11 25 43.1
SUSD Miller 46.44 306 P P 10 36 12.5 +0.6
baz=91
435B Jarrell 46.48 287 P P 10 36 12.7 +0.3
baz=79
MOTA Moosalm 46.51 50 *i* P P 10 36 12.3 -0.3
comp=Z,2.8nm,0.6s
MOTA *e*PcP PcP 10 37 47.8 +1.0
comp=Z,15nm,1.7s
SQTA Sankt Quirin 46.57 50 *i* P P 10 36 12.2 -0.8
comp=Z,14nm,1.2s
SQTA *e*PcP PcP 10 37 42.9 -4.0
comp=Z,15nm,1.0s
CTI Castel Tesino 46.81 52 P P 10 36 14.3 -0.6
WATA Walderalm 46.83 50 *i* P P 10 36 13.9 -1.2
comp=Z,22nm,1.4s
WATA *e*PcP PcP 10 37 44.4 -3.5
comp=Z,9.9nm,1.2s
WMOK Wichita Mounta 46.84 293 lAmb lAmb 10 36 22.4
comp=Z,7.7nm,1.2s
WMOK Wichita Mounta 46.84 293 P P 10 36 15.7 +0.5
baz=82,SNR=6.6
WTTA Wattenberg 46.87 50 *e*P P 10 36 15.0 -0.4
comp=Z,11nm,1.0s
WTTA *e*PcP PcP 10 37 45.1 -3.0
comp=Z,18nm,1.6s
MDND Maddock 47.05 310 P P 10 36 16.8 +0.1
baz=94
CBKS Cedar Bluff 47.17 298 P P 10 36 17.9 +0.2
baz=86
ABTA Abfaltersbach 47.44 51 *e*P P 10 36 19.6 -0.1
comp=Z,12nm,1.2s
ABTA *i* PcP PcP 10 37 49.0 -1.1
comp=Z,20nm,1.1s
BRDY Brady 47.58 288 lAmb lAmb 10 36 28.0
comp=Z,6.6nm,1.2s
LESA Schwarzleotal 47.58 50 *i* P P 10 36 20.7 -0.1
comp=Z,6.7nm,1.0s
LESA *e*PcP PcP 10 37 49.9 -0.6
comp=Z,9.7nm,1.3s
BBSD Serra de San D 47.84 202 *e*P P 10 36 23.3 +0.3
ABTX Abilene, Hawle 47.87 290 P P 10 36 23.3 0.0
baz=80
SMWD Samnorwood 47.98 293 lAmb lAmb 10 36 31.9
comp=Z,10nm,1.0s
GUMA Gualdo di Mace 47.98 56 lAmb lAmb 10 36 27.9
comp=Z,103nm,0.3s
KBA Koelnbreinsper 48.02 51 *e*P P 10 36 24.0 -0.4
comp=Z,4.0nm,0.9s
KBA *e*PcP PcP 10 37 53.5 +1.2
comp=Z,9.1nm,1.2s
CLL Collm 48.11 45 *i* P P 10 36 24.9 +0.1
comp=Z,7.0nm,1.0s
CLL *i* x x 10 36 30.6
CLL *e*PP PP 10 38 19.0 +2.1
CLL AMS AMS 10 53 00.0
comp=Z,200nm,20.3s
APMT Aspermont 48.15 291 lAmb lAmb 10 36 32.7
comp=Z,7.7nm,1.1s
MYKA Terra Mystica 48.21 51 *i* P P 10 36 25.3 -0.4
comp=Z,11nm,1.7s
MYKA *e*PcP PcP 10 37 54.6 +1.9
comp=Z,14nm,1.6s
BIOA Bad Ischl, Aus 48.24 50 *i* P P 10 36 25.4 -0.5
comp=Z,8.1nm,1.2s
BIOA *e*PcP PcP 10 37 52.1 -0.8
comp=Z,14nm,1.4s
KHC Kasperske Hory 48.28 48 lAmb lAmb 10 36 28.4
comp=Z,8.4nm,1.1s
KHC Kasperske Hory 48.28 48 *e*P P 10 36 26.9 +0.7
KHC Kasperske Hory 48.28 48 P P 10 36 25.9 -0.3
comp=Z,7.5nm,1.1s
GEC2 GERESS Array S 48.35 48 P P 10 36 26.4 -0.4
GEC2 lAmb lAmb 10 36 28.8
comp=Z,7.1nm,1.0s
GERES GERESS Array B 48.35 48 P P 10 36 26.8 0.0
comp=Z,2.9nm,0.8s,baz=284,slow=5.4,SNR=7.2
comp=Z,2.9nm,0.8s
JCT Junction City 48.41 287 P P 10 36 27.5 0.0
JCT lAmb lAmb 10 36 35.1
comp=Z,6.0nm,1.1s
JCT Junction City 48.41 287 P P 10 36 27.9 +0.5
baz=78
BBRB Robore, Bolivi 48.61 200 *e*P P 10 36 28.8 -0.2
BRG Berggiesshubel 48.66 46 *e*P P 10 36 29.9 +0.9
BRG Amp 10 36 31.3
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 48.66 46 P P 10 36 35.3 +6.3
BRG Amp 10 36 36.3
comp=Z,4.6nm,1.1s
MOA Molln 48.67 50 *i* P P 10 36 29.0 -0.3
comp=Z,3.5nm,1.2s
MOA *e*PcP PcP 10 37 53.6 -0.8
comp=Z,8.8nm,1.4s
CKRC Cesky Krumlov 48.75 48 *e*P P 10 36 29.3 -0.5
OGNE Ogallala 48.78 301 P P 10 36 30.6 +0.4
baz=86
OBKA Obir 48.83 51 *i* P P 10 36 30.4 -0.2
comp=Z,14nm,0.9s
OBKA *e*PcP PcP 10 37 54.6 -0.4
comp=Z,17nm,1.2s
NB2 NORSAR Subarra 49.06 32 P P 10 36 32.4 +0.4
comp=Z,12nm,1.4s,baz=253,slow=7.9
NOA NORSAR Array B 49.06 32 P P 10 36 32.3 +0.4
comp=Z,3.5nm,1.0s,baz=254,slow=7.8,SNR=6.1
NOA LR LR 10 53 40.0
comp=Z,73nm,21.7s,baz=245,slow=32
comp=Z,3.5nm,1.0s
SOKA Soboth 49.17 51 *i* P P 10 36 32.3 -0.8
comp=Z,5.9nm,1.1s
SOKA *e*PcP PcP 10 37 56.1 -0.2
comp=Z,6.8nm,1.3s
AMTX Amarillo 49.18 293 P P 10 36 33.7 +0.3
baz=81
FFC Flin Flon 49.28 319 P P 10 36 33.6 -0.1
FFC lAmb lAmb 10 36 36.3
comp=Z,14nm,1.5s
ARSA Arzberg 49.51 50 *i* P P 10 36 35.9 +0.2
comp=Z,4.9nm,0.9s
ARSA *i* PcP PcP 10 37 56.2 -1.2
comp=Z,10nm,1.3s
CONA Conrad Observa 49.75 50 *e*P P 10 36 36.8 -0.7
comp=Z,9.1nm,1.5s
CONA *e*PcP PcP 10 37 57.2 -1.1
comp=Z,7.5nm,1.4s
BDQN Bodoquena, MS 49.84 196 *e*P P 10 36 39.3 +1.0
CHVC Chvalec 49.98 46 *e*P P 10 36 39.5 +0.4
LPAZ La Paz 49.98 211 P P 10 36 39.9 -0.3
LPAZ lAmb lAmb 10 36 44.4
comp=Z,11nm,1.0s
LPAZ La Paz 49.98 211 P P 10 36 40.1 -0.1
comp=Z,12nm,1.0s,baz=20,slow=9.8,SNR=26
comp=Z,12nm,1.0s
LPAZ La Paz 49.98 211 *e*P P 10 36 39.8 -0.3
HFS Hagfors 50.01 33 P P 10 36 39.5 +0.3
comp=Z,6.5nm,1.0s,baz=290,slow=8.6,SNR=6.2
comp=Z,6.5nm,1.0s
RONA Rosalia, Austr 50.04 50 *e*P P 10 36 39.7 0.0
comp=Z,8.0nm,1.1s
RONA *e*PcP PcP 10 37 59.2 -0.2
comp=Z,11nm,1.1s
OSTC Ostas 50.08 46 *e*P P 10 36 39.6 -0.3
RSSD Black Hills 50.09 305 P P 10 36 40.1 -0.2
baz=88
KRUC Moravsky 50.13 48 *e*P P 10 36 39.4 -0.9
DPC Dobruska-Polom 50.13 46 *e*P P 10 36 40.8 +0.4
DGMT Dagmar 50.15 311 P P 10 36 40.4 -0.1
baz=91
VRAC Vranov 50.27 48 *e*P P 10 36 40.4 -1.0
MORC Moravsky Berou 50.90 47 *e*P P 10 36 46.3 +0.1
T25A Trinidad 51.03 297 P P 10 36 47.7 +0.2
baz=82,SNR=6.5
Q24A Divide 51.36 299 lAmb lAmb 10 36 52.9
comp=Z,14nm,1.4s
Q24A Divide 51.36 299 P P 10 36 50.6 +0.5
baz=83,SNR=7.5
LAO LAA Array 51.53 309 P P 10 36 51.3 +0.3
baz=88
MORH Mrgy, Hungar 51.67 52 P P 10 36 52.1 +0.2
comp=Z,4.9nm,1.4s
N23A Red Feather La 51.74 301 P P 10 36 52.4 -0.4
baz=84
SDCO Great Sand Dun 51.80 297 P P 10 36 53.4 0.0
baz=82
TXAR Lajitas Array 51.94 287 P P 10 36 53.6 -0.7
comp=Z,1.2nm,1.0s,baz=78,slow=7.7,SNR=5.1
comp=Z,1.2nm,1.0s
K22A Casper 51.99 304 P P 10 36 55.0 +0.4
baz=85
NIE Niedzica 52.69 48 P P 10 36 58.9 -0.6
comp=Z,3.8nm,1.3s
MNTX Cornudas Mount 52.83 290 P P 10 37 01.3 +0.5
baz=77
ANMO Albuquerque 53.03 294 P P 10 37 03.1 +0.6
ANMO Albuquerque 53.03 294 P P 10 37 03.0 +0.6
baz=79
RES Resolute Bay 53.18 345 P P 10 37 02.7 0.0
RES lAmb lAmb 10 37 05.6
comp=Z,9.9nm,1.3s
O20A White River Ci 53.57 301 lAmb lAmb 10 37 16.4
comp=Z,8.2nm,1.1s
O20A White River Ci 53.57 301 P P 10 37 06.6 +0.3
baz=82
Y22F Passcal Instru 53.58 293 P P 10 37 06.8 +0.4
baz=78
Y22D IRIS PASSCAL I 53.58 293 P P 10 37 06.8 +0.4
baz=78
RLMT Red Lodge 53.75 307 lAmb lAmb 10 37 10.0
comp=Z,13nm,1.4s
RLMT Red Lodge 53.75 307 P P 10 37 07.5 -0.1
baz=85
PB08 IPOC Station P 53.82 210 lAmb lAmb 10 37 10.0
comp=Z,12nm,1.0s
EGMT Eagleton 53.87 311 lAmb lAmb 10 37 10.3
comp=Z,14nm,1.1s
EGMT Eagleton 53.87 311 P P 10 37 08.1 -0.2
baz=87,SNR=7.3
BW06 Boulder Array 54.21 304 P P 10 37 10.9 -0.1
baz=83,SNR=13
PD31 Pinedale Array 54.21 304 lAmb lAmb 10 37 18.4
comp=Z,7.4nm,0.9s
PDAR Pinedale Array 54.21 304 P P 10 37 10.5 -0.6
PDAR Pinedale Array 54.21 304 P P 10 37 10.3 -0.7
comp=Z,3.4nm,0.8s,baz=87,slow=7.6,SNR=28
comp=Z,3.4nm,0.8s
MVCO Mesa Verde 54.24 297 P P 10 37 11.4 +0.1
baz=80,SNR=5.4
BERU Beregovo 54.29 49 P P 10 37 12.2 +1.0
YMP Mirror Lake Pl 54.41 307 lAmb lAmb 10 37 20.2
comp=Z,14nm,1.1s
BRIU Brid 54.53 49 P P 10 37 13.9 +0.9
LKWY Lake 54.60 306 lAmb lAmb 10 37 29.5
comp=Z,7.6nm,1.1s
121A Cokes Peak, D 54.62 291 P P 10 37 14.6 +0.4
baz=77
H17A Grant Village 54.75 306 P P 10 37 14.4 -0.5
baz=83
FLWY Flagg Ranch 54.87 306 lAmb lAmb 10 37 27.0
comp=Z,9.3nm,1.1s
SNOW Snow King Moun 54.99 305 lAmb lAmb 10 37 24.6
comp=Z,5.4nm,0.8s
MORS Morshin 55.06 48 P P 10 37 17.3 +0.5
IMW Indian Meadow 55.07 306 lAmb lAmb 10 37 25.3
comp=Z,8.3nm,1.1s
TPAW Teton Pass 55.13 305 lAmb lAmb 10 37 25.7
comp=Z,6.5nm,0.9s
AHID Auburn Hatcher 55.33 304 lAmb lAmb 10 37 28.5
comp=Z,7.5nm,1.1s
BOZ Bozeman (W) 55.36 308 P P 10 37 19.1 -0.2
baz=84,SNR=5.5
SRU San Rafael Swe 55.47 300 lAmb lAmb 10 37 28.2
comp=Z,6.0nm,0.8s
CPUP Villa Florida 55.64 195 P P 10 37 20.3 -0.8
comp=Z,3.7nm,1.0s,baz=54,slow=6.1,SNR=4.5
comp=Z,3.7nm,1.0s
HWUT Hardware Ranch 55.84 303 lAmb lAmb 10 37 44.2
comp=Z,6.6nm,1.1s
KSV Kosov 55.90 49 P P 10 37 21.9 -0.9
JLU Jordanelle 55.92 302 lAmb lAmb 10 37 30.7
comp=Z,12nm,1.5s
BUR08 Bucovina Ar. S 56.05 50 lAmb lAmb 10 37 27.1
comp=Z,11nm,1.1s
BURAR Bucovina Array 56.06 50 P P 10 37 24.2 +0.1
BURAR lAmb lAmb 10 37 27.5
comp=Z,6.0nm,1.0s
MPU Maple Canyon 56.16 301 lAmb lAmb 10 37 27.5
comp=Z,8.0nm,1.3s
RNPP8 Varash 56.16 45 P P 10 37 24.6 -0.1
FINES FINESS Array B 56.20 33 P P 10 37 24.3 -0.4
comp=Z,4.3nm,0.9s,baz=247,slow=3.9,SNR=11
comp=Z,4.3nm,0.9s
NLU North Lily Min 56.50 301 lAmb lAmb 10 37 35.2
comp=Z,6.8nm,1.2s
SPUT South Promonto 56.55 303 lAmb lAmb 10 37 35.6
comp=Z,7.2nm,0.9s
YKA Yellowknife Ar 56.61 328 P P 10 37 27.0 -0.7
YKA Yellowknife Ar 56.61 328 P P 10 37 26.7 -1.0
comp=Z,1.9nm,0.9s,baz=84,slow=7.3,SNR=23
comp=Z,1.9nm,0.9s
PB05 IPOC Station P 56.66 209 P P 10 37 28.0 -0.7
PB05 lAmb lAmb 10 37 28.4
comp=Z,10.0nm,1.1s
ARCES ARCESS Array B 56.77 23 P P 10 37 28.9 +0.1
ARCES lAmb lAmb 10 37 29.4
comp=Z,15nm,1.1s
ARCES ARCESS Array B 56.77 23 P P 10 37 28.2 -0.6
comp=Z,6.8nm,0.9s,baz=278,slow=6.9,SNR=9.1
ARCES LR LR 10 58 25.5
comp=Z,54nm,19.6s,baz=321,slow=32
comp=Z,6.8nm,0.9s
KMPD K-Podol'skiy 56.79 48 P P 10 37 27.8 -1.4
MSO Missoula 56.81 310 P P 10 37 29.4 -0.1
baz=83
MLR Muntele Rosu 56.81 52 P P 10 37 30.6 +1.0
comp=Z,22nm,1.3s
WUAZ Wupatki 56.85 296 lAmb lAmb 10 37 33.5
comp=Z,13nm,1.4s
WUAZ Wupatki 56.85 296 P P 10 37 30.1 +0.1
baz=77
DUG Dugway, Tooele 57.02 302 lAmb lAmb 10 37 33.7
comp=Z,12nm,1.4s
DUG Dugway, Tooele 57.02 302 P P 10 37 31.4 +0.3
baz=79,SNR=6.2
TUC Tucson 57.14 292 P P 10 37 32.1 +0.1
baz=75
U15A North Rim 57.38 297 lAmb lAmb 10 37 37.3
comp=Z,8.4nm,1.5s
HLID Hailey 57.61 306 P P 10 37 35.5 +0.2
baz=80
CCUT Cedar City 57.97 299 lAmb lAmb 10 37 41.0
comp=Z,8.9nm,1.3s
AK20 Malin Array Si 58.20 46 P P 10 37 37.9 -1.2
AK19 Malin Array Si 58.20 46 P P 10 37 38.2 -0.9
AK18 Malin Array Si 58.24 46 P P 10 37 38.3 -1.1
KIEV Kiev 58.33 46 P P 10 37 39.5 -0.5
AKASG Malin Array Be 58.34 46 P P 10 37 39.5 -0.5
comp=Z,7.3nm,0.8s,baz=275,slow=6.2,SNR=28
comp=Z,7.3nm,0.8s
AKBB Malin Array Si 58.34 46 P P 10 37 39.2 -0.9
SPR3 Spring Creek 3 58.40 300 lAmb lAmb 10 37 49.5
comp=Z,5.9nm,1.0s
PLID Pearl Lake 58.48 308 lAmb lAmb 10 37 43.5
comp=Z,8.9nm,1.2s
MFID Camas Ranch 58.65 306 lAmb lAmb 10 37 50.5
comp=Z,5.8nm,1.0s
NEW Newport 58.75 312 lAmb lAmb 10 37 45.0
comp=Z,12nm,1.1s
NEW Newport 58.75 312 P P 10 37 42.9 -0.2
baz=82,SNR=5.6
214A Organ Pipe Nat 58.89 292 P P 10 37 45.0 +0.7
baz=74
F10A Beach Ranch, E 59.18 309 lAmb lAmb 10 37 47.8
comp=Z,8.7nm,1.4s
PDMCI Parker Dam,Lak 59.35 295 P P 10 37 47.3 -0.1
baz=75
R11B Troy Canyon, C 59.50 300 P P 10 37 48.9 +0.3
baz=77
AC02 Maricunga 59.76 206 lAmb lAmb 10 37 52.8
comp=Z,5.4nm,0.9s
GMRC Granite Mounta 60.44 296 P P 10 37 54.9 -0.1
baz=75
TUQ Turquoise Moun 60.48 297 P P 10 37 54.4 -0.8
baz=75
J08A Circle Bar Ran 60.55 306 lAmb lAmb 10 38 03.9
comp=Z,6.1nm,1.1s
BC3 Big Chuckawall 60.57 295 P P 10 37 55.0 -0.9
baz=74
SHOC Shoshone, Teco 60.63 297 P P 10 37 55.6 -0.6
baz=75
WRGLY Wrigley 60.66 329 lAmb lAmb 10 37 57.4
comp=Z,15nm,1.4s
WRGLY Wrigley 60.66 329 P P 10 37 55.2 -0.6
baz=85
A36M Sachs Harbour 60.89 339 lAmb lAmb 10 37 59.4
comp=Z,5.8nm,1.1s
A36M Sachs Harbour 60.89 339 P P 10 37 57.3 +0.1
baz=89
BELC Belle Mtn. Jos 60.91 295 P P 10 37 57.6 -0.7
baz=74
FURC Furnace Creek, 60.95 298 P P 10 37 58.0 -0.3
baz=75
SWSC Sam W. Stewart 61.05 294 P P 10 37 58.5 -0.6
baz=74
GRAC Grapevine Rang 61.20 299 P P 10 37 59.5 -0.5
baz=75
GSC Goldstone, Bar 61.21 297 P P 10 37 59.1 -1.1
baz=74
KVN Kaiserville 61.25 301 P P 10 38 00.6 +0.1
KVN lAmb lAmb 10 38 02.5
comp=Z,5.6nm,1.3s
IKP In-Ko-Pah, Jac 61.38 294 P P 10 37 59.3 -2.1
baz=73
TPFO Pinon Flats 61.39 295 P P 10 37 59.8 -1.7
baz=74
PFO Pinyon Flats O 61.39 295 P P 10 37 59.6 -1.9
baz=74
ELL Elmali 61.50 61 P P 10 38 01.7 -0.5
MPMC Manual Prospec 61.54 298 P P 10 38 01.6 -1.0
baz=74
NVAR Mina Array Bea 61.56 301 P P 10 38 02.3 -0.4
NVAR Mina Array Bea 61.56 301 P P 10 38 02.8 +0.1
comp=Z,1.1nm,0.9s,baz=80,slow=6.2,SNR=6.7
comp=Z,1.1nm,0.9s
MONP2 Monument Peak 61.56 294 P P 10 38 01.5 -1.3
baz=73
BBRC Big Bear Solar 61.58 296 P P 10 38 01.1 -1.8
baz=74
TOAD Toad River Com 62.02 324 P P 10 38 03.6 -1.6
baz=82
PAHR Pah Rah Range 62.05 302 lAmb lAmb 10 38 07.9
comp=Z,9.1nm,1.1s
LIRD Liard River Hi 62.37 325 P P 10 38 07.1 -0.4
baz=81
J05D Fort Rock, OR 62.53 307 P P 10 38 09.9 +0.8
J05D lAmb lAmb 10 38 17.3
comp=Z,4.1nm,1.0s
FMP Fort Macarthur 62.83 296 P P 10 38 10.7 -0.3
baz=73
H04A Detroit Lake 62.87 308 lAmb lAmb 10 38 12.9
comp=Z,6.8nm,1.1s
TGTN Hyland Airport 63.09 328 P P 10 38 12.0 -0.4
baz=80
BR105 Keskin Array S 63.53 57 P P 10 38 16.1 +0.4
comp=Z,5.9nm,0.9s,comp=Z,54nm
BR131 Keskin Array S 63.55 57 P P 10 38 15.7 -0.2
BR131 lAmb lAmb 10 38 17.6
comp=Z,5.5nm,0.9s
BRTR Keskin Array B 63.55 57 P P 10 38 15.9 0.0
BRTR Keskin Array B 63.55 57 P P 10 38 16.1 +0.2
comp=Z,4.0nm,0.9s,baz=285,slow=4.9,SNR=19
comp=Z,4.0nm,0.9s
BR104 Keskin Array S 63.55 57 P P 10 38 15.6 -0.3
comp=Z,5.0nm,0.9s,comp=Z,43nm
INK Inuvik 64.09 336 P P 10 38 19.1 +0.4
INK lAmb lAmb 10 38 20.2
comp=Z,4.9nm,1.1s
INK Inuvik 64.09 336 P P 10 38 18.4 -0.3
baz=79
CO06 Fray Jorge 64.16 206 P P 10 38 19.9 +0.3
F31M Tsiigehtchic 64.34 335 P P 10 38 20.7 +0.3
baz=78
G31M Satah River 64.65 334 P P 10 38 22.5 +0.2
G31M lAmb lAmb 10 38 23.8
comp=Z,7.9nm,1.2s
G31M Satah River 64.65 334 P P 10 38 22.1 -0.3
baz=78
R33M Jennings River 64.82 326 P P 10 38 23.9 +0.1
baz=77
H31M Peel River 64.92 333 P P 10 38 24.3 0.0
baz=77
F30M Barrier River 65.07 335 P P 10 38 25.2 0.0
baz=77
S34M Telegraph Cree 65.24 324 P P 10 38 26.9 +0.5
baz=76
FARO Faro, Yukon 65.31 329 P P 10 38 26.9 +0.1
baz=76
G30M tAoh Zraii Nji 65.39 334 P P 10 38 27.6 +0.3
baz=76
N32M Quiet Lake 65.44 328 P P 10 38 27.4 -0.3
baz=76
P33M Teslin, Yukon 65.54 327 P P 10 38 28.4 0.0
baz=76
E29M Blow River 65.66 336 P P 10 38 29.2 +0.3
baz=75
D28M Stokes Point 65.71 337 P P 10 38 30.2 +1.0
baz=75
EPYK Eagle Plains 65.73 334 P P 10 38 29.2 -0.3

baz=75
M31M Drury Creek, Y 65.79 329 P P 10 38 30.3 +0.4
baz=76
I30M Mount Dempster 65.88 333 P P 10 38 30.6 0.0
baz=75
J30M Hart River 66.03 332 IAmb IAmb 10 38 33.1
comp=Z,4.5nm,0.8s
J30M Hart River 66.03 332 P P 10 38 31.7 +0.1
baz=75
G29M Pine Creek 66.09 335 P P 10 38 31.4 -0.4
baz=74
E28M Babbage River 66.18 336 IAmb IAmb 10 38 34.1
comp=Z,12nm,1.5s
E28M Babbage River 66.18 336 P P 10 38 32.9 +0.6
baz=74
MT02 Curacav 66.28 205 P P 10 38 34.0 +0.7
H29M Whitestone 66.41 334 P P 10 38 33.8 -0.1
baz=74
D27M Malcolm River 66.49 337 P P 10 38 34.9 +0.5
baz=73
F28M Old Crow 66.58 335 IAmb IAmb 10 38 48.4
comp=Z,5.7nm,1.1s
F28M Old Crow 66.58 335 P P 10 38 35.1 +0.1
baz=73
N31M Braeburn, Yuko 66.61 328 P P 10 38 34.7 -0.6
baz=74
K29M Barlow Dome 66.73 331 P P 10 38 35.0 -1.0
baz=74
BO04 La Punta 66.74 204 P P 10 38 36.8 +0.5
U33K Whale Pass 66.76 322 P P 10 38 34.8 -1.3
baz=74
O30N Mendenhall 66.96 328 P P 10 38 36.8 -0.7
baz=74
E27K Coleen River 67.03 336 IAmb IAmb 10 38 46.7
comp=Z,6.0nm,1.1s
E27K Coleen River 67.03 336 P P 10 38 38.1 +0.3
baz=72
L29M L29M 67.20 331 P P 10 38 38.4 -0.7
baz=73
N30M Aishikik Lake 67.22 329 P P 10 38 38.9 -0.3
baz=73
I28M Miner Creek 67.25 333 P P 10 38 39.2 -0.1
baz=72
C27K Jago River 67.30 338 P P 10 38 40.5 +1.0
baz=71
PLBC Pleasant Camp 67.47 326 P P 10 38 39.6 -1.0
baz=73
G27K Doyon Strip 67.49 335 P P 10 38 40.2 -0.5
baz=71
M29M Somme Creek 67.55 330 P P 10 38 41.0 -0.3
baz=72
P30M Million Dollar 67.56 327 P P 10 38 41.2 -0.1
baz=73
C26K Camden Bay 67.59 338 P P 10 38 41.2 -0.1
baz=70
HYT Haines Junctio 67.60 328 P P 10 38 40.8 -0.9
baz=72
H27K Steamboat Moun 67.63 334 P P 10 38 41.5 -0.2
baz=71
SIT Sitka 67.66 324 P P 10 38 41.7 -0.1
baz=73
S31K Pelican 67.85 325 P P 10 38 42.4 -0.7
baz=72
I27K Kandik River 67.87 334 P P 10 38 42.9 -0.3
baz=71
YUK6 Outpost Mounta 67.97 328 P P 10 38 43.6 -0.4
baz=72
YUK4 Talbot Arm 67.97 329 P P 10 38 43.7 -0.4
baz=72
F26K Sheenjek River 68.11 336 P P 10 38 44.5 -0.1
baz=70
G26K Porcupine Rive 68.24 335 P P 10 38 45.7 +0.4
baz=70
D25K Kavik River 68.28 338 IAmb IAmb 10 38 48.1
comp=Z,6.7nm,1.1s
D25K Kavik River 68.28 338 P P 10 38 45.9 +0.2
baz=68
E25K Arctic Village 68.45 337 P P 10 38 47.4 +0.6
baz=68
YUK8 Steele Glacier 68.50 329 P P 10 38 47.1 -0.4
baz=71
I26K Coal Creek Min 68.57 334 P P 10 38 47.3 -0.2
baz=69
YUK3 Moose Creek 68.65 330 P P 10 38 48.2 -0.1
baz=70
F25K Christian Rive 68.68 336 P P 10 38 49.0 +0.8
baz=68
L27K Beaver Creek, 68.81 331 P P 10 38 48.8 -0.3
baz=70
O28M Mount Upton 68.87 328 P P 10 38 49.4 -0.4
baz=70
C24K Franklin Bluff 68.88 339 P P 10 38 49.6 +0.3
baz=66
KBZ Khabaz 68.98 51 P P 10 38 51.8 +1.4
comp=Z,4.0nm,1.0s,baz=301,slow=5.6,SNR=8.2
comp=Z,4.0nm,1.0s
J26L Joseph Creek 69.02 333 P P 10 38 50.2 -0.3
baz=69
D24K Happy Valley 69.15 338 P P 10 38 51.0 0.0
baz=66
G25K Bearman Lake 69.16 335 P P 10 38 51.3 +0.2
baz=67
H25L Birch Creek 69.24 335 P P 10 38 51.3 -0.3
baz=68
SCRK Sand Creek 69.39 332 P P 10 38 52.0 -0.8
baz=68
C23K Itkillik River 69.44 339 P P 10 38 53.5 +0.7
baz=65
E24K Your Creek 69.48 337 IAmb IAmb 10 39 13.8
comp=Z,14nm,1.5s
E24K Your Creek 69.48 337 P P 10 38 53.9 +0.7
baz=66
F24K Squaw Lake 69.50 337 P P 10 38 53.9 +0.6
baz=66
TOLK Toolik Lake Re 69.61 338 P P 10 38 54.9 +0.9
baz=65
G24K Hadweenzic Riv 69.68 336 IAmb IAmb 10 38 57.3
comp=Z,9.7nm,1.1s
G24K Hadweenzic Riv 69.68 336 P P 10 38 54.8 +0.4
baz=66
J25K Salcha River, 69.71 333 P P 10 38 54.1 -0.6
baz=67
D23K Nanushuk River 69.84 338 P P 10 38 55.3 0.0
baz=64
E23K Chandalar 69.88 337 P P 10 38 55.7 +0.1
baz=65
MESA MESA 69.89 328 P P 10 38 55.5 -0.5
baz=69
MCARA McCarthy VSAT 69.94 330 P P 10 38 56.1 +0.1
baz=68
B22K Teshekpuk Lake 70.07 340 IAmb IAmb 10 38 59.3
comp=Z,9.7nm,1.1s
B22K Teshekpuk Lake 70.07 340 P P 10 38 56.9 +0.3
baz=62
H24K Noodor Dome 70.19 335 P P 10 38 57.8 +0.2
baz=66
A22K Sinclair Lake 70.21 341 P P 10 38 58.0 +0.5
baz=61
IL31 70.24 334 IAmb IAmb 10 38 59.3
comp=Z,6.8nm,1.0s
ILAR Eielson Array 70.24 334 P P 10 38 57.9 0.0
comp=Z,2.8nm,0.9s,baz=64,slow=4.6,SNR=22
comp=Z,2.8nm,0.9s
PAX Paxson 70.39 332 P P 10 38 59.0 +0.1
baz=67
HDA Harding Lake 70.41 333 P P 10 38 59.8 +0.9
baz=66
COLD Coldfoot 70.44 337 P P 10 39 00.2 +1.3
baz=64
HARP HAARP 70.48 331 P P 10 38 59.8 +0.4
baz=67
D22K Ayikyak River 70.52 339 P P 10 39 00.3 +0.7
baz=62
COLA College 70.58 334 P P 10 39 00.2 +0.4
baz=65
E22K Anaktuvuk Pass 70.58 338 P P 10 39 00.9 +1.0
baz=63
G23K Bananza Creek 70.60 336 P P 10 39 00.9 +0.8
baz=64
B21K Ikpikpuk River 70.78 340 P P 10 39 02.0 +1.0
baz=61
BMRM Bremner River 70.81 330 P P 10 39 01.3 -0.1
baz=67
H23K Yukon River 70.81 335 P P 10 39 02.0 +0.7
baz=64
F22K John River 70.99 337 P P 10 39 03.4 +0.9
baz=62
G22K Bettles 71.03 337 P P 10 39 03.1 +0.5
baz=63

I23K Minto, Yukon-K 71.04 334 IAmb IAmb 10 39 05.2
comp=Z,7.7nm,1.1s
I23K Minto, Yukon-K 71.04 334 P P 10 39 03.8 +1.1
baz=64
C21K Knifeblade Rid 71.06 339 P P 10 39 03.3 +0.5
baz=61
E21K Killik River 71.15 338 P P 10 39 03.4 0.0
baz=61
NEA2 Nenana 71.17 334 P P 10 39 03.8 +0.3
baz=64
KLU Klutina 71.18 330 P P 10 39 03.5 -0.2
baz=66
H09W1 TRISTAN DA CUN 71.30 154 T T 11 56 57.2
B20K Meade River 71.35 341 P P 10 39 05.5 +1.1
baz=59
H22K Ishtalitna Cre 71.46 336 P P 10 39 06.1 +0.9
baz=63
EYAK Cordova Ski Ar 71.49 329 P P 10 39 05.9 +0.4
baz=66
MCK McKinley 71.49 333 P P 10 39 06.0 +0.5
baz=64
WAT6 Susitna Watana 71.50 332 P P 10 39 05.9 +0.2
baz=65
MLY Manley 71.61 335 P P 10 39 05.6 -0.6
baz=63
WAT1 Susitna Watana 71.73 332 P P 10 39 06.9 0.0
baz=64
M23K Glacier View 71.83 331 P P 10 39 08.5 +0.9
baz=64
D20K Etivluk River 71.85 339 P P 10 39 08.2 +0.6
baz=59
G21K Allakaket 71.92 337 P P 10 39 09.2 +1.2
baz=61
E20K Nigu River 71.95 339 P P 10 39 09.0 +0.8
baz=59
I21K Tanana 72.01 335 IAmb IAmb 10 39 22.6
comp=Z,11nm,1.1s
I21K Tanana 72.01 335 P P 10 39 09.5 +1.0
baz=62
H21K Melozitna Rive 72.09 336 P P 10 39 09.5 +0.5
baz=61
BPAW Bear Paw Mtn. 72.14 334 P P 10 39 09.5 +0.1
baz=62
F20K Avaraart Lake 72.42 338 P P 10 39 11.4 +0.4
baz=59
D19K Kuna River 72.44 339 IAmb IAmb 10 39 13.8
comp=Z,10nm,1.0s
D19K Kuna River 72.44 339 P P 10 39 11.3 +0.2
baz=58
P23K Montague Islan 72.47 329 P P 10 39 11.1 -0.3
baz=64
PMR Palmer 72.53 331 P P 10 39 12.2 +0.6
baz=63
E19K Redstone River 72.71 338 P P 10 39 14.1 +1.4
baz=58
CHUM Lake Minchumin 72.76 334 P P 10 39 13.7 +0.7
baz=61
PLCA Paso Flores 72.82 201 P P 10 39 13.9 +0.3
PLCA IAmb IAmb 10 39 20.6
comp=Z,8.7nm,1.1s
PLCA Paso Flores 72.82 201 P P 10 39 13.9 +0.3
comp=Z,4.9nm,0.9s,baz=17,slow=10,SNR=10
comp=Z,4.9nm,0.9s
M22K Willow 72.87 331 P P 10 39 14.3 +0.6
baz=62
CAST Castle Rocks 72.89 333 P P 10 39 14.5 +0.6
baz=61
H20K Anotleneega Mo 72.92 336 P P 10 39 14.1 +0.1
baz=60
RC01 Rabbit Creek A 73.02 331 P P 10 39 14.7 +0.1
baz=63
B18K Kokolik River 73.06 341 P P 10 39 14.4 -0.3
baz=55
SUA Susitna One 73.27 331 P P 10 39 16.2 0.0
baz=62
C18K Utukok River 73.29 340 P P 10 39 16.4 +0.2
baz=55
J20K Nowinta River 73.31 335 P P 10 39 16.6 +0.3
baz=60
SEW Seward 73.34 330 P P 10 39 15.9 -0.6
baz=63
G19K Purcell Mounta 73.36 337 P P 10 39 15.8 -0.8
baz=58
H19K Roundabout Mou 73.46 336 P P 10 39 16.4 -0.8
baz=58
K20K Telida 73.70 334 P P 10 39 18.6 0.0
baz=60
E18K Tukpahlearik C 73.82 339 P P 10 39 19.8 +0.6
baz=55
J19K Poorman 73.97 335 P P 10 39 20.0 -0.1
baz=58
F18K Selawik 73.97 338 P P 10 39 20.2 +0.1
baz=56
M20K Styx River 74.06 332 P P 10 39 20.5 -0.3
baz=60
L20K Farewell, AK 74.07 333 P P 10 39 20.3 -0.5
baz=60
RDOG Red Dog Mine 74.16 340 P P 10 39 21.9 +0.7
baz=53
E17K Hotham Inlet 74.40 339 P P 10 39 22.7 0.0
baz=54
M19K Big River Lodg 74.57 333 P P 10 39 24.3 +0.5
baz=59
H17K Granite Mounta 75.01 337 P P 10 39 25.3 -0.9
baz=55
N19K Bonanza Creek 75.17 332 P P 10 39 26.9 -0.5
baz=59
M18K Stony River 75.37 333 P P 10 39 28.3 0.0
baz=58
J17K VABM Dome 75.58 335 P P 10 39 28.3 -1.2
baz=56
K17K Iditarod 75.67 334 P P 10 39 29.7 -0.3
baz=56
Q19K Cape Douglas, 75.78 330 P P 10 39 30.2 -0.6
baz=59
N18K Kilae Creek 75.83 332 P P 10 39 30.3 -0.7
baz=58
KDAK Kodiak Island 75.89 328 P P 10 39 32.1 +0.8
baz=60
O18K Koktuh Hills 75.98 331 P P 10 39 31.5 -0.4
baz=58
L17K Donlin 76.00 334 P P 10 39 31.3 -0.6
baz=56
F15K North Star Dit 76.14 339 P P 10 39 32.7 0.0
baz=51
J16K Anvik River 76.21 335 P P 10 39 33.3 +0.2
baz=54
G15K Niukluk 76.39 338 P P 10 39 33.6 -0.4
baz=52
F14K Arctic Creek 76.83 339 P P 10 39 35.9 -0.7
baz=50
ABKAR Akbulak array 77.55 41 P P 10 39 40.6 -0.2
ABKAR Akbulak array 77.55 41 IAmb IAmb 10 39 43.7
comp=Z,5.5nm,1.2s
L14K Kuka Creek 78.16 334 P P 10 39 43.8 -0.2
baz=52
O15K Unglaliktiuk R 78.31 332 P P 10 39 44.6 -0.4
baz=54
CHIR Chirikof Islan 78.34 328 P P 10 39 45.9 +0.8
baz=57
K13K Kusilvak Mount 78.53 336 P P 10 39 46.7 +0.7
baz=51
N14K Kuskokwak Cree 78.63 333 P P 10 39 47.6 +0.9
baz=53
M13K Dall Lake 78.99 334 P P 10 39 48.7 +0.1
baz=52
S14K Fog Glacier 79.90 329 P P 10 39 53.0 -0.8
baz=54
TIXI Tiksi 80.40 2 P P 10 39 56.6 +0.5
BVAR Borovoye Array 81.14 34 P P 10 40 01.6 +1.2
comp=Z,2.2nm,0.9s,baz=321,slow=2.0,SNR=7.2
comp=Z,2.2nm,0.9s
GEYT Alibeck 81.86 51 P P 10 40 05.1 +0.5
comp=Z,2.6nm,0.9s,baz=254,slow=9.1,SNR=3.6
comp=Z,2.6nm,0.9s
SPIA Saint Paul Isl 83.83 334 P P 10 40 15.3 +1.0
baz=46
UNV Unalaska Valle 84.54 330 P P 10 40 17.8 -0.2
baz=48
KURBB Kurchatov Arra 86.59 33 P P 10 40 28.3 0.0
comp=Z,1.4nm,0.6s,baz=313,slow=5.5,SNR=3.9
comp=Z,1.4nm,0.6s
MKAR Makanchi Array 91.02 34 P P 10 40 49.7 +0.3
MKAR Makanchi Array 91.02 34 P P 10 40 50.0 +0.5
comp=Z,1.9nm,1.0s,baz=323,slow=3.8,SNR=8.2
comp=Z,1.9nm,1.0s
PMSA Palmer Station 93.89 189 LR LR 11 26 15.3
comp=Z,39nm,18.1s,baz=336,slow=37

OPO Ambohidratompo 99.43 106 LR LR 11 28 25.3
comp=Z,79nm,18.4s,baz=178,slow=37
PPT2 Papeete2 111.64 261 *e*LR LR 11 19 28.5
comp=Z,115nm,26.2s
PPT2 *e*LR LR 11 19 28.7
comp=Z,117nm,29.5s
TBI Tubuai 113.75 255 *e*LR LR 11 20 34.5
comp=Z,385nm,27.5s
CMAR Chiang Mai Arr 121.38 42 PKP **PKPdf** **10 46 38.8 -0.2**
comp=Z,2.3nm,1.0s,baz=300,slow=3.0,SNR=9.5
VNDA Vanda 129.08 187 PKP **PKiKP** **10 46 52.5 -0.1**
comp=Z,0.8nm,0.9s,baz=57,slow=3.0,SNR=6.7
DZM Mont Dzumac 151.94 275 *e*LR LR 11 38 03.2
comp=Z,191nm,32.6s
ASAR Alice Springs 175.16 25 PKP **PKPdf** **10 47 55.7 +0.1**
comp=Z,0.8nm,1.0s,baz=204,slow=2.0,SNR=4.5
ASAR PKPab **PKPab** **10 49 28.7 -2.4**
comp=Z,0.5nm,0.9s,baz=349,slow=3.3,SNR=3.7

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*IDC **05** 10:29:12.5±0.6,28°.17N±43°.94W,h0km,mb4.1/26, mbtmp4.1/26,MS3.9/11,Error ellipse: s-maj=17.1km s-min=14.1km az=143.0*

*GCMT **05** 10:29:14.2±0.3,28°.22N±0°.03×43°.83W±0°.02,h29km, MW5.0/103,Moment Tensor Solution. s27,c27; s103,c137; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-5.00±.22; Mθθ1.01±.16; Mϕϕ3.99±.15; Mrθ-0.11±.24; Mθϕ0.78±.10; Mϕr-0.50±.19; Best double couple: Mo4.61800×10¹⁶ NP1:ϕs14.00000°,δ48.00000°, λ-90.00000°. NP2:ϕs194.00000°,δ42.00000°, λ-90.00000°. Principal axes: T 4.2090, Plg3.0000°, Azm104.0000°; N 0.8200, Plg0.0000°, Azm14.0000°; P -5.0280, Plg87.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **05** 10:29:15.2±1.4,27°.8N±0°.1×43°.4W±0°.1,h10km±1km, mb4.8/261 Error ellipse: s-maj=17.5km s-min=16.6km az=325.0*

ISC 05 10:29:14.6±0.4,**27°.89N**±0°.08×**43°.49W**±0°.07,**h10**km,**n265,** σ1**s09**/178,**mb4.8**/152,**MS3.9**/11,**1C-2D,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBSR	**BB Station**	**18.87**	**289**	P	P	**10 33 33.7**	**-1.3**
UUPR	**Utuado, UPR, P**	**23.39**	**251**	P	P	**10 34 25.2**	**+1.5**
UUPR				IAmb	IAmb	10 34 26.2	
comp=Z,38nm,1.2s							
E62A	**Clayton Lake**	**27.71**	**319**	P	P	**10 35 04.9**	**+2.0**
MVL	**Millersville**	**29.65**	**303**	P	P	**10 35 22.9**	**+2.6**
MVL				IAmb	IAmb	10 35 28.9	
comp=Z,27nm,1.4s							
M57A	**Sunshine Farm,**	**30.56**	**305**	P	P	**10 35 29.7**	**+1.4**
M57A				IAmb	IAmb	10 35 31.3	
comp=Z,34nm,1.5s							
V58A	**Windy Hill, Pi**	**31.14**	**294**	P	P	**10 35 35.3**	**+1.8**
V58A				IAmb	IAmb	10 35 37.0	
comp=Z,30nm,1.4s							
T57A	**Hurt**	**31.37**	**296**	P	P	**10 35 37.4**	**+1.8**
T57A				IAmb	IAmb	10 35 44.4	
comp=Z,27nm,1.5s							
PVAQ	**Vaqueiros**	**31.42**	**63**	*e*S	S	10 40 53.4	+10
PVAQ				A	A	10 45 15.7	
comp=Z,566nm,20.0s							
Q56A	**Snyder Ridge,**	**31.60**	**300**	P	P	**10 35 39.4**	**+1.8**
W57A	**Gilead**	**31.82**	**292**	P	P	**10 35 41.0**	**+1.5**
W57A				IAmb	IAmb	10 35 48.6	
comp=Z,24nm,1.2s							
SDV	**Santo Domingo**	**31.82**	**239**	P	P	**10 35 40.5**	**+0.6**
SDV				IAmb	IAmb	10 35 46.4	
comp=Z,9.0nm,0.8s							
Y57A	**Sumter**	**32.11**	**290**	P	P	**10 35 43.8**	**+1.7**
U56A	**King**	**32.21**	**295**	P	P	**10 35 44.7**	**+1.8**
BLA	**Blacksburg**	**32.32**	**296**	P	P	**10 35 46.0**	**+2.0**
O54A	**Avella**	**32.71**	**302**	P	P	**10 35 48.5**	**+1.2**
O54A				IAmb	IAmb	10 35 50.7	
comp=Z,25nm,1.2s							
KMSC	**Kings Mountain**	**32.91**	**292**	P	P	**10 35 49.6**	**+0.5**
KMSC				IAmb	IAmb	10 35 53.6	
comp=Z,12nm,1.1s							
N53A	**Lisbon**	**33.17**	**303**	P	P	**10 35 51.2**	**-0.1**
N53A				IAmb	IAmb	10 35 54.6	
comp=Z,10nm,0.7s							
PAULI	**Pauline**	**33.30**	**292**	P	P	**10 35 52.4**	**-0.1**
PAULI				IAmb	IAmb	10 35 56.9	
comp=Z,18nm,1.3s							
U54A	**Nelsons Funny**	**33.38**	**295**	P	P	**10 35 53.6**	**+0.4**
HODGE	**Hodges**	**33.66**	**291**	P	P	**10 35 56.5**	**+0.9**
HODGE				IAmb	IAmb	10 35 59.2	
comp=Z,21nm,1.3s							
MDT	**Midelt**	**33.78**	**72**	LR	LR	10 46 50.2	
comp=Z,564nm,18.3s,baz=303,slow=31							
Q52A	**Bidwell**	**33.96**	**299**	P	P	**10 35 59.0**	**+0.7**
V53A	**Saluda**	**34.14**	**293**	P	P	**10 36 00.7**	**+0.8**
V53A				IAmb	IAmb	10 36 04.3	
comp=Z,18nm,1.2s							
ITTB	**Itaituba**	**34.18**	**202**	*e*P	P	**10 35 59.9**	**-0.4**
BG3	**Lake Jocassee**	**34.22**	**292**	P	P	**10 36 00.6**	**0.0**
BG3				IAmb	IAmb	10 36 10.0	
comp=Z,26nm,1.3s							
N51A	**Ashland**	**34.34**	**302**	P	P	**10 36 03.4**	**+1.9**
ESDC	**Sonseca Array**	**34.63**	**60**	P	P	**10 36 05.9**	**+1.8**
comp=Z,0.8nm,1.0s,baz=312,slow=38,SNR=2.7							
ESDC				LR	LR	10 46 38.9	
comp=Z,199nm,19.0s,baz=268,slow=30							
comp=Z,0.8nm,1.0s							
P51A	**Williamsport**	**34.64**	**300**	P	P	**10 36 04.8**	**+0.7**
P51A				IAmb	IAmb	10 36 13.4	
comp=Z,15nm,1.4s							
GOGA	**Godfrey**	**34.68**	**289**	P	P	**10 36 05.4**	**+0.9**
GOGA				IAmb	IAmb	10 36 08.4	
comp=Z,20nm,1.4s							
ACSO	**Alum Creek Sta**	**34.68**	**301**	P	P	**10 36 05.0**	**+0.5**
ACSO				IAmb	IAmb	10 36 13.0	
comp=Z,13nm,1.1s							
Q51A	**Peebles**	**34.81**	**299**	P	P	**10 36 06.5**	**+1.0**
Q51A				IAmb	IAmb	10 36 14.8	
comp=Z,15nm,1.1s							
TKL	**Tuckaleechee C**	**34.92**	**293**	LR	LR	10 48 05.0	
comp=Z,551nm,18.6s,baz=94,slow=33							
MACA	**Manacapuru-AM**	**35.04**	**211**	P	P	**10 36 07.5**	**-0.1**
MACA				IAmb	IAmb	10 36 08.7	
comp=Z,12nm,0.8s							
R50A	**Paris**	**35.50**	**298**	P	P	**10 36 12.3**	**+0.7**
R50A				IAmb	IAmb	10 36 20.7	
comp=Z,23nm,1.4s							
AAM	**Ann Arbor**	**35.53**	**305**	P	P	**10 36 13.1**	**+1.4**
T50A	**Nancy**	**35.83**	**295**	P	P	**10 36 14.1**	**-0.2**
T50A				IAmb	IAmb	10 36 23.6	
comp=Z,11nm,1.0s							
R49A	**Shelbyville**	**36.16**	**298**	P	P	**10 36 19.2**	**+2.0**
R49A				IAmb	IAmb	10 36 26.2	
comp=Z,22nm,1.4s							
O48B	**Farmland**	**36.34**	**301**	P	P	**10 36 19.8**	**+1.1**
O48B				IAmb	IAmb	10 36 26.7	
comp=Z,25nm,1.3s							
FPAL	**Fort Paine**	**36.43**	**291**	P	P	**10 36 20.7**	**+1.1**
FPAL				IAmb	IAmb	10 36 23.2	
comp=Z,19nm,1.3s							
U49A	**Red Boiling Sp**	**36.56**	**294**	IAmb	IAmb	10 36 24.9	
comp=Z,20nm,1.4s							
NPGB	**Novo Progresso**	**36.58**	**200**	*e*P	P	**10 36 20.9**	**0.0**
SMTB	**Santa Maria do**	**36.75**	**187**	*e*P	P	**10 36 23.8**	**+1.4**
N47A	**Urbana**	**36.82**	**302**	IAmb	IAmb	10 36 26.1	
comp=Z,22nm,1.2s							
CLTN	**Cedars of Leba**	**37.00**	**294**	P	P	**10 36 25.4**	**+1.0**
CLTN				IAmb	IAmb	10 36 33.6	
comp=Z,23nm,1.2s							
WCI	**Wyandotte Cave**	**37.04**	**297**	P	P	**10 36 24.7**	**0.0**
ROSC	**El Rosal**	**37.22**	**238**	LR	LR	10 52 03.7	
comp=Z,113nm,19.5s,baz=42,slow=37							
T47A	**Sharon Grove**	**37.64**	**295**	IAmb	IAmb	10 36 34.0	
comp=Z,20nm,1.2s							
SFIN	**Lafayette**	**37.82**	**301**	IAmb	IAmb	10 36 35.0	
comp=Z,17nm,1.2s							
WVT	**Waverly**	**38.22**	**294**	P	P	**10 36 34.5**	**-0.2**
PLAL	**Pickwick Lake**	**38.44**	**292**	P	P	**10 36 36.9**	**+0.3**
PLAL				IAmb	IAmb	10 36 41.1	
comp=Z,33nm,1.4s							
OLIL	**Olney**	**38.48**	**298**		P	**10 36 37.5**	**+0.6**
OLIL				IAmb	IAmb	10 36 41.0	
comp=Z,18nm,0.9s							
Z47A	**Carrollton**	**38.54**	**289**	P	P	**10 36 36.5**	**-0.9**

L44A Lake County Fo 38.63 304 P P 10 36 39.1 +1.0
CGM3 Cape Girardeau 39.68 296 IAmb IAmb 10 36 50.9
comp=Z,24nm,1.3s
PBMO Poplar Bluff 40.30 295 IAmb IAmb 10 36 56.2
comp=Z,27nm,1.2s
JFWS Jewell Farm 40.43 304 P P 10 36 54.4 +1.3
JFWS IAmb IAmb 10 36 56.0
comp=Z,28nm,1.4s
N41A Harden Midland 40.70 301 P P 10 36 56.2 +0.9
N41A IAmb IAmb 10 36 59.1
comp=Z,25nm,1.1s
G40A Rib Lake 40.70 308 P P 10 36 57.4 +2.0
I40A Norwalk 40.81 306 P P 10 36 57.9 +1.7
T42A Van Buren 40.83 295 IAmb IAmb 10 37 00.2
comp=Z,33nm,1.2s
CCM Cathedral Cave 40.94 297 P P 10 36 58.0 +0.6
L40A Anamosa 41.07 303 P P 10 36 59.5 +1.2
L40A IAmb IAmb 10 37 02.2
comp=Z,26nm,1.2s
SAML Samuel 41.29 210 P 10 36 59.6 -0.7
SAML Samuel 41.29 210 *eP* **P 10 36 59.5 -0.9**
P40A Paris 41.58 299 P P 10 36 04.5 +1.9
P40A IAmb IAmb 10 37 05.6
comp=Z,23nm,1.3s
FCAR Ozark Folk Cen 41.70 294 P P 10 37 03.2 -0.5
R40A Maddies Statio 41.74 297 P P 10 37 05.8 +1.9
MGMO Mountain Grove 41.77 296 P P 10 37 06.2 +1.9
MGMO IAmb IAmb 10 37 08.1
comp=Z,25nm,1.2s
E38A The Farm, Brul 41.85 310 P P 10 37 05.7 +0.9
WHAR Wooly Hollow 41.88 293 P 10 37 06.6 +1.5
UALR University of 41.96 292 P 10 37 04.8 -0.9
UALR IAmb IAmb 10 37 09.5
comp=Z,30nm,1.2s
TIC Toumodi 42.11 113⇓ *eP* P 10 37 16.7 +10
comp=Z,19nm,0.7s
DBIC Dimbokro 42.23 113 P P 10 37 12.9 +4.7
comp=Z,6.1nm,1.0s,baz=326,slow=7.3,SNR=2.9
comp=Z,6.1nm,1.0s
LIC Lamto 42.34 113⇑ *eP* P 10 37 17.2 +8.1
comp=Z,41nm,1.1s
KIC Kosan Boka 42.49 113⇓ *eP* P 10 37 19.0 +8.7
comp=Z,20nm,1.1s
N38A Joes South For 42.51 301 IAmb IAmb 10 37 13.9
comp=Z,28nm,1.1s
WLAR White Oak Lake 42.69 290 IAmb IAmb 10 37 16.3
comp=Z,37nm,1.3s
P38A Dawn 42.72 299 IAmb IAmb 10 37 15.7
comp=Z,41nm,1.4s
F36A Milaca 43.10 308 P P 10 37 16.0 +1.1
BNI Bardonecchia 43.10 53 P P 10 37 15.6 +0.5
HHAR Hobbs 43.15 294 P 10 37 16.8 +1.4
WLF Walferdange 43.43 46 P P 10 37 17.6 +0.1
ETMB Extrema 43.47 214 P 10 37 16.3 -1.7
ETMB Extrema 43.47 214 *eP* **P 10 37 16.4 -1.7**
BDFB Brasilia 43.50 186 P P 10 37 19.8 +1.4
comp=Z,2.7nm,0.6s,baz=27,slow=6.8,SNR=3.1
comp=Z,2.7nm,0.6s
U38A Gravette 43.50 295 P 10 37 19.9 +1.7
U38A IAmb IAmb 10 37 21.7
comp=Z,26nm,1.3s
B35A Bob, Littlefor 43.59 312 P P 10 37 20.5 +1.7
VILB Vilhena 43.72 204 P P 10 37 19.4 -0.7
VILB IAmb IAmb 10 37 28.0
comp=Z,19nm,0.9s
RLO Rose Lookout 44.03 294 IAmb IAmb 10 37 26.2
comp=Z,19nm,1.3s
ARAG Araguaiana, MT 44.09 192 *eP* **P 10 37 24.4 +1.4**
X37A Clayton 44.46 292 IAmb IAmb 10 37 29.5
comp=Z,16nm,1.2s
TORD Torodi Ar. Bea 44.53 100 P P 10 37 25.8 -0.9
TORD Torodi Ar. Bea 44.53 100 P P 10 37 28.6 +1.8
comp=Z,1.9nm,0.8s,baz=317,slow=8.5,SNR=4.9
comp=Z,1.9nm,0.8s
BFO Black Forest 44.63 48 P 10 37 27.4 +0.2
BFO IAmb IAmb 10 37 35.0
comp=Z,18nm,1.2s
TUL3 Leonard 44.67 294 P P 10 37 28.8 +1.1
L34A Svendsen Farm, 44.90 303 P P 10 37 29.7 +0.3
AGMN Agassiz Nation 44.99 312 P 10 37 31.1 +1.1
AGMN IAmb IAmb 10 37 33.0
comp=Z,13nm,1.1s
TUE Stuetta 45.10 51 P P 10 37 31.3 +0.1
TUE IAmb IAmb 10 37 40.1
comp=Z,18nm,1.3s
SALV Santo Antonio 45.11 197 *eP* **P 10 37 32.0 +0.8**
KSU1 Kansas State U 45.12 299 IAmb IAmb 10 37 33.5
comp=Z,21nm,1.1s
KEST Kesra 45.12 66 P 10 37 31.6 +0.3
KEST IAmb IAmb 10 37 40.0
comp=Z,19nm,1.1s
KEST Kesra 45.12 66 P P 10 37 32.8 +1.4
comp=Z,8.5nm,1.0s,baz=243,slow=6.8,SNR=3.2
comp=Z,8.5nm,1.0s
T35A Sooner Cattle 45.17 295 P 10 37 33.0 +1.4
H10N2 ASCENSION HYDR 45.25 137 T T 11 26 16.3
baz=322,slow=75,SNR=13
H10N3 ASCENSION HYDR 45.25 137 T T 11 26 17.9
baz=322,slow=75,SNR=15
STU Stuttgart 45.26 48 P P 10 37 32.8 +0.7
STU IAmb IAmb 10 37 44.5
comp=Z,9.3nm,0.9s
H10N1 ASCENSION HYDR 45.27 137 T T 11 26 19.2
baz=322,slow=75,SNR=15
ULM Lac du Bonnet 45.28 314 P 10 37 33.2 +0.9
ULM Lac du Bonnet 45.28 314 P P 10 37 27.8 -4.5
comp=Z,0.9nm,0.5s,baz=107,slow=7.2,SNR=2.2
comp=Z,0.9nm,0.5s
CZSB Cruzeiro do Su 45.30 223 P P 10 37 30.6 -2.2
CZSB IAmb IAmb 10 37 51.9
comp=Z,10nm,1.0s
OK051 E0350 and S346 45.46 295 IAmb IAmb 10 37 36.8
comp=Z,16nm,1.1s
DAVOX Davos/Dischmat 45.49 51 LR LR 10 52 01.2
comp=Z,200nm,20.8s,baz=261,slow=30
OK031 S. Brethren Rd 45.52 294 P P 10 37 35.7 +1.3
OK031 IAmb IAmb 10 37 37.1
comp=Z,15nm,1.1s
OK048 Pawnee Station 45.56 295 P P 10 37 35.9 +1.2
OK048 IAmb IAmb 10 37 38.3
comp=Z,17nm,1.2s
OK033 Mehan 45.59 294 P P 10 37 36.1 +1.2
PTLB Pontes e Lacer 45.68 201 P P 10 37 35.0 -0.7
PTLB IAmb IAmb 10 37 36.5
comp=Z,14nm,1.4s
PTLB Pontes e Lacer 45.68 201 *eP* **P 10 37 36.2 +0.5**
H10S3 ASCENSION HYDR 46.04 139 T T 11 27 19.2
baz=258,slow=74,SNR=17
H10S2 ASCENSION HYDR 46.05 139 T T 11 27 15.1
baz=322,slow=74,SNR=128
CTI Castel Tesino 46.66 52 P P 10 37 43.8 +0.4
CTI IAmb IAmb 10 37 51.2
comp=Z,14nm,1.1s
FW03 Perrin-Whitt E 46.89 290 IAmb IAmb 10 37 49.7
comp=Z,11nm,1.1s
WTFS Witchita Falls 47.11 291 IAmb IAmb 10 37 51.0
comp=Z,16nm,1.2s
PLPT Palo Pinto 47.13 290 IAmb IAmb 10 37 51.5
comp=Z,12nm,1.2s
WMOK Wichita Mounta 47.23 293 IAmb IAmb 10 37 51.1
comp=Z,10nm,1.1s
BRDY Brady 47.97 288 IAmb IAmb 10 37 56.7
comp=Z,10nm,1.1s
CLL Collm 48.01 45 *eP* **P 10 37 54.0 +0.3**
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 48.17 48 IAmb IAmb 10 38 02.8
comp=Z,12nm,1.2s
KHC Kasperske Hory 48.17 48 P P 10 37 55.1 +0.1
comp=Z,9.5nm,1.2s
KHC Kasperske Hory 48.17 48 *e*PCP **P 10 37 55.5 +0.5**
GERES GERESS Array B 48.23 48 P P 10 37 55.5 0.0
GERES GERESS Array B 48.23 48 P P 10 37 55.7 +0.2
comp=Z,2.1nm,0.9s,baz=299,slow=6.0,SNR=3.6
comp=Z,2.1nm,0.9s
ABTX Abilene, Hawle 48.26 290 IAmb IAmb 10 38 00.0
comp=Z,15nm,1.2s
BBRB Robore, Bolivi 48.54 201 *eP* **P 10 37 58.5 +0.4**
BRG Berggiesshubel 48.55 45 *eP* **P 10 37 58.4 +0.5**
BRG Amp 10 37 59.2
comp=Z,4.7nm,1.0s
BRG Berggiesshubel 48.55 45 P P 10 38 05.4 +7.5
BRG Amp 10 38 05.8
comp=Z,3.2nm,0.8s
BRG Amp 10 53 47.0
comp=Z,0.4nm,17.2s
JCT Junction City 48.80 287 IAmb IAmb 10 38 03.8
comp=Z,9.6nm,1.1s
NOA NORSAR Array B 49.05 32 P P 10 38 01.1 -0.5
comp=Z,2.0nm,1.0s,baz=253,slow=7.7,SNR=5.0
comp=Z,2.0nm,1.0s
SN07 Snyder 07 49.22 291 IAmb IAmb 10 38 07.1
comp=Z,14nm,1.4s
SN05 Snyder 5 49.25 291 IAmb IAmb 10 38 06.9
comp=Z,12nm,1.3s
POST Post 49.73 291 IAmb IAmb 10 38 11.2
comp=Z,19nm,1.3s
BDQN Bodoquena, MS 49.74 196 *e*P **P 10 38 08.2 +1.0**
HFS Hagfors 49.99 33 P P 10 38 08.3 -0.4
comp=Z,2.6nm,0.9s,baz=263,slow=12,SNR=3.6
comp=Z,2.6nm,0.9s
LPAZ La Paz 49.99 212 P 10 38 09.4 -0.5
LPAZ IAmb IAmb 10 38 24.3
comp=Z,17nm,1.2s
LPAZ La Paz 49.99 212 P P 10 38 09.2 -0.7
comp=Z,9.4nm,1.0s,baz=29,slow=12,SNR=7.7
comp=Z,9.4nm,1.0s
LPAZ La Paz 49.99 212 *eP* **P 10 38 09.4 -0.5**
KRUC Moravsky 50.01 48 *eP* **P 10 38 09.2 +0.1**
VRAC Vranov 50.15 48 *eP* **P 10 38 10.4 +0.3**
MPLH Magyarpolny 50.75 50 P P 10 38 15.3 +0.6
comp=Z,24nm,1.2s
MORC Moravsky Berou 50.78 47 *eP* **P 10 38 15.2 +0.2**
NNA Nana 51.14 224 LR LR 10 59 57.7
comp=Z,70nm,20.5s,baz=23,slow=36
T25A Trinidad 51.43 297 IAmb IAmb 10 38 25.4
comp=Z,11nm,1.1s
MORH Mrgy, Hungar 51.52 52 P P 10 38 20.6 +0.1
comp=Z,6.7nm,1.6s
OJC Ojcow 52.25 47 P P 10 38 25.8 -0.1
comp=Z,7.8nm,1.2s
TXAR Lajitas Array 52.33 287 P P 10 38 23.4 -3.5
comp=Z,0.7nm,0.9s,baz=101,slow=6.5,SNR=2.6
comp=Z,0.7nm,0.9s
NIE Niedzica 52.57 48 P P 10 38 29.6 +1.3
comp=Z,4.8nm,1.4s
ANMO Albuquerque 53.43 294 P 10 38 34.9 -0.2
ANMO IAmb IAmb 10 38 39.6
comp=Z,12nm,1.3s
RES Resolute Bay 53.46 345 P 10 38 32.0 -2.4
PB11 IPOC Station P 53.72 211 P P 10 38 34.9 -2.2
BNM Barren Site 53.72 293 P P 10 38 34.9 -2.4
PB08 IPOC Station P 53.82 210 P P 10 38 35.7 -2.5
O20A White River Ci 53.97 301 IAmb IAmb 10 38 42.9
comp=Z,10.0nm,1.2s
HOLU Holmets 53.97 49 P P 10 38 40.0 +1.4
RLMT Red Lodge 54.14 307 IAmb IAmb 10 38 43.9
comp=Z,13nm,1.1s
BERU Beregovo 54.16 49 P P 10 38 40.2 +0.2
MUKU Mukachevo 54.18 49 P P 10 38 41.8 +1.7
PDAR Pinedale Array 54.60 304 P P 10 38 39.7 -3.9
comp=Z,1.4nm,0.6s,baz=95,slow=5.7,SNR=6.9
comp=Z,1.4nm,0.6s
MVCO Mesa Verde 54.64 297 IAmb IAmb 10 38 49.1
comp=Z,11nm,1.1s
MEZ Mengor'ye 54.72 49 P P 10 38 45.3 +1.2
PB01 IPOC Station P 54.76 210 IAmb IAmb 10 38 45.5
comp=Z,13nm,1.1s
RDMU Red Mountain 54.91 302 IAmb IAmb 10 38 49.4
comp=Z,10nm,1.1s
LKWY Lake 55.00 307 IAmb IAmb 10 38 51.6
comp=Z,12nm,1.0s
LOHW Long Hollow 55.26 305 P P 10 38 49.2 +0.9
FLWY Flagg Ranch 55.27 306 IAmb IAmb 10 38 52.2
comp=Z,6nm,0.8s
IMW Indian Meadow 55.46 306 IAmb IAmb 10 38 54.1
comp=Z,19nm,1.1s
TPAW Teton Pass 55.52 305 IAmb IAmb 10 38 54.5
comp=Z,18nm,1.1s
CPUP Villa Florida 55.53 195 P P 10 38 50.4 +0.4
comp=Z,1.8nm,1.0s,baz=31,slow=9.9,SNR=2.3
comp=Z,1.8nm,1.0s
P18A Preston Nutter 55.57 301 IAmb IAmb 10 38 54.9
comp=Z,20nm,1.4s
AHID Auburn Hatcher 55.73 305 IAmb IAmb 10 38 55.5
comp=Z,13nm,1.1s
SRU San Rafael Swe 55.87 300 IAmb IAmb 10 38 56.5
comp=Z,11nm,0.9s
BUR08 Bucovina Ar. S 55.92 50 IAmb IAmb 10 39 01.6
comp=Z,17nm,1.2s
BURAR Bucovina Array 55.93 50 P 10 38 53.3 +0.3
BURAR IAmb IAmb 10 39 01.9
comp=Z,8.8nm,1.1s
RNPP8 Varash 56.06 45 P P 10 38 54.4 +0.8
RNPP5 Staryi Chortor 56.09 45 P P 10 38 53.8 0.0
FINES FINESS Array B 56.18 33 P P 10 38 53.9 -0.4
FINES FINESS Array B 56.18 33 P P 10 38 53.8 -0.5
comp=Z,3.6nm,0.9s,baz=256,slow=7.7,SNR=6.5
comp=Z,3.6nm,0.9s
HWUT Hardware Ranch 56.24 303 IAmb IAmb 10 38 59.8
comp=Z,12nm,1.1s
JLU Jordanelle 56.32 302 IAmb IAmb 10 39 00.2
comp=Z,21nm,1.4s
TMUT Trail Mountain 56.36 300 IAmb IAmb 10 39 05.5
comp=Z,18nm,1.5s
MPU Maple Canyon 56.56 301 IAmb IAmb 10 39 01.9
comp=Z,14nm,1.2s
PB15 IPOC Station P 56.66 209 P P 10 38 57.3 -1.1
MLR Muntele Rosu 56.67 52 P 10 38 58.9 +0.6
KMPD K-Podol'skiy 56.67 48 P P 10 38 57.2 -0.8
ARCES ARCESS Array B 56.82 23 P P 10 38 57.5 -1.3
comp=Z,2.7nm,0.8s,baz=265,slow=5.1,SNR=2.6
comp=Z,2.7nm,0.8s
NLU North Lily Min 56.90 301 IAmb IAmb 10 39 04.7
comp=Z,15nm,1.3s
YKA Yellowknife Ar 56.96 328 P P 10 38 55.6 -4.2
comp=Z,1.3nm,0.9s,baz=85,slow=7.6,SNR=6.8
comp=Z,1.3nm,0.9s
PLOR3 Plostina Array 57.11 52 P P 10 39 00.7 -0.6
comp=Z,9.3nm,1.2s
VRI Vrincioaia 57.16 51 P P 10 39 02.1 +0.5
comp=Z,11nm,1.8s
WUAZ Wupatki 57.25 296 IAmb IAmb 10 39 08.0
comp=Z,14nm,1.2s
LUBAR Lubar, Ukraine 57.38 47 P P 10 39 02.3 -0.8
DUG Dugway, Tooele 57.41 302 IAmb IAmb 10 39 08.2
comp=Z,20nm,1.3s
PKCU Pink Cliffs 57.57 298 IAmb IAmb 10 39 08.9
comp=Z,12nm,1.3s
MI30 MI30,Zelenitsa 57.58 46 P P 10 39 04.0 -0.4
AK20 Malin Array Si 58.10 46 P P 10 39 07.2 -0.9
AK19 Malin Array Si 58.10 46 P P 10 39 07.2 -0.9
AK22 Malin Array Si 58.13 46 P P 10 39 07.3 -1.0
KIEV Kiev 58.23 46 P P 10 39 08.1 -0.8
KIEV IAmb IAmb 10 39 15.9
comp=Z,8.9nm,1.0s
KIEV Kiev 58.23 46 P 10 39 08.6 -0.4
KIEV Kiev 58.23 46 P P 10 39 07.8 -1.2
AK05 Malin Array Si 58.23 46 P P 10 39 08.5 -0.5
AK05 IAmb IAmb 10 39 15.9
comp=Z,17nm,1.1s
AKASG Malin Array Be 58.24 46 P P 10 39 08.8 -0.2
AKASG Malin Array Be 58.24 46 P P 10 39 08.6 -0.4
comp=Z,5.7nm,0.9s,baz=271,slow=6.4,SNR=9.5
comp=Z,5.7nm,0.9s
AKBB Malin Array Si 58.24 46 P P 10 39 08.8 -0.2
AKBB IAmb IAmb 10 39 15.9
comp=Z,9.0nm,0.9s
AKBB Malin Array Si 58.24 46 P P 10 39 08.2 -0.8
CCUT Cedar City 58.37 299 IAmb IAmb 10 39 15.3
comp=Z,15nm,1.2s
GO02 Mina Guanaco 58.43 208 P 10 39 10.1 -0.9
W13A Hualapai Mount 59.34 296 IAmb IAmb 10 39 22.1
comp=Z,9.3nm,1.5s
F10A Beach Ranch, E 59.58 309 IAmb IAmb 10 39 21.7
comp=Z,5.5nm,0.9s
MANT Manisa 59.83 60 P P 10 39 20.1 -0.5
V12A Nelson 59.95 297 P P 10 39 21.9 +0.5
V12A IAmb IAmb 10 39 26.3
comp=Z,6.7nm,1.1s
BMN Battle Mountai 60.67 303 IAmb IAmb 10 39 30.4
comp=Z,8.6nm,1.3s
J08A Circle Bar Ran 60.95 306 IAmb IAmb 10 39 32.6
comp=Z,14nm,1.2s
WCT Wildcat Mounta 61.08 299 IAmb IAmb 10 39 33.6
comp=Z,7.0nm,1.1s
A36M Sachs Harbour 61.20 339 P P 10 39 30.2 +1.1
A36M IAmb IAmb 10 39 34.7
comp=Z,7.3nm,1.1s
LTY Liberty 61.67 311 IAmb IAmb 10 39 41.5
comp=Z,10nm,1.1s
NV11 Mina Array Sit 61.84 301 IAmb IAmb 10 39 38.4
comp=Z,8.2nm,1.5s
NVAR Mina Array Bea 61.96 301 P P 10 39 31.4 -3.7
comp=Z,0.8nm,0.8s,baz=81,slow=5.6,SNR=4.0
comp=Z,0.8nm,0.8s
AC05 El Transito 61.97 207 P P 10 39 34.3 -0.6
OBN Obninsk 62.05 40 P P 10 39 35.9 +0.8
RYN Ryan 62.07 301 IAmb IAmb 10 39 39.3
comp=Z,6.1nm,1.1s
LHV Little Huntoon 62.15 301 IAmb IAmb 10 39 42.0
comp=Z,10nm,1.4s
I05D Terrebonne, OR 62.76 308 IAmb IAmb 10 39 45.7
comp=Z,13nm,1.5s
CO01 Juntas del Tor 62.91 206 IAmb IAmb 10 39 42.6
comp=Z,8.7nm,1.0s
H04A Detroit Lake 63.26 308 IAmb IAmb 10 39 47.6
comp=Z,12nm,1.2s
BR131 Keskin Array S 63.37 57 P P 10 39 44.9 +0.6
BR131 IAmb IAmb 10 39 52.6
comp=Z,9.7nm,1.1s
BRTR Keskin Array B 63.37 57 P 10 39 44.5 +0.2
BRTR Keskin Array B 63.37 57 P P 10 39 45.2 +0.9
comp=Z,2.9nm,1.0s,baz=284,slow=5.0,SNR=8.3
comp=Z,2.9nm,1.0s
BO04 La Punta 66.70 204 P P 10 40 05.0 -0.7
EIL Elat 67.45 67 LR LR 11 10 05.3
comp=Z,64nm,18.7s,baz=246,slow=36
KIV Kislovodsk 68.62 51 P P 10 40 18.8 +0.8
KBZ Khabaz 68.84 51 P P 10 40 19.0 -0.2
comp=Z,2.9nm,1.0s,baz=276,slow=7.7,SNR=4.6
comp=Z,2.9nm,1.0s
MARD Mardin 69.43 58 P P 10 40 24.6 +1.3
MARD IAmb IAmb 10 40 25.4
comp=Z,13nm,1.3s
ONI Oni 69.59 52 P P 10 40 24.4 +0.4
ONI IAmb IAmb 10 40 32.7
comp=Z,8.7nm,1.1s
E24K Your Creek 69.80 337 P P 10 40 23.6 -1.3
E24K IAmb IAmb 10 40 31.3
comp=Z,12nm,1.4s
G24K Hadweenzie Riv 70.01 336 IAmb IAmb 10 40 32.1
comp=Z,14nm,1.2s
ILAR Eielson Array 70.58 334 P P 10 40 26.6 -3.1
comp=Z,1.7nm,0.8s,baz=65,slow=4.6,SNR=6.5
comp=Z,1.7nm,0.8s
H09W1 TRISTAN DA CUN 70.97 154 T T 11 58 23.6
SNR=10
GNI Garni 71.35 54 LR LR 11 12 02.1
comp=Z,35nm,19.4s,baz=294,slow=36
PLCA Paso Flores 72.75 201 P 10 40 43.3 +0.3
PLCA IAmb IAmb 10 40 56.3
comp=Z,9.4nm,1.1s
PLCA Paso Flores 72.75 201 P P 10 40 43.0 +0.1
comp=Z,5.4nm,1.0s,baz=30,slow=5.8,SNR=6.1
PLCA LR LR 11 12 22.7
comp=Z,61nm,19.0s,baz=44,slow=36
comp=Z,5.4nm,1.0s
PLCA Paso Flores 72.75 201 *eP* **P 10 40 43.5 +0.5**
ABKAR Akbulak array 77.48 41 P P 10 41 16.2 -0.1
RAYN Ar Rayn 78.52 69 P P 10 41 16.4 -0.1
TIXI Tiksi 80.59 2 LR LR 11 13 24.9
comp=Z,25nm,20.0s,baz=8.5,slow=33
BVAR Borovoye Array 81.11 34 P P 10 41 29.8 -0.3
comp=Z,0.4nm,0.4s,baz=252,slow=7.4,SNR=1.9
comp=Z,0.4nm,0.4s
GEYT Alibeck 81.72 52 P P 10 41 33.9 +0.3
GEYT IAmb IAmb 10 41 35.4
comp=Z,8.2nm,1.1s
GEYT Alibeck 81.72 52 P P 10 41 34.3 +0.7
comp=Z,1.1nm,0.5s,baz=270,slow=4.3,SNR=3.8
comp=Z,1.1nm,0.5s
GYA0B ALIBECK ARRAY 81.72 52 P P 10 41 34.2 +0.6
RPN Rapa Nui 83.58 235 LR LR 11 13 34.9
comp=Z,54nm,21.8s,baz=17,slow=32
KURBB Kurchatov Arra 86.57 33 P P 10 41 57.6 -0.3
comp=Z,1.6nm,0.9s,baz=310,slow=5.1,SNR=4.9
comp=Z,1.6nm,0.9s
KK31 Karatay Array 86.95 42 P P 10 41 59.9 -0.2
KKAR Karatay Array 86.95 42 P P 10 41 59.7 -0.3
ZAA0 Zalesovo Array 87.07 28 P P 10 41 59.8 -0.6
SIMJ Simiganj 88.60 46 P P 10 42 07.9 -0.3
SIMJ IAmb IAmb 10 42 16.0
comp=Z,4.9nm,0.9s
MKAR Makanchi Array 91.00 34 P P 10 42 18.5 -0.6
comp=Z,0.8nm,0.9s,baz=316,slow=6.0,SNR=5.4
comp=Z,0.8nm,0.9s
CMAR Chiang Mai Arr 121.30 43 PKP PKPdf 10 48 07.8 -0.9
comp=Z,0.7nm,0.3s,baz=300,slow=4.5,SNR=7.9

NEIC ***05*** *10:35:18.4±0.6, 19°.344N±0°.008×155°.23W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.9km az=59.0*

HVO 05 10:35:17.3±0.3, 19°.31N±0°.01×155°.19W±0°.02, h7km±2km, ML2.7/35, ML2.8/44(NEIC)**, Error ellipse: s-maj=2.2km s-min=1.8km az=122.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.07**	**337**		Pg	10 35 19.4	+0.2
KNHH	**Kane Nui o Ham**	**0.07**	**15**		Pg	10 35 19.5	+0.2
STCH	**Steam Cracks**	**0.09**	**40**		Pg	10 35 19.8	+0.2
STCH				IAML		10 35 21.9	
	comp=N,5μm,0.6s						
STCH				IAML		10 35 22.4	
	comp=E,4μm,0.5s						
JCUZ	**Jacuzzi**	**0.11**	**49**		Pg	10 35 20.2	+0.4
NPOC	**North of Pu'u**	**0.11**	**43**		Pg	10 35 20.0	+0.2
NPOC				IAML		10 35 22.5	
	comp=N,5μm,0.5s						
KKO	**Keanakako'i**	**0.11**	**319**		Pg	10 35 20.1	+0.3
KKO				IAML		10 35 22.9	
	comp=E,4μm,0.4s						
KKO				IAML		10 35 24.1	
	comp=N,4μm,0.5s						
HLP	**Hilina Pali**	**0.11**	**262**		Pg	10 35 20.5	+0.7
HLP				IAML		10 35 23.1	
	comp=E,5μm,0.3s						
HLP				IAML		10 35 23.8	
	comp=N,5μm,0.2s						
RIM	**Rim**	**0.12**	**316**		Pg	10 35 20.1	+0.2
RIM				IAML		10 35 23.6	
	comp=N,4μm,0.5s						
BYL	**Byron's Ledge**	**0.12**	**326**		Pg	10 35 20.1	+0.1
BYL				IAML		10 35 22.8	
	comp=N,4μm,0.8s						
BYL				IAML		10 35 23.0	
	comp=E,3μm,0.5s						
SDHHI	**Sand Hill**	**0.13**	**308**		Pg	10 35 20.3	+0.2
SDHHI				IAML		10 35 24.8	
	comp=E,5μm,0.2s						
HATHI	**Halema'uma'u T**	**0.13**	**328**		Pg	10 35 20.3	+0.1
HATHI				IAML		10 35 22.8	
	comp=N,4μm,0.3s						
HATHI				IAML		10 35 22.9	
	comp=E,4μm,0.6s						
NPH	**North Pit**	**0.13**	**319**		Pg	10 35 20.3	+0.1
SBLHI	**Steaming Bluff**	**0.14**	**327**		Pg	10 35 20.4	+0.1
SBLHI				IAML		10 35 22.9	
	comp=E,4μm,0.6s						
SBLHI				IAML		10 35 23.0	
	comp=N,3μm,0.3s						
OBL	**Observatory Le**	**0.14**	**319**		Pg	10 35 20.5	+0.2
UWB	**Uwekahuna B**	**0.14**	**323**		Pg	10 35 20.5	+0.1
WRMHI	**West Rim**	**0.14**	**312**		Pg	10 35 20.6	+0.2
WRMHI				IAML		10 35 23.6	
	comp=N,3μm,0.6s						
WRMHI				IAML		10 35 23.9	
	comp=E,4μm,0.5s						
UWE	**Uwekahuna**	**0.15**	**318**		Pg	10 35 20.7	+0.2
UWE				IAML		10 35 23.9	
	comp=E,3μm,0.6s						
UWE				IAML		10 35 25.2	
	comp=N,2μm,0.7s						
RSD	**Rainshed**	**0.17**	**331**		Pg	10 35 21.0	+0.1
HTC	**Hot Caves**	**0.21**	**249**		Pg	10 35 22.3	+0.7
MLH	**Mauna Loa**	**0.26**	**314**		Pg	10 35 22.6	0.0
MLH				IAML		10 35 29.8	
	comp=E,1μm,0.2s						
HMH	**Humu'ula Sheep**	**0.40**	**316**		Pg	10 35 24.9	-0.3
KHU	**Kahuku**	**0.41**	**261**		Pg	10 35 25.3	0.0
KHU				IAML		10 35 36.8	
	comp=E,1μm,0.4s						
KHU				IAML		10 35 38.9	
	comp=N,1μm,0.5s						
MWH	**Moku'aweowe**	**0.42**	**294**		Pg	10 35 25.4	-0.3
ALEP	**Alea Permanent**	**0.49**	**298**		Pg	10 35 26.4	-0.5
ALEP					Sg	10 35 33.9	+0.6
POHA	**Pohakuloa**	**0.55**	**324**		Pg	10 35 27.4	-0.6

POHA					Sg	10 35 34.9	-0.4
POHA	**Pohakuloa**	**0.55**	**324**	IAML		10 35 35.5	
	comp=N,4μm,0.2s						
POHA				IAML		10 35 35.6	
	comp=N,3μm,0.2s						
HUH	**Hualalai**	**0.71**	**301**		Pg	10 35 30.2	-1.0

CATAC ***05*** *10:42:43.6±0.3, 9.59N×84.77W, h7km±2km, ML3.3*
UCR ***05*** *10:42:44.1±1.1, 9.59N×84.79W, h16km±6km, MW3.6*
ISC 05 10:42:44.0±1.0, **9.58N**±0.04×**84.78W**±0.03, **h17km**±6km, **n49**, σ0**87**/70, **Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.14**	**55**	*i* P	**Pg**	**10 42 47.8**	**-0.2**
JACO				*i* S	**Sg**	**10 42 51.0**	**+0.3**
JACO				IAML		10 42 51.5	
	comp=Z,24μm,1.0s						
JACO	**JACO, Garabito**	**0.14**	**55**	*e*P	**Pg**	**10 42 47.8**	**-0.2**
JACO				*e*S	**Sg**	**10 42 51.1**	**+0.4**
LAFE	**Finca La Fe, P**	**0.26**	**330**	*i* P	**Pb**	**10 42 50.0**	**-0.2**
LAFE				*i* S	**Sb**	**10 42 54.9**	**+0.4**
LAFE				IAML		10 42 55.3	
	comp=Z,93nm,1.0s						
LAFE	**Finca La Fe, P**	**0.26**	**330**	*e*P	**Pb**	**10 42 50.1**	**-0.2**
LAFE				*e*S	**Sb**	**10 42 55.1**	**+0.6**
ARZA	**Esparza**	**0.42**	**15**	*e*P	**Pb**	**10 42 53.3**	**+0.3**
ARZA				*e*S	**Sb**	**10 42 59.9**	**+0.8**
SRA1	**San Ramn**	**0.58**	**30**	*e*P	**Pg**	**10 42 55.0**	**-0.6**
LLNJ	**Naranjito**	**0.68**	**99**	*e*P	**Pg**	**10 42 56.7**	**-0.6**
ABE2	**San Pablo**	**0.72**	**80**	*e*P	**Pg**	**10 42 57.6**	**-0.7**
JTS	**Las Juntas de**	**0.73**	**346**	*e*P	**Pg**	**10 42 57.2**	**-1.1**
AMPA	**Desamparados**	**0.77**	**66**	*e*P	**Pg**	**10 42 58.4**	**-0.7**
HDC	**Heredia**	**0.78**	**57**	*e*P	**Pg**	**10 42 58.4**	**-0.8**
LCR2	**La Lucha 2**	**0.78**	**78**	*e*P	**Pg**	**10 42 58.4**	**-0.9**
HDC3	**Heredia 3**	**0.78**	**57**	*i* P	**Pg**	**10 42 58.2**	**-1.0**
HDC3				*i* S	**Sg**	**10 43 09.1**	**-0.5**
HDC3				IAML		10 43 17.7	
	comp=Z,930nm,1.0s						
CPMI	**Catarata Coope**	**0.80**	**29**	*i* P	**Pg**	**10 42 58.8**	**-0.8**
CPMI				*i* S	**Sg**	**10 43 10.0**	**-0.3**
CPMI				IAML		10 43 12.0	
	comp=Z,1μm,1.0s						
SOCE	**Pocosol**	**0.81**	**11**	*i* P	**Pg**	**10 42 59.1**	**-0.8**
SOCE				*i* S	**Sg**	**10 43 10.2**	**-0.4**
SOCE				IAML		10 43 13.0	
	comp=Z,4μm,1.0s						
SOCE	**Pocosol**	**0.81**	**11**	*e*P	**Pg**	**10 42 59.2**	**-0.7**
CORON	**Coronado**	**0.86**	**63**	*e*P	**Pg**	**10 43 00.2**	**-0.5**
DUNO	**Dulce Nombre,**	**0.86**	**305**	*i* P	**Pg**	**10 42 59.6**	**-1.1**
DUNO				*i* S	**Sb**	**10 43 12.4**	**+0.6**
DUNO				IAML		10 43 14.3	
	comp=Z,2μm,1.0s						
DUNO	**Dulce Nombre,**	**0.86**	**305**	*e*P	**Pg**	**10 42 59.7**	**-1.1**
OCM	**Ochomogo**	**0.86**	**69**	*i* P	**Pg**	**10 42 59.6**	**-1.3**
OCM				*i* S	**Sg**	**10 43 11.5**	**-0.8**
OCM				IAML		10 43 18.5	
	comp=Z,400nm,1.0s						
RIMA	**Rio Macho**	**0.92**	**78**	*i* P	**Pg**	**10 43 00.4**	**-1.5**
RIMA				*i* S	**Sg**	**10 43 13.0**	**-1.1**
RIMA				IAML		10 43 18.2	
	comp=Z,300nm,1.0s						
RIMA	**Rio Macho**	**0.92**	**78**	*e*P	**Pg**	**10 43 00.3**	**-1.6**
REPA	**Paraso**	**0.93**	**75**	*e*P	**Pg**	**10 43 01.1**	**-1.0**
ITAL	**Pital**	**1.00**	**30**	*e*P	**Pg**	**10 43 02.2**	**-1.1**
CDM	**Cerro de Muert**	**1.00**	**91**	*i* P	**Pg**	**10 43 02.2**	**-1.3**
CDM				*i* S	**Sg**	**10 43 16.4**	**-0.3**
CDM				IAML		10 43 20.3	
	comp=Z,620nm,1.0s						
VICA	**Volcano Irazu**	**1.00**	**66**	*e*P	**Pg**	**10 43 02.5**	**-1.0**
BUS1	**Rivas**	**1.02**	**91**	*e*P	**Pg**	**10 43 02.5**	**-1.2**
ORTG	**Ortega, Santa**	**1.03**	**319**	*i* P	**Pb**	**10 43 02.3**	**-1.1**
ORTG				IAML		10 43 03.6	
	comp=Z,970nm,1.0s						
ORTG				*i* S	**Sb**	**10 43 17.2**	**+0.6**
ORTG	**Ortega, Santa**	**1.03**	**319**	*e*P	**Pb**	**10 43 02.4**	**-1.0**
SAJU	**San Juanillo,**	**1.04**	**298**	*i* P	**Pb**	**10 43 02.3**	**-1.2**
SAJU				*i* S	**Sn**	**10 43 19.0**	**+1.1**
SAJU				IAML		10 43 26.1	
	comp=Z,570nm,1.0s						
PEZE	**Perez Zeledon,**	**1.10**	**100**	*i* P	**Pb**	**10 43 04.7**	**0.0**
PEZE				*i* S	**Sg**	**10 43 19.7**	**-0.1**
PEZE				IAML		10 43 26.7	
	comp=Z,320nm,1.0s						
PEZE	**Perez Zeledon,**	**1.10**	**100**	*e*P	**Pb**	**10 43 04.9**	**+0.2**
VTCV	**VTCV, Calle Va**	**1.11**	**69**	*i* P	**Pb**	**10 43 04.3**	**-0.6**
VTCV				*i* S	**Sb**	**10 43 19.6**	**+0.4**
VTCV				IAML		10 43 21.4	
	comp=Z,950nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.12**	**49**	*i* S	**Sg**	**10 43 20.0**	**-0.2**
VERB	**Verbena**	**1.13**	**71**	*e*P	**Pb**	**10 43 04.7**	**-0.4**
COVE	**Coope Vega, Sa**	**1.19**	**18**	*i* P	**Pn**	**10 43 05.1**	**-0.8**
COVE				*i* S	**Sb**	**10 43 21.6**	**+0.3**
COVE				IAML		10 43 24.8	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**1.19**	**18**	*e*P	**Pn**	**10 43 05.2**	**-0.7**
OCHAL	**Ojochal**	**1.22**	**113**	*i* P	**Pn**	**10 43 05.5**	**-0.7**
OCHAL				*i* S	**Sb**	**10 43 22.6**	**+0.6**
OCHAL				IAML		10 43 37.4	
	comp=Z,220nm,1.0s						
VMAR	**Armenia, Volca**	**1.27**	**345**	*e*P	**Pn**	**10 43 06.7**	**-0.3**
LCOCO	**El Coco**	**1.30**	**67**	*e*P	**Pg**	**10 43 10.5**	**+1.3**
HZTE	**Horizontes, Gu**	**1.38**	**325**	*i* P	**Pn**	**10 43 08.5**	**0.0**
HZTE				IAML		10 43 09.9	
	comp=Z,990nm,1.0s						
HZTE				*i* S	**Sb**	**10 43 27.6**	**+0.8**
HZTE	**Horizontes, Gu**	**1.38**	**325**	*e*P	**Pn**	**10 43 08.6**	**0.0**
PLAN	**Los Planes de**	**1.41**	**130**	*i* P	**Pn**	**10 43 09.8**	**+0.9**
PLAN				IAML		10 43 36.7	
	comp=Z,310nm,1.0s						
SRBA	**San Rafael, Bu**	**1.44**	**104**	*i* P	**Pn**	**10 43 09.2**	**-0.2**
SRBA				*i* S	**Sn**	**10 43 28.9**	**+0.9**
SRBA				IAML		10 43 35.0	
	comp=Z,200nm,1.0s						
SRBA	**San Rafael, Bu**	**1.44**	**104**	*e*P	**Pn**	**10 43 09.4**	**0.0**
BATAN	**Batan**	**1.47**	**69**	*i* P	**Pb**	**10 43 11.0**	**+0.1**
BATAN				*i* S	**Sg**	**10 43 31.3**	**-0.3**
BATAN				IAML		10 43 35.4	
	comp=Z,620nm,1.0s						
JAPN	**Al SSO del Vol**	**2.13**	**335**	*i* P	**Pb**	**10 43 21.9**	**-0.2**
CONN	**Concepcion**	**2.14**	**337**	*i* P	**Pn**	**10 43 20.6**	**+1.6**
CONN				IAML		10 43 23.7	
	comp=Z,1μm,1.0s						
COPN	**Copaltepe**	**3.14**	**326**	*i* P	**Pn**	**10 43 35.4**	**+2.7**
COPN				IAML		10 44 09.9	
	comp=Z,50nm,1.0s						

ISN ***05*** *10:49:51.7±0.5, 34.55N×45.78E, h14km±21km, ML3.9*
TEH ***05*** *10:49:51.4, 34.55N×45.77E, h9km±16km, ML3.8*
ISC 05 10:49:52.2±1.3, **34.55N**±0.03×**45.77E**±0.03, **h3km**±11km, **n32**, σ0**55**/38, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.15**	**254**	Pg	**Pg**	**10 49 55.0**	**-0.2**
KGS1				Sg	**Sg**	**10 49 58.0**	**+0.8**
IDHR	**Dehrash**	**0.54**	**73**	Pg	**Pg**	**10 50 02.0**	**-0.5**
IGHG	**Ghaleghazi**	**0.70**	**108**	Pg	**Pg**	**10 50 05.4**	**-0.2**
ILBA	**Ilam Banvizeh**	**0.99**	**158**	Pg	**Pg**	**10 50 10.2**	**-1.1**
ILBA				Sg	**Sg**	**10 50 25.4**	**+1.2**
ILIN	**Lien**	**1.05**	**69**	Pg	**Pg**	**10 50 11.5**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.09**	**104**	Pg	**Pg**	**10 50 12.4**	**-0.7**
IBDR	**Badra**	**1.44**	**174**	*e*Pn	**Pn**	**10 50 19.0**	**-0.3**
IBDR				*e*Sn	**Sb**	**10 50 39.0**	**+0.5**
IBDR				AML	AML	10 50 43.1	
	comp=E,2μm,0.5s						
IBDR				AML	AML	10 50 44.5	
	comp=N,3μm,0.3s						
IKRK	**Kirkuk**	**1.45**	**306**	*e*Pg	**Pn**	**10 50 18.5**	**-0.9**
IKRK				*e*Sg	**Sb**	**10 50 38.0**	**-0.7**
IKRK				AML	AML	10 50 46.0	
	comp=N,3μm,0.4s						
IKRK				AML	AML	10 50 47.1	
	comp=E,2μm,0.5s						
SNQR	**Sonqor, Kerman**	**1.57**	**78**	Pg	**Pn**	**10 50 21.3**	**+0.1**
SDS1	**Sardasht. Az.**	**1.61**	**352**	Pg	**Pn**	**10 50 22.2**	**+0.4**
BHD	**Baghdad**	**1.72**	**222**	*e*Pn	**Pn**	**10 50 23.0**	**-0.1**
BHD				*e*Sn	**Sn**	**10 50 46.0**	**+0.4**
BHD				AML	AML	10 50 57.9	
	comp=E,1μm,0.8s						
IBZA	**Bozab**	**1.73**	**92**	Pg	**Pn**	**10 50 23.7**	**+0.1**

IKFM	**Kafar-mosalman**	**2.01**	**120**	Pn	**Pn**	**10 50 27.4**	**+0.3**
IDOB	**Doab**	**2.14**	**110**	Pn	**Pn**	**10 50 29.1**	**0.0**
MAHB	**Mahabad**	**2.21**	**359**	Pn	**Pn**	**10 50 30.8**	**+0.8**
HSAM	**Samen**	**2.37**	**97**	Pn	**Pn**	**10 50 32.4**	**+0.1**
BDRS	**Dareh Seyedi**	**2.65**	**102**	Pn	**Pn**	**10 50 36.0**	**-0.1**
HAGD	**Aghdareh**	**2.79**	**83**	Pn	**Pn**	**10 50 38.3**	**+0.2**
RAFI	**Al-Rafai**	**2.83**	**174**	*e*Pn	**Pn**	**10 50 38.5**	**+0.1**
RAFI				*e*Sn	**Sn**	**10 51 13.0**	**-0.1**
RAFI				AML	AML	10 51 32.1	
	comp=N,331nm,0.3s						
RAFI				AML	AML	10 51 32.6	
	comp=E,410nm,0.5s						
IHSH	**Hashtrud**	**3.01**	**23**	Pn	**Pn**	**10 50 40.8**	**-0.3**
IRAZ	**Razeghan**	**3.52**	**75**	Pn	**Pn**	**10 50 48.5**	**+0.3**
IHRS	**Heris**	**3.90**	**15**	Pn	**Pn**	**10 50 53.8**	**+0.4**
IMRD	**Marand**	**4.16**	**359**	Pn	**Pn**	**10 50 56.9**	**+0.1**
GRMI	**Germi**	**4.58**	**21**	Pn	**Pn**	**10 51 03.1**	**+0.4**
JHBN	**Jahan bin**	**4.71**	**118**	Pn	**Pn**	**10 51 04.0**	**-0.5**
QAMS	**Qamsar**	**4.74**	**98**	Pn	**Pn**	**10 51 05.2**	**+0.3**
IVRN	**Varamin**	**4.93**	**83**	Pn	**Pn**	**10 51 07.0**	**-0.3**
IDMV	**Damavand**	**5.24**	**77**	Pn	**Pn**	**10 51 12.5**	**+0.6**
KRSH	**Karshahi**	**5.31**	**94**	Pn	**Pn**	**10 51 13.3**	**+0.7**
ISFB	**Sefidab**	**5.35**	**90**	Pn	**Pn**	**10 51 12.5**	**-0.7**
IGAR	**Gharneh**	**5.67**	**110**	Pn	**Pn**	**10 51 17.2**	**-0.4**
IFIR	**Firoozkooh**	**5.83**	**77**	Pn	**Pn**	**10 51 20.3**	**+0.4**

JMA 05 11:01:27.6±0.2, **38.8N**±0.7×**14.4E**±°, **h45km**, **MV3.5**/30,
FAR E OFF SANRIKU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OFUJ	**Ofunato**	**1.81**	**278**	*i* P	Pn	11 01 57.4	+1.1
OFUJ				S	Sn	11 02 18.7	+0.7
MIYJ	**Miyakonagasawa**	**1.82**	**294**	*i* P	Pn	11 01 57.4	+0.9
MIYJ				S	Sn	11 02 19.4	+1.1
JKMT	**Kesennumamotoy**	**1.95**	**270**	*i* P	Pn	11 01 59.3	+1.1
JKMT				S	Sn	11 02 22.1	+0.7
JTH	**Tanohata**	**1.96**	**305**	P	Pn	11 01 59.4	+1.0
JTH				*e*S	Sn	11 02 23.1	+1.3
JMK	**Ichinoseki**	**2.15**	**274**	*i* P	Pn	11 02 02.6	+1.7
JOM	**Ohasama**	**2.17**	**288**	P	Pn	11 02 02.7	+1.4
JOM				S	Sn	11 02 28.8	+1.8
JANG	**Nango**	**2.43**	**310**	P	Pn	11 02 05.5	+0.6
JANG				*e*S	Sn	11 02 34.2	+0.8
JYK	**Kaneyama**	**2.82**	**273**	P	Pn	11 02 12.2	+2.1
JOTO	**OTAMA OYAMA**	**3.13**	**247**	P	Pn	11 02 16.5	+1.9
JOTO				*e*S	Sn	11 02 52.6	+1.9
JNBK	**Urakawa-nobuka**	**3.56**	**345**	P	Pn	11 02 20.9	+0.7
JNBK				S	Sn	11 03 01.4	+0.4
JCH	**Churui**	**3.80**	**353**	P	Pn	11 02 23.2	-0.4
JCH				S	Sn	11 03 04.7	-2.2
NEM2	**Nemuro 2**	**4.71**	**16**	P	Pn	11 02 33.8	-2.4
NEM2				S	Sn	11 03 23.4	-6.1
JRY	**Ryogami san**	**4.92**	**237**	P	Pn	11 02 40.0	+1.0

NEIC ***05*** *11:03:39.9±0.8, 19.32N×0.02×155.10W±0.02, h5km±1km,*
Error ellipse: s-maj=4.2km s-min=2.7km az=318.0
HVO 05 11:03:40.1±0.7, **19.36N**±0.01×**155.10W**±0.01, **h6km**±2km,
ML3.0/36, **ML3.0**/46(NEIC), **Error ellipse: s-maj=2.4km**
s-min=1.3km az=135.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.03**	**5**		Pg	11 03 41.6	+0.2
STCH	**Steam Cracks**	**0.04**	**327**		Pg	11 03 41.7	+0.2
STCH				IAML		11 03 43.2	
	comp=N,17μm,0.5s						
STCH				IAML		11 03 43.3	
	comp=E,12μm,0.3s						
NPOC	**North of Pu'u**	**0.04**	**352**		Pg	11 03 41.8	+0.3
NPOC				IAML		11 03 43.4	
	comp=N,18μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.07**	**292**		Pg	11 03 42.1	+0.3
PUH	**Pauahi**	**0.11**	**280**		Pg	11 03 42.6	+0.1
PUH				IAML		11 03 45.1	
	comp=E,8μm,0.6s						
PUH				IAML		11 03 45.5	
	comp=N,7μm,0.8s						
JOKA	**Jonika Flow**	**0.12**	**50**		Pg	11 03 41.2	-1.5
JOKA					Sg	11 03 45.1	+0.7
BYL	**Byron's Ledge**	**0.16**	**291**		Pg	11 03 43.4	0.0
BYL				IAML		11 03 46.4	
	comp=N,6μm,0.5s						
BYL				IAML		11 03 47.3	
	comp=E,5μm,0.5s						
KKO	**Keanakako'i**	**0.16**	**286**		Pg	11 03 43.5	+0.1
KKO				IAML		11 03 46.6	
	comp=E,4μm,0.7s						
KKO				IAML		11 03 49.1	
	comp=N,5μm,0.4s						
HATHI	**Halema'uma'u T**	**0.16**	**295**		Pg	11 03 43.4	0.0
HATHI				IAML		11 03 47.9	
	comp=E,4μm,0.8s						
RIM	**Rim**	**0.17**	**284**		Pg	11 03 43.5	+0.1
RIM				IAML		11 03 46.6	
	comp=N,4μm,0.6s						
RIM				IAML		11 03 46.7	
	comp=E,4μm,0.5s						
SBLHI	**Steaming Bluff**	**0.17**	**295**		Pg	11 03 43.5	-0.1
SBLHI				IAML		11 03 46.8	
	comp=E,3μm,0.8s						
NPH	**North Pit**	**0.18**	**289**		Pg	11 03 43.7	0.0
UWB	**Uwekahuna B**	**0.18**	**293**		Pg	11 03 43.7	0.0
OBL	**Observatory Le**	**0.18**	**290**		Pg	11 03 43.8	0.0
OBL				IAML		11 03 47.4	
	comp=N,5μm,0.7s						
SDHHI	**Sand Hill**	**0.18**	**281**		Pg	11 03 43.8	0.0
SDHHI				IAML		11 03 50.2	
	comp=E,5μm,0.5s						
UWE	**Uwekahuna**	**0.19**	**290**		Pg	11 03 43.8	-0.1
UWE				IAML		11 03 50.0	
	comp=N,3μm,0.8s						
UWE				IAML		11 03 50.1	
	comp=E,4μm,0.5s						
WRMHI	**West Rim**	**0.19**	**286**		Pg	11 03 43.8	-0.1
WRMHI				IAML		11 03 49.9	
	comp=N,4μm,0.7s						
WRMHI				IAML		11 03 50.6	
	comp=E,3μm,0.5s						
RSD	**Rainshed**	**0.20**	**303**		Pg	11 03 44.1	0.0
HLP	**Hilina Pali**	**0.20**	**253**		Pg	11 03 44.3	+0.1
HLP				IAML		11 03 49.7	
	comp=N,4μm,0.3s						
HLP				IAML		11 03 51.5	
	comp=E,4μm,0.2s						
MLH	**Mauna Loa**	**0.30**	**298**		Pg	11 03 45.9	-0.1
MLH				IAML		11 03 51.8	
	comp=E,2μm,0.4s						
MLH				IAML		11 03 52.3	
	comp=N,3μm,0.3s						
HTC	**Hot Caves**	**0.30**	**247**		Pg	11 03 46.5	+0.5
HMH	**Humu'ula Sheep**	**0.43**	**305**		Pg	11 03 48.8	+0.2
HMH	**Humu'ula Sheep**	**0.43**	**305**	IAML		11 03 56.1	
	comp=N,13μm,0.4s						
HMH				IAML		11 03 56.2	
	comp=E,12μm,0.3s						
MWH	**Moku'aweowe**	**0.48**	**286**		Pg	11 03 49.2	-0.3
KHU	**Kahuku**	**0.49**	**257**		Pg	11 03 48.9	-0.8
KHU				IAML		11 04 03.9	
	comp=E,2μm,0.3s						
ALEP	**Alea Permanent**	**0.54**	**290**		Pg	11 03 50.2	-0.4
ALEP					Sb	11 03 59.8	-0.7
POHA	**Pohakuloa**	**0.57**	**315**		Pg	11 03 50.4	-0.7
POHA					Sg	11 03 58.4	-0.2
POHA	**Pohakuloa**	**0.57**	**315**	IAML		11 03 59.5	
	comp=E,2μm,0.4s						
POHA				IAML		11 03 59.6	
	comp=E,2μm,0.3s						
HUH	**Hualalai**	**0.76**	**296**	Pg	Pg	11 03 54.3	-0.6
CPH	**Captain Cook**	**0.78**	**280**		Pg	11 03 53.9	-1.2
HPAH	**Hawaii Prepara**	**0.87**	**320**		Pg	11 03 54.4	-2.6
MHA	**Mahukona**	**1.12**	**318**		Pg	11 03 59.3	-2.3
HLK	**Haleakala**	**1.76**	**323**	Pn	Pn	11 04 09.6	-1.9
KHLH	**Kahului Airpor**	**1.97**	**321**	Pn	Pn	11 04 12.8	-1.4

IDC ***05*** *11:15:43.9±3.1, 50.12N×179.67W, h0km, mb3.3/4,*
mbtmp3.4/5, ML2.8/1, Error ellipse: s-maj=68.0km
s-min=34.6km az=16.0
ISC 05 11:15:45.7±2.1, **50.1N**±0.4×**179.7W**±0.1, **h12km**, **n6,**
σ0**66**/6, **mb3.6**/5, **Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**14.38**	**291**	Pn	**Pn**	**11 19 08.9**	**+0.1**
	0.2nm,0.3s,baz=103,slow=16,SNR=6.9						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**22.57**	**37**	P	**P**	**11 20 45.0**	**-0.5**
	0.4nm,0.9s,baz=234,slow=7.3,SNR=4.3						
	0.4nm,0.9s						
YKA	**Yellowknife Ar**	**36.50**	**45**	P	**P**	**11 22 51.2**	**+0.9**
	0.7nm,0.7s,baz=283,slow=8.4,SNR=12						
	0.7nm,0.7s						
PDAR	**Pinedale Array**	**47.22**	**71**	P	**P**	**11 24 18.3**	**-0.2**
	0.3nm,0.6s,baz=308,slow=3.7,SNR=3.8						
	0.3nm,0.6s						
SPITS	**Spitsbergen Ar**	**51.59**	**356**	P	**P**	**11 24 50.8**	**-0.4**
	8.9nm,1.0s,baz=24,slow=11,SNR=6.8						
TXAR	**Lajitas Array**	**59.39**	**80**	P	**P**	**11 25 47.8**	**-0.2**
	0.3nm,0.6s,baz=321,slow=7.0,SNR=2.6						
	0.3nm,0.6s						

SOME ***05*** *11:19:58.1, 44.82N×81.83E, h5km*
NNC ***05*** *11:20:00.6±1.1, 44.75N×81.80E, h0km, mb3.8, mpv3.5,*
Error ellipse: s-maj=16.2km s-min=3.9km az=120.0,
Suspected Mining explosion.
ISC 05 11:19:56.4±1.7, **44.71N**±0.06×**82.1E**±0.1, **h0km**, **n17**,
σ0**65**/27, **2C-4D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.71**	**258**	*e*P	**Pn**	**11 20 27.4**	**-0.2**
	0.5nm,0.2s						
DJR				*e*S	**Sn**	**11 20 48.4**	**-1.8**
	4.7nm,0.2s						
KTMS	**Ketmen**	**1.80**	**226**	*e*P	**Pg**	**11 20 31.1**	**+0.3**
	3.6nm,0.2s						
KTMS				*e*S	**Sg**	**11 20 54.8**	**+0.7**
	20nm,0.2s						
MK31	**Makanchi Array**	**2.08**	**3**	⇓Pn	**Pg**	**11 20 36.5**	**+0.1**
	6.3nm,0.4s,baz=184,slow=15,SNR=235						
MK31				⇑Sn	**Sg**	**11 21 04.1**	**+0.7**
	5.8nm,0.5s,baz=187,slow=25,SNR=18						
MAKZ	**Makanchi**	**2.10**	**357**	⇓Pn	**Pg**	**11 20 36.4**	**-0.2**
	3.9nm,0.3s						
MAKZ				⇑Sn	**Sg**	**11 21 04.1**	**+0.3**
	5.4nm,0.3s						
PDGK	**Podgornoye**	**2.35**	**235**	Pg	**Pb**	**11 20 39.1**	**-0.5**
	6.9nm,0.3s						
PDGK				Lg	Lg	11 21 08.6	
	6.4nm,0.3s						
PDGK	**Podgornoye**	**2.35**	**235**	⇓Pn	**Pb**	**11 20 39.0**	**-0.7**
	3.6nm,0.2s						
PDGK				⇓Sn	**Sb**	**11 21 08.9**	**-0.3**
	10nm,0.5s						
SHLS	**Shalkode**	**2.47**	**232**	Pg	**Pn**	**11 20 38.5**	**+0.5**
	30nm,0.2s						
SHLS				Lg	Lg	11 21 07.6	
	41nm,0.3s						
SHLS	**Shalkode**	**2.47**	**232**	*e*P	**Pn**	**11 20 38.5**	**+0.5**
	30nm,0.2s						
SHLS				*e*S	**Sn**	**11 21 07.6**	**-1.4**
	41nm,0.3s						
BLB	**Baldybastay**	**2.68**	**258**	Pg	**Pb**	**11 20 45.4**	**0.0**
	31nm,0.2s						
BLB				Lg	Lg	11 21 19.8	
	46nm,0.2s						
UZB	**Uzynbulak**	**2.73**	**236**	Pg	**Pb**	**11 20 46.1**	**-0.2**
	12nm,0.3s						
UZB				Lg	Lg	11 21 20.6	
	11nm,0.2s						
UZB	**Uzynbulak**	**2.73**	**236**	*e*P	**Pb**	**11 20 46.1**	**-0.2**
	12nm,0.3s						
UZB				*e*S	**Sb**	**11 21 20.6**	**+0.3**
	11nm,0.2s						
ARXS	**Arharly**	**3.12**	**262**	Pg	**Pb**	**11 20 52.6**	**-0.1**
	5.4nm,0.3s						
ARXS				Lg	Lg	11 21 31.9	
	13nm,0.6s						
ARXS	**Arharly**	**3.12**	**262**	*e*P	**Pb**	**11 20 52.6**	**-0.1**
	5.4nm,0.3s						
ARXS				*e*S	**Sb**	**11 21 31.9**	**+0.6**
	13nm,0.6s						
SATY	**Saty**	**3.15**	**240**	Pg	**Pb**	**11 20 53.4**	**0.0**
	5.0nm,0.2s						
SATY				Lg	Lg	11 21 33.4	
	17nm,0.3s						
SATY	**Saty**	**3.15**	**240**	*e*P	**Pb**	**11 20 53.4**	**0.0**
	5.0nm,0.2s						
SATY				*e*S	**Sb**	**11 21 33.4**	**+1.0**
	17nm,0.3s						
KTBS	**Karatobe**	**4.04**	**258**	Pg	**Pb**	**11 21 08.3**	**-0.2**
	1.0nm,0.2s						
KTBS				Lg	Lg	11 21 58.7	
	6.8nm,0.5s						
KTBS	**Karatobe**	**4.04**	**258**	*e*P	**Pb**	**11 21 08.2**	**-0.2**
	1.0nm,0.2s						
KTBS				*e*S	**Sb**	**11 21 58.8**	**+1.0**
	6.8nm,0.5s						

NEIC ***05*** *11:21:15.6±0.6, 19.30N±0.02×155.19W±0.02, h7km±1km,*
Error ellipse: s-maj=3.6km s-min=1.7km az=145.0
HVO 05 11:21:15.4±0.6, **19.32N**±0.02×**155.18W**±0.02, **h6km**±2km,
ML2.5/10, **ML2.4**/44(NEIC), **Error ellipse: s-maj=3.8km**
s-min=1.5km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNHH	**Kane Nui o Ham**	**0.06**	**9**		Pg

comp=E,1μm,0.4s
OBL Observatory Le 0.14 314 Pg Pg 11 21 18.5 +0.2
OBL IAML 11 21 23.4
comp=E,2μm,0.4s
OBL IAML 11 21 23.5
comp=N,2μm,0.7s
UWB Uwekahuna B 0.14 318 Pg 11 21 18.6 +0.3
UWB Uwekahuna B 0.14 318 IAML 11 21 21.4
comp=E,335nm,0.7s
UWB IAML 11 21 21.5
comp=N,518nm,0.7s
WRMHI West Rim 0.14 307 Pg 11 21 18.7 +0.3
WRMHI West Rim 0.14 307 IAML 11 21 21.6
comp=N,1μm,0.5s
WRMHI IAML 11 21 21.7
comp=E,1μm,0.6s
UWE Uwekahuna 0.15 313 Pg 11 21 18.8 +0.4
UWE Uwekahuna 0.15 313 IAML 11 21 20.5
comp=E,991nm,0.5s
UWE IAML 11 21 22.7
comp=N,1μm,0.5s
RSD Rainshed 0.17 327 Pg 11 21 19.0 +0.1
HTC Hot Caves 0.22 248 Pg 11 21 20.9 +1.2
MLH Mauna Loa 0.26 311 Pg 11 21 20.8 +0.2
MLH IAML 11 21 27.4
comp=E,500nm,0.3s
HMH Humu'ula Sheep 0.40 314 Pg 11 21 23.1 -0.2
KHU Kahuku 0.42 260 Pg 11 21 23.4 -0.2
KHU Kahuku 0.42 260 Sg 11 21 30.1 +1.0
KHU Kahuku 0.42 260 IAML 11 21 30.8
comp=N,495nm,0.2s
KHU IAML 11 21 35.0
comp=E,580nm,0.5s
MWH Moku'aweowe 0.43 293 Pg 11 21 23.6 -0.2
ALEP Alea Permanent 0.49 297 Pg 11 21 24.9 0.0
ALEP Sg 11 21 32.1 +0.7
POHA Pohakuloa 0.55 323 Pg 11 21 25.5 -0.5
POHA Pohakuloa 0.55 323 Pg 11 21 25.4 -0.6
CPH Captain Cook 0.72 284 Pg 11 21 28.9 -0.3
HUH Hualalai 0.72 300 Pg 11 21 28.4 -0.8
HPAH Hawaii Prepara 0.86 325 Pg 11 21 29.9 -2.0
MHA Mahukona 1.10 322 Pg Pg 11 21 32.2 -4.3
HLK Haleakala 1.75 325 Pn Pn 11 21 46.4 -0.1

*UPP **05** 11:21:20.4±3.0, 67.62N×31.87E, h0km, ML1.8*
*HEL **05** 11:21:27.1±0.2, 67.59N×30.49E, h0km, ML1.8, Suspected explosion*
*KOLA **05** 11:21:28.6, 67.53N×30.43E, h0km, ML2.1, Error ellipse: s-maj=9.2km s-min=3.6km az=20.0, Kovdor City, Mines*
*IDC **05** 11:21:29.5±1.8, 67.62N×30.03E, h0km, mbtmp3.2/5, ML2.1/5, Error ellipse: s-maj=24.3km s-min=8.0km az=81.0*
ISC 05 11:21:27.6±0.8, 67.58N±0.02×30.39E±0.02, h0km, n46, σ1§04/70, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VRF	**Varrio**	**0.34**	**300**	PG	**Pg**	**11 21 33.3**	**-0.9**
VRF				SG	**Sg**	**11 21 39.2**	**+0.6**
APA0	**Apatity Array**	**1.00**	**87**	P	**Pg**	**11 21 45.7**	**-1.0**
APA0				S	**Sg**	**11 21 58.9**	**-0.7**
APA	**Apatity**	**1.16**	**89**	P	**Pg**	**11 21 49.8**	**0.0**
RAJF	**Raja-Jooseppi**	**1.19**	**320**	PG	**Pg**	**11 21 48.9**	**-1.6**
RAJF				SN	**Sg**	**11 22 06.2**	**+0.3**
OLKF	**Oulanka, Finla** baz=20	**1.32**	**198**	PG	**Pg**	**11 21 51.6**	**-1.3**
OLKF				MSG		11 22 07.8	
	comp=Z,8.6nm,0.2s						
OLKF				SB	**Sg**	**11 22 09.7**	**-0.3**
SGF	**Sodankyl**	**1.49**	**267**	PG	**Pn**	**11 21 54.4**	**-1.2**
SGF				SG	**Sg**	**11 22 15.0**	**-0.4**
KU6	**Riekki**	**1.57**	**187**	PG	**Pn**	**11 21 55.3**	**-1.4**
KU6				MSG		11 22 14.8	
	comp=Z,5.1nm,0.2s						
KU6				SN	**Sn**	**11 22 17.4**	**-0.3**
LVZ	**Lovozero**	**1.66**	**77**	P	**Pn**	**11 21 57.9**	**0.0**
LVZ				S	**Sn**	**11 22 19.2**	**-0.6**
LVZ	**Lovozero**	**1.66**	**77**	SN	**Sn**	**11 22 19.0**	**-0.8**
MSF	**Maaselka**	**1.76**	**198**	PG	**Pn**	**11 21 59.0**	**-0.2**
MSF				SN	**Sn**	**11 22 22.3**	**0.0**
RNF	**Rovaniemi**	**1.97**	**242**	PG	**Pn**	**11 22 02.6**	**+0.4**
RNF				SG	**Sb**	**11 22 30.1**	**+0.8**
KMNF	**Kaamanen**	**2.02**	**323**	PG	**Pn**	**11 22 03.7**	**+0.8**
KMNF				SG	**Sb**	**11 22 31.7**	**+1.0**
RANF	**Ranua**	**2.12**	**224**	PB	**Pn**	**11 22 04.7**	**+0.4**
RANF				SG	**Sb**	**11 22 33.7**	**0.0**
TERR	**Teriberka**	**2.39**	**45**	P	**Pn**	**11 22 08.2**	**+0.2**
TERR				S	**Sn**	**11 22 38.5**	**+0.6**
KLF	**Kolari** baz=82	**2.50**	**265**	PB	**Pn**	**11 22 09.9**	**+0.4**
KLF				MSG		11 22 42.2	
	comp=Z,4.6nm,0.2s						
KLF				SG	**Sb**	**11 22 45.3**	**+0.6**
KEV	**Kevo**	**2.51**	**332**	*eP*	**Pn**	**11 22 11.1**	**+1.5**
KEV	**Kevo**	**2.51**	**332**	PB	**Pn**	**11 22 10.4**	**+0.8**
KEV				MSG		11 22 41.5	
	comp=Z,7.1nm,0.2s						
KEV				SG	**Sb**	**11 22 44.2**	**-0.7**
VADS	**Vadso**	**2.58**	**352**	P	**Pn**	**11 22 11.5**	**+1.0**
VADS				S	**Sn**	**11 22 43.0**	**+0.4**
ARA0	**ARCESS Array S**	**2.66**	**320**	*eP*	**Pn**	**11 22 12.5**	**+0.8**
ARA0	**ARCESS Array S**	**2.66**	**320**	PB	**Pn**	**11 22 12.2**	**+0.5**
ARA0				SN	**Sn**	**11 22 41.4**	**-3.2**
ARCES	**ARCESS Array B**	**2.66**	**320**	P	**Pn**	**11 22 12.3**	**+0.6**
ARCES				S	**Sb**	**11 22 47.4**	**-1.9**
ARCES	**ARCESS Array B**	**2.66**	**320**	Pn	**Pn**	**11 22 12.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=136,slow=16,SNR=49						
ARCES				Lg	Lg	11 22 48.4	
	comp=Z,0.6nm,0.3s,baz=138,slow=26,SNR=10						
	comp=Z,0.9nm,0.2s						
HEF	**Hetta**	**2.67**	**291**	PB	**Pn**	**11 22 12.7**	**+0.9**
HEF				MSG		11 22 46.6	
	comp=Z,5.2nm,0.2s						
HEF				SG	**Sb**	**11 22 49.8**	**+0.4**
TOF	**Tornio**	**2.83**	**241**	PN	**Pn**	**11 22 13.6**	**-0.4**
TOF				MSG		11 22 51.6	
	comp=Z,2.2nm,0.2s						
TOF				SG	**Sb**	**11 22 54.9**	**+0.8**
PAJU	**Pajala** baz=73	**2.88**	**262**	PN	**Pn**	**11 22 14.8**	**+0.1**
PAJU				SG	**Sb**	**11 22 56.5**	**+1.0**
PAJU	**Pajala**	**2.88**	**262**	P	**Pn**	**11 22 14.9**	**+0.3**
PAJU				S	**Sb**	**11 22 56.6**	**+1.2**
KTK1	**Kautokeino**	**3.02**	**302**	PB	**Pn**	**11 22 17.6**	**+0.9**
KTK1				SG	**Sb**	**11 23 00.1**	**+0.5**
OUL	**Oulu**	**3.09**	**218**	SG	**Sb**	**11 23 01.6**	**0.0**
LANU	**Lannavaara**	**3.22**	**282**	PN	**Pn**	**11 22 19.4**	**+0.1**
LANU	**Lannavaara**	**3.22**	**282**	P	**Pn**	**11 22 19.5**	**+0.1**
KALU	**Kalix**	**3.28**	**242**	PN	**Pn**	**11 22 20.6**	**+0.4**
KALU				SG	**Sb**	**11 23 08.5**	**+1.4**
KALU	**Kalix**	**3.28**	**242**	P	**Pn**	**11 22 20.4**	**+0.3**
RMF	**Romuvaara**	**3.38**	**183**	PN	**Pn**	**11 22 21.6**	**0.0**
OBF4	**Vikkela, Lumij** baz=32	**3.51**	**220**	PN	**Pn**	**11 22 23.4**	**+0.1**
DUNU	**Dundret**	**3.83**	**268**	P	**Pn**	**11 22 28.0**	**+0.3**
KIF	**Kilpisjarvi**	**3.84**	**296**	PN	**Pn**	**11 22 28.6**	**+0.8**
OUF	**Merijarvi**	**3.97**	**218**	PG	**Pb**	**11 22 40.9**	**+2.6**
OUF				SN	**Sn**	**11 23 17.8**	**+1.0**
HARU	**Harads**	**3.98**	**253**	P	**Pn**	**11 22 29.2**	**-0.5**
OBF0	**Syolatti, Pyha**	**3.98**	**222**	PN	**Pn**	**11 22 30.1**	**+0.3**
SJUU	**Sjulsmark**	**4.08**	**243**	P	**Pn**	**11 22 30.7**	**-0.5**
I37NO	**I37NO** baz=105,slow=324,SNR=1.9	**4.62**	**294**	I	I	11 52 50.0	
LILU	**Lilltraesk**	**4.81**	**246**	P	**Pn**	**11 22 39.9**	**-1.3**
FINES	**FINESS Array B**	**6.43**	**199**	Pn	**Pn**	**11 23 04.2**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=19,slow=13,SNR=1.0						
FINES				Sn	**Sn**	**11 24 15.7**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=19,slow=22,SNR=2.2						
FINES				Lg	Lg	11 24 50.9	
	comp=Z,0.2nm,0.3s,baz=18,slow=28,SNR=2.6						
	comp=Z,0.6nm,0.8s						
HFS	**Hagfors**	**10.45**	**232**	Pn	**Pn**	**11 23 55.6**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=178,slow=37,SNR=2.0						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B** baz=49,slow=15,SNR=2.7	**10.55**	**241**	Pn	**Pn**	**11 23 58.1**	**-1.9**
	comp=Z,0.2nm,0.6s						
SPITS	**Spitsbergen Ar** baz=156,slow=16	**11.37**	**345**	Pn	**Pn**	**11 24 09.1**	**-1.8**
	comp=Z,6.5nm,0.8s						

KRSC 05 11:28:30.6±1.8, 48.27N×154.71E, h144km±60km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDTR	**Khodutka, Kamc**	**4.15**	**30**	*eP*	Pn	11 29 35.2	+2.6
KDTR				*eS*	Sn	11 30 22.2	+1.4
ASAK	**Asacha**	**4.60**	**25**	*eP*	Pn	11 29 40.6	+2.0
MTVR	**Mutnovka**	**4.77**	**26**	*eS*	Sn	11 30 36.4	+0.9
RUS	**Russkaya**	**4.83**	**29**	*eP*	Pn	11 29 43.0	+1.5
UGLR	**Uglovaya**	**5.59**	**26**	*eP*	Pn	11 29 53.1	+1.3
KOK	**Koryaka**	**5.61**	**25**	*eP*	Pn	11 29 54.3	+2.3
AVH	**Avacha**	**5.62**	**26**	*eP*	Pn	11 29 55.1	+3.0
SMAR	**Somma**	**5.63**	**26**	*eP*	Pn	11 29 55.4	+3.0
KRX	**Arik**	**5.67**	**25**	*eP*	Pn	11 29 54.3	+1.4
SPN	**Mys Shipunski**	**5.89**	**33**	*eP*	Pn	11 29 58.0	+2.3

*NEIC **05** 11:44:06.7±1.4, 19.16N±0.03×155.38W±0.03, h49km±4km, Error ellipse: s-maj=6.0km s-min=3.2km az=140.0*
HVO 05 11:44:09.5±1.8, 19.19N±0.06×155.41W±0.07, h32km±8km, ML2.6/15, ML2.6/34(NEIC), Error ellipse: s-maj=11.2km s-min=5.4km az=130.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.05**	**16**		Pb	11 44 14.7	-0.3
HLP	**Hilina Pali**	**0.14**	**43**		Pn	11 44 14.9	-0.6
HLP				IAML		11 44 22.8	
	comp=N,666nm,0.3s						
HLP				IAML		11 44 25.6	
	comp=E,647nm,0.6s						
KHU	**Kahuku**	**0.20**	**286**		Pb	11 44 15.4	-0.9
KHU					Sn	11 44 19.8	-1.0
KHU	**Kahuku**	**0.20**	**286**	IAML		11 44 20.0	
	comp=N,964nm,0.5s						
KHU				IAML		11 44 20.1	
	comp=E,727nm,0.3s						
SDHHI	**Sand Hill**	**0.23**	**29**		Sb	11 44 20.0	-1.2
SDHHI	**Sand Hill**	**0.23**	**29**		Pn	11 44 17.3	+0.6
SDHHI	**Sand Hill**	**0.23**	**29**	IAML		11 44 20.4	
	comp=E,2μm,0.3s						
SDHHI				IAML		11 44 24.6	
	comp=N,1μm,0.5s						
WRMHI	**West Rim**	**0.24**	**26**		Pb	11 44 14.2	-2.4
KKO	**Keanakako`i**	**0.25**	**34**		Pb	11 44 16.5	-0.2
KKO				IAML		11 44 25.6	
	comp=E,571nm,0.6s						
KKO				IAML		11 44 27.9	
	comp=N,844nm,0.5s						
PUH	**Pauahi**	**0.26**	**45**		Pb	11 44 16.2	-0.6
PUH				IAML		11 44 20.5	
	comp=E,378nm,0.5s						
PUH				IAML		11 44 25.7	
	comp=N,388nm,0.6s						
SBLHI	**Steaming Bluff**	**0.27**	**30**		Pn	11 44 20.4	+3.0
SBLHI	**Steaming Bluff**	**0.27**	**30**	IAML		11 44 29.2	
	comp=E,441nm,0.4s						
SBLHI				IAML		11 44 31.1	
	comp=N,471nm,0.6s						
KNHH	**Kane Nui o Ham**	**0.30**	**51**		Pn	11 44 18.4	+0.7
RSD	**Rainshed**	**0.30**	**25**		Pb	11 44 14.7	-2.6
MLH	**Mauna Loa**	**0.30**	**5**		Pb	11 44 16.4	-1.1
MLH					Sb	11 44 21.4	-1.4
MLH	**Mauna Loa**	**0.30**	**5**	IAML		11 44 21.7	
	comp=E,877nm,0.3s						
MLH				IAML		11 44 21.9	
	comp=N,744nm,0.3s						
STCH	**Steam Cracks**	**0.33**	**54**		Pb	11 44 15.4	-2.3
STCH					Sb	11 44 18.6	-4.7
MWH	**Moku'aweowe**	**0.34**	**329**		Pb	11 44 16.8	-1.4
MWH	**Moku'aweowe**	**0.34**	**329**	IAML		11 44 22.8	
	comp=E,930nm,0.5s						
MWH				IAML		11 44 22.8	
	comp=N,1μm,0.2s						
NPOC	**North of Pu'u**	**0.35**	**55**		Pb	11 44 17.1	-0.8
JCUZ	**Jacuzzi**	**0.35**	**57**		Pb	11 44 16.3	-1.7
ALEP	**Alea Permanent**	**0.41**	**328**		Pb	11 44 17.4	-1.6
HMH	**Humu'ula Sheep**	**0.42**	**351**		Pb	11 44 17.9	-1.1
HMH					Sb	11 44 23.9	-1.6
HMH	**Humu'ula Sheep**	**0.42**	**351**	IAML		11 44 24.1	
	comp=E,350nm,0.3s						
HMH				IAML		11 44 24.3	
	comp=N,980nm,0.2s						
CPH	**Captain Cook**	**0.56**	**302**		Pb	11 44 19.0	-2.0
POHA	**Pohakuloa**	**0.58**	**349**		Pb	11 44 19.3	-2.1
POHA				IAML		11 44 32.9	
	comp=N,423nm,0.2s						
POHA				IAML		11 44 33.0	
	comp=N,268nm,0.3s						
POHA	**Pohakuloa**	**0.58**	**349**		Pb	11 44 19.6	-1.9
HUH	**Hualalai**	**0.63**	**321**		Pb	11 44 20.2	-2.2
HUH				IAML		11 44 32.9	
	comp=E,374nm,0.3s						
HUH				IAML		11 44 35.3	
	comp=N,380nm,0.2s						
HPAH	**Hawaii Prepara**	**0.88**	**342**		Pn	11 44 23.1	-2.5
HPAH	**Hawaii Prepara**	**0.88**	**342**	IAML		11 44 33.9	
	comp=E,179nm,0.1s						
HPAH				IAML		11 44 34.2	
	comp=N,129nm,0.1s						
MHA	**Mahukona**	**1.09**	**335**	Pn	Pn	11 44 26.2	-2.3
HLK	**Haleakala**	**1.75**	**333**	Pn	Pn	11 44 36.5	-1.2

*ISK **05** 11:50:07.4, 38.94N×43.55E, h6km, ML2.7/8*
*AFAD **05** 11:50:07.9±0.0, 38.94N×43.65E, h11km±1km, ML2.7*
*TEH **05** 11:50:08.0, 38.91N×43.65E, h10km±110km, ML2.6*
ISC 05 11:50:08.0±0.9, 38.93N±0.02×43.61E±0.02, h10km±7km, n23, σ0§79/37, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VMUR	**Van-Muradiye**	**0.07**	**332**	P	**Pg**	**11 50 10.1**	**-0.3**
VMUR				S	**Sg**	**11 50 12.9**	**+0.7**
VMUR				*i* AML	AML	11 50 14.0	
	comp=N,7μm,0.3s						
VMUR				*i* AML	AML	11 50 14.0	
	comp=E,7μm,0.2s						
ERCV	**ERCIS-VAN**	**0.23**	**293**	Pg	**Pg**	**11 50 11.9**	**-1.0**
CLDR	**Caldiran**	**0.32**	**48**	Pg	**Pg**	**11 50 14.3**	**-0.2**
CLDR				Sg	**Sb**	**11 50 20.5**	**-0.8**
CLDR	**Caldiran**	**0.32**	**48**	P	**Pg**	**11 50 14.1**	**-0.4**
CLDR				*i* AML	AML	11 50 20.0	
	comp=N,2μm,0.3s						
CLDR				S	**Sb**	**11 50 20.7**	**-0.6**
CLDR				*i* AML	AML	11 50 21.0	
	comp=E,2μm,0.2s						
VANB	**Van**	**0.38**	**208**	Pg	**Pb**	**11 50 16.6**	**-0.3**
VANB				Sg	**Sb**	**11 50 23.5**	**+0.7**
OZAP	**Van, Ozalp-Mer**	**0.40**	**132**	P	**Pg**	**11 50 15.7**	**-0.4**
OZAP				S	**Sb**	**11 50 23.8**	**+0.1**
OZAP				*i* AML	AML	11 50 24.0	
	comp=N,718nm,0.8s						
OZAP				*i* AML	AML	11 50 24.0	
	comp=E,706nm,0.8s						
TVAN	**Van**	**0.43**	**202**	P	**Pg**	**11 50 16.3**	**-0.3**
TVAN				*i* AML	AML	11 50 24.0	
	comp=E,826nm,0.6s						
TVAN				S	**Sb**	**11 50 24.5**	**0.0**
TVAN				*i* AML	AML	11 50 25.0	
	comp=N,691nm,0.6s						
DYDN	**Diyadin**	**0.61**	**6**	P	**Pg**	**11 50 20.1**	**0.0**
DYDN				*i* AML	AML	11 50 30.0	
	comp=E,519nm,0.3s						
DYDN				S	**Sb**	**11 50 30.3**	**+0.4**
DYDN				*i* AML	AML	11 50 31.0	
	comp=N,478nm,0.3s						
ADCV	**BITLIS_Adilcev**	**0.70**	**260**	P	**Pg**	**11 50 21.5**	**-0.2**
ADCV				S	**Sb**	**11 50 32.9**	**+0.5**
ADCV				*i* AML	AML	11 50 33.0	
	comp=E,390nm,0.5s						
ADCV				*i* AML	AML	11 50 34.0	
	comp=N,195nm,0.3s						
GEVA	**Gevas**	**0.75**	**215**	P	**Pg**	**11 50 21.5**	**-1.1**
GEVA				S	**Sb**	**11 50 34.9**	**+1.2**
AKDM	**Akdamar-Van**	**0.78**	**220**	Pg	**Pg**	**11 50 22.0**	**-1.1**
AKDM				Sg	**Sg**	**11 50 33.5**	**+0.2**
DORK	**Agr/Tutak/Do**	**0.79**	**305**	P	**Pg**	**11 50 22.7**	**-0.7**
DORK				S	**Sb**	**11 50 35.5**	**+0.7**
KOTA	**Agri, Merkez-K**	**0.93**	**340**	P	**Pg**	**11 50 25.8**	**-0.1**
KOTA				S	**Sb**	**11 50 39.7**	**+0.9**
MAKU	**Maku**	**0.94**	**63**	Pg	**Pg**	**11 50 24.8**	**-1.3**
MAKU				Sg	**Sb**	**11 50 38.5**	**-0.5**

IGDI	**IGDIR**	**1.00**	**21**	P	**Pb**	**11 50 27.5**	**0.0**
IGDI				S	**Sb**	**11 50 40.5**	**-0.4**
IGDI				*i* AML	AML	11 50 47.0	
	comp=N,94nm,0.4s						
IGDI				*i* AML	AML	11 50 48.0	
	comp=E,117nm,0.4s						
TASB	**TASBURUN-IGDIR**	**1.16**	**25**	Pn	**Pn**	**11 50 30.1**	**-0.3**
GURO	**Guroymak-BITLI**	**1.29**	**253**	Pn	**Pn**	**11 50 31.6**	**-0.7**
IMRD	**Marand**	**1.65**	**97**	Pg	**Pb**	**11 50 37.8**	**-0.8**
ISHB	**Shabestar**	**1.70**	**112**	Pg	**Pn**	**11 50 38.0**	**0.0**
KOPR	**Koprukoy-ERZUR**	**1.73**	**308**	Pn	**Pn**	**11 50 38.3**	**0.0**
SVAN	**Silvan-Diyarba**	**2.05**	**248**	Pn	**Pn**	**11 50 42.8**	**+0.2**
IHRS	**Heris**	**2.76**	**102**	Pn	**Pn**	**11 50 54.4**	**+1.9**
GRMI	**Germi**	**3.34**	**91**	Pn	**Pn**	**11 51 02.4**	**+1.9**

*SOME **05** 11:50:05.1, 40.87N×70.22E, h5km*
*KRNET **05** 11:50:06.4±0.1, 41.08N×70.08E, h13km, mb2.6*
*NNC **05** 11:50:07.3±5.8, 40.85N×70.19E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=42.2km s-min=23.5km az=25.0*
*ISU **05** 11:50:08.3, 41.02N×70.03E, h25km*
ISC 05 11:50:08.4±1.2, 41.06N±0.03×70.18E±0.03, h14km±11km, n17, σ1§50/32, 15C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMG	**Chimgan**	**0.50**	**345**	P	**Pb**	**11 50 19.3**	**+0.2**
CHMG				S	**Sb**	**11 50 27.3**	**+0.9**
TGS	**TashGRES**	**0.61**	**306**	P	**Pb**	**11 50 21.0**	**+0.1**
TGS				S	**Sb**	**11 50 30.2**	**+0.8**
TRKS	**Terek-Say** baz=65	**0.86**	**57**	⇑*i* P	**Pg**	**11 50 23.7**	**-1.4**
TRKS				⇑*e* S	**Sb**	**11 50 36.2**	**-0.5**
	baz=65						
IUG	**Iuzhnay** 11nm,0.2s	**1.09**	**354**	*eP*	**Pg**	**11 50 29.8**	**+0.4**
IUG				*e* S	**Sn**	**11 50 47.8**	**+3.5**
	99nm,0.4s						
BTK	**Batken** baz=51	**1.12**	**154**	⇑*eP*	**Pn**	**11 50 28.4**	**-1.3**
BTK				⇑*e* S	**Sn**	**11 50 44.6**	**-0.3**
	baz=51						
CHMI	**Chimion**	**1.29**	**127**	P	**Pg**	**11 50 33.7**	**+0.4**
CHMI				S	**Sg**	**11 50 53.3**	**+3.2**
FRG	**Fergana**	**1.40**	**119**	P	**Pg**	**11 50 35.8**	**+0.5**
FRG				S	**Sg**	**11 50 56.6**	**+3.1**
ARK	**Arkit** baz=62	**1.53**	**61**	⇑*eP*	**Pb**	**11 50 36.3**	**-0.3**
ARK				⇑*e* S	**Sg**	**11 50 57.7**	**0.0**
	baz=62						
BRLS	**Borolday** 12nm,0.3s	**1.98**	**353**	*eP*	**Pn**	**11 50 41.4**	**-0.1**
BRLS				*e* S	**Sb**	**11 51 07.8**	**-1.0**
	12nm,0.5s						
KK31	**Karatay Array** 1.8nm,0.3s,baz=181,slow=14,SNR=18	**2.05**	**7**	Pn	**Pg**	**11 50 46.4**	**-1.4**
KK31				⇓Sn	**Sg**	**11 51 15.7**	**+1.3**
	8.6nm,0.6s,baz=190,slow=25,SNR=8.9						
KKAR	**Karatay Array** baz=9.0	**2.05**	**7**	⇑*eP*	**Pb**	**11 50 43.9**	**-1.6**
KKAR				⇑*e* S	**Sb**	**11 51 11.1**	**+0.2**
	baz=9.0						
KRSA	**Karasay**	**2.08**	**244**	P	**Pb**	**11 50 44.1**	**-1.8**
KRSA				S	**Sb**	**11 51 11.3**	**-0.4**
ARSB	**Arslanbob** baz=83	**2.13**	**82**	⇑*eP*	**Pb**	**11 50 45.9**	**-0.9**
ARSB				⇑*e* S	**Sg**	**11 51 14.9**	**-2.0**
	baz=83						
MNAS	**Manas** baz=51	**2.25**	**50**	⇑*eP*	**Pb**	**11 50 47.4**	**-1.4**
MNAS				⇑*e* S	**Sb**	**11 51 17.3**	**+0.8**
	baz=51						
MRKS	**Merke** 3.2nm,0.4s	**2.83**	**53**	*eP*	**Pb**	**11 50 59.8**	**+1.1**
MRKS				*e* S	**Sg**	**11 51 39.0**	**-0.2**
	9.8nm,0.7s						
AAK	**Ala-Archa** 1.6nm,0.6s	**3.59**	**63**	⇑Pg	**Pb**	**11 51 13.0**	**+1.4**
AAK				⇓Lg	Lg	11 52 01.5	
	4.1nm,0.7s						
TKM2	**Tokmak 2** 2.6nm,0.8s	**4.44**	**64**	⇑Pg	**Pg**	**11 51 31.6**	**-1.9**
TKM2				⇑Lg	Lg	11 52 30.3	
	4.5nm,0.8s						

*IDC **05** 12:03:04.7±0.7, 11.30N×85.63W, h0km, mb4.0/9, mbtmp4.0/10, ML2.8/2, Error ellipse: s-maj=33.4km s-min=10.1km az=54.0*
*UCR **05** 12:03:04.5±0.7, 10.29N×86.20W, h4km±23km, MW4.6*
*CATAC **05** 12:03:04.6±0.4, 10.42N×86.25W, h15km±3km, ML4.2*
*NEIC **05** 12:03:07.2±1.7, 10.46N±0.08×86.19W±0.07, h36km±13km, mb4.4/83, Error ellipse: s-maj=13.5km s-min=7.4km az=221.0*
ISC 05 12:03:06.2±0.7, 10.39N±0.05×86.22W±0.05, h39km±3km, n173, σ1§29/188, mb4.3/52, 12C-4D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.60**	**123**	⇓*iP*	**Pn**	**12 03 17.1**	**-1.2**
SAJU				*i* S	**Sn**	**12 03 26.4**	**-0.4**
SAJU				IAML		12 03 30.4	
	comp=Z,7μm,1.0s						
HZTE	**Horizontes, Gu**	**0.69**	**63**		**Pn**	**12 03 18.9**	**-0.7**
HZTE	**Horizontes, Gu**	**0.69**	**63**	⇓*iP*	**Pn**	**12 03 19.0**	**-0.6**
HZTE				IAML		12 03 19.7	
	comp=Z,22μm,1.0s						
HZTE				*i* S	**Sn**	**12 03 30.0**	**+0.8**
ORTG	**Ortega, Santa**	**0.75**	**92**		**Pn**	**12 03 19.9**	**-0.5**
ORTG	**Ortega, Santa**	**0.75**	**92**	*i* P	**Pn**	**12 03 19.7**	**-0.7**
ORTG				*i* S	**Sn**	**12 03 31.0**	**+0.4**
ORTG				IAML		12 03 36.9	
	comp=Z,12μm,1.0s						
ORTG	**Ortega, Santa**	**0.75**	**92**	*eP*	**Pn**	**12 03 19.6**	**-0.7**
ORTG				*e* S	**Sn**	**12 03 30.3**	**-0.3**
DUNO	**Dulce Nombre,**	**0.78**	**113**		**Pn**	**12 03 19.9**	**-0.9**
DUNO	**Dulce Nombre,**	**0.78**	**113**	*i* P	**Pn**	**12 03 19.9**	**-0.9**
DUNO				*i* S	**Sn**	**12 03 31.6**	**+0.3**
DUNO				IAML		12 03 44.6	
	comp=Z,6μm,1.0s						
VMAR	**Armenia, Volca**	**1.17**	**69**	*eP*	**Pn**	**12 03 26.3**	**+0.2**
VMAR				*e* S	**Sn**	**12 03 44.0**	**+3.2**
JAPN	**Al SSO del Vol**	**1.25**	**25**	⇑*iP*	**Pn**	**12 03 27.8**	**+0.6**
JAPN				IAML		12 03 28.9	
	comp=Z,4μm,1.0s						
JTS	**Las Juntas de**	**1.25**	**95**	Pg	**Pn**	**12 03 27.1**	**-0.2**
	comp=Z,54nm,0.3s,baz=297,slow=18,SNR=314						
JTS				Lg	Lg	12 03 44.9	
	comp=Z,123nm,0.3s,baz=288,slow=20,SNR=8.8						
JTS	**Las Juntas de**	**1.25**	**95**	*eP*	**Pn**	**12

WILN IAML 12 04 24.6
comp=Z,2µm,1.0s
COPN Copaltepe 1.81 348⇑ *i*P **Pn** **12 03 34.9 0.0**
COPN IAML 12 04 03.7
comp=Z,2µm,1.0s
CPMI Catarata Coope 1.81 93⇑ *i*P **Pn** **12 03 36.0 +0.9**
CPMI *i*S **Sn** **12 04 00.0 +3.0**
CPMI IAML 12 04 10.7
comp=Z,4µm,1.0s
COVE Coope Vega, Sa 1.82 80 **Pn** **12 03 34.7 -0.3**
COVE Coope Vega, Sa 1.82 80 *e*P **Pn** **12 03 36.3 +1.3**
APYN Apoyeque 1.83 356 *i*P **Pn** **12 03 35.4 +0.1**
APYN IAML 12 04 07.3
comp=Z,2µm,1.0s
ACON Acoyapa 1.87 33 **Pn** **12 03 35.7 -0.1**
ACON Acoyapa 1.87 33⇑ *i*P **Pn** **12 03 35.8 0.0**
ACON *i*S **Sn** **12 03 59.5 +1.3**
ACON IAML 12 04 07.7
comp=Z,2µm,1.0s
APQ3 Volcan Apoyequ 1.87 356 *i*P **Pn** **12 03 37.5 +1.7**
APQ3 IAML 12 04 05.6
comp=Z,1µm,1.0s
ITAL Pital 1.92 88 *e*P **Pn** **12 03 37.0 +0.6**
MOMN Momotombo 2.03 351 *i*P **Pn** **12 03 37.7 -0.2**
MOMN IAML 12 03 50.8
comp=Z,58nm,1.0s
LEVN Ruinas Leon Vi 2.03 349 *i*P **Pn** **12 03 38.2 +0.2**
LEVN IAML 12 04 18.5
comp=Z,1µm,1.0s
MOM2 El Cardon 2.05 353⇑ *i*P **Pn** **12 03 38.2 0.0**
MOM2 IAML 12 03 48.0
comp=Z,1µm,1.0s
HDC Heredia 2.11 100 **Pn** **12 03 39.6 +0.4**
HDC Heredia 2.11 100 *e*P **Pn** **12 03 40.5 +1.4**
HDC3 Heredia 3 2.11 100 *i*P **Pn** **12 03 40.2 +1.0**
HDC3 IAML 12 04 19.7
comp=Z,3µm,1.0s
CNGA Al SSO del Vol 2.14 347 *i*P **Pn** **12 03 38.5 -1.0**
CNGA IAML 12 04 15.9
comp=Z,1µm,1.0s
CNGN Cerro Negro 2.15 347 **Pn** **12 03 39.7 +0.2**
CNGN Cerro Negro 2.15 347⇑ *i*P **Pn** **12 03 39.3 -0.3**
CNGN IAML 12 04 14.8
comp=Z,1µm,1.0s
PACN Al O del Volca 2.17 345 *i*P **Pn** **12 03 40.0 +0.2**
PACN IAML 12 04 16.5
comp=Z,830nm,1.0s
ROCN Rota Cerro Neg 2.17 346 *i*P **Pn** **12 03 38.8 -1.1**
ROCN IAML 12 04 32.8
comp=Z,600nm,1.0s
ABE2 San Pablo 2.24 108 *e*P **Pn** **12 03 41.7 +0.7**
LCR2 La Lucha 2 2.28 106 **Pn** **12 03 42.0 +0.5**
OCM Ochomogo 2.28 102 *i*P **Pn** **12 03 43.8 +2.3**
OCM IAML 12 04 33.5
comp=Z,810nm,1.0s
HERN Volcan Telica 2.28 345 *i*P **Pn** **12 03 40.3 -1.2**
HERN IAML 12 05 31.0
comp=Z,900nm,1.0s
POLN Al Sur del Vol 2.32 346 *i*P **Pn** **12 03 41.9 0.0**
POLN IAML 12 03 50.8
comp=Z,520nm,1.0s
RIMA Rio Macho 2.40 105 **Pn** **12 03 44.5 +1.2**
RIMA Rio Macho 2.40 105 *i*P **Pn** **12 03 44.6 +1.3**
RIMA IAML 12 04 32.5
comp=Z,710nm,1.0s
RIMA Rio Macho 2.40 105 *e*P **Pn** **12 03 44.1 +0.9**
CRIN San Cristobal 2.43 341 **Pn** **12 03 43.6 +0.1**
VTUN Crater Central 2.45 98 *i*P **Pn** **12 03 44.0 0.0**
VTUN IAML 12 04 32.0
comp=Z,1µm,1.0s
VTCV VTCV, Calle Va 2.49 99 *i*P **Pn** **12 03 47.2 +2.8**
CDM Cerro de Muert 2.56 109 *i*P **Pn** **12 03 47.0 +1.4**
CDM IAML 12 04 43.7
comp=Z,1µm,1.0s
ESPN Las Esperanzas 2.60 46 **Pn** **12 03 44.8 -1.0**
PEZE Perez Zeledon, 2.70 112 **Pn** **12 03 46.3 -0.9**
PEZE Perez Zeledon, 2.70 112 *i*P **Pn** **12 03 49.7 +2.5**
PEZE *i*S **Sn** **12 04 19.4 +0.7**
PEZE IAML 12 04 45.5
comp=Z,850nm,1.0s
BATAN Batan 2.82 96 **Pn** **12 03 48.9 +0.2**
OCHAL Ojochal 2.85 117 *i*P **Pn** **12 03 51.1 +1.9**
OCHAL *i*S **Sn** **12 04 21.9 -0.3**
OCHAL IAML 12 04 54.3
comp=Z,690nm,1.0s
PLAN Los Planes de 3.04 124⇓ *i*P **Pn** **12 03 53.4 +1.7**
PLAN *i*S **Sn** **12 04 25.2 -1.7**
PLAN IAML 12 04 28.7
comp=Z,810nm,1.0s
SRBA San Rafael, Bu 3.05 112 **Pn** **12 03 53.4 +1.4**
SRBA San Rafael, Bu 3.05 112 *i*P **Pn** **12 03 53.2 +1.2**
SRBA *i*S **Sn** **12 04 26.8 -0.5**
SRBA IAML 12 06 15.2
comp=Z,820nm,1.0s
CNCH Conchagua 3.27 331⇓ *i*P **Pn** **12 03 55.7 +0.6**
CNCH *i*S **Sn** **12 04 32.7 -0.2**
CNCH IAML 12 06 14.6
comp=Z,2µm,1.0s
PACA Pacayal 3.69 326 *i*P **Pn** **12 04 01.0 +0.2**
PACA *i*S **Sn** **12 04 41.9 -1.2**
PACA IAML 12 06 29.5
comp=Z,4µm,1.0s
CDITO Canoas 3.77 118 **Pn** **12 04 02.4 +0.6**
TGUH Tegucigalpa,Un 3.78 344 **Pn** **12 04 00.7 -1.5**
MTO3 Montecristo 5.03 323 Pn **Pn** **12 04 20.2 +0.8**
APG El Apazote 6.17 318 Pn **Pn** **12 04 34.9 -0.2**
baz=150,slow=10,SNR=4.0
BCIP Isla Barro Col 6.41 100 Pn **Pn** **12 04 39.7 +1.5**
CMIG Matias Romero 10.73 309 Pn **Pn** **12 05 39.4 +2.1**
comp=Z,0.4nm,0.3s,baz=122,slow=13,SNR=5.7
comp=Z,2.4nm,0.5s
ROSC El Rosal 13.02 114 Pn **Pn** **12 06 07.2 -1.9**
PCRV Puerto La Cruz 21.24 89 P **P** **12 07 48.5 -0.7**
comp=Z,3.8nm,0.8s,baz=233,slow=5.1,SNR=2.8
comp=Z,3.8nm,0.8s
HKT Hockley 21.43 337 P **P** **12 07 51.3 +0.4**
833A Chaparral WMA, 21.70 327 P **P** **12 07 56.8 +2.8**
833A IAmb IAmb 12 07 58.4
comp=Z,13nm,0.7s
152A Waverly Hall 22.21 3 P **P** **12 07 58.9 -0.5**
LRAL Lakeview Retre 22.55 358 P **P** **12 08 03.0 0.0**
LRAL IAmb IAmb 12 08 06.2
comp=Z,11nm,0.7s
NATX Nacogdoches 22.65 341 P **P** **12 08 05.0 +0.8**
DRIO Del Rio 23.23 327 P **P** **12 08 11.8 +1.8**
Y49A Blount Mountai 23.36 360 P **P** **12 08 11.8 +0.5**
Y52A Lilburn 23.45 5 P **P** **12 08 12.3 +0.2**
Y52A IAmb IAmb 12 08 14.4
comp=Z,10nm,0.7s
JCT Junction City 23.65 330 P **P** **12 08 15.0 +0.8**
BRDY Brady 23.93 332 P **P** **12 08 17.2 +0.4**
BRDY IAmb IAmb 12 08 18.7
comp=Z,9.0nm,0.6s
X48A Hartselle 23.96 358 P **P** **12 08 17.8 +0.9**
HODGE Hodges 24.00 8 P **P** **12 08 17.5 +0.2**
HODGE IAmb IAmb 12 08 18.7
comp=Z,9.7nm,0.9s
FPAL Fort Paine 24.04 1 P **P** **12 08 17.9 +0.2**
FPAL IAmb IAmb 12 08 21.5
comp=Z,6.2nm,0.7s
X51A Calhoun 24.09 3 P **P** **12 08 18.7 +0.5**
X51A IAmb IAmb 12 08 19.8
comp=Z,13nm,0.8s
OXF Oxford 24.18 354 P **P** **12 08 17.7 -1.3**
JSC Jenkinsville 24.21 10 P **P** **12 08 19.5 +0.2**
JSC IAmb IAmb 12 08 20.7
comp=Z,7.7nm,0.7s
PAULI Pauline 24.65 9 P **P** **12 08 24.5 +1.3**
PAULI IAmb IAmb 12 08 25.1
comp=Z,13nm,0.9s
BG3 Lake Jocassee 24.67 6 P **P** **12 08 24.5 +1.0**
BG3 IAmb IAmb 12 08 25.0
comp=Z,11nm,0.8s
W52A Murphy 24.68 5 P **P** **12 08 24.4 +0.9**
W52A IAmb IAmb 12 08 25.3
comp=Z,12nm,0.8s
OZNA Ozona 24.68 328 P **P** **12 08 25.3 +1.6**
SWET Sewanee 24.71 1 P **P** **12 08 23.5 -0.4**
SWET IAmb IAmb 12 08 25.0
comp=Z,10nm,0.7s
FW06 Azle 24.78 337 P **P** **12 08 26.2 +1.7**
FW06 IAmb IAmb 12 08 27.7
comp=Z,11nm,0.7s
UALR University of 24.91 348 P **P** **12 08 25.3 -0.3**
UALR IAmb IAmb 12 08 26.6
comp=Z,13nm,0.8s
TXAR Lajitas Array 24.92 322 P **P** **12 08 28.0 +2.1**
comp=Z,3.1nm,0.5s,baz=140,slow=9.4,SNR=25
comp=Z,3.1nm,0.5s
TX31 Lajitas Ar. Si 24.92 322 P **P** **12 08 27.5 +1.5**
PLPT Palo Pinto 24.94 335 P **P** **12 08 26.5 +0.6**
PLPT IAmb IAmb 12 08 36.2
comp=Z,7.4nm,0.9s
MIAR Mount Ida 24.96 346 P **P** **12 08 25.9 -0.2**
MIAR IAmb IAmb 12 08 27.7
comp=Z,10nm,0.7s
CPCT Cooper Cave 24.99 3 P **P** **12 08 26.6 +0.2**
CPCT IAmb IAmb 12 08 27.6
comp=Z,6.5nm,0.8s
KMSC Kings Mountain 25.04 9 P **P** **12 08 27.1 +0.3**
KMSC IAmb IAmb 12 08 35.8
comp=Z,8.4nm,0.8s
V48A Smith Brothers 25.24 359 P **P** **12 08 28.3 -0.3**
V48A IAmb IAmb 12 08 29.1
comp=Z,7.5nm,0.8s
ABTX Abilene, Hawle 25.35 333 P **P** **12 08 31.3 +1.6**
ABTX IAmb IAmb 12 08 32.9
comp=Z,12nm,0.8s
V53A Saluda 25.35 6 P **P** **12 08 30.2 +0.5**
V53A IAmb IAmb 12 08 33.9
comp=Z,6.4nm,0.7s
WHAR Wooly Hollow 25.39 348 P **P** **12 08 29.6 -0.4**
WHAR IAmb IAmb 12 08 30.6
comp=Z,9.7nm,0.9s
WVT Waverly 25.66 357 P **P** **12 08 32.1 -0.3**
WTFS Witchita Falls 25.83 336 P **P** **12 08 34.0 -0.1**
FCAR Ozark Folk Cen 25.94 349 P **P** **12 08 35.0 0.0**
FCAR IAmb IAmb 12 08 36.3
comp=Z,5.9nm,0.7s
U49A Red Boiling Sp 26.01 1 P **P** **12 08 35.2 -0.4**
U49A IAmb IAmb 12 08 36.1
comp=Z,8.9nm,0.8s
APMT Aspermont 26.16 333 P **P** **12 08 36.1 -0.9**
APMT IAmb IAmb 12 08 40.2
comp=Z,5.5nm,0.7s
T47A Sharon Grove 26.49 358 P **P** **12 08 39.1 -0.8**
T47A IAmb IAmb 12 08 40.1
comp=Z,9.7nm,0.7s
PBMO Poplar Bluff 26.54 352 P **P** **12 08 39.6 -0.8**
PBMO IAmb IAmb 12 08 41.4
comp=Z,8.9nm,1.2s
POST Post 26.59 330 P **P** **12 08 41.0 +0.1**
POST IAmb IAmb 12 08 43.9
comp=Z,5.7nm,0.8s
HHAR Hobbs 26.71 346 P **P** **12 08 41.0 -0.9**
WMOK Wichita Mounta 26.81 337 P **P** **12 08 43.6 +0.7**
WMOK IAmb IAmb 12 08 46.8
comp=Z,10nm,0.8s
T42A Van Buren 26.88 351 P **P** **12 08 42.9 -0.6**
T42A IAmb IAmb 12 08 43.5
comp=Z,5.9nm,0.8s
S51A Beattyville 27.23 5 P **P** **12 08 45.8 -0.8**
S51A IAmb IAmb 12 08 47.6
comp=Z,9.6nm,0.7s
WCI Wyandotte Cave 27.72 360 P **P** **12 08 49.3 -1.7**
SMWD Samnorwood 27.72 335 P **P** **12 08 51.1 +0.1**
SMWD IAmb IAmb 12 08 56.0
comp=Z,4.4nm,0.8s
R49A Shelbyville 27.80 2 P **P** **12 08 51.0 -0.6**
R49A IAmb IAmb 12 08 51.8
comp=Z,5.2nm,0.8s
CCM Cathedral Cave 27.91 352 P **P** **12 08 52.2 -0.5**
Q51A Peebles 28.63 5 P **P** **12 08 59.2 +0.2**
P46A Rosedale 29.12 358 P **P** **12 09 02.7 -0.7**
P52A Corning 29.35 6 P **P** **12 09 04.6 -0.9**
N49A Columbus Grove 30.46 3 P **P** **12 09 14.6 -0.7**
ANMO Albuquerque 30.63 326 P **P** **12 09 17.0 -0.1**
L42A Oliver, Polo 31.63 355 P **P** **12 09 24.1 -1.5**
SDCO Great Sand Dun 32.28 331 P **P** **12 09 33.5 +1.7**
SDCO IAmb IAmb 12 09 34.7
comp=Z,2.3nm,0.7s
X16A Lo Mia Camp, P 33.21 320 P **P** **12 09 40.4 +0.6**
I37A Lemond, Waseca 34.07 351 P **P** **12 09 45.5 -1.4**
F36A Milaca 35.89 351 P **P** **12 10 00.9 -1.7**
F33A 5 Mile Ranch, 36.36 348 P **P** **12 10 04.8 -1.7**
E38A The Farm, Brul 36.37 354 P **P** **12 10 05.0 -1.7**
PDAR Pinedale Array 38.14 332 P **P** **12 10 22.0 0.0**
comp=Z,0.7nm,0.5s,baz=122,slow=11,SNR=6.3
comp=Z,0.7nm,0.5s
HWUT Hardware Ranch 38.25 329 P **P** **12 10 23.2 +0.4**
HWUT IAmb IAmb 12 10 24.9
comp=Z,3.1nm,0.7s
E62A Clayton Lake 38.80 18 P **P** **12 10 26.8 -0.4**
MDND Maddock 39.00 346 P **P** **12 10 28.5 -0.4**
REDW Red Top Meadow 39.21 331 P **P** **12 10 30.7 -0.3**
MOOW Moose Ponds 39.45 332 P **P** **12 10 33.2 +0.2**
ELK Elko 39.63 325 P **P** **12 10 34.4 -0.1**
IMW Indian Meadow 39.66 332 P **P** **12 10 35.0 +0.2**
NVAR Mina Array Bea 40.04 320 P **P** **12 10 41.3 +3.4**
NVAR Mina Array Bea 40.04 320 P **P** **12 10 40.7 +2.7**
comp=Z,3.8nm,0.7s,baz=131,slow=7.4,SNR=33
NVAR PcP **PcP** **12 12 45.6 +3.2**
comp=Z,1.3nm,0.7s,baz=124,slow=4.5,SNR=9.3
comp=Z,3.8nm,0.7s
LHV Little Huntoon 40.06 319 P **P** **12 10 41.6 +3.8**
LHV IAmb IAmb 12 10 42.9
comp=Z,6.0nm,0.8s
KVN Kaiserville 40.27 320 P **P** **12 10 42.9 +3.0**
KVN IAmb IAmb 12 10 43.6
comp=Z,2.8nm,0.6s
ULM Lac du Bonnet 40.53 350 P **P** **12 10 39.2 -2.3**
ULM Lac du Bonnet 40.53 350 P **P** **12 10 38.9 -2.6**
comp=Z,3.1nm,0.7s,baz=173,slow=7.7,SNR=8.3
comp=Z,3.1nm,0.7s
WAKR Walker 40.81 319 P **P** **12 10 46.0 +1.7**
YERR Yerington 40.96 320 P **P** **12 10 47.7 +2.2**
YERR IAmb IAmb 12 10 49.6
comp=Z,3.5nm,0.7s
HLID Hailey 41.12 329 P **P** **12 10 48.5 +1.8**
PNTR Pine Nut 41.24 320 P **P** **12 10 51.0 +3.1**
PNTR IAmb IAmb 12 10 52.2
comp=Z,4.5nm,0.8s
BOZ Bozeman (W) 41.28 333 P **P** **12 10 48.8 +0.8**
MPK Martis Peak 41.64 319 P **P** **12 10 51.9 +0.7**
MPK IAmb IAmb 12 10 56.1
comp=Z,6.8nm,1.2s
WVOR Wild Horse Val 42.66 324 P **P** **12 11 00.8 +1.5**
WVOR IAmb IAmb 12 11 02.4
comp=Z,3.5nm,0.7s
ORV Oroville 42.73 319 P **P** **12 11 02.4 +2.7**
BPMT Black Pine Rid 42.74 332 P **P** **12 11 00.7 +0.7**
J08A Circle Bar Ran 43.16 325 P **P** **12 11 04.7 +1.4**
BMO Blue Mountains 43.51 328 P **P** **12 11 06.0 0.0**
I04A Tendick Farm, 45.69 323 P **P** **12 11 24.1 +0.7**
I04A IAmb IAmb 12 11 26.9
comp=Z,4.1nm,0.8s
H04A Detroit Lake 46.08 324 P **P** **12 11 27.9 +1.5**
H04A IAmb IAmb 12 11 29.5
comp=Z,3.8nm,0.6s
SCHQ Schefferville 46.91 15 P **P** **12 11 28.8 -4.0**
comp=Z,4.1nm,0.9s,baz=217,slow=11,SNR=3.3
comp=Z,4.1nm,0.9s
YKA Yellowknife Ar 55.90 345 P **P** **12 12 38.9 -1.0**
comp=Z,0.9nm,0.9s,baz=135,slow=6.8,SNR=16
YKA PcP **PcP** **12 13 38.7 +0.5**
comp=Z,0.2nm,0.7s,baz=143,slow=3.9,SNR=5.8
comp=Z,0.9nm,0.9s
ILAR Eielson Array 68.38 336 P **P** **12 14 03.2 -0.3**
comp=Z,1.1nm,0.9s,baz=134,slow=4.6,SNR=8.2
comp=Z,1.1nm,0.9s
ESDC Sonseca Array 77.51 52 P **P** **12 14 57.0 -1.2**
comp=Z,0.8nm,0.9s,baz=282,slow=7.6,SNR=5.4
comp=Z,0.8nm,0.9s
KSRS Korea Array 122.64 328 PKP **PKiKP** **12 22 00.9 +2.5**
comp=Z,1.0nm,0.6s,baz=45,slow=3.2,SNR=4.5
ASAR Alice Springs 139.58 246 PKhKP PKPpre 12 22 32.9
comp=Z,0.3nm,0.7s,baz=103,slow=2.2,SNR=1.8
WRA Warramunga Arr 139.81 251 PKhKP PKPpre 12 22 33.7
comp=Z,0.5nm,0.8s,baz=97,slow=2.5,SNR=2.8
CMAR Chiang Mai Arr 150.88 350 PKPbc **PKiKP** **12 22 57.1 +0.8**
comp=Z,0.4nm,0.3s,baz=334,slow=3.2,SNR=4.1

*HVO **05** 12:04:56.5±1.2, 19°.18N±0°.03×155°.33W±0°.02, h-0km±8km, ML2.7/17, ML2.6/40(NEIC), Error ellipse: s-maj=4.3km s-min=1.2km az=151.0*
NEIC 05 12:04:57.1±1.4, **19°.17N**±0°.03×**155°.31W**±0°.02, **h6**km±2km, **Error ellipse: s-maj=4.4km s-min=1.3km az=147.0,**

Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.11**	**312**			Pg	12 04 59.1	-0.3
HLP	**Hilina Pali**	**0.13**	**2**			Pg	12 04 59.7	-0.2
HLP				IAML			12 05 02.4	
	comp=E,2µm,0.5s							
HLP				IAML			12 05 02.5	
	comp=N,2µm,0.5s							
SDHHI	**Sand Hill**	**0.22**	**5**			Pg	12 05 00.9	-0.7
SDHHI				IAML			12 05 07.1	
	comp=E,2µm,0.4s							
PUH	**Pauahi**	**0.23**	**24**			Pg	12 05 01.5	-0.2
RIM	**Rim**	**0.23**	**9**			Pg	12 05 01.1	-0.7
RIM				IAML			12 05 06.1	
	comp=N,910nm,0.5s							
RIM				IAML			12 05 06.4	
	comp=E,954nm,0.4s							
KKO	**Keanakako'i**	**0.24**	**11**			Pg	12 05 00.7	-1.1
KKO				IAML			12 05 06.2	
	comp=E,1µm,0.4s							
KKO				IAML			12 05 07.8	
	comp=N,1µm,0.4s							
WRMHI	**West Rim**	**0.24**	**3**			Pg	12 05 01.0	-1.0
WRMHI				IAML			12 05 07.7	
	comp=N,2µm,0.4s							
NPH	**North Pit**	**0.25**	**7**	Pg	Pg		12 05 00.7	-1.4
BYL	**Byron's Ledge**	**0.25**	**12**			Pg	12 05 02.2	+0.1
BYL	**Byron's Ledge**	**0.25**	**12**	IAML			12 05 08.0	
	comp=E,774nm,0.5s							
BYL				IAML			12 05 08.4	
	comp=N,725nm,0.7s							
KNHH	**Kane Nui o Ham**	**0.25**	**32**			Pg	12 05 02.4	+0.3
UWE	**Uwekahuna**	**0.26**	**4**			Pg	12 05 00.6	-1.6
UWE				IAML			12 05 09.1	
	comp=E,1µm,0.7s							
UWE				IAML			12 05 09.2	
	comp=N,2µm,0.5s							
UWB	**Uwekahuna B**	**0.26**	**7**	Pg	Pg		12 05 01.6	-0.7
HATHI	**Halema'uma'u T**	**0.26**	**11**			Pg	12 05 02.4	+0.1
HATHI	**Halema'uma'u T**	**0.26**	**11**	IAML			12 05 07.5	
	comp=N,938nm,0.9s							
HATHI				IAML			12 05 09.2	
	comp=E,949nm,0.7s							
SBLHI	**Steaming Bluff**	**0.26**	**9**			Sg	12 05 06.8	+0.8
SBLHI	**Steaming Bluff**	**0.26**	**9**	Pg	Pg		12 05 01.0	-1.3
SBLHI	**Steaming Bluff**	**0.26**	**9**	IAML			12 05 07.0	
	comp=N,946nm,0.5s							
SBLHI				IAML			12 05 07.2	
	comp=E,915nm,0.5s							
STCH	**Steam Cracks**	**0.28**	**39**			Pg	12 05 03.0	+0.3
STCH	**Steam Cracks**	**0.28**	**39**	IAML			12 05 08.8	
	comp=E,395nm,0.9s							
STCH				IAML			12 05 11.7	
	comp=N,406nm,0.8s							
JCUZ	**Jacuzzi**	**0.30**	**42**			Pg	12 05 03.4	+0.5
JCUZ	**Jacuzzi**	**0.30**	**42**	IAML			12 05 09.5	
	comp=E,584nm,0.7s							
JCUZ				IAML			12 05 12.7	
	comp=N,1µm,0.3s							
KHU	**Kahuku**	**0.30**	**286**			Pg	12 05 02.8	-0.2
KHU				IAML			12 05 10.9	
	comp=N,651nm,0.4s							
KHU				IAML			12 05 11.4	
	comp=E,664nm,0.5s							
NPOC	**North of Pu'u**	**0.30**	**40**	Pg	Pg		12 05 02.7	-0.2
MLH	**Mauna Loa**	**0.34**	**348**			Pg	12 05 02.7	-1.1
MLH				IAML			12 05 10.1	
	comp=N,946nm,0.4s							
MLH				IAML			12 05 12.5	
	comp=E,800nm,0.3s							
JOKA	**Jonika Flow**	**0.40**	**47**			Sb	12 05 12.5	-0.4
MWH	**Moku'aweowe**	**0.42**	**320**			Pg	12 05 05.5	+0.1
MWH						Sg	12 05 12.0	+1.2
HMH	**Humu'ula Sheep**	**0.46**	**340**			Sb	12 05 13.9	-1.2
ALEP	**Alea Permanent**	**0.49**	**320**			Pg	12 05 06.1	-0.5
POHA	**Pohakuloa**	**0.62**	**341**	Pg	Pg		12 05 07.8	-1.4
CPH	**Captain Cook**	**0.66**	**300**			Pg	12 05 08.5	-1.2
HUH	**Hualalai**	**0.71**	**316**			Pg	12 05 10.6	-0.2
HPAH	**Hawaii Prepara**	**0.93**	**337**	Pg	Pg		12 05 15.2	+0.1
MHA	**Mahukona**	**1.16**	**331**	Pg	Pg		12 05 17.3	-2.1
HLK	**Haleakala**	**1.81**	**331**	Pn	Pn		12 05 28.1	-0.9

*IDC **05** 12:05:14.3±0.5, 11°.18N×85°.72W, h0km, mb4.6/15, mbtmp4.6/18, ML3.7/3, MS4.4/32, Error ellipse: s-maj=24.2km s-min=8.5km az=52.0*
*UCR **05** 12:05:14.4±1.0, 10°.38N×86°.33W, h15km±10km, MW5.3*
*CATAC **05** 12:05:15.9±0.3, 10°.45N×86°.25W, h14km±2km, ML4.9*
*NEIC **05** 12:05:18.7±2.8, 10°.66N±0°.05×86°.05W±0°.05, h32km±4km, mb5.1/259, Mww4.9/25, Error ellipse: s-maj=9.5km s-min=5.4km az=46.0*
*GCMT **05** 12:05:19.7±0.2, 10°.36N±0°.01×86°.42W±0°.02, h25km, MW5.1/113, Moment Tensor Solution. s78,c108; s113,c173; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr4.12±.14; Mθθ-2.46±.10; Mϕϕ-1.66±.10; Mrθ3.20±.21; Mθϕ2.19±.07; Mϕr-3.54±.24; Best double couple: M₀6.36000×10¹⁶ NP1:ϕs136.00000°, δ69.00000°, λ94.00000°. NP2:ϕs303.00000°, δ21.00000°, λ78.00000°. Principal axes: T 6.3010, Plg65.0000°, Azm54.0000°; N 0.1170, Plg4.0000°, Azm314.0000°; P -6.4180, Plg24.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **05** 12:05:20, 10°.70N×86°.02W, h18km*
*NEIC **05** 12:05:20, 10°.70N×85°.91W, h18km, Moment Tensor Solution. Duration: 18s Moment tensor: Scale 10¹⁶Nm; Mrr3.21; Mθθ-1.64; Mϕϕ-1.58; Mrθ-0.07; Mθϕ1.52; Mϕr-0.62; Fault plane solution: M₀3.23000×10¹⁶ NP1: ϕs142.71000°, δ49.09000°, λ100.92000°. NP2: ϕs306.29000°, δ42.10000°, λ77.67000°. Principal axes: T 3.3067, Plg81.0000°, Azm112.0000°; N -0.1615, Plg8.0000°, Azm316.0000°; P -3.1452, Plg4.0000°, Azm225.0000°;*
*BJI **05** 12:05:20.0±0.0, 10°.70N×86°.00W, h45km, Ms5.2/14, Ms7 4.9/15*
*RSNC **05** 12:05:26.7±4.0, 11°.N±21°×8°.6W±2°.8, h147km±14km, M4.6, mb4.6, mB5.2, ML4.5, Mw(mB)4.7, MwMwp5.2, Mwp5.4*
ISC 05 12:05:18.6±0.6, **10°.49N**±0°.03×**86°.21W**±0°.03, **h46**km±5km, **n876,** σ1$**34/888, mb5.0**/137, **MS4.4**/34, **8C-13D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SAJU	**San Juanillo,**	**0.64**	**130⇓**	*i*P		**Pn**	**12 05 27.8**	**-3.6**
SAJU				*i*S		**Sn**	**12 05 38.0**	**-2.6**
SAJU				IAML			12 05 41.0	
	comp=Z,40µm,1.0s							
HZTE	**Horizontes, Gu**	**0.64**	**69**	Pn		**Pn**	**12 05 29.9**	**-1.6**
HZTE						**Sn**	**12 05 41.5**	**+0.8**
HZTE	**Horizontes, Gu**	**0.64**	**69⇓**	*i*P		**Pn**	**12 05 29.8**	**-1.6**
HZTE				*i*S		**Sn**	**12 05 41.7**	**+1.0**
HZTE				IAML			12 05 46.0	
	comp=Z,100µm,1.0s							
HZTE	**Horizontes, Gu**	**0.64**	**69**	*e*P		**Pn**	**12 05 29.7**	**-1.7**
DELF	**Filadelfia**	**0.64**	**93**	*e*P		**Pn**	**12 05 29.0**	**-2.4**
DELF				*e*S		**Sn**	**12 05 40.2**	**-0.4**
SACU	**Santa Cruz**	**0.65**	**110**	*e*P		**Pn**	**12 05 28.7**	**-2.9**
SACU				*e*S		**Sn**	**12 05 38.9**	**-2.0**
ALIBA	**Liberia Airpor**	**0.66**	**81**	*e*P		**Pn**	**12 05 31.2**	**-0.5**
ALIBA				*e*S		**Sn**	**12 05 43.3**	**+2.3**
ELI1	**Hacienda Flor**	**0.66**	**76**	*e*P		**Pn**	**12 05 30.6**	**-1.1**
ELI1				*e*S		**Sn**	**12 05 42.7**	**+1.6**
JUD3	**Juan Diaz 3**	**0.73**	**116**	*e*P		**Pn**	**12 05 29.5**	**-3.2**
ORTG	**Ortega, Santa**	**0.74**	**99**	Pn		**Pn**	**12 05 30.4**	**-2.5**
ORTG				Sn		**Sn**	**12 05 41.4**	**-1.9**
ORTG	**Ortega, Santa**	**0.74**	**99**	*i*P		**Pn**	**12 05 30.4**	**-2.5**
ORTG				*i*S		**Sn**	**12 05 41.6**	**-1.6**
ORTG				IAML			12 05 53.8	
	comp=Z,56µm,1.0s							
ORTG	**Ortega, Santa**	**0.74**	**99**	*e*P		**Pn**	**12 05 30.3**	**-2.5**
ORTG				*e*S		**Sn**	**12 05 41.2**	**-2.0**
ERIA	**Liberia**	**0.77**	**79**	*e*P		**Pn**	**12 05 31.8**	**-1.4**
DUNO	**Dulce Nombre,**	**0.81**	**120**	Pn		**Pn**	**12 05 30.9**	**-2.8**
DUNO				Sn		**Sn**	**12 05 44.2**	**-0.4**
DUNO	**Dulce Nombre,**	**0.81**	**120⇓**	*i*P		**Pn**	**12 05 30.9**	**-2.8**
DUNO				*i*S		**Sn**	**12 05 42.7**	**-1.9**
DUNO				IAML			12 05 55.7	
	comp=Z,47µm,1.0s							

DUNO Dulce Nombre, 0.81 120 *eP* **Pn 12 05 30.9 -2.8**
NICO Nicoya 0.82 115 *eP* **Pn 12 05 31.1 -2.8**
VRLE La Escondida, 0.88 70 *eP* **Pn 12 05 33.1 -1.6**
GPS2 Hotel Rincn d 0.88 72 *eP* **Pn 12 05 33.1 -1.6**
CMARA Lajas Hojancha 0.90 121 *eP* **Pn 12 05 32.1 -2.8**
VORI VORI 0.91 69 *eP* **Pn 12 05 33.5 -1.6**
BAGA Bagaces 0.93 87 *eP* **Pn 12 05 33.7 -1.6**
COLC Colonia 1.00 80 *eP* **Pn 12 05 34.8 -1.5**
COLC *eS* **Sn 12 05 50.9 +1.6**
CAMAV Centro de Prod 1.02 78 *eP* **Pn 12 05 35.5 -1.0**
CUI Cuipilapa 1.04 80 *eP* **Pn 12 05 35.3 -1.5**
CUI *eS* **Sn 12 05 52.0 +1.7**
NYURE Nandayure 1.06 117 *eP* **Pn 12 05 34.2 -2.8**
CNAS Canas 1.10 93 *eP* **Pn 12 05 37.3 -0.3**
VMAR Armenia, Volca 1.12 73 *eP* **Pn 12 05 36.7 -1.2**
JAPN Al SSO del Vol 1.16 27⇑ *iP* **Pn 12 05 38.6 +0.2**
JAPN IAML 12 05 39.7
comp=Z,15µm,1.0s
JAPN *i* S **Sn 12 05 54.5 +1.4**
OMEN Al SSO del Vol 1.17 29⇓ *iP* **Pn 12 05 38.1 -0.4**
OMEN IAML 12 06 01.5
comp=Z,15µm,1.0s
MORN Al O del Volca 1.19 27⇑ *iP* **Pn 12 05 38.6 -0.3**
MORN IAML 12 05 45.7
comp=Z,39µm,1.0s
CONN Concepcion 1.21 28⇑ *iP* **Pn 12 05 38.8 -0.4**
CONN IAML 12 06 14.9
comp=Z,170µm,1.0s
JTS Las Juntas de 1.25 99 Pg **Pn 12 05 37.8 -1.9**
comp=Z,282nm,0.3s,baz=87,slow=5.5,SNR=44
JTS Lg Lg 12 05 52.9
comp=Z,556nm,0.3s,baz=102,slow=23,SNR=7.7
NADN Granada 1.27 8⇑ *iP* **Pn 12 05 39.7 -0.2**
NADN *i* S **Sn 12 06 01.4 +5.6**
NADN IAML 12 06 05.2
comp=Z,34µm,1.0s
LAFE Finca La Fe, P 1.44 118 *eP* **Pn 12 05 39.4 -2.9**
CEDE Laguna Cedeo 1.48 90 *eP* **Pn 12 05 42.4 -0.4**
RB213 Mirador 2 Volc 1.49 1 *iP* **Pn 12 05 45.2 +2.2**
RB213 IAML 12 06 29.6
comp=Z,11µm,1.0s
VACR Volcan Arenal 1.50 90 *eP* **Pn 12 05 42.4 -0.8**
TUNA La Fortuna 1.54 90 *eP* **Pn 12 05 43.5 -0.1**
SOCE Pocosol 1.57 94 Pn **Pn 12 05 43.7 -0.3**
SOCE Pocosol 1.57 94 *iP* **Pn 12 05 43.3 -0.7**
SOCE IAML 12 06 28.3
comp=Z,11µm,1.0s
ARZA Esparza 1.59 108 *eP* **Pn 12 05 44.6 +0.3**
ENAN Enatrel Managu 1.62 358 *iP* **Pn 12 05 44.7 0.0**
ENAN IAML 12 05 52.6
comp=Z,23µm,1.0s
ENAN *i* S **Sn 12 06 05.7 +1.3**
RE6B4 Centro civico 1.63 357 *iP* **Pn 12 05 45.1 +0.2**
RE6B4 IAML 12 06 29.4
comp=Z,12µm,1.0s
TISN Laguna Tiscapa 1.65 358 *iP* **Pn 12 05 45.1 0.0**
TISN IAML 12 06 18.9
comp=Z,580nm,1.0s
MGA1 Managua 1.65 359 *iS* **Sn 12 06 07.3 +2.1**
R4DEC Barrio San Lui 1.65 359 *iP* **Pn 12 05 46.5 +1.3**
R4DEC IAML 12 06 00.2
comp=Z,9µm,1.0s
WILN Americas 2 1.67 1 *iP* **Pn 12 05 44.9 -0.4**
WILN IAML 12 06 35.6
comp=Z,11µm,1.0s
COPN Copaltepe 1.73 347⇓ *iP* **Pn 12 05 45.7 -0.5**
COPN IAML 12 06 14.2
comp=Z,7µm,1.0s
JACO JACO, Garabito 1.73 118 Pn **Pn 12 05 47.9 +1.7**
JACO JACO, Garabito 1.73 118 *iP* **Pn 12 05 46.0 -0.2**
JACO IAML 12 06 28.0
comp=Z,10µm,1.0s
APYN Apoyeque 1.74 355⇓ *iP* **Pn 12 05 46.2 -0.2**
APYN IAML 12 06 17.4
comp=Z,8µm,1.0s
APQ3 Volcan Apoyequ 1.78 355 *iP* **Pn 12 05 47.0 0.0**
APQ3 IAML 12 06 17.5
comp=Z,8µm,1.0s
ACON Acoyapa 1.79 34 Pn **Pn 12 05 46.5 -0.5**
ACON Acoyapa 1.79 34⇑ *iP* **Pn 12 05 46.6 -0.5**
ACON *i* S **Sn 12 06 10.4 +1.8**
ACON IAML 12 06 27.6
comp=Z,9µm,1.0s
ACON Acoyapa 1.79 34 *eP* **Pn 12 05 46.5 -0.5**
COVE Coope Vega, Sa 1.79 82 Pn **Pn 12 05 47.5 +0.5**
COVE Coope Vega, Sa 1.79 82 *iP* **Pn 12 05 47.9 +0.9**
COVE IAML 12 06 40.2
comp=Z,12µm,1.0s
COVE Coope Vega, Sa 1.79 82 *eP* **Pn 12 05 47.2 +0.2**
CPMI Catarata Coope 1.81 96 *eP* **Pn 12 05 47.2 -0.3**
MOMN Momotombo 1.94 350⇓ *iP* **Pn 12 05 48.6 -0.6**
MOMN IAML 12 06 01.3
comp=Z,300nm,1.0s
LEVN Ruinas Leon Vi 1.95 348 *iP* **Pn 12 05 48.8 -0.4**
LEVN IAML 12 06 30.3
comp=Z,7µm,1.0s
MOM2 El Cardon 1.96 352⇑ *iP* **Pn 12 05 48.9 -0.5**
MOM2 IAML 12 06 09.9
comp=Z,7µm,1.0s
BELE Belen 2.05 104 *eP* **Pn 12 05 50.0 -0.7**
CNGA Al SSO del Vol 2.06 346⇓ *iP* **Pn 12 05 49.0 -1.7**
CNGA IAML 12 06 25.2
comp=Z,4µm,1.0s
CNGN Cerro Negro 2.06 347 Pn **Pn 12 05 50.7 -0.1**
CNGN Cerro Negro 2.06 347⇓ *iP* **Pn 12 05 50.5 -0.3**
CNGN IAML 12 06 39.9
comp=Z,6µm,1.0s
CNGN Cerro Negro 2.06 347 *eP* **Pn 12 05 49.6 -1.2**
PACN Al O del Volca 2.08 344 *iP* **Pn 12 05 51.1 0.0**
PACN IAML 12 06 31.7
comp=Z,3µm,1.0s
ROCN Rota Cerro Neg 2.09 345 *iP* **Pn 12 05 50.4 -0.8**
ROCN IAML 12 06 27.4
comp=Z,2µm,1.0s
HDC Heredia 2.12 103 **Pn 12 05 51.8 +0.2**
HDC Heredia 2.12 103 *eP* **Pn 12 05 51.8 +0.2**
HDC *eS* Sn 12 06 25.7 +8.9
HDC3 Heredia 3 2.12 103⇓ *iP* **Pn 12 05 51.6 -0.1**
HDC3 *i* S **Sn 12 06 22.0 +5.1**
HDC3 IAML 12 06 41.7
comp=Z,18µm,1.0s
PLRN Geotermica Pol 2.16 345 *iP* **Pn 12 05 51.5 -0.6**
PLRN IAML 12 06 37.3
comp=Z,2µm,1.0s
BRAN Las Pilas 2.23 356⇑ *iP* Pn 12 05 44.5 -8.5
BRAN IAML 12 06 15.5
comp=Z,4µm,1.0s
POLN Al Sur del Vol 2.23 345 *iP* **Pn 12 05 52.6 -0.5**
POLN IAML 12 06 00.5
comp=Z,2µm,1.0s
RIFO Rio Frio, Sara 2.25 94 *iP* **Pn 12 05 52.6 -0.8**
RIFO IAML 12 06 38.1
comp=Z,23µm,1.0s
OCM Ochomogo 2.29 105 *iP* **Pn 12 05 53.4 -0.7**
OCM IAML 12 06 49.8
comp=Z,7µm,1.0s
LCR2 La Lucha 2 2.29 109 Pn **Pn 12 05 55.4 +1.3**
CRIN San Cristobal 2.35 339 Pn **Pn 12 05 54.7 -0.2**
RIMA Rio Macho 2.42 107 Pn **Pn 12 05 56.5 +0.7**
RIMA Rio Macho 2.42 107 *iP* **Pn 12 05 55.4 -0.4**
RIMA *i* S **Sn 12 06 25.7 +1.4**
RIMA IAML 12 06 41.6
comp=Z,8µm,1.0s
VTUN Crater Central 2.45 101 *iP* **Pn 12 05 56.9 +0.4**
VTUN *i* S **Sn 12 06 27.1 +1.7**
VTUN IAML 12 07 02.6
comp=Z,7µm,1.0s
VTCV VTCV, Calle Va 2.49 101 *iP* **Pn 12 05 58.0 +1.1**
VTCV *i* S **Sn 12 06 27.8 +1.6**
VTCV IAML 12 06 45.2
comp=Z,9µm,1.0s
ESPN Las Esperanzas 2.53 48 Pn **Pn 12 05 56.6 -0.5**
ESPN Las Esperanzas 2.53 48 *iP* **Pn 12 05 57.1 -0.1**
ESPN IAML 12 06 57.9
comp=Z,6µm,1.0s
CDM Cerro de Muert 2.58 111 *iP* **Pn 12 05 57.7 -0.6**
CDM IAML 12 06 54.9
comp=Z,8µm,1.0s
PEZE Perez Zeledon, 2.72 114 Pn **Pn 12 06 02.7 +2.8**
PEZE Perez Zeledon, 2.72 114 *iP* **Pn 12 06 02.2 +2.3**
BATAN Batan 2.81 98 **Pn 12 06 01.9 +0.8**
BATAN Batan 2.81 98 *iP* **Pn 12 06 02.4 +1.3**
BATAN IAML 12 07 15.2
comp=Z,14µm,1.0s
OCHAL Ojochal 2.88 118 *iP* **Pn 12 06 02.5 +0.5**
OCHAL *i* S **Sn 12 06 37.3 +1.9**
OCHAL IAML 12 07 05.0
comp=Z,3µm,1.0s
SRBA San Rafael, Bu 3.07 114 Pn **Pn 12 06 04.5 -0.3**
SRBA San Rafael, Bu 3.07 114 *iP* **Pn 12 06 04.7 0.0**
SRBA *i* S **Sn 12 06 38.2 -2.1**
SRBA IAML 12 06 57.7
comp=Z,2µm,1.0s
PLAN Los Planes de 3.08 126 *iP* **Pn 12 06 04.3 -0.4**
PLAN *i* S **Sn 12 06 37.1 -3.2**
PLAN IAML 12 07 10.3
comp=Z,4µm,1.0s
CNCH Conchagua 3.20 330⇓ *iP* **Pn 12 06 06.2 -0.3**
CNCH *i* S **Sn 12 06 42.3 -1.2**
CNCH IAML 12 06 50.4
comp=Z,2µm,1.0s
LCND La Caada 3.25 330 *iP* **Pn 12 06 06.6 -0.6**
LCND *i* S **Sn 12 06 42.0 -2.7**
LCND IAML 12 06 50.9
comp=Z,990nm,1.0s
JUCU Jucuarįn 3.40 324 *iP* **Pn 12 06 09.6 +0.4**
JUCU *i* S **Sn 12 06 46.8 -1.6**
JUCU IAML 12 06 55.0
comp=Z,880nm,1.0s
PIRO Carate, Puerto 3.51 126 *iP* **Pn 12 06 10.5 -0.1**
PIRO *i* S **Sn 12 06 47.8 -3.1**
PIRO IAML 12 07 18.9
comp=Z,2µm,1.0s
PACA Pacayal 3.62 325 *iP* **Pn 12 06 12.0 -0.3**
PACA *i* S **Sn 12 06 53.9 +0.1**
PACA IAML 12 07 11.1
comp=Z,8µm,1.0s
TGUH Tegucigalpa,Un 3.70 344 **Pn 12 06 13.2 -0.2**
TGUH Tegucigalpa,Un 3.70 344 *iP* **Pn 12 06 13.6 +0.2**
TGUH *i* S **Sn 12 06 59.6 +3.7**
TGUH IAML 12 07 28.9
comp=Z,2µm,1.0s
BRU2 Volcan 3.85 116 Pn 12 06 19.5 +4.0
PQSS Presa 15 de Se 3.88 324 *iP* **Pn 12 06 15.4 -0.3**
PQSS IAML 12 06 40.0
comp=Z,280nm,1.0s
PQSS *i* S **Sn 12 06 59.5 -0.5**
UESV Universidad de 4.02 321 *iP* **Pn 12 06 18.1 +0.3**
UESV *i* S **Sn 12 07 01.8 -1.9**
UESV IAML 12 07 30.3
comp=Z,940nm,1.0s
SCLA Alcaldia de Sa 4.04 323 *iP* **Pn 12 06 18.6 +0.6**
SCLA IAML 12 07 32.1
comp=Z,450nm,1.0s
LOMA Loma Larga 4.27 318 *iP* **Pn 12 06 22.4 +1.1**
LOMA *i* S **Sn 12 07 08.7 -1.3**
LOMA IAML 12 07 25.3
comp=Z,530nm,1.0s
PMON Piamonte 4.42 317 *iP* **Pn 12 06 23.5 +0.2**
PMON *i* S **Sn 12 07 13.1 -0.4**
PMON IAML 12 07 38.3
comp=Z,720nm,1.0s
JAYA Jayaque - finc 4.47 315 *iP* **Pn 12 06 24.2 +0.2**
JAYA *i* S **Sn 12 07 11.5 -3.4**
JAYA IAML 12 07 21.2
comp=Z,1µm,1.0s
NUBE Las Nubes 4.87 315 *iP* **Pn 12 06 30.3 +0.8**
NUBE *i* S **Sn 12 07 21.3 -3.5**
NUBE IAML 12 07 23.3
comp=Z,610nm,1.0s
MTO3 Montecristo 4.96 322 Pn **Pn 12 06 32.3 +1.4**
MTO3 Montecristo 4.96 322 *iP* **Pn 12 06 32.1 +1.3**
ESQI Esquipulas 5.08 323 **Pn 12 06 32.9 +0.6**
GMAL Guarumal, Vera 5.61 118 P Pn 12 06 52.1 +13
comp=Z,105nm,1.2s,comp=Z,10µm
APG El Apazote 6.12 318 Pn **Pn 12 06 48.4 +1.6**
comp=Z,0.2nm,0.3s,baz=151,slow=9.8,SNR=9.7
APG Sn **Sn 12 07 55.1 -0.4**
baz=228,slow=20
CACAO El Cacao, Vera 6.13 120 P Pn 12 06 57.5 +11
comp=Z,177nm,1.3s,comp=Z,3µm
BCIP Isla Barro Col 6.41 101 Pn **Pn 12 06 52.8 +2.3**
AZU Azuero 6.44 114 P Pn 12 07 10.2 +19
RTAL Retalhuleu 6.70 307 **Pn 12 06 57.0 +2.5**
HUEH Huehuetenango 7.05 313 Pn **Pn 12 07 02.0 +2.4**
PETF Flores 7.32 331 **Pn 12 07 04.1 +1.2**
CCIG Comitan 8.15 316 **Pn 12 07 16.0 +1.4**
APAC Apartado, Choc 9.84 104 P Pn 12 07 45.7 +8.1
comp=Z,72nm,1.2s
TEIG Tepich 9.89 349 LR LR 12 11 47.3
comp=Z,44µm,19.1s,slow=42
CMIG Matias Romero 10.68 309 Pn **Pn 12 07 49.7 +0.6**
comp=Z,1.8nm,0.3s,baz=163,slow=10,SNR=19
CMIG Sn **Sn 12 09 50.5 +3.2**
comp=Z,0.2nm,0.3s,baz=57,slow=16,SNR=1.0
comp=Z,26nm,0.8s
SJCC San Jacinto, C 10.87 92 P **Pn 12 07 55.5 +3.8**
comp=Z,60nm,1.2s,comp=Z,913nmcomp=Z,3µm
POPC Popayan, Colom 12.32 129 P **P 12 08 22.8 -0.1**
comp=Z,15nm,1.2s,comp=Z,338nm
TULM Tulcn-Chalpat 12.82 139 Pn 12 08 23.1 +4.4
SLOR San Lorenzo - 13.53 145 **Pn 12 08 32.0 +3.6**
TLIG Tlapa 13.90 302 Pn **Pn 12 08 35.2 +2.1**
CHSH Refugio Sur-Vo 13.96 148 Pn **Pn 12 08 37.9 +3.5**
MACC Macarena, Meta 14.81 123 P **P 12 08 49.9 -0.4**
comp=Z,31nm,1.6s
PTGC Puerto Gaitan, 15.29 113 P **P 12 08 56.2 +0.6**
comp=Z,353nm,0.8s,comp=Z,4µm
SDV Santo Domingo 15.43 95 Pn **Pn 12 08 54.0 +0.4**
SDV Santo Domingo 15.43 95 Pn **Pn 12 08 49.5 -4.1**
comp=Z,1.0nm,0.3s,baz=209,slow=8.5,SNR=1.8
SDV LR LR 12 17 13.0
comp=Z,961nm,18.3s,baz=270,slow=48
comp=Z,3.4nm,0.4s
SDV Santo Domingo 15.43 95 P **P 12 08 55.5 -1.9**
comp=Z,13nm,1.2s
SDV Santo Domingo 15.43 95 *eP* Pn 12 08 46.3 -7.3
JRQG Juriquilla Cam 17.05 308 P **P 12 09 16.2 +0.8**
MOIG Morelia 17.10 304 P **P 12 09 18.5 +2.5**
BAUV El Baul 17.97 93 P **Pn 12 09 24.1 -1.1**
656A Willston 19.10 10 P **P 12 09 32.3 -5.3**
656A IAmb IAmb 12 09 46.6
comp=Z,189nm,1.2s
ATAH Atahualpa 19.16 156 P **Pn 12 09 43.1 +3.1**
comp=Z,0.2nm,0.3s,baz=340,slow=7.0,SNR=4.1
ATAH LR LR 12 16 03.8
comp=Z,2µm,19.8s,baz=332,slow=33
comp=Z,4.3nm,0.7s
ZAIG Zacatecas 19.85 310 P **Pn 12 09 49.1 +1.0**
HBVL Hebbronville 20.25 326 P **P 12 09 51.3 +1.1**
HBVL IAmb IAmb 12 09 53.4
comp=Z,82nm,1.2s
CELP Cerrillos 20.45 66 P **P 12 09 50.7 -1.7**
BRAL Brewton 20.60 358 P **P 12 09 54.6 +0.7**
BRAL Brewton 20.60 358 P **P 12 09 54.7 +0.9**
baz=177,SNR=6.1
352A Blakely 20.93 3 P **P 12 09 58.3 +0.9**
TIGA Tifton 20.99 6 P Pn 12 09 59.3 -1.9
TIGA IAmb IAmb 12 10 04.6
comp=Z,81nm,0.9s
TIGA Tifton 20.99 6 P **P 12 09 57.9 -0.2**
baz=187,SNR=14
346A Big Creek Wild 21.02 352 P **P 12 09 58.1 -0.3**
346A IAmb IAmb 12 10 00.8
comp=Z,120nm,1.2s
441A DeRidder 21.18 343 P **P 12 10 02.3 +2.1**
PCRV Puerto La Cruz 21.22 89 P **P 12 09 57.9 -2.9**
comp=Z,27nm,1.1s,baz=75,slow=4.1,SNR=5.6
comp=Z,27nm,1.1s
250A Grady 21.39 360 P **P 12 10 03.0 +0.6**
250A IAmb IAmb 12 10 06.8
comp=Z,118nm,1.1s
255A Hazlehurst 21.61 9 P **P 12 10 04.5 -0.3**
833A Chaparral WMA, 21.64 327 P **P 12 10 05.7 +0.6**
833A IAmb IAmb 12 10 09.5
comp=Z,48nm,0.9s
833A Chaparral WMA, 21.64 327 P **P 12 10 05.0 0.0**
baz=142,SNR=9.1
TBTG Tabatinga, AM 21.81 131 *eP* **P 12 10 11.2 +4.1**
HNVL Huntsville, TX 21.93 338 P **P 12 10 09.2 +1.0**
HNVL IAmb IAmb 12 10 10.8
comp=Z,84nm,1.1s
VBMS Vicksburg 21.99 350 P **P 12 10 08.8 0.0**
VBMS Vicksburg 21.99 350 P **P 12 10 08.7 -0.2**
baz=168
152A Waverly Hall 22.12 3 P **P 12 10 10.5 +0.3**
146A Union 22.20 354 P **P 12 10 11.4 +0.2**
154A Montrose 22.21 7 P **P 12 10 12.2 +1.0**
LRAL Lakeview Retre 22.45 358 P **P 12 10 13.7 -0.1**
LRAL IAmb IAmb 12 10 17.3
comp=Z,105nm,1.1s
LRAL Lakeview Retre 22.45 358 P **P 12 10 14.0 +0.1**
baz=178,SNR=46
CZSB Cruzeiro do Su 22.54 143 P **P 12 10 19.1 +4.2**
CZSB Cruzeiro do Su 22.54 143 *eP* **P 12 10 20.3 +5.4**
HNDO Hondo 22.54 329 P **P 12 10 14.6 -0.2**
NATX Nacogdoches 22.57 341 P **P 12 10 15.4 +0.3**
NATX Nacogdoches 22.57 341 P **P 12 10 15.1 -0.1**
baz=157,SNR=14
143A Socs Landing, 22.62 349 P **P 12 10 15.2 -0.4**
143A IAmb IAmb 12 10 18.2
comp=Z,61nm,1.0s
Z47A Carrollton 22.67 356 P **P 12 10 15.8 -0.3**
Z47A IAmb IAmb 12 10 19.0
comp=Z,79nm,1.0s
435B Jarrell 22.80 334 P **P 12 10 18.0 +0.5**
435B IAmb IAmb 12 10 21.3
comp=Z,86nm,0.9s
435B Jarrell 22.80 334 P **P 12 10 17.1 -0.4**
baz=149
GOGA Godfrey 22.96 6 P **P 12 10 19.1 0.0**
GOGA IAmb IAmb 12 10 21.1
comp=Z,60nm,1.1s
GOGA Godfrey 22.96 6 P **P 12 10 18.6 -0.5**
baz=186,SNR=17
DRIO Del Rio 23.16 326 P **P 12 10 21.2 -0.1**
Y49A Blount Mountai 23.26 360 P **P 12 10 21.9 -0.2**
Y49A IAmb IAmb 12 10 24.6
comp=Z,64nm,0.8s
Y52A Lilburn 23.35 5 P **P 12 10 23.2 +0.2**
Y52A IAmb IAmb 12 10 24.7
comp=Z,96nm,1.1s
Z41A Richland Creek 23.46 346 P **P 12 10 23.2 -0.9**
Y45A Yeager Farm, C 23.47 353 P **P 12 10 24.8 +0.7**
JCT Junction City 23.58 330 P **P 12 10 25.5 +0.3**
JCT Junction City 23.58 330 P **P 12 10 24.8 -0.5**
baz=144
WHTX Lake Whitney, 23.80 336 P **P 12 10 26.5 -0.8**
WHTX IAmb IAmb 12 10 30.7
comp=Z,42nm,0.9s
WHTX Lake Whitney, 23.80 336 P **P 12 10 26.4 -0.8**
baz=151,SNR=6.9
BRDY Brady 23.86 332 P **P 12 10 27.3 -0.6**
BRDY IAmb IAmb 12 10 29.0
comp=Z,36nm,0.9s
X48A Hartselle 23.87 358 P **P 12 10 26.4 -1.4**
X48A IAmb IAmb 12 10 29.5
comp=Z,37nm,1.0s
HODGE Hodges 23.91 8 P **P 12 10 27.6 -0.7**
HODGE IAmb IAmb 12 10 29.8
comp=Z,72nm,1.0s
TREL Terrell 23.94 339 P **P 12 10 29.8 +1.2**
WLAR White Oak Lake 23.95 346 P **P 12 10 28.1 -0.5**
FPAL Fort Paine 23.95 1 P **P 12 10 28.4 -0.3**
FPAL IAmb IAmb 12 10 30.6
comp=Z,46nm,1.0s
X51A Calhoun 24.00 3 P **P 12 10 28.8 -0.3**
X51A IAmb IAmb 12 10 30.2
comp=Z,55nm,0.8s
FW16 Waxahatchie 24.01 337 P **P 12 10 30.3 +1.1**
Y57A Sumter 24.02 12 P **P 12 10 29.3 +0.1**
Y57A IAmb IAmb 12 10 30.8
comp=Z,101nm,1.4s
FW14 Alvarado 24.05 337 P **P 12 10 30.5 +0.9**
Z38A Mt. Pleasant 24.06 342 P **P 12 10 29.9 +0.3**
OXF Oxford 24.09 354 P **P 12 10 29.0 -0.9**
OXF Oxford 24.09 354 P **P 12 10 28.7 -1.3**
baz=172,SNR=41
FW13 Cleburne 24.10 336 P **P 12 10 30.5 +0.5**
FW13 IAmb IAmb 12 10 32.7
comp=Z,37nm,0.8s
JSC Jenkinsville 24.11 10 P **P 12 10 29.8 -0.3**
JSC IAmb IAmb 12 10 31.8
comp=Z,74nm,1.0s
NNA Nana 24.19 157 LR LR 12 19 03.9
comp=Z,501nm,19.5s,baz=344,slow=34
SAND Sanderson 24.40 325 P **P 12 10 32.4 -0.5**
PLAL Pickwick Lake 24.45 356 P **P 12 10 31.5 -1.7**
PLAL IAmb IAmb 12 10 34.7
comp=Z,76nm,1.0s
FW07 Weatherford 24.55 336 P **P 12 10 34.0 -0.2**
FW07 IAmb IAmb 12 10 44.1
comp=Z,91nm,1.3s
PAULI Pauline 24.55 9 P **P 12 10 34.2 +0.1**
PAULI IAmb IAmb 12 10 36.3
comp=Z,75nm,0.9s
BG3 Lake Jocassee 24.58 6 P **P 12 10 34.5 +0.1**
W52A Murphy 24.58 4 P **P 12 10 34.4 -0.1**
W52A IAmb IAmb 12 10 36.4
comp=Z,63nm,0.8s
HPIG 24.59 314 P **P 12 10 36.2 +1.5**
OZNA Ozona 24.61 328 P **P 12 10 34.8 0.0**
BIRD Birdtown, Kers 24.61 11 P **P 12 10 34.9 +0.2**
BIRD IAmb IAmb 12 10 36.5
comp=Z,30nm,0.8s
W50A Signal Mountai 24.62 2 P **P 12 10 34.1 -0.7**
W50A IAmb IAmb 12 10 45.2
comp=Z,86nm,1.1s
SWET Sewanee 24.62 1 P **P 12 10 34.1 -0.6**
X40A Basin Creek Fa 24.65 347 P **P 12 10 33.6 -1.4**
FW06 Azle 24.70 337 P **P 12 10 34.9 -0.6**
FW06 IAmb IAmb 12 10 38.4
comp=Z,73nm,1.1s
UALR University of 24.82 348 P **P 12 10 35.5 -1.0**
TXAR Lajitas Array 24.86 321 P **P 12 10 37.5 +0.4**
TXAR Lajitas Array 24.86 321 P **P 12 10 36.9 -0.2**
comp=Z,29nm,0.9s,baz=138,slow=9.6,SNR=66
TXAR PcP **PcP 12 14 14.6 +2.2**
comp=Z,3.4nm,0.8s,baz=156,slow=3.5,SNR=9.6
comp=Z,29nm,0.9s
PLPT Palo Pinto 24.86 335 P **P 12 10 36.4 -0.6**
PLPT IAmb IAmb 12 10 47.3
comp=Z,83nm,1.1s
MIAR Mount Ida 24.88 345 P **P 12 10 36.4 -0.7**
MIAR Mount Ida 24.88 345 P **P 12 10 35.9 -1.2**
baz=162,SNR=47
CPCT Cooper Cave 24.90 3 P **P 12 10 36.6 -0.7**
CPCT IAmb IAmb 12 10 38.7
comp=Z,42nm,1.0s
Z35A Perchaven, San 24.90 338 P **P 12 10 36.9 -0.5**
KMSC Kings Mountain 24.94 10 P **P 12 10 37.9 +0.2**
KMSC IAmb IAmb 12 10 39.2
comp=Z,85nm,1.1s
KMSC Kings Mountain 24.94 10 P **P 12 10 37.4 -0.3**
baz=191,SNR=18
FW03 Perrin-Whitt E 24.96 336 P **P 12 10 37.7 -0.2**
FW03 IAmb IAmb 12 10 47.5
comp=Z,78nm,1.2s
TKL Tuckaleechee C 25.16 5 P **P 12 10 39.0 -0.6**
TKL Tuckaleechee C 25.16 5 LR LR 12 20 34.7
comp=Z,859nm,20.4s,baz=235,slow=38
V53A Saluda 25.26 6 P **P 12 10 40.2 -0.4**
ABTX Abilene, Hawle 25.28 333 P **P 12 10 39.8 -0.9**
ABTX IAmb IAmb 12 10 44.0
comp=Z,57nm,0.9s
ABTX Abilene, Hawle 25.28 333 P **P 12 10 40.1 -0.7**
baz=147,SNR=31
HBAR Harrisburg 25.28 351 P **P 12 10 40.0 -0.7**
WHAR Wooly Hollow 25.31 348 P **P 12 10 39.8 -1.1**
V52A Sevierville 25.35 5 P **P 12 10 40.9 -0.5**
V52A IAmb IAmb 12 10 45.0
comp=Z,54nm,1.1s
SGCY Sterling City 25.40 329 P **P 12 10 41.7 -0.2**
CLTN Cedars of Leba 25.49 360 P **P 12 10 42.1 -0.5**
CLTN IAmb IAmb 12 10 45.8
comp=Z,57nm,1.0s
WVT Waverly 25.57 357 P **P 12 10 42.1 -1.2**
WVT Waverly 25.57 357 P **P 12 10 41.9 -1.4**
baz=176
TEFE Tefe 25.59 122 *eP* **P 12 10 43.8 +0.1**
GNAR Gosnell 25.60 353 P **P 12 10 42.5 -1.1**
GNAR IAmb IAmb 12 10 51.1
comp=Z,67nm,0.9s
LNXT Lenox 25.68 354 P **P 12 10 42.7 -1.6**
TZTN Tazewell 26.05 5 P **P 12 10 45.8 -1.9**
baz=186,SNR=9.5
APMT Aspermont 26.08 333 P **P 12 10 48.0 -0.1**
APMT IAmb IAmb 12 10 51.8
comp=Z,36nm,0.9s
SLBS Sierra La Lagu 26.16 303 P **P 12 10 51.1 +2.2**
U54A Nelsons Funny 26.22 8 P **P 12 10 49.1 -0.2**
U54A IAmb IAmb 12 11 00.8
comp=Z,48nm,0.9s

SN07 Snyder 07 26.24 331 P P 12 10 48.6 -0.9
PARMO Parma 26.26 354 P P 12 10 48.6 -1.0
ODSA Odessa 26.30 327 P P 12 10 50.6 +0.5
ODSA IAmb IAmb 12 10 52.4
comp=Z,51nm,1.0s
T47A Sharon Grove 26.40 358 P P 12 10 49.5 -1.3
T50A Nancy 26.45 2 P P 12 10 50.2 -1.1
PBMO Poplar Bluff 26.45 352 P P 12 10 50.2 -1.2
PBMO IAmb IAmb 12 10 51.4
comp=Z,46nm,1.1s
LPIG La Paz 26.64 304 LR LR 12 22 20.8
comp=Z,598nm,20.6s,baz=116,slow=38
WMOK Wichita Mounta 26.73 337 P P 12 10 53.1 -0.8
baz=151,SNR=97
DKNS Dickens 26.73 332 P P 12 10 54.1 +0.1
BOAV Boa Vista 26.74 106 P P 12 10 53.4 -0.7
TUL3 Leonard 26.77 343 P P 12 10 52.8 -1.4
baz=158,SNR=8.1
RLO Rose Lookout 26.79 344 P P 12 10 52.6 -1.8
RLO IAmb IAmb 12 10 54.2
comp=Z,23nm,1.1s
BLA Blacksburg 27.12 10 P P 12 10 56.5 -0.9
baz=192,SNR=8.3
S44A Carbondale 27.23 355 P P 12 10 57.6 -0.7
SIUC Southern Illin 27.25 355 P P 12 10 57.0 -1.4
MNTX Cornudas Mount 27.58 323 P P 12 11 01.7 +0.1
baz=135,SNR=9.9
OK048 Pawnee Station 27.59 341 P P 12 11 00.3 -1.2
OK048 IAmb IAmb 12 11 09.3
comp=Z,35nm,1.2s
WCI Wyandotte Cave 27.63 360 P P 12 11 01.1 -0.8
WCI Wyandotte Cave 27.63 360 P P 12 11 00.7 -1.1
baz=179
FVM French Village 27.64 353 P P 12 11 00.7 -1.3
CCM Cathedral Cave 27.82 351 P P 12 11 01.8 -1.8
CCM IAmb IAmb 12 11 03.4
comp=Z,52nm,1.1s
CCM Cathedral Cave 27.82 351 P P 12 11 02.0 -1.6
baz=169
AMTX Amarillo 28.09 332 P P 12 11 05.6 -0.6
AMTX Amarillo 28.09 332 P P 12 11 05.4 -0.8
baz=146
ELIS Ellis County 28.15 337 P P 12 11 06.5 0.0
ELIS IAmb IAmb 12 11 12.0
comp=Z,58nm,1.1s
OLIL Olney 28.18 357 P P 12 11 05.3 -1.5
R40A Maddies Statio 28.22 350 P P 12 11 05.4 -1.7
SSFO Shawnee State 28.22 5 P P 12 11 06.5 -0.7
ETMB Extrema 28.33 135 eP P 12 11 09.2 +0.9
CBN Corbin Frederi 28.72 15 P P 12 11 09.5 -2.0
baz=198
MACA Manacapuru-AM 28.80 117 P P 12 11 13.5 +0.9
MACA Manacapuru-AM 28.80 117 eP P 12 11 11.6 -1.0
P49A Miami Univ. Ec 28.96 2 P P 12 11 12.2 -1.5
baz=183,SNR=8.3
P43A Skaggs, Pawnee 29.18 355 P P 12 11 14.7 -1.0
P43A IAmb IAmb 12 11 15.9
comp=Z,54nm,1.2s
P52A Corning 29.25 6 P P 12 11 15.3 -1.0
P52A Corning 29.25 6 P P 12 11 15.4 -1.0
baz=188,SNR=25
P40A Paris 29.39 351 P P 12 11 15.4 -2.2
P40A IAmb IAmb 12 11 17.2
comp=Z,32nm,1.4s
MCWV Mont Chateau 29.60 10 P P 12 11 18.4 -1.0
MCWV IAmb IAmb 12 11 19.9
comp=Z,37nm,1.2s
MCWV Mont Chateau 29.60 10 P P 12 11 17.7 -1.6
baz=192
121A Cookes Peak, D 29.62 321 P P 12 11 19.0 -0.9
baz=132,SNR=5.4
O49A Covington 29.63 3 P P 12 11 18.0 -1.7
O49A IAmb IAmb 12 11 19.8
comp=Z,45nm,1.0s
O48B Farmland 29.66 2 P P 12 11 18.4 -1.6
O48B Farmland 29.66 2 P P 12 11 19.1 -0.9
baz=182,SNR=8.7
ACSO Alum Creek Sta 29.76 5 P P 12 11 18.1 -2.7
baz=186,SNR=13
O52A Adamsville 29.76 7 P P 12 11 19.9 -0.9
SFIN Lafayette 29.78 359 P P 12 11 19.0 -2.0
baz=178
SAML Samuel 29.96 129 P P 12 11 23.4 +0.6
SAML IAmb IAmb 12 11 30.6
comp=Z,24nm,1.1s
SAML Samuel 29.96 129 eP P 12 11 23.4 +0.6
KSU1 Kansas State U 29.97 344 P P 12 11 21.5 -1.2
baz=159,SNR=6.3
O53A New Philadelph 29.97 8 P P 12 11 20.1 -2.6
baz=190,SNR=23
HDIL Hopedale 30.07 355 P P 12 11 22.1 -1.5
baz=174,SNR=7.0
Y22D IRIS PASSCAL I 30.18 324 P P 12 11 23.9 -0.9
baz=136
Y22F Passcal Instru 30.18 324 P P 12 11 23.6 -1.2
baz=136
N47A Urbana 30.28 1 P P 12 11 23.5 -1.8
N47A IAmb IAmb 12 11 24.6
comp=Z,28nm,1.2s
N49A Columbus Grove 30.37 3 P P 12 11 24.9 -1.3
N41A Harden Midland 30.38 353 P P 12 11 24.5 -1.8
N41A IAmb IAmb 12 11 25.7
comp=Z,48nm,1.1s
N51A Ashland 30.50 6 P P 12 11 26.3 -1.1
N51A IAmb IAmb 12 11 27.5
comp=Z,36nm,0.9s
ANMO Albuquerque 30.56 326 P P 12 11 29.0 +0.8
ANMO Albuquerque 30.56 326 P P 12 11 27.8 -0.4
baz=138
ANMO Albuquerque 30.56 326 LR LR 12 26 19.9
comp=Z,288nm,19.8s,baz=216,slow=42
ANMO Albuquerque 30.56 326 P P 12 11 29.9 +1.7
ANMO PcP PcP 12 14 28.4 +2.2
N53A Lisbon 30.57 8 P P 12 11 27.0 -0.9
N53A IAmb IAmb 12 11 28.5
comp=Z,48nm,1.0s
SSPA Standing Stone 30.92 12 P P 12 11 30.4 -0.6
SSPA IAmb IAmb 12 11 32.1
comp=Z,39nm,1.1s
SSPA Standing Stone 30.92 12 P P 12 11 30.5 -0.6
baz=196
SSPA Standing Stone 30.92 12 P P 12 11 30.6 -0.4
SSPA pP pP 12 11 39.0 -4.1
M50A Fremont 30.92 5 P P 12 11 30.2 -0.9
T25A Trinidad 31.21 331 P P 12 11 34.1 +0.2
T25A Trinidad 31.21 331 P P 12 11 34.3 +0.4
baz=143,SNR=5.4
M53A WI Miller and 31.21 8 P P 12 11 32.6 -1.0
M53A WI Miller and 31.21 8 P P 12 11 32.5 -1.1
baz=190,SNR=11
L48A N Adams 31.38 3 P P 12 11 33.0 -2.1
N58A Sunbury 31.38 14 P P 12 11 34.5 -0.6
N58A IAmb IAmb 12 11 36.2
comp=Z,42nm,1.1s
TUC Tucson 31.40 317 P P 12 11 37.4 +1.8
TUC Tucson 31.40 317 P P 12 11 36.0 +0.5
baz=128
TUC Tucson 31.40 317 P P 12 11 38.2 +2.6
TUC PcP PcP 12 14 31.2 +2.8
L44A Lake County Fo 31.61 358 P P 12 11 34.9 -2.1
baz=176
M57A Sunshine Farm, 31.75 13 P P 12 11 37.9 -0.5
M57A IAmb IAmb 12 11 39.7
comp=Z,36nm,1.0s
AAM Ann Arbor 31.77 4 P P 12 11 36.1 -2.4
baz=184
SCIA State Center 31.90 350 P P 12 11 38.3 -1.4
baz=166
KSCO Kaye Shedlock' 31.97 335 P P 12 11 39.7 -0.8
baz=148
ERPA Erie 31.98 9 P P 12 11 38.4 -1.9
baz=191,SNR=5.3
LPAZ La Paz 32.06 146 P P 12 11 42.9 +0.9
LPAZ La Paz 32.06 146 P P 12 11 47.3 +5.3
comp=Z,5.5nm,1.1s,baz=317,slow=4.3,SNR=7.7
LPAZ LR LR 12 25 23.0
comp=Z,770nm,19.9s,baz=323,slow=37
comp=Z,5.5nm,1.1s
LPAZ La Paz 32.06 146 eP P 12 11 45.7 +3.8
SDCO Great Sand Dun 32.21 331 P P 12 11 43.4 +0.6
SDCO Great Sand Dun 32.21 331 P P 12 11 43.3 +0.5
baz=142,SNR=17
PAL Palisades 32.28 18 P P 12 11 42.2 -0.8
baz=203
KSPA Keystone Colle 32.28 15 P P 12 11 41.6 -1.5

X18A Snowflake 32.30 322 P P 12 11 46.3 +2.8
L56A Greenwood 32.43 12 P P 12 11 43.1 -1.3
L56A IAmb IAmb 12 11 45.1
comp=Z,44nm,1.2s
WVNY West Valley, N 32.49 11 P P 12 11 44.0 -0.9
WVNY IAmb IAmb 12 11 45.4
comp=Z,34nm,1.2s
JFWS Jewell Farm 32.50 354 P P 12 11 43.4 -1.6
JFWS Jewell Farm 32.50 354 P P 12 11 43.1 -1.8
baz=172,SNR=13
W18A Petrified Fore 32.57 323 P P 12 11 47.5 +1.6
baz=133,SNR=9.3
214A Organ Pipe Nat 32.57 315 P P 12 11 47.6 +1.9
baz=125,SNR=6.8
BINY Binghamton 32.84 14 P P 12 11 46.9 -1.0
baz=198,SNR=6.6
Q24A Divide 33.02 332 P P 12 11 49.6 -0.3
baz=144
X16A Lo Mia Camp, P 33.15 320 P P 12 11 51.9 +0.9
MVCO Mesa Verde 33.34 327 P P 12 11 53.0 +0.4
baz=137,SNR=9.8
I42A Draeger Farm, 33.37 356 P P 12 11 50.4 -2.0
OGNE Ogallala 33.40 338 P P 12 11 52.6 -0.3
baz=150
MDP Montagnes des 33.66 97 LR LR 12 26 54.2
comp=Z,682nm,18.0s,baz=285,slow=39
ITTB Itaituba 33.74 114 eP P 12 11 54.2 -1.9
WUAZ Wupatki 33.83 321 P P 12 11 56.6 -0.2
baz=131
ISCO Idaho Springs 33.91 333 P P 12 11 57.0 -0.6
baz=144
L61B Northampton 33.97 18 P P 12 11 56.3 -1.5
baz=204
K30B Basset 34.14 342 P P 12 11 58.5 -0.8
ECSD EROS Data Cent 34.34 347 P P 12 11 58.3 -2.6
ECSD IAmb IAmb 12 12 00.0
comp=Z,27nm,1.2s
ECSD EROS Data Cent 34.34 347 P P 12 11 58.7 -2.2
baz=161,SNR=17
HRV Adam Dziewonsk 34.38 19 P P 12 12 00.6 -0.7
baz=206
G45A Suttons Bay 34.44 1 P P 12 11 59.4 -2.3
GLA Glamis 34.59 315 P P 12 12 05.5 +2.2
baz=124,SNR=7.3
SADO Sadowa 34.70 9 LR LR 12 26 50.0
comp=Z,1µm,18.1s,baz=229,slow=38
VILB Vilhena 34.77 131 eP P 12 12 06.7 +1.7
PDMCI Parker Dam,Lak 34.84 317 P P 12 12 06.9 +1.5
baz=126,SNR=12
HMU Henry Mountain 35.10 325 P P 12 12 09.0 +1.0
HMU IAmb IAmb 12 12 19.7
comp=Z,38nm,1.3s
YUH Yuha Desert 35.15 313 P P 12 12 10.2 +2.2
YUH IAmb IAmb 12 12 12.7
comp=Z,48nm,1.6s
W13A Hualapai Mount 35.15 319 P P 12 12 10.3 +2.0
W13A IAmb IAmb 12 12 12.7
comp=Z,20nm,1.0s
SWSC Sam W. Stewart 35.22 314 P P 12 12 10.0 +1.4
baz=122,SNR=7.4
RMX La Rumorosa 35.23 313 P P 12 12 10.0 +1.0
RMX IAmb IAmb 12 12 13.0
comp=Z,28nm,1.3s
IKP In-Ko-Pah, Jac 35.28 313 P P 12 12 10.8 +1.5
baz=122
NPGB Novo Progresso 35.31 118 eP P 12 12 08.6 -1.1
BC3 Big Chuckawall 35.36 315 P P 12 12 11.7 +1.6
baz=124,SNR=14
O20A White River Ci 35.41 330 P P 12 12 11.0 +0.5
baz=140
IRM Iron Mountain 35.43 316 P P 12 12 12.2 +1.6
baz=124,SNR=12
NEE2 Needles Airpor 35.43 317 P P 12 12 12.5 +2.0
baz=126
LONY Lake Ozonia 35.46 14 P P 12 12 08.8 -1.8
LONY IAmb IAmb 12 12 10.9
comp=Z,32nm,1.1s
LONY Lake Ozonia 35.46 14 P P 12 12 09.2 -1.3
baz=200,SNR=5.2
SUSD Miller 35.58 344 P P 12 12 09.3 -2.3
baz=158
MONP2 Monument Peak 35.63 313 P P 12 12 14.3 +1.8
baz=122
LBNH Lisbon 35.83 18 P P 12 12 13.2 -0.5
baz=204
BELC Belle Mtn. Jos 35.93 315 P P 12 12 17.5 +2.5
baz=123,SNR=13
TPFO Pinon Flats 36.03 314 P P 12 12 17.9 +2.1
baz=122,SNR=5.9
PFO Pinyon Flats O 36.04 314 P P 12 12 18.0 +2.1
baz=122,SNR=6.2
PFO Pinyon Flats O 36.04 314 LR LR 12 27 48.6
comp=Z,593nm,21.6s,baz=136,slow=38
109C Camp Elliot, M 36.12 313 P P 12 12 18.8 +2.4
baz=121
GMRC Granite Mounta 36.14 317 P P 12 12 19.0 +2.3
baz=125,SNR=7.0
RWWY Rawlins 36.15 333 P P 12 12 16.8 -0.1
RWWY IAmb IAmb 12 12 26.4
comp=Z,36nm,1.2s
SIV San Ignacio 36.21 136 LR LR 12 27 48.8
comp=Z,528nm,18.6s,baz=324,slow=37
F33A 5 Mile Ranch, 36.27 348 P P 12 12 14.7 -2.8
F33A IAmb IAmb 12 12 16.3
comp=Z,19nm,0.7s
E38A The Farm, Brul 36.28 354 P P 12 12 15.5 -2.1
E38A IAmb IAmb 12 12 17.0
comp=Z,20nm,0.9s
MURC Murrieta 36.55 314 P P 12 12 22.2 +2.1
baz=131,SNR=9.4
HEC Hector,Ludlow 36.62 316 P P 12 12 22.9 +2.1
baz=124,SNR=8.5
K22A Casper 36.63 335 P P 12 12 20.6 -0.2
baz=145
TUQ Turquoise Moun 36.69 317 P P 12 12 22.8 +1.3
baz=125,SNR=6.3
BBRC Big Bear Solar 36.71 315 P P 12 12 22.4 +0.7
baz=122
SHPR Sheep Range 36.83 319 P P 12 12 25.0 +2.5
RSSD Black Hills 36.89 338 P P 12 12 23.6 +0.5
RSSD Black Hills 36.89 338 P P 12 12 22.7 -0.4
baz=150
RSSD Black Hills 36.89 338 P P 12 12 23.4 +0.3
RSSD pP pP 12 12 32.9 -2.5
RSSD PcP PcP 12 14 45.3 +1.3
CLDB Colider 36.94 124 eP P 12 12 23.6 0.0
LVC Limon Verde 37.00 153 LR LR 12 27 35.9
comp=Z,364nm,19.1s,baz=325,slow=36
LVC Limon Verde 37.00 153 eP P 12 12 28.8 +4.4
MPU Maple Canyon 37.06 327 P P 12 12 25.0 +0.4
MPU IAmb IAmb 12 12 35.6
comp=Z,33nm,1.5s
RRX Edison Barstow 37.10 316 P P 12 12 24.9 +0.1
baz=123
PTLB Pontes e Lacer 37.19 133 P P 12 12 26.0 +0.4
PTLB Pontes e Lacer 37.19 133 eP P 12 12 26.5 +0.9
SHOC Shoshone, Teco 37.19 318 P P 12 12 27.1 +1.6
baz=125
GSC Goldstone, Bar 37.21 316 P P 12 12 27.6 +1.8
GSC IAmb IAmb 12 12 30.0
comp=Z,38nm,1.8s
GSC Goldstone, Bar 37.21 316 P P 12 12 28.1 +2.3
baz=124,SNR=5.4
BFSC Mount Baldy Ra 37.22 314 P P 12 12 27.8 +1.9
baz=122,SNR=5.2
NLU North Lily Min 37.26 326 P P 12 12 27.4 +1.1
CIS Catalina Island 37.33 313 P P 12 12 27.8 +1.1
baz=120
BBSD Serra de San D 37.37 137 eP P 12 12 28.1 +1.0
PKME Peaks-Kenny Pk 37.58 20 P P 12 12 27.8 -0.8
baz=208
EYMN Ely 37.60 354 P P 12 12 26.6 -2.3
baz=171,SNR=5.4
DECC Green Verdugo 37.70 314 P P 12 12 32.6 +2.7
baz=121
EDW2 Edwards Air Fo 37.79 315 P P 12 12 33.4 +2.7
baz=122,SNR=7.1
DUG Dugway, Tooele 37.83 326 P P 12 12 33.8 +2.8
baz=134,SNR=8.9
LRMC Laurel Mtn Rad 37.90 316 P P 12 12 33.9 +2.2
baz=123,SNR=13
FURC Furnace Creek, 37.91 318 P P 12 12 34.3 +2.8
baz=125,SNR=23
SNCC San Nicolas Is 38.06 312 P P 12 12 33.7 +0.9
baz=118
BW06 Boulder Array 38.07 332 P P 12 12 33.2 +0.1
baz=140,SNR=10

PD31 Pinedale Array 38.07 332 P P 12 12 33.3 +0.2
PDAR Pinedale Array 38.07 332 P P 12 12 33.3 +0.2
PDAR Pinedale Array 38.07 332 P P 12 12 32.3 -0.8
comp=Z,3.1nm,0.9s,baz=128,slow=9.6,SNR=19
PDAR PcP PcP 12 14 49.0 +1.3
comp=Z,8.1nm,1.2s,baz=149,slow=3.5,SNR=8.0
PDAR LR LR 12 31 10.6
comp=Z,469nm,21.6s,baz=142,slow=41
comp=Z,3.1nm,0.9s
MPMC Manual Prospec 38.09 317 P P 12 12 35.3 +1.9
baz=124,SNR=24
OSI Osito Audit: C 38.16 314 P P 12 12 36.1 +2.2
baz=121
HWUT Hardware Ranch 38.18 329 P P 12 12 34.3 +0.3
VLDQ Val d'Or 38.22 9 P P 12 12 32.1 -1.9
R11B Troy Canyon, C 38.23 321 P P 12 12 36.3 +1.9
baz=128,SNR=5.9
ARVC Arvin 38.51 315 P P 12 12 39.6 +3.0
baz=121
GRAC Grapevine Rang 38.54 318 P P 12 12 40.3 +3.3
baz=125,SNR=26
ISA Isabella, Lake 38.54 316 P P 12 12 39.8 +2.8
baz=122,SNR=6.0
AGMN Agassiz Nation 38.55 350 P P 12 12 34.7 -2.1
baz=164,SNR=19
BBRB Robore, Bolivi 38.67 137 eP P 12 12 40.7 +2.5
CWC Cottonwood Cre 38.70 317 P P 12 12 40.9 +2.5
baz=124
SBC Santa Barbara 38.78 313 P P 12 12 40.6 +1.7
baz=120
MDND Maddock 38.91 346 P P 12 12 39.0 -0.9
baz=158,SNR=11
VES Vestal, Richgr 39.06 316 P P 12 12 42.8 +1.6
baz=122,SNR=13
PKM Mcpherson Peak 39.08 314 P P 12 12 42.3 +0.7
baz=120,SNR=6.0
TPH Tonopah 39.08 320 P P 12 12 43.5 +1.9
REDW Red Top Meadow 39.13 331 P P 12 12 41.9 -0.2
TIN Tinemaha, Big 39.14 318 P P 12 12 42.6 +0.5
baz=124
ECR Eagle Creek 39.15 330 P P 12 12 42.3 +0.1
SNOW Snow King Moun 39.16 331 P P 12 12 42.3 0.0
SNOW IAmb IAmb 12 12 54.5
comp=Z,60nm,1.4s
SMMC Simmler 39.42 314 P P 12 12 45.3 +1.0
baz=120,SNR=11
VOG Valley Oaks Go 39.52 316 P P 12 12 45.5 +0.5
baz=122
RLMT Red Lodge 39.79 334 P P 12 12 46.8 -0.7
baz=143,SNR=14
H17A Grant Village 39.80 332 P P 12 12 47.4 -0.2
baz=140
MLAC Mammoth, Mammo 39.87 318 P P 12 12 48.5 +0.2
baz=124
LAO LASA Array 39.89 338 P P 12 12 47.1 -0.9
baz=148,SNR=11
NVAR Mina Array Bea 39.98 319 P P 12 12 50.8 +1.6
comp=Z,22nm,0.9s,baz=137,slow=7.5,SNR=89
NVAR PcP PcP 12 14 56.4 +2.7
comp=Z,6.9nm,0.9s,baz=138,slow=3.6,SNR=12
NVAR LR LR 12 30 58.6
comp=Z,513nm,20.9s,baz=132,slow=39
comp=Z,22nm,0.9s
SALV Santo Antonio 40.00 131 eP P 12 12 50.1 +0.9
LHV Little Huntoon 40.00 319 P P 12 12 52.4 +3.3
LHV IAmb IAmb 12 12 53.9
comp=Z,50nm,1.0s
MDPB Devils Postpil 40.03 318 P P 12 12 52.0 +2.4
MDPB IAmb IAmb 12 12 53.8
comp=Z,36nm,1.0s
KVN Kaiserville 40.21 320 P P 12 12 53.1 +2.0
KVN IAmb IAmb 12 12 54.8
comp=Z,25nm,1.0s
YHH Holmes Hill 40.23 333 P P 12 12 51.7 +0.5
RYN Ryan 40.23 320 P P 12 12 53.8 +2.6
RYN IAmb IAmb 12 12 55.3
comp=Z,31nm,1.1s
PMPB Monarch Peak 40.44 315 P P 12 12 54.5 +1.7
PMPB IAmb IAmb 12 12 56.4
comp=Z,42nm,1.1s
ULM Lac du Bonnet 40.44 350 P P 12 12 50.2 -2.3
ULM Lac du Bonnet 40.44 350 P P 12 12 49.5 -3.0
comp=Z,20nm,0.9s,baz=173,slow=8.5,SNR=30
ULM PcP PcP 12 14 55.9 +1.2
comp=Z,4.3nm,0.8s,baz=207,slow=1.9,SNR=3.6
ULM LR LR 12 31 21.3
comp=Z,347nm,18.6s,baz=165,slow=39
comp=Z,20nm,0.9s
BMN Battle Mountai 40.52 323 P P 12 12 54.1 +0.6
DGMT Dagmar 40.76 342 P P 12 12 54.1 -1.1
DGMT Dagmar 40.76 342 P P 12 12 54.7 -0.5
baz=152,SNR=17
YERR Yerington 40.90 320 P P 12 12 58.8 +2.1
YERR IAmb IAmb 12 13 00.8
comp=Z,36nm,1.0s
HLID Hailey 41.04 328 P P 12 12 58.6 +0.8
HLID Hailey 41.04 328 P P 12 12 57.2 -0.6
baz=135,SNR=13
CMB Columbia Colle 41.11 318 P P 12 13 00.1 +1.8
PNTR Pine Nut 41.19 319 P P 12 13 01.2 +2.2
PNTR IAmb IAmb 12 13 03.2
comp=Z,32nm,1.0s
BOZ Bozeman (W) 41.20 333 P P 12 12 59.2 +0.1
BOZ Bozeman (W) 41.20 333 P P 12 12 58.4 -0.6
baz=140,SNR=19
SNDB Serra Nova Dou 41.24 122 eP P 12 12 58.9 -0.7
LCO Las Campanas 42.02 160 P P 12 13 10.0 +4.0
LCO Las Campanas 42.02 160 P P 12 13 13.9 +7.8
EGMT Eagleton 42.33 337 P P 12 13 07.3 -0.8
EGMT Eagleton 42.33 337 P P 12 13 07.2 -0.9
baz=144,SNR=6.9
RVDE Rio Verde (Bra 42.55 133 eP P 12 13 11.0 +0.8
ARAG Araguaiana, MT 42.86 127 eP P 12 13 13.0 +0.2
SMTB Santa Maria do 42.97 115 eP P 12 13 11.7 -2.0
AQDB Aquidauana 42.98 136 P P 12 13 14.7 +1.0
AQDB Aquidauana 42.98 136 eP P 12 13 14.6 +1.0
MSO Missoula 43.18 332 P P 12 13 15.3 +0.2
MSO Missoula 43.18 332 P P 12 13 14.1 -1.0
baz=138,SNR=7.2
CO03 El Pedregal 43.71 161 P P 12 13 23.9 +4.5
KCPM Cahto Peak 44.10 318 P P 12 13 25.0 +2.4
KCPM IAmb IAmb 12 13 26.8
comp=Z,37nm,1.1s
I07A Izee 44.13 325 P P 12 13 22.6 -0.2
F10A Beach Ranch, E 44.16 329 P P 12 13 22.2 -0.7
TICA Tres Isletas 44.42 146 eP P 12 13 28.8 +3.6
YBH Yreka Blue Hor 44.63 321 LR LR 12 35 54.5
comp=Z,400nm,18.3s,baz=146,slow=41
AMBA Amambai (Brazi 45.13 138 eP P 12 13 31.7 +0.7
KRPM Rodgers 45.15 319 P P 12 13 33.1 +2.2
NEW Newport 45.71 331 P P 12 13 34.0 -1.2
baz=135
NEW Newport 45.71 331 LR LR 12 35 45.3
comp=Z,287nm,19.1s,baz=140,slow=40
MT02 Curacav 45.81 162 P P 12 13 39.2 +3.2
MT02 IAmb IAmb 12 13 45.1
comp=Z,20nm,1.2s
FFC Flin Flon 45.87 347 P P 12 13 34.7 -1.5
FFC Flin Flon 45.87 347 P P 12 13 35.1 -1.1
FFC PcP PcP 12 15 14.2 +1.3
BDFB Brasilia 45.87 124 P P 12 13 37.6 +0.6
BDFB IAmb IAmb 12 13 46.0
comp=Z,26nm,1.1s
BDFB Brasilia 45.87 124 P P 12 13 38.9 +1.9
comp=Z,14nm,1.0s,baz=294,slow=13,SNR=11
BDFB LR LR 12 33 30.0
comp=Z,722nm,18.1s,baz=314,slow=37
comp=Z,14nm,1.0s
HOOD Mount Hood Mea 46.10 325 P P 12 13 39.8 +1.4
CPUP Villa Florida 46.12 143 LR LR 12 33 30.3
comp=Z,290nm,20.3s,baz=322,slow=37
I03D Drain, OR 46.12 323 P P 12 13 39.3 +0.8
I03D IAmb IAmb 12 13 41.4
comp=Z,17nm,1.0s
SCHQ Schefferville 46.82 15 P P 12 13 41.0 -2.7
SCHQ IAmb IAmb 12 13 42.6
comp=Z,18nm,0.9s
SCHQ Schefferville 46.82 15 P P 12 13 40.3 -3.4
comp=Z,17nm,0.9s,baz=208,slow=6.4,SNR=21
SCHQ LR LR 12 33 52.9
comp=Z,619nm,19.1s,baz=210,slow=37
comp=Z,17nm,0.9s
PCMB Pacaembu 46.84 133 eP P 12 13 45.9 +1.5
BO01 Tunca 46.88 163 P P 12 13 48.9 +4.4
BO01 IAmb IAmb 12 13 51.1
comp=Z,44nm,1.5s

SDBA SAO DESIDERIO 46.91 118 *e*P P **12 13 43.2 -1.8**
IPMB Ipameri, GO 46.98 127 *e*P P **12 13 45.1 -0.4**
LON Longmire 47.07 327 P P **12 13 45.9 0.0**
GNW Green Mountain 48.12 327 P P **12 13 53.3 -0.6**
GNW IAmb IAmb 12 15 31.2
comp=Z,15nm,1.1s
FCC Fort Churchill 48.55 355 P P **12 13 53.8 -3.2**
JANB Januaria 48.65 121 *e*P P **12 13 57.6 -0.9**
CRSM Crissiumal (Br 48.96 141 *e*P P **12 14 00.8 +0.1**
PGC Sidney 49.12 328 P P **12 14 01.9 +0.3**
PGC IAmb IAmb 12 14 10.5
comp=Z,32nm,1.5s
PSAL Palomas, Salto 49.61 147 *e*P P **12 14 09.0 +3.5**
ITAB Concordia 49.98 139 P P **12 14 08.3 -0.1**
BRLDA Berland Lookou 50.08 337 P P **12 14 08.1 -0.9**
RODS Rosario do Sul 50.37 145 *e*P P **12 14 14.5 +3.1**
DIAM Diamantina, MG 50.79 124 *e*P P **12 14 14.3 -0.6**
CBB Campbell River 50.95 328 P P **12 14 16.3 +0.8**
CBB IAmb IAmb 12 14 26.6
comp=Z,30nm,1.4s
TBOT Tacuaremb 50.97 146 *e*P P **12 14 19.1 +3.3**
CPSB Cacapava Do Su 51.43 143 *e*P P **12 14 22.1 +2.8**
PLTB Pedras Altas 52.34 145 *e*P P **12 14 28.6 +2.6**
PLCA Paso Flores 52.98 165 P P **12 14 35.1 +4.4**
PLCA IAmb IAmb 12 14 42.5
comp=Z,56nm,1.9s
PLCA Paso Flores 52.98 165 P P 12 14 36.3 +5.6
comp=Z,8.5nm,1.0s,baz=358,slow=12,SNR=5.9
comp=Z,8.5nm,1.0s
PLCA Paso Flores 52.98 165 *e*P P 12 14 35.5 +4.8
PLCA Paso Flores 52.98 165 P P 12 14 36.1 +5.4
PLCA pP pP 12 14 45.8 +2.5
SJMB Sao Joao De Ma 53.04 123 *e*P P **12 14 30.1 -1.4**
TRQA Tornquist 53.34 156 P P **12 14 36.9 +3.5**
TRQA IAmb IAmb 12 15 39.6
comp=Z,60nm,2.0s
BBB Bella Bella 53.62 329 LR LR 12 40 39.7
comp=Z,300nm,21.3s,baz=136,slow=40
RIB01 Linhares ES 53.99 123 *e*P P **12 14 37.9 -0.6**
FRB Frobisher Bay 54.64 10 LR LR 12 38 33.4
comp=Z,994nm,19.0s,baz=198,slow=37
YKA Yellowknife Ar 55.82 345 P P **12 14 49.5 -1.5**
YKA Yellowknife Ar 55.82 345 P P **12 14 49.2 -1.7**
comp=Z,6.9nm,1.0s,baz=134,slow=6.9,SNR=59
YKA PcP PcP **12 15 50.3 +0.9**
comp=Z,0.8nm,0.7s,baz=141,slow=3.9,SNR=6.4
YKA LR LR 12 41 41.0
comp=Z,279nm,18.5s,baz=154,slow=40
comp=Z,6.9nm,1.0s
TOAD Toad River Com 56.52 337 P P **12 14 54.5 -1.7**
baz=132
V35K Ketchikan 57.12 331 P P **12 14 59.7 -0.6**
baz=123
LIRD Liard River Hi 57.23 337 P P **12 15 00.6 -0.5**
baz=131
T35M Bob Quinn 57.43 333 P P **12 15 01.8 -0.7**
baz=126
CRAG Craig 57.91 331 P P **12 15 05.3 -0.6**
baz=122
WRAK Wrangell Islan 58.06 332 P P **12 15 06.4 -0.5**
baz=123
DLBC Dease Lake 58.20 335 P P **12 15 08.7 +0.7**
DLBC IAmb IAmb 12 15 09.8
comp=Z,26nm,1.1s
DLBC Dease Lake 58.20 335 P P **12 15 07.3 -0.7**
baz=126,SNR=12
DLBC Dease Lake 58.20 335 LR LR 12 44 27.7
comp=Z,548nm,19.3s,baz=122,slow=41
U33K Whale Pass 58.26 331 P P **12 15 07.1 -1.2**
baz=122
S34M Telegraph Cree 58.36 334 P P **12 15 08.9 -0.1**
baz=125
WTLY Watson Lake, Y 58.73 337 P P **12 15 11.1 -0.5**
WTLY IAmb IAmb 12 15 21.5
comp=Z,12nm,1.0s
WTLY Watson Lake, Y 58.73 337 P P **12 15 10.3 -1.3**
baz=129,SNR=5.9
WRGLY Wrigley 58.95 341 P P **12 15 11.6 -1.4**
baz=136,SNR=5.2
R33M Jennings River 59.16 335 P P **12 15 14.2 -0.6**
R33M IAmb IAmb 12 15 16.3
comp=Z,12nm,1.1s
R33M Jennings River 59.16 335 P P **12 15 13.6 -1.1**
baz=126
TGTN Hyland Airport 59.43 338 P P **12 15 15.8 -0.7**
baz=130
S32K Killisnoo 59.66 332 P P **12 15 17.2 -0.8**
baz=121
SIT Sitka 59.79 331 P P **12 15 18.5 -0.4**
baz=120
P33M Teslin, Yukon 60.40 335 P P **12 15 22.9 -0.3**
baz=124
P32M Atlin 60.42 334 P P **12 15 23.3 0.0**
baz=123
S31K Pelican 60.67 332 P P **12 15 24.5 -0.4**
baz=120
R31K City Hall, Gus 60.68 333 P P **12 15 25.1 +0.1**
baz=121
N32M Quiet Lake 61.04 336 P P **12 15 27.4 -0.1**
N32M IAmb IAmb 12 15 37.4
comp=Z,21nm,1.1s
N32M Quiet Lake 61.04 336 P P **12 15 27.7 +0.2**
baz=125
SKAG Skagway 61.04 334 P P **12 15 27.8 +0.3**
baz=122
PLBC Pleasant Camp 61.49 333 P P **12 15 30.7 +0.2**
baz=120
WHY Whitehorse 61.50 335 P P **12 15 30.6 -0.1**
baz=122
FARO Faro, Yukon 61.77 337 P P **12 15 31.8 -0.5**
FARO IAmb IAmb 12 15 33.1
comp=Z,18nm,1.5s
FARO Faro, Yukon 61.77 337 P P **12 15 33.0 +0.7**
baz=125
O30N Mendenhall 62.06 335 P P **12 15 35.0 +0.6**
O30N IAmb IAmb 12 15 42.3
comp=Z,18nm,1.1s
O30N Mendenhall 62.06 335 P P **12 15 34.4 0.0**
baz=121
P30M Million Dollar 62.09 334 P P **12 15 34.4 -0.2**
baz=120
M31M Drury Creek, Y 62.15 337 P P **12 15 34.8 -0.2**
M31M IAmb IAmb 12 15 51.8
comp=Z,27nm,1.6s
M31M Drury Creek, Y 62.15 337 P P **12 15 34.3 -0.7**
baz=124
P29M Windy Craggy 62.19 333 P P **12 15 34.4 -0.8**
baz=119
N31M Braeburn, Yuko 62.31 336 P P **12 15 34.8 -1.3**
baz=122
HYT Haines Junctio 62.68 335 P P **12 15 37.6 -1.0**
baz=120
N30M Aishikik Lake 62.83 335 P P **12 15 38.9 -0.6**
baz=121
PNL Peninsula 62.94 333 P P **12 15 39.5 -0.8**
baz=118
YUK6 Outpost Mounta 63.10 334 P P **12 15 40.9 -0.7**
baz=119
YUK4 Talbot Arm 63.42 335 P P **12 15 43.1 -0.5**
baz=119
MAYO Mayo, Yukon 63.50 338 P P **12 15 43.7 -0.1**
MAYO Mayo, Yukon 63.50 338 P P **12 15 44.2 +0.3**
baz=123
C36M Paulatuk 63.61 346 P P **12 15 43.4 -1.0**
baz=137
O28M Mount Upton 63.81 334 P P **12 15 45.8 -0.5**
baz=117
YUK8 Steele Glacier 63.87 334 P P **12 15 46.1 -0.5**
baz=118
M29M Somme Creek 63.89 336 P P **12 15 46.3 -0.3**
M29M IAmb IAmb 12 15 47.9
comp=Z,21nm,1.1s
M29M Somme Creek 63.89 336 P P **12 15 46.1 -0.5**
baz=120,SNR=9.7
L29M L29M 64.10 337 P P **12 15 47.3 -0.5**
L29M IAmb IAmb 12 15 48.8
comp=Z,20nm,1.2s
L29M L29M 64.10 337 P P **12 15 47.2 -0.6**
baz=120,SNR=6.1
J30M Hart River 64.20 338 P P **12 15 48.5 -0.1**
J30M IAmb IAmb 12 15 57.9
comp=Z,46nm,2.0s
J30M Hart River 64.20 338 P P **12 15 48.4 -0.1**
baz=123
H31M Peel River 64.20 340 P P **12 15 47.6 -0.9**
H31M IAmb IAmb 12 15 48.5
comp=Z,17nm,1.4s
H31M Peel River 64.20 340 P P **12 15 47.8 -0.6**
baz=125
K29M Barlow Dome 64.24 337 P P **12 15 48.0 -0.9**
K29M IAmb IAmb 12 15 56.3
comp=Z,18nm,1.3s
K29M Barlow Dome 64.24 337 P P **12 15 48.6 -0.3**
baz=121
MESA MESA 64.32 333 P P **12 15 49.5 -0.1**
baz=115
RES Resolute Bay 64.36 357 P P **12 15 46.9 -2.4**
YUK3 Moose Creek 64.39 335 P P **12 15 50.0 0.0**
baz=118
CTG Chitna Glacier 64.40 334 P P **12 15 50.4 +0.4**
baz=116
I30M Mount Dempster 64.57 339 P P **12 15 50.8 -0.2**
I30M IAmb IAmb 12 15 51.9
comp=Z,16nm,1.1s
I30M Mount Dempster 64.57 339 P P **12 15 51.2 +0.2**
baz=123,SNR=13
J29N Klondike Camp 64.82 338 P P **12 15 52.6 0.0**
baz=121
G31M Satah River 64.83 341 P P **12 15 51.6 -0.8**
baz=126,SNR=6.1
BVCY Beaver Creek 64.86 335 P P **12 15 52.5 -0.3**
baz=117
F31M Tsiigehtchic 64.98 342 P P **12 15 53.1 -0.3**
baz=127,SNR=7.4
DAWY Dawson 65.07 337 P P **12 15 53.7 -0.5**
DAWY IAmb IAmb 12 16 04.1
comp=Z,15nm,1.3s
M27K Edge Creek, AK 65.25 335 P P **12 15 55.4 -0.2**
baz=116
MCARA McCarthy VSAT 65.32 334 P P **12 15 55.2 -0.6**
baz=115
EPYK Eagle Plains 65.32 340 P P **12 15 55.0 -0.7**
EPYK IAmb IAmb 12 15 56.6
comp=Z,14nm,1.1s
EPYK Eagle Plains 65.32 340 P P **12 15 55.1 -0.7**
baz=123,SNR=5.9
KAIM Kayak Island 65.35 332 P P **12 15 55.6 -0.4**
baz=113
INK Inuvik 65.44 343 P P **12 15 55.8 -0.6**
INK IAmb IAmb 12 15 57.1
comp=Z,20nm,1.1s
INK Inuvik 65.44 343 P P **12 15 55.9 -0.5**
baz=127,SNR=13
INK Inuvik 65.44 343 LR LR 12 48 07.8
comp=Z,218nm,18.3s,baz=170,slow=40
G30M tAoh Zraii Nji 65.50 341 P P **12 15 54.4 -2.5**
G30M IAmb IAmb 12 16 05.6
comp=Z,25nm,1.7s
G30M tAoh Zraii Nji 65.50 341 P P **12 15 56.6 -0.3**
baz=124
BCAR Beaver Creek A 65.53 336 P P **12 15 57.7 +0.4**
L27K Beaver Creek, 65.55 336 P P **12 15 57.9 +0.6**
L27K IAmb IAmb 12 16 05.4
comp=Z,20nm,1.1s
L27K Beaver Creek, 65.55 336 P P **12 15 56.9 -0.4**
baz=117,SNR=8.4
F30M Barrier River 65.71 341 P P **12 15 57.9 -0.3**
baz=124,SNR=9.9
M26K Nabesna, AK 65.74 335 P P **12 15 57.7 -0.9**
baz=115
H29M Whitestone 65.80 339 P P **12 15 58.1 -0.7**
baz=121,SNR=7.9
A36M Sachs Harbour 65.83 348 P P **12 15 56.9 -1.9**
baz=127,SNR=13
BMRM Bremner River 65.84 333 P P **12 15 58.4 -0.8**
baz=113
I28M Miner Creek 65.96 338 P P **12 15 59.4 -0.6**
baz=120
G29M Pine Creek 66.05 340 P P **12 15 59.7 -0.8**
baz=122,SNR=11
Q23K Middleton Isla 66.07 331 P P **12 15 59.8 -0.7**
baz=111
EGAK Eagle 66.08 337 P P **12 16 01.0 +0.4**
EGAK Eagle 66.08 337 P P **12 16 00.4 -0.2**
baz=118
K27K Chicken 66.09 337 P P **12 16 00.1 -0.6**
baz=117
N25K Chitina, Valde 66.10 334 P P **12 16 00.8 -0.1**
baz=113
L26K Log Cabin Wild 66.16 335 P P **12 16 01.1 -0.1**
L26K IAmb IAmb 12 17 15.5
comp=Z,39nm,1.8s
L26K Log Cabin Wild 66.16 335 P P **12 16 00.9 -0.3**
baz=115
EYAK Cordova Ski Ar 66.20 332 P P **12 16 01.3 -0.2**
baz=112
KLU Klutina 66.64 333 P P **12 16 04.4 0.0**
baz=112
I27K Kandik River 66.65 338 P P **12 16 04.0 -0.3**
baz=118,SNR=12
HARP HAARP 66.66 334 P P **12 16 04.3 0.0**
baz=113
P23K Montague Islan 66.77 331 P P **12 16 04.7 -0.4**
baz=110
E29M Blow River 66.81 342 P P **12 16 04.6 -0.7**
E29M IAmb IAmb 12 16 14.7
comp=Z,19nm,1.4s
E29M Blow River 66.81 342 P P **12 16 04.5 -0.7**
baz=123,SNR=7.2
SCRK Sand Creek 66.82 336 P P **12 16 05.3 -0.2**
SCRK IAmb IAmb 12 16 07.1
comp=Z,24nm,1.5s
SCRK Sand Creek 66.82 336 P P **12 16 05.5 0.0**
baz=115
J26L Joseph Creek 66.88 337 P P **12 16 05.7 -0.1**
baz=116,SNR=12
H27K Steamboat Moun 66.91 339 P P **12 16 06.2 +0.2**
baz=118,SNR=19
GLI Glacier Island 66.94 332 P P **12 16 06.1 -0.1**
baz=111
M24K Tolsona, Glenn 66.98 334 P P **12 16 06.3 -0.2**
baz=112
PAX Paxson 67.02 335 P P **12 16 06.4 -0.4**
baz=113
F28M Old Crow 67.03 340 P P **12 16 06.3 -0.3**
baz=120,SNR=9.8
I26K Coal Creek Min 67.08 338 P P **12 16 07.0 0.0**
baz=116
G27K Doyon Strip 67.24 339 P P **12 16 07.0 -1.0**
G27K Doyon Strip 67.24 339 P P **12 16 08.0 0.0**
baz=118
SCM Sheep Creek Mo 67.39 333 P P **12 16 08.6 -0.4**
baz=111
E28M Babbage River 67.44 341 P P **12 16 08.3 -0.9**
E28M IAmb IAmb 12 16 18.6
comp=Z,16nm,1.2s
E28M Babbage River 67.44 341 P P **12 16 08.9 -0.3**
baz=121,SNR=8.1
K24K Donnelly Dome 67.47 336 P P **12 16 09.3 -0.3**
baz=113
M23K Glacier View 67.55 333 P P **12 16 09.2 -0.8**
baz=110
D28M Stokes Point 67.58 342 P P **12 16 09.5 -0.5**
baz=122,SNR=11
J25K Salcha River, 67.64 336 P P **12 16 09.8 -0.8**
baz=114,SNR=9.5
KNK Knik Glacier 67.74 333 P P **12 16 10.7 -0.6**
baz=110
SEW Seward 67.77 331 P P **12 16 11.1 -0.3**
baz=108
SML Sawmill 67.82 333 P P **12 16 11.5 -0.3**
baz=110
WAT6 Susitna Watana 67.83 334 P P **12 16 12.4 +0.4**
baz=111,SNR=6.2
DHY Denali Highway 67.86 334 P P **12 16 12.3 +0.1**
baz=111
E27K Coleen River 67.88 341 P P **12 16 12.2 +0.1**
baz=119,SNR=7.7
O22K Coal Landing 68.02 331 P P **12 16 13.3 +0.3**
baz=108
G26K Porcupine Rive 68.05 339 P P **12 16 13.2 +0.2**
baz=116
PRP Porcupine Dome 68.07 337 P P **12 16 13.4 0.0**
baz=114
PMR Palmer 68.11 333 P P **12 16 13.5 0.0**
baz=109
HDA Harding Lake 68.18 336 P P **12 16 13.1 -0.9**
HDA Harding Lake 68.18 336 P P **12 16 14.2 +0.2**
baz=112,SNR=10
D27M Malcolm River 68.21 342 P P **12 16 13.3 -0.9**
D27M Malcolm River 68.21 342 P P **12 16 13.8 -0.3**
baz=120
RC01 Rabbit Creek A 68.22 332 P P **12 16 14.1 -0.1**
baz=108
WAT1 Susitna Watana 68.27 334 P P **12 16 14.4 -0.2**
baz=110
BRSE Bradley Lake S 68.28 331 P P **12 16 14.9 +0.2**
baz=107
IL31 68.30 336 P P **12 16 14.2 -0.4**
IL31 IAmb IAmb 12 16 25.2
comp=Z,26nm,1.2s
ILAR Eielson Array 68.30 336 P P **12 16 13.6 -1.1**
ILAR Eielson Array 68.30 336 P P **12 16 13.9 -0.7**
comp=Z,10.0nm,1.1s,baz=110,slow=4.4,SNR=41
comp=Z,10.0nm,1.1s
H25L Birch Creek 68.49 338 P P **12 16 15.9 +0.1**
baz=114
F26K Sheenjek River 68.51 340 P P **12 16 15.9 -0.1**
baz=116,SNR=5.1
PPT Papeete 68.51 246 LR LR 12 40 18.8
comp=Z,223nm,18.1s,baz=43,slow=30
BMAR Burnt Mountain 68.54 339 P P **12 16 16.1 -0.1**
RND Reindeer 68.60 335 P P **12 16 17.4 +0.7**
M22K Willow 68.61 333 P P **12 16 16.8 +0.2**
baz=108
POKR Poker Plat Res 68.65 337 P P **12 16 16.8 -0.1**
baz=112
KDAK Kodiak Island 68.67 328 P P **12 16 17.0 -0.1**
baz=104
KDAK Kodiak Island 68.67 328 LR LR 12 47 49.9
comp=Z,210nm,21.9s,baz=123,slow=37
WRH Wood River Hil 68.67 336 P P **12 16 16.5 -0.4**
WRH IAmb IAmb 12 16 30.8
comp=Z,16nm,1.2s
HOM Homer 68.69 330 P P **12 16 16.8 -0.4**
baz=106
COLA College 68.72 336 P P **12 16 17.5 +0.2**
COLA IAmb IAmb 12 16 24.6
comp=Z,19nm,1.3s
COLA College 68.72 336 P P **12 16 16.8 -0.4**
baz=112
COLA College 68.72 336 P P **12 16 17.3 0.0**
MCK McKinley 68.75 335 P P **12 16 17.9 +0.4**
baz=110,SNR=9.9
CAPN Captain Cook N 68.78 332 P P **12 16 18.0 +0.3**
baz=107
Q20K Shuyak Island 68.78 329 P P **12 16 17.8 0.0**
baz=105
G25K Bearman Lake 68.80 338 P P **12 16 18.2 +0.4**
baz=114
SUA Susitna One 68.80 332 P P **12 16 17.9 -0.2**
baz=108
CUT Chulitna 68.88 333 P P **12 16 17.9 -0.4**
CUT Chulitna 68.88 333 P P **12 16 18.3 0.0**
baz=108
OHAK Old Harbor 68.90 328 P P **12 16 18.7 +0.2**
baz=104
MDM Murphy Dome 68.90 336 P P **12 16 18.0 -0.5**
MDM IAmb IAmb 12 16 26.6
comp=Z,16nm,1.2s
F25K Christian Rive 68.98 339 P P **12 16 19.4 +0.4**
baz=115,SNR=8.1
H24K Noodor Dome 69.09 337 P P **12 16 19.1 -0.6**
H24K IAmb IAmb 12 16 20.8
comp=Z,13nm,1.1s
H24K Noodor Dome 69.09 337 P P **12 16 20.1 +0.4**
baz=112,SNR=6.8
NEA2 Nenana 69.11 336 P P **12 16 19.5 -0.3**
NEA2 IAmb IAmb 12 16 20.4
comp=Z,13nm,1.0s
NEA2 Nenana 69.11 336 P P **12 16 19.6 -0.1**
baz=110,SNR=9.4
E25K Arctic Village 69.18 340 P P **12 16 19.8 -0.3**
baz=115
SII Sitkinak Islan 69.22 327 P P **12 16 20.8 +0.2**
baz=102
TRF Thorofare Moun 69.22 334 P P **12 16 20.3 -0.4**
baz=109
C27K Jago River 69.24 342 P P **12 16 20.8 +0.3**
baz=117,SNR=5.3
G24K Hadweenzic Riv 69.27 338 P P **12 16 20.9 +0.1**
baz=112,SNR=6.5
O20K Slope Mountain 69.29 331 P P **12 16 21.1 +0.1**
baz=105
SKT Skwentna 69.31 333 P P **12 16 21.1 +0.1**
baz=107
NEEM North Greenlan 69.37 8 *i* P P **12 16 18.4 -3.1**
I23K Minto, Yukon-K 69.42 336 P P **12 16 21.7 +0.1**
baz=110,SNR=13
P19K Oil Pt 69.47 330 P P **12 16 22.1 0.0**
baz=104
Q19K Cape Douglas, 69.49 329 P P **12 16 22.1 -0.2**
baz=104
H23K Yukon River 69.73 337 P P **12 16 23.5 -0.1**
baz=110
BPAW Bear Paw Mtn. 69.73 335 P P **12 16 23.5 -0.1**
baz=108,SNR=18
F24K Squaw Lake 69.74 339 P P **12 16 23.5 -0.1**
baz=112
C26K Camdee Bay 69.75 342 P P **12 16 23.7 +0.2**
baz=116
CHIR Chirikof Islan 69.86 326 P P **12 16 24.3 -0.2**
baz=101
PPLA Purkeypile 69.88 334 P P **12 16 24.3 -0.3**
baz=107
MLY Manley 69.93 336 P P **12 16 25.0 +0.2**
baz=109,SNR=16
D25K Kavik River 69.95 341 P P **12 16 25.0 +0.1**
baz=114
CAST Castle Rocks 69.98 334 P P **12 16 25.0 -0.2**
baz=107,SNR=5.5
M20K Styx River 70.01 332 P P **12 16 25.4 0.0**
baz=105
O19K Port Alsworth 70.14 330 P P **12 16 26.2 +0.1**
baz=104
E24K Your Creek 70.16 339 P P **12 16 26.0 -0.3**
baz=112
G23K Bananza Creek 70.22 338 P P **12 16 26.9 +0.3**
baz=110,SNR=12
CHUM Lake Minchumin 70.22 335 P P **12 16 26.2 -0.4**
baz=107
N19K Bonanza Creek 70.36 331 P P **12 16 27.2 -0.5**
baz=104
P18K Big Mountain, 70.40 330 P P **12 16 27.4 -0.4**
baz=103
H22K Ishtalitna Cre 70.46 337 P P **12 16 28.1 +0.1**
baz=108,SNR=9.1
COLD Coldfoot 70.46 338 P P **12 16 28.3 +0.3**
baz=110,SNR=12
I21K Tanana 70.47 336 P P **12 16 27.7 -0.3**
I21K IAmb IAmb 12 16 35.7
comp=Z,23nm,1.1s
I21K Tanana 70.47 336 P P **12 16 27.8 -0.3**
baz=108
Q17K Contact Creek 70.49 328 P P **12 16 28.3 -0.1**
baz=102
O18K Kokhtuh Hills 70.49 330 P P **12 16 28.2 -0.2**
baz=103
L20K Farewell, AK 70.51 333 P P **12 16 27.8 -0.7**
baz=105,SNR=6.6
E23K Chandalar 70.55 339 P P **12 16 28.4 -0.2**
baz=111,SNR=11
M19K Big River Lodg 70.59 332 P P **12 16 28.5 -0.4**
baz=104
D24K Happy Valley 70.69 340 P P **12 16 28.5 -0.8**
D24K Happy Valley 70.69 340 P P **12 16 28.7 -0.7**
baz=112
TOLK Toolik Lake Re 70.75 340 P P **12 16 29.2 -0.5**
TOLK IAmb IAmb 12 16 57.3
comp=Z,36nm,1.9s
TOLK Toolik Lake Re 70.75 340 P P **12 16 29.3 -0.5**
baz=111
K20K Telida 70.82 334 P P **12 16 29.4 -0.9**
K20K IAmb IAmb 12 16 31.1
comp=Z,18nm,1.1s
K20K Telida 70.82 334 P P **12 16 29.8 -0.5**
baz=105,SNR=7.0
G22K Bettles 70.84 338 P P **12 16 30.5 +0.2**
baz=109
C24K Franklin Bluff 70.86 341 P P **12 16 30.1 -0.3**
baz=112
L19K White Mountain 70.87 332 P P **12 16 30.8 +0.1**
baz=104
H21K Melozitna Rive 70.95 336 P P **12 16 30.8 -0.2**
baz=107,SNR=6.0
P17K Kvichak River 70.96 329 P P **12 16 31.2 0.0**
baz=102
Q16K King Salmon 70.97 329 P P **12 16 30.8 -0.4**
baz=101
N18K Kilae Creek 71.01 331 P P **12 16 31.3 -0.2**
baz=102
J20K Nowinta River 71.08 335 P P **12 16 31.6 -0.2**

baz=105
M18K **Stony River** 71.16 332 P P 12 16 31.9 -0.4
baz=103
R16K **Pilot Point** 71.24 327 P P 12 16 33.5 +0.6
baz=100
D23K **Nanushuk River** 71.24 340 P P 12 16 32.7 0.0
baz=110,SNR=6.1
F22K **John River** 71.28 338 P P 12 16 33.3 +0.3
baz=108
I20K **Naaghedeneel** 71.38 335 P P 12 16 32.9 -0.7
I20K **Naaghedeneel** 71.38 335 P P 12 16 33.2 -0.4
baz=105,SNR=5.4
O17K **Koliganek Bris** 71.41 330 P P 12 16 33.6 -0.2
baz=101
G21K **Allakaket** 71.47 337 P P 12 16 33.2 -1.0
G21K IAmb IAmb 12 16 35.6
comp=Z,23nm,0.9s
G21K **Allakaket** 71.47 337 P P 12 16 33.9 -0.2
baz=107,SNR=12
CHGN **Chignik** 71.48 326 P P 12 16 34.0 -0.3
baz=99
C23K **Itkillik River** 71.52 341 P P 12 16 34.1 -0.2
C23K IAmb IAmb 12 16 35.7
comp=Z,15nm,1.1s
C23K **Itkillik River** 71.52 341 P P 12 16 34.2 -0.2
baz=110,SNR=6.7
N17K **Nushagak Hills** 71.60 330 P P 12 16 35.1 +0.1
baz=101
J19K **Poorman** 71.66 334 P P 12 16 35.1 -0.2
baz=104
F21K **Alatna River** 71.67 338 P P 12 16 35.1 -0.2
baz=107,SNR=17
L18K **Granite Mounta** 71.72 332 P P 12 16 35.6 -0.1
baz=102
H20K **Anotleneega Mo** 71.73 336 P P 12 16 35.4 -0.3
baz=105
O16K **Kokwok River B** 71.87 329 P P 12 16 36.8 +0.2
baz=100
D22K **Ayikyak River** 71.89 340 P P 12 16 36.8 +0.1
baz=108
M17K **Holitna River** 71.89 331 P P 12 16 37.0 +0.2
baz=101
J18K **Innoko River** 72.00 334 P P 12 16 37.1 -0.3
baz=103
S14K **Fog Glacier** 72.11 326 P P 12 16 37.8 -0.5
baz=98
E21K **Killik River** 72.21 339 P P 12 16 38.2 -0.4
baz=107
N16K **Nishlik Lake** 72.36 330 P P 12 16 38.7 -0.9
baz=100
GCSA **Galena City Sc** 72.36 335 P P 12 16 39.6 +0.1
baz=103
H19K **Roundabout Mou** 72.37 336 P P 12 16 39.6 +0.1
H19K IAmb IAmb 12 16 47.9
comp=Z,22nm,1.0s
H19K **Roundabout Mou** 72.37 336 P P 12 16 38.9 -0.6
baz=104,SNR=7.8
L17K **Donlin** 72.44 332 P P 12 16 39.5 -0.5
baz=101
F20K **Avaraart Lake** 72.47 337 P P 12 16 40.1 0.0
F20K **Avaraart Lake** 72.47 337 P P 12 16 39.5 -0.5
baz=105
SDPT **Sand Point** 72.50 325 P P 12 16 39.8 -0.7
baz=97
M16K **Timber Creek** 72.55 331 P P 12 16 40.3 -0.4
baz=100
K17K **Iditarod** 72.55 333 P P 12 16 40.4 -0.3
baz=101
B22K **Teshekpuk Lake** 72.60 341 P P 12 16 39.6 -1.2
B22K **Teshekpuk Lake** 72.60 341 P P 12 16 41.0 +0.2
baz=108,SNR=5.9
O15K **Ungalikthiuk R** 72.67 329 P P 12 16 41.1 -0.4
baz=98
C21K **Knifeblade Rid** 72.70 340 P P 12 16 41.2 -0.3
baz=106
G19K **Purcell Mounta** 72.77 336 P P 12 16 41.5 -0.4
G19K IAmb IAmb 12 16 43.2
comp=Z,14nm,1.1s
G19K **Purcell Mounta** 72.77 336 P P 12 16 41.7 -0.2
baz=103,SNR=5.9
B21K **Ikpikpuk River** 72.77 340 P P 12 16 41.2 -0.7
baz=106
L16K **Owhat River** 72.91 331 P P 12 16 42.7 -0.1
L16K IAmb IAmb 12 16 44.5
comp=Z,18nm,1.1s
L16K **Owhat River** 72.91 331 P P 12 16 43.2 +0.4
baz=100
E20K **Nigu River** 72.95 339 P P 12 16 42.9 -0.1
baz=105,SNR=10
N15K **Kwethluk River** 72.96 330 P P 12 16 43.2 0.0
baz=98
J17K **VABM Dome** 73.03 333 P P 12 16 43.6 +0.1
baz=100
H18K **Honhosa River** 73.07 335 P P 12 16 43.9 +0.2
baz=102
E19K **Redstone River** 73.13 338 P P 12 16 43.5 -0.5
E19K **Redstone River** 73.13 338 P P 12 16 43.9 -0.1
baz=103
F19K **Shaleruckik Mo** 73.20 337 P P 12 16 43.1 -1.3
F19K **Shaleruckik Mo** 73.20 337 P P 12 16 44.0 -0.4
baz=103
D20K **Etivluk River** 73.22 339 P P 12 16 44.4 -0.2
baz=104,SNR=11
A22K **Sinclair Lake** 73.29 341 P P 12 16 44.8 -0.1
baz=107
M15K **Kasigluk River** 73.33 330 P P 12 16 45.5 +0.2
baz=98
G18K **Tagagawik** 73.34 336 P P 12 16 45.2 -0.1
baz=102
O14K **Tigyukauivet M** 73.42 329 P P 12 16 46.3 +0.4
baz=97
S12K **Black Hills** 73.44 325 P P 12 16 46.5 +0.4
baz=96
H17K **Granite Mounta** 73.67 335 P P 12 16 47.5 +0.2
baz=100
J16K **Anvik River** 73.69 333 P P 12 16 47.6 +0.3
baz=99
D19K **Kuna River** 73.70 339 P P 12 16 47.0 -0.4
D19K IAmb IAmb 12 16 48.7
comp=Z,14nm,1.0s
D19K **Kuna River** 73.70 339 P P 12 16 47.4 0.0
baz=103,SNR=6.4
N14K **Kuskokwak Cree** 73.72 329 P P 12 16 47.1 -0.5
baz=97
B20K **Meade River** 73.73 340 P P 12 16 47.4 -0.1
baz=104
I17K **Unalakleet** 73.83 334 P P 12 16 47.6 -0.5
baz=99
L15K **Ungalak Mounta** 73.85 331 P P 12 16 49.2 +0.8
baz=98
F18K **Selawik** 73.88 337 P P 12 16 48.8 +0.4
baz=101
A21K **Barrow** 73.89 342 P P 12 16 48.5 +0.1
baz=105
M14K **Bethel** 73.96 330 P P 12 16 49.0 +0.1
M14K **Bethel** 73.96 330 P P 12 16 49.0 +0.1
baz=97
K15K **Wolf Creek Mou** 73.96 332 P P 12 16 49.4 +0.4
baz=98
G17K **Kiwalik Mounta** 74.08 335 P P 12 16 49.9 +0.2
baz=100
FALS **False Pass** 74.13 324 P P 12 16 50.3 +0.2
baz=94
C19K **Lookout Ridge** 74.36 339 P P 12 16 51.8 +0.6
C19K IAmb IAmb 12 16 59.8
comp=Z,20nm,1.1s
C19K **Lookout Ridge** 74.36 339 P P 12 16 51.6 +0.4
baz=102
L14K **Kuka Creek** 74.38 331 P P 12 16 51.4 0.0
baz=96
E18K **Tukpahlearik C** 74.40 337 P P 12 16 51.8 +0.3
baz=100
F17K **Baldwin Pennin** 74.48 336 P P 12 16 51.6 -0.3
baz=99
M13K **Dall Lake** 74.60 330 P P 12 16 52.7 0.0
baz=96
H16K **Elim** 74.61 334 P P 12 16 52.7 0.0
baz=98
G16K **Koyuk River** 74.77 335 P P 12 16 53.1 -0.4
baz=98
E17K **Hotham Inlet** 74.81 337 P P 12 16 53.7 -0.1
baz=99
C18K **Utukok River** 74.84 339 P P 12 16 53.4 -0.7
baz=100
J14K **Nanvaranak Lak** 74.95 332 P P 12 16 54.4 -0.3
baz=96
A19K **Wainwright** 75.08 340 P P 12 16 55.4 +0.1
baz=100
B18K **Kokolik River** 75.18 339 P P 12 16 55.8 -0.1
baz=100
RDOG **Red Dog Mine** 75.37 338 P P 12 16 56.9 -0.2
baz=98
K13K **Kusilvak Mount** 75.38 331 P P 12 16 57.1 -0.1
baz=95
D17K **Noatak River** 75.38 337 P P 12 16 56.9 -0.2
baz=98
G15K **Nikukluk** 75.42 335 P P 12 16 57.0 -0.3
baz=96
C17K **DeLong Mountai** 75.53 338 P P 12 16 57.7 -0.3
baz=98
F15K **North Star Dit** 75.75 335 P P 12 16 59.2 0.0
baz=96
UNV **Unalaska Valle** 75.89 323 P P 12 17 00.8 +0.5
baz=91
ANM **Nome** 75.94 334 P P 12 17 00.6 +0.2
baz=95
M11K **Mekoryuk** 76.01 330 P P 12 17 01.6 +0.9
baz=93
C16K **Lisburne Hills** 76.30 338 P P 12 17 02.9 +0.5
baz=96
F14K **Arctic Creek** 76.42 335 P P 12 17 03.4 +0.3
baz=94
TNA **Tin City** 77.09 335 P P 12 17 07.5 +0.7
baz=93
NIKH **Nikolski High** 77.28 322 P P 12 17 08.8 +0.6
baz=89
MDT **Midelt** 77.38 59 LR LR 12 48 19.3
comp=Z,556nm,18.9s,baz=314,slow=34
ESDC **Sonseca Array** 77.44 52 P P 12 17 08.0 -1.5
ESDC **Sonseca Array** 77.44 52 P P 12 17 07.3 -2.1
comp=Z,3.3nm,0.9s,baz=280,slow=5.6,SNR=19
ESDC LR LR 12 46 45.1
comp=Z,342nm,20.7s,baz=270,slow=32
comp=Z,3.3nm,0.9s
EKA **Eskdalemuir Ar** 77.50 36 P P 12 17 06.6 -2.8
comp=Z,2.5nm,0.8s,baz=277,slow=7.3,SNR=4.5
comp=Z,2.5nm,0.8s
P08K **Saint George I** 77.66 326 P P 12 17 11.7 +1.5
baz=89
SPIA **Saint Paul Isl** 78.04 326 P P 12 17 14.0 +1.7
baz=89
NOA **NORSAR Array B** 84.48 29 P P 12 17 44.6 -1.9
comp=Z,1.2nm,0.8s,baz=280,slow=5.1,SNR=4.2
comp=Z,1.2nm,0.8s
TORD **Torodi Ar. Bea** 85.64 77 P P 12 17 51.2 -1.9
comp=Z,0.4nm,0.8s,baz=266,slow=4.7,SNR=3.7
BILL **Bilibino** 86.78 339 P P 12 17 58.0 +0.3
KEST **Kesra** 88.41 54 LR LR 12 56 09.0
comp=Z,130nm,18.2s,baz=206,slow=35
VRAC **Vranov** 90.34 40 LR LR 12 54 56.9
comp=Z,221nm,20.9s,baz=266,slow=33
VAE **Valguarnera** 91.98 51 LR LR 12 59 27.8
comp=Z,211nm,18.2s,baz=322,slow=36
PETK **Petropavlovsk-** 96.69 327 P P 12 18 44.9 +0.8
comp=Z,3.3nm,0.9s,baz=82,slow=11,SNR=4.6
comp=Z,3.3nm,0.9s
ZALV **Zalesovo Beam** 115.37 6 PKP PKPdf 12 23 55.7 +0.4
comp=Z,0.5nm,0.4s,baz=321,slow=1.8,SNR=2.0
SONM **Songino Array** 120.87 350 PKP PKPdf 12 24 06.7 +0.4
comp=Z,1.5nm,0.7s,baz=332,slow=0.7,SNR=8.7
GEYT **Alibek** 121.41 33 PKP PKiKP 12 24 08.3 +0.7
comp=Z,1.3nm,0.5s,baz=287,slow=2.4,SNR=2.2
MKAR **Makanchi Array** 122.06 9 PKP PKPdf 12 24 08.1 -0.3
comp=Z,0.8nm,0.7s,baz=7.6,slow=1.8,SNR=6.9
KSRS **Korea Array** 122.58 328 PKP PKiKP 12 24 10.7 +0.9
comp=Z,3.0nm,0.7s,baz=12,slow=1.1,SNR=12
WMQ **Urumqi** 125.67 5 *e*PKP PKiKP 12 24 17.3 +1.4
WMQ LR LR
comp=Z,270nm,17.9s
WMQ LR LR
comp=Z,320nm,24.3s
WMQ LR LR
comp=Z,210nm,24.3s
HHC **Hu-ho-hao-te** 126.35 343 *e*PKP PKiKP 12 24 18.0 +0.6
HHC LR LR
comp=Z,130nm,16.8s
HHC LR LR
comp=Z,110nm,17.6s
HHC LR LR
comp=Z,130nm,18.3s
BTO **Baotou** 127.00 345 *e*PKP PKiKP 12 24 19.2 +0.5
BTO PP PP 12 26 18.4 +3.1
BTO SS SS 12 43 26.9 +8.0
BTO LR LR
comp=Z,420nm,16.1s
BTO LR LR
comp=Z,180nm,14.5s
BTO LR LR
comp=Z,430nm,18.9s
TIA **Tai'an** 128.61 336 PKP PKiKP 12 24 23.7 +1.8
GTA **Gaotai** 130.05 354 *e*PKP PKiKP 12 24 25.6 +0.7
NJ2 **Nanjing** 131.38 331 ⇓PKP PKiKP 12 24 27.7 +0.2
LZH **Lanzhou** 132.72 349 *e*P PKPpre 12 24 19.1
LZH pP PKPdf 12 24 23.9 -5.4
LZH pmax pmax
comp=Z,18nm,1.3s
XAN **Xi'an** 133.44 343 ⇑PKP PKiKP 12 24 32.9 +1.1
XAN LR LR
comp=Z,240nm,20.3s
XAN LR LR
comp=Z,250nm,18.4s
XAN LR LR
comp=Z,250nm,20.0s
ASAR **Alice Springs** 139.63 246 PKhKP PKPpre 12 24 34.3
comp=Z,0.5nm,0.7s,baz=118,slow=3.5,SNR=3.5
ASAR PKP PKPdf 12 24 43.7 +1.5
comp=Z,0.9nm,0.7s,baz=108,slow=2.5,SNR=11
WRA **Warramunga Arr** 139.85 252 PKP PKiKP 12 24 44.9 -0.2
comp=Z,3.0nm,0.9s,baz=95,slow=2.5,SNR=16
PZH **PanZhiHua** 142.43 348 PKP PKPdf 12 24 47.1 -0.2
KMI **Kunming** 143.55 346 ⇓PKP PKiKP 12 24 53.3 +0.5
TNCH **TengChong** 144.40 353 PKP PKPab 12 24 49.4 +0.4
CMAR **Chiang Mai Arr** 150.80 350 PKP PKPdf 12 25 01.8 +0.4
comp=Z,4.0nm,0.8s,baz=314,slow=2.1,SNR=24
CMAR PKPbc PKPbc 12 25 07.6 +0.6
comp=Z,9.2nm,0.9s,baz=323,slow=3.8,SNR=13

*CATAC **05** 12:10:28.4±1.0, 10.37N×86.30W, h10km±6km, ML3.7*
*UCR **05** 12:10:28.6±0.7, 10.41N×86.32W, h22km±7km, MW3.9*
ISC 05 12:10:28.5±2.7, 10.38N±0.06×86.3W±0.1, h17km±12km,
n19, σ0.961/24, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAJU	**San Juanillo,**	**0.67**	**118**	*i* P	**Pb**	**12 10 42.1**	**+0.4**
SAJU				*i* S	**Sb**	**12 10 51.3**	**+0.6**
SAJU				IAML		12 10 53.7	
	comp=Z,2μm,1.0s						
HZTE	**Horizontes, Gu**	**0.78**	**65**	*i* P	**Pg**	**12 10 43.6**	**-0.1**
HZTE				IAML		12 10 44.3	
	comp=Z,4μm,1.0s						
HZTE				*i* S	**Sn**	**12 10 55.4**	**-0.6**
HZTE	**Horizontes, Gu**	**0.78**	**65**	*e*P	**Pg**	**12 10 43.7**	**0.0**
HZTE				*e*S	**Sb**	**12 10 54.9**	**+1.1**
ORTG	**Ortega, Santa**	**0.84**	**91**	*i* P	**Pb**	**12 10 44.5**	**-0.2**
ORTG				*i* S	**Sb**	**12 10 55.6**	**-0.1**
ORTG				IAML		12 11 01.8	
	comp=Z,2μm,1.0s						
ORTG	**Ortega, Santa**	**0.84**	**91**	*e*P	**Pb**	**12 10 44.5**	**-0.2**
DUNO	**Dulce Nombre,**	**0.86**	**110**	*i* P	**Pb**	**12 10 44.9**	**-0.1**
DUNO				*i* S	**Sg**	**12 10 56.5**	**-0.1**
DUNO				IAML		12 11 02.8	
	comp=Z,2μm,1.0s						
DUNO	**Dulce Nombre,**	**0.86**	**110**	*e*P	**Pb**	**12 10 44.8**	**-0.1**
VMAR	**Armenia, Volca**	**1.25**	**70**	*e*P	**Pn**	**12 10 51.0**	**-0.3**
JAPN	**AI SSO del Vol**	**1.29**	**29**	*i* P	**Pb**	**12 10 52.5**	**+0.1**
JAPN				IAML		12 10 53.3	
	comp=Z,1μm,1.0s						
OMEN	**AI SSO del Vol**	**1.31**	**31**	*i* P	**Pn**	**12 10 51.9**	**-0.1**
OMEN				IAML		12 11 03.0	
	comp=Z,1μm,1.0s						
MORN	**Al O del Volca**	**1.33**	**29**	*i* P	**Pn**	**12 10 52.4**	**+0.1**
MORN				IAML		12 10 59.1	
	comp=Z,2μm,1.0s						
JTS	**Las Juntas de**	**1.34**	**94**	*e*P	**Pn**	**12 10 51.9**	**-0.5**
CONN	**Concepcion**	**1.35**	**30**	*i* P	**Pn**	**12 10 52.4**	**-0.3**
CONN				IAML		12 11 18.2	
	comp=Z,6μm,1.0s						
LAFE	**Finca La Fe, P**	**1.49**	**112**	*i* P	**Pn**	**12 10 53.5**	**-1.1**
LAFE				IAML		12 11 30.7	
	comp=Z,3.1nm,1.0s						
LAFE	**Finca La Fe, P**	**1.49**	**112**	*e*P	**Pn**	**12 10 53.5**	**-1.1**
SOCE	**Pocosol**	**1.67**	**90**	*i* P	**Pb**	**12 10 58.2**	**-0.6**
SOCE				IAML		12 11 29.2	
	comp=Z,460nm,1.0s						
SOCE	**Pocosol**	**1.67**	**90**	*e*P	**Pn**	**12 10 57.3**	**+0.4**
RIMA	**Rio Macho**	**2.48**	**104**	*i* P	**Pn**	**12 11 09.6**	**+1.2**
RIMA				IAML		12 11 12.3	
	comp=Z,170nm,1.0s						
BUS1	**Rivas**	**2.66**	**108**	*e*P	**Pn**	**12 11 11.9**	**+0.9**

*HVO **05** 12:14:38.7±1.5, 19.20N±0.03×155.33W±0.02, h-0km±8km,*
ML2.6/21,ML2.6/44(NEIC), Error ellipse: s-maj=4.3km
s-min=1.0km az=151.0
NEIC 05 12:14:38.6±1.5, 19.14N±0.02×155.29W±0.02, h5km±2km,
Error ellipse: s-maj=3.2km s-min=2.9km az=320.0,
Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.14**	**312**		Pg	12 14 41.2	-0.3
HLP	**Hilina Pali**	**0.15**	**352**		Pg	12 14 41.8	+0.1
PUH	**Pauahi**	**0.24**	**16**		Pg	12 14 43.4	0.0
PUH				IAML		12 14 48.0	
	comp=E,970nm,0.2s						
PUH				IAML		12 14 48.1	
	comp=N,1μm,0.3s						
SDHHI	**Sand Hill**	**0.25**	**358**		Pg	12 14 43.2	-0.3
RIM	**Rim**	**0.25**	**3**		Pg	12 14 42.3	-1.3
RIM				IAML		12 14 48.4	
	comp=E,1μm,0.4s						
RIM				IAML		12 14 48.4	
	comp=N,1μm,0.5s						
KKO	**Keanakako'i**	**0.26**	**4**		Pg	12 14 43.4	-0.2
KKO				IAML		12 14 48.2	
	comp=E,2μm,0.4s						
KKO				IAML		12 14 49.5	
	comp=N,2μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.26**	**25**		Pg	12 14 44.3	+0.6
WRMHI	**West Rim**	**0.26**	**357**		Pg	12 14 43.2	-0.6
NPH	**North Pit**	**0.27**	**1**	Pg	Pg	12 14 42.8	-1.2
BYL	**Byron's Ledge**	**0.27**	**5**	IAML		12 14 49.7	
	comp=E,1μm,0.3s						
BYL				IAML		12 14 50.1	
	comp=N,951nm,0.3s						
BYL	**Byron's Ledge**	**0.27**	**5**		Pg	12 14 44.0	+0.1
BYL					Sg	12 14 48.5	+1.0
OBL	**Observatory Le**	**0.27**	**0**	Pg	Pg	12 14 43.1	-0.9
UWE	**Uwekahuna**	**0.28**	**359**		Pg	12 14 42.7	-1.4
UWE				IAML		12 14 49.4	
	comp=E,2μm,0.4s						
UWE				IAML		12 14 51.0	
	comp=N,1μm,0.3s						
HATHI	**Halema'uma'u T**	**0.28**	**5**		Pg	12 14 43.5	-0.7
HATHI				IAML		12 14 49.9	
	comp=N,1μm,0.4s						
HATHI				IAML		12 14 50.8	
	comp=E,1μm,0.4s						
UWB	**Uwekahuna B**	**0.28**	**2**		Sg	12 14 48.1	+0.2
SBLHI	**Steaming Bluff**	**0.28**	**3**		Pg	12 14 42.7	-1.5
SBLHI				IAML		12 14 49.2	
	comp=E,2μm,0.4s						
SBLHI				IAML		12 14 49.2	
	comp=N,1μm,0.4s						
STCH	**Steam Cracks**	**0.29**	**32**		Pg	12 14 44.6	+0.3
JCUZ	**Jacuzzi**	**0.30**	**36**		Pg	12 14 45.4	+1.0
JCUZ	**Jacuzzi**	**0.30**	**36**	IAML		12 14 51.1	
	comp=N,499nm,0.5s						
JCUZ				IAML		12 14 51.4	
	comp=E,721nm,0.3s						
NPOC	**North of Pu'u**	**0.30**	**34**		Pg	12 14 44.7	+0.2
NPOC				IAML		12 14 51.3	
	comp=E,641nm,0.7s						
RSD	**Rainshed**	**0.32**	**1**		Pg	12 14 43.3	-1.6
RSD				IAML		12 14 50.4	
	comp=N,628nm,1.0s						
KHU	**Kahuku**	**0.33**	**289**		Pg	12 14 44.7	-0.3
MLH	**Mauna Loa**	**0.36**	**345**		Pg	12 14 44.8	-1.0
MLH				IAML		12 14 52.3	
	comp=E,2μm,0.2s						
MWH	**Moku'aweowe**	**0.45**	**319**		Pg	12 14 47.0	-0.5
MWH				IAML		12 14 54.2	
	comp=N,900nm,0.4s						
MWH				IAML		12 14 57.7	
	comp=E,759nm,0.4s						
MWH	**Moku'aweowe**	**0.45**	**319**		Sg	12 14 54.0	+0.6
HMH	**Humu'ula Sheep**	**0.49**	**338**		Pg	12 14 47.5	-0.8
HMH				IAML		12 14 56.1	
	comp=E,708nm,0.2s						
HMH				IAML		12 14 56.8	
	comp=N,942nm,0.3s						
HMH	**Humu'ula Sheep**	**0.49**	**338**		Sg	12 14 55.5	+0.8
ALEP	**Alea Permanent**	**0.52**	**320**		Pg	12 14 48.4	-0.4
POHA	**Pohakuloa**	**0.66**	**339**		Pg	12 14 49.9	-1.4
POHA	**Pohakuloa**	**0.66**	**339**		Pg	12 14 49.5	-1.8
CPH	**Captain Cook**	**0.69**	**300**		Pg	12 14 50.4	-1.5
HUH	**Hualalai**	**0.75**	**316**		Pg	12 14 52.3	-0.8
HPAH	**Hawaii Prepara**	**0.96**	**336**		Pg	12 14 54.7	-2.4
MHA	**Mahukona**	**1.19**	**331**	Pg	Pg	12 14 58.8	-2.7
HLK	**Haleakala**	**1.84**	**331**	Pn	Pn	12 15 08.8	-2.4

*IDC **05** 12:23:28.3±1.1, 53.15N×170.57E, h0km, mb3.7/12,*
mbtmp3.7/14, ML3.6/2, MS3.1/1, Error ellipse:
s-maj=29.5km s-min=15.5km az=4.0
*KRSC **05** 12:23:28.6±2.1, 52.91N×170.37E, h38km±100km, Ml4.1*
*MOS **05** 12:23:30.0±0.7, 52.87N×170.50E, h36km, mb3.7/1, Error*
ellipse: s-maj=11.5km s-min=6.5km az=33.8
ISC 05 12:23:31.5±0.7, 52.88N±0.07×170.47E±0.05, h28km, **n69,**
σ1906/76, mb3.7/12, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**2.21**	**92**	Pn	**Pn**	**12 24 06.1**	**-0.1**
	68nm,0.3s,baz=279,slow=4.9,SNR=49						
SHEM				Sn	**Sn**	**12 24 32.6**	**0.0**
	110nm,0.3s,baz=287,slow=15,SNR=13						
	145nm,0.3s						
KBTR	**Krutoberegovo**	**5.56**	**310**	*e*P	**Pn**	**12 24 54.3**	**+2.0**
KBTR	**Krutoberegovo**	**5.56**	**310**	P	**Pn**	**12 24 54.3**	**+2.0**
SPN	**Mys Shipunski**	**6.31**	**276**	*e*P	**Pn**	**12 25 02.1**	**-0.5**
SPN	**Mys Shipunski**	**6.31**	**276**	P	**Pn**	**12 25 02.1**	**-0.5**
TUMD	**Tumrok D**	**6.37**	**295**	*e*P	**Pn**	**12 25 04.7**	**+0.3**
TUMD				*e*S	**Sn**	**12 26 15.0**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**6.48**	**302**	*e*P	**Pn**	**12 25 05.0**	**+0.1**
BZGR	**Bezymyannyi-Gr**	**6.48**	**302**	P	**Pn**	**12 25 05.0**	**+0.1**
TUMR	**Tumrok**	**6.53**	**296**	*e*P	**Pn**	**12 25 06.9**	**+1.2**
TUMR	**Tumrok**	**6.53**	**296**	P	**Pn**	**12 25 06.9**	**+1.2**
BZP	**Bezymyannyi-Pe**	**6.55**	**302**	*e*P	**Pn**	**12 25 05.6**	**-0.3**
BZMR	**Bezymyannaya**	**6.58**	**302**	*e*P	**Pn**	**12 25 06.5**	**+0.1**
BZMR	**Bezymyannaya**	**6.58**	**302**	P	**Pn**	**12 25 06.5**	**+0.1**
BZWR	**Bezymyannyi-We**	**6.59**	**302**	*e*P	**Pn**	**12 25 07.2**	**+0.7**
BZWR	**Bezymyannyi-We**	**6.59**	**302**	P	**Pn**	**12 25 07.2**	**+0.7**
KMNR	**Kamenistaya**	**6.64**	**300**	*e*P	**Pn**	**12 25 07.3**	**+0.1**
KMNR	**Kamenistaya**	**6.64**	**300**	P	**Pn**	**12 25 07.3**	**+0.1**
UGLR	**Uglovaya**	**7.03**	**277**	*e*P	**Pn**	**12 25 13.3**	**+0.8**
UGLR	**Uglovaya**	**7.03**	**277**	P	**Pn**	**12 25 13.3**	**+0.8**
SMAR	**Somma**	**7.04**	**278**	*e*P	**Pn**	**12 25 14.0**	**+1.2**
SMAR	**Somma**	**7.04**	**278**	P	**Pn**	**12 25 14.0**	**+1.2**
KRER	**Koryakskii**	**7.07**	**278**	*e*P	**Pn**	**12 25 14.7**	**+1.5**
KRER	**Koryakskii**	**7.07**	**278**	P	**Pn**	**12 25 14.7**	**+1.5**
AVH	**Avacha**	**7.08**	**278**	*e*P	**Pn**	**12 25 14.4**	**+1.2**
AVH	**Avacha**	**7.08**	**278**	P	**Pn**	**12 25 14.4**	**+1.2**
DALK	**Dalny**	**7.08**	**276**	*e*P	**Pn**	**12 25 14.6**	**+1.5**
DALK	**Dalny**	**7.08**	**276**	P	**Pn**	**12 25 14.6**	**+1.5**
KRX	**Arik**	**7.13**	**279**	*e*P	**Pn**	**12 25 14.6**	**+0.7**
KRX	**Arik**	**7.13**	**279**	P	**Pn**	**12 25 14.6**	**+0.7**
SRDR	**Sredinnyy**	**7.13**	**303**	*e*P	**Pn**	**12 25 15.8**	**+1.9**
SRDR	**Sredinnyy**	**7.13**	**303**	P	**Pn**	**12 25 15.8**	**+1.9**
KOK	**Koryaka**	**7.14**	**278**	*e*P	**Pn**	**12 25 14.9**	**+0.9**
KOK	**Koryaka**	**7.14**	**278**	P	**Pn**	**12 25 14.9**	**+0.9**
PET	**Petropavlovsk**	**7.14**	**276**	*e*P	**Pn**	**12 25 14.9**	**+1.0**
PET	**Petropavlovsk**	**7.14**	**276**	*e*P	**Pn**	**12 25 15.0**	**+1.1**
PET				*e*S	**Sn**	**12 26 33.3**	**-0.7**
PET				smax	smax		
	comp=E,15nm,0.5s						
PET				smax	smax		
	comp=N,14nm,0.7s						
RUS	**Russkaya**	**7.29**	**271**	*e*P	**Pn**	**12 25 16.6**	**+0.7**
RUS	**Russkaya**	**7.29**	**271**	P	**Pn**	**12 25 16.6**	**+0.7**
KRMR	**Karymshinskiy**	**7.47**	**275**	*e*P	**Pn**	**12 25 19.2**	**+0.7**
KRMR	**Karymshinskiy**	**7.47**	**275**	P	**Pn**	**12 25 19.2**	**+0.7**
MTVR	**Mutnovka**	**7.48**	**272**	*e*P	**Pn**	**12 25 19.8**	**+1.1**
MTVR				*e*S	**Sn**	**12 26 41.5**	**-1.1**

MTVR	**Mutnovka**	**7.48**	**272**	P		**Pn**	**12 25 19.8**	**+1.1**
MTVR				S		**Sn**	**12 26 41.5**	**-1.1**
ESO	**Esso**	**7.51**	**299**	*e*P		**Pn**	**12 25 18.7**	**-0.4**
ESO	**Esso**	**7.51**	**299**	P		**Pn**	**12 25 18.7**	**-0.4**
GNL	**Ganaly**	**7.55**	**281**	*e*P		**Pn**	**12 25 19.4**	**-0.3**
GNL	**Ganaly**	**7.55**	**281**	P		**Pn**	**12 25 19.4**	**-0.3**
OSSR	**Ossora**	**7.61**	**330**	*e*P		**Pn**	**12 25 22.1**	**+1.8**
OSSR	**Ossora**	**7.61**	**330**	P		**Pn**	**12 25 22.1**	**+1.8**
ASAK	**Asacha**	**7.67**	**271**	*e*P		**Pn**	**12 25 22.6**	**+1.4**
ASAK	**Asacha**	**7.67**	**271**	P		**Pn**	**12 25 22.6**	**+1.4**
KDTR	**Khodutka, Kamc**	**7.67**	**267**	*e*P		**Pn**	**12 25 21.6**	**+0.5**
KDTR	**Khodutka, Kamc**	**7.67**	**267**	P		**Pn**	**12 25 21.6**	**+0.5**
PETK	**Petropavlovsk-**	**7.71**	**277**	Pn		**Pn**	**12 25 22.7**	**+1.0**
	comp=N,1.2nm,0.3s,baz=100,slow=21,SNR=41							
PETK				Sn		**Sn**	**12 26 46.5**	**-1.6**
	comp=N,0.3nm,0.3s,baz=90,slow=16,SNR=1.5							
	comp=N,4.3nm,0.6s							
TILK	**Tilichiki**	**7.95**	**344**	*e*P		**Pn**	**12 25 25.9**	**+0.9**
TILK				*e*S		**Sn**	**12 26 53.3**	**-0.6**
TILK	**Tilichiki**	**7.95**	**344**	P		**Pn**	**12 25 25.9**	**+0.9**
TILK				S		**Sn**	**12 26 53.3**	**-0.6**
SEY	**Seymchan**	**13.87**	**324**	LR		LR	12 31 41.4	
	comp=N,78nm,21.7s,baz=322,slow=36							
KDAK	**Kodiak Island**	**21.39**	**62**	P		**P**	**12 28 15.8**	**-0.8**
	comp=N,11nm,1.0s,baz=275,slow=9.7,SNR=6.1							
	comp=N,11nm,1.0s							
ILAR	**Eielson Array**	**24.54**	**44**	P		**P**	**12 28 46.4**	**-1.9**
	comp=N,0.5nm,0.6s,baz=246,slow=7.2,SNR=13							
	comp=N,0.5nm,0.6s							
YKA	**Yellowknife Ar**	**38.96**	**45**	P		**P**	**12 30 53.7**	**-0.8**
	comp=N,0.2nm,0.4s,baz=287,slow=6.7,SNR=8.0							
	comp=N,0.2nm,0.4s							
SONM	**Songino Array**	**39.98**	**289**	P		**P**	**12 31 04.5**	**+1.1**
	comp=N,0.4nm,0.4s,baz=81,slow=4.5,SNR=2.0							
	comp=N,0.4nm,0.4s							
SPITS	**Spitsbergen Ar**	**48.25**	**353**	P		**P**	**12 32 08.4**	**-0.7**
	comp=N,1.7nm,0.4s,baz=52,slow=7.5,SNR=22							
	comp=N,1.7nm,0.4s							
KURK	**Kurchatov**	**53.02**	**307**	P		**P**	**12 32 46.6**	**+1.2**
KURBB	**Kurchatov Arra**	**53.12**	**307**	P		**P**	**12 32 46.6**	**+0.4**
	comp=N,1.0nm,0.6s,baz=50,slow=7.5,SNR=6.4							
	comp=N,1.0nm,0.6s							
MKAR	**Makanchi Array**	**53.76**	**302**	P		**P**	**12 32 50.4**	**-0.6**
	comp=N,0.2nm,0.4s,baz=58,slow=9.2,SNR=3.3							
	comp=N,0.2nm,0.4s							
ARCES	**ARCESS Array B**	**55.25**	**346**	P		**P**	**12 33 00.5**	**-0.9**
	comp=N,2.4nm,0.8s,baz=19,slow=7.7,SNR=5.7							
	comp=N,2.4nm,0.8s							
TXAR	**Lajitas Array**	**64.80**	**74**	P		**P**	**12 34 08.2**	**+0.6**
	comp=N,0.1nm,0.4s,baz=284,slow=4.5,SNR=1.9							
	comp=N,0.1nm,0.4s							
NB2	**NORSAR Subarra**	**65.23**	**349**	P		**P**	**12 34 09.2**	**-0.6**
	comp=Z,0.4nm,0.5s,baz=13,slow=6.5							
NOA	**NORSAR Array B**	**65.23**	**349**	P		**P**	**12 34 09.5**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=0.1,slow=5.9,SNR=3.9							
	comp=Z,0.6nm,0.5s							
HFS	**Hagfors**	**65.81**	**348**	P		**P**	**12 34 12.6**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=14,slow=6.5,SNR=7.6							
	comp=Z,0.6nm,0.4s							
ASAR	**Alice Springs**	**82.59**	**213**	P		**P**	**12 35 54.3**	**+2.5**
	comp=Z,0.1nm,0.7s,baz=15,slow=4.7,SNR=1.4							
	comp=Z,0.1nm,0.7s							

*TEH **05** 12:27:15.9, 33˚.05N×46˚.18E, h5km, ML2.5*
*ISN **05** 12:27:15.5±0.5, 33˚.05N×46˚.16E, h10km±2km, ML2.7*
ISC 05 12:27:16.7±1.2**, 33˚.04N**±0˚.04×**46˚.10E**±0˚.05**, h10**km**, n8,**
σ0°88/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.16**	**297**	*e*Pg		**Pg**		**12 27 20.0**	**-0.2**
IBDR				*e*Sg		**Sg**		**12 27 23.0**	**+0.3**
IBDR				AML		AML	AML	12 27 27.0	
	comp=N,528nm,0.1s								
IBDR				AML		AML	AML	12 27 28.6	
	comp=E,1µm,0.8s								
ILBA	**Ilam Banvizeh**	**0.59**	**9**	Pg		**Pg**		**12 27 27.2**	**-1.0**
ILBA				Sg		**Sb**		**12 27 37.1**	**-0.6**
RAFI	**Al-Rafai**	**1.31**	**180**	*e*Pg		**Pg**		**12 27 41.0**	**-0.8**
RAFI				*e*Sg		**Sg**		**12 27 59.3**	**+0.5**
RAFI				AML		AML	AML	12 28 02.5	
	comp=N,203nm,0.2s								
RAFI				AML		AML	AML	12 28 44.7	
	comp=E,172nm,0.4s								
IGHG	**Ghaleghazi**	**1.35**	**17**	Pg		**Pg**		**12 27 42.9**	**+0.3**
BHD	**Baghdad**	**1.46**	**280**	*e*Pn		**Pb**		**12 27 44.0**	**0.0**
BHD				*e*Sn		**Sg**		**12 28 05.5**	**+1.7**
KCHF	**Cheshme Sefid,**	**1.46**	**32**	Pg		**Pg**		**12 27 45.0**	**+0.2**
IKFM	**Kafar-mosalman**	**1.54**	**71**	Pg		**Pg**		**12 27 46.7**	**+0.4**
IDHR	**Dehrash**	**1.68**	**8**	Pg		**Pg**		**12 27 47.8**	**-1.1**

*IDC **05** 12:43:44.7±3.3, 32˚.93N×46˚.02E, h0km, mb3.5/8, mbtmp3.6/9, ML3.7/1, Error ellipse: s-maj=70.4km s-min=24.1km az=177.0*
*TEH **05** 12:43:45.3, 32˚.96N×46˚.04E, h8km±5.3km, ML3.5*
*ISN **05** 12:43:47.7±1.2, 33˚.08N×46˚.13E, h7km±1.1km, ML3.4*
ISC 05 12:43:48.0±1.0**, 33˚.05N**±0˚.04×**46˚.10E**±0˚.04**, h10**km±7km**,**
n35, σ1°50/38, mb3.5/8, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.15**	**293**	*e*Pg		**Pg**		**12 43 51.0**	**-0.4**
IBDR				*e*Sg		**Sg**		**12 43 53.0**	**-0.8**
ILBA	**Ilam Banvizeh**	**0.58**	**9**	Pg		**Pg**		**12 43 58.7**	**-0.7**
RAFI	**Al-Rafai**	**1.32**	**179**	*e*Pg		**Pg**		**12 44 14.0**	**+0.6**
RAFI				*e*Sg		**Sg**		**12 44 32.5**	**+1.9**
RAFI				AML		AML	AML	12 44 48.4	
	comp=E,547nm,0.5s								
RAFI				AML		AML	AML	12 44 48.7	
	comp=N,619nm,0.6s								
IGHG	**Ghaleghazi**	**1.33**	**17**	Pg		**Pg**		**12 44 13.8**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.45**	**32**	Pg		**Pg**		**12 44 15.8**	**-0.2**
BHD	**Baghdad**	**1.46**	**279**	*e*Pg		**Pg**		**12 44 16.5**	**+0.5**
BHD				*e*Sg		**Sg**		**12 44 37.0**	**+2.1**
BHD				AML		AML	AML	12 44 44.8	
	comp=E,1µm,0.5s								
KGS1	**Ghasr-e-Shirin**	**1.51**	**344**	Pg		**Pb**		**12 44 16.5**	**+0.2**
IKFM	**Kafar-mosalman**	**1.54**	**72**	Pg		**Pg**		**12 44 17.3**	**-0.3**
IDHR	**Dehrash**	**1.66**	**8**	Pg		**Pb**		**12 44 18.7**	**-0.2**
IDOB	**Doab**	**1.89**	**67**	Pn		**Pb**		**12 44 22.7**	**-0.1**
ILIN	**Lien**	**2.00**	**21**	Pn		**Pb**		**12 44 23.7**	**-0.9**
IBZA	**Bozab**	**2.04**	**46**	Pn		**Pb**		**12 44 24.3**	**-1.1**
SNQR	**Sonqor, Kerman**	**2.21**	**35**	Pn		**Pb**		**12 44 27.3**	**-0.9**
HSAM	**Samen**	**2.39**	**60**	Pn		**Pn**		**12 44 29.3**	**+1.7**
BDRS	**Dareh Seyedi**	**2.49**	**68**	Pn		**Pn**		**12 44 30.9**	**+1.9**
IKRK	**Kirkuk**	**2.76**	**329**	*e*Pn		**Pn**		**12 44 34.0**	**+1.6**
IKRK				*e*Sn		**Sn**		**12 45 08.0**	**+2.2**
IKRK				AML		AML		12 45 26.9	
	comp=E,203nm,0.6s								
IKRK				AML		AML		12 45 30.8	
	comp=N,210nm,0.6s								
HAGD	**Aghdareh**	**3.08**	**54**	Pn		**Pn**		**12 44 38.8**	**+1.7**
IPIR	**Pirpir**	**4.05**	**94**	Pn		**Pn**		**12 44 51.0**	**+0.6**
KRSH	**Karshahi**	**5.13**	**78**	Pn		**Pn**		**12 45 06.2**	**+1.1**
ITBZ	**Tabriz**	**5.17**	**0**	Pg		**Pg**		**12 45 30.9**	**+3.8**
ITBZ				Sg		Sn		12 45 38.1	-28
IHRS	**Heris**	**5.31**	**8**	Pg		**Pg**		**12 45 30.3**	**+0.5**
KLST	**Kelardasht - M**	**5.35**	**48**	Pn		**Pn**		**12 45 10.1**	**+1.8**
IMRD	**Marand**	**5.66**	**357**	Pg		**Pg**		**12 45 36.3**	**-0.2**
GRMI	**Germi**	**5.93**	**14**	Pg		**Pg**		**12 45 42.0**	**+0.4**
ASF	**Jabal al Asfar**	**7.81**	**266**	Pn		**Pn**		**12 45 39.6**	**-2.3**
	comp=N,1.1nm,0.3s,baz=233,slow=20,SNR=7.0								
ASF				Lg		Lg		12 47 56.0	
	comp=N,0.5nm,0.3s,baz=322,slow=0.1,SNR=1.9								
	comp=N,2.7nm,0.4s								
MMAI	**Mount Meron Ar**	**8.98**	**273**	Lg		Lg		12 48 32.1	
	comp=N,0.5nm,0.3s,baz=82,slow=31,SNR=1.3								
AKTO	**Aktyubinsk**	**19.47**	**23**	P		**Pn**		**12 48 19.4**	**+3.2**
	comp=N,1.3nm,0.7s,baz=263,slow=9.2,SNR=2.7								
AKASG	**Malin Array Be**	**21.57**	**330**	P		**P**		**12 48 36.1**	**-1.5**
	comp=N,0.5nm,0.4s,baz=144,slow=10.0,SNR=4.9								
	comp=N,0.5nm,0.4s								
BVAR	**Borovoye Array**	**26.49**	**34**	P		**P**		**12 49 25.5**	**0.0**
	comp=N,0.7nm,0.6s,baz=211,slow=8.1,SNR=2.6								
	comp=N,0.7nm,0.6s								
KURBB	**Kurchatov Arra**	**29.55**	**44**	P		**P**		**12 49 52.5**	**-0.3**
	comp=N,0.2nm,0.3s,baz=253,slow=9.3,SNR=1.9								
	comp=N,0.2nm,0.3s								
MKAR	**Makanchi Array**	**30.67**	**53**	P		**P**		**12 50 01.8**	**-1.0**
	comp=N,0.7nm,0.6s,baz=246,slow=8.6,SNR=6.2								
	comp=N,0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**34.40**	**41**	P		**P**		**12 50 34.6**	**-0.7**
	comp=N,0.7nm,0.7s,baz=240,slow=8.1,SNR=4.2								
	comp=N,0.7nm,0.7s								
HFS	**Hagfors**	**34.43**	**332**	P		**P**		**12 50 34.6**	**-0.9**
	comp=N,0.8nm,0.4s,baz=134,slow=11,SNR=12								
	comp=N,0.8nm,0.4s								
NOA	**NORSAR Array B**	**35.95**	**332**	P		**P**		**12 50 47.0**	**-1.7**
	comp=N,0.3nm,0.6s,baz=130,slow=6.9,SNR=1.5								
	comp=N,0.3nm,0.6s								
YKA	**Yellowknife Ar**	**83.53**	**351**	P		**P**		**12 56 13.8**	**-2.1**
	comp=N,0.2nm,0.8s,baz=13,slow=5.7,SNR=3.4								
	comp=N,0.2nm,0.8s								

*SJA **05** 12:46:42.8±0.7, 18˚.86S×69˚.81W, h104km±3km, ML3.8, MW3.9*
*NEIC **05** 12:46:43.3±1.7, 18˚.83S±0˚.05×69˚.82W±0˚.07, h103km±8km, mb4.1/5, Error ellipse: s-maj=9.4km s-min=7.7km az=78.0*
*GUC **05** 12:46:44.1±0.7, 18˚.90S×69˚.80W, h91km±3km, ML3.8*
*VAO **05** 12:46:45.9±0.7, 18˚.80S×69˚.43W, h120km±7km, mb4.1*
*IDC **05** 12:46:46.2±2.1, 18˚.85S×69˚.41W, h112km±18km, mb3.5/8, mbtmp3.9/12, Error ellipse: s-maj=28.1km s-min=17.2km az=100.0*
ISC 05 12:46:43.2±0.6**, 18˚.81S**±0˚.03×**69˚.68W**±0˚.05**, h92**km±6km**,**
n81, σ2°32/112, mb3.8/8, 6C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.52**	**253**	*e*P		**Pn**		**12 46 57.8**	**-0.6**
PX02				*i* S		**Sn**		**12 47 08.8**	**-1.0**
PX02				IAML				12 47 10.1	
	comp=N,3µm,0.3s								
PB12	**IPOC Station P**	**0.65**	**287**			**Pn**		**12 46 59.9**	**+0.3**
PB12	**IPOC Station P**	**0.65**	**287**	*e*P		**Pn**		**12 47 00.3**	**+0.8**
PB12				IAML				12 47 12.8	
	comp=Z,3µm,0.2s								
PB12				*e*S		**Sn**		**12 47 12.8**	**+1.1**
PB12	**IPOC Station P**	**0.65**	**287**	⇑*i*P		**Pn**		**12 46 59.8**	**+0.3**
PB12				*i* S		**Sn**		**12 47 12.1**	**+0.4**
PB12				IAML				12 47 13.1	
	comp=N,12µm,0.4s								
AP01	**Chacalluta**	**0.77**	**304**			**Pn**		**12 47 01.3**	**+0.7**
AP01	**Chacalluta**	**0.77**	**304**	*e*P		**Pn**		**12 47 01.4**	**+0.9**
AP01				*e*S		**Sn**		**12 47 14.9**	**+1.4**
AP01				IAML				12 47 15.8	
	comp=Z,4µm,0.4s								
AP01	**Chacalluta**	**0.77**	**304**	⇑*i*P		**Pn**		**12 47 01.2**	**+0.7**
AP01				*i* S		**Sn**		**12 47 14.3**	**+0.8**
PB11	**IPOC Station P**	**0.95**	**179**	*e*P		**Pn**		**12 47 03.2**	**+0.5**
PB11				*e*S		**Sn**		**12 47 18.6**	**+1.4**
PB11				IAML				12 47 19.2	
	comp=Z,2µm,0.3s								
PB11	**IPOC Station P**	**0.95**	**179**	⇑*i*P		**Pn**		**12 47 03.1**	**+0.5**
PB11				*i* S		**Sn**		**12 47 17.9**	**+0.7**
PB11				IAML				12 47 19.3	
	comp=E,3µm,0.2s								
GO01	**Chusmiza**	**0.97**	**152**			**Pn**		**12 47 04.7**	**+1.4**
GO01	**Chusmiza**	**0.97**	**152**	*e*P		**Pn**		**12 47 04.8**	**+1.6**
GO01				*e*S		**Sn**		**12 47 21.5**	**+3.3**
GO01				IAML				12 47 24.5	
	comp=Z,1µm,0.1s								
GO01	**Chusmiza**	**0.97**	**152**	⇓*i*P		**Pn**		**12 47 04.8**	**+1.6**
GO01				*i* S		**Sn**		**12 47 20.5**	**+2.3**
GO01				IAML				12 47 25.5	
	comp=N,5µm,0.2s								
PB18	**Visviri**	**1.23**	**9**	⇓*i*P		**Pn**		**12 47 09.8**	**+3.5**
PB18				*i* S		**Sn**		**12 47 28.7**	**+5.2**
PB08	**IPOC Station P**	**1.42**	**160**	*e*P		**Pn**		**12 47 04.2**	**-4.2**
PB08				*e*P		**Pn**		**12 47 09.6**	**+1.2**
PB08				*e*S		**Sn**		**12 47 29.6**	**+2.2**
PB08				IAML				12 47 31.0	
	comp=Z,1µm,0.3s								
PB08	**IPOC Station P**	**1.42**	**160**	⇑*i*P		**Pn**		**12 47 09.8**	**+1.4**
PB08				*e*S		**Sn**		**12 47 29.0**	**+1.6**
PB08				IAML				12 47 30.0	
	comp=E,2µm,0.3s								
HMBC	**Humberstone**	**1.48**	**188**	Pn		**Pn**		**12 47 09.2**	**+0.3**
TA02	**Huaiquique**	**1.52**	**196**			**Pn**		**12 47 08.9**	**-0.3**
TA02	**Huaiquique**	**1.52**	**196**	*e*P		**Pn**		**12 47 10.0**	**+0.7**
TA02				*e*S		**Sn**		**12 47 29.2**	**+0.2**
TA02				IAML				12 47 30.9	
	comp=Z,742nm,0.3s								
TA01	**Diego Aracena**	**1.81**	**195**			**Pn**		**12 47 12.6**	**-0.4**
TA01	**Diego Aracena**	**1.81**	**195**	*e*P		**Pn**		**12 47 12.8**	**-0.3**
TA01				*e*S		**Sn**		**12 47 36.1**	**+0.4**
TA01	**Diego Aracena**	**1.81**	**195**	⇓*i*P		**Pn**		**12 47 13.4**	**+0.4**
TA01				*e*S		**Sn**		**12 47 35.2**	**-0.6**
TA01				IAML				12 47 41.1	
	comp=E,838nm,0.3s								
PATCX	**Punta Patache**	**2.05**	**193**	Pn		**Pn**		**12 47 16.0**	**-0.2**
PATCX	**Punta Patache**	**2.05**	**193**	*e*P		**Pn**		**12 47 16.5**	**+0.3**
PATCX				*e*S		**Sn**		**12 47 32.7**	**-8.8**
PATCX				IAML				12 47 48.3	
	comp=Z,389nm,0.5s								
PATCX	**Punta Patache**	**2.05**	**193**	⇓*i*P		**Pn**		**12 47 16.7**	**+0.5**
PATCX				*e*S		**Sn**		**12 47 37.3**	**-4.1**
PATCX				IAML				12 47 49.5	
	comp=E,704nm,0.3s								
PB01	**IPOC Station P**	**2.23**	**175**	*e*P		**Pn**		**12 47 19.0**	**+0.4**
PB01				*e*S		**Sn**		**12 47 47.0**	**+1.3**
PB01				IAML				12 47 51.4	
	comp=Z,299nm,0.2s								
PB01	**IPOC Station P**	**2.23**	**175**	⇑*i*P		**Pn**		**12 47 19.4**	**+0.8**
PB01				*i* S		**Sn**		**12 47 45.2**	**-0.5**
PB01				IAML				12 47 54.5	
	comp=N,723nm,0.2s								
PB02	**IPOC Station P**	**2.51**	**185**	*e*P		**Pn**		**12 47 22.8**	**+0.5**
PB02				*e*S		**Sn**		**12 47 59.9**	**+7.6**
PB02				IAML				12 48 01.2	
	comp=Z,704nm,0.4s								
PB02	**IPOC Station P**	**2.51**	**185**	*e*P		**Pn**		**12 47 22.9**	**+0.6**
PB02				IAML				12 48 01.5	
	comp=E,928nm,0.3s								
LPAZ	**La Paz**	**2.91**	**31**	Pn		**Pn**		**12 47 31.1**	**+2.9**
LPAZ	**La Paz**	**2.91**	**31**	*e*P		**Pn**		**12 47 31.6**	**+3.5**
LPAZ	**La Paz**	**2.91**	**31**	P		**Pn**		**12 47 31.4**	**+3.2**
	comp=E,42nm,0.3s,baz=270,slow=2.9,SNR=468								
LPAZ				S			**Sn**	**12 48 00.0**	**-2.5**
	comp=E,23nm,0.5s,baz=201,slow=17,SNR=6.1								
LPAZ	**La Paz**	**2.91**	**31**	⇑*i*P		**Pn**		**12 47 31.6**	**+3.5**
LPAZ	**La Paz**	**2.91**	**31**	*e*P		**Pn**		**12 47 31.6**	**+3.5**
LPAZ				*e*S		**Sn**		**12 48 03.4**	**+0.8**
PB07	**IPOC Station P**	**2.91**	**184**	*e*P		**Pn**		**12 47 28.2**	**+0.5**
PB07				*e*S		**Sn**		**12 48 04.2**	**+2.2**
PB07				IAML				12 48 13.0	
	comp=Z,453nm,0.4s								
PB07	**IPOC Station P**	**2.91**	**184**	*e*P		**Pn**		**12 47 28.3**	**+0.5**
PB07				IAML				12 48 11.0	
	comp=E,582nm,0.4s								
PB09	**IPOC Station P**	**3.00**	**172**	*e*P		**Pn**		**12 47 29.7**	**+0.8**
PB09				*e*S		**Sn**		**12 48 07.7**	**+3.5**
PB09				IAML				12 48 29.7	
	comp=Z,252nm,0.8s								
PB09	**IPOC Station P**	**3.00**	**172**	*e*P		**Pn**		**12 47 30.4**	**+1.5**
PB09				IAML				12 48 22.5	
	comp=E,255nm,0.7s								
PB04	**IPOC Station P**	**3.54**	**187**	*e*P		**Pn**		**12 47 35.6**	**-0.5**
PB04				*e*S		**Sn**		**12 48 23.6**	**+6.6**
PB04				IAML				12 48 38.1	
	comp=Z,218nm,0.7s								
LVC	**Limon Verde**	**3.85**	**169**	*e*P		**Pn**		**12 47 41.5**	**+0.9**
LVC				*e*S		**Sn**		**12 48 33.1**	**+8.2**
LVC				IAML				12 48 37.3	
	comp=Z,83nm,0.7s								
LVC	**Limon Verde**	**3.85**	**169**	P		**Pn**		**12 47 41.8**	**+1.3**
	comp=Z,22nm,0.3s,baz=352,slow=8.0,SNR=30								
LVC				S			**Sn**	**12 48 23.2**	**-1.7**
	comp=Z,22nm,0.3s,baz=4.7,slow=15,SNR=6.5								
LVC	**Limon Verde**	**3.85**	**169**	*e*P		**Pn**		**12 47 42.3**	**+1.7**
LVC	**Limon Verde**	**3.85**	**169**	*e*P		**Pn**		**12 47 42.5**	**+1.9**
LVC				*e*S		**Sn**		**12 48 28.3**	**+3.4**
PB06	**IPOC Station P**	**3.88**	**179**	*e*P		**Pn**		**12 47 41.0**	**+0.2**
PB06				*e*S		**Sn**		**12 48 23.1**	**-2.2**
PB06				IAML				12 48 47.3	
	comp=Z,127nm,0.4s								
PB06	**IPOC Station P**	**3.88**	**179**	*e*P		**Pn**		**12 47 40.8**	**0.0**
PB15	**IPOC Station P**	**4.38**	**178**			**Pn**		**12 47 47.8**	**+0.2**
PB15	**IPOC Station P**	**4.38**	**178**	*e*P		**Pn**		**12 47 48.0**	**+0.3**
PB10	**IPOC Station P**	**4.75**	**190**	*e*P		**Pn**		**12 47 51.0**	**-1.5**
GO02	**Mina Guanaco**	**6.33**	**179**	Pn		**Pn**		**12 48 12.9**	**-1.2**
AC01	**Pan de Azucar**	**7.36**	**186**	Pn		**Pn**		**12 48 24.4**	**-3.5**
AC02	**Maricunga**	**8.01**	**176**			**Pn**		**12 48 36.0**	**-1.2**
SIV	**San Ignacio**	**8.68**	**72**	P		**Pn**		**12 48 44.6**	**-1.4**
	comp=Z,11nm,0.5s,baz=263,slow=8.2,SNR=47								
SIV				S			**Sn**	**12 50 15.4**	**-6.8**
	comp=Z,1.9nm,0.5s,baz=5.4,slow=24,SNR=1.5								
BBSD	**Serra de San D**	**8.78**	**81**	*e*P		**Pn**		**12 48 45.9**	**-1.4**
ETMB	**Extrema**	**9.55**	**21**	Pn		**Pn**		**12 48 57.2**	**-0.7**
ETMB	**Extrema**	**9.55**	**21**	*e*P		**Pn**		**12 48 57.1**	**-0.7**
PTLB	**Pontes e Lacer**	**10.61**	**73**	Pn		**Pn**		**12 49 13.4**	**+1.1**
PTLB	**Pontes e Lacer**	**10.61**	**73**	*e*P		**Pn**		**12 49 11.8**	**-0.5**
VILB	**Vilhena**	**10.81**	**59**	Pn		**Pn**		**12 49 15.9**	**+0.8**
VILB	**Vilhena**	**10.81**	**59**	*e*P		**Pn**		**12 49 14.8**	**-0.3**
SAML	**Samuel**	**11.65**	**34**	*e*P		**Pn**		**12 49 27.0**	**+0.6**
BDQN	**Bodoquena, MS**	**12.29**	**100**	*e*P		**Pn**		**12 49 33.2**	**-1.8**
CPUP	**Villa Florida**	**13.64**	**126**	P		**Pn**		**12 49 52.6**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=344,slow=6.1,SNR=1.5								
SALV	**Santo Antonio**	**13.66**	**80**	*e*P		**Pn**		**12 49 51.9**	**-1.2**
RVDE	**Rio Verde (Bra**	**13.95**	**93**	*e*P		**Pn**		**12 49 55.4**	**-1.4**
CRSM	**Crissiumal (Br**	**16.76**	**124**	*e*P		**Pn**		**12 50 31.6**	**-0.7**
SNDB	**Serra Nova Dou**	**18.97**	**72**	*e*P		**P**		**12 50 56.4**	**-1.0**
ITTB	**Itaituba**	**19.79**	**45**	*e*P		**P**		**12 51 05.3**	**-0.9**
BDFB	**Brasilia**	**20.93**	**85**	P		**P**		**12 51 18.8**	**+0.1**
BDFB				IAmb		IAmb	IAmb	12 51 30.1	
	comp=Z,6.7nm,1.1s								
BDFB	**Brasilia**	**20.93**	**85**	P		**P**		**12 51 19.2**	**+0.6**
	comp=Z,2.0nm,0.3s,baz=264,slow=6.6,SNR=4.1								
	comp=Z,2.0nm,0.3s								
PLCA	**Paso Flores**	**21.86**	**182**	P		**P**		**12 51 28.1**	**-0.3**
PLCA	**Paso Flores**	**21.86**	**182**	P		**P**		**12 51 30.2**	**+1.8**
	comp=Z,1.5nm,0.7s,baz=13,slow=12,SNR=4.6								
	comp=Z,1.5nm,0.7s								
BOAV	**Boa Vista**	**22.91**	**24**	P		**P**		**12 51 38.1**	**-1.3**
BOAV				IAmb		IAmb	IAmb	12 51 51.6	
	comp=Z,24nm,1.5s								
BAUV	**El Baul**	**27.62**	**3**	P		**P**		**12 52 19.8**	**-2.3**
QSPA	**South Pole Qui**	**71.37**	**180**	P		**P**		**12 57 53.6**	**+0.6**
QSPA				IAmb		IAmb	IAmb	12 58 28.1	
	comp=Z,4.8nm,1.3s								
QSPA	**South Pole Qui**	**71.37**	**180**	P		**P**		**12 57 54.1**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=50,slow=3.6,SNR=2.4								
	comp=Z,0.9nm,0.6s								
ULM	**Lac du Bonnet**	**72.55**	**343**	P		**P**		**12 58 01.8**	**+1.9**
	comp=Z,0.7nm,0.4s,baz=157,slow=5.2,SNR=4.7								
	comp=Z,0.7nm,0.4s								
TORD	**Torodi Ar. Bea**	**77.15**	**71**	P		**P**		**12 58 26.0**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=255,slow=5.6,SNR=13								
	comp=Z,0.6nm,0.4s								
ESDC	**Sonseca Array**	**84.44**	**45**	P		**P**		**12 59 05.8**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=270,slow=7.6,SNR=2.0			

σ2ˢ00/85, mb3.6/6, 8C, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.08**	**140**	Pg	**Pn**	**12 54 01.1**	**+3.3**
MOCB				Sg	**S**	**12 54 29.1**	**+2.9**
MOCB				IAML		12 54 31.4	
	1μm,0.6s						
AOVT	**TarijaAcel**	**1.92**	**126**	Pg	**Pn**	**12 54 06.3**	**+2.5**
SOEO	**Opoqueri**	**2.33**	**322**	Pg	**Pn**	**12 54 11.4**	**+3.4**
SOET	**ToroToro**	**2.35**	**13**	Pg	**Pn**	**12 54 11.0**	**+2.9**
AOEA	**Aiquile**	**2.47**	**26**	Pg	**Pn**	**12 54 11.9**	**+2.7**
AOEA	**Aiquile**	**2.47**	**26**	Pg	**Pn**	**12 54 12.0**	**+2.7**
PB08	**IPOC Station P**	**2.62**	**276**		**Pn**	**12 54 13.1**	**+2.4**
PB08	**IPOC Station P**	**2.62**	**276**	⇑P	**Pn**	**12 54 13.4**	**+2.7**
PB08	**IPOC Station P**	**2.62**	**276**	Pg	**Pn**	**12 54 13.4**	**+2.7**
GO01	**Chusmiza**	**2.75**	**285**		**Pn**	**12 54 14.5**	**+2.3**
GO01	**Chusmiza**	**2.75**	**285**	⇑eP	**Pn**	**12 54 14.5**	**+2.3**
GO01				IAML		12 55 08.6	
	comp=N,141nm,0.1s						
GO01	**Chusmiza**	**2.75**	**285**	Pg	**Pn**	**12 54 14.8**	**+2.6**
PB01	**IPOC Station P**	**2.98**	**257**		**Pn**	**12 54 15.8**	**+1.6**
PB01	**IPOC Station P**	**2.98**	**257**	⇑eP	**Pn**	**12 54 15.7**	**+1.6**
PB01				eS	**S**	**12 54 56.0**	**+0.5**
PB01	**IPOC Station P**	**2.98**	**257**	Pg	**Pn**	**12 54 15.9**	**+1.8**
PB01				Sg	**S**	**12 54 56.4**	**+0.9**
PB01				IAML		12 54 58.4	
	comp=N,120nm,0.3s						
PB09	**IPOC Station P**	**3.01**	**242**	eP	**Pn**	**12 54 16.9**	**+2.4**
PB09				eS	**S**	**12 54 57.5**	**+1.3**
PB09	**IPOC Station P**	**3.01**	**242**	Pg	**Pn**	**12 54 16.7**	**+2.2**
PB11	**IPOC Station P**	**3.15**	**281**	⇑eP	**Pn**	**12 54 17.9**	**+1.8**
PB11	**IPOC Station P**	**3.15**	**281**	Pg	**Pn**	**12 54 18.1**	**+2.0**
LVC	**Limon Verde**	**3.21**	**227**	P	**Pn**	**12 54 18.9**	**+1.9**
	comp=N,16nm,0.3s,baz=41,slow=8.8,SNR=61						
LVC				S	**S**	**12 55 01.8**	**+1.1**
	comp=N,19nm,0.5s,baz=246,slow=19,SNR=12						
LVC	**Limon Verde**	**3.21**	**227**	⇑eP	**Pn**	**12 54 18.8**	**+1.8**
LVC				eS	**S**	**12 55 02.1**	**+1.5**
HMBC	**Humberstone**	**3.30**	**272**	Pn	**Pn**	**12 54 18.8**	**+1.1**
HMBC	**Humberstone**	**3.30**	**272**	eP	**Pn**	**12 54 18.6**	**+0.9**
HMBC				eS	**S**	**12 55 00.9**	**-1.0**
PB02	**IPOC Station P**	**3.41**	**254**	eP	**Pn**	**12 54 20.7**	**+1.7**
PB02				eS	**S**	**12 55 02.9**	**-1.3**
PB02	**IPOC Station P**	**3.41**	**254**	Pg	**Pn**	**12 54 20.9**	**+2.0**
PB02				Sg	**S**	**12 55 03.5**	**-0.7**
PB02				IAML		12 55 05.4	
	comp=N,226nm,0.3s						
PB07	**IPOC Station P**	**3.53**	**248**	eP	**Pn**	**12 54 22.1**	**+1.8**
PB07				eS	**S**	**12 55 05.5**	**-1.2**
TA02	**Huaiquique**	**3.53**	**272**		**Pn**	**12 54 21.3**	**+1.2**
PATCX	**Punta Patache**	**3.56**	**263**	Pn	**Pn**	**12 54 22.3**	**+1.7**
PATCX	**Punta Patache**	**3.56**	**263**	eP	**Pn**	**12 54 22.0**	**+1.4**
PATCX				eS	**S**	**12 55 06.1**	**-1.1**
TA01	**Diego Aracena**	**3.57**	**267**		**Pn**	**12 54 21.6**	**+0.9**
TA01	**Diego Aracena**	**3.57**	**267**	⇑eP	**Pn**	**12 54 21.7**	**+1.1**
TA01				eS	**S**	**12 55 05.4**	**-1.8**
PB06	**IPOC Station P**	**3.75**	**232**	⇑eP	**Pn**	**12 54 24.8**	**+2.0**
PB06				eS	**S**	**12 55 11.0**	**-0.2**
SOEJ	**Jacaque**	**3.83**	**333**	Pg	**Pn**	**12 54 27.8**	**+3.5**
BBOE	**La Paz, Chanca**	**3.90**	**337**	Pg	**Pn**	**12 54 28.6**	**+3.6**
PB15	**IPOC Station P**	**4.00**	**225**	⇑eP	**Pn**	**12 54 27.6**	**+1.8**
PB15				eS	**S**	**12 55 16.4**	**-0.2**
PB15	**IPOC Station P**	**4.00**	**225**	Pg	**Pn**	**12 54 28.0**	**+2.2**
PB04	**IPOC Station P**	**4.00**	**241**	eP	**Pn**	**12 54 27.0**	**+1.2**
PB04				eS	**S**	**12 55 14.4**	**-2.1**
PB12	**IPOC Station P**	**4.14**	**295**	Pn	**Pn**	**12 54 27.9**	**+0.6**
PB12	**IPOC Station P**	**4.14**	**295**	eP	**Pn**	**12 54 27.9**	**+0.6**
PB12				eS	**S**	**12 55 18.0**	**-1.4**
BBOD	**La Paz, Gloria**	**4.31**	**330**	Pg	**Pn**	**12 54 33.2**	**+3.3**
LPAZ	**La Paz**	**4.43**	**338**	Pn	**Pn**	**12 54 33.6**	**+2.2**
LPAZ	**La Paz**	**4.43**	**338**	P	**Pn**	**12 54 33.2**	**+1.8**
	comp=N,13nm,0.4s,baz=154,slow=7.2,SNR=57						
LPAZ				S	**S**	**12 55 28.0**	**+1.3**
	comp=N,8.1nm,0.7s,baz=348,slow=13,SNR=4.2						
LPAZ	**La Paz**	**4.43**	**338**	Pg	**Pn**	**12 54 34.2**	**+2.8**
GO02	**Mina Guanaco**	**5.58**	**212**	Pn	**Pn**	**12 54 45.5**	**+0.6**
SIV	**San Ignacio**	**6.69**	**50**	P	**Pn**	**12 54 59.6**	**+0.9**
	comp=N,9.6nm,0.5s,baz=243,slow=12,SNR=28						
SIV				S	**S**	**12 56 11.1**	**-5.3**
	comp=N,0.8nm,0.3s,baz=226,slow=14,SNR=3.1						
AC01	**Pan de Azucar**	**6.90**	**213**		**Pn**	**12 55 00.7**	**-0.5**
AC06	**Mina Casimiro**	**7.81**	**207**	Pn	**Pn**	**12 55 10.2**	**-2.5**
AC04	**Llanos de Chal**	**8.86**	**208**	Pn	**Pn**	**12 55 23.4**	**-2.5**
LCO	**Las Campanas**	**9.41**	**204**	Pn	**Pn**	**12 55 30.3**	**-2.9**
CO01	**Juntas del Tor**	**10.09**	**199**	Pn	**Pn**	**12 55 41.2**	**-0.6**
ITAB	**Concordia**	**14.69**	**120**	P	**P**	**12 56 38.7**	**+0.4**
PLTB	**Pedras Altas**	**16.09**	**137**	P	**P**	**12 56 52.0**	**-1.6**
PLTB				IAmb	IAmb	12 57 22.3	
	comp=Z,12nm,1.2s						
BDFB	**Brasilia**	**18.09**	**78**	P	**P**	**12 57 16.2**	**+0.5**
BDFB				IAmb	IAmb	12 57 46.1	
	comp=Z,7.7nm,1.1s						
BDFB	**Brasilia**	**18.09**	**78**	P	**P**	**12 57 16.2**	**+0.5**
	comp=Z,2.9nm,0.5s,baz=244,slow=14,SNR=3.8						
GO06	**Curarrehue**	**19.60**	**192**	P	**P**	**12 57 32.0**	**+0.4**
PLCA	**Paso Flores**	**20.56**	**189**	P	**P**	**12 57 37.5**	**-4.4**
PLCA				IAmb	IAmb	12 58 04.9	
	comp=Z,11nm,1.4s						
PLCA	**Paso Flores**	**20.56**	**189**	P	**P**	**12 57 43.4**	**+1.6**
	comp=Z,1.7nm,0.8s,baz=16,slow=11,SNR=3.0						
	comp=Z,1.7nm,0.8s						
TXAR	**Lajitas Array**	**61.15**	**323**	P	**P**	**13 03 10.5**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=146,slow=9.1,SNR=2.8						
	comp=Z,0.3nm,0.7s						
QSPA	**South Pole Qui**	**69.77**	**180**	P	P	13 03 55.6	-9.2
QSPA				IAmb	IAmb	13 04 34.9	
	comp=Z,3.2nm,1.3s						
QSPA	**South Pole Qui**	**69.77**	**180**	P	**P**	**13 04 06.2**	**+1.3**
	comp=Z,0.7nm,0.5s,baz=358,slow=2.8,SNR=7.2						
	comp=Z,0.7nm,0.5s						
TOA0	**Torodi Ar. Sit**	**74.76**	**69**	P	**P**	**13 04 32.5**	**-2.5**
TORD	**Torodi Ar. Bea**	**74.76**	**69**	P	**P**	**13 04 33.6**	**-1.4**
	comp=Z,1.0nm,0.4s,baz=258,slow=5.4,SNR=19						
	comp=Z,1.0nm,0.4s						
ULM	**Lac du Bonnet**	**75.04**	**341**	P	**P**	**13 04 35.3**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=204,slow=3.6,SNR=5.3						
	comp=Z,0.9nm,0.4s						
NVAR	**Mina Array Bea**	**76.14**	**320**	P	**P**	**13 04 42.1**	**-0.5**
	comp=Z,0.2nm,0.7s,baz=97,slow=7.4,SNR=2.7						
	comp=Z,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**90.98**	**340**	P	**P**	**13 05 57.0**	**0.0**
	comp=Z,0.3nm,0.7s,baz=123,slow=3.7,SNR=6.2						
	comp=Z,0.3nm,0.7s						
GEYT	**Alibeck**	**129.22**	**57**	PKP	**PKPdf**	**13 12 01.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=338,slow=3.4,SNR=1.6						
ASAR	**Alice Springs**	**131.93**	**205**	PKP	**PKPdf**	**13 12 05.9**	**-0.3**
	comp=Z,0.3nm,0.8s,baz=128,slow=2.5,SNR=5.7						
WRA	**Warramunga Arr**	**135.05**	**208**	PKP	**PKPdf**	**13 12 13.1**	**+1.0**
	comp=Z,0.2nm,0.6s,baz=154,slow=1.9,SNR=8.6						

*IDC **05** 13:02:05.2±1.1, 28.°15N×43.°85W, h0km, mb3.5/10, mbtmp3.5/10, MS3.4/4, Error ellipse: s-maj=31.6km s-min=22.1km az=175.0*

ISC 05 13:02:08.2±0.9, 28.°1N±0.°2×43.°8W±0.°1, h19km, n19, σ0ˢ47/11, mb3.7/11, MS3.4/4, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**39.01**	**343**	LR	LR	13 25 27.6	
	comp=Z,29nm,19.2s,baz=25,slow=36						
DBIC	**Dimbokro**	**42.61**	**113**	LR	LR	13 24 47.8	
	comp=Z,40nm,20.6s,baz=313,slow=32						
TORD	**Torodi Ar. Bea**	**44.88**	**100**	P	**P**	**13 10 21.5**	**-0.2**
	0.4nm,0.7s,baz=311,slow=7.8,SNR=2.9						
	0.4nm,0.7s						
H10N2	**ASCENSION HYDR**	**45.64**	**137**	T	T	13 59 15.1	
	baz=322,slow=75,SNR=12						
H10N3	**ASCENSION HYDR**	**45.64**	**137**	T	T	13 59 07.3	
	baz=322,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**45.66**	**137**	T	T	13 59 10.8	
	baz=322,slow=75,SNR=13						
H10S3	**ASCENSION HYDR**	**46.43**	**138**	T	T	14 00 04.4	
	baz=323,slow=74,SNR=20						
H10S2	**ASCENSION HYDR**	**46.45**	**138**	T	T	14 00 13.4	
	baz=257,slow=74,SNR=8.7						
LPAZ	**La Paz**	**50.04**	**211**	P	**P**	**13 11 02.9**	**+0.5**
	0.9nm,0.5s,baz=39,slow=5.9,SNR=2.3						
	0.9nm,0.5s						
TXAR	**Lajitas Array**	**51.95**	**287**	P	**P**	**13 11 16.2**	**-0.1**
	0.2nm,0.5s,baz=100,slow=4.8,SNR=1.9						
	0.2nm,0.5s						
PDAR	**Pinedale Array**	**54.20**	**304**	P	**P**	**13 11 32.6**	**-0.2**
	0.5nm,0.6s,baz=96,slow=9.1,SNR=4.4						
PDAR				LR	LR	13 32 33.7	
	comp=Z,33nm,20.3s,baz=30,slow=34						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**56.14**	**33**	P	**P**	**13 11 46.6**	**+0.3**
	0.4nm,0.4s,baz=230,slow=6.5,SNR=1.9						
	0.4nm,0.4s						
YKA	**Yellowknife Ar**	**56.59**	**328**	P	**P**	**13 11 49.2**	**-0.2**
	0.2nm,0.7s,baz=83,slow=7.1,SNR=2.8						
	0.2nm,0.7s						
SPITS	**Spitsbergen Ar**	**56.66**	**12**	P	**P**	**13 11 50.6**	**+0.8**
	12nm,0.9s,baz=231,slow=9.1,SNR=1.7						
AKASG	**Malin Array Be**	**58.29**	**46**	P	**P**	**13 12 01.6**	**0.0**
	0.4nm,0.4s,baz=274,slow=6.4,SNR=5.1						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**61.56**	**301**	P	**P**	**13 12 24.1**	**-0.5**
	0.1nm,0.5s,baz=83,slow=9.2,SNR=1.9						
	0.1nm,0.5s						
BRTR	**Keskin Array B**	**63.49**	**57**	P	**P**	**13 12 36.8**	**-0.6**
	0.4nm,0.5s,baz=275,slow=9.7,SNR=2.1						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**70.21**	**334**	P	**P**	**13 13 19.6**	**+0.1**
	0.3nm,0.7s,baz=64,slow=4.3,SNR=3.9						
	0.3nm,0.7s						
SUR	**Sutherland**	**86.00**	**130**	LR	LR	13 43 30.4	
	comp=Z,51nm,21.7s,baz=160,slow=29						

*HVO **05** 13:11:47.1±1.2, 19.°09N±0.°03×155.°21W±0.°02, h-0km±10km, ML3.5/40, ML3.6/46(NEIC), Error ellipse: s-maj=4.7km s-min=1.0km az=147.0*

NEIC 05 13:11:48.4±1.1, 19.°13N±0.°03×155.°20W±0.°02, h5km±2km, Error ellipse: s-maj=5.5km s-min=3.0km az=331.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HLP	**Hilina Pali**	**0.19**	**328**		Pg	13 11 51.3	-0.9
HLP				IAML		13 11 57.9	
	comp=E,16μm,0.6s						
HLP				IAML		13 11 58.2	
	comp=N,19μm,0.8s						
HTC	**Hot Caves**	**0.21**	**299**		Pg	13 11 53.1	+0.5
PUH	**Pauahi**	**0.24**	**357**		Pg	13 11 52.8	-0.3
KNHH	**Kane Nui o Ham**	**0.25**	**7**		Pg	13 11 53.9	+0.7
STCH	**Steam Cracks**	**0.26**	**16**		Pg	13 11 53.4	-0.2
JCUZ	**Jacuzzi**	**0.27**	**21**		Pg	13 11 53.5	-0.2
JCUZ				IAML		13 12 00.4	
	comp=N,5μm,0.4s						
JCUZ				IAML		13 12 00.7	
	comp=E,6μm,0.6s						
RIM	**Rim**	**0.27**	**345**		Pg	13 11 52.4	-1.4
RIM				IAML		13 11 59.6	
	comp=E,8μm,0.5s						
RIM				IAML		13 11 59.7	
	comp=N,13μm,0.5s						
SDHHI	**Sand Hill**	**0.27**	**341**		Pg	13 11 53.6	-0.1
SDHHI	**Sand Hill**	**0.27**	**341**		Sb	13 12 59.3	-1.5
KKO	**Keanakako`i**	**0.27**	**347**		Pg	13 11 53.1	-0.6
KKO				IAML		13 12 02.5	
	comp=E,10μm,0.5s						
NPOC	**North of Pu'u**	**0.27**	**19**		Pg	13 11 53.8	0.0
BYL	**Byron's Ledge**	**0.28**	**349**		Pg	13 11 52.9	-1.1
BYL				IAML		13 11 59.9	
	comp=N,6μm,0.8s						
BYL				IAML		13 12 04.5	
	comp=E,9μm,0.6s						
NPH	**North Pit**	**0.29**	**345**		Pg	13 11 53.6	-0.4
WRMHI	**West Rim**	**0.29**	**341**		Pg	13 11 53.5	-0.5
HATHI	**Halema'uma'u T**	**0.29**	**349**		Pg	13 11 54.1	0.0
HATHI				IAML		13 12 04.2	
	comp=N,7μm,0.6s						
HATHI				IAML		13 12 04.4	
	comp=E,7μm,0.6s						
OBL	**Observatory Le**	**0.29**	**345**		Pg	13 11 54.1	0.0
OBL				IAML		13 12 04.7	
	comp=N,13μm,0.6s						
SBLHI	**Steaming Bluff**	**0.30**	**348**		Pg	13 11 54.3	+0.1
SBLHI				IAML		13 12 04.1	
	comp=E,6μm,0.5s						
SBLHI				IAML		13 12 05.5	
	comp=N,6μm,0.6s						
UWB	**Uwekahuna B**	**0.30**	**346**		Pg	13 11 54.0	-0.3
UWE	**Uwekahuna**	**0.30**	**343**		Pg	13 11 53.9	-0.4
UWE				IAML		13 12 05.2	
	comp=N,10μm,0.5s						
RSD	**Rainshed**	**0.34**	**348**		Pg	13 11 54.2	-0.7
RSD				IAML		13 12 01.4	
	comp=N,4μm,0.7s						
MLH	**Mauna Loa**	**0.40**	**334**		Pg	13 11 56.3	+0.1
KHU	**Kahuku**	**0.41**	**286**		Pg	13 11 55.4	-0.9
KHU				IAML		13 12 05.3	
	comp=N,6μm,0.8s						
KHU				IAML		13 12 05.6	
	comp=E,5μm,0.6s						
MWH	**Moku'aweowe**	**0.51**	**313**		Pg	13 11 57.6	-0.7
MWH				IAML		13 12 09.1	
	comp=E,7μm,0.6s						
HMH	**Humu'ula Sheep**	**0.54**	**330**		Pg	13 11 58.3	-0.5
HMH				IAML		13 12 09.8	
	comp=N,5μm,0.3s						
POHA	**Pohakuloa**	**0.69**	**333**		Pg	13 12 00.3	-1.5
POHA	**Pohakuloa**	**0.69**	**333**	IAML		13 12 18.6	
	comp=N,4μm,0.5s						
POHA				IAML		13 12 22.3	
	comp=N,4μm,0.5s						
HUH	**Hualalai**	**0.81**	**313**		Pg	13 12 02.6	-1.4
HUH				IAML		13 12 23.5	
	comp=E,3μm,0.5s						
HUH				IAML		13 12 23.6	
	comp=N,3μm,0.5s						
HPAH	**Hawaii Prepara**	**1.01**	**332**	Pg	Pg	13 12 04.3	-3.4
MHA	**Mahukona**	**1.24**	**328**		Pg	13 12 07.7	-4.5
HLK	**Haleakala**	**1.89**	**329**	Pn	Pn	13 12 17.7	-3.9

NNC 05 13:18:56.2±4.9, 36.°92N×70.°75E, h0km, mb4.2, mpv3.9, 4C-1D, Error ellipse: s-maj=39.5km s-min=36.3km az=124.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**6.18**	**358**	Pn	Pn	13 20 29.2	+0.4
	1.9nm,0.3s,baz=194,slow=14,SNR=58						
KK31				⇓Sn	Sn	13 21 41.1	+0.9
	4.7nm,0.5s,baz=202,slow=25,SNR=17						
AAK	**Ala-Archa**	**6.40**	**26**	⇑Pn	Pn	13 20 32.1	+0.3
AAK	4.4nm,0.5s			⇑Sn	Sn	13 21 48.0	+2.3
	7.5nm,0.6s						
TKM2	**Tokmak 2**	**7.06**	**30**	⇑Pn	Pn	13 20 40.3	-0.7
TKM2	17nm,0.9s			⇑Sn	Sn	13 22 02.1	0.0
	1.5nm,0.7s						

*IDC **05** 13:21:54.5±7.4, 20.°38S×178.°23W, h526km±76km, mb3.1/6, mbtmp4.0/6, Error ellipse: s-maj=35.3km s-min=30.9km az=54.0*

ISC 05 13:21:54.9±0.9, 20.°4S±0.°2×178.°2W±0.°2, h534km, n13, σ1ˢ01/12, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**44.35**	**257**	P	**P**	**13 29 18.0**	**0.0**
	2.1nm,0.5s,baz=96,slow=7.5,SNR=24						
ASAR				PcP	**PcP**	**13 30 49.0**	**-1.5**
	0.8nm,0.6s,baz=106,slow=3.8,SNR=8.4						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**44.42**	**262**	P	**P**	**13 29 18.2**	**-0.3**
	0.8nm,0.3s,baz=97,slow=7.5,SNR=47						
	0.8nm,0.3s						
QSPA	**South Pole Qui**	**69.72**	**180**	P	**P**	**13 32 11.4**	**+0.5**
	1.4nm,0.7s,baz=139,slow=0.8,SNR=6.4						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**88.21**	**13**	P	**P**	**13 33 48.4**	**-0.2**
	0.4nm,0.6s,baz=231,slow=5.9,SNR=4.9						
	0.4nm,0.6s						
PDAR	**Pinedale Array**	**88.99**	**43**	P	**P**	**13 33 53.9**	**+0.8**
	0.3nm,0.7s,baz=150,slow=3.3,SNR=3.5						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.87**	**290**	P	**P**	**13 33 59.4**	**+2.0**
	0.3nm,0.3s,baz=90,slow=6.5,SNR=1.8						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**128.74**	**350**	PKP	**PKiKP**	**13 40 00.9**	**-0.6**
	1.8nm,0.9s,baz=0.0,slow=1.3,SNR=3.6						
FINES	**FINESS Array B**	**135.57**	**344**	PKP	**PKPdf**	**13 40 13.3**	**-0.5**
	0.4nm,0.6s,baz=20,slow=4.4,SNR=1.2						
HFS	**Hagfors**	**139.36**	**351**	PKhKP	PKPpre	13 40 14.6	
	1.2nm,0.7s,baz=22,slow=5.1,SNR=5.1						
AKASG	**Malin Array Be**	**142.78**	**331**	PKhKP	PKPpre	13 40 23.8	
	2.1nm,0.4s,baz=43,slow=4.3,SNR=16						
EKA	**Eskdalemuir Ar**	**144.87**	**5**	PKP	**PKPdf**	**13 40 30.2**	**-0.6**
	0.3nm,0.5s,baz=350,slow=3.6,SNR=1.5						
BRTR	**Keskin Array B**	**146.59**	**312**	PKPbc	**PKPbc**	**13 40 36.8**	**-0.1**
	0.8nm,0.4s,baz=137,slow=5.1,SNR=5.6						
MMAI	**Mount Meron Ar**	**147.56**	**300**	PKPbc	**PKiKP**	**13 40 40.1**	**-1.1**
	2.1nm,0.4s,baz=74,slow=6.2,SNR=12						

NOU 05 13:34:59.0, 16.°81S×167.°69E, h0km, MLv4.1/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOUNC	**Koumac, New Ca**	**4.92**	**220**	P	Pn	13 36 14.0	-0.3
DZM	**Mont Dzumac**	**5.36**	**192**	P	Pn	13 36 20.0	-0.4
NOUC	**Port Laguerre**	**5.42**	**194**	P	Pn	13 36 20.8	-0.4
OUENC	**Ouen Island, N**	**5.64**	**188**	P	Pn	13 36 24.4	+0.3
PINNC	**Pines Island,**	**5.78**	**182**	P	Pn	13 36 26.3	+0.3

*NEIC **05** 13:36:15.1±0.3, 19.°05N±0.°09×155.°38W±0.°03, h45km±6km, Error ellipse: s-maj=12.6km s-min=2.3km az=166.0*

HVO 05 13:36:17.5±0.8, 19.°1N±0.°1×155.°40W±0.°09, h28km±8km, Md2.3/21, ML2.5/24(NEIC), Error ellipse: s-maj=19.9km s-min=5.5km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.18**	**359**		Pb	13 36 23.0	-0.4
HLP	**Hilina Pali**	**0.25**	**19**		Pb	13 36 23.7	-0.5
HLP					Sb	13 36 28.4	-0.5
HLP	**Hilina Pali**	**0.25**	**19**	IAML		13 36 28.7	
	comp=N,1μm,0.2s						
HLP				IAML		13 36 28.8	
	comp=E,728nm,0.7s						
KHU	**Kahuku**	**0.28**	**312**		Pb	13 36 24.0	-0.8
KHU				IAML		13 36 28.9	
	comp=N,518nm,0.2s						
SDHHI	**Sand Hill**	**0.34**	**16**		Pb	13 36 24.4	-1.2
SDHHI	**Sand Hill**	**0.34**	**16**	IAML		13 36 30.4	
	comp=E,940nm,0.4s						
SDHHI				IAML		13 36 30.7	
	comp=N,849nm,0.4s						
PUH	**Pauahi**	**0.36**	**28**	Pg	Pb	13 36 24.5	-1.3
KKO	**Keanakako`i**	**0.36**	**20**		Pb	13 36 24.6	-1.2
KKO	**Keanakako`i**	**0.36**	**20**	IAML		13 36 30.0	
	comp=E,534nm,0.7s						
KKO				IAML		13 36 38.9	
	comp=N,656nm,0.8s						
HATHI	**Halema'uma'u T**	**0.39**	**19**	Pg	Pb	13 36 24.8	-1.4
HATHI				IAML		13 36 31.8	
	comp=E,559nm,0.5s						
HATHI				IAML		13 36 36.7	
	comp=N,469nm,1.3s						
RSD	**Rainshed**	**0.42**	**15**	Pg	Pb	13 36 25.2	-1.5
MWH	**Moku'aweowe**	**0.47**	**336**	IAML		13 36 33.1	
	comp=N,322nm,0.2s						
MWH				IAML		13 36 36.0	
	comp=E,289nm,1.5s						
HMH	**Humu'ula Sheep**	**0.55**	**351**	IAML		13 36 31.7	
	comp=N,222nm,2.0s						
HMH				IAML		13 36 37.7	
	comp=E,230nm,3.7s						
HUH	**Hualalai**	**0.75**	**326**	Pn	Pb	13 36 30.1	-2.0
HUH				IAML		13 36 52.0	
	comp=E,235nm,2.1s						
HPAH	**Hawaii Prepara**	**1.01**	**344**	IAML		13 36 47.0	
	comp=E,115nm,4.2s						
HPAH				IAML		13 36 49.4	
	comp=N,163nm,3.7s						

*NEIC **05** 13:46:42.0±2.3, 18.°02S±0.°05×69.°6W±0.°1, h137km±5km, mb4.5/25, Error ellipse: s-maj=14.3km s-min=6.7km az=94.0*
*GUC **05** 13:46:42.7±0.5, 18.°005S×69.°56W, h134km±2km, ML4.0*
*IDC **05** 13:46:43.1±0.5, 18.°05S×69.°23W, h132km±4km, mb3.7/11, mbtmp4.2/16, MS3.1/3, Error ellipse: s-maj=12.9km s-min=8.0km az=106.0*
*VAO **05** 13:46:43.0±0.5, 17.°895S×69.°21W, h120km±4km, mb4.5*

ISC 05 13:46:41.8±0.4, 18.°01S±0.°04×69.°36W±0.°05, h126km±4km, n149, σ1ˢ33/157, mb4.2/18, 4C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB18	**Visviri**	**0.43**	**344**		**Pn**	**13 47 02.2**	**+1.4**
PB18	**Visviri**	**0.43**	**344**	eP	**Pn**	**13 47 02.4**	**+1.6**
PB18				eS	**Sn**	**13 47 17.4**	**+2.4**
PB18				IAML		13 47 30.2	
	comp=E,2μm,0.6s						
AP01	**Chacalluta**	**1.00**	**249**		**Pn**	**13 47 03.9**	**-0.4**
AP01	**Chacalluta**	**1.00**	**249**	⇑eP	**Pn**	**13 47 04.1**	**-0.3**
AP01				eS	**Sn**	**13 47 20.4**	**-1.1**
PB12	**IPOC Station P**	**1.10**	**237**		**Pn**	**13 47 04.5**	**-0.9**
PB12	**IP

SIV San Ignacio 8.18 77 P **Pn 13 48 37.0 -0.7**
comp=E,38nm,0.5s,baz=266,slow=9.9,SNR=8.6
SIV S **Sn 13 50 05.8 -2.7**
comp=E,12nm,0.6s,baz=347,slow=21,SNR=6.0
AC01 Pan de Azucar 8.18 188 Pn 13 48 34.6 -3.1
BBSD Serra de San D 8.38 86 *e*P **Pn 13 48 39.3 -1.1**
ETMB Extrema 8.70 21 Pn **Pn 13 48 43.2 -1.4**
ETMB Extrema 8.70 21 *e*P **Pn 13 48 43.3 -1.4**
AC02 Maricunga 8.79 179 Pn **Pn 13 48 44.8 -1.5**
BBRB Robore, Bolivi 9.08 95 *e*P **Pn 13 48 48.0 -1.9**
AC06 Mina Casimiro 9.35 185 Pn **Pn 13 48 50.3 -3.1**
NNA Nana 9.39 309 Pn **Pn 13 48 50.3 -3.7**
NNA Nana 9.39 309 P **Pn 13 48 51.7 -2.3**
comp=E,14nm,0.3s,baz=128,slow=12,SNR=6.4
NNA S Sn 13 50 29.5 -8.4
comp=E,7.6nm,0.3s,baz=231,slow=19,SNR=2.3
FDPY Filadelfia 9.81 117 *e*P **Pn 13 48 59.9 +0.3**
PTLB Pontes e Lacer 10.12 77 Pn **Pn 13 49 03.5 -0.3**
PTLB Pontes e Lacer 10.12 77 *e*P **Pn 13 49 03.0 -0.7**
VILB Vilhena 10.16 62 Pn **Pn 13 49 03.9 -0.4**
VILB Vilhena 10.16 62 *e*P **Pn 13 49 03.3 -1.0**
VILB *e*S **Sn 13 50 52.8 -3.8**
AC04 Llanos de Chal 10.27 189 Pn **Pn** 13 49 00.9 -4.8
CZSB Cruzeiro do Su 10.72 342 *e*P **Pn 13 49 10.8 -1.2**
AC05 El Transito 10.81 184 Pn **Pn** 13 49 09.3 -3.8
SAML Samuel 10.82 34 Pn **Pn 13 49 11.1 -2.2**
SAML Samuel 10.82 34 *e*P **Pn 13 49 11.4 -1.9**
LCO Las Campanas 11.02 186 Pn **Pn** 13 49 11.0 -5.0
MURT Porto Murtinho 11.64 110 *e*P **Pn 13 49 23.3 -0.7**
CO01 Juntas del Tor 11.93 183 Pn 13 49 25.4 -2.7
BDQN Bodoquena, MS 12.15 104 *e*P **Pn 13 49 28.8 -2.1**
AQDB Aquidauana 13.13 103 *e*P **Pn 13 49 42.8 -0.8**
SALV Santo Antonio 13.24 83 *e*P **Pn 13 49 44.6 -0.3**
RVDE Rio Verde (Bra 13.71 97 *e*P **Pn 13 49 49.9 -1.2**
CPUP Villa Florida 13.88 129 P **Pn 13 49 52.5 -0.5**
comp=E,1.3nm,0.7s,baz=303,slow=14,SNR=3.0
ATAH Atahualpa 13.94 320 P **Pn 13 49 56.9 +2.5**
comp=E,5.1nm,0.7s,baz=265,slow=12,SNR=2.4
AMBA Amambai (Brazi 14.32 112 *e*P **Pn 13 49 59.6 +0.8**
VA03 San Esteban 14.73 184 P **Pn 13 50 05.9 +1.9**
CLDB Colider 14.92 63 *e*P **Pn 13 50 05.5 -0.9**
TEFE Tefe 15.14 18 *e*P **Pn 13 50 08.0 -1.1**
MT02 Curacav 15.27 186 Pn 13 50 10.1 -0.5
MT02 IAmb IAmb 13 50 15.4
comp=Z,26nm,0.9s
MT09 Talagante 15.77 185 P **Pn 13 50 17.8 +0.9**
MT09 IAmb IAmb 13 50 21.9
comp=Z,32nm,1.2s
LMEL Las Melosas 15.79 183 IAmb IAmb 13 50 28.1
comp=Z,32nm,1.2s
MT01 Popeta 15.88 186 IAmb IAmb 13 50 22.9
comp=Z,25nm,0.9s
TRCB Terra Rica 16.38 110 *e*P **P 13 50 25.3 +0.3**
ARAG Araguaiana, MT 16.95 85 *e*P **Pn 13 50 31.2 -0.3**
CRSM Crissiumal (Br 16.97 127 *e*P **Pn 13 50 32.7 +1.1**
MACA Manacapuru-AM 17.03 31 *e*P **P 13 50 31.1 -1.1**
UNIS Unistalda (Bra 17.09 133 *e*P **Pn 13 50 33.9 +0.8**
PCMB Pacaembu 17.40 105 *e*P **Pn 13 50 36.7 -0.1**
PTGB Pitanga 17.43 115 *e*P **Pn 13 50 37.9 +0.7**
NPGB Novo Progresso 17.46 53 *e*P **P 13 50 36.2 -0.8**
LDASE Londrina, Braz 17.88 111 *e*P **Pn 13 50 42.3 -0.3**
ITRB Iturama 18.06 98 *e*P **Pn 13 50 43.9 -0.9**
TBOT Tacuaremb 18.24 141 *e*P **Pn 13 50 48.6 +1.8**
ITAB Concordia 18.34 123 P **Pn 13 50 48.1 0.0**
ITAB IAmb IAmb 13 50 51.1
comp=Z,19nm,0.9s
ITAB Concordia 18.34 123 *e*P **Pn 13 50 49.1 +1.0**
ALGR Alto Alegre (B 18.41 129 *e*P **Pn 13 50 49.1 +0.1**
SNDB Serra Nova Dou 18.45 74 *e*P **Pn 13 50 48.6 -0.8**
ITTB Itaituba 19.02 46 *e*P **P 13 50 53.6 -0.4**
CPSB Cacapava Do Su 19.03 133 *e*P **Pn 13 50 55.1 -0.9**
FRTB Fartura 19.26 109 *e*P **Pn 13 50 57.5 -1.4**
PLTB Pedras Altas 19.76 137 P **P 13 51 01.4 -0.4**
BB19B Bebedouro 19.86 102 *e*P **P 13 51 03.5 +0.4**
IPMB Ipameri, GO 20.11 93 *e*P **P 13 51 05.6 -0.2**
BDFB Brasilia 20.57 87 P Pn 13 51 12.6 -1.7
BDFB IAmb IAmb 13 51 14.8
comp=Z,18nm,0.8s
BDFB Brasilia 20.57 87 P **P 13 51 11.9 +1.1**
comp=Z,17nm,0.7s,baz=264,slow=10,SNR=15
comp=Z,17nm,0.7s
TRQA Tornquist 20.99 164 P **P 13 51 15.4 +0.3**
VAO Valinhos 21.55 107 *e*P **P 13 51 20.9 -0.3**
PMNB Patos De Minas 21.77 95 *e*P **P 13 51 23.3 -0.4**
BOAV Boa Vista 22.07 24 P **P 13 51 25.6 -1.0**
BOAV IAmb IAmb 13 51 27.9
comp=Z,24nm,1.1s
BOAV Boa Vista 22.07 24 *e*P **P 13 51 26.8 +0.2**
PLCA Paso Flores 22.67 182 P **P 13 51 33.0 +0.5**
PLCA IAmb IAmb 13 51 36.0
comp=Z,26nm,1.5s
PLCA Paso Flores 22.67 182 P **P 13 51 33.8 +1.3**
comp=Z,6.1nm,1.0s,baz=360,slow=12,SNR=9.1
comp=Z,6.1nm,1.0s
PLCA Paso Flores 22.67 182 *e*P **P 13 51 34.7 +2.2**
PARB Paraibuna 22.82 107 *e*P **P 13 51 34.3 +0.2**
SMTB Santa Maria do 23.02 70 *e*P **P 13 51 36.7 +0.6**
BSCB Bom Sucesso 23.36 101 *e*P **P 13 51 39.4 +0.2**
JANB Januaria 24.18 87 *e*P **P 13 51 47.0 +0.3**
SDBA SAO DESIDERIO 24.23 80 *e*P **P 13 51 47.6 +0.4**
DIAM Diamantina, MG 24.41 95 *e*P **P 13 51 49.5 +0.8**
MCPB Macapa, AP 24.43 46 *e*P **P 13 51 48.6 -0.2**
DUB01 Friburgo-RJ 25.66 104 *e*P **P 13 52 01.1 +1.1**
SJMB Sao Joao De Ma 26.74 96 *e*P **P 13 52 10.3 +0.6**
BAUV El Baul 26.81 3 P **P 13 52 06.5 -3.8**
BAUV IAmb IAmb 13 52 48.1
comp=Z,18nm,0.9s
GUA01 Guaratinga, BA 28.24 92 *e*P **P 13 52 23.8 +0.7**
MDP Montagnes des 28.27 37 LR LR 14 04 31.4
comp=Z,23nm,18.9s,baz=128,slow=38
NBLA Lagarto - SE 31.32 82 *e*P **P 13 52 50.4 +0.1**
NBPB Pedra_Branca-C 31.61 71 *e*P **P 13 52 53.8 +0.9**
NBAN Anadia - AL 33.13 80 *e*P **P 13 53 07.1 +0.9**
TXAR Lajitas Array 57.55 324 P **P 13 56 21.2 +2.9**
comp=Z,0.2nm,0.5s,baz=151,slow=11,SNR=2.9
TXAR pP **pP 13 56 50.2 +0.1**
comp=Z,0.3nm,0.6s,baz=141,slow=10,SNR=2.9
comp=Z,0.2nm,0.5s
FCAR Ozark Folk Cen 57.78 338 IAmb IAmb 13 56 20.3
comp=Z,3.8nm,0.7s
T42A Van Buren 58.46 340 P **P 13 56 22.9 -1.5**
FVM French Village 59.11 341 P **P 13 56 27.5 -1.4**
CCM Cathedral Cave 59.44 340 P **P 13 56 30.0 -1.2**
S39A Bolivar 59.82 338 IAmb IAmb 13 56 34.8
comp=Z,4.7nm,0.8s
R40A Maddies Statio 59.99 339 IAmb IAmb 13 56 35.6
comp=Z,6.0nm,0.7s
DBIC Dimbokro 68.19 75 P **P 13 57 29.0 -0.1**
DBIC Dimbokro 68.19 75 P **P 13 57 29.2 +0.1**
comp=Z,22nm,0.8s,baz=224,slow=5.9,SNR=2.3
PDAR Pinedale Array 70.89 330 P **P 13 57 47.4 +2.0**
comp=Z,0.1nm,0.4s,baz=116,slow=9.5,SNR=2.0
PDAR pP **pP 13 58 19.5 +1.4**
comp=Z,0.2nm,0.5s,baz=125,slow=7.8,SNR=2.4
comp=Z,0.1nm,0.4s
ULM Lac du Bonnet 71.88 342 P **P 13 57 49.0 -1.8**
ULM Lac du Bonnet 71.88 342 P **P 13 57 50.3 -0.5**
comp=Z,3.0nm,0.5s,baz=154,slow=6.8,SNR=8.5
comp=Z,3.0nm,0.5s
QSPA South Pole Qui 72.16 180 P **P 13 57 52.4 -0.1**
QSPA South Pole Qui 72.16 180 P **P 13 57 54.2 +1.6**
comp=Z,1.2nm,0.7s,baz=201,slow=1.8,SNR=8.4
comp=Z,1.2nm,0.7s
NVAR Mina Array Bea 72.50 322 pP pP 13 58 29.4 +1.4
comp=Z,0.6nm,0.8s,baz=139,slow=7.1,SNR=4.3
SCHQ Schefferville 72.58 2 P **P 13 57 54.5 -0.4**
comp=Z,2.8nm,0.8s,baz=117,slow=6.9,SNR=2.4
comp=Z,2.8nm,0.8s
TOA0 Torodi Ar. Sit 76.61 71 P **P 13 58 18.6 -0.5**
TOA0 IAmb IAmb 13 58 23.2
comp=Z,6.2nm,0.7s
TORD Torodi Ar. Bea 76.61 71 P **P 13 58 18.6 -0.5**
TORD Torodi Ar. Bea 76.61 71 P **P 13 58 18.7 -0.3**
comp=Z,6.4nm,0.8s,baz=252,slow=5.7,SNR=31
TORD pP **pP 13 58 52.6 +0.4**
comp=Z,0.6nm,0.7s,baz=268,slow=4.5,SNR=0.9
comp=Z,6.4nm,0.8s
VNDA Vanda 80.20 190 LR LR 14 32 06.1
comp=Z,25nm,18.5s,baz=293,slow=34
ESDC Sonseca Array 83.66 45 P **P 13 58 56.2 -0.2**
comp=Z,0.9nm,0.9s,baz=262,slow=4.4,SNR=6.4
comp=Z,0.9nm,0.9s
YKA Yellowknife Ar 87.77 341 P **P 13 59 16.8 +0.7**
comp=Z,1.4nm,0.7s,baz=129,slow=4.3,SNR=3.4
YKA pP **pP 13 59 50.5 +0.6**
comp=Z,1.2nm,0.8s,baz=132,slow=4.3,SNR=7.3
comp=Z,1.4nm,0.7s
MAW Mawson 87.78 164 P **P 13 59 15.6 -0.6**
comp=Z,1.6nm,0.7s,baz=208,slow=12,SNR=3.0
comp=Z,1.6nm,0.7s
ASAR Alice Springs 132.76 210 PKP **PKPdf 14 05 43.6 +1.0**
comp=Z,0.2nm,0.6s,baz=93,slow=1.9,SNR=2.2
ASAR pPKP **pPKPdf 14 06 18.4 +0.1**
comp=Z,0.4nm,0.7s,baz=176,slow=4.8,SNR=2.5
BVAR Borovoye Array 133.13 32 PKP **PKiKP 14 05 43.9 +0.4**
comp=Z,0.4nm,0.6s,baz=256,slow=5.8,SNR=2.5
ZALV Zalesovo Beam 138.96 23 PKP **PKPdf 14 05 53.2 +0.2**
comp=Z,1.4nm,0.7s,baz=241,slow=3.1,SNR=7.1
ZALV pPKP **pPKPdf 14 06 28.8 +0.2**
comp=Z,1.4nm,0.7s,baz=270,slow=4.4,SNR=3.3
MKAR Makanchi Array 143.00 33 PKP **PKPdf 14 06 01.7 +1.0**
comp=Z,0.3nm,0.6s,baz=8.5,slow=2.9,SNR=2.9
SONM Songino Array 150.05 6 PKPbc **PKPbc 14 06 17.8 +0.2**
comp=Z,1.6nm,0.7s,baz=239,slow=0.6,SNR=7.5
SONM pPKPbc **pPKPbc 14 06 52.9 -0.1**
comp=Z,1.0nm,0.8s,baz=285,slow=0.6,SNR=3.8

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*IDC **05** 14:04:09.8±0.6,28.°19N×43.°88W,h0km,mb4.3/24, mbtmp4.3/24,MS3.8/67,Error ellipse: s-maj=19.1km s-min=14.1km az=162.0*
*NEIC **05** 14:04:12.1±1.7,28.°18N±0.°05×43.°8W±0.°1,h10km±1km, mb4.8/231,Error ellipse: s-maj=18.9km s-min=7.1km az=251.0*
*GCMT **05** 14:04:14.1±0.2,28.°48N±0.°03×43.°71W±0.°02,h12km, MW4.8/97,Moment Tensor Solution. s17,c17; s97,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.68±.05; $M_{\theta\theta}$0.56±.06; $M_{\phi\phi}$1.12±.04; $M_{r\theta}$1.01±.23; $M_{r\phi}$0.65±.04; $M_{\theta\phi}$-0.93±.19; Best double couple: $M_0$1.99300×10^{16} NP1:ϕ_{s}5.00000°, δ57.00000°, λ-123.00000°. NP2: ϕ_{s}235.00000°, δ46.00000°, λ-50.00000°. Principal axes: T 1.5750, Plg6.0000°, Azm118.0000°; N 0.8400, Plg27.0000°, Azm24.0000°; P -2.4120, Plg62.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 14:04:12.7±0.4,28.°24N±0.°07×43.°98W±0.°07,h19km,n709, σ1.9**05**/568,**mb4.7**/171,**MS3.9**/70,**9C-15D,Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**24.44**	**201**	LR	LR	14 17 02.3	
	comp=Z,89nm,21.6s,baz=317,slow=32						
M65A	**Busby, Falmout**	**25.48**	**308**	P	**P**	**14 09 40.1**	**+0.5**
	baz=113						
PKME	**Peaks-Kenny Pk**	**26.30**	**317**	P	**P**	**14 09 47.8**	**+0.8**
	baz=122						
PCRV	**Puerto La Cruz**	**26.44**	**231**	LR	LR	14 20 18.1	
	comp=Z,53nm,19.2s,slow=37						
HRV	**Adam Dziewonsk**	**26.48**	**310**	P	**P**	**14 09 49.3**	**+0.7**
	baz=114						
L61B	**Northampton**	**27.22**	**309**	P	**P**	**14 09 55.9**	**+0.5**
	baz=112						
LBNH	**Lisbon**	**27.45**	**313**	P	**P**	**14 09 57.5**	**+0.1**
	baz=116						
PAL	**Palisades**	**27.59**	**305**	P	**P**	**14 09 58.9**	**+0.3**
	baz=108						
LONY	**Lake Ozonia**	**29.34**	**312**	P	**P**	**14 10 13.8**	**-0.4**
	baz=114						
BINY	**Binghamton**	**29.44**	**307**	P	**P**	**14 10 14.8**	**-0.4**
	baz=108						
BAUV	**El Baul**	**29.70**	**234**	P	**P**	**14 10 18.5**	**+0.9**
SSPA	**Standing Stone**	**30.39**	**303**	P	**P**	**14 10 21.6**	**-2.0**
	baz=103						
SCHQ	**Schefferville**	**31.32**	**334**	LR	LR	14 23 34.9	
	comp=Z,235nm,18.1s,baz=120,slow=37						
SDV	**Santo Domingo**	**31.63**	**238**	LR	LR	14 21 36.4	
	comp=Z,83nm,22.0s,baz=79,slow=33						
MCWV	**Mont Chateau**	**31.67**	**301**	P	**P**	**14 10 33.7**	**-1.2**
	baz=100						
BLA	**Blacksburg**	**31.78**	**296**	P	**P**	**14 10 34.3**	**-1.6**
	baz=96						
ERPA	**Erie**	**32.28**	**305**	P	**P**	**14 10 39.1**	**-1.0**
	baz=104						
KMSC	**Kings Mountain**	**32.39**	**292**	P	**P**	**14 10 39.8**	**-1.4**
	baz=92						
SADO	**Sadowa**	**32.42**	**310**	LR	LR	14 22 32.1	
	comp=Z,433nm,19.0s,baz=120,slow=34						
M53A	**WI Miller and**	**32.63**	**304**	P	**P**	**14 10 42.4**	**-0.8**
	baz=102						
O53A	**New Philadelph**	**32.80**	**301**	P	**P**	**14 10 43.8**	**-1.0**
	baz=100						
P52A	**Corning**	**33.41**	**300**	P	**P**	**14 10 49.1**	**-1.0**
	baz=98						
MDT	**Midelt**	**34.08**	**72**	LR	LR	14 21 37.8	
	comp=Z,317nm,20.6s,baz=307,slow=31						
ACSO	**Alum Creek Sta**	**34.14**	**301**	P	**P**	**14 10 55.5**	**-0.9**
	baz=98						
GOGA	**Godfrey**	**34.16**	**289**	P	**P**	**14 10 55.7**	**-1.0**
	baz=88						
TZTN	**Tazewell**	**34.24**	**294**	P	**P**	**14 10 56.3**	**-1.0**
	baz=92						
ITTB	**Itaituba**	**34.34**	**201**	*e*P	**P**	**14 10 58.9**	**+0.6**
TIGA	**Tifton**	**34.38**	**285**	P	**P**	**14 10 57.4**	**-1.3**
	baz=85						
TKL	**Tuckaleechee C**	**34.39**	**293**	P	**P**	**14 11 00.3**	**+1.6**
TKL	**Tuckaleechee C**	**34.39**	**293**	LR	LR	14 22 33.4	
	comp=Z,381nm,20.5s,baz=87,slow=32						
RCBR	**Riachuelo**	**34.75**	**166**	LR	LR	14 21 43.2	
	comp=Z,174nm,18.3s,baz=4.5,slow=30						
ESDC	**Sonseca Array**	**34.83**	**60**	P	**P**	**14 11 00.8**	**-1.7**
	1.6nm,1.1s,baz=277,slow=11,SNR=2.1						
ESDC				LR	LR	14 21 36.0	
	comp=Z,118nm,19.3s,baz=250,slow=30 1.6nm,1.1s						
AAM	**Ann Arbor**	**34.98**	**304**	P	**P**	**14 11 02.5**	**-1.1**
	baz=101						
T50A	**Nancy**	**35.29**	**295**	P	**P**	**14 11 08.7**	**+2.3**
T50A				IAmb	IAmb	14 11 11.9	
	comp=Z,9.3nm,0.8s						
P49A	**Miami Univ. Ec**	**35.38**	**299**	P	**P**	**14 11 05.5**	**-1.7**
	baz=96						
O48B	**Farmland**	**35.79**	**301**	P	**P**	**14 11 09.5**	**-1.2**
	baz=97						
CLTN	**Cedars of Leba**	**36.47**	**293**	P	**P**	**14 11 17.6**	**+1.1**
CLTN				IAmb	IAmb	14 11 20.4	
	comp=Z,15nm,1.0s						
WCI	**Wyandotte Cave**	**36.50**	**297**	P	**P**	**14 11 15.6**	**-1.2**
	baz=93						
NPGB	**Novo Progresso**	**36.76**	**199**	*e*P	**P**	**14 11 19.4**	**+0.3**
ROSC	**El Rosal**	**37.04**	**237**	LR	LR	14 27 22.4	
	comp=Z,112nm,19.3s,baz=73,slow=38						
LRAL	**Lakeview Retre**	**37.13**	**288**	P	**P**	**14 11 21.0**	**-1.2**
	baz=86						
SFIN	**Lafayette**	**37.28**	**300**	P	**P**	**14 11 22.0**	**-1.4**
	baz=95						
BRAL	**Brewton**	**37.36**	**285**	P	**P**	**14 11 23.4**	**-0.8**
	baz=83						
ISOG	**Isortoq, Green**	**37.46**	**3**	*i* P	P	14 11 30.4	+5.9
ISOG				IAmb	IAmb	14 11 35.1	
	comp=Z,23nm,0.9s						
WVT	**Waverly**	**37.69**	**293**	P	**P**	**14 11 25.0**	**-1.9**
	baz=89						
PLAL	**Pickwick Lake**	**37.92**	**292**	P	**P**	**14 11 28.4**	**-0.5**
Z47A	**Carrollton**	**38.02**	**289**	P	**P**	**14 11 32.0**	**+2.2**
Z47A				IAmb	IAmb	14 11 33.5	
	comp=Z,28nm,1.1s						
L44A	**Lake County Fo**	**38.08**	**303**	P	**P**	**14 11 29.1**	**-1.0**
	baz=97						
SIUC	**Southern Illin**	**38.80**	**296**	P	**P**	**14 11 37.9**	**+1.7**
SIUC				IAmb	IAmb	14 11 40.1	
	comp=Z,16nm,1.1s						
S44A	**Carbondale**	**38.83**	**296**	P	**P**	**14 11 38.5**	**+2.0**
S44A				IAmb	IAmb	14 11 40.1	
	comp=Z,26nm,1.4s						
FRB	**Frobisher Bay**	**38.89**	**343**	LR	LR	14 26 11.9	
	comp=Z,239nm,21.7s,baz=186,slow=34						
HDIL	**Hopedale**	**38.96**	**301**	P	**P**	**14 11 36.5**	**-1.1**
	baz=94						
SFJD	**Kangerlussuaq**	**38.99**	**356**	LR	LR	14 24 18.8	
	comp=Z,150nm,20.2s,baz=164,slow=31						
OXF	**Oxford**	**39.04**	**291**	P	**P**	**14 11 37.2**	**-1.0**
	baz=86						
CGM3	**Cape Girardeau**	**39.15**	**295**	P	**P**	**14 11 39.6**	**+0.5**
BORG	**Borgarnes**	**39.25**	**15**	LR	LR	14 21 40.0	
	comp=Z,37nm,22.0s,baz=188,slow=27						
L42A	**Oliver, Polo**	**39.36**	**303**	P	**P**	**14 11 42.0**	**+1.1**
L42A				IAmb	IAmb	14 11 44.0	
	comp=Z,13nm,0.8s						
COWI	**Conover**	**39.56**	**309**	P	**P**	**14 11 44.5**	**+2.0**
FVM	**French Village**	**39.75**	**296**	P	**P**	**14 11 44.9**	**+0.6**
PBMO	**Poplar Bluff**	**39.77**	**295**	P	**P**	**14 11 45.5**	**+1.2**
PBMO				IAmb	IAmb	14 11 48.5	
	comp=Z,18nm,1.1s						
EKA	**Eskdalemuir Ar**	**39.84**	**36**	P	**P**	**14 11 43.1**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=245,slow=7.9,SNR=5.1						
EKA				PcP	**PcP**	**14 13 50.2**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=230,slow=5.5,SNR=2.3 comp=Z,1.8nm,0.7s						
JFWS	**Jewell Farm**	**39.88**	**304**	P	**P**	**14 11 47.2**	**+2.0**
JFWS	**Jewell Farm** baz=96	**39.88**	**304**	P	**P**	**14 11 44.4**	**-0.9**
G40A	**Rib Lake**	**40.16**	**308**	P	**P**	**14 11 49.6**	**+2.1**
VBMS	**Vicksburg** baz=83	**40.17**	**287**	P	**P**	**14 11 46.5**	**-1.2**
T42A	**Van Buren**	**40.30**	**295**	IAmb	IAmb	14 11 51.8	
	comp=Z,17nm,0.9s						
LCAR	**Lake Charles**	**40.38**	**293**	P	**P**	**14 11 51.1**	**+1.7**
CCM	**Cathedral Cave**	**40.40**	**297**	P	**P**	**14 11 51.4**	**+1.8**
CCM	**Cathedral Cave** baz=90	**40.40**	**297**	P	**P**	**14 11 48.3**	**-1.3**
SDBA	**SAO DESIDERIO**	**40.41**	**181**	*e*P	**P**	**14 11 49.3**	**-0.6**
L40A	**Anamosa**	**40.52**	**303**	P	**P**	**14 11 52.1**	**+1.6**
CLF	**Chambon-Foret**	**40.67**	**48**	P	**P**	**14 11 51.4**	**-0.2**
CLF				IAmb	IAmb	14 11 53.9	
	comp=Z,19nm,0.7s						
ICESG	**Greenland Ices**	**40.97**	**2**	*i* P	**P**	**14 11 57.6**	**+3.4**
ICESG				IAmb	IAmb	14 12 02.6	
	comp=Z,5.5nm,1.0s						
TEIG	**Tepich**	**40.99**	**269**	LR	LR	14 26 10.8	
	comp=Z,2μm,22.0s,slow=32						
P40A	**Paris**	**41.03**	**299**	IAmb	IAmb	14 11 58.8	
	comp=Z,13nm,0.9s						
MGMO	**Mountain Grove**	**41.23**	**295**	IAmb	IAmb	14 12 00.5	
	comp=Z,16nm,1.1s						
SAML	**Samuel**	**41.37**	**209**	P	**P**	**14 11 58.0**	**+0.3**
SAML				IAmb	IAmb	14 11 59.0	
	comp=Z,16nm,1.2s						
SAML	**Samuel**	**41.37**	**209**	*e*P	**P**	**14 11 58.0**	**+0.3**
EYMN	**Ely** baz=101	**41.49**	**312**	P	**P**	**14 11 57.2**	**-1.3**
SPMN	**Marine on St.** baz=97	**41.97**	**307**	P	**P**	**14 12 01.4**	**-1.0**
SCIA	**State Center** baz=93	**42.00**	**302**	P	**P**	**14 12 02.4**	**-0.3**
P38A	**Dawn**	**42.18**	**299**	IAmb	IAmb	14 12 07.2	
	comp=Z,19nm,1.2s						
JTS	**Las Juntas de**	**42.34**	**253**	LR	LR	14 27 43.0	
	comp=Z,45nm,20.3s,baz=30,slow=33						
MIAR	**Mount Ida** baz=84	**42.46**	**291**	P	**P**	**14 12 06.7**	**+0.1**
DOU	**Dourbes**	**42.60**	**46**	*d*P	**P**	**14 12 07.6**	**+0.2**
DBIC	**Dimbokro**	**42.76**	**113**	LR	LR	14 27 31.6	
	comp=Z,453nm,18.8s,baz=284,slow=33						
BMRD	**Maredsous**	**42.76**	**45**	*d*P	**P**	**14 12 09.3**	**+0.6**
BGES	**Gesves**	**42.98**	**45**	*d*P	**P**	**14 12 11.3**	**+0.8**
RCHB	**Rochefort**	**43.02**	**46**	*d*P	**P**	**14 12 11.5**	**+0.7**
BCLA	**Clavier**	**43.12**	**45**	*d*P	**P**	**14 12 11.5**	**-0.1**
RLO	**Rose Lookout**	**43.50**	**294**	IAmb	IAmb	14 12 19.6	
	comp=Z,16nm,1.2s						
WLF	**Walferdange**	**43.51**	**46**	P	**P**	**14 12 15.5**	**+0.7**
WLF				IAmb	IAmb	14 12 24.4	
	comp=Z,34nm,1.5s						
WLF	**Walferdange**	**43.51**	**46**	*d*P	**P**	**14 12 17.1**	**+2.3**
	comp=Z,7.7nm,1.4s						
ETMB	**Extrema**	**43.52**	**213**	P	**P**	**14 12 14.8**	**-0.4**
ETMB	**Extrema**	**43.52**	**213**	*e*P	**P**	**14 12 14.9**	**-0.2**
MEM	**Membach**	**43.60**	**45**	*d*P	**P**	**14 12 17.0**	**+1.5**
BTNL	**Ternell**	**43.67**	**45**	*d*P	**P**	**14 12 17.3**	**+1.1**
NATX	**Nacogdoches** baz=81	**43.72**	**288**	P	**P**	**14 12 16.9**	**+0.2**
BDFB	**Brasilia**	**43.79**	**186**	LR	LR	14 28 17.5	
	comp=Z,157nm,19.9s,baz=334,slow=33						
TUL3	**Leonard**	**44.14**	**294**	IAmb	IAmb	14 12 22.7	
	comp=Z,17nm,1.0s						
TUL3	**Leonard** baz=85	**44.14**	**294**	P	**P**	**14 12 20.1**	**-0.1**
ARAG	**Araguaiana, MT**	**44.34**	**191**	*e*P	**P**	**14 12 22.7**	**+1.0**
AGMN	**Agassiz Nation**	**44.44**	**311**	IAmb	IAmb	14 12 26.1	
	comp=Z,16nm,1.1s						
AGMN	**Agassiz Nation** baz=97	**44.44**	**311**	P	**P**	**14 12 22.7**	**+0.4**
SUMG	**Summit**	**44.49**	**2**	P	**P**	**14 12 23.8**	**+0.9**
SUMG				IAmb	IAmb	14 12 31.6	
	comp=Z,9.3nm,0.9s						
SUMG	**Summit**	**44.49**	**2**	*i* P	**P**	**14 12 23.0**	**+0.1**
SUMG				IAmb	IAmb	14 12 31.9	
	comp=Z,5.9nm,0.8s						
ECSD	**EROS Data Cent** baz=92	**44.57**	**305**	P	**P**	**14 12 24.2**	**+0.7**
KSU1	**Kansas State U** baz=88	**44.58**	**298**	P	**P**	**14 12 24.1**	**+0.5**
BFO	**Black Forest**	**44.72**	**49**	P	**P**	**14 12 23.5**	**-1.1**
BFO				IAmb	IAmb	14 12 27.3	
	comp=Z,13nm,1.1s						
ULM	**Lac du Bonnet**	**44.73**	**314**	IAmb	IAmb	14 12 26.4	
	comp=Z,10nm,1.1s						
ULM	**Lac du Bonnet**	**44.73**	**314**	P	**P**	**14 12 25.4**	**+0.7**
	comp=Z,3.0nm,0.7s,baz=88,slow=7.8,SNR=7.7 comp=Z,3.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**45.01**	**100**	P	**P**	**14 12 26.2**	**-1.1**
	comp=Z,3.2nm,0.7s,baz=307,slow=8.0,SNR=18 comp=Z,3.2nm,0.7s						
W35A	**Tecumseh**	**45.10**	**293**	IAmb	IAmb	14 12 31.4	
	comp=Z,18nm,1.1s						
TUE	**Stuetta**	**45.22**	**51**	IAmb	IAmb	14 12 49.2	
	comp=Z,15nm,1.2s						
TUE	**Stuetta**	**45.22**	**51**	P	**P**	**14 12 30.6**	**+1.8**
	comp=Z,52nm,1.9s						
SALV	**Santo Antonio**	**45.32**	**196**	*e*P	**P**	**14 12 29.9**	**+0.4**
KEST	**Kesra**	**45.38**	**66**	IAmb	IAmb	14 12 32.0	
	comp=Z,11nm,0.8s						
KEST	**Kesra**	**45.38**	**66**	P	**P**	**14 12 30.5**	**+0.4**
	comp=Z,7.9nm,0.8s,baz=246,slow=3.6,SNR=8.9						
KEST				LR	LR	14 28 47.2	
	comp=Z,122nm,20.8s,baz=197,slow=33 comp=Z,7.9nm,0.8s						
DAVOX	**Davos/Dischmat**	**45.61**	**51**	LR	LR	14 28 06.9	
	comp=Z,120nm,20.5s,baz=265,slow=32						
DAVA	**Damuels**	**45.65**	**50**	*e*pP	**P**	**14 12 33.8**	**+1.6**
	comp=Z,25nm,1.3s,SNR=8.7						
BGNE	**Belgrade** baz=89	**45.69**	**302**	P	**P**	**14 12 32.9**	**+0.5**
KAN14	**

KULLO Kullorsuaq 46.90 355 *i* P P 14 12 41.5 +0.2
KULLO IAmb IAmb 14 12 50.4
comp=Z,7,2nm,0.9s
CBKS Cedar Bluff 47.03 298 P P 14 12 43.3 +0.3
baz=85
JMIC Jan Mayen 47.15 15 LR LR 14 27 15.8
comp=Z,74nm,21.0s,baz=250,slow=29
ABTA Abfaltersbach 47.42 51 *eP* P 14 12 46.7 +0.7
comp=Z,15nm,1.3s,SNR=6.5
BRDY Brady 47.45 288 IAmb IAmb 14 12 49.7
comp=Z,6.9nm,1.1s
LESA Schwarzleotal 47.56 50 *eP* P 14 12 47.8 +0.8
comp=Z,9.8nm,1.2s
ABTX Abilene, Hawle 47.74 290 P P 14 12 48.9 +0.3
baz=80
BBSD Serra de San D 47.94 202 *eP* P 14 12 50.2 0.0
CMIG Matias Romero 47.97 268 LR LR 14 32 29.6
comp=Z,80nm,20.1s,baz=9.5,slow=35
KBA Koelnbreinsper 48.00 51 *eP* P 14 12 51.1 +0.6
comp=Z,3.5nm,0.8s
APMT Aspermont 48.02 291 IAmb IAmb 14 12 52.9
comp=Z,6.3nm,0.8s
CLL Collm 48.07 45 *i* P P 14 12 50.9 +0.1
comp=Z,7.0nm,0.8s
CLL *i* x x 14 12 57.5
CLL AMS AMS 14 29 00.0
comp=Z,200nm,19.6s
CLL Collm 48.07 45 P P 14 12 51.5 +0.7
comp=Z,8.9nm,1.4s
RVDE Rio Verde (Bra 48.17 194 *eP* P 14 12 52.8 +0.9
MYKA Terra Mystica 48.19 51 *eP* P 14 12 52.4 +0.5
comp=Z,12nm,1.2s
BIOA Bad Ischl, Aus 48.22 50 *eP* P 14 12 52.6 +0.5
comp=Z,19nm,1.6s
KHC Kasperske Hory 48.26 48 IAmb IAmb 14 12 53.6
comp=Z,11nm,1.3s
KHC Kasperske Hory 48.26 48 *eP* P 14 12 53.7 +1.3
KHC Kasperske Hory 48.26 48 P P 14 12 52.8 +0.4
comp=Z,8.5nm,1.7s
JCT Junction City 48.29 287 P P 14 12 52.9 0.0
baz=78
GERES GERESS Array B 48.32 48 P P 14 12 53.5 +0.6
GERES GERESS Array B 48.32 48 P P 14 12 53.0 +0.1
comp=Z,2.6nm,0.9s,baz=289,slow=8.3,SNR=4.9
GERES LR LR 14 30 10.8
comp=Z,36nm,20.4s,baz=260,slow=32
comp=Z,2.6nm,0.9s
ATAH Atahualpa 48.38 229 LR LR 14 35 03.9
comp=Z,65nm,19.9s,baz=12,slow=38
833A Chaparral WMA, 48.42 284 P P 14 12 52.9 -0.9
baz=76
DKNS Dickens 48.62 291 IAmb IAmb 14 12 59.0
comp=Z,15nm,1.5s
BRG Berggiesshubel 48.62 46 *eP* P 14 12 55.8 +0.8
BRG Amp 14 12 58.1
comp=Z,5.2nm,1.1s
OGNE Ogallala 48.63 301 P P 14 12 54.2 -1.3
baz=86
MOA Molln 48.65 50 *eP* P 14 12 55.7 +0.3
comp=Z,11nm,1.6s
ZVC Zvikov 48.68 48 *eP* P 14 12 56.6 +1.1
CKRC Cesky Krumlov 48.72 48 *eP* P 14 12 56.4 +0.5
OBKA Obir 48.81 52 *eP* P 14 12 56.4 -0.4
comp=Z,15nm,0.9s
NB2 NORSAR Subarra 48.98 32 P P 14 12 58.6 +0.8
comp=Z,47nm,2.0s,baz=253,slow=7.9
NB2 NORSAR Subarra 48.98 32 P P 14 12 58.6 +0.8
baz=253,slow=7.9
NOA NORSAR Array B 48.98 32 P P 14 12 57.9 +0.1
comp=Z,2.5nm,1.0s,baz=254,slow=7.7,SNR=5.4
NOA LR LR 14 29 48.0
comp=Z,48nm,21.6s,baz=265,slow=31
comp=Z,2.5nm,1.0s
AMTX Amarillo 49.04 293 IAmb IAmb 14 13 19.1
comp=Z,9.9nm,1.1s
AMTX Amarillo 49.04 293 P P 14 12 58.4 -0.3
baz=81
FFC Flin Flon 49.11 319 P P 14 12 58.2 -0.6
FFC IAmb IAmb 14 13 01.5
comp=Z,20nm,1.5s
SOKA Soboth 49.15 51 *eP* P 14 12 59.3 0.0
comp=Z,13nm,1.6s
VAE Valguarnera 49.23 63 LR LR 14 30 17.7
comp=Z,175nm,21.1s,baz=301,slow=32
KSCO Kaye Shedlock' 49.26 299 P P 14 12 59.2 -1.1
baz=84
NEEM North Greenlan 49.40 358 *i* P P 14 13 01.3 +0.3
NEEM IAmb IAmb 14 13 10.4
comp=Z,7.7nm,0.8s
ARSA Arzberg 49.49 51 *i* P P 14 13 02.1 +0.3
comp=Z,15nm,1.3s,SNR=6.4
CONA Conrad Observa 49.73 50 *eP* P 14 13 04.1 +0.4
comp=Z,6.9nm,1.0s
AQDB Aquidauana 49.73 194 P P 14 13 03.7 -0.1
UPC Upice 49.91 46 *eP* P 14 13 05.9 +0.9
RSSD Black Hills 49.93 305 P P 14 13 04.6 -1.0
baz=88
HFS Hagfors 49.94 34 P P 14 13 05.4 +0.4
comp=Z,4.2nm,0.9s,baz=236,slow=9.9,SNR=5.4
HFS LR LR 14 30 56.0
comp=Z,45nm,19.2s,baz=280,slow=32
comp=Z,4.2nm,0.9s
BDQN Bodoquena, MS 49.95 196 *eP* P 14 13 06.6 +1.2
DGMT Dagmar 49.99 311 P P 14 13 04.6 -1.0
baz=91
RONA Rosalia, Austr 50.02 50 *i* P P 14 13 06.5 +0.6
comp=Z,8.9nm,0.8s
OSTC Östas 50.04 46 *eP* P 14 13 07.5 +1.5
LPAZ La Paz 50.06 211 IAmb IAmb 14 13 14.5
comp=Z,14nm,1.1s
LPAZ La Paz 50.06 211 P P 14 13 07.2 +0.1
comp=Z,6.0nm,0.7s,baz=34,slow=3.6,SNR=18
LPAZ LR LR 14 33 11.1
comp=Z,99nm,19.0s,baz=33,slow=35
comp=Z,6.0nm,0.7s
LPAZ La Paz 50.06 211 *eP* P 14 13 07.6 +0.5
DPC Dobruska-Polom 50.10 46 *eP* P 14 13 07.7 +1.2
DPC Dobruska-Polom 50.10 46 P P 14 13 07.3 +0.8
comp=Z,8.1nm,1.5s
KRUC Moravsky 50.10 48 *eP* P 14 13 06.5 +0.1
VRAC Vranov 50.24 48 *eP* P 14 13 07.8 +0.3
VRAC Vranov 50.24 48 LR LR 14 31 59.8
comp=Z,47nm,18.4s,baz=248,slow=33
KRLC Kraliky 50.38 47 *eP* P 14 13 09.8 +1.2
MODS Modra-Piesok 50.68 49 *eP* P 14 13 11.7 +0.9
MPLH Magyarpolny 50.86 51 P P 14 13 12.8 +0.6
comp=Z,30nm,2.3s
MORC Moravsky Berou 50.87 47 ⇓P P 14 13 12.7 +0.5
MORC Moravsky Berou 50.87 47 *eP* P 14 13 12.7 +0.5
T25A Trinidad 50.89 296 IAmb IAmb 14 13 33.4
comp=Z,12nm,1.2s
T25A Trinidad 50.89 296 P P 14 13 12.3 -0.6
baz=82
NNA Nana 51.09 223 LR LR 14 34 07.2
comp=Z,29nm,21.2s,baz=14,slow=35
Q24A Divide 51.21 299 P P 14 13 15.3 -0.1
baz=82
LAO LASA Array 51.38 309 P P 14 13 15.5 -0.7
baz=88
ISCO Idaho Springs 51.47 300 P P 14 13 16.2 -1.0
baz=83
N23A Red Feather La 51.59 301 P P 14 13 16.6 -1.5
baz=84
MORH Mrgy, Hungar 51.65 52 ⇑P P 14 13 18.8 +0.7
MORH Mrgy, Hungar 51.65 52 P P 14 13 18.3 +0.2
comp=Z,8.2nm,1.7s
SDCO Great Sand Dun 51.66 297 P P 14 13 16.4 -2.3
baz=81
VYHS Vyhne 51.72 49 *eP* P 14 13 19.1 +0.5
TXAR Lajitas Array 51.81 286 P P 14 13 19.9 +0.2
TXAR Lajitas Array 51.81 286 P P 14 13 14.2 -5.5
comp=Z,0.1nm,0.3s,baz=68,slow=7.9,SNR=2.3
TXAR LR LR 14 35 51.6
comp=Z,53nm,18.6s,baz=46,slow=37
OJC Ojcow 52.33 47 P P 14 13 24.4 +1.3
comp=Z,11nm,1.7s
FRGS Fruska Gora 52.53 53 P P 14 13 26.4 +1.7
comp=Z,6.8nm,1.4s
NIE Niedzica 52.66 48 P P 14 13 27.7 +2.0
comp=Z,5.5nm,1.8s
MNTX Cornudas Mount 52.70 290 P P 14 13 24.1 -2.1
baz=77
ANMO Albuquerque 52.90 294 P P 14 13 29.9 +2.0
ANMO IAmb IAmb 14 13 32.7
comp=Z,13nm,1.4s
ANMO Albuquerque 52.90 294 P P 14 13 27.3 -0.5
baz=79
ANMO Albuquerque 52.90 294 LR LR 14 33 55.0
comp=Z,242nm,20.8s,baz=164,slow=34
RES Resolute Bay 53.02 345 P P 14 13 29.7 +1.9
RES IAmb IAmb 14 13 37.5
comp=Z,10.0nm,1.1s
RES Resolute Bay 53.02 345 LR LR 14 34 56.6
comp=Z,74nm,19.8s,baz=38,slow=35
O20A White River Ci 53.42 301 IAmb IAmb 14 13 43.1
comp=Z,15nm,1.4s
O20A White River Ci 53.42 301 P P 14 13 30.6 -1.0
baz=82
CRVS Cervenica-Dubn 53.44 48 *eP* P 14 13 32.9 +1.5
Y22D IRIS PASSCAL I 53.45 293 P P 14 13 29.5 -2.3
baz=78
Y22F Passcal Instru 53.45 293 P P 14 13 29.5 -2.3
baz=78
RLMT Red Lodge 53.59 307 IAmb IAmb 14 13 37.0
comp=Z,9.6nm,1.1s
RLMT Red Lodge 53.59 307 P P 14 13 33.7 +0.9
baz=85,SNR=8.8
EGMT Eagleton 53.71 311 P P 14 13 34.6 +1.1
baz=86,SNR=11
SIRR Siria 53.74 52 ⇑P P 14 13 35.1 +1.5
BZS Buzias 53.76 52 ⇑P P 14 13 35.5 +1.7
MDVR Moldovita 53.91 53 ⇑P P 14 13 33.0 -1.9
KOLS Kolonicke sedl 53.98 48 *eP* P 14 13 37.4 +2.1
BOVS Bovan 54.02 55 ⇓P P 14 13 36.9 +1.2
BW06 Boulder Array 54.05 304 P P 14 13 36.9 +0.6
baz=83,SNR=18
PD31 Pinedale Array 54.05 304 IAmb IAmb 14 13 39.7
comp=Z,12nm,1.1s
PDAR Pinedale Array 54.05 304 P P 14 13 37.4 +1.1
PDAR Pinedale Array 54.05 304 P P 14 13 37.5 +1.3
comp=Z,4.2nm,0.8s,baz=89,slow=8.6,SNR=39
PDAR LR LR 14 34 49.4
comp=Z,314nm,21.3s,baz=88,slow=34
comp=Z,4.2nm,0.8s
HOLU Holmets 54.07 49 P P 14 13 37.5 +1.6
MVCO Mesa Verde 54.10 297 IAmb IAmb 14 13 41.4
comp=Z,6.6nm,1.2s
MVCO Mesa Verde 54.10 297 P P 14 13 35.6 -1.0
baz=80
SURR Surduc 54.10 52 ⇑P P 14 13 37.8 +1.5
BERU Beregovo 54.27 49 P P 14 13 37.7 +0.3
MUKU Mukachevo 54.28 49 P P 14 13 39.0 +1.6
RDMU Red Mountain 54.36 301 IAmb IAmb 14 13 42.5
comp=Z,14nm,1.2s
HERR Herculane 54.40 53 ⇓P P 14 13 38.9 +0.5
DRGR 54.42 51 ⇑P P 14 13 39.5 +0.9
LKWY Lake 54.45 306 IAmb IAmb 14 14 00.2
comp=Z,7.5nm,1.1s
121A Cookes Peak, D 54.49 291 IAmb IAmb 14 13 43.5
comp=Z,12nm,1.4s
121A Cookes Peak, D 54.49 291 P P 14 13 38.2 -1.3
baz=76
BRIU Brid 54.51 49 P P 14 13 40.2 +1.1
KORU Korolevo 54.59 49 P P 14 13 41.6 +1.8
H17A Grant Village 54.60 306 P P 14 13 38.9 -1.3
baz=83
SHIU Shidnytsya 54.67 48 P P 14 13 42.5 +2.1
MARR Marisel-Cluj 54.71 51 ⇓P P 14 13 41.8 +1.0
LOHW Long Hollow 54.71 305 IAmb IAmb 14 13 44.7
comp=Z,7.2nm,1.0s
FLWY Flagg Ranch 54.72 306 IAmb IAmb 14 13 53.6
comp=Z,14nm,1.2s
EUNU Eureka 54.78 352 P P 14 13 42.7 +2.0
EUNU IAmb IAmb 14 13 50.2
comp=Z,12nm,1.2s
MEZ Mezhgor'ye 54.82 49 P P 14 13 42.7 +1.3
SNOW Snow King Moun 54.84 305 IAmb IAmb 14 13 45.9
comp=Z,12nm,1.1s
IMW Indian Meadow 54.91 306 IAmb IAmb 14 14 03.2
comp=Z,16nm,1.3s
TPAW Teton Pass 54.98 305 IAmb IAmb 14 13 45.9
comp=Z,9.1nm,1.0s
P18A Preston Nutter 55.03 300 IAmb IAmb 14 13 46.4
comp=Z,7.3nm,1.0s
MORS Morshin 55.03 48 P P 14 13 44.4 +1.5
AHID Auburn Hatcher 55.18 304 IAmb IAmb 14 14 04.6
comp=Z,7.1nm,0.9s
BOZ Bozeman (W) 55.20 308 IAmb IAmb 14 13 48.1
comp=Z,13nm,1.4s
BOZ Boman (W) 55.20 308 P P 14 13 43.8 -0.6
baz=84,SNR=6.0
RAKU Rahkiv 55.30 49 P P 14 13 45.4 +0.5
SRU San Rafael Swe 55.33 300 IAmb IAmb 14 13 49.5
comp=Z,9.0nm,0.8s
STNU Starunia 55.46 48 P P 14 13 47.1 +1.1
W18A Petrified Fore 55.49 295 P P 14 13 46.4 -0.4
baz=77
HWUT Hardware Ranch 55.70 303 IAmb IAmb 14 14 08.5
comp=Z,14nm,1.4s
HMU Henry Mountain 55.71 298 IAmb IAmb 14 14 04.7
comp=Z,9.9nm,1.3s
CPUP Villa Florida 55.75 195 LR LR 14 35 19.9
comp=Z,52nm,22.0s,baz=38,slow=34
JLU Jordanelle 55.77 302 IAmb IAmb 14 13 58.0
comp=Z,8.6nm,1.0s
Q16A Castle Valley 55.86 300 P P 14 13 49.1 -0.3
Q16A IAmb IAmb 14 13 53.4
comp=Z,7.8nm,1.1s
LVC Limon Verde 55.98 208 LR LR 14 37 38.3
comp=Z,95nm,18.6s,baz=1.0,slow=36
MPU Maple Canyon 56.01 301 IAmb IAmb 14 14 11.1
comp=Z,10nm,1.4s
BURAR Bucovina Array 56.04 50 ⇑P P 14 13 51.7 +1.4
BURAR Bucovina Array 56.04 50 P P 14 13 51.6 +1.3
FINES FINESS Array B 56.13 33 P P 14 13 51.2 +0.7
FINES FINESS Array B 56.13 33 P P 14 13 51.4 +0.8
comp=Z,5.2nm,0.8s,baz=252,slow=3.8,SNR=21
FINES LR LR 14 33 37.5
comp=Z,42nm,20.9s,baz=288,slow=32
comp=Z,5.2nm,0.8s
RNPP8 Varash 56.13 45 P P 14 13 51.3 +0.6
RNPP9 Sopachiv 56.14 45 P P 14 13 51.2 +0.3
VOIR 56.18 52 P P 14 13 50.8 -0.6
DOPR Dopca 56.35 52 ⇑P P 14 13 53.4 +0.9
NLU North Lily Min 56.36 301 IAmb IAmb 14 13 57.0
comp=Z,11nm,1.2s
SPUT South Promonto 56.40 303 IAmb IAmb 14 13 55.9
comp=Z,17nm,1.2s
YKA Yellowknife Ar 56.45 328 P P 14 13 53.4 +0.6
comp=Z,1.8nm,0.8s,baz=85,slow=7.4,SNR=28
YKA PcP PcP 14 14 48.8 -0.8
comp=Z,0.3nm,0.8s,baz=84,slow=4.9,SNR=1.3
YKA LR LR 14 37 48.0
comp=Z,502nm,19.4s,baz=82,slow=36
comp=Z,1.8nm,0.8s
MSO Missoula 56.65 309 IAmb IAmb 14 13 60.0
comp=Z,9.9nm,1.5s
MSO Missoula 56.65 309 P P 14 13 53.9 -0.8
baz=83
ARCES ARCESS Array B 56.68 23 P P 14 13 55.1 +0.7
comp=Z,5.5nm,0.8s,baz=269,slow=5.8,SNR=11
ARCES LR LR 14 33 21.8
comp=Z,46nm,21.1s,baz=305,slow=31
comp=Z,5.5nm,0.8s
WUAZ Wupatki 56.71 296 IAmb IAmb 14 13 59.4
comp=Z,15nm,1.4s
WUAZ Wupatki 56.71 296 P P 14 13 54.7 -0.7
baz=77
KMPD K-Podol'skiy 56.77 48 P P 14 13 54.9 -0.4
KMPD P P 14 13 54.5 -0.8
MLR Muntele Rosu 56.80 52 ⇓P P 14 13 57.0 +1.2
MLR Muntele Rosu 56.80 52 P P 14 13 56.5 +0.7
comp=Z,24nm,1.5s,comp=Z,394nm
DUG Dugway, Tooele 56.87 301 IAmb IAmb 14 13 59.6
comp=Z,7.8nm,0.9s
DUG Dugway, Tooele 56.87 301 P P 14 13 56.8 +0.3
baz=79,SNR=9.0
BGU Big Grassy Mou 56.90 302 IAmb IAmb 14 14 00.4
comp=Z,12nm,1.1s
TUC Tucson 57.00 292 P P 14 13 58.9 +1.4
TUC Tucson 57.00 292 P P 14 13 57.4 0.0
baz=75
TESR Tescani 57.15 51 P P 14 13 58.7 +0.6
comp=Z,7.8nm,1.4s
PLOR3 Plostina Array 57.23 52 P P 14 14 00.1 +1.3
comp=Z,11nm,1.8s,comp=Z,2µm
PLOR Plostina 57.24 52 ⇓P P 14 13 59.5 +0.7
PLOR5 Plostina Array 57.25 52 P P 14 13 59.7 +0.8
comp=Z,7.9nm,2.2s
VRI Vrincioaia 57.29 52 ⇑P P 14 13 59.9 +0.8
VRI Vrincioaia 57.29 52 P P 14 14 00.1 +1.0
comp=Z,16nm,1.8s,comp=Z,696nm
MI28 Mi28,Pidlybu 57.30 46 P P 14 13 58.9 -0.2
BISRR Bisoca 57.32 52 P P 14 14 00.2 +0.7
comp=Z,18nm,1.4s,comp=Z,13µm
HLID Hailey 57.45 306 P P 14 13 59.6 -0.9
baz=80
LUBAR Lubar, Ukraine 57.46 47 P P 14 14 00.4 +0.1
MI29 MI29, Kamyanyy 57.47 46 P P 14 14 00.5 +0.2
MI30 MI30,Zelenitsa 57.65 46 P P 14 14 02.4 +0.9
CCUT Cedar City 57.82 298 IAmb IAmb 14 14 06.8
comp=Z,10nm,1.3s
BRLDA Berland Lookou 58.09 318 IAmb IAmb 14 14 07.4
comp=Z,6.4nm,0.8s
AK20 Malin Array Si 58.17 46 P P 14 14 05.4 +0.2
AK22 Malin Array Si 58.20 46 P P 14 14 05.5 +0.1
AK14 Malin Array Si 58.24 46 P P 14 14 05.8 +0.1
SPR3 Spring Creek 3 58.26 300 IAmb IAmb 14 14 11.2
comp=Z,16nm,1.3s
KIEV Kiev 58.30 46 ⇓P P 14 14 06.3 +0.3
KIEV Kiev 58.30 46 P P 14 14 05.6 -0.5
KIEV Kiev 58.30 46 P P 14 14 06.1 0.0
comp=Z,62nm,1.6s
AKASG Malin Array Be 58.31 46 P P 14 14 06.1 0.0
comp=Z,5.7nm,0.7s,baz=276,slow=6.2,SNR=40
AKASG LR LR 14 37 30.1
comp=Z,108nm,18.3s,baz=235,slow=34
comp=Z,5.7nm,0.7s
AKBB Malin Array Si 58.31 46 P P 14 14 06.3 +0.1
PLID Pearl Lake 58.33 308 IAmb IAmb 14 14 15.9
comp=Z,8.9nm,1.1s
PB14 IPOC Station P 58.39 208 IAmb IAmb 14 14 08.1
comp=Z,14nm,1.1s
MFID Camas Ranch 58.49 306 IAmb IAmb 14 14 17.2
comp=Z,12nm,1.2s
ELK Elko 58.58 303 LR LR 14 39 19.6
comp=Z,166nm,18.4s,slow=36
NEW Newport 58.59 311 P P 14 14 07.7 -0.7
baz=82,SNR=8.3
NEW Newport 58.59 311 LR LR 14 37 36.0
comp=Z,229nm,21.0s,baz=84,slow=34
214A Organ Pipe Nat 58.76 292 P P 14 14 10.0 +0.3
baz=74
LPIG La Paz 59.02 283 LR LR 14 39 17.1
comp=Z,113nm,20.0s,baz=56,slow=36
F10A Beach Ranch, E 59.03 309 IAmb IAmb 14 14 20.1
comp=Z,5.2nm,0.9s
PURM Purcari 59.34 50 P P 14 14 13.8 +0.4
comp=Z,117nm,0.5s,comp=Z,6µm
R11B Troy Canyon, C 59.36 300 P P 14 14 13.5 -0.4
baz=77,SNR=6.7
V12A Nelson 59.41 297 IAmb IAmb 14 14 17.8
comp=Z,10nm,1.4s
AC02 Maricunga 59.85 206 IAmb IAmb 14 14 18.8
comp=Z,5.9nm,1.0s
IRM Iron Mountain 60.05 295 P P 14 14 17.8 -0.8
baz=74
GLA Glamis 60.10 294 P P 14 14 18.1 -0.8
baz=74
GMRC Granite Mounta 60.30 296 P P 14 14 19.5 -0.9
baz=75
TUQ Turquoise Moun 60.34 297 P P 14 14 19.3 -1.4
baz=75
J08A Circle Bar Ran 60.40 306 IAmb IAmb 14 14 24.0
comp=Z,11nm,1.2s
C36M Paulatuk 60.41 336 P P 14 14 19.7 -0.6
baz=88
BC3 Big Chuckawall 60.44 295 P P 14 14 20.9 -0.5
baz=74
WRGLY Wrigley 60.49 329 P P 14 14 21.1 +0.1
baz=85
WCT Wildcat Mounta 60.54 298 P P 14 14 22.0 +0.1
WCT IAmb IAmb 14 14 25.6
comp=Z,9.1nm,1.4s
WVOR Wild Horse Val 60.71 305 IAmb IAmb 14 14 27.0
comp=Z,12nm,1.4s
A36M Sachs Harbour 60.73 339 IAmb IAmb 14 14 31.9
comp=Z,9.8nm,1.1s
A36M Sachs Harbour 60.73 339 P P 14 14 22.3 -0.3
baz=89,SNR=8.3
BELC Belle Mtn. Jos 60.78 295 P P 14 14 22.7 -0.9
baz=74
HEC Hector,Ludlow 60.82 296 P P 14 14 23.8 -0.1
baz=74
SWSC Sam W. Stewart 60.91 294 P P 14 14 24.5 0.0
baz=74
QSM Queen of Sheba 60.94 297 IAmb IAmb 14 14 28.4
comp=Z,12nm,1.4s
GSC Goldstone, Bar 61.06 297 P P 14 14 26.0 +0.5
baz=74
KVN Kaiserville 61.10 301 P P 14 14 26.4 +0.5
KVN IAmb IAmb 14 14 28.5
comp=Z,15nm,1.5s
LTY Liberty 61.12 311 IAmb IAmb 14 14 37.3
comp=Z,5.8nm,0.8s
IKP In-Ko-Pah, Jac 61.24 294 P P 14 14 27.3 +0.5
baz=73
TPFO Pinon Flats 61.25 295 P P 14 14 26.5 -0.4
baz=74
PFO Pinyon Flats O 61.25 295 P P 14 14 27.2 +0.3
baz=74
PFO Pinyon Flats O 61.25 295 LR LR 14 40 19.6
comp=Z,147nm,19.1s,baz=74,slow=35
NVAR Mina Array Bea 61.41 301 P P 14 14 29.1 +1.1
NVAR Mina Array Bea 61.41 301 P P 14 14 29.0 +1.0
comp=Z,1.0nm,0.8s,baz=69,slow=6.3,SNR=7.5
NVAR LR LR 14 40 42.7
comp=Z,249nm,18.6s,baz=50,slow=36
comp=Z,1.0nm,0.8s
MONP2 Monument Peak 61.43 294 P P 14 14 26.7 -1.5
baz=73
G06A Carlson Farm, 61.52 309 IAmb IAmb 14 14 48.9
comp=Z,7.9nm,1.0s
LRMC Laurel Mtn Rad 61.71 297 P P 14 14 30.7 +0.8
baz=74
CWC Cottonwood Cre 61.76 298 P P 14 14 30.7 +0.4
baz=74
MURC Murrieta 61.85 295 P P 14 14 30.0 -0.8
baz=73
TOAD Toad River Com 61.85 324 P P 14 14 31.0 +0.6
baz=81
109C Camp Elliot, M 61.98 294 P P 14 14 31.1 -0.5
baz=73
MLAC Mammoth, Mammo 62.02 300 P P 14 14 31.7 -0.5
baz=75
BFSC Mount Baldy Ra 62.03 296 P P 14 14 32.0 -0.2
baz=73
OBN Obninsk 62.06 40 P P 14 14 33.2 +1.4
comp=Z,49nm,0.5s
EDW2 Edwards Air Fo 62.12 297 P P 14 14 31.8 -0.9
baz=74
WAKR Walker 62.25 301 IAmb IAmb 14 14 37.0
comp=Z,7.1nm,1.2s
ISA Isabella, Lake 62.28 298 P P 14 14 32.5 -1.2
baz=74
J05D Fort Rock, OR 62.38 306 P P 14 14 36.1 +1.8
J05D IAmb IAmb 14 14 44.1
comp=Z,6.8nm,1.1s
CO01 Juntas del Tor 63.04 205 P P 14 14 39.4 +0.6
CO01 IAmb IAmb 14 14 40.7
comp=Z,8.4nm,0.9s
CMB Columbia Colle 63.10 301 IAmb IAmb 14 15 00.6
comp=Z,6.3nm,1.4s
SCI2 San Clemente I 63.11 295 P P 14 14 39.2 0.0
baz=72
ORV Oroville 63.52 303 IAmb IAmb 14 15 02.5
comp=Z,6.9nm,1.1s
BR106 Keskin Array S 63.52 57 P P 14 14 42.8 +0.8
comp=Z,5.7nm,0.9s,comp=Z,53nm
BR105 Keskin Array S 63.53 57 P P 14 14 42.8 +0.7
comp=Z,6.5nm,0.9s,comp=Z,66nm
BR131 Keskin Array S 63.54 57 P P 14 14 41.9 -0.2
BR131 IAmb IAmb 14 14 43.4
comp=Z,7.2nm,1.1s
BRTR Keskin Array B 63.54 57 P P 14 14 42.3 +0.2
BRTR Keskin Array B 63.54 57 P P 14 14 42.6 +0.5
comp=Z,2.8nm,0.8s,baz=270,slow=4.7,SNR=16
BRTR LR LR 14 39 06.9
comp=Z,55nm,21.9s,baz=294,slow=33
comp=Z,2.8nm,0.8s
YBH Yreka Blue Hor 63.82 305 LR LR 14 40 46.5
comp=Z,164nm,21.7s,baz=70,slow=34
INK Inuvik 63.93 336 IAmb IAmb 14 15 03.7
comp=Z,8.6nm,1.2s
INK Inuvik 63.93 336 P P 14 14 44.3 +0.4
baz=79,SNR=5.7
INK Inuvik 63.93 336 LR LR 14 41 54.7
comp=Z,147nm,18.7s,baz=8.0,slow=35
F31M Tsiigehtchic 64.18 335 P P 14 14 45.7 +0.1
baz=78
DLBC Dease Lake 64.39 324 IAmb IAmb 14 14 49.3

comp=Z,8.7nm,1.2s
DLBC Dease Lake 64.39 324 P P 14 14 48.1 +0.7
baz=77
G31M Satah River 64.49 334 P P 14 14 47.8 +0.1
baz=78,SNR=5.8
R33M Jennings River 64.66 326 P P 14 14 49.1 0.0
baz=77
H31M Peel River 64.75 333 IAmb IAmb 14 14 51.9
comp=Z,9.9nm,1.2s
H31M Peel River 64.75 333 P P 14 14 49.4 -0.1
baz=77
T35M Bob Quinn 64.83 323 P P 14 14 50.3 +0.1
baz=76
F30M Barrier River 64.91 335 P P 14 14 50.7 +0.3
baz=77
S34M Telegraph Cree 65.08 324 P P 14 14 52.8 +1.1
baz=76
FARO Faro, Yukon 65.14 329 IAmb IAmb 14 14 54.6
comp=Z,8.5nm,1.0s
FARO Faro, Yukon 65.14 329 P P 14 14 52.2 +0.1
baz=76
G30M tAoh Zraii Nji 65.22 334 P P 14 14 52.2 -0.4
baz=76
N32M Quiet Lake 65.28 328 P P 14 14 53.6 +0.6
baz=76
P33M Teslin, Yukon 65.38 327 P P 14 14 54.3 +0.6
baz=76
E29M Blow River 65.49 336 IAmb IAmb 14 15 14.6
comp=Z,7.3nm,1.4s
E29M Blow River 65.49 336 P P 14 14 54.8 +0.6
baz=75
D28M Stokes Point 65.55 337 P P 14 14 54.5 0.0
baz=75,SNR=11
EPYK Eagle Plains 65.56 334 P P 14 14 54.8 0.0
baz=75
M31M Drury Creek, Y 65.62 329 P P 14 14 54.6 -0.6
baz=76
I30M Mount Dempster 65.72 332 IAmb IAmb 14 14 59.0
comp=Z,5.4nm,1.0s
I30M Mount Dempster 65.72 332 P P 14 14 54.7 -1.2
baz=75
J30M Hart River 65.86 332 IAmb IAmb 14 15 06.0
comp=Z,10.0nm,1.1s
J30M Hart River 65.86 332 P P 14 14 56.7 -0.1
baz=75,SNR=6.4
G29M Pine Creek 65.92 334 P P 14 14 56.8 -0.2
baz=74
P32M Atlin 65.97 326 P P 14 14 56.7 -0.9
baz=75
V35K Ketchikan 65.98 321 P P 14 14 57.2 -0.4
baz=75
E28M Babbage River 66.02 336 IAmb IAmb 14 15 06.0
comp=Z,10nm,1.1s
E28M Babbage River 66.02 336 P P 14 14 57.1 -0.6
baz=74,SNR=8.3
WRAK Wrangell Islan 66.09 323 P P 14 14 58.4 +0.2
baz=75
H29M Whitestone 66.25 334 P P 14 14 59.4 +0.2
baz=74
WHY Whitehorse 66.25 327 P P 14 15 00.0 +0.7
baz=74
T33K Petersburg 66.31 323 P P 14 14 59.7 +0.1
baz=74
D27M Malcolm River 66.33 337 P P 14 14 59.5 -0.2
baz=73,SNR=22
F28M Old Crow 66.42 335 P P 14 15 00.6 +0.3
baz=73,SNR=7.8
N31M Braeburn, Yuko 66.45 328 P P 14 15 00.0 -0.5
baz=74
K29M Barlow Dome 66.56 331 P P 14 15 01.3 0.0
baz=74
U33K Whale Pass 66.59 322 P P 14 15 01.4 -0.1
baz=74
J29N Klondike Camp 66.68 332 IAmb IAmb 14 15 11.4
comp=Z,9.4nm,1.1s
J29N Klondike Camp 66.68 332 P P 14 15 01.4 -0.7
baz=73
R32K Eaglecrest 66.72 325 P P 14 15 01.8 -0.5
baz=74
CRAG Craig 66.77 322 P P 14 15 02.3 -0.3
baz=74
O30N Mendenhall 66.79 328 P P 14 15 02.9 +0.2
baz=74
BO04 La Punta 66.83 204 P P 14 15 03.3 +0.1
E27K Coleen River 66.87 336 P P 14 15 03.5 +0.4
baz=72,SNR=7.4
MMAI Mount Meron Ar 66.93 64 LR LR 14 44 33.6
comp=Z,13nm,19.9s,baz=217,slow=36
S32K Killisnoo 66.98 324 P P 14 15 04.1 +0.2
baz=73
L29M L29M 67.04 330 P P 14 15 04.2 -0.1
baz=73
N30M Aishikik Lake 67.06 329 P P 14 15 04.6 +0.1
baz=73
I28M Miner Creek 67.09 333 P P 14 15 04.8 +0.2
baz=72
C27K Jago River 67.13 338 P P 14 15 05.4 +0.7
baz=71,SNR=14
R31K City Hall, Gus 67.30 325 P P 14 15 04.6 -1.3
baz=73
PLBC Pleasant Camp 67.30 326 P P 14 15 05.0 -0.9
baz=73
G27K Doyon Strip 67.33 335 P P 14 15 05.9 -0.2
baz=71
M29M Somme Creek 67.38 330 P P 14 15 06.0 -0.6
baz=72
P30M Million Dollar 67.39 327 P P 14 15 06.3 -0.3
baz=72
C26K Camden Bay 67.43 338 P P 14 15 06.8 +0.2
baz=70
HYT Haines Junctio 67.44 328 P P 14 15 06.4 -0.5
baz=72
H27K Steamboat Moun 67.47 334 P P 14 15 06.9 -0.1
baz=71
SIT Sitka 67.49 324 P P 14 15 07.4 +0.3
baz=73
S31K Pelican 67.69 325 P P 14 15 08.6 +0.3
baz=72
I27K Kandik River 67.70 334 P P 14 15 08.8 +0.4
baz=71
EGAK Eagle 67.79 333 P P 14 15 08.4 -0.6
baz=71
YUK6 Outpost Mounta 67.80 328 P P 14 15 09.2 -0.2
baz=72
YUK4 Talbot Arm 67.81 329 P P 14 15 08.7 -0.6
baz=72
P29M Windy Craggy 67.92 327 P P 14 15 09.6 -0.3
baz=72
F26K Sheenjek River 67.94 336 P P 14 15 10.4 +0.5
baz=69,SNR=12
G26K Porcupine Rive 68.07 335 P P 14 15 11.8 +1.1
baz=70,SNR=7.3
D25K Kavik River 68.12 338 IAmb IAmb 14 15 20.1
comp=Z,9.0nm,0.9s
D25K Kavik River 68.12 338 P P 14 15 12.0 +0.9
baz=68,SNR=6.8
BMAR Burnt Mountain 68.19 336 P P 14 15 13.3 +1.8
E25K Arctic Village 68.29 337 P P 14 15 12.9 +0.8
baz=68,SNR=16
YUK8 Steele Glacier 68.34 329 P P 14 15 13.9 +1.1
baz=71
I26K Coal Creek Min 68.41 334 P P 14 15 13.7 +0.9
baz=69
K27K Chicken 68.42 332 P P 14 15 13.4 +0.5
baz=70
BVCY Beaver Creek 68.45 330 P P 14 15 14.2 +1.0
baz=70
YUK3 Moose Creek 68.49 329 P P 14 15 13.9 +0.2
baz=70
F25K Christian Rive 68.51 336 P P 14 15 13.9 +0.3
baz=68,SNR=7.0
L27K Beaver Creek, 68.65 331 P P 14 15 15.1 +0.7
baz=70
PNL Peninsula 68.70 327 P P 14 15 15.5 +0.7
baz=70
O28M Mount Upton 68.70 328 P P 14 15 15.8 +0.7
baz=70
C24K Franklin Bluff 68.72 339 P P 14 15 15.0 +0.3
baz=66
KIV Kislovodsk 68.74 51 P P 14 15 17.2 +1.8
comp=Z,8.3nm,0.8s
J26L Joseph Creek 68.86 333 P P 14 15 15.8 +0.1
baz=69
M27K Edge Creek, AK 68.92 330 P P 14 15 16.3 +0.1
baz=69
KBZ Khabaz 68.96 51 P P 14 15 18.1 +1.5
comp=Z,2.1nm,0.7s,baz=317,slow=5.5,SNR=8.8
KBZ LR LR 14 46 05.5
comp=Z,28nm,18.3s,baz=24,slow=36
comp=Z,2.1nm,0.7s
D24K Happy Valley 68.99 338 IAmb IAmb 14 15 38.4
comp=Z,9.9nm,1.1s
D24K Happy Valley 68.99 338 P P 14 15 16.7 +0.3
baz=66
G25K Bearman Lake 68.99 335 P P 14 15 16.8 +0.4
baz=67
H25L Birch Creek 69.08 335 P P 14 15 17.1 +0.1
baz=68
BELG Belogornoye 69.10 41 LR LR 14 42 29.1
comp=Z,35nm,21.9s,baz=300,slow=33
CTG Chitna Glacier 69.17 329 P P 14 15 18.1 +0.3
baz=69
SCRK Sand Creek 69.22 332 P P 14 15 17.8 -0.3
baz=68
PRP Porcupine Dome 69.25 334 P P 14 15 18.3 0.0
baz=68
C23K Itkillik River 69.28 339 P P 14 15 19.1 +1.0
baz=64
L26K Log Cabin Wild 69.31 331 P P 14 15 19.1 +0.6
baz=68
E24K Your Creek 69.32 337 P P 14 15 19.4 +0.9
baz=66,SNR=8.9
F24K Squaw Lake 69.34 336 IAmb IAmb 14 15 28.6
comp=Z,9.3nm,0.9s
F24K Squaw Lake 69.34 336 P P 14 15 19.3 +0.7
baz=66,SNR=6.8
M26K Nabesna, AK 69.39 331 P P 14 15 19.7 +0.7
baz=68
TOLK Toolik Lake Re 69.45 338 IAmb IAmb 14 15 23.5
comp=Z,14nm,1.4s
TOLK Toolik Lake Re 69.45 338 P P 14 15 19.6 +0.3
baz=65
G24K Haweenzic Riv 69.52 336 P P 14 15 20.6 +0.8
baz=66,SNR=7.2
J25K Salcha River, 69.54 333 P P 14 15 21.0 +1.0
baz=67
D23K Nanushuk River 69.68 338 P P 14 15 21.4 +0.7
baz=64
E23K Chandalar 69.71 337 P P 14 15 21.0 0.0
baz=65
MESA MESA 69.73 328 P P 14 15 20.9 -0.4
baz=68
MCARA McCarthy VSAT 69.78 330 P P 14 15 21.6 +0.3
baz=68
B22K Teshekpuk Lake 69.91 340 P P 14 15 22.2 +0.2
baz=62
H24K Noodor Dome 70.02 335 P P 14 15 22.9 0.0
baz=66
K24K Donnelly Dome 70.02 332 P P 14 15 22.9 0.0
baz=67
A22K Sinclair Lake 70.05 341 P P 14 15 23.9 +1.0
baz=61,SNR=5.4
IL31 70.08 334 IAmb IAmb 14 15 31.7
comp=Z,10nm,1.1s
ILAR Eielson Array 70.08 334 P P 14 15 24.0 +0.8
ILAR Eielson Array 70.08 334 P P 14 15 24.4 +1.3
comp=Z,2.3nm,0.8s,baz=68,slow=4.5,SNR=27
ILAR LR LR 14 47 01.7
comp=Z,106nm,18.1s,baz=78,slow=37
comp=Z,2.3nm,0.8s
POKR Poker Flat Res 70.15 334 P P 14 15 22.7 -0.9
baz=66
PAX Paxson 70.23 332 P P 14 15 24.3 0.0
baz=67
HDA Harding Lake 70.25 333 P P 14 15 24.0 -0.2
baz=66
COLD Coldfoot 70.27 337 P P 14 15 24.5 +0.2
baz=64
HARP HAARP 70.32 331 P P 14 15 25.3 +0.6
baz=67
A21K Barrow 70.36 342 P P 14 15 25.1 +0.3
baz=60
D22K Ayikyak River 70.36 339 P P 14 15 25.2 +0.3
baz=62
BGLC Bering Glacier 70.37 328 P P 14 15 24.8 -0.1
baz=68
N25K Chitina, Valde 70.39 330 P P 14 15 24.9 -0.3
baz=67
COLA College 70.41 334 P P 14 15 25.5 +0.3
baz=65
G23K Bananza Creek 70.44 336 IAmb IAmb 14 15 46.2
comp=Z,13nm,1.1s
G23K Bananza Creek 70.44 336 P P 14 15 25.5 +0.1
baz=64,SNR=7.2
MDM Murphy Dome 70.52 334 IAmb IAmb 14 15 35.1
comp=Z,10nm,1.3s
B21K Ikpikpuk River 70.62 340 P P 14 15 25.4 -1.0
baz=61,SNR=6.5
BMRM Bremner River 70.64 329 P P 14 15 27.5 +0.7
baz=67
H23K Yukon River 70.65 335 P P 14 15 27.2 +0.6
baz=64
F22K John River 70.83 337 P P 14 15 28.3 +0.6
baz=62
G22K Bettles 70.87 337 P P 14 15 29.0 +1.1
baz=63
M24K Tolsona, Glenn 70.87 331 P P 14 15 28.5 +0.4
baz=66
I23K Minto, Yukon-K 70.88 334 IAmb IAmb 14 15 31.0
comp=Z,13nm,1.2s
I23K Minto, Yukon-K 70.88 334 P P 14 15 29.0 +1.0
baz=64
C21K Knifeblade Rid 70.90 339 P P 14 15 29.2 +1.1
baz=61
KAIM Kayak Island 70.97 328 P P 14 15 29.1 +0.4
baz=66
DHY Denali Highway 70.98 332 P P 14 15 28.8 -0.1
baz=65
E21K Killik River 70.99 338 P P 14 15 28.4 -0.3
baz=61
NEA2 Nenana 71.01 334 IAmb IAmb 14 15 49.5
comp=Z,8.0nm,1.3s
NEA2 Nenana 71.01 334 P P 14 15 29.4 +0.6
baz=64
KLU Klutina 71.02 330 P P 14 15 29.3 +0.2
baz=66
B20K Meade River 71.19 340 P P 14 15 29.2 -0.6
baz=59
H22K Ishtalitna Cre 71.29 336 P P 14 15 30.3 -0.3
baz=63
EYAK Cordova Ski Ar 71.33 329 P P 14 15 29.9 -0.9
baz=66
MCK McKinley 71.33 333 P P 14 15 30.3 -0.6
baz=64
WAT6 Susua Watana 71.34 332 P P 14 15 30.8 -0.3
baz=65
F21K Alatna River 71.41 337 P P 14 15 31.9 +0.6
baz=61
H09N1 TRISTAN DA CUN 71.44 154 T T 15 33 17.1
SNR=9.1
MLY Manley 71.45 335 P P 14 15 32.2 +0.6
baz=63
H09W1 TRISTAN DA CUN 71.46 154 T T 15 33 18.1
SNR=7.9
SCM Sheep Creek Mo 71.48 331 P P 14 15 31.4 -0.4
baz=65
GNI Garni 71.50 54 LR LR 14 46 49.5
comp=Z,28nm,20.8s,baz=298,slow=36
WAT1 Susitna Watana 71.57 332 P P 14 15 32.7 +0.4
baz=64
M23K Glacier View 71.67 331 P P 14 15 33.0 +0.1
baz=64
D20K Ettiluk River 71.69 339 P P 14 15 33.5 +0.5
baz=59
G21K Allakaket 71.76 337 P P 14 15 34.2 +0.8
baz=61
GLI Glacier Island 71.79 330 P P 14 15 34.1 +0.4
baz=65
E20K Nigu River 71.79 339 P P 14 15 33.9 +0.2
baz=59
I21K Tanana 71.85 335 P P 14 15 34.9 +1.0
baz=62
SML Sawmill 71.92 331 P P 14 15 35.8 +1.3
baz=64
H21K Melozitna Rive 71.92 336 P P 14 15 34.7 +0.3
baz=61
BPAW Bear Paw Mtn. 71.97 334 P P 14 15 36.4 +1.7
baz=62
TRF Thorofare Moun 72.00 333 P P 14 15 34.9 -0.1
baz=63
Q23K Middleton Isla 72.07 328 P P 14 15 35.1 -0.2
baz=65
IMAR Indian Mountai 72.11 336 P P 14 15 34.4 -1.1
KNK Knik Glacier 72.15 331 P P 14 15 36.2 +0.4
baz=64
A19K Wainwright 72.21 341 P P 14 15 36.6 +0.7
baz=56
F20K Avaraart Lake 72.26 338 P P 14 15 37.2 +0.9
baz=59
D19K Kuna River 72.28 339 P P 14 15 36.3 -0.2
baz=58
P23K Montague Islan 72.31 329 P P 14 15 36.8 +0.1
baz=64
PMR Palmer 72.36 331 P P 14 15 36.2 -0.8
baz=63
C19K Lookout Ridge 72.39 340 P P 14 15 37.3 +0.1
baz=56
CUT Chulitna 72.47 332 P P 14 15 37.9 +0.2
baz=62
E19K Redstone River 72.55 338 P P 14 15 37.8 -0.3
baz=58
CHUM Lake Minchumin 72.59 334 P P 14 15 38.9 +0.6
baz=61
M22K Willow 72.71 331 P P 14 15 38.2 -0.9
baz=62
CAST Castle Rocks 72.72 333 P P 14 15 39.5 +0.3
baz=61
H20K Anotleneega Mo 72.76 336 P P 14 15 39.3 -0.1
baz=60
RC01 Rabbit Creek A 72.85 331 P P 14 15 40.1 +0.1
baz=63
B18K Kokolik River 72.90 341 P P 14 15 39.7 -0.4
baz=55
PLCA Paso Flores 72.92 201 P P 14 15 41.3 +0.7
comp=Z,4.1nm,0.9s,baz=31,slow=5.0,SNR=7.4
comp=Z,4.1nm,0.9s
PLCA Paso Flores 72.92 201 eP P 14 15 41.2 +0.7
I20K Naaghedeneel 72.96 335 P P 14 15 39.5 -1.0
baz=60
PPLA Purkeypile 73.02 333 P P 14 15 40.2 -0.9
baz=61
F19K Shaleruckik Mo 73.06 338 P P 14 15 41.3 +0.2
baz=57
SUA Susitna One 73.11 331 P P 14 15 40.8 -0.9
baz=62
O22K Cooper Landing 73.12 330 P P 14 15 40.4 -1.1
baz=62
C18K Utukok River 73.13 340 P P 14 15 41.2 -0.4
baz=55
J20K Nowinta River 73.15 335 P P 14 15 41.4 -0.3
baz=60
SEW Seward 73.18 330 P P 14 15 41.3 -0.6
baz=62
SKT Skwentna 73.19 332 P P 14 15 41.5 -0.5
baz=61
G19K Purcell Mounta 73.20 337 P P 14 15 41.8 -0.2
baz=58
H19K Roundabout Mou 73.30 336 P P 14 15 42.0 -0.5
baz=58
ARU Arti 73.45 34 P P 14 15 43.3 -0.3
ARU Arti 73.45 34 LR LR 14 47 18.6
comp=Z,59nm,18.1s,baz=306,slow=35
ARU Arti 73.45 34 P P 14 15 44.8 +1.2
comp=Z,12nm,1.8s
K20K Telida 73.53 334 P P 14 15 43.2 -0.8
baz=60
CAPN Captain Cook N 73.61 331 P P 14 15 44.3 -0.1
baz=61
E18K Tukpahlearik C 73.65 339 P P 14 15 43.5 -1.1
baz=55
J19K Poorman 73.80 335 P P 14 15 45.0 -0.6
baz=58
F18K Selawik 73.81 338 P P 14 15 45.2 -0.3
baz=56
C17K DeLong Mountai 73.83 340 P P 14 15 45.8 +0.1
baz=53
GCSA Galena City Sc 73.87 336 P P 14 15 47.2 +1.4
baz=58
G18K Tagagawik 73.87 337 P P 14 15 45.3 -0.6
baz=56
M20K Styx River 73.90 332 P P 14 15 46.3 +0.1
baz=60
L20K Farewell, AK 73.90 333 P P 14 15 45.8 -0.4
baz=60
BRSE Bradley Lake S 73.92 330 P P 14 15 46.5 +0.2
baz=61
RDOG Red Dog Mine 74.00 340 P P 14 15 45.6 -1.0
baz=53
H18K Honnosa River 74.18 336 P P 14 15 46.9 -0.8
baz=56
E17K Hotham Inlet 74.24 339 P P 14 15 48.8 +0.7
baz=54
D17K Noatak River 74.26 340 P P 14 15 47.4 -0.8
baz=53
HOM Homer 74.36 330 P P 14 15 48.7 -0.2
baz=61
M19K Big River Lodg 74.40 333 P P 14 15 48.1 -1.0
baz=59
F17K Baldwin Pennin 74.43 338 P P 14 15 48.2 -0.9
baz=54
L19K White Mountain 74.45 333 P P 14 15 47.2 -2.1
baz=59
J18K Innoko River 74.50 335 P P 14 15 47.7 -1.9
baz=58
C16K Lisburne Hills 74.58 341 P P 14 15 48.7 -1.3
baz=51
O20K Slope Mountain 74.58 330 P P 14 15 49.0 -1.2
baz=60
G17K Kiwalik Mounta 74.78 337 P P 14 15 49.6 -1.5
baz=55
H17K Granite Mounta 74.84 337 P P 14 15 51.7 +0.1
baz=55
N19K Bonanza Creek 75.01 332 P P 14 15 51.6 -1.1
baz=59
P19K Oil Pt 75.07 330 P P 14 15 50.7 -2.3
baz=59
L18K Granite Mounta 75.16 333 P P 14 15 52.1 -1.3
baz=57
M18K Stony River 75.20 333 P P 14 15 52.0 -1.7
baz=58
Q20K Shuyak Island 75.22 329 P P 14 15 52.3 -1.5
baz=60
O19K Port Alsworth 75.26 331 P P 14 15 52.3 -1.7
baz=59
G16K Koyuk River 75.42 338 P P 14 15 52.9 -1.9
baz=53
J17K VABM Dome 75.42 335 P P 14 15 53.9 -1.0
baz=56
K17K Iditarod 75.51 334 P P 14 15 53.9 -1.5
baz=56
Q19K Cape Douglas, 75.62 330 P P 14 15 54.2 -2.0
baz=59
N18K Kilae Creek 75.66 332 P P 14 15 55.4 -1.0
baz=58
KDAK Kodiak Island 75.72 328 P P 14 15 54.1 -2.6
baz=60
KDAK Kodiak Island 75.72 328 LR LR 14 50 49.3
comp=Z,282nm,18.2s,baz=78,slow=37
I17K Unalakleet 75.73 336 P P 14 15 55.9 -0.8
baz=54
O18K Koktuh Hills 75.82 331 P P 14 15 58.3 +1.1
baz=58
H16K Elim 75.83 337 P P 14 15 55.7 -1.5
baz=53
L17K Donlin 75.83 334 P P 14 15 55.6 -1.7
baz=56
AKTO Aktyubinsk 75.84 40 LR LR 14 48 07.1
comp=Z,60nm,18.8s,baz=206,slow=35
M17K Holitna River 75.90 333 P P 14 15 58.8 +1.1
baz=56
TSUM Tsumeb 75.92 121 LR LR 14 44 17.3
comp=Z,75nm,18.4s,baz=329,slow=32
F15K North Star Dit 75.98 338 P P 14 15 58.2 +0.1
baz=51
P18K Big Mountain, 76.07 331 P P 14 15 57.4 -1.4
baz=58
G15K Niukluk 76.22 338 P P 14 15 57.7 -1.7
baz=52
N17K Nushagak Hills 76.28 332 P P 14 15 59.5 -0.4
baz=56
OHAK Old Harbor 76.34 328 P P 14 16 00.0 -0.2
baz=59
L16K Owhat River 76.53 334 P P 14 16 02.4 +1.1
baz=55
O17K Koliganek Bris 76.66 331 P P 14 16 00.3 -1.7
baz=56
P17K Kvichak River 76.70 331 P P 14 15 59.8 -2.5
baz=57
M16K Timber Creek 76.73 333 P P 14 16 01.6 -0.8
baz=55
MBAR Mbarara 76.84 98 LR LR 14 48 22.6
comp=Z,67nm,20.7s,baz=296,slow=35
ANM Nome 76.94 338 P P 14 16 03.3 -0.3
baz=50
N16K Nishlik Lake 76.96 333 P P 14 16 03.3 -0.5

	baz=55								
K15K	**Wolf Creek Mou**	**76.98**	**335**	P		**P**	**14 16 03.9**	**+0.1**	
	baz=53								
Q16K	**King Salmon**	**77.08**	**330**	P		**P**	**14 16 03.4**	**-1.0**	
	baz=56								
SII	**Sitkinak Islan**	**77.10**	**328**	P		**P**	**14 16 02.7**	**-2.0**	
	baz=58								
TNA	**Tin City**	**77.12**	**339**	P		**P**	**14 16 03.1**	**-1.4**	
	baz=48								
O16K	**Kokwok River B**	**77.18**	**332**	P		**P**	**14 16 02.7**	**-2.3**	
	baz=56								
L15K	**Ungalak Mounta**	**77.33**	**334**	P		**P**	**14 16 03.3**	**-2.5**	
	baz=53								
J14K	**Nanvaranak Lak**	**77.45**	**336**	P		**P**	**14 16 03.9**	**-2.5**	
	baz=52								
ABKAR	**Akbulak array**	**77.50**	**41**	P		**P**	**14 16 07.0**	**+0.1**	
M15K	**Kasigluk River**	**77.61**	**333**	P		**P**	**14 16 05.6**	**-1.8**	
	baz=54								
N15K	**Kwethluk River**	**77.68**	**333**	P		**P**	**14 16 06.5**	**-1.2**	
	baz=54								
L14K	**Kuka Creek**	**77.99**	**334**	P		**P**	**14 16 09.2**	**-0.2**	
	baz=52								
M14K	**Bethel**	**78.07**	**334**	P		**P**	**14 16 08.3**	**-1.6**	
	baz=53								
O15K	**Ungalikthiuk R**	**78.15**	**332**	P		**P**	**14 16 07.7**	**-2.7**	
	baz=54								
K13K	**Kusilvak Mount**	**78.36**	**335**	P		**P**	**14 16 09.3**	**-2.2**	
	baz=51								
N14K	**Kuskokwak Cree**	**78.47**	**333**	P		**P**	**14 16 09.4**	**-2.7**	
	baz=53								
O14K	**Tigyukauivet M**	**78.70**	**332**	P		**P**	**14 16 10.9**	**-2.5**	
	baz=53								
RAYN	**Ar Rayn**	**78.81**	**69**	P		**P**	**14 16 14.0**	**-0.7**	
RAYN				IAmb		IAmb	14 16 18.0		
	comp=Z,11nm,1.4s								
M13K	**Dall Lake**	**78.82**	**334**	P		**P**	**14 16 13.0**	**-1.0**	
	baz=52								
CHGN	**Chignik**	**79.21**	**329**	P		**P**	**14 16 15.8**	**-0.4**	
	baz=55								
S14K	**Fog Glacier**	**79.73**	**329**	P		**P**	**14 16 17.3**	**-1.9**	
	baz=54								
M11K	**Mekoryuk**	**79.93**	**335**	P		**P**	**14 16 19.4**	**-0.7**	
	baz=49								
TIKI	**Tiksi**	**80.26**	**2**	P		**P**	**14 16 22.5**	**+0.8**	
SDPT	**Sand Point**	**80.71**	**329**	P		**P**	**14 16 22.4**	**-2.0**	
	baz=53								
BVAR	**Borovoye Array**	**81.07**	**34**	P		**P**	**14 16 26.6**	**+0.2**	
	comp=Z,1.3nm,0.7s,baz=305,slow=5.1,SNR=7.9								
	comp=Z,1.3nm,0.7s								
S12K	**Black Hills**	**81.21**	**330**	P		**P**	**14 16 25.6**	**-1.5**	
	baz=52								
GEYT	**Alibeck**	**81.84**	**51**	P		**P**	**14 16 30.8**	**-0.1**	
GEYT				IAmb		IAmb	14 16 39.4		
	comp=Z,6.2nm,1.1s								
GEYT	**Alibeck**	**81.84**	**51**	P		**P**	**14 16 31.4**	**+0.6**	
	comp=Z,0.8nm,0.4s,baz=300,slow=1.2,SNR=6.1								
	comp=Z,0.8nm,0.4s								
LSZ	**Lusaka**	**82.09**	**112**	LR		LR	14 50 51.8		
	comp=Z,56nm,19.7s,baz=312,slow=34								
FALS	**False Pass**	**82.34**	**329**	P		**P**	**14 16 30.4**	**-2.6**	
	baz=51								
SPIA	**Saint Paul Isl**	**83.66**	**334**	P		**P**	**14 16 36.6**	**-3.2**	
	baz=46								
P08K	**Saint George I**	**83.79**	**333**	P		**P**	**14 16 38.0**	**-2.5**	
	baz=46								
UNV	**Unalaska Valle**	**84.38**	**330**	P		**P**	**14 16 39.2**	**-4.4**	
	baz=48								
LBTB	**Lobatse**	**85.33**	**121**	LR		LR	14 47 25.2		
	comp=Z,102nm,20.8s,baz=298,slow=30								
NIKH	**Nikolski High**	**86.00**	**330**	P		**P**	**14 16 47.7**	**-4.0**	
	baz=46								
SUR	**Sutherland**	**86.15**	**130**	LR		LR	14 49 28.7		
	comp=Z,79nm,18.0s,baz=337,slow=32								
KURK	**Kurchatov**	**86.50**	**32**	P		**P**	**14 16 52.8**	**-1.4**	
KURK				IAmb		IAmb	14 17 02.2		
	comp=Z,10nm,1.4s								
KURBB	**Kurchatov Arra**	**86.52**	**33**	P		**P**	**14 16 53.2**	**-1.1**	
	comp=Z,0.8nm,0.3s,baz=318,slow=5.4,SNR=13								
KURBB				LR		LR	14 54 11.9		
	comp=Z,33nm,18.1s,baz=174,slow=35								
	comp=Z,0.8nm,0.3s								
UOSS	**Minazif**	**86.80**	**63**	P		**P**	**14 16 56.0**	**-0.2**	
ZAA0	**Zalesovo Array**	**86.97**	**27**	P		**P**	**14 16 55.0**	**-1.4**	
ZAA0				IAmb		IAmb	14 16 58.6		
	comp=Z,8.9nm,1.4s								
ZALV	**Zalesovo Beam**	**86.97**	**27**	P		**P**	**14 16 56.2**	**-0.2**	
ZALV	**Zalesovo Beam**	**86.97**	**27**	P		**P**	**14 16 55.8**	**-0.7**	
	comp=Z,2.2nm,1.1s,baz=318,slow=1.9,SNR=5.9								
	comp=Z,2.2nm,1.1s								
BOSA	**Boshof**	**87.09**	**125**	LR		LR	14 50 31.9		
	comp=Z,86nm,19.0s,baz=0.5,slow=32								
SEY	**Seymchan**	**88.21**	**353**	LR		LR	14 55 21.8		
	comp=Z,37nm,18.6s,baz=338,slow=35								
AAK	**Ala-Archa**	**89.58**	**40**	LR		LR	14 57 11.9		
	comp=Z,49nm,20.4s,baz=250,slow=36								
MK31	**Makanchi Array**	**90.95**	**34**	P		**P**	**14 17 12.7**	**-2.8**	
MKAR	**Makanchi Array**	**90.95**	**34**	P		**P**	**14 17 14.2**	**-1.3**	
MKAR	**Makanchi Array**	**90.95**	**34**	P		**P**	**14 17 15.5**	**0.0**	
	comp=Z,3.0nm,1.2s,baz=336,slow=8.0,SNR=7.1								
	comp=Z,3.0nm,1.2s								
MA2	**Magadan**	**91.67**	**353**	LR		LR	14 56 29.1		
	comp=Z,27nm,20.1s,baz=24,slow=34								
SHEM	**Shemya Is, Ala**	**92.80**	**338**	LR		LR	15 01 09.3		
	comp=Z,63nm,19.4s,baz=284,slow=37								
WMQ	**Urumqi**	**95.73**	**33**	*e*P		**P**	**14 17 39.3**	**+1.7**	
WMQ				pP		pP	14 17 42.8	-0.2	
WMQ				PP		PP	14 21 38.5	+10	
WMQ				pmax		pmax			
	comp=Z,23nm,0.7s								
WMQ				LR		LR			
	comp=Z,150nm,24.3s								
PETK	**Petropavlovsk-**	**96.83**	**347**	LR		LR	15 00 47.3		
	comp=Z,73nm,21.9s,baz=48,slow=35								
TAOE	**Nuku Hiva Isla**	**99.54**	**265**	*e*LR		LR	14 50 19.0		
	comp=Z,114nm,26.8s								
SONM	**Songino Array**	**99.73**	**20**	LR		LR	15 02 58.3		
	comp=Z,32nm,18.4s,baz=354,slow=35								
PPT2	**Papeete2**	**111.57**	**261**	*e*LR		LR	14 55 52.2		
	comp=Z,82nm,33.8s								
PPT2				*e*LR		LR	14 55 57.2		
	comp=Z,60nm,27.2s								
TBI	**Tubuai**	**113.70**	**255**	*e*LR		LR	14 56 51.3		
	comp=Z,391nm,32.0s								
CMAR	**Chiang Mai Arr**	**121.33**	**42**	PKP		**PKPdf**	**14 23 04.6**	**-0.7**	
	comp=Z,0.8nm,0.7s,baz=296,slow=3.4,SNR=6.9								
DZM	**Mont Dzumac**	**151.84**	**276**	*e*LR		LR	15 14 32.1		
	comp=Z,94nm,35.2s								
ASAR	**Alice Springs**	**175.07**	**23**	PKP		**PKPdf**	**14 24 22.1**	**+0.2**	
	comp=Z,0.5nm,0.9s,baz=37,slow=0.3,SNR=4.1								
ASAR				PKPab		**PKPab**	**14 25 54.7**	**-2.4**	
	comp=Z,0.3nm,0.8s,baz=284,slow=3.7,SNR=2.2								

*BYKL **05** 14:09:19.2±0.1,56°.07N×113°.88E,h8km±3km,FELT I=III MSK at Severomuisk*
*IDC **05** 14:09:24.7±9.5,55°.85N×113°.33E,h0km,mb3.0/1, mbtmp3.2/3,ML2.9/2,Error ellipse: s-maj=125.5km s-min=44.6km az=91.0*
ISC 05 14:09:19.5±0.7,56°.06N±0°.03×113°.88E±0°.02,h10km,n36, σ3°25/81,3C-2D,East of Lake Baikal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.19**	**288**	*i*Pg	**Pg**	**14 09 23.3**	**-0.2**
SVKR				*e*Sg	**Sg**	**14 09 26.5**	**+0.2**
SVKR				Pmax			
	3μm,0.1s						
SVKR				Smax			
	36μm,0.4s						
UKT	**Uakit**	**0.59**	**194**	*i*Pg	**Pg**	**14 09 29.9**	**-1.0**
UKT				*e*Sg	**Sg**	**14 09 37.6**	**-1.1**
UKT				Pmax			
	269nm,0.4s						
UKT				Smax			
	1μm,0.8s						
NLYR	**Nelyaty**	**1.11**	**66**	*i*Pg	**Pb**	**14 09 39.4**	**-1.3**
NLYR				*e*Pb	**Pn**	**14 09 41.5**	**+0.4**
NLYR				*e*Sg	**Sg**	**14 09 53.7**	**-1.4**
NLYR				*e*Sb	**Sn**	**14 09 58.0**	**+1.6**
NLYR				max			
	469nm,0.3s						
NLYR				max			
	795nm,0.8s						
YOA	**Uoyan**	**1.21**	**274**	*e*Pg	**Pb**	**14 09 41.4**	**-1.1**
YOA				*e*		14 09 44.6	
YOA				*e*Sg	**Sb**	**14 09 57.8**	**-0.3**
YOA				*e*		14 10 04.9	
YOA				max			
	456nm,0.4s						
YOA				max			
	4μm,0.6s						
KMO	**Kumora**	**1.52**	**265**	*i*Pg	**Pn**	**14 09 46.7**	**0.0**
KMO				*e*Pb	**Pg**	**14 09 47.9**	**-0.6**
KMO				*e*Sg	**Sn**	**14 10 06.3**	**-0.1**
KMO				*e*		14 10 09.9	
KMO				*e*		14 10 16.3	
KMO				max			
	493nm,0.3s						
KMO				max			
	2μm,1.0s						
BOD	**Bodaibo**	**1.77**	**2**	*i*Pg	**Pb**	**14 09 51.0**	**-0.9**
BOD				*e*Sg	**Sb**	**14 10 14.2**	**+0.1**
BOD				Pmax			
	242nm,0.2s						
BOD				Smax			
	623nm,0.4s						
YLYR	**Ulyunkhan**	**1.95**	**234**	*e*Pg	**Pb**	**14 09 54.0**	**-1.1**
YLYR				*e*Sg	**Sb**	**14 10 20.3**	**+0.9**
YLYR				Pmax			
	80nm,0.3s						
YLYR				Smax			
	628nm,0.4s						
NIZB	**Nizh Angarsk**	**2.46**	**265**	*e*Pn	**Pn**	**14 10 00.9**	**+1.3**
NIZB				*e*Pg	**Pb**	**14 10 03.9**	**+0.2**
NIZB				*e*Sn	**Sn**	**14 10 29.4**	**-0.3**
NIZB				*e*Sg	**Sg**	**14 10 36.1**	**-2.2**
NIZB				*e*SgSg	**SnSn**	**14 10 48.7**	**+8.5**
NIZB				Pmax			
	54nm,0.6s						
NIZB				Smax			
	252nm,0.7s						
CRS	**Chara**	**2.58**	**69**	*e*Pn	**Pn**	**14 10 02.1**	**+0.8**
CRS				*e*Pg	**Pb**	**14 10 06.1**	**+0.3**
CRS				*e*Sg	**Sg**	**14 10 39.7**	**-2.5**
CRS				*e*SgSg	**SnSn**	**14 10 44.6**	**+1.3**
CRS				Pmax			
	419nm,0.9s						
CRS				max			
	347nm,1.1s						
SYVR	**Suvo**	**3.29**	**225**	*e*Pn	**Pn**	**14 10 11.7**	**+0.7**
SYVR				*e*Pg	**Pb**	**14 10 17.7**	**-0.2**
SYVR				*e*		14 10 45.6	
SYVR				*e*Sg	**Sb**	**14 11 01.1**	**+3.1**
SYVR				*e*SgSg	**Sg**	**14 11 09.7**	**+4.7**
SYVR				Pmax			
	34nm,1.1s						
SYVR				max			
	395nm,1.3s						
VTMR	**Vitim**	**3.46**	**349**	*e*Pn	**Pn**	**14 10 13.6**	**+0.2**
VTMR				*e*Pg	**Pb**	**14 10 21.2**	**+0.4**
VTMR				*e*Sn	**Sn**	**14 10 53.6**	**-0.8**
VTMR				*e*Sg	**Sb**	**14 11 05.0**	**+2.1**
VTMR				*e*		14 11 16.6	
KHNR	**Khani**	**3.49**	**73**	*e*Sg	**Sg**	**14 11 07.5**	**-4.0**
TUP	**Tupik**	**3.84**	**113**	*e*Pn	**Pn**	**14 10 18.8**	**+0.1**
TUP				*e*Pg	**Pb**	**14 10 28.4**	**+1.0**
TUP				*e*Sn	**Sn**	**14 11 03.0**	**-0.9**
TUP				*e*Sg	**Sb**	**14 11 18.1**	**+4.2**
TUP				*e*		14 11 22.9	
TUP				Pmax			
	43nm,0.4s						
TUP				max			
	381nm,0.8s						
CIT	**Chita**	**4.05**	**183**	*e*Sg	**Sg**	**14 11 25.3**	**-4.2**
CIT				Smax			
	207nm,0.6s						
MXMB	**Maximikha**	**4.09**	**229**	*e*Pg	**Pb**	**14 10 33.7**	**+2.1**
MXMB				*e*Sn	**Sn**	**14 11 09.6**	**-0.3**
MXMB				*e*		14 11 22.3	
MXMB				*e*Sg	**Sg**	**14 11 26.6**	**-4.1**
YKLR	**Yuktali**	**4.36**	**80**	*e*Pg	**Pb**	**14 10 35.8**	**-0.4**
YKLR				*e*Sn	**Sn**	**14 11 16.3**	**-0.3**
YKLR				*e*Sg	**Sb**	**14 11 33.5**	**+4.7**
OGRR	**Ongureny**	**4.36**	**239**	*e*Pn	**Pn**	**14 10 26.7**	**+0.9**
OGRR				*e*Pg	**Pb**	**14 10 36.7**	**+0.5**
OGRR				*e*		14 11 18.6	
OGRR				*e*Sg	**Sb**	**14 11 33.6**	**+4.7**
OGRR				Pmax			
	26nm,1.1s						
OGRR				Smax			
	106nm,1.7s						
GORB	**Goryachinsk**	**4.48**	**229**	*e*Pn	**Pn**	**14 10 27.6**	**+0.2**
GORB				*e*Pg	**Pb**	**14 10 39.5**	**+1.3**
GORB				*e*Sn	**Sn**	**14 11 18.1**	**-1.5**
GORB				*e*Sg	**Sg**	**14 11 38.9**	**-4.4**
UZR	**Uzur**	**4.49**	**235**	*e*Pg	**Pb**	**14 10 39.8**	**+1.4**
UZR				*e*Sn	**Sn**	**14 11 19.0**	**-0.9**
UZR				*e*Sg	**Sg**	**14 11 38.4**	**-5.2**
UZR				Pmax			
	21nm,0.9s						
UZR				Smax			
	100nm,1.1s						
TRG	**Tyrgan**	**5.50**	**236**	*e*Pn	**Pn**	**14 10 42.3**	**+0.9**
TRG				*e*Pg	**Pb**	**14 10 58.3**	**+2.7**
TRG				*e*Sg	**Sg**	**14 12 08.7**	**-7.2**
TRG				Pmax			
	17nm,0.1s						
TRG				Smax			
	54nm,1.5s						
UUDB	**Ulan-Yde**	**5.58**	**224**	*e*Pg	**Pb**	**14 10 59.1**	**+2.2**
UUDB				*e*Sg	**Sg**	**14 12 12.6**	**-5.7**
UUDB				Pmax			
	9.0nm,0.5s						
UUDB				Smax			
	142nm,1.5s						
STDB	**Stepnoy Dvoret**	**5.89**	**232**	*e*Sg	**Sg**	**14 12 22.5**	**-5.9**
STDB				*e*		14 13 36.0	
HRMR	**Khuramsha**	**6.04**	**226**	*e*Pn	**Pn**	**14 10 49.9**	**+1.1**
HRMR				*e*Pg	**Pb**	**14 11 08.0**	**+3.2**
HRMR				*e*		14 12 07.8	
HRMR				*e*Sg	**Sg**	**14 12 26.9**	**-6.3**
HRMR				Pmax			
	22nm,0.7s						
HRMR				Smax			
	328nm,0.7s						
CLNS	**Chul'man**	**6.16**	**78**	*e*Sg	**Sg**	**14 12 30.3**	**-6.7**
BGT	**Bolshoye Golou**	**6.41**	**235**	*e*Pg	**Pb**	**14 11 14.5**	**+3.5**
BGT				*e*Sn	**Sn**	**14 12 06.1**	**-0.8**
BGT				*e*Sg	**Sg**	**14 12 37.9**	**-7.0**
BGT				Pmax			
	14nm,1.0s						
BGT				Smax			
	45nm,2.0s						
KPC	**Khapcheranga**	**6.43**	**189**	*e*Pn	**Pn**	**14 10 54.9**	**+0.6**
KPC				*e*Pg	**Pb**	**14 11 14.7**	**+3.2**
KPC				*e*Sn	**Sn**	**14 12 06.1**	**-1.6**
KPC				*e*Sg	**Sg**	**14 12 39.2**	**-6.6**
KPC				Pmax			
	10.0nm,0.5s						
KPC				Smax			
	78nm,0.9s						
LSTR	**Listvyanka**	**6.79**	**236**	*e*Sg	**Sg**	**14 12 49.3**	**-7.9**
LSTR				Smax			
	73nm,1.6s						
IVK	**Ivanovka**	**7.03**	**237**	*e*Sg	**Sg**	**14 12 56.2**	**-8.7**
IVK				Smax			
	33nm,1.5s						
TLY	**Talaya**	**7.47**	**238**	*e*Pg	**Pb**	**14 11 32.6**	**+3.5**
TLY				*e*Sg	Sg	14 13 09.2	-10
TLY				Pmax			
	8.0nm,0.7s						
TLY				Smax			
	21nm,1.2s						
ARS	**Arshan**	**7.92**	**243**	*e*Pg	Pb	14 11 41.8	+5.0
ARS				*e*Sg	Sg	14 13 22.8	-11
ARS				Smax			
	178nm,1.2s						
ZAK	**Zakamensk**	**8.53**	**233**	*e*	Sn	14 12 48.1	-11
ZAK				*e*Sg	Sg	14 13 43.2	-10
ZAK				Smax			
	33nm,1.1s						
MOY	**Mondy**	**8.79**	**245**	*e*Pn	**Pn**	**14 11 27.4**	**+0.8**
MOY				*e*		14 13 27.0	
MOY				*e*Sg	Sg	14 13 50.2	-11
MOY				*e*		14 13 58.8	
MOY				max			
	7.0nm,1.4s						
MOY				max			
	49nm,1.4s						
ORL	**Orlik**	**8.95**	**253**	*e*Pn	**Pn**	**14 11 29.5**	**+0.7**
ORL				*e*Pg	Pg	14 12 00.4	-10
ORL				*e*		14 13 28.8	
ORL				*e*Sg	Sg	14 13 55.9	-10
ORL				*e*		14 14 20.2	
ORL				Pmax			
	6.0nm,1.1s						
ORL				Smax			
	27nm,1.3s						
SONM	**Songino Array**	**9.44**	**212**	Pn	**Pn**	**14 11 37.4**	**+1.8**
	0.2nm,0.3s,baz=22,slow=10,SNR=2.6						
SONM				Lg	Lg	14 14 14.1	
	1.1nm,0.3s,baz=23,slow=27,SNR=14						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**16.75**	**275**	Pn	**P**	**14 13 18.2**	**+2.0**
	0.2nm,0.3s,baz=70,slow=22,SNR=1.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**21.59**	**258**	P	**P**	**14 14 11.6**	**+2.4**
	0.6nm,0.7s,baz=51,slow=9.8,SNR=5.6						
	0.6nm,0.7s						

*UCR **05** 14:09:44.2±0.9,10°.31N×86°.32W,h27km±6km,MW3.6*
*CATAC **05** 14:09:47.9±1.1,10°.24N×86°.11W,h2km±6km,ML3.1*
ISC 05 14:09:45.5±1.9,10°.23N±0°.06×86°.21W±0°.08,h17km±11km, n16,σ0°75/22,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNO	**Dulce Nombre,**	**0.72**	**102**	*e*P	**Pg**	**14 10 00.0**	**+0.5**
ORTG	**Ortega, Santa**	**0.74**	**80**	*i*P	**Pg**	**14 10 00.0**	**-0.2**
ORTG				*i*S	**Sg**	**14 10 10.9**	**+0.9**
ORTG				IAML		14 10 18.1	
	comp=Z,280nm,1.0s						
ORTG	**Ortega, Santa**	**0.74**	**80**	*e*P	**Pg**	**14 09 59.9**	**-0.2**
ORTG				*e*S	**Sn**	**14 10 12.6**	**+0.2**
HZTE	**Horizontes, Gu**	**0.77**	**51**	*i*P	**Pg**	**14 10 00.1**	**-0.4**
HZTE				IAML		14 10 00.3	
	comp=Z,930nm,1.0s						
HZTE				*i*S	**Sb**	**14 10 11.3**	**+0.7**
HZTE	**Horizontes, Gu**	**0.77**	**51**	*e*P	**Pg**	**14 09 59.6**	**-0.9**
HZTE				*e*S	**Sb**	**14 10 12.1**	**+1.4**
INDI	**Punta indio, G**	**0.78**	**118**	*i*P	**Pg**	**14 10 01.2**	**+0.4**
INDI				*i*S	**Sg**	**14 10 10.5**	**-0.7**
INDI				IAML		14 10 19.1	
	comp=Z,86nm,1.0s						
INDI	**Punta indio, G**	**0.78**	**118**	*e*P	**Pg**	**14 10 01.1**	**+0.3**
LCRUZ	**La Cruz**	**1.01**	**34**	*e*P	**Pb**	**14 10 04.2**	**-0.4**
LCRUZ				*e*S	**Sn**	**14 10 19.4**	**+0.5**
VMAR	**Armenia, Volca**	**1.22**	**62**	*e*P	**Pn**	**14 10 07.0**	**-0.9**
VMAR				*e*S	**Sb**	**14 10 23.8**	**+0.1**
JTS	**Las Juntas de**	**1.23**	**87**	*e*P	**Pn**	**14 10 07.8**	**-0.3**
JAPN	**Al SSO del Vol**	**1.39**	**22**	*i*P	**Pn**	**14 10 09.4**	**-0.7**
JAPN				IAML		14 10 15.6	
	comp=Z,220nm,1.0s						
MORN	**Al O del Volca**	**1.42**	**23**	*i*P	**Pn**	**14 10 09.2**	**-1.4**
MORN				IAML		14 10 15.8	
	comp=Z,480nm,1.0s						
CONN	**Concepcion**	**1.44**	**23**	*i*P	**Pg**	**14 10 14.3**	**+1.0**
CONN				IAML		14 10 37.7	
	comp=Z,1μm,1.0s						
NADN	**Granada**	**1.52**	**6**	*i*P	Pg	14 10 21.3	+6.6
NADN				IAML		14 10 25.8	
	comp=Z,4μm,1.0s						
CNGA	**Al SSO del Vol**	**2.30**	**348**	*i*P	**Pb**	**14 10 26.9**	**+0.3**
CNGA				IAML		14 12 22.1	
	comp=Z,84nm,1.0s						
CDM	**Cerro de Muert**	**2.50**	**105**	*i*P	**Pb**	**14 10 30.2**	**-0.1**
CDM				IAML		14 11 17.5	
	comp=Z,31nm,1.0s						

*BER **05** 14:14:14.9±3.1,80°.87N×2°.38W,h6km±35km,mb(Pn)3.5, ML1.9(DNK),Confirmed Earthquake*
*DNK **05** 14:14:15.7±2.4,80°.75N×2°.04W,h17km±37km,ML1.9*
ISC 05 14:14:13.5±1.6,80°.6N±0°.1×2°.89W±0°.05,h10km,n13, σ1°72/21,North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.35**	**301**	*e*P	**Pn**	**14 14 52.5**	**+0.4**
KBS	**Kingsbay**	**3.14**	**115**	*e*P	**Pn**	**14 15 02.6**	**-0.3**
KBS				*e*S	**Sn**	**14 15 39.5**	**-0.9**
KBS				IAML		14 15 40.2	
	comp=Z,5.5nm,0.3s						
KBS	**Kingsbay**	**3.14**	**115**	*i*P	**Pn**	**14 15 03.2**	**+0.3**
KBS				*i*S	**Sn**	**14 15 38.2**	**-2.1**
BRBB	**Barentsburg B**	**4.05**	**120**	*e*P	**Pn**	**14 15 16.9**	**+1.6**
BRBB				*e*S	**Sn**	**14 16 03.0**	**+0.4**
SPA0	**Spitsbergen Ar**	**4.30**	**115**	*e*P	**Pn**	**14 15 19.9**	**+1.1**
SPA0				*e*S	**Sn**	**14 16 05.8**	**-3.1**
DAG	**Danmarks Havn**	**4.94**	**227**	*e*	**Pn**	**14 15 28.7**	**+1.2**
	baz=42,slow=16						
DAG				*i*P	**Pn**	**14 15 29.8**	**+2.3**
DAG				*i*		14 16 24.2	
DAG				IAML		14 16 28.9	
	comp=Z,3.4nm,0.3s						
DAG	**Danmarks Havn**	**4.94**	**227**	*e*	**Pn**	**14 15 28.7**	**+1.2**
	baz=42,slow=16						
DAG				*i*P	**Pn**	**14 15 29.8**	**+2.3**
DAG				*i*		14 16 24.2	
DAG				IAML		14 16 28.9	
	comp=Z,3.4nm,0.3s						
DBG	**Daneborg**	**7.33**	**219**	*i*P	**Pn**	**14 16 03.1**	**+2.8**
DBG				*i*S	**Sn**	**14 17 21.8**	**-1.5**
DBG				IAML		14 17 33.5	
	comp=Z,1.3nm,0.4s						
DBG	**Daneborg**	**7.33**	**219**	*i*P	**Pn**	**14 16 03.1**	**+2.8**
DBG				*i*S	**Sn**	**14 17 21.8**	**-1.5**
DBG				IAML		14 17 33.5	
	comp=Z,1.3nm,0.4s						
NEEM	**North Greenlan**	**9.43**	**276**	*e*P	**Pn**	**14 16 29.2**	**-0.1**
NEEM				IAML		14 17 55.6	
	comp=Z,44nm,2.8s						
NEEM	**North Greenlan**	**9.43**	**276**	*e*P	**Pn**	**14 16 29.2**	**-0.1**
NEEM				IAML		14 17 55.6	
	comp=Z,44nm,2.8s						
SUMG	**Summit**	**11.24**	**244**	*i*P	**Pn**	**14 16 54.7**	**+0.5**
SUMG				*e*		14 18 56.1	
SUMG				IAML		14 19 02.3	
	comp=Z,0.7nm,0.4s						
SUMG	**Summit**	**11.24**	**244**	*i*P	**Pn**	**14 16 54.7**	**+0.5**
SUMG				*e*		14 18 56.1	
SUMG				IAML		14 19 02.3	
	comp=Z,0.7nm,0.4s						

*IDC **05** 14:18:53.2±0.9,25°.03N×126°.86E,h0km,mb3.8/14, mbtmp3.8/16,ML3.2/3,MS3.1/5,Error ellipse: s-maj=22.6km s-min=16.8km az=91.0*
*JMA **05** 14:18:56.4±0.2,25°.N±1°×12°.7E±°,h76km,MV3.3/20, NEAR MIYAKOJIMA ISLAND*
ISC 05 14:18:54.0±1.7,24°.99N±0°.08×126°.86E±0°.06,h6km±10km, n46,σ1°19/51,mb3.9/14,MS2.8/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**1.34**	**357**	P	**Pb**	**14 19 20.5**	**+1.1**
JOGS	**Gusukube**	**1.34**	**261**	P	**Pg**	**14 19 19.9**	**+0.2**
JOGS				*e*S	**Sg**	**14 19 37.5**	**+0.6**

YOJ Yonaguni jima 3.54 262 P Pn 14 19 50.0 +0.6
JYNG Yonagunijimaku 3.60 262 eP Pn 14 19 51.4 +1.2
JMZ Minamidaito 2 4.04 77 P Pn 14 19 53.9 -2.3
NACB Ninganchiao 4.86 262 P Pn 14 20 06.6 -1.0
YHNB Yeheng 4.99 268 P Pn 14 20 10.6 +1.1
YULB Yu-li 5.32 254 P Pn 14 20 11.7 -2.2
SSLB Suanglung 5.51 259 P Pn 14 20 15.6 -1.0
TWGBT Beinan 5.71 249 P Pn 14 20 16.6 -2.7
TPUB Ta-pu 5.93 255 P Pn 14 20 21.8 -0.5
JNU Nakatsue 8.84 23 Pn Pn 14 21 03.1 +0.9
0.6nm,0.3s,baz=304,slow=4.3,SNR=8.0
JNU Sn **Sn 14 22 38.5 -3.7**
baz=248,slow=17
JNU LR LR 14 24 50.3
comp=Z,84nm,20.3s,baz=204,slow=41
7.7nm,0.9s
KSRS Korea Array 12.46 4 Pn Pn 14 21 49.6 -2.2
0.1nm,0.3s,baz=185,slow=13,SNR=1.6
KSRS LR LR 14 27 09.0
comp=Z,40nm,19.1s,baz=190,slow=40
0.5nm,0.8s
ASAJ Asahikawa 23.00 30 LR LR 14 32 45.0
comp=Z,35nm,20.4s,baz=148,slow=36
CMAR Chiang Mai Arr 26.70 261 P P 14 24 35.1 +1.0
0.4nm,0.4s,baz=65,slow=8.9,SNR=6.3
CMAR LR LR 14 35 41.4
comp=Z,20nm,18.4s,baz=80,slow=38
0.4nm,0.4s
SONM Songino Array 27.96 330 P P 14 24 45.0 -0.3
2.2nm,0.7s,baz=153,slow=11,SNR=11
2.2nm,0.7s
MKAR Makanchi Array 41.46 313 P P 14 26 41.1 -0.4
2.8nm,0.6s,baz=98,slow=10,SNR=29
2.8nm,0.6s
ZALV Zalesovo Beam 42.50 324 P P 14 26 49.7 -0.2
0.8nm,0.4s,baz=125,slow=9.2,SNR=4.9
0.8nm,0.4s
KURBB Kurchatov Arra 44.91 318 P P 14 27 08.3 -1.0
0.9nm,0.5s,baz=106,slow=8.9,SNR=4.4
0.9nm,0.5s
WRA Warramunga Arr 45.25 170 P P 14 27 11.6 -0.7
0.4nm,0.6s,baz=352,slow=8.5,SNR=7.0
0.4nm,0.6s
ASAR Alice Springs 48.84 171 P P 14 27 41.6 +1.3
0.4nm,0.8s,baz=352,slow=7.7,SNR=6.9
0.4nm,0.8s
BVAR Borovoye Array 50.39 319 P P 14 27 51.3 -0.5
0.6nm,0.4s,baz=101,slow=7.5,SNR=2.9
0.6nm,0.4s
GEYT Alibeck 58.85 301 P P 14 28 54.2 +0.7
0.9nm,0.6s,baz=107,slow=4.8,SNR=2.0
0.9nm,0.6s
KBZ Khabaz 68.99 309 P P 14 30 01.5 +1.4
1.9nm,0.8s,baz=18,slow=1.3,SNR=4.4
1.9nm,0.8s
FINES FINESS Array B 73.33 330 P P 14 30 26.4 +0.2
2.4nm,0.9s,baz=55,slow=5.8,SNR=11
2.4nm,0.9s
RAO Raoul Island 75.64 132 LR LR 15 01 46.3
comp=Z,54nm,19.5s,baz=155,slow=34
AKASG Malin Array Be 75.67 319 P P 14 30 40.9 +1.0
0.3nm,0.3s,baz=56,slow=9.0,SNR=1.7
0.3nm,0.3s
NOA NORSAR Array B 79.87 334 P P 14 31 02.1 -1.2
0.6nm,0.7s,baz=56,slow=5.6,SNR=2.4
0.6nm,0.7s
YKA Yellowknife Ar 80.17 24 P P 14 31 04.9 +0.2
0.1nm,0.6s,baz=303,slow=5.9,SNR=2.6
0.1nm,0.6s

*NEIC **05** 14:28:21.0±2.6, 4°.8S±0°.1×153°.88E±0°.10, h10km±1km, mb4.4/18, Error ellipse: s-maj=23.6km s-min=13.6km az=27.0*
*IDC **05** 14:28:28.2±7.9, 4°.55S×153°.34E, h33km±59km, mb3.9/17, mbtmp4.0/17, MS2.9/5, Error ellipse: s-maj=26.3km s-min=15.0km az=83.0*
ISC 05 14:28:21.9±0.6, 4°.93S±0°.07×153°.71E±0°.09, h10km, n52, σ1s81/52, mb4.2/26, MS2.9/4, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.71**	**295**		**Pn**	**14 28 53.0**	**+1.2**
RABL				Sn	**Sn**	**14 29 10.8**	**-2.9**
MANU	**Manus Island**	**6.95**	**294**		**Pn**	**14 30 07.0**	**+3.0**
PMG	**Port Moresby**	**7.88**	**235**	Sn	**Sn**	**14 31 47.3**	**+1.4**
	2.4nm,0.3s,baz=123,slow=9.8,SNR=6.7						
PMG				LR	LR	14 33 17.6	
	comp=Z,116nm,20.7s,baz=62,slow=37						
GUMO	**Guam**	**20.38**	**335**	LR	LR	14 41 33.4	
	comp=Z,18nm,18.3s,baz=110,slow=40						
EIDS	**Eidsvold**	**20.48**	**187**	P	**P**	**14 32 57.7**	**-2.4**
DZM	**Mont Dzumac**	**21.04**	**145**	P	P	14 33 16.0	+10
	9.1nm,0.8s,baz=0.0,slow=2.0,SNR=11						
DZM				LR	LR	14 40 21.8	
	comp=Z,56nm,20.2s,baz=11,slow=33						
	9.1nm,0.8s						
MTN	**Manton Dam**	**23.64**	**249**	P	**P**	**14 33 34.6**	**+1.0**
MTN				IAmb	IAmb	14 33 35.9	
	comp=Z,13nm,1.1s						
WB0	**Warramunga Arr**	**23.91**	**230**	P	**P**	**14 33 37.0**	**+0.8**
WB0				IAmb	IAmb	14 33 53.6	
	comp=Z,15nm,1.1s						
WR0	**Warramunga Arr**	**23.91**	**230**	P	**P**	**14 33 37.8**	**+1.6**
WRA	**Warramunga Arr**	**24.05**	**230**	P	**P**	**14 33 40.6**	**+3.0**
	comp=Z,1.6nm,0.3s,baz=53,slow=9.9,SNR=32						
WRA				PcP	**PcP**	**14 37 22.2**	**+2.9**
	comp=Z,0.3nm,0.4s,baz=59,slow=2.0,SNR=4.7						
	comp=Z,1.6nm,0.3s						
AS31	**Alice Springs**	**26.68**	**224**	P	**P**	**14 34 03.1**	**+1.7**
ASAR	**Alice Springs**	**26.68**	**224**	P	**P**	**14 34 03.7**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=54,slow=9.1,SNR=12						
ASAR				PcP	**PcP**	**14 37 28.4**	**+3.1**
	comp=Z,0.8nm,0.7s,baz=43,slow=3.1,SNR=5.5						
	comp=Z,0.3nm,0.6s						
KNRA	**Kununurra**	**26.73**	**245**	P	**P**	**14 34 02.0**	**+0.1**
KNRA				IAmb	IAmb	14 34 10.9	
	comp=Z,14nm,1.1s						
DAV	**Davao City (W)**	**30.50**	**293**	LR	LR	14 46 14.8	
	comp=Z,27nm,20.4s,baz=158,slow=36						
BBOO	**Buckleboo**	**32.27**	**209**	P	**P**	**14 34 49.1**	**-1.8**
BBOO				IAmb	IAmb	14 35 17.4	
	comp=Z,3.5nm,1.1s						
TOO	**Toolangi**	**33.35**	**192**	P	**P**	**14 34 56.7**	**-3.7**
FORT	**Forrest**	**35.27**	**220**	P	**P**	**14 35 16.3**	**-0.7**
MBWA	**Marble Bar**	**36.70**	**241**	P	**P**	**14 35 29.0**	**-0.4**
MBWA				IAmb	IAmb	14 35 38.0	
	comp=Z,3.6nm,0.8s						
MJAR	**Matsushiro Arr**	**43.73**	**342**	P	**P**	**14 36 26.3**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=163,slow=8.2,SNR=1.6						
	comp=Z,0.3nm,0.4s						
KSRS	**Korea Array**	**48.53**	**332**	P	**P**	**14 37 04.5**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=153,slow=6.6,SNR=5.1						
KSRS				PcP	**PcP**	**14 38 32.8**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=137,slow=4.7,SNR=1.9						
KSRS				LR	LR	14 52 38.6	
	comp=Z,15nm,21.8s,baz=35,slow=30						
	comp=Z,1.3nm,0.7s						
JKA	**Kamikawa-asahi**	**49.83**	**350**	P	**P**	**14 37 11.5**	**-3.6**
JKA				IAmb	IAmb	14 37 19.2	
	comp=Z,3.8nm,0.8s						
USRK	**Ussuriysk Ar.**	**52.66**	**340**	P	**P**	**14 37 32.8**	**-3.6**
USRK	**Ussuriysk Ar.**	**52.66**	**340**	P	**P**	**14 37 37.0**	**+0.6**
	comp=Z,2.2nm,0.7s,baz=85,slow=9.3,SNR=4.8						
	comp=Z,2.2nm,0.7s						
KULM	**Kulim**	**53.95**	**280**	P	**P**	**14 37 44.8**	**-1.6**
KULM				IAmb	IAmb	14 37 56.4	
	comp=Z,7.1nm,1.1s						
PETK	**Petropavlovsk-**	**57.91**	**3**	P	**P**	**14 38 14.2**	**+0.1**
	comp=Z,3.4nm,1.0s,baz=165,slow=5.8,SNR=6.2						
	comp=Z,3.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**58.75**	**295**	P	**P**	**14 38 20.4**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=121,slow=5.3,SNR=12						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**66.92**	**327**	P	**P**	**14 39 14.6**	**0.0**
	comp=Z,0.7nm,0.5s,baz=158,slow=6.2,SNR=4.6						
	comp=Z,0.7nm,0.5s						
VNDA	**Vanda**	**72.67**	**178**	P	**P**	**14 39 48.9**	**-0.6**
VNDA	**Vanda**	**72.67**	**178**	P	P	14 39 54.5	+5.1
	comp=Z,0.7nm,0.7s,baz=323,slow=6.8,SNR=6.7						
	comp=Z,0.7nm,0.7s						
MK31	**Makanchi Array**	**81.02**	**319**	P	**P**	**14 40 36.4**	**-0.7**
MK31				IAmb	IAmb	14 40 38.5	
	comp=Z,2.7nm,1.1s						
MKAR	**Makanchi Array**	**81.02**	**319**	P	**P**	**14 40 36.1**	**-1.0**
MKAR	**Makanchi Array**	**81.02**	**319**	P	**P**	**14 40 37.1**	**0.0**
	comp=Z,1.6nm,0.6s,baz=103,slow=6.6,SNR=16						
	comp=Z,1.6nm,0.6s						
MAKZ	**Makanchi**	**81.23**	**319**	P	**P**	**14 40 35.9**	**-2.3**
MAKZ				IAmb	IAmb	14 40 39.5	
	comp=Z,4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**81.76**	**326**	P	**P**	**14 40 40.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=108,slow=6.2,SNR=4.4						
	comp=Z,0.7nm,0.4s						
ILAR	**Eielson Array**	**81.94**	**22**	P	**P**	**14 40 41.6**	**0.0**
	comp=Z,0.3nm,0.4s,baz=263,slow=6.3,SNR=1.0						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**84.46**	**322**	P	**P**	**14 40 54.8**	**-0.1**
	comp=Z,1.3nm,0.7s,baz=113,slow=3.8,SNR=9.4						
	comp=Z,1.3nm,0.7s						
TKM2	**Tokmak 2**	**84.67**	**314**	P	**P**	**14 40 57.4**	**+1.0**
	SNR=6.5						
QSPA	**South Pole Qui**	**85.03**	**180**	P	**P**	**14 40 57.0**	**-0.7**
QSPA				IAmb	IAmb	14 41 02.7	
	comp=Z,1.1nm,0.5s						
QSPA	**South Pole Qui**	**85.03**	**180**	P	**P**	**14 41 02.0**	**+4.3**
	comp=Z,1.8nm,0.6s,baz=168,slow=1.8,SNR=24						
	comp=Z,1.8nm,0.6s						
UCH	**Uchtor**	**85.32**	**313**	P	**P**	**14 41 01.6**	**+1.5**
	SNR=5.9						
AAK	**Ala-Archa**	**85.41**	**313**	P	**P**	**14 41 01.3**	**+1.2**
	SNR=8.1						
AAK	**Ala-Archa**	**85.41**	**313**		**P**	**14 40 59.5**	**-0.6**
USP	**Ospenovka**	**85.53**	**314**	P	**P**	**14 41 01.5**	**+1.0**
	SNR=8.0						
EKS2	**Erkin-Say**	**85.94**	**313**	P	**P**	**14 41 04.0**	**+1.3**
	SNR=6.8						
BVAR	**Borovoye Array**	**89.89**	**323**	P	**P**	**14 41 20.7**	**-0.5**
	comp=Z,7.0nm,0.7s,baz=101,slow=6.2,SNR=39						
	comp=Z,7.0nm,0.7s						
BRVK	**Borovoye**	**89.95**	**323**	P	**P**	**14 41 21.0**	**-0.5**
YKA	**Yellowknife Ar**	**95.11**	**28**	P	**P**	**14 41 47.1**	**+2.0**
	comp=Z,0.3nm,0.7s,baz=279,slow=4.9,SNR=2.9						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**111.54**	**336**	Pdiff	**Pdif**	**14 42 57.5**	**-0.9**
	comp=Z,0.6nm,0.9s,baz=46,slow=4.0,SNR=3.7						
GERES	**GERESS Array B**	**124.63**	**329**	PKP	**PKiKP**	**14 47 23.4**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=202,slow=1.4,SNR=4.0						
EKA	**Eskdalemuir Ar**	**126.41**	**344**	PKP	**PKiKP**	**14 47 26.7**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=353,slow=2.0,SNR=1.5						
ESDC	**Sonseca Array**	**139.96**	**333**	PKP	**PKiKP**	**14 47 52.7**	**-0.8**
	comp=Z,0.4nm,1.0s,baz=1.0,slow=7.7,SNR=2.1						
TORD	**Torodi Ar. Bea**	**151.21**	**288**	PKPbc	**PKiKP**	**14 48 17.5**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=50,slow=3.2,SNR=15						

*NEIC **05** 14:46:40.8±2.2, 35°.97N±0°.06×140°.09E±0°.09, h73km±9km, mb4.2/19, Error ellipse: s-maj=10.9km s-min=8.2km az=115.0*
*IDC **05** 14:46:40.6±1.4, 35°.94N×140°.12E, h73km±12km, mb3.5/16, mbtmp3.8/20, Error ellipse: s-maj=17.6km s-min=8.0km az=67.0*
*NIED **05** 14:46:41.3, 36°.03N×140°.09E, h60km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}5.78; $M_{\theta\theta}$-0.36; $M_{\phi\phi}$-5.42; $M_{r\theta}$0.01; $M_{\theta\phi}$-0.98; $M_{\phi r}$3.15; Fault plane solution: $M_0$6.51000×10¹⁴ NP1:ϕ₁6.00000°, δ59.00000°, λ85.00000°. NP2:ϕ₂195.00000°, δ31.00000°, λ98.00000°.*
*JMA **05** 14:46:41.3±0.1, 36°.0N±0°.4×140°.1E±0°.6, h60km±1km, MV3.7/38, SOUTHERN IBARAKI PREF*
JMA Felt II J1 at SOUTHERN IBARAKI PREF .
ISC 05 14:46:40.2±0.8, 36°.02N±0°.04×140°.10E±0°.05, h69km±7km, n80, σ1s12/90, mb4.1/26, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JYT	**Yasato**	**0.22**	**21**	*i* P	**Pn**	**14 46 51.0**	**+0.2**
JYT				S	**Sn**	**14 46 58.2**	**-0.3**
JIHU	**Itakohorinouch**	**0.35**	**99**	*i* P	**Pn**	**14 46 52.3**	**+0.7**
TOK	**Tokyo**	**0.43**	**220**	P	**Pn**	**14 46 54.0**	**+1.8**
JAG	**Ashikaga**	**0.66**	**308**	⇓*i* P	**Pn**	**14 46 55.1**	**+0.5**
JAG				⇓S	**Sn**	**14 47 05.3**	**+0.2**
JRY	**Ryogami san**	**0.97**	**270**	⇓*i* P	**Pn**	**14 46 58.9**	**+0.6**
JRY				⇓S	**Sn**	**14 47 12.5**	**+0.8**
JKT	**Katashina**	**1.01**	**318**	⇓*i* P	**Pn**	**14 46 59.3**	**+0.4**
JKT				⇓S	**Sn**	**14 47 13.6**	**+0.8**
JOD2	**Odawara 2**	**1.12**	**228**	⇓*i* P	**Pn**	**14 47 00.4**	**+0.2**
JOD2				⇓S	**Sn**	**14 47 14.2**	**-0.9**
JYN	**Shimob**	**1.37**	**248**	⇓*i* P	**Pn**	**14 47 04.3**	**+0.9**
JYN				⇓S	**Sn**	**14 47 21.3**	**+0.5**
JIM2	**Oshima 3**	**1.41**	**203**	S	**Sn**	**14 47 20.6**	**-1.2**
JFNN	**Fujinakano**	**1.42**	**235**	*i* P	**Pn**	**14 47 04.6**	**+0.5**
JFNN				S	**Sn**	**14 47 21.8**	**-0.1**
JFY	**Yanaizu**	**1.42**	**347**	⇓P	**Pn**	**14 47 05.0**	**+0.9**
JFK	**Kawauchi**	**1.48**	**25**	P	**Pn**	**14 47 05.4**	**+0.4**
MJAR	**Matsushiro Arr**	**1.61**	**289**	P	**Pn**	**14 47 07.6**	**+1.0**
	113nm,0.3s,baz=88,slow=13,SNR=1554						
MJAR				S	**Sn**	**14 47 27.8**	**+1.2**
	28nm,0.3s,baz=131,slow=13,SNR=3.6						
MJAR				LR	LR	14 47 59.1	
	comp=Z,89nm,21.4s,baz=82,slow=47						
MAJO	**Matsushiro**	**1.61**	**289**	P	**Pn**	**14 47 08.1**	**+1.4**
MAJO	**Matsushiro**	**1.61**	**289**		**Pn**	**14 47 07.3**	**+0.6**
MJB9	**Matsu-Tunnel**	**1.62**	**289**		**Pn**	**14 47 09.0**	**+2.2**
JMM	**Marumori**	**1.92**	**17**	P	**Pn**	**14 47 12.2**	**+1.4**
JMM	**Marumori**	**1.92**	**17**		**Pn**	**14 47 11.7**	**+0.9**
JSG	**Sagara**	**2.06**	**230**	P	**Pn**	**14 47 14.3**	**+1.6**
JSG	**Sagara**	**2.06**	**230**		**Pn**	**14 47 14.1**	**+1.4**
JGF	**Kuroka**	**2.27**	**260**	P	**Pn**	**14 47 17.5**	**+2.0**
JGF	**Kuroka**	**2.27**	**260**		**Pn**	**14 47 17.2**	**+1.8**
JSD	**Sado**	**2.49**	**324**	P	**Pn**	**14 47 19.7**	**+1.2**
JSD	**Sado**	**2.49**	**324**	Pn	**Pn**	**14 47 19.5**	**+1.0**
JHJ	**Hachijo jima 2**	**2.91**	**185**	P	**Pn**	**14 47 24.6**	**+0.4**
	67nm,0.3s,baz=323,slow=20,SNR=19						
JHJ				S	**Sn**	**14 47 56.4**	**-1.6**
	145nm,0.3s,baz=81,slow=24,SNR=9.5						
JHJ2	**Mitsune**	**2.91**	**185**	P	**Pn**	**14 47 25.3**	**+1.1**
JHJ2	**Mitsune**	**2.91**	**185**	Pn	**Pn**	**14 47 25.0**	**+0.8**
JTM	**Tenmabayashi**	**4.82**	**9**	Pn	**Pn**	**14 47 52.2**	**+2.0**
JMN	**Monobe**	**5.60**	**248**	P	**Pn**	**14 48 02.4**	**+1.4**
JMN	**Monobe**	**5.60**	**248**	Pn	**Pn**	**14 48 02.3**	**+1.3**
ERM	**Erimo**	**6.44**	**21**	P	**Pn**	**14 48 12.8**	**+0.4**
ERM	**Erimo**	**6.44**	**21**	Pn	**Pn**	**14 48 10.8**	**-1.5**
JEM	**Erimo**	**6.44**	**21**	P	**Pn**	**14 48 14.6**	**+2.2**
JNU	**Nakatsue**	**8.13**	**252**	Pn	**Pn**	**14 48 36.6**	**+1.0**
JNU	**Nakatsue**	**8.13**	**252**	P	**Pn**	**14 48 36.7**	**+1.1**
	5.6nm,0.9s,baz=44,slow=5.7,SNR=6.8						
ASAJ	**Asahikawa**	**8.31**	**13**	P	**Pn**	**14 48 37.6**	**-0.3**
	1.9nm,0.5s,baz=221,slow=8.5,SNR=5.4						
ASAJ				S	**Sn**	**14 50 08.0**	**-2.2**
	2.6nm,0.6s,baz=204,slow=33,SNR=1.3						
JKA	**Kamikawa-asahi**	**8.31**	**13**	Pn	**Pn**	**14 48 37.4**	**-0.5**
KSRS	**Korea Array**	**9.88**	**282**	P	**Pn**	**14 48 57.5**	**-1.8**
	2.4nm,1.0s,baz=94,slow=14,SNR=7.1						
KS19	**Wonju Array Si**	**9.93**	**282**	Pn	**Pn**	**14 48 57.2**	**-2.8**
USRK	**Ussuriysk Ar.**	**10.26**	**325**	P	**Pn**	**14 49 06.3**	**+1.8**
	1.9nm,0.8s,baz=142,slow=15,SNR=3.9						
NACB	**Ninganchiao**	**19.85**	**239**	P	**P**	**14 51 05.3**	**-0.4**
NACB				IAmb	IAmb	14 51 46.8	
	comp=Z,15nm,0.9s						
TPUB	**Ta-pu**	**21.09**	**238**	P	**P**	**14 51 16.2**	**-2.9**
TPUB				IAmb	IAmb	14 51 27.8	
	comp=Z,20nm,1.2s						
ENH	**Enshi**	**26.20**	**266**	P	**P**	**14 52 07.5**	**-1.0**
SONM	**Songino Array**	**27.50**	**306**	P	**P**	**14 52 19.9**	**-0.2**
SONM	**Songino Array**	**27.50**	**306**	P	**P**	**14 52 19.8**	**-0.3**
	comp=Z,1.1nm,0.6s,baz=100,slow=8.7,SNR=5.2						
	comp=Z,1.1nm,0.6s						
CMAR	**Chiang Mai Arr**	**40.22**	**255**	P	**P**	**14 54 10.5**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=51,slow=7.1,SNR=1.9						
	comp=Z,0.3nm,0.4s						
ZAA0	**Zalesovo Array**	**41.82**	**313**	P	**P**	**14 54 23.1**	**+0.1**
ZAA0				IAmb	IAmb	14 54 24.9	
	comp=Z,2.6nm,0.8s						
ZALV	**Zalesovo Beam**	**41.82**	**313**	P	**P**	**14 54 22.5**	**-0.5**
ZALV	**Zalesovo Beam**	**41.82**	**313**	P	**P**	**14 54 23.0**	**0.0**
	comp=Z,1.1nm,0.4s,baz=98,slow=7.6,SNR=9.4						
	comp=Z,1.1nm,0.4s						
MK31	**Makanchi Array**	**43.77**	**303**	P	**P**	**14 54 38.5**	**-0.4**
MKAR	**Makanchi Array**	**43.77**	**303**	P	**P**	**14 54 38.4**	**-0.5**
MKAR	**Makanchi Array**	**43.77**	**303**	P	**P**	**14 54 39.5**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=92,slow=9.2,SNR=17						
	comp=Z,1.8nm,0.7s						
C18K	**Utukok River**	**45.65**	**26**	P	**P**	**14 54 53.5**	**-0.1**
KURK	**Kurchatov**	**45.73**	**309**	P	**P**	**14 54 54.1**	**-0.3**
KURBB	**Kurchatov Arra**	**45.80**	**309**	P	**P**	**14 54 55.1**	**+0.2**
	comp=Z,3.5nm,0.7s,baz=85,slow=8.1,SNR=26						
	comp=Z,3.5nm,0.7s						
B21K	**Ikpikpuk River**	**48.16**	**25**	P	**P**	**14 55 12.4**	**-0.6**
B21K				IAmb	IAmb	14 55 16.0	
	comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**50.47**	**313**	P	**P**	**14 55 31.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=83,slow=7.2,SNR=5.8						
	comp=Z,0.9nm,0.5s						
ILAR	**Eielson Array**	**50.91**	**32**	P	**P**	**14 55 35.0**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=268,slow=5.7,SNR=11						
	comp=Z,0.7nm,0.7s						
BMAR	**Burnt Mountain**	**51.73**	**28**	P	**P**	**14 55 41.6**	**+1.4**
E27K	**Coleen River**	**52.81**	**27**	P	**P**	**14 55 50.4**	**+2.3**
E27K				IAmb	IAmb	14 56 16.4	
	comp=Z,3.7nm,1.4s						
I28M	**Miner Creek**	**53.78**	**31**	P	**P**	**14 55 56.5**	**+1.1**
I28M				IAmb	IAmb	14 56 38.3	
	comp=Z,5.0nm,1.4s						
E29M	**Blow River**	**54.15**	**27**	P	**P**	**14 55 59.7**	**+1.8**
G29M	**Pine Creek**	**54.32**	**29**	P	**P**	**14 56 00.8**	**+1.5**
G29M				IAmb	IAmb	14 56 02.4	
	comp=Z,3.5nm,1.0s						
G30M	**tAoh Zraii Nji**	**55.01**	**28**	P	**P**	**14 56 05.4**	**+1.1**
G30M				IAmb	IAmb	14 56 16.8	
	comp=Z,4.8nm,1.4s						
INK	**Inuvik**	**55.77**	**27**	P	**P**	**14 56 10.1**	**+0.6**
INK				IAmb	IAmb	14 56 36.0	
	comp=Z,3.1nm,1.5s						
G31M	**Satah River**	**55.78**	**28**	P	**P**	**14 56 10.0**	**+0.4**
F31M	**Tsiigehtchic**	**55.87**	**28**	P	**P**	**14 56 10.4**	**+0.1**
F31M				IAmb	IAmb	14 56 27.8	
	comp=Z,3.2nm,1.4s						
WR0	**Warramunga Arr**	**55.92**	**186**	P	**P**	**14 56 10.8**	**-0.5**
WRA	**Warramunga Arr**	**55.92**	**187**	P	**P**	**14 56 11.1**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=0.8,slow=7.5,SNR=9.1						
	comp=Z,0.5nm,0.4s						
ABKAR	**Akbulak array**	**57.78**	**310**	P	**P**	**14 56 23.4**	**-0.7**
ABKAR	**Akbulak array**	**57.78**	**310**	P	**P**	**14 56 24.0**	**-0.1**
ABKAR				IAmb	IAmb	14 56 25.0	
	comp=Z,1.9nm,1.1s						
ASAR	**Alice Springs**	**59.65**	**187**	P	**P**	**14 56 37.2**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=10,slow=7.9,SNR=5.8						
	comp=Z,0.6nm,0.7s						
GEYT	**Alibeck**	**63.40**	**299**	P	**P**	**14 57 02.5**	**-0.1**
	comp=Z,1.0nm,0.5s,baz=87,slow=4.9,SNR=2.5						
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**64.57**	**339**	P	**P**	**14 57 09.9**	**+0.2**
	comp=Z,2.4nm,0.9s,baz=54,slow=6.2,SNR=4.4						
	comp=Z,2.4nm,0.9s						
YKA	**Yellowknife Ar**	**65.21**	**30**	P	**P**	**14 57 14.7**	**+0.8**
	comp=Z,0.1nm,0.6s,baz=309,slow=7.9,SNR=2.2						
	comp=Z,0.1nm,0.6s						
FINES	**FINESS Array B**	**69.21**	**332**	P	**P**	**14 57 39.2**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=39,slow=7.3,SNR=4.1						
	comp=Z,0.9nm,0.7s						
AKASG	**Malin Array Be**	**74.44**	**322**	P	**P**	**14 58 10.4**	**-0.4**
	comp=Z,0.4nm,0.2s,baz=49,slow=5.9,SNR=4.1						
	comp=Z,0.4nm,0.2s						
NB2	**NORSAR Subarra**	**74.70**	**337**	P	**P**	**14 58 12.1**	**-0.1**
	comp=Z,1.9nm,0.9s,baz=39,slow=6.2						
NOA	**NORSAR Array B**	**74.70**	**337**	P	**P**	**14 58 11.8**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=27,slow=4.1,SNR=4.3						
	comp=Z,0.4nm,0.6s						
TXAR	**Lajitas Array**	**91.58**	**52**	P	**P**	**14 59 40.0**	**+0.1**
	comp=Z,0.2nm,0.7s,baz=309,slow=6.3,SNR=2.4						
	comp=Z,0.2nm,0.7s						

*NAO **05** 14:57:38.7±0.8, 71°.04N×8°.17W, h24km±15km, ML3.2*
BER 05 14:57:39.6±3.1, 71°.21N×8°.26W, h5km, mb(Pn)4.1, ML3.2, ML3.2(NAO), 3D, Confirmed Earthquake, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JNW	**Jan Mayen West**	**0.19**	**197**	⇓*i* P	Pg	14 57 43.3	+0.1
JNW				*e*S	Sg	14 57 46.6	+0.9
JNW				IAML		14 57 48.9	
	comp=Z,4μm,0.4s						
JNE	**Jan Mayen East**	**0.22**	**183**	*i* P	Pg	14 57 43.2	-0.6
JNE				*e*S	Sg	14 57 46.0	-0.7
JNE				IAML		14 57 50.0	
	comp=Z,3μm,0.3s						
JMIC	**Jan Mayen**	**0.23**	**200**	Pg	Pg	14 57 43.8	-0.3
JMIC				Lg	Lg	14 57 47.5	
JMIC	**Jan Mayen**	**0.23**	**200**	⇓*i* P	Pg	14 57 43.8	-0.4
JMIC				*e*S	Sg	14 57 47.6	+0.3
JMIC				IAML		14 57 50.8	
	comp=Z,7μm,0.4s						
JMI	**Jan Mayen**	**0.32**	**209**	Pg	Pg	14 57 45.4	-0.4
JMI				Lg	Lg	14 57 50.3	
JMI	**Jan Mayen**	**0.32**	**209**	⇓*i* P	Pg	14 57 45.4	-0.3
JMI				*e*S	Sg	14 57 50.3	+0.4

NUBE IAML 15 03 16.2
comp=Z,393nm,0.1s
NUBE Las Nubes 0.12 232 *i* P **Pg 15 03 14.6 -0.4**
NUBE IAML 15 03 14.6
comp=Z,2µm,1.0s
UNIC Universidad Ca 0.13 88 *i* P **Pg 15 03 15.7 +0.7**
UNIC IAML 15 03 18.3
comp=Z,280nm,1.0s
SNJE San Jose 0.13 146 *e*P **Pg 15 03 15.2 0.0**
SNJE *e*S **Sg 15 03 17.4 -0.3**
SBLS San Blas 0.15 157 *e*P **Pg 15 03 14.8 -0.6**
CEVE Cerro Verde 0.16 159 *i* P **Pg 15 03 15.3 -0.3**
CEVE IAML 15 03 18.9
comp=Z,650nm,1.0s
JAYA Jayaque - finc 0.39 145 *i* P **Pg 15 03 19.8 +0.4**
JAYA *e*S **Sg 15 03 25.3 +0.5**
JAYA IAML 15 03 26.9
comp=Z,322nm,0.2s
JAYA Jayaque - finc 0.39 145 *i* P **Pg 15 03 19.8 +0.4**
JAYA IAML 15 03 26.7
comp=Z,810nm,1.0s
MTO3 Montecristo 0.52 37 *e*P **Pg 15 03 23.4 +1.6**
MTO3 Montecristo 0.52 37 *i* P **Pg 15 03 18.9 -3.0**
MTO3 IAML 15 03 35.7
comp=Z,55nm,1.0s

IDC ***05*** *15:04:40.9±0.9,28°.01N×87°.40E,h0km,mb3.6/11, mbtmp3.5/13,ML3.4/1,MS3.2/1,Error ellipse: s-maj=36.4km s-min=18.0km az=57.0*

ISC 05 15:04:42.4±0.9,28°.0N±0°.2×87°.5E±0°.2,h10km,n14, σ0s79/13,mb3.6/11,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**14.19**	**130**	Pn	**Pn**	**15 08 02.8**	**-0.8**
	0.3nm,0.7s,baz=314,slow=12,SNR=1.7						
MKAR	**Makanchi Array**	**19.18**	**349**	P	**Pn**	**15 09 06.1**	**-0.9**
	0.1nm,0.3s,baz=165,slow=10,SNR=4.7						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**23.58**	**346**	P	**P**	**15 09 53.4**	**+0.4**
	0.5nm,0.7s,baz=162,slow=9.5,SNR=3.5						
	0.5nm,0.7s						
SONM	**Songino Array**	**24.66**	**32**	P	**P**	**15 10 03.4**	**-0.1**
	0.5nm,0.4s,baz=230,slow=5.2,SNR=1.2						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**25.98**	**356**	P	**P**	**15 10 15.1**	**0.0**
	0.8nm,0.6s,baz=170,slow=9.0,SNR=3.9						
	0.8nm,0.6s						
FINES	**FINESS Array B**	**52.18**	**328**	P	**P**	**15 13 51.9**	**-1.1**
	0.5nm,0.5s,baz=104,slow=8.4,SNR=4.2						
	0.5nm,0.5s						
ARCES	**ARCESS Array B**	**54.30**	**338**	P	**P**	**15 14 08.2**	**-0.3**
	4.8nm,1.2s,baz=88,slow=7.6,SNR=1.6						
	4.8nm,1.2s						
VRAC	**Vranov**	**57.12**	**313**	LR	LR	15 43 47.5	
	comp=Z,22nm,19.5s,baz=231,slow=41						
HFS	**Hagfors**	**58.12**	**326**	P	**P**	**15 14 35.4**	**-0.5**
	1.0nm,0.7s,baz=36,slow=2.7,SNR=1.8						
	1.0nm,0.7s						
WRA	**Warramunga Arr**	**65.78**	**131**	P	**P**	**15 15 28.6**	**+0.6**
	0.3nm,0.7s,baz=326,slow=6.6,SNR=5.6						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**68.15**	**134**	P	**P**	**15 15 43.4**	**+0.4**
	0.3nm,0.7s,baz=328,slow=6.5,SNR=7.0						
	0.3nm,0.7s						
ESDC	**Sonseca Array**	**73.74**	**307**	P	**P**	**15 16 17.8**	**+0.9**
	0.2nm,0.3s,baz=71,slow=6.9,SNR=1.9						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**78.38**	**21**	P	**P**	**15 16 44.1**	**+1.3**
	0.3nm,0.9s,baz=316,slow=7.5,SNR=2.0						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**80.27**	**280**	P	**P**	**15 16 53.7**	**-0.3**
	0.3nm,0.9s,baz=28,slow=6.0,SNR=1.8						
	0.3nm,0.9s						

NEIC ***05*** *15:21:37.6±0.6,19°.298N±0°.006×155°.39W±0°.01, h3km±12km,Error ellipse: s-maj=1.6km s-min=0.6km az=119.0*

HVO 05 15:21:37.0±0.6,19°.292N±0°.009×155°.387W±0°.007, h4km±6km,ML2.6/12,ML2.5/14(NEIC),Error ellipse: s-maj=1.3km s-min=1.1km az=185.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.06**	**191**		Pg	15 21 39.0	+0.7
HLP	**Hilina Pali**	**0.07**	**87**	Pg	Pg	15 21 38.6	-0.1
HLP				IAML		15 21 41.2	
	comp=N,5µm,0.1s						
WRMHI	**West Rim**	**0.14**	**36**		Pg	15 21 40.2	+0.4
WRMHI					Sg	15 21 42.6	+0.9
WRMHI	**West Rim**	**0.14**	**36**	IAML		15 21 43.4	
	comp=E,2µm,0.4s						
WRMHI				IAML		15 21 44.3	
	comp=N,2µm,0.4s						
PUH	**Pauahi**	**0.18**	**63**		Pg	15 21 40.8	+0.2
PUH					Sg	15 21 43.6	+0.6
PUH	**Pauahi**	**0.18**	**63**	IAML		15 21 45.9	
	comp=N,529nm,0.5s						
PUH				IAML		15 21 46.9	
	comp=E,814nm,0.5s						
KHU	**Kahuku**	**0.22**	**258**		Pg	15 21 41.4	+0.1
KHU				IAML		15 21 46.1	
	comp=E,504nm,1.2s						
KNHH	**Kane Nui o Ham**	**0.22**	**67**		Pg	15 21 41.5	+0.2
MWH	**Moku'aweowe**	**0.28**	**314**	Pg	Pg	15 21 42.8	+0.3
MWH				IAML		15 21 50.2	
	comp=E,760nm,0.6s						
MWH				IAML		15 21 51.5	
	comp=N,631nm,0.6s						
HMH	**Humu'ula Sheep**	**0.32**	**344**	Pg	Pg	15 21 43.6	+0.3
HMH				IAML		15 21 48.7	
	comp=N,408nm,0.3s						
HUH	**Hualalai**	**0.58**	**313**		Pg	15 21 48.3	+0.2

NEIC ***05*** *15:40:53.6±1.9,51°.67N±0°.05×16°.16E±0°.07,h5km±2km, ML3.4/16,Error ellipse: s-maj=9.7km s-min=7.3km az=205.0*
MCSM ***05*** *15:40:54.6±0.4,52°.N±5°.×1°.6E±°,h10km,mb3.9,MLv4.1*
IPEC ***05*** *15:40:54.0±0.2,51°.62N×16°.21E,h1km,ML3.5/4,Error ellipse: s-maj=2.0km s-min=1.2km az=36.0*
IDC ***05*** *15:40:55.3±0.5,51°.56N×16°.02E,h0km,mb3.4/10, mbtmp3.4/17,ML3.1/7,Error ellipse: s-maj=8.7km s-min=5.1km az=104.0*
LDG ***05*** *15:40:56.6±0.2,51°.57N×16°.08E,h1km,Ml3.8/19,Error ellipse: s-maj=5.5km s-min=3.0km az=179.0,Suspected Mining induced.*
BGR ***05*** *15:40:56.7±0.2,51°.50N×16°.10E,h1km,ML3.6/10,Error ellipse: s-maj=3.3km s-min=2.2km az=18.0*
UPP ***05*** *15:40:57.5±3.3,51°.70N×15°.27E,h0km,ML2.2*
VIE ***05*** *15:40:57.8±0.8,51°.38N×16°.04E,h0km,mb3.1/22, ml3.3/17,ms3.7/4,Error ellipse: s-maj=9.2km s-min=3.3km az=52.0,Suspected Mining induced.*
PRU ***05*** *15:40:57.8,51°.48N×16°.08E,h0km*
DNK ***05*** *15:41:26.2±3.3,53°.90N×14°.37E,h0km,ML2.6,Suspected explosion*

ISC 05 15:40:54.2±0.4,51°.58N±0°.02×16°.06E±0°.02,h0km,n199, σ1s78/290,mb3.5/10,Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.99**	**180**	*e*PG	**Pg**	**15 41 14.2**	**+1.0**
CHVC				*e*SG	**Sg**	**15 41 27.6**	**+1.5**
OSTC	**Ostas**	**1.03**	**175**	*e*PG	**Pg**	**15 41 14.8**	**+0.9**
OSTC				*e*SG	**Sg**	**15 41 27.8**	**+0.5**
	comp=Z,401nm,0.7s						
UPC	**Upice**	**1.07**	**182**	*e*PG	**Pg**	**15 41 15.5**	**+0.7**
UPC				*e*SG	**Sg**	**15 41 29.5**	**+0.8**
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*PG	**Pg**	**15 41 18.5**	**+0.5**
DPC				*e*SG	**Sg**	**15 41 33.9**	**-0.2**
	comp=Z,495nm,0.8s						
DPC	**Dobruska-Polom**	**1.24**	**172**	*e*Pg	**Pg**	**15 41 18.2**	**+0.2**
PVCC	**Panska Ves**	**1.41**	**222**	*e*PG	**Pb**	**15 41 22.1**	**+0.7**
PVCC				*e*SG	**Sn**	**15 41 41.8**	**+1.3**
	comp=Z,703nm,0.3s						
PVCC	**Panska Ves**	**1.41**	**222**	*e*Pn	**Pg**	**15 41 21.9**	**+0.6**
	SNR=2.7						
PVCC				*e*Pg	**Pb**	**15 41 22.6**	**+1.2**
BRG	**Berggiesshubel**	**1.51**	**243**	Pn	**Pn**	**15 41 22.5**	**+0.1**
BRG				Pg	**Pg**	**15 41 24.5**	**+1.4**
BRG				Sg	**Sn**	**15 41 44.7**	**+1.9**
BRG				Amp		15 41 46.9	
	comp=Z,315nm,0.4s						
BRG	**Berggiesshubel**	**1.51**	**243**	*e*Pn	**Pn**	**15 41 22.9**	**+0.5**
	SNR=2.7						
BRG				*e*Pg	**Pg**	**15 41 24.0**	**+0.9**
BRG				*e*Sg	**Sn**	**15 41 44.8**	**+1.9**
	SNR=3.2						
KRLC	**Kraliky**	**1.57**	**163**	*e*PG	**Pn**	**15 41 23.4**	**0.0**
KRLC				*e*SG	**Sn**	**15 41 44.1**	**-0.4**
	comp=Z,234nm,0.4s						
RUE	**Ruedersdorf**	**1.67**	**303**	*e*P	**Pn**	**15 41 25.3**	**+0.6**
RUE	**Ruedersdorf**	**1.67**	**303**	*e*Sg	**Sg**	**15 41 50.7**	**+2.8**
	SNR=2.8						
PRA	**Prague**	**1.83**	**215**	*e*PN	**Pn**	**15 41 27.5**	**+0.6**
GKP	**Gorka Klasztor**	**1.84**	**23**	*e*P	**Pg**	**15 41 33.0**	**+3.5**
GKP	**Gorka Klasztor**	**1.84**	**23**	*e*Pg	Pg	15 41 34.4	+5.0
GOPC	**GO Pecny, Ondr**	**1.85**	**206**	*e*PN	**Pn**	**15 41 27.8**	**+0.5**
GOPC				*e*PG	**Pb**	**15 41 29.5**	**+0.5**
PRU	**Pruhonice**	**1.86**	**212**	*e*PG	**Pb**	**15 41 29.7**	**+0.6**
PRU				*e*SG	**Sb**	**15 41 53.7**	**+0.8**
	comp=Z,243nm,0.6s						
PRU	**Pruhonice**	**1.86**	**212**	*e*Pn	**Pn**	**15 41 27.6**	**+0.3**
	SNR=7.5						
HSKC	**Hora Svate Kat**	**1.92**	**241**	*e*PG	**Pb**	**15 41 30.6**	**+0.5**
HSKC				*e*SG	**Sg**	**15 41 55.9**	**0.0**
CLL	**Collm**	**1.93**	**263**	Pn	**Pn**	**15 41 28.5**	**+0.2**
CLL				Sg	**Sg**	**15 41 58.3**	**+2.1**
CLL				IAML		15 42 02.9	
	comp=N,266nm,0.6s						
CLL				IAML		15 42 05.4	
	comp=E,193nm,0.7s						
CLL	**Collm**	**1.93**	**263**	*i* Pn	**Pn**	**15 41 28.4**	**+0.2**
	comp=Z,41nm,0.4s						
CLL				*e*Pg	**Pg**	**15 41 32.0**	**+0.8**
CLL				*i* x	x	15 41 35.5	
CLL				*e*Sg	**Sg**	**15 41 58.0**	**+1.7**
	comp=Z,181nm,0.4s						
CLL	**Collm**	**1.93**	**263**	*e*Pn	**Pn**	**15 41 28.5**	**+0.2**
	SNR=7.2						
CLL				*e*Pg	**Pg**	**15 41 32.3**	**+1.0**
CLL				*e*Sg	**Sg**	**15 41 58.0**	**+1.7**
	SNR=2.7						
CLL	**Collm**	**1.93**	**263**	Pn	**Pn**	**15 41 28.2**	**-0.1**
RAC	**Raciborz**	**2.02**	**137**	*e*PG	**Pb**	**15 41 32.9**	**+1.2**
RAC				*e*SG	**Sg**	**15 41 59.7**	**+0.7**
MORC	**Moravsky Berou**	**2.04**	**152**	Pn	**Pn**	**15 41 29.2**	**-0.6**
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**15 41 29.0**	**-0.8**
	baz=336						
MORC				*e*Sg	**Sn**	**15 41 57.7**	**+1.8**
	comp=Z,238nm,0.8s,baz=336						
MORC	**Moravsky Berou**	**2.04**	**152**	*e*Pn	**Pn**	**15 41 29.5**	**-0.3**
	SNR=25						
MORC				*e*Sg	**Sb**	**15 41 58.9**	**+0.9**
	SNR=3.4						
OKC	**Ostrava-Krasne**	**2.19**	**142**	*e*Pn	**Pn**	**15 41 30.8**	**-1.0**
	SNR=2.5						
OKC				*e*Pg	**Pb**	**15 41 35.9**	**+1.2**
VRAC	**Vranov**	**2.30**	**171**	Pn	**Pn**	**15 41 34.1**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=330,slow=16,SNR=31						
VRAC				Pg	**Pg**	**15 41 38.5**	**+0.2**
	comp=Z,9.9nm,0.3s,baz=352,slow=16,SNR=15						
VRAC				Lg	Lg	15 42 06.9	
	comp=Z,17nm,0.3s,baz=278,slow=17,SNR=13						
	comp=Z,23nm,0.3s						
VRAC	**Vranov**	**2.30**	**171**	*e*Pn	**Pn**	**15 41 33.4**	**0.0**
	baz=354						
VRAC				*e*Sg	**Sb**	**15 42 07.0**	**+1.5**
	comp=Z,208nm,0.9s,baz=354						
VRAC	**Vranov**	**2.30**	**171**	*e*Pn	**Pn**	**15 41 33.8**	**+0.4**
	SNR=2.2						
VRAC				*e*Pg	**Pb**	**15 41 38.0**	**+1.5**
TREC	**Trest**	**2.32**	**189**	*e*Pn	**Pn**	**15 41 34.3**	**+0.6**
	SNR=4.1						
KRUC	**Moravsky**	**2.53**	**175**	*e*Pn	**Pn**	**15 41 36.6**	**+0.1**
	baz=358						
KRUC				*e*Sg	**Sb**	**15 42 14.0**	**+1.9**
	comp=Z,208nm,1.0s,baz=358						
KRUC	**Moravsky**	**2.53**	**175**	*e*Pn	**Pn**	**15 41 36.9**	**+0.4**
	SNR=13						
TANN	**Tannenbergstha**	**2.56**	**244**	*e*Pn	**Pn**	**15 41 37.7**	**+0.8**
	SNR=16						
TANN				*e*Sg	**Sg**	**15 42 17.3**	**+1.1**
	SNR=5.3						
NKC	**Novy Kostel**	**2.66**	**241**	*e*PN	**Pn**	**15 41 39.2**	**+0.9**
NKC				*e*PG	**Pg**	**15 41 45.6**	**+0.5**
NKC				*e*SG	**Sg**	**15 42 21.1**	**+1.6**
	comp=Z,225nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**241**	*e*Pn	**Pn**	**15 41 39.2**	**+0.9**
	SNR=18						
PLN	**Plauen**	**2.70**	**248**	*e*Pn	**Pn**	**15 41 39.4**	**+0.6**
	SNR=6.5						
PLN				*e*Sg	**Sg**	**15 42 22.1**	**+1.3**
	SNR=3.4						
NEUB	**Neuenburg**	**2.71**	**264**	*e*Sg	**Sg**	**15 42 23.9**	**+2.7**
	SNR=4.7						
OJC	**Ojcow**	**2.73**	**118**	*e*Pn	**Pn**	**15 41 38.7**	**-0.6**
OJC				*e*Pg	**Pb**	**15 41 45.1**	**+1.2**
OJC				*e*Sg	**Sb**	**15 42 20.9**	**+3.0**
OJC	**Ojcow**	**2.73**	**118**	Pn	**Pn**	**15 41 37.0**	**-2.2**
OJC				IAML		15 42 29.9	
	comp=N,204nm,0.6s						
OJC				IAML		15 42 35.1	
	comp=E,148nm,0.8s						
OJC	**Ojcow**	**2.73**	**118**	*e*Pg	**Pb**	**15 41 45.7**	**+1.8**
OJC				*e*Sg	**Sg**	**15 42 21.4**	**-0.5**
	SNR=4.7						
OJC	**Ojcow**	**2.73**	**118**	Pn	**Pn**	**15 41 38.7**	**-0.6**
JAVC	**Velka Javorina**	**2.91**	**159**	*e*Pn	**Pn**	**15 41 41.7**	**-0.2**
	baz=342						
JAVC	**Velka Javorina**	**2.91**	**159**	*e*Pn	**Pn**	**15 41 43.6**	**+1.7**
	SNR=12						
KHC	**Kasperske Hory**	**2.92**	**214**	Pn	**Pn**	**15 41 42.3**	**+0.4**
KHC				IAML		15 42 36.1	
	comp=N,75nm,0.6s						
KHC				IAML		15 42 39.5	
	comp=E,89nm,0.9s						
KHC	**Kasperske Hory**	**2.92**	**214**	*e*SN	**Sn**	**15 42 18.5**	**+0.7**
KHC				*e*PN	**Pn**	**15 41 42.6**	**+0.6**
KHC				*e*PG	**Pb**	**15 41 48.9**	**+1.7**
KHC				*e*SG	**Sg**	**15 42 28.2**	**+0.1**
	comp=E,92nm,0.6s						
KHC	**Kasperske Hory**	**2.92**	**214**	Pn	**Pn**	**15 41 42.2**	**+0.2**
KHC				Sn	**Sn**	**15 42 19.1**	**+1.3**
MOX	**Moxa**	**2.95**	**253**	*e*Pn	**Pn**	**15 41 43.0**	**+0.6**
	SNR=7.5						
MANZ	**Manzenberg**	**2.97**	**239**	*e*Pn	**Pn**	**15 41 43.7**	**+1.1**
	SNR=14						
MANZ				*e*Sg	**Sg**	**15 42 30.8**	**+1.1**
	SNR=5.6						
CKRC	**Cesky Krumlov**	**2.98**	**203**	*e*PG	**Pb**	**15 41 50.0**	**+1.8**
CKRC				*e*SG	**Sb**	**15 42 28.0**	**+2.8**
	comp=E,235nm,0.9s						
CKRC	**Cesky Krumlov**	**2.98**	**203**	*e*Pn	**Pn**	**15 41 43.8**	**+1.1**
	SNR=14						
ROTZ	**Rotzenmuhle**	**3.05**	**235**	*e*Pn	**Pn**	**15 41 44.5**	**+0.9**
	SNR=17						
GEC2	**GERESS Array S**	**3.13**	**210**	Pn	**Pn**	**15 41 45.4**	**+0.6**
GEC2				IAML		15 42 37.9	
	comp=N,104nm,0.9s						
GEC2				IAML		15 42 46.5	
	comp=E,108nm,0.7s						
GEC2	**GERESS Array S**	**3.13**	**210**	*e*Pn	**Pn**	**15 41 45.9**	**+1.1**
	SNR=15						
GEC2				*e*Sg	**Sg**	**15 42 33.6**	**-1.1**
	SNR=2.6						
GERES	**GERESS Array B**	**3.13**	**210**		**Pn**	**15 41 45.2**	**+0.4**
GERES	**GERESS Array B**	**3.13**	**210**	Pn	**Pn**	**15 41 45.5**	**+0.7**
	comp=E,5.2nm,0.3s,baz=32,slow=13,SNR=77						
GERES				Pg	**Pb**	**15 41 52.0**	**+1.2**
	comp=E,14nm,0.3s,baz=32,slow=17,SNR=22						
GERES				Sn	**Sn**	**15 42 21.7**	**-1.3**
	comp=E,7.3nm,0.3s,baz=17,slow=28,SNR=6.4						
GERES				Lg	Lg	15 42 34.0	
	comp=E,17nm,0.3s,baz=30,slow=22,SNR=6.3						
	comp=E,8.1nm,0.3s						
WET	**Wettzell**	**3.18**	**221**	*e*Pn	**Pn**	**15 41 46.3**	**+0.8**
	SNR=16						
LANS	**Liptovska Anna**	**3.27**	**137**	*e*PG	**Pg**	**15 41 56.1**	**-0.7**
LANS				*e*SG	**Sb**	**15 42 37.0**	**+3.6**
MODS	**Modra-Piesok**	**3.31**	**166**	*e*PN	**Pn**	**15 41 47.9**	**+0.7**
MODS				*e*SG	**Sg**	**15 42 39.0**	**-1.3**
ASSE	**Asse, Remlinge**	**3.39**	**281**	*e*Pn	**Pn**	**15 41 49.8**	**+1.6**
	SNR=2.4						
ZST	**Bratislava**	**3.46**	**168**	*e*PG	**Pg**	**15 41 59.7**	**-0.7**
ZST				*e*SG	**Sg**	**15 42 44.0**	**-1.1**
NIE	**Niedzica**	**3.46**	**127**	*e*Pg	**Pg**	**15 41 59.6**	**-1.0**
NIE				*e*Sg	**Sg**	**15 42 44.6**	**-0.8**
NIE	**Niedzica**	**3.46**	**127**	Pn	**Pn**	**15 41 51.6**	**+2.2**
CLZ	**Clausthal**	**3.55**	**276**	*e*Pn	**Pn**	**15 41 52.1**	**+1.6**
	SNR=11						
VYHS	**Vyhne**	**3.57**	**149**	*e*PN	**Pn**	**15 41 50.5**	**-0.3**
VYHS				*e*PG	**Pg**	**15 42 04.1**	**+1.5**
BSD	**Bornholm Skovb**	**3.61**	**349**	*e*P	**Pn**	**15 41 50.2**	**-1.1**
BSD	**Bornholm Skovb**	**3.61**	**349**	*i* P	**Pn**	**15 41 50.3**	**-1.0**
BSD				*e*S	**Pg**	**15 42 07.4**	**+4.1**
BSD				IAML		15 43 04.2	
	comp=Z,28nm,0.8s						
GRA1	**Grafenberg Arr**	**3.62**	**240**		**Pn**	**15 41 52.6**	**+1.2**
GRF	**Grafenberg Arr**	**3.62**	**240**	*e*Pn	**Pn**	**15 41 52.8**	**+1.3**
	SNR=3.5						
GRFO	**Grafenberg**	**3.62**	**240**		**Pn**	**15 41 52.2**	**+0.8**
CONA	**Conrad Observa**	**3.66**	**182**	*e*Pn	**Pn**	**15 41 52.8**	**+0.7**
	comp=Z,3.6nm,0.2s,SNR=25						
CONA				*e*Pg	**Pg**	**15 42 04.2**	**-0.1**
	comp=Z,18nm,0.3s						
CONA				*e*Sg	**Sg**	**15 42 51.3**	**-0.3**
	comp=Z,90nm,0.6s						
NRDL	**Niedersach Rie**	**3.79**	**286**	*e*Pn	**Pn**	**15 41 55.6**	**+1.9**
	SNR=4.9						
RONA	**Rosalia, Austr**	**3.89**	**178**	*i* Pn	**Pn**	**15 41 55.6**	**+0.4**
	comp=Z,1.3nm,0.1s						
RONA				*e*Sg	**Sg**	**15 42 57.8**	**-1.3**
	comp=Z,91nm,0.7s						
MOA	**Molln**	**3.91**	**198**	*i* Pn	**Pn**	**15 41 56.2**	**+0.7**
	comp=Z,22nm,0.3s,SNR=33						
MOA				*e*Sg	**Sg**	**15 42 59.9**	**+0.1**
	comp=Z,145nm,0.7s						
STHS	**Stebnicka Huta**	**3.96**	**121**	*e*PN	**Pn**	**15 41 55.3**	**-0.8**
STHS				*e*PG	**Pg**	**15 42 09.4**	**-0.6**
STHS				*e*SG	**Sg**	**15 43 00.5**	**-0.7**
BIOA	**Bad Ischl, Aus**	**4.20**	**203**	*i* Pn	**Pn**	**15 42 00.3**	**+0.8**
	comp=Z,14nm,0.3s,SNR=11						
BIOA				Sg	**Sg**	**15 43 09.7**	**+0.7**
	comp=Z,111nm,0.6s						
KECS	**Kecovo**	**4.21**	**136**	*e*PN	**Pn**	**15 41 59.4**	**-0.2**
KECS				*e*PG	**Pg**	**15 42 15.6**	**+0.7**
KECS				*e*SG	**Sg**	**15 43 09.2**	**-0.3**
LUNU	**Lund**	**4.35**	**340**	P	**Pn**	**15 42 00.1**	**-1.3**
LUNU				S	**Sn**	**15 42 49.1**	**-3.6**
LUNU	**Lund**	**4.35**	**340**	*i* P	**Pn**	**15 42 00.0**	**-1.4**
LUNU				*i* S	**Pg**	**15 42 20.3**	**+2.8**
ARSA	**Arzberg**	**4.35**	**185**	*i* Pn	**Pn**	**15 42 03.1**	**+1.6**
	comp=Z,7.7nm,0.3s,SNR=7.5						
ARSA				Sg	**Sg**	**15 43 11.6**	**-2.3**
	comp=Z,76nm,0.8s						
CRVS	**Cervenica-Dubn**	**4.38**	**126**	*e*PG	**Pg**	**15 42 19.4**	**+1.3**
CRVS				*e*SG	**Sg**	**15 43 15.3**	**+0.4**
RJOB	**Jochberg**	**4.39**	**210**	*e*Pn	**Pn**	**15 42 04.0**	**+1.8**
	SNR=7.1						
LLD	**Lille Linde**	**4.41**	**330**	*i* S	Pg	15 42 25.8	+7.2
LLD				IAML		15 42 29.5	
	comp=Z,32nm,0.8s						
PSZ	**Piszkesteto**	**4.43**	**144**	Pn	**Pn**	**15 42 03.2**	**+0.5**
MPLH	**Magyarpolny**	**4.52**	**167**	Pn	**Pn**	**15 42 05.0**	**+1.2**
KWP	**Kalwaria Pacla**	**4.66**	**112**	Pn	**Pn**	**15 42 05.7**	**-0.1**
LESA	**Schwarzleotal**	**4.71**	**209**	*i* Pn	**Pn**	**15 42 07.2**	**+0.7**
	comp=Z,3.3nm,0.2s						
LESA				Sg	**Sg**	**15 43 26.3**	**+0.9**
	comp=Z,18nm,0.4s						
BLEU	**Blekinge**	**4.74**	**358**	*i* P	**Pn**	**15 42 06.1**	**-0.7**
KOLS	**Kolonicke sedl**	**4.79**	**121**	*e*PN	**Pn**	**15 42 07.0**	**-0.5**
KOLS				*e*PG	**Pg**	**15 42 27.9**	**+2.0**
KOLS				*e*SG	**Sg**	**15 43 28.9**	**+1.1**
KASTN	**Kahler Asten**	**4.80**	**268**	*e*Pn	**Pn**	**15 42 08.2**	**+0.4**
	SNR=9.2						
KBA	**Koelnbreinsper**	**4.84**	**203**	*i* Pn	**Pn**	**15 42 09.7**	**+1.2**
	comp=Z,15nm,0.4s,SNR=12						
KBA				Sg	**Sg**	**15 43 32.9**	**+3.1**
	comp=Z,78nm,0.7s						
SOKA	**Soboth**	**4.95**	**188**	*i* Pn	**Pn**	**15 42 11.8**	**+1.9**
	comp=Z,1.9nm,0.2s,SNR=5.2						
SOKA				Sg	**Sg**	**15 43 35.2**	**+2.0**
	comp=Z,34nm,0.9s						
TNS	**Taunus Mts**	**5.01**	**257**	*e*Pn	**Pn**	**15 42 11.3**	**+0.7**
	SNR=4.2						
DEL	**Delary**	**5.07**	**346**	*e*P	**Pn**	**15 42 10.2**	**-1.1**
DEL	**Delary**	**5.07**	**346**	P	**Pn**	**15 42 10.4**	**-0.9**
DEL	**Delary**	**5.07**	**346**	*i* P	**Pn**	**15 42 10.5**	**-0.8**
DEL				*i* S	Pg	15 42 36.9	+5.7
WATA	**Walderalm**	**5.16**	**216**	*i* Pn	**Pn**	**15 42 14.2**	**+1.5**
	comp=Z,4.9nm,0.2s,SNR=5.2						
WATA				Sg	**Sg**	**15 43 43.4**	**+3.6**
	comp=Z,24nm,0.5s						
OBKA	**Obir**	**5.17**	**192**	*i* Pn	**Pn**	**15 42 13.2**	**+0.3**
	comp=Z,1.6nm,0.3s						
OBKA				Sg	**Sg**	**15 43 42.4**	**+2.2**
	comp=Z,63nm,0.8s						
IBBN	**Ibbenburen**	**5.19**	**281**	*e*Pn	**Pn**	**15 42 14.5**	**+1.4**
	SNR=3.1						
WTTA	**Wattenberg**	**5.20**	**215**	*e*Pn	**Pn**	**15 42 15.0**	**+1.7**
	comp=Z,2.4nm,0.2s,SNR=5.5						
WTTA				*e*Sg	**Sg**	**15 43 44.8**	**+3.7**
	comp=Z,32nm,0.7s						
MYKA	**Terra Mystica**	**5.20**	**199**	*i* Pn	**Pn**	**15 42 14.0**	**+0.7**
	comp=Z,2.0nm,0.3s						
MYKA				*e*Sg	**Sg**	**15 43 42.1**	**+0.8**
	comp=Z,58nm,0.8s						
MOTA	**Moosalm**	**5.33**	**219**	*e*Pn	**Pn**	**15 42 16.1**	**+1.0**
	comp=Z,1.5nm,0.2s,SNR=5.8						
MOTA				Sg	**Sg**	**15 43 50.0**	**+4.6**
	comp=Z,51nm,0.8s						
RETA	**Reutte**	**5.

HAU *e*Sg **Sg** **15 44 43.6 -2.7**
comp=Z,51nm,0.8s

NACGM Naroch 7.24 58 *e*P **Pn** **15 42 40.2 -1.0**
comp=Z,9.0nm,0.7s,baz=249

GIVF Givet 7.27 263 *e*Sg **Sg** **15 44 44.0 -3.5**
comp=Z,2.0nm,0.2s

PAGF Fort de Pagny 7.31 250 *e*Pn **Pn** **15 42 40.5 -1.6**
PAGF *e*Sg **Sg** **15 44 45.4 -3.4**
comp=Z,25nm,0.7s

LUBAR Lubar, Ukraine 7.61 98 Pn **Pn** **15 42 45.6 -0.6**
SAVF Savonnieres en 7.63 251 *e*Pg **Pg** **15 43 17.2 -3.2**
SAVF *e*Sg **Sg** **15 44 56.5 -2.7**
comp=Z,61nm,1.1s

BAIF Baives 7.66 263 *e*Pn **Pn** **15 42 45.0 -2.0**
BAIF *e*Sg **Sg** **15 44 55.4 -4.7**
comp=Z,22nm,0.9s

MI30 MI30,Zelenitsa 7.67 92 Pn **Pn** **15 42 46.4 -0.7**
MNK Minsk 7.70 63 *i* P **Pn** **15 42 47.8 +0.2**
comp=E,8.0nm,1.0s

MNK *i* P **Pn** **15 42 47.8 +0.2**
comp=N,17nm,0.8s

MNK *i* P **Pn** **15 42 47.8 +0.2**
comp=Z,5.0nm,0.7s,baz=252

MNK *i* PP **PnPn** **15 42 55.1 +0.3**
MNK *i* S **Sn** **15 44 15.8 +0.4**
MNK *i* SS **SnSn** **15 44 28.3 +1.9**
MNK *i* LQ LQ 15 45 00.8
MNK *i* LR LR 15 45 34.8
MEZF Maizieres J'vi 7.73 251 *e*Pn **Pn** **15 42 47.1 -0.8**
MEZF *e*Sg **Sg** **15 44 57.8 -4.4**
comp=Z,4.6nm,0.3s

SFTF Sexfontaines 7.88 249 *e*Pg **Pg** **15 43 21.7 -3.3**
SFTF *e*Sg **Sg** **15 45 02.9 -4.1**
comp=Z,2.3nm,0.2s

AK20 Malin Array Si 8.19 91 Pn **Pn** **15 42 52.7 -1.4**
AK19 Malin Array Si 8.19 91 Pn **Pn** **15 42 52.8 -1.4**
CABF La Chapelle 8.22 237 *e*Pn **Pn** **15 42 53.3 -1.4**
CABF La Chapelle 8.22 237 *e*Pg **Pg** **15 43 28.2 -3.3**
CABF *e*Sg **Sg** **15 45 14.4 -3.5**
comp=Z,39nm,0.8s

AK22 Malin Array Si 8.22 91 Pn **Pn** **15 42 53.6 -1.0**
AK18 Malin Array Si 8.23 91 Pn **Pn** **15 42 53.0 -1.7**
AK13 Malin Array Si 8.24 92 Pn **Pn** **15 42 52.9 -2.0**
AK14 Malin Array Si 8.27 91 Pn **Pn** **15 42 53.3 -2.0**
KIEV Kiev 8.32 91 Pn **Pn** **15 42 53.8 -2.1**
KIEV Kiev 8.32 91 Pn **Pn** **15 42 55.5 -0.5**
AK02 Malin Array Si 8.32 91 Pn **Pn** **15 42 54.7 -1.3**
AKASG Malin Array Be 8.33 91 Pn **Pn** **15 42 52.9 -3.2**
AKASG Malin Array Be 8.33 91 Pn **Pn** **15 42 54.2 -1.9**
comp=Z,1.8nm,0.3s,baz=278,slow=12,SNR=16
AKASG Sn **Sn** **15 44 25.1 -5.7**
comp=Z,0.7nm,0.3s,baz=267,slow=24,SNR=5.0
AKASG Lg Lg 15 45 20.3
comp=Z,0.3nm,0.3s,baz=280,slow=28,SNR=5.1
comp=Z,2.2nm,0.6s
AKBB Malin Array Si 8.33 91 Pn **Pn** **15 42 54.3 -1.8**
AKBB Malin Array Si 8.33 91 Pn **Pn** **15 42 55.1 -1.0**
AK05 Malin Array Si 8.33 91 Pn **Pn** **15 42 53.9 -2.2**
AK07 Malin Array Si 8.35 92 Pn **Pn** **15 42 54.4 -1.9**
AK09 Malin Array Si 8.38 91 Pn **Pn** **15 42 54.8 -2.0**
MTSE Matsula 8.41 29 *e*P **Pn** **15 42 58.0 +0.9**
MSSA Maissana 8.49 214 Pn **Pn** **15 42 57.6 -0.8**
LPL La Plagne 8.66 229 *e*Pn **Pn** **15 42 59.1 -1.8**
LPL La Plagne 8.66 229 *e*Pg **Pg** **15 43 37.3 -2.8**
LPL *e*Sg **Sg** **15 45 27.2 -5.0**
comp=Z,0.7nm,0.3s
LPG La Plagne 8.67 229 *e*Pg **Pg** **15 43 37.1 -3.1**
LPG *e*Sg **Sg** **15 45 27.6 -4.8**
comp=Z,4.8nm,0.3s
HFS Hagfors 8.68 352 Pn **Pn** **15 43 00.1 -0.8**
comp=Z,0.2nm,0.3s,baz=166,slow=14,SNR=7.8
HFS Sn **Sn** **15 44 35.8 -3.5**
comp=Z,0.2nm,0.3s,baz=165,slow=23,SNR=1.9
HFS Lg Lg 15 45 30.6
comp=Z,0.2nm,0.3s,baz=186,slow=28,SNR=1.8
comp=Z,0.5nm,0.3s
AAL Aland 8.89 13 *e*P **Pn** **15 43 03.1 -0.7**
NRCA Norcia 8.98 194 Pn **Pn** **15 43 03.6 -1.5**
LOR Lormes 9.05 246 *e*Pn **Pn** **15 43 04.3 -1.7**
LOR *e*Sg Sn 15 45 40.2 +52
comp=Z,4.4nm,0.5s
SSF Saint Saulge 9.36 246 *e*Pn **Pn** **15 43 08.4 -1.9**
SSF Saint Saulge 9.36 246 *e*Pg Pn 15 43 48.2 +38
SSF *e*Sg Sn 15 45 49.2 +53
comp=Z,5.5nm,0.6s
SMF Signal de Mont 9.41 243 *e*Pn **Pn** **15 43 08.8 -2.2**
SMF *e*Sg Sn 15 45 50.7 +53
comp=Z,22nm,0.9s
ORIF Oris-en-Rattie 9.51 229 *e*Pn **Pn** **15 43 10.4 -2.0**
ORIF *e*Sg Sn 15 45 55.3 +55
comp=Z,38nm,1.3s
AVF Avril sur Loir 9.60 245 *e*Pn **Pn** **15 43 12.7 -0.8**
AVF *e*Sg Sn 15 45 56.8 +55
comp=Z,16nm,0.9s
SBF Sospel 9.66 220 *e*Pn **Pn** **15 43 12.6 -1.8**
MEF Metsahovi 9.83 25 *e*P **Pn** **15 43 17.2 +0.5**
NB201 NORSAR Array S 9.85 346 Pn **Pn** **15 43 13.8 -3.1**
NOA NORSAR Array B 9.85 346 Pn **Pn** **15 43 15.0 -2.0**
baz=158,slow=12,SNR=1.1
NOA Sn **Sn** **15 45 03.8 -4.4**
baz=272,slow=16,SNR=1.4
NOA Lg Lg 15 46 07.2
baz=137,slow=15,SNR=1.2
comp=Z,0.5nm,0.8s
RAF Rauma 9.98 16 *e*P **Pn** **15 43 17.9 -0.7**
BGF Bois d'Agland 10.02 245 *e*Sg Sn 15 46 08.9 +57
comp=Z,21nm,0.8s
TCF Toulx Ste Croi 10.53 245 *e*Pn **Pn** **15 43 25.3 -1.1**
TCF *e*Sg 15 46 26.2
comp=Z,20nm,1.0s
FINES FINESS Array B 11.31 25 Pn **Pn** **15 43 33.2 -3.6**
FINES FINESS Array B 11.31 25 Pn **Pn** **15 43 33.9 -3.0**
comp=Z,0.5nm,0.3s,baz=207,slow=11,SNR=16
FINES Sn Sn 15 45 34.1 -10
comp=Z,0.3nm,0.3s,baz=211,slow=21,SNR=2.1
comp=Z,0.8nm,0.3s
EKA Eskdalemuir Ar 12.05 296 Pn **Pn** **15 43 43.8 -3.2**
baz=101,slow=13
EKB Eskdalemuir 12.07 296 Pn **Pn** **15 43 43.4 -3.8**
ESK Eskdalemuir 12.07 296 Pn Pn 15 43 42.5 -4.8
ARCES ARCESS Array B 18.56 10 P **P** **15 45 08.7 -3.5**
comp=Z,1.7nm,0.8s,baz=189,slow=14,SNR=6.5
GEYT Alibeck 32.36 98 P **P** **15 47 26.8 +1.6**
comp=Z,0.2nm,0.3s,baz=8.9,slow=10,SNR=1.2
comp=Z,0.2nm,0.3s
BVAR Borovoye Array 32.59 66 P **P** **15 47 28.4 +1.4**
comp=Z,0.5nm,0.7s,baz=335,slow=9.5,SNR=2.1
comp=Z,0.5nm,0.7s
KURBB Kurchatov Arra 38.18 66 P **P** **15 48 15.1 +0.1**
comp=Z,0.5nm,0.8s,baz=295,slow=8.9,SNR=3.1
comp=Z,0.5nm,0.8s
TORD Torodi Ar. Bea 40.05 202 P **P** **15 48 31.4 +0.3**
comp=Z,0.4nm,0.7s,baz=23,slow=12,SNR=2.6
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 42.22 69 P **P** **15 48 49.3 +0.6**
comp=Z,0.5nm,0.9s,baz=280,slow=11,SNR=3.2
comp=Z,0.5nm,0.9s
SONM Songino Array 54.90 55 P **P** **15 50 27.6 +1.2**
comp=Z,0.4nm,0.6s,baz=300,slow=12,SNR=1.9
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 59.78 336 P **P** **15 51 01.3 +0.9**
comp=Z,0.3nm,0.7s,baz=28,slow=7.1,SNR=6.7
comp=Z,0.3nm,0.7s
CMAR Chiang Mai Arr 71.38 84 P **P** **15 52 17.0 +0.9**
comp=Z,0.4nm,0.7s,baz=310,slow=7.0,SNR=4.6
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 74.86 322 P **P** **15 52 37.4 +0.7**
comp=Z,0.2nm,0.6s,baz=51,slow=5.9,SNR=1.9
comp=Z,0.2nm,0.6s
TXAR Lajitas Array 83.64 310 P **P** **15 53 26.0 +1.4**
comp=Z,0.2nm,0.7s,baz=57,slow=3.7,SNR=2.3
comp=Z,0.2nm,0.7s

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*TEH **05** 15:50:36.8, 33°.03N×46°.06E, h10km±61km, ML2.9*
*ISN **05** 15:50:36.6±0.6, 33°.03N×46°.02E, h8km±1km, ML2.8*
ISC 05 15:50:36.8±1.4**, 33°.04N**±0°.04×**46°.08E**±0°.05**, h1**km±13km**, n13**, σ0°.88/18**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.14**	**301**	*e*Pg	**Pg**	**15 50 39.0**	**-0.6**
IBDR				*e*Sg	**Sg**	**15 50 41.5**	**+0.1**
IBDR				AML	AML	15 50 45.3	
	comp=E,2μm,0.5s						
IBDR				AML	AML	15 50 47.7	
	comp=N,2μm,0.2s						
ILBA	**Ilam Banvizeh**	**0.60**	**10**	Pg	**Pg**	**15 50 47.9**	**-0.3**
ILBA				Sg	**Sb**	**15 50 58.1**	**-1.0**
RAFI	**Al-Rafai**	**1.31**	**179**	*e*Pg	**Pg**	**15 51 02.0**	**+0.1**
RAFI				*e*Sg	**Sn**	**15 51 20.0**	**-0.3**
IGHG	**Ghaleghazi**	**1.35**	**17**	Pg	**Pg**	**15 51 03.7**	**+1.0**
BHD	**Baghdad**	**1.44**	**280**	*e*Pn	**Pg**	**15 51 04.0**	**-0.4**
BHD				*e*Sn	**Sg**	**15 51 24.5**	**+1.3**
KCHF	**Cheshme Sefid,**	**1.47**	**33**	Pg	**Pb**	**15 51 05.0**	**-0.1**
IKFM	**Kafar-mosalman**	**1.56**	**71**	Pg	**Pb**	**15 51 06.8**	**+0.3**
IDHR	**Dehrash**	**1.68**	**9**	Pg	**Pb**	**15 51 08.6**	**-0.1**
IDOB	**Doab**	**1.91**	**66**	Pn	**Pb**	**15 51 11.8**	**-0.7**
ILIN	**Lien**	**2.02**	**21**	Pn	**Pb**	**15 51 14.0**	**-0.5**
IBZA	**Bozab**	**2.06**	**46**	Pn	**Pb**	**15 51 14.0**	**-1.2**
SNQR	**Sonqor, Kerman**	**2.23**	**35**	Pn	**Pb**	**15 51 16.3**	**-1.7**
IKRK	**Kirkuk**	**2.76**	**329**	*e*Pn	**Pn**	**15 51 23.0**	**+0.7**
IKRK				*e*Sn	**Sn**	**15 51 57.0**	**+0.7**

TAP 05 16:01:43.0, 24°.56N×121°.59E, h4km, ML0.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LATG	**Datong**	**0.07**	**246**	*i* P	Pg	16 01 45.0	+0.5
	baz=246						
LATG				*i* S	Sg	16 01 46.3	+0.8
	baz=246						
ENTT	**Nioudou**	**0.08**	**342**	*i* P	Pg	16 01 45.1	+0.4
	baz=344						
ENTT				S	Sg	16 01 46.8	+0.9
	baz=344						
NDT	**Datong Townshi**	**0.08**	**298**	*i* P	Pg	16 01 45.3	+0.6
	baz=298						
NDT				S	Sg	16 01 46.8	+0.9
	baz=298						
YHNB	**Yeheng**	**0.23**	**298**	P	Pg	16 01 47.9	+0.5
	baz=303						
YHNB				S	Sg	16 01 51.0	+0.6
	baz=303						
NWLT	**Wulai**	**0.23**	**339**	*e*P	Pg	16 01 48.0	+0.5
	baz=337						
NWLT				*e*S	Sg	16 01 51.1	+0.6
	baz=337						

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*IDC **05** 16:02:11.1±1.4, 4°.32N×62°.71E, h0km, mb3.5/10, mbtmp3.5/10, MS3.3/14, Error ellipse: s-maj=38.8km s-min=26.1km az=9.0*
ISC 05 16:02:14.9±1.3**, 4°.4N**±0°.2×**62°.7E**±0°.2**, h22**km**, n23, σ0**58/11**, mb3.6**/10**, MS3.3**/13**, Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**18.12**	**80**	LR	LR	16 12 07.3	
	comp=Z,60nm,18.4s,baz=3.7,slow=33						
MBAR	**Mbarara**	**32.34**	**262**	LR	LR	16 21 16.4	
	comp=Z,34nm,19.5s,baz=68,slow=35						
EIL	**Elat**	**36.39**	**317**	LR	LR	16 23 29.6	
	comp=Z,50nm,18.6s,baz=306,slow=35						
CMAR	**Chiang Mai Arr**	**38.06**	**65**	P	**P**	**16 09 32.5**	**+0.3**
	0.5nm,0.4s,baz=266,slow=8.0,SNR=4.1						
	0.5nm,0.4s						
MMAI	**Mount Meron Ar**	**38.26**	**321**	LR	LR	16 24 56.6	
	comp=Z,25nm,18.9s,baz=98,slow=36						
LSZ	**Lusaka**	**39.38**	**240**	LR	LR	16 24 24.0	
	comp=Z,59nm,18.3s,baz=64,slow=34						
AAK	**Ala-Archa**	**39.54**	**14**	LR	LR	16 26 16.0	
	comp=Z,51nm,20.9s,baz=269,slow=36						
BRTR	**Keskin Array B**	**43.94**	**327**	P	**P**	**16 10 21.4**	**+0.9**
	0.4nm,0.7s,baz=168,slow=7.4,SNR=2.7						
	0.4nm,0.7s						
AKTO	**Aktyubinsk**	**46.09**	**356**	LR	LR	16 31 17.3	
	comp=Z,18nm,20.9s,baz=158,slow=38						
LBTB	**Lobatse**	**46.40**	**229**	LR	LR	16 27 32.7	
	comp=Z,48nm,18.5s,baz=61,slow=33						
KURBB	**Kurchatov Arra**	**47.99**	**14**	P	**P**	**16 10 52.2**	**+0.1**
	0.2nm,0.5s,baz=206,slow=8.2,SNR=2.5						
	0.2nm,0.5s						
BOSA	**Boshof**	**48.71**	**225**	LR	LR	16 28 29.8	
	comp=Z,30nm,21.5s,baz=69,slow=32						
BVAR	**Borovoye Array**	**48.93**	**6**	P	**P**	**16 10 58.7**	**-0.5**
	0.2nm,0.4s,baz=144,slow=5.2,SNR=2.4						
BVAR				LR	LR	16 32 14.1	
	comp=Z,46nm,20.6s,baz=193,slow=37						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**52.63**	**16**	P	**P**	**16 11 26.4**	**-0.7**
	0.3nm,0.4s,baz=195,slow=10,SNR=2.2						
ZALV				LR	LR	16 34 41.6	
	comp=Z,24nm,18.5s,baz=111,slow=37						
	0.3nm,0.4s						
SUR	**Sutherland**	**54.01**	**224**	LR	LR	16 32 39.6	
	comp=Z,37nm,18.7s,baz=136,slow=34						
KIRV	**Kirov**	**55.08**	**352**	LR	LR	16 36 45.9	
	comp=Z,14nm,19.2s,baz=249,slow=38						
SONM	**Songino Array**	**57.20**	**34**	P	**P**	**16 12 00.6**	**0.0**
	0.2nm,0.3s,baz=218,slow=6.8,SNR=2.0						
	0.2nm,0.3s						
TGY	**Tagaytay City**	**58.13**	**76**	LR	LR	16 33 27.9	
	comp=Z,90nm,21.2s,baz=146,slow=32						
TORD	**Torodi Ar. Bea**	**60.83**	**283**	P	**P**	**16 12 26.0**	**-0.1**
	0.5nm,0.9s,baz=95,slow=10,SNR=2.4						
	0.5nm,0.9s						
HFS	**Hagfors**	**66.89**	**336**	P	**P**	**16 13 04.6**	**-0.6**
	1.8nm,0.8s,baz=123,slow=5.3,SNR=2.9						
	1.8nm,0.8s						
ESDC	**Sonseca Array**	**69.36**	**311**	P	**P**	**16 13 20.9**	**-0.4**
	0.4nm,0.8s,baz=74,slow=6.0,SNR=4.4						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**74.64**	**116**	P	**P**	**16 13 53.0**	**-0.1**
	0.4nm,1.0s,baz=296,slow=6.9,SNR=2.5						
	0.4nm,1.0s						
TXAR	**Lajitas Array**	**144.05**	**340**	PKP	**PKPab**	**16 21 47.9**	**+0.8**
	0.3nm,0.7s,baz=22,slow=5.8,SNR=2.4						

JMA 05 16:02:23.4±0.2**, 24°N**±1°×**123°.4E**±0°.8**, h21**km±1km**, MV1.4/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.29**	**75**	P	Pb	16 02 29.9	-0.1
IRIF				S	Sb	16 02 34.5	-0.1
JKRS	**Kuro-shima**	**0.54**	**92**	P	Pb	16 02 34.0	-0.3
JKRS				S	Sb	16 02 41.5	-0.1
JIJ	**Ishigaki jima**	**0.67**	**81**	*e*P	Pb	16 02 36.0	-0.4
JIJ				S	Sb	16 02 44.6	-0.7
JISG	**Ishigakijimahi**	**0.88**	**68**	*e*P	Pb	16 02 39.9	0.0
JISG				*e*S	Sn	16 02 52.1	-0.5

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*IDC **05** 16:22:39.4±0.4, 5°.85S×133°.87E, h0km, mb4.4/16, mbtmp4.5/20, ML4.7/3, MS3.7/23, Error ellipse: s-maj=23.4km s-min=11.2km az=79.0*
*NEIC **05** 16:22:41.5±2.0, 5°.81S±0°.06×133°.69E±0°.08, h10km±1km, mb5.0/69, Error ellipse: s-maj=13.3km s-min=10.2km az=73.0*
*DJA **05** 16:22:43.8±0.7, 6°S±2°×13°4E±°, h22km±6km, M5.0/46, mb5.0/46, mB5.5/20, MLv5.4/12, Mw(mB)4.9/20, MwMwp4.8/1, Mwp5.1/1*
*GCMT **05** 16:22:44.5±0.4, 5°.80S±0°.04×133°.23E±0°.04, h29km±1km, MW4.8/63, Moment Tensor Solution. s29,c30; s63,c75; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=1.94±.15; Mθθ 1.18±.12; Mϕϕ 0.76±.12; Mrθ -0.27±.16; Mϕθ 0.35±.07; Mϕr 1.72±.15; Best double couple: M0 2.25100×10^16^ NP1:ϕs 193.00000°, δ68.00000°, λ-106.00000°. NP2: ϕs 51.00000°, δ27.00000°, λ-55.00000°. Principal axes: T 1.6870, Plg22.0000°, Azm295.0000°; N 1.1330, Plg15.0000°, Azm199.0000°; P -2.8150, Plg63.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 05 16:22:41.2±1.1**, 5°.81S**±0°.04×**133°.70E**±0°.05**, h9**km±6km**, n295**, σ1°.34/287**, mb4.9**/69**, MS3.7**/21**, 1C-1D, Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPI	**Kaimana, Papua**	**2.13**	**0**	P	**Pn**	**16 23 17.4**	**+0.4**
KMPI				S	**Sn**	**16 23 41.6**	**-2.0**
FAKI	**Fak Fak**	**3.21**	**333**	P	**Pn**	**16 23 31.7**	**-0.2**
FAKI	**Fak Fak**	**3.21**	**333**	Pn	**Pn**	**16 23 31.3**	**-0.6**
FAKI	**Fak Fak**	**3.21**	**333**	P	**Pn**	**16 23 31.1**	**-0.8**
FAKI				S	**Sn**	**16 24 06.9**	**-3.5**

SAUI Saumlaki 3.22 228 P **Pn** **16 23 34.0 +2.0**
SAUI Saumlaki 3.22 228 P **Pn** **16 23 33.0 +1.0**
BNDI Bandanaira 3.99 288 P **Pn** **16 23 43.8 +1.1**
BNDI Bandanaira 3.99 288 P **Pn** **16 23 43.7 +1.1**
BNDI S **Sn** **16 24 29.3 -0.3**
SWI Sorong 5.48 334 P **Pn** **16 24 03.5 +0.4**
461nm,0.7s,6μm3.5nm
SWI S **Sn** **16 25 00.4 -6.0**
461nm,0.7s,6μm3.5nm
KDU Kakadu 6.94 190 P **Pn** **16 24 24.6 +1.3**
baz=7.0,SNR=271
KDU Kakadu 6.94 190 P **Pn** **16 24 25.1 +1.9**
NLAI Namlea 7.06 291 P Pn 16 24 29.3 +4.5
MMPI Merauke 7.14 112 P **Pn** **16 24 29.0 +3.1**
623nm,0.6s,12μm11nm
DRS Darwin Rock St 7.14 203 P **Pn** **16 24 27.9 +2.0**
GENI Genyem 7.20 64 P **Pn** **16 24 28.0 +1.3**
116nm,0.6s,0.9nm
MTN Manton Dam 7.44 200 P **Pn** **16 24 31.1 +1.0**
baz=7.5,SNR=229
MTN Manton Dam 7.44 200 P **Pn** **16 24 31.4 +1.4**
MTN Manton Dam 7.44 200 Pn **Pn** **16 24 31.2 +1.2**
TABU Tabubil 7.51 86 P **Pn** **16 24 32.3 +1.3**
JAY Jayapura 7.71 65 P **Pn** **16 24 35.3 +1.5**
67nm,0.9s,0.2nm
LBMI Labuha 8.04 309 P **Pn** **16 24 38.3 0.0**
330nm,0.7s,3μm1.1nm
SANI Sanana 8.55 296 P **Pn** **16 24 43.1 -2.2**
SANI Sanana 8.55 296 P **Pn** **16 24 43.4 -1.9**
TNTI Ternate 9.09 316 Pn **Pn** **16 24 52.4 -0.4**
TNTI Ternate 9.09 316 P **Pn** **16 24 52.2 -0.6**
42nm,1.2s
SOEI Soe 10.14 247 P **Pn** **16 25 07.5 +0.3**
211nm,0.9s
SOEI Soe 10.14 247 Pn **Pn** **16 25 07.4 +0.2**
SOEI Soe 10.14 247 P **Pn** **16 25 07.7 +0.5**
208nm,0.9s,2μm
BATI Baumata 10.86 246 Pn **Pn** **16 25 16.6 -0.4**
11nm,0.3s,baz=130,slow=4.7,SNR=14
BATI Sn Sn 16 27 11.0 -7.8
16nm,0.3s,baz=246,slow=19,SNR=4.7
33nm,0.3s
BATI Baumata 10.86 246 P **Pn** **16 25 17.0 0.0**
99nm,1.0s
KNRA Kununurra 10.94 206 P **Pn** **16 25 17.8 -0.4**
baz=11,SNR=31
KNRA P **Pn** **16 25 17.8 -0.4**
baz=11,SNR=31
KNRA Kununurra 10.94 206 P **Pn** **16 25 18.7 +0.6**
KNRA Kununurra 10.94 206 Pn **Pn** **16 25 17.7 -0.4**
BBSI Bau Bau 11.08 271 P **Pn** **16 25 23.8 +3.7**
KMSI Cibinong 11.59 303 P **Pn** **16 25 26.6 -0.4**
377nm,0.7s,3μm
MMRI Maumere 11.71 255 P **Pn** **16 25 29.1 +0.4**
MMRI Maumere 11.71 255 Pn **Pn** **16 25 26.9 -1.8**
MMRI Maumere 11.71 255 P **Pn** **16 25 30.1 +1.4**
42nm,0.7s
LUWI Luwuk 11.89 293 Pn **Pn** **16 25 30.7 -0.4**
LUWI Luwuk 11.89 293 P **Pn** **16 25 32.0 +0.9**
75nm,0.9s,3μm2μm
EDFI Ende, Flores 12.27 255 P **Pn** **16 25 37.2 +0.8**
23nm,0.7s
COEN Coen 12.35 132 P **Pn** **16 25 36.9 -0.5**
baz=12,SNR=23
COEN Coen 12.35 132 P **Pn** **16 25 36.8 -0.7**
COEN Coen 12.35 132 Pn **Pn** **16 25 35.9 -1.5**
MRSI Marisa 13.30 298 P **Pn** **16 25 51.2 +0.8**
53nm,1.0s,640nm
BKSI Bulukumba 13.52 271 P **Pn** **16 25 57.6 +4.2**
BASI Baing, Sumba 13.71 251 P **Pn** **16 25 57.6 +1.6**
108nm,0.9s,2μm
PMG Port Moresby 13.81 106 **Pn** **16 25 58.2 +0.9**
PMG Port Moresby 13.81 106 Pn **Pn** **16 25 55.0 -2.4**
23nm,0.7s,baz=7.7,slow=23,SNR=3.5
PMG LR LR 16 32 30.6
comp=Z,923nm,18.5s,baz=294,slow=43
WB0 Warramunga Arr 13.89 177 Pn **Pn** **16 25 56.1 -2.4**
WRAB Tennant Creek 14.06 177 **Pn** **16 25 57.5 -3.2**
WRA Warramunga Arr 14.07 178 Pn **Pn** **16 25 57.7 -3.2**
2.6nm,0.3s,baz=354,slow=13,SNR=59
WRA Sn Sn 16 28 28.0 -9.3
2.7nm,0.3s,baz=359,slow=23,SNR=7.0
WRA Lg Lg 16 30 02.9
5.6nm,0.3s,baz=12,slow=30,SNR=5.5
11nm,0.5s
WB2 Warramunga Arr 14.07 177 Pn **Pn** **16 25 58.7 -2.2**
WR0 Warramunga Arr 14.09 177 Pn **Pn** **16 25 59.0 -2.3**
TTSI Tana Toraja 14.11 281 P **Pn** **16 26 02.5 +1.0**
26nm,1.0s
TOLI2 Tolitoli 14.62 298 P **Pn** **16 26 09.4 +1.0**
TOLI2 Tolitoli 14.62 298 Pn **Pn** **16 26 07.7 -0.8**
MPSI Mapaga 15.07 293 P **Pn** **16 26 15.0 +0.4**
48nm,1.1s,534nm
QIS Mount Isa 15.74 159 P **Pn** **16 26 20.3 -3.1**
baz=16,SNR=52
MTSU Mount Surprise 16.05 141 P **Pn** **16 26 26.3 -1.1**
baz=16,SNR=7.0
MTSU Mount Surprise 16.05 141 P **Pn** **16 26 27.4 0.0**
AS31 Alice Springs 17.76 179 Pn **Pn** **16 26 46.4 -2.5**
ASAR Alice Springs 17.76 179 **Pn** **16 26 46.9 -2.1**
ASAR Alice Springs 17.76 179 P **Pn** **16 26 46.6 -2.3**
2.3nm,0.3s,baz=360,slow=14,SNR=173
ASAR S **Sn** **16 30 01.3 -5.8**
6.3nm,0.8s,baz=3.1,slow=25,SNR=4.1
ASAR Lg Lg 16 31 59.5
baz=13,slow=34
ASAR LR LR 16 34 22.9
comp=Z,345nm,20.8s,baz=358,slow=40
21nm,0.5s
RABL Rabaul 18.46 86 P **P** **16 26 55.0 -2.6**
TV1H Townsville Har 18.48 138 P **P** **16 26 58.5 +0.9**
CTAO Charters Tower 18.72 140 P **P** **16 27 00.2 -0.1**
JAGI Jajag, Banyuwa 19.58 261 P **P** **16 27 09.3 -0.5**
25nm,1.3s
WRKA Warakurna 19.81 195 P **P** **16 27 12.6 +0.3**
baz=20,SNR=89
WRKA Warakurna 19.81 195 P **P** **16 27 12.0 -0.3**
MBWA Marble Bar 20.40 220 P **P** **16 27 19.6 +0.8**
MBWA Marble Bar 20.40 220 P **P** **16 27 19.5 +0.8**
PSA00 Pilbara Seismi 20.63 219 P **P** **16 27 22.0 +0.8**
PSA00 Pilbara Seismi 20.63 219 Pn **P** **16 27 22.0 +0.8**
OOD Oodnadatta 21.95 175 P **P** **16 27 37.2 +1.9**
GUMO Guam 22.23 30 LR LR 16 37 12.2
comp=Z,68nm,18.9s,baz=187,slow=39
INKA Innaminka 22.82 164 P **P** **16 27 45.9 +1.3**
SBUM Sibu 22.97 290 P **P** **16 27 43.4 -2.9**
QLP Quilpie 22.98 155 P **P** **16 27 47.2 +0.9**
baz=23,SNR=4.0
QLP Quilpie 22.98 155 P **P** **16 27 47.9 +1.6**
RK1H Rockhampton Ha 23.82 139 P **P** **16 27 56.0 +1.3**
MULG Mulgathing 24.35 179 P **P** **16 28 00.1 +0.5**
KSM Kuching 24.45 287 P **P** **16 28 00.4 -0.4**
KSM IAmb IAmb 16 28 07.5
comp=Z,88nm,1.9s
KPJI Karang Pucung 24.65 265 P **P** **16 28 03.1 +0.5**
comp=Z,23nm,1.6s
LCRK Leigh Creek 24.88 171 P **P** **16 28 05.4 +1.0**
GIRL Giralia 25.17 226 P **P** **16 28 07.2 +0.1**
baz=25,SNR=4.7
GIRL Giralia 25.17 226 P **P** **16 28 08.3 +1.2**
GIRL Giralia 25.17 226 P **P** **16 28 03.8 -3.3**
MEEK Meekatharra 25.23 213 P **P** **16 28 07.5 -0.1**
baz=25,SNR=5.3
MEEK Meekatharra 25.23 213 P **P** **16 28 07.6 -0.1**
FORT Forrest 25.40 191 P **P** **16 28 09.5 +0.3**
baz=26,SNR=30
FORT Forrest 25.40 191 P **P** **16 28 09.6 +0.4**
FORT Forrest 25.40 191 P **P** **16 28 09.3 +0.2**
EIDS Eidsvold 25.60 141 P **P** **16 28 11.5 +0.5**
baz=26,SNR=6.4
EIDS Eidsvold 25.60 141 P **P** **16 28 11.7 +0.7**
BBJI Bungbulang 25.93 265 P **P** **16 28 14.6 +0.4**
comp=Z,23nm,1.1s
LEM Lembang 25.94 266 LR LR 16 41 42.9
comp=Z,155nm,19.6s,baz=40,slow=44
BBOO Buckleboo 26.96 176 P **P** **16 28 23.3 +0.1**
baz=27,SNR=8.1
BBOO Buckleboo 26.96 176 P **P** **16 28 23.4 +0.1**
BBOO Buckleboo 26.96 176 P **P** **16 28 20.0 -3.3**
BBOO IAmb IAmb 16 29 00.5
comp=Z,23nm,0.8s
STKA Stephens Creek 26.97 165 P **P** **16 28 24.1 +0.7**
baz=27,SNR=35
STKA Stephens Creek 26.97 165 P **P** **16 28 24.2 +0.9**
STKA Stephens Creek 26.97 165 P **P** **16 28 20.5 -2.8**

STKA	**Stephens Creek**	**26.97 165**	P	**P**	**16 28 22.4**	**-1.0**
	comp=Z,25nm,0.8s,baz=339,slow=8.7,SNR=47					
STKA			LR	LR	16 39 31.3	
	comp=Z,125nm,19.8s,baz=351,slow=38					
	comp=Z,25nm,0.8s					
PPBI	**Pangkal Pinang**	**27.73 276**	P	**P**	**16 28 30.2**	**-0.2**
KMBL	**Kambalda**	**27.74 202**	P	**P**	**16 28 29.7**	**-0.6**
	baz=28,SNR=9.5					
KMBL	**Kambalda**	**27.74 202**	P	**P**	**16 28 30.1**	**-0.2**
CMSA	**Cobar Meteorol**	**27.96 158**	P	**P**	**16 28 33.1**	**+0.9**
	baz=28,SNR=27					
CMSA	**Cobar Meteorol**	**27.96 158**	P	**P**	**16 28 33.0**	**+0.8**
MORW	**Morawa**	**28.54 214**	P	**P**	**16 28 38.7**	**+1.2**
	baz=29,SNR=3.8					
MORW	**Morawa**	**28.54 214**	P	**P**	**16 28 38.1**	**+0.7**
MORW	**Morawa**	**28.54 214**	P	P	16 28 33.4	-4.0
MORW			IAmb	IAmb	16 29 30.8	
	comp=Z,45nm,1.8s					
BLDU	**Ballidu**	**29.40 211**	P	**P**	**16 28 45.3**	**+0.2**
	baz=30,SNR=15					
BLDU	**Ballidu**	**29.40 211**	P	**P**	**16 28 45.2**	**+0.1**
ARMA	**Armidale**	**29.73 148**	P	**P**	**16 28 49.2**	**+1.0**
ARMA	**Armidale**	**29.73 148**	P	**P**	**16 28 47.9**	**-0.2**
ARMA			IAmb	IAmb	16 29 07.3	
	comp=Z,72nm,1.9s					
NWAO	**Narrogin (SRO)**	**31.04 208**	LR	LR	16 42 33.3	
	comp=Z,233nm,19.3s,baz=30,slow=38					
YNG	**Young**	**31.45 156**	P	**P**	**16 29 04.4**	**+1.2**
	baz=32,SNR=18					
YNG	**Young**	**31.45 156**	P	**P**	**16 29 04.4**	**+1.2**
ARPS	**Mount Arapiles**	**31.71 168**	P	**P**	**16 29 07.1**	**+1.7**
	baz=32,SNR=17					
ARPS	**Mount Arapiles**	**31.71 168**	P	**P**	**16 29 06.6**	**+1.2**
	comp=Z,108nm,0.8s					
CAN	**Canberra**	**32.58 156**	P	**P**	**16 29 14.2**	**+1.0**
	comp=Z,34nm,1.4s					
CAN	**Canberra**	**32.58 156**	P	**P**	**16 29 13.5**	**+0.3**
CAN			IAmb	IAmb	16 29 15.4	
	comp=Z,18nm,1.0s					
CNB	**Canberra Magne**	**32.72 156**	P	**P**	**16 29 15.6**	**+1.2**
JOW	**Kunigami**	**32.87 351**	LR	LR	16 43 13.8	
	comp=Z,189nm,19.4s,baz=101,slow=38					
BRAT	**Ballarat**	**32.95 165**	P	**P**	**16 29 17.3**	**+1.1**
TOO	**Toolangi**	**33.40 163**	P	**P**	**16 29 21.5**	**+1.3**
	baz=34,SNR=11					
TOO	**Toolangi**	**33.40 163**	P	**P**	**16 29 20.7**	**+0.5**
TOO	**Toolangi**	**33.40 163**	P	**P**	**16 29 20.2**	**0.0**
TOO			IAmb	IAmb	16 29 23.1	
	comp=Z,23nm,0.9s					
JCJ	**Chichijima**	**33.72 14**	LR	LR	16 42 05.5	
	comp=Z,97nm,19.3s,baz=126,slow=35					
KULM	**Kulim**	**34.79 288**	P	**P**	**16 29 31.9**	**-0.7**
KULM			IAmb	IAmb	16 29 38.9	
	comp=Z,17nm,1.2s					
NOUC	**Port Laguerre**	**35.42 120**	P	**P**	**16 29 38.8**	**+0.9**
DZM	**Mont Dzumac**	**35.53 120**	*e*P	P	16 29 44.0	+5.0
	comp=Z,28nm,27.2s					
DZM			*e*S	**S**	**16 35 11.4**	**-3.6**
	comp=Z,94nm,37.5s					
DZM			*e*LR	LR	16 39 07.9	
DZM	**Mont Dzumac**	**35.53 120**	LR	LR	16 44 28.6	
	comp=Z,97nm,19.6s,baz=298,slow=37					
OUENC	**Ouen Island, N**	**36.00 121**	P	**P**	**16 29 43.9**	**+1.0**
GSI	**Gunungsitoli**	**36.76 280**	P	**P**	**16 29 47.9**	**-1.6**
GSI			IAmb	IAmb	16 30 02.6	
	comp=Z,12nm,0.7s					
GSI			PcP	**PcP**	**16 32 13.6**	**+1.5**
SRIT	**Nakonsritamara**	**36.89 293**	P	P	16 29 47.3	-3.3
SRIT			IAmb	IAmb	16 30 06.1	
	comp=Z,18nm,1.0s					
JNU	**Nakatsue**	**38.81 356**	P	**P**	**16 30 06.9**	**+0.4**
JHJ	**Hachijo jima 2**	**39.14 8**	LR	LR	16 45 35.3	
	comp=Z,251nm,18.3s,baz=58,slow=35					
JMN	**Monobe**	**39.32 0**	P	**P**	**16 30 10.8**	**-0.1**
JMN			IAmb	IAmb	16 30 25.3	
	comp=Z,57nm,1.3s					
SLVN	**Son La**	**39.77 314**	P	**P**	**16 30 14.2**	**-0.6**
NJ2	**Nanjing**	**40.22 340**	*e*P	**P**	**16 30 20.7**	**+2.4**
NJ2			pmax	pmax		
	comp=Z,7.0nm,0.5s					
WHN	**Wuhan**	**40.62 334**	P	**P**	**16 30 23.0**	**+1.4**
JGF	**Kuroka**	**41.33 5**	P	**P**	**16 30 26.8**	**-0.7**
GYA	**Guiyang**	**41.42 322**	*e*P	**P**	**16 30 30.4**	**+1.9**
GYA			pmax	pmax		
	comp=Z,8.0nm,0.5s					
CMAR	**Chiang Mai Arr**	**41.91 306**	P	**P**	**16 30 32.9**	**+0.4**
	comp=Z,1.8nm,0.7s,baz=137,slow=7.6,SNR=11					
	comp=Z,1.8nm,0.7s					
MJAR	**Matsushiro Arr**	**42.34 5**	P	**P**	**16 30 34.5**	**-1.2**
	comp=Z,5.2nm,1.0s,baz=176,slow=9.1,SNR=11					
MJAR			PcP	**PcP**	**16 32 29.5**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=159,slow=3.9,SNR=5.2					
	comp=Z,5.2nm,1.0s					
MAJO	**Matsushiro**	**42.34 5**	P	**P**	**16 30 34.0**	**-1.7**
ENH	**Enshi**	**42.73 328**	P	**P**	**16 30 38.8**	**-0.2**
KSRS	**Korea Array**	**43.37 353**	P	**P**	**16 30 43.1**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=186,slow=11,SNR=6.5					
KSRS			PcP	**PcP**	**16 32 33.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=177,slow=2.5,SNR=4.2					
KSRS			LR	LR	16 49 09.4	
	comp=Z,93nm,19.6s,baz=175,slow=37					
	comp=Z,0.9nm,0.7s					
TIA	**Tai'an**	**44.59 341**	P	**P**	**16 30 54.2**	**+0.3**
TIA			pmax	pmax		
	comp=Z,4.0nm,0.7s					
PZH	**PanZhiHua**	**44.62 318**	P	**P**	**16 30 55.2**	**+0.8**
PZH			pmax	pmax		
	comp=Z,10.0nm,0.6s					
PZH			pmax	pmax		
	comp=Z,70nm,5.3s					
LYN	**LuoYang**	**44.87 335**	*e*P	**P**	**16 30 59.7**	**+3.6**
LYN			pmax	pmax		
	comp=Z,10.0nm,0.6s					
TNCH	**TengChong**	**45.94 313**	⇑P	**P**	**16 31 06.2**	**+1.2**
TNCH			pP	pwP	16 31 09.8	-1.4
TNCH			sP	sP	16 31 13.1	+5.8
TNCH			S	**S**	**16 37 50.0**	**-0.2**
TNCH			sS	pS	16 38 05.0	+13
TNCH			SS	**ScS**	**16 41 01.8**	**-0.1**
TNCH			pmax	pmax		
	comp=Z,10.0nm,1.1s					
TNCH			pmax	pmax		
	comp=Z,69nm,4.8s					
TNCH			LR	LR		
	comp=Z,100nm,4.0s					
TNCH			LR	LR		
	comp=Z,91nm,5.1s					
XAN	**Xi'an**	**46.04 331**	P	**P**	**16 31 08.4**	**+2.9**
XAN			pmax	pmax		
	comp=Z,10.0nm,1.0s					
CD2	**Chengdu**	**46.40 324**	P	**P**	**16 31 10.7**	**+2.3**
CD2			pmax	pmax		
	comp=Z,10.0nm,0.9s					
USRK	**Ussuriysk Ar.**	**49.80 358**	P	**P**	**16 31 34.6**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=176,slow=9.0,SNR=8.3					
	comp=Z,1.8nm,0.6s					
CN2	**Changchun**	**49.94 352**	*e*P	P	16 31 32.2	-3.2
MDJ	**Mudanjiang**	**50.33 356**	P	**P**	**16 31 39.8**	**+1.4**
MDJ			pmax	pmax		
	comp=Z,9.0nm,1.5s					
MDJ			pmax	pmax		
	comp=Z,220nm,3.9s					
TUWZ	**Tuamarina**	**50.41 141**	P	**P**	**16 31 38.6**	**-0.5**
HHC	**Hu-ho-hao-te**	**50.68 338**	*e*P	**P**	**16 31 42.9**	**+1.6**
HHC			pmax	pmax		
	comp=Z,12nm,0.9s					
HHC			pmax	pmax		
	comp=Z,73nm,4.4s					
URZ	**Urewera**	**50.88 136**	LR	LR	16 54 36.3	
	comp=Z,195nm,18.4s,baz=18,slow=38					
BKZ	**Black Stump Fm**	**50.89 137**	P	**P**	**16 31 43.8**	**+0.9**
BKZ	**Black Stump Fm**	**50.89 137**	P	**P**	**16 31 42.3**	**-0.6**
BKZ			IAmb	IAmb	16 31 44.2	
	comp=Z,16nm,0.6s					
RTZ	**Ruatahuna**	**50.96 136**	P	**P**	**16 31 41.9**	**-1.5**
RTZ			IAmb	IAmb	16 31 49.6	
	comp=Z,19nm,0.6s					
MRZ	**Mangatainoka R**	**51.04 139**	P	**P**	**16 31 42.6**	**-1.3**
GTA	**Gaotai**	**54.81 328**	P	**P**	**16 32 13.3**	**+1.4**
GTA			sP	pwP	16 32 27.4	+9.3
GTA			pmax	pmax		
	comp=Z,4.0nm,0.9s					
HEH	**HeiHe**	**56.10 355**	*e*P	**P**	**16 32 21.2**	**+0.4**
HEH			pmax	pmax		
	comp=Z,4.0nm,1.4s					
SONM	**Songino Array**	**58.58 339**	P	**P**	**16 32 39.3**	**+0.8**
	comp=Z,4.1nm,0.6s					
B21K	**Ikpikpuk River**	**89.12 19**	P	**P**	**16 35 36.8**	**+0.2**
	baz=251					
MLY	**Manley**	**89.18 24**	P	**P**	**16 35 36.4**	**-0.7**
MLY			IAmb	IAmb	16 35 57.4	
	comp=Z,29nm,2.0s					
MLY	**Manley**	**89.18 24**	P	**P**	**16 35 37.3**	**+0.2**
	baz=254					
A22K	**Sinclair Lake**	**89.46 18**	P	**P**	**16 35 38.4**	**+0.1**
	baz=250					
B22K	**Teshekpuk Lake**	**89.74 19**	P	**P**	**16 35 39.4**	**-0.2**
	baz=252					
I23K	**Minto, Yukon-K**	**89.77 24**	IAmb	IAmb	16 38 23.3	
	comp=Z,27nm,1.9s					
I23K	**Minto, Yukon-K**	**89.77 24**	P	**P**	**16 35 40.2**	**+0.3**
	baz=256					
H23K	**Yukon River**	**89.87 24**	P	**P**	**16 35 40.8**	**+0.5**
	baz=256					
DHY	**Denali Highway**	**90.14 27**	P	**P**	**16 35 41.5**	**-0.3**
DHY			IAmb	IAmb	16 37 12.7	
	comp=Z,14nm,1.4s					
D23K	**Nanushuk River**	**90.26 20**	P	**P**	**16 35 43.2**	**+1.1**
	baz=254					
E23K	**Chandalar**	**90.40 21**	P	**P**	**16 35 43.5**	**+0.6**
	baz=256					
C23K	**Itkillik River**	**90.51 20**	P	**P**	**16 35 43.0**	**-0.2**
C23K			IAmb	IAmb	16 35 47.1	
	comp=Z,20nm,1.6s					
C23K	**Itkillik River**	**90.51 20**	P	**P**	**16 35 43.3**	**+0.1**
	baz=255					
TOLK	**Toolik Lake Re**	**90.56 21**	P	**P**	**16 35 41.1**	**-2.4**
TOLK			IAmb	IAmb	16 35 58.9	
	comp=Z,30nm,1.9s					
TOLK	**Toolik Lake Re**	**90.56 21**	P	**P**	**16 35 43.8**	**+0.3**
	baz=256					
ELIB	**Princess Elisa**	**90.71 197**	*d*P	**P**	**16 35 45.1**	**+0.8**
	comp=Z,5.8nm,0.7s					
ILAR	**Eielson Array**	**90.71 25**	P	**P**	**16 35 41.8**	**-2.5**
ILAR	**Eielson Array**	**90.71 25**	P	**P**	**16 35 42.6**	**-1.6**
	comp=Z,0.9nm,0.6s,baz=273,slow=4.4,SNR=14					
ILAR			LR	LR	17 14 36.0	
	comp=Z,26nm,20.0s,baz=32,slow=34					
	comp=Z,0.9nm,0.6s					
D24K	**Happy Valley**	**90.95 20**	IAmb	IAmb	16 35 45.9	
	comp=Z,4.1nm,0.8s					
D24K	**Happy Valley**	**90.95 20**	P	**P**	**16 35 45.8**	**+0.5**
	baz=256					
J26L	**Joseph Creek**	**92.07 25**	P	**P**	**16 35 50.9**	**+0.2**
	baz=261					
BMAR	**Burnt Mountain**	**92.14 22**	P	**P**	**16 35 51.2**	**+0.3**
F26K	**Sheenjek River**	**92.35 22**	P	**P**	**16 35 52.7**	**+0.9**
	baz=261					
G26K	**Porcupine Rive**	**92.37 23**	P	**P**	**16 35 52.8**	**+0.9**
	baz=261					
M27K	**Edge Creek, AK**	**92.51 28**	P	**P**	**16 35 52.4**	**-0.4**
BCAR	**Beaver Creek A**	**92.64 27**	P	**P**	**16 35 53.4**	**+0.1**
C27K	**Jago River**	**92.82 20**	P	**P**	**16 35 54.2**	**+0.3**
	baz=261					
I27K	**Kandik River**	**93.05 24**	P	**P**	**16 35 55.8**	**+0.7**
	baz=263					
H27K	**Steamboat Moun**	**93.16 24**	P	**P**	**16 35 56.4**	**+0.8**
	baz=263					
E27K	**Coleen River**	**93.38 22**	P	**P**	**16 35 56.3**	**-0.3**
E27K			IAmb	IAmb	16 36 43.0	
	comp=Z,11nm,1.8s					
E27K	**Coleen River**	**93.38 22**	P	**P**	**16 35 56.9**	**+0.4**
	baz=263					
I28M	**Miner Creek**	**93.72 25**	P	**P**	**16 35 59.1**	**+0.8**
	baz=264					
D27M	**Malcolm River**	**93.73 21**	P	**P**	**16 35 57.7**	**-0.6**
F28M	**Old Crow**	**93.96 23**	P	**P**	**16 35 57.6**	**-1.7**
F28M			IAmb	IAmb	16 39 10.1	
	comp=Z,16nm,2.0s					
F28M	**Old Crow**	**93.96 23**	P	**P**	**16 35 59.4**	**+0.1**
	baz=264					
G29M	**Pine Creek**	**94.62 23**	P	**P**	**16 36 01.6**	**-0.7**
G29M	**Pine Creek**	**94.62 23**	P	**P**	**16 36 02.4**	**+0.1**
	baz=266					
G30M	**tAoh Zraii Nji**	**95.33 23**	P	**P**	**16 36 03.1**	**-2.5**
G30M			IAmb	IAmb	16 36 26.4	
	comp=Z,17nm,1.9s					
G30M	**tAoh Zraii Nji**	**95.33 23**	P	**P**	**16 36 05.3**	**-0.3**
	baz=268					
F30M	**Barrier River**	**95.52 23**	P	**P**	**16 36 06.0**	**-0.4**
	baz=268					
G31M	**Satah River**	**96.10 23**	P	**P**	**16 36 08.4**	**-0.6**
	baz=270					
BELA	**Belgrano 2**	**96.19 182**	P	**P**	**16 36 08.5**	**-0.8**
F31M	**Tsiigehtchic**	**96.31 23**	P	**P**	**16 36 09.0**	**-0.9**
	baz=270					
SNAA	**Sanae**	**97.65 193**	LR	LR	17 19 54.3	
	comp=Z,85nm,19.1s,baz=221,slow=35					
C36M	**Paulatuk**	**99.71 21**	P	**Pdif**	**16 36 24.9**	**-0.3**
	baz=279					
ARCES	**ARCESS Array B**	**101.73 340**	Pdiff	**Pdif**	**16 36 33.4**	**-0.8**
	comp=Z,1.2nm,0.7s,baz=69,slow=6.6,SNR=12					
FINES	**FINESS Array B**	**103.47 332**	PKiKP	**PKiKP**	**16 41 01.9**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=130,slow=7.7,SNR=3.8					
EKA	**Eskdalemuir Ar**	**119.82 333**	PKP	**PKPdf**	**16 41 31.5**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=13,slow=3.3,SNR=5.2					
TXAR	**Lajitas Array**	**121.16 59**	PKP	**PKPdf**	**16 41 35.4**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=214,slow=0.9,SNR=4.5					
PLCA	**Paso Flores**	**128.61 156**	PKP	**PKPdf**	**16 41 49.0**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=232,slow=0.9,SNR=5.6					
TORD	**Torodi Ar. Bea**	**132.17 282**	PKP	**PKPdf**	**16 41 56.8**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=50,slow=2.9,SNR=12					
TORD			PP	**PP**	**16 44 17.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=72,slow=6.2,SNR=4.1					
CPUP	**Villa Florida**	**146.31 162**	PKPbc	**PKPdf**	**16 42 22.1**	**-0.1**
	comp=Z,7.7nm,0.7s,baz=212,slow=3.1,SNR=23					
LPAZ	**La Paz**	**149.20 136**	PKPbc	**PKPdf**	**16 42 29.3**	**+1.4**
	comp=Z,5.2nm,0.7s,baz=110,slow=1.8,SNR=6.2					
LPAZ			PKPab	**sPKPbc**	**16 42 32.6**	**-1.9**
	comp=Z,4.0nm,0.4s,baz=207,slow=2.7,SNR=5.4					
ROSC	**El Rosal**	**152.08 91**	PKPbc	**PKPbc**	**16 42 38.0**	**-0.7**
	comp=Z,15nm,0.5s,baz=214,slow=22,SNR=5.5					

*IPEC **05** 16:26:46.2±0.3,51.59N×16.19E,h1km,ML2.3/4, Error ellipse: s-maj=2.1km s-min=1.2km az=37.0*
*DNK **05** 16:26:46.9±2.4,51.94N×17.08E, h0km,122km,ML2.1*
*VIE **05** 16:26:48.4±0.6,51.44N×16.03E, h0km, mb2.2/3, ml2.6/3, Error ellipse: s-maj=6.7km s-min=3.9km az=78.0, Suspected Mining induced.*
*PRU **05** 16:26:49.0,51.50N×16.12E, h0km*

ISC 05 16:26:44.8±0.8,51.66N±0.03×16.16E±0.03, h0km, n32, σ1°37/63, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**1.07**	**184**	*e*PG		**Pb**	**16 27 05.9**	**-0.3**
CHVC				*e*SG		**Sg**	**16 27 18.8**	**-0.3**
OSTC	**Ostas**	**1.10**	**178**	*e*PG		**Pb**	**16 27 06.4**	**-0.3**
OSTC				*e*SG		**Sg**	**16 27 20.0**	**-0.1**
	comp=Z,40nm,0.5s							
UPC	**Upice**	**1.15**	**185**	*e*PG		**Pg**	**16 27 06.9**	**0.0**
UPC				*e*SG		**Sg**	**16 27 20.9**	**-0.9**
	comp=Z,60nm,0.2s							
DPC	**Dobruska-Polom**	**1.31**	**175**	*e*PG		**Pg**	**16 27 09.8**	**-0.1**
DPC				*e*SG		**Sg**	**16 27 25.8**	**-1.1**
PVCC	**Panska Ves**	**1.51**	**222**	*e*PG		**Pg**	**16 27 14.1**	**+0.4**
PVCC				*e*SG		**Sn**	**16 27 33.6**	**+0.2**
	comp=Z,127nm,0.2s							
BRG	**Berggiesshubel**	**1.60**	**242**	Pg		**Pg**	**16 27 15.8**	**+0.4**
BRG				Sg		**Sg**	**16 27 36.3**	**+0.2**
BRG				Amp			16 27 37.8	
	comp=Z,49nm,0.3s							
KRLC	**Kraliky**	**1.63**	**166**	*e*PG		**Pb**	**16 27 15.8**	**0.0**
KRLC				*e*SG		**Sn**	**16 27 35.7**	**-0.8**
	comp=Z,20nm,0.3s							
RICC	**Richard**	**1.71**	**230**	*e*SG		**Sg**	**16 27 40.2**	**+0.5**
PRA	**Prague**	**1.93**	**215**	*e*PN		**Pn**	**16 27 19.0**	**+0.2**
GOPC	**GO Pecny, Ondr**	**1.95**	**207**	*e*PN		**Pn**	**16 27 19.2**	**+0.1**
GOPC				*e*PG		**Pb**	**16 27 21.2**	**0.0**
PRU	**Pruhonice**	**1.96**	**212**	*e*SG		**Sb**	**16 27 46.2**	**-0.1**
	comp=Z,20nm,0.3s							
CLL	**Collm**	**2.00**	**261**	*e*Pn		**Pn**	**16 27 20.0**	**+0.1**
CLL				*e*Pg		**Pg**	**16 27 23.0**	**-0.2**
CLL				*e*Sg		**Sg**	**16 27 50.0**	**+0.8**
	comp=Z,18nm,0.4s							
HSKC	**Hora Svate Kat**	**2.01**	**240**	*e*PG		**Pb**	**16 27 22.6**	**+0.3**
HSKC				*e*SG		**Sb**	**16 27 48.7**	**+0.8**
	comp=Z,28nm,0.2s							
MORC	**Moravsky Berou**	**2.08**	**154**	*e*Pn		**Pn**	**16 27 20.9**	**0.0**
	baz=335							
MORC				*e*Sg		**Sb**	**16 27 49.2**	**-0.5**

comp=Z,22nm,0.4s,baz=335
VRAC Vranov 2.37 173 *e*PN **Pn** **16 27 25.5 +0.6**
VRAC *e*SG **Sb** **16 27 58.4 +0.4**
VRAC Vranov 2.37 173 *e*Pn **Pn** **16 27 25.4 +0.6**
baz=354
VRAC *e*Sg **Sb** **16 27 58.3 +0.3**
comp=Z,15nm,0.4s,baz=354
KRUC Moravsky 2.60 177 *e*Pn **Pn** **16 27 28.3 +0.2**
baz=357
KRUC *e*Sg **Sb** **16 28 05.7 +1.0**
comp=Z,11nm,0.5s,baz=357
OJC Ojcow 2.71 121 *e*Pg **Pg** **16 27 37.2 +0.5**
OJC *e*Sg **Sg** **16 28 13.0 +1.0**
NKC Novy Kostel 2.75 240 *e*PN **Pn** **16 27 31.1 +1.0**
NKC *e*PG **Pg** **16 27 37.3 -0.1**
NKC *e*SG **Sg** **16 28 13.3 +0.3**
comp=Z,32nm,0.5s
KHC Kasperske Hory 3.02 214 *e*SN **Sn** **16 28 09.5 -1.2**
KHC *e*PN **Pn** **16 27 34.1 +0.2**
KHC *e*PG **Pb** **16 27 40.1 +0.7**
KHC *e*SG **Sg** **16 28 20.0 -1.7**
comp=Z,9.7nm,0.3s
CKRC Cesky Krumlov 3.08 203 *e*PN **Pn** **16 27 35.7 +1.0**
CKRC *e*PG **Pb** **16 27 41.4 +1.0**
CKRC *e*SG **Sb** **16 28 20.8 +2.3**
comp=Z,9.3nm,0.4s
LANS Liptovska Anna 3.28 139 *e*SG **Sg** **16 28 30.4 +0.3**
MODS Modra-Piesok 3.36 167 *e*SG **Sg** **16 28 31.5 -1.3**
BSD Bornholm Skovb 3.54 348 *i* P **Pn** **16 27 41.7 +0.7**
BSD *i* S **Sn** **16 28 20.8 -2.8**
BSD IAML 16 28 44.4
comp=Z,2.2nm,0.3s
VYHS Vyhne 3.60 150 *e*PN **Pn** **16 27 42.8 +0.9**
VYHS *e*PG **Pg** **16 27 57.0 +3.2**
VYHS *e*SG **Sg** **16 28 39.0 -1.5**
VYHS *e* 16 44 53.6
CONA Conrad Observa 3.74 183 *i* Pn **Pn** **16 27 44.3 +0.5**
comp=Z,0.7nm,0.2s
CONA *e*Sg **Sg** **16 28 41.3 -3.4**
comp=Z,12nm,0.5s
MOA Molln 4.00 199 *i* Pn **Pn** **16 27 47.9 +0.6**
comp=Z,2.7nm,0.3s
MOA *e*Sg **Sg** **16 28 51.8 -1.5**
comp=Z,9.0nm,0.5s
LUNU Lund 4.30 339 *i* P **Pn** **16 27 52.9 +1.5**
LUNU *i* S **Sn** **16 28 42.8 +0.7**
ARSA Arzberg 4.43 186 *e*Sg **Sg** **16 29 03.7 -3.3**
comp=Z,4.3nm,0.4s
BLEU Blekinge 4.66 358 *i* P **Pn** **16 27 58.0 +1.6**
BLEU *e*S **Sn** **16 28 45.5 -5.7**
DEL Delary 5.01 345 *i* P **Pn** **16 28 01.5 +0.4**
DEL *i* S **Sn** **16 28 57.8 -1.9**
FABU Falkenberg 5.72 341 *i* S **Sn** **16 29 16.1 -1.1**

*IDC **05** 16:47:55.0±2.4,5.75S×135.22E,h0km,mb3.7/2, mbtmp3.6/4,ML3.6/2, Error ellipse: s-maj=99.4km s-min=23.0km az=85.0*
ISC 05 16:48:02.9±1.5,5.8S±0.1×133.9E±0.2,h35km,n13, σ1§49/13, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**3.29**	**330**	P	**Pn**	**16 48 51.1**	**-0.8**
SAUI	**Saumlaki**	**3.40**	**230**	P	**Pn**	**16 48 55.0**	**+1.6**
BNDI	**Bandanaira**	**4.18**	**287**	P	**Pn**	**16 49 04.1**	**-0.1**
KDU	**Kakadu**	**7.01**	**192**	P	**Pn**	**16 49 44.1**	**+1.0**
DRS	**Darwin Rock St**	**7.25**	**204**	P	**Pn**	**16 49 48.0**	**+1.6**
MTN	**Manton Dam**	**7.54**	**201**	P	**Pn**	**16 49 51.2**	**+0.8**
SANI	**Sanana**	**8.73**	**295**	P	**Pn**	**16 50 05.9**	**-0.8**
SOEI	**Soe**	**10.34**	**247**	P	**Pn**	**16 50 27.7**	**-1.2**
KNRA	**Kununurra**	**11.06**	**207**	P	**Pn**	**16 50 38.5**	**-0.2**
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=3.6,slow=13,SNR=16	**14.09**	**178**	Pn	**Pn**	**16 51 17.4**	**-2.6**
WRA	0.5nm,0.3s,baz=357,slow=23,SNR=6.6			Sn	Sn	16 53 46.0	-9.3
WRA	baz=2.8,slow=23 0.4nm,0.3s			Lg	Lg	16 55 19.5	
ASAR	**Alice Springs** 0.2nm,0.3s,baz=3.1,slow=7.6,SNR=30	**17.79**	**180**	P	**Pn**	**16 52 07.0**	**-0.9**
ASAR	baz=5.5,slow=31 0.7nm,0.7s			Lg	Lg	16 57 19.6	
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=121,slow=6.6,SNR=5.4 0.5nm,0.6s	**69.40**	**325**	P	**P**	**16 59 09.1**	**+1.7**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=110,slow=6.7,SNR=2.2 0.3nm,0.3s	**72.27**	**332**	P	**P**	**16 59 25.9**	**+1.4**

*NEIC **05** 17:04:43.3±0.5,35.672N±0.009×97.42W±0.01,h6km±1km, Error ellipse: s-maj=1.4km s-min=1.3km az=128.0*
TUL 05 17:04:43.5±0.5,35.679N±0.006×97.42W±0.01,h5km±1km, ML2.9,mb_Lg2.7/84(NEIC),ML3.0/55(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=56.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.04**	**127**	Pg	Pg	17 04 45.0	+0.3
ADOK				Sg	Sg	17 04 46.3	+0.6
OK009	**Oakdale Elemen**	**0.10**	**184**	Pg	Pg	17 04 45.8	+0.2
OK009				Sg	Sg	17 04 47.7	+0.7
OK029	**Liberty Lake**	**0.12**	**345**		Pg	17 04 46.5	+0.4
OK029				Sg	Sg	17 04 48.7	+0.9
OKCSW	**OKLAHOMA CITY**	**0.27**	**184**	Pg	Pg	17 04 49.1	+0.3
OKCSW				Sg	Sg	17 04 53.2	+0.8
OKCSW	comp=N,2μm,0.1s			IAML		17 04 53.6	
OKCSW	comp=E,4μm,0.5s			IAML		17 04 58.2	
FNO	**Franklin**	**0.42**	**178**	Pg	Pg	17 04 51.8	+0.2
FNO				Sg	Sg	17 04 57.9	+0.8
FNO	comp=E,2μm,0.3s			IAML		17 04 58.3	
OK033	**Mehan**	**0.53**	**47**		Pg	17 04 53.9	+0.1
OK033				Sg	Sg	17 05 01.6	+0.9
OK033	comp=E,852nm,0.4s			IAML		17 05 01.9	
OK033	comp=E,689nm,0.4s			IAML		17 05 02.1	
OK031	**S. Brethren Rd**	**0.54**	**60**		Pg	17 04 54.2	+0.3
OK031				Sg	Sg	17 05 01.6	+0.6
OK031	comp=E,694nm,0.1s			IAML		17 05 02.4	
OK031	comp=E,829nm,0.1s			IAML		17 05 02.4	
OK052	**Battle Ridge R**	**0.59**	**58**		Pg	17 04 55.0	+0.2
OK052				Sg	Sg	17 05 03.1	+0.6
OK052	comp=E,566nm,0.2s			IAML		17 05 03.9	
QUOK	**Quay**	**0.76**	**49**		Pg	17 04 57.9	-0.1
QUOK				Sg	Sg	17 05 08.1	+0.3
QUOK	comp=E,540nm,0.1s			IAML		17 05 10.7	
QUOK	comp=N,764nm,0.2s			IAML		17 05 11.5	
DEOK	**Depew**	**0.76**	**77**	Pg	Pg	17 04 57.8	-0.4
DEOK				Sg	Sg	17 05 08.5	+0.4
DEOK	comp=E,480nm,0.3s			IAML		17 05 08.8	
DEOK	comp=N,566nm,0.3s			IAML		17 05 09.0	
OK048	**Pawnee Station**	**0.83**	**27**		Pg	17 04 59.3	-0.1
OK048				Sg	Sg	17 05 10.1	-0.1
OK048	comp=N,445nm,0.3s			IAML		17 05 11.1	
CROK	**Carrier**	**0.94**	**331**		Pg	17 05 01.4	-0.3
CROK				Sg	Sg	17 05 13.9	0.0
CROK	comp=N,572nm,0.2s			IAML		17 05 19.1	
CROK	comp=E,499nm,0.3s			IAML		17 05 24.2	
OK051	**E0350 and S346**	**0.95**	**29**		Pg	17 05 01.3	-0.4
OK051				Sg	Sg	17 05 14.1	+0.1
CSTR	**Hydro, Custer**	**1.04**	**269**		Pg	17 05 03.0	-0.4
CSTR				Sg	Sb	17 05 17.4	-0.4
BLOK	**Blackwell**	**1.09**	**8**		Pg	17 05 04.0	-0.5
BLOK				Sg	Sg	17 05 18.6	0.0
GC02	**Grant County #**	**1.22**	**343**		Pg	17 05 06.2	-0.7
GC02					Sg	17 05 22.6	-0.3
OK032	**Salt Plains WL**	**1.29**	**330**		Pn	17 05 07.3	-0.9
OK032					Sg	17 05 24.4	-0.7
KAN13	**South Haven SW**	**1.33**	**358**		Pn	17 05 08.4	-0.4
KAN13					Sb	17 05 25.6	-0.7
OK038	**West end E0370**	**1.34**	**307**		Pn	17 05 08.0	-0.8
TUL3	**Leonard**	**1.34**	**80**		Pn	17 05 07.4	-1.5
TUL3					Sb	17 05 25.9	-0.6
TUL3	comp=Z,44nm,1.1s			IAmb_Lg		17 05 28.8	
TUL3	comp=N,155nm,0.2s			IAML		17 05 29.5	
TUL3	comp=E,235nm,0.4s			IAML		17 05 32.0	
KAN14	**Manchester OK**	**1.35**	**341**		Pn	17 05 08.1	-0.9
KAN17	**Caldwell West**	**1.39**	**348**		Pn	17 05 09.0	-0.5
T35A	**Sooner Cattle**	**1.43**	**30**		Pn	17 05 09.6	-0.5
WMOK	**Wichita Mounta**	**1.46**	**230**		Pn	17 05 09.7	-0.8
KAN09	**Caldwell North**	**1.46**	**354**		Pn	17 05 10.5	-0.1
U32A	**Winter Ranch,**	**1.46**	**299**		Pn	17 05 10.1	-0.5
OK035	**E0210 Rd and N**	**1.47**	**315**		Pn	17 05 10.2	-0.5
KAN05	**Bluff City Nor**	**1.47**	**346**		Pn	17 05 10.8	+0.1
KAN01	**Argonia South**	**1.50**	**349**		Pn	17 05 11.0	-0.1
KAN10	**Anthony SW Sta**	**1.54**	**339**		Pn	17 05 11.7	+0.1
KAN06	**Argonia West S**	**1.61**	**347**		Pn	17 05 12.9	+0.4
KAN06	comp=Z,33nm,0.8s			IAmb_Lg		17 05 35.9	
KAN08	**Anthony NE Sta**	**1.61**	**344**		Pn	17 05 13.0	+0.4
ELIS	**Ellis County**	**1.67**	**284**		Pn	17 05 14.0	+0.6
KAN12	**Harper NE Stat**	**1.68**	**344**		Pn	17 05 14.2	+0.6
LOOK	**Love County**	**1.69**	**173**		Pn	17 05 14.0	+0.3
X37A	**Clayton**	**2.00**	**122**		Pn	17 05 18.2	+0.3
X37A	comp=Z,42nm,0.8s			IAmb_Lg		17 05 48.4	
RLO	**Rose Lookout**	**2.00**	**75**		Pn	17 05 18.3	+0.3
WTFS	**Witchita Falls**	**2.10**	**205**		Pn	17 05 19.7	+0.5
Z35A	**Perchaven, San**	**2.35**	**177**	Pn	Pn	17 05 23.1	+0.5
SMWD	**Samnorwood**	**2.38**	**257**		Pn	17 05 24.1	+0.9
SMWD	comp=Z,36nm,0.7s			IAmb_Lg		17 06 01.7	
U38A	**Gravette**	**2.57**	**72**		Pn	17 05 26.7	+0.9
FW03	**Perrin-Whitt E**	**2.69**	**192**		Pn	17 05 27.5	+0.1
FW06	**Azle**	**2.70**	**183**	Pn	Pn	17 05 29.4	+1.8
HHAR	**Hobbs**	**2.88**	**77**		Pn	17 05 29.2	-0.9
R32A	**Long Quarter,**	**2.93**	**340**		Pn	17 05 30.4	-0.3
PLPT	**Palo Pinto**	**2.96**	**195**		Pn	17 05 30.3	-0.7
PLPT	comp=Z,19nm,0.9s			IAmb_Lg		17 06 20.7	
FW07	**Weatherford**	**2.98**	**186**	Pn	Pn	17 05 30.8	-0.6
Z38A	**Mt. Pleasant**	**3.14**	**140**		Pn	17 05 33.3	-0.3
FW16	**Waxahatchie**	**3.22**	**172**	Pn	Pn	17 05 33.9	-0.8
APMT	**Aspermont**	**3.24**	**224**		Pn	17 05 34.0	-1.0
FW14	**Alvarado**	**3.28**	**177**		Pn	17 05 34.4	-1.1
FW13	**Cleburne**	**3.32**	**180**	Pn	Pn	17 05 34.8	-1.3
MIAR	**Mount Ida**	**3.34**	**109**		Pn	17 05 34.0	-2.4
KSU1	**Kansas State U**	**3.48**	**10**		Pn	17 05 36.4	-1.8
KSU1	comp=Z,14nm,0.8s			IAmb_Lg		17 06 37.0	
DKNS	**Dickens**	**3.52**	**236**		Pn	17 05 36.6	-2.3
ABTX	**Abilene, Hawle**	**3.56**	**212**		Pn	17 05 36.7	-2.7
ABTX	comp=Z,18nm,1.1s			IAmb_Lg		17 06 36.8	
AMTX	**Amarillo**	**3.58**	**258**		Pn	17 05 37.1	-2.6
AMTX	comp=Z,16nm,0.9s			IAmb_Lg		17 06 40.3	
CBKS	**Cedar Bluff**	**3.64**	**330**		Pn	17 05 38.6	-1.9
WHTX	**Lake Whitney,**	**3.68**	**181**	Pn	Pn	17 05 38.2	-2.8
S39A	**Bolivar**	**3.85**	**57**		Pn	17 05 41.7	-1.7
S39A	comp=Z,12nm,0.8s			IAmb_Lg		17 06 45.0	
SN07	**Snyder 07**	**3.86**	**229**		Pn	17 05 41.6	-2.0
SN07	comp=Z,16nm,0.8s			IAmb_Lg		17 06 52.4	
237A	**Washetta, Mont**	**3.90**	**160**	Pn	Pn	17 05 43.6	-0.5
X40A	**Basin Creek Fa**	**3.94**	**106**		Pn	17 05 44.2	-0.3
SN05	**Snyder 5**	**4.01**	**227**		Pn	17 05 43.4	-2.2
SN05	comp=Z,26nm,1.1s			IAmb_Lg		17 06 52.0	
WLAR	**White Oak Lake**	**4.06**	**118**	IAmb_Lg		17 06 53.9	
WHAR	comp=Z,14nm,0.8s **Wooly Hollow**	**4.20**	**94**		Pn	17 05 47.9	-0.3
WHAR	comp=Z,15nm,1.0s			IAmb_Lg		17 06 56.9	
UALR	**University of**	**4.25**	**101**		Pn	17 05 48.4	-0.4
POST	**Post**	**4.27**	**234**		Pn	17 05 48.2	-0.9
POST	comp=Z,16nm,0.9s			IAmb_Lg		17 07 08.5	
FCAR	**Ozark Folk Cen**	**4.31**	**86**		Pn	17 05 48.4	-1.2
FCAR	comp=Z,19nm,0.7s			IAmb_Lg		17 07 03.2	
RTBA	**Rita Blanca**	**4.38**	**282**		Pn	17 05 50.1	-0.7
RTBA	comp=Z,11nm,0.7s			IAmb_Lg		17 07 07.9	
MGMO	**Mountain Grove**	**4.40**	**69**	Pn	Pn	17 05 49.8	-1.2
MGMO	comp=Z,20nm,0.8s			IAmb_Lg		17 07 05.6	
Z41A	**Richland Creek**	**4.51**	**121**	Pn	Pn	17 05 51.3	-1.1
Z41A	comp=Z,16nm,0.8s			IAmb_Lg		17 07 11.9	
BRDY	**Brady**	**4.58**	**197**		Pn	17 05 52.4	-1.0
BRDY	comp=Z,15nm,0.7s			IAmb_Lg		17 07 12.7	
MSTX	**Muleshoe**	**4.72**	**250**	Pn	Pn	17 05 54.4	-1.1
SGCY	**Sterling City**	**4.86**	**221**		Pn	17 05 54.6	-2.7
SGCY	comp=Z,18nm,0.8s			IAmb_Lg		17 07 22.0	
R40A	**Maddies Statio**	**4.88**	**56**		Pn	17 05 55.8	-1.7
R40A	comp=Z,10nm,0.7s			IAmb_Lg		17 07 20.1	
435B	**Jarrell**	**4.88**	**182**	Pn	Pn	17 05 55.9	-1.7
435B	comp=Z,14nm,0.7s			IAmb_Lg		17 07 21.6	
P38A	**Dawn**	**5.00**	**37**		Pn	17 05 58.0	-1.1
P38A	comp=Z,11nm,0.7s			IAmb_Lg		17 07 33.6	
LCAR	**Lake Charles**	**5.10**	**84**	Pn	Pn	17 05 59.6	-0.9
HNVL	**Huntsville, TX**	**5.17**	**161**	Pn	Pn	17 06 00.5	-1.0
T42A	**Van Buren**	**5.28**	**73**		Pn	17 06 02.1	-0.9
KSCO	**Kaye Shedlock'**	**5.32**	**310**	Pn	Pn	17 06 03.4	-0.3
KSCO	comp=Z,10nm,0.7s			IAmb_Lg		17 07 46.0	
N35A	**Tabor**	**5.36**	**15**	Pn	Pn	17 06 03.2	-0.9
CCM	**Cathedral Cave**	**5.49**	**63**	Pn	Pn	17 06 04.0	-1.8
CCM	comp=Z,12nm,0.7s			IAmb_Lg		17 07 43.1	
HBAR	**Harrisburg**	**5.51**	**89**	Pn	Pn	17 06 04.8	-1.3
ODSA	**Odessa**	**5.55**	**232**	Pn	Pn	17 06 04.7	-2.1
ODSA	comp=Z,14nm,1.1s			IAmb_Lg		17 07 47.3	
JCT	**Junction City**	**5.56**	**202**	Pn	Pn	17 06 04.8	-2.0
OZNA	**Ozona**	**5.67**	**214**	Pn	Pn	17 06 06.1	-2.4
P40A	**Paris**	**5.74**	**46**	Pn	Pn	17 06 08.7	-0.6
PBMO	**Poplar Bluff**	**5.75**	**77**	Pn	Pn	17 06 06.9	-2.6
PBMO	comp=Z,14nm,0.7s			IAmb_Lg		17 07 47.3	
T25A	**Trinidad**	**5.83**	**287**	Pn	Pn	17 06 07.9	-2.8
441A	**DeRidder**	**6.06**	**143**	Pn	Pn	17 06 10.9	-2.8
FVM	**French Village**	**6.06**	**66**	Pn	Pn	17 06 12.0	-1.7
FVM	comp=Z,11nm,0.8s			IAmb_Lg		17 07 56.1	
N38A	**Joes South For**	**6.07**	**32**	Pn	Pn	17 06 13.0	-0.9
HNDO	**Hondo**	**6.33**	**195**	Pn	Pn	17 06 13.8	-3.7
L34A	**Svendsen Farm,**	**6.33**	**7**	Pn	Pn	17 06 15.9	-1.6
OGNE	**Ogallala**	**6.39**	**327**	Pn	Pn	17 06 19.2	+0.9
CGM3	**Cape Girardeau**	**6.46**	**73**	IAmb_Lg		17 08 15.2	
DRIO	comp=Z,8.6nm,0.7s **Del Rio**	**6.80**	**204**	Pn	Pn	17 06 21.8	-2.1
DRIO	comp=Z,9.6nm,1.1s			IAmb_Lg		17 08 35.2	
SDCO	**Great Sand Dun**	**6.81**	**290**	Pn	Pn	17 06 22.5	-1.8
SDCO	comp=Z,7.7nm,1.1s			IAmb_Lg		17 08 32.9	
S44A	**Carbondale**	**6.86**	**71**	IAmb_Lg		17 08 28.9	
PECS	comp=Z,9.9nm,0.7s **Pecos**	**6.89**	**233**	Pn	Pn	17 06 22.6	-2.6
SIUC	**Southern Illin**	**6.89**	**70**	IAmb_Lg		17 08 26.9	
SAND	comp=Z,11nm,0.8s **Sanderson**	**6.95**	**216**	Pn	Pn	17 06 24.3	-1.7
SAND	comp=Z,9.0nm,0.9s			IAmb_Lg		17 08 35.0	
Q24A	**Divide**	**6.98**	**300**	Pn	Pn	17 06 26.2	-0.4
SCIA	**State Center**	**7.03**	**27**	IAmb_Lg		17 08 37.4	
ISCO	comp=Z,12nm,0.8s **Idaho Springs**	**7.69**	**305**	Pn	Pn	17 06 34.3	-2.1
ISCO	comp=Z,5.6nm,1.1s			IAmb_Lg		17 08 54.4	
TX31	**Lajitas Ar. Si**	**8.24**	**222**		Pn	17 06 41.1	-2.7
TXAR	**Lajitas Array**	**8.24**	**222**	Pn	Pn	17 06 42.1	-1.6
PHWY	**Pilot Hill** comp=Z,5.8nm,0.9s	**8.44**	**314**	IAmb_Lg		17 09 19.6	
N23A	**Red Feather La** comp=Z,7.5nm,0.8s	**8.49**	**310**	IAmb_Lg		17 09 23.1	

*NEIC **05** 17:06:10.5±0.8,19.08N±0.03×155.20W±0.02,h5km±2km, Error ellipse: s-maj=5.2km s-min=3.0km az=323.0*
HVO 05 17:06:10.3±0.7,19.07N±0.02×155.17W±0.02,h9km±7km, ML3.2/33,ML3.5/47(NEIC), Error ellipse: s-maj=4.1km s-min=1.9km az=146.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.26**	**330**	Pg	Pg	17 06 15.2	-0.3
HLP				Sg	Sg	17 06 20.0	+1.0
HTC	**Hot Caves**	**0.27**	**308**		Pg	17 06 15.8	0.0
PUH	**Pauahi** comp=N,6μm,0.9s	**0.30**	**352**	IAML		17 06 23.4	
PUH	**Pauahi**	**0.30**	**352**		Pg	17 06 16.2	-0.3
PUH					Sg	17 06 20.8	+0.3
KNHH	**Kane Nui o Ham**	**0.31**	**1**		Pg	17 06 16.3	-0.1
STCH	**Steam Cracks**	**0.32**	**8**		Pg	17 06 16.5	-0.2
STCH	comp=N,4μm,0.8s			IAML		17 06 24.7	
JCUZ	**Jacuzzi**	**0.32**	**12**	Pg	Pg	17 06 16.6	-0.1
JCUZ	comp=E,4μm,0.5s			IAML		17 06 23.0	
JCUZ	comp=N,4μm,0.5s			IAML		17 06 25.1	
NPOC	**North of Pu'u**	**0.33**	**11**		Pg	17 06 16.7	-0.1
NPOC	comp=N,4μm,0.4s			IAML		17 06 24.3	
KKO	**Keanakako`i**	**0.34**	**345**		Pg	17 06 16.7	-0.4
KKO				Sg	Sg	17 06 21.4	-0.1
KKO	comp=E,6μm,0.8s			IAML		17 06 28.8	
RIM	**Rim**	**0.34**	**344**		Pg	17 06 16.7	-0.3
RIM	comp=E,6μm,0.7s			IAML		17 06 26.5	
SDHHI	**Sand Hill**	**0.34**	**340**		Pg	17 06 16.7	-0.3
BYL	**Byron's Ledge**	**0.35**	**346**		Pg	17 06 16.8	-0.5
BYL	comp=E,5μm,0.5s			IAML		17 06 23.9	
BYL	comp=N,5μm,0.5s			IAML		17 06 24.1	
NPH	**North Pit**	**0.35**	**343**		Pg	17 06 17.0	-0.3
NPH	comp=N,3μm,0.6s			IAML		17 06 22.9	
WRMHI	**West Rim**	**0.35**	**340**		Pg	17 06 16.8	-0.5
HATHI	**Halema'uma'u T**	**0.36**	**347**		Pg	17 06 16.9	-0.6
HATHI	comp=E,6μm,0.6s			IAML		17 06 28.7	
HATHI	comp=N,5μm,0.5s			IAML		17 06 29.8	
OBL	**Observatory Le**	**0.36**	**343**		Pg	17 06 17.0	-0.5
SBLHI	**Steaming Bluff**	**0.36**	**346**		Pg	17 06 17.0	-0.5
SBLHI	comp=N,5μm,0.5s			IAML		17 06 25.2	
SBLHI	comp=E,4μm,0.4s			IAML		17 06 27.9	
UWB	**Uwekahuna B**	**0.36**	**344**		Pg	17 06 17.0	-0.5
UWB					Sg	17 06 20.6	-1.8
UWE	**Uwekahuna**	**0.37**	**342**		Pg	17 06 17.2	-0.4
UWE					Sg	17 06 22.6	+0.1
UWE	comp=N,6μm,0.5s			IAML		17 06 25.6	
UWE	comp=E,6μm,0.6s			IAML		17 06 27.9	
RSD	**Rainshed**	**0.40**	**346**		Pg	17 06 17.5	-0.8
RSD	**Rainshed**	**0.40**	**346**		Sg	17 06 23.7	+0.1
KHU	**Kahuku**	**0.45**	**293**		Pg	17 06 18.8	-0.4
MLH	**Mauna Loa**	**0.47**	**334**		Pg	17 06 19.0	-0.5
MLH	comp=E,5μm,0.5s			IAML		17 06 26.7	
MLH	**Mauna Loa**	**0.47**	**334**		Sg	17 06 25.6	0.0
MWH	**Moku'aweowe**	**0.57**	**316**		Pg	17 06 20.3	-1.2
MWH	**Moku'aweowe**	**0.57**	**316**		Sg	17 06 28.8	-0.4
MWH	**Moku'aweowe** comp=E,3μm,0.8s	**0.57**	**316**	IAML		17 06 36.3	
MWH	comp=N,3μm,0.6s			IAML		17 06 36.5	
HMH	**Humu'ula Sheep**	**0.60**	**331**		Pg	17 06 21.1	-1.0
HMH	**Humu'ula Sheep**	**0.60**	**331**		Sg	17 06 29.5	-0.6
HMH	**Humu'ula Sheep** comp=E,2μm,0.2s	**0.60**	**331**	IAML		17 06 29.6	
HMH	comp=N,3μm,0.5s			IAML		17 06 29.7	
ALEP	**Alea Permanent**	**0.65**	**316**		Pg	17 06 21.3	-1.5
POHA	**Pohakuloa**	**0.76**	**334**		Pg	17 06 22.9	-2.2
POHA	comp=N,2μm,0.6s			IAML		17 06 46.7	
POHA	comp=N,2μm,0.7s			IAML		17 06 47.9	
POHA	**Pohakuloa**	**0.76**	**334**		Sg	17 06 34.5	-0.5
CPH	**Captain Cook**	**0.82**	**301**		Pg	17 06 24.3	-1.7
HUH	**Hualalai**	**0.87**	**314**		Pg	17 06 24.9	-2.3
HUH	comp=N,2μm,0.5s			IAML		17 06 44.1	
HUH	comp=E,2μm,0.3s			IAML		17 06 48.9	
HPAH	**Hawaii Prepara**	**1.07**	**333**		Pg	17 06 27.1	-3.9
MHA	**Mahukona**	**1.31**	**328**	Pn	Pn	17 06 30.2	-4.4
HLK	**Haleakala**	**1.96**	**329**	Pn	Pn	17 06 41.3	-2.6
KHLH	**Kahului Airpor**	**2.17**	**327**	Pn	Pn	17 06 44.5	-2.1
HON	**Honolulu**	**3.48**	**311**	Pn	Pn	17 07 03.1	-1.4

*ISK **05** 17:29:04.4,36.62N×26.48E,h145km±1km,ML1.9/10*
*ATH **05** 17:29:05.2,36.61N×26.35E,h128km±9km,ML2.8/1, Error ellipse: s-maj=9.3km s-min=2.2km az=144.0*
*THE **05** 17:29:07.8,36.68N×26.49E,h134km±7km,ML2.6/2, Error ellipse: s-maj=7.5km s-min=1.8km az=8.0*
ISC 05 17:29:04.2±2.0,36.65N±0.05×26.41E±0.04,h139km±14km, n24,σ1§15/34, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APE	**Apeiranthos**	**0.82**	**301**	Pg	**Pn**	**17 29 27.9**	**+1.4**
APE	**Apeiranthos**	**0.82**	**301**	P	**Pn**	**17 29 27.8**	**+1.3**
APE				S	**Sn**	**17 29 43.0**	**-0.4**
APE	**Apeiranthos**	**0.82**	**301**	P	**Pn**	**17 29 27.3**	**+0.9**
BODT	**Bodrum**	**0.83**	**60**	Pg	**Pn**	**17 29 27.5**	**+1.0**
BODT				Sg	**Sn**	**17 29 44.3**	**+0.8**
BODT	**Bodrum**	**0.83**	**60**	P	**Pn**	**17 29 27.3**	**+0.8**
BODT				S	**Sn**	**17 29 40.5**	**-3.0**
DAT	**Datca**	**0.94**	**85**	Pg	**Pn**	**17 29 27.9**	**+0.4**
SMG	**Samos**	**1.11**	**18**	P	**Pn**	**17 29 28.9**	**-0.1**
KARP	**Karpathos**	**1.25**	**151**	Pn	**Pn**	**17 29 30.8**	**+0.3**
KARP	**Karpathos**	**1.25**	**151**	P	**Pn**	**17 29 30.7**	**+0.3**
KARP	172nm,0.1s			S	**Sn**	**17 29 50.6**	**+0.2**
KARP	**Karpathos**	**1.25**	**151**	P	**Pn**	**17 29 30.8**	**+0.3**
KARP				S	**Sn**	**17 29 48.3**	**-2.1**
KARP	comp=N,411μm,0.1s			AML	AML	17 29 51.9	
KARP	comp=E,386μm,0.2s			AML	AML	17 29 54.0	
ARG	**Arkhangelos**	**1.45**	**107**	Pn	**Pn**	**17 29 32.9**	**+0.5**
ARG	**Arkhangelos**	**1.45**	**107**	P	**Pn**	**17 29 33.0**	**+0.5**
ARG				S	**Sn**	**17 29 53.7**	**-0.2**
ARG	**Arkhangelos**	**1.45**	**107**	P	**Pn**	**17 29 32.9**	**+0.5**
ARG				S	**Sn**	**17 29 54.0**	**+0.2**
ZKR	**Zakros**	**1.54**	**186**	Pn	**Pn**	**

*NEIC **05** 17:30:02.3±1.2, 19°.40N±0°.03×155°.139W±0°.009, h5km±1km, Error ellipse: s-maj=4.5km s-min=2.5km az=161.0*

HVO 05 17:30:01.2±0.9, 19°.34N±0°.01×155°.10W±0°.02, h6km±2km, ML2.8/35, ML2.9/46(NEIC), Error ellipse: s-maj=2.8km s-min=1.5km az=120.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**355**		Pg	17 30 03.2	+0.5
JCUZ				Sg	Sg	17 30 04.5	+0.8
STCH	**Steam Cracks**	**0.06**	**332**		Pg	17 30 03.3	+0.5
STCH				Sg	Sg	17 30 04.5	+0.7
STCH				IAML		17 30 04.8	
	comp=N,14μm,0.2s						
NPOC	**North of Pu'u**	**0.06**	**348**		Pg	17 30 03.4	+0.6
NPOC				Sg	Sg	17 30 04.8	+0.9
NPOC				IAML		17 30 05.1	
	comp=N,13μm,0.3s						
NPOC				IAML		17 30 05.3	
	comp=E,7μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.08**	**302**		Pg	17 30 03.5	+0.4
PUH	**Pauahi**	**0.12**	**289**		Pg	17 30 04.1	+0.3
PUH				IAML		17 30 06.8	
	comp=N,5μm,0.7s						
JOKA	**Jonika Flow**	**0.13**	**42**		Pg	17 30 04.5	+0.5
JOKA					Sg	17 30 06.9	+1.1
KKO	**Keanakako`i**	**0.17**	**291**		Pg	17 30 04.9	+0.2
KKO				Sg	Sg	17 30 07.5	+0.5
KKO				IAML		17 30 09.9	
	comp=E,2μm,0.2s						
BYL	**Byron's Ledge**	**0.17**	**296**		Pg	17 30 04.9	+0.2
BYL				Sg	Sg	17 30 07.5	+0.5
BYL				IAML		17 30 07.9	
	comp=N,4μm,0.3s						
BYL				IAML		17 30 08.7	
	comp=E,3μm,0.4s						
HATHI	**Halema'uma'u T**	**0.18**	**299**		Pg	17 30 05.0	+0.2
HATHI				IAML		17 30 10.2	
	comp=N,3μm,0.5s						
RIM	**Rim**	**0.18**	**290**		Pg	17 30 05.0	+0.2
RIM				IAML		17 30 08.1	
	comp=E,2μm,0.5s						
RIM				IAML		17 30 10.2	
	comp=N,2μm,0.4s						
SBLHI	**Steaming Bluff**	**0.18**	**299**		Pg	17 30 04.9	0.0
SBLHI				Sg	Sg	17 30 07.4	0.0
SBLHI				IAML		17 30 08.2	
	comp=E,2μm,0.7s						
NPH	**North Pit**	**0.19**	**294**		Pg	17 30 05.0	0.0
UWB	**Uwekahuna B**	**0.19**	**297**		Pg	17 30 05.1	+0.1
OBL	**Observatory Le**	**0.19**	**295**		Pg	17 30 05.2	+0.1
OBL				IAML		17 30 11.9	
	comp=N,4μm,0.5s						
SDHHI	**Sand Hill**	**0.19**	**286**		Pg	17 30 05.2	+0.1
SDHHI				IAML		17 30 11.3	
	comp=N,3μm,0.4s						
SDHHI				IAML		17 30 11.5	
	comp=E,3μm,0.3s						
HLP	**Hilina Pali**	**0.20**	**259**		Pg	17 30 05.7	+0.4
HLP				IAML		17 30 08.2	
	comp=E,4μm,0.2s						
UWE	**Uwekahuna**	**0.20**	**295**		Pg	17 30 05.3	+0.1
UWE				IAML		17 30 11.9	
	comp=E,3μm,0.5s						
UWE				IAML		17 30 12.3	
	comp=N,3μm,0.4s						
WRMHI	**West Rim**	**0.20**	**290**		Pg	17 30 05.3	0.0
WRMHI				IAML		17 30 11.7	
	comp=E,3μm,0.3s						
RSD	**Rainshed**	**0.21**	**307**		Pg	17 30 05.6	+0.1
RSD				IAML		17 30 10.6	
	comp=N,3μm,0.1s						
RSD				IAML		17 30 11.6	
	comp=E,3μm,0.1s						
HTC	**Hot Caves**	**0.30**	**251**		Pg	17 30 07.5	+0.4
MLH	**Mauna Loa**	**0.32**	**300**		Pg	17 30 07.4	-0.1
MLH					Sg	17 30 12.4	+0.7
MLH				IAML		17 30 15.3	
	comp=E,2μm,0.2s						
HMH	**Humu'ula Sheep**	**0.45**	**306**		Pg	17 30 09.6	-0.4
HMH					Sg	17 30 16.3	+0.3
MWH	**Moku'aweowe**	**0.49**	**288**		Pg	17 30 10.3	-0.5
MWH				IAML		17 30 19.4	
	comp=N,1μm,0.5s						
KHU	**Kahuku**	**0.50**	**260**		Pg	17 30 10.3	-0.5
KHU				IAML		17 30 20.1	
	comp=E,841nm,0.1s						
KHU				IAML		17 30 20.5	
	comp=N,888nm,0.2s						
KHU	**Kahuku**	**0.50**	**260**		Sg	17 30 18.7	+1.4
ALEP	**Alea Permanent**	**0.56**	**292**		Sg	17 30 19.7	+0.5
POHA	**Pohakuloa**	**0.59**	**316**		Pg	17 30 11.8	-0.8
POHA	**Pohakuloa**	**0.59**	**316**		Sg	17 30 19.8	-0.4
HUH	**Hualalai**	**0.78**	**297**		Pg	17 30 14.8	-1.4
CPH	**Captain Cook**	**0.79**	**281**		Pg	17 30 15.0	-1.4
HPAH	**Hawaii Prepara**	**0.89**	**321**		Pg	17 30 15.8	-2.6
MHA	**Mahukona**	**1.14**	**318**		Pg	17 30 19.4	-3.7
HLK	**Haleakala**	**1.78**	**323**		Pn	17 30 27.7	-5.1
KHLH	**Kahului Airpor**	**1.99**	**321**	Pn	Pn	17 30 31.4	-4.1
OPA	**Opana**	**3.59**	**311**	Pn	Pn	17 30 52.7	-4.9
KEKH	**Kekaha**	**5.06**	**302**	Pn	Pn	17 31 13.2	-4.5

*NEIC **05** 17:30:02.4±1.4, 12°.38S±0°.10×167°.0E±0°.2, h170km±2km, mb4.3/21, Error ellipse: s-maj=31.4km s-min=10.9km az=295.0*

*IDC **05** 17:30:08.2±5.1, 12°.50S×166°.83E, h232km±47km, mb3.2/5, mbtmp3.8/6, Error ellipse: s-maj=33.4km s-min=29.3km az=131.0*

ISC 05 17:30:07.2±0.8, 12°.4S±0°.1×166°.8E±0°.1, h220km, n31, σ0s95/34, mb4.2/15, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.58**	**182**	P	**Pn**	**17 32 21.3**	**+0.5**
	5.5nm,0.9s,baz=0.0,slow=20,SNR=1.7						
DZM				S	S	17 33 57.3	-11
	1.7nm,0.5s,baz=343,slow=22,SNR=1.0						
RABL	**Rabaul**	**16.59**	**298**	P	**P**	**17 33 46.0**	**-0.5**
RABL				IAmb	IAmb	17 34 18.1	
	comp=E,11nm,0.8s						
CTAO	**Charters Tower**	**21.08**	**246**	P	**P**	**17 34 35.5**	**+0.8**
CTAO				IAmb	IAmb	17 34 42.2	
	comp=E,20nm,1.4s						
ARMA	**Armidale**	**22.71**	**216**	P	**P**	**17 34 50.7**	**+0.3**
ARMA				IAmb	IAmb	17 35 04.3	
	comp=E,19nm,1.4s						
BKZ	**Black Stump Fm**	**27.98**	**164**	P	**P**	**17 35 37.0**	**-0.6**
THZ	**Tophouse**	**29.70**	**171**	P	**P**	**17 35 52.6**	**-0.1**
LTZ	**Lake Taylor**	**30.60**	**172**	P	**P**	**17 36 00.5**	**-0.2**
WRA	**Warramunga Arr**	**31.96**	**252**	P	**P**	**17 36 12.6**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=86,slow=9.5,SNR=1.7						
	comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**33.08**	**246**	P	**P**	**17 36 23.0**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=67,slow=10,SNR=5.3						
ASAR				pP	**pP**	**17 37 03.9**	**-2.6**
	comp=Z,0.4nm,0.7s,baz=71,slow=9.0,SNR=3.7						
ASAR				PcP	**PcP**	**17 39 00.8**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=66,slow=3.2,SNR=2.3						
	comp=Z,0.2nm,0.7s						
BBOO	**Buckleboo**	**34.63**	**229**	P	**P**	**17 36 36.4**	**+0.7**
BBOO				IAmb	IAmb	17 36 48.3	
	comp=E,15nm,1.4s						
QSPA	**South Pole Qui**	**77.57**	**180**		**P**	**17 41 38.3**	**-0.4**
QSPA	**South Pole Qui**	**77.57**	**180**	P	**P**	**17 41 38.1**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=106,slow=2.5,SNR=6.1						
	comp=Z,0.5nm,0.5s						
M16K	**Timber Creek**	**78.11**	**16**	P	**P**	**17 41 42.3**	**+0.9**
K15K	**Wolf Creek Mou**	**78.52**	**15**	P	**P**	**17 41 44.9**	**+1.2**
CAST	**Castle Rocks**	**81.98**	**17**	P	**P**	**17 42 02.1**	**0.0**
CAST				IAmb	IAmb	17 42 39.7	
	comp=Z,5.3nm,1.3s						
BPAW	**Bear Paw Mtn.**	**82.81**	**17**	P	**P**	**17 42 05.2**	**-1.2**
RND	**Reindeer**	**82.94**	**18**	P	**P**	**17 42 07.1**	**-0.1**
RND				IAmb	IAmb	17 42 41.7	
	comp=Z,4.7nm,1.3s						
IMAR	**Indian Mountai**	**83.50**	**15**	P	**P**	**17 42 10.8**	**+0.9**
E19K	**Redstone River**	**83.85**	**13**	P	**P**	**17 42 13.1**	**+1.5**
E19K				IAmb	IAmb	17 42 39.7	
	comp=Z,10nm,1.5s						
C18K	**Utukok River**	**84.03**	**11**	P	**P**	**17 42 13.4**	**+0.8**
HDA	**Harding Lake**	**84.25**	**18**	P	**P**	**17 42 13.3**	**-0.4**
HDA				IAmb	IAmb	17 42 14.7	
	comp=Z,4.7nm,0.8s						
D19K	**Kuna River**	**84.52**	**12**	P	**P**	**17 42 16.8**	**+1.8**
D19K				IAmb	IAmb	17 42 45.5	
	comp=Z,11nm,1.4s						
IL31		**84.52**	**18**	P	**P**	**17 42 14.9**	**-0.1**
ILAR	**Eielson Array**	**84.52**	**18**	P	**P**	**17 42 15.3**	**+0.3**
ILAR	**Eielson Array**	**84.52**	**18**	P	**P**	**17 42 14.8**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=230,slow=5.0,SNR=14						
	comp=Z,1.2nm,0.6s						
M27K	**Edge Creek, AK**	**84.55**	**21**	P	**P**	**17 42 16.3**	**+0.9**
M27K				IAmb	IAmb	17 42 51.9	
	comp=Z,12nm,1.4s						
J25K	**Salcha River,**	**84.88**	**19**	P	**P**	**17 42 15.3**	**-1.6**
J25K				IAmb	IAmb	17 42 26.9	
	comp=Z,6.9nm,1.4s						
SCRK	**Sand Creek**	**84.89**	**20**	P	**P**	**17 42 16.3**	**-0.8**
MKAR	**Makanchi Array**	**95.21**	**317**	P	**P**	**17 43 06.8**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=94,slow=6.0,SNR=4.2						
	comp=Z,0.4nm,0.5s						
ARCES	**ARCESS Array B**	**117.93**	**346**	PKP	**PKiKP**	**17 48 27.2**	**+0.2**
	comp=Z,2.1nm,0.9s,baz=46,slow=3.9,SNR=5.8						
ESDC	**Sonseca Array**	**151.66**	**345**	PKPbc	**PKPbc**	**17 49 34.7**	**-1.1**
	comp=Z,0.5nm,0.8s,baz=14,slow=2.9,SNR=3.7						
ESDC				PKPab	**PKPab**	**17 49 44.5**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=14,slow=3.4,SNR=5.2						

IDC 05 17:35:40.3±3.5, 6°.09S×150°.25E, h0km, mb3.2/2, mbtmp3.5/3, ML1.7/1, Error ellipse: s-maj=131.6km s-min=42.3km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.50**	**223**	Pn	Pn	17 36 51.0	+1.2
	2.5nm,0.3s,baz=31,slow=9.1,SNR=5.7						
PMG				Sn	Sn	17 37 39.2	-3.7
	14nm,0.3s,baz=323,slow=20,SNR=12						
	17nm,0.5s						
WRA	**Warramunga Arr**	**20.71**	**227**	P	P	17 40 22.4	0.0
	1.0nm,0.4s,baz=52,slow=11,SNR=7.9						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**23.51**	**220**	P	P	17 40 51.2	-1.0
	0.3nm,0.6s,baz=56,slow=9.1,SNR=12						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.24**	**285**	PKPbc	PKPbc	17 55 29.3	-0.2
	0.4nm,0.5s,baz=99,slow=2.2,SNR=5.6						

IDC 05 17:45:39.7±2.0, 5°.43S×151°.62E, h0km, mb3.8/3, mbtmp3.9/3, MS3.4/1, Error ellipse: s-maj=133.5km s-min=29.9km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.15**	**228**	P	P	17 50 38.3	+1.0
	3.8nm,0.5s,baz=52,slow=9.8,SNR=17						
	3.8nm,0.5s						
ASAR	**Alice Springs**	**24.90**	**222**	P	P	17 51 04.2	-0.4
	1.9nm,0.6s,baz=56,slow=9.3,SNR=52						
	1.9nm,0.6s						
URZ	**Urewera**	**40.06**	**148**	LR	LR	18 08 17.6	
	comp=Z,48nm,20.1s,baz=18,slow=34						
ILAR	**Eielson Array**	**83.18**	**22**	P	P	17 58 08.3	+0.8
	0.2nm,0.5s,baz=243,slow=6.0,SNR=2.1						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.37**	**287**	PKPbc	PKPbc	18 05 30.2	-1.6
	0.2nm,0.4s,baz=89,slow=0.7,SNR=2.0						
DBIC	**Dimbokro**	**156.57**	**274**	PKP	PKPdf	18 05 37.0	-1.0
	1.5nm,0.3s,baz=113,slow=2.3,SNR=5.0						
DBIC				PKPbc	PKPab	18 05 49.5	-17
	2.8nm,0.9s,baz=124,slow=3.6,SNR=3.5						

*IDC **05** 17:50:30.7±0.5, 8°.61N×93°.84E, h0km, mb4.0/22, mbtmp4.0/23, ML3.6/1, MS3.2/14, Error ellipse: s-maj=22.1km s-min=14.1km az=56.0*

*NDI **05** 17:50:30.3±2.8, 8°.68N×94°.17E, h72km, mb4.2, mb4.4(NEIC)*

*NEIC **05** 17:50:39.8±2.0, 8°.56N±0°.02×94°.02E±0°.08, h72km±8km, mb4.4/29, Error ellipse: s-maj=11.0km s-min=2.9km az=97.0*

ISC 05 17:50:35.6±0.4, 8°.42N±0°.05×93°.73E±0°.05, h35km, n97, σ1s87/86, mb4.3/34, MS3.4/12, 1C-1D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.36**	**343**		**Pn**	**17 51 26.8**	**+1.1**
PBA	**Port Blair**	**3.36**	**343**	*eP*	Pn	17 51 18.1	-7.6
PBA				⇑*ex*	x	17 51 56.7	
LHMI	**Lhok Sumawe**	**4.50**	**135**	Pn	**Pn**	**17 51 42.5**	**+1.2**
DGPR	**DIGLIPUR**	**4.80**	**351**	*eP*	Pn	17 51 36.1	-9.3
DGPR				*eS*	Sn	17 52 27.1	-13
SRIT	**Nakonsritamara**	**5.81**	**88**	Pn	**Pn**	**17 51 59.3**	**-0.1**
SRIT				Sn	**Sn**	**17 53 01.5**	**-3.4**
KULM	**Kulim**	**7.54**	**114**		**Pn**	**17 52 23.2**	**+0.1**
KULM				Sn	**Sn**	**17 53 43.0**	**-4.5**
CM31	**Chiang Mai Arr**	**11.19**	**26**		**Pn**	**17 53 14.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**11.19**	**26**	Pn	**Pn**	**17 53 13.4**	**+0.2**
CMAR	**Chiang Mai Arr**	**11.19**	**26**	Pn	**Pn**	**17 53 14.6**	**+1.3**
	1.3nm,0.3s,baz=213,slow=15,SNR=41						
CMAR				LR	LR	17 58 02.0	
	comp=Z,43nm,19.3s,baz=220,slow=41						
PHRA	**Phrae**	**11.85**	**32**	Pn	**Pn**	**17 53 23.1**	**+0.9**
PALK	**Pallekele**	**12.96**	**266**	Pn	**P**	**17 53 48.2**	**+0.7**
PALK	**Pallekele**	**12.96**	**266**	Pn	**Pn**	**17 53 38.9**	**+1.5**
	0.3nm,0.3s,baz=61,slow=7.7,SNR=1.8						
PALK				Sn	**Sn**	**17 55 53.6**	**-6.8**
	0.4nm,0.3s,baz=300,slow=11,SNR=1.9						
PALK				LR	LR	17 58 19.5	
	comp=Z,142nm,20.5s,baz=163,slow=36						
	3.8nm,0.7s						
CRAI	**Chiangrai**	**13.39**	**28**	Pn	**Pn**	**17 53 45.8**	**+2.5**
MDRS	**Chennai**	**14.03**	**290**	*eP*	**Pn**	**17 53 50.6**	**-1.4**
MNAI	**Manna**	**15.68**	**144**		**Pn**	**17 54 16.5**	**+2.5**
SLVN	**Son La**	**16.16**	**36**	P	**Pn**	**17 54 20.8**	**+0.5**
IMP	**Imphal**	**16.33**	**1**	*eP*	Pn	17 54 11.9	-10
IMP				IAmb	IAmb	17 54 32.8	
	comp=Z,14nm,1.4s						
TNCH	**TengChong**	**17.14**	**15**	P	**Pn**	**17 54 31.8**	**-0.9**
TNCH				pP	sP	17 54 44.2	-2.2
TNCH				PP	**pwP**	**17 54 49.8**	**+3.1**
TNCH				S	**Sn**	**17 57 38.3**	**-4.2**
TNCH				sS	S	17 57 51.7	+0.6
TNCH				SS	**SnSn**	**17 58 05.2**	**+8.8**
TNCH				pmax	pmax		
	comp=Z,6.0nm,3.3s						
TNCH				pmax	pmax		
	comp=Z,69nm,3.6s						
TNCH				LR	LR		
	comp=N,60nm,3.6s						
TNCH				LR	LR		
	comp=E,82nm,4.8s						
TNCH				LR	LR		
	comp=Z,91nm,5.3s						
KOHI	**KOHIMA**	**17.21**	**1**	*eP*	Pn	17 54 22.9	-11
KOHI				IAmb	IAmb	17 54 42.7	
	comp=Z,27nm,0.8s						
ITAN	**ITANAGAR**	**18.63**	**360**	*eP*	P	17 54 38.6	-12
ITAN				IAmb	IAmb	17 54 57.7	
	comp=Z,14nm,0.8s						
KMI	**Kunming**	**18.71**	**26**	⇓P	Pn	17 54 58.7	+6.7
KMI				pmax	pmax		
	comp=Z,9.0nm,1.6s						
ZIRO	**ZIRO**	**19.01**	**0**	*eP*	P	17 54 44.8	-10
GTK	**Tadong**	**19.42**	**346**	*eP*	P	17 54 50.5	-8.6
PZH	**PanZhiHua**	**19.53**	**22**	P	**Pn**	**17 55 04.4**	**+2.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,60nm,4.6s						
LEM	**Lembang**	**20.52**	**137**	LR	LR	18 04 51.4	
	comp=Z,37nm,21.3s,baz=276,slow=42						
GYA	**Guiyang**	**21.75**	**33**	*eP*	**P**	**17 55 26.3**	**+2.0**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.4s						
H08S3	**Diego Garcia H**	**26.50**	**234**	T	T	18 23 05.4	
	baz=53,slow=76,SNR=38						
H08S2	**Diego Garcia H**	**26.50**	**234**	T	T	18 23 00.9	
	baz=53,slow=76,SNR=49						
H08S1	**Diego Garcia H**	**26.52**	**234**	T	T	18 23 03.8	
	baz=53,slow=76,SNR=35						
TGY	**Tagaytay City**	**27.26**	**76**	LR	LR	18 06 41.3	
	comp=Z,50nm,21.3s,baz=235,slow=36						
NJ2	**Nanjing**	**33.13**	**41**	*eP*	**P**	**17 57 07.8**	**-0.8**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.6s						
KBL	**Kabul**	**34.50**	**323**	P	**P**	**17 57 20.9**	**+0.2**
KBL				IAmb	IAmb	17 57 22.1	
	comp=Z,4.0nm,0.7s						
WMQ	**Urumqi**	**35.66**	**353**	*eP*	**P**	**17 57 31.8**	**+1.3**
HHC	**Hu-ho-hao-te**	**35.98**	**23**	*eP*	**P**	**17 57 32.5**	**-0.8**
HHC				pmax	pmax		
	comp=Z,11nm,0.7s						
HHC				pmax	pmax		
	comp=Z,53nm,5.2s						
DRK	**Karamyk**	**36.64**	**331**	P	**P**	**17 57 39.9**	**+0.7**
BTK	**Batken**	**37.56**	**331**	P	**P**	**17 57 47.3**	**+0.5**
BTK				IAmb	IAmb	17 57 58.0	
	comp=Z,4.3nm,0.6s						
ARSB	**Arslanbob**	**37.58**	**334**	P	**P**	**17 57 47.3**	**+0.3**
AAK	**Ala-Archa**	**38.05**	**337**	P	**P**	**17 57 50.7**	**-0.3**
AAK				IAmb	IAmb	17 57 52.6	
	comp=Z,5.3nm,1.2s						
AAK	**Ala-Archa**	**38.05**	**337**	LR	LR	18 15 23.3	
	comp=Z,39nm,19.9s,baz=59,slow=39						
MKAR	**Makanchi Array**	**39.48**	**348**	P	**P**	**17 58 00.8**	**-1.9**
MKAR	**Makanchi Array**	**39.48**	**348**	P	**P**	**17 58 00.1**	**-2.6**
	comp=Z,1.0nm,0.9s,baz=198,slow=26,SNR=4.9						
	comp=Z,1.0nm,0.9s						
KK31	**Karatay Array**	**40.10**	**333**	P	**P**	**17 58 06.8**	**-1.1**
KKAR	**Karatay Array**	**40.10**	**333**	P	**P**	**17 58 07.0**	**-1.0**
SONM	**Songino Array**	**40.73**	**13**	P	**P**	**17 58 10.4**	**-2.8**
	comp=Z,0.3nm,0.5s,baz=161,slow=6.1,SNR=1.4						
	comp=Z,0.3nm,0.5s						
KSRS	**Korea Array**	**42.33**	**42**	LR	LR	18 16 06.6	
	comp=Z,14nm,18.4s,baz=10.0,slow=36						
MORW	**Morawa**	**43.03**	**151**	P	**P**	**17 58 32.4**	**+0.3**
GEYT	**Alibeck**	**43.53**	**318**	P	**P**	**17 58 37.1**	**+1.0**
GEYT	**Alibeck**	**43.53**	**318**	P	**P**	**17 58 37.1**	**+1.0**
	comp=Z,8.0nm,0.8s,baz=145,slow=8.1,SNR=21						
	comp=Z,8.0nm,0.8s						
GYA0B	**ALIBECK ARRAY**	**43.53**	**318**	P	**P**	**17 58 37.3**	**+1.2**
KURBB	**Kurchatov Arra**	**43.93**	**346**	P	**P**	**17 58 38.5**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=178,slow=6.7,SNR=5.6						
	comp=Z,0.3nm,0.5s						
ZAA0	**Zalesovo Array**	**45.97**	**353**	P	**P**	**17 58 54.8**	**-0.4**
ZAA0				IAmb	IAmb	17 58 56.0	
	comp=Z,5.9nm,1.1s						
ZALV	**Zalesovo Beam**	**45.97**	**353**	P	**P**	**17 58 54.6**	**-0.6**
ZALV	**Zalesovo Beam**	**45.97**	**353**	P	**P**	**17 58 55.0**	**-0.1**
	comp=Z,1.5nm,0.4s,baz=164,slow=7.7,SNR=15						
	comp=Z,1.5nm,0.4s						
NWAO	**Narrogin (SRO)**	**46.81**	**153**	P	**P**	**17 59 03.5**	**+1.4**
NWAO				PcP	**PcP**	**18 00 32.8**	**-2.1**
BVAR	**Borovoye Array**	**48.35**	**341**	P	**P**	**17 59 13.3**	**-0.5**
	comp=Z,0.6nm,0.4s,baz=152,slow=10,SNR=3.8						
	comp=Z,0.6nm,0.4s						
RAYN	**Ar Rayn**	**48.49**	**294**	P	**P**	**17 59 18.1**	**+2.6**
WRA	**Warramunga Arr**	**48.91**	**126**	P	**P**	**17 59 18.9**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=306,slow=8.6,SNR=7.9						
WRA				PcP	**PcP**	**18 00 44.2**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=305,slow=22,SNR=12						
	comp=Z,0.7nm,0.7s						
MJAR	**Matsushiro Arr**	**49.10**	**48**	P	**P**	**17 59 18.0**	**-1.9**
	comp=Z,0.7nm,1.0s,baz=273,slow=8.3,SNR=1.6						
MJAR				PcP	**PcP**	**18 00 44.1**	**+1.0**
	comp=Z,1.0nm,0.8s,baz=246,slow=1.9,SNR=4.5						
	comp=Z,0.7nm,1.0s						
ABKAR	**Akbulak array**	**49.56**	**331**	P	**P**	**17 59 23.0**	**-0.1**
ABKAR	**Akbulak array**	**49.56**	**331**	P	**P**	**17 59 22.7**	**-0.4**
ABKAR				IAmb	IAmb	17 59 24.4	
	comp=Z,5.8nm,1.4s						
ASAR	**Alice Springs**	**50.57**	**130**	P	**P**	**17 59 31.0**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=302,slow=7.0,SNR=11						
ASAR				PcP	**PcP**	**18 00 50.5**	**+1.8**
	comp=Z,0.5nm,0.5s,baz=312,slow=3.5,SNR=6.2						
	comp=Z,0.6nm,0.8s						
GNI	**Garni**	**53.77**	**314**	LR	LR	18 24 58.1	
	comp=Z,44nm,18.1s,baz=38,slow=38						
ARU	**Arti**	**55.23**	**337**	LR	LR	18 25 22.5	
	comp=Z,29nm,20.3s,baz=123,slow=38						
EIL	**Elat**	**58.80**	**300**	LR	LR	18 28 14.4	
	comp=Z,22nm,18.5s,baz=57,slow=38						
MMAI	**Mount Meron Ar**	**58.98**	**303**	LR	LR	18 27 21.3	
	comp=Z,32nm,21.8s,baz=64,slow=38						
BR131	**Keskin Array S**	**61.77**	**311**	P	**P**	**18 00 50.1**	**-1.1**
BR131				IAmb	IAmb	18 00 51.3	
	comp=Z,2.7nm,0.7s						
BRTR	**Keskin Array B**	**61.77**	**311**	P	**P**	**18 00 50.1**	**-1.1**
BRTR	**Keskin Array B**	**61.77**	**311**	P	**P**	**18 00 50.5**	**-0.7**
	comp=Z,2.1nm,0.7s,baz=129,slow=7.7,SNR=18						
	comp=Z,2.1nm,0.7s						
MBAR	**Mbarara**	**63.40**	**265**	LR	LR	18 26 07.7	
	comp=Z,36nm,20.2s,baz=58,slow=34						
TIXI	**Tiksi**	**66.78**	**11**	P	**P**	**18 01 21.8**	**-1.4**
TIXI				IAmb	IAmb	18 01 22.7	
	comp=Z,3.6nm,0.5s						
TIXI	**Tiksi**	**66.78**	**11**	P	**P**	**18 01 22.2**	**-1.0**
	comp=Z,2.5nm,0.4s,baz=222,slow=5.0,SNR=26						
	comp=Z,2.5nm,0.4s						
AKASG	**Malin Array Be**	**67.48**	**322**	P	**P**	**18 01 26.3**	**-1.7**
	comp=Z,0.2nm,0.2s,baz=94,slow=4.7,SNR=5.1						
	comp=Z,0.2nm,0.2s						
MLR	**Muntele Rosu**	**68.50**	**316**	P	**P**	**18 01 35.1**	**+0.4**
MLR				IAmb	IAmb	18 01 36.9	
	comp=Z,7.6nm,1.3s						
BURAR	**Bucovina Array**	**69.37**	**318**	P	**P**	**18 01 39.9**	**-0.2**
BUR08	**Bucovina Ar. S**	**69.39**	**318**	P	**P**	**18 01 40.0**	**-0.2**
BUR08				IAmb	IAmb	18 01 42.0	
	comp=Z,4.6nm,1.4s						
FIA1	**FINESS Array S**	**72.04**	**332**	P	**P**	**18 01 55.4**	**-0.5**
FINES	**FINESS Array B**	**72.05**

*MOS **05** 18:13:55.0±1.0,26°.97N×55°.81E,h13km,mb4.4/12,Error ellipse: s-maj=8.5km s-min=4.8km az=110.7*
*IDC **05** 18:13:55.1±0.8,26°.96N×55°.80E,h0km,mb3.8/21, mbtmp3.8/28,ML3.7/7,MS3.2/1,Error ellipse: s-maj=17.0km s-min=13.5km az=3.0*
*NEIC **05** 18:13:56.9±1.1,26°.99N±0°.05×55°.82E±0°.08,h10km±1km, mb4.3/59,Error ellipse: s-maj=12.7km s-min=8.8km az=261.0*
*OMAN **05** 18:13:56.9±0.1,26°.94N×55°.89E,h10km,mb5.1/9, ml3.8/19,Error ellipse: s-maj=2.5km s-min=2.2km az=353.0*
*TEH **05** 18:13:56.3,26°.82N×55°.91E,h12km±46km,ML3.8*
*DSN **05** 18:13:57.4±1.7,26°.98N×56°.08E,h15km,ML3.9/15,Error ellipse: s-maj=26.3km s-min=9.2km az=59.0*

ISC 05 18:13:56.9±0.4**,26°.97N**±0°.03×**55°.87E**±0°.04**,h14km,n234,**
σ1§**30**/242**,mb4.2**/57**,5C,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENO	**Geno**	**0.51**	**32**	Pg	**Pb**	**18 14 08.0**	**+0.2**
IBND	**Bandar-abas**	**0.77**	**51**	Pg	**Pn**	**18 14 12.9**	**-0.4**
SHME	**Shamm**	**0.95**	**165**	P	**Pb**	**18 14 15.1**	**-0.1**
BANOM	**Banah** SNR=135	**1.11**	**159**	*e*P	**Pb**	**18 14 17.8**	**-0.2**
BANOM				S	**Sb**	**18 14 32.6**	**+0.3**
BANOM	**Banah**	**1.11**	**159**	P	**Pb**	**18 14 17.8**	**-0.2**
BANOM				S	**Sb**	**18 14 32.6**	**+0.3**
UMQ	**Umm Al-Quwin** SNR=39	**1.45**	**187**	*e*P	**Pg**	**18 14 24.5**	**-0.3**
UMQ	**Umm Al-Quwin** SNR=39	**1.45**	**187**	P	**Pg**	**18 14 24.8**	**0.0**
LAR1	**LAR**	**1.50**	**298**	Pg	**Pg**	**18 14 26.2**	**+0.3**
MASF	**Masafi** SNR=390	**1.61**	**171**	P	**Pb**	**18 14 26.2**	**-0.3**
MASF				S	**Sb**	**18 14 46.8**	**+0.1**
MSFE	**Esma-Masafi** SNR=390	**1.62**	**171**	*e*P	**Pb**	**18 14 26.2**	**-0.5**
MDH	**Madha** SNR=101	**1.71**	**167**	*e*P	**Pn**	**18 14 26.7**	**+0.4**
MDH	**Madha** SNR=29	**1.71**	**167**	P	**Pn**	**18 14 26.9**	**+0.6**
KHNJ	**Kahnooj**	**1.90**	**59**	Pn	**Pb**	**18 14 30.3**	**-1.2**
NAZ	**Nazwa, Dubai** SNR=17	**1.98**	**185**	*e*P	**Pb**	**18 14 31.9**	**-0.9**
NAZ	**Nazwa, Dubai** SNR=17	**1.98**	**185**	P	**Pb**	**18 14 31.7**	**-1.0**
UOSS	**Minazif**	**2.04**	**171**		**Pn**	**18 14 31.2**	**+0.4**
UOSS				Sn	**Sn**	**18 14 55.5**	**-0.6**
UOSS	**Minazif** SNR=96	**2.04**	**171**	*e*P	**Pn**	**18 14 31.4**	**+0.6**
UOSS	**Minazif**	**2.04**	**171**	P	**Pn**	**18 14 31.5**	**+0.6**
UOSS				S	**Sn**	**18 14 55.8**	**-0.3**
JASK	**Jask - Hormozg**	**2.10**	**121**	Pn	**Pn**	**18 14 31.7**	**-0.1**
JASK	**Jask - Hormozg**	**2.10**	**121**	P	**Pn**	**18 14 31.7**	**-0.1**
HATD	**Hatta, Dubai** SNR=192	**2.15**	**174**	*e*P	**Pn**	**18 14 33.4**	**+1.0**
HATD	**Hatta, Dubai** SNR=192	**2.15**	**174**	P	**Pn**	**18 14 33.4**	**+1.0**
FAQ	**Al Faqa, Dubai** SNR=19	**2.23**	**186**	*e*P	**Pn**	**18 14 35.0**	**+1.5**
FAQ	**Al Faqa, Dubai** SNR=39	**2.23**	**186**	P	**Pn**	**18 14 35.0**	**+1.5**
ASHO	**Ashiyiah** SNR=137	**2.28**	**176**	*e*P	**Pn**	**18 14 35.5**	**+1.3**
ASHO	**Ashiyiah** SNR=137	**2.28**	**176**	P	**Pn**	**18 14 35.5**	**+1.3**
ASUD	**Al Ashush, Dub** SNR=184	**2.38**	**192**	*e*P	**Pn**	**18 14 37.6**	**+2.0**
ASUD	**Al Ashush, Dub** SNR=184	**2.38**	**192**	P	**Pn**	**18 14 37.8**	**+2.2**
LMD1	**Lamerd**	**2.44**	**279**	Pn	**Pn**	**18 14 38.8**	**+2.4**
AJN	**Ajban** SNR=12	**2.52**	**199**	*e*P	**Pn**	**18 14 39.1**	**+1.6**
AJN	**Ajban** SNR=12	**2.52**	**199**	P	**Pn**	**18 14 39.2**	**+1.7**
NGRK	**Negar Kerman**	**2.77**	**16**	Pn	**Pb**	**18 14 44.2**	**-2.3**
SOHO	**SOHO** SNR=14	**2.88**	**168**	*e*P	**Pn**	**18 14 41.4**	**-1.1**
SOHO	**SOHO**	**2.88**	**168**	P	**Pn**	**18 14 41.6**	**-0.9**
ALNE	**Al Ain** SNR=24	**2.90**	**182**	*e*P	**Pn**	**18 14 43.8**	**+1.0**
ALNE	**Al Ain** SNR=27	**2.90**	**182**	P	**Pn**	**18 14 43.9**	**+1.2**
TVBK	**TV Kerman**	**3.11**	**14**	Pn	**Pb**	**18 14 49.4**	**-2.9**
KBAM	**BAM**	**3.14**	**46**	Pn	**Pn**	**18 14 49.0**	**+2.8**
CHMN	**Cheshme madani**	**3.24**	**27**	Pn	**Pn**	**18 14 50.5**	**+2.8**
KHGB	**Koh Gabri**	**3.44**	**9**	Pn	**Pn**	**18 14 53.7**	**+3.4**
HOQ	**Hoqain**	**3.62**	**158**	Pn	**Pn**	**18 14 51.0**	**-1.6**
HOQ	**Hoqain** SNR=36	**3.62**	**158**	P	**Pn**	**18 14 51.0**	**-1.6**
ARQ	**Araqi** SNR=218	**3.66**	**171**	P	**Pn**	**18 14 53.4**	**+0.2**
KRM1	**Kerman Provinc**	**3.73**	**19**	Pn	**Pn**	**18 14 57.7**	**+3.3**
BIDO	**Bidbid**	**4.00**	**149**	P	**Pn**	**18 14 56.9**	**-0.9**
BIDO				S	**Sn**	**18 15 45.1**	**+0.7**
DSBU	**Dashti - Bushe**	**4.32**	**290**	Pn	**Pn**	**18 15 04.7**	**+2.5**
BSY	**Bisya** SNR=9.1	**4.38**	**164**	P	**Pn**	**18 15 03.8**	**+0.7**
WSAR	**Wadi Sarin** 7.4nm,0.3s,baz=313,slow=4.7,SNR=193	**4.48**	**145**	Pn	**Pn**	**18 15 04.3**	**-0.1**
WSAR	5.3nm,0.3s,baz=299,slow=11,SNR=4.0 16nm,0.3s			Sn	**Sn**	**18 15 52.7**	**-3.7**
MZR	**Muzera** SNR=8.6	**4.50**	**209**	*i* P	**Pn**	**18 15 05.2**	**+0.4**
MZR	**Muzera** SNR=8.7	**4.50**	**209**	P	**Pn**	**18 15 05.4**	**+0.6**
IMEH	**Mehriz**	**4.54**	**346**	Pn	**Pn**	**18 15 09.0**	**+3.5**
IBAF	**Bafgh**	**4.61**	**357**	Pn	**Pn**	**18 15 09.1**	**+2.6**
TRNA	**Turayna** SNR=17	**4.75**	**243**	P	**Pn**	**18 15 06.8**	**-1.3**
TRNA	SNR=11			S	**Sn**	**18 16 02.7**	**-0.2**
NGCH	**Negor - Chabah**	**5.00**	**108**	Pn	**Pn**	**18 15 12.2**	**+0.6**
NGCH	**Negor - Chabah** SNR=58	**5.00**	**108**	P	**Pn**	**18 15 12.6**	**+1.0**
NGCH				S	**Sn**	**18 16 06.8**	**-2.4**
JMDO	**Jabal Madar**	**5.01**	**156**	P	**Pn**	**18 15 12.6**	**+0.9**
SMRA	**Abu-Samra**	**5.05**	**245**	P	**Pn**	**18 15 14.0**	**+1.7**
SMRA				S	**Sn**	**18 16 10.8**	**+0.3**
WBK	**Wadi Bani Khal**	**5.17**	**146**	Pn	**Pn**	**18 15 13.4**	**-0.6**
WBK	**Wadi Bani Khal** SNR=42	**5.17**	**146**	P	**Pn**	**18 15 13.7**	**-0.3**
ISAD	**Sadrabad**	**5.28**	**339**	Pn	**Pn**	**18 15 19.6**	**+3.9**
ICHK	**Chekchek**	**5.41**	**347**	Pn	**Pn**	**18 15 20.8**	**+3.3**
KLNJ	**Kolanjah**	**5.50**	**318**	Pn	**Pn**	**18 15 20.8**	**+2.0**
IRAM	**Rameshеh**	**5.70**	**329**	Pn	**Pn**	**18 15 24.4**	**+3.0**
BSRN	**Basiran**	**5.73**	**29**	Pn	**Pn**	**18 15 24.4**	**+2.6**
JLN	**Jalan Bani Buh**	**5.78**	**145**	P	**Pn**	**18 15 21.4**	**-0.9**
SRVN	**Saravan**	**5.83**	**84**	Pn	**Pn**	**18 15 25.0**	**+1.8**
TPRV	**Parvadeh(Tabas**	**6.08**	**7**	Pn	**Pn**	**18 15 30.4**	**+3.8**
IKOO	**Kooshah**	**6.08**	**26**	Pn	**Pn**	**18 15 29.7**	**+3.0**
MHTO	**MHTO** SNR=14	**6.26**	**162**	P	**Pn**	**18 15 28.5**	**-0.4**
IBRJ	**Brojen**	**6.35**	**322**	Pn	**Pn**	**18 15 33.0**	**+2.6**
IGAR	**Gharneh**	**6.36**	**329**	Pn	**Pn**	**18 15 33.3**	**+2.9**
AFRZ	**Afriz**	**6.99**	**22**	Pn	**Pn**	**18 15 42.4**	**+3.4**
DQM	**DQM** SNR=40	**7.17**	**167**	P	**Pn**	**18 15 40.3**	**-1.2**
IKLH	**Kolahrood**	**7.34**	**331**	Pn	**Pn**	**18 15 46.9**	**+3.0**
ISFB	**Sefidab**	**7.99**	**338**	Pn	**Pn**	**18 15 55.8**	**+3.0**
DOK	**Doka** SNR=19	**8.46**	**191**	P	**Pn**	**18 15 58.1**	**-1.1**
SHAO	**Shalim** SNR=106	**8.91**	**181**	*i* P	**Pn**	**18 16 03.5**	**-1.7**
SHAO	**Shalim** SNR=106	**8.91**	**181**	P	**Pn**	**18 16 03.9**	**-1.3**
HRA	**Herat**	**9.21**	**35**	Pn	**Pn**	**18 16 10.0**	**+0.5**
WHFO	**Wadi Hawf** SNR=81	**9.21**	**193**	P	**Pn**	**18 16 08.6**	**-0.9**
DMTO	**DMTO**	**9.25**	**185**	P	**Pn**	**18 16 08.7**	**-1.2**
RBK	**Rabkut** SNR=12	**9.54**	**190**	P	**Pn**	**18 16 14.8**	**+0.7**
ABTO	**Aybut** SNR=24	**9.86**	**194**	P	**Pn**	**18 16 17.3**	**-1.1**
RAYN	**Ar Rayn**	**9.99**	**252**	Pn	**Pn**	**18 16 18.7**	**-1.5**
RAYN	**Ar Rayn**	**9.99**	**252**	P	**Pn**	**18 16 18.7**	**-1.5**
RAYN	**Ar Rayn**	**9.99**	**252**	P	**Pn**	**18 16 18.7**	**-1.5**
GEYT	**Alibeck** 0.1nm,0.3s,baz=232,slow=16,SNR=1.6 0.6nm,0.6s	**11.09**	**9**	Pn	**Pn**	**18 16 35.7**	**+0.5**
LKRN	**Lenkeran, Azer**	**13.13**	**335**	P	**Pn**	**18 17 03.7**	**+0.7**
NAX	**Nakhchivan**	**14.94**	**327**	P	**Pn**	**18 17 28.2**	**+0.3**
MNGR	**Mingechevir, A**	**15.57**	**334**	P	**Pn**	**18 17 36.6**	**+0.6**
GANJ	**Ganja**	**15.77**	**332**	P	**Pn**	**18 17 39.1**	**+0.5**
SEKA	**Sheki**	**15.90**	**335**	P	**Pn**	**18 17 40.5**	**+0.1**
GNI	**Garni**	**16.07**	**328**		**P**	**18 17 44.6**	**-1.4**
GNI				IAmb	IAmb	18 18 02.0	
GNI	**Garni** comp=Z,16nm,1.1s	**16.07**	**328**	Pn	**Pn**	**18 17 42.1**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=119,slow=10,SNR=1.5 comp=Z,1.6nm,0.3s						
GNI	**Garni**	**16.07**	**328**	*ce*P	**Pn**	**18 17 39.3**	**-3.3**
GNI				pmax	pmax		
	comp=Z,11nm,1.7s						
ZKTA	**Zakatala**	**16.49**	**335**	P	**Pn**	**18 17 48.4**	**+0.5**
ASF	**Jabal al Asfar**	**17.29**	**292**	P	**Pn**	**18 17 57.4**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=85,slow=0.8,SNR=1.8 comp=Z,0.9nm,0.3s						
DRK	**Karamyk**	**18.22**	**43**	P	**P**	**18 18 10.9**	**+0.9**
DRK				IAmb	IAmb	18 18 12.2	
	comp=Z,8.0nm,0.3s						
DRK	**Karamyk**	**18.22**	**43**	P	**P**	**18 18 10.9**	**+0.9**
DRK				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ONI	**Oni**	**18.59**	**330**		**Pn**	**18 18 14.6**	**+0.6**
ONI	**Oni**	**18.59**	**330**	P	**Pn**	**18 18 14.6**	**+0.6**
ONI				pmax	pmax		
	comp=Z,4.0nm,0.9s						
EIL	**Elat**	**18.61**	**283**	P	**P**	**18 18 12.2**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=122,slow=15,SNR=1.3 comp=Z,1.4nm,0.7s						
MMAI	**Mount Meron Ar**	**18.71**	**294**	P	**Pn**	**18 18 16.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=102,slow=19,SNR=2.3 comp=Z,1.2nm,0.7s						
GAZ	**Gaziantep**	**18.77**	**307**	P	**P**	**18 18 15.8**	**0.0**
ARPR	**Arapgir-MALATY**	**18.99**	**314**		**P**	**18 18 18.7**	**+0.4**
NCK	**Nalchik**	**19.26**	**332**	*i* P	**P**	**18 18 20.1**	**-0.9**
ATD	**Arta Tunnel**	**19.64**	**221**	P	**P**	**18 18 24.8**	**-0.7**
ATD				IAmb	IAmb	18 18 33.8	
	comp=Z,9.4nm,1.0s						
KBZ	**Khabaz**	**19.75**	**331**	P	**Pn**	**18 18 27.9**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=138,slow=5.6,SNR=8.5 comp=Z,2.3nm,0.7s						
KBZ	**Khabaz**	**19.75**	**331**	*ce*P	**P**	**18 18 26.9**	**+0.6**
SHA1	**Shidzhatmaz**	**19.86**	**331**	*ce*P	**P**	**18 18 26.2**	**-1.6**
KIV	**Kislovodsk**	**20.02**	**331**		**P**	**18 18 29.3**	**-0.1**
KIV				IAmb	IAmb	18 18 50.9	
	comp=Z,16nm,1.0s						
KIV	**Kislovodsk**	**20.02**	**331**	*e*P	**P**	**18 18 28.5**	**-0.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KK31	**Karatay Array**	**20.02**	**33**	P	**P**	**18 18 30.0**	**+0.6**
KK31	**Karatay Array**	**20.02**	**33**	P	**P**	**18 18 30.0**	**+0.6**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KKAR	**Karatay Array**	**20.02**	**33**	P	**P**	**18 18 30.1**	**+0.8**
KKAR	**Karatay Array**	**20.02**	**33**	P	**P**	**18 18 30.2**	**+0.8**
KKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARSB	**Arslanbob**	**20.09**	**40**	P	**P**	**18 18 29.9**	**-0.3**
ARSB	**Arslanbob**	**20.09**	**40**	P	**P**	**18 18 30.0**	**-0.3**
ARSB				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BNN	**Bunyan**	**20.52**	**310**	P	**P**	**18 18 33.6**	**-1.3**
BNN				IAmb	IAmb	18 18 59.2	
	comp=Z,31nm,1.2s						
AAK	**Ala-Archa**	**21.80**	**39**	P	**P**	**18 18 49.0**	**+0.3**
AAK	**Ala-Archa**	**21.80**	**39**	P	**P**	**18 18 50.1**	**+1.4**
	comp=Z,3.1nm,0.6s,baz=203,slow=6.9,SNR=4.8 comp=Z,3.1nm,0.6s						
AAK	**Ala-Archa**	**21.80**	**39**	*ce*P	**P**	**18 18 52.2**	**+3.5**
AAK				pmax	pmax		
	comp=Z,5.0nm,1.7s						
BR131	**Keskin Array S**	**22.44**	**310**	P	**P**	**18 18 54.2**	**-1.4**
BR131	**Keskin Array S**	**22.44**	**310**	P	**P**	**18 18 54.2**	**-1.4**
BR131				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRTR	**Keskin Array B**	**22.44**	**310**	P	**P**	**18 18 54.9**	**-0.7**
BRTR	**Keskin Array B**	**22.44**	**310**	P	**P**	**18 18 56.6**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=131,slow=12,SNR=8.8 comp=Z,1.2nm,0.8s						
ABKAR	**Akbulak array**	**22.48**	**7**	P	**P**	**18 18 55.0**	**-0.6**
ABKAR	**Akbulak array**	**22.48**	**7**	P	**P**	**18 18 55.3**	**-0.4**
ABKAR				IAmb	IAmb	18 19 02.2	
	comp=Z,3.0nm,0.7s						
AKTO	**Aktyubinsk** comp=Z,58nm,18.3s,baz=245,slow=42	**23.49**	**3**	LR	LR	18 30 11.9	
BRVK	**Borovoye**	**28.19**	**19**	P	**P**	**18 19 49.0**	**0.0**
BRVK				IAmb	IAmb	18 19 50.4	
	comp=Z,2.8nm,0.8s						
BRVK	**Borovoye**	**28.19**	**19**	P	**P**	**18 19 49.0**	**0.0**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**28.19**	**19**	P	**P**	**18 19 49.6**	**+0.6**
	comp=Z,3.9nm,0.6s,baz=199,slow=7.6,SNR=25 comp=Z,3.9nm,0.6s						
MAKZ	**Makanchi**	**28.56**	**39**	P	**P**	**18 19 52.9**	**+0.5**
MAKZ				IAmb	IAmb	18 20 24.9	
	comp=Z,4.0nm,1.1s						
MAKZ	**Makanchi**	**28.56**	**39**	P	**P**	**18 19 52.9**	**+0.5**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
RDO	**Rodhopi**	**28.66**	**307**	P	**P**	**18 19 52.3**	**-1.0**
RDO				IAmb	IAmb	18 19 58.2	
	comp=Z,4.8nm,1.1s						
MK31	**Makanchi Array**	**28.73**	**39**	P	**P**	**18 19 53.6**	**-0.3**
MK31	**Makanchi Array**	**28.73**	**39**	P	**P**	**18 19 53.6**	**-0.3**
MK31				pmax	pmax		
	comp=Z,3.0nm,1.5s						
MKAR	**Makanchi Array**	**28.73**	**39**	P	**P**	**18 19 53.8**	**0.0**
MKAR	**Makanchi Array**	**28.73**	**39**	P	**P**	**18 19 54.8**	**+1.0**
	comp=Z,3.0nm,0.5s,baz=220,slow=8.2,SNR=7.9 comp=Z,3.0nm,0.5s						
MKAR	**Makanchi Array**	**28.73**	**39**	*i* P	**P**	**18 19 54.7**	**+0.8**
KURBB	**Kurchatov Arra**	**29.27**	**30**	P	**P**	**18 19 59.7**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=229,slow=8.7,SNR=13 comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**29.38**	**30**	P	**P**	**18 19 59.7**	**+0.2**
MLR	**Muntele Rosu**	**30.15**	**316**	P	**P**	**18 20 08.8**	**+2.2**
MLR				IAmb	IAmb	18 20 46.1	
	comp=Z,6.3nm,1.5s						
MLR	**Muntele Rosu**	**30.15**	**316**	P	**P**	**18 20 08.8**	**+2.2**
MLR				pmax	pmax		
	comp=Z,6.0nm,1.5s						
AGG	**Agios Georgios**	**30.42**	**302**	P	**P**	**18 20 07.4**	**-1.6**
AGG				IAmb	IAmb	18 20 27.4	
	comp=Z,10nm,1.4s						
AGG	**Agios Georgios**	**30.42**	**302**	P	**P**	**18 20 07.4**	**-1.6**
AGG				pmax	pmax		
	comp=Z,10.0nm,1.4s						
WMQ	**Urumqi**	**30.67**	**48**	*e*P	**P**	**18 20 14.4**	**+3.2**
AKASG	**Malin Array Be**	**31.20**	**327**	P	**P**	**18 20 15.3**	**-0.2**
	comp=Z,1.1nm,0.5s,baz=133,slow=8.7,SNR=9.9 comp=Z,1.1nm,0.5s						
AKBB	**Malin Array Si**	**31.20**	**327**	P	**P**	**18 20 15.4**	**-0.2**
AKBB				IAmb	IAmb	18 20 26.5	
	comp=Z,2.8nm,0.8s						
AKBB	**Malin Array Si**	**31.20**	**327**	P	**P**	**18 20 15.4**	**-0.2**
AKBB				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIEV	**Kiev**	**31.20**	**327**	P	**P**	**18 20 15.6**	**0.0**
KIEV				IAmb	IAmb	18 20 26.5	
	comp=Z,2.5nm,0.8s						
KIEV	**Kiev**	**31.20**	**327**	P	**P**	**18 20 15.6**	**0.0**
KIEV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FNA	**Florina**	**31.56**	**305**	P	**P**	**18 20 18.8**	**-0.2**
FNA				IAmb	IAmb	18 20 20.9	
	comp=Z,3.4nm,0.5s						
FNA	**Florina**	**31.56**	**305**	P	**P**	**18 20 18.8**	**-0.2**
FNA				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BURAR	**Bucovina Array**	**31.61**	**319**	P	**P**	**18 20 20.1**	**+0.7**
BURAR	**Bucovina Array**	**31.61**	**319**	P	**P**	**18 20 20.1**	**+0.7**
BURAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
BUR08	**Bucovina Ar. S**	**31.63**	**319**	P	**P**	**18 20 20.0**	**+0.4**
BUR08				IAmb	IAmb	18 20 32.9	
	comp=Z,3.4nm,1.4s						
KMBO	**Kilima Mbogo**	**33.19**	**216**	*i* P	P	18 20 29.1	-4.6
KOLS	**Kolonicke sedl**	**33.97**	**319**	*e*P	**P**	**18 20 41.7**	**+1.8**
KOLS	**Kolonicke sedl**	**33.97**	**319**	*e*P	**P**	**18 20 41.7**	**+1.8**
ZAA0	**Zalesovo Array**	**34.37**	**30**	P	**P**	**18 20 43.6**	**+0.4**
ZALV	**Zalesovo Beam**	**34.37**	**30**	P	**P**	**18 20 43.1**	**-0.1**
ZALV	**Zalesovo Beam**	**34.37**	**30**	P	**P**	**18 20 43.5**	**+0.2**
	comp=Z,4.0nm,0.3s,baz=240,slow=9.2,SNR=22 comp=Z,4.0nm,0.3s						
OJC	**Ojcow**	**35.99**	**320**	P	**P**	**18 20 57.5**	**+0.2**
OJC				IAmb	IAmb	18 20 58.5	
	comp=Z,3.6nm,0.5s						
OJC	**Ojcow**	**35.99**	**320**	P	**P**	**18 20 57.5**	**+0.2**
OJC				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NRCA	**Norcia**	**38.03**	**306**	P	**P**	**18 21 15.4**	**+0.5**
NRCA				IAmb	IAmb	18 21 45.7	
	comp=Z,5.2nm,1.0s						
DPC	**Dobruska-Polom**	**38.07**	**319**	*e*P	**P**	**18 21 15.6**	**+0.5**
DPC	**Dobruska-Polom**	**38.07**	**319**	*e*P	**P**	**18 21 15.6**	**+0.5**
FDMO	**Fiordimonte**	**38.09**	**306**	P	**P**	**18 21 15.6**	**+0.3**
FDMO				IAmb	IAmb	18 21 59.5	
	comp=Z,15nm,1.5s						
CKRC	**Cesky Krumlov**	**38.75**	**316**	*e*P	**P**	**18 21 20.5**	**-0.3**
CKRC	**Cesky Krumlov**	**38.75**	**316**	*e*P	**P**	**18 21 20.5**	**-0.3**
ZVC	**Zvikov**	**39.02**	**316**	*e*P	**P**	**18 21 23.3**	**+0.2**
GERES	**GERESS Array B**	**39.14**	**315**	P	**P**	**18 21 23.2**	**-0.9**
GERES	**GERESS Array B** comp=Z,0.4nm,0.5s,baz=89,slow=8.2,SNR=2.4 comp=Z,0.4nm,0.5s	**39.14**	**315**	P	**P**	**18 21 24.0**	**-0.1**
KHC	**Kasperske Hory**	**39.30**	**316**	P	**P**	**18 21 24.6**	**-0.9**
KHC	**Kasperske Hory**	**39.30**	**316**	*e*P	**P**	**18 21 25.5**	**+0.1**
KHC	**Kasperske Hory**	**39.30**	**316**	*e*P	**P**	**18 21 25.5**	**+0.1**
CTI	**Castel Tesino**	**39.72**	**311**	P	**P**	**18 21 29.3**	**+0.3**
CTI				IAmb	IAmb	18 21 29.8	
	comp=Z,2.9nm,0.6s						
CTI	**Castel Tesino**	**39.72**	**311**	P	**P**	**18 21 29.3**	**+0.3**
CTI				pmax	pmax		
	comp=Z,3.0nm,0.6s						
FIA1	**FINESS Array S**	**39.85**	**338**	P	**P**	**18 21 30.0**	**+0.3**
FINES	**FINESS Array B**	**39.85**	**338**	P	**P**	**18 21 29.6**	**0.0**
FINES	**FINESS Array B** comp=Z,1.5nm,0.5s,baz=141,slow=10,SNR=31 comp=Z,1.5nm,0.5s	**39.85**	**338**	P	**P**	**18 21 30.0**	**+0.3**
WTTA	**Wattenberg**	**40.02**	**312**	*i* P	**P**	**18 21 31.4**	**-0.1**
	comp=Z,8.6nm,1.4s						
SQTA	**Sankt Quirin**	**40.29**	**312**	*i* P	**P**	**18 21 33.5**	**-0.3**
	comp=Z,6.7nm,0.7s						
MOTA	**Moosalm**	**40.39**	**312**	*i* P	**P**	**18 21 33.9**	**-0.7**
	comp=Z,2.7nm,0.6s						
CMAR	**Chiang Mai Arr** comp=Z,0.1nm,0.3s,baz=276,slow=8.1,SNR=2.0 comp=Z,0.1nm,0.3s	**40.47**	**93**	P	**P**	**18 21 36.9**	**+1.4**
FETA	**Feichten**	**40.56**	**312**	*i* P	**P**	**18 21 35.5**	**-0.5**
	comp=Z,2.7nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**40.78**	**311**	P	**P**	**18 21 37.6**	**-0.4**
FUORN				IAmb	IAmb	18 22 03.0	
	comp=Z,5.4nm,1.4s						
PZH	**PanZhiHua**	**40.80**	**80**	P	**P**	**18 21 39.5**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.1s						
DAVA	**Damuels** comp=Z,9.2nm,0.5s	**41.19**	**312**	*i* P	**P**	**18 21 40.7**	**-0.6**
SENIN	**Lac Senin/Sane**	**42.74**	**310**	P	**P**	**18 21 53.3**	**-0.7**
BNI	**Bardonecchia**	**42.98**	**308**	P	**P**	**18 21 55.1**	**-0.7**
BNI				IAmb	IAmb	18 22 01.0	
	comp=Z,8.2nm,1.4s						
BNI	**Bardonecchia**	**42.98**	**308**	P	**P**	**18 21 55.2**	**-0.7**
BNI				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HFS	**Hagfors** comp=Z,0.7nm,0.3s,baz=134,slow=9.6,SNR=9.7 comp=Z,0.7nm,0.3s	**43.82**	**331**	P	**P**	**18 22 02.1**	**-0.1**
SONM	**Songino Array** comp=Z,0.4nm,0.3s,baz=243,slow=6.3,SNR=3.1 comp=Z,0.4nm,0.3s	**44.31**	**48**	P	**P**	**18 22 07.6**	**+1.1**
NORES	**NORESS Array B**	**45.04**	**331**	P	**P**	**18 22 11.6**	**-0.4**
NC405	**NORSAR Array S**	**45.15**	**332**	P	**P**	**18 22 12.6**	**-0.3**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=104,slow=7.2,SNR=2.2 comp=Z,0.4nm,0.6s	**45.33**	**331**	P	**P**	**18 22 13.8**	**-0.5**
NBO00	**NORSAR Array S**	**45.51**	**331**	P	**P**	**18 22 15.5**	**-0.2**
KEV	**Kevo**	**45.98**	**346**	P	**P**	**18 22 19.6**	**+0.4**
KEV	**Kevo**	**45.98**	**346**	P	**P**	**18 22 19.6**	**+0.4**
KEV				pmax	pmax		
	comp=Z,32nm,1.5s						
ARCES	**ARCESS Array B**	**46.12**	**346**	P	**P**	**18 22 20.8**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,3.2nm,1.0s,baz=141,slow=8.6,SNR=9.9 comp=Z,3.2nm,1.0s	**46.12**	**346**	P	**P**	**18 22 21.4**	**+0.9**
HHC	**Hu-ho-hao-te**	**47.51**	**58**	*e*P	**P**	**18 22 31.8**	**-0.1**
HHC				pmax	pmax		
	comp=Z,23nm,0.8s						
HHC				pmax	pmax		
	comp=Z,77nm,4.9s						
ESDC	**Sonseca Array** comp=Z,0.4nm,0.8s,baz=64,slow=8.2,SNR=5.1 comp=Z,0.4nm,0.8s	**50.73**	**300**	P	**P**	**18 22 55.4**	**-1.1**
EKA	**Eskdalemuir Ar** comp=Z,0.2nm,0.3s,baz=96,slow=7.4,SNR=5.1 comp=Z,0.2nm,0.3s	**50.76**	**321**	P	**P**	**18 22 55.5**	**-0.8**
TOA0	**Torodi Ar. Sit**	**52.35**	**266**	P	**P**	**18

JACO	**JACO, Garabito**	**0.15**	**55**	*i* P	**Pg**	**18 21 02.0**	**+0.2**
JACO				*i* S	**Sg**	**18 21 05.0**	**+0.6**
JACO				IAML		18 21 05.6	
	comp=Z,21μm,1.0s						
LAFE	**Finca La Fe, P**	**0.26**	**331**	*i* P	**Pb**	**18 21 04.4**	**-0.1**
LAFE				IAML		18 21 09.2	
	comp=Z,90nm,1.0s						
LAFE	**Finca La Fe, P**	**0.26**	**331**	*e*P	**Pb**	**18 21 04.2**	**-0.3**
LAFE				*e*S	**Sb**	**18 21 09.1**	**+0.3**
ARZA	**Esparza**	**0.43**	**15**	*e*P	**Pb**	**18 21 07.3**	**0.0**
ARZA				*e*S	**Sb**	**18 21 13.9**	**+0.3**
SRA1	**San Ramn**	**0.59**	**31**	*e*P	**Pg**	**18 21 09.0**	**-0.6**
LLNJ	**Naranjito**	**0.68**	**99**	*e*P	**Pg**	**18 21 11.0**	**-0.3**
SANTA	**Santa Ana**	**0.69**	**59**	*e*P	**Pg**	**18 21 09.9**	**-1.5**
JTS	**Las Juntas de**	**0.73**	**347**	*e*P	**Pg**	**18 21 11.3**	**-0.9**
ABE2	**San Pablo**	**0.73**	**80**	*e*P	**Pg**	**18 21 11.5**	**-0.8**
INDI	**Punta indio, G**	**0.77**	**292**	*i* P	**Pg**	**18 21 12.7**	**-0.2**
INDI				*i* S	**Sb**	**18 21 24.2**	**+0.9**
INDI				IAML		18 21 26.1	
	comp=Z,3μm,1.0s						
INDI	**Punta indio, G**	**0.77**	**292**	*e*P	**Pg**	**18 21 12.1**	**-0.8**
AMPA	**Desamparados**	**0.78**	**66**	*e*P	**Pg**	**18 21 12.6**	**-0.6**
HDC	**Heredia**	**0.78**	**57**	*e*P	**Pg**	**18 21 12.6**	**-0.7**
LCR2	**La Lucha 2**	**0.78**	**78**	*e*P	**Pg**	**18 21 12.2**	**-1.1**
HDC3	**Heredia 3**	**0.79**	**57**	*i* P	**Pg**	**18 21 12.8**	**-0.5**
HDC3				*i* S	**Sg**	**18 21 23.5**	**-0.2**
HDC3				IAML		18 21 27.0	
	comp=Z,1μm,1.0s						
SOCE	**Pocosol**	**0.82**	**11**	*i* P	**Pg**	**18 21 13.5**	**-0.4**
SOCE				*i* S	**Sg**	**18 21 24.3**	**-0.4**
SOCE				IAML		18 21 26.4	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**0.82**	**11**	*e*P	**Pg**	**18 21 13.2**	**-0.7**
DUNO	**Dulce Nombre,**	**0.86**	**305**	*i* P	**Pg**	**18 21 13.9**	**-0.8**
DUNO				*i* S	**Sb**	**18 21 26.9**	**+0.8**
DUNO				IAML		18 21 28.4	
	comp=Z,3μm,1.0s						
DUNO	**Dulce Nombre,**	**0.86**	**305**	*e*P	**Pg**	**18 21 13.9**	**-0.8**
CDM	**Cerro de Muert**	**1.00**	**91**	*i* P	**Pg**	**18 21 16.7**	**-0.8**
CDM				*i* S	**Sb**	**18 21 31.9**	**+1.2**
CDM				IAML		18 21 33.5	
	comp=Z,1μm,1.0s						
VICA	**Volcano Irazu**	**1.01**	**66**	*e*P	**Pg**	**18 21 16.8**	**-0.8**
BUS1	**Rivas**	**1.02**	**91**	*e*P	**Pg**	**18 21 16.5**	**-1.4**
ORTG	**Ortega, Santa**	**1.03**	**320**	*i* P	**Pg**	**18 21 16.8**	**-1.1**
ORTG				IAML		18 21 17.7	
	comp=Z,2μm,1.0s						
ORTG				*i* S	**Sb**	**18 21 31.5**	**+0.6**
ORTG	**Ortega, Santa**	**1.03**	**320**	*e*P	**Pg**	**18 21 16.5**	**-1.3**
RAFA	**San Farael, Vo**	**1.03**	**68**	*e*P	**Pg**	**18 21 17.2**	**-0.8**
SAJU	**San Juanillo,**	**1.04**	**298**	*i* P	**Pg**	**18 21 16.8**	**-1.2**
SAJU				*i* S	**Sn**	**18 21 33.4**	**+1.0**
SAJU				IAML		18 21 37.9	
	comp=Z,1μm,1.0s						
VTR0	**Volcan Turrial**	**1.10**	**66**	*e*P	**Pg**	**18 21 18.7**	**-0.6**
PEZE	**Perez Zeledon,**	**1.11**	**100**	*e*P	**Pg**	**18 21 18.6**	**-0.8**
VTCV	**VTCV, Calle Va**	**1.12**	**69**	*i* P	**Pg**	**18 21 18.7**	**-0.9**
VTCV				*i* S	**Sb**	**18 21 34.4**	**+0.7**
VTCV				IAML		18 21 35.4	
	comp=Z,770nm,1.0s						
RIFO	**Rio Frio, Sara**	**1.12**	**49**	*i* P	**Pb**	**18 21 18.5**	**-0.7**
RIFO				*i* S	**Sb**	**18 21 34.5**	**+0.9**
RIFO				IAML		18 21 46.5	
	comp=Z,1μm,1.0s						
VERB	**Verbena**	**1.13**	**71**	*e*P	**Pb**	**18 21 18.6**	**-0.8**
COVE	**Coope Vega, Sa**	**1.20**	**18**	*i* P	**Pg**	**18 21 21.5**	**+0.4**
COVE				*i* S	**Sb**	**18 21 35.9**	**+0.2**
COVE				IAML		18 21 37.8	
	comp=Z,2μm,1.0s						
COVE	**Coope Vega, Sa**	**1.20**	**18**	*e*P	**Pg**	**18 21 21.5**	**+0.4**
OCHAL	**Ojochal**	**1.22**	**113**	*i* P	**Pn**	**18 21 19.9**	**-0.7**
OCHAL				*i* S	**Sb**	**18 21 37.1**	**+0.7**
OCHAL				IAML		18 21 51.4	
	comp=Z,550nm,1.0s						
HZTE	**Horizontes, Gu**	**1.38**	**325**	*i* P	**Pn**	**18 21 22.7**	**-0.2**
HZTE				IAML		18 21 23.8	
	comp=Z,2μm,1.0s						
HZTE				*i* S	**Sn**	**18 21 42.0**	**+1.0**
HZTE	**Horizontes, Gu**	**1.38**	**325**	*e*P	**Pn**	**18 21 22.5**	**-0.4**
PLAN	**Los Planes de**	**1.41**	**130**	*i* P	**Pg**	**18 21 25.3**	**+0.1**
PLAN				IAML		18 21 53.2	
	comp=Z,900nm,1.0s						
SRBA	**San Rafael, Bu**	**1.45**	**104**	*i* P	**Pn**	**18 21 23.5**	**-0.3**
SRBA				IAML		18 21 48.8	
	comp=Z,270nm,1.0s						
SRBA	**San Rafael, Bu**	**1.45**	**104**	*e*P	**Pn**	**18 21 23.3**	**-0.5**
BATAN	**Batan**	**1.48**	**69**	*i* P	**Pb**	**18 21 26.0**	**+0.7**
BATAN				IAML		18 22 00.5	
	comp=Z,760nm,1.0s						
LCRUZ	**La Cruz**	**1.71**	**331**	*e*P	**Pb**	**18 21 29.7**	**+0.5**

NEIC ***05*** *18:25:44.2±0.5, 19°.411N±0°.009×155°.25W±0°.02, h2km±3km, Error ellipse: s-maj=3.5km s-min=1.1km az=81.0*

HVO 05 18:25:43.5±0.6, 19°.40N±0°.01×155°.246W±0°.008, h0km±7km, ML2.9/28, ML2.2/41(NEIC), Error ellipse: s-maj=1.9km s-min=0.8km az=207.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.02**	**317**		Pg	18 25 44.2	+0.2
BYL				Sg	Sg	18 25 45.1	+0.8
KKO	**Keanakako`i**	**0.02**	**270**		Pg	18 25 44.2	+0.2
KKO				Sg	Sg	18 25 45.1	+0.8
RIM	**Rim**	**0.03**	**265**		Pg	18 25 44.5	+0.4
RIM				Sg	Sg	18 25 45.4	+1.0
HATHI	**Halema'uma'u T**	**0.03**	**331**		Pg	18 25 44.6	+0.5
HATHI				Sg	Sg	18 25 45.8	+1.3
NPH	**North Pit**	**0.04**	**293**		Pg	18 25 44.8	+0.5
NPH				IAML		18 25 44.9	
	comp=E,2μm,0.9s						
NPH				Sg	Sg	18 25 45.1	+0.4
SBLHI	**Steaming Bluff**	**0.04**	**325**		Pg	18 25 44.8	+0.5
SBLHI				IAML		18 25 44.9	
	comp=N,4μm,0.7s						
SBLHI				IAML		18 25 45.4	
	comp=E,3μm,0.7s						
PUH	**Pauahi**	**0.04**	**130**		Pg	18 25 44.9	+0.6
PUH				Sg	Sg	18 25 45.4	+0.7
PUH				IAML		18 25 45.7	
	comp=N,3μm,0.3s						
UWB	**Uwekahuna B**	**0.04**	**312**		Pg	18 25 44.8	+0.5
UWB				IAML		18 25 45.0	
	comp=E,3μm,2.1s						
UWB				IAML		18 25 45.0	
	comp=N,2μm,0.7s						
UWB				Sg	Sg	18 25 45.3	+0.4
OBL	**Observatory Le**	**0.04**	**299**		Pg	18 25 45.0	+0.7
OBL				IAML		18 25 45.1	
	comp=E,4μm,1.0s						
OBL				IAML		18 25 45.2	
	comp=N,987nm,0.5s						
OBL				Sg	Sg	18 25 45.6	+0.8
SDHHI	**Sand Hill**	**0.05**	**260**		Pg	18 25 45.0	+0.6
SDHHI				IAML		18 25 45.7	
	comp=E,1μm,0.2s						
SDHHI				Sg	Sg	18 25 45.7	+0.7
SDHHI				IAML		18 25 45.9	
	comp=N,3μm,0.6s						
UWE	**Uwekahuna**	**0.05**	**298**		Pg	18 25 45.3	+0.8
UWE				IAML		18 25 45.8	
	comp=N,785nm,0.3s						
UWE				Sg	Sg	18 25 46.3	+1.2
WRMHI	**West Rim**	**0.05**	**280**		Pg	18 25 45.1	+0.6
WRMHI				IAML	Sg	18 25 46.1	+0.9
	comp=E,873nm,0.3s						
WRMHI				Sg	Sg	18 25 46.1	+0.9
RSD	**Rainshed**	**0.07**	**335**		Pg	18 25 45.5	+0.6
RSD				IAML		18 25 46.7	
	comp=N,1μm,1.0s						
RSD				Sg	Sg	18 25 46.8	+0.9
KNHH	**Kane Nui o Ham**	**0.07**	**104**		Pg	18 25 46.0	+1.0
STCH	**Steam Cracks**	**0.12**	**96**		Pg	18 25 46.4	+0.7
HLP	**Hilina Pali**	**0.12**	**210**		Pg	18 25 46.7	+1.0
HLP				Sg	Sg	18 25 48.1	+0.9
HLP				IAML		18 25 49.4	
	comp=N,2μm,0.4s						
HLP				IAML		18 25 50.0	
	comp=E,2μm,0.6s						
NPOC	**North of Pu'u**	**0.13**	**92**		Pg	18 25 46.6	+0.7
NPOC				IAML		18 25 49.0	
	comp=E,3μm,0.9s						
JCUZ	**Jacuzzi**	**0.14**	**96**		Pg	18 25 46.9	+0.8
JCUZ				IAML		18 25 50.6	
	comp=N,2μm,0.7s						
MLH	**Mauna Loa**	**0.16**	**306**		Pg	18 25 47.5	+0.8
MLH				IAML		18 25 51.2	
	comp=E,862nm,1.1s						
MLH				IAML		18 25 51.9	
	comp=N,2μm,1.0s						
HTC	**Hot Caves**	**0.21**	**222**		Pg	18 25 48.5	+0.9
HMH	**Humu'ula Sheep**	**0.30**	**312**		Pg	18 25 49.9	+0.6
HMH				IAML		18 25 59.5	
	comp=N,681nm,0.9s						
MWH	**Moku'aweowe**	**0.34**	**285**		Pg	18 25 50.6	+0.5
KHU	**Kahuku**	**0.38**	**247**		Pg	18 25 51.2	+0.5
KHU				IAML		18 26 03.4	
	comp=N,555nm,1.8s						
ALEP	**Alea Permanent**	**0.40**	**291**		Pg	18 25 52.0	+0.8
POHA	**Pohakuloa**	**0.45**	**323**		Pg	18 25 52.7	+0.6
POHA					Sg	18 25 58.1	+0.2
HUH	**Hualalai**	**0.62**	**297**		Pg	18 25 56.4	+0.9
HPAH	**Hawaii Prepara**	**0.76**	**326**		Pg	18 25 57.6	-0.5
MHA	**Mahukona**	**1.00**	**322**	Pg	Pg	18 26 00.8	-1.9
HLK	**Haleakala**	**1.65**	**325**	Pn	Pn	18 26 12.9	-1.1

IDC ***05*** *18:30:48.3±4.9, 22°.06S×68°.68W, h0km, mb4.1/2, mbtmp3.9/3, ML3.5/1, MS2.5/1, Error ellipse: s-maj=133.4km s-min=54.3km az=68.0*

SJA ***05*** *18:31:04.3±2.2, 21°.00S×68°.87W, h100km, ML3.7, MW3.7*

GUC ***05*** *18:31:04.8±0.6, 21°.02S×68°.88W, h113km±3km, ML3.7*

ISC 05 18:31:04.2±0.9, 21°.02S±0°.03×68°.98W±0°.06, h122km±6km, n38, σ0°80/68, 9C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.47**	**267**	*e*P	**Pn**	**18 31 21.6**	**-0.7**
PB01				*e*S	**Sn**	**18 31 36.2**	**+0.3**
PB01				IAML		18 31 37.0	
	comp=Z,1μm,0.1s						
PB01	**IPOC Station P**	**0.47**	**267**	⇑*e*P	**Pn**	**18 31 21.6**	**-0.7**
PB01				*e*S	**Sn**	**18 31 35.1**	**-0.8**
PB01				IAML		18 31 37.5	
	comp=N,2μm,0.2s						
PB09	**IPOC Station P**	**0.81**	**197**	*e*P	**Pn**	**18 31 24.6**	**-0.3**
PB09				*e*S	**Sn**	**18 31 40.7**	**+0.2**
PB09				IAML		18 31 42.3	
	comp=Z,909nm,0.3s						
PB09	**IPOC Station P**	**0.81**	**197**	*e*P	**Pn**	**18 31 24.6**	**-0.3**
PB09				*e*S	**Sn**	**18 31 40.5**	**0.0**
PB08	**IPOC Station P**	**0.89**	**350**	*e*P	**Pn**	**18 31 25.2**	**-0.6**
PB08				*e*S	**Sn**	**18 31 41.7**	**-0.3**
PB08				IAML		18 31 42.5	
	comp=Z,825nm,0.1s						
PB08	**IPOC Station P**	**0.89**	**350**	⇑*e*P	**Pn**	**18 31 25.3**	**-0.5**
PB08				*e*S	**Sn**	**18 31 41.2**	**-0.8**
PB08				IAML		18 31 43.5	
	comp=E,2μm,0.2s						
PB02	**IPOC Station P**	**0.90**	**250**	*e*P	**Pn**	**18 31 25.7**	**+0.1**
PB02				*e*S	**Sn**	**18 31 42.6**	**+0.8**
PB02				IAML		18 31 44.5	
	comp=Z,3μm,0.1s						
PB02	**IPOC Station P**	**0.90**	**250**	⇑*i*P	**Pn**	**18 31 25.8**	**+0.1**
PB02				*e*S	**Sn**	**18 31 41.1**	**-0.6**
PB02				IAML		18 31 43.8	
	comp=N,3μm,0.2s						
PB07	**IPOC Station P**	**1.10**	**230**	*e*P	**Pn**	**18 31 27.4**	**-0.1**
PB07				*e*P	**Pn**	**18 31 27.6**	**0.0**
PB07				*e*S	**Sn**	**18 31 46.5**	**+1.2**
PB07				IAML		18 31 49.0	
	comp=Z,668nm,0.3s						
PB07	**IPOC Station P**	**1.10**	**230**	⇑*i*P	**Pn**	**18 31 27.5**	**-0.1**
PB07				*e*S	**Sn**	**18 31 45.2**	**-0.1**
PB07				IAML		18 31 46.9	
	comp=N,1μm,0.2s						
PATCX	**Punta Patache**	**1.11**	**280**	*e*P	**Pn**	**18 31 27.3**	**-0.3**
PATCX				*e*S	**Sn**	**18 31 47.0**	**+1.7**
PATCX				IAML		18 31 47.5	
	comp=Z,1μm,0.4s						
PATCX	**Punta Patache**	**1.11**	**280**	⇑*e*P	**Pn**	**18 31 27.9**	**+0.3**
PATCX				*e*S	**Sn**	**18 31 46.2**	**+0.9**
PATCX				IAML		18 31 47.5	
	comp=N,3μm,0.2s						
HMBC	**Humberstone**	**1.12**	**311**	*e*P	**Pn**	**18 31 27.4**	**-0.3**
HMBC				*e*S	**Sn**	**18 31 45.6**	**0.0**
HMBC				IAML		18 31 46.3	
	comp=E,2μm,0.6s						
HMBC	**Humberstone**	**1.12**	**311**	*e*P	**Pn**	**18 31 27.6**	**-0.2**
HMBC				*e*S	**Sn**	**18 31 45.5**	**-0.1**
HMBC				IAML		18 31 45.7	
	comp=N,3μm,0.3s						
TA01	**Diego Aracena**	**1.21**	**292**	*e*P	**Pn**	**18 31 28.6**	**+0.1**
TA01				*e*S	**Sn**	**18 31 47.7**	**+0.8**
TA01				IAML		18 31 49.1	
	comp=Z,535nm,0.2s						
TA02	**Huaiquique**	**1.31**	**304**	*e*P	**Pn**	**18 31 29.5**	**-0.1**
TA02				*e*S	**Sn**	**18 31 50.3**	**+1.5**
TA02				IAML		18 31 52.4	
	comp=Z,2μm,0.3s						
GO01	**Chusmiza**	**1.36**	**352**	*e*P	**Pn**	**18 31 30.6**	**-0.1**
GO01				*e*S	**Sn**	**18 31 51.1**	**+0.4**
GO01				IAML		18 31 52.4	
	comp=Z,540nm,0.1s						
GO01	**Chusmiza**	**1.36**	**352**	*e*P	**Pn**	**18 31 30.4**	**-0.3**
GO01				*e*S	**Sn**	**18 31 50.4**	**-0.3**
PB11	**IPOC Station P**	**1.40**	**333**	*e*P	**Pn**	**18 31 30.5**	**-0.3**
PB11				*e*S	**Sn**	**18 31 51.4**	**+0.4**
PB11				IAML		18 31 52.2	
	comp=Z,966nm,0.3s						
PB11	**IPOC Station P**	**1.40**	**333**	⇑*e*P	**Pn**	**18 31 30.6**	**-0.3**
PB11				*e*S	**Sn**	**18 31 50.9**	**-0.1**
PB11				IAML		18 31 52.6	
	comp=E,2μm,0.1s						
LVC	**Limon Verde**	**1.59**	**178**	*e*P	**Pn**	**18 31 33.5**	**+0.3**
LVC				*e*S	**Sn**	**18 31 56.2**	**+1.0**
LVC	**Limon Verde**	**1.59**	**178**	⇑*e*P	**Pn**	**18 31 33.4**	**+0.3**
LVC				*e*S	**Sn**	**18 31 54.8**	**-0.4**
LVC				IAML		18 31 58.2	
	comp=E,1μm,0.2s						
PB04	**IPOC Station P**	**1.70**	**219**	*e*P	**Pn**	**18 31 34.6**	**+0.3**
PB04				*e*S	**Sn**	**18 31 58.1**	**+0.8**
PB04				IAML		18 32 00.5	
	comp=Z,464nm,0.1s						
PB04	**IPOC Station P**	**1.70**	**219**	⇑*e*P	**Pn**	**18 31 34.4**	**+0.1**
PB04				IAML		18 32 04.0	
	comp=E,917nm,0.2s						
PB06	**IPOC Station P**	**1.77**	**198**	*e*P	**Pn**	**18 31 35.3**	**+0.2**
PB06				*e*S	**Sn**	**18 31 59.4**	**+0.8**
PB06				IAML		18 32 01.5	
	comp=Z,599nm,0.2s						
PB06	**IPOC Station P**	**1.77**	**198**	⇑*e*P	**Pn**	**18 31 35.1**	**0.0**
PB06				*e*S	**Sn**	**18 31 58.7**	**+0.1**
PB06				IAML		18 31 60.0	
	comp=E,976nm,0.2s						
PB15	**IPOC Station P**	**2.23**	**192**	*e*P	**Pn**	**18 31 41.6**	**+0.8**
PB15				*e*S	**Sn**	**18 32 10.0**	**+1.1**
PB15				IAML		18 32 21.0	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**2.23**	**192**	*e*P	**Pn**	**18 31 41.2**	**+0.4**
PB15				*e*S	**Sn**	**18 32 09.5**	**+0.6**
PB12	**IPOC Station P**	**2.71**	**332**	*e*P	**Pn**	**18 31 46.1**	**-0.8**
PB12				*e*S	**Sn**	**18 32 19.4**	**-0.3**
PB10	**IPOC Station P**	**2.88**	**210**	*e*P	**Pn**	**18 31 48.8**	**-0.2**
PB10				*e*S	**Sn**	**18 32 20.5**	**-3.1**
PB10	**IPOC Station P**	**2.88**	**210**	*e*P	**Pn**	**18 31 48.9**	**-0.2**
YJA	**Yavi**	**3.43**	**110**	*e*P	**Pn**	**18 31 56.9**	**+0.3**
PB14	**IPOC Station P**	**3.82**	**200**	*e*P	**Pn**	**18 32 01.6**	**-0.1**
PB14				*e*S	**Sn**	**18 32 43.3**	**-3.0**
LPAZ	**La Paz**	**4.77**	**10**	Pn	**Pn**	**18 32 15.7**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=177,slow=4.9,SNR=8.1						
	comp=Z,2.2nm,0.4s						
SIV	**San Ignacio**	**9.02**	**58**	LR	LR	18 36 30.6	
	comp=Z,30nm,19.1s,baz=311,slow=36						
DBIC	**Dimbokro**	**68.66**	**74**	P	**P**	**18 41 54.6**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=249,slow=8.6,SNR=1.7						
	comp=Z,2.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**77.26**	**70**	P	**P**	**18 42 45.2**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=260,slow=5.5,SNR=7.3						
	comp=Z,0.7nm,0.6s						
MKAR	**Makanchi Array**	**145.28**	**35**	PKPbc	**PKPab**	**18 50 29.1**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=326,slow=2.8,SNR=4.4						

IDC ***05*** *18:32:22.1±3.2, 36°.03N×70°.44E, h134km±27km, mb3.6/7, mbtmp4.0/13, Error ellipse: s-maj=25.1km s-min=18.1km az=175.0*

MOS ***05*** *18:32:24.6±0.8, 36°.20N×70°.47E, h167km, mb4.0/4, Error ellipse: s-maj=11.4km s-min=5.4km az=81.1*

NEIC ***05*** *18:32:25.6±2.9, 36°.27N±0°.07×70°.34E±0°.09, h166km±8km, mb4.1/11, Error ellipse: s-maj=13.8km s-min=5.5km az=130.0*

NNC ***05*** *18:32:27.4±4.0, 36°.75N×70°.34E, h0km, mb4.2, mpv4.0, Error ellipse: s-maj=32.7km s-min=26.2km az=154.0*

ISC 05 18:32:24.4±0.6, 36°.22N±0°.05×70°.45E±0°.05, h150km, n89, σ1°57/113, mb4.1/16, 5C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.04**	**215**		**Pn**	**18 33 02.5**	**+2.3**
KBL				Sn	**Sn**	**18 33 29.1**	**+1.5**
KBL	**Kabul**	**2.04**	**215**	PN	**Pn**	**18 33 02.5**	**+2.3**
KBL				S	**Sn**	**18 33 29.1**	**+1.5**
CHGR	**Chuyangaron**	**2.64**	**337**		**Pn**	**18 33 09.3**	**+2.0**
CHGR				Sn	**Sn**	**18 33 41.0**	**+0.5**
CHGR	**Chuyangaron**	**2.64**	**337**	PN	**Pn**	**18 33 09.3**	**+2.0**
SIMJ	**Simiganj**	**2.69**	**335**		**Pn**	**18 33 10.0**	**+2.0**
SIMJ				Sn	**Sn**	**18 33 41.2**	**-0.5**
GAR	**Garm**	**2.77**	**358**		**Pn**	**18 33 11.5**	**+2.5**
GAR				Sn	**Sn**	**18 33 44.0**	**+0.5**
DRK	**Karamyk**	**3.42**	**18**		**Pn**	**18 33 19.7**	**+2.3**
DRK				Sn	**Sn**	**18 33 59.1**	**+0.6**
DRK	**Karamyk**	**3.42**	**18**	PN	**Pn**	**18 33 19.7**	**+2.3**
DRK				S	**Sn**	**18 33 59.1**	**+0.6**
BTK	**Batken**	**3.84**	**4**		**Pn**	**18 33 25.5**	**+2.9**
BTK				Sn	**Sn**	**18 34 09.6**	**+1.8**
BTK	**Batken**	**3.84**	**4**	PN	**Pn**	**18 33 25.5**	**+2.9**
ARSB	**Arslanbob**	**5.46**	**20**		**Pn**	**18 33 44.7**	**+0.7**
ARSB				Sn	**Sn**	**18 34 43.9**	**-2.4**
ARSB	**Arslanbob**	**5.46**	**20**	PN	**Pn**	**18 33 44.7**	**+0.7**
KSH	**Kashi**	**5.47**	**51**	P	**Pn**	**18 33 41.4**	**-2.7**
KSH				S	Sn	18 34 37.2	-9.1
KSH				pmax	pmax		
	comp=Z,34nm,0.6s						
KSH				smax	smax		
	comp=N,260nm,0.7s						
KSH				smax	smax		
	comp=E,150nm,0.4s						
DHRM	**DHARAMSHALA**	**6.26**	**128**	*e*P	**Pn**	**18 33 55.4**	**+0.6**
DHRM				*e*S	**Sn**	**18 35 03.6**	**-1.8**
DHRM				IAML		18 35 06.3	
	comp=N,192nm,0.3s						
DHRM				IAML		18 35 06.9	
	comp=E,276nm,0.4s						
UCH	**Uchtor**	**6.77**	**26**	P	**Pn**	**18 34 03.2**	**+1.4**
	SNR=14						
KK31	**Karatay Array**	**6.87**	**0**	P	**Pn**	**18 34 03.9**	**+1.2**
	comp=E,2.9nm,0.3s,baz=178,slow=12,SNR=133						
KK31				S	**Sn**	**18 35 18.1**	**-1.6**
	comp=E,5.3nm,0.3s,baz=190,slow=21,SNR=17						
KK31	**Karatay Array**	**6.87**	**0**	Pn	**Pn**	**18 34 04.0**	**+1.4**
KK31				Sn	**Sn**	**18 35 15.3**	**-4.4**
KK31	**Karatay Array**	**6.87**	**0**	PN	**Pn**	**18 34 04.1**	**+1.4**
KKAR	**Karatay Array**	**6.87**	**0**	Pn	**Pn**	**18 34 04.0**	**+1.4**
KKAR				Sn	**Sn**	**18 35 15.4**	**-4.3**
KKAR	**Karatay Array**	**6.87**	**0**	PN	**Pn**	**18 34 04.1**	**+1.4**
EKS2	**Erkin-Say**	**6.92**	**21**	P	**Pn**	**18 34 05.3**	**+1.8**
	SNR=7.5						
HRA	**Herat**	**6.96**	**257**	Pn	**Pn**	**18 34 05.1**	**+1.1**
AAK	**Ala-Archa**	**7.13**	**25**	P	**Pn**	**18 34 08.0**	**+1.8**
	SNR=11						
AAK	**Ala-Archa**	**7.13**	**25**	⇑P	**Pn**	**18 34 07.8**	**+1.6**
	comp=E,7.0nm,0.7s						
AAK				⇓S	**Sn**	**18 35 25.2**	**-0.9**
	comp=E,56nm,0.8s						
AAK	**Ala-Archa**	**7.13**	**25**	P	**Pn**	**18 34 08.2**	**+2.0**
	comp=E,5.1nm,0.3s,baz=131,slow=6.5,SNR=30						
AAK				S	**Sn**	**18 35 25.8**	**-0.3**
	comp=E,18nm,0.7s,baz=345,slow=20,SNR=30						
AAK	**Ala-Archa**	**7.13**	**25**	*i* PN	**Pn**	**18 34 06.9**	**+0.7**
FRU1	**Bishkek**	**7.33**	**25**	Pn	**Pn**	**18 34 09.5**	**+0.7**
FRU1				Sn	**Sn**	**18 35 29.7**	**-1.0**
FRU1	**Bishkek**	**7.33**	**25**	PN	**Pn**	**18 34 09.5**	**+0.7**
CHMS	**Chumysh**	**7.54**	**25**	P	**Pn**	**18 34 12.9**	**+1.3**
	SNR=6.0						
CHMS	**Chumysh**	**7.54**	**25**	⇑P	**Pn**	**18 34 12.5**	**+1.0**
	comp=E,3.0nm,0.3s						
CHMS				⇓S	**Sn**	**18 35 34.5**	**-1.2**
	comp=E,11nm,0.5s						
CHMS	**Chumysh**	**7.54**	**25**	PN	**Pn**	**18 34 12.5**	**+1.0**
SMLA	**Simla**	**7.56**	**130**	*e*P	**Pn**	**18 34 11.9**	**+0.1**
SMLA				*e*S	**Sn**	**18 35 31.7**	**-4.5**
SMLA				IAML		18 35 37.5	
	comp=N,59nm,0.3s						
SMLA				IAML		18 35 38.4	
	comp=E,59nm,0.3s						
BOOM	**Boomskoye usch**	**7.56**	**33**	Pn	**Pn**	**18 34 11.0**	**-1.0**
BOOM				Sn	**Sn**	**18 35 34.2**	**-2.3**
BOOM	**Boomskoye usch**	**7.56**	**33**	PN	**Pn**	**18 34 11.0**	**-1.0**
USP	**Ospenovka**	**7.69**	**23**	P	**Pn**	**18 34 14.2**	**+0.6**
	SNR=5.7						
TKM2	**Tokmak 2**	**7.78**	**29**	P	**Pn**	**18 34 16.2**	**+1.2**
	SNR=11						
TKM2	**Tokmak 2**	**7.78**	**29**	⇑P	**

comp=Z,60nm,4.7s
OBN **Obninsk** **29.86 320** *e*P **P** **18 38 18.5 +1.2**
OBN pmax pmax
comp=Z,5.0nm,0.9s
HHC **Hu-ho-hao-te** **32.27 69** *e*P **P** **18 38 40.3 +1.4**
HHC pmax pmax
comp=Z,24nm,0.7s
HHC pmax pmax
comp=Z,86nm,4.7s
FINES **FINESS Array B** **37.47 326** P **P** **18 39 23.1 +0.2**
FINES **FINESS Array B** **37.47 326** P **P** **18 39 24.1 +1.1**
comp=Z,1.2nm,0.8s,baz=130,slow=15,SNR=2.4
comp=Z,1.2nm,0.8s
ARCES **ARCESS Array B** **41.23 338** P **P** **18 39 54.1 0.0**
ARCES IAmb IAmb 18 40 01.1
comp=Z,13nm,1.4s
ARCES **ARCESS Array B** **41.23 338** P **P** **18 39 54.4 +0.3**
comp=Z,2.7nm,1.1s,baz=108,slow=7.0,SNR=6.5
comp=Z,2.7nm,1.1s
HFS **Hagfors** **43.01 322** P **P** **18 40 08.2 -0.4**
comp=Z,1.5nm,0.8s,baz=97,slow=9.0,SNR=2.3
comp=Z,1.5nm,0.8s
TIXI **Tiksi** **46.20 22** P **P** **18 40 34.4 +0.8**
TIXI IAmb IAmb 18 40 34.7
comp=Z,2.2nm,0.5s
TIXI **Tiksi** **46.20 22** P **P** **18 40 34.4 +0.8**
TIXI pmax pmax
comp=Z,2.0nm,0.5s
SPITS **Spitsbergen Ar** **47.66 347** P **P** **18 40 46.6 +1.6**
comp=Z,10nm,1.0s,baz=97,slow=7.4,SNR=1.5
comp=Z,10nm,1.0s
TOLK **Toolik Lake Re** **71.30 14** P **P** **18 43 27.9 +0.8**
TOLK IAmb IAmb 18 44 08.3
comp=Z,8.2nm,1.5s
BMAR **Burnt Mountain** **73.31 13** P **P** **18 43 40.2 +1.2**
G29M **Pine Creek** **74.91 11** P **P** **18 43 48.9 +0.6**
G29M IAmb IAmb 18 43 52.7
comp=Z,6.2nm,1.4s
H29M **Whitestone** **75.49 12** P **P** **18 43 52.0 +0.4**
H29M IAmb IAmb 18 44 26.9
comp=Z,6.8nm,1.4s
SCRK **Sand Creek** **76.48 15** P **P** **18 43 57.6 +0.2**
SCRK IAmb IAmb 18 44 33.8
comp=Z,4.8nm,1.4s
WRA **Warramunga Arr** **82.22 122** P **P** **18 44 27.7 -1.3**
comp=Z,0.2nm,0.5s,baz=326,slow=5.0,SNR=1.7
comp=Z,0.2nm,0.5s
ASAR **Alice Springs** **84.46 125** P **P** **18 44 39.0 -1.3**
comp=Z,0.5nm,0.9s,baz=320,slow=4.6,SNR=4.6
comp=Z,0.5nm,0.9s

TAP 05 19:01:44.2, 24.78N×122.19E, h5km±1km, ML1.7, D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EGS		**0.24**	**285**	P	Pg	19 01 50.6	+1.7
	baz=285						
EGS				*i* S	Sg	19 01 54.0	+2.0
	baz=285						
TWB1	**Santiao Chiao**	**0.29**	**322**	*i* P	Pg	19 01 50.6	+0.8
	baz=322						
TWB1				*i* S	Sg	19 01 54.9	+1.3
	baz=322						
TWC	**Suao**	**0.35**	**241**	*i* P	Pb	19 01 52.3	-0.6
	baz=239						
TWC				*i* S	Sb	19 01 57.4	-1.4
	baz=239						
EOS2	**EOS2**	**0.36**	**173**	P	Pb	19 01 52.3	-0.7
	baz=173						
EOS2				S	Sb	19 01 59.0	0.0
	baz=173						
SXI1	**Grass Mountain**	**0.42**	**318**	P	Pb	19 01 53.9	-0.3
	baz=317						
SXI1				S	Sb	19 02 00.3	-0.5
	baz=317						
NDS	**Dongshan**	**0.45**	**251**	*e*P	Pb	19 01 54.0	-0.7
	baz=250						
NDS				*e*S	Sb	19 02 02.2	+0.5
	baz=250						
TWE	**Neicheng**	**0.47**	**263**	*i* P	Pb	19 01 55.0	0.0
	baz=262						
TWE				S	Sb	19 02 02.2	-0.1
	baz=262						
EWUT	**Wuta**	**0.50**	**228**	*e*P	Pb	19 01 55.5	0.0
	baz=227						
EWUT				*e*S	Sb	19 02 01.8	-1.3
	baz=227						
EOS3	**EOS3**	**0.51**	**166**	P	Pb	19 01 55.0	-0.6
	baz=166						
EOS3				*i* S	Sb	19 02 03.5	+0.4
	baz=166						
TNOU	**National Taiwa**	**0.52**	**315**	*e*S	Sb	19 02 03.6	-0.1
	baz=314						
ENA	**Nanau**	**0.54**	**229**	P	Pb	19 01 55.6	-0.5
	baz=228						
ENA				S	Sb	19 02 03.0	-1.1
	baz=228						
FUSB	**Fushanzhiwuyua**	**0.54**	**268**	P	Pb	19 01 56.6	+0.3
	baz=267						
FUSB				S	Sb	19 02 04.7	+0.3
	baz=267						
ENTT	**Nioudou**	**0.58**	**256**	P	Pb	19 01 57.1	+0.2
	baz=255						
NWLT	**Wulai**	**0.62**	**270**	*e*P	Pb	19 01 57.8	+0.3
	baz=269						
NWLT				*e*S	Sb	19 02 06.1	-0.5
	baz=269						
NDT	**Datong Townshi**	**0.64**	**254**	*e*P	Pb	19 01 58.5	+0.6
	baz=253						
NDT				*e*S	Sb	19 02 08.2	+1.2
	baz=253						
LATG	**Datong**	**0.65**	**248**	P	Pb	19 01 57.9	-0.2
	baz=247						
LATG				*e*S	Sb	19 02 06.9	-0.6
	baz=247						
YM01	**YM01**	**0.67**	**303**	P	Pb	19 01 59.3	+0.9
	baz=302						
YM01				S	Sb	19 02 08.6	+0.6
	baz=302						
EOS4	**EOS4**	**0.67**	**170**	P	Pb	19 01 58.3	+0.2
	baz=169						
EOS4				S	Sb	19 02 08.9	+1.4
	baz=169						
YHNB	**Yeheng**	**0.74**	**262**	*e*P	Pb	19 01 59.6	-0.1
	baz=261						
NSK	**Sanguang**	**0.76**	**262**	P	Pb	19 01 59.7	-0.3
	baz=261						
NACB	**Ninganchiao**	**0.81**	**222**	*e*P	Pb	19 02 01.0	+0.2
	baz=221						
NACB				S	Sb	19 02 11.6	-0.4
	baz=221						
NNSB	**Datong**	**0.81**	**244**	*e*P	Pb	19 02 00.9	+0.1
	baz=244						
NNSB				*e*S	Sb	19 02 13.5	+1.3
	baz=244						
NNS	**Nan Shan**	**0.81**	**245**	*e*P	Pb	19 02 00.9	0.0
	baz=244						
ETLH	**Xiulin Townshi**	**0.86**	**228**	*e*P	Pb	19 02 02.0	+0.4
	baz=228						
ETLH				*e*S	Sb	19 02 13.4	-0.1
	baz=228						
NFF	**Wufeng Townshi**	**0.98**	**261**	*e*P	Pn	19 02 05.1	+0.4
	baz=261						
FUSS	**Fushou**	**1.01**	**238**	P	Pn	19 02 05.4	+0.2
	baz=238						
FUSS				*i* S	Sn	19 02 19.2	-0.7
	baz=238						
LXIB	**Xiulin Townshi**	**1.03**	**223**	*e*P	Pb	19 02 04.4	-0.3
	baz=222						
LXIB				*e*S	Sb	19 02 19.1	+0.5
	baz=222						
WHF	**Hehuan Shan**	**1.05**	**233**	*e*P	Pb	19 02 05.6	+0.4
	baz=232						
WHF				*i* S	Sb	19 02 19.4	0.0
	baz=232						
TWT	**Tachien**	**1.06**	**240**	*e*P	Pn	19 02 06.6	+0.7
	baz=240						
TWT				*e*S	Sn	19 02 20.9	-0.2
	baz=240						
CHGB	**Renai**	**1.17**	**232**	*e*P	Pn	19 02 08.1	+0.7
	baz=232						
CHGB				S	Sn	19 02 24.1	+0.2
	baz=232						
WHP	**Taichung City**	**1.23**	**246**	*e*P	Pn	19 02 09.9	+1.7
	baz=246						
WUSB	**Renai**	**1.25**	**231**	*e*P	Pn	19 02 09.8	+1.4
	baz=231						
WARBT	**Fenglin Townsh**	**1.29**	**215**	*e*P	Pn	19 02 08.8	-0.1
	baz=214						
VWDT	**VWDT**	**1.40**	**223**	*e*P	Pg	19 02 11.9	+0.9
	baz=222						

*IDC **05** 19:02:13.9±3.0, 7.09S×129.55E, h120km±28km, mb3.7/15, mbtmp4.2/18, Error ellipse: s-maj=24.5km s-min=12.7km az=66.0*
*NEIC **05** 19:02:17.9±1.5, 7.19S±0.05×129.41E±0.07, h152km±7km, mb4.4/30, Error ellipse: s-maj=10.5km s-min=6.7km az=117.0*
ISC 05 19:02:17.3±0.4, 7.21S±0.05×129.35E±0.05, h150km, n90, σ1s20/92, mb4.1/35, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.08**	**112**	P	**Pn**	**19 02 55.8**	**+2.5**
SAUI	**Saumlaki**	**2.08**	**112**	Pn	**Pn**	**19 02 55.6**	**+2.3**
SAUI				Sn	**Sn**	**19 03 19.5**	**-1.5**
BNDI	**Bandanaira**	**2.73**	**12**	P	**Pn**	**19 03 03.6**	**+2.4**
FAKI	**Fak Fak**	**5.15**	**34**	P	**Pn**	**19 03 32.8**	**+0.1**
	65nm,0.9s						
FAKI	**Fak Fak**	**5.15**	**34**		**Pn**	**19 03 32.2**	**-0.5**
DRS	**Darwin Rock St**	**5.41**	**164**	P	**Pn**	**19 03 36.4**	**+0.3**
SOEI	**Soe**	**5.63**	**243**	P	**Pn**	**19 03 40.8**	**+1.6**
	74nm,0.8s						
SOEI	**Soe**	**5.63**	**243**		**Pn**	**19 03 40.2**	**+1.1**
MTN	**Manton Dam**	**5.87**	**163**	Pn	**Pn**	**19 03 42.1**	**-0.1**
KDU	**Kakadu**	**6.25**	**151**	P	**Pn**	**19 03 47.3**	**0.0**
	146nm,0.5s						
BATI	**Baumata**	**6.36**	**242**	P	**Pn**	**19 03 48.5**	**-0.4**
	53nm,0.4s,baz=105,slow=4.6,SNR=24						
BATI				S	**Sn**	**19 04 58.2**	**-2.4**
	192nm,0.4s,baz=60,slow=20,SNR=16						
TNTI	**Ternate**	**8.17**	**346**	Pn	**Pn**	**19 04 15.2**	**+2.1**
KNRA	**Kununurra**	**8.43**	**184**	P	**Pn**	**19 04 15.1**	**-1.4**
	46nm,0.5s						
KNRA	**Kununurra**	**8.43**	**184**		**Pn**	**19 04 14.9**	**-1.6**
WB0	**Warramunga Arr**	**13.40**	**159**	Pn	**Pn**	**19 05 18.3**	**-3.4**
WRA	**Warramunga Arr**	**13.55**	**160**	P	**Pn**	**19 05 20.1**	**-3.4**
	26nm,0.7s,baz=336,slow=12,SNR=205						
WRA				S	Sn	19 07 41.8	-12
	24nm,0.5s,baz=333,slow=23,SNR=10.0						
JAGI	**Jajag, Banyuwa**	**15.11**	**264**	Pn	**Pn**	**19 05 43.6**	**+0.4**
JAGI				IAmb	IAmb	19 06 08.4	
	comp=Z,22nm,1.1s						
COEN	**Coen**	**15.14**	**117**	P	**Pn**	**19 05 44.1**	**+0.5**
	comp=Z,32nm,0.9s						
COEN	**Coen**	**15.14**	**117**		**Pn**	**19 05 43.0**	**-0.6**
COEN				IAmb	IAmb	19 05 47.8	
	comp=Z,21nm,0.9s						
QIS	**Mount Isa**	**16.57**	**144**	P	**Pn**	**19 06 01.7**	**+0.6**
	comp=Z,18nm,0.7s						
MBWA	**Marble Bar**	**16.70**	**213**	P	**P**	**19 06 03.5**	**+1.2**
	comp=Z,5.0nm,1.3s						
MBWA	**Marble Bar**	**16.70**	**213**	P	**P**	**19 06 02.9**	**+0.6**
MBWA				IAmb	IAmb	19 06 08.3	
	comp=Z,19nm,1.2s						
AS31	**Alice Springs**	**16.93**	**166**	P	**P**	**19 06 04.2**	**-0.8**
AS31				IAmb	IAmb	19 06 07.4	
	comp=Z,8.8nm,0.4s						
ASAR	**Alice Springs**	**16.93**	**166**	P	**P**	**19 06 04.4**	**-0.6**
ASAR	**Alice Springs**	**16.93**	**166**	P	**P**	**19 06 04.2**	**-0.8**
	comp=Z,14nm,0.5s,baz=347,slow=9.6,SNR=186						
ASAR				S	S	19 09 03.8	-10
	comp=Z,3.1nm,0.4s,baz=341,slow=27,SNR=5.9						
PSA00	**Pilbara Seismi**	**16.98**	**212**	P	**P**	**19 06 06.9**	**+1.5**
	comp=Z,24nm,0.9s						
PSA00	**Pilbara Seismi**	**16.98**	**212**		**P**	**19 06 06.3**	**+0.9**
PSA00				IAmb	IAmb	19 06 07.3	
	comp=Z,13nm,0.7s						
WRKA	**Warakurna**	**17.75**	**183**	P	**P**	**19 06 14.9**	**+0.9**
	comp=Z,20nm,0.6s						
MTSU	**Mount Surprise**	**18.18**	**128**	P	**Pn**	**19 06 20.4**	**+0.1**
	comp=Z,10nm,0.5s						
MANU	**Manus Island**	**18.67**	**75**	P	**P**	**19 06 23.9**	**-0.1**
SBUM	**Sibu**	**19.61**	**299**	P	**Pn**	**19 06 36.8**	**-0.3**
TV1H	**Townsville Har**	**20.75**	**127**	P	**P**	**19 06 48.6**	**+2.2**
	comp=Z,14nm,1.0s						
CTAO	**Charters Tower**	**20.79**	**130**	P	**P**	**19 06 47.8**	**+0.9**
CTAO				IAmb	IAmb	19 07 10.5	
	comp=Z,10nm,1.0s						
OOD	**Oodnadatta**	**21.33**	**164**	P	**P**	**19 06 52.8**	**+0.3**
	comp=Z,88nm,0.6s						
INKA	**Innaminka**	**23.10**	**153**	P	**P**	**19 07 11.4**	**+1.4**
	comp=Z,69nm,1.0s						
MULG	**Mudgathing**	**23.37**	**170**	P	**P**	**19 07 13.2**	**+0.7**
	comp=Z,24nm,1.9s						
FORT	**Forrest**	**23.48**	**183**	P	**P**	**19 07 14.2**	**+0.8**
	comp=Z,38nm,0.9s						
FORT	**Forrest**	**23.48**	**183**	P	**P**	**19 07 13.7**	**+0.3**
QLP	**Quilpie**	**23.91**	**145**	P	**P**	**19 07 19.1**	**+1.7**
	comp=Z,46nm,1.0s						
LCRK	**Leigh Creek**	**24.57**	**161**	P	**P**	**19 07 24.1**	**+0.8**
	comp=Z,30nm,0.6s						
BBOO	**Buckleboo**	**26.22**	**167**	P	**P**	**19 07 38.5**	**+0.2**
	comp=Z,16nm,1.8s						
BBOO	**Buckleboo**	**26.22**	**167**	P	**P**	**19 07 38.5**	**+0.2**
BBOO				IAmb	IAmb	19 07 41.7	
	comp=Z,20nm,1.2s						
STKA	**Stephens Creek**	**27.07**	**157**	P	**P**	**19 07 46.7**	**+0.9**
	comp=Z,1.5nm,0.5s						
STKA	**Stephens Creek**	**27.07**	**157**	P	**P**	**19 07 46.2**	**+0.3**
STKA	**Stephens Creek**	**27.07**	**157**	P	**P**	**19 07 46.5**	**+0.6**
	comp=Z,3.5nm,0.5s,baz=326,slow=8.4,SNR=12						
	comp=Z,3.5nm,0.5s						
HTT	**Hallett**	**27.56**	**163**	P	**P**	**19 07 51.5**	**+1.3**
	comp=Z,8.1nm,2.0s						
CMSA	**Cobar Meteorol**	**28.61**	**150**	P	**P**	**19 08 00.8**	**+1.2**
	comp=Z,7.1nm,2.9s						
TPUB	**Ta-pu**	**31.50**	**345**	P	**P**	**19 08 23.2**	**-2.0**
ARPS	**Mount Arapiles**	**31.55**	**161**	P	**P**	**19 08 26.9**	**+1.5**
	comp=Z,33nm,0.5s						
YNG	**Young**	**32.18**	**150**	P	**P**	**19 08 32.7**	**+1.7**
	comp=Z,14nm,1.4s						
UBPT	**Khong Chiam**	**32.55**	**313**	P	**P**	**19 08 35.2**	**+0.8**
UBPT				IAmb	IAmb	19 08 53.0	
	comp=Z,2.9nm,0.8s						
TOO	**Toolangi**	**33.59**	**156**	P	**P**	**19 08 45.9**	**+2.6**
	comp=Z,17nm,2.1s						
TOO	**Toolangi**	**33.59**	**156**	P	**P**	**19 08 45.0**	**+1.7**
CMAR	**Chiang Mai Arr**	**39.38**	**311**	P	**P**	**19 09 32.9**	**+0.4**
CMAR	**Chiang Mai Arr**	**39.38**	**311**	P	**P**	**19 09 33.0**	**+0.5**
	comp=Z,1.2nm,0.7s,baz=136,slow=6.5,SNR=10						
	comp=Z,1.2nm,0.7s						
MJAR	**Matsushiro Arr**	**44.31**	**10**	P	**P**	**19 10 10.9**	**-1.4**
	comp=Z,1.9nm,0.7s,baz=189,slow=8.8,SNR=12						
	comp=Z,1.9nm,0.7s						
MAJO	**Matsushiro**	**44.31**	**10**	P	**P**	**19 10 11.4**	**-0.9**
MAJO				IAmb	IAmb	19 10 25.2	
	comp=Z,8.6nm,1.2s						
KSRS	**Korea Array**	**44.45**	**358**	P	**P**	**19 10 11.7**	**-1.7**
	comp=Z,0.8nm,0.7s,baz=174,slow=8.9,SNR=5.4						
	comp=Z,0.8nm,0.7s						
SHL	**Shillong**	**48.87**	**313**	P	**P**	**19 10 47.8**	**-0.5**
SHL				IAmb	IAmb	19 10 49.1	
	comp=Z,6.9nm,1.0s						
USRK	**Ussuriysk Ar.**	**51.23**	**2**	P	**P**	**19 11 05.1**	**-0.3**
USRK	**Ussuriysk Ar.**	**51.23**	**2**	P	**P**	**19 11 05.0**	**-0.4**
	comp=Z,1.9nm,0.8s,baz=199,slow=7.3,SNR=3.8						
	comp=Z,1.9nm,0.8s						
RAO	**Raoul Island**	**54.15**	**121**	P	**P**	**19 11 27.0**	**-0.2**
	comp=Z,249nm,0.3s,baz=288,slow=20,SNR=3.0						
SONM	**Songino Array**	**58.44**	**342**	P	**P**	**19 11 58.8**	**+1.4**
SONM	**Songino Array**	**58.44**	**342**	P	**P**	**19 11 57.3**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=151,slow=5.7,SNR=6.5						
	comp=Z,0.7nm,0.5s						
PEA0B	**Petropavlovsk-**	**64.72**	**18**	P	**P**	**19 12 39.7**	**+0.5**
PETK	**Petropavlovsk-**	**64.72**	**18**	P	**P**	**19 12 39.6**	**+0.3**
PETK	**Petropavlovsk-**	**64.72**	**18**	P	**P**	**19 12 36.7**	**-2.6**
	comp=Z,2.1nm,0.8s,baz=186,slow=3.6,SNR=6.0						
	comp=Z,2.1nm,0.8s						
MK31	**Makanchi Array**	**68.05**	**327**	P	**P**	**19 13 01.1**	**+0.5**
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**19 13 01.0**	**+0.3**
MKAR	**Makanchi Array**	**68.05**	**327**	P	**P**	**19 13 00.3**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=118,slow=7.5,SNR=24						
	comp=Z,0.7nm,0.4s						
YAK	**Yakutsk**	**69.04**	**0**	P	**P**	**19 13 06.1**	**-0.2**
YAK				IAmb	IAmb	19 13 07.5	
	comp=Z,8.8nm,0.8s						
ZAA0	**Zalesovo Array**	**71.49**	**334**	P	**P**	**19 13 20.8**	**-0.6**
ZALV	**Zalesovo Beam**	**71.49**	**334**	P	**P**	**19 13 21.3**	**-0.1**
ZALV	**Zalesovo Beam**	**71.49**	**334**	P	**P**	**19 13 21.2**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=117,slow=5.2,SNR=8.8						
	comp=Z,1.2nm,0.4s						
KURBB	**Kurchatov Arra**	**72.36**	**329**	P	**P**	**19 13 26.8**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=123,slow=5.2,SNR=18						
	comp=Z,0.7nm,0.4s						
KURK	**Kurchatov**	**72.36**	**329**	P	**P**	**19 13 26.7**	**0.0**
BVAR	**Borovoye Array**	**77.90**	**328**	P	**P**	**19 13 58.5**	**+0.1**
	comp=Z,1.7nm,0.9s,baz=132,slow=6.6,SNR=7.2						
	comp=Z,1.7nm,0.9s						
TIXI	**Tiksi**	**78.70**	**360**	P	**P**	**19 14 02.7**	**+0.3**
TIXI				IAmb	IAmb	19 14 02.9	
	comp=Z,2.2nm,0.6s						
VOI	**Vohitsoka**	**80.47**	**249**	P	**P**	**19 14 12.7**	**-0.6**
VOI				IAmb	IAmb	19 14 22.4	
	comp=Z,6.5nm,1.1s						
ABKAR	**Akbulak array**	**82.28**	**322**	P	**P**	**19 14 21.6**	**-0.3**
ABKAR	**Akbulak array**	**82.28**	**322**	P	**P**	**19 14 21.2**	**-0.8**
QSPA	**South Pole Qui**	**82.77**	**180**	P	**P**	**19 14 24.5**	**+0.2**
QSPA				IAmb	IAmb	19 14 33.9	
	comp=Z,5.0nm,1.5s						
QSPA	**South Pole Qui**	**82.77**	**180**	P	**P**	**19 14 24.4**	**0.0**
	comp=Z,0.6nm,0.7s,baz=333,slow=2.3,SNR=7.7						
	comp=Z,0.6nm,0.7s						
AKTO	**Aktyubinsk**	**83.85**	**322**	P	**P**	**19 14 29.8**	**-0.2**
	comp=Z,0.9nm,0.4s,baz=123,slow=1.2,SNR=4.7						
	comp=Z,0.9nm,0.4s						
ARU	**Arti**	**85.55**	**328**	P	**P**	**19 14 37.6**	**-0.7**
	comp=Z,1.4nm,0.5s,baz=101,slow=10,SNR=4.4						
	comp=Z,1.4nm,0.5s						
L14K	**Kuka Creek**	**85.97**	**27**	P	**P**	**19 14 41.4**	**+1.1**
L16K	**Owhat River**	**87.54**	**27**	P	**P**	**19 14 48.6**	**+0.7**
L16K				IAmb	IAmb	19 15 16.5	
	comp=Z,12nm,1.3s						
ILAR	**Eielson Array**	**93.81**	**25**	P	**P**	**19 15 15.7**	**-1.4**
	comp=Z,0.7nm,0.8s,baz=277,slow=3.9,SNR=5.4						
	comp=Z,0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**128.22**	**281**	PKP	**PKPdf**	**19 21 07.3**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=96,slow=2.3,SNR=7.5						
LPAZ	**La Paz**	**150.94**	**144**	PKPbc	**PKPbc**	**19 21 54.3**	**+0.3**
	comp=Z,1.0nm,0.4s,baz=153,slow=2.3,SNR=6.4						

JMA 05 19:02:19.2±0.2, 24.2N±0.5×123.9E±0.4, h18km±1km, MV0.7/6, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**0.15**	**314**	*e*P	Pg	19 02 23.5	0.0
JKRS	**Kuro-shima**	**0.15**	**87**	P	Pg	19 02 23.5	0.0
JKRS				*e*S	Sg	19 02 26.6	+0.2
HATJ	**Hateruma jima**	**0.18**	**192**	P	Pg	19 02 23.7	-0.1
HATJ				*e*S	Sg	19 02 27.1	0.0
JIJ	**Ishigaki jima**	**0.30**	**64**	P	Pg	19 02 25.5	-0.3
JIJ				*e*S	Sg	19 02 29.9	-0.4
JISG	**Ishigakijimahi**	**0.55**	**50**	*e*P	Pb	19 02 30.2	-0.1
JISG				*e*S	Sb	19 02 38.4	+0.5

HEL 05 19:03:02.3±0.1, 67.68N×33.77E, h0km, ML1.3, Suspected explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.40**	**56**	PG	Pg	19 03 09.6	-0.4
LVZ				SG	Sg	19 03 15.4	+0.2
VRF	**Varrio**	**1.59**	**274**	PG	Pn	19 03 30.8	-0.8
VRF				MSG		19 03 49.7	
	comp=Z,2.3nm,0.2s						
VRF				SG	Sn	19 03 51.1	-1.7
OLKF	**Oulanka, Finla**	**2.19**	**234**	PG	Pb	19 03 41.8	-0.9
OLKF				MSG		19 04 07.1	
	comp=Z,1.3nm,0.2s						
OLKF				SG	Sb	19 04 10.0	-0.3
RAJF	**Raja-Jooseppi**	**2.20**	**294**	PG	Pb	19 03 41.9	-1.0
RAJF				SN	Sn	19 04 08.3	+0.4
KU6	**Riekki**	**2.26**	**225**	PG	Pb	19 03 42.7	-1.2
KU6				MSG		19 04 09.2	
	comp=Z,0.7nm,0.2s						
KU6				SG	Sb	19 04 11.3	-1.0
MSF	**Maaselka**	**2.58**	**229**	SG	Sb	19 04 21.5	-0.1
SGF	**Sodankyl**	**2.79**	**268**	PB	Pb	19 03 51.5	-1.4
SGF				SB	Sb	19 04 25.5	-2.1
KMNF	**Kaamanen**	**2.91**	**304**	PG	Pb	19 03 54.5	-0.4
KMNF				SN	Sn	19 04 25.5	+0.2
RNF	**Rovaniemi**	**3.21**	**254**	PN	Pn	19 03 53.9	0.0
RNF				SN	Sn	19 04 33.5	+0.7
KEV	**Kevo**	**3.23**	**313**	PN	Pn	19 03 55.0	+0.8
KEV				SN	Sn	19 04 32.5	-0.7
ARA0	**ARCESS Array S**	**3.56**	**305**	PN	Pn	19 03 58.3	-0.4
ARA0				SN	Sn	19 04 43.0	+1.7

SCB 05 19:04:47.6±0.8, 17.76S×64.31W, h32km±2km, ML2.7/3, MW3.9, Error ellipse: s-maj=2.6km s-min=2.0km az=0.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AOEA	**Aiquile**	**0.97**	**245**	Pg	Pb	19 05 06.4	+0.2
AOEA	**Aiquile**	**0.97**	**245**	Pg	Pb	19 05 06.9	+0.7
SOET	**ToroToro**	**1.48**	**256**	Pg	Pb	19 05 15.7	+1.0
SOET				Sg	Sb	19 05 36.3	+3.1
SOET				IAML		19 05 38.9	
	138nm,0.4s						
SOEO	**Opoqueri**	**3.50**	**256**	Pn	Pb	19 05 45.5	-3.6
SIV	**San Ignacio**	**3.56**	**61**	Pn	Pb	19 05 45.8	-4.2
BBSD	**Serra de San D**	**3.57**	**81**	Pn	Pb	19 05 46.0	-4.2
BBOE	**La Paz, Chanca**	**3.64**	**284**	Pn	Pb	19 05 48.0	-3.5
MOCB	**Mochara**	**3.69**	**200**	Pn	Pb	19 05 48.0	-4.4
MOCB				Sn	Sb	19 06 33.2	-3.7
MOCB				IAML		19 06 49.6	
	27nm,0.4s						
LPAZ	**La Paz**	**3.94**	**291**	Pn	Pn	19 05 51.4	+5.0
LPAZ				Sn	Sb	19 06 39.2	-5.1
LPAZ				IAML		19 06 55.7	
	5.1nm,0.4s						
BBOD	**La Paz, Gloria**	**4.25**	**285**	Pn	Pn	19 05 55.4	+4.8
BBRB	**Robore, Bolivi**	**4.31**	**98**	Pn	Pn	19 05 55.7	+4.7

*JMA **05** 19:11:01.3±0.3, 27°N±2°×12°5E±°, h195km, MV3.8/25, NW OFF MIYAKOJIMA ISLAND*
*IDC **05** 19:11:02.2±3.2, 25.91N×125.84E, h293km±138km, mb2.9/5, mbtmp3.6/7, Error ellipse: s-maj=234.9km s-min=62.5km az=104.0*
ISC 05 19:11:01.5±0.9, 26.3N±0.2×125.1E±0.1, h215km±18km, n28, σ1s25/39, mb3.3/5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKM	**Ikemajima**	**1.37**	**172**	P	**Pn**	**19 11 36.4**	**+0.9**
JIKM				*e*S	**S**	**19 12 02.1**	**+0.2**
**JI

JYRO	**Yoronjima**	**3.13**	**76**	P	**Pn**	19 11 53.3	**-0.1**
JOKE	**Okinoerabujima**	**3.32**	**70**	P	**Pn**	19 11 55.3	**-0.3**
JTK	**Tokunoshima**	**3.79**	**66**	P	**Pn**	19 12 00.3	**-0.8**
KSRS	**Korea Array**	**11.40**	**12**	P	**Pn**	19 13 40.9	**+2.7**
	1.4nm,0.5s,baz=193,slow=11,SNR=14						
SONM	**Songino Array**	**26.03**	**331**	P	**P**	19 16 14.3	**-0.6**
	0.2nm,0.3s,baz=144,slow=10.0,SNR=1.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**39.38**	**313**	P	**P**	19 18 10.6	**+0.4**
	0.5nm,0.5s,baz=97,slow=10.0,SNR=9.6						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**40.50**	**324**	P	**P**	19 18 18.1	**-1.1**
	0.7nm,0.5s,baz=106,slow=8.7,SNR=3.6						
	0.7nm,0.5s						
KURBB	**Kurchatov Arra**	**42.86**	**317**	P	**P**	19 18 37.6	**-0.7**
	0.6nm,0.7s,baz=106,slow=9.0,SNR=7.2						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**48.34**	**319**	P	**P**	19 19 20.7	**-0.5**
	0.3nm,0.3s,baz=108,slow=8.5,SNR=2.9						
	0.3nm,0.3s						

IDC 05 19:11:54.0±1.1, 50.05N×114.93W, h0km, mb2.8/1, mbtmp3.3/4, ML3.7/2, Error ellipse: s-maj=19.4km s-min=10.8km az=124.0, Alberta

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
NEW	**Newport**	**2.29**	**220**	Pn	Pn		19 12 34.3	+1.3
	9.0nm,0.3s,baz=41,slow=14,SNR=30							
NEW				Sn	Sb		19 13 05.0	-0.1
	6.0nm,0.3s,baz=75,slow=20,SNR=7.0							
	18nm,0.3s							
I56US	**NEWPORT INFRAS**	**2.29**	**220**	I	I		19 27 00.0	
	baz=38,slow=325,SNR=5.5							
ULM	**Lac du Bonnet**	**12.23**	**82**	Pn	Pn		19 14 46.0	-3.3
	0.7nm,0.4s,baz=270,slow=12,SNR=2.3							
ULM				Lg	Lg		19 18 11.5	
	0.2nm,0.3s,baz=349,slow=22,SNR=2.3							
YKA	**Yellowknife Ar**	**12.48**	**1**	Pn	Pn		19 14 48.4	-4.2
	0.4nm,0.3s,baz=178,slow=12,SNR=16							
YKA				Sn	Sn		19 16 58.3	-14
	0.2nm,0.3s,baz=185,slow=22,SNR=2.5							
YKA				Lg	Lg		19 18 18.6	
	baz=174,slow=26							
	0.5nm,0.4s							
ILAR	**Eielson Array**	**22.31**	**323**	P	P		19 16 53.7	+0.9
	0.2nm,0.6s,baz=119,slow=10,SNR=2.4							
	0.2nm,0.6s							

*IDC **05** 19:17:54.9±2.0, 6.83S×129.91E, h0km, mb3.5/2, mbtmp3.7/4, ML4.2/2, MS2.7/1, Error ellipse: s-maj=140.3km s-min=30.3km az=69.0*
ISC 05 19:18:10.8±1.0, 7.67S±0.08×129.3E±0.1, h150km, n13, σ2s72/14, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
DRS	**Darwin Rock St**	**4.98**	**162**	P	**Pn**		**19 19 25.6**	**+1.7**
SOEI	**Soe**	**5.41**	**247**	P	**Pn**		**19 19 29.2**	**-0.5**
MTN	**Manton Dam**	**5.44**	**161**	P	**Pn**		**19 19 31.6**	**+1.6**
FAKI	**Fak Fak**	**5.55**	**32**	P	**Pn**		**19 19 28.9**	**-2.6**
KDU	**Kakadu**	**5.87**	**148**	P	**Pn**		**19 19 36.9**	**+1.1**
KNRA	**Kununurra**	**7.97**	**184**	P	**Pn**		**19 20 04.1**	**+0.3**
WRA	**Warramunga Arr**	**13.13**	**159**	Pn	**Pn**		**19 21 11.5**	**-0.2**
	1.5nm,0.3s,baz=345,slow=13,SNR=39							
WRA				Sn	**Sn**		**19 23 32.1**	**-5.0**
	0.7nm,0.3s,baz=332,slow=22,SNR=5.5							
	2.4nm,0.5s							
COEN	**Coen**	**14.97**	**116**	P	**P**		**19 21 40.5**	**+3.7**
QIS	**Mount Isa**	**16.22**	**143**	P	**P**		**19 21 54.7**	**+4.1**
ASAR	**Alice Springs**	**16.50**	**165**	P	**Pn**		**19 21 56.0**	**+2.3**
	0.6nm,0.3s,baz=348,slow=12,SNR=28							
ASAR				S	**S**		**19 24 54.5**	**-2.6**
	0.2nm,0.4s,baz=326,slow=13,SNR=2.0							
	0.9nm,0.4s							
GUMO	**Guam**	**26.16**	**36**	LR	LR		19 32 34.2	
	comp=Z,19nm,19.6s,baz=88,slow=35							
MKAR	**Makanchi Array**	**68.42**	**327**	P	**P**		**19 28 56.4**	**0.0**
	0.3nm,0.5s,baz=114,slow=7.1,SNR=4.7							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**72.73**	**329**	P	**P**		**19 29 22.3**	**-0.1**
	0.3nm,0.5s,baz=119,slow=5.2,SNR=2.5							
	0.3nm,0.5s							

*IDC **05** 19:21:37.8±1.0, 28.17N×43.82W, h0km, mb3.9/14, mbtmp3.9/14, MS3.5/44, Error ellipse: s-maj=28.1km s-min=19.3km az=174.0*
*NEIC **05** 19:21:40.1±1.1, 28.1N±0.1×43.8W±0.1, h10km±1km, mb4.6/42, Error ellipse: s-maj=22.1km s-min=19.1km az=159.0*
ISC 05 19:21:40.7±0.6, 28.1N±0.1×43.81W±0.08, h19km, n101, σ0s73/61, mb4.5/33, MS3.5/44, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PCRV	**Puerto La Cruz**	**26.45**	**232**	LR	LR		19 37 37.4	
	comp=Z,41nm,19.5s,slow=36							
LDAQ	**Lac Daran**	**29.11**	**320**	P	**P**		**19 27 40.6**	**+0.4**
SCHQ	**Schefferville**	**31.54**	**334**	LR	LR		19 39 31.9	
	comp=Z,58nm,20.7s,baz=126,slow=34							
SDV	**Santo Domingo**	**31.67**	**238**	LR	LR		19 40 21.6	
	comp=Z,37nm,19.6s,baz=82,slow=35							
SADO	**Sadowa**	**32.65**	**310**	LR	LR		19 39 41.5	
	comp=Z,110nm,20.4s,baz=102,slow=33							
MDT	**Midelt**	**33.99**	**72**	LR	LR		19 39 05.2	
	comp=Z,85nm,20.4s,baz=323,slow=31							
Q51A	**Peebles**	**34.48**	**299**	P	**P**		**19 28 27.5**	**+0.1**
TKL	**Tuckaleechee C**	**34.59**	**293**	P	**P**		**19 28 29.4**	**+0.9**
TKL				IAmb	IAmb		19 28 31.1	
	comp=Z,15nm,1.4s							
TKL	**Tuckaleechee C**	**34.59**	**293**	LR	LR		19 40 11.6	
	comp=Z,80nm,19.8s,baz=117,slow=32							
ESDC	**Sonseca Array**	**34.79**	**60**	P	**P**		**19 28 27.9**	**-2.3**
	comp=Z,0.5nm,1.0s,baz=248,slow=14,SNR=3.5							
ESDC				LR	LR		19 40 16.2	
	comp=Z,32nm,18.8s,baz=226,slow=32							
	comp=Z,0.5nm,1.0s							
AAM	**Ann Arbor**	**35.20**	**304**	P	**P**		**19 28 34.1**	**+0.5**
AAM				IAmb	IAmb		19 28 36.0	
	comp=Z,9.4nm,0.8s							
CLTN	**Cedars of Leba**	**36.68**	**294**	P	**P**		**19 28 46.2**	**-0.1**
CLTN				IAmb	IAmb		19 28 53.6	
	comp=Z,12nm,1.3s							
ROSC	**El Rosal**	**37.07**	**237**	LR	LR		19 43 40.1	
	comp=Z,42nm,21.0s,baz=70,slow=36							
FRB	**Frobisher Bay**	**39.09**	**343**	LR	LR		19 44 10.8	
	comp=Z,51nm,18.7s,baz=102,slow=35							
SFJD	**Kangerlussuaq**	**39.17**	**356**	LR	LR		19 41 22.4	
	comp=Z,58nm,21.7s,baz=140,slow=30							
BORG	**Borgarnes**	**39.37**	**15**	LR	LR		19 40 55.7	
	comp=Z,40nm,21.1s,baz=238,slow=30							
FVM	**French Village**	**39.96**	**297**	P	**P**		**19 29 14.8**	**+0.8**
PBMO	**Poplar Bluff**	**39.98**	**295**	P	**P**		**19 29 14.0**	**-0.1**
PBMO				IAmb	IAmb		19 29 27.9	
	comp=Z,16nm,1.5s							
T42A	**Van Buren**	**40.50**	**295**	P	**P**		**19 29 17.6**	**-0.8**
T42A				IAmb	IAmb		19 29 20.4	
	comp=Z,12nm,1.4s							
CCM	**Cathedral Cave**	**40.61**	**297**	P	**P**		**19 29 19.2**	**-0.1**
CCM				IAmb	IAmb		19 29 25.2	
	comp=Z,16nm,1.4s							
TEIG	**Tepich**	**41.14**	**269**	LR	LR		19 43 38.7	
	comp=Z,571nm,21.6s,slow=32							
SAML	**Samuel**	**41.30**	**210**	P	**P**		**19 29 25.1**	**0.0**
UALR	**University of**	**41.63**	**292**	P	**P**		**19 29 28.6**	**+0.8**
DBIC	**Dimbokro**	**42.55**	**113**	LR	LR		19 44 58.6	
	comp=Z,115nm,18.7s,baz=290,slow=33							
SLOR	**San Lorenzo -**	**43.89**	**235**	P	**P**		**19 29 46.8**	**0.0**
TAM	**Tamanrasset**	**44.62**	**85**	P	**P**		**19 29 54.0**	**+1.7**
CHSH	**Refugio Sur-Vo**	**44.69**	**235**	P	**P**		**19 29 52.0**	**-1.3**
CHSH				IAmb	IAmb		19 29 59.4	
	comp=Z,7.8nm,0.9s							
TORD	**Torodi Ar. Bea**	**44.84**	**100**	P	**P**		**19 29 52.9**	**-1.0**
TORD				LR	LR		19 46 57.3	
	comp=Z,1.2nm,1.0s,baz=322,slow=5.6,SNR=4.4							
	comp=Z,86nm,20.8s,baz=300,slow=34							
	comp=Z,1.2nm,1.0s							
ULM	**Lac du Bonnet**	**44.96**	**314**	LR	LR		19 45 55.9	
	comp=Z,22nm,21.8s,baz=220,slow=32							
KEST	**Kesra**	**45.31**	**66**	P	**P**		**19 29 57.0**	**-0.6**
	comp=Z,4.4nm,1.0s,baz=218,slow=4.2,SNR=4.0							
	comp=Z,4.4nm,1.0s							

H10N2	**ASCENSION HYDR**	**45.57**	**137**	T	T		20 18 40.2
	baz=322,slow=75,SNR=20						
H10N3	**ASCENSION HYDR**	**45.57**	**137**	T	T		20 18 40.4
	baz=322,slow=75,SNR=15						
H10N1	**ASCENSION HYDR**	**45.59**	**137**	T	T		20 18 41.6
	baz=322,slow=75,SNR=25						
DAVOX	**Davos/Dischmat**	**45.60**	**51**	LR	LR		19 45 54.4
	comp=Z,34nm,19.7s,baz=261,slow=32						
FCC	**Fort Churchill**	**46.07**	**326**	P	**P**		**19 30 02.9**	**-0.2**
FCC				IAmb	IAmb		19 30 04.3
	comp=Z,11nm,1.4s						
H10S3	**ASCENSION HYDR**	**46.36**	**138**	T	T		20 19 32.8
	baz=322,slow=74,SNR=28						
H10S2	**ASCENSION HYDR**	**46.37**	**138**	T	T		20 19 34.0
	baz=258,slow=74,SNR=15						
CTI	**Castel Tesino**	**46.78**	**52**	P	**P**		**19 30 09.4**	**+0.4**
CTI				IAmb	IAmb		19 30 13.1
	comp=Z,7.1nm,1.2s						
JMIC	**Jan Mayen**	**47.27**	**15**	LR	LR		19 44 43.1
	comp=Z,24nm,21.8s,baz=274,slow=29						
CMIG	**Matias Romero**	**48.11**	**268**	LR	LR		19 50 06.7
	comp=Z,20nm,19.2s,baz=2.0,slow=36						
KHC	**Kasperske Hory**	**48.26**	**48**	P	**P**		**19 30 20.7**	**+0.3**
KHC				IAmb	IAmb		19 30 22.1
	comp=Z,8.0nm,1.4s						
GEC2	**GERESS Array S**	**48.32**	**48**	P	**P**		**19 30 21.1**	**+0.1**
GEC2				IAmb	IAmb		19 30 22.2
	comp=Z,8.1nm,1.5s						
GERES	**GERESS Array B**	**48.32**	**48**	P	**P**		**19 30 21.2**	**+0.2**
GERES	**GERESS Array B**	**48.32**	**48**	P	**P**		**19 30 21.4**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=319,slow=13,SNR=2.3							
GERES				LR	LR		19 46 48.9	
	comp=Z,26nm,19.7s,baz=55,slow=31							
	comp=Z,0.2nm,0.3s							
ATAH	**Atahualpa**	**48.38**	**229**	LR	LR		19 50 20.9	
	comp=Z,33nm,21.7s,baz=27,slow=36							
NOA	**NORSAR Array B**	**49.05**	**32**	P	**P**		**19 30 25.6**	**-0.7**
	comp=Z,1.7nm,1.1s,baz=254,slow=8.0,SNR=3.7							
NOA				LR	LR		19 47 36.3	
	comp=Z,19nm,19.2s,baz=280,slow=32							
	comp=Z,1.7nm,1.1s							
VAE	**Valguarnera**	**49.17**	**63**	LR	LR		19 48 40.0	
	comp=Z,66nm,21.2s,baz=353,slow=33							
LPAZ	**La Paz**	**49.99**	**211**	P	**P**		**19 30 35.0**	**+0.4**
LPAZ				IAmb	IAmb		19 30 39.4	
	comp=Z,9.5nm,1.5s							
LPAZ	**La Paz**	**49.99**	**211**	P	**P**		**19 30 35.6**	**+1.0**
	comp=Z,4.7nm,1.1s,baz=10.0,slow=9.6,SNR=6.3							
LPAZ				LR	LR		19 50 38.6	
	comp=Z,40nm,18.2s,baz=30,slow=35							
	comp=Z,4.7nm,1.1s							
VRAC	**Vranov**	**50.24**	**48**	LR	LR		19 47 47.2	
	comp=Z,24nm,20.5s,baz=200,slow=31							
Q24A	**Divide**	**51.42**	**299**	P	**P**		**19 30 45.2**	**+0.2**
Q24A				IAmb	IAmb		19 30 46.9	
	comp=Z,9.2nm,1.3s							
TXAR	**Lajitas Array**	**52.01**	**287**	LR	LR		19 53 19.2	
	comp=Z,14nm,18.8s,baz=49,slow=37							
ANMO	**Albuquerque**	**53.10**	**294**	P	**P**		**19 30 56.9**	**-0.5**
ANMO	**Albuquerque**	**53.10**	**294**	LR	LR		19 51 23.4	
	comp=Z,62nm,20.2s,baz=160,slow=34							
RES	**Resolute Bay**	**53.22**	**345**	LR	LR		19 51 27.9	
	comp=Z,40nm,21.4s,baz=287,slow=34							
GO01	**Chusmiza**	**53.43**	**210**	P	**P**		**19 30 59.4**	**-0.7**
PB11	**IPOC Station P**	**53.72**	**211**	P	**P**		**19 31 01.3**	**-0.6**
EGMT	**Eagleton**	**53.94**	**311**	P	**P**		**19 31 02.9**	**-0.2**
PV15	**Paradox Valley**	**54.10**	**299**	P	**P**		**19 31 04.8**	**+0.1**
PV15				IAmb	IAmb		19 31 07.7	
	comp=Z,8.3nm,1.5s							
PD31	**Pinedale Array**	**54.27**	**304**	P	**P**		**19 31 05.5**	**-0.4**
PD31				IAmb	IAmb		19 31 11.9	
	comp=Z,10nm,1.4s							
PDAR	**Pinedale Array**	**54.27**	**304**	P	**P**		**19 31 05.5**	**-0.4**
PDAR	**Pinedale Array**	**54.27**	**304**	P	**P**		**19 31 05.3**	**-0.5**
	comp=Z,2.2nm,1.0s,baz=86,slow=7.6,SNR=16							
PDAR				LR	LR		19 52 06.6	
	comp=Z,79nm,21.7s,baz=88,slow=34							
	comp=Z,2.2nm,1.0s							
HPIG		**54.34**	**284**	P	**P**		**19 31 06.7**	**+0.1**
RDMU	**Red Mountain**	**54.58**	**302**	P	**P**		**19 31 08.0**	**-0.1**
RDMU				IAmb	IAmb		19 31 30.6	
	comp=Z,7.3nm,1.4s							
IMW	**Indian Meadow**	**55.13**	**306**	P	**P**		**19 31 12.1**	**0.0**
IMW				IAmb	IAmb		19 31 18.7	
	comp=Z,6.5nm,1.2s							
P18A	**Preston Nutter**	**55.24**	**300**	P	**P**		**19 31 12.3**	**-0.7**
P18A				IAmb	IAmb		19 31 19.6	
	comp=Z,5.9nm,1.2s							
CPUP	**Villa Florida**	**55.63**	**195**	LR	LR		19 53 42.7	
	comp=Z,25nm,20.2s,baz=60,slow=34							
LVC	**Limon Verde**	**55.91**	**208**	LR	LR		19 54 48.5	
	comp=Z,37nm,18.0s,baz=282,slow=36							
EDM	**Edmonton**	**55.96**	**317**	P	**P**		**19 31 17.0**	**-0.7**
BUR08	**Bucovina Ar. S**	**56.02**	**50**	P	**P**		**19 31 19.5**	**+1.2**
BUR08				IAmb	IAmb		19 31 20.7	
	comp=Z,11nm,1.4s							
BURAR	**Bucovina Array**	**56.03**	**50**	P	**P**		**19 31 19.4**	**+1.1**
FINES	**FINESS Array B**	**56.19**	**33**	P	**P**		**19 31 19.0**	**0.0**
	comp=Z,2nm,1.0s,baz=197,slow=5.2,SNR=4.2							
	comp=Z,2.2nm,1.0s							
YKA	**Yellowknife Ar**	**56.67**	**328**	P	**P**		**19 31 21.6**	**-0.8**
YKA	**Yellowknife Ar**	**56.67**	**328**	P	**P**		**19 31 21.4**	**-1.1**
	comp=Z,0.7nm,0.9s,baz=85,slow=7.1,SNR=9.8							
YKA				LR	LR		19 55 25.4	
	comp=Z,112nm,19.1s,baz=176,slow=36							
	comp=Z,0.7nm,0.9s							
MLR	**Muntele Rosu**	**56.78**	**52**	P	**P**		**19 31 24.7**	**+1.0**
MSO	**Missoula**	**56.87**	**310**	P	**P**		**19 31 24.6**	**+0.2**
MSO				IAmb	IAmb		19 31 26.1	
	comp=Z,8.6nm,1.5s							
WUAZ	**Wupatki**	**56.92**	**296**	P	**P**		**19 31 25.5**	**+0.6**
WUAZ				IAmb	IAmb		19 31 28.1	
	comp=Z,6.2nm,1.2s							
BGU	**Big Grassy Mou**	**57.11**	**302**	P	**P**		**19 31 26.2**	**0.0**
AK05	**Malin Array Si**	**58.31**	**46**	P	**P**		**19 31 34.6**	**+0.4**
AKASG	**Malin Array Be**	**58.32**	**46**	P	**P**		**19 31 33.8**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=274,slow=6.3,SNR=11							
AKASG				LR	LR		19 54 47.4	
	comp=Z,31nm,18.3s,baz=235,slow=34							
	comp=Z,1.0nm,0.6s							
AKBB	**Malin Array Si**	**58.32**	**46**	P	**P**		**19 31 33.5**	**-0.7**
ELK	**Elko**	**58.79**	**303**	LR	LR		19 56 38.1	
	comp=Z,42nm,18.4s,slow=36							
NEW	**Newport**	**58.82**	**312**	LR	LR		19 56 28.7	
	comp=Z,55nm,18.1s,baz=92,slow=36							
LPIG	**La Paz**	**59.20**	**283**	LR	LR		19 56 36.7	
	comp=Z,35nm,20.4s,baz=30,slow=36							
PFO	**Pinyon Flats O**	**61.46**	**295**	LR	LR		19 57 47.8	
	comp=Z,38nm,19.1s,baz=40,slow=35							
NVAR	**Mina Array Bea**	**61.62**	**301**	LR	LR		19 57 23.3	
	comp=Z,64nm,19.8s,baz=130,slow=35							
BRTR	**Keskin Array B**	**63.51**	**57**	P	**P**		**19 32 09.9**	**0.0**
BRTR	**Keskin Array B**	**63.51**	**57**	P	**P**		**19 32 10.3**	**+0.4**
	comp=Z,1.1nm,1.0s,baz=282,slow=6.2,SNR=6.7							
	comp=Z,1.1nm,1.0s							
YBH	**Yreka Blue Hor**	**64.04**	**305**	LR	LR		19 58 35.5	
	comp=Z,44nm,20.0s,baz=71,slow=35							
INK	**Inuvik**	**64.14**	**336**	LR	LR		19 59 13.2	
	comp=Z,52nm,18.5s,baz=359,slow=35							
DLBC	**Dease Lake**	**64.61**	**324**	LR	LR		20 01 18.3	
	comp=Z,40nm,18.1s,baz=228,slow=37							
BBB	**Bella Bella**	**64.99**	**317**	LR	LR		19 58 51.8	
	comp=Z,45nm,19.6s,baz=38,slow=34							
D27M	**Malcolm River**	**66.54**	**337**	P	**P**		**19 32 29.7**	**+0.6**
D27M				IAmb	IAmb		19 32 53.0	
	comp=Z,5.3nm,1.1s							
BMAR	**Burnt Mountain**	**68.41**	**336**	P	**P**		**19 32 41.7**	**+0.9**
ILAR	**Eielson Array**	**70.29**	**334**	P	**P**		**19 32 51.8**	**-0.8**
	comp=Z,1.2nm,1.0s,baz=67,slow=5.9,SNR=7.2							
ILAR				LR	LR		20 04 22.1	
	comp=Z,29nm,18.1s,baz=118,slow=36							
	comp=Z,1.2nm,1.0s							
TSUM	**Tsumeb**	**75.71**	**121**	LR	LR		20 02 10.1	
	comp=Z,32nm,18.3s,baz=167,slow=32							
KDAK	**Kodiak Island**	**75.94**	**328**	LR	LR		20 08 07.6	
	comp=Z,80nm,18.5s,baz=84,slow=37							
ABKAR	**Akbulak array**	**77.53**	**41**	P	**P**		**19 33 35.7**	**+0.6**
ABKAR	**Akbulak array**	**77.53**	**41**	P	**P**		**19 33 35.8**	**+0.7**
ABKAR				IAmb	IAmb		19 34 10.8	
	comp=Z,1.3nm,1.1s							
GEYT	**Alibeck**	**81.83**	**51**	P	**P**		**19 33 59.9**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=292,slow=7.6,SNR=4.3							
	comp=Z,0.7nm,0.6s							
KURBB	**Kurchatov Arra**	**86.58**	**33**	P	**P**		**19 34 23.5**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=319,slow=5.5,SNR=2.7							
	comp=Z,0.3nm,0.3s							

*NEIC **05** 19:29:19.1±0.9, 59.5S±0.1×27.1W±0.2, h123km±8km, mb4.5/40, Error ellipse: s-maj=19.6km s-min=15.1km az=46.0*
*IDC **05** 19:29:25.2±4.5, 59.47S×27.30W, h186km±42km, mb4.0/9, mbtmp4.5/10, Error ellipse: s-maj=24.4km s-min=11.7km az=58.0*
ISC 05 19:29:20.8±0.5, 59.48S±0.08×27.20W±0.1, h150km, n63, σ1s14/63, mb4.4/26, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
VNA1	**Neumayer--Stat**	**13.67**	**153**	⇑P	**P**		**19 32 29.1**	**-2.7**
	comp=Z,17nm,0.9s							
VNA3	**Neumayer Olymp**	**13.80**	**156**	⇑P	**P**		**19 32 33.9**	**+0.6**
	comp=Z,30nm,0.6s							
VNA2	**Neumayer--Watz**	**14.07**	**153**	⇑P	**P**		**19 32 37.0**	**+0.7**
	comp=Z,0.4nm,0.2s,baz=334,slow=16							
SNAA	**Sanae**	**15.66**	**151**	P	**P**		**19 32 53.0**	**-1.0**
SNAA	**Sanae**	**15.66**	**151**	⇑P	**P**		**19 32 53.7**	**-0.3**
	comp=Z,176nm,0.4s							
SNAA	**Sanae**	**15.66**	**151**	P	**P**		**19 32 54.2**	**+0.2**
	comp=Z,10.0nm,0.5s,baz=288,slow=12,SNR=21							
TROLL	**Troll, Antarti**	**17.24**	**149**	⇑P	**Pn**		**19 33 11.9**	**-0.3**
	comp=Z,1μm,0.7s							
BELA	**Belgrano 2**	**18.65**	**185**	P	**Pn**		**19 33 26.7**	**-2.0**
BELA				IAmb	IAmb		19 33 30.4	
	comp=Z,20nm,0.7s							
EFI	**East Falkland**	**18.97**	**281**	P	**Pn**		**19 33 31.6**	**-1.1**
MG02	**Cerro Sombrero**	**24.02**	**268**	P	**P**		**19 34 20.2**	**-1.3**
GO09	**Cerro Castillo**	**26.46**	**268**	P	**P**		**19 34 42.5**	**-1.1**
GO09				IAmb	IAmb		19 34 57.3	
	comp=Z,35nm,1.4s							
GO08	**Villa O'Higgin**	**28.30**	**273**	P	**P**		**19 35 00.5**	**+0.6**
QSPA	**South Pole Qui**	**30.77**	**180**	P	**P**		**19 35 23.0**	**+1.3**
QSPA				IAmb	IAmb		19 35 23.5	
	comp=Z,6.1nm,0.6s							
QSPA	**South Pole Qui**	**30.77**	**180**	P	**P**		**19 35 22.9**	**+1.3**
	comp=Z,4.9nm,0.5s,baz=229,slow=0.9,SNR=85							
	comp=Z,4.9nm,0.5s							
TRQA	**Tornquist**	**30.82**	**298**	P	**P**		**19 35 23.1**	**+0.9**
TRQA				IAmb	IAmb		19 35 24.2	
	comp=Z,7.0nm,0.8s							
PLCA	**Paso Flores**	**32.76**	**285**	P	**P**		**19 35 39.2**	**-0.1**
PLCA				IAmb	IAmb		19 35 46.4	
	comp=Z,12nm,1.5s							
PLCA	**Paso Flores**	**32.76**	**285**	P	**P**		**19 35 39.5**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=146,slow=7.4,SNR=16							
	comp=Z,2.4nm,0.6s							
PLTB	**Pedras Altas**	**32.87**	**316**	P	**P**		**19 35 41.3**	**+1.0**
GO06	**Curarrehue**	**34.09**	**286**	P	**P**		**19 35 50.2**	**-0.7**
GO06				IAmb	IAmb		19 36 12.9	
	comp=Z,13nm,1.5s							
ITQB	**Itaqui**	**35.86**	**313**	P	**P**		**19 36 06.6**	**+0.7**
MAW	**Mawson**	**37.43**	**141**	P	**P**		**19 36 19.7**	**+0.9**
	comp=Z,2.9nm,0.6s,baz=234,slow=6.2,SNR=6.2							
	comp=Z,2.9nm,0.6s							
BO02	**Sierra Bellavi**	**37.56**	**291**	P	**P**		**19 36 20.7**	**+0.4**
BO02				IAmb	IAmb		19 36 41.1	
	comp=Z,7.8nm,1.0s							
MT08	**Bocatoma Ro**	**38.30**	**294**	P	**P**		**19 36 27.9**	**+1.1**
MT08				IAmb	IAmb		19 36 30.7	
	comp=Z,6.6nm,0.8s							
PEL	**Peldehue**	**38.87**	**293**	P	**P**		**19 36 32.0**	**+0.7**
MT02	**Curacav**	**38.98**	**292**	P	**P**		**19 36 32.9**	**+0.7**
VAO	**Valinhos**	**39.04**	**330**	P	**P**		**19 36 34.6**	**+1.7**
VAO				IAmb	IAmb		19 36 51.0	
	comp=Z,12nm,1.2s							
CPUP	**Villa Florida**	**39.15**	**314**	P	**P**		**19 36 34.0**	**+0.4**
CPUP	**Villa Florida**	**39.15**	**314**	P	**P**		**19 36 33.6**	**0.0**
	comp=Z,2.4nm,0.3s,baz=143,slow=6.0,SNR=10							
	comp=Z,2.4nm,0.3s							
CO01	**Juntas del Tor**	**41.24**	**296**	P	**P**		**19 36 52.6**	**+1.4**
AC05	**El Transito**	**42.29**	**297**	P	**P**		**19 37 00.4**	**+0.8**
SBA	**Scott Base**	**42.65**	**184**	P	**P**		**19 37 03.9**	**+2.2**
VNDA	**Vanda**	**43.14**	**183**	P	**P**		**19 37 07.0**	**+1.3**
VNDA	**Vanda**	**43.14**	**183**	P	**P**		**19 37 07.1**	**+1.5**
	comp=Z,3.0nm,0.6s,baz=188,slow=7.1,SN

M_W0.61±.15; Best double couple: $M_0$1.44100×10^{16} NP1:ϕ_S176.00000°,δ85.00000°,λ-154.00000°. NP2: ϕ_S83.00000°,δ64.00000°,λ-6.00000°. Principal axes: T 1.4590, Plg14.0000°, Azm307.0000°; N -0.0340, Plg64.0000°, Azm186.0000°; P -1.4240, Plg22.0000°, Azm43.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 05 19:56:36.0±0.4,**35°.94N**±0°.06×**88°.69E**±0°.04,**h35**km,**n140,** σ**2**^{s}**06**/114,**mb3.8**/21,**MS4.0**/46,**8C-2D, Xizang**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**4.97**	**85**	P		**Pn**	**19 57 51.8**	**+3.3**
GOMU				pP			19 57 56.6	
GOMU				sP			19 57 59.8	
GOMU				S		**Sn**	**19 58 51.0**	**+6.1**
GOMU				pmax		pmax		
	comp=Z,6.0nm,0.5s							
GOMU				LR		LR		
	comp=N,12μm,5.1s							
GOMU				LR		LR		
	comp=E,6μm,6.0s							
GOMU				LR		LR		
	comp=Z,9μm,8.0s							
LSA	**Lhasa**	**6.56**	**161**	Pn		**Pn**	**19 58 08.6**	**-1.9**
LSA	**Lhasa**	**6.56**	**161**	P		**Pn**	**19 58 08.6**	**-1.9**
WMQ	**Urumqi**	**7.90**	**355**	*e*P		**Pn**	**19 58 30.5**	**+2.0**
WMQ				sP			19 58 36.3	
WMQ				smax		smax		
	comp=Z,75nm,1.5s							
WMQ				smax		smax		
	comp=Z,130nm,1.5s							
WMQ				LR		LR		
	comp=Z,2μm,14.7s							
WMQ				LR		LR		
	comp=Z,3μm,8.9s							
WMQ				LR		LR		
	comp=Z,270nm,14.7s							
GTA	**Gaotai**	**9.47**	**65**	*e*P		**Pn**	**19 58 48.6**	**-1.4**
GTA				pP			19 58 55.4	
GTA				S		**Sn**	**20 00 35.8**	**+0.5**
GTA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
GTA				LR		LR		
	comp=Z,3μm,15.6s							
GTA				LR		LR		
	comp=Z,1μm,12.0s							
GTA				LR		LR		
	comp=Z,1μm,13.1s							
SHLS	**Shalkode**	**10.13**	**318**	*e*P		**Pn**	**19 58 58.6**	**-0.4**
TARG	**Taragay, Kyrgy**	**10.26**	**308**			**Pn**	**19 59 02.1**	**+1.0**
TARG	**Taragay, Kyrgy**	**10.26**	**308**	P		**Pn**	**19 59 02.1**	**+1.0**
UZB	**Uzynbulak**	**10.36**	**317**	*e*P		**Pn**	**19 59 04.2**	**+2.0**
KSH	**Kashi**	**10.68**	**293**	P		**Pn**	**19 59 10.8**	**+4.2**
KSH				pP			19 59 13.8	
KSH				PP		**PnPn**	**19 59 24.0**	**+10**
KSH				pmax		pmax		
	comp=Z,5.0nm,1.5s							
ARXS	**Arharly**	**11.71**	**318**	*e*P		**Pn**	**19 59 21.3**	**+0.7**
BOOM	**Boomskoye usch**	**11.85**	**307**	Pn		**Pn**	**19 59 23.1**	**+0.6**
BOOM	**Boomskoye usch**	**11.85**	**307**	P		**Pn**	**19 59 23.1**	**+0.6**
MK31	**Makanchi Array**	**11.85**	**338**			**Pn**	**19 59 21.8**	**-0.7**
MK31	**Makanchi Array**	**11.85**	**338**	*ce*P		**Pn**	**19 59 22.7**	**+0.2**
MKAR	**Makanchi Array**	**11.85**	**338**			**Pn**	**19 59 21.9**	**-0.6**
MKAR	**Makanchi Array**	**11.85**	**338**	Pn		**Pn**	**19 59 21.7**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=158,slow=13,SNR=12							
MKAR				LR		LR	20 04 44.8	
	comp=Z,924nm,19.9s,baz=165,slow=41							
	comp=Z,2.1nm,0.8s							
MKAR	**Makanchi Array**	**11.85**	**338**	P		**Pn**	**19 59 21.9**	**-0.6**
MAKZ	**Makanchi**	**11.96**	**337**	Pn		**Pn**	**19 59 22.4**	**-1.6**
MAKZ	**Makanchi**	**11.96**	**337**	P		**Pn**	**19 59 22.4**	**-1.6**
LZH	**Lanzhou**	**12.28**	**85**	*e*P		**Pn**	**19 59 30.9**	**+2.5**
LZH				sP		P	19 59 37.7	-2.6
LZH				pmax		pmax		
	comp=Z,19nm,1.0s							
LZH				LR		LR		
	comp=Z,950nm,7.4s							
LZH				LR		LR		
	comp=Z,990nm,7.0s							
LZH				LR		LR		
	comp=Z,720nm,11.0s							
FRU1	**Bishkek**	**12.85**	**306**	Pn		**Pn**	**19 59 34.3**	**-1.8**
FRU1	**Bishkek**	**12.85**	**306**	P		**Pn**	**19 59 34.3**	**-1.8**
AAK	**Ala-Archa**	**12.86**	**306**	Pn		**Pn**	**19 59 37.2**	**+0.9**
AAK	**Ala-Archa**	**12.86**	**306**	Pn		**Pn**	**19 59 36.1**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=125,slow=16,SNR=11							
	comp=Z,6.3nm,1.1s							
AAK	**Ala-Archa**	**12.86**	**306**	*ce*P		**Pn**	**19 59 36.8**	**+0.4**
AAK				pmax		pmax		
	comp=Z,13nm,1.3s							
ARSB	**Arslanbob**	**13.40**	**298**	Pn		**Pn**	**19 59 43.5**	**-0.2**
ARSB	**Arslanbob**	**13.40**	**298**	P		**Pn**	**19 59 43.5**	**-0.2**
TNCH	**TengChong**	**13.78**	**139**	⇓P		**P**	**19 59 57.3**	**+0.2**
TNCH				pP			19 59 59.8	
TNCH				sP			20 00 02.2	
TNCH				S		**Sn**	**20 02 23.8**	**+2.9**
TNCH				SS		S	20 02 54.1	+12
TNCH				pmax		pmax		
	comp=Z,4.0nm,1.1s							
TNCH				pmax		pmax		
	comp=Z,79nm,5.2s							
TNCH				LR		LR		
	comp=N,930nm,9.6s							
TNCH				LR		LR		
	comp=E,760nm,6.4s							
TNCH				LR		LR		
	comp=Z,2μm,13.0s							
DRK	**Karamyk**	**13.83**	**290**	Pn		**Pn**	**19 59 49.3**	**-0.4**
DRK	**Karamyk**	**13.83**	**290**	P		**Pn**	**19 59 49.3**	**-0.4**
PZH	**PanZhiHua**	**14.59**	**127**	P		**Pn**	**20 00 01.0**	**+1.0**
PZH				pmax		pmax		
	comp=Z,10.0nm,1.0s							
PZH				pmax		pmax		
	comp=Z,50nm,4.5s							
PZH				LR		LR		
	comp=Z,680nm,12.3s							
PZH				LR		LR		
	comp=Z,1μm,13.3s							
PZH				LR		LR		
	comp=Z,1μm,13.1s							
BTK	**Batken**	**14.67**	**292**	Pn		**Pn**	**20 00 00.3**	**-0.7**
BTK	**Batken**	**14.67**	**292**	P		**Pn**	**20 00 00.3**	**-0.7**
GAR	**Garm**	**14.90**	**287**			**Pn**	**20 00 03.5**	**-0.7**
KK31	**Karatay Array**	**15.73**	**303**			**Pn**	**20 00 15.7**	**+0.9**
KK31				IAmb		IAmb	20 00 22.8	
	comp=Z,16nm,1.4s							
KK31	**Karatay Array**	**15.73**	**303**	P		**Pn**	**20 00 15.7**	**+0.9**
KK31				pmax		pmax		
	comp=Z,16nm,1.4s							
KKAR	**Karatay Array**	**15.73**	**303**			**Pn**	**20 00 15.5**	**+0.7**
KKAR				IAmb		IAmb	20 00 22.8	
	comp=Z,16nm,1.4s							
KKAR	**Karatay Array**	**15.73**	**303**	P		**Pn**	**20 00 15.5**	**+0.7**
KKAR				pmax		pmax		
	comp=Z,16nm,1.4s							
IUG	**Iuzhnay**	**15.75**	**299**	*e*P		**Pn**	**20 00 16.1**	**+0.9**
CHGR	**Chuyangaron**	**15.78**	**286**	Pn		**Pn**	**20 00 16.7**	**+1.1**
CHGR				IAmb		IAmb	20 00 22.3	
	comp=Z,34nm,1.0s							
CHGR	**Chuyangaron**	**15.78**	**286**	P		**Pn**	**20 00 16.7**	**+1.1**
CHGR				pmax		pmax		
	comp=Z,34nm,1.0s							
SIMJ	**Simiganj**	**15.89**	**286**	Pn		**Pn**	**20 00 16.9**	**-0.2**
SIMJ				IAmb		IAmb	20 00 23.1	
	comp=Z,15nm,1.1s							
KBL	**Kabul**	**16.11**	**271**			**Pn**	**20 00 17.7**	**-2.3**
KBL				IAmb		IAmb	20 00 21.6	
	comp=Z,10nm,1.1s							
KBL	**Kabul**	**16.11**	**271**	P		**Pn**	**20 00 17.7**	**-2.3**
KBL				pmax		pmax		
	comp=Z,11nm,1.1s							
KMI	**Kunming**	**16.19**	**128**	⇓P		**P**	**20 00 24.8**	**+0.9**
KMI				SS		**S**	**20 03 35.2**	**+3.2**
KMI				pmax		pmax		
	comp=Z,8.0nm,1.2s							
KMI				LR		LR		
	comp=N,710nm,9.9s							
KMI				LR		LR		
	comp=E,2μm,11.4s							
KMI				LR		LR		
	comp=Z,930nm,18.4s							
KURBB	**Kurchatov Arra**	**16.41**	**337**	Pn		**Pn**	**20 00 22.1**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=147,slow=12,SNR=20							
KURBB				Lg		Lg	20 05 21.4	
	baz=151,slow=29							
KURBB				LR		LR	20 07 19.6	
	comp=Z,616nm,20.3s,baz=148,slow=39							
	comp=Z,4.1nm,0.9s							
KURK	**Kurchatov**	**16.46**	**337**	Pn		**Pn**	**20 00 22.2**	**-1.8**
KURK	**Kurchatov**	**16.46**	**337**	*ce*P		**Pn**	**20 00 24.0**	**0.0**
KURK				pmax		pmax		
	comp=Z,8.0nm,1.7s							
SONM	**Songino Array**	**17.70**	**42**			**Pn**	**20 00 37.5**	**-2.2**
SONM	**Songino Array**	**17.70**	**42**	P		**Pn**	**20 00 38.6**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=226,slow=12,SNR=6.3							
SONM				Lg		Lg	20 05 57.3	
	baz=229,slow=28							
SONM				LR		LR	20 07 44.7	
	comp=Z,935nm,18.7s,baz=236,slow=38							
	comp=Z,1.4nm,0.9s							
MOY	**Mondy**	**18.01**	**25**	*e*P		**P**	**20 00 44.5**	**+0.8**
GYA	**Guiyang**	**18.03**	**117**	P		**Pn**	**20 00 43.9**	**0.0**
GYA				S		**Sn**	**20 04 02.9**	**-1.1**
GYA				pmax		pmax		
	comp=Z,11nm,1.2s							
GYA				pmax		pmax		
	comp=Z,99nm,4.4s							
GYA				LR		LR		
	comp=Z,620nm,9.8s							
GYA				LR		LR		
	comp=Z,690nm,10.4s							
GYA				LR		LR		
	comp=Z,1μm,10.4s							
ULN	**Ulaanbaatar**	**18.08**	**43**			**Pn**	**20 00 40.9**	**-3.5**
ULN	**Ulaanbaatar**	**18.08**	**43**	*ce*P		**P**	**20 00 45.5**	**+0.9**
ULN				pmax		pmax		
	comp=Z,7.0nm,1.7s							
ZAA0	**Zalesovo Array**	**18.20**	**353**			**P**	**20 00 44.8**	**-0.9**
ZALV	**Zalesovo Beam**	**18.20**	**353**			**P**	**20 00 44.6**	**-1.2**
ZALV	**Zalesovo Beam**	**18.20**	**353**	Pn		**Pn**	**20 00 46.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=6.7							
	comp=Z,0.7nm,0.4s							
ZALV	**Zalesovo Beam**	**18.20**	**353**	*e*P		**Pn**	**20 00 48.1**	**+2.4**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
HHC	**Hu-ho-hao-te**	**18.57**	**68**	*e*P		**P**	**20 00 47.6**	**-2.4**
HHC				S		**Sn**	**20 04 12.7**	**-4.3**
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,98nm,6.0s							
HHC				LR		LR		
	comp=Z,450nm,9.6s							
HHC				LR		LR		
	comp=Z,1μm,10.7s							
HHC				LR		LR		
	comp=Z,1μm,10.3s							
CRAI	**Chiangrai**	**18.72**	**144**			**P**	**20 00 48.9**	**-2.7**
CRAI				IAmb		IAmb	20 00 52.5	
	comp=Z,19nm,1.5s							
CMAR	**Chiang Mai Arr**	**19.64**	**150**	P		**P**	**20 01 00.0**	**-1.7**
CMAR	**Chiang Mai Arr**	**19.64**	**150**	P		**P**	**20 00 58.1**	**-3.6**
	comp=Z,0.9nm,0.8s,baz=332,slow=11,SNR=4.7							
CMAR				LR		LR	20 09 06.5	
	comp=Z,392nm,19.6s,baz=325,slow=39							
CMAR	**Chiang Mai Arr**	**19.64**	**150**	P		**P**	**20 01 00.0**	**-1.7**
SLVN	**Son La**	**19.72**	**134**	P		**P**	**20 01 00.0**	**-2.6**
SLVN				IAmb		IAmb	20 01 19.6	
	comp=Z,5.4nm,1.2s							
PHRA	**Phrae**	**20.15**	**147**	P		**P**	**20 01 04.2**	**-3.1**
HNS	**HongShan**	**20.90**	**78**	⇑P		Pn	20 01 21.9	+4.0
HNS				S		Sn	20 05 14.4	+1.4
HNS				pmax		pmax		
	comp=Z,7.0nm,1.4s							
HNS				LR		LR		
	comp=Z,890nm,14.1s							
HNS				LR		LR		
	comp=Z,1μm,12.0s							
BVAR	**Borovoye Array**	**21.39**	**329**	P		**P**	**20 01 21.8**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=131,slow=11,SNR=12							
BVAR				LR		LR	20 10 42.1	
	comp=Z,1μm,19.0s,baz=133,slow=39							
	comp=Z,1.9nm,0.5s							
BRVK	**Borovoye**	**21.46**	**329**	P		**P**	**20 01 21.1**	**-0.1**
BRVK				IAmb		IAmb	20 01 41.4	
	comp=Z,11nm,1.1s							
BRVK	**Borovoye**	**21.46**	**329**	*ce*P		**P**	**20 01 23.6**	**+2.5**
BRVK				pmax		pmax		
	comp=Z,8.0nm,1.3s							
BJT	**Baijiatuau**	**22.00**	**71**	P		**P**	**20 01 24.5**	**-2.6**
BJT	**Baijiatuau**	**22.00**	**71**	P		**P**	**20 01 25.4**	**-1.7**
BJT				pmax		pmax		
	comp=Z,9.0nm,0.5s							
GEYT	**Alibeck**	**24.47**	**284**	P		**P**	**20 01 52.6**	**+0.9**
GEYT				IAmb		IAmb	20 02 18.0	
	comp=Z,5.4nm,1.1s							
GEYT	**Alibeck**	**24.47**	**284**	P		**P**	**20 01 51.6**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=84,slow=20,SNR=3.3							
GEYT				LR		LR	20 13 18.5	
	comp=Z,702nm,19.1s,baz=92,slow=41							
	comp=Z,1.6nm,1.0s							
GEYT	**Alibeck**	**24.47**	**284**	P		**P**	**20 01 52.6**	**+0.9**
GEYT				pmax		pmax		
	comp=Z,5.0nm,1.1s							
GYA0	**ALIBECK ARRAY**	**24.47**	**284**	P		**P**	**20 01 53.0**	**+1.3**
GYA0				pmax		pmax		
	comp=Z,4.0nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**24.47**	**284**	P		**P**	**20 01 52.9**	**+1.2**
GYA0B				IAmb		IAmb	20 02 19.6	
	comp=Z,3.6nm,0.8s							
ABKAR	**Akbulak array**	**24.82**	**311**	P		**P**	**20 01 54.3**	**-0.4**
ABKAR	**Akbulak array**	**24.82**	**311**	P		**P**	**20 01 54.0**	**-0.8**
ABKAR				IAmb		IAmb	20 02 09.6	
	comp=Z,3.5nm,1.0s							
AKTO	**Aktyubinsk**	**26.41**	**313**	P		**P**	**20 02 10.7**	**+1.5**
	comp=Z,0.7nm,0.5s,baz=119,slow=10,SNR=2.8							
AKTO				LR		LR	20 14 03.1	
	comp=Z,410nm,19.4s,baz=26,slow=40							
	comp=Z,0.7nm,0.5s							
ARU	**Arti**	**28.86**	**325**	P		**P**	**20 02 28.5**	**-2.4**
ARU				S		**S**	**20 07 17.7**	**-0.8**
ARU				MLR		MLR		
	comp=Z,753nm,17.0s							
WSAR	**Wadi Sarin**	**28.92**	**252**	LR		LR	20 16 52.1	
	comp=Z,202nm,18.8s,baz=76,slow=42							
PALK	**Pallekele**	**29.46**	**196**	LR		LR	20 15 43.1	
	comp=Z,88nm,20.6s,baz=116,slow=40							
KSRS	**Korea Array**	**31.34**	**75**	LR		LR	20 16 35.2	
	comp=Z,172nm,21.2s,baz=280,slow=38							
MAK	**Makhachkala**	**32.31**	**295**	*e*P		**P**	**20 02 57.4**	**-4.2**
MAK				*e*			20 04 06.8	
MAK				*e*S		**S**	**20 08 09.4**	**-3.5**
MAK				*e*SS		**SnSn**	**20 10 06.1**	**-0.2**
MAK				MLR		MLR		
	comp=Z,548nm,14.0s							
BELG	**Belogornoye**	**33.20**	**313**	LR		LR	20 18 09.0	
	comp=Z,270nm,18.3s,baz=84,slow=39							
USRK	**Ussuriysk Ar.**	**33.82**	**62**	LR		LR	20 17 40.3	
	comp=Z,239nm,20.9s,baz=269,slow=38							
KLR	**Kul'dur**	**33.90**	**53**	LR		LR	20 18 04.2	
	comp=Z,391nm,18.3s,baz=224,slow=38							
KLR	**Kul'dur**	**33.90**	**53**	P		**P**	**20 03 15.8**	**+0.4**
KLR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
GNI	**Garni**	**34.60**	**290**	LR		LR	20 22 06.6	
	comp=Z,123nm,20.3s,baz=108,slow=44							
GNI	**Garni**	**34.60**	**290**	*ce*P		**P**	**20 03 22.3**	**+0.5**
GNI				pmax		pmax		
	comp=Z,6.0nm,1.0s							
JNU	**Nakatsue**	**34.68**	**82**	LR		LR	20 19 25.4	
	comp=Z,251nm,19.2s,baz=296,slow=40							
ONI	**Oni**	**35.31**	**295**	P		**P**	**20 03 28.5**	**+0.8**
ONI	**Oni**	**35.31**	**295**	P		**P**	**20 03 28.5**	**+0.8**
ONI				pmax		pmax		
	comp=Z,8.0nm,1.2s							
KBZ	**Khabaz**	**35.64**	**297**	LR		LR	20 21 12.0	
	comp=Z,163nm,18.7s,baz=92,slow=41							
KIV	**Kislovodsk**	**35.78**	**297**	*e*P		**P**	**20 03 31.5**	**-0.3**
KIV				pmax		pmax		
	comp=Z,3.0nm,1.0s							
KIV				MLR		MLR		
	comp=Z,204nm,16.0s							
TGY	**Tagaytay City**	**36.16**	**119**	LR		LR	20 20 06.7	
	comp=Z,136nm,19.0s,baz=65,slow=39							
YAK	**Yakutsk**	**36.47**	**31**	LR		LR	20 18 08.7	
	comp=Z,101nm,18.9s,baz=244,slow=35							
MJAR	**Matsushiro Arr**	**39.58**	**74**	LR		LR	20 21 14.7	
	comp=Z,216nm,19.2s,baz=296,slow=38							
KLMR	**Klimovskoe**	**39.71**	**325**	*e*P		**P**	**20 04 03.5**	**-1.1**
KLMR				pmax		pmax		
	comp=Z,14nm,2.0s							
TIXI	**Tiksi**	**41.35**	**18**	LR		LR	20 22 19.1	
	comp=Z,267nm,20.7s,baz=249,slow=37							
ASAJ	**Asahikawa**	**41.44**	**62**	LR		LR	20 22 14.9	
	comp=Z,278nm,19.5s,baz=275,slow=37							
BRTR	**Keskin Array B**	**43.07**	**292**	P		**P**	**20 04 31.6**	**-1.1**
BRTR	**Keskin Array B**	**43.07**	**292**	P		**P**	**20 04 33.4**	**+0.7**
	comp=Z,1.3nm,1.0s,baz=78,slow=7.5,SNR=6.4							
	comp=Z,1.3nm,1.0s							
MMAI	**Mount Meron Ar**	**43.57**	**282**	LR		LR	20 28 50.7	
	comp=Z,100nm,18.1s,baz=28,slow=44							
DAV	**Davao City (W)**	**44.31**	**121**	LR		LR	20 23 28.3	
	comp=Z,284nm,20.0s,baz=313,slow=37							
AKASG	**Malin Array Be**	**44.50**	**309**	P		**P**	**20 04 43.6**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=75,slow=6.1,SNR=5.9							
AKASG				LR		LR	20 26 49.5	
	comp=Z,372nm,18.8s,baz=70,slow=41							
	comp=Z,0.4nm,0.5s							
EIL	**Elat**	**45.13**	**278**	LR		LR	20 27 53.5	
	comp=Z,275nm,18.5s,baz=68,slow=42							
VSU	**Vasula**	**45.76**	**320**	*ce*P		**P**	**20 04 56.4**	**+2.8**
VSU				pmax		pmax		
	comp=Z,15nm,1.7s							
MA2	**Magadan**	**45.86**	**39**	LR		LR	20 24 51.0	
	comp=Z,190nm,20.9s,baz=268,slow=37							
LEM	**Lembang**	**46.12**	**153**	LR		LR	20 25 09.3	
	comp=Z,90nm,20.1s,baz=337,slow=38							
FINES	**FINESS Array B**	**46.22**	**324**	P		**P**	**20 04 57.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=105,slow=12,SNR=4.2							
	comp=Z,0.5nm,0.6s							
FINES	**FINESS Array B**	**46.22**	**324**	*e*P		**P**	**20 05 00.2**	**+2.9**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.7s							
SEY	**Seymchan**	**46.83**	**34**	LR		LR	20 25 48.0	
	comp=Z,411nm,20.5s,baz=270,slow=37							
MLR	**Muntele Rosu**	**47.41**	**302**	P		**P**	**20 05 07.7**	**+0.7**
MLR	**Muntele Rosu**	**47.41**	**302**	P		**P**	**20 05 07.7**	**+0.7**
MLR				pmax		pmax		
	comp=Z,4.0nm,1.0s							
BURAR	**Bucovina Array**	**47.50**	**305**	P		**P**	**20 05 07.8**	**+0.1**
BURAR				IAmb		IAmb	20 05 09.9	
	comp=Z,1.2nm,1.0s							
BURAR	**Bucovina Array**	**47.50**	**305**	P		**P**	**20 05 07.8**	**+0.1**
BURAR				pmax		pmax		
	comp=Z,1.0nm,1.0s							
PETK	**Petropavlovsk-**	**50.10**	**47**	LR		LR	20 28 09.3	
	comp=Z,168nm,18.0s,baz=269,slow=38							
SPITS	**Spitsbergen Ar**	**51.49**	**345**	LR		LR	20 31 38.4	
	comp=Z,185nm,19.8s,baz=67,slow=41							
VRAC	**Vranov**	**52.76**	**309**	LR		LR	20 32 52.6	
	comp=Z,265nm,18.3s,baz=83,slow=41							
CLL	**Collm**	**54.49**	**312**	*e*SS		**SS**	**20 17 24.0**	**+5.4**
CLL				*e*SSSS			20 20 00.0	
GERES	**GERESS Array B**	**54.72**	**309**	LR		LR	20 34 11.4	
	comp=Z,309nm,18.0s,baz=91,slow=41							
DAVOX	**Davos/Discimat**	**57.81**	**307**	LR		LR	20 35 07.3	
	comp=Z,269nm,19.9s,baz=76,slow=40							
VAE	**Valguarnera**	**58.06**	**296**	LR		LR	20 36 15.4	
	comp=Z,74nm,19.3s,baz=28,slow=41							
SHEM	**Shemya Is, Ala**	**59.77**	**45**	LR		LR	20 34 43.8	
	comp=Z,90nm,18.4s,baz=292,slow=38							
KEST	**Kesra**	**62.49**	**296**	LR		LR	20 40 06.9	
	comp=Z,53nm,18.1s,baz=274,slow=42							
ESDC	**Sonseca Array**	**69.96**	**305**	P		**P**	**20 07 44.5**	**+0.6**
	comp=Z,0.5nm,0.8s,baz=51,slow=6.0,SNR=5.8							
ESDC				LR		LR	20 43 32.3	
	comp=Z,70nm,18.8s,baz=48,slow=40							
	comp=Z,0.5nm,0.8s							
WRA	**Warramunga Arr**	**70.40**	**134**	P		**P**	**20 07 44.3**	**-2.3**
	comp=Z,0.6nm,0.6s,baz=327,slow=6.7,SNR=16							
	comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**70.64**	**22**	LR		LR	20 41 45.3	
	comp=Z,115nm,19.8s,baz=280,slow=38							
INK	**Inuvik**	**71.39**	**15**	LR		LR	20 42 35.0	
	comp=Z,33nm,21.4s,baz=356,slow=39							
ASAR	**Alice Springs**	**73.09**	**137**	P		**P**	**20 08 00.8**	**-1.9**
	comp=Z,0.7nm,0.9s,baz=329,slow=5.8,SNR=7.4							
	comp=Z,0.7nm,0.9s							
KDAK	**Kodiak Island**	**73.47**	**29**	LR		LR	20 43 42.6	
	comp=Z,260nm,18.3s,baz=323,slow=38							
MDT	**Midelt**	**73.98**	**299**	LR		LR	20 45 28.2	
	comp=Z,24nm,19.0s,baz=350,slow=40							
TORD	**Torodi Ar. Bea**	**80.01**	**279**	P		**P**	**20 08 41.7**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=61,slow=6.6,SNR=2.5							
TORD				LR		LR	20 47 41.9	
	comp=Z,58nm,18.9s,baz=42,slow=38							
	comp=Z,0.5nm,0.9s							
YKA	**Yellowknife Ar**	**80.12**	**11**	P		**P**	**20 08 43.8**	**+1.9**
	comp=Z,0.3nm,0.7s,baz=339,slow=5.9,SNR=4.8							
YKA				LR		LR	20 46 44.0	
	comp=Z,38nm,19.4s,baz=318,slow=38							
	comp=Z,0.3nm,0.7s							
DLBC	**Dease Lake**	**80.56**	**19**	LR		LR	20 47 05.0	
	comp=Z,74nm,18.2s,baz=306,slow=38							
DBIC	**Dimbokro**	**88.99**	**277**	LR		LR	20 53 38.8	
	comp=Z,99nm,18.4s,baz=46,slow=38							
NEW	**Newport**	**93.06**	**17**	LR		LR	20 56 33.4	
	comp=Z,66nm,18.9s,baz=333,slow=39							
CPUP	**Villa Florida**	**149.50**	**279**	PKPbc		**PKPbc**	**20 16 19.9**	**-1.9**
	comp=Z,1.9nm,1.0s,baz=41,slow=8.0,SNR=3.6							

*IDC **05** 20:00:58.8±4.5,35°.96N×71°.24E,h61^{km}±31^{km},mb3.5/9, mbtmp3.8/14,ML3.3/5,Error ellipse: s-maj=49.9km s-min=22.4km az=145.0*

*NNC **05** 20:01:08.1±3.2,37°.05N×70°.86E,h0^{km},mb4.5,mpv4.4, Error ellipse: s-maj=26.0km s-min=23.2km az=160.0*

ISC 05 20:01:01.1±0.7,**36°.36N**±0°.06×**70°.96E**±0°.06,**h50**km,**n31,** σ**2**^{s}**33**/38,**mb3.8**/8,**4C**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DHRM	**DHARAMSHALA**	**6.03**	**131**	*e*P		**Pn**	**20 02 29.4**	**+1.5**
DHRM				*e*S		**Sn**	**20 03 34.6**	**-1.1

AB31 ⇑S **Sn** **20 07 14.5 -4.8**
comp=E,4.5nm,0.8s,baz=151,slow=24,SNR=9.1
KURBB Kurchatov Arra 15.27 19 P **Pn** **20 04 35.6 +2.3**
comp=E,0.1nm,0.3s,baz=206,slow=10,SNR=6.3
comp=E,0.9nm,0.7s
BVAR Borovoye Array 16.67 359 P **Pn** **20 04 51.2 +0.1**
comp=E,0.1nm,0.3s,baz=152,slow=9.4,SNR=9.8
comp=E,1.0nm,0.6s
AKTO Aktyubinsk 16.89 330 P **Pn** **20 04 55.6 +1.8**
comp=E,0.4nm,0.3s,baz=122,slow=8.9,SNR=7.2
AKTO S Sn 20 07 51.0 -9.4
comp=E,1.1nm,0.4s,baz=186,slow=18,SNR=2.4
comp=E,1.0nm,0.3s
ZALV Zalesovo Beam 20.06 24 P **P** **20 05 28.5 -1.5**
comp=E,1.5nm,0.3s,baz=213,slow=9.7,SNR=11
comp=E,1.5nm,0.3s
MMAI Mount Meron Ar 29.33 274 P P 20 06 56.2 -3.0
comp=E,1.7nm,0.9s,baz=29,slow=15,SNR=1.1
comp=E,1.7nm,0.9s
AKASG Malin Array Be 33.01 309 P **P** **20 07 32.3 +1.0**
comp=E,0.2nm,0.4s,baz=70,slow=5.4,SNR=2.7
comp=E,0.2nm,0.4s
FINES FINESS Array B 37.58 326 P **P** **20 08 10.9 +0.5**
comp=E,0.6nm,0.5s,baz=118,slow=9.2,SNR=9.7
comp=E,0.6nm,0.5s
ARCES ARCESS Array B 41.26 338 P **P** **20 08 41.3 +0.3**
comp=E,2.4nm,1.0s,baz=116,slow=2.8,SNR=8.1
comp=E,2.4nm,1.0s
HFS Hagfors 43.16 322 P **P** **20 08 56.9 +0.3**
comp=E,1.3nm,0.4s,baz=105,slow=9.3,SNR=14
comp=E,1.3nm,0.4s
NB2 NORSAR Subarra 44.47 323 P **P** **20 09 06.9 -0.2**
comp=Z,0.5nm,0.5s,baz=95,slow=7.9
NOA NORSAR Array B 44.47 323 P **P** **20 09 07.3 +0.2**
comp=Z,0.6nm,0.5s,baz=97,slow=7.8,SNR=6.2
comp=Z,0.6nm,0.5s
TORD Torodi Ar. Bea 65.68 269 P **P** **20 11 39.0 -1.7**
comp=E,1.2nm,0.5s,baz=46,slow=6.1,SNR=19
comp=E,1.2nm,0.5s
YKA Yellowknife Ar 81.39 3 P **P** **20 13 10.1 -2.0**
comp=Z,0.1nm,0.5s,baz=347,slow=6.1,SNR=2.9
comp=Z,0.1nm,0.5s

IDC ***05*** *20:04:23.6±0.9, 1.47N×126.39E, h0km, mb4.0/11, mbtmp4.0/11, MS2.9/1, Error ellipse: s-maj=83.5km s-min=14.2km az=65.0*
NEIC ***05*** *20:04:37.1±0.7, 1.59N±0.09×126.84E±0.09, h111km±5km, mb4.4/20, Error ellipse: s-maj=15.1km s-min=10.6km az=46.0*
ISC 05 20:04:35.1±0.5, 1.71N±0.06×126.83E±0.10, h100km, n42, σ1§17/42, mb4.2/20, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.08**	**150**		**Pn**	**20 04 58.0**	**+1.5**
TNTI				Sn	**Sn**	**20 05 14.3**	**+1.8**
LUWI	**Luwuk**	**4.89**	**236**	Pn	**Pn**	**20 05 48.1**	**+1.7**
DAV	**Davao City (W)**	**5.47**	**347**	Sn	**Sn**	**20 06 53.1**	**-2.7**
	53nm,0.3s,baz=176,slow=3.9,SNR=2.4						
KCP	**Kidapawan**	**5.54**	**342**	*e*P	Pn	20 05 52.3	-3.0
KCP				*i* S	**Sn**	**20 06 56.7**	**-1.1**
TOLI2	**Tolitoli**	**6.07**	**264**	Pn	**Pn**	**20 06 02.5**	**+0.1**
FAKI	**Fak Fak**	**7.11**	**130**	Pn	**Pn**	**20 06 17.4**	**+0.8**
BATI	**Baumata**	**12.25**	**195**	LR	LR	20 12 08.4	
	comp=Z,63nm,21.4s,baz=144,slow=39						
MTN	**Manton Dam**	**15.08**	**164**	Pn	**Pn**	**20 08 00.6**	**-2.4**
KNRA	**Kununurra**	**17.38**	**174**	P	**P**	**20 08 30.8**	**-0.6**
WB0	**Warramunga Arr**	**22.60**	**161**	P	**P**	**20 09 26.2**	**-1.5**
WB0				IAmb	IAmb	20 09 41.9	
	comp=Z,14nm,1.3s						
WRA	**Warramunga Arr**	**22.75**	**161**	P	**P**	**20 09 27.9**	**-1.2**
	comp=Z,4.6nm,0.5s,baz=340,slow=11,SNR=44						
	comp=Z,4.6nm,0.5s						
MBWA	**Marble Bar**	**23.77**	**197**	P	**P**	**20 09 37.4**	**-1.2**
MBWA				IAmb	IAmb	20 09 48.5	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**26.15**	**165**	P	**P**	**20 09 59.0**	**-1.2**
ASAR	**Alice Springs**	**26.15**	**165**	P	**P**	**20 09 59.5**	**-0.8**
ASAR	**Alice Springs**	**26.15**	**165**	P	**P**	**20 09 59.2**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=343,slow=8.2,SNR=32						
ASAR				PcP	**PcP**	**20 13 25.1**	**-0.1**
	comp=Z,2.8nm,1.3s,baz=353,slow=2.1,SNR=1.7						
	comp=Z,0.7nm,0.4s						
GIRL	**Giralia**	**27.14**	**206**	P	**P**	**20 10 09.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**32.01**	**303**	P	P	20 10 50.0	-2.3
	comp=Z,0.5nm,0.8s,baz=124,slow=7.7,SNR=3.4						
	comp=Z,0.5nm,0.8s						
MORW	**Morawa**	**32.30**	**198**	P	**P**	**20 10 53.6**	**-1.1**
MORW				IAmb	IAmb	20 11 10.8	
	comp=Z,11nm,1.2s						
BBOO	**Buckleboo**	**35.43**	**167**	P	**P**	**20 11 21.0**	**-0.7**
NWAO	**Narrogin (SRO)**	**35.62**	**194**	P	**P**	**20 11 23.1**	**-0.3**
STKA	**Stephens Creek**	**36.23**	**158**	P	**P**	**20 11 27.5**	**-1.1**
STKA	**Stephens Creek**	**36.23**	**158**	P	**P**	**20 11 27.9**	**-0.7**
	comp=Z,2.4nm,0.6s,baz=330,slow=9.1,SNR=7.4						
	comp=Z,2.4nm,0.6s						
ARMA	**Armidale**	**39.75**	**145**	P	**P**	**20 11 57.2**	**-1.1**
ARMA				IAmb	IAmb	20 12 09.3	
	comp=Z,7.8nm,1.1s						
ULN	**Ulaanbaatar**	**49.06**	**342**	P	**P**	**20 13 13.4**	**+1.2**
ULN				IAmb	IAmb	20 13 15.4	
	comp=Z,7.2nm,1.3s						
SONM	**Songino Array**	**49.23**	**342**	P	**P**	**20 13 15.3**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=153,slow=8.9,SNR=5.3						
	comp=Z,1.0nm,0.6s						
MK31	**Makanchi Array**	**59.26**	**326**	P	**P**	**20 14 27.5**	**+1.2**
MK31				IAmb	IAmb	20 14 28.4	
	comp=Z,3.2nm,0.8s						
MKAR	**Makanchi Array**	**59.26**	**326**	P	**P**	**20 14 27.4**	**+1.1**
MKAR	**Makanchi Array**	**59.26**	**326**	P	**P**	**20 14 27.6**	**+1.3**
	comp=Z,3.7nm,0.7s,baz=121,slow=8.4,SNR=35						
	comp=Z,3.7nm,0.7s						
MAKZ	**Makanchi**	**59.45**	**326**	P	**P**	**20 14 28.5**	**+1.0**
MAKZ				IAmb	IAmb	20 14 37.4	
	comp=Z,8.6nm,1.2s						
LBZ	**Lake Benmore**	**59.97**	**145**	P	**P**	**20 14 30.6**	**-0.6**
ARSB	**Arslanbob**	**62.37**	**317**	P	**P**	**20 14 48.4**	**+0.8**
ZALV	**Zalesovo Beam**	**62.42**	**333**	P	**P**	**20 14 47.2**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=109,slow=7.8,SNR=2.5						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.48**	**328**	P	**P**	**20 14 55.5**	**+0.9**
	comp=Z,2.7nm,0.5s,baz=128,slow=6.2,SNR=46						
	comp=Z,2.7nm,0.5s						
KURK	**Kurchatov**	**63.49**	**328**	P	**P**	**20 14 55.4**	**+0.9**
CASY	**Casey**	**68.84**	**187**	P	**P**	**20 15 28.6**	**+0.1**
CASY				IAmb	IAmb	20 15 35.0	
	comp=Z,4.3nm,1.1s						
BVAR	**Borovoye Array**	**69.06**	**327**	P	**P**	**20 15 30.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=95,slow=8.0,SNR=2.6						
	comp=Z,0.7nm,0.7s						
GEYT	**Alibeck**	**72.23**	**309**	P	**P**	**20 15 50.0**	**+0.2**
	comp=Z,1.3nm,0.7s,baz=122,slow=5.4,SNR=4.4						
	comp=Z,1.3nm,0.7s						
ABKAR	**Akbulak array**	**73.77**	**321**	P	**P**	**20 15 59.3**	**+0.8**
ABKAR	**Akbulak array**	**73.77**	**321**	P	**P**	**20 15 59.5**	**+1.0**
ABKAR				IAmb	IAmb	20 16 05.0	
	comp=Z,2.8nm,1.4s						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**20 16 40.3**	**-0.3**
VNDA				IAmb	IAmb	20 16 41.8	
	comp=Z,4.2nm,1.2s						
VNDA	**Vanda**	**81.42**	**173**	P	**P**	**20 16 40.3**	**-0.3**
	comp=Z,1.3nm,0.6s,baz=323,slow=4.9,SNR=7.7						
	comp=Z,1.3nm,0.6s						
D19K	**Kuna River**	**82.96**	**21**	P	**P**	**20 16 50.2**	**+1.4**
D19K				IAmb	IAmb	20 17 12.1	
	comp=Z,8.0nm,1.4s						

BJI ***05*** *20:24:39.9±0.0, 6.31S×142.95E, h10km, mb4.7/62, mB5.1/25, Ms4.5/5, Ms7 4.2/5*
IDC ***05*** *20:24:42.5±0.6, 6.16S×142.56E, h0km, mb4.3/14, mbtmp4.4/18, ML2.2/1, MS3.7/25, Error ellipse: s-maj=24.1km s-min=13.2km az=80.0*
NEIC ***05*** *20:24:44.6±1.4, 6.20S±0.07×142.35E±0.08, h10km±1km, mb4.9/70, Error ellipse: s-maj=12.6km s-min=11.9km az=95.0*
DJA ***05*** *20:24:47.1±0.3, 6°S±3'×14'2E±', h10km, M4.7/22, mB5.1/12, mb4.6/22, MLv5.4/6, Mw(mB)4.4/12*
ISC 05 20:24:44.2±0.3, 6.26S±0.04×142.37E±0.05, h10km, n364, σ1§28/357, mb4.8/61, MS3.7/22, 4C-1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.50**	**311**	P	**Pb**	**20 25 11.8**	**-0.5**

MMPI Merauke 2.94 222 P **Pn** **20 25 34.3 +3.2**
JAY Jayapura 4.07 336 P **Pn** **20 25 47.2 +0.5**
GENI Genyem 4.25 329 P **Pn** **20 25 51.1 +2.0**
GENI Genyem 4.25 329 P **Pn** **20 25 49.8 +0.7**
PMG Port Moresby 5.68 124 **Pn** **20 26 09.3 +0.5**
PMG Port Moresby 5.68 124 Pn **Pn** **20 26 08.8 0.0**
4.8nm,0.3s,baz=2.4,slow=4.9,SNR=11
PMG Sn **Sn** **20 27 13.4 -0.8**
5.7nm,0.3s,baz=289,slow=9.9,SNR=4.4
PMG LR LR 20 28 17.6
comp=Z,322nm,18.5s,baz=314,slow=39
14nm,0.4s
MANU Manus Island 6.51 50 **Pn** **20 26 21.0 +0.8**
COEN Coen 7.69 174 P **Pn** **20 26 40.4 +4.0**
COEN Coen 7.69 174 Pn **Pn** **20 26 39.2 +2.8**
RABL Rabaul 9.97 79 Pn **Pn** **20 27 08.8 +1.1**
FAKI Fak Fak 10.62 288 P **Pn** **20 27 16.2 -0.3**
FAKI Fak Fak 10.62 288 Pn **Pn** **20 27 15.9 -0.7**
FAKI Fak Fak 10.62 288 P **Pn** **20 27 15.7 -0.8**
39nm,0.8s
KDU Kakadu 11.66 236 P **Pn** **20 27 30.6 -0.2**
SWI Sorong 12.31 295 P **Pn** **20 27 38.9 -0.8**
52nm,0.7s,588nm
MTN Manton Dam 12.86 239 P **Pn** **20 27 46.8 -0.4**
MTN Manton Dam 12.86 239 Pn **Pn** **20 27 46.2 -1.0**
DRS Darwin Rock St 12.87 241 P **Pn** **20 27 48.5 +1.2**
CTAO Charters Tower 14.25 165 Pn **Pn** **20 28 08.7 +2.4**
QIS Mount Isa 14.46 190 P **Pn** **20 28 11.1 +1.9**
WRAB Tennant Creek 15.66 209 Pn **Pn** **20 28 23.8 -1.4**
WRAB IAmb IAmb 20 28 32.8
comp=Z,96nm,1.5s
WRA Warramunga Arr 15.68 209 Pn **Pn** **20 28 23.9 -1.5**
comp=Z,1.1nm,0.3s,baz=29,slow=13,SNR=48
WRA Sn **Sn** **20 31 12.6 -6.7**
comp=Z,1.6nm,0.3s,baz=20,slow=22,SNR=6.1
WRA Lg Lg 20 33 05.0
comp=Z,1.1nm,0.3s,baz=28,slow=30,SNR=5.5
LBMI Labuha 15.85 290 P **Pn** **20 28 26.7 -1.0**
comp=Z,34nm,1.0s
KNRA Kununurra 16.30 234 P **Pn** **20 28 34.0 +0.7**
KNRA Kununurra 16.30 234 Pn **Pn** **20 28 31.9 -1.4**
TNTI Ternate 16.52 295 Pn **Pn** **20 28 33.8 -2.4**
SOEI Soe 18.25 258 P **P** **20 28 59.2 +1.0**
SOEI Soe 18.25 258 P **Pn** **20 28 57.0 -1.0**
SOEI IAmb IAmb 20 29 02.6
comp=Z,76nm,1.0s
SOEI Soe 18.25 258 P **P** **20 28 59.1 +0.9**
comp=Z,136nm,1.0s,comp=Z,1μm
BATI Baumata 18.92 257 P **Pn** **20 29 08.1 +2.1**
comp=Z,14nm,0.5s,baz=41,slow=0.8,SNR=6.9
BATI S **Sn** **20 32 36.1 -1.9**
comp=Z,16nm,0.8s,baz=72,slow=20,SNR=1.3
BATI LR LR 20 38 20.2
comp=Z,711nm,18.9s,baz=84,slow=43
AS31 Alice Springs 19.12 204 P **Pn** **20 29 09.3 +0.9**
ASAR Alice Springs 19.12 204 P **Pn** **20 29 09.1 +0.7**
ASAR Alice Springs 19.12 204 P **Pn** **20 29 09.7 +1.2**
comp=Z,30nm,0.8s,baz=33,slow=9.2,SNR=210
ASAR S **Sn** **20 32 34.7 -8.2**
comp=Z,7.6nm,0.9s,baz=16,slow=28,SNR=4.6
ASAR Lg Lg 20 34 54.2
comp=Z,0.1nm,0.3s,baz=36,slow=25,SNR=4.8
ASAR LR LR 20 37 21.1
comp=Z,1μm,18.8s,baz=35,slow=39
GUMO Guam 19.88 7 P **P** **20 29 15.6 -0.2**
comp=Z,109nm,0.8s,baz=216,slow=19,SNR=3.2
GUMO LR LR 20 36 15.1
comp=Z,123nm,19.5s,baz=162,slow=35
MMRI Maumere 20.10 262 **P** **20 29 16.9 -1.4**
MMRI Maumere 20.10 262 P Pn 20 29 19.9 -0.2
comp=Z,64nm,1.8s,comp=Z,1μm
LUWI Luwuk 20.22 284 **P** **20 29 19.2 -0.4**
LUWI IAmb IAmb 20 29 24.2
comp=Z,135nm,1.6s
LUWI Luwuk 20.22 284 P **P** **20 29 20.7 +1.0**
comp=Z,46nm,1.0s,comp=Z,893nm
PATS Pohnpei 20.55 51 P **P** **20 29 20.8 -2.4**
EDFI Ende, Flores 20.65 262 P **P** **20 29 24.1 -0.3**
comp=Z,25nm,1.0s,comp=Z,419nm
EIDS Eidsvold 20.75 157 P **P** **20 29 26.8 +1.5**
EIDS IAmb IAmb 20 29 32.6
comp=Z,56nm,1.2s
DAV Davao City (W) 21.35 308 LR LR 20 38 29.3
comp=Z,73nm,20.1s,baz=132,slow=38
INKA Innaminka 21.42 184 P **P** **20 29 35.6 +3.2**
BKSI Bulukumba 22.15 271 P **P** **20 29 42.5 +2.0**
comp=Z,39nm,1.0s,comp=Z,646nm
KAPI Kappang 22.54 272 P **P** **20 29 44.6 0.0**
KAPI IAmb IAmb 20 29 48.7
comp=Z,123nm,1.6s
TTSI Tana Toraja 22.70 277 P **P** **20 29 47.2 +0.9**
comp=Z,13nm,0.9s,comp=Z,503nm
TOLI2 Tolitoli 22.76 288 P **P** **20 29 48.2 +1.2**
TOLI2 Tolitoli 22.76 288 P **P** **20 29 45.8 -1.2**
STKA Stephens Creek 25.50 182 P **P** **20 30 12.8 0.0**
STKA Stephens Creek 25.50 182 P **P** **20 30 12.9 0.0**
comp=Z,7.4nm,0.8s,baz=348,slow=8.5,SNR=16
comp=Z,7.4nm,0.8s
ARMA Armidale 25.56 161 P **P** **20 30 15.2 +1.6**
ARMA IAmb IAmb 20 30 19.3
comp=Z,48nm,1.8s
PSA00 Pilbara Seismi 26.57 233 P **P** **20 30 23.1 +0.3**
BBOO Buckleboo 27.06 192 P **P** **20 30 27.9 +0.9**
BBOO IAmb IAmb 20 30 33.7
comp=Z,17nm,0.8s
MTKI Muara Teweh, K 27.91 280 P **P** **20 30 29.2 -5.6**
TGY Tagaytay City 29.35 314 LR LR 20 42 37.2
comp=Z,50nm,19.4s,baz=125,slow=36
CAN Canberra 29.56 169 P **P** **20 30 49.8 +0.5**
CAN IAmb IAmb 20 31 02.4
comp=Z,50nm,1.7s
JCJ Chichijima 33.16 360 LR LR 20 43 56.5
comp=Z,60nm,21.1s,baz=130,slow=35
LEM Lembang 34.52 267 LR LR 20 50 05.3
comp=Z,44nm,18.4s,baz=156,slow=44
NWAO Narrogin (SRO) 35.36 218 LR LR 20 46 53.1
comp=Z,665nm,18.5s,baz=34,slow=37
JOW Kunigami 35.62 338 LR LR 20 44 05.8
comp=Z,152nm,20.7s,baz=150,slow=33
YOJ Yonaguni jima 35.89 329 P **P** **20 31 44.4 -0.4**
TPUB Ta-pu 36.26 325 P **P** **20 31 46.8 -1.1**
NACB Ninganchiao 36.41 327 P **P** **20 31 48.1 -1.1**
YHNB Yeheng 36.92 327 P **P** **20 31 52.5 -1.1**
JMN Monobe 40.58 349 P **P** **20 32 23.4 -0.8**
JMN IAmb IAmb 20 32 24.4
comp=Z,19nm,1.0s
JNU Nakatsue 40.66 345 P **P** **20 32 23.7 -1.1**
JNU IAmb IAmb 20 33 39.9
comp=Z,18nm,1.2s
JNU Nakatsue 40.66 345 LR LR 20 45 43.3
comp=Z,55nm,21.8s,baz=166,slow=31
MJAR Matsushiro Arr 42.76 355 P **P** **20 32 40.3 -1.6**
comp=Z,1.9nm,0.8s,baz=170,slow=10,SNR=6.0
MJAR LR LR 20 48 35.2
comp=Z,98nm,19.4s,baz=140,slow=34
comp=Z,1.9nm,0.8s
MJB9 Matsu-Tunnel 42.76 355 P **P** **20 32 40.7 -1.2**
NJ2 Nanjing 44.20 331 *e*P **P** **20 32 56.0 +2.4**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
WHN Wuhan 45.38 325 P **P** **20 33 05.9 +2.8**
KSAR Wonju Array Be 45.53 344 P **P** **20 33 04.0 -0.1**
KSRS Korea Array 45.53 344 P **P** **20 33 04.3 +0.2**
comp=Z,4.1nm,0.7s,baz=157,slow=8.5,SNR=13
KSRS LR LR 20 49 19.6
comp=Z,35nm,21.6s,baz=155,slow=32
comp=Z,4.1nm,0.7s
KS19 Wonju Array Si 45.59 344 P **P** **20 33 04.9 +0.3**
KS19 IAmb IAmb 20 33 41.9
comp=Z,27nm,1.3s
ENH Enshi 48.09 321 P **P** **20 33 23.9 -0.5**
PHRA Phrae 48.29 301 P **P** **20 33 25.5 -0.5**
CRAI Chiangrai 48.96 304 P **P** **20 33 30.6 -0.7**
CRAI IAmb IAmb 20 33 34.0
comp=Z,16nm,2.0s
CMAR Chiang Mai Arr 49.37 301 P **P** **20 33 32.7 -1.6**
CMAR Chiang Mai Arr 49.37 301 P **P** **20 33 34.9 +0.5**
comp=Z,0.4nm,0.5s,baz=118,slow=5.5,SNR=5.5
comp=Z,0.4nm,0.5s
LYN LuoYang 49.45 327 *e*P **P** **20 33 35.6 +0.9**
LYN pmax pmax
comp=Z,23nm,0.6s
LYN pmax pmax
comp=Z,120nm,3.8s
JKA Kamikawa-asahi 50.14 0 P **P** **20 33 38.8 -1.0**
JKA IAmb IAmb 20 33 46.1
comp=Z,26nm,1.4s
HNS HongShan 50.53 331 ⇑P **P** **20 33 43.2 +0.4**
HNS pmax pmax
comp=Z,15nm,1.5s
XAN Xi'an 51.06 324 ⇑P **P** **20 33 47.4 +0.4**
XAN pP sP 20 33 52.2 +0.7
XAN pmax pmax
comp=Z,19nm,1.6s
PZH PanZhiHua 51.09 311 P **P** **20 33 48.1 +0.6**
PZH pmax pmax
comp=Z,10.0nm,1.6s
PZH pmax pmax
comp=Z,100nm,3.5s
USRK Ussuriysk Ar. 51.09 350 P **P** **20 33 46.1 -0.8**
USRK Ussuriysk Ar. 51.09 350 P **P** **20 33 46.5 -0.5**
comp=Z,5.1nm,0.8s,baz=181,slow=6.9,SNR=12
USRK LR LR 20 51 58.1
comp=Z,100nm,21.7s,baz=166,slow=32
comp=Z,5.1nm,0.8s
BJT Baijiatuan 52.00 335 P **P** **20 33 53.7 -0.1**
CN2 Changchun 52.13 345 *e*P **P** **20 33 54.6 -0.1**
CN2 *es*P sP 20 34 08.5 +9.3
CN2 *e*S **S** **20 41 15.4 -3.5**
CD2 Chengdu 52.24 317 P **P** **20 33 56.9 +1.0**
CD2 pP sP 20 33 59.9 -0.5
CD2 sP pP 20 34 01.0 +1.8
CD2 S **S** **20 41 21.7 +0.6**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,100nm,5.1s
TNCH TengChong 52.78 308 ⇑P **P** **20 34 00.9 +0.7**
TNCH S **S** **20 41 26.8 -2.2**
TNCH SS **SS** **20 45 10.2 +2.3**
TNCH pmax pmax
comp=Z,9.0nm,1.9s
TNCH LR LR
comp=Z,100nm,4.9s
TNCH LR LR
comp=Z,100nm,4.7s
TNCH LR LR
comp=Z,62nm,5.5s
BNX BinXian 53.47 347 ⇑P **P** **20 34 04.0 -0.6**
BNX pmax pmax
comp=Z,17nm,0.6s
BNX pmax pmax
comp=Z,110nm,4.3s
HHC Hu-ho-hao-te 54.75 332 *e*P **P** **20 34 15.9 +1.7**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,97nm,4.9s
BTO Baotou 55.31 330 *e*P **P** **20 34 21.2 +3.0**
BTO pP **sP** **20 34 25.8 +3.0**
BTO sP **pP** **20 34 28.3 +6.8**
BTO PP **PP** **20 36 26.0 +4.0**
BTO pmax pmax
comp=Z,15nm,1.0s
BTO pmax pmax
comp=Z,150nm,5.8s
BTO LR LR
comp=Z,160nm,15.9s
BTO LR LR
comp=Z,140nm,12.2s
BTO LR LR
comp=Z,190nm,17.1s
LZH Lanzhou 55.50 322 *e*P **P** **20 34 22.4 +2.6**
LZH sP sP 20 34 33.0 +8.7
LZH pmax pmax
comp=Z,14nm,1.1s
KLR Kul'dur 56.03 352 LR LR 20 54 46.5
comp=Z,71nm,21.9s,baz=184,slow=32
HEH HeiHe 57.76 349 *e*P **P** **20 34 34.5 -0.9**
HEH pmax pmax
comp=Z,9.0nm,1.7s
HEH pmax pmax
comp=Z,82nm,4.6s
SHL Shillong 58.34 305 P **P** **20 34 39.7 -0.4**
GTA Gaotai 60.08 323 P **P** **20 34 53.0 +1.1**
GTA sP sP 20 35 03.8 +7.4
GTA pmax pmax
comp=Z,8.0nm,1.9s
PEA0B Petropavlovsk- 60.56 11 P **P** **20 34 54.2 -0.5**
PETK Petropavlovsk- 60.56 11 P **P** **20 34 54.0 -0.7**
PETK Petropavlovsk- 60.56 11 P **P** **20 34 53.6 -1.1**
comp=Z,5.9nm,0.8s,baz=163,slow=6.9,SNR=18
comp=Z,5.9nm,0.8s
LSA Lhasa 60.77 309 P **P** **20 34 56.9 -0.3**
LSA IAmb IAmb 20 34 59.6
comp=Z,6.4nm,0.7s
GOMU GeErMu 61.38 317 P **P** **20 35 02.4 +1.3**
GOMU pP sP 20 35 07.3 +1.6
GOMU sP pP 20 35 08.7 +4.3
GOMU pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 62.22 334 P **P** **20 35 06.0 -0.3**
ULN IAmb IAmb 20 35 09.3
comp=Z,6.8nm,1.1s
SONM Songino Array 62.48 333 P **P** **20 35 08.1 0.0**
SONM IAmb IAmb 20 35 10.2
comp=Z,10nm,1.6s
SONM Songino Array 62.48 333 P **P** **20 35 08.2 +0.2**
comp=Z,1.7nm,1.1s,baz=148,slow=3.9,SNR=11
SONM LR LR 21 01 48.9
comp=Z,70nm,19.8s,baz=143,slow=36
comp=Z,1.7nm,1.1s
PALK Pallekele 62.97 281 LR LR 21 05 39.5
comp=Z,66nm,19.5s,baz=226,slow=39
CASY Casey 63.85 194 P **P** **20 35 17.3 +0.7**
SHEM Shemya Is, Ala 64.65 21 LR LR 20 58 04.4
comp=Z,92nm,22.0s,baz=274,slow=31
MA2 Magadan 65.97 5 P **P** **20 35 30.2 -0.3**
MA2 IAmb IAmb 20 35 32.2
comp=Z,10nm,1.2s
YAK Yakutsk 68.80 354 LR LR 21 04 03.2
comp=Z,34nm,20.6s,baz=148,slow=34
WMQ Urumqi 70.04 321 *e*P **P** **20 35 58.4 +1.9**
WMQ pmax pmax
comp=Z,18nm,0.7s
NIKH Nikolski High 71.95 29 P **P** **20 36 08.4 +0.6**
baz=232
VNDA Vanda 71.96 176 P **P** **20 36 08.3 +0.8**
VNDA IAmb IAmb 20 36 09.4
comp=Z,13nm,1.9s
VNDA Vanda 71.96 176 P **P** **20 36 08.3 +0.8**
comp=Z,0.9nm,0.7s,baz=324,slow=6.5,SNR=5.4
comp=Z,0.9nm,0.7s
SPIA Saint Paul Isl 74.00 25 P **P** **20 36 20.1 +0.3**
baz=230
MK31 Makanchi Array 74.81 322 P **P** **20 36 24.6 -0.2**
MK31 IAmb IAmb 20 36 27.9
comp=Z,21nm,1.7s
MKAR Makanchi Array 74.81 322 P **P** **20 36 25.3 +0.4**
MKAR Makanchi Array 74.81 322 P **P** **20 36 25.6 +0.7**
comp=Z,2.0nm,0.7s,baz=110,slow=6.7,SNR=16
MKAR LR LR 21 09 27.3
comp=Z,20nm,21.5s,baz=76,slow=36
comp=Z,2.0nm,0.7s
KSH Kashi 76.16 313 P **P** **20 36 34.7 +1.8**
KSH sP sP 20 36 41.1 +3.6
KSH pmax pmax
comp=Z,6.0nm,1.5s
TAOE Nuku Hiva Isla 76.74 98 *e*S **S** **20 46 18.4 -6.0**
comp=Z,259nm,27.9s
TAOE Nuku Hiva Isla 76.74 98 *e*LQ LQ 20 57 05.3
comp=Z,4μm,39.5s
TAOE *e*LR LR 21 00 25.7
comp=Z,256nm,27.1s
ZAA0 Zalesovo Array 76.83 329 P **P** **20 36 33.8 -2.4**
ZALV Zalesovo Beam 76.83 329 P **P** **20 36 33.7 -2.4**
ZALV Zalesovo Beam 76.83 329 P **P** **20 36 35.5 -0.7**
comp=Z,1.1nm,0.5s,baz=109,slow=5.7,SNR=6.3
ZALV LR LR 21 11 19.8
comp=Z,38nm,19.1s,baz=93,slow=36
comp=Z,1.1nm,0.5s
BOOM Boomskoye usch 77.22 316 P **P** **20 36 38.3 -0.7**
SDPT Sand Point 77.35 29 P **P** **20 36 39.1 +0.1**
baz=239
GAMB Gambell 77.87 19 P **P** **20 36 42.8 +1.0**
baz=227
TIXI Tiksi 78.26 356 P **P** **20 36 42.5 -1.3**
TIXI Tiksi 78.26 356 LR LR 21 11 29.3
comp=Z,24nm,18.1s,baz=184,slow=36
AAK Ala-Archa 78.28 316 P **P** **20 36 44.1 -0.7**
S14K Fog Glacier 78.28 29 P **P** **20 36 44.8 +0.4**

	baz=240							
KURK	**Kurchatov**	**78.70**	**324**	P		**P**	**20 36 46.1**	**-0.6**
KURK				IAmb		IAmb	20 36 49.3	
	comp=Z,22nm,1.5s							
KURBB	**Kurchatov Arra**	**78.72**	**324**	P		**P**	**20 36 46.9**	**+0.1**
	comp=Z,1.6nm,0.8s,baz=125,slow=4.4,SNR=17							
	comp=Z,1.6nm,0.8s							
ARSB	**Arslanbob**	**78.91**	**314**	P		**P**	**20 36 47.7**	**-0.6**
K13K	**Kusilvak Mount**	**79.19**	**23**	P		**P**	**20 36 49.7**	**+0.5**
	baz=234							
DRK	**Karamyk**	**79.20**	**312**	P		**P**	**20 36 49.4**	**-0.7**
DRK				IAmb		IAmb	20 38 58.3	
	comp=Z,6.8nm,0.3s							
N14K	**Kuskokwak Cree**	**79.24**	**25**	P		**P**	**20 36 49.8**	**+0.4**
	baz=237							
M14K	**Bethel**	**79.58**	**24**	P		**P**	**20 36 51.4**	**+0.2**
	baz=237							
L14K	**Kuka Creek**	**79.61**	**24**	P		**P**	**20 36 51.2**	**-0.2**
L14K				IAmb		IAmb	20 36 54.8	
	comp=Z,24nm,1.1s							
L14K	**Kuka Creek**	**79.61**	**24**	P		**P**	**20 36 52.2**	**+0.8**
	baz=236							
O15K	**Ungalikthiuk R**	**79.64**	**26**	P		**P**	**20 36 52.4**	**+0.7**
	baz=239							
CHIR	**Chirikof Islan**	**79.99**	**30**	P		**P**	**20 36 54.0**	**+0.3**
	baz=243							
N15K	**Kwethluk River**	**80.04**	**25**	P		**P**	**20 36 54.4**	**+0.6**
	baz=238							
M15K	**Kasigluk River**	**80.07**	**25**	P		**P**	**20 36 54.4**	**+0.5**
	baz=238							
J14K	**Nanvaranak Lak**	**80.08**	**22**	P		**P**	**20 36 54.3**	**+0.4**
	baz=235							
BTK	**Batken**	**80.09**	**312**	P		**P**	**20 36 54.5**	**-0.2**
BTK				IAmb		IAmb	20 36 58.7	
	comp=Z,21nm,1.9s							
GAR	**Garm**	**80.17**	**311**	P		**P**	**20 36 54.6**	**-0.5**
GAR				IAmb		IAmb	20 36 59.9	
	comp=Z,40nm,1.7s							
MAW	**Mawson**	**80.24**	**202**	LR		LR	21 11 13.0	
	comp=Z,136nm,18.2s,baz=64,slow=35							
L15K	**Ungalak Mounta**	**80.28**	**24**	P		**P**	**20 36 55.4**	**+0.3**
	baz=237							
ANM	**Nome**	**80.50**	**20**	P		**P**	**20 36 57.1**	**+0.8**
	baz=233							
K15K	**Wolf Creek Mou**	**80.60**	**23**	P		**P**	**20 36 57.6**	**+0.8**
	baz=237							
O16K	**Kokwok River B**	**80.62**	**26**	P		**P**	**20 36 57.1**	**+0.2**
	baz=240							
N16K	**Nishlik Lake**	**80.77**	**25**	P		**P**	**20 36 57.8**	**+0.1**
	baz=240							
M16K	**Timber Creek**	**80.96**	**25**	P		**P**	**20 36 58.7**	**-0.1**
M16K	**Timber Creek**	**80.96**	**25**	P		**P**	**20 36 59.0**	**+0.2**
	baz=239							
Q17K	**Contact Creek**	**80.98**	**28**	P		**P**	**20 36 58.7**	**-0.4**
	baz=242							
SII	**Sitkinak Islan**	**81.04**	**30**	P		**P**	**20 36 59.0**	**-0.3**
	baz=244							
SIMJ	**Simiganj**	**81.05**	**311**	P		**P**	**20 36 59.4**	**-0.6**
SIMJ				IAmb		IAmb	20 37 01.7	
	comp=Z,13nm,1.6s							
L16K	**Owhat River**	**81.11**	**24**	P		**P**	**20 36 60.0**	**+0.5**
	baz=239							
O17K	**Koliganek Bris**	**81.15**	**26**	P		**P**	**20 37 00.4**	**+0.6**
	baz=241							
KK31	**Karatay Array**	**81.20**	**315**	P		**P**	**20 37 00.1**	**-0.3**
KK31				IAmb		IAmb	20 37 03.3	
	comp=Z,15nm,1.7s							
G15K	**Niukluk**	**81.22**	**20**	P		**P**	**20 37 00.4**	**+0.4**
	baz=234							
F15K	**North Star Dit**	**81.43**	**20**	P		**P**	**20 37 02.0**	**+0.8**
	baz=234							
N17K	**Nushagak Hills**	**81.47**	**26**	P		**P**	**20 37 02.4**	**+0.9**
	baz=241							
J16K	**Anvik River**	**81.50**	**23**	P		**P**	**20 37 02.1**	**+0.6**
	baz=238							
OHAK	**Old Harbor**	**81.77**	**30**	P		**P**	**20 37 03.5**	**+0.4**
	baz=245							
I17K	**Unalakleet**	**81.79**	**22**	P		**P**	**20 37 04.0**	**+0.9**
	baz=237							
M17K	**Holitna River**	**81.79**	**25**	P		**P**	**20 37 04.0**	**+0.9**
	baz=241							
L17K	**Donlin**	**81.80**	**24**	P		**P**	**20 37 04.0**	**+0.8**
	baz=240							
P18K	**Big Mountain,**	**81.81**	**27**	P		**P**	**20 37 04.3**	**+0.9**
	baz=243							
O18K	**Koktuh Hills**	**82.03**	**27**	P		**P**	**20 37 04.6**	**+0.1**
	baz=243							
G16K	**Koyuk River**	**82.03**	**20**	P		**P**	**20 37 04.8**	**+0.5**
	baz=236							
K17K	**Iditarod**	**82.10**	**24**	P		**P**	**20 37 04.7**	**-0.1**
	baz=240							
N18K	**Kilae Creek**	**82.11**	**26**	P		**P**	**20 37 05.6**	**+0.7**
	baz=242							
J17K	**VABM Dome**	**82.14**	**23**	P		**P**	**20 37 06.0**	**+1.0**
	baz=239							
Q19K	**Cape Douglas,**	**82.33**	**28**	P		**P**	**20 37 07.1**	**+1.0**
	baz=244							
KDAK	**Kodiak Island**	**82.35**	**29**	P		**P**	**20 37 07.0**	**+0.9**
	baz=246							
L18K	**Granite Mounta**	**82.50**	**24**	P		**P**	**20 37 07.8**	**+1.0**
	baz=241							
H17K	**Granite Mounta**	**82.64**	**21**	P		**P**	**20 37 08.4**	**+0.9**
	baz=238							
G17K	**Kiwalik Mounta**	**82.68**	**21**	P		**P**	**20 37 08.7**	**+0.9**
	baz=237							
C16K	**Lisburne Hills**	**82.77**	**17**	P		**P**	**20 37 09.5**	**+1.4**
	baz=232							
N19K	**Bonanza Creek**	**82.78**	**26**	P		**P**	**20 37 08.7**	**+0.2**
	baz=244							
Q20K	**Shuyak Island**	**82.78**	**29**	P		**P**	**20 37 08.5**	**+0.1**
	baz=246							
F17K	**Baldwin Pennin**	**82.99**	**20**	P		**P**	**20 37 10.0**	**+0.7**
	baz=237							
J18K	**Innoko River**	**83.09**	**23**	P		**P**	**20 37 10.4**	**+0.5**
	baz=241							
D17K	**Noatak River**	**83.11**	**18**	P		**P**	**20 37 10.6**	**+0.7**
	baz=235							
E17K	**Hotham Inlet**	**83.16**	**19**	P		**P**	**20 37 10.9**	**+0.8**
	baz=236							
L19K	**White Mountain**	**83.24**	**25**	P		**P**	**20 37 11.2**	**+0.5**
	baz=243							
H18K	**Honhosa River**	**83.31**	**21**	P		**P**	**20 37 11.4**	**+0.4**
	baz=239							
M19K	**Big River Lodg**	**83.31**	**25**	P		**P**	**20 37 11.9**	**+0.8**
	baz=243							
RDOG	**Red Dog Mine**	**83.37**	**18**	P		**P**	**20 37 11.9**	**+0.6**
RDOG	**Red Dog Mine**	**83.37**	**18**	P		**P**	**20 37 11.9**	**+0.6**
	baz=235							
C17K	**DeLong Mountai**	**83.54**	**18**	P		**P**	**20 37 12.7**	**+0.6**
	baz=235							
G18K	**Tagagawik**	**83.59**	**21**	P		**P**	**20 37 12.6**	**+0.2**
	baz=239							
F18K	**Selawik**	**83.62**	**20**	P		**P**	**20 37 12.5**	**0.0**
	baz=238							
GCSA	**Galena City Sc**	**83.66**	**22**	P		**P**	**20 37 13.1**	**+0.4**
	baz=241							
QSPA	**South Pole Qui**	**83.71**	**180**	P		**P**	**20 37 13.4**	**+0.1**
QSPA				IAmb		IAmb	20 38 00.7	
	comp=Z,9.1nm,1.2s							
QSPA	**South Pole Qui**	**83.71**	**180**	P		**P**	**20 37 13.3**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=298,slow=1.0,SNR=17							
	comp=Z,1.9nm,0.6s							
E18K	**Tukpahlearik C**	**83.75**	**19**	P		**P**	**20 37 13.7**	**+0.5**
E18K				IAmb		IAmb	20 37 15.8	
	comp=Z,12nm,1.0s							
E18K	**Tukpahlearik C**	**83.75**	**19**	P		**P**	**20 37 13.9**	**+0.7**
	baz=237							
J19K	**Poorman**	**83.78**	**23**	P		**P**	**20 37 14.1**	**+0.6**
	baz=242							
L20K	**Farewell, AK**	**83.78**	**25**	P		**P**	**20 37 14.1**	**+0.5**
	baz=244							
M20K	**Styx River**	**83.84**	**25**	P		**P**	**20 37 13.8**	**-0.1**
M20K	**Styx River**	**83.84**	**25**	P		**P**	**20 37 14.4**	**+0.5**
	baz=245							
BRSE	**Bradley Lake S**	**84.02**	**28**	P		**P**	**20 37 15.4**	**+0.6**
	baz=247							
K20K	**Telida**	**84.10**	**24**	P		**P**	**20 37 14.9**	**-0.2**
K20K				IAmb		IAmb	20 37 17.8	
	comp=Z,19nm,1.2s							
K20K	**Telida**	**84.10**	**24**	P		**P**	**20 37 15.8**	**+0.7**
	baz=244							
H19K	**Roundabout Mou**	**84.20**	**22**	P		**P**	**20 37 16.0**	**+0.5**
	baz=241							
C18K	**Utukok River**	**84.23**	**18**	P		**P**	**20 37 16.0**	**+0.2**
	baz=236							
G19K	**Purcell Mounta**	**84.27**	**21**	P		**P**	**20 37 15.8**	**-0.1**
G19K				IAmb		IAmb	20 37 18.5	
	comp=Z,20nm,1.3s							
G19K	**Purcell Mounta**	**84.27**	**21**	P		**P**	**20 37 16.8**	**+0.8**
	baz=240							
BVAR	**Borovoye Array**	**84.29**	**325**	P		**P**	**20 37 16.5**	**+0.2**
	comp=Z,5.9nm,0.6s,baz=116,slow=6.8,SNR=24							
	comp=Z,5.9nm,0.6s							
BRVK	**Borovoye**	**84.36**	**325**	P		**P**	**20 37 16.6**	**-0.1**
BRVK				IAmb		IAmb	20 37 19.4	
	comp=Z,10nm,1.0s							
F19K	**Shaleruckik Mo**	**84.38**	**20**	P		**P**	**20 37 16.7**	**+0.3**
	baz=240							
J20K	**Nowinta River**	**84.44**	**23**	P		**P**	**20 37 17.5**	**+0.8**
	baz=243							
B18K	**Kokolik River**	**84.46**	**17**	P		**P**	**20 37 17.6**	**+0.8**
	baz=236							
SKT	**Skwentna**	**84.57**	**26**	P		**P**	**20 37 17.8**	**+0.3**
	baz=246							
I20K	**Naaghedeneel**	**84.59**	**23**	P		**P**	**20 37 18.1**	**+0.6**
	baz=243							
PPLA	**Purkeypile**	**84.67**	**25**	P		**P**	**20 37 18.3**	**+0.1**
	baz=245							
SUA	**Susitna One**	**84.70**	**26**	P		**P**	**20 37 18.7**	**+0.4**
	baz=247							
H20K	**Anotleneega Mo**	**84.76**	**22**	P		**P**	**20 37 18.7**	**+0.3**
	baz=243							
SEW	**Seward**	**84.76**	**28**	P		**P**	**20 37 18.8**	**+0.4**
	baz=248							
O22K	**Cooper Landing**	**84.78**	**27**	P		**P**	**20 37 18.9**	**+0.3**
	baz=248							
E19K	**Redstone River**	**84.87**	**20**	P		**P**	**20 37 19.5**	**+0.5**
	baz=240							
CAST	**Castle Rocks**	**84.93**	**24**	P		**P**	**20 37 19.1**	**-0.2**
	baz=245							
C19K	**Lookout Ridge**	**84.97**	**18**	P		**P**	**20 37 19.6**	**+0.1**
	baz=238							
RC01	**Rabbit Creek A**	**85.00**	**27**	P		**P**	**20 37 19.7**	**0.0**
	baz=248							
CHUM	**Lake Minchumin**	**85.03**	**24**	P		**P**	**20 37 20.1**	**+0.3**
	baz=245							
D19K	**Kuna River**	**85.11**	**19**	P		**P**	**20 37 20.4**	**+0.2**
	baz=239							
A19K	**Wainwright**	**85.14**	**17**	P		**P**	**20 37 20.6**	**+0.5**
	baz=236							
F20K	**Avaraart Lake**	**85.19**	**20**	P		**P**	**20 37 21.2**	**+0.7**
	baz=242							
IMAR	**Indian Mountai**	**85.40**	**22**	P		**P**	**20 37 21.3**	**-0.3**
HRA	**Herat**	**85.40**	**305**	P		**P**	**20 37 22.0**	**-0.6**
H21K	**Melozitna Rive**	**85.60**	**22**	P		**P**	**20 37 22.9**	**+0.3**
	baz=245							
E20K	**Nigu River**	**85.61**	**19**	P		**P**	**20 37 22.9**	**+0.2**
	baz=241							
BPAW	**Bear Paw Mtn.**	**85.66**	**24**	P		**P**	**20 37 22.6**	**-0.3**
	baz=246							
D20K	**Etivluk River**	**85.70**	**19**	P		**P**	**20 37 23.6**	**+0.6**
	baz=241							
KNK	**Knik Glacier**	**85.70**	**27**	P		**P**	**20 37 23.1**	**-0.1**
	baz=249							
I21K	**Tanana**	**85.71**	**23**	P		**P**	**20 37 22.4**	**-0.7**
	baz=245							
G21K	**Allakaket**	**85.72**	**21**	P		**P**	**20 37 23.3**	**+0.1**
	baz=244							
SML	**Sawmill**	**85.90**	**26**	P		**P**	**20 37 23.8**	**-0.4**
	baz=249							
Q23K	**Middleton Isla**	**85.99**	**29**	P		**P**	**20 37 24.3**	**-0.3**
	baz=251							
F21K	**Alatna River**	**86.05**	**21**	P		**P**	**20 37 23.8**	**-1.0**
	baz=244							
GLI	**Glacier Island**	**86.13**	**28**	P		**P**	**20 37 24.4**	**-0.9**
	baz=250							
MLY	**Manley**	**86.13**	**23**	P		**P**	**20 37 24.6**	**-0.8**
MLY				IAmb		IAmb	20 37 27.4	
	comp=Z,8.4nm,1.1s							
MLY	**Manley**	**86.13**	**23**	P		**P**	**20 37 24.4**	**-0.9**
	baz=246							
B20K	**Meade River**	**86.17**	**17**	P		**P**	**20 37 24.9**	**-0.4**
	baz=240							
WAT1	**Susitna Watana**	**86.18**	**25**	P		**P**	**20 37 24.9**	**-0.7**
	baz=249							
H22K	**Ishtalitna Cre**	**86.24**	**22**	P		**P**	**20 37 25.0**	**-0.8**
	baz=246							
RND	**Reindeer**	**86.26**	**25**	P		**P**	**20 37 25.1**	**-0.9**
RND				IAmb		IAmb	20 37 27.0	
	comp=Z,10nm,1.0s							
MCK	**McKinley**	**86.35**	**25**	P		**P**	**20 37 25.4**	**-1.0**
	baz=250							
SCM	**Sheep Creek Mo**	**86.35**	**27**	P		**P**	**20 37 25.5**	**-1.0**
	baz=250							
WAT6	**Susitna Watana**	**86.44**	**26**	P		**P**	**20 37 26.5**	**-0.5**
	baz=249							
C21K	**Knifeblade Rid**	**86.49**	**19**	P		**P**	**20 37 27.4**	**+0.5**
	baz=242							
NEA2	**Nenana**	**86.62**	**24**	P		**P**	**20 37 26.7**	**-1.0**
	baz=248							
F22K	**Jo River**	**86.62**	**21**	P		**P**	**20 37 28.2**	**+0.5**
	baz=245							
EYAK	**Cordova Ski Ar**	**86.64**	**28**	P		**P**	**20 37 28.1**	**+0.3**
	baz=251							
I23K	**Minto, Yukon-K**	**86.71**	**23**	P		**P**	**20 37 28.2**	**+0.1**
	baz=248							
B21K	**Ikpikpuk River**	**86.76**	**18**	P		**P**	**20 37 28.5**	**+0.3**
	baz=243,SNR=5.1							
DHY	**Denali Highway**	**86.77**	**25**	P		**P**	**20 37 28.5**	**-0.1**
	baz=250							
KLU	**Klutina**	**86.87**	**27**	P		**P**	**20 37 29.3**	**+0.2**
	baz=251							
M24K	**Tolsona, Glenn**	**86.96**	**27**	P		**P**	**20 37 29.9**	**+0.4**
	baz=251							
D22K	**Ayikyak River**	**87.04**	**19**	P		**P**	**20 37 30.5**	**+0.8**
	baz=244							
G23K	**Bananza Creek**	**87.07**	**22**	P		**P**	**20 37 30.4**	**+0.5**
	baz=247							
COLD	**Coldfoot**	**87.21**	**21**	P		**P**	**20 37 31.1**	**+0.6**
	baz=247							
A22K	**Sinclair Lake**	**87.30**	**17**	P		**P**	**20 37 31.3**	**+0.5**
	baz=242							
BMRM	**Bremner River**	**87.31**	**28**	P		**P**	**20 37 31.4**	**+0.2**
	baz=252							
B22K	**Teshekpuk Lake**	**87.45**	**18**	P		**P**	**20 37 31.9**	**+0.3**
	baz=244,SNR=9.3							
POKR	**Poker Plat Res**	**87.46**	**23**	P		**P**	**20 37 32.1**	**+0.4**
	baz=250							
HARP	**HAARP**	**87.50**	**26**	P		**P**	**20 37 31.5**	**-0.5**
	baz=252							
N25K	**Chitina, Valde**	**87.51**	**27**	P		**P**	**20 37 31.6**	**-0.6**
	baz=252							
H24K	**Noodor Dome**	**87.54**	**23**	P		**P**	**20 37 31.4**	**-0.8**
	baz=249							
PAX	**Paxson**	**87.55**	**26**	P		**P**	**20 37 32.3**	**0.0**
	baz=251							
ILAR	**Eielson Array**	**87.56**	**24**	P		**P**	**20 37 30.6**	**-1.6**
ILAR	**Eielson Array**	**87.56**	**24**	P		**P**	**20 37 30.4**	**-1.8**
	comp=Z,3.1nm,0.8s,baz=257,slow=5.2,SNR=28							
	comp=Z,3.1nm,0.8s							
K24K	**Donnelly Dome**	**87.69**	**25**	P		**P**	**20 37 33.8**	**+0.9**
	baz=251							
D23K	**Nanushuk River**	**87.74**	**19**	P		**P**	**20 37 34.3**	**+1.3**
	baz=246							
E23K	**Chandalar**	**87.74**	**20**	P		**P**	**20 37 34.2**	**+1.1**
	baz=247							
TOLK	**Toolik Lake Re**	**87.98**	**20**	P		**P**	**20 37 34.8**	**+0.6**
TOLK	**Toolik Lake Re**	**87.98**	**20**	P		**P**	**20 37 35.1**	**+0.9**
	baz=247,SNR=8.4							
G24K	**Hadweenzic Riv**	**88.00**	**22**	P		**P**	**20 37 35.1**	**+0.8**
	baz=249,SNR=7.7							
C23K	**Itkillik River**	**88.11**	**19**	P		**P**	**20 37 35.2**	**+0.4**
	baz=246,SNR=16							
J25K	**Salcha River,**	**88.12**	**24**	P		**P**	**20 37 34.6**	**-0.4**
	baz=251,SNR=8.1							
E24K	**Your Creek**	**88.14**	**21**	P		**P**	**20 37 35.4**	**+0.4**
	baz=248							
F24K	**Squaw Lake**	**88.15**	**21**	P		**P**	**20 37 35.9**	**+0.9**
	baz=249,SNR=8.0							
MESA	**MESA**	**88.34**	**29**	P		**P**	**20 37 36.4**	**+0.1**
	baz=255							
PRP	**Porcupine Dome**	**88.35**	**23**	P		**P**	**20 37 37.1**	**+0.9**
	baz=251							
D24K	**Happy Valley**	**88.43**	**20**	P		**P**	**20 37 37.7**	**+1.4**
	baz=248							
M26K	**Nabesna, AK**	**88.47**	**27**	P		**P**	**20 37 36.9**	**+0.2**
	baz=254							
H25L	**Birch Creek**	**88.48**	**23**	P		**P**	**20 37 36.4**	**-0.1**
	baz=251							
SCRK	**Sand Creek**	**88.50**	**25**	P		**P**	**20 37 36.5**	**-0.4**
SCRK				IAmb		IAmb	20 37 38.8	
	comp=Z,19nm,1.6s							
SCRK	**Sand Creek**	**88.50**	**25**	P		**P**	**20 37 36.8**	**0.0**
	baz=253							
G25K	**Bearman Lake**	**88.54**	**22**	P		**P**	**20 37 37.3**	**+0.5**
	baz=251							
C24K	**Franklin Bluff**	**88.68**	**19**	P		**P**	**20 37 37.7**	**+0.3**
	baz=248							
FYU	**Fort Yukon**	**88.80**	**22**	P		**P**	**20 37 38.2**	**+0.1**
J26L	**Joseph Creek**	**88.83**	**25**	P		**P**	**20 37 38.1**	**-0.3**
	baz=253,SNR=6.0							
CTG	**Chitna Glacier**	**88.83**	**28**	P		**P**	**20 37 38.2**	**-0.3**
	baz=255							
M27K	**Edge Creek, AK**	**88.95**	**27**	P		**P**	**20 37 39.2**	**+0.1**
	baz=255							
F25K	**Christian Rive**	**88.98**	**21**	P		**P**	**20 37 39.2**	**+0.2**
	baz=251							
L27K	**Beaver Creek,**	**89.17**	**26**	P		**P**	**20 37 40.1**	**+0.1**
	baz=255							
E25K	**Arctic Village**	**89.18**	**21**	P		**P**	**20 37 41.1**	**+1.2**
	baz=251,SNR=7.9							
BCAR	**Beaver Creek A**	**89.19**	**26**	P		**P**	**20 37 39.3**	**-0.7**
I26K	**Coal Creek Min**	**89.23**	**24**	P		**P**	**20 37 40.3**	**+0.2**
	baz=253							
D25K	**Kavik River**	**89.30**	**20**	P		**P**	**20 37 40.7**	**+0.3**
	baz=250,SNR=5.4							
BMAR	**Burnt Mountain**	**89.32**	**22**	P		**P**	**20 37 40.8**	**+0.2**
K27K	**Chicken**	**89.32**	**25**	P		**P**	**20 37 41.3**	**+0.7**
	baz=254							
O28M	**Mount Upton**	**89.33**	**29**	P		**P**	**20 37 39.9**	**-1.1**
	baz=256							
YUK3	**Moose Creek**	**89.45**	**28**	P		**P**	**20 37 40.9**	**-0.6**
	baz=256							
G26K	**Porcupine Rive**	**89.47**	**22**	P		**P**	**20 37 42.2**	**+1.0**
	baz=253,SNR=9.0							
F26K	**Sheenjek River**	**89.56**	**21**	P		**P**	**20 37 41.8**	**+0.2**
	baz=252,SNR=12							
ABKAR	**Akbulak array**	**89.77**	**319**	P		**P**	**20 37 41.4**	**-1.6**
ABKAR	**Akbulak array**	**89.77**	**319**	P		**P**	**20 37 41.4**	**-1.6**
EGAK	**Eagle**	**89.90**	**25**	P		**P**	**20 37 43.3**	**0.0**
EGAK				IAmb		IAmb	20 37 45.5	
	comp=Z,15nm,1.4s							
EGAK	**Eagle**	**89.90**	**25**	P		**P**	**20 37 43.5**	**+0.2**
	baz=255							
I27K	**Kandik River**	**89.93**	**24**	P		**P**	**20 37 44.0**	**+0.6**
	baz=255,SNR=6.8							
C26K	**Camden Bay**	**89.98**	**19**	P		**P**	**20 37 44.7**	**+1.2**
	baz=252							
H27K	**Steamboat Moun**	**90.13**	**23**	P		**P**	**20 37 45.3**	**+0.9**
	baz=255,SNR=8.6							
YUK4	**Talbot Arm**	**90.19**	**28**	P		**P**	**20 37 45.8**	**+0.8**
	baz=258							
G27K	**Doyon Strip**	**90.23**	**23**	P		**P**	**20 37 46.0**	**+1.1**
	baz=255							
P29M	**Windy Craggy**	**90.27**	**30**	P		**P**	**20 37 45.8**	**+0.6**
	baz=258							
C27K	**Jago River**	**90.29**	**20**	P		**P**	**20 37 45.9**	**+0.9**
	baz=253							
M29M	**Somme Creek**	**90.52**	**27**	P		**P**	**20 37 46.7**	**+0.4**
	baz=258							
I28M	**Miner Creek**	**90.57**	**24**	P		**P**	**20 37 46.9**	**+0.4**
	baz=256							
E27K	**Colleen River**	**90.62**	**21**	P		**P**	**20 37 47.8**	**+1.1**
	baz=255							
HYT	**Haines Junctio**	**90.63**	**29**	P		**P**	**20 37 47.5**	**+0.5**
	baz=258							
S31K	**Pelican**	**90.71**	**32**	P		**P**	**20 37 47.6**	**+0.5**
	baz=260							
P30M	**Million Dollar**	**90.75**	**30**	P		**P**	**20 37 47.8**	**+0.4**
	baz=259							
L29M	**L29M**	**90.81**	**27**	P		**P**	**20 37 48.5**	**+0.8**
	baz=258							
N30M	**Aishikik Lake**	**90.95**	**28**	P		**P**	**20 37 48.8**	**+0.4**
	baz=259							
SIT	**Sitka**	**91.03**	**33**	P		**P**	**20 37 49.7**	**+1.0**
	baz=260							
F28M	**Old Crow**	**91.11**	**22**	P		**P**	**20 37 49.5**	**+0.6**
	baz=256							
D27M	**Malcolm River**	**91.12**	**20**	P		**P**	**20 37 49.6**	**+0.7**
	baz=255							
K29M	**Barlow Dome**	**91.23**	**26**	P		**P**	**20 37 50.1**	**+0.4**
	baz=258							
H29M	**Whitestone**	**91.37**	**23**	P		**P**	**20 37 50.2**	**+0.1**
	baz=258							
E28M	**Babbage River**	**91.47**	**21**	P		**P**	**20 37 51.2**	**+0.7**
	baz=257							
G29M	**Pine Creek**	**91.65**	**23**	P		**P**	**20 37 51.9**	**+0.4**
	baz=258							
J30M	**Hart River**	**91.88**	**25**	P		**P**	**20 37 53.1**	**+0.4**
	baz=260							
I30M	**Mount Dempster**	**91.98**	**25**	P		**P**	**20 37 53.3**	**+0.2**
	baz=260							
E29M	**Blow River**	**92.01**	**21**	P		**P**	**20 37 53.8**	**+0.8**
	baz=258							
EPYK	**Eagle Plains**	**92.06**	**23**	P		**P**	**20 37 53.9**	**+0.6**
	baz=259							
U33K	**Whale Pass**	**92.09**	**34**	P		**P**	**20 37 54.1**	**+0.5**
	baz=262							
P32M	**Atlin**	**92.28**	**30**	P		**P**	**20 37 54.9**	**+0.4**
	baz=262							
G30M	**tAoh Zraii Nji**	**92.36**	**23**	P		**P**	**20 37 55.6**	**+0.8**
	baz=260							
ELIB	**Princess Elisa**	**92.72**	**196**	*d*P		**P**	**20 37 57.2**	**+0.7**
	comp=Z,2.5nm,1.1s							
INK	**Inuvik**	**93.59**	**22**	P		**P**	**20 38 01.1**	**+0.8**
	baz=262							
INK	**Inuvik**	**93.59**	**22**	LR		LR	21 15 02.0	
	comp=Z,47nm,22.0s,baz=199,slow=32							
R33M	**Jennings River**	**93.64**	**31**	P		**P**	**20 38 01.1**	**+0.2**
	baz=264							
DLBC	**Dease Lake**	**94.03**	**32**	P		**P**	**20 38 03.2**	**+0.5**
	baz=265							
KIRV	**Kirov**	**96.84**	**328**	LR		LR	21 23 09.7	
	comp=Z,38nm,20.3s,baz=78,slow=36							
ISCO	**Idaho Springs**	**110.87**	**50**	P		**PKiKP**	**20 43 18.1**	**-0.4**
	baz=280							
ANMO	**Albuquerque**	**110.90**	**55**	P		**PKiKP**	**20 43 18.5**	**-0.1**
	baz=277							
Q24A	**Divide**	**111.36**	**51**	P		**PKiKP**	**20 43 19.2**	**-0.3**
	baz=280							
ECSD	**EROS Data Cent**	**116.49**	**44**	P		**PKPdf**	**20 43 28.7**	**0.0**
	baz=288							
ABTX	**Abilene, Hawle**	**116.86**	**57**	P		**PKPdf**	**20 43 29.8**	**0.0**
	baz=280							
EKA	**Eskdalemuir Ar**	**123.86**	**337**	PKP		**PKPdf**	**20 43 41.3**	**-1.2**
	comp=Z,0.7nm,0.6s,baz=64,slow=3.2,SNR=2.3							
PLCA	**Paso Flores**	**124.31**	**150**	PKP		**PKPdf**	**20 43 44.1**	**+0.1**
	comp=Z,1.8nm,0.8s,baz=254,slow=3.9,SNR=6.6							
MTO3	**Montecristo**	**128.57**	**77**			**PKPdf**	**20 43 49.8**	**-3.1**
ESDC	**Sonseca Array**	**135.03**	**323**	PKP		**PKPdf**	**20 44 03.8**	**-0.5**
	comp=Z,0.2nm,0.8s,baz=42,slow=6.0,SNR=1.5							
TORD	**Torodi Ar. Bea**	**140.68**	**283**	PK

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.30**	**237**	P	**Pb**	**20 36 53.4**	**+0.5**
MARNC	**Mare, Loyalty**	**0.30**	**237**		**Pb**	**20 36 53.2**	**+0.3**
MARNC				Sg	**Sb**	**20 36 58.8**	**+0.9**
LIFNC	**LIFOU**	**1.12**	**298**	P	**Pb**	**20 37 06.6**	**-0.4**
LIFNC	**LIFOU**	**1.12**	**298**		**Pb**	**20 37 06.2**	**-0.9**
LIFNC				Sg	**Sb**	**20 37 20.9**	**-0.8**
PINNC	**Pines Island,**	**1.51**	**211**	P	**Pn**	**20 37 12.2**	**-0.5**
PINNC	**Pines Island,**	**1.51**	**211**		**Pn**	**20 37 11.1**	**-1.6**
OUENC	**Ouen Island, N**	**1.74**	**231**	P	**Pn**	**20 37 16.5**	**+0.7**
OUENC	**Ouen Island, N**	**1.74**	**231**		**Pn**	**20 37 15.3**	**-0.5**
DZM	**Mont Dzumac**	**1.88**	**246**	P	**Pn**	**20 37 18.4**	**+0.6**
DZM	**Mont Dzumac**	**1.88**	**246**	*e*Pn	**Pn**	**20 37 18.0**	**+0.2**
	6μm,0.8s						
DZM				*e*Sn	**Sn**	**20 37 42.0**	**+0.3**
	30μm,0.8s						
DZM	**Mont Dzumac**	**1.88**	**246**		**Pn**	**20 37 17.5**	**-0.3**
DZM	**Mont Dzumac**	**1.88**	**246**	Pn	**Pn**	**20 37 18.4**	**+0.6**
	702nm,0.3s,baz=69,slow=4.5,SNR=2617						
DZM				Sn	**Sb**	**20 37 42.5**	**-1.1**
	1μm,0.3s,baz=125,slow=23,SNR=18						
ONTNC	**Ouen Toro**	**1.98**	**240**		**Pn**	**20 37 19.4**	**+0.4**
KOUNC	**Koumac, New Ca**	**3.83**	**281**	Pn	**Pn**	**20 37 45.3**	**+0.8**
NFK	**Norfolk Island**	**7.70**	**182**	P	**Pn**	**20 38 38.8**	**+1.0**
	baz=7.7,SNR=7.9						
NFK	**Norfolk Island**	**7.70**	**182**	P	**Pn**	**20 38 38.5**	**+0.7**
MSVF	**Nonsavu**	**9.86**	**70**	Pn	**Pn**	**20 39 10.6**	**+3.1**
MSVF	**Nonsavu**	**9.86**	**70**	*i* P	**Pn**	**20 39 09.0**	**+1.5**
HNR	**Honiara**	**14.29**	**325**	Pn	**Pn**	**20 40 07.0**	**-1.1**
HNR	**Honiara**	**14.29**	**325**	P	**Pn**	**20 40 07.0**	**-1.1**
RAO	**Raoul Island**	**14.75**	**125**	LR	LR	20 44 51.1	
	comp=Z,357nm,18.3s,baz=220,slow=33						
EIDS	**Eidsvold**	**16.31**	**252**	P	**Pn**	**20 40 36.2**	**+1.4**
	baz=16,SNR=26						
EIDS	**Eidsvold**	**16.31**	**252**	P	**Pn**	**20 40 36.2**	**+1.4**
EIDS	**Eidsvold**	**16.31**	**252**		**Pn**	**20 40 35.2**	**+0.4**
RK1H	**Rockhampton Ha**	**16.60**	**260**	P	**P**	**20 40 40.6**	**-0.3**
ARMA	**Armidale**	**17.51**	**235**	P	**P**	**20 40 51.2**	**+0.1**
	baz=18,SNR=4.4						
ARMA	**Armidale**	**17.51**	**235**	P	**P**	**20 40 52.3**	**+1.2**
ARMA	**Armidale**	**17.51**	**235**	P	**P**	**20 40 51.1**	**+0.1**
URZ	**Urewera**	**18.52**	**158**	P	**Pn**	**20 41 03.5**	**+1.3**
	16nm,1.0s,baz=53,slow=6.2,SNR=7.7						
URZ				LR	LR	20 47 20.8	
	comp=Z,724nm,18.4s,baz=39,slow=35						
RTZ	**Ruatahuna**	**18.79**	**158**		**Pn**	**20 41 05.4**	**-0.2**
BKZ	**Black Stump Fm**	**19.13**	**160**	P	**Pn**	**20 41 09.6**	**-0.1**
RIV	**Riverview**	**19.62**	**227**	P	**Pn**	**20 41 15.7**	**+0.3**
	baz=20,SNR=5.5						
RIV	**Riverview**	**19.62**	**227**	P	**Pn**	**20 41 16.7**	**+1.2**
MRZ	**Mangatainoka R**	**20.25**	**164**	P	**P**	**20 41 20.9**	**-0.2**
MRZ				IAmb	IAmb	20 41 27.2	
	comp=Z,91nm,1.2s						
TV1H	**Townsville Har**	**20.27**	**272**	P	Pn	20 41 24.0	+0.7
CTAO	**Charters Tower**	**20.66**	**269**	P	Pn	20 41 27.8	-0.1
CTAO	**Charters Tower**	**20.66**	**269**	P	**P**	**20 41 25.9**	**+0.3**
CTAO	**Charters Tower**	**20.66**	**269**	P	**P**	**20 41 25.9**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,37nm,1.1s						
CNB	**Canberra Magne**	**21.68**	**226**	P	**P**	**20 41 38.5**	**+1.9**
	baz=22,SNR=9.0						
CNB	**Canberra Magne**	**21.68**	**226**	P	**P**	**20 41 38.8**	**+2.2**
YNG	**Young**	**21.79**	**229**	P	**P**	**20 41 39.2**	**+1.4**
	baz=22,SNR=14						
YNG	**Young**	**21.79**	**229**	P	**P**	**20 41 41.0**	**+3.3**
CAN	**Canberra**	**21.93**	**226**	P	**P**	**20 41 42.5**	**+3.3**
CAN	**Canberra**	**21.93**	**226**	P	**P**	**20 41 40.8**	**+1.6**
CAN	**Canberra**	**21.93**	**226**	P	**P**	**20 41 40.8**	**+1.6**
CAN				pmax	pmax		
	comp=Z,32nm,1.1s						
QLP	**Quilpie**	**22.59**	**252**	P	**P**	**20 41 48.1**	**+1.7**
	baz=23,SNR=14						
CMSA	**Cobar Meteorol**	**22.62**	**239**	P	**P**	**20 41 47.3**	**+0.8**
	baz=23,SNR=10						
CMSA	**Cobar Meteorol**	**22.62**	**239**	P	**P**	**20 41 47.8**	**+1.2**
MTSU	**Mount Surprise**	**22.79**	**274**	P	**P**	**20 41 49.8**	**+1.3**
	baz=23,SNR=18						
MTSU	**Mount Surprise**	**22.79**	**274**	P	**P**	**20 41 50.4**	**+1.9**
RABL	**Rabaul**	**23.14**	**315**	P	**P**	**20 41 52.1**	**0.0**
RABL				IAmb	IAmb	20 41 59.5	
	comp=Z,77nm,1.1s						
PMG	**Port Moresby**	**23.54**	**297**	P	**P**	**20 41 56.3**	**+0.2**
PMG	**Port Moresby**	**23.54**	**297**	LR	LR	20 50 19.7	
	comp=Z,528nm,18.7s,baz=134,slow=34						
PMG	**Port Moresby**	**23.54**	**297**	P	**P**	**20 41 56.3**	**+0.2**
PMG				pmax	pmax		
	comp=Z,25nm,0.8s						
ODZ	**Otahua Downs**	**23.74**	**176**	P	**P**	**20 42 00.1**	**+2.2**
COEN	**Coen**	**25.01**	**283**	P	**P**	**20 42 12.0**	**+2.1**
	baz=25,SNR=6.5						
COEN	**Coen**	**25.01**	**283**	P	**P**	**20 42 11.1**	**+1.2**
COEN	**Coen**	**25.01**	**283**	P	**P**	**20 42 09.5**	**-0.4**
COEN				IAmb	IAmb	20 42 20.6	
	comp=Z,44nm,1.1s						
TOO	**Toolangi**	**25.53**	**226**	P	**P**	**20 42 16.1**	**+1.7**
	baz=26,SNR=3.8						
TOO	**Toolangi**	**25.53**	**226**	P	**P**	**20 42 16.3**	**+1.9**
TOO	**Toolangi**	**25.53**	**226**	P	**P**	**20 42 13.1**	**-1.3**
TOO				IAmb	IAmb	20 42 21.9	
	comp=Z,34nm,1.0s						
TOO	**Toolangi**	**25.53**	**226**	P	**P**	**20 42 13.1**	**-1.3**
TOO				pmax	pmax		
	comp=Z,34nm,1.0s						
STKA	**Stephens Creek**	**26.02**	**241**	P	**P**	**20 42 20.4**	**+1.5**
	baz=26,SNR=6.4						
STKA	**Stephens Creek**	**26.02**	**241**	P	**P**	**20 42 20.4**	**+1.5**
STKA	**Stephens Creek**	**26.02**	**241**	P	**P**	**20 42 18.7**	**-0.3**
STKA	**Stephens Creek**	**26.02**	**241**	P	**P**	**20 42 19.9**	**+1.0**
	comp=Z,12nm,0.8s,baz=81,slow=11,SNR=10						
STKA				LR	LR	20 52 24.0	
	comp=Z,552nm,18.2s,baz=55,slow=36						
	comp=Z,12nm,0.8s						
STKA	**Stephens Creek**	**26.02**	**241**	*i* P	**P**	**20 42 17.6**	**-1.3**
QIS	**Mount Isa**	**26.79**	**266**	P	**P**	**20 42 28.2**	**+2.2**
	baz=27,SNR=4.6						
ARPS	**Mount Arapiles**	**27.66**	**230**	P	**P**	**20 42 35.2**	**+1.6**
	baz=28,SNR=4.9						
ARPS	**Mount Arapiles**	**27.66**	**230**	P	**P**	**20 42 35.8**	**+2.2**
LCRK	**Leigh Creek**	**28.48**	**245**	P	**P**	**20 42 42.1**	**+1.1**
HTT	**Hallett**	**28.64**	**239**	P	**P**	**20 42 43.7**	**+1.3**
	baz=29,SNR=10						
HTT	**Hallett**	**28.64**	**239**	P	**P**	**20 42 43.7**	**+1.3**
RAR	**Rarotonga**	**29.73**	**96**	LR	LR	20 52 01.3	
	comp=Z,44nm,19.7s,baz=284,slow=31						
OOD	**Oodnadatta**	**30.29**	**251**	P	**P**	**20 42 58.6**	**+1.5**
BBOO	**Buckleboo**	**30.79**	**241**	P	**P**	**20 43 02.5**	**+1.0**
BBOO	**Buckleboo**	**30.79**	**241**	P	**P**	**20 43 01.2**	**-0.3**
BBOO				IAmb	IAmb	20 43 09.7	
	comp=Z,26nm,0.9s						
WR0	**Warramunga Arr**	**31.59**	**266**	P	**P**	**20 43 07.4**	**-1.2**
WR0				IAmb	IAmb	20 43 15.9	
	comp=Z,30nm,1.3s						
WRAB	**Tennant Creek**	**31.77**	**266**	*i* P	**P**	**20 43 10.2**	**0.0**
WRAB				pmax	pmax		
	comp=Z,52nm,2.1s						
AS31	**Alice Springs**	**31.82**	**259**	P	**P**	**20 43 09.6**	**-1.1**
ASAR	**Alice Springs**	**31.82**	**259**	P	**P**	**20 43 09.4**	**-1.3**
ASAR	**Alice Springs**	**31.82**	**259**	P	**P**	**20 43 10.8**	**+0.2**
	comp=Z,16nm,0.8s,baz=87,slow=8.9,SNR=94						
ASAR				PcP	**PcP**	**20 46 01.4**	**-0.4**
	comp=Z,3.1nm,0.9s,baz=103,slow=2.9,SNR=5.8						
ASAR				LR	LR	20 55 17.9	
	comp=Z,338nm,21.2s,baz=100,slow=35						
	comp=Z,16nm,0.8s						
ASAR	**Alice Springs**	**31.82**	**259**	P	**P**	**20 43 09.4**	**-1.3**
MULG	**Mulgathing**	**31.99**	**247**	P	**P**	**20 43 12.7**	**+0.6**
JAY	**Jayapura**	**32.72**	**301**	P	**P**	**20 43 19.4**	**+0.8**
	comp=Z,18nm,1.2s						
KDU	**Kakadu**	**35.25**	**278**	P	**P**	**20 43 41.7**	**+1.2**
	baz=35,SNR=5.2						
MTN	**Manton Dam**	**36.44**	**277**	P	**P**	**20 43 51.4**	**+0.7**
	baz=36,SNR=11						
MTN	**Manton Dam**	**36.44**	**277**	P	**P**	**20 43 49.7**	**-1.1**
WRKA	**Warakurna**	**36.87**	**256**	P	**P**	**20 43 54.6**	**+0.1**
	baz=37,SNR=14						
WRKA	**Warakurna**	**36.87**	**256**	P	**P**	**20 43 54.7**	**+0.3**
FORT	**Forrest**	**37.19**	**247**	P	**P**	**20 43 57.4**	**+0.3**
	comp=Z,70nm,0.9s						
FORT	**Forrest**	**37.19**	**247**	P	**P**	**20 43 55.8**	**-1.3**
KNRA	**Kununurra**	**37.84**	**272**	P	**P**	**20 44 02.9**	**+0.3**
	baz=38,SNR=3.5						
KNRA				P	**P**	**20 44 02.9**	**+0.3**
	baz=38,SNR=3.5						
KNRA	**Kununurra**	**37.84**	**272**	P	**P**	**20 44 03.0**	**+0.3**
KNRA	**Kununurra**	**37.84**	**272**	P	**P**	**20 44 01.9**	**-0.7**
KNRA				IAmb	IAmb	20 44 03.6	
	comp=Z,20nm,0.8s						
TBI	**Tubuai**	**39.03**	**101**	*e*S	**S**	**20 50 15.8**	**+3.9**
	comp=Z,903nm,37.8s						
TBI				*e*LQ	LQ	20 53 03.8	
	comp=Z,2μm,31.0s						
TBI				*e*LR	LR	20 54 53.1	
	comp=Z,747nm,31.2s						
PPT2	**Papeete2**	**39.81**	**92**	*e*S	**S**	**20 50 21.5**	**-2.4**
	comp=Z,98nm,27.0s						
PPT2				*e*LQ	LQ	20 53 38.3	
	comp=Z,641nm,28.2s						
PPT2				*e*LR	LR	20 55 05.4	
	comp=Z,214nm,34.0s						
PPT2				*e*LR	LR	20 55 13.4	
	comp=Z,350nm,31.0s						
PPT	**Papeete**	**39.82**	**92**	LR	LR	20 55 55.8	
	comp=Z,92nm,21.9s,baz=250,slow=29						
KMBL	**Kambalda**	**42.52**	**246**	P	**P**	**20 44 41.6**	**+0.2**
	baz=42,SNR=6.8						
KMBL	**Kambalda**	**42.52**	**246**	P	**P**	**20 44 41.6**	**+0.2**
SOEI	**Soe**	**43.81**	**278**	P	**P**	**20 44 54.3**	**+2.2**
	comp=Z,40nm,0.7s						
BATI	**Baumata**	**44.21**	**277**	LR	LR	21 04 31.6	
	comp=Z,404nm,18.1s,baz=129,slow=38						
BATI	**Baumata**	**44.21**	**277**	P	**P**	**20 44 57.0**	**+1.7**
	comp=Z,43nm,0.8s						
LBMI	**Labuha**	**44.78**	**292**	P	**P**	**20 45 00.7**	**+0.9**
	comp=Z,27nm,0.9s,comp=Z,1μm						
PSA00	**Pilbara Seismi**	**44.95**	**260**	P	**P**	**20 45 02.0**	**+0.9**
PSA00	**Pilbara Seismi**	**44.95**	**260**	P	**P**	**20 45 00.5**	**-0.6**
MBWA	**Marble Bar**	**45.12**	**261**	P	**P**	**20 45 03.0**	**+0.6**
	comp=Z,32nm,1.0s						
MBWA	**Marble Bar**	**45.12**	**261**	P	**P**	**20 45 01.9**	**-0.5**
MEEK	**Meekatharra**	**45.48**	**253**	P	**P**	**20 45 05.5**	**+0.3**
	baz=45,SNR=8.4						
MEEK	**Meekatharra**	**45.48**	**253**	P	**P**	**20 45 05.6**	**+0.3**
	comp=Z,109nm,0.9s						
KLBR	**Kellerberrin**	**46.05**	**246**	P	**P**	**20 45 09.6**	**0.0**
	baz=46,SNR=6.9						
KLBR	**Kellerberrin**	**46.05**	**246**	P	**P**	**20 45 09.3**	**-0.4**
	comp=Z,131nm,0.8s						
MMRI	**Maumere**	**46.08**	**279**	P	**P**	**20 45 09.3**	**-0.8**
MMRI	**Maumere**	**46.08**	**279**	P	**P**	**20 45 10.2**	**+0.1**
	comp=Z,58nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.50**	**244**	P	**P**	**20 45 13.5**	**+0.3**
	baz=46,SNR=6.9						
NWAO				P	**P**	**20 45 13.5**	**+0.3**
	baz=46,SNR=6.9						
NWAO	**Narrogin (SRO)**	**46.50**	**244**	P	**P**	**20 45 13.2**	**0.0**
NWAO	**Narrogin (SRO)**	**46.50**	**244**	P	**P**	**20 45 12.8**	**-0.4**
NWAO	**Narrogin (SRO)**	**46.50**	**244**	LR	LR	21 04 45.5	
	comp=Z,580nm,18.6s,baz=76,slow=36						
NWAO	**Narrogin (SRO)**	**46.50**	**244**	P	**P**	**20 45 12.8**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,44nm,0.8s						
EDFI	**Ende, Flores**	**46.54**	**278**	P	**P**	**20 45 14.1**	**+0.3**
	comp=Z,16nm,0.9s						
BLDU	**Ballidu**	**46.95**	**248**	P	**P**	**20 45 15.2**	**-1.6**
	baz=47,SNR=5.4						
BLDU	**Ballidu**	**46.95**	**248**	P	**P**	**20 45 16.6**	**-0.2**
MUN	**Mundaring**	**47.36**	**246**	P	**P**	**20 45 19.3**	**-0.7**
	baz=47,SNR=3.8						
MUN	**Mundaring**	**47.36**	**246**	P	**P**	**20 45 19.3**	**-0.7**
MORW	**Morawa**	**47.60**	**250**	P	**P**	**20 45 20.2**	**-1.6**
LUWI	**Luwuk**	**48.73**	**288**	P	**P**	**20 45 30.8**	**+0.1**
LUWI				IAmb	IAmb	20 45 44.4	
	comp=Z,28nm,0.8s						
DAV	**Davao City (W)**	**50.53**	**299**	LR	LR	21 07 46.8	
	comp=Z,51nm,18.6s,baz=152,slow=37						
TWSI	**Taliwang, Sumb**	**50.99**	**276**	P	**P**	**20 45 48.3**	**+0.3**
	comp=Z,35nm,1.2s						
TAOE	**Nuku Hiva Isla**	**51.08**	**84**	*e*LR	LR	21 00 26.7	
	comp=Z,256nm,27.1s						
TOLI2	**Tolitoli**	**51.49**	**290**	P	**P**	**20 45 51.9**	**+0.2**
TOLI2	**Tolitoli**	**51.49**	**290**	P	**P**	**20 45 50.8**	**-0.9**
TOLI2				IAmb	IAmb	20 45 52.8	
	comp=Z,20nm,0.8s						
MPSI	**Mapaga**	**51.91**	**288**	P	**P**	**20 45 55.3**	**+0.5**
	comp=Z,36nm,1.1s						
JAGI	**Jajag, Banyuwa**	**53.62**	**275**	P	**P**	**20 46 05.8**	**-1.6**
JAGI				IAmb	IAmb	20 46 08.8	
	comp=Z,42nm,1.2s						
PWJI	**Pagerwojo**	**55.95**	**275**	P	**P**	**20 46 24.9**	**+0.5**
	comp=Z,26nm,0.8s						
VNDA	**Vanda**	**56.34**	**182**	P	**P**	**20 46 24.8**	**-1.4**
VNDA	**Vanda**	**56.34**	**182**	P	**P**	**20 46 24.6**	**-1.6**
	comp=Z,2.0nm,0.9s,baz=0.0,slow=6.4,SNR=8.9						
VNDA				LR	LR	21 07 01.3	
	comp=Z,99nm,20.1s,baz=345,slow=32						
	comp=Z,2.0nm,0.9s						
VNDA	**Vanda**	**56.34**	**182**	P	**P**	**20 46 24.8**	**-1.4**
VNDA				pmax	pmax		
	comp=Z,20nm,1.8s						
SBA	**Scott Base**	**56.59**	**180**	P	**P**	**20 46 27.5**	**-0.5**
SBA				IAmb	IAmb	20 46 30.3	
	comp=Z,28nm,1.1s						
SBA	**Scott Base**	**56.59**	**180**	P	**P**	**20 46 27.5**	**-0.5**
SBA				pmax	pmax		
	comp=Z,28nm,1.1s						
CASY	**Casey**	**57.88**	**204**	P	**P**	**20 46 35.8**	**-1.4**
CASY				IAmb	IAmb	20 46 42.2	
	comp=Z,26nm,1.4s						
STKI	**Sintang**	**59.34**	**283**	P	**P**	**20 46 48.7**	**+0.4**
	comp=Z,29nm,0.8s						
LEM	**Lembang**	**60.26**	**274**	LR	LR	21 12 36.9	
	comp=Z,82nm,19.6s,baz=202,slow=36						
LEM	**Lembang**	**60.26**	**274**	P	**P**	**20 46 56.3**	**+1.5**
KSM	**Kuching**	**61.00**	**284**	P	**P**	**20 46 58.1**	**-1.6**
KSM				IAmb	IAmb	20 47 01.1	
	comp=Z,17nm,0.9s						
YOJ	**Yonaguni jima**	**63.32**	**314**	P	**P**	**20 47 14.8**	**-0.2**
YOJ	**Yonaguni jima**	**63.32**	**314**	P	**P**	**20 47 14.8**	**-0.2**
YOJ				pmax	pmax		
	comp=Z,88nm,1.0s						
TWG	**Pinlang**	**63.59**	**311**	P	**P**	**20 47 15.1**	**-1.7**
KASI	**Kota Agung**	**63.62**	**274**	P	**P**	**20 47 17.2**	**0.0**
	comp=Z,54nm,1.0s						
JGF	**Kuroka**	**63.75**	**332**	P	**P**	**20 47 17.6**	**-0.1**
YULB	**Yu-li**	**63.80**	**312**	P	**P**	**20 47 19.2**	**+1.0**
YULB	**Yu-li**	**63.80**	**312**	P	**P**	**20 47 17.2**	**-0.9**
MJAR	**Matsushiro Arr**	**64.19**	**333**	P	**P**	**20 47 20.3**	**-0.2**
	comp=Z,2.2nm,0.6s,baz=167,slow=6.8,SNR=19						
MJAR				LR	LR	21 12 39.8	
	comp=Z,32nm,21.6s,baz=150,slow=34						
	comp=Z,2.2nm,0.6s						
MAJO	**Matsushiro**	**64.19**	**333**	P	**P**	**20 47 20.7**	**+0.2**
MAJO	**Matsushiro**	**64.19**	**333**	P	**P**	**20 47 20.6**	**+0.1**
MAJO				IAmb	IAmb	20 47 21.0	
	comp=Z,37nm,1.8s						
MAJO	**Matsushiro**	**64.19**	**333**	P	**P**	**20 47 20.6**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,37nm,1.8s						
TPUB	**Ta-pu**	**64.20**	**311**	P	**P**	**20 47 20.4**	**-0.5**
TPUB	**Ta-pu**	**64.20**	**311**	P	**P**	**20 47 19.8**	**-1.1**
YHNB	**Yeheng**	**64.57**	**313**	P	**P**	**20 47 24.6**	**+1.3**
TATO	**Taipei**	**64.69**	**313**	P	**P**	**20 47 23.2**	**-0.8**
JNU	**Nakatsue**	**64.86**	**326**	LR	LR	21 12 21.4	
	comp=Z,25nm,21.5s,baz=124,slow=33						
QSPA	**South Pole Qui**	**68.75**	**180**	P	**P**	**20 47 48.2**	**-1.2**
QSPA	**South Pole Qui**	**68.75**	**180**	P	**P**	**20 47 49.0**	**-0.4**
	comp=Z,20nm,0.9s,baz=24,slow=2.1,SNR=38						
	comp=Z,20nm,0.9s						
JKA	**Kamikawa-asahi**	**69.24**	**340**	P	**P**	**20 47 53.2**	**+0.6**
JKA				IAmb	IAmb	20 47 56.5	
	comp=Z,27nm,1.0s						
ASAJ	**Asahikawa**	**69.24**	**340**	P	**P**	**20 47 53.2**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,27nm,1.0s						
KSRS	**Korea Array**	**69.73**	**327**	P	**P**	**20 47 56.5**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=143,slow=5.1,SNR=8.0						
KSRS				LR	LR	21 18 46.9	
	comp=Z,29nm,18.2s,baz=215,slow=36						
	comp=Z,2.0nm,0.8s						
KSAR	**Wonju Array Be**	**69.74**	**327**	P	**P**	**20 47 56.0**	**+0.2**
KSAR	**Wonju Array Be**	**69.74**	**327**	P	**P**	**20 47 56.0**	**+0.2**
NJ2	**Nanjing**	**71.10**	**317**	*e*P	**P**	**20 48 07.9**	**+3.7**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,120nm,3.8s						
KULM	**Kulim**	**71.34**	**284**	P	**P**	**20 48 05.2**	**-0.8**
UBPT	**Khong Chiam**	**71.56**	**295**	P	**P**	**20 48 07.9**	**+0.6**
UBPT				IAmb	IAmb	20 48 37.8	
	comp=Z,19nm,1.4s						
YSS	**Yuzh-Sakhalins**	**71.76**	**342**	P	**P**	**20 48 08.4**	**+0.6**
YSS				IAmb	IAmb	20 48 11.0	
	comp=Z,22nm,0.9s						
YSS	**Yuzh-Sakhalins**	**71.76**	**342**	*e*P	**P**	**20 48 09.7**	**+1.9**
YSS				*e*S	**S**	**20 57 28.4**	**+0.5**
YSS				pmax	pmax		
	comp=Z,20nm,0.9s						
YSS				smax	smax		
	comp=E,100nm,3.3s						
WHN	**Wuhan**	**73.10**	**313**	⇓*i* P	**P**	**20 48 16.9**	**+0.7**
WHN				pmax	pmax		
	comp=E,74nm,1.0s						
USA0B	**Ussuriysk Arra**	**73.18**	**334**	P	**P**	**20 48 16.2**	**-0.1**
USA0B				IAmb	IAmb	20 48 18.2	
	comp=Z,16nm,0.9s						
USA0B	**Ussuriysk Arra**	**73.18**	**334**	*i* P	**P**	**20 48 16.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**73.18**	**334**	P	**P**	**20 48 16.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**73.18**	**334**	P	**P**	**20 48 17.8**	**+1.4**
	comp=Z,13nm,0.9s,baz=164,slow=4.7,SNR=19						
	comp=Z,13nm,0.9s						
USRK	**Ussuriysk Ar.**	**73.18**	**334**	P	**P**	**20 48 16.8**	**+0.4**
SHEM	**Shemya Is, Ala**	**73.90**	**4**	LR	LR	21 15 03.0	
	comp=Z,53nm,21.7s,baz=248,slow=31						
PET	**Petropavlovsk**	**74.50**	**354**	P	**P**	**20 48 24.0**	**+0.1**
PET				IAmb	IAmb	20 48 26.1	
	comp=Z,26nm,1.0s						
PET	**Petropavlovsk**	**74.50**	**354**	*e*P	**P**	**20 48 25.0**	**+1.1**
PET				pmax	pmax		
	comp=Z,30nm,1.4s						
PET	**Petropavlovsk**	**74.50**	**354**	P	**P**	**20 48 25.0**	**+1.1**
	comp=Z,30nm,1.4s						
MDJ	**Mudanjiang**	**74.53**	**332**	P	**P**	**20 48 25.8**	**+1.5**
MDJ				pP	pwP	20 48 30.6	+0.8
MDJ				sP	sP	20 48 34.2	+6.4
MDJ				PcP	**PcP**	**20 48 39.1**	**+0.4**
MDJ				PP	**PP**	**20 51 10.8**	**-0.5**
MDJ				S	**S**	**20 58 04.5**	**+4.9**
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,250nm,4.9s						
MDJ	**Mudanjiang**	**74.53**	**332**	P	**P**	**20 48 24.1**	**-0.2**
MDJ				IAmb	IAmb	20 48 27.9	
	comp=Z,12nm,0.8s						
PEA0B	**Petropavlovsk-**	**74.68**	**353**	P	**P**	**20 48 25.5**	**+0.5**
PEA0B	**Petropavlovsk-**	**74.68**	**353**	*ce*P	**P**	**20 48 24.0**	**-1.0**
PETK	**Petropavlovsk-**	**74.68**	**353**	P	**P**	**20 48 25.6**	**+0.6**
PETK	**Petropavlovsk-**	**74.68**	**353**	P	**P**	**20 48 26.3**	**+1.3**
	comp=Z,17nm,0.9s,baz=167,slow=7.2,SNR=18						
PETK				LR	LR	21 15 27.5	
	comp=Z,41nm,21.6s,baz=156,slow=31						
	comp=Z,17nm,0.9s						
PETK	**Petropavlovsk-**	**74.68**	**353**	P	**P**	**20 48 25.6**	**+0.6**
TIA	**Tai'an**	**74.92**	**319**	P	**P**	**20 48 27.4**	**+0.6**
TIA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
TYV	**Tymovskoe**	**75.34**	**344**	*e*P	**P**	**20 48 29.3**	**+0.5**
TYV				pmax	pmax		
	comp=Z,100nm,6.8s						
TYV				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CN2	**Changchun**	**75.78**	**329**	*e*P	**P**	**20 48 31.9**	**+0.4**
CN2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
MAW	**Mawson**	**76.19**	**202**	P	**P**	**20 48 33.6**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=104,slow=6.1,SNR=6.9						
	comp=Z,4.0nm,0.8s						
GYA	**Guiyang**	**76.29**	**306**	⇓P	**P**	**20 48 35.6**	**+0.6**
GYA				pmax	pmax		
	comp=Z,13nm,1.2s						
GYA				pmax	pmax		
	comp=Z,130nm,5.3s						
ENH	**Enshi**	**76.32**	**310**	P	**P**	**20 48 34.7**	**-0.2**
BNX	**BinXian**	**76.37**	**332**	⇑P	**P**	**20 48 35.4**	**+0.6**
BNX				pmax	pmax		
	comp=Z,14nm,0.9s						
BNX				pmax	pmax		
	comp=Z,120nm,4.3s						
NIKH	**Nikolski High**	**76.59**	**14**	P	**P**	**20 48 38.3**	**+2.4**
	baz=202						
LYN	**LuoYang**	**76.81**	**315**	*e*P	**P**	**20 48 39.1**	**+1.5**
LYN				pmax	pmax		
	comp=Z,41nm,0.8s						
LYN				pmax	pmax		
	comp=Z,140nm,5.2s						
HNS	**HongShan**	**77.16**	**319**	⇓P	**P**	**20 48 40.8**	**+1.3**
HNS				pmax	pmax		
	comp=Z,20nm,1.1s						
KLR	**Kul'dur**	**77.40**	**336**	LR	LR	21 19 30.8	
	comp=Z,35nm,21.3s,baz=53,slow=33						
KLR	**Kul'dur**	**77.40**	**336**	*e*P	**P**	**20 48 40.5**	**-0.1**
KLR				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PHRA	**Phrae**	**77.50**	**296**	P	**P**	**20 48 42.1**	**+0.3**
UNV	**Unalaska Valle**	**77.95**	**15**	P	**P**	**20 48 44.5**	**+1.0**
	baz=204						
BJT

TNCH pmax pmax
comp=Z,100nm,5.6s
TNCH LR LR
comp=Z,64nm,8.2s
S14K Fog Glacier 81.94 17 P **P** 20 49 05.6 +0.4
baz=210
CHGN Chignik 82.28 18 P **P** 20 49 07.8 +1.0
baz=211
ZEA Zeya 82.70 337 *e*P **P** 20 49 10.3 +1.2
ZEA pmax pmax
comp=Z,10.0nm,0.6s
CHIR Chirikof Islan 82.71 20 P **P** 20 49 09.6 +0.5
baz=214
LZH Lanzhou 83.47 313 *e*P **P** 20 49 15.8 +2.1
LZH pP pwP 20 49 21.2 +1.9
LZH pmax pmax
comp=Z,36nm,1.1s
SII Sitkinak Islan 83.77 20 P **P** 20 49 15.4 +0.8
baz=215
ELIB Princess Elisa 83.95 190 *d*P **P** 20 49 14.4 -1.2
comp=Z,6.4nm,1.2s
M11K Mekoryuk 84.01 12 P **P** 20 49 16.4 +0.7
baz=204
O14K Tigyukauivet M 84.09 15 P **P** 20 49 16.4 +0.3
baz=208
O15K Ungalikthiuk R 84.38 16 P **P** 20 49 17.8 +0.2
baz=210
OHAK Old Harbor 84.60 20 P **P** 20 49 19.0 +0.2
baz=216
M13K Dall Lake 84.64 14 P **P** 20 49 19.7 +0.8
baz=206
Q17K Contact Creek 84.67 18 P **P** 20 49 19.5 +0.2
baz=213
P16K Nushagak River 84.74 17 P **P** 20 49 19.4 +0.1
baz=211
Q16K King Salmon 84.80 18 P **P** 20 49 20.4 +0.7
baz=212
SEY Seymchan 84.90 353 LR LR 21 21 40.5
comp=Z,59nm,21.6s,baz=252,slow=32
SEY Seymchan 84.90 353 *e*P **P** 20 49 19.6 -0.6
SEY pmax pmax
comp=Z,7.0nm,1.0s
N15K Kwethluk River 85.18 15 P **P** 20 49 21.8 +0.1
baz=209
O16K Kokwok River B 85.19 16 P **P** 20 49 22.2 +0.5
baz=211
M14K Bethel 85.25 14 P **P** 20 49 22.9 +0.9
M14K Bethel 85.25 14 P **P** 20 49 21.9 0.0
baz=208
KDAK Kodiak Island 85.28 20 P **P** 20 49 21.8 -0.4
baz=216
KDAK Kodiak Island 85.28 20 LR LR 21 19 12.2
comp=Z,40nm,21.9s,baz=229,slow=30
P17K Kvichak River 85.30 17 P **P** 20 49 21.7 -0.5
baz=213
M15K Kasigluk River 85.50 15 P **P** 20 49 22.9 -0.3
baz=209
O17K Koliganek Bris 85.61 17 P **P** 20 49 23.4 -0.3
baz=212
L14K Kuka Creek 85.62 14 P **P** 20 49 24.3 +0.5
L14K IAmb IAmb 20 49 25.8
comp=Z,20nm,0.9s
L14K Kuka Creek 85.62 14 P **P** 20 49 23.9 +0.2
baz=207
K13K Kusilvak Mount 85.74 12 P **P** 20 49 24.9 +0.5
baz=205
N16K Nishlik Lake 85.78 16 P **P** 20 49 24.8 +0.2
baz=210
P18K Big Mountain, 85.81 18 P **P** 20 49 24.3 -0.6
baz=214
Q19K Cape Douglas, 85.88 19 P **P** 20 49 24.9 -0.3
baz=215
Q20K Shuyak Island 86.00 19 P **P** 20 49 25.8 +0.1
baz=216
L15K Ungalak Mounta 86.18 14 P **P** 20 49 27.1 +0.5
baz=208
O18K Koktuh Hills 86.20 18 P **P** 20 49 26.9 +0.1
baz=214
M16K Timber Creek 86.20 15 P **P** 20 49 26.8 +0.1
baz=210
N17K Nushagak Hills 86.23 16 P **P** 20 49 26.8 0.0
baz=212
GAMB Gambell 86.25 9 P **P** 20 49 27.0 +0.2
baz=199
TROLL Troll, Antarti 86.41 184 ⇓P **P** 20 49 27.5 -0.5
comp=Z,1µm,0.7s
P19K Oil Pt 86.60 18 P **P** 20 49 29.3 +0.6
baz=216
L16K Owhat River 86.67 15 P **P** 20 49 29.7 +0.7
baz=210
J14K Nanvaranak Lak 86.70 13 P **P** 20 49 29.3 +0.2
baz=206
N18K Kilae Creek 86.70 17 P **P** 20 49 29.3 +0.1
baz=213
K15K Wolf Creek Mou 86.72 14 P **P** 20 49 29.6 +0.4
baz=208
O19K Port Alsworth 86.73 18 P **P** 20 49 29.7 +0.4
baz=214
M17K Holitna River 86.91 16 P **P** 20 49 30.5 +0.4
baz=212
SNAA Sanae 87.06 183 P **P** 20 49 30.2 -0.9
SNAA IAmb IAmb 20 49 31.1
comp=Z,21nm,1.0s
SNAA Sanae 87.06 183 ⇓P **P** 20 49 30.1 -1.0
comp=Z,268nm,0.8s
SNAA Sanae 87.06 183 P **P** 20 49 30.4 -0.7
comp=Z,13nm,0.9s,baz=146,slow=4.1,SNR=13
comp=Z,13nm,0.9s
SNAA Sanae 87.06 183 *ce*P **P** 20 49 30.7 -0.4
SNAA pmax pmax
comp=Z,21nm,1.3s
L17K Donlin 87.32 15 P **P** 20 49 32.8 +0.6
baz=211
M18K Stony River 87.40 16 P **P** 20 49 33.1 +0.6
baz=213
SHL Shillong 87.55 299 P **P** 20 49 34.0 -0.4
SHL Shillong 87.55 299 P **P** 20 49 34.0 -0.4
VNA3 Neumayer Olymp 87.68 181 ⇓P **P** 20 49 32.9 -1.2
comp=Z,18nm,0.6s
L18K Granite Mounta 87.79 16 P **P** 20 49 35.5 +1.1
baz=212
J16K Anvik River 87.80 14 P **P** 20 49 35.6 +1.2
baz=209
KCPM Cahto Peak 87.81 46 P **P** 20 49 35.7 +0.5
KCPM IAmb IAmb 20 49 37.4
comp=Z,9.6nm,0.9s
KMPM Mount Pierce 87.82 45 P **P** 20 49 34.9 -0.3
KMPM IAmb IAmb 20 49 37.5
comp=Z,17nm,1.3s
K17K Iditarod 87.82 15 P **P** 20 49 34.6 +0.1
baz=211
GTA Gaotai 87.91 314 P **P** 20 49 36.6 +0.9
GTA pP pwP 20 49 41.9 +0.6
GTA sP sP 20 49 44.8 +5.6
GTA pmax pmax
comp=Z,6.0nm,1.2s
VNA2 Neumayer--Watz 87.96 181 ⇓P **P** 20 49 34.7 -0.6
comp=Z,20nm,0.5s,baz=188,slow=9.6
ULN Ulaanbaatar 88.00 324 P **P** 20 49 36.5 +0.6
ULN IAmb IAmb 20 49 37.5
comp=Z,9.4nm,0.8s
ULN Ulaanbaatar 88.00 324 *ce*P **P** 20 49 34.1 -1.9
ULN pmax pmax
comp=Z,40nm,2.5s
CAPN Captain Cook N 88.12 19 P **P** 20 49 37.3 +1.4
baz=217
M19K Big River Lodg 88.12 17 P **P** 20 49 37.4 +1.3
baz=214
L19K White Mountain 88.23 16 P **P** 20 49 37.1 +0.5
baz=214
J17K VABM Dome 88.23 14 P **P** 20 49 37.3 +0.9
baz=210
VNA1 Neumayer--Stat 88.25 181 ⇓P **P** 20 49 35.6 -1.1
comp=Z,29nm,1.1s
I17K Unalakleet 88.31 13 P **P** 20 49 36.6 -0.2
baz=209
KHMM Horse Mountain 88.31 45 P **P** 20 49 38.2 +0.6
KHMM IAmb IAmb 20 49 43.2
comp=Z,13nm,1.2s
SONM Songino Array 88.35 324 P **P** 20 49 37.9 +0.3
SONM IAmb IAmb 20 49 39.4
comp=Z,7.4nm,0.8s
SONM Songino Array 88.35 324 P **P** 20 49 38.2 +0.7
comp=Z,6.1nm,0.7s,baz=148,slow=4.9,SNR=49
SONM LR LR 21 26 24.8
comp=Z,24nm,20.9s,baz=137,slow=34
comp=Z,6.1nm,0.7s

SONM Songino Array 88.35 324 P **P** 20 49 37.9 +0.3
SONM pmax pmax
comp=Z,7.0nm,0.8s
M20K Styx River 88.45 17 P **P** 20 49 39.1 +1.5
baz=216
KRMB Red Mountain 88.52 44 P **P** 20 49 38.5 0.0
KRMB IAmb IAmb 20 49 40.9
comp=Z,19nm,1.2s
YAK Yakutsk 88.58 343 P **P** 20 49 38.3 +0.2
YAK Yakutsk 88.58 343 LR LR 21 28 59.8
comp=Z,26nm,18.1s,baz=144,slow=35
YAK Yakutsk 88.58 343 *e*P **P** 20 49 37.5 -0.6
YAK pmax pmax
comp=Z,12nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,2.0nm,2.0s
Q23K Middleton Isla 88.61 21 P **P** 20 49 38.5 +0.2
baz=222
H16K Elim 88.66 12 P **P** 20 49 39.3 +0.9
baz=207
F14K Arctic Creek 88.67 10 P **P** 20 49 37.2 -1.2
baz=204
P23K Montague Islan 88.69 21 P **P** 20 49 37.3 -1.4
baz=221
L20K Farewell, AK 88.73 17 P **P** 20 49 39.7 +0.8
baz=215
SUA Susitna One 88.79 18 P **P** 20 49 38.6 -0.7
baz=218
RC01 Rabbit Creek A 88.80 19 P **P** 20 49 40.2 +1.0
baz=218
J18K Innoko River 88.84 15 P **P** 20 49 40.7 +1.4
baz=212
BILL Bilibino 89.10 359 P **P** 20 49 40.9 +0.4
BILL Bilibino 89.10 359 *e*P **P** 20 49 40.1 -0.4
BILL pmax pmax
comp=Z,50nm,1.7s
ORV Oroville 89.14 47 P **P** 20 49 41.6 +0.2
ORV IAmb IAmb 20 49 43.7
comp=Z,17nm,1.6s
ORV Oroville 89.14 47 P **P** 20 49 41.6 +0.2
ORV pmax pmax
comp=Z,17nm,1.6s
AFDM Forest Hills D 89.22 47 P **P** 20 49 41.7 -0.1
AFDM IAmb IAmb 20 49 43.3
comp=Z,16nm,1.5s
G16K Koyuk River 89.31 12 P **P** 20 49 43.5 +2.0
baz=207
PMR Palmer 89.37 19 P **P** 20 49 42.6 +0.8
baz=219
H17K Granite Mounta 89.39 13 P **P** 20 49 42.8 +0.9
baz=209
YBH Yreka Blue Hor 89.40 44 LR LR 21 21 23.2
comp=Z,76nm,21.3s,baz=266,slow=30
K20K Telida 89.41 16 P **P** 20 49 42.6 +0.5
baz=215
KNK Knik Glacier 89.44 19 P **P** 20 49 42.7 +0.4
baz=220
GLI Glacier Island 89.46 20 P **P** 20 49 44.1 +1.8
baz=221
ISA Isabella, Lake 89.47 51 P **P** 20 49 42.7 -0.4
ISA IAmb IAmb 20 49 45.5
comp=Z,11nm,1.1s
ISA Isabella, Lake 89.47 51 P **P** 20 49 43.5 +0.4
baz=243,SNR=5.0
ISA Isabella, Lake 89.47 51 P **P** 20 49 42.7 -0.4
ISA pmax pmax
comp=Z,11nm,1.2s
EDW2 Edwards Air Fo 89.47 52 P **P** 20 49 43.4 +0.4
baz=243
EYAK Cordova Ski Ar 89.65 21 P **P** 20 49 44.2 +1.0
baz=222
HUMO Hull Mountain 89.67 43 P **P** 20 49 43.9 +0.1
HUMO IAmb IAmb 20 49 46.0
comp=Z,26nm,1.7s
G17K Kiwalik Mounta 89.74 12 P **P** 20 49 44.1 +0.6
baz=209
MONP2 Monument Peak 89.77 54 P **P** 20 49 44.5 -0.2
baz=244
LSA Lhasa 89.87 302 P **P** 20 49 45.3 -0.3
LSA Lhasa 89.87 302 P **P** 20 49 45.3 -0.3
LSA pmax pmax
comp=Z,5.0nm,0.7s
GCSA Galena City Sc 89.89 14 P **P** 20 49 42.4 -1.8
baz=212
IKP In-Ko-Pah, Jac 89.91 55 P **P** 20 49 44.3 -0.9
baz=244
H18K Honhosa River 89.91 13 P **P** 20 49 42.5 -1.9
baz=211
M23K Glacier View 89.95 19 P **P** 20 49 42.4 -2.3
baz=220
LRMC Laurel Mtn Rad 89.96 52 P **P** 20 49 45.2 -0.3
baz=244
CAST Castle Rocks 89.98 17 P **P** 20 49 43.3 -1.4
CAST IAmb IAmb 20 49 44.0
comp=Z,7.5nm,0.8s
CAST Castle Rocks 89.98 17 P **P** 20 49 43.6 -1.1
baz=216
BBRC Big Bear Solar 89.99 53 P **P** 20 49 44.2 -1.5
baz=244
PFO Pinyon Flats O 90.05 54 P **P** 20 49 42.4 -3.6
baz=244
TPFO Pinon Flats 90.06 54 P P 20 49 41.8 -4.1
baz=244
J20K Nowinta River 90.07 15 P **P** 20 49 44.8 -0.3
baz=215
WAKR Walker 90.07 48 P **P** 20 49 45.8 -0.2
CWC Cottonwood Cre 90.10 51 P **P** 20 49 45.6 -0.5
baz=243
CHUM Lake Minchumin 90.29 16 P **P** 20 49 45.9 -0.3
baz=216
BMRM Bremner River 90.34 21 P **P** 20 49 48.2 +1.7
baz=223
MPMC Manual Prospec 90.36 51 P **P** 20 49 47.7 +0.3
baz=244,SNR=6.3
PALK Pallekele 90.38 278 LR LR 21 34 23.6
comp=Z,52nm,18.1s,baz=234,slow=38
F17K Baldwin Pennin 90.45 12 P **P** 20 49 47.7 +0.9
baz=208
G18K Tagagawik 90.49 13 P **P** 20 49 47.6 +0.5
baz=211
TRF Thorofare Moun 90.49 17 P **P** 20 49 47.3 0.0
baz=218
WAT1 Susitna Watana 90.50 18 P **P** 20 49 47.4 +0.1
baz=220
GSC Goldstone, Bar 90.53 52 P **P** 20 49 48.6 +0.6
baz=244
WAT6 Susitna Watana 90.55 19 P **P** 20 49 47.6 0.0
baz=220
BELC Belle Mtn. Jos 90.57 54 P **P** 20 49 48.0 -0.4
baz=244
DSP Deep Springs 90.59 50 P **P** 20 49 48.4 +0.3
H19K Roundabout Mou 90.65 14 P **P** 20 49 47.8 0.0
baz=212
PAHR Pah Rah Range 90.66 47 P **P** 20 49 48.8 +0.2
HEC Hector,Ludlow 90.67 53 P **P** 20 49 47.4 -1.3
baz=244
MESA MESA 90.68 22 P **P** 20 49 47.6 -0.7
baz=225
BPAW Bear Paw Mtn. 90.82 17 P **P** 20 49 49.4 +0.7
baz=217
NVAR Mina Array Bea 90.83 49 P **P** 20 49 49.6 0.0
comp=Z,3.3nm,0.7s,baz=228,slow=8.1,SNR=21
NVAR LR LR 21 22 03.3
comp=Z,81nm,21.9s,baz=256,slow=30
comp=Z,3.3nm,0.7s
BC3 Big Chuckawall 90.83 54 P **P** 20 49 49.2 -0.3
baz=245
RND Reindeer 90.86 18 P **P** 20 49 47.7 -1.2
RND IAmb IAmb 20 51 43.4
comp=Z,18nm,1.5s
RND Reindeer 90.86 18 P **P** 20 49 47.7 -1.2
RND pmax pmax
comp=Z,18nm,1.5s
F18K Selawik 90.90 12 P **P** 20 49 50.3 +1.4
baz=210
E17K Hotham Inlet 90.91 11 P **P** 20 49 50.0 +1.1
baz=208,SNR=5.0
NV11 Mina Array Sit 90.94 49 P **P** 20 49 49.9 -0.1
H20K Anotleneega Mo 90.98 14 P **P** 20 49 50.1 +0.8
baz=214
FURC Furnace Creek, 90.99 51 P **P** 20 49 50.5 +0.5
baz=244
G19K Purcell Mounta 91.03 13 P **P** 20 49 49.9 +0.4
G19K Purcell Mounta 91.03 13 P **P** 20 49 50.5 +0.9
baz=212,SNR=5.1

DHY Denali Highway 91.04 19 P **P** 20 49 49.8 0.0
baz=221
GLA Glamis 91.05 55 P **P** 20 49 51.0 +0.5
baz=245
MCK McKinley 91.09 18 P **P** 20 49 50.3 +0.4
baz=219
J05D Fort Rock, OR 91.10 44 P **P** 20 49 50.3 -0.3
J05D IAmb IAmb 20 49 53.0
comp=Z,13nm,1.0s
GMRC Granite Mounta 91.15 53 P **P** 20 49 49.9 -1.1
baz=245
CRAG Craig 91.16 29 P **P** 20 49 51.9 +1.6
baz=233
SIT Sitka 91.18 27 P **P** 20 49 51.8 +1.4
baz=231
HARP HAARP 91.21 20 P **P** 20 49 51.7 +1.2
baz=223
D17K Noatak River 91.24 11 P **P** 20 49 52.1 +1.7
baz=206
KVN Kaiserville 91.25 48 P **P** 20 49 51.3 -0.2
KVN Kaiserville 91.25 48 P **P** 20 49 51.3 -0.2
KVN pmax pmax
comp=Z,4.0nm,0.8s
PNL Peninsula 91.26 24 P **P** 20 49 51.3 +0.5
baz=228
IRM Iron Mountain 91.28 54 P **P** 20 49 52.1 +0.6
baz=245
S31K Pelican 91.38 26 P **P** 20 49 52.1 +0.9
baz=230
I21K Tanana 91.43 16 P **P** 20 49 51.2 -0.1
I21K IAmb IAmb 20 49 52.3
comp=Z,6.0nm,0.8s
I21K Tanana 91.43 16 P **P** 20 49 51.6 +0.2
baz=217
TPH Tonopah 91.44 50 P **P** 20 49 52.1 -0.3
TPH Tonopah 91.44 50 P **P** 20 49 52.1 -0.3
TPH pmax pmax
comp=Z,57nm,1.6s
E18K Tukpahlearik C 91.44 12 P **P** 20 49 52.5 +1.1
baz=209
CTG Chitna Glacier 91.45 22 P **P** 20 49 51.7 -0.1
baz=226
ZAK Zakamensk 91.46 325 *e*P **P** 20 49 51.9 -0.1
ZAK pmax pmax
comp=Z,6.0nm,1.3s
F19K Shaleruckik Mo 91.48 13 P **P** 20 49 52.7 +1.1
baz=211
U33K Whale Pass 91.56 29 P **P** 20 49 50.0 -2.2
baz=233
RDOG Red Dog Mine 91.59 10 P **P** 20 49 51.8 -0.3
baz=207
H21K Melozitna Rive 91.61 15 P **P** 20 49 53.0 +0.7
baz=216
MLY Manley 91.63 16 P **P** 20 49 52.3 -0.1
baz=218
IMAR Indian Mountai 91.65 15 P **P** 20 49 52.7 +0.2
O28M Mount Upton 91.72 23 P **P** 20 49 52.9 -0.3
baz=227
NEA2 Nenana 91.73 17 P **P** 20 49 52.7 -0.1
baz=219
S32K Killisnoo 91.76 27 P **P** 20 49 53.6 +0.6
baz=232
V35K Ketchikan 91.77 30 P **P** 20 49 53.6 +0.5
baz=234
P29M Windy Craggy 91.87 24 P **P** 20 49 53.9 +0.2
baz=229
M26K Nabesna, AK 91.91 20 P **P** 20 49 53.8 0.0
baz=224
C17K DeLong Mountai 91.92 10 P **P** 20 49 54.7 +1.1
baz=206
I23K Minto, Yukon-K 92.08 17 P **P** 20 49 54.6 +0.2
baz=219
WRAK Wrangell Islan 92.08 29 P **P** 20 49 55.1 +0.5
baz=233
F20K Avaraart Lake 92.09 13 P **P** 20 49 55.5 +1.1
baz=213,SNR=7.5
E19K Redstone River 92.12 13 P **P** 20 49 55.4 +0.8
baz=212
G21K Allakaket 92.15 14 P **P** 20 49 54.7 -0.1
baz=215
H22K Ishtalitna Cre 92.15 15 P **P** 20 49 54.4 -0.4
baz=217
214A Organ Pipe Nat 92.16 57 P **P** 20 49 53.9 -1.7
baz=246
HDA Harding Lake 92.18 18 P **P** 20 49 54.2 -0.7
baz=221
YUK8 Steele Glacier 92.23 22 P **P** 20 49 55.5 0.0
baz=227
MDM Murphy Dome 92.24 17 P **P** 20 49 53.8 -1.4
L26K Log Cabin Wild 92.24 20 P **P** 20 49 55.6 +0.3
baz=224
M27K Edge Creek, AK 92.24 21 P **P** 20 49 56.1 +0.7
baz=225
PLBC Pleasant Camp 92.29 25 P **P** 20 49 56.3 +0.8
baz=230
YUK3 Moose Creek 92.32 22 P **P** 20 49 55.9 +0.1
baz=227
WVOR Wild Horse Val 92.40 45 P **P** 20 49 56.1 -0.5
WVOR Wild Horse Val 92.40 45 P **P** 20 49 56.1 -0.5
WVOR pmax pmax
comp=Z,4.0nm,0.9s
C18K Utukok River 92.41 11 P **P** 20 49 57.0 +1.0
baz=208,SNR=5.4
ILAR Eielson Array 92.47 18 P **P** 20 49 55.0 -1.2
comp=Z,2.4nm,0.8s,baz=239,slow=5.5,SNR=18
ILAR LR LR 21 26 04.9
comp=Z,47nm,18.7s,baz=251,slow=32
comp=Z,2.4nm,0.8s
P30M Million Dollar 92.49 24 P **P** 20 49 56.4 -0.1
baz=230
YUK6 Outpost Mounta 92.50 23 P **P** 20 49 57.0 +0.3
baz=228
YUK4 Talbot Arm 92.67 23 P **P** 20 49 58.0 +0.5
baz=228
SKAG Skagway 92.70 25 P **P** 20 49 58.2 +0.8
baz=231
R11B Troy Canyon, C 92.72 50 P **P** 20 49 58.8 +0.5
baz=245
SCRK Sand Creek 92.73 19 P **P** 20 49 57.6 -0.1
baz=224
F21K Alatna River 92.73 14 P **P** 20 49 57.7 +0.3
baz=215,SNR=9.7
HYT Haines Junctio 92.74 23 P **P** 20 49 57.6 -0.2
baz=229
L27K Beaver Creek, 92.75 20 P **P** 20 49 57.7 0.0
baz=226
J25K Salcha River, 92.78 18 P **P** 20 49 57.8 0.0
baz=222
D19K Kuna River 92.84 12 P **P** 20 49 58.1 +0.2
baz=211
J08A Circle Bar Ran 92.92 44 P **P** 20 49 58.9 -0.1
J08A IAmb IAmb 20 50 00.4
comp=Z,7.6nm,1.2s
G22K Bettles 92.94 15 P **P** 20 49 58.9 +0.5
baz=217,SNR=11
B18K Kokolik River 92.95 10 P **P** 20 49 59.4 +1.1
baz=208
H24K Noodor Dome 93.01 17 P **P** 20 50 00.2 +1.4
baz=220
E20K Nigu River 93.02 13 P **P** 20 50 00.5 +1.8
baz=213
C19K Lookout Ridge 93.10 11 P **P** 20 50 01.4 +2.3
baz=210,SNR=5.4
G23K Bananza Creek 93.14 15 P **P** 20 49 60.0 +0.7
baz=218
O30N Mendenhall 93.23 24 P **P** 20 49 59.6 -0.3
baz=230
J26L Joseph Creek 93.24 19 P **P** 20 50 00.2 +0.2
baz=224
F22K John River 93.26 14 P **P** 20 50 00.5 +0.6
baz=216,SNR=11
N30M Aishikik Lake 93.31 23 P **P** 20 49 59.4 -0.9
baz=230
D20K Etivluk River 93.32 12 P **P** 20 50 00.8 +0.7
baz=212
T35M Bob Quinn 93.35 29 P **P** 20 50 00.9 +0.4
baz=235
K27K Chicken 93.36 20 P **P** 20 50 00.7 +0.4
baz=225
PRP Porcupine Dome 93.41 18 P **P** 20 50 00.7 -0.1
baz=222
P32M Atlin 93.42 26 P **P** 20 50 01.5 +0.7
baz=232
M29M Somme Creek 93.47 22 P **P** 20 50 00.6 -0.4
baz=228
COLD Coldfoot 93.50 15 P **P** 20 50 02.2 +1.2
baz=218
WHY Whitehorse 93.63 24 P **P** 20 50 01.6 -0.2

baz=231
G24K **Hadweenzic Riv** 93.77 16 P P 20 50 01.8 -0.4
baz=221
N31M **Braeburn, Yuko** 93.81 23 P P 20 50 01.4 -1.1
baz=231
A19K **Wainwright** 93.81 10 P P 20 50 02.8 +0.5
baz=208
TUC **Tucson** 93.88 57 P P 20 50 04.8 +1.1
baz=247
H25L **Birch Creek** 93.89 17 P P 20 50 03.1 +0.4
baz=222
I26K **Coal Creek Min** 93.94 18 P P 20 50 03.6 +0.6
baz=224
L29M **L29M** 94.02 22 P P 20 50 03.7 +0.2
baz=229
C21K **Knifeblade Rid** 94.05 12 P P 20 50 04.8 +1.4
baz=214,SNR=9.9
P33M **Teslin, Yukon** 94.16 25 P P 20 50 04.3 +0.1
baz=233
EGAK **Eagle** 94.17 19 P P 20 50 03.6 -0.4
EGAK **Eagle** 94.17 19 P P 20 50 03.6 -0.4
baz=226
G25K **Bearman Lake** 94.18 17 P P 20 50 04.7 +0.7
baz=222
D22K **Ayikyak River** 94.26 13 P P 20 50 05.7 +1.3
baz=216,SNR=11
DLBC **Dease Lake** 94.28 28 P P 20 50 04.6 -0.2
baz=235
DLBC **Dease Lake** 94.28 28 LR LR 21 22 56.1
comp=Z,63nm,21.5s,baz=222,slow=29
E23K **Chandalar** 94.29 15 P P 20 50 05.0 +0.3
baz=219
F24K **Squaw Lake** 94.29 15 P P 20 50 05.4 +0.7
baz=220,SNR=8.9
B20K **Meade River** 94.31 11 P P 20 50 05.5 +1.0
baz=212,SNR=6.5
R33M **Jennings River** 94.43 27 P P 20 50 06.4 +0.8
baz=235
B21K **Ikpikpuk River** 94.47 12 P P 20 50 06.3 +1.0
baz=214,SNR=11
E24K **Your Creek** 94.57 15 P P 20 50 06.5 +0.6
baz=220
I27K **Kandik River** 94.60 19 P P 20 50 06.4 +0.2
baz=226
N32M **Quiet Lake** 94.62 25 P P 20 50 05.6 -0.7
baz=233
WUAZ **Wupatki** 94.66 54 P P 20 50 06.5 -0.8
baz=247
K29M **Barlow Dome** 94.71 21 P P 20 50 06.0 -0.7
baz=229
TOLK **Toolik Lake Re** 94.76 14 P P 20 50 06.8 0.0
TOLK IAmb IAmb 20 50 07.8
comp=Z,4.0nm,0.7s
TOLK **Toolik Lake Re** 94.76 14 P P 20 50 07.1 +0.4
baz=219,SNR=5.5
D23K **Nanushuk River** 94.76 14 P P 20 50 07.9 +1.2
baz=218
J29N **Klondike Camp** 94.88 20 P P 20 50 07.6 +0.2
baz=229
F25K **Christian Rive** 94.92 16 P P 20 50 08.6 +1.0
baz=222,SNR=5.3
G26K **Porcupine Rive** 94.94 17 P P 20 50 08.3 +0.8
baz=224,SNR=12
I28M **Miner Creek** 95.00 19 P P 20 50 07.7 -0.4
baz=227
H27K **Steamboat Moun** 95.07 18 P P 20 50 08.7 +0.5
baz=226
BMAR **Burnt Mountain** 95.08 16 P P 20 50 08.9 +0.7
MAYO **Mayo, Yukon** 95.11 22 P P 20 50 09.2 +0.8
baz=231
B22K **Teshekpuk Lake** 95.30 12 P P 20 50 09.5 +0.5
baz=215
D24K **Happy Valley** 95.33 14 P P 20 50 10.5 +1.2
baz=220
E25K **Arctic Village** 95.33 16 P P 20 50 10.2 +0.9
baz=222,SNR=5.3
F26K **Sheenjek River** 95.39 16 P P 20 50 08.8 -0.8
baz=224
DUG **Dugway, Tooele** 95.44 49 P P 20 50 09.3 -1.4
baz=247
G27K **Doyon Strip** 95.44 18 P P 20 50 09.1 -0.8
baz=226
C23K **Ikkillik River** 95.47 13 P P 20 50 10.9 +1.0
baz=218,SNR=14
A22K **Sinclair Lake** 95.55 11 P P 20 50 09.6 -0.6
baz=214
J30M **Hart River** 95.58 21 P P 20 50 10.8 +0.1
baz=230
HLID **Hailey** 95.69 45 P P 20 50 11.0 -0.8
baz=246
C24K **Franklin Bluff** 95.80 14 P P 20 50 12.3 +0.9
baz=220
NEW **Newport** 95.92 40 P P 20 50 11.1 -1.5
baz=245
NEW **Newport** 95.92 40 LR LR 21 24 56.4
comp=Z,36nm,20.7s,baz=273,slow=30
I30M **Mount Dempster** 95.98 20 P P 20 50 12.5 0.0
baz=230,SNR=11
H29M **Whitestone** 96.00 19 P P 20 50 11.6 -0.8
baz=229
D25K **Kavik River** 96.03 15 P P 20 50 12.7 +0.1
baz=222,SNR=7.5
MMPY **Sheldon Lake,** 96.19 24 P P 20 50 13.8 +0.3
baz=235
121A **Cookes Peak, D** 96.31 58 P P 20 50 13.4 -1.5
baz=249
E27K **Coleen River** 96.41 17 P P 20 50 15.0 +0.7
baz=226,SNR=9.1
F28M **Old Crow** 96.50 18 P P 20 50 14.9 +0.2
baz=228,SNR=6.0
G29M **Pine Creek** 96.56 19 P P 20 50 15.1 +0.1
baz=229,SNR=6.5
TIXI **Tiksi** 96.58 348 LR LR 21 32 22.3
comp=Z,236nm,18.3s,baz=178,slow=34
TIXI **Tiksi** 96.58 348 *ce*P P 20 50 14.3 -0.6
TIXI pmax pmax
comp=Z,5.0nm,1.5s
EPYK **Eagle Plains** 96.61 19 P P 20 50 14.9 -0.3
EPYK **Eagle Plains** 96.61 19 P P 20 50 14.9 -0.3
baz=230,SNR=7.8
TOAD **Toad River Com** 96.62 29 P P 20 50 15.4 -0.1
baz=239
C26K **Camden Bay** 96.81 15 P P 20 50 15.2 -0.8
baz=223,SNR=18
C27K **Jago River** 96.89 15 P P 20 50 15.6 -0.8
baz=224,SNR=12
H31M **Peel River** 97.01 20 P P 20 50 15.0 -2.0
baz=232
G30M **tAoh Zraii Nji** 97.15 19 P P 20 50 17.6 -0.1
baz=231,SNR=17
E28M **Babbage River** 97.26 17 P P 20 50 18.4 +0.3
baz=228,SNR=17
D27M **Malcolm River** 97.31 16 P P 20 50 19.1 +0.7
baz=227,SNR=9.5
E29M **Blow River** 97.57 18 P P 20 50 18.3 -1.2
baz=229
F30M **Barrier River** 97.68 19 P P 20 50 19.4 -0.7
baz=231,SNR=5.8
G31M **Satah River** 97.72 20 P P 20 50 20.1 -0.1
baz=232,SNR=6.7
D28M **Stokes Point** 97.96 17 P P 20 50 20.3 -0.8
baz=229,SNR=5.8
WMQ **Urumqi** 98.00 314 *e*P Pdif 20 50 23.2 +1.1
F31M **Tsiigehtchic** 98.20 19 P P 20 50 22.2 -0.1
baz=233,SNR=9.7
ANMO **Albuquerque** 98.20 56 LR LR 21 27 27.2
comp=Z,45nm,19.6s,baz=321,slow=31
TXAR **Lajitas Array** 98.53 62 P P 20 50 24.9 0.0
comp=Z,0.1nm,0.6s,baz=224,slow=3.8,SNR=1.9
comp=Z,0.1nm,0.6s
BW06 **Boulder Array** 98.67 48 P P 20 50 24.3 -1.1
baz=249
PDAR **Pinedale Array** 98.67 48 P P 20 50 24.2 -1.2
comp=Z,0.2nm,0.6s,baz=152,slow=4.1,SNR=2.4
comp=Z,0.2nm,0.6s
INK **Inuvik** 98.78 19 P 20 50 24.1 -0.8
INK IAmb IAmb 20 50 25.2
comp=Z,5.2nm,1.1s
INK **Inuvik** 98.78 19 P P 20 50 24.2 -0.7
baz=233,SNR=6.2
INK **Inuvik** 98.78 19 P P 20 50 24.1 -0.8
INK pmax pmax
comp=Z,5.0nm,1.1s
C36M **Paulatuk** 102.24 20 P Pdif 20 50 39.2 -1.0
baz=242
MKAR **Makanchi Array** 102.59 315 P Pdif 20 50 42.2 -0.2
comp=Z,0.7nm,0.8s,baz=104,slow=7.6,SNR=3.8
ABTX **Abilene, Hawle** 102.84 60 P Pdif 20 50 43.9 0.0
baz=253
RSSD **Black Hills** 102.91 48 P Pdif 20 50 44.9 +0.8
baz=253
YKA **Yellowknife Ar** 102.91 28 P Pdif 20 50 43.3 -0.1
comp=Z,0.8nm,0.7s,baz=264,slow=4.9,SNR=14
A36M **Sachs Harbour** 103.16 17 P Pdif 20 50 44.1 -0.2
baz=241
OGNE **Ogallala** 103.41 51 P Pdif 20 50 45.2 -1.1
baz=253
435B **Jarrell** 103.99 62 P Pdif 20 50 48.4 -0.6
baz=253
DGMT **Dagmar** 104.05 43 P Pdif 20 50 50.0 +1.1
baz=254
WHTX **Lake Whitney,** 104.43 61 P Pdif 20 50 51.2 +0.3
baz=254
KURBB **Kurchatov Arra** 106.03 318 PP PP 20 55 18.8 -2.7
comp=Z,1.0nm,0.9s,baz=106,slow=7.6,SNR=6.7
BGNE **Belgrade** 106.36 51 P PKiKP 20 55 11.3 +0.7
baz=256
ECSD **EROS Data Cent** 107.99 49 P PKiKP 20 55 12.7 -0.8
baz=258
MIAR **Mount Ida** 108.23 59 P PKiKP 20 55 12.9 -1.4
baz=256
CCM **Cathedral Cave** 110.82 56 P PKiKP 20 55 16.7 -2.4
baz=259
BVAR **Borovoye Array** 111.44 320 PKiKP PKiKP 20 55 19.0 -0.7
comp=Z,1.5nm,0.8s,baz=169,slow=0.7,SNR=7.2
BVAR PP PP 20 55 58.5 -2.3
comp=Z,0.8nm,0.8s,baz=108,slow=9.5,SNR=3.7
EYMN **Ely** 112.25 46 P PKiKP 20 55 21.3 -0.2
baz=262
JFWS **Jewell Farm** 112.41 51 P PKiKP 20 55 20.5 -1.4
baz=261
LRAL **Lakeview Retre** 113.26 62 P PKiKP 20 55 24.2 +0.4
baz=259
SFIN **Lafayette** 114.38 54 P PKPdf 20 55 24.5 -1.2
baz=262
WCI **Wyandotte Cave** 114.70 57 P PKPdf 20 55 24.9 -1.6
baz=262
O48B **Farmland** 115.84 55 P PKPdf 20 55 26.5 -2.1
baz=263
P49A **Miami Univ. Ec** 116.09 55 P PKPdf 20 55 27.8 -1.3
baz=263
GOGA **Godfrey** 116.24 62 P PKPdf 20 55 29.7 +0.1
baz=261
TZTN **Tazewell** 116.63 59 P PKPdf 20 55 30.4 +0.2
baz=262
ABKAR **Akbulak array** 117.73 315 PKPdf 20 55 31.5 -0.4
ARU **Arti** 118.39 324 *i* PKiKP PKPdf 20 55 32.3 -0.6
ARU 20 56 47.3
ARU 21 02 44.5
ARU SS SS 21 12 59.2 -6.8
GEYT **Alibeck** 118.40 302 PKP PKPdf 20 55 33.2 -0.4
comp=Z,1.0nm,0.5s,baz=69,slow=4.9,SNR=6.3
BLA **Blacksburg** 119.20 58 P PKPdf 20 55 34.0 -1.2
baz=264
M53A **WI Miller and** 119.33 54 P PKPdf 20 55 33.7 -1.6
baz=267
MCWV **Mont Chateau** 119.85 56 P PKPdf 20 55 34.7 -1.6
baz=266
SPITS **Spitsbergen Ar** 121.55 353 PKP PKPdf 20 55 38.0 -0.6
comp=Z,9.5nm,0.8s,baz=21,slow=5.6,SNR=5.2
SPITS **Spitsbergen Ar** 121.55 353 PKiKP PKPdf 20 55 38.0 -0.6
BINY **Binghamton** 122.85 53 P PKPdf 20 55 41.2 -0.8
baz=270
KIRV **Kirov** 122.94 327 *i* PKiKP PKPdf 20 55 40.5 -1.1
LONY **Lake Ozonia** 123.82 50 P PKPdf 20 55 43.6 -0.2
baz=273
PAL **Palisades** 124.42 54 P PKPdf 20 55 43.9 -1.1
baz=271
BELG **Belogornoye** 125.25 320 *i* PKiKP PKPdf 20 55 44.4 -1.8
L61B **Northampton** 125.30 52 P PKPdf 20 55 43.7 -3.0
baz=272
LBNH **Lisbon** 125.74 50 P PKPdf 20 55 45.1 -2.4
baz=274
LKRN **Lenkeran, Azer** 125.77 303 PKiKP PKPdf 20 55 47.9 +0.2
HRV **Adam Dziewonsk** 126.12 52 P PKPdf 20 55 46.9 -1.4
baz=273
ARCES **ARCESS Array B** 126.83 345 PKP PKPdf 20 55 48.6 -0.2
comp=Z,2.6nm,0.5s,baz=70,slow=1.2,SNR=33
SEKA **Sheki** 126.91 306 PKiKP PKPdf 20 55 50.0 +0.1
MNGR **Mingechevir, A** 127.02 306 PKiKP PKPdf 20 55 50.3 +0.3
SCHQ **Schefferville** 127.10 37 PKP PKPdf 20 55 49.5 -0.3
comp=Z,3.2nm,1.1s,baz=290,slow=15,SNR=1.6
ZKTA **Zakatala** 127.32 307 PKiKP PKPdf 20 55 50.9 +0.3
RAYN **Ar Rayn** 127.37 284 PKPdf PKPdf 20 55 51.0 -0.3
RAYN **Ar Rayn** 127.37 284 PKiKP PKPdf 20 55 51.0 -0.3
GANJ **Ganja** 127.60 305 PKiKP PKPdf 20 55 51.5 +0.3
NAX **Nakhchivan** 128.32 304 PKiKP PKPdf 20 55 52.8 +0.1
GNI **Garni** 128.84 305 *ce*PKiKP PKPdf 20 55 52.8 -0.9
GNI pmax pmax
comp=Z,12nm,2.5s
KBZ **Khabaz** 129.83 310 PKP PKiKP 20 55 56.5 +0.5
comp=Z,1.6nm,0.9s,baz=149,slow=5.9,SNR=4.7
KBZ **Khabaz** 129.83 310 *i* PKiKP PKPdf 20 55 56.2 +1.0
KIV **Kislovodsk** 129.95 310 *i* PKiKP PKPdf 20 55 51.4 -4.2
KIV pmax pmax
comp=Z,2.0nm,1.0s
ERBR **Yeremizino-Bor** 131.18 313 *i* PKiKP PKiKP 20 55 59.7 +1.0
ERBR pmax pmax
comp=Z,23nm,1.8s
FINES **FINESS Array B** 132.15 337 PKP PKPdf 20 55 59.2 +0.1
comp=Z,1.9nm,0.9s,baz=57,slow=2.5,SNR=10
ARPR **Arapgir-MALATY** 133.87 304 PKPdf PKPdf 20 56 03.1 -0.2
AKASG **Malin Array Be** 136.63 323 PKP PKPdf 20 56 07.3 -0.5
comp=Z,1.4nm,0.7s,baz=65,slow=1.8,SNR=4.6
AKBB **Malin Array Si** 136.63 323 *i* PKiKP PKiKP 20 56 10.0 +0.4
MMAI **Mount Meron Ar** 136.82 296 PKP PKPdf 20 56 08.8 -0.1
comp=Z,3.8nm,0.8s,baz=94,slow=6.1,SNR=3.2
NOA **NORSAR Array B** 137.20 344 PKP PKPdf 20 56 09.4 +0.8
comp=Z,0.6nm,0.7s,baz=37,slow=2.2,SNR=3.2
HFS **Hagfors** 137.26 342 PKP PKPdf 20 56 09.3 +0.6
comp=Z,1.0nm,0.7s,baz=61,slow=9.2,SNR=4.5
BRTR **Keskin Array B** 137.35 306 PKP PKPdf 20 56 08.6 -1.2
comp=Z,1.2nm,1.0s,baz=141,slow=4.1,SNR=7.0
BRTR PP PP 20 58 56.5 +1.3
comp=Z,0.8nm,1.0s,baz=116,slow=6.6,SNR=3.9
KOLS **Kolonicke sedl** 141.41 324 *e*PKP PKPdf 20 56 14.6 -2.1
KOLS **Kolonicke sedl** 141.41 324 *e*PKiKP PKPdf 20 56 14.6 -2.1
MORC **Moravsky Berou** 143.38 328 *e*PKP PKPdf 20 56 19.9 -0.3
VYHS **Vyhne** 143.52 325 *e*PKP PKPbc 20 56 18.4 +0.7
VYHS **Vyhne** 143.52 325 *e*PKiKP PKPbc 20 56 18.4 +0.7
CHVC **Chvalec** 143.55 330 *e*PKP PKPbc 20 56 18.4 +0.6
CHVC **Chvalec** 143.55 330 *e*PKiKP PKPbc 20 56 18.4 +0.6
DPC **Dobruska-Polom** 143.59 330 *e*PKP PKPbc 20 56 18.5 +0.6
DPC **Dobruska-Polom** 143.59 330 *e*PKiKP PKPbc 20 56 18.5 +0.6
JAVC **Velka Javorina** 143.90 327 *e*PKP PKPbc 20 56 20.8 +1.9
VRAC **Vranov** 144.15 328 *e*PKP PKPbc 20 56 20.4 +0.8
BRG **Berggiesshubel** 144.31 332 *i* PKP PKPbc 20 56 20.7 +0.7
BRG Amp 20 56 21.6
comp=Z,13nm,1.2s
BRG **Berggiesshubel** 144.31 332 P PKiKP 20 56 28.8 +3.5
BRG Amp 20 56 31.6
comp=Z,6.7nm,1.1s
BRG **Berggiesshubel** 144.31 332 *i* PKiKP PKPbc 20 56 20.7 +0.7
BRG 20 56 28.8
BRG pmax pmax
comp=Z,13nm,1.2s
CLL **Collm** 144.39 333 PKPdf PKPab 20 56 20.0 0.0
CLL **Collm** 144.39 333 *i* PKPbc PKPab 20 56 19.8 -0.2
comp=Z,8.0nm,0.9s
CLL *i* PKiKP pPKPdf 20 56 25.3 +0.8
CLL **Collm** 144.39 333 *i* PKiKP PKPab 20 56 19.8 -0.2
CLL *i* 20 56 25.3
CLL pmax pmax
comp=Z,8.0nm,0.9s
MODS **Modra-Piesok** 144.41 326 *e*PKP PKPbc 20 56 21.8 +1.4
MODS **Modra-Piesok** 144.41 326 *e*PKiKP PKPbc 20 56 21.8 +1.4
KRUC **Moravsky** 144.41 328 *e*PKP PKPab 20 56 20.9 +0.8
PRU **Pruhonice** 144.67 330 *e*PKP PKPab 20 56 21.7 +0.7
PRU **Pruhonice** 144.67 330 *e*PKiKP PKPab 20 56 21.7 +0.7
HSKC **Hora Svate Kat** 144.72 332 *e*PKP PKPab 20 56 22.0 +0.7
ZVC **Zvikov** 145.22 330 *e*PKP PKPbc 20 56 23.7 +0.7
RONA **Rosalia, Austr** 145.35 326 *i* PKP PKPdf 20 56 24.5 +0.8
comp=Z,17nm,0.8s,SNR=8.4
SKO **Skopje** 145.38 314 *i* P PKPbc 20 56 24.3 +0.5
CONA **Conrad Observa** 145.42 327 *i* PKP PKPab 20 56 24.8 +0.8
comp=Z,19nm,0.8s,SNR=15
NKC **Novy Kostel** 145.43 332 *e*PKP PKPbc 20 56 24.5 +0.8
NKC **Novy Kostel** 145.43 332 *e*PKiKP PKPbc 20 56 24.5 +0.8
EKA **Eskdalemuir Ar** 145.43 351 PKPbc PKPdf 20 56 23.2 -0.3
comp=Z,3.9nm,0.4s,baz=356,slow=2.5,SNR=62
ESK **Eskdalemuir** 145.45 351 PKPdf PKPdf 20 56 23.3 -0.3
ESK **Eskdalemuir** 145.45 351 PKiKP PKPdf 20 56 23.3 -0.3
CKRC **Cesky Krumlov** 145.59 329 *e*PKP PKPbc 20 56 25.1 +0.9
CKRC **Cesky Krumlov** 145.59 329 *e*PKiKP PKPbc 20 56 25.1 +0.9
KHC **Kasperske Hory** 145.72 330 PKPdf PKPdf 20 56 24.1 -0.2
KHC **Kasperske Hory** 145.72 330 *e*PKP PKPdf 20 56 25.2 +0.9
KHC **Kasperske Hory** 145.72 330 *e*PKiKP PKPdf 20 56 25.2 +0.9
GEC2 **GERESS Array S** 145.86 330 PKPdf 20 56 25.0 +0.3
GERES **GERESS Array B** 145.86 330 PKPdf 20 56 24.9 +0.3
GERES **GERESS Array B** 145.86 330 PKPbc PKPdf 20 56 25.6 +1.0
comp=Z,13nm,0.8s,baz=45,slow=4.0,SNR=43
GERES **GERESS Array B** 145.86 330 PKP2 PKPdf 20 56 24.9 +0.3
FNA **Florina** 145.94 312 PKPdf PKPdf 20 56 24.1 -0.8
FNA **Florina** 145.94 312 PKP2 PKPdf 20 56 24.1 -0.8
AGG **Agios Georgios** 145.95 309 PKPdf 20 56 24.2 -0.8
AGG **Agios Georgios** 145.95 309 PKP2 PKPdf 20 56 24.2 -0.8
ARSA **Arzberg** 146.04 326 *i* PKP PKPbc 20 56 26.3 +0.7
comp=Z,6.1nm,1.1s,SNR=5.3
OHR **Ohrid** 146.19 313 *i* P PKPbc 20 56 26.7 +0.3
MOA **Molln** 146.28 328 *i* PKP PKPbc 20 56 26.7 +0.3
comp=Z,10nm,1.3s
PDG **Podgorica** 146.61 316 PKPdf 20 56 26.1 +0.2
SOKA **Soboth** 146.66 326 *i* PKP PKPbc 20 56 27.6 0.0
comp=Z,9.4nm,1.1s,SNR=5.1
BIOA **Bad Ischl, Aus** 146.70 328 *i* PKP PKPdf 20 56 27.5 +1.6
comp=Z,3.7nm,0.8s
CRES **Cresnjev** 146.98 324 *i* PKPbc PKPbc 20 56 28.9 +0.4
OBKA **Obir** 147.03 326 *i* PKP PKPbc 20 56 28.6 -0.1
comp=Z,5.2nm,1.0s
KBA **Koelnbreinsper** 147.26 328 *i* PKP PKPdf 20 56 28.9 +1.8
comp=Z,5.7nm,0.8s,SNR=6.6
LJU **Ljubljana** 147.34 325 *i* PKPbc PKPbc 20 56 29.8 +0.4
LESA **Schwarzleotal** 147.35 329 *i* PKP PKPbc 20 56 29.4 -0.1
comp=Z,9.6nm,0.7s
MYKA **Terra Mystica** 147.41 327 *i* PKP PKPdf 20 56 29.1 +1.9
comp=Z,4.9nm,0.8s
BTNL **Ternell** 147.59 339 *d*PKP PKPbc 20 56 29.9 -0.1
MEM **Membach** 147.62 339 *d*PKP PKPdf 20 56 29.2 +1.8
BSTI **Sart Tilman** 147.78 339 *d*PKP PKPbc 20 56 31.0 +0.5
SABO **M.te Sabotino** 147.87 326 PKPbc 20 56 30.6 -0.3
ABTA **Abfaltersbach** 147.90 328 *i* PKP PKPbc 20 56 30.7 -0.4
comp=Z,13nm,0.9s
WATA **Walderalm** 147.94 330 *i* PKP PKPbc 20 56 30.9 -0.3
comp=Z,10nm,1.1s
WTTA **Wattenberg** 147.96 329 *i* PKP PKPbc 20 56 31.6 +0.2
comp=Z,16nm,1.2s,SNR=8.9
BCLA **Clavier** 148.01 339 *d*PKP PKPbc 20 56 31.0 -0.1
BGES **Gesves** 148.11 340 *d*PKP PKPbc 20 56 31.2 -0.1
MOTA **Moosalm** 148.15 330 *i* PKP PKPbc 20 56 31.7 -0.1
comp=Z,17nm,1.0s,SNR=8.8
SQTA **Sankt Quirin** 148.20 330 *i* PKP PKPbc 20 56 32.0 +0.1
comp=Z,16nm,0.9s,SNR=6.1
RETA **Reutte** 148.21 331 *i* PKP PKPbc 20 56 32.1 +0.3
comp=Z,4.4nm,0.7s
RCHB **Rochefort** 148.26 339 *d*PKP PKPbc 20 56 31.7 0.0
BMRD **Maredsous** 148.29 340 *d*PKP PKPbc 20 56 31.9 0.0
WLF **Walferdange** 148.36 338 PKPbc 20 56 32.3 +0.2
WLF **Walferdange** 148.36 338 *d*PKP PKPbc 20 56 33.0 +0.9
WLF **Walferdange** 148.36 338 PKP2 PKPbc 20 56 32.3 +0.2
DOU **Dourbes** 148.52 340 *d*PKP PKPbc 20 56 32.6 +0.1
FETA **Feichten** 148.56 330 *i* PKiKP PKPbc 20 56 33.1 +0.2
comp=Z,16nm,1.0s,SNR=6.9
BFO **Black Forest** 148.62 334 PKPdf PKPdf 20 56 28.7 -0.4
BFO **Black Forest** 148.62 334 PKIKP PKPdf 20 56 28.7 -0.4
DAVA **Damuels** 148.76 331 *i* PKiKP PKPbc 20 56 33.6 +0.2
comp=Z,9.1nm,1.1s
CTI **Castel Tesino** 148.82 328 PKPbc 20 56 32.9 -0.6
CTI **Castel Tesino** 148.82 328 PKP2 PKPbc 20 56 32.9 -0.6
FUORN **Ofenpass-Fuorn** 149.08 330 PKPdf 20 56 29.4 -0.8
DAVOX **Davos/Dischmat** 149.14 330 PKPbc PKPbc 20 56 34.5 +0.1
comp=Z,14nm,0.8s,baz=45,slow=4.3,SNR=27
TIP **Timpagrande** 149.83 313 PKPbc 20 56 35.2 -1.0
INTR **Introdacqua** 150.18 320 PKPbc 20 56 36.2 -0.8
SENIN **Lac Senin/Sane** 150.60 333 PKPbc 20 56 37.2 -0.9
BNI **Bardonecchia** 151.90 332 PKPbc 20 56 40.6 -0.4
BNI **Bardonecchia** 151.90 332 PKIKP PKPbc 20 56 40.6 -0.4
VAE **Valguarnera** 152.25 311 PKPab PKPab 20 56 50.2 -1.6
comp=Z,11nm,0.9s,baz=73,slow=12,SNR=5.7
KEST **Kesra** 156.65 312 PKPab PKPab 20 57 09.2 -1.3
comp=Z,3.9nm,0.9s,baz=25,slow=14,SNR=4.1
ESDC **Sonseca Array** 160.54 342 PKPab PKPab 20 57 26.9 -0.2
comp=Z,1.5nm,0.9s,baz=5.9,slow=4.1,SNR=10
TAM **Tamanrasset** 163.96 278 PKPab PKPab 20 57 42.4 -0.5
TAM **Tamanrasset** 163.96 278 PKP2 PKPab 20 57 42.4 -0.5
TORD **Torodi Ar. Bea** 164.85 240 PKP PKPdf 20 56 49.8 -0.9
comp=Z,2.1nm,1.0s,baz=107,slow=1.5,SNR=8.2
TORD PKPab PKPab 20 57 47.3 +0.6
comp=Z,0.6nm,0.9s,baz=142,slow=4.3,SNR=1.8

NEIC ***05*** *20:53:26.4±1.2,54.29N±0.08×163.4W±0.1,h61km±11km, mb3.4/10,ML3.4/10,ML3.2(AEIC),Error ellipse: s-maj=13.7km s-min=5.6km az=148.0*
AEIC ***05*** *20:53:26.6±1.4,54.23N±0.06×163.29W±0.06,h46km±8km, Error ellipse: s-maj=9.6km s-min=3.4km az=153.0*

ISC 05 20:53:26.4±1.2,54.3N±0.1×163.37W±0.06,h65km±12km, n81,σ063/93,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ISLZ	**Isanotski Laza**	**0.46**	**335**		**Pn**	**20 53 37.6**	**-0.8**
ISLZ					**Sn**	**20 53 46.9**	**-0.3**
SSLS	**Shishaldin Sou**	**0.54**	**318**		**Pn**	**20 53 38.6**	**-0.7**
FALS	**False Pass**	**0.54**	**357**		**Pn**	**20 53 38.8**	**-0.4**
FALS				Sn	**Sn**	**20 53 48.7**	**+0.2**
FALS	**False Pass**	**0.54**	**357**	P	**Pn**	**20 53 38.7**	**-0.5**
	baz=175						
FALS				S	**Sn**	**20 53 48.7**	**+0.2**
	baz=175						
ISNN	**Isanotski Nort**	**0.57**	**336**		**Pn**	**20 53 39.3**	**-0.2**
ISNN					**Sn**	**20 53 49.9**	**+0.8**
WESE	**West Dahl East**	**0.73**	**283**		**Pn**	**20 53 40.8**	**-0.5**
WECS	**Westdahl Cape**	**0.85**	**285**		**Pn**	**20 53 42.3**	**-0.4**
WECS					**Sn**	**20 53 55.2**	**+0.4**
WEBT	**Westdahl Beart**	**0.85**	**289**		**Pn**	**20 53 42.3**	**-0.5**
AKSA	**Akutan Strait**	**1.38**	**263**		**Pn**	**20 53 49.5**	**0.0**
AKSA					**Sn**	**20 54 07.6**	**+0.7**
AKSA	**Akutan Strait**	**1.38**	**263**		**Pn**	**20 53 49.4**	**-0.1**
AKSA					**Sn**	**20 54 07.4**	**+0.5**
PVV	**Pavlof Volcano**	**1.40**	**40**		**Pn**	**20 53 50.0**	**+0.2**
PVV					**Sn**	**20 54 09.0**	**+1.5**
AHB	**Akutan Harbor**	**1.45**	**263**		**Pn**	**20 53 50.7**	**+0.2**
PS1A	**Pavlof South-1**	**1.45**	**40**		**Pn**	**20 53 51.1**	**+0.6**
ZRO	**Akutan Zero**	**1.55**	**263**		**Pn**	**20 53 51.4**	**-0.4**
LVA	**Lava Point**	**1.57**	**265**		**Pn**	**20 53 51.9**	**-0.3**
S12K	**Black Hills**	**1.58**	**28**		**Pn**	**20 53 52.1**	**-0.1**
S12K					**Sn**	**20 54 11.6**	**-0.3**
S12K	**Black Hills**	**1.58**	**28**	P	**Pn**	**20 53 52.1**	**-0.1**
	baz=207						
AKRB	**Akutan Reef Bi**	**1.59**	**264**		**Pn**	**20 53 52.3**	**-0.2**
UNV	**Unalaska Valle**	**1.90**	**257**		**Pn**	**20 53 56.2**	**-0.4**
UNV	**Unalaska Valle**	**1.90**	**257**	P	**Pn**	**20 53 56.2**	**-0.4**
	baz=77						
SDPT	**Sand Point**	**1.97**	**57**		**Pn**	**20 53 57.5**	**+0.1**
SDPT				Sn	**Sn**	**20 54 21.1**	**0.0**
SDPT	**Sand Point**	**1.97**	**57**	P	**Pn**	**20 53 57.1**	**-0.4**
	baz=237						
MNAT	**Makushin Natee**	**2.00**	**259**		**Pn**	**20 53 57.3**	**-0.6**
MSW	**Makushin Switc**	**2.05**	**260**		**Pn**	**20 53 57.7**	**-0.9**
S14K	**Fog Glacier**	**2.94**	**46**	P	**Pn**	**20 54 11.4**	**+0.6**
	baz=228						
VNFG	**Fog Glacier, M**	**2.94**	**46**		**Pn**	**20 54 11.8**	**+1.0**
VNFG				Sn	**Sn**	**20 54 45.3**	**+0.3**
VNFG				IAML		20 54 53.5	
	comp=E,217nm,1.3s						
VNFG				IAML		20 55 42.5	
	comp=N,248nm,1.4s						
CHGN	**Chignik**	**3.46**	**53**	Pn	**Pn**	**20 54 18.0**	**+0.2**
CHGN				Sn	**Sn**	**20 54 57.9**	**+0.4**
CHGN				IAML		20 55 08.3	
	comp=E,49nm,0.4s						
CHGN				IAML		20 55 14.3	
	comp=N,52nm,1.1s						
O14K	**Tigyukauivet M**	**5.08**	**12**		**Pn**	**20 54 39.7**	**-0.2**
O14K				IAML		20 55 30.6	
	comp=N,21nm,1.5s						
O14K				IAML		20 56 39.8	
	comp=E,16nm,1.2s						
O15K	**Ungalikthiuk R**	**5.25**	**20**		**Pn**	**20 54 42.1**	**-0.1**
O16K	**Kokwok River B**	**6.03**	**26**		**Pn**	**20 54 52.9**	**+0.1**
M13K	**Dall Lake**	**6.11**	**0**	Pn	**Pn**	**20 54 55.0**	**+1.1**
N15K	**Kwethluk River**	**6.13**	**16**		**Pn**	**20 54 54.6**	**+0.3**
M14K	**Bethel**	**6.50**	**6**		**Pn**	**20 54 59.5**	**+0.3**
M15K	**Kasigluk River**	**6.56**	**12**		**Pn**	**20 54 59.9**	**-0.2**
P18K	**Big Mountain,**	**6.77**	**38**	Pn	**Pn**	**20 55 03.4**	**+0.4**
KDAK	**Kodiak Island**	**6.97**	**56**	Pn	**Pn**	**20 55 05.2**	**-0.5**

L14K	Kuka Creek	7.05	3			Pn	20 55 06.8 -0.1
Q19K	Cape Douglas,	7.08	45	Pn		Pn	20 55 08.2 +0.9
O18K	Koktuh Hills	7.11	35	Pn		Pn	20 55 08.8 +1.1
M16K	Timber Creek	7.13	18			Pn	20 55 07.6 -0.2
SYI	Shuyak Island	7.45	50	Pn		Pn	20 55 12.5 +0.3
N18K	Kilae Creek	7.54	29	Pn		Pn	20 55 12.3 -1.2
K13K	Kusilvak Mount	7.67	355	Pn		Pn	20 55 15.6 +0.4
M17K	Holitna River	7.77	22			Pn	20 55 16.9 +0.2
K15K	Wolf Creek Mou	8.06	6			Pn	20 55 21.0 +0.4
N19K	Bonanza Creek	8.07	33	Pn		Pn	20 55 21.6 +0.8
J14K	Nanvaranak Lak	8.46	359	Pn		Pn	20 55 26.3 +0.3
L18K	Granite Mounta	8.67	21	Pn		Pn	20 55 29.1 +0.2
M19K	Big River Lodg	8.96	28	Pn		Pn	20 55 33.6 +0.7
J16K	Anvik River	9.11	8	Pn		Pn	20 55 35.1 +0.2
M20K	Styx River	9.31	31	Pn		Pn	20 55 38.5 +0.7
J17K	VABM Dome	9.37	12	Pn		Pn	20 55 37.8 -0.7
SUA	Susitna One	9.81	38	Pn		Pn	20 55 44.6 0.0
ANM	Nome	10.33	355	Pn		Pn	20 55 51.6 +0.1
KNK	Knik Glacier	10.64	42	Pn		Pn	20 55 55.6 -0.2
GHO	Glory Hole Cre	10.68	40	Pn		Pn	20 55 56.3 -0.1
J20K	Nowinta River	10.94	22	Pn		Pn	20 55 60.0 0.0
G16K	Koyuk River	11.12	2	Pn		Pn	20 56 02.1 -0.3
KLU	Klutina	11.71	45	Pn		Pn	20 56 08.5 -2.0
M24K	Tolsona, Glenn	11.93	42	Pn		Pn	20 56 13.3 -0.2
IMAR	Indian Mountai	12.62	18	Pn		Pn	20 56 23.0 +0.1
F19K	Shaleruckik Mo	12.85	10	Pn		Pn	20 56 26.2 +0.4
F20K	Avaraart Lake	13.29	13	Pn		Pn	20 56 31.7 -0.2
M26K	Nabesna, AK	13.36	45	Pn		Pn	20 56 32.4 -0.5
J25K	Salcha River,	13.73	34	Pn		Pn	20 56 37.4 -0.4
SCRK	Sand Creek	13.81	38	Pn		Pn	20 56 38.7 -0.3
G23K	Bananza Creek	14.01	22	Pn		Pn	20 56 42.1 +0.6
BCAR	Beaver Creek A	14.17	43	Pn		Pn	20 56 44.4 +0.8
J26L	Joseph Creek	14.27	37	Pn		Pn	20 56 45.6 +0.6
I26K	Coal Creek Min	14.90	34	Pn		Pn	20 56 53.8 +0.7
D22K	Ayikyak River	15.43	15	Pn		Pn	20 57 01.2 +1.4
E24K	Your Creek	15.48	21	Pn		Pn	20 57 01.8 +1.3
B21K	Ikpikpuk River	15.87	11			Pn	20 57 07.0 +1.6
B21K					IAmb	IAmb	20 57 31.4
	comp=Z,3.4nm,1.2s						
BMAR	Burnt Mountain	15.91	27	Pn		Pn	20 57 06.8 +0.8
I28M	Miner Creek	16.08	37	Pn		Pn	20 57 09.0 +0.8
I28M					IAmb	IAmb	20 57 27.5
	comp=Z,5.9nm,1.4s						
E25K	Arctic Village	16.18	24	Pn		Pn	20 57 09.3 0.0
C23K	Itkillik River	16.61	16			Pn	20 57 15.4 +0.8
C23K					IAmb	IAmb	20 57 30.1
	comp=Z,3.0nm,1.2s						
I30M	Mount Dempster	17.27	40	Pn		Pn	20 57 22.3 -0.7
I30M					IAmb	IAmb	20 57 45.7
	comp=Z,3.2nm,1.2s						
G31M	Satah River	18.81	36	P		P	20 57 40.0 -0.4
G31M					IAmb	IAmb	20 57 58.7
	comp=Z,4.1nm,1.4s						
INK	Inuvik	19.74	33	P		P	20 57 49.3 -1.1
INK					IAmb	IAmb	20 58 07.3
	comp=Z,3.4nm,1.5s						
CBB	Campbell River	23.50	85	P		P	20 58 30.3 +0.1

IDC ***05*** *21:02:54.0±0.5, 1°.87N×99°.02E, h119km±4km, mb4.0/25, mbtmp4.3/27, Error ellipse: s-maj=15.0km s-min=10.5km az=56.0*

NEIC ***05*** *21:02:55.7±1.5, 1°.93N±0°.07×98°.97E±0°.05, h130km±6km, mb4.6/75, Error ellipse: s-maj=9.7km s-min=7.6km az=194.0*

DJA ***05*** *21:02:55.2±0.1, 2°N±2°×9°9E±°, h122km±2km, M4.7/24, mB5.3/6, mb4.7/24, MLv4.8/14, Mw(mB)4.7/6*

ISC 05 21:02:54.5±0.4, 1°.93N±0°.04×98°.94E±0°.04, h124km±4km, n179, σ1§19/199, mb4.4/73, 7C-5D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
GSI	Gunungsitoli	1.49	246	P		Pn	21	03	24.3	+2.2
GSI	Gunungsitoli	1.49	246	Pn		Pn	21	03	24.1	+2.1
GSI				Sn		Sn	21	03	45.0	+2.0
GSI	Gunungsitoli	1.49	246	P		Pn	21	03	24.0	+1.9
KCSI	Kotacane, Aceh	1.97	324	P		Pn	21	03	28.8	+1.1
KCSI				S		Sn	21	03	53.6	+0.4
PBSI	Pulau Batu	2.07	198	P		Pn	21	03	30.5	+1.5
PBSI				S		Sn	21	03	57.1	+1.6
BKNI	Bangkinang	2.63	127	P		Pn	21	03	38.1	+1.9
BKNI	Bangkinang	2.63	127	Pn		Pn	21	03	37.9	+1.7
BKNI				Sn		Sn	21	04	08.8	+0.6
BKNI	Bangkinang	2.63	127	P		Pn	21	03	37.6	+1.4
SNSI	Sinabang, Aceh	2.65	280	P		Pn	21	03	38.3	+1.9
SNSI				S		Sn	21	04	08.5	-0.1
PDSI	Padang	3.20	152	P		Pn	21	03	44.7	+1.1
SISI	Saibi	3.23	177	P		Pn	21	03	43.5	-0.5
MLSI	Meulaboh, Aceh	3.44	313	P		Pn	21	03	47.9	+1.3
MLSI				S		Sn	21	04	26.3	-0.7
KULM	Kulim	3.75	27			Pn	21	03	52.0	+1.2
LHMI	Lhok Sumawe	3.83	329	P		Pn	21	03	53.3	+1.3
LHMI	Lhok Sumawe	3.83	329	Pn		Pn	21	03	53.3	+1.3
LHMI	Lhok Sumawe	3.83	329	P		Pn	21	03	53.2	+1.3
PPSI	Pulau Pagai	4.78	167	P		Pn	21	04	02.7	-1.8
MYKOM	Kota Tinggi	4.91	91			Pn	21	04	06.4	+0.1
SRIT	Nakonsritamara	6.66	6	P		Pn	21	04	30.5	+0.6
SRIT	Nakonsritamara	6.66	6	Pn		Pn	21	04	30.0	+0.1
MNAI	Manna	7.42	147	Pn		Pn	21	04	39.5	-0.7
MNAI	Manna	7.42	147	P		Pn	21	04	39.4	-0.8
	136nm,0.7s,1.0nm									
LWLI	Liwa	8.59	143	P		Pn	21	04	56.0	0.0
	118nm,0.6s									
KASI	Kota Agung	9.25	143	P		Pn	21	05	02.0	-2.9
PBA	Port Blair	11.45	328	Pn		Pn	21	05	30.9	-3.6
CNJI	Cibinong	12.29	138	P		Pn	21	05	39.6	-5.8
SBUM	Sibu	13.28	88	Pn		Pn	21	05	59.0	+0.7
DLV	T Lat	13.74	43	P		Pn	21	06	06.9	+2.5
DLV	T Lat	13.74	43	Pn		Pn	21	06	06.3	+2.0
UBPT	Khong Chiam	14.75	26	Pn		Pn	21	06	17.9	+0.8
PWJI	Pagerwojo	16.20	128	P		P	21	06	36.3	+0.4
	23nm,2.3s									
CM31	Chiang Mai Arr	16.43	0	P		Pn	21	06	39.0	+1.0
CM31					IAmb	IAmb	21	06	40.3	
	comp=Z,12nm,0.5s									
CMAR	Chiang Mai Arr	16.43	0			Pn	21	06	38.6	+0.7
CMAR	Chiang Mai Arr	16.43	0	P		P	21	06	39.2	+0.7
	comp=Z,6.5nm,0.4s,baz=191,slow=11,SNR=70									
PHRA	Phrae	16.52	4			Pn	21	06	40.2	+1.2
ABJI	Asem Bagus	18.06	123	P		Pn	21	06	58.4	+0.7
	comp=Z,35nm,0.9s									
CRAI	Chiangrai	18.25	4	P		P	21	06	59.0	+0.6
CRAI					IAmb	IAmb	21	07	03.1	
	comp=Z,13nm,0.9s									
PALK	Pallekele	18.93	287	P		Pn	21	07	08.9	+0.9
	comp=Z,4.6nm,1.0s,baz=127,slow=15,SNR=1.5									
PALK				S		S	21	10	27.7	-7.0
	comp=Z,1.9nm,0.4s,baz=90,slow=7.1,SNR=4.7									
SLVN	Son La	19.89	14	P		P	21	07	15.8	-0.6
TWSI	Taliwang, Sumb	20.79	121	P		P	21	07	26.1	+0.1
	comp=Z,22nm,0.8s									
MPSI	Mapaga	21.02	94	P		P	21	07	29.8	+1.3
	comp=Z,19nm,0.7s									
TOLI2	Tolitoli	21.85	92	P		P	21	07	38.2	+0.8
TOLI2	Tolitoli	21.85	92	P		P	21	07	37.0	-0.4
TOLI2					IAmb	IAmb	21	07	39.4	
	comp=Z,20nm,0.7s									
BKSI	Bulukumba	22.35	109	P		P	21	07	44.2	+1.7
	comp=Z,28nm,0.6s									
TNCH	TengChong	22.97	359	⇓P		P	21	07	49.3	+0.6
TNCH				pP		pP	21	08	15.9	+3.3
TNCH				sP		sP	21	08	32.5	+4.5
TNCH				S		S	21	11	39.2	-11
TNCH				sS		sS	21	12	26.8	-6.6
TNCH				pmax		pmax				
	comp=Z,17nm,0.9s									
TNCH				pmax		pmax				
	comp=Z,100nm,3.7s									
MRSI	Marisa	23.04	93	P		P	21	07	50.6	+1.3
	comp=Z,51nm,0.6s,comp=Z,485nm									
IMP	Imphal	23.28	348	eP		P	21	07	50.4	-1.0
IMP					IAmb	IAmb	21	07	53.9	
	comp=Z,5.5nm,1.0s									
IMP				eS		S	21	11	49.8	-4.6
KMI	Kunming	23.35	9	⇓P		P	21	07	53.2	+1.0
KMI				pmax		pmax				
	comp=Z,6.0nm,1.4s									
LUWI	Luwuk	24.01	97	P		P	21	08	00.4	+2.3
LUWI	Luwuk	24.01	97	P		P	21	07	58.2	+0.1
LUWI	Luwuk	24.01	97	P		P	21	08	00.1	+2.0
	comp=Z,93nm,0.8s,comp=Z,1μm									
GTOI	Gorontalo	24.10	93	P		P	21	07	58.6	-0.3
	comp=Z,22nm,0.6s,comp=Z,238nm									
SHL	Shillong	24.47	344	eP		P	21	08	02.1	-0.2
PZH	PanZhiHua	24.59	6	P		P	21	08	02.7	-0.6
PZH				pmax		pmax				
	comp=Z,10.0nm,0.5s									
PZH				pmax		pmax				
	comp=Z,50nm,4.3s									
EDFI	Ende, Flores	25.04	115	P		P	21	08	05.6	-1.9
BOK	Bokaro	25.15	331	eP		P	21	08	10.3	+2.0
LKP	Lekhapani	25.44	354	eP		P	21	08	10.6	-0.3
LKP					IAmb	IAmb	21	08	14.3	
	comp=Z,11nm,0.5s									
ZIRO	ZIRO	25.92	350	eP		P	21	08	15.5	+0.1
ZIRO					IAmb	IAmb	21	08	17.3	
	comp=Z,19nm,0.6s									
GTK	Tadong	27.12	340	eP		P	21	08	27.1	+0.9
GTK					IAmb	IAmb	21	08	28.6	
	comp=Z,18nm,0.7s									
LSA	Lhasa	28.60	346	P		P	21	08	40.2	+0.6
LSA					IAmb	IAmb	21	08	41.8	
	comp=Z,9.5nm,0.6s									
YHNB	Yeheng	31.32	42	P		P	21	09	03.7	+0.3
YHNB					IAmb	IAmb	21	09	35.4	
	comp=Z,37nm,1.5s									
YOJ	Yonaguni jima	32.30	44	P		P	21	09	11.4	-0.4
XAN	Xi'an	33.28	15	P		P	21	09	20.0	-0.3
XAN				pmax		pmax				
	comp=Z,7.0nm,1.0s									
KNRA	Kununurra	34.28	122	P		P	21	09	28.2	-0.9
KNRA					IAmb	IAmb	21	09	57.6	
	comp=Z,33nm,1.5s									
LZH	Lanzhou	34.29	7	eP		P	21	09	35.6	+6.4
LZH				pP		sP	21	10	07.2	-3.7
LZH				pmax		pmax				
	comp=Z,21nm,0.9s									
MTN	Manton Dam	35.16	116	P		P	21	09	34.9	-1.9
DHRM	DHARAMSHALA	36.93	327	eP		P	21	09	52.2	+0.3
GTA	Gaotai	37.32	1	eP		P	21	09	56.7	+1.8
GTA				pmax		pmax				
	comp=Z,2.0nm,0.8s									
HHC	Hu-ho-hao-te	40.40	15	eP		P	21	10	20.9	+0.4
HHC				pmax		pmax				
	comp=Z,18nm,0.7s									
HHC				pmax		pmax				
	comp=Z,89nm,3.6s									
WB0	Warramunga Arr	40.93	124	P		P	21	10	23.9	-1.2
WB0					IAmb	IAmb	21	10	27.2	
	comp=Z,14nm,0.6s									
WRA	Warramunga Arr	40.97	124	P		P	21	10	24.4	-1.0
	comp=Z,21nm,0.4s,baz=304,slow=8.9,SNR=72									
BJT	Baijiatuan	41.02	20	P		P	21	10	26.3	+0.8
BJT					IAmb	IAmb	21	10	27.3	
	comp=Z,7.6nm,0.5s									
JAY	Jayapura	41.99	96	P		P	21	10	32.8	-1.1
	comp=Z,12nm,2.1s									
ASAR	Alice Springs	42.47	129	P		P	21	10	36.3	-1.4
	comp=Z,3.3nm,0.5s,baz=301,slow=7.8,SNR=36									
ASAR				PcP		PcP	21	12	28.0	-0.4
	comp=Z,1.6nm,0.7s,baz=310,slow=3.3,SNR=10									
	comp=Z,3.3nm,0.5s									
AS31	Alice Springs	42.47	129	P		P	21	10	36.1	-1.6
FORT	Forrest	42.74	142	P		P	21	10	39.1	-0.6
FORT					IAmb	IAmb	21	11	08.2	
	comp=Z,32nm,1.2s									
KSH	Kashi	42.86	334	P		P	21	10	40.5	-0.2
KSH				pmax		pmax				
	comp=Z,6.0nm,0.6s									
KSRS	Korea Array	44.28	34	P		P	21	10	51.9	0.0
	comp=Z,4.1nm,0.6s,baz=219,slow=8.1,SNR=22									
	comp=Z,4.1nm,0.6s									
KS19	Wonju Array Si	44.28	33	P		P	21	10	51.5	-0.5
KS19					IAmb	IAmb	21	11	18.9	
	comp=Z,19nm,1.4s									
DRK	Karamyk	44.81	330	P		P	21	10	57.8	+1.4
GAR	Garm	45.21	328	P		P	21	10	59.2	-0.2
GAR					IAmb	IAmb	21	11	44.9	
	comp=Z,11nm,1.4s									
BOOM	Boomskoye usch	45.34	336	P		P	21	11	00.3	-0.2
JMN	Monobe	45.48	42	P		P	21	11	00.9	-0.6
JMN					IAmb	IAmb	21	11	15.3	
	comp=Z,20nm,1.2s									
SIMJ	Simiganj	45.66	327	P		P	21	11	02.6	-0.4
ARSB	Arslanbob	45.67	333	P		P	21	11	04.3	+1.3
BTK	Batken	45.74	330	P		P	21	11	05.0	+1.4
BTK					IAmb	IAmb	21	11	06.2	
	comp=Z,8.2nm,1.4s									
AAK	Ala-Archa	46.06	335	P		P	21	11	07.4	+1.3
SONM	Songino Array	46.19	7	P		P	21	11	07.3	+0.3
SONM	Songino Array	46.19	7	P		P	21	11	07.8	+0.8
	comp=Z,2.0nm,0.4s,baz=189,slow=9.6,SNR=22									
SONM				PcP		PcP	21	12	41.0	+0.2
	comp=Z,0.9nm,0.5s,baz=168,slow=3.8,SNR=5.7									
	comp=Z,2.0nm,0.4s									
ULN	Ulaanbaatar	46.30	8	P		P	21	11	08.1	+0.3
MK31	Makanchi Array	46.99	344	P		P	21	11	13.8	+0.7
MKAR	Makanchi Array	46.99	344	P		P	21	11	13.7	+0.6
MKAR	Makanchi Array	46.99	344	P		P	21	11	14.0	+0.9
	comp=Z,3.6nm,0.5s,baz=160,slow=8.1,SNR=58									
MKAR				pP		pP	21	11	41.5	-0.4
	comp=Z,1.3nm,0.5s,baz=144,slow=8.2,SNR=2.8									
	comp=Z,3.6nm,0.5s									
MAKZ	Makanchi	47.09	344	P		P	21	11	14.4	+0.6
MAKZ					IAmb	IAmb	21	11	37.3	
	comp=Z,6.0nm,1.1s									
KK31	Karatay Array	48.20	332	P		P	21	11	23.4	+0.9
KKAR	Karatay Array	48.20	332	P		P	21	11	23.6	+1.0
JGF	Kuroka	48.89	42	P		P	21	11	27.4	-0.6
JGF					IAmb	IAmb	21	11	28.8	
	comp=Z,2.8nm,0.7s									
BBOO	Buckleboo	49.23	138	P		P	21	11	29.2	-1.3
BBOO					IAmb	IAmb	21	12	06.8	
	comp=Z,27nm,1.4s									
MJAR	Matsushiro Arr	49.99	42	P		P	21	11	36.0	-0.3
	comp=Z,2.0nm,0.8s,baz=229,slow=6.4,SNR=6.5									
	comp=Z,2.0nm,0.8s									
USA0B	Ussuriysk Arra	51.27	30	P		P	21	11	46.1	+0.4
USA0B					IAmb	IAmb	21	12	14.2	
	comp=Z,8.9nm,0.8s									
USRK	Ussuriysk Ar.	51.27	30			P	21	11	46.0	+0.3
USRK	Ussuriysk Ar.	51.27	30	P		P	21	11	46.2	+0.5
	comp=Z,2.8nm,0.5s,baz=223,slow=5.7,SNR=14									
	comp=Z,2.8nm,0.5s									
CTAO	Charters Tower	51.28	118	P		P	21	11	45.0	-1.3
CTAO					IAmb	IAmb	21	12	08.8	
	comp=Z,20nm,1.2s									
KURBB	Kurchatov Arra	51.51	344	P		P	21	11	47.9	+0.6
	comp=Z,1.8nm,0.4s,baz=163,slow=7.1,SNR=17									
KURBB				pP		pP	21	12	16.1	-0.8
	comp=Z,1.2nm,0.6s,baz=166,slow=7.1,SNR=3.0									
KURBB				PcP		PcP	21	13	00.7	+0.8
	comp=Z,1.8nm,0.5s,baz=160,slow=3.3,SNR=11									
	comp=Z,1.8nm,0.4s									
KURK	Kurchatov	51.57	344	P		P	21	11	48.1	+0.3
KURK					IAmb	IAmb	21	11	49.5	
	comp=Z,5.1nm,1.0s									
GEYT	Alibeck	51.79	319	P		P	21	11	50.4	+0.6
GEYT					IAmb	IAmb	21	11	54.9	
	comp=Z,3.2nm,0.8s									
GEYT	Alibeck	51.79	319	P		P	21	11	50.7	+0.9
	comp=Z,2.6nm,0.6s,baz=120,slow=8.8,SNR=7.2									
	comp=Z,2.6nm,0.6s									
JMM	Marumori	52.44	42	P		P	21	11	53.5	-1.0
STKA	Stephens Creek	52.57	133	P		P	21	11	53.8	-1.8
STKA	Stephens Creek	52.57	133	P		P	21	11	54.3	-1.3
	comp=Z,1.7nm,0.6s,baz=308,slow=3.2,SNR=5.9									
	comp=Z,1.7nm,0.6s									
ZAA0	Zalesovo Array	53.14	350	P		P	21	11	59.4	+0.1
ZAA0					IAmb	IAmb	21	12	00.7	
	comp=Z,8.3nm,0.6s									
ZALV	Zalesovo Beam	53.14	350	P		P	21	11	59.7	+0.3
ZALV	Zalesovo Beam	53.14	350	P		P	21	11	60.0	+0.6
	comp=Z,8.7nm,0.5s,baz=175,slow=6.8,SNR=52									
ZALV				pP		pP	21	12	28.3	-0.5
	comp=Z,2.0nm,0.4s,baz=184,slow=7.3,SNR=2.5									
	comp=Z,8.7nm,0.5s									
RAYN	Ar Rayn	55.96	297	P		P	21	12	21.6	+1.2
BVAR	Borovoye Array	56.16	340	P		P	21	12	21.3	+0.1
	comp=Z,4.8nm,0.5s,baz=142,slow=9.3,SNR=30									
BVAR				pP		pP	21	12	50.0	-1.0
	comp=Z,1.3nm,0.4s,baz=141,slow=11,SNR=2.7									
	comp=Z,4.8nm,0.5s									
ERM	Erimo	56.22	39	P		P	21	12	22.2	+0.4
BRVK	Borovoye	56.22	340	P		P	21	12	21.7	+0.1
BRVK					IAmb	IAmb	21	12	22.5	
	comp=Z,3.9nm,0.7s									
JKA	Kamikawa-asahi	57.05	36	P		P	21	12	27.9	+0.3
EIDS	Eidsvold	57.27	122	P		P	21	12	29.0	-0.5
ABKAR	Akbulak array	57.71	331	P		P	21	12	32.2	0.0
ABKAR	Akbulak array	57.71	331	P		P	21	12	32.4	+0.2
ABKAR					IAmb	IAmb	21	13	02.5	
	comp=Z,5.3nm,0.8s									
YSS	Yuzh-Sakhalins	58.78	34	P		P	21	12	39.7	0.0
ARMA	Armidale	59.57	127	P		P	21	12	45.2	-0.4
ARMA					IAmb	IAmb	21	13	16.6	
	comp=Z,16nm,1.2s									
CAN	Canberra	59.64	133	P		P	21	12	45.2	-0.7
ARU	Arti	63.21	336	P		P	21	13	09.1	-0.3
ARU					IAmb	IAmb	21	13	09.7	
	comp=Z,3.1nm,0.6s									
KARS	Kars	63.35	315	P		P	21	13	09.9	-0.9
YAK	Yakutsk	64.25	16	P		P	21	13	15.9	-0.2
KBZ	Khabaz	64.68	318	P		P	21	13	20.0	+0.8
	comp=Z,0.8nm,0.6s,baz=95,slow=6.4,SNR=2.6									
KBZ				pP		pP	21	13	48.5	-1.3
	comp=Z,1.9nm,0.7s,baz=104,slow=4.1,SNR=4.0									
	comp=Z,0.8nm,0.6s									
MMAI	Mount Meron Ar	66.90	305	P		P	21	13	35.4	+1.5
	comp=Z,2.6nm,0.7s,baz=118,slow=8.6,SNR=3.7									
	comp=Z,2.6nm,0.7s									
BR131	Keskin Array S	69.92	312	P		P	21	13	52.2	-0.4
BRTR	Keskin Array B	69.92	312	P		P	21	13	52.0	-0.6
BRTR	Keskin Array B	69.92	312	P		P	21	13	52.4	-0.2
	comp=Z,1.2nm,0.6s,baz=130,slow=7.5,SNR=13									
BRTR				pP		pP	21	14	22.0	-1.6
	comp=Z,0.6nm,0.6s,baz=135,slow=7.5,SNR=3.1									
	comp=Z,1.2nm,0.6s									
PEA0B	Petropavlovsk-	70.18	33	P		P	21	13	53.6	-0.2
PETK	Petropavlovsk-	70.18	33	P		P	21	13	53.8	0.0
PETK	Petropavlovsk-	70.18	33	P		P	21	13	54.0	+0.3
	comp=Z,2.8nm,0.7s,baz=177,slow=5.4,SNR=7.1									
	comp=Z,2.8nm,0.7s									
PET	Petropavlovsk	70.67	34	P		P	21	13	57.0	+0.4
ELL	Elmali	72.11	308	P		P	21	14	05.3	-0.5
TIXI	Tiksi	72.18	10	P		P	21	14	05.2	-0.2
TIXI					IAmb	IAmb	21	14	06.0	
	comp=Z,7.4nm,1.2s									
MILM	Milestii Mici	75.09	318	⇑P		P	21	14	23.4	+0.5
AKASG	Malin Array Be	75.75	322	P		P	21	14	25.9	-0.7
	comp=Z,0.7nm,0.4s,baz=91,slow=5.4,SNR=6.9									
AKASG				pP		pP	21	14	56.2	-1.8
	comp=Z,0.8nm,0.5s,baz=79,slow=5.3,SNR=3.5									
	comp=Z,0.7nm,0.4s									
VRI	Vrincioaia	76.28	317	⇑P		P	21	14	30.9	+1.2
TESR	Tescani	76.46	317	⇑P		P	21	14	31.6	+0.8
BOSA	Boshof	76.64	240	P		P	21	14	33.0	+0.7
BOSA					IAmb	IAmb	21	14	38.8	
	comp=Z,9.2nm,1.4s									
BOSA	Boshof	76.64	240	P		P	21	14	33.0	+0.7
	comp=Z,1.0nm,0.7s,baz=140,slow=4.9,SNR=3.8									
BOSA				pP		pP	21	15	03.6	+0.2
	comp=Z,2.0nm,1.0s,baz=137,slow=10,SNR=3.0									
	comp=Z,1.0nm,0.7s									
MLR	Muntele Rosu	76.74	316	⇓P		P	21	14	34.0	+1.5
ML

TBP	**Tagbilaran**	2.74	1	⇓*i*	P		P	21 29 16.6	-0.8
SCPH	**Surigao**	3.27	30	⇓*e*	P		P	21 29 20.1	-0.3
LLP	**Lapu-Lapu**	3.37	2	⇓*i*	P		P	21 29 20.2	-0.7
LLP				*e*	S		S	21 30 23.0	-3.7
SGSI	**Sangihe**	3.64	152		P		P	21 29 21.6	-1.2
PLP	**Palo**	4.36	15	⇓*e*	P		P	21 29 27.4	-0.3
PLP				*e*	S		S	21 30 37.4	-1.6
RCP	**Roxas**	4.72	347	⇓*e*	P		P	21 29 29.1	-1.4
GTOI	**Gorontalo**	6.31	187		P		P	21 29 42.3	-1.5
	21nm,0.5s,326nm0.1nm								
KMSI	**Cibinong**	6.32	179		P		P	21 29 44.5	+0.7
	200nm,0.8s,1.0nm								
TOLI2	**Tolitoli**	6.53	208		P		P	21 29 45.6	-0.2
TOLI2	**Tolitoli**	6.53	208				P	21 29 45.3	-0.5
MRSI	**Marisa**	6.69	196		P		P	21 29 47.5	+0.4
	49nm,1.0s,0.2nm								
TNTI	**Ternate**	7.06	150		P		P	21 29 52.6	+2.0
TNTI	**Ternate**	7.06	150		P		P	21 29 50.5	-0.1
TNTI	**Ternate**	7.06	150		P		P	21 29 50.9	+0.3
	56nm,0.5s,1µm0.5nm								
TGY	**Tagaytay City**	7.67	338		P		P	21 29 55.9	-0.3
	174nm,0.4s,baz=193,slow=5.7,SNR=6.6								
TGY					S		S	21 31 31.1	-0.2
	182nm,0.3s,baz=230,slow=18,SNR=5.9								
LUWI	**Luwuk**	7.99	188		P		P	21 30 01.7	+2.4
LUWI	**Luwuk**	7.99	188				P	21 29 59.2	-0.1
LUWI	**Luwuk**	7.99	188		P		P	21 29 59.3	0.0
	65nm,0.7s								
LBMI	**Labuha**	8.36	154		P		P	21 30 03.3	+0.4
	140nm,0.8s,2µm								
SANI	**Sanana**	9.18	166		P		P	21 30 08.4	-2.4
SWI	**Sorong**	10.72	136		P		P	21 30 26.9	+0.8
	55nm,1.0s,2µm								
SBUM	**Sibu**	12.40	250		P		P	21 30 43.5	+0.4
FAKI	**Fak Fak**	12.90	139		P		P	21 30 48.8	+0.6
FAKI	**Fak Fak**	12.90	139				P	21 30 48.3	+0.1
FAKI	**Fak Fak**	12.90	139		P		P	21 30 48.0	-0.2
	132nm,0.7s,1µm								
KSM	**Kuching**	14.53	249		P		P	21 31 04.7	+0.2
KSM	**Kuching**	14.53	249				P	21 31 04.3	-0.2
EDFI	**Ende, Flores**	15.72	188		P		P	21 31 16.7	+1.1
	18nm,0.8s								
DLV	**T Lat**	15.93	289		P		P	21 31 18.7	+1.0
DLV	**T Lat**	15.93	289		P		P	21 31 18.1	+0.4
TPUB	**Ta-pu**	16.56	350		P		P	21 31 23.8	+0.7
TPUB	**Ta-pu**	16.56	350				P	21 31 23.3	+0.1
SSLB	**Suanglung**	16.99	351		P		P	21 31 27.3	+0.3
SSLB	**Suanglung**	16.99	351				P	21 31 26.8	-0.2
SSLB					IAmb		IAmb	21 31 31.2	
	comp=Z,19nm,1.0s								
BATI	**Baumata**	17.03	181		P		P	21 31 27.6	+0.1
	comp=Z,24nm,0.5s,baz=314,slow=1.1,SNR=6.3								
BATI	**Baumata**	17.03	181		P		P	21 31 27.6	+0.1
	comp=Z,31nm,1.9s								
TWSI	**Taliwang, Sumb**	17.04	204		P		P	21 31 28.9	+1.3
	comp=Z,24nm,0.7s								
YHNB	**Yeheng**	17.79	353		P		P	21 31 34.5	+0.1
YHNB					IAmb		IAmb	21 31 35.7	
	comp=Z,15nm,0.7s								
JAGI	**Jajag, Banyuwa**	18.09	212		P		P	21 31 37.3	+0.1
QIZ	**Qiongzhong**	18.16	313		P		P	21 31 38.5	+0.7
JAY	**Jayapura**	19.28	119		P		P	21 31 49.5	+1.4
	comp=Z,18nm,0.9s,comp=Z,622nm								
UBPT	**Khong Chiam**	19.82	296		P		P	21 31 53.6	+0.7
UBPT	**Khong Chiam**	19.82	296		P		P	21 31 53.1	+0.2
UBPT					IAmb		IAmb	21 31 54.4	
	comp=Z,9.2nm,1.0s								
UGM	**Wanagama**	19.84	222		P		P	21 31 53.8	+0.7
JOW	**Kunigami**	20.24	12		P		P	21 31 57.2	+0.8
JOW	**Kunigami**	20.24	12		P		P	21 31 57.6	+1.1
	comp=Z,7.8nm,0.4s,baz=186,slow=4.4,SNR=5.3								
	comp=Z,7.8nm,0.4s								
MYKOM	**Kota Tinggi**	20.56	257		P		P	21 31 60.0	+0.4
MYKOM					IAmb		IAmb	21 32 01.0	
	comp=Z,12nm,0.8s								
IPM	**Ipoh**	22.82	265		P		P	21 32 20.0	+0.2
IPM					IAmb		IAmb	21 32 21.0	
	comp=Z,8.0nm,1.1s								
KULM	**Kulim**	23.11	267		P		P	21 32 22.3	-0.1
KULM					IAmb		IAmb	21 32 23.6	
	comp=Z,8.7nm,1.1s								
SRIT	**Nakonsritamara**	24.06	276		P		P	21 32 31.8	+1.0
SRIT	**Nakonsritamara**	24.06	276		P		P	21 32 30.6	-0.2
SRDT	**SRDT**	25.36	289		P		P	21 32 43.8	+1.6
PHRA	**Phrae**	25.69	299		P		P	21 32 46.4	+1.3
CRAI	**Chiangrai**	26.30	302		P		P	21 32 51.2	+0.8
CRAI					IAmb		IAmb	21 32 52.5	
	comp=Z,6.6nm,0.7s								
GSI	**Gunungsitoli**	26.77	259		P		P	21 32 54.0	-0.7
GSI	**Gunungsitoli**	26.77	259		P		P	21 32 54.4	-0.2
	comp=Z,52nm,0.8s								
CM31	**Chiang Mai Arr**	26.80	298		P		P	21 32 55.6	+0.7
CM31					IAmb		IAmb	21 32 57.1	
	comp=Z,5.7nm,0.7s								
CMAR	**Chiang Mai Arr**	26.80	298		P		P	21 32 55.5	+0.6
CMAR	**Chiang Mai Arr**	26.80	298		P		P	21 32 56.2	+1.3
	comp=Z,4.1nm,0.7s,baz=113,slow=7.3,SNR=30								
	comp=Z,4.1nm,0.7s								
ENH	**Enshi**	26.84	332		P		P	21 32 55.8	+0.7
ENH					IAmb		IAmb	21 32 56.9	
	comp=Z,8.8nm,0.6s								
JNU	**Nakatsue**	26.87	13		P		P	21 32 55.0	-0.3
JNU					IAmb		IAmb	21 33 26.8	
	comp=Z,16nm,1.2s								
MBWA	**Marble Bar**	28.21	188		P		P	21 33 06.8	-0.2
MBWA					IAmb		IAmb	21 33 17.6	
	comp=Z,17nm,1.2s								
JMN	**Monobe**	28.24	18		P		P	21 33 07.9	+0.7
JMN					IAmb		IAmb	21 33 08.9	
	comp=Z,9.6nm,0.7s								
COEN	**Coen**	28.27	137		P		P	21 33 06.8	-0.8
WB0	**Warramunga Arr**	28.50	159		P		P	21 33 09.2	-0.4
WB0					IAmb		IAmb	21 33 10.0	
	comp=Z,5.6nm,0.6s								
WRA	**Warramunga Arr**	28.64	159		P		P	21 33 10.8	-0.1
	comp=Z,4.7nm,0.6s,baz=340,slow=9.3,SNR=47								
WRA					PcP		PcP	21 36 02.2	+0.1
	comp=Z,1.4nm,0.5s,baz=333,slow=2.8,SNR=8.1								
WRA					S		S	21 37 16.1	-3.1
	comp=Z,2.4nm,0.6s,baz=333,slow=15,SNR=9.8								
WRA					ScP		ScP	21 38 47.9	-0.2
	comp=Z,1.8nm,0.6s,baz=339,slow=3.3,SNR=8.7								
	comp=Z,4.7nm,0.6s								
PZH	**PanZhiHua**	28.65	315		P		P	21 33 11.2	+0.2
PZH					pmax		pmax		
	comp=Z,10.0nm,0.9s								
PZH					pmax		pmax		
	comp=Z,50nm,4.3s								
KSRS	**Korea Array**	30.61	6		P		P	21 33 28.5	+1.0
	comp=Z,1.3nm,0.5s,baz=186,slow=10,SNR=6.7								
	comp=Z,1.3nm,0.5s								
GIRL	**Giralia**	30.86	197		P		P	21 33 30.5	+0.6
JGF	**Kuroka**	31.12	22		P		P	21 33 31.6	-0.4
AS31	**Alice Springs**	31.96	162		P		P	21 33 40.0	+0.7
AS31					IAmb		IAmb	21 33 40.7	
	comp=Z,3.8nm,0.3s								
ASAR	**Alice Springs**	31.96	162		P		P	21 33 39.7	+0.4
ASAR	**Alice Springs**	31.96	162		P		P	21 33 40.1	+0.9
	comp=Z,4.2nm,0.3s,baz=338,slow=7.6,SNR=173								
ASAR					PcP		PcP	21 36 10.9	-0.1
	comp=Z,2.1nm,0.4s,baz=346,slow=2.8,SNR=19								
ASAR					S		S	21 38 08.3	-1.8
	comp=Z,6.8nm,0.8s,baz=347,slow=20,SNR=23								
ASAR					ScP		ScP	21 38 59.0	-0.2
	comp=Z,1.7nm,0.7s,baz=333,slow=2.7,SNR=6.8								
	comp=Z,4.2nm,0.3s								
MAJO	**Matsushiro**	32.27	22		P		P	21 33 41.1	-0.6
MAJO					IAmb		IAmb	21 33 41.9	
	comp=Z,6.4nm,0.8s								
MJAR	**Matsushiro Arr**	32.27	22		P		P	21 33 41.0	-0.7
	comp=Z,5.8nm,0.9s,baz=196,slow=9.2,SNR=19								
	comp=Z,5.8nm,0.9s								
JMM	**Marumori**	34.43	24		P		P	21 34 00.1	+0.4
CTAO	**Charters Tower**	34.75	141		P		P	21 34 02.9	+0.2
HHC	**Hu-ho-hao-te**	35.51	344	*e*	P		P	21 34 09.0	+0.2
HHC					pmax		pmax		
	comp=Z,8.0nm,0.7s								
HHC					pmax		pmax		
	comp=Z,74nm,4.4s								
SHL	**Shillong**	35.68	305		P		P	21 34 10.6	0.0
MORW	**Morawa**	36.57	191		P		P	21 34 17.2	-0.3
MORW					IAmb		IAmb	21 34 18.6	
	comp=Z,9.1nm,1.2s								
FORT	**Forrest**	37.72	174		P		P	21 34 27.0	+0.2
USA0B	**Ussuriysk Arra**	37.80	10		P		P	21 34 28.0	+0.7
USA0B					IAmb		IAmb	21 34 29.7	
	comp=Z,5.3nm,0.8s								
USRK	**Ussuriysk Ar.**	37.80	10		P		P	21 34 28.1	+0.7
	comp=Z,3.0nm,0.6s,baz=222,slow=7.6,SNR=10								
USRK					PcP		PcP	21 36 28.1	+0.1
	comp=Z,0.6nm,0.5s,baz=216,slow=5.4,SNR=2.5								
	comp=Z,3.0nm,0.6s								
BNX	**BinXian**	38.78	4	⇓	P		P	21 34 36.8	+1.6
BNX					pmax		pmax		
	comp=Z,8.0nm,0.7s								
BNX					pmax		pmax		
	comp=Z,110nm,6.2s								
GTA	**Gaotai**	38.89	330	*e*	P		P	21 34 37.6	+1.2
GTA					PcP		PcP	21 36 32.2	+0.4
GTA					pmax		pmax		
	comp=Z,4.0nm,0.9s								
NWAO	**Narrogin (SRO)**	40.13	189		P		P	21 34 46.1	-0.1
JKA	**Kamikawa-asahi**	40.52	21		P		P	21 34 49.7	+0.6
JKA					IAmb		IAmb	21 34 50.6	
	comp=Z,11nm,0.9s								
BBOO	**Buckleboo**	41.20	164		P		P	21 34 55.2	+0.5
BBOO					IAmb		IAmb	21 34 56.8	
	comp=Z,17nm,1.2s								
STKA	**Stephens Creek**	42.15	157		P		P	21 35 02.6	+0.4
STKA	**Stephens Creek**	42.15	157		P		P	21 35 03.0	+0.7
	comp=Z,1.5nm,0.4s,baz=341,slow=6.2,SNR=4.9								
	comp=Z,1.5nm,0.4s								
HIA	**Hailar**	42.33	356		P		P	21 35 03.9	+0.5
HIA					IAmb		IAmb	21 35 05.2	
	comp=Z,12nm,1.1s								
ULN	**Ulaanbaatar**	43.22	344		P		P	21 35 10.8	+0.3
ULN					IAmb		IAmb	21 35 12.4	
	comp=Z,7.7nm,1.1s								
HEH	**HeiHe**	43.28	3	*e*	P		P	21 35 11.1	+0.4
HEH					pmax		pmax		
	comp=Z,15nm,0.7s								
HEH					pmax		pmax		
	comp=Z,110nm,4.5s								
SONM	**Songino Array**	43.38	343		P		P	21 35 12.1	+0.4
SONM	**Songino Array**	43.38	343		P		P	21 35 12.6	+0.9
	comp=Z,3.7nm,0.8s,baz=159,slow=8.9,SNR=18								
SONM					PcP		PcP	21 36 45.9	-0.7
	comp=Z,1.0nm,0.7s,baz=155,slow=4.7,SNR=4.9								
	comp=Z,3.7nm,0.8s								
WMQ	**Urumqi**	48.47	325	*e*	P		P	21 35 53.9	+3.7
WMQ					pmax		pmax		
	comp=Z,36nm,0.7s								
TOO	**Toolangi**	48.67	157		P		P	21 35 52.5	+0.7
TOO					IAmb		IAmb	21 36 31.1	
	comp=Z,22nm,1.3s								
MK31	**Makanchi Array**	53.30	325		P		P	21 36 25.9	+0.9
MK31					IAmb		IAmb	21 36 26.3	
	comp=Z,7.5nm,0.5s								
MKAR	**Makanchi Array**	53.30	325		P		P	21 36 25.9	+0.9
	comp=Z,10nm,0.4s,baz=119,slow=7.7,SNR=263								
MKAR					PcP		PcP	21 37 22.6	-0.3
	comp=Z,1.4nm,0.5s,baz=118,slow=3.6,SNR=4.8								
	comp=Z,10nm,0.4s								
TARG	**Taragay, Kyrgy**	53.45	318		P		P	21 36 27.5	+0.8
MAKZ	**Makanchi**	53.48	325		P		P	21 36 27.1	+0.8
MAKZ					IAmb		IAmb	21 36 27.9	
	comp=Z,22nm,1.2s								
MAKZ					PcP		PcP	21 37 23.2	-0.4
PEA0B	**Petropavlovsk-**	53.66	25		P		P	21 36 28.1	+0.7
PEA0B					IAmb		IAmb	21 36 52.1	
	comp=Z,24nm,1.2s								
PETK	**Petropavlovsk-**	53.66	25		P		P	21 36 27.9	+0.5
PETK	**Petropavlovsk-**	53.66	25		P		P	21 36 27.7	+0.3
	comp=Z,4.5nm,0.7s,baz=197,slow=2.2,SNR=12								
PETK					PcP		PcP	21 37 23.9	-0.2
	comp=Z,1.0nm,0.6s,baz=170,slow=1.6,SNR=1.5								
	comp=Z,4.5nm,0.7s								
KSH	**Kashi**	53.75	315		P		P	21 36 30.9	+2.4
BOOM	**Boomskoye usch**	55.03	318		P		P	21 36 37.9	+0.4
BOOM					PcP		PcP	21 37 30.4	+0.5
YAK	**Yakutsk**	55.16	3		P		P	21 36 38.1	+0.5
AAK	**Ala-Archa**	56.06	318		P		P	21 36 44.9	+0.4
MA2	**Magadan**	56.38	16		P		P	21 36 47.0	+0.8
MA2					IAmb		IAmb	21 36 48.4	
	comp=Z,9.7nm,0.8s								
ZAA0	**Zalesovo Array**	56.45	333		P		P	21 36 46.4	-0.3
ZALV	**Zalesovo Beam**	56.45	333		P		P	21 36 46.4	-0.3
ZALV	**Zalesovo Beam**	56.45	333		P		P	21 36 46.5	-0.2
	comp=Z,3.9nm,0.5s,baz=119,slow=6.6,SNR=16								
	comp=Z,3.9nm,0.5s								
ARSB	**Arslanbob**	56.57	316		P		P	21 36 48.5	+0.5
DRK	**Karamyk**	56.73	313		P		P	21 36 49.7	+0.4
KBL	**Kabul**	57.30	307		P		P	21 36 53.2	0.0
KURBB	**Kurchatov Arra**	57.51	328		P		P	21 36 54.6	+0.6
	comp=Z,12nm,0.6s,baz=128,slow=6.3,SNR=80								
	comp=Z,12nm,0.6s								
KURK	**Kurchatov**	57.51	328		P		P	21 36 54.5	+0.5
KURK					IAmb		IAmb	21 36 55.4	
	comp=Z,24nm,0.7s								
BTK	**Batken**	57.64	313		P		P	21 36 55.6	+0.4
GAR	**Garm**	57.65	312		P		P	21 36 55.9	+0.5
GAR					IAmb		IAmb	21 36 56.9	
	comp=Z,17nm,0.9s								
SIMJ	**Simiganj**	58.51	311		P		P	21 37 02.0	+0.8
KK31	**Karatay Array**	58.94	317		P		P	21 37 04.3	+0.5
KKAR	**Karatay Array**	58.94	317		P		P	21 37 04.3	+0.4
HRA	**Herat**	62.74	305		P		P	21 37 28.7	-0.4
BVAR	**Borovoye Array**	63.08	327		P		P	21 37 31.1	+0.3
	comp=Z,5.1nm,0.6s,baz=132,slow=8.2,SNR=30								
	comp=Z,5.1nm,0.6s								
BRVK	**Borovoye**	63.15	327		P		P	21 37 31.2	+0.1
BRVK					IAmb		IAmb	21 37 32.5	
	comp=Z,11nm,0.9s								
TIXI	**Tiksi**	64.72	2		P		P	21 37 40.4	-0.3
TIXI					IAmb		IAmb	21 37 41.2	
	comp=Z,9.6nm,0.5s								
GEYT	**Alibeck**	66.66	308		P		P	21 37 54.0	+0.5
GEYT	**Alibeck**	66.66	308		P		P	21 37 54.4	+0.9
	comp=Z,2.0nm,0.7s,baz=80,slow=1.6,SNR=5.8								
	comp=Z,2.0nm,0.7s								
ATKA	**Atka Island**	67.57	36		P		P	21 37 59.1	+0.4
ABKAR	**Akbulak array**	67.86	321		P		P	21 38 00.6	0.0
ABKAR	**Akbulak array**	67.86	321		P		P	21 38 00.6	0.0
ABKAR					IAmb		IAmb	21 38 01.6	
	comp=Z,5.3nm,0.8s								
ARU	**Arti**	70.70	328		P		P	21 38 17.0	-0.4
ARU					IAmb		IAmb	21 38 17.8	
	comp=Z,6.9nm,0.7s								
NIKH	**Nikolski High**	70.91	36		P		P	21 38 17.7	-0.9
	baz=256								
SPIA	**Saint Paul Isl**	71.27	32		P		P	21 38 19.8	-0.8
	baz=253								
CASY	**Casey**	73.67	186		P		P	21 38 34.4	+0.3
CASY					IAmb		IAmb	21 38 58.9	
	comp=Z,9.5nm,1.3s								
M11K	**Mekoryuk**	74.16	29		P		P	21 38 36.0	-1.1
	baz=256								
TNA	**Tin City**	74.80	24		P		P	21 38 39.9	-0.8
	baz=253								
K13K	**Kusilvak Mount**	75.25	28		P		P	21 38 42.6	-0.7
	baz=257								
S12K	**Black Hills**	75.36	34		P		P	21 38 43.1	-0.9
	baz=261								
F14K	**Arctic Creek**	75.42	24		P		P	21 38 42.3	-1.7
	baz=254								
M13K	**Dall Lake**	75.54	29		P		P	21 38 43.3	-1.5
	baz=258								
L14K	**Kuka Creek**	76.05	28		P		P	21 38 45.9	-1.7
	baz=259								
F15K	**North Star Dit**	76.15	24		P		P	21 38 46.1	-2.0
	baz=256								
SDPT	**Sand Point**	76.20	35		P		P	21 38 48.8	+0.2
SDPT	**Sand Point**	76.20	35		P		P	21 38 46.3	-2.2
	baz=262								
G15K	**Niukluk**	76.23	25		P		P	21 38 46.7	-1.9
	baz=257								
M14K	**Bethel**	76.28	29		P		P	21 38 49.9	+1.0
M14K					IAmb		IAmb	21 38 53.5	
	comp=Z,39nm,1.5s								
M14K	**Bethel**	76.28	29		P		P	21 38 47.3	-1.6
	baz=260								
O14K	**Tigyukauivet M**	76.37	31		P		P	21 38 47.9	-1.4
	baz=260								
C16K	**Lisburne Hills**	76.54	21		P		P	21 38 48.9	-1.3
	baz=255								
RAYN	**Ar Rayn**	76.59	292		P		P	21 38 51.3	-0.1
L15K	**Ungalak Mounta**	76.67	28		P		P	21 38 49.9	-1.2
	baz=260								
K15K	**Wolf Creek Mou**	76.77	28		P		P	21 38 49.6	-2.0
	baz=260								
S14K	**Fog Glacier**	76.84	34		P		P	21 38 50.7	-1.5
	baz=263								
M15K	**Kasigluk River**	76.89	29		P		P	21 38 50.8	-1.4
	baz=261								
H16K	**Elim**	76.90	25		P		P	21 38 50.2	-2.0
	baz=258								
G16K	**Koyuk River**	77.01	24		P		P	21 38 50.0	-2.8
	baz=258								
O15K	**Ungalikthiuk R**	77.09	31		P		P	21 38 50.7	-2.6
	baz=262								
N15K	**Kwethluk River**	77.10	30		P		P	21 38 51.0	-2.4
	baz=261								
D17K	**Noatak River**	77.23	22		P		P	21 38 51.9	-2.1
	baz=257								
J16K	**Anvik River**	77.36	27		P		P	21 38 52.5	-2.2
	baz=260								
C17K	**DeLong Mountai**	77.37	21		P		P	21 38 51.5	-3.2
	baz=257								
RDOG	**Red Dog Mine**	77.37	22		P		P	21 38 51.6	-3.1
	baz=257								
I17K	**Unalakleet**	77.42	26		P		P	21 38 52.0	-3.0
	baz=260								
CHGN	**Chignik**	77.47	34		P		P	21 38 52.9	-2.5
	baz=264								
E17K	**Hotham Inlet**	77.57	23		P		P	21 38 52.1	-3.7
	baz=258								
L16K	**Owhat River**	77.63	28		P		P	21 38 57.3	+1.1
L16K					IAmb		IAmb	21 38 58.1	
	comp=Z,5.6nm,0.7s								
L16K	**Owhat River**	77.63	28		P		P	21 38 52.8	-3.4
	baz=262								
F17K	**Baldwin Pennin**	77.67	23		P		P	21 38 53.8	-2.5
	baz=259								
G17K	**Kiwalik Mounta**	77.73	24		P		P	21 38 57.1	+0.4
	baz=260								
M16K	**Timber Creek**	77.77	29		P		P	21 38 57.8	+0.7
	baz=262								
N16K	**Nishlik Lake**	77.79	30		P		P	21 38 57.4	+0.2
	baz=262								
H17K	**Granite Mounta**	77.94	25		P		P	21 38 59.1	+1.3
	baz=260								
O16K	**Kokwok River B**	78.02	31		P		P	21 38 57.4	-1.0
	baz=263								
B18K	**Kokolik River**	78.06	20		P		P	21 38 59.1	+0.7
	baz=258								
J17K	**VABM Dome**	78.06	27		P		P	21 38 60.0	+1.4
J17K					IAmb		IAmb	21 39 06.5	
	comp=Z,13nm,1.3s								
J17K	**VABM Dome**	78.06	27		P		P	21 38 59.5	+1.0
	baz=262								
R16K	**Pilot Point**	78.06	33		P		P	21 38 59.8	+1.2
	baz=264								
E18K	**Tukpahlearik C**	78.10	22		P		P	21 38 59.3	+0.6
	baz=259								
C18K	**Utukok River**	78.12	21		P		P	21 38 59.2	+0.3
	baz=258								
L17K	**Donlin**	78.24	28		P		P	21 38 58.3	-1.2
	baz=262								
K17K	**Iditarod**	78.31	27		P		P	21 38 58.2	-1.7
	baz=262								
F18K	**Selawik**	78.32	23		P		P	21 38 58.0	-1.8
	baz=260								
A19K	**Wainwright**	78.48	20		P		P	21 38 59.1	-1.5
	baz=258								
O17K	**Koliganek Bris**	78.54	30		P		P	21 39 01.6	+0.5
	baz=264								
M17K	**Holitna River**	78.55	29		P		P	21 38 59.5	-1.7
	baz=263								
N17K	**Nushagak Hills**	78.58	30		P		P	21 38 59.6	-1.7
	baz=264								
G18K	**Tagagawik**	78.61	24		P		P	21 38 59.5	-1.9
	baz=261								
H18K	**Honhosa River**	78.62	25		P		P	21 39 00.1	-1.4
	baz=262								
C19K	**Lookout Ridge**	78.78	21		P		P	21 39 04.1	+1.8
C19K					IAmb		IAmb	21 39 05.0	
	comp=Z,12nm,0.8s								
C19K	**Lookout Ridge**	78.78	21		P		P	21 39 01.9	-0.4
	baz=260								
L18K	**Granite Mounta**	79.00	28		P		P	21 39 04.0	+0.5
	baz=264								
Q17K	**Contact Creek**	79.03	32		P		P	21 39 02.7	-1.2
	baz=265								
F19K	**Shaleruckik Mo**	79.10	23		P		P	21 39 04.8	+0.8
	baz=262								
J18K	**Innoko River**	79.12	27		P		P	21 39 03.9	-0.3
	baz=264								
GCSA	**Galena City Sc**	79.19	25		P		P	21 39 03.6	-0.9
	baz=263								
D19K	**Kuna River**	79.21	22		P		P	21 39 06.0	+1.5
D19K					IAmb		IAmb	21 39 06.7	
	comp=Z,8.3nm,0.7s								
D19K	**Kuna River**	79.21	22		P		P	21 39 03.4	-1.1
	baz=261								
N18K	**Kilae Creek**	79.23	30		P		P	21 39 04.5	-0.3
	baz=265								
G19K	**Purcell

	baz=266							
Q20K	**Shuyak Island**	**80.88**	**32**	P	**P**	**21 39 12.7**	**-0.6**
	baz=268							
H21K	**Melozitna Rive**	**80.98**	**25**	P	**P**	**21 39 13.6**	**-0.3**
	baz=267							
B22K	**Teshekpuk Lake**	**81.07**	**20**	P	**P**	**21 39 13.8**	**-0.4**
	baz=266,SNR=10							
CHUM	**Lake Minchumin**	**81.11**	**26**	P	**P**	**21 39 14.2**	**-0.3**
	baz=268							
PPLA	**Purkeypile**	**81.12**	**27**	P	**P**	**21 39 13.8**	**-1.0**
	baz=268							
CAST	**Castle Rocks**	**81.19**	**27**	P	**P**	**21 39 16.2**	**+1.2**
CAST				IAmb	IAmb	21 39 17.0		
	comp=Z,8.4nm,0.9s							
CAST	**Castle Rocks**	**81.19**	**27**	P	**P**	**21 39 14.4**	**-0.6**
	baz=268,SNR=5.4							
D22K	**Ayikyak River**	**81.22**	**21**	P	**P**	**21 39 14.3**	**-0.7**
	baz=266							
HOM	**Homer**	**81.29**	**31**	P	**P**	**21 39 14.6**	**-0.9**
	baz=269							
I21K	**Tanana**	**81.31**	**25**	P	**P**	**21 39 15.2**	**-0.3**
	baz=268							
F22K	**John River**	**81.33**	**23**	P	**P**	**21 39 15.3**	**-0.3**
	baz=267,SNR=6.3							
SKT	**Skwentna**	**81.40**	**28**	P	**P**	**21 39 16.4**	**+0.4**
SKT				IAmb	IAmb	21 39 16.9		
	comp=Z,5.1nm,0.7s							
SKT	**Skwentna**	**81.40**	**28**	P	**P**	**21 39 14.7**	**-1.4**
	baz=268							
CNPM	**China Poot**	**81.50**	**31**	P	**P**	**21 39 17.1**	**+0.5**
CAPN	**Captain Cook N**	**81.56**	**30**	P	**P**	**21 39 15.7**	**-1.1**
	baz=269							
H22K	**Ishtalitna Cre**	**81.58**	**24**	P	**P**	**21 39 17.1**	**+0.2**
	baz=268,SNR=6.7							
BPAW	**Bear Paw Mtn.**	**81.70**	**26**	P	**P**	**21 39 18.8**	**+1.2**
BPAW				IAmb	IAmb	21 39 19.5		
	comp=Z,12nm,0.8s							
BPAW	**Bear Paw Mtn.**	**81.70**	**26**	P	**P**	**21 39 17.4**	**-0.1**
	baz=269,SNR=8.2							
BRSE	**Bradley Lake S**	**81.75**	**31**	P	**P**	**21 39 17.4**	**-0.5**
	baz=270							
SUA	**Susitna One**	**81.77**	**29**	P	**P**	**21 39 17.5**	**-0.5**
	baz=269							
MLY	**Manley**	**81.83**	**25**	P	**P**	**21 39 19.4**	**+1.2**
MLY				IAmb	IAmb	21 39 20.3		
	comp=Z,8.2nm,0.8s							
MLY	**Manley**	**81.83**	**25**	P	**P**	**21 39 17.8**	**-0.4**
	baz=269,SNR=10							
D23K	**Nanushuk River**	**81.95**	**21**	P	**P**	**21 39 18.9**	**+0.3**
	baz=268							
TRF	**Thorofare Moun**	**82.00**	**27**	P	**P**	**21 39 18.4**	**-0.8**
	baz=269							
C23K	**Itkillik River**	**82.00**	**20**	P	**P**	**21 39 18.7**	**-0.2**
	baz=268,SNR=14							
COLD	**Coldfoot**	**82.09**	**23**	P	**P**	**21 39 19.4**	**0.0**
	baz=269,SNR=12							
G23K	**Bananza Creek**	**82.15**	**24**	P	**P**	**21 39 19.9**	**+0.1**
	baz=269,SNR=12							
RC01	**Rabbit Creek A**	**82.25**	**29**	P	**P**	**21 39 19.2**	**-1.1**
	baz=270							
E23K	**Chandalar**	**82.33**	**22**	P	**P**	**21 39 20.8**	**+0.1**
	baz=269,SNR=17							
H23K	**Yukon River**	**82.34**	**25**	P	**P**	**21 39 20.4**	**-0.3**
	baz=270,SNR=7.4							
TOLK	**Toolik Lake Re**	**82.35**	**22**	P	**P**	**21 39 22.3**	**+1.6**
TOLK				IAmb	IAmb	21 39 23.4		
	comp=Z,13nm,0.8s							
TOLK	**Toolik Lake Re**	**82.35**	**22**	P	**P**	**21 39 20.7**	**-0.1**
	baz=269,SNR=14							
SEW	**Seward**	**82.40**	**30**	P	**P**	**21 39 19.7**	**-1.4**
	baz=271							
I23K	**Minto, Yukon-K**	**82.41**	**25**	P	**P**	**21 39 21.7**	**+0.7**
	baz=270,SNR=7.6							
NEA2	**Nenana**	**82.54**	**26**	P	**P**	**21 39 21.9**	**+0.1**
	baz=270							
PMR	**Palmer**	**82.54**	**29**	P	**P**	**21 39 21.6**	**-0.1**
	baz=271							
MCK	**McKinley**	**82.61**	**27**	P	**P**	**21 39 22.9**	**+0.8**
	baz=271,SNR=9.1							
D24K	**Happy Valley**	**82.62**	**21**	P	**P**	**21 39 21.3**	**-0.7**
	baz=270							
RND	**Reindeer**	**82.64**	**27**	P	**P**	**21 39 22.9**	**+0.6**
RND				IAmb	IAmb	21 39 23.3		
	comp=Z,11nm,0.7s							
C24K	**Franklin Bluff**	**82.66**	**21**	P	**P**	**21 39 21.1**	**-1.2**
	baz=270							
E24K	**Your Creek**	**82.75**	**22**	P	**P**	**21 39 22.9**	**+0.1**
	baz=270,SNR=5.4							
WAT1	**Susitna Watana**	**82.79**	**28**	P	**P**	**21 39 22.9**	**-0.2**
	baz=271							
KNK	**Knik Glacier**	**82.86**	**29**	P	**P**	**21 39 23.5**	**0.0**
	baz=271							
SML	**Sawmill**	**82.92**	**29**	P	**P**	**21 39 22.3**	**-1.5**
	baz=271							
F24K	**Squaw Lake**	**82.98**	**23**	P	**P**	**21 39 23.4**	**-0.6**
	baz=271,SNR=5.5							
H24K	**Noodor Dome**	**83.02**	**24**	P	**P**	**21 39 24.0**	**-0.2**
	baz=271							
G24K	**Hadweenzic Riv**	**83.16**	**24**	P	**P**	**21 39 25.0**	**+0.1**
	baz=272,SNR=5.9							
WAT6	**Susitna Watana**	**83.17**	**28**	P	**P**	**21 39 23.5**	**-1.6**
	baz=272							
M23K	**Glacier View**	**83.20**	**29**	P	**P**	**21 39 24.4**	**-0.7**
	baz=272							
POKR	**Poker Plat Res**	**83.23**	**25**	P	**P**	**21 39 24.1**	**-1.1**
	baz=272							
DHY	**Denali Highway**	**83.32**	**27**	P	**P**	**21 39 26.5**	**+0.7**
DHY	**Denali Highway**	**83.32**	**27**	P	**P**	**21 39 24.8**	**-1.1**
	baz=272							
SCM	**Sheep Creek Mo**	**83.39**	**29**	P	**P**	**21 39 27.1**	**+1.0**
SCM				IAmb	IAmb	21 39 44.1		
	comp=Z,30nm,1.5s							
SCM	**Sheep Creek Mo**	**83.39**	**29**	P	**P**	**21 39 24.9**	**-1.3**
	baz=272							
HDA	**Harding Lake**	**83.46**	**26**	P	**P**	**21 39 26.2**	**-0.1**
	baz=272							
ILAR	**Eielson Array**	**83.47**	**26**	P	**P**	**21 39 26.1**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=244,slow=4.7,SNR=13							
	comp=Z,0.9nm,0.6s							
D25K	**Kavik River**	**83.49**	**21**	P	**P**	**21 39 27.7**	**+1.2**
	baz=272,SNR=10							
GLI	**Glacier Island**	**83.54**	**29**	P	**P**	**21 39 27.8**	**+1.0**
	baz=273							
G25K	**Bearman Lake**	**83.71**	**24**	P	**P**	**21 39 28.6**	**+1.2**
	baz=273							
E25K	**Arctic Village**	**83.84**	**22**	P	**P**	**21 39 29.8**	**+1.6**
	baz=273							
F25K	**Christian Rive**	**83.84**	**23**	P	**P**	**21 39 29.3**	**+1.1**
	baz=273							
H25L	**Birch Creek**	**83.85**	**24**	P	**P**	**21 39 29.3**	**+1.1**
	baz=273							
C26K	**Camden Bay**	**83.97**	**20**	P	**P**	**21 39 30.7**	**+1.9**
	baz=274							
K24K	**Donnelly Dome**	**84.00**	**27**	P	**P**	**21 39 29.1**	**0.0**
	baz=273							
PRP	**Porcupine Dome**	**84.01**	**25**	P	**P**	**21 39 29.4**	**+0.2**
	baz=274							
J25K	**Salcha River,**	**84.13**	**26**	P	**P**	**21 39 29.7**	**0.0**
	baz=274							
BMAR	**Burnt Mountain**	**84.26**	**23**	P	**P**	**21 39 31.7**	**+1.4**
F26K	**Sheenjek River**	**84.41**	**23**	P	**P**	**21 39 31.6**	**+0.6**
	baz=274							
C27K	**Jago River**	**84.41**	**21**	P	**P**	**21 39 32.1**	**+1.1**
	baz=275							
G26K	**Porcupine Rive**	**84.61**	**23**	P	**P**	**21 39 32.3**	**+0.4**
	baz=275							
N25K	**Chitina, Valde**	**84.70**	**29**	P	**P**	**21 39 33.9**	**+1.3**
	baz=275							
BMRM	**Bremner River**	**84.75**	**29**	P	**P**	**21 39 34.7**	**+1.9**
	baz=275							
SCRK	**Sand Creek**	**84.78**	**26**	P	**P**	**21 39 34.3**	**+1.3**
	baz=275							
J26L	**Joseph Creek**	**84.92**	**26**	P	**P**	**21 39 34.5**	**+0.9**
	baz=275							
KAIM	**Kayak Island**	**84.93**	**30**	P	**P**	**21 39 34.6**	**+0.9**
	baz=275							
I26K	**Coal Creek Min**	**85.02**	**25**	P	**P**	**21 39 33.8**	**-0.2**
	baz=276							
L26K	**Log Cabin Wild**	**85.16**	**27**	P	**P**	**21 39 36.1**	**+1.4**
	baz=276							
E27K	**Coleen River**	**85.32**	**22**	P	**P**	**21 39 36.9**	**+1.5**
	baz=277							
M26K	**Nabesna, AK**	**85.38**	**28**	P	**P**	**21 39 36.2**	**+0.4**
	baz=276							
D27M	**Malcolm River**	**85.42**	**21**	P	**P**	**21 39 37.1**	**+1.3**
	baz=277							
G27K	**Doyon Strip**	**85.46**	**23**	P	**P**	**21 39 37.3**	**+1.2**
	baz=277							
H27K	**Steamboat Moun**	**85.58**	**24**	P	**P**	**21 39 37.7**	**+1.0**
	baz=277							
K27K	**Chicken**	**85.61**	**26**	P	**P**	**21 39 38.0**	**+1.2**
	baz=277							
I27K	**Kandik River**	**85.62**	**25**	P	**P**	**21 39 38.3**	**+1.4**
	baz=277							
BR131	**Keskin Array S**	**85.77**	**309**	P	**P**	**21 39 37.0**	**-1.3**
BRTR	**Keskin Array B**	**85.77**	**309**	P	**P**	**21 39 36.7**	**-1.6**
	comp=Z,0.9nm,0.7s,baz=116,slow=2.9,SNR=8.5							
	comp=Z,0.9nm,0.7s							
L27K	**Beaver Creek,**	**85.84**	**27**	P	**P**	**21 39 39.4**	**+1.4**
	baz=277							
BCAR	**Beaver Creek A**	**85.86**	**27**	P	**P**	**21 39 38.8**	**+0.7**
EGAK	**Eagle**	**85.92**	**25**	P	**P**	**21 39 39.0**	**+0.8**
	baz=278							
E28M	**Babbage River**	**86.02**	**21**	P	**P**	**21 39 40.2**	**+1.5**
	baz=279							
F28M	**Old Crow**	**86.04**	**22**	P	**P**	**21 39 39.8**	**+1.0**
	baz=278							
D28M	**Stokes Point**	**86.19**	**21**	P	**P**	**21 39 41.0**	**+1.6**
	baz=279							
CTG	**Chitna Glacier**	**86.34**	**29**	P	**P**	**21 39 41.4**	**+1.0**
	baz=278							
I28M	**Miner Creek**	**86.34**	**25**	P	**P**	**21 39 41.2**	**+0.9**
	baz=278							
ARCES	**ARCESS Array B**	**86.46**	**340**	P	**P**	**21 39 39.9**	**-0.8**
ARCES	**ARCESS Array B**	**86.46**	**340**	P	**P**	**21 39 40.0**	**-0.8**
	comp=Z,2.5nm,0.8s,baz=76,slow=5.3,SNR=9.2							
	comp=Z,2.5nm,0.8s							
YUK3	**Moose Creek**	**86.64**	**28**	P	**P**	**21 39 43.1**	**+1.1**
	baz=278							
E29M	**Blow River**	**86.65**	**22**	P	**P**	**21 39 43.4**	**+1.8**
	baz=280							
SPITS	**Spitsbergen Ar**	**86.80**	**349**	P	**P**	**21 39 41.8**	**-0.3**
	comp=Z,22nm,1.1s,baz=91,slow=8.4,SNR=7.8							
	comp=Z,22nm,1.1s							
H29M	**Whitestone**	**86.85**	**24**	P	**P**	**21 39 43.8**	**+1.2**
	baz=280							
G29M	**Pine Creek**	**86.86**	**23**	P	**P**	**21 39 43.9**	**+1.2**
	baz=280							
O28M	**Mount Upton**	**86.92**	**29**	P	**P**	**21 39 42.2**	**-1.2**
	baz=279							
VNDA	**Vanda**	**86.96**	**172**	P	**P**	**21 39 43.3**	**+0.5**
VNDA	**Vanda**	**86.96**	**172**	P	**P**	**21 39 42.7**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=317,slow=6.7,SNR=14							
	comp=Z,1.4nm,0.5s							
YUK8	**Steele Glacier**	**87.05**	**29**	P	**P**	**21 39 43.8**	**-0.2**
	baz=279							
M29M	**Somme Creek**	**87.46**	**27**	P	**P**	**21 39 46.5**	**+0.7**
	baz=280							
PNL	**Peninsula**	**87.48**	**30**	P	**P**	**21 39 44.8**	**-0.9**
	baz=279							
L29M	**L29M**	**87.50**	**27**	P	**P**	**21 39 45.9**	**+0.1**
	baz=280							
G30M	**tAoh Zraii Nji**	**87.55**	**23**	P	**P**	**21 39 46.6**	**+0.7**
	baz=282							
YUK4	**Talbot Arm**	**87.57**	**29**	P	**P**	**21 39 46.6**	**+0.3**
	baz=280							
F30M	**Barrier River**	**87.58**	**22**	P	**P**	**21 39 47.5**	**+1.5**
	baz=282							
AKASG	**Malin Array Be**	**87.60**	**321**	P	**P**	**21 39 45.0**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=78,slow=2.6,SNR=4.3							
	comp=Z,1.3nm,0.9s							
K29M	**Barlow Dome**	**87.63**	**26**	P	**P**	**21 39 47.2**	**+0.8**
	baz=281							
FIA1	**FINESS Array S**	**87.66**	**332**	P	**P**	**21 39 45.5**	**-0.9**
FINES	**FINESS Array B**	**87.66**	**332**	P	**P**	**21 39 45.8**	**-0.6**
FINES	**FINESS Array B**	**87.66**	**332**	P	**P**	**21 39 45.4**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=60,slow=4.3,SNR=22							
	comp=Z,1.6nm,0.6s							
YUK6	**Outpost Mounta**	**87.78**	**29**	P	**P**	**21 39 46.9**	**-0.4**
	baz=280							
I30M	**Mount Dempster**	**87.85**	**25**	P	**P**	**21 39 48.7**	**+1.3**
	baz=282							
SBA	**Scott Base**	**87.89**	**172**	P	**P**	**21 39 48.2**	**+1.0**
SBA				IAmb	IAmb	21 40 28.3		
	comp=Z,3.9nm,1.2s							
J30M	**Hart River**	**88.00**	**25**	P	**P**	**21 39 48.2**	**0.0**
	baz=282							
HYT	**Haines Junctio**	**88.21**	**29**	P	**P**	**21 39 49.9**	**+0.7**
	baz=281							
INK	**Inuvik**	**88.25**	**21**	P	**P**	**21 39 49.1**	**+0.1**
	baz=284							
G31M	**Satah River**	**88.31**	**23**	P	**P**	**21 39 49.2**	**-0.2**
	baz=284							
P29M	**Windy Craggy**	**88.32**	**30**	P	**P**	**21 39 49.2**	**-0.5**
	baz=281							
F31M	**Tsiigehtchic**	**88.38**	**22**	P	**P**	**21 39 49.3**	**-0.4**
	baz=284							
H31M	**Peel River**	**88.54**	**24**	P	**P**	**21 39 50.7**	**+0.2**
	baz=284							
N31M	**Braeburn, Yuko**	**88.89**	**28**	P	**P**	**21 39 53.6**	**+1.3**
	baz=282							
WHY	**Whitehorse**	**89.50**	**29**	P	**P**	**21 39 56.1**	**+0.9**
	baz=283							
A36M	**Sachs Harbour**	**89.79**	**17**	P	**P**	**21 39 56.7**	**+0.6**
	baz=292							
N32M	**Quiet Lake**	**90.24**	**28**	P	**P**	**21 39 59.0**	**+0.5**
	baz=285							
P32M	**Atlin**	**90.33**	**30**	P	**P**	**21 39 58.4**	**-0.5**
	baz=284							
C36M	**Paulatuk**	**91.17**	**19**	P	**P**	**21 40 02.3**	**-0.3**
	baz=293							
HFS	**Hagfors**	**93.86**	**332**	P	**P**	**21 40 13.8**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=101,slow=3.0,SNR=5.9							
	comp=Z,0.8nm,0.6s							
NOA	**NORSAR Array B**	**94.65**	**333**	P	**P**	**21 40 16.8**	**-2.0**
	comp=Z,1.1nm,0.8s,baz=66,slow=4.6,SNR=3.7							
	comp=Z,1.1nm,0.8s							
TOAD	**Toad River Com**	**94.70**	**29**	P	**P**	**21 40 19.0**	**0.0**
	baz=292							
YKA	**Yellowknife Ar**	**97.76**	**24**	P	Pdif	21 40 30.8	-1.7
	comp=Z,0.4nm,0.8s,baz=305,slow=4.8,SNR=7.4							
	comp=Z,0.4nm,0.8s							
IKP	**In-Ko-Pah, Jac**	**110.80**	**51**	P	**PKiKP**	**21 45 26.9**	**-0.6**
	baz=293							
121A	**Cookes Peak, D**	**117.16**	**48**	P	**PKPdf**	**21 45 39.1**	**-0.8**
	baz=299							
KSCO	**Kaye Shedlock'**	**117.23**	**39**	P	**PKPdf**	**21 45 38.9**	**-0.8**
	baz=306							
TORD	**Torodi Ar. Bea**	**119.17**	**289**	PKP	**PKPdf**	**21 45 43.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=61,slow=2.3,SNR=12							
MNTX	**Cornudas Mount**	**119.35**	**48**	P	**PKPdf**	**21 45 44.0**	**+0.1**
	baz=300							
MSTX	**Muleshoe**	**120.01**	**44**	P	**PKPdf**	**21 45 44.0**	**-1.2**
	baz=304							
AMTX	**Amarillo**	**120.24**	**43**	P	**PKPdf**	**21 45 44.9**	**-0.7**
	baz=305							
JFWS	**Jewell Farm**	**121.52**	**29**	P	**PKPdf**	**21 45 47.5**	**-0.2**
	baz=319							
TXAR	**Lajitas Array**	**121.82**	**49**	PKP	**PKPdf**	**21 45 48.8**	**+0.1**
	comp=Z,0.3nm,0.8s,baz=70,slow=1.5,SNR=3.6							
WMOK	**Wichita Mounta**	**122.26**	**41**	P	**PKPdf**	**21 45 48.7**	**-0.6**
	baz=308							
ABTX	**Abilene, Hawle**	**122.93**	**44**	P	**PKPdf**	**21 45 50.3**	**-0.4**
	baz=306							
S39A	**Bolivar**	**123.69**	**35**		**PKPdf**	**21 45 51.7**	**-0.3**
MIAR	**Mount Ida**	**125.68**	**38**	P	**PKPdf**	**21 45 55.7**	**-0.2**
	baz=312							
O48B	**Farmland**	**125.97**	**27**	P	**PKiKP**	**21 45 56.9**	**+0.2**
	baz=324							
O53A	**New Philadelph**	**127.68**	**24**	P	**PKPdf**	**21 45 57.5**	**-2.1**
	baz=328							
WVT	**Waverly**	**127.86**	**33**	P	**PKPdf**	**21 46 00.1**	**+0.1**
	baz=319							
BINY	**Binghamton**	**127.86**	**19**	P	**PKPdf**	**21 46 00.0**	**+0.1**
	baz=335							
SSPA	**Standing Stone**	**128.62**	**21**	P	**PKPdf**	**21 46 01.7**	**+0.4**
	baz=332							
PLCA	**Paso Flores**	**143.97**	**161**	PKP	**PKPdf**	**21 46 29.9**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=215,slow=3.0,SNR=13							

*SOME **05** 21:39:22.2, 38.˚20N×76.˚68E, h0km*
*NNC **05** 21:39:27.3±1.5, 38.˚30N×76.˚70E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=10.2km s-min=8.2km az=154.0*

ISC 05 21:39:32.0±2.6, 38.˚5N±0.˚1×76.˚70E±0.˚07, h10km, n35, σ1§95/47, 6C-5D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**4.46**	**339**	⇓Pg		**Pg**	**21 40 53.9**	**-3.4**
	3.7nm,0.6s							
AAK				⇓Lg		Lg	21 41 55.9	
	22nm,1.0s							
TKM2	**Tokmak 2**	**4.49**	**350**	⇑Pg		**Pb**	**21 40 51.2**	**+0.1**
	3.5nm,0.3s							
TKM2				⇑Lg		Lg	21 41 56.3	
IZV	**Izvestkoviy**	**4.53**	**359**	Pg		**Pb**	**21 40 53.0**	**+1.4**
	2.1nm,0.4s							
IZV				Lg		Lg	21 41 58.7	
	8.9nm,0.2s							
IZV	**Izvestkoviy**	**4.53**	**359**	*e*P		**Pb**	**21 40 53.0**	**+1.4**
	2.1nm,0.4s							
IZV				*e*S		**Sg**	**21 41 58.7**	**+1.3**
	8.9nm,0.2s							
TNSS	**Tian-Shan**	**4.53**	**2**	Pg		**Pb**	**21 40 53.1**	**+1.2**
	8.0nm,0.5s							
TNSS				Lg		Lg	21 41 58.9	
	9.4nm,0.7s							
TNSS	**Tian-Shan**	**4.53**	**2**	*e*P		**Pb**	**21 40 53.1**	**+1.2**
	8.0nm,0.5s							
TNSS				*e*S		**Sg**	**21 41 58.9**	**+1.3**
	9.4nm,0.7s							
KST	**Kastek**	**4.57**	**353**	Pg		**Pb**	**21 40 54.2**	**+1.9**
	5.0nm,0.3s							
KST				Lg		Lg	21 42 00.5	
	11nm,0.9s							
KST	**Kastek**	**4.57**	**353**	*e*P		**Pb**	**21 40 53.6**	**+1.3**
	1.7nm,0.3s							
KST				*e*S		**Sg**	**21 41 59.7**	**+1.1**
	11nm,0.9s							
MDOK	**Medeo**	**4.66**	**3**	Pg		**Pb**	**21 40 54.5**	**+0.6**
	3.0nm,0.3s							
MDOK				Pg		Pg	21 40 56.0	-5.3
	5.5nm,0.5s							
MDOK				Lg		Lg	21 42 01.2	
	16nm,0.7s							
MDOK				Lg		Lg	21 42 01.4	
	13nm,0.8s							
MDOK	**Medeo**	**4.66**	**3**	*e*P		**Pb**	**21 40 54.5**	**+0.6**
	3.0nm,0.3s							
MDOK				*e*S		**Sg**	**21 42 01.2**	**-0.4**
	16nm,0.7s							
CHMS	**Chumysh**	**4.72**	**342**	⇓Pg		**Pg**	**21 40 58.3**	**-4.2**
	2.1nm,0.7s							
CHMS				⇑Lg		Lg	21 42 04.1	
	10nm,0.6s							
SATY	**Saty**	**4.73**	**15**	Pg		**Pb**	**21 40 57.3**	**+2.2**
	5.8nm,0.3s							
SATY				Lg		Lg	21 42 05.8	
	18nm,0.4s							
SATY	**Saty**	**4.73**	**15**	*e*P		**Pb**	**21 40 56.1**	**+1.0**
	2.5nm,0.3s							
SATY				*e*S		**Sg**	**21 42 03.8**	**-0.1**
	12nm,0.3s							
KOTS	**Kotyrbulak**	**4.74**	**4**	Pg		**Pb**	**21 40 56.6**	**+1.4**
	0.3nm,0.2s							
KOTS				Lg		Lg	21 42 04.9	
	24nm,1.1s							
KOTS	**Kotyrbulak**	**4.74**	**4**	*e*P		**Pb**	**21 40 56.6**	**+1.4**
	0.3nm,0.2s							
KOTS				*e*S		**Sg**	**21 42 04.9**	**+0.9**
	24nm,1.1s							
DGS	**Degeres**	**4.78**	**352**	Pg		**Pb**	**21 40 57.8**	**+1.8**
	4.6nm,0.5s							
DGS				Lg		Lg	21 42 06.6	
	11nm,0.6s							
DGS	**Degeres**	**4.78**	**352**	*e*P		**Pb**	**21 40 57.8**	**+1.8**
	4.6nm,0.5s							
DGS				*e*S		**Sg**	**21 42 06.6**	**+1.0**
	11nm,0.6s							
UZB	**Uzynbulak**	**4.96**	**20**	Pg		**Pb**	**21 41 00.9**	**+1.9**
UZB				Lg		Lg	21 42 11.9	
UZB	**Uzynbulak**	**4.96**	**20**	*e*P		**Pb**	**21 41 00.5**	**+1.5**
	1.9nm,0.2s							
UZB				*e*S		**Sg**	**21 42 11.4**	**+0.1**
	5.3nm,0.4s							
SHLS	**Shalkode**	**5.10**	**23**	Pg		**Pg**	**21 41 06.6**	**-3.0**
	8.5nm,0.5s							
SHLS				Lg		Lg	21 42 22.2	
	15nm,0.6s							
SHLS	**Shalkode**	**5.10**	**23**	*e*P		**Pg**	**21 41 05.3**	**-4.3**
	2.5nm,0.2s							
SHLS				*e*S		**Sg**	**21 42 19.8**	**+4.1**
	10nm,0.4s							
SGDS	**Sogindy**	**5.18**	**343**	Pg		**Pb**	**21 41 04.6**	**+1.9**
	0.5nm,0.1s							
SGDS				Lg		Lg	21 42 18.8	
	17nm,0.5s							
KTBS	**Karatobe**	**5.20**	**360**	Pg		**Pb**	**21 41 04.8**	**+1.7**
	2.8nm,0.4s							
KTBS				Lg		Lg	21 42 18.9	
	17nm,0.9s							
KTBS	**Karatobe**	**5.20**	**360**	*e*P		**Pb**	**21 41 04.8**	**+1.7**
	2.8nm,0.4s							
KTBS				*e*S		**Sg**	**21 42 18.9**	**-0.1**
	17nm,0.9s							
KRBS	**Karabastau**	**5.24**	**352**	Pg		**Pb**	**21 41 06.4**	**+2.6**
	2.6nm,0.4s							
KRBS				Lg		Lg	21 42 21.7	
	8.3nm,0.6s							
KRBS	**Karabastau**	**5.24**	**352**	*e*P		**Pb**	**21 41 06.4**	**+2.6**
	2.6nm,0.4s							
KRBS				*e*S		**Sg**	**21 42 21.7**	**+1.4**
	8.3nm,0.6s							
PDGK	**Podgornoye**	**5.26**	**23**	Pg		**Pb**	**21 41 05.6**	**+1.4**
	2.6nm,0.3s							
PDGK				Lg		Lg	21 42 20.2	
	5.1nm,0.6s							
PDGK	**Podgornoye**	**5.26**	**23**	⇑Pg		Pg	21 41 07.6	-5.2
	2.6nm,0.4s							
PDGK				⇓Lg		Lg	21 42 20.2	
	10nm,0.7s							
CHKK	**Chushkaly**	**5.35**	**2**	Pg		**Pb**	**21 41 07.7**	**+2.1**
	1.8nm,0.3s							
CHKK				Lg		Lg	21 42 23.4	
	9.4nm,0.6s							
CHKK	**Chushkaly**	**5.35**	**2**	*e*P		**Pb**	**21 41 07.7**	**+2.1**
	1.8nm,0.3s							
CHKK				*e*S		**Sg**	**21 42 23.4**	**-0.3**
	9.4nm,0.6s							
BLB	**Baldybastay**	**5.75**	**13**	Pg		**Pb**	**21 41 14.0**	**+1.6**
	8.7nm,0.4s							
BLB				Lg		Lg	21 42 34.8	
	10nm,0.6s							
ARXS	**Arharly**	**5.77**	**8**	Pg		**Pb**	**21 41 14.3**	**+1.6**
	2.2nm,0.6s							
ARXS				Lg		Lg	21 42 35.1	
	6.8nm,0.7s							
ARXS	**Arharly**	**5.77**	**8**	*e*P		**Pb**	**21 41 15.7**	**+3.0**
	2.2nm,0.6s							
ARXS				*e*S		**Sg**	**21 42 37.5**	**+0.4**
	6.0nm,0.5s							
KNOS	**Konyrlen**	**6.14**	**17**	Pg		Pg	21 41 23.2	-6.3
	1.7nm,0.3s							
KNOS				Lg		Lg	21 42 50.7	
	2.4nm,0.5s							
KK31	**Karatay Array**	**6.56**	**316**	⇑Pn		**Pn**	**21 41 09.9**	**+1.3**
	0.2nm,

JNTW	Noshirotokiwa	0.37	302	A		A		22 15 54.4				
	comp=E,51nm,1.8s,comp=N,60nm,2.5s											
JKZ	Kuzumaki	0.59	99	⇓*i*	P		Pg	22 15 58.6	-0.2			
JKZ				⇓	S		Sg	22 16 06.3	-0.3			
JHHS	Hirosakihyakuz	0.60	344	A		A		22 15 58.9				
	comp=E,21nm,4.4s,comp=N,21nm,3.5s											
JYW	Yuwa	0.60	208	A		A		22 15 57.7				
	comp=E,21nm,0.9s,comp=N,23nm,1.3s											
JIW	Iwasaki	0.67	320	⇓*i*	P		Pg	22 15 59.6	-0.7			
JIW				⇓	S		Sg	22 16 08.6	-0.6			
JIW	Iwasaki	0.67	320	A		A		22 15 59.6				
	comp=E,7.0nm,0.7s,comp=N,9.0nm,2.6s											
JRG	Rokugo	0.68	176	⇓*i*	P		Pg	22 15 59.5	-1.0			
JRG				⇓	S		Sg	22 16 08.1	-1.4			
JRG	Rokugo	0.68	176	A		A		22 15 59.5				
	comp=E,9.0nm,2.8s,comp=N,13nm,5.2s											
JANG	Nango	0.78	67	⇓*i*	P		Pg	22 16 02.1	-0.3			
JANG				⇓	S		Sg	22 16 12.6	-0.1			
JTM	Tenmabayashi	0.80	28	Pg			Pb	22 16 02.8	-0.3			
JTM				Sg			Sb	22 16 13.5	-0.3			
JTM	Tenmabayashi	0.80	28	*i* P			Pb	22 16 02.8	-0.3			
JTM				S			Sg	22 16 13.3	-0.1			
JTM	Tenmabayashi	0.80	28	A		A		22 16 02.8				
	comp=E,5.0nm,5.0s,comp=N,5.0nm,3.7s											
JOM	Ohasama	0.82	137	*i* P			Pg	22 16 02.0	-1.1			
JKEN	Kujiedanarisaw	0.88	81	A		A		22 16 04.1				
	comp=E,17nm,1.4s,comp=N,12nm,1.0s											
JSI2	Shiura 2	0.99	353	A		A		22 16 06.1				
	comp=E,7.0nm,0.7s,comp=N,7.0nm,1.2s											
JYYZ	Yamagatayuza	1.17	205	A		A		22 16 07.9				
	comp=E,8.0nm,3.1s,comp=N,9.0nm,3.4s											
JAHD	Aomorihigashid	1.32	26	A		A		22 16 11.8				
	comp=E,15nm,0.9s,comp=N,12nm,0.8s											
JSR	Shiriuchi	1.46	355	A		A		22 16 13.9				
	comp=E,3.0nm,0.7s,comp=N,5.0nm,1.3s											
JOMM	Oshimamatsumae	1.51	344	A		A		22 16 14.5				
	comp=E,3.0nm,1.5s,comp=N,3.0nm,0.3s											
JYA	Atsumi	1.62	204	A		A		22 16 15.2				
	comp=E,6.0nm,0.8s,comp=N,11nm,2.1s											
JKB	Kayabe	1.84	11	A		A		22 16 19.7				
	comp=E,3.0nm,4.8s,comp=N,3.0nm,5.9s											
JYS	Shirataka	1.89	192	A		A		22 16 19.3				
	comp=E,4.0nm,2.3s,comp=N,5.0nm,1.0s											
JMM	Marumori	2.21	175				Pn	22 16 24.1	+0.5			
JMM				Sn			Sb	22 16 53.6	-0.8			
ERM	Erimo	2.75	44	Pn			Pn	22 16 32.0	+1.0			
MJB9	Matsu-Tunnel	3.99	209	Pn			Pn	22 16 49.1	+1.1			
MAJO	Matsushiro	3.99	209	Pn			Pn	22 16 48.0	0.0			
MJAR	Matsushiro Arr	3.99	209	Pn			Pn	22 16 48.7	+0.7			
	comp=N,0.2nm,0.3s,baz=77,slow=23,SNR=6.3											
MJAR				Sn			Sn	22 17 35.2	+0.5			
	comp=N,0.1nm,0.3s,baz=121,slow=21,SNR=2.3											
MJAR				LR		LR		22 18 43.0				
	comp=N,289nm,18.1s,baz=3.5,slow=44											
	comp=N,2.0nm,0.4s											
ASAJ	Asahikawa	4.31	20	Pn			Pn	22 16 53.2	+0.8			
	comp=N,3.8nm,0.3s,baz=218,slow=13,SNR=30											
ASAJ				Sn			Sn	22 17 43.9	+1.5			
	comp=N,0.6nm,0.3s,baz=253,slow=17,SNR=1.3											
ASAJ				LR		LR		22 18 45.6				
	comp=N,133nm,19.3s,baz=299,slow=42											
	comp=N,22nm,0.6s											
JKA	Kamikawa-asahi	4.31	20	Pn			Pn	22 16 54.3	+1.9			
JGF	Kuroka	5.14	211	Pn			Pn	22 17 04.6	+0.7			
USA0B	Ussuriysk Arra	7.59	306	Pn			Pn	22 17 37.5	0.0			
USRK	Ussuriysk Ar.	7.59	306	Pn			Pn	22 17 37.3	-0.2			
	comp=N,0.6nm,0.3s,baz=113,slow=13,SNR=17											
USRK				Sn			Sn	22 19 00.7	-2.6			
	comp=N,0.7nm,0.3s,baz=119,slow=26,SNR=7.7											
USRK				LR		LR		22 20 24.4				
	comp=N,82nm,20.3s,baz=229,slow=37											
	comp=N,2.9nm,0.5s											
JMN	Monobe	8.30	222	Pn			Pn	22 17 48.4	+1.2			
KSRS	Korea Array	10.22	259	Pn			Pn	22 18 16.6	+3.1			
	comp=N,2.2nm,0.3s,baz=65,slow=14,SNR=79											
KSRS				Sn			Sn	22 20 08.6	+0.7			
	comp=N,0.9nm,0.3s,baz=74,slow=23,SNR=10											
KSRS				LR		LR		22 21 50.5				
	comp=N,73nm,19.2s,baz=65,slow=36											
KS19	Wonju Array Si	10.25	260	Pn			Pn	22 18 16.8	+2.9			
KSAR	Wonju Array Be	10.25	259	Pn			Pn	22 18 16.5	+2.6			
JNU	Nakatsue	10.43	231	Pn			Pn	22 18 18.0	+1.6			
	comp=N,0.1nm,0.3s,baz=132,slow=22,SNR=2.0											
JNU				LR		LR		22 22 16.2				
	comp=N,83nm,18.5s,baz=26,slow=37											
	comp=N,5.2nm,1.1s											
TJN	Taejon	11.03	255	Pn			Pn	22 18 27.8	+3.3			
KLR	Kul'dur	11.09	328	Pn			Pn	22 18 26.9	+1.5			
	baz=112,slow=13,SNR=2.0											
PETK	Petropavlovsk-	17.50	36	Pn			Pn	22 19 49.0	-1.8			
PETK	Petropavlovsk-	17.50	36	P			Pn	22 19 49.1	-1.7			
	comp=N,0.1nm,0.3s,baz=212,slow=5.1,SNR=3.1											
PETK				LR		LR		22 26 44.1				
	comp=N,36nm,19.6s,baz=249,slow=38											
	comp=N,3.9nm,0.9s											
NJ2	Nanjing	19.27	252	*e*P			Pn	22 20 15.5	+3.1			
NJ2				pmax		pmax						
	comp=Z,10.0nm,0.5s											
MA2	Magadan	20.55	15	P			P	22 20 23.6	-1.6			
	comp=Z,2.9nm,0.5s,baz=182,slow=12,SNR=4.5											
MA2				LR		LR		22 28 47.3				
	comp=Z,20nm,18.4s,baz=291,slow=38											
	comp=Z,2.9nm,0.5s											
HHC	Hu-ho-hao-te	22.05	281	*e*P			P	22 20 43.5	+1.9			
HHC				S			S	22 24 41.7	-2.8			
HHC				pmax		pmax						
	comp=Z,11nm,0.8s											
HHC				pmax		pmax						
	comp=Z,60nm,4.4s											
HHC				LR		LR						
	comp=N,74nm,12.2s											
HHC				LR		LR						
	comp=E,110nm,13.0s											
HHC				LR		LR						
	comp=Z,100nm,13.8s											
YAK	Yakutsk	22.96	347	P		P		22 20 50.1	-0.9			
YAK				IAmb		IAmb		22 20 50.7				
	comp=Z,8.0nm,0.5s											
SONM	Songino Array	25.64	299	LR		LR		22 31 36.0				
	comp=Z,42nm,19.7s,baz=226,slow=37											
LZH	Lanzhou	29.05	274	*e*P			P	22 21 50.0	+2.8			
LZH				sP			sP	22 21 53.8	+0.5			
LZH				pmax		pmax						
	comp=Z,5.0nm,0.9s											
PZH	PanZhiHua	34.89	259	P			P	22 22 39.9	+1.4			
PZH				pmax		pmax						
	comp=Z,10.0nm,0.4s											
PZH				pmax		pmax						
	comp=Z,70nm,6.1s											
NIKH	Nikolski High	36.35	52	P			P	22 22 50.9	+0.3			
	baz=270											
GAMB	Gambell	36.50	34	P			P	22 22 52.4	+0.7			
	baz=253											
M11K	Mekoryuk	38.30	40	P			P	22 23 07.1	+0.1			
	baz=263											
WMQ	Urumqi	38.95	293	*e*P			P	22 23 19.5	+6.6			
WMQ				pmax		pmax						
	comp=Z,14nm,0.6s											
ZALV	Zalesovo Beam	39.42	310	P			P	22 23 14.9	-1.7			
	comp=Z,0.4nm,0.5s,baz=98,slow=8.9,SNR=1.8											
	comp=Z,0.4nm,0.5s											
CRAI	Chiangrai	39.58	252	P			P	22 23 18.7	+0.5			
L15K	Ungalak Mounta	40.72	38	P			P	22 23 27.4	+0.2			
	baz=266											
H16K	Elim	40.73	34	P			P	22 23 28.0	+0.7			
	baz=261											
K15K	Wolf Creek Mou	40.76	37	P			P	22 23 27.4	-0.1			
	baz=265											
G16K	Koyuk River	40.80	33	P			P	22 23 28.8	+1.0			
	baz=260											
D17K	Noatak River	40.97	29	P			P	22 23 29.8	+0.6			
	baz=257											
M15K	Kasigluk River	41.05	40	P			P	22 23 30.3	+0.4			
	baz=267											
C17K	DeLong Mountai	41.12	28	P			P	22 23 31.0	+0.5			
	baz=256											
SDPT	Sand Point	41.20	48	P			P	22 23 32.0	+0.8			
	baz=274											
J16K	Anvik River	41.27	36	P			P	22 23 32.0	+0.2			
	baz=264											
I17K	Unalakleet	41.30	35	P			P	22 23 32.6	+0.7			
	baz=264											
E17K	Hotham Inlet	41.32	30	P			P	22 23 32.6	+0.5			
	baz=259											
N15K	Kwethluk River	41.32	41	P			P	22 23 32.7	+0.5			
	baz=268											
F17K	Baldwin Pennin	41.43	31	P			P	22 23 33.9	+1.0			
	baz=260											
O15K	Ungalikthiuk R	41.44	42	P			P	22 23 34.0	+0.9			
	baz=270											
G17K	Kiwalik Mounta	41.52	33	P			P	22 23 34.1	+0.4			
	baz=262											
S14K	Fog Glacier	41.66	47	P			P	22 23 34.7	-0.5			
	baz=273											
L16K	Owhat River	41.68	38	P			P	22 23 35.2	+0.1			
	baz=267											
CMAR	Chiang Mai Arr	41.74	251	P			P	22 23 37.6	+1.5			
	comp=Z,0.3nm,0.5s,baz=41,slow=8.4,SNR=2.1											
	comp=Z,0.3nm,0.5s											
H17K	Granite Mounta	41.76	33	P			P	22 23 34.7	-1.0			
	baz=263											
B18K	Kokolik River	41.82	27	P			P	22 23 36.1	0.0			
	baz=256											
E18K	Tukpahlearik C	41.85	30	P			P	22 23 36.0	-0.5			
	baz=260											
C18K	Utukok River	41.87	28	P			P	22 23 36.6	0.0			
C18K				IAmb		IAmb		22 23 55.5				
	comp=Z,21nm,1.5s											
C18K	Utukok River	41.87	28	P			P	22 23 37.4	+0.7			
	baz=258											
M16K	Timber Creek	41.90	39	P			P	22 23 37.6	+0.6			
	baz=268											
J17K	VABM Dome	41.97	36	P			P	22 23 37.9	+0.4			
	baz=266											
N16K	Nishlik Lake	41.98	40	P			P	22 23 38.2	+0.5			
	baz=269											
MKAR	Makanchi Array	42.00	299	P			P	22 23 39.4	+1.4			
MKAR	Makanchi Array	42.00	299	P			P	22 23 37.1	-0.9			
	comp=Z,0.7nm,0.9s,baz=81,slow=11,SNR=2.6											
	comp=Z,0.7nm,0.9s											
F18K	Selawik	42.08	31	P			P	22 23 38.3	0.0			
	baz=262											
L17K	Donlin	42.26	38	P			P	22 23 39.7	-0.1			
	baz=268											
A19K	Wainwright	42.26	26	P			P	22 23 39.1	-0.6			
	baz=256											
K17K	Iditarod	42.28	37	P			P	22 23 39.4	-0.6			
	baz=267											
CHGN	Chignik	42.30	46	P			P	22 23 39.3	-0.9			
	baz=274											
O16K	Kokwok River B	42.33	42	P			P	22 23 40.3	-0.1			
	baz=271											
P16K	Nushagak River	42.39	42	P			P	22 23 41.0	+0.1			
	baz=272											
G18K	Tagagawik	42.39	32	P			P	22 23 41.3	+0.4			
	baz=263											
H18K	Honhosa River	42.43	33	P			P	22 23 42.6	+1.4			
H18K				IAmb		IAmb		22 23 47.0				
	comp=Z,6.1nm,0.7s											
H18K	Honhosa River	42.43	33	P			P	22 23 41.7	+0.4			
	baz=264											
C19K	Lookout Ridge	42.53	27	P			P	22 23 43.0	+1.0			
	baz=259											
M17K	Holitna River	42.65	39	P			P	22 23 43.9	+0.9			
	baz=269											
R16K	Pilot Point	42.67	45	P			P	22 23 43.1	-0.1			
	baz=274											
N17K	Nushagak Hills	42.77	40	P			P	22 23 43.6	-0.3			
	baz=271											
O17K	Koliganek Bris	42.83	41	P			P	22 23 43.7	-0.8			
	baz=272											
F19K	Shaleruckik Mo	42.85	31	P			P	22 23 45.4	+0.8			
F19K				IAmb		IAmb		22 23 53.6				
	comp=Z,7.2nm,1.1s											
F19K	Shaleruckik Mo	42.85	31	P			P	22 23 44.3	-0.3			
	baz=263											
D19K	Kuna River	42.95	28	P			P	22 23 44.9	-0.6			
	baz=261											
L18K	Granite Mounta	43.01	38	P			P	22 23 45.5	-0.4			
	baz=269											
GCSA	Galena City Sc	43.03	34	P			P	22 23 45.7	-0.3			
	baz=266											
J18K	Innoko River	43.03	36	P			P	22 23 45.5	-0.6			
	baz=268											
G19K	Purcell Mounta	43.05	32	P			P	22 23 46.7	+0.4			
	baz=265											
E19K	Redstone River	43.14	30	P			P	22 23 47.2	+0.2			
	baz=263											
P17K	Kvichak River	43.18	42	P			P	22 23 47.1	-0.2			
	baz=274											
H19K	Roundabout Mou	43.26	33	P			P	22 23 49.0	+1.1			
H19K	Roundabout Mou	43.26	33	P			P	22 23 48.6	+0.7			
	baz=266,SNR=10											
N18K	Kilae Creek	43.41	40	P			P	22 23 48.0	-1.2			
	baz=272											
M18K	Stony River	43.42	39	P			P	22 23 48.4	-0.9			
	baz=271											
Q17K	Contact Creek	43.52	43	P			P	22 23 49.7	-0.6			
	baz=273											
D20K	Etivluk River	43.53	28	P			P	22 23 50.5	+0.4			
	baz=262											
B20K	Meade River	43.53	26	P			P	22 23 50.1	+0.1			
	baz=260											
J19K	Poorman	43.54	35	P			P	22 23 50.6	+0.4			
	baz=268											
KURK	Kurchatov	43.58	306	P			P	22 23 50.1	-0.6			
E20K	Nigu River	43.63	29	P			P	22 23 50.7	-0.2			
	baz=263											
KURBB	Kurchatov Arra	43.66	305	P			P	22 23 50.7	-0.6			
	comp=Z,1.3nm,0.6s,baz=83,slow=8.5,SNR=11											
	comp=Z,1.3nm,0.6s											
F20K	Avaraart Lake	43.68	31	P			P	22 23 50.0	-1.2			
	baz=265											
O18K	Koktuh Hills	43.78	41	P			P	22 23 50.5	-1.7			
	baz=273											
P18K	Big Mountain,	43.79	42	P			P	22 23 51.1	-1.2			
	baz=274											
L19K	White Mountain	43.87	38	P			P	22 23 52.0	-1.0			
	baz=271											
CHIR	Chirikof Islan	43.90	47	P			P	22 23 52.1	-1.1			
	baz=277											
H20K	Anotleneega Mo	43.91	33	P			P	22 23 52.6	-0.7			
	baz=267,SNR=5.4											
I20K	Naaghedeneel	44.06	34	P			P	22 23 52.8	-1.5			
	baz=268											
N19K	Bonanza Creek	44.09	40	P			P	22 23 53.7	-1.0			
	baz=273											
M19K	Big River Lodg	44.10	38	P			P	22 23 53.8	-1.0			
	baz=272											
J20K	Nowinta River	44.19	35	P			P	22 23 56.9	+1.4			
J20K				IAmb		IAmb		22 23 58.8				
	comp=Z,8.3nm,1.2s											
J20K	Nowinta River	44.19	35	P			P	22 23 54.6	-0.8			
	baz=269											
O19K	Port Alsworth	44.20	41	P			P	22 23 54.6	-0.9			
	baz=273											
K20K	Telida	44.22	36	P			P	22 23 54.5	-1.2			
	baz=270											
C21K	Knifeblade Rid	44.24	28	P			P	22 23 55.5	-0.3			
	baz=264											
L20K	Farewell, AK	44.32	37	P			P	22 23 55.6	-0.9			
	baz=271											
B21K	Ikpikpuk River	44.35	27	P			P	22 23 55.3	-1.3			
	baz=263											
IMAR	Indian Mountai	44.40	32	P			P	22 23 58.2	+1.1			
A22K	Sinclair Lake	44.42	25	P			P	22 23 56.5	-0.6			
	baz=262											
E21K	Killik River	44.47	29	P			P	22 23 57.3	-0.3			
	baz=265											
G21K	Allakaket	44.52	31	P			P	22 23 59.2	+1.1			
G21K				IAmb		IAmb		22 24 01.1				
	comp=Z,9.2nm,0.9s											
G21K	Allakaket	44.52	31	P			P	22 23 57.5	-0.5			
	baz=268,SNR=7.1											
F21K	Alatna River	44.57	30	P			P	22 23 58.1	-0.3			
	baz=267											
SII	Sitkinak Islan	44.61	46	P			P	22 23 58.3	-0.6			
	baz=277											
Q19K	Cape Douglas,	44.64	42	P			P	22 23 58.8	-0.3			
	baz=275											
M20K	Styx River	44.69	38	P			P	22 23 59.5	0.0			
	baz=273											
H21K	Melozitna River	44.78	33	P			P	22 24 01.5	+1.3			
H21K				IAmb		IAmb		22 24 02.6				
	comp=Z,4.9nm,0.9s											
H21K	Melozitna River	44.78	33	P			P	22 24 00.3	+0.1			
	baz=269,SNR=5.3											
P19K	Oil Pt	44.79	41	P			P	22 23 60.0	-0.3			
	baz=275											
B22K	Teshekpuk Lake	44.84	26	P			P	22 23 59.9	-0.6			
	baz=264											
D22K	Ayikyak River	44.97	28	P			P	22 24 01.7	+0.1			
	baz=266											
CHUM	Lake Minchumin	45.00	35	P			P	22 24 01.9	0.0			
	baz=271											
OHAK	Old Harbor	45.01	45	P			P	22 24 02.2	+0.2			
	baz=277											
O20K	Slope Mountain	45.06	41	P			P	22 24 02.2	-0.3			
	baz=275											
F22K	John River	45.08	30	P			P	22 24 02.6	0.0			
	baz=268											
PPLA	Purkeypile	45.09	37	P			P	22 24 02.5	-0.3			
	baz=270											
CAST	Castle Rocks	45.12	36	P			P	22 24 02.4	-0.4			
	baz=272											
I21K	Tanana	45.12	33	P			P	22 24 02.6	-0.2			
	baz=270											
KDAK	Kodiak Island	45.32	44	P			P	22 24 05.4	+1.0			
KDAK	Kodiak Island	45.32	44	P			P	22 24 04.6	+0.1			
	baz=277											
Q20K	Shuyak Island	45.32	43	P			P	22 24 04.4	-0.1			
	baz=277											
G22K	Bettles	45.33	31	P			P	22 24 04.2	-0.3			
	baz=269											
H22K	Ishtalitna Cre	45.37	32	P			P	22 24 05.0	+0.1			
	baz=270											
SKT	Skwentna	45.44	38	P			P	22 24 05.5	0.0			
	baz=274											
BPAW	Bear Paw Mtn.	45.58	35	P			P	22 24 05.3	-1.2			
	baz=272											
HOM	Homer	45.59	41	P			P	22 24 04.6	-2.0			
	baz=276											
MLY	Manley	45.65	34	P			P	22 24 08.4	+1.3			
MLY				IAmb		IAmb		22 24 09.9				
	comp=Z,5.5nm,1.0s											
MLY	Manley	45.65	34	P			P	22 24 04.8	-2.4			
	baz=272											
D23K	Nanushuk River	45.70	28	P			P	22 24 05.8	-1.6			
	baz=268											
CAPN	Captain Cook N	45.72	40	P			P	22 24 06.0	-1.6			
	baz=276											
C23K	Itkillik River	45.76	27	P			P	22 24 06.1	-1.7			
	baz=267											
COLD	Coldfoot	45.84	30	P			P	22 24 07.4	-1.1			
	baz=270											
SUA	Susitna One	45.86	39	P			P	22 24 07.2	-1.7			
	baz=275											
G23K	Bananza Creek	45.91	31	P			P	22 24 08.4	-0.7			
	baz=271,SNR=7.3											
TRF	Thorofare Moun	45.92	36	P			P	22 24 08.5	-0.9			
	baz=274											
CUT	Chulitna	46.00	37	P			P	22 24 08.9	-0.9			
	baz=275											
BRSE	Bradley Lake S	46.04	41	P			P	22 24 09.2	-1.0			
	baz=277											
E23K	Chandalar	46.07	29	P			P	22 24 09.2	-1.2			
	baz=270											
TOLK	Toolik Lake Re	46.09	29	P			P	22 24 09.4	-1.1			
	baz=269											
H23K	Yukon River	46.13	32	P			P	22 24 10.6	-0.3			
	baz=272,SNR=12											
I23K	Minto, Yukon-K	46.23	33	P			P	22 24 11.0	-0.6			
	baz=273											
D24K	Happy Valley	46.37	28	P			P	22 24 12.3	-0.3			
	baz=269											
RC01	Rabbit Creek A	46.38	39	P			P	22 24 12.6	-0.2			
	baz=276											
NEA2	Nenana	46.39	34	P			P	22 24 11.8	-1.1			
	baz=274											
C24K	Franklin Bluff	46.42	27	P			P	22 24 13.1	+0.1			
	baz=269,SNR=8.2											
E24K	Your Creek	46.49	29	P			P	22 24 14.5	+0.8			
	baz=271,SNR=7.0											
MCK	McKinley	46.50	35	P			P	22 24 12.3	-1.5			
	baz=274											
PMR	Palmer	46.61	38	P			P	22 24 14.7	+0.1			
	baz=276											
SEW	Seward	46.64	40	P			P	22 24 12.9	-1.9			
	baz=278											
F24K	Squaw Lake	46.73	30	P			P	22 24 12.4	-3.1			
	baz=272											
WAT1	Susitna Watana	46.76	37	P			P	22 24 13.8	-2.0			
	baz=276											
H24K	Noodor Dome	46.81	32	P			P	22 24 15.1	-1.1			
	baz=273,SNR=5.9											
G24K	Hadweenzic Riv	46.93	31	P			P	22 24 15.6	-1.5			
	baz=273,SNR=5.3											
KNK	Knik Glacier	46.95	38	P			P	22 24 15.6	-1.7			
	baz=277											
SML	Sawmill	46.97	38	P			P	22 24 16.1	-1.4			
	baz=277											
POKR	Poker Plat Res	47.05	33	P			P	22 24 17.3	-0.7			
	baz=274											
WAT6	Susitna Watana	47.15	37	P			P	22 24

K27K	**Chicken**	**49.48**	**34**	P	**P**	**22 24 37.8**	**+1.0**
	baz=280						
MCARA	**McCarthy VSAT**	**49.54**	**38**	P	**P**	**22 24 38.1**	**+0.8**
	baz=282						
PMG	**Port Moresby**	**49.61**	**171**	LR	LR	22 47 47.3	
	comp=Z,21nm,18.1s,baz=271,slow=39						
BGLC	**Bering Glacier**	**49.68**	**40**	P	**P**	**22 24 39.4**	**+1.2**
	baz=282						
EGAK	**Eagle**	**49.74**	**33**	P	**P**	**22 24 39.6**	**+0.8**
	baz=280						
E28M	**Babbage River**	**49.76**	**28**	P	**P**	**22 24 39.3**	**+0.4**
	baz=278,SNR=9.3						
L27K	**Beaver Creek,**	**49.76**	**36**	P	**P**	**22 24 40.2**	**+1.2**
	baz=281						
BCAR	**Beaver Creek A**	**49.78**	**36**	P	**P**	**22 24 39.5**	**+0.4**
F28M	**Old Crow**	**49.79**	**30**	P	**P**	**22 24 39.7**	**+0.6**
	baz=279						
M27K	**Edge Creek, AK**	**49.88**	**37**	P	**P**	**22 24 41.3**	**+1.3**
	baz=282						
D28M	**Stokes Point**	**49.94**	**27**	P	**P**	**22 24 40.7**	**+0.5**
	baz=278						
ARSB	**Arslanbob**	**50.05**	**295**		**P**	**22 24 42.0**	**+0.4**
I28M	**Miner Creek**	**50.13**	**32**	P	**P**	**22 24 42.6**	**+0.8**
	baz=281						
E29M	**Blow River**	**50.39**	**28**	P	**P**	**22 24 44.5**	**+0.9**
	baz=280,SNR=10.0						
H29M	**Whitestone**	**50.61**	**31**	P	**P**	**22 24 45.7**	**+0.4**
	baz=281						
G29M	**Pine Creek**	**50.62**	**30**	P	**P**	**22 24 46.0**	**+0.6**
	baz=281						
YUK3	**Moose Creek**	**50.66**	**37**	P	**P**	**22 24 46.4**	**+0.4**
	baz=283						
KK31	**Karatay Array**	**51.08**	**298**	P	**P**	**22 24 49.8**	**+0.6**
EPYK	**Eagle Plains**	**51.23**	**31**	P	**P**	**22 24 50.6**	**+0.5**
	baz=283						
G30M	**tAoh Zraii Nji**	**51.30**	**30**	P	**P**	**22 24 51.1**	**+0.5**
	baz=283,SNR=6.4						
F30M	**Barrier River**	**51.33**	**29**	P	**P**	**22 24 51.4**	**+0.7**
	baz=282,SNR=11						
L29M	**L29M**	**51.40**	**35**	P	**P**	**22 24 51.9**	**+0.6**
	baz=284						
K29M	**Barlow Dome**	**51.48**	**34**	P	**P**	**22 24 51.0**	**-1.1**
	baz=284						
YUK4	**Talbot Arm**	**51.60**	**37**	P	**P**	**22 24 52.9**	**-0.2**
	baz=285						
I30M	**Mount Dempster**	**51.63**	**32**	P	**P**	**22 24 53.6**	**+0.4**
	baz=284,SNR=14						
J30M	**Hart River**	**51.81**	**33**	P	**P**	**22 24 55.0**	**+0.5**
	baz=284						
INK	**Inuvik**	**52.00**	**28**	P	**P**	**22 24 56.9**	**+1.3**
INK				IAmb	IAmb	22 24 57.8	
	comp=Z,5.2nm,0.7s						
INK	**Inuvik**	**52.00**	**28**	P	**P**	**22 24 56.2**	**+0.6**
	baz=284,SNR=7.0						
G31M	**Satah River**	**52.06**	**30**	P	**P**	**22 24 56.5**	**+0.4**
	baz=284,SNR=5.6						
F31M	**Tsiigehtchic**	**52.13**	**29**	P	**P**	**22 24 57.2**	**+0.6**
	baz=284						
HYT	**Haines Junctio**	**52.28**	**38**	P	**P**	**22 24 57.6**	**-0.5**
	baz=286						
H31M	**Peel River**	**52.31**	**31**	P	**P**	**22 24 59.0**	**+0.9**
H31M	**Peel River**	**52.31**	**31**	P	**P**	**22 24 58.1**	**0.0**
	baz=285,SNR=8.2						
P29M	**Windy Craggy**	**52.51**	**39**	P	**P**	**22 24 59.3**	**-0.4**
	baz=287						
N31M	**Braeburn, Yuko**	**52.89**	**37**	P	**P**	**22 25 02.3**	**-0.1**
	baz=287						
M31M	**Drury Creek, Y**	**53.30**	**36**	P	**P**	**22 25 04.9**	**-0.6**
	baz=288						
A36M	**Sachs Harbour**	**53.70**	**23**	P	**P**	**22 25 09.0**	**+0.8**
A36M				IAmb	IAmb	22 25 10.5	
	comp=Z,4.7nm,0.8s						
A36M	**Sachs Harbour**	**53.70**	**23**	P	**P**	**22 25 08.2**	**0.0**
	baz=288						
CHGR	**Chuyangaron**	**53.81**	**293**	P	**P**	**22 25 10.5**	**+0.8**
SIMJ	**Simiganj**	**53.92**	**293**	P	**P**	**22 25 11.0**	**+0.5**
SIMJ				IAmb	IAmb	22 25 13.2	
	comp=Z,4.0nm,0.9s						
P33M	**Teslin, Yukon**	**54.67**	**38**	P	**P**	**22 25 15.0**	**-0.5**
	baz=290						
C36M	**Paulatuk**	**54.96**	**26**	P	**P**	**22 25 17.8**	**+0.4**
C36M				IAmb	IAmb	22 25 19.1	
	comp=Z,4.8nm,0.9s						
C36M	**Paulatuk**	**54.96**	**26**	P	**P**	**22 25 17.1**	**-0.3**
	baz=291,SNR=5.2						
ABKAR	**Akbulak array**	**55.51**	**308**	P	**P**	**22 25 21.6**	**-0.1**
ABKAR	**Akbulak array**	**55.51**	**308**	P	**P**	**22 25 21.8**	**+0.2**
ABKAR				IAmb	IAmb	22 25 24.4	
	comp=Z,1.4nm,1.0s						
RES	**Resolute Bay**	**59.83**	**15**	P	**P**	**22 25 51.4**	**-0.2**
YKA	**Yellowknife Ar**	**61.52**	**31**	P	**P**	**22 26 03.7**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=301,slow=6.6,SNR=9.5						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**63.72**	**187**	P	**P**	**22 26 18.9**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=15,slow=7.7,SNR=2.5						
	comp=Z,0.7nm,1.0s						
FINES	**FINESS Array B**	**65.83**	**331**	P	**P**	**22 26 31.7**	**0.0**
FINES	**FINESS Array B**	**65.83**	**331**	P	**P**	**22 26 30.9**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=35,slow=7.0,SNR=5.5						
	comp=Z,1.9nm,0.8s						
KIV	**Kislovodsk**	**68.44**	**310**	P	**P**	**22 26 48.5**	**-0.3**
KBZ	**Khabaz**	**68.44**	**309**	P	**P**	**22 26 49.0**	**+0.3**
	comp=Z,1.3nm,0.7s,baz=128,slow=2.2,SNR=3.9						
	comp=Z,1.3nm,0.7s						
NOA	**NORSAR Array B**	**71.13**	**337**	P	**P**	**22 27 04.3**	**-0.7**
	comp=Z,0.9nm,0.9s,baz=37,slow=6.2,SNR=3.0						
	comp=Z,0.9nm,0.9s						
AKASG	**Malin Array Be**	**71.50**	**321**	P	**P**	**22 27 05.3**	**-2.1**
	comp=Z,0.5nm,0.5s,baz=40,slow=6.9,SNR=2.4						
	comp=Z,0.5nm,0.5s						
FCC	**Fort Churchill**	**71.58**	**27**	P	**P**	**22 27 07.9**	**+0.3**
KAAM	**Kaadhehdhoo**	**72.65**	**256**	P	**P**	**22 27 14.7**	**-0.1**
BOZ	**Bozeman (W)**	**73.02**	**44**	P	**P**	**22 27 16.7**	**-0.1**
	baz=310						
KVN	**Kaiserville**	**73.44**	**53**	P	**P**	**22 27 20.0**	**+0.6**
KVN				IAmb	IAmb	22 27 21.8	
	comp=Z,4.7nm,1.2s						
NVAR	**Mina Array Bea**	**73.70**	**53**	P	**P**	**22 27 22.1**	**+1.1**
NVAR	**Mina Array Bea**	**73.70**	**53**	P	**P**	**22 27 21.8**	**+0.8**
	comp=Z,1.0nm,0.8s,baz=290,slow=6.1,SNR=8.6						
	comp=Z,1.0nm,0.8s						
H17A	**Grant Village**	**74.37**	**45**	P	**P**	**22 27 26.0**	**+1.2**
	baz=311						
R11B	**Troy Canyon, C**	**75.41**	**52**	P	**P**	**22 27 31.0**	**+0.1**
	baz=310						
DUG	**Dugway, Tooele**	**75.87**	**49**	P	**P**	**22 27 30.9**	**-2.5**
	baz=311						
PDAR	**Pinedale Array**	**76.01**	**46**	P	**P**	**22 27 34.5**	**+0.3**
PDAR	**Pinedale Array**	**76.01**	**46**	P	**P**	**22 27 34.8**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=266,slow=1.6,SNR=9.0						
	comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**76.36**	**311**	P	**P**	**22 27 38.0**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=142,slow=4.1,SNR=1.9						
	comp=Z,0.3nm,0.6s						
TUQ	**Turquoise Moun**	**77.07**	**55**	P	**P**	**22 27 39.9**	**-0.4**
	baz=310						
HMU	**Henry Mountain**	**78.57**	**50**	P	**P**	**22 27 49.5**	**+0.7**
HMU				IAmb	IAmb	22 27 50.3	
	comp=Z,2.9nm,0.8s						
TXAR	**Lajitas Array**	**88.78**	**52**	P	**P**	**22 28 41.0**	**0.0**
	comp=Z,0.2nm,0.6s,baz=236,slow=1.4,SNR=4.6						
	comp=Z,0.2nm,0.6s						
CCM	**Cathedral Cave**	**88.90**	**38**	P	**P**	**22 28 40.9**	**-0.3**
	baz=323						
ERPA	**Erie**	**90.30**	**29**	P	**P**	**22 28 46.6**	**-1.2**
	baz=330						
MIAR	**Mount Ida**	**90.51**	**42**	P	**P**	**22 28 47.8**	**-1.1**
	baz=322						
BINY	**Binghamton**	**91.65**	**26**	P	**P**	**22 28 52.4**	**-1.7**
	baz=333						
LPAZ	**La Paz**	**145.60**	**55**	PKPbc	**PKPdf**	**22 35 26.0**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=323,slow=5.7,SNR=5.0						
SIV	**San Ignacio**	**149.49**	**44**	PKPbc	**PKPbc**	**22 35 36.6**	**0.0**
	comp=Z,0.5nm,0.5s,baz=256,slow=6.3,SNR=2.4						

*IDC **05** 22:18:50.0±0.9, 0°.01S×126°.64E, h0km, mb4.2/7, mbtmp4.2/7, Error ellipse: s-maj=75.6km s-min=16.9km az=69.0*

*DJA **05** 22:18:56.0±1.0, 0°.1N±4°×12°.7E±°, h12km±10km, M4.2/13, mb4.4/5, mB5.1/1, MLv4.0/13, Mw(mB)4.4/1*

*NEIC **05** 22:18:58.0±1.8, 0°.01S±0°.05×126°.71E±0°.06, h56km±9km, mb4.2/11, Error ellipse: s-maj=11.2km s-min=3.7km az=130.0*

ISC 05 22:18:58.9±0.6, **0°.04N**±0°.06×**126°.73E**±0°.06, **h73**km, **n38,**
σ1**9**24/41, **mb4.2**/12, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.97**	**41**		**Pn**	**22 19 15.8**	**-1.4**
TNTI				Sn	**Sn**	**22 19 29.2**	**-1.5**
TNTI	**Ternate**	**0.97**	**41**	P	**Pn**	**22 19 15.8**	**-1.4**
TNTI				S	**Sn**	**22 19 29.3**	**-1.5**
LBMI	**Labuha**	**1.02**	**131**	P	**Pn**	**22 19 16.3**	**-1.6**
SANI	**Sanana**	**2.20**	**200**	P	**Pn**	**22 19 30.7**	**-2.7**
KMSI	**Cibinong**	**2.80**	**281**	P	**Pn**	**22 19 39.6**	**-1.8**
GTOI	**Gorontalo**	**3.77**	**279**	P	**Pn**	**22 19 55.9**	**+1.3**
LUWI	**Luwuk**	**4.10**	**255**		**Pn**	**22 19 56.6**	**-2.6**
LUWI	**Luwuk**	**4.10**	**255**	P	**Pn**	**22 19 56.7**	**-2.4**
SWI	**Sorong**	**4.62**	**101**	P	**Pn**	**22 20 07.3**	**+1.1**
MRSI	**Marisa**	**4.81**	**275**	P	**Pn**	**22 20 06.8**	**-2.0**
TOLI2	**Tolitoli**	**6.04**	**280**		**Pn**	**22 20 24.5**	**-1.2**
FAKI	**Fak Fak**	**6.25**	**118**	Pn	**Pn**	**22 20 28.4**	**-0.2**
FAKI	**Fak Fak**	**6.25**	**118**	P	**Pn**	**22 20 28.7**	**+0.1**
	19nm,0.9s,0.1nm						
TTSI	**Tana Toraja**	**7.55**	**246**	P	**Pn**	**22 20 45.0**	**-1.4**
	51nm,0.4s,1μm0.3nm						
BKSI	**Bulukumba**	**8.48**	**231**	P	**Pn**	**22 20 58.8**	**-0.2**
	24nm,0.6s						
KAPI	**Kappang**	**8.59**	**234**	Pn	**Pn**	**22 21 00.1**	**-0.4**
EDFI	**Ende, Flores**	**10.07**	**210**	P	**Pn**	**22 21 21.6**	**+0.7**
WB0	**Warramunga Arr**	**21.07**	**160**	P	**P**	**22 23 36.3**	**-1.0**
WB0				IAmb	IAmb	22 23 40.0	
	comp=Z,12nm,0.3s						
WRA	**Warramunga Arr**	**21.21**	**160**	P	**P**	**22 23 38.0**	**-0.8**
	comp=Z,3.6nm,0.3s,baz=338,slow=11,SNR=91						
	comp=Z,3.6nm,0.3s						
WB2	**Warramunga Arr**	**21.21**	**160**	P	**P**	**22 23 37.5**	**-1.3**
WB2				IAmb	IAmb	22 24 00.4	
	comp=Z,17nm,1.2s						
AS31	**Alice Springs**	**24.57**	**164**	P	**P**	**22 24 12.0**	**-0.2**
ASAR	**Alice Springs**	**24.57**	**164**	P	**P**	**22 24 12.3**	**+0.1**
ASAR	**Alice Springs**	**24.57**	**164**	P	**P**	**22 24 12.2**	**0.0**
	comp=Z,5.8nm,0.5s,baz=343,slow=10.0,SNR=84						
ASAR				PcP	**PcP**	**22 27 48.6**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=353,slow=1.9,SNR=1.4						
	comp=Z,5.8nm,0.5s						
KULM	**Kulim**	**26.56**	**282**	P	**P**	**22 24 31.1**	**+0.7**
KULM				IAmb	IAmb	22 24 52.9	
	comp=Z,7.9nm,1.2s						
BBOO	**Buckleboo**	**33.84**	**166**	P	**P**	**22 25 33.9**	**-0.5**
STKA	**Stephens Creek**	**34.72**	**157**	P	**P**	**22 25 42.0**	**0.0**
STKA				IAmb	IAmb	22 25 43.4	
	comp=Z,1.2nm,0.3s						
STKA	**Stephens Creek**	**34.72**	**157**	P	**P**	**22 25 42.1**	**0.0**
	comp=Z,3.2nm,0.3s,baz=325,slow=8.0,SNR=20						
	comp=Z,3.2nm,0.3s						
USRK	**Ussuriysk Ar.**	**44.22**	**5**	P	**P**	**22 27 01.2**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=165,slow=8.2,SNR=2.4						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**60.59**	**326**	P	**P**	**22 29 02.4**	**+0.4**
MKAR	**Makanchi Array**	**60.59**	**326**	P	**P**	**22 29 02.8**	**+0.8**
	comp=Z,0.6nm,0.4s,baz=121,slow=7.8,SNR=18						
	comp=Z,0.6nm,0.4s						
MAKZ	**Makanchi**	**60.77**	**326**	P	**P**	**22 29 04.0**	**+0.8**
KURBB	**Kurchatov Arra**	**64.84**	**328**	P	**P**	**22 29 30.9**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=128,slow=6.5,SNR=7.5						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**64.85**	**328**	P	**P**	**22 29 31.5**	**+1.3**
KURK				IAmb	IAmb	22 29 42.4	
	comp=Z,2.1nm,1.0s						
TIXI	**Tiksi**	**71.51**	**1**	P	**P**	**22 30 11.6**	**+0.1**
VNDA	**Vanda**	**79.79**	**173**	P	**P**	**22 30 58.9**	**+0.2**
VNDA				IAmb	IAmb	22 31 05.7	
	comp=Z,2.6nm,1.4s						
BMAR	**Burnt Mountain**	**89.46**	**23**	P	**P**	**22 31 49.9**	**+2.3**
QSPA	**South Pole Qui**	**89.97**	**180**	P	**P**	**22 31 49.8**	**-0.3**
QSPA				IAmb	IAmb	22 31 52.5	
	comp=Z,2.3nm,1.1s						
QSPA	**South Pole Qui**	**89.97**	**180**	P	**P**	**22 31 50.2**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=345,slow=0.3,SNR=8.0						
	comp=Z,1.1nm,0.6s						

*DJA **05** 22:40:55.9±0.4, 7°.S±3°×13°.0E±°, h199km±14km, M4.4/11, mb4.2/8, mB4.9/7, MLv4.7/11, Mw(mB)4.2/7*

*NEIC **05** 22:40:56.3±2.0, 7°.08S±0°.05×129°.57E±0°.09, h138km±9km, mb4.2/16, Error ellipse: s-maj=12.7km s-min=7.1km az=81.0*

*IDC **05** 22:40:57.4±2.8, 7°.10S×129°.53E, h149km±25km, mb3.7/10, mbtmp4.1/12, Error ellipse: s-maj=26.8km s-min=15.6km az=74.0*

ISC 05 22:40:55.9±0.5, **7°.06S**±0°.05×**129°.65E**±0°.06, **h139**km, **n70,**
σ1**9**35/73, **mb4.0**/14, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.88**	**119**	P	**Pn**	**22 41 31.7**	**+2.8**
SAUI	**Saumlaki**	**1.88**	**119**		**Pn**	**22 41 31.6**	**+2.8**
SAUI	**Saumlaki**	**1.88**	**119**	P	**Pn**	**22 41 31.7**	**+2.8**
FAKI	**Fak Fak**	**4.86**	**32**	P	**Pn**	**22 42 07.7**	**+0.4**
FAKI	**Fak Fak**	**4.86**	**32**		**Pn**	**22 42 07.8**	**+0.5**
FAKI	**Fak Fak**	**4.86**	**32**	P	**Pn**	**22 42 07.7**	**+0.4**
FAKI				S	**Sn**	**22 42 58.6**	**-4.4**
KMPI	**Kaimana, Papua**	**5.26**	**50**	P	**Pn**	**22 42 15.4**	**+2.7**
	156nm,0.7s,6μm1.9nm						
DRS	**Darwin Rock St**	**5.48**	**167**	P	**Pn**	**22 42 16.1**	**+0.6**
MTN	**Manton Dam**	**5.93**	**166**	P	**Pn**	**22 42 21.7**	**+0.1**
MTN	**Manton Dam**	**5.93**	**166**		**Pn**	**22 42 21.7**	**+0.1**
SOEI	**Soe**	**5.96**	**243**	P	**Pn**	**22 42 21.8**	**-0.3**
SOEI	**Soe**	**5.96**	**243**		**Pn**	**22 42 23.0**	**+0.9**
SOEI	**Soe**	**5.96**	**243**	P	**Pn**	**22 42 23.3**	**+1.2**
	38nm,0.9s,1μm0.7nm						
KDU	**Kakadu**	**6.25**	**154**	P	**Pn**	**22 42 26.1**	**+0.3**
SWI	**Sorong**	**6.36**	**15**	P	**Pn**	**22 42 27.9**	**+0.5**
BATI	**Baumata**	**6.69**	**242**	P	**Pn**	**22 42 33.1**	**+1.2**
	32nm,0.4s,baz=126,slow=1.4,SNR=8.2						
BATI				S	**Sn**	**22 43 44.7**	**-2.2**
	91nm,0.4s,baz=90,slow=20,SNR=20						
BATI	**Baumata**	**6.69**	**242**	P	**Pn**	**22 42 32.7**	**+0.9**
	27nm,0.8s,0.5nm						
LBMI	**Labuha**	**6.73**	**341**	P	**Pn**	**22 42 35.0**	**+2.7**
	20nm,0.4s,1μm0.1nm						
EDFI	**Ende, Flores**	**8.06**	**257**	P	**Pn**	**22 42 51.8**	**+1.5**
	8.3nm,1.1s,1μm						
KNRA	**Kununurra**	**8.61**	**186**	P	**Pn**	**22 42 56.0**	**-1.6**
KNRA	**Kununurra**	**8.61**	**186**		**Pn**	**22 42 55.9**	**-1.6**
WB0	**Warramunga Arr**	**13.45**	**160**		**Pn**	**22 43 58.2**	**-3.1**
WRA	**Warramunga Arr**	**13.59**	**161**	P	**Pn**	**22 43 59.8**	**-3.3**
	1.8nm,0.3s,baz=334,slow=14,SNR=30						
WRA				S	Sn	22 46 21.3	-12
	9.3nm,0.4s,baz=333,slow=23,SNR=9.6						
COEN	**Coen**	**14.96**	**118**	P	**P**	**22 44 21.9**	**-0.6**
COEN	**Coen**	**14.96**	**118**	Pn	**Pn**	**22 44 19.9**	**-0.5**
QIS	**Mount Isa**	**16.53**	**145**	P	**P**	**22 44 41.1**	**+1.2**
MBWA	**Marble Bar**	**16.98**	**213**	P	**Pn**	**22 44 45.6**	**+0.4**
MBWA	**Marble Bar**	**16.98**	**213**	P	**P**	**22 44 43.3**	**-1.6**
MBWA				IAmb	IAmb	22 45 03.5	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**17.01**	**167**	P	**Pn**	**22 44 45.0**	**-0.6**
ASAR	**Alice Springs**	**17.01**	**167**	P	**Pn**	**22 44 44.7**	**-0.9**
ASAR	**Alice Springs**	**17.01**	**167**	P	**Pn**	**22 44 45.7**	**+0.1**
	comp=Z,2.9nm,0.4s,baz=342,slow=8.9,SNR=80						
ASAR				S	S	22 47 41.6	-14
	comp=Z,1.3nm,0.6s,baz=345,slow=17,SNR=4.9						
ASAR				ScP	**ScP**	**22 52 43.4**	**-2.0**
	comp=Z,1.2nm,0.6s,baz=351,slow=1.9,SNR=5.2						
PSA00	**Pilbara Seismi**	**17.26**	**212**	P	**Pn**	**22 44 48.9**	**+0.3**
PSA00	**Pilbara Seismi**	**17.26**	**212**	P	**Pn**	**22 44 48.5**	**-0.1**
PSA00				IAmb	IAmb	22 44 49.3	
	comp=Z,11nm,0.8s						
PSA00	**Pilbara Seismi**	**17.26**	**212**	P	**P**	**22 44 46.7**	**-1.2**
PSA00				IAmb	IAmb	22 45 06.7	
	comp=Z,10nm,1.2s						
WRKA	**Warakurna**	**17.92**	**184**	P	**Pn**	**22 44 55.5**	**-1.0**
OOD	**Oodnadatta**	**21.40**	**165**	P	**P**	**22 45 32.8**	**+0.1**
MULG	**Mulgathing**	**23.47**	**170**	P	**P**	**22 45 53.6**	**+0.6**
FORT	**Forrest**	**23.64**	**183**	P	**P**	**22 45 56.0**	**+1.5**
QLP	**Quilpie**	**23.87**	**146**	P	**P**	**22 45 57.8**	**+1.2**
LCRK	**Leigh Creek**	**24.62**	**162**	P	**P**	**22 46 04.4**	**+1.0**
BBOO	**Buckleboo**	**26.31**	**168**	P	**P**	**22 46 19.9**	**+1.3**
STKA	**Stephens Creek**	**27.09**	**157**	P	**P**	**22 46 26.5**	**+0.8**
STKA	**Stephens Creek**	**27.09**	**157**	P	**P**	**22 46 25.2**	**-0.4**
STKA	**Stephens Creek**	**27.09**	**157**	P	**P**	**22 46 25.9**	**+0.2**
	comp=Z,1.6nm,0.5s,baz=332,slow=12,SNR=4.6						
	comp=Z,1.6nm,0.5s						
ARPS	**Mount Arapiles**	**31.60**	**161**	P	**P**	**22 47 07.0**	**+1.5**
CMAR	**Chiang Mai Arr**	**39.50**	**310**	P	**P**	**22 48 13.6**	**+0.4**
	comp=Z,1.4nm,0.3s,baz=132,slow=6.4,SNR=6.1						
	comp=Z,1.4nm,0.3s						
JMN	**Monobe**	**40.76**	**5**	P	**P**	**22 48 24.0**	**+0.6**
KSRS	**Korea Array**	**44.31**	**358**	P	**P**	**22 48 53.0**	**+1.1**
	comp=Z,0.4nm,0.5s,baz=172,slow=10,SNR=2.7						
	comp=Z,0.4nm,0.5s						
USA0B	**Ussuriysk Arra**	**51.06**	**2**	P	**P**	**22 49 43.7**	**-0.2**
USA0B				IAmb	IAmb	22 50 06.2	
	comp=Z,7.5nm,1.2s						
USRK	**Ussuriysk Ar.**	**51.06**	**2**	P	**P**	**22 49 43.1**	**-0.8**
USRK	**Ussuriysk Ar.**	**51.06**	**2**	P	**P**	**22 49 44.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=166,slow=8.9,SNR=3.6						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**58.39**	**342**	P	**P**	**22 50 38.0**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=154,slow=7.7,SNR=3.7						
	comp=Z,0.4nm,0.4s						
MK31	**Makanchi Array**	**68.08**	**327**	P	**P**	**22 51 41.3**	**+0.7**
MK31				IAmb	IAmb	22 51 58.2	
	comp=Z,5.4nm,1.3s						
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**22 51 41.2**	**+0.6**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**22 51 41.6**	**+1.0**
	comp=Z,3.5nm,0.5s,baz=117,slow=8.2,SNR=61						
	comp=Z,3.5nm,0.5s						
MAKZ	**Makanchi**	**68.26**	**327**	P	**P**	**22 51 42.1**	**+0.3**
ZALV	**Zalesovo Beam**	**71.48**	**334**	P	**P**	**22 52 00.6**	**-0.6**
ZALV	**Zalesovo Beam**	**71.48**	**334**	P	**P**	**22 52 00.9**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=123,slow=5.5,SNR=7.9						
	comp=Z,1.9nm,0.8s						
KURBB	**Kurchatov Arra**	**72.38**	**329**	P	**P**	**22 52 06.6**	**0.0**
	comp=Z,2.0nm,0.7s,baz=128,slow=4.8,SNR=13						
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**72.39**	**329**	P	**P**	**22 52 06.7**	**+0.1**
KURK				IAmb	IAmb	22 52 07.8	
	comp=Z,3.9nm,1.2s						
BVAR	**Borovoye Array**	**77.93**	**328**	P	**P**	**22 52 38.2**	**-0.2**
	comp=Z,1.8nm,0.8s,baz=123,slow=5.5,SNR=8.6						
	comp=Z,1.8nm,0.8s						
TIXI	**Tiksi**	**78.55**	**360**	P	**P**	**22 52 41.4**	**0.0**
VOI	**Vohitsoka**	**80.80**	**249**	P	**P**	**22 52 54.8**	**0.0**
VOI				IAmb	IAmb	22 53 20.0	
	comp=Z,10.0nm,1.2s						
ABKAR	**Akbulak array**	**82.34**	**322**	P	**P**	**22 53 02.1**	**0.0**
ABKAR	**Akbulak array**	**82.34**	**322**	P	**P**	**22 53 01.9**	**-0.2**
ABKAR				IAmb	IAmb	22 53 04.4	
	comp=Z,1.5nm,0.7s						
L16K	**Owhat River**	**87.28**	**27**	P	**P**	**22 53 27.6**	**+1.0**
ILAR	**Eielson Array**	**93.55**	**25**	P	**P**	**22 53 54.6**	**-1.2**
	comp=Z,0.4nm,0.7s,baz=305,slow=4.8,SNR=4.1						
	comp=Z,0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**128.48**	**281**	PKP	**PKiKP**	**22 59 47.4**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=114,slow=4.2,SNR=2.0						
CPUP	**Villa Florida**	**146.12**	**169**	PKPbc	**PKPab**	**23 00 21.0**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=192,slow=6.1,SNR=3.1						
LPAZ	**La Paz**	**150.88**	**143**	PKPbc	**PKiKP**	**23 00 35.2**	**+0.7**
	comp=Z,0.8nm,0.4s,baz=256,slow=4.2,SNR=2.9						

HEL 05 23:16:36.8±0.5, **67°.75N**×**20°.16E**, **h0**km, **ML0.9,**
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LANU	**Lannavaara**	**0.76**	**66**	PG	Pg	23 16 50.8	-0.4
KIF	**Kilpisjarvi**	**1.28**	**10**	PG	Pg	23 17 00.8	-0.5
KIF				MSG		23 17 16.7	
	comp=Z,1.2nm,0.2s						
KIF				SG	Sg	23 17 17.6	-0.3
PAJU	**Pajala**	**1.35**	**121**	PN	Pg	23 17 02.5	-0.2
	baz=304						
PAJU				SN	Sg	23 17 20.5	+0.3
HEF	**Hetta**	**1.47**	**62**	PG	Pn	23 17 03.7	-0.8
HEF				MSG		23 17 20.9	
	comp=Z,0.6nm,0.2s						
HEF				SN	Sg	23 17 24.0	+0.1
KLF	**Kolari**	**1.55**	**108**	PN	Pb	23 17 06.3	-0.1
KLF				MSG		23 17 23.2	
	comp=Z,0.6nm,0.2s						
KLF				SN	Sg	23 17 26.8	+0.2
**

mb5.3/197,Mwr5.1/35,Error ellipse: s-maj=9.0km s-min=6.7km az=133.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr3.68; Mθθ-5.40; Mφφ1.73; Mrθ1.16; Mθφ0.79; Mrφ3.63; Fault plane solution: M₀6.17000×10¹⁶ NP1:ϕs306.93000°,δ50.90000°, λ141.32000°. NP2:ϕs63.73000°,δ60.99000°,λ46.16000°. Principal axes: T 6.6251, Plg52.0000°, Azm281.0000°; N -1.0561, Plg37.0000°, Azm89.0000°; P -5.5690, Plg6.0000°, Azm183.0000°;

*NNC **06** 00:01:13.0±1.2,37.47N×71.15E,h130km±19km,mb5.0, mpv5.7 Error ellipse: s-maj=11.7km s-min=8.2km az=174.0*

*NEIC **06** 00:01:13.5,37.35N×71.45E,h94km*

*SOME **06** 00:01:13.9,37.42N×71.53E,h35km,MS4.4*

*IDC **06** 00:01:14.2±0.6,37.35N×71.54E,h112km±5km,mb4.7/35, mbtmp5.1/39,MS3.7/46,Error ellipse: s-maj=8.9km s-min=7.2km az=10.0*

*GCMT **06** 00:01:16.2±0.2,37.33N±0.02×71.19E±0.02,h116km±2km, MW5.0/128,Moment Tensor Solution. s50,c58; s128,c220; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr2.36±.09; Mθθ-4.31±.10; Mφφ1.95±.09; Mrθ0.60±.08; Mθφ0.07±.10; Mφr1.68±.06; Best double couple: Mo4.12100×10¹⁶ NP1:ϕs58.00000°,δ62.00000°, λ42.00000°. NP2:ϕs305.00000°,δ53.00000°,λ144.00000°. Principal axes: T 3.8780, Plg49.0000°, Azm275.0000°; N 0.4860, Plg41.0000°, Azm85.0000°; P -4.3640, Plg5.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 00:01:13.7±0.2,37.34N±0.03×71.47E±0.03,h105km±2km, h105km:pP-P,n1512,σ1s38/1605,mb5.2/327,143C-61D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**1.89**	**332**	Pn		**Pn**		**00 01 44.2**	**-1.0**
DRK	**Karamyk**	**2.15**	**7**			**Pn**		**00 01 49.2**	**+0.5**
DRK				Sn		**Sn**		**00 02 16.7**	**+1.2**
DRK	**Karamyk**	**2.15**	**7**	PN		**Pn**		**00 01 49.2**	**+0.5**
DRK				S		**Sn**		**00 02 16.7**	**+1.2**
CHGR	**Chuyangaron**	**2.25**	**307**			**Pn**		**00 01 48.0**	**-1.7**
CHGR	**Chuyangaron**	**2.25**	**307**	PN		**Pn**		**00 01 48.1**	**-1.7**
SIMJ	**Simiganj**	**2.35**	**305**	Pn		**Pn**		**00 01 49.2**	**-1.9**
BTK	**Batken**	**2.76**	**350**			**Pn**		**00 01 56.9**	**+0.4**
BTK	**Batken**	**2.76**	**350**	PN		**Pn**		**00 01 56.9**	**+0.4**
OHH	**Osh**	**3.34**	**18**	PN		**Pn**		**00 02 04.8**	**+0.6**
KBL	**Kabul**	**3.42**	**216**			**Pn**		**00 02 06.3**	**+1.0**
KBL	**Kabul**	**3.42**	**216**	P		**Pn**		**00 02 06.5**	**+1.2**
	SNR=409								
KBL	**Kabul**	**3.42**	**216**	PN		**Pn**		**00 02 06.3**	**+1.0**
ARSB	**Arslanbob**	**4.15**	**16**			**Pn**		**00 02 14.5**	**-0.6**
ARSB	**Arslanbob**	**4.15**	**16**	PN		**Pn**		**00 02 14.5**	**-0.6**
KSH	**Kashi**	**4.15**	**57**	P		**Pn**		**00 02 12.8**	**-2.3**
KSH				S		**Sn**		**00 02 56.2**	**-6.5**
KSH				pmax		pmax			
	comp=Z,2μm,0.7s								
KSH				smax		smax			
	comp=N,12μm,0.6s								
KSH				smax		smax			
	comp=E,9μm,0.6s								
TRKS	**Terek-Say**	**4.19**	**357**	PN		**Pn**		**00 02 14.5**	**-1.2**
IUG	**Iuzhnay**	**4.93**	**347**	*e*P		**Pn**		**00 02 24.9**	**-0.7**
	baz=347								
IUG				*e*S		**Sn**		**00 03 19.2**	**-2.3**
	baz=347								
IUG	**Iuzhnay**	**4.93**	**347**	*e*P		**Pn**		**00 02 25.1**	**-0.5**
	2μm,0.5s								
IUG				*e*S		**Sn**		**00 03 18.8**	**-2.6**
	3μm,0.7s								
IUG	**Iuzhnay**	**4.93**	**347**	*e*PN		**Pn**		**00 02 24.8**	**-0.7**
ARLS	**Aral**	**5.03**	**25**	PN		**Pn**		**00 02 26.5**	**-0.4**
CHM	**Chimkent**	**5.18**	**344**	⇓*i*P		**Pn**		**00 02 28.5**	**-0.4**
	baz=344								
CHM				*e*S		**Sn**		**00 03 25.7**	**-1.6**
	baz=344								
CHM	**Chimkent**	**5.18**	**344**	*e*P		**Pn**		**00 02 28.4**	**-0.4**
	852nm,0.6s								
CHM				*e*S		**Sn**		**00 03 24.7**	**-2.6**
	6μm,0.5s								
CHM	**Chimkent**	**5.18**	**344**	*d i*PN		**Pn**		**00 02 28.4**	**-0.4**
UCH	**Uchtor**	**5.42**	**25**	P		**Pn**		**00 02 32.5**	**0.0**
	SNR=647								
DZA	**Taraz**	**5.55**	**359**	*e*P		**Pn**		**00 02 33.3**	**-0.6**
	baz=359								
DZA				*e*S		**Sn**		**00 03 34.3**	**-2.0**
	baz=359								
DZA	**Taraz**	**5.55**	**359**	*e*P		**Pn**		**00 02 33.7**	**-0.1**
	5μm,0.6s								
DZA				*e*S		**Sn**		**00 03 34.3**	**-2.0**
	6μm,0.7s								
DZA	**Taraz**	**5.55**	**359**	*e*PN		**Pn**		**00 02 33.2**	**-0.6**
MRKS	**Merke**	**5.57**	**13**	Lg		Lg		00 03 34.9	
	2μm,0.5s								
MRKS	**Merke**	**5.57**	**13**	*e*P		**Pn**		**00 02 34.1**	**-0.1**
	918nm,0.5s								
MRKS				*e*S		**Sn**		**00 03 35.0**	**-1.9**
	2μm,0.5s								
EKS2	**Erkin-Say**	**5.60**	**18**	P		**Pn**		**00 02 35.1**	**+0.4**
	SNR=433								
AAK	**Ala-Archa**	**5.78**	**23**	P		**Pn**		**00 02 37.6**	**+0.5**
	SNR=1942								
AAK	**Ala-Archa**	**5.78**	**23**	⇓P		**Pn**		**00 02 37.5**	**+0.5**
	849nm,0.5s								
AAK				⇑S		**Sn**		**00 03 39.9**	**-2.2**
	750nm,0.7s								
AAK	**Ala-Archa**	**5.78**	**23**			**Pn**		**00 02 37.5**	**+0.5**
AAK	**Ala-Archa**	**5.78**	**23**	P		**Pn**		**00 02 37.7**	**+0.5**
AAK	**Ala-Archa**	**5.78**	**23**	P		**Pn**		**00 02 37.4**	**+0.3**
	1μm,0.4s,baz=192,slow=5.7,SNR=2964								
AAK				S		**Sn**		**00 03 40.0**	**-2.2**
	493nm,0.5s,baz=142,slow=19,SNR=15								
AAK				LR		LR		00 04 35.8	
	comp=Z,431nm,20.4s,baz=198,slow=35								
AAK	**Ala-Archa**	**5.78**	**23**	PN		**Pn**		**00 02 37.6**	**+0.5**
KK31	**Karatay Array**	**5.80**	**353**	P		**Pn**		**00 02 36.3**	**-1.0**
	389nm,0.5s,baz=183,slow=13,SNR=2505								
KK31				S		**Sn**		**00 03 39.7**	**-2.8**
	802nm,0.6s,baz=16,slow=76,SNR=6.6								
KK31	**Karatay Array**	**5.80**	**353**			**Pn**		**00 02 36.3**	**-1.0**
KK31	**Karatay Array**	**5.80**	**353**	PN		**Pn**		**00 02 36.3**	**-1.0**
KKAR	**Karatay Array**	**5.80**	**353**			**Pn**		**00 02 36.5**	**-0.8**
KKAR	**Karatay Array**	**5.80**	**353**	PN		**Pn**		**00 02 36.5**	**-0.8**
BRLS	**Borolday**	**5.82**	**348**	⇓*i*P		**Pn**		**00 02 33.4**	**-4.2**
	baz=346								
BRLS	**Borolday**	**5.82**	**348**	*e*P		**Pn**		**00 02 33.4**	**-4.2**
	476nm,0.8s								
BRLS				*e*S		Sn		00 03 33.7	-9.3
	2μm,0.9s								
BRLS	**Borolday**	**5.82**	**348**	*d i*PN		**Pn**		**00 02 33.3**	**-4.2**
KBK	**Karagaybulak**	**5.95**	**26**	P		**Pn**		**00 02 39.9**	**+0.5**
	SNR=406								
FRU1	**Bishkek**	**5.98**	**23**			**Pn**		**00 02 40.7**	**+0.9**
FRU1	**Bishkek**	**5.98**	**23**	PN		**Pn**		**00 02 40.7**	**+0.9**
ULHL	**Ulahol**	**6.13**	**35**	P		**Pn**		**00 02 41.8**	**0.0**
	SNR=278								
BOOM	**Boomskoye usch**	**6.19**	**32**	Pn		**Pn**		**00 02 42.8**	**+0.1**
BOOM	**Boomskoye usch**	**6.19**	**32**	PN		**Pn**		**00 02 42.8**	**+0.1**
CHMS	**Chumysh**	**6.19**	**23**	P		**Pn**		**00 02 43.0**	**+0.4**
	SNR=2056								
CHMS	**Chumysh**	**6.19**	**23**	⇓P		**Pn**		**00 02 42.0**	**-0.5**
	3μm,0.6s								
CHMS				⇑S		**Sn**		**00 03 50.8**	**-1.1**
	1μm,0.8s								
CHMS	**Chumysh**	**6.19**	**23**	PN		**Pn**		**00 02 42.0**	**-0.5**
USP	**Ospenovka**	**6.36**	**20**	P		**Pn**		**00 02 44.6**	**-0.2**
	SNR=429								
TKM2	**Tokmak 2**	**6.41**	**28**	P		**Pn**		**00 02 46.0**	**+0.3**
	SNR=1595								
TKM2	**Tokmak 2**	**6.41**	**28**	⇑P		**Pn**		**00 02 45.9**	**+0.2**
	400nm,0.4s								
TKM2				⇑S		**Sn**		**00 03 57.9**	**+0.4**
	301nm,0.6s								
TKM2	**Tokmak 2**	**6.41**	**28**	PN		**Pn**		**00 02 45.9**	**+0.2**
DHRM	**DHARAMSHALA**	**6.45**	**141**	*e*P		**Pn**		**00 02 45.9**	**-0.4**
DHRM				*e*S		**Sn**		**00 03 54.6**	**-4.0**
DHRM				IAML				00 03 58.7	
	comp=E,4μm,0.8s								
DHRM				IAML				00 03 59.6	
	comp=N,3μm,0.8s								
SGDS	**Sogindy**	**6.57**	**21**	P		**Pn**		**00 02 47.6**	**-0.2**
	comp=N,945nm,0.6s								
SGDS	**Sogindy**	**6.57**	**21**	*d i*P		**Pn**		**00 02 47.3**	**-0.5**
	baz=21								
SGDS	**Sogindy**	**6.57**	**21**	*d i*PN		**Pn**		**00 02 47.2**	**-0.5**
TARG	**Taragay, Kyrgy**	**6.57**	**46**			**Pn**		**00 02 48.0**	**-0.1**
TARG	**Taragay, Kyrgy**	**6.57**	**46**	PN		**Pn**		**00 02 48.0**	**-0.1**
KST	**Kastek**	**6.66**	**30**	*e*P		**Pn**		**00 02 49.7**	**+0.7**
	comp=N,603nm,0.9s								
KST				*e*S		**Sn**		**00 04 02.2**	**-1.1**
	comp=N,672nm,0.9s								
DGS	**Degeres**	**6.75**	**28**	P		**Pn**		**00 02 50.5**	**+0.2**
	comp=N,702nm,0.8s								
DGS	**Degeres**	**6.75**	**28**	*e*P		**Pn**		**00 02 50.5**	**+0.2**
	comp=N,702nm,0.8s								
DGS				*e*S		**Sn**		**00 04 03.7**	**-2.0**
	comp=N,282nm,0.8s								
MTBS	**Maitube**	**6.92**	**32**	P		**Pn**		**00 02 53.2**	**+0.7**
	comp=N,354nm,0.6s								
MTBS	**Maitube**	**6.92**	**32**	*e*P		**Pn**		**00 02 53.2**	**+0.7**
	comp=N,354nm,0.6s								
MTBS				*e*S		**Sn**		**00 04 08.1**	**-1.6**
	comp=N,232nm,0.8s								
IZV	**Izvestkoviy**	**6.92**	**33**	P		**Pn**		**00 02 53.2**	**+0.6**
	comp=N,217nm,0.5s								
IZV	**Izvestkoviy**	**6.92**	**33**	*e*P		**Pn**		**00 02 53.2**	**+0.6**
	comp=N,217nm,0.5s								
IZV				*e*S		**Sn**		**00 04 08.5**	**-1.3**
	comp=N,173nm,1.0s								
TNSS	**Tian-Shan**	**7.07**	**35**	P		**Pn**		**00 02 54.8**	**0.0**
	comp=N,225nm,0.6s								
TNSS	**Tian-Shan**	**7.07**	**35**	*e*P		**Pn**		**00 02 54.1**	**-0.8**
	baz=36								
TNSS	**Tian-Shan**	**7.07**	**35**	*e*P		**Pn**		**00 02 54.8**	**0.0**
	comp=N,225nm,0.6s								
TNSS				*e*S		**Sn**		**00 04 11.3**	**-2.5**
	comp=N,87nm,0.5s								
TNSS	**Tian-Shan**	**7.07**	**35**	*e*PN		**Pn**		**00 02 54.0**	**-0.8**
KASK	**Kaskelen**	**7.08**	**32**	⇑P		**Pn**		**00 02 55.5**	**+0.8**
KRBS	**Karabastau**	**7.11**	**25**	P		**Pn**		**00 02 54.7**	**-0.5**
	comp=N,365nm,1.0s								
KRBS	**Karabastau**	**7.11**	**25**	*e*P		**Pn**		**00 02 54.7**	**-0.5**
	comp=N,365nm,1.0s								
KRBS				*e*S		**Sn**		**00 04 11.0**	**-3.4**
	comp=N,136nm,0.9s								
AAA	**Alma-Ata**	**7.19**	**34**	P		**Pn**		**00 02 57.1**	**+0.9**
	comp=N,2μm,0.6s								
MDOK	**Medeo**	**7.21**	**35**	⇑P		**Pn**		**00 02 56.6**	**0.0**
	comp=N,376nm,0.6s								
MDOK				Pg				00 02 56.8	
	comp=N,400nm,0.8s								
MDOK	**Medeo**	**7.21**	**35**	*i* P		**Pn**		**00 02 56.3**	**-0.4**
	baz=35								
MDOK	**Medeo**	**7.21**	**35**	*e*P		**Pn**		**00 02 56.8**	**+0.2**
	comp=N,400nm,0.8s								
MDOK				*e*S		**Sn**		**00 04 14.8**	**-2.2**
	comp=N,114nm,0.6s								
MDOK	**Medeo**	**7.21**	**35**	*i* PN		**Pn**		**00 02 56.2**	**-0.4**
KNDC	**Almaty**	**7.22**	**34**	⇓P		**Pn**		**00 02 57.0**	**+0.5**
	comp=N,2μm,0.6s								
KNDC	**Almaty**	**7.22**	**34**	PN		**Pn**		**00 02 57.4**	**+0.8**
KOTS	**Kotyrbulak**	**7.30**	**34**	P		**Pn**		**00 02 58.4**	**+0.7**
	comp=N,18nm,0.8s								
KOTS	**Kotyrbulak**	**7.30**	**34**	*e*P		**Pn**		**00 02 58.4**	**+0.7**
	comp=N,18nm,0.8s								
KOTS				*e*S		**Sn**		**00 04 17.6**	**-1.4**
	comp=N,402nm,1.3s								
CHKK	**Chushkaly**	**7.74**	**31**	P		**Pn**		**00 03 02.7**	**-0.9**
	comp=N,210nm,0.5s								
CHKK	**Chushkaly**	**7.74**	**31**	⇓*i*P		**Pn**		**00 03 02.8**	**-0.9**
	baz=32								
CHKK	**Chushkaly**	**7.74**	**31**	*e*P		**Pn**		**00 03 02.7**	**-0.9**
	comp=N,210nm,0.5s								
CHKK				*e*S		**Sn**		**00 04 25.0**	**-4.7**
	comp=N,68nm,0.9s								
CHKK	**Chushkaly**	**7.74**	**31**	⇓*i*PN		**Pn**		**00 03 02.7**	**-0.9**
SMLA	**Simla**	**7.79**	**141**	*e*P		**Pn**		**00 03 03.0**	**-1.2**
SMLA				IAML				00 04 28.8	
	comp=N,3μm,0.8s								
SMLA				IAML				00 04 29.4	
	comp=Z,1μm,0.6s								
SATY	**Saty**	**7.80**	**41**	P		**Pn**		**00 03 03.8**	**-0.7**
	comp=Z,101nm,0.7s								
SATY	**Saty**	**7.80**	**41**	*e*P		**Pn**		**00 03 03.9**	**-0.7**
	comp=Z,24nm,0.6s,baz=42								
SATY	**Saty**	**7.80**	**41**	*e*PN		**Pn**		**00 03 03.8**	**-0.7**
SATY				pmax		pmax			
	comp=Z,24nm,0.6s								
ZHN	**Zhinishke**	**7.89**	**40**	P		**Pn**		**00 03 05.0**	**-0.8**
	comp=Z,79nm,0.4s								
ZHN	**Zhinishke**	**7.89**	**40**	*e*P		**Pn**		**00 03 04.9**	**-0.8**
	baz=41								
ZHN	**Zhinishke**	**7.89**	**40**	*e*PN		**Pn**		**00 03 04.9**	**-0.8**
BTLS	**Baital**	**7.94**	**13**	⇓*i*P		**Pn**		**00 03 05.2**	**-1.0**
	comp=Z,44nm,0.5s,baz=14								
BTLS				*e*S		**Sn**		**00 04 31.9**	**-2.4**
	baz=14								
BTLS	**Baital**	**7.94**	**13**	*d i*PN		**Pn**		**00 03 05.2**	**-1.0**
BTLS				pmax		pmax			
	comp=Z,44nm,0.5s								
KURS	**Kuram**	**7.99**	**38**	P		**Pn**		**00 03 07.2**	**+0.2**
	comp=Z,192nm,0.7s								
HRA	**Herat**	**8.04**	**251**			**Pn**		**00 03 06.5**	**-1.5**
UZB	**Uzynbulak**	**8.19**	**43**	P		**Pn**		**00 03 09.2**	**-0.6**
	comp=Z,160nm,0.5s								
UZB	**Uzynbulak**	**8.19**	**43**	⇓*i*P		**Pn**		**00 03 09.1**	**-0.6**
	comp=Z,25nm,0.5s,baz=43								
UZB	**Uzynbulak**	**8.19**	**43**	*d i*PN		**Pn**		**00 03 09.1**	**-0.6**
UZB				pmax		pmax			
	comp=Z,25nm,0.5s								
ARXS	**Arharly**	**8.39**	**33**	P		**Pn**		**00 03 11.3**	**-1.2**
	comp=Z,241nm,0.9s								
ARXS	**Arharly**	**8.39**	**33**	*e*PN		**Pn**		**00 03 10.9**	**-1.6**
SHLS	**Shalkode**	**8.43**	**44**	P		**Pn**		**00 03 16.1**	**+2.9**
	comp=Z,180nm,0.5s								
SHLS	**Shalkode**	**8.43**	**44**	⇓*i*P		**Pn**		**00 03 15.9**	**+2.8**
	comp=Z,45nm,0.6s,baz=46								
SHLS				*e*S		**Sn**		**00 04 50.6**	**+4.0**
	baz=46								
SHLS	**Shalkode**	**8.43**	**44**	*d i*PN		**Pn**		**00 03 15.9**	**+2.8**
SHLS				pmax		pmax			
	comp=Z,45nm,0.6s								
PDGK	**Podgornoye**	**8.56**	**43**	P		**Pn**		**00 03 13.9**	**-1.0**
	comp=Z,58nm,0.6s								
PDGK	**Podgornoye**	**8.56**	**43**	⇓P		**Pn**		**00 03 13.8**	**-1.0**
	comp=Z,101nm,0.6s								
PDGK	**Podgornoye**	**8.56**	**43**	PN		**Pn**		**00 03 13.8**	**-1.0**
BLB	**Baldybastay**	**8.59**	**36**	P		**Pn**		**00 03 14.2**	**-1.1**
	comp=Z,623nm,0.8s								
DDI	**Dehra Dun**	**8.89**	**140**	*e*P		**Pn**		**00 03 18.4**	**-0.9**
DDI				*e*S		**Sn**		**00 04 50.0**	**-7.7**
DDI				IAML				00 04 56.8	
	comp=N,3μm,0.7s								
DDI				IAML				00 04 57.1	
	comp=E,2μm,0.7s								
DDI				IAML				00 05 02.9	
	comp=Z,3μm,1.2s								
KTMS	**Ketmen**	**9.12**	**45**	P		**Pn**		**00 03 20.9**	**-1.5**
	comp=Z,166nm,0.6s								
KNOS	**Konyrlen**	**9.12**	**37**	P		**Pn**		**00 03 21.5**	**-1.1**
	comp=Z,157nm,0.8s								
TDK	**Taldyqorghan**	**9.27**	**32**	P		**Pn**		**00 03 23.5**	**-0.9**
	comp=Z,2μm,0.6s								
TDK	**Taldyqorghan**	**9.27**	**32**	*e*P		**Pn**		**00 03 23.4**	**-0.9**
	baz=33								
TDK	**Taldyqorghan**	**9.27**	**32**	*e*P		**Pn**		**00 03 23.4**	**-0.9**
DJR	**Jarkent**	**9.41**	**39**	P		**Pn**		**00 03 25.0**	**-1.3**
	comp=Z,66nm,0.7s								
DJR	**Jarkent**	**9.41**	**39**	*e*P		**Pn**		**00 03 25.0**	**-1.3**
	comp=Z,66nm,0.7s								
KAPS	**Kapalarasan**	**9.91**	**34**	P		**Pn**		**00 03 32.3**	**-0.7**
	comp=Z,239nm,0.6s								
GEYT	**Alibeck**	**10.61**	**277**	P		Pn		00 03 37.1	-5.5
	comp=Z,64nm,0.5s,baz=118,slow=12,SNR=381								
GEYT				S		Sn		00 05 29.1	-10
	comp=Z,67nm,0.4s,baz=135,slow=17,SNR=4.7								
GEYT	**Alibeck**	**10.61**	**277**	P		Pn		00 03 37.2	-5.4
GYA0	**ALIBECK ARRAY**	**10.61**	**277**	P		Pn		00 03 37.5	-5.1
GYA0B	**ALIBECK ARRAY**	**10.61**	**277**	⇑P		Pn		00 03 37.5	-5.0
GYA0B				⇓S		Sn		00 05 28.8	-11
GYA0B	**ALIBECK ARRAY**	**10.61**	**277**			Pn		00 03 37.3	-5.3
OTUK	**Ortayu**	**10.92**	**3**	P		**Pn**		**00 03 44.4**	**-2.3**
	comp=Z,104nm,1.1s								
OTUK	**Ortayu**	**10.92**	**3**	⇓P		**Pn**		**00 03 43.9**	**-2.8**
	comp=Z,341nm,1.0s								
OTUK	**Ortayu**	**10.92**	**3**	P		**Pn**		**00 03 43.9**	**-2.8**
MAKZ	**Makanchi**	**12.26**	**36**	⇓P		**Pn**		**00 04 02.6**	**-2.0**
	comp=Z,191nm,0.9s								
MAKZ	**Makanchi**	**12.26**	**36**			**Pn**		**00 04 03.1**	**-1.5**
MAKZ	**Makanchi**	**12.26**	**36**	P		**Pn**		**00 04 03.3**	**-1.3**
MK31	**Makanchi Array**	**12.39**	**37**	⇓P		**Pn**		**00 04 05.0**	**-1.3**
	comp=Z,76nm,0.5s,baz=218,slow=11,SNR=988								
MK31	**Makanchi Array**	**12.39**	**37**			**Pn**		**00 04 04.8**	**-1.6**
MK31	**Makanchi Array**	**12.39**	**37**	*ce*P		**Pn**		**00 04 05.1**	**-1.3**
MKAR	**Makanchi Array**	**12.39**	**37**			**Pn**		**00 04 05.0**	**-1.4**
MKAR	**Makanchi Array**	**12.39**	**37**	P		**Pn**		**00 04 04.7**	**-1.8**
	comp=Z,135nm,0.7s,baz=226,slow=14,SNR=789								
MKAR	**Makanchi Array**	**12.39**	**37**	*i* P		**Pn**		**00 04 04.6**	**-1.8**
MKAR				pmax		pmax			
	comp=Z,136nm,0.7s								
BRZS	**Berezniki**	**12.67**	**4**	P		**Pn**		**00 04 07.3**	**-2.7**
	comp=Z,292nm,1.1s								
BRZS	**Berezniki**	**12.67**	**4**	*e*P		**Pn**		**00 04 07.5**	**-2.5**
	baz=3.6								
BRZS	**Berezniki**	**12.67**	**4**	*e*P		**Pn**		**00 04 07.4**	**-2.5**
WMQ	**Urumqi**	**13.92**	**57**	*e*P		**Pn**		**00 04 27.6**	**+1.2**
WMQ				sP		P		00 04 54.0	+23
WMQ				S		**Sn**		**00 06 53.4**	**-6.2**
WMQ				pmax		pmax			
	comp=Z,39nm,0.7s								
WMQ				LR		LR			
	comp=Z,150nm,24.0s								
BHUJ	**Bhuj**	**14.12**	**187**	*e*P		**Pn**		**00 04 26.3**	**-2.8**
ZSN	**Zaisan**	**14.13**	**40**	P		**Pn**		**00 04 27.9**	**-1.1**
	comp=Z,34nm,1.0s								
KURBB	**Kurchatov Arra**	**14.21**	**19**	⇓P		**Pn**		**00 04 25.7**	**-4.3**
KURBB	**Kurchatov Arra**	**14.21**	**19**	P		Pn		00 04 24.8	-5.1
	comp=Z,27nm,0.7s,baz=214,slow=12,SNR=75								
KURBB	**Kurchatov Arra**	**14.21**	**19**	P		**Pn**		**00 04 25.7**	**-4.3**
KURK	**Kurchatov**	**14.32**	**19**	⇓P		Pn		00 04 26.3	-5.0
KURK	**Kurchatov**	**14.32**	**19**	Pn		**Pn**		**00 04 27.4**	**-3.9**
KURK	**Kurchatov**	**14.32**	**19**	P		**Pn**		**00 04 27.4**	**-3.9**
SEM	**Semipalatinsk**	**14.50**	**23**	P		**Pn**		**00 04 30.7**	**-3.3**
	comp=Z,160nm,0.8s								
AB31	**Akbulak array**	**14.55**	**329**	⇑P		**Pn**		**00 04 29.9**	**-4.4**
	comp=Z,49nm,0.5s,baz=138,slow=12,SNR=1146								
AB31				⇑S		**Sn**		**00 07 06.6**	**-8.0**
	comp=Z,241nm,0.7s								
AB31	**Akbulak array**	**14.55**	**329**	P		**Pn**		**00 04 29.9**	**-4.4**
ABKAR	**Akbulak array**	**14.55**	**329**			**Pn**		**00 04 30.4**	**-3.9**
ABKAR	**Akbulak array**	**14.55**	**329**	Pn		**Pn**		**00 04 30.4**	**-3.9**
NGCH	**Negor - Chabah**	**14.84**	**219**	P		**Pn**		**00 04 38.5**	**+0.4**
BHPL	**Bhopal**	**14.96**	**158**	*e*P		**Pn**		**00 04 35.1**	**-4.6**
BHPL				*e*S		Sn		00 07 08.6	-16
BHPL				IAML				00 07 18.1	
	comp=N,170nm,0.6s								
BHPL				IAML				00 07 20.0	
	comp=E,246nm,0.7s								
BVA0	**Borovoye Array**	**15.71**	**358**	⇓P		**Pn**		**00 04 46.3**	**-2.6**
	comp=E,144nm,1.1s,baz=160,slow=12,SNR=307								
BVA0	**Borovoye Array**	**15.71**	**358**	P		**Pn**		**00 04 46.3**	**-2.6**
BVAR	**Borovoye Array**	**15.71**	**358**	P		**Pn**		**00 04 45.9**	**-3.0**
	comp=E,111nm,0.6s,baz=167,slow=14,SNR=182								
BVAR				S		**Sn**		**00 07 33.4**	**-9.1**
	comp=E,44nm,0.7s,baz=162,slow=24,SNR=5.4								
BVAR				LR		LR		00 11 09.5	
	comp=E,640nm,19.2s,baz=177,slow=38								
BRVK	**Borovoye**	**15.74**	**357**	⇑P		**Pn**		**00 04 46.4**	**-2.9**
	comp=E,157nm,0.9s								
BRVK	**Borovoye**	**15.74**	**357**			**Pn**		**00 04 47.0**	**-2.3**
BRVK	**Borovoye**	**15.74**	**357**	P		**Pn**		**00 04 47.3**	**-2.0**
BRVK	**Borovoye**	**15.74**	**357**	*ce*P		**Pn**		**00 04 46.8**	**-2.5**
BRVK				pmax		pmax			
	comp=Z,118nm,0.6s								
AKTO	**Aktyubinsk**	**16.25**	**328**	P		**Pn**		**00 04 53.1**	**-2.6**
	comp=Z,32nm,0.4s,baz=136,slow=11,SNR=112								
AKTO				S		Sn		00 07 43.5	-12
	comp=Z,96nm,0.8s,baz=165,slow=18,SNR=4.1								
AKTO				LR		LR		00 12 07.2	
	comp=Z,288nm,18.4s,baz=236,slow=40								
JASK	**Jask - Hormozg**

GROC **Groznyy** 20.40 295 *e*P **P** **00 05 43.4 +1.2**
GROC *e**PP **pP** **00 06 04.3 +1.9**
GROC *e*S **S** **00 09 26.6 +1.7**
GROC *e**SS **sS** **00 09 59.9 +0.7**
GROC pmax pmax
comp=Z,428nm,1.1s
NAX Nakhchivan 20.46 283 P **P** **00 05 43.0 0.0**
GHWR Ruwais 20.77 235 P **P** **00 05 45.0 -1.3**
SVE Sverdlovsk 20.80 343 *e*P **P** **00 05 46.8 +0.5**
SVE *e*S **S** **00 09 34.3 +2.0**
SVE pmax pmax
comp=Z,191nm,1.6s
SHMA Al-Shehemyia 20.83 243 P **P** **00 05 46.1 -0.9**
SNR=6.4
SHL Shillong 20.95 118 P **P** **00 05 48.9 +0.4**
SHL Shillong 20.95 118 *e*S **S** **00 09 28.8 -7.5**
SHL Shillong 20.95 118 P **P** **00 05 49.3 +0.8**
SNR=34
SHL Shillong 20.95 118 P **P** **00 05 48.9 +0.4**
ARU Arti 20.97 340 P **P** **00 05 48.9 +0.7**
ARU Arti 20.97 340 P **P** **00 05 47.9 -0.2**
comp=Z,56nm,0.6s,baz=146,slow=6.5,SNR=45
ARU S **S** **00 09 34.1 -1.6**
comp=Z,9.9nm,0.5s,baz=144,slow=23,SNR=2.2
ARU LR LR 00 14 58.3
comp=Z,360nm,20.1s,baz=157,slow=39
comp=Z,56nm,0.6s
ARU Arti 20.97 340*c* *i*P **P** **00 05 48.3 +0.1**
ARU 00 06 18.2
ARU S **S** **00 09 36.8 +1.1**
ARU *SS **sS** **00 10 09.4 -0.9**
ARU pmax pmax
comp=Z,46nm,0.6s
ARU Arti 20.97 340 P **P** **00 05 47.6 -0.6**
comp=Z,88nm,0.7s,comp=Z,2µm
GNI Garni 21.01 286 P **P** **00 05 51.3 +2.4**
GNI Garni 21.01 286 P **P** **00 05 51.6 +2.6**
GNI Garni 21.01 286 P **P** **00 05 51.1 +2.1**
comp=Z,397nm,0.7s,baz=58,slow=1.4,SNR=499
comp=Z,397nm,0.7s
GNI Garni 21.01 286*ce*P **P** **00 05 51.4 +2.4**
GNI pmax pmax
comp=Z,445nm,0.7s
SAKB Bahrain 21.06 243 P **P** **00 05 49.0 -0.5**
MZR Muzera 21.07 232 *i* P **P** **00 05 47.5 -2.0**
SNR=23
MZR Muzera 21.07 232 P **P** **00 05 48.1 -1.4**
SNR=7.2
ZIRO ZIRO 21.23 111 *ex* x 00 05 53.0
ZIRO ⇑*ex* x 00 08 38.7
TRNA Turayna 21.37 240 P **P** **00 05 51.0 -1.7**
KBD Kabd 21.44 255 P **P** **00 05 53.6 +0.1**
SLWR Sila 21.49 238 P **P** **00 05 52.4 -1.5**
SMRA Abu-Samra 21.63 240 P **P** **00 05 54.1 -1.4**
SNR=8.9
NCK Nalchik 22.03 295*c* *i*P **P** **00 05 59.4 -0.3**
NCK pmax pmax
comp=Z,293nm,0.7s
KARS Kars 22.27 287 P **P** **00 06 04.2 +1.9**
KARS Kars 22.27 287 P **P** **00 06 04.2 +1.9**
GTA Gaotai 22.29 76 *e*P **P** **00 06 04.4 +1.9**
GTA pP pP 00 06 26.3 +2.3
GTA sP sP 00 06 36.3 -1.4
GTA S **S** **00 10 02.3 +1.6**
GTA sS sS 00 10 36.8 -0.3
GTA pmax pmax
comp=Z,70nm,0.8s
GTA LR LR
comp=Z,150nm,13.1s
GTA LR LR
comp=Z,120nm,13.9s
GTA LR LR
comp=Z,140nm,13.5s
BELG Belogornoye 22.48 320 P **P** **00 06 02.9 -1.2**
comp=Z,169nm,0.9s,baz=135,slow=4.3,SNR=39
BELG S **S** **00 10 02.1 -1.1**
comp=Z,41nm,1.0s,baz=64,slow=22,SNR=2.4
comp=Z,169nm,0.9s
BELG Belogornoye 22.48 320*c* *i*P **P** **00 06 03.2 -0.9**
BELG pmax pmax
comp=Z,29nm,0.8s
KBZ Khabaz 22.56 295 P **P** **00 06 03.9 -1.2**
comp=Z,34nm,0.8s,baz=126,slow=8.7,SNR=98
KBZ S **S** **00 10 02.0 -2.7**
comp=Z,7.9nm,1.0s,baz=347,slow=22,SNR=1.4
KBZ LR LR 00 17 26.2
comp=Z,102nm,19.5s,baz=108,slow=43
comp=Z,34nm,0.8s
KBZ Khabaz 22.56 295*ce*P **P** **00 06 04.5 -0.6**
KBZ pmax pmax
comp=Z,46nm,1.0s
GOF Gofitskoye 22.65 299*c* *i*P **P** **00 06 06.7 +0.7**
GOF *e*S **S** **00 10 10.9 +4.7**
KVAR Kislovodsk Arr 22.74 296 P **P** **00 06 06.7 -0.3**
comp=Z,13nm,0.6s,baz=73,slow=19,SNR=22
comp=Z,13nm,0.6s
SHA1 Shidzhatmaz 22.74 295*ce*P **P** **00 06 07.0 -0.1**
KIV Kislovodsk 22.74 296 P **P** **00 06 06.3 -0.7**
KIV Kislovodsk 22.74 296 *i* P **P** **00 06 06.6 -0.4**
SNR=10
KIV Kislovodsk 22.74 296 P **P** **00 06 06.8 -0.3**
KIV Kislovodsk 22.74 296 *e*P **P** **00 06 06.6 -0.4**
KIV *e*S **S** **00 10 07.6 -0.2**
KIV pmax pmax
comp=Z,67nm,1.0s
KIV MLR MLR
comp=Z,56nm,14.0s
KIV Kislovodsk 22.74 296 P **P** **00 06 06.3 -0.7**
comp=Z,79nm,0.7s,comp=Z,783nm
LKP Lekhapani 22.83 109⇑*ex* x 00 06 09.0
IMP Imphal 22.87 117 *ex* x 00 06 09.8
GURO Guroymak-BITLI 23.20 282 P **P** **00 06 13.3 +1.7**
BCA Borcka 23.37 289 ⇑P **P** **00 06 14.8 +1.8**
SHAO Shalim 23.75 220 P **P** **00 06 17.6 +1.2**
DOK Doka 24.06 224 P **P** **00 06 19.3 0.0**
SNR=6.3
LABN Labinsk 24.22 297 *e*P **P** **00 06 22.7 +2.1**
LABN *e**PP **pP** **00 06 45.7 +2.0**
LABN *e*S **S** **00 10 32.6 +1.1**
LABN pmax pmax
comp=Z,215nm,0.9s
DMTO DMTO 24.36 221 P **P** **00 06 22.4 +0.5**
ERBR Yeremizino-Bor 24.54 300 *e*P **P** **00 06 23.7 +0.3**
ERBR *e**PP **pP** **00 06 46.1 -1.0**
ERBR *e*S **S** **00 10 40.0 +3.5**
ERBR pmax pmax
comp=Z,288nm,1.0s
VSLR Vesyoloye 24.61 294 *i* P **P** **00 06 25.0 +0.9**
KTUT Trabzon 24.77 288 ⇓P **P** **00 06 28.0 +2.4**
WHFO Wadi Hawf 24.82 224 P **P** **00 06 26.0 -0.2**
SNR=6.8
SOC Sochi 24.85 295 *e*P **P** **00 06 25.7 -0.6**
SOC *e**PP **pP** **00 06 49.0 -0.9**
SOC *e**SP **sP** **00 07 04.0 +1.4**
SOC *e*S **S** **00 10 41.2 -0.2**
SOC pmax pmax
comp=Z,83nm,0.8s
RBK Rabkut 24.93 222 P **P** **00 06 26.9 -0.3**
VRH Novokhopyorsk 25.20 313 *e*P **P** **00 06 28.6 -0.8**
VRH pmax pmax
comp=Z,94nm,1.5s
MOY Mondy 25.25 46 *e*P **P** **00 06 31.8 +1.8**
MOY pmax pmax
comp=Z,13nm,1.8s
ABTO Aybut 25.54 224 P **P** **00 06 32.5 -0.3**
SNR=14
KIRV Kirov 25.66 333 P **P** **00 06 34.2 +0.8**
comp=Z,120nm,0.7s,baz=131,slow=3.3,SNR=33
KIRV LR LR 00 17 43.1
comp=Z,242nm,21.0s,baz=129,slow=38
comp=Z,120nm,0.7s
KIRV Kirov 25.66 333*ce*P **P** **00 06 33.0 -0.4**
LZH Lanzhou 25.92 83 *e*P **P** **00 06 35.7 -0.6**
LZH pP pP 00 07 02.6 +2.1
LZH S **S** **00 11 02.2 +3.3**
LZH pmax pmax
comp=Z,13nm,1.1s
ARPR Arapgir-MALATY 26.01 284 P **P** **00 06 38.6 +1.6**
ARPR IAmb IAmb 00 06 41.4
comp=Z,138nm,1.1s
TNCH TengChong 26.10 110 ⇓P **P** **00 06 38.0 0.0**
TNCH pP pP 00 06 58.1 -3.8
TNCH sP sP 00 07 12.1 -2.4
TNCH PP **PnPn** **00 07 21.9 -0.8**
TNCH S **S** **00 10 57.7 -4.1**
TNCH sS sS 00 11 38.8 -5.0
TNCH pmax pmax
comp=Z,19nm,0.7s
TNCH pmax pmax
comp=Z,83nm,3.6s
ZAK Zakamensk 26.16 50 *e*P **P** **00 06 39.0 +0.8**
ZAK pmax pmax
comp=Z,12nm,1.2s
RAYN Ar Rayn 26.18 246 P **P** **00 06 37.8 -0.7**
RAYN Ar Rayn 26.18 246 *i* P **P** **00 06 38.0 -0.6**
SNR=61
RAYN Ar Rayn 26.18 246 P **P** **00 06 38.6 0.0**
RAYN Ar Rayn 26.18 246 P **P** **00 06 38.2 -0.3**
ANN Anapa 26.57 297*c* *i*P **P** **00 06 42.0 +0.2**
ANN *e**PP **pP** **00 07 05.9 +0.1**
ANN *e*S **S** **00 11 11.4 +2.8**
ANN pmax pmax
comp=Z,72nm,1.0s
VSR Storozhevoye 26.71 312 *e*P **P** **00 06 41.7 -1.3**
VSR pmax pmax
comp=Z,80nm,0.8s
VORR Voronezh 26.84 313 *e*P **P** **00 06 44.2 +0.1**
VORR pmax pmax
comp=Z,49nm,1.3s
GAZ Gaziantep 27.18 280 P **P** **00 06 48.0 +0.6**
LPSR Galich'ya Gora 27.32 314 *e*P **P** **00 06 47.4 -1.0**
LPSR pmax pmax
comp=Z,110nm,0.8s
CD2 Chengdu 27.40 94 P **P** **00 06 51.8 +2.3**
CD2 pP pP 00 07 12.2 -1.6
CD2 sP sP 00 07 24.0 -2.4
CD2 S **S** **00 11 25.8 +3.7**
CD2 pmax pmax
comp=Z,10.0nm,0.6s
CD2 pmax pmax
comp=Z,60nm,3.8s
CD2 LR LR
comp=Z,120nm,16.2s
CD2 LR LR
comp=Z,170nm,13.3s
CD2 LR LR
comp=Z,190nm,13.2s
SONM Songino Array 27.56 56 P **P** **00 06 51.6 +0.9**
SONM Songino Array 27.56 56 P **P** **00 06 51.3 +0.5**
comp=Z,7.7nm,0.9s,baz=256,slow=9.4,SNR=34
SONM pP **pP** **00 07 16.2 +1.0**
comp=Z,8.6nm,0.8s,baz=257,slow=9.6,SNR=6.2
SONM PcP **PcP** **00 10 05.0 -1.0**
comp=Z,3.1nm,0.8s,baz=284,slow=1.6,SNR=2.7
SONM LR LR 00 19 18.0
comp=Z,220nm,21.7s,baz=262,slow=39
comp=Z,7.7nm,0.9s
SONM Songino Array 27.56 56 P **P** **00 06 51.6 +0.9**
SONM pmax pmax
comp=Z,26nm,1.2s
PZH PanZhiHua 27.77 104 P **P** **00 06 55.5 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,3.5s
BNN Bunyan 27.97 284 P **P** **00 06 55.2 +0.7**
ULN Ulaanbaatar 28.00 57 P **P** **00 06 55.6 +0.8**
ULN Ulaanbaatar 28.00 57 P **P** **00 06 56.0 +1.3**
ULN Ulaanbaatar 28.00 57*ce*P **P** **00 06 56.0 +1.3**
ULN pmax pmax
comp=Z,9.0nm,1.0s
DIKM Dikmen 28.14 290 ⇓P **P** **00 06 57.5 +1.7**
DIKM Dikmen 28.14 290 P **P** **00 06 57.2 +1.4**
comp=Z,20nm,1.3s,comp=Z,359nm
ASF Jabal al Asfar 28.76 270 P **P** **00 07 02.5 +0.9**
comp=Z,10.0nm,0.9s,baz=56,slow=0.1,SNR=11
comp=Z,10.0nm,0.9s
SIM Simferopol' 28.94 297 *e*P **P** **00 07 04.3 +1.4**
SIM *e*SS SS 00 13 22.7 -30
SIM pmax pmax
comp=Z,70nm,1.2s
MOS Moscow 29.25 320 *e*P **P** **00 07 04.6 -0.9**
MOS *e**PP **pP** **00 07 27.5 -2.4**
MOS *e**SP **sP** **00 07 39.9 -2.7**
MOS *e* 00 08 02.5
MOS *e*SS SS 00 13 33.3 -25
MOS *e* 00 17 38.9
MOS pmax pmax
comp=Z,100nm,1.4s
MOS pmax pmax
comp=Z,90nm,1.2s
MOS pmax pmax
comp=E,80nm,1.0s
BR131 Keskin Array S 29.55 286 P **P** **00 07 09.3 +0.8**
BR131 Keskin Array S 29.55 286*c* *i*P **P** **00 07 09.4 +0.8**
BRTR Keskin Array B 29.55 286 P **P** **00 07 09.3 +0.8**
BRTR Keskin Array B 29.55 286 P **P** **00 07 09.8 +1.2**
comp=E,16nm,0.7s,baz=107,slow=9.1,SNR=129
BRTR PcP **PcP** **00 10 10.4 -0.7**
comp=E,6.9nm,0.6s,baz=132,slow=1.4,SNR=13
comp=E,16nm,0.7s
BR104 Keskin Array S 29.55 286 P **P** **00 07 09.1 +0.6**
comp=E,24nm,0.7s,comp=E,209nm
OBN Obninsk 29.55 318 P **P** **00 07 08.3 +0.1**
OBN Obninsk 29.55 318 P **P** **00 07 08.9 +0.8**
comp=E,100nm,0.7s,baz=93,slow=1.7,SNR=35
comp=E,100nm,0.7s
OBN Obninsk 29.55 318*c* *i*P **P** **00 07 08.8 +0.6**
OBN *i* *PP **pP** **00 07 29.2 -3.4**
OBN *i* *SP **sP** **00 07 46.1 +0.8**
OBN *i* 00 10 11.1
OBN *i* S **S** **00 11 55.0 -0.2**
OBN *i* SS **SnSn** **00 13 36.8 +2.1**
OBN pmax pmax
comp=Z,180nm,1.3s
OBN MLR MLR
comp=Z,78nm,14.0s
OBN Obninsk 29.55 318 P **P** **00 07 08.4 +0.2**
comp=Z,140nm,0.7s,comp=Z,1µm
BR106 Keskin Array S 29.56 286 P **P** **00 07 08.9 +0.3**
comp=Z,25nm,0.8s,comp=Z,211nm
BR105 Keskin Array S 29.56 286 P **P** **00 07 09.1 +0.4**
comp=Z,32nm,0.7s,comp=Z,277nm
MMAI Mount Meron Ar 29.68 273 P **P** **00 07 11.6 +1.9**
comp=Z,10nm,0.7s,baz=64,slow=9.4,SNR=18
MMAI PcP **PcP** **00 10 12.8 +1.4**
comp=Z,2.8nm,0.5s,baz=70,slow=7.2,SNR=14
MMAI ScP **ScP** **00 13 45.1 +1.3**
comp=Z,2.7nm,0.8s,baz=67,slow=6.5,SNR=3.8
MMAI LR LR 00 22 17.3
comp=Z,84nm,19.8s,baz=348,slow=42
comp=Z,10nm,0.7s
BALJ Balqa 29.79 271 P **P** **00 07 12.1 +1.4**
BALJ IAmb IAmb 00 07 13.8
comp=Z,67nm,0.8s
BTO Baotou 29.99 72 *e*P **P** **00 07 13.0 +0.6**
BTO pP **pP** **00 07 37.4 +0.4**
BTO sP **sP** **00 07 50.4 +0.7**
BTO PP **PnPn** **00 08 14.2 +0.5**
BTO S **S** **00 12 02.2 -0.5**
BTO sS **sS** **00 12 44.5 -0.3**
BTO SS **ScP** **00 13 42.3 -2.4**
BTO pmax pmax
comp=Z,26nm,1.0s
BTO pmax pmax
comp=Z,110nm,7.1s
BTO LR LR
comp=Z,290nm,12.5s
BTO LR LR
comp=Z,220nm,16.5s
BTO LR LR
comp=Z,300nm,12.7s
ANTO Ankara 30.17 287 ⇑P **P** **00 07 15.8 +1.8**
ANTO Ankara 30.17 287 P **P** **00 07 15.1 +1.1**
ANTO IAmb IAmb 00 07 17.0
comp=Z,114nm,1.6s
ANTO **PcP** **00 10 13.4 +0.8**
ANTO Ankara 30.17 287 P **P** **00 07 15.8 +1.8**
ANTO Ankara 30.17 287 P **P** **00 07 15.7 +1.7**
ANTO PcP **PcP** **00 10 13.3 +0.7**
ANTO Ankara 30.17 287 P **P** **00 07 15.4 +1.4**
comp=Z,21nm,1.3s,comp=Z,215nm
BR231 Keskin MP Arra 30.19 287 P **P** **00 07 14.4 +0.3**
BR231 IAmb IAmb 00 07 17.0
comp=Z,129nm,1.9s
BR231 **PcP** **00 10 13.5 +0.8**
CRAI Chiangrai 30.37 116 P **P** **00 07 16.6 +0.8**
XAN Xi'an 30.47 85 ⇓P **P** **00 07 17.5 +0.9**
XAN pP pP 00 07 42.2 +1.1
XAN pmax pmax
comp=Z,17nm,0.8s
XAN LR LR
comp=Z,260nm,13.7s
XAN LR LR
comp=Z,160nm,13.1s
XAN Xi'an 30.47 85 P **P** **00 07 17.5 +0.9**
XAN pP **pP** **00 07 41.6 +0.6**
CMAR Chiang Mai Arr 30.54 120 P **P** **00 07 19.1 +1.8**
CMAR Chiang Mai Arr 30.54 120 P **P** **00 07 17.5 +0.2**
comp=Z,2.3nm,0.6s,baz=309,slow=9.0,SNR=11
comp=Z,2.3nm,0.6s
CMAR Chiang Mai Arr 30.54 120 *i* P **P** **00 07 19.6 +2.3**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
CSS Mathiatis 30.75 277 P **P** **00 07 19.1 +0.1**
KLMR Klimovskoe 30.94 330 *e*P **P** **00 07 18.3 -2.1**
KLMR pmax pmax
comp=Z,44nm,1.1s
PALK Pallekele 31.09 162 P **P** **00 07 21.9 -0.3**
PALK Pallekele 31.09 162 LR LR 00 20 00.5
comp=Z,132nm,18.3s,baz=91,slow=36
PALK Pallekele 31.09 162 P **P** **00 07 21.9 -0.3**
PALK pmax pmax
comp=Z,64nm,1.7s
HHC Hu-ho-hao-te 31.13 71 *e*P **P** **00 07 25.1 +2.7**
HHC PP **PnPn** **00 08 23.9 -4.3**
HHC S **S** **00 12 22.8 +2.3**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,75nm,5.0s
HHC LR LR
comp=Z,170nm,13.8s
HHC LR LR
comp=Z,130nm,13.4s
HHC LR LR
comp=Z,140nm,14.5s
EIL Elat 31.25 267 P **P** **00 07 24.3 +0.9**
comp=Z,20nm,1.1s,baz=27,slow=3.5,SNR=10
comp=Z,20nm,1.1s
MDUB Mudurnu 31.30 288 P **P** **00 07 25.4 +1.4**
PHRA Phrae 31.41 119 P **P** **00 07 25.3 +0.4**
GYA Guiyang 31.62 100⇓*i*P **P** **00 07 28.2 +1.3**
GYA pP pP 00 07 51.4 -0.3
GYA S **S** **00 12 28.6 +0.1**
GYA sS sS 00 13 13.2 +2.5
GYA pmax pmax
comp=Z,27nm,0.8s
PURM Purcari 31.96 300 ⇑P **P** **00 07 31.1 +1.6**
BAL3X Bal3x, Balta 32.20 303 P **P** **00 07 31.8 +0.2**
ENH Enshi 32.21 91 P **P** **00 07 31.7 -0.2**
SLVN Son La 32.27 110 P **P** **00 07 32.7 +0.1**
JURR Jurilovca 32.66 297 ⇓P **P** **00 07 36.9 +1.2**
AK09 Malin Array Si 32.67 308 P **P** **00 07 35.8 +0.1**
AK10 Malin Array Si 32.69 308 P **P** **00 07 36.0 +0.2**
AK08 Malin Array Si 32.69 308 P **P** **00 07 36.0 +0.2**
KIS Kishinev 32.70 301⇑*i*P **P** **00 07 36.5 +0.6**
comp=Z,80nm,1.4s
KIS Kishinev 32.70 301*c* *i*P **P** **00 07 36.5 +0.6**
KIS pmax pmax
comp=Z,80nm,1.4s
MILM Milestii Mici 32.70 301 ⇑P **P** **00 07 36.7 +0.8**
MILM Milestii Mici 32.70 301 P **P** **00 07 36.7 +0.8**
AK07 Malin Array Si 32.71 307 P **P** **00 07 36.2 +0.2**
AKASG Malin Array Be 32.72 308 P **P** **00 07 36.2 +0.1**
AKASG Malin Array Be 32.72 308 P **P** **00 07 35.6 -0.5**
comp=Z,22nm,0.6s,baz=80,slow=7.1,SNR=146
AKASG PcP **PcP** **00 10 18.9 -0.3**
comp=Z,3.2nm,0.6s,baz=76,slow=3.3,SNR=4.1
AKASG ScP **ScP** **00 13 54.3 +0.8**
comp=Z,1.8nm,0.8s,baz=85,slow=3.1,SNR=6.7
AKASG LR LR 00 22 38.7
comp=Z,69nm,20.6s,baz=60,slow=39
comp=Z,22nm,0.6s
AKASG Malin Array Be 32.72 308 *i* P **P** **00 07 36.4 +0.3**
AKASG pmax pmax
comp=Z,41nm,0.7s
AKBB Malin Array Si 32.72 308 P **P** **00 07 36.0 -0.1**
AKBB IAmb IAmb 00 07 37.4
comp=Z,48nm,0.7s
AKBB Malin Array Si 32.72 308 P **P** **00 07 36.0 -0.1**
AKBB pmax pmax
comp=Z,48nm,0.7s
AKBB Malin Array Si 32.72 308 P **P** **00 07 36.0 -0.1**
KIEV Kiev 32.73 308 ⇓P **P** **00 07 36.9 +0.7**
KIEV Kiev 32.73 308 P **P** **00 07 36.0 -0.2**
KIEV IAmb IAmb 00 07 37.4
comp=Z,43nm,0.7s
KIEV Kiev 32.73 308 P **P** **00 07 36.2 0.0**
KIEV Kiev 32.73 308 P **P** **00 07 36.8 +0.7**
KIEV Kiev 32.73 308 P **P** **00 07 36.4 +0.3**
KIEV PcP **PcP** **00 10 19.4 +0.3**
KIEV Kiev 32.73 308 P **P** **00 07 36.3 +0.1**
comp=Z,279nm,0.9s,comp=Z,3µm
ISK Istanbul-Kandi 32.84 290 P **P** **00 07 38.4 +1.2**
MANR Mangalia 32.92 295 ⇑P **P** **00 07 39.3 +1.4**
TPGR Topolog 32.98 297 ⇓P **P** **00 07 39.6 +1.1**
ELL Elmali 32.99 282 P **P** **00 07 38.9 +0.2**
ELL Elmali 32.99 282 P **P** **00 07 38.9 +0.2**
ELL pmax pmax
comp=Z,254nm,0.7s
MFTR Murfatlar 33.01 296 ⇓P **P** **00 07 40.5 +1.8**
SORM Soroca 33.05 303 P **P** **00 07 38.7 -0.3**
SORM Soroca 33.05 303 P **P** **00 07 38.7 -0.3**
comp=Z,86nm,0.7s,comp=Z,746nm
LYN LuoYang 33.13 82 ⇑P **P** **00 07 41.6 +1.7**
LYN pP pP 00 08 06.3 +1.7
LYN S **S** **00 12 55.4 +3.9**
LYN pmax pmax
comp=Z,17nm,0.7s
LYN pmax pmax
comp=Z,220nm,4.1s
CFR Carcaliu 33.17 298 ⇑P **P** **00 07 41.1 +1.0**
CFR Carcaliu 33.17 298 P **P** **00 07 41.1 +1.0**
VLDR Vladesti 33.20 299 ⇑P **P** **00 07 42.1 +1.8**
ADZR Andozero 33.22 334⇑*i*P **P** **00 07 40.9 +0.6**
ADZR pmax pmax
comp=Z,25nm,0.6s
PSN Preselentsi 33.26 295 *i* P **P** **00 07 42.2 +1.4**
VARL Varlezi 33.36 299 ⇑P **P** **00 07 43.4 +1.7**
MI30 MI30,Zelenitsa 33.38 308 P **P** **00 07 41.8 0.0**
MI29 MI29, Kamyanyy 33.56 307 P **P** **00 07 43.3 -0.1**
LUBAR Lubar, Ukraine 33.57 306 P **P** **00 07 43.0 -0.5**
SRDT SRDT 33.59 126 P **P** **00 07 45.7 +1.7**
MI28 Mi28,Pidlybu 33.73 308 P **P** **00 07 44.7 -0.1**
NDNU Novodnistrovsk 33.73 304 P **P** **00 07 45.2 +0.3**
PRD Provadia 33.82 294 *i* P **P** **00 07 47.1 +1.3**
EDC Edincik 33.84 289 P **P** **00 07 47.4 +1.4**
PANC Panciu 33.85 299 ⇑P **P** **00 07 48.3 +2.3**
NEF NEVSHA 33.91 294 *i* P **P** **00 07 48.1 +1.5**
ODBI Odobesti 33.92 299 ⇓P **P** **00 07 49.4 +2.8**
HNS HongShan 34.14 76 ⇓P **P** **00 07 50.1 +1.5**
HNS S **S** **00 13 14.6 +7.6**
HNS pmax pmax
comp=Z,9.0nm,0.9s
HNS LR LR
comp=Z,150nm,11.1s
HNS LR LR
comp=Z,130nm,13.7s
VRI Vrincioaia 34.14 299 ⇓P **P** **00 07 50.7 +2.1**
VRI Vrincioaia 34.14 299 P **P** **00 07 50.6 +2.1**
VRI Vrincioaia 34.14 299 P **P** **00 07 49.2 +0.7**
comp=Z,37nm,1.1s,comp=Z,427nm
MNK Minsk 34.18 314 *i* P **P** **00 07 49.5 +0.8**
comp=E,33nm,1.1s
MNK *i* P **P** **00 07 49.5 +0.8**
comp=N,17nm,0.9s
MNK *i* P **P** **00 07 49.5 +0.8**
comp=Z,108nm,0.9s,baz=102
MNK *i* pP **pP** **00 08 14.0 +0.8**
MNK *i* PP PP 00 09 26.0 +18
MNK *i* S **S** **00 13 09.6 +2.4**
MNK *i* sS **sS** **00 13 50.9 +1.2**
MNK *i* SS **SnSn** **00 15 18.9 -7.7**
MNK *i* LR LR 00 20 46.6
MNK *i* LRM MLR 00 22 33.6
comp=N,262nm,18.6s
MNK *i* LRM MLR 00 23 44.5
comp=Z,115nm,18.4s
MNK *i* LRM MLR 00 23 58.7
comp=E,72nm,21.4s
MNK Minsk 34.18 314 *i* P **P** **00 07 49.5 +0.8**
MNK *i* *PP **pP** **00 08 14.0 +0.8**
MNK *i* 00 09 25.9

MNK				*i* S	**S**	00 13 09.6	+2.4
MNK				*i* *SS	**sS**	00 13 50.8	+1.2
MNK				*i* SS	**SnSn**	00 15 18.8	-7.7
MNK				pmax	pmax		
	comp=Z,108nm,0.9s						
MNK				pmax	pmax		
	comp=N,17nm,0.9s						
MNK				pmax	pmax		
	comp=E,33nm,1.0s						
MNK				MLR	MLR		
	comp=N,262nm,19.0s						
MNK				MLR	MLR		
	comp=Z,115nm,18.0s						
MNK				MLR	MLR		
	comp=E,72nm,21.0s						
TESR	**Tescani**	**34.18 300**	⇑	P	**P**	00 07 50.1	+1.2
TESR	**Tescani**	**34.18 300**		P	**P**	00 07 49.0	+0.1
	comp=E,61nm,0.6s						
PLOR5	**Plostina Array**	**34.19 299**		P	**P**	00 07 50.3	+1.3
	comp=E,81nm,0.8s						
PLOR	**Plostina**	**34.20 299**	⇓	P	**P**	00 07 51.1	+2.0
PLOR	**Plostina**	**34.20 299**		P	**P**	00 07 51.0	+2.0
PLOR3	**Plostina Array**	**34.20 299**		P	**P**	00 07 50.3	+1.2
	comp=E,69nm,0.9s						
ISR	**Istrita**	**34.30 297**	⇑	P	**P**	00 07 52.8	+2.8
ISR	**Istrita**	**34.30 297**		P	**P**	00 07 52.8	+2.8
KMPD	**K-Podol'skiy**	**34.33 304**		P	**P**	00 07 49.9	-0.2
KMPD				P	**P**	00 07 50.1	0.0
HORU	**Horodok**	**34.38 305**		P	**P**	00 07 50.8	+0.2
HORU	**Horodok**	**34.38 305**		P	**P**	00 07 50.8	+0.2
RAZG	**Razgrad**	**34.44 295**	⇓	P	**P**	00 07 53.1	+2.0
NEHR	**Nehoiu**	**34.46 298**	⇑	P	**P**	00 07 54.1	+2.8
BOD	**Bodaibo**	**34.47 40**	*eP*		**P**	00 07 51.4	+0.3
BOD				pmax	pmax		
	comp=Z,40nm,1.0s						
PRAR	**RASCA**	**34.47 301**	⇓	P	**P**	00 07 52.6	+1.3
ARG	**Arkhangelos**	**34.51 282**		P	**P**	00 07 52.6	+0.8
ARG	**Arkhangelos**	**34.51 282**		P	**P**	00 07 52.6	+0.8
ARG				pmax	pmax		
	comp=Z,168nm,0.9s						
COVR	**Voineasa-Covas**	**34.51 299**	⇑	P	**P**	00 07 53.8	+2.1
JMB	**Yambol**	**34.54 293**	*i*	P	**P**	00 07 53.6	+1.7
TURR	**Turia**	**34.63 299**	⇑	P	**P**	00 07 54.7	+1.9
MLR	**Muntele Rosu**	**34.71 298**	⇑	P	**P**	00 07 56.1	+2.6
MLR	**Muntele Rosu**	**34.71 298**		P	**P**	00 07 55.3	+1.8
MLR	**Muntele Rosu**	**34.71 298**		P	**P**	00 07 56.1	+2.6
MLR	**Muntele Rosu**	**34.71 298**		P	**P**	00 07 55.1	+1.6
	comp=Z,95nm,1.0s,comp=Z,850nm						
SZH	**Strazhitsa**	**34.85 294**	*i*	P	**P**	00 07 56.0	+1.3
RNPP5	**Staryi Chortor**	**34.88 308**		P	**P**	00 07 55.1	+0.3
BOSR	**Bodos**	**34.88 299**	⇑	P	**P**	00 07 56.6	+1.7
NACGM	**Naroch**	**34.88 315**	⇑	*i*P	**P**	00 07 55.5	+0.8
	comp=Z,190nm,0.8s,baz=102						
RNPP9	**Sopachiv**	**34.89 309**		P	**P**	00 07 55.0	+0.1
RNPP8	**Varash**	**34.91 308**		P	**P**	00 07 55.2	+0.2
ELND	**Elena**	**34.97 294**	⇑	P	**P**	00 07 57.2	+1.6
IDID	**Didziasalis**	**34.99 315**	*e*	P	**P**	00 07 57.3	+1.7
DOPR	**Dopca**	**35.07 299**	⇑	P	**P**	00 07 58.5	+1.9
EZN	**Ezine**	**35.09 288**		P	**P**	00 07 58.4	+1.7
EZN	**Ezine**	**35.09 288**		P	**P**	00 07 57.0	+0.3
	comp=Z,89nm,1.3s						
BURAR	**Bucovina Array**	**35.15 302**	⇑	P	**P**	00 07 58.8	+1.4
BURAR	**Bucovina Array**	**35.15 302**		P	**P**	00 07 58.0	+0.7
BURAR				IAmb	IAmb	00 07 59.3	
	comp=Z,33nm,0.7s						
BURAR	**Bucovina Array**	**35.15 302**		P	**P**	00 07 58.7	+1.4
BUR08	**Bucovina Ar. S**	**35.16 302**		P	**P**	00 07 57.9	+0.5
BUR08				IAmb	IAmb	00 07 59.6	
	comp=Z,23nm,0.8s						
KSV	**Kosov**	**35.26 303**		P	**P**	00 07 58.3	+0.2
KSV	**Kosov**	**35.26 303**		P	**P**	00 07 58.3	+0.2
DIM	**Dimitrovgrad**	**35.29 292**	*i*	P	**P**	00 07 59.7	+1.2
COPA	**Copaceanca**	**35.32 296**	⇑	P	**P**	00 08 00.4	+1.8
JOF	**Joensuu**	**35.34 329**	*e*	P	**P**	00 07 59.5	+1.0
VOIR		**35.34 298**	⇑	P	**P**	00 08 00.4	+1.4
VOIR		**35.34 298**		P	**P**	00 08 00.3	+1.4
VOIR		**35.34 298**		P	**P**	00 08 00.1	+1.2
	comp=Z,20nm,0.8s						
ISAL	**Salakas**	**35.39 316**	*e*	P	**P**	00 08 00.6	+1.5
KARP	**Karpathos**	**35.44 281**		P	**P**	00 08 00.9	+1.0
KARP	**Karpathos**	**35.44 281**		P	**P**	00 08 00.8	+1.0
	comp=Z,478nm,0.9s,comp=Z,3µm						
HUMR	**Humele**	**35.45 297**	⇓	P	**P**	00 08 01.5	+1.7
RDO	**Rodhopi**	**35.46 291**		P	**P**	00 08 00.6	+0.7
RDO				IAmb	IAmb	00 08 02.2	
	comp=Z,33nm,1.0s						
KDZ	**Kurdzhali**	**35.53 292**	*i*	P	**P**	00 08 01.1	+0.6
STNU	**Starunia**	**35.63 304**		P	**P**	00 08 01.5	+0.2
ARCR	**ARCALIA**	**35.75 301**	⇑	P	**P**	00 08 04.8	+2.5
VSU	**Vasula**	**35.77 321**	*ce*	P	**P**	00 08 02.1	-0.2
VSU				pmax	pmax		
	comp=Z,116nm,1.0s						
PLD	**Plovdiv**	**35.89 293**	*i*	P	**P**	00 08 04.8	+1.2
VLAD	**Vladila**	**35.91 296**	⇓	P	**P**	00 08 05.3	+1.6
RZN	**Rozhen**	**35.97 292**	*i*	P	**P**	00 08 05.6	+1.2
LVV	**L'vov**	**35.97 306**	*eP*		**P**	00 08 05.1	+1.0
LVV			*e*	*PP	**pP**	00 08 29.9	+1.0
LVV			*eS*		**S**	00 13 34.2	-0.6
LVV			*e*	*SS	**ScP**	00 14 08.0	+2.9
LVV				pmax	pmax		
	comp=Z,130nm,1.4s						
MORS	**Morshin**	**36.04 305**		P	**P**	00 08 06.2	+1.4
MORS	**Morshin**	**36.04 305**		P	**P**	00 08 06.2	+1.4
LOT	**Lotru**	**36.24 298**	⇓	P	**P**	00 08 08.3	+1.7
PGB	**Panagyurishte**	**36.26 293**	*i*	P	**P**	00 08 08.6	+1.8
CJR	**Cluj-Napoca**	**36.28 300**	⇑	P	**P**	00 08 09.0	+2.0
CJR	**Cluj-Napoca**	**36.28 300**		P	**P**	00 08 08.9	+2.0
APE	**Apeiranthos**	**36.31 284**	⇑	P	**P**	00 08 08.4	+1.2
APE	**Apeiranthos**	**36.31 284**		P	**P**	00 08 08.4	+1.2
BMR	**Baia Mare**	**36.31 302**	⇑	P	**P**	00 08 09.0	+1.9
BMR	**Baia Mare**	**36.31 302**		P	**P**	00 08 09.0	+1.9
TIA	**Tai'an**	**36.32 78**		P	**P**	00 08 09.0	+1.7
TIA				pmax	pmax		
	comp=Z,5.0nm,1.1s						
ATD	**Arta Tunnel**	**36.33 232**		P	**P**	00 08 08.1	+0.5
ATD				IAmb	IAmb	00 08 10.2	
	comp=Z,30nm,0.9s						
ATD	**Arta Tunnel**	**36.33 232**		P	**P**	00 08 09.1	+1.5
SHIU	**Shidnytsya**	**36.39 305**		P	**P**	00 08 08.7	+0.9
ARBE	**Arbavere**	**36.42 322**	*eP*		**P**	00 08 08.8	+1.0
MPEP	**Malo Peshtene**	**36.47 295**	*i*	P	**P**	00 08 10.1	+1.6
HIA	**Hailar**	**36.50 55**		P	**P**	00 08 10.2	+1.5
HIA	**Hailar**	**36.50 55**		P	**P**	00 08 10.2	+1.5
HIA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
PABE	**Paberze**	**36.58 315**		P	**P**	00 08 09.8	+0.6
PABE	**Paberze**	**36.58 315**	*eP*		**P**	00 08 10.7	+1.5
MARR	**Marisel-Cluj**	**36.61 300**	⇑	P	**P**	00 08 11.8	+2.1
VALD	**Valchedram**	**36.65 295**		P	**P**	00 08 11.7	+1.8
VSVD	**Vaisvydziai**	**36.68 316**	*eP*		**P**	00 08 11.0	+0.9
MESR	**Meseseni**	**36.70 301**	⇓	P	**P**	00 08 12.8	+2.3
MMB	**Musomishta**	**36.72 292**	*i*	P	**P**	00 08 12.8	+2.1
DEV	**Deva**	**36.81 299**	⇓	P	**P**	00 08 13.7	+2.3
DEV	**Deva**	**36.81 299**		P	**P**	00 08 13.6	+2.3
SUW	**Suwalki**	**36.82 313**	*eP*		**P**	00 08 11.9	+0.6
SUW	**Suwalki**	**36.82 313**		P	**P**	00 08 11.2	-0.1
SUW	**Suwalki**	**36.82 313**	*eP*		**P**	00 08 11.5	+0.2
SUW	**Suwalki**	**36.82 313**		P	**P**	00 08 11.2	-0.1
SUW				pmax	pmax		
	comp=Z,78nm,0.9s						
LVZ	**Lovozero**	**36.82 338**		P	**P**	00 08 11.6	+0.3
LVZ				IAmb	IAmb	00 08 12.7	
	comp=Z,45nm,0.7s						
LVZ	**Lovozero**	**36.82 338**		P	**P**	00 08 11.9	+0.7
LVZ	**Lovozero**	**36.82 338**		P	**P**	00 08 11.7	+0.5
LVZ				pP	**pP**	00 08 36.4	+0.4
LVZ				sP	**sP**	00 08 48.7	+0.2
LVZ	**Lovozero**	**36.82 338**		P	**P**	00 08 11.0	-0.2
	comp=Z,70nm,1.1s						
KWP	**Kalwaria Pacla**	**36.82 305**	*eP*		**P**	00 08 13.1	+1.7
KWP	**Kalwaria Pacla**	**36.82 305**		P	**P**	00 08 12.8	+1.4
KWP	**Kalwaria Pacla**	**36.82 305**		P	**P**	00 08 12.8	+1.4
KWP				pmax	pmax		
	comp=Z,126nm,1.4s						
KWP	**Kalwaria Pacla**	**36.82 305**		P	**P**	00 08 11.8	+0.4
	comp=Z,68nm,1.5s						
MUKU	**Mukachevo**	**36.84 303**		P	**P**	00 08 12.9	+1.4
DRGR		**36.88 301**	⇑	P	**P**	00 08 14.0	+1.9
DRGR		**36.88 301**		P	**P**	00 08 13.9	+1.9
VTS	**Vitosha**	**36.93 294**	*i*	P	**P**	00 08 14.3	+1.7
GZR	**Gura Zlata**	**36.94 298**	⇑	P	**P**	00 08 13.5	+1.0
FIA1	**FINESS Array S**	**37.00 325**		P	**P**	00 08 13.3	+0.5
FINES	**FINESS Array B**	**37.00 325**		P	**P**	00 08 13.0	+0.3
FINES	**FINESS Array B**	**37.00 325**		P	**P**	00 08 13.4	+0.7
	comp=Z,26nm,0.7s,baz=116,slow=8.7,SNR=225						
FINES				pP	**pP**	00 08 39.3	+1.6
	comp=Z,26nm,0.8s,baz=94,slow=9.9,SNR=6.8						
FINES				LR	LR	00 24 39.4	
	comp=Z,174nm,20.3s,baz=88,slow=38						
	comp=Z,26nm,0.7s						
FINES	**FINESS Array B**	**37.00 325**	*i*	P	**P**	00 08 13.3	+0.6
FINES				pmax	pmax		
	comp=Z,26nm,0.7s						
APA	**Apatity**	**37.01 337**	⇓	*i*P	**P**	00 08 10.7	-2.0
APA			*i*	PPP	PPP	00 09 42.8	
APA			*i*	S	**S**	00 13 45.0	-5.2
APA				pmax	pmax		
	comp=Z,11nm,0.8s						
HOLU	**Holmets**	**37.04 303**		P	**P**	00 08 14.6	+1.4
KOLS	**Kolonicke sedl**	**37.11 304**	*eP*		**P**	00 08 15.2	+1.4
KOLS	**Kolonicke sedl**	**37.11 304**	*eP*		**P**	00 08 15.2	+1.4
KOLS				pmax	pmax		
	comp=Z,26nm,0.7s						
KKB	**Krupnik**	**37.13 292**	*i*	P	**P**	00 08 15.6	+1.5
BLKB	**Belogradchik**	**37.20 295**	⇑	P	**P**	00 08 16.4	+1.6
UBPT	**Khong Chiam**	**37.27 117**		P	**P**	00 08 16.0	+0.5
UBPT	**Khong Chiam**	**37.27 117**		P	**P**	00 08 15.7	+0.3
IDI	**Anoyia**	**37.30 281**		P	**P**	00 08 15.0	-0.7
IDI				IAmb	IAmb	00 08 58.9	
	comp=Z,55nm,1.2s						
IDI	**Anoyia**	**37.30 281**		P	**P**	00 08 16.0	+0.3
	comp=Z,0.5nm,0.9s,baz=30,slow=13,SNR=7.7						
MTSE	**Matsula**	**37.31 320**	*eP*		**P**	00 08 16.1	+0.8
SURR	**Surduc**	**37.36 299**	⇑	P	**P**	00 08 18.0	+1.9
LTVH	**Ltavrtes, Hu**	**37.41 302**	⇑	P	**P**	00 08 18.8	+2.5
CRVS	**Cervenica-Dubn**	**37.64 304**	*eP*		**P**	00 08 20.3	+1.9
CRVS	**Cervenica-Dubn**	**37.64 304**	*eP*		**P**	00 08 20.3	+1.9
SIRR	**Siria**	**37.64 300**	⇓	P	**P**	00 08 20.3	+1.9
BZS	**Buzias**	**37.73 299**	⇑	P	**P**	00 08 20.9	+1.8
BZS	**Buzias**	**37.73 299**		P	**P**	00 08 20.9	+1.8
MDVR	**Moldovita**	**37.75 297**	⇑	P	**P**	00 08 20.9	+1.6
STHS	**Stebnicka Huta**	**37.78 305**	*eP*		**P**	00 08 19.4	-0.1
STHS	**Stebnicka Huta**	**37.78 305**	*eP*		**P**	00 08 19.4	-0.1
STHS				pmax	pmax		
	comp=Z,11nm,0.7s						
KEF	**Keuruu**	**37.78 326**	*eP*		**P**	00 08 20.0	+0.6
PBUR	**Paburge**	**37.80 316**	*eP*		**P**	00 08 19.7	+0.2
SLIT	**Slitere, Latvi**	**37.87 318**	*eP*		**P**	00 08 20.0	-0.1
BOVS	**Bovan**	**37.90 296**	⇑	P	**P**	00 08 21.6	+1.0
BEL	**Belsk**	**38.09 309**	*eP*		**P**	00 08 23.6	+1.5
AMBH	**Ambrzfalva**	**38.28 300**	⇑	P	**P**	00 08 25.2	+1.5
AGG	**Agios Georgios**	**38.29 288**		P	**P**	00 08 24.0	+0.1
AGG	**Agios Georgios**	**38.29 288**		P	**P**	00 08 24.0	+0.1
AGG				pmax	pmax		
	comp=Z,12nm,0.8s						
SRIT	**Nakonsritamara**	**38.30 131**		P	**P**	00 08 25.3	+1.1
SRIT	**Nakonsritamara**	**38.30 131**		P	**P**	00 08 24.8	+0.6
NIE	**Niedzica**	**38.39 305**	*eP*		**P**	00 08 26.7	+2.0
NIE	**Niedzica**	**38.39 305**		P	**P**	00 08 25.8	+1.1
NIE	**Niedzica**	**38.39 305**		P	**P**	00 08 25.8	+1.1
	comp=Z,31nm,1.1s,comp=Z,376nm						
KLNR	**Kaliningrad**	**38.61 313**	*i*	P	**P**	00 08 27.0	+0.7
KLNR				pmax	pmax		
	comp=Z,129nm,0.7s						
FNA	**Florina**	**38.62 291**		P	**P**	00 08 26.8	+0.1
FNA				IAmb	IAmb	00 08 28.3	
	comp=Z,38nm,0.8s						
FNA	**Florina**	**38.62 291**		P	**P**	00 08 26.8	+0.1
FNA				pmax	pmax		
	comp=Z,38nm,0.8s						
OJC	**Ojcow**	**38.70 306**	*eP*		**P**	00 08 28.0	+0.8
OJC	**Ojcow**	**38.70 306**		P	**P**	00 08 27.6	+0.3
OJC				IAmb	IAmb	00 08 29.2	
	comp=Z,46nm,1.0s						
OJC	**Ojcow**	**38.70 306**		P	**P**	00 08 27.6	+0.3
OJC				pmax	pmax		
	comp=Z,46nm,1.0s						
OJC	**Ojcow**	**38.70 306**		P	**P**	00 08 27.5	+0.3
	comp=Z,52nm,1.1s,comp=Z,611nm						
PSZ	**Piszkesteto**	**38.73 303**	⇑	P	**P**	00 08 29.2	+1.7
PSZ	**Piszkesteto**	**38.73 303**		P	**P**	00 08 28.4	+0.8
PSZ	**Piszkesteto**	**38.73 303**		P	**P**	00 08 29.2	+1.7
RAF	**Rauma**	**38.88 324**	*eP*		**P**	00 08 28.7	+0.2
LANS	**Liptovska Anna**	**38.95 305**	*eP*		**P**	00 08 31.4	+2.1
LANS	**Liptovska Anna**	**38.95 305**	*eP*		**P**	00 08 31.4	+2.1
LANS				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NJ2	**Nanjing**	**39.00 83**	*eP*		**P**	00 08 31.2	+1.3
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,140nm,3.6s						
VAF	**Ylistaro**	**39.02 327**	*eP*		**P**	00 08 30.9	+1.2
FRGS	**Fruska Gora**	**39.05 298**	⇑	P	**P**	00 08 31.7	+1.5
FRGS	**Fruska Gora**	**39.05 298**	⇑	*i*P	**P**	00 08 31.5	+1.3
FRGS	**Fruska Gora**	**39.05 298**		P	**P**	00 08 31.0	+0.8
	comp=Z,49nm,1.1s,comp=Z,428nm						
SJES	**Sjenica**	**39.20 295**	⇑	*i*P	**P**	00 08 33.1	+1.5
IVA	**Berane**	**39.32 295**	⇑	*i*P	**P**	00 08 34.4	+1.8
TEKS	**Tekeris**	**39.32 297**	⇑	*i*P	**P**	00 08 33.7	+1.2
BUD	**Budapest**	**39.35 302**		P	**P**	00 08 34.2	+1.6
VYHS	**Vyhne**	**39.40 304**	*eP*		**P**	00 08 34.5	+1.4
VYHS	**Vyhne**	**39.40 304**	*eP*		**P**	00 08 34.5	+1.4
VYHS				pmax	pmax		
	comp=Z,26nm,1.3s						
BBLS	**Lazi&#263i**	**39.51 296**	⇑	*i*P	**P**	00 08 35.4	+1.3
AAL	**Aland**	**39.53 322**	*eP*		**P**	00 08 33.6	-0.4
RUDO	**Rudo**	**39.58 296**	⇑	*i*P	**P**	00 08 35.2	+0.6
KOME	**Kolasin**	**39.60 295**	⇑	*i*P	**P**	00 08 36.2	+1.3
PLE	**Pljevlja**	**39.61 295**	⇑	*i*P	**P**	00 08 36.5	+1.5
VADS	**Vadso**	**39.66 339**	*eP*		**P**	00 08 36.0	+1.1
MORH	**Mrgy, Hungar**	**39.73 300**	⇑	P	**P**	00 08 37.0	+1.2
MORH	**Mrgy, Hungar**	**39.73 300**		P	**P**	00 08 36.8	+1.0
	comp=Z,33nm,1.1s,comp=Z,383nm						
OKC	**Ostrava-Krasne**	**39.78 306**		P	**P**	00 08 38.4	+2.2
SRO	**Srobarova**	**39.80 303**	*eP*		**P**	00 08 38.3	+2.0
SRO	**Srobarova**	**39.80 303**	*eP*		**P**	00 08 38.3	+2.0
SRO				pmax	pmax		
	comp=Z,79nm,1.3s						
PDG	**Podgorica**	**39.87 294**		P	**P**	00 08 37.1	+0.1
PDG	**Podgorica**	**39.87 294**	⇑	*i*P	**P**	00 08 37.4	+0.5
PDG	**Podgorica**	**39.87 294**	⇑	*i*P	**P**	00 08 37.5	+0.5
SNY	**Shenyang**	**39.91 67**	⇑	P	**P**	00 08 37.5	+0.2
SNY				pmax	pmax		
	comp=Z,11nm,0.6s						
ULC	**Ulcinj**	**39.96 293**	⇑	*i*P	**P**	00 08 37.8	0.0
DRME	**Dracevica, Mon**	**39.96 294**	*eP*		**P**	00 08 37.3	-0.5
DRME	**Dracevica, Mon**	**39.96 294**	⇑	*i*P	**P**	00 08 38.0	+0.2
UPM	**Unac-Piva**	**39.98 295**	⇑	*i*P	**P**	00 08 37.5	-0.7
UPM	**Unac-Piva**	**39.98 295**	⇑	*i*P	**P**	00 08 39.1	+0.9
NKME	**Niksic**	**40.02 295**	⇑	*i*P	**P**	00 08 39.0	+0.7
CEME	**Cevo**	**40.09 294**	⇑	*i*P	**P**	00 08 39.3	+0.4
JAVC	**Velka Javorina**	**40.15 304**	*eP*		**P**	00 08 41.4	+2.1
BUM	**Brajici-Budva**	**40.15 294**	⇑	*i*P	**P**	00 08 40.0	+0.6
KEV	**Kevo**	**40.16 338**		P	**P**	00 08 39.5	+0.5
KEV				IAmb	IAmb	00 08 40.7	
	comp=Z,45nm,0.9s						
KEV	**Kevo**	**40.16 338**		P	**P**	00 08 39.5	+0.5
KEV				pmax	pmax		
	comp=Z,45nm,0.9s						
KEV	**Kevo**	**40.16 338**		P	**P**	00 08 39.8	+0.7
KEV				pP	**pP**	00 09 04.7	+0.5
MORC	**Moravsky Berou**	**40.17 306**	⇑	P	**P**	00 08 41.0	+1.5
MORC	**Moravsky Berou**	**40.17 306**		P	**P**	00 08 40.3	+0.8
MORC				IAmb	IAmb	00 08 42.0	
	comp=Z,33nm,1.1s						
MORC	**Moravsky Berou**	**40.17 306**	*eP*		**P**	00 08 40.7	+1.2
MORC	**Moravsky Berou**	**40.17 306**		P	**P**	00 08 41.0	+1.5
GKP	**Gorka Klasztor**	**40.30 311**	*eP*		**P**	00 08 41.5	+1.1
GKP	**Gorka Klasztor**	**40.30 311**	*eP*		**P**	00 08 41.2	+0.8
GKP	**Gorka Klasztor**	**40.30 311**		P	**P**	00 08 41.2	+0.8
BRY	**Bratogost**	**40.30 295**	⇑	*i*P	**P**	00 08 41.6	+0.8
BRY	**Bratogost**	**40.30 295**	⇑	*i*P	**P**	00 08 41.5	+0.8
SMOL	**Smolenice**	**40.33 304**	*eP*		**P**	00 08 42.4	+1.6
SMOL				pmax	pmax		
	comp=Z,11nm,1.0s						
MPLH	**Magyarpolny**	**40.38 302**		P	**P**	00 08 41.7	+0.5
	comp=Z,67nm,1.3s,comp=Z,770nm						
HCY	**Herceg Novi**	**40.41 294**	⇑	*i*P	**P**	00 08 41.6	+0.1
HCY	**Herceg Novi**	**40.41 294**	⇑	*i*P	**P**	00 08 41.8	+0.3
MODS	**Modra-Piesok**	**40.44 304**	*eP*		**P**	00 08 43.0	+1.3
MODS	**Modra-Piesok**	**40.44 304**	*eP*		**P**	00 08 43.0	+1.3
MODS				pmax	pmax		
	comp=Z,46nm,1.1s						
TREB	**Trebinje**	**40.47 295**	⇑	*i*P	**P**	00 08 42.1	+0.1
ARA0	**ARCESS Array S**	**40.52 337**	*eP*		**P**	00 08 43.1	+1.2
ARCES	**ARCESS Array B**	**40.52 337**		P	**P**	00 08 43.0	+1.0
ARCES				IAmb	IAmb	00 08 43.9	
	comp=Z,54nm,0.8s						
ARCES	**ARCESS Array B**	**40.52 337**		P	**P**	00 08 42.6	+0.6
	comp=Z,65nm,0.8s,baz=111,slow=7.8,SNR=298						
ARCES				LR	LR	00 26 44.8	
	comp=Z,396nm,19.9s,baz=120,slow=38						
	comp=Z,65nm,0.8s						
ARCES	**ARCESS Array B**	**40.52 337**		P	**P**	00 08 43.0	+1.0
ARCES				pmax	pmax		
	comp=Z,54nm,0.8s						
ZST	**Bratislava**	**40.58 303**	*eP*		**P**	00 08 43.6	+0.9
ZST	**Bratislava**	**40.58 303**	*eP*		**P**	00 08 43.6	+0.9
ZST				pmax	pmax		
	comp=Z,38nm,0.8s						
KRLC	**Kraliky**	**40.65 306**	*eP*		**P**	00 08 44.5	+1.1
KRLC	**Kraliky**	**40.65 306**	*eP*		**P**	00 08 44.5	+1.1
UPP	**Uppsala**	**40.65 321**	*eP*		**P**	00 08 43.4	+0.2
VRAC	**Vranov**	**40.82 305**	⇑	P	**P**	00 08 46.6	+1.8
VRAC	**Vranov**	**40.82 305**	*eP*		**P**	00 08 46.3	+1.5
VRAC	**Vranov**	**40.82 305**	LR		LR	00 27 15.2	
	comp=Z,36nm,19.1s,baz=92,slow=38						
VRAC	**Vranov**	**40.82 305**		P	**P**	00 08 46.6	+1.8
STON	**Ston**	**40.91 295**	⇑	*i*P	**P**	00 08 45.3	-0.2
DPC	**Dobruska-Polom**	**40.93 307**	*eP*		**P**	00 08 47.2	+1.5
DPC	**Dobruska-Polom**	**40.93 307**	*eP*		**P**	00 08 47.2	+1.5
DPC	**Dobruska-Polom**	**40.93 307**		P	**P**	00 08 46.2	+0.5
	comp=Z,27nm,1.1s						
VIKU	**Vikbolandet**	**40.94 319**	*eP*		**P**	00 08 46.1	+0.6
BLY	**Banja Luka**	**40.95 298**	⇑	*i*P	**P**	00 08 46.9	+1.0
KRUC	**Moravsky**	**40.97 305**	*eP*		**P**	00 08 47.4	+1.4
OSTC	**Ostas**	**40.98 307**	*eP*		**P**	00 08 47.3	+1.2
OSTC			*ex*		x	00 09 25.4	
OSTC	**Ostas**	**40.98 307**	*eP*		**P**	00 08 47.3	+1.2
OSTC			*e*			00 09 25.4	
KTK1	**Kautokeino**	**41.00 336**	*eP*		**P**	00 08 46.6	+0.6
MGRS	**Mrkonjic Grad**	**41.07 298**	*eP*		**P**	00 08 48.3	+1.4
SRKY	**Kupres RS**	**41.08 297**	⇑	*i*P	**P**	00 08 48.0	+0.9
CHVC	**Chvalec**	**41.08 307**	*eP*		**P**	00 08 48.3	+1.4
CHVC	**Chvalec**	**41.08 307**	*eP*		**P**	00 08 48.3	+1.4
A051A	**Mrakovica**	**41.10 298**	⇑	*i*P	**P**	00 08 47.9	+0.7
UPC	**Upice**	**41.12 307**	*eP*		**P**	00 08 48.5	+1.3
UPC	**Upice**	**41.12 307**	*eP*		**P**	00 08 48.5	+1.3
RONA	**Rosalia, Austr**	**41.16 303**	*i*	P	**P**	00 08 49.0	+1.3
	comp=Z,28nm,0.8s,SNR=14						
ZEA	**Zeya**	**41.23 48**	*eP*		**P**	00 08 49.8	+1.8
ZEA				pmax	pmax		
	comp=Z,20nm,1.0s						
KOGS	**Kog**	**41.35 301**	*i*	P	**P**	00 08 50.2	+1.0
CONA	**Conrad Observa**	**41.43 303**	*i*	P	**P**	00 08 51.3	+1.4
	comp=Z,51nm,0.9s,SNR=43						
HEH	**HeiHe**	**41.45 53**	*eP*		**P**	00 08 50.9	+1.1
HEH				pmax	pmax		
	comp=Z,

CLL Collm 42.96 308⇑ *i*P P 00 09 02.9 +0.8
CLL e*SP sP 00 09 41.0 +1.4
CLL *i* 00 10 49.6
CLL eS S 00 15 18.0 -1.3
CLL pmax pmax
comp=Z,29nm,1.6s
CLL Collm 42.96 308 P P 00 09 01.9 -0.2
comp=Z,39nm,1.0s,comp=Z,436nm
YAK Yakutsk 43.07 36 P P 00 09 02.8 0.0
YAK Yakutsk 43.07 36 *e*P P 00 09 02.9 0.0
YAK e*PP pP 00 09 29.4 +1.0
YAK eS S 00 15 20.7 +0.1
YAK eSS SS 00 18 28.6 -7.7
YAK pmax pmax
comp=Z,53nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,9.0nm,1.0s
YAK smax smax
comp=N,46nm,1.2s
YAK smax smax
comp=E,101nm,1.9s
YAK Yakutsk 43.07 36 P P 00 09 03.0 +0.2
MYKA Terra Mystica 43.10 301 *e*P P 00 09 04.6 +1.1
comp=E,20nm,0.8s,SNR=8.7
COP Copenhagen 43.11 315 *i*P P 00 09 03.3 0.0
COP IAmb IAmb 00 09 05.9
comp=Z,160nm,0.7s
GSI Gunungsitoli 43.18 140 P P 00 09 06.2 +1.9
GSI Gunungsitoli 43.18 140 P P 00 09 05.0 +0.7
GSI Gunungsitoli 43.18 140 P P 00 09 04.3 0.0
comp=Z,109nm,0.8s,comp=Z,1um
PRED Cave del Predi 43.19 301 P P 00 09 04.7 +0.6
PRED IAmb IAmb 00 09 06.2
comp=Z,62nm,1.2s
KBA Koelnbreinsper 43.23 302 *i*P P 00 09 05.7 +1.1
comp=Z,14nm,0.6s,SNR=12
FAUS Fauske 43.24 332 *e*P P 00 09 05.2 +1.1
SABO M.te Sabotino 43.24 300 P P 00 09 05.1 +0.6
SABO IAmb IAmb 00 09 06.5
comp=Z,131nm,1.0s
LLD Lille Linde 43.24 314 *i*P P 00 09 04.2 -0.1
LLD IAmb IAmb 00 09 07.0
comp=Z,101nm,0.8s
ROBS Robic 43.26 301 *i*P P 00 09 05.4 +0.8
MOR8 Moi Rana 43.27 330 *e*P P 00 09 04.6 +0.1
CEL Celeste 43.35 289 P P 00 09 06.0 +0.4
CEL IAmb IAmb 00 09 07.6
comp=Z,58nm,1.1s
CEL Celeste 43.35 289 P P 00 09 06.3 +0.8
comp=Z,50nm,1.4s,comp=Z,599nm
STEI Steigen 43.40 333 *e*P P 00 09 06.2 +0.8
LESA Schwarzleotal 43.63 303 *e*P P 00 09 08.5 +0.8
comp=Z,26nm,0.5s
MDJ Mudanjiang 43.67 61 P P 00 09 09.1 +1.2
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,130nm,3.8s
NC405 NORSAR Array S 43.70 323 P P 00 09 08.3 +0.4
NC602 NORSAR Array S 43.76 322 *e*P P 00 09 08.6 +0.2
NORES NORESS Array B 43.76 322 P P 00 09 08.6 +0.2
NORES pmax pmax
comp=Z,1.0nm,0.3s
ABTA Abfaltersbach 43.85 302 *i*P P 00 09 09.9 +0.5
comp=Z,20nm,1.0s,SNR=15
KONS Konsvik 43.86 330 *e*P P 00 09 08.8 +0.7
STOK Stokkvaagen 43.87 330 *e*P P 00 09 09.9 +0.7
NB2 NORSAR Subarra 43.94 322 P P 00 09 09.9 0.0
comp=Z,60nm,0.6s,baz=94,slow=8.6
NB2 NORSAR Subarra 43.94 322 P P 00 09 09.9 0.0
baz=94,slow=8.6
NB2 NORSAR Subarra 43.94 322 P P 00 09 09.8 -0.1
NB2 pmax pmax
comp=Z,8.0nm,0.6s
NOA NORSAR Array B 43.94 322 P P 00 09 10.0 +0.1
comp=Z,76nm,0.8s,baz=94,slow=7.9,SNR=282
NOA LR LR 00 28 56.2
comp=Z,112nm,18.0s,baz=90,slow=38
comp=Z,76nm,0.8s
NSS Namsos 43.99 328 *e*P P 00 09 11.1 +1.0
FDMO Fiordimonte 44.19 296 P P 00 09 13.0 +0.8
FDMO IAmb IAmb 00 09 14.4
comp=Z,62nm,0.7s
KS19 Wonju Array Si 44.20 72 P P 00 09 12.8 +0.5
KSAR Wonju Array Be 44.23 72 P P 00 09 12.9 +0.4
KSAR Wonju Array Be 44.23 72 P P 00 09 12.9 +0.4
KSRS Korea Array 44.26 72 P P 00 09 12.3 -0.4
comp=Z,3.1nm,0.8s,baz=280,slow=6.5,SNR=9.5
comp=Z,3.1nm,0.8s
GRA1 Grafenberg Arr 44.26 306 P P 00 09 13.2 +0.6
GRA1 IAmb IAmb 00 09 15.8
comp=Z,66nm,1.2s
GRF Grafenberg Arr 44.26 306 P P 00 09 13.2 +0.6
GRF pmax pmax
comp=Z,66nm,1.2s
GRFO Grafenberg 44.26 306 P P 00 09 13.8 +1.2
GRFO IAmb IAmb 00 09 15.8
comp=Z,64nm,1.2s
GRFO Grafenberg 44.26 306 P P 00 09 13.8 +1.2
GRFO pmax pmax
comp=Z,64nm,1.2s
KLR Kul'dur 44.35 55 LR LR 00 30 52.3
comp=Z,46nm,18.6s,baz=238,slow=40
KLR Kul'dur 44.35 55 *e*P P 00 09 12.9 -0.4
KLR *e* 00 09 39.3
KLR pmax pmax
comp=Z,10.0nm,1.1s
WTTA Wattenberg 44.35 303 *i*P P 00 09 14.0 +0.4
comp=Z,43nm,1.0s,SNR=23
WATA Walderalm 44.38 303 *i*P P 00 09 13.9 +0.2
comp=Z,24nm,0.8s,SNR=19
TBLU Trondheim 44.58 326 *e*P P 00 09 15.3 +0.4
BJO1 Bjornoya 44.58 342 *e*P P 00 09 16.0 +1.3
SQTA Sankt Quirin 44.65 303 *i*P P 00 09 15.9 0.0
comp=Z,20nm,0.7s,SNR=19
KONO Kongsberg 44.67 320 P P 00 09 16.4 +0.7
KONO Kongsberg 44.67 320 *e*P P 00 09 16.4 +0.7
KONO Kongsberg 44.67 320 *ce*P P 00 09 16.4 +0.7
KONO pmax pmax
comp=Z,94nm,0.7s
KONO Kongsberg 44.67 320 P P 00 09 16.1 +0.4
MOTA Moosalm 44.70 303 *i*P P 00 09 16.2 -0.1
comp=Z,38nm,0.8s,SNR=18
SSRD Sdr. Stenderup 44.71 314 *i*P P 00 09 16.7 +0.7
SSRD IAmb IAmb 00 09 19.0
comp=Z,86nm,0.7s
TIXI Tiksi 44.86 22 P P 00 09 17.6 +0.6
TIXI IAmb IAmb 00 09 18.4
comp=Z,49nm,0.8s
TIXI Tiksi 44.86 22 LR LR 00 28 09.3
comp=Z,99nm,21.5s,baz=292,slow=36
TIXI Tiksi 44.86 22 *ce*P P 00 09 17.3 +0.3
TIXI pmax pmax
comp=Z,39nm,0.6s
TIXI Tiksi 44.86 22 P P 00 09 17.6 +0.6
TIXI sP sP 00 09 54.0 -1.1
RETA Reutte 44.90 303 *i*P P 00 09 18.1 +0.3
comp=Z,18nm,1.0s,SNR=9.3
MUD Monsted U'grnd 44.92 316 *i*P P 00 09 17.6 -0.1
MUD IAmb IAmb 00 09 34.4
comp=Z,34nm,0.8s
PSTR Posyet 44.96 64 *i*P P 00 09 20.0 +1.8
FETA Feichten 45.01 302 *i*P P 00 09 18.9 +0.2
comp=Z,29nm,1.1s,SNR=12
DOMB Dombas 45.03 324 *e*P P 00 09 19.3 +0.7
SKAR Skarslia 45.34 322 *e*P P 00 09 22.3 +1.2
FUORN Ofenpass-Fuorn 45.40 302 P P 00 09 22.0 +0.1
USRK Ussuriysk Ar. 45.44 61 P P 00 09 22.1 +0.1
USRK Ussuriysk Ar. 45.44 61 P P 00 09 21.6 -0.3
comp=Z,1.6nm,0.4s,baz=266,slow=9.5,SNR=7.4
comp=Z,1.6nm,0.4s
USRK Ussuriysk Ar. 45.44 61 P P 00 09 22.1 +0.1
DAVA Damuels 45.53 303 *i*P P 00 09 23.4 +0.6
comp=Z,79nm,0.5s,SNR=55
CLTB Caltabellotta 45.58 289 P P 00 09 23.1 -0.2
DAVOX Davos/Dischmat 45.62 302 LR LR 00 32 51.7
comp=Z,64nm,18.0s,baz=74,slow=42
STU Stuttgart 45.72 305 P P 00 09 24.4 +0.3
STU IAmb IAmb 00 09 26.5
comp=Z,50nm,1.3s
STU Stuttgart 45.72 305 P P 00 09 24.4 +0.3
STU pmax pmax
comp=Z,50nm,1.3s

VLC Villacollemand 45.84 299 P P 00 09 26.4 +1.2
BKNI Bangkinang 45.84 137 P P 00 09 25.9 +0.4
BKNI Bangkinang 45.84 137 P P 00 09 24.9 -0.5
BKNI Bangkinang 45.84 137 P P 00 09 24.3 -1.2
comp=Z,73nm,0.8s
SNART Snartemo 45.92 319 *e*P P 00 09 26.6 +1.1
AKN Aaknes 46.01 324 *e*P P 00 09 27.5 +1.2
TUE Stuetta 46.05 302 P P 00 09 26.7 -0.3
TUE Stuetta 46.05 302 P P 00 09 26.2 -0.8
comp=Z,92nm,0.6s
ODD1 Odda 46.18 321 *e*P P 00 09 29.0 +1.4
MYKOM Kota Tinggi 46.25 132 P P 00 09 29.3 +0.7
BLS5 Blasjo 46.28 320 *e*P P 00 09 30.0 +1.6
BFO Black Forest 46.36 305 P P 00 09 29.4 +0.2
BFO Black Forest 46.36 305 P P 00 09 29.4 +0.2
BFO pmax pmax
comp=Z,21nm,0.9s
BFO Black Forest 46.36 305 P P 00 09 29.9 +0.7
HYA Hoyanger 46.38 323 *e*P P 00 09 30.1 +1.0
PDSI Padang 46.57 138 P P 00 09 30.1 -1.1
comp=Z,58nm,0.7s
SPB2 Spitsbergen Ar 46.76 347 P P 00 09 33.1 +1.2
SPB2 IAmb IAmb 00 09 34.3
comp=Z,38nm,0.7s
SPA0 Spitsbergen Ar 46.76 347 *e*P P 00 09 33.6 +1.7
SPITS Spitsbergen Ar 46.76 347 P P 00 09 33.2 +1.3
comp=Z,21nm,0.6s,baz=125,slow=11,SNR=66
SPITS LR LR 00 32 03.8
comp=Z,113nm,19.0s,baz=75,slow=40
comp=Z,21nm,0.6s
BER Bergen 46.81 321 *e*P P 00 09 33.7 +1.2
ASK Askoy 46.88 322 *e*P P 00 09 33.6 +0.6
FOO Floro 46.93 323 *e*P P 00 09 34.4 +1.0
CDF Champ du Feu 47.03 305 *e*P P 00 09 34.7 +0.2
CDF pmax pmax
comp=Z,18nm,0.9s
SUE Sulen 47.08 322 *e*P P 00 09 35.8 +1.3
ECH Echery 47.15 305 P P 00 09 35.5 +0.1
ECH Echery 47.15 305 P P 00 09 35.5 +0.1
ECH pmax pmax
comp=Z,14nm,0.9s
ECH Echery 47.15 305 P P 00 09 35.7 +0.3
LODK Lodwar 47.26 233 P P 00 09 37.5 +0.8
BTNL Ternell 47.36 308 *d*P P 00 09 37.7 +0.7
comp=Z,20nm,1.0s
HINF Hinteralfeld 47.43 304 *e*P P 00 09 37.3 -0.3
HINF pmax pmax
comp=Z,26nm,0.8s
MEM Membach 47.44 308 *d*P P 00 09 38.7 +1.2
comp=Z,22nm,1.0s
SENIN Lac Senin/Sane 47.45 302 P P 00 09 38.1 +0.2
BHOU Houvegnez 47.48 308 *d*P P 00 09 39.2 +1.3
comp=Z,11nm,1.1s
WLF Walferdange 47.52 307 P P 00 09 39.2 +1.1
WLF IAmb IAmb 00 09 40.8
comp=Z,60nm,0.9s
WLF Walferdange 47.52 307 *d*P P 00 09 39.6 +1.5
comp=Z,42nm,0.9s
WLF Walferdange 47.52 307 P P 00 09 39.3 +1.1
WLF Walferdange 47.52 307 P P 00 09 39.2 +1.1
WLF pmax pmax
comp=Z,60nm,0.9s
BSTI Sart Tilman 47.72 308 *d*P P 00 09 40.9 +1.2
comp=Z,3.4nm,0.9s
VSL Villasalto 47.84 293 P P 00 09 40.4 -0.4
KBS Kingsbay 47.88 347 *e*P P 00 09 42.2 +1.6
KBS Kingsbay 47.88 347 *ce*P P 00 09 38.4 -2.1
KBS pmax pmax
comp=Z,111nm,2.5s
KBS Kingsbay 47.88 347 P P 00 09 41.9 +1.4
KBS pP pP 00 10 07.8 +1.5
BCLA Clavier 47.91 308 *d*P P 00 09 42.0 +0.8
comp=Z,7.0nm,1.0s
RCHB Rochefort 48.01 308 *d*P P 00 09 42.8 +0.9
comp=Z,13nm,0.8s
JNU Nakatsue 48.02 76 P P 00 09 42.9 +0.5
JNU IAmb IAmb 00 10 32.8
comp=Z,27nm,0.9s
JNU Nakatsue 48.02 76 LR LR 00 32 25.8
comp=Z,21nm,18.7s,baz=348,slow=39
LPG La Plagne 48.03 301 *e*P P 00 09 42.7 +0.2
LPG pmax pmax
comp=Z,41nm,0.7s
LPL La Plagne 48.04 301 *e*P P 00 09 42.8 +0.3
LPL pmax pmax
comp=Z,27nm,0.5s
BGES Gesves 48.06 308 *d*P P 00 09 43.2 +0.9
comp=Z,7.2nm,1.1s
BNI Bardonecchia 48.19 301 P P 00 09 44.1 +0.5
BNI IAmb IAmb 00 09 45.3
comp=Z,46nm,1.1s
BNI Bardonecchia 48.19 301 P P 00 09 44.1 +0.5
BNI pmax pmax
comp=Z,46nm,1.2s
BMRD Maredsous 48.27 308 *d*P P 00 09 45.1 +1.2
comp=Z,27nm,1.0s
GIVF Givet 48.28 308 *e*P P 00 09 44.6 +0.6
GIVF pmax pmax
comp=Z,37nm,1.2s
DOU Dourbes 48.42 308 *d*P P 00 09 46.4 +1.3
comp=Z,18nm,1.1s
DOU *d*PcP PcP 00 11 10.2 +0.4
BAIF Baives 48.67 308 *e*P P 00 09 47.8 +0.8
BAIF pmax pmax
comp=Z,73nm,1.0s
KEST Kesra 49.13 288 P P 00 09 52.2 +1.4
KEST IAmb IAmb 00 09 53.3
comp=Z,32nm,0.8s
KEST Kesra 49.13 288 P P 00 09 51.9 +1.0
comp=Z,25nm,0.6s,baz=8.5,slow=5.7
comp=Z,25nm,0.6s
TATN Tataouine 49.42 284 P P 00 09 54.2 +1.2
SSB Saint Sauveur 49.59 301 P P 00 09 55.0 +0.8
SSB IAmb IAmb 00 09 56.1
comp=Z,33nm,0.8s
SSB Saint Sauveur 49.59 301 P P 00 09 55.0 +0.8
SSB pmax pmax
comp=Z,33nm,0.8s
SSB Saint Sauveur 49.59 301 P P 00 09 55.0 +0.8
SSB PcP PcP 00 11 14.8 +0.6
VIVF Saint-Julien-l 49.62 301 *e*P P 00 09 54.4 +0.1
VIVF pmax pmax
comp=Z,58nm,0.8s
AVF Avril sur Loir 49.99 304 *e*P P 00 09 56.4 -0.7
AVF pmax pmax
comp=Z,82nm,0.8s
LRW Lerwick 50.07 321⇑ *e*P P 00 09 57.8 +0.3
LRW IAmb IAmb 00 09 59.1
comp=Z,100nm,0.9s
JMN Monobe 50.10 74 P P 00 09 58.9 +0.7
JMN IAmb IAmb 00 10 26.1
comp=Z,41nm,1.1s
KIBK Kibwezi 50.19 226 P P 00 09 59.8 +0.7
KIBK IAmb IAmb 00 10 01.0
comp=Z,23nm,0.8s
ELSH Elham, Standar 50.35 310 *e*P P 00 10 00.7 +1.0
ELSH IAmb IAmb 00 10 01.4
comp=Z,206nm,0.8s
CLF Chambon-Foret 50.39 305 P P 00 10 00.7 +0.6
CLF IAmb IAmb 00 10 01.7
comp=Z,56nm,1.0s
CLF Chambon-Foret 50.39 305 P P 00 10 00.7 +0.6
CLF PcP PcP 00 11 18.4 +1.4
TYV Tymovskoe 50.95 51 *e*P P 00 10 05.5 +1.3
TYV pmax pmax
comp=Z,6.0nm,1.2s
SBUM Sibu 51.03 123 P P 00 10 06.0 +0.7
DRUM Mains of Drumt 51.26 317⇑ *e*P P 00 10 07.0 +0.5
DRUM IAmb IAmb 00 10 07.3
comp=Z,61nm,0.7s
HPK Haverah Park 51.38 314⇑ *e*P P 00 10 08.0 +0.6
HPK IAmb IAmb 00 10 08.7
comp=Z,104nm,0.6s
EDMD Edmundbyers 51.38 315⇑ *e*P P 00 10 07.8 +0.3
EDMD IAmb IAmb 00 10 08.7
comp=Z,141nm,1.1s
CWF Charnwood Fore 51.47 312 *e*P P 00 10 07.9 -0.1
ESY Stoneypath 51.52 316⇑ *e*P P 00 10 08.7 +0.3
MCD Coleburn Disti 51.54 318⇑ *e*P P 00 10 09.2 +0.7
MCD IAmb IAmb 00 10 09.9
comp=Z,154nm,0.6s
LBWR Ladybower, Pea 51.56 313⇑ *e*P P 00 10 08.6 -0.2
LBWR IAmb IAmb 00 10 11.2
comp=Z,34nm,0.7s
EJON La Jonquera 51.57 298 P P 00 10 09.4 +0.3

RJF Les Rejaudoux 51.63 302 *e*P P 00 10 10.0 +0.6
RJF pmax pmax
comp=Z,34nm,1.0s
BIGH Upper Bighouse 51.71 320 *e*P P 00 10 10.6 +0.8
WOL Wolverton 51.76 310⇑ *e*P P 00 10 10.7 +0.5
EDI Edinburgh 51.84 316 *e*P P 00 10 11.0 +0.3
EDI IAmb IAmb 00 10 11.9
comp=Z,70nm,0.7s
EKA Eskdalemuir Ar 51.95 316 P P 00 10 11.5 -0.1
comp=Z,24nm,0.6s,baz=86,slow=7.3,SNR=208
EKA pP pP 00 10 37.2 -0.3
comp=Z,5.6nm,0.7s,baz=94,slow=6.9,SNR=2.0
comp=Z,24nm,0.6s
EKB Eskdalemuir 51.97 316 P P 00 10 11.9 +0.1
JMIC Jan Mayen 51.97 336 LR LR 00 32 47.2
comp=Z,84nm,19.2s,baz=84,slow=36
ESK Eskdalemuir 51.98 316⇑ *e*P P 00 10 12.1 +0.3
ESK IAmb IAmb 00 10 12.9
comp=Z,44nm,0.8s
ESK Eskdalemuir 51.98 316 P P 00 10 12.4 +0.6
ESK IAmb IAmb 00 10 13.1
comp=Z,41nm,0.8s
ESK Eskdalemuir 51.98 316 P P 00 10 12.4 +0.6
ESK pmax pmax
comp=Z,41nm,0.8s
ESK Eskdalemuir 51.98 316 P P 00 10 12.2 +0.3
ESK pP pP 00 10 37.0 -0.7
JGF Kuroka 52.02 71 P P 00 10 12.1 -0.5
YSS Yuzh-Sakhalins 52.04 55 P P 00 10 13.4 +1.1
YSS Yuzh-Sakhalins 52.04 55 P P 00 10 12.7 +0.3
YSS IAmb IAmb 00 10 14.5
comp=Z,31nm,1.0s
YSS Yuzh-Sakhalins 52.04 55 *e*P P 00 10 13.5 +1.1
YSS *e* 00 10 40.1
YSS pmax pmax
comp=Z,30nm,1.0s
SWN1 Swindon 52.05 311 *e*P P 00 10 13.1 +0.6
SWN1 IAmb IAmb 00 10 14.4
comp=Z,114nm,0.8s
KESW Keswick, Cumbr 52.08 315⇑ *e*P P 00 10 13.0 +0.3
KESW IAmb IAmb 00 10 14.1
comp=Z,68nm,0.9s
INVG Invergeldie, C 52.20 317⇑ *e*P P 00 10 13.5 0.0
INVG IAmb IAmb 00 10 14.5
comp=Z,22nm,1.0s
MJB9 Matsu-Tunnel 52.30 69 P P 00 10 14.8 +0.2
MJB9 IAmb IAmb 00 10 42.5
comp=Z,21nm,0.9s
MAJO Matsushiro 52.30 69 P P 00 10 14.5 -0.1
MAJO Matsushiro 52.30 69 P P 00 10 14.2 -0.3
MAJO IAmb IAmb 00 10 41.6
comp=Z,21nm,0.9s
MAJO Matsushiro 52.30 69 *i*P P 00 10 13.5 -1.1
MAJO pmax pmax
comp=Z,10.0nm,0.7s
MAJO Matsushiro 52.30 69 P P 00 10 14.3 -0.3
MAJO pP pP 00 10 40.5 -0.6
MJAR Matsushiro Arr 52.30 69 P P 00 10 14.5 -0.1
comp=Z,7.3nm,0.8s,baz=291,slow=9.9,SNR=22
MJAR pP pP 00 10 40.7 -0.4
comp=Z,16nm,1.0s,baz=298,slow=7.7,SNR=12
MJAR LR LR 00 33 53.3
comp=Z,45nm,18.8s,baz=300,slow=38
comp=Z,7.3nm,0.8s
LINV Loch Inver, As 52.45 319⇑ *e*P P 00 10 16.0 +0.8
LINV IAmb IAmb 00 10 17.2
comp=Z,58nm,0.9s
HLM1 Long Mynd 52.45 312⇑ *e*P P 00 10 15.5 +0.1
HLM1 IAmb IAmb 00 10 16.2
comp=Z,23nm,0.8s
FOEL Foel Wylfa 52.54 313 *e*P P 00 10 16.8 +0.7
PGBU Glenifferbraes 52.57 316⇑ *e*P P 00 10 16.8 +0.6
PGBU IAmb IAmb 00 10 17.6
comp=Z,84nm,0.7s
MONM Monmouth 52.58 311⇑ *e*P P 00 10 16.3 0.0
MONM IAmb IAmb 00 10 17.3
comp=Z,75nm,1.1s
NEWG New Galloway 52.59 316⇑ *e*P P 00 10 17.0 +0.6
NEWG IAmb IAmb 00 10 17.9
comp=Z,94nm,0.7s
MCH1 Michaelchurch 52.65 311⇑ *e*P P 00 10 17.1 +0.3
MCH1 IAmb IAmb 00 10 18.0
comp=Z,101nm,0.8s
CEST Esterri de Car 52.66 299 P P 00 10 17.7 +0.5
CEST IAmb IAmb 00 10 18.9
comp=Z,55nm,0.9s
ASAJ Asahikawa 52.80 59 LR LR 00 34 21.8
comp=Z,75nm,18.3s,baz=7.5,slow=38
ASAJ Asahikawa 52.80 59 P P 00 10 18.0 -0.1
ASAJ pmax pmax
comp=Z,37nm,1.4s
JKA Kamikawa-asahi 52.80 59 P P 00 10 18.0 -0.1
JKA IAmb IAmb 00 11 24.8
comp=Z,37nm,1.4s
LLW Llanuwychllyn 52.83 313⇑ *e*P P 00 10 18.8 +0.6
JTM Tenmabayashi 52.85 63 P P 00 10 18.3 -0.2
KPL Plockton 52.86 318⇑ *e*P P 00 10 18.7 +0.5
KPL IAmb IAmb 00 10 19.1
comp=Z,64nm,0.7s
JSA Saint Aubin 52.91 308⇑ *e*P P 00 10 18.7 0.0
JSA IAmb IAmb 00 10 19.1
comp=Z,24nm,0.6s
GAL1 Galloway 52.92 315⇑ *e*P P 00 10 19.3 +0.5
GAL1 IAmb IAmb 00 10 20.6
comp=Z,64nm,1.1s
LAWE Loch Awe, Argy 52.97 317⇑ *e*P P 00 10 19.6 +0.5
LAWE IAmb IAmb 00 10 20.6
comp=Z,50nm,0.7s
IOMK Kirk Michael 52.99 315⇑ *e*P P 00 10 20.0 +0.7
IOMK IAmb IAmb 00 10 20.8
comp=Z,144nm,0.8s
YLL Llanberis 53.05 313⇑ *e*P P 00 10 20.1 +0.3
WME Myndd Eilian 53.06 313⇑ *e*P P 00 10 20.2 +0.4
WIM Isle of Man 53.08 314⇑ *e*P P 00 10 20.8 +0.8
WLF1 Llynfaes 53.14 313 *e*P P 00 10 20.8 +0.4
WLF1 IAmb IAmb 00 10 21.6
comp=Z,96nm,1.1s
MBAR Mbarara 53.30 234 P P 00 10 22.2 0.0
MBAR IAmb IAmb 00 10 23.3
comp=Z,23nm,0.8s
MBAR Mbarara 53.30 234 P P 00 10 22.2 0.0
MBAR pmax pmax
comp=Z,26nm,0.8s
MBAR Mbarara 53.30 234 P P 00 10 22.3 0.0
SGMF Saint Gilles 53.42 307 *e*P P 00 10 22.5 -0.1
SGMF pmax pmax
comp=Z,66nm,1.0s
MA2 Magadan 53.47 38 P P 00 10 23.3 +0.5
MA2 Magadan 53.47 38 P P 00 10 23.2 +0.5
MA2 Magadan 53.47 38 LR LR 00 33 51.0
comp=Z,85nm,18.5s,baz=264,slow=37
MA2 Magadan 53.47 38 *i*P P 00 10 21.2 -1.6
MA2 pmax pmax
comp=Z,11nm,0.8s
MA2 Magadan 53.47 38 P P 00 10 23.5 +0.7
MA2 Magadan 53.47 38 P P 00 10 22.8 0.0
comp=Z,18nm,1.3s
SEY Seymchan 53.52 34 *e*P P 00 10 22.8 -0.2
SEY pmax pmax
comp=Z,18nm,1.0s
DYA Yadsworthy 53.64 310 *e*P P 00 10 24.0 -0.2
RSBS Rosebush, Pemb 53.70 312⇑ *e*P P 00 10 24.7 +0.1
RSBS IAmb IAmb 00 10 25.2
comp=Z,26nm,0.6s
JMM Marumori 53.71 67 P P 00 10 25.1 +0.3
JMM Marumori 53.71 67 P P 00 10 24.8 -0.1
JMM IAmb IAmb 00 10 52.8
comp=Z,40nm,0.9s
HTL Hartland 53.82 311 *e*P P 00 10 26.1 +0.6
HTL IAmb IAmb 00 10 26.4
comp=Z,41nm,0.7s
EIBI Ibiza 53.85 295 P P 00 10 27.0 +1.1
ROSF Rostrenen 53.86 307⇑ *e*P P 00 10 26.2 +0.4
ERM Erimo 53.89 61 P P 00 10 26.2 +0.2
ERM IAmb IAmb 00 11 51.2
comp=Z,21nm,0.9s
ERM Erimo 53.89 61 P P 00 10 26.3 +0.2
ERM pmax pmax
comp=Z,21nm,1.0s
QUIF Quistinic 53.92 307 *e*P P 00 10 25.7 -0.5
QUIF pmax pmax
comp=Z,34nm,0.8s
DAG Danmarks Havn 54.03 343 P P 00 10 26.8 +0.2
DAG Danmarks Havn 54.03 343 *i*P P 00 10 27.0 +0.4
DAG IAmb IAmb 00 10 28.8

comp=Z,32nm,0.8s
ILTH Belurgan, Co L 54.06 315 *e*P P 00 10 27.2 +0.2
SBD Saint Breward 54.07 310⇑ *e*P P 00 10 27.3 0.0
DSB Dublin 54.30 314 P P 00 10 29.4 +0.5
DSB IAmb IAmb 00 11 27.5
comp=Z,88nm,1.8s
IDGL Inch Island, C 54.43 316 *e*P P 00 10 30.2 +0.5
CCA1 Carnmenellis 54.51 310 *e*P P 00 10 30.5 +0.1
CCA1 IAmb IAmb 00 10 31.4
comp=Z,45nm,0.7s
IWEX Carrickbyrne, 54.78 313 *e*P P 00 10 32.9 +0.5
DBG Daneborg 54.92 341 *i*P P 00 10 34.0 +1.0
DBG IAmb IAmb 00 10 35.0
comp=Z,7.5nm,0.7s
ECHE Chera 55.30 296 P P 00 10 37.2 +0.8
ETOB Tobarra 56.09 296 P P 00 10 43.1 +1.1
CART Cartagena 56.11 294 P P 00 10 42.1 0.0
CART Cartagena 56.11 294 P P 00 10 42.6 +0.4
EMUR La Murta 56.18 295 P P 00 10 41.4 -1.3
UCM Universidad Co 56.64 298 P P 00 10 46.1 +0.2
ENIJ Nijar 57.24 294 P P 00 10 50.2 +0.1
ESBB Sonseca Array 57.40 298 P P 00 10 51.9 +0.6
ESDC Sonseca Array 57.40 298 P P 00 10 51.9 +0.5
ESDC Sonseca Array 57.40 298 P P 00 10 50.9 -0.4
comp=Z,52nm,0.7s,baz=56,slow=7.4,SNR=681
ESDC pP pP 00 11 17.7 0.0
comp=Z,6.5nm,0.8s,baz=54,slow=8.0,SNR=2.4
comp=Z,52nm,0.7s
BILL Bilibino 57.69 26 P P 00 10 54.3 +1.4
BILL IAmb IAmb 00 10 55.1
comp=Z,34nm,0.9s
BILL Bilibino 57.69 26 *i*P P 00 10 52.8 0.0
BILL pmax pmax
comp=Z,35nm,0.8s
BILL Bilibino 57.69 26 P P 00 10 54.1 +1.3
BILL sP sP 00 11 31.7 -0.1
PAB San Pablo 57.72 298 P P 00 10 53.8 +0.2
PAB IAmb IAmb 00 10 55.3
comp=Z,70nm,1.5s
PAB San Pablo 57.72 298 P P 00 10 53.8 +0.2
PAB pmax pmax
comp=Z,70nm,1.5s
PAB San Pablo 57.72 298 P P 00 10 54.2 +0.6
PAB pP pP 00 11 20.5 +0.5
EBER Berja 57.77 294 P P 00 10 53.7 -0.4
TAM Tamanrasset 57.83 275 P P 00 10 55.1 +0.4
TAM IAmb IAmb 00 10 58.8
comp=Z,25nm,1.0s
TAM Tamanrasset 57.83 275 P P 00 10 55.1 +0.4
TAM pmax pmax
comp=Z,25nm,1.0s
TAM Tamanrasset 57.83 275 P P 00 10 55.5 +0.8
TOLI2 Tolitoli 57.92 117 P P 00 10 55.4 +0.2
EQTA Presa de Quent 58.04 295 P P 00 10 55.6 -0.2
BORG Borgarnes 58.07 330 P P 00 10 58.2 +2.7
BORG Borgarnes 58.07 330 P P 00 10 58.2 +2.7
BORG pmax pmax
comp=Z,240nm,1.6s
ALE Alert 58.25 354 P P 00 10 57.6 +1.1
ALE sP sP 00 11 36.0 +1.2
ELGU Los Guajares, 58.32 294 P P 00 10 57.6 -0.2
ECAL Calabor 58.42 301 P P 00 10 59.0 +0.6
EADA Adamuz 58.45 296 P P 00 10 58.6 -0.1
PBRG Braganca 58.48 301 *e*P P 00 10 59.3 +0.5
comp=Z,21nm,1.9s
EGOR Sierra Gorda, 58.56 295 P P 00 10 58.5 -1.1
MVO Moncorvo 58.93 300 *e*P P 00 11 03.0 +1.0
comp=Z,34nm,0.9s
PEA0B Petropavlovsk- 59.11 45 P P 00 11 02.5 -0.4
PEA0B Petropavlovsk- 59.11 45 P P 00 11 02.5 -0.4
PEA0B pmax pmax
comp=Z,72nm,1.6s
PETK Petropavlovsk- 59.11 45 P P 00 11 02.3 -0.6
PETK Petropavlovsk- 59.11 45 P P 00 11 01.8 -1.1
comp=Z,4.1nm,0.9s,baz=301,slow=3.6,SNR=12
PETK LR LR 00 37 08.6
comp=Z,54nm,21.6s,baz=303,slow=36
comp=Z,4.1nm,0.9s
PETK Petropavlovsk- 59.11 45 P P 00 11 02.3 -0.6
PVRL Vila Real 59.36 301 *e*P P 00 11 05.7 +0.8
comp=Z,28nm,1.4s
PGAV Gavieira, Arco 59.45 302 *e*P P 00 11 07.0 +1.4
comp=Z,57nm,0.8s
MTE Manteigas 59.61 300 *e*P P 00 11 08.1 +1.5
comp=Z,74nm,1.1s
MTE Manteigas 59.61 300 P P 00 11 07.5 +0.9
PVIS Viseu 59.72 300 *e*P P 00 11 08.4 +1.0
PCBR Castelo Branco 59.80 299 *e*P P 00 11 08.8 +1.0
comp=Z,20nm,1.6s
PMRV Marv??o 59.91 299 *e*P P 00 11 09.7 +1.0
comp=Z,42nm,1.1s
PTO Porto 60.02 301 *e*P P 00 11 10.6 +1.2
OPO Ambohidratompo 60.13 207 LR LR 00 35 17.7
comp=Z,55nm,18.7s,baz=180,slow=34
TTSI Tana Toraja 60.20 121 P P 00 11 12.4 +1.6
PBAR Barrancos 60.20 297 *e*P P 00 11 11.6 +0.9
comp=Z,80nm,1.3s
COI Coimbra 60.29 300 *e*P P 00 11 12.7 +1.5
comp=Z,104nm,0.9s
COI Coimbra 60.29 300 P P 00 11 12.1 +0.9
COI Coimbra 60.29 300 P P 00 11 12.1 +0.9
COI pmax pmax
comp=Z,88nm,0.8s
PESTR Estremoz 60.29 298 *e*P P 00 11 12.0 +0.7
comp=Z,36nm,1.0s
PESTR Estremoz 60.29 298 P P 00 11 11.7 +0.4
PESTR IAmb IAmb 00 11 13.1
comp=Z,27nm,0.8s
NEEM North Greenlan 60.29 348 *i*P P 00 11 11.6 +0.6
NEEM IAmb IAmb 00 11 12.2
comp=Z,18nm,0.7s
SOEG Soedalen 60.39 335 *i*P P 00 11 12.9 +1.5
SOEG IAmb IAmb 00 11 14.4
comp=Z,19nm,1.1s
SUMG Summit 60.39 341 P P 00 11 13.1 +1.2
SUMG Summit 60.39 341 P P 00 11 13.1 +1.2
SUMG pmax pmax
comp=Z,32nm,0.6s
SUMG Summit 60.39 341 *i*P P 00 11 12.0 +0.1
SUMG IAmb IAmb 00 11 14.3
comp=Z,27nm,0.6s
PCAS Casmilo, Conde 60.41 300 *e*P P 00 11 12.8 +0.7
ABPO Ambohimpanom 60.53 206 P P 00 11 13.6 +0.5
ABPO Ambohimpanom 60.53 206 P P 00 11 13.6 +0.5
ABPO pmax pmax
comp=Z,15nm,1.1s
ABPO Ambohimpanom 60.53 206 P P 00 11 13.8 +0.6
ABPO pP pP 00 11 39.6 -0.6
PMTG Montargil 60.65 299 *e*P P 00 11 14.4 +0.7
comp=Z,22nm,1.2s
EVO Evora 60.74 298 *e*P P 00 11 15.0 +0.7
comp=Z,26nm,1.7s
PSBE So Bento 60.85 299 *e*P P 00 11 16.3 +1.2
comp=Z,82nm,0.9s
PBEJ Beja 60.86 297 *e*P P 00 11 16.0 +0.9
comp=Z,55nm,1.4s
PVAQ Vaqueiros 61.03 297 *e*P P 00 11 17.2 +0.9
comp=Z,69nm,1.2s
PVAQ Vaqueiros 61.03 297 P P 00 11 17.1 +0.9
PCVE Castro Verde 61.15 297 *e*P P 00 11 17.9 +0.8
comp=Z,34nm,1.2s
MESJ Messejana 61.19 297 *e*P P 00 11 18.3 +0.9
comp=Z,54nm,0.8s
MESJ Messejana 61.19 297 P P 00 11 18.1 +0.8
MESJ Messejana 61.19 297 *e*P P 00 11 18.0 +0.7
MESJ IAmb IAmb 00 11 19.6
comp=Z,52nm,0.9s
MESJ Messejana 61.19 297 P P 00 11 18.1 +0.7
MESJ pmax pmax
comp=Z,46nm,0.8s
PACT Alcochete 61.21 298 *e*P P 00 11 19.1 +1.7
PBDV Barranco-do-Ve 61.25 297 *e*P P 00 11 19.1 +1.3
comp=Z,99nm,0.9s
PNCL Nicolau / Gran 61.29 298 *e*P P 00 11 19.4 +1.4
comp=Z,45nm,1.1s
PMAFR Mafra 61.44 299 *e*P P 00 11 19.6 +0.6
comp=Z,76nm,1.0s
LIS Lisbon 61.45 299 *e*P P 00 11 20.9 +1.8
LIS Lisbon 61.45 299 *e*P P 00 11 19.9 +0.8
LIS IAmb IAmb 00 11 21.7
comp=Z,113nm,1.2s
LIS Lisbon 61.45 299 *e*P P 00 11 19.9 +0.8
PTEO Sao Teotonio 61.68 297 *e*P P 00 11 22.0 +1.4
comp=Z,77nm,1.2s
MORF Marmelete 61.74 297 *e*P P 00 11 22.2 +1.1
MORF Marmelete 61.74 297 *e*P P 00 11 21.7 +0.6
MORF IAmb IAmb 00 11 23.3
comp=Z,19nm,1.3s
MORF Marmelete 61.74 297 *e*P P 00 11 21.7 +0.6
PFVI Vila Bisbo 61.94 297 *e*P P 00 11 23.7 +1.3
comp=Z,54nm,2.1s
PFVI Vila Bisbo 61.94 297 P P 00 11 22.9 +0.5
PFVI IAmb IAmb 00 11 24.6
comp=Z,38nm,0.8s
EUNU Eureka 62.20 356 P P 00 11 24.6 +1.1
ICESG Greenland Ices 62.57 338 *i*P P 00 11 26.2 -0.3
ICESG IAmb IAmb 00 11 28.8
comp=Z,15nm,0.6s
AVE Averroes 62.69 292 P P 00 11 27.9 +0.4
KULLO Kullorsuaq 63.34 346 *i*P P 00 11 31.7 +0.6
KULLO IAmb IAmb 00 11 32.2
comp=Z,14nm,0.6s
VOI Vohitsoka 63.35 206 P P 00 11 33.1 +1.2
VOI Vohitsoka 63.35 206 P P 00 11 31.9 0.0
VOI IAmb IAmb 00 12 11.5
comp=Z,32nm,1.1s
ANGG Ammassalik, Gr 63.82 334 P P 00 11 34.8 +0.5
ANGG IAmb IAmb 00 11 36.1
comp=Z,27nm,0.7s
ANGG Ammassalik, Gr 63.82 334 *i*P P 00 11 35.0 +0.6
ANGG IAmb IAmb 00 11 35.8
comp=Z,28nm,0.7s
UPNV Upernavik 64.42 345 *i*P P 00 11 38.8 +0.6
UPNV IAmb IAmb 00 11 47.0
comp=Z,13nm,0.7s
UMMG Uummannaq 64.99 342 *i*P P 00 11 42.4 +0.5
ILULI Ilulissat 65.73 341 P P 00 11 47.6 +0.9
ILULI IAmb IAmb 00 11 48.6
comp=Z,100nm,1.5s
ILULI Ilulissat 65.73 341 P P 00 11 47.6 +0.9
ILULI pmax pmax
comp=Z,100nm,1.5s
ILULI Ilulissat 65.73 341 *i*P P 00 11 47.1 +0.4
ILULI IAmb IAmb 00 11 48.0
comp=Z,27nm,0.7s
TOA0 Torodi Ar. Sit 66.11 269 P P 00 11 49.3 -0.7
TOA0 IAmb IAmb 00 11 50.4
comp=Z,24nm,0.8s
TORD Torodi Ar. Bea 66.11 269 P P 00 11 49.2 -0.7
TORD IAmb IAmb 00 11 50.4
comp=Z,21nm,0.8s
TORD Torodi Ar. Bea 66.11 269 P P 00 11 49.0 -1.0
comp=Z,22nm,0.8s,baz=46,slow=7.0,SNR=81
TORD LR LR 00 44 46.8
comp=Z,60nm,18.2s,baz=161,slow=40
comp=Z,22nm,0.8s
FOMA Nahampoana Res 66.13 204 P P 00 11 50.0 +0.2
FOMA IAmb IAmb 00 11 51.0
comp=Z,26nm,0.8s
DY2G Dye2 66.15 337 *i*P P 00 11 49.1 -0.6
DY2G IAmb IAmb 00 11 51.9
comp=Z,27nm,0.7s
A19K Wainwright 66.25 17 P P 00 11 51.3 +1.3
baz=316,SNR=5.1
LSZ Lusaka 66.30 226 P P 00 11 50.6 -0.6
LSZ IAmb IAmb 00 11 52.1
comp=Z,23nm,0.7s
LSZ Lusaka 66.30 226 LR LR 00 43 58.0
comp=Z,113nm,19.0s,baz=121,slow=39
LSZ Lusaka 66.30 226 P P 00 11 50.6 -0.6
LSZ pmax pmax
comp=Z,23nm,0.7s
LSZ Lusaka 66.30 226 P P 00 11 51.1 -0.1
A21K Barrow 66.41 15 P P 00 11 52.0 +1.0
baz=320
C16K Lisburne Hills 66.54 20 P P 00 11 52.6 +0.7
C16K IAmb IAmb 00 11 54.0
comp=Z,37nm,0.8s
C16K Lisburne Hills 66.54 20 P P 00 11 52.9 +1.0
baz=313
B18K Kokolik River 66.69 18 P P 00 11 54.3 +1.5
baz=316
C17K DeLong Mountai 66.98 19 P P 00 11 55.7 +1.0
baz=315,SNR=10
A22K Sinclair Lake 67.00 15 P P 00 11 56.0 +1.3
baz=321
SFJD Kangerlussuaq 67.11 339 P P 00 11 56.0 +0.4
SFJD IAmb IAmb 00 11 57.9
comp=Z,87nm,1.9s
SFJD Kangerlussuaq 67.11 339 LR LR 00 41 29.3
comp=Z,84nm,20.6s,baz=40,slow=36
SFJD Kangerlussuaq 67.11 339 P P 00 11 56.0 +0.4
SFJD pmax pmax
comp=Z,87nm,1.9s
SFJD Kangerlussuaq 67.11 339 P P 00 11 55.9 +0.4
SFJD PcP PcP 00 12 23.9 +1.0
SFJD Kangerlussuaq 67.11 339 *i*P P 00 11 55.2 -0.3
SFJD IAmb IAmb 00 11 57.1
comp=Z,12nm,0.8s
B20K Meade River 67.30 16 P P 00 11 57.7 +1.0
B20K IAmb IAmb 00 11 58.8
comp=Z,48nm,0.8s
B20K Meade River 67.30 16 P P 00 11 57.8 +1.2
baz=320,SNR=24
RDOG Red Dog Mine 67.35 19 P P 00 11 58.5 +1.4
baz=315
C18K Utukok River 67.36 18 P P 00 11 58.1 +0.9
baz=317,SNR=16
C19K Lookout Ridge 67.42 18 P P 00 11 58.7 +1.2
C19K Lookout Ridge 67.42 18 P P 00 11 58.7 +1.2
baz=318,SNR=28
D17K Noatak River 67.56 20 P P 00 11 59.1 +0.8
baz=315,SNR=15
TNA Tin City 67.64 23 P P 00 11 59.9 +1.0
baz=312
B22K Teshekpuk Lake 67.84 15 P P 00 12 01.4 +1.4
baz=323,SNR=33
RES Resolute Bay 67.89 356 P P 00 12 00.9 +0.6
RES Resolute Bay 67.89 356 P P 00 12 00.9 +0.6
RES pmax pmax
comp=Z,7.0nm,1.0s
SHEM Shemya Is, Ala 68.07 40 LR LR 00 42 36.6
comp=Z,21nm,19.1s,baz=300,slow=36
B21K Ikpikpuk River 68.16 16 P P 00 12 03.3 +1.3
baz=322,SNR=49
F14K Arctic Creek 68.19 22 P P 00 12 03.8 +1.4
baz=314
D19K Kuna River 68.23 18 P P 00 12 03.6 +1.0
baz=319,SNR=64
E17K Hotham Inlet 68.34 20 P P 00 12 04.1 +0.8
baz=317,SNR=12
E18K Tukpahlearik C 68.41 19 P P 00 12 04.6 +0.9
baz=318,SNR=26
D20K Etivluk River 68.42 17 P P 00 12 04.8 +1.1
baz=320,SNR=30
C21K Knifeblade Rid 68.49 16 P P 00 12 05.4 +1.2
baz=322
F15K North Star Dit 68.53 22 P P 00 12 05.7 +1.3
baz=315,SNR=10
GUMO Guam 68.75 89 LR LR 00 44 28.6
comp=Z,53nm,20.4s,baz=85,slow=38
C23K Itkillik River 68.82 14 P P 00 12 07.7 +1.5
baz=325,SNR=61
E20K Nigu River 68.87 17 P P 00 12 07.4 +0.7
baz=321,SNR=47
F17K Baldwin Pennin 68.96 20 P P 00 12 08.6 +1.5
baz=317,SNR=19
FAKI Fak Fak 69.02 111 P P 00 12 08.0 -0.2
FAKI IAmb IAmb 00 12 53.1
comp=Z,49nm,1.3s
ANM Nome 69.12 23 P P 00 12 09.6 +1.5
ANM IAmb IAmb 00 12 10.2
comp=Z,111nm,1.4s
ANM Nome 69.12 23 P P 00 12 09.4 +1.3
baz=314
ANM Nome 69.12 23 P P 00 12 09.6 +1.5
ANM pmax pmax
comp=Z,111nm,1.4s
D22K Ayikyak River 69.17 16 P P 00 12 09.7 +1.3
baz=324,SNR=27
G15K Niukluk 69.22 22 P P 00 12 09.8 +1.0
baz=315
E21K Killik River 69.24 16 P P 00 12 09.6 +0.7
baz=323,SNR=59
E19K Redstone River 69.24 18 P P 00 12 09.6 +0.7
baz=320,SNR=19
F18K Selawik 69.28 19 P P 00 12 09.7 +0.7
baz=318,SNR=20
PMPST Porto Santo, M 69.28 296 *e*P P 00 12 10.7 +1.0
C24K Franklin Bluff 69.29 14 P P 00 12 10.5 +1.4
baz=327
NRS Narsarsuaq 69.30 332 P P 00 12 10.3 +1.0
NRS IAmb IAmb 00 12 50.8
comp=Z,69nm,1.3s
NRS Narsarsuaq 69.30 332 P P 00 12 10.3 +1.0
NRS pmax pmax
comp=Z,69nm,1.3s
NRS Narsarsuaq 69.30 332 *i*P P 00 12 09.2 -0.1
NRS IAmb IAmb 00 12 11.2
comp=Z,24nm,0.8s
G16K Koyuk River 69.42 21 P P 00 12 11.2 +1.2
baz=317,SNR=7.5
D23K Nanushuk River 69.52 15 P P 00 12 11.7 +1.2
baz=325
F19K Shaleruckik Mo 69.59 19 P P 00 12 10.9 0.0
baz=320,SNR=9.2
D24K Happy Valley 69.74 14 P P 00 12 12.8 +1.0
baz=327
C26K Camden Bay 69.81 13 P P 00 12 14.0 +1.7
baz=330,SNR=26
G17K Kiwalik Mounta 69.83 21 P P 00 12 13.6 +1.1
baz=318,SNR=16
PMAR Madeira 69.88 296 *e*P P 00 12 15.1 +1.5
FUL Funchal 69.91 296 *e*P P 00 12 14.7 +1.2
F20K Avaraart Lake 69.93 18 P P 00 12 13.5 +0.4
baz=322,SNR=16
H16K Elim 70.01 22 P P 00 12 14.7 +1.1
baz=317,SNR=10.0
TOLK Toolik Lake Re 70.02 15 P P 00 12 14.5 +0.8
TOLK Toolik Lake Re 70.02 15 P P 00 12 14.8 +1.2
baz=326,SNR=68
PMOZ Porto Moniz, M 70.03 296 *e*P P 00 12 15.6 +1.2
comp=Z,146nm,2.0s
D25K Kavik River 70.06 13 P P 00 12 15.3 +1.4
baz=329,SNR=64
G18K Tagagawik 70.08 20 P P 00 12 15.5 +1.5
baz=319
IVI Ivigtut 70.27 333 P P 00 12 15.2 0.0
C27K Jago River 70.27 12 P P 00 12 16.8 +1.7
baz=331,SNR=54
G19K Purcell Mounta 70.30 19 P P 00 12 16.2 +0.9
baz=321,SNR=29
F21K Alatna River 70.33 17 P P 00 12 16.3 +0.8
baz=323,SNR=40
A36M Sachs Harbour 70.34 5 P P 00 12 16.4 +1.0
A36M Sachs Harbour 70.34 5 P P 00 12 16.6 +1.1
baz=346,SNR=62
F22K John River 70.39 16 P P 00 12 17.2 +1.2
baz=324,SNR=54
H17K Granite Mounta 70.46 21 P P 00 12 17.4 +1.0
baz=319,SNR=9.2
E23K Chandalar 70.50 15 P P 00 12 17.6 +1.0
baz=326,SNR=31
E24K Your Creek 70.71 15 P P 00 12 19.0 +1.1
baz=327,SNR=26
H18K Honhosa River 70.72 20 P P 00 12 18.5 +0.6
baz=320,SNR=8.1
G21K Allakaket 70.89 17 P P 00 12 19.1 +0.1
baz=323,SNR=25
H19K Roundabout Mou 70.94 19 P P 00 12 20.2 +1.0
baz=321,SNR=18
J14K Nanvaranak Lak 70.98 24 P P 00 12 20.8 +1.3
baz=316,SNR=5.8
I17K Unalakleet 71.02 22 P P 00 12 21.0 +1.3
baz=318
G22K Bettles 71.03 17 P P 00 12 20.5 +0.8
baz=325
COLD Coldfoot 71.06 16 P P 00 12 21.0 +1.1
baz=326,SNR=48
D27M Malcolm River 71.07 12 P P 00 12 21.6 +1.5
baz=333,SNR=35
K13K Kusilvak Mount 71.22 25 P P 00 12 22.1 +1.2
baz=316
E25K Arctic Village 71.25 14 P P 00 12 22.2 +1.1
baz=330,SNR=41
IMAR Indian Mountai 71.26 18 P P 00 12 21.6 +0.4
F24K Squaw Lake 71.31 15 P P 00 12 22.5 +1.0
baz=328,SNR=8.9
D28M Stokes Point 71.34 11 P P 00 12 23.4 +1.8
baz=335,SNR=48
H20K Anotleneega Mo 71.37 19 P P 00 12 22.8 +0.9
baz=323,SNR=41
GCSA Galena City Sc 71.44 20 P P 00 12 23.2 +1.0
baz=321,SNR=5.2
J16K Anvik River 71.50 22 P P 00 12 23.8 +1.1
baz=318,SNR=14
G23K Bananza Creek 71.53 16 P P 00 12 23.9 +1.0
baz=326,SNR=23
F25K Christian Rive 71.69 14 P P 00 12 25.3 +1.5
baz=330,SNR=36
H21K Melozitna Rive 71.76 18 P P 00 12 25.0 +0.8
baz=324,SNR=26
M11K Mekoryuk 71.79 26 P P 00 12 26.0 +1.6
baz=315
J17K VABM Dome 71.87 21 P P 00 12 25.8 +0.9
baz=320
E28M Babbage River 71.87 11 P P 00 12 26.3 +1.5
baz=334,SNR=55
F26K Sheenjek River 71.89 14 P P 00 12 26.2 +1.3
baz=331,SNR=27
H22K Ishtalitna Cre 71.90 17 P P 00 12 26.2 +1.1
baz=325,SNR=13
E27K Coleen River 71.91 12 P P 00 12 26.5 +1.4
baz=333,SNR=57
K15K Wolf Creek Mou 71.96 23 P P 00 12 26.9 +1.5
baz=318
I20K Naaghedeneel 72.03 19 P P 00 12 27.0 +1.2
baz=323,SNR=7.1
BMAR Burnt Mountain 72.04 14 P P 00 12 27.4 +1.5
G24K Hadweenzic Riv 72.09 15 P P 00 12 27.6 +1.4
baz=328,SNR=37
L14K Kuka Creek 72.30 24 P P 00 12 29.0 +1.6
baz=317,SNR=7.0
G25K Bearman Lake 72.32 15 P P 00 12 29.1 +1.7
baz=329,SNR=17
E29M Blow River 72.32 11 P P 00 12 29.1 +1.6
baz=336,SNR=58
J19K Poorman 72.37 20 P P 00 12 29.2 +1.4
baz=322,SNR=32
H23K Yukon River 72.38 16 P P 00 12 29.6 +1.6
baz=327,SNR=28
L15K Ungalak Mounta 72.43 24 P P 00 12 29.5 +1.3
baz=318
J18K Innoko River 72.49 21 P P 00 12 29.7 +1.2
baz=322,SNR=14
SPIA Saint Paul Isl 72.49 30 P P 00 12 29.9 +1.2
baz=313
G26K Porcupine Rive 72.61 14 P P 00 12 30.6 +1.4
baz=331,SNR=15
J20K Nowinta River 72.62 19 P P 00 12 30.6 +1.3
baz=323,SNR=24
K17K Iditarod 72.62 22 P P 00 12 30.7 +1.4
baz=320,SNR=16
FYU Fort Yukon 72.67 14 P P 00 12 30.9 +1.4
FYU IAmb IAmb 00 12 32.2
comp=Z,47nm,1.0s
F28M Old Crow 72.72 12 P P 00 12 31.2 +1.4
baz=334,SNR=21
H24K Noodor Dome 72.74 16 P P 00 12 31.4 +1.3
baz=328,SNR=27
M13K Dall Lake 72.76 25 P P 00 12 32.2 +2.0
baz=317
MLY Manley 72.77 17 P P 00 12 31.1 +0.9
MLY Manley 72.77 17 P P 00 12 31.1 +0.9
baz=326,SNR=24
H25L Birch Creek 72.81 15 P P 00 12 31.9 +1.6
baz=330
M14K Bethel 72.97 24 P P 00 12 33.0 +1.6
baz=318,SNR=8.6
I23K Minto, Yukon-K 72.99 17 P P 00 12 32.7 +1.3
baz=327,SNR=21
C36M Paulatuk 73.01 6 P P 00 12 31.9 +0.5
baz=347,SNR=100
INK Inuvik 73.02 9 P P 00 12 32.7 +1.1
INK IAmb IAmb 00 12 33.6
comp=Z,44nm,0.7s
INK Inuvik 73.02 9 P P 00 12 32.6 +1.1
baz=339,SNR=74
INK Inuvik 73.02 9 LR LR 00 49 56.4
comp=Z,28nm,18.4s,baz=1.0,slow=40
INK Inuvik 73.02 9 P P 00 12 32.7 +1.1
INK pmax pmax
comp=Z,44nm,0.7s
L16K Owhat River 73.04 23 P P 00 12 33.6 +1.8
baz=320,SNR=12
L17K Donlin 73.07 22 P P 00 12 33.7 +1.7
baz=321,SNR=9.0
G27K Doyon Strip 73.13 13 P P 00 12 34.0 +1.6
baz=333,SNR=46

K20K Telida 73.30 20 P P 00 12 34.6 +1.3
baz=324
CHUM Lake Minchumin 73.33 19 P P 00 12 34.8 +1.3
baz=325,SNR=14
F30M Barrier River 73.36 11 P P 00 12 34.9 +1.3
baz=338,SNR=41
MDM Murphy Dome 73.41 16 P P 00 12 34.7 +0.7
MDM IAmb IAmb 00 12 35.9
comp=Z,43nm,1.1s
M15K Kasigluk River 73.43 24 P P 00 12 35.6 +1.5
baz=319,SNR=6.8
POKR Poker Plat Res 73.45 16 P P 00 12 35.7 +1.5
baz=329,SNR=9.6
L18K Granite Mounta 73.47 21 P P 00 12 35.8 +1.4
baz=322,SNR=9.3
BPAW Bear Paw Mtn. 73.48 18 P P 00 12 35.0 +0.6
baz=326,SNR=22
PRP Porcupine Dome 73.52 15 P P 00 12 35.9 +1.2
baz=330,SNR=7.2
NEA2 Nenana 73.53 17 P P 00 12 35.3 +0.6
baz=327,SNR=16
COLA College 73.57 16 P P 00 12 35.9 +1.1
COLA College 73.57 16 P P 00 12 35.7 +0.9
COLA College 73.57 16 P P 00 12 35.8 +0.9
baz=328
COLA College 73.57 16 *i* P P 00 12 35.2 +0.4
COLA pmax pmax
comp=Z,68nm,0.8s
G29M Pine Creek 73.66 12 P P 00 12 36.5 +1.1
baz=336,SNR=17
H27K Steamboat Moun 73.67 13 P P 00 12 37.1 +1.6
baz=333,SNR=38
N14K Kuskokwak Cree 73.68 25 P P 00 12 37.2 +1.6
baz=318
M16K Timber Creek 73.72 23 P P 00 12 37.4 +1.5
baz=320,SNR=5.9
CAST Castle Rocks 73.77 19 P P 00 12 36.7 +0.6
CAST IAmb IAmb 00 12 38.1
comp=Z,84nm,1.0s
CAST Castle Rocks 73.77 19 P P 00 12 37.1 +1.0
baz=325,SNR=71
BWN Browne 73.79 17 P P 00 12 37.0 +0.8
MBWA Marble Bar 73.83 134 P P 00 12 36.1 -0.9
WRH Wood River Hil 73.86 17 P P 00 12 36.5 0.0
ILAR Eielson Array 73.87 16 P P 00 12 36.6 0.0
ILAR Eielson Array 73.87 16 P P 00 12 36.8 +0.1
comp=Z,16nm,0.8s,baz=324,slow=4.7,SNR=100
ILAR LR LR 00 47 59.4
comp=Z,28nm,21.1s,baz=271,slow=38
comp=Z,16nm,0.8s
G30M tAoh Zraii Nji 73.88 11 P P 00 12 37.5 +0.8
baz=337,SNR=34
M17K Holitna River 73.90 22 P P 00 12 38.7 +1.8
baz=321,SNR=11
N15K Kwethluk River 74.02 24 P P 00 12 39.7 +2.1
baz=320
L19K White Mountain 74.03 21 P P 00 12 38.9 +1.2
baz=323,SNR=11
L20K Farewell, AK 74.06 20 P P 00 12 39.0 +1.2
baz=324,SNR=20
HDA Harding Lake 74.17 16 P P 00 12 38.5 +0.1
baz=329
PPLA Purkeypile 74.17 19 P P 00 12 39.2 +0.6
baz=325,SNR=9.6
I26K Coal Creek Min 74.19 14 P P 00 12 39.7 +1.2
baz=332
TRF Thorofare Moun 74.20 18 P P 00 12 40.2 +1.4
baz=327,SNR=8.1
N16K Nishlik Lake 74.21 23 P P 00 12 40.5 +1.8
baz=320,SNR=11
G31M Satah River 74.22 10 P P 00 12 39.4 +0.8
baz=339,SNR=47
I27K Kandik River 74.22 14 P P 00 12 40.0 +1.3
baz=333,SNR=22
PSA00 Pilbara Seismi 74.22 134 P P 00 12 38.2 -1.0
PSA00 Pilbara Seismi 74.22 134 P P 00 12 38.4 -0.8
PSA00 IAmb IAmb 00 13 21.0
comp=Z,19nm,1.2s
H29M Whitestone 74.23 12 P P 00 12 40.2 +1.4
baz=336,SNR=46
MCK McKinley 74.29 17 P P 00 12 39.3 +0.2
baz=328,SNR=14
MCK McKinley 74.29 17 P P 00 12 38.8 -0.3
M18K Stony River 74.30 21 P P 00 12 40.4 +1.2
baz=323,SNR=7.4
O14K Tigyukauivet M 74.33 25 P P 00 12 40.9 +1.5
baz=319
J25K Salcha River, 74.34 16 P P 00 12 39.8 +0.4
baz=330,SNR=32
EPYK Eagle Plains 74.36 11 P P 00 12 40.1 +0.6
baz=337,SNR=12
FRB Frobisher Bay 74.38 343 LR LR 00 48 08.6
comp=Z,105nm,20.9s,baz=30,slow=38
M19K Big River Lodg 74.38 21 P P 00 12 41.1 +1.4
baz=324
POGA Pongola 74.39 216 P P 00 12 40.1 0.0
POGA IAmb IAmb 00 12 40.8
comp=Z,44nm,0.8s
RND Reindeer 74.58 18 P P 00 12 41.1 +0.2
RND IAmb IAmb 00 12 41.7
comp=Z,28nm,0.6s
RND Reindeer 74.58 18 P P 00 12 41.1 +0.2
RND pmax pmax
comp=Z,28nm,0.6s
N17K Nushagak Hills 74.66 23 P P 00 12 43.1 +1.8
baz=322,SNR=6.3
I28M Miner Creek 74.67 13 P P 00 12 42.1 +0.7
baz=334,SNR=66
M20K Styx River 74.75 20 P P 00 12 42.9 +1.0
baz=325,SNR=8.3
J26L Joseph Creek 74.81 15 P P 00 12 43.1 +0.8
baz=332,SNR=28
O15K Ungalikthiuk R 74.87 25 P P 00 12 43.9 +1.4
baz=320
N18K Kilae Creek 74.93 22 P P 00 12 44.4 +1.5
baz=323,SNR=6.2
K24K Donnelly Dome 74.95 16 P P 00 12 43.2 +0.2
baz=330,SNR=39
EGAK Eagle 75.05 14 P P 00 12 44.1 +0.7
EGAK Eagle 75.05 14 P P 00 12 44.3 +0.9
baz=334,SNR=18
SKT Skwentna 75.10 19 P P 00 12 44.0 +0.1
SKT IAmb IAmb 00 12 44.8
comp=Z,63nm,0.8s
SKT Skwentna 75.10 19 P P 00 12 44.0 +0.1
baz=326,SNR=38
O16K Kokwok River B 75.11 24 P P 00 12 45.4 +1.5
baz=321,SNR=8.7
DBIC Dimbokro 75.11 267 P P 00 12 43.8 -0.9
DBIC IAmb IAmb 00 13 10.5
comp=Z,51nm,1.5s
DBIC Dimbokro 75.11 267 P P 00 12 43.8 -0.9
comp=Z,9.1nm,0.7s,baz=32,slow=5.9,SNR=11
DBIC LR LR 00 49 00.0
comp=Z,34nm,20.5s,baz=92,slow=38
comp=Z,9.1nm,0.7s
WAT1 Susitna Watana 75.15 18 P P 00 12 43.7 -0.4
baz=328
SCRK Sand Creek 75.19 15 P P 00 12 45.2 +0.7
SCRK IAmb IAmb 00 12 46.2
comp=Z,24nm,0.7s
SCRK Sand Creek 75.19 15 P P 00 12 45.1 +0.6
baz=332,SNR=24
DHY Denali Highway 75.22 17 P P 00 12 44.6 0.0
baz=329,SNR=50
N19K Bonanza Creek 75.24 21 P P 00 12 46.0 +1.2
baz=324,SNR=8.0
H31M Peel River 75.25 11 P P 00 12 45.4 +0.7
baz=339,SNR=51
O17K Koliganek Bris 75.28 23 P P 00 12 46.4 +1.5
baz=322
KNRA Kununurra 75.37 123 P P 00 12 45.2 -0.7
I30M Mount Dempster 75.48 12 P P 00 12 46.9 +0.8
baz=337,SNR=60
K27K Chicken 75.54 15 P P 00 12 47.7 +1.4
baz=333
LBTB Lobatse 75.55 222 P P 00 12 47.1 +0.2
LBTB IAmb IAmb 00 12 47.8
comp=Z,33nm,0.7s
LBTB Lobatse 75.55 222 P P 00 12 47.2 +0.2
LBTB pmax pmax
comp=Z,33nm,0.7s
WAT6 Susitna Watana 75.56 18 P P 00 12 46.6 0.0
baz=329,SNR=22
N20K Mount Spurr 75.57 20 P P 00 12 47.0 +0.4
baz=325
M22K Willow 75.66 19 P P 00 12 47.0 0.0
baz=327,SNR=5.1
TSUM Tsumeb 75.73 232 P P 00 12 47.9 -0.2
TSUM Tsumeb 75.73 232 LR LR 00 50 17.4
comp=Z,37nm,18.8s,baz=31,slow=39
SUA Susitna One 75.74 19 P P 00 12 48.0 +0.4
SUA IAmb IAmb 00 12 49.3
comp=Z,27nm,0.7s
SUA Susitna One 75.74 19 P P 00 12 48.0 +0.4
baz=326
PAX Paxson 75.75 16 P P 00 12 48.2 +0.6
baz=330,SNR=28
O19K Port Alsworth 75.79 22 P P 00 12 48.9 +1.1
baz=324
O18K Koktuh Hills 75.80 22 P P 00 12 49.5 +1.6
baz=323,SNR=16
J29N Klondike Camp 75.88 13 P P 00 12 49.5 +1.2
baz=336,SNR=11
P17K Kvichak River 75.94 23 P P 00 12 50.4 +1.7
baz=322,SNR=7.0
NIKH Nikolski High 75.98 33 P P 00 12 50.7 +1.8
baz=314
DAWY Dawson 76.02 13 P P 00 12 50.0 +0.9
DAWY IAmb IAmb 00 12 50.8
comp=Z,34nm,0.8s
PMR Palmer 76.05 19 P P 00 12 50.0 +0.8
PMR Palmer 76.05 19 P P 00 12 49.6 +0.4
baz=328,SNR=8.6
SML Sawmill 76.07 18 P P 00 12 50.0 +0.6
SML Sawmill 76.07 18 P P 00 12 49.9 +0.4
baz=328,SNR=28
J30M Hart River 76.09 12 P P 00 12 50.5 +0.9
baz=338,SNR=26
P18K Big Mountain, 76.16 23 P P 00 12 51.1 +1.2
baz=323,SNR=5.5
MENT Mentasta 76.16 16 P P 00 12 51.7 +1.8
L26K Log Cabin Wild 76.17 16 P P 00 12 50.9 +1.0
baz=332,SNR=8.8
M23K Glacier View 76.24 18 P P 00 12 50.6 +0.2
baz=339,SNR=40
Q16K King Salmon 76.29 24 P P 00 12 52.0 +1.4
baz=322,SNR=7.4
SCM Sheep Creek Mo 76.30 18 P P 00 12 51.6 +0.8
SCM Sheep Creek Mo 76.30 18 P P 00 12 51.2 +0.5
baz=329,SNR=18
SCM Sheep Creek Mo 76.30 18 P P 00 12 51.6 +0.8
SCM pmax pmax
comp=Z,71nm,0.6s
HARP HAARP 76.32 17 P P 00 12 52.4 +1.6
baz=331,SNR=25
RC01 Rabbit Creek A 76.32 19 P P 00 12 50.9 +0.1
baz=327,SNR=5.9
M24K Tolsona, Glenn 76.34 17 P P 00 12 52.3 +1.3
baz=330,SNR=16
O20K Slope Mountain 76.37 21 P P 00 12 52.0 +0.8
baz=325
KNK Knik Glacier 76.38 19 P P 00 12 52.1 +1.0
KNK IAmb IAmb 00 12 52.9
comp=Z,60nm,1.0s
KNK Knik Glacier 76.38 19 P P 00 12 51.6 +0.5
baz=328,SNR=11
L27K Beaver Creek, 76.45 15 P P 00 12 53.0 +1.4
baz=333,SNR=19
BCAR Beaver Creek A 76.46 15 P P 00 12 52.9 +1.3
P19K Oil Pt 76.55 22 P P 00 12 52.8 +0.6
baz=325
K29M Barlow Dome 76.56 13 P P 00 12 53.5 +1.2
baz=337,SNR=46
S12K Black Hills 76.72 28 P P 00 12 53.5 +0.3
baz=319
M26K Nabesna, AK 76.80 16 P P 00 12 54.6 +1.1
baz=332
Q17K Contact Creek 76.86 24 P P 00 12 54.2 +0.2
baz=323,SNR=7.0
KLU Klutina 76.93 17 P P 00 12 55.4 +1.1
KLU IAmb IAmb 00 12 56.3
comp=Z,26nm,0.9s
KLU Klutina 76.93 17 P P 00 12 55.3 +0.9
baz=330,SNR=9.0
HOM Homer 77.00 21 P P 00 12 55.6 +1.0
baz=326
Q19K Cape Douglas, 77.02 22 P P 00 12 55.9 +1.1
baz=325
MAYO Mayo, Yukon 77.07 12 P P 00 12 56.4 +1.4
baz=338
M27K Edge Creek, AK 77.07 15 P P 00 12 56.7 +1.5
baz=333,SNR=15
BRLK Bradley Lake 77.13 20 P P 00 12 55.1 -0.3
BRLK IAmb IAmb 00 12 56.4
comp=Z,37nm,0.9s
L29M L29M 77.13 13 P P 00 12 56.7 +1.4
baz=336,SNR=18
N25K Chitina, Valde 77.14 17 P P 00 12 56.7 +1.2
baz=331
GLI Glacier Island 77.18 18 P P 00 12 56.1 +0.5
baz=329
BRSE Bradley Lake S 77.19 20 P P 00 12 56.1 +0.4
baz=327
S14K Fog Glacier 77.19 26 P P 00 12 56.4 +0.5
baz=321
SEW Seward 77.23 20 P P 00 12 56.3 +0.4
baz=328
BVCY Beaver Creek 77.23 15 P P 00 12 56.3 +0.3
baz=334
CHGN Chignik 77.58 26 P P 00 12 58.6 +0.8
baz=321
SDPT Sand Point 77.58 27 P P 00 12 59.3 +1.4
baz=320
Q20K Shuyak Island 77.65 22 P P 00 12 58.9 +0.6
baz=326
M29M Somme Creek 77.68 14 P P 00 13 00.1 +1.6
baz=336,SNR=15
MCARA McCarthy VSAT 77.70 16 P P 00 12 59.4 +0.9
baz=332,SNR=5.4
BMRM Bremner River 77.70 17 P P 00 12 59.7 +1.1
baz=331
EYAK Cordova Ski Ar 77.80 18 P P 00 13 00.2 +1.2
baz=330
P23K Montague Islan 77.86 19 P P 00 13 00.3 +0.9
baz=329
YUK3 Moose Creek 77.89 15 P P 00 13 00.7 +0.9
baz=334,SNR=10
MORW Morawa 78.16 141 P P 00 12 59.6 -1.8
MORW IAmb IAmb 00 13 31.1
comp=Z,44nm,1.4s
KDAK Kodiak Island 78.28 22 P P 00 13 02.4 +0.6
KDAK IAmb IAmb 00 13 03.4
comp=Z,60nm,0.9s
KDAK Kodiak Island 78.28 22 P P 00 13 02.5 +0.8
baz=326
KDAK Kodiak Island 78.28 22 *i* P P 00 13 01.6 -0.1
KDAK pmax pmax
comp=Z,88nm,0.9s
CTG Chitna Glacier 78.44 16 P P 00 13 03.8 +1.0
baz=324,SNR=5.4
YUK8 Steele Glacier 78.48 15 P P 00 13 03.9 +0.7
baz=335
OHAK Old Harbor 78.53 23 P P 00 13 03.8 +0.7
baz=325
WIN Windhoek 78.53 230 P P 00 13 04.5 +0.7
WIN Windhoek 78.53 230 P P 00 13 04.5 +0.7
WIN pmax pmax
comp=Z,6.0nm,0.7s
Q23K Middleton Isla 78.62 19 P P 00 13 04.6 +1.1
baz=330
M31M Drury Creek, Y 78.62 12 P P 00 13 04.5 +0.9
baz=339,SNR=18
BOSA Boshof 78.63 220 P P 00 13 03.5 -0.5
BOSA IAmb IAmb 00 13 04.3
comp=Z,33nm,0.9s
BOSA Boshof 78.63 220 P P 00 13 02.8 -1.3
comp=Z,24nm,0.8s,baz=30,slow=3.8,SNR=46
BOSA LR LR 00 48 52.9
comp=Z,39nm,18.7s,baz=22,slow=36
comp=Z,24nm,0.8s
BOSA Boshof 78.63 220 P P 00 13 03.6 -0.5
BOSA pmax pmax
comp=Z,33nm,1.0s
YUK4 Talbot Arm 78.65 14 P P 00 13 04.6 +0.6
baz=336,SNR=14
MMPY Sheldon Lake, 78.72 10 P P 00 13 05.1 +1.0
MMPY Sheldon Lake, 78.72 10 P P 00 13 05.2 +1.0
baz=342,SNR=6.9
BGLC Bering Glacier 78.76 17 P P 00 13 05.3 +1.0
baz=332
FARO Faro, Yukon 78.77 12 P P 00 13 05.6 +1.1
baz=340,SNR=12
SII Sitkinak Islan 78.79 24 P P 00 13 05.5 +0.9
baz=324
N30M Aishikik Lake 78.84 14 P P 00 13 05.6 +0.7
baz=337,SNR=6.6
O28M Mount Upton 78.86 15 P P 00 13 06.0 +0.7
baz=335
CHIR Chirikof Islan 78.91 25 P P 00 13 06.7 +1.4
baz=324
MESA MESA 79.01 16 P P 00 13 07.1 +1.1
baz=334
N31M Braeburn, Yuko 79.06 13 P P 00 13 06.9 +0.9
baz=338,SNR=8.5
WRGLY Wrigley 79.06 7 P P 00 13 07.5 +1.6
baz=348,SNR=22
YUK6 Outpost Mounta 79.07 14 P P 00 13 07.6 +1.2
baz=336,SNR=6.0
HYT Haines Junctio 79.35 14 P P 00 13 09.0 +1.3
HYT IAmb IAmb 00 13 10.6
comp=Z,41nm,0.8s
HYT Haines Junctio 79.35 14 P P 00 13 09.1 +1.3
baz=337,SNR=16
O30N Mendenhall 79.67 13 P P 00 13 10.4 +1.0
baz=338,SNR=7.7
N32M Quiet Lake 79.83 12 P P 00 13 10.4 +0.2
baz=340
WHY Whitehorse 79.99 13 P P 00 13 11.3 +0.1
WHY Whitehorse 79.99 13 P P 00 13 11.4 +0.1
baz=339,SNR=7.1
PNL Peninsula 80.03 15 P P 00 13 12.5 +1.2
baz=336
P30M Million Dollar 80.10 14 P P 00 13 12.5 +0.8
baz=337
TGTN Hyland Airport 80.18 9 P P 00 13 13.6 +1.5
baz=344,SNR=7.6
MBO M'Bour 80.19 281 P P 00 13 14.2 +1.3
YKA Yellowknife Ar 80.39 3 P P 00 13 12.0 -1.1
comp=Z,25nm,0.7s,baz=350,slow=6.2,SNR=430
YKA LR LR 00 53 13.2
comp=Z,45nm,18.9s,baz=320,slow=39
comp=Z,25nm,0.7s
P29M Windy Craggy 80.41 15 P P 00 13 14.0 +0.7
baz=337
P33M Teslin, Yukon 80.76 12 P P 00 13 16.0 +0.7
baz=341,SNR=20
PLBC Pleasant Camp 80.84 14 P P 00 13 16.8 +1.2
baz=338,SNR=17
SKAG Skagway 81.03 13 P P 00 13 18.2 +1.6
baz=339
P32M Atlin 81.20 13 P P 00 13 18.3 +0.7
baz=340
SCHQ Schefferville 81.47 337 P P 00 13 17.8 -1.3
comp=Z,7.0nm,0.7s,baz=37,slow=6.0,SNR=16
SCHQ LR LR 00 49 05.4
comp=Z,66nm,20.8s,baz=39,slow=35
comp=Z,7.0nm,0.7s
WTLY Watson Lake, Y 81.47 10 P P 00 13 19.8 +0.9
baz=344,SNR=5.3
R33M Jennings River 81.84 11 P P 00 13 22.0 +1.0
baz=342,SNR=14
GRHM Grahamstown, E 81.86 217 P P 00 13 21.0 -0.3
GRHM IAmb IAmb 00 14 14.1
comp=Z,107nm,1.5s
NWAO Narrogin (SRO) 81.90 143 P P 00 13 22.6 +1.2
NWAO IAmb IAmb 00 16 12.7
comp=Z,103nm,1.4s
NWAO Narrogin (SRO) 81.90 143 P P 00 13 22.7 +1.2
NWAO pmax pmax
comp=Z,103nm,1.5s
WRA Warramunga Arr 82.12 122 P P 00 13 21.1 -1.8
comp=Z,2.2nm,0.7s,baz=323,slow=4.8,SNR=12
WRA PKKPbc PKKPbc 00 31 52.4 +1.8
comp=Z,2.2nm,0.8s,baz=130,slow=1.7,SNR=8.2
comp=Z,2.2nm,0.7s
WB2 Warramunga Arr 82.13 122 P P 00 13 21.9 -1.0
S31K Pelican 82.25 14 P P 00 13 24.3 +1.3
baz=338
R32K Eaglecrest 82.29 14 P P 00 13 24.6 +1.3
baz=339
LIRD Liard River Hi 82.51 9 P P 00 13 25.8 +1.4
baz=346,SNR=6.5
DRLN Deer Lake 82.66 329 P P 00 13 25.6 +0.3
DLBC Dease Lake 82.90 11 P P 00 13 27.8 +1.2
DLBC Dease Lake 82.90 11 P P 00 13 27.6 +1.1
baz=343,SNR=12
S32K Killisnoo 83.03 14 P P 00 13 28.1 +1.0
baz=339
TOAD Toad River Com 83.16 9 P P 00 13 28.9 +1.0
baz=347,SNR=28
S34M Telegraph Cree 83.23 12 P P 00 13 29.5 +1.4
baz=342,SNR=16
SIT Sitka 83.28 14 P P 00 13 29.9 +1.6
baz=339
FCC Fort Churchill 83.50 352 P P 00 13 30.4 +0.9
FCC IAmb IAmb 00 13 31.4
comp=Z,23nm,0.8s
FCC Fort Churchill 83.50 352 P P 00 13 30.4 +0.9
FCC pmax pmax
comp=Z,23nm,0.9s
SUR Sutherland 83.93 221 P P 00 13 31.9 -0.3
SUR IAmb IAmb 00 16 24.3
comp=Z,109nm,2.0s
SUR Sutherland 83.93 221 LR LR 00 53 48.6
comp=Z,33nm,18.1s,baz=109,slow=38
T35M Bob Quinn 84.26 12 P P 00 13 35.0 +1.6
baz=343,SNR=6.8
ASAR Alice Springs 84.43 125 P P 00 13 33.5 -1.2
ASAR Alice Springs 84.43 125 P P 00 13 32.6 -2.1
comp=Z,1.4nm,0.6s,baz=316,slow=5.1,SNR=11
ASAR pP pP 00 14 01.8 -1.6
comp=Z,3.1nm,0.8s,baz=327,slow=5.6,SNR=4.8
ASAR PKKPbc PKKPbc 00 31 44.6 -0.8
comp=Z,1.5nm,0.8s,baz=146,slow=2.7,SNR=10
ASAR PKPPKP P'P'df 00 39 49.2 -2.0
comp=Z,0.8nm,0.8s,baz=125,slow=3.2,SNR=5.1
comp=Z,1.4nm,0.6s
ASAR Alice Springs 84.43 125 P P 00 13 33.5 -1.2
WRAK Wrangell Islan 84.44 13 P P 00 13 35.7 +1.4
baz=341
U33K Whale Pass 84.58 14 P P 00 13 35.9 +0.9
baz=341
CRAG Craig 85.19 14 P P 00 13 39.0 +1.0
baz=341
V35K Ketchikan 85.61 13 P P 00 13 40.9 +0.8
baz=342
FORT Forrest 85.98 134 P P 00 13 40.9 -1.2
FORT IAmb IAmb 00 14 40.2
comp=Z,28nm,0.8s
FFC Flin Flon 88.13 356 P P 00 13 53.2 +0.9
FFC IAmb IAmb 00 13 54.2
comp=Z,24nm,0.8s
FFC Flin Flon 88.13 356 P P 00 13 53.3 +0.9
FFC pmax pmax
comp=Z,24nm,0.9s
BRLDA Berland Lookou 88.62 5 P P 00 13 55.9 +1.1
BRLDA IAmb IAmb 00 13 57.1
comp=Z,50nm,1.3s
BBB Bella Bella 89.22 12 LR LR 00 57 12.4
comp=Z,20nm,21.3s,baz=114,slow=38
EDM Edmonton 89.71 3 P P 00 14 01.1 +1.3
EDM Edmonton 89.71 3 P P 00 14 01.2 +1.3
EDM pmax pmax
comp=Z,47nm,0.8s
PKME Peaks-Kenny Pk 90.48 333 P P 00 14 04.4 +0.8
baz=30
VLDQ Val d'Or 90.53 340 P P 00 14 04.7 +1.0
VLDQ IAmb IAmb 00 14 05.5
comp=Z,13nm,0.8s
ULM Lac du Bonnet 92.07 352 P P 00 14 10.9 0.0
ULM IAmb IAmb 00 14 11.9
comp=Z,12nm,1.0s
ULM Lac du Bonnet 92.07 352 P P 00 14 10.8 0.0
comp=Z,6.5nm,0.7s,baz=2.0,slow=5.5,SNR=14
ULM LR LR 00 57 54.1
comp=Z,52nm,19.0s,baz=28,slow=37
comp=Z,6.5nm,0.7s
LONY Lake Ozonia 92.83 336 P P 00 14 15.2 +0.7
baz=26
HRV Adam Dziewonsk 93.69 334 P P 00 14 19.2 +0.7
baz=29
EYMN Ely 93.74 349 P P 00 14 19.2 +0.7
EYMN IAmb IAmb 00 14 20.1
comp=Z,13nm,0.9s
EYMN Ely 93.74 349 P P 00 14 19.3 +0.7
baz=14
DELO Deloro Mine 93.85 338 P P 00 14 19.7 +0.5
DELO IAmb IAmb 00 14 20.9
comp=Z,10nm,0.7s
AGMN Agassiz Nation 94.00 352 P P 00 14 20.7 +0.9

baz=10
SADO Sadowa 94.06 339 LR LR 00 58 38.9
comp=Z,37nm,19.2s,baz=82,slow=37
L61B Northampton 94.13 334 P **P** **00 14 21.2 +0.7**
baz=28
M65A Busby, Falmout 94.18 332 P **P** **00 14 21.2 +0.5**
baz=29
NEW Newport 94.43 6 P **P** **00 14 22.5 +0.7**
NEW IAmb IAmb 00 14 23.8
comp=Z,11nm,0.8s
NEW Newport 94.43 6 P **P** **00 14 22.8 +1.0**
baz=353
NEW Newport 94.43 6 LR LR 01 00 41.0
comp=Z,47nm,20.7s,baz=350,slow=38
NEW Newport 94.43 6 P **P** **00 14 22.5 +0.7**
NEW pmax pmax
comp=Z,11nm,0.9s
DGMT Dagmar 94.48 357 P **P** **00 14 22.9 +0.9**
baz=3.5
GNW Green Mountain 94.51 10 P **P** **00 14 23.4 +1.3**
GNW IAmb IAmb 00 14 24.8
comp=Z,7.0nm,0.8s
NLWA Neilton Lookou 94.54 10 P **P** **00 14 23.0 +0.6**
NLWA IAmb IAmb 00 14 25.0
comp=Z,7.8nm,0.9s
STKA Stephens Creek 94.99 127 LR LR 01 07 35.3
comp=Z,35nm,18.1s,baz=203,slow=42
EGMT Eagleton 95.01 1 P **P** **00 14 25.1 +0.6**
EGMT IAmb IAmb 00 14 26.4
comp=Z,12nm,0.8s
EGMT Eagleton 95.01 1 P **P** **00 14 25.2 +0.6**
baz=359
BINY Binghamton 95.45 336 P **P** **00 14 27.2 +0.7**
baz=25
PAL Palisades 95.83 334 P **P** **00 14 28.9 +0.6**
baz=27
OVMT Ovando 95.88 3 P **P** **00 14 29.2 +0.6**
MSO Missoula 96.07 4 P **P** **00 14 29.5 +0.1**
baz=356
LAO LASA Array 96.33 358 P **P** **00 14 31.5 +1.0**
LAO IAmb IAmb 00 14 33.3
comp=Z,13nm,0.8s
LAO LASA Array 96.33 358 P **P** **00 14 30.9 +0.4**
baz=1.9
BPMT Black Pine Rid 96.48 3 P **P** **00 14 31.9 +0.5**
SPMN Marine on St. 96.60 349 P **P** **00 14 32.1 +0.4**
baz=12
ERPA Erie 96.74 339 P **P** **00 14 32.6 +0.2**
baz=22
BOZ Bozeman (W) 97.39 2 P Pdif 00 14 35.6 0.0
baz=358
SSPA Standing Stone 97.47 337 P Pdif 00 14 35.9 +0.2
baz=24
RLMT Red Lodge 97.92 1 P Pdif 00 14 38.3 +0.3
RLMT IAmb IAmb 00 14 40.4
comp=Z,7.5nm,1.1s
RLMT Red Lodge 97.92 1 P Pdif 00 14 38.3 +0.4
baz=359
SUSD Miller 98.14 353 P Pdif 00 14 39.3 +0.6
baz=7.7
JFWS Jewell Farm 98.41 347 P Pdif 00 14 39.9 0.0
baz=15
ECSD EROS Data Cent 98.58 351 P **P** **00 14 40.4 -0.2**
ECSD EROS Data Cent 98.58 351 P Pdif 00 14 41.0 +0.3
baz=9.6
H17A Grant Village 98.62 1 P Pdif 00 14 41.3 +0.2
baz=358
L44A Lake County Fo 98.65 345 P Pdif 00 14 41.2 +0.2
baz=16
RSSD Black Hills 98.82 357 P **P** **00 14 41.8 -0.2**
baz=3.6
RSSD Black Hills 98.82 357 P Pdif 00 14 43.8 +1.8
O53A New Philadelph 98.82 339 P Pdif 00 14 41.8 +0.1
baz=22
MCWV Mont Chateau 98.97 338 P **P** **00 14 42.4 0.0**
baz=23
HLID Hailey 99.30 4 P **Pdif** **00 14 44.3 +0.2**
baz=355
P52A Corning 99.65 340 P **Pdif** **00 14 45.2 -0.3**
baz=21
PDAR Pinedale Array 100.27 1 Pdiff **Pdif** **00 14 49.0 +0.5**
comp=Z,0.7nm,0.6s,baz=64,slow=3.8,SNR=7.6
PDAR PKiKP **PKiKP** **00 19 15.4 +0.2**
comp=Z,0.2nm,0.4s,baz=250,slow=1.8,SNR=2.4
BLA Blacksburg 101.39 337 P **Pdif** **00 14 52.4 -0.9**
baz=22
OGNE Ogallala 101.86 355 P **Pdif** **00 14 54.3 -1.2**
baz=5.3
WCI Wyandotte Cave 102.05 342 P **Pdif** **00 14 55.3 -0.9**
baz=18
NVAR Mina Array Bea 104.07 8 Pdiff **Pdif** **00 15 06.8 +1.4**
comp=Z,0.5nm,0.6s,baz=360,slow=1.1,SNR=4.9
DZM Mont Dzumac 106.84 105 *e*LR LR 00 50 53.7
comp=Z,106nm,31.5s
TXAR Lajitas Array 113.52 355 PKiKP **PKiKP** **00 19 40.9 +0.9**
comp=Z,0.4nm,0.6s,baz=48,slow=1.9,SNR=5.3
TXAR PKKPbc **PKKPbc** **00 30 20.5 -2.8**
comp=Z,0.2nm,0.7s,baz=181,slow=5.0,SNR=3.5
SMTB Santa Maria do 118.36 281 *e*P **PKPdf** **00 19 47.9 -1.5**
BAUV El Baul 120.37 312 **PKPdf** **00 19 52.6 -0.7**
BDFB Brasilia 122.66 275 PKP **PKPdf** **00 19 56.3 -1.3**
comp=Z,1.1nm,0.4s,baz=63,slow=6.8,SNR=5.0
BDFB PP **PP** **00 21 36.5 -0.1**
comp=Z,3.7nm,0.9s,baz=53,slow=10,SNR=4.6
BSCB Bom Sucesso 122.98 268 *e*P **PKPdf** **00 19 53.8 -4.4**
NPGB Novo Progresso 123.21 285 *e*P **PKPdf** **00 19 58.1 -0.6**
MACA Manacapuru-AM 124.55 296 PKPdf **PKiKP** **00 20 01.5 -0.1**
PARB Paraibuna 124.86 266 *e*P **PKPdf** **00 20 00.0 -1.6**
ARAG Araguaiana, MT 125.71 277 *e*P **PKPdf** **00 20 03.0 -0.4**
VAO Valinhos 125.75 267 *e*P **PKPdf** **00 20 02.0 -1.4**
RCLB Rio Claro- Sao 125.91 268 *e*P **PKPdf** **00 20 02.2 -1.4**
CLDB Colider 125.96 285 *e*P **PKPdf** **00 20 02.7 -1.2**
BB19B Bebedouro 126.01 270 *e*P **PKPdf** **00 20 02.5 -1.4**
VNDA Vanda 126.20 164 PKP **PKPdf** **00 20 02.2 -0.4**
comp=Z,0.3nm,0.4s,baz=218,slow=3.6,SNR=2.4
ACON Acoyapa 126.27 331 **PKPdf** **00 20 04.4 -0.2**
QSPA South Pole Qui 127.13 180 PKP **PKPdf** **00 20 03.7 -0.9**
comp=Z,2.5nm,0.8s,baz=325,slow=1.3,SNR=4.3
ROSC El Rosal 127.31 315 PKiP **PKPdf** **00 20 06.7 -0.4**
comp=Z,41nm,0.8s,baz=108,slow=8.2,SNR=18
TEFE Tefe 127.59 299 *e*P **PKPdf** **00 20 06.4 -0.7**
FRTB Fartura 127.99 268 *e*P **PKPdf** **00 20 06.7 -0.9**
NBRS Nobres 128.03 282 *e*P **PKPdf** **00 20 07.2 -0.7**
PCMB Pacaembu 128.47 271 *e*P **PKPdf** **00 20 08.0 -0.5**
SALV Santo Antonio 128.88 280 *e*P **PKPdf** **00 20 08.9 -0.5**
SAML Samuel 130.29 293 PKPdf **PKiKP** **00 20 12.7 -0.3**
SAML Samuel 130.29 293 PKiKP **PKiKP** **00 20 12.7 -0.3**
SAML Samuel 130.29 293 *e*P **PKPdf** **00 20 08.2 -4.1**
VILB Vilhena 130.62 286 PKPdf **PKiKP** **00 20 13.7 0.0**
VILB Vilhena 130.62 286 *e*P **PKPdf** **00 20 12.0 -0.9**
PTLB Pontes e Lacer 131.31 283 PKPdf **PKPdf** **00 20 13.9 -0.1**
PTLB Pontes e Lacer 131.31 283 *e*P **PKPdf** **00 20 14.3 +0.3**
PANT Pantanal (Braz 131.34 277 *e*P **PKPdf** **00 20 12.6 -1.4**
CCRS Cacerres, MT, 131.40 280 *e*P **PKPdf** **00 20 11.2 -2.9**
AQDB Aquidauana 131.41 275 *e*P **PKPdf** **00 20 12.4 -1.7**
VBST Vila Bela da S 131.44 285 *e*P **PKPdf** **00 20 12.6 -1.7**
TBTG Tabatinga, AM 131.67 304 **PKPdf** **00 20 14.8 -0.1**
TBTG Tabatinga, AM 131.67 304 *e*P **PKPdf** **00 20 13.4 -1.4**
ETMB Extrema 133.09 295 PKPdf **PKPdf** **00 20 16.7 -0.7**
ETMB Extrema 133.09 295 *e*P **PKPdf** **00 20 16.8 -0.7**
ALGR Alto Alegre (B 133.28 264 *e*P **PKPdf** **00 20 15.8 -1.7**
BBSD Serra de San D 133.47 282 *e*P **PKPdf** **00 20 17.0 -1.1**
CRSM Crissiumal (Br 133.52 266 *e*P **PKPdf** **00 20 15.2 -2.8**
CPUP Villa Florida 135.61 269 PKPdf **PKPdf** **00 20 21.8 0.0**
CPUP Villa Florida 135.61 269 PKP **PKPdf** **00 20 20.6 -1.2**
comp=Z,7.9nm,0.7s,baz=63,slow=1.4,SNR=27
CPUP Villa Florida 135.61 269 PKIKP **PKPdf** **00 20 21.8 0.0**
ITQB Itaqui 136.50 264 PKPdf **PKPdf** **00 20 23.3 -0.1**
ITQB Itaqui 136.50 264 *e*P **PKPdf** **00 20 22.1 -1.3**
TBOT Tacuaremb 136.75 261 *e*P **PKPdf** **00 20 21.9 -1.9**
LPAZ La Paz 138.70 289 PKPdf **PKPdf** **00 20 28.7 +0.1**
LPAZ La Paz 138.70 289 PKP **PKPdf** **00 20 28.1 -0.5**
comp=Z,9.1nm,0.9s,baz=51,slow=3.0,SNR=21
LPAZ La Paz 138.70 289 PKIKP **PKPdf** **00 20 28.7 +0.1**
PPT2 Papeete2 139.01 73 *e*LR LR 01 05 41.7
comp=Z,44nm,25.8s
TAOE Nuku Hiva Isla 139.74 53 *e*LR LR 01 06 05.3
comp=Z,94nm,29.9s
PB10 IPOC Station P 144.71 282 PKPbc 00 20 37.7 +0.2
PB14 IPOC Station P 145.17 280 **PKPbc** **00 20 39.3 -0.1**
AC01 Pan de Azucar 146.07 278 **PKPbc** **00 20 41.2 -0.5**
ZON Zonda 146.81 268 **PKPbc** **00 20 43.2 -0.6**
ZON Zonda 146.81 268 PKP2 **PKPbc** **00 20 43.2 -0.6**
AC05 El Transito 147.02 274 **PKPbc** **00 20 43.7 -0.8**
CO01 Juntas del Tor 147.34 272 **PKPbc** **00 20 44.8 -0.7**
CO02 Combarbal 148.53 270 **PKPbc** **00 20 48.8 +0.3**
MT09 Talagante 149.38 265 **PKPdf** **00 20 46.9 +0.8**
MT01 Popeta 149.62 265 **PKPbc** **00 20 50.7 -0.3**
BO01 Tunca 149.64 264 **PKPbc** **00 20 50.8 -0.2**
VA05 Santo Domingo 149.84 266 **PKPbc** **00 20 50.6 -0.9**
PLCA Paso Flores 150.46 252 **PKPbc** **00 20 52.4 -0.5**
PLCA Paso Flores 150.46 252 PKP **PKPdf** **00 20 45.8 -1.7**
comp=Z,14nm,0.9s,baz=176,slow=8.3,SNR=2.9
PLCA PKPbc **PKPbc** **00 20 52.9 0.0**
comp=Z,14nm,0.9s,baz=117,slow=3.5,SNR=20
GO05 Huala 150.48 263 **PKPbc** **00 20 53.0 0.0**
GO06 Curarrehue 151.02 254 PKPdf **PKPdf** **00 20 49.0 +0.6**
GO06 **PKPbc** **00 20 54.2 -0.1**

*MDD **06** 00:10:53.5±0.6, 43.°81N×14.°70W, h24km±13km, Mb4.3/25, M_mb3.7/23, Error ellipse: s-maj=13.7km s-min=3.9km az=108.0*
*IGIL **06** 00:10:57.5, 43.°78N×14.°36W, h16km, ML2.6*
*INMG **06** 00:11:00.1±2.0, 43.°80N×14.°36W, h16km, ML2.6, Error ellipse: s-maj=10.3km s-min=7.3km az=77.0*

ISC 06 00:10:58.5±3.5, 43.°41N±0.°10×14.°0W±0.°2, h10km, n51, σ1°81/97, 13C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EMAZ	**Mazaricos**	**3.68**	**96**	P		**Pn**		**00 11 55.5**	**0.0**
EMAZ				⇑*i*Vmb_V				00 11 55.5	
	581nm,SNR=2.3								
EMAZ				S		**Sn**		**00 12 37.9**	**-1.0**
EZAM	**Zamans**	**4.08**	**106**	P		**Pn**		**00 12 01.7**	**+0.7**
EZAM				⇑*i*Vmb_V				00 12 02.1	
	748nm,SNR=5.7								
EZAM				S		**Sn**		**00 12 50.3**	**+1.5**
EAGO	**Agolada(Pontev**	**4.35**	**96**	P		**Pn**		**00 12 04.5**	**-0.2**
EAGO				⇑*i*Vmb_V				00 12 05.0	
	357nm,SNR=1.9								
EAGO				S		**Sn**		**00 12 55.7**	**+0.3**
PGAV	**Gavieira, Arco**	**4.44**	**107**	*e*P		**Pn**		**00 12 07.0**	**+1.0**
PGAV				*e*S		**Sn**		**00 12 56.9**	**-1.0**
PGAV				A		A		00 12 59.2	
	8.8nm,0.1s								
PTO	**Porto**	**4.58**	**118**	*e*P		**Pn**		**00 12 09.7**	**+1.8**
PTO				*e*S		**Sn**		**00 13 01.5**	**+0.3**
PTO				A		A		00 13 04.3	
	15nm,0.1s								
ELOB	**Lobios**	**4.62**	**108**	P		**Pn**		**00 12 09.2**	**+0.7**
ELOB				⇑*i*Vmb_V				00 12 10.0	
	183nm,SNR=1.4								
ELOB				S		**Sn**		**00 13 03.4**	**+1.1**
EPON	**Pontenova**	**4.97**	**89**	P		**Pn**		**00 12 12.6**	**-0.6**
EPON				S		**Sn**		**00 13 09.6**	**-1.2**
PVIS	**Viseu**	**5.26**	**119**	*e*P		**Pn**		**00 12 18.6**	**+1.3**
PVIS				*e*S		**Sn**		**00 13 17.1**	**-0.9**
PVIS				A		A		00 13 21.9	
	5.4nm,0.1s								
PCAS	**Casmilo, Conde**	**5.29**	**128**	*e*P		**Pn**		**00 12 18.8**	**+1.2**
PCAS				*e*S		**Sn**		**00 13 18.1**	**-0.6**
PCAS				A		A		00 13 25.5	
	3.3nm,0.7s								
PSBE	**So Bento**	**5.50**	**133**	*e*P		**Pn**		**00 12 22.1**	**+1.6**
PSBE				*e*S		**Sn**		**00 13 24.0**	**+0.1**
PSBE				A		A		00 13 34.3	
	5.0nm,0.7s								
ECAL	**Calabor**	**5.53**	**103**	S		**Sn**		**00 13 22.1**	**-2.5**
ECAL				P		**Pn**		**00 12 21.5**	**+0.5**
ECAL	**Calabor**	**5.53**	**103**	P		**Pn**		**00 12 21.3**	**+0.3**
ECAL				⇑*i*Vmb_V				00 12 22.6	
	108nm,SNR=1.2								
ECAL				S		**Sn**		**00 13 25.0**	**+0.4**
PBRG	**Braganca**	**5.57**	**104**	*e*P		**Pn**		**00 12 22.4**	**+0.9**
PBRG				*e*S		**Sn**		**00 13 23.1**	**-2.5**
PBRG				A		A		00 13 27.2	
	3.7nm,0.3s								
MVO	**Moncorvo**	**5.62**	**111**	*e*P		**Pn**		**00 12 23.4**	**+1.3**
MVO				*e*S		**Sn**		**00 13 25.4**	**-1.3**
MVO				A		A		00 13 27.2	
	3.9nm,0.8s								
MTE	**Manteigas**	**5.66**	**120**	*e*P		**Pn**		**00 12 24.0**	**+1.3**
MTE				*e*S		**Sn**		**00 13 26.9**	**-0.9**
MTE				A		A		00 13 34.2	
	3.4nm,0.9s								
PMAFR	**Mafra**	**5.69**	**140**	*e*P		**Pn**		**00 12 24.8**	**+1.8**
PMAFR				*e*S		**Sn**		**00 13 26.4**	**-2.0**
PMAFR				A		A		00 13 32.6	
	12nm,0.2s								
PMAFR	**Mafra**	**5.69**	**140**	S		**Sn**		**00 13 25.6**	**-2.7**
PMAFR				P		**Pn**		**00 12 24.5**	**+1.4**
PCBR	**Castelo Branco**	**6.03**	**124**	*e*P		**Pn**		**00 12 29.1**	**+1.3**
PCBR				*e*S		**Sn**		**00 13 35.6**	**-1.3**
PCBR				A		A		00 13 38.2	
	1.6nm,0.4s								
PACT	**Alcochete**	**6.05**	**138**	*e*P		**Pn**		**00 12 30.1**	**+2.1**
PACT				*e*S		**Sn**		**00 13 37.7**	**+0.5**
PMTG	**Montargil**	**6.13**	**133**	*e*P		**Pn**		**00 12 30.8**	**+1.7**
PMTG				*e*S		**Sn**		**00 13 37.6**	**-1.7**
PMTG				A		A		00 13 40.5	
	1.9nm,0.1s								
PMRV	**Marv??o**	**6.35**	**127**	*e*P		**Pn**		**00 12 33.5**	**+1.4**
PMRV				*e*S		**Sn**		**00 13 42.7**	**-1.9**
PMRV				A		A		00 13 45.4	
	2.8nm,0.6s								
EARI	**Arriondas**	**6.39**	**88**	P		**Pn**		**00 12 32.0**	**-0.7**
EARI				S		**Sn**		**00 13 44.2**	**-1.5**
PESTR	**Estremoz**	**6.62**	**131**	*e*P		**Pn**		**00 12 36.5**	**+0.7**
PESTR				*e*S		**Sn**		**00 13 48.7**	**-2.6**
PESTR				A		A		00 13 53.2	
	1.1nm,0.2s								
PESTR	**Estremoz**	**6.62**	**131**	P		**Pn**		**00 12 35.6**	**-0.2**
PESTR				S		**Sn**		**00 13 48.2**	**-3.1**
EVO	**Evora**	**6.64**	**135**	*e*P		**Pn**		**00 12 37.1**	**+1.0**
EVO				*e*S		**Sn**		**00 13 49.4**	**-2.4**
EVO				A		A		00 13 54.8	
	3.7nm,0.1s								
PNCL	**Nicolau / Gran**	**6.71**	**140**	*e*P		**Pn**		**00 12 38.7**	**+1.6**
PNCL				*e*S		**Sn**		**00 13 50.5**	**-3.2**
PNCL				A		A		00 13 57.7	
	2.2nm,0.4s								
PNCL	**Nicolau / Gran**	**6.71**	**140**	P		**Pn**		**00 12 38.0**	**+0.8**
PNCL				S		**Sn**		**00 13 50.0**	**-3.6**
EPLA	**Plasencia**	**6.78**	**117**	P		**Pn**		**00 12 40.4**	**+2.3**
EPLA				⇑*i*Vmb_V				00 12 40.4	
	159nm,SNR=1.8								
EPLA				S		**Sn**		**00 13 55.6**	**+0.2**
EBAD	**Badajoz**	**7.02**	**129**	P		**Pn**		**00 12 42.5**	**+1.2**
EBAD				⇑*i*Vmb_V				00 12 44.0	
	95nm,SNR=1.4								
EBAD				S		**Sn**		**00 14 01.7**	**+0.6**
MESJ	**Messejana**	**7.08**	**140**	*e*P		**Pn**		**00 12 44.1**	**+2.0**
MESJ				A		A		00 14 05.4	
	3.1nm,0.5s								
MESJ	**Messejana**	**7.08**	**140**	*e*P		**Pn**		**00 12 43.8**	**+1.7**
PBEJ	**Beja**	**7.10**	**137**	*e*S		**Sn**		**00 14 01.7**	**-1.5**
MORF	**Marmelete**	**7.33**	**145**	*e*P		**Pn**		**00 12 47.5**	**+1.9**
MORF				*e*S		**Sn**		**00 14 07.5**	**-1.3**
MORF				A		A		00 14 11.7	
	4.2nm,0.6s								
MORF	**Marmelete**	**7.33**	**145**	*e*P		**Pn**		**00 12 46.9**	**+1.3**
MORF				*e*S		**Sn**		**00 14 06.8**	**-2.1**
MORF				IAML				00 14 10.1	
	comp=E,3.7nm,0.1s								
PCVE	**Castro Verde**	**7.33**	**140**	⇑*e*P		**Pn**		**00 12 47.3**	**+1.7**
PCVE				*e*S		**Sn**		**00 14 05.9**	**-2.9**
PFVI	**Vila Bisbo**	**7.40**	**146**	*e*S		**Sn**		**00 14 10.0**	**-0.6**
PFVI				A		A		00 14 12.4	
	comp=E,2.5nm,0.2s								
PBAR	**Barrancos**	**7.42**	**133**	*e*P		**Pn**		**00 12 48.5**	**+1.7**
PBAR				*e*S		**Sn**		**00 14 08.1**	**-2.8**
PBAR				A		A		00 14 14.5	
	comp=E,1.4nm,0.3s								
PBAR	**Barrancos**	**7.42**	**133**	P		**Pn**		**00 12 47.7**	**+0.9**
PBAR				S		**Sn**		**00 14 08.2**	**-2.8**
PVAQ	**Vaqueiros**	**7.67**	**139**	*e*P		**Pn**		**00 12 52.0**	**+1.8**
PVAQ				*e*S		**Sn**		**00 14 13.6**	**-3.5**
PVAQ				A		A		00 14 19.7	
	comp=E,2.4nm,0.4s								
PVAQ	**Vaqueiros**	**7.67**	**139**	P		**Pn**		**00 12 51.2**	**+1.0**
PVAQ				S		**Sn**		**00 14 12.8**	**-4.3**
EGRO	**El Granado**	**7.67**	**138**	P		**Pn**		**00 12 53.5**	**+3.2**
EGRO				S		**Sn**		**00 14 20.2**	**+2.9**
ELAN	**Lanestosa**	**7.69**	**88**	P		**Pn**		**00 12 50.8**	**+0.3**
ELAN				S		**Sn**		**00 14 16.4**	**-1.2**
PBDV	**Barranco-do-Ve**	**7.70**	**141**	*e*P		**Pn**		**00 12 52.6**	**+1.9**
PBDV				*e*S		**Sn**		**00 14 14.7**	**-3.2**
PBDV				A		A		00 14 18.9	
	comp=E,1.8nm,0.8s								
GUD	**Guadarrama**	**7.81**	**107**	⇑*i*Vmb_V				00 12 54.7	
	comp=E,57nm,SNR=1.3								
GUD				P		**Pn**		**00 12 54.8**	**+2.5**
GUD				S		**Sn**		**00 14 22.1**	**+1.2**
PAB	**San Pablo**	**8.19**	**115**	P		**Pn**		**00 12 59.0**	**+1.5**
PAB				⇑*i*Vmb_V				00 12 59.6	
	comp=E,73nm,SNR=1.6								
PAB				S		**Sn**		**00 14 30.7**	**+0.6**
ESDC	**Sonseca Array**	**8.38**	**113**	P		**Pn**		**00 13 02.0**	**+1.9**
ESDC				⇑*i*Vmb_V				00 13 03.2	
	comp=E,48nm,SNR=1.1								
ECAB	**El Cabril**	**8.40**	**127**	P		**Pn**		**00 13 00.5**	**+0.2**
ECAB				S		**Sn**		**00 14 31.4**	**-3.7**
ECAB	**El Cabril**	**8.40**	**127**	P		**Pn**		**00 13 01.1**	**+0.8**
ECAB				⇑*i*Vmb_V				00 13 02.4	
	comp=E,69nm,SNR=1.3								
ECAB				S		**Sn**		**00 14 35.5**	**+0.4**
EADA	**Adamuz**	**8.84**	**123**	P		**Pn**		**00 13 07.7**	**+1.4**
EADA				S		**Sn**		**00 14 42.3**	**-3.7**
EADA	**Adamuz**	**8.84**	**123**	P		**Pn**		**00 13 08.0**	**+1.7**
EADA				⇑*i*Vmb_V				00 13 08.1	
	comp=E,74nm,SNR=1.8								
EADA				S		**Sn**		**00 14 46.7**	**+0.6**
PSIM	**Granatula de C**	**8.97**	**117**	P		**Pn**		**00 13 09.8**	**+1.6**
PSIM				S		**Sn**		**00 14 50.8**	**+1.6**

*NEIC **06** 00:12:11.4±0.5, 19.°02N±0.°03×155.°06W±0.°02, h5km±2km, Error ellipse: s-maj=6.1km s-min=3.1km az=322.0*

HVO 06 00:12:11.8±0.6, 19.°05N±0.°02×155.°03W±0.°01, h7km±9km, ML3.2/37, ML3.6/46(NEIC), Error ellipse: s-maj=2.8km s-min=1.8km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.34**	**349**				Pg	00 12 18.4	-0.2
JCUZ							Sg	00 12 23.3	+0.2
STCH	**Steam Cracks**	**0.35**	**345**				Pg	00 12 18.4	-0.3
STCH				Sg		Sg	Sg	00 12 23.2	-0.1
STCH				IAML				00 12 25.6	
	comp=N,4μm,0.5s								
NPOC	**North of Pu'u**	**0.35**	**348**				Pg	00 12 18.6	-0.2
NPOC							Sg	00 12 23.4	-0.1
KNHH	**Kane Nui o Ham**	**0.36**	**338**				Pg	00 12 18.6	-0.2
HLP	**Hilina Pali**	**0.36**	**313**				Pg	00 12 19.3	+0.4
HLP							Sg	00 12 24.3	+0.5
PUH	**Pauahi**	**0.37**	**332**				Pg	00 12 18.8	-0.3
PUH							Sg	00 12 23.9	-0.1
PUH				IAML				00 12 30.6	
	comp=N,4μm,0.5s								
PUH				IAML				00 12 32.3	
	comp=E,4μm,0.4s								
JOKA	**Jonika Flow**	**0.39**	**4**				Pg	00 12 19.3	-0.1
HTC	**Hot Caves**	**0.40**	**299**				Pg	00 12 20.0	+0.4
KKO	**Keanakako`i**	**0.41**	**327**				Pg	00 12 19.6	-0.3
KKO							Sg	00 12 25.2	-0.2
KKO				IAML				00 12 28.6	
	comp=E,7μm,0.4s								
RIM	**Rim**	**0.42**	**326**				Pg	00 12 19.6	-0.4
RIM							Sg	00 12 25.3	-0.2
SDHHI	**Sand Hill**	**0.42**	**324**				Pg	00 12 19.9	-0.3
SDHHI							Sg	00 12 24.8	-0.9
SDHHI				IAML				00 12 31.2	
	comp=N,7μm,0.4s								
SDHHI				IAML				00 12 34.3	
	comp=E,6μm,0.4s								
BYL	**Byron's Ledge**	**0.42**	**329**				Pg	00 12 19.7	-0.4
BYL				IAML				00 12 26.0	
	comp=E,8μm,0.4s								
HATHI	**Halema'uma'u T**	**0.43**	**330**				Pg	00 12 19.8	-0.5
HATHI							Sg	00 12 25.4	-0.6
HATHI				IAML				00 12 26.1	
	comp=N,5μm,0.5s								
NPH	**North Pit**	**0.43**	**327**				Pg	00 12 19.8	-0.5
OBL	**Observatory Le**	**0.44**	**327**				Pg	00 12 20.2	-0.2
WRMHI	**West Rim**	**0.44**	**324**				Pg	00 12 20.0	-0.4
WRMHI							Sg	00 12 26.1	-0.1
SBLHI	**Steaming Bluff**	**0.44**	**329**				Pg	00 12 19.9	-0.6
SBLHI							Sg	00 12 25.6	-0.6
SBLHI				IAML				00 12 26.2	
	comp=E,7μm,0.4s								
SBLHI				IAML				00 12 28.3	
	comp=N,7μm,0.4s								
UWB	**Uwekahuna B**	**0.44**	**328**				Pg	00 12 19.9	-0.5
UWB							Sg	00 12 25.3	-1.0
UWB				IAML				00 12 26.5	
	comp=N,3μm,0.4s								
UWE	**Uwekahuna**	**0.45**	**326**				Pg	00 12 20.2	-0.4
UWE				IAML				00 12 28.5	
	comp=N,5μm,0.5s								
UWE				IAML				00 12 34.8	
	comp=E,7μm,0.5s								
PHO	**Puu Honuaula**	**0.45**	**17**				Pg	00 12 20.4	-0.3
RSD	**Rainshed**	**0.47**	**330**				Pg	00 12 20.4	-0.7
RSD				IAML				00 12 32.1	
	comp=E,3μm,0.3s								
RSD				IAML				00 12 33.5	
	comp=N,3μm,0.4s								
MLH	**Mauna Loa**	**0.56**	**323**				Pg	00 12 21.9	-0.8
MLH							Sg	00 12 29.7	-0.4
MLH				IAML				00 12 33.9	
	comp=N,3μm,0.3s								
KHU	**Kahuku**	**0.59**	**290**				Pg	00 12 22.3	-1.0
KHU							Sg	00 12 30.2	-0.7
MWH	**Moku'aweowe**	**0.69**	**309**				Pg	00 12 23.8	-1.4
MWH				IAML				00 12 39.5	
	comp=E,3μm,0.5s								
MWH				IAML				00 12 41.0	
	comp=N,3μm,0.5s								
HMH	**Humu'ula Sheep**	**0.70**	**322**				Pg	00 12 24.1	-1.2
HMH							Sg	00 12 33.3	-1.2
HMH				IAML				00 12 38.4	
	comp=E,2μm,0.4s								
HMH				IAML				00 12 44.1	
	comp=N,2μm,0.3s								
POHA	**Pohakuloa**	**0.85**	**326**				Pg	00 12 25.9	-2.4
POHA	**Pohakuloa**	**0.85**	**326**	IAML				00 12 47.6	
	comp=N,2μm,0.6s								
POHA				IAML				00 12 50.2	
	comp=N,2μm,0.4s								
HUH	**Hualalai**	**0.99**	**310**				Pg	00 12 28.2	-2.7
HUH				IAML				00 12 51.7	
	comp=E,2μm,0.4s								
HUH				IAML				00 12 59.7	
	comp=N,2μm,0.7s								
HPAH	**Hawaii Prepara**	**1.16**	**327**				Pg	00 12 30.1	-4.1
HLK	**Haleakala**	**2.05**	**326**

HATHI	**Halema'uma'u T**	**0.22**	**2**	Pg	Pg	00 35 55.5	-0.5		
HATHI				IAML		00 36 01.1			
	comp=E,714nm,0.6s								
HATHI				IAML		00 36 01.3			
	comp=N,782nm,0.4s								
SBLHI	**Steaming Bluff**	**0.23**	**1**	Pg	Pg	00 35 55.7	-0.4		
SBLHI				IAML		00 36 03.4			
	comp=E,835nm,0.9s								
SBLHI				IAML		00 36 04.1			
	comp=N,796nm,0.5s								
STCH	**Steam Cracks**	**0.23**	**37**		Pg	00 35 55.9	-0.2		
JCUZ	**Jacuzzi**	**0.24**	**41**	Pg	Pg	00 35 56.1	-0.3		
NPOC	**North of Pu'u**	**0.24**	**38**	Pg	Pg	00 35 56.1	-0.3		
RSD	**Rainshed**	**0.26**	**358**	Pg	Pg	00 35 56.1	-0.6		
RSD				IAML		00 36 01.7			
	comp=E,422nm,0.5s								
MLH	**Mauna Loa**	**0.31**	**340**	Pg	Pg	00 35 57.7	-0.1		
MLH				IAML		00 36 04.3			
	comp=E,825nm,0.2s								
MLH				IAML		00 36 05.8			
	comp=N,831nm,0.3s								
KHU	**Kahuku**	**0.33**	**278**		Pg	00 35 57.8	-0.2		
KHU				IAML		00 36 08.9			
	comp=E,330nm,0.5s								
MWH	**Moku'aweowe**	**0.42**	**313**		Pg	00 35 59.2	-0.6		
MWH					Sg	00 36 06.6	+1.1		
MWH				IAML		00 36 10.3			
	comp=N,440nm,0.4s								
MWH				IAML		00 36 13.2			
	comp=E,348nm,0.6s								
HMH	**Humu'ula Sheep**	**0.45**	**333**		Pg	00 36 00.0	-0.3		
HMH				IAML		00 36 08.7			
	comp=N,447nm,0.3s								
POHA	**Pohakuloa**	**0.61**	**336**		Pg	00 36 02.3	-1.1		
POHA					Sg	00 36 10.7	-0.6		
HUH	**Hualalai**	**0.72**	**312**		Pg	00 36 04.1	-1.4		

ROM 06 00:46:12.5±0.1, 43°041N±0°003×13°048E±0°004, h9km, ML0.6/16, 1D, Error ellipse: s-maj=0.3km s-min=0.3km az=100.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**98**	P	Pg	00 46 14.4	+0.1
FDMO				S	Sg	00 46 15.3	-0.2
T1219	**Muccia, Frazio**	**0.03**	**297**	P	Pg	00 46 14.7	+0.3
T1219				S	Sg	00 46 15.6	-0.1
T1220	**Camerino, Fraz**	**0.08**	**23**	⇓P	Pg	00 46 15.3	+0.6
T1220				S	Sg	00 46 17.0	+0.7
T1220				AML	AML		
	comp=E,38μm,0.1s						
T1220				AML	AML		
	comp=N,41μm,0.1s						
T1220				AML	AML		
	comp=N,79μm,0.1s						
T1220				AML	AML		
	comp=E,90μm,0.1s						
FEMA	**Monte Fema**	**0.08**	**179**	P	Pg	00 46 15.2	+0.4
FEMA				S	Sg	00 46 16.8	+0.3
MML1	**Montelago di S**	**0.09**	**322**	P	Pg	00 46 15.6	+0.6
MML1				S	Sg	00 46 17.4	+0.6
MML1				AML	AML		
	comp=E,72μm,0.4s						
MML1				AML	AML		
	comp=N,75μm,0.3s						
MML1				AML	AML		
	comp=N,26μm,0.1s						
MML1				AML	AML		
	comp=N,70μm,0.1s						
MML1				AML	AML		
	comp=E,17μm,0.1s						
MML1				AML	AML		
	comp=E,63μm,0.1s						
CESI	**CESI - Serrava**	**0.11**	**251**	P	Pg	00 46 15.9	+0.7
CESI				S	Sg	00 46 18.1	+0.9
CESI				AML	AML		
	comp=E,42μm,0.3s						
CESI				AML	AML		
	comp=N,33μm,0.5s						
CESI				AML	AML		
	comp=N,33μm,0.5s						
CESI				AML	AML		
	comp=E,33μm,0.1s						
CESI				AML	AML		
	comp=N,32μm,0.2s						
CSP1	**Cessapalombo**	**0.13**	**66**	P	Pg	00 46 16.1	+0.7
CSP1				S	Sg	00 46 18.4	+0.8
CSP1				AML	AML		
	comp=E,22μm,0.2s						
CSP1				AML	AML		
	comp=N,13μm,0.1s						
PF6	**Pievefavera**	**0.15**	**44**	P	Pg	00 46 16.4	+0.6
PF6				S	Sg	00 46 18.9	+0.8
MC2	**Monte Cornacci**	**0.17**	**141**	P	Pg	00 46 16.7	+0.6
MC2				S	Sg	00 46 19.8	+1.1
NRCA	**Norcia**	**0.21**	**167**	P	Pg	00 46 17.5	+0.6
NRCA				S	Sg	00 46 20.9	+1.0
NRCA				AML	AML		
	comp=E,32μm,1.3s						
NRCA				AML	AML		
	comp=N,45μm,0.6s						
NRCA				AML	AML		
	comp=N,40μm,0.1s						
NRCA				AML	AML		
	comp=E,31μm,0.1s						
SNTG	**Esanatoglia**	**0.23**	**340**	P	Pg	00 46 18.1	+0.9
SNTG				AML	AML		
	comp=E,68μm,0.2s						
SNTG				AML	AML		
	comp=N,144μm,0.3s						
T1221	**Campello sul C**	**0.23**	**219**	P	Pg	00 46 18.0	+0.8
T1221				S	Sg	00 46 22.0	+1.5
MMO1	**Montemonaco**	**0.25**	**125**	P	Pg	00 46 18.1	+0.6
MMO1				S	Sg	00 46 22.2	+1.3
ASSB	**Assisi San Ben**	**0.29**	**271**	P	Pb	00 46 19.0	-0.8
ASSB				S	Sb	00 46 23.7	-1.0
ASSB				AML	AML		
	comp=E,172μm,0.3s						
ASSB				AML	AML		
	comp=N,121μm,1.2s						
EL6	**Elcito**	**0.29**	**8**	P	Pb	00 46 19.3	-0.6
EL6				AML	AML		
	comp=E,91μm,0.9s						
EL6				AML	AML		
	comp=N,92μm,1.0s						
EL6				AML	AML		
	comp=E,91μm,0.9s						
EL6				AML	AML		
	comp=N,92μm,1.0s						
MF5	**Montefalcone A**	**0.31**	**100**	P	Pb	00 46 19.8	-0.3
MF5				S	Sb	00 46 24.4	-0.9
FOSV	**Fossato di Vic**	**0.33**	**321**	P	Pg	00 46 19.3	+0.3
CING	**Cingoli**	**0.35**	**18**	P	Pg	00 46 20.1	+0.7
CING				AML	AML		
	comp=E,28μm,1.4s						
CING				AML	AML		
	comp=N,44μm,0.3s						
GAVE	**Gavelli**	**0.37**	**198**	P	Pb	00 46 20.5	-0.7
GAVE				S	Sb	00 46 26.5	-0.5
MURB	**Monte Urbino**	**0.44**	**300**	S	Sg	00 46 28.1	+1.1
MURB				AML	AML		
	comp=E,478μm,0.2s						
MURB				AML	AML		
	comp=N,415μm,1.0s						
MURB				AML	AML		
	comp=E,536μm,0.2s						
MURB				AML	AML		
	comp=N,444μm,0.9s						

ROM 06 00:46:17.5±0.1, 43°285N±0°003×12°715E±0°004, h8km, ML1.3/30, 3C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=315.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FOSV	**Fossato di Vic**	**0.04**	**73**	S	Sg	00 46 20.5	+0.2
FOSV				AML	AML		
	comp=N,1003μm,0.4s						
FOSV				AML	AML		
	comp=E,760μm,0.4s						
FOSV				AML	AML		
	comp=N,999μm,0.4s						
FOSV				AML	AML		
	comp=E,606μm,0.2s						
FOSV				AML	AML		
	comp=N,691μm,0.1s						
ATCC	**AVT- Casa Cast**	**0.11**	**209**	P	Pg	00 46 20.6	+0.5
ATCC				S	Sg	00 46 22.8	+0.9
ATCC				AML	AML		
	comp=N,262μm,0.4s						
ATCC				AML	AML		
	comp=E,247μm,1.5s						
ATCC				AML	AML		
	comp=N,202μm,0.1s						
ATCC				AML	AML		
	comp=E,184μm,0.4s						
MURB	**Monte Urbino**	**0.14**	**261**	P	Pg	00 46 21.2	+0.6
MURB				S	Sg	00 46 23.9	+1.2
MURB				AML	AML		
	comp=E,478μm,0.2s						
MURB				AML	AML		
	comp=N,443μm,0.9s						
MURB				AML	AML		
	comp=N,416μm,1.0s						
MURB				AML	AML		
	comp=E,536μm,0.2s						
MURB				AML	AML		
	comp=N,444μm,0.9s						
MURB				AML	AML		
	comp=N,385μm,0.3s						
MURB				AML	AML		
	comp=N,405μm,0.3s						
MURB				AML	AML		
	comp=E,478μm,0.2s						
MURB				AML	AML		
	comp=E,536μm,0.2s						
MURB	**Monte Urbino**	**0.14**	**261**	⇑P	Pg	00 46 21.2	+0.6
SSFR	**Montelago di S**	**0.16**	**18**	⇑P	Pg	00 46 21.5	+0.6
SSFR				AML	AML		
	comp=E,429μm,1.1s						
SSFR				AML	AML		
	comp=N,491μm,0.1s						
SSFR				AML	AML		
	comp=E,337μm,0.2s						
SSFR				AML	AML		
	comp=N,272μm,0.2s						
SSFR	**Montelago di S**	**0.16**	**18**	P	Pg	00 46 21.5	+0.6
SSFR				S	Sg	00 46 24.4	+1.2
SSFR				AML	AML		
	comp=E,430μm,1.1s						
SSFR				AML	AML		
	comp=N,491μm,0.1s						
SSFR				AML	AML		
	comp=E,337μm,0.2s						
SSFR				AML	AML		
	comp=N,272μm,0.2s						
SSFR				AML	AML		
	comp=N,272μm,0.2s						
SSFR				AML	AML		
	comp=E,337μm,0.2s						
SSFR				AML	AML		
	comp=N,228μm,0.1s						
SSFR				AML	AML		
	comp=N,491μm,0.1s						
SSFR				AML	AML		
	comp=E,308μm,0.1s						
SNTG	**Esanatoglia**	**0.17**	**100**	P	Pg	00 46 21.6	+0.6
SNTG				S	Sg	00 46 24.6	+1.3
SNTG				AML	AML		
	comp=E,68μm,0.2s						
SNTG				AML	AML		
	comp=N,144μm,0.3s						
SNTG				AML	AML		
	comp=E,68μm,0.2s						
SNTG				AML	AML		
	comp=N,144μm,0.3s						
SNTG				AML	AML		
	comp=N,144μm,0.3s						
SNTG				AML	AML		
	comp=E,68μm,0.2s						
FRON	**Frontone**	**0.23**	**2**	P	Pg	00 46 22.8	+0.6
FRON				S	Sg	00 46 26.8	+1.4
FRON				AML	AML		
	comp=E,256μm,0.1s						
FRON				AML	AML		
	comp=N,260μm,0.3s						
FRON				AML	AML		
	comp=N,260μm,0.3s						
FRON				AML	AML		
	comp=E,256μm,0.1s						
FRON				AML	AML		
	comp=N,252μm,0.1s						
ASSB	**Assisi San Ben**	**0.24**	**190**	P	Pg	00 46 22.8	+0.4
ASSB				S	Sg	00 46 27.1	+1.4
ATVO	**AVT- Monte Val**	**0.24**	**293**	P	Pg	00 46 23.1	+0.7
ATVO				S	Sg	00 46 27.2	+1.4
ATVO				AML	AML		
	comp=E,100μm,0.3s						
ATVO				AML	AML		
	comp=N,94μm,0.4s						
ATVO				AML	AML		
	comp=E,100μm,0.3s						
ATVO				AML	AML		
	comp=N,94μm,0.4s						
ARVD	**Arcevia**	**0.27**	**38**	P	Pg	00 46 23.5	+0.7
ARVD				S	Sb	00 46 28.2	-1.2
ARVD				AML	AML		
	comp=E,61μm,0.1s						
ARVD				AML	AML		
	comp=N,39μm,0.6s						
ARVD				AML	AML		
	comp=E,61μm,0.1s						
ARVD				AML	AML		
	comp=E,61μm,0.1s						
ARVD				AML	AML		
	comp=N,30μm,0.1s						
ATPI	**Pietralunga -**	**0.28**	**306**	⇑P	Pg	00 46 23.8	+0.6
ATPI				S	Sb	00 46 28.8	-1.0
ATPI				AML	AML		
	comp=E,46μm,0.4s						
ATPI				AML	AML		
	comp=N,55μm,0.4s						
ATPI				AML	AML		
	comp=N,39μm,0.2s						
ATPI				AML	AML		
	comp=E,37μm,0.3s						
PIEI	**Pieia**	**0.28**	**332**	P	Pg	00 46 23.7	+0.6
PIEI				S	Sb	00 46 28.5	-1.3
PIEI				AML	AML		
	comp=E,122μm,0.3s						
PIEI				AML	AML		
	comp=N,53μm,0.1s						
PIEI				AML	AML		
	comp=N,53μm,0.1s						
PIEI				AML	AML		
	comp=E,110μm,0.1s						
EL6	**Elcito**	**0.29**	**81**	P	Pg	00 46 23.8	+0.6
EL6				S	Sb	00 46 29.0	-0.9
EL6				AML	AML		
	comp=E,85μm,0.1s						
EL6				AML	AML		
	comp=N,65μm,0.3s						
CESI	**CESI - Serrava**	**0.31**	**154**	AML	AML		
	comp=N,22μm,0.5s						
CESI				AML	AML		
	comp=N,22μm,0.5s						
CESI				AML	AML		
	comp=E,29μm,0.3s						
MPAG	**Monte Paganucc**	**0.35**	**5**	P	Pb	00 46 25.6	-0.4
MPAG				S	Sb	00 46 30.9	-0.8
CING	**Cingoli**	**0.36**	**75**	P	Pg	00 46 25.2	+0.6
CING				S	Sb	00 46 31.5	-0.6
CING				AML	AML		
	comp=E,28μm,1.4s						
CING				AML	AML		
	comp=N,44μm,0.3s						
CING				AML	AML		
	comp=N,44μm,0.3s						
CING				AML	AML		
	comp=E,23μm,0.1s						
CING	**Cingoli**	**0.36**	**75**	S	Sg	00 46 25.3	-4.1
COR1	**Corinaldo**	**0.40**	**31**	⇓P	Pb	00 46 26.8	-0.2
COR1				AML	AML		
	comp=N,85μm,0.2s						

*IDC **06** 00:51:57.8±1.6, 0°.29N×123°.15E, h271km±15km, mb3.7/24, mbtmp4.3/25, Error ellipse: s-maj=20.6km s-min=7.9km az=72.0*
*NEIC **06** 00:51:58.2±1.4, 0°.32N±0°.06×123°.28E±0°.06, h258km±4km, mb4.5/35, Error ellipse: s-maj=9.4km s-min=8.5km az=74.0*
*DJA **06** 00:52:00.1±0.4, 0°.N±4°×12°.3E±°, h240km±4km, M4.3/13, mb4.2/7, mB4.5/3, MLv4.5/13, Mw(mB)3.6/3*

ISC 06 00:51:56.7±0.3, 0.35N±0°.04×123°.26E±0°.05, h250km, n124, σ1°52/135, mb4.3/50, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.38**	**319**	P	**Pn**	**00 52 33.2**	**+3.9**
GTOI				S	**S**	**00 52 59.1**	**+4.2**
KMSI	**Cibinong**	**0.75**	**73**	P	**Pn**	**00 52 34.4**	**+3.9**
KMSI				S	**S**	**00 53 00.5**	**+3.5**
LUWI	**Luwuk**	**1.47**	**200**	Pn	**Pn**	**00 52 37.0**	**+2.1**
LUWI				Sn	**S**	**00 53 05.4**	**+0.6**
LUWI	**Luwuk**	**1.47**	**200**	P	**Pn**	**00 52 36.9**	**+2.1**
LUWI				S	**S**	**00 53 05.5**	**+0.6**
TOLI2	**Tolitoli**	**2.59**	**287**	Pn	**Pn**	**00 52 47.6**	**+2.7**
TOLI2				Sn	**S**	**00 53 24.0**	**+1.0**
SANI	**Sanana**	**3.62**	**131**	P	**Pn**	**00 52 56.4**	**+0.3**
SANI	**Sanana**	**3.62**	**131**	P	**Pn**	**00 52 56.2**	**+0.1**
SGSI	**Sangihe**	**4.01**	**34**	P	**Pn**	**00 53 04.2**	**+3.4**
TNTI	**Ternate**	**4.12**	**84**	Pn	**Pn**	**00 53 01.5**	**-0.5**
TNTI				Sn	**S**	**00 53 53.7**	**-0.2**
TNTI	**Ternate**	**4.12**	**84**	P	**Pn**	**00 53 05.0**	**+3.0**
LBMI	**Labuha**	**4.35**	**103**	P	**Pn**	**00 53 06.3**	**+1.6**
TTSI	**Tana Toraja**	**4.82**	**226**	P	**Pn**	**00 53 13.5**	**+3.2**
NLAI	**Namlea**	**5.23**	**133**	P	**Pn**	**00 53 17.8**	**+2.4**
	22nm,0.7s,0.7nm						
KAPI	**Kappang**	**6.38**	**213**	P	Pn	00 53 24.7	-4.9
KAPI	**Kappang**	**6.38**	**213**	Pn	**Pn**	**00 53 30.4**	**+0.8**
SWI	**Sorong**	**8.09**	**99**	P	Pn	00 53 56.6	+5.4
	26nm,0.9s						
EDFI	**Ende, Flores**	**9.17**	**190**	P	**Pn**	**00 54 06.9**	**+1.9**
	32nm,1.1s						
FAKI	**Fak Fak**	**9.55**	**110**	P	**Pn**	**00 54 12.1**	**+2.4**
FAKI	**Fak Fak**	**9.55**	**110**	Pn	**Pn**	**00 54 11.5**	**+1.7**
FAKI	**Fak Fak**	**9.55**	**110**	P	**Pn**	**00 54 11.7**	**+2.0**
	23nm,1.2s						
BATI	**Baumata**	**10.49**	**178**	P	**Pn**	**00 54 22.6**	**+1.0**
	20nm,0.5s,baz=335,slow=4.0,SNR=4.6						
BATI				S	**S**	**00 56 22.1**	**+2.7**
	8.1nm,0.4s,baz=287,slow=19,SNR=1.6						
BATI	**Baumata**	**10.49**	**178**	P	**Pn**	**00 54 23.6**	**+2.0**
SBUM	**Sibu**	**11.23**	**281**	Pn	**Pn**	**00 54 32.6**	**+1.7**
KSM	**Kuching**	**13.00**	**275**		**Pn**	**00 54 53.8**	**+1.0**
TGY	**Tagaytay City**	**13.86**	**351**	P	**Pn**	**00 55 04.6**	**+1.3**
	172nm,0.3s,baz=107,slow=17,SNR=5.0						
DRS	**Darwin Rock St**	**14.79**	**149**	P	**P**	**00 55 15.4**	**+1.1**
MTN	**Manton Dam**	**15.25**	**149**	P	**P**	**00 55 20.6**	**+1.1**
MTN	**Manton Dam**	**15.25**	**149**	P	**P**	**00 55 19.7**	**+0.2**
KDU	**Kakadu**	**15.85**	**145**	P	**P**	**00 55 26.9**	**+0.9**
KNRA	**Kununurra**	**16.82**	**161**	P	**P**	**00 55 37.0**	**+0.3**
KNRA	**Kununurra**	**16.82**	**161**		**P**	**00 55 37.0**	**+0.3**
KNRA				IAmb	IAmb	00 55 37.9	
	comp=Z,28nm,0.8s						
MBWA	**Marble Bar**	**21.65**	**189**	P	P	00 56 16.7	-11
MBWA	**Marble Bar**	**21.65**	**189**	P	**P**	**00 56 26.4**	**-1.2**
MBWA				IAmb	IAmb	00 56 55.5	
	comp=Z,26nm,1.5s						
PSA00	**Pilbara Seismi**	**22.04**	**189**	P	**P**	**00 56 30.1**	**-1.1**
PSA00				IAmb	IAmb	00 57 12.5	
	comp=Z,16nm,1.2s						
TWG	**Pinlang**	**22.44**	**355**	P	**P**	**00 56 35.6**	**+0.8**
WRA	**Warramunga Arr**	**22.90**	**152**	P	**P**	**00 56 38.8**	**-0.3**
	comp=Z,22nm,0.5s,baz=336,slow=10.0,SNR=141						
WRA				ScP	**ScP**	**01 03 33.4**	**-2.2**
	comp=Z,2.2nm,0.9s,baz=331,slow=2.6,SNR=7.3						
	comp=Z,22nm,0.5s						
YULB	**Yu-li**	**22.99**	**355**	P	**P**	**00 56 40.3**	**+0.5**
YULB				IAmb	IAmb	00 56 46.2	
	comp=Z,13nm,0.6s						
YOJ	**Yonaguni jima**	**23.97**	**359**	P	**P**	**00 56 50.2**	**+1.5**
COEN	**Coen**	**24.31**	**127**	P	**P**	**00 56 55.1**	**+3.2**
COEN	**Coen**	**24.31**	**127**	P	**P**	**00 56 51.5**	**-0.4**
COEN				IAmb	IAmb	00 56 56.0	
	comp=Z,12nm,0.8s						
WRKA	**Warakurna**	**25.70**	**169**	P	P	00 56 57.3	-7.1
WRKA	**Warakurna**	**25.70**	**169**	P	**P**	**00 57 04.2**	**-0.2**
AS31	**Alice Springs**	**26.01**	**157**	P	**P**	**00 57 07.3**	**+0.1**
AS31				IAmb	IAmb	00 57 09.6	
	comp=Z,5.3nm,0.3s						
ASAR	**Alice Springs**	**26.01**	**157**	P	**P**	**00 57 07.3**	**+0.1**
ASAR	**Alice Springs**	**26.01**	**157**	P	**P**	**00 57 06.1**	**-1.1**
	comp=Z,2.5nm,0.3s,baz=345,slow=15,SNR=65						
ASAR				ScP	**ScP**	**01 03 41.3**	**-2.9**
	comp=Z,1.8nm,0.8s,baz=347,slow=2.4,SNR=7.5						
	comp=Z,2.5nm,0.3s						
QIS	**Mount Isa**	**26.22**	**143**	P	**P**	**00 57 09.3**	**+0.2**
QIS	**Mount Isa**	**26.22**	**143**	P	**P**	**00 57 09.2**	**+0.2**
MEEK	**Meekatharra**	**27.20**	**189**	P	**P**	**00 57 17.2**	**-0.5**
RABL	**Rabaul**	**29.23**	**99**	P	**P**	**00 57 36.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**29.91**	**308**	P	**P**	**00 57 42.3**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=136,slow=7.7,SNR=4.7						
	comp=Z,0.6nm,0.3s						
MORW	**Morawa**	**30.05**	**193**	P	**P**	**00 57 42.5**	**-0.4**
MORW				IAmb	IAmb	00 58 20.3	
	comp=Z,22nm,1.3s						
CTAO	**Charters Tower**	**30.32**	**133**	P	**P**	**00 57 45.5**	**+0.1**
CTAO				IAmb	IAmb	00 57 51.9	
	comp=Z,38nm,1.5s						
OOD	**Oodnadatta**	**30.42**	**158**	P	**P**	**00 57 45.9**	**-0.2**
OOD	**Oodnadatta**	**30.42**	**158**	P	**P**	**00 57 45.8**	**-0.3**
FORT	**Forrest**	**31.29**	**172**	P	**P**	**00 57 53.5**	**-0.2**
FORT	**Forrest**	**31.29**	**172**	P	**P**	**00 57 54.2**	**+0.5**
FORT	**Forrest**	**31.29**	**172**	P	**P**	**00 57 53.5**	**-0.2**
NJ2	**Nanjing**	**31.81**	**353**	*e*P	**P**	**00 58 01.1**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,100nm,3.5s						
MULG	**Mulgathing**	**32.15**	**162**	P	**P**	**00 58 01.5**	**+0.3**
MULG	**Mulgathing**	**32.15**	**162**	P	**P**	**00 58 01.3**	**+0.1**
JCJ	**Chichijima**	**32.22**	**33**	P	**P**	**00 58 02.0**	**+0.1**
ENH	**Enshi**	**32.52**	**337**	P	**P**	**00 58 05.4**	**+0.9**
ENH				IAmb	IAmb	00 58 08.0	
	comp=Z,17nm,0.6s						
PZH	**PanZhiHua**	**33.25**	**323**	P	**P**	**00 58 13.4**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
LCRK	**Leigh Creek**	**33.77**	**156**	P	**P**	**00 58 15.3**	**+0.1**
JMN	**Monobe**	**34.67**	**16**	P	**P**	**00 58 23.6**	**+0.6**
JMN				IAmb	IAmb	00 59 05.7	
	comp=Z,42nm,1.4s						
BBOO	**Buckleboo**	**35.12**	**161**	P	**P**	**00 58 26.5**	**-0.3**
BBOO	**Buckleboo**	**35.12**	**161**	P	**P**	**00 58 26.3**	**-0.5**
BBOO				IAmb	IAmb	00 58 38.6	
	comp=Z,22nm,1.2s						
CD2	**Chengdu**	**35.59**	**330**	P	**P**	**00 58 31.5**	**+0.7**
STKA	**Stephens Creek**	**36.45**	**153**	P	**P**	**00 58 38.3**	**+0.3**
STKA	**Stephens Creek**	**36.45**	**153**	P	**P**	**00 58 38.0**	**0.0**
STKA	**Stephens Creek**	**36.45**	**153**	P	**P**	**00 58 37.1**	**-0.9**
	comp=Z,16nm,1.1s,baz=318,slow=9.2,SNR=12						
	comp=Z,16nm,1.1s						
HTT	**Hallett**	**36.69**	**158**	P	**P**	**00 58 40.5**	**+0.4**
KSRS	**Korea Array**	**37.17**	**6**	P	**P**	**00 58 44.2**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=186,slow=9.3,SNR=6.3						
	comp=Z,1.2nm,0.6s						
JGF	**Kuroka**	**37.45**	**19**	P	**P**	**00 58 46.2**	**-0.2**
CMSA	**Cobar Meteorol**	**38.18**	**148**	P	**P**	**00 58 53.2**	**+0.7**
MJAR	**Matsushiro Arr**	**38.59**	**19**	P	**P**	**00 58 55.0**	**-0.8**
	comp=Z,7.2nm,0.9s,baz=192,slow=8.8,SNR=22						
	comp=Z,7.2nm,0.9s						
LZH	**Lanzhou**	**39.88**	**335**	*e*P	**P**	**00 59 08.6**	**+1.9**
LZH				pP	pP	00 59 58.4	+1.6
LZH				sP	sP	01 00 26.9	+2.2
LZH				pmax	pmax		
	comp=Z,18nm,0.9s						
ARPS	**Mount Arapiles**	**40.75**	**157**	P	**P**	**00 59 14.1**	**+0.5**
ARMA	**Armidale**	**40.79**	**141**	P	**P**	**00 59 16.0**	**+1.8**
ARMA	**Armidale**	**40.79**	**141**	P	**P**	**00 59 15.5**	**+1.3**
ARMA				IAmb	IAmb	00 59 16.5	
	comp=Z,8.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**41.69**	**347**	*e*P	**P**	**00 59 23.0**	**+1.7**
HHC				pmax	pmax		
	comp=Z,21nm,0.7s						
HHC				pmax	pmax		
	comp=Z,34nm,4.3s						
BTO	**Baotou**	**41.84**	**345**	*e*P	P	00 59 28.2	+5.7
BTO				pP	pwP	01 00 21.9	+2.2
BTO				sP	sP	01 00 49.6	+9.0
BTO				PP	**PcP**	**01 01 13.0**	**-0.4**

BTO				pmax	pmax			
	comp=Z,11nm,1.0s							
BTO				pmax	pmax			
	comp=Z,140nm,5.0s							
CAN	**Canberra**	**42.85**	**149**	P	**P**	**00 59 31.4**	**+0.7**	
CAN				IAmb	IAmb	00 59 32.8		
	comp=Z,19nm,0.5s							
TOO	**Toolangi**	**42.96**	**154**	P	**P**	**00 59 31.9**	**+0.5**	
TOO				IAmb	IAmb	00 59 33.1		
	comp=Z,20nm,1.1s							
CNB	**Canberra Magne**	**43.03**	**148**	P	**P**	**00 59 33.8**	**+1.6**	
USRK	**Ussuriysk Ar.**	**44.35**	**9**	P	**P**	**00 59 42.8**	**+0.4**	
USRK	**Ussuriysk Ar.**	**44.35**	**9**	P	**P**	**00 59 42.5**	**+0.1**	
	comp=Z,1.7nm,0.4s,baz=202,slow=5.9,SNR=11							
	comp=Z,1.7nm,0.4s							
GTA	**Gaotai**	**44.40**	**334**	*e*P	**P**	**00 59 45.2**	**+2.2**	
GTA				pP	pP	00 59 50.1	-44	
GTA				pmax	pmax			
	comp=Z,13nm,0.9s							
MDJ	**Mudanjiang**	**44.44**	**6**	P	**P**	**00 59 43.1**	**+0.1**	
MDJ				PcP	**PcP**	**01 01 21.2**	**-0.8**	
MDJ				ScP	**ScP**	**01 04 47.9**	**-2.2**	
MDJ				PcS	**PcS**	**01 05 15.1**	**-0.5**	
MDJ				S	**S**	**01 05 59.1**	**+0.6**	
MDJ				pmax	pmax			
	comp=Z,11nm,0.9s							
MDJ				pmax	pmax			
	comp=Z,110nm,3.9s							
KLR	**Kul'dur**	**49.24**	**7**	P	**P**	**01 00 19.6**	**-0.5**	
	comp=Z,0.9nm,0.4s,baz=197,slow=6.7,SNR=4.9							
	comp=Z,0.9nm,0.4s							
ULN	**Ulaanbaatar**	**49.38**	**346**	P	**P**	**01 00 21.0**	**-0.3**	
ULN				IAmb	IAmb	01 00 23.8		
	comp=Z,7.4nm,0.8s							
SONM	**Songino Array**	**49.52**	**345**	P	**P**	**01 00 22.2**	**-0.1**	
SONM	**Songino Array**	**49.52**	**345**	P	**P**	**01 00 22.3**	**-0.1**	
	comp=Z,7.3nm,0.8s,baz=160,slow=8.5,SNR=31							
	comp=Z,7.3nm,0.8s							
HEH	**HeiHe**	**49.84**	**3**	*e*P	**P**	**01 00 24.2**	**-0.3**	
HEH				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HEH				pmax	pmax			
	comp=Z,73nm,5.4s							
MK31	**Makanchi Array**	**58.46**	**328**	P	**P**	**01 01 26.2**	**-0.5**	
MKAR	**Makanchi Array**	**58.46**	**328**	P	**P**	**01 01 26.0**	**-0.7**	
MKAR	**Makanchi Array**	**58.46**	**328**	P	**P**	**01 01 25.8**	**-0.9**	
	comp=Z,1.0nm,0.3s,baz=120,slow=8.6,SNR=35							
MKAR				PcP	**PcP**	**01 02 12.7**	**-1.7**	
	comp=Z,0.9nm,0.6s,baz=128,slow=4.2,SNR=4.5							
MKAR				ScP	**ScP**	**01 05 46.0**	**-4.6**	
	comp=Z,0.3nm,0.8s,baz=118,slow=7.1,SNR=1.8							
	comp=Z,1.0nm,0.3s							
PEA0B	**Petropavlovsk-**	**59.87**	**23**	P	**P**	**01 01 36.4**	**+0.3**	
PEA0B				IAmb	IAmb	01 01 51.2		
	comp=Z,23nm,1.3s							
PETK	**Petropavlovsk-**	**59.87**	**23**	P	**P**	**01 01 36.5**	**+0.4**	
PETK	**Petropavlovsk-**	**59.87**	**23**	P	**P**	**01 01 36.0**	**-0.1**	
	comp=Z,1.7nm,0.7s,baz=225,slow=3.4,SNR=5.2							
	comp=Z,1.7nm,0.7s							
KBL	**Kabul**	**60.92**	**310**	P	**P**	**01 01 44.3**	**+0.4**	
LBZ	**Lake Benmore**	**60.95**	**143**	P	**P**	**01 01 43.7**	**0.0**	
RPZ	**Rata Peaks**	**61.12**	**142**	P	**P**	**01 01 43.5**	**-1.3**	
	comp=Z,17nm,0.8s,baz=318,slow=5.4,SNR=5.0							
	comp=Z,17nm,0.8s							
YAK	**Yakutsk**	**61.72**	**3**	P	**P**	**01 01 48.1**	**-0.3**	
ZALV	**Zalesovo Beam**	**62.11**	**335**	P	**P**	**01 01 49.5**	**-1.7**	
	comp=Z,0.6nm,0.3s,baz=126,slow=7.5,SNR=5.9							
	comp=Z,0.6nm,0.3s							
KURBB	**Kurchatov Arra**	**62.80**	**330**	P	**P**	**01 01 54.4**	**-1.3**	
	comp=Z,0.7nm,0.3s,baz=130,slow=5.9,SNR=20							
	comp=Z,0.7nm,0.3s							
KURK	**Kurchatov**	**62.81**	**330**	P	**P**	**01 01 54.8**	**-1.1**	
KURK				IAmb	IAmb	01 01 55.5		
	comp=Z,3.4nm,0.6s							
CASY	**Casey**	**67.10**	**186**	P	**P**	**01 02 22.6**	**-0.5**	
CASY				IAmb	IAmb	01 02 24.1		
	comp=Z,7.5nm,1.1s							
BVAR	**Borovoye Array**	**68.32**	**329**	P	**P**	**01 02 29.6**	**-1.4**	
	comp=Z,0.3nm,0.3s,baz=131,slow=7.0,SNR=5.8							
	comp=Z,0.3nm,0.3s							
TIXI	**Tiksi**	**71.28**	**2**	P	**P**	**01 02 47.9**	**-0.7**	
TIXI				IAmb	IAmb	01 02 48.9		
	comp=Z,7.2nm,0.9s							
ABKAR	**Akbulak array**	**72.62**	**322**	P	**P**	**01 02 55.8**	**-1.2**	
AKTO	**Aktyubinsk**	**74.19**	**323**	P	**P**	**01 03 04.2**	**-1.9**	
	comp=Z,0.7nm,0.3s,baz=116,slow=5.7,SNR=4.5							
	comp=Z,0.7nm,0.3s							
ARU	**Arti**	**75.97**	**329**	P	**P**	**01 03 14.1**	**-2.0**	
	comp=Z,1.1nm,0.3s,baz=47,slow=0.9,SNR=4.3							
	comp=Z,1.1nm,0.3s							
RAYN	**Ar Rayn**	**78.64**	**294**	P	**P**	**01 03 32.0**	**+0.3**	
VNDA	**Vanda**	**80.55**	**172**	P	**P**	**01 03 41.0**	**+0.2**	
VNDA	**Vanda**	**80.55**	**172**	P	**P**	**01 03 38.8**	**-2.0**	
	comp=Z,2.3nm,0.9s,baz=322,slow=6.1,SNR=11							
	comp=Z,2.3nm,0.9s							
BRTR	**Keskin Array B**	**89.49**	**310**	P	**P**	**01 04 24.1**	**-2.0**	
	comp=Z,0.3nm,0.8s,baz=111,slow=3.2,SNR=2.6							
	comp=Z,0.3nm,0.8s							
ILAR	**Eielson Array**	**89.62**	**25**	P	**P**	**01 04 26.3**	**+0.4**	
	comp=Z,0.3nm,0.7s,baz=206,slow=7.9,SNR=4.5							
	comp=Z,0.3nm,0.7s							
QSPA	**South Pole Qui**	**90.28**	**180**	P	**P**	**01 04 28.5**	**-0.6**	
	comp=Z,1.5nm,0.9s,baz=45,slow=1.4,SNR=8.2							
	comp=Z,1.5nm,0.9s							
ARCES	**ARCESS Array B**	**92.40**	**340**	P	**P**	**01 04 37.1**	**-1.6**	
	comp=Z,1.7nm,0.7s,baz=79,slow=6.4,SNR=4.2							
	comp=Z,1.7nm,0.7s							
SPITS	**Spitsbergen Ar**	**93.10**	**349**	P	**P**	**01 04 40.3**	**-1.5**	
	comp=Z,18nm,1.1s,baz=92,slow=8.3,SNR=19							
FINES	**FINESS Array B**	**93.14**	**331**	P	**P**	**01 04 39.5**	**-2.7**	
	comp=Z,2.0nm,1.0s,baz=53,slow=7.1,SNR=2.6							
	comp=Z,2.0nm,1.0s							
HFS	**Hagfors**	**99.35**	**331**	P	**Pdif**	**01 05 08.0**	**-2.3**	
	comp=Z,1.9nm,0.8s,baz=101,slow=5.3,SNR=4.4							
	comp=Z,1.9nm,0.8s							
TORD	**Torodi Ar. Bea**	**120.57**	**285**	PKP	**PKPdf**	**01 10 18.4**	**-1.4**	
	comp=Z,1.6nm,1.2s,baz=65,slow=2.4,SNR=1.8							

NEIC ***06*** *00:52:09.7±1.5,36.08N±0.04×91.38W±0.02,h16km±7km, Error ellipse: s-maj=5.8km s-min=2.3km az=191.0*

SLM 06 00:52:09.5±1.1,36.10N±0.04×91.36W±0.02,h18km±7km, Md2.8/30,mb_Lg2.8/98(NEIC),ML3.3/18(NEIC),Error ellipse: s-maj=5.8km s-min=2.3km az=191.0, Missouri-Arkansas border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCAR	**Lake Charles**	**0.17**	**101**	Pg	Pg	00 52 13.8	-0.2
LCAR				Sg	Sg	00 52 16.8	-0.3
FCAR	**Ozark Folk Cen**	**0.65**	**251**		Pb	00 52 21.9	-0.4
FCAR				Sg	Sb	00 52 30.7	-0.3
FCAR				IAML		00 52 31.5	
	comp=E,2μm,0.1s						
FCAR				IAML		00 52 31.6	
	comp=N,2μm,0.1s						
V43A	**Jonesboro**	**0.73**	**115**		Pb	00 52 23.0	-0.7
V43A					Sb	00 52 33.4	0.0
QUAR	**Qualls**	**0.74**	**128**		Pb	00 52 23.1	-0.7
HBAR	**Harrisburg**	**0.79**	**133**		Pb	00 52 24.2	-0.5
HBAR				Sg	Sb	00 52 35.2	+0.1
HBAR				IAML		00 52 36.3	
	comp=N,1μm,0.6s						
HBAR				IAML		00 52 39.6	
	comp=E,710nm,0.3s						
SEAR	**Searcy**	**0.89**	**199**		Pb	00 52 25.6	-0.8
LVAR	**Leachville**	**0.94**	**101**		Pb	00 52 26.5	-0.8
T42A	**Van Buren**	**0.95**	**13**		Pb	00 52 26.8	-0.6
TWAR	**Twist**	**0.99**	**138**		Pb	00 52 27.4	-0.6
LPAR	**Lepanto**	**1.00**	**120**		Pb	00 52 27.5	-0.7
PBMO	**Poplar Bluff**	**1.01**	**48**		Pb	00 52 27.6	-0.8
MSAR	**Manila South**	**1.04**	**108**		Pb	00 52 28.4	-0.5
GNAR	**Gosnell**	**1.10**	**97**		Pb	00 52 29.1	-0.8
GNAR				IAML		00 52 47.9	
	comp=E,810nm,0.2s						
WHAR	**Wooly Hollow**	**1.11**	**223**	Pn	Pn	00 52 29.4	-0.7
WHAR				IAML		00 52 44.6	
	comp=N,825nm,0.4s						
WHAR				IAML		00 52 44.9	
	comp=E,494nm,0.3s						
DLAR	**Dell**	**1.14**	**105**		Pn	00 52 29.9	-0.6
PEBM	**Pemiscott Bayo**	**1.21**	**89**	Pn	Pn	00 52 31.0	-0.5
PEBM				IAML		00 52 49.6	
	comp=E,593nm,0.2s						
U40A	**Yellville**	**1.23**	**282**		Pn	00 52 30.4	-1.4
MGMO	**Mountain Grove**	**1.28**	**325**		Pn	00 52 32.4	-0.1
MGMO				IAML		00 52 55.1	
	comp=N,470nm,0.1s						
MGMO				IAML		00 52 55.0	
	comp=E,739nm,0.1s						
SFTN	**Shelby Forest**	**1.32**	**124**		Pn	00 52 32.8	-0.2
PVMO	**Portageville**	**1.38**	**77**	Pn	Pn	00 52 33.4	-0.4
PARMO	**Parma**	**1.41**	**66**		Pn	00 52 34.0	-0.3
LNXT	**Lenox**	**1.52**	**90**		Pn	00 52 35.4	-0.3
MET	**Memphis--Engin**	**1.52**	**130**	Pn	Pn	00 52 35.4	-0.4
UALR	**University of**	**1.55**	**211**	Pn	Pn	00 52 36.6	+0.5
UALR				IAmb_Lg		00 52 59.8	
	comp=Z,60nm,0.7s						
HALT	**Halls**	**1.65**	**96**	Pn	Pn	00 52 37.0	-0.5
GLAT	**Glass**	**1.69**	**84**	Pn	Pn	00 52 38.0	0.0
HICK	**Hickman**	**1.78**	**75**		Pn	00 52 39.8	+0.5
CGM3	**Cape Girardeau**	**1.82**	**48**		Pn	00 52 40.2	+0.4
CCM	**Cathedral Cave**	**1.95**	**3**	Pn	Pn	00 52 42.2	+0.6
CCM	**Cathedral Cave**	**1.95**	**3**	IAmb_Lg		00 53 16.5	
	comp=Z,49nm,0.8s						
X40A	**Basin Creek Fa**	**2.01**	**217**		Pn	00 52 43.1	+0.6
FVM	**French Village**	**2.02**	**21**	Pn	Pn	00 52 43.0	+0.3
HHAR	**Hobbs**	**2.09**	**276**	Pn	Pn	00 52 44.3	+0.6
CCAR	**Cane Creek**	**2.21**	**189**		Pn	00 52 45.4	+0.3
S39A	**Bolivar**	**2.23**	**316**		Pn	00 52 46.5	+0.9
OXF	**Oxford**	**2.25**	**134**	Pn	Pn	00 52 45.5	-0.3
OXF				IAmb_Lg		00 53 22.0	
	comp=Z,41nm,0.7s						
R40A	**Maddies Statio**	**2.30**	**342**		Pn	00 52 47.4	+0.9
R40A				IAmb_Lg		00 53 23.9	
	comp=Z,45nm,1.2s						
S44A	**Carbondale**	**2.32**	**46**		Pn	00 52 47.4	+0.7
SIUC	**Southern Illin**	**2.35**	**46**		Pn	00 52 47.2	0.0
T45A	**Paducah**	**2.37**	**67**	Pn	Pn	00 52 47.6	+0.2
MIAR	**Mount Ida**	**2.39**	**230**		Pn	00 52 48.4	+0.8
U38A	**Gravette**	**2.47**	**279**	Pn	Pn	00 52 49.1	+0.3
SLM	**Saint Louis**	**2.68**	**19**	IAmb_Lg		00 53 37.9	
	comp=Z,25nm,0.9s						
Y45A	**Yeager Farm, C**	**2.69**	**146**		Pn	00 52 51.7	-0.1
Y45A				IAmb_Lg		00 53 38.7	
	comp=Z,23nm,0.8s						
WLAR	**White Oak Lake**	**2.81**	**211**	IAmb_Lg		00 53 40.5	
	comp=Z,38nm,0.8s						
WVT	**Waverly**	**2.86**	**88**		Pn	00 52 53.4	-0.8
PLAL	**Pickwick Lake**	**2.90**	**112**		Pn	00 52 54.3	-0.5
PLAL				IAmb_Lg		00 53 43.2	
	comp=Z,26nm,0.8s						
RLO	**Rose Lookout**	**2.96**	**272**		Pn	00 52 56.4	+0.8
Z41A	**Richland Creek**	**3.08**	**203**	Pn	Pn	00 52 56.7	-0.5
Z41A				IAmb_Lg		00 53 53.4	
	comp=Z,21nm,0.8s						
143A	**Socs Landing,**	**3.39**	**181**		Pn	00 53 01.6	+0.1
P40A	**Paris**	**3.46**	**351**		Pn	00 53 03.2	+0.7
P40A				IAmb_Lg		00 54 00.4	
	comp=Z,24nm,1.1s						
T47A	**Sharon Grove**	**3.54**	**74**	Pn	Pn	00 53 04.0	+0.4
T47A				IAmb_Lg		00 54 07.7	
	comp=Z,18nm,0.9s						
TUL3	**Leonard**	**3.60**	**268**		Pn	00 53 03.9	-0.4
X37A	**Clayton**	**3.61**	**246**		Pn	00 53 05.7	+1.2
X37A				IAmb_Lg		00 54 12.7	
	comp=Z,18nm,1.0s						
OLIL	**Olney**	**3.69**	**44**	IAmb_Lg		00 54 08.9	
	comp=Z,25nm,0.8s						
V48A	**Smith Brothers**	**3.70**	**94**		Pn	00 53 05.2	-0.6
P43A	**Skaggs, Pawnee**	**3.82**	**22**	Pn	Pn	00 53 08.9	+1.6
P43A				IAmb_Lg		00 54 11.5	
	comp=Z,18nm,0.7s						
P38A	**Dawn**	**3.91**	**335**		Pn	00 53 08.9	+0.3
P38A				IAmb_Lg		00 54 11.3	
	comp=Z,22nm,0.7s						
QUOK	**Quay**	**4.33**	**272**	IAmb_Lg		00 54 34.8	
	comp=Z,23nm,0.8s						
OK051	**E0350 and S346**	**4.44**	**277**	IAmb_Lg		00 54 36.0	
	comp=Z,23nm,0.8s						
OK031	**S. Brethren Rd**	**4.44**	**270**	Pn	Pn	00 53 15.7	-0.2
OK031				IAmb_Lg		00 54 42.7	
	comp=Z,15nm,1.1s						
OK048	**Pawnee Station**	**4.52**	**276**	IAmb_Lg		00 54 41.5	
	comp=Z,21nm,0.8s						
N41A	**Harden Midland**	**4.62**	**5**	IAmb_Lg		00 54 39.0	
	comp=Z,17nm,1.0s						
Y49A	**Blunt Mountai**	**4.64**	**117**	IAmb_Lg		00 54 43.4	
	comp=Z,13nm,0.8s						
LRAL	**Lakeview Retre**	**4.72**	**129**		Pn	00 53 19.1	-0.8
N38A	**Joes South For**	**4.91**	**343**	IAmb_Lg		00 54 45.3	
	comp=Z,18nm,0.9s						
FPAL	**Fort Paine**	**4.95**	**107**	Pn	Pn	00 53 23.0	0.0
FPAL				IAmb_Lg		00 54 49.2	
	comp=Z,12nm,0.7s						
W50A	**Signal Mountai**	**5.01**	**99**	IAmb_Lg		00 54 59.8	
	comp=Z,12nm,0.7s						
CROK	**Carrier**	**5.36**	**276**	IAmb_Lg		00 54 57.9	
	comp=Z,14nm,0.9s						
OK032	**Salt Plains WL**	**5.56**	**279**	IAmb_Lg		00 55 20.7	
	comp=Z,14nm,0.9s						
P48A	**Milroy**	**5.77**	**53**	IAmb_Lg		00 55 16.8	
	comp=Z,13nm,1.1s						
L40A	**Anamosa**	**5.95**	**1**	IAmb_Lg		00 55 16.1	
	comp=Z,14nm,0.9s						
OK035	**EORd and N**	**5.96**	**278**	IAmb_Lg		00 55 16.9	
	comp=Z,15nm,0.9s						
OK038	**West end E0370**	**5.97**	**276**	IAmb_Lg		00 55 15.6	
	comp=Z,12nm,0.8s						
SCIA	**State Center**	**5.97**	**347**	IAmb_Lg		00 55 16.2	
	comp=Z,14nm,0.7s						
W52A	**Murphy**	**6.14**	**97**	IAmb_Lg		00 55 25.8	
	comp=Z,11nm,0.7s						
TKL	**Tuckaleechee C**	**6.18**	**92**	IAmb_Lg		00 55 25.4	
	comp=Z,9.2nm,0.9s						
U32A	**Winter Ranch,**	**6.18**	**275**	IAmb_Lg		00 55 32.1	
	comp=Z,11nm,0.9s						
P49A	**Miami Univ. Ec**	**6.28**	**55**	IAmb_Lg		00 55 35.9	
	comp=Z,12nm,1.1s						
V52A	**Sevierville**	**6.30**	**90**	IAmb_Lg		00 55 27.7	
	comp=Z,9.4nm,0.7s						
TZTN	**Tazewell**	**6.32**	**84**	IAmb_Lg		00 55 33.8	
	comp=Z,15nm,1.3s						
Y52A	**Lilburn**	**6.39**	**108**	IAmb_Lg		00 55 39.2	
	comp=Z,8.5nm,0.7s						
O48B	**Farmland**	**6.41**	**48**	IAmb_Lg		00 55 28.2	
	comp=Z,11nm,0.7s						
152A	**Waverly Hall**	**6.47**	**120**	IAmb_Lg		00 55 31.8	
	comp=Z,14nm,1.0s						
N47A	**Urbana**	**6.52**	**41**	IAmb_Lg		00 55 49.2	
	comp=Z,12nm,0.8s						
JFWS	**Jewell Farm**	**6.86**	**7**	IAmb_Lg		00 55 49.2	
	comp=Z,13nm,0.7s						
L46A	**Eue Claire**	**7.09**	**32**	IAmb_Lg		00 55 50.9	
	comp=Z,13nm,0.7s						
U54A	**Nelsons Funny**	**7.71**	**84**	IAmb_Lg		00 56 18.2	
	comp=Z,9.0nm,0.7s						
TIGA	**Tifton**	**7.97**	**123**	IAmb_Lg		00 56 30.1	
	comp=Z,9.4nm,1.0s						
SPMN	**Marine on St.**	**9.18**	**354**	IAmb_Lg		00 57 10.3	
	comp=Z,8.9nm,1.2s						
F42A	**Maple Grove Fa**	**9.95**	**13**	IAmb_Lg		00 57 23.2	
	comp=Z,6.7nm,0.7s						

NOU ***06*** *00:56:11.1,22.31S×171.61E,h0km,ML4.9/10,Southeast of Loyalty Islands*
IDC ***06*** *00:56:15.9±4.6,22.42S×171.44E,h120km±37km,mb3.5/5, mbtmp3.9/6,Error ellipse: s-maj=36.9km s-min=32.9km az=21.0*

ISC 06 00:56:13.3±1.2,22.3S±0.1×171.6E±0.1,h98km,n15, σ1§25/16,mb3.8/5,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**3.44**	**284**	P	**Pn**	**00 57 05.7**	**+0.7**
PINNC	**Pines Island,**	**3.87**	**265**	P	**Pn**	**00 57 12.0**	**+1.2**
LIFNC	**LIFOU**	**4.36**	**290**	P	**Pn**	**00 57 17.7**	**+0.3**
OUENC	**Ouen Island, N**	**4.42**	**268**	P	**Pn**	**00 57 19.0**	**+0.8**
ONTNC	**Ouen Toro**	**4.79**	**269**	P	**Pn**	**00 57 24.2**	**+1.1**
DZM	**Mont Dzumac**	**4.80**	**272**	P	**Pn**	**00 57 24.7**	**+1.2**
DZM	**Mont Dzumac**	**4.80**	**272**	P	**Pn**	**00 57 24.4**	**+0.9**
	33nm,0.3s,baz=130,slow=13,SNR=625						
DZM				S	**Sn**	**00 58 17.5**	**-0.6**
	126nm,0.3s,baz=114,slow=20,SNR=22						
NOUC	**Port Laguerre**	**4.93**	**272**	P	**Pn**	**00 57 26.4**	**+1.3**
KOUNC	**Koumac, New Ca**	**7.06**	**283**	P	**Pn**	**00 57 56.0**	**+1.9**
NFK	**Norfolk Island**	**7.46**	**206**	P	**Pn**	**00 58 01.3**	**+1.8**
ASAR	**Alice Springs**	**34.68**	**260**	P	**P**	**01 02 53.4**	**-0.5**
	2.3nm,0.8s,baz=92,slow=8.5,SNR=13						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**34.80**	**267**	P	**P**	**01 02 52.9**	**-2.0**
	0.4nm,0.4s,baz=97,slow=8.5,SNR=4.7						
	0.4nm,0.4s						
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**01 06 59.7**	**-0.5**
	0.7nm,0.6s,baz=27,slow=2.3,SNR=7.0						
	0.7nm,0.6s						
NVAR	**Mina Array Bea**	**89.20**	**48**	P	**P**	**01 08 59.3**	**+0.8**
	0.4nm,0.7s,baz=222,slow=9.4,SNR=3.5						
	0.4nm,0.7s						
SONM	**Songino Array**	**91.02**	**322**	P	**P**	**01 09 06.5**	**-0.1**
	0.4nm,0.6s,baz=124,slow=2.9,SNR=3.7						
	0.4nm,0.6s						

IDC ***06*** *01:24:46.1±3.0,35.92N×69.45E,h123km±25km,mb3.2/10, mbtmp3.6/16,Error ellipse: s-maj=23.8km s-min=15.9km az=172.0*
NNC ***06*** *01:24:54.4±1.8,36.57N×69.21E,h125km±29km,mb3.2, mpv3.9,Error ellipse: s-maj=15.3km s-min=14.3km az=130.0*

ISC 06 01:24:45.7±1.0,36.0N±0.1×69.41E±0.08,h112km,n30, σ1§98/35,mb3.5/9,3C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**7.18**	**6**	⇑P	**Pn**	**01 26 29.5**	**+1.4**
	0.4nm,0.2s,baz=185,slow=10,SNR=30						
KK31				S	**Sn**	**01 27 43.1**	**-5.0**
	4.5nm,0.3s,baz=198,slow=24,SNR=17						
UCH	**Uchtor**	**7.41**	**31**	P	**Pn**	**01 26 34.6**	**+3.1**
	SNR=21						
AAK	**Ala-Archa**	**7.74**	**29**	P	**Pn**	**01 26 38.8**	**+3.1**
	SNR=12						
AAK	**Ala-Archa**	**7.74**	**29**	⇓P	**Pn**	**01 26 38.5**	**+2.7**
	3.6nm,0.3s						
AAK				⇓S	**Sn**	**01 28 01.0**	**-0.9**
	10nm,0.6s						
AAK	**Ala-Archa**	**7.74**	**29**	P	**Pn**	**01 26 38.0**	**+2.3**
	6.5nm,0.3s,baz=208,slow=8.4,SNR=25						
AAK				S	**Sn**	**01 28 01.2**	**-0.7**
	6.9nm,0.5s,baz=146,slow=23,SNR=10						
KBK	**Karagaybulak**	**7.94**	**31**	P	**Pn**	**01 26 42.3**	**+3.8**
	SNR=7.0						
CHMS	**Chumysh**	**8.15**	**29**	P	**Pn**	**01 26 44.1**	**+2.9**
	SNR=7.0						
CHMS	**Chumysh**	**8.15**	**29**	⇓P	**Pn**	**01 26 43.6**	**+2.5**
	7.1nm,0.6s						
CHMS				⇑S	**Sn**	**01 28 09.5**	**-2.1**
	8.3nm,0.5s						
USP	**Ospenovka**	**8.29**	**27**	P	**Pn**	**01 26 45.0**	**+2.1**
	SNR=12						
TKM2	**Tokmak 2**	**8.44**	**33**	P	**Pn**	**01 26 47.9**	**+2.7**
	SNR=16						
TKM2	**Tokmak 2**	**8.44**	**33**	⇑P	**Pn**	**01 26 47.5**	**+2.3**
	6.1nm,0.6s						
GEYT	**Alibeck**	**9.25**	**286**	P	**Pn**	**01 26 57.0**	**+0.9**
	1.9nm,0.3s,baz=99,slow=11,SNR=9.5						
GEYT				S	**Sn**	**01 28 40.2**	**+1.8**
	0.9nm,0.5s,baz=128,slow=19,SNR=1.5						
MK31	**Makanchi Array**	**14.49**	**38**	⇓P	**P**	**01 28 09.3**	**+0.5**
	1.5nm,0.8s,baz=227,slow=13,SNR=6.8						
MKAR	**Makanchi Array**	**14.49**	**38**	P	**Pn**	**01 28 04.9**	**-0.4**
	0.4nm,0.7s,baz=229,slow=15,SNR=2.8						
AB31	**Akbulak array**	**14.99**	**335**	P	**Pn**	**01 28 11.0**	**-0.5**
	0.4nm,0.3s,baz=161,slow=12,SNR=35						
KURBB	**Kurchatov Arra**	**16.07**	**21**	P	**Pn**	**01 28 24.0**	**-1.0**
	0.4nm,0.4s,baz=214,slow=11,SNR=8.9						
AKTO	**Aktyubinsk**	**16.65**	**334**	P	**Pn**	**01 28 32.1**	**-0.1**
	0.7nm,0.5s,baz=134,slow=9.3,SNR=4.0						
BVA0	**Borovoye Array**	**17.08**	**2**	P	**Pn**	**01 28 38.2**	**+0.9**
	1.3nm,0.7s,baz=164,slow=8.9,SNR=11						
BVAR	**Borovoye Array**	**17.08**	**2**	P	**P**	**01 28 38.1**	**+0.8**
	1.3nm,0.5s,baz=157,slow=10.0,SNR=13						
ZALV	**Zalesovo Beam**	**20.95**	**26**	P	**P**	**01 29 19.8**	**+0.4**
	1.6nm,0.4s,baz=220,slow=10,SNR=12						
	1.6nm,0.4s						
FINES	**FINESS Array B**	**37.23**	**327**	P	**P**	**01 31 45.5**	**-0.4**
	1.6nm,0.9s,baz=108,slow=12,SNR=5.3						
	1.6nm,0.9s						
ARCES	**ARCESS Array B**	**41.16**	**338**	P	**P**	**01 32 18.6**	**0.0**
	0.4nm,0.5s,baz=106,slow=7.5,SNR=11						
	0.4nm,0.5s						
HFS	**Hagfors**	**42.70**	**322**	P	**P**	**01 32 31.0**	**-0.2**
	0.9nm,0.3s,baz=101,slow=11,SNR=10						
	0.9nm,0.3s						
NB2	**NORSAR Subarra**	**44.04**	**323**	P	**P**	**01 32 41.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=99,slow=8.6						
NOA	**NORSAR Array B**	**44.04**	**323**	P	**P**	**01 32 41.1**	**-0.9**
	comp=Z,0.3n

mbtmp4.0/25,ML3.3/5,MS3.7/17 Error ellipse: s-maj=17.5km s-min=8.5km az=94.0
*NEIC **06** 02:05:21.8±0.8,28°49N±0.06×128°76E±0.09,h55km±4km, mb4.6/103,Error ellipse: s-maj=11.5km s-min=8.9km az=111.0*

ISC 06 02:05:17.1±0.4,**28°66N**±0.03×**128°78E**±0.04,**h21**km±3km, **n195**,σ1♀**44**/164,**mb4.6**/73,**MS3.8**/17,**1C-3D, Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.55**	**140**	*eP*		**Pb**	**02 05 27.5**	**-0.5**
JAMN				*eS*		**Sb**	**02 05 35.2**	**-0.2**
JAMN	**Amaminishikomi**	**0.55**	**140**	A		A	02 05 27.5	
	comp=E,21nm,0.3s,comp=N,18nm,2.6s							
JTAJ	**Takarajima**	**0.61**	**37**	*eP*		**Pb**	**02 05 28.0**	**-1.3**
JTAJ				*eS*		**Sb**	**02 05 36.1**	**-1.4**
JTAJ	**Takarajima**	**0.61**	**37**	A		A	02 05 28.0	
	comp=E,20nm,1.4s,comp=N,13nm,1.8s							
JAM	**Amami Oshima**	**0.77**	**109**	*eP*		**Pb**	**02 05 30.6**	**-1.2**
JAM				*eS*		**Sb**	**02 05 41.3**	**-0.5**
JAM	**Amami Oshima**	**0.77**	**109**	A		A	02 05 30.6	
	comp=E,27nm,1.1s,comp=N,12nm,1.9s							
JTK	**Tokunoshima**	**0.89**	**170**	*eP*		**Pb**	**02 05 33.5**	**-0.3**
JTK				*eS*		**Sn**	**02 05 46.6**	**0.0**
JTK	**Tokunoshima**	**0.89**	**170**	A		A	02 05 33.5	
	comp=E,23nm,1.5s,comp=N,14nm,0.8s							
JZK	**Kikaishima**	**1.11**	**108**	*eP*		**Pb**	**02 05 38.1**	**+0.6**
JZK				*eS*		**Sn**	**02 05 53.8**	**+1.7**
JZK	**Kikaishima**	**1.11**	**108**	A		A	02 05 38.1	
	comp=E,67nm,1.3s,comp=N,91nm,2.2s							
JOKE	**Okinoerabujima**	**1.31**	**188**	*eP*		**Pb**	**02 05 40.8**	**-0.2**
JOKE				*eS*		**Sb**	**02 05 58.9**	**+1.5**
JOKE	**Okinoerabujima**	**1.31**	**188**	A		A	02 05 40.8	
	comp=E,11nm,3.0s,comp=N,10.0nm,3.5s							
JNN	**Nakanoshima**	**1.52**	**39**	*eP*		**Pn**	**02 05 43.1**	**+0.1**
JNN				*eS*		**Sn**	**02 06 02.3**	**+0.2**
JNN	**Nakanoshima**	**1.52**	**39**	A		A	02 05 43.1	
	comp=N,6.0nm,1.4s							
JYRO	**Yoronjima**	**1.66**	**190**	*eP*		**Pn**	**02 05 45.7**	**+0.7**
JIH	**Iheya**	**1.77**	**204**	*eP*		**Pn**	**02 05 47.5**	**+0.9**
JIH	**Iheya**	**1.77**	**204**	A		A	02 05 47.5	
	comp=E,6.0nm,1.9s,comp=N,7.0nm,3.3s							
JOW	**Kunigami**	**1.88**	**194**	Pn		**Pn**	**02 05 48.8**	**+0.7**
JOW	**Kunigami**	**1.88**	**194**	P		**Pn**	**02 05 48.0**	**0.0**
	comp=N,309nm,0.4s,baz=46,slow=8.8,SNR=100							
JOW				S		**Sb**	**02 06 12.5**	**-1.2**
	comp=N,258nm,0.3s,baz=344,slow=29,SNR=12							
JOW	**Kunigami**	**1.88**	**194**	*eP*		**Pn**	**02 05 48.7**	**+0.7**
JOW				*eS*		**Sb**	**02 06 12.8**	**-0.9**
JOW	**Kunigami**	**1.88**	**194**	A		A	02 05 48.7	
	comp=E,5.0nm,5.0s,comp=N,4.0nm,1.6s							
JYAK	**Yakushimahirau**	**2.18**	**43**	*eP*		**Pn**	**02 05 52.2**	**+0.1**
JYAK				*eS*		**Sn**	**02 06 18.8**	**+0.3**
JNTH	**Nagotoyohara**	**2.24**	**198**	*eP*		**Pn**	**02 05 53.9**	**+0.9**
JAGN	**Aguni-jima**	**2.48**	**214**	*eP*		**Pn**	**02 05 57.9**	**+1.7**
JMTN	**Minamitane**	**2.53**	**46**	*eP*		**Pn**	**02 05 57.4**	**+0.4**
JJT3	**Tamagusuku3**	**2.66**	**200**	*eP*		**Pb**	**02 06 01.5**	**-2.6**
JTN	**Tanegashima 3**	**2.76**	**43**	*eP*		**Pn**	**02 06 01.0**	**+0.9**
JKE	**Kume jima 2**	**2.92**	**218**	*eP*		**Pn**	**02 06 04.2**	**+1.8**
JKDJ	**Kitadaitoujima**	**3.51**	**140**	*eP*		**Pn**	**02 06 11.3**	**+0.8**
JKDJ				*eS*		**Sn**	**02 06 51.1**	**-0.3**
JMZ	**Minamidaito 2**	**3.57**	**142**	Pn		**Pn**	**02 06 12.4**	**+1.1**
JMZ	**Minamidaito 2**	**3.57**	**142**	*eP*		**Pn**	**02 06 11.5**	**+0.2**
JMZ				*eS*		**Sn**	**02 06 52.4**	**-0.5**
JNU	**Nakatsue**	**4.80**	**22**	Pn		Pn	02 06 33.5	+5.3
JNU	**Nakatsue**	**4.80**	**22**	P		**Pn**	**02 06 30.4**	**+2.2**
	comp=N,1.7nm,0.3s,baz=299,slow=23,SNR=15							
	comp=N,44nm,0.9s							
YOJ	**Yonaguni jima**	**6.65**	**232**	Pn		**Pn**	**02 06 54.8**	**+1.2**
JMN	**Monobe**	**6.68**	**40**	Pn		Pn	02 06 59.1	+5.1
YHNB	**Yeheng**	**7.72**	**241**			**Pn**	**02 07 10.0**	**+1.5**
NACB	**Ninganchiao**	**7.84**	**237**	Pn		**Pn**	**02 07 11.3**	**+1.3**
YULB	**Yu-li**	**8.53**	**234**			**Pn**	**02 07 19.7**	**+0.2**
SSLB	**Suanglung**	**8.54**	**237**	Pn		**Pn**	**02 07 20.8**	**+1.2**
KSRS	**Korea Array**	**8.80**	**356**	P		**Pn**	**02 07 24.9**	**+1.9**
	comp=N,0.2nm,0.3s,baz=175,slow=15,SNR=8.3							
	comp=N,3.0nm,0.9s							
TPUB	**Ta-pu**	**9.07**	**236**			**Pn**	**02 07 28.2**	**+1.3**
JGF	**Kuroka**	**10.03**	**44**			Pn	02 07 45.0	+4.9
MAJO	**Matsushiro**	**11.17**	**43**	Pn		Pn	02 08 00.5	+4.8
MJAR	**Matsushiro Arr**	**11.17**	**43**	P		**Pn**	**02 07 59.7**	**+4.0**
	baz=234,slow=14,SNR=2.7							
	comp=N,0.6nm,0.4s							
MJB9	**Matsu-Tunnel**	**11.17**	**43**	Pn		Pn	02 08 01.1	+5.5
JCJ	**Chichijima**	**11.96**	**94**	LR		LR	02 12 02.1	
	comp=N,209nm,20.1s,baz=168,slow=33							
TIA	**Tai'an**	**12.38**	**310**	P		**P**	**02 08 22.6**	**-1.5**
TIA				pmax		pmax		
	comp=Z,7.0nm,1.0s							
SNY	**Shenyang**	**13.80**	**344**	⇓P		P	02 08 45.7	+5.9
SNY				S		S	02 11 44.6	+18
SNY				pmax		pmax		
	comp=Z,12nm,0.6s							
SNY				pmax		pmax		
	comp=Z,140nm,4.9s							
SNY				LR		LR		
	comp=N,520nm,14.5s							
SNY				LR		LR		
	comp=E,970nm,14.1s							
SNY				LR		LR		
	comp=Z,440nm,10.4s							
HNS	**HongShan**	**14.66**	**310**	⇑P		**P**	**02 08 52.6**	**+3.3**
HNS				S		**S**	**02 11 36.1**	**-7.6**
HNS				pmax		pmax		
	comp=Z,11nm,1.1s							
HNS				LR		LR		
	comp=N,570nm,16.0s							
HNS				LR		LR		
	comp=Z,380nm,19.6s							
LYN	**LuoYang**	**15.08**	**297**	⇓P		**Pn**	**02 08 50.9**	**+2.0**
LYN				S		**Sn**	**02 11 38.9**	**+3.5**
LYN				pmax		pmax		
	comp=Z,15nm,0.7s							
LYN				pmax		pmax		
	comp=Z,160nm,6.5s							
LYN				LR		LR		
	comp=N,580nm,11.7s							
LYN				LR		LR		
	comp=E,500nm,11.7s							
LYN				LR		LR		
	comp=Z,620nm,16.8s							
CN2	**Changchun**	**15.34**	**351**	*eP*		**P**	**02 08 59.0**	**+2.1**
CN2				*eS*		**S**	**02 11 54.4**	**-3.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.6s							
CN2				pmax		pmax		
	comp=Z,100nm,3.0s							
CN2				LR		LR		
	comp=N,400nm,14.0s							
CN2				LR		LR		
	comp=E,1μm,14.0s							
CN2				LR		LR		
	comp=Z,300nm,10.0s							
USRK	**Ussuriysk Ar.**	**15.72**	**9**	P		**Pn**	**02 08 56.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=187,slow=8.7,SNR=1.5							
	comp=Z,1.1nm,0.8s							
XAN	**Xi'an**	**17.78**	**293**	⇓P		**P**	**02 09 25.2**	**+1.1**
XAN				pP		sP	02 09 34.1	+2.0
XAN				sP		pP	02 09 39.8	+10
XAN				SS		S	02 13 04.5	+17
XAN				pmax		pmax		
	comp=Z,12nm,1.8s							
XAN				LR		LR		
	comp=N,820nm,10.3s							
XAN				LR		LR		
	comp=E,480nm,11.0s							
ASAJ	**Asahikawa**	**18.97**	**32**	P		**Pn**	**02 09 37.4**	**-0.4**
	comp=E,0.4nm,0.3s,baz=201,slow=18,SNR=1.9							
	comp=E,1.6nm,0.4s							
JKA	**Kamikawa-asahi**	**18.97**	**32**	P		**Pn**	**02 09 39.4**	**+1.5**
KLR	**Kul'dur**	**20.66**	**6**	P		**P**	**02 09 55.4**	**-0.1**
	comp=E,4.2nm,0.8s,baz=210,slow=6.9,SNR=16							
	comp=E,4.2nm,0.8s							
GUMO	**Guam**	**21.18**	**132**	LR		LR	02 16 53.2	
	comp=E,186nm,19.8s,baz=15,slow=33							
SONM	**Songino Array**	**25.83**	**324**	P		**P**	**02 10 48.9**	**+1.8**
SONM	**Songino Array**	**25.83**	**324**	P		**P**	**02 10 46.8**	**-0.3**
	comp=E,1.9nm,0.5s,baz=141,slow=9.1,SNR=12							
	comp=E,1.9nm,0.5s							
CMAR	**Chiang Mai Arr**	**29.10**	**256**	PcP		**PcP**	**02 14 25.1**	**+0.8**
	comp=E,1.2nm,0.3s,baz=66,slow=0.9,SNR=4.8							
CMAR				LR		LR	02 24 22.9	
	comp=E,88nm,21.5s,baz=85,slow=39							
GOMU	**GeErMu**	**29.52**	**294**	P		**P**	**02 11 22.7**	**+2.1**
GOMU				pP		pP	02 11 27.7	+1.0
GOMU				sP		sP	02 11 30.2	+1.1
GOMU				PP		PP	02 12 46.1	+19
GOMU				S		S	02 16 30.7	+16
GOMU				sS		sS	02 16 41.0	+17
GOMU				pmax		pmax		
	comp=Z,5.0nm,0.7s							
GOMU				LR		LR		
	comp=N,280nm,11.6s							
GOMU				LR		LR		
	comp=E,240nm,12.4s							
GOMU				LR		LR		
	comp=Z,270nm,14.1s							
PETK	**Petropavlovsk-**	**32.39**	**33**	LR		LR	02 24 10.3	
	comp=Z,43nm,21.4s,baz=175,slow=35							
MK31	**Makanchi Array**	**40.32**	**310**	P		**P**	**02 12 52.8**	**-0.3**
MKAR	**Makanchi Array**	**40.32**	**310**	P		**P**	**02 12 53.6**	**+0.6**
MKAR	**Makanchi Array**	**40.32**	**310**	P		**P**	**02 12 51.8**	**-1.2**
	comp=Z,2.0nm,0.7s,baz=102,slow=9.8,SNR=16							
MKAR				PcP		**PcP**	**02 14 56.0**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=66,slow=3.0,SNR=4.0							
	comp=Z,2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**40.64**	**321**	P		**P**	**02 12 56.7**	**+1.2**
ZALV	**Zalesovo Beam**	**40.64**	**321**	P		**P**	**02 12 54.9**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=106,slow=8.5,SNR=6.4							
ZALV				LR		LR	02 30 43.0	
	comp=Z,59nm,18.3s,baz=70,slow=38							
	comp=Z,1.5nm,0.7s							
PMG	**Port Moresby**	**41.80**	**152**	LR		LR	02 27 16.9	
	comp=Z,103nm,22.0s,baz=354,slow=32							
KURK	**Kurchatov**	**43.42**	**315**	P		**P**	**02 13 19.2**	**+0.9**
KURBB	**Kurchatov Arra**	**43.46**	**315**	P		**P**	**02 13 18.1**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=101,slow=8.9,SNR=18							
KURBB				PcP		**PcP**	**02 15 04.2**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=112,slow=3.5,SNR=2.1							
	comp=Z,2.5nm,0.6s							
KNRA	**Kununurra**	**44.08**	**180**	P		**P**	**02 13 23.3**	**-0.5**
AAK	**Ala-Archa**	**45.52**	**303**	LR		LR	02 35 18.3	
	comp=Z,106nm,18.1s,baz=97,slow=40							
KKAR	**Karatay Array**	**48.44**	**304**	P		**P**	**02 13 59.1**	**+1.1**
WB0	**Warramunga Arr**	**48.45**	**173**	P		**P**	**02 13 57.8**	**-0.4**
WB0				IAmb		IAmb	02 13 60.0	
	comp=Z,7.9nm,0.8s							
WRA	**Warramunga Arr**	**48.62**	**173**	P		**P**	**02 14 00.4**	**+0.9**
	comp=Z,5.2nm,0.7s,baz=353,slow=8.3,SNR=41							
	comp=Z,5.2nm,0.7s							
WB2	**Warramunga Arr**	**48.62**	**173**	P		**P**	**02 13 58.5**	**-1.0**
WR0	**Warramunga Arr**	**48.66**	**173**	P		**P**	**02 13 58.4**	**-1.4**
WR0				IAmb		IAmb	02 14 01.3	
	comp=Z,7.4nm,0.8s							
BVAR	**Borovoye Array**	**48.81**	**317**	P		**P**	**02 14 00.2**	**-0.5**
	comp=Z,5.3nm,0.5s,baz=89,slow=9.6,SNR=35							
BVAR				PcP		**PcP**	**02 15 25.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=98,slow=4.5,SNR=2.2							
	comp=Z,5.3nm,0.5s							
BRVK	**Borovoye**	**48.88**	**317**	P		**P**	**02 14 02.3**	**+1.1**
ASAR	**Alice Springs**	**52.26**	**174**	P		**P**	**02 14 27.3**	**+0.2**
	comp=Z,1.3nm,0.6s,baz=5.5,slow=14,SNR=36							
ASAR				LR		LR	02 37 59.2	
	comp=Z,40nm,19.0s,baz=323,slow=38							
	comp=Z,1.3nm,0.6s							
ABKAR	**Akbulak array**	**55.36**	**312**	P		**P**	**02 14 50.9**	**+1.4**
ABKAR	**Akbulak array**	**55.36**	**312**	P		**P**	**02 14 50.5**	**+1.0**
ABKAR				IAmb		IAmb	02 14 59.8	
	comp=Z,4.3nm,1.0s							
E19K	**Redstone River**	**57.74**	**26**	IAmb		IAmb	02 15 12.1	
	comp=Z,4.7nm,0.8s							
H19K	**Roundabout Mou**	**58.00**	**28**	P		**P**	**02 15 09.2**	**+1.3**
F20K	**Avaraart Lake**	**58.31**	**26**	P		**P**	**02 15 11.9**	**+1.8**
F20K				IAmb		IAmb	02 15 40.1	
	comp=Z,5.5nm,1.4s							
N18K	**Kilae Creek**	**58.34**	**34**	P		**P**	**02 15 11.8**	**+1.4**
N18K				IAmb		IAmb	02 15 53.9	
	comp=Z,9.9nm,1.2s							
J19K	**Poorman**	**58.35**	**30**	P		**P**	**02 15 11.8**	**+1.3**
GEYT	**Alibeck**	**58.52**	**299**	LR		LR	02 44 04.6	
	comp=Z,104nm,18.1s,baz=107,slow=40							
E21K	**Killik River**	**59.00**	**25**	IAmb		IAmb	02 15 20.6	
	comp=Z,4.0nm,0.7s							
N19K	**Bonanza Creek**	**59.02**	**34**	P		**P**	**02 15 16.6**	**+1.4**
N19K				IAmb		IAmb	02 15 43.3	
	comp=Z,9.3nm,1.2s							
K20K	**Telida**	**59.07**	**31**	P		**P**	**02 15 16.9**	**+1.4**
K20K				IAmb		IAmb	02 15 22.5	
	comp=Z,5.1nm,0.9s							
IMAR	**Indian Mountai**	**59.11**	**28**	P		**P**	**02 15 16.7**	**+1.0**
F21K	**Alatna River**	**59.19**	**26**	P		**P**	**02 15 17.5**	**+1.2**
G21K	**Allakaket**	**59.20**	**27**	P		**P**	**02 15 17.6**	**+1.3**
G21K				IAmb		IAmb	02 15 22.5	
	comp=Z,5.4nm,0.8s							
B22K	**Teshekpuk Lake**	**59.21**	**23**	P		**P**	**02 15 16.9**	**+0.6**
B22K				IAmb		IAmb	02 15 22.3	
	comp=Z,3.7nm,0.9s							
D22K	**Ayikyak River**	**59.47**	**24**	P		**P**	**02 15 19.4**	**+1.2**
H21K	**Melozitna Rive**	**59.51**	**28**	P		**P**	**02 15 19.9**	**+1.4**
H21K				IAmb		IAmb	02 15 24.8	
	comp=Z,4.2nm,0.9s							
M20K	**Styx River**	**59.59**	**33**	P		**P**	**02 15 20.6**	**+1.4**
M20K				IAmb		IAmb	02 15 42.1	
	comp=Z,12nm,1.4s							
Q19K	**Cape Douglas,**	**59.60**	**36**	P		**P**	**02 15 19.2**	**0.0**
CAST	**Castle Rocks**	**59.95**	**31**	IAmb		IAmb	02 15 27.6	
	comp=Z,4.4nm,0.8s							
C23K	**Itkillik River**	**60.18**	**23**	P		**P**	**02 15 24.0**	**+1.0**
KDAK	**Kodiak Island**	**60.28**	**37**	P		**P**	**02 15 24.6**	**+0.7**
SKT	**Skwentna**	**60.34**	**32**	P		**P**	**02 15 24.9**	**+0.6**
SKT				IAmb		IAmb	02 15 30.2	
	comp=Z,5.0nm,0.9s							
BPAW	**Bear Paw Mtn.**	**60.38**	**30**	P		**P**	**02 15 25.9**	**+1.3**
MLY	**Manley**	**60.41**	**29**	P		**P**	**02 15 26.2**	**+1.4**
MLY				IAmb		IAmb	02 15 28.1	
	comp=Z,4.5nm,1.0s							
HOM	**Homer**	**60.54**	**35**	P		**P**	**02 15 26.9**	**+1.3**
TOLK	**Toolik Lake Re**	**60.61**	**25**	P		**P**	**02 15 27.1**	**+1.0**
TOLK				IAmb		IAmb	02 15 31.6	
	comp=Z,11nm,1.4s							
TRF	**Thorofare Moun**	**60.76**	**31**	P		**P**	**02 15 28.9**	**+1.7**
TRF				IAmb		IAmb	02 16 04.6	
	comp=Z,6.9nm,1.3s							
SUA	**Susitna One**	**60.77**	**33**	P		**P**	**02 15 28.1**	**+0.8**
H23K	**Yukon River**	**60.84**	**28**	P		**P**	**02 15 29.3**	**+1.7**
H23K				IAmb		IAmb	02 15 34.6	
	comp=Z,5.6nm,0.8s							
D24K	**Happy Valley**	**60.84**	**24**	IAmb		IAmb	02 15 34.3	
	comp=Z,6.7nm,0.9s							
E24K	**Your Creek**	**61.05**	**25**	IAmb		IAmb	02 15 39.9	
	comp=Z,3.1nm,0.8s							
F24K	**Squaw Lake**	**61.33**	**26**	IAmb		IAmb	02 15 32.8	
	comp=Z,3.5nm,0.8s							
STKA	**Stephens Creek**	**61.43**	**168**	P		**P**	**02 15 31.5**	**-0.4**
	comp=Z,2.1nm,0.6s,baz=24,slow=2.4,SNR=5.4							
	comp=Z,2.1nm,0.6s							
MDM	**Murphy Dome**	**61.48**	**29**	P		**P**	**02 15 33.2**	**+1.2**
H24K	**Noodor Dome**	**61.52**	**28**	P		**P**	**02 15 33.6**	**+1.4**
H24K				IAmb		IAmb	02 15 39.9	
	comp=Z,5.2nm,1.1s							
G24K	**Hadweenzic Riv**	**61.58**	**27**	P		**P**	**02 15 34.0**	**+1.4**
G24K				IAmb		IAmb	02 15 39.3	
	comp=Z,3.9nm,0.8s							
GHO	**Glory Hole Cre**	**61.59**	**32**	P		**P**	**02 15 33.1**	**+0.3**
KNK	**Knik Glacier**	**61.86**	**33**	P		**P**	**02 15 35.2**	**+0.6**
SML	**Sawmill**	**61.86**	**32**	P		**P**	**02 15 35.4**	**+0.7**
IL31		**62.08**	**29**	P		**P**	**02 15 36.1**	**+0.2**
IL31				IAmb		IAmb	02 15 41.1	
	comp=Z,3.3nm,0.8s							
ILAR	**Eielson Array**	**62.08**	**29**	P		**P**	**02 15 36.0**	**0.0**
ILAR	**Eielson Array**	**62.08**	**29**	P		**P**	**02 15 35.3**	**-0.7**
	comp=Z,1.3nm,0.7s,baz=271,slow=4.7,SNR=18							
	comp=Z,1.3nm,0.7s							
HDA	**Harding Lake**	**62.10**	**29**	P		**P**	**02 15 36.4**	**+0.3**
DHY	**Denali Highway**	**62.11**	**31**	P		**P**	**02 15 37.5**	**+1.1**
DHY				IAmb		IAmb	02 15 42.2	
	comp=Z,5.7nm,1.1s							
E25K	**Arctic Village**	**62.14**	**25**	P		**P**	**02 15 38.1**	**+1.7**
E25K				IAmb		IAmb	02 16 03.1	
	comp=Z,9.1nm,1.5s							
DZM	**Mont Dzumac**	**62.16**	**140**	*eLR*		LR	02 34 08.3	
	comp=Z,112nm,25.6s							
DZM	**Mont Dzumac**	**62.16**	**140**	P		**P**	**02 15 35.3**	**-1.8**
NWAO	**Narrogin (SRO)**	**62.23**	**191**	LR		LR	02 48 13.0	
	comp=Z,38nm,18.0s,baz=98,slow=41							
SCM	**Sheep Creek Mo**	**62.33**	**32**	P		**P**	**02 15 38.7**	**+0.9**
PRP	**Porcupine Dome**	**62.53**	**28**	IAmb		IAmb	02 15 46.0	
	comp=Z,6.1nm,0.9s							
BMAR	**Burnt Mountain**	**62.61**	**26**	P		**P**	**02 15 41.4**	**+1.9**
J25K	**Salcha River,**	**62.74**	**29**	P		**P**	**02 15 42.7**	**+2.1**
SCRK	**Sand Creek**	**63.45**	**30**	P		**P**	**02 15 45.7**	**+0.4**
SCRK				IAmb		IAmb	02 15 50.7	
	comp=Z,4.2nm,0.9s							
J26L	**Joseph Creek**	**63.53**	**29**	IAmb		IAmb	02 15 51.6	
	comp=Z,5.1nm,0.8s							
I26K	**Coal Creek Min**	**63.55**	**28**	IAmb		IAmb	02 15 50.9	
	comp=Z,3.8nm,0.8s							
E27K	**Coleen River**	**63.59**	**25**	P		**P**	**02 15 47.6**	**+1.5**
N25K	**Chitina, Valde**	**63.65**	**32**	P		**P**	**02 15 48.4**	**+1.8**
GLB	**Gilahina Butte**	**64.05**	**32**	P		**P**	**02 15 50.4**	**+1.2**
HMT	**Hamilton**	**64.08**	**34**	P		**P**	**02 15 51.5**	**+2.1**
M26K	**Nabesna, AK**	**64.22**	**31**	P		**P**	**02 15 51.5**	**+1.2**
M26K				IAmb		IAmb	02 15 56.5	
	comp=Z,7.2nm,0.8s							
E28M	**Babbage River**	**64.25**	**24**	P		**P**	**02 15 51.8**	**+1.5**
K27K	**Chicken**	**64.27**	**29**	P		**P**	**02 15 51.9**	**+1.4**
K27K				IAmb		IAmb	02 15 54.9	
	comp=Z,10nm,1.5s							
VRDI	**Verde Repeater**	**64.27**	**32**	P		**P**	**02 15 52.0**	**+1.2**
VRDI				IAmb		IAmb	02 15 56.4	
	comp=Z,7.3nm,0.9s							
F28M	**Old Crow**	**64.35**	**25**	P		**P**	**02 15 52.6**	**+1.6**
F28M				IAmb		IAmb	02 16 12.5	
	comp=Z,9.7nm,1.4s							
MCARA	**McCarthy VSAT**	**64.43**	**32**	P		**P**	**02 15 53.1**	**+1.5**
L27K	**Beaver Creek,**	**64.59**	**30**	P		**P**	**02 15 54.1**	**+1.4**
L27K				IAmb		IAmb	02 16 20.6	
	comp=Z,8.0nm,1.4s							
BCAR	**Beaver Creek A**	**64.61**	**30**	P		**P**	**02 15 54.5**	**+1.7**
M27K	**Edge Creek, AK**	**64.73**	**31**	P		**P**	**02 15 55.0**	**+1.2**
M27K				IAmb		IAmb	02 16 05.3	
	comp=Z,8.6nm,1.1s							
I28M	**Miner Creek**	**64.83**	**27**	P		**P**	**02 15 55.8**	**+1.5**
I28M				IAmb		IAmb	02 16 00.6	
	comp=Z,4.4nm,0.8s							
E29M	**Blow River**	**64.89**	**24**	P		**P**	**02 15 56.0**	**+1.5**
BARN	**Barnard Glacie**	**65.15**	**32**	P		**P**	**02 15 57.0**	**+0.4**
G29M	**Pine Creek**	**65.22**	**26**	P		**P**	**02 15 58.0**	**+1.3**
G29M				IAmb		IAmb	02 16 04.6	
	comp=Z,8.3nm,1.1s							
H29M	**Whitestone**	**65.26**	**26**	P		**P**	**02 15 58.7**	**+1.7**
H29M				IAmb		IAmb	02 16 03.9	
	comp=Z,5.3nm,1.0s							
DAWY	**Dawson**	**65.40**	**29**	P		**P**	**02 15 59.4**	**+1.4**
EPYK	**Eagle Plains**	**65.86**	**26**	IAmb		IAmb	02 16 07.2	
	comp=Z,7.3nm,0.9s							
G30M	**tAoh Zraii Nji**	**65.88**	**25**	IAmb		IAmb	02 16 06.7	
	comp=Z,4.8nm,0.8s							
L29M	**L29M**	**66.21**	**30**	P		**P**	**02 16 04.8**	**+1.6**
L29M				IAmb		IAmb	02 16 10.2	
	comp=Z,5.5nm,0.7s							
M29M	**Somme Creek**	**66.25**	**30**	P		**P**	**02 16 05.1**	**+1.6**
M29M				IAmb		IAmb	02 16 10.0	
	comp=Z,16nm,1.5s							
K29M	**Barlow Dome**	**66.26**	**29**	P		**P**	**02 16 04.8**	**+1.2**
G31M	**Satah River**	**66.63**	**25**	P		**P**	**02 16 06.2**	**+0.5**
G31M				IAmb		IAmb	02 16 11.8	
	comp=Z,5.9nm,1.0s							
H31M	**Peel River**	**66.96**	**26**	IAmb		IAmb	02 16 13.8	
	comp=Z,5.9nm,0.8s							
KBZ	**Khabaz**	**68.01**	**309**	P		**P**	**02 16 12.9**	**-1.9**
	comp=Z,1.0nm,0.8s,baz=21,slow=15,SNR=2.0							
	comp=Z,1.0nm,0.8s							
C36M	**Paulatuk**	**69.25**	**21**	IAmb		IAmb	02 16 27.8	
	comp=Z,6.3nm,0.7s							
MMPY	**Sheldon Lake,**	**69.34**	**29**	P		**P**	**02 16 24.1**	**+1.2**
FINES	**FINESS Array B**	**71.00**	**330**	P		**P**	**02 16 32.4**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=60,slow=7.7,SNR=8.2							
	comp=Z,0.7nm,0.7s							
RES	**Resolute Bay**	**73.08**	**11**	LR		LR	02 51 30.0	
	comp=Z,19nm,18.6s,baz=23,slow=38							
BRTR	**Keskin Array B**	**75.93**	**308**	P		**P**	**02 17 01.7**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=107,slow=3.5,SNR=4.5							
BRTR				LR		LR	02 55 24.6	
	comp=Z,49nm,18.4s,baz=68,slow=40							
	comp=Z,0.6nm,0.9s							
YKA	**Yellow

	comp=E,6μm,0.5s							
KKO	**Keanakako`i**	**0.04**	**220**			Pg	02 06 18.4	+0.6
KKO					IAML		02 06 19.0	
	comp=E,8μm,0.9s							
NPH	**North Pit**	**0.04**	**248**			Pg	02 06 18.3	+0.5
NPH					IAML		02 06 19.3	
	comp=N,8μm,0.5s							
OBL	**Observatory Le**	**0.04**	**256**			Pg	02 06 18.5	+0.7
OBL					IAML		02 06 19.1	
	comp=E,8μm,0.5s							
OBL					IAML		02 06 19.6	
	comp=N,16μm,0.3s							
RIM	**Rim**	**0.05**	**225**			Pg	02 06 18.6	+0.8
RIM					IAML		02 06 19.1	
	comp=E,8μm,0.9s							
RIM					IAML		02 06 19.3	
	comp=N,7μm,0.4s							
RIM					Sg	Sg	02 06 19.8	+1.3
RSD	**Rainshed**	**0.05**	**314**			Pg	02 06 18.5	+0.6
RSD					IAML		02 06 19.6	
	comp=N,4μm,0.4s							
UWE	**Uwekahuna**	**0.05**	**263**			Pg	02 06 18.7	+0.7
UWE					IAML		02 06 19.4	
	comp=E,7μm,0.3s							
PUH	**Pauahi**	**0.06**	**158**			Pg	02 06 18.8	+0.7
PUH					IAML		02 06 19.9	
	comp=N,4μm,0.5s							
PUH					Sg	Sg	02 06 20.3	+1.4
WRMHI	**West Rim**	**0.06**	**250**			Pg	02 06 18.8	+0.6
WRMHI					IAML		02 06 20.4	
	comp=N,5μm,0.6s							
WRMHI					IAML		02 06 20.4	
	comp=E,8μm,0.5s							
SDHHI	**Sand Hill**	**0.06**	**234**			Pg	02 06 18.9	+0.7
SDHHI					IAML		02 06 19.9	
	comp=E,8μm,0.8s							
SDHHI					IAML		02 06 20.5	
	comp=N,11μm,0.4s							
KNHH	**Kane Nui o Ham**	**0.08**	**126**			Pg	02 06 19.4	+0.8
STCH	**Steam Cracks**	**0.12**	**111**			Pg	02 06 19.9	+0.7
NPOC	**North of Pu'u**	**0.13**	**106**			Pg	02 06 19.9	+0.5
JCUZ	**Jacuzzi**	**0.14**	**108**			Pg	02 06 20.2	+0.6
JCUZ					IAML		02 06 24.1	
	comp=N,5μm,0.4s							
HLP	**Hilina Pali**	**0.15**	**206**			Pg	02 06 20.4	+0.6
HLP					IAML		02 06 23.6	
	comp=N,6μm,0.6s							
HLP					IAML		02 06 24.8	
	comp=E,5μm,0.4s							
MLH	**Mauna Loa**	**0.15**	**296**			Pg	02 06 20.8	+0.8
MLH					IAML		02 06 24.2	
	comp=E,4μm,0.5s							
MLH					IAML		02 06 24.7	
	comp=N,5μm,0.9s							
JOKA	**Jonika Flow**	**0.22**	**88**			Pg	02 06 21.5	+0.3
JOKA						Sg	02 06 25.2	+1.1
HTC	**Hot Caves**	**0.24**	**218**			Pg	02 06 22.2	+0.6
HMH	**Humu'ula Sheep**	**0.29**	**307**			Pg	02 06 23.2	+0.7
MWH	**Moku'aweowe**	**0.34**	**280**			Pg	02 06 24.1	+0.5
MWH	**Moku'aweowe**	**0.34**	**280**			Sg	02 06 29.6	+1.5
KHU	**Kahuku**	**0.40**	**243**			Pg	02 06 24.9	+0.3
KHU					IAML		02 06 36.4	
	comp=N,2μm,0.7s							
KHU					IAML		02 06 36.9	
	comp=E,2μm,0.8s							
POHA	**Pohakuloa**	**0.43**	**320**			Pg	02 06 25.7	+0.5
POHA	**Pohakuloa**	**0.43**	**320**			Sb	02 06 33.1	-1.4
HUH	**Hualalai**	**0.62**	**295**			Pg	02 06 29.3	+0.5
CPH	**Captain Cook**	**0.64**	**275**			Pg	02 06 29.1	-0.2
HPAH	**Hawaii Prepara**	**0.74**	**324**			Pg	02 06 30.2	-0.9
HPAH						Sg	02 06 40.1	-0.6
MHA	**Mahukona**	**0.98**	**321**			Pg	02 06 34.0	-1.7
KHLH	**Kahului Airpor**	**1.84**	**323**			Pn	02 06 47.9	-1.7

NEIC ***06*** *02:14:45.1±0.8, 19°.4N±0°.1×155°.302W±0°.009, h2km±4km, Error ellipse: s-maj=20.4km s-min=1.0km az=177.0*

HVO 06 02:14:44.6±0.7, 19°.4N±0°.1×155°.310W±0°.008, h3km±2km, ML2.7/13, ML1.9/36(NEIC), Error ellipse: s-maj=18.8km s-min=1.0km az=178.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.02**	**95**	Pg	Pg	02 14 45.8	+0.3
UWE				IAML		02 14 46.4	
	comp=N,2μm,0.2s						
UWE					Sg	02 14 46.8	+0.7
WRMHI	**West Rim**	**0.02**	**149**	Pg	Pg	02 14 45.7	+0.2
WRMHI				IAML		02 14 46.0	
	comp=N,3μm,0.1s						
WRMHI					Sg	02 14 46.6	+0.5
OBL	**Observatory Le**	**0.03**	**101**	IAML		02 14 45.5	
	comp=N,2μm,0.8s						
OBL				Pg	Pg	02 14 45.6	+0.1
OBL					Sg	02 14 45.9	-0.2
OBL				IAML		02 14 46.0	
	comp=E,2μm,0.8s						
NPH	**North Pit**	**0.03**	**111**	Pg	Pg	02 14 45.7	+0.2
NPH					Sg	02 14 46.9	+0.7
UWB	**Uwekahuna B**	**0.03**	**86**	Pg	Pg	02 14 45.9	+0.3
UWB					Sg	02 14 46.5	+0.3
UWB				IAML		02 14 46.8	
	comp=E,2μm,0.1s						
SDHHI	**Sand Hill**	**0.04**	**155**	Pg	Pg	02 14 45.8	+0.2
SDHHI					Sg	02 14 46.0	-0.3
SDHHI				IAML		02 14 46.7	
	comp=E,2μm,0.2s						
SBLHI	**Steaming Bluff**	**0.04**	**84**		Pg	02 14 45.9	+0.3
SBLHI				IAML		02 14 46.9	
	comp=E,1μm,0.2s						
SBLHI				IAML		02 14 47.3	
	comp=N,2μm,0.2s						
RIM	**Rim**	**0.04**	**128**		Pg	02 14 45.9	+0.1
HATHI	**Halema'uma'u T**	**0.05**	**89**		Pg	02 14 46.1	+0.3
HATHI				IAML		02 14 47.3	
	comp=E,1μm,0.1s						
HATHI				IAML		02 14 47.4	
	comp=N,2μm,0.2s						
KKO	**Keanakako`i**	**0.05**	**120**	IAML		02 14 45.9	
	comp=N,1μm,0.8s						
KKO					Pg	02 14 45.9	+0.1
BYL	**Byron's Ledge**	**0.05**	**102**		Pg	02 14 46.0	+0.2
RSD	**Rainshed**	**0.05**	**37**	Pg	Pg	02 14 46.0	+0.1
RSD					Sg	02 14 47.4	+0.7
MLH	**Mauna Loa**	**0.10**	**315**		Pg	02 14 47.3	+0.6
MLH					Sg	02 14 49.4	+1.2
PUH	**Pauahi**	**0.10**	**118**		Pg	02 14 46.0	-0.7
PUH					Sg	02 14 49.0	+0.9
PUH				IAML		02 14 49.6	
	comp=N,436nm,0.9s						
HLP	**Hilina Pali**	**0.13**	**179**		Pg	02 14 47.4	+0.3
HLP					Sg	02 14 49.9	+1.1
HLP				IAML		02 14 50.3	
	comp=N,629nm,0.4s						
HLP				IAML		02 14 50.4	
	comp=E,674nm,0.2s						
KNHH	**Kane Nui o Ham**	**0.14**	**108**		Pg	02 14 47.9	+0.5
STCH	**Steam Cracks**	**0.18**	**102**		Pg	02 14 47.8	-0.3
STCH					Sg	02 14 51.2	+0.8
STCH				IAML		02 14 51.5	
	comp=E,267nm,0.3s						
STCH				IAML		02 14 52.2	
	comp=N,216nm,0.8s						
HMH	**Humu'ula Sheep**	**0.24**	**318**		Pg	02 14 49.6	+0.2
HMH					Sg	02 14 53.7	+1.1
MWH	**Moku'aweowe**	**0.28**	**283**	Pg	Pg	02 14 49.9	-0.2
MWH				IAML		02 14 59.1	
	comp=E,320nm,0.6s						
MWH				IAML		02 14 59.2	
	comp=N,324nm,1.4s						

SOME ***06*** *02:17:54.6, 41°.52N×78°.58E, h10km*

KRNET ***06*** *02:17:55.0±0.1, 41°.52N×78°.58E, h14km, mb3.0*

NNC ***06*** *02:17:59.8±0.9, 41°.65N×78°.50E, h0km, mb3.5, mpv3.3, Error ellipse: s-maj=6.5km s-min=3.5km az=166.0*

ISC 06 02:17:55.3±1.7, 41°.43N±0°.06×78°.38E±0°.03, h7km±10km, n58, σ0°98/102, 21C-9D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.53**	**306**	⇑*iP*	**Pb**	**02 18 06.9**	**-0.2**
	baz=90						
TARG				⇑*iS*	**Sb**	**02 18 15.8**	**+0.8**
	baz=90						
PRZ	**Przheval'sk**	**1.06**	**1**	⇑*eP*	**Pg**	**02 18 14.5**	**-1.1**
	baz=52						
PRZ				⇑*eS*	**Sg**	**02 18 28.2**	**-1.2**
	baz=52						
KDJ	**Kajisay**	**1.14**	**309**	⇑*eP*	**Pn**	**02 18 18.2**	**+0.4**
	baz=1.0						
KDJ				⇑*eS*	**Sn**	**02 18 34.9**	**+1.2**
	baz=1.0						
ANVS	**Anan'yevo**	**1.46**	**339**	⇑*eP*	**Pn**	**02 18 22.3**	**+0.1**
	baz=32						
ANVS				⇑*eS*	**Sn**	**02 18 42.2**	**+0.6**
	baz=32						
SATY	**Saty**	**1.63**	**1**	P	**Pn**	**02 18 25.5**	**+1.0**
	6.7nm,0.2s						
SATY				S	**Sn**	**02 18 44.4**	**-1.5**
	31nm,0.5s						
SATY	**Saty**	**1.63**	**1**	*eP*	**Pn**	**02 18 23.8**	**-0.7**
	6.7nm,0.2s						
SATY				*eS*	**Sn**	**02 18 44.7**	**-1.2**
	31nm,0.5s						
SATY	**Saty**	**1.63**	**1**	*eP*	**Pn**	**02 18 23.8**	**-0.7**
	baz=55						
SATY				*eS*	**Sn**	**02 18 44.7**	**-1.2**
	baz=55						
ZHN	**Zhinishke**	**1.74**	**1**	P	**Pb**	**02 18 27.7**	**0.0**
	14nm,0.1s						
ZHN				S	**Sn**	**02 18 48.3**	**-0.3**
	53nm,0.3s						
ZHN	**Zhinishke**	**1.74**	**1**	*eP*	**Pn**	**02 18 26.0**	**0.0**
	14nm,0.1s						
ZHN				*eS*	**Sn**	**02 18 48.6**	**0.0**
	53nm,0.3s						
ZHN	**Zhinishke**	**1.74**	**1**	*eP*	**Pn**	**02 18 26.0**	**0.0**
	baz=56						
ZHN				*eS*	**Sn**	**02 18 48.5**	**0.0**
	baz=56						
UZB	**Uzynbulak**	**1.79**	**15**	P	**Pn**	**02 18 27.6**	**+0.9**
	13nm,0.2s						
UZB				S	**Sn**	**02 18 48.1**	**-1.6**
	18nm,0.3s						
UZB	**Uzynbulak**	**1.79**	**15**	*eP*	**Pn**	**02 18 25.6**	**-1.1**
	13nm,0.2s						
UZB				*eS*	**Sn**	**02 18 48.0**	**-1.7**
	18nm,0.3s						
SHLS	**Shalkode**	**1.91**	**25**	P	**Pg**	**02 18 33.9**	**+2.0**
	29nm,0.1s						
SHLS				S	**Sg**	**02 18 58.9**	**+2.3**
	103nm,0.8s						
SHLS	**Shalkode**	**1.91**	**25**	*eP*	**Pb**	**02 18 30.4**	**-0.1**
	29nm,0.1s						
SHLS				*eS*	**Sg**	**02 18 56.3**	**-0.4**
	103nm,0.8s						
SHLS	**Shalkode**	**1.91**	**25**	*eP*	**Pb**	**02 18 30.4**	**-0.1**
	baz=30						
SHLS				*eS*	**Sg**	**02 18 56.3**	**-0.4**
	baz=30						
TNSS	**Tian-Shan**	**1.93**	**327**	P	**Pg**	**02 18 33.3**	**+1.0**
	12nm,0.3s						
TNSS				S	**Sg**	**02 18 58.0**	**+0.7**
	24nm,0.2s						
TNSS	**Tian-Shan**	**1.93**	**327**	*eP*	**Pb**	**02 18 31.3**	**+0.3**
	20nm,0.4s						
TNSS				*eS*	**Sg**	**02 18 57.9**	**+0.5**
	24nm,0.2s						
TNSS	**Tian-Shan**	**1.93**	**327**	*eP*	**Pb**	**02 18 31.3**	**+0.3**
	baz=22						
TNSS				*eS*	**Sg**	**02 18 57.8**	**+0.5**
	baz=22						
MDOK	**Medeo**	**2.00**	**331**	⇓Pn	**Pb**	**02 18 32.2**	**+0.2**
	14nm,0.5s						
MDOK				Pg	**Pg**	**02 18 34.2**	**+0.6**
	19nm,0.4s						
MDOK				Lg	Lg	02 18 59.3	
	50nm,0.4s						
MDOK				⇓Sn	**Sg**	**02 18 59.4**	**0.0**
	32nm,0.4s						
MDOK	**Medeo**	**2.00**	**331**	*eP*	**Pb**	**02 18 32.4**	**+0.4**
	19nm,0.4s						
MDOK				*eS*	**Sg**	**02 18 59.5**	**0.0**
	50nm,0.4s						
MDOK	**Medeo**	**2.00**	**331**	*eP*	**Pb**	**02 18 32.4**	**+0.4**
	baz=26						
MDOK				*eS*	**Sg**	**02 18 59.5**	**0.0**
	baz=26						
KOTS	**Kotyrbulak**	**2.04**	**333**	P	**Pb**	**02 18 33.6**	**+0.9**
	0.4nm,0.2s						
KOTS				S	**Sb**	**02 18 58.4**	**+0.2**
	66nm,0.3s						
KOTS	**Kotyrbulak**	**2.04**	**333**	*eP*	**Pb**	**02 18 33.0**	**+0.3**
	0.4nm,0.2s						
KOTS				*eS*	**Sg**	**02 19 00.8**	**+0.1**
	66nm,0.3s						
KURS	**Kuram**	**2.07**	**356**	P	**Pb**	**02 18 33.5**	**+0.3**
	10nm,0.6s						
KURS				S	**Sb**	**02 18 58.3**	**-0.8**
	7.6nm,0.5s						
KURS	**Kuram**	**2.07**	**356**	*eP*	**Pb**	**02 18 32.6**	**-0.5**
	10nm,0.6s						
KURS				*eS*	**Sb**	**02 18 59.9**	**+0.9**
	7.6nm,0.5s						
IZV	**Izvestkoviy**	**2.07**	**321**	P	**Pg**	**02 18 35.0**	**-0.1**
	8.8nm,0.5s						
IZV				S	**Sg**	**02 19 00.9**	**-1.1**
	67nm,0.5s						
IZV	**Izvestkoviy**	**2.07**	**321**	*eP*	**Pg**	**02 18 34.4**	**-0.7**
	8.8nm,0.5s						
IZV				*eS*	**Sg**	**02 19 02.9**	**+0.9**
	67nm,0.5s						
PDGK	**Podgornoye**	**2.07**	**23**	P	**Pb**	**02 18 33.6**	**+0.2**
	8.9nm,0.3s						
PDGK				S	**Sn**	**02 18 58.5**	**+1.7**
	21nm,0.3s						
PDGK	**Podgornoye**	**2.07**	**23**	⇑Pn	**Pn**	**02 18 31.1**	**+0.4**
	8.6nm,0.5s						
PDGK				⇑Sn	**Sn**	**02 18 56.4**	**-0.4**
	29nm,0.4s						
BOOM	**Boomskoye usch**	**2.10**	**301**	⇓*eP*	**Pg**	**02 18 35.0**	**-0.7**
	baz=97						
BOOM				⇓*iS*	**Sg**	**02 19 03.9**	**+0.9**
	baz=97						
MTBS	**Maitube**	**2.23**	**320**	Pg	**Pg**	**02 18 38.1**	**0.0**
	21nm,0.4s						
MTBS				Lg	Lg	02 19 06.1	
	38nm,0.2s						
MTBS	**Maitube**	**2.23**	**320**	*eP*	**Pb**	**02 18 37.1**	**+1.1**
	21nm,0.4s						
MTBS				*eS*	**Sg**	**02 19 07.8**	**+0.7**
	38nm,0.2s						
KST	**Kastek**	**2.41**	**313**	Pg	**Pg**	**02 18 41.8**	**+0.3**
	12nm,0.4s						
KST				Lg	Lg	02 19 12.5	
	26nm,0.5s						
KST	**Kastek**	**2.41**	**313**	*eP*	**Pb**	**02 18 40.5**	**+1.4**
	12nm,0.4s						
KST				*eS*	**Sg**	**02 19 13.6**	**+0.7**
	26nm,0.5s						
KTMS	**Ketmen**	**2.49**	**35**	Pg	**Pg**	**02 18 42.5**	**-0.6**
	4.6nm,0.4s						
KTMS				Lg	Lg	02 19 13.6	
	13nm,0.4s						
KTMS	**Ketmen**	**2.49**	**35**	*eP*	**Pn**	**02 18 38.6**	**+2.2**
	4.6nm,0.4s						
KTMS				*eS*	**Sb**	**02 19 10.3**	**-1.1**
	13nm,0.4s						
TKM2	**Tokmak 2**	**2.55**	**307**	⇑Pn	**Pb**	**02 18 42.5**	**+1.1**
	7.1nm,0.4s						
TKM2				⇓Lg	Lg	02 19 18.4	
	28nm,0.5s						
TKM2	**Tokmak 2**	**2.55**	**307**	⇑*iP*	**Pb**	**02 18 41.1**	**-0.4**
	baz=3.0						
TKM2				⇑*iS*	**Sb**	**02 19 14.4**	**+1.3**
	baz=3.0						
CHKK	**Chushkaly**	**2.63**	**338**	Pg	**Pg**	**02 18 45.5**	**-0.3**
	21nm,0.3s						
CHKK				Lg	Lg	02 19 18.6	
	36nm,0.2s						
CHKK	**Chushkaly**	**2.63**	**338**	*eP*	**Pb**	**02 18 43.2**	**+0.4**
	21nm,0.3s						
CHKK				*eS*	**Sg**	**02 19 18.2**	**-1.7**
	36nm,0.2s						
DGS	**Degeres**	**2.65**	**314**	Pg	**Pg**	**02 18 46.5**	**+0.5**
	19nm,0.6s						
DGS				Lg	Lg	02 19 20.6	
	38nm,0.5s						
DGS	**Degeres**	**2.65**	**314**	*eP*	**Pb**	**02 18 44.1**	**+0.9**
	19nm,0.6s						
DGS				*eS*	**Sg**	**02 19 19.7**	**-0.7**
	38nm,0.5s						
BLB	**Baldybastay**	**2.67**	**2**	Pg	**Pb**	**02 18 44.5**	**+1.0**
	38nm,0.4s						
BLB				Lg	Lg	02 19 17.2	
	60nm,0.3s						
ARXS	**Arharly**	**2.81**	**352**	Pg	**Pg**	**02 18 47.9**	**-1.4**
	9.7nm,0.4s						
ARXS				Lg	Lg	02 19 23.0	
	26nm,0.6s						
ARXS	**Arharly**	**2.81**	**352**	*eP*	**Pb**	**02 18 43.8**	**-2.1**
	9.7nm,0.4s						
ARXS				*eS*	**Sb**	**02 19 19.3**	**-1.3**
	26nm,0.6s						
KBK	**Karagaybulak**	**2.83**	**297**	⇑*eP*	**Pb**	**02 18 45.2**	**-1.1**
	baz=94						
KBK				⇑*iS*	**Sb**	**02 19 21.5**	**+0.3**
	baz=94						
KNOS	**Konyrlen**	**2.99**	**11**	Pg	**Pb**	**02 18 50.4**	**+1.4**
	8.1nm,0.4s						
KNOS				Lg	Lg	02 19 27.0	
	14nm,0.5s						
UCH	**Uchtor**	**3.00**	**287**	⇑*iP*	**Pb**	**02 18 47.7**	**-1.5**
	baz=85						
UCH				⇑*iS*	**Sb**	**02 19 26.2**	**0.0**
	baz=85						
KRBS	**Karabastau**	**3.02**	**320**	Pg	**Pg**	**02 18 53.3**	**0.0**
	5.8nm,0.4s						
KRBS				Lg	Lg	02 19 32.0	
	14nm,0.3s						
KRBS	**Karabastau**	**3.02**	**320**	*eP*	**Pb**	**02 18 51.0**	**+1.5**
	5.8nm,0.4s						
KRBS				*eS*	**Sg**	**02 19 31.3**	**-1.1**
	14nm,0.3s						
ARLS	**Aral**	**3.07**	**279**	⇑*iP*	**Pb**	**02 18 48.4**	**-1.9**
	baz=77						
ARLS				⇑*iS*	**Sb**	**02 19 27.8**	**-0.2**
	baz=77						
DJR	**Jarkent**	**3.08**	**19**	Pg	**Pb**	**02 18 52.0**	**+1.4**
	3.9nm,0.1s						
DJR				Lg	Lg	02 19 29.9	
	31nm,0.5s						
DJR	**Jarkent**	**3.08**	**19**	*eP*	**Pb**	**02 18 48.5**	**-2.1**
	2.7nm,0.4s						
DJR				*eS*	**Sb**	**02 19 27.4**	**-1.0**
	31nm,0.5s						
CHMS	**Chumysh**	**3.12**	**301**	⇑Pg	**Pg**	**02 18 53.9**	**-1.1**
	2.8nm,0.7s						
CHMS				⇓Lg	Lg	02 19 36.5	
	9.4nm,0.5s						
AAK	**Ala-Archa**	**3.13**	**294**	⇓Pg	**Pg**	**02 18 55.4**	**0.0**
	4.6nm,1.0s						
AAK				⇓Lg	Lg	02 19 37.3	
	9.9nm,0.6s						
SGDS	**Sogindy**	**3.43**	**307**	Pg	**Pg**	**02 19 00.8**	**-0.2**
	1.9nm,0.2s						
SGDS				Lg	Lg	02 19 45.2	
	8.9nm,0.4s						
MK31	**Makanchi Array**	**6.06**	**26**	Pn	**Pn**	**02 19 27.0**	**+1.7**
	0.7nm,0.7s,baz=206,slow=13,SNR=11						
MK31				⇓Sn	**Sn**	**02 20 34.2**	**-0.7**
	0.9nm,0.5s						
MK31				⇑Lg	Lg	02 21 01.2	
	1.5nm,0.6s						
KK31	**Karatay Array**	**6.07**	**289**	Pg	**Pg**	**02 19 51.6**	**+0.1**
	0.4nm,0.5s,baz=102,slow=15,SNR=6.5						
KK31				Lg	Lg	02 21 11.8	
	1.0nm,0.6s,baz=99,slow=29,SNR=4.3						

NEIC ***06*** *02:29:11.3±0.6, 19°.41N±0°.01×155°.320W±0°.008, h2km±4km, Error ellipse: s-maj=1.6km s-min=1.0km az=158.0*

HVO 06 02:29:10.7±0.7, 19°.41N±0°.01×155°.31W±0°.01, h3km±2km, ML2.9/28, ML2.5/48(NEIC), Error ellipse: s-maj=1.6km s-min=1.4km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**124**		Sg	02 29 12.8	+0.8
WRMHI	**West Rim**	**0.01**	**124**	Pg	Pg	02 29 11.7	+0.3
WRMHI				IAML		02 29 12.1	
	comp=N,6μm,0.1s						
WRMHI				IAML		02 29 12.2	
	comp=E,7μm,0.1s						
UWE	**Uwekahuna**	**0.02**	**69**		Sg	02 29 13.1	+1.0
UWE	**Uwekahuna**	**0.02**	**69**	Pg	Pg	02 29 11.9	+0.4
UWE				IAML		02 29 12.3	
	comp=N,7μm,0.2s						
UWE				IAML		02 29 12.4	
	comp=E,6μm,0.2s						
OBL	**Observatory Le**	**0.03**	**83**		Pg	02 29 11.8	+0.3
OBL					Sg	02 29 12.0	-0.1
NPH	**North Pit**	**0.03**	**94**	Pg	Pg	02 29 12.0	+0.4
NPH					Sg	02 29 12.8	+0.6
SDHHI	**Sand Hill**	**0.03**	**145**	Pg	Pg	02 29 11.8	+0.2
SDHHI					Sg	02 29 12.7	+0.5
SDHHI				IAML		02 29 12.7	
	comp=N,11μm,0.2s						
UWB	**Uwekahuna B**	**0.03**	**72**	Pg	Pg	02 29 12.1	+0.5
UWB				IAML		02 29 12.3	
	comp=E,6μm,0.5s						
UWB				IAML		02 29 12.8	
	comp=N,6μm,0.2s						
UWB					Sg	02 29 12.9	+0.7
RIM	**Rim**	**0.04**	**118**		Pg	02 29 12.2	+0.5
SBLHI	**Steaming Bluff**	**0.04**	**73**	Pg	Pg	02 29 11.9	+0.1
SBLHI					Sg	02 29 12.8	+0.3
SBLHI				IAML		02 29 13.0	
	comp=E,10μm,0.2s						
KKO	**Keanakako`i**	**0.05**	**111**	Pg	Pg	02 29 12.4	+0.6
BYL	**Byron's Ledge**	**0.05**	**93**		Pg	02 29 12.3	+0.5
BYL				IAML		02 29 13.4	
	comp=N,3μm,0.3s						
BYL				IAML		02 29 13.5	
	comp=E,3μm,0.2s						
HATHI	**Halema'uma'u T**	**0.05**	**80**		Pg	02 29 12.3	+0.5
HATHI				IAML		02 29 13.1	
	comp=E,10μm,0.2s						
HATHI				IAML		02 29 13.1	
	comp=N,8μm,0.2s						
RSD	**Rainshed**	**0.06**	**34**	Pg	Pg	02 29 12.4	+0.4
RSD					Sg	02 29 13.6	+0.7
RSD				IAML		02 29 13.7	
	comp=N,7μm,0.2s						
RSD				IAML		02 29 13.9	
	comp=E,9μm,0.3s						
PUH	**Pauahi**	**0.10**	**114**		Pg	02 29 13.1	+0.4
PUH					Sg	02 29 15.2	+1.1
PUH				IAML		02 29 15.7	
	comp=E,2μm,0.6s						
PUH				IAML		02 29 15.9	
	comp=N,2μm,0.8s						
MLH	**Mauna Loa**	**0.11**	**319**		Pg	02 29 13.4	+0.5
MLH					Sg	02 29 16.0	+1.6
HLP	**Hilina Pali**	**0.12**	**178**		Pg	02 29 13.4	+0.3
HLP				IAML		02 29 16.3	
	comp=E,3μm,0.3s						
HLP				IAML		02 29 16.3	
	comp=N,4μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.14**	**104**		Pg	02 29 14.1	+0.6
STCH	**Steam Cracks**	**0.18**	**99**		Pg	02 29 14.5	+0.3
STCH					Sg	02 29 17.5	+0.9
STCH				IAML		02 29 17.8	
	comp=E,774nm,0.5s						
NPOC	**North of Pu'u**	**0.19**	**96**		Pg	02 29 14.7	+0.2
NPOC					Sg	02 29 17.8	+0.8
NPOC				IAML		02 29 18.5	
	comp=E,819nm,0.4s						
HTC	**Hot Caves**	**0.19**	**205**		Pg	02 29 15.0	+0.5
JCUZ	**Jacuzzi**	**0.20**	**99**		Pg	02 29 14.7	0.0
JCUZ					Sg	02 29 18.2	+0.9
JCUZ				IAML		02 29 18.7	
	comp=E,675nm,0.3s						
HMH	**Humu'ula Sheep**	**0.25**	**319**		Pg	02 29 16.1	+0.5
HMH					Sg	02 29 20.1	+1.3
MWH	**Moku'aweowe**	**0.28**	**285**		Pg	02 29 16.4	+0.2
JOKA	**Jonika Flow**	**0.29**	**86**		Pg	02 29 16.3	-0.1
JOKA					Sg	02 29 21.1	+0.9

POHA						Sb		02 29 25.5	-1.8
HUH	**Hualalai**	**0.56**	**299**			Pg		02 29 21.9	+0.3
HPAH	**Hawaii Prepara**	**0.71**	**329**			Pg		02 29 24.4	0.0
HPAH					IAML			02 29 48.6	
	comp=N,250nm,0.8s								
HPAH					IAML			02 29 50.1	
	comp=E,380nm,0.9s								

NEIC ***06*** *02:30:07.0±0.6, 19°.42N±0°.01×155°.31W±0°.01, h5km±2km, Error ellipse: s-maj=2.3km s-min=1.2km az=218.0*

HVO 06 02:30:06.8±0.8, 19°.42N±0°.01×155°.31W±0°.01, h4km±3km, ML3.1/15, ML2.4/43(NEIC), **Error ellipse: s-maj=2.2km s-min=0.9km az=212.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**143**	Pg	Pg	02 30 08.1	+0.3
WRMHI				IAML		02 30 08.5	
	comp=N,7μm,0.2s						
WRMHI					Sg	02 30 09.0	+0.6
UWE	**Uwekahuna**	**0.02**	**79**	Pg	Pg	02 30 08.2	+0.4
UWE				IAML		02 30 08.7	
	comp=E,6μm,0.2s						
UWE				IAML		02 30 08.8	
	comp=N,5μm,0.1s						
UWE					Sg	02 30 09.2	+0.8
OBL	**Observatory Le**	**0.02**	**92**		Pg	02 30 08.1	+0.3
OBL				IAML		02 30 08.1	
	comp=E,3μm,0.8s						
OBL				IAML		02 30 08.9	
	comp=N,3μm,0.3s						
NPH	**North Pit**	**0.03**	**103**		Pg	02 30 08.2	+0.4
UWB	**Uwekahuna B**	**0.03**	**78**	Pg	Pg	02 30 08.2	+0.4
UWB					Sg	02 30 09.2	+0.6
UWB				IAML		02 30 09.3	
	comp=E,3μm,0.1s						
SDHHI	**Sand Hill**	**0.03**	**153**		Pg	02 30 08.4	+0.5
SDHHI	**Sand Hill**	**0.03**	**153**	IAML		02 30 08.9	
	comp=E,7μm,0.2s						
SDHHI				IAML		02 30 09.2	
	comp=N,6μm,0.2s						
RIM	**Rim**	**0.04**	**124**		Pg	02 30 08.0	0.0
SBLHI	**Steaming Bluff**	**0.04**	**77**	Pg	Pg	02 30 08.4	+0.5
SBLHI					Sg	02 30 09.5	+0.7
SBLHI				IAML		02 30 09.5	
	comp=N,4μm,0.2s						
SBLHI				IAML		02 30 09.6	
	comp=E,7μm,0.3s						
HATHI	**Halema'uma'u T**	**0.05**	**84**		Pg	02 30 08.5	+0.4
HATHI				IAML		02 30 09.7	
	comp=E,6μm,0.1s						
HATHI				IAML		02 30 09.7	
	comp=N,4μm,0.1s						
KKO	**Keanakako'i**	**0.05**	**116**		Pg	02 30 08.4	+0.4
BYL	**Byron's Ledge**	**0.05**	**98**	Pg	Pg	02 30 08.3	+0.2
BYL					Sg	02 30 08.8	-0.1
BYL				IAML		02 30 09.9	
	comp=N,2μm,0.2s						
RSD	**Rainshed**	**0.05**	**34**	Pg	Pg	02 30 08.6	+0.4
RSD					Sg	02 30 09.9	+0.8
PUH	**Pauahi**	**0.10**	**117**	Pg	Pg	02 30 09.0	+0.1
PUH					Sg	02 30 09.7	-0.6
PUH				IAML		02 30 11.7	
	comp=E,1μm,0.7s						
MLH	**Mauna Loa**	**0.10**	**316**		Pg	02 30 09.5	+0.4
MLH					Sg	02 30 11.7	+1.1
HLP	**Hilina Pali**	**0.12**	**179**		Pg	02 30 09.6	+0.3
HLP					Sg	02 30 12.3	+1.4
HLP				IAML		02 30 12.8	
	comp=N,3μm,0.4s						
HLP				IAML		02 30 13.0	
	comp=E,3μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.14**	**106**		Pg	02 30 10.1	+0.5
STCH	**Steam Cracks**	**0.18**	**101**		Pg	02 30 10.6	+0.2
STCH					Sg	02 30 13.6	+0.9
STCH				IAML		02 30 13.6	
	comp=N,539nm,0.7s						
STCH				IAML		02 30 13.8	
	comp=E,784nm,0.3s						
NPOC	**North of Pu'u**	**0.19**	**98**		Pg	02 30 10.6	0.0
NPOC	**North of Pu'u**	**0.19**	**98**		Sg	02 30 14.1	+1.0
NPOC	**North of Pu'u**	**0.19**	**98**	IAML		02 30 14.3	
	comp=E,649nm,0.7s						
NPOC				IAML		02 30 16.8	
	comp=N,646nm,0.8s						
HTC	**Hot Caves**	**0.20**	**205**		Pg	02 30 11.2	+0.5
JCUZ	**Jacuzzi**	**0.20**	**100**		Pg	02 30 11.1	+0.3
JCUZ	**Jacuzzi**	**0.20**	**100**	IAML		02 30 14.5	
	comp=E,480nm,0.3s						
JCUZ	**Jacuzzi**	**0.20**	**100**		Sg	02 30 14.4	+1.0
HMH	**Humu'ula Sheep**	**0.25**	**318**		Pg	02 30 12.0	+0.3
HMH	**Humu'ula Sheep**	**0.25**	**318**		Sg	02 30 16.2	+1.2
MWH	**Moku'aweowe**	**0.28**	**284**	Pg	Pg	02 30 12.2	-0.2
MWH				IAML		02 30 19.2	
	comp=N,1μm,0.8s						
JOKA	**Jonika Flow**	**0.29**	**87**		Pg	02 30 12.3	-0.1
KHU	**Kahuku**	**0.34**	**239**		Pg	02 30 13.0	-0.4
KHU				IAML		02 30 19.1	
	comp=N,521nm,1.3s						
KHU	**Kahuku**	**0.34**	**239**		Sg	02 30 18.5	+0.7
POHA	**Pohakuloa**	**0.40**	**328**		Pg	02 30 15.0	+0.4
POHA					Sg	02 30 21.4	+1.5
POHA	**Pohakuloa**	**0.40**	**328**	IAML		02 30 22.3	
	comp=N,1μm,0.1s						
POHA				IAML		02 30 22.3	
	comp=N,980nm,0.1s						

IDC ***06*** *02:41:06.8±1.2, 13°.11N×91°.60W, h0km, mb4.0/7, mbtmp3.9/10, ML3.5/3, MS3.8/4, Error ellipse: s-maj=22.9km s-min=19.0km az=145.0*

CATAC ***06*** *02:41:13.9±0.5, 13°.58N×91°.81W, h6km±6km, mb4.5, ML4.3*

SNET ***06*** *02:41:15.4±1.0, 13°.65N×91°.78W, h32km±35km, ML4.1*

NEIC ***06*** *02:41:17.1±2.4, 13°.76N±0°.07×91°.79W±0°.04, h35km±2km, mb4.2/110, Error ellipse: s-maj=11.7km s-min=6.1km az=8.0*

GCG ***06*** *02:41:24.9±0.7, 14°.31N×91°.52W, h40km±68km, MD4.2*

ISC 06 02:41:16.6±1.3, 13°.62N±0°.07×91°.86W±0°.06, h53km±11km, n195, σ1°30/207, mb4.2/47, **MS3.4**/3, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.73**	**23**	*e*P	**Pn**	**02 41 31.4**	**+0.4**
RTAL	**Retalhuleu**	**0.91**	**10**		**Pn**	**02 41 31.8**	**-1.5**
RTAL	**Retalhuleu**	**0.91**	**10**	*e*P	**Pn**	**02 41 31.9**	**-1.3**
RTAL				*e*S	**Sn**	**02 41 43.6**	**-1.9**
RTAL	**Retalhuleu**	**0.91**	**10**	*i* P	**Pn**	**02 41 32.0**	**-1.3**
RTAL				*i* S	**Sn**	**02 41 45.2**	**-0.3**
RTAL				IAML		02 41 49.2	
	comp=Z,6μm,1.0s						
STG3	**Santiaguito 3,**	**1.12**	**15**	*e*P	**Pn**	**02 41 34.9**	**-1.3**
FUG	**Fuego 3**	**1.28**	**50**	*e*P	**Pn**	**02 41 38.3**	**-0.1**
SMSP	**San Marcos**	**1.34**	**3**	*i* P	**Pn**	**02 41 38.5**	**-0.9**
SMSP				*i* S	**Sn**	**02 41 58.0**	**+1.7**
SMSP				IAML		02 42 02.3	
	comp=Z,6μm,1.0s						
PCG	**Pacaya**	**1.44**	**58**	*e*P	**Pn**	**02 41 41.0**	**+0.4**
GUMI	**Mixco**	**1.57**	**50**	*i* P	**Pn**	**02 41 42.6**	**+0.2**
GUMI				*i* S	**Sn**	**02 42 02.9**	**+1.2**
GUMI				IAML		02 42 13.6	
	comp=Z,6μm,1.0s						
HUEH	**Huehuetenango**	**1.72**	**12**		**Pn**	**02 41 44.1**	**-0.3**
HUEH	**Huehuetenango**	**1.72**	**12**	*i* P	**Pn**	**02 41 44.5**	**+0.1**
HUEH				*i* S	**Sn**	**02 42 08.0**	**+2.6**
HUEH				IAML		02 42 17.9	
	comp=Z,3μm,1.0s						
NBG	**Las Nubes**	**1.75**	**57**	*e*P	**Pn**	**02 41 45.8**	**+0.9**
GUNB	**GUNB**	**1.76**	**56**	*i* P	**Pn**	**02 41 44.5**	**-0.5**
GUNB				*i* S	**Sn**	**02 42 08.2**	**+1.8**
GUNB				IAML		02 42 19.3	
	comp=Z,2μm,1.0s						
APG	**El Apazote**	**1.93**	**44**	Pn	**Pn**	**02 41 46.6**	**-0.6**
	comp=Z,7.3nm,0.3s,baz=189,slow=12,SNR=551						
APG				Sn	**Sn**	**02 42 13.1**	**+2.6**
	comp=Z,4.3nm,0.3s,baz=240,slow=20,SNR=2.6						
APG				Lg	Lg	02 42 17.8	
	comp=Z,4.1nm,0.3s,baz=235,slow=19,SNR=4.2						
	comp=Z,72nm,0.8s						
NUBE	**Las Nubes**	**2.04**	**82**	*e*P	**Pn**	**02 41 46.6**	**-2.1**
NUBE				*e*S	**Sn**	**02 42 10.8**	**-2.3**
NUBE	**Las Nubes**	**2.04**	**82**	*i* P	**Pn**	**02 41 48.5**	**-0.2**
NUBE				*i* S	**Sn**	**02 42 14.4**	**+1.3**
NUBE				IAML		02 42 27.9	
	comp=Z,740nm,1.0s						
LOAL	**Lomas de Alarc**	**2.05**	**79**	*i* P	**Pn**	**02 41 48.7**	**-0.1**
LOAL				*i* S	**Sn**	**02 42 14.9**	**+1.6**
LOAL				IAML		02 43 12.0	
	comp=Z,3μm,1.0s						
SLOZ	**Alcaldia de Sa**	**2.06**	**79**	*e*P	**Pn**	**02 41 47.2**	**-1.6**
SLOZ				*e*S	**Sn**	**02 42 11.1**	**-2.3**
RTR	**El Retiro**	**2.17**	**83**	*e*P	**Pn**	**02 41 49.0**	**-1.5**
CEVE	**Cerro Verde**	**2.18**	**84**	*e*P	**Pn**	**02 41 48.7**	**-2.0**
CEVE				*e*S	**Sn**	**02 42 16.6**	**-0.1**
CEVE				IAML		02 42 24.5	
	comp=Z,2μm,0.4s						
CEVE	**Cerro Verde**	**2.18**	**84**	*i* P	**Pn**	**02 41 49.3**	**-1.4**
CEVE				*i* S	**Sn**	**02 42 18.1**	**+1.3**
CEVE				IAML		02 42 31.8	
	comp=Z,2μm,1.0s						
SNJE	**San Jose**	**2.20**	**83**	*e*P	**Pn**	**02 41 49.2**	**-1.8**
JUAM	**Asuncion Mita**	**2.21**	**71**	*i* P	**Pn**	**02 41 50.5**	**-0.4**
JUAM				*i* S	**Sn**	**02 42 18.9**	**+1.8**
JUAM				IAML		02 42 29.6	
	comp=Z,1μm,1.0s						
UNIC	**Universidad Ca**	**2.27**	**81**	*i* P	**Pn**	**02 41 51.6**	**-0.2**
UNIC				IAML		02 42 03.0	
	comp=Z,390nm,1.0s						
UNIC				*i* S	**Sn**	**02 42 20.1**	**+1.4**
JAYA	**Jayaque - finc**	**2.34**	**89**	*e*P	**Pn**	**02 41 51.0**	**-1.9**
JAYA				IAML		02 42 29.2	
	comp=Z,679nm,0.4s						
JAYA	**Jayaque - finc**	**2.34**	**89**	*i* P	**Pn**	**02 41 52.6**	**-0.3**
JAYA				IAML		02 42 29.8	
	comp=Z,1μm,1.0s						
CEDA	**San Andres**	**2.40**	**85**	*i* P	**Pn**	**02 41 53.3**	**-0.3**
CEDA				IAML		02 42 39.7	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**2.47**	**93**	*i* P	**Pn**	**02 41 54.0**	**-0.5**
LALI				*i* S	**Sn**	**02 42 25.3**	**+1.8**
LALI				IAML		02 42 53.3	
	comp=Z,210nm,1.0s						
PMON	**Piamonte**	**2.48**	**88**	*e*P	**Pn**	**02 41 53.3**	**-1.4**
PMON	**Piamonte**	**2.48**	**88**	*i* P	**Pn**	**02 41 54.3**	**-0.3**
PMON				IAML		02 42 37.2	
	comp=Z,1μm,1.0s						
ITCA	**Escuela Especi**	**2.51**	**89**	*i* P	**Pn**	**02 41 54.6**	**-0.5**
ITCA				*i* S	**Sn**	**02 42 26.1**	**+1.5**
ITCA				IAML		02 42 41.7	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**2.52**	**85**	*i* P	**Pn**	**02 41 55.0**	**-0.2**
QUEZ				*i* S	**Sn**	**02 42 25.3**	**+0.5**
QUEZ				IAML		02 42 46.2	
	comp=Z,4μm,1.0s						
MTO3	**Montecristo**	**2.55**	**72**	Pn	**Pn**	**02 41 54.8**	**-0.9**
MTO3	**Montecristo**	**2.55**	**72**	*e*P	**Pn**	**02 41 54.8**	**-0.9**
MTO3	**Montecristo**	**2.55**	**72**	*i* P	**Pn**	**02 41 55.0**	**-0.7**
MTO3				IAML		02 42 46.3	
	comp=Z,320nm,1.0s						
UEES	**Universidad Ev**	**2.55**	**88**	*i* P	**Pn**	**02 41 55.0**	**-0.6**
UEES				*i* S	**Sn**	**02 42 27.2**	**+1.7**
UEES				IAML		02 42 37.9	
	comp=Z,470nm,1.0s						
SNET	**Serv Nac Est T**	**2.56**	**88**		**Pn**	**02 41 54.4**	**-1.4**
SNET	**Serv Nac Est T**	**2.56**	**88**	*i* P	**Pn**	**02 41 55.3**	**-0.4**
SNET				IAML		02 42 43.1	
	comp=Z,1μm,1.0s						
MRL	**Marmol**	**2.56**	**55**	*e*P	**Pn**	**02 41 56.5**	**+0.6**
LOMA	**Loma Larga**	**2.61**	**89**	*e*P	**Pn**	**02 41 55.0**	**-1.6**
LOMA	**Loma Larga**	**2.61**	**89**	*i* P	**Pn**	**02 41 56.0**	**-0.6**
LOMA				*i* S	**Sn**	**02 42 28.6**	**+1.4**
LOMA				IAML		02 42 35.0	
	comp=Z,740nm,1.0s						
ESQI	**Esquipulas**	**2.62**	**69**		**Pn**	**02 41 56.1**	**-0.5**
ESQI	**Esquipulas**	**2.62**	**69**	*e*P	**Pn**	**02 41 54.6**	**-2.0**
ESQI	**Esquipulas**	**2.62**	**69**	*i* P	**Pn**	**02 41 56.3**	**-0.2**
ESQI				IAML		02 42 36.7	
	comp=Z,780nm,1.0s						
IGN	**Direccin Gen**	**2.62**	**88**	*i* P	**Pn**	**02 41 56.4**	**-0.1**
IGN				IAML		02 42 46.0	
	comp=Z,3μm,1.0s						
CCIG	**Comitan**	**2.66**	**354**		**Pn**	**02 41 57.5**	**+0.3**
PAVA	**Las Pavas**	**2.84**	**88**	*i* P	**Pn**	**02 41 58.9**	**-0.8**
PAVA				*i* S	**Sn**	**02 42 34.3**	**+1.5**
PAVA				IAML		02 42 56.7	
	comp=Z,600nm,1.0s						
LLGN	**La Laguna**	**2.88**	**79**	*i* P	**Pn**	**02 42 00.1**	**-0.1**
LLGN				IAML		02 42 55.7	
	comp=Z,410nm,1.0s						
UESV	**Universidad de**	**2.99**	**89**	*i* P	**Pn**	**02 42 01.3**	**-0.3**
UESV				IAML		02 43 06.8	
	comp=Z,380nm,1.0s						
TECO	**Alcaldia de Te**	**3.00**	**91**	*i* P	**Pn**	**02 42 00.9**	**-0.8**
TECO				*i* S	**Sn**	**02 42 38.1**	**+1.7**
TECO				IAML		02 42 47.3	
	comp=Z,190nm,1.0s						
SCLA	**Alcaldia de Sa**	**3.04**	**88**	*e*P	**Pn**	**02 42 01.3**	**-1.1**
SCLA	**Alcaldia de Sa**	**3.04**	**88**	*i* P	**Pn**	**02 42 01.6**	**-0.8**
SCLA				*i* S	**Sn**	**02 42 38.4**	**+0.7**
SCLA				IAML		02 42 58.2	
	comp=Z,200nm,1.0s						
COEB	**Comit de Eme**	**3.24**	**92**	*i* P	**Pn**	**02 42 04.7**	**-0.4**
COEB				IAML		02 42 21.8	
	comp=Z,230nm,1.0s						
PACA	**Pacayal**	**3.44**	**92**	*e*P	**Pn**	**02 42 06.7**	**-1.3**
PACA	**Pacayal**	**3.44**	**92**	*i* P	**Pn**	**02 42 07.7**	**-0.2**
PACA				*i* S	**Sn**	**02 42 48.7**	**+1.1**
PACA				IAML		02 43 10.6	
	comp=Z,2μm,1.0s						
JUCU	**Jucuarɲ**	**3.53**	**96**	*e*P	**Pn**	**02 42 07.7**	**-1.4**
JUCU	**Jucuarɲ**	**3.53**	**96**	*i* P	**Pn**	**02 42 09.1**	**0.0**
JUCU				IAML		02 43 08.3	
	comp=Z,210nm,1.0s						
PETF	**Flores**	**3.80**	**30**		**Pn**	**02 42 12.7**	**0.0**
LCND	**La Caada**	**3.88**	**94**	*i* P	**Pn**	**02 42 13.0**	**-0.7**
LCND				IAML		02 43 09.7	
	comp=Z,170nm,1.0s						
CNCH	**Conchagua**	**3.93**	**95**	*e*P	**Pn**	**02 42 12.8**	**-1.8**
CNCH	**Conchagua**	**3.93**	**95**	*i* P	**Pn**	**02 42 13.6**	**-1.0**
CNCH				IAML		02 43 18.1	
	comp=Z,460nm,1.0s						
AMPH	**Amapala**	**4.10**	**94**	*i* P	**Pn**	**02 42 15.8**	**-1.0**
TGUH	**Tegucigalpa,Un**	**4.48**	**84**		**Pn**	**02 42 21.9**	**-0.3**
CMIG	**Matias Romero**	**4.52**	**320**	Pn	**Pn**	**02 42 20.6**	**-1.9**
	comp=Z,2.2nm,0.3s,baz=150,slow=13,SNR=17						
CMIG				Sn	**Sn**	**02 43 15.5**	**+1.7**
	comp=Z,8.5nm,0.3s,baz=75,slow=8.1,SNR=6.6						
CRIN	**San Cristobal**	**4.78**	**101**		**Pn**	**02 42 25.0**	**-1.1**
CRIN	**San Cristobal**	**4.78**	**101**	*i* P	**Pn**	**02 42 25.6**	**-0.5**
CRIN				IAML		02 43 48.3	
	comp=Z,360nm,1.0s						
HERN	**Volcan Telica**	**5.00**	**101**	*i* P	**Pn**	**02 42 27.9**	**-1.4**
HERN				IAML		02 44 01.5	
	comp=Z,4μm,1.0s						
ROCN	**Rota Cerro Neg**	**5.11**	**102**	*i* P	**Pn**	**02 42 30.2**	**-0.4**
CNGN	**Cerro Negro**	**5.15**	**102**	Pn	**Pn**	**02 42 32.5**	**+1.2**
ACON	**Acoyapa**	**6.73**	**103**	Pn	**Pn**	**02 42 53.9**	**+1.0**
HZTE	**Horizontes, Gu**	**6.77**	**115**	*i* P	**Pn**	**02 42 54.0**	**+0.5**
HZTE				IAmb	IAmb	02 42 56.7	
	comp=Z,62nm,1.6s						
HZTE				IAML		02 44 42.3	
	comp=Z,110nm,1.0s						
SAJU	**San Juanillo,**	**6.98**	**120**	*i* P	**Pn**	**02 42 56.6**	**+0.3**
SAJU				IAmb	IAmb	02 43 12.8	
	comp=Z,37nm,1.2s						
SAJU				IAML		02 45 10.2	
	comp=Z,64nm,1.0s						
ORTG	**Ortega, Santa**	**7.05**	**117**		**Pn**	**02 42 59.9**	**+2.5**
ORTG	**Ortega, Santa**	**7.05**	**117**	*i* P	**Pn**	**02 42 57.0**	**-0.4**
ORTG				IAML		02 43 15.3	
	comp=Z,64nm,1.0s						
ORTG				IAmb	IAmb	02 43 15.3	
	comp=Z,57nm,0.8s						
DUNO	**Dulce Nombre,**	**7.16**	**119**	Pn	Pn	02 43 02.7	+3.9
TEIG	**Tepich**	**7.41**	**27**	Pn	**Pn**	**02 43 02.2**	**0.0**
TEIG	**Tepich**	**7.41**	**27**	LR	LR	02 46 18.5	
	comp=Z,4μm,21.1s,slow=40						
ESPN	**Las Esperanzas**	**7.51**	**100**		**Pn**	**02 43 02.8**	**-0.7**
JTS	**Las Juntas de**	**7.53**	**115**	Pn	Pn	02 43 09.5	+5.6
JTS	**Las Juntas de**	**7.53**	**115**	Pn	Pn	02 42 52.0	-12
	comp=Z,0.3nm,0.3s,baz=267,slow=10,SNR=2.3						
JTS				Pg		02 43 12.8	
	comp=Z,1.0nm,0.3s,baz=307,slow=12,SNR=6.6						
JTS				Sn	Sn	02 44 15.7	-12
	comp=Z,0.2nm,0.3s,baz=252,slow=19,SNR=0.9						
JTS				Lg	Lg	02 45 04.3	
	comp=Z,0.1nm,0.3s,baz=230,slow=22,SNR=3.4						
	comp=Z,4.1nm,1.0s						
TLIG	**Tlapa**	**7.55**	**302**	Pn	**Pn**	**02 43 03.8**	**-0.5**
LCR2	**La Lucha 2**	**8.61**	**116**		**Pn**	**02 43 20.8**	**+1.9**
SRBA	**San Rafael, Bu**	**9.40**	**117**	Pn	**Pn**	**02 43 31.3**	**+1.6**
BRU2	**Volcan**	**10.19**	**117**	Pn	**Pn**	**02 43 39.8**	**-0.7**
HNDO	**Hondo**	**17.26**	**338**		**Pn**	**02 45 13.5**	**-0.5**
DRIO	**Del Rio**	**17.69**	**334**	P	**Pn**	**02 45 18.8**	**-0.6**
JCT	**Junction City**	**18.31**	**338**	P	**Pn**	**02 45 27.0**	**+0.2**
VBMS	**Vicksburg**	**18.55**	**4**	P	**P**	**02 45 27.9**	**-1.1**
SAND	**Sanderson**	**18.82**	**331**	P	**Pn**	**02 45 33.4**	**+0.3**
WHTX	**Lake Whitney,**	**18.99**	**345**	P	**P**	**02 45 31.7**	**-2.1**
TXAR	**Lajitas Array**	**19.08**	**327**		**Pn**	**02 45 37.0**	**+0.8**
TXAR	**Lajitas Array**	**19.08**	**327**	P	**Pn**	**02 45 36.5**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=151,slow=10,SNR=24						
	comp=Z,1.8nm,0.7s						
TX31	**Lajitas Ar. Si**	**19.08**	**327**		**Pn**	**02 45 36.7**	**+0.4**
146A	**Union**	**19.10**	**7**	P	**P**	**02 45 32.5**	**-2.5**
OZNA	**Ozona**	**19.21**	**335**	P	**Pn**	**02 45 38.0**	**+0.2**
FW14	**Alvarado**	**19.32**	**346**	P	**P**	**02 45 37.3**	**-0.1**
Z41A	**Richland Creek**	**19.56**	**358**	P	**P**	**02 45 40.2**	**+0.1**
Z41A				IAmb	IAmb	02 45 46.1	
	comp=Z,11nm,0.8s						
FW07	**Weatherford**	**19.75**	**345**	P	**P**	**02 45 43.0**	**+0.8**
Z47A	**Carrollton**	**19.79**	**9**	P	**P**	**02 45 43.1**	**+0.5**
Z47A				IAmb	IAmb	02 45 56.7	
	comp=Z,15nm,1.0s						
LRAL	**Lakeview Retre**	**19.83**	**12**	P	**P**	**02 45 42.3**	**-0.7**
ALPN	**Alpine**	**19.90**	**329**		**P**	**02 45 44.1**	**+0.1**
FW06	**Azle**	**19.95**	**346**	P	**P**	**02 45 43.6**	**-0.7**
FW06				IAmb	IAmb	02 45 55.1	
	comp=Z,8.9nm,0.6s						
PLPT	**Palo Pinto**	**19.99**	**344**	P	**P**	**02 45 44.8**	**0.0**
PLPT				IAmb	IAmb	02 46 00.0	
	comp=Z,11nm,0.9s						
WLAR	**White Oak Lake**	**20.01**	**357**	P	**P**	**02 45 43.8**	**-1.1**
WLAR				IAmb	IAmb	02 45 50.9	
	comp=Z,13nm,0.9s						
152A	**Waverly Hall**	**20.05**	**18**	P	**P**	**02 45 45.6**	**+0.2**
152A				IAmb	IAmb	02 45 51.4	
	comp=Z,8.9nm,0.7s						
SGCY	**Sterling City**	**20.09**	**337**	P	**P**	**02 45 46.1**	**+0.1**
SGCY				IAmb	IAmb	02 45 48.1	
	comp=Z,14nm,0.7s						
FW03	**Perrin-Whitt E**	**20.14**	**345**	P	**P**	**02 45 46.4**	**0.0**
FW03				IAmb	IAmb	02 45 51.2	
	comp=Z,10nm,0.6s						
ABTX	**Abilene, Hawle**	**20.21**	**341**	P	**P**	**02 45 47.5**	**+0.4**
ABTX				IAmb	IAmb	02 45 51.8	
	comp=Z,7.9nm,0.7s						
MNHN	**Monahans**	**20.28**	**332**	P	**P**	**02 45 49.3**	**+1.3**
PECS	**Pecos**	**20.83**	**330**	P	**P**	**02 45 54.0**	**+0.1**
PECS				IAmb	IAmb	02 45 56.9	
	comp=Z,6.6nm,0.8s						
ODSA	**Odessa**	**20.85**	**334**	P	**P**	**02 45 55.1**	**+0.9**
SN05	**Snyder 5**	**20.86**	**338**	P	**P**	**02 45 54.8**	**+0.5**
MIAR	**Mount Ida**	**20.89**	**356**		**P**	**02 45 55.9**	**+1.5**
VHRN	**Van Horn**	**20.93**	**327**	P	**P**	**02 45 56.1**	**+1.0**
WTFS	**Witchita Falls**	**20.93**	**344**	P	**P**	**02 45 54.4**	**-0.6**
WTFS				IAmb	IAmb	02 45 56.1	
	comp=Z,7.0nm,0.5s						
APMT	**Aspermont**	**21.01**	**340**	P	**P**	**02 45 56.4**	**+0.6**
SN07	**Snyder 07**	**21.06**	**338**	P	**P**	**02 45 55.8**	**-0.5**
UALR	**University of**	**21.06**	**359**	P	**P**	**02 45 54.6**	**-1.8**
UALR				IAmb	IAmb	02 45 59.7	
	comp=Z,6.1nm,0.7s						
X37A	**Clayton**	**21.11**	**352**	P	**P**	**02 45 58.5**	**+1.6**
X37A				IAmb	IAmb	02 46 27.2	
	comp=Z,10.0nm,0.9s						
GOGA	**Godfrey**	**21.13**	**20**	P	**P**	**02 45 56.7**	**-0.4**
GOGA				IAmb	IAmb	02 46 00.1	
	comp=Z,7.8nm,0.7s						
X48A	**Hartselle**	**21.19**	**11**		**P**	**02 45 57.6**	**-0.1**
Y52A	**Lilburn**	**21.36**	**18**	IAmb	IAmb	02 46 02.3	
	comp=Z,8.4nm,0.6s						
PLAL	**Pickwick Lake**	**21.54**	**8**	P	**P**	**02 46 02.1**	**+0.6**
FPAL	**Fort Paine**	**21.58**	**14**	P	**P**	**02 46 01.0**	**-0.9**
FPAL				IAmb	IAmb	02 46 33.4	
	comp=Z,15nm,1.0s						
DKNS	**Dickens**	**21.59**	**339**	P	**P**	**02 46 01.5**	**-0.6**
DKNS				IAmb	IAmb	02 46 03.0	
	comp=Z,6.7nm,0.7s						
W35A	**Tecumseh**	**21.91**	**349**	P	**P**	**02 46 05.0**	**-0.4**
W35A				IAmb	IAmb	02 46 14.0	
	comp=Z,7.1nm,0.8s						
FNO	**Franklin**	**22.11**	**348**	IAmb	IAmb	02 46 09.3	
	comp=Z,14nm,0.9s						
SWET	**Sewanee**	**22.16**	**13**	IAmb	IAmb	02 46 10.5	
	comp=Z,6.9nm,0.8s						
LCAR	**Lake Charles**	**22.36**	**2**	P	**P**	**02 46 05.9**	**-4.3**
LCAR				IAmb	IAmb	02 46 10.8	
	comp=Z,4.3nm,0.6s						
V48A	**Smith Brothers**	**22.48**	**11**	P	**P**	**02 46 10.7**	**-0.9**
V48A				IAmb	IAmb	02 46 12.2	
	comp=Z,6.0nm,0.8s						
SMWD	**Samnorwood**	**22.69**

CCUT	**Cedar City**	**30.57**	**325**	P	**P**	**02 47 25.3**	**-0.4**
CCUT				IAmb	IAmb	02 47 40.0	
	comp=Z,4.2nm,1.1s						
P17A	**Butcher Ranch,**	**30.66**	**331**	P	**P**	**02 47 27.3**	**+1.0**
TMUT	**Trail Mountain**	**30.75**	**330**	P	**P**	**02 47 27.6**	**+0.4**
TMUT				IAmb	IAmb	02 47 40.1	
	comp=Z,3.5nm,1.0s						
HWUT	**Hardware Ranch**	**32.73**	**332**	P	**P**	**02 47 45.0**	**+0.5**
HWUT				IAmb	IAmb	02 47 59.0	
	comp=Z,4.4nm,1.1s						
PDAR	**Pinedale Array**	**32.82**	**336**	P	**P**	**02 47 46.6**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=124,slow=18,SNR=2.1						
	comp=Z,0.3nm,0.5s						
SADO	**Sadowa**	**32.88**	**17**	LR	LR	03 02 09.6	
	comp=Z,69nm,19.7s,baz=308,slow=38						
HVU	**Hansel Valley**	**33.42**	**331**	P	**P**	**02 47 49.6**	**-1.0**
HVU				IAmb	IAmb	02 47 57.4	
	comp=Z,2.7nm,0.9s						
REDW	**Red Top Meadow**	**33.84**	**335**	P	**P**	**02 47 55.1**	**+0.9**
SNOW	**Snow King Moun**	**33.88**	**335**	P	**P**	**02 47 54.8**	**+0.2**
NV11	**Mina Array Sit**	**33.96**	**321**	P	**P**	**02 47 53.6**	**-1.6**
NV11				IAmb	IAmb	02 48 14.2	
	comp=Z,3.3nm,1.0s						
TPAW	**Teton Pass**	**33.99**	**335**	P	**P**	**02 47 55.6**	**0.0**
TPAW				IAmb	IAmb	02 48 03.6	
	comp=Z,3.1nm,1.1s						
NVAR	**Mina Array Bea**	**34.05**	**321**	P	**P**	**02 47 58.8**	**+2.7**
	comp=Z,1.4nm,0.8s,baz=131,slow=9.1,SNR=12						
	comp=Z,1.4nm,0.8s						
KVN	**Kaiserville**	**34.32**	**322**	P	**P**	**02 48 01.0**	**+2.6**
KVN				IAmb	IAmb	02 48 05.2	
	comp=Z,3.2nm,1.0s						
EMB	**Emerald Bay**	**35.49**	**321**	P	**P**	**02 48 12.5**	**+4.0**
EMB				IAmb	IAmb	02 48 21.0	
	comp=Z,4.2nm,1.0s						
HLID	**Hailey**	**35.57**	**331**	P	**P**	**02 48 10.6**	**+1.5**
HLID				IAmb	IAmb	02 48 18.0	
	comp=Z,3.2nm,1.1s						
MCMT	**McKenzie Canyo**	**35.87**	**334**	P	**P**	**02 48 13.8**	**+2.1**
WVOR	**Wild Horse Val**	**36.88**	**326**	P	**P**	**02 48 17.7**	**-2.5**
WVOR				IAmb	IAmb	02 48 35.8	
	comp=Z,3.9nm,1.1s						
J08A	**Circle Bar Ran**	**37.43**	**327**	P	**P**	**02 48 26.5**	**+1.7**
PLID	**Pearl Lake**	**37.47**	**332**	P	**P**	**02 48 26.3**	**+1.0**
PLID				IAmb	IAmb	02 48 35.0	
	comp=Z,4.2nm,1.2s						
F10A	**Beach Ranch, E**	**38.70**	**331**	P	**P**	**02 48 36.4**	**+0.8**
LON	**Longmire**	**41.48**	**329**	P	**P**	**02 48 59.4**	**+0.9**
LON				IAmb	IAmb	02 49 03.6	
	comp=Z,4.1nm,0.9s						
SCHQ	**Schefferville**	**45.53**	**20**	P	**P**	**02 49 29.3**	**-1.6**
	comp=Z,8.0nm,0.6s,baz=220,slow=7.3,SNR=20						
SCHQ				LR	LR	03 09 33.5	
	comp=Z,168nm,19.3s,baz=214,slow=37						
	comp=Z,8.0nm,0.6s						
YKA	**Yellowknife Ar**	**51.42**	**347**	P	**P**	**02 50 16.2**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=144,slow=6.9,SNR=73						
YKA				PcP	**PcP**	**02 51 31.1**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=154,slow=2.9,SNR=4.4						
	comp=Z,2.4nm,0.7s						
ILAR	**Eielson Array**	**63.24**	**337**	P	**P**	**02 51 40.9**	**+1.5**
	comp=Z,1.3nm,0.9s,baz=118,slow=5.2,SNR=10						
	comp=Z,1.3nm,0.9s						
EKA	**Eskdalemuir Ar**	**78.19**	**36**	P	**P**	**02 53 08.2**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=268,slow=6.3,SNR=7.1						
	comp=Z,1.2nm,0.7s						
ESDC	**Sonseca Array**	**79.84**	**52**	P	**P**	**02 53 17.9**	**-2.0**
	comp=Z,0.4nm,0.9s,baz=302,slow=7.4,SNR=2.4						
	comp=Z,0.4nm,0.9s						
CMAR	**Chiang Mai Arr**	**146.39**	**341**	PKPbc	**PKPab**	**03 00 53.6**	**+0.2**
	comp=Z,2.5nm,0.6s,baz=346,slow=3.8,SNR=11						

IDC ***06*** *02:44:16.8±0.4,34°.28S×71°.95W,h0km,mb4.7/17, mbtmp4.6/20,ML4.6/3,MS4.8/35,Error ellipse: s-maj=19.4km s-min=12.6km az=87.0*

VAO ***06*** *02:44:19.6±0.2,34°.24S×72°.12W,h10km, mb4.9*

NEIC ***06*** *02:44:19.4,34°.27S×72°.31W,h24km*

NEIC ***06*** *02:44:19.9,34°.27S×72°.26W,h12km*

NEIC ***06*** *02:44:19.4,34°.17S×72°.19W,h24km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10¹⁶Nm; Mrr5.36; Mθθ0.68; Mφφ-6.04; Mrθ-0.40; Mθφ-1.76; Mφr-6.38; Fault plane solution: M₀8.72000×10¹⁶ NP1: φs185.55000°,δ68.84000°,λ82.84000°. NP2:φs24.73000°, δ22.29000°,λ107.84000°. Principal axes: T 8.2313, Plg65.0000°, Azm83.0000°; N 0.9815, Plg7.0000°, Azm188.0000°; P -9.2128, Plg24.0000°, Azm281.0000°;*

GUC ***06*** *02:44:20.0±0.9,34°.29S×72°.26W,h35km±4km, ML5.0*

NEIC ***06*** *02:44:20.0±1.4,34°.27S±0°.03×72°.27W±0°.03,h12km±2km, mb5.3/432,Ms_20 4.9/134,Mwr5.1/79,Mww5.2/32,Error ellipse: s-maj=5.7km s-min=1.0km az=213.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr2.20; Mθθ-0.18; Mφφ-2.03; Mrθ0.40; Mθφ-1.37; Mφr-4.73; Fault plane solution: M₀5.37000×10¹⁶ NP1: φs179.71000°,δ77.92000°,λ74.63000°. NP2:φs52.44000°, δ19.46000°,λ141.10000°. Principal axes: T 5.4773, Plg55.0000°, Azm71.0000°; N -0.2135, Plg15.0000°, Azm183.0000°; P -5.2638, Plg31.0000°, Azm282.0000°;*

BJI ***06*** *02:44:21.0±0.0,34°.30S×72°.30W,h20km, mB5.3/8, Ms5.3/12,Ms7 5.2/13*

GCMT ***06*** *02:44:25.0±0.2,34°.23S±0°.01×72°.48W±0°.01,h32km, MW5.3/116,Moment Tensor Solution. s91,c156; s116,c173; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.70±.02; Mθθ0.00±.01; Mφφ-0.70±.01; Mrθ-0.08±.02; Mθφ-0.24±.01; Mφr-0.70±.02; Best double couple: M₀1.02200×10¹⁷ NP1:φs190.00000°,δ67.00000°, λ84.00000°. NP2:φs25.00000°,δ24.00000°,λ105.00000°. Principal axes: T 0.9900, Plg67.0000°, Azm88.0000°; N 0.0630, Plg6.0000°, Azm192.0000°; P -1.0530, Plg22.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 02:44:20.3±0.6,34°.25S±0°.02×72°.31W±0°.03,h20km±2km, n832,σ1§43/686,mb5.3/220,**MS4.9**/99,**15C-4D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GO05	**Huala**	**0.82**	**158**			**Pb**	**02 44 34.8**	**-1.2**
GO05				Sg		**Sb**	**02 44 44.6**	**-2.1**
GO05	**Huala**	**0.82**	**158**	*eP*		**Pb**	**02 44 34.8**	**-1.2**
GO05				*eS*		**Sb**	**02 44 45.1**	**-1.5**
GO05				IAML			02 44 46.1	
	comp=E,49μm,0.4s							
VA05	**Santo Domingo**	**0.82**	**45**			**Pg**	**02 44 36.5**	**0.0**
VA05				Sn		**Sn**	**02 44 48.6**	**+0.2**
VA05	**Santo Domingo**	**0.82**	**45**	*eP*		**Pg**	**02 44 36.4**	**0.0**
VA05				*eS*		**Sn**	**02 44 48.4**	**0.0**
VA05				IAML			02 44 51.2	
	comp=E,152μm,0.4s							
MT01	**Popeta**	**0.96**	**67**			**Pb**	**02 44 37.8**	**-0.4**
MT01				Sg		**Sb**	**02 44 50.9**	**+0.4**
MT01	**Popeta**	**0.96**	**67**	⇓*iP*		**Pb**	**02 44 37.8**	**-0.4**
MT01				*eS*		**Sg**	**02 44 51.6**	**0.0**
BO01	**Tunca**	**1.02**	**98**	Sg		**Sb**	**02 44 53.1**	**+0.7**
BO01	**Tunca**	**1.02**	**98**	⇓*iP*		**Pb**	**02 44 38.0**	**-1.3**
BO01				*eS*		**Sb**	**02 44 52.6**	**+0.2**
MT09	**Talagante**	**1.19**	**67**			**Pn**	**02 44 42.0**	**-0.1**
MT09				Sn		**Sb**	**02 44 58.0**	**+0.6**
MT09	**Talagante**	**1.19**	**67**	⇓*iP*		**Pn**	**02 44 41.6**	**-0.5**
MT09				*eS*		**Sb**	**02 44 58.0**	**+0.6**
MT09				IAML			02 45 02.2	
	comp=N,36μm,0.1s							
VA01	**Torpederas**	**1.34**	**24**			**Pn**	**02 44 44.1**	**+0.2**
VA01	**Torpederas**	**1.34**	**24**	⇑*iP*		**Pn**	**02 44 44.2**	**+0.2**
VA01				*eS*		**Sn**	**02 45 01.1**	**0.0**
BO02	**Sierra Bellavi**	**1.37**	**114**			**Pn**	**02 44 43.7**	**-0.7**
BO02	**Sierra Bellavi**	**1.37**	**114**	⇓*iP*		**Pn**	**02 44 44.2**	**-0.3**
BO02				*eS*		**Sb**	**02 45 02.8**	**+0.2**
BO02				IAML			02 45 08.5	
	comp=E,51μm,0.4s							
MT02	**Curacav**	**1.39**	**45**	Pn		**Pn**	**02 44 44.6**	**0.0**
MT02	**Curacav**	**1.39**	**45**	⇑*iP*		**Pn**	**02 44 44.6**	**0.0**
MT02				*eS*		**Sn**	**02 45 03.0**	**+0.6**
BO04	**La Punta**	**1.43**	**80**			**Pn**	**02 44 45.3**	**0.0**
BO04	**La Punta**	**1.43**	**80**	*iP*		**Pn**	**02 44 45.2**	**0.0**
BO04				*eS*		**Sb**	**02 45 04.5**	**+0.2**
BO04				IAML			02 45 11.1	
	comp=N,28μm,0.3s							
MT12	**Pirque**	**1.55**	**71**	*iP*		**Pn**	**02 44 47.3**	**+0.4**
MT12				*eS*		**Sb**	**02 45 08.0**	**+0.4**
MT12				IAML			02 45 19.3	
	comp=N,44μm,0.5s							
MT05	**Renca**	**1.56**	**57**			**Pn**	**02 44 48.0**	**+1.0**
MT05	**Renca**	**1.56**	**57**	*iP*		**Pn**	**02 44 48.0**	**+1.0**
MT05				*eS*		**Sb**	**02 45 08.4**	**+0.5**
MT05				IAML			02 45 17.1	
	comp=E,27μm,0.2s							
MT15	**Las Vizcachas**	**1.63**	**67**	*eP*		**Pn**	**02 44 48.4**	**+0.4**
MT15				*eS*		**Sb**	**02 45 10.1**	**+0.1**
MT15				IAML			02 45 18.7	
	comp=N,46μm,0.4s							
ROCH	**El Roble**	**1.67**	**41**	⇑*iP*		**Pn**	**02 44 49.2**	**+0.5**
ROCH				*eS*		**Sb**	**02 45 11.8**	**+0.5**
ROCH				IAML			02 45 23.2	
	comp=N,36μm,0.3s							
ML02	**Panimavida**	**1.68**	**154**			**Pn**	**02 44 48.6**	**-0.1**
ML02	**Panimavida**	**1.68**	**154**	*iP*		**Pn**	**02 44 48.5**	**-0.1**
ML02				*eS*		**Sn**	**02 45 10.2**	**+0.6**
ML02				IAML			02 45 20.5	
	comp=E,56μm,0.8s							
MT16	**CCHEN**	**1.69**	**62**			**Pn**	**02 44 49.8**	**+0.9**
MT14	**Cerro Cal¡n**	**1.70**	**61**	*iP*		**Pn**	**02 44 49.9**	**+0.9**
MT14				*eS*		**Sb**	**02 45 12.6**	**+0.6**
MT14				IAML			02 45 20.5	
	comp=N,20μm,0.5s							
PEL	**Peldehue**	**1.74**	**51**			**Pn**	**02 44 50.0**	**+0.5**
PEL	**Peldehue**	**1.74**	**51**	⇑*iP*		**Pn**	**02 44 50.5**	**+0.9**
PEL				*eS*		**Sb**	**02 45 14.7**	**+1.4**
PEL				IAML			02 45 25.4	
	comp=N,30μm,0.6s							
MT13	**San Alfonso**	**1.75**	**74**			**Pn**	**02 44 50.6**	**+0.9**
MT13	**San Alfonso**	**1.75**	**74**	*iP*		**Pn**	**02 44 50.7**	**+0.9**
MT13				*eS*		**Sb**	**02 45 13.6**	**0.0**
MT13				IAML			02 45 20.0	
	comp=N,25μm,0.4s							
MT10	**Hacienda Santa**	**1.77**	**57**	⇑*iP*		**Pn**	**02 44 50.9**	**+1.0**
MT10				*eS*		**Sb**	**02 45 14.1**	**+0.1**
MT10				IAML			02 45 23.8	
	comp=N,41μm,0.4s							
LMEL	**Las Melosas**	**1.79**	**78**	Pn		**Pn**	**02 44 50.8**	**+0.4**
LMEL	**Las Melosas**	**1.79**	**78**	*eP*		**Pn**	**02 44 51.1**	**+0.8**
LMEL				IAML			02 45 20.9	
	comp=N,17μm,0.2s							
VA06	**Catapilco**	**1.88**	**27**	Pn		**Pn**	**02 44 51.7**	**+0.2**
VA06	**Catapilco**	**1.88**	**27**	*iP*		**Pn**	**02 44 51.6**	**+0.2**
VA06				*eS*		**Sb**	**02 45 17.5**	**+0.4**
VA06				IAML			02 45 28.8	
	comp=E,36μm,0.4s							
FCH	**Farellones**	**1.91**	**62**	*iP*		**Pn**	**02 44 52.8**	**+0.7**
FCH				*eS*		**Sb**	**02 45 18.9**	**+0.5**
FCH				IAML			02 45 27.2	
	comp=E,14μm,0.4s							
MT04	**Ro Olivares**	**1.99**	**66**	*eP*		**Pn**	**02 44 53.9**	**+0.8**
MT04				IAML			02 45 28.2	
	comp=E,11μm,0.4s							
MT08	**Bocatoma Ro**	**2.07**	**68**			**Pn**	**02 44 55.3**	**+1.1**
MT08	**Bocatoma Ro**	**2.07**	**68**	⇑*iP*		**Pn**	**02 44 55.3**	**+1.1**
MT08				IAML			02 45 32.1	
	comp=N,7μm,0.5s							
VA03	**San Esteban**	**2.08**	**45**			**Pn**	**02 44 55.5**	**+1.2**
VA03	**San Esteban**	**2.08**	**45**	⇑*iP*		**Pn**	**02 44 55.4**	**+1.1**
VA03				IAML			02 45 33.2	
	comp=E,26μm,0.5s							
BI02	**San Fabin de**	**2.55**	**161**	⇑*iP*		**Pn**	**02 45 00.8**	**0.0**
BI02				*eS*		**Sn**	**02 45 33.7**	**+2.4**
BI02				IAML			02 45 45.3	
	comp=N,4μm,0.3s							
CO06	**Fray Jorge**	**3.61**	**9**			**Pn**	**02 45 14.6**	**-0.6**
CO03	**El Pedregal**	**3.66**	**22**	Pn		**Pn**	**02 45 16.8**	**+0.8**
ZON	**Zonda**	**4.07**	**50**	Pn		**Pn**	**02 45 24.0**	**+2.4**
LC02	**Puerto Saavedr**	**4.62**	**191**	Pn		**Pn**	**02 45 28.8**	**-0.2**
CO01	**Juntas del Tor**	**4.65**	**24**			**Pn**	**02 45 30.8**	**+1.0**
LCO	**Las Campanas**	**5.40**	**15**	Pn		**Pn**	**02 45 39.7**	**-0.3**
VA04	**Juan Fernndez**	**5.46**	**275**	Pn		**Pn**	**02 45 40.0**	**-0.6**
H03S1	**Juan Fernandez**	**5.49**	**272**	Pn		**Pn**	**02 45 40.0**	**-0.8**
	baz=59,slow=15							
H03S1				T		T	02 51 34.8	
	baz=96,slow=74,SNR=5660							
H03S3	**Juan Fernandez**	**5.50**	**273**	Pn		**Pn**	**02 45 40.2**	**-0.6**
	baz=59,slow=15							
H03S3				T		T	02 51 37.4	
	baz=96,slow=74,SNR=6889							
H03S2	**Juan Fernandez**	**5.51**	**272**	Pn		**Pn**	**02 45 40.0**	**-1.0**
	baz=59,slow=15							
H03S2				T		T	02 51 33.8	
	baz=96,slow=74,SNR=5073							
H03N1	**Juan Fernandez**	**5.55**	**276**	Pn		**Pn**	**02 45 41.7**	**+0.1**
	baz=132,slow=23							
H03N1				T		T	02 51 44.0	
	baz=96,slow=74,SNR=24							
H03N3	**Juan Fernandez**	**5.56**	**276**	Pn		**Pn**	**02 45 42.8**	**+1.0**
	baz=132,slow=23							
H03N3				T		T	02 51 45.3	
	baz=96,slow=74,SNR=66							
H03N2	**Juan Fernandez**	**5.57**	**276**	Pn		**Pn**	**02 45 43.0**	**+1.1**
	baz=132,slow=23							
H03N2				T		T	02 51 43.7	
	baz=96,slow=74,SNR=25							
LR04	**Corral**	**5.69**	**189**			**Pn**	**02 45 42.5**	**-1.3**
LR05	**Currie**	**5.98**	**178**	Pn		**Pn**	**02 45 47.6**	**0.0**
PLCA	**Paso Flores**	**6.62**	**168**	Pn		**Pn**	**02 45 56.6**	**-0.1**
PLCA	**Paso Flores**	**6.62**	**168**	Pn		**Pn**	**02 45 55.9**	**-0.7**
	comp=N,3.1nm,0.3s,baz=330,slow=12,SNR=93							
PLCA				Lg		Lg	02 47 32.9	
	comp=N,0.5nm,0.3s,baz=331,slow=8.4,SNR=1.4							
PLCA				LR		LR	02 48 44.1	
	comp=N,8μm,18.1s,baz=348,slow=41							
	comp=N,18nm,0.7s							
PLCA	**Paso Flores**	**6.62**	**168**	*eP*		**Pn**	**02 45 57.0**	**+0.3**
PLCA				*eS*		**Sn**	**02 47 12.7**	**+1.1**
GO03	**Copiap**	**6.87**	**16**			**Pn**	**02 45 59.5**	**-0.6**
LL03	**Petrohue**	**6.88**	**181**	Pn		**Pn**	**02 45 59.9**	**-0.2**
LL05	**Los Muermos**	**7.21**	**187**			**Pn**	**02 46 03.8**	**-0.7**
LL06	**Loncomilla**	**8.02**	**187**	Pn		**Pn**	**02 46 15.2**	**-0.5**
LL01	**San Ignacio de**	**8.12**	**181**			**Pn**	**02 46 16.4**	**-0.7**
LL02	**Futaleuf**	**8.94**	**178**	Pn		**Pn**	**02 46 28.4**	**+0.1**
TRQA	**Tornquist**	**9.18**	**117**	Pn		**Pn**	**02 46 32.0**	**+0.4**
GO02	**Mina Guanaco**	**9.36**	**15**	Pn		**Pn**	**02 46 31.9**	**-2.5**
PB14	**IPOC Station P**	**9.73**	**10**			**Pn**	**02 46 36.0**	**-3.5**
PB10	**IPOC Station P**	**10.80**	**9**	Pn		**Pn**	**02 46 52.4**	**-1.6**
PB15	**IPOC Station P**	**11.28**	**13**			**Pn**	**02 46 56.9**	**-3.7**
COYC	**Coyhaique**	**11.31**	**179**			**Pn**	**02 47 01.6**	**+0.8**
PB06	**IPOC Station P**	**11.75**	**12**	Pn		Pn	02 47 02.2	-4.8
LPA	**La Plata**	**11.87**	**97**	*iP*		Pn	02 46 59.4	-9.1
LPA	**La Plata**	**11.87**	**97**	PN		**Pn**	**02 47 07.2**	**-1.3**
LPA				pP			02 47 13.2	
LPA				sP			02 47 19.6	
LPA				PP		**PnPn**	**02 47 25.8**	**+10**
LPA				pPP			02 47 38.8	
LPA				PPP		PPP	02 47 51.5	
LPA				S		**Sn**	**02 49 16.7**	**-3.6**
LPA	**La Plata**	**11.87**	**97**	SN		**Sn**	**02 49 23.0**	**+2.7**
LPA				sS			02 49 30.3	
LPA				SS		**SnSn**	**02 49 42.2**	**+10**
LPA				SSS		SSS	02 49 53.4	
LPA				PCP		**PcP**	**02 52 56.2**	**+0.8**
LPA				SCS		**ScS**	**03 00 11.8**	**+8.9**
LPA				PKIKP		**PKiKP**	**03 00 53.0**	**-0.4**
LPA				SKIKP			03 04 29.9	
LPA				PKIKS			03 04 35.9	
LPA				SKIKS			03 08 02.9	
LVC	**Limon Verde**	**11.97**	**15**	Pn		**Pn**	**02 47 06.1**	**-4.2**
LVC	**Limon Verde**	**11.97**	**15**	Pn		Pn	02 47 05.5	-4.8
	comp=N,2.0nm,0.3s,baz=157,slow=11,SNR=16							
LVC				Sn		**Sn**	**02 49 15.1**	**-8.4**
	comp=N,1.6nm,0.3s,baz=176,slow=22,SNR=2.4							
LVC				LR		LR	02 52 10.4	
	comp=N,6μm,18.2s,baz=204,slow=40							
LVC	**Limon Verde**	**11.97**	**15**	*eP*		**Pn**	**02 47 09.8**	**-0.5**
PB04	**IPOC Station P**	**12.02**	**10**			**Pn**	**02 47 07.4**	**-3.4**
PB09	**IPOC Station P**	**12.70**	**13**			**Pn**	**02 47 16.7**	**-3.3**
PSAL	**Palomas, Salto**	**12.78**	**80**	*eP*		**Pn**	**02 47 19.4**	**-1.5**
TICA	**Tres Isletas**	**12.93**	**56**	*eP*		**Pn**	**02 47 21.8**	**-1.2**
AY03	**Cochrane**	**12.99**	**181**			**Pn**	**02 47 22.8**	**-1.0**
PB01	**IPOC Station P**	**13.39**	**11**			**Pn**	**02 47 28.8**	**-0.6**
PATCX	**Punta Patache**	**13.51**	**9**			**Pn**	**02 47 28.6**	**-2.5**
TA01	**Diego Aracena**	**13.76**	**8**			**Pn**	**02 47 33.8**	**-0.5**
TBOT	**Tacuaremb**	**13.98**	**84**	*eP*		**Pn**	**02 47 36.0**	**-1.3**
TBOT				*eS*		**Sn**	**02 50 10.8**	**-1.1**
TA02	**Huaiquique**	**14.06**	**8**			**Pn**	**02 47 39.4**	**+1.0**
ITQB	**Itaqui**	**14.07**	**75**			**Pn**	**02 47 38.0**	**-0.6**
ITQB	**Itaqui**	**14.07**	**75**	*eP*		**Pn**	**02 47 36.7**	**-1.9**
ITQB				*eS*		**Sn**	**02 50 12.3**	**-1.8**
GO08	**Villa O'Higgin**	**14.21**	**181**			**Pn**	**02 47 39.6**	**-0.7**
PB08	**IPOC Station P**	**14.33**	**12**			**Pn**	**02 47 42.0**	**-0.5**
PB11	**IPOC Station P**	**14.62**	**10**			**Pn**	**02 47 46.1**	**-0.2**
GO01	**Chusmiza**	**14.78**	**12**			**Pn**	**02 47 49.6**	**+0.8**
RODS	**Rosario do Sul**	**14.98**	**80**	*eP*		**Pn**	**02 47 49.5**	**-1.5**
RODS				*eS*		**Sn**	**02 50 34.9**	**-1.5**
CPUP	**Villa Florida**	**15.14**	**63**	Pn		**Pn**	**02 47 47.8**	**-5.3**
	comp=N,0.1nm,0.3s,baz=239,slow=16,SNR=2.7							
CPUP				Sn		**Sn**	**02 50 45.8**	**+5.5**
	comp=N,0.6nm,0.3s,baz=246,slow=7.8,SNR=4.0							
CPUP				LR		LR	02 54 06.4	
	comp=N,5μm,21.7s,baz=240,slow=40							
	comp=N,0.8nm,0.3s							
CPUP	**Villa Florida**	**15.14**	**63**	*eP*		**Pn**	**02 47 52.0**	**-1.1**
CPUP				*eS*		**Sn**	**02 50 39.0**	**-1.3**
UNIS	**Unistalda (Bra**	**15.55**	**75**	*eP*		**Pn**	**02 47 56.7**	**-1.8**
UNIS				*eS*		**Sn**	**02 50 48.7**	**-1.6**
PB12	**IPOC Station P**	**15.67**	**7**			**Pn**	**02 48 00.5**	**+0.3**
PB12				IAmb	IAmb		02 48 02.4	
	comp=Z,235nm,1.6s							
PLTB	**Pedras Altas**	**15.89**	**86**			**Pn**	**02 48 01.2**	**-1.6**
PLTB	**Pedras Altas**	**15.89**	**86**	*eP*		**Pn**	**02 48 00.5**	**-2.3**
PLTB				*eS*		**Sn**	**02 50 56.8**	**-1.6**
PAPY	**Pozo Azul**	**15.91**	**54**	*eP*		**Pn**	**02 48 01.3**	**-1.9**
PAPY				*eS*		**Sn**	**02 50 58.2**	**-0.8**
FDPY	**Filadelfia**	**16.13**	**46**	*eP*		**Pn**	**02 48 05.9**	**-0.1**
FDPY				*eS*		**Sn**	**02 51 04.2**	**-0.2**
CPSB	**Cacapava Do Su**	**16.40**	**82**	*eP*		**Pn**	**02 48 08.0**	**-1.4**
CPSB				*eS*		**Sn**	**02 51 09.2**	**-1.6**
PB18	**Visviri**	**16.78**	**9**	P		**P**	**02 48 17.0**	**+0.1**
GO09	**Cerro Castillo**	**17.01**	**180**	P		**Pn**	**02 48 16.4**	**-0.6**
CRSM	**Crissiumal (Br**	**17.05**	**72**	*eP*		**Pn**	**02 48 15.1**	**-2.6**
CRSM				*eS*		**Sn**	**02 51 24.6**	**-2.1**
ALGR	**Alto Alegre (B**	**17.30**	**77**	*eP*		**Pn**	**02 48 19.6**	**-1.3**
ALGR				*eS*		**Sn**	**02 51 31.4**	**-1.6**
MURT	**Porto Murtinho**	**18.02**	**50**	*eP*		**Pn**	**02 48 28.9**	**-0.9**
MURT				*eS*		**Sn**	**02 51 49.5**	**-0.8**
LPAZ	**La Paz**	**18.27**	**13**			**Pn**	**02 48 33.7**	**+0.3**
LPAZ	**La Paz**	**18.27**	**13**	P		**Pn**	**02 48 33.1**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=190,slow=7.6,SNR=116							
LPAZ				S		**S**	**02 52 03.2**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=187,slow=21,SNR=1.4							
	comp=Z,25nm,0.6s							
LPAZ	**La Paz**	**18.27**	**13**	*eP*		**P**	**02 48 34.2**	**+0.7**
LPAZ				*eS*		**Sn**	**02 51 57.4**	**+0.2**
MG02	**Cerro Sombrero**	**18.66**	**174**	P		**Pn**	**02 48 37.1**	**-0.1**
MG02				IAmb	IAmb		02 48 42.6	
	comp=Z,298nm,1.4s							
ITAB	**Concordia**	**18.68**	**73**			**P**	**02 48 37.1**	**-0.2**
ITAB	**Concordia**	**18.68**	**73**	*eP*		**P**	**02 48 36.2**	**-1.2**
ITAB				*eS*		**Sn**	**02 52 05.1**	**-1.1**
CNLB	**Canela**	**18.88**	**81**	*eP*		**P**	**02 48 38.5**	**-1.1**
CNLB				*eS*		**Sn**	**02 52 09.4**	**-1.6**
AMBA	**Amambai (Brazi**	**18.90**	**58**	*eP*		**P**	**02 48 39.6**	**-0.2**
AMBA				*eS*		**Sn**	**02 52 10.0**	**-1.5**
GO10	**Punta Arenas**	**18.92**	**178**	P		**P**	**02 48 38.4**	**-1.5**
BBRB	**Robore, Bolivi**	**19.43**	**38**	*eP*		**P**	**02 48 45.0**	**-0.6**
BBRB				*eS*		**Sn**	**02 52 23.5**	**-0.7**
BDQN	**Bodoquena, MS**	**19.45**	**49**	*eP*		**P**	**02 48 45.2**	**-0.7**
BDQN				*eS*		**Sn**	**02 52 24.3**	**-0.7**
MG03	**Isla Dawson**	**19.64**	**177**	P		**P**	**02 48 47.0**	**-0.6**
BBSD	**Serra de San D**	**19.96**	**35**	*eP*		**P**	**02 48 50.8**	**-0.7**
BBSD				*eS*		**S**	**02 52 35.8**	**+0.6**
PTGB	**Pitanga**	**19.99**	**67**	*eP*		**P**	**02 48 51.2**	**-0.6**
PTGB				*eS*		**S**	**02 52 36.0**	**+0.2**
AQDB	**Aquidauana**	**20.10**	**51**	P		**P**	**02 48 53.0

MACA Manacapuru-AM 32.77 22 *e*P **P 02 50 51.6 -0.5**
SDBA SAO DESIDERIO 33.06 56 *e*P **P 02 50 53.4 -1.5**
ITTB Itaituba 33.48 31 *e*P **P 02 50 57.5 -1.0**
SMTB Santa Maria do 33.97 48 *e*P **P 02 51 02.2 -0.5**
GUA01 Guaratinga, BA 34.02 67 *e*P **P 02 51 02.4 -0.7**
PAYG Puerto Ayora 37.40 329 IAMs_20 IAMs_20 03 02 38.0
comp=Z,2µm,19.0s
BOAV Boa Vista 38.10 19 P **P 02 51 37.7 -0.3**
BOAV Boa Vista 38.10 19 *e*P **P 02 51 38.0 0.0**
MCPB Macapa, AP 38.68 34 *e*P **P 02 51 43.0 +0.1**
ROSC El Rosal 38.92 357 P **P 02 51 44.7 -0.6**
ROSC IAmb IAmb 02 52 05.3
comp=Z,92nm,1.8s
ROSC El Rosal 38.92 357 P **P 02 51 45.6 +0.2**
comp=Z,12nm,0.5s,baz=226,slow=23,SNR=2.4
comp=Z,12nm,0.5s
TMAB Tom-Au,PA,Br 38.93 41 *e*P **P 02 51 45.8 +0.7**
NBLA Lagarto - SE 39.08 62 *e*P **P 02 51 45.3 -1.0**
ROSB Rosrio 40.77 46 *e*P **P 02 51 59.9 -0.4**
NBAN Anadia - AL 41.06 62 *e*P **P 02 52 03.0 +0.2**
NBAN *e*S **S 02 58 13.5 -1.1**
NBPB Pedra_Branca-C 41.63 54 *e*P **P 02 52 07.0 -0.4**
NBPB *e*S **S 02 58 23.4 +0.3**
NBLV Livramento - P 42.17 59 *e*P **P 02 52 12.4 +0.5**
SDV Santo Domingo 42.92 2 P **P 02 52 18.2 +0.1**
comp=Z,8.5nm,0.3s,baz=270,slow=6.9,SNR=1.9
comp=Z,8.5nm,0.3s
BAUV El Baul 43.14 6 P **P 02 52 19.4 -0.2**
MDP Montagnes des 43.32 29 LR LR 03 12 12.7
comp=Z,3µm,18.5s,baz=202,slow=39
NBCL Cascavel-CE 43.47 54 *e*P **P 02 52 22.1 -0.3**
RCBR Riachuelo 43.96 58 LR LR 03 12 14.2
comp=Z,3µm,18.8s,baz=230,slow=38
RCBR Riachuelo 43.96 58 *e*P **P 02 52 26.6 +0.2**
SRBA San Rafael, Bu 44.49 344 P **P 02 52 31.2 +0.5**
PCRV Puerto La Cruz 44.77 11 LR LR 03 13 37.8
comp=Z,2µm,19.1s,slow=39
LCR2 La Lucha 2 45.13 344 P **P 02 52 33.0 -2.9**
ORTG Ortega, Santa 46.09 342 P **P 02 52 43.8 +0.6**
ORTG IAmb IAmb 02 52 59.5
comp=Z,35nm,1.3s
BELA Belgrano 2 46.68 170 P **P 02 52 47.6 +0.5**
VNA3 Neumayer Olymp 49.22 158 ⇑P **P 02 53 07.9 +1.0**
comp=Z,9.1nm,0.6s
TGUH Tegucigalpa,Un 50.10 341 P **P 02 53 14.8 +0.5**
TGUH IAmb IAmb 02 53 26.9
comp=Z,56nm,1.4s
SNAA Sanae 51.44 158 P **P 02 53 22.6 -1.2**
SNAA Sanae 51.44 158 ⇑P **P 02 53 23.9 +0.2**
comp=Z,21nm,0.2s
SNAA Sanae 51.44 158 P **P 02 53 21.4 -2.4**
comp=Z,8.5nm,0.8s,baz=301,slow=7.1,SNR=8.4
SNAA LR LR 03 14 51.1
comp=Z,549nm,18.8s,baz=1.5,slow=36
comp=Z,8.5nm,0.8s
APG El Apazote 51.94 338 P **P 02 53 28.9 +0.7**
comp=Z,0.2nm,0.3s,baz=192,slow=12,SNR=5.8
APG LR LR 03 11 43.1
comp=Z,46nm,18.8s,baz=249,slow=32
SMRT St. Maarten 52.74 11 IAMs_20 IAMs_20 03 18 00.8
comp=Z,934nm,18.0s
TROLL Troll, Antarti 53.15 158 ⇑P **P 02 53 31.9 -4.6**
comp=Z,196nm,0.3s
QSPA South Pole Qui 55.99 180 P **P 02 53 58.0 +0.8**
QSPA South Pole Qui 55.99 180 P **P 02 53 56.8 -0.4**
comp=Z,9.6nm,0.8s,baz=155,slow=1.9,SNR=33
QSPA LR LR 03 16 38.1
comp=Z,359nm,20.2s,baz=164,slow=35
comp=Z,9.6nm,0.8s
TEIG Tepich 56.27 342 P **P 02 54 00.2 +0.7**
TEIG IAmb IAmb 02 54 00.7
comp=Z,21nm,0.8s
SOR Soroa 57.63 348 P **P 02 54 09.4 +0.3**
SOR IAmb IAmb 02 54 19.1
comp=Z,42nm,1.1s
CAMR Camarioca 57.64 350 P **P 02 54 09.3 +0.1**
CAMR IAmb IAmb 02 54 21.0
comp=Z,58nm,1.1s
VNDA Vanda 63.82 191 P **P 02 54 52.2 +1.5**
VNDA Vanda 63.82 191 P **P 02 54 51.4 +0.7**
comp=Z,0.8nm,0.7s,baz=137,slow=6.0,SNR=6.0
VNDA LR LR 03 17 03.4
comp=Z,221nm,22.0s,baz=132,slow=31
comp=Z,0.8nm,0.7s
656A Williston 64.01 350 P **P 02 54 52.8 +0.4**
553A Crawfordville 65.11 348 P **P 02 55 00.1 +0.6**
456A Hilliard 65.27 351 P **P 02 55 01.9 +1.3**
TIGA Tifton 66.20 349 P **P 02 55 07.9 +1.4**
baz=170
346A Big Creek Wild 67.26 344 P **P 02 55 14.6 +1.3**
833A Chaparral WMA, 67.31 334 P **P 02 55 13.9 +0.1**
833A Chaparral WMA, 67.31 334 P **P 02 55 14.9 +1.2**
baz=156
152A Waverly Hall 67.58 349 IAmb IAmb 02 55 25.1
comp=Z,24nm,1.2s
GOGA Godfrey 68.11 350 IAmb IAmb 02 55 28.6
comp=Z,36nm,1.4s
GOGA Godfrey 68.11 350 P **P 02 55 19.0 +0.3**
baz=170
VBMS Vicksburg 68.30 343 P **P 02 55 20.9 +1.1**
baz=164
LRAL Lakeview Retre 68.34 347 IAmb IAmb 02 55 30.4
comp=Z,30nm,1.4s
LRAL Lakeview Retre 68.34 347 P **P 02 55 21.1 +1.0**
baz=167
LPIG La Paz 68.34 323 LR LR 03 18 33.0
comp=Z,136nm,19.2s,baz=174,slow=30
HNDO Hondo 68.36 335 P **P 02 55 21.7 +1.3**
HNDO IAmb IAmb 02 55 32.7
comp=Z,25nm,1.1s
146A Union 68.37 345 P **P 02 55 21.2 +0.8**
HPIG 68.58 328 P **P 02 55 23.1 +1.0**
HPIG IAmb IAmb 02 55 42.1
comp=Z,28nm,1.5s
JSC Jenkinsville 68.69 352 IAmb IAmb 02 55 32.3
comp=Z,21nm,1.2s
DRIO Del Rio 68.75 334 P **P 02 55 23.9 +1.0**
HODGE Hodges 68.76 351 IAmb IAmb 02 55 32.7
comp=Z,35nm,1.4s
435B Jarrell 68.94 337 P **P 02 55 24.8 +0.8**
baz=158
NATX Nacogdoches 68.95 340 P **P 02 55 24.8 +0.8**
baz=160
PAULI Pauline 69.28 352 IAmb IAmb 02 55 36.1
comp=Z,40nm,1.3s
CNNC Cliffs of the 69.32 355 P **P 02 55 27.6 +1.4**
baz=175
JCT Junction City 69.41 335 P **P 02 55 28.0 +1.0**
baz=156
W57A Gilead 69.41 353 IAmb IAmb 02 55 36.6
comp=Z,32nm,1.3s
237A Washetta, Mont 69.51 339 P **P 02 55 28.8 +1.4**
KMSC Kings Mountain 69.54 352 IAmb IAmb 02 55 37.5
comp=Z,24nm,1.1s
KMSC Kings Mountain 69.54 352 P **P 02 55 28.6 +1.0**
baz=172
FPAL Fort Paine 69.56 348 IAmb IAmb 02 55 37.8
comp=Z,30nm,1.3s
X48A Hartselle 69.72 347 P **P 02 55 29.0 +0.3**
SAND Sanderson 69.79 333 IAmb IAmb 02 55 41.5
comp=Z,30nm,1.4s
W52A Murphy 69.83 350 IAmb IAmb 02 55 39.7
comp=Z,36nm,1.2s
TXAR Lajitas Array 69.84 331 P **P 02 55 30.8 +1.1**
TXAR Lajitas Array 69.84 331 P **P 02 55 30.5 +0.8**
comp=Z,2.0nm,0.6s,baz=150,slow=8.9,SNR=44
TXAR LR LR 03 21 51.3
comp=Z,600nm,18.4s,baz=140,slow=32
comp=Z,2.0nm,0.6s
BRDY Brady 69.87 336 IAmb IAmb 02 55 40.5
comp=Z,53nm,2.0s
V58A Windy Hill, Pi 69.97 354 P **P 02 55 30.5 +0.3**
V58A IAmb IAmb 02 55 31.6
comp=Z,35nm,1.5s
PPT Papeete 69.99 262 LR LR 03 17 40.0
comp=Z,581nm,21.0s,baz=141,slow=28
WHTX Lake Whitney, 70.01 337 IAmb IAmb 02 55 42.3
comp=Z,40nm,1.2s
WHTX Lake Whitney, 70.01 337 P **P 02 55 31.2 +0.6**
baz=158
W50A Signal Mountai 70.15 349 IAmb IAmb 02 55 41.7
comp=Z,33nm,1.1s
CCAR Cane Creek 70.22 343 P **P 02 55 32.6 +0.8**
V53A Saluda 70.25 351 IAmb IAmb 02 55 42.0
comp=Z,35nm,1.2s
OXF Oxford 70.25 345 P **P 02 55 32.0 +0.1**
baz=165
CPCT Cooper Cave 70.27 349 IAmb IAmb 02 55 42.2
comp=Z,48nm,1.3s
OZNA Ozona 70.29 334 IAmb IAmb 02 55 44.2
comp=Z,39nm,1.5s
WLAR White Oak Lake 70.34 342 P **P 02 55 33.6 +1.1**
TKL Tuckaleechee C 70.37 350 IAmb IAmb 02 55 42.5
comp=Z,43nm,1.4s
PLAL Pickwick Lake 70.44 346 IAmb IAmb 02 55 43.1
comp=Z,29nm,1.1s
Z38A Mt. Pleasant 70.45 340 P **P 02 55 34.1 +0.9**
V52A Sevierville 70.52 350 IAmb IAmb 02 55 43.4
comp=Z,38nm,1.2s
U56A King 70.64 353 P **P 02 55 35.5 +1.2**
U56A IAmb IAmb 02 55 44.6
comp=Z,36nm,1.2s
ALPN Alpine 70.75 332 P **P 02 55 36.2 +0.9**
U54A Nelsons Funny 70.96 352 IAmb IAmb 02 55 46.1
comp=Z,40nm,1.2s
PLPT Palo Pinto 71.05 337 IAmb IAmb 02 55 48.5
comp=Z,57nm,1.6s
FW03 Perrin-Whitt E 71.17 337 P **P 02 55 38.6 +0.9**
FW03 IAmb IAmb 02 55 49.3
comp=Z,27nm,1.1s
T57A Hurt 71.18 354 IAmb IAmb 02 55 47.0
comp=Z,32nm,1.4s
Z35A Perchaven, San 71.19 338 P **P 02 55 38.5 +0.8**
TZTN Tazewell 71.20 350 IAmb IAmb 02 55 47.6
comp=Z,52nm,1.4s
TZTN Tazewell 71.20 350 P **P 02 55 37.7 -0.1**
baz=170
MIAR Mount Ida 71.28 342 IAmb IAmb 02 55 49.6
comp=Z,26nm,1.3s
MIAR Mount Ida 71.28 342 P **P 02 55 38.9 +0.7**
baz=162
ABTX Abilene, Hawle 71.31 336 P **P 02 55 39.3 +0.8**
ABTX IAmb IAmb 02 55 50.2
comp=Z,38nm,1.1s
ABTX Abilene, Hawle 71.31 336 P **P 02 55 38.5 0.0**
baz=156
BLA Blacksburg 71.50 353 P **P 02 55 40.4 +0.9**
baz=173
WVT Waverly 71.50 347 P **P 02 55 40.1 +0.6**
WVT Waverly 71.50 347 P **P 02 55 39.8 +0.4**
baz=166
U49A Red Boiling Sp 71.51 349 IAmb IAmb 02 55 49.7
comp=Z,40nm,1.4s
HALT Halls 71.59 345 P **P 02 55 41.3 +1.3**
PECS Pecos 71.73 332 P **P 02 55 42.4 +1.3**
T50A Nancy 71.86 349 P **P 02 55 42.2 +0.5**
T50A IAmb IAmb 02 55 51.5
comp=Z,35nm,1.5s
ODSA Odessa 71.89 333 P **P 02 55 42.7 +0.6**
S57A Dark Hollow, R 71.91 354 IAmb IAmb 02 55 52.3
comp=Z,40nm,1.2s
GLAT Glass 71.92 346 P **P 02 55 43.1 +1.1**
WTFS Witchita Falls 71.97 337 P **P 02 55 43.3 +0.9**
WTFS IAmb IAmb 02 55 54.6
comp=Z,35nm,1.2s
R58B Mineral 72.03 355 IAmb IAmb 02 55 53.5
comp=Z,53nm,1.3s
APMT Aspermont 72.11 336 P **P 02 55 44.2 +0.9**
APMT IAmb IAmb 02 55 55.0
comp=Z,51nm,1.5s
LCAR Lake Charles 72.14 344 IAmb IAmb 02 55 53.4
comp=Z,30nm,1.2s
SN07 Snyder 07 72.17 335 P **P 02 55 44.5 +0.9**
S54A Dingess, Beckl 72.17 353 IAmb IAmb 02 55 53.3
comp=Z,32nm,1.2s
FCAR Ozark Folk Cen 72.19 343 IAmb IAmb 02 55 53.7
comp=Z,37nm,1.5s
T47A Sharon Grove 72.20 348 P **P 02 55 44.1 +0.5**
T47A IAmb IAmb 02 55 53.6
comp=Z,51nm,1.2s
CBN Corbin Frederi 72.24 356 P **P 02 55 44.5 +0.6**
baz=176
S51A Beattyville 72.29 351 IAmb IAmb 02 55 54.1
comp=Z,29nm,1.1s
POST Post 72.36 335 P **P 02 55 45.0 +0.1**
POST IAmb IAmb 02 55 55.5
comp=Z,36nm,1.5s
PARMO Parma 72.40 345 P **P 02 55 46.1 +1.3**
T45A Paducah 72.52 346 P **P 02 55 47.3 +1.7**
MNTX Cornudas Mount 72.62 331 P **P 02 55 46.2 -0.2**
baz=152
PBMO Poplar Bluff 72.65 345 IAmb IAmb 02 55 56.5
comp=Z,47nm,1.5s
W35A Tecumseh 72.77 339 IAmb IAmb 02 55 57.8
comp=Z,41nm,1.5s
WMOK Wichita Mounta 72.97 337 IAmb IAmb 02 55 59.5
comp=Z,30nm,1.4s
WMOK Wichita Mounta 72.97 337 P **P 02 55 49.2 +0.8**
baz=157
CGM3 Cape Girardeau 72.99 346 IAmb IAmb 02 55 58.4
comp=Z,48nm,1.5s
MAW Mawson 73.01 164 P **P 02 55 46.6 -1.6**
comp=Z,4.6nm,0.7s,baz=203,slow=5.1,SNR=13
MAW LR LR 03 30 31.1
comp=Z,936nm,18.0s,baz=228,slow=38
comp=Z,4.6nm,0.7s
HHAR Hobbs 73.01 342 IAmb IAmb 02 55 59.6
comp=Z,35nm,1.5s
R50A Paris 73.02 350 IAmb IAmb 02 55 58.3
comp=Z,40nm,1.4s
T42A Van Buren 73.04 344 P **P 02 55 49.7 +1.0**
T42A IAmb IAmb 02 55 59.5
comp=Z,52nm,1.6s
EPT El Paso 73.14 330 IAMs_20 IAMs_20 03 23 07.9
comp=Z,690nm,20.0s
R49A Shelbyville 73.16 349 IAmb IAmb 02 56 00.7
comp=Z,25nm,1.1s
TUL3 Leonard 73.16 340 IAmb IAmb 02 56 01.3
comp=Z,42nm,1.5s
TUL3 Leonard 73.16 340 P **P 02 55 49.3 -0.2**
baz=160
Q56A Snyder Ridge, 73.20 354 IAmb IAmb 02 56 00.5
comp=Z,39nm,1.5s
WCI Wyandotte Cave 73.27 349 P **P 02 55 50.2 +0.2**
baz=168
S44A Carbondale 73.29 346 IAmb IAmb 02 56 00.1
comp=Z,28nm,1.2s
SIUC Southern Illin 73.30 346 IAmb IAmb 02 56 00.1
comp=Z,35nm,1.3s
SDMD Soldier's Deli 73.41 356 P **P 02 55 51.8 +0.9**
Q52A Bidwell 73.42 352 P **P 02 55 51.4 +0.5**
Q52A IAmb IAmb 02 56 00.8
comp=Z,46nm,1.1s
MGMO Mountain Grove 73.43 343 IAmb IAmb 02 56 01.4
comp=Z,35nm,1.4s
OK052 Battle Ridge R 73.53 339 IAmb IAmb 02 56 03.5
comp=Z,52nm,1.3s
OK029 Liberty Lake 73.54 339 IAmb IAmb 02 56 03.6
comp=Z,47nm,1.2s
P57A Homestead Farm 73.55 355 P **P 02 55 52.9 +1.3**
P57A IAmb IAmb 02 55 54.2
comp=Z,43nm,1.3s
OK033 Mehan 73.61 339 P **P 02 55 52.1 0.0**
Q51A Peebles 73.62 351 P **P 02 55 52.6 +0.5**
Q51A IAmb IAmb 02 56 02.0
comp=Z,36nm,1.1s
QUOK Quay 73.67 340 P **P 02 55 52.7 +0.3**
QUOK IAmb IAmb 02 56 04.5
comp=Z,54nm,1.3s
CSTR Hydro, Custer 73.78 338 P **P 02 55 53.4 +0.3**
SMWD Samnorwood 73.78 336 P **P 02 55 54.0 +0.8**
SMWD IAmb IAmb 02 56 04.8
comp=Z,43nm,1.3s
MCWV Mont Chateau 73.87 354 IAmb IAmb 02 56 03.7
comp=Z,33nm,1.3s
MCWV Mont Chateau 73.87 354 P **P 02 55 53.8 +0.3**
baz=174
WUPA West Chester U 73.87 357 P **P 02 55 54.3 +0.8**
OK048 Pawnee Station 73.96 340 IAmb IAmb 02 56 06.2
comp=Z,69nm,1.6s
MVL Millersville 73.97 357 P **P 02 55 55.1 +1.0**
MVL IAmb IAmb 02 56 05.0
comp=Z,31nm,1.3s
319A Douglas 73.99 328 P **P 02 55 55.6 +1.0**
OK051 E0350 and S346 74.02 340 IAmb IAmb 02 56 06.5
comp=Z,60nm,1.4s
P51A Williamsport 74.03 351 IAmb IAmb 02 56 04.2
comp=Z,56nm,1.2s
CCM Cathedral Cave 74.06 345 P **P 02 55 55.2 +0.5**
CCM Cathedral Cave 74.06 345 P **P 02 55 55.3 +0.6**
baz=164
AMTX Amarillo 74.07 335 IAmb IAmb 02 56 06.8
comp=Z,70nm,1.6s
baz=155
P52A Corning 74.07 352 IAmb IAmb 02 56 04.4
comp=Z,45nm,1.1s
P52A Corning 74.07 352 P **P 02 55 54.4 -0.3**
baz=172,SNR=6.8
OLIL Olney 74.08 347 IAmb IAmb 02 56 04.3
comp=Z,36nm,1.2s
S39A Bolivar 74.19 343 IAmb IAmb 02 56 05.8
comp=Z,69nm,1.8s
BLO Bloomington 74.23 349 IAmb IAmb 02 56 05.2
comp=Z,46nm,1.4s
T35A Sooner Cattle 74.31 340 IAmb IAmb 02 56 07.7
comp=Z,41nm,1.4s
P49A Miami Univ. Ec 74.31 350 IAmb IAmb 02 56 05.6
comp=Z,55nm,1.4s
P49A Miami Univ. Ec 74.31 350 P **P 02 55 55.7 -0.4**
baz=169
121A Cookes Peak, D 74.33 329 IAmb IAmb 02 56 09.6
comp=Z,45nm,1.6s
121A Cookes Peak, D 74.33 329 P **P 02 55 56.7 0.0**
baz=150
CROK Carrier 74.35 339 P **P 02 55 56.6 +0.1**
CROK IAmb IAmb 02 56 07.8
comp=Z,57nm,1.6s
BLOK Blackwell 74.36 339 P **P 02 55 56.9 +0.4**
BLOK IAmb IAmb 02 56 08.0
comp=Z,78nm,1.7s
ELIS Ellis County 74.39 337 P **P 02 55 57.5 +0.8**
ELIS IAmb IAmb 02 57 15.2
comp=Z,41nm,1.1s
R40A Maddies Statio 74.52 344 IAmb IAmb 02 56 07.5
comp=Z,71nm,1.6s
O52A Adamsville 74.52 352 IAmb IAmb 02 56 07.0
comp=Z,27nm,1.1s
U32A Winter Ranch, 74.55 338 IAmb IAmb 02 56 09.3
comp=Z,34nm,1.1s
OK038 West end E0370 74.56 338 IAmb IAmb 02 56 09.2
comp=Z,32nm,1.2s
O53A New Philadelph 74.58 353 IAmb IAmb 02 56 07.6
comp=Z,42nm,1.4s
O53A New Philadelph 74.58 353 P **P 02 55 57.7 0.0**
baz=172
KAN13 South Haven SW 74.67 339 P **P 02 55 58.9 +0.6**
SSPA Standing Stone 74.69 356 P **P 02 55 59.3 +1.0**
SSPA Standing Stone 74.69 356 P **P 02 55 58.8 +0.5**
baz=175
OK032 Salt Plains WL 74.70 339 IAmb IAmb 02 56 10.0
comp=Z,79nm,1.7s
OK035 E0210 Rd and N 74.76 338 P **P 02 55 59.0 +0.1**
OK035 IAmb IAmb 02 58 47.1
comp=Z,22nm,0.8s
ACSO Alum Creek Sta 74.76 352 IAmb IAmb 02 56 08.6
comp=Z,45nm,1.1s
ACSO Alum Creek Sta 74.76 352 P **P 02 55 58.8 +0.1**
baz=171,SNR=6.2
KAN14 Manchester OK 74.77 339 P **P 02 55 58.7 -0.1**
KAN14 IAmb IAmb 02 56 10.3
comp=Z,48nm,1.5s
P46A Rosedale 74.78 348 IAmb IAmb 02 56 08.8
comp=Z,27nm,1.0s
KAN17 Caldwell West 74.79 339 P **P 02 55 59.5 +0.6**
KAN09 Caldwell North 74.83 339 P **P 02 55 59.4 +0.2**
KAN01 Argonia South 74.89 339 P **P 02 56 00.4 +0.9**
KAN01 IAmb IAmb 02 56 11.1
comp=Z,64nm,1.4s
PAL Palisades 74.90 359 P **P 02 55 59.8 +0.3**
baz=179
SUR Sutherland 74.90 119 LR LR 03 24 41.4
comp=Z,581nm,20.2s,baz=228,slow=32
DUN6 Lazy B Ranch 74.91 328 P **P 02 56 01.4 +1.5**
DUN6 IAmb IAmb 02 56 13.6
comp=Z,51nm,1.3s
ODNJ Ogdensburg 74.99 358 P **P 02 56 00.5 +0.5**
KAN08 Anthony NE Sta 75.02 339 P **P 02 56 01.1 +0.9**
TRNY Table Rock, Ra 75.04 359 P **P 02 56 01.1 +0.8**
WSPT Westport, CT 75.05 359 P **P 02 56 01.3 +1.0**
WSPT IAmb IAmb 02 56 02.8
comp=Z,34nm,1.4s
LIC Lamto 75.06 72⇑*e*P **P 02 55 59.7 -1.4**
comp=Z,22nm,0.9s
O48B Farmland 75.08 350 P **P 02 56 01.6 +1.1**
O48B IAmb IAmb 02 56 09.9
comp=Z,54nm,1.6s
O48B Farmland 75.08 350 P **P 02 56 00.6 +0.1**
baz=169
KAN12 Harper NE Stat 75.09 339 P **P 02 56 02.4 +1.7**
N53A Lisbon 75.10 353 P **P 02 56 01.4 +0.8**
CRNM Carthage 75.14 331 P **P 02 56 03.7 +2.4**
YLE Yale 75.19 360 P **P 02 56 02.7 +1.6**
P43A Skaggs, Pawnee 75.22 346 IAmb IAmb 02 56 11.2
comp=Z,39nm,1.1s
BNM Barren Site 75.27 331 P **P 02 56 02.2 +0.1**
M63A Gales Ferry 75.28 0 P **P 02 56 03.0 +1.4**
M63A IAmb IAmb 02 56 13.4
comp=Z,59nm,1.4s
Y22D IRIS PASSCAL I 75.32 331 IAMs_20 IAMs_20 03 24 39.5
comp=Z,742nm,20.0s
Y22D IRIS PASSCAL I 75.32 331 P **P 02 56 01.5 -0.8**
baz=151
Y22F Passcal Instru 75.32 331 P **P 02 56 01.6 -0.7**
baz=151
TIC Toumodi 75.33 71⇑*e*P **P 02 56 02.3 -0.3**
comp=Z,28nm,1.2s
SBM South Baldy 75.34 331 P **P 02 56 03.8 +1.2**
M57A Sunshine Farm, 75.35 356 P **P 02 56 02.8 +0.8**
KIC Kosan Boka 75.37 72⇑*e*P **P 02 56 02.7 -0.2**
comp=Z,39nm,1.1s
TUC Tucson 75.45 327 P **P 02 56 05.0 +2.0**
TUC Tucson 75.45 327 P **P 02 56 04.2 +1.2**
baz=148
DBIC Dimbokro 75.47 71 P **P 02 56 03.0 -0.4**
DBIC IAmb IAmb 02 56 04.8
comp=Z,34nm,1.2s
DBIC Dimbokro 75.47 71 P **P 02 56 00.9 -2.5**
comp=Z,8.0nm,0.8s,baz=209,slow=4.9,SNR=8.3
comp=Z,8.0nm,0.8s
SFIN Lafayette 75.50 348 IAmb IAmb 02 56 12.0
comp=Z,45nm,1.5s
SFIN Lafayette 75.50 348 P **P 02 56 02.8 -0.2**
baz=167
M55A Ridgway 75.58 355 IAmb IAmb 02 56 13.6
comp=Z,34nm,1.1s
M53A WI Miller and 75.71 354 IAmb IAmb 02 56 14.1
comp=Z,33nm,1.1s
M53A WI Miller and 75.71 354 P **P 02 56 04.2 0.0**
baz=173
RTBA Rita Blanca 75.84 335 IAmb IAmb 02 56 17.2
comp=Z,36nm,1.5s
M52A Chesterland 75.88 353 IAmb IAmb 02 56 15.1
comp=Z,44nm,1.2s
ANMO Albuquerque 75.89 332 P **P 02 56 07.1 +1.5**
ANMO Albuquerque 75.89 332 IAMs_20 IAMs_20 03 24 48.8
comp=Z,847nm,20.0s
ANMO Albuquerque 75.89 332 P **P 02 56 04.4 -1.2**
baz=151
ANMO Albuquerque 75.89 332 LR LR 03 25 10.2
comp=Z,841nm,19.6s,baz=248,slow=32
M50A Fremont 75.93 352 IAmb IAmb 02 56 15.2
comp=Z,39nm,1.1s
HDIL Hopedale 76.07 347 P **P 02 56 05.0 -1.2**
baz=166
P38A Dawn 76.08 343 IAmb IAmb 02 56 17.8
comp=Z,52nm,1.4s
214A Organ Pipe Nat 76.09 325 P **P 02 56 05.2 -1.4**
baz=146
L59A Walton 76.11 358 IAmb IAmb 02 56 17.3
comp=Z,32nm,1.2s
BINY Binghamton 76.15 357 IAmb IAmb 02 56 16.6
comp=Z,29nm,1.4s
BINY Binghamton 76.15 357 P **P 02 56 04.8 -1.9**
baz=177
ERPA Erie 76.32 354 IAmb IAmb 02 56 17.5
comp=Z,42nm,1.1s
ERPA Erie 76.32 354 P **P 02 56 06.6 -1.0**
baz=173
SFX San Felipe 76.32 323 P **P 02 56 08.8 +0.9**
L61B Northampton 76.33 360 P **P 02 56 08.7 +1.1**
L61B IAmb IAmb 02 56 19.0
comp=Z,35nm,1.3s
L61B Northampton 76.33 360 P **P 02 56 07.1 -0.5**
baz=180
R32A Long Quarter, 76.34 339 IAmb IAmb 02 56 18.7
comp=Z,66nm,1.6s
RAR Rarotonga 76.37 254 LR LR 03 21 18.7
comp=Z,473nm,18.6s,baz=142,slow=29
KSU1 Kansas State U 76.38 341 P **P 02 56 08.9 +0.9**

KSU1 IAmb IAmb 02 56 18.1
comp=Z,38nm,1.8s
KSU1 Kansas State U 76.38 341 P P 02 56 07.2 -0.8
baz=160
HRV Adam Dziewonsk 76.39 1 P P 02 56 09.2 +1.2
HRV IAmb IAmb 02 56 10.6
comp=Z,57nm,1.4s
HRV Adam Dziewonsk 76.39 1 P P 02 56 07.8 -0.1
baz=181
WVNY West Valley, N 76.50 355 IAmb IAmb 02 56 19.1
comp=Z,42nm,1.1s
K62A Royalston 76.54 0 P P 02 56 09.1 +0.2
K62A IAmb IAmb 02 56 11.7
comp=Z,34nm,1.2s
L48A N Adams 76.63 351 IAmb IAmb 02 56 18.8
comp=Z,33nm,1.2s
K57A Scipio Center 76.70 357 P P 02 56 10.4 +0.7
K57A IAmb IAmb 02 56 38.7
comp=Z,50nm,1.6s
AAM Ann Arbor 76.89 351 P P 02 56 10.9 +0.1
baz=170
L46A Eue Claire 76.97 349 P P 02 56 10.4 -0.9
L46A IAmb IAmb 02 56 20.5
comp=Z,36nm,1.2s
X18A Snowflake 76.97 329 P P 02 56 13.0 +1.3
X18A IAmb IAmb 02 56 24.6
comp=Z,33nm,1.6s
CBKS Cedar Bluff 77.01 338 IAmb IAmb 02 56 22.7
comp=Z,50nm,1.4s
CBKS Cedar Bluff 77.01 338 P P 02 56 12.4 +0.7
baz=157
T25A Trinidad 77.06 334 P P 02 56 13.2 +1.1
baz=153
WIN Windhoek 77.19 109 P P 02 56 13.7 +0.3
WIN IAmb IAmb 02 56 15.4
comp=Z,63nm,1.6s
113A Mohawk Valley, 77.22 325 P P 02 56 14.1 +1.2
K50A Casco 77.23 352 IAmb IAmb 02 56 22.1
comp=Z,34nm,0.9s
MEDO Medina 77.25 355 P P 02 56 12.6 -0.1
J56A Wolcott 77.26 357 P P 02 56 11.6 -1.2
J56A IAmb IAmb 02 56 22.8
comp=Z,26nm,1.2s
J58A Remsen 77.28 358 P P 02 56 13.1 +0.1
J58A IAmb IAmb 02 56 24.0
comp=Z,41nm,1.7s
J55A Hilton 77.31 356 P P 02 56 13.3 +0.2
J55A IAmb IAmb 02 56 23.3
comp=Z,31nm,1.2s
W18A Petrified Fore 77.38 329 P P 02 56 14.7 +0.7
W18A IAmb IAmb 02 59 09.3
comp=Z,20nm,0.8s
W18A Petrified Fore 77.38 329 P P 02 56 14.7 +0.7
baz=149
L44A Lake County Fo 77.39 348 P P 02 56 13.3 -0.3
L44A Lake County Fo 77.39 348 P P 02 56 13.6 -0.1
baz=167
L42A Oliver, Polo 77.54 347 IAmb IAmb 02 56 24.3
comp=Z,41nm,1.2s
GLA Glamis 77.95 325 P P 02 56 18.0 +0.9
baz=145
SDCO Great Sand Dun 77.99 334 IAMs_20 IAMs_20 03 26 44.3
comp=Z,447nm,19.0s
SDCO Great Sand Dun 77.99 334 P P 02 56 18.2 +0.7
baz=152
LBNH Lisbon 78.12 0 P P 02 56 19.1 +1.4
baz=180
KSCO Kaye Shedlock' 78.12 336 IAmb IAmb 02 56 30.3
comp=Z,47nm,1.3s
KSCO Kaye Shedlock' 78.12 336 P P 02 56 19.1 +1.1
baz=155
SCIA State Center 78.18 344 P P 02 56 18.5 +0.5
baz=162
IKP In-Ko-Pah, Jac 78.25 323 P P 02 56 18.6 -0.2
baz=144
SWSC Sam W. Stewart 78.34 324 P P 02 56 18.8 -0.3
baz=144
WUAZ Wupatki 78.42 328 IAmb IAmb 02 56 32.7
comp=Z,34nm,1.6s
WUAZ Wupatki 78.42 328 P P 02 56 19.4 -0.3
baz=148
LONY Lake Ozonia 78.52 358 IAmb IAmb 02 56 30.5
comp=Z,39nm,1.4s
LONY Lake Ozonia 78.52 358 P P 02 56 20.9 +1.1
baz=178
JFWS Jewell Farm 78.53 347 P P 02 56 20.0 +0.1
baz=165
DELO Deloro Mine 78.54 356 IAmb IAmb 02 56 30.2
comp=Z,35nm,1.4s
MONP2 Monument Peak 78.60 323 P P 02 56 20.8 0.0
baz=144
PDMCI Parker Dam,Lak 78.66 326 P P 02 56 21.0 +0.1
baz=146
MVCO Mesa Verde 78.67 331 P P 02 56 21.9 +0.8
baz=150
FRNY Flat Rock 78.72 359 IAmb IAmb 02 56 23.7
comp=Z,82nm,1.8s
BC3 Big Chuckawall 78.75 324 P P 02 56 21.8 +0.2
baz=145
SADO Sadowa 78.89 355 IAmb IAmb 02 56 31.8
comp=Z,30nm,1.2s
WBO Williamsburg 78.92 358 IAmb IAmb 02 56 32.4
comp=Z,48nm,1.3s
109C Camp Elliot, M 78.94 323 IAMs_20 IAMs_20 03 26 39.7
comp=Z,589nm,18.0s
109C Camp Elliot, M 78.94 323 P P 02 56 22.6 +0.1
baz=144
Q24A Divide 78.94 334 IAmb IAmb 02 56 35.8
comp=Z,30nm,1.2s
Q24A Divide 78.94 334 P P 02 56 23.5 +0.7
baz=153
BGNE Belgrade 78.95 340 P P 02 56 22.7 +0.4
baz=158
IRM Iron Mountain 79.01 325 P P 02 56 23.0 +0.1
baz=145
G62A West of Eustis 79.11 1 P P 02 56 24.9 +1.8
G62A IAmb IAmb 02 56 34.8
comp=Z,52nm,1.2s
PKME Peaks-Kenny Pk 79.19 2 P P 02 56 24.5 +1.0
baz=182
TPFO Pinon Flats 79.20 324 P P 02 56 25.0 +1.0
baz=144
PFO Pinyon Flats O 79.20 324 P P 02 56 27.3 +3.2
PFO Pinyon Flats O 79.20 324 P P 02 56 24.5 +0.4
baz=144
PFO Pinyon Flats O 79.20 324 LR LR 03 24 18.1
comp=Z,404nm,21.8s,baz=142,slow=30
I42A Draeger Farm, 79.23 348 IAmb IAmb 02 56 34.4
comp=Z,52nm,1.4s
BELC Belle Mtn. Jos 79.29 324 P P 02 56 25.0 +0.4
baz=144
TSUM Tsumeb 79.36 106 P P 02 56 25.9 +0.5
TSUM IAmb IAmb 02 56 37.7
comp=Z,29nm,1.2s
TSUM Tsumeb 79.36 106 LR LR 03 26 32.4
comp=Z,1µm,21.0s,baz=234,slow=32
MURC Murrieta 79.56 323 P P 02 56 26.9 +1.1
baz=144
H43A Windswept, Lux 79.60 349 IAmb IAmb 02 56 35.8
comp=Z,46nm,1.2s
F63A Nahmakanta, Br 79.63 2 IAmb IAmb 02 56 37.7
comp=Z,39nm,1.2s
OGNE Ogallala 79.67 338 P P 02 56 27.6 +1.2
baz=155
GMRC Granite Mounta 79.77 325 P P 02 56 27.9 +0.8
baz=145
CASY Casey 79.77 181 P P 02 56 27.3 +0.7
CASY IAmb IAmb 02 56 39.6
comp=Z,40nm,1.2s
F62A Pittston Farm, 79.80 2 IAmb IAmb 02 56 38.6
comp=Z,43nm,1.2s
G45A Suttons Bay 79.84 350 IAmb IAmb 02 56 37.5
comp=Z,43nm,1.3s
ISCO Idaho Springs 79.85 335 P P 02 56 28.2 +0.5
baz=153
CIS Catalina Islan 80.01 322 P P 02 56 28.6 +0.3
baz=143
BRIGG Briggsdale 80.10 336 IAmb IAmb 02 56 40.4
comp=Z,60nm,1.7s
TRQ Mont Tremblant 80.12 358 IAmb IAmb 02 56 38.8
comp=Z,44nm,1.2s
HEC Hector,Ludlow 80.13 325 P P 02 56 29.5 +0.5
baz=144
BOSA Boshof 80.15 118 P P 02 56 28.8 -0.7
BOSA IAmb IAmb 02 56 41.4
comp=Z,36nm,1.1s
BOSA Boshof 80.15 118 P P 02 56 28.1 -1.5
comp=Z,12nm,1.0s,baz=210,slow=4.4,SNR=15
BOSA LR LR 03 30 20.1
comp=Z,460nm,18.3s,baz=226,slow=35
comp=Z,12nm,1.0s
HMU Henry Mountain 80.21 330 IAmb IAmb 02 56 42.5
comp=Z,59nm,1.5s
BFSC Mount Baldy Ra 80.30 323 P P 02 56 30.5 +0.5
baz=143
KNB Kanab 80.31 328 IAmb IAmb 02 56 43.8
comp=Z,51nm,1.4s
TUQ Turquoise Moun 80.42 325 P P 02 56 31.2 +0.6
baz=145
SNCC San Nicolas Is 80.46 321 P P 02 56 31.1 +0.4
baz=142
RRX Edison Barstow 80.48 324 P P 02 56 31.3 +0.5
baz=144
DECC Green Verdugo 80.64 323 P P 02 56 32.0 +0.3
baz=143
ECSD EROS Data Cent 80.72 342 IAmb IAmb 02 56 42.2
comp=Z,58nm,1.4s
ECSD EROS Data Cent 80.72 342 P P 02 56 32.7 +0.9
baz=160
GSC Goldstone, Bar 80.73 324 P P 02 56 32.3 0.0
baz=144
SZCU Shurtz Canyon 80.91 328 IAmb IAmb 02 56 46.4
comp=Z,37nm,1.5s
N23A Red Feather La 80.94 335 IAmb IAmb 02 56 44.8
comp=Z,41nm,1.6s
N23A Red Feather La 80.94 335 P P 02 56 33.7 +0.3
baz=152
SHOC Shoshone, Teco 80.97 325 P P 02 56 33.8 +0.4
baz=144
EDW2 Edwards Air Fo 80.98 323 P P 02 56 33.8 +0.3
baz=143
D62A Allapoint, All 81.01 2 IAmb IAmb 02 56 44.0
comp=Z,47nm,1.4s
O20A White River Ci 81.11 333 P P 02 56 34.9 +0.7
baz=151
Q16A Castle Valley 81.22 330 IAmb IAmb 02 56 48.2
comp=Z,28nm,1.3s
SPMN Marine on St. 81.26 346 IAmb IAmb 02 56 44.9
comp=Z,35nm,1.4s
SPMN Marine on St. 81.26 346 P P 02 56 36.1 +1.4
baz=163
LRMC Laurel Mtn Rad 81.30 324 P P 02 56 35.7 +0.4
baz=144
E43A Lone Tree Farm 81.34 350 IAmb IAmb 02 56 45.3
comp=Z,44nm,1.2s
COWI Conover 81.41 348 IAmb IAmb 02 56 45.7
comp=Z,34nm,1.4s
LMQ La Malbaie 81.44 1 P P 02 56 36.7 +1.1
LMQ IAmb IAmb 02 56 46.7
comp=Z,34nm,1.2s
P18A Preston Nutter 81.45 331 IAmb IAmb 02 56 49.3
comp=Z,52nm,1.4s
SBC Santa Barbara 81.49 322 P P 02 56 37.0 +0.9
baz=142
P17A Butcher Ranch, 81.52 331 IAmb IAmb 02 56 49.2
comp=Z,31nm,1.3s
ARVC Arvin 81.59 323 P P 02 56 37.2 +0.5
baz=143
MPMC Manual Prospec 81.67 324 P P 02 56 38.0 +0.7
baz=144
ISA Isabella, Lake 81.83 324 P P 02 56 38.9 +0.8
baz=143
LDAQ Lac Daran 81.85 1 P P 02 56 39.5 +1.7
LDAQ IAmb IAmb 02 56 48.8
comp=Z,34nm,1.2s
PKM Mcpherson Peak 81.89 322 P P 02 56 38.9 +0.4
baz=142
SUSD Miller 81.98 341 P P 02 56 39.1 +0.6
baz=158
RDMU Red Mountain 81.99 332 IAmb IAmb 02 56 51.5
comp=Z,27nm,1.3s
RWWY Rawlins 82.09 334 IAmb IAmb 02 56 50.5
comp=Z,29nm,1.3s
VLDQ Val d'Or 82.12 357 IAmb IAmb 02 56 50.0
comp=Z,39nm,1.1s
S11A Rachel 82.14 327 IAmb IAmb 02 56 55.0
comp=Z,50nm,1.6s
VES Vestal, Richgr 82.28 323 P P 02 56 40.6 +0.3
baz=143
SMMC Simmler 82.32 322 P P 02 56 40.8 +0.2
baz=142
GRAC Grapevine Rang 82.37 325 P P 02 56 41.8 +1.0
baz=144,SNR=5.6
LBTB Lobatse 82.40 115 P P 02 56 41.5 0.0
LBTB Lobatse 82.40 115 LR LR 03 31 17.1
comp=Z,571nm,18.1s,baz=229,slow=34
BSUT Blindstream Ca 82.43 331 IAmb IAmb 02 56 58.6
comp=Z,28nm,1.5s
NLU North Lily Min 82.47 330 IAmb IAmb 02 56 54.0
comp=Z,34nm,1.6s
F33A 5 Mile Ranch, 82.62 343 IAmb IAmb 02 56 53.9
comp=Z,52nm,1.8s
SPR3 Spring Creek 3 82.62 328 IAmb IAmb 02 56 55.4
comp=Z,34nm,1.4s
R11B Troy Canyon, C 82.64 327 P P 02 56 43.7 +1.4
baz=145,SNR=15
K22A Casper 82.69 335 P P 02 56 43.4 +0.9
baz=152
DUG Dugway, Tooele 82.97 330 IAMs_20 IAMs_20 03 29 28.3
comp=Z,491nm,20.0s
DUG Dugway, Tooele 82.97 330 P P 02 56 45.3 +1.3
baz=147
RSSD Black Hills 83.18 338 P P 02 56 46.2 +1.2
RSSD Black Hills 83.18 338 P P 02 56 46.0 +1.0
baz=154
RPZ Rata Peaks 83.31 221 P P 02 56 47.4 +1.6
comp=Z,10nm,0.7s,baz=71,slow=14,SNR=2.1
comp=Z,10nm,0.7s
URZ Urewera 83.33 228 LR LR 03 26 09.7
comp=Z,578nm,19.4s,baz=210,slow=30
MLAC Mammoth, Mammo 83.58 325 P P 02 56 48.0 +0.7
baz=143
EYMN Ely 83.61 347 IAmb IAmb 02 56 56.7
comp=Z,38nm,1.3s
EYMN Ely 83.61 347 P P 02 56 47.2 +0.3
baz=164
BGU Big Grassy Mou 83.68 330 IAmb IAmb 02 56 59.5
comp=Z,39nm,1.6s
BW06 Boulder Array 83.88 333 P P 02 56 49.0 +0.3
baz=150
PDAR Pinedale Array 83.88 333 P P 02 56 48.3 -0.4
PDAR Pinedale Array 83.88 333 P P 02 56 49.4 +0.6
comp=Z,1.1nm,0.7s,baz=144,slow=5.3,SNR=13
comp=Z,1.1nm,0.7s
NVAR Mina Array Bea 83.96 325 P P 02 56 50.7 +1.5
NVAR Mina Array Bea 83.96 325 P P 02 56 50.4 +1.2
comp=Z,1.4nm,0.6s,baz=144,slow=6.0,SNR=15
NVAR LR LR 03 27 28.0
comp=Z,190nm,20.9s,baz=140,slow=31
comp=Z,1.4nm,0.6s
HVU Hansel Valley 84.29 331 IAmb IAmb 02 57 02.5
comp=Z,29nm,1.5s
B35A Bob, Littlefor 84.44 346 IAmb IAmb 02 57 00.9
comp=Z,41nm,1.4s
ELK Elko 84.46 329 IAMs_20 IAMs_20 03 31 27.6
comp=Z,373nm,19.0s
ELK Elko 84.46 329 LR LR 03 31 47.4
comp=Z,388nm,18.2s,slow=34
AHID Auburn Hatcher 84.46 332 IAmb IAmb 02 57 03.3
comp=Z,20nm,1.3s
AHID IAMs_20 IAMs_20 03 31 25.6
comp=Z,498nm,18.0s
TORD Torodi Ar. Bea 84.50 70 P P 02 56 51.9 -0.3
TORD Torodi Ar. Bea 84.50 70 P P 02 56 52.0 -0.2
comp=Z,11nm,1.1s,baz=293,slow=2.0,SNR=29
TORD PP PP **03 00 13.3 +5.4**
comp=Z,1.6nm,1.0s,baz=257,slow=7.9,SNR=3.7
TORD LR LR 03 33 36.5
comp=Z,876nm,18.6s,baz=230,slow=35
comp=Z,11nm,1.1s
WAKR Walker 84.56 325 IAmb IAmb 02 57 06.2
comp=Z,21nm,1.4s
TOZ Tahuroa Road 84.65 228 IAMs_20 IAMs_20 03 26 33.5
comp=Z,710nm,20.0s
AGMN Agassiz Nation 84.83 344 IAmb IAmb 02 57 05.7
comp=Z,43nm,1.6s
AGMN Agassiz Nation 84.83 344 P P 02 56 53.6 +0.5
baz=161,SNR=5.1
SNOW Snow King Moun 84.93 333 IAMs_20 IAMs_20 03 30 09.8
comp=Z,506nm,21.0s
LOHW Long Hollow 85.00 333 IAmb IAmb 02 57 06.0
comp=Z,27nm,1.6s
LOHW IAMs_20 IAMs_20 03 30 44.8
comp=Z,676nm,20.0s
TPAW Teton Pass 85.03 333 IAMs_20 IAMs_20 03 30 12.5
comp=Z,423nm,20.0s
PNTR Pine Nut 85.10 325 IAmb IAmb 02 57 08.7
comp=Z,21nm,1.3s
MOOW Moose Ponds 85.17 333 IAMs_20 IAMs_20 03 31 01.3
comp=Z,589nm,19.0s
FXWY Fox Creek 85.18 333 IAMs_20 IAMs_20 03 30 05.6
comp=Z,409nm,20.0s
MDND Maddock 85.31 342 P P 02 56 56.5 +1.0
baz=158,SNR=6.0
IMW Indian Meadow 85.37 333 IAmb IAmb 02 57 08.8
comp=Z,27nm,1.4s
IMW IAMs_20 IAMs_20 03 31 16.5
comp=Z,477nm,20.0s
FLWY Flagg Ranch 85.44 333 IAmb IAmb 02 57 11.1
comp=Z,41nm,1.3s
MPK Martis Peak 85.47 325 IAmb IAmb 02 57 08.9
comp=Z,34nm,1.5s
PAHR Pah Rah Range 85.48 325 IAmb IAmb 02 57 09.8
comp=Z,52nm,1.9s
AFDM Forest Hills D 85.65 324 IAmb IAmb 02 57 11.2
comp=Z,26nm,1.6s
H17A Grant Village 85.66 334 P P 02 56 57.8 +0.1
baz=149
YMP Mirror Lake Pl 85.80 334 IAmb IAmb 02 57 29.8
comp=Z,29nm,1.6s
RLMT Red Lodge 85.81 335 IAmb IAmb 02 57 10.0
comp=Z,40nm,1.5s
RLMT Red Lodge 85.81 335 P P 02 56 59.2 +0.9
baz=150,SNR=15
LAO LASA Array 86.16 337 IAmb IAmb 02 57 11.9
comp=Z,30nm,1.2s
LAO LASA Array 86.16 337 P P 02 57 00.4 +0.6
baz=152,SNR=5.2
ORV Oroville 86.38 324 IAmb IAmb 02 57 14.7
comp=Z,38nm,1.3s
HLID Hailey 86.44 331 IAmb IAmb 02 57 13.9
comp=Z,38nm,1.7s
HLID Hailey 86.44 331 P P 02 57 03.0 +1.6
baz=146,SNR=9.5
ULM Lac du Bonnet 86.68 345 P P 02 57 01.8 -0.4
comp=Z,10nm,1.1s,baz=160,slow=3.8,SNR=12
comp=Z,10nm,1.1s
MFID Camas Ranch 86.90 330 IAMs_20 IAMs_20 03 33 25.2
comp=Z,378nm,18.0s
BOZ Bozeman (W) 87.08 334 IAMs_20 IAMs_20 03 31 55.7
comp=Z,409nm,21.0s
BOZ Bozeman (W) 87.08 334 P P 02 57 04.4 0.0
baz=148
DGMT Dagmar 87.14 339 P P 02 57 04.8 +0.3
baz=154,SNR=7.9
WVOR Wild Horse Val 87.31 328 IAmb IAmb 02 57 18.8
comp=Z,20nm,1.4s
WVOR IAMs_20 IAMs_20 03 33 24.2
comp=Z,376nm,18.0s
KCPM Cahto Peak 87.50 323 IAmb IAmb 02 57 20.7
comp=Z,17nm,1.1s
KMPM Mount Pierce 88.33 323 pP 02 57 16.0 -0.7
PLID Pearl Lake 88.34 331 IAmb IAmb 02 57 23.4
comp=Z,26nm,1.2s
KHMM Horse Mountain 88.48 324 IAmb IAmb 02 57 45.0
comp=Z,17nm,1.3s
EGMT Eagleton 88.49 336 IAmb IAmb 02 57 22.0
comp=Z,31nm,1.6s
EGMT Eagleton 88.49 336 P P 02 57 11.3 +0.2
baz=150
L04D Klamath Falls 88.82 325 IAmb IAmb 02 57 25.5
comp=Z,24nm,1.3s
SCHQ Schefferville 88.84 3 LR LR 03 37 35.4
comp=Z,194nm,21.4s,baz=199,slow=36
MSO Missoula 88.98 333 IAMs_20 IAMs_20 03 33 09.1
comp=Z,425nm,20.0s
MSO Missoula 88.98 333 P P 02 57 13.5 +0.1
baz=147
I07A Izee 89.01 328 IAmb IAmb 02 57 26.4
comp=Z,28nm,1.7s
J05D Fort Rock, OR 89.16 327 IAmb IAmb 02 57 27.7
comp=Z,23nm,1.3s
LSZ Lusaka 89.94 108 P P 02 57 19.6 +0.7
LSZ Lusaka 89.94 108 LR LR 03 33 14.0
comp=Z,1µm,21.1s,baz=226,slow=33
AVE Averroes 90.67 49 IAMs_20 IAMs_20 03 36 59.8
comp=Z,478nm,20.0s
HAWA Hanford 90.86 329 IAMs_20 IAMs_20 03 32 46.9
comp=Z,326nm,18.0s
NEW Newport 91.38 332 IAMs_20 IAMs_20 03 35 07.7
comp=Z,363nm,19.0s
NEW Newport 91.38 332 P P 02 57 24.4 -0.1
baz=144
NEW Newport 91.38 332 LR LR 03 35 29.1
comp=Z,317nm,18.3s,baz=142,slow=34
MDT Middlet 92.14 51 LR LR 03 39 24.1
comp=Z,557nm,18.9s,baz=245,slow=36
FFC Flin Flon 92.22 343 P P 02 57 28.3 +0.1
EDM Edmonton 94.12 337 IAmb IAmb 02 57 47.5
comp=Z,26nm,1.3s
FCC Fort Churchill 94.43 349 IAmb IAmb 02 57 48.4
comp=Z,12nm,1.1s
PAB San Pablo 96.60 46 IAMs_20 IAMs_20 03 42 13.6
comp=Z,491nm,19.0s
ESDC Sonseca Array 96.91 46 P P 02 57 50.5 +0.3
ESDC Sonseca Array 96.91 46 P P 02 57 49.9 -0.3
comp=Z,1.4nm,1.2s,baz=199,slow=4.1,SNR=4.7
ESDC LR LR 03 41 42.8
comp=Z,335nm,18.1s,baz=214,slow=36
comp=Z,1.4nm,1.2s
FRB Frobisher Bay 97.71 2 LR LR 03 46 07.7
comp=Z,213nm,19.3s,baz=178,slow=38
KIP Kipapa 98.38 290 P Pdif 02 57 57.4 +0.3
BBB Bella Bella 98.91 329 LR LR 03 37 04.4
comp=Z,141nm,21.2s,baz=154,slow=32
YKA Yellowknife Ar 102.22 341 P **Pdif 02 58 12.8 -0.5**
comp=Z,0.2nm,0.6s,baz=140,slow=4.1,SNR=9.3
YKA PP **PP 03 02 26.6 +0.6**
comp=Z,0.1nm,0.6s,baz=147,slow=17,SNR=2.7
YKA PKKP **PKKPdf 03 14 25.9 +0.5**
comp=Z,0.3nm,1.0s,baz=330,slow=4.1,SNR=3.5
V35K Ketchikan 102.60 330 P **Pdif 02 58 14.5 -0.6**
baz=133
T35M Bob Quinn 103.18 332 P **Pdif 02 58 17.6 -0.1**
baz=134
CRAG Craig 103.33 329 P **Pdif 02 58 18.4 +0.1**
baz=132
WRAK Wrangell Islan 103.64 330 P **Pdif 02 58 19.8 +0.1**
baz=132
U33K Whale Pass 103.76 330 P **Pdif 02 58 20.3 +0.1**
baz=132
DLBC Dease Lake 104.11 333 P **Pdif 02 58 21.9 +0.1**
baz=134
S34M Telegraph Cree 104.17 332 P **Pdif 02 58 21.5 -0.5**
baz=133
R33M Jennings River 105.12 333 P **PKiKP 03 02 40.2 -0.5**
baz=133
VSL Villasalto 105.20 53 IAMs_20 IAMs_20 03 47 15.4
comp=Z,407nm,20.0s
S32K Killisnoo 105.25 330 P **PKiKP 03 02 39.9 -0.9**
baz=131
SIT Sitka 105.30 330 P **PKiKP 03 02 40.0 -0.8**
baz=130
R32K Eaglecrest 105.75 331 P **PKiKP 03 02 41.2 -0.5**
baz=130
S31K Pelican 106.25 330 P **PKiKP 03 02 42.2 -0.4**
baz=129
P32M Atlin 106.30 332 P **PKiKP 03 02 43.0 +0.3**
baz=131
P33M Teslin, Yukon 106.36 333 P **PKiKP 03 02 42.9 0.0**
baz=131
LODK Lodwar 106.51 97 IAMs_20 IAMs_20 03 44 53.4
comp=Z,436nm,20.0s
SKAG Skagway 106.84 332 P **PKiKP 03 02 43.3 -0.4**
baz=130
N32M Quiet Lake 107.08 334 P **PKiKP 03 02 44.3 +0.1**
baz=131
PLBC Pleasant Camp 107.25 331 P **PKiKP 03 02 45.3 +0.8**
baz=129
WHY Whitehorse 107.44 333 P **PKiKP 03 02 45.6 +0.7**
baz=130
P30M Million Dollar 107.90 332 P **PKiKP 03 02 46.5 +0.7**
baz=128
P29M Windy Craggy 107.91 331 P **PKiKP 03 02 46.3 +0.5**
baz=128
M31M Drury Creek, Y 108.24 334 P **PKiKP 03 02 46.8 +0.5**
baz=130
N31M Braeburn, Yuko 108.30 333 P **PKiKP 03 02 46.8 +0.4**
baz=129
ECH Echery 108.37 44 IAMs_20 IAMs_20 03 46 53.2
comp=Z,374nm,20.0s
HYT Haines Junctio 108.55 332 P **PKiKP 03 02 47.3 +0.3**
baz=128

PNL	Peninsula	108.60	330	P		PKiKP	03 02 47.3	+0.3	
	baz=126								
N30M	Aishikik Lake	108.78	333	P		PKiKP	03 02 47.4	+0.1	
	baz=128								
YUK6	Outpost Mounta	108.95	332	P		PKiKP	03 02 48.1	+0.2	
	baz=127								
YUK4	Talbot Arm	109.30	332	P		PKiKP	03 02 48.7	+0.2	
	baz=127								
FUORN	Ofenpass-Fuorn	109.39	46	IAMs_20	IAMs_20		03 43 42.3		
	comp=Z,314nm,20.0s								
O28M	Mount Upton	109.57	331	P		PKiKP	03 02 48.9	-0.2	
	baz=126								
YUK8	Steele Glacier	109.70	332	P		PKiKP	03 02 50.1	+0.7	
	baz=126								
M29M	Somme Creek	109.89	333	P		PKiKP	03 02 50.0	+0.5	
	baz=126								
MESA	MESA	109.95	330	P		PKiKP	03 02 50.2	+0.4	
	baz=124								
C36M	Paulatuk	109.99	343	IAMs_20	IAMs_20		03 49 03.2		
	comp=Z,274nm,21.0s								
C36M	Paulatuk	109.99	343	P		PKiKP	03 02 50.2	+0.9	
	baz=136								
CTG	Chitna Glacier	110.14	331	P		PKiKP	03 02 50.2	+0.2	
	baz=124								
L29M	L29M	110.16	334	P		PKiKP	03 02 50.1	+0.3	
	baz=126								
YUK3	Moose Creek	110.26	332	P		PKiKP	03 02 50.8	+0.5	
	baz=125								
K29M	Barlow Dome	110.38	335	P		PKiKP	03 02 50.9	+0.5	
	baz=127								
J30M	Hart River	110.41	336	IAMs_20	IAMs_20		03 48 06.6		
	comp=Z,349nm,19.0s								
J30M	Hart River	110.41	336	P		PKiKP	03 02 51.1	+0.7	
	baz=127								
BGLC	Bering Glacier	110.47	330	P		PKiKP	03 02 51.4	+1.0	
	baz=123								
H31M	Peel River	110.51	337	P		PKiKP	03 02 51.7	+1.3	
	baz=129								
TULEG	Thule	110.54	1	IAMs_20	IAMs_20		03 57 23.2		
	comp=Z,327nm,20.0s								
I30M	Mount Dempster	110.82	336	IAMs_20	IAMs_20		03 46 27.4		
	comp=Z,272nm,21.0s								
I30M	Mount Dempster	110.82	336	P		PKiKP	03 02 52.5	+1.4	
	baz=127								
KAIM	Kayak Island	110.84	329	P		PKiKP	03 02 51.7	+0.6	
	baz=122								
J29N	Klondike Camp	110.99	335	P		PKiKP	03 02 52.2	+0.7	
	baz=126								
MCARA	McCarthy VSAT	111.06	331	P		PKiKP	03 02 52.3	+0.7	
	baz=123								
M27K	Edge Creek, AK	111.14	332	P		PKiKP	03 02 53.1	+1.2	
	baz=124								
G31M	Satah River	111.18	338	P		PKiKP	03 02 53.0	+1.4	
	baz=128								
Q23K	Middleton Isla	111.41	328	P		PKiKP	03 02 53.1	+0.9	
	baz=121								
BMRM	Bremner River	111.48	330	P		PKiKP	03 02 53.5	+1.1	
	baz=122								
L27K	Beaver Creek,	111.51	333	IAMs_20	IAMs_20		03 48 01.0		
	comp=Z,337nm,19.0s								
L27K	Beaver Creek,	111.51	333	P		PKiKP	03 02 53.4	+0.9	
	baz=124								
M26K	Nabesna, AK	111.60	332	P		PKiKP	03 02 52.7	0.0	
	baz=123								
EPYK	Eagle Plains	111.62	337	IAMs_20	IAMs_20		03 47 10.6		
	comp=Z,451nm,21.0s								
EPYK	Eagle Plains	111.62	337	P		PKiKP	03 02 53.1	+0.6	
	baz=126								
EYAK	Cordova Ski Ar	111.74	329	P		PKiKP	03 02 53.7	+0.9	
	baz=121								
N25K	Chitina, Valde	111.81	331	P		PKiKP	03 02 52.6	-0.5	
	baz=122								
INK	Inuvik	111.82	339	P		PKiKP	03 02 54.3	+1.6	
	baz=129								
G30M	tAoh Zraii Nji	111.83	338	P		PKiKP	03 02 52.7	-0.2	
	baz=127								
F30M	Barrier River	112.07	338	P		PKiKP	03 02 54.4	+1.1	
	baz=127								
H29M	Whitestone	112.07	336	P		PKiKP	03 02 54.6	+1.2	
	baz=125								
L26K	Log Cabin Wild	112.08	332	IAMs_20	IAMs_20		03 49 02.9		
	comp=Z,386nm,19.0s								
L26K	Log Cabin Wild	112.08	332	P		PKiKP	03 02 54.2	+0.7	
	baz=122								
K27K	Chicken	112.14	334	IAMs_20	IAMs_20		03 50 13.5		
	comp=Z,229nm,19.0s								
K27K	Chicken	112.14	334	P		PKiKP	03 02 55.1	+1.6	
	baz=123								
A36M	Sachs Harbour	112.15	344	IAMs_20	IAMs_20		03 54 09.3		
	comp=Z,318nm,20.0s								
A36M	Sachs Harbour	112.15	344	P		PKiKP	03 02 53.7	+0.4	
	baz=134								
I28M	Miner Creek	112.16	335	IAMs_20	IAMs_20		03 48 11.0		
	comp=Z,337nm,19.0s								
I28M	Miner Creek	112.16	335	P		PKiKP	03 02 55.6	+1.9	
	baz=124								
P23K	Montague Islan	112.16	328	P		PKiKP	03 02 55.1	+1.5	
	baz=120								
EGAK	Eagle	112.22	334	P		PKiKP	03 02 53.0	-0.6	
	baz=123								
KLU	Klutina	112.30	330	P		PKiKP	03 02 54.0	0.0	
	baz=121								
M24K	Tolsona, Glenn	112.71	331	P		PKiKP	03 02 55.9	+1.2	
	baz=120								
I27K	Kandik River	112.83	335	P		PKiKP	03 02 55.8	+0.9	
	baz=123								
PAX	Paxson	112.87	332	P		PKiKP	03 02 57.0	+1.9	
	baz=121								
J26L	Joseph Creek	112.94	334	IAMs_20	IAMs_20		03 57 40.7		
	comp=Z,264nm,21.0s								
J26L	Joseph Creek	112.94	334	P		PKiKP	03 02 54.5	-0.7	
	baz=122								
SCM	Sheep Creek Mo	113.05	330	P		PKiKP	03 02 56.6	+1.2	
	baz=120								
E29M	Blow River	113.17	338	IAMs_20	IAMs_20		03 52 03.6		
	comp=Z,313nm,19.0s								
E29M	Blow River	113.17	338	P		PKiKP	03 02 57.3	+1.9	
	baz=125								
M23K	Glacier View	113.19	330	P		PKiKP	03 02 57.5	+1.9	
	baz=119								
I26K	Coal Creek Min	113.22	334	IAMs_20	IAMs_20		04 00 46.9		
	comp=Z,244nm,21.0s								
I26K	Coal Creek Min	113.22	334	P		PKiKP	03 02 57.0	+1.4	
	baz=122								
F28M	Old Crow	113.35	337	IAMs_20	IAMs_20		03 48 14.3		
	comp=Z,393nm,22.0s								
F28M	Old Crow	113.35	337	P		PKiKP	03 02 57.4	+1.7	
	baz=124								
O22K	Cooper Landing	113.41	328	P		PKiKP	03 02 57.9	+1.9	
	baz=118								
K24K	Donnelly Dome	113.42	332	P		PKiKP	03 02 57.8	+1.7	
	baz=120								
SML	Sawmill	113.45	330	P		PKiKP	03 02 57.2	+1.0	
	baz=119								
KDAK	Kodiak Island	113.46	325	P		PKiKP	03 02 57.8	+1.6	
	baz=117								
G27K	Doyon Strip	113.50	336	IAMs_20	IAMs_20		03 57 20.2		
	comp=Z,211nm,19.0s								
BRSE	Bradley Lake S	113.51	327	P		PKiKP	03 02 57.5	+1.2	
	baz=118								
OHAK	Old Harbor	113.54	324	P		PKiKP	03 02 59.0	+2.7	
	baz=117								
WAT6	Susitna Watana	113.58	331	P		PKiKP	03 02 54.2	-2.4	
	baz=119								
J25K	Saicha River,	113.67	333	P		PKiKP	03 02 57.8	+1.2	
	baz=120								
SII	Sitkinak Islan	113.68	323	P		PKiKP	03 02 57.0	+0.3	
	baz=116								
Q20K	Shuyak Island	113.75	326	P		PKiKP	03 02 59.4	+2.7	
	baz=117								
E28M	Babbage River	113.79	338	IAMs_20	IAMs_20		03 50 51.0		
	comp=Z,276nm,20.0s								
D28M	Stokes Point	113.96	339	P		PKiKP	03 02 58.3	+1.5	
	baz=124								
WAT1	Susitna Watana	114.03	331	P		PKiKP	03 03 00.4	+3.1	
	baz=118								
PRP	Porcupine Dome	114.18	334	IAMs_20	IAMs_20		04 00 58.3		
	comp=Z,229nm,18.0s								
E27K	Coleen River	114.21	337	IAMs_20	IAMs_20		03 49 40.0		
	comp=Z,323nm,19.0s								
SUA	Susitna One	114.31	329	P		PKiKP	03 03 01.6	+3.7	
	baz=117								
ILAR	Eielson Array	114.31	333	PKP	PKPdf		03 02 57.2	-0.4	
	comp=Z,0.1nm,0.5s,baz=58,slow=2.2,SNR=2.0								
Q19K	Cape Douglas,	114.47	326	P		PKiKP	03 03 03.5	+5.3	
	baz=116								
D27M	Malcolm River	114.58	339	IAMs_20	IAMs_20		03 49 41.6		
	comp=Z,301nm,21.0s								
FYU	Fort Yukon	114.59	335	IAMs_20	IAMs_20		04 02 55.3		
	comp=Z,223nm,19.0s								
P19K	Oil Pt	114.60	327	P		PKiKP	03 03 01.2	+2.8	
	baz=116								
POKR	Poker Plat Res	114.68	333	IAMs_20	IAMs_20		03 58 48.8		
	comp=Z,330nm,20.0s								
NEA2	Nenana	115.06	332	IAMs_20	IAMs_20		03 50 10.7		
	comp=Z,264nm,20.0s								
E25K	Arctic Village	115.46	337	IAMs_20	IAMs_20		03 50 22.2		
	comp=Z,355nm,20.0s								
D25K	Kavik River	116.29	338	IAMs_20	IAMs_20		03 52 52.9		
	comp=Z,324nm,20.0s								
E24K	Your Creek	116.42	336	IAMs_20	IAMs_20		03 52 57.4		
	comp=Z,290nm,19.0s								
D24K	Happy Valley	117.00	337	IAMs_20	IAMs_20		03 51 32.7		
	comp=Z,337nm,20.0s								
TOLK	Toolik Lake Re	117.02	336	PKPdf	PKiKP		03 03 03.6	+0.7	
TOLK				IAMs_20	IAMs_20		03 51 23.4		
	comp=Z,408nm,21.0s								
TOLK	Toolik Lake Re	117.02	336	P	PKiKP		03 03 04.4	+1.6	
	baz=115								
ASAR	Alice Springs	117.25	207	PKP	PKPdf		03 03 03.5	-1.3	
	comp=Z,0.3nm,0.4s,baz=130,slow=1.6,SNR=2.4								
J19K	Poorman	117.41	330	P	PKPdf		03 03 03.1	-0.6	
	baz=112								
F22K	John River	117.45	335	P	PKPdf		03 03 03.2	-0.5	
	baz=113								
N16K	Nishlik Lake	117.47	326	P	PKPdf		03 03 03.2	-0.7	
	baz=111								
O15K	Ungalikthiuk R	117.50	325	P	PKPdf		03 03 00.5	-3.5	
	baz=111								
D23K	Nanushuk River	117.53	336	P	PKPdf		03 03 01.9	-1.8	
	baz=114								
G21K	Allakaket	117.55	333	P	PKiKP		03 03 08.2	+4.3	
	baz=113								
J18K	Innoko River	117.66	330	P	PKiKP		03 03 04.9	+0.8	
	baz=111								
C23K	Itkillik River	117.85	337	P	PKiKP		03 03 04.6	+0.3	
	baz=113								
N15K	Kwethluk River	117.98	326	P	PKiKP		03 03 08.3	+3.4	
	baz=110								
H19K	Roundabout Mou	118.30	332	IAMs_20	IAMs_20		03 52 39.4		
	comp=Z,248nm,19.0s								
F20K	Avaraart Lake	118.56	334	IAMs_20	IAMs_20		03 58 09.2		
	comp=Z,219nm,20.0s								
G19K	Purcell Mounta	118.76	332	IAMs_20	IAMs_20		03 52 34.5		
	comp=Z,244nm,18.0s								
B22K	Teshekpuk Lake	118.94	338	P	PKiKP		03 03 12.2	+5.8	
	baz=111								
ISP	Isparta	119.19	62	IAMs_20	IAMs_20		03 54 57.9		
	comp=Z,378nm,20.0s								
G18K	Tagagawik	119.28	332	P	PKPdf		03 03 07.3	+0.1	
	baz=109								
K15K	Wolf Creek Mou	119.34	328	P	PKiKP		03 03 08.1	+0.7	
	baz=108								
I17K	Unalakleet	119.47	329	IAMs_20	IAMs_20		04 04 08.6		
	comp=Z,238nm,20.0s								
I17K	Unalakleet	119.47	329	P	PKiKP		03 03 11.2	+3.5	
	baz=108								
L14K	Kuka Creek	119.56	326	P	PKiKP		03 03 12.0	+4.2	
	baz=108								
SUW	Suwalki	119.93	43	PKPdf	PKPdf		03 03 08.2	-0.6	
CSS	Mathiatis	120.19	66	IAMs_20	IAMs_20		03 55 26.6		
	comp=Z,319nm,20.0s								
WRA	Warramunga Arr	120.44	209	PKP	PKPdf		03 03 10.1	-0.9	
	comp=Z,0.9nm,0.4s,baz=169,slow=1.7,SNR=7.8								
E18K	Tukpahlearik C	120.48	333	IAMs_20	IAMs_20		04 00 44.9		
	comp=Z,208nm,20.0s								
M11K	Mekoryuk	120.94	325	P	PKiKP		03 03 13.2	+2.7	
	baz=106								
BRTR	Keskin Array B	122.15	61	PKP	PKPdf		03 03 12.3	-1.4	
	comp=Z,0.7nm,0.7s,baz=228,slow=5.6,SNR=5.1								
AKASG	Malin Array Be	122.52	48	PKP	PKPdf		03 03 11.5	-2.3	
	comp=Z,0.3nm,0.4s,baz=265,slow=2.3,SNR=4.9								
SPITS	Spitsbergen Ar	122.97	14	PKP	PKPdf		03 03 14.0	-0.1	
	comp=Z,20nm,1.2s,baz=294,slow=11,SNR=1.8								
FINES	FINESS Array B	123.32	35	PKP	PKPdf		03 03 14.6	-0.4	
	comp=Z,1.7nm,0.9s,baz=193,slow=5.6,SNR=4.8								
ARCES	ARCESS Array B	124.33	25	PKP	PKPdf		03 03 16.6	-0.2	
	comp=Z,2.1nm,0.8s,baz=242,slow=4.5,SNR=12								
KBZ	Khabaz	129.91	59	PKP	PKPdf		03 03 27.0	-1.2	
	comp=Z,0.8nm,0.6s,baz=276,slow=3.8,SNR=3.7								
KBZ				PKKP	PKKPdf		03 13 30.6	-1.0	
	comp=Z,1.3nm,0.7s,baz=276,slow=5.0,SNR=4.0								
BILL	Bilibino	132.96	334	IAMs_20	IAMs_20		03 53 45.8		
	comp=Z,344nm,22.0s								
PETK	Petropavlovsk-	140.17	314	PP	PP		03 06 44.0	-1.2	
	comp=Z,2.1nm,0.8s,baz=110,slow=8.5,SNR=1.9								
ABKAR	Abkulak array	142.01	52		PKPpre		03 03 44.9		
PMBI	Palembang	142.92	175	IAMs_20	IAMs_20		04 09 00.8		
	comp=Z,254nm,20.0s								
TOLI2	Tolitoli	144.83	203	PKPdf	PKPab		03 03 54.2	-1.3	
BRVK	Borovoye	147.54	43		PKPdf		03 04 01.1	+1.2	
BVAR	Borovoye Array	147.61	43	PKPbc	PKPdf		03 04 01.1	+1.0	
	comp=Z,5.1nm,0.6s,baz=316,slow=3.7,SNR=23								
SIMJ	Simiganj	148.73	71		PKPbc		03 04 06.5	+0.1	
IPM	Ipoh	149.74	167		PKPbc		03 04 09.1	-0.4	
KULM	Kulim	150.46	166	IAMs_20	IAMs_20		04 05 14.1		
	comp=Z,239nm,21.0s								
YSS	Yuzh-Sakhalins	150.76	306	PKPdf	PKPdf		03 04 07.2	+1.9	
YSS				PKPab	PKPab		03 04 18.7	+0.7	
ERM	Erimo	151.20	296	PKPab	PKPab		03 04 21.9	+1.8	
JKA	Kamikawa-asahi	151.39	301		PKiKP		03 04 13.0	+0.1	
ASAJ	Asahikawa	151.39	301	PKPbc	PKPbc		03 04 12.6	+0.1	
	comp=Z,7.2nm,1.0s,baz=100,slow=11,SNR=4.1								
ASAJ				PKPab	sPKPbc		03 04 20.3	-1.0	
	comp=Z,27nm,1.1s,baz=180,slow=1.0,SNR=6.7								
ARSB	Arslanbob	151.81	65	PKPdf	PKPdf		03 04 08.0	+0.7	
AAK	Ala-Archa	152.82	62	PKPdf	PKPdf		03 04 09.9	+1.1	
KURBB	Kurchatov Arra	153.20	44	PKP	PKPdf		03 04 08.5	-0.3	
	comp=Z,0.8nm,0.6s,baz=305,slow=1.6,SNR=7.5								
KURBB				PKPbc	PKPbc		03 04 16.1	-0.2	
	comp=Z,3.3nm,0.6s,baz=301,slow=2.9,SNR=38								
KURBB				PKPab	sPKPbc		03 04 25.5	+0.3	
	comp=Z,4.7nm,0.8s,baz=294,slow=3.7,SNR=17								
KURBB				PP	PP		03 07 59.2	-2.7	
	comp=Z,0.2nm,0.5s,baz=303,slow=5.4,SNR=2.3								
KURK	Kurchatov	153.21	43	PKPdf	PKPdf		03 04 10.2	+1.4	
KSH	Kashi	154.17	69	PKPbc	PKPdf		03 04 11.9	+1.1	
KSH				pPKP	PKPbc		03 04 18.9	-0.1	
KSH				PP	PP		03 08 06.5	-1.7	
KSH				LR	LR				
	comp=Z,160nm,18.6s								
KSH				LR	LR				
	comp=Z,310nm,19.9s								
KSH				LR	LR				
	comp=Z,420nm,19.8s								
ZAA0	Zalesovo Array	154.55	32	PKPdf	PKPdf		03 04 10.7	+0.1	
ZALV	Zalesovo Beam	154.55	32	PKPdf	PKPdf		03 04 10.1	-0.5	
ZALV	Zalesovo Beam	154.55	32	PKP	PKPdf		03 04 09.8	-0.8	
	comp=Z,1.4nm,0.7s,baz=264,slow=3.0,SNR=6.7								
ZALV				PKPbc	PKiKP		03 04 19.4	+0.3	
	comp=Z,6.5nm,0.7s,baz=300,slow=3.2,SNR=20								
MJAR	Matsushiro Arr	155.07	284	PKP	PKPdf		03 04 12.0	0.0	
	comp=Z,0.3nm,0.4s,baz=175,slow=5.0,SNR=1.6								
TARG	Taragay, Kyrgy	155.37	64	PKPdf	PKPdf		03 04 12.7	-0.1	
KLR	Kul'dur	156.76	317	PKP	PKPdf		03 04 11.5	-2.3	
	comp=Z,1.7nm,1.1s,baz=3.3,slow=8.7,SNR=2.5								
MKAR	Makanchi Array	157.09	49	PKPdf	PKPdf		03 04 13.8	-0.5	
MKAR	Makanchi Array	157.09	49	PKP	PKPdf		03 04 12.4	-1.9	
	comp=Z,0.6nm,0.8s,baz=292,slow=3.3,SNR=5.1								
MKAR				PKPab	PKPab		03 04 43.6	-1.3	
	comp=Z,1.7nm,0.8s,baz=266,slow=4.9,SNR=5.5								
MKAR				PP	PP		03 08 24.1	+0.2	
	comp=Z,0.4nm,0.9s,baz=1.3,slow=0.8,SNR=1.8								
WMQ	Urumqi	161.80	52	ePKP	PKPdf		03 04 19.5	-0.4	
WMQ				LR	LR				
	comp=Z,160nm,24.2s								
CMAR	Chiang Mai Arr	162.44	151	PKP	PKPdf		03 04 20.6	-0.6	
	comp=Z,1.0nm,0.4s,baz=286,slow=2.5,SNR=4.1								
KSRS	Korea Array	163.29	287	PKP	PKPdf		03 04 21.1	-0.4	
	comp=Z,0.5nm,0.7s,baz=224,slow=14,SNR=2.0								
ULN	Ulaanbaatar	166.39	2		PKPab		03 05 27.1	+1.5	
SONM	Songino Array	166.39	4	PKPab	PKPab		03 05 26.6	+1.1	
SONM	Songino Array	166.39	4	PKP	PKPdf		03 04 20.9	-3.1	
	comp=Z,0.7nm,0.4s,baz=270,slow=0.4,SNR=2.7								
SONM				PKPab	PKPab		03 05 25.3	-0.2	
	comp=Z,1.3nm,0.6s,baz=320,slow=3.6,SNR=8.0								
SONM				PP	PP		03 09 11.1	-1.4	
	comp=Z,0.3nm,0.5s,baz=347,slow=5.0,SNR=2.8								
GOMU	GeErMu	169.29	76	PKP	PKPdf		03 04 27.7	+1.0	
GOMU				SKKS			03 16 14.0		
GOMU				AMB	AMB				
	comp=Z,230nm,4.7s								
GOMU				LR	LR				
	comp=Z,290nm,16.9s								
GOMU				LR	LR				
	comp=Z,330nm,16.3s								
GOMU				LR	LR				
	comp=Z,480nm,19.9s								
NJ2	Nanjing	170.39	260	ePKP	PKPdf		03 04 28.0	+1.0	
TIA	Tai'an	172.04	287	PKP	PKPdf		03 04 36.8	+9.1	
HHC	Hu-ho-hao-te	172.73	336	ePKP	PKPdf		03 04 24.2	-3.8	
HHC				LR	LR				
	comp=Z,170nm,15.3s								
HHC				LR	LR				
	comp=Z,140nm,15.3s								
HHC				LR	LR				
	comp=Z,310nm,15.3s								
WHN	Wuhan	173.27	239	PKP	PKPdf		03 04 28.8	+0.4	
WHN				pPKP	sPKPdf		03 04 40.1	+2.8	
CD2	Chengdu	175.30	134	PKP	PKPdf		03 04 27.2	-1.9	
LZH	Lanzhou	176.35	59	ePKP	PKPdf		03 04 26.6	-2.8	
LZH				pPKP	sPKPdf		03 04 38.4	+0.1	
LZH				SKKS			03 16 52.5		
XAN	Xi'an	178.96	259	⇑PKP	PKPdf		03 04 29.8	+0.2	
XAN				pPKP	sPKPdf		03 04 39.2	+0.6	
XAN				PP	PP		03 10 20.6	+4.6	
XAN				SKKS			03 17 00.5		
XAN				AMB	AMB				
	comp=Z,270nm,8.3s								
XAN				LR	LR				
	comp=Z,220nm,17.2s								
XAN				LR	LR				
	comp=Z,370nm,21.3s								

IDC **06** *02:53:37.3±0.9, 34.67°S×179.92°W, h0km, mb4.3/6, mbtmp4.3/7, ML4.2/1, MS3.7/1, Error ellipse: s-maj=32.5km s-min=23.6km az=51.0*
WEL **06** *02:53:43.6±1.3, 35.5°S±5.5°×18.0°W±1.2, h12km, M4.5/23, ML4.6/22, MLv4.5/23, Error ellipse: s-maj=0.0km s-min=0.0km az=87.1, confirmed*
NEIC **06** *02:53:45.1±2.0, 35.0°S±0.1°×179.97°W±0.0, h35km±2km, mb4.4/8, Error ellipse: s-maj=21.9km s-min=5.6km az=7.0*

ISC 06 02:53:43.9±0.8, 35.00°S±0.0°×179.71°W±0.0, h35km, n69, σ1s57/71, mb4.3/10, East of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
MXZ	Matakaoa Point	3.02	212		Pn	02 54 29.5	+0.3
MXZ	Matakaoa Point	3.02	212	P	Pn	02 54 28.8	-0.4
MXZ				S	Sn	02 55 03.5	-0.6
MXZ				T	T	02 57 24.8	
WMGZ	Waiomatatini S	3.19	208	P	Pn	02 54 32.9	+1.3
WMGZ				S	Sn	02 55 13.3	+4.9
PKGZ	Pakihiroa	3.39	211	P	Pn	02 54 35.0	+0.6
PKGZ				S	Sn	02 55 15.6	+2.2
HAZ	Te Kaha	3.41	216	P	Pn	02 54 34.6	0.0
PUZ	Puketiti	3.47	208	P	Pn	02 54 35.8	+0.3
WIZ	White Island	3.55	224	P	Pn	02 54 37.3	+0.7
RUGZ	Raukumara Rang	3.63	215	P	Pn	02 54 38.5	+0.7
TWGZ	Tauwhareparae	3.67	210	P	Pn	02 54 38.7	+0.4
TWGZ				S	Sn	02 55 22.4	+2.0
CNGZ	Carnagh Statio	3.86	205	P	Pn	02 54 41.3	+0.6
WHRZ	Whale Island	3.91	222	P	Pn	02 54 43.1	+1.7
TKGZ	Te Karaka	3.95	209	P	Pn	02 54 41.9	-0.2
TKGZ				S	Sn	02 55 26.8	-0.3
MWZ	Matawai	4.00	213	P	Pn	02 54 43.0	+0.3
URZ	Urewera	4.14	217	Pn	Pn	02 54 43.5	-1.0
	12nm,0.3s,baz=98,slow=10,SNR=84						
URZ				Sn	Sn	02 55 29.5	-2.2
	19nm,0.3s,baz=48,slow=23,SNR=5.1						
	47nm,0.5s						
URZ	Urewera	4.14	217	P	Pn	02 54 44.3	-0.3
OPRZ	Ohinepanea	4.14	226	P	Pn	02 54 44.8	+0.2
RIGZ	Rimuhau	4.22	208	P	Pn	02 54 43.8	-1.9
RIGZ				S	Sn	02 55 33.4	-0.4
TGRZ	Tauranga	4.24	229	P	Pn	02 54 46.8	+0.8
PRGZ	Paritu Road	4.36	206	P	Pn	02 54 47.4	-0.3
PRGZ				S	Sn	02 55 37.8	+0.5
SNGZ	Shannon Statio	4.45	211	P	Pn	02 54 48.9	-0.1
SNGZ				S	Sn	02 55 39.9	+0.3
MUGZ	Murupara	4.47	218	P	Pn	02 54 48.2	-1.1
RTZ	Ruatahuna	4.48	215		Pn	02 54 48.4	-1.0
WIAZ	Waiheke Island	4.55	245	P	Pn	02 54 50.9	+0.6
MKAZ	Moumakai	4.65	242	P	Pn	02 54 52.8	+1.1
ABAZ	Army Bay	4.71	249	P	Pn	02 54 54.1	+1.6
TOZ	Tahuroa Road	4.73	233		Pn	02 54 53.5	+0.8
ETAZ	East Tamaki Re	4.76	244	P	Pn	02 54 54.9	+1.7
KBAZ	Karaka Road Bo	4.85	243	P	Pn	02 54 56.2	+1.9
WCZ	Waipu Caves	4.94	257	P	Pn	02

az=53.0
*MEX **06** 03:03:16.2±0.9, 16°.74N×95°.05W, h101km±5km, MD4.7*
*NEIC **06** 03:03:16.6±1.7, 16°.84N±0°.09×94°.92W±0°.07, h90km±9km, mb4.5/60, Error ellipse: s-maj=14.4km s-min=8.3km az=208.0*

ISC 06 03:03:15.6±0.5, **16°.76N**±0°.03×**95°.10W**±0°.03, **h100**km±4km, **n163**, σ**2**§**19**/205, **mb3.9**/16, **Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.39**	**32**	LR	LR		03 03 07.1	
	comp=Z,48nm,19.2s,baz=292,slow=31							
CMIG				P	**Pn**		**03 03 30.0**	**-0.7**
	2μm,0.4s,baz=214,slow=5.2,SNR=4430							
CMIG				S	**Sn**		**03 03 41.1**	**-0.9**
	2μm,0.5s,baz=108,slow=19,SNR=22							
CMIG	**Matias Romero**	**0.39**	**32**	*i* P	**Pn**		**03 03 30.2**	**-0.6**
CMIG				*e*S	**Sn**		**03 03 40.8**	**-1.2**
NILT	**Santiago Nilte**	**0.50**	**113**	*e*P	**Pn**		**03 03 30.8**	**-0.7**
NILT				*i* S	**Sn**		**03 03 41.8**	**-1.5**
UXUV	**UXUV**	**1.07**	**59**	*e*P	**Pn**		**03 03 36.5**	**-0.3**
UXUV				*e*S	**Sn**		**03 03 51.4**	**-1.3**
NEUV	**Arroyo Zacate**	**1.16**	**325**	*i* P	**Pn**		**03 03 37.3**	**-0.5**
NEUV				*i* S	**Sn**		**03 03 54.1**	**-0.5**
CARR	**Arriaga**	**1.25**	**114**	*e*P	**Pn**		**03 03 37.7**	**-1.1**
CARR				*i* S	**Sn**		**03 03 54.2**	**-2.2**
MIHL	**Minatitlan**	**1.33**	**23**	*e*P	**Pn**		**03 03 39.9**	**+0.1**
MIHL				*e*S	**Sn**		**03 03 58.4**	**+0.3**
HUIG	**Huatulco**	**1.38**	**225**	*i* P	**Pn**		**03 03 38.7**	**-1.8**
HUIG				*i* S	**Sn**		**03 03 57.9**	**-1.4**
TUIG	**Tuzandepetl**	**1.42**	**27**	*e*P	**Pn**		**03 03 40.6**	**-0.3**
OXLC	**Oaxaca**	**1.56**	**281**	*e*P	**Pn**		**03 03 44.3**	**+1.4**
OXBJ	**Oaxaca**	**1.58**	**281**	*e*P	**Pn**		**03 03 44.2**	**+1.1**
OXBJ				*e*S	**Sn**		**03 04 04.5**	**+0.5**
VHO	**Vista Hermosa**	**1.59**	**281**	*e*P	**Pn**		**03 03 44.4**	**+1.2**
VHO				*e*S	**Sn**		**03 04 04.9**	**+0.7**
PMUV	**Sontecomapan**	**1.77**	**359**	*e*P	**Pn**		**03 03 44.6**	**-0.8**
PMUV				*e*S	**Sn**		**03 04 05.5**	**-2.6**
TGIG		**1.89**	**89**	*e*P	**Pn**		**03 03 46.1**	**-0.8**
TGIG				*e*S	**Sn**		**03 04 07.1**	**-3.7**
TGBT	**Tuxtla Gutierr**	**1.93**	**89**	*e*P	**Pn**		**03 03 45.6**	**-1.6**
TGBT				*e*S	**Sn**		**03 04 09.0**	**-2.4**
PCIG		**2.09**	**120**	*e*P	**Pn**		**03 03 48.9**	**-0.5**
PCIG				*e*S	**Sn**		**03 04 14.2**	**-1.0**
PEIG	**Puerto Escondi**	**2.11**	**249**	*e*P	**Pn**		**03 03 47.9**	**-1.7**
PEIG				*e*S	**Sn**		**03 04 12.7**	**-2.9**
TOIG	**Toxpalan**	**2.30**	**306**	*e*P	**Pn**		**03 03 53.1**	**+0.9**
YOIG	**Yosondua**	**2.34**	**273**	*e*P	**Pn**		**03 03 52.9**	**0.0**
VHSA	**Villahermosa**	**2.39**	**59**	*e*P	**Pn**		**03 03 51.9**	**-1.4**
VHSA				*e*S	**Sn**		**03 04 20.1**	**-2.2**
TXIG	**Tlaxiaco**	**2.60**	**281**	*e*P	**Pn**		**03 03 57.4**	**+1.1**
TXIG				*e*S	**Sn**		**03 04 21.5**	**-6.1**
TPIG	**Tehuac#an**	**2.71**	**308**	*e*P	**Pn**		**03 03 59.3**	**+1.6**
TPIG				*e*S	**Sn**		**03 04 29.2**	**-0.9**
OZST	**Orizaba**	**2.82**	**318**	*e*P	**Pn**		**03 03 58.8**	**-0.3**
OZST				*e*S	**Sn**		**03 04 27.1**	**-5.6**
CCIG	**Comitan**	**2.88**	**99**		**Pn**		**03 03 58.8**	**-1.2**
CCIG				Sn	**Sn**		**03 04 28.3**	**-5.7**
CCIG	**Comitan**	**2.88**	**99**	*e*P	**Pn**		**03 03 59.9**	**0.0**
CCIG				*e*S	**Sn**		**03 04 27.5**	**-6.5**
PNIG	**Pinotepa**	**2.93**	**263**	*e*P	**Pn**		**03 03 59.4**	**-1.0**
PNIG				*e*S	**Sn**		**03 04 32.0**	**-2.9**
JAUV	**Jalcomulco**	**3.06**	**328**	*e*P	**Pn**		**03 04 01.3**	**-0.9**
JAUV				*e*S	**Sn**		**03 04 31.3**	**-6.8**
FTIG	**Fresnillo de T**	**3.11**	**292**	*e*P	**Pn**		**03 04 04.6**	**+1.6**
FTIG				*e*S	**Sn**		**03 04 35.0**	**-4.6**
LVIG	**Laguna Verde**	**3.20**	**337**	*e*P	**Pn**		**03 04 02.7**	**-1.3**
LVIG				*e*S	**Sn**		**03 04 37.4**	**-4.0**
PATR	**El Naranjo**	**3.21**	**120**	*e*P	**Pn**		**03 04 04.7**	**+0.3**
PATR				*e*S	**Sn**		**03 04 41.9**	**-0.1**
THIG		**3.29**	**124**	*e*P	**Pn**		**03 04 02.5**	**-2.8**
THIG				*e*S	**Sn**		**03 04 43.2**	**-0.5**
CHUJ	**Union Juarez**	**3.32**	**120**	*e*P	**Pn**		**03 04 06.0**	**+0.1**
CHUJ				*e*S	**Sn**		**03 04 44.0**	**-0.8**
TLIG	**Tlapa**	**3.41**	**284**	Pn	**Pn**		**03 04 08.0**	**+1.1**
TLIG	**Tlapa**	**3.41**	**284**	*e*	**Pn**		**03 04 08.4**	**+1.4**
TLIG				*e*			03 04 33.9	
MGIG	**Malinaltepec**	**3.41**	**278**	*e*P	**Pn**		**03 04 08.1**	**+1.0**
MGIG				*i*			03 04 37.1	
HMTT	**Tlapaneco**	**3.46**	**288**	*e*P	**Pn**		**03 04 08.3**	**+0.7**
HMTT				*e*			03 04 36.2	
PHPU	**Puebla**	**3.70**	**308**	*e*	Pn		03 04 05.0	-6.0
PHPU				*e*			03 04 42.5	
HUEH	**Huehuetenango**	**3.75**	**112**		**Pn**		**03 04 10.8**	**-0.7**
CRIG	**Cruz Grande**	**3.86**	**270**	*e*P	**Pn**		**03 04 12.2**	**-0.8**
CRIG				*e*S	**Sn**		**03 04 49.1**	**-8.3**
RTAL	**Retalhuleu**	**3.96**	**124**	Pn	**Pn**		**03 04 12.9**	**-1.4**
PPM	**Popocatepetl**	**4.07**	**305**	*e*P	**Pn**		**03 04 19.6**	**+3.5**
PPM				*e*			03 04 50.1	
AMVM	**AMECAMECA**	**4.23**	**304**	*e*	**Pn**		**03 04 21.9**	**+3.7**
AMVM				*e*			03 04 49.6	
YAIG	**Yautepec**	**4.32**	**300**	*e*P	**Pn**		**03 04 22.0**	**+2.8**
YAIG				*e*S	**Sn**		**03 05 06.1**	**-1.9**
SCIG	**Sabancuy**	**4.32**	**59**	*e*P	**Sn**		**03 04 17.2**	**-1.9**
SCIG				*e*S	**Sn**		**03 05 02.0**	**-6.5**
DAIG	**Los Arroyos**	**4.37**	**274**	*e*P	**Pn**		**03 04 19.6**	**-0.1**
DAIG				*e*			03 04 57.4	
MEIG	**Mezcala**	**4.47**	**286**	*e*P	**Pn**		**03 04 23.1**	**+1.8**
MEIG				*e*S	**Sn**		**03 05 08.7**	**-3.5**
THVM	**De Xico**	**4.47**	**305**	*e*P	**Pn**		**03 04 24.7**	**+3.3**
THVM				*e*			03 04 58.8	
PLIG	**Platanillo**	**4.50**	**292**	*e*P	**Pn**		**03 04 23.9**	**+2.2**
PLIG				*e*S	**Sn**		**03 05 09.0**	**-4.0**
TLVM	**San Miguel Top**	**4.56**	**303**	*e*P	**Pn**		**03 04 26.1**	**+3.4**
TLVM				*e*			03 04 58.9	
VTVM	**Tizayuca**	**4.60**	**311**	*e*P	**Pn**		**03 04 24.8**	**+1.6**
VTVM				*i*			03 04 57.0	
MZVM		**4.61**	**302**	*e*P	**Pn**		**03 04 26.9**	**+3.8**
MZVM				*e*			03 05 06.7	
PBVM	**Pinon**	**4.63**	**306**	*e*P	**Pn**		**03 04 27.5**	**+4.2**
PBVM				*e*			03 05 00.5	
UNM	**Universidad Na**	**4.64**	**304**	Pn	**Pn**		**03 04 25.2**	**+1.4**
MAVM	**Malinalco, Edo**	**4.72**	**298**	*e*P	**Pn**		**03 04 27.6**	**+2.8**
MAVM				*e*			03 05 14.1	
AOVM	**Tlapan**	**4.73**	**302**	*e*P	**Pn**		**03 04 28.6**	**+3.5**
AOVM				*e*			03 05 08.7	
INVM	**La Marquesa**	**4.79**	**302**	*e*P	**Pn**		**03 04 28.9**	**+3.1**
INVM				*i*			03 05 14.1	
APG	**El Apazote**	**4.79**	**111**	P	**Pn**		**03 04 24.0**	**-1.7**
	3.3nm,0.5s,baz=215,slow=16,SNR=32							
APG				S	**Sn**		**03 05 15.6**	**-4.7**
	6.7nm,0.4s,baz=209,slow=15,SNR=4.8							
AZVM	**Cuida Lopez Ma**	**4.87**	**306**	*e*P	**Pn**		**03 04 29.7**	**+2.8**
AZVM				*i*			03 05 15.4	
CAIG	**El Cayaco**	**4.96**	**274**	*e*P	**Pn**		**03 04 27.6**	**-0.2**
CAIG				*e*S	**Sn**		**03 05 18.0**	**-5.9**
PETF	**Flores**	**5.01**	**88**		**Pn**		**03 04 27.2**	**-1.3**
DEIG	**Demacu**	**5.13**	**314**	*e*P	**Pn**		**03 04 33.3**	**+3.0**
ARIG	**Puente Sto Nin**	**5.23**	**288**	*e*P	**Pn**		**03 04 33.9**	**+2.4**
ARIG				*e*S	**Sn**		**03 05 26.6**	**-4.0**
ACIG	**Acambay**	**5.55**	**306**	*e*P	**Pn**		**03 04 39.9**	**+3.9**
ESQI	**Esquipulas**	**5.96**	**111**	Pn	**Pn**		**03 04 39.8**	**-1.8**
MTO3	**Montecristo**	**6.01**	**112**	Pn	**Pn**		**03 04 40.2**	**-2.0**
ZIIG	**Zihuatanejo**	**6.14**	**279**	*e*P	**Pn**		**03 04 44.8**	**+1.0**
ZIIG				*e*			03 05 44.1	
JRQG	**Juriquilla Cam**	**6.41**	**309**	Pn	**Pn**		**03 04 49.6**	**+2.0**
MOIG	**Morelia**	**6.47**	**298**		**Pn**		**03 04 51.7**	**+3.2**
MOIG	**Morelia**	**6.47**	**298**	*e*P	**Pn**		**03 04 52.0**	**+3.5**
MOIG				*e*S	**Sn**		**03 05 59.9**	**-1.2**
TEIG	**Tepich**	**7.33**	**61**	Pn	**Pn**		**03 04 56.7**	**-3.3**
MMIG	**Aquila**	**8.01**	**282**	*e*P	**Pn**		**03 05 10.8**	**+1.5**
MMIG				*e*S	**Sn**		**03 06 36.0**	**-2.3**
TGUH	**Tegucigalpa,Un**	**8.01**	**109**		**Pn**		**03 05 06.6**	**-2.8**
CRIN	**San Cristobal**	**8.77**	**116**		**Pn**		**03 05 19.0**	**-0.7**
ZAIG	**Zacatecas**	**9.22**	**312**	Pn	**Pn**		**03 05 28.6**	**+2.6**
HZTE	**Horizontes, Gu**	**11.02**	**122**	Pn	**Pn**		**03 05 48.3**	**-1.9**
ORTG	**Ortega, Santa**	**11.32**	**123**		**Pn**		**03 05 53.8**	**-0.6**
ESPN	**Las Esperanzas**	**11.40**	**112**	Pn	**Pn**		**03 05 54.7**	**-0.7**
DUNO	**Dulce Nombre,**	**11.46**	**124**	Pn	**Pn**		**03 05 54.9**	**-1.3**
JTS	**Las Juntas de**	**11.78**	**122**	Pn	**Pn**		**03 05 57.1**	**-3.3**
JTS	**Las Juntas de**	**11.78**	**122**	P	**Pn**		**03 05 59.7**	**-0.7**
	12nm,0.3s,baz=326,slow=12,SNR=18							
833A	**Chaparral WMA,**	**12.17**	**342**	Pn	**Pn**		**03 06 09.7**	**+4.2**
735A	**Kenedy**	**12.29**	**349**	Pn	**Pn**		**03 06 08.2**	**+1.1**
EF01	**Eagle Ford 01**	**12.67**	**347**	Pn	**Pn**		**03 06 12.3**	**+0.2**
LCR2	**La Lucha 2**	**12.85**	**121**	Pn	**Pn**		**03 06 13.1**	**-1.8**
HNDO	**Hondo**	**13.27**	**344**	Pn	**Pn**		**03 06 22.1**	**+2.0**
DRIO	**Del Rio**	**13.58**	**339**	Pn	**Pn**		**03 06 24.9**	**+0.8**
SRBA	**San Rafael, Bu**	**13.66**	**122**	Pn	**Pn**		**03 06 22.4**	**-2.9**
441A	**DeRidder**	**14.03**	**7**	Pn	**Pn**		**03 06 28.0**	**-1.9**
435B	**Jarrell**	**14.14**	**351**	Pn	**Pn**		**03 06 32.2**	**+0.9**
JCT	**Junction City**	**14.31**	**343**	Pn	**Pn**		**03 06 34.7**	**+1.1**
SAND	**Sanderson**	**14.62**	**335**	Pn	**Pn**		**03 06 39.1**	**+1.5**
TXAR	**Lajitas Array**	**14.78**	**329**	P	**Pn**		**03 06 41.2**	**+1.6**
	0.3nm,0.5s,baz=153,slow=15,SNR=5.0							
TX31	**Lajitas Ar. Si**	**14.78**	**329**	P	**P**		**03 06 43.3**	**+0.3**
BRDY	**Brady**	**14.89**	**347**	Pn	**P**		**03 06 43.0**	**-1.1**
NATX	**Nacogdoches**	**14.94**	**1**	Pn	**Pn**		**03 06 42.4**	**+0.9**
OZNA	**Ozona**	**15.13**	**340**	Pn	**Pn**		**03 06 45.5**	**+1.5**
OZNA				IAmb	IAmb		03 06 55.5	
	comp=Z,26nm,0.5s							
237A	**Washetta, Mont**	**15.19**	**358**		**P**		**03 06 46.5**	**-0.9**
WHTX	**Lake Whitney,**	**15.31**	**352**	P	**P**		**03 06 49.9**	**+1.1**
ALPN	**Alpine**	**15.64**	**332**	Pn	**P**		**03 06 52.0**	**-0.5**
FW13	**Cleburne**	**15.66**	**353**		**P**		**03 06 53.6**	**+1.0**
FW14	**Alvarado**	**15.68**	**353**		**P**		**03 06 52.2**	**-0.7**
FW16	**Waxahatchie**	**15.73**	**354**	P	**P**		**03 06 54.2**	**+0.8**
TREL	**Terrell**	**15.92**	**357**	P	**P**		**03 06 56.9**	**+1.3**
TREL				IAmb	IAmb		03 07 10.2	
	comp=Z,24nm,0.8s							
FW07	**Weatherford**	**16.06**	**352**		**Pn**		**03 06 55.8**	**+0.2**
MNHN	**Monahans**	**16.10**	**336**	P	**P**		**03 06 57.7**	**+0.1**
PLPT	**Palo Pinto**	**16.24**	**350**		**P**		**03 07 00.9**	**+1.8**
FW06	**Azle**	**16.29**	**353**		**P**		**03 07 00.3**	**+0.7**
ABTX	**Abilene, Hawle**	**16.32**	**346**		**P**		**03 07 02.0**	**+2.1**
FW03	**Perrin-Whitt E**	**16.43**	**351**		**P**		**03 07 01.7**	**+0.6**
Z38A	**Mt. Pleasant**	**16.43**	**0**		**P**		**03 07 00.7**	**-0.3**
Z38A				IAmb	IAmb		03 07 07.7	
	comp=Z,27nm,0.8s							
Z41A	**Richland Creek**	**16.55**	**7**	P	**P**		**03 07 03.0**	**+0.5**
Z35A	**Perchaven, San**	**16.61**	**354**	P	**P**		**03 07 04.1**	**+1.0**
Z35A				IAmb	IAmb		03 07 11.0	
	comp=Z,36nm,0.7s							
VHRN	**Van Horn**	**16.62**	**329**	P	**Pn**		**03 07 01.8**	**-0.9**
SN05	**Snyder 5**	**16.88**	**343**	Pn	**Pn**		**03 07 05.5**	**-0.3**
SN05				IAmb	IAmb		03 07 16.6	
	comp=Z,14nm,0.6s							
WLAR	**White Oak Lake**	**16.95**	**6**	P	**Pn**		**03 07 06.3**	**-0.2**
WLAR				IAmb	IAmb		03 07 14.8	
	comp=Z,17nm,0.8s							
656A	**Willston**	**17.04**	**40**		**Pn**		**03 07 06.7**	**-1.0**
656A				IAmb	IAmb		03 07 26.0	
	comp=Z,60nm,1.1s							
POST	**Post**	**17.23**	**342**		**P**		**03 07 10.7**	**+0.6**
POST				IAmb	IAmb		03 07 21.4	
	comp=Z,21nm,0.6s							
LOOK	**Love County**	**17.26**	**354**		**Pn**		**03 07 10.5**	**+0.2**
DKNS	**Dickens**	**17.63**	**344**	P	**Pn**		**03 07 15.7**	**+0.8**
Y45A	**Yeager Farm, C**	**17.75**	**15**	P	**P**		**03 07 16.0**	**+0.3**
Y45A				IAmb	IAmb		03 07 22.9	
	comp=Z,20nm,1.1s							
X37A	**Clayton**	**17.75**	**359**	P	**Pn**		**03 07 16.4**	**+0.1**
MIAR	**Mount Ida**	**17.76**	**4**	P	**Pn**		**03 07 16.2**	**-0.2**
LRAL	**Lakeview Retre**	**17.78**	**23**	P	**P**		**03 07 15.6**	**-0.4**
W35A	**Tecumseh**	**18.38**	**355**	P	**P**		**03 07 22.8**	**+0.1**
W35A				IAmb	IAmb		03 07 47.7	
	comp=Z,18nm,0.9s							
SMWD	**Samnorwood**	**18.84**	**347**	P	**Pn**		**03 07 29.4**	**+0.1**
SMWD				IAmb	IAmb		03 07 51.6	
	comp=Z,16nm,0.6s							
AMTX	**Amarillo**	**18.98**	**343**	P	**Pn**		**03 07 30.5**	**-0.5**
AMTX				IAmb	IAmb		03 08 12.5	
	comp=Z,17nm,0.6s							
DEOK	**Depew**	**19.04**	**357**	P	**P**		**03 07 30.1**	**+0.2**
DEOK				IAmb	IAmb		03 07 54.5	
	comp=Z,13nm,0.8s							
OK029	**Liberty Lake**	**19.07**	**354**	P	**P**		**03 07 30.4**	**+0.3**
OK029				IAmb	IAmb		03 07 53.8	
	comp=Z,12nm,0.7s							
OK031	**S. Brethren Rd**	**19.18**	**356**	P	**P**		**03 07 31.8**	**+0.5**
OK031				IAmb	IAmb		03 07 33.0	
	comp=Z,12nm,0.6s							
OK052	**Battle Ridge R**	**19.21**	**356**	P	**P**		**03 07 32.2**	**+0.5**
OK052				IAmb	IAmb		03 07 33.4	
	comp=Z,15nm,0.6s							
OK033	**Mehan**	**19.27**	**355**	P	**Pn**		**03 07 34.0**	**-0.3**
OK033				IAmb	IAmb		03 07 59.0	
	comp=Z,16nm,0.7s							
HHAR	**Hobbs**	**19.47**	**3**	P	**Pn**		**03 07 35.9**	**-0.8**
OK051	**E0350 and S346**	**19.73**	**356**	P	**P**		**03 07 37.4**	**+0.1**
OK051				IAmb	IAmb		03 08 03.0	
	comp=Z,14nm,0.7s							
OK038	**West end E0370**	**19.90**	**351**	P	**P**		**03 07 40.1**	**+1.0**
OK038				IAmb	IAmb		03 08 22.5	
	comp=Z,24nm,0.9s							
T35A	**Sooner Cattle**	**20.11**	**357**	P	**P**		**03 07 41.3**	**-0.2**
T35A				IAmb	IAmb		03 07 57.8	
	comp=Z,18nm,0.8s							
S39A	**Bolivar**	**20.91**	**4**	P	Pn		03 07 52.9	-0.5
TUC	**Tucson**	**21.01**	**320**	P	**P**		**03 07 55.3**	**+4.1**
TKL	**Tuckaleechee C**	**21.35**	**26**	P	**P**		**03 07 52.4**	**-2.4**
	comp=Z,1.2nm,0.6s,baz=225,slow=16,SNR=1.5							
TKL				S	**S**		**03 11 45.8**	**-0.4**
	comp=Z,3.3nm,1.1s,baz=120,slow=8.1,SNR=1.8							
	comp=Z,1.2nm,0.6s							
R40A	**Maddies Statio**	**21.59**	**6**	P	**P**		**03 07 58.6**	**+1.4**
PDAR	**Pinedale Array**	**28.71**	**337**	P	**P**		**03 09 04.7**	**+1.2**
	comp=Z,0.2nm,0.4s,baz=142,slow=3.4,SNR=1.5							
PDAR				pP	**pP**		**03 09 26.1**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=163,slow=6.6,SNR=2.9							
PDAR				sP	**sP**		**03 09 37.3**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=157,slow=8.0,SNR=3.9							
	comp=Z,0.2nm,0.4s							
F36A	**Milaca**	**29.04**	**2**	P	**P**		**03 09 06.1**	**-0.1**
NVAR	**Mina Array Bea**	**29.66**	**321**	P	**P**		**03 09 15.3**	**+3.3**
	comp=Z,0.4nm,0.6s,baz=129,slow=12,SNR=3.3							
NVAR				sP	**sP**		**03 09 47.3**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=128,slow=9.7,SNR=4.7							
	comp=Z,0.4nm,0.6s							
E43A	**Lone Tree Farm**	**30.29**	**11**	P	**P**		**03 09 16.6**	**-0.6**
EYMN	**Ely**	**31.24**	**5**	P	**P**		**03 09 24.9**	**-0.7**
EYMN				IAmb	IAmb		03 09 40.2	
	comp=Z,7.9nm,1.4s							
ETMB	**Extrema**	**38.91**	**131**	P	**P**		**03 10 32.4**	**+0.7**
SAML	**Samuel**	**40.61**	**127**	P	**P**		**03 10 44.2**	**-1.7**
LPAZ	**La Paz**	**42.26**	**140**	P	**P**		**03 11 02.4**	**+2.4**
	comp=Z,1.9nm,0.7s,baz=329,slow=3.7,SNR=8.3							
YKA	**Yellowknife Ar**	**47.69**	**348**	P	**P**		**03 11 40.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=158,slow=7.7,SNR=7.3							
YKA				pP	**pP**		**03 12 05.0**	**-0.6**
	comp=Z,0.9nm,0.7s,baz=151,slow=6.9,SNR=9.3							
	comp=Z,0.2nm,0.4s							
AC02	**Maricunga**	**50.14**	**149**	P	**P**		**03 12 02.6**	**+1.1**
LCO	**Las Campanas**	**51.25**	**152**	P	**P**		**03 12 10.4**	**+0.9**
LCO				IAmb	IAmb		03 12 47.3	
	comp=Z,4.8nm,1.5s							
CPUP	**Villa Florida**	**56.41**	**139**	P	**P**		**03 12 46.5**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=352,slow=7.1,SNR=3.2							
	comp=Z,1.8nm,0.8s							
G27K	**Doyon Strip**	**58.39**	**340**	P	**P**		**03 13 01.6**	**+1.3**
ILAR	**Eielson Array**	**59.14**	**337**	P	**P**		**03 13 05.1**	**-0.3**
	comp=Z,0.1nm,0.7s,baz=120,slow=8.4,SNR=1.4							
ILAR				pP	**pP**		**03 13 28.5**	**-1.7**
	comp=Z,0.7nm,1.0s,baz=118,slow=5.2,SNR=6.2							
	comp=Z,0.1nm,0.7s							
BMAR	**Burnt Mountain**	**59.69**	**340**	P	**P**		**03 13 11.1**	**+1.8**
ITAB	**Concordia**	**60.42**	**136**	P	**P**		**03 13 17.8**	**+3.0**
PLCA	**Paso Flores**	**61.58**	**159**	P	**P**		**03 13 22.6**	**+0.1**
PLCA				IAmb	IAmb		03 13 37.0	
	comp=Z,11nm,1.4s							
PLCA	**Paso Flores**	**61.58**	**159**	P	**P**		**03 13 22.6**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=333,slow=6.8,SNR=7.0							
	comp=Z,1.3nm,0.7s							
C23K	**Itkillik River**	**62.81**	**341**	P	**P**		**03 13 31.8**	**+1.7**
C23K				IAmb	IAmb		03 13 56.9	
	comp=Z,4.4nm,1.1s							
EKA	**Eskdalemuir Ar**	**77.48**	**36**	P	**P**		**03 15 00.6**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=284,slow=2.9,SNR=3.7							
	comp=Z,0.7nm,0.7s							
PAB	**San Pablo**	**80.09**	**52**	P	**P**		**03 15 15.7**	**+0.9**
PAB				IAmb	IAmb		03 15 16.7	
	comp=Z,11nm,1.5s							
ESDC	**Sonseca Array**	**80.35**	**52**	P	**P**		**03 15 15.1**	**-1.0**
	comp=Z,0.7nm,1.0s,baz=297,slow=5.0,SNR=3.7							
	comp=Z,0.7nm,1.0s							
ARCES	**ARCESS Array B**	**84.45**	**18**	P	**P**		**03 15 37.7**	**+1.0**
	comp=Z,2.5nm,1.0s,baz=347,slow=1.6,SNR=1.4							
	comp=Z,2.5nm,1.0s							
TORD	**Torodi Ar. Bea**	**92.61**	**76**	P	**P**		**03 16 16.1**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=295,slow=5.9,SNR=4.4							
	comp=Z,0.2nm,0.5s							

*TEH **06** 03:15:04.7, 34°.19N×45°.57E, h7km, ML2.7*
*ISN **06** 03:15:04.1±0.6, 34°.21N×45°.57E, h7km±3km, ML2.8*

ISC 06 03:15:05.0±0.9, **34°.18N**±0°.03×**45°.57E**±0°.04, **h10**km, **n13**, σ1§**04**/17, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e Shirin**	**0.32**	**2**	Pg	**Pb**		**03 15 12.2**	**-0.8**
ILBA	**Ilam Banvizeh**	**0.77**	**136**	Pg	**Pb**		**03 15 20.5**	**0.0**
IGHG	**Ghaleghazi**	**0.84**	**80**	Pg	**Pb**		**03 15 22.2**	**+0.3**
IDHR	**Dehrash**	**0.85**	**52**	Pg	**Pg**		**03 15 21.3**	**-0.1**
IBDR	**Badra**	**1.11**	**164**	*e*Pg	**Pb**		**03 15 26.0**	**-0.3**
IBDR				*e*Sg	**Sn**		**03 15 41.6**	**-0.4**
BHD	**Baghdad**	**1.35**	**228**	*e*Pg	**Pg**		**03 15 30.5**	**-0.4**
BHD				*e*Sg	**Sg**		**03 15 49.0**	**+0.6**
BHD				AML	AML		03 16 05.3	
	comp=E,229nm,0.6s							
ILIN	**Lien**	**1.36**	**57**	Pg	**Pg**		**03 15 32.4**	**+1.2**
IKRK	**Kirkuk**	**1.58**	**320**	*e*Pn	**Pb**		**03 15 34.0**	**-0.4**
IKRK				*e*Sn	**Sg**		**03 15 56.0**	**0.0**
IKRK				AML	AML		03 16 01.5	
	comp=E,148nm,0.5s							
IKRK				AML	AML		03 16 12.5	
	comp=N,140nm,0.3s							
SNQR	**Sonqor, Kerman**	**1.83**	**68**	Pn	**Pg**		**03 15 40.0**	**-0.1**
IBZA	**Bozab**	**1.91**	**81**	Pn	**Pg**		**03 15 40.8**	**-0.9**
IDOB	**Doab**	**2.20**	**100**	Pn	**Pb**		**03 15 45.1**	**+0.1**
RAFI	**Al-Rafai**	**2.49**	**169**	*e*Pn	**Pn**		**03 15 47.5**	**+1.8**
RAFI				*e*Sn	**Sb**		**03 16 19.0**	**-1.6**
BDRS	**Dareh Seyedi**	**2.75**	**94**	Pn	**Pb**		**03 15 52.3**	**-2.3**

*SOME **06** 03:17:12.3, 39°.38N×73°.35E, h10km, MS4.5*
*IDC **06** 03:17:15.7±0.5, 39°.32N×73°.53E, h0km, mb4.6/34, mbtmp4.7/42, ML4.1/8, MS4.1/39, Error ellipse: s-maj=9.9km s-min=8.3km az=141.0*
*BJI **06** 03:17:16.4±0.0, 39°.27N×73°.36E, h7km, mb4.6/53, mB4.8/29, ML4.9/5, Ms4.6/45, Ms7 4.3/43*
*KRNET **06** 03:17:16.3±0.1, 39°.41N×73°.48E, h14km, mb5.2*
*MOS **06** 03:17:16.5±1.2, 39°.31N×73°.47E, h13km, mb5.0/86, MS4.0/18, Error ellipse: s-maj=3.7km s-min=2.7km az=106.6*
*NEIC **06** 03:17:18.9±2.8, 39°.45N±0°.03×73°.39E±0°.04, h10km±1km, mb4.9/200, Mwr4.6/26, Error ellipse: s-maj=6.6km s-min=2.8km az=40.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr 1.67; Mθθ -6.95; M

149nm,0.3s,baz=180,slow=20,SNR=14
AAK Lg Lg 03 19 02.1
261nm,0.3s,baz=143,slow=20,SNR=5.6
AAK LR LR 03 19 45.1
comp=Z,3μm,18.3s,baz=204,slow=44
908nm,0.5s
AAK Ala-Archa 3.38 14⇓eP Pn 03 18 11.8 +0.8
baz=13
AAK ⇓eS **Sn 03 18 52.2 +1.4**
baz=13
AAK Ala-Archa 3.38 14cePN Pn 03 18 13.4 +2.4
AAK pmax pmax
comp=Z,2μm,1.0s
MRKS Merke 3.39 358 Pg **Pn 03 18 13.4 +2.2**
comp=Z,799nm,0.5s
MRKS Lg Lg 03 18 57.9
comp=Z,3μm,0.7s
MRKS Merke 3.39 358 eP **Pn 03 18 13.4 +2.2**
comp=Z,705nm,0.6s
MRKS eS **Sb 03 18 57.9 -1.7**
comp=Z,3μm,0.5s
CHGR Chuyangaron 3.40 259 Pn 03 18 14.0 +2.8
CHGR Chuyangaron 3.40 259 PN **Pn 03 18 14.0 +2.8**
KBK Karagaybulak 3.49 19 P **Pn 03 18 15.1 +2.5**
SNR=131
KBK Karagaybulak 3.49 19⇑eP Pn 03 18 13.3 +0.6
baz=18
KBK ⇑eS **Sn 03 18 54.9 +1.2**
baz=18
KBK Karagaybulak 3.49 19 ePN **Pn 03 18 13.3 +0.6**
KBK eS **Sn 03 18 54.9 +1.2**
SIMJ Simiganj 3.51 260 Pn **Pn 03 18 15.3 +2.5**
FRU1 Bishkek 3.57 14 Pn **Pn 03 18 15.1 +1.5**
FRU1 Bishkek 3.57 14⇓eP Pn 03 18 14.6 +1.0
baz=14
FRU1 ⇓eS **Sn 03 18 57.2 +1.8**
baz=14
FRU1 Bishkek 3.57 14 PN **Pn 03 18 15.1 +1.5**
ULHL Ulahol 3.59 36 P **Pn 03 18 16.2 +2.1**
SNR=83
ULHL Ulahol 3.59 36⇑eP Pn 03 18 14.6 +0.5
baz=36
ULHL ⇑eS **Sn 03 18 57.2 +1.0**
baz=36
ULHL Ulahol 3.59 36 ePN **Pn 03 18 14.6 +0.5**
ULHL eS **Sn 03 18 57.2 +1.0**
BOOM Boomskoye usch 3.67 31 Pn **Pn 03 18 16.8 +1.8**
BOOM Boomskoye usch 3.67 31⇑eP Pn 03 18 15.6 +0.6
baz=30
BOOM ⇑eS **Sn 03 18 59.0 +1.1**
baz=30
BOOM Boomskoye usch 3.67 31 PN **Pn 03 18 16.8 +1.8**
CHMS Chumysh 3.77 15 P **Pn 03 18 18.9 +2.5**
SNR=150
CHMS Chumysh 3.77 15 ⇑Pn **Pn 03 18 18.7 +2.3**
comp=Z,395nm,0.6s
CHMS ⇑Lg Lg 03 19 12.8
comp=Z,3μm,1.1s
CHMS Chumysh 3.77 15⇓eP Pn 03 18 17.1 +0.7
baz=15
CHMS ⇓eS **Sn 03 19 01.6 +1.2**
baz=15
CHMS Chumysh 3.77 15⇓ePN Pn 03 18 17.1 +0.7
CHMS eS **Sn 03 19 01.6 +1.2**
IUG luzhnay 3.80 318 Pg **Pn 03 18 19.4 +2.7**
comp=Z,4μm,1.2s
IUG Lg Lg 03 19 08.3
comp=Z,4μm,0.5s
IUG luzhnay 3.80 318 ePn **Pn 03 18 19.3 +2.5**
baz=316
IUG ePg **Pb 03 18 29.3 +3.7**
baz=316
IUG eSn **Sn 03 18 58.5 -2.5**
baz=316
IUG luzhnay 3.80 318 eP **Pn 03 18 19.4 +2.7**
comp=Z,997nm,0.4s
IUG eS **Sb 03 19 08.3 -3.0**
comp=Z,4μm,0.5s
IUG luzhnay 3.80 318 ePN **Pn 03 18 19.3 +2.5**
IUG e 03 18 29.2
DZA Taraz 3.87 337 Pg **Pn 03 18 21.0 +3.3**
comp=Z,913nm,0.5s
DZA Lg Lg 03 19 11.1
comp=Z,3μm,0.6s
DZA Taraz 3.87 337 ePn **Pn 03 18 19.9 +2.2**
baz=335
DZA ePg **Pb 03 18 29.5 +2.8**
baz=335
DZA Taraz 3.87 337 eP **Pn 03 18 21.0 +3.3**
comp=Z,913nm,0.5s
DZA eS **Sb 03 19 11.1 -2.2**
comp=Z,3μm,0.6s
DZA Taraz 3.87 337 ePN **Pn 03 18 19.9 +2.2**
DZA e 03 18 29.5
TKM2 Tokmak 2 3.92 24 P **Pn 03 18 20.8 +2.2**
SNR=280
TKM2 Tokmak 2 3.92 24 ⇓Pn **Pn 03 18 21.7 +3.1**
comp=Z,145nm,0.6s
TKM2 ⇓Pg **Pb 03 18 30.2 +2.4**
comp=Z,626nm,0.8s
TKM2 ⇑Lg Lg 03 19 19.9
comp=Z,2μm,0.8s
TKM2 Tokmak 2 3.92 24⇑eP Pn 03 18 19.3 +0.7
baz=24
TKM2 ⇑eS **Sn 03 19 05.2 +0.9**
baz=24
TKM2 Tokmak 2 3.92 24 PN **Pn 03 18 20.4 +1.8**
KDJ Kajisay 3.98 45⇑eP Pn 03 18 19.8 +0.5
baz=45
KDJ ⇑eS **Sn 03 19 06.6 +1.0**
baz=45
USP Ospenovka 3.99 11 P **Pn 03 18 22.0 +2.6**
SNR=62
USP Ospenovka 3.99 11⇓eP Pn 03 18 20.1 +0.7
baz=11
USP ⇓eS **Sn 03 19 07.0 +1.3**
baz=11
USP Ospenovka 3.99 11⇓ePN Pn 03 18 20.1 +0.7
USP eS **Sn 03 19 06.8 +1.1**
TARG Taragay, Kyrgy 4.09 53 Pn **Pn 03 18 23.0 +1.9**
TARG Taragay, Kyrgy 4.09 53 PN **Pn 03 18 23.0 +1.9**
CHM Chimkent 4.14 317 ePn **Pn 03 18 23.9 +2.5**
baz=315
CHM ePg **Pb 03 18 35.8 +4.4**
baz=315
CHM Chimkent 4.14 317 eP Pn 03 18 26.2 +4.8
comp=Z,789nm,0.5s
CHM eS **Sb 03 19 19.9 -1.2**
comp=Z,3μm,0.7s
CHM Chimkent 4.14 317 ePN **Pn 03 18 23.9 +2.5**
CHM e 03 18 35.7
KST Kastek 4.15 27 Pg **Pb 03 18 28.1 -3.6**
comp=Z,297nm,0.5s
KST Lg Lg 03 19 23.1
comp=Z,3μm,0.9s
KST Kastek 4.15 27 eP **Pb 03 18 28.1 -3.6**
comp=Z,297nm,0.5s
KST eS **Sb 03 19 23.1 +1.6**
comp=Z,3μm,0.9s
SGDS Sogindy 4.19 12 Pg **Pb 03 18 28.4 -3.8**
comp=Z,334nm,0.5s
SGDS Lg Lg 03 19 23.8
comp=Z,767nm,0.8s
SGDS Sogindy 4.19 12 ePn **Pn 03 18 23.9 +1.7**
baz=12
SGDS ePg **Pb 03 18 34.3 +2.0**
baz=12
SGDS Sogindy 4.19 12 ePN **Pn 03 18 23.8 +1.7**
SGDS e 03 18 34.3
DGS Degeres 4.27 24 Pg **Pb 03 18 30.2 -3.4**
comp=Z,574nm,0.7s
DGS Lg Lg 03 19 26.8
comp=Z,2μm,0.7s
DGS Degeres 4.27 24 eP **Pb 03 18 30.2 -3.4**
comp=Z,574nm,0.7s
DGS eS **Sb 03 19 26.8 +2.0**
comp=Z,2μm,0.7s
KK31 Karatay Array 4.34 331 ⇑Pn **Pn 03 18 25.7 +1.6**
comp=Z,80nm,0.4s,baz=143,slow=13,SNR=1352
KK31 ⇓Pg **Pb 03 18 36.1 +1.4**
comp=Z,549nm,0.8s,baz=146,slow=14,SNR=19
KK31 ⇑Sn **Sn 03 19 18.3 +4.0**
comp=Z,346nm,0.5s,baz=140,slow=24,SNR=4.6
KK31 ⇓Lg Lg 03 19 33.8
comp=Z,365nm,0.5s,baz=136,slow=28
KK31 Karatay Array 4.34 331 Pn 03 18 25.4 +1.3
KK31 Karatay Array 4.34 331 *i* PN **Pn 03 18 25.7 +1.6**
KK31 *i* 03 18 36.1
KK31 03 19 18.2
KKAR Karatay Array 4.34 331 Pn 03 18 25.8 +1.6
KKAR Karatay Array 4.34 331⇓eP Pn 03 18 25.5 +1.4
baz=30
KKAR ⇓eS **Sn 03 19 16.1 +1.8**
baz=30
KKAR Karatay Array 4.34 331 PN **Pn 03 18 25.8 +1.6**
IZV Izvestkoviy 4.39 32 Pg **Pb 03 18 32.7 -3.1**
comp=Z,228nm,0.9s
IZV Lg Lg 03 19 31.0
comp=Z,2μm,0.9s
IZV Izvestkoviy 4.39 32 eP **Pb 03 18 32.7 -3.1**
comp=Z,228nm,0.9s
IZV eS **Sb 03 19 31.1 +2.5**
comp=Z,2μm,0.9s
MTBS Maitube 4.40 30 Pg **Pb 03 18 33.0 -2.8**
comp=Z,498nm,0.5s
MTBS Lg Lg 03 19 31.6
comp=Z,1μm,0.5s
MTBS Maitube 4.40 30 eP **Pb 03 18 33.0 -2.8**
comp=Z,498nm,0.5s
MTBS eS **Sb 03 19 31.6 +3.0**
comp=Z,1μm,0.5s
TNSS Tian-Shan 4.54 35 Pg **Pb 03 18 35.7 -2.7**
comp=Z,287nm,0.4s
TNSS Lg Lg 03 19 36.3
comp=Z,1μm,0.8s
TNSS Tian-Shan 4.54 35 ePn **Pn 03 18 29.2 +2.0**
baz=36
TNSS ePg **Pb 03 18 41.4 +3.0**
baz=36
TNSS Tian-Shan 4.54 35 eP **Pb 03 18 35.7 -2.7**
comp=Z,287nm,0.4s
TNSS eS **Sb 03 19 36.3 +3.4**
comp=Z,1μm,0.8s
TNSS Tian-Shan 4.54 35 ePN **Pn 03 18 29.2 +2.0**
TNSS e 03 18 41.3
KASK Kaskelen 4.56 31 ⇑Pg **Pb 03 18 40.3 +1.8**
KASK ⇑Lg Lg 03 19 39.8
BRLS Boroldaу 4.56 325 Pg **Pn 03 18 31.6 +4.5**
comp=Z,494nm,0.7s
BRLS Lg Lg 03 19 29.3
comp=Z,860nm,0.7s
BRLS Boroldaу 4.56 325 ePn **Pn 03 18 26.7 -0.5**
baz=320
BRLS ePg **Pb 03 18 40.2 +1.6**
baz=320
BRLS Boroldaу 4.56 325 eP **Pn 03 18 31.6 +4.5**
comp=Z,494nm,0.7s
BRLS eS **Sb 03 19 29.3 -3.8**
comp=Z,860nm,0.7s
BRLS Boroldaу 4.56 325 ePN **Pn 03 18 26.6 -0.5**
BRLS e 03 18 40.1
AAA Alma-Ata 4.66 33 Pg **Pb 03 18 37.9 -2.4**
AAA Lg Lg 03 19 39.9
comp=Z,3μm,0.6s
AAA Alma-Ata 4.66 33 eP **Pb 03 18 37.9 -2.4**
AAA eS **Sb 03 19 39.9 +3.8**
comp=Z,3μm,0.6s
MDOK Medeo 4.68 35 ⇑Pn **Pn 03 18 31.9 +2.9**
comp=Z,62nm,0.5s
MDOK Pg **Pb 03 18 38.2 -2.5**
comp=Z,476nm,0.6s
MDOK ⇑Pg Pg 03 18 42.7 -6.0
comp=Z,637nm,0.8s
MDOK Lg Lg 03 19 40.5
comp=Z,2μm,1.0s
MDOK ⇓Lg Lg 03 19 43.8
comp=Z,5μm,1.2s
MDOK Medeo 4.68 35 ePn **Pn 03 18 31.5 +2.5**
baz=36
MDOK ePg **Pb 03 18 44.1 +3.4**
baz=36
MDOK Medeo 4.68 35 eP **Pb 03 18 38.2 -2.5**
comp=Z,476nm,0.6s
MDOK eS **Sb 03 19 40.5 +3.7**
comp=Z,2μm,1.0s
MDOK Medeo 4.68 35 ePN **Pn 03 18 31.4 +2.5**
MDOK e 03 18 44.0
KNDC Almaty 4.69 34 ⇑Pn **Pn 03 18 32.9 +3.9**
comp=Z,348nm,0.8s
KNDC ⇓Pg **Pb 03 18 42.2 +1.4**
comp=Z,2μm,0.9s
KNDC ⇓Lg Lg 03 19 43.0
comp=Z,6μm,1.1s
KNDC Almaty 4.69 34 PN **Pn 03 18 32.9 +3.9**
KNDC 03 18 42.1
ANVS Anan'yevo 4.69 42⇑eP Pn 03 18 30.1 +1.0
baz=42
ANVS ⇑eS **Sn 03 19 24.0 +0.8**
baz=42
KOTS Kotyrbulak 4.77 34 Pg **Pb 03 18 39.7 -2.4**
comp=Z,18nm,0.6s
KOTS Lg Lg 03 19 42.7
comp=Z,6μm,0.8s
KOTS Kotyrbulak 4.77 34 eP **Pb 03 18 39.7 -2.4**
comp=Z,18nm,0.6s
KOTS eS **Sb 03 19 42.7 +3.4**
comp=Z,6μm,0.8s
PRZ Przheval'sk 4.89 49⇑eP Pn 03 18 33.2 +1.3
baz=49
PRZ ⇑eS **Sn 03 19 29.0 +0.7**
baz=49
CHKK Chushkaly 5.23 30 Pg **Pb 03 18 48.2 -1.7**
comp=Z,104nm,0.7s
CHKK Lg Lg 03 19 57.5
comp=Z,1μm,0.8s
CHKK Chushkaly 5.23 30 ePn **Pn 03 18 36.1 -0.2**
baz=31
CHKK ePg **Pb 03 18 53.2 +3.3**
baz=31
CHKK Chushkaly 5.23 30 eP **Pb 03 18 48.2 -1.7**
comp=Z,104nm,0.7s
CHKK eS **Sb 03 19 57.5 +5.1**
comp=Z,1μm,0.8s
CHKK Chushkaly 5.23 30 ePN **Pn 03 18 37.0 +0.7**
CHKK e 03 18 53.2
SATY Saty 5.27 44 ePn **Pn 03 18 38.3 +1.2**
baz=45
SATY ePg **Pb 03 18 54.9 +4.1**
baz=45
SATY Saty 5.27 44 ePN **Pn 03 18 38.2 +1.2**
SATY e 03 18 54.8
ZHN Zhinishke 5.36 43 Pg **Pb 03 18 51.7 -0.6**
comp=Z,181nm,1.0s
ZHN Lg Lg 03 20 03.1
comp=Z,325nm,0.8s
ZHN Zhinishke 5.36 43 ePn **Pn 03 18 39.5 +1.2**
baz=44
ZHN ePg **Pb 03 18 56.1 +3.9**
baz=44
ZHN Zhinishke 5.36 43 eP **Pb 03 18 51.7 -0.6**
comp=Z,181nm,1.0s
ZHN eS **Sb 03 20 03.1 +6.8**
comp=Z,325nm,0.8s
ZHN Zhinishke 5.36 43 ePN **Pn 03 18 39.5 +1.2**
ZHN e 03 18 56.1
KURS Kuram 5.46 39 Pg **Pb 03 18 53.3 -0.5**
comp=Z,357nm,0.8s
KURS Lg Lg 03 20 06.2
comp=Z,804nm,0.9s
KURS Kuram 5.46 39 eP **Pb 03 18 53.3 -0.5**
comp=Z,357nm,0.8s
KURS eS **Sb 03 20 06.2 +7.3**
comp=Z,804nm,0.9s
UZB Uzynbulak 5.67 46 Pg **Pb 03 18 57.3 -0.2**
comp=Z,265nm,0.6s
UZB Lg Lg 03 20 13.1
comp=Z,368nm,0.8s
UZB Uzynbulak 5.67 46 ePn **Pn 03 18 44.2 +1.7**
baz=48
UZB ePg **Pg** 03 19 02.6 -4.9
baz=48
UZB Uzynbulak 5.67 46 eP **Pb 03 18 57.3 -0.2**
comp=Z,265nm,0.6s
UZB eS **Sg 03 20 13.1 -7.8**
comp=Z,368nm,0.8s
UZB Uzynbulak 5.67 46 ePN **Pn 03 18 44.2 +1.7**
UZB e 03 19 02.6
BTLS Baital 5.70 4 Pg **Pb 03 18 57.2 -0.7**
comp=Z,145nm,0.6s
BTLS Lg Lg 03 20 13.3
comp=Z,77nm,1.1s
BTLS Baital 5.70 4 ePn **Pn 03 18 43.4 +0.6**
baz=4.4
BTLS Baital 5.70 4 eP **Pb 03 18 57.2 -0.7**
comp=Z,145nm,0.6s
BTLS eS **Sb 03 20 13.3 +7.4**
comp=Z,77nm,1.1s
BTLS Baital 5.70 4 ePN **Pn 03 18 43.4 +0.6**
BTLS e 03 19 01.3
ARXS Arharly 5.86 33 Pg **Pb 03 19 00.4 -0.4**
comp=Z,226nm,0.8s
ARXS Lg Lg 03 20 18.8
comp=Z,1μm,1.3s
ARXS Arharly 5.86 33 eP **Pb 03 19 00.4 -0.4**
comp=Z,226nm,0.8s
ARXS eS **Sb 03 20 18.8 +8.2**
comp=Z,1μm,1.3s
ARXS Arharly 5.86 33 ePN **Pn 03 18 46.3 +1.2**
SHLS Shalkode 5.93 48 Pg **Pg 03 19 07.0 -5.4**
comp=Z,395nm,1.0s
SHLS Lg Lg 03 20 30.2
comp=Z,751nm,1.0s
SHLS Shalkode 5.93 48 ePn **Pn 03 18 52.1 +6.0**
baz=51
SHLS ePg **Pg 03 19 11.7 -0.7**
baz=51
SHLS Shalkode 5.93 48 ePN **Pn 03 18 52.0 +6.0**
SHLS e 03 19 11.7
KBL Kabul 5.95 217 Pn **Pn 03 18 51.2 +4.8**
KBL Kabul 5.95 217 PN **Pn 03 18 51.8 +5.3**
KBL pmax pmax
comp=Z,275nm,0.7s
PDGK Podgornoye 6.05 47 Pg **Pb 03 19 04.4 +0.4**
comp=Z,98nm,0.7s
PDGK Lg Lg 03 20 25.1
comp=Z,357nm,1.1s
PDGK Podgornoye 6.05 47 ⇓Pn **Pn 03 18 49.0 +1.3**
comp=Z,200nm,0.8s
PDGK ⇑Lg Lg 03 20 29.4
comp=Z,897nm,1.1s
PDGK Podgornoye 6.05 47 PN **Pn 03 18 49.0 +1.3**
BLB Baldybastay 6.06 37 Pg **Pb 03 19 04.4 +0.3**
comp=Z,932nm,0.9s
BLB Lg Lg 03 20 25.1
comp=Z,909nm,0.8s
KNOS Konyrlen 6.59 39 Pg **Pb 03 19 14.5 +1.3**
comp=Z,256nm,1.0s
KNOS Lg Lg 03 20 42.7
comp=Z,656nm,1.1s
TDK Taldyqorghan 6.75 32 Pg **Pb 03 19 17.1 +1.4**
comp=Z,566nm,0.7s
TDK Lg Lg 03 20 47.5
comp=Z,1μm,1.3s
TDK Taldyqorghan 6.75 32 ePg Pb 03 19 21.7 +6.0
baz=32
DJR Jarkent 6.88 42 Pg **Pb 03 19 19.7 +1.7**
comp=Z,89nm,0.7s
DJR Lg Lg 03 20 51.6
comp=Z,359nm,0.8s
KAPS Kapalarasan 7.38 35 Pg **Pb 03 19 28.6 +2.1**
comp=Z,92nm,0.9s
KAPS Lg Lg 03 21 06.9
comp=Z,376nm,1.2s
DHRM DHARAMSHALA 7.46 161 eP **Pn 03 19 09.6 +2.3**
DHRM eS **Sn 03 20 26.9 -4.7**
DHRM IAML 03 20 42.2
comp=E,928nm,0.5s
DHRM IAML 03 20 42.8
comp=E,856nm,0.5s
SMLA Simla 8.76 158 eP **Pn 03 19 26.3 +1.5**
SMLA eS **Sn 03 20 58.5 -4.6**
SMLA IAML 03 21 12.5
comp=E,614nm,0.9s
OTUK Ortayu 8.92 355 Pg Pn 03 19 56.4 +29
comp=E,18nm,0.6s
OTUK Ortayu 8.92 355 ⇑Pn **Pn 03 19 26.8 -0.2**
comp=E,83nm,0.7s
OTUK ⇓Lg Lg 03 21 57.6
comp=E,604nm,0.9s
OTUK Ortayu 8.92 355 P **Pn 03 19 26.8 -0.2**
MAKZ Makanchi 9.72 37 Pn 03 19 40.2 +2.2
MAKZ Makanchi 9.72 37 P **Pn 03 19 40.2 +2.2**
DDI Dehra Dun 9.78 156 eP **Pn 03 19 40.1 +1.2**
DDI eS **Sn 03 21 26.0 -2.3**
DDI IAML 03 21 41.5
comp=E,730nm,1.0s
DDI IAML 03 21 42.7
comp=E,610nm,0.5s
MK31 Makanchi Array 9.86 38 Pn **Pn 03 19 41.7 +1.8**
comp=E,22nm,0.8s,baz=214,slow=14,SNR=88
MK31 ⇓Lg Lg 03 22 28.2
comp=E,154nm,1.2s,baz=226,slow=27,SNR=3.6
MK31 Makanchi Array 9.86 38 Pn **Pn 03 19 41.5 +1.7**
MK31 Makanchi Array 9.86 38ceP **Pn 03 19 41.3 +1.4**
MKAR Makanchi Array 9.86 38 Pn **Pn 03 19 40.6 +0.7**
MKAR Makanchi Array 9.86 38 Pn **Pn 03 19 40.4 +0.5**
comp=E,0.4nm,0.3s,baz=211,slow=12,SNR=39
MKAR Lg Lg 03 22 26.3
comp=E,1.9nm,0.3s,baz=297,slow=30,SNR=3.8
MKAR LR LR 03 23 50.9
comp=E,880nm,18.8s,baz=232,slow=40
comp=E,5.8nm,0.7s
MKAR Makanchi Array 9.86 38 P **Pn 03 19 40.6 +0.7**
HRA Herat 10.23 244 Pn **Pn 03 19 45.8 +0.5**
BRZS Berezniki 10.64 357 Pg Pn 03 20 28.6 +38
comp=E,20nm,0.8s
BRZS Berezniki 10.64 357 eP **Pn 03 19 50.1 -0.5**
baz=357
BRZS Berezniki 10.64 357 eP **Pn 03 19 50.0 -0.5**
WMQ Urumqi 11.58 63 eP **Pn 03 20 05.1 +1.6**
WMQ PP **PnPn 03 20 16.4 +5.3**
WMQ S **Sn 03 22 15.6 +3.3**
WMQ pmax pmax
comp=E,46nm,1.1s
WMQ pmax pmax
comp=E,70nm,3.9s
WMQ LR LR
comp=E,2μm,8.3s
WMQ LR LR
comp=E,2μm,7.3s
WMQ LR LR
comp=E,760nm,13.1s
ZSN Zaisan 11.60 42 Pg Pn 03 20 42.4 +39
comp=E,17nm,1.2s
KURBB Kurchatov Arra 11.83 16 ⇓Pn **Pn 03 20 06.0 -0.7**
comp=E,16nm,0.5s
KURBB ⇑Lg Lg 03 23 27.9
comp=E,683nm,1.1s
KURBB Kurchatov Arra 11.83 16 Pn **Pn 03 20 05.1 -1.7**
comp=E,0.6nm,0.3s,baz=207,slow=12,SNR=50
KURBB Lg Lg 03 23 33.1
comp=E,1.3nm,0.3s,baz=202,slow=28,SNR=9.7
KURBB LR LR 03 24 57.7
comp=E,967nm,19.0s,baz=173,slow=39
comp=E,5.2nm,0.6s
KURBB Kurchatov Arra 11.83 16 P **Pn 03 20 06.1 -0.7**
KURK Kurchatov 11.93 16 Pn **Pn 03 20 06.6 -1.6**
KURK Kurchatov 11.93 16 *i* P **Pn 03 20 07.4 -0.8**
GEYT Alibeck 12.06 268 Pn 03 20 09.1 -0.9
GEYT Alibeck 12.06 268 Pn **Pn 03 20 09.0 -1.0**
comp=E,2.0nm,0.3s,baz=91,slow=12,SNR=23
GEYT Sn **Sn 03 22 22.3 -1.7**
comp=E,2.4nm,0.3s,baz=87,slow=30,SNR=1.5
GEYT LR LR 03 25 37.2
comp=E,733nm,18.1s,baz=73,slow=41
comp=E,13nm,0.7s
GYA0 ALIBECK ARRAY 12.06 268 P **Pn 03 20 09.2 -0.8**
GYA0B ALIBECK ARRAY 12.06 268 Pn **Pn 03 20 08.7 -1.2**
SEM Semipalatinsk 12.06 21 Pg P 03 20 55.2 +32
comp=E,11nm,0.2s
SEM Semipalatinsk 12.06 21 eP **Pn 03 20 09.0 -1.1**
baz=22
SEM Semipalatinsk 12.06 21 eP **Pn 03 20 09.0 -1.1**
ABKAR Akbulak array 13.80 320 Pn **Pn 03 20 31.7 -2.0**
ABKAR Akbulak array 13.80 320 Pn **Pn 03 20 31.5 -2.2**
BVA0 Borovoye Array 13.83 352 ⇑Pn **Pn 03 20 31.5 -2.6**
comp=E,67nm,0.7s,baz=162,slow=13,SNR=164
BVA0 Borovoye Array 13.83 352 P **Pn 03 20 31.5 -2.6**
BVAR Borovoye Array 13.83 352 Pn **Pn 03 20 32.1 -1.9**
comp=E,1.1nm,0.3s,baz=163,slow=13,SNR=420
BVAR Lg Lg 03 24 28.5
comp=E,0.3nm,0.3s,baz=150,slow=28,SNR=6.2
BVAR LR LR 03 26 21.4
comp=E,579nm,20.1s,baz=168,slow=39
comp=E,94nm,0.7s
BRVK Borovoye 13.87 352 Pn **Pn 03 20 32.7 -2.0**
BRVK Borovoye 13.87 352*d* *i* P **Pn 03 20 32.4 -2.3**
AKTO Aktyubinsk 15.52 321 Pn **Pn 03 20 55.5 -1.3**
comp=E,3.5nm,0.3s,baz=132,slow=12,SNR=89

AKTO LR LR 03 27 26.8
comp=E,784nm,19.1s,baz=83,slow=39
comp=E,40nm,0.7s
BHUJ Bhuj 16.37 192 *e*P **P** **03 21 08.1 -2.6**
BHPL Bhopal 16.42 167 *e*P **Pn** **03 21 07.1 -1.6**
BHPL *e*S **Sn** **03 24 10.3 -0.3**
ZAA0 Zalesovo Array 16.53 24 ⇑Pn **Pn** **03 21 08.2 -1.6**
comp=E,10nm,0.9s
ZAA0 Zalesovo Array 16.53 24 **Pn** **03 21 09.0 -0.8**
ZALV Zalesovo Beam 16.53 24 Pn **Pn** **03 21 08.8 -0.9**
comp=E,2.0nm,0.3s,baz=210,slow=11,SNR=41
ZALV Lg Lg 03 25 52.8
comp=E,0.3nm,0.3s,baz=200,slow=26,SNR=2.7
ZALV LR LR 03 27 49.0
comp=E,701nm,18.4s,baz=216,slow=38
comp=E,41nm,0.8s
ZALV Zalesovo Beam 16.53 24 *i* P **Pn** **03 21 08.8 -0.9**
ZALV pmax pmax
comp=Z,43nm,0.7s
GOMU GeErMu 17.20 94 P **P** **03 21 19.5 -0.8**
GOMU pP pP 03 21 23.6 -2.9
GOMU sP sP 03 21 24.9 -4.5
GOMU pmax pmax
comp=Z,12nm,0.5s
GOMU LR LR
comp=Z,1μm,8.9s
GOMU LR LR
comp=Z,450nm,10.0s
GOMU LR LR
comp=Z,870nm,12.4s
LSA Lhasa 17.47 118 Pn **P** **03 21 21.9 -1.5**
LSA Lhasa 17.47 118 P **P** **03 21 21.9 -1.5**
LSA pmax pmax
comp=Z,19nm,0.9s
BOK Bokaro 18.77 142 *e*P **Pn** **03 21 36.5 -1.2**
LKRN Lenkeran, Azer 19.15 276 P **Pn** **03 21 42.6 +0.4**
SVE Sverdlovsk 19.40 339 *e*P **P** **03 21 44.0 +0.1**
SVE *e*S **S** **03 25 23.7 +1.2**
SVE pmax pmax
comp=Z,59nm,1.4s
SVE MLR MLR
comp=Z,956nm,10.0s
ARU Arti 19.70 335 **P** **03 21 47.5 +0.3**
ARU IAmb IAmb 03 21 50.8
comp=Z,63nm,0.7s
ARU Arti 19.70 335 P **P** **03 21 47.5 +0.3**
baz=140,slow=5.1,SNR=59
ARU LR LR 03 29 46.6
comp=Z,542nm,18.4s,baz=143,slow=38
comp=Z,61nm,0.7s
ARU Arti 19.70 335*d* *i*P **P** **03 21 47.7 +0.5**
ARU S **S** **03 25 27.2 -1.3**
ARU pmax pmax
comp=Z,65nm,0.7s
ARU MLR MLR
comp=Z,589nm,19.0s
ARU Arti 19.70 335 P **P** **03 21 47.6 +0.3**
comp=Z,91nm,0.8s,comp=Z,732nm
MAK Makhachkala 19.82 289 *e*P **Pn** **03 21 50.1 -0.1**
MAK *e*S **Sn** **03 25 33.6 +1.2**
MAK pmax pmax
comp=Z,114nm,1.4s
MAK MLR MLR
comp=Z,501nm,13.0s
SEKA Sheki 20.07 284 P **P** **03 21 51.4 -0.1**
MNGR Mingechevir, A 20.19 282 P **P** **03 21 53.5 +0.9**
GTA Gaotai 20.38 81 ⇓P Pn 03 21 56.6 -0.4
GTA pP sP 03 22 02.8 -1.2
GTA sP pP 03 22 06.7 +5.5
GTA S Sn 03 25 51.1 +4.9
GTA pmax pmax
comp=Z,29nm,0.9s
GTA LR LR
comp=Z,350nm,13.9s
GTA LR LR
comp=Z,330nm,14.7s
GTA LR LR
comp=Z,550nm,15.9s
WSAR Wadi Sarin 20.40 222 P Pn 03 21 55.9 -1.2
comp=Z,17nm,0.7s,baz=84,slow=7.5,SNR=21
WSAR LR LR 03 30 46.8
comp=Z,155nm,20.3s,baz=73,slow=40
comp=Z,17nm,0.7s
SHL Shillong 20.72 126 P Pn 03 22 01.2 +0.1
SHL Shillong 20.72 126 *e*P **P** **03 21 57.9 -0.8**
SHL Shillong 20.72 126 P Pn 03 22 01.2 +0.1
GANJ Ganja 20.78 282 P **P** **03 21 59.8 +0.7**
GROC Groznyy 21.07 289 *e*P **P** **03 22 03.3 +1.1**
GROC *e* 03 22 22.1
GROC *e*S **S** **03 25 57.7 +1.6**
GROC pmax pmax
comp=Z,99nm,1.0s
NAX Nakhchivan 21.60 278 P **P** **03 22 08.9 +0.9**
MOKO MOKOCHONG 21.91 120⇑*e*P **P** **03 22 13.2 +1.7**
GNI Garni 22.03 281 P **P** **03 22 13.8 +1.1**
GNI IAmb IAmb 03 22 26.1
comp=Z,70nm,0.9s
GNI Garni 22.03 281 P **P** **03 22 13.4 +0.7**
comp=Z,23nm,0.8s,baz=139,slow=0.5,SNR=13
GNI LR LR 03 32 21.2
comp=Z,136nm,18.6s,baz=102,slow=41
comp=Z,23nm,0.8s
GNI Garni 22.03 281*ce*P **P** **03 22 15.4 +2.7**
GNI pmax pmax
comp=Z,86nm,1.3s
GNI Garni 22.03 281 P **P** **03 22 14.9 +2.2**
comp=Z,90nm,1.2s,comp=Z,769nm
KOHI KOHIMA 22.05 122⇑*e*P **P** **03 22 13.0 0.0**
BELG Belogornoye 22.05 315 P **P** **03 22 12.7 +0.1**
comp=Z,271nm,0.9s,baz=192,slow=2.1,SNR=24
BELG S **S** **03 26 11.6 -3.3**
comp=Z,12nm,0.8s,baz=120,slow=23,SNR=1.0
BELG Belogornoye 22.05 315*c* *i*P **P** **03 22 12.5 -0.1**
BELG pmax pmax
comp=Z,60nm,1.0s
IMP Imphal 22.55 124⇑*e*P **P** **03 22 19.3 +0.9**
NCK Nalchik 22.68 290 *i* P **P** **03 22 19.3 -0.2**
NCK pmax pmax
comp=Z,64nm,0.7s
MOY Mondy 22.75 48 *e*P **P** **03 22 21.7 +1.4**
MOY pmax pmax
comp=Z,47nm,1.8s
GOF Gofitskoye 23.13 294*ce*P **P** **03 22 30.7 +6.6**
KBZ Khabaz 23.19 291 P **P** **03 22 23.6 -1.2**
comp=Z,9.1nm,0.8s,baz=112,slow=5.7,SNR=21
KBZ LR LR 03 33 17.2
comp=Z,264nm,20.4s,baz=95,slow=41
comp=Z,9.1nm,0.8s
KBZ Khabaz 23.19 291*ce*P **P** **03 22 24.3 -0.4**
KBZ pmax pmax
comp=Z,15nm,0.9s
KARS Kars 23.23 283 P **P** **03 22 26.8 +1.4**
KARS Kars 23.23 283 P **P** **03 22 26.8 +1.4**
KARS pmax pmax
comp=Z,250nm,0.9s
KVAR Kislovodsk Arr 23.34 291 P **P** **03 22 25.4 -1.0**
comp=Z,11nm,0.8s,baz=89,slow=10,SNR=9.9
KVAR S **S** **03 26 42.4 +4.0**
comp=Z,9.6nm,0.9s,baz=259,slow=10,SNR=2.8
KVAR LR LR 03 32 16.2
comp=Z,349nm,20.3s,baz=202,slow=38
comp=Z,11nm,0.8s
KIV Kislovodsk 23.35 291 ⇑P **P** **03 22 28.6 +2.1**
KIV Kislovodsk 23.35 291 P **P** **03 22 25.2 -1.3**
KIV Kislovodsk 23.35 291 *e*P **P** **03 22 26.9 +0.5**
KIV *e*S **S** **03 26 38.0 -0.4**
KIV pmax pmax
comp=Z,54nm,1.0s
KIV MLR MLR
comp=Z,158nm,14.0s
SHA1 Shidzhatmaz 23.37 291*ce*P **P** **03 22 28.9 +2.1**
ZAK Zakamensk 23.70 52 *e*P **P** **03 22 30.1 +0.3**
ZAK pmax pmax
comp=Z,23nm,2.1s
LZH Lanzhou 24.23 88 *e*P **P** **03 22 39.4 +4.4**
LZH sP sP 03 22 48.0 +3.5
LZH SS S 03 27 41.7 +49
LZH pmax pmax
comp=Z,38nm,1.0s
LZH LR LR
comp=Z,2μm,14.8s
LZH LR LR
comp=Z,480nm,15.1s
LZH LR LR
comp=Z,640nm,16.0s
BCA Borcka 24.24 285 ⇓P **P** **03 22 37.9 +3.0**

GURO Guroymak-BITLI 24.37 278 P **P** **03 22 36.7 +0.5**
KIRV Kirov 24.64 329 P **P** **03 22 39.6 +1.4**
comp=Z,30nm,0.6s,baz=117,slow=2.4,SNR=6.5
KIRV LR LR 03 33 03.2
comp=Z,663nm,19.8s,baz=145,slow=38
comp=Z,30nm,0.6s
KIRV Kirov 24.64 329*ce*P **P** **03 22 38.1 -0.1**
LABN Labinsk 24.77 293 *e*P **P** **03 22 42.4 +2.8**
LABN pmax pmax
comp=Z,55nm,0.7s
ERBR Yeremizino-Bor 24.97 296 *e*P **P** **03 22 42.7 +1.3**
ERBR pmax pmax
comp=Z,33nm,0.6s
VRH Novokhopyorsk 25.05 309 *e*P **P** **03 22 40.6 -1.5**
VRH pmax pmax
comp=Z,36nm,1.5s
SONM Songino Array 25.18 60 P **P** **03 22 43.9 +0.4**
SONM Songino Array 25.18 60 P **P** **03 22 43.6 +0.1**
comp=Z,6.2nm,0.9s,baz=264,slow=9.3,SNR=32
SONM ScP **ScP** **03 29 57.0 +1.8**
comp=Z,1.6nm,0.8s,baz=323,slow=2.2,SNR=5.9
SONM LR LR 03 33 27.5
comp=Z,1μm,19.8s,baz=259,slow=39
comp=Z,6.2nm,0.9s
SONM Songino Array 25.18 60 P **P** **03 22 43.9 +0.4**
SONM pmax pmax
comp=Z,9.0nm,0.8s
VSLR Vesyoloye 25.28 290 *i* P **P** **03 22 46.3 +2.0**
TNCH TengChong 25.49 117 P **P** **03 22 46.0 -0.5**
TNCH pP pP 03 22 48.6 -4.7
TNCH sP sP 03 22 50.4 -5.6
TNCH S **S** **03 27 10.6 -2.6**
TNCH sS pS 03 27 16.2 -5.0
TNCH pmax pmax
comp=Z,29nm,1.1s
TNCH pmax pmax
comp=Z,82nm,2.7s
TNCH LR LR
comp=Z,320nm,10.1s
TNCH LR LR
comp=Z,260nm,11.7s
TNCH LR LR
comp=Z,380nm,12.7s
SOC Sochi 25.50 291 *e*P **P** **03 22 44.3 -2.0**
SOC *e* 03 23 21.3
SOC *e*PPP PPP 03 23 32.7
SOC *e*S **S** **03 27 08.6 -4.2**
SOC *e*SSS SSS 03 28 23.6
SOC pmax pmax
comp=Z,15nm,0.8s
SOC MLR MLR
comp=Z,144nm,15.0s
MARD Mardin 25.61 276 P **P** **03 22 46.6 -0.9**
MARD IAmb IAmb 03 22 52.5
comp=Z,15nm,0.8s
ULN Ulaanbaatar 25.63 60 P **P** **03 22 46.8 -0.7**
ULN IAmb IAmb 03 22 56.7
comp=Z,15nm,0.8s
ULN Ulaanbaatar 25.63 60*ce*P **P** **03 22 48.3 +0.7**
ULN pmax pmax
comp=Z,25nm,1.7s
KTUT Trabzon 25.68 285 ⇑P **P** **03 22 50.9 +3.0**
CD2 Chengdu 26.11 99 P **P** **03 22 53.6 +1.6**
CD2 pP sP 03 23 00.4 -1.0
CD2 sP pP 03 23 03.8 +5.1
CD2 S **S** **03 27 22.5 -0.2**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,60nm,5.3s
CD2 LR LR
comp=Z,380nm,14.5s
CD2 LR LR
comp=Z,560nm,14.1s
CD2 LR LR
comp=Z,410nm,11.6s
VSR Storozhevoye 26.61 308 *e*P **P** **03 22 55.6 -0.6**
VSR pmax pmax
comp=Z,20nm,0.8s
VORR Voronezh 26.69 309 *e*P **P** **03 22 58.9 +1.9**
VORR pmax pmax
comp=Z,25nm,1.4s
PZH PanZhiHua 26.88 110 P **P** **03 23 03.4 +4.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.5s
ARPR Arapgir-MALATY 27.08 281 P **P** **03 23 01.7 +0.9**
ARPR IAmb IAmb 03 23 14.4
comp=Z,34nm,1.1s
LPSR Galich'ya Gora 27.10 311 *e*P **P** **03 23 00.6 0.0**
LPSR pmax pmax
comp=Z,40nm,1.0s
ANN Anapa 27.11 293 *e*P **P** **03 23 01.0 +0.2**
ANN *e**PP **sP** **03 23 10.5 +0.3**
ANN *e*S **S** **03 27 38.3 +0.2**
ANN pmax pmax
comp=Z,50nm,1.2s
ANN MLR MLR
comp=Z,256nm,13.0s
BTO Baotou 27.95 76 *e*P **P** **03 23 07.7 -0.8**
BTO pP **sP** **03 23 19.7 +1.8**
BTO PP **PnPn** **03 23 57.1 +1.8**
BTO S **S** **03 27 48.7 -2.9**
BTO sS **sS** **03 28 06.6 +3.9**
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,140nm,3.5s
BTO LR LR
comp=Z,1μm,14.9s
BTO LR LR
comp=Z,830nm,13.1s
BTO LR LR
comp=Z,1μm,15.9s
TOKA Tokat 28.26 284 P **P** **03 23 12.1 +1.0**
GAZ Gaziantep 28.40 277 P **P** **03 23 13.0 +0.5**
RAYN Ar Rayn 28.42 245 P **P** **03 23 13.4 +0.6**
RAYN IAmb IAmb 03 23 15.3
comp=Z,13nm,0.8s
RAYN Ar Rayn 28.42 245 P **P** **03 23 13.4 +0.6**
RAYN pmax pmax
comp=Z,13nm,0.8s
MOS Moscow 28.77 317 *e*P **P** **03 23 15.4 -0.1**
MOS pmax pmax
comp=Z,42nm,0.8s
XAN Xi'an 28.83 89 ⇑P P 03 23 20.2 +3.9
XAN pmax pmax
comp=Z,12nm,1.0s
XAN LR LR
comp=Z,1μm,18.2s
XAN LR LR
comp=Z,1μm,18.5s
XAN LR LR
comp=Z,440nm,19.9s
DIKM Dikmen 28.96 287 ⇑P **P** **03 23 19.8 +2.5**
DIKM Dikmen 28.96 287 P **P** **03 23 19.6 +2.3**
comp=Z,19nm,0.8s
HHC Hu-ho-hao-te 29.06 75 *e*P **P** **03 23 20.7 +2.3**
HHC sP sP 03 23 29.8 +1.9
HHC S **S** **03 28 09.1 -0.1**
HHC sS sS 03 28 19.8 -0.5
HHC pmax pmax
comp=Z,26nm,0.7s
HHC pmax pmax
comp=Z,83nm,5.0s
HHC LR LR
comp=Z,330nm,13.0s
HHC LR LR
comp=Z,600nm,13.0s
HHC LR LR
comp=Z,670nm,13.8s
OBN Obninsk 29.15 315 P **P** **03 23 19.3 +0.4**
OBN IAmb IAmb 03 23 22.8
comp=Z,17nm,0.6s
OBN Obninsk 29.15 315 P **P** **03 23 19.4 +0.6**
comp=Z,13nm,0.4s,baz=10,slow=11,SNR=4.5
comp=Z,13nm,0.4s
OBN Obninsk 29.15 315*ce*P **P** **03 23 19.4 +0.6**
OBN *PP **sP** **03 23 29.0 +0.8**
OBN *e*PPP PPP 03 24 24.1
OBN *e* 03 26 27.0
OBN *e*S **S** **03 28 14.1 +4.2**
OBN *i* SS **SnSn** **03 29 40.9 +6.4**
OBN pmax pmax
comp=Z,32nm,1.7s
OBN MLR MLR
comp=Z,234nm,16.0s
OBN Obninsk 29.15 315 P **P** **03 23 19.6 +0.8**
comp=Z,30nm,1.0s
SIM Simferopol' 29.46 294 *e*P **P** **03 23 23.4 +1.6**
SIM pmax pmax
comp=Z,44nm,0.9s
KLMR Klimovskoe 30.03 327 *e*P **P** **03 23 25.2 -1.4**
KLMR pmax pmax
comp=Z,34nm,1.6s
KLMR MLR MLR
comp=Z,399nm,13.0s
ILGA Ilgaz 30.20 286 P **P** **03 23 29.9 +1.3**
CMAR Chiang Mai Arr 30.36 126 P **P** **03 23 28.6 -1.3**
comp=Z,1.0nm,0.3s,baz=312,slow=9.6,SNR=1.5
CMAR LR LR 03 38 49.2
comp=Z,98nm,18.9s,baz=305,slow=43
comp=Z,1.0nm,0.3s
BR131 Keskin Array S 30.51 284 P **P** **03 23 32.4 +1.1**
BR131 Keskin Array S 30.51 284 *i* P **P** **03 23 32.6 +1.3**
BRTR Keskin Array B 30.51 284 P **P** **03 23 32.8 +1.5**
BRTR Keskin Array B 30.51 284 P **P** **03 23 33.0 +1.6**
comp=Z,15nm,0.8s,baz=87,slow=7.8,SNR=114
BRTR ScP **ScP** **03 30 12.4 +0.8**
comp=Z,0.6nm,0.8s,baz=69,slow=4.1,SNR=3.5
BRTR LR LR 03 37 32.5
comp=Z,141nm,19.6s,baz=102,slow=40
comp=Z,15nm,0.8s
BR104 Keskin Array S 30.51 284 P **P** **03 23 33.1 +1.8**
comp=Z,33nm,0.9s,comp=Z,226nm
BR106 Keskin Array S 30.52 284 P **P** **03 23 33.0 +1.6**
comp=Z,34nm,0.9s,comp=Z,230nm
BR106 pP **pP** **03 23 37.8 -0.3**
comp=Z,34nm,0.9s,comp=Z,230nm
BR105 Keskin Array S 30.53 284 P **P** **03 23 33.4 +1.9**
comp=Z,40nm,0.9s,comp=Z,288nm
ENH Enshi 30.80 96 P **P** **03 23 33.8 0.0**
ENH IAmb IAmb 03 23 50.2
comp=Z,10nm,0.5s
ANTO Ankara 31.12 284 ⇓P **P** **03 23 38.9 +2.4**
ANTO Ankara 31.12 284 P **P** **03 23 37.7 +1.2**
ANTO IAmb IAmb 03 23 44.8
comp=Z,21nm,0.8s
ANTO Ankara 31.12 284 P **P** **03 23 38.9 +2.4**
ANTO Ankara 31.12 284 P **P** **03 23 38.3 +1.7**
comp=Z,12nm,1.1s
BR231 Keskin MP Arra 31.14 284 P **P** **03 23 37.6 +0.8**
BR231 IAmb IAmb 03 23 45.0
comp=Z,19nm,0.9s
LYN LuoYang 31.40 86 *e*P P 03 23 47.8 +8.8
LYN pmax pmax
comp=Z,12nm,0.7s
BOD Bodaibo 31.93 41 *e*P **P** **03 23 42.2 -1.2**
BOD pmax pmax
comp=Z,19nm,1.9s
MDUB Mudurnu 32.19 286 P **P** **03 23 47.4 +1.4**
HNS HongShan 32.23 80 ⇑P **P** **03 23 48.4 +2.2**
HNS S **S** **03 29 00.2 +1.7**
HNS pmax pmax
comp=Z,12nm,1.3s
HNS LR LR
comp=Z,470nm,15.5s
HNS LR LR
comp=Z,330nm,14.1s
PURM Purcari 32.34 297 P **P** **03 23 48.5 +1.4**
comp=Z,72nm,1.0s
PALK Pallekele 32.61 167 LR LR 03 37 42.9
comp=Z,309nm,19.9s,baz=101,slow=38
BJI Beijing 32.67 75 P **P** **03 23 52.3 +2.2**
BJI pmax pmax
comp=Z,3.0nm,0.6s
BJI LR LR
comp=Z,300nm,12.8s
BJI LR LR
comp=Z,130nm,19.0s
BJI LR LR
comp=Z,170nm,18.5s
AK09 Malin Array Si 32.72 305 P **P** **03 23 51.0 +0.6**
AK08 Malin Array Si 32.74 305 P **P** **03 23 51.1 +0.5**
AKASG Malin Array Be 32.77 305 P **P** **03 23 50.3 -0.5**
AKASG Malin Array Be 32.77 305 P **P** **03 23 50.9 +0.1**
comp=Z,3.9nm,0.5s,baz=80,slow=7.4,SNR=68
AKASG LR LR 03 38 25.2
comp=Z,189nm,18.9s,baz=80,slow=39
comp=Z,3.9nm,0.5s
AKASG Malin Array Be 32.77 305*ce*P **P** **03 23 51.5 +0.7**
AKASG pmax pmax
comp=Z,11nm,0.5s
AKBB Malin Array Si 32.77 305 P **P** **03 23 50.3 -0.5**
AKBB Malin Array Si 32.77 305*ce*P **P** **03 23 51.3 +0.5**
AKBB pmax pmax
comp=Z,18nm,0.6s
AKBB Malin Array Si 32.77 305 P **P** **03 23 51.1 +0.3**
KIEV Kiev 32.77 305 ⇓P **P** **03 23 51.6 +0.7**
KIEV Kiev 32.77 305 P **P** **03 23 50.7 -0.2**
KIEV Kiev 32.77 305 P **P** **03 23 51.6 +0.7**
AK12 Malin Array Si 32.81 305 P **P** **03 23 51.6 +0.4**
AK13 Malin Array Si 32.87 305 P **P** **03 23 52.0 +0.3**
EIL Elat 32.93 265 P **P** **03 23 53.2 +0.8**
comp=Z,8.4nm,1.1s,baz=8.1,slow=7.1,SNR=3.7
comp=Z,8.4nm,1.1s
SORM Soroca 33.31 300 P **P** **03 23 55.7 +0.1**
SORM Soroca 33.31 300 P **P** **03 23 55.7 +0.1**
comp=Z,17nm,0.8s,comp=Z,732nm
MI30 MI30,Zelenitsa 33.42 305 P **P** **03 23 56.9 +0.3**
TPGR Topolog 33.50 294 ⇓P **P** **03 23 59.1 +1.7**
MFTR Murfatlar 33.59 293 ⇓P **P** **03 24 00.2 +2.2**
CFR Carcaliu 33.67 295 ⇑P **P** **03 24 00.2 +1.4**
CFR Carcaliu 33.67 295 P **P** **03 24 00.1 +1.4**
LUBAR Lubar, Ukraine 33.68 304 P **P** **03 23 59.7 +0.9**
MI28 Mi28,Pidlybu 33.76 305 P **P** **03 24 00.1 +0.6**
MNK Minsk 33.93 312 *i* P **P** **03 24 01.1 +0.2**
comp=E,10.0nm,0.9s
MNK *i* P **P** **03 24 01.1 +0.2**
comp=N,8.0nm,0.7s
MNK *i* P **P** **03 24 01.1 +0.2**
comp=Z,28nm,0.9s,baz=97
MNK *i* PP **PnPn** **03 25 14.1 +0.4**
MNK *i* S **S** **03 29 26.7 +2.0**
MNK *i* SS **SnSn** **03 31 23.7 -7.0**
MNK *i* LQ LQ 03 35 16.3
MNK *i* LR LR 03 37 50.7
MNK *i* LRM MLR 03 39 28.0
comp=E,150nm,24.1s
MNK *i* LRM MLR 03 40 14.5
comp=Z,254nm,17.0s
MNK *i* LRM MLR 03 40 28.5
comp=N,354nm,21.2s
MNK Minsk 33.93 312 *i* P **P** **03 24 01.1 +0.2**
MNK *i* 03 25 14.1
MNK *i* S **S** **03 29 26.6 +2.0**
MNK pmax pmax
comp=N,8.0nm,0.7s
MNK pmax pmax
comp=Z,28nm,0.9s
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK MLR MLR
comp=E,150nm,24.0s
MNK MLR MLR
comp=Z,254nm,17.0s
MNK MLR MLR
comp=N,354nm,21.0s
NDNU Novodnistrovsk 33.95 301 P **P** **03 24 01.8 +0.6**
CTYL Yalikoy Yolu 34.14 288 P **P** **03 24 04.7 +1.9**
comp=N,23nm,1.1s
JOF Joensuu 34.43 327 *e*P **P** **03 24 06.6 +1.4**
TIA Tai'an 34.43 81 P **P** **03 24 06.8 +1.3**
TIA pmax pmax
comp=N,7.0nm,1.5s
WHN Wuhan 34.44 92 ⇑P **P** **03 24 07.5 +1.9**
WHN LR LR
comp=N,630nm,11.7s
WHN LR LR
comp=N,920nm,11.5s
WHN LR LR
comp=N,980nm,17.0s
NEF NEVSHA 34.54 292 *i* P **P** **03 24 08.1 +1.7**
HORU Horodok 34.55 302 P **P** **03 24 07.5 +1.1**
HORU Horodok 34.55 302 P **P** **03 24 07.5 +1.1**
KMPD K-Podol'skiy 34.55 301 P **pP** **03 24 06.7 -6.4**
KMPD P **P** **03 24 06.3 -0.1**
TESR Tescani 34.56 297 ⇓P **P** **03 24 08.2 +1.6**
TESR Tescani 34.56 297 P **P** **03 24 07.7 +1.2**
comp=N,25nm,0.7s

VRI	Vrincioaia	34.58	296		P		P	03 24 08.7	+2.0		
	comp=N,30nm,0.8s										
NACGM	Naroch	34.61	312	⇑	*i*P		P	03 24 08.1	+1.3		
	comp=Z,25nm,0.8s,baz=96										
PLOR5	Plostina Array	34.62	296		P		P	03 24 09.4	+2.3		
	comp=Z,70nm,0.8s										
PLOR	Plostina	34.63	296	⇓	P		P	03 24 09.5	+2.3		
PLOR	Plostina	34.63	296		P		P	03 24 09.5	+2.3		
PLOR3	Plostina Array	34.63	296		P		P	03 24 09.2	+2.0		
	comp=Z,46nm,0.8s										
IDID	Didziasalis	34.69	313		*e*P		P	03 24 10.0	+2.6		
ISR	Istrita	34.79	295	⇓	P		P	03 24 10.8	+2.2		
ISR	Istrita	34.79	295		P		P	03 24 10.8	+2.2		
ISR	Istrita	34.79	295		P		P	03 24 11.1	+2.5		
	comp=Z,37nm,0.9s										
RNPP5	Staryi Chortor	34.89	306		P		P	03 24 10.1	+0.8		
RNPP9	Sopachiv	34.89	306		P		P	03 24 10.7	+1.4		
COVR	Voineasa-Covas	34.94	296	⇑	P		P	03 24 11.8	+2.0		
TURR	Turia	35.05	297	⇑	P		P	03 24 12.9	+2.1		
ISAL	Salakas	35.07	313		*e*P		P	03 24 13.1	+2.4		
MLR	Muntele Rosu	35.16	296	⇑	P		P	03 24 14.2	+2.4		
MLR	Muntele Rosu	35.16	296		P		P	03 24 14.3	+2.4		
MLR	Muntele Rosu	35.16	296		P		P	03 24 14.3	+2.4		
MLR					pmax		pmax				
	comp=Z,48nm,0.9s										
MLR	Muntele Rosu	35.16	296		P		P	03 24 14.5	+2.6		
	comp=Z,59nm,0.8s										
VSU	Vasula	35.23	318		*i* P		P	03 24 11.5	-0.6		
VSU					pmax		pmax				
	comp=Z,16nm,0.8s										
BURAR	Bucovina Array	35.45	300		P		P	03 24 14.4	+0.1		
BURAR					IAmb		IAmb	03 24 20.9			
	comp=Z,11nm,0.8s										
BUR08	Bucovina Ar. S	35.45	300		P		P	03 24 14.7	+0.4		
SZH	Strazhitsa	35.48	292		*i* P		P	03 24 16.3	+1.8		
DOPR	Dopca	35.49	297	⇓	P		P	03 24 16.8	+2.2		
KSV	Kosov	35.49	301		P		P	03 24 15.5	+1.0		
KSV	Kosov	35.49	301		P		P	03 24 15.5	+1.0		
LVZ	Lovozero	35.57	336	*ce*	P		P	03 24 14.0	-1.0		
LVZ					pmax		pmax				
	comp=Z,26nm,1.7s										
ELND	Elena	35.61	291	⇑	P		P	03 24 17.4	+1.8		
VOIR		35.80	296		P		P	03 24 18.8	+1.6		
VOIR		35.80	296		P		P	03 24 18.8	+1.6		
	comp=Z,11nm,0.8s										
ARBE	Arbavere	35.82	320		*e*P		P	03 24 17.6	+0.4		
STNU	Starunia	35.84	301		P		P	03 24 18.5	+1.0		
EZN	Ezine	35.97	286		P		P	03 24 20.6	+2.0		
EZN	Ezine	35.97	286		P		P	03 24 20.6	+2.0		
	comp=Z,36nm,1.1s										
ARCR	ARCALIA	36.08	299	⇓	P		P	03 24 21.1	+1.6		
LVV	L'vov	36.09	303		*e*P		P	03 24 20.5	+0.9		
LVV					*e*			03 25 48.2			
LVV					*e*S		S	03 29 57.0	-1.1		
LVV					MLR		MLR				
	comp=E,200nm,16.0s										
LVV					MLR		MLR				
	comp=Z,200nm,16.0s										
RAKU	Rahkiv	36.12	300		P		P	03 24 19.8	-0.1		
MORS	Morshin	36.22	302		P		P	03 24 22.4	+1.7		
MORS	Morshin	36.22	302		P		P	03 24 22.4	+1.7		
FIA1	FINESS Array S	36.26	323		P		P	03 24 20.9	+0.1		
FIA1					IAmb		IAmb	03 24 29.4			
	comp=Z,28nm,1.1s										
FINES	FINESS Array B	36.26	323		P		P	03 24 20.6	-0.4		
FINES	FINESS Array B	36.26	323		P		P	03 24 21.1	+0.1		
	comp=Z,5.0nm,0.4s,baz=116,slow=9.3,SNR=103										
FINES					LR		LR	03 39 55.8			
	comp=Z,274nm,21.2s,baz=213,slow=37										
	comp=Z,5.0nm,0.4s										
FINES	FINESS Array B	36.26	323		*i* P		P	03 24 21.5	+0.6		
FINES					pmax		pmax				
	comp=Z,4.0nm,0.4s										
PABE	Paberze	36.28	313		P		P	03 24 21.7	+0.6		
PABE	Paberze	36.28	313		*e*P		P	03 24 22.6	+1.5		
VSVD	Vaisvydziai	36.35	314		*e*P		P	03 24 21.6	-0.1		
MEZ	Mezhgor'ye	36.51	301		P		P	03 24 25.5	+2.2		
SHIU	Shidnytsya	36.56	302		P		P	03 24 25.1	+1.4		
SUW	Suwalki	36.63	310		*e*P		P	03 24 24.1	0.0		
SUW	Suwalki	36.63	310		*e*P		P	03 24 25.5	+1.3		
CJR	Cluj-Napoca	36.63	298	⇓	P		P	03 24 26.8	+2.4		
CJR	Cluj-Napoca	36.63	298		P		P	03 24 26.7	+2.4		
LOT	Lotru	36.69	296	⇑	P		P	03 24 27.5	+2.6		
RZN	Rozhen	36.69	290		*i* P		P	03 24 27.0	+1.9		
MEF	Metsahovi	36.77	321		*e*P		P	03 24 29.3	+4.1		
MTSE	Matsula	36.78	318		*e*P		P	03 24 26.5	+1.2		
BRIU	Brid	36.85	301		P		P	03 24 29.1	+3.0		
TRSU	Trosnyk	36.92	301		P		P	03 24 29.1	+2.4		
PGB	Panagyurishte	36.92	291		*i* P		P	03 24 29.1	+2.2		
KWP	Kalwaria Pacla	36.96	303		*e*P		P	03 24 29.4	+2.3		
KWP	Kalwaria Pacla	36.96	303		P		P	03 24 28.2	+1.2		
KWP					IAmb		IAmb	03 24 36.0			
	comp=Z,25nm,0.7s										
KWP	Kalwaria Pacla	36.96	303		P		P	03 24 28.2	+1.2		
KWP					pmax		pmax				
	comp=Z,25nm,0.7s										
KWP	Kalwaria Pacla	36.96	303		P		P	03 24 29.1	+2.0		
	comp=Z,40nm,0.8s										
MARR	Marisel-Cluj	36.97	298	⇓	P		P	03 24 29.3	+2.0		
KEF	Keuruu	37.01	324		*e*P		P	03 24 27.9	+0.7		
MPEP	Malo Peshtene	37.06	293		*i* P		P	03 24 30.4	+2.4		
BERU	Beregovo	37.11	301		P		P	03 24 29.9	+1.6		
VALD	Valchedram	37.22	293		P		P	03 24 30.7	+1.4		
DRGR		37.23	298	⇑	P		P	03 24 31.3	+1.8		
DRGR		37.23	298		P		P	03 24 31.2	+1.8		
HOLU	Holmets	37.26	301		P		P	03 24 31.4	+1.8		
KOLS	Kolonicke sedl	37.30	302		*e*P		P	03 24 31.5	+1.6		
KOLS	Kolonicke sedl	37.30	302		*e*P		P	03 24 31.5	+1.6		
KOLS					pmax		pmax				
	comp=Z,10.0nm,0.9s										
QIZ	Qiongzhong	37.35	112		P		P	03 24 33.2	+2.5		
QIZ					S		S	03 30 21.2	+3.3		
QIZ					LR		LR				
	comp=Z,280nm,20.6s										
QIZ					LR		LR				
	comp=Z,210nm,14.9s										
QIZ					LR		LR				
	comp=Z,270nm,17.7s										
APE	Apeiranthos	37.36	282	⇓	P		P	03 24 32.2	+1.6		
APE	Apeiranthos	37.36	282		P		P	03 24 32.2	+1.6		
GZR	Gura Zlata	37.38	296	⇑	P		P	03 24 32.7	+1.9		
SLIT	Slitere, Latvi	37.43	316		*e*P		P	03 24 30.4	-0.5		
PBUR	Paburge	37.47	314		*e*P		P	03 24 32.6	+1.3		
VTS	Vitosha	37.58	292		*i* P		P	03 24 34.7	+2.1		
HERR	Herculane	37.72	295	⇑	P		P	03 24 34.8	+1.2		
BLKB	Belogradchik	37.77	293	⇓	P		P	03 24 36.0	+2.0		
SURR	Surduc	37.78	297	⇑	P		P	03 24 36.2	+2.2		
CRVS	Cervenica-Dubn	37.83	302		*e*P		P	03 24 42.1	+7.6		
STHS	Stebnicka Huta	37.93	303		*e*P		P	03 24 35.6	+0.3		
STHS	Stebnicka Huta	37.93	303		*e*P		P	03 24 35.6	+0.3		
STHS					pmax		pmax				
	comp=Z,7.0nm,0.6s										
SIRR	Siria	38.02	298	⇓	P		P	03 24 38.2	+2.1		
BZS	Buzias	38.15	297	⇑	P		P	03 24 39.3	+2.1		
BZS	Buzias	38.15	297		P		P	03 24 39.3	+2.1		
RAF	Rauma	38.20	322		*e*P		P	03 24 37.7	+0.3		
VAF	Ylistaro	38.21	325		*e*P		P	03 24 38.3	+0.9		
MDVR	Moldovita	38.23	295	⇓	P		P	03 24 39.9	+2.0		
VADS	Vadso	38.37	337		*e*P		P	03 24 39.4	+0.8		
KLNR	Kaliningrad	38.39	311		*i* P		P	03 24 41.0	+2.0		
KLNR					pmax		pmax				
	comp=Z,50nm,0.7s										
BOVS	Bovan	38.46	294	⇓	P		P	03 24 41.3	+1.5		
NIE	Niedzica	38.54	303		*e*P		P	03 24 42.5	+2.0		
NIE	Niedzica	38.54	303		P		P	03 24 42.3	+1.8		
NIE	Niedzica	38.54	303		P		P	03 24 42.3	+1.8		
	comp=Z,7.0nm,0.8s										
CN2	Changchun	38.64	66		*e*P		P	03 24 40.5	-0.8		
CN2					*e*S		S	03 30 31.7	-5.2		
CN2					pmax		pmax				
	comp=Z,10.0nm,0.8s										
CN2					pmax		pmax				
	comp=Z,100nm,3.0s										
CN2					LR		LR				
	comp=Z,400nm,14.0s										
CN2					LR		LR				
	comp=Z,300nm,14.0s										
CN2					LR		LR				
	comp=Z,600nm,15.0s										
ZEA	Zeya	38.75	50		*e*P		P	03 24 43.4	+1.3		
ZEA					MLR		MLR				
	comp=Z,200nm,14.0s										
ATD	Arta Tunnel	38.77	233		P		P	03 24 44.4	+1.7		
ATD					IAmb		IAmb	03 24 46.6			
	comp=Z,29nm,1.1s										
OJC	Ojcow	38.79	304		*e*P		P	03 24 43.7	+1.2		
OJC	Ojcow	38.79	304		P		P	03 24 43.1	+0.7		
OJC	Ojcow	38.79	304		P		P	03 24 43.2	+0.7		
OJC					pmax		pmax				
	comp=Z,16nm,0.9s										
OJC	Ojcow	38.79	304		P		P	03 24 43.5	+1.0		
	comp=Z,19nm,0.9s										
AAL	Aland	38.93	320		*e*P		P	03 24 43.7	+0.3		
PSZ	Piszkesteto	38.98	301	⇑	P		P	03 24 46.4	+2.2		
PSZ	Piszkesteto	38.98	301		P		P	03 24 45.5	+1.3		
PSZ	Piszkesteto	38.98	301		P		P	03 24 46.4	+2.2		
HEH	HeiHe	39.02	56		*e*P		P	03 24 44.8	+0.4		
HEH					pmax		pmax				
	comp=Z,29nm,0.8s										
HEH					pmax		pmax				
	comp=Z,140nm,3.7s										
SKO	Skopje	39.02	291		*i* P		P	03 24 47.1	+2.5		
LANS	Liptovska Anna	39.11	303		*e*P		P	03 24 48.1	+2.9		
LANS					*e*			03 26 21.2			
LANS	Liptovska Anna	39.11	303		*e*P		P	03 24 48.1	+2.9		
LANS					*e*			03 26 21.2			
LANS					pmax		pmax				
	comp=Z,3.0nm,0.6s										
AGG	Agios Georgios	39.16	286		P		P	03 24 44.5	-1.3		
AGG	Agios Georgios	39.16	286		P		P	03 24 44.5	-1.3		
AGG					pmax		pmax				
	comp=Z,15nm,0.9s										
ARA0	ARCESS Array S	39.29	336		*e*P		P	03 24 47.2	+0.8		
ARCES	ARCESS Array B	39.29	336		P		P	03 24 47.2	+0.8		
	comp=Z,5.4nm,0.5s,baz=110,slow=8.9,SNR=78										
	comp=Z,5.4nm,0.5s										
FNA	Florina	39.37	289		P		P	03 24 47.8	+0.3		
FNA	Florina	39.37	289		P		P	03 24 47.8	+0.3		
FNA					pmax		pmax				
	comp=Z,10.0nm,0.8s										
FRGS	Fruska Gora	39.49	296	⇑	P		P	03 24 50.1	+1.7		
FRGS	Fruska Gora	39.49	296		*e*P		P	03 24 49.8	+1.4		
FRGS	Fruska Gora	39.49	296		P		P	03 24 50.4	+2.0		
	comp=Z,18nm,1.2s										
VYHS	Vyhne	39.61	302		*e*P		P	03 24 51.5	+2.1		
VYHS					*e*			03 26 22.2			
VYHS	Vyhne	39.61	302		*e*P		P	03 24 51.5	+2.1		
VYHS					*e*			03 26 22.2			
VYHS					pmax		pmax				
	comp=Z,9.0nm,1.2s										
SJES	Sjenica	39.77	293		*e*P		P	03 24 53.0	+2.1		
KTK1	Kautokeino	39.82	334		*e*P		P	03 24 51.4	+0.6		
OKC	Ostrava-Krasne	39.89	304		AMS		AMS	03 56 10.0			
	comp=Z,400nm,18.7s										
BBLS	Lazi&#263i	40.04	295		*e*P		P	03 24 53.8	+0.7		
SRO	Srobarova	40.05	301		*e*P		P	03 24 57.1	+4.1		
SRO	Srobarova	40.05	301		*e*P		P	03 24 57.1	+4.1		
UPP	Uppsala	40.08	320		*e*P		P	03 24 54.5	+1.5		
MORH	Mrgy, Hungar	40.09	298	⇓	P		P	03 24 55.1	+1.7		
MORH	Mrgy, Hungar	40.09	298		P		P	03 24 54.4	+1.0		
	comp=Z,12nm,0.9s										
RUDO	Rudo	40.12	294		*e*P		P	03 24 55.5	+1.8		
GKP	Gorka Klasztor	40.17	309		*e*P		P	03 24 55.0	+1.1		
GKP	Gorka Klasztor	40.17	309		*e*P		P	03 24 55.3	+1.4		
GKP	Gorka Klasztor	40.17	309		P		P	03 24 59.0	+5.1		
MORC	Moravsky Berou	40.29	304	⇑	P		P	03 24 56.8	+1.7		
MORC	Moravsky Berou	40.29	304		P		P	03 24 55.8	+0.7		
MORC	Moravsky Berou	40.29	304		*e*P		P	03 24 57.1	+2.1		
MORC					*e*PP		PP	03 26 29.7	+2.1		
MORC	Moravsky Berou	40.29	304		P		P	03 24 56.7	+1.7		
HAMF	Hammerfest	40.31	337		*e*P		P	03 24 55.1	+0.3		
JAVC	Velka Javorina	40.32	302		*e*P		P	03 24 57.4	+2.1		
VIKU	Vikbolandet	40.46	317		*e*P		P	03 24 57.0	+0.8		
PDG	Podgorica	40.48	292	⇓	P		P	03 24 57.8	+1.2		
PDG	Podgorica	40.48	292		P		P	03 24 57.5	+0.8		
PDG					IAmb		IAmb	03 25 04.3			
	comp=Z,17nm,0.9s										
PDG	Podgorica	40.48	292		*e*P		P	03 24 57.2	+0.5		
YAK	Yakutsk	40.53	37		LR		LR	03 42 41.1			
	comp=Z,185nm,19.5s,baz=229,slow=38										
YAK	Yakutsk	40.53	37		*e*P		P	03 24 56.5	-0.3		
YAK					*e**PP		pP	03 25 03.5	0.0		
YAK					*e*			03 26 29.2			
YAK					*e*S		S	03 31 00.1	-4.7		
YAK					*e*S		ScP	03 31 02.0	+15		
YAK					pmax		pmax				
	comp=Z,17nm,0.8s										
YAK					pmax		pmax				
	comp=N,3.0nm,0.8s										
YAK					pmax		pmax				
	comp=E,7.0nm,1.0s										
YAK					pmax		pmax				
	comp=Z,53nm,2.5s										
YAK					pmax		pmax				
	comp=N,34nm,2.8s										
YAK					pmax		pmax				
	comp=E,31nm,2.8s										
YAK					smax		smax				
	comp=E,9.0nm,1.3s										
YAK					smax		smax				
	comp=N,26nm,2.3s										
YAK					MLR		MLR				
	comp=Z,203nm,17.0s										
YAK					MLR		MLR				
	comp=E,173nm,16.0s										
DRME	Dracevica, Mon	40.60	292		*e*P		P	03 24 58.5	+0.9		
KRLC	Kraliky	40.74	304		*e*P		P	03 24 59.9	+1.1		
KRLC					*ep*P		pP	03 25 03.3	-2.2		
KRLC	Kraliky	40.74	304		*e*P		P	03 24 59.9	+1.1		
KRLC					*e*			03 25 03.3			
BRY	Bratogost	40.88	293		*e*P		P	03 25 01.9	+1.8		
JETT	Jettan, Norway	40.96	335		*e*P		P	03 25 01.4	+1.1		
VRAC	Vranov	40.96	303		*e*P		P	03 25 01.4	+0.8		
VRAC					*e*PP		PP	03 26 36.7	+1.8		
VRAC	Vranov	40.96	303		P		P	03 25 01.4	+0.8		
	comp=E,5.2nm,0.9s,baz=70,slow=9.3,SNR=8.5										
	comp=E,5.2nm,0.9s										
DPC	Dobruska-Polom	41.00	305		*e*P		P	03 25 02.1	+1.2		
DPC					*ep*P		pP	03 25 06.2	-1.5		
DPC					*e*PP		PP	03 26 31.0	-4.3		
DPC					AMS		AMS	03 52 00.0			
	comp=E,300nm,17.8s										
DPC	Dobruska-Polom	41.00	305		*e*P		P	03 25 02.1	+1.2		
DPC					*e*			03 25 06.2			
DPC					MLR		MLR				
	comp=Z,300nm,17.8s										
DPC	Dobruska-Polom	41.00	305		P		P	03 25 02.0	+1.2		
	comp=Z,7.7nm,1.1s										
OSTC	Ostas	41.04	305		*e*P		P	03 25 04.6	+3.4		
OSTC					AMS		AMS	03 51 50.0			
	comp=Z,400nm,20.2s										
OSTC	Ostas	41.04	305		*e*P		P	03 25 04.6	+3.4		
OSTC					MLR		MLR				
	comp=Z,400nm,20.2s										
TREB	Trebinje	41.06	293		*e*P		P	03 25 02.7	+1.3		
KRUC	Moravsky	41.13	303		*e*P		P	03 25 02.7	+0.8		
CHVC	Chvalec	41.14	305		AMS		AMS	03 51 40.0			
	comp=Z,400nm,19.7s										
UPC	Upice	41.17	305		*e*P		P	03 25 03.9	+1.6		
UPC					AMS		AMS	03 51 30.0			
	comp=Z,400nm,21.4s										
UPC	Upice	41.17	305		*e*P		P	03 25 03.9	+1.6		
UPC					MLR		MLR				
	comp=Z,400nm,21.4s										
MDJ	Mudanjiang	41.38	64		P		P	03 25 04.0	0.0		
MDJ					pP		pP	03 25 07.9	-2.9		
MDJ					PcS		PcS	03 30 52.9	-0.2		
MDJ					S		S	03 31 17.6	-0.2		
MDJ					ScS		ScS	03 35 04.9	-2.1		
MDJ					pmax		pmax				
	comp=Z,11nm,2.1s										
MDJ					pmax		pmax				
	comp=Z,180nm,3.6s										
MDJ					LR		LR				
	comp=Z,510nm,12.6s										
MDJ					LR		LR				
	comp=Z,470nm,11.3s										
MDJ					LR		LR				
	comp=Z,580nm,16.5s										
BLY	Banja Luka	41.40	296		*e*P		P	03 25 05.5	+1.3		
RONA	Rosalia, Austr	41.41	301		*i* P		P	03 25 05.6	+1.3		
	comp=Z,4.2nm,0.9s										
BSD	Bornholm Skovb	41.44	312		*e*P		P	03 25 04.3	-0.1		
BSD	Bornholm Skovb	41.44	312		*i* P		P	03 25 03.9	-0.5		
BSD					IAmb		IAmb	03 25 12.3			
	comp=Z,9.9nm,0.7s										
TRO	Tromso	41.47	335		*e*P		P	03 25 05.2	+0.8		
STON	Ston	41.48	293		*e*P		P	03 24 59.5	-5.4		
A051A	Mrakovica	41.53	297		*e*P		P	03 25 05.6	+0.2		
MGRS	Mrkonjic Grad	41.54	296		*e*P		P	03 25 07.1	+1.7		
CONA	Conrad Observa	41.66	301		*i* P		P	03 25 08.0	+1.6		
	comp=Z,8.2nm,0.7s,SNR=7.7										
A050A	Klekovaca	41.91	296		*e*P		P	03 25 08.5	0.0		
KLR	Kul'dur	41.94	57		LR		LR	03 44 06.1			
	comp=Z,270nm,20.9s,baz=263,slow=38										
KLR	Kul'dur	41.94	57		*e*P		P	03 25 06.8	-1.8		
KLR					pmax		pmax				
	comp=Z,14nm,2.0s										
DEL	Delary	41.98	314		*e*P		P	03 25 09.6	+0.8		
PTJ	Puntijarka	41.98	298		P		P	03 25 10.9	+1.8		
ARSA	Arzberg	42.01	300		*i* P		P	03 25 10.1	+0.9		
	comp=Z,1.2nm,0.5s										
HFS	Hagfors	42.06	320		P		P	03 25 08.7	-0.7		
	comp=Z,21nm,0.5s,baz=98,slow=11,SNR=209										
	comp=Z,21nm,0.5s										
PVCC	Panska Ves	42.09	305		AMS		AMS	03 54 10.0			
	comp=Z,300nm,18.0s										
PRU	Pruhonice	42.18	305		*e*P		P	03 25 12.2	+1.7		
PRU					*ep*P		pP	03 25 15.4	-1.9		
PRU					AMS		AMS	03 53 10.0			
	comp=Z,300nm,19.3s										
PRU	Pruhonice	42.18	305		*e*P		P	03 25 12.2	+1.7		
PRU					*e*			03 25 15.4			
PRU					MLR		MLR				
	comp=Z,300nm,19.3s										
GOLS	Golise	42.19	299		*e*P		P	03 25 12.0	+1.3		
KSRS	Korea Array	42.20	75		P		P	03 25 08.3	-2.5		
	comp=Z,1.1nm,0.6s,baz=281,slow=8.1,SNR=6.4										
KSRS					LR		LR	03 45 22.0			
	comp=Z,191nm,18.7s,baz=285,slow=40										
	comp=Z,1.1nm,0.6s										
FAUS	Fauske	42.20	331		*e*P		P	03 25 11.4	+1.0		
PRA	Prague	42.24	305		AMS		AMS	03 51 10.0			
	comp=Z,400nm,19.4s										
MOR8	Moi Rana	42.32	329		*e*P		P	03 25 10.4	-1.0		
CRES	Cresnjev	42.35	298		*e*P		P	03 25 12.7	+0.7		
RGN	Rugen	42.40	311		P		P	03 25 13.3	+1.1		
RGN					IAmb		IAmb	03 25 19.9			
	comp=Z,38nm,1.0s										
RGN	Rugen	42.40	311		*e*P		P	03 25 13.6	+1.5		
TIXI	Tiksi	42.41	23		P		P	03 25 10.8	-1.2		
TIXI					IAmb		IAmb	03 25 14.8			
	comp=Z,23nm,0.7s										
TIXI	Tiksi	42.41	23		*i* P		P	03 25 10.7	-1.3		
TIXI					pmax		pmax				
	comp=Z,22nm,0.7s										
BRG	Berggiesshubel	42.43	306		*i* P		P	03 25 13.7	+1.2		
BRG					Amp			03 25 15.4			
	comp=Z,5.1nm,0.6s										
BRG	Berggiesshubel	42.43	306		P		P	03 25 20.6	+8.1		
BRG					Amp			03 25 21.4			
	comp=Z,9.5nm,0.8s										
BRG	Berggiesshubel	42.43	306		*i* P		P	03 25 13.7	+1.2		
BRG								03 25 20.6			
BRG								03 26 56.5			
BRG								03 27 05.5			
BRG					pmax		pmax				
	comp=Z,5.0nm,0.6s										
BRG					pmax		pmax				
	comp=Z,4.0nm,1.0s										
SOKA	Soboth	42.45	300		*e*P		P	03 25 14.3	+1.4		
	comp=Z,8.9nm,1.0s,SNR=8.0										
CKRC	Cesky Krumlov	42.52	303		*e*P		P	03 25 15.2	+1.9		
CKRC					AMS		AMS	03 52 30.0			
	comp=Z,300nm,20.0s										
CKRC	Cesky Krumlov	42.52	303		*e*P		P	03 25 15.2	+1.9		
CKRC					MLR		MLR				
	comp=Z,300nm,20.0s										
BOJS	Bojanci	42.56	298		*e*P		P	03 25 14.9	+1.2		
MOA	Molln	42.73	302		*e*P		P	03 25 16.2	+1.2		
	comp=Z,3.5nm,0.7s										
VISS	Visnje	42.77	298		*i* P		P	03 25 16.7	+1.3		
OBKA	Obir	42.82	300		*i* P		P	03 25 17.5	+1.7		
	comp=Z,8.2

comp=Z,4.7nm,0.6s
NBO00 NORSAR Array S 43.52 321 IAmb IAmb 03 25 27.4
comp=Z,18nm,0.9s
SABO M.te Sabotino 43.58 299 IAmb IAmb 03 25 27.7
comp=Z,27nm,0.7s
CUC Castrocucco 43.66 290 IAmb IAmb 03 25 31.7
comp=Z,18nm,0.9s
GSI Gunungsitoli 43.82 144 P P **03 25 26.9 +2.8**
LESA Schwarzleotal 43.87 301 *i* P P **03 25 25.2 +0.9**
comp=Z,4.3nm,0.8s
KONO Kongsberg 44.13 319 *e*P P **03 25 26.9 +0.8**
ABTA Abfaltersbach 44.13 300 *i* P P **03 25 26.9 +0.5**
comp=Z,6.4nm,1.5s
CEL Celeste 44.18 288 IAmb IAmb 03 25 34.1
comp=Z,27nm,1.0s
CEL Celeste 44.18 288 P P **03 25 28.5 +1.6**
comp=Z,28nm,1.3s
DOMB Dombas 44.34 323 *e*P P **03 25 28.1 +0.3**
GRA1 Grafenberg Arr 44.35 305 IAmb IAmb 03 25 37.6
comp=Z,16nm,0.9s
GRFO Grafenberg 44.35 305 P P **03 25 27.6 -0.4**
GRFO IAmb IAmb 03 25 37.6
comp=Z,14nm,0.8s
GRFO Grafenberg 44.35 305 P P **03 25 27.6 -0.4**
GRFO pmax pmax
comp=Z,14nm,0.8s
INTR Introdacqua 44.42 293 P P **03 25 29.2 +0.4**
SSRD Sdr. Stenderup 44.42 313 *i* P P **03 25 28.2 -0.3**
SSRD IAmb IAmb 03 25 31.6
comp=Z,14nm,0.7s
GUMA Gualdo di Mace 44.52 295 P P **03 25 30.2 +0.7**
GUMA IAmb IAmb 03 25 37.0
comp=Z,14nm,0.8s
MUD Monsted U'grnd 44.58 315 *i* P P **03 25 30.4 +0.7**
MUD IAmb IAmb 03 25 31.8
comp=Z,6.1nm,0.7s
WTTA Wattenberg 44.59 301 *i* P P **03 25 30.8 +0.5**
comp=Z,6.0nm,0.8s
WATA Walderalm 44.62 301 *i* P P **03 25 31.0 +0.6**
comp=Z,3.4nm,0.9s
FDMO Fiordimonte 44.70 295 P P **03 25 31.4 +0.4**
FDMO IAmb IAmb 03 25 37.7
comp=Z,12nm,0.7s
SKAR Skarslia 44.74 321 *e*P P **03 25 32.7 +1.6**
NRCA Norcia 44.74 295 P P **03 25 32.2 +0.8**
NRCA IAmb IAmb 03 25 44.1
comp=Z,9.7nm,0.8s
CTI Castel Tesino 44.88 300 P P **03 25 32.4 0.0**
CTI Castel Tesino 44.88 300 P P **03 25 32.4 0.0**
CTI pmax pmax
comp=Z,5.0nm,0.8s
SQTA Sankt Quirin 44.89 301 *i* P P **03 25 32.9 +0.4**
comp=Z,3.5nm,0.9s
MOTA Moosalm 44.93 301 *i* P P **03 25 33.0 +0.1**
comp=Z,3.9nm,0.8s,SNR=6.4
RETA Reutte 45.12 302 *i* P P **03 25 35.3 +1.0**
comp=Z,4.2nm,1.1s
SPB2 Spitsbergen Ar 45.17 346 P P **03 25 34.3 +0.1**
SPB2 IAmb IAmb 03 25 46.3
comp=Z,24nm,1.0s
SPA0 Spitsbergen Ar 45.17 346 *e*P P **03 25 36.0 +1.7**
SPITS Spitsbergen Ar 45.17 346 P P **03 25 34.4 +0.1**
comp=Z,7.5nm,0.5s,baz=112,slow=14,SNR=25
SPITS LR LR 03 47 01.7
comp=Z,219nm,20.4s,baz=176,slow=40
comp=Z,7.5nm,0.5s
FETA Feichten 45.25 301 *i* P P **03 25 36.0 +0.5**
comp=Z,2.5nm,0.8s
SNART Snartemo 45.45 317 *e*P P **03 25 37.7 +1.1**
RAFF Raffo Rosso 45.69 287 P P **03 25 39.8 +0.9**
BLS5 Blasjo 45.74 319 *e*P P **03 25 40.4 +1.4**
DAVA Damuels 45.75 302 *i* P P **03 25 40.0 +0.6**
comp=Z,8.8nm,0.7s
STU Stuttgart 45.84 304 P P **03 25 40.3 +0.4**
STU IAmb IAmb 03 25 50.1
comp=Z,11nm,1.0s
STU Stuttgart 45.84 304 P P **03 25 40.3 +0.4**
STU pmax pmax
comp=Z,11nm,1.0s
OSSC Osservatorio P 45.84 296 P P **03 25 40.6 +0.6**
OSSC IAmb IAmb 03 25 42.5
comp=Z,14nm,0.9s
BER Bergen 46.22 320 *e*P P **03 25 43.8 +1.1**
KBS Kingsbay 46.27 346 *i* P P **03 25 42.7 -0.2**
BFO Black Forest 46.51 303 P P **03 25 45.3 +0.1**
BFO Black Forest 46.51 303 P P **03 25 45.3 +0.1**
BFO pmax pmax
comp=Z,7.0nm,1.0s
MYKOM Kota Tinggi 46.54 136 P P **03 25 46.6 +0.8**
NKL Nikolayevsk 46.79 50 *e*P P **03 25 49.8 +2.6**
NKL *e*S S **03 32 37.5 +1.1**
NKL pmax pmax
comp=E,17nm,0.9s
NKL pmax pmax
comp=N,9.0nm,0.8s
NKL pmax pmax
comp=Z,14nm,1.0s
NKL smax smax
comp=E,95nm,2.6s
NKL smax smax
comp=N,122nm,2.5s
NKL MLR MLR
comp=E,4µm,10.0s
NKL MLR MLR
comp=N,5µm,11.0s
NKL MLR MLR
comp=Z,6µm,11.0s
CDF Champ du Feu 47.17 304 *e*P P **03 25 51.0 +0.6**
CDF pmax pmax
comp=Z,5.0nm,0.8s
ECH Echery 47.29 304 P P **03 25 52.9 +1.6**
BTNL Ternell 47.36 307 *d*P P **03 25 53.3 +1.5**
MEM Membach 47.43 307 *d*P P **03 25 53.8 +1.5**
comp=Z,7.1nm,1.0s
BHOU Houvegnez 47.49 307 *d*P P **03 25 54.2 +1.3**
WLF Walferdange 47.57 306 P P **03 25 52.6 -0.8**
WLF IAmb IAmb 03 26 00.8
comp=Z,13nm,1.1s
WLF Walferdange 47.57 306 *d*P P **03 25 55.0 +1.6**
comp=Z,7.2nm,0.8s
WLF Walferdange 47.57 306 P P **03 25 52.6 -0.8**
WLF pmax pmax
comp=Z,13nm,1.1s
HINF Hinteralfeld 47.60 303 *e*P P **03 25 53.5 -0.2**
HINF pmax pmax
comp=Z,7.0nm,1.1s
BSTI Sart Tilman 47.71 307 *d*P P **03 25 56.2 +1.7**
PGF Pioggiola 47.71 296 *e*P P **03 25 54.8 0.0**
PGF pmax pmax
comp=Z,13nm,0.9s
HAU Haudompre 47.87 303 *e*P P **03 25 55.6 -0.2**
HAU pmax pmax
comp=Z,8.0nm,0.8s
BCLA Clavier 47.91 307 *d*P P **03 25 57.1 +1.0**
BCLA *d*x x 03 26 00.7
RCHB Rochefort 48.02 307 *d*P P **03 25 57.7 +0.8**
BGES Gesves 48.05 307 *d*P P **03 25 57.9 +0.7**
BMRD Maredsous 48.27 307 *d*P P **03 26 00.7 +1.9**
GIVF Givet 48.29 307 *e*P P **03 26 00.1 +1.1**
GIVF pmax pmax
comp=Z,7.0nm,0.6s
LPG La Plagne 48.33 300 *e*P P **03 26 00.0 +0.3**
LPG pmax pmax
comp=Z,9.0nm,0.7s
LPL La Plagne 48.33 300 *e*P P **03 26 00.0 +0.3**
LPL pmax pmax
comp=Z,8.0nm,0.5s
SBF Sospel 48.37 298 *e*P P **03 26 00.1 +0.3**
SBF pmax pmax
comp=Z,37nm,1.0s
DOU Dourbes 48.43 307 *d*P P **03 26 01.1 +1.0**
TYV Tymovskoe 48.49 52 *e*P P **03 26 04.2 +3.7**
TYV *e*S S **03 33 05.0 +4.4**
TYV pmax pmax
comp=Z,5.0nm,1.5s
TYV pmax pmax
comp=Z,100nm,3.4s
TYV smax smax
comp=N,100nm,4.5s
TYV smax smax
comp=E,100nm,4.5s
BNI Bardonecchia 48.51 300 P P **03 26 01.7 +0.8**
MBDF Montbardon 48.55 299 *e*P P **03 26 00.7 -0.6**
MBDF pmax pmax
comp=Z,9.0nm,0.6s
BAIF Baives 48.68 307 *e*P P **03 26 03.2 +1.2**
BAIF pmax pmax
comp=Z,10.0nm,0.8s
YSS Yuzh-Sakhalins 49.64 57 *i* P P **03 26 08.4 -1.0**
YSS pmax pmax
comp=Z,29nm,1.6s
LOR Lormes 49.70 303 *e*P P **03 26 09.7 -0.1**
LOR pmax pmax
comp=Z,3.0nm,0.7s
LODK Lodwar 49.70 234 P P **03 26 11.9 +1.6**
LODK IAmb IAmb 03 26 13.5
comp=Z,20nm,1.0s
SMF Signal de Mont 49.90 302 *e*P P **03 26 10.9 -0.5**
SMF pmax pmax
comp=Z,17nm,1.2s
VIVF Saint-Julien-l 49.92 300 *e*P P **03 26 11.6 0.0**
VIVF pmax pmax
comp=Z,6.0nm,0.6s
JGF Kuroka 49.93 73 P P **03 26 11.2 -0.7**
JGF IAmb IAmb 03 26 12.1
comp=Z,6.5nm,0.6s
KEST Kesra 49.99 287 P P **03 26 13.4 +1.1**
KEST IAmb IAmb 03 26 26.3
comp=Z,11nm,0.8s
KEST Kesra 49.99 287 P P **03 26 12.7 +0.4**
comp=Z,7.5nm,0.8s,baz=72,slow=9.6,SNR=12
comp=Z,7.5nm,0.8s
MJB9 Matsu-Tunnel 50.17 72 P P **03 26 13.8 +0.2**
AVF Avril sur Loir 50.17 303 *e*P P **03 26 13.1 -0.3**
AVF pmax pmax
comp=Z,12nm,0.7s
MAJO Matsushiro 50.17 72 P P **03 26 12.9 -0.8**
MAJO IAmb IAmb 03 26 16.1
comp=Z,8.9nm,0.8s
MAJO Matsushiro 50.17 72 *i* P P **03 26 12.0 -1.6**
MAJO pmax pmax
comp=Z,9.0nm,0.8s
MJAR Matsushiro Arr 50.18 72 P P **03 26 12.4 -1.3**
comp=Z,6.5nm,0.9s,baz=291,slow=9.6,SNR=21
comp=Z,6.5nm,0.9s
ASAJ Asahikawa 50.45 61 LR LR 03 49 09.8
comp=Z,274nm,20.5s,baz=353,slow=38
CLF Chambon-Foret 50.49 305 IAmb IAmb 03 26 23.3
comp=Z,13nm,0.9s
BGF Bois d'Agland 50.58 303 *e*P P **03 26 16.0 -0.5**
BGF pmax pmax
comp=Z,6.0nm,0.7s
JMIC Jan Mayen 50.77 335 LR LR 03 47 10.1
comp=Z,150nm,20.8s,baz=221,slow=35
DRUM Mains of Drumt 50.83 317 *e*P P **03 26 18.2 0.0**
DRUM IAmb IAmb 03 26 20.2
comp=Z,80nm,1.6s
SBUM Sibu 50.91 126 P P **03 26 20.1 +0.8**
MA2 Magadan 50.94 40 *ce*P P **03 26 18.3 -0.7**
MA2 pmax pmax
comp=Z,28nm,2.5s
SEY Seymchan 50.98 35 *e*P P **03 26 18.6 -0.7**
SEY pmax pmax
comp=Z,4.0nm,0.9s
MCD Coleburn Disti 51.07 318 *e*P P **03 26 20.5 +0.4**
EDMD Edmundbyers 51.07 314 *e*P P **03 26 20.4 +0.3**
EDMD IAmb IAmb 03 26 26.3
comp=Z,63nm,1.4s
TCF Toulx Ste Croi 51.08 302 *e*P P **03 26 20.3 -0.1**
TCF pmax pmax
comp=Z,9.0nm,0.9s
HPK Haverah Park 51.12 313 *e*P P **03 26 20.9 +0.5**
HPK IAmb IAmb 03 26 21.9
comp=Z,26nm,0.8s
NOR Nord 51.35 349 *i* P P **03 26 22.4 +0.6**
NOR IAmb IAmb 03 26 24.1
comp=Z,2.6nm,0.6s
EDI Edinburgh 51.46 316 *e*P P **03 26 23.0 +0.1**
EKA Eskdalemuir Ar 51.60 315 P P **03 26 23.4 -0.7**
comp=Z,7.8nm,0.7s,baz=84,slow=8.2,SNR=44
comp=Z,7.8nm,0.7s
CAF Calviac 51.64 301 *e*P P **03 26 24.9 +0.3**
CAF pmax pmax
comp=Z,6.0nm,0.8s
WOL Wolverton 51.64 309 *e*P P **03 26 24.9 +0.4**
WOL IAmb IAmb 03 26 26.3
comp=Z,28nm,0.6s
STNC Stoke 51.70 312 *e*P P **03 26 24.9 +0.1**
KESW Keswick, Cumbr 51.78 314 *e*P P **03 26 25.5 +0.1**
KESW IAmb IAmb 03 26 29.3
comp=Z,35nm,1.2s
INVG Invergeldie, C 51.79 316 *e*P P **03 26 25.5 +0.1**
RJF Les Rejaudoux 51.87 301 *e*P P **03 26 26.6 +0.3**
RJF pmax pmax
comp=Z,9.0nm,1.0s
PGBU Glenifferbraes 52.19 316 *e*P P **03 26 28.9 +0.5**
PGBU IAmb IAmb 03 26 30.3
comp=Z,27nm,0.8s
NEWG New Galloway 52.25 315 *e*P P **03 26 29.6 +0.7**
NEWG IAmb IAmb 03 26 32.0
comp=Z,44nm,1.4s
HLM1 Long Mynd 52.26 311 *e*P P **03 26 29.0 0.0**
FOEL Foel Wylfa 52.33 312 *e*P P **03 26 30.2 +0.7**
GRR Gorron 52.35 306 *e*P P **03 26 29.1 -0.6**
GRR pmax pmax
comp=Z,16nm,0.9s
KPL Plockton 52.39 318 *e*P P **03 26 30.1 +0.2**
KPL IAmb IAmb 03 26 31.8
comp=Z,26nm,0.9s
MONM Monmouth 52.42 311 *e*P P **03 26 30.2 0.0**
MONM IAmb IAmb 03 26 31.7
comp=Z,17nm,0.9s
MCH1 Michaelchurch 52.49 311 *e*P P **03 26 30.8 +0.1**
MCH1 IAmb IAmb 03 26 31.9
comp=Z,23nm,0.7s
DAG Danmarks Havn 52.55 343 P P **03 26 31.3 +0.5**
DAG Danmarks Havn 52.55 343 *i* P P **03 26 31.0 +0.2**
DAG IAmb IAmb 03 26 32.5
comp=Z,15nm,0.6s
LAWE Loch Awe, Argy 52.56 316 *e*P P **03 26 31.5 +0.4**
GAL1 Galloway 52.59 315 *e*P P **03 26 31.6 +0.2**
GAL1 IAmb IAmb 03 26 33.2
comp=Z,18nm,0.8s
LLW Llanuwchllyn 52.61 312 *e*P P **03 26 31.9 +0.3**
SGMF Saint Gilles 53.46 306 *e*P P **03 26 37.5 -0.4**
SGMF pmax pmax
comp=Z,10.0nm,0.7s
RSBS Rosebush, Pemb 53.52 311 *e*P P **03 26 38.5 +0.1**
DBG Daneborg 53.53 340 *i* P P **03 26 38.5 +0.4**
DBG IAmb IAmb 03 26 40.4
comp=Z,4.6nm,0.6s
ROSF Rostrenen 53.88 307 *e*P P **03 26 41.1 +0.1**
ROSF IAmb IAmb 03 26 45.5
comp=Z,12nm,0.8s
QUIF Quistinic 53.96 306 *e*P P **03 26 41.0 -0.6**
QUIF pmax pmax
comp=Z,17nm,0.9s
ETSF Etsaut 54.16 299 *e*P P **03 26 43.2 0.0**
ETSF pmax pmax
comp=Z,3.0nm,0.5s
SJPF Ste Jean 54.52 300 *e*P P **03 26 45.3 -0.5**
SJPF pmax pmax
comp=Z,18nm,1.5s
BILL Bilibino 55.20 27 *e*P P **03 26 51.5 +1.2**
BILL pmax pmax
comp=Z,22nm,1.7s
MBAR Mbarara 55.72 235 P P **03 26 55.6 +0.7**
MBAR IAmb IAmb 03 26 56.9
comp=Z,12nm,0.7s
MBAR Mbarara 55.72 235 *i* P P **03 26 54.5 -0.4**
MBAR pmax pmax
comp=Z,13nm,0.8s
PETK Petropavlovsk- 56.60 46 P P **03 26 59.4 -1.2**
comp=Z,1.7nm,0.7s,baz=298,slow=3.1,SNR=2.0
PETK LR LR 03 52 31.2
comp=Z,296nm,18.2s,baz=39,slow=37
comp=Z,1.7nm,0.7s
DAV Davao City (W) 56.68 110 LR LR 03 54 44.4
comp=Z,166nm,19.0s,baz=128,slow=40
CART Cartagena 56.70 294 P P **03 27 01.3 -0.2**
ESDC Sonseca Array 57.84 297 P P **03 27 09.6 0.0**
ESDC Sonseca Array 57.84 297 P P **03 27 09.2 -0.4**
comp=Z,4.9nm,0.7s,baz=56,slow=7.1,SNR=107
comp=Z,4.9nm,0.7s
PAB San Pablo 58.16 297 P P **03 27 12.0 +0.1**
PAB San Pablo 58.16 297 P P **03 27 12.0 +0.1**
PAB pmax pmax
comp=Z,3.0nm,0.9s
NEEM North Greenlan 58.65 348 *i* P P **03 27 15.3 +0.3**
NEEM IAmb IAmb 03 27 20.1
comp=Z,14nm,0.8s
MRSI Marisa 58.75 119 P P **03 27 15.7 -0.4**
comp=Z,24nm,0.8s
SUMG Summit 58.99 341 P P **03 27 18.5 +1.0**
SUMG Summit 58.99 341 *i* P P **03 27 18.0 +0.5**
SUMG IAmb IAmb 03 27 20.2
comp=Z,9.0nm,0.7s
TAM Tamanrasset 59.17 275 P P **03 27 19.5 +0.2**
TAM Tamanrasset 59.17 275 P P **03 27 19.5 +0.2**
TAM pmax pmax
comp=Z,4.0nm,0.9s
SOEG Soedalen 59.21 335 *i* P P **03 27 19.2 +0.7**
SOEG IAmb IAmb 03 27 21.9
comp=Z,16nm,0.6s
MVO Moncorvo 59.25 300 *e*P P **03 27 20.5 +1.0**
comp=Z,20nm,1.5s
PGAV Gavieira, Arco 59.72 301 *e*P P **03 27 24.1 +1.4**
comp=Z,26nm,1.8s
PVIS Viseu 60.04 300 *e*P P **03 27 26.2 +1.3**
EUNU Eureka 60.30 356 P P **03 27 26.4 +0.4**
EUNU IAmb IAmb 03 27 31.5
comp=Z,6.5nm,0.7s
PMRV Marv??o 60.31 298 *e*P P **03 27 27.8 +1.1**
comp=Z,15nm,1.4s
PBAR Barrancos 60.66 297 *e*P P **03 27 29.6 +0.5**
PESTR Estremoz 60.71 298 *e*P P **03 27 30.2 +0.8**
PCAS Casmilo, Conde 60.76 299 *e*P P **03 27 30.5 +0.8**
comp=Z,32nm,1.5s
EVO Evora 61.16 298 *e*P P **03 27 33.4 +0.9**
ICESG Greenland Ices 61.29 338 *i* P P **03 27 33.2 -0.1**
ICESG IAmb IAmb 03 27 35.8
comp=Z,19nm,0.7s
PVAQ Vaqueiros 61.50 296 *e*P P **03 27 35.4 +0.6**
PCVE Castro Verde 61.62 297 *e*P P **03 27 36.4 +0.8**
MESJ Messejana 61.64 297 *e*P P **03 27 36.8 +1.1**
PBDV Barranco-do-Ve 61.73 296 *e*P P **03 27 37.9 +1.5**
A19K Wainwright 63.87 18 P P **03 27 49.5 -0.5**
baz=315
A21K Barrow 64.06 16 P P **03 27 51.3 +0.1**
baz=319
C16K Lisburne Hills 64.12 21 P P **03 27 51.8 +0.1**
baz=313
B18K Kokolik River 64.29 19 P P **03 27 52.9 +0.1**
baz=315
C17K DeLong Mountai 64.56 20 P P **03 27 54.6 -0.1**
baz=314
A22K Sinclair Lake 64.65 16 P P **03 27 55.0 -0.1**
baz=320
DY2G Dye2 64.89 337 *i* P P **03 27 57.2 +0.1**
DY2G IAmb IAmb 03 28 00.8
comp=Z,11nm,0.7s
B20K Meade River 64.93 17 P P **03 27 56.9 -0.1**
baz=319
RDOG Red Dog Mine 64.93 20 P P **03 27 56.9 -0.2**
baz=315
C18K Utukok River 64.96 19 IAmb IAmb 03 28 03.1
comp=Z,11nm,0.9s
C18K Utukok River 64.96 19 P P **03 27 57.1 -0.2**
baz=316
C19K Lookout Ridge 65.03 18 IAmb IAmb 03 28 07.4
comp=Z,9.6nm,0.7s
C19K Lookout Ridge 65.03 18 P P **03 27 57.2 -0.5**
baz=317
GAMB Gambell 65.11 26 P P **03 27 57.8 -0.4**
baz=309
D17K Noatak River 65.13 21 P P **03 27 58.4 +0.1**
baz=315
TNA Tin City 65.19 24 P P **03 27 58.6 -0.1**
baz=312
B22K Teshekpuk Lake 65.49 16 IAmb IAmb 03 28 05.8
comp=Z,10nm,0.9s
B22K Teshekpuk Lake 65.49 16 P P **03 28 00.7 +0.2**
baz=322,SNR=8.9
F14K Arctic Creek 65.74 23 P P **03 28 02.7 +0.4**
baz=313
SFJD Kangerlussuaq 65.78 339 P P **03 28 02.6 +0.1**
SFJD IAmb IAmb 03 28 07.1
comp=Z,7.6nm,0.8s
SFJD Kangerlussuaq 65.78 339 P P **03 28 02.6 +0.1**
SFJD pmax pmax
comp=Z,8.0nm,0.8s
SFJD Kangerlussuaq 65.78 339 *i* P P **03 28 02.1 -0.5**
SFJD IAmb IAmb 03 28 03.7
comp=Z,6.7nm,0.7s
B21K Ikpikpuk River 65.80 17 P P **03 28 02.5 -0.1**
baz=321,SNR=12
VOI Vohitsoka 65.84 207 P P **03 28 03.1 -0.4**
VOI IAmb IAmb 03 28 05.2
comp=Z,12nm,0.9s
D19K Kuna River 65.84 18 P P **03 28 02.6 -0.4**
baz=318,SNR=14
E17K Hotham Inlet 65.92 21 P P **03 28 03.5 +0.1**
baz=316
RES Resolute Bay 65.98 357 P P **03 28 02.9 -0.8**
RES Resolute Bay 65.98 357 P P **03 28 02.9 -0.8**
RES pmax pmax
comp=Z,4.0nm,0.8s
E18K Tukpahlearik C 66.00 20 P P **03 28 04.0 0.0**
baz=317
D20K Etivluk River 66.04 18 P P **03 28 04.4 +0.2**
baz=320
F15K North Star Dit 66.08 23 P P **03 28 04.9 +0.4**
baz=314
C21K Knifeblade Rid 66.12 17 P P **03 28 04.7 0.0**
baz=321
C23K Itkillik River 66.48 15 P P **03 28 07.3 +0.3**
baz=324,SNR=13
E20K Nigu River 66.49 18 P P **03 28 07.1 -0.1**
baz=320,SNR=15
F17K Baldwin Pennin 66.54 21 P P **03 28 07.8 +0.4**
baz=316
ANM Nome 66.66 24 P P **03 28 08.7 +0.5**
baz=314
G15K Niukluk 66.77 23 P P **03 28 09.4 +0.5**
baz=315
D22K Ayikyak River 66.81 17 IAmb IAmb 03 28 14.4
comp=Z,11nm,0.9s
D22K Ayikyak River 66.81 17 P P **03 28 08.9 -0.3**
baz=323,SNR=5.6
E19K Redstone River 66.84 19 IAmb IAmb 03 28 18.0
comp=Z,9.0nm,0.7s
E19K Redstone River 66.84 19 P P **03 28 09.4 0.0**
baz=319
F18K Selawik 66.86 20 P P **03 28 09.9 +0.5**
baz=318
E21K Killik River 66.86 17 P P **03 28 08.9 -0.6**
E21K IAmb IAmb 03 28 14.2
comp=Z,14nm,1.0s
E21K Killik River 66.86 17 P P **03 28 09.5 -0.1**
baz=322
C24K Franklin Bluff 66.95 15 P P **03 28 10.4 +0.5**
baz=326
G16K Koyuk River 66.98 22 P P **03 28 10.3 +0.1**
baz=316
D23K Nanushuk River 67.17 16 P P **03 28 11.2 -0.3**
baz=324
F19K Shaleruckik Mo 67.18 20 P P **03 28 11.4 -0.1**
baz=319
G17K Kiwalik Mounta 67.39 21 P P **03 28 13.3 +0.4**
baz=317
D24K Happy Valley 67.40 15 IAmb IAmb 03 28 22.9
comp=Z,4.7nm,0.8s
D24K Happy Valley 67.40 15 P P **03 28 13.1 +0.2**
baz=326
C26K Camden Bay 67.50 13 P P **03 28 13.8 +0.3**
baz=329,SNR=7.2
F20K Avaraart Lake 67.53 19 P P **03 28 13.5 -0.2**
baz=321
H16K Elim 67.56 23 P P **03 28 13.8 -0.1**
baz=316
G18K Tagagawik 67.66 21 P P **03 28 14.0 -0.6**
baz=319
TOLK Toolik Lake Re 67.67 16 P P **03 28 14.2 -0.4**
baz=325,SNR=18
TOA0 Torodi Ar. Sit 67.70 269 P P **03 28 14.9 -0.6**
TOA0 IAmb IAmb 03 28 22.0
comp=Z,9.9nm,0.9s
TORD Torodi Ar. Bea 67.70 269 P P **03 28 14.8 -0.7**
comp=Z,6.1nm,0.7s,baz=46,slow=5.7,SNR=39
comp=Z,6.1nm,0.7s
D25K Kavik River 67.74 14 P P **03 28 14.7 -0.3**
baz=328,SNR=19
G19K Purcell Mounta 67.89 20 IAmb IAmb 03 28 21.1
comp=Z,11nm,0.8s
G19K Purcell Mounta 67.89 20 P P **03 28 15.4 -0.6**
baz=320,SNR=8.4
F21K Alatna River 67.94 18 IAmb IAmb 03 28 21.6

comp=Z,7.5nm,0.8s
F21K Alatna River 67.94 18 P P 03 28 16.2 -0.2
baz=322,SNR=14
C27K Jago River 67.97 13 P P 03 28 16.5 +0.1
baz=330,SNR=14
F22K John River 68.02 17 P P 03 28 16.7 -0.2
baz=323,SNR=19
H17K Granite Mounta 68.02 22 IAmb IAmb 03 28 22.1
comp=Z,9.4nm,0.9s
H17K Granite Mounta 68.02 22 P P 03 28 17.1 +0.3
baz=318
E23K Chandalar 68.14 16 P P 03 28 17.3 -0.4
baz=325
A36M Sachs Harbour 68.18 6 P P 03 28 17.5 -0.2
A36M Sachs Harbour 68.18 6 P P 03 28 17.5 -0.2
baz=344,SNR=21
NRS Narsarsuaq 68.22 333 i P P 03 28 18.3 +0.2
NRS IAmb IAmb 03 28 19.5
comp=Z,22nm,0.8s
H18K Honhosa River 68.30 21 P P 03 28 18.7 +0.1
baz=319
E24K Your Creek 68.37 16 IAmb IAmb 03 28 24.1
comp=Z,8.1nm,0.9s
E24K Your Creek 68.37 16 P P 03 28 19.4 +0.3
baz=326,SNR=9.4
G21K Allakaket 68.50 18 IAmb IAmb 03 28 24.6
comp=Z,8.4nm,0.8s
G21K Allakaket 68.50 18 P P 03 28 19.4 -0.5
baz=323
J14K Nanvaranak Lak 68.52 25 P P 03 28 20.3 +0.4
baz=316
H19K Roundabout Mou 68.53 20 IAmb IAmb 03 28 23.0
comp=Z,8.1nm,1.0s
H19K Roundabout Mou 68.53 20 P P 03 28 19.9 -0.1
baz=320
I17K Unalakleet 68.58 23 P P 03 28 20.4 +0.1
baz=318
G22K Bettles 68.65 17 P P 03 28 20.8 +0.1
baz=324
COLD Coldfoot 68.70 17 P P 03 28 21.0 0.0
baz=325,SNR=21
K13K Kusilvak Mount 68.74 26 P P 03 28 21.0 -0.3
baz=315
D27M Malcolm River 68.78 12 IAmb IAmb 03 28 27.2
comp=Z,8.3nm,0.9s
D27M Malcolm River 68.78 12 P P 03 28 22.2 +0.6
baz=332,SNR=14
LSZ Lusaka 68.81 227 P P 03 28 22.0 -0.5
LSZ IAmb IAmb 03 28 24.1
comp=Z,11nm,0.8s
LSZ Lusaka 68.81 227 P P 03 28 22.0 -0.5
LSZ pmax pmax
comp=Z,11nm,0.8s
IMAR Indian Mountai 68.87 19 P P 03 28 21.4 -0.7
E25K Arctic Village 68.92 15 P P 03 28 21.9 -0.5
baz=329
F24K Squaw Lake 68.96 16 P P 03 28 21.9 -0.8
baz=327
H20K Anotleneega Mo 68.97 19 P P 03 28 22.0 -0.8
baz=322,SNR=18
GCSA Galena City Sc 69.02 21 P P 03 28 22.7 -0.3
baz=320
J16K Anvik River 69.05 23 P P 03 28 22.1 -1.2
baz=318
D28M Stokes Point 69.06 12 P P 03 28 23.1 -0.1
baz=334,SNR=13
G23K Bananza Creek 69.16 17 P P 03 28 23.6 -0.4
baz=325
M11K Mekoryuk 69.30 27 P P 03 28 23.4 -1.4
baz=314
F25K Christian Rive 69.36 15 P P 03 28 24.4 -0.8
baz=329,SNR=16
H21K Melozitna Rive 69.36 19 P P 03 28 24.8 -0.4
H21K IAmb IAmb 03 28 30.0
comp=Z,7.4nm,1.1s
H21K Melozitna Rive 69.36 19 P P 03 28 24.8 -0.4
baz=323
J17K VABM Dome 69.42 22 P P 03 28 24.5 -1.1
baz=319
K15K Wolf Creek Mou 69.50 24 P P 03 28 24.5 -1.5
baz=318
H22K Ishtalitna Cre 69.52 18 P P 03 28 24.8 -1.4
baz=324
F26K Sheenjek River 69.56 14 P P 03 28 25.5 -0.9
baz=330
E28M Babbage River 69.58 12 IAmb IAmb 03 28 32.0
comp=Z,9.1nm,0.8s
E28M Babbage River 69.58 12 P P 03 28 25.3 -1.2
baz=333,SNR=16
E27K Coleen River 69.60 13 IAmb IAmb 03 28 32.0
comp=Z,12nm,1.1s
E27K Coleen River 69.60 13 P P 03 28 25.6 -1.1
baz=332,SNR=13
BMAR Burnt Mountain 69.71 15 P P 03 28 27.8 +0.5
G24K Hadweenzic Riv 69.73 16 P P 03 28 26.8 -0.7
baz=327,SNR=7.7
L14K Kuka Creek 69.82 25 P P 03 28 27.4 -0.7
baz=317
J19K Poorman 69.95 21 IAmb IAmb 03 28 34.1
comp=Z,10.0nm,1.0s
J19K Poorman 69.95 21 P P 03 28 27.7 -1.1
baz=322
L15K Ungalak Mounta 69.97 25 P P 03 28 28.5 -0.5
baz=318
G25K Bearman Lake 69.97 16 P P 03 28 27.7 -1.1
baz=328,SNR=5.3
SPIA Saint Paul Isl 69.97 31 P P 03 28 28.6 -0.5
baz=312
H23K Yukon River 70.01 17 IAmb IAmb 03 28 34.7
comp=Z,10nm,0.9s
H23K Yukon River 70.01 17 P P 03 28 28.3 -0.9
baz=326,SNR=8.6
E29M Blow River 70.04 12 IAmb IAmb 03 28 34.9
comp=Z,12nm,1.0s
E29M Blow River 70.04 12 P P 03 28 28.8 -0.5
baz=335,SNR=14
J18K Innoko River 70.06 22 P P 03 28 28.7 -0.8
J18K IAmb IAmb 03 28 34.6
comp=Z,10nm,1.0s
J18K Innoko River 70.06 22 P P 03 28 28.8 -0.7
baz=321
K17K Iditarod 70.17 23 P P 03 28 29.2 -1.0
baz=320
J20K Nowinta River 70.20 20 IAmb IAmb 03 28 35.6
comp=Z,10.0nm,0.9s
J20K Nowinta River 70.20 20 P P 03 28 30.3 -0.1
baz=323,SNR=7.6
M13K Dall Lake 70.27 26 P P 03 28 30.5 -0.3
baz=317
G26K Porcupine Rive 70.28 15 P P 03 28 30.2 -0.6
baz=330
FYU Fort Yukon 70.32 15 IAmb IAmb 03 28 40.7
comp=Z,5.9nm,0.7s
H24K Noodor Dome 70.38 17 IAmb IAmb 03 28 37.2
comp=Z,7.0nm,0.8s
H24K Noodor Dome 70.38 17 P P 03 28 30.6 -0.9
baz=327
MLY Manley 70.38 18 P P 03 28 30.9 -0.7
baz=325
F28M Old Crow 70.42 13 P P 03 28 31.2 -0.5
F28M IAmb IAmb 03 28 37.0
comp=Z,7.8nm,1.1s
F28M Old Crow 70.42 13 P P 03 28 31.1 -0.6
baz=333,SNR=5.9
H25L Birch Creek 70.46 16 P P 03 28 31.2 -0.7
baz=329
M14K Bethel 70.50 25 P P 03 28 31.5 -0.7
baz=318
L16K Owhat River 70.58 24 IAmb IAmb 03 28 37.0
comp=Z,10nm,0.8s
L16K Owhat River 70.58 24 P P 03 28 31.4 -1.3
baz=319
I23K Minto, Yukon-K 70.61 18 IAmb IAmb 03 28 38.5
comp=Z,8.6nm,0.9s
I23K Minto, Yukon-K 70.61 18 P P 03 28 31.8 -1.0
baz=326
L17K Donlin 70.62 23 P P 03 28 31.9 -1.1
baz=320
P08K Saint George I 70.65 31 P P 03 28 32.3 -0.9
baz=313
INK Inuvik 70.77 10 P P 03 28 33.9 +0.2
INK Inuvik 70.77 10 P P 03 28 33.2 -0.5
baz=338,SNR=22
INK Inuvik 70.77 10 P P 03 28 33.9 +0.2
INK pmax pmax
comp=Z,20nm,1.1s
G27K Doyon Strip 70.81 14 P P 03 28 33.5 -0.6
baz=332,SNR=7.9
C36M Paulatuk 70.84 6 P P 03 28 33.2 -1.0
baz=346,SNR=44
K20K Telida 70.88 21 IAmb IAmb 03 28 35.8
comp=Z,9.4nm,0.9s
K20K Telida 70.88 21 P P 03 28 34.0 -0.6
baz=323
CHUM Lake Minchumin 70.92 20 P P 03 28 34.3 -0.4
baz=324
M15K Kasigluk River 70.96 25 P P 03 28 34.8 -0.2
baz=318
L18K Granite Mounta 71.03 22 IAmb IAmb 03 28 38.9
comp=Z,11nm,1.1s
L18K Granite Mounta 71.03 22 P P 03 28 35.1 -0.4
baz=321
MDM Murphy Dome 71.03 17 IAmb IAmb 03 28 44.9
comp=Z,5.7nm,0.6s
BPAW Bear Paw Mtn. 71.08 19 IAmb IAmb 03 28 40.4
comp=Z,6.4nm,0.8s
BPAW Bear Paw Mtn. 71.08 19 P P 03 28 35.9 +0.1
baz=325
POKR Poker Plat Res 71.08 17 P P 03 28 35.4 -0.4
baz=328
F30M Barrier River 71.08 11 P P 03 28 35.8 +0.1
baz=336,SNR=12
NEA2 Nenana 71.14 18 P P 03 28 35.8 -0.3
NEA2 IAmb IAmb 03 28 40.8
comp=Z,10nm,0.8s
NEA2 Nenana 71.14 18 P P 03 28 35.9 -0.3
baz=326,SNR=10
PRP Porcupine Dome 71.16 16 P P 03 28 35.8 -0.6
baz=329
COLA College 71.19 17 P P 03 28 36.7 +0.3
baz=327
COLA College 71.19 17 i P P 03 28 35.5 -0.9
COLA pmax pmax
comp=Z,23nm,0.9s
N14K Kuskokwak Cree 71.20 26 P P 03 28 36.2 -0.3
baz=318
M16K Timber Creek 71.26 24 P P 03 28 37.0 +0.1
baz=320
H27K Steamboat Moun 71.35 14 P P 03 28 37.1 -0.2
baz=332,SNR=11
CAST Castle Rocks 71.36 20 IAmb IAmb 03 28 40.6
comp=Z,7.0nm,0.9s
CAST Castle Rocks 71.36 20 P P 03 28 37.5 +0.1
baz=324
G29M Pine Creek 71.36 13 IAmb IAmb 03 28 42.6
comp=Z,12nm,0.8s
G29M Pine Creek 71.36 13 P P 03 28 37.6 +0.1
baz=335,SNR=9.0
M17K Holitna River 71.44 23 P P 03 28 37.5 -0.5
baz=321
IL31 71.50 17 IAmb IAmb 03 28 42.4
comp=Z,9.0nm,0.8s
ILAR Eielson Array 71.50 17 P P 03 28 37.2 -1.1
ILAR Eielson Array 71.50 17 P P 03 28 36.8 -1.5
comp=Z,4.7nm,0.7s,baz=322,slow=4.9,SNR=69
comp=Z,4.7nm,0.7s
ILAR Eielson Array 71.50 17 P P 03 28 37.2 -1.1
IL03 Eielson Array 71.51 17 P P 03 28 37.3 -1.0
N15K Kwethluk River 71.55 25 P P 03 28 37.8 -0.9
baz=319
G30M tAoh Zrail Nji 71.60 12 IAmb IAmb 03 28 48.1
comp=Z,5.7nm,0.8s
G30M tAoh Zrail Nji 71.60 12 P P 03 28 38.0 -0.8
baz=336,SNR=8.3
L19K White Mountain 71.60 22 P P 03 28 38.2 -0.7
baz=322
L20K Farewell, AK 71.63 21 P P 03 28 38.5 -0.6
baz=323
N16K Nishlik Lake 71.74 24 P P 03 28 39.1 -0.8
baz=320
PPLA Purkeypile 71.76 20 P P 03 28 39.0 -1.0
baz=324
TRF Thorofare Moun 71.80 19 P P 03 28 39.3 -1.0
baz=326
HDA Harding Lake 71.80 17 P P 03 28 39.0 -1.1
baz=328
I26K Coal Creek Min 71.84 15 P P 03 28 39.5 -0.8
baz=331
O14K Tigyukauivet M 71.84 26 P P 03 28 39.5 -0.9
baz=318
M18K Stony River 71.86 22 P P 03 28 39.5 -1.0
baz=322
I27K Kandik River 71.89 15 P P 03 28 39.8 -0.8
baz=332
MCK McKinley 71.90 18 P P 03 28 40.2 -0.5
baz=327
H29M Whitestone 71.93 13 IAmb IAmb 03 28 48.0
comp=Z,9.1nm,0.7s
H29M Whitestone 71.93 13 P P 03 28 40.5 -0.3
baz=335,SNR=9.3
M19K Big River Lodg 71.95 22 P P 03 28 40.3 -0.7
baz=323
G31M Satah River 71.95 11 P P 03 28 40.4 -0.5
G31M IAmb IAmb 03 28 45.6
comp=Z,19nm,1.1s
G31M Satah River 71.95 11 P P 03 28 39.7 -1.2
baz=338,SNR=9.5
J25K Salcha River, 71.98 16 IAmb IAmb 03 28 45.8
comp=Z,6.4nm,0.8s
J25K Salcha River, 71.98 16 P P 03 28 40.3 -0.9
baz=329,SNR=9.6
EPYK Eagle Plains 72.08 12 P P 03 28 40.8 -0.9
baz=336
RND Reindeer 72.19 19 P P 03 28 41.2 -1.3
N17K Nushagak Hills 72.20 24 P P 03 28 41.5 -1.1
baz=321
M20K Styx River 72.32 21 P P 03 28 42.4 -1.0
baz=324
I28M Miner Creek 72.35 14 IAmb IAmb 03 28 48.0
comp=Z,9.5nm,0.8s
I28M Miner Creek 72.35 14 P P 03 28 42.4 -1.1
baz=334,SNR=16
O15K Ungalikthiuk R 72.39 26 P P 03 28 42.9 -0.8
baz=320
J26L Joseph Creek 72.46 16 IAmb IAmb 03 28 48.8
comp=Z,11nm,0.9s
J26L Joseph Creek 72.46 16 P P 03 28 43.2 -1.0
baz=331,SNR=9.8
N18K Kilae Creek 72.48 23 P P 03 28 43.3 -0.9
baz=322
K24K Donnelly Dome 72.58 17 P P 03 28 44.2 -0.6
baz=329,SNR=7.3
O16K Kokwok River B 72.64 25 P P 03 28 46.1 +1.0
O16K Kokwok River B 72.64 25 P P 03 28 45.0 -0.1
baz=321
CUT Chulitna 72.67 20 P P 03 28 44.4 -0.9
baz=326
SKT Skwentna 72.68 20 P P 03 28 44.0 -1.4
baz=325,SNR=13
EGAK Eagle 72.71 15 P P 03 28 44.4 -1.1
baz=333
WAT1 Susitna Watana 72.75 19 P P 03 28 45.1 -0.8
baz=327
N19K Bonanza Creek 72.80 22 IAmb IAmb 03 28 52.0
comp=Z,11nm,1.0s
N19K Bonanza Creek 72.80 22 P P 03 28 45.5 -0.7
baz=323
O17K Koliganek Bris 72.82 24 P P 03 28 46.1 -0.1
baz=321
DHY Denali Highway 72.83 18 IAmb IAmb 03 28 52.1
comp=Z,11nm,0.7s
DHY Denali Highway 72.83 18 P P 03 28 45.2 -1.2
baz=328,SNR=7.4
SCRK Sand Creek 72.83 16 IAmb IAmb 03 28 51.2
comp=Z,12nm,1.1s
SCRK Sand Creek 72.83 16 P P 03 28 45.5 -0.9
baz=331,SNR=9.3
H31M Peel River 72.98 12 P P 03 28 46.8 -0.3
H31M IAmb IAmb 03 28 53.6
comp=Z,6.7nm,0.8s
H31M Peel River 72.98 12 P P 03 28 46.2 -0.9
baz=338,SNR=5.9
P16K Nushagak River 73.11 25 P P 03 28 46.9 -1.0
baz=321
N20K Mount Spurr 73.14 21 P P 03 28 47.1 -1.1
baz=325
WAT6 Susitna Watana 73.16 19 P P 03 28 48.0 -0.5
baz=328
I30M Mount Dempster 73.19 13 P P 03 28 47.7 -0.8
baz=336,SNR=14
K27K Chicken 73.19 15 P P 03 28 48.8 +0.4
K27K IAmb IAmb 03 28 53.6
comp=Z,7.7nm,0.9s
K27K Chicken 73.19 15 P P 03 28 47.6 -0.7
baz=332
M22K Willow 73.25 20 P P 03 28 48.6 -0.1
baz=326
SUA Susitna One 73.32 20 P P 03 28 48.2 -1.2
baz=326
O18K Koktuh Hills 73.34 23 P P 03 28 48.6 -0.8
baz=323
PAX Paxson 73.37 17 P P 03 28 48.9 -0.7
baz=330
NIKH Nikolski High 73.45 34 P P 03 28 49.9 -0.1
baz=314
P17K Kvichak River 73.48 24 P P 03 28 49.6 -0.5
baz=322
J29N Klondike Camp 73.57 14 P P 03 28 50.1 -0.5
baz=335
PMR Palmer 73.65 20 IAmb IAmb 03 28 54.0
comp=Z,8.2nm,0.8s
PMR Palmer 73.65 20 P P 03 28 50.6 -0.4
baz=327
SML Sawmill 73.67 19 P P 03 28 50.8 -0.5
SML Sawmill 73.67 19 P P 03 28 50.5 -0.8
baz=328,SNR=11
P18K Big Mountain, 73.71 24 P P 03 28 50.9 -0.6
baz=323
J30M Hart River 73.79 13 P P 03 28 50.9 -1.2
baz=336
L26K Log Cabin Wild 73.81 17 P P 03 28 51.0 -1.0
baz=331
Q16K King Salmon 73.82 25 P P 03 28 51.2 -0.9
baz=322
M23K Glacier View 73.84 19 P P 03 28 50.9 -1.3
baz=328,SNR=12
SCM Sheep Creek Mo 73.90 19 P P 03 28 51.8 -0.9
baz=328
O20K Slope Mountain 73.93 22 P P 03 28 51.1 -1.8
baz=325
HARP HAARP 73.94 18 P P 03 28 52.2 -0.6
baz=330,SNR=6.7
M24K Tolsona, Glenn 73.95 18 P P 03 28 51.5 -1.5
baz=329
KNK Knik Glacier 73.97 20 P P 03 28 51.3 -1.7
KNK IAmb IAmb 03 28 56.6
comp=Z,14nm,0.9s
KNK Knik Glacier 73.97 20 P P 03 28 51.7 -1.3
baz=328
L27K Beaver Creek, 74.10 16 P P 03 28 53.1 -0.7
baz=332
P19K Oil Pt 74.10 23 P P 03 28 53.4 -0.5
baz=324
BCAR Beaver Creek A 74.11 16 P P 03 28 53.8 0.0
K29M Barlow Dome 74.25 14 P P 03 28 53.9 -0.8
baz=336,SNR=6.8
R16K Pilot Point 74.39 26 P P 03 28 55.5 0.0
baz=321
Q17K Contact Creek 74.40 25 P P 03 28 55.0 -0.6
baz=322
O22K Cooper Landing 74.42 21 P P 03 28 55.3 -0.3
baz=327
M26K Nabesna, AK 74.43 17 P P 03 28 54.9 -0.8
baz=332
PSA00 Pilbara Seismi 74.54 136 P P 03 28 58.8 +2.1
PSA00 IAmb IAmb 03 29 01.5
comp=Z,11nm,0.8s
KLU Klutina 74.54 18 IAmb IAmb 03 29 01.5
comp=Z,12nm,0.9s
KLU Klutina 74.54 18 P P 03 28 56.0 -0.5
baz=329
Q19K Cape Douglas, 74.57 23 P P 03 28 54.6 -1.9
baz=324
S14K Fog Glacier 74.70 27 P P 03 28 55.8 -1.6
baz=320
M27K Edge Creek, AK 74.72 16 P P 03 28 55.9 -1.6
baz=332
BRSE Bradley Lake S 74.75 21 P P 03 28 56.7 -0.9
baz=326
N25K Chitina, Valde 74.76 18 P P 03 28 56.2 -1.5
baz=330
MAYO Mayo, Yukon 74.77 13 P P 03 28 56.9 -0.7
baz=337
GLI Glacier Island 74.78 19 P P 03 28 56.9 -0.8
baz=329
L29M L29M 74.81 14 P P 03 28 57.2 -0.7
baz=335
SEW Seward 74.81 21 P P 03 28 57.1 -0.7
baz=327
BVCY Beaver Creek 74.88 16 P P 03 28 57.7 -0.7
baz=333
SDPT Sand Point 75.08 29 P P 03 28 58.6 -0.9
baz=320
CHGN Chignik 75.09 27 P P 03 28 59.0 -0.5
baz=321
Q20K Shuyak Island 75.21 23 P P 03 28 59.3 -0.8
baz=325
BMRM Bremner River 75.32 18 P P 03 28 59.8 -1.1
baz=330
MCARA McCarthy VSAT 75.33 17 P P 03 28 59.7 -1.2
baz=332
M29M Somme Creek 75.35 15 IAmb IAmb 03 29 08.6
comp=Z,8.0nm,0.9s
M29M Somme Creek 75.35 15 P P 03 28 60.0 -1.1
baz=335
EYAK Cordova Ski Ar 75.40 19 P P 03 29 00.5 -0.8
baz=330
P23K Montague Islan 75.45 20 P P 03 29 00.6 -1.0
baz=328
YUK3 Moose Creek 75.54 16 P P 03 29 01.0 -1.4
baz=334
KDAK Kodiak Island 75.83 23 P P 03 29 02.8 -0.9
baz=325
OHAK Old Harbor 76.06 24 P P 03 29 04.1 -1.0
baz=325
CTG Chitna Glacier 76.08 17 P P 03 29 04.1 -1.3
baz=333
YUK8 Steele Glacier 76.13 16 P P 03 29 04.7 -1.1
baz=334
Q23K Middleton Isla 76.22 20 P P 03 29 05.3 -0.6
baz=329
KAIM Kayak Island 76.27 19 P P 03 29 05.2 -1.0
baz=331
YUK4 Talbot Arm 76.31 15 P P 03 29 05.1 -1.6
baz=335
SII Sitkinak Islan 76.32 25 P P 03 29 06.0 -0.6
baz=324
M31M Drury Creek, Y 76.33 13 P P 03 29 05.7 -0.9
baz=338
CHIR Chirikof Islan 76.43 26 P P 03 29 05.4 -1.8
baz=323
MMPY Sheldon Lake, 76.45 11 P P 03 29 06.3 -1.0
baz=341
FARO Faro, Yukon 76.48 13 P P 03 29 06.3 -1.2
baz=339
O28M Mount Upton 76.50 16 P P 03 29 07.3 -0.6
baz=334
N30M Aishikik Lake 76.52 15 P P 03 29 06.8 -1.0
baz=336
MESA MESA 76.64 17 P P 03 29 07.5 -1.1
baz=333
YUK6 Outpost Mounta 76.73 15 P P 03 29 08.5 -0.7
baz=335
N31M Braeburn, Yuko 76.74 14 P P 03 29 08.1 -0.8
baz=337
DBIC Dimbokro 76.74 268 P P 03 29 08.5 -1.1
comp=Z,9.4nm,1.0s,baz=42,slow=11,SNR=4.6
DBIC LR LR 04 07 48.4
comp=Z,141nm,18.6s,baz=340,slow=40
comp=Z,9.4nm,1.0s
WRGLY Wrigley 76.87 8 P P 03 29 10.1 +0.5
WRGLY IAmb IAmb 03 29 15.8
comp=Z,12nm,0.8s
WRGLY Wrigley 76.87 8 P P 03 29 09.1 -0.4
baz=347
HYT Haines Junctio 77.01 15 P P 03 29 10.7 +0.1
HYT Haines Junctio 77.01 15 P P 03 29 09.8 -0.8
baz=336,SNR=12
O30N Mendenhall 77.34 14 P P 03 29 11.3 -1.1
baz=337
N32M Quiet Lake 77.53 13 P P 03 29 12.7 -0.7
baz=339
PNL Peninsula 77.67 16 P P 03 29 13.1 -1.1
baz=335
WHY Whitehorse 77.67 14 P P 03 29 13.2 -1.1
baz=338
P30M Million Dollar 77.77 15 P P 03 29 14.1 -0.7
baz=336
TGTN Hyland Airport 77.93 10 P P 03 29 15.3 -0.3
baz=343
P29M Windy Craggy 78.06 16 P P 03 29 15.7 -0.7
baz=336
LBTB Lobatse 78.07 223 P P 03 29 17.5 +0.6
LBTB Lobatse 78.07 223 LR LR 04 03 34.6

comp=Z,67nm,21.2s,baz=358,slow=36
LBTB Lobatse 78.07 223 P **P** **03 29 17.5 +0.6**
LBTB pmax pmax
comp=Z,27nm,0.9s
TSUM Tsumeb 78.17 233 LR LR 04 10 35.1
comp=Z,89nm,18.6s,baz=32,slow=41
YKA Yellowknife Ar 78.29 4 P **P** **03 29 17.2 -0.3**
YKA Yellowknife Ar 78.29 4 P **P** **03 29 16.7 -0.8**
comp=Z,6.6nm,0.8s,baz=349,slow=6.3,SNR=106
comp=Z,6.6nm,0.8s
YKA Yellowknife Ar 78.29 4*ce*P **P** **03 29 17.6 +0.1**
YKA pmax pmax
comp=Z,9.0nm,0.8s
YKAB2 New Yellowknif 78.36 4 P **P** **03 29 17.4 -0.5**
P33M Teslin, Yukon 78.46 13 P **P** **03 29 17.9 -0.8**
baz=340
PLBC Pleasant Camp 78.50 15 P **P** **03 29 18.4 -0.4**
baz=337
SKAG Skagway 78.70 15 P **P** **03 29 19.3 -0.5**
baz=336
P32M Atlin 78.89 14 P **P** **03 29 20.1 -0.8**
baz=339
R33M Jennings River 79.55 12 P **P** **03 29 23.2 -1.5**
baz=341
S31K Pelican 79.91 16 P **P** **03 29 26.1 -0.4**
baz=337
R32K Eaglecrest 79.96 15 P **P** **03 29 26.2 -0.5**
baz=338
DLBC Dease Lake 80.62 12 P **P** **03 29 29.5 -0.9**
baz=342
S32K Killisnoo 80.70 15 P **P** **03 29 30.5 -0.2**
baz=338
TOAD Toad River Com 80.93 10 P **P** **03 29 32.0 0.0**
baz=346
S34M Telegraph Cree 80.93 13 P **P** **03 29 31.4 -0.5**
baz=341
SIT Sitka 80.93 15 P **P** **03 29 32.4 +0.4**
baz=338
BOSA Boshof 81.16 222 P **P** **03 29 33.8 +0.1**
comp=Z,12nm,0.8s,baz=42,slow=4.3,SNR=24
BOSA LR LR 04 06 15.7
comp=Z,57nm,20.3s,baz=16,slow=36
comp=Z,12nm,0.8s
FCC Fort Churchill 81.69 353 P **P** **03 29 35.5 -0.4**
FCC Fort Churchill 81.69 353 P **P** **03 29 35.5 -0.4**
FCC pmax pmax
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 81.93 124 P **P** **03 29 37.3 -0.5**
comp=Z,8.4nm,0.7s,baz=324,slow=5.1,SNR=37
comp=Z,8.4nm,0.7s
T35M Bob Quinn 81.97 13 P **P** **03 29 37.8 +0.3**
baz=342
WRAK Wrangell Islan 82.12 14 P **P** **03 29 38.5 +0.3**
baz=340
U33K Whale Pass 82.26 15 P **P** **03 29 38.6 -0.4**
baz=340
CRAG Craig 82.86 15 P **P** **03 29 41.5 -0.6**
baz=340
V35K Ketchikan 83.29 14 P **P** **03 29 44.2 -0.2**
baz=341
ASAR Alice Springs 84.37 127 P **P** **03 29 49.4 -0.9**
ASAR Alice Springs 84.37 127 P **P** **03 29 49.9 -0.4**
comp=Z,4.0nm,0.7s,baz=324,slow=5.3,SNR=22
comp=Z,4.0nm,0.7s
FFC Flin Flon 86.21 357 P **P** **03 29 58.1 -1.0**
FFC IAmb IAmb 03 30 00.1
comp=Z,7.0nm,0.8s
FFC Flin Flon 86.21 357 P **P** **03 29 58.1 -1.0**
FFC pmax pmax
comp=Z,7.0nm,0.8s
SUR Sutherland 86.46 222 LR LR 04 09 59.9
comp=Z,90nm,19.7s,baz=16,slow=37
PKME Peaks-Kenny Pk 89.34 335 P **P** **03 30 13.9 -0.3**
baz=28
ULM Lac du Bonnet 90.28 353 P **P** **03 30 18.0 -0.6**
comp=Z,2.9nm,0.8s,baz=11,slow=5.9,SNR=8.3
ULM LR LR 04 13 35.7
comp=Z,116nm,18.8s,baz=60,slow=37
comp=Z,2.9nm,0.8s
ULM Lac du Bonnet 90.28 353 P **P** **03 30 18.0 -0.6**
LONY Lake Ozonia 91.57 338 P **P** **03 30 24.1 -0.7**
baz=24
EYMN Ely 92.05 350 P **P** **03 30 26.2 -0.7**
baz=12
AGMN Agassiz Nation 92.21 353 P **P** **03 30 27.4 -0.2**
baz=8.3
NEW Newport 92.26 7 P **P** **03 30 27.1 -0.8**
baz=352
NEW Newport 92.26 7 LR LR 04 15 07.4
comp=Z,145nm,20.5s,baz=30,slow=38
DGMT Dagmar 92.53 358 P **P** **03 30 28.3 -0.8**
baz=1.9
HRV Adam Dziewonsk 92.54 335 P **P** **03 30 28.5 -0.8**
baz=26
EGMT Eagleton 92.95 2 P **P** **03 30 30.4 -0.7**
baz=358
L61B Northampton 92.96 336 P **P** **03 30 30.3 -0.9**
baz=26
MSO Missoula 93.94 5 P **P** **03 30 34.6 -1.1**
baz=354
BINY Binghamton 94.20 338 P **P** **03 30 36.1 -0.9**
baz=23
LAO LASA Array 94.33 360 P **P** **03 30 36.3 -1.2**
baz=0.3
PAL Palisades 94.65 336 P **P** **03 30 38.7 -0.2**
baz=25
SPMN Marine on St. 94.89 350 P **P** **03 30 39.5 -0.5**
baz=11
BOZ Bozeman (W) 95.31 4 P **P** **03 30 40.7 -1.3**
baz=356
ERPA Erie 95.38 340 P **P** **03 30 41.7 -0.6**
baz=20
RLMT Red Lodge 95.87 2 P **P** **03 30 44.1 -0.7**
baz=358
SSPA Standing Stone 96.19 338 P **P** **03 30 45.1 -0.9**
baz=22
M53A WI Miller and 96.20 341 P **P** **03 30 45.3 -0.8**
baz=20
SUSD Miller 96.30 355 P **P** **03 30 45.5 -0.9**
SUSD Miller 96.30 355 P **P** **03 30 45.7 -0.8**
baz=5.9
JFWS Jewell Farm 96.78 348 P **P** **03 30 47.4 -1.3**
baz=13
ECSD EROS Data Cent 96.80 353 P **P** **03 30 47.0 -1.7**
baz=7.7
RSSD Black Hills 96.87 358 P **P** **03 30 47.6 -1.7**
baz=2.0
RSSD Black Hills 96.87 358 P **P** **03 30 49.9 +0.6**
L44A Lake County Fo 97.09 346 P **P** **03 30 48.5 -1.6**
baz=14
HLID Hailey 97.16 6 P **P** **03 30 48.6 -2.0**
baz=354
O53A New Philadelph 97.45 341 P **P** **03 30 50.1 -1.6**
baz=20
MCWV Mont Chateau 97.65 339 P **P** **03 30 51.1 -1.5**
baz=20
ACSO Alum Creek Sta 97.91 342 P **P** **03 30 52.6 -1.2**
baz=18
SCIA State Center 98.21 350 P **P** **03 30 53.5 -1.6**
baz=10
BW06 Boulder Array 98.21 2 P **P** **03 30 53.2 -2.3**
baz=358
PDAR Pinedale Array 98.21 2 P Pdif 03 30 55.0 -0.4
comp=Z,0.2nm,0.4s,baz=75,slow=10,SNR=2.4
PDAR LR LR 04 19 42.0
comp=Z,88nm,20.0s,baz=21,slow=38
comp=Z,0.2nm,0.4s
P52A Corning 98.27 341 P **P** **03 30 53.8 -1.6**
baz=19
O48B Farmland 98.38 344 P **P** **03 30 53.5 -2.5**
baz=17
SFIN Lafayette 98.67 345 P **P** **03 30 55.5 -1.6**
baz=15
HDIL Hopedale 98.92 347 P **Pdif** **03 30 56.5 -1.8**
baz=13
BGNE Belgrade 99.25 354 P **Pdif** **03 30 58.5 -1.3**
baz=6.6
ELK Elko 99.89 7 LR LR 04 21 06.8
comp=Z,61nm,18.7s,slow=38
OGNE Ogallala 99.97 357 P **Pdif** **03 31 01.3 -1.8**
baz=3.6
BLA Blacksburg 100.09 339 P **Pdif** **03 31 02.1 -1.5**
baz=20
N23A Red Feather La 100.13 360 P **Pdif** **03 31 01.2 -2.8**
baz=0.5
WCI Wyandotte Cave 100.58 344 P **Pdif** **03 31 03.7 -2.1**
baz=16
DUG Dugway, Tooele 100.62 5 P **Pdif** **03 31 04.9 -1.2**
baz=355
O20A White River Ci 100.87 1 P **Pdif** **03 31 05.8 -1.5**
baz=359
CNNC Cliffs of the 101.18 336 P **Pdif** **03 31 06.6 -1.9**
baz=22
ISCO Idaho Springs 101.22 359 P **Pdif** **03 31 07.0 -2.0**
baz=0.8
KSU1 Kansas State U 101.39 352 P **Pdif** **03 31 07.2 -2.1**
baz=7.8
TZTN Tazewell 101.55 341 P **Pdif** **03 31 08.2 -1.9**
baz=18
CCM Cathedral Cave 101.69 348 P **Pdif** **03 31 08.6 -2.1**
baz=12
KSCO Kaye Shedlock' 101.92 357 P **Pdif** **03 31 09.2 -2.7**
baz=3.1
CBKS Cedar Bluff 101.95 355 P **Pdif** **03 31 09.6 -2.3**
baz=5.4
Q24A Divide 102.05 359 P **Pdif** **03 31 09.8 -2.8**
baz=1.1
R11B Troy Canyon, C 102.23 7 P **Pdif** **03 31 10.8 -2.5**
baz=353
WVT Waverly 102.92 345 P **Pdif** **03 31 14.1 -2.1**
baz=15
SDCO Great Sand Dun 103.27 359 P **Pdif** **03 31 15.2 -2.9**
baz=0.9
GRAC Grapevine Rang 103.37 9 P **Pdif** **03 31 16.3 -2.0**
baz=352
MVCO Mesa Verde 103.79 2 P **Pdif** **03 31 17.6 -2.7**
baz=358
T25A Trinidad 103.85 358 P **Pdif** **03 31 17.4 -3.2**
baz=1.7
MPMC Manual Prospec 104.28 9 P **Pdif** **03 31 19.4 -3.1**
baz=351
TUL3 Leonard 104.45 351 P **Pdif** **03 31 20.2 -2.8**
baz=8.6
GOGA Godfrey 104.50 340 P **Pdif** **03 31 19.9 -3.4**
baz=18
ISA Isabella, Lake 104.55 10 P **Pdif** **03 31 20.6 -2.9**
baz=351
WUAZ Wupatki 105.37 4 P **Pdif** **03 31 24.2 -3.1**
baz=356
EDW2 Edwards Air Fo 105.38 10 P **Pdif** **03 31 23.9 -3.4**
baz=351
MIAR Mount Ida 105.49 349 P **Pdif** **03 31 24.2 -3.4**
baz=16
LRAL Lakeview Retre 105.72 343 P **PKiKP** **03 35 39.8 -1.8**
baz=353
GMRC Granite Mounta 105.75 8 P **PKiKP** **03 35 41.2 -0.5**
baz=358
W18A Petrified Fore 105.84 3 P **PKiKP** **03 35 41.4 -0.6**
baz=358
WMOK Wichita Mounta 105.92 353 P **PKiKP** **03 35 41.0 -0.9**
baz=6.3
DECC Greeen Verdugo 105.95 10 P **PKiKP** **03 35 41.3 -0.7**
baz=351
AMTX Amarillo 105.99 356 P **PKiKP** **03 35 41.3 -0.8**
baz=3.9
BFSC Mount Baldy Ra 106.06 10 P **PKiKP** **03 35 41.5 -0.9**
baz=351
ANMO Albuquerque 106.07 360 P **PKiKP** **03 35 40.6 -1.8**
baz=0.1
TIGA Tifton 106.39 340 P **PKiKP** **03 35 41.4 -1.4**
baz=18
BELC Belle Mtn. Jos 106.49 8 P **PKiKP** **03 35 42.1 -1.0**
baz=352
MURC Murrieta 106.75 9 P **PKiKP** **03 35 42.6 -0.9**
baz=352
SNCC San Nicolas Is 106.77 11 P **PKiKP** **03 35 42.8 -0.7**
baz=350
PFO Pinyon Flats O 106.82 9 P **PKiKP** **03 35 42.8 -1.0**
baz=352
TPFO Pinon Flats 106.83 9 P **PKiKP** **03 35 42.8 -1.0**
baz=352
BC3 Big Chuckawall 106.89 8 P **PKiKP** **03 35 43.8 -0.1**
baz=353
MSTX Muleshoe 106.96 357 P **PKiKP** **03 35 43.3 -0.7**
baz=3.1
SCI2 San Clemente I 107.18 11 P **PKiKP** **03 35 43.8 -0.5**
baz=350
VBMS Vicksburg 107.24 346 P **PKiKP** **03 35 44.0 -0.4**
baz=13
109C Camp Elliot, M 107.46 9 P **PKiKP** **03 35 44.4 -0.4**
baz=352
BRAL Brewton 107.52 343 P **PKiKP** **03 35 43.9 -1.0**
baz=16
MONP2 Monument Peak 107.54 9 P **PKiKP** **03 35 43.8 -1.5**
baz=352
GLA Glamis 107.55 7 P **PKiKP** **03 35 44.0 -1.0**
baz=353
SWSC Sam W. Stewart 107.56 8 P **PKiKP** **03 35 43.2 -1.7**
baz=353
IKP In-Ko-Pah, Jac 107.81 8 P **PKiKP** **03 35 43.9 -1.6**
baz=352
ABTX Abilene, Hawle 108.09 354 P **PKiKP** **03 35 44.7 -1.3**
baz=5.6
NATX Nacogdoches 108.38 349 P **PKiKP** **03 35 45.2 -1.4**
baz=9.7
121A Cookes Peak, D 108.47 1 P **PKiKP** **03 35 45.5 -1.5**
baz=359
WHTX Lake Whitney, 108.51 352 P **PKiKP** **03 35 45.3 -1.5**
baz=7.4
TUC Tucson 108.59 4 P **PKiKP** **03 35 45.2 -1.8**
baz=357
214A Organ Pipe Nat 108.81 6 P **PKiKP** **03 35 46.8 -0.6**
baz=355
MNTX Cornudas Mount 109.30 359 P **PKiKP** **03 35 47.1 -1.2**
baz=1.0
435B Jarrell 109.72 352 P **PKiKP** **03 35 47.5 -1.6**
baz=7.4
JCT Junction City 110.23 354 P **PKiKP** **03 35 49.6 -0.5**
baz=5.6
TXAR Lajitas Array 111.61 357 PKKP 03 47 02.8
comp=Z,0.4nm,0.8s,baz=186,slow=9.3,SNR=4.5
QSPA South Pole Qui 129.15 180 PKP **PKPdf** **03 36 24.2 -0.8**
comp=Z,1.7nm,1.0s,baz=287,slow=0.3,SNR=3.7
SAML Samuel 130.86 296 *e*P **PKPdf** **03 36 29.6 -0.3**
PPT2 Papeete2 136.93 72 *e*LR LR 04 20 50.8
comp=Z,62nm,27.0s
CPUP Villa Florida 137.12 272 PKP **PKPdf** **03 36 40.3 -0.9**
comp=Z,1.9nm,0.9s,baz=97,slow=5.0,SNR=3.1
TBI Tubuai 140.44 79 *e*LR LR 04 22 11.1
comp=Z,547nm,37.2s
PLCA Paso Flores 152.50 255 PKPbc **PKiKP** **03 37 14.4 +0.1**
comp=Z,1.6nm,0.6s,baz=30,slow=3.3,SNR=10
PLCA Paso Flores 152.50 255 *e*P **PKPdf** **03 37 06.7 -0.4**

*NEIC **06** 03:21:03.5±0.7, 19°.34N±0°.02×155°.13W±0°.02, h8km±1km,*
Error ellipse: s-maj=3.1km s-min=1.5km az=148.0
HVO 06 03:21:03.3±1.0, 19°.33N±0°.02×155°.14W±0°.02, h1km±7km,
ML2.4/19, ML2.5/36(NEIC), Error ellipse: s-maj=4.4km
s-min=0.7km az=142.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.05**	**10**		Pg	03 21 05.3	+0.9
STCH				Sg	Sg	03 21 06.2	+1.1
KNHH	**Kane Nui o Ham**	**0.06**	**325**		Pg	03 21 05.5	+1.0
JCUZ	**Jacuzzi**	**0.06**	**31**	Pg	Pg	03 21 05.1	+0.6
JCUZ				Sg	Sg	03 21 06.7	+1.4
NPOC	**North of Pu'u**	**0.07**	**22**	Sg	Sg	03 21 06.9	+1.5
PUH	**Pauahi**	**0.09**	**298**	Pg	Pg	03 21 05.7	+0.7
PUH				Sg	Sg	03 21 07.6	+1.4
KKO	**Keanakako`i**	**0.14**	**298**	Pg	Pg	03 21 06.2	+0.2
KKO				Sg	Sg	03 21 09.2	+1.4
KKO				IAML		03 21 09.7	
	comp=E,1μm,0.7s						
KKO				IAML		03 21 10.1	
	comp=N,2μm,1.0s						
BYL	**Byron's Ledge**	**0.14**	**304**	Pg	Pg	03 21 06.2	+0.1
BYL				Sg	Sg	03 21 09.2	+1.3
BYL				IAML		03 21 09.8	
	comp=E,2μm,0.6s						
BYL				IAML		03 21 09.9	
	comp=N,2μm,0.9s						
RIM	**Rim**	**0.14**	**296**	Pg	Pg	03 21 05.8	-0.3
RIM				IAML		03 21 09.7	
	comp=E,1μm,0.6s						
RIM				IAML		03 21 10.2	
	comp=N,2μm,0.8s						
HATHI	**Halema'uma'u T**	**0.15**	**307**	Pg	Pg	03 21 06.3	+0.1
HATHI				Sg	Sg	03 21 09.1	+0.9
HATHI				IAML		03 21 10.0	
	comp=E,2μm,0.8s						
SBLHI	**Steaming Bluff**	**0.16**	**307**	Pg	Pg	03 21 06.8	+0.4
SBLHI				Sg	Sg	03 21 09.4	+1.0
SBLHI				IAML		03 21 10.1	
	comp=E,2μm,0.7s						
SBLHI				IAML		03 21 10.6	
	comp=N,1μm,0.5s						
SDHHI	**Sand Hill**	**0.16**	**291**	Pg	Pg	03 21 05.7	-0.7
SDHHI				IAML		03 21 11.2	
	comp=N,2μm,0.6s						
SDHHI				IAML		03 21 11.5	
	comp=E,1μm,0.7s						
HLP	**Hilina Pali**	**0.17**	**258**	Pg	Pg	03 21 07.3	+0.8
HLP				IAML		03 21 11.7	
	comp=E,1μm,0.3s						
HLP				IAML		03 21 12.4	
	comp=N,1μm,0.1s						
RSD	**Rainshed**	**0.19**	**314**	Pg	Pg	03 21 07.4	+0.4
HTC	**Hot Caves**	**0.27**	**249**		Pb	03 21 09.8	-1.1
MLH	**Mauna Loa**	**0.29**	**304**	Pg	Pg	03 21 09.2	+0.4
MLH				IAML		03 21 15.3	
	comp=E,645nm,0.1s						
MLH				IAML		03 21 19.1	
	comp=N,792nm,0.3s						
HMH	**Humu'ula Sheep**	**0.42**	**309**	Pg	Pg	03 21 12.2	+0.7
KHU	**Kahuku**	**0.46**	**259**	Pg	Pg	03 21 11.9	-0.2
KHU				Sg	Sg	03 21 19.2	+1.0
KHU				IAML		03 21 23.9	
	comp=N,452nm,0.8s						
KHU				IAML		03 21 28.3	
	comp=E,518nm,1.1s						
MWH	**Moku'aweowe**	**0.46**	**289**	Pg	Pg	03 21 12.7	+0.5
ALEP	**Alea Permanent**	**0.52**	**293**		Pg	03 21 13.2	-0.1
ALEP					Sg	03 21 21.4	+1.3
POHA	**Pohakuloa**	**0.56**	**319**	Pg	Pg	03 21 13.8	-0.3
POHA	**Pohakuloa**	**0.56**	**319**	Sg	Sg	03 21 21.8	+0.3
HUH	**Hualalai**	**0.75**	**298**	Pg	Pg	03 21 16.4	-1.3
CPH	**Captain Cook**	**0.76**	**282**		Pg	03 21 17.5	-0.3
HPAH	**Hawaii Prepara**	**0.87**	**323**	Pg	Pg	03 21 17.8	-2.3
HPAH				IAML		03 21 38.3	
	comp=N,172nm,0.6s						

*IDC **06** 03:23:53.9±1.6, 39°.38N×73°.60E, h0km, mb3.6/8,*
mbtmp3.7/10, ML3.5/1, Error ellipse: s-maj=32.2km
s-min=18.5km az=125.0
*KRNET **06** 03:23:54.8±0.1, 39°.45N×73°.62E, h22km, mb4.0*
*SOME **06** 03:23:57.9, 39°.65N×73°.27E, h15km*
*NNC **06** 03:24:03.7±1.3, 39°.88N×73°.29E, h0km, mb4.3, mpv4.0,*
Error ellipse: s-maj=10.1km s-min=4.7km az=173.0
ISC 06 03:23:56.4±1.4, 39°.57N±0°.04×73°.49E±0°.03, h6km±9km,
n71, σ1§46/113, mb3.6/8, 32C-26D, Tajikistan-Xinjiang
border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.44**	**1**	⇑*e*P	**Pb**	**03 24 05.9**	**-0.8**
SFK	baz=51			⇑*e*S	**Sb**	**03 24 14.2**	**+0.6**
OHH	**Osh**	**1.09**	**331**	⇑*e*P	**Pb**	**03 24 17.9**	**+0.1**
OHH	baz=30			⇑*i*S	**Sn**	**03 24 34.7**	**+0.9**
DRK	**Karamyk**	**1.31**	**266**	⇑*e*P	**Pg**	**03 24 20.8**	**-0.7**
DRK	baz=72			⇑*e*S	**Sb**	**03 24 39.7**	**+0.9**
ARSB	**Arslanbob**	**1.79**	**348**	⇓*e*P	**Pb**	**03 24 29.5**	**-0.2**
ARSB	baz=46			⇓*e*S	**Sg**	**03 24 54.8**	**+0.8**
BTK	**Batken**	**2.11**	**284**	⇑*e*P	**Pn**	**03 24 33.8**	**+1.4**
BTK	baz=87			⇑*e*S	**Sb**	**03 25 02.1**	**+0.4**
ARLS	**Aral**	**2.37**	**15**	⇑*e*P	**Pn**	**03 24 36.8**	**+0.8**
ARLS	baz=12			⇑*e*S	**Sb**	**03 25 07.6**	**-1.6**
ARK	**Arkit**	**2.51**	**333**	⇓*e*P	**Pn**	**03 24 39.7**	**+1.9**
ARK	baz=32			⇓*e*S	**Sb**	**03 25 12.4**	**-0.6**
GAR	**Garm**	**2.53**	**258**	⇑*e*P	**Pn**	**03 24 38.7**	**+0.6**
GAR	baz=61			⇑*e*S	**Sn**	**03 25 10.7**	**+1.4**
TRKS	**Terek-Say**	**2.65**	**318**	⇑*i*P	**Pn**	**03 24 40.7**	**+0.9**
TRKS	baz=18			⇑*e*S	**Sb**	**03 25 14.4**	**-2.8**
UCH	**Uchtor**	**2.76**	**16**	⇓*e*P	**Pn**	**03 24 42.5**	**+0.9**
UCH	baz=13			⇓*e*S	**Sn**	**03 25 17.4**	**+1.9**
MNAS	**Manas**	**3.00**	**346**	⇑*e*P	**Pn**	**03 24 46.5**	**+1.8**
MNAS	baz=45			⇑*e*S	**Sb**	**03 25 24.2**	**-3.2**
EKS2	**Erkin-Say**	**3.09**	**4**	⇑*e*P	**Pn**	**03 24 47.2**	**+1.3**
EKS2	baz=2.0			⇑*e*S	**Sn**	**03 25 25.5**	**+2.3**
AAK	**Ala-Archa**	**3.15**	**14**	⇓Pn	**Pb**	**03 24 52.6**	**-0.3**
AAK	66nm,0.9s 210nm,0.8s			⇑Lg	Lg	03 25 35.0	
AAK	**Ala-Archa** 5.2nm,0.3s,baz=196,slow=5.0,SNR=10	**3.15**	**14**	Pn	**Pb**	**03 24 52.4**	**-0.5**
AAK	8.4nm,0.3s,baz=105,slow=20,SNR=8.5 34nm,0.5s			Lg	Lg	03 25 37.2	
AAK	**Ala-Archa**	**3.15**	**14**	⇑*e*P	**Pn**	**03 24 47.9**	**+1.2**
AAK	baz=11			⇑*e*S	**Sn**	**03 25 26.6**	**+1.8**
MRKS	**Merke**	**3.17**	**356**	Pg	**Pg**	**03 24 55.2**	**-2.0**
MRKS	37nm,0.4s 68nm,0.5s			Lg	Lg	03 25 35.5	
MRKS	**Merke**	**3.17**	**356**	*e*P	**Pg**	**03 24 55.2**	**-2.0**
MRKS	37nm,0.4s 68nm,0.5s			*e*S	**Sg**	**03 25 35.5**	**-2.9**
KBK	**Karagaybulak**	**3.27**	**19**	⇓*e*P	**Pn**	**03 24 49.3**	**+0.9**
KBK	baz=17			⇓*e*S	**Sn**	**03 25 29.1**	**+1.4**
FRU1	**Bishkek**	**3.34**	**15**	⇓*e*P	**Pn**	**03 24 50.6**	**+1.3**
FRU1	baz=12			⇓*e*S	**Sn**	**03 25 31.3**	**+1.9**
ULHL	**Ulahol**	**3.39**	**37**	⇑*e*P	**Pn**	**03 24 50.3**	**+0.3**
ULHL	baz=35			⇑*e*S	**Sn**	**03 25 30.8**	**+0.2**
BOOM	**Boomskoye usch**	**3.45**	**32**	⇓*e*P	**Pn**	**03 24 51.5**	**+0.6**
BOOM	baz=29			⇓*e*S	**Sn**	**03 25 32.8**	**+0.6**
CHGR	**Chuyangaron**	**3.49**	**256**	⇑*e*P	**Pn**	**03 24 52.1**	**+0.8**
CHGR	baz=59			⇑*e*S	**Sn**	**03 25 33.8**	**+0.8**
CHMS	**Chumysh** 92nm,0.9s	**3.55**	**15**	⇓Lg	Lg	03 25 46.6	
CHMS	**Chumysh**	**3.55**	**15**	⇑*e*P	**Pn**	**03 24 53.1**	**+1.0**
CHMS	baz=13			⇑*e*S	**Sn**	**03 25 35.8**	**+1.4**
IUG	**Iuzhnay** 182nm,0.7s	**3.67**	**316**	Pg	**Pb**	**03 25 02.7**	**+0.9**
IUG	202nm,0.4s			Lg	Lg	03 25 48.5	
IUG	**Iuzhnay** 102nm,0.7s	**3.67**	**316**	*e*P	**Pb**	**03 25 02.5**	**+0.8**
IUG	126nm,0.6s			*e*S	**Sb**	**03 25 48.5**	**+1.9**
DZA	**Taraz** 88nm,0.1s	**3.69**	**335**	Pg	**Pb**	**03 25 03.6**	**+1.5**
DZA	184nm,0.5s			Lg	Lg	03 25 50.0	
DZA	**Taraz** 88nm,0.1s	**3.69**	**335**	*e*P	**Pb**	**03 25 03.6**	**+1.5**
DZA	184nm,0.5s			*e*S	**Sg**	**03 25 50.0**	**-5.0**
TKM2	**Tokmak 2** 25nm,0.7s	**3.70**	**25**	⇑Pg	**Pg**	**03 25 09.8**	**+2.5**
TKM2				⇓Lg	Lg	03 25 55.2	

77nm,0.7s
TKM2 Tokmak 2 3.70 25⇓eP Pn 03 24 55.1 +0.8
baz=23
TKM2 ⇓eS **Sn 03 25 39.2 +0.8**
baz=23
USP Ospenovka 3.77 11⇓eP Pn 03 24 56.3 +1.2
baz=10.0
USP ⇓eS **Sn 03 25 41.2 +1.5**
baz=10.0
KDJ Kajisay 3.79 46⇓eP Pn 03 24 55.8 +0.3
baz=44
KDJ ⇓eS **Sn 03 25 39.9 -0.6**
baz=44
TARG Taragay, Kyrgy 3.92 55⇓eP Pn 03 24 57.1 -0.5
baz=53
TARG ⇓eS **Sn 03 25 42.7 -1.4**
baz=53
KST Kastek 3.93 27 Pg Pg 03 25 11.8 0.0
23nm,0.6s
KST Lg Lg 03 26 04.3
135nm,0.8s
KST Kastek 3.93 27 eP Pg 03 25 11.8 0.0
23nm,0.6s
KST eS **Sg 03 26 04.3 +1.5**
135nm,0.8s
CHM Chimkent 4.02 314 eP Pb 03 25 09.0 +1.4
102nm,0.2s
CHM eS **Sb 03 25 59.5 +3.0**
162nm,0.3s
DGS Degeres 4.05 24 Pg Pg 03 25 13.3 -0.6
26nm,0.9s
DGS Lg Lg 03 26 06.7
96nm,0.8s
DGS Degeres 4.05 24 eP Pg 03 25 13.3 -0.6
26nm,0.9s
DGS eS **Sg 03 26 06.7 +0.3**
96nm,0.8s
KK31 Karatay Array 4.18 329 Pn Pn 03 25 04.7 +4.0
3.3nm,0.3s,baz=145,slow=16,SNR=46
KK31 Pg **Pg 03 25 14.8 -1.7**
5.7nm,0.3s,baz=145,slow=16,SNR=11
KK31 ⇓Sn **Sn 03 25 51.4 +1.6**
2.1nm,0.2s,baz=136,slow=28,SNR=4.3
KK31 ⇑Lg Lg 03 26 07.8
12nm,0.4s,baz=224,slow=17,SNR=4.3
KKAR Karatay Array 4.18 329⇑eP Pn 03 25 02.7 +2.0
baz=28
KKAR ⇑eS **Sn 03 25 52.5 +2.7**
baz=28
IZV Izvestkoviy 4.18 33 Pg Pg 03 25 16.5 0.0
13nm,0.7s
IZV Lg Lg 03 26 12.3
111nm,0.9s
IZV Izvestkoviy 4.18 33 eP Pg 03 25 16.5 0.0
13nm,0.7s
IZV eS **Sg 03 26 12.3 +1.6**
111nm,0.9s
MTBS Maitube 4.18 31 Pg Pg 03 25 15.7 -0.9
24nm,0.5s
MTBS Lg Lg 03 26 10.5
56nm,0.7s
MTBS Maitube 4.18 31 eP Pg 03 25 15.7 -0.9
24nm,0.5s
MTBS eS **Sg 03 26 10.5 -0.2**
56nm,0.7s
TNSS Tian-Shan 4.33 36 Pg Pg 03 25 19.4 0.0
15nm,0.4s
TNSS Lg Lg 03 26 17.0
45nm,0.7s
TNSS Tian-Shan 4.33 36 eP Pg 03 25 19.4 0.0
15nm,0.4s
TNSS eS **Sg 03 26 17.0 +1.6**
45nm,0.7s
BRLS Borolday 4.42 323 Pg Pb 03 25 14.6 +0.3
27nm,0.6s
BRLS Lg Lg 03 26 09.1
40nm,0.6s
BRLS Borolday 4.42 323 eP Pb 03 25 14.6 +0.3
27nm,0.6s
BRLS eS **Sb 03 26 09.1 +1.2**
40nm,0.6s
MDOK Medeo 4.47 36 Pg Pg 03 25 21.9 -0.2
21nm,1.1s
MDOK ⇑Lg Lg 03 26 21.2
92nm,0.7s
MDOK Lg Lg 03 26 21.6
84nm,1.1s
MDOK Medeo 4.47 36 eP Pg 03 25 21.9 -0.2
21nm,1.1s
MDOK eS **Sg 03 26 21.6 +1.6**
84nm,1.1s
ANVS Anan'yevo 4.50 43⇓eP Pn 03 25 05.2 0.0
baz=41
ANVS ⇓eS **Sn 03 25 57.2 -0.7**
baz=41
KOTS Kotyrbulak 4.56 36 Pg Pg 03 25 23.2 -0.6
1.3nm,0.5s
KOTS Lg Lg 03 26 23.5
139nm,1.0s
KOTS Kotyrbulak 4.56 36 eP Pg 03 25 23.1 -0.6
1.3nm,0.5s
KOTS eS **Sg 03 26 23.5 +0.7**
139nm,1.0s
CHKK Chushkaly 5.01 30 Pg Pg 03 25 31.4 -1.1
14nm,0.3s
CHKK Lg Lg 03 26 37.8
62nm,0.6s
CHKK Chushkaly 5.01 30 eP Pg 03 25 31.4 -1.1
14nm,0.3s
CHKK eS **Sg 03 26 37.8 +0.4**
62nm,0.6s
ZHN Zhinishke 5.17 44 Pg Pg 03 25 34.9 -0.5
12nm,0.5s
ZHN Lg Lg 03 26 43.9
27nm,0.8s
ZHN Zhinishke 5.17 44 eP Pg 03 25 35.0 -0.5
12nm,0.5s
ZHN eS **Sg 03 26 43.9 +1.5**
27nm,0.8s
UZB Uzynbulak 5.48 48 Pg Pg 03 25 42.1 +0.7
12nm,0.8s
UZB Lg Lg 03 26 56.2
21nm,0.9s
UZB Uzynbulak 5.48 48 eP Pg 03 25 42.1 +0.7
12nm,0.8s
UZB eS **Sg 03 26 56.2 +3.7**
21nm,0.9s
ARXS Arharly 5.65 34 Pg Pg 03 25 45.1 +0.5
16nm,0.7s
ARXS Lg Lg 03 27 01.3
52nm,0.8s
ARXS Arharly 5.65 34 eP Pg 03 25 45.1 +0.5
16nm,0.7s
ARXS eS **Sg 03 27 01.3 +3.5**
52nm,0.8s
PDGK Podgornoye 5.86 48 Pg Pg 03 25 49.2 +0.5
6.4nm,0.6s
PDGK Lg Lg 03 27 08.5
13nm,0.7s
BVAR Borovoye Array 13.62 352 Pn Pn 03 27 09.3 -0.7
4.2nm,0.7s,baz=156,slow=11,SNR=1.9
SONM Songino Array 25.03 60 P P 03 29 20.3 -0.9
1.6nm,0.9s,baz=229,slow=6.6,SNR=4.7
1.6nm,0.9s
FINES FINESS Array B 36.12 323 P P 03 30 58.9 +0.1
0.4nm,0.4s,baz=121,slow=11,SNR=5.4
0.4nm,0.4s
HFS Hagfors 41.93 320 P P 03 31 47.6 +0.1
1.1nm,0.6s,baz=83,slow=12,SNR=1.8
1.1nm,0.6s
NOA NORSAR Array B 43.17 321 P P 03 31 57.5 -0.1
0.9nm,0.8s,baz=93,slow=7.9,SNR=2.1
0.9nm,0.8s
EKA Eskdalemuir Ar 51.48 315 P P 03 33 03.0 +0.6
0.5nm,0.7s,baz=82,slow=8.5,SNR=3.7
0.5nm,0.7s
ESDC Sonseca Array 57.79 297 P P 03 33 47.7 -0.7
0.4nm,0.6s,baz=54,slow=7.0,SNR=5.7
0.4nm,0.6s
TORD Torodi Ar. Bea 67.75 269 P P 03 34 54.6 -0.5
0.3nm,0.5s,baz=46,slow=6.1,SNR=1.9
0.3nm,0.5s
YKA Yellowknife Ar 78.07 4 P P 03 35 53.4 -2.2
0.5nm,0.8s,baz=349,slow=5.9,SNR=5.3
0.5nm,0.8s

IDC 06 03:24:26.9±3.3, 6°.03S×142°.10E, h0km, mb4.0/2,

mbtmp3.9/4, ML3.8/2, Error ellipse: s-maj=111.3km s-min=24.9km az=101.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.76**	**208**	Pn	Pn	03 28 08.9	-1.5
	0.4nm,0.3s,baz=30,slow=14,SNR=11						
WRA				Sn	Sn	03 30 58.0	-7.8
	0.2nm,0.3s,baz=30,slow=22,SNR=1.5						
WRA				Lg	Lg	03 32 49.9	
	0.1nm,0.3s,baz=31,slow=28,SNR=1.9						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**19.23**	**203**	P	Pn	03 28 53.4	-0.4
	0.3nm,0.3s,baz=35,slow=10.0,SNR=23						
ASAR				Lg	Lg	03 34 36.9	
	baz=19,slow=30						
	2.8nm,0.7s						
MKAR	**Makanchi Array**	**74.47**	**322**	P	P	03 36 07.3	+0.1
	0.5nm,0.7s,baz=126,slow=7.3,SNR=3.5						
	0.5nm,0.7s						
BVAR	**Borovoye Array**	**83.95**	**325**	P	P	03 36 58.9	0.0
	1.6nm,0.6s,baz=91,slow=5.9,SNR=6.6						
	1.6nm,0.6s						

*HVO **06** 03:26:38.7±1.5, 19°.44N×0°.02×154°.93W±0°.04, h4km±5km, ML2.5/15, ML2.5/26(NEIC), Error ellipse: s-maj=5.1km s-min=1.6km az=110.0*

NEIC 06 03:26:39.9±1.7, 19°.46N×0°.02×155°.00W±0°.03, h7km±2km, Error ellipse: s-maj=4.8km s-min=1.6km az=111.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonka Flow**	**0.03**	**183**		Pg	03 26 42.0	+0.6
PHO	**Puu Honuaula**	**0.11**	**81**		Pg	03 26 41.8	-0.6
JCUZ	**Jacuzzi**	**0.12**	**230**		Pg	03 26 42.0	-0.6
JCUZ					Sg	03 26 44.9	+0.4
JCUZ				IAML		03 26 46.0	
	comp=E,854nm,0.6s						
NPOC	**North of Pu'u**	**0.12**	**235**	Pg	Pg	03 26 40.9	-1.8
NPOC				IAML		03 26 48.1	
	comp=E,948nm,0.4s						
STCH	**Steam Cracks**	**0.14**	**236**	Pg	Pg	03 26 40.5	-2.4
KNHH	**Kane Nui o Ham**	**0.18**	**242**		Pg	03 26 43.6	+0.1
PUH	**Pauahi**	**0.22**	**246**	Pg	Pg	03 26 43.3	-1.0
RSD	**Rainshed**	**0.26**	**270**	Pg	Pg	03 26 44.5	-0.6
RSD				IAML		03 26 52.2	
	comp=E,813nm,0.2s						
HLP	**Hilina Pali**	**0.33**	**240**	Pg	Pg	03 26 46.2	-0.3
HLP				IAML		03 26 57.4	
	comp=N,651nm,0.6s						
MLH	**Mauna Loa**	**0.36**	**275**	Pg	Pg	03 26 47.4	+0.3
MLH				Sg	Sb	03 26 53.6	-1.3
MLH				IAML		03 26 54.9	
	comp=E,448nm,0.5s						
MLH				IAML		03 26 55.1	
	comp=N,554nm,0.6s						
HTC	**Hot Caves**	**0.44**	**239**		Pg	03 26 48.5	+0.1
HMH	**Humu'ula Sheep**	**0.47**	**287**	Pg	Pg	03 26 48.8	-0.3
HMH				Sg	Sb	03 26 57.1	-1.0
MWH	**Moku'aweowe**	**0.56**	**272**	Pg	Pg	03 26 50.3	-0.5
MWH				IAML		03 27 08.9	
	comp=N,290nm,0.6s						
MWH				IAML		03 27 13.4	
	comp=E,328nm,0.6s						
POHA	**Pohakuloa**	**0.58**	**300**	Pg	Pg	03 26 50.2	-0.9
POHA				IAML		03 27 11.9	
	comp=E,338nm,0.3s						
POHA				IAML		03 27 13.7	
	comp=E,322nm,0.5s						
ALEP	**Alea Permanent**	**0.61**	**277**		Pg	03 26 51.1	-0.6
ALEP					Sb	03 27 01.1	-0.9
KHU	**Kahuku**	**0.62**	**250**	Pg	Pg	03 26 50.8	-1.1
KHU				IAML		03 27 04.1	
	comp=N,196nm,2.7s						
KHU				IAML		03 27 11.0	
	comp=E,174nm,1.1s						
HUH	**Hualalai**	**0.81**	**286**	Pg	Pg	03 26 54.3	-1.4
HPAH	**Hawaii Prepara**	**0.86**	**311**	Pg	Pb	03 26 57.0	-0.3
HPAH				IAML		03 27 16.0	
	comp=E,148nm,1.1s						
HPAH				IAML		03 27 18.6	
	comp=N,144nm,0.9s						

*KRNET **06** 03:36:31.7±0.1, 39°.42N×73°.57E, h13km, mb2.7*
*SOME **06** 03:36:33.5, 39°.47N×73°.60E, h5km*
*ISU **06** 03:36:34.6, 39°.55N×71°.44E, h6km*
*NNC **06** 03:36:36.1±1.6, 39°.54N×73°.64E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=11.7km s-min=5.5km az=177.0*

ISC 06 03:36:31.9±2.2, 39°.3N±0°.1×73°.89E±0°.0, h19km±4km, n33, σ2s03/37, 21C-6D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.73**	**336**	⇑iP	Pb	**03 36 43.6**	**-2.7**
	baz=55						
SFK				⇑iS	Sb	**03 36 52.0**	**-4.0**
	baz=55						
OHH	**Osh**	**1.45**	**325**	⇑iP	Pn	03 36 55.6	-1.7
	baz=31						
OHH				⇑iS	Sn	**03 37 13.3**	**-2.6**
	baz=31						
DRK	**Karamyk**	**1.62**	**276**	⇑eP	Pn	03 36 57.7	-2.1
	baz=73						
DRK				⇑eS	Sn	**03 37 17.0**	**-3.4**
	baz=73						
ANR	**Andizhan**	**1.84**	**321**	P	Pn	03 37 01.6	-0.9
ANR				S	Sn	**03 37 21.4**	**-3.8**
FRG	**Fergana**	**1.92**	**303**	P	Pn	03 36 52.0	-12
FRG				S	Sn	03 37 04.8	-23
CHMI	**Chimion**	**2.04**	**298**	P	Pn	03 36 49.3	-16
CHMI				S	Sn	03 37 00.3	-30
ARSB	**Arslanbob**	**2.10**	**341**	⇑eP	Pn	**03 37 07.9**	**+1.7**
	baz=47						
ARSB				⇑eS	Sb	**03 37 34.7**	**-0.5**
	baz=47						
BTK	**Batken**	**2.48**	**288**	⇑iP	Pn	03 37 11.8	+0.5
	baz=88						
BTK				⇑iS	Sn	03 37 41.1	0.0
	baz=88						
MINT	**Mingtut**	**2.51**	**298**	P	Pn	03 36 54.2	-18
MINT				S	Sn	03 37 08.7	-33
ARLS	**Aral**	**2.54**	**7**	⇑eP	Pb	**03 37 15.8**	**-1.2**
	baz=13						
ARLS				⇑eS	Sb	**03 37 47.9**	**0.0**
	baz=13						
GAR	**Garm**	**2.80**	**264**	⇑eP	Pn	03 37 16.6	+0.8
	baz=62						
GAR				⇑iS	Sn	03 37 49.5	+0.4
	baz=62						
UCH	**Uchtor**	**2.92**	**9**	⇑eP	Pb	**03 37 21.5**	**-2.2**
	baz=14						
UCH				⇑iS	Sb	**03 37 57.8**	**-1.4**
	baz=14						
TRKS	**Terek-Say**	**3.03**	**317**	⇓eP	Pn	03 37 19.2	+0.2
	baz=19						
TRKS				⇓iS	Sn	03 37 53.8	-1.1
	baz=19						
MNAS	**Manas**	**3.31**	**342**	⇓eP	Pn	03 37 24.9	+2.0
	baz=46						
MNAS				⇓eS	Sn	**03 38 04.5**	**+2.7**
	baz=46						
AAK	**Ala-Archa**	**3.32**	**8**	⇑Pg	Pb	**03 37 33.0**	**+2.7**
	5.2nm,0.9s						
AAK				⇑Lg	Lg	03 38 14.1	
	11nm,0.9s						
MRKS	**Merke**	**3.44**	**352**	Pg	Pb	**03 37 34.5**	**+2.3**
	4.2nm,0.3s						
MRKS				Lg	Lg	03 38 18.5	
	7.5nm,0.4s						
MRKS	**Merke**	**3.44**	**352**	eP	Pb	**03 37 32.9**	**+0.7**
	4.2nm,0.3s						
MRKS				eS	Sb	**03 38 15.9**	**+2.2**
	7.5nm,0.4s						
CHMG	**Chimgan**	**3.69**	**308**	P	Pn	03 37 16.2	-12
CHMG				S	Sn	03 37 48.3	-23
TKM2	**Tokmak 2**	**3.80**	**19**	⇑Pg	Pg	**03 37 42.9**	**-1.9**
	2.3nm,0.7s						
TKM2				⇑Lg	Lg	03 38 31.8	
	8.1nm,1.0s						
KST	**Kastek**	**4.01**	**22**	Pg	Pg	**03 37 47.1**	**-1.7**
	2.7nm,0.5s						
KST				Lg	Lg	03 38 40.2	
	8.8nm,0.8s						
KST	**Kastek**	**4.01**	**22**	eP	Pg	**03 37 47.1**	**-1.7**
	2.7nm,0.5s						
KST				eS	Sg	**03 38 40.2**	**-0.6**
	8.8nm,0.8s						
IUG	**luznay**	**4.05**	**315**	Pg	Pb	**03 37 44.0**	**+1.2**
	11nm,0.2s						
IUG				Lg	Lg	03 38 34.8	
	27nm,0.9s						
IUG	**luznay**	**4.05**	**315**	eP	Pb	**03 37 44.0**	**+1.2**
	11nm,0.2s						
IUG				eS	Sb	**03 38 34.8**	**+3.4**
	27nm,0.9s						
DGS	**Degeres**	**4.15**	**19**	Pg	Pg	**03 37 50.1**	**-1.2**
	2.5nm,0.6s						
DGS				Lg	Lg	03 38 45.4	
	5.2nm,0.6s						
DGS	**Degeres**	**4.15**	**19**	eP	Pg	**03 37 50.1**	**-1.2**
	2.5nm,0.6s						
DGS				eS	Sg	**03 38 45.4**	**+0.4**
	5.2nm,0.6s						
IZV	**Izvestkoviy**	**4.22**	**28**	Pg	Pg	**03 37 52.2**	**-0.6**
	1.6nm,0.4s						
IZV				Lg	Lg	03 38 48.8	
	10nm,0.4s						
IZV	**Izvestkoviy**	**4.22**	**28**	eP	Pg	**03 37 52.2**	**-0.6**
	1.6nm,0.4s						
IZV				eS	Sg	**03 38 48.8**	**+1.3**
	10nm,0.4s						
TNSS	**Tian-Shan**	**4.35**	**31**	Pg	Pg	**03 37 54.7**	**-0.6**
	1.8nm,0.4s						
TNSS				Lg	Lg	03 38 53.1	
	1.9nm,0.7s						
TNSS	**Tian-Shan**	**4.35**	**31**	eP	Pg	**03 37 54.7**	**-0.6**
	1.8nm,0.4s						
TNSS				eS	Sg	**03 38 53.1**	**+1.4**
	1.9nm,0.7s						
KK31	**Karatay Array**	**4.54**	**327**	⇓Pg	Pb	**03 37 52.7**	**+1.7**
	1.2nm,0.8s,baz=161,slow=14,SNR=8.1						
KK31				⇑Sn	Sn	03 38 35.5	+3.6
	1.7nm,0.5s,baz=148,slow=22,SNR=4.0						
KK31				⇓Lg	Lg	03 38 52.4	
	1.9nm,0.5s						
BRLS	**Borolday**	**4.79**	**322**	Pg	Pb	**03 37 55.9**	**+0.7**
	2.7nm,0.3s						
BRLS				Lg	Lg	03 38 55.2	
	4.5nm,0.4s						
BRLS	**Borolday**	**4.79**	**322**	eP	Pb	**03 37 55.9**	**+0.7**
	2.7nm,0.3s						
BRLS				eS	Sb	**03 38 55.2**	**+2.7**
	4.5nm,0.4s						
PDGK	**Podgornoye**	**5.80**	**45**	Pg	Pg	**03 38 22.7**	**-0.2**
	0.8nm,0.6s						
PDGK				Lg	Lg	03 39 41.3	
	0.8nm,0.4s						

*SOME **06** 03:44:13.5, 39°.72N×73°.05E, h0km*
*ISU **06** 03:44:14.5, 39°.50N×73°.50E, h5km*
*KRNET **06** 03:44:14.3±0.1, 39°.47N×73°.48E, h12km, mb3.2*
*NNC **06** 03:44:18.4±3.3, 39°.72N×73°.31E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=25.4km s-min=12.7km az=176.0*

ISC 06 03:44:11.4±1.1, 39°.41N±0°.04×73°.60E±0°.03, h10km, n49, σ1s99/85, 33C-11D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.61**	**353**	⇑iP	Pb	**03 44 24.8**	**+0.4**
	baz=2.0						
SFK				⇑iS	Sb	**03 44 32.7**	**-0.4**
	baz=2.0						
OHH	**Osh**	**1.28**	**331**	⇑eP	Pg	**03 44 36.7**	**+0.7**
	baz=33						
OHH				⇑eS	Sn	**03 44 53.5**	**+0.8**
	baz=33						
DRK	**Karamyk**	**1.39**	**274**	⇓eP	Pg	**03 44 39.1**	**+0.9**
	baz=71						
DRK				⇓eS	Sg	**03 44 57.5**	**+1.2**
	baz=71						
ANR	**Andizhan**	**1.65**	**325**	P	Pg	**03 44 43.8**	**+0.7**
ANR				S	Sg	**03 45 05.5**	**+1.1**
FRG	**Fergana**	**1.70**	**305**	P	Pg	**03 44 44.6**	**+0.6**
FRG				S	Sg	**03 45 07.2**	**+1.2**
CHMI	**Chimion**	**1.81**	**299**	P	Pg	**03 44 47.0**	**+0.8**
CHMI				S	Sg	**03 45 10.9**	**+1.1**
ARSB	**Arslanbob**	**1.97**	**346**	⇑iP	Pg	**03 44 49.6**	**+0.3**
	baz=49						
ARSB				⇑iS	Sg	**03 45 15.3**	**+0.4**
	baz=49						
BTK	**Batken**	**2.24**	**288**	⇑iP	Pg	**03 44 53.3**	**-1.1**
	baz=87						
BTK				⇑iS	Sg	**03 45 21.7**	**-1.7**
	baz=87						
MINT	**Mingtut**	**2.28**	**299**	P	Pg	**03 44 54.6**	**-0.5**
MINT				S	Sg	**03 45 25.2**	**+0.6**
KSNS	**Kasansay**	**2.36**	**318**	P	Pg	**03 44 55.9**	**-0.8**
KSNS				S	Sg	**03 45 27.7**	**+0.3**
ARLS	**Aral**	**2.51**	**12**	⇑eP	Pg	**03 44 57.9**	**-1.7**
	baz=15						
ARLS				⇑eS	Sg	**03 45 29.8**	**-2.4**
	baz=15						
GAR	**Garm**	**2.58**	**262**	⇓iP	Pb	**03 44 58.3**	**+0.4**
	baz=60						
GAR				⇓iS	Sb	**03 45 30.4**	**+0.7**
	baz=60						
CHDK	**Chadak**	**2.68**	**307**	P	Pb	**03 45 00.3**	**+0.7**
CHDK				S	Sg	**03 45 37.7**	**+0.1**
ARK	**Arkit**	**2.69**	**333**	⇑eP	Pb	**03 44 59.9**	**+0.1**
	baz=34						
ARK				⇑eS	Sb	**03 45 33.0**	**0.0**
	baz=34						
TRKS	**Terek-Say**	**2.83**	**319**	⇑eP	Pb	**03 45 00.7**	**-1.5**
	baz=19						
TRKS				⇑iS	Sb	**03 45 34.2**	**-2.8**
	baz=19						
UCH	**Uchtor**	**2.90**	**14**	⇑iP	Pb	**03 45 03.7**	**+0.1**
	baz=16						
UCH				⇑iS	Sb	**03 45 39.7**	**+0.4**
	baz=16						
MNAS	**Manas**	**3.19**	**345**	⇑eP	Pb	**03 45 06.9**	**-1.3**
	baz=47						
MNAS				⇑iS	Sb	**03 45 45.2**	**-2.0**
	baz=47						
EKS2	**Erkin-Say**	**3.26**	**2**	⇑eP	Pb	**03 45 07.9**	**-1.5**
	baz=4.0						
EKS2				⇑iS	Sb	**03 45 47.2**	**-1.9**
	baz=4.0						
AAK	**Ala-Archa**	**3.30**	**12**	⇓Pn	Pb	**03 45 10.3**	**+0.2**
	5.1nm,0.5s						
AAK				⇑Lg	Lg	03 45 53.7	
	37nm,0.8s						
AAK	**Ala-Archa**	**3.30**	**12**	⇑eP	Pb	**03 45 08.9**	**-1.3**
	baz=13						
AAK				⇑iS	Sb	**03 45 48.8**	**-1.6**
	baz=13						
MRKS	**Merke**	**3.35**	**355**	Pg	Pb	**03 45 11.1**	**+0.2**
	8.1nm,0.4s						
MRKS				Lg	Lg	03 45 52.9	
	24nm,0.4s						
MRKS	**Merke**	**3.35**	**355**	eP	Pb	**03 45 11.2**	**+0.2**
	8.1nm,0.4s						
MRKS				eS	Sb	**03 45 52.9**	**+1.2**
	24nm,0.4s						
CHMG	**Chimgan**	**3.47**	**309**	P	Pb	**03 45 11.5**	**-1.6**
CHMG				S	Sg	**03 46 00.4**	**-2.6**
CHGR	**Chuyangaron**	**3.54**	**259**	⇓eP	Pb	**03 45 11.8**	**-2.4**
	baz=58						
CHGR				⇓eS	Sb	**03 45 53.5**	**-3.7**
	baz=58						
BOOM	**Boomskoye usch**	**3.56**	**29**	⇑eP	Pb	**03 45 12.8**	**-1.7**
	baz=31						
BOOM				⇑iS	Sb	**03 45 55.6**	**-2.2**
	baz=31						
TKM2	**Tokmak 2**	**3.82**	**23**	⇑Pg	Pg	**03 45 25.5**	**+0.9**
	4.2nm,0.8s						
TKM2				⇓Lg	Lg	03 46 14.1	
	11nm,0.6s						
KDJ	**Kajisay**	**3.85**	**44**	⇑eP	Pb	**03 45 17.5**	**-2.0**
	baz=46						
KDJ				⇑eS	Sb	**03 46 03.4**	**-2.8**
	baz=46						
IUG	**luznay**	**3.85**	**316**	Pg	Pb	**03 45 16.1**	**-3.4**
	32nm,0.5s						
IUG				Lg	Lg	03 46 01.3	
	24nm,0.9s						
IUG	**luznay**	**3.85**	**316**	eP	Pb	**03 45 16.1**	**-3.4**
	32nm,0.5s						
IUG				eS	Sb	**03 46 01.3**	**-4.9**

	24nm,0.9s								
TARG	**Taragay, Kyrgy**	**3.96**	**53**	⇑	*i*	P	**Pb**	**03 45 19.2**	**-2.3**
	baz=54								
TARG				⇑	*i*	S	**Sb**	**03 46 06.5**	**-3.1**
	baz=54								
KST	**Kastek**	**4.05**	**25**			Pg	**Pg**	**03 45 27.1**	**-1.9**
	2.5nm,0.4s								
KST						Lg	Lg	03 46 20.3	
	20nm,0.8s								
KST	**Kastek**	**4.05**	**25**	*e*	P		**Pg**	**03 45 27.1**	**-1.9**
	2.5nm,0.4s								
KST					*e*	S	**Sg**	**03 46 20.3**	**-1.1**
	20nm,0.8s								
DGS	**Degeres**	**4.17**	**22**			Pg	**Pg**	**03 45 30.3**	**-1.0**
	4.5nm,0.5s								
DGS						Lg	Lg	03 46 25.8	
	16nm,0.9s								
DGS	**Degeres**	**4.17**	**22**	*e*	P		**Pg**	**03 45 30.3**	**-1.0**
	4.5nm,0.5s								
DGS					*e*	S	**Sg**	**03 46 25.8**	**+0.5**
	16nm,0.9s								
IZV	**Izvestkoviy**	**4.28**	**31**			Pg	**Pg**	**03 45 33.4**	**-0.1**
	2.9nm,0.5s								
IZV						Lg	Lg	03 46 31.0	
	22nm,0.9s								
IZV	**Izvestkoviy**	**4.28**	**31**	*e*	P		**Pg**	**03 45 33.4**	**-0.1**
	2.9nm,0.5s								
IZV					*e*	S	**Sg**	**03 46 31.0**	**+2.1**
	22nm,0.9s								
MTBS	**Maitube**	**4.29**	**29**			Pg	**Pg**	**03 45 32.9**	**-0.7**
	3.4nm,0.2s								
MTBS						Lg	Lg	03 46 30.3	
	9.3nm,0.3s								
MTBS	**Maitube**	**4.29**	**29**	*e*	P		**Pg**	**03 45 32.9**	**-0.7**
	3.4nm,0.2s								
MTBS					*e*	S	**Sg**	**03 46 30.3**	**+1.2**
	9.3nm,0.3s								
KK31	**Karatay Array**	**4.37**	**329**	⇓		Pn	**Pn**	**03 45 21.8**	**+4.0**
	0.5nm,0.3s,baz=132,slow=12,SNR=12								
KK31				⇑		Pg	**Pg**	**03 45 32.1**	**-2.9**
	2.4nm,0.6s,baz=144,slow=13,SNR=12								
KK31				⇓		Sn	**Sn**	**03 46 12.4**	**+3.6**
	2.9nm,0.5s,baz=201,slow=53,SNR=4.2								
KK31				⇓		Lg	Lg	03 46 28.5	
	7.3nm,0.6s								
KKAR	**Karatay Array**	**4.37**	**329**	⇑	*e*	P	Pb	03 45 22.8	-5.4
	baz=29								
KKAR				⇑	*i*	S	**Sn**	**03 46 12.8**	**+4.1**
	baz=29								
TNSS	**Tian-Shan**	**4.42**	**34**			Pg	**Pg**	**03 45 36.2**	**0.0**
	3.4nm,0.7s								
TNSS						Lg	Lg	03 46 35.5	
	5.2nm,0.6s								
TNSS	**Tian-Shan**	**4.42**	**34**	*e*	P		**Pg**	**03 45 36.2**	**0.0**
	3.4nm,0.7s								
TNSS					*e*	S	**Sg**	**03 46 35.5**	**+2.1**
	5.2nm,0.6s								
MDOK	**Medeo**	**4.57**	**34**			Pg	**Pg**	**03 45 38.7**	**-0.2**
	3.8nm,0.2s								
MDOK						Lg	Lg	03 46 39.9	
	15nm,0.7s								
MDOK	**Medeo**	**4.57**	**34**	*e*	P		**Pg**	**03 45 38.7**	**-0.2**
	3.8nm,0.2s								
MDOK					*e*	S	**Sg**	**03 46 39.9**	**+1.9**
	15nm,0.7s								
BRLS	**Boroldav**	**4.60**	**323**			Pg	**Pb**	**03 45 27.9**	**-4.4**
	3.8nm,0.3s								
BRLS						Lg	Lg	03 46 21.6	
	4.2nm,0.4s								
BRLS	**Boroldav**	**4.60**	**323**	*e*	P		**Pb**	**03 45 27.9**	**-4.4**
	3.8nm,0.3s								
BRLS					*e*	S	**Sb**	**03 46 21.6**	**-6.1**
	4.2nm,0.4s								
ARXS	**Arharly**	**5.75**	**32**			Pg	**Pg**	**03 46 00.0**	**-1.5**
	3.6nm,0.9s								
ARXS						Lg	Lg	03 47 16.5	
	7.6nm,0.7s								
ARXS	**Arharly**	**5.75**	**32**	*e*	P		**Pg**	**03 46 00.0**	**-1.5**
	3.6nm,0.9s								
ARXS					*e*	S	**Sg**	**03 47 16.5**	**+0.6**
	7.6nm,0.7s								
DJR	**Jarkent**	**6.75**	**41**			Pg	**Pg**	**03 46 20.3**	**-0.4**
	0.8nm,0.2s								
DJR						Lg	Lg	03 47 51.3	
	3.1nm,0.6s								

IDC 06 03:56:12.9±1.6, 3°93S×127°80E, h0km, mb3.4/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=159.3km s-min=25.8km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.15**	**159**	P			Pn	04 00 14.3	+0.1
	0.2nm,0.3s,baz=342,slow=12,SNR=8.6								
	0.5nm,0.8s								
ASAR	**Alice Springs**	**20.49**	**164**	P			P	04 00 52.7	0.0
	1.2nm,0.5s,baz=350,slow=10,SNR=18								
	1.2nm,0.5s								
SONM	**Songino Array**	**54.86**	**342**	P			P	04 05 46.0	+0.8
	0.4nm,0.5s,baz=145,slow=8.8,SNR=1.7								
	0.4nm,0.5s								
MKAR	**Makanchi Array**	**64.47**	**327**	P			P	04 06 50.6	-0.8
	0.1nm,0.4s,baz=122,slow=6.9,SNR=2.0								
	0.1nm,0.4s								

*SNET **06** 04:04:22.9±1.7, 13°.26N×88°.06W, h1km, ML4.4*
*CATAC **06** 04:04:23.5±0.1, 13°.21N×88°.04W, h2km±1km, ML4.3*
*NEIC **06** 04:04:25.8±1.8, 13°.26N±0°.05×87°.94W±0°.04, h10km±1km, mb4.4/83, Error ellipse: s-maj=8.7km s-min=7.1km az=196.0*
*IDC **06** 04:04:28.2±1.5, 12°.80N×88°.23W, h75km±19km, mb3.5/9, mbtmp3.9/14, MS3.5/9, Error ellipse: s-maj=46.5km s-min=10.9km az=36.0*
ISC 06 04:04:24.0±0.8, 13°24N±0°.03×88°.07W±0°.02, h13km±5km, n211, σ1s67/223, mb4.3/40, MS3.4/6, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.17**	**274**	*e*	P		**Pg**	**04 04 27.7**	**-0.4**
JUCU				*e*	S		**Sg**	**04 04 31.3**	**+0.4**
JUCU	**Jucuarįn**	**0.17**	**274**	*i*	P		**Pg**	**04 04 27.9**	**-0.1**
JUCU				*i*	S		**Sg**	**04 04 31.5**	**+0.6**
JUCU					IAML			04 04 35.1	
	comp=Z,130μm,1.0s								
LCND	**La Caada**	**0.19**	**69**	*e*	P		**Pg**	**04 04 27.3**	**-1.0**
LCND				*e*	P			04 04 27.3	
LCND				*e*	S		**Sg**	**04 04 30.9**	**-0.3**
LCND	**La Caada**	**0.19**	**69**	*i*	P		**Pg**	**04 04 27.3**	**-1.0**
LCND				*i*	P			04 04 27.6	
LCND					IAML			04 04 32.0	
	comp=Z,89μm,1.0s								
LCND					IAML			04 04 32.1	
	comp=Z,86μm,1.0s								
CNCH	**Conchagua**	**0.23**	**82**	*e*	P		**Pg**	**04 04 28.6**	**-0.5**
CNCH				*e*	S		**Sg**	**04 04 32.4**	**-0.2**
CNCH	**Conchagua**	**0.23**	**82**	*i*	P		**Pg**	**04 04 28.2**	**-0.9**
CNCH					IAML			04 04 35.7	
	comp=Z,220μm,1.0s								
CNRM	**Centro Naciona**	**0.25**	**337**	*i*	P		**Pb**	**04 04 29.4**	**-1.0**
CNRM				*i*	S		**Sg**	**04 04 33.1**	**+0.2**
CNRM					IAML			04 04 47.8	
	comp=Z,170μm,1.0s								
BLLM	**Bellamira**	**0.26**	**321**	*e*	P		**Pb**	**04 04 29.2**	**-1.3**
LCY	**Lacayo**	**0.28**	**310**	*e*	P		**Pb**	**04 04 30.0**	**-1.0**
RANC	**El Ranchito**	**0.28**	**312**	*i*	P		**Pb**	**04 04 30.2**	**-0.9**
RANC				*i*	S		**Sb**	**04 04 34.7**	**-1.2**
RANC					IAML			04 04 44.0	
	comp=Z,25μm,1.0s								
PACA	**Pacayal**	**0.33**	**313**	*e*	P		**Pb**	**04 04 31.2**	**-0.7**
PACA	**Pacayal**	**0.33**	**313**	*i*	P		**Pb**	**04 04 31.0**	**-0.9**
PACA					IAML			04 04 42.7	
	comp=Z,150μm,1.0s								
AMPH	**Amapala**	**0.40**	**84**	*e*	P		**Pg**	**04 04 31.7**	**-0.4**
AMPH				*e*	S		**Sg**	**04 04 37.0**	**-0.5**
COEB	**Comit de Eme**	**0.51**	**300**	*e*	P		**Pb**	**04 04 34.2**	**-0.8**
COEB	**Comit de Eme**	**0.51**	**300**	*i*	P		**Pb**	**04 04 34.1**	**-0.9**
COEB				*i*	S		**Sb**	**04 04 40.9**	**-1.5**
COEB					IAML			04 04 48.4	
	comp=Z,7μm,1.0s								
PQSS	**Presa 15 de Se**	**0.61**	**309**	*i*	P		**Pb**	**04 04 36.3**	**-0.2**
PQSS					IAML			04 04 48.3	
	comp=Z,3μm,1.0s								
TECO	**Alcaldia de Te**	**0.75**	**293**	*i*	P		**Pb**	**04 04 37.9**	**-1.1**
TECO				*i*	S		**Sb**	**04 04 49.0**	**-0.1**
TECO					IAML			04 04 50.7	
	comp=Z,5μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.79**	**306**	*e*	S		**Sb**	**04 04 50.5**	**+0.4**
SCLA	**Alcaldia de Sa**	**0.79**	**306**	*i*	P		**Pb**	**04 04 39.0**	**-0.6**
SCLA				*i*	S		**Sn**	**04 04 51.1**	**-1.5**
SCLA					IAML			04 05 00.1	
	comp=Z,3μm,1.0s								
UESV	**Universidad de**	**0.80**	**299**	*i*	P		**Pb**	**04 04 39.2**	**-0.6**
UESV				*i*	S		**Sn**	**04 04 51.3**	**-1.6**
UESV					IAML			04 04 59.4	
	comp=Z,6μm,1.0s								
PAVA	**Las Pavas**	**0.96**	**299**	*e*	P		**Pn**	**04 04 42.2**	**-1.1**
PAVA	**Las Pavas**	**0.96**	**299**	*i*	P		**Pn**	**04 04 42.4**	**-1.0**
PAVA				*i*	S		**Sn**	**04 04 56.7**	**-0.3**
PAVA					IAML			04 04 59.8	
	comp=Z,13μm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.12**	**44**				**Pg**	**04 04 44.1**	**-1.5**
TGUH							**Sg**	**04 04 58.9**	**-1.4**
TGUH	**Tegucigalpa,Un**	**1.12**	**44**	*i*	P		**Pg**	**04 04 44.1**	**-1.5**
TGUH				*i*	S		**Sg**	**04 04 59.5**	**-0.8**
TGUH					IAML			04 05 07.3	
	comp=Z,11μm,1.0s								
CRIN	**San Cristobal**	**1.13**	**118**	Pg			**Pb**	**04 04 45.0**	**-0.5**
CRIN							**Sn**	**04 05 01.3**	**+0.2**
CRIN	**San Cristobal**	**1.13**	**118**	*i*	P		**Pb**	**04 04 45.2**	**-0.3**
CRIN					IAML			04 04 47.6	
	comp=Z,29μm,1.0s								
PANCS	**Alcalda de**	**1.14**	**289**	*i*	P		**Pn**	**04 04 45.1**	**-0.6**
PANCS					IAML			04 05 01.5	
	comp=Z,11μm,1.0s								
LOMA	**Loma Larga**	**1.14**	**291**	*i*	P		**Pn**	**04 04 44.9**	**-1.0**
LOMA					IAML			04 04 46.9	
	comp=Z,6μm,1.0s								
UDBS	**Universidad Do**	**1.15**	**294**	*i*	P		**Pn**	**04 04 45.5**	**-0.5**
UDBS					IAML			04 05 08.3	
	comp=Z,3μm,1.0s								
IGN	**Direccin Gen**	**1.17**	**294**	*i*	P		**Pn**	**04 04 45.7**	**-0.4**
IGN				*i*	S		**Sn**	**04 05 02.7**	**+0.7**
IGN					IAML			04 05 13.6	
	comp=Z,13μm,1.0s								
UTEC	**Universidad Te**	**1.19**	**293**	*i*	P		**Pn**	**04 04 46.3**	**-0.2**
UTEC					IAML			04 05 09.7	
	comp=Z,4μm,1.0s								
SNET	**Serv Nac Est T**	**1.21**	**292**	Pn			**Pn**	**04 04 46.2**	**-0.6**
SNET	**Serv Nac Est T**	**1.21**	**292**	*i*	P		**Pn**	**04 04 46.5**	**-0.3**
SNET					IAML			04 04 47.8	
	comp=Z,7μm,1.0s								
UEES	**Universidad Ev**	**1.23**	**293**	*i*	P		**Pn**	**04 04 46.8**	**-0.2**
UEES					IAML			04 04 48.3	
	comp=Z,3μm,1.0s								
LALI	**Alcalda de L**	**1.24**	**282**	*i*	P		**Pn**	**04 04 46.7**	**-0.4**
LALI					IAML			04 05 12.7	
	comp=Z,1μm,1.0s								
LLGN	**La Laguna**	**1.25**	**317**	*i*	P		**Pn**	**04 04 46.6**	**-0.7**
LLGN					IAML			04 05 13.2	
	comp=Z,2μm,1.0s								
ITCA	**Escuela Especi**	**1.25**	**290**	*i*	P		**Pn**	**04 04 47.2**	**-0.1**
ITCA					IAML			04 05 22.1	
	comp=Z,11μm,1.0s								
BOQS	**Boqueron**	**1.27**	**293**	*e*	P		**Pn**	**04 04 47.6**	**-0.2**
PMON	**Piamonte**	**1.30**	**291**	*i*	P		**Pn**	**04 04 48.0**	**0.0**
PMON					IAML			04 05 12.4	
	comp=Z,6μm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.31**	**297**	*i*	P		**Pn**	**04 04 48.9**	**+0.8**
QUEZ					IAML			04 05 22.3	
	comp=Z,10μm,1.0s								
POLN	**Al Sur del Vol**	**1.36**	**115**	*i*	P		**Pn**	**04 04 47.5**	**-1.3**
POLN					IAML			04 04 48.3	
	comp=Z,3μm,1.0s								
HERN	**Volcan Telica**	**1.36**	**117**	*i*	P		**Pn**	**04 04 47.6**	**-1.2**
HERN					IAML			04 04 53.0	
	comp=Z,6μm,1.0s								
TELN	**Telica**	**1.36**	**118**	*i*	P		**Pn**	**04 04 47.6**	**-1.3**
TELN					IAML			04 05 15.7	
	comp=Z,320nm,1.0s								
TEL3	**Telica 3**	**1.37**	**119**	*i*	P		**Pn**	**04 04 47.5**	**-1.4**
TEL3					IAML			04 05 19.0	
	comp=Z,11μm,1.0s								
JAYA	**Jayaque - finc**	**1.40**	**287**	*e*	P		**Pb**	**04 04 49.2**	**-0.9**
JAYA				*e*	S		**Sb**	**04 05 06.4**	**-1.6**
JAYA	**Jayaque - finc**	**1.40**	**287**	*i*	P		**Pb**	**04 04 49.3**	**-0.9**
JAYA					IAML			04 04 50.8	
	comp=Z,17μm,1.0s								
CEDA	**San Andres**	**1.40**	**294**	*e*	P		**Pb**	**04 04 49.3**	**-0.8**
CEDA	**San Andres**	**1.40**	**294**	*i*	P		**Pb**	**04 04 50.2**	**+0.1**
CEDA					IAML			04 05 19.3	
	comp=Z,9μm,1.0s								
PACN	**Al O del Volca**	**1.45**	**120**	*i*	P		**Pn**	**04 04 49.0**	**-1.0**
PACN					IAML			04 04 51.4	
	comp=Z,8μm,1.0s								
ROCN	**Rota Cerro Neg**	**1.48**	**119**	*i*	P		**Pn**	**04 04 49.4**	**-1.0**
ROCN					IAML			04 05 14.5	
	comp=Z,2μm,1.0s								
CNGA	**Al SSO del Vol**	**1.53**	**119**	*i*	P		**Pn**	**04 04 50.8**	**-0.3**
CNGA					IAML			04 05 18.5	
	comp=Z,3μm,1.0s								
CNGN	**Cerro Negro**	**1.53**	**119**				**Pn**	**04 04 49.7**	**-1.3**
CNGN	**Cerro Negro**	**1.53**	**119**	*i*	P		**Pn**	**04 04 49.8**	**-1.3**
CNGN					IAML			04 04 52.0	
	comp=Z,4μm,1.0s								
UNIC	**Universidad Ca**	**1.61**	**297**	*i*	P		**Pg**	**04 04 53.1**	**-1.9**
UNIC					IAML			04 04 55.4	
	comp=Z,940nm,1.0s								
CEVE	**Cerro Verde**	**1.62**	**291**	*i*	P		**Pg**	**04 04 53.1**	**-2.0**
CEVE				*i*	S		**Sg**	**04 05 15.2**	**-1.0**
CEVE					IAML			04 05 20.4	
	comp=Z,6μm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.65**	**120**	*i*	P		**Pn**	**04 04 52.0**	**-0.7**
LEVN					IAML			04 05 23.7	
	comp=Z,4μm,1.0s								
MTO3	**Montecristo**	**1.70**	**313**		Pn		**Pb**	**04 04 53.7**	**-1.6**
MTO3	**Montecristo**	**1.70**	**313**	*i*	P		**Pg**	**04 04 54.4**	**-2.3**
MTO3					IAML			04 05 20.3	
	comp=Z,2μm,1.0s								
MOMN	**Momotombo**	**1.71**	**119**	*i*	P		**Pn**	**04 04 52.6**	**-1.0**
MOMN					IAML			04 04 58.6	
	comp=Z,170nm,1.0s								
MOM2	**El Cardon**	**1.74**	**117**	*i*	P		**Pn**	**04 04 53.3**	**-0.7**
MOM2					IAML			04 05 34.8	
	comp=Z,2μm,1.0s								
BRAN	**Las Pilas**	**1.76**	**107**	*i*	P		**Pg**	**04 04 56.7**	**-1.0**
BRAN					IAML			04 05 00.0	
	comp=Z,2μm,1.0s								
NUBE	**Las Nubes**	**1.79**	**292**	*i*	P		**Pg**	**04 04 55.5**	**-2.8**
NUBE					IAML			04 05 26.5	
	comp=Z,3μm,1.0s								
COPN	**Copaltepe**	**1.79**	**126**	*i*	P		**Pn**	**04 04 54.1**	**-0.5**
COPN					IAML			04 05 20.5	
	comp=Z,2μm,1.0s								
ESQI	**Esquipulas**	**1.80**	**317**		Pn		**Pb**	**04 04 55.9**	**-1.0**
ESQI	**Esquipulas**	**1.80**	**317**	*i*	P		**Pg**	**04 04 56.6**	**-2.0**
ESQI					IAML			04 05 32.8	
	comp=Z,2μm,1.0s								
LOAL	**Lomas de Alarc**	**1.82**	**295**	*i*	P		**Pg**	**04 04 56.4**	**-2.6**
LOAL					IAML			04 05 03.0	
	comp=Z,5μm,1.0s								
LOAL						S	**Sg**	**04 05 21.9**	**-0.8**
APQ3	**Volcan Apoyequ**	**1.92**	**120**	*i*	P		**Pn**	**04 04 56.8**	**+0.4**
APQ3					IAML			04 04 58.3	
	comp=Z,2μm,1.0s								
JUAM	**Asuncion Mita**	**1.92**	**305**	*i*	P		**Pg**	**04 04 58.4**	**-2.6**
JUAM					IAML			04 05 29.3	
	comp=Z,1μm,1.0s								
APYN	**Apoyeque**	**1.96**	**121**	*i*	P		**Pn**	**04 04 56.7**	**-0.2**
APYN					IAML			04 04 59.0	
	comp=Z,6μm,1.0s								
RE6B4	**Centro civico**	**2.06**	**122**	*i*	P		**Pb**	**04 04 59.6**	**-1.6**
TISN	**Laguna Tiscapa**	**2.07**	**122**	*i*	P		**Pb**	**04 04 59.8**	**-1.7**
TISN					IAML			04 05 01.0	
	comp=Z,340nm,1.0s								
USIM	**UNAN**	**2.08**	**122**	*i*	P		**Pn**	**04 04 57.0**	**-1.6**
USIM					IAML			04 05 03.4	
	comp=Z,6μm,1.0s								
R4DEC	**Barrio San Lui**	**2.08**	**121**	*i*	P		**Pb**	**04 05 00.8**	**-0.9**
CRUN	**El Crucero**	**2.13**	**126**	*i*	P		**Pn**	**04 04 55.9**	**-3.6**
RB213	**Mirador 2 Volc**	**2.24**	**124**	*i*	P		**Pn**	**04 04 58.6**	**-2.3**
IZABA	**Izabal, Puerto**	**2.52**	**349**	*i*	P		**Pn**	**04 05 06.3**	**+1.6**
IZABA					IAML			04 05 56.0	
	comp=Z,16nm,1.0s								
GUNB	**GUNB**	**2.59**	**302**	*i*	P		**Pb**	**04 05 07.2**	**-3.2**
GUNB					IAML			04 05 15.2	
	comp=Z,1μm,1.0s								
JAPN	**Al SSO del Vol**	**2.89**	**126**	*i*	P		**Pn**	**04 05 11.3**	**+1.5**
JAPN					IAML			04 05 16.9	
	comp=Z,520nm,1.0s								
MORN	**Al O del Volca**	**2.91**	**125**	*i*	P		**Pn**	**04 05 10.8**	**+0.8**
MORN					IAML			04 05 12.2	
	comp=Z,1μm,1.0s								
APG	**El Apazote**	**2.91**	**307**		P		**Pb**	**04 05 14.5**	**-1.4**
	comp=Z,4.8nm,0.8s,baz=113,slow=12,SNR=36								
APG					S		**Sg**	**04 05 55.4**	**-2.2**
	comp=Z,10nm,0.7s,baz=92,slow=15,SNR=7.6								
APG					LR		LR	04 06 36.2	
	comp=Z,36nm,18.7s,baz=201,slow=42								
CONN	**Concepcion**	**2.91**	**125**	*i*	P		**Pn**	**04 05 10.5**	**+0.4**
CONN					IAML			04 05 17.7	
	comp=Z,5μm,1.0s								
OMEN	**Al SSO del Vol**	**2.94**	**126**	*i*	P		**Pn**	**04 05 11.3**	**+0.8**
OMEN					IAML			04 05 56.8	
	comp=Z,590nm,1.0s								
ACON	**Acoyapa**	**3.10**	**114**		Pn		**Pn**	**04 05 10.8**	**-1.8**
ACON	**Acoyapa**	**3.10**	**114**	*i*	P		**Pb**	**04 05 16.4**	**-2.6**
HZTE	**Horizontes, Gu**	**3.49**	**136**		Pn		**Pn**	**04 05 18.1**	**0.0**
HZTE	**Horizontes, Gu**	**3.49**	**136**	*i*	P		**Pn**	**04 05 17.9**	**-0.2**
HZTE					IAML			04 06 08.2	
	comp=Z,420nm,1.0s								
RTAL	**Retalhuleu**	**3.74**	**290**		Pn		**Pn**	**04 05 24.1**	**+2.6**
RTAL	**Retalhuleu**	**3.74**	**290**	*i*	P		**Pn**	**04 05 22.6**	**+1.1**
RTAL					IAML			04 05 38.1	
	comp=Z,410nm,1.0s								
RTAL				*i*	S		**Sb**	**04 06 09.6**	**-5.7**
ESPN	**Las Esperanzas**	**3.82**	**105**		Pn		**Pn**	**04 05 21.7**	**-0.9**
ESPN	**Las Esperanzas**	**3.82**	**105**	*i*	P		**Pb**	**04 05 30.1**	**-1.3**
ORTG	**Ortega, Santa**	**3.84**	**138**		Pn		**Pn**	**04 05 22.8**	**-0.2**
ORTG	**Ortega, Santa**	**3.84**	**138**	*i*	P		**Pn**	**04 05 23.4**	**+0.5**
ORTG					IAML			04 05 25.5	
	comp=Z,230nm,1.0s								
SAJU	**San Juanillo,**	**3.91**	**144**	*i*	P		**Pn**	**04 05 24.2**	**+0.4**
SAJU					IAML			04 06 25.2	
	comp=Z,140nm,1.0s								
DUNO	**Dulce Nombre,**	**4.03**	**141**		Pn		**Pn**	**04 05 25.9**	**+0.4**
PETF	**Flores**	**4.04**	**335**		Pn		**Pn**	**04 05 26.8**	**+1.1**
INDI	**Punta indio, G**	**4.19**	**143**	*i*	P		**Pn**	**04 05 28.7**	**+1.0**
INDI					IAML			04 06 34.8	
	comp=Z,170nm,1.0s								
JTS	**Las Juntas de**	**4.23**	**134**		Pn		**Pn**	**04 05 27.9**	**-0.4**
JTS	**Las Juntas de**	**4.23**	**134**		P		**Pn**	**04 05 27.0**	**-1.3**
	comp=Z,24nm,0.3s,baz=280,slow=17,SNR=40								
JTS					S		**Sn**	**04 06 15.6**	**-2.0**
	comp=Z,21nm,0.4s,baz=240,slow=21,SNR=1.2								
JACO	**JACO, Garabito**	**4.88**	**136**		Pn		**Pn**	**04 05 37.4**	**+0.2**
JACO	**JACO, Garabito**	**4.88**	**136**	*i*	P		**Pn**	**04 05 35.5**	**-1.7**
JACO					IAML			04 05 41.4	
	comp=Z,93nm,1.0s								
CCIG	**Comitan**	**4.96**	**308**		Pn		**Pn**	**04 05 38.6**	**+0.2**
OCM	**Ochomogo**	**5.22**	**129**	*i*	P		Pn	04 05 34.4	-7.7
PEZE	**Perez Zeledon,**	**5.77**	**131**				**Pn**	**04 05 51.8**	**+2.3**
BRU2	**Volcan**	**6.89**	**129**		Pn		**Pn**	**04 06 05.8**	**+0.9**
CDITO	**Canoas**	**6.90**	**132**		Pn		**Pn**	**04 06 06.6**	**+1.7**
TEIG	**Tepich**	**6.95**	**358**		LR		LR	04 09 33.9	
	comp=Z,432nm,20.4s,slow=41								
CMIG	**Matias Romero**	**7.61**	**301**		P		**Pn**	**04 06 17.6**	**+2.9**
	comp=Z,12nm,0.9s,baz=134,slow=9.7,SNR=8.1								
CMIG					S		**Sn**	**04 07 46.7**	**+5.8**
	comp=Z,7.8nm,0.8s,baz=96,slow=21,SNR=2.3								
ROSC	**El Rosal**	**15.93**	**120**		Pn		**Pn**	**04 08 09.5**	**+1.0**
ROSC	**El Rosal**	**15.93**	**120**		P		**Pn**	**04 08 06.6**	**-1.8**
	comp=Z,2.7nm,0.4s,baz=294,slow=20,SNR=1.9								
ROSC					LR		LR	04 14 48.8	
	comp=Z,159nm,18.9s,baz=45,slow=39								
TULM	**Tulcn-Chalpat**	**16.08**	**140**				**P**	**04 08 11.9**	**-2.0**
IMBA	**Imbabura, San**	**16.18**	**142**		P		**P**	**04 08 14.8**	**-0.1**
IMBA					IAmb		IAmb	04 08 20.1	
	comp=Z,40nm,1.1s								
PULU	**Pululahua**	**16.20**	**143**		Pn		**P**	**04 08 14.0**	**-1.1**
SLOR	**San Lorenzo -**	**16.82**	**145**				**P**	**04 08 23.8**	**+1.7**
HBVL	**Hebbronville**	**16.96**	**326**				**P**	**04 08 24.3**	**+1.3**
HBVL					IAmb		IAmb	04 08 29.0	
	comp=Z,33nm,1.2s								
CHSH	**Refugio Sur-Vo**	**17.25**	**147**				**P**	**04 08 28.2**	**+1.3**
SDV	**Santo Domingo**	**17.65**	**102**		Pn		**Pn**	**04 08 29.8**	**-0.2**
SDV					IAmb		IAmb	04 08 34.5	
	comp=Z,21nm,1.1s								
SDV	**Santo Domingo**	**17.65**	**102**		P		**Pn**	**04 08 29.9**	**-0.1**
	comp=Z,7.4nm,0.3s,baz=272,slow=6.1,SNR=3.6								
SDV					LR		LR	04 16 31.3	

121A	**Cookes Peak, D**	**26.34**	**320**	P	**P**	**04 10 02.3**	**+2.2**
121A				IAmb	IAmb	04 10 05.8		
	comp=Z,6.4nm,0.9s							
CRNM	**Carthage**	**26.70**	**324**	P	**P**	**04 10 06.7**	**+3.5**
P38A	**Dawn**	**26.72**	**351**	P	**P**	**04 10 04.8**	**+1.7**
P38A				IAmb	IAmb	04 10 06.6		
	comp=Z,5.9nm,0.9s							
BNM	**Barren Site**	**26.78**	**324**	P	**P**	**04 10 05.0**	**+0.9**
P53A	**Whipple**	**26.80**	**12**	P	**P**	**04 10 06.4**	**+2.5**
LENM	**Lemitar**	**26.99**	**324**	P	**P**	**04 10 06.5**	**+0.6**
ANMO	**Albuquerque**	**27.27**	**326**	P	**P**	**04 10 09.5**	**+1.1**
SMCO	**Snowmass**	**30.77**	**331**	P	**P**	**04 10 41.2**	**+1.5**
SMCO				IAmb	IAmb	04 10 44.5		
	comp=Z,3.1nm,0.9s							
ECSD	**EROS Data Cent**	**31.26**	**348**	P	**P**	**04 10 45.0**	**+1.5**
ECSD				IAmb	IAmb	04 10 46.8		
	comp=Z,7.0nm,1.1s							
J56A	**Wolcott**	**31.45**	**16**	P	**P**	**04 10 45.8**	**+0.6**
HMU	**Henry Mountain**	**31.81**	**325**	P	**P**	**04 10 51.5**	**+2.7**
Q16A	**Castle Valley**	**32.74**	**326**	P	**P**	**04 10 58.9**	**+2.1**
P18A	**Preston Nutter**	**32.75**	**327**	P	**P**	**04 10 58.2**	**+1.1**
P18A				IAmb	IAmb	04 11 03.6		
	comp=Z,5.5nm,1.2s							
PFO	**Pinyon Flats O**	**32.83**	**313**	LR	LR	04 24 14.4		
	comp=Z,85nm,20.3s,baz=25,slow=36							
NCB	**Newcomb**	**32.85**	**19**	P	**P**	**04 10 58.6**	**+1.1**
RWWY	**Rawlins**	**32.88**	**333**	P	**P**	**04 11 00.6**	**+2.5**
P17A	**Butcher Ranch,**	**32.90**	**327**	P	**P**	**04 10 59.2**	**+1.0**
P17A				IAmb	IAmb	04 11 02.8		
	comp=Z,8.3nm,1.0s							
F33A	**5 Mile Ranch,**	**33.23**	**349**	P	**P**	**04 11 02.3**	**+1.5**
BSUT	**Blindstream Ca**	**33.69**	**328**	P	**P**	**04 11 06.6**	**+1.3**
BSUT				IAmb	IAmb	04 11 12.4		
	comp=Z,5.0nm,1.4s							
TCUT	**Toone Canyon**	**34.45**	**328**	P	**P**	**04 11 14.6**	**+2.8**
TCUT				IAmb	IAmb	04 11 39.2		
	comp=Z,7.0nm,1.1s							
DUG	**Dugway, Tooele**	**34.54**	**326**	P	**P**	**04 11 15.8**	**+3.4**
DUG				IAmb	IAmb	04 11 18.1		
	comp=Z,6.2nm,1.4s							
PDAR	**Pinedale Array**	**34.79**	**332**	P	**P**	**04 11 16.7**	**+2.0**
PDAR	**Pinedale Array**	**34.79**	**332**	P	**P**	**04 11 14.1**	**-0.7**
	comp=Z,0.4nm,0.6s,baz=134,slow=8.6,SNR=5.9							
	comp=Z,0.4nm,0.6s							
HWUT	**Hardware Ranch**	**34.89**	**328**	P	**P**	**04 11 16.7**	**+1.3**
HWUT				IAmb	IAmb	04 11 20.4		
	comp=Z,12nm,1.4s							
BGU	**Big Grassy Mou**	**35.17**	**326**	P	**P**	**04 11 19.9**	**+2.0**
BGU				IAmb	IAmb	04 11 22.6		
	comp=Z,5.2nm,1.3s							
AHID	**Auburn Hatcher**	**35.52**	**330**	P	**P**	**04 11 23.5**	**+2.6**
AHID				IAmb	IAmb	04 11 25.1		
	comp=Z,4.9nm,1.0s							
MDND	**Maddock**	**35.82**	**347**	P	**P**	**04 11 24.7**	**+1.6**
REDW	**Red Top Meadow**	**35.85**	**331**	P	**P**	**04 11 25.7**	**+1.9**
SNOW	**Snow King Moun**	**35.89**	**331**	P	**P**	**04 11 26.3**	**+2.2**
LOHW	**Long Hollow**	**35.93**	**332**	P	**P**	**04 11 26.4**	**+1.9**
LOHW				IAmb	IAmb	04 11 29.0		
	comp=Z,4.2nm,1.0s							
TPAW	**Teton Pass**	**36.00**	**331**	P	**P**	**04 11 27.0**	**+1.8**
FLWY	**Flagg Ranch**	**36.34**	**332**	P	**P**	**04 11 28.7**	**+0.8**
FLWY				IAmb	IAmb	04 11 39.8		
	comp=Z,12nm,1.4s							
RLMT	**Red Lodge**	**36.53**	**335**	P	**P**	**04 11 31.1**	**+1.4**
RLMT				IAmb	IAmb	04 11 33.8		
	comp=Z,5.5nm,1.4s							
NVAR	**Mina Array Bea**	**36.71**	**319**	P	**P**	**04 11 33.9**	**+2.7**
NVAR	**Mina Array Bea**	**36.71**	**319**	P	**P**	**04 11 29.4**	**-1.9**
	comp=Z,0.1nm,0.5s,baz=102,slow=8.5,SNR=1.5							
	comp=Z,0.1nm,0.5s							
ULM	**Lac du Bonnet**	**37.45**	**352**	P	**P**	**04 11 37.4**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=159,slow=11,SNR=3.2							
	comp=Z,0.4nm,0.3s							
DGMT	**Dagmar**	**37.59**	**342**	P	**P**	**04 11 38.8**	**+0.5**
DGMT				IAmb	IAmb	04 11 42.6		
	comp=Z,11nm,0.9s							
BOZ	**Bozeman (W)**	**37.93**	**333**	P	**P**	**04 11 42.4**	**+1.0**
LYMT	**Lyon Mountain**	**39.28**	**334**	P	**P**	**04 11 54.0**	**+1.2**
BPMT	**Black Pine Rid**	**39.39**	**332**	P	**P**	**04 11 54.2**	**+0.5**
MSO	**Missoula**	**39.91**	**332**	P	**P**	**04 12 00.6**	**+2.7**
YBH	**Yreka Blue Hor**	**41.36**	**320**	LR	LR	04 33 56.0		
	comp=Z,38nm,19.7s,baz=172,slow=42							
BRLDA	**Berland Lookou**	**46.84**	**337**	P	**P**	**04 12 54.8**	**+1.0**
BDFB	**Brasilia**	**48.92**	**125**	LR	LR	04 34 23.4		
	comp=Z,99nm,19.7s,baz=318,slow=37							
YKA	**Yellowknife Ar**	**52.69**	**345**	P	**P**	**04 13 38.6**	**+0.7**
YKA	**Yellowknife Ar**	**52.69**	**345**	P	**P**	**04 13 37.4**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=136,slow=7.1,SNR=25							
	comp=Z,1.8nm,0.9s							
F28M	**Old Crow**	**63.84**	**340**	P	**P**	**04 14 57.5**	**+1.6**
ILAR	**Eielson Array**	**65.06**	**336**	P	**P**	**04 15 03.0**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=122,slow=5.6,SNR=6.3							
	comp=Z,0.7nm,0.9s							
BMAR	**Burnt Mountain**	**65.33**	**339**	P	**P**	**04 15 07.0**	**+1.3**
PPT	**Papeete**	**67.98**	**245**	LR	LR	04 37 34.3		
	comp=Z,79nm,20.4s,baz=336,slow=29							
EKA	**Eskdalemuir Ar**	**76.34**	**36**	P	**P**	**04 16 11.3**	**-1.5**
	comp=Z,1.4nm,0.8s,baz=266,slow=5.8,SNR=3.6							
	comp=Z,1.4nm,0.8s							
ESDC	**Sonseca Array**	**77.18**	**52**	P	**P**	**04 16 17.3**	**-0.6**
	comp=Z,0.9nm,1.1s,baz=308,slow=6.3,SNR=4.2							
	comp=Z,0.9nm,1.1s							
NOA	**NORSAR Array B**	**82.97**	**29**	LR	LR	04 52 27.7		
	comp=Z,10nm,20.0s,baz=40,slow=34							
WRA	**Warramunga Arr**	**138.90**	**255**	PKP	**PKPdf**	**04 23 46.4**	**-4.7**
	comp=Z,0.6nm,0.9s,baz=88,slow=2.5,SNR=2.1							
ASAR	**Alice Springs**	**138.99**	**249**	PKP	**PKPdf**	**04 23 47.6**	**-3.6**
	comp=Z,0.7nm,1.1s,baz=100,slow=2.4,SNR=2.1							

CATAC 06 04:09:06.6±0.2, 13°23N×88°05W, h4km±1km, ML3.7, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
LCND	**La Caada**	**0.17**	**62**	*i*	P	Pg		04 09 10.8	+0.8
LCND				*i*	P	Pg		04 09 10.8	+0.8
LCND				*i*	S	Sg		04 09 14.0	+1.7
LCND					IAML			04 09 16.2	
	comp=Z,26μm,1.0s								
JUCU	**Jucuarįn**	**0.20**	**277**	*i*	P	Pg		04 09 11.1	+0.6
JUCU					IAML			04 09 11.4	
	comp=Z,21μm,1.0s								
JUCU				*i*	S	Sg		04 09 13.4	+0.3
CNCH	**Conchagua**	**0.21**	**77**	*i*	P	Pg		04 09 11.4	+0.6
CNCH					IAML			04 09 17.7	
	comp=Z,48μm,1.0s								
CNRM	**Centro Naciona**	**0.27**	**334**	*i*	P	Pg		04 09 12.3	+0.4
CNRM				*i*	S	Sg		04 09 15.6	+0.1
CNRM					IAML			04 09 19.1	
	comp=Z,55μm,1.0s								
RANC	**El Ranchito**	**0.31**	**311**	*i*	P	Pg		04 09 13.2	+0.5
RANC				*i*	S	Sg		04 09 16.9	0.0
RANC					IAML			04 09 24.9	
	comp=Z,6μm,1.0s								
PACA	**Pacayal**	**0.36**	**312**	*i*	P	Pg		04 09 14.2	+0.6
PACA				*i*	S	Sg		04 09 18.6	+0.2
PACA					IAML			04 09 25.7	
	comp=Z,33μm,1.0s								
AMPH	**Amapala**	**0.38**	**81**	*i*	P	Pg		04 09 14.5	+0.5
AMPH				*i*	S	Sg		04 09 19.6	+0.6
COEB	**Comit de Eme**	**0.54**	**300**	*i*	P	Pg		04 09 17.2	+0.1
COEB				*i*	S	Sg		04 09 24.5	+0.4
COEB					IAML			04 09 31.4	
	comp=Z,2μm,1.0s								
PQSS	**Presa 15 de Se**	**0.64**	**308**	*i*	P	Pg		04 09 19.2	+0.3
PQSS					IAML			04 09 30.9	
	comp=Z,930nm,1.0s								
TECO	**Alcaldia de Te**	**0.78**	**293**	*i*	P	Pg		04 09 21.3	-0.3
TECO				*i*	S	Sg		04 09 32.4	+0.7
TECO					IAML			04 09 35.1	
	comp=Z,1μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*i*	P	Pg		04 09 22.5	+0.3
SCLA				*i*	S	Sg		04 09 33.6	+0.8
SCLA					IAML			04 09 43.3	
	comp=Z,460nm,1.0s								
UESV	**Universidad de**	**0.83**	**299**	*i*	P	Pg		04 09 22.2	-0.3
UESV					IAML			04 09 23.2	
	comp=Z,1μm,1.0s								
UESV				*i*	S	Sg		04 09 34.1	+0.8
PAVA	**Las Pavas**	**0.99**	**299**	*i*	P	Pg		04 09 25.5	-0.2
PAVA				*i*	S	Sb		04 09 39.5	-0.4
PAVA					IAML			04 09 44.2	
	comp=Z,2μm,1.0s								
CRIN	**San Cristobal**	**1.10**	**118**	*i*	P	Pg		04 09 27.9	+0.1
CRIN					IAML			04 09 30.5	
	comp=Z,4μm,1.0s								
CRIN				*i*	S	Sn		04 09 44.0	-0.7
TGUH	**Tegucigalpa,Un**	**1.11**	**42**	*i*	P	Pg		04 09 27.3	-0.7
TGUH				*i*	S	Sg		04 09 42.5	0.0
TGUH					IAML			04 09 50.2	
	comp=Z,3μm,1.0s								
PANCS	**Alcalda de**	**1.17**	**289**	*i*	P	Pg		04 09 28.1	-0.9
PANCS					IAML			04 09 44.4	
	comp=Z,4μm,1.0s								
LOMA	**Loma Larga**	**1.17**	**291**	*i*	P	Pg		04 09 29.2	+0.1
LOMA					IAML			04 09 29.9	
	comp=Z,2μm,1.0s								
LOMA				*i*	S	Sb		04 09 44.7	-0.4
UDBS	**Universidad Do**	**1.18**	**294**	*i*	P	Pg		04 09 29.3	0.0
UDBS					IAML			04 09 51.4	
	comp=Z,890nm,1.0s								
IGN	**Direccin Gen**	**1.20**	**294**	*i*	P	Pg		04 09 29.5	0.0
IGN					IAML			04 09 30.4	
	comp=Z,3μm,1.0s								
IGN				*i*	S	Sb		04 09 45.9	+0.2
UTEC	**Universidad Te**	**1.22**	**293**	*i*	P	Pg		04 09 29.1	-0.9
UTEC					IAML			04 09 30.6	
	comp=Z,2μm,1.0s								
UTEC				*i*	S	Sg		04 09 45.6	-0.2
SNET	**Serv Nac Est T**	**1.24**	**292**	*i*	P	Pg		04 09 29.6	-0.8
SNET					IAML			04 09 30.7	
	comp=Z,3μm,1.0s								
SNET				*i*	S	Sb		04 09 47.1	+0.1
UEES	**Universidad Ev**	**1.26**	**293**	*i*	P	Pg		04 09 30.2	-0.6
UEES					IAML			04 09 31.3	
	comp=Z,960nm,1.0s								
LALI	**Alcalda de L**	**1.27**	**282**	*i*	P	Pg		04 09 29.8	-1.1
LALI					IAML			04 09 49.5	
	comp=Z,230nm,1.0s								
LLGN	**La Laguna**	**1.27**	**317**	*i*	P	Pg		04 09 29.9	-1.2
LLGN				*i*	S	Sg		04 09 47.7	+0.1
LLGN					IAML			04 09 52.3	
	comp=Z,560nm,1.0s								
ITCA	**Escuela Especi**	**1.28**	**290**	*i*	P	Pg		04 09 30.8	-0.3
ITCA					IAML			04 09 53.0	
	comp=Z,3μm,1.0s								
PMON	**Piamonte**	**1.32**	**291**	*i*	P	Pn		04 09 31.3	-0.7
PMON					IAML			04 09 51.6	
	comp=Z,2μm,1.0s								
POLN	**Al Sur del Vol**	**1.33**	**115**	*i*	P	Pn		04 09 30.6	-1.4
POLN					IAML			04 09 32.6	
	comp=Z,660nm,1.0s								
HERN	**Volcan Telica**	**1.33**	**117**	*i*	P	Pn		04 09 30.9	-1.2
HERN					IAML			04 09 36.0	
	comp=Z,1μm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.34**	**297**	*i*	P	Pn		04 09 31.6	-0.5
QUEZ					IAML			04 10 09.4	
	comp=Z,3μm,1.0s								
TELN	**Telica**	**1.34**	**117**	*i*	P	Pn		04 09 30.7	-1.5
TELN					IAML			04 09 57.2	
	comp=Z,75nm,1.0s								
JAYA	**Jayaque - finc**	**1.43**	**287**	*i*	P	Pn		04 09 32.4	-1.1
JAYA					IAML			04 09 33.7	
	comp=Z,6μm,1.0s								
CEDA	**San Andres**	**1.43**	**294**	*i*	P	Pn		04 09 32.7	-0.7
CEDA					IAML			04 10 13.7	
	comp=Z,1μm,1.0s								
CNGA	**Al SSO del Vol**	**1.50**	**119**	*i*	P	Pn		04 09 32.1	-2.3
CNGA					IAML			04 09 57.0	
	comp=Z,640nm,1.0s								
CNGN	**Cerro Negro**	**1.50**	**119**	*i*	P	Pn		04 09 33.3	-1.1
CNGN					IAML			04 10 07.4	
	comp=Z,540nm,1.0s								
UNIC	**Universidad Ca**	**1.64**	**297**	*i*	P	Pn		04 09 36.3	0.0
UNIC					IAML			04 09 36.6	
	comp=Z,270nm,1.0s								
CEVE	**Cerro Verde**	**1.65**	**291**	*i*	P	Pn		04 09 36.2	-0.4
CEVE					IAML			04 10 03.2	
	comp=Z,1μm,1.0s								
MOMN	**Momotombo**	**1.68**	**119**	*i*	P	Pn		04 09 36.4	-0.4
MOMN					IAML			04 09 37.3	
	comp=Z,21nm,1.0s								
MOM2	**El Cardon**	**1.71**	**117**	*i*	P	Pn		04 09 37.1	-0.1
MOM2					IAML			04 09 41.5	
	comp=Z,300nm,1.0s								
MTO3	**Montecristo**	**1.73**	**313**	*i*	P	Pn		04 09 37.4	-0.3
MTO3					IAML			04 10 01.7	
	comp=Z,300nm,1.0s								
COPN	**Copaltepe**	**1.76**	**126**	*i*	P	Pn		04 09 37.0	-0.9
COPN					IAML			04 10 08.6	
	comp=Z,270nm,1.0s								
NUBE	**Las Nubes**	**1.81**	**292**	*i*	P	Pn		04 09 39.2	+0.4
NUBE					IAML			04 10 10.8	
	comp=Z,510nm,1.0s								
ESQI	**Esquipulas**	**1.83**	**317**	*i*	P	Pn		04 09 38.8	-0.1
ESQI					IAML			04 10 15.5	
	comp=Z,280nm,1.0s								
LOAL	**Lomas de Alarc**	**1.85**	**295**	*i*	P	Pn		04 09 39.1	-0.1
LOAL					IAML			04 10 24.7	
	comp=Z,2μm,1.0s								
HZTE	**Horizontes, Gu**	**3.46**	**136**	*i*	P	Pn		04 10 01.4	+0.1
ORTG	**Ortega, Santa**	**3.81**	**138**	*i*	P	Pn		04 10 06.3	+0.1
SAJU	**San Juanillo,**	**3.89**	**144**	*i*	P	Pn		04 10 07.5	+0.3
SMSP	**San Marcos**	**4.02**	**296**	*i*	P	Pn		04 10 08.4	-0.8
SMSP					IAML			04 10 09.9	
	comp=Z,940nm,1.0s								
CDM	**Cerro de Muert**	**5.56**	**131**	*i*	P	Pn		04 10 31.8	+1.1

*NEIC **06** 04:10:48.1±0.8, 19°40N±0°02×155°01W±0°03, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.8km az=299.0*
HVO 06 04:10:47.8±0.8, **19°38N**±0°02×**154°99W**±0°03, **h6**km±3km, **ML2.7**/16, **ML2.8**/38(NEIC), **Error ellipse: s-maj=5.2km s-min=1.7km az=118.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
JOKA	**Jonika Flow**	**0.05**	**349**			Pg		04 10 49.5	+0.1
JCUZ	**Jacuzzi**	**0.10**	**272**			Pg		04 10 49.9	-0.2
JCUZ						Sg	Sg	04 10 51.5	-0.1
JCUZ					IAML			04 10 52.5	
	comp=E,3μm,0.5s								
NPOC	**North of Pu'u**	**0.11**	**276**			Pg	Pg	04 10 50.0	-0.2
NPOC						Sg	Sg	04 10 51.9	0.0
NPOC					IAML			04 10 52.6	
	comp=N,5μm,0.4s								
STCH	**Steam Cracks**	**0.12**	**272**			Pg	Pg	04 10 50.1	-0.3
STCH						Sg	Sg	04 10 51.8	-0.5
KNHH	**Kane Nui o Ham**	**0.17**	**269**			Pg	Pg	04 10 51.1	-0.1
PUH	**Pauahi**	**0.21**	**268**			Pg	Pg	04 10 52.0	0.0
PUH						Sg	Sg	04 10 54.6	-0.2
HATHI	**Halema'uma'u T**	**0.26**	**279**			Pg	Pg	04 10 52.4	-0.4
HATHI						Sg	Sg	04 10 55.6	-0.6
HATHI					IAML			04 11 01.7	
	comp=N,2μm,0.5s								
HATHI					IAML			04 11 01.7	
	comp=E,2μm,0.7s								
KKO	**Keanakako`i**	**0.26**	**274**			Pg	Pg	04 10 52.6	-0.3
KKO						Sg	Sg	04 10 56.2	-0.1
KKO					IAML			04 11 00.7	
	comp=N,1μm,0.8s								
SBLHI	**Steaming Bluff**	**0.26**	**280**			Pg	Pg	04 10 52.9	-0.1
SBLHI						Sg	Sg	04 10 56.1	-0.4
SBLHI					IAML			04 10 59.9	
	comp=N,2μm,0.4s								
SBLHI					IAML			04 11 01.9	
	comp=E,1μm,0.4s								
RIM	**Rim**	**0.27**	**273**			Pg	Pg	04 10 52.8	-0.2
RIM						Sg	Sg	04 10 55.3	-1.3
RIM					IAML			04 11 02.3	
	comp=E,1μm,0.4s								
RIM					IAML			04 11 02.4	
	comp=N,2μm,0.4s								
UWB	**Uwekahuna B**	**0.27**	**279**			Pg	Pg	04 10 53.1	-0.1
UWB						Sg	Sg	04 10 57.2	+0.4
RSD	**Rainshed**	**0.28**	**287**			Pg	Pg	04 10 53.0	-0.3
RSD						Sg	Sg	04 10 56.8	-0.3
RSD					IAML			04 10 59.0	
	comp=E,1μm,0.2s								
RSD					IAML			04 10 59.6	
	comp=N,1μm,0.3s								
SDHHI	**Sand Hill**	**0.28**	**272**			Pg	Pg	04 10 53.0	-0.4
SDHHI					IAML			04 11 03.5	
	comp=E,2μm,0.3s								
SDHHI					IAML			04 11 03.5	
	comp=N,2μm,0.3s								
UWE	**Uwekahuna**	**0.28**	**278**			Pg	Pg	04 10 53.5	+0.1
UWE					IAML			04 11 01.4	
	comp=N,2μm,0.5s								
HLP	**Hilina Pali**	**0.31**	**254**			Pg	Pg	04 10 54.4	+0.5
HLP						Sg	Sg	04 10 58.4	+0.4
HLP					IAML			04 10 59.8	
	comp=N,1μm,0.3s								
HLP					IAML			04 10 59.8	
	comp=E,2μm,0.3s								
MLH	**Mauna Loa**	**0.39**	**287**			Pg	Pg	04 10 55.3	-0.1
MLH						Sg	Sg	04 11 00.3	-0.2
MLH					IAML			04 11 03.9	
	comp=E,879nm,0.3s								
HTC	**Hot Caves**	**0.41**	**250**				Pg	04 10 55.9	+0.2
HMH	**Humu'ula Sheep**	**0.51**	**296**			Pg	Pg	04 10 57.6	-0.1
HMH						Sg	Sg	04 11 04.9	+0.5
MWH	**Moku'aweowe**	**0.58**	**280**			Pg	Pg	04 10 58.1	-0.9
MWH					IAML			04 11 12.6	
	comp=N,751nm,0.5s								
KHU	**Kahuku**	**0.60**	**257**			Pg	Pg	04 10 58.1	-1.3
KHU						Sg	Sg	04 11 06.3	-1.0
KHU					IAML			04 11 17.5	
	comp=N,389nm,0.6s								
POHA	**Pohakuloa**	**0.63**	**306**			Pg	Pg	04 10 58.8	-1.2
POHA					IAML			04 11 21.0	
	comp=N,643nm,0.5s								
POHA	**Pohakuloa**	**0.63**	**306**			Sg	Sg	04 11 07.8	-0.5
ALEP	**Alea Permanent**	**0.63**	**285**				Pg	04 10 59.0	-1.0
HUH	**Hualalai**	**0.85**	**291**			Pg	Pg	04 11 03.9	-0.3

*SOME **06** 04:17:38.9, 39°45N×73°22E, h15km*
*KRNET **06** 04:17:39.9±0.1, 39°45N×73°41E, h14km, mb3.6*
*NNC **06** 04:17:40.5±1.6, 39°54N×73°22E, h0km, mb4.1, mpv3.8, Error ellipse: s-maj=11.9km s-min=6.0km az=179.0*
ISC 06 04:17:41.1±1.1, **39°50N**±0°05×**73°33E**±0°03, **h10**km, **n64, σ2s65/99, 28C-29D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SFK	**Sufi-Kurgan**	**0.53**	**15**	⇓	*i* P		**Pg**	**04 17 51.0**	**-0.4**
	baz=7.0								
SFK				⇓	*e* S		**Sg**	**04 17 59.3**	**+0.9**
	baz=7.0								
OHH	**Osh**	**1.10**	**338**	⇑	*e* P		**Pb**	**04 18 02.3**	**0.0**
	baz=36								
OHH				⇑	*e* S		**Sn**	**04 18 18.6**	**+0.6**
	baz=36								
DRK	**Karamyk**	**1.18**	**269**	⇓	*e* P		**Pn**	**04 18 03.5**	**-0.5**
	baz=72								
DRK				⇓	*e* S		**Sn**	**04 18 20.7**	**+0.4**
	baz=72								
ARSB	**Arslanbob**	**1.84**	**352**	⇑	*e* P		**Pb**	**04 18 15.2**	**+0.3**
	baz=50								
ARSB				⇑	*e* S		**Sg**	**04 18 41.0**	**+0.8**
	baz=50								
BTK	**Batken**	**2.01**	**287**	⇑	*e* P		**Pb**	**04 18 17.9**	**+0.1**
	baz=88								
BTK				⇑	*e* S		**Sg**	**04 18 45.7**	**-0.1**
	baz=88								
ARLS	**Aral**	**2.47**	**18**	⇓	*e* P		**Pb**	**04 18 23.8**	**-2.0**
	baz=16								
ARLS				⇓	*e* S		**Sb**	**04 18 55.9**	**-0.5**
	baz=16								
ARK	**Arkit**	**2.52**	**336**	⇑	*e* P		**Pb**	**04 18 25.0**	**-1.5**
	baz=35								
ARK				⇑	*e* S		**Sb**	**04 18 57.9**	**+0.4**
	baz=35								
TRKS	**Terek-Say**	**2.62**	**321**	⇑	*e* P		**Pn**	**04 18 25.7**	**+2.0**
	baz=20								
TRKS				⇑	*e* S		**Sn**	**04 18 59.0**	**+3.3**
	baz=20								
UCH	**Uchtor**	**2.87**	**18**	⇓	*e* P		**Pb**	**04 18 29.4**	**-3.2**
	baz=16								
UCH				⇓	*e* S		**Sb**	**04 19 05.7**	**-2.2**
	baz=16								
MNAS	**Manas**	**3.04**	**348**	⇓	*e* P		**Pn**	**04 18 32.3**	**+2.8**
	baz=48								
MNAS				⇓	*e* S		**Sb**	**04 19 10.6**	**-2.2**
	baz=48								
EKS2	**Erkin-Say**	**3.17**	**6**	⇑	*e* P		**Pn**	**04 18 33.8**	**+2.6**
	baz=5.0								
EKS2				⇑	*e* S		**Sb**	**04 19 13.1**	**-3.3**
	baz=5.0								
MRKS	**Merke**	**3.24**	**359**		Pg		**Pb**	**04 18 39.0**	**+0.2**
	23nm,0.4s								
MRKS					Lg		Lg	04 19 23.0	
	82nm,0.5s								
MRKS	**Merke**	**3.24**	**359**		*e* P		**Pb**	**04 18 39.0**	**+0.2**
	12nm,0.4s								
MRKS					*e* S		**Sg**	**04 19 23.0**	**-2.2**
	82nm,0.5s								
AAK	**Ala-Archa**	**3.25**	**15**	⇑	Pg		**Pb**	**04 18 40.4**	**+1.4**
	16nm,0.7s								
AAK				⇓	Lg		Lg	04 19 20.6	
	65nm,0.9s								
AAK	**Ala-Archa**	**3.25**	**15**	⇓	*e* P		**Pn**	**04 18 34.7**	**+2.4**
	baz=14								
AAK				⇓	*e* S		**Sn**	**04 19 14.7**	**+3.5**
	baz=14								
CHGR	**Chuyangaron**	**3.35**	**257**	⇑	*e* P		**Pn**	**04 18 36.

	14nm,0.6s								
DGS					*e*S		**Sg**	**04 19 54.2**	**-0.6**
	38nm,0.7s								
KK31	**Karatay Array**	**4.17**	**330**	⇓	Pg		**Pb**	**04 18 57.3**	**+2.7**
	11nm,0.7s,baz=142,slow=13,SNR=23								
KK31				⇑	Lg		Lg	04 19 52.4	
	9.0nm,0.5s,baz=145,slow=22,SNR=4.5								
KKAR	**Karatay Array**	**4.17**	**330**	⇑	*e*P		**Pn**	**04 18 48.0**	**+3.1**
	baz=30								
KKAR				⇑	*e*S		**Sn**	**04 19 37.8**	**+4.1**
	baz=30								
MTBS	**Maitube**	**4.31**	**32**		Pg		**Pb**	**04 18 59.3**	**+2.3**
	13nm,0.7s								
MTBS					Lg		Lg	04 19 58.0	
	27nm,0.7s								
MTBS	**Maitube**	**4.31**	**32**		*e*P		**Pb**	**04 18 59.3**	**+2.3**
	13nm,0.5s								
MTBS					*e*S		**Sg**	**04 19 58.0**	**-1.5**
	27nm,0.8s								
BRLS	**Boroldav**	**4.40**	**324**		Pg		**Pb**	**04 18 56.3**	**-2.2**
	12nm,0.6s								
BRLS					Lg		Lg	04 19 52.7	
	22nm,0.3s								
BRLS	**Boroldav**	**4.40**	**324**		*e*P		**Pb**	**04 18 56.2**	**-2.2**
	2.1nm,0.3s								
BRLS					*e*S		**Sb**	**04 19 52.7**	**+1.1**
	7.4nm,0.3s								
TNSS	**Tian-Shan**	**4.46**	**37**		Pg		**Pg**	**04 19 02.7**	**-3.9**
	14nm,0.4s								
TNSS					Lg		Lg	04 20 03.7	
	14nm,0.6s								
TNSS	**Tian-Shan**	**4.46**	**37**		*e*P		**Pg**	**04 19 02.7**	**-3.9**
	14nm,0.5s								
TNSS					*e*S		**Sg**	**04 20 03.7**	**-0.6**
	14nm,0.6s								
KRBS	**Karabastau**	**4.54**	**22**		Pg		**Pb**	**04 19 03.5**	**+2.5**
	9.2nm,0.5s								
KRBS					Lg		Lg	04 20 05.0	
	15nm,0.7s								
KRBS	**Karabastau**	**4.54**	**22**		*e*P		**Pb**	**04 19 03.5**	**+2.5**
	9.2nm,0.5s								
KRBS					*e*S		**Sg**	**04 20 05.0**	**-1.9**
	28nm,0.7s								
MDOK	**Medeo**	**4.61**	**36**		Pg		**Pb**	**04 19 03.4**	**+1.3**
	11nm,0.7s								
MDOK					Pg		**Pg**	**04 19 05.3**	**-4.0**
	10nm,0.7s								
MDOK					Lg		Lg	04 20 06.6	
	51nm,1.0s								
MDOK					Lg		Lg	04 20 07.8	
	32nm,1.1s								
MDOK	**Medeo**	**4.61**	**36**		*e*P		**Pg**	**04 19 05.3**	**-4.0**
	10nm,0.7s								
MDOK					*e*S		**Sg**	**04 20 07.8**	**-1.1**
	32nm,1.1s								
KNDC	**Almaty**	**4.61**	**35**	⇓	Lg		Lg	04 20 07.4	
	190nm,1.1s								
ANVS	**Anan'yevo**	**4.63**	**44**	⇑	*e*P		**Pn**	**04 18 53.6**	**+2.3**
	baz=43								
ANVS				⇑	*e*S		**Sn**	**04 19 47.1**	**+1.8**
	baz=43								
KOTS	**Kotyrbulak**	**4.69**	**36**		Pg		**Pg**	**04 19 06.4**	**-4.6**
	0.8nm,0.8s								
KOTS					Lg		Lg	04 20 10.1	
	100nm,0.7s								
KOTS	**Kotyrbulak**	**4.69**	**36**		*e*P		**Pg**	**04 19 06.4**	**-4.6**
	0.8nm,0.8s								
KOTS					*e*S		**Sg**	**04 20 10.1**	**-1.6**
	100nm,0.7s								
SATY	**Saty**	**5.22**	**45**		Pg		**Pg**	**04 19 17.4**	**-3.7**
	15nm,1.2s								
SATY					Lg		Lg	04 20 28.8	
	24nm,1.1s								
SATY	**Saty**	**5.22**	**45**		*e*P		Pg	04 19 16.1	-5.0
	15nm,1.2s								
SATY					*e*S		**Sg**	**04 20 26.1**	**-2.6**
	18nm,0.8s								
BTLS	**Baital**	**5.56**	**5**		Pg		**Pg**	**04 19 22.9**	**-4.7**
	5.0nm,0.6s								
BTLS					Lg		Lg	04 20 38.1	
	11nm,0.7s								
BTLS	**Baital**	**5.56**	**5**		*e*P		**Pg**	**04 19 22.9**	**-4.7**
	5.0nm,0.6s								
BTLS					*e*S		**Sg**	**04 20 38.1**	**-1.4**
	7.9nm,0.6s								
UZB	**Uzynbulak**	**5.62**	**48**		Pg		**Pg**	**04 19 24.7**	**-4.1**
	5.6nm,0.5s								
UZB					Lg		Lg	04 20 41.4	
	5.6nm,0.7s								
UZB	**Uzynbulak**	**5.62**	**48**		*e*P		**Pg**	**04 19 24.7**	**-4.1**
	5.6nm,0.5s								
UZB					*e*S		**Sg**	**04 20 41.4**	**-0.2**
	5.6nm,0.7s								
ARXS	**Arharly**	**5.78**	**34**		Pg		**Pg**	**04 19 28.0**	**-3.8**
	6.5nm,0.5s								
ARXS					Lg		Lg	04 20 46.9	
	26nm,0.6s								
ARXS	**Arharly**	**5.78**	**34**		*e*P		**Pg**	**04 19 28.0**	**-3.8**
	5.2nm,0.7s								
ARXS					*e*S		**Sg**	**04 20 46.9**	**+0.2**
	26nm,0.6s								
SHLS	**Shalkode**	**5.89**	**50**		Pg		**Pg**	**04 19 34.3**	**+0.5**
	9.3nm,0.4s								
SHLS					Lg		Lg	04 20 58.0	
	15nm,0.9s								
BLB	**Baldybastay**	**5.99**	**38**		Pg		**Pg**	**04 19 31.7**	**-4.0**
	24nm,0.7s								
BLB					Lg		Lg	04 20 53.5	
	21nm,0.7s								
PDGK	**Podgornoye**	**6.00**	**48**		Pg		**Pg**	**04 19 32.1**	**-4.0**
	2.2nm,0.9s								
PDGK					Lg		Lg	04 20 53.9	
	5.1nm,1.2s								
PDGK	**Podgornoye**	**6.00**	**48**	⇓	Pg		**Pb**	**04 19 27.0**	**+1.1**
	5.6nm,0.7s								
PDGK				⇓	Lg		Lg	04 20 49.1	
	15nm,0.8s								
KTMS	**Ketmen**	**6.58**	**51**		Pg		**Pg**	**04 19 43.0**	**-4.1**
	1.5nm,0.3s								
KTMS					Lg		Lg	04 21 13.0	
	4.0nm,0.4s								
DJR	**Jarkent**	**6.82**	**43**		Pg		**Pg**	**04 19 47.2**	**-4.5**
	3.0nm,0.4s								
DJR					Lg		Lg	04 21 20.2	
	5.4nm,0.7s								
OTUK	**Ortayu**	**8.77**	**356**		Pg		Pg	04 20 21.8	-7.1
	1.3nm,1.3s								
OTUK					Lg		Lg	04 22 19.4	
	4.5nm,0.9s								

*CATAC **06** 04:21:51.4±0.1, 13°.19N×88°.04W, h2km±1km, ML3.8*
*SNET **06** 04:21:51.0±1.0, 13°.24N×88°.04W, h2km±3km, ML3.9*
ISC 06 04:21:51.5±0.9, 13°.19N±0°.04×88°.06W±0°.02, h10km±7km, n72, σ1§96/96, 1C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarˌn**	**0.20**	**290**	⇓ *e*P	**Pg**	**04 21 55.6**	**-0.2**
JUCU				*e*S	**Sg**	**04 21 59.0**	**+0.4**
JUCU	**Jucuarˌn**	**0.20**	**290**	*i* P	**Pg**	**04 21 55.3**	**-0.4**
JUCU				*i* S	**Sg**	**04 21 58.7**	**+0.1**
JUCU				IAML		04 22 00.3	
	comp=Z,36μm,1.0s						
LCND	**La Caada**	**0.20**	**53**	⇑ *e*P	**Pg**	**04 21 55.4**	**-0.4**
LCND				*e*S	**Sg**	**04 21 58.6**	**-0.1**
LCND	**La Caada**	**0.20**	**53**	*i* P	**Pg**	**04 21 55.2**	**-0.6**
LCND				*i* P		04 21 55.3	
LCND				*i* S	**Sg**	**04 21 58.2**	**-0.5**
LCND				IAML		04 22 00.1	
	comp=Z,47μm,1.0s						
LCND				IAML		04 22 00.2	
	comp=Z,59μm,1.0s						
CNCH	**Conchagua**	**0.23**	**67**	*e*P	**Pg**	**04 21 56.4**	**-0.1**
CNCH				*e*S	**Sg**	**04 22 00.3**	**+0.6**
CNCH	**Conchagua**	**0.23**	**67**	*i* P	**Pg**	**04 21 56.1**	**-0.3**
CNCH				*i* S	**Sg**	**04 21 59.5**	**-0.2**
CNCH				IAML		04 22 02.4	
	comp=Z,64μm,1.0s						
CNRM	**Centro Naciona**	**0.31**	**339**	*e*P	**Pg**	**04 21 57.0**	**-0.8**
CNRM				*e*S	**Sg**	**04 22 01.8**	**-0.1**
CNRM	**Centro Naciona**	**0.31**	**339**	*i* P	**Pg**	**04 21 56.9**	**-0.8**
CNRM				*i* S	**Sg**	**04 22 01.6**	**-0.3**
CNRM				IAML		04 22 09.1	
	comp=Z,46μm,1.0s						
VSM	**San Miguel**	**0.32**	**319**	*e*P	**Pg**	**04 21 57.7**	**-0.4**
RANC	**El Ranchito**	**0.34**	**318**	*e*P	**Pg**	**04 21 57.9**	**-0.4**
RANC	**El Ranchito**	**0.34**	**318**	*i* P	**Pg**	**04 21 57.9**	**-0.4**
RANC				IAML		04 21 58.6	
	comp=Z,5μm,1.0s						
RANC				*i* S	**Sg**	**04 22 02.4**	**-0.4**
PACA	**Pacayal**	**0.38**	**317**	*e*P	**Pg**	**04 21 58.6**	**-0.5**
PACA	**Pacayal**	**0.38**	**317**	*i* P	**Pg**	**04 21 58.6**	**-0.5**
PACA				*i* S	**Sg**	**04 22 04.4**	**+0.1**
PACA				IAML		04 22 12.3	
	comp=Z,39μm,1.0s						
AMPH	**Amapala**	**0.40**	**76**	⇓ *i* P	**Pg**	**04 21 59.3**	**-0.1**
AMPH				*e*S	**Sg**	**04 22 05.1**	**+0.4**
AMPH	**Amapala**	**0.40**	**76**	*i* P	**Pg**	**04 21 59.2**	**-0.2**
AMPH				*i* S	**Sg**	**04 22 04.8**	**+0.1**
TECA	**Tecapa**	**0.53**	**305**	*e*P	**Pg**	**04 22 01.5**	**-0.5**
COEB	**Comit de Eme**	**0.56**	**304**	*e*P	**Pg**	**04 22 01.9**	**-0.4**
COEB	**Comit de Eme**	**0.56**	**304**	*i* P	**Pg**	**04 22 01.7**	**-0.7**
COEB				IAML		04 22 10.7	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**0.66**	**312**	*i* P	**Pg**	**04 22 03.4**	**-0.9**
PQSS				*i* S	**Sg**	**04 22 12.8**	**-0.1**
PQSS				IAML		04 22 13.7	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**0.79**	**296**	*e*P	**Pg**	**04 22 05.8**	**-1.0**
TECO	**Alcaldia de Te**	**0.79**	**296**	*i* P	**Pg**	**04 22 05.7**	**-1.0**
TECO				*i* S	**Sg**	**04 22 16.7**	**-0.3**
TECO				IAML		04 22 20.9	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.83**	**308**	*i* P	**Pg**	**04 22 06.7**	**-0.9**
SCLA				IAML		04 22 07.7	
	comp=Z,770nm,1.0s						
SCLA				*i* S	**Sg**	**04 22 18.8**	**+0.3**
UESV	**Universidad de**	**0.84**	**302**	*e*P	**Pg**	**04 22 07.0**	**-0.7**
UESV	**Universidad de**	**0.84**	**302**	*i* P	**Pg**	**04 22 07.0**	**-0.7**
UESV				*i* S	**Sg**	**04 22 18.6**	**-0.1**
UESV				IAML		04 22 20.4	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**1.00**	**302**	*i* P	**Pg**	**04 22 09.9**	**-1.0**
PAVA				*i* S	**Sg**	**04 22 24.2**	**+0.2**
PAVA				IAML		04 22 27.3	
	comp=Z,7μm,1.0s						
CRIN	**San Cristobal**	**1.09**	**116**	*e*P	**Pg**	**04 22 12.5**	**-0.1**
CRIN	**San Cristobal**	**1.09**	**116**	*i* P	**Pb**	**04 22 12.7**	**+0.1**
CRIN				IAML		04 22 13.4	
	comp=Z,6μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.15**	**41**	*e*P	**Pg**	**04 22 11.8**	**-1.9**
TGUH	**Tegucigalpa,Un**	**1.15**	**41**	*i* P	**Pg**	**04 22 12.2**	**-1.5**
TGUH				IAML		04 22 33.3	
	comp=Z,4μm,1.0s						
PANCS	**Alcalda de**	**1.17**	**291**	*i* P	**Pg**	**04 22 12.7**	**-1.4**
PANCS				IAML		04 22 29.2	
	comp=Z,7μm,1.0s						
LOMA	**Loma Larga**	**1.18**	**293**	*e*P	**Pg**	**04 22 12.9**	**-1.2**
LOMA	**Loma Larga**	**1.18**	**293**	*i* P	**Pg**	**04 22 13.2**	**-1.0**
LOMA				IAML		04 22 32.9	
	comp=Z,3μm,1.0s						
UDBS	**Universidad Do**	**1.19**	**296**	*i* P	Pn	04 22 29.6	+15
UDBS				IAML		04 22 34.3	
	comp=Z,1μm,1.0s						
IGN	**Direccin Gen**	**1.20**	**296**	*i* P	**Pg**	**04 22 14.2**	**-0.5**
IGN				IAML		04 22 34.9	
	comp=Z,4μm,1.0s						
UTEC	**Universidad Te**	**1.23**	**295**	*i* P	**Pg**	**04 22 14.1**	**-1.0**
UTEC				IAML		04 22 37.3	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.25**	**294**	*e*P	**Pg**	**04 22 14.4**	**-1.1**
SNET	**Serv Nac Est T**	**1.25**	**294**	*i* P	**Pg**	**04 22 14.6**	**-0.9**
SNET				IAML		04 22 34.6	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**1.27**	**295**	*i* P	**Pg**	**04 22 14.4**	**-1.5**
UEES				*i* S	**Sg**	**04 22 31.7**	**-0.7**
UEES				IAML		04 22 39.0	
	comp=Z,1μm,1.0s						
LALI	**Alcalda de L**	**1.27**	**284**	*i* P	**Pg**	**04 22 14.4**	**-1.5**
LALI				*i* S	**Sg**	**04 22 31.4**	**-1.0**
LALI				IAML		04 22 38.3	
	comp=Z,310nm,1.0s						
ITCA	**Escuela Especi**	**1.28**	**292**	*i* P	**Pg**	**04 22 15.9**	**-0.3**
ITCA				IAML		04 22 36.3	
	comp=Z,3μm,1.0s						
LLGN	**La Laguna**	**1.30**	**318**	*e*P	**Pg**	**04 22 14.3**	**-2.2**
LLGN	**La Laguna**	**1.30**	**318**	*i* P	**Pg**	**04 22 13.6**	**-2.9**
LLGN				IAML		04 22 18.1	
	comp=Z,810nm,1.0s						
POLN	**Al Sur del Vol**	**1.32**	**114**	*i* P	**Pg**	**04 22 15.0**	**-2.0**
POLN				IAML		04 22 17.1	
	comp=Z,860nm,1.0s						
HERN	**Volcan Telica**	**1.32**	**115**	*i* P	**Pg**	**04 22 15.4**	**-1.6**
HERN				IAML		04 22 39.7	
	comp=Z,2μm,1.0s						
TELN	**Telica**	**1.33**	**116**	*i* P	**Pg**	**04 22 15.6**	**-1.4**
TELN				IAML		04 22 38.9	
	comp=Z,380nm,1.0s						
TEL3	**Telica 3**	**1.33**	**117**	*i* P	**Pg**	**04 22 15.0**	**-2.1**
TEL3				IAML		04 22 46.3	
	comp=Z,2μm,1.0s						
PMON	**Piamonte**	**1.33**	**293**	*e*P	**Pg**	**04 22 15.9**	**-1.3**
PMON	**Piamonte**	**1.33**	**293**	*i* P	**Pg**	**04 22 16.0**	**-1.1**
PMON				IAML		04 22 36.2	
	comp=Z,3μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.35**	**299**	*i* P	**Pg**	**04 22 15.8**	**-1.6**
QUEZ				*i* S	**Sb**	**04 22 34.9**	**+0.6**
QUEZ				IAML		04 22 43.9	
	comp=Z,3μm,1.0s						
PACN	**Al O del Volca**	**1.41**	**119**	*i* P	**Pn**	**04 22 16.8**	**-0.5**
PACN				IAML		04 22 18.8	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.43**	**289**	*e*P	**Pn**	**04 22 16.9**	**-0.8**
JAYA	**Jayaque - finc**	**1.43**	**289**	*i* P	**Pn**	**04 22 17.0**	**-0.8**
JAYA				IAML		04 22 37.2	
	comp=Z,3μm,1.0s						
CEDA	**San Andres**	**1.44**	**295**	*i* P	**Pn**	**04 22 17.8**	**0.0**
CEDA				*i* S	**Sn**	**04 22 38.9**	**+2.1**
CEDA				IAML		04 22 46.8	
	comp=Z,2μm,1.0s						
ROCN	**Rota Cerro Neg**	**1.44**	**117**	*i* P	**Pn**	**04 22 17.0**	**-0.8**
ROCN				IAML		04 22 40.7	
	comp=Z,450nm,1.0s						
CNGA	**Al SSO del Vol**	**1.49**	**117**	*i* P	**Pn**	**04 22 16.4**	**-2.0**
CNGA				IAML		04 22 47.7	
	comp=Z,610nm,1.0s						
CNGN	**Cerro Negro**	**1.49**	**117**	*e*P	**Pn**	**04 22 17.4**	**-1.1**
CNGN	**Cerro Negro**	**1.49**	**117**	*i* P	**Pn**	**04 22 17.9**	**-0.6**
CNGN				*i* S	**Sn**	**04 22 39.6**	**+1.6**
CNGN				IAML		04 22 43.8	
	comp=Z,880nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.61**	**119**	*i* P	**Pn**	**04 22 19.5**	**-0.5**
LEVN				IAML		04 22 47.4	
	comp=Z,790nm,1.0s						
LIMN	**Finca el Limon**	**1.65**	**94**	*i* P	**Pn**	**04 22 20.5**	**-0.2**
CEVE	**Cerro Verde**	**1.65**	**293**	*i* P	**Pn**	**04 22 22.0**	**+1.1**
CEVE				IAML		04 22 50.7	
	comp=Z,1μm,1.0s						
UNIC	**Universidad Ca**	**1.65**	**299**	*i* P	**Pn**	**04 22 20.4**	**-0.3**
UNIC				IAML		04 22 23.2	
	comp=Z,420nm,1.0s						
MOMN	**Momotombo**	**1.67**	**117**	*i* P	**Pn**	**04 22 20.5**	**-0.4**
MOMN				*i* S	**Sb**	**04 22 44.2**	**+0.7**
MOMN				IAML		04 22 44.9	
	comp=Z,27nm,1.0s						
MOM2	**El Cardon**	**1.70**	**116**	*i* P	**Pn**	**04 22 21.1**	**-0.3**
MOM2				IAML		04 22 23.3	
	comp=Z,350nm,1.0s						
BRAN	**Las Pilas**	**1.73**	**105**	*i* P	**Pg**	**04 22 24.2**	**-0.5**
BRAN				IAML		04 23 13.1	
	comp=Z,1μm,1.0s						
COPN	**Copaltepe**	**1.74**	**125**	*i* P	**Pn**	**04 22 21.7**	**-0.2**
COPN				IAML		04 22 51.0	
	comp=Z,370nm,1.0s						
MTO3	**Montecristo**	**1.75**	**314**	*i* P	**Pn**	**04 22 21.8**	**-0.4**
MTO3				*i* S	**Sb**	**04 22 46.5**	**+0.4**
MTO3				IAML		04 22 47.8	
	comp=Z,410nm,1.0s						
NUBE	**Las Nubes**	**1.82**	**293**	*i* P	**Pn**	**04 22 23.2**	**+0.1**
NUBE				IAML		04 22 54.0	
	comp=Z,860nm,1.0s						
ESQI	**Esquipulas**	**1.85**	**318**	*i* P	**Pn**	**04 22 24.2**	**+0.7**
ESQI				*i* S	**Sb**	**04 22 49.0**	**+0.1**
ESQI				IAML		04 22 55.7	
	comp=Z,560nm,1.0s						
LOAL	**Lomas de Alarc**	**1.86**	**296**	*i* P	**Pn**	**04 22 24.8**	**+1.2**
LOAL				IAML		04 22 55.8	
	comp=Z,2μm,1.0s						
APQ3	**Volcan Apoyequ**	**1.88**	**119**	*i* P	**Pn**	**04 22 24.7**	**+0.9**
APQ3				IAML		04 23 03.2	
	comp=Z,370nm,1.0s						
APYN	**Apoyeque**	**1.92**	**119**	*i* P	**Pn**	**04 22 24.9**	**+0.6**
APYN				IAML		04 22 26.6	
	comp=Z,720nm,1.0s						
JUAM	**Asuncion Mita**	**1.97**	**306**	*i* P	**Pn**	**04 22 25.8**	**+0.7**
JUAM				IAML		04 23 30.7	
	comp=Z,610nm,1.0s						

*THE **06** 04:24:38.9, 39°.85N×20°.70E, h16km±1km, ML2.6/11, Error ellipse: s-maj=1.6km s-min=0.8km az=299.0*
*ATH **06** 04:24:38.3, 39°.80N×20°.71E, h17km±1km, ML2.7/6, Manual Solution by M.Kolligri This location: 2020/06/02 09:22:06 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 1 km*
*BEO **06** 04:24:41.0±0.7, 39°.78N×20°.73E, h27km±3km, ML2.7/12*
ISC 06 04:24:38.8±3.0, 39°.79N±0°.02×20°.72E±0°.02, h13km±22km, n41, σ1§39/69, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.17**	**141**	P	**Pb**	**04 24 44.7**	**+1.0**
JAN				S	**Sb**	**04 24 48.1**	**+1.0**
	6μm,0.3s						
JAN	**Janina**	**0.17**	**141**	P	**Pb**	**04 24 44.8**	**+1.0**
JAN				S	**Sb**	**04 24 48.3**	**+1.3**
IGT	**Igoumenitsa**	**0.39**	**229**	P	**Pb**	**04 24 45.7**	**-1.8**
IGT				S	**Sb**	**04 24 53.7**	**+0.2**
	2μm,0.5s						
IGT	**Igoumenitsa**	**0.39**	**229**	P	**Pb**	**04 24 46.2**	**-1.3**
IGT				S	**Sb**	**04 24 52.1**	**-1.3**
PENT	**Pentalofos**	**0.52**	**38**	P	**Pb**	**04 24 48.7**	**-1.2**
PENT				S	**Sb**	**04 24 55.1**	**-2.3**
PENT	**Pentalofos**	**0.52**	**38**	P	**Pb**	**04 24 48.7**	**-1.2**
PENT				S	**Sb**	**04 24 56.2**	**-1.1**
KPRO	**Kipourio**	**0.53**	**71**	P	**Pb**	**04 24 48.7**	**-1.2**
KPRO				S	**Sb**	**04 24 56.9**	**-0.5**
	2μm,0.4s						
KPRO	**Kipourio**	**0.53**	**71**	P	**Pb**	**04 24 49.0**	**-0.9**
KPRO				S	**Sb**	**04 24 56.6**	**-0.8**
KASA	**Kassiopi**	**0.60**	**266**	P	**Pb**	**04 24 49.5**	**-1.7**
KASA				S	**Sb**	**04 24 58.3**	**-1.3**
NEST	**Nestorio**	**0.68**	**22**	P	**Pb**	**04 24 51.7**	**-0.8**
NEST				S	**Sb**	**04 25 00.3**	**-1.5**
	432nm,0.4s						
NEST	**Nestorio**	**0.68**	**22**	P	**Pb**	**04 24 51.6**	**-0.8**
TSLK	**Tsoukalades, L**	**0.96**	**183**	P	**Pn**	**04 24 58.0**	**0.0**
TSLK				S	**Sn**	**04 25 12.9**	**+1.4**
	292nm,0.7s						
TSLK	**Tsoukalades, L**	**0.96**	**183**	P	**Pb**	**04 24 56.8**	**-0.5**
LKD2	**Lefkada island**	**1.00**	**183**	P	**Pb**	**04 24 58.4**	**+0.5**
LKD2				S	**Sn**	**04 25 13.8**	**+1.4**
	182nm,0.7s						
LKD2	**Lefkada island**	**1.00**	**183**	P	**Pb**	**04 24 57.6**	**-0.4**
THL	**Klokotos Trika**	**1.03**	**102**	P	**Pb**	**04 24 57.0**	**-1.3**
THL				S	**Sn**	**04 25 12.3**	**-0.8**
	160nm,0.8s						
THL	**Klokotos Trika**	**1.03**	**102**	P	**Pb**	**04 24 57.1**	**-1.3**
NYDR	**Nydri-Lefkada**	**1.07**	**181**	P	**Pb**	**04 24 58.7**	**-0.4**
FNA	**Florina**	**1.12**	**27**	P	**Pn**	**04 24 59.4**	**-0.8**
FNA				S	**Sb**	**04 25 13.5**	**-0.9**
	195nm,0.5s						
FNA	**Florina**	**1.12**	**27**	*e*Pg	**Pn**	**04 24 59.9**	**-0.3**
FNA				*e*Sg	**Sn**	**04 25 16.5**	**+1.1**
FNA	**Florina**	**1.12**	**27**	P	**Pn**	**04 24 59.4**	**-0.8**
EVGI	**Lefkada island**	**1.17**	**182**	P	**Pn**	**04 25 00.6**	**-0.1**
TYRN	**Tyrnavos**	**1.17**	**93**	P	**Pn**	**04 24 59.7**	**-1.1**
TYRN				S	**Sn**	**04 25 16.2**	**-0.5**
	295nm,0.6s						
TYRN	**Tyrnavos**	**1.17**	**93**	P	**Pn**	**04 24 59.9**	**-1.0**
EVR	**Evrytania**	**1.21**	**135**	P	**Pn**	**04 25 01.6**	**+0.1**
OHR	**Ohrid**	**1.32**	**3**	*e*Pg	**Pb**	**04 25 05.2**	**+1.7**
OHR				*e*Sg	**Sb**	**04 25 24.8**	**+4.4**
OHR	**Ohrid**	**1.32**	**3**	*i* Pn	**Pb**	**04 25 05.6**	**+2.0**
OHR				*i* Sn	**Sb**	**04 25 24.4**	**+4.0**
PVO	**Paravola**	**1.33**	**151**	P	**Pn**	**04 25 03.3**	**+0.3**
PVO				S	**Sb**	**04 25 20.9**	**+0.5**
	410nm,1.0s						
MAKR	**Makrakomi, Fth**	**1.34**	**125**	P	**Pn**	**04 25 03.3**	**+0.1**
AGG	**Agios Georgios**	**1.47**	**121**	P	**Pn**	**04 25 04.9**	**0.0**
AGG				S	**Sb**	**04 25 25.0**	**+0.5**
	158nm,1.0s						
SRS	**Serrai**	**2.56**	**58**	*e*Pn	**Pn**	**04 25 21.2**	**+1.2**
SRS				*e*Sn	**Sn**	**04 25 52.0**	**+0.9**
PRVS	**Prvonek**	**2.91**	**20**	*e*Pn	**Pn**	**04 25 26.1**	**+1.4**
PRVS				*e*Sn	**Sn**	**04 26 01.2**	**+1.6**
BARS	**Barje**	**3.14**	**15**	*e*Pn	**Pn**	**04 25 29.3**	**+1.4**
BARS				*e*Sn	**Sn**	**04 26 04.0**	**-1.2**
VTS	**Vitosha**	**3.41**	**33**	*e*Pn	**Pn**	**04 25 32.7**	**+1.0**
VTS				*e*Sn	**Sn**	**04 26 09.9**	**-2.2**
SELS	**Selova**	**3.44**	**5**	*e*Pn	**Pn**	**04 25 34.2**	**+2.1**
SJES	**Sjenica**	**3.52**	**351**	*e*Pn	**Pn**	**04 25 35.2**	**+2.0**
SJES				*e*Sn	**Sn**	**04 26 13.0**	**-1.7**
ZAPS	**Zavoj**	**3.77**	**22**	*e*Pn	**Pn**	**04 25 36.9**	**+0.3**
ZAPS				*e*Sn	**Sn**	**04 26 18.6**	**-2.2**
BOVS	**Bovan**	**3.92**	**11**	*e*Pn	**Pn**	**04 25 39.9**	**+1.3**
BOVS				*e*Sn	**Sn**	**04 26 24.6**	**+0.2**
GRUS	**Gruza**	**4.10**	**360**	*e*Pn	**Pn**	**04 25 41.9**	**+0.8**
DIVS	**Divibare**	**4.34**	**353**	*e*Pn	**Pn**	**04 25 44.7**	**+0.2**
DIVS				*e*Sn	**Sn**	**04 26 33.5**	**-1.5**

ALUC			S	Sn	04 32 28.5	-2.0	
ALUC			*i* AML	AML	04 32 30.0		
	comp=N,238nm,0.4s						
KTUT	**Trabzon**	**0.87 104**	Pg	**Pb**	**04 32 16.1**	**-2.3**	
MACK	**Trabzon**	**0.89 107**	P	**Pn**	**04 32 20.4**	**+1.6**	
MACK			S	**Sn**	**04 32 32.1**	**+1.2**	
MACK			*i* AML	AML	04 32 33.0		
	comp=N,243nm,0.4s						
MACK			*i* AML	AML	04 32 33.0		
	comp=E,319nm,0.4s						
MACK			*i* AML	AML	04 32 35.0		
	comp=Z,170nm,0.2s						
GUMT	**Gumushane**	**0.98 139**	Pg	**Pb**	**04 32 18.6**	**-1.6**	
GUMT			Sg	**Sn**	**04 32 31.9**	**-1.3**	
SUSE	**Susehri**	**1.05 199**	P	**Pn**	**04 32 21.8**	**+0.6**	
SUSE			S	**Sn**	**04 32 34.5**	**-0.6**	
SUSE			*i* AML	AML	04 32 35.0		
	comp=N,172nm,0.2s						
KELT	**Kelkit**	**1.15 156**	P	**Pb**	**04 32 23.6**	**+0.4**	
KELT			S	**Sn**	**04 32 36.8**	**-0.8**	
RSDY	**Resadiye-TOKAT**	**1.29 232**	Pn	**Pb**	**04 32 25.3**	**-0.2**	
RSDY			Sn	**Sb**	**04 32 43.2**	**+1.6**	
CUZAR	**Zara_SIVAS**	**1.48 207**	P	**Pb**	**04 32 29.2**	**+0.4**	
CUZAR			S	**Sb**	**04 32 48.0**	**+0.8**	
IZDR	**Rize**	**1.51 106**	P	**Pb**	**04 32 29.9**	**+0.7**	
IZDR			S	**Sb**	**04 32 48.3**	**+0.4**	
CHOM	**Cayeli-Rize**	**1.60 93**	Pn	**Pn**	**04 32 26.5**	**-2.1**	
SVSK	**Karacayir**	**1.80 225**	Pn	**Pb**	**04 32 32.4**	**-1.7**	
ERZN	**Erzincan**	**1.81 153**	Pn	**Pn**	**04 32 30.8**	**-0.8**	
KOPT	**Kop Dagi**	**1.84 130**	P	**Pb**	**04 32 36.6**	**+1.6**	
KOPT			S	**Sb**	**04 32 58.6**	**+0.9**	
KOPT			*i* AML	AML	04 33 02.0		
	comp=E,68nm,0.8s						
KOPT			*i* AML	AML	04 33 03.0		
	comp=Z,59nm,0.6s						
KRIK	**Erzurum-spir**	**1.94 116**	P	**Pb**	**04 32 38.2**	**+1.6**	
KRIK			S	**Sb**	**04 33 01.8**	**+1.3**	
KEMA	**Kemaliye**	**1.94 184**	P	**Pb**	**04 32 37.1**	**+0.5**	
KEMA			S	**Sb**	**04 33 00.2**	**-0.1**	
CUKAN	**kangal_SIVAS**	**2.09 206**	P	**Pb**	**04 32 38.5**	**-0.8**	
CUKAN			S	**Sb**	**04 33 06.3**	**+1.4**	
HAVZ	**Havza**	**2.22 268**	P	**Pb**	**04 32 41.5**	**+0.2**	
HAVZ			S	**Sb**	**04 33 08.4**	**+0.1**	

TRN 06 04:38:54.2, 10.07N×60.40W, h67km, MD3.9, South-East of Trinidad., Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.78**	**302**	*eP*	Pn	04 39 10.3	+0.5
TBH				*eS*	Sn	04 39 21.1	-0.2
TRN	**Trinidad (W)**	**1.14**	**300**	*eP*	Pn	04 39 14.4	+0.1
TRN				*eS*	Sn	04 39 29.5	0.0
TPR	**Prospect**	**1.17**	**341**	*eP*	Pn	04 39 15.1	+0.4
GRFF	**Grenada Fort F**	**2.37**	**326**	*eP*	Pn	04 39 32.0	+1.2
GRFF				*eS*	Sn	04 39 58.7	-0.1
GRGR	**Grenville**	**2.39**	**329**	*eP*	Pn	04 39 31.3	+0.2
GCMP	**Grenada, Carri**	**2.60**	**337**	*eP*	Pn	04 39 35.2	+1.3
GCMP				*eS*	Sn	04 40 03.4	-1.1
CRUV	**Carupano**	**2.86**	**282**	*eP*	Pn	04 39 36.9	-0.5
CRUV				*eS*	Sn	04 40 10.4	-0.4
SVOC	**Richmond Hill,**	**3.17**	**345**	*eP*	Pn	04 39 42.5	+0.8
SVOC				*eS*	Sn	04 40 17.9	-0.4
SVT	**Saint Vincent**	**3.19**	**345**	*eP*	Pn	04 39 42.7	+0.8
SVT				*eS*	Sn	04 40 17.6	-1.2
SVB	**Belmont**	**3.29**	**345**	*eP*	Pn	04 39 43.9	+0.6
SVB				*eS*	Sn	04 40 19.8	-1.5
SLCP	**Castries, St.**	**3.96**	**352**	*eP*	Pn	04 39 52.1	-0.4
SLBI	**Saint Lucia, B**	**3.97**	**352**	*eP*	Pn	04 39 52.7	+0.1
SLBI				*eS*	Sn	04 40 36.4	-1.4
PCRV	**Puerto La Cruz**	**4.18**	**272**	*eP*	Pn	04 39 56.0	+0.4
MPOM	**Morne Pois Mar**	**4.37**	**354**	*eP*	Pn	04 39 59.2	+1.1
MPOM				*eS*	Sn	04 40 45.1	-2.6
BIM	**Bigot**	**4.47**	**352**	*eP*	Pn	04 39 59.8	+0.3
BIM				*eS*	Sn	04 40 47.7	-2.5
ILAM	**Ilet Lapin Mar**	**4.70**	**354**	*eP*	Pn	04 40 03.5	+0.9
BAUV	**El Baul**	**7.62**	**262**	*eP*	Pn	04 40 42.9	+0.2
BAUV				*eS*	Sn	04 42 03.0	-4.7

HVO ***06*** *04:41:02.4±1.3, 19°.430N±0°.009×155°.241W±0°.009, h1km±5km, ML3.7/37, ML3.0/41(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=212.0*

NEIC ***06*** *04:41:02.9±1.2, 19°.41N±0°.01×155°.255W±0°.009, h5km±1km, Error ellipse: s-maj=1.6km s-min=1.3km az=154.0*

IDC ***06*** *04:41:04.9±3.8, 19°.83N×155°.33W, h0km, mb3.4/6, mbtmp3.4/6, Error ellipse: s-maj=89.5km s-min=39.2km az=8.0*

ISC 06 04:41:02.7±0.9, 19.45N±0°.03×155.25W±0°.02, h2km±5km, n39, σ1§07/49, mb3.5/6, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.02**	**215**		**Pg**	**04 41 03.3**	**0.0**
SBLHI				IAML		04 41 03.7	
	comp=E,14μm,0.6s						
HATHI	**Halema'uma'u T**	**0.03**	**197**		**Pg**	**04 41 03.3**	**-0.1**
HATHI				Sg	**Sg**	**04 41 03.8**	**-0.1**
RSD	**Rainshed**	**0.03**	**305**	Pg	**Pg**	**04 41 04.3**	**+0.8**
RSD				Sg	**Sg**	**04 41 05.1**	**+1.1**
UWB	**Uwekahuna B**	**0.03**	**227**	Pg	**Pg**	**04 41 03.7**	**+0.3**
UWB				IAML		04 41 04.2	
	comp=E,16μm,0.3s						
UWB				Sg	**Sg**	**04 41 04.6**	**+0.6**
BYL	**Byron's Ledge**	**0.04**	**190**		**Pg**	**04 41 03.2**	**-0.3**
BYL				Sg	**Sg**	**04 41 03.7**	**-0.4**
OBL	**Observatory Le**	**0.04**	**225**	Pg	**Pg**	**04 41 03.8**	**+0.2**
OBL				IAML		04 41 04.6	
	comp=N,31μm,0.5s						
OBL				IAML		04 41 04.7	
	comp=E,30μm,0.5s						
OBL				Sg	**Sg**	**04 41 05.3**	**+1.1**
NPH	**North Pit**	**0.04**	**217**	Pg	**Pg**	**04 41 03.5**	**-0.1**
NPH					**Sg**	**04 41 03.8**	**-0.5**
NPH				IAML		04 41 04.4	
	comp=N,12μm,0.6s						
NPH				IAML		04 41 04.5	
	comp=E,9μm,1.4s						
UWE	**Uwekahuna**	**0.04**	**236**	Pg	**Pg**	**04 41 04.2**	**+0.6**
UWE				IAML		04 41 04.8	
	comp=E,9μm,0.5s						
UWE				Sg	**Sg**	**04 41 05.4**	**+1.1**
KKO	**Keanakako`i**	**0.05**	**194**	IAML		04 41 03.6	
	comp=E,10μm,1.0s						
KKO				Pg	**Pg**	**04 41 03.7**	**-0.1**
KKO					**Sg**	**04 41 05.1**	**+0.6**
RIM	**Rim**	**0.06**	**201**	Pg	**Pg**	**04 41 04.1**	**+0.3**
RIM				IAML		04 41 04.2	
	comp=E,11μm,0.6s						
WRMHI	**West Rim**	**0.06**	**228**		**Pg**	**04 41 04.4**	**+0.5**
WRMHI				IAML		04 41 05.4	
	comp=E,12μm,0.4s						
WRMHI				IAML		04 41 05.6	
	comp=N,12μm,0.6s						
SDHHI	**Sand Hill**	**0.07**	**214**		**Pg**	**04 41 04.5**	**+0.4**
SDHHI				IAML		04 41 05.5	
	comp=E,25μm,1.5s						
SDHHI				IAML		04 41 05.8	
	comp=N,27μm,0.5s						
PUH	**Pauahi**	**0.08**	**154**	Pg	**Pg**	**04 41 04.7**	**+0.4**
PUH				IAML		04 41 05.2	
	comp=E,6μm,0.8s						
PUH				IAML		04 41 05.4	
	comp=N,7μm,0.1s						
PUH				Sg	**Sg**	**04 41 05.8**	**+0.4**
KNHH	**Kane Nui o Ham**	**0.10**	**130**		**Pg**	**04 41 05.0**	**+0.3**
MLH	**Mauna Loa**	**0.13**	**291**		**Pg**	**04 41 06.3**	**+0.9**
MLH				IAML		04 41 09.8	
	comp=E,11μm,0.6s						
MLH				IAML		04 41 10.0	
	comp=N,10μm,0.9s						
STCH	**Steam Cracks**	**0.14**	**117**	Sg	**Sg**	**04 41 07.5**	**+0.4**
NPOC	**North of Pu'u**	**0.15**	**111**	Pg	**Pg**	**04 41 05.6**	**+0.1**
NPOC				IAML		04 41 08.7	
	comp=N,14μm,0.6s						
JCUZ	**Jacuzzi**	**0.16**	**113**	Pg	**Pg**	**04 41 05.7**	**0.0**
JCUZ				IAML		04 41 08.9	
	comp=N,9μm,0.6s						
HLP	**Hilina Pali**	**0.16**	**199**	Pg	**Pg**	**04 41 06.2**	**+0.5**
HLP				Sg	**Sg**	**04 41 08.2**	**+0.4**
JOKA	**Jonika Flow**	**0.23**	**93**		**Pg**	**04 41 07.2**	**-0.1**
JOKA					**Sg**	**04 41 11.3**	**+1.1**
HTC	**Hot Caves**	**0.25**	**213**		**Pg**	**04 41 07.8**	**+0.3**
HMH	**Humu'ula Sheep**	**0.27**	**306**		**Pg**	**04 41 08.8**	**+1.0**
MWH	**Moku'aweowe**	**0.33**	**277**	Pg	**Pg**	**04 41 09.4**	**+0.4**
KHU	**Kahuku**	**0.40**	**240**		**Pg**	**04 41 10.4**	**+0.1**
KHU				IAML		04 41 20.2	
	comp=E,3μm,0.7s						
KHU				IAML		04 41 22.9	
	comp=N,3μm,0.6s						
POHA	**Pohakuloa**	**0.41**	**320**	Pg	**Pg**	**04 41 11.1**	**+0.6**
HUH	**Hualalai**	**0.60**	**293**	Pg	**Pg**	**04 41 14.2**	**+0.1**
HPAH	**Hawaii Prepara**	**0.71**	**324**	Pg	**Pg**	**04 41 15.2**	**-1.2**
MHA	**Mahukona**	**0.96**	**320**	Pg	**Pg**	**04 41 19.5**	**-1.5**
HLK	**Haleakala**	**1.60**	**325**		**Pn**	**04 41 31.9**	**-0.4**
KHLH	**Kahului Airpor**	**1.82**	**323**	Pn	**Pn**	**04 41 31.3**	**-3.6**
HON	**Honolulu**	**3.18**	**306**	Pn	Pn	04 41 49.2	-4.5
KIP	**Kipapa**	**3.25**	**308**	Pn	**Pn**	**04 41 52.1**	**-2.6**
KEKH	**Kekaha**	**4.88**	**302**	Pn	**Pn**	**04 42 14.1**	**-3.0**
NVAR	**Mina Array Bea**	**37.14**	**51**	P	**P**	**04 48 16.0**	**+0.8**
	comp=N,0.3nm,0.7s,baz=214,slow=7.4,SNR=2.6						
	comp=N,0.3nm,0.7s						
PDAR	**Pinedale Array**	**44.83**	**48**	P	**P**	**04 49 20.2**	**+1.7**
	comp=N,0.4nm,0.8s,baz=251,slow=5.6,SNR=3.8						
	comp=N,0.4nm,0.8s						
ILAR	**Eielson Array**	**45.64**	**5**	P	**P**	**04 49 24.2**	**-0.1**
	comp=N,0.7nm,0.8s,baz=199,slow=6.5,SNR=6.4						
	comp=N,0.7nm,0.8s						
TXAR	**Lajitas Array**	**47.68**	**68**	P	**P**	**04 49 42.6**	**+1.6**
	comp=N,0.9nm,1.0s,baz=259,slow=9.1,SNR=6.1						
	comp=N,0.9nm,1.0s						
YKA	**Yellowknife Ar**	**51.28**	**23**	P	**P**	**04 50 06.7**	**-1.1**
	comp=N,0.2nm,0.9s,baz=232,slow=6.9,SNR=3.9						
	comp=N,0.2nm,0.9s						
SONM	**Songino Array**	**81.25**	**318**	P	**P**	**04 53 21.4**	**+0.9**
	comp=N,0.3nm,0.6s,baz=64,slow=6.9,SNR=1.8						
	comp=N,0.3nm,0.6s						

IDC 06 04:52:21.7±7.1, 20°.99S×147°.93E, h0km, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=73.5km s-min=45.3km az=32.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**12.23**	**206**	Pn	Pn	04 55 16.1	-1.1
	0.2nm,0.3s,baz=23,slow=14,SNR=3.2						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**12.78**	**272**	Pn	Pn	04 55 25.4	+0.5
	0.1nm,0.3s,baz=91,slow=13,SNR=5.0						
WRA				Lg	Lg	04 59 07.2	
	0.1nm,0.3s,baz=98,slow=31,SNR=2.6						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**13.25**	**256**	Pn	Pn	04 55 32.0	+0.7
	baz=79,slow=14,SNR=2.2						
ASAR				Lg	Lg	04 59 23.3	
	baz=76,slow=28,SNR=2.2						
	0.1nm,0.4s						
I22FR	**PORTLAGUERRE I**	**17.63**	**97**	I	I	06 41 00.0	
	0.1nm,1.1s,baz=265,slow=307,SNR=4.2						

IDC ***06*** *04:58:18.8±0.8, 13°.24N×87°.89W, h0km, mb4.1/12, mbtmp4.2/15, ML3.6/4, MS4.3/38, Error ellipse: s-maj=26.5km s-min=13.0km az=47.0*

SNET ***06*** *04:58:20.0±0.9, 13°.24N×88°.06W, h2km±5km, ML4.9*

CATAC ***06*** *04:58:20.7±0.1, 13°.24N×88°.04W, h2km±1km, MB5.3, mb5.2, ML4.9*

NEIC ***06*** *04:58:21.8, 13°.26N×87°.89W, h4km*

RSNC ***06*** *04:58:21.6±0.9, 13°N±4°×8°.8W±°, h4km, M4.8, mB5.3, mb4.8, ML4.6, Mw(mB)4.9, MwMwp4.7, Mwp5.1*

NEIC ***06*** *04:58:22.1±1.8, 13°.30N±0°.04×87°.85W±0°.03, h10km±1km, mb4.7/239, Mwr4.9/39, Error ellipse: s-maj=6.7km s-min=4.7km az=154.0, Moment Tensor Solution. Moment tensor: Scale 10^16 Nm; Mrr=0.18; Mθθ 0.54; Mφφ-0.36; Mrθ 1.27; Mθφ-2.23; Mφr 0.12; Fault plane solution: M0 2.61000×10^16 NP1:φ=265.18000°, δ87.76000°, λ-150.64000°. NP2:φ=173.92000°, δ60.66000°, λ-2.57000°. Principal axes: T 2.6716, Plg19.0000°, Azm36.0000°; N -0.1203, Plg61.0000°, Azm269.0000°; P -2.5512, Plg22.0000°, Azm134.0000°;*

UCR ***06*** *04:58:22.3±1.3, 13°.33N×87°.78W, h143km±141km, MB4.9(NEIC)*

GCMT ***06*** *04:58:25.1±0.3, 13°.24N±0°.01×88°.09W±0°.02, h20km±1km, MW5.0/99, Moment Tensor Solution. s50,c60; s99,c154; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.66±.14; Mθθ 1.74±.12; Mφφ-1.08±.13; Mrθ-0.39±.23; Mθφ-4.01±.11; Mφr 0.55±.23; Best double couple: M0 4.29700×10^16 NP1:φ=350.00000°, δ88.00000°, λ 8.00000°. NP2: φ=260.00000°, δ82.00000°, λ178.00000°. Principal axes: T 4.6570, Plg7.0000°, Azm215.0000°; N -0.7180, Plg82.0000°, Azm6.0000°; P -3.9360, Plg4.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

GCG ***06*** *04:58:25.2±2.6, 13°.51N×87°.81W, h110km±283km, MD4.4*

ISC 06 04:58:20.9±0.8, 13°.21N±0°.03×88°.02W±0°.02, h10km±5km, n565, σ1§29/507, mb4.7/113, MS4.3/35, 3C-6D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**52⇑**	*eP*	**Pg**	**04 58 24.4**	**-0.1**
LCND				*eS*	**Sg**	**04 58 27.5**	**+0.5**
LCND	**La Caada**	**0.17**	**52**	*i* P	**Pg**	**04 58 24.4**	**-0.1**
LCND				*i* P		04 58 24.5	
LCND				IAML		04 58 31.0	
	comp=Z,350μm,1.0s						
LCND				IAML		04 58 31.0	
	comp=Z,350μm,1.0s						
CNCH	**Conchagua**	**0.20**	**69**	*eP*	**Pg**	**04 58 25.4**	**+0.2**
CNCH				*eS*	**Sg**	**04 58 29.2**	**+1.2**
CNCH	**Conchagua**	**0.20**	**69**	*i* P	**Pg**	**04 58 25.3**	**+0.2**
CNCH				IAML		04 58 32.3	
	comp=Z,430μm,1.0s						
JUCU	**Jucuarįn**	**0.22**	**282**	*eP*	**Pg**	**04 58 24.7**	**-0.8**
JUCU				*eS*	**Sg**	**04 58 27.9**	**-0.8**
JUCU	**Jucuarįn**	**0.22**	**282**	*i* P	**Pg**	**04 58 24.6**	**-0.9**
JUCU				IAML		04 58 30.8	
	comp=Z,400μm,1.0s						
CNRM	**Centro Naciona**	**0.30**	**332**	*eP*	**Pg**	**04 58 25.9**	**-1.0**
CNRM				*eS*	**Sg**	**04 58 30.8**	**-0.3**
CNRM	**Centro Naciona**	**0.30**	**332**	*i* P	**Pg**	**04 58 26.0**	**-1.0**
CNRM				*i* S	**Sg**	**04 58 29.4**	**-1.7**
CNRM				IAML		04 58 38.3	
	comp=Z,580μm,1.0s						
VSM	**San Miguel**	**0.33**	**312⇓**	*iP*	**Pg**	**04 58 26.8**	**-0.7**
RANC	**El Ranchito**	**0.34**	**311⇓**	*eP*	**Pg**	**04 58 26.9**	**-0.9**
RANC	**El Ranchito**	**0.34**	**311**	*i* P	**Pg**	**04 58 26.9**	**-0.9**
RANC				*i* S	**Sg**	**04 58 31.1**	**-1.3**
RANC				IAML		04 58 39.4	
	comp=Z,66μm,1.0s						
AMPH	**Amapala**	**0.36**	**77**	*eP*	**Pb**	**04 58 28.4**	**-1.1**
AMPH				*eS*	**Sb**	**04 58 34.4**	**-0.8**
AMPH	**Amapala**	**0.36**	**77**	*i* P	**Pb**	**04 58 28.3**	**-1.1**
AMPH				*i* S	**Sg**	**04 58 33.2**	**+0.3**
PACA	**Pacayal**	**0.39**	**312**	*eP*	**Pg**	**04 58 27.7**	**-0.9**
PACA	**Pacayal**	**0.39**	**312**	*i* P	**Pg**	**04 58 27.7**	**-0.9**
PACA				IAML		04 58 42.0	
	comp=Z,320μm,1.0s						
TECA	**Tecapa**	**0.55**	**302⇓**	*iP*	**Pg**	**04 58 30.5**	**-1.1**
COEB	**Comit de Eme**	**0.57**	**301⇓**	*eP*	**Pg**	**04 58 30.9**	**-1.1**
COEB	**Comit de Eme**	**0.57**	**301**	*i* P	**Pg**	**04 58 30.9**	**-1.1**
COEB				*i* S	**Sg**	**04 58 38.6**	**-1.0**
COEB				IAML		04 58 40.5	
	comp=Z,26μm,1.0s						
PQSS	**Presa 15 de Se**	**0.67**	**309**	*eP*	**Pg**	**04 58 32.8**	**-1.0**
PQSS	**Presa 15 de Se**	**0.67**	**309**	*i* P	**Pg**	**04 58 33.0**	**-0.8**
PQSS				IAML		04 58 46.1	
	comp=Z,10μm,1.0s						
TECO	**Alcaldia de Te**	**0.81**	**294⇓**	*eP*	**Pg**	**04 58 34.8**	**-1.7**
TECO	**Alcaldia de Te**	**0.81**	**294**	*i* P	**Pg**	**04 58 35.2**	**-1.3**
TECO				*i* S	**Sg**	**04 58 45.9**	**-1.1**
TECO				IAML		04 58 48.8	
	comp=Z,21μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.84**	**306**	*i* P	**Pg**	**04 58 36.0**	**-1.2**
SCLA				*i* S	**Sg**	**04 58 47.7**	**-0.5**
SCLA				IAML		04 58 51.4	
	comp=Z,9μm,1.0s						
UESV	**Universidad de**	**0.86**	**300**	*eP*	**Pg**	**04 58 36.0**	**-1.5**
UESV	**Universidad de**	**0.86**	**300**	*i* P	**Pg**	**04 58 36.4**	**-1.0**
UESV				*i* S	**Sg**	**04 58 48.2**	**-0.4**
UESV				IAML		04 58 50.9	
	comp=Z,24μm,1.0s						
PAVA	**Las Pavas**	**1.02**	**300**	*eP*	**Pg**	**04 58 39.0**	**-1.6**
PAVA	**Las Pavas**	**1.02**	**300**	*i* P	**Pg**	**04 58 39.4**	**-1.2**
PAVA				*i* S	**Sg**	**04 58 53.4**	**-0.5**
PAVA				IAML		04 58 56.9	
	comp=Z,80μm,1.0s						
CRIN	**San Cristobal**	**1.07**	**118**		**Pg**	**04 58 40.8**	**-0.7**
CRIN				Sg	**Sg**	**04 58 52.8**	**-2.8**
CRIN	**San Cristobal**	**1.07**	**118**	*i/P*	**Pn**	**04 58 41.5**	**-0.1**
CRIN	**San Cristobal**	**1.07**	**118**	*i* P	**Pn**	**04 58 41.8**	**-0.3**
CRIN				IAML		04 58 44.1	
	comp=Z,100μm,1.0s						
INTHN	**La Esperanza I**	**1.10**	**356**	*i* P	**Pg**	**04 58 41.0**	**-1.1**
TGUH	**Tegucigalpa,Un**	**1.12**	**41**		**Pg**	**04 58 40.8**	**-1.6**
TGUH				Sn	**Sg**	**04 58 55.0**	**-2.0**
TGUH	**Tegucigalpa,Un**	**1.12**	**41⇑**	*eP*	**Pg**	**04 58 40.8**	**-1.6**
TGUH	**Tegucigalpa,Un**	**1.12**	**41**	*i* P	**Pg**	**04 58 41.2**	**-1.2**
TGUH				IAML		04 59 04.1	
	comp=Z,69μm,1.0s						
PANCS	**Alcalda de**	**1.20**	**290**	*i* P	**Pg**	**04 58 41.9**	**-2.0**
PANCS				IAML		04 59 01.7	
	comp=Z,35μm,1.0s						
LOMA	**Loma Larga**	**1.20**	**291**	*i* P	**Pg**	**04 58 42.3**	**-1.6**
LOMA				IAML		04 59 03.9	
	comp=Z,19μm,1.0s						
UDBS	**Universidad Do**	**1.21**	**295**	*i* P	**Pg**	**04 58 42.6**	**-1.6**
UDBS				*i* S	**Sg**	**04 58 58.9**	**-1.0**
UDBS				IAML		04 59 04.7	
	comp=Z,15μm,1.0s						
IGN	**Direccin Gen**	**1.22**	**294**	*i* P	**Pg**	**04 58 42.8**	**-1.6**
IGN				*i* S	**Sg**	**04 58 59.8**	**-0.5**
IGN				IAML		04 59 03.4	
	comp=Z,36μm,1.0s						
UTEC	**Universidad Te**	**1.25**	**293**	*i* P	**Pg**	**04 58 43.8**	**-1.0**
UTEC				IAML		04 59 03.4	
	comp=Z,15μm,1.0s						
SNET	**Serv Nac Est T**	**1.27**	**292**		**Pg**	**04 58 42.6**	**-2.7**
SNET	**Serv Nac Est T**	**1.27**	**292**	*eP*	**Pg**	**04 58 42.9**	**-2.3**
SNET	**Serv Nac Est T**	**1.27**	**292**	*i* P	**Pg**	**04 58 43.6**	**-1.7**
SNET				IAML		04 59 04.2	
	comp=Z,29μm,1.0s						
UEES	**Universidad Ev**	**1.29**	**293**	*i* P	**Pg**	**04 58 44.4**	**-1.2**
UEES				IAML		04 59 08.0	
	comp=Z,9μm,1.0s						
LALI	**Alcalda de L**	**1.29**	**283**	*i* P	**Pn**	**04 58 44.5**	**-0.5**
LALI				IAML		04 59 15.1	
	comp=Z,3μm,1.0s						
POLN	**Al Sur del Vol**	**1.30**	**115**	*i* P	**Pg**	**04 58 44.2**	**-1.7**
POLN				IAML		04 58 45.5	
	comp=Z,8μm,1.0s						
HERN	**Volcan Telica**	**1.31**	**117**	*i* P	**Pg**	**04 58 44.5**	**-1.5**
HERN				IAML		04 58 45.7	
	comp=Z,19μm,1.0s						
ITCA	**Escuela Especi**	**1.31**	**291**	*i* P	**Pn**	**04 58 44.3**	**-1.0**
ITCA				IAML		04 59 11.2	
	comp=Z,38μm,1.0s						
LLGN	**La Laguna**	**1.31**	**317**	*i* P	**Pn**	**04 58 43.2**	**-2.1**
LLGN				IAML		04 59 08.2	
	comp=Z,7μm,1.0s						
TELN	**Telica**	**1.31**	**117**	*i* P	**Pg**	**04 58 44.7**	**-1.3**
TELN				IAML		04 59 12.3	
	comp=Z,910nm,1.0s						
TEL3	**Telica 3**	**1.31**	**119**	*i* P	**Pg**	**04 58 43.9**	**-2.2**
TEL3				IAML		04 59 14.6	
	comp=Z,36μm,1.0s						
PMON	**Piamonte**	**1.35**	**292**	*eP*	**Pn**	**04 58 44.4**	**-1.5**
PMON	**Piamonte**	**1.35**	**292**	*i* P	**Pn**	**04 58 45.8**	**-0.1**
PMON				IAML		04 59 05.8	
	comp=Z,22μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.37**	**297**	*i* P	**Pn**	**04 58 45.2**	**-0.8**
QUEZ				*i* S	**Sg**	**04 59 04.0**	**-0.9**
QUEZ				IAML		04 59 13.9	
	comp=Z,46μm,1.0s						
PACN	**Al O del Volca**	**1.39**	**120**	*i* P	**Pn**	**04 58 45.9**	**-0.5**
PACN				IAML		04 58 48.0	
	comp=Z,15μm,1.0s						
ROCN	**Rota Cerro Neg**	**1.42**	**119**	*i* P	**Pn**	**04 58 45.9**	**-0.9**
ROCN				IAML		04 59 10.7	
	comp=Z,10μm,1.0s						
JAYA	**Jayaque - finc**	**1.46**	**288**	*eP*	**Pn**	**04 58 46.0**	**-1.4**
JAYA	**Jayaque - finc**	**1.46**	**288**	*i* P	**Pn**	**04 58 46.0**	**-1.4**
JAYA				IAML		04 58 50.3	
	comp=Z,40μm,1.0s						
CEDA	**San Andres**	**1.46**	**294**	*i* P	**Pn**	**04 58 46.4**	**-0.9**
CEDA				*i* S	**Sn**	**04 59 07.6**	**+1.0**
CEDA				IAML		04 59 13.2	
	comp=Z,24μm,1.0s						
CNGA	**Al SSO del Vol**	**1.47**	**119**	*i* P	**Pn**	**04 58 45.3**	**-2.2**
CNGN	**Cerro Negro**	**1.47**	**118**	Pn	**Pn**	**04 58 45.8**	**-1.7**
CNGN	**Cerro Negro**	**1.47**	**118⇓**	*eP*	**Pn**	**04 58 46.4**	**-1.1**
CNGN				*eS*	**Sg**	**04 59 08.3**	**0.0**
CNGN	**Cerro Negro**	**1.47**	**118**	*i* P	**Pn**	**04 58 46.9**	**-0.6**
CNGN				*i* S	**Sg**	**04 59 09.3**	**+1.1**
CNGN				IAML		04 59 14.2	
	comp=Z,22μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.59**	**120**	*i* P	**Pn**	**04 58 48.9**	**-0.2**
LEVN				*i* S	**Sg**	**04 59 12.3**	**+0.3**
LEVN				IAML		04 59 17.0	
	comp=Z,21μm,1.0s						
MOMN	**Momotombo**	**1.65**	**119**	*i* P	**Pn**	**04 58 49.2**	**-0.8**
MOMN				IAML		04 59 25.4	
	comp=Z,570nm,1.0s						
UNIC	**Universidad Ca**	**1.67**	**298**	*i* P	**Pn**	**04 58 49.7**	**-0.

NBG Las Nubes 2.64 302 *e*P **Pb 04 59 07.8 -0.7**
GUNB GUNB 2.64 302 *i* P **Pn 04 59 05.7 +1.8**
GUNB IAML 04 59 13.3
comp=Z,3µm,1.0s
PCG Pacaya 2.77 295 *e*P **Pb 04 59 08.8 -1.9**
GCG4 OSOP 2.80 300 *i* P **Pb 04 59 11.1 0.0**
JAPN Al SSO del Vol 2.84 126 *i* P **Pn 04 59 07.9 +1.7**
JAPN IAML 04 59 48.5
comp=Z,2µm,1.0s
MORN Al O del Volca 2.85 125 *i* P **Pn 04 59 07.1 +0.7**
MORN IAML 04 59 15.2
comp=Z,4µm,1.0s
CONN Concepcion 2.85 125 *i* P **Pn 04 59 06.7 +0.2**
CONN IAML 04 59 48.2
comp=Z,22µm,1.0s
GUMI Mixco 2.89 300 *i* P **Pg 04 59 17.3 +1.1**
OMEN Al SSO del Vol 2.89 125 *i* P **Pn 04 59 07.5 +0.6**
OMEN IAML 04 59 57.6
comp=Z,2µm,1.0s
APG El Apazote 2.97 307 Pn **Pn 04 59 10.1 +1.8**
comp=Z,1.7nm,0.3s,baz=107,slow=13,SNR=32
APG Sn **Sn 04 59 47.2 +3.1**
comp=Z,1.2nm,0.3s,baz=84,slow=16,SNR=2.1
APG LR LR 05 00 18.2
comp=Z,503nm,20.3s,baz=49,slow=39
FUG Fuego 3 3.00 295 *e*P **Pb 04 59 13.0 -1.6**
ACON Acoyapa 3.04 114 *i* P **Pn 04 59 11.1 +2.0**
ACON IAML 05 00 17.5
comp=Z,3µm,1.0s
ACON Acoyapa 3.04 114 *e*P **Pn 04 59 07.6 -1.5**
LCRUZ La Cruz 3.15 132 *e*P **Pn 04 59 11.7 +1.0**
LCRUZ *e*S **Sn 04 59 48.9 +0.5**
HZTE Horizontes, Gu 3.43 136 Pn **Pn 04 59 14.3 -0.2**
HZTE Horizontes, Gu 3.43 136 *i* P **Pn 04 59 14.6 +0.1**
HZTE IAML 05 00 04.5
comp=Z,2µm,1.0s
VRLE La Escondida, 3.54 132 *e*P **Pn 04 59 15.6 -0.5**
ALIBA Liberia Airpor 3.55 137 *e*P **Pn 04 59 16.8 +0.7**
SULM Suchitepequez, 3.61 288 *e*P **Pn 04 59 19.7 +2.8**
SULM *e*S **Sn 05 00 04.6 +5.0**
VMAR Armenia, Volca 3.71 130 *e*P **Pn 04 59 17.7 -0.6**
STG3 Santiaguito 3, 3.75 294 *e*P **Pn 04 59 22.9 +3.8**
STG3 *e*S **Sn 05 00 08.1 +4.7**
ESPN Las Esperanzas 3.77 105 Pn **Pn 04 59 17.6 -1.5**
ESPN Las Esperanzas 3.77 105 *i* P **Pn 04 59 18.4 -0.7**
ESPN IAML 05 00 30.7
comp=Z,3µm,1.0s
ESPN Las Esperanzas 3.77 105 *e*P **Pn 04 59 18.1 -1.0**
ORTG Ortega, Santa 3.78 138 Pn **Pn 04 59 19.3 0.0**
ORTG Ortega, Santa 3.78 138 *i* P **Pn 04 59 19.9 +0.6**
ORTG IAML 05 00 09.5
comp=Z,790nm,1.0s
ORTG Ortega, Santa 3.78 138 *e*P **Pn 04 59 19.6 +0.3**
RTAL Retalhuleu 3.80 291 Pn **Pn 04 59 21.3 +1.8**
RTAL Retalhuleu 3.80 291 *i* P **Pn 04 59 21.8 +2.3**
RTAL IAML 04 59 36.1
comp=Z,2µm,1.0s
SAJU San Juanillo, 3.86 144 *i* P **Pn 04 59 21.0 +0.7**
SAJU IAML 05 00 27.4
comp=Z,820nm,1.0s
JUD3 Juan Diaz 3 3.88 141 *e*P **Pn 04 59 21.7 +1.0**
HUEH Huehuetenango 3.97 302 Pn **Pn 04 59 24.2 +2.1**
DUNO Dulce Nombre, 3.98 141 Pn **Pn 04 59 22.5 +0.5**
PETF Flores 4.10 334 Pn **Pn 04 59 24.2 +0.6**
PETF Flores 4.10 334 *i* P **Pn 04 59 25.3 +1.7**
PETF IAML 05 00 34.4
comp=Z,940nm,1.0s
INDI Punta indio, G 4.14 143 *i* P **Pn 04 59 25.3 +1.1**
INDI IAML 05 00 33.9
comp=Z,910nm,1.0s
INDI Punta indio, G 4.14 143 *e*P **Pn 04 59 24.9 +0.7**
JTS Las Juntas de 4.18 134 Pn **Pn 04 59 24.3 -0.4**
JTS Las Juntas de 4.18 134 Pn **Pn 04 59 23.6 -1.1**
comp=Z,13nm,0.3s,baz=298,slow=7.2,SNR=84
JTS Sn **Sn 05 00 14.1 +0.5**
comp=Z,22nm,0.3s,baz=326,slow=18,SNR=1.5
JTS LR LR 05 00 36.2
comp=Z,811nm,19.7s,baz=297,slow=34
comp=Z,107nm,0.6s
JTS Las Juntas de 4.18 134 *e*P **Pn 04 59 24.3 -0.4**
VACR Volcan Arenal 4.25 129 *e*P **Pn 04 59 26.3 +0.5**
COVE Coope Vega, Sa 4.32 125 Pn **Pn 04 59 25.9 -0.8**
COVE Coope Vega, Sa 4.32 125 *e*P **Pn 04 59 25.8 -0.8**
SOCE Pocosol 4.36 130 *i* P **Pn 04 59 28.9 +1.7**
SOCE IAML 05 00 38.4
comp=Z,390nm,1.0s
LAFE Finca La Fe, P 4.55 138 *i* P **Pn 04 59 30.4 +0.5**
LAFE IAML 04 59 48.3
comp=Z,5.1nm,1.0s
CPMI Catarata Coope 4.60 129 *i* P **Pn 04 59 32.7 +2.0**
CPMI IAML 05 01 32.7
comp=Z,600nm,1.0s
JACO JACO, Garabito 4.83 137 Pn **Pn 04 59 33.7 +0.1**
JACO JACO, Garabito 4.83 137 *i* P **Pn 04 59 36.6 +3.0**
JACO IAML 05 00 46.9
comp=Z,300nm,1.0s
RIFO Rio Frio, Sara 4.94 125 *i* P **Pn 04 59 36.8 +1.6**
RIFO IAML 05 01 22.1
comp=Z,830nm,1.0s
HDC Heredia 4.98 129 Pn 04 59 36.5 +0.6
CCIG Comitan 5.02 308 Pn **Pn 04 59 37.8 +1.4**
CCIG Comitan 5.02 308 *i* P **Pn 04 59 36.7 +0.3**
CCIG IAML 05 01 06.2
comp=Z,670nm,1.0s
ACOS Acosta 5.08 131 *e*P **Pn 04 59 34.4 -2.9**
OCM Ochomogo 5.17 129 *i* P **Pn 04 59 40.4 +1.9**
OCM IAmb IAmb 05 00 01.2
comp=Z,140nm,0.8s
OCM IVmB_BB 05 00 08.1
comp=Z,2µm,1.0s
OCM IAML 05 01 15.3
comp=Z,210nm,1.0s
LCR2 La Lucha 2 5.23 131 Pn 04 59 40.0 +0.6
VTCV VTCV, Calle Va 5.29 127 *i* P **Pn 04 59 42.5 +2.3**
VTCV IAML 05 00 03.3
comp=Z,420nm,1.0s
VTCV IAmb IAmb 05 00 03.7
comp=Z,350nm,1.0s
VTCV IVmB_BB 05 00 16.2
comp=Z,4µm,1.0s
RIMA Rio Macho 5.32 130 Pn **Pn 04 59 40.8 +0.2**
BATAN Batan 5.50 124 Pn 04 59 43.4 +0.5
BATAN Batan 5.50 124 *i* P **Pn 04 59 44.5 +1.6**
BATAN IAmb IAmb 05 00 12.2
comp=Z,440nm,0.9s
BATAN IVmB_BB 05 00 39.2
comp=Z,4µm,1.0s
BATAN IAML 05 01 30.5
comp=Z,710nm,1.0s
CDM Cerro de Muert 5.53 131 *i* P **Pn 04 59 44.8 +1.0**
CDM IVmB_BB 05 00 01.9
comp=Z,3µm,1.0s
CDM IAML 05 00 02.5
comp=Z,330nm,1.0s
CDM IAmb IAmb 05 00 07.9
comp=Z,220nm,0.9s
PEZE Perez Zeledon, 5.71 131 Pn **Pn 04 59 47.2 +1.3**
SRBA San Rafael, Bu 6.04 130 Pn **Pn 04 59 52.0 +1.5**
PRVC Isla de Provid 6.49 88 *i* P **Pn 04 59 56.9 +0.4**
PRVC IAmb IAmb 05 00 26.7
comp=Z,47nm,1.0s
PRVC IVmB_BB 05 00 48.2
comp=Z,970nm,1.0s
PRVC IAML 05 02 17.7
comp=Z,220nm,1.0s
BRU2 Volcan 6.83 129 Pn **Pn 05 00 02.6 +1.3**
BRU2 Volcan 6.83 129 *i* P **Pn 05 00 04.5 +3.2**
BRU2 IVmB_BB 05 00 05.5
comp=Z,2µm,1.0s
BRU2 IAmb IAmb 05 00 06.9
comp=Z,250nm,0.9s
BRU2 IAML 05 01 25.8
comp=Z,290nm,1.0s
CDITO Canoas 6.84 132 Pn 05 00 02.9 +1.6
CDITO Canoas 6.84 132 *i* P **Pn 05 00 04.7 +3.4**
CDITO IAmb IAmb 05 00 05.9
comp=Z,220nm,0.8s
CDITO IAML 05 00 21.0
comp=Z,340nm,1.0s
CDITO IVmB_BB 05 00 39.2
comp=Z,3µm,1.0s
TEIG Tepich 6.99 358 Pn **Pn 05 00 02.4 -0.9**
TEIG Tepich 6.99 358 P Pn 04 59 56.8 -6.5
comp=Z,67nm,0.6s,comp=Z,4µmcomp=Z,3µm

CMIG Matias Romero 7.67 301 Pn **Pn 05 00 13.7 +1.1**
comp=Z,2.3nm,0.3s,baz=109,slow=8.5,SNR=24
CMIG Sn **Sn 05 01 43.0 +3.4**
baz=142,slow=22
comp=Z,31nm,0.8s
BCIP Isla Barro Col 8.98 116 Pn **Pn 05 00 30.5 -0.2**
BCIP Isla Barro Col 8.98 116 *i* P **Pn 05 00 32.6 +1.9**
BCIP IVmB_BB 05 00 35.6
comp=Z,2µm,1.0s
BCIP IAmb IAmb 05 00 35.9
comp=Z,78nm,1.5s
TLIG Tlapa 11.05 294 Pn **Pn 05 01 01.5 +2.3**
MOIG Morelia 14.17 299 Pn **Pn 05 01 44.9 +2.9**
ROSC El Rosal 15.87 120 Pn **Pn 05 02 03.3 -1.7**
ROSC El Rosal 15.87 120 Pn **P 05 02 07.9 -0.8**
comp=Z,0.5nm,0.3s,baz=304,slow=15,SNR=9.0
ROSC LR LR 05 09 06.3
comp=Z,2µm,18.7s,baz=328,slow=41
TULM Tulcn-Chalpat 16.03 140 Pn 05 02 06.9 -0.1
TULM IAmb IAmb 05 02 13.7
comp=Z,70nm,1.2s
IMBA Imbabura, San 16.12 142 Pn 05 02 09.4 +1.3
SLOR San Lorenzo - 16.76 145 P **P 05 02 19.1 +0.5**
SLOR IAmb IAmb 05 02 22.4
comp=Z,75nm,1.3s
ZAIG Zacatecas 16.77 307 Pn **Pn 05 02 17.0 +0.6**
HBVL Hebbronville 17.01 326 P 05 02 20.9 0.0
CHSH Refugio Sur-Vo 17.20 147 IAmb IAmb 05 02 29.6
comp=Z,42nm,1.0s
SDV Santo Domingo 17.60 102 Pn 05 02 25.6 -1.0
SDV IAmb IAmb 05 02 31.6
comp=Z,60nm,1.1s
SDV Santo Domingo 17.60 102 P **Pn 05 02 24.1 -2.5**
comp=Z,0.6nm,0.3s,baz=285,slow=6.4,SNR=16
SDV LR LR 05 10 37.3
comp=Z,1µm,18.5s,baz=284,slow=42
comp=Z,38nm,1.0s
BRAL Brewton 17.90 3 P **P 05 02 32.3 +1.6**
baz=182
735A Kenedy 18.04 331 P 05 02 33.6 +1.5
441A DeRidder 18.10 346 P **P 05 02 34.0 +1.1**
441A IAmb IAmb 05 02 42.7
comp=Z,48nm,1.2s
HKT Hockley 18.16 338 P 05 02 34.3 +0.8
833A Chaparral WMA, 18.40 327 P **P 05 02 37.1 +0.9**
833A IAmb IAmb 05 02 40.8
comp=Z,38nm,0.9s
833A Chaparral WMA, 18.40 327 P **P 05 02 38.8 +2.6**
baz=142,SNR=5.3
352A Blakely 18.41 8 Pn 05 02 36.3 0.0
ARNL Arenillas 18.43 154 P **Pn 05 02 36.4 -0.2**
EF01 Eagle Ford 01 18.54 330 P **Pn 05 02 38.3 +0.5**
EF01 IAmb IAmb 05 02 42.9
comp=Z,89nm,1.7s
TIGA Tifton 18.60 12 P **P 05 02 36.2 -2.1**
TIGA IAmb IAmb 05 02 43.5
comp=Z,56nm,1.3s
TIGA Tifton 18.60 12 P **Pn 05 02 39.3 +0.7**
baz=193
HNVL Huntsville, TX 18.77 340 Pn 05 02 42.1 +1.5
VBMS Vicksburg 19.06 354 P **P 05 02 44.1 +0.7**
VBMS IAmb IAmb 05 02 56.3
comp=Z,48nm,1.1s
VBMS Vicksburg 19.06 354 P **Pn 05 02 45.0 +0.9**
baz=172
HNDO Hondo 19.31 329 P **Pn 05 02 47.4 +0.2**
146A Union 19.36 357 P **P 05 02 46.4 -0.4**
NATX Nacogdoches 19.45 343 P **Pn 05 02 48.9 +0.1**
NATX IAmb IAmb 05 02 55.1
comp=Z,59nm,1.1s
NATX Nacogdoches 19.45 343 P **Pn 05 02 49.5 +0.6**
baz=180
435B Jarrell 19.59 335 P **P 05 02 49.1 -0.2**
435B Jarrell 19.59 335 P **Pn 05 02 50.7 +0.1**
baz=151
LRAL Lakeview Retre 19.76 3 P **P 05 02 50.5 -0.6**
LRAL Lakeview Retre 19.76 3 P **Pn 05 02 53.1 +0.6**
baz=182
Z47A Carrollton 19.90 360 P **P 05 02 52.5 -0.1**
BAUV El Baul 20.06 100 P **P 05 02 53.4 -1.1**
BAUV IAmb IAmb 05 03 00.3
comp=Z,43nm,0.7s
JCT Junction City 20.34 330 P **P 05 02 57.8 +0.2**
JCT IAmb IAmb 05 03 02.5
comp=Z,97nm,1.9s
JCT Junction City 20.34 330 P Pn 05 02 59.9 +0.3
baz=145
Z41A Richland Creek 20.43 348 P **P 05 02 58.7 +0.3**
Z41A IAmb IAmb 05 03 06.9
comp=Z,41nm,1.0s
GOGA Godfrey 20.54 11 P **P 05 03 00.2 +0.7**
baz=192
WHTX Lake Whitney, 20.60 337 P **P 05 03 01.3 +1.1**
WHTX Lake Whitney, 20.60 337 P Pn 05 03 02.5 0.0
baz=153
Y45A Yeager Farm, C 20.61 356 P **P 05 03 01.3 +0.9**
BRDY Brady 20.64 332 P **P 05 03 01.6 +0.9**
TREL Terrell 20.79 341 P Pn 05 03 04.1 -0.5
Y52A Lilburn 20.88 9 P **P 05 03 03.4 +0.2**
Y52A IAmb IAmb 05 03 10.6
comp=Z,27nm,1.2s
FW13 Cleburne 20.92 337 P **P 05 03 04.4 +0.7**
SAND Sanderson 21.17 324 P **P 05 03 05.8 -0.6**
SAND IAmb IAmb 05 03 11.2
comp=Z,43nm,1.5s
OXF Oxford 21.25 357 P **P 05 03 07.4 +0.2**
OXF Oxford 21.25 357 P **P 05 03 09.6 +2.4**
baz=176,SNR=8.2
OZNA Ozona 21.37 328 P **P 05 03 08.6 0.0**
TXAR Lajitas Array 21.64 320 P **P 05 03 12.0 +0.4**
TXAR Lajitas Array 21.64 320 P **P 05 03 12.4 +0.8**
comp=Z,7.4nm,0.9s,baz=138,slow=11,SNR=32
comp=Z,7.4nm,0.9s
TX31 Lajitas Ar. Si 21.64 320 IAmb IAmb 05 03 16.0
comp=Z,26nm,1.1s
Z35A Perchaven, San 21.73 339 P **P 05 03 11.6 -0.8**
Z35A IAmb IAmb 05 03 33.0
comp=Z,44nm,1.1s
FW03 Perrin-Whitt E 21.77 337 P **P 05 03 13.3 +0.5**
FW03 IAmb IAmb 05 03 26.2
comp=Z,86nm,2.0s
MIAR Mount Ida 21.83 348 P **P 05 03 15.9 +2.4**
baz=165,SNR=40
ABTX Abilene, Hawle 22.06 333 P **P 05 03 17.8 +1.8**
baz=148
SGCY Sterling City 22.17 329 P **P 05 03 15.7 -1.5**
WHAR Wooly Hollow 22.32 351 P **P 05 03 18.7 0.0**
ATAH Atahualpa 22.36 154 LR LR 05 11 26.4
comp=Z,528nm,20.1s,baz=322,slow=35
MNHN Monahans 22.57 325 IAmb IAmb 05 03 26.7
comp=Z,32nm,0.9s
KMSC Kings Mountain 22.66 14 P **P 05 03 22.7 +0.3**
KMSC IAmb IAmb 05 03 28.1
comp=Z,20nm,1.1s
KMSC Kings Mountain 22.66 14 P **P 05 03 23.2 +0.8**
baz=197
TKL Tuckaleechee C 22.68 9 P **P 05 03 23.2 +0.6**
comp=Z,26nm,1.0s,baz=186,slow=12,SNR=16
TKL LR LR 05 12 26.9
comp=Z,494nm,18.2s,baz=188,slow=38
comp=Z,26nm,1.0s
WVT Waverly 22.83 0 P **P 05 03 24.6 +0.5**
WVT IAmb IAmb 05 03 40.7
comp=Z,66nm,1.4s
WVT Waverly 22.83 0 P **P 05 03 26.0 +1.9**
baz=180
APMT Aspermont 22.87 333 IAmb IAmb 05 03 44.9
comp=Z,28nm,1.2s
FCAR Ozark Folk Cen 22.89 351 P **P 05 03 25.1 +0.4**
V52A Sevierville 22.89 9 P **P 05 03 24.0 -0.8**
V52A IAmb IAmb 05 03 31.0
comp=Z,41nm,1.4s
ODSA Odessa 23.06 327 IAmb IAmb 05 03 32.2
comp=Z,44nm,1.3s
PECS Pecos 23.22 324 P **P 05 03 29.3 +0.9**
PECS IAmb IAmb 05 03 35.6
comp=Z,24nm,1.4s
W35A Tecumseh 23.27 341 IAmb IAmb 05 03 34.4
comp=Z,37nm,1.0s
POST Post 23.29 330 IAmb IAmb 05 03 31.7
comp=Z,24nm,0.8s
VHRN Van Horn 23.47 321 IAmb IAmb 05 03 37.5
comp=Z,44nm,2.0s
FNO Franklin 23.53 340 P **P 05 03 31.9 +0.6**
WMOK Wichita Mounta 23.55 337 P **P 05 03 33.0 +1.5**
baz=153

TZTN Tazewell 23.58 9 P **P 05 03 32.2 +0.4**
baz=190
HHAR Hobbs 23.59 348 IAmb IAmb 05 03 37.4
comp=Z,15nm,0.9s
TUL3 Leonard 23.66 344 P **P 05 03 33.8 +1.2**
baz=160,SNR=7.3
LPIG La Paz 23.70 300 LR LR 05 12 49.6
comp=Z,889nm,18.1s,baz=145,slow=37
T47A Sharon Grove 23.70 2 IAmb IAmb 05 03 46.8
comp=Z,20nm,1.1s
RLO Rose Lookout 23.71 346 P **P 05 03 32.5 -0.5**
RLO IAmb IAmb 05 03 40.7
comp=Z,22nm,1.1s
CNNC Cliffs of the 23.77 21 P **P 05 03 33.9 +0.2**
baz=205
U38A Gravette 23.83 347 IAmb IAmb 05 03 38.4
comp=Z,17nm,1.1s
T50A Nancy 23.89 6 P **P 05 03 34.2 -0.5**
MGMO Mountain Grove 24.15 352 P **P 05 03 37.9 +0.7**
MNTX Cornudas Mount 24.35 322 P **P 05 03 39.1 0.0**
baz=135,SNR=36
S44A Carbondale 24.41 358 P **P 05 03 40.8 +1.3**
S44A IAmb IAmb 05 03 44.1
comp=Z,29nm,1.1s
SIUC Southern Illin 24.43 358 IAmb IAmb 05 03 44.2
comp=Z,27nm,1.0s
SMWD Samnorwood 24.44 335 IAmb IAmb 05 03 43.4
comp=Z,25nm,1.0s
S51A Beattyville 24.65 8 IAmb IAmb 05 03 47.3
comp=Z,37nm,1.5s
S39A Bolivar 24.84 350 IAmb IAmb 05 03 47.5
comp=Z,20nm,1.0s
BLA Blacksburg 24.85 15 P **P 05 03 42.1 -1.6**
BLA Blacksburg 24.85 15 P **P 05 03 43.8 +0.1**
baz=197,SNR=8.8
CROK Carrier 24.86 341 P **P 05 03 44.1 +0.4**
CROK IAmb IAmb 05 03 47.1
comp=Z,14nm,0.7s
AMTX Amarillo 24.87 333 P **P 05 03 45.3 +1.4**
baz=146
CCM Cathedral Cave 24.91 354 P **P 05 03 44.2 +0.1**
CCM IAmb IAmb 05 03 47.2
comp=Z,17nm,1.0s
CCM Cathedral Cave 24.91 354 P **P 05 03 44.8 +0.7**
baz=172
WCI Wyandotte Cave 24.97 3 P **P 05 03 45.7 +1.0**
WCI IAmb IAmb 05 04 02.9
comp=Z,19nm,0.8s
WCI Wyandotte Cave 24.97 3 P **P 05 03 45.0 +0.4**
baz=184
OK038 West end E0370 25.09 339 P **P 05 03 46.4 +0.6**
U32A Winter Ranch, 25.09 339 P **P 05 03 45.6 -0.2**
R40A Maddies Statio 25.27 352 P **P 05 03 46.8 -0.5**
KAN01 Argonia South 25.39 342 P **P 05 03 48.3 -0.1**
KAN01 IAmb IAmb 05 03 53.6
comp=Z,24nm,1.3s
OLIL Olney 25.43 360 IAmb IAmb 05 04 08.5
comp=Z,12nm,0.8s
Q44A Meyer Farm, Va 25.61 358 IAmb IAmb 05 03 54.7
comp=Z,19nm,1.1s
P48A Milroy 26.25 5 IAmb IAmb 05 04 33.6
comp=Z,16nm,1.2s
P49A Miami Univ. Ec 26.39 6 P **P 05 03 58.2 +0.7**
baz=187
121A Cookes Peak, D 26.40 320 IAmb IAmb 05 04 04.0
comp=Z,15nm,0.9s
121A Cookes Peak, D 26.40 320 P **P 05 03 58.6 +0.7**
baz=132,SNR=14
P51A Williamsport 26.54 9 P **P 05 03 59.1 +0.3**
P51A IAmb IAmb 05 04 22.2
comp=Z,18nm,1.2s
CBN Corbin Frederi 26.64 19 P **P 05 03 59.5 -0.2**
baz=203
RTBA Rita Blanca 26.64 333 IAmb IAmb 05 04 06.1
comp=Z,34nm,1.3s
P38A Dawn 26.76 351 IAmb IAmb 05 04 03.5
comp=Z,15nm,0.8s
P53A Whipple 26.82 11 P **P 05 04 02.3 +0.9**
P52A Corning 26.83 10 P **P 05 04 01.5 0.0**
baz=192,SNR=9.4
KSU1 Kansas State U 26.89 345 P **P 05 04 02.5 +0.5**
baz=161
Y22D IRIS PASSCAL I 26.95 324 P **P 05 04 04.2 +1.4**
Y22D IRIS PASSCAL I 26.95 324 P **P 05 04 03.8 +1.0**
baz=136
Y22F Passcal Instru 26.95 324 P **P 05 04 03.2 +0.4**
baz=136
O48B Farmland 27.07 5 P **P 05 04 04.1 +0.5**
baz=186
SFIN Lafayette 27.08 2 P **P 05 04 02.9 -0.8**
baz=182
HDIL Hopedale 27.27 358 IAmb IAmb 05 04 09.5
comp=Z,16nm,1.1s
HDIL Hopedale 27.27 358 P **P 05 04 05.3 -0.1**
baz=177
ACSO Alum Creek Sta 27.28 8 P **P 05 04 05.4 -0.1**
baz=190
MCWV Mont Chateau 27.32 14 P **P 05 04 04.5 -1.4**
MCWV IAmb IAmb 05 04 11.1
comp=Z,14nm,0.8s
MCWV Mont Chateau 27.32 14 P **P 05 04 05.5 -0.4**
baz=197
ANMO Albuquerque 27.32 326 P **P 05 04 07.1 +0.9**
ANMO Albuquerque 27.32 326 P **P 05 04 06.1 -0.1**
baz=138
ANMO Albuquerque 27.32 326 LR LR 05 16 39.4
comp=Z,200nm,20.8s,baz=205,slow=40
N41A Harden Midland 27.51 355 IAmb IAmb 05 04 10.2
comp=Z,19nm,1.3s
CBKS Cedar Bluff 27.54 340 P **P 05 04 05.9 -2.0**
baz=154
O53A New Philadelph 27.60 11 P **P 05 04 08.6 +0.2**
O53A New Philadelph 27.60 11 P **P 05 04 06.6 -1.8**
baz=194,SNR=11
T25A Trinidad 27.98 331 IAmb IAmb 05 04 17.7
comp=Z,43nm,1.9s
T25A Trinidad 27.98 331 P **P 05 04 10.8 -1.3**
baz=144
TUC Tucson 28.21 316 P **P 05 04 14.5 +0.4**
TUC Tucson 28.21 316 P **P 05 04 14.7 +0.6**
baz=127
SSPA Standing Stone 28.74 16 P **P 05 04 19.2 +0.7**
SSPA IAmb IAmb 05 04 23.2
comp=Z,22nm,1.1s
SSPA Standing Stone 28.74 16 P **P 05 04 18.0 -0.6**
baz=200
KSCO Kaye Shedlock' 28.77 336 P **P 05 04 19.3 +0.2**
KSCO Kaye Shedlock' 28.77 336 P **P 05 04 18.1 -0.9**
baz=148
M53A WI Miller and 28.85 11 P **P 05 04 19.1 -0.5**
M53A IAmb IAmb 05 04 23.7
comp=Z,25nm,1.1s
M53A WI Miller and 28.85 11 P **P 05 04 19.5 0.0**
baz=195
L44A Lake County Fo 28.87 0 P **P 05 04 19.3 -0.4**
baz=180
L40A Anamosa 28.89 355 IAmb IAmb 05 04 22.5
comp=Z,12nm,0.9s
SCIA State Center 28.95 352 P **P 05 04 19.7 -0.7**
baz=169
SDCO Great Sand Dun 28.98 331 P **P 05 04 20.2 -0.9**
baz=143,SNR=6.1
ALLY Alegheny Colle 29.16 12 P **P 05 04 23.0 +0.8**
ALLY IAmb IAmb 05 04 27.2
comp=Z,27nm,1.1s
AAM Ann Arbor 29.24 7 P **P 05 04 22.2 -0.7**
baz=188
BOAV Boa Vista 29.25 109 P **P 05 04 23.6 +0.3**
BOAV IAmb IAmb 05 04 24.8
comp=Z,12nm,0.8s
W18A Petrified Fore 29.34 322 P **P 05 04 25.1 +0.9**
W18A IAmb IAmb 05 04 29.6
comp=Z,13nm,0.9s
W18A Petrified Fore 29.34 322 P **P 05 04 24.3 +0.1**
baz=132
L34A Svendsen Farm, 29.56 347 P **P 05 04 25.3 -0.5**
L34A IAmb IAmb 05 04 29.9
comp=Z,14nm,1.0s
ERPA Erie 29.64 12 P **P 05 04 25.7 -0.9**
baz=196,SNR=10
JFWS Jewell Farm 29.66 357 P **P 05 04 26.2 -0.5**
baz=175
Q24A Divide 29.80 332 P **P 05 04 26.8 -1.6**
baz=144
MVCO Mesa Verde 30.11 326 IAmb IAmb 05 04 36.4
comp=Z,9.2nm,0.9s
MVCO Mesa Verde 30.11 326 P **P 05 04 29.2 -1.8**

baz=137,SNR=10
WVNY West Valley, N 30.22 14 P P 05 04 32.1 +0.4
OGNE Ogallala 30.23 339 P P 05 04 31.2 -0.7
baz=152
PAL Palisades 30.32 21 P P 05 04 30.1 -2.4
baz=208
I42A Draeger Farm, 30.59 359 P P 05 04 34.5 -0.3
I42A IAmb IAmb 05 04 39.5
comp=Z,9.0nm,0.9s
WUAZ Wupatki 30.60 321 P P 05 04 35.2 -0.2
WUAZ IAmb IAmb 05 04 40.7
comp=Z,20nm,1.6s
WUAZ Wupatki 30.60 321 P P 05 04 33.9 -1.5
baz=130
ISCO Idaho Springs 30.69 333 P P 05 04 35.5 -0.7
baz=144
BINY Binghamton 30.72 18 P P 05 04 34.6 -1.5
baz=203,SNR=12
SMCO Snowmass 30.82 330 P P 05 04 37.7 +0.2
K30B Basset 31.03 343 P P 05 04 38.8 -0.1
ECSD EROS Data Cent 31.30 348 IAmb IAmb 05 04 45.2
comp=Z,18nm,1.2s
ECSD EROS Data Cent 31.30 348 P P 05 04 40.8 -0.4
baz=163,SNR=11
ETMB Extrema 31.50 136 P P 05 04 42.3 -0.9
GLMI Grayling 31.64 5 P P 05 04 44.2 0.0
baz=186
PDMCI Parker Dam,Lak 31.65 316 P P 05 04 44.0 -0.4
baz=125
N23A Red Feather La 31.73 334 P P 05 04 44.9 -0.4
baz=145
G40A Rib Lake 32.01 357 P P 05 04 46.8 -0.6
G40A IAmb IAmb 05 04 50.5
comp=Z,9.2nm,1.0s
L61B Northampton 32.03 22 P P 05 04 47.1 -0.5
baz=209
SPMN Marine on St. 32.17 354 IAmb IAmb 05 04 51.1
comp=Z,17nm,1.1s
SPMN Marine on St. 32.17 354 P P 05 04 47.7 -1.1
baz=171,SNR=5.3
O20A White River Ci 32.18 330 P P 05 04 50.2 +1.0
O20A IAmb IAmb 05 04 52.8
comp=Z,14nm,0.8s
O20A White River Ci 32.18 330 P P 05 04 48.6 -0.6
baz=140,SNR=16
IRM Iron Mountain 32.26 315 P P 05 04 49.3 -0.5
baz=124
SADO Sadowa 32.36 12 IAmb IAmb 05 04 53.5
comp=Z,22nm,1.3s
SADO Sadowa 32.36 12 LR LR 05 18 17.2
comp=Z,428nm,18.9s,baz=242,slow=37
DELO Deloro Mine 32.45 14 IAmb IAmb 05 04 55.0
comp=Z,12nm,1.1s
KNB Kanab 32.47 321 P P 05 04 52.1 +0.3
KNB IAmb IAmb 05 04 57.3
comp=Z,16nm,1.6s
MONP2 Monument Peak 32.49 312 P P 05 04 51.1 -0.9
baz=120
HRV Adam Dziewonsk 32.49 23 P P 05 04 51.2 -0.5
baz=211
SUSD Miller 32.51 345 P P 05 04 50.3 -1.5
baz=160
BELC Belle Mtn. Jos 32.77 314 P P 05 04 53.1 -1.3
baz=122
COWI Conover 32.80 359 IAmb IAmb 05 04 55.6
comp=Z,6.8nm,0.8s
P18A Preston Nutter 32.81 327 IAmb IAmb 05 04 59.6
comp=Z,9.5nm,1.0s
TPFO Pinon Flats 32.88 313 P P 05 04 53.9 -1.5
baz=121
F36A Milaca 32.88 353 P P 05 04 54.8 -0.2
F36A IAmb IAmb 05 04 57.8
comp=Z,7.3nm,1.1s
PFO Pinyon Flats O 32.89 313 P P 05 04 53.0 -2.4
baz=121
PFO Pinyon Flats O 32.89 313 LR LR 05 19 54.3
comp=Z,689nm,18.2s,baz=133,slow=39
RWWY Rawlins 32.93 333 IAmb IAmb 05 05 02.3
comp=Z,29nm,1.8s
V12A Nelson 32.95 318 P P 05 04 57.3 +1.3
GMRC Granite Mounta 32.96 315 P P 05 04 53.9 -2.2
baz=124
P17A Butcher Ranch, 32.96 327 P P 05 04 55.6 -0.5
P17A IAmb IAmb 05 05 00.8
comp=Z,12nm,0.9s
SZCU Shurtz Canyon 33.00 322 IAmb IAmb 05 05 01.8
comp=Z,16nm,1.6s
E43A Lone Tree Farm 33.07 1 IAmb IAmb 05 04 59.6
comp=Z,9.0nm,1.1s
MVU Marysvale 33.09 324 P P 05 04 57.9 +0.6
RDMU Red Mountain 33.16 329 IAmb IAmb 05 05 02.5
comp=Z,21nm,1.5s
LONY Lake Ozonia 33.35 18 P P 05 04 57.9 -1.3
baz=204,SNR=7.8
TUQ Turquoise Moun 33.50 316 P P 05 05 01.0 +0.3
baz=124
RSSD Black Hills 33.73 339 P P 05 05 02.3 -0.4
baz=151
BSUT Blindstream Ca 33.74 328 IAmb IAmb 05 05 07.2
comp=Z,15nm,1.4s
MPU Maple Canyon 33.83 326 P P 05 05 03.4 -0.2
MPU IAmb IAmb 05 05 08.4
comp=Z,18nm,1.2s
CTU Camp Tracy 34.37 327 IAmb IAmb 05 05 12.3
comp=Z,29nm,1.7s
DECC Green Verdugo 34.55 313 P P 05 05 09.1 -0.7
baz=120
DUG Dugway, Tooele 34.60 326 P P 05 05 12.2 +2.0
baz=134,SNR=6.1
D32A Dogwood Acres, 34.66 349 P P 05 05 10.4 -0.1
D32A IAmb IAmb 05 05 13.9
comp=Z,19nm,1.1s
SPR3 Spring Creek 3 34.66 323 IAmb IAmb 05 05 15.8
comp=Z,26nm,1.9s
EYMN Ely 34.76 356 P P 05 05 11.9 +0.5
baz=174
BW06 Boulder Array 34.85 332 P P 05 05 11.8 -0.7
baz=141
PD31 Pinedale Array 34.85 332 IAmb IAmb 05 05 34.9
comp=Z,14nm,1.9s
PDAR Pinedale Array 34.85 332 P P 05 05 12.8 +0.4
PDAR Pinedale Array 34.85 332 P P 05 05 12.4 -0.1
comp=Z,1.2nm,0.9s,baz=134,slow=10,SNR=8.2
PDAR LR LR 05 22 56.3
comp=Z,191nm,18.7s,baz=138,slow=42
comp=Z,1.2nm,0.9s
MPMC Manual Prospec 34.91 316 P P 05 05 12.7 -0.3
baz=123
R11B Troy Canyon, C 35.01 321 P P 05 05 12.9 -0.9
baz=128
SPUT South Promonto 35.18 327 P P 05 05 16.6 +1.2
LPAZ La Paz 35.29 146 P P 05 05 16.1 -0.8
LPAZ IAmb IAmb 05 05 19.9
comp=Z,9.7nm,1.4s
LPAZ La Paz 35.29 146 P P 05 05 16.1 -0.8
comp=Z,2.1nm,0.8s,baz=335,slow=8.0,SNR=8.4
comp=Z,2.1nm,0.8s
ARVC Arvin 35.34 313 P P 05 05 15.0 -1.6
baz=120
ISA Isabella, Lake 35.37 315 P P 05 05 16.0 -0.9
baz=121
AHID Auburn Hatcher 35.57 330 P P 05 05 18.9 +0.2
AGMN Agassiz Nation 35.59 351 IAmb IAmb 05 05 22.3
comp=Z,18nm,1.1s
AGMN Agassiz Nation 35.59 351 P P 05 05 19.0 +0.5
baz=166,SNR=6.8
HVU Hansel Valley 35.69 328 IAmb IAmb 05 05 23.5
comp=Z,18nm,1.5s
MDP Montagnes des 35.81 100 LR LR 05 22 07.2
comp=Z,646nm,19.8s,baz=290,slow=40
MDND Maddock 35.86 347 P P 05 05 21.0 +0.2
MDND Maddock 35.86 347 P P 05 05 21.1 +0.2
baz=160
ECR Eagle Creek 35.92 330 P P 05 05 22.3 +0.6
PKM Mcpherson Peak 35.93 312 P P 05 05 21.3 -0.5
baz=119
LOHW Long Hollow 35.98 332 IAmb IAmb 05 05 27.1
comp=Z,19nm,1.3s
TPAW Teton Pass 36.05 331 P P 05 05 24.1 +1.2
FXWY Fox Creek 36.20 331 P P 05 05 25.8 +1.7
SMMC Simmler 36.27 313 P P 05 05 25.0 +0.5
baz=119
G65A Princeton 36.33 25 P P 05 05 25.8 +0.9
G65A IAmb IAmb 05 05 30.4
comp=Z,17nm,0.8s
ELK Elko 36.33 324 P P 05 05 26.0 +0.8
ELK Elko 36.33 324 LR LR 05 23 33.5
comp=Z,439nm,19.0s,slow=42
IMW Indian Meadow 36.36 332 P P 05 05 26.0 +0.5
FLWY Flagg Ranch 36.39 332 P P 05 05 27.3 +1.6
FLWY IAmb IAmb 05 05 37.0
comp=Z,21nm,1.4s
H17A Grant Village 36.58 333 IAmb IAmb 05 05 37.7
comp=Z,16nm,1.4s
H17A Grant Village 36.58 333 P P 05 05 28.1 +0.7
baz=141
RLMT Red Lodge 36.59 335 P P 05 05 27.9 +0.5
RLMT IAmb IAmb 05 05 32.0
comp=Z,22nm,1.6s
RLMT Red Lodge 36.59 335 P P 05 05 28.1 +0.8
baz=144
LKWY Lake 36.63 333 P P 05 05 25.8 -2.0
LKWY IAmb IAmb 05 05 38.9
comp=Z,13nm,1.3s
YMP Mirror Lake Pl 36.66 333 P P 05 05 28.9 +0.8
YMP IAmb IAmb 05 05 43.5
comp=Z,19nm,1.4s
LAO LASA Array 36.72 339 P P 05 05 28.9 +0.6
baz=149
NVAR Mina Array Bea 36.77 319 P P 05 05 27.6 -1.4
NVAR Mina Array Bea 36.77 319 P P 05 05 29.5 +0.5
comp=Z,1.1nm,0.9s,baz=122,slow=9.0,SNR=7.9
NVAR LR LR 05 23 43.8
comp=Z,672nm,18.3s,baz=130,slow=42
comp=Z,1.1nm,0.9s
MDPB Dennis Postpil 36.83 317 P P 05 05 28.8 -0.8
KVN Kaiserville 37.00 320 P P 05 05 31.8 +0.9
ULM Lac du Bonnet 37.49 352 P P 05 05 33.0 -1.7
comp=Z,3.0nm,0.8s,baz=176,slow=9.8,SNR=5.3
ULM LR LR 05 21 51.1
comp=Z,191nm,21.7s,baz=170,slow=38
comp=Z,3.0nm,0.8s
GO01 Chusmiza 37.56 150 P P 05 05 36.3 +0.1
GO01 IAmb IAmb 05 05 40.2
comp=Z,21nm,1.5s
DGMT Dagmar 37.63 342 IAmb IAmb 05 05 39.3
comp=Z,13nm,0.8s
DGMT Dagmar 37.63 342 P P 05 05 37.4 +1.4
baz=153,SNR=8.1
HLID Hailey 37.81 328 P P 05 05 38.7 +1.0
baz=135,SNR=5.4
BOZ Bozeman (W) 37.98 333 P P 05 05 40.7 +1.6
baz=140,SNR=5.6
MFID Camas Ranch 38.45 327 P P 05 05 43.2 +0.2
EGMT Eagleton 39.14 337 IAmb IAmb 05 05 55.1
comp=Z,22nm,1.6s
EGMT Eagleton 39.14 337 P P 05 05 48.5 -0.3
baz=145
PB09 IPOC Station P 39.37 152 IAmb IAmb 05 05 53.5
comp=Z,51nm,1.8s
WVOR Wild Horse Val 39.37 324 P P 05 05 51.0 +0.3
J08A Circle Bar Ran 39.86 325 P P 05 05 55.8 +0.9
MSO Missoula 39.96 332 P P 05 05 54.7 -0.9
baz=138
BMO Blue Mountains 40.20 327 P P 05 05 57.1 -0.6
LVC Limon Verde 40.22 152 P P 05 05 59.0 +0.6
LVC IAmb IAmb 05 06 10.3
comp=Z,11nm,1.0s
I07A Izee 40.89 325 P P 05 06 04.2 +0.8
F10A Beach Ranch, E 40.93 329 IAmb IAmb 05 06 08.8
comp=Z,22nm,1.7s
YBH Yreka Blue Hor 41.42 320 LR LR 05 26 32.9
comp=Z,392nm,18.6s,baz=154,slow=41
NEW Newport 42.48 331 P P 05 06 15.4 -0.9
baz=135
NEW Newport 42.48 331 LR LR 05 28 13.0
comp=Z,316nm,18.6s,baz=128,slow=42
FFC Flin Flon 42.85 348 P P 05 06 18.7 -0.3
LON Longmire 43.83 326 P P 05 06 28.0 +0.8
AC02 Maricunga 43.83 155 P P 05 06 29.1 +1.2
AC02 IAmb IAmb 05 06 39.2
comp=Z,19nm,1.4s
EDM Edmonton 44.71 339 P P 05 06 34.2 0.0
EDM IAmb IAmb 05 06 37.8
comp=Z,21nm,1.3s
SCHQ Schefferville 44.72 17 P P 05 06 34.0 -0.2
comp=Z,7.3nm,0.9s,baz=187,slow=3.3,SNR=6.1
SCHQ LR LR 05 26 20.5
comp=Z,897nm,18.5s,baz=209,slow=38
comp=Z,7.3nm,0.9s
AC05 El Transito 45.18 158 IAmb IAmb 05 06 53.5
comp=Z,25nm,1.6s
LCO Las Campanas 45.19 158 P P 05 06 39.1 +0.6
LCO IAmb IAmb 05 06 46.2
comp=Z,23nm,1.6s
FCC Fort Churchill 45.70 356 IAmb IAmb 05 06 45.5
comp=Z,122nm,1.1s
CO02 Combarbal 47.09 160 P P 05 06 53.2 0.0
VA03 San Esteban 48.67 160 P P 05 07 05.4 -0.1
BDFB Brasilia 48.86 125 LR LR 05 29 29.6
comp=Z,726nm,19.1s,baz=275,slow=38
MT08 Bocatoma Ro 49.47 160 P P 05 07 12.5 +0.8
BBB Bella Bella 50.39 329 LR LR 05 33 36.3
comp=Z,165nm,18.3s,baz=61,slow=42
FRB Frobisher Bay 52.29 11 LR LR 05 31 01.4
comp=Z,548nm,18.1s,baz=195,slow=38
YKA Yellowknife Ar 52.74 345 P P 05 07 35.7 0.0
YKA Yellowknife Ar 52.74 345 P P 05 07 34.7 -0.9
comp=Z,3.7nm,0.9s,baz=137,slow=6.8,SNR=38
YKA LR LR 05 32 24.5
comp=Z,247nm,20.9s,baz=171,slow=39
comp=Z,3.7nm,0.9s
TOAD Toad River Com 53.34 337 P P 05 07 40.7 +0.6
baz=133
T35M Bob Quinn 54.21 333 P P 05 07 47.4 +0.7
baz=126
RCBR Riachuelo 55.11 107 LR LR 05 34 28.0
comp=Z,416nm,19.2s,baz=262,slow=39
PLCA Paso Flores 56.06 164 P P 05 07 59.8 -0.3
comp=Z,1.6nm,0.9s,baz=343,slow=11,SNR=2.8
comp=Z,1.6nm,0.9s
TAOE Nuku Hiva Isla 56.21 250 *e*LR LR 05 24 18.3
comp=Z,592nm,24.2s
P33M Teslin, Yukon 57.20 335 P P 05 08 08.9 +0.8
baz=125
P32M Atlin 57.21 334 P P 05 08 08.6 +0.5
baz=124
SFJD Kangerlussuaq 59.15 16 LR LR 05 33 58.8
comp=Z,254nm,19.1s,baz=220,slow=36
YUK4 Talbot Arm 60.22 335 P P 05 08 32.8 +3.5
baz=120
RES Resolute Bay 61.59 358 P P 05 08 37.1 -0.9
RES IAmb IAmb 05 08 41.1
comp=Z,5.8nm,1.1s
RES Resolute Bay 61.59 358 LR LR 05 37 47.3
comp=Z,106nm,18.6s,baz=193,slow=38
G31M Satah River 61.70 341 P P 05 08 40.0 +1.1
baz=127
DAWY Dawson 61.88 337 P P 05 08 40.9 +0.6
baz=120
EPYK Eagle Plains 62.17 340 P P 05 08 45.2 +3.0
baz=124
INK Inuvik 62.32 343 P P 05 08 43.8 +0.7
INK IAmb IAmb 05 08 57.4
comp=Z,4.4nm,1.0s
INK Inuvik 62.32 343 P P 05 08 43.8 +0.7
baz=128
INK Inuvik 62.32 343 LR LR 05 41 18.8
comp=Z,299nm,18.2s,baz=115,slow=41
L27K Beaver Creek, 62.35 335 P P 05 08 46.1 +2.6
baz=117
G30M tAoh Zraii Nji 62.35 341 P P 05 08 44.0 +0.6
baz=125
M26K Nabesna, AK 62.53 335 P P 05 08 47.3 +2.6
baz=116
F30M Barrier River 62.58 341 P P 05 08 46.5 +1.7
baz=126
BMRM Bremner River 62.62 333 P P 05 08 46.2 +0.9
baz=114
I28M Miner Creek 62.79 338 P P 05 08 49.0 +2.6
baz=120
A36M Sachs Harbour 62.81 348 P P 05 08 48.7 +2.4
baz=138
N25K Chitina, Valde 62.88 333 P P 05 08 49.7 +2.6
baz=114
G29M Pine Creek 62.90 340 P P 05 08 49.4 +2.3
baz=123
HARP HAARP 63.45 334 P P 05 08 53.4 +2.6
baz=114
I27K Kandik River 63.48 338 P P 05 08 53.2 +2.3
baz=119
P23K Montague Islan 63.54 331 P P 05 08 54.0 +2.7
baz=110
SCRK Sand Creek 63.63 336 P P 05 08 54.2 +2.2
baz=116
ICESG Greenland Ices 63.63 17 *i* P P 05 08 52.1 -0.1
ICESG IAmb IAmb 05 08 54.9
comp=Z,14nm,1.0s
E29M Blow River 63.68 342 P P 05 08 52.6 +0.4
E29M Blow River 63.68 342 P P 05 08 52.8 +0.6
baz=124
H27K Steamboat Moun 63.75 339 P P 05 08 54.3 +1.6
baz=119
F28M Old Crow 63.89 340 P P 05 08 53.8 +0.3
F28M IAmb IAmb 05 09 10.2
comp=Z,7.6nm,0.8s
I26K Coal Creek Min 63.90 337 P P 05 08 55.0 +1.3
baz=117
G27K Doyon Strip 64.08 339 P P 05 08 56.1 +1.3
baz=119
E28M Babbage River 64.31 341 P P 05 08 56.3 0.0
E28M IAmb IAmb 05 09 17.2
comp=Z,17nm,1.9s
E28M Babbage River 64.31 341 P P 05 08 57.2 +0.9
baz=122
J25K Salcha River, 64.45 336 P P 05 08 58.5 +1.2
baz=114
D28M Stokes Point 64.46 342 P P 05 08 58.9 +1.7
baz=123
KKO Keanakako`i 64.50 285 P P 05 08 59.1 +0.6
E27K Coleen River 64.74 341 P P 05 09 00.7 +1.5
E27K IAmb IAmb 05 09 01.7
comp=Z,10nm,1.4s
E27K Coleen River 64.74 341 P P 05 09 00.8 +1.5
baz=120
IL31 65.11 336 P P 05 09 02.0 +0.5
IL31 IAmb IAmb 05 09 18.0
comp=Z,15nm,1.6s
ILAR Eielson Array 65.11 336 P P 05 09 01.1 -0.5
ILAR Eielson Array 65.11 336 P P 05 08 59.9 -1.7
comp=Z,1.0nm,0.8s,baz=114,slow=5.4,SNR=9.9
ILAR LR LR 05 42 42.7
comp=Z,186nm,18.2s,baz=98,slow=41
comp=Z,1.0nm,0.8s
H25L Birch Creek 65.31 338 P P 05 09 04.5 +1.7
baz=115
F26K Sheenjek River 65.35 340 P P 05 09 05.8 +2.6
baz=117
BMAR Burnt Mountain 65.38 339 P P 05 09 03.5 +0.1
F25K Christian Rive 65.82 339 P P 05 09 07.7 +1.5
baz=115
H24K Noodor Dome 65.91 337 P P 05 09 07.3 +0.5
baz=112
SUMG Summit 66.00 15 P P 05 09 06.9 -0.8
SUMG Summit 66.00 15 *i* P P 05 09 08.1 +0.4
SUMG IAmb IAmb 05 09 11.8
comp=Z,16nm,1.1s
TRF Thorofare Moun 66.02 334 P P 05 09 10.1 +2.4
baz=109
E25K Arctic Village 66.03 340 P P 05 09 10.4 +3.0
baz=116
G24K Hadweenzic Riv 66.10 338 P P 05 09 08.8 +0.9
baz=113
C27K Jago River 66.12 342 P P 05 09 08.6 +0.6
baz=118
I23K Minto, Yukon-K 66.22 336 P P 05 09 09.3 +0.6
baz=111
BPAW Bear Paw Mtn. 66.52 335 P P 05 09 11.6 +0.9
baz=109
H23K Yukon River 66.54 337 P P 05 09 12.0 +1.2
baz=111
F24K Squaw Lake 66.57 339 P P 05 09 12.5 +1.5
baz=113
C26K Camden Bay 66.62 342 P P 05 09 13.5 +2.3
baz=117
PPLA Purkeypile 66.66 333 P P 05 09 13.5 +1.7
baz=107
MLY Manley 66.73 336 P P 05 09 13.6 +1.5
baz=109
CAST Castle Rocks 66.77 334 P P 05 09 14.2 +1.9
baz=107
M20K Styx River 66.79 332 P P 05 09 12.6 +0.1
baz=106
D25K Kavik River 66.81 341 P P 05 09 12.0 -0.6
D25K IAmb IAmb 05 09 28.5
comp=Z,5.1nm,0.9s
D25K Kavik River 66.81 341 P P 05 09 13.4 +0.8
baz=115
O19K Port Alsworth 66.91 330 P P 05 09 13.7 +0.6
baz=104
NEEM North Greenlan 66.94 8 *i* P P 05 09 12.6 -0.9
NEEM IAmb IAmb 05 09 16.8
comp=Z,32nm,1.4s
E24K Your Creek 67.00 339 P P 05 09 15.3 +1.5
baz=113
G23K Bananza Creek 67.04 338 P P 05 09 14.8 +0.8
baz=111
COLD Coldfoot 67.29 338 P P 05 09 17.1 +1.6
baz=111
E23K Chandalar 67.39 339 P P 05 09 18.1 +1.8
baz=112
D24K Happy Valley 67.54 340 P P 05 09 18.0 +0.9
baz=113
TOLK Toolik Lake Re 67.59 340 P P 05 09 19.0 +1.5
baz=112
C24K Franklin Bluff 67.72 341 P P 05 09 19.1 +0.9
baz=113
N18K Kilae Creek 67.78 330 P P 05 09 21.6 +2.9
baz=103
J20K Nowinta River 67.87 334 P P 05 09 21.5 +2.3
baz=106
PPT2 Papeete2 68.02 245 *e*LR LR 05 29 52.8
comp=Z,887nm,25.0s
PPT2 *e*LR LR 05 29 59.0
comp=Z,619nm,25.2s
D23K Nanushuk River 68.09 340 P P 05 09 22.8 +2.3
baz=111
F22K John River 68.11 338 P P 05 09 22.6 +1.9
baz=109
O17K Koliganek Bris 68.17 329 P P 05 09 21.7 +0.5
baz=101
E22K Anaktuvuk Pass 68.19 339 P P 05 09 21.7 +0.5
baz=110
BORG Borgarnes 68.27 25 LR LR 05 41 59.3
comp=Z,105nm,18.2s,baz=260,slow=38
G21K Allakaket 68.29 337 P P 05 09 24.1 +2.2
baz=107
C23K Itkillik River 68.38 341 P P 05 09 22.1 -0.2
C23K IAmb IAmb 05 09 33.2
comp=Z,8.2nm,1.1s
C23K Itkillik River 68.38 341 P P 05 09 23.9 +1.6
baz=111
F21K Alatna River 68.50 338 P P 05 09 23.3 +0.2
F21K IAmb IAmb 05 09 34.7
comp=Z,4.3nm,0.9s
D20K Etivluk River 70.05 339 P P 05 09 34.6 +1.8
baz=105
TBI Tubuai 70.21 239 *e*LR LR 05 31 05.8
comp=Z,µm,26.0s
DAG Danmarks Havn 72.55 13 *i* P P 05 09 46.5 -1.1
JMIC Jan Mayen 74.19 20 LR LR 05 44 44.7
comp=Z,133nm,18.0s,baz=271,slow=38
NOR Nord 74.31 8 *i* P P 05 09 57.7 -0.3
NOR IAmb IAmb 05 10 23.2
comp=Z,1.7nm,1.1s
EKA Eskdalemuir Ar 76.34 36 P P 05 10 09.2 -0.9
comp=Z,2.8nm,1.0s,baz=259,slow=5.5,SNR=6.3
comp=Z,2.8nm,1.0s
ESDC Sonseca Array 77.17 52 P P 05 10 15.7 +0.5
ESDC IAmb IAmb 05 10 17.8
comp=Z,12nm,1.8s
ESDC Sonseca Array 77.17 52 P P 05 10 13.8 -1.4
comp=Z,1.9nm,1.0s,baz=282,slow=5.4,SNR=10
comp=Z,1.9nm,1.0s
SPITS Spitsbergen Ar 80.08 12 LR LR 05 46 07.0
comp=Z,269nm,20.7s,baz=255,slow=36
NOA NORSAR Array B 82.98 29 LR LR 05 44 40.4
comp=Z,140nm,20.7s,baz=280,slow=34
HFS Hagfors 84.40 29 LR LR 05 49 27.1
comp=Z,94nm,18.4s,baz=288,slow=36
ARCES ARCESS Array B 85.66 19 LR LR 05 47 37.3
comp=Z,127nm,21.2s,baz=304,slow=35
DAVOX Davos/Dischmat 85.82 43 LR LR 05 48 09.3
comp=Z,152nm,18.1s,baz=280,slow=35
CLL Collm 86.57 38 *i* P P 05 11 05.4 +1.0
CLL AMS AMS 05 52 00.0
comp=N,100nm,18.8s
CLL AMS AMS 05 52 00.0
comp=E,200nm,21.6s
CLL AMS AMS 05 52 00.0
comp=Z,200nm,18.9s
GERES GERESS Array B 87.73 40 LR LR 05 48 32.7

comp=Z,195nm,18.6s,baz=282,slow=34
VRAC Vranov 89.38 39 LR LR 05 49 46.3
comp=Z,177nm,18.4s,baz=269,slow=35
AKASG Malin Array Be 96.22 35 LR LR 05 54 50.6
comp=Z,181nm,18.7s,baz=264,slow=35
OBN Obninsk 97.58 28 LR LR 05 51 49.6
comp=Z,119nm,22.0s,baz=339,slow=33
DZM Mont Dzumac 109.07 251 eLR LR 05 48 55.4
comp=Z,254nm,23.6s
HHC Hu-ho-hao-te 123.24 342 eP **PKPdf 05 17 13.5 -5.1**
NJ2 Nanjing 128.15 331 eP **PKiKP 05 17 29.3 +0.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
WRA Warramunga Arr 138.93 255 PKP **PKPdf 05 17 47.2 -1.3**
comp=Z,1.8nm,0.9s,baz=91,slow=2.6,SNR=11
ASAR Alice Springs 139.02 249 PKhKP PKPpre 05 17 44.4
comp=Z,0.2nm,0.4s,baz=80,slow=2.6,SNR=3.8
PZH PanZhiHua 139.40 346 PKP **PKPdf 05 17 49.3 -0.2**

*IDC **06** 05:02:44.6±2.1,2˚.39S×140˚.72E,h0km,mb3.8/6, mbtmp3.9/7,ML4.3/2,MS3.7/3,Error ellipse: s-maj=62.3km s-min=15.7km az=93.0*
*NEIC **06** 05:02:46.5±0.6,2˚.3S±0˚.1×140˚.07E±0˚.04,h10km±2km, mb4.1/11,Error ellipse: s-maj=22.6km s-min=7.2km az=358.0*
*DJA **06** 05:02:49.2±0.9,3˚S±14˚×14˚0E±˚,h42km±15km,M4.1/5, mb4.2/1,MLv4.1/5*
ISC 06 05:02:50.1±0.7,2˚.46S±0˚.08×140˚.11E±0˚.07,h25km,n31, σ2s24/30,mb3.9/7,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.14**	**158**	P		**Pb**	**05 02 56.3**	**+1.1**
GENI				S		**Sb**	**05 03 01.5**	**+2.9**
JAY	**Jayapura**	**0.59**	**95**	P		**Pb**	**05 03 01.7**	**-0.3**
SMPI	**Sarmi**	**1.48**	**288**	P		**Pn**	**05 03 14.5**	**-0.6**
FAKI	**Fak Fak**	**7.87**	**266**	Pn		**Pn**	**05 04 40.0**	**-3.0**
FAKI	**Fak Fak**	**7.87**	**266**	P		**Pn**	**05 04 41.4**	**-1.7**
PMG	**Port Moresby**	**9.83**	**135**	Pn		**Pn**	**05 05 08.5**	**-1.5**
RABL	**Rabaul**	**12.15**	**98**	Pn		**Pn**	**05 05 40.6**	**-1.3**
TNTI	**Ternate**	**13.14**	**284**	Pn		Pn	05 05 51.5	-3.8
MTN	**Manton Dam**	**13.62**	**220**	Pn		**Pn**	**05 06 00.9**	**-0.9**
GUMO	**Guam**	**16.63**	**16**	LR		LR	05 12 56.7	
comp=Z,67nm,18.0s,baz=42,slow=37								
KNRA	**Kununurra**	**17.25**	**220**	P		**Pn**	**05 06 48.7**	**-0.8**
KNRA				IAmb		IAmb	05 06 52.3	
comp=Z,16nm,1.1s								
SOEI	**Soe**	**17.33**	**245**	P		**Pn**	**05 06 48.6**	**-2.0**
BATI	**Baumata**	**18.06**	**244**	P		**P**	**05 07 05.6**	**+5.8**
comp=Z,3.5nm,0.3s,baz=87,slow=19,SNR=5.1								
WB0	**Warramunga Arr**	**18.09**	**198**	P		**Pn**	**05 06 59.1**	**-0.8**
WB0				IAmb		IAmb	05 07 33.3	
comp=Z,14nm,1.2s								
WR0	**Warramunga Arr**	**18.23**	**197**	P		**P**	**05 07 01.2**	**-0.5**
WR0				IAmb		IAmb	05 07 08.4	
comp=Z,9.0nm,0.9s								
WRAB	**Tennant Creek**	**18.26**	**198**	P		**P**	**05 07 01.5**	**-0.5**
WRAB				IAmb		IAmb	05 07 06.0	
comp=Z,9.6nm,0.7s								
WB2	**Warramunga Arr**	**18.27**	**198**	P		**P**	**05 07 01.8**	**-0.3**
WB2				IAmb		IAmb	05 07 05.2	
comp=Z,12nm,0.8s								
WRA	**Warramunga Arr**	**18.27**	**198**	P		**P**	**05 07 03.5**	**+1.4**
comp=Z,0.5nm,0.3s,baz=20,slow=12,SNR=23								
WRA				S		**Sn**	**05 10 19.5**	**-6.1**
comp=Z,1.7nm,1.0s,baz=15,slow=22,SNR=3.5								
comp=Z,6.8nm,0.9s								
CTAO	**Charters Tower**	**18.52**	**162**	P		**P**	**05 07 05.0**	**+0.1**
CTAO				IAmb		IAmb	05 07 49.4	
comp=Z,19nm,1.4s								
TOLI2	**Tolitoli**	**19.65**	**280**	P		**P**	**05 07 14.8**	**-2.5**
AS31	**Alice Springs**	**21.92**	**195**	P		**P**	**05 07 41.4**	**-0.4**
ASAR	**Alice Springs**	**21.92**	**195**	P		**P**	**05 07 41.5**	**-0.3**
ASAR	**Alice Springs**	**21.92**	**195**	P		**P**	**05 07 43.0**	**+1.2**
comp=Z,2.5nm,0.7s,baz=27,slow=11,SNR=25								
ASAR				S		**S**	**05 11 47.3**	**+4.4**
comp=Z,0.7nm,1.0s,baz=18,slow=28,SNR=2.4								
comp=Z,2.5nm,0.7s								
CMAR	**Chiang Mai Arr**	**45.54**	**299**	P		**P**	**05 11 09.9**	**+1.8**
comp=Z,0.5nm,0.3s,baz=96,slow=5.5,SNR=4.2								
comp=Z,0.5nm,0.3s								
MKAR	**Makanchi Array**	**70.45**	**322**	P		**P**	**05 14 02.9**	**+0.3**
comp=Z,0.9nm,0.7s,baz=110,slow=7.5,SNR=5.6								
comp=Z,0.9nm,0.7s								
ZALV	**Zalesovo Beam**	**72.43**	**329**	P		**P**	**05 14 14.0**	**-0.2**
comp=Z,0.4nm,0.3s,baz=102,slow=6.2,SNR=2.8								
comp=Z,0.4nm,0.3s								
KURBB	**Kurchatov Arra**	**74.33**	**324**	P		**P**	**05 14 26.1**	**+0.6**
comp=Z,0.5nm,0.5s,baz=115,slow=4.0,SNR=2.1								
comp=Z,0.5nm,0.5s								
BVAR	**Borovoye Array**	**79.91**	**325**	P		**P**	**05 14 56.7**	**-0.2**
comp=Z,0.7nm,0.6s,baz=108,slow=4.7,SNR=2.3								
comp=Z,0.7nm,0.6s								
ARU	**Arti**	**87.36**	**327**	LR		LR	05 57 18.5	
comp=Z,69nm,20.6s,baz=313,slow=37								
QSPA	**South Pole Qui**	**87.49**	**180**	P		**P**	**05 15 36.0**	**+0.4**
QSPA				IAmb		IAmb	05 16 19.3	
comp=Z,4.7nm,1.4s								
NEW	**Newport**	**100.32**	**41**	LR		LR	05 53 47.8	
comp=Z,57nm,20.2s,baz=176,slow=31								

*CATAC **06** 05:06:31.1±0.2,13˚.19N×88˚.04W,h1km±3km,ML3.5*
*SNET **06** 05:06:32.0±0.6,13˚.24N×88˚.05W,h1km±2km,ML3.6*
ISC 06 05:06:31.4±0.9,13˚.25N±0˚.05×88˚.05W±0˚.02,h15km±6km, n38,σ0s64/43,2C-3D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.16**	**69**	⇑*i*P		**Pg**	**05 06 35.4**	**0.0**
LCND				*e*S		**Sg**	**05 06 38.2**	**0.0**
LCND	**La Caada**	**0.16**	**69**	*i* P		**Pg**	**05 06 35.5**	**0.0**
LCND				IAML			05 06 39.9	
comp=Z,32µm,1.0s								
JUCU	**Jucuar¡n**	**0.20**	**271**	⇓*i*P		**Pg**	**05 06 35.6**	**-0.5**
JUCU				*e*S		**Sg**	**05 06 38.8**	**-0.4**
JUCU	**Jucuar¡n**	**0.20**	**271**	*i* P		**Pg**	**05 06 35.6**	**-0.5**
JUCU				IAML			05 06 42.2	
comp=Z,27µm,1.0s								
CNCH	**Conchagua**	**0.21**	**83**	*e*P		**Pg**	**05 06 36.4**	**+0.1**
CNCH				*e*S		**Sb**	**05 06 40.1**	**-0.7**
CNCH	**Conchagua**	**0.21**	**83**	*i* P		**Pb**	**05 06 36.8**	**-0.2**
CNCH				IAML			05 06 42.2	
comp=Z,42µm,1.0s								
CNRM	**Centro Naciona**	**0.25**	**332**	⇓*e*P		**Pg**	**05 06 36.9**	**0.0**
CNRM				*e*S		**Sg**	**05 06 41.2**	**+0.6**
CNRM	**Centro Naciona**	**0.25**	**332**	*i* P		**Pg**	**05 06 36.9**	**0.0**
CNRM				IAML			05 06 49.1	
comp=Z,37µm,1.0s								
RANC	**El Ranchito**	**0.30**	**308**	⇑*i*P		**Pg**	**05 06 37.9**	**+0.1**
RANC	**El Ranchito**	**0.30**	**308**	*i* P		**Pg**	**05 06 38.0**	**+0.3**
RANC				IAML			05 06 44.7	
comp=Z,4µm,1.0s								
PACA	**Pacayal**	**0.34**	**309**	*i* P		**Pg**	**05 06 39.0**	**+0.4**
PACA				IAML			05 06 51.8	
comp=Z,19µm,1.0s								
AMPH	**Amapala**	**0.38**	**85**	⇓*i*P		**Pg**	**05 06 39.3**	**+0.2**
AMPH				*e*S		**Sb**	**05 06 45.3**	**-0.3**
COEB	**Comit de Eme**	**0.53**	**298**	*i* P		**Pg**	**05 06 41.7**	**-0.2**
COEB				IAML			05 06 51.1	
comp=Z,2µm,1.0s								
TECO	**Alcaldia de Te**	**0.77**	**292**	*i* P		**Pg**	**05 06 45.7**	**-0.7**
TECO				IAML			05 07 00.6	
comp=Z,960nm,1.0s								
SCLA	**Alcaldia de Sa**	**0.80**	**304**	*i* P		**Pg**	**05 06 46.8**	**-0.2**
SCLA				IAML			05 07 02.1	
comp=Z,350nm,1.0s								
UESV	**Universidad de**	**0.82**	**298**	*i* P		**Pg**	**05 06 46.9**	**-0.4**
UESV				IAML			05 06 59.7	
comp=Z,980nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.10**	**43**	*i* P		**Pb**	**05 06 52.1**	**-0.1**
TGUH				IAML			05 07 11.2	
comp=Z,3µm,1.0s								
CRIN	**San Cristobal**	**1.12**	**119**	*i* P		**Pn**	**05 06 52.5**	**-0.1**
CRIN				IAML			05 06 53.5	
comp=Z,5µm,1.0s								
PANCS	**Alcalda de**	**1.16**	**288**	*i* P		**Sn**	**05 07 08.4**	**-0.3**
UEES	**Universidad Ev**	**1.25**	**292**	*i* P		**Pb**	**05 06 55.0**	**+0.3**
UEES				IAML			05 07 18.5	
comp=Z,520nm,1.0s								
LLGN	**La Laguna**	**1.26**	**316**	*i* P		**Pn**	**05 06 54.2**	**-0.3**
LLGN				IAML			05 07 34.5	
comp=Z,570nm,1.0s								
PMON	**Piamonte**	**1.31**	**291**	*i* P		**Pb**	**05 06 55.8**	**-0.1**
PMON				IAML			05 07 19.6	
comp=Z,1µm,1.0s								
POLN	**Al Sur del Vol**	**1.34**	**116**	*i* P		**Pn**	**05 06 55.1**	**-0.5**
POLN				IAML			05 06 55.8	
comp=Z,530nm,1.0s								
HERN	**Volcan Telica**	**1.35**	**118**	*i* P		**Pn**	**05 06 55.4**	**-0.3**
HERN				IAML			05 06 56.3	
comp=Z,940nm,1.0s								
TEL3	**Telica 3**	**1.35**	**120**	*i* P		**Pn**	**05 06 54.7**	**-1.1**
TEL3				IAML			05 07 02.6	
comp=Z,1µm,1.0s								
JAYA	**Jayaque - finc**	**1.42**	**287**	*i* P		**Pb**	**05 06 57.8**	**+0.1**
JAYA				IAML			05 07 18.8	
comp=Z,2µm,1.0s								
PACN	**Al O del Volca**	**1.43**	**121**	*i* P		**Pn**	**05 06 56.9**	**0.0**
PACN				IAML			05 06 58.3	
comp=Z,880nm,1.0s								
ROCN	**Rota Cerro Neg**	**1.46**	**120**	*i* P		**Pn**	**05 06 57.0**	**-0.3**
ROCN				IAML			05 07 21.9	
comp=Z,270nm,1.0s								
CNGA	**Al SSO del Vol**	**1.51**	**120**	*i* P		**Pn**	**05 06 56.5**	**-1.5**
CNGA				IAML			05 07 27.1	
comp=Z,470nm,1.0s								
CNGN	**Cerro Negro**	**1.51**	**119**	*i* P		**Pn**	**05 06 57.8**	**-0.2**
CNGN				IAML			05 07 38.5	
comp=Z,620nm,1.0s								
MOMN	**Momotombo**	**1.69**	**120**	*i* P		**Pn**	**05 07 01.0**	**+0.5**
MOMN				IAML			05 07 06.0	
comp=Z,15nm,1.0s								
MTO3	**Montecristo**	**1.71**	**312**	*i* P		**Pb**	**05 07 02.2**	**-0.5**
MTO3				IAML			05 07 04.2	
comp=Z,200nm,1.0s								
MOM2	**El Cardon**	**1.73**	**118**	*i* P		**Pn**	**05 07 00.8**	**-0.1**
MOM2				IAML			05 07 03.2	
comp=Z,250nm,1.0s								
COPN	**Copaltepe**	**1.77**	**127**	*i* P		**Pn**	**05 07 01.8**	**+0.2**
COPN				IAML			05 07 09.6	
comp=Z,160nm,1.0s								
NUBE	**Las Nubes**	**1.81**	**291**	*i* P		**Pn**	**05 07 03.2**	**+1.1**
NUBE				IAML			05 07 38.6	
comp=Z,330nm,1.0s								
ESQI	**Esquipulas**	**1.81**	**316**	*i* P		**Pb**	**05 07 04.8**	**+0.5**
ESQI				IAML			05 07 54.3	
comp=Z,340nm,1.0s								
HZTE	**Horizontes, Gu**	**3.48**	**136**	*i* P		**Pn**	**05 07 27.3**	**+2.3**
HZTE				IAML			05 07 59.2	
comp=Z,110nm,1.0s								
ORTG	**Ortega, Santa**	**3.83**	**138**	*i* P		**Pn**	**05 07 31.3**	**+1.4**
ORTG				IAML			05 07 35.2	
comp=Z,63nm,1.0s								

*IDC **06** 05:09:57.7±0.8,34˚.53S×107˚.92W,h0km,mb4.1/11, mbtmp4.1/11,MS4.6/35,Error ellipse: s-maj=24.0km s-min=20.6km az=102.0*
*NEIC **06** 05:10:01.9,34˚.72S×107˚.67W,h26km*
*NEIC **06** 05:10:01.8±1.1,34˚.71S±0˚.09×107˚.6W±0˚.1,h10km±1km, mb4.8/84,Ms_20 4.9/131,Mwb5.4/9,Mww5.5/12,Error ellipse: s-maj=21.5km s-min=6.4km az=229.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.60; Mθθ=0.06; Mφφ=0.54; Mrθ=0.03; Mrφ=-1.64; Mθφ=0.35; Fault plane solution: M0.1.77000×10¹⁷ NP1:φs94.49000°, δ75.39000°,λ-174.23000°. NP2:φs3.03000°,δ84.42000°, λ-14.68000°. Principal axes: T 1.9886, Plg6.0000°, Azm50.0000°; N -0.5798, Plg74.0000°, Azm163.0000°; P -1.4088, Plg14.0000°, Azm318.0000°;*
*NEIC **06** 05:10:01.9,34˚.72S×107˚.67W,h10km*
*NEIC **06** 05:10:01.9,35˚.12S×107˚.91W,h26km,Moment Tensor Solution. Duration: 2s Moment tensor: Scale 10¹⁷Nm; Mrr=0.16; Mθθ=0.51; Mφφ=0.67; Mrθ=0.52; Mrφ=-1.89; Mθφ=0.17; Fault plane solution: M0.2.06000×10¹⁷ NP1: φs279.65000°,δ82.40000°,λ-165.75000°. NP2: φs187.72000°,δ75.87000°,λ-7.84000°. Principal axes: T 2.0768, Plg5.0000°, Azm53.0000°; N -0.0341, Plg74.0000°, Azm307.0000°; P -2.0427, Plg15.0000°, Azm144.0000°;*
*GCMT **06** 05:10:03.8±0.1,34˚.98S±0˚.01×108˚.06W±0˚.01,h18km, MW5.4/151,Moment Tensor Solution. s128,c233; s151,c275; Duration: 1s2 Moment tensor: Scale 10¹⁷ Nm; Mrr=0.12±.02; Mθθ=0.42±.02; Mφφ0.53±.02; Mrθ0.04±.04; Mθφ-1.42±.02; Mφr-0.60±.05; Best double couple: M0.1.61000×10¹⁷ NP1:φs189.00000°,δ88.00000°, λ21.00000°. NP2:φs99.00000°,δ69.00000°,λ178.00000°. Principal axes: T 1.7010, Plg16.0000°, Azm56.0000°; N -0.1820, Plg69.0000°, Azm193.0000°; P -1.5200, Plg14.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 05:09:59.6±0.5,34˚.59S±0˚.09×108˚.00W±0˚.10,h10km, n231,σ1s70/134,mb4.8/51,MS4.9/100,5C,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**7.53**	**351**	LR		LR	05 14 04.0	
comp=Z,2µm,19.6s,baz=166,slow=33								
LL04	**Puerto Octay**	**28.70**	**113**	P		**P**	**05 15 55.4**	**-1.5**
LL04				IAmb		IAmb	05 16 08.9	
comp=Z,17nm,1.4s								
LR05	**Currie**	**29.00**	**112**	P		**P**	**05 15 58.0**	**-1.5**
LL02	**Futaleuf**	**29.23**	**118**	P		**P**	**05 15 59.9**	**-1.7**
AY03	**Cochrane**	**29.33**	**126**	P		**P**	**05 16 01.4**	**-1.0**
AY03				IAmb		IAmb	05 16 13.8	
comp=Z,24nm,1.4s								
COYC	**Coyhaique**	**29.36**	**123**	P		**P**	**05 16 01.6**	**-1.1**
GO06	**Curarrehue**	**29.42**	**111**	P		**P**	**05 16 02.1**	**-1.3**
GO06				IAmb		IAmb	05 16 14.1	
comp=Z,21nm,1.1s								
GO08	**Villa O'Higgin**	**29.64**	**129**	P		**P**	**05 16 03.8**	**-1.4**
ML02	**Panimavida**	**29.82**	**103**	P		**P**	**05 16 05.4**	**-1.4**
PLCA	**Paso Flores**	**30.11**	**113**	P		**P**	**05 16 07.9**	**-1.5**
PLCA				IAmb		IAmb	05 16 16.6	
comp=Z,21nm,1.1s								
PLCA	**Paso Flores**	**30.11**	**113**	P		**P**	**05 16 08.9**	**-0.5**
comp=Z,4.2nm,1.0s,baz=269,slow=7.3,SNR=11								
comp=Z,4.2nm,1.0s								
PLCA	**Paso Flores**	**30.11**	**113**	*e*P		**P**	**05 16 08.2**	**-1.2**
MT01	**Popeta**	**30.29**	**99**	P		**P**	**05 16 10.0**	**-1.0**
BO01	**Tunca**	**30.32**	**100**	P		**P**	**05 16 10.4**	**-0.8**
MT09	**Talagante**	**30.52**	**99**	P		**P**	**05 16 12.3**	**-0.9**
MT09				IAmb		IAmb	05 16 25.7	
comp=Z,24nm,1.4s								
VA06	**Catapilco**	**30.54**	**97**	P		**P**	**05 16 12.8**	**-0.4**
MG05	**Puerto Natales**	**30.63**	**135**	P		**P**	**05 16 12.4**	**-1.4**
CO06	**Fray Jorge**	**30.77**	**93**	P		**P**	**05 16 13.1**	**-2.1**
CO06				IAmb		IAmb	05 16 31.1	
comp=Z,22nm,1.2s								
BO04	**La Punta**	**30.78**	**100**	P		**P**	**05 16 14.4**	**-1.0**
BO04				IAmb		IAmb	05 16 18.2	
comp=Z,22nm,1.3s								
PEL	**Peldehue**	**30.90**	**98**	P		**P**	**05 16 15.2**	**-1.4**
MT16	**CCHEN**	**30.97**	**99**	P		**P**	**05 16 16.1**	**-1.0**
MT16				IAmb		IAmb	05 16 20.6	
comp=Z,21nm,1.0s								
MT13	**San Alfonso**	**31.10**	**99**	P		**P**	**05 16 15.6**	**-2.7**
CO05	**La Serena**	**31.32**	**92**	P		**P**	**05 16 18.9**	**-1.2**
CO05				IAmb		IAmb	05 16 27.6	
comp=Z,15nm,0.9s								
MT08	**Bocatoma Ro**	**31.38**	**99**	P		**P**	**05 16 19.7**	**-1.2**
MT08				IAmb		IAmb	05 16 36.9	
comp=Z,21nm,1.2s								
CO03	**El Pedregal**	**31.50**	**94**	P		**P**	**05 16 20.9**	**-1.0**
CO03				IAmb		IAmb	05 16 29.7	
comp=Z,18nm,1.3s								
LCO	**Las Campanas**	**32.06**	**90**	P		**P**	**05 16 25.2**	**-1.7**
LCO				IAmb		IAmb	05 16 34.4	
comp=Z,12nm,1.1s								
CO01	**Juntas del Tor**	**32.24**	**92**	P		**P**	**05 16 27.4**	**-1.2**
CO01				IAmb		IAmb	05 16 36.2	
comp=Z,12nm,1.1s								
AC05	**El Transito**	**32.47**	**90**	P		**P**	**05 16 28.9**	**-1.6**
GO03	**Copiap**	**32.94**	**88**	P		**P**	**05 16 32.5**	**-2.0**
GO03				IAmb		IAmb	05 16 41.9	
comp=Z,13nm,1.0s								
ZON	**Zonda**	**32.95**	**96**	P		**P**	**05 16 34.0**	**-0.5**
ZON				IAmb		IAmb	05 16 37.9	
comp=Z,22nm,1.3s								
PB14	**IPOC Station P**	**33.99**	**83**	P		**P**	**05 16 43.5**	**-0.5**
PB14				IAmb		IAmb	05 16 57.9	
comp=Z,17nm,1.3s								
USHA	**Ushuaia**	**34.01**	**139**	LR		LR	05 26 52.0	
comp=Z,3µm,21.7s,baz=298,slow=30								
AC02	**Maricunga**	**34.14**	**88**	P		**P**	**05 16 44.3**	**-1.1**
AC02				IAmb		IAmb	05 16 54.3	
comp=Z,21nm,1.2s								
GO02	**Mina Guanaco**	**34.43**	**85**	P		**P**	**05 16 46.8**	**-0.9**
GO02				IAmb		IAmb	05 16 56.0	
comp=Z,7.7nm,0.8s								
PB15	**IPOC Station P**	**35.39**	**82**	P		**P**	**05 16 54.8**	**-1.2**
PB15				IAmb		IAmb	05 17 06.0	
comp=Z,16nm,1.0s								
LVC	**Limon Verde**	**36.12**	**81**	P		**P**	**05 17 01.0**	**-1.4**
LVC				IAmb		IAmb	05 17 12.4	
comp=Z,15nm,1.1s								
LVC	**Limon Verde**	**36.12**	**81**	LR		LR	05 28 15.2	
comp=Z,1µm,18.2s,baz=248,slow=30								
NNA	**Nana**	**36.16**	**59**	LR		LR	05 28 43.5	
comp=Z,1µm,18.2s,baz=218,slow=31								
PB09	**IPOC Station P**	**36.24**	**80**	P		**P**	**05 17 03.5**	**+0.3**
PB01	**IPOC Station P**	**36.41**	**78**	P		**P**	**05 17 04.2**	**-0.4**
PB01				IAmb		IAmb	05 17 15.0	
comp=Z,22nm,1.5s								
PB11	**IPOC Station P**	**36.93**	**77**	P		**P**	**05 17 08.8**	**-0.2**
PB11				IAmb		IAmb	05 17 17.6	
comp=Z,11nm,0.9s								
TRQA	**Tornquist**	**36.95**	**109**	P		**P**	**05 17 07.9**	**-1.0**
TRQA				IAmb		IAmb	05 17 26.1	
comp=Z,16nm,1.3s								
PB12	**IPOC Station P**	**37.01**	**74**	P		**P**	**05 17 08.6**	**-1.0**
PB12				IAmb		IAmb	05 17 10.8	
comp=Z,23nm,1.0s								
PB08	**IPOC Station P**	**37.14**	**77**	P		**P**	**05 17 11.0**	**-0.1**
GO01	**Chusmiza**	**37.35**	**77**	P		**P**	**05 17 12.8**	**-0.2**
PAYG	**Puerto Ayora**	**37.59**	**30**	IAMs_20		IAMs_20	05 28 32.1	
comp=Z,2µm,19.0s								
ATAH	**Atahualpa**	**38.60**	**52**	LR		LR	05 29 22.2	
comp=Z,2µm,18.8s,baz=236,slow=30								
LPAZ	**La Paz**	**40.04**	**73**	P		**P**	**05 17 34.6**	**-1.1**
LPAZ	**La Paz**	**40.04**	**73**	P		**P**	**05 17 35.9**	**+0.2**
comp=Z,5.8nm,0.8s,baz=231,slow=7.4,SNR=22								
LPAZ				LR		LR	05 30 32.5	
comp=Z,456nm,18.0s,baz=236,slow=31								
comp=Z,5.8nm,0.8s								
LPAZ	**La Paz**	**40.04**	**73**	*e*P		**P**	**05 17 36.4**	**+0.7**
PMSA	**Palmer Station**	**40.08**	**152**	LR		LR	05 29 27.3	
comp=Z,1µm,19.3s,baz=280,slow=29								
ARNL	**Arenillas**	**40.34**	**46**	P		**P**	**05 17 36.3**	**-1.2**
TICA	**Tres Isletas**	**41.52**	**92**	*e*P		**P**	**05 17 47.0**	**-0.3**
CZSB	**Cruzeiro do Su**	**42.03**	**59**	P		**P**	**05 17 51.7**	**+0.2**
CZSB				IAmb		IAmb	05 17 53.9	
comp=Z,25nm,1.3s								
CZSB	**Cruzeiro do Su**	**42.03**	**59**	*e*P		**P**	**05 17 51.7**	**+0.2**
PSAL	**Palomas, Salto**	**42.13**	**100**	*e*P		**P**	**05 17 51.5**	**-0.7**
CHSH	**Refugio Sur-Vo**	**42.69**	**46**	P		**P**	**05 17 58.2**	**+0.7**
CHSH				IAmb		IAmb	05 18 10.9	
comp=Z,21nm,1.2s								
ITQB	**Itaqui**	**43.40**	**98**	P		**P**	**05 18 01.2**	**-1.3**
ITQB	**Itaqui**	**43.40**	**98**	*e*P		**P**	**05 18 01.6**	**-0.8**
ITQB				*e*S		**S**	**05 24 37.3**	**+6.6**
SLOR	**San Lorenzo -**	**43.52**	**46**	P		**P**	**05 18 04.3**	**+0.2**
CPUP	**Villa Florida**	**44.06**	**94**	P		**P**	**05 18 06.2**	**-1.6**
CPUP	**Villa Florida**	**44.06**	**94**	P		**P**	**05 18 05.8**	**-2.1**
comp=Z,1.9nm,0.9s,baz=233,slow=0.5,SNR=3.9								
CPUP				LR		LR	05 33 19.0	
comp=Z,637nm,19.1s,baz=258,slow=32								
comp=Z,1.9nm,0.9s								
PULU	**Pululahua**	**44.12**	**45**	P		**P**	**05 18 09.3**	**+0.4**
IMBA	**Imbabura, San**	**44.51**	**45**	P		**P**	**05 18 12.4**	**+0.4**
UNIS	**Unistalda (Bra**	**44.88**	**98**	*e*P		**P**	**05 18 13.1**	**-1.3**
TULM	**Tulcn-Chalpat**	**45.10**	**45**	P		**P**	**05 18 17.1**	**+0.3**
TULM				IAmb		IAmb	05 18 30.1	
comp=Z,13nm,1.1s								
PLTB	**Pedras Altas**	**45.16**	**102**	P		**P**	**05 18 14.7**	**-1.9**
PLTB				IAmb		IAmb	05 18 33.3	
comp=Z,17nm,1.1s								
ETMB	**Extrema**	**45.41**	**67**	P		**P**	**05 18 18.3**	**-0.4**
ETMB	**Extrema**	**45.41**	**67**	*e*P		**P**	**05 18 18.6**	**-0.1**
BBSD	**Serra de San D**	**45.58**	**80**	*e*P		**P**	**05 18 18.9**	**-1.2**
BBRB	**Robore, Bolivi**	**45.67**	**82**	*e*P		**P**	**05 18 19.9**	**-0.9**
MURT	**Porto Murtinho**	**45.84**	**87**	*e*P		**P**	**05 18 21.2**	**-0.8**
MURT				*e*S		**S**	**05 25 13.7**	**+7.5**
SIV	**San Ignacio**	**45.84**	**78**	LR		LR	05 35 35.7	
comp=Z,421nm,18.3s,baz=266,slow=34								
CRSM	**Crissiumal (Br**	**46.31**	**97**	*e*P		**P**	**05 18 25.1**	**-0.7**
TBTG	**Tabatinga, AM**	**46.48**	**58**	P		**P**	**05 18 25.3**	**-1.9**
ALGR	**Alto Alegre (B**	**46.65**	**99**	*e*P		**P**	**05 18 27.4**	**-1.0**
ALGR				*e*S		**S**	**05 25 24.8**	**+6.9**
BDQN	**Bodoquena, MS**	**47.11**	**86**	*e*P		**P**	**05 18 31.2**	**-0.9**
AMBA	**Amambai (Brazi**	**47.42**	**90**	*e*P		**P**	**05 18 36.6**	**+2.1**
PTLB	**Pontes e Lacer**	**47.70**	**79**	P		**P**	**05 18 35.6**	**-1.1**
PTLB				IAmb		IAmb	05 18 45.3	
comp=Z,15nm,1.5s		

BDFB				LR	LR	05 41 46.6			
	comp=Z,484nm,19.2s,baz=246,slow=34								
	comp=Z,1.0nm,0.5s								
ITTB	**Itaituba**	**56.89**	**70**	*eP*	**P**	**05 19 42.5**	**-2.5**		
TEIG	**Tepich**	**57.65**	**22**	LR	LR	05 39 24.0			
	comp=Z,6μm,21.1s,slow=31								
RAO	**Raoul Island**	**58.52**	**254**	LR	LR	05 38 00.2			
	comp=Z,277nm,21.4s,baz=112,slow=29								
RTZ	**Ruatahuna**	**58.78**	**242**	IAMs_20	IAMs_20	05 37 54.4			
	comp=Z,714nm,19.0s								
URZ	**Urewera**	**58.82**	**243**	LR	LR	05 38 49.8			
	comp=Z,811nm,21.6s,baz=210,slow=29								
SNZO	**South Karori**	**59.45**	**239**	IAMs_20	IAMs_20	05 38 16.5			
	comp=Z,879nm,22.0s								
GVZ	**Greta Valley S**	**60.02**	**236**	IAMs_20	IAMs_20	05 39 06.2			
	comp=Z,1μm,21.0s								
VNA3	**Neumayer Olymp**	**60.26**	**158**	⇑PcP	**PcP**	**05 20 55.0**	**+2.0**		
	comp=Z,11nm,0.6s								
OXZ	**Oxford**	**60.57**	**236**	IAMs_20	IAMs_20	05 41 19.7			
	comp=Z,716nm,20.0s								
PCRV	**Puerto La Cruz**	**60.58**	**51**	LR	LR	05 43 43.2			
	comp=Z,1μm,20.5s,slow=34								
SJMB	**Sao Joao De Ma**	**60.79**	**93**	*eP*	**P**	**05 20 10.4**	**-1.7**		
VNA1	**Neumayer--Stat**	**60.90**	**158**	⇑PcP	**PcP**	**05 20 58.0**	**+2.5**		
	comp=Z,13nm,1.0s								
VNA2	**Neumayer--Watz**	**61.06**	**158**	⇑PcP	**PcP**	**05 20 56.5**	**+0.3**		
	comp=Z,1.8nm,0.2s,baz=114,slow=4.2								
RPZ	**Rata Peaks**	**61.10**	**235**	LR	LR	05 41 20.4			
	comp=Z,518nm,19.4s,baz=132,slow=31								
QRZ	**Quartz Range**	**61.16**	**238**	IAMs_20	IAMs_20	05 40 23.6			
	comp=Z,937nm,20.0s								
SNAA	**Sanae**	**62.10**	**160**	P	**P**	**05 20 20.1**	**-0.1**		
SNAA	**Sanae**	**62.10**	**160**	⇑P	**P**	**05 20 19.8**	**-0.5**		
	comp=Z,733nm,0.8s								
SNAA	**Sanae**	**62.10**	**160**	P	**P**	**05 20 19.8**	**-0.5**		
	comp=Z,4.7nm,0.5s,baz=279,slow=18,SNR=4.6								
SNAA				LR	LR	05 43 19.3			
	comp=Z,430nm,19.7s,baz=198,slow=32								
	comp=Z,4.7nm,0.5s								
TXAR	**Lajitas Array**	**63.72**	**4**	LR	LR	05 43 29.1			
	comp=Z,111nm,18.2s,baz=152,slow=32								
SAND	**Sanderson**	**64.44**	**6**	P	**P**	**05 20 39.2**	**+3.0**		
ALPN	**Alpine**	**64.75**	**4**	P	**P**	**05 20 41.3**	**+3.1**		
ALPN				IAmb	IAmb	05 20 55.2			
	comp=Z,6.4nm,1.3s								
JCT	**Junction City**	**65.19**	**8**	IAmb	IAmb	05 20 57.9			
	comp=Z,9.6nm,0.9s								
MDP	**Montagnes des**	**65.34**	**64**	P	**P**	**05 20 42.0**	**-0.4**		
	comp=Z,40nm,1.1s,baz=222,slow=19,SNR=3.5								
MDP				LR	LR	05 46 12.0			
	comp=Z,2μm,19.6s,baz=238,slow=33								
WHTX	**Lake Whitney,**	**66.97**	**10**	IAmb	IAmb	05 21 11.5			
	comp=Z,11nm,1.1s								
PFO	**Pinyon Flats O**	**68.31**	**352**	LR	LR	05 44 20.3			
	comp=Z,196nm,20.8s,baz=160,slow=30								
ANMO	**Albuquerque**	**69.19**	**1**	LR	LR	05 47 45.8			
	comp=Z,162nm,18.4s,baz=266,slow=33								
TUL3	**Leonard**	**71.06**	**10**	P	**P**	**05 21 20.1**	**+2.5**		
TUL3				IAmb	IAmb	05 21 34.1			
	comp=Z,12nm,1.1s								
HHAR	**Hobbs**	**71.72**	**12**	IAmb	IAmb	05 21 38.1			
	comp=Z,12nm,1.1s								
U38A	**Gravette**	**71.80**	**12**	P	**P**	**05 21 23.6**	**+1.4**		
U38A				IAmb	IAmb	05 21 38.7			
	comp=Z,9.3nm,1.1s								
RCBR	**Riachuelo**	**71.98**	**85**	LR	LR	05 53 15.4			
	comp=Z,168nm,18.7s,baz=242,slow=36								
NVAR	**Mina Array Bea**	**73.28**	**352**	P	**P**	**05 21 31.2**	**0.0**		
	comp=Z,0.2nm,0.5s,baz=198,slow=7.3,SNR=2.1								
NVAR				LR	LR	05 47 33.0			
	comp=Z,214nm,18.7s,baz=192,slow=31								
	comp=Z,0.2nm,0.5s								
TKL	**Tuckaleechee C**	**73.46**	**20**	LR	LR	05 49 02.9			
	comp=Z,235nm,19.9s,baz=200,slow=32								
T47A	**Sharon Grove**	**73.83**	**17**	IAmb	IAmb	05 21 47.0			
	comp=Z,8.9nm,1.1s								
DZM	**Mont Dzumac**	**74.31**	**254**	LR	LR	05 46 22.8			
	comp=Z,343nm,20.9s,baz=164,slow=29								
BSUT	**Blindstream Ca**	**74.80**	**358**	P	**P**	**05 21 42.7**	**+2.4**		
ELK	**Elko**	**75.27**	**354**	LR	LR	05 48 58.7			
	comp=Z,224nm,19.1s,slow=31								
PD31	**Pinedale Array**	**77.00**	**359**	P	**P**	**05 21 54.7**	**+2.1**		
PDAR	**Pinedale Array**	**77.00**	**359**	P	**P**	**05 21 54.9**	**+2.3**		
PDAR	**Pinedale Array**	**77.00**	**359**	P	**P**	**05 21 51.7**	**-0.9**		
	comp=Z,0.7nm,0.9s,baz=165,slow=3.7,SNR=5.8								
	comp=Z,0.7nm,0.9s								
YBH	**Yreka Blue Hor**	**77.15**	**349**	LR	LR	05 49 17.3			
	comp=Z,103nm,20.0s,baz=173,slow=31								
CBN	**Corbin Frederi**	**77.81**	**24**	IAMs_20	IAMs_20	05 52 37.5			
	comp=Z,663nm,20.0s								
MAW	**Mawson**	**77.88**	**176**	LR	LR	05 53 58.4			
	comp=Z,232nm,19.1s,baz=194,slow=34								
BINY	**Binghamton**	**81.86**	**23**	IAMs_20	IAMs_20	05 54 21.9			
	comp=Z,579nm,21.0s								
YLE	**Yale**	**82.13**	**26**	IAMs_20	IAMs_20	05 53 19.9			
	comp=Z,528nm,20.0s								
SADO	**Sadowa**	**83.22**	**20**	LR	LR	05 57 21.9			
	comp=Z,340nm,18.1s,baz=240,slow=34								
BCX	**Boston College**	**83.66**	**27**	IAMs_20	IAMs_20	05 52 59.1			
	comp=Z,507nm,21.0s								
HRV	**Adam Dziewonsk**	**83.67**	**26**	IAMs_20	IAMs_20	05 53 26.3			
	comp=Z,524nm,21.0s								
LBNH	**Lisbon**	**85.05**	**25**	IAMs_20	IAMs_20	05 54 25.9			
	comp=Z,504nm,22.0s								
PKME	**Peaks-Kenny Pk**	**86.88**	**26**	IAMs_20	IAMs_20	05 54 22.2			
	comp=Z,462nm,22.0s								
EMMW	**East Machias**	**87.09**	**28**	IAMs_20	IAMs_20	05 53 13.6			
	comp=Z,465nm,19.0s								
SCHQ	**Schefferville**	**95.83**	**23**	LR	LR	06 03 31.8			
	comp=Z,141nm,20.1s,baz=218,slow=34								
YKA	**Yellowknife Ar**	**96.90**	**357**	P	**P**	**05 23 29.5**	**-0.8**		
	comp=Z,0.2nm,0.9s,baz=168,slow=3.2,SNR=4.4								
	comp=Z,0.2nm,0.9s								
SUR	**Sutherland**	**97.83**	**138**	LR	LR	06 00 13.3			
	comp=Z,440nm,21.8s,baz=234,slow=31								
H01W1	**Cape Leeuwin H**	**100.42**	**214**	T	T	07 16 02.1			
	baz=144,slow=76,SNR=12								
H01W2	**Cape Leeuwin H**	**100.43**	**214**	T	T	07 15 58.0			
	baz=144,slow=76,SNR=19								
H01W3	**Cape Leeuwin H**	**100.44**	**214**	T	T	07 16 00.2			
	baz=144,slow=76,SNR=15								
KNK	**Knik Glacier**	**101.16**	**341**	IAMs_20	IAMs_20	05 59 49.6			
	comp=Z,362nm,20.0s								
N18K	**Kilae Creek**	**102.69**	**338**	IAMs_20	IAMs_20	05 59 06.4			
	comp=Z,272nm,19.0s								
N17K	**Nushagak Hills**	**102.98**	**337**	IAMs_20	IAMs_20	05 59 55.1			
	comp=Z,340nm,20.0s								
H29M	**Whitestone**	**103.18**	**348**	IAMs_20	IAMs_20	06 01 13.0			
	comp=Z,284nm,20.0s								
KTH	**Kantishna Hill**	**103.58**	**342**	IAMs_20	IAMs_20	06 14 11.5			
	comp=Z,339nm,20.0s								
N15K	**Kwethluk River**	**103.65**	**336**	IAMs_20	IAMs_20	06 01 08.1			
	comp=Z,388nm,22.0s								
COLA	**College**	**103.93**	**344**	IAMs_20	IAMs_20	06 01 39.4			
	comp=Z,307nm,22.0s								
H24K	**Noodor Dome**	**104.74**	**344**	IAMs_20	IAMs_20	06 02 37.8			
	comp=Z,299nm,20.0s								
MLY	**Manley**	**104.75**	**343**	IAMs_20	IAMs_20	06 01 27.2			
	comp=Z,352nm,22.0s								
FYU	**Fort Yukon**	**104.79**	**346**	IAMs_20	IAMs_20	06 21 53.0			
	comp=Z,429nm,20.0s								
E29M	**Blow River**	**105.07**	**349**	IAMs_20	IAMs_20	06 18 09.9			
	comp=Z,320nm,20.0s								
I20K	**Naaghedeneel**	**105.52**	**341**	IAMs_20	IAMs_20	06 16 28.6			
	comp=Z,284nm,19.0s								
K15K	**Wolf Creek Mou**	**105.69**	**337**	IAMs_20	IAMs_20	06 02 02.8			
	comp=Z,289nm,20.0s								
K13K	**Kusilvak Mount**	**106.47**	**336**	IAMs_20	IAMs_20	06 03 05.5			
	comp=Z,338nm,21.0s								
H19K	**Roundabout Mou**	**106.61**	**341**	IAMs_20	IAMs_20	06 20 43.6			
	comp=Z,253nm,18.0s								
E24K	**Your Creek**	**106.75**	**345**	IAMs_20	IAMs_20	06 03 16.7			
	comp=Z,315nm,22.0s								
TOLK	**Toolik Lake Re**	**107.44**	**345**	IAMs_20	IAMs_20	06 03 39.1			
	comp=Z,328nm,22.0s								
E22K	**Anaktuvuk Pass**	**107.52**	**344**	IAMs_20	IAMs_20	06 04 05.2			
	comp=Z,294nm,21.0s								
G16K	**Koyuk River**	**108.18**	**339**	IAMs_20	IAMs_20	06 24 02.3			
	comp=Z,401nm,20.0s								
E21K	**Killik River**	**108.25**	**344**	IAMs_20	IAMs_20	06 05 13.7			
	comp=Z,265nm,18.0s								
D22K	**Ayikyak River**	**108.31**	**344**	IAMs_20	IAMs_20	06 21 55.1			
	comp=Z,325nm,19.0s								
ANM	**Nome**	**108.52**	**337**	IAMs_20	IAMs_20	06 20 12.6			
	comp=Z,384nm,18.0s								
C23K	**Itkillik River**	**108.64**	**346**	IAMs_20	IAMs_20	06 04 53.6			
	comp=Z,317nm,21.0s								
F15K	**North Star Dit**	**109.08**	**339**	IAMs_20	IAMs_20	06 23 35.2			
	comp=Z,395nm,19.0s								
E18K	**Tukpahlearik C**	**109.14**	**341**	IAMs_20	IAMs_20	06 24 26.4			
	comp=Z,365nm,18.0s								
D19K	**Kuna River**	**109.29**	**343**	IAMs_20	IAMs_20	06 24 48.1			
	comp=Z,354nm,21.0s								
B21K	**Ikpikpuk River**	**109.32**	**344**	IAMs_20	IAMs_20	06 04 18.8			
	comp=Z,324nm,21.0s								
B22K	**Teshekpuk Lake**	**109.62**	**345**	IAMs_20	IAMs_20	06 05 10.7			
	comp=Z,274nm,20.0s								
C19K	**Lookout Ridge**	**110.10**	**343**	IAMs_20	IAMs_20	06 05 22.6			
	comp=Z,315nm,20.0s								
C18K	**Utukok River**	**110.18**	**342**	IAMs_20	IAMs_20	06 24 38.8			
	comp=Z,471nm,22.0s								
B20K	**Meade River**	**110.19**	**344**	IAMs_20	IAMs_20	06 24 44.9			
	comp=Z,411nm,20.0s								
MMRI	**Maumere**	**115.94**	**238**	IAMs_20	IAMs_20	06 23 14.6			
	comp=Z,763nm,20.0s								
SFS	**San Fernando**	**118.06**	**63**	IAMs_20	IAMs_20	06 13 40.6			
	comp=Z,280nm,20.0s								
BILL	**Bilibino**	**120.04**	**334**	IAMs_20	IAMs_20	06 27 11.8			
	comp=Z,626nm,20.0s								
TAM	**Tamanrasset**	**121.43**	**83**	IAMs_20	IAMs_20	06 18 30.6			
	comp=Z,457nm,20.0s								
SBUM	**Sibu**	**130.80**	**238**	IAMs_20	IAMs_20	06 29 19.6			
	comp=Z,495nm,19.0s								
KIBK	**Kibwezi**	**131.36**	**132**	IAMs_20	IAMs_20	06 16 59.9			
	comp=Z,329nm,22.0s								
WDD	**Wied Dalam**	**133.62**	**71**	IAMs_20	IAMs_20	06 30 08.0			
	comp=Z,345nm,22.0s								
CEL	**Celeste**	**135.29**	**68**	IAMs_20	IAMs_20	06 21 21.4			
	comp=Z,406nm,22.0s								
CUC	**Castrocucco**	**135.60**	**66**	IAMs_20	IAMs_20	06 25 52.9			
	comp=Z,234nm,21.0s								
TIP	**Timpagrande**	**136.15**	**67**	IAMs_20	IAMs_20	06 26 36.3			
	comp=Z,342nm,22.0s								
BKNI	**Bangkinang**	**136.43**	**225**	IAMs_20	IAMs_20	06 23 37.4			
	comp=Z,694nm,21.0s								
PDG	**Podgorica**	**138.56**	**63**	IAMs_20	IAMs_20	06 17 03.4			
	comp=Z,153nm,18.0s								
NJ2	**Nanjing**	**141.04**	**280**	*eP*	**PKiKP**	**05 29 32.4**	**-0.5**		
NJ2				pmax	pmax				
	comp=Z,4.0nm,0.5s								
MLR	**Muntele Rosu**	**143.55**	**58**	IAMs_20	IAMs_20	06 28 04.7			
	comp=Z,326nm,22.0s								
XLT	**XiLinHaoTe**	**144.98**	**299**	*e*PKPbc	**PKPdf**	**05 29 37.8**	**+0.9**		
XLT				pPKP	PKiKP	05 29 48.8	+8.0		
AKASG	**Malin Array Be**	**145.21**	**49**	PKPbc	**PKPbc**	**05 29 35.0**	**-1.6**		
	comp=Z,1.7nm,0.8s,baz=276,slow=3.3,SNR=4.8								
ISP	**Isparta**	**146.57**	**72**	IAMs_20	IAMs_20	06 39 14.6			
	comp=Z,275nm,18.0s								
LYN	**LuoYang**	**146.84**	**282**	⇑PKPbc	PKiKP	05 29 54.0	+9.2		
HHC	**Hu-ho-hao-te**	**148.29**	**293**	*eP*	**PKPdf**	**05 29 40.2**	**-2.4**		
CSS	**Mathiatis**	**148.37**	**78**	IAMs_20	IAMs_20	06 33 08.0			
	comp=Z,267nm,20.0s								
ANTO	**Ankara**	**148.52**	**69**	IAMs_20	IAMs_20	06 39 41.6			
	comp=Z,298nm,21.0s								
BRTR	**Keskin Array B**	**149.16**	**69**	PKP	**PKPdf**	**05 29 41.7**	**-2.5**		
	comp=Z,0.3nm,0.5s,baz=220,slow=3.6,SNR=2.3								
BRTR				PKPbc	**pPKPdf**	**05 29 46.0**	**-0.5**		
	comp=Z,0.7nm,0.7s,baz=193,slow=4.4,SNR=4.6								
CMAR	**Chiang Mai Arr**	**151.16**	**243**	PKPbc	**PKiKP**	**05 29 55.0**	**+0.9**		
	comp=Z,1.5nm,0.3s,baz=183,slow=1.5,SNR=4.1								
SONM	**Songino Array**	**151.20**	**308**	PKPbc	**PKPbc**	**05 29 51.4**	**-1.6**		
	comp=Z,1.2nm,1.1s,baz=90,slow=1.4,SNR=3.3								
PZH	**PanZhiHua**	**153.22**	**261**	PKPbc	**PKPdf**	**05 29 52.0**	**+1.3**		

*HVO **06** 05:11:01.0±1.7, 19°42N±0°03×154°95W±0°03, h-0km±9km, ML3.0/36, ML3.2/40(NEIC), Error ellipse: s-maj=5.8km s-min=1.5km az=130.0*

NEIC 06 05:11:02.2±1.5, 19°39N±0°03×154°99W±0°03, h5km±2km, Error ellipse: s-maj=6.4km s-min=3.0km az=311.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**345**		Pg	05 11 03.4	-0.2
JCUZ	**Jacuzzi**	**0.10**	**268**		Pg	05 11 04.5	0.0
NPOC	**North of Pu'u**	**0.11**	**273**		Pg	05 11 04.4	-0.2
STCH	**Steam Cracks**	**0.13**	**269**		Pg	05 11 05.0	+0.1
PHO	**Puu Honuaula**	**0.13**	**45**		Pg	05 11 04.7	-0.3
KNHH	**Kane Nui o Ham**	**0.17**	**267**		Pg	05 11 07.4	+1.7
PUH	**Pauahi**	**0.21**	**267**	Pg	Pg	05 11 06.3	-0.2
PUH				IAML		05 11 11.9	
	comp=N,4μm,0.2s						
BYL	**Byron's Ledge**	**0.26**	**276**		Pg	05 11 06.3	-0.9
BYL				IAML		05 11 13.2	
	comp=E,3μm,0.5s						
BYL				IAML		05 11 13.4	
	comp=N,4μm,0.3s						
HATHI	**Halema'uma'u T**	**0.26**	**278**		Pg	05 11 06.5	-0.8
HATHI				IAML		05 11 13.1	
	comp=N,5μm,0.3s						
HATHI				IAML		05 11 15.1	
	comp=E,4μm,0.3s						
KKO	**Keanakako'i**	**0.26**	**272**		Pg	05 11 06.8	-0.5
KKO				IAML		05 11 13.2	
	comp=E,3μm,0.6s						
KKO				IAML		05 11 13.5	
	comp=N,3μm,0.7s						
SBLHI	**Steaming Bluff**	**0.26**	**279**		Pg	05 11 07.4	0.0
RIM	**Rim**	**0.27**	**272**	Pg	Pg	05 11 07.5	0.0
RIM				IAML		05 11 13.4	
	comp=E,4μm,0.4s						
UWB	**Uwekahuna B**	**0.27**	**278**		Pg	05 11 07.3	-0.3
OBL	**Observatory Le**	**0.28**	**276**	Pg	Pg	05 11 07.3	-0.4
RSD	**Rainshed**	**0.28**	**286**		Pg	05 11 07.9	+0.1
RSD					Sb	05 11 13.8	-1.2
SDHHI	**Sand Hill**	**0.29**	**271**	Pg	Pg	05 11 07.0	-0.9
SDHHI				IAML		05 11 17.0	
	comp=N,5μm,0.3s						
SDHHI				IAML		05 11 18.5	
	comp=E,4μm,0.3s						
WRMHI	**West Rim**	**0.29**	**274**		Pg	05 11 07.5	-0.5
WRMHI				IAML		05 11 18.4	
	comp=N,4μm,0.6s						
WRMHI				IAML		05 11 19.0	
	comp=E,4μm,0.4s						
HLP	**Hilina Pali**	**0.31**	**253**	Pg	Pg	05 11 08.5	+0.2
HLP				IAML		05 11 16.6	
	comp=E,3μm,0.7s						
HLP				IAML		05 11 17.4	
	comp=N,3μm,0.6s						
MLH	**Mauna Loa**	**0.39**	**286**		Pg	05 11 09.4	-0.4
MLH				IAML		05 11 23.1	
	comp=E,2μm,0.3s						
HMH	**Humu'ula Sheep**	**0.51**	**295**		Pg	05 11 11.7	-0.5
MWH	**Moku'aweowe**	**0.58**	**280**	Pg	Pg	05 11 11.9	-1.6
MWH				IAML		05 11 31.1	
	comp=N,2μm,0.7s						
KHU	**Kahuku**	**0.60**	**257**		Pg	05 11 12.6	-1.3
KHU				IAML		05 11 30.4	
	comp=N,952nm,0.8s						
KHU				IAML		05 11 35.2	
	comp=E,1μm,0.6s						
POHA	**Pohakuloa**	**0.63**	**306**	Pg	Pg	05 11 12.8	-1.6
POHA				IAML		05 11 32.9	
	comp=E,1μm,0.5s						
POHA				IAML		05 11 36.6	
	comp=E,2μm,0.5s						
ALEP	**Alea Permanent**	**0.64**	**284**		Pb	05 11 15.9	-0.1
ALEP					Sg	05 11 23.5	+0.7

*SNET **06** 05:15:22.0±0.7, 13°24N×88°02W, h1km±2km, ML3.7*
*CATAC **06** 05:15:22.5±0.2, 13°22N×88°02W, h2km, MB6.3, mb3.5, ML3.5*

ISC 06 05:15:22.6±0.9, 13°22N±0°05×88°04W±0°02, h13km±7km, n49, σ0°79/59, 3C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**59**	⇑*i*P	**Pg**	**05 15 26.4**	**-0.1**
LCND				*e*S	**Sg**	**05 15 29.6**	**+0.3**
LCND	**La Caada**	**0.17**	**59**	*i* P	**Pg**	**05 15 26.4**	**-0.1**
LCND				IAML		05 15 32.8	
	comp=Z,21μm,1.0s						
CNCH	**Conchagua**	**0.21**	**74**	⇑*i*P	**Pg**	**05 15 27.2**	**0.0**
CNCH				*e*S	**Sg**	**05 15 31.1**	**+0.7**
JUCU	**Jucuarįn**	**0.21**	**279**	⇓*i*P	**Pg**	**05 15 26.8**	**-0.4**
JUCU				*e*S	**Sg**	**05 15 30.2**	**-0.1**
JUCU	**Jucuarįn**	**0.21**	**279**	*i* P	**Pg**	**05 15 27.0**	**-0.2**
JUCU				*i* S	**Sg**	**05 15 30.0**	**-0.4**
JUCU				IAML		05 15 31.3	
	comp=Z,15μm,1.0s						
CNRM	**Centro Naciona**	**0.28**	**333**	*e*P	**Pg**	**05 15 28.3**	**-0.2**
CNRM				*e*S	**Sg**	**05 15 33.1**	**+0.6**
CNRM	**Centro Naciona**	**0.28**	**333**	*i* P	**Pg**	**05 15 28.5**	**0.0**
CNRM				*i* S	**Sg**	**05 15 32.6**	**+0.1**
CNRM				IAML		05 15 44.7	
	comp=Z,29μm,1.0s						
VSM	**San Miguel**	**0.31**	**312**	⇓*i*P	**Pg**	**05 15 29.1**	**+0.1**
RANC	**El Ranchito**	**0.32**	**311**	⇑*i*P	**Pg**	**05 15 29.2**	**-0.1**
RANC	**El Ranchito**	**0.32**	**311**	*i* P	**Pg**	**05 15 29.2**	**-0.1**
RANC				*i* S	**Sg**	**05 15 34.1**	**+0.4**
RANC				IAML		05 15 47.7	
	comp=Z,4μm,1.0s						
PACA	**Pacayal**	**0.37**	**312**	*e*P	**Pg**	**05 15 30.1**	**-0.1**
PACA	**Pacayal**	**0.37**	**312**	*i* P	**Pg**	**05 15 30.1**	**-0.1**
PACA				IAML		05 15 40.4	
	comp=Z,17μm,1.0s						
AMPH	**Amapala**	**0.38**	**80**	*e*P	**Pg**	**05 15 30.2**	**0.0**
AMPH				*e*S	**Sb**	**05 15 36.2**	**-0.7**
TECA	**Tecapa**	**0.53**	**301**	⇓*e*P	**Pg**	**05 15 32.9**	**-0.1**
COEB	**Comit de Eme**	**0.55**	**300**	⇓*i*P	**Pg**	**05 15 33.2**	**-0.3**
COEB	**Comit de Eme**	**0.55**	**300**	*i* P	**Pg**	**05 15 33.2**	**-0.3**
COEB				*i* S	**Sg**	**05 15 41.4**	**+0.5**
COEB				IAML		05 15 47.2	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**0.79**	**294**	*e*P	**Pg**	**05 15 37.0**	**-0.8**
TECO	**Alcaldia de Te**	**0.79**	**294**	*i* P	**Pg**	**05 15 37.1**	**-0.8**
TECO				*i* S	**Sg**	**05 15 48.2**	**-0.1**
TECO				IAML		05 15 51.0	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.82**	**306**	*i* P	**Pg**	**05 15 38.2**	**-0.4**
SCLA				IAML		05 15 40.2	
	comp=Z,440nm,1.0s						
UESV	**Universidad de**	**0.84**	**300**	*i* P	**Pg**	**05 15 38.3**	**-0.6**
UESV				IAML		05 15 58.6	
	comp=Z,1μm,1.0s						
PAVA	**Las Pavas**	**1.00**	**299**	*i* P	**Pb**	**05 15 41.1**	**-0.9**
PAVA				IAML		05 15 58.3	
	comp=Z,4μm,1.0s						
CRIN	**San Cristobal**	**1.09**	**118**	⇓*e*P	**Pb**	**05 15 43.2**	**-0.2**
CRIN	**San Cristobal**	**1.09**	**118**	*i* P	**Pb**	**05 15 43.3**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.12**	**42**	*i* P	**Pb**	**05 15 43.1**	**-0.8**
TGUH				IAML		05 16 03.8	
	comp=Z,2μm,1.0s						
PANCS	**Alcalda de**	**1.18**	**289**	*i* P	**Sg**	**05 16 00.2**	**-0.4**
LOMA	**Loma Larga**	**1.18**	**291**	*i* P	**Pb**	**05 15 44.5**	**-0.5**
LOMA				IAML		05 16 09.2	
	comp=Z,940nm,1.0s						
UEES	**Universidad Ev**	**1.27**	**293**	*i* P	**Pb**	**05 15 46.6**	**+0.1**
POLN	**Al Sur del Vol**	**1.32**	**115**	*i* P	**Pn**	**05 15 45.9**	**-1.0**
POLN				IAML		05 16 07.1	
	comp=Z,390nm,1.0s						
HERN	**Volcan Telica**	**1.32**	**117**	*i* P	**Pn**	**05 15 46.1**	**-0.9**
HERN				IAML		05 16 06.6	
	comp=Z,810nm,1.0s						
TEL3	**Telica 3**	**1.33**	**119**	*i* P	**Pn**	**05 15 45.7**	**-1.3**
TEL3				IAML		05 16 09.2	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.33**	**292**	*i* P	**Pn**	**05 15 47.2**	**+0.1**
PACN	**Al O del Volca**	**1.41**	**120**	*i* P	**Pn**	**05 15 47.7**	**-0.4**
JAYA	**Jayaque - finc**	**1.44**	**288**	*i* P	**Pn**	**05 15 48.8**	**+0.2**
JAYA				IAML		05 15 50.9	
	comp=Z,2μm,1.0s						
ROCN	**Rota Cerro Neg**	**1.44**	**119**	*i* P	**Pn**	**05 15 47.7**	**-0.8**
ROCN				IAML		05 16 14.4	
	comp=Z,330nm,1.0s						
CNGA	**Al SSO del Vol**	**1.49**	**119**	*i* P	**Pn**	**05 15 47.3**	**-1.9**
CNGA				IAML		05 16 13.7	
	comp=Z,510nm,1.0s						
CNGN	**Cerro Negro**	**1.49**	**119**	*i* P	**Pn**	**05 15 48.7**	**-0.5**
CNGN				IAML		05 16 18.6	
	comp=Z,560nm,1.0s						
LEVN	**Ruin

AMPH	**Amapala**	**0.38**	**88**	*eP*	**Pb**	**05 16 35.3**	**-0.1**
AMPH				*eS*	**Sb**	**05 16 41.4**	**+0.4**
AMPH	**Amapala**	**0.38**	**88**	*i* P	**Pb**	**05 16 35.3**	**-0.1**
AMPH				*i* S	**Sb**	**05 16 40.4**	**-0.6**
TECA	**Tecapa**	**0.49**	**297**	*eP*	**Pb**	**05 16 37.7**	**+0.2**
COEB	**Comit de Eme**	**0.52**	**296**	*i* P	**Pb**	**05 16 38.1**	**+0.3**
COEB				*i* S	**Sb**	**05 16 44.5**	**-0.6**
COEB				IAML		05 16 47.8	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**0.76**	**291**	*eP*	**Pb**	**05 16 42.0**	**+0.1**
TECO	**Alcaldia de Te**	**0.76**	**291**	*i* P	**Pb**	**05 16 41.8**	**-0.1**
TECO				*i* S	**Sb**	**05 16 52.9**	**+1.0**
TECO				IAML		05 16 55.4	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.79**	**303**	*i* P	**Pn**	**05 16 43.4**	**0.0**
SCLA				*i* S	**Sn**	**05 16 53.8**	**-1.0**
SCLA				IAML		05 16 56.4	
	comp=Z,330nm,1.0s						
UESV	**Universidad de**	**0.81**	**297**	*i* P	**Pn**	**05 16 43.4**	**-0.3**
UESV				IAML		05 16 56.1	
	comp=Z,810nm,1.0s						
PAVA	**Las Pavas**	**0.97**	**297**	*i* P	**Pn**	**05 16 45.8**	**-0.2**
PAVA				IAML		05 17 02.2	
	comp=Z,3μm,1.0s						
INTHN	**La Esperanza I**	**1.04**	**357**	*i* P	**Pn**	**05 16 48.0**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.09**	**44**	*i* P	**Pn**	**05 16 47.6**	**0.0**
TGUH				IAML		05 17 08.5	
	comp=Z,1μm,1.0s						
CRIN	**San Cristobal**	**1.13**	**120**	*i* P	**Pn**	**05 16 48.7**	**+0.6**
CRIN				IAML		05 16 49.5	
	comp=Z,2μm,1.0s						
PANCS	**Alcalda de**	**1.15**	**287**	*i* P	**Pn**	**05 16 49.1**	**+0.6**
PANCS				IAML		05 17 48.1	
	comp=Z,3μm,1.0s						
LOMA	**Loma Larga**	**1.15**	**289**	*i* P	**Pn**	**05 16 49.4**	**+0.9**
LOMA				IAML		05 17 08.5	
	comp=Z,890nm,1.0s						
IGN	**Direccin Gen**	**1.18**	**292**	*i* P	**Pg**	**05 16 50.1**	**+0.2**
IGN				IAML		05 17 09.4	
	comp=Z,4μm,1.0s						
UTEC	**Universidad Te**	**1.20**	**291**	*i* P	**Pg**	**05 16 50.5**	**+0.1**
UTEC				IAML		05 17 09.0	
	comp=Z,600nm,1.0s						
UEES	**Universidad Ev**	**1.24**	**291**	*i* P	**Pg**	**05 16 50.7**	**-0.4**
UEES				IAML		05 17 14.9	
	comp=Z,450nm,1.0s						
LALI	**Alcalda de L**	**1.26**	**280**	*i* P	**Pg**	**05 16 51.5**	**+0.1**
LALI				IAML		05 17 10.7	
	comp=Z,110nm,1.0s						
ITCA	**Escuela Especi**	**1.26**	**289**	*i* P	**Pg**	**05 16 51.8**	**+0.3**
ITCA				IAML		05 18 02.2	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.31**	**290**	*i* P	**Pg**	**05 16 52.0**	**-0.4**
PMON				IAML		05 17 10.9	
	comp=Z,960nm,1.0s						
POLN	**Al Sur del Vol**	**1.35**	**117**	*i* P	**Pn**	**05 16 51.1**	**-0.1**
POLN				IAML		05 16 53.0	
	comp=Z,380nm,1.0s						
TELN	**Telica**	**1.36**	**119**	*i* P	**Pn**	**05 16 51.4**	**+0.1**
TELN				IAML		05 16 53.9	
	comp=Z,33nm,1.0s						
CEDA	**San Andres**	**1.41**	**292**	*i* P	**Pg**	**05 16 53.7**	**-0.7**
CEDA				IAML		05 17 39.6	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**1.42**	**286**	*i* P	**Pb**	**05 16 53.1**	**0.0**
JAYA				IAML		05 17 14.9	
	comp=Z,2μm,1.0s						
PACN	**Al O del Volca**	**1.44**	**122**	*i* P	**Pn**	**05 16 52.9**	**+0.5**
PACN				IAML		05 16 54.6	
	comp=Z,900nm,1.0s						
CNGA	**Al SSO del Vol**	**1.52**	**120**	*i* P	**Pn**	**05 16 52.1**	**-1.5**
CNGA				IAML		05 17 23.0	
	comp=Z,400nm,1.0s						
CNGN	**Cerro Negro**	**1.52**	**120**	*i* P	**Pn**	**05 16 53.6**	**0.0**
CNGN				IAML		05 17 22.1	
	comp=Z,340nm,1.0s						
MOMN	**Momotombo**	**1.70**	**120**	*i* P	**Pn**	**05 16 57.1**	**+1.1**
MOMN				IAML		05 16 57.8	
	comp=Z,13nm,1.0s						
RB213	**Mirador 2 Volc**	**2.24**	**125**	*i* P	Pn	05 16 55.8	-7.6
LAFE	**Finca La Fe, P**	**4.62**	**138**	*i* P	Pn	05 17 41.5	+5.4
JACO	**JACO, Garabito**	**4.89**	**137**	*i* P	**Pn**	**05 17 39.2**	**-0.6**
JACO				IAML		05 17 42.7	
	comp=Z,520nm,1.0s						
CDM	**Cerro de Muert**	**5.59**	**131**	*i* P	**Pn**	**05 17 52.2**	**+2.3**
CDM				IAmb	IAmb	05 18 11.4	
	comp=Z,11nm,0.7s						
CDM				IAML		05 20 15.6	
	comp=Z,200nm,1.0s						

*IDC **06** 05:19:19.9±0.7, 12°.08N×85°.79W, h145^{km}±7^{km}, mb3.8/20, mbtmp4.2/20, Error ellipse: s-maj=19.2km s-min=8.1km az=61.0*

*NEIC **06** 05:19:21.4±1.3, 11°.80N±0°.02×86°.21W±0°.05, h150^{km}±6^{km}, mb4.8/387, Error ellipse: s-maj=6.8km s-min=3.4km az=100.0*

*UCR **06** 05:19:21.0±1.1, 11°.83N×86°.20W, h144^{km}±6^{km}, MW4.7*

*CATAC **06** 05:19:22.7±0.2, 11°.79N×86°.26W, h115^{km}±2^{km}, MB4.3, mb4.5, ML4.6*

ISC 06 05:19:19.7±0.5, 11°.85N±0°.03×86°.25W±0°.04, h144^{km}±4^{km}, n677, σ1$45/599, mb4.8/192, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RB213	**Mirador 2 Volc**	**0.16**	**29**	*i* P	**Pn**	**05 19 40.9**	**+1.6**
RB213				IAML		05 19 41.1	
	comp=Z,36μm,1.0s						
MASN	**Masaya**	**0.17**	**33**	*i* P	**Pn**	**05 19 39.9**	**+0.6**
MASN				*i* S	**Sn**	**05 19 50.8**	**-3.4**
MASN				IAML		05 20 06.7	
	comp=Z,3μm,1.0s						
NADN	**Granada**	**0.23**	**115**	*i* P	**Pn**	**05 19 40.3**	**+1.0**
NADN				IAML		05 19 40.9	
	comp=Z,40μm,1.0s						
ENAN	**Enatrel Managu**	**0.27**	**357**	*i* P	**Pn**	**05 19 40.8**	**+1.3**
ENAN				IAML		05 19 41.1	
	comp=Z,52μm,1.0s						
USIM	**UNAN**	**0.27**	**354**	*i* P	**Pn**	**05 19 40.8**	**+1.3**
USIM				IAML		05 19 41.1	
	comp=Z,36μm,1.0s						
RE6B4	**Centro civico**	**0.28**	**350**	*i* P	**Pn**	**05 19 40.8**	**+1.3**
RE6B4				IAML		05 19 41.0	
	comp=Z,32μm,1.0s						
TISN	**Laguna Tiscapa**	**0.30**	**356**	*i* P	**Pn**	**05 19 40.9**	**+1.3**
TISN				IAML		05 19 41.1	
	comp=Z,3μm,1.0s						
MGA1	**Managua**	**0.30**	**360**	*i* P	**Pn**	**05 19 40.9**	**+1.3**
MGA1				IAML		05 19 41.2	
	comp=Z,25μm,1.0s						
R4DEC	**Barrio San Lui**	**0.30**	**360**	*i* P	**Pn**	**05 19 42.2**	**+2.6**
AERN	**Aeropuerto Man**	**0.31**	**14**	*i* P	**Pn**	**05 19 40.8**	**+1.2**
AERN				IAML		05 19 41.2	
	comp=Z,21μm,1.0s						
ALLN	**Telcor Managua**	**0.31**	**355**	*i* P	**Pn**	**05 19 40.9**	**+1.3**
ALLN				IAML		05 19 41.2	
	comp=Z,37μm,1.0s						
WILN	**Americas 2**	**0.32**	**10**	*i* P	**Pn**	**05 19 40.6**	**+1.0**
WILN				IAML		05 19 41.3	
	comp=Z,11μm,1.0s						
APQN	**BB Volcan Apoy**	**0.38**	**352**	*i* P	**Pn**	**05 19 40.7**	**+0.9**
APYN	**Apoyeque**	**0.40**	**345**	*i* P	**Pn**	**05 19 40.8**	**+0.8**
APYN				IAML		05 20 09.2	
	comp=Z,5μm,1.0s						
COPN	**Copaltepe**	**0.47**	**315**	*i* P	**Pn**	**05 19 41.3**	**+1.0**
COPN				IAML		05 20 05.3	
	comp=Z,4μm,1.0s						
HUEN		**0.49**	**8**	*i* P	**Pn**	**05 19 41.6**	**+1.2**
BC84	**Volcan Momotom**	**0.62**	**332**	*i* P	**Pn**	**05 19 41.8**	**+0.7**
BC84				IAML		05 19 44.0	
	comp=Z,8μm,1.0s						
MOMN	**Momotombo**	**0.63**	**333**	*i* P	**Pn**	**05 19 42.0**	**+0.8**
MOMN				*i* S	**Sn**	**05 19 55.7**	**-1.9**
MOMN				IAML		05 20 05.4	
	comp=Z,260nm,1.0s						
MOM2	**El Cardon**	**0.63**	**338**	*i* P	**Pn**	**05 19 42.4**	**+1.2**
MOM2				IAML		05 19 43.1	
	comp=Z,4μm,1.0s						
MOM2				*i* S	**Sn**	**05 19 56.0**	**-1.5**
JAPN	**AI SSO del Vol**	**0.64**	**120**	*i* P	**Pn**	**05 19 42.8**	**+1.6**
JAPN				IAML		05 19 43.3	
	comp=Z,17μm,1.0s						
MORN	**AI O del Volca**	**0.66**	**117**	*i* P	**Pn**	**05 19 42.7**	**+1.4**
MORN				IAML		05 19 43.2	
	comp=Z,23μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.66**	**327**	*i* P	**Pn**	**05 19 42.5**	**+1.2**
LEVN				*i* S	**Sn**	**05 19 56.8**	**-1.0**
LEVN				IAML		05 20 10.8	
	comp=Z,8μm,1.0s						
CONN	**Concepcion**	**0.67**	**115**	*i* P	**Pn**	**05 19 42.4**	**+1.0**
CONN				IAML		05 20 05.7	
	comp=Z,71μm,1.0s						
OMEN	**Al SSO del Vol**	**0.69**	**119**	*i* P	**Pn**	**05 19 42.6**	**+1.1**
OMEN				IAML		05 20 02.8	
	comp=Z,15μm,1.0s						
CNGA	**Al SSO del Vol**	**0.78**	**325**	*i* P	**Pn**	**05 19 42.8**	**+0.6**
CNGA				IAML		05 19 45.9	
	comp=Z,19μm,1.0s						
CNGN	**Cerro Negro**	**0.79**	**326**		**Pn**	**05 19 43.3**	**+1.1**
CNGN	**Cerro Negro**	**0.79**	**326**	*i* P	**Pn**	**05 19 43.4**	**+1.1**
CNGN				IAML		05 20 03.4	
	comp=Z,7μm,1.0s						
CNGN	**Cerro Negro**	**0.79**	**326**	*eP*	**Pn**	**05 19 43.4**	**+1.1**
BRAN	**Las Pilas**	**0.88**	**353**	*i* P	**Pn**	**05 19 40.1**	**-2.8**
BRAN				IAML		05 19 40.3	
	comp=Z,16μm,1.0s						
TEL3	**Telica 3**	**0.93**	**321**	*i* P	**Pn**	**05 19 44.2**	**+0.8**
TEL3				IAML		05 19 45.0	
	comp=Z,89μm,1.0s						
TELN	**Telica**	**0.95**	**323**	*i* P	**Pn**	**05 19 45.1**	**+1.5**
TELN				IAML		05 19 48.1	
	comp=Z,1μm,1.0s						
HERN	**Volcan Telica**	**0.95**	**323**	*i* P	**Pn**	**05 19 45.0**	**+1.4**
HERN				*i* S	**Sn**	**05 20 01.0**	**-0.8**
HERN				IAML		05 20 12.9	
	comp=Z,13μm,1.0s						
LCRUZ	**La Cruz**	**0.97**	**142**	*eP*	**Pn**	**05 19 45.5**	**+1.8**
LCRUZ				*eS*	**Sn**	**05 20 02.6**	**+0.6**
POLN	**Al Sur del Vol**	**0.97**	**325**	*i* P	**Pn**	**05 19 45.2**	**+1.5**
POLN				IAML		05 19 46.3	
	comp=Z,13μm,1.0s						
ACON	**Acoyapa**	**1.06**	**83**		**Pn**	**05 19 45.6**	**+1.2**
ACON				Sn	**Sn**	**05 20 04.7**	**+1.5**
ACON	**Acoyapa**	**1.06**	**83**	*i* P	**Pn**	**05 19 45.9**	**+1.5**
ACON				IAML		05 19 46.2	
	comp=Z,7μm,1.0s						
ACON	**Acoyapa**	**1.06**	**83**	*eP*	**Pn**	**05 19 45.9**	**+1.5**
ACON				*eS*	**Sn**	**05 20 04.5**	**+1.3**
CRIN	**San Cristobal**	**1.16**	**317**		**Pn**	**05 19 47.0**	**+1.5**
CRIN				Sn	**Sn**	**05 20 08.2**	**+3.1**
CRIN	**San Cristobal**	**1.16**	**317**	*i* P	**Pn**	**05 19 46.8**	**+1.4**
CRIN				*i* S	**Sn**	**05 20 05.2**	**+0.1**
CRIN				IAML		05 20 11.4	
	comp=Z,58μm,1.0s						
CRIN	**San Cristobal**	**1.16**	**317**	*eP*	**Pn**	**05 19 46.8**	**+1.4**
HZTE	**Horizontes, Gu**	**1.29**	**150**	Pn	**Pn**	**05 19 47.9**	**+1.2**
HZTE	**Horizontes, Gu**	**1.29**	**150**	*i* P	**Pn**	**05 19 47.7**	**+1.0**
HZTE				*i* S	**Sn**	**05 20 06.3**	**-1.0**
HZTE				IAML		05 20 18.9	
	comp=Z,10μm,1.0s						
HZTE	**Horizontes, Gu**	**1.29**	**150**	*eP*	**Pn**	**05 19 48.0**	**+1.2**
VRLE	**La Escondida,**	**1.36**	**140**	*eP*	**Pn**	**05 19 48.4**	**+0.9**
ALIBA	**Liberia Airpor**	**1.42**	**151**	*eP*	**Pn**	**05 19 50.1**	**+2.1**
ALIBA				*eS*	**Sn**	**05 20 11.1**	**+1.4**
ERIA	**Liberia**	**1.44**	**147**	*eP*	**Pn**	**05 19 49.5**	**+1.3**
VMAR	**Armenia, Volca**	**1.51**	**133**	*eP*	**Pn**	**05 19 50.0**	**+1.0**
DELF	**Filadelfia**	**1.55**	**154**	*eP*	**Pn**	**05 19 50.6**	**+1.3**
BAGA	**Bagaces**	**1.63**	**143**	*eP*	**Pn**	**05 19 51.3**	**+1.0**
ORTG	**Ortega, Santa**	**1.66**	**152**		**Pn**	**05 19 52.0**	**+1.2**
ORTG	**Ortega, Santa**	**1.66**	**152**	*i* P	**Pn**	**05 19 51.8**	**+1.1**
ORTG				*i* S	**Sn**	**05 20 13.6**	**-0.9**
ORTG				IAML		05 20 17.7	
	comp=Z,4μm,1.0s						
ORTG	**Ortega, Santa**	**1.66**	**152**	*eP*	**Pn**	**05 19 51.9**	**+1.1**
SACU	**Santa Cruz**	**1.70**	**157**	*eP*	**Pn**	**05 19 52.2**	**+1.1**
CNAS	**Canas**	**1.81**	**141**	*eP*	**Pn**	**05 19 54.6**	**+2.3**
JUD3	**Juan Diaz 3**	**1.81**	**157**	*eP*	**Pn**	**05 19 53.4**	**+1.1**
SAJU	**San Juanillo,**	**1.84**	**163**	*i* P	**Pn**	**05 19 53.4**	**+0.7**
SAJU				IAML		05 20 19.7	
	comp=Z,12μm,1.0s						
NICO	**Nicoya**	**1.87**	**155**	*eP*	**Pn**	**05 19 54.1**	**+1.1**
DUNO	**Dulce Nombre,**	**1.90**	**157**		**Pn**	**05 19 54.6**	**+1.1**
DUNO				Sn	**Sn**	**05 20 18.0**	**-1.2**
DUNO	**Dulce Nombre,**	**1.90**	**157**	*i* P	**Pn**	**05 19 54.5**	**+1.1**
DUNO				IAML		05 20 21.2	
	comp=Z,15μm,1.0s						
DUNO	**Dulce Nombre,**	**1.90**	**157**	*eP*	**Pn**	**05 19 54.4**	**+1.0**
ESPN	**Las Esperanzas**	**1.94**	**79**		**Pn**	**05 19 55.6**	**+2.0**
ESPN	**Las Esperanzas**	**1.94**	**79**	*i* P	**Pn**	**05 19 55.5**	**+1.8**
ESPN				IAML		05 19 55.9	
	comp=Z,7μm,1.0s						
ESPN	**Las Esperanzas**	**1.94**	**79**	*eP*	**Pn**	**05 19 55.4**	**+1.7**
CMARA	**Lajas Hojancha**	**1.99**	**156**	*eP*	**Pn**	**05 19 55.4**	**+1.0**
AMPH	**Amapala**	**1.99**	**316**	*i* P	**Pn**	**05 19 56.0**	**+1.7**
AMPH				*i* S	**Sn**	**05 20 21.8**	**+0.9**
JTS	**Las Juntas de**	**2.00**	**140**		**Pn**	**05 19 55.7**	**+1.2**
JTS	**Las Juntas de**	**2.00**	**140**	P	**Pn**	**05 19 54.7**	**+0.2**
	comp=Z,202nm,0.4s,baz=324,slow=12,SNR=115						
JTS				S	**Sn**	**05 20 21.2**	**0.0**
	comp=Z,710nm,0.3s,baz=315,slow=20,SNR=17						
JTS	**Las Juntas de**	**2.00**	**140**	*eP*	**Pn**	**05 19 55.1**	**+0.6**
JUNT	**Juntas**	**2.00**	**141**	*eP*	**Pn**	**05 19 55.4**	**+0.8**
VACR	**Volcan Arenal**	**2.06**	**131**	*eP*	**Pn**	**05 19 56.3**	**+1.1**
NYURE	**Nandayure**	**2.08**	**152**	*eP*	**Pn**	**05 19 56.2**	**+1.0**
TUNA	**La Fortuna**	**2.08**	**131**	*eP*	**Pn**	**05 19 56.7**	**+1.2**
INDI	**Punta indio, G**	**2.10**	**160**	*i* P	**Pn**	**05 19 56.6**	**+0.9**
INDI				IAML		05 20 25.0	
	comp=Z,6μm,1.0s						
INDI	**Punta indio, G**	**2.10**	**160**	*eP*	**Pn**	**05 19 56.5**	**+0.8**
CNCH	**Conchagua**	**2.10**	**313**	*i* P	**Pn**	**05 19 57.3**	**+1.5**
CNCH				*i* S	**Sn**	**05 20 24.5**	**+0.9**
CNCH				IAML		05 20 31.2	
	comp=Z,6μm,1.0s						
COVE	**Coope Vega, Sa**	**2.13**	**122**		**Pn**	**05 19 56.9**	**+0.9**
COVE	**Coope Vega, Sa**	**2.13**	**122**	*i* P	**Pn**	**05 19 57.0**	**+1.0**
COVE				IAML		05 19 57.4	
	comp=Z,1μm,1.0s						
COVE				*i* S	**Sn**	**05 20 24.0**	**+0.1**
COVE	**Coope Vega, Sa**	**2.13**	**122**	*eP*	**Pn**	**05 19 56.9**	**+0.9**
SOCE	**Pocosol**	**2.16**	**132**		**Pn**	**05 19 57.5**	**+1.1**
SOCE	**Pocosol**	**2.16**	**132**	*i* P	**Pn**	**05 19 57.3**	**+0.9**
SOCE				*i* S	**Sn**	**05 20 25.0**	**+0.3**
SOCE				IAML		05 20 33.6	
	comp=Z,2μm,1.0s						
SOCE	**Pocosol**	**2.16**	**132**	*eP*	**Pn**	**05 19 57.1**	**+0.7**
LCND	**La Caada**	**2.17**	**312**	*i* P	**Pn**	**05 19 57.5**	**+1.0**
LCND				*i* S	**Sn**	**05 20 25.9**	**+1.1**
LCND				IAML		05 20 29.9	
	comp=Z,3μm,1.0s						
CPMI	**Catarata Coope**	**2.40**	**130**	*i* P	**Pn**	**05 20 00.7**	**+1.1**
CPMI				*i* S	**Sn**	**05 20 30.6**	**+0.4**
CPMI				IAML		05 20 36.0	
	comp=Z,2μm,1.0s						
CPMI	**Catarata Coope**	**2.40**	**130**	*eP*	**Pn**	**05 20 00.7**	**+1.1**
JUCU	**Jucuar¡n**	**2.41**	**306**	*i* P	**Pn**	**05 20 01.0**	**+1.6**
JUCU				IAML		05 20 35.5	
	comp=Z,5μm,1.0s						
LAFE	**Finca La Fe, P**	**2.41**	**147**	*i* P	**Pn**	**05 20 00.5**	**+1.0**
LAFE				IAML		05 20 31.5	
	comp=Z,62nm,1.0s						
LAFE	**Finca La Fe, P**	**2.41**	**147**	*eP*	**Pn**	**05 20 00.4**	**+1.0**
TGUH	**Tegucigalpa,Un**	**2.42**	**336**		**Pn**	**05 20 02.6**	**+2.9**
TGUH	**Tegucigalpa,Un**	**2.42**	**336**	*i* P	**Pn**	**05 20 02.1**	**+2.5**
TGUH				*i* S	**Sn**	**05 20 32.2**	**+1.8**
TGUH				IAML		05 20 42.9	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**2.48**	**311**	*i* P	**Pn**	**05 20 02.4**	**+2.1**
CNRM				*i* S	**Sn**	**05 20 33.1**	**+1.5**
CNRM				IAML		05 20 40.9	
	comp=Z,12μm,1.0s						
RANC	**El Ranchito**	**2.54**	**309**	*i* P	**Pn**	**05 20 03.1**	**+1.9**
RANC				*i* S	**Sn**	**05 20 34.8**	**+1.6**
RANC				IAML		05 20 38.3	
	comp=Z,2μm,1.0s						
PACA	**Pacayal**	**2.59**	**309**	*i* P	**Pn**	**05 20 03.4**	**+1.6**
PACA				*i* S	**Sn**	**05 20 35.8**	**+1.5**
PACA				IAML		05 20 43.3	
	comp=Z,21μm,1.0s						
TCS1	**Tacares**	**2.62**	**133**	*eP*	**Pn**	**05 20 03.0**	**+0.9**
JACO	**JACO, Garabito**	**2.67**	**144**		**Pn**	**05 20 04.3**	**+1.6**
JACO	**JACO, Garabito**	**2.67**	**144**	*i* P	**Pn**	**05 20 04.1**	**+1.4**
JACO				IAML		05 20 38.9	
	comp=Z,2μm,1.0s						
JACO	**JACO, Garabito**	**2.67**	**144**	*eP*	**Pn**	**05 20 03.9**	**+1.2**
RIFO	**Rio Frio, Sara**	**2.74**	**123**	*i* P	**Pn**	**05 20 04.6**	**+1.1**
RIFO				*i* S	**Sn**	**05 20 38.4**	**+1.0**
RIFO				IAML		05 21 00.5	
	comp=Z,790nm,1.0s						
RIFO	**Rio Frio, Sara**	**2.74**	**123**	*eP*	**Pn**	**05 20 04.7**	**+1.1**
COEB	**Comit de Eme**	**2.77**	**307**	*i* P	**Pn**	**05 20 05.8**	**+1.8**
COEB				*i* S	**Sn**	**05 20 39.9**	**+1.7**
COEB				IAML		05 20 45.2	
	comp=Z,1μm,1.0s						
HDC	**Heredia**	**2.78**	**131**		**Pn**	**05 20 05.1**	**+0.9**
HDC	**Heredia**	**2.78**	**131**	*i* P	**Pn**	**05 20 05.5**	**+1.3**
HDC				*i* S	**Sn**	**05 20 39.1**	**+0.5**
HDC				IAML		05 20 46.4	
	comp=Z,910nm,1.0s						
HDC	**Heredia**	**2.78**	**131**	*eP*	**Pn**	**05 20 05.9**	**+1.7**
HDC				*eS*	**Sn**	**05 20 40.8**	**+2.2**
HDC	**Heredia**	**2.78**	**131**	*eP*	**Pn**	**05 20 04.5**	**+0.2**
HDC3	**Heredia 3**	**2.78**	**131**	*i* P	**Pn**	**05 20 05.8**	**+1.6**
HDC3				*i* S	**Sn**	**05 20 39.2**	**+0.6**
HDC3				IAML		05 20 46.4	
	comp=Z,930nm,1.0s						
PQSS	**Presa 15 de Se**	**2.87**	**308**	*i* P	**Pn**	**05 20 07.6**	**+2.5**
PQSS				IAML		05 20 50.6	
	comp=Z,1μm,1.0s						
ACOS	**Acosta**	**2.89**	**135**	*eP*	**Pn**	**05 20 06.2**	**+0.6**
OCM	**Ochomogo**	**2.97**	**131**	*i* P	**Pn**	**05 20 07.8**	**+1.2**
OCM				*i* S	**Sn**	**05 20 43.5**	**+0.7**
OCM				IAML		05 20 52.0	
	comp=Z,690nm,1.0s						
TECO	**Alcaldia de Te**	**2.99**	**304**	*i* P	**Pn**	**05 20 08.4**	**+1.7**
TECO				IAML		05 20 48.3	
	comp=Z,1μm,1.0s						
LCR2	**La Lucha 2**	**3.04**	**133**		**Pn**	**05 20 09.6**	**+2.0**
VTUN	**Crater Central**	**3.04**	**126**	*i* P	**Pn**	**05 20 09.0**	**+1.3**
VTUN				*i* S	**Sn**	**05 20 45.2**	**+0.4**
VTUN				IAML		05 20 54.8	
	comp=Z,630nm,1.0s						
SCLA	**Alcaldia de Sa**	**3.04**	**308**	*i* P	**Pn**	**05 20 09.5**	**+2.0**
SCLA				IAML		05 20 55.6	
	comp=Z,560nm,1.0s						
INTHN	**La Esperanza I**	**3.05**	**324**	*i* P	**Pn**	**05 20 10.1**	**+2.4**
UESV	**Universidad de**	**3.05**	**306**	*i* P	**Pn**	**05 20 10.0**	**+2.5**
UESV				*i* S	**Sn**	**05 20 46.3**	**+1.8**
UESV				IAML		05 20 51.8	
	comp=Z,2μm,1.0s						
VTCV	**VTCV, Calle Va**	**3.09**	**127**	*i* P	**Pn**	**05 20 09.5**	**+1.3**
VTCV				IAML		05 20 57.1	
	comp=Z,760nm,1.0s						
RIMA	**Rio Macho**	**3.12**	**131**		**Pn**	**05 20 09.8**	**+1.1**
RIMA	**Rio Macho**	**3.12**	**131**	*i* P	**Pn**	**05 20 10.3**	**+1.7**
RIMA				*i* S	**Sn**	**05 20 47.5**	**+1.1**
RIMA				IAML		05 20 51.8	
	comp=Z,1μm,1.0s						
PAVA	**Las Pavas**	**3.21**	**306**	*i* P	**Pn**	**05 20 11.8**	**+2.1**
PAVA				*i* S	**Sn**	**05 20 50.6**	**+2.2**
PAVA				IAML		05 20 55.1	
	comp=Z,2μm,1.0s						
BATAN	**Batan**	**3.31**	**121**		**Pn**	**05 20 11.9**	**+1.1**
BATAN	**Batan**	**3.31**	**121**	*i* P	**Pn**	**05 20 12.6**	**+1.8**
BATAN				*i* S	**Sn**	**05 20 53.5**	**+3.1**
BATAN				IAML		05 21 05.0	
	comp=Z,480nm,1.0s						
CDM	**Cerro de Muert**	**3.34**	**133**	*i* P	**Pn**	**05 20 13.2**	**+1.6**
CDM				IAML		05 20 56.6	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**3.36**	**302**	*i* P	**Pn**	**05 20 13.9**	**+2.4**
PANCS				IAML		05 20 55.6	
	comp=Z,3μm,1.0s						
LOMA	**Loma Larga**	**3.37**	**302**	*i* P	**Pn**	**05 20 13.8**	**+2.1**
LOMA				IAML		05 21 01.2	
	comp=Z,2μm,1.0s						
UDBS	**Universidad Do**	**3.39**	**304**	*i* P	**Pn**	**05 20 14.2**	**+2.3**
UDBS				IAML		05 21 00.4	
	comp=Z,2μm,1.0s						
IGN	**Direccin Gen**	**3.40**	**303**	*i* P	**Pn**	**05 20 14.2**	**+2.1**
IGN				IAML		05 20 57.3	
	comp=Z,6μm,1.0s						
LALI	**Alcalda de L**	**3.42**	**299**	*i* P	**Pn**	**05 20 14.6**	**+2.4**
LALI				IAML		05 20 55.9	
	comp=Z,370nm,1.0s						
UTEC	**Universidad Te**	**3.42**	**303**	*i* P	**Pn**	**05 20 14.6**	**+2.3**
UTEC				IAML		05 20 57.2	
	comp=Z,1μm,1.0s						
SNET	**Serv Nac Est T**	**3.44**	**302**		**Pn**	**05 20 15.1**	**+2.5**
SNET	**Serv Nac Est T**	**3.44**	**302**	*i* P	**Pn**	**05 20 15.0**	**+2.5**
SNET				IAML		05 20 58.3	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**3.46**	**303**	*i* P	**Pn**	**05 20 15.2**	**+2.3**
UEES				*i* S	**Sn**	**05 20 56.4**	**+2.3

comp=Z,290nm,1.0s
CDITO Canoas 4.65 134 Pn 05 20 29.3 +1.0
CDITO Canoas 4.65 134 *i* P **Pn 05 20 30.4 +2.0**
CDITO IAML 05 21 38.7
comp=Z,260nm,1.0s
GUNB GUNB 4.84 305 *i* P **Pn 05 20 33.8 +2.6**
GUNB IAML 05 21 31.4
comp=Z,230nm,1.0s
GCG4 OSOP 4.99 304 *i* P **Pn 05 20 35.3 +2.3**
GCG4 IAmb IAmb 05 20 36.3
comp=Z,190nm,0.5s
GCG4 IAML 05 21 40.6
comp=Z,770nm,1.0s
PRVC Isla de Provid 5.00 72 Pn **Pn 05 20 34.8 +1.7**
PRVC Isla de Provid 5.00 72 *i* P **Pn 05 20 34.9 +1.8**
PRVC IAML 05 20 35.3
comp=Z,61nm,1.0s
PRVC IVmB_BB 05 20 36.9
comp=Z,430nm,1.0s
PRVC IAmb IAmb 05 20 37.2
comp=Z,48nm,0.7s
APG El Apazote 5.17 308 P **Pn 05 20 38.4 +2.9**
comp=Z,2.1nm,0.5s,baz=122,slow=13,SNR=16
APG S **Sn 05 21 27.8 -6.7**
comp=Z,1.0nm,0.4s,baz=72,slow=20,SNR=2.0
RTAL Retalhuleu 5.94 297 Pn 05 20 47.3 +1.8
RTAL Retalhuleu 5.94 297 *i* P **Pn 05 20 47.9 +2.4**
RTAL IAmb IAmb 05 20 50.6
comp=Z,81nm,0.7s
RTAL IAML 05 22 14.4
comp=Z,340nm,1.0s
PETF Flores 6.14 326 Pn **Pn 05 20 50.4 +2.1**
HUEH Huehuetenango 6.17 305 Pn 05 20 50.9 +2.1
BCIP Isla Barro Col 6.84 112 Pn 05 20 59.3 +1.7
BCIP Isla Barro Col 6.84 112 *i* P **Pn 05 21 00.4 +2.8**
BCIP IAmb IAmb 05 21 00.8
comp=Z,29nm,0.7s
BCIP IAML 05 23 21.2
comp=Z,50nm,1.0s
CCIG Comitan 7.22 308 Pn 05 21 04.9 +2.1
CCIG Comitan 7.22 308 *i* P **Pn 05 21 05.9 +3.1**
CCIG IAmb IAmb 05 21 24.4
comp=Z,16nm,0.8s
CCIG IAML 05 21 46.9
comp=Z,48nm,1.0s
CMIG Matias Romero 9.86 303 P **Pn 05 21 39.1 +1.1**
comp=Z,11nm,0.4s,baz=132,slow=12,SNR=22
CMIG S **Sn 05 23 26.0 -1.1**
comp=Z,9.8nm,0.4s,baz=117,slow=2.3,SNR=8.8
TLIG Tlapa 13.20 297 Pn **P 05 22 24.4 -2.1**
ROSC El Rosal 13.69 120 Pn **Pn 05 22 28.4 0.0**
ROSC El Rosal 13.69 120 P **P 05 22 35.7 +3.4**
comp=Z,22nm,0.7s,baz=313,slow=18,SNR=14
TULM Tulcn-Chalpat 13.88 142 Pn 05 22 30.6 -0.3
IMBA Imbabura, San 14.00 145 Pn **Pn 05 22 32.3 0.0**
PULU Pululahua 14.04 146 Pn 05 22 33.2 +0.4
RUSC La Rusia 14.28 113 Pn **Pn 05 22 35.7 -0.3**
SLOR San Lorenzo - 14.67 148 Pn 05 22 41.1 +0.2
CHSH Refugio Sur-Vo 15.14 151 Pn 05 22 46.9 0.0
CHSH IAmb IAmb 05 22 54.0
comp=Z,19nm,0.6s
SDV Santo Domingo 15.64 99 P **P 05 22 53.7 0.0**
SDV IAmb IAmb 05 22 54.4
comp=Z,22nm,0.8s
SDV Santo Domingo 15.64 99 P **Pn 05 22 52.4 -0.2**
comp=Z,15nm,0.5s,baz=290,slow=12,SNR=9.1
ARNL Arenillas 16.48 158 P 05 23 03.0 +0.3
GRTK Grand Turk 17.36 54 P **Pn 05 23 13.7 +0.4**
656A Willston 17.78 11 P **Pn 05 23 18.5 +0.3**
656A IAmb IAmb 05 23 21.0
comp=Z,49nm,0.8s
BAUV El Baul 18.14 97 P **P 05 23 21.1 +0.1**
BAUV IAmb IAmb 05 23 23.4
comp=Z,26nm,0.5s
553A Crawfordville 18.33 5 P **Pn 05 23 24.7 0.0**
451A Vernon 18.68 1 P **Pn 05 23 27.9 -0.9**
HBVL Hebbronville 19.12 324 P **Pn 05 23 33.1 -0.9**
HBVL IAmb IAmb 05 23 38.6
comp=Z,20nm,0.6s
456A Hilliard 19.19 11 P **Pn 05 23 35.1 +0.3**
456A IAmb IAmb 05 23 36.4
comp=Z,66nm,0.8s
BRAL Brewton 19.25 358 P **P 05 23 33.8 +1.0**
BRAL Brewton 19.25 358 P **Pn 05 23 35.1 -0.3**
baz=178,SNR=8.3
352A Blakely 19.58 3 P **Pn 05 23 38.5 -0.8**
352A IAmb IAmb 05 23 40.7
comp=Z,37nm,0.8s
TIGA Tifton 19.65 7 P **P 05 23 38.6 +1.3**
TIGA IAmb IAmb 05 23 45.6
comp=Z,64nm,0.9s
TIGA Tifton 19.65 7 P **Pn 05 23 40.1 0.0**
baz=188
346A Big Creek Wild 19.68 352 P **Pn 05 23 39.9 -0.5**
346A IAmb IAmb 05 23 41.4
comp=Z,29nm,0.8s
441A DeRidder 19.88 342 P **P 05 23 41.1 +1.3**
441A IAmb IAmb 05 23 44.3
comp=Z,33nm,0.7s
UUPR Utuado, UPR, P 19.89 69 P **P 05 23 41.2 +1.2**
OBIP Obispado Ponce 19.94 70 P **P 05 23 41.9 +1.3**
OBIP IAmb IAmb 05 23 44.5
comp=Z,40nm,0.9s
CELP Cerrillos 19.98 70 P **P 05 23 42.4 +1.4**
CELP IAmb IAmb 05 23 46.8
comp=Z,29nm,0.9s
250A Grady 20.04 360 IAmb IAmb 05 23 49.8
comp=Z,27nm,0.9s
735A Kenedy 20.07 329 P **P 05 23 43.5 +1.6**
735A IAmb IAmb 05 23 47.4
comp=Z,40nm,0.6s
HKT Hockley 20.10 335 P Pn 05 23 43.9 -1.5
255A Hazlehurst 20.29 9 P Pn 05 23 46.3 -1.3
255A IAmb IAmb 05 23 49.7
comp=Z,36nm,0.8s
ATAH Atahualpa 20.41 157 P Pn 05 23 48.6 -1.1
comp=Z,14nm,0.8s,baz=337,slow=7.5,SNR=8.8
comp=Z,14nm,0.8s
GCPR Guaynabo City 20.49 69 P **P 05 23 47.1 +0.7**
GCPR IAmb IAmb 05 23 50.5
comp=Z,26nm,0.8s
833A Chaparral WMA, 20.49 325 P **P 05 23 47.7 +1.3**
833A IAmb IAmb 05 23 50.8
comp=Z,38nm,0.6s
833A Chaparral WMA, 20.49 325 P Pn 05 23 49.1 -1.0
baz=141,SNR=9.8
VBMS Vicksburg 20.66 350 IAmb IAmb 05 23 53.5
comp=Z,63nm,0.9s
VBMS Vicksburg 20.66 350 P Pn 05 23 51.9 -0.1
baz=168
146A Union 20.86 353 P **P 05 23 52.1 +1.9**
146A IAmb IAmb 05 23 55.1
comp=Z,48nm,0.8s
154A Montrose 20.87 7 P **P 05 23 52.3 +2.0**
LRAL Lakeview Retre 21.10 358 P **P 05 23 55.0 +2.2**
LRAL IAmb IAmb 05 23 57.4
comp=Z,27nm,0.8s
LRAL Lakeview Retre 21.10 358 P **P 05 23 55.7 +2.9**
baz=178,SNR=24
PCRV Puerto La Cruz 21.28 92 P **P 05 23 56.1 +1.2**
comp=Z,18nm,0.5s,baz=278,slow=4.2,SNR=26
NATX Nacogdoches 21.29 340 P **P 05 23 57.1 +2.2**
NATX IAmb IAmb 05 23 58.7
comp=Z,43nm,0.8s
NATX Nacogdoches 21.29 340 P **P 05 23 57.4 +2.6**
baz=157,SNR=8.2
143A Socs Landing, 21.29 348 IAmb IAmb 05 23 59.7
comp=Z,22nm,0.8s
Z47A Carrollton 21.32 356 IAmb IAmb 05 23 59.5
comp=Z,28nm,0.6s
HNDO Hondo 21.37 327 P **P 05 23 56.7 +0.9**
435B Jarrell 21.57 333 P **P 05 23 59.7 +1.8**
435B IAmb IAmb 05 24 02.8
comp=Z,34nm,0.7s
435B Jarrell 21.57 333 P **P 05 24 00.7 +2.8**
baz=148
GOGA Godfrey 21.62 6 P **P 05 23 59.7 +1.3**
GOGA IAmb IAmb 05 24 02.2
comp=Z,28nm,0.8s
GOGA Godfrey 21.62 6 P **P 05 24 02.1 +3.8**
baz=187,SNR=16
237A Washetta, Mont 21.91 338 IAmb IAmb 05 24 03.8
comp=Z,18nm,0.7s
Y49A Blount Mountai 21.91 360 P **P 05 24 03.0 +1.5**
Y49A IAmb IAmb 05 24 05.0
comp=Z,40nm,0.8s

Y52A Lilburn 22.01 5 IAmb IAmb 05 24 06.5
comp=Z,26nm,0.8s
DRIO Del Rio 22.02 325 P **P 05 24 03.8 +1.2**
DRIO IAmb IAmb 05 24 06.1
comp=Z,30nm,0.6s
Y45A Yeager Farm, C 22.13 353 IAmb IAmb 05 24 07.3
comp=Z,39nm,0.7s
Z41A Richland Creek 22.14 345 IAmb IAmb 05 24 05.5
comp=Z,38nm,0.8s
JCT Junction City 22.40 328 P **P 05 24 07.5 +1.1**
JCT IAmb IAmb 05 24 08.5
comp=Z,12nm,0.7s
JCT Junction City 22.40 328 P **P 05 24 08.4 +2.0**
baz=143,SNR=8.7
X48A Hartselle 22.52 358 IAmb IAmb 05 24 12.9
comp=Z,15nm,0.7s
CCAR Cane Creek 22.54 348 P **P 05 24 09.1 +1.5**
CCAR IAmb IAmb 05 24 10.0
comp=Z,26nm,0.7s
WHTX Lake Whitney, 22.55 334 IAmb IAmb 05 24 11.2
comp=Z,21nm,1.1s
WHTX Lake Whitney, 22.55 334 P **P 05 24 09.1 +1.3**
baz=150,SNR=10
HODGE Hodges 22.58 9 IAmb IAmb 05 24 10.9
comp=Z,28nm,0.6s
FPAL Fort Paine 22.60 1 IAmb IAmb 05 24 10.9
comp=Z,16nm,0.6s
WLAR White Oak Lake 22.63 345 IAmb IAmb 05 24 11.4
comp=Z,31nm,0.7s
BRDY Brady 22.65 331 P **P 05 24 09.3 +0.5**
BRDY IAmb IAmb 05 24 11.4
comp=Z,16nm,0.6s
X51A Calhoun 22.65 3 IAmb IAmb 05 24 11.0
comp=Z,19nm,0.6s
TREL Terrell 22.67 338 P **P 05 24 10.9 +2.0**
Y57A Sumter 22.71 13 IAmb IAmb 05 24 12.6
comp=Z,34nm,0.8s
OXF Oxford 22.75 353 P **P 05 24 10.8 +1.3**
OXF Oxford 22.75 353 P **P 05 24 10.9 +1.3**
baz=172,SNR=11
TBTG Tabatinga, AM 22.75 133 P **P 05 24 09.5 -0.3**
TBTG IAmb IAmb 05 24 10.3
comp=Z,27nm,1.2s
Y58A Scranton 22.77 14 IAmb IAmb 05 24 12.6
comp=Z,40nm,0.9s
Z38A Mt. Pleasant 22.77 341 IAmb IAmb 05 24 12.7
comp=Z,22nm,0.7s
JSC Jenkinsville 22.79 11 P **P 05 24 11.8 +1.8**
JSC IAmb IAmb 05 24 13.0
comp=Z,39nm,0.7s
FW13 Cleburne 22.86 335 IAmb IAmb 05 24 13.4
comp=Z,22nm,0.7s
PLAL Pickwick Lake 23.09 356 IAmb IAmb 05 24 15.5
comp=Z,39nm,0.8s
PAULI Pauline 23.23 9 IAmb IAmb 05 24 17.0
comp=Z,29nm,0.8s
W52A Murphy 23.24 5 IAmb IAmb 05 24 17.1
comp=Z,22nm,0.7s
BG3 Lake Jocassee 23.24 7 IAmb IAmb 05 24 17.3
comp=Z,22nm,0.6s
SWET Sewanee 23.27 1 IAmb IAmb 05 24 17.6
comp=Z,20nm,0.7s
BIRD Birdtown, Kers 23.30 12 IAmb IAmb 05 24 17.8
comp=Z,31nm,0.6s
FW06 Azle 23.45 336 IAmb IAmb 05 24 19.1
comp=Z,27nm,0.9s
OZNA Ozona 23.45 326 IAmb IAmb 05 24 20.8
comp=Z,17nm,0.5s
X58A Rowland 23.47 14 IAmb IAmb 05 24 18.6
comp=Z,18nm,0.7s
UALR University of 23.49 347 IAmb IAmb 05 24 18.7
comp=Z,37nm,0.8s
CPCT Cooper Cave 23.55 4 IAmb IAmb 05 24 21.2
comp=Z,46nm,1.0s
MIAR Mount Ida 23.56 345 P **P 05 24 17.8 +0.8**
MIAR IAmb IAmb 05 24 19.8
comp=Z,23nm,0.7s
MIAR Mount Ida 23.56 345 P **P 05 24 17.9 +0.8**
baz=162,SNR=27
KMSC Kings Mountain 23.62 10 P **P 05 24 18.8 +1.2**
KMSC IAmb IAmb 05 24 20.6
comp=Z,34nm,0.8s
KMSC Kings Mountain 23.62 10 P **P 05 24 19.3 +1.7**
baz=192,SNR=16
PLPT Palo Pinto 23.63 334 P **P 05 24 18.9 +1.2**
PLPT IAmb IAmb 05 24 21.3
comp=Z,22nm,0.9s
HPIG 23.63 312 P **P 05 24 18.9 +0.8**
Z35A Perchaven, San 23.64 337 P **P 05 24 18.6 +0.8**
Z35A IAmb IAmb 05 24 20.9
comp=Z,26nm,0.8s
CZSB Cruzeiro do Su 23.66 145 P **P 05 24 18.3 +0.2**
CZSB IAmb IAmb 05 24 21.8
comp=Z,19nm,0.6s
FW03 Perrin-Whitt E 23.72 335 IAmb IAmb 05 24 21.1
comp=Z,19nm,0.7s
TXAR Lajitas Array 23.79 320 P **P 05 24 20.6 +1.3**
TXAR Lajitas Array 23.79 320 P **P 05 24 20.4 +1.1**
comp=Z,17nm,0.5s,baz=142,slow=8.1,SNR=207
TXAR PcP **PcP 05 27 59.4 +0.3**
comp=Z,1.8nm,0.8s,baz=147,slow=5.2,SNR=9.4
TXAR ScP **ScP 05 31 25.2 +1.1**
comp=Z,1.1nm,0.9s,baz=145,slow=6.4,SNR=9.1
TX31 Lajitas Ar. Si 23.79 320 IAmb IAmb 05 24 23.0
comp=Z,23nm,0.6s
V48A Smith Brothers 23.80 359 IAmb IAmb 05 24 22.2
comp=Z,20nm,0.8s
TKL Tuckaleechee C 23.81 5 IAmb IAmb 05 24 23.6
comp=Z,25nm,0.8s
W57A Gilead 23.89 13 IAmb IAmb 05 24 22.5
comp=Z,34nm,0.7s
V53A Saluda 23.92 7 IAmb IAmb 05 24 25.0
comp=Z,32nm,0.7s
HBAR Harrisburg 23.94 351 P **P 05 24 21.8 +1.3**
WHAR Wooly Hollow 23.98 348 IAmb IAmb 05 24 23.2
comp=Z,33nm,0.8s
V52A Sevierville 24.01 5 IAmb IAmb 05 24 25.5
comp=Z,16nm,0.6s
ABTX Abilene, Hawle 24.07 331 IAmb IAmb 05 24 25.2
comp=Z,20nm,0.8s
ABTX Abilene, Hawle 24.07 331 P **P 05 24 23.7 +2.0**
baz=146,SNR=8.1
X37A Clayton 24.12 341 IAmb IAmb 05 24 24.8
comp=Z,19nm,0.6s
CLTN Cedars of Leba 24.14 360 IAmb IAmb 05 24 26.5
comp=Z,32nm,0.8s
LOOK Love County 24.20 337 IAmb IAmb 05 24 26.7
comp=Z,24nm,0.7s
WVT Waverly 24.22 357 P **P 05 24 23.8 +0.8**
WVT Waverly 24.22 357 P **P 05 24 24.6 +1.6**
baz=176
SGCY Sterling City 24.23 328 IAmb IAmb 05 24 26.4
comp=Z,17nm,1.2s
CNNC Cliffs of the 24.49 17 P **P 05 24 27.0 +1.5**
baz=200
WTFS Wichita Falls 24.51 335 IAmb IAmb 05 24 29.5
comp=Z,16nm,0.8s
FCAR Ozark Folk Cen 24.52 348 IAmb IAmb 05 24 28.6
comp=Z,15nm,0.7s
LCAR Lake Charles 24.52 350 IAmb IAmb 05 24 27.0
comp=Z,19nm,0.7s
U49A Red Boiling Sp 24.57 1 IAmb IAmb 05 24 30.8
comp=Z,33nm,1.1s
MNHN Monahans 24.68 324 IAmb IAmb 05 24 31.2
comp=Z,21nm,0.6s
TZTN Tazewell 24.71 5 IAmb IAmb 05 24 32.8
comp=Z,26nm,0.9s
TZTN Tazewell 24.71 5 P **P 05 24 29.1 +1.6**
baz=186
HICK Hickman 24.74 354 P **P 05 24 28.8 +1.2**
HICK IAmb IAmb 05 24 33.4
comp=Z,49nm,1.2s
APMT Aspermont 24.87 331 IAmb IAmb 05 24 33.0
comp=Z,12nm,0.7s
U56A King 24.96 11 IAmb IAmb 05 24 33.0
comp=Z,26nm,0.9s
T47A Sharon Grove 25.05 358 IAmb IAmb 05 24 33.0
comp=Z,31nm,0.7s
T50A Nancy 25.10 3 IAmb IAmb 05 24 33.3
comp=Z,9.7nm,0.7s
PBMO Poplar Bluff 25.11 352 IAmb IAmb 05 24 35.3
comp=Z,11nm,0.7s
HHAR Hobbs 25.30 345 IAmb IAmb 05 24 33.9
comp=Z,14nm,0.7s
POST Post 25.33 329 IAmb IAmb 05 24 36.8
comp=Z,14nm,0.7s
FNO Franklin 25.41 338 IAmb IAmb 05 24 35.6

comp=Z,25nm,0.5s
T42A Van Buren 25.45 351 IAmb IAmb 05 24 35.6
comp=Z,21nm,0.9s
TUL3 Leonard 25.47 342 IAmb IAmb 05 24 35.3
comp=Z,19nm,0.7s
TUL3 Leonard 25.47 342 P **P 05 24 34.4 +0.1**
baz=158,SNR=12
WMOK Wichita Mounta 25.48 335 IAmb IAmb 05 24 39.0
comp=Z,16nm,0.8s
WMOK Wichita Mounta 25.48 335 P **P 05 24 35.6 +1.1**
baz=150,SNR=20
CGM3 Cape Girardeau 25.53 354 IAmb IAmb 05 24 36.4
comp=Z,9.2nm,0.7s
DKNS Dickens 25.53 331 IAmb IAmb 05 24 39.3
comp=Z,9.5nm,0.7s
U38A Gravette 25.57 345 IAmb IAmb 05 24 36.2
comp=Z,13nm,0.7s
MGMO Mountain Grove 25.78 349 IAmb IAmb 05 24 39.1
comp=Z,11nm,0.8s
BLA Blacksburg 25.80 11 IAmb IAmb 05 24 41.1
comp=Z,47nm,1.3s
BLA Blacksburg 25.80 11 P **P 05 24 37.7 +0.4**
baz=193,SNR=6.5
S51A Beattyville 25.80 5 IAmb IAmb 05 24 39.7
comp=Z,30nm,1.1s
T57A Hurt 25.82 13 IAmb IAmb 05 24 39.9
comp=Z,21nm,0.6s
OK031 S. Brethren Rd 25.84 340 IAmb IAmb 05 24 38.6
comp=Z,28nm,0.6s
S44A Carbondale 25.88 355 IAmb IAmb 05 24 39.7
comp=Z,20nm,0.8s
SIUC Southern Illin 25.90 355 IAmb IAmb 05 24 39.9
comp=Z,19nm,0.8s
OK033 Mehan 25.96 340 IAmb IAmb 05 24 39.8
comp=Z,18nm,0.8s
USIN University of 26.04 357 IAmb IAmb 05 24 41.3
comp=Z,24nm,0.7s
T59A Double "B" Far 26.21 16 IAmb IAmb 05 24 43.8
comp=Z,16nm,1.1s
S54A Dingess, Beckl 26.22 9 IAmb IAmb 05 24 43.8
comp=Z,30nm,1.4s
WCI Wyandotte Cave 26.27 360 P **P 05 24 42.7 +1.2**
WCI IAmb IAmb 05 24 44.0
comp=Z,28nm,0.8s
WCI Wyandotte Cave 26.27 360 P **P 05 24 42.4 +0.8**
baz=180
OK048 Pawnee Station 26.30 340 P **P 05 24 42.7 +0.9**
OK048 IAmb IAmb 05 24 43.6
comp=Z,12nm,0.6s
R49A Shelbyville 26.35 2 P **P 05 24 43.4 +1.1**
R49A IAmb IAmb 05 24 44.3
comp=Z,19nm,0.7s
R50A Paris 26.38 3 IAmb IAmb 05 24 44.9
comp=Z,16nm,0.8s
CCM Cathedral Cave 26.48 351 P **P 05 24 43.8 +0.3**
CCM IAmb IAmb 05 24 45.0
comp=Z,16nm,0.7s
CCM Cathedral Cave 26.48 351 P **P 05 24 44.1 +0.7**
baz=169
MNTX Cornudas Mount 26.49 321 P **P 05 24 44.6 +1.0**
baz=134,SNR=8.5
S39A Bolivar 26.51 347 IAmb IAmb 05 24 44.7
comp=Z,12nm,0.8s
T35A Sooner Cattle 26.62 341 P **P 05 24 45.4 +0.7**
S57A Dark Hollow, R 26.62 13 IAmb IAmb 05 24 47.0
comp=Z,15nm,0.7s
OLIL Olney 26.83 357 IAmb IAmb 05 24 48.9
comp=Z,31nm,0.9s
R40A Maddies Statio 26.88 349 IAmb IAmb 05 24 47.8
comp=Z,10nm,0.6s
AMTX Amarillo 26.89 331 P **P 05 24 48.0 +0.8**
ELIS Ellis County 26.89 336 IAmb IAmb 05 24 49.4
comp=Z,16nm,0.5s
Q44A Meyer Farm, Va 27.06 355 IAmb IAmb 05 24 50.6
comp=Z,33nm,0.9s
BLO Bloomington 27.22 360 IAmb IAmb 05 24 52.1
comp=Z,30nm,0.8s
CBN Corbin Frederi 27.42 15 P **P 05 24 53.6 +1.7**
baz=199,SNR=6.3
P49A Miami Univ. Ec 27.61 3 P **P 05 24 54.1 +0.6**
baz=183,SNR=12
P43A Skaggs, Pawnee 27.84 355 IAmb IAmb 05 24 57.1
comp=Z,12nm,0.9s
P52A Corning 27.92 7 P **P 05 24 57.3 +1.1**
baz=188,SNR=45
P40A Paris 28.05 350 IAmb IAmb 05 24 59.6
comp=Z,6.5nm,0.5s
MCWV Mont Chateau 28.28 10 IAmb IAmb 05 25 02.2
comp=Z,21nm,0.7s
MCWV Mont Chateau 28.28 10 P **P 05 25 01.0 +1.6**
baz=193,SNR=6.9
O49A Covington 28.28 3 IAmb IAmb 05 25 01.2
comp=Z,21nm,0.8s
O48B Farmland 28.32 2 P **P 05 25 00.2 +0.5**
baz=182,SNR=17
ACSO Alum Creek Sta 28.42 5 P **P 05 25 01.8 +1.1**
baz=187,SNR=22
SFIN Lafayette 28.43 359 P **P 05 25 01.6 +0.8**
baz=178,SNR=21
121A Cookes Peak, D 28.55 320 P **P 05 25 04.8 +2.6**
baz=131,SNR=6.0
O53A New Philadelph 28.64 8 P **P 05 25 04.3 +1.7**
baz=190,SNR=28
KSU1 Kansas State U 28.67 343 IAmb IAmb 05 25 04.3
comp=Z,15nm,0.6s
KSU1 Kansas State U 28.67 343 P **P 05 25 03.4 +0.5**
baz=158,SNR=5.2
SDMD Soldier's Deli 28.70 15 IAmb IAmb 05 25 06.0
comp=Z,18nm,1.0s
O54A Avella 28.70 9 IAmb IAmb 05 25 05.4
comp=Z,13nm,0.8s
HDIL Hopedale 28.72 355 P **P 05 25 03.9 +0.5**
baz=174,SNR=21
319A Douglas 28.81 316 IAmb IAmb 05 25 07.5
comp=Z,7.3nm,0.7s
N47A Urbana 28.93 1 IAmb IAmb 05 25 07.0
comp=Z,13nm,0.7s
Y22D IRIS PASSCAL I 29.07 323 P **P 05 25 06.9 +0.2**
baz=135
Y22F Passcal Instru 29.07 323 P **P 05 25 06.8 +0.1**
baz=135
N51A Ashland 29.16 6 IAmb IAmb 05 25 09.5
comp=Z,30nm,0.9s
N53A Lisbon 29.24 8 P **P 05 25 09.5 +1.6**
ETMB Extrema 29.32 136 P **P 05 25 08.7 -0.3**
ETMB Extrema 29.32 136 *eP* **P 05 25 08.6 -0.3**
ETMB Extrema 29.32 136 *eS* **P 05 25 08.1 -0.8**
MVL Millersville 29.38 16 IAmb IAmb 05 25 12.9
comp=Z,22nm,0.9s
DUN6 Lazy B Ranch 29.41 318 IAmb IAmb 05 25 12.9
comp=Z,12nm,0.8s
ANMO Albuquerque 29.43 325 P **P 05 25 11.3 +1.3**
ANMO Albuquerque 29.43 325 P **P 05 25 11.2 +1.3**
baz=137
ANMO Albuquerque 29.43 325 P **P 05 25 11.1 +1.2**
comp=Z,1.8nm,0.7s,baz=204,slow=6.4,SNR=11
comp=Z,1.8nm,0.7s
MACA Manacapuru-AM 29.46 119 P **P 05 25 10.0 -0.3**
MACA IAmb IAmb 05 25 10.3
comp=Z,14nm,0.6s
MACA Manacapuru-AM 29.46 119 *eP* **P 05 25 08.3 -1.9**
N38A Joes South For 29.48 349 IAmb IAmb 05 25 10.9
comp=Z,16nm,0.6s
SSPA Standing Stone 29.61 13 P **P 05 25 13.0 +1.7**
SSPA Standing Stone 29.61 13 P **P 05 25 13.1 +1.9**
baz=197
M53A WI Miller and 29.88 8 P **P 05 25 15.2 +1.5**
baz=191,SNR=35
M52A Chesterland 29.89 7 IAmb IAmb 05 25 15.4
comp=Z,18nm,0.7s
T25A Trinidad 30.01 330 P **P 05 25 17.5 +2.4**
baz=142
L46A Eue Claire 30.05 360 P **P 05 25 15.1 -0.1**
LUPA Lehigh Univers 30.20 17 IAmb IAmb 05 25 19.6
comp=Z,20nm,0.9s
M55A Ridgway 30.23 11 IAmb IAmb 05 25 19.6
comp=Z,33nm,1.1s
L44A Lake County Fo 30.25 358 P **P 05 25 17.2 +0.3**
baz=177,SNR=7.2
TUC Tucson 30.39 316 P **P 05 25 20.7 +2.4**
baz=127
TUC Tucson 30.39 316 P **P 05 25 20.8 +2.4**
TUC PcP **PcP 05 28 15.9 +1.2**
L40A Anamosa 30.42 353 IAmb IAmb 05 25 19.8
comp=Z,24nm,0.8s
AAM Ann Arbor 30.43 4 IAmb IAmb 05 25 20.0
comp=Z,16nm,0.8s
AAM Ann Arbor 30.43 4 P **P 05 25 19.5 +1.1**

baz=185
BRNJ Basking Ridge 30.51 18 IAmb IAmb 05 25 22.1
comp=Z,27nm,0.9s
SCIA State Center 30.56 350 P **P** **05 25 20.6 +1.0**
baz=166
ERPA Erie 30.65 9 P **P** **05 25 21.8 +1.4**
baz=192,SNR=35
KSCO Kaye Shedlock' 30.73 335 P **P** **05 25 22.6 +1.3**
baz=147
K43A Burlington 30.80 357 IAmb IAmb 05 25 22.3
comp=Z,31nm,1.1s
SAML Samuel 30.86 131 P **P** **05 25 21.2 -1.4**
SAML Samuel 30.86 131 *eP* **P** **05 25 21.2 -1.4**
SAML Samuel 30.86 131 P **P** **05 25 20.8 -1.8**
ODNJ Ogdensburg 30.87 17 IAmb IAmb 05 25 25.0
comp=Z,24nm,1.3s
K50A Casco 30.98 5 P **P** **05 25 24.0 +0.8**
PAL Palisades 31.01 18 P **P** **05 25 25.2 +1.7**
baz=204
SDCO Great Sand Dun 31.02 330 P **P** **05 25 25.1 +1.0**
SDCO Great Sand Dun 31.02 330 P **P** **05 25 25.6 +1.5**
baz=141
JFWS Jewell Farm 31.15 354 P **P** **05 25 24.9 +0.2**
JFWS Jewell Farm 31.15 354 P **P** **05 25 25.1 +0.3**
baz=172,SNR=18
WVNY West Valley, N 31.17 11 IAmb IAmb 05 25 27.1
comp=Z,28nm,1.0s
BGNE Belgrade 31.25 343 P **P** **05 25 27.1 +1.4**
baz=157
L34A Svendsen Farm, 31.29 345 IAmb IAmb 05 25 26.4
comp=Z,16nm,0.6s
WSPT Westport, CT 31.34 19 IAmb IAmb 05 25 29.4
comp=Z,26nm,1.1s
W18A Petrified Fore 31.48 321 P **P** **05 25 29.9 +1.9**
baz=132
BINY Binghamton 31.54 15 P **P** **05 25 30.1 +1.9**
baz=199,SNR=30
214A Organ Pipe Nat 31.60 313 P **P** **05 25 30.6 +1.7**
baz=123
MMNY Mt. Morris Dam 31.62 12 IAmb IAmb 05 25 30.9
comp=Z,12nm,0.7s
OGNE Ogallala 32.14 337 P **P** **05 25 36.0 +2.4**
baz=150
MVCO Mesa Verde 32.20 325 P **P** **05 25 36.4 +2.0**
baz=136
ISCO Idaho Springs 32.70 332 P **P** **05 25 40.7 +1.9**
baz=143
L61B Northampton 32.70 19 IAmb IAmb 05 25 40.7
comp=Z,20nm,0.8s
L61B Northampton 32.70 19 P **P** **05 25 40.1 +1.8**
baz=205,SNR=5.4
WUAZ Wupatki 32.75 320 P **P** **05 25 41.2 +2.1**
baz=130
K30B Basset 32.84 342 IAmb IAmb 05 25 41.2
comp=Z,27nm,1.1s
GLMI Grayling 32.89 2 P **P** **05 25 40.8 +0.8**
baz=183
ECSD EROS Data Cent 33.01 346 IAmb IAmb 05 25 41.3
comp=Z,11nm,0.7s
ECSD EROS Data Cent 33.01 346 P **P** **05 25 40.9 -0.2**
baz=161,SNR=16
LPAZ La Paz 33.20 147 P **P** **05 25 42.8 -0.8**
comp=Z,1.3nm,1.0s,baz=332,slow=7.0,SNR=2.6
comp=Z,1.3nm,1.0s
LPAZ La Paz 33.20 147 P **P** **05 25 44.1 +0.4**
ACCN Adirondack Com 33.26 17 IAmb IAmb 05 25 45.6
comp=Z,15nm,1.1s
DELO Deloro Mine 33.39 11 IAmb IAmb 05 25 47.1
comp=Z,10nm,0.9s
G40A Rib Lake 33.48 355 IAmb IAmb 05 25 45.7
comp=Z,18nm,0.7s
J61A Chester 33.55 18 IAmb IAmb 05 25 48.6
comp=Z,31nm,0.9s
NCB Newcomb 33.65 16 IAmb IAmb 05 25 49.2
comp=Z,9.6nm,0.7s
N23A Red Feather La 33.72 333 P **P** **05 25 48.4 +0.8**
baz=144
SPMN Marine on St. 33.73 352 P **P** **05 25 46.9 -0.4**
baz=168,SNR=32
PDMCI Parker Dam,Lak 33.83 316 P **P** **05 25 50.4 +2.1**
baz=125
F42A Maple Grove Fa 33.84 358 IAmb IAmb 05 25 48.4
comp=Z,11nm,0.5s
LONY Lake Ozonia 34.16 15 P **P** **05 25 52.2 +1.2**
baz=200,SNR=20
COWI Conover 34.23 356 IAmb IAmb 05 25 52.4
comp=Z,20nm,0.8s
SUSD Miller 34.27 344 P **P** **05 25 51.5 -0.4**
baz=158
WBO Williamsburg 34.35 14 IAmb IAmb 05 25 54.8
comp=Z,27nm,0.9s
BC3 Big Chuckawall 34.39 314 P **P** **05 25 54.9 +1.6**
baz=122
I62A Tamworth 34.41 19 IAmb IAmb 05 25 56.0
comp=Z,17nm,0.8s
IRM Iron Mountain 34.44 315 P **P** **05 25 56.3 +2.7**
baz=123
F36A Milaca 34.46 351 IAmb IAmb 05 25 54.1
comp=Z,20nm,0.7s
LBNH Lisbon 34.55 18 IAmb IAmb 05 25 57.7
comp=Z,13nm,0.8s
LBNH Lisbon 34.55 18 P **P** **05 25 56.7 +2.3**
baz=205
FRNY Flat Rock 34.62 16 IAmb IAmb 05 25 56.8
comp=Z,17nm,1.1s
I63A Otisfield 34.82 20 IAmb IAmb 05 25 59.5
comp=Z,22nm,0.8s
E38A The Farm, Brul 34.94 354 IAmb IAmb 05 25 58.5
comp=Z,25nm,1.1s
BELC Belle Mtn. Jos 34.95 314 P **P** **05 26 00.5 +2.4**
baz=122
PFO Pinyon Flats O 35.08 313 P **P** **05 26 01.8 +2.6**
baz=121
D41A Chassel 35.16 357 IAmb IAmb 05 26 00.7
comp=Z,25nm,1.1s
K22A Casper 35.40 334 P **P** **05 26 04.5 +2.7**
baz=144
MURC Murrieta 35.60 312 P **P** **05 26 06.0 +2.5**
baz=120
RSSD Black Hills 35.62 338 P **P** **05 26 06.0 +2.2**
baz=149
RSSD Black Hills 35.62 338 P **P** **05 26 05.7 +1.9**
TRQ Mont Tremblant 35.67 14 IAmb IAmb 05 26 06.1
comp=Z,19nm,1.0s
TUQ Turquoise Moun 35.68 316 P **P** **05 26 06.9 +2.5**
baz=124
VILB Vilhena 35.70 133 P **P** **05 26 03.9 -0.7**
VILB IAmb IAmb 05 26 04.5
comp=Z,13nm,0.7s
VILB Vilhena 35.70 133 *eP* **P** **05 26 01.5 -3.0**
NPGB Novo Progresso 36.00 120 *eP* **P** **05 26 05.8 -1.3**
PKME Peaks-Kenny Pk 36.32 20 P **P** **05 26 11.7 +2.2**
baz=209,SNR=5.7
FMP Fort Macarthur 36.45 312 P **P** **05 26 13.2 +2.5**
baz=119
DUG Dugway, Tooele 36.70 325 P **P** **05 26 15.5 +2.6**
baz=133
PDAR Pinedale Array 36.87 331 P **P** **05 26 14.3 -0.1**
comp=Z,1.3nm,0.6s,baz=127,slow=10,SNR=13
PDAR ScP **ScP** **05 32 06.5 -0.1**
comp=Z,0.3nm,0.5s,baz=134,slow=5.1,SNR=2.5
comp=Z,1.3nm,0.6s
BW06 Boulder Array 36.87 331 P **P** **05 26 15.1 +0.7**
baz=140
FURC Furnace Creek, 36.89 317 P **P** **05 26 17.1 +2.7**
baz=124
VLDQ Val d'Or 36.90 10 IAmb IAmb 05 26 16.6
comp=Z,12nm,0.9s
MPMC Manual Prospec 37.09 316 P **P** **05 26 18.5 +2.2**
baz=123
R11B Troy Canyon, C 37.15 320 P **P** **05 26 19.1 +2.2**
baz=128
AGMN Agassiz Nation 37.22 349 IAmb IAmb 05 26 17.4
comp=Z,22nm,1.2s
AGMN Agassiz Nation 37.22 349 P **P** **05 26 16.4 -0.5**
baz=164,SNR=13
GRAC Grapevine Rang 37.52 317 P **P** **05 26 21.4 +1.6**
baz=124
D62A Allapoint, All 38.00 19 IAmb IAmb 05 26 25.7
comp=Z,27nm,0.8s
VES Vestal, Richgr 38.07 314 P **P** **05 26 25.3 +0.9**
baz=121
PKM Mcpherson Peak 38.12 313 P **P** **05 26 25.4 +0.4**
baz=119
LDAQ Lac Daran 38.14 16 IAmb IAmb 05 26 26.1
comp=Z,16nm,0.8s
PTLB Pontes e Lacer 38.15 135 *eP* **P** **05 26 24.3 -0.9**
LVC Limon Verde 38.23 154 *eP* **P** **05 26 25.8 -0.4**
LVC Limon Verde 38.23 154 P **P** **05 26 27.6 +1.4**
RLMT Red Lodge 38.56 334 P **P** **05 26 29.3 +0.7**
baz=142,SNR=6.0
LAO LASA Array 38.62 338 P **P** **05 26 29.8 +1.0**
baz=148
NVAR Mina Array Bea 38.93 318 P **P** **05 26 33.5 +1.7**
NVAR Mina Array Bea 38.93 318 P **P** **05 26 33.8 +2.0**
comp=Z,4.5nm,0.7s,baz=125,slow=7.8,SNR=52
NVAR PcP **PcP** **05 28 40.4 +0.8**
comp=Z,0.7nm,0.5s,baz=123,slow=3.3,SNR=4.9
NVAR ScP **ScP** **05 32 16.0 +1.4**
comp=Z,0.2nm,0.6s,baz=121,slow=4.6,SNR=3.0
comp=Z,4.5nm,0.7s
ULM Lac du Bonnet 39.10 350 IAmb IAmb 05 26 32.6
comp=Z,13nm,1.2s
ULM Lac du Bonnet 39.10 350 P **P** **05 26 31.4 -1.4**
comp=Z,4.4nm,0.5s,baz=167,slow=11,SNR=18
comp=Z,4.4nm,0.5s
KVN Kaiserville 39.15 319 P **P** **05 26 34.8 +1.2**
BATG Bathurst New B 39.19 22 IAmb IAmb 05 26 35.9
comp=Z,28nm,1.1s
DGMT Dagmar 39.46 341 IAmb IAmb 05 26 37.5
comp=Z,21nm,0.7s
DGMT Dagmar 39.46 341 P **P** **05 26 36.5 +0.6**
baz=152,SNR=9.6
HLID Hailey 39.88 328 P **P** **05 26 40.8 +1.2**
baz=134,SNR=6.0
BOZ Bozeman (W) 39.98 332 P **P** **05 26 41.6 +1.3**
baz=139,SNR=8.8
MPK Martis Peak 40.53 318 P **P** **05 26 47.1 +2.0**
AC01 Pan de Azucar 40.72 158 P **P** **05 26 47.4 +1.0**
EGMT Eagleton 41.08 336 P **P** **05 26 50.0 +0.8**
EGMT Eagleton 41.08 336 P **P** **05 26 50.0 +0.8**
baz=144
WVOR Wild Horse Val 41.49 323 P **P** **05 26 53.4 +0.8**
ORV Oroville 41.63 318 P **P** **05 26 55.0 +1.2**
PLID Pearl Lake 41.75 328 P **P** **05 26 55.1 +0.2**
AC02 Maricunga 41.89 157 P **P** **05 26 56.9 +0.4**
J08A Circle Bar Ran 41.97 324 P **P** **05 26 58.2 +1.7**
MSO Missoula 41.97 332 P **P** **05 26 57.2 +0.6**
baz=137
BMO Blue Mountains 42.28 327 P **P** **05 26 59.3 +0.2**
AC05 El Transito 43.29 159 P **P** **05 27 08.1 +0.8**
KMPM Mount Pierce 43.80 317 P **P** **05 27 13.0 +1.7**
JCC Jacoby Creek, 43.94 318 P **P** **05 27 13.3 +1.0**
JCC IAmb IAmb 05 27 15.6
comp=Z,16nm,1.1s
KRPM Rodgers 44.11 318 P **P** **05 27 15.2 +1.4**
KRPM IAmb IAmb 05 27 16.1
comp=Z,13nm,0.8s
KRMB Red Mountain 44.22 319 P **P** **05 27 16.2 +1.5**
DRLN Deer Lake 44.24 27 P **P** **05 27 15.2 +0.7**
NEW Newport 44.51 331 P **P** **05 27 17.8 +1.0**
baz=134
I04A Tendick Farm, 44.52 322 P **P** **05 27 17.5 +0.5**
FFC Flin Flon 44.54 347 P **P** **05 27 17.7 +0.8**
FFC Flin Flon 44.54 347 P **P** **05 27 17.2 +0.3**
HOOD Mount Hood Mea 44.97 325 P **P** **05 27 21.4 +0.8**
HOOD IAmb IAmb 05 27 23.3
comp=Z,19nm,1.1s
SCHQ Schefferville 45.53 16 P **P** **05 27 24.3 -0.4**
SCHQ Schefferville 45.53 16 P **P** **05 27 23.7 -1.0**
comp=Z,31nm,0.5s,baz=218,slow=15,SNR=168
TICA Tres Isletas 45.57 147 *eP* **P** **05 27 24.4 -1.0**
VA06 Catapilco 46.41 162 P **P** **05 27 32.6 +0.8**
VA06 IAmb IAmb 05 27 33.2
comp=Z,9.8nm,0.6s
EDM Edmonton 46.61 338 P **P** **05 27 33.2 0.0**
BDFB Brasilia 46.67 125 P **P** **05 27 32.6 -1.6**
comp=Z,2.0nm,0.8s,baz=301,slow=11,SNR=4.6
comp=Z,2.0nm,0.8s
VA03 San Esteban 46.82 162 P **P** **05 27 36.3 +1.2**
VA03 IAmb IAmb 05 27 37.0
comp=Z,15nm,0.7s
FCC Fort Churchill 47.20 354 P **P** **05 27 37.6 +0.1**
FCC IAmb IAmb 05 27 38.0
comp=Z,5.2nm,0.5s
CPUP Villa Florida 47.23 144 P **P** **05 27 37.2 -1.2**
CPUP Villa Florida 47.23 144 P **P** **05 27 37.1 -1.2**
comp=Z,0.9nm,0.5s,baz=336,slow=10,SNR=5.1
comp=Z,0.9nm,0.5s
CPUP Villa Florida 47.23 144 P **P** **05 27 36.8 -1.5**
MT09 Talagante 47.64 163 P **P** **05 27 42.1 +0.6**
GO05 Huala 48.53 164 P **P** **05 27 48.8 +0.5**
GO05 IAmb IAmb 05 27 57.5
comp=Z,42nm,1.5s
PSAL Palomas, Salto 50.77 148 *eP* **P** **05 28 04.6 -0.6**
ITAB Concordia 51.04 140 P **P** **05 28 05.5 -1.8**
ITAB IAmb IAmb 05 28 24.6
comp=Z,20nm,1.5s
RODS Rosario do Sul 51.50 145 *eP* **P** **05 28 08.6 -2.1**
TBOT Tacuaremb 52.12 147 *eP* **P** **05 28 14.8 -0.4**
RCBR Riachuelo 53.06 107 P **P** **05 28 21.2 -1.3**
LL04 Puerto Octay 54.03 167 P **P** **05 28 29.4 +0.4**
LL04 IAmb IAmb 05 28 29.9
comp=Z,9.7nm,1.1s
PLCA Paso Flores 54.29 165 P **P** **05 28 31.7 +0.7**
PLCA IAmb IAmb 05 28 32.4
comp=Z,15nm,1.1s
PLCA Paso Flores 54.29 165 P **P** **05 28 31.6 +0.5**
comp=Z,5.5nm,0.8s,baz=338,slow=10,SNR=26
PLCA PcP **PcP** **05 29 33.1 -0.2**
comp=Z,1.3nm,0.8s,baz=349,slow=4.7,SNR=3.7
comp=Z,5.5nm,0.8s
PLCA Paso Flores 54.29 165 *eP* **P** **05 28 29.4 -1.7**
PLCA Paso Flores 54.29 165 P **P** **05 28 31.5 +0.5**
PLCA pP **pP** **05 29 05.8 +1.2**
PLCA PcP **PcP** **05 29 33.2 -0.2**
YKA Yellowknife Ar 54.51 344 P **P** **05 28 30.7 -1.5**
comp=Z,1.7nm,0.7s,baz=136,slow=6.6,SNR=41
YKA PcP **PcP** **05 29 33.0 -0.7**
comp=Z,0.4nm,0.7s,baz=142,slow=3.9,SNR=5.8
YKA ScP **ScP** **05 33 17.6 -1.1**
comp=Z,0.2nm,0.8s,baz=132,slow=4.1,SNR=2.7
comp=Z,1.7nm,0.7s
T35M Bob Quinn 56.21 333 P **P** **05 28 45.8 +1.3**
baz=125
IVI Ivigtut 56.52 21 *i* P **P** **05 28 44.0 -2.7**
IVI IAmb IAmb 05 28 47.3
comp=Z,7.4nm,0.9s
CRAG Craig 56.72 330 P **P** **05 28 49.0 +0.9**
baz=121
WRAK Wrangell Islan 56.85 331 P **P** **05 28 50.2 +1.1**
baz=123
DLBC Dease Lake 56.96 334 P **P** **05 28 50.8 +0.9**
baz=126
DLBC Dease Lake 56.96 334 P **P** **05 28 49.9 0.0**
comp=Z,5.1nm,1.0s,baz=101,slow=5.8,SNR=5.6
comp=Z,5.1nm,1.0s
R33M Jennings River 57.92 335 P **P** **05 28 56.8 +0.2**
baz=126
S32K Killisnoo 58.45 332 P **P** **05 29 01.4 +1.2**
baz=121
COYC Coyhaique 58.56 168 P **P** **05 29 02.1 +1.0**
COYC Coyhaique 58.56 168 P **P** **05 29 02.0 +1.0**
P33M Teslin, Yukon 59.15 335 P **P** **05 29 05.8 +0.7**
baz=124
SFJD Kangerlussuaq 59.98 15 *i* P **P** **05 29 07.7 -2.8**
SFJD IAmb IAmb 05 29 10.1
comp=Z,4.2nm,0.7s
DY2G Dye2 60.80 17 *i* P **P** **05 29 15.0 -1.4**
DY2G IAmb IAmb 05 29 16.0
comp=Z,11nm,0.5s
PNL Peninsula 61.73 333 P **P** **05 29 23.4 +0.9**
baz=117
M29M Somme Creek 62.65 336 P **P** **05 29 29.9 +1.2**
baz=119
I30M Mount Dempster 63.29 339 P **P** **05 29 33.4 +0.5**
I30M Mount Dempster 63.29 339 P **P** **05 29 33.2 +0.2**
baz=123
G31M Satah River 63.54 341 P **P** **05 29 35.1 +0.7**
G31M Satah River 63.54 341 P **P** **05 29 34.4 0.0**
baz=126
J29N Klondike Camp 63.56 338 P **P** **05 29 36.1 +1.4**
baz=120
BGLC Bering Glacier 63.69 332 P **P** **05 29 36.3 +0.9**
baz=114
EPYK Eagle Plains 64.04 340 P **P** **05 29 38.2 +0.5**
baz=123
INK Inuvik 64.14 342 P **P** **05 29 38.7 +0.5**
INK Inuvik 64.14 342 P **P** **05 29 38.9 +0.6**
baz=127
INK Inuvik 64.14 342 P **P** **05 29 38.0 -0.2**
comp=Z,2.9nm,0.8s,baz=122,slow=5.9,SNR=8.9
comp=Z,2.9nm,0.8s
BCAR Beaver Creek A 64.29 335 P **P** **05 29 40.1 +0.7**
L27K Beaver Creek, 64.30 335 P **P** **05 29 40.3 +0.8**
L27K Beaver Creek, 64.30 335 P **P** **05 29 39.7 +0.2**
baz=116
ICESG Greenland Ices 64.42 17 *i* P **P** **05 29 38.6 -1.9**
ICESG IAmb IAmb 05 29 40.1
comp=Z,14nm,0.6s
F30M Barrier River 64.42 341 P **P** **05 29 40.3 +0.2**
baz=124
A36M Sachs Harbour 64.50 347 P **P** **05 29 41.0 +0.5**
baz=137
H29M Whitestone 64.52 339 P **P** **05 29 41.4 +0.5**
baz=121
G29M Pine Creek 64.77 340 P **P** **05 29 42.3 -0.1**
baz=122
EGAK Eagle 64.82 337 P **P** **05 29 43.7 +0.9**
baz=118
K27K Chicken 64.84 336 P **P** **05 29 43.2 +0.3**
baz=116
I27K Kandik River 65.38 338 P **P** **05 29 46.9 +0.4**
baz=118
E29M Blow River 65.52 341 P **P** **05 29 47.5 +0.3**
baz=122
J26L Joseph Creek 65.63 336 P **P** **05 29 49.1 +0.9**
baz=115
H27K Steamboat Moun 65.64 339 P **P** **05 29 48.7 +0.6**
baz=118,SNR=6.6
F28M Old Crow 65.75 340 P **P** **05 29 48.8 +0.1**
baz=120
I26K Coal Creek Min 65.82 337 P **P** **05 29 49.5 +0.3**
baz=116
G27K Doyon Strip 65.96 339 P **P** **05 29 50.2 +0.1**
baz=118
E28M Babbage River 66.14 341 P **P** **05 29 51.5 +0.3**
baz=121
D28M Stokes Point 66.28 342 P **P** **05 29 52.6 +0.6**
baz=122
J25K Salcha River, 66.38 336 P **P** **05 29 53.5 +0.6**
baz=114
E27K Coleen River 66.60 340 P **P** **05 29 54.4 +0.3**
baz=119
G26K Porcupine Rive 66.77 339 P **P** **05 29 55.3 +0.1**
baz=116
SUMG Summit 66.88 14 *i* P **P** **05 29 55.0 -1.3**
SUMG IAmb IAmb 05 29 58.7
comp=Z,5.9nm,0.9s
HDA Harding Lake 66.94 336 P **P** **05 29 56.4 0.0**
baz=112
ILAR Eielson Array 67.05 336 P **P** **05 29 56.1 -1.0**
comp=Z,1.6nm,0.8s,baz=125,slow=4.3,SNR=9.1
ILAR PP **PP** **05 32 25.9 -0.5**
comp=Z,0.6nm,0.9s,baz=118,slow=7.4,SNR=4.9
comp=Z,1.6nm,0.8s
H25L Birch Creek 67.22 338 P **P** **05 29 58.7 +0.7**
baz=114
F26K Sheenjek River 67.23 339 P **P** **05 29 58.6 +0.4**
baz=116
RND Reindeer 67.37 334 P **P** **05 29 59.8 +0.6**
RND IAmb IAmb 05 29 59.9
comp=Z,9.0nm,0.9s
KDAK Kodiak Island 67.50 328 P **P** **05 30 00.9 +0.9**
baz=104
G25K Bearman Lake 67.53 338 P **P** **05 30 00.9 +0.9**
baz=114
F25K Christian Rive 67.70 339 P **P** **05 30 01.9 +0.8**
baz=114
H24K Noodor Dome 67.83 337 P **P** **05 30 02.4 +0.4**
baz=112
NEA2 Nenana 67.86 336 P **P** **05 30 02.9 +0.8**
baz=110
E25K Arctic Village 67.90 340 P **P** **05 30 03.2 +0.8**
baz=115
C27K Jago River 67.95 341 P **P** **05 30 03.1 +0.5**
baz=117
TRF Thorofare Moun 67.99 334 P **P** **05 30 03.0 -0.2**
baz=108
G24K Hadweenzic Riv 68.00 338 P **P** **05 30 03.0 0.0**
baz=112
NEEM North Greenlan 68.03 8 *i* P **P** **05 30 01.5 -1.9**
NEEM IAmb IAmb 05 30 04.2
comp=Z,4.7nm,0.6s
SKT Skwentna 68.09 332 P **P** **05 30 04.2 +0.5**
baz=106
I23K Minto, Yukon-K 68.17 336 P **P** **05 30 04.6 +0.6**
baz=110
C26K Camden Bay 68.45 342 P **P** **05 30 06.8 +1.1**
baz=116
F24K Squaw Lake 68.46 339 P **P** **05 30 06.3 +0.4**
baz=112
H23K Yukon River 68.47 337 P **P** **05 30 05.9 0.0**
baz=110
BPAW Bear Paw Mtn. 68.49 335 P **P** **05 30 06.4 +0.3**
BPAW Bear Paw Mtn. 68.49 335 P **P** **05 30 06.0 -0.1**
baz=108
D25K Kavik River 68.66 341 P **P** **05 30 07.5 +0.3**
D25K Kavik River 68.66 341 P **P** **05 30 07.2 +0.1**
baz=114,SNR=7.5
MLY Manley 68.68 336 P **P** **05 30 06.9 -0.4**
MLY Manley 68.68 336 P **P** **05 30 07.0 -0.4**
baz=108,SNR=5.1
M20K Styx River 68.80 332 P **P** **05 30 08.1 0.0**
baz=105
G23K Bananza Creek 68.95 338 P **P** **05 30 09.5 +0.5**
baz=110
N19K Bonanza Creek 69.17 331 P **P** **05 30 11.4 +1.0**
baz=103
COLD Coldfoot 69.19 338 P **P** **05 30 11.8 +1.4**
baz=110
H22K Ishtalitna Cre 69.20 337 P **P** **05 30 10.4 0.0**
baz=108
E23K Chandalar 69.27 339 P **P** **05 30 11.3 +0.3**
baz=111
L20K Farewell, AK 69.29 333 P **P** **05 30 11.4 +0.3**
baz=104
O18K Koktuh Hills 69.30 330 P **P** **05 30 13.4 +2.2**
baz=102
TOLK Toolik Lake Re 69.47 340 P **P** **05 30 12.4 +0.4**
baz=111
C24K Franklin Bluff 69.57 341 P **P** **05 30 13.3 +0.7**
baz=112
G22K Bettles 69.58 338 P **P** **05 30 13.5 +0.8**
baz=108
K20K Telida 69.60 334 P **P** **05 30 13.4 +0.5**
baz=105
J20K Nowinta River 69.84 334 P **P** **05 30 14.7 +0.4**
baz=105
M18K Stony River 69.95 331 P **P** **05 30 15.0 -0.1**
baz=102
D23K Nanushuk River 69.96 340 P **P** **05 30 15.6 +0.6**
baz=110
F22K John River 70.01 338 P **P** **05 30 16.5 +1.2**
baz=108
I20K Naaghedeneel 70.14 335 P **P** **05 30 16.9 +0.8**
baz=105
G21K Allakaket 70.21 337 P **P** **05 30 17.1 +0.5**
G21K Allakaket 70.21 337 P **P** **05 30 17.4 +0.8**
baz=106
O17K Koliganek Bris 70.22 329 P **P** **05 30 17.0 +0.3**
baz=101
C23K Itkillik River 70.24 341 P **P** **05 30 17.7 +1.0**
baz=110
N17K Nushagak Hills 70.41 330 P **P** **05 30 17.4 -0.5**
baz=101
F21K Alatna River 70.41 338 P **P** **05 30 18.7 +0.9**
F21K Alatna River 70.41 338 P **P** **05 30 18.0 +0.1**
baz=107
J19K Poorman 70.42 334 P **P** **05 30 18.1 +0.1**
baz=104
J18K Innoko River 70.78 333 P **P** **05 30 20.0 -0.1**
baz=102
E21K Killik River 70.93 339 P **P** **05 30 21.3 +0.3**
baz=106
H19K Roundabout Mou 71.12 336 P **P** **05 30 22.5 +0.4**
baz=103
K17K Iditarod 71.34 332 P **P** **05 30 24.9 +1.5**
baz=100
SDPT Sand Point 71.38 325 P **P** **05 30 24.2 +0.4**
baz=96
C21K Knifeblade Rid 71.42 339 P **P** **05 30 23.8 0.0**
baz=106
B21K Ikpikpuk River 71.49 340 P **P** **05 30 24.3 0.0**
baz=106
G19K Purcell Mounta 71.52 336 P **P** **05 30 24.4 -0.1**
baz=103
E20K Nigu River 71.68 338 P **P** **05 30 25.6 +0.1**
baz=104
L16K Owhat River 71.71 331 P **P** **05 30 26.5 +0.9**
baz=99
J17K VABM Dome 71.81 333 P **P** **05 30 26.9 +0.7**

	baz=100							
H18K	**Honhosa River**	**71.83**	**335**	P	**P**	**05 30 26.7**	**+0.3**	
	baz=101							
E19K	**Redstone River**	**71.87**	**337**	P	**P**	**05 30 26.9**	**+0.3**	
	baz=103							
F19K	**Shaleruckik Mo**	**71.94**	**337**	P	**P**	**05 30 26.5**	**-0.4**	
	baz=102							
D20K	**Etivluk River**	**71.94**	**339**	P	**P**	**05 30 26.9**	**-0.1**	
	baz=104							
A22K	**Sinclair Lake**	**72.00**	**341**	P	**P**	**05 30 27.9**	**+0.6**	
	baz=106							
G18K	**Tagagawik**	**72.09**	**336**	P	**P**	**05 30 28.0**	**+0.1**	
	baz=101							
D19K	**Kuna River**	**72.43**	**338**	P	**P**	**05 30 30.0**	**+0.1**	
	baz=103							
M14K	**Bethel**	**72.77**	**330**	P	**P**	**05 30 32.4**	**+0.5**	
	baz=97							
C19K	**Lookout Ridge**	**73.08**	**339**	P	**P**	**05 30 33.8**	**+0.1**	
	baz=101							
DAG	**Danmarks Havn**	**73.48**	**13**	*i* P	**P**	**05 30 34.5**	**-1.4**	
DAG				IAmb	IAmb	05 30 35.6		
	comp=Z,2.9nm,0.6s							
EKA	**Eskdalemuir Ar**	**76.43**	**36**	P	**P**	**05 30 50.4**	**-2.8**	
	comp=Z,4.0nm,0.7s,baz=269,slow=5.8,SNR=14							
	comp=Z,4.0nm,0.7s							
ESDC	**Sonseca Array**	**76.64**	**52**	P	**P**	**05 30 52.5**	**-2.3**	
	comp=Z,0.9nm,0.5s,baz=281,slow=5.4,SNR=10							
	comp=Z,0.9nm,0.5s							
MUD	**Monsted U'grnd**	**83.21**	**34**	*i* P	P	05 31 34.9	+5.3	
MUD				IAmb	IAmb	05 31 38.4		
	comp=Z,17nm,0.4s							
NB2	**NORSAR Subarra**	**83.32**	**29**	P	**P**	**05 31 28.7**	**-1.6**	
	comp=Z,6.0nm,1.2s,baz=282,slow=5.3							
NOA	**NORSAR Array B**	**83.32**	**29**	P	**P**	**05 31 28.5**	**-1.8**	
	comp=Z,1.5nm,0.9s,baz=283,slow=5.2,SNR=4.9							
	comp=Z,1.5nm,0.9s							
HFS	**Hagfors**	**84.72**	**30**	P	**P**	**05 31 35.2**	**-2.1**	
	comp=Z,1.4nm,0.6s,baz=297,slow=6.3,SNR=5.9							
	comp=Z,1.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**85.39**	**78**	P	**P**	**05 31 42.0**	**+0.4**	
TORD	**Torodi Ar. Bea**	**85.39**	**78**	P	**P**	**05 31 39.0**	**-2.6**	
	comp=Z,0.4nm,0.7s,baz=273,slow=7.0,SNR=1.7							
	comp=Z,0.4nm,0.7s							
FUORN	**Ofenpass-Fuorn**	**85.91**	**43**	P	**P**	**05 31 43.1**	**-0.8**	
ARCES	**ARCESS Array B**	**86.37**	**19**	P	**P**	**05 31 44.6**	**-0.7**	
ARCES				IAmb	IAmb	05 32 06.1		
	comp=Z,9.1nm,1.4s							
ARCES	**ARCESS Array B**	**86.37**	**19**	P	**P**	**05 31 43.8**	**-1.5**	
	comp=Z,2.9nm,0.9s,baz=298,slow=4.0,SNR=9.4							
	comp=Z,2.9nm,0.9s							
CLL	**Collm**	**86.56**	**38**	*e* P	**P**	**05 31 47.0**	**+0.4**	
FINES	**FINESS Array B**	**89.99**	**26**	P	**P**	**05 31 59.7**	**-2.8**	
	comp=Z,2.4nm,1.1s,baz=292,slow=5.5,SNR=3.4							
	comp=Z,2.4nm,1.1s							
QSPA	**South Pole Qui**	**101.81**	**180**	P	**Pdif**	**05 32 58.2**	**+2.0**	
	comp=Z,1.2nm,0.8s,baz=117,slow=2.3,SNR=2.5							
SONM	**Songino Array**	**119.53**	**350**	PKP	**PKPdf**	**05 37 51.4**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=56,slow=3.6,SNR=2.4							
KSRS	**Korea Array**	**121.41**	**328**	PKP	**PKPdf**	**05 37 56.2**	**0.0**	
	comp=Z,1.3nm,0.6s,baz=30,slow=1.5,SNR=5.9							
STKA	**Stephens Creek**	**131.78**	**238**	PKP	**PKiKP**	**05 38 17.6**	**+0.3**	
	comp=Z,4.4nm,0.7s,baz=88,slow=1.6,SNR=8.6							
ASAR	**Alice Springs**	**140.13**	**247**	PKhKP	PKPpre	05 38 25.6		
	comp=Z,2.0nm,0.6s,baz=102,slow=3.3,SNR=17							
ASAR				PKP	**PKPdf**	**05 38 32.8**	**+0.8**	
	comp=Z,6.3nm,0.7s,baz=100,slow=2.0,SNR=24							
WRA	**Warramunga Arr**	**140.23**	**253**	PKhKP	PKPpre	05 38 26.8		
	comp=Z,1.5nm,0.5s,baz=94,slow=3.3,SNR=17							
WRA				PKP	**PKPdf**	**05 38 33.0**	**+0.7**	
	comp=Z,5.8nm,0.5s,baz=92,slow=2.3,SNR=24							
CMAR	**Chiang Mai Arr**	**149.46**	**350**	PKP	**PKPdf**	**05 38 47.4**	**-0.8**	
	comp=Z,1.3nm,0.6s,baz=339,slow=2.2,SNR=4.5							
CMAR				PKPbc	**PKPbc**	**05 38 52.0**	**-0.8**	
	comp=Z,0.8nm,0.3s,baz=350,slow=4.6,SNR=4.2							

*NEIC **06** 05:24:18.2±0.4, 19°.35N±0°.02×155°.12W±0°.03, h5km±1km, Error ellipse: s-maj=5.7km s-min=2.8km az=315.0*

HVO 06 05:24:17.5±0.5, 19°.34N±0°.03×155°.10W±0°.03, h8km±4km, ML2.8/32, ML3.0/46(NEIC), Error ellipse: s-maj=5.6km s-min=1.5km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**358**		Pg	05 24 19.5	+0.3
JCUZ				IAML		05 24 21.5	
	comp=E,12μm,0.3s						
STCH	**Steam Cracks**	**0.05**	**334**		Pg	05 24 19.6	+0.2
NPOC	**North of Pu'u**	**0.06**	**351**		Pg	05 24 19.6	+0.3
KNHH	**Kane Nui o Ham**	**0.08**	**303**		Pg	05 24 19.8	+0.2
PUH	**Pauahi**	**0.12**	**289**		Pg	05 24 20.3	+0.1
PUH				IAML		05 24 23.1	
	comp=N,4μm,0.7s						
JOKA	**Jonika Flow**	**0.13**	**43**		Pg	05 24 20.6	+0.2
KKO	**Keanakako`i**	**0.17**	**291**		Pg	05 24 21.1	+0.1
KKO				IAML		05 24 24.7	
	comp=N,3μm,1.0s						
BYL	**Byron's Ledge**	**0.17**	**297**		Pg	05 24 21.1	+0.1
BYL				IAML		05 24 24.3	
	comp=E,3μm,0.7s						
BYL				IAML		05 24 24.4	
	comp=N,3μm,0.5s						
RIM	**Rim**	**0.17**	**290**		Pg	05 24 21.3	+0.2
HATHI	**Halema'uma'u T**	**0.17**	**300**		Pg	05 24 21.3	+0.1
HATHI				IAML		05 24 26.1	
	comp=E,3μm,1.0s						
SBLHI	**Steaming Bluff**	**0.18**	**300**		Pg	05 24 21.3	0.0
NPH	**North Pit**	**0.19**	**294**		Pg	05 24 21.3	-0.1
UWB	**Uwekahuna B**	**0.19**	**298**		Pg	05 24 21.4	0.0
SDHHI	**Sand Hill**	**0.19**	**286**		Pg	05 24 21.7	+0.2
SDHHI				IAML		05 24 27.6	
	comp=E,3μm,0.3s						
SDHHI				IAML		05 24 27.6	
	comp=N,4μm,0.3s						
OBL	**Observatory Le**	**0.19**	**295**		Pg	05 24 21.7	+0.2
OBL				IAML		05 24 27.6	
	comp=E,4μm,0.5s						
OBL				IAML		05 24 27.6	
	comp=N,4μm,0.4s						
HLP	**Hilina Pali**	**0.20**	**258**		Pg	05 24 22.0	+0.4
HLP				IAML		05 24 26.6	
	comp=E,5μm,0.2s						
HLP				IAML		05 24 27.1	
	comp=N,4μm,0.1s						
UWE	**Uwekahuna**	**0.20**	**295**		Pg	05 24 21.7	+0.1
UWE				IAML		05 24 27.7	
	comp=N,3μm,0.5s						
UWE				IAML		05 24 27.8	
	comp=E,3μm,0.3s						
WRMHI	**West Rim**	**0.20**	**290**	Pg	Pg	05 24 21.5	-0.1
WRMHI				IAML		05 24 27.6	
	comp=N,2μm,0.4s						
WRMHI				IAML		05 24 28.4	
	comp=E,3μm,0.2s						
RSD	**Rainshed**	**0.21**	**307**		Pg	05 24 22.0	+0.2
RSD				IAML		05 24 27.9	
	comp=N,2μm,0.1s						
RSD				IAML		05 24 28.4	
	comp=E,2μm,0.2s						
HTC	**Hot Caves**	**0.30**	**251**		Pg	05 24 23.9	+0.4
MLH	**Mauna Loa**	**0.31**	**300**		Pg	05 24 23.9	+0.2
MLH				IAML		05 24 33.2	
	comp=E,2μm,0.2s						
MLH				IAML		05 24 34.1	
	comp=N,2μm,0.3s						
HMH	**Humu'ula Sheep**	**0.45**	**306**		Pg	05 24 26.6	+0.3
MWH	**Moku'aweowe**	**0.49**	**288**		Pg	05 24 26.9	-0.3
KHU	**Kahuku**	**0.49**	**260**		Pg	05 24 26.8	-0.3
KHU				IAML		05 24 35.8	
	comp=E,1μm,0.3s						
KHU				IAML		05 24 35.9	
	comp=N,1μm,0.2s						
ALEP	**Alea Permanent**	**0.55**	**292**		Pg	05 24 27.6	-0.7
ALEP					Sg	05 24 36.6	+1.0
POHA	**Pohakuloa**	**0.58**	**316**		Pg	05 24 28.3	-0.6
HUH	**Hualalai**	**0.78**	**297**	Pg	Pg	05 24 31.2	-1.3
CPH	**Captain Cook**	**0.79**	**281**		Pg	05 24 31.2	-1.5
HPAH	**Hawaii Prepara**	**0.89**	**321**		Pg	05 24 32.2	-2.4
HPAH				IAML		05 24 46.5	
	comp=N,626nm,0.2s						
HPAH				IAML		05 24 46.6	
	comp=E,671nm,0.1s						
MHA	**Mahukona**	**1.14**	**318**	Pg	Pg	05 24 35.8	-3.5
HLK	**Haleakala**	**1.78**	**323**	Pn	Pn	05 24 47.3	-1.6
KHLH	**Kahului Airpor**	**1.99**	**321**	Pn	Pn	05 24 50.6	-0.9

*IDC **06** 05:24:26.8±2.7, 56°.25N×149°.41W, h0km, mb3.3/1, mbtmp3.3/5, ML3.1/4, MS2.4/1, Error ellipse: s-maj=39.5km s-min=23.5km az=38.0*

*NEIC **06** 05:24:26.3±1.0, 56°.18N±0°.09×149°.3W±0°.1, h23km±9km, mb3.4/2, ML3.5/54, ML3.3(AEIC), Error ellipse: s-maj=12.7km s-min=9.1km az=168.0*

*AEIC **06** 05:24:28.7±1.2, 56°.12N±0°.05×149°.2W±0°.1, h11km±7km, Error ellipse: s-maj=9.9km s-min=6.5km az=111.0*

ISC 06 05:24:26.8±1.2, 56°.35N±0°.09×149°.28W±0°.05, h10km, n197, s0°87/207, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.31**	**310**	Pn	**Pn**	**05 25 04.4**	**-0.4**
KDAK	**Kodiak Island**	**2.31**	**310**	Pn	**Pn**	**05 25 04.4**	**-0.4**
	3.9nm,0.3s,baz=139,slow=7.0,SNR=115						
KDAK				Sn	**Sn**	**05 25 31.2**	**-2.0**
	8.0nm,0.3s,baz=139,slow=20,SNR=19						
KDAK				LR	LR	05 25 54.7	
	comp=Z,72nm,18.9s,baz=110,slow=38						
	8.5nm,0.3s						
OHAK	**Old Harbor**	**2.37**	**293**	P	**Pn**	**05 25 04.2**	**-1.5**
OHAK	**Old Harbor**	**2.37**	**293**	Pn	**Pn**	**05 25 04.2**	**-1.5**
OHAK	**Old Harbor**	**2.37**	**293**	P	**Pn**	**05 25 04.1**	**-1.6**
	baz=114						
OHAK				S	**Sn**	**05 25 31.6**	**-3.2**
	baz=114						
SII	**Sitkinak Islan**	**2.73**	**276**	P	**Pn**	**05 25 08.9**	**-1.7**
SII	**Sitkinak Islan**	**2.73**	**276**	Pn	**Pn**	**05 25 08.7**	**-1.9**
SII	**Sitkinak Islan**	**2.73**	**276**	P	**Pn**	**05 25 08.7**	**-1.9**
	baz=96						
SYI	**Shuyak Island**	**2.82**	**325**	Pn	**Pn**	**05 25 11.8**	**-0.1**
SYI					**Sn**	**05 25 47.0**	**+1.1**
SYI				IAML		05 25 47.9	
	comp=E,125nm,0.4s						
Q20K	**Shuyak Island**	**2.82**	**325**	P	**Pn**	**05 25 11.7**	**-0.2**
	baz=144						
Q20K				S	**Sn**	**05 25 46.7**	**+0.8**
	baz=144						
CNPM	**China Poot**	**3.35**	**343**	Pn	**Pn**	**05 25 19.2**	**0.0**
CNPM					**Sn**	**05 25 59.7**	**+0.6**
CNPM				IAML		05 26 02.1	
	comp=E,82nm,0.3s						
CNPM				IAML		05 26 04.1	
	comp=N,61nm,0.4s						
Q23K	**Middleton Isla**	**3.46**	**26**	Pn	**Pn**	**05 25 20.0**	**-0.7**
Q23K				IAML		05 27 12.2	
	comp=E,117nm,1.2s						
Q23K				IAML		05 27 13.0	
	comp=N,114nm,1.0s						
Q23K	**Middleton Isla**	**3.46**	**26**	P	**Pn**	**05 25 19.9**	**-0.8**
	baz=207						
MID	**Middleton Isla**	**3.46**	**26**	P	**Pn**	**05 25 20.1**	**-0.6**
MID	**Middleton Isla**	**3.46**	**26**	Pn	**Pn**	**05 25 20.0**	**-0.6**
MID				IAML		05 26 11.6	
	comp=E,97nm,1.2s						
MID				IAML		05 27 09.4	
	comp=N,99nm,1.2s						
BRSE	**Bradley Lake S**	**3.49**	**348**		**Pn**	**05 25 21.1**	**0.0**
BRSE					**Sn**	**05 26 01.9**	**-0.5**
BRSE	**Bradley Lake S**	**3.49**	**348**	P	**Pn**	**05 25 21.1**	**0.0**
	baz=167						
BRSE				S	**Sn**	**05 26 01.9**	**-0.5**
	baz=167						
Q19K	**Cape Douglas,**	**3.49**	**320**		**Pn**	**05 25 21.9**	**+0.8**
Q19K				IAML		05 26 14.8	
	comp=N,97nm,0.7s						
Q19K	**Cape Douglas,**	**3.49**	**320**	P	**Pn**	**05 25 21.4**	**+0.2**
	baz=138						
BRLK	**Bradley Lake**	**3.53**	**347**		**Pn**	**05 25 21.5**	**-0.2**
BRLK				IAML		05 26 07.6	
	comp=E,119nm,0.5s						
BRLK				IAML		05 26 09.4	
	comp=N,72nm,0.3s						
CHIR	**Chirikof Islan**	**3.59**	**264**	Pn	**Pn**	**05 25 20.3**	**-2.2**
CHIR				IAML		05 26 02.6	
	comp=N,57nm,1.0s						
CHIR				IAML		05 26 03.9	
	comp=E,62nm,0.6s						
CHIR	**Chirikof Islan**	**3.59**	**264**	P	**Pn**	**05 25 20.0**	**-2.5**
	baz=82						
AUL	**Augustine Lava**	**3.76**	**326**		**Pn**	**05 25 25.4**	**+0.6**
ACHA	**Angle Creek He**	**3.77**	**302**		**Pn**	**05 25 25.4**	**+0.3**
P23K	**Montague Islan**	**3.79**	**14**		**Pn**	**05 25 24.7**	**-0.5**
P23K					**Sn**	**05 26 07.8**	**-2.0**
P23K	**Montague Islan**	**3.79**	**14**	P	**Pn**	**05 25 24.7**	**-0.5**
	baz=195						
P23K				S	**Sn**	**05 26 07.8**	**-2.0**
	baz=195						
ANCK	**Angle Creek**	**3.85**	**301**		**Pn**	**05 25 26.3**	**+0.2**
KAHC	**Katmai Hardscr**	**3.85**	**309**		**Pn**	**05 25 26.6**	**+0.4**
KAHC	**Katmai Hardscr**	**3.85**	**309**	P	**Pn**	**05 25 26.6**	**+0.4**
	baz=126						
P19K	**Oil Pt**	**3.92**	**329**	Pn	**Pn**	**05 25 27.5**	**+0.4**
P19K	**Oil Pt**	**3.92**	**329**	P	**Pn**	**05 25 27.1**	**+0.1**
	baz=147						
CNTC	**Contact Creek**	**4.06**	**301**		**Pn**	**05 25 28.8**	**-0.3**
Q17K	**Contact Creek**	**4.06**	**301**	P	**Pn**	**05 25 28.8**	**-0.3**
	baz=118						
O20K	**Slope Mountain**	**4.14**	**336**		**Pn**	**05 25 29.9**	**-0.1**
O20K	**Slope Mountain**	**4.14**	**336**	P	**Pn**	**05 25 29.9**	**-0.1**
	baz=154						
ILSW	**Iliamna Southw**	**4.18**	**332**	Pn	**Pn**	**05 25 30.7**	**+0.1**
ILSW				IAML		05 26 24.9	
	comp=E,38nm,1.0s						
ILSW				IAML		05 26 25.3	
	comp=N,38nm,0.7s						
SLKM	**Skilak Lake**	**4.20**	**354**		**Pn**	**05 25 30.3**	**-0.6**
HIN	**Hinchinbrook I**	**4.32**	**19**	Pn	**Pn**	**05 25 32.2**	**-0.2**
HIN				IAML		05 26 21.8	
	comp=E,57nm,1.1s						
P18K	**Big Mountain,**	**4.40**	**316**	Pn	**Pn**	**05 25 33.3**	**-0.4**
P18K	**Big Mountain,**	**4.40**	**316**	P	**Pn**	**05 25 33.2**	**-0.4**
	baz=133						
KAIM	**Kayak Island**	**4.42**	**34**	Pn	**Pn**	**05 25 33.5**	**-0.3**
KAIM				IAML		05 26 39.2	
	comp=N,48nm,1.2s						
KAIM	**Kayak Island**	**4.42**	**34**	P	**Pn**	**05 25 33.3**	**-0.5**
	baz=216						
RDSO	**Redoubt South**	**4.50**	**338**		**Pn**	**05 25 34.4**	**-0.7**
RSO	**Redoubt South**	**4.51**	**338**		**Pn**	**05 25 34.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.60**	**22**	P	**Pn**	**05 25 36.3**	**0.0**
EYAK	**Cordova Ski Ar**	**4.60**	**22**		**Pn**	**05 25 36.4**	**0.0**
Q16K	**King Salmon**	**4.61**	**303**		**Pn**	**05 25 36.1**	**-0.3**
Q16K	**King Salmon**	**4.61**	**303**	P	**Pn**	**05 25 36.1**	**-0.3**
	baz=119						
O19K	**Port Alsworth**	**4.68**	**328**	Pn	**Pn**	**05 25 37.1**	**-0.3**
O19K	**Port Alsworth**	**4.68**	**328**	P	**Pn**	**05 25 37.0**	**-0.5**
	baz=144						
GLI	**Glacier Island**	**4.69**	**13**	Pn	**Pn**	**05 25 37.4**	**-0.1**
GLI				IAML		05 26 41.1	
	comp=N,34nm,1.1s						
GLI				IAML		05 26 45.1	
	comp=E,40nm,1.2s						
GLI	**Glacier Island**	**4.69**	**13**	P	**Pn**	**05 25 37.1**	**-0.4**
	baz=194						
O18K	**Koktuh Hills**	**4.71**	**321**	Pn	**Pn**	**05 25 37.7**	**-0.2**
O18K	**Koktuh Hills**	**4.71**	**321**	P	**Pn**	**05 25 37.5**	**-0.4**
	baz=137						
RAGM	**Ragged Mountai**	**4.72**	**29**		**Pn**	**05 25 37.7**	**-0.3**
SUCK	**Suckling Hills**	**4.73**	**36**	Pn	**Pn**	**05 25 37.9**	**-0.3**
SUCK				IAML		05 26 39.0	
	comp=N,38nm,1.0s						
SUCK				IAML		05 28 27.8	
	comp=E,42nm,1.2s						
RC01	**Rabbit Creek A**	**4.76**	**357**	Pn	**Pn**	**05 25 38.7**	**+0.2**
RC01				IAML		05 26 36.7	
	comp=E,25nm,0.6s						
RC01				IAML		05 26 41.2	
	comp=N,28nm,0.6s						
P17K	**Kvichak River**	**4.78**	**310**		**Pn**	**05 25 38.9**	**+0.2**
P17K	**Kvichak River**	**4.78**	**310**	P	**Pn**	**05 25 38.9**	**+0.2**
	baz=125						
HMT	**Hamilton**	**4.79**	**31**		**Pn**	**05 25 39.0**	**-0.1**
NICHA	**Nichawak Mount**	**4.80**	**34**		**Pn**	**05 25 39.1**	**0.0**
GOAT	**Goat Mountain**	**4.87**	**28**		**Pn**	**05 25 40.3**	**+0.2**
ANNE	**Aniakchak Nort**	**4.88**	**280**		**Pn**	**05 25 39.1**	**-1.1**
BGLC	**Bering Glacier**	**4.93**	**37**		**Pn**	**05 25 40.7**	**-0.2**
BGLC	**Bering Glacier**	**4.93**	**37**	P	**Pn**	**05 25 40.7**	**-0.2**
	baz=221						
BERG	**Berg Lake**	**5.01**	**34**		**Pn**	**05 25 41.7**	**-0.2**
GRIN	**Grindle Hills**	**5.04**	**36**		**Pn**	**05 25 42.2**	**-0.2**
CHGN	**Chignik**	**5.08**	**273**	Pn	**Pn**	**05 25 41.8**	**-1.2**
CHGN				IAML		05 26 42.0	
	comp=N,26nm,0.1s						
CHGN				IAML		05 26 43.0	
	comp=E,29nm,0.4s						
KNK	**Knik Glacier**	**5.10**	**4**	Pn	**Pn**	**05 25 43.7**	**+0.5**
KNK				IAML		05 26 54.5	
	comp=N,17nm,1.0s						
KNK				IAML		05 26 56.5	
	comp=E,18nm,1.0s						
KNK	**Knik Glacier**	**5.10**	**4**	P	**Pn**	**05 25 43.6**	**+0.4**
	baz=185						
DIV	**Divide**	**5.13**	**19**		**Pn**	**05 25 43.8**	**+0.1**
SNH	**Sunshine Point**	**5.13**	**39**	Pn	**Pn**	**05 25 43.1**	**-0.5**
SNH				IAML		05 26 28.4	
	comp=N,33nm,1.1s						
SNH				IAML		05 26 44.2	
	comp=E,32nm,1.2s						
SUA	**Susitna One**	**5.19**	**352**		**Pn**	**05 25 44.2**	**-0.3**
SUA	**Susitna One**	**5.19**	**352**	P	**Pn**	**05 25 44.2**	**-0.3**
	baz=171						
KHIT	**Khitrov Hills**	**5.19**	**35**		**Pn**	**05 25 44.0**	**-0.5**
BMRM	**Bremner River**	**5.24**	**26**		**Pn**	**05 25 45.1**	**0.0**
BMRM	**Bremner River**	**5.24**	**26**	P	**Pn**	**05 25 44.8**	**-0.3**
	baz=209						
N19K	**Bonanza Creek**	**5.24**	**331**	Pn	**Pn**	**05 25 44.8**	**-0.4**
N19K	**Bonanza Creek**	**5.24**	**331**	P	**Pn**	**05 25 44.5**	**-0.6**
	baz=147						
PMR	**Palmer**	**5.26**	**1**	P	**Pn**	**05 25 45.5**	**+0.1**
PMR	**Palmer**	**5.26**	**1**		**Pn**	**05 25 45.7**	**+0.3**
WAX	**Waxell Ridge**	**5.32**	**37**		**Pn**	**05 25 46.0**	**-0.4**
STLK	**Strandline Lak**	**5.33**	**347**		**Pn**	**05 25 45.9**	**-0.5**
O17K	**Koliganek Bris**	**5.38**	**313**		**Pn**	**05 25 46.4**	**-0.7**
O17K	**Koliganek Bris**	**5.38**	**313**	P	**Pn**	**05 25 46.4**	**-0.7**
	baz=128						
BARK	**Barkley Ridge**	**5.41**	**38**		**Pn**	**05 25 47.0**	**-0.6**
GHO	**Glory Hole Cre**	**5.44**	**2**		**Pn**	**05 25 49.0**	**+1.0**
KLU	**Klutina**	**5.45**	**17**		**Pn**	**05 25 48.5**	**+0.5**
KLU	**Klutina**	**5.45**	**17**	P	**Pn**	**05 25 48.0**	**+0.1**
	baz=199						
SML	**Sawmill**	**5.50**	**5**		**Pn**	**05 25 49.3**	**+0.6**
SML	**Sawmill**	**5.50**	**5**	P	**Pn**	**05 25 49.0**	**+0.3**
	baz=185						
N18K	**Kilae Creek**	**5.55**	**324**	Pn	**Pn**	**05 25 49.1**	**-0.3**
N18K	**Kilae Creek**	**5.55**	**324**	P	**Pn**	**05 25 49.0**	**-0.5**
	baz=140						
SCM	**Sheep Creek Mo**	**5.59**	**10**	Pn	**Pn**	**05 25 50.8**	**+0.8**
SCM	**Sheep Creek Mo**	**5.59**	**10**	P	**Pn**	**05 25 50.7**	**+0.7**
	baz=191						
ISLE	**Juniper Island**	**5.61**	**38**		**Pn**	**05 25 49.9**	**-0.4**
O16K	**Kokwok River B**	**5.71**	**308**	Pn	**Pn**	**05 25 51.7**	**+0.3**
O16K	**Kokwok River B**	**5.71**	**308**	P	**Pn**	**05 25 51.6**	**+0.1**
	baz=122						
VRDI	**Verde Repeater**	**5.75**	**29**	Pn	**Pn**	**05 25 51.9**	**-0.4**
SKT	**Skwentna**	**5.77**	**349**		**Pn**	**05 25 53.2**	**+0.9**
N25K	**Chitina, Valde**	**5.80**	**23**		**Pn**	**05 25 53.4**	**+0.5**
N25K	**Chitina, Valde**	**5.80**	**23**	P	**Pn**	**05 25 53.2**	**+0.3**
	baz=206						
KIAG	**Kiagna River**	**5.84**	**35**		**Pn**	**05 25 53.1**	**-0.4**
GLB	**Gilahina Butte**	**5.84**	**27**	Pn	**Pn**	**05 25 53.3**	**-0.1**
SAMH	**Samovar Hills**	**5.88**	**46**		**Pn**	**05 25 53.8**	**-0.1**
M20K	**Styx River**	**5.89**	**342**	Pn	**Pn**	**05 25 54.2**	**0.0**
N17K	**Nushagak Hills**	**5.90**	**319**		**Pn**	**05 25 54.0**	**-0.1**
N17K	**Nushagak Hills**	**5.90**	**319**	P	**Pn**	**05 25 54.1**	**0.0**
	baz=133						
M24K	**Tolsona, Glenn**	**5.99**	**14**	P	**Pn**	**05 25 56.5**	**+1.0**
	baz=196						
MCARA	**McCarthy VSAT**	**6.00**	**30**		**Pn**	**05 25 55.9**	**+0.3**
MCARA	**McCarthy VSAT**	**6.00**	**30**	P	**Pn**	**05 25 55.7**	**+0.2**
	baz=214						
PTPK	**Patty Peak**	**6.01**	**33**		**Pn**	**05 25 55.8**	**-0.1**
M18K	**Stony River**	**6.17**	**329**		**Pn**	**05 25 57.2**	**-0.6**
M18K	**Stony River**	**6.17**	**329**	P	**Pn**	**05 25 57.2**	**-0.6**
	baz=145						
BARN	**Barnard Glacie**	**6.17**	**37**		**Pn**	**05 25 57.9**	**-0.2**
WASW	**Wrangell South**	**6.18**	**23**		**Pn**	**05 25 58.6**	**+0.3**
WACK	**Wrangell Chich**	**6.20**	**22**		**Pn**	**05 25 58.6**	**+0.1**
CTG	**Chitna Glacier**	**6.21**	**39**	P	**Pn**	**05 25 58.2**	**-0.3**
	baz=224						
CTGM	**Chitina Glacie**	**6.21**	**39**	Pn	**Pn**	**05 25 57.9**	**-0.7**
PNL	**Peninsula**	**6.22**	**54**	P	**Pn**	**05 25 57.9**	**-0.7**
PNL	**Peninsula**	**6.22**	**54**		**Pn**	**05 25 57.7**	**-0.8**
PNL	**Peninsula**	**6.22**	**54**	P	**Pn**	**05 25 57.7**	**-0.8**
	baz=240						
LOGN	**Logan Glacier**	**6.23**	**41**	Pn	**Pn**	**05 25 58.3**	**-0.6**
BCPM	**Bancas Point**	**6.25**	**51**	Pn	**Pn**	**05 25 58.6**	**-0.4**
O15K	**Ungalikthiuk R**	**6.31**	**301**		**Pn**	**05 25 59.8**	**0.0**
O15K	**Ungalikthiuk R**	**6.31**	**301**	P	**Pn**	**05 25 59.8**	**0.0**
	baz=114						
SDPT	**Sand Point**	**6.38**	**266**	Pn	**Pn**	**05 25 58.1**	**-2.7**
N16K	**Nishlik Lake**	**6.47**	**314**		**Pn**	**05 26 02.3**	**+0.2**
N16K	**Nishlik Lake**	**6.47**	**314**	P	**Pn**	**05 26 02.3**	**+0.2**
	baz=127						
**O28M

J30M	**Hart River**	**10.41**	**32**	Pn	**Pn**	**05 26 56.3**	**+0.2**
FYU	**Fort Yukon**	**10.43**	**9**	Pn	**Pn**	**05 26 55.6**	**-0.6**
BMAR	**Burnt Mountain**	**11.33**	**9**	Pn	**Pn**	**05 27 09.0**	**+0.4**
G29M	**Pine Creek**	**11.85**	**22**	Pn	**Pn**	**05 27 15.2**	**-0.4**
C23K	**Itkillik River**	**13.55**	**358**	Pn	**Pn**	**05 27 38.3**	**-0.5**
INK	**Inuvik**	**13.98**	**25**	Pn	**Pn**	**05 27 47.1**	**+2.5**
	comp=E,0.1nm,0.3s,baz=211,slow=7.4,SNR=4.7						
	comp=E,1.6nm,1.0s						
C36M	**Paulatuk**	**17.18**	**31**	P	**Pn**	**05 28 26.2**	**-0.3**
C36M				IAmb	IAmb	05 28 30.3	
	comp=Z,2.6nm,1.0s						
YKA	**Yellowknife Ar**	**18.50**	**56**	P	**Pn**	**05 28 43.6**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=273,slow=13,SNR=4.1						
	comp=Z,0.3nm,0.6s						
A36M	**Sachs Harbour**	**18.62**	**23**	P	**P**	**05 28 43.8**	**-0.1**
A36M				IAmb	IAmb	05 28 58.5	
	comp=Z,3.8nm,0.9s						
PDAR	**Pinedale Array**	**28.68**	**101**	P	**P**	**05 30 26.3**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=295,slow=6.5,SNR=1.8						
	comp=Z,0.2nm,0.5s						

NEIC ***06*** *05:32:36.0±0.7,21°.3S±0°.1×173°.98W±0°.08,h10km±1km, mb4.3/13,Error ellipse: s-maj=21.8km s-min=7.6km az=26.0*

IDC ***06*** *05:32:36.1±70.0,21°.37S×174°.33W,h0km,mb4.1/3, mbtmp4.1/3,Error ellipse: s-maj=1320.0km s-min=190.6km az=86.0*

ISC 06 05:32:37.4±0.8,21°.2S±0°.1×174°.0W±0°.1,h25km,n20, σ0s70/20,mb4.3/10,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.40**	**62**	Pn	**Pn**	**05 33 42.4**	**-0.3**
MSVF	**Nonsavu**	**8.24**	**294**	Pn	**Pn**	**05 34 35.9**	**+0.4**
INZ	**Inchbonnie**	**24.66**	**206**	P	**P**	**05 37 54.6**	**-1.6**
EIDS	**Eidsvold**	**32.26**	**256**	P	**P**	**05 39 04.0**	**-0.3**
EIDS				IAmb	IAmb	05 39 16.9	
	comp=Z,5.5nm,1.0s						
CAN	**Canberra**	**35.25**	**238**	P	**P**	**05 39 30.4**	**+0.2**
CTAO	**Charters Tower**	**37.12**	**264**	P	**P**	**05 39 46.4**	**+0.1**
TOO	**Toolangi**	**38.53**	**236**	P	**P**	**05 39 58.2**	**+0.2**
TOO				IAmb	IAmb	05 39 59.1	
	comp=Z,4.9nm,0.7s						
PMG	**Port Moresby**	**39.13**	**281**	P	**P**	**05 40 03.1**	**-0.1**
PMG				IAmb	IAmb	05 40 23.9	
	comp=Z,11nm,0.9s						
STKA	**Stephens Creek**	**40.85**	**245**	P	**P**	**05 40 17.4**	**0.0**
STKA	**Stephens Creek**	**40.85**	**245**	P	**P**	**05 40 17.1**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=74,slow=7.4,SNR=4.2						
	comp=Z,2.1nm,0.6s						
BBOO	**Buckleboo**	**45.58**	**244**	P	**P**	**05 40 54.9**	**-0.7**
BBOO				IAmb	IAmb	05 40 56.0	
	comp=Z,3.4nm,0.8s						
AS31	**Alice Springs**	**47.97**	**257**	P	**P**	**05 41 14.6**	**0.0**
AS31				IAmb	IAmb	05 41 16.8	
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**47.98**	**257**	P	**P**	**05 41 13.2**	**-1.4**
ASAR	**Alice Springs**	**47.98**	**257**	P	**P**	**05 41 14.2**	**-0.3**
	comp=Z,2.3nm,0.8s,baz=97,slow=7.7,SNR=17						
	comp=Z,2.3nm,0.8s						
WB0	**Warramunga Arr**	**48.16**	**262**	P	**P**	**05 41 16.3**	**+0.2**
WB0				IAmb	IAmb	05 41 37.9	
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**48.18**	**262**	P	**P**	**05 41 16.3**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=101,slow=7.7,SNR=15						
	comp=Z,1.8nm,0.7s						
SBA	**Scott Base**	**57.43**	**185**	P	**P**	**05 42 24.8**	**+1.2**
VNDA	**Vanda**	**57.56**	**186**	P	**P**	**05 42 25.6**	**+1.1**
MBWA	**Marble Bar**	**61.32**	**257**	P	**P**	**05 42 51.6**	**+0.2**
MBWA				IAmb	IAmb	05 43 14.5	
	comp=Z,2.4nm,0.8s						
QSPA	**South Pole Qui**	**68.86**	**180**	P	**P**	**05 43 39.8**	**0.0**

SJA ***06*** *05:49:26.5±1.6,21°.10S×68°.97W,h95km,ML3.6,MW3.6*

GUC ***06*** *05:49:27.0±0.7,21°.11S×68°.98W,h105km±4km,ML3.7*

IDC ***06*** *05:49:29.1±1.7,21°.11S×68°.39W,h69km±20km,mb3.4/2, mbtmp3.5/5,Error ellipse: s-maj=42.2km s-min=12.3km az=116.0*

ISC 06 05:49:27.2±0.9,21°.07S±0°.03×68°.96W±0°.05,h103km±7km, n41,σ1s56/77,10C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.50**	**273**	*eP*	**Pn**	**05 49 42.7**	**-0.7**
PB01				*eS*	**Sn**	**05 49 54.7**	**-0.8**
PB01				IAML		05 49 55.9	
	comp=N,4μm,0.2s						
PB09	**IPOC Station P**	**0.77**	**200**	*eP*	**Pn**	**05 49 45.4**	**-0.4**
PB09				*eS*	**Sn**	**05 50 00.6**	**+0.9**
PB09				IAML		05 50 01.7	
	comp=Z,667nm,0.2s						
PB09	**IPOC Station P**	**0.77**	**200**	*eP*	**Pn**	**05 49 45.0**	**-0.8**
PB09				*eS*	**Sn**	**05 49 59.7**	**+0.1**
PB02	**IPOC Station P**	**0.91**	**254**	*eP*	**Pn**	**05 49 46.3**	**-0.7**
PB02				*eS*	**Sn**	**05 50 02.1**	**+0.1**
PB02				IAML		05 50 03.8	
	comp=Z,2μm,0.2s						
PB02	**IPOC Station P**	**0.91**	**254**	*eP*	**Pn**	**05 49 46.3**	**-0.7**
PB02				*eS*	**Sn**	**05 50 00.6**	**-1.4**
PB02				IAML		05 50 02.3	
	comp=E,3μm,0.2s						
PB08	**IPOC Station P**	**0.94**	**349**	*eP*	**Pn**	**05 49 47.8**	**+0.1**
PB08				*eS*	**Sn**	**05 50 04.6**	**+1.6**
PB08				IAML		05 50 05.2	
	comp=Z,708nm,0.3s						
PB08	**IPOC Station P**	**0.94**	**349**	*eP*	**Pn**	**05 49 47.7**	**0.0**
PB08				*eS*	**Sn**	**05 50 03.8**	**+0.7**
PB08				IAML		05 50 05.5	
	comp=E,2μm,0.2s						
PB07	**IPOC Station P**	**1.09**	**233**	*eP*	**Pn**	**05 49 47.9**	**-1.1**
PB07				*eS*	**Sn**	**05 50 05.0**	**-0.4**
PB07				*eS*		05 50 05.3	
PB07				IAML		05 50 08.9	
	comp=Z,508nm,0.2s						
PB07	**IPOC Station P**	**1.09**	**233**	*eP*	**Pn**	**05 49 47.9**	**-1.1**
PB07				*eS*	**Sn**	**05 50 04.0**	**-1.3**
PATCX	**Punta Patache**	**1.15**	**282**	*eP*	**Pn**	**05 49 48.4**	**-1.1**
PATCX				*eS*	**Sn**	**05 50 10.4**	**+4.0**
PATCX				IAML		05 50 10.7	
	comp=Z,522nm,0.2s						
PATCX	**Punta Patache**	**1.15**	**282**	*eP*	**Pn**	**05 49 49.1**	**-0.4**
PATCX				*eS*	**Sn**	**05 50 06.1**	**-0.3**
PATCX				IAML		05 50 08.1	
	comp=N,2μm,0.2s						
HMBC	**Humberstone**	**1.18**	**312**	*eP*	**Pn**	**05 49 49.3**	**-0.7**
HMBC				*eS*	**Sn**	**05 50 07.2**	**+0.1**
HMBC				IAML		05 50 07.6	
	comp=Z,2μm,0.6s						
HMBC	**Humberstone**	**1.18**	**312**	*i P*	**Pn**	**05 49 49.3**	**-0.7**
HMBC				*i S*	**Sn**	**05 50 06.5**	**-0.6**
HMBC				IAML		05 50 07.4	
	comp=N,2μm,0.8s						
TA01	**Diego Aracena**	**1.25**	**293**	*eP*	**Pn**	**05 49 49.9**	**-0.7**
TA01				*eS*	**Sn**	**05 50 09.5**	**+1.2**
TA01				IAML		05 50 11.6	
	comp=Z,563nm,0.3s						
TA01	**Diego Aracena**	**1.25**	**293**	*eP*	**Pn**	**05 49 49.9**	**-0.7**
TA01				*eS*	**Sn**	**05 50 07.6**	**-0.8**
TA01				IAML		05 50 10.8	
	comp=E,2μm,0.3s						
TA02	**Huaiquique**	**1.36**	**306**	*eP*	**Pn**	**05 49 50.6**	**-1.3**
TA02				*eS*	**Sn**	**05 50 11.4**	**+0.8**
TA02				IAML		05 50 11.9	
	comp=Z,795nm,0.1s						
TA02	**Huaiquique**	**1.36**	**306**	*eP*	**Pn**	**05 49 51.0**	**-0.9**
TA02				*eS*	**Sn**	**05 50 09.1**	**-1.5**
TA02				IAML		05 50 12.1	
	comp=N,2μm,0.1s						
GO01	**Chusmiza**	**1.41**	**351**	*eP*	**Pn**	**05 49 53.2**	**+0.1**
GO01				*eS*	**Sn**	**05 50 13.9**	**+1.3**
GO01				IAML		05 50 15.1	
	comp=Z,685nm,0.8s						
GO01	**Chusmiza**	**1.41**	**351**	*eP*	**Pn**	**05 49 52.9**	**-0.2**
GO01				*eS*	**Sn**	**05 50 13.5**	**+0.9**
GO01				IAML		05 50 15.2	
	comp=E,1μm,0.2s						
PB11	**IPOC Station P**	**1.46**	**333**	*eP*	**Pn**	**05 49 52.9**	**-0.4**
PB11				*eS*	**Sn**	**05 50 13.9**	**+0.9**
PB11				IAML		05 50 14.6	
	comp=Z,750nm,0.8s						
PB11	**IPOC Station P**	**1.46**	**333**	*eP*	**Pn**	**05 49 52.9**	**-0.4**
PB11				*eS*	**Sn**	**05 50 12.9**	**-0.1**
PB11				IAML		05 50 14.6	
	comp=N,2μm,0.2s						
LVC	**Limon Verde**	**1.53**	**178**	*eP*	**Pn**	**05 49 54.1**	**-0.3**
LVC				*eS*	**Sn**	**05 50 15.9**	**+0.9**
LVC	**Limon Verde**	**1.53**	**178**	P	**Pn**	**05 49 54.1**	**-0.3**
	comp=N,19nm,0.2s,baz=19,slow=8.3,SNR=54						
LVC				S	**Sn**	**05 50 15.2**	**+0.2**
	comp=N,97nm,0.3s,baz=14,slow=17,SNR=44						
LVC	**Limon Verde**	**1.53**	**178**	*eP*	**Pn**	**05 49 53.7**	**-0.7**
LVC				*eS*	**Sn**	**05 50 15.2**	**+0.2**
LVC				IAML		05 50 18.0	
	comp=N,901nm,0.3s						
PB04	**IPOC Station P**	**1.68**	**221**	*eP*	**Pn**	**05 49 55.6**	**-0.4**
PB04				*eS*	**Sn**	**05 50 16.8**	**-1.1**
PB04				IAML		05 50 19.1	
	comp=Z,308nm,0.2s						
PB04	**IPOC Station P**	**1.68**	**221**	*eP*	**Pn**	**05 49 54.3**	**-1.7**
PB04				*eS*	**Sn**	**05 50 15.6**	**-2.2**
PB06	**IPOC Station P**	**1.73**	**199**	*eP*	**Pn**	**05 49 55.7**	**-0.9**
PB06				*eS*	**Sn**	**05 50 18.4**	**-0.5**
PB06				IAML		05 50 19.0	
	comp=Z,441nm,0.2s						
PB06	**IPOC Station P**	**1.73**	**199**	*eP*	**Pn**	**05 49 55.7**	**-0.9**
PB06				*eS*	**Sn**	**05 50 17.6**	**-1.3**
AF01	**San Pedro de A**	**2.01**	**159**	*eP*	**Pn**	**05 49 59.3**	**-1.0**
AF01				*eS*	**Sn**	**05 50 24.6**	**-0.9**
PB15	**IPOC Station P**	**2.18**	**193**	*eP*	**Pn**	**05 50 02.4**	**-0.1**
PB15				*eS*	**Sn**	**05 50 29.6**	**+0.2**
PB15				IAML		05 50 40.7	
	comp=Z,688nm,0.2s						
PB15	**IPOC Station P**	**2.18**	**193**	*eP*	**Pn**	**05 50 02.1**	**-0.4**
PB15				*eS*	**Sn**	**05 50 28.3**	**-1.1**
PB12	**IPOC Station P**	**2.76**	**332**	*eP*	**Pn**	**05 50 08.4**	**-1.6**
PB12				*eS*	**Sn**	**05 50 41.6**	**-1.3**
PB12				IAML		05 51 03.2	
	comp=Z,94nm,0.4s						
PB12	**IPOC Station P**	**2.76**	**332**	*eP*	**Pn**	**05 50 07.8**	**-2.2**
PB12				*eS*	**Sn**	**05 50 41.0**	**-1.9**
PB12				IAML		05 50 43.1	
	comp=N,131nm,0.2s						
YJA	**Yavi**	**3.39**	**110**	*eP*	**Pn**	**05 50 19.8**	**+1.2**
PB14	**IPOC Station P**	**3.78**	**200**	*eP*	**Pn**	**05 50 22.1**	**-1.7**
PB14				*eS*	**Sn**	**05 51 05.0**	**-2.6**
GO02	**Mina Guanaco**	**4.12**	**188**	*eP*	**Pn**	**05 50 27.1**	**-1.1**
GO02				*eS*	**Sn**	**05 51 14.0**	**-1.6**
LPAZ	**La Paz**	**4.82**	**9**	P	**Pn**	**05 50 39.4**	**+1.2**
	comp=N,0.6nm,0.3s,baz=178,slow=6.0,SNR=13						
SIV	**San Ignacio**	**9.02**	**57**	P	**Pn**	**05 51 31.2**	**-3.5**
	comp=N,1.4nm,0.3s,baz=237,slow=10,SNR=11						
SIV				S	**Sn**	**05 53 07.2**	**-7.4**
	comp=N,0.3nm,0.5s,baz=288,slow=20,SNR=1.6						
PLCA	**Paso Flores**	**19.65**	**184**	P	**Pn**	**05 53 50.7**	**+0.4**
	comp=N,0.5nm,0.6s,baz=0.5,slow=14,SNR=4.0						
BDFB	**Brasilia**	**20.59**	**78**	P	**P**	**05 53 56.4**	**-1.9**
	comp=N,1.4nm,0.5s,baz=258,slow=8.2,SNR=6.5						
	comp=N,1.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.25**	**70**	P	**P**	**06 01 14.6**	**+3.9**
	comp=N,0.4nm,0.5s,baz=248,slow=5.5,SNR=4.3						
	comp=N,0.4nm,0.5s						

NEIC ***06*** *05:51:08.1±1.0,19°.401N±0°.009×155°.23W±0°.01, h5km±1km,Error ellipse: s-maj=2.8km s-min=1.5km az=135.0*

HVO 06 05:51:07.2±0.6,19°.43N±0°.02×155°.199W±0°.009, h2km±5km,ML3.6/25,mb4.3/5(NEIC),ML3.6/46(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=191.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.06**	**260**		Pg	05 51 08.9	+0.5
HATHI				IAML		05 51 10.2	
	comp=E,24μm,0.4s						
HATHI				IAML		05 51 10.5	
	comp=N,55μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.06**	**153**		Pg	05 51 09.2	+0.8
PUH	**Pauahi**	**0.06**	**195**		Pg	05 51 09.3	+0.8
BYL	**Byron's Ledge**	**0.06**	**250**		Pg	05 51 08.9	+0.4
BYL				IAML		05 51 10.5	
	comp=E,53μm,0.2s						
SBLHI	**Steaming Bluff**	**0.07**	**264**		Pg	05 51 09.1	+0.5
KKO	**Keanakako'i**	**0.07**	**241**		Pg	05 51 09.2	+0.6
KKO				IAML		05 51 11.0	
	comp=E,83μm,0.5s						
KKO				IAML		05 51 11.2	
	comp=N,45μm,0.2s						
UWB	**Uwekahuna B**	**0.07**	**263**		Pg	05 51 09.2	+0.4
UWB				IAML		05 51 11.1	
	comp=N,50μm,0.3s						
RSD	**Rainshed**	**0.08**	**291**		Pg	05 51 09.5	+0.6
RSD				IAML		05 51 11.0	
	comp=E,21μm,0.5s						
NPH	**North Pit**	**0.08**	**255**		Pg	05 51 09.2	+0.4
NPH				IAML		05 51 11.2	
	comp=N,69μm,0.5s						
RIM	**Rim**	**0.08**	**242**		Pg	05 51 09.3	+0.5
RIM				IAML		05 51 11.5	
	comp=N,40μm,0.3s						
OBL	**Observatory Le**	**0.08**	**259**		Pg	05 51 09.4	+0.5
OBL				IAML		05 51 10.6	
	comp=N,26μm,0.3s						
STCH	**Steam Cracks**	**0.08**	**125**		Pg	05 51 09.8	+0.9
UWE	**Uwekahuna**	**0.09**	**262**		Pg	05 51 09.6	+0.6
UWE				IAML		05 51 11.9	
	comp=E,52μm,0.7s						
NPOC	**North of Pu'u**	**0.09**	**116**		Pg	05 51 09.9	+0.8
NPOC				IAML		05 51 12.5	
	comp=E,20μm,0.7s						
WRMHI	**West Rim**	**0.10**	**254**		Pg	05 51 09.8	+0.6
WRMHI				IAML		05 51 12.0	
	comp=N,23μm,0.8s						
SDHHI	**Sand Hill**	**0.10**	**244**		Pg	05 51 09.8	+0.7
SDHHI				IAML		05 51 12.2	
	comp=E,41μm,1.0s						
JCUZ	**Jacuzzi**	**0.10**	**118**		Pg	05 51 10.0	+0.8
HLP	**Hilina Pali**	**0.17**	**217**		Pg	05 51 11.2	+0.6
HLP				IAML		05 51 14.8	
	comp=N,14μm,1.1s						
HLP				IAML		05 51 15.3	
	comp=E,23μm,0.6s						
JOKA	**Jonika Flow**	**0.18**	**90**		Pg	05 51 11.4	+0.6
JOKA					Sg	05 51 15.3	+2.2
MLH	**Mauna Loa**	**0.19**	**289**		Pg	05 51 11.2	+0.4
MLH				IAML		05 51 16.1	
	comp=E,15μm,0.9s						
MLH				IAML		05 51 16.3	
	comp=N,21μm,1.1s						
HTC	**Hot Caves**	**0.27**	**224**		Pg	05 51 12.8	+0.4
HMH	**Humu'ula Sheep**	**0.32**	**302**		Pg	05 51 13.9	+0.6
HMH				IAML		05 51 23.1	
	comp=N,11μm,1.1s						
HMH				IAML		05 51 23.5	
	comp=E,9μm,0.6s						
MWH	**Moku'aweowe**	**0.38**	**278**		Pg	05 51 14.8	+0.3
ALEP	**Alea Permanent**	**0.43**	**284**		Pg	05 51 15.7	+0.1
KHU	**Kahuku**	**0.43**	**245**		Pg	05 51 15.8	+0.3
KHU				IAML		05 51 23.7	
	comp=E,5μm,1.4s						
KHU				IAML		05 51 25.7	
	comp=N,4μm,0.9s						
POHA	**Pohakuloa**	**0.45**	**316**		Pg	05 51 16.0	+0.1
HUH	**Hualalai**	**0.65**	**293**		Pg	05 51 19.6	-0.1
HPAH	**Hawaii Prepara**	**0.76**	**322**		Pg	05 51 20.7	-1.1
MHA	**Mahukona**	**1.00**	**319**		Pg	05 51 24.7	-1.7
HLK	**Haleakala**	**1.65**	**323**		Pn	05 51 33.9	-3.5
KHLH	**Kahului Airpor**	**1.86**	**322**		Pn	05 51 36.7	-3.4
HON	**Honolulu**	**3.23**	**306**	Pn	Pn	05 51 55.6	-3.4
KIP	**Kipapa**	**3.30**	**307**	IAML		05 52 46.8	
	comp=N,104nm,1.1s						
KIP				IAML		05 53 48.2	
	comp=N,107nm,1.4s						
KIP	**Kipapa**	**3.30**	**307**	Pn	Pn	05 51 57.1	-2.8
AFDM	**Forest Hills D**	**35.36**	**49**	P	P	05 57 58.1	-6.2
ATKA	**Atka Island**	**35.92**	**340**	P	P	05 58 04.9	-3.9
PASC	**Pasadena Art C**	**35.93**	**58**	P	P	05 58 02.2	-7.0
PASC				IAmb	IAmb	05 58 17.4	
	comp=Z,11nm,1.1s						
ISA	**Isabella, Lake**	**36.11**	**56**	P	P	05 58 04.9	-5.9
ISA				IAmb	IAmb	05 58 13.8	
	comp=Z,2.6nm,0.9s						
GMN	**Gold Mountain**	**37.53**	**54**	P	P	05 58 17.2	-5.8
GMN				IAmb	IAmb	05 58 43.9	
	comp=Z,5.4nm,0.9s						

TAP 06 05:55:06.8,24°.49N×121°.45E,h7km,ML1.0,B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATG	**Datong**	**0.08**	**57**	*i* P	Pg	05 55 09.3	+0.3
	baz=56						
LATG				S	Sg	05 55 11.1	+0.6
	baz=56						
NNS	**Nan Shan**	**0.09**	**234**	*e*P	Pg	05 55 09.0	-0.1
	baz=230						
NNS				*e*S	Sg	05 55 10.5	-0.1
	baz=230						
NNSB	**Datong**	**0.09**	**225**	P	Pg	05 55 09.2	+0.2
	baz=225						
NNSB				S	Sg	05 55 10.5	-0.1
	baz=225						
NDT	**Datong Townshi**	**0.12**	**27**	*e*P	Pg	05 55 09.8	+0.2
	baz=26						
ENTT	**Nioudou**	**0.18**	**35**	P	Pg	05 55 11.0	+0.4
	baz=36						
ENTT				*e*S	Sg	05 55 13.6	+0.5
	baz=36						
YHNB	**Yeheng**	**0.19**	**339**	*e*P	Pg	05 55 11.1	+0.4
	baz=339						
YHNB				*e*S	Sg	05 55 12.6	-0.8
	baz=339						
ETLH	**Xiulin Townshi**	**0.28**	**174**	*e*P	Pg	05 55 13.4	+0.9
	baz=175						
ETLH				*e*S	Sg	05 55 17.0	+0.7
	baz=175						
NWLT	**Wulai**	**0.29**	**9**	*e*P	Pg	05 55 12.9	+0.3
	baz=359						
NWLT				*e*S	Sg	05 55 16.4	0.0
	baz=359						
FUSB	**Fushanzhiwuyua**	**0.29**	**25**	*e*P	Pg	05 55 13.0	+0.3
	baz=24						
FUSB				*e*S	Sg	05 55 16.7	0.0
	baz=24						
EWUT	**Wuta**	**0.30**	**99**	*e*P	Pg	05 55 13.4	+0.6
	baz=108						
EWUT				*e*S	Sg	05 55 17.2	+0.4
	baz=108						
LXIB	**Xiulin Townshi**	**0.47**	**184**	*e*P	Pb	05 55 16.9	-0.6
	baz=194						
LXIB				*e*S	Sg	05 55 22.8	+0.7
	baz=194						
WHP	**Taichung City**	**0.51**	**245**	*e*P	Pb	05 55 17.9	-0.2
	baz=246						
WHP				*e*S	Sg	05 55 23.9	+0.6
	baz=246						

JMA 06 05:55:21.8±0.1,25°.N±5°×123°.0E±0°.9,h83km,MV1.5/7, NW OFF ISHIGAKIJIMA IS,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.09**	**152**	*e*P	Pn	05 55 33.6	0.0
YOJ				*e*S	Sn	05 55 42.2	-0.2
JYNG	**Yonagunijimaku**	**0.09**	**190**	P	Pn	05 55 33.7	+0.1
JYNG				S	Sn	05 55 42.1	-0.2
JKRS	**Kuro-shima**	**1.00**	**108**	*e*S	Sn	05 55 56.0	+0.6
JIJ	**Ishigaki jima**	**1.09**	**99**	*e*S	Sn	05 55 57.0	-0.3
JISG	**Ishigakijimahi**	**1.23**	**88**	*e*P	Pn	05 55 44.1	+0.4
JISG				S	Sn	05 56 01.2	+0.9

NEIC ***06*** *05:57:35.8±1.3,19°.396N±0°.007×155°.244W±0°.009, h3km±2km,Error ellipse: s-maj=1.3km s-min=1.0km az=53.0*

HVO 06 05:57:34.9±1.1,19°.422N±0°.010×155°.230W±0°.008, h1km±3km,ML2.8/21,ML1.9/38(NEIC),Error ellipse: s-maj=1.4km s-min=1.1km az=194.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.03**	**251**		Pg	05 57 35.9	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**272**		Pg	05 57 36.1	+0.6
HATHI				IAML		05 57 36.7	
	comp=N,2μm,0.2s						
SBLHI	**Steaming Bluff**	**0.04**	**278**		Pg	05 57 36.3	+0.6
SBLHI				IAML		05 57 37.0	
	comp=N,900nm,0.1s						
SBLHI				IAML		05 57 37.1	
	comp=E,931nm,0.1s						
KKO	**Keanakako'i**	**0.04**	**235**		Pg	05 57 36.5	+0.8
PUH	**Pauahi**	**0.05**	**165**	Pg	Pg	05 57 36.6	+0.8
NPH	**North Pit**	**0.05**	**258**		Pg	05 57 36.0	+0.1
NPH				IAML		05 57 37.5	
	comp=E,696nm,0.4s						
RIM	**Rim**	**0.05**	**238**		Pg	05 57 36.5	+0.6
RIM				IAML		05 57 37.4	
	comp=E,1μm,0.2s						
RIM				IAML		05 57 37.5	
	comp=N,872nm,0.3s						
OBL	**Observatory Le**	**0.05**	**265**	IAML		05 57 36.1	
	comp=E,2μm,0.6s						
OBL				IAML		05 57 36.2	
	comp=N,2μm,0.6s						
OBL					Pg	05 57 36.7	+0.7
UWE	**Uwekahuna**	**0.06**	**269**	Pg	Pg	05 57 36.9	+0.8
UWE				IAML		05 57 37.8	
	comp=E,1μm,0.5s						
UWE				IAML		05 57 37.8	
	comp=N,1μm,0.4s						
RSD	**Rainshed**	**0.06**	**312**	Pg	Pg	05 57 36.7	+0.6
RSD				IAML		05 57 37.9	
	comp=N,652nm,0.4s						
WRMHI	**West Rim**	**0.07**	**257**		Pg	05 57 37.1	+0.8
WRMHI				IAML		05 57 37.2	
	comp=E,1μm,0.7s						
WRMHI				IAML		05 57 37.8	
	comp=N,843nm,0.4s						
SDHHI	**Sand Hill**	**0.07**	**242**		Pg	05 57 37.1	+0.9
SDHHI				IAML		05 57 37.9	
	comp=N,1μm,0.3s						
SDHHI				IAML		05 57 38.5	
	comp=E,1μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.07**	**127**		Pg	05 57 37.3	+1.0
STCH	**Steam Cracks**	**0.10**	**110**		Pg	05 57 37.9	+0.9
NPOC	**North of Pu'u**	**0.12**	**104**		Pg	05 57 37.5	+0.3
JCUZ	**Jacuzzi**	**0.13**	**107**		Pg	05 57 37.8	+0.5
HLP	**Hilina Pali**	**0.15**	**211**		Pg	05 57 38.6	+0.9
HLP					Sg	05 57 38.8	-0.8
HLP				IAML		05 57 42.5	
	comp=E,550nm,0.9s						
MLH	**Mauna Loa**	**0.16**	**296**		Pg	05 57 39.0	+0.9
MLH				IAML		05 57 43.4	
	comp=N,586nm,0.5s						
MLH				IAML		05 57 43.8	

s-maj=9.6km s-min=3.2km az=152.0
*NEIC **06** 06:03:59.7, 31°.44N, 140°.19E, h18km*
*NEIC **06** 06:03:59.7, 31°.54N, 140°.07E, h18km, Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^17 Nm; Mrr=1.48; Mθθ=-1.29; Mφφ=-0.18; Mrθ=0.10; Mrφ=-0.10; Mθφ=-0.40; Fault plane solution: M0=1.44000×10^17 NP1:φs=97.90000°, δ=47.74000°, λ=107.85000°. NP2:φs=252.32000°, δ=45.22000°, λ=71.36000°. Principal axes: T 1.5737, Plg77.0000°, Azm80.0000°; N -0.2712, Plg13.0000°, Azm266.0000°; P -1.3026, Plg1.0000°, Azm175.0000°;*
*GCMT **06** 06:04:05.3s0.1, 31°.51N0.01×139°.98E0.01, h12km, MW5.4/151, Moment Tensor Solution. s127,c214; s151,c304; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr=1.31±.01; Mθθ=-1.24±.01; Mφφ=-0.07±.01; Mrθ=-0.43±.04; Mθφ=-0.04±.01; Mφr=-0.57±.04; Best double couple: M0=1.44500×10^17 NP1:φs=249.00000°, δ=58.00000°, λ=70.00000°. NP2:φs=104.00000°, δ=38.00000°, λ=119.00000°. Principal axes: T 1.5660, Plg70.0000°, Azm113.0000°; N -0.2480, Plg17.0000°, Azm260.0000°; P -1.3250, Plg11.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 06:03:58.9s0.4, 31°.41N0.03×140°.26E0.03, h15km≈1km, h15km:pP-P,n1269,σ1≥63/1075, mb5.2/282, MS4.9/187, 26C-8D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JAOM	**Aogashimamukai**	**1.13**	**338**	P		**Pb**	**06 04 17.4**	**-2.8**
JAOM				S		**Sb**	**06 04 33.3**	**-1.4**
JAOM	**Aogashimamukai**	**1.13**	**338**	A		A	06 04 17.4	
	comp=E,1μm,5.7s,comp=N,1μm,7.4s							
JHCJ	**Hachijojimakas**	**1.70**	**347**	*eP*		**Pn**	**06 04 25.8**	**-2.2**
JHCJ	**Hachijojimakas**	**1.70**	**347**	A		A	06 04 25.8	
	comp=E,263nm,7.2s,comp=N,278nm,7.7s							
JHJ2	**Mitsune**	**1.73**	**348**	Pn		**Pn**	**06 04 27.0**	**-1.6**
JHJ2	**Mitsune**	**1.73**	**348**	*eP*		**Pn**	**06 04 26.6**	**-1.9**
JHJ2	**Mitsune**	**1.73**	**348**	A		A	06 04 26.6	
	comp=N,476nm,7.3s,comp=N,324nm,5.9s							
JHJ	**Hachijo jima 2**	**1.75**	**347**	Pn		**Pn**	**06 04 26.7**	**-2.1**
	comp=N,176nm,0.3s,baz=197,slow=20,SNR=30							
JHJ				Sn		**Sn**	**06 04 50.8**	**0.0**
	comp=N,351nm,0.3s,baz=190,slow=18,SNR=5.7							
JMKN	**Mikurajimanish**	**2.54**	**347**	*eP*		**Pn**	**06 04 39.8**	**+0.2**
JMKN	**Mikurajimanish**	**2.54**	**347**	A		A	06 04 39.8	
	comp=E,508nm,7.9s,comp=N,330nm,7.2s							
JMYK	**Miyake Tsubota**	**2.71**	**347**	*eP*		**Pn**	**06 04 41.9**	**0.0**
JMYK	**Miyake Tsubota**	**2.71**	**347**	A		A	06 04 41.9	
	comp=E,332nm,7.1s,comp=N,325nm,6.7s							
JKO	**Kozu shima**	**2.92**	**341**	A		A	06 04 43.7	
	comp=E,216nm,7.8s,comp=N,217nm,8.2s							
JSKK	**Shikinejimakit**	**3.04**	**343**	A		A	06 04 45.4	
	comp=E,263nm,7.9s,comp=N,188nm,7.1s							
JNIO	**Niijimaoohara**	**3.05**	**344**	A		A	06 04 45.5	
	comp=E,426nm,7.9s,comp=N,220nm,6.9s							
JTHY	**Toshimahigashi**	**3.21**	**345**	A		A	06 04 47.8	
	comp=E,410nm,8.3s,comp=N,315nm,7.1s							
BSO1	**Boso 1**	**3.29**	**10**	*eP*		**Pn**	**06 04 47.0**	**-2.4**
JIM2	**Oshima 3**	**3.37**	**348**	A		A	06 04 50.2	
	comp=E,307nm,8.2s,comp=N,176nm,7.0s							
BSO3	**Boso 3**	**3.38**	**3**	*eP*		**Pn**	**06 04 50.1**	**-0.9**
JIZS	**Izushimoda**	**3.49**	**341**	A		A	06 04 51.7	
	comp=E,79nm,7.9s,comp=N,73nm,8.6s							
TTO2	**TONANKAI O.B.S**	**3.58**	**311**	*eP*		**Pn**	**06 04 51.5**	**-2.2**
TATJ	**Tateyama 2**	**3.62**	**355**	A		A	06 04 54.0	
	comp=E,239nm,7.3s,comp=N,194nm,8.7s							
TTO1	**TONANKAI O.B.S**	**3.67**	**308**	*eP*		**Pn**	**06 04 52.2**	**-2.7**
TTO1	**TONANKAI O.B.S**	**3.67**	**308**	A		A	06 04 52.2	
	comp=E,422nm,7.2s,comp=N,523nm,7.6s							
JHTM	**Izuhatsuma**	**3.69**	**341**	A		A	06 04 54.5	
	comp=E,101nm,7.6s,comp=N,95nm,7.1s							
JSG	**Sagara**	**3.69**	**332**			**Pn**	**06 04 57.0**	**+1.5**
JSG	**Sagara**	**3.69**	**332**	A		A	06 04 54.2	
	comp=E,107nm,7.6s,comp=N,123nm,7.9s							
JKUC	**kamogawauchiur**	**3.74**	**359**	A		A	06 04 55.7	
	comp=E,84nm,8.2s,comp=N,103nm,7.6s							
JYO	**Yokosk**	**3.83**	**353**	A		A	06 04 56.9	
	comp=E,166nm,8.0s,comp=N,128nm,7.2s							
JKKS	**Kakegawashinom**	**3.84**	**331**	A		A	06 04 56.2	
	comp=E,100nm,7.1s,comp=N,155nm,7.4s							
JOD2	**Odawara 2**	**3.96**	**346**	A		A	06 04 58.5	
	comp=E,138nm,7.3s,comp=N,96nm,7.6s							
JCN	**Nagara**	**3.99**	**359**	A		A	06 04 59.4	
	comp=E,262nm,7.6s,comp=N,269nm,8.9s							
JFNN	**Fujinakano**	**3.99**	**341**	A		A	06 04 58.8	
	comp=E,121nm,7.9s,comp=N,98nm,8.0s							
SHZ3	**Shizuoka 3**	**4.03**	**335**	A		A	06 04 59.1	
	comp=E,32nm,7.2s,comp=N,41nm,7.3s							
HMMJ	**Hamamatsu 2**	**4.03**	**335**	A		A	06 04 59.0	
	comp=E,22nm,7.1s,comp=N,34nm,7.9s							
JAA	**Atsumi**	**4.14**	**322**	A		A	06 05 00.1	
	comp=E,21nm,7.3s,comp=N,29nm,8.4s							
JSSY	**Shinshiroyabe**	**4.18**	**327**	A		A	06 05 00.9	
	comp=E,30nm,7.2s,comp=N,22nm,7.3s							
JIE	**Ise**	**4.21**	**316**	*eP*		**Pn**	**06 05 01.9**	**-0.7**
JIE	**Ise**	**4.21**	**316**	A		A	06 05 01.9	
	comp=E,26nm,7.5s,comp=N,35nm,7.8s							
JSMT	**Sammumatsuo**	**4.22**	**2**	A		A	06 05 02.6	
	comp=E,339nm,7.2s,comp=N,281nm,7.3s							
JSGW	**Sagamiharawaka**	**4.27**	**348**	A		A	06 05 02.9	
	comp=E,71nm,8.4s,comp=N,40nm,7.9s							
TOK	**Tokyo**	**4.28**	**355**	A		A	06 05 03.3	
	comp=E,522nm,8.6s,comp=N,395nm,7.5s							
JMMH	**Miemihama**	**4.30**	**305**	A		A	06 05 01.7	
	comp=E,26nm,8.2s,comp=N,26nm,8.0s							
JWKM	**Wakayamakushim**	**4.32**	**299**	A		A	06 05 01.6	
	comp=E,27nm,8.4s,comp=N,29nm,6.9s							
JYN	**Shimob**	**4.32**	**341**	*eP*		**Pn**	**06 05 06.4**	**+2.2**
JYN	**Shimob**	**4.32**	**341**	A		A	06 05 06.4	
	comp=E,32nm,8.6s,comp=N,52nm,8.2s							
JKN2	**Miekihoku**	**4.38**	**311**	A		A	06 05 03.0	
	comp=E,17nm,7.9s,comp=N,13nm,7.4s							
JNY	**Yasuok**	**4.42**	**334**	A		A	06 05 04.5	
	comp=E,23nm,7.5s,comp=N,21nm,8.5s							
JHU	**Hanno**	**4.50**	**350**	A		A	06 05 06.2	
	comp=E,48nm,7.8s,comp=N,30nm,7.2s							
JIHU	**Itakohorinouch**	**4.54**	**3**	A		A	06 05 07.2	
	comp=E,98nm,6.2s,comp=N,111nm,4.7s							
JAO	**Obara**	**4.59**	**328**	A		A	06 05 06.7	
	comp=E,27nm,8.1s,comp=N,24nm,7.6s							
JTNC	**Tanabenakahech**	**4.60**	**303**	*eP*		**Pn**	**06 05 04.7**	**-3.3**
JTNC	**Tanabenakahech**	**4.60**	**303**	A		A	06 05 04.7	
	comp=E,25nm,6.8s,comp=N,18nm,8.3s							
TSUJ	**Tsu 2**	**4.61**	**317**	A		A	06 05 06.4	
	comp=E,22nm,7.7s,comp=N,16nm,6.7s							
CBIJ	**Chichi jima**	**4.62**	**158**	*eP*		**Pn**	**06 05 09.8**	**+1.6**
CBIJ	**Chichi jima**	**4.62**	**158**	A		A	06 05 09.8	
	comp=E,42nm,5.5s,comp=N,33nm,6.7s							
JCJ	**Chichijima**	**4.62**	**158**	Pn		**Pn**	**06 05 08.3**	**+0.1**
JCJ	**Chichijima**	**4.62**	**158**	Pn		Pn	06 05 03.9	-4.4
	comp=N,16nm,0.3s,baz=297,slow=9.0,SNR=13							
JCJ				Sn		**Sn**	**06 05 57.8**	**-3.9**
	comp=N,54nm,0.3s,baz=300,slow=20,SNR=5.3							
JCJ				LR		LR	06 06 55.7	
	comp=N,15μm,21.5s,baz=329,slow=38							
JNTK	**Naratenkawa**	**4.66**	**309**	A		A	06 05 06.8	
	comp=E,21nm,7.4s,comp=N,20nm,7.6s							
JRY	**Ryogami san**	**4.73**	**347**	*eP*		**Pn**	**06 05 11.3**	**+1.5**
JRY	**Ryogami san**	**4.73**	**347**	A		A	06 05 11.3	
	comp=E,46nm,7.2s,comp=N,42nm,7.8s							
JNT	**Takato**	**4.79**	**339**	A		A	06 05 09.9	
	comp=E,25nm,6.7s,comp=N,31nm,6.9s							
JWM	**Minabe**	**4.80**	**302**	A		A	06 05 08.5	
	comp=E,25nm,8.2s,comp=N,21nm,7.2s							
JYT	**Yasato**	**4.80**	**359**	A		A	06 05 10.7	
	comp=E,25nm,8.7s,comp=N,29nm,8.7s							
JICN	**Ichinomiyachia**	**4.82**	**325**	A		A	06 05 09.7	
	comp=E,24nm,7.4s,comp=N,23nm,7.9s							
JWY	**Kouya**	**4.82**	**307**	*eP*		**Pn**	**06 05 08.6**	**-2.5**
JWY	**Kouya**	**4.82**	**307**	A		A	06 05 08.6	
	comp=E,16nm,7.7s,comp=N,20nm,8.3s							
JGF	**Kuroka**	**4.83**	**331**	Pn		**Pn**	**06 05 11.8**	**+0.7**
JGF	**Kuroka**	**4.83**	**331**	A		A	06 05 10.2	
	comp=E,27nm,8.1s,comp=N,19nm,6.9s							
JHYU	**Hitachinakayam**	**4.92**	**3**	A		A	06 05 12.4	
	comp=E,22nm,7.7s,comp=N,35nm,7.6s							
JEG	**Eigenji**	**4.93**	**320**	A		A	06 05 11.1	
	comp=E,17nm,7.2s,comp=N,18nm,9.3s							
JHE	**Heguri**	**5.02**	**311**	A		A	06 05 12.0	
	comp=E,19nm,9.0s,comp=N,14nm,8.0s							
JAG	**Ashikaga**	**5.04**	**353**	*eP*		**Pn**	**06 05 13.8**	**-0.3**
JAG	**Ashikaga**	**5.04**	**353**	A		A	06 05 13.8	
	comp=E,29nm,7.9s,comp=N,19nm,8.0s							
JHH2	**Haha-jima-NKT2**	**5.05**	**160**	A		A	06 05 10.8	
	comp=E,38nm,7.4s,comp=N,29nm,6.5s							
JYTA	**Yamagatataniai**	**5.10**	**326**	A		A	06 05 13.8	
	comp=E,15nm,7.3s,comp=N,28nm,8.1s							
JHO	**Hitachi**	**5.19**	**3**	A		A	06 05 16.2	
	comp=E,23nm,8.7s,comp=N,17nm,8.4s							
JNG	**Nsakai**	**5.29**	**341**	A		A	06 05 17.1	
	comp=E,25nm,7.9s,comp=N,26nm,7.7s							
JGK	**Kuni**	**5.31**	**346**	A		A	06 05 17.4	
	comp=E,34nm,7.1s,comp=N,30nm,6.7s							
JGN	**Niukaw**	**5.39**	**334**	A		A	06 05 18.1	
	comp=E,14nm,6.4s,comp=N,17nm,8.5s							
MJAR	**Matsushiro Arr**	**5.39**	**342**	Pn		**Pn**	**06 05 19.8**	**+0.9**
	comp=N,2.3nm,0.3s,baz=156,slow=8.6,SNR=50							
MAJO	**Matsushiro**	**5.39**	**342**	Pn		**Pn**	**06 05 20.4**	**+1.5**
MAJO	**Matsushiro**	**5.39**	**342**	*i* P		**Pn**	**06 05 20.3**	**+1.5**
MJB9	**Matsu-Tunnel**	**5.40**	**342**	Pn		**Pn**	**06 05 20.8**	**+1.9**
JKT	**Katashina**	**5.41**	**351**	A		A	06 05 19.0	
	comp=E,26nm,9.1s,comp=N,29nm,8.0s							
JFM	**Mihama**	**5.44**	**320**	A		A	06 05 18.3	
	comp=E,15nm,7.6s,comp=N,18nm,7.6s							
JAI	**Aioi**	**5.45**	**297**	A		A	06 05 17.4	
	comp=E,16nm,7.8s,comp=N,25nm,7.6s							
JAWN	**Awajishima-nag**	**5.45**	**306**	A		A	06 05 17.7	
	comp=E,21nm,7.7s,comp=N,26nm,8.2s							
JMIK	**Miki**	**5.53**	**309**	A		A	06 05 19.0	
	comp=E,14nm,7.5s,comp=N,16nm,8.4s							
MRT2	**Murotomisaki 2**	**5.54**	**292**	A		A	06 05 18.4	
	comp=E,17nm,7.9s,comp=N,15nm,7.8s							
JSB	**Shiboa**	**5.55**	**357**	A		A	06 05 21.1	
	comp=E,34nm,6.8s,comp=N,40nm,8.1s							
JWT	**Wachi**	**5.61**	**315**	A		A	06 05 20.4	
	comp=E,11nm,7.3s,comp=N,9.0nm,8.2s							
JFFD	**Fukushimafurud**	**5.67**	**2**	A		A	06 05 22.9	
	comp=E,11nm,8.6s,comp=N,23nm,8.4s							
ONAJ	**Iwakimizuishiy**	**5.69**	**4**	A		A	06 05 23.3	
	comp=E,19nm,8.4s,comp=N,41nm,8.1s							
JTT	**Ttatey**	**5.72**	**336**	A		A	06 05 22.8	
	comp=E,28nm,6.3s,comp=N,30nm,8.0s							
JKS	**Kasai**	**5.77**	**310**	A		A	06 05 22.4	
	comp=E,9.0nm,7.9s,comp=N,16nm,8.2s							
JMAF	**Mimaanabuki**	**5.78**	**299**	A		A	06 05 22.0	
	comp=E,11nm,7.8s,comp=N,24nm,8.5s							
JKG	**Kaga**	**5.85**	**327**	A		A	06 05 24.3	
	comp=E,19nm,7.4s,comp=N,19nm,7.6s							
JMN	**Monobe**	**5.86**	**295**	Pn		**Pn**	**06 05 23.0**	**-2.3**
JMN	**Monobe**	**5.86**	**295**	A		A	06 05 23.1	
	comp=E,12nm,8.7s,comp=N,12nm,8.4s							
JUON	**Uonuma**	**5.87**	**351**	A		A	06 05 25.3	
	comp=E,20nm,8.1s,comp=N,18nm,7.1s							
JJN	**Nakama**	**5.94**	**344**	A		A	06 05 26.1	
	comp=E,26nm,7.1s,comp=N,43nm,6.9s							
JFK	**Kawauchi**	**5.96**	**5**	A		A	06 05 27.0	
	comp=E,14nm,7.9s,comp=N,21nm,7.7s							
JFY	**Yanaizu**	**6.00**	**356**	A		A	06 05 27.3	
	comp=E,18nm,7.8s,comp=N,26nm,7.9s							
JKY	**Yasaka**	**6.02**	**316**	A		A	06 05 26.2	
	comp=E,14nm,9.3s,comp=N,17nm,8.5s							
JKHR	**Kochiharuno**	**6.08**	**292**	A		A	06 05 26.1	
	comp=E,19nm,8.3s,comp=N,16nm,8.5s							
JJS	**Sakaide**	**6.09**	**301**	A		A	06 05 26.5	
	comp=E,13nm,8.1s,comp=N,21nm,8.6s							
JOTO	**OTAMA OYAMA**	**6.13**	**1**	A		A	06 05 29.3	
	comp=E,19nm,7.6s,comp=N,26nm,8.5s							
JAD	**Aida**	**6.20**	**306**	A		A	06 05 28.3	
	comp=E,10.0nm,7.8s,comp=N,15nm,6.9s							
JJH	**Hakui**	**6.21**	**333**	A		A	06 05 29.5	
	comp=E,20nm,6.5s,comp=N,16nm,7.4s							
JIZZ	**Izumozaki**	**6.24**	**349**	A		A	06 05 30.5	
	comp=E,81nm,5.9s,comp=N,72nm,6.1s							
JKSM	**Kasumi**	**6.26**	**313**	A		A	06 05 29.5	
	comp=E,11nm,8.0s,comp=N,14nm,7.0s							
JKU	**Kubokawa**	**6.38**	**289**	A		A	06 05 30.0	
	comp=E,13nm,7.5s,comp=N,13nm,8.4s							
JMM	**Masumori**	**6.45**		4		**Pn**	**06 05 32.1**	**-1.3**
JTO	**Tosashimizu**	**6.49**	**285**	A		A	06 05 31.4	
	comp=E,8.0nm,7.6s,comp=N,15nm,8.3s							
JNU	**Nakatsue**	**8.13**	**285**	Pn		**Pn**	**06 05 54.5**	**-1.9**
JNU	**Nakatsue**	**8.13**	**285**	Pn		**Pn**	**06 05 52.4**	**-4.0**
	comp=N,0.2nm,0.3s,baz=86,slow=19,SNR=4.3							
JNU				LR		LR	06 08 57.9	
	comp=N,8μm,18.9s,baz=94,slow=38							
	comp=N,17nm,1.0s							
JTM	**Tenmabayashi**	**9.38**	**4**			**Pn**	**06 06 11.6**	**-1.9**
JMZ	**Mimidaito 2**	**9.70**	**237**	Pn		**Pn**	**06 06 20.2**	**+2.3**
ERM	**Erimo**	**10.83**	**12**	Pn		**Pn**	**06 06 32.0**	**-1.4**
ERM	**Erimo**	**10.83**	**12**	P		**Pn**	**06 06 35.7**	**+2.3**
ERM				pmax		pmax		
	comp=Z,64nm,0.9s							
JOW	**Kunigami**	**11.43**	**249**			**Pn**	**06 06 42.2**	**+0.5**
JOW	**Kunigami**	**11.43**	**249**	Pn		**Pn**	**06 06 39.2**	**-2.5**
	comp=Z,0.9nm,0.3s,baz=51,slow=6.5,SNR=2.8							
	comp=Z,35nm,1.1s							
KSRS	**Korea Array**	**11.83**	**304**	Pn		**Pn**	**06 06 46.1**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=113,slow=13,SNR=2.7							
KSRS				LR		LR	06 11 14.1	
	comp=Z,3μm,19.1s,baz=115,slow=37							
KSAR	**Wonju Array Be**	**11.85**	**304**			**Pn**	**06 06 49.5**	**+2.1**
KSAR	**Wonju Array Be**	**11.85**	**304**	P		**Pn**	**06 06 49.5**	**+2.1**
ASAJ	**Asahikawa**	**12.81**	**8**	Pn		**Pn**	**06 06 57.4**	**-3.1**
	comp=Z,2.2nm,0.3s,baz=226,slow=16,SNR=8.9							
ASAJ				Sn		**Sn**	**06 09 21.1**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=226,slow=16,SNR=2.4							
JKA	**Kamikawa-asahi**	**12.81**	**8**			**Pn**	**06 06 57.4**	**-3.1**
MSHR	**Mys Shultsa**	**13.30**	**329**	*ceP*		**Pn**	**06 07 07.4**	**+0.3**
MSHR				pmax		pmax		
	comp=Z,139nm,2.5s							
YUK	**Yuzh-Kuril'sk**	**13.35**	**18**	*i* P		**Pn**	**06 07 08.8**	**+1.0**
VLA	**Vladivostok**	**13.44**	**333**	*i* P		**Pn**	**06 07 10.8**	**+1.7**
PSTR	**Posyet**	**13.51**	**329**	*i* P		**Pn**	**06 07 12.1**	**+2.1**
TEY	**Ternei**	**13.90**	**349**	*eP*		**Pn**	**06 07 13.0**	**-2.3**
TEY				MLR		MLR		
	comp=N,200nm,14.0s							
TEY				MLR		MLR		
	comp=E,200nm,14.0s							
TEY				MLR		MLR		
	comp=Z,200nm,14.0s							
TEY				MLR		MLR		
	comp=N,200nm,14.0s							
USA0B	**Ussuriysk Arra**	**14.33**	**335**			**Pn**	**06 07 23.6**	**+2.3**
USA0B	**Ussuriysk Arra**	**14.33**	**335**	*i* P		**Pn**	**06 07 22.2**	**+1.0**
USRK	**Ussuriysk Ar.**	**14.33**	**335**			**Pn**	**06 07 23.6**	**+2.4**
USRK	**Ussuriysk Ar.**	**14.33**	**335**	Pn		**Pn**	**06 07 20.0**	**-1.2**
	comp=N,0.2nm,0.3s,baz=158,slow=12,SNR=2.7							
USRK				LR		LR	06 12 46.4	
	comp=N,8μm,19.2s,baz=144,slow=37							
	comp=N,1.2nm,0.6s							
USRK	**Ussuriysk Ar.**	**14.33**	**335**	P		**Pn**	**06 07 23.6**	**+2.4**
KUR	**Kuril'sk**	**15.02**	**21**	*eP*		**P**	**06 07 34.4**	**-1.5**
KUR				*eS*		**Sn**	**06 10 17.7**	**+1.0**
KUR				pmax		pmax		
	comp=Z,3μm,6.4s							
KUR				smax		smax		
	comp=N,4μm,9.6s							
KUR				smax		smax		
	comp=E,3μm,8.6s							
KUR				MLR		MLR		
	comp=Z,4μm,9.0s							
KUR				MLR		MLR		
	comp=N,3μm,7.0s							
MDJ	**Mudanjiang**	**15.61**	**331**	P		**Pn**	**06 07 39.7**	**+1.3**
MDJ				pP		P	06 07 42.0	-0.6
MDJ				sP		sP	06 07 48.6	+0.4
MDJ				S		**Sn**	**06 10 33.3**	**+2.2**
MDJ				pmax		pmax		
	comp=N,18nm,2.1s							
MDJ				pmax		pmax		
	comp=N,280nm,3.8s							
MDJ				LR		LR		
	comp=N,8μm,15.0s							
MDJ				LR		LR		
	comp=N,8μm,14.6s							
MDJ				LR		LR		
	comp=N,8μm,17.0s							
MDJ	**Mudanjiang**	**15.61**	**331**			**Pn**	**06 07 37.9**	**-0.5**
YSS	**Yuzh-Sakhalins**	**15.64**	**6**			**Pn**	**06 07 37.2**	**-1.5**
YSS	**Yuzh-Sakhalins**	**15.64**	**6**	*eP*		**Pn**	**06 07 37.8**	**-0.9**
YSS				*eS*		**Sn**	**06 10 26.1**	**-5.5**
YSS				pmax		pmax		
	comp=Z,500nm,3.5s							
YSS				pmax		pmax		
	comp=Z,60nm,1.0s							
YSS				MLR		MLR		
	comp=Z,3μm,14.0s							
YSS				MLR		MLR		
	comp=N,3μm,15.0s							
YSS				MLR		MLR		
	comp=E,3μm,13.0s							
SSE	**Sheshan**	**16.32**	**274**	P		**Pn**	**06 07 47.3**	**-0.2**
SSE				S		**Sn**	**06 10 46.9**	**-1.5**
SSE				pmax		pmax		
	comp=E,12nm,0.8s							
SSE				pmax		pmax		
	comp=E,240nm,4.4s							
SSE				LR		LR		
	comp=E,3μm,13.0s							
SSE				LR		LR		
	comp=E,2μm,12.4s							
DL2	**Dalian**	**16.95**	**301**	P		**P**	**06 07 57.7**	**+0.2**
DL2				S		**S**	**06 11 11.5**	**-2.3**
DL2				pmax		pmax		
	comp=E,440nm,1.2s							
DL2				pmax		pmax		
	comp=E,5μm,5.7s							
DL2				LR		LR		
	comp=E,6μm,10.0s							
DL2				LR		LR		
	comp=E,10μm,10.9s							
DL2				LR		LR		
	comp=E,14μm,10.8s							
CN2	**Changchun**	**17.02**	**321**	*eP*		**Pn**	**06 07 57.0**	**+0.7**
CN2				*eS*		**Sn**	**06 11 08.0**	**+2.8**
CN2				pmax		pmax		
	comp=E,10.0nm,0.7s							
CN2				pmax		pmax		
	comp=E,4μm,5.5s							
CN2				LR		LR		
	comp=E,2μm,11.0s							
CN2				LR		LR		
	comp=E,6μm,11.0s							
CN2				LR		LR		
	comp=E,5μm,12.1s							
BNX	**BinXian**	**17.45**	**329**	⇑P		**P**	**06 08 03.5**	**+0.6**
BNX				pP		**pP**	**06 08 06.6**	**-0.1**
BNX				sP		**sP**	**06 08 08.2**	**-0.3**
BNX				PP		**PnPn**	**06 08 14.5**	**+2.5**
BNX				S		**Sn**	**06 11 14.3**	**-1.3**
BNX				sS		**sS**	**06 11 28.4**	**-1.3**
BNX				pmax		pmax		
	comp=E,14nm,1.1s							
BNX				pmax		pmax		
	comp=E,3μm,6.2s							
BNX				LR		LR		
	comp=E,7μm,13.0s							
BNX				LR		LR		
	comp=E,5μm,12.5s							
BNX				LR		LR		
	comp=E,6μm,11.4s							
UGL	**Uglegorsk**	**17.70**	**4**	*eP*		**Pn**	**06 08 05.8**	**+1.1**
UGL				*eS*		**Sn**	**06 11 14.6**	**-6.9**
UGL				pmax		pmax		
	comp=Z,2μm,3.9s							
UGL				pmax		pmax		
	comp=Z,138nm,1.2s							
UGL				pmax		pmax		
	comp=Z,3μm,6.5s							
UGL				smax		smax		
	comp=E,2μm,7.0s							
UGL				smax		smax		
	comp=N,2μm,8.5s							
UGL				MLR		MLR		
	comp=Z,3μm,16.0s							
UGL				MLR		MLR		
	comp=N,3μm,13.0s							
UGL				MLR		MLR		
	comp=E,4μm,13.0s							
TATO	**Taipei**	**17.74**	**253**	P		**P**	**06 08 05.5**	**-0.7**
TATO				IAmb		IAmb	06 08 11.3	
	comp=Z,269nm,1.5s							
YHNB	**Yeheng**	**17.96**	**253**	P		**P**	**06 08 08.0**	**-0.8**
YHNB				IAmb		IAmb	06 08 17.9	
	comp=Z,430nm,2.0s							
NACB	**Ninganchiao**	**18.01**	**251**	P		**P**	**06 08 08.9**	**-0.3**
NJ2	**Nanjing**	**18.22**	**278**	*eP*		**P**	**06 08 11.2**	**-0.3**
NJ2				S		**S**	**06 11 46.0**	**+6.3**
NJ2				pmax		pmax		
	comp=Z,140nm,1.2s							
NJ2				pmax		pmax		
	comp=Z,5μm,4.7s							
NJ2				LR		LR		
	comp=Z,5μm,9.2s							
NJ2				LR		LR		
	comp=Z,4μm,9.7s							
NJ2				LR		LR		
	comp=Z,3μm,10.4s							
GUMO	**Guam**	**18.24**	**166**	P		**P**	**06 08 13.6**	**+1.8**
GUMO	**Guam**	**18.24**	**166**	P		**Pn**	**06 08 11.8**	**+0.2**
	comp=Z,121nm,0.7s,baz=357,slow=7.7,SNR=4.3							
GUMO				LR		LR	06 14 09.2	
	comp=Z,13μm,20.8s,baz=4.5,slow=34							
GUMO	**Guam**	**18.24**	**166**	P		**P**	**06 08 13.6**	**+1.8**
GUMO				pmax		pmax		
	comp=Z,364nm,1.0s							
YULB	**Yu-li**	**

HEH pP **pP** **06 08 48.6 +1.6**
HEH sP **sP** **06 08 51.4 +2.6**
HEH S **S** **06 12 37.6 +0.1**
HEH sS Sn 06 12 43.8 -0.5
HEH pmax pmax
comp=N,23nm,1.4s
HEH pmax pmax
comp=N,2μm,5.9s
HEH LR LR
comp=N,7μm,17.4s
HEH LR LR
comp=N,4μm,17.8s
HEH LR LR
comp=N,12μm,17.6s
BJT Baijiatauau 21.32 300 P **P** **06 08 45.1 -0.1**
BJT Baijiatauau 21.32 300 IAMs_20 IAMs_20 06 17 21.8
comp=Z,4μm,18.0s
BJT Baijiatauau 21.32 300 P **P** **06 08 45.1 -0.1**
BJT pmax pmax
comp=Z,340nm,1.3s
BJT MLR MLR
comp=Z,4μm,18.0s
BJI Beijing 21.32 300 P **P** **06 08 45.4 +0.2**
BJI S **S** **06 12 41.2 -0.3**
BJI pmax pmax
comp=Z,100nm,1.3s
BJI pmax pmax
comp=Z,640nm,3.9s
BJI LR LR
comp=Z,2μm,13.3s
BJI LR LR
comp=Z,2μm,18.8s
BJI LR LR
comp=Z,2μm,20.0s
HNS HongShan 21.88 293 ⇑P **P** **06 08 50.4 -0.8**
HNS S **S** **06 12 54.6 +2.0**
HNS pmax pmax
comp=Z,56nm,1.6s
HNS pmax pmax
comp=Z,2μm,5.9s
HNS LR LR
comp=Z,6μm,12.8s
HNS LR LR
comp=Z,7μm,13.8s
HNS LR LR
comp=Z,5μm,15.7s
WHN Wuhan 22.22 275 ⇑P **P** **06 08 57.0 +2.0**
WHN sP **sP** **06 09 00.2 -0.7**
WHN S **S** **06 13 03.3 +4.1**
WHN LR LR
comp=Z,7μm,11.1s
WHN LR LR
comp=Z,11μm,11.5s
WHN LR LR
comp=Z,16μm,12.5s
SKR Severo-Kuril's 22.57 27*ce*P **P** **06 08 58.4 -0.1**
XLT XiLinHaoTe 22.75 310 *e*P **P** **06 08 55.6 -5.0**
XLT SS Sn 06 13 38.6 +15
XLT pmax pmax
comp=Z,12nm,0.8s
XLT pmax pmax
comp=Z,290nm,4.7s
XLT LR LR
comp=N,380nm,12.0s
XLT LR LR
comp=E,3μm,12.7s
XLT LR LR
comp=Z,4μm,14.4s
LYN LuoYang 23.50 285 ⇑P **P** **06 09 07.5 -0.7**
LYN sP sP 06 09 14.4 +0.4
LYN S **S** **06 13 21.4 0.0**
LYN sS sS 06 13 29.7 +1.1
LYN SS SnSn 06 14 12.6 +15
LYN pmax pmax
comp=Z,81nm,1.4s
LYN pmax pmax
comp=Z,2μm,5.5s
LYN LR LR
comp=Z,5μm,13.7s
LYN LR LR
comp=Z,6μm,12.0s
LYN LR LR
comp=Z,9μm,13.1s
HIA Hailar 23.59 325 P **P** **06 09 09.2 +0.1**
HIA Hailar 23.59 325 IAMs_20 IAMs_20 06 18 52.4
comp=Z,3μm,18.0s
HIA Hailar 23.59 325 P **P** **06 09 09.2 +0.1**
HIA pmax pmax
comp=Z,64nm,1.6s
HIA MLR MLR
comp=Z,3μm,18.0s
TIY Taiyuan 23.71 293 ⇑P **P** **06 09 10.5 +0.1**
TIY S **S** **06 13 27.6 +2.6**
TIY SS **SnSn** **06 14 15.3 +12**
TIY pmax pmax
comp=Z,2μm,5.0s
TIY LR LR
comp=Z,6μm,13.4s
TIY LR LR
comp=Z,4μm,12.2s
TIY LR LR
comp=Z,5μm,14.1s
CNSH ChangSha 23.91 269 ⇓P **P** **06 09 12.1 -0.2**
CNSH S **S** **06 13 32.5 +4.3**
CNSH pmax pmax
comp=Z,98nm,1.6s
CNSH LR LR
comp=Z,3μm,10.0s
CNSH LR LR
comp=Z,3μm,11.8s
CNSH LR LR
comp=Z,5μm,11.6s
ZEA Zeya 24.20 341 *e*P **P** **06 09 14.6 -0.2**
ZEA *e*S **S** **06 13 27.2 -5.2**
ZEA pmax pmax
comp=E,20nm,1.4s
ZEA pmax pmax
comp=N,80nm,1.5s
ZEA pmax pmax
comp=Z,160nm,1.5s
ZEA pmax pmax
comp=E,700nm,4.2s
ZEA pmax pmax
comp=N,2μm,4.9s
ZEA pmax pmax
comp=Z,2μm,5.5s
ZEA smax smax
comp=E,1μm,11.2s
ZEA smax smax
comp=N,3μm,10.4s
ZEA MLR MLR
comp=E,1μm,10.0s
ZEA MLR MLR
comp=N,3μm,12.0s
ZEA MLR MLR
comp=Z,3μm,12.0s
TGY Tagaytay City 24.72 230 P **P** **06 09 19.2 -0.6**
comp=Z,120nm,0.4s,baz=37,slow=5.1,SNR=6.1
TGY LR LR 06 16 49.2
comp=Z,1μm,21.2s,baz=62,slow=31
HHC Hu-ho-hao-te 24.93 300 *e*P **P** **06 09 21.0 -0.6**
HHC pP pP 06 09 25.5 -0.3
HHC S **S** **06 13 43.8 -0.8**
HHC sS pS 06 13 49.5 +0.5
HHC pmax pmax
comp=Z,59nm,1.1s
HHC pmax pmax
comp=Z,1μm,5.0s
HHC LR LR
comp=Z,2μm,11.1s
HHC LR LR
comp=Z,6μm,10.9s
HHC LR LR
comp=Z,7μm,10.7s
PEA0B Petropavlovsk- 25.10 25 P **P** **06 09 23.6 +0.7**
PEA0B IAmb IAmb 06 09 36.4
comp=Z,54nm,1.1s
PEA0B Petropavlovsk- 25.10 25*ce*P **P** **06 09 25.7 +2.8**
PETK Petropavlovsk- 25.10 25 P **P** **06 09 23.7 +0.8**
PETK Petropavlovsk- 25.10 25 P **P** **06 09 24.4 +1.5**
comp=Z,34nm,1.2s,baz=224,slow=4.0,SNR=13
PETK LR LR 06 22 15.2
comp=Z,837nm,18.3s,baz=208,slow=44
comp=Z,34nm,1.2s
PET Petropavlovsk 25.39 26 P **P** **06 09 25.2 -0.2**
PET IAmb IAmb 06 09 31.6
comp=Z,132nm,1.5s
PET Petropavlovsk 25.39 26 *e*P **P** **06 09 29.0 +3.5**
PET *e*S **S** **06 13 54.4 +3.0**
PET pmax pmax
comp=Z,54nm,1.2s
PET pmax pmax
comp=Z,900nm,7.8s
PET pmax pmax
comp=Z,1μm,7.9s
PET MLR MLR
comp=Z,1μm,14.0s
PET MLR MLR
comp=Z,2μm,12.0s
PET Petropavlovsk 25.39 26 P **P** **06 09 27.5 +2.0**
comp=Z,56nm,1.2s,comp=Z,2μm
BTO Baotou 26.02 299 *e*P **P** **06 09 34.0 +2.5**
BTO pP **sP** **06 09 38.3 +0.8**
BTO sP **pP** **06 09 41.0 +5.3**
BTO PP **PnPn** **06 10 15.1 +5.7**
BTO S **S** **06 14 06.2 +4.2**
BTO sS **sS** **06 14 10.6 +1.7**
BTO SS **SnSn** **06 15 09.6 +10**
BTO pmax pmax
comp=Z,35nm,1.0s
BTO pmax pmax
comp=Z,1μm,4.5s
BTO LR LR
comp=Z,15μm,16.9s
BTO LR LR
comp=Z,14μm,15.2s
BTO LR LR
comp=Z,17μm,16.5s
ENH Enshi 26.41 276 P **P** **06 09 34.0 -1.1**
ENH IAMs_20 IAMs_20 06 20 44.5
comp=Z,4μm,18.0s
XAN Xi'an 26.44 284 ⇑P **P** **06 09 34.8 -0.6**
XAN pP pP 06 09 38.9 -0.6
XAN sP sP 06 09 43.2 +1.9
XAN S **S** **06 14 06.2 -2.4**
XAN pmax pmax
comp=Z,2μm,6.5s
XAN LR LR
comp=Z,5μm,12.4s
XAN LR LR
comp=Z,5μm,11.7s
XAN LR LR
comp=Z,3μm,15.1s
DAV Davao City (W) 27.84 213 IAMs_20 IAMs_20 06 16 33.2
comp=Z,2μm,19.0s
DAV Davao City (W) 27.84 213 LR LR 06 18 55.6
comp=Z,1μm,21.6s,baz=50,slow=32
DAV Davao City (W) 27.84 213 ⇓*e*P **P** **06 09 50.0 +2.1**
CIT Chita 28.39 324 *e*P **P** **06 09 54.4 +1.8**
CIT *e* 06 10 39.9
CIT *e* 06 16 17.7
CIT pmax pmax
comp=Z,136nm,3.2s
MA2 Magadan 29.04 11 P **P** **06 09 58.6 +0.3**
MA2 IAmb IAmb 06 10 02.7
comp=Z,88nm,1.5s
MA2 Magadan 29.04 11 LR LR 06 21 20.5
comp=Z,870nm,21.9s,baz=198,slow=36
MA2 Magadan 29.04 11*ce*P **P** **06 09 59.2 +1.0**
MA2 pmax pmax
comp=Z,56nm,1.3s
MA2 Magadan 29.04 11 P **P** **06 09 58.4 +0.2**
comp=Z,40nm,1.4s,comp=Z,1μm
GYA Guiyang 29.74 269 ⇑*i*P **P** **06 10 06.9 +1.9**
GYA S **S** **06 14 59.4 -1.5**
GYA pmax pmax
comp=Z,22nm,0.8s
GYA pmax pmax
comp=Z,460nm,5.6s
GYA LR LR
comp=Z,5μm,17.0s
GYA LR LR
comp=Z,2μm,15.0s
GYA LR LR
comp=Z,2μm,17.0s
QIZ Qiongzhong 30.05 253 P **P** **06 10 11.8 +4.2**
QIZ S **S** **06 15 10.3 +4.8**
QIZ pmax pmax
comp=Z,47nm,1.6s
QIZ pmax pmax
comp=Z,860nm,5.3s
QIZ LR LR
comp=Z,1μm,8.8s
QIZ LR LR
comp=Z,2μm,15.8s
QIZ LR LR
comp=Z,2μm,11.7s
QIZ Qiongzhong 30.05 253 P **P** **06 10 07.3 -0.3**
QIZ Qiongzhong 30.05 253 IAMs_20 IAMs_20 06 19 20.5
comp=Z,2μm,19.0s
ULN Ulaanbaatar 30.10 313 P **P** **06 10 08.6 +0.6**
ULN Ulaanbaatar 30.10 313 IAMs_20 IAMs_20 06 22 55.3
comp=Z,3μm,18.0s
ULN Ulaanbaatar 30.10 313*ce*P **P** **06 10 08.3 +0.3**
ULN pmax pmax
comp=Z,16nm,1.3s
SONM Songino Array 30.50 312 P **P** **06 10 11.9 +0.4**
SONM Songino Array 30.50 312 P **P** **06 10 10.8 -0.7**
comp=Z,6.4nm,1.1s,baz=115,slow=9.2,SNR=23
SONM PcP **PcP** **06 13 11.0 +0.6**
comp=Z,2.4nm,1.1s,baz=131,slow=4.0,SNR=2.3
SONM S **S** **06 15 15.3 +2.8**
comp=Z,0.4nm,0.8s,baz=93,slow=12,SNR=1.4
SONM ScP **ScP** **06 16 54.7 +2.4**
comp=Z,0.3nm,0.3s,baz=120,slow=2.3,SNR=2.3
comp=Z,6.4nm,1.1s
SONM Songino Array 30.50 312 P **P** **06 10 11.9 +0.4**
SONM pmax pmax
comp=Z,21nm,1.4s
LZH Lanzhou 30.52 289 *e*P **P** **06 10 12.8 +1.0**
LZH sP sP 06 10 21.2 +3.4
LZH S **S** **06 15 11.9 -1.1**
LZH pmax pmax
comp=Z,51nm,1.2s
LZH pmax pmax
comp=Z,670nm,4.1s
LZH LR LR
comp=Z,3μm,11.9s
LZH LR LR
comp=Z,4μm,11.2s
LZH LR LR
comp=Z,5μm,12.4s
CD2 Chengdu 31.15 279 P **P** **06 10 16.6 -0.7**
CD2 sP pP 06 10 21.3 -0.3
CD2 pP sP 06 10 22.6 -0.7
CD2 S **S** **06 15 20.4 -2.3**
CD2 pmax pmax
comp=Z,60nm,1.4s
CD2 pmax pmax
comp=Z,270nm,4.2s
CD2 LR LR
comp=Z,6μm,11.1s
CD2 LR LR
comp=Z,5μm,13.5s
CD2 LR LR
comp=Z,6μm,12.8s
YAK Yakutsk 31.39 350 P **P** **06 10 18.8 -0.2**
YAK IAmb IAmb 06 10 29.8
comp=Z,42nm,1.1s
YAK Yakutsk 31.39 350 IAMs_20 IAMs_20 06 23 00.1
comp=Z,3μm,18.0s
YAK Yakutsk 31.39 350 *e*P **P** **06 10 18.7 -0.2**
YAK *e* 06 11 30.8
YAK *e*S **S** **06 15 23.8 -1.8**
YAK pmax pmax
comp=Z,31nm,1.1s
YAK pmax pmax
comp=N,26nm,1.3s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,125nm,3.0s
YAK pmax pmax
comp=N,109nm,3.1s
YAK pmax pmax
comp=E,55nm,3.5s
YAK smax smax
comp=N,539nm,5.3s
YAK smax smax
comp=E,1μm,5.8s
YAK MLR MLR
comp=Z,3μm,17.0s
YAK MLR MLR
comp=N,2μm,16.0s
BOD Bodaibo 31.95 333 *e*P **P** **06 10 22.8 -1.2**
BOD pmax pmax
comp=Z,30nm,1.8s
SEY Seymchan 32.48 10 LR LR 06 23 41.3
comp=Z,1μm,21.4s,baz=190,slow=36
SEY Seymchan 32.48 10 *e*P **P** **06 10 27.5 -1.0**
SEY pmax pmax
comp=Z,21nm,1.3s
SHEM Shemya Is, Ala 32.48 39 LR LR 06 20 48.3
comp=Z,812nm,20.6s,baz=264,slow=31
TNTI Ternate 32.83 204 P **P** **06 10 31.2 -0.8**
TNTI Ternate 32.83 204 P **P** **06 10 31.0 -1.1**
comp=Z,79nm,1.1s,comp=Z,2μm
SWI Sorong 33.22 197 P **P** **06 10 34.1 -1.3**
comp=Z,21nm,2.0s,comp=Z,1μm
SWI Sorong 33.22 197 P **P** **06 10 38.3 +2.9**
SWI pmax pmax
comp=Z,21nm,1.4s
ZAK Zakamensk 33.31 315 *e*P **P** **06 10 37.5 +1.4**
ZAK pmax pmax
comp=Z,8.0nm,1.7s
KMI Kunming 33.52 269 ⇓P **P** **06 10 39.9 +1.5**
KMI S **S** **06 16 00.0 -0.1**
KMI pmax pmax
comp=Z,510nm,6.3s
KMI LR LR
comp=Z,3μm,15.6s
KMI LR LR
comp=Z,1μm,15.8s
KMI LR LR
comp=Z,2μm,14.3s
GTA Gaotai 33.69 295 *e*P **P** **06 10 38.8 -0.8**
GTA pP pP 06 10 43.6 -0.3
GTA S **S** **06 16 00.7 -1.6**
GTA pmax pmax
comp=Z,9.0nm,1.2s
GTA LR LR
comp=Z,2μm,12.0s
GTA LR LR
comp=Z,3μm,16.7s
GTA LR LR
comp=Z,3μm,15.5s
PZH PanZhiHua 33.94 272 P **P** **06 10 43.5 +1.6**
PZH S **S** **06 16 04.3 -2.0**
PZH SS **SnSn** **06 18 11.8 -0.7**
PZH pmax pmax
comp=Z,40nm,1.3s
PZH pmax pmax
comp=Z,530nm,5.8s
PZH LR LR
comp=Z,2μm,14.1s
PZH LR LR
comp=Z,2μm,13.0s
PZH LR LR
comp=Z,1μm,12.5s
SLVN Son La 33.95 262 P **P** **06 10 41.6 -0.3**
SLVN IAmb IAmb 06 10 51.6
comp=Z,84nm,1.4s
SLVN IAMs_20 IAMs_20 06 26 12.7
comp=Z,2μm,18.0s
LBMI Labuha 34.10 203 P **P** **06 10 42.4 -0.7**
comp=Z,122nm,1.7s,comp=Z,2μm
KMSI Cibinong 34.33 210 P **P** **06 10 44.0 -1.1**
comp=Z,344nm,1.0s,comp=Z,4μm
GTOI Gorontalo 34.70 211 P **P** **06 10 45.7 -2.6**
comp=Z,33nm,1.4s,comp=Z,724nm
FAKI Fak Fak 34.98 194 IAMs_20 IAMs_20 06 21 49.2
comp=Z,5μm,20.0s
MOY Mondy 35.11 317 *e*P **P** **06 10 54.6 +2.9**
MRSI Marisa 35.32 213 P **P** **06 10 52.9 -0.8**
comp=Z,234nm,1.4s,comp=Z,4μm
TOLI2 Tolitoli 35.33 215 P **P** **06 10 52.8 -1.0**
UBPT Khong Chiam 35.56 251 P **P** **06 10 56.3 +0.5**
SANI Sanana 35.94 205 P **P** **06 10 57.3 -1.7**
comp=Z,52nm,0.7s,comp=Z,2μm
NLAI Namlea 36.67 202 P **P** **06 11 04.1 -1.1**
comp=Z,25nm,1.7s
MIDW Midway 36.74 84 IAMs_20 IAMs_20 06 21 57.0
comp=Z,2μm,21.0s
TNCH TengChong 37.16 271 P **P** **06 11 11.5 +1.9**
TNCH pP pP 06 11 14.5 +0.7
TNCH sP sP 06 11 16.9 +1.4
TNCH S **S** **06 16 57.1 +1.1**
TNCH SS **SnSn** **06 19 26.8 -3.9**
TNCH pmax pmax
comp=Z,86nm,0.7s
TNCH pmax pmax
comp=Z,430nm,4.2s
TNCH LR LR
comp=Z,3μm,10.0s
TNCH LR LR
comp=Z,1μm,8.5s
TNCH LR LR
comp=Z,2μm,14.1s
CRAI Chiangrai 37.41 262 P **P** **06 11 11.6 0.0**
GOMU GeErMu 37.80 290 P **P** **06 11 14.9 -0.3**
GOMU pP pP 06 11 19.3 -0.2
GOMU sP sP 06 11 22.4 +1.2
GOMU S **S** **06 16 57.8 -8.0**
GOMU pmax pmax
comp=Z,7.0nm,0.6s
GOMU LR LR
comp=Z,3μm,11.8s
GOMU LR LR
comp=Z,3μm,14.7s
GOMU LR LR
comp=Z,4μm,14.6s
PHRA Phrae 38.30 260 P **P** **06 11 18.8 -0.3**
SBUM Sibu 39.11 228 P **P** **06 11 25.3 -0.6**
CHTO Chiang Mai 39.24 261 IAMs_20 IAMs_20 06 29 35.8
comp=Z,2μm,18.0s
BKB Balikpapan 39.34 219 P **P** **06 11 26.7 -1.1**
BKB Balikpapan 39.34 219 P **P** **06 11 24.7 -3.1**
comp=Z,56nm,0.4s,comp=Z,3μm
CM31 Chiang Mai Arr 39.40 261 P **P** **06 11 28.6 +0.3**
CM31 IAmb IAmb 06 11 34.7
comp=Z,66nm,0.9s
CMAR Chiang Mai Arr 39.40 261 P **P** **06 11 28.1 -0.3**
comp=Z,18nm,0.9s,baz=55,slow=7.4,SNR=43
CMAR LR LR 06 29 38.4
comp=Z,1μm,18.2s,baz=85,slow=39
comp=Z,18nm,0.9s
CMAR Chiang Mai Arr 39.40 261 P **P** **06 11 28.2 -0.2**
TTSI Tana Toraja 39.41 213 P **P** **06 11 27.4 -0.9**
comp=Z,28nm,1.4s,comp=Z,994nm
BILL Bilibino 39.68 15 P **P** **06 11 31.0 +0.9**
BILL Bilibino 39.68 15⇑*e*P **P** **06 11 29.6 -0.5**
BILL pmax pmax
comp=Z,25nm,1.2s
TIXI Tiksi 40.76 354 P **P** **06 11 38.1 -0.9**
TIXI Tiksi 40.76 354 IAMs_20 IAMs_20 06 29 42.5
comp=Z,2μm,20.0s
TIXI Tiksi 40.76 354 LR LR 06 30 03.2
comp=Z,2μm,18.2s,baz=159,slow=38
TIXI Tiksi 40.76 354*ce*P **P** **06 11 38.0 -0.9**
TIXI pmax pmax
comp=Z,24nm,1.4s
KSM Kuching 41.08 229 P **P** **06 11 42.3 +0.1**
PMG Port Moresby 41.12 170 IAMs_20 IAMs_20 06 27 27.7
comp=Z,1μm,18.0s
PMG Port Moresby 41.12 170 LR LR 06 27 48.8
comp=Z,1μm,18.4s,baz=336,slow=35
KAPI Kappang 41.17 212 P **P** **06 11 43.6 +0.6**
KAPI Kappang 41.17 212 P **P** **06 11 43.6 +0.6**
KAPI pmax pmax
comp=Z,204nm,1.6s
BKSI Bulukumba 41.28 211 P **P** **06 11 44.1 +0.3**
comp=Z,24nm,1.1s,comp=Z,823nm
STKI Sintang 41.42 227 P **P** **06 11 45.2 +0.2**
comp=Z,62nm,1.1s,comp=Z,10μmcomp=Z,3μm
NIKH Nikolski High 42.33 44 P **P** **06 11 53.1 +1.0**
baz=260
SPIA Saint Paul Isl 42.48 38 P **P** **06 11 54.2 +0.9**
baz=254
P08K Saint George I 42.70 39 P **P** **06 11 56.2 +1.1**
baz=256
WMQ Urumqi 42.77 302 *e*P **P** **06 11 57.9 +2.0**
WMQ PP **PcP** **06 13 42.5 -4.7**
WMQ S S 06 18 28.9 +9.5
WMQ pmax pmax
comp=Z,33nm,2.1s
WMQ pmax pmax
comp=Z,460nm,3.7s
WMQ LR LR

comp=Z,2µm,17.1s
WMQ LR LR
comp=Z,2µm,11.5s
WMQ LR LR
comp=Z,770nm,16.1s
SOEI Soe 43.71 203 P **P** **06 12 03.1 -0.7**
SOEI Soe 43.71 203 P **P** **06 12 02.9 -0.8**
comp=Z,85nm,1.2s
EDFI Ende, Flores 43.72 207 P **P** **06 12 02.7 -1.1**
comp=Z,21nm,1.6s,comp=Z,950nm
UNV Unalaska Valle 43.86 43 P **P** **06 12 05.1 +0.7**
baz=261
GAMB Gambell 44.06 28 P **P** **06 12 07.0 +1.1**
baz=246
SRIT Nakonsritamara 44.08 248 P **P** **06 12 06.9 +0.3**
BATI Baumata 44.34 204 LR LR 06 28 20.6
comp=Z,1µm,20.4s,baz=32,slow=33
ZSN Zaisan 44.73 307 *e*P **P** **06 12 10.3 -1.3**
comp=Z,13nm,0.9s,baz=308
ZSN Zaisan 44.73 307 *e*P **P** **06 12 10.2 -1.3**
ZSN pmax pmax
comp=Z,13nm,0.9s
ZAA0 Zalesovo Array 45.17 317 P **P** **06 12 15.1 +0.2**
ZALV Zalesovo Beam 45.17 317 P **P** **06 12 15.4 +0.5**
ZALV Zalesovo Beam 45.17 317 P **P** **06 12 14.0 -0.9**
comp=Z,3.4nm,0.9s,baz=100,slow=7.5,SNR=10
ZALV PcP **PcP** **06 13 54.8 -0.3**
comp=Z,3.6nm,0.9s,baz=108,slow=3.2,SNR=4.9
ZALV LR LR 06 32 00.5
comp=Z,2µm,18.3s,baz=92,slow=37
comp=Z,3.4nm,0.9s
ZALV Zalesovo Beam 45.17 317 *i* P **P** **06 12 16.0 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
MYKOM **Kota Tinggi 45.27 237** P **P** **06 12 15.9 -0.2**
KULM Kulim 45.30 243 P **P** **06 12 16.0 -0.4**
M11K Mekoryuk 45.37 34 P **P** **06 12 17.5 +1.1**
baz=255
IPM Ipoh 45.54 242 P **P** **06 12 17.6 -0.7**
TWSI Taliwang, Sumb 45.77 213 P **P** **06 12 20.7 +0.6**
comp=Z,47nm,1.2s,comp=Z,1µm
FALS False Pass 45.79 42 P **P** **06 12 20.8 +1.0**
baz=263
TNA Tin City 46.25 27 P **P** **06 12 24.2 +1.0**
baz=248
K13K Kusilvak Mount 46.49 32 P **P** **06 12 26.0 +0.8**
baz=255
MK31 Makanchi Array 46.50 307 P **P** **06 12 24.3 -1.2**
MK31 Makanchi Array 46.50 307 *ce*P **P** **06 12 26.3 +0.7**
MKAR Makanchi Array 46.50 307 P **P** **06 12 24.3 -1.2**
MKAR Makanchi Array 46.50 307 P **P** **06 12 24.1 -1.4**
comp=Z,3.9nm,0.8s,baz=90,slow=9.2,SNR=18
MKAR PcP **PcP** **06 14 00.1 +0.2**
comp=Z,1.9nm,0.8s,baz=76,slow=6.1,SNR=1.8
MKAR LR LR 06 32 30.3
comp=Z,967nm,19.4s,baz=92,slow=37
comp=Z,3.9nm,0.8s
PPBI Pangkal Pinang 46.54 231 P **P** **06 12 26.6 +0.4**
S12K Black Hills 46.66 41 P **P** **06 12 27.5 +0.8**
baz=264
MAKZ Makanchi 46.71 307 P **P** **06 12 27.7 +0.5**
MAKZ IAMs_20 IAMs_20 06 32 45.8
comp=Z,971nm,18.0s
MAKZ Makanchi 46.71 307 P **P** **06 12 27.7 +0.5**
MAKZ pmax pmax
comp=Z,21nm,1.3s
MAKZ MLR MLR
comp=Z,1µm,18.0s
M13K Dall Lake 46.75 35 P **P** **06 12 28.1 +0.8**
baz=258
F14K Arctic Creek 46.84 27 P **P** **06 12 28.9 +1.0**
baz=250
ANM Nome 46.93 29 P **P** **06 12 29.6 +1.0**
baz=252
J14K Nanvaranak Lak 47.20 31 P **P** **06 12 31.5 +0.8**
baz=256
L14K Kuka Creek 47.27 33 P **P** **06 12 32.3 +1.0**
baz=258,SNR=8.2
N14K Kuskokwak Cree 47.47 35 P **P** **06 12 33.9 +1.0**
baz=260
M14K Bethel 47.49 34 P **P** **06 12 33.0 -0.1**
M14K Bethel 47.49 34 P **P** **06 12 34.0 +1.0**
baz=259
SDPT Sand Point 47.52 42 P **P** **06 12 34.2 +0.9**
baz=265
O14K Tigyukauivet M 47.57 36 P **P** **06 12 34.5 +0.8**
baz=261
F15K North Star Dit 47.58 27 P **P** **06 12 33.8 +0.1**
F15K North Star Dit 47.58 27 P **P** **06 12 34.9 +1.3**
baz=252,SNR=8.4
G15K Niukluk 47.60 28 P **P** **06 12 34.9 +1.0**
baz=253
SMRI Semarang 47.70 222 P **P** **06 12 34.5 -0.7**
PWJI Pagerwojo 47.74 220 P **P** **06 12 32.8 -2.7**
comp=Z,64nm,1.0s
SEM Semipalatinsk 47.78 312 *e*P **P** **06 12 34.6 -1.1**
baz=312
SEM Semipalatinsk 47.78 312 *e*P **P** **06 12 34.6 -1.1**
L15K Ungalak Mounta 47.90 33 P **P** **06 12 37.2 +1.0**
baz=259
K15K Wolf Creek Mou 48.01 32 P **P** **06 12 38.2 +1.2**
baz=258
M15K Kasigluk River 48.10 35 P **P** **06 12 38.2 +0.4**
baz=260
S14K Fog Glacier 48.12 41 P **P** **06 12 38.4 +0.3**
baz=265
C16K Lisburne Hills 48.19 24 P **P** **06 12 38.2 -0.1**
C16K Lisburne Hills 48.19 24 P **P** **06 12 39.8 +1.5**
baz=249
H16K Elim 48.24 29 P **P** **06 12 40.1 +1.3**
baz=255
O15K Ungalikthiuk R 48.29 37 P **P** **06 12 40.1 +0.8**
baz=262,SNR=5.9
N15K Kwethluk River 48.30 35 P **P** **06 12 41.2 +1.8**
N15K Kwethluk River 48.30 35 P **P** **06 12 40.2 +0.8**
baz=261
UGM Wanagama 48.36 221 P **P** **06 12 41.8 +1.4**
G16K Koyuk River 48.40 28 P **P** **06 12 40.3 +0.3**
baz=254
KCSI Kotacane, Aceh 48.63 244 P **P** **06 12 41.1 -1.4**
comp=Z,35nm,0.8s,comp=Z,2µm
J16K Anvik River 48.63 31 P **P** **06 12 42.7 +0.9**
baz=258
I17K Unalakleet 48.72 30 P **P** **06 12 43.6 +1.1**
baz=257
CHGN Chignik 48.75 41 P **P** **06 12 43.8 +0.9**
baz=266
D17K Noatak River 48.79 25 P **P** **06 12 44.2 +1.2**
baz=252
SHLS Shalkode 48.80 302 *e*P **P** **06 12 40.5 -3.1**
comp=Z,12nm,1.1s,baz=302
SHLS Shalkode 48.80 302 *e*P **P** **06 12 40.5 -3.1**
SHLS pmax pmax
comp=Z,12nm,1.1s
KPJI Karang Pucung 48.80 223 P **P** **06 12 42.0 -1.7**
comp=Z,71nm,1.4s
KURK Kurchatov 48.81 312 P **P** **06 12 43.3 -0.1**
KURK IAmb IAmb 06 12 45.2
comp=Z,24nm,1.0s
KURK Kurchatov 48.81 312 *i* P **P** **06 12 40.8 -2.6**
KURK pmax pmax
comp=Z,31nm,1.1s
L16K Owhat River 48.85 33 P **P** **06 12 43.6 0.0**
L16K IAmb IAmb 06 12 50.5
comp=Z,37nm,1.2s
L16K Owhat River 48.85 33 P **P** **06 12 44.4 +0.9**
baz=260
KURBB **Kurchatov Array 48.87 312** P **P** **06 12 42.0 -1.9**
comp=Z,8.2nm,0.9s,baz=89,slow=8.2,SNR=26
KURBB PcP **PcP** **06 14 08.3 0.0**
comp=Z,0.6nm,0.3s,baz=87,slow=7.1,SNR=1.0
KURBB LR LR 06 32 20.0
comp=Z,1µm,18.5s,baz=100,slow=35
comp=Z,8.2nm,0.9s
RDOG Red Dog Mine 48.97 25 P **P** **06 12 44.8 +0.4**
RDOG IAmb IAmb 06 12 57.4
comp=Z,50nm,1.1s
RDOG Red Dog Mine 48.97 25 P **P** **06 12 45.8 +1.4**
baz=252
M16K Timber Creek 48.98 34 P **P** **06 12 46.2 +1.6**
M16K IAmb IAmb 06 12 57.7
comp=Z,33nm,1.2s
M16K Timber Creek 48.98 34 P **P** **06 12 46.2 +1.6**
baz=262
N16K Nishlik Lake 49.00 35 P **P** **06 12 46.5 +1.7**
baz=262,SNR=14
C17K DeLong Mountai 49.01 24 P **P** **06 12 46.3 +1.6**
baz=251
E17K Hotham Inlet 49.07 26 P **P** **06 12 45.7 +0.5**
baz=254,SNR=10
G17K Kiwalik Mounta 49.11 28 P **P** **06 12 45.7 +0.2**
baz=256
F17K Baldwin Pennin 49.12 27 P **P** **06 12 47.6 +2.1**
F17K IAmb IAmb 06 12 54.6
comp=Z,26nm,0.7s
F17K Baldwin Pennin 49.12 27 P **P** **06 12 45.9 +0.4**
baz=255
UZB Uzynbulak 49.12 302 *e*P **P** **06 12 45.3 -0.8**
baz=302
UZB Uzynbulak 49.12 302 *e*P **P** **06 12 45.3 -0.8**
LEM Lembang 49.18 225 P **P** **06 12 46.0 -0.8**
comp=Z,32nm,0.5s,baz=27,slow=9.4,SNR=10
LEM LR LR 06 32 06.7
comp=Z,507nm,20.5s,baz=70,slow=34
comp=Z,32nm,0.5s
P16K Nushagak River 49.22 37 P **P** **06 12 47.1 +0.8**
baz=264
MLSI Meulaboh, Aceh 49.22 246 P **P** **06 12 46.7 -0.3**
comp=Z,41nm,0.6s
O16K Kokwok River B 49.22 36 P **P** **06 12 47.2 +0.7**
baz=264,SNR=7.8
H17K Granite Mounta 49.28 29 P **P** **06 12 47.9 +1.0**
baz=257,SNR=6.5
R16K Pilot Point 49.30 39 P **P** **06 12 47.5 +0.5**
baz=266
J17K VABM Dome 49.33 31 P **P** **06 12 47.8 +0.6**
J17K IAmb IAmb 06 13 00.6
comp=Z,31nm,0.9s
J17K VABM Dome 49.33 31 P **P** **06 12 47.9 +0.7**
baz=259
TDK Taldyqorghan 49.33 304 *e*P **P** **06 12 47.5 0.0**
baz=304
TDK Taldyqorghan 49.33 304 *e*P **P** **06 12 47.5 0.0**
L17K Donlin 49.47 33 P **P** **06 12 49.5 +1.3**
baz=261,SNR=7.7
ZHN Zhinishke 49.54 302 *e*P **P** **06 12 48.5 -0.9**
comp=Z,13nm,1.0s,baz=302
ZHN Zhinishke 49.54 302 *e*P **P** **06 12 48.4 -0.9**
ZHN pmax pmax
comp=Z,13nm,1.0s
K17K Iditarod 49.56 32 P **P** **06 12 50.4 +1.4**
K17K Iditarod 49.56 32 P **P** **06 12 49.7 +0.7**
baz=261,SNR=14
SATY Saty 49.58 302 *e*P **P** **06 12 48.6 -0.9**
baz=302
SATY Saty 49.58 302 *e*P **P** **06 12 48.6 -0.9**
E18K Tukpahlearik C 49.62 26 P **P** **06 12 50.6 +1.3**
E18K IAmb IAmb 06 12 56.8
comp=Z,61nm,1.4s
E18K Tukpahlearik C 49.62 26 P **P** **06 12 50.7 +1.3**
baz=254,SNR=11
O17K Koliganek Bris 49.75 36 P **P** **06 12 51.7 +1.3**
baz=264
C18K Utukok River 49.76 24 P **P** **06 12 51.7 +1.2**
C18K IAmb IAmb 06 13 05.7
comp=Z,56nm,1.2s
C18K Utukok River 49.76 24 P **P** **06 12 51.7 +1.2**
baz=253,SNR=9.0
M17K Holitna River 49.77 34 P **P** **06 12 51.6 +1.0**
M17K Holitna River 49.77 34 P **P** **06 12 51.0 +0.4**
baz=263
B18K Kokolik River 49.77 23 P **P** **06 12 51.0 +0.5**
baz=252
F18K Selawik 49.77 27 P **P** **06 12 51.3 +0.8**
baz=256,SNR=20
N17K Nushagak Hills 49.78 35 P **P** **06 12 51.3 +0.6**
N17K IAmb IAmb 06 12 58.4
comp=Z,52nm,1.2s
N17K Nushagak Hills 49.78 35 P **P** **06 12 51.1 +0.4**
baz=264,SNR=7.4
Q16K King Salmon 49.88 38 P **P** **06 12 52.7 +1.3**
baz=266
H18K Honhosa River 49.97 29 P **P** **06 12 53.1 +1.0**
H18K IAmb IAmb 06 12 58.9
comp=Z,42nm,1.4s
H18K Honhosa River 49.97 29 P **P** **06 12 53.1 +1.0**
baz=259
G18K Tagagawik 50.01 28 P **P** **06 12 53.6 +1.2**
G18K IAmb IAmb 06 12 59.2
comp=Z,85nm,1.4s
G18K Tagagawik 50.01 28 P **P** **06 12 53.6 +1.2**
baz=258,SNR=25
P17K Kvichak River 50.03 37 P **P** **06 12 53.0 +0.5**
baz=265
GSI Gunungsitoli 50.20 242 P **P** **06 12 53.9 -0.6**
GSI Gunungsitoli 50.20 242 P **P** **06 12 53.2 -1.3**
TARG Taragay, Kyrgy 50.22 300 P **P** **06 12 55.4 +0.6**
TARG Taragay, Kyrgy 50.22 300 P **P** **06 12 55.4 +0.6**
TARG pmax pmax
comp=Z,11nm,1.0s
L18K Granite Mounta 50.23 33 P **P** **06 12 54.8 +0.7**
baz=263,SNR=14
Q17K Contact Creek 50.25 38 P **P** **06 12 55.0 +0.6**
baz=267
A19K Wainwright 50.27 22 P **P** **06 12 56.2 +1.9**
baz=252
CHIR Chirikof Islan 50.30 41 P **P** **06 12 55.6 +1.0**
baz=269
J18K Innoko River 50.39 31 P **P** **06 12 56.6 +1.3**
J18K Innoko River 50.39 31 P **P** **06 12 56.2 +1.0**
baz=262
N18K Kilae Creek 50.43 35 P **P** **06 12 57.2 +1.5**
baz=265
C19K Lookout Ridge 50.45 24 P **P** **06 12 57.3 +1.6**
C19K Lookout Ridge 50.45 24 P **P** **06 12 56.6 +1.0**
baz=254,SNR=16
CHKK Chushkaly 50.49 303 *e*P **P** **06 12 55.5 -0.8**
baz=303
CHKK Chushkaly 50.49 303 *e*P **P** **06 12 55.5 -0.8**
GCSA Galena City Sc 50.52 30 P **P** **06 12 56.4 +0.2**
baz=260
MDOK Medeo 50.55 302 *e*P **P** **06 12 56.5 -0.5**
baz=302
MDOK Medeo 50.55 302 *e*P **P** **06 12 56.4 -0.5**
M18K Stony River 50.55 34 P **P** **06 12 57.3 +0.8**
baz=264,SNR=10.0
F19K Shaleruckik Mo 50.55 27 P **P** **06 12 57.6 +1.1**
F19K IAmb IAmb 06 13 03.0
comp=Z,83nm,1.9s
F19K Shaleruckik Mo 50.55 27 P **P** **06 12 56.9 +0.5**
baz=258,SNR=9.1
AAA Alma-Ata 50.63 302 *e*P **P** **06 12 57.0 -0.5**
baz=302
AAA Alma-Ata 50.63 302 *e*P **P** **06 12 57.0 -0.5**
TNSS Tian-Shan 50.64 302 *e*P **P** **06 12 57.2 -0.7**
baz=302
TNSS Tian-Shan 50.64 302 *e*P **P** **06 12 57.2 -0.7**
P18K Big Mountain, 50.66 37 P **P** **06 12 58.9 +1.5**
P18K IAmb IAmb 06 13 04.3
comp=Z,72nm,1.4s
P18K Big Mountain, 50.66 37 P **P** **06 12 58.1 +0.6**
baz=266
G19K Purcell Mounta 50.69 28 P **P** **06 12 58.8 +1.4**
G19K IAmb IAmb 06 14 28.6
comp=Z,38nm,1.4s
G19K Purcell Mounta 50.69 28 P **P** **06 12 58.3 +0.9**
baz=259,SNR=7.0
O18K Koktuh Hills 50.70 36 P **P** **06 12 58.4 +0.7**
baz=266
D19K Kuna River 50.81 25 P **P** **06 13 00.0 +1.7**
D19K IAmb IAmb 06 13 05.3
comp=Z,62nm,1.4s
D19K Kuna River 50.81 25 P **P** **06 12 59.4 +1.0**
baz=256,SNR=8.0
H19K Roundabout Mou 50.83 29 P **P** **06 13 00.1 +1.5**
H19K IAmb IAmb 06 13 05.6
comp=Z,63nm,1.4s
H19K Roundabout Mou 50.83 29 P **P** **06 12 59.3 +0.8**
baz=260,SNR=24
E19K Redstone River 50.90 26 P **P** **06 13 00.7 +1.7**
E19K IAmb IAmb 06 13 20.2
comp=Z,36nm,1.0s
E19K Redstone River 50.90 26 P **P** **06 12 59.4 +0.4**
baz=258,SNR=24
J19K Poorman 50.94 31 P **P** **06 13 00.5 +1.1**
J19K IAmb IAmb 06 13 06.2
comp=Z,50nm,1.4s
J19K Poorman 50.94 31 P **P** **06 13 00.4 +0.9**
baz=262,SNR=17
L19K White Mountain 51.08 33 P **P** **06 13 01.7 +1.2**
baz=264,SNR=14
SII Sitkinak Islan 51.11 40 P **P** **06 13 01.2 +0.4**
baz=270
N19K Bonanza Creek 51.13 35 P **P** **06 13 02.5 +1.4**
baz=266
N19K Bonanza Creek 51.13 35 P **P** **06 13 01.0 0.0**
baz=266
O19K Port Alsworth 51.17 36 P **P** **06 13 01.3 +0.2**
baz=266
M19K Big River Lodg 51.27 33 IAmb IAmb 06 13 08.5
comp=Z,41nm,1.4s
M19K Big River Lodg 51.27 33 P **P** **06 13 01.8 -0.2**
baz=265
WRAB Tennant Creek 51.37 187 *i* P **P** **06 13 01.6 -1.5**
WRAB pmax pmax
comp=Z,29nm,1.5s
WRA Warramunga Arr 51.38 187 P **P** **06 13 00.9 -2.3**
comp=Z,10nm,0.9s,baz=4.9,slow=7.6,SNR=23
WRA PcP **PcP** **06 14 19.4 +1.6**
comp=Z,2.9nm,0.9s,baz=3.0,slow=4.1,SNR=2.0
comp=Z,10nm,0.9s
F20K Avaraart Lake 51.39 27 P **P** **06 13 04.1 +1.4**
F20K Avaraart Lake 51.39 27 P **P** **06 13 03.7 +1.0**
baz=260,SNR=12
D20K Etivluk River 51.39 25 P **P** **06 13 03.5 +0.7**
baz=258,SNR=29
E20K Nigu River 51.45 25 P **P** **06 13 03.9 +0.6**
baz=258,SNR=16
Q19K Cape Douglas, 51.45 37 P **P** **06 13 03.8 +0.4**
baz=268
H20K Anotleneega Mo 51.47 29 P **P** **06 13 04.6 +1.2**
baz=262,SNR=13
B20K Meade River 51.51 23 P **P** **06 13 04.5 +0.9**
B20K IAmb IAmb 06 13 10.6
comp=Z,64nm,1.4s
B20K Meade River 51.51 23 P **P** **06 13 04.8 +1.3**
baz=256,SNR=13
CTAO Charters Tower 51.53 173 IAMs_20 IAMs_20 06 32 05.4
comp=Z,891nm,20.0s
I20K Naaghedeneel 51.54 30 P **P** **06 13 04.6 +0.7**
baz=263
K20K Telida 51.55 32 P **P** **06 13 04.9 +0.8**
K20K IAmb IAmb 06 13 19.1
comp=Z,30nm,0.9s
K20K Telida 51.55 32 P **P** **06 13 04.8 +0.8**
baz=264,SNR=26
L20K Farewell, AK 51.56 33 P **P** **06 13 05.0 +0.9**
baz=265,SNR=11
OHAK Old Harbor 51.61 40 P **P** **06 13 05.2 +0.7**
baz=270
J20K Nowinta River 51.61 31 P **P** **06 13 05.4 +1.0**
J20K IAmb IAmb 06 13 11.7
comp=Z,76nm,1.4s
J20K Nowinta River 51.61 31 P **P** **06 13 05.4 +1.0**
baz=263,SNR=20
P19K Oil Pt 51.69 36 P **P** **06 13 05.8 +0.6**
baz=268
M20K Styx River 51.86 34 P **P** **06 13 08.0 +1.6**
M20K Styx River 51.86 34 P **P** **06 13 07.3 +0.8**
baz=266
KDAK Kodiak Island 51.99 39 P **P** **06 13 08.0 +0.7**
KDAK IAmb IAmb 06 13 13.6
comp=Z,78nm,1.4s
KDAK Kodiak Island 51.99 39 P **P** **06 13 08.0 +0.7**
baz=270
KDAK Kodiak Island 51.99 39 LR LR 06 32 05.7
comp=Z,481nm,21.4s,baz=277,slow=32
KDAK Kodiak Island 51.99 39 P **P** **06 13 08.0 +0.7**
KDAK pmax pmax
comp=Z,78nm,1.4s
KSH Kashi 52.00 298 P **P** **06 13 11.2 +3.3**
KSH pP sP 06 13 18.0 +4.0
KSH pmax pmax
comp=Z,7.0nm,1.3s
KSH LR LR
comp=Z,2µm,14.9s
KSH LR LR
comp=Z,2µm,16.0s
KSH LR LR
comp=Z,2µm,14.3s
IMAR Indian Mountai 52.00 28 P **P** **06 13 08.9 +1.5**
A21K Barrow 52.01 21 P **P** **06 13 08.9 +1.6**
baz=255
O20K Slope Mountain 52.01 36 P **P** **06 13 08.2 +0.6**
baz=268
Q20K Shuyak Island 52.10 38 P **P** **06 13 08.0 -0.1**
baz=269
C21K Knifeblade Rid 52.13 24 P **P** **06 13 09.2 +1.0**
baz=259
G21K Allakaket 52.17 28 P **P** **06 13 09.2 +0.6**
G21K Allakaket 52.17 28 P **P** **06 13 10.4 +1.8**
baz=262,SNR=15
SGDS Sogindy 52.24 303 *e*P **P** **06 13 09.2 -0.4**
baz=303
SGDS Sogindy 52.24 303 *e*P **P** **06 13 09.1 -0.4**
B21K Ikpikpuk River 52.28 24 P **P** **06 13 10.8 +1.5**
B21K IAmb IAmb 06 13 22.4
comp=Z,38nm,1.1s
B21K Ikpikpuk River 52.28 24 P **P** **06 13 10.3 +1.0**
baz=259,SNR=21
F21K Alatna River 52.28 27 P **P** **06 13 10.7 +1.2**
F21K Alatna River 52.28 27 P **P** **06 13 10.7 +1.2**
baz=262
E21K Killik River 52.29 25 P **P** **06 13 10.2 +0.7**
baz=260
H21K Melozitna Rive 52.35 29 P **P** **06 13 11.0 +1.1**
H21K IAmb IAmb 06 13 17.1
comp=Z,54nm,1.3s
H21K Melozitna Rive 52.35 29 P **P** **06 13 11.1 +1.2**
baz=264,SNR=34
PPLA Purkeypile 52.37 32 P **P** **06 13 11.0 +0.8**
baz=266,SNR=5.5
CHUM Lake Minchumin 52.38 31 P **P** **06 13 11.7 +1.5**
baz=265
BTLS Baital 52.39 305 *e*P **P** **06 13 09.7 -0.9**
baz=305
BTLS Baital 52.39 305 *e*P **P** **06 13 09.7 -0.9**
CAST Castle Rocks 52.45 32 P **P** **06 13 12.3 +1.6**
CAST IAmb IAmb 06 13 18.0
comp=Z,61nm,1.4s
CAST Castle Rocks 52.45 32 P **P** **06 13 11.6 +0.9**
baz=258,SNR=17
A22K Sinclair Lake 52.45 22 P **P** **06 13 11.9 +1.3**
baz=257,SNR=24
AAK Ala-Archa 52.48 302 P **P** **06 13 12.1 +0.6**
AAK Ala-Archa 52.48 302 *ce*P **P** **06 13 12.6 +1.1**
AAK pmax pmax
comp=Z,10.0nm,1.7s
HOM Homer 52.50 36 P **P** **06 13 12.5 +1.5**
baz=269
SKT Skwentna 52.62 33 P **P** **06 13 12.3 +0.3**
SKT IAmb IAmb 06 13 18.9
comp=Z,33nm,1.2s
SKT Skwentna 52.62 33 P **P** **06 13 13.5 +1.4**
baz=268,SNR=6.3
BRZS Berezniki 52.66 311 *e*P **P** **06 13 11.7 -0.8**
baz=311
BRZS Berezniki 52.66 311 *e*P **P** **06 13 11.6 -0.8**
CAPN Captain Cook N 52.76 35 P **P** **06 13 14.1 +1.1**
baz=269
F22K John River 52.82 27 P **P** **06 13 14.9 +1.5**
baz=263
B22K Teshekpuk Lake 52.82 23 P **P** **06 13 14.8 +1.5**
B22K Teshekpuk Lake 52.82 23 P **P** **06 13 14.9 +1.5**
baz=259,SNR=14
D22K Ayikyak River 52.83 25 IAMs_20 IAMs_20 06 33 24.0
comp=Z,921nm,21.0s
D22K Ayikyak River 52.83 25 P **P** **06 13 14.9 +1.5**
baz=261
BRSE Bradley Lake S 52.96 36 P **P** **06 13 15.4 +0.9**
baz=270
H22K Ishtalitna Cre 52.96 29 P **P** **06 13 15.9 +1.5**
baz=265,SNR=24
SUA Susitna One 52.98 34 IAmb IAmb 06 13 23.8
comp=Z,26nm,0.8s
SUA Susitna One 52.98 34 P **P** **06 13 14.7 0.0**
baz=269
BPAW Bear Paw Mtn. 52.98 31 P **P** **06 13 15.8 +1.2**
BPAW Bear Paw Mtn. 52.98 31 P **P** **06 13 15.9 +1.2**
baz=266,SNR=8.6
G22K Bettles 53.01 27 P **P** **06 13 15.5 +0.7**
baz=264
E22K Anaktuvuk Pass 53.04 26 P **P** **06 13 16.6 +1.5**
baz=263
MLY Manley 53.15 30 P **P** **06 13 17.2 +1.3**
MLY IAmb IAmb 06 13 23.1
comp=Z,36nm,1.2s
MLY Manley 53.15 30 P **P** **06 13 17.1 +1.2**
baz=266,SNR=20
CUT Chulitna 53.23 33 P **P** **06 13 17.4 +1.0**
baz=268
TRF Thorofare Moun 53.26 32 P **P** **06 13 17.0 +0.2**

baz=268
M22K Willow 53.28 34 P P 06 13 17.8 +0.9
M22K IAmb IAmb 06 13 29.5
comp=Z,51nm,1.1s
M22K Willow 53.28 34 P P 06 13 17.5 +0.7
baz=269
RC01 Rabbit Creek A 53.46 35 P P 06 13 18.4 +0.2
baz=270
O22K Cooper Landing 53.47 35 P P 06 13 18.3 +0.1
baz=270
COLD Coldfoot 53.55 27 P P 06 13 19.6 +0.8
baz=265
D23K Nanushuk River 53.56 25 P P 06 13 20.0 +1.2
baz=263
G23K Bananza Creek 53.58 28 P P
G23K Bananza Creek 53.58 28 P P 06 13 20.4 +1.4
baz=265,SNR=20
SEW Seward 53.60 36 P P 06 13 20.7 +1.5
baz=271
C23K Itkillik River 53.69 24 P P 06 13 20.7 +0.9
C23K Itkillik River 53.69 24 P P 06 13 21.0 +1.3
baz=262,SNR=18
H23K Yukon River 53.70 29 P P 06 13 21.3 +1.3
H23K IAmb IAmb 06 13 26.7
comp=Z,51nm,1.6s
H23K Yukon River 53.70 29 P P 06 13 21.2 +1.2
baz=266,SNR=13
I23K Minto, Yukon-K 53.74 30 P P 06 13 21.6 +1.4
I23K IAmb IAmb 06 13 27.3
comp=Z,47nm,1.4s
I23K Minto, Yukon-K 53.74 30 P P 06 13 21.3 +1.2
baz=267,SNR=19
PMR Palmer 53.75 34 P P 06 13 20.9 +0.6
baz=270,SNR=8.2
BVAR Borovoye Array 53.77 315 P P 06 13 19.0 -1.6
comp=Z,3.8nm,0.9s,baz=91,slow=8.6,SNR=15
BVAR PcP **PcP 06 14 26.9 +0.5**
comp=Z,2.0nm,0.7s,baz=95,slow=7.8,SNR=3.9
BVAR LR LR 06 39 18.4
comp=Z,841nm,18.2s,baz=79,slow=40
comp=Z,3.8nm,0.9s
BRVK Borovoye 53.83 315 P P 06 13 21.9 +0.9
BRVK Borovoye 53.83 315 *ce*P **P 06 13 22.7 +1.7**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
NEA2 Nenana 53.84 30 P P 06 13 22.1 +1.2
NEA2 IAmb IAmb 06 13 28.4
comp=Z,52nm,1.0s
NEA2 Nenana 53.84 30 P P 06 13 21.6 +0.7
baz=268,SNR=30
E23K Chandalar 53.85 26 P P 06 13 21.7 +0.7
baz=265
GHO Glory Hole Cre 53.85 34 P P 06 13 21.9 +0.8
MCK McKinley 53.87 31 P P 06 13 21.9 +0.7
baz=269,SNR=18
RND Reindeer 53.90 32 P P 06 13 21.9 +0.4
RND Reindeer 53.90 32 P P 06 13 21.9 +0.4
RND pmax pmax
comp=Z,92nm,1.7s
TOLK Toolik Lake Re 53.92 25 P P 06 13 22.5 +1.0
TOLK IAmb IAmb 06 13 35.2
comp=Z,47nm,1.4s
TOLK Toolik Lake Re 53.92 25 P P 06 13 22.5 +1.0
baz=264,SNR=15
WAT1 Susitna Watana 54.03 32 P P 06 13 23.2 +0.8
baz=270
KNK Knik Glacier 54.08 34 P P 06 13 23.6 +0.8
baz=271
SML Sawmill 54.13 34 P P 06 13 25.2 +2.0
SML IAmb IAmb 06 13 33.6
comp=Z,36nm,1.0s
SML Sawmill 54.13 34 P P 06 13 24.3 +1.1
baz=270,SNR=13
SML Sawmill 54.13 34 P P 06 13 25.2 +2.0
SML pmax pmax
comp=Z,36nm,1.0s
MDM Murphy Dome 54.21 30 P P 06 13 24.9 +1.2
D24K Happy Valley 54.24 25 IAmb IAmb 06 13 36.8
comp=Z,35nm,0.9s
D24K Happy Valley 54.24 25 P P 06 13 25.3 +1.5
baz=265
E24K Your Creek 54.27 26 P P 06 13 25.4 +1.3
baz=266,SNR=17
C24K Franklin Bluff 54.34 24 P P 06 13 25.4 +1.0
baz=264
COLA College 54.37 30 P P 06 13 26.0 +1.2
baz=269
COLA College 54.37 30 P P 06 13 24.0 -0.8
COLA pmax pmax
comp=Z,32nm,1.6s
H24K Noodor Dome 54.39 29 P P 06 13 26.5 +1.5
baz=268,SNR=13
WAT6 Susitna Watana 54.40 33 P P 06 13 26.6 +1.3
baz=270,SNR=12
M23K Glacier View 54.42 34 P P 06 13 26.1 +0.9
baz=271
F24K Squaw Lake 54.47 27 P P 06 13 26.4 +0.9
baz=267,SNR=16
POKR Poker Plat Res 54.56 30 P P 06 13 26.5 +0.3
baz=269
DHY Denali Highway 54.57 32 P P 06 13 26.7 +0.2
baz=270
G24K Hadweenzic Riv 54.59 28 IAmb IAmb 06 13 39.7
comp=Z,46nm,1.4s
G24K Hadweenzic Riv 54.59 28 P P 06 13 27.7 +1.3
baz=268,SNR=11
SCM Sheep Creek Mo 54.61 34 P P 06 13 28.7 +2.0
SCM IAmb IAmb 06 13 36.1
comp=Z,32nm,0.9s
SCM Sheep Creek Mo 54.61 34 P P 06 13 27.0 +0.3
baz=271,SNR=9.9
SCM Sheep Creek Mo 54.61 34 P P 06 13 28.7 +2.0
SCM pmax pmax
comp=Z,32nm,0.9s
P23K Montague Islan 54.63 36 P P 06 13 26.3 -0.5
baz=273
DZA Taraz 54.72 303 *eP* **P 06 13 27.4 -0.4**
baz=303
DZA Taraz 54.72 303 *eP* **P 06 13 27.3 -0.4**
GLI Glacier Island 54.75 35 P P 06 13 26.3 -1.3
baz=272
HDA Harding Lake 54.76 31 P P 06 13 28.4 +0.8
HDA IAmb IAmb 06 13 33.3
comp=Z,42nm,1.2s
HDA Harding Lake 54.76 31 P P 06 13 27.1 -0.5
baz=270,SNR=22
IL31 54.78 30 P P 06 13 28.9 +1.2
IL31 IAmb IAmb 06 13 33.5
comp=Z,40nm,1.4s
ILAR Eielson Array 54.78 30 P P 06 13 28.9 +1.1
ILAR Eielson Array 54.78 30 P P 06 13 28.4 +0.6
comp=Z,4.8nm,1.0s,baz=276,slow=5.5,SNR=30
ILAR LR LR 06 37 43.8
comp=Z,204nm,21.4s,baz=270,slow=37
comp=Z,4.8nm,1.0s
ILAR Eielson Array 54.78 30 P P 06 13 28.9 +1.1
AS31 Alice Springs 55.10 187 P P 06 13 30.1 -0.4
ASAR Alice Springs 55.11 187 P P 06 13 30.3 -0.3
ASAR Alice Springs 55.11 187 P P 06 13 28.5 -2.1
comp=Z,3.2nm,1.0s,baz=3.0,slow=7.1,SNR=17
ASAR PcP **PcP 06 14 30.5 -1.3**
comp=Z,1.5nm,1.0s,baz=8.6,slow=6.8,SNR=1.3
ASAR LR LR 06 36 09.1
comp=Z,1μm,20.2s,baz=348,slow=35
comp=Z,3.2nm,1.0s
ASAR Alice Springs 55.11 187 P P 06 13 30.3 -0.3
D25K Kavik River 55.12 25 IAmb IAmb 06 13 40.8
comp=Z,67nm,1.9s
D25K Kavik River 55.12 25 P P 06 13 29.5 -0.8
baz=267,SNR=17
G25K Bearman Lake 55.13 28 P P 06 13 29.9 -0.3
baz=269,SNR=12
M24K Tolsona, Glenn 55.15 33 P P 06 13 30.0 -0.5
baz=272
Q23K Middleton Isla 55.20 37 P P 06 13 30.8 0.0
baz=274
H25L Birch Creek 55.24 28 P P 06 13 31.0 0.0
baz=270
KK31 Karatay Array 55.26 303 P P 06 13 30.2 -1.4
KK31 Karatay Array 55.26 303 P P 06 13 30.2 -1.4
KK31 pmax pmax
comp=Z,26nm,1.4s
KKAR Karatay Array 55.26 303 P P 06 13 30.2 -1.4
KKAR Karatay Array 55.26 303 P P 06 13 30.2 -1.4
KKAR pmax pmax
comp=Z,26nm,1.4s
K24K Donnelly Dome 55.27 31 P P 06 13 31.1 -0.3
baz=271
KLU Klutina 55.29 34 P P 06 13 31.7 +0.1
baz=273
F25K Christian Rive 55.33 27 P P 06 13 32.6 +0.8
baz=269,SNR=20
PRP Porcupine Dome 55.36 29 P P 06 13 32.6 +0.4
baz=270
E25K Arctic Village 55.37 26 P P 06 13 33.2 +1.2
baz=269,SNR=20
EYAK Cordova Ski Ar 55.43 35 P P 06 13 34.0 +1.6
baz=274
J25K Salcha River, 55.44 30 P P 06 13 33.3 +0.7
baz=271
PAX Paxson 55.44 32 P P 06 13 33.1 +0.5
baz=272,SNR=6.1
HARP HAARP 55.61 33 P P 06 13 34.9 +1.1
baz=273
C26K Camden Bay 55.66 24 P P 06 13 35.2 +1.2
baz=268,SNR=15
BMAR Burnt Mountain 55.74 27 P P 06 13 35.8 +1.1
BRLS Boroldav 55.76 303 *eP* **P 06 13 35.9 +0.6**
baz=303
BRLS Boroldav 55.76 303 *eP* **P 06 13 35.8 +0.6**
IUG luzhnay 55.82 302 *eP* **P 06 13 35.4 -0.3**
comp=Z,14nm,1.1s,baz=302
IUG luzhnay 55.82 302 *eP* **P 06 13 35.4 -0.3**
IUG pmax pmax
comp=Z,14nm,1.1s
MBWA Marble Bar 55.86 203 P P 06 13 35.5 -0.4
MBWA IAmb IAmb 06 13 38.5
comp=Z,29nm,1.2s
F26K Sheenjek River 55.90 27 P P 06 13 36.1 +0.2
baz=270,SNR=33
N25K Chitina, Valde 55.92 34 P 06 13 36.8 +0.7
N25K IAmb IAmb 06 13 46.9
comp=Z,98nm,2.0s
N25K Chitina, Valde 55.92 34 P P 06 13 36.5 +0.4
baz=274
BMRM Bremner River 55.96 35 P P 06 13 37.0 +0.6
baz=274,SNR=8.7
G26K Porcupine Rive 56.05 27 P P 06 13 37.8 +0.9
baz=271,SNR=17
SCRK Sand Creek 56.06 31 IAmb IAmb 06 13 43.4
comp=Z,32nm,1.1s
SCRK Sand Creek 56.06 31 P P 06 13 37.6 +0.4
baz=273,SNR=17
C27K Jack River 56.07 24 P P 06 13 37.4 +0.4
baz=269,SNR=14
KAIM Kayak Island 56.14 36 P P 06 13 39.0 +1.4
baz=275
J26L Joseph Creek 56.22 30 P P 06 13 39.1 +0.8
J26L IAmb IAmb 06 13 44.0
comp=Z,43nm,1.4s
J26L Joseph Creek 56.22 30 P P 06 13 39.4 +1.2
baz=273,SNR=24
MENT Mentasta 56.24 32 IAmb IAmb 06 13 51.8
comp=Z,20nm,0.8s
GLB Gilahina Butte 56.31 34 P P 06 13 40.1 +1.3
I26K Coal Creek Min 56.36 29 P P 06 13 40.5 +1.4
baz=273
GAR Garm 56.39 298 IAmb IAmb 06 13 58.0
comp=Z,22nm,1.0s
L26K Log Cabin Wild 56.40 32 P P 06 13 40.6 +1.1
baz=274,SNR=7.6
M26K Nabesna, AK 56.61 33 P P 06 13 41.7 +0.6
baz=275,SNR=13
MCARA McCarthy VSAT 56.69 34 P P 06 13 43.2 +1.7
baz=275,SNR=7.9
E27K Coleen River 56.86 26 P P 06 13 43.6 +0.9
baz=272,SNR=22
G27K Doyon Strip 56.90 28 P P 06 13 44.2 +1.2
baz=273,SNR=6.4
K27K Chicken 56.90 31 IAmb IAmb 06 13 49.9
comp=Z,38nm,1.4s
K27K Chicken 56.90 31 P P 06 13 44.4 +1.4
baz=274
H27K Steamboat Moun 56.98 28 P P 06 13 44.9 +1.3
baz=274,SNR=26
I27K Kandik River 56.98 29 P P 06 13 44.7 +1.1
baz=274
D27M Malcolm River 57.05 25 P P 06 13 45.5 +1.4
baz=272
L27K Beaver Creek, 57.09 32 IAmb IAmb 06 13 51.5
comp=Z,48nm,1.6s
L27K Beaver Creek, 57.09 32 P P 06 13 45.3 +0.9
baz=275,SNR=14
BCAR Beaver Creek A 57.11 32 P P 06 13 45.9 +1.4
M27K Edge Creek, AK 57.13 33 P P 06 13 45.6 +0.7
baz=276,SNR=7.8
EGAK Eagle 57.24 30 P P 06 13 45.4 0.0
baz=275
MESA MESA 57.34 35 P P 06 13 47.5 +1.1
MESA MESA 57.34 35 P P 06 13 47.2 +0.8
baz=277
CHGR Chuyangaron 57.35 298 P P 06 13 46.5 -0.2
CHGR IAmb IAmb 06 14 04.7
comp=Z,37nm,1.0s
CHGR Chuyangaron 57.35 298 P P 06 13 46.5 -0.2
CHGR pmax pmax
comp=Z,37nm,1.0s
SIMJ Simiganj 57.47 298 P P 06 13 46.8 -0.8
F28M Old Crow 57.54 27 IAmb IAmb 06 14 02.5
comp=Z,47nm,1.4s
F28M Old Crow 57.54 27 P P 06 13 47.7 +0.2
baz=274,SNR=16
CTG Chitna Glacier 57.55 34 P P 06 13 47.9 +0.1
baz=277
E28M Babbage River 57.60 25 IAMs_20 IAMs_20 06 38 42.0
comp=Z,722nm,22.0s
E28M Babbage River 57.60 25 P P 06 13 48.5 +0.7
baz=274,SNR=24
I28M Miner Creek 57.69 29 IAmb IAmb 06 14 04.0
comp=Z,18nm,0.8s
I28M Miner Creek 57.69 29 P P 06 13 50.2 +1.5
baz=275,SNR=16
D28M Stokes Point 57.84 24 P P 06 13 50.6 +1.2
baz=274,SNR=10
YUK3 Moose Creek 57.87 33 P P 06 13 50.9 +0.8
baz=277,SNR=15
DAWY Dawson 58.07 31 IAmb IAmb 06 13 58.2
comp=Z,48nm,1.7s
O28M Mount Upton 58.13 35 P P 06 13 52.8 +0.7
baz=278
E29M Blow River 58.22 26 IAmb IAmb 06 14 01.4
comp=Z,30nm,1.1s
E29M IAMs_20 IAMs_20 06 39 22.4
comp=Z,836nm,21.0s
E29M Blow River 58.22 26 P P 06 13 53.3 +1.2
baz=275,SNR=28
H29M Whitestone 58.26 28 IAmb IAmb 06 14 15.9
comp=Z,29nm,1.1s
H29M Whitestone 58.26 28 P P 06 13 53.7 +1.3
baz=276,SNR=11
YUK8 Steele Glacier 58.26 34 P P 06 13 53.4 +0.5
baz=278,SNR=5.2
G29M Pine Creek 58.32 27 P P 06 13 53.7 +0.8
baz=276,SNR=18
J29N Klondike Camp 58.53 30 IAMs_20 IAMs_20 06 40 09.0
comp=Z,680nm,20.0s
J29N Klondike Camp 58.53 30 P P 06 13 55.5 +1.0
baz=278,SNR=5.2
KBL Kabul 58.67 294 P P 06 13 55.2 -0.9
KBL Kabul 58.67 294 P P 06 13 55.2 -0.9
KBL pmax pmax
comp=Z,7.0nm,0.8s
PNL Peninsula 58.69 36 P P 06 13 56.7 +1.0
baz=280
M29M Somme Creek 58.70 33 IAmb IAmb 06 14 12.4
comp=Z,16nm,0.8s
M29M Somme Creek 58.70 33 P P 06 13 57.1 +1.3
baz=279
L29M L29M 58.76 32 IAmb IAmb 06 14 04.5
comp=Z,43nm,1.1s
L29M L29M 58.76 32 P P 06 13 57.0 +1.0
baz=278,SNR=15
YUK4 Talbot Arm 58.78 34 P P 06 13 57.5 +1.0
baz=279,SNR=15
DZM Mont Dzumac 58.81 151 P P 06 13 58.1 +1.2
DZM IAmb IAmb 06 14 02.1
comp=Z,28nm,1.2s
DZM Mont Dzumac 58.81 151 LR LR 06 36 26.3
comp=Z,1μm,21.6s,baz=14,slow=33
SVE Sverdlovsk 58.81 321 *eP* **P 06 13 57.7 +1.2**
SVE *eS* **S 06 22 02.3 +1.2**
SVE pmax pmax
comp=Z,16nm,1.2s
SVE MLR MLR
comp=Z,1μm,15.0s
EPYK Eagle Plains 58.90 28 P P 06 13 57.4 +0.4
baz=278,SNR=31
K29M Barlow Dome 58.92 31 P P 06 13 57.9 +0.6
baz=279,SNR=10
YUK6 Outpost Mounta 58.99 34 P P 06 13 58.7 +0.8
baz=280
G30M tAoh Zraii Nji 59.01 27 P P 06 13 58.0 +0.2
baz=276,SNR=35
F30M Barrier River 59.10 26 P P 06 13 58.2 -0.1
baz=278,SNR=17
I30M Mount Dempster 59.20 29 IAmb IAmb 06 14 15.7
comp=Z,22nm,0.9s
I30M Mount Dempster 59.20 29 P P 06 13 59.3 +0.1
baz=279,SNR=21
J30M Hart River 59.32 30 P P 06 14 00.4 +0.3
baz=279,SNR=5.9
HYT Haines Junctio 59.42 34 P P 06 14 02.4 +1.5
HYT IAmb IAmb 06 14 11.3
comp=Z,24nm,1.0s
HYT Haines Junctio 59.42 34 P P 06 14 01.4 +0.6
baz=280
N30M Aishikik Lake 59.51 34 P P 06 14 01.3 0.0
baz=280
P29M Windy Craggy 59.52 36 P P 06 14 01.0 -0.4
baz=281
G31M Satah River 59.78 27 IAmb IAmb 06 14 15.3
comp=Z,19nm,0.9s
G31M Satah River 59.78 27 P P 06 14 03.1 +0.1
baz=280,SNR=21
P30M Million Dollar 59.82 35 P P 06 14 03.4 -0.1
baz=281
INK Inuvik 59.84 25 P P 06 14 03.7 +0.3
baz=279,SNR=14
INK Inuvik 59.84 25 LR LR 06 41 09.2
comp=Z,477nm,22.0s,baz=314,slow=37
H31M Peel River 59.94 28 P P 06 14 05.3 +1.0
baz=280,SNR=16
ARU Arti 60.01 321 P P 06 14 04.6 -0.1
ARU IAmb IAmb 06 14 17.3
comp=Z,26nm,1.4s
ARU Arti 60.01 321 LR LR 06 43 25.1
comp=Z,995nm,18.2s,baz=68,slow=40
ARU Arti 60.01 321 *d i*P **P 06 14 06.5 +1.7**
ARU 06 14 48.5
ARU 06 16 20.3
ARU S **S 06 22 25.2 +8.5**
ARU SS **SS 06 26 19.7 +6.9**
ARU pmax pmax
comp=Z,18nm,1.3s
ARU MLR MLR
comp=Z,872nm,17.0s
ARU Arti 60.01 321 P P 06 14 06.0 +1.2
comp=Z,12nm,1.6s,comp=Z,518nm
O30N Mendenhall 60.11 34 P P 06 14 04.7 -0.8
baz=282
N31M Braeburn, Yuko 60.12 33 P P 06 14 05.1 -0.3
baz=281
PLBC Pleasant Camp 60.24 36 P P 06 14 05.7 -0.6
baz=282
PALK Pallekele 60.33 260 LR LR 06 41 54.0
comp=Z,544nm,19.2s,baz=177,slow=38
M31M Drury Creek, Y 60.62 32 IAmb IAmb 06 14 24.4
comp=Z,14nm,0.8s
M31M Drury Creek, Y 60.62 32 P P 06 14 08.4 -0.5
baz=282,SNR=14
S31K Pelican 60.63 37 P P 06 14 06.5 -2.5
baz=283
WHY Whitehorse 60.72 34 IAmb IAmb 06 14 14.7
comp=Z,62nm,1.7s
WHY Whitehorse 60.72 34 P P 06 14 07.3 -2.4
baz=283,SNR=6.2
SKAG Skagway 60.76 36 P P 06 14 08.7 -1.1
baz=283
R31K City Hall, Gus 60.79 37 P P 06 14 08.5 -1.5
baz=283
MSVF Nonsavu 60.86 138 *i* P **P 06 14 11.2 +0.1**
MSVF pmax pmax
comp=Z,51nm,1.8s
ABKAR Akbulak array 60.92 312 P P 06 14 09.6 -1.5
ABKAR IAmb IAmb 06 14 13.7
comp=Z,24nm,1.1s
FARO Faro, Yukon 61.09 32 P P 06 14 13.6 +1.5
FARO Faro, Yukon 61.09 32 P P 06 14 11.7 -0.4
baz=283,SNR=11
SIT Sitka 61.32 38 P P 06 14 13.4 -0.3
baz=284
R32K Eaglecrest 61.45 37 P P 06 14 14.2 -0.3
baz=284
N32M Quiet Lake 61.46 33 IAmb IAmb 06 14 30.1
comp=Z,13nm,0.8s
N32M Quiet Lake 61.46 33 P P 06 14 14.3 -0.4
baz=284
P32M Atlin 61.53 35 P P 06 14 15.6 +0.4
baz=284
S32K Killisnoo 61.62 38 P P 06 14 15.4 -0.2
baz=284
AKTO Aktyubinsk 61.80 314 LR LR 06 40 52.0
comp=Z,358nm,21.2s,baz=64,slow=36
P33M Teslin, Yukon 61.81 34 P P 06 14 17.5 +0.4
baz=284
A36M Sachs Harbour 61.83 21 IAmb IAmb 06 14 26.3
comp=Z,28nm,0.9s
A36M Sachs Harbour 61.83 21 P P 06 14 16.9 0.0
baz=285,SNR=21
T33K Petersburg 62.64 38 P P 06 14 22.5 0.0
baz=286
U33K Whale Pass 62.75 39 P P 06 14 22.4 -0.8
baz=286
CRAG Craig 62.93 40 P P 06 14 23.9 -0.6
baz=287
R33M Jennings River 62.93 35 P P 06 14 24.0 -0.7
baz=286
C36M Paulatuk 62.94 23 P P 06 14 23.8 -0.5
baz=287,SNR=25
STKA Stephens Creek 62.96 179 P P 06 14 24.4 -0.5
comp=Z,2.5nm,0.8s,baz=0.0,slow=16,SNR=3.1
STKA LR LR 06 40 30.0
comp=Z,1μm,21.5s,baz=357,slow=35
comp=Z,2.5nm,0.8s
WRAK Wrangell Islan 63.07 39 P P 06 14 24.4 -1.1
baz=287
S34M Telegraph Cree 63.28 37 P P 06 14 26.4 -0.3
baz=287
TGTN Hyland Airport 63.59 32 P P 06 14 29.3 +0.4
baz=288,SNR=6.1
DLBC Dease Lake 63.68 36 P P 06 14 29.4 -0.2
baz=288
DLBC Dease Lake 63.68 36 LR LR 06 40 48.7
comp=Z,119nm,21.7s,baz=279,slow=35
WTLY Watson Lake, Y 63.77 34 P P 06 14 29.6 -0.5
baz=288
V35K Ketchikan 63.79 40 IAMs_20 IAMs_20 06 37 41.7
comp=Z,513nm,18.0s
V35K Ketchikan 63.79 40 P P 06 14 29.9 -0.3
baz=288
T35M Bob Quinn 64.01 38 IAmb IAmb 06 14 45.5
comp=Z,55nm,1.6s
T35M Bob Quinn 64.01 38 P P 06 14 31.6 -0.1
baz=288
KIRV Kirov 64.20 324 LR LR 06 43 18.1
comp=Z,519nm,20.7s,baz=66,slow=37
KIRV Kirov 64.20 324 *ce*P **P 06 14 32.0 -0.8**
U35K Hyder 64.47 39 IAMs_20 IAMs_20 06 37 55.4
comp=Z,591nm,20.0s
U35K Hyder 64.47 39 P P 06 14 34.7 +0.1
baz=289
WRGLY Wrigley 65.16 30 IAmb IAmb 06 14 46.4
comp=Z,29nm,1.1s
WRGLY Wrigley 65.16 30 P P 06 14 39.0 0.0
baz=291,SNR=13
LIRD Liard River Hi 65.30 34 P P 06 14 39.8 -0.2
baz=290
GEYT Alibeck 65.80 301 LR LR 06 43 01.3
comp=Z,467nm,21.8s,baz=59,slow=36
SPITS Spitsbergen Ar 65.84 349 LR LR 06 45 53.7
comp=Z,656nm,19.5s,baz=15,slow=38
TOAD Toad River Com 65.91 35 P P 06 14 43.3 -0.7
baz=291
KOTAN Kotaneelee Air 66.01 33 P P 06 14 43.8 -0.8
baz=292
KBS Kingsbay 66.02 350 IAMs_20 IAMs_20 06 43 45.3
comp=Z,816nm,20.0s
NOR Nord 66.59 356 *i* P **P 06 14 50.7 +2.7**
NOR IAmb IAmb 06 15 11.3
comp=Z,2.1nm,0.9s
BBB Bella Bella 66.81 42 LR LR 06 43 32.6
comp=Z,190nm,19.0s,baz=245,slow=36
LVZ Lovozero 66.86 337 P P 06 14 50.5 +0.6

LVZ Lovozero 66.86 337 *ce* P **P** **06 14 50.5 +0.6**
LVZ pmax pmax
comp=Z,118nm,2.5s
LVZ Lovozero 66.86 337 P **P** **06 14 49.8 -0.1**
comp=Z,44nm,1.5s
BELG Belogornoye 67.31 318 LR LR 06 44 05.4
comp=Z,300nm,18.4s,baz=57,slow=36
BELG Belogornoye 67.31 318 *i* P **P** **06 14 51.5 -1.5**
BELG pmax pmax
comp=Z,10.0nm,1.4s
APA Apatity 67.43 337 *i* P **P** **06 14 52.9 -0.6**
APA *i* S **S** **06 23 40.0 -8.6**
APA *i* 06 24 10.0
APA pmax pmax
comp=Z,24nm,1.1s
NWAO Narrogin (SRO) 67.59 201 LR LR 06 43 56.5
comp=Z,570nm,20.1s,baz=32,slow=36
KLMR Klimovskoe 68.02 329 *e* P **P** **06 14 56.4 -0.9**
KLMR *e* 06 17 27.6
KLMR pmax pmax
comp=Z,37nm,1.7s
RES Resolute Bay 68.27 14 IAmb IAmb 06 15 08.2
comp=Z,26nm,1.2s
RES Resolute Bay 68.27 14 LR LR 06 46 02.1
comp=Z,296nm,21.1s,baz=350,slow=37
KEV Kevo 68.36 340 P **P** **06 15 00.0 +0.7**
KEV Kevo 68.36 340 P **P** **06 15 00.0 +0.7**
KEV pmax pmax
comp=Z,76nm,1.3s
KEV MLR MLR
comp=Z,3µm,21.0s
ARCES ARCESS Array B 68.92 340 P **P** **06 15 03.0 +0.1**
ARCES ARCESS Array B 68.92 340 P **P** **06 15 02.6 -0.3**
comp=Z,15nm,0.9s,baz=57,slow=6.7,SNR=14
ARCES LR LR 06 48 34.7
comp=Z,2µm,21.3s,baz=76,slow=39
comp=Z,15nm,0.9s
ARCES ARCESS Array B 68.92 340 P **P** **06 15 03.0 +0.1**
ARCES pmax pmax
comp=Z,58nm,1.2s
YKA Yellowknife Ar 69.16 29 P **P** **06 15 05.0 +0.6**
YKA Yellowknife Ar 69.16 29 P **P** **06 15 04.9 +0.5**
comp=Z,4.7nm,1.0s,baz=298,slow=6.2,SNR=30
YKA LR LR 06 50 09.0
comp=Z,82nm,19.8s,baz=285,slow=40
comp=Z,4.7nm,1.0s
YKA Yellowknife Ar 69.16 29 *i* P **P** **06 15 05.0 +0.6**
YKA pmax pmax
comp=Z,5.0nm,1.0s
JOF Joensuu 70.48 333 *e* P **P** **06 15 13.5 +1.0**
PGC Sidney 70.97 44 P **P** **06 15 15.5 -0.2**
PGC IAmb IAmb 06 15 30.0
comp=Z,51nm,1.6s
VRH Novokhopyorsk 71.14 319 *e* P **P** **06 15 15.0 -1.7**
VRH pmax pmax
comp=Z,22nm,1.6s
NEEM North Greenlan 71.17 3 *i* P **P** **06 15 18.7 +1.7**
NEEM IAmb IAmb 06 15 27.8
comp=Z,9.2nm,0.8s
MAK Makhachkala 71.22 309 *e* P **P** **06 15 14.0 -3.4**
MAK *e* 06 17 50.6
MAK *e*PPP PPP 06 19 32.1
MAK *e*S **S** **06 24 31.1 -2.9**
MAK *e*SS **SS** **06 29 05.0 -2.3**
MAK pmax pmax
comp=Z,146nm,1.5s
MAK MLR MLR
comp=Z,2µm,15.0s
MOS Moscow 71.22 324 *e* P **P** **06 15 14.6 -2.5**
MOS *e* 06 15 40.1
MOS *e*S **S** **06 24 29.5 -4.1**
MOS MLR MLR
comp=Z,3µm,15.0s
DAG Danmarks Havn 71.28 355 P **P** **06 15 19.1 +1.9**
DAG Danmarks Havn 71.28 355 *i* P **P** **06 15 20.3 +3.1**
DAG IAmb IAmb 06 15 26.3
comp=Z,11nm,0.9s
LPSR Galich'ya Gora 72.03 321 *e* P **P** **06 15 20.5 -1.6**
LPSR pmax pmax
comp=Z,50nm,1.3s
OBN Obninsk 72.05 324 LR LR 06 48 13.7
comp=Z,611nm,19.3s,baz=40,slow=37
OBN Obninsk 72.05 324 *e* P **P** **06 15 21.4 -0.7**
OBN *i* *PP **pP** **06 15 24.3 -2.4**
OBN *e**SP **sP** **06 15 28.2 -0.1**
OBN *i* 06 15 47.2
OBN 06 18 02.0
OBN *i* S **S** **06 24 34.4 -8.8**
OBN pmax pmax
comp=Z,37nm,1.3s
OBN MLR MLR
comp=Z,2µm,14.0s
GROC Groznyy 72.23 310 *e* P **P** **06 15 21.6 -1.9**
GROC *e* 06 15 39.1
GROC *e* 06 18 01.5
GROC *e*S **S** **06 24 43.9 -1.9**
GROC pmax pmax
comp=Z,30nm,1.1s
RAO Raoul Island 72.26 142 LR LR 06 42 17.1
comp=Z,347nm,18.7s,baz=320,slow=32
VORR Voronezh 72.32 320 *e* P **P** **06 15 23.5 -0.3**
VORR pmax pmax
comp=Z,27nm,1.3s
VSR Storozhevoye 72.56 320 *e* P **P** **06 15 23.6 -1.7**
VSR pmax pmax
comp=Z,30nm,1.2s
COR Corvallis 72.88 48 IAMs_20 IAMs_20 06 45 57.8
comp=Z,466nm,18.0s
GOF Gofitskoye 73.16 313 *ce* P **P** **06 15 29.9 +0.9**
FINES FINESS Array B 73.35 333 P **P** **06 15 30.1 +0.4**
FINES FINESS Array B 73.35 333 P **P** **06 15 28.9 -0.8**
comp=Z,10.0nm,1.0s,baz=42,slow=4.3,SNR=29
FINES LR LR 06 51 03.2
comp=Z,926nm,18.9s,baz=40,slow=39
comp=Z,10.0nm,1.0s
FINES FINESS Array B 73.35 333 *i* P **P** **06 15 29.1 -0.7**
FINES pmax pmax
comp=Z,10.0nm,1.0s
KEF Keuruu 73.39 334 *e* P **P** **06 15 30.9 +0.9**
NCK Nalchik 73.53 311 *i* P **P** **06 15 31.0 -0.2**
NCK pmax pmax
comp=Z,14nm,0.4s
H04A Detroit Lake 73.54 48 IAmb IAmb 06 15 44.4
comp=Z,56nm,1.5s
VAF Ylistaro 73.67 335 *e* P **P** **06 15 33.4 +1.8**
KBZ Khabaz 73.87 312 P **P** **06 15 32.5 -0.7**
comp=Z,18nm,1.0s,baz=59,slow=4.6,SNR=28
KBZ LR LR 06 50 47.3
comp=Z,560nm,18.1s,baz=60,slow=38
comp=Z,18nm,1.0s
KIV Kislovodsk 73.90 312 P **P** **06 15 33.2 -0.3**
KIV IAmb IAmb 06 15 37.1
comp=Z,57nm,1.2s
KIV Kislovodsk 73.90 312 *e* P **P** **06 15 34.0 +0.5**
KIV *e*S **S** **06 25 07.0 +2.1**
KIV pmax pmax
comp=Z,47nm,3.5s
KIV pmax pmax
comp=Z,36nm,1.0s
KIV MLR MLR
comp=Z,565nm,18.0s
KIV Kislovodsk 73.90 312 P **P** **06 15 33.8 +0.3**
comp=Z,29nm,1.2s,comp=Z,545nm
SHA1 Shidzhatmaz 74.02 312 *ce* P **P** **06 15 33.6 -0.8**
JCC Jacoby Creek, 74.15 52 IAMs_20 IAMs_20 06 39 20.7
comp=Z,489nm,20.0s
GNI Garni 74.33 308 P **P** **06 15 35.4 -0.8**
GNI IAmb IAmb 06 15 41.2
comp=Z,68nm,1.6s
GNI Garni 74.33 308 *ce* P **P** **06 15 35.7 -0.5**
GNI pmax pmax
comp=Z,52nm,1.7s
GNI Garni 74.33 308 P **P** **06 15 37.4 +1.2**
comp=Z,26nm,1.7s,comp=Z,585nm
ERBR Yeremizino-Bor 74.43 314 *e* P **P** **06 15 37.3 +0.9**
ERBR MLR MLR
comp=Z,750nm,13.0s
ARBE Arbavere 74.56 331 *e* P **P** **06 15 37.7 +0.8**
YBH Yreka Blue Hor 74.59 50 LR LR 06 47 01.4
comp=Z,241nm,18.6s,baz=302,slow=35
MEF Metsahovi 74.74 332 *e* P **P** **06 15 38.8 +0.9**
LABN Labinsk 74.81 313 *e* P **P** **06 15 39.0 +0.4**
LABN pmax pmax
comp=Z,27nm,0.5s
LABN MLR MLR
comp=Z,986nm,14.0s
J05D Fort Rock, OR 74.81 48 P **P** **06 15 41.3 +2.4**
J05D IAmb IAmb 06 15 53.3
comp=Z,69nm,1.6s
VSU Vasula 74.82 330 *ce* P **P** **06 15 36.6 -1.8**
VSU pmax pmax
comp=Z,30nm,1.0s
NEW Newport 74.86 42 P **P** **06 15 38.4 -0.5**
baz=300
NEW Newport 74.86 42 LR LR 06 52 43.1
comp=Z,115nm,18.0s,baz=302,slow=39
NEW Newport 74.86 42 P **P** **06 15 42.7 +3.7**
G08A Pilot Rock 75.26 46 IAmb IAmb 06 15 54.5
comp=Z,51nm,1.8s
RAF Rauma 75.26 334 *e* P **P** **06 15 41.9 +1.0**
UPNV Upernavik 75.47 5 *i* P **P** **06 15 42.6 +0.7**
UPNV IAmb IAmb 06 15 51.0
comp=Z,5.5nm,0.7s
JMIC Jan Mayen 75.50 350 LR LR 06 51 09.1
comp=Z,250nm,20.0s,baz=46,slow=38
HOPS Hopland Field 75.66 53 IAMs_20 IAMs_20 06 48 41.8
comp=Z,871nm,22.0s
VSLR Vesyoloye 75.82 312 *i* P **P** **06 15 45.2 +0.7**
MTSE Matsula 75.89 331 *e* P **P** **06 15 45.3 +0.7**
SOC Sochi 75.96 313 *e* P **P** **06 15 42.5 -2.8**
SOC *e* 06 18 32.6
SOC *e*PPP PPP 06 20 18.1
SOC *e*S **S** **06 25 25.6 -2.1**
SOC *e*SS **SS** **06 30 18.2 -1.3**
SOC pmax pmax
comp=Z,6.0nm,0.4s
SOC MLR MLR
comp=Z,726nm,17.0s
TOZ Tahuroa Road 76.26 152 IAMs_20 IAMs_20 06 45 05.9
comp=Z,889nm,21.0s
SUMG Summit 76.29 360 IAmb IAmb 06 15 59.7
comp=Z,42nm,1.2s
SUMG IAMs_20 IAMs_20 06 51 05.6
comp=Z,716nm,20.0s
SUMG Summit 76.29 360 P **P** **06 15 49.4 +2.3**
SUMG Summit 76.29 360 *i* P **P** **06 15 48.2 +1.1**
SUMG IAmb IAmb 06 15 57.4
comp=Z,10.0nm,0.9s
ORV Oroville 76.45 52 IAMs_20 IAMs_20 06 49 25.7
comp=Z,567nm,18.0s
BMO Blue Mountains 76.49 46 IAmb IAmb 06 15 55.6
comp=Z,30nm,1.4s
J08A Circle Bar Ran 76.53 47 IAmb IAmb 06 16 02.1
comp=Z,34nm,1.3s
MNK Minsk 76.62 326 *i* P **P** **06 15 46.2 -2.6**
MNK *i* 06 18 38.3
MNK *i*PPP PPP 06 20 36.9
MNK *i*S **S** **06 25 36.0 +1.5**
MNK *i*SSS SSS 06 33 45.1
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=E,9.0nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=N,821nm,15.0s
MNK MLR MLR
comp=E,492nm,18.0s
MNK MLR MLR
comp=Z,1µm,16.0s
ANN Anapa 76.76 315 *e* P **P** **06 15 46.9 -2.8**
ANN *e**PP **pP** **06 15 50.4 -3.9**
ANN *e*S **S** **06 25 33.5 -2.8**
ANN pmax pmax
comp=Z,35nm,1.0s
ISAL Salakas 76.80 328 *e* P **P** **06 15 50.5 +0.7**
WVOR Wild Horse Val 76.89 48 IAmb IAmb 06 16 04.1
comp=Z,59nm,1.6s
WVOR Wild Horse Val 76.89 48 P **P** **06 15 53.0 +2.2**
GURO Guroymak-BITLI 76.94 307 IAmb IAmb 06 16 07.8
comp=Z,12nm,0.5s
AFDM Forest Hills D 77.11 52 IAmb IAmb 06 16 04.8
comp=Z,33nm,1.6s
SLIT Slitere, Latvi 77.20 331 *e* P **P** **06 15 53.5 +1.5**
URZ Urewera 77.36 151 LR LR 06 45 32.0
comp=Z,513nm,21.9s,baz=30,slow=32
MSO Missoula 77.45 43 IAmb IAmb 06 16 06.1
comp=Z,31nm,1.6s
MSO Missoula 77.45 43 P **P** **06 15 53.5 -0.4**
baz=303
MPK Martis Peak 77.57 52 P **P** **06 15 56.0 +1.2**
MPK IAmb IAmb 06 16 08.0
comp=Z,44nm,1.4s
UPP Uppsala 77.58 334 *e* P **P** **06 15 56.0 +2.0**
SCO Scoresbysund 77.59 354 *i* P **P** **06 15 56.6 +2.7**
SCO IAmb IAmb 06 16 07.4
comp=Z,9.0nm,0.9s
RTZ Ruatahuna 77.61 151 IAMs_20 IAMs_20 06 44 43.9
comp=Z,931nm,22.0s
PABE Paberze 77.81 329 IAmb IAmb 06 15 59.0
comp=Z,44nm,1.2s
PABE Paberze 77.81 329 *e* P **P** **06 15 56.9 +1.5**
SAO San Andreas Ge 77.87 54 IAMs_20 IAMs_20 06 53 15.5
comp=Z,466nm,20.0s
CMB Columbia Colle 77.96 53 IAmb IAmb 06 16 09.8
comp=Z,26nm,1.1s
CMB IAMs_20 IAMs_20 06 42 57.8
comp=Z,535nm,22.0s
AK03 Malin Array Si 78.15 323 P **P** **06 15 58.4 +1.0**
AKASG Malin Array Be 78.16 323 P **P** **06 15 56.2 -1.3**
AKASG Malin Array Be 78.16 323 P **P** **06 15 56.1 -1.3**
comp=Z,10nm,1.0s,baz=50,slow=5.8,SNR=24
AKASG LR LR 06 55 16.2
comp=Z,790nm,19.0s,baz=48,slow=40
comp=Z,10nm,1.0s
AKASG Malin Array Be 78.16 323 P **P** **06 15 56.2 -1.3**
AKASG pmax pmax
comp=Z,19nm,1.3s
AKBB Malin Array Si 78.16 323 P **P** **06 15 56.3 -1.2**
AKBB IAmb IAmb 06 15 59.8
comp=Z,28nm,1.1s
AKBB Malin Array Si 78.16 323 *i* P **P** **06 15 57.8 +0.3**
AKBB pmax pmax
comp=Z,35nm,1.2s
AKBB Malin Array Si 78.16 323 P **P** **06 15 57.0 -0.5**
AK01 Malin Array Si 78.17 323 P **P** **06 15 55.5 -2.1**
KIEV Kiev 78.18 323 P **P** **06 15 56.3 -1.3**
KIEV IAmb IAmb 06 15 59.7
comp=Z,28nm,1.1s
KIEV Kiev 78.18 323 IAMs_20 IAMs_20 06 48 18.4
comp=Z,671nm,21.0s
KIEV Kiev 78.18 323 P **P** **06 15 56.3 -1.3**
KIEV pmax pmax
comp=Z,28nm,1.2s
KIEV Kiev 78.18 323 P **P** **06 15 56.2 -1.3**
comp=Z,87nm,1.3s
AK23 Malin Array Si 78.18 323 P **P** **06 15 57.4 -0.2**
AK04 Malin Array Si 78.18 323 P **P** **06 15 56.8 -0.8**
AK08 Malin Array Si 78.19 323 P **P** **06 15 57.4 -0.2**
AK11 Malin Array Si 78.21 323 P **P** **06 15 56.4 -1.3**
AK22 Malin Array Si 78.21 323 P **P** **06 15 56.7 -1.1**
AK10 Malin Array Si 78.21 323 P **P** **06 15 56.7 -1.1**
AK21 Malin Array Si 78.21 323 P **P** **06 15 56.2 -1.6**
AK15 Malin Array Si 78.22 323 P **P** **06 15 57.0 -0.8**
AK05 Malin Array Si 78.22 323 P **P** **06 15 56.8 -1.1**
AK05 IAmb IAmb 06 16 00.7
comp=Z,22nm,1.1s
AK05 Malin Array Si 78.22 323 P **P** **06 15 56.0 -1.8**
AK18 Malin Array Si 78.23 323 P **P** **06 15 56.7 -1.2**
AK12 Malin Array Si 78.23 323 P **P** **06 15 56.3 -1.6**
YERR Yerington 78.25 52 IAmb IAmb 06 16 11.6
comp=Z,33nm,1.3s
AK07 Malin Array Si 78.26 323 P **P** **06 15 56.0 -2.1**
AK19 Malin Array Si 78.26 323 P **P** **06 15 56.5 -1.6**
AK14 Malin Array Si 78.27 323 P **P** **06 15 56.8 -1.3**
MI30 MI30,Zelenitsa 78.67 323 P **P** **06 16 00.5 +0.2**
SIM Simferopol' 78.67 316 *e* P **P** **06 16 02.0 +1.5**
SIM pmax pmax
comp=Z,19nm,0.9s
NC303 NORSAR Array S 78.80 337 IAmb IAmb 06 16 06.6
comp=Z,77nm,1.6s
HFS Hagfors 78.81 336 P **P** **06 16 00.1 -0.8**
comp=Z,5.6nm,0.8s,baz=43,slow=8.9,SNR=10
HFS LR LR 06 55 03.0
comp=Z,1µm,18.6s,baz=26,slow=39
comp=Z,5.6nm,0.8s
MI28 Mi28,Pidlybu 78.83 323 P **P** **06 16 00.8 -0.4**
HLID Hailey 78.94 46 P **P** **06 16 01.5 -0.7**
baz=303
NB201 NORSAR Array S 78.96 337 IAmb IAmb 06 16 08.5
comp=Z,44nm,1.2s
FFC Flin Flon 78.96 32 P **P** **06 16 02.7 +0.9**
FFC Flin Flon 78.96 32 P **P** **06 16 02.7 +0.9**
FFC pmax pmax
comp=Z,15nm,1.0s
NC204 NORSAR Array S 78.96 338 IAmb IAmb 06 16 05.1
comp=Z,53nm,1.2s
KVN Kaiserville 78.98 51 IAmb IAmb 06 16 15.6
comp=Z,32nm,1.5s
NB2 NORSAR Subarra 78.99 337 P **P** **06 16 01.2 -0.8**
comp=Z,94nm,1.7s,baz=43,slow=5.3
NB2 NORSAR Subarra 78.99 337 P **P** **06 16 01.2 -0.8**
baz=43,slow=5.3
NOA NORSAR Array B 78.99 337 P **P** **06 16 01.1 -0.9**
comp=Z,16nm,1.2s,baz=47,slow=5.2,SNR=10
NOA LR LR 06 54 35.2
comp=Z,1µm,20.3s,baz=40,slow=38
comp=Z,16nm,1.2s
MI29 MI29, Kamyanyy 79.04 323 P **P** **06 16 01.3 -1.1**
SUW Suwalki 79.11 328 *e* P **P** **06 16 03.4 +0.7**
SUW Suwalki 79.11 328 IAMs_20 IAMs_20 06 52 04.1
comp=Z,918nm,22.0s
SUW Suwalki 79.11 328 *e* P **P** **06 16 03.1 +0.5**
INZ Inchbonnie 79.14 157 IAMs_20 IAMs_20 06 48 52.1
comp=Z,736nm,21.0s
EGMT Eagleton 79.15 40 IAmb IAmb 06 16 16.4
comp=Z,55nm,1.5s
EGMT Eagleton 79.15 40 P **P** **06 16 02.0 -1.2**
baz=305
ARPR Arapgir-MALATY 79.15 309 P **P** **06 16 03.2 -0.2**
ARPR IAmb IAmb 06 16 08.6
comp=Z,51nm,1.5s
NVAR Mina Array Bea 79.17 52 P **P** **06 16 05.2 +1.6**
NVAR Mina Array Bea 79.17 52 P **P** **06 16 05.1 +1.5**
comp=Z,1.0nm,0.7s,baz=300,slow=4.1,SNR=16
NVAR LR LR 06 53 05.5
comp=Z,334nm,18.1s,baz=274,slow=37
comp=Z,1.0nm,0.7s
MLAC Mammoth, Mammo 79.22 53 P **P** **06 16 03.2 -0.7**
baz=301
ILULI Ilulissat 79.32 4 IAMs_20 IAMs_20 06 49 22.0
comp=Z,529nm,20.0s
LUBAR Lubar, Ukraine 79.38 323 P **P** **06 16 02.2 -2.1**
RNPP9 Sopachiv 79.43 325 P **P** **06 16 03.6 -0.9**
BOZ Bozeman (W) 79.47 43 P **P** **06 16 04.9 -0.2**
baz=304
RNPP8 Varash 79.50 324 P **P** **06 16 05.7 +0.9**
VOG Valley Oaks Go 79.53 54 P **P** **06 16 04.4 -0.9**
baz=301
RNPP5 Staryi Chortor 79.55 324 P **P** **06 16 05.8 +0.7**
NE56 Odesa 79.58 319 P **P** **06 16 04.8 -0.5**
SMMC Simmler 79.62 55 P **P** **06 16 05.7 -0.2**
baz=301
DIKM Dikmen 79.77 313 P **P** **06 16 08.0 +1.4**
comp=Z,16nm,1.0s,comp=Z,489nm
ICESG Greenland Ices 79.80 360 *i* P **P** **06 16 07.8 +1.2**
ICESG IAmb IAmb 06 16 22.2
comp=Z,9.8nm,0.8s
RPZ Rata Peaks 79.90 158 LR LR 06 46 40.8
comp=Z,976nm,21.4s,baz=317,slow=32
TIN Tinemaha, Big 79.94 53 P **P** **06 16 08.5 +0.8**
baz=302
ELK Elko 79.95 48 IAMs_20 IAMs_20 06 44 11.8
comp=Z,450nm,22.0s
ELK Elko 79.95 48 LR LR 06 46 12.4
comp=Z,192nm,22.0s,slow=32
ELK Elko 79.95 48 P **P** **06 16 11.9 +4.1**
PKM Mcpherson Peak 79.97 55 P **P** **06 16 07.6 -0.4**
baz=301
VES Vestal, Richgr 79.98 54 P **P** **06 16 08.5 +0.7**
baz=302
SORM Soroca 80.13 321 P **P** **06 16 06.9 -1.4**
comp=Z,16nm,2.0s
PURM Purcari 80.24 319 P **P** **06 16 08.5 -0.4**
SBC Santa Barbara 80.27 56 P **P** **06 16 09.5 +0.2**
baz=302
CWC Cottonwood Cre 80.36 53 P **P** **06 16 10.5 +0.4**
baz=302
NDNU Novodnistrovsk 80.38 322 P **P** **06 16 08.1 -1.6**
ISA Isabella, Lake 80.50 54 P **P** **06 16 11.3 +0.6**
baz=302
ARVC Arvin 80.53 55 P **P** **06 16 11.5 +0.7**
baz=302
GRAC Grapevine Rang 80.55 52 P **P** **06 16 11.5 +0.6**
baz=302
H17A Grant Village 80.77 43 IAmb IAmb 06 16 27.8
comp=Z,72nm,1.6s
H17A Grant Village 80.77 43 P **P** **06 16 13.3 +1.0**
baz=305
OSI Osito Audit: C 80.88 55 P **P** **06 16 13.6 +0.9**
baz=302
KMPD K-Podol'skiy 80.88 322 P **P** **06 16 11.0 -1.3**
KMPD P **pP** **06 16 11.5 -5.4**
BNN Bunyan 80.92 310 IAmb IAmb 06 16 16.7
comp=Z,57nm,1.2s
MPMC Manual Prospec 80.97 53 P **P** **06 16 14.3 +0.9**
baz=302
R11B Troy Canyon, C 81.02 51 IAmb IAmb 06 16 26.7
comp=Z,60nm,2.0s
R11B IAMs_20 IAMs_20 06 53 41.4
comp=Z,399nm,18.0s
R11B Troy Canyon, C 81.02 51 P **P** **06 16 14.5 +0.9**
baz=303
SNCC San Nicolas Is 81.03 57 P **P** **06 16 14.8 +1.3**
baz=302
RLMT Red Ledge 81.11 42 P **P** **06 16 14.2 +0.3**
baz=306
LRMC Laurel Mtn Rad 81.14 54 P **P** **06 16 15.0 +0.8**
baz=302
FURC Furnace Creek, 81.18 53 P **P** **06 16 14.8 +0.7**
baz=303
EDW2 Edwards Air Fo 81.25 55 P **P** **06 16 15.3 +0.6**
baz=302
S11A Rachel 81.29 51 IAmb IAmb 06 16 28.1
comp=Z,64nm,1.6s
DECC Green Verdugo 81.34 55 P **P** **06 16 16.1 +0.9**
baz=302
LVV L'vov 81.35 324 *e* P **P** **06 16 16.6 +1.8**
LVV *e* 06 19 26.6
LVV *e*PPP PPP 06 21 14.0
LVV *e*S **S** **06 26 22.0 -3.2**
LVV MLR MLR
comp=E,500nm,17.0s
LVV MLR MLR
comp=N,300nm,18.0s
LVV MLR MLR
comp=Z,900nm,17.0s
DEL Delary 81.38 333 *e* P **P** **06 16 14.2 -0.6**
GWY Greenwater Val 81.46 53 IAmb IAmb 06 16 26.6
comp=Z,50nm,1.7s
SFJD Kangerlussuaq 81.55 4 IAMs_20 IAMs_20 06 54 52.8
comp=Z,492nm,21.0s
SFJD Kangerlussuaq 81.55 4 LR LR 06 55 14.8
comp=Z,416nm,20.8s,baz=351,slow=38
SFJD Kangerlussuaq 81.55 4 *i* P **P** **06 16 16.6 +1.1**
SFJD IAmb IAmb 06 16 25.0
comp=Z,5.6nm,0.8s
BEL Belsk 81.62 327 *e* P **P** **06 16 18.1 +1.9**
BEL Belsk 81.62 327 P **P** **06 16 19.4 +3.2**
FMP Fort Macarthur 81.66 56 P **P** **06 16 16.9 +0.2**
baz=302
CIS Catalina Islan 81.73 56 P **P** **06 16 17.9 +0.6**
baz=302
KSV Kosov 81.76 322 P **P** **06 16 16.7 -0.4**
HWUT Hardware Ranch 81.77 46 IAmb IAmb 06 16 30.7
comp=Z,29nm,1.2s
DUG Dugway, Tooele 81.79 48 IAmb IAmb 06 16 30.8
comp=Z,19nm,1.0s
DUG IAMs_20 IAMs_20 06 59 46.6
comp=Z,335nm,18.0s
DUG Dugway, Tooele 81.79 48 P **P** **06 16 18.2 +0.6**
baz=304
STNU Starunia 81.81 323 P **P** **06 16 19.1 +1.8**
BFSC Mount Baldy Ra 81.82 55 P **P** **06 16 18.6 +0.8**
baz=302
GSC Goldstone, Bar 81.84 54 IAmb IAmb 06 16 30.7
comp=Z,39nm,1.5s
GSC Goldstone, Bar 81.84 54 P **P** **06 16 18.7 +0.8**
baz=303
DGMT Dagmar 81.85 37 IAMs_20 IAMs_20 06 53 25.1
comp=Z,474nm,18.0s
DGMT Dagmar 81.85 37 P **P** **06 16 18.0 +0.5**
baz=309
MORS Morshin 81.85 324 P **P** **06 16 17.4 -0.1**
BR131 Keskin Array S 81.86 312 *i* P **P** **06 16 15.7 -2.2**
BRTR Keskin Array B 81.86 312 P **P** **06 16 16.9 -1.0**

BRTR **Keskin Array B** 81.86 312 P **P** 06 16 16.6 -1.4
comp=Z,4.9nm,1.0s,baz=77,slow=3.0,SNR=21
comp=Z,4.9nm,1.0s
BRTR **Keskin Array B** 81.86 312 P **P** 06 16 16.9 -1.0
SCI2 **San Clemente I** 81.86 56 P **P** 06 16 18.3 +0.4
baz=302
BR104 **Keskin Array S** 81.87 312 P **P** 06 16 17.4 -0.6
comp=Z,10nm,0.9s,comp=Z,92nm
BR106 **Keskin Array S** 81.87 312 P **P** 06 16 17.3 -0.7
comp=Z,8.7nm,0.9s,comp=Z,81nm
LAO **LASA Array** 81.87 40 IAmb IAmb 06 16 28.3
comp=Z,34nm,1.1s
LAO **LASA Array** 81.87 40 P **P** 06 16 19.2 +1.4
baz=308
BR105 **Keskin Array S** 81.88 312 P **P** 06 16 17.7 -0.3
comp=Z,11nm,0.9s,comp=Z,96nm
SHOC **Shoshone, Teco** 81.88 53 P **P** 06 16 18.6 +0.6
baz=303
RAYN **Ar Rayn** 81.91 292 P **P** 06 16 17.4 -0.9
RAYN **Ar Rayn** 81.91 292 P **P** 06 16 17.4 -0.9
RAYN pmax pmax
comp=Z,19nm,1.2s
BSD **Bornholm Skovb** 81.93 332 *e*P **P** 06 16 18.2 +0.5
RRX **Edison Barstow** 81.94 54 P **P** 06 16 17.8 -0.5
baz=303
BURAR **Bucovina Array** 82.12 322 P **P** 06 16 18.4 -0.6
BURAR **Bucovina Array** 82.12 322 P **P** 06 16 18.5 -0.6
KWP **Kalwaria Pacla** 82.13 324 *e*P **P** 06 16 20.9 +1.9
DY2G **Dye2** 82.30 3 *i* P **P** 06 16 20.6 +0.8
DY2G IAmb IAmb 06 16 23.2
comp=Z,4.2nm,0.7s
BW06 **Boulder Array** 82.32 44 P **P** 06 16 20.9 +0.5
baz=306
PDAR **Pinedale Array** 82.32 44 P **P** 06 16 21.1 +0.7
PDAR **Pinedale Array** 82.32 44 P **P** 06 16 21.6 +1.2
comp=Z,0.4nm,0.6s,baz=264,slow=1.8,SNR=7.9
PDAR LR LR 06 54 54.9
comp=Z,75nm,18.6s,baz=316,slow=37
comp=Z,0.4nm,0.6s
BBRC **Big Bear Solar** 82.32 55 P **P** 06 16 20.7 +0.1
baz=303
TUQ **Turquoise Moun** 82.38 53 P **P** 06 16 20.6 -0.1
baz=303
VRI **Vrincioaia** 82.39 320 P **P** 06 16 21.7 +1.3
JLU **Jordanelle** 82.42 47 IAmb IAmb 06 16 34.1
comp=Z,20nm,1.1s
HEC **Hector,Ludlow** 82.42 54 P **P** 06 16 21.4 +0.5
baz=303
FRB **Frobisher Bay** 82.45 12 LR LR 06 54 41.1
comp=Z,339nm,20.4s,baz=359,slow=37
MURC **Murrieta** 82.49 55 P **P** 06 16 21.1 -0.1
baz=303
COP **Copenhagen** 82.50 333 *i* P **P** 06 16 22.6 +1.9
COP IAmb IAmb 06 16 31.7
comp=Z,20nm,0.6s
MPU **Maple Canyon** 82.64 47 IAmb IAmb 06 16 35.1
comp=Z,15nm,0.9s
KOLS **Kolonicke sedl** 82.80 324 *e*P **P** 06 16 25.2 +2.7
KOLS **Kolonicke sedl** 82.80 324 *e*P **P** 06 16 25.2 +2.7
KOLS pmax pmax
comp=Z,12nm,1.1s
GMRC **Granite Mounta** 82.91 54 P **P** 06 16 23.4 -0.1
baz=304
109C **Camp Elliot, M** 82.94 56 IAMs_20 IAMs_20 06 48 47.7
comp=Z,513nm,19.0s
109C **Camp Elliot, M** 82.94 56 P **P** 06 16 22.9 -0.6
baz=303
PSN **Preselentsi** 82.94 317 *e*P **P** 06 16 23.4 +0.1
RGN **Rugen** 82.98 332 *e*P **P** 06 16 24.1 +0.9
STHS **Stebnicka Huta** 83.00 325 *e*P **P** 06 16 25.2 +1.7
STHS **Stebnicka Huta** 83.00 325 *e*P **P** 06 16 25.2 +1.7
STHS pmax pmax
comp=Z,11nm,1.0s
PFO **Pinyon Flats O** 83.00 55 P **P** 06 16 24.1 +0.1
baz=303
PFO **Pinyon Flats O** 83.00 55 LR LR 06 54 45.1
comp=Z,467nm,18.0s,baz=276,slow=37
TPFO **Pinon Flats** 83.00 55 P **P** 06 16 23.7 -0.3
baz=303
PPT **Papeete** 83.04 115 LR LR 06 54 08.9
comp=Z,158nm,18.4s,baz=296,slow=36
MLR **Muntele Rosu** 83.05 320 IAmb IAmb 06 16 27.6
comp=Z,20nm,1.4s
MLR IAMs_20 IAMs_20 07 00 19.7
comp=Z,435nm,20.0s
MLR **Muntele Rosu** 83.05 320 P **P** 06 16 26.1 +2.1
BELC **Belle Mtn. Jos** 83.11 54 P **P** 06 16 24.4 -0.1
baz=303
OJC **Ojcow** 83.16 326 *e*P **P** 06 16 23.6 -0.7
OJC **Ojcow** 83.16 326 P **P** 06 16 25.4 +1.1
comp=Z,35nm,1.4s,comp=Z,732nm
CRVS **Cervenica-Dubn** 83.23 324 *e*P **P** 06 16 26.1 +1.4
CRVS **Cervenica-Dubn** 83.23 324 P **P** 06 16 28.0 +3.3
MONP2 **Monument Peak** 83.42 56 P **P** 06 16 26.0 -0.2
baz=303
NIE **Niedzica** 83.46 325 *e*P **P** 06 16 28.1 +2.2
NIE **Niedzica** 83.46 325 P **P** 06 16 28.0 +2.1
comp=Z,11nm,1.3s
P17A **Butcher Ranch,** 83.51 47 IAmb IAmb 06 16 39.8
comp=Z,28nm,1.1s
IRM **Iron Mountain** 83.61 54 P **P** 06 16 27.5 +0.4
baz=304
NEE2 **Needles Airpor** 83.64 53 P **P** 06 16 27.2 +0.1
baz=304
PRD **Provadia** 83.65 317 *e*P **P** 06 16 28.3 +1.3
NEF **NEVSHA** 83.67 317 *e*P **P** 06 16 28.3 +1.2
BC3 **Big Chuckawall** 83.68 54 P **P** 06 16 28.0 +0.6
baz=304
IKP **In-Ko-Pah, Jac** 83.77 56 P **P** 06 16 27.6 -0.3
baz=304
SWSC **Sam W. Stewart** 83.83 55 P **P** 06 16 28.7 +0.7
baz=304
SRU **San Rafael Swe** 83.86 48 IAmb IAmb 06 16 41.2
comp=Z,17nm,0.9s
KECS **Kecovo** 83.99 325 *e*P **P** 06 16 30.5 +1.9
KECS **Kecovo** 83.99 325 *e*P **P** 06 16 30.5 +1.9
LANS **Liptovska Anna** 84.04 325 *e*P **P** 06 16 31.8 +2.9
LANS **Liptovska Anna** 84.04 325 *e*P **P** 06 16 31.8 +2.9
LANS pmax pmax
comp=Z,16nm,1.7s
K22A **Casper** 84.17 43 P **P** 06 16 30.2 +0.3
baz=308
OKC **Ostrava-Krasne** 84.20 327 AMS AMS 06 57 10.0
comp=Z,1μm,14.7s
PDMCI **Parker Dam,Lak** 84.22 53 P **P** 06 16 30.4 +0.4
baz=304
U15A **North Rim** 84.27 51 IAmb IAmb 06 16 45.1
comp=Z,37nm,1.8s
RUE **Ruedersdorf** 84.29 330 *e*P **P** 06 16 31.3 +1.2
RWWY **Rawlins** 84.36 44 IAMs_20 IAMs_20 06 53 37.2
comp=Z,326nm,19.0s
SZH **Strazhitsa** 84.41 318 *e*P **P** 06 16 30.9 0.0
MMAI **Mount Meron Ar** 84.43 305 P **P** 06 16 30.9 -0.3
comp=Z,0.7nm,0.4s,baz=72,slow=6.2,SNR=3.5
MMAI LR LR 06 57 09.3
comp=Z,156nm,20.2s,baz=346,slow=38
comp=Z,0.7nm,0.4s
GLA **Glamis** 84.45 55 P **P** 06 16 31.3 0.0
baz=304
MORC **Moravsky Berou** 84.53 327 IAmb IAmb 06 16 36.1
comp=Z,31nm,1.5s
MORC **Moravsky Berou** 84.53 327 *e*P **P** 06 16 32.1 +0.7
MORC **Moravsky Berou** 84.53 327 P **P** 06 16 29.4 -2.0
MDND **Maddock** 84.59 36 P **P** 06 16 31.1 -0.6
baz=312
OSTC **Ostas** 84.60 328 *e*P **P** 06 16 33.2 +1.5
OSTC *e*SKS **SKSac** 06 26 58.0 +2.8
OSTC AMS AMS 06 57 30.0
comp=Z,2μm,14.7s
OSTC **Ostas** 84.60 328 *e*P **P** 06 16 33.2 +1.5
OSTC *e* 06 26 58.0
OSTC MLR MLR
comp=Z,2μm,14.7s
PSZ **Piszkesteto** 84.66 324 P **P** 06 16 33.3 +1.2
O20A **White River Ci** 84.67 46 P **P** 06 16 32.3 -0.3
baz=307
RSSD **Black Hills** 84.68 41 P **P** 06 16 31.5 -1.0
baz=310
RSSD **Black Hills** 84.68 41 P **P** 06 16 36.2 +3.7
KRLC **Kraliky** 84.68 327 *e*P **P** 06 16 35.0 +2.9
KRLC *e*SKS **S** 06 26 59.0 -0.1
KRLC AMS AMS 06 58 10.0
comp=Z,2μm,13.7s
KRLC **Kraliky** 84.68 327 *e*P **P** 06 16 35.0 +2.9
KRLC *e* 06 26 59.0
KRLC MLR MLR
comp=Z,2μm,13.7s
DPC **Dobruska-Polom** 84.69 328 *e*P **P** 06 16 34.8 +2.6
DPC AMS AMS 06 59 40.0
comp=Z,2μm,12.0s
DPC **Dobruska-Polom** 84.69 328 *e*P **P** 06 16 34.8 +2.6
DPC MLR MLR
comp=Z,2μm,12.0s
DPC **Dobruska-Polom** 84.69 328 P **P** 06 16 33.7 +1.5
comp=Z,17nm,0.9s
UPC **Upice** 84.72 328 *e*P **P** 06 16 35.2 +2.9
UPC AMS AMS 06 57 40.0
comp=Z,2μm,15.1s
UPC **Upice** 84.72 328 *e*P **P** 06 16 35.2 +2.9
UPC MLR MLR
comp=Z,2μm,15.1s
ULM **Lac du Bonnet** 84.73 32 P **P** 06 16 33.5 +1.2
comp=Z,0.8nm,0.5s,baz=324,slow=10.0,SNR=1.9
ULM LR LR 06 53 24.1
comp=Z,175nm,21.9s,baz=321,slow=35
comp=Z,0.8nm,0.5s
VYHS **Vyhne** 84.79 325 *e*P **P** 06 16 34.6 +1.9
VYHS **Vyhne** 84.79 325 *e*P **P** 06 16 34.6 +1.9
VYHS pmax pmax
comp=Z,22nm,1.3s
JAVC **Velka Javorina** 85.11 326 *e*P **P** 06 16 35.9 +1.6
VRAC **Vranov** 85.30 327 *e*P **P** 06 16 36.1 +0.9
VRAC **Vranov** 85.30 327 LR LR 06 56 31.5
comp=Z,686nm,20.4s,baz=36,slow=37
PVCC **Panska Ves** 85.36 329 *e*P P 06 16 42.1 +6.6
PVCC *e*SKS **S** 06 27 05.1 -0.6
PVCC AMS AMS 06 58 50.0
comp=Z,2μm,15.2s
BRG **Berggiesshubel** 85.39 329 *e*P **P** 06 16 37.0 +1.4
BRG Amp 06 16 39.3
comp=Z,14nm,1.2s
BRG **Berggiesshubel** 85.39 329 P P 06 16 45.5 +10
BRG Amp 06 16 48.6
comp=Z,7.0nm,1.1s
BRG **Berggiesshubel** 85.39 329 S **S** 06 27 05.0 -0.9
BRG Amp 07 00 11.0
comp=Z,1.2nm,12.7s
BRG Amp 07 00 13.0
comp=N,0.7nm,13.5s
BRG Amp 07 00 15.0
comp=E,0.8nm,10.7s
BRG **Berggiesshubel** 85.39 329 *e*P **P** 06 16 37.0 +1.4
BRG 06 16 45.4
BRG 06 19 54.2
BRG S **S** 06 27 05.0 -0.9
BRG pmax pmax
comp=Z,14nm,1.2s
BRG pmax pmax
comp=Z,7.0nm,1.3s
BRG smax smax
comp=Z,1μm,12.7s
WUAZ **Wupatki** 85.40 51 IAMs_20 IAMs_20 06 52 18.4
comp=Z,401nm,18.0s
WUAZ **Wupatki** 85.40 51 P **P** 06 16 35.2 -1.0
baz=306
SMOL **Smolenice** 85.46 326 *e*P **P** 06 16 38.7 +2.7
SMOL pmax pmax
comp=Z,11nm,1.3s
CLL **Collm** 85.48 330 *i* P **P** 06 16 35.9 -0.1
CLL *e*S **SKSac** 06 27 04.0 +3.3
CLL pmax pmax
comp=Z,47nm,1.3s
CLL MLR MLR
comp=Z,1μm,19.3s
CLL **Collm** 85.48 330 P **P** 06 16 36.7 +0.7
comp=Z,28nm,1.4s
RICC **Richard** 85.56 329 AMS AMS 06 59 10.0
comp=Z,2μm,13.6s
KRUC **Moravsky** 85.57 327 *e*P **P** 06 16 37.8 +1.3
N23A **Red Feather La** 85.60 44 P **P** 06 16 36.9 -0.4
baz=308
MODS **Modra-Piesok** 85.63 326 *e*P **P** 06 16 39.4 +2.5
MODS **Modra-Piesok** 85.63 326 *e*P **P** 06 16 39.4 +2.5
MODS pmax pmax
comp=Z,91nm,1.9s
PHWY **Pilot Hill** 85.63 44 IAmb IAmb 06 16 51.0
comp=Z,40nm,1.6s
PRA **Prague** 85.75 328 AMS AMS 06 59 50.0
comp=Z,1μm,14.3s
PRU **Pruhonice** 85.76 328 *e*SKS **SKSac** 06 27 06.0 +3.5
PRU AMS AMS 06 58 40.0
comp=Z,1μm,14.2s
HSKC **Hora Svate Kat** 85.80 329 *e*SKS **SKSac** 06 27 03.3 +0.4
HSKC AMS AMS 06 59 50.0
comp=Z,1μm,12.5s
TREC **Trest** 85.82 327 AMS AMS 06 59 40.0
comp=Z,2μm,13.6s
AGMN **Agassiz Nation** 86.11 34 IAMs_20 IAMs_20 06 51 49.5
comp=Z,398nm,21.0s
AGMN **Agassiz Nation** 86.11 34 P **P** 06 16 39.2 -0.1
baz=315
MVCO **Mesa Verde** 86.27 48 P **P** 06 16 39.7 -0.9
baz=307
VTS **Vitosha** 86.38 319 *e*P **P** 06 16 40.7 -0.2
MORH **Mrgy, Hungar** 86.44 324 P **P** 06 16 42.5 +1.6
comp=Z,5.4nm,1.6s
214A **Organ Pipe Nat** 86.47 55 P **P** 06 16 41.2 -0.2
baz=305
ISCO **Idaho Springs** 86.48 45 IAmb IAmb 06 16 54.8
comp=Z,29nm,1.6s
ISCO **Idaho Springs** 86.48 45 P **P** 06 16 41.0 -0.6
baz=309
ISCO **Idaho Springs** 86.48 45 P **P** 06 16 45.3 +3.7
NKC **Novy Kostel** 86.51 329 AMS AMS 07 00 20.0
comp=Z,2μm,12.4s
FRGS **Fruska Gora** 86.56 322 P **P** 06 16 42.9 +1.3
comp=Z,14nm,1.3s,comp=Z,420nm
RONA **Rolia, Austr** 86.57 326 *i* pP **P** 06 16 44.4 +2.8
comp=Z,9.1nm,1.4s
CONA **Conrad Observa** 86.62 326 *e*P **P** 06 16 41.4 -0.5
comp=Z,15nm,1.7s,SNR=7.0
EIL **Elat** 86.62 303 LR LR 06 59 33.1
comp=Z,275nm,18.5s,baz=64,slow=39
CKRC **Cesky Krumlov** 86.70 328 *e*P **P** 06 16 44.5 +2.3
CKRC AMS AMS 07 00 30.0
comp=Z,2μm,13.9s
CKRC **Cesky Krumlov** 86.70 328 *e*P **P** 06 16 44.5 +2.3
CKRC MLR MLR
comp=Z,2μm,13.9s
W18A **Petrified Fore** 86.72 50 P **P** 06 16 42.4 -0.4
baz=307
MMB **Musomishta** 86.78 318 *e*P P 06 16 51.3 +8.6
KHC **Kasperske Hory** 86.81 328 *e*P **P** 06 16 44.9 +2.1
KHC *e*PP **PP** 06 20 05.0 +0.4
KHC *e*SKS **SKSac** 06 27 01.6 -7.6
KHC AMS AMS 06 59 50.0
comp=Z,2μm,14.4s
KHC **Kasperske Hory** 86.81 328 *e*P **P** 06 16 44.9 +2.1
KHC *e* 06 20 05.0
KHC *e* 06 27 01.6
KHC MLR MLR
comp=Z,2μm,14.4s
KHC **Kasperske Hory** 86.81 328 P **P** 06 16 44.7 +1.9
comp=Z,7.0nm,1.5s
GERES **GERESS Array B** 86.96 328 P **P** 06 16 43.9 +0.3
GERES **GERESS Array B** 86.96 328 P **P** 06 16 44.4 +0.8
comp=Z,1.3nm,0.8s,baz=43,slow=5.9,SNR=4.1
GERES LR LR 06 56 57.8
comp=Z,805nm,21.5s,baz=44,slow=37
comp=Z,1.3nm,0.8s
SUSD **Miller** 87.22 38 P **P** 06 16 44.3 -0.5
baz=313
ARSA **Arzberg** 87.26 326 *e*PcP **P** 06 16 46.0 +1.0
comp=Z,5.6nm,1.2s
Q24A **Divide** 87.28 45 P **P** 06 16 44.5 -1.1
baz=309
MOA **Molln** 87.43 327 *i* PcP **P** 06 16 47.0 +1.3
comp=Z,9.0nm,1.5s
F33A **5 Mile Ranch,** 87.62 36 IAmb IAmb 06 16 56.5
comp=Z,15nm,1.1s
TUC **Tucson** 87.67 53 P **P** 06 16 46.9 -0.3
baz=306
TUC **Tucson** 87.67 53 P **P** 06 16 51.0 +3.7
SDCO **Great Sand Dun** 87.83 46 IAMs_20 IAMs_20 06 57 38.2
comp=Z,332nm,19.0s
SDCO **Great Sand Dun** 87.83 46 P **P** 06 16 47.4 -0.8
baz=309
BIOA **Bad Ischl, Aus** 87.83 327 *i* PcP **PcP** 06 16 49.6 +0.1
comp=Z,13nm,1.6s
OGNE **Ogallala** 87.85 42 P **P** 06 16 47.2 -0.8
baz=311
SOKA **Soboth** 87.90 326 *e*PcP **PcP** 06 16 49.7 -0.3
comp=Z,8.7nm,1.3s,SNR=5.1
EKA **Eskdalemuir Ar** 88.09 340 P **P** 06 16 49.2 +0.5
comp=Z,12nm,1.2s,baz=38,slow=5.2,SNR=14
comp=Z,12nm,1.2s
ESK **Eskdalemuir** 88.12 340 P **P** 06 16 51.2 +2.4
EYMN **Ely** 88.39 32 P **P** 06 16 49.5 -0.8
baz=318
KBA **Koelnbreinsper** 88.42 327 *i* PcP **P** 06 16 51.5 +0.8
comp=Z,8.1nm,1.0s
LESA **Schwarzleotal** 88.47 327 *i* PcP **P** 06 16 51.6 +0.8
comp=Z,12nm,1.7s
MYKA **Terra Mystica** 88.60 326 *i* P **P** 06 16 51.7 +0.3
comp=Z,5.5nm,1.1s
KSCO **Kaye Shedlock'** 88.76 44 P **P** 06 16 52.2 -0.2
baz=311
T25A **Trinidad** 88.88 46 P **P** 06 16 52.8 -0.3
baz=310
ECSD **EROS Data Cent** 88.93 37 IAmb IAmb 06 17 04.8
comp=Z,22nm,1.4s
ECSD **EROS Data Cent** 88.93 37 IAMs_20 IAMs_20 06 58 22.6
comp=Z,312nm,19.0s
ECSD **EROS Data Cent** 88.93 37 P **P** 06 16 52.8 -0.1
baz=314
ANMO **Albuquerque** 88.96 49 IAMs_20 IAMs_20 06 50 03.5
comp=Z,564nm,22.0s
ANMO **Albuquerque** 88.96 49 P **P** 06 16 53.2 -0.3
baz=306
ANMO **Albuquerque** 88.96 49 LR LR 06 51 22.6
comp=Z,378nm,21.8s,baz=44,slow=32
ANMO **Albuquerque** 88.96 49 *ce*P **P** 06 16 53.5 0.0
ANMO pmax pmax
comp=Z,7.0nm,2.5s
WATA **Walderalm** 89.04 328 *i* P **P** 06 16 51.3 -2.3
comp=Z,4.3nm,0.8s
ABTA **Abfaltersbach** 89.05 327 *i* PcP **P** 06 16 54.4 +0.9
comp=Z,5.8nm,1.1s
WTTA **Wattenberg** 89.07 328 *i* PcP **PcP** 06 16 55.1 -0.1
comp=Z,8.1nm,1.4s
Y22D **IRIS PASSCAL I** 89.20 50 IAMs_20 IAMs_20 06 55 35.8
comp=Z,420nm,19.0s
Y22D **IRIS PASSCAL I** 89.20 50 P **P** 06 16 54.2 -0.4
baz=308
Y22F **Passcal Instru** 89.20 50 P **P** 06 16 53.8 -0.7
baz=308
MOTA **Moosalm** 89.25 328 *i* PcP **PcP** 06 16 56.1 +0.1
comp=Z,8.0nm,1.7s
SQTA **Sankt Quirin** 89.29 328 *i* PcP **PcP** 06 16 56.0 -0.1
comp=Z,5.6nm,1.6s
RETA **Reutte** 89.29 328 *i* PcP **PcP** 06 16 56.0 -0.1
comp=Z,11nm,1.5s
121A **Cookes Peak, D** 89.56 52 P **P** 06 16 56.5 +0.2
baz=308
FETA **Feichten** 89.66 328 *e*PcP **P** 06 16 57.2 +0.7
comp=Z,9.3nm,1.5s
BFO **Black Forest** 89.71 330 P **P** 06 16 56.2 -0.3
BFO **Black Forest** 89.71 330 P **P** 06 16 56.2 -0.3
BFO pmax pmax
comp=Z,10.0nm,1.3s
BGNE **Belgrade** 89.72 40 P **P** 06 16 55.5 -1.2
baz=313
SPMN **Marine on St.** 89.78 34 P **P** 06 16 55.6 -1.2
baz=317
DAVA **Damuels** 89.84 329 *e*PcP **P** 06 16 58.2 +0.9
comp=Z,18nm,1.4s,SNR=7.2
DAVOX **Davos/Dischmat** 90.22 328 LR LR 07 00 18.9
comp=Z,619nm,19.1s,baz=22,slow=38
ECH **Echery** 90.29 331 IAMs_20 IAMs_20 07 00 26.9
comp=Z,703nm,22.0s
CBKS **Cedar Bluff** 90.58 43 IAMs_20 IAMs_20 07 00 08.8
comp=Z,327nm,19.0s
CBKS **Cedar Bluff** 90.58 43 P **P** 06 17 00.7 -0.1
baz=312
TUE **Stuetta** 90.70 329 IAmb IAmb 06 17 04.6
comp=Z,24nm,1.5s
TUE **Stuetta** 90.70 329 P **P** 06 17 02.6 +1.2
EPT **El Paso** 90.89 52 IAMs_20 IAMs_20 06 59 58.8
comp=Z,469nm,18.0s
SCHQ **Schefferville** 90.99 15 P **P** 06 17 00.7 -1.6
comp=Z,3.6nm,0.9s,baz=344,slow=7.4,SNR=2.6
SCHQ LR LR 07 01 58.0
comp=Z,130nm,18.3s,baz=342,slow=38
comp=Z,3.6nm,0.9s
E43A **Lone Tree Farm** 91.58 31 IAmb IAmb 06 17 17.9
comp=Z,21nm,1.4s
MNTX **Cornudas Mount** 91.68 51 P **P** 06 17 05.9 -0.1
baz=309
SCIA **State Center** 91.99 37 IAMs_20 IAMs_20 07 00 55.4
comp=Z,420nm,21.0s
SCIA **State Center** 91.99 37 P **P** 06 17 07.0 -0.2
baz=317
AMTX **Amarillo** 92.02 47 IAMs_20 IAMs_20 07 02 40.4
comp=Z,375nm,19.0s
AMTX **Amarillo** 92.02 47 P **P** 06 17 07.7 +0.1
baz=311
KSU1 **Kansas State U** 92.17 41 IAmb IAmb 06 17 39.2
comp=Z,11nm,1.0s
KSU1 **Kansas State U** 92.17 41 P **P** 06 17 07.5 -0.6
baz=314
CUC **Castrocucco** 92.26 321 IAMs_20 IAMs_20 07 05 09.5
comp=Z,551nm,18.0s
JFWS **Jewell Farm** 92.73 35 IAMs_20 IAMs_20 06 54 54.7
comp=Z,479nm,22.0s
JFWS **Jewell Farm** 92.73 35 P **P** 06 17 10.4 -0.2
baz=319
LPIG **La Paz** 92.83 60 LR LR 06 54 55.5
comp=Z,274nm,19.1s,baz=236,slow=33
BNI **Bardonecchia** 92.98 329 IAmb IAmb 06 17 15.9
comp=Z,31nm,1.9s
CEL **Celeste** 93.45 319 IAMs_20 IAMs_20 07 02 30.9
comp=Z,479nm,20.0s
MNHN **Monahans** 93.64 50 IAmb IAmb 06 17 27.6
comp=Z,20nm,1.6s
SSB **Saint Sauveur** 93.72 330 IAmb IAmb 06 17 17.7
comp=Z,16nm,1.5s
GLMI **Grayling** 93.83 30 IAMs_20 IAMs_20 07 06 38.3
comp=Z,360nm,18.0s
GLMI **Grayling** 93.83 30 P **P** 06 17 16.0 +0.3
baz=323
OK051 **E0350 and S346** 93.84 43 IAMs_20 IAMs_20 06 54 30.0
comp=Z,332nm,19.0s
WMOK **Wichita Mounta** 93.90 45 IAmb IAmb 06 17 29.2
comp=Z,19nm,1.6s
WMOK **Wichita Mounta** 93.90 45 IAMs_20 IAMs_20 07 03 47.8
comp=Z,354nm,20.0s
WMOK **Wichita Mounta** 93.90 45 P **P** 06 17 16.3 +0.1
baz=313
APMT **Aspermont** 94.02 47 IAmb IAmb 06 17 29.0
comp=Z,24nm,1.4s
TXAR **Lajitas Array** 94.32 52 P **P** 06 17 18.9 +0.5
TXAR **Lajitas Array** 94.32 52 P **P** 06 17 19.7 +1.4
comp=Z,3.4nm,1.0s,baz=291,slow=2.7,SNR=22
TXAR LR LR 06 56 08.2
comp=Z,199nm,20.3s,baz=303,slow=33
comp=Z,3.4nm,1.0s
L44A **Lake County Fo** 94.41 34 IAMs_20 IAMs_20 07 01 42.0
comp=Z,379nm,19.0s
L44A **Lake County Fo** 94.41 34 P **P** 06 17 18.3 0.0
baz=320
HQIL **Hanson Quary C** 94.72 34 IAMs_20 IAMs_20 06 55 46.5
comp=Z,590nm,22.0s
ABTX **Abilene, Hawle** 94.79 47 P **P** 06 17 19.7 -0.6
baz=312
TUL3 **Leonard** 94.86 43 IAMs_20 IAMs_20 07 01 46.0
comp=Z,393nm,20.0s
TUL3 **Leonard** 94.86 43 P **P** 06 17 20.5 0.0
baz=315
SAND **Sanderson** 94.95 51 IAmb IAmb 06 17 33.5
comp=Z,17nm,1.6s
HDIL **Hopedale** 94.97 36 IAMs_20 IAMs_20 06 55 41.2
comp=Z,269nm,19.0s
HDIL **Hopedale** 94.97 36 P **P** 06 17 20.1 -0.8
baz=319
CCM **Cathedral Cave** 95.84 38 IAMs_20 IAMs_20 07 05 37.4
comp=Z,275nm,20.0s
CCM **Cathedral Cave** 95.84 38 P **P** 06 17 24.8 -0.2
baz=318
SADO **Sadowa** 96.12 27 LR LR 07 02 08.0
comp=Z,98nm,22.0s,baz=36,slow=36
JCT **Junction City** 96.12 49 IAMs_20 IAMs_20 06 55 13.0
comp=Z,364nm,20.0s
JCT **Junction City** 96.12 49 P **P** 06 17 26.2 -0.2
baz=312
SFIN **Lafayette** 96.19 34 P **P** 06 17 25.2 -1.3
baz=321
AAM **Ann Arbor** 96.26 31 IAMs_20 IAMs_20 07 07 48.9
comp=Z,380nm,21.0s
AAM **Ann Arbor** 96.26 31 P **P** 06 17 26.7 -0.1
baz=324

WHTX	**Lake Whitney,** baz=314	**96.58**	**46**	P		**P**	**06 17 28.8**	**+0.3**
MIAR	**Mount Ida** baz=316	**97.10**	**42**	P		**P**	**06 17 30.8**	**0.0**
O48B	**Farmland** comp=Z,388nm,19.0s	**97.20**	**33**	IAMs_20	IAMs_20		07 03 36.1	
O48B	**Farmland** baz=322	**97.20**	**33**	P		**P**	**06 17 31.5**	**+0.4**
435B	**Jarrell** comp=Z,470nm,18.0s	**97.32**	**47**	IAMs_20	IAMs_20		07 03 18.8	
435B	**Jarrell** baz=313	**97.32**	**47**	P		**P**	**06 17 31.9**	**0.0**
833A	**Chaparral WMA,** baz=312	**97.82**	**50**	P		**P**	**06 17 34.4**	**+0.3**
LONY	**Lake Ozonia** baz=331	**97.93**	**24**	P		**P**	**06 17 34.1**	**-0.2**
P49A	**Miami Univ. Ec** comp=Z,384nm,20.0s	**97.98**	**34**	IAMs_20	IAMs_20		07 03 49.7	
P49A	**Miami Univ. Ec** baz=323	**97.98**	**34**	P		**P**	**06 17 34.5**	**-0.1**
ERPA	**Erie** baz=326	**97.99**	**29**	P		**P**	**06 17 34.4**	**-0.2**
ACSO	**Alum Creek Sta** baz=324	**98.23**	**32**	P		**P**	**06 17 35.0**	**-0.7**
WCI	**Wyandotte Cave** baz=321	**98.25**	**35**	P		**P**	**06 17 35.5**	**-0.3**
M53A	**WI Miller and** comp=Z,321nm,22.0s	**98.26**	**30**	IAMs_20	IAMs_20		07 00 22.6	
M53A	**WI Miller and** baz=326	**98.26**	**30**	P		**P**	**06 17 35.2**	**-0.6**
NATX	**Nacogdoches** comp=Z,394nm,19.0s	**98.44**	**45**	IAMs_20	IAMs_20		07 06 16.2	
NATX	**Nacogdoches** baz=315	**98.44**	**45**	P		**P**	**06 17 36.4**	**-0.5**
KEST	**Kesra** comp=Z,447nm,18.1s,baz=318,slow=39	**98.86**	**322**	LR		LR	07 07 23.8	
O53A	**New Philadelph** baz=325	**99.00**	**31**	P		**Pdif**	**06 17 38.0**	**-1.2**
WVT	**Waverly** comp=Z,386nm,19.0s	**99.08**	**38**	IAMs_20	IAMs_20		07 08 44.2	
WVT	**Waverly** baz=320	**99.08**	**38**	P		**Pdif**	**06 17 38.4**	**-1.2**
PKME	**Peaks-Kenny Pk** baz=335	**99.09**	**21**	P		**Pdif**	**06 17 38.3**	**-1.2**
P52A	**Corning** baz=324	**99.10**	**32**	P		**Pdif**	**06 17 39.1**	**-0.6**
LBNH	**Lisbon** baz=333	**99.18**	**23**	P		**Pdif**	**06 17 38.5**	**-1.4**
OXF	**Oxford** comp=Z,359nm,21.0s	**99.46**	**40**	IAMs_20	IAMs_20		07 06 57.5	
OXF	**Oxford** baz=319	**99.46**	**40**	P		**Pdif**	**06 17 39.3**	**-2.0**
BINY	**Binghamton** baz=329	**99.51**	**26**	P		**Pdif**	**06 17 40.3**	**-1.2**
PLAL	**Pickwick Lake** comp=Z,367nm,21.0s	**99.83**	**39**	IAMs_20	IAMs_20		07 04 55.0	
MCWV	**Mont Chateau** baz=326	**100.08**	**30**	P		**Pdif**	**06 17 42.7**	**-1.4**
SSPA	**Standing Stone** baz=328	**100.09**	**29**	P		**Pdif**	**06 17 42.8**	**-1.3**
EMMW	**East Machias** comp=Z,417nm,20.0s	**100.14**	**20**	IAMs_20	IAMs_20		07 02 32.4	
L61B	**Northampton** baz=332	**100.50**	**24**	P		**Pdif**	**06 17 44.3**	**-1.6**
VBMS	**Vicksburg** baz=318	**100.55**	**42**	P		**Pdif**	**06 17 44.5**	**-1.7**
HRV	**Adam Dziewonsk** baz=333	**100.84**	**23**	P		**Pdif**	**06 17 45.6**	**-1.7**
TZTN	**Tazewell** comp=Z,434nm,22.0s	**100.92**	**35**	IAMs_20	IAMs_20		07 00 00.4	
TZTN	**Tazewell** baz=323	**100.92**	**35**	P		**Pdif**	**06 17 46.1**	**-1.7**
BCX	**Boston College** comp=Z,374nm,21.0s	**101.12**	**23**	IAMs_20	IAMs_20		06 58 54.7	
PAL	**Palisades** baz=331	**101.32**	**26**	P		**Pdif**	**06 17 47.6**	**-1.9**
PGAV	**Gavieira, Arco** comp=Z,546nm,18.0s	**101.44**	**337**	*e*LR		LR	06 53 24.5	
MVO	**Moncorvo** comp=Z,814nm,20.0s	**101.72**	**335**	*e*LR		LR	06 53 24.5	
BLA	**Blacksburg** baz=326	**101.85**	**32**	P		**Pdif**	**06 17 50.3**	**-1.7**
ESDC	**Sonseca Array** comp=Z,1.7nm,1.1s,baz=37,slow=6.6,SNR=4.6	**101.86**	**333**	PP		**PP**	**06 22 01.9**	**-0.1**
LRAL	**Lakeview Retre** comp=Z,442nm,18.0s	**101.89**	**39**	IAMs_20	IAMs_20		07 10 19.6	
LRAL	**Lakeview Retre** baz=320	**101.89**	**39**	P		**Pdif**	**06 17 51.0**	**-1.2**
M65A	**Busby, Falmout** comp=Z,309nm,21.0s	**101.99**	**23**	IAMs_20	IAMs_20		06 59 16.6	
M65A	**Busby, Falmout** baz=334	**101.99**	**23**	P		**Pdif**	**06 17 50.7**	**-1.7**
CBN	**Corbin Frederi** baz=328	**102.36**	**30**	P		**Pdif**	**06 17 52.2**	**-1.9**
MTE	**Manteigas** comp=Z,827nm,20.0s	**102.57**	**335**	*e*LR		LR	06 53 37.9	
KMSC	**Kings Mountain** baz=324	**103.11**	**34**	P		**Pdif**	**06 17 54.8**	**-2.7**
BRAL	**Brewton** baz=320	**103.28**	**40**	P		**Pdif**	**06 17 56.0**	**-2.4**
PMRV	**Marv??o** comp=Z,894nm,20.0s	**103.38**	**335**	*e*LR		LR	06 53 54.6	
GOGA	**Godfrey** baz=323	**103.44**	**36**	P		**Pdif**	**06 17 57.7**	**-1.3**
CNNC	**Cliffs of the** baz=327	**104.62**	**32**	P		**Pdif**	**06 18 02.5**	**-1.8**
PVAQ	**Vaqueiros** comp=Z,682nm,22.0s	**105.28**	**334**	*e*LR		LR	06 54 55.4	
PMOZ	**Porto Moniz, M** comp=Z,404nm,20.0s	**112.65**	**340**	*e*LR		LR	06 58 19.5	
TORD	**Torodi Ar. Bea** comp=Z,0.2nm,0.3s,baz=39,slow=3.2,SNR=2.1	**120.48**	**312**	PKP		**PKiKP**	**06 22 51.3**	**+0.6**
TORD				PP		**PP**	**06 24 15.6**	**-0.8**
	comp=Z,0.6nm,0.9s,baz=16,slow=7.9,SNR=3.8							
QSPA	**South Pole Qui**	**121.17**	**180**	PKPdf		**PKPdf**	**06 22 50.0**	**-0.4**
QSPA	**South Pole Qui** comp=Z,4.9nm,1.0s,baz=5.8,slow=0.5,SNR=9.2	**121.17**	**180**	PKP		**PKiKP**	**06 22 50.9**	**+0.4**
ELIB	**Princess Elisa**	**127.84**	**201**	*d*PKP		**PKPdf**	**06 23 02.4**	**-0.7**
BELA	**Belgrano 2**	**133.39**	**181**			**PKPdf**	**06 23 13.9**	**+0.6**
CZSB	**Cruzeiro do Su**	**141.28**	**60**	*e*P		**PKPdf**	**06 23 30.7**	**+0.9**
MACA	**Manacapuru-AM**	**145.66**	**39**	*e*P		**PKPab**	**06 23 38.7**	**+0.7**
MCPB	**Macapa, AP**	**146.98**	**23**	*e*P		**PKPdf**	**06 23 40.7**	**+0.9**
H03N2	**Juan Fernandez** baz=281,slow=75,SNR=1237	**146.99**	**104**	T		T	09 08 02.7	
H03N3	**Juan Fernandez** baz=281,slow=75,SNR=976	**147.00**	**104**	T		T	09 08 03.9	
H03N1	**Juan Fernandez** baz=281,slow=75,SNR=1056	**147.00**	**104**	T		T	09 08 03.8	
ETMB	**Extrema**	**147.36**	**55**			**PKPbc**	**06 23 43.8**	**+1.0**
ETMB	**Extrema**	**147.36**	**55**	*e*P		**PKPdf**	**06 23 41.9**	**+1.6**
SAML	**Samuel**	**148.77**	**49**	PKPdf		**PKPbc**	**06 23 47.4**	**+0.9**
SAML	**Samuel**	**148.77**	**49**	PKP2		**PKPbc**	**06 23 47.4**	**+0.9**
SAML	**Samuel**	**148.77**	**49**	*e*P		**PKPdf**	**06 23 44.0**	**+1.3**
ITTB	**Itaituba**	**149.18**	**32**	*e*P		**PKPdf**	**06 23 44.3**	**+0.9**
TMAB	**Tom-Au,PA,Br**	**150.05**	**17**	*e*P		**PKPdf**	**06 23 45.9**	**+1.1**
LPAZ	**La Paz** comp=Z,7.9nm,0.9s,baz=309,slow=3.2,SNR=15	**150.10**	**66**	PKPbc		**PKPbc**	**06 23 48.9**	**-1.6**
ROSB	**Rosrio**	**151.33**	**9**	*e*P		**PKPdf**	**06 23 47.7**	**+1.0**
NPGB	**Novo Progresso**	**151.70**	**34**	*e*P		**PKPdf**	**06 23 48.5**	**+1.2**
AC04	**Llanos de Chal**	**152.67**	**91**	PKPab		**PKPab**	**06 24 06.7**	**+0.6**
LCO	**Las Campanas**	**153.18**	**93**	PKPdf		**PKPdf**	**06 23 49.9**	**+0.5**
LCO				PKPab		**PKPab**	**06 24 08.3**	**-0.3**
LCO	**Las Campanas**	**153.18**	**93**	PKIKP		**PKPdf**	**06 23 49.9**	**+0.5**
LCO				PKPbc			06 24 08.3	
PLCA	**Paso Flores** comp=Z,4.2nm,1.2s,baz=261,slow=13,SNR=2.9	**153.53**	**119**	PKPbc		**PKiKP**	**06 23 59.5**	**+2.5**
BBSD	**Serra de San D**	**156.34**	**58**	*e*P		**PKPdf**	**06 23 54.9**	**+1.2**
SMTB	**Santa Maria do**	**156.40**	**20**	*e*P		**PKPdf**	**06 23 54.9**	**+1.0**
ARAG	**Araguaiana, MT**	**160.87**	**38**	*e*P		**PKPdf**	**06 23 60.0**	**+0.8**
JANB	**Januaria**	**163.19**	**15**	*e*P		**PKPdf**	**06 24 02.4**	**+0.8**
CPUP	**Villa Florida** comp=Z,1.2nm,0.8s,baz=300,slow=20,SNR=3.4	**163.78**	**76**	PKP		**PKPdf**	**06 24 02.7**	**+0.9**
CPUP				PKPab		**PKPab**	**06 24 54.9**	**+0.7**
	comp=Z,2.4nm,1.1s,baz=258,slow=3.7,SNR=2.4							

IDC 06 06:05:09.6±7.3, 6°99S×127°33E, h250km±81km, mb3.7/1, mbtmp3.8/4, MS4.4/3, Error ellipse: s-maj=90.6km s-min=22.8km az=45.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.83**	**228**	P	Pn	06 06 21.8	-1.6
	23nm,0.3s,baz=60,slow=20,SNR=4.4						
BATI				S	S	06 07 23.6	+1.3
	9.3nm,0.3s,baz=16,slow=23,SNR=1.1						
WRA	**Warramunga Arr**	**14.57**	**153**	P	Pn	06 08 23.4	-1.2
	0.6nm,0.6s,baz=328,slow=12,SNR=2.9						
ASAR	**Alice Springs**	**17.75**	**160**	P	P	06 08 59.9	+0.4
	0.4nm,0.6s,baz=335,slow=11,SNR=7.2						
CMAR	**Chiang Mai Arr**	**37.73**	**312**	P	P	06 12 01.9	+0.1
	2.0nm,0.4s,baz=114,slow=9.0,SNR=4.1						
	2.0nm,0.4s						
MJAR	**Matsushiro Arr**	**44.48**	**13**	LR	LR	06 30 52.9	
	comp=Z,428nm,21.4s,baz=135,slow=35						
KLR	**Kul'dur**	**56.11**	**3**	LR	LR	06 36 51.2	
	comp=Z,374nm,21.4s,baz=168,slow=34						
WSAR	**Wadi Sarin**	**73.48**	**297**	LR	LR	06 51 58.7	
	comp=Z,317nm,18.3s,baz=62,slow=38						

*HVO **06** 06:07:24.8±0.4, 19°.21N±0°.02×155°.330W±0°.009, h-1km±9km, ML2.8/21, ML2.6/38(NEIC), Error ellipse: s-maj=3.0km s-min=0.7km az=162.0*

NEIC 06 06:07:26.0±0.6, 19°.24N±0°.01×155°.34W±0°.01, h2km±14km, Error ellipse: s-maj=1.9km s-min=1.0km az=138.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.05**	**267**		Pg	06 07 26.9	-0.2
HLP	**Hilina Pali**	**0.07**	**31**		Pg	06 07 27.2	-0.2
SDHHI	**Sand Hill**	**0.16**	**18**		Pg	06 07 29.1	0.0
RIM	**Rim**	**0.17**	**23**		Pg	06 07 27.2	-2.0
RIM				IAML		06 07 34.2	
	comp=N,2µm,0.6s						
RIM				IAML		06 07 34.2	
	comp=E,1µm,0.3s						
WRMHI	**West Rim**	**0.17**	**14**	Pg	Pg	06 07 29.1	-0.2
WRMHI				IAML		06 07 33.3	
	comp=E,2µm,0.5s						
KKO	**Keanakako`i**	**0.17**	**25**		Pg	06 07 29.4	0.0
KKO				IAML		06 07 33.6	
	comp=E,2µm,0.6s						
KKO				IAML		06 07 34.5	
	comp=N,2µm,0.9s						
PUH	**Pauahi**	**0.18**	**42**		Pg	06 07 29.4	-0.1
PUH				IAML		06 07 34.0	
	comp=E,2µm,0.3s						
PUH				IAML		06 07 35.0	
	comp=N,1µm,0.3s						
UWE	**Uwekahuna**	**0.19**	**15**		Pg	06 07 29.0	-0.6
UWE				IAML		06 07 34.3	
	comp=E,2µm,0.5s						
UWE				IAML		06 07 35.8	
	comp=N,2µm,0.7s						
BYL	**Byron's Ledge**	**0.19**	**25**	Pg	Pg	06 07 29.4	-0.3
BYL				IAML		06 07 33.8	
	comp=N,833nm,0.8s						
BYL				IAML		06 07 34.9	
	comp=E,896nm,0.5s						
UWB	**Uwekahuna B**	**0.19**	**19**		Pg	06 07 29.7	-0.1
HATHI	**Halema'uma'u T**	**0.20**	**23**		Pg	06 07 29.4	-0.4
HATHI				IAML		06 07 34.6	
	comp=E,1µm,0.8s						
HATHI				IAML		06 07 35.2	
	comp=N,1µm,0.6s						
SBLHI	**Steaming Bluff**	**0.20**	**21**		Pg	06 07 28.9	-0.9
SBLHI				IAML		06 07 34.3	
	comp=E,1µm,0.8s						
SBLHI				IAML		06 07 35.1	
	comp=N,1µm,0.8s						
KNHH	**Kane Nui o Ham**	**0.21**	**50**		Pg	06 07 30.1	-0.1
RSD	**Rainshed**	**0.23**	**16**	Pg	Pg	06 07 29.9	-0.5
RSD				IAML		06 07 37.4	
	comp=N,655nm,0.8s						
STCH	**Steam Cracks**	**0.25**	**55**	Pg	Pg	06 07 30.8	-0.1
KHU	**Kahuku**	**0.26**	**271**		Pg	06 07 30.9	-0.1
KHU				IAML		06 07 38.1	
	comp=E,2µm,0.3s						
MLH	**Mauna Loa**	**0.26**	**351**		Pg	06 07 31.2	+0.3
MLH				IAML		06 07 38.2	
	comp=E,2µm,0.1s						
NPOC	**North of Pu'u**	**0.27**	**55**		Pg	06 07 30.9	-0.2
NPOC				IAML		06 07 36.6	
	comp=E,645nm,1.0s						
JCUZ	**Jacuzzi**	**0.27**	**58**	Pg	Pg	06 07 30.8	-0.4
JCUZ				IAML		06 07 37.0	
	comp=N,588nm,0.6s						
MWH	**Moku'aweowe**	**0.34**	**316**		Pg	06 07 32.8	+0.1
HMH	**Humu'ula Sheep**	**0.38**	**340**		Pg	06 07 33.0	-0.4
ALEP	**Alea Permanent**	**0.41**	**317**		Sb	06 07 41.4	-1.8

*HVO **06** 06:09:52.1±0.8, 19°.17N±0°.02×155°.25W±0°.01, h-0km±9km, ML3.0/34, ML3.1/36(NEIC), Error ellipse: s-maj=2.6km s-min=1.3km az=141.0*

NEIC 06 06:09:53.1±0.8, 19°.17N±0°.02×155°.28W±0°.01, h5km±2km, Error ellipse: s-maj=3.2km s-min=2.8km az=333.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.13**	**347**		Pg	06 09 56.0	+0.2
HLP				IAML		06 09 58.9	
	comp=N,5µm,0.5s						
HLP				IAML		06 09 59.1	
	comp=E,6µm,0.8s						
HTC	**Hot Caves**	**0.13**	**300**		Pg	06 09 56.9	+1.1
PUH	**Pauahi**	**0.21**	**16**		Pg	06 09 57.2	-0.1
PUH				IAML		06 10 01.6	
	comp=E,4µm,0.5s						
PUH				IAML		06 10 02.9	
	comp=N,5µm,0.3s						
SDHHI	**Sand Hill**	**0.22**	**356**		Pg	06 09 57.2	-0.2
RIM	**Rim**	**0.22**	**1**		Pg	06 09 57.4	-0.1
RIM				IAML		06 10 02.4	
	comp=N,5µm,0.5s						
KKO	**Keanakako`i**	**0.23**	**3**		Pg	06 09 56.8	-0.8
KKO				IAML		06 10 02.4	
	comp=E,6µm,0.3s						
KKO				IAML		06 10 03.7	
	comp=N,6µm,0.5s						
KNHH	**Kane Nui o Ham**	**0.23**	**26**		Pg	06 09 57.6	-0.1
WRMHI	**West Rim**	**0.23**	**355**		Pg	06 09 55.4	-2.4
WRMHI				IAML		06 10 02.8	
	comp=N,6µm,0.5s						
HATHI	**Halema'uma'u T**	**0.25**	**4**	Pg	Pg	06 09 57.8	-0.3
HATHI				IAML		06 10 03.0	
	comp=N,5µm,0.2s						
HATHI				IAML		06 10 05.0	
	comp=E,4µm,0.6s						
SBLHI	**Steaming Bluff**	**0.25**	**2**	Pg	Pg	06 09 57.9	-0.3
SBLHI				IAML		06 10 04.4	
	comp=E,3µm,0.3s						
SBLHI				IAML		06 10 04.5	
	comp=N,4µm,0.3s						
STCH	**Steam Cracks**	**0.26**	**34**		Pg	06 09 58.1	-0.1
JCUZ	**Jacuzzi**	**0.27**	**38**		Pg	06 09 58.4	0.0
NPOC	**North of Pu'u**	**0.27**	**36**		Pg	06 09 58.4	-0.1
NPOC				IAML		06 10 04.3	
	comp=N,2µm,0.3s						
RSD	**Rainshed**	**0.29**	**360**		Pg	06 09 58.5	-0.3
RSD				IAML		06 10 03.8	
	comp=E,2µm,0.5s						
KHU	**Kahuku**	**0.33**	**283**		Pg	06 09 59.8	+0.3
MLH	**Mauna Loa**	**0.34**	**342**		Pg	06 10 00.0	+0.2
JOKA	**Jonika Flow**	**0.37**	**45**		Pg	06 09 59.7	-0.5
MWH	**Moku'aweowe**	**0.43**	**316**		Pg	06 10 01.6	0.0
MWH				IAML		06 10 12.7	
	comp=E,2µm,0.8s						
MWH				IAML		06 10 17.0	
	comp=N,2µm,0.5s						
HMH	**Humu'ula Sheep**	**0.47**	**336**		Pg	06 10 02.2	-0.1
HMH				IAML		06 10 13.3	
	comp=N,2µm,0.4s						
ALEP	**Alea Permanent**	**0.51**	**317**		Pg	06 10 02.4	-0.5
ALEP					Sg	06 10 10.5	+1.0
POHA	**Pohakuloa**	**0.63**	**338**		Pg	06 10 04.2	-1.1
POHA				IAML		06 10 19.0	
	comp=N,613nm,1.0s						
CPH	**Captain Cook**	**0.68**	**298**		Pg	06 10 06.5	+0.3
HUH	**Hualalai**	**0.73**	**314**		Pg	06 10 06.3	-1.0
HPAH	**Hawaii Prepara**	**0.94**	**335**		Pg	06 10 08.7	-2.6

*IDC **06** 06:21:52.7±2.1, 61°.59N×151°.69W, h60km±26km, mb2.9/2, mbtmp3.3/6, ML3.0/4, Error ellipse: s-maj=47.5km s-min=9.5km az=110.0*

*NEIC **06** 06:21:53.4±1.0, 61°.66N±0°.04×152°.02W±0°.08, h107km±3km, Error ellipse: s-maj=5.9km s-min=5.2km az=205.0*

*AEIC **06** 06:21:54.1±1.0, 61°.64N±0°.04×152°.01W±0°.05, h105km±4km, ML2.7, ML2.8/189(NEIC), Error ellipse: s-maj=5.8km s-min=2.4km az=204.0*

ISC 06 06:21:54.0±0.9, 61°.67N±0°.04×151°.98W±0°.04, h103km±6km, n194, σ0°.85/204, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STLK	**Strandline Lak**	**0.19**	**158**		**Pn**	**06 22 08.1**	**-0.5**
STLK					**Sn**	**06 22 19.4**	**-0.2**
SKT	**Skwentna**	**0.38**	**34**		**Pn**	**06 22 09.3**	**0.0**
SKT					**Sn**	**06 22 20.9**	**0.0**
SKT				IAML		06 22 21.3	
	comp=N,384nm,0.3s						
SKT				IAML		06 22 22.0	
	comp=E,251nm,0.4s						
SPCG	**Spurr Capps Gl**	**0.38**	**183**		**Pn**	**06 22 08.6**	**-0.9**
SPCG					**Sn**	**06 22 20.7**	**-0.4**
SPCP	**Crater Peak Br**	**0.41**	**192**		**Pn**	**06 22 08.6**	**-1.1**
SPCN	**Chakachatna No**	**0.46**	**192**		**Pn**	**06 22 09.8**	**-0.1**
SPNN	**North Nagishla**	**0.46**	**229**		**Pn**	**06 22 09.7**	**-0.4**
M20K	**Styx River**	**0.59**	**292**		**Pn**	**06 22 10.4**	**-0.4**
M20K					**Sn**	**06 22 23.4**	**-0.1**
SUA	**Susitna One**	**0.63**	**109**		**Pn**	**06 22 11.3**	**+0.1**
SUA				IAML		06 22 24.9	
	comp=N,190nm,0.7s						
SUA				IAML		06 22 25.7	
	comp=E,305nm,0.8s						
M22K	**Willow**	**0.89**	**84**		**Pn**	**06 22 13.8**	**+0.4**
CAPN	**Captain Cook N**	**0.99**	**156**		**Pn**	**06 22 15.8**	**+1.4**
FIS	**Fire Island**	**1.00**	**121**		**Pn**	**06 22 15.6**	**+1.0**
FIS				IAML		06 22 33.8	
	comp=E,274nm,0.4s						
CUT	**Chulitna**	**1.09**	**47**		**Pn**	**06 22 16.0**	**+0.4**
RDT	**Redoubt**	**1.12**	**191**		**Pn**	**06 22 15.4**	**-0.6**
RDT					**Sn**	**06 22 32.2**	**-0.4**
M19K	**Big River Lodg**	**1.17**	**283**		**Pn**	**06 22 16.1**	**-0.4**
M19K				IAML		06 22 34.0	
	comp=E,80nm,0.6s						
NCT	**North Crescent**	**1.20**	**203**		**Pn**	**06 22 16.5**	**-0.5**
L20K	**Farewell, AK**	**1.21**	**313**		**Pn**	**06 22 16.4**	**-0.5**
RC01	**Rabbit Creek A**	**1.23**	**117**		**Pn**	**06 22 17.1**	**0.0**
RC01					**Sn**	**06 22 34.7**	**+0.1**
PPLA	**Purkeypile**	**1.23**	**356**		**Pn**	**06 22 17.4**	**+0.1**
RDWB	**Redoubt West**	**1.26**	**200**		**Pn**	**06 22 17.1**	**-0.5**
RSO	**Redoubt South**	**1.27**	**198**		**Pn**	**06 22 17.7**	**-0.1**
RDSO	**Redoubt South**	**1.28**	**197**		**Pn**	**06 22 17.3**	**-0.5**
PMR	**Palmer**	**1.36**	**92**		**Pn**	**06 22 18.1**	**-0.6**
PMR				IAML		06 22 42.1	
	comp=E,104nm,0.2s						
PMR				IAML		06 22 42.2	
	comp=N,109nm,0.2s						
SLKM	**Skilak Lake**	**1.45**	**143**		**Pn**	**06 22 18.7**	**-1.0**
L19K	**White Mountain**	**1.45**	**292**		**Pn**	**06 22 19.4**	**-0.4**
L19K				IAML		06 22 39.5	
	comp=N,76nm,0.9s						
GHO	**Glory Hole Cre**	**1.46**	**85**		**Pn**	**06 22 19.4**	**-0.6**
GHO				IAML		06 22 46.4	
	comp=N,129nm,0.2s						
N19K	**Bonanza Creek**	**1.48**	**236**		**Pn**	**06 22 19.9**	**-0.4**
O22K	**Cooper Landing**	**1.62**	**136**		**Pn**	**06 22 21.4**	**-0.4**
O20K	**Slope Mountain**	**1.62**	**191**		**Pn**	**06 22 21.4**	**-0.5**
KNK	**Knik Glacier**	**1.71**	**97**		**Pn**	**06 22 22.2**	**-0.7**
KNK				IAML		06 22 45.8	
	comp=E,155nm,0.3s						
KNK				IAML		06 22 46.0	
	comp=N,133nm,0.1s						
IVE	**Iliamna Volcan**	**1.73**	**197**		**Pn**	**06 22 22.4**	**-0.9**
SML	**Sawmill**	**1.74**	**84**		**Pn**	**06 22 22.7**	**-0.7**
SML				IAML		06 22 51.8	
	comp=E,69nm,0.8s						
SML				IAML		06 22 52.3	
	comp=N,92nm,0.4s						
CAST	**Castle Rocks**	**1.76**	**358**		**Pn**	**06 22 23.2**	**-0.3**
CAST				IAML		06 22 45.4	
	comp=E,39nm,0.4s						
ILSW	**Iliamna Southw**	**1.79**	**199**		**Pn**	**06 22 23.8**	**-0.2**
SVW2	**Sparrevohn**	**1.83**	**253**		**Pn**	**06 22 23.6**	**-0.9**
M18K	**Stony River**	**1.85**	**266**		**Pn**	**06 22 23.9**	**-0.8**
O19K	**Port Alsworth**	**1.87**	**219**		**Pn**	**06 22 24.7**	**-0.2**
O19K				IAML		06 22 49.0	
	comp=E,149nm,0.5s						
O19K				IAML		06 22 58.6	
	comp=N,53nm,0.4s						
WAT7	**Susitna Watana**	**1.87**	**50**		**Pn**	**06 22 24.9**	**-0.2**
K20K	**Telida**	**1.95**	**331**	Pn	**Pn**	**06 22 25.4**	**-0.5**
TRF	**Thorofare Moun**	**1.95**	**23**		**Pn**	**06 22 26.4**	**+0.3**
KTH	**Kantishna Hill**	**1.95**	**14**	Pn	**Pn**	**06 22 26.1**	**+0.1**
KTH				IAML		06 22 51.6	
	comp=E,83nm,0.4s						
KTH				IAML		06 22 52.5	
	comp=N,92nm,0.6s						
WAT1	**Susitna Watana**	**1.98**	**53**		**Pn**	**06 22 25.9**	**-0.5**
BRLK	**Bradley Lake**	**1.99**	**164**		**Pn**	**06 22 25.5**	**-1.0**
BRLK				IAML		06 22 54.2	
	comp=N,133nm,0.4s						
BRLK				IAML		06 22 55.0	
	comp=E,121nm,0.4s						
SEW	**Seward**	**2.00**	**141**		**Pn**	**06 22 25.6**	**-1.0**
HOM	**Homer**	**2.03**	**175**		**Pn**	**06 22 26.6**	**-0.3**
M23K	**Glacier View**	**2.03**	**85**		**Pn**	**06 22 25.9**	**-1.1**
BRSE	**Bradley Lake S**	**2.03**	**162**		**Pn**	**06 22 25.7**	**-1.3**
P19K	**Oil Pt**	**2.12**	**197**		**Pn**	**06 22 28.0**	**-0.2**
P19K					**Sn**	**06 22 55.7**	**+1.4**
P19K				IAML		06 22 60.0	
	comp=N,67nm,0.4s						
P19K				IAML		06 23 00.8	
	comp=E,88nm,0.4s						
N18K	**Kilae Creek**	**2.14**	**244**		**Pn**	**06 22 27.6**	**-0.9**
CNPM	**China Poot**	**2.18**	**170**		**Pn**	**06 22 27.8**	**-1.2**
CNPM				IAML		06 23 00.4	
	comp=E,112nm,0.5s						
CNPM				IAML		06 23 00.8	
	comp=N,81nm,0.3s						
WAT6	**Susitna Watana**	**2.19**	**63**		**Pn**	**06 22 28.8**	**-0.5**
SCM	**Sheep Creek Mo**	**2.22**	**84**		**Pn**	**06 22 28.8**	**-0.7**
SCM				IAML		06 23 06.5	
	comp=E,98nm,0.6s						
SCM				IAML		06 23 07.0	
	comp=N,70nm,0.6s						
CHUM	**Lake Minchumin**	**2.23**	**356**		**Pn**	**06 22 29.2**	**-0.3**
RND	**Reindeer**	**2.27**	**38**		**Pn**	**06 22 30.2**	**0.0**
RND				IAML		06 22 58.4	
	comp=E,68nm,0.3s						
RND				IAML		06 23

HIN	Hinchinbrook I	2.96	113			Pn		06 22 37.1	-2.1
L17K	Donlin	3.03	282			Pn		06 22 39.4	-0.6
DIV	Divide	3.04	98			Pn		06 22 38.5	-1.7
SYI	Shuyak Island	3.08	184			Pn		06 22 39.5	-1.2
SYI					IAML			06 23 23.6	
	comp=N,46nm,0.9s								
SYI					IAML			06 23 23.7	
	comp=E,34nm,0.7s								
K17K	Iditarod	3.14	292			Pn		06 22 41.4	-0.2
K17K					IAML			06 23 17.8	
	comp=N,18nm,0.9s								
K17K					IAML			06 23 18.0	
	comp=E,16nm,1.0s								
O17K	Koliganek Bris	3.15	235			Pn		06 22 41.0	-0.7
NEA2	Nenana	3.22	23			Pn		06 22 41.8	-0.8
NEA2					IAML			06 23 21.9	
	comp=E,13nm,0.4s								
NEA2					IAML			06 23 22.2	
	comp=N,12nm,0.8s								
EYAK	Cordova Ski Ar	3.23	108			Pn		06 22 41.4	-1.3
HARP	HAARP	3.30	74			Pn		06 22 43.3	-0.4
PAX	Paxson	3.31	64			Pn		06 22 43.7	-0.2
WRH	Wood River Hil	3.32	30			Pn		06 22 43.4	-0.6
WRH					IAML			06 23 21.8	
	comp=N,11nm,1.2s								
WRH					IAML			06 23 28.8	
	comp=E,15nm,0.6s								
P17K	Kvichak River	3.32	224			Pn		06 22 43.3	-0.7
I20K	Naaghedeneel	3.33	341			Pn		06 22 43.8	-0.3
I20K					IAML			06 23 37.6	
	comp=E,26nm,0.7s								
MLY	Manley	3.42	9			Pn		06 22 45.2	-0.2
MLY					IAML			06 23 24.3	
	comp=N,8.0nm,0.6s								
M16K	Timber Creek	3.42	262			Pn		06 22 44.9	-0.5
N16K	Nishlik Lake	3.51	253			Pn		06 22 45.5	-1.1
N25K	Chitina, Valde	3.52	88			Pn		06 22 45.5	-1.3
N25K					IAML			06 23 29.7	
	comp=E,18nm,0.5s								
N25K					IAML			06 23 45.5	
	comp=N,17nm,1.1s								
L16K	Owhat River	3.57	274	Pn		Pn		06 22 47.0	-0.4
HDA	Harding Lake	3.58	38			Pn		06 22 47.2	-0.2
HDA					IAML			06 23 32.9	
	comp=E,28nm,0.4s								
MID	Middleton Isla	3.58	126	Pn		Pn		06 22 46.6	-0.9
BMRM	Bremner River	3.62	98			Pn		06 22 46.0	-2.1
WACK	Wrangell Chich	3.64	82			Pn		06 22 48.0	-0.6
O16K	Kokwok River B	3.66	238			Pn		06 22 48.0	-0.6
GOAT	Goat Mountain	3.68	104			Pn		06 22 46.8	-2.1
I23K	Minto, Yukon-K	3.69	17			Pn		06 22 49.0	+0.2
I23K					IAML			06 23 30.0	
	comp=E,8.8nm,0.5s								
I23K					IAML			06 23 55.9	
	comp=N,9.1nm,0.9s								
MDM	Murphy Dome	3.71	25			Pn		06 22 49.0	-0.2
MDM					IAML			06 23 32.0	
	comp=N,10nm,0.7s								
MDM					IAML			06 23 43.7	
	comp=E,8.4nm,1.0s								
WASW	Wrangell South	3.72	83			Pn		06 22 48.5	-1.0
COLA	College	3.72	28			Pn		06 22 49.4	+0.2
J17K	VABM Dome	3.72	301			Pn		06 22 48.4	-0.8
J17K					IAML			06 23 44.1	
	comp=N,7.8nm,0.9s								
RAGM	Ragged Mountai	3.78	107			Pn		06 22 48.8	-1.4
IL31		3.87	34			Pn		06 22 51.1	-0.2
ILAR	Eielson Array	3.87	34			Pn		06 22 50.7	-0.6
ILAR	Eielson Array	3.87	34	P		Pn		06 22 50.6	-0.7
	comp=N,2.7nm,0.3s,baz=216,slow=14,SNR=94								
ILAR				S		Sn		06 23 33.6	-2.2
	comp=N,3.1nm,0.4s,baz=220,slow=21,SNR=5.2								
	comp=N,4.3nm,0.3s								
KDAK	Kodiak Island	3.91	185	Pn		Pn		06 22 49.5	-2.4
KDAK					IAML			06 23 47.5	
	comp=N,22nm,0.9s								
KDAK					IAML			06 23 48.5	
	comp=N,16nm,0.6s								
KDAK	Kodiak Island	3.91	185	P		Pn		06 22 49.5	-2.4
	comp=N,1.2nm,0.3s,baz=30,slow=9.7,SNR=23								
KDAK				S		Sn		06 23 33.5	-3.3
	comp=N,3.4nm,0.3s,baz=308,slow=19,SNR=8.1								
	comp=N,4.3nm,0.3s								
HMT	Hamilton	3.99	106	Pn		Pn		06 22 51.4	-1.6
POKR	Poker Plat Res	4.02	29	Pn		Pn		06 22 53.8	+0.5
POKR					IAML			06 23 43.3	
	comp=N,9.2nm,0.6s								
POKR					IAML			06 23 59.2	
	comp=E,7.3nm,0.6s								
H21K	Melozitna Rive	4.02	355			Pn		06 22 53.2	-0.1
H20K	Anotleneega Mo	4.05	343			Pn		06 22 53.2	-0.6
MENT	Mentasta	4.06	68			Pn		06 22 54.0	0.0
KAIM	Kayak Island	4.10	112			Pn		06 22 53.9	-0.5
VRDI	Verde Repeater	4.12	92			Pn		06 22 53.2	-1.7
VRDI					IAML			06 24 08.3	
	comp=N,7.6nm,0.7s								
VRDI					IAML			06 24 10.8	
	comp=E,6.3nm,1.0s								
J25K	Salcha River,	4.21	43			Pn		06 22 56.7	+0.8
J25K					IAML			06 23 45.7	
	comp=N,19nm,0.3s								
BERG	Berg Lake	4.23	104			Pn		06 22 56.2	+0.1
N15K	Kwethluk River	4.24	253	Pn		Pn		06 22 55.9	-0.4
N15K					IAML			06 24 08.5	
	comp=N,8.1nm,1.1s								
N15K					IAML			06 24 36.6	
	comp=E,8.3nm,1.0s								
L26K	Log Cabin Wild	4.25	68			Pn		06 22 56.8	+0.3
H22K	Ishtalitna Cre	4.25	3			Pn		06 22 56.0	-0.5
M26K	Nabesna, AK	4.29	76			Pn		06 22 56.7	-0.5
M26K					IAML			06 24 10.3	
	comp=E,13nm,0.4s								
MCARA	McCarthy VSAT	4.30	90			Pn		06 22 57.0	-0.1
H23K	Yukon River	4.31	13			Pn		06 22 57.3	0.0
H23K					IAML			06 23 50.6	
	comp=N,6.1nm,1.1s								
H23K					IAML			06 24 22.0	
	comp=E,4.3nm,0.8s								
J16K	Anvik River	4.32	296	Pn		Pn		06 22 56.9	-0.5
J16K					IAML			06 23 36.4	
	comp=E,4.9nm,0.9s								
J16K					IAML			06 24 15.5	
	comp=N,4.6nm,1.1s								
SCRK	Sand Creek	4.33	54			Pn		06 22 57.2	-0.6
SCRK					IAML			06 23 47.3	
	comp=E,15nm,1.0s								
SCRK					IAML			06 23 57.8	
	comp=N,12nm,0.7s								
H19K	Roundabout Mou	4.36	335			Pn		06 22 57.2	-0.6
IMAR	Indian Mountai	4.40	351			Pn		06 22 58.4	-0.1
KHIT	Khitrov Hills	4.42	102			Pn		06 22 58.1	-0.8
GRIN	Grindle Hills	4.44	104			Pn		06 22 58.4	-0.8
H18K	Honhosa River	4.52	323			Pn		06 23 00.1	0.0
L15K	Ungalak Mounta	4.53	274			Pn		06 22 59.5	-0.8
K15K	Wolf Creek Mou	4.55	282			Pn		06 23 00.5	0.0
K15K					IAML			06 24 04.7	
	comp=N,4.7nm,1.2s								
K15K					IAML			06 24 36.3	
	comp=E,3.7nm,1.1s								
H24K	Noodor Dome	4.56	22			Pn		06 23 01.1	+0.4
H24K					IAML			06 23 51.4	
	comp=N,3.4nm,0.7s								
H24K					IAML			06 24 18.4	
	comp=E,4.9nm,1.0s								
PTPK	Patty Peak	4.60	92			Pn		06 23 00.3	-1.0
O15K	Unngalikthiuk R	4.62	241			Pn		06 22 59.9	-1.6
KIAG	Kiagna River	4.70	95			Pn		06 23 00.7	-2.0
J26L	Joseph Creek	4.76	50			Pn		06 23 03.4	-0.1
BARK	Barkley Ridge	4.79	101			Pn		06 23 01.8	-2.0
M27K	Edge Creek, AK	4.81	77			Pn		06 23 04.3	+0.1
M27K					IAML			06 24 27.8	
	comp=N,7.0nm,0.9s								
M27K					IAML			06 24 31.1	
	comp=E,8.0nm,1.0s								
PRP	Porcupine Dome	4.82	34			Pn		06 23 05.0	+0.8
PRP					IAML			06 24 00.3	
	comp=E,12nm,1.1s								
PRP					IAML			06 24 00.4	
	comp=N,13nm,0.6s								
G21K	Allakaket	4.91	353			Pn		06 23 05.2	-0.1
G21K					IAML			06 24 03.9	
	comp=N,3.4nm,1.0s								
G21K					IAML			06 24 34.7	
	comp=E,3.1nm,1.1s								
L27K	Beaver Creek,	4.93	69			Pn		06 23 05.3	-0.4
L27K					IAML			06 24 25.4	
	comp=N,5.4nm,0.6s								
L27K					IAML			06 24 29.8	
	comp=E,3.0nm,0.5s								
BCAR	Beaver Creek A	4.95	69	Pn		Pn		06 23 05.0	-0.9
BARN	Barnard Glacie	5.00	92			Pn		06 23 06.8	0.0
BARN					IAML			06 24 31.5	
	comp=E,6.6nm,1.0s								
BARN					IAML			06 24 38.5	
	comp=N,7.8nm,1.1s								
G19K	Purcell Mounta	5.02	336			Pn		06 23 06.7	-0.2
K27K	Chicken	5.12	58			Pn		06 23 08.1	0.0
K27K					IAML			06 24 28.2	
	comp=N,6.1nm,0.8s								
K27K					IAML			06 24 35.2	
	comp=E,4.9nm,1.1s								
G23K	Bananza Creek	5.13	9			Pn		06 23 09.1	+0.7
G23K					IAML			06 24 06.1	
	comp=E,2.9nm,0.8s								
G23K					IAML			06 24 09.3	
	comp=N,3.3nm,0.7s								
G18K	Tagagawik	5.17	328			Pn		06 23 08.9	0.0
CTGM	Chitina Glacie	5.18	93			Pn		06 23 08.7	-0.4
CTGM					IAML			06 24 21.0	
	comp=N,4.4nm,1.0s								
CTGM					IAML			06 24 40.5	
	comp=E,6.1nm,1.1s								
H25L	Birch Creek	5.35	28			Pn		06 23 11.0	-0.3
LOGN	Logan Glacier	5.37	94			Pn		06 23 11.5	-0.3
LOGN					IAML			06 24 12.2	
	comp=E,7.7nm,1.1s								
LOGN					IAML			06 24 16.4	
	comp=N,7.1nm,1.0s								
I26K	Coal Creek Min	5.38	43			Pn		06 23 11.7	+0.1
G24K	Hadweenzic Riv	5.42	19			Pn		06 23 12.5	+0.2
COLD	Coldfoot	5.63	7			Pn		06 23 15.5	+0.4
F20K	Avaraart Lake	5.64	345			Pn		06 23 15.8	+0.6
G25K	Bearman Lake	5.72	24			Pn		06 23 16.1	-0.2
F19K	Shaleruckik Mo	5.76	337	Pn		Pn		06 23 16.9	0.0
O28M	Mount Upton	5.77	94			Pn		06 23 16.9	-0.3
EGAK	Eagle	5.80	53			Pn		06 23 17.1	-0.2
F22K	John River	5.86	359			Pn		06 23 18.7	+0.5
I27K	Kandik River	6.07	45			Pn		06 23 21.1	0.0
F24K	Squaw Lake	6.13	15			Pn		06 23 22.5	+0.6
E19K	Redstone River	6.23	341			Pn		06 23 24.1	+0.8
DAWY	Dawson	6.24	62			Pn		06 23 23.2	-0.2
F17K	Baldwin Pennin	6.28	324	Pn		Pn		06 23 24.1	+0.2
BCPM	Bancas Point	6.28	100	Pn		Pn		06 23 23.8	-0.1
CHGN	Chignik	6.33	215	Pn		Pn		06 23 23.6	-0.9
M29M	Somme Creek	6.40	77	Pn		Pn		06 23 25.9	+0.2
H27K	Steamboat Moun	6.49	41			Pn		06 23 26.3	-0.4
E22K	Anaktuvuk Pass	6.49	1	Pn		Pn		06 23 27.8	+1.0
I28M	Miner Creek	6.58	50			Pn		06 23 28.1	+0.1
BMAR	Burnt Mountain	6.60	26	Pn		Pn		06 23 28.2	-0.1
L29M	L29M	6.60	71	Pn		Pn		06 23 28.6	+0.3
E24K	Your Creek	6.60	11			Pn		06 23 29.4	+1.2
E20K	Nigu River	6.85	347			Pn		06 23 31.8	+0.2
E21K	Killik River	6.85	354			Pn		06 23 32.8	+1.1
K29M	Barlow Dome	6.99	66	Pn		Pn		06 23 33.1	-0.5
HYT	Haines Junctio	7.04	91	Pn		Pn		06 23 34.0	-0.3
N30M	Aishikik Lake	7.12	85	Pn		Pn		06 23 34.6	-0.7
P29M	Windy Craggy	7.29	100	Pn		Pn		06 23 38.0	+0.3
D19K	Kuna River	7.32	342	Pn		Pn		06 23 38.6	+0.6
H29M	Whitestone	7.52	47	Pn		Pn		06 23 41.1	+0.4
J30M	Hart River	7.66	61	Pn		Pn		06 23 43.4	+0.6
O30N	Mendenhall	7.72	90	Pn		Pn		06 23 42.3	-1.3
N31M	Braeburn, Yuko	7.73	84	Pn		Pn		06 23 43.4	-0.3
F28M	Old Crow	7.90	36	Pn		Pn		06 23 45.3	-0.6
C23K	Itkillik River	8.22	3	Pn		Pn		06 23 50.1	-0.1
WHY	Whitehorse	8.33	89	Pn		Pn		06 23 50.6	-1.2
G30M	tAoh Zraii Nji	8.65	45	Pn		Pn		06 23 55.7	-0.4
B22K	Teshekpuk Lake	8.73	357	Pn		Pn		06 23 56.8	-0.2
G31M	Satah River	9.30	48	Pn		Pn		06 24 04.6	-0.2
P33M	Teslin, Yukon	9.43	90	Pn		Pn		06 24 06.2	-0.6
INK	Inuvik	10.22	42	P		Pn		06 24 17.8	+0.5
	comp=N,0.1nm,0.3s,baz=226,slow=12,SNR=5.0								
INK				S		Sn		06 26 08.0	-1.8
	comp=N,0.6nm,0.8s,baz=225,slow=4.3,SNR=1.8								
	comp=N,1.7nm,1.1s								
R33M	Jennings River	10.59	93	Pn		Pn		06 24 22.7	+0.2
YKA	Yellowknife Ar	17.36	71	P		P		06 25 48.9	-0.3
	baz=286,slow=13,SNR=6.1								
	comp=N,0.5nm,0.7s								
PDAR	Pinedale Array	31.36	107	P		P		06 28 05.7	+0.9
	comp=N,0.1nm,0.4s,baz=353,slow=6.8,SNR=1.8								
	comp=N,0.1nm,0.4s								
TXAR	Lajitas Array	45.14	113	P		P		06 30 02.2	+2.2
	comp=N,0.2nm,0.7s,baz=349,slow=4.1,SNR=1.8								
	comp=N,0.2nm,0.7s								

*CATAC **06** 06:22:08.6±0.2, 13°.19N×88°.05W, h3km±1km, ML3.5*
*SNET **06** 06:22:08.3±0.8, 13°.24N×88°.06W, h3km±2km, ML3.9*
ISC 06 06:22:09.0±0.9, 13°.22N±0°.04×88°.05W±0°.02, h13km±6km, n57, σ0°876/72, 5C-7D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LCND	La Caada	0.18	60	⇑	*i* P		Pg	06 22 13.0	-0.3
LCND					*e* S		Sg	06 22 15.8	-0.3
LCND					IAML			06 22 17.9	
	comp=Z,36μm,0.5s								
LCND	La Caada	0.18	60		*i* P		Pg	06 22 12.8	-0.4
LCND					*i* P			06 22 13.0	
LCND					*i* S		Sg	06 22 15.6	-0.5
LCND					IAML			06 22 17.5	
	comp=Z,32μm,1.0s								
LCND					IAML			06 22 19.2	
	comp=Z,41μm,1.0s								
JUCU	Jucuarįn	0.20	281	⇓	*i* P		Pg	06 22 13.2	-0.3
JUCU					*e* S		Sg	06 22 16.4	-0.2
JUCU					IAML			06 22 18.0	
	comp=Z,30μm,0.5s								
JUCU	Jucuarįn	0.20	281		*i* P		Pg	06 22 13.2	-0.3
JUCU					*i* S		Sg	06 22 15.9	-0.7
JUCU					IAML			06 22 19.8	
	comp=Z,24μm,1.0s								
CNCH	Conchagua	0.22	75	⇑	*e* P		Pg	06 22 13.9	-0.1
CNCH					*e* S		Sg	06 22 17.6	+0.3
CNCH	Conchagua	0.22	75	*i*	P		Pg	06 22 13.7	-0.2
CNCH					*i* S		Sg	06 22 17.4	+0.1
CNCH					IAML			06 22 19.8	
	comp=Z,39μm,1.0s								
CNRM	Centro Naciona	0.28	335	⇓	*i* P		Pg	06 22 14.5	-0.4
CNRM					*e* S		Sg	06 22 18.9	0.0
CNRM	Centro Naciona	0.28	335		*i* P		Pg	06 22 14.5	-0.4
CNRM					*i* S		Sg	06 22 18.5	-0.4
CNRM					IAML			06 22 26.7	
	comp=Z,57μm,1.0s								
VSM	San Miguel	0.30	314	⇓	*i* P		Pg	06 22 15.3	-0.2
RANC	El Ranchito	0.32	313	⇑	*i* P		Pg	06 22 15.4	-0.2
RANC	El Ranchito	0.32	313	*i*	P		Pg	06 22 15.3	-0.3
RANC					*i* S		Sg	06 22 19.6	-0.5
RANC					IAML			06 22 22.3	
	comp=Z,5μm,1.0s								
PACA	Pacayal	0.36	313	⇑	*e* P		Pg	06 22 16.2	-0.3
PACA	Pacayal	0.36	313	*i*	P		Pg	06 22 16.2	-0.3
PACA					*i* S		Sg	06 22 21.2	-0.3
PACA					IAML			06 22 29.1	
	comp=Z,28μm,1.0s								
AMPH	Amapala	0.39	80		*e* P		Pg	06 22 16.8	0.0
AMPH					*e* S		Sg	06 22 22.6	+0.5
AMPH	Amapala	0.39	80		*i* P		Pg	06 22 16.7	-0.1
AMPH					*i* S		Sg	06 22 21.7	-0.4
TECA	Tecapa	0.52	302	⇓	*i* P		Pg	06 22 19.1	-0.2
COEB	Comit de Eme	0.54	301	⇓	*i* P		Pg	06 22 19.4	-0.5
COEB	Comit de Eme	0.54	301		*i* P		Pg	06 22 19.1	-0.5
COEB					*i* S		Sg	06 22 26.9	-0.2
COEB					IAML			06 22 28.7	
	comp=Z,2μm,1.0s								
PQSS	Presa 15 de Se	0.64	309	⇑	*e* P		Pg	06 22 21.0	-0.6
PQSS	Presa 15 de Se	0.64	309	*i*	P		Pg	06 22 20.9	-0.6
PQSS					IAML			06 22 22.1	
	comp=Z,720nm,1.0s								
PQSS					*i* S		Sg	06 22 30.1	+0.1
TECO	Alcaldia de Te	0.78	294	⇓	*e* P		Pg	06 22 23.3	-0.9
TECO	Alcaldia de Te	0.78	294		*i* P		Pg	06 22 23.4	-0.8
TECO					IAML			06 22 38.3	
	comp=Z,1μm,1.0s								
SCLA	Alcaldia de Sa	0.82	306		*i* P		Pg	06 22 24.3	-0.6
SCLA					IAML			06 22 26.6	
	comp=Z,510nm,1.0s								
UESV	Universidad de	0.83	300		*e* P		Pg	06 22 24.4	-0.7
UESV	Universidad de	0.83	300	*i*	P		Pg	06 22 24.3	-0.8
UESV					IAML			06 22 37.4	
	comp=Z,880nm,1.0s								
PAVA	Las Pavas	0.99	300	*i*	P		Pg	06 22 27.3	-1.0
PAVA					IAML			06 22 44.7	
	comp=Z,4μm,1.0s								
INTHN	La Esperanza I	1.09	357	*i*	P		Pg	06 22 29.4	-0.8
CRIN	San Cristobal	1.10	118	⇓	*e* P		Pg	06 22 29.9	-0.4
CRIN	San Cristobal	1.10	118	*i*	P		Pg	06 22 29.9	-0.4
CRIN					IAML			06 22 31.0	
	comp=Z,4μm,1.0s								
TGUH	Tegucigalpa,Un	1.13	42	*i*	P		Pg	06 22 29.2	-1.6
TGUH					IAML			06 22 50.3	
	comp=Z,3μm,1.0s								
PANCS	Alcalda de	1.17	290	*i*	P		Pg	06 22 30.2	-1.3
PANCS					IAML			06 22 46.2	
	comp=Z,3μm,1.0s								
LOMA	Loma Larga	1.17	291	*i*	P		Pg	06 22 30.5	-1.1
LOMA					IAML			06 22 47.4	
	comp=Z,1μm,1.0s								
UDBS	Universidad Do	1.18	295	*i*	P		Pb	06 22 31.6	+0.2
UDBS					IAML			06 23 06.4	
	comp=Z,600nm,1.0s								
IGN	Direccin Gen	1.20	295	*i*	P		Pb	06 22 31.9	+0.3
IGN					IAML			06 22 49.5	
	comp=Z,3μm,1.0s								
UTEC	Universidad Te	1.22	293	*i*	P		Pn	06 22 32.4	+0.6
UTEC					IAML			06 22 54.6	
	comp=Z,750nm,1.0s								
SNET	Serv Nac Est T	1.24	292	*i*	P		Pg	06 22 31.8	-1.2
SNET					IAML			06 22 52.3	
	comp=Z,1μm,1.0s								
UEES	Universidad Ev	1.26	293	*i*	P		Pg	06 22 32.6	-0.7
UEES					IAML			06 22 56.3	
	comp=Z,510nm,1.0s								
LALI	Alcalda de L	1.27	282	*i*	P		Pn	06 22 33.4	+1.0
LALI					IAML			06 22 55.6	
	comp=Z,240nm,1.0s								
LLGN	La Laguna	1.28	317	*i*	P		Pg	06 22 31.4	-2.3
LLGN					IAML			06 22 54.9	
	comp=Z,400nm,1.0s								
PMON	Piamonte	1.32	292	*i*	P		Pg	06 22 33.0	-1.6
PMON					IAML			06 22 52.3	
	comp=Z,1μm,1.0s								
JAYA	Jayaque - finc	1.43	288	*i*	P		Pn	06 22 34.7	-0.1
JAYA					IAML			06 22 56.4	
	comp=Z,2μm,1.0s								
CEDA	San Andres	1.43	294	*i*	P		Pb	06 22 35.7	+0.1
CEDA					IAML			06 23 03.9	
	comp=Z,2μm,1.0s								
ROCN	Rota Cerro Neg	1.45	118	*i*	P		Pn	06 22 34.5	-0.5
ROCN					IAML			06 23 05.7	
	comp=Z,210nm,1.0s								
CNGA	Al SSO del Vol	1.50	118	*i*	P		Pn	06 22 33.8	-1.9
CNGA					IAML			06 23 04.6	
	comp=Z,340nm,1.0s								
CNGN	Cerro Negro	1.50	118	*i*	P		Pn	06 22 35.1	-0.6
CNGN					IAML			06 23 12.8	
	comp=Z,440nm,1.0s								
LEVN	Ruinas Leon Vi	1.62	120	*i*	P		Pn	06 22 38.2	+1.0
LEVN					IAML			06 23 08.4	
	comp=Z,360nm,1.0s								
UNIC	Universidad Ca	1.64	298	*i*	P		Pn	06 22 38.3	+0.6
UNIC					IAML			06 23 13.2	
	comp=Z,210nm,1.0s								
CEVE	Cerro Verde	1.65	292	*i*	P		Pn	06 22 38.7	+0.8
CEVE					IAML			06 23 04.9	
	comp=Z,880nm,1.0s								
MOMN	Momotombo	1.68	118	*i*	P		Pn	06 22 38.2	+0.1
MOMN					IAML			06 22 39.1	
	comp=Z,13nm,1.0s								
MOM2	El Cardon	1.71	117	*i*	P		Pn	06 22 38.3	-0.3
MOM2					IAML			06 22 40.6	
	comp=Z,210nm,1.0s								
MTO3	Montecristo	1.73	313	*i*	P		Pn	06 22 39.4	+0.4
MTO3					IAML			06 23 05.1	
	comp=Z,260nm,1.0s								
COPN	Copaltepe	1.76	126	*i*	P		Pn	06 22 38.9	-0.3
COPN					IAML			06 23 13.6	
	comp=Z,160nm,1.0s								
NUBE	Las Nubes	1.81	292	*i*	P		Pn	06 22 40.9	+0.8
NUBE					IAML			06 23 11.3	
	comp=Z,420nm,1.0s								
ESQI	Esquipulas	1.83	317	*i*	P		Pn	06 22 41.7	+1.4
ESQI					*i* S		Sb	06 23 06.3	+1.0
ESQI					IAML			06 23 12.3	
	comp=Z,410nm,1.0s								
JUAM	Asuncion Mita	1.96	305	*i*	P		Pn	06 22 43.4	+1.5
JUAM					IAML			06 22 47.3	
	comp=Z,320nm,1.0s								
ORTG	Ortega, Santa	3.81	138	*i*	P		Pn	06 23 07.6	+0.1
ORTG					IAML			06 23 14.1	
	comp=Z,29nm,1.0s								
SAJU	San Juanillo,	3.88	144	*i*	P		Pn	06 23 09.5	+1.1
SAJU					IAML			06 24 06.0	
	comp=Z,48nm,1.0s								

*IDC **06** 06:31:25.8±1.4, 13°.54N×87°.65W, h0km, mb3.2/3, mbtmp3.3/4, ML2.4/2, Error ellipse: s-maj=61.2km s-min=19.2km az=50.0*
*CATAC **06** 06:31:25.5±0.2, 13°.22N×88°.04W, h2km±2km, mb3.6, ML3.5*
*SNET **06** 06:31:25.2±0.6, 13°.25N×88°.05W, h4km

TGUH IAML 06 32 08.9
comp=Z,2µm,1.0s
CRIN **San Cristobal** **1.12 119** *i* P **Pn** **06 31 46.9 -1.2**
CRIN IAML 06 31 49.4
comp=Z,3µm,1.0s
LOMA **Loma Larga** **1.16 290** *i* P **Pb** **06 31 47.1 -1.3**
LOMA IAML 06 32 05.5
comp=Z,990nm,1.0s
UTEC **Universidad Te** **1.21 292** *i* P **Pn** **06 31 48.0 -1.4**
UTEC IAML 06 31 49.4
comp=Z,770nm,1.0s
SNET **Serv Nac Est T** **1.23 291** *i* P **Pg** **06 31 49.3 -0.2**
SNET IAML 06 31 49.6
comp=Z,2µm,1.0s
UEES **Universidad Ev** **1.25 292** *i* P **Pb** **06 31 49.4 -0.5**
UEES IAML 06 31 50.1
comp=Z,550nm,1.0s
LLGN **La Laguna** **1.25 316** *i* P **Pn** **06 31 48.6 -1.4**
LLGN IAML 06 32 16.1
comp=Z,340nm,1.0s
BOQS **Boqueron** **1.29 292** *eP* **Pn** **06 31 49.7 -0.9**
PMON **Piamonte** **1.31 290** *i* P **Pn** **06 31 49.7 -1.2**
PMON IAML 06 32 13.2
comp=Z,920nm,1.0s
POLN **Al Sur del Vol** **1.35 116** *i* P **Pn** **06 31 49.4 -1.8**
POLN IAML 06 31 50.2
comp=Z,470nm,1.0s
HERN **Volcan Telica** **1.35 118** *i* P **Pn** **06 31 49.8 -1.5**
HERN IAML 06 31 55.0
comp=Z,790nm,1.0s
TEL3 **Telica 3** **1.35 120** *i* P **Pn** **06 31 49.2 -2.1**
TEL3 IAML 06 31 52.2
comp=Z,990nm,1.0s
JAYA **Jayaque - finc** **1.42 286** *i* P **Pn** **06 31 51.2 -1.2**
JAYA IAML 06 31 52.6
comp=Z,2µm,1.0s
ROCN **Rota Cerro Neg** **1.47 120** *i* P **Pn** **06 31 51.3 -1.6**
ROCN IAML 06 32 17.9
comp=Z,200nm,1.0s
CNGA **Al SSO del Vol** **1.52 120** *i* P **Pn** **06 31 50.7 -2.9**
CNGA IAML 06 31 55.6
comp=Z,390nm,1.0s
CNGN **Cerro Negro** **1.52 120** *i* P **Pn** **06 31 51.9 -1.7**
CNGN IAML 06 31 53.8
comp=Z,320nm,1.0s
UNIC **Universidad Ca** **1.63 297** *i* P **Pn** **06 31 55.3 +0.1**
UNIC IAML 06 31 55.6
comp=Z,200nm,1.0s
CEVE **Cerro Verde** **1.64 291** *eP* **Pn** **06 31 55.4 0.0**
CEVE **Cerro Verde** **1.64 291** *i* P **Pb** **06 31 55.9 -0.7**
CEVE /S **Sg** **06 32 18.3 -0.3**
CEVE IAML 06 32 22.0
comp=Z,720nm,1.0s
MOMN **Momotombo** **1.69 120** *i* P **Pn** **06 31 55.0 -1.0**
MOMN IAML 06 31 56.9
comp=Z,16nm,1.0s
MTO3 **Montecristo** **1.71 312** *i* P **Pn** **06 31 56.6 +0.2**
MTO3 IAML 06 32 20.4
comp=Z,190nm,1.0s
MOM2 **El Cardon** **1.73 118** *i* P **Pn** **06 31 55.1 -1.3**
MOM2 IAML 06 31 57.5
comp=Z,210nm,1.0s
COPN **Copaltepe** **1.78 127** *i* P **Pn** **06 31 56.1 -1.0**
COPN IAML 06 32 27.2
comp=Z,130nm,1.0s
NUBE **Las Nubes** **1.80 291** *i* P **Pn** **06 31 57.5 -0.1**
NUBE IAML 06 32 29.1
comp=Z,370nm,1.0s
MORN **Al O del Volca** **2.89 126** *i* P **Pn** **06 32 13.0 +0.5**
MORN IAML 06 32 13.9
comp=Z,160nm,1.0s
APG **El Apazote** **2.92 307** Pn **Pb** **06 32 15.6 -2.9**
comp=Z,0.1nm,0.3s,baz=101,slow=16,SNR=10
APG Sn **Sb** **06 32 55.1 +0.6**
comp=Z,0.1nm,0.3s,baz=131,slow=11,SNR=2.4
HZTE **Horizontes, Gu** **3.48 136** *i* P **Pn** **06 32 20.6 0.0**
HZTE IAML 06 34 47.3
comp=Z,97nm,1.0s
ORTG **Ortega, Santa** **3.83 138** *i* P **Pn** **06 32 25.1 -0.4**
ORTG IAML 06 32 27.3
comp=Z,34nm,1.0s
SAJU **San Juanillo,** **3.91 144** *i* P **Pn** **06 32 26.4 -0.1**
SAJU IAML 06 33 34.6
comp=Z,51nm,1.0s
JTS **Las Juntas de** **4.23 134** Pn **Pn** **06 32 29.9 -1.0**
comp=Z,1.3nm,0.3s,baz=305,slow=19,SNR=12
JTS Sn **Sn** **06 33 20.9 +0.3**
baz=315,slow=20
comp=Z,3.1nm,0.3s
RIMA **Rio Macho** **5.37 130** *i* P **Pn** **06 32 47.4 +0.6**
RIMA IAML 06 32 51.7
comp=Z,23nm,1.0s
RIMA IAmb IAmb 06 32 51.7
comp=Z,10.0nm,1.5s
CDM **Cerro de Muert** **5.58 131** *i* P **Pn** **06 32 49.9 0.0**
CDM IAML 06 32 55.5
comp=Z,23nm,1.0s
CDM IAmb IAmb 06 32 55.6
comp=Z,8.7nm,1.1s
TXAR **Lajitas Array** **21.59 320** P **P** **06 36 17.5 +0.9**
comp=Z,0.3nm,0.8s,baz=124,slow=11,SNR=3.5
comp=Z,0.3nm,0.8s
YKA **Yellowknife Ar** **52.69 345** P **P** **06 40 40.7 -0.1**
comp=Z,0.3nm,1.0s,baz=133,slow=7.0,SNR=5.7
comp=Z,0.3nm,1.0s
PLCA **Paso Flores** **56.11 164** P **P** **06 41 08.5 +2.4**
comp=Z,0.9nm,0.8s,baz=342,slow=13,SNR=1.8
comp=Z,0.9nm,0.8s

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*IDC **06** 06:35:23.3±1.3, 54˚.23S×121˚.07W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=65.0km s-min=33.2km az=107.0*
ISC 06 06:35:24.7±1.1, 54˚.2S±0˚.2×121˚.1W±0˚.4, h10km, n12, σ1§42/6, mb3.8/5, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**35.82**	**73**	T	T	07 19 08.0	
	baz=219,slow=74,SNR=21						
H03S1	**Juan Fernandez**	**35.82**	**73**	T	T	07 19 10.0	
	baz=219,slow=74,SNR=23						
H03S3	**Juan Fernandez**	**35.84**	**73**	T	T	07 19 08.5	
	baz=219,slow=74,SNR=20						
QSPA	**South Pole Qui**	**35.96**	**180**	P	**P**	**06 42 25.1 -0.1**	
	2.4nm,0.9s,baz=90,slow=3.0,SNR=3.6						
	2.4nm,0.9s						
H03N3	**Juan Fernandez**	**36.10**	**72**	T	T	07 19 22.8	
	baz=221,slow=72,SNR=110						
H03N2	**Juan Fernandez**	**36.11**	**72**	T	T	07 19 22.1	
	baz=221,slow=72,SNR=132						
H03N1	**Juan Fernandez**	**36.12**	**72**	T	T	07 19 23.9	
	baz=221,slow=72,SNR=66						
ASAR	**Alice Springs**	**79.41**	**244**	P	**P**	**06 47 30.5 -0.6**	
	0.3nm,0.8s,baz=154,slow=4.0,SNR=2.0						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**82.21**	**247**	P	**P**	**06 47 47.1 +1.1**	
	1.7nm,0.7s,baz=144,slow=4.7,SNR=10.0						
	1.7nm,0.7s						
TXAR	**Lajitas Array**	**84.57**	**15**	P	**P**	**06 47 59.2 +1.4**	
	0.3nm,0.8s,baz=186,slow=7.3,SNR=4.2						
	0.3nm,0.8s						
NVAR	**Mina Array Bea**	**92.32**	**2**	P	**P**	**06 48 33.2 -1.6**	
	0.2nm,0.5s,baz=186,slow=5.9,SNR=2.3						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**167.50**	**261**	PKP	**PKPdf**	**06 55 29.7 -0.2**	
	0.1nm,0.3s,baz=128,slow=1.5,SNR=5.0						

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*NEIC **06** 06:43:12.2±1.1, 19˚.26N±0˚.01×155˚.22W±0˚.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.8km az=339.0*
HVO 06 06:43:12.0±1.2, 19˚.26N±0˚.01×155˚.19W±0˚.02, h7km±2km, ML2.4/15, ML2.6/42(NEIC), Error ellipse: s-maj=2.8km s-min=1.3km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HLP	**Hilina Pali**	**0.12**	**290**		Pg	06 43 14.4	-0.3
PUH	**Pauahi**	**0.12**	**347**		Pg	06 43 14.5	-0.2
PUH					IAML	06 43 17.0	
	comp=E,3µm,0.3s						
PUH					IAML	06 43 17.7	
	comp=N,2µm,0.3s						
KNHH	**Kane Nui o Ham**	**0.12**	**8**		Pg	06 43 14.7	-0.1
STCH	**Steam Cracks**	**0.14**	**24**		Pg	06 43 15.0	0.0
STCH					IAML	06 43 18.3	
	comp=N,2µm,0.3s						
STCH					IAML	06 43 18.3	
	comp=E,2µm,0.4s						
JCUZ	**Jacuzzi**	**0.15**	**32**		Pg	06 43 15.5	+0.3
JCUZ					IAML	06 43 19.5	
	comp=E,1µm,0.3s						
NPOC	**North of Pu'u**	**0.16**	**28**		Pg	06 43 15.3	0.0
KKO	**Keanakako'i**	**0.16**	**332**		Pg	06 43 15.1	-0.3
KKO					IAML	06 43 19.2	
	comp=E,2µm,0.5s						
RIM	**Rim**	**0.16**	**330**		Pg	06 43 15.1	-0.3
RIM					IAML	06 43 18.5	
	comp=E,2µm,0.7s						
SDHHI	**Sand Hill**	**0.17**	**323**		Pg	06 43 14.1	-1.4
SDHHI					IAML	06 43 20.3	
	comp=E,2µm,0.3s						
SDHHI					IAML	06 43 21.7	
	comp=N,2µm,0.4s						
BYL	**Byron's Ledge**	**0.17**	**336**	Pg	Pg	06 43 15.3	-0.3
BYL					IAML	06 43 18.6	
	comp=N,2µm,0.5s						
BYL					IAML	06 43 20.1	
	comp=E,2µm,0.5s						
HATHI	**Halema'uma'u T**	**0.18**	**337**		Pg	06 43 15.3	-0.4
HATHI					IAML	06 43 19.1	
	comp=E,2µm,0.7s						
HATHI					IAML	06 43 21.6	
	comp=N,1µm,0.4s						
WRMHI	**West Rim**	**0.18**	**325**	Pg	Pg	06 43 14.6	-1.2
WRMHI					IAML	06 43 21.5	
	comp=N,2µm,0.4s						
SBLHI	**Steaming Bluff**	**0.19**	**336**		Pg	06 43 15.6	-0.3
SBLHI					IAML	06 43 20.7	
	comp=N,2µm,0.6s						
SBLHI					IAML	06 43 22.2	
	comp=E,1µm,0.5s						
UWB	**Uwekahuna B**	**0.19**	**333**		Pg	06 43 14.2	-1.7
UWE	**Uwekahuna**	**0.19**	**329**	Pg	Pg	06 43 13.5	-2.5
UWE					IAML	06 43 22.1	
	comp=N,2µm,0.4s						
RSD	**Rainshed**	**0.22**	**338**		Pg	06 43 15.2	-1.3
MLH	**Mauna Loa**	**0.30**	**322**		Pg	06 43 17.4	-0.6
MLH					Sg	06 43 17.7	-4.4
MLH					IAML	06 43 24.6	
	comp=N,674nm,1.7s						
KHU	**Kahuku**	**0.40**	**269**		Pg	06 43 19.4	-0.6
KHU					Sg	06 43 19.8	-5.5
KHU					IAML	06 43 27.1	
	comp=E,512nm,0.4s						
HMH	**Humu'ula Sheep**	**0.44**	**321**		Pg	06 43 20.4	-0.3
HMH					Sg	06 43 20.9	-5.7
HMH					IAML	06 43 28.2	
	comp=N,500nm,0.4s						
MWH	**Moku'aweowe**	**0.45**	**301**		Pg	06 43 20.6	-0.3
MWH					IAML	06 43 30.5	
	comp=N,438nm,0.5s						
MWH					IAML	06 43 32.8	
	comp=E,585nm,0.6s						
ALEP	**Alea Permanent**	**0.52**	**304**		Pg	06 43 22.0	-0.1
ALEP					Sg	06 43 28.9	0.0
POHA	**Pohakuloa**	**0.60**	**327**		Pg	06 43 22.7	-0.9
HUH	**Hualalai**	**0.75**	**305**	Pg	Pg	06 43 25.5	-1.0
HUH					Pb	06 43 25.6	-1.9

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*IDC **06** 06:43:17.3±0.8, 43˚.83N×86˚.84E, h0km, mb3.8/14, mbtmp3.8/20, ML3.4/6, Error ellipse: s-maj=17.2km s-min=11.3km az=36.0*
*NNC **06** 06:43:25.0±1.6, 43˚.99N×86˚.33E, h10km±6km, mb4.4, mpv4.3, Error ellipse: s-maj=11.2km s-min=7.7km az=115.0*
*SOME **06** 06:43:27.1, 44˚.17N×86˚.07E, h5km*
ISC 06 06:43:19.5±0.6, 44˚.07N±0˚.05×87˚.13E±0˚.04, h10km, n65, σ2§01/73, mb3.8/13, 12C-12D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan**	**3.73**	**336**	Pg	**Pg**	**06 44 32.7**	**+1.7**
	100nm,0.6s						
ZSN				Lg	Lg	06 45 19.3	
	280nm,1.0s						
ZSN	**Zaisan**	**3.73**	**336**	*eP*	**Pg**	**06 44 32.7**	**+1.7**
	100nm,0.6s						
ZSN				*eS*	**Sg**	**06 45 19.3**	**-0.1**
	280nm,1.0s						
MK31	**Makanchi Array**	**4.36**	**310**	⇓Pn	**Pn**	**06 44 26.6**	**+0.7**
	6.2nm,0.3s,baz=135,slow=14,SNR=202						
MK31				⇓Pg	**Pb**	**06 44 37.1**	**+0.9**
	25nm,0.6s,baz=123,slow=17,SNR=11						
MK31				⇑Sn	**Sn**	**06 45 16.3**	**-0.5**
	53nm,0.9s,baz=134,slow=27,SNR=5.0						
MK31				⇓Lg	Lg	06 45 34.3	
	109nm,0.6s,baz=133,slow=30,SNR=4.3						
MKAR	**Makanchi Array**	**4.36**	**310**	Pn	**Pn**	**06 44 26.9**	**+1.1**
	5.5nm,0.3s,baz=130,slow=15,SNR=164						
MKAR				Pg	**Pb**	**06 44 37.5**	**+1.2**
	7.7nm,0.3s,baz=129,slow=17,SNR=22						
MKAR				Sn	**Sn**	**06 45 17.1**	**+0.4**
	10nm,0.3s,baz=132,slow=26,SNR=4.9						
MKAR				Lg	Lg	06 45 32.1	
	13nm,0.3s,baz=133,slow=30,SNR=7.7						
	12nm,0.3s						
MAKZ	**Makanchi**	**4.55**	**309**	⇑Pn	**Pn**	**06 44 28.9**	**+0.5**
	18nm,0.5s						
MAKZ				⇓Pg	**Pb**	**06 44 38.2**	**-1.2**
	26nm,0.8s						
MAKZ				⇑Sn	**Sn**	**06 45 19.7**	**-1.5**
	77nm,0.9s						
MAKZ				⇑Lg	Lg	06 45 40.1	
	355nm,1.2s						
DJR	**Jarkent**	**5.29**	**275**	Pg	**Pb**	**06 44 51.7**	**-0.4**
	22nm,0.7s						
DJR				Lg	Lg	06 45 51.7	
	100nm,0.8s						
DJR	**Jarkent**	**5.29**	**275**	*eP*	**Pb**	**06 44 51.6**	**-0.4**
	22nm,0.7s						
DJR				*eS*	**Sb**	**06 45 51.7**	**-3.8**
	100nm,0.8s						
PDGK	**Podgornoye**	**5.59**	**265**	Pg	**Pb**	**06 44 57.5**	**+0.3**
	9.8nm,0.5s						
PDGK				Lg	Lg	06 46 01.7	
	87nm,1.0s						
PDGK	**Podgornoye**	**5.59**	**265**	⇓Pn	Pn	06 44 38.7	-4.1
	3.2nm,0.5s						
PDGK				⇑Pg	**Pb**	**06 44 53.8**	**-3.5**
	37nm,1.2s						
PDGK				⇓Lg	Lg	06 46 04.2	
	248nm,0.9s						
SHLS	**Shalkode**	**5.64**	**263**	Pg	Pb	06 44 52.7	-5.4
	36nm,0.7s						
SHLS				Lg	Lg	06 45 53.9	
	268nm,0.8s						
SHLS	**Shalkode**	**5.64**	**263**	*eP*	Pb	06 44 52.7	-5.4
	36nm,0.7s						
SHLS				*eS*	**Sn**	**06 45 53.9**	**+5.4**
	268nm,0.8s						
KAPS	**Kapalarasan**	**5.68**	**285**	Pg	**Pb**	**06 44 58.6**	**0.0**
	29nm,0.5s						
KAPS				Lg	Lg	06 46 03.6	
	68nm,0.6s						
KAPS	**Kapalarasan**	**5.68**	**285**	*eP*	**Pb**	**06 44 58.6**	**0.0**
	29nm,0.5s						
KAPS				*eS*	**Sb**	**06 46 03.6**	**-3.1**
	68nm,0.6s						
KNOS	**Konyrlen**	**5.72**	**276**	Pg	**Pb**	**06 44 59.6**	**0.0**
	66nm,0.6s						
KNOS				Lg	Lg	06 46 05.4	
	101nm,1.1s						
UZB	**Uzynbulak**	**5.96**	**264**	Pg	**Pb**	**06 45 04.9**	**+1.3**
	10nm,0.3s						
UZB				Lg	Lg	06 46 14.6	
	57nm,0.8s						
UZB	**Uzynbulak**	**5.96**	**264**	*eP*	**Pb**	**06 45 04.9**	**+1.3**
	10nm,0.3s						
UZB				*eS*	**Sb**	**06 46 14.6**	**-0.4**
	57nm,0.8s						
BLB	**Baldybastay**	**6.23**	**273**	Pg	**Pb**	**06 45 10.3**	**+2.1**
	65nm,0.3s						
BLB				Lg	Lg	06 46 23.9	
	75nm,0.6s						
TDK	**Taldyqorghan**	**6.31**	**282**	Pg	**Pb**	**06 45 11.1**	**+1.8**
	104nm,0.7s						
TDK				Lg	Lg	06 46 25.2	
	476nm,1.0s						
TDK	**Taldyqorghan**	**6.31**	**282**	*eP*	**Pb**	**06 45 11.1**	**+1.8**
	104nm,0.7s						
TDK				*eS*	**Sb**	**06 46 25.2**	**+0.4**
	476nm,1.0s						
ZHN	**Zhinishke**	**6.38**	**265**	Pg	**Pb**	**06 45 12.8**	**+2.2**
	8.8nm,0.1s						
ZHN				Lg	Lg	06 46 28.2	
	32nm,0.2s						
ZHN	**Zhinishke**	**6.38**	**265**	*eP*	**Pb**	**06 45 12.8**	**+2.2**
	8.8nm,0.1s						
ZHN				*eS*	**Sb**	**06 46 28.2**	**+1.2**
	32nm,0.2s						
SATY	**Saty**	**6.42**	**264**	Pg	**Pb**	**06 45 13.8**	**+2.5**
	33nm,0.7s						
SATY				Lg	Lg	06 46 29.8	
	61nm,0.5s						
SATY	**Saty**	**6.42**	**264**	*eP*	**Pb**	**06 45 13.8**	**+2.5**
	33nm,0.7s						
SATY				*eS*	**Sb**	**06 46 29.8**	**+1.6**
	61nm,0.5s						
KURS	**Kuram**	**6.51**	**268**	Pg	**Pb**	**06 45 15.3**	**+2.3**
	12nm,0.6s						
KURS				Lg	Lg	06 46 32.1	
	75nm,1.1s						
KURS	**Kuram**	**6.51**	**268**	*eP*	**Pb**	**06 45 15.3**	**+2.3**
	12nm,0.6s						
KURS				*eS*	**Sb**	**06 46 32.1**	**+1.2**
	75nm,1.1s						
ARXS	**Arharly**	**6.70**	**274**	Pg	**Pb**	**06 45 17.7**	**+1.7**
	14nm,0.6s						
ARXS				Lg	Lg	06 46 36.3	
	42nm,0.4s						
ARXS	**Arharly**	**6.70**	**274**	*eP*	**Pb**	**06 45 17.8**	**+1.7**
	14nm,0.6s						
ARXS				*eS*	**Sb**	**06 46 36.3**	**+0.2**
	42nm,0.4s						
KOTS	**Kotyrbulak**	**7.32**	**267**	Pg	**Pb**	**06 45 29.8**	**+3.2**
	1.3nm,0.8s						
KOTS				Lg	Lg	06 46 57.6	
	109nm,0.7s						
CHKK	**Chushkaly**	**7.32**	**272**	Pg	**Pb**	**06 45 29.7**	**+3.0**
	3.5nm,0.1s						
CHKK				Lg	Lg	06 46 57.2	
	33nm,0.6s						
MDOK	**Medeo**	**7.38**	**266**	⇑Pn	Pn	06 45 02.7	-4.6
	5.1nm,0.6s						
MDOK				Pg	**Pb**	**06 45 31.3**	**+3.6**
	9.4nm,0.5s						
MDOK				Lg	Lg	06 46 59.7	
	51nm,0.7s						
MDOK				⇑Lg	Lg	06 47 01.2	
	62nm,0.8s						
AAA	**Alma-Ata**	**7.46**	**267**	Pg	**Pb**	**06 45 33.1**	**+4.0**
	33nm,0.1s						
AAA				Lg	Lg	06 47 03.0	
	54nm,0.2s						
TNSS	**Tian-Shan**	**7.47**	**266**	Pg	**Pb**	**06 45 33.4**	**+4.0**
	12nm,0.6s						
TNSS				Lg	Lg	06 47 03.4	
	18nm,1.1s						
MTBS	**Maitube**	**7.83**	**267**	Pg	**Pb**	**06 45 39.5**	**+4.2**
	7.9nm,0.5s						
MTBS				Lg	Lg	06 47 13.9	
	23nm,0.7s						
SEM	**Semipalatinsk**	**7.88**	**326**	Pg	Pb	06 45 45.1	+8.8
	12nm,0.1s						
SEM				Lg	Lg	06 47 23.6	
	37nm,0.4s						
DGS	**Degeres**	**8.28**	**268**	Pg	Pb	06 45 47.9	+4.9
	5.9nm,0.6s						
DGS				Lg	Lg	06 47 28.5	
	25nm,0.8s						
TKM2	**Tokmak 2**	**8.47**	**266**	⇑Pn	**Pn**	**06 45 19.8**	**-2.6**
	4.1nm,0.6s						
TKM2				⇑Lg	Lg	06 47 35.6	
	31nm,0.9s						
KURBB	**Kurchatov Arra**	**8.78**	**321**	⇓Pn	**Pn**	**06 45 26.2**	**-0.1**
	21nm,0.7s						
KURBB				⇓Lg	Lg	06 47 54.3	
	109nm,0.7s						
KURBB	**Kurchatov Arra**	**8.78**	**321**	Pn	**Pn**	**06 45 26.5**	**+0.2**
	0.4nm,0.3s,baz=134,slow=13,SNR=34						
KURBB				Sn	**Sn**	**06 47 04.0**	**-1.3**
	0.4nm,0.3s,baz=0.0,slow=14,SNR=4.2						
KURBB				Lg	Lg	06 47 57.8	
	0.6nm,0.3s,baz=140,slow=35,SNR=6.8						
	1.8nm,0.3s						
AAK	**Ala-Archa**	**9.32**	**266**	⇑Pg	Pn	06 46 00.7	+27
	6.1nm,0.8s						
AAK				⇓Lg	Lg	06 48 03.9	
	33nm,0.9s						
AAK	**Ala-Archa**	**9.32**	**266**	Pn	**Pn**	**06 45 31.6**	**-2.4**
	0.2nm,0.3s,baz=50,slow=16,SNR=2.0						
AAK				Lg	Lg	06 48 04.3	
	0.2nm,0.3s,baz=107,slow=19,SNR=2.0						
	0.6nm,0.3s						
BTLS	**Baital**	**9.40**	**280**	Pg	Pn	06 46 08.3	+33
	3.5nm,0.2s						
BTLS				Lg	Lg	06 48 03.5	
	9.7nm,0.6s						
GOMU	**GeErMu**	**9.81**	**141**	P	**Pn**	**06 45 38.9**	**-2.1**
GOMU				pP		06 45 43.5	
GOMU				sP		06 45 46.5	
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.4s						
ZALV	**Zalesovo Beam**	**10.00**	**352**	Pn	**Pn**	**06 45 45.6**	**+2.4**
	comp=Z,1.5nm,0.3s,baz=175,slow=14,SNR=72						
ZALV				Sn	**Sn**	**06 47 36.6**	**+1.2**
	comp=Z,2.5nm,0.3s,baz=171,slow=25,SNR=10						
ZALV				Lg	Lg	06 48 43.9	
	baz=171,slow=28						
	comp=Z,16nm,0.6s						
MRKS	**Merke**	**10.21**	**267**	Pg	Pn	06 46 23.6	+37
	comp=Z,3.7nm,0.8s						
MRKS				Lg	Lg	06 48 29.7	
	comp=Z,7.8nm,0.9s						
OTUK	**Ortayu**	**11.08**	**297**	⇓Pn	Pn	06 45 54.4	-3.5
	comp=Z,2.5nm,0.7s						
OTUK				⇓Lg	Lg	06 49 03.7	
	comp=Z,20nm,1.1s						
KK31	**Karatay Array**	**12.10**	**271**	Pn	Pn	06 46 08.0	-3.9
	comp=Z,0.9nm,0.7s,baz=70,slow=18,SNR=13						
KK31				⇑Lg	Lg	06 49 32.5	
	comp=Z,3.6nm,0.7s,baz=73,slow=29,SNR=4.1						
IUG	**Iuzhnay**	**12.65**	**267**	Pg	Pn	06 47 08.4	+49
	comp=Z,9.6nm,0.6s						
IUG				Lg	Lg	06 49 47.0	
	comp=Z,30nm,2.0s						
SONM	**Songino Array**	**13.91**	**68**	Pn	**Pn**	**06 46 38.3**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=264,slow=11,SNR=3.3						
SONM				Lg	Lg	06 50 50.0	
	baz=263,slow=24						
	comp=Z,0.4nm,0.3s						
BVA0	**Borovoye Array**	**14.23**	**315**	⇓Pn	**Pn**	**06 46 38.5**	**-2.4**
	comp=Z,2.3nm,0.7s,baz=116,slow=12,SNR=10						
BVA0				Sn	**Sn**	**06 49 19.8**	**+1.1**
	comp=Z,5.0nm,0.8s,baz=99,slow=21,SNR=4.5						
BVA0				⇑Lg	Lg	06 50 48.9	
	comp=Z,12nm,1.1s,baz=111,slow=23,SNR=3.9						
BVAR	**Borovoye Array**	**14.23**	**315**	Pn	**Pn**	**06 46 38.6**	**-2.3**
	baz=122,slow=13,SNR=8.1						
BVAR				Sn	Sn	06 49 11.5	-7.2
	baz=119,slow=27,SNR=3.5						
BVAR				Lg	Lg	06 50 47.1	
	baz=116,slow=29,SNR=4.3						
	comp=Z,1.3nm,0.5s						
AKTO	**Aktyubinsk**	**20.68**	**298**	P	**P**	**06 47 57.3**	**-2.2**
	comp=Z,1.0nm,0.6s,baz=77,slow=4.9,SNR=1.6						
	comp=Z,1.0nm,0.6s						
GEYT	**Alibeck**	**22.67**	**264**	P	**P**	**06 48 19.0**	**-2.0**
	comp=Z,1.5nm,0.6s,baz=72,slow=18,SNR=1.9						
	comp=Z,1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**27.40**	**155**	P	**P**	**06 49 04.6**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=330,slow=8.6,SNR=6.6						
	comp=Z,1.3nm,0.3s						
FINES	**FINESS Array B**	**39.15**	**318**	P	**P**	**06 50 46.9**	**0.0**
	comp=Z,1.5nm,0.9s,baz=90,slow=9.7,SNR=4.0						
	comp=Z,1.5nm,0.9s						
BRTR	**Keskin Array B**	**39.47**	**283**	P	**P**	**06 50 48.5**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=79,slow=7.5,SNR=2.6						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**39.71**	**331**	P	**P**	**06 50 51.9**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=96,slow=9.2,SNR=6.5						
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**45.34**	**318**	P	**P**	**06 51 36.6**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=68,slow=9.4,SNR=1.0						
	comp=Z,0.4nm,0.3s						
PETK	**Petropavlovsk-**	**45.77**	**53**	P	**P**	**06 51 41.6**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=294,slow=10.0,SNR=1.3						
	comp=Z,1.3nm,0.9s						
NB2	**NORSAR Subarra**	**46.30**	**319**	P	**P**	**06 51 44.3**	**-0.7**

comp=Z,1.0nm,0.8s,baz=74,slow=7.9
NOA NORSAR Array B 46.30 319 P **P** 06 51 43.5 **-1.5**
comp=Z,0.9nm,0.8s,baz=74,slow=7.8,SNR=4.2
comp=Z,0.9nm,0.8s
EKA Eskdalemuir Ar 55.48 316 P **P** **06 52 53.3 -0.8**
comp=Z,0.8nm,0.7s,baz=62,slow=7.4,SNR=2.2
comp=Z,0.8nm,0.7s
ILAR Eielson Array 63.59 23 P **P** **06 53 52.0 +2.0**
comp=Z,1.0nm,0.7s,baz=315,slow=6.1,SNR=13
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 72.36 10 P **P** **06 54 46.0 +0.9**
comp=Z,0.7nm,0.7s,baz=340,slow=6.9,SNR=13
comp=Z,0.7nm,0.7s
WRA Warramunga Arr 76.96 135 P **P** **06 55 11.0 -1.2**
comp=Z,0.4nm,0.6s,baz=331,slow=5.0,SNR=3.1
comp=Z,0.4nm,0.6s
TORD Torodi Ar. Bea 77.73 276 P P 06 55 13.7 -3.2
comp=Z,0.7nm,0.7s,baz=45,slow=5.2,SNR=3.7
comp=Z,0.7nm,0.7s

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*IDC **06** 06:47:46.9±3.7,21.07S×178.26W,h443km±39km, mb3.2/10,mbtmp4.0/11,Error ellipse: s-maj=20.7km s-min=16.7km az=95.0*
ISC 06 06:47:58.9±0.6,21.2S±0.1×178.4W±0.2,h579km,n20, σ1s56/22,mb3.5/10,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.41**	**192**	P	**P**		**P**	**06 51 25.2**	**-4.7**
	3.7nm,0.3s,baz=35,slow=6.0,SNR=9.7								
URZ				S	**S**		**S**	**06 54 22.4**	**+0.9**
	3.1nm,0.7s,baz=342,slow=20,SNR=1.3								
ASAR	**Alice Springs**	**43.98**	**258**	P	**P**		**P**	**06 55 15.0**	**-1.1**
	1.4nm,0.9s,baz=94,slow=8.4,SNR=9.4								
ASAR				PcP	**PcP**		**PcP**	**06 56 50.8**	**+1.8**
	0.7nm,0.6s,baz=104,slow=3.7,SNR=6.5								
	1.4nm,0.9s								
WRA	**Warramunga Arr**	**44.12**	**263**	P	**P**		**P**	**06 55 15.6**	**-1.7**
	0.5nm,0.3s,baz=95,slow=7.6,SNR=11								
WRA				PcP	**PcP**		**PcP**	**06 56 51.3**	**+1.9**
	0.8nm,1.0s,baz=95,slow=4.0,SNR=2.0								
	0.5nm,0.3s								
VNDA	**Vanda**	**57.15**	**185**	P	**P**		**P**	**06 56 51.8**	**+1.1**
	0.4nm,0.7s,baz=348,slow=10,SNR=1.7								
	0.4nm,0.7s								
QSPA	**South Pole Qui**	**68.84**	**180**	P	**P**		**P**	**06 58 07.0**	**+1.0**
	1.9nm,0.8s,baz=23,slow=1.3,SNR=8.5								
	1.9nm,0.8s								
PETK	**Petropavlovsk-**	**76.87**	**345**	P	**P**		**P**	**06 58 50.9**	**-1.0**
	4.2nm,0.8s,baz=136,slow=8.0,SNR=7.7								
	4.2nm,0.8s								
NVAR	**Mina Array Bea**	**81.82**	**43**	P	**P**		**P**	**06 59 17.8**	**-0.8**
	0.6nm,0.8s,baz=235,slow=6.3,SNR=3.9								
	0.6nm,0.8s								
TXAR	**Lajitas Array**	**87.77**	**57**	P	**P**		**P**	**06 59 47.9**	**+0.4**
	0.1nm,0.4s,baz=260,slow=5.4,SNR=0.8								
	0.1nm,0.4s								
ILAR	**Eielson Array**	**89.11**	**13**	P	**P**		**P**	**06 59 51.3**	**-1.4**
	0.6nm,0.4s,baz=215,slow=5.4,SNR=19								
	0.6nm,0.4s								
PDAR	**Pinedale Array**	**89.75**	**43**	P	**P**		**P**	**06 59 55.9**	**-0.7**
	0.2nm,0.5s,baz=224,slow=3.8,SNR=2.9								
	0.2nm,0.5s								
CMAR	**Chiang Mai Arr**	**90.00**	**290**	P	**P**		**P**	**06 59 59.8**	**+1.9**
	0.7nm,0.4s,baz=119,slow=3.2,SNR=6.7								
	0.7nm,0.4s								
BVAR	**Borovoye Array**	**119.38**	**320**	PKP			**PKiKP**	**07 05 43.6**	**+0.6**
	1.5nm,0.4s,baz=94,slow=2.4,SNR=5.0								
ARCES	**ARCESS Array B**	**129.56**	**349**	PKP			**PKiKP**	**07 06 03.1**	**+0.3**
	1.8nm,0.8s,baz=48,slow=1.3,SNR=6.7								
FINES	**FINESS Array B**	**136.36**	**343**	PKP			**PKiKP**	**07 06 16.6**	**-0.1**
	1.0nm,0.7s,baz=48,slow=2.1,SNR=4.1								
AKASG	**Malin Array Be**	**143.46**	**330**	PKhKP			PKPpre	07 06 26.6	
	5.0nm,0.5s,baz=42,slow=4.2,SNR=35								
EKA	**Eskdalemuir Ar**	**145.76**	**5**	PKPbc			**PKPbc**	**07 06 33.3**	**-0.2**
	0.3nm,0.4s,baz=345,slow=3.5,SNR=5.4								
BRTR	**Keskin Array B**	**147.03**	**311**	PKPbc			**PKPbc**	**07 06 38.9**	**+1.1**
	1.0nm,0.6s,baz=104,slow=3.2,SNR=7.1								
MMAI	**Mount Meron Ar**	**147.83**	**299**	PKPbc			**PKiKP**	**07 06 41.1**	**-0.2**
	2.3nm,0.4s,baz=64,slow=6.6,SNR=5.5								
GERES	**GERESS Array B**	**150.79**	**343**	PKPbc			**PKiKP**	**07 06 47.6**	**+0.7**
	0.5nm,0.5s,baz=151,slow=2.2,SNR=2.0								
TORD	**Torodi Ar. Bea**	**171.96**	**181**	PKPab			**PKPab**	**07 08 30.1**	**+0.7**
	0.6nm,0.9s,baz=146,slow=5.3,SNR=2.1								

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*NEIC **06** 07:00:44.6±1.6,19.01N±0.07×145.78E±0.08, h128km±4km,mb4.9/305,Error ellipse: s-maj=12.9km s-min=7.5km az=53.0*
*BJI **06** 07:00:44.5±0.0,19.26N×145.80E,h131km,mb4.7/40, mB5.1/22*
*DJA **06** 07:00:44.1±0.7,19°N±5°×14°6E±°,h145km±8km,M5.3/13, mB5.7/6,mb5.2/13,MLv5.5/1,Mw(mB)5.3/6*
*MOS **06** 07:00:44.0±0.9,19.00N×145.79E,h145km,mb5.0/27, Error ellipse: s-maj=11.8km s-min=5.7km az=97.5*
*IDC **06** 07:00:45.4±0.6,19.00N×145.75E,h144km±5km,mb4.4/29, mbtmp4.9/34,MS3.6/15,Error ellipse: s-maj=12.3km s-min=7.6km az=81.0*
*GCMT **06** 07:00:47.7±0.2,19.15N±0.02×146.12E±0.02, h133km±2km,MW5.1/114,Moment Tensor Solution. s34,c38; s114,c169; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-1.12±.13; Mθθ5.28±.14; Mφφ-4.16±.14; Mrθ0.72±.11; Mθφ0.02±.14; Mφr1.97±.10; Best double couple: M=5.25200×10^16^ NP1:φ=228.00000°,δ77.00000°, λ-156.00000°. NP2:φ=132.00000°,δ67.00000°, λ-15.00000°. Principal axes: T 5.3670, Plg7.0000°, Azm358.0000°; N -0.2300, Plg63.0000°, Azm255.0000°; P -5.1370, Plg26.0000°, Azm92.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 07:00:45.0±0.3,19.03N±0.03×145.82E±0.05,h142km±2km, h142km:pP-P,n822,σ1s11/732,mb4.9/221,16C-3D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.49**	**190**	P	**Pn**		**Pn**	**07 02 05.8**	**+0.9**
GUMO	**Guam**	**5.49**	**190**		**Pn**		**Pn**	**07 02 03.8**	**-1.0**
GUMO	**Guam**	**5.49**	**190**	P	**Pn**		**Pn**	**07 02 05.7**	**+0.9**
	524nm,0.3s,baz=105,slow=2.0,SNR=73								
GUMO				S	**Sn**		**Sn**	**07 03 07.3**	**+0.2**
	781nm,0.4s,baz=341,slow=17,SNR=3.6								
GUMO	**Guam**	**5.49**	**190**	P	**Pn**		**Pn**	**07 02 03.8**	**-1.0**
JCJ	**Chichijima**	**8.70**	**338**	P	**Pn**		**Pn**	**07 02 47.0**	**-0.8**
JCJ	**Chichijima**	**8.70**	**338**	Pn	**Pn**		**Pn**	**07 02 45.2**	**-2.5**
JCJ	**Chichijima**	**8.70**	**338**	P	Pn		07 02 42.0		-5.7
	213nm,0.3s,baz=269,slow=23,SNR=55								
JCJ				S	Sn		07 04 14.3		-10
	901nm,0.5s,baz=290,slow=22,SNR=11								
JHJ2	**Mitsune**	**15.02**	**340**	P	**P**		**P**	**07 04 12.8**	**+0.8**
JHJ2	**Mitsune**	**15.02**	**340**		**Pn**		**Pn**	**07 04 09.5**	**-0.5**
JHJ	**Hachijo jima 2**	**15.04**	**340**	P	**Pn**		**Pn**	**07 04 09.4**	**-0.8**
	203nm,0.4s,baz=70,slow=20,SNR=4.2								
JHJ				S	**Sn**		**Sn**	**07 06 50.5**	**-6.7**
	68nm,0.6s,baz=89,slow=22,SNR=1.8								
PATS	**Pohnpei**	**17.16**	**133**	P	**P**		**P**	**07 04 35.3**	**-0.5**
PATS	**Pohnpei**	**17.16**	**133**		**P**		**P**	**07 04 35.2**	**-0.6**
JOW	**Kunigami**	**17.92**	**299**	P	**P**		**P**	**07 04 42.3**	**-1.7**
	12nm,0.8s,baz=314,slow=28,SNR=1.8								
JOW				LR	LR		07 09 34.0		
	comp=Z,334nm,21.3s,baz=302,slow=30								
JMN	**Monobe**	**18.11**	**326**	P	**Pn**		**Pn**	**07 04 48.0**	**+0.4**
JMN	**Monobe**	**18.11**	**326**	P	**Pn**		**Pn**	**07 04 47.4**	**-0.3**
JGF	**Kuroka**	**18.12**	**337**	P	**Pn**		**Pn**	**07 04 47.9**	**+0.1**
JGF	**Kuroka**	**18.12**	**337**	P	**Pn**		**Pn**	**07 04 47.3**	**-0.5**
MJAR	**Matsushiro Arr**	**18.69**	**341**	P	**P**		**P**	**07 04 52.1**	**-0.2**
	34nm,0.6s,baz=166,slow=6.3,SNR=93								
MJAR				S	**S**		**S**	**07 08 12.4**	**-5.3**
	1.7nm,0.5s,baz=288,slow=34,SNR=2.4								
MAJO	**Matsushiro**	**18.69**	**341**	P	**P**		**P**	**07 04 52.7**	**+0.4**
MAJO	**Matsushiro**	**18.69**	**341**	P	**P**		**P**	**07 04 52.8**	**+0.4**
MAJO	**Matsushiro**	**18.69**	**341**	P	**P**		**P**	**07 04 52.8**	**+0.4**
MJB9	**Matsu-Tunnel**	**18.69**	**341**	P	**Pn**		**Pn**	**07 04 53.6**	**-0.8**
JMM	**Marumori**	**19.27**	**348**	P	**Pn**		**Pn**	**07 05 00.3**	**-0.9**
JMM	**Marumori**	**19.27**	**348**	P	**Pn**		**Pn**	**07 04 60.0**	**-1.2**
JNU	**Nakatsue**	**19.38**	**319**	P	**Pn**		**Pn**	**07 05 01.7**	**-0.9**
JNU	**Nakatsue**	**19.38**	**319**		**Pn**		**Pn**	**07 05 01.6**	**-1.0**
JNU	**Nakatsue**	**19.38**	**319**	P	**P**		**P**	**07 05 00.4**	**+0.4**
	42nm,0.9s,baz=132,slow=4.6,SNR=12								
JSD	**Sado**	**20.05**	**342**	P	Pn		07 05 08.8		-1.5
JSD	**Sado**	**20.05**	**342**	P	**P**		**P**	**07 05 06.8**	**-0.3**
MANU	**Manus Island**	**21.00**	**176**	P	**P**		**P**	**07 05 17.2**	**-0.2**
MANU	**Manus Island**	**21.00**	**176**	P	**P**		**P**	**07 05 16.4**	**-0.9**
JTU	**Tsushima**	**21.24**	**320**	P	**P**		**P**	**07 05 20.5**	**+0.7**
KAVG	**Kavieng**	**22.03**	**167**	P	**P**		**P**	**07 05 30.1**	**+1.8**
JTM	**Tenmabayashi**	**22.07**	**350**	P	**P**		**P**	**07 05 29.9**	**+1.4**
JTM	**Tenmabayashi**	**22.07**	**350**	P	**P**		**P**	**07 05 28.9**	**+0.5**
DAV	**Davao City (W)**	**22.99**	**242**	LR	LR		07 13 22.2		
	comp=Z,123nm,22.0s,baz=357,slow=33								
ERM	**Erimo**	**23.02**	**355**	P	**P**		**P**	**07 05 40.5**	**+2.9**
ERM	**Erimo**	**23.02**	**355**	P	**P**		**P**	**07 05 39.8**	**+2.1**
ERM	**Erimo**	**23.02**	**355**	*ce*P	**P**		**P**	**07 05 39.3**	**+1.7**
ERM				pmax	pmax				
	comp=Z,86nm,0.7s								
JEM	**Erimo**	**23.02**	**355**	P	**P**		**P**	**07 05 40.6**	**+3.0**
NACB	**Ninganchiao**	**23.08**	**287**	P	**P**		**P**	**07 05 39.1**	**+0.7**
YULB	**Yu-li**	**23.26**	**285**	P	**P**		**P**	**07 05 39.5**	**-0.6**
YULB				IAmb	IAmb		07 06 03.1		
	comp=Z,57nm,1.5s								
YHNB	**Yeheng**	**23.36**	**288**	P	**P**		**P**	**07 05 42.1**	**+1.1**
YHNB	**Yeheng**	**23.36**	**288**	P	**P**		**P**	**07 05 41.3**	**+0.3**
YHNB				IAmb	IAmb		07 06 16.5		
	comp=Z,45nm,0.8s								
SSLB	**Suanglung**	**23.61**	**286**	P	**P**		**P**	**07 05 45.5**	**+2.2**
SSLB	**Suanglung**	**23.61**	**286**	P	**P**		**P**	**07 05 43.7**	**+0.4**
SSLB				IAmb	IAmb		07 05 54.0		
	comp=Z,38nm,0.7s								
TJN	**Taejon**	**23.71**	**321**	P	**P**		**P**	**07 05 43.8**	**-0.2**
TJN	**Taejon**	**23.71**	**321**	P	**P**		**P**	**07 05 43.9**	**-0.1**
TJN	**Taejon**	**23.71**	**321**	P	**P**		**P**	**07 05 43.9**	**-0.1**
TJN				pmax	pmax				
	comp=Z,219nm,1.0s								
TPUB	**Ta-pu**	**23.86**	**285**	P	**P**		**P**	**07 05 46.5**	**+0.9**
TPUB				IAmb	IAmb		07 06 20.8		
	comp=Z,37nm,1.0s								
RABL	**Rabaul**	**23.91**	**164**	P	**P**		**P**	**07 05 45.2**	**-0.8**
RABL	**Rabaul**	**23.91**	**164**	P	**P**		**P**	**07 05 45.1**	**-0.9**
KSRS	**Korea Array**	**24.12**	**323**	P	**P**		**P**	**07 05 46.9**	**-0.8**
	comp=Z,39nm,0.7s,baz=148,slow=8.7,SNR=152								
KSRS				LR	LR		07 14 49.9		
	comp=Z,103nm,18.9s,baz=145,slow=35								
	comp=Z,39nm,0.7s								
KSAR	**Wonju Array Be**	**24.13**	**323**	P	**P**		**P**	**07 05 48.1**	**+0.4**
KSAR	**Wonju Array Be**	**24.13**	**323**	P	**P**		**P**	**07 05 48.2**	**+0.4**
KS19	**Wonju Array Si**	**24.19**	**323**	P	**P**		**P**	**07 05 48.1**	**-0.2**
SWI	**Sorong**	**24.40**	**217**	P	**P**		**P**	**07 05 50.6**	**+0.2**
	comp=Z,28nm,0.7s								
SWI	**Sorong**	**24.40**	**217**	P	**P**		**P**	**07 05 51.4**	**+1.0**
SWI				pmax	pmax				
	comp=Z,28nm,0.7s								
TABU	**Tabubil**	**24.57**	**191**	P	**P**		**P**	**07 05 53.3**	**+1.3**
JKA	**Kamikawa-asahi**	**25.16**	**355**	P	**P**		**P**	**07 05 58.7**	**+1.7**
ASAJ	**Asahikawa**	**25.16**	**355**	P	**P**		**P**	**07 05 58.5**	**+1.5**
	comp=Z,108nm,0.8s,baz=219,slow=9.1,SNR=66								
ASAJ				LR	LR		07 15 27.6		
	comp=Z,119nm,21.7s,baz=220,slow=35								
	comp=Z,108nm,0.8s								
ASAJ	**Asahikawa**	**25.16**	**355**	P	**P**		**P**	**07 05 58.7**	**+1.7**
ASAJ				pmax	pmax				
	comp=Z,163nm,1.0s								
FAKI	**Fak Fak**	**25.57**	**213**	P	**P**		**P**	**07 06 01.8**	**+0.7**
FAKI				IAmb	IAmb		07 06 36.8		
	comp=Z,75nm,1.3s								
TEY	**Ternei**	**27.05**	**346**	*e*P	**P**		**P**	**07 06 15.1**	**+1.1**
TEY				pmax	pmax				
	comp=N,70nm,0.5s								
TEY				pmax	pmax				
	comp=N,10.0nm,0.7s								
TEY				pmax	pmax				
	comp=E,30nm,0.7s								
TEY				pmax	pmax				
	comp=Z,10.0nm,0.7s								
TEY				pmax	pmax				
	comp=N,30nm,0.7s								
NJ2	**Nanjing**	**27.48**	**303**	*e*P	**P**		**P**	**07 06 20.3**	**+2.3**
NJ2				pmax	pmax				
	comp=N,5.0nm,0.5s								
NJ2				pmax	pmax				
	comp=N,390nm,7.1s								
USA0B	**Ussuriysk Arra**	**27.64**	**338**	P	**P**		**P**	**07 06 20.1**	**+0.7**
USA0B				IAmb	IAmb		07 07 06.7		
	comp=Z,45nm,1.1s								
USA0B	**Ussuriysk Arra**	**27.64**	**338**	*i* P	**P**		**P**	**07 06 20.7**	**+1.4**
USRK	**Ussuriysk Ar.**	**27.64**	**338**	P	**P**		**P**	**07 06 20.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**27.64**	**338**	P	**P**		**P**	**07 06 20.5**	**+1.2**
	comp=Z,28nm,0.6s,baz=151,slow=7.1,SNR=47								
USRK				pP	**pwP**		**07 06 50.4**	**-0.7**	
	comp=Z,4.0nm,0.8s,baz=142,slow=14,SNR=1.8								
	comp=Z,28nm,0.6s								
USRK	**Ussuriysk Ar.**	**27.64**	**338**	P	**P**		**P**	**07 06 20.1**	**+0.8**
YSS	**Yuzh-Sakhalins**	**27.96**	**356**	P	**P**		**P**	**07 06 23.2**	**+1.1**
YSS	**Yuzh-Sakhalins**	**27.96**	**356**	P	**P**		**P**	**07 06 22.5**	**+0.4**
YSS	**Yuzh-Sakhalins**	**27.96**	**356**	*e*P	**P**		**P**	**07 06 23.0**	**+0.9**
YSS				*e**PP	**pwP**		**07 06 52.5**	**-2.0**	
YSS				*e**SP	**sP**		**07 07 07.2**	**-0.4**	
YSS				*e*S	**S**		**07 10 53.6**	**-2.0**	
YSS				pmax	pmax				
	comp=Z,50nm,0.7s								
SANI	**Sanana**	**28.61**	**225**	P	**P**		**P**	**07 06 29.6**	**+1.3**
SANI	**Sanana**	**28.61**	**225**	P	P		07 06 42.0	**+14**	
MDJ	**Mudanjiang**	**28.89**	**336**	P	**P**		**P**	**07 06 32.6**	**+2.2**
MDJ	**Mudanjiang**	**28.89**	**336**	P	**P**		**P**	**07 06 32.4**	**+2.0**
MDJ				pP	pwP		07 07 02.2	-0.7	
MDJ				sP	sP		07 07 17.6	+1.7	
MDJ				S	**S**		**07 11 11.2**	**+0.9**	
MDJ				pmax	pmax				
	comp=Z,16nm,0.6s								
MDJ				pmax	pmax				
	comp=Z,120nm,5.0s								
CN2	**Changchun**	**30.04**	**330**	*e*P	**P**		**P**	**07 06 43.2**	**+2.6**
CN2				pmax	pmax				
	comp=Z,10.0nm,0.6s								
UGL	**Uglegorsk**	**30.13**	**355**	*e*P	**P**		**P**	**07 06 42.6**	**+1.3**
UGL				*e*			07 07 27.7		
UGL				pmax	pmax				
	comp=Z,90nm,1.1s								
TOLI2	**Tolitoli**	**30.32**	**237**	P	**P**		**P**	**07 06 44.6**	**+1.2**
TIA	**Tai'an**	**30.49**	**310**	P	**P**		**P**	**07 06 47.7**	**+3.1**
TIA				pmax	pmax				
	comp=Z,6.0nm,0.8s								
BNX	**BinXian**	**30.69**	**334**	↓P	**P**		**P**	**07 06 47.2**	**+0.9**
BNX				pmax	pmax				
	comp=Z,24nm,0.6s								
BNX				pmax	pmax				
	comp=Z,430nm,9.5s								
TYV	**Tymovskoe**	**31.86**	**356**	*e*P	**P**		**P**	**07 06 57.6**	**+1.1**
TYV				pmax	pmax				
	comp=Z,23nm,0.9s								
TYV				pmax	pmax				
	comp=Z,100nm,3.6s								
KLR	**Kul'dur**	**32.19**	**343**	P	**P**		**P**	**07 07 00.3**	**+0.9**
	comp=Z,153nm,0.6s,baz=152,slow=7.1,SNR=580								
KLR	**Kul'dur**	**32.19**	**343**	*e*P	**P**		**P**	**07 06 57.6**	**-1.8**
KLR				pmax	pmax				
	comp=Z,130nm,0.7s								
GRNR	**Gornyy**	**32.54**	**349**	↑*i*P	**P**		**P**	**07 07 04.2**	**+1.8**
GRNR				pmax	pmax				
	comp=E,20nm,0.9s								
GRNR				pmax	pmax				
	comp=N,40nm,0.6s								
GRNR				pmax	pmax				
	comp=Z,80nm,0.8s								
GRNR				MLR	MLR				
	comp=E,200nm,15.0s								
GRNR				MLR	MLR				
	comp=N,150nm,13.0s								
GRNR				MLR	MLR				
	comp=Z,240nm,10.0s								
HNS	**HongShan**	**32.75**	**310**	↓P	**P**		**P**	**07 07 05.5**	**+1.1**
HNS				pmax	pmax				
	comp=Z,30nm,1.0s								
COEN	**Coen**	**32.88**	**185**	P	**P**		**P**	**07 07 05.5**	**-0.3**
COEN				IAmb	IAmb		07 07 07.8		
	comp=Z,47nm,1.4s								
BJT	**Baijiatuan**	**32.97**	**316**	P	**P**		**P**	**07 07 07.5**	**+1.2**
BJI	**Beijing**	**32.98**	**316**	P	**P**		**P**	**07 07 06.8**	**+0.4**
BJI				pmax	pmax				
	comp=Z,10.0nm,0.9s								
LYN	**LuoYang**	**33.36**	**304**	↑P	P		07 07 17.6	+7.8	
LYN				pmax	pmax				
	comp=Z,11nm,0.8s								
HEH	**HeiHe**	**34.44**	**339**	*e*P	**P**		**P**	**07 07 19.2**	**+0.3**
HEH				pmax	pmax				
	comp=Z,80nm,1.0s								
MTN	**Manton Dam**	**34.82**	**206**	P	**P**		**P**	**07 07 21.8**	**-0.7**
MTN				IAmb	IAmb		07 07 31.5		
	comp=Z,35nm,1.2s								
XLT	**XiLinHaoTe**	**35.14**	**321**	*e*P			**P**	**07 07 25.8**	**+0.7**
XLT				pmax	pmax				
	comp=Z,29nm,0.9s								
XLT				pmax	pmax				
	comp=Z,260nm,5.8s								
PEA0B	**Petropavlovsk-**	**35.24**	**12**	P	**P**		**P**	**07 07 27.3**	**+1.5**
PEA0B	**Petropavlovsk-**	**35.24**	**12**	*i* P	**P**		**P**	**07 07 26.5**	**+0.7**
PETK	**Petropavlovsk-**	**35.24**	**12**	P	**P**		**P**	**07 07 26.6**	**+0.8**
	comp=Z,14nm,0.6s,baz=184,slow=6.3,SNR=38								
PETK				LR	LR		07 26 39.8		
	comp=Z,36nm,18.2s,baz=227,slow=44								
	comp=Z,14nm,0.6s								
XAN	**Xi'an**	**36.02**	**302**	⇑P	**P**		**P**	**07 07 36.0**	**+3.3**
XAN				pP	pwP		07 08 07.0	0.0	
HHC	**Hu-ho-hao-te**	**36.45**	**314**	*e*P	**P**		**P**	**07 07 37.0**	**+0.6**
HHC				pmax	pmax				
	comp=Z,17nm,0.7s								
HHC				pmax	pmax				
	comp=Z,140nm,4.1s								
HIA	**Hailar**	**36.73**	**331**	P	**P**		**P**	**07 07 39.5**	**+1.0**
HIA	**Hailar**	**36.73**	**331**	P	**P**		**P**	**07 07 38.8**	**+0.3**
SBUM	**Sibu**	**36.77**	**247**	P	**P**		**P**	**07 07 37.7**	**-1.6**
MTSU	**Mount Surprise**	**36.96**	**182**	P	**P**		**P**	**07 07 41.0**	**+0.3**
BTO	**Baotou**	**37.41**	**313**	*e*P	**P**		**P**	**07 07 46.9**	**+2.4**
BTO				pmax	pmax				
	comp=Z,41nm,0.8s								
BTO				pmax	pmax				
	comp=Z,280nm,7.2s								
ZEA	**Zeya**	**37.49**	**342**	*e*P	**P**		**P**	**07 07 45.2**	**+0.4**
ZEA				*e*			07 09 18.8		
ZEA				pmax	pmax				
	comp=E,10.0nm,0.9s								
ZEA				pmax	pmax				
	comp=N,40nm,0.7s								
ZEA				pmax	pmax				
	comp=Z,60nm,0.6s								
KNRA	**Kununurra**	**38.36**	**207**	P	**P**		**P**	**07 07 53.0**	**+0.6**
KNRA				IAmb	IAmb		07 08 00.7		
	comp=Z,19nm,1.1s								
CTAO	**Charters Tower**	**38.88**	**179**	P	**P**		**P**	**07 07 56.7**	**-0.1**
CTAO				IAmb	IAmb		07 09 11.2		
	comp=Z,43nm,1.6s								
CTAO	**Charters Tower**	**38.88**	**179**	P	**P**		**P**	**07 07 56.7**	**-0.1**
CTAO				pmax	pmax				
	comp=Z,43nm,1.6s								
CTAO	**Charters Tower**	**38.88**	**179**	P	**P**		**P**	**07 07 58.7**	**+1.9**
TWSI	**Taliwang, Sumb**	**39.69**	**228**	P	**P**		**P**	**07 08 02.9**	**-0.7**
	comp=Z,27nm,1.2s								
QIS	**Mount Isa**	**39.81**	**189**	P	**P**		**P**	**07 08 05.4**	**+0.9**
SHEM	**Shemya Is, Ala**	**40.19**	**27**	LR	LR		07 20 55.6		
	comp=Z,134nm,21.9s,baz=202,slow=30								
WRAB	**Tennant Creek**	**40.32**	**197**	P	**P**		**P**	**07 08 08.3**	**-0.4**
WRAB				IAmb	IAmb		07 08 15.8		
	comp=Z,16nm,0.6s								
WRAB	**Tennant Creek**	**40.32**	**197**	P	**P**		**P**	**07 08 08.4**	**-0.4**
WRAB				pmax	pmax				
	comp=Z,16nm,0.6s								
WRA	**Warramunga Arr**	**40.33**	**197**	P	**P**		**P**	**07 08 08.7**	**-0.2**
	comp=Z,7.3nm,0.4s,baz=19,slow=8.7,SNR=96								
	comp=Z,7.3nm,0.4s								
LZH	**Lanzhou**	**40.56**	**304**	*e*P	**P**		**P**	**07 08 11.6**	**+0.8**
LZH				pP	pwP		07 08 46.1	+0.6	
LZH				pmax	pmax				
	comp=Z,13nm,1.0s								
MA2	**Magadan**	**40.65**	**4**	P	**P**		**P**	**07 08 12.4**	**+1.4**
MA2	**Magadan**	**40.65**	**4**	P	**P**		**P**	**07 08 12.1**	**+1.1**
MA2	**Magadan**	**40.65**	**4**	P	**P**		**P**	**07 08 12.4**	**+1.4**
	comp=Z,42nm,0.8s,baz=165,slow=6.9,SNR=49								
	comp=Z,42nm,0.8s								
MA2	**Magadan**	**40.65**	**4**	*ce*P	**P**		**P**	**07 08 12.5**	**+1.4**
MA2				pmax	pmax				
	comp=Z,55nm,0.7s								
MA2	**Magadan**	**40.65**	**4**	P	**P**		**P**	**07 08 12.3**	**+1.4**
MA2	**Magadan**	**40.65**	**4**	P	**P**		**P**	**07 08 12.4**	**+1.4**
	comp=Z,83nm,0.8s,comp=Z,976nm								
PZH	**PanZhiHua**	**41.16**	**289**	P	**P**		**P**	**07 08 20.3**	**+4.5**
PZH				pmax	pmax				
	comp=Z,20nm,0.5s								
PZH				pmax	pmax				
	comp=Z,150nm,7.0s								
ULN	**Ulaanba

ZAK	**Zakamensk**	**45.95**	**323**	*e*P	**P**	**07 08 53.9 +0.1**
ZAK				pmax	pmax	
	comp=Z,6.0nm,1.1s					
OUENC	**Ouen Island, N**	**46.03**	**153**	P	**P**	**07 08 54.7 +0.1**
OUENC	**Ouen Island, N**	**46.03**	**153**	P	**P**	**07 08 54.3 -0.3**
WRKA	**Warakurna**	**47.01**	**202**	P	**P**	**07 09 02.0 -0.2**
KASI	**Kota Agung**	**47.45**	**243**	P	**P**	**07 09 05.2 -0.6**
OOD	**Oodnadatta**	**47.57**	**192**	P	**P**	**07 09 08.7 +2.3**
GOMU	**GeErMu**	**47.77**	**302**	P	**P**	**07 09 10.1 +1.6**
GOMU				pmax	pmax	
	comp=Z,11nm,0.8s					
MOY	**Mondy**	**47.82**	**324**	*e*P	**P**	**07 09 09.3 +1.0**
MOY				pmax	pmax	
	comp=Z,18nm,1.8s					
AULRC	**Lightning Ridg**	**48.22**	**177**	P	**P**	**07 09 10.7 -0.7**
MSVF	**Nonsavu**	**48.35**	**137**	P	**P**	**07 09 13.0 +0.3**
MSVF	**Nonsavu**	**48.35**	**137**	P	**P**	**07 09 12.7 0.0**
MSVF	**Nonsavu**	**48.35**	**137**	P	**P**	**07 09 12.7 0.0**
MSVF				pmax	pmax	
	comp=Z,24nm,0.7s					
MSVF	**Nonsavu**	**48.35**	**137**	P	**P**	**07 09 12.8 +0.1**
NIKH	**Nikolski High**	**48.67**	**35**	P	**P**	**07 09 14.3 -0.3**
	baz=244					
SPIA	**Saint Paul Isl**	**50.00**	**30**	P	**P**	**07 09 25.3 +0.7**
	baz=239					
P08K	**Saint George I**	**50.03**	**30**	P	**P**	**07 09 25.5 +0.6**
	baz=240					
MULG	**Mulgathing**	**50.32**	**193**	P	**P**	**07 09 28.6 +1.3**
UNV	**Unalaska Valle**	**50.32**	**35**	P	**P**	**07 09 27.3 +0.2**
	baz=245					
BILL	**Bilibino**	**50.68**	**10**	P	**P**	**07 09 30.7 +1.2**
BILL	**Bilibino**	**50.68**	**10**	*i*P	**P**	**07 09 30.8 +1.2**
BILL				pmax	pmax	
	comp=Z,74nm,0.8s					
BILL	**Bilibino**	**50.68**	**10**	P	**P**	**07 09 30.8 +1.2**
STKA	**Stephens Creek**	**50.78**	**185**	P	**P**	**07 09 30.1 -0.6**
	comp=Z,3.9nm,0.6s,baz=6.2,slow=6.0,SNR=8.4					
	comp=Z,3.9nm,0.6s					
KEKH	**Kekaha**	**50.88**	**77**	P	**P**	**07 09 32.3 +0.4**
FALS	**False Pass**	**52.38**	**34**	P	**P**	**07 09 42.6 +0.2**
	baz=248					
KIP	**Kipapa**	**52.52**	**77**	P	**P**	**07 09 44.1 +0.1**
KIP	**Kipapa**	**52.52**	**77**	P	**P**	**07 09 44.1 +0.1**
KIP				pmax	pmax	
	comp=Z,54nm,0.7s					
KIP	**Kipapa**	**52.52**	**77**	P	**P**	**07 09 44.4 +0.4**
S12K	**Black Hills**	**53.42**	**34**	P	**P**	**07 09 50.3 +0.2**
	baz=248					
M11K	**Mekoryuk**	**53.43**	**27**	P	**P**	**07 09 50.2 +0.2**
	baz=241					
TIXI	**Tiksi**	**53.56**	**353**	P	**P**	**07 09 51.0 +0.2**
TIXI	**Tiksi**	**53.56**	**353**	P	**P**	**07 09 50.3 -0.4**
	comp=Z,19nm,0.7s,baz=164,slow=5.5,SNR=58					
	comp=Z,19nm,0.7s					
TIXI	**Tiksi**	**53.56**	**353**	*ce*P	**P**	**07 09 50.7 -0.1**
TIXI				pmax	pmax	
	comp=Z,23nm,0.8s					
TIXI	**Tiksi**	**53.56**	**353**	P	**P**	**07 09 50.9 +0.2**
CAN	**Canberra**	**54.13**	**177**	P	**P**	**07 09 54.6 -0.9**
CAN				IAmb	IAmb	07 10 30.6
	comp=Z,24nm,1.0s					
CAN	**Canberra**	**54.13**	**177**	P	**P**	**07 09 54.6 -0.9**
CAN				pmax	pmax	
	comp=Z,24nm,1.0s					
SDPT	**Sand Point**	**54.14**	**35**	P	**P**	**07 09 56.1 +0.8**
	baz=250					
WMQ	**Urumqi**	**54.18**	**311**	*e*P	**P**	**07 09 59.3 +3.4**
M13K	**Dall Lake**	**54.70**	**28**	P	**P**	**07 10 00.1 +0.8**
	baz=244					
K13K	**Kusilvak Mount**	**54.83**	**26**	P	**P**	**07 10 01.1 +1.0**
	baz=242					
S14K	**Fog Glacier**	**54.94**	**34**	P	**P**	**07 10 00.3 -0.9**
	baz=250					
POHA	**Pohakuloa**	**55.08**	**79**	P	**P**	**07 10 04.0 +1.1**
O14K	**Tigyukauivet M**	**55.17**	**30**	P	**P**	**07 10 02.3 -0.4**
	baz=247					
N14K	**Kuskokwak Cree**	**55.24**	**29**	P	**P**	**07 10 02.3 -0.9**
	baz=246					
L14K	**Kuka Creek**	**55.40**	**27**	P	**P**	**07 10 03.4 -0.9**
	baz=244					
M14K	**Bethel**	**55.46**	**28**	P	**P**	**07 10 03.9 -0.8**
	baz=245					
TNA	**Tin City**	**55.47**	**21**	P	**P**	**07 10 04.0 -0.7**
	baz=236					
CHGN	**Chignik**	**55.55**	**34**	P	**P**	**07 10 05.2 -0.2**
	baz=252					
J14K	**Nanvaranak Lak**	**55.67**	**26**	P	**P**	**07 10 06.0 -0.1**
	baz=242					
O15K	**Ungalikthiuk R**	**55.83**	**30**	P	**P**	**07 10 07.5 +0.2**
	baz=248					
ANM	**Nome**	**55.85**	**23**	P	**P**	**07 10 07.5 +0.1**
	baz=239					
F14K	**Arctic Creek**	**55.98**	**22**	P	**P**	**07 10 08.7 +0.3**
	baz=238					
M15K	**Kasigluk River**	**56.01**	**28**	P	**P**	**07 10 09.2 +0.6**
	baz=246					
L15K	**Ungalak Mounta**	**56.06**	**27**	P	**P**	**07 10 09.6 +0.6**
	baz=245					
N15K	**Kwethluk River**	**56.08**	**29**	IAmb	IAmb	07 10 56.7
	comp=Z,18nm,0.9s					
N15K	**Kwethluk River**	**56.08**	**29**	P	**P**	**07 10 09.5 +0.4**
	baz=247					
K15K	**Wolf Creek Mou**	**56.31**	**27**	P	**P**	**07 10 10.9 +0.2**
	baz=245					
R16K	**Pilot Point**	**56.39**	**33**	P	**P**	**07 10 11.4 0.0**
	baz=252					
G15K	**Niukluk**	**56.56**	**23**	P	**P**	**07 10 12.4 -0.1**
	baz=240					
P16K	**Nushagak River**	**56.66**	**31**	P	**P**	**07 10 13.5 +0.3**
	baz=250					
F15K	**North Star Dit**	**56.70**	**22**	P	**P**	**07 10 13.8 +0.4**
	baz=239					
N16K	**Nishlik Lake**	**56.80**	**29**	P	**P**	**07 10 14.9 +0.6**
	baz=248					
O16K	**Kokwok River B**	**56.80**	**30**	P	**P**	**07 10 15.2 +1.0**
	baz=250					
CHIR	**Chirikof Islan**	**56.91**	**35**	P	**P**	**07 10 16.0 +1.0**
	baz=254					
M16K	**Timber Creek**	**56.92**	**29**	P	**P**	**07 10 15.5 +0.4**
	baz=248					
L16K	**Owhat River**	**56.95**	**28**	P	**P**	**07 10 16.4 +1.1**
	baz=247					
H16K	**Elim**	**57.07**	**24**	P	**P**	**07 10 16.4 +0.4**
	baz=243					
J16K	**Anvik River**	**57.12**	**26**	IAmb	IAmb	07 10 26.7
	comp=Z,13nm,1.0s					
J16K	**Anvik River**	**57.12**	**26**	P	**P**	**07 10 16.9 +0.5**
	baz=245					
Q16K	**King Salmon**	**57.20**	**32**	P	**P**	**07 10 17.9 +0.8**
	baz=252					
I17K	**Unalakleet**	**57.34**	**25**	P	**P**	**07 10 19.2 +1.3**
	baz=245					
O17K	**Koliganek Bris**	**57.34**	**30**	P	**P**	**07 10 18.8 +0.7**
	baz=251					
G16K	**Koyuk River**	**57.38**	**23**	P	**P**	**07 10 19.0 +0.9**
	baz=242					
Q17K	**Contact Creek**	**57.46**	**32**	P	**P**	**07 10 19.3 +0.3**
	baz=253					
P17K	**Kvichak River**	**57.47**	**31**	P	**P**	**07 10 19.3 +0.4**
	baz=252					
N17K	**Nushagak Hills**	**57.55**	**29**	IAmb	IAmb	07 10 21.6
	comp=Z,34nm,1.6s					
N17K	**Nushagak Hills**	**57.55**	**29**	P	**P**	**07 10 19.8 +0.3**
	baz=250					
L17K	**Donlin**	**57.63**	**27**	P	**P**	**07 10 20.6 +0.5**
	baz=248					
M17K	**Holitna River**	**57.74**	**28**	P	**P**	**07 10 21.3 +0.5**
	baz=249					
J17K	**VABM Dome**	**57.79**	**26**	P	**P**	**07 10 23.3 +2.2**
J17K				IAmb	IAmb	07 10 31.6
	comp=Z,20nm,1.1s					
J17K	**VABM Dome**	**57.79**	**26**	P	**P**	**07 10 22.2 +1.1**
	baz=246					
C16K	**Lisburne Hills**	**57.82**	**19**	P	**P**	**07 10 22.5 +1.2**
C16K	**Lisburne Hills**	**57.82**	**19**	P	**P**	**07 10 22.6 +1.4**
	baz=237					
K17K	**Iditarod**	**57.85**	**27**	P	**P**	**07 10 22.7 +1.1**
	baz=248,SNR=6.0					
SII	**Sitkinak Islan**	**57.87**	**34**	P	**P**	**07 10 22.5 +0.6**
	baz=255					
XMAS	**Kiritimati**	**57.99**	**100**	P	**P**	**07 10 23.9 +0.5**
XMAS				pP	**pP**	**07 10 54.7 -0.8**
XMAS				sP	**sP**	**07 11 09.6 -0.9**
G17K	**Kiwalik Mounta**	**58.06**	**23**	P	**P**	**07 10 23.8 +0.8**
	baz=244,SNR=6.3					
H17K	**Granite Mounta**	**58.09**	**24**	P	**P**	**07 10 24.3 +1.0**
	baz=245					
P18K	**Big Mountain,**	**58.12**	**31**	P	**P**	**07 10 24.9 +1.3**
	baz=253					
N18K	**Kilae Creek**	**58.21**	**30**	P	**P**	**07 10 25.4 +1.2**
	baz=251					
D17K	**Noatak River**	**58.24**	**20**	P	**P**	**07 10 25.2 +1.0**
	baz=240					
F17K	**Baldwin Pennin**	**58.27**	**22**	P	**P**	**07 10 25.6 +1.2**
	baz=243,SNR=7.1					
O18K	**Kokhtuh Hills**	**58.27**	**31**	P	**P**	**07 10 25.1 +0.5**
	baz=252					
L18K	**Granite Mounta**	**58.36**	**28**	P	**P**	**07 10 26.3 +1.2**
	baz=250					
E17K	**Hotham Inlet**	**58.37**	**21**	P	**P**	**07 10 26.7 +1.6**
	baz=242,SNR=5.6					
RDOG	**Red Dog Mine**	**58.48**	**20**	P	**P**	**07 10 27.5 +1.6**
	baz=240					
M18K	**Stony River**	**58.50**	**29**	P	**P**	**07 10 27.2 +1.1**
	baz=251					
OHAK	**Old Harbor**	**58.52**	**34**	P	**P**	**07 10 26.7 +0.4**
	baz=256					
C17K	**DeLong Mountai**	**58.61**	**20**	P	**P**	**07 10 27.7 +0.9**
	baz=240					
Q19K	**Cape Douglas,**	**58.77**	**32**	P	**P**	**07 10 29.3 +1.2**
	baz=254					
H18K	**Honhosa River**	**58.78**	**24**	P	**P**	**07 10 29.2 +1.2**
	baz=246					
J18K	**Innoko River**	**58.80**	**26**	P	**P**	**07 10 29.6 +1.4**
	baz=249					
O19K	**Port Alsworth**	**58.80**	**30**	P	**P**	**07 10 29.2 +1.1**
	baz=253					
N19K	**Bonanza Creek**	**58.91**	**30**	IAmb	IAmb	07 10 39.2
	comp=Z,9.0nm,0.8s					
N19K	**Bonanza Creek**	**58.91**	**30**	P	**P**	**07 10 29.8 +0.8**
	baz=252					
F18K	**Selawik**	**58.91**	**22**	P	**P**	**07 10 29.7 +0.9**
	baz=244					
E18K	**Tukpahlearik C**	**58.95**	**21**	IAmb	IAmb	07 10 31.5
	comp=Z,23nm,1.3s					
E18K	**Tukpahlearik C**	**58.95**	**21**	P	**P**	**07 10 29.9 +0.8**
	baz=243,SNR=7.0					
G18K	**Tagagawik**	**58.98**	**23**	IAmb	IAmb	07 10 31.2
	comp=Z,18nm,1.1s					
G18K	**Tagagawik**	**58.98**	**23**	P	**P**	**07 10 30.0 +0.7**
	baz=246,SNR=11					
KDAK	**Kodiak Island**	**59.02**	**33**	P	**P**	**07 10 30.3 +0.5**
	baz=256					
KDAK	**Kodiak Island**	**59.02**	**33**	LR	LR	07 33 07.5
	comp=Z,79nm,20.9s,baz=269,slow=33					
KDAK	**Kodiak Island**	**59.02**	**33**	P	**P**	**07 10 32.9 +3.1**
KDAK				pP	**pP**	**07 11 03.1 +1.0**
L19K	**White Mountain**	**59.16**	**28**	P	**P**	**07 10 32.2 +1.5**
	baz=251					
P19K	**Oil Pt**	**59.17**	**31**	P	**P**	**07 10 32.0 +1.2**
	baz=254					
GCSA	**Galena City Sc**	**59.20**	**25**	P	**P**	**07 10 31.9 +1.0**
	baz=248					
M19K	**Big River Lodg**	**59.28**	**28**	P	**P**	**07 10 32.1 +0.6**
	baz=252					
Q20K	**Shuyak Island**	**59.32**	**32**	P	**P**	**07 10 32.2 +0.4**
	baz=256					
C18K	**Utukok River**	**59.33**	**20**	P	**P**	**07 10 32.3 +0.5**
	baz=241					
J19K	**Poorman**	**59.44**	**26**	IAmb	IAmb	07 10 42.4
	comp=Z,14nm,1.1s					
J19K	**Poorman**	**59.44**	**26**	P	**P**	**07 10 33.4 +0.8**
	baz=250,SNR=5.6					
B18K	**Kokolik River**	**59.48**	**19**	P	**P**	**07 10 33.4 +0.6**
	baz=240					
O20K	**Slope Mountain**	**59.58**	**31**	P	**P**	**07 10 34.1 +0.4**
	baz=255					
G19K	**Purcell Mounta**	**59.66**	**23**	IAmb	IAmb	07 10 36.0
	comp=Z,14nm,0.8s					
G19K	**Purcell Mounta**	**59.66**	**23**	P	**P**	**07 10 34.8 +0.8**
	baz=250,SNR=11					
H19K	**Roundabout Mou**	**59.67**	**24**	IAmb	IAmb	07 10 36.4
	comp=Z,13nm,0.8s					
H19K	**Roundabout Mou**	**59.67**	**24**	P	**P**	**07 10 35.1 +1.0**
	baz=248,SNR=14					
F19K	**Shaleruckik Mo**	**59.69**	**22**	P	**P**	**07 10 35.1 +0.9**
	baz=246					
L20K	**Farewell, AK**	**59.69**	**28**	P	**P**	**07 10 35.1 +0.8**
	baz=252					
M20K	**Styx River**	**59.84**	**29**	P	**P**	**07 10 36.1 +0.7**
	baz=253					
K20K	**Telida**	**59.88**	**27**	IAmb	IAmb	07 10 45.5
	comp=Z,9.3nm,0.9s					
K20K	**Telida**	**59.88**	**27**	P	**P**	**07 10 36.7 +1.1**
	baz=252,SNR=5.6					
HOM	**Homer**	**59.95**	**31**	P	**P**	**07 10 36.4 +0.3**
	baz=256					
C19K	**Lookout Ridge**	**60.06**	**20**	P	**P**	**07 10 37.6 +0.9**
	baz=243,SNR=6					
J20K	**Nowinta River**	**60.11**	**26**	P	**P**	**07 10 38.7 +1.5**
	baz=251,SNR=11					
A19K	**Wainwright**	**60.12**	**18**	P	**P**	**07 10 38.5 +1.4**
	baz=241					
E19K	**Redstone River**	**60.13**	**22**	IAmb	IAmb	07 10 47.2
	comp=Z,12nm,1.1s					
E19K	**Redstone River**	**60.13**	**22**	P	**P**	**07 10 38.7 +1.5**
	baz=246					
I20K	**Naaghdeneel**	**60.18**	**25**	P	**P**	**07 10 38.3 +0.8**
	baz=250					
H20K	**Anotleneega Mo**	**60.26**	**24**	P	**P**	**07 10 39.0 +0.8**
	baz=250,SNR=6.4					
D19K	**Kuna River**	**60.27**	**21**	IAmb	IAmb	07 10 44.1
	comp=Z,12nm,0.7s					
D19K	**Kuna River**	**60.27**	**21**	P	**P**	**07 10 38.7 +0.5**
	baz=245,SNR=10					
BRSE	**Bradley Lake S**	**60.42**	**31**	P	**P**	**07 10 40.1 +0.8**
	baz=257					
CAPN	**Captain Cook N**	**60.46**	**30**	P	**P**	**07 10 40.3 +0.8**
	baz=256					
F20K	**Avaraart Lake**	**60.51**	**23**	P	**P**	**07 10 40.8 +1.0**
	baz=248					
PPLA	**Purkeypile**	**60.56**	**28**	P	**P**	**07 10 41.2 +0.8**
	baz=254					
SKT	**Skwentna**	**60.60**	**29**	P	**P**	**07 10 40.9 +0.4**
	baz=255,SNR=5.2					
CAST	**Castle Rocks**	**60.75**	**27**	IAmb	IAmb	07 10 51.2
	comp=Z,18nm,0.9s					
CAST	**Castle Rocks**	**60.75**	**27**	P	**P**	**07 10 41.7 +0.2**
	baz=253,SNR=17					
CHUM	**Lake Minchumin**	**60.79**	**27**	P	**P**	**07 10 42.3 +0.6**
	baz=253,SNR=7.3					
E20K	**Nigu River**	**60.82**	**21**	P	**P**	**07 10 42.5 +0.6**
	baz=247,SNR=17					
SUA	**Susitna One**	**60.83**	**29**	P	**P**	**07 10 42.9 +0.7**
	baz=256					
D20K	**Etivluk River**	**60.86**	**21**	P	**P**	**07 10 42.7 +0.5**
	baz=246,SNR=34					
IMAR	**Indian Mountai**	**60.87**	**24**	P	**P**	**07 10 42.8 +0.6**
O22K	**Cooper Landing**	**61.08**	**31**	P	**P**	**07 10 44.4 +0.7**
	baz=257					
SEW	**Seward**	**61.13**	**31**	P	**P**	**07 10 44.5 +0.4**
	baz=258					
H21K	**Melozitna Rive**	**61.13**	**25**	P	**P**	**07 10 45.1 +1.1**
H21K				IAmb	IAmb	07 10 46.4
	comp=Z,18nm,1.4s					
H21K	**Melozitna Rive**	**61.13**	**25**	P	**P**	**07 10 44.8 +0.7**
	baz=252,SNR=9.8					
G21K	**Allakaket**	**61.14**	**24**	IAmb	IAmb	07 10 51.2
	comp=Z,18nm,1.4s					
G21K	**Allakaket**	**61.14**	**24**	P	**P**	**07 10 45.1 +0.9**
	baz=250,SNR=7.2					
M22K	**Willow**	**61.19**	**29**	P	**P**	**07 10 44.7 +0.2**
	baz=256					
RC01	**Rabbit Creek A**	**61.21**	**30**	P	**P**	**07 10 45.6 +1.0**
	baz=257					
B20K	**Meade River**	**61.22**	**19**	P	**P**	**07 10 45.6 +1.1**
	baz=245					
CUT	**Chulitna**	**61.28**	**28**	P	**P**	**07 10 45.5 +0.5**
	baz=256					
F21K	**Alatna River**	**61.39**	**23**	P	**P**	**07 10 46.6 +0.8**
	baz=250,SNR=12					
BPAW	**Bear Paw Mtn.**	**61.41**	**27**	P	**P**	**07 10 46.8 +0.9**
	baz=254,SNR=15					
TRF	**Thorofare Moun**	**61.54**	**27**	IAmb	IAmb	07 10 55.9
	comp=Z,12nm,0.8s					
TRF	**Thorofare Moun**	**61.54**	**27**	P	**P**	**07 10 47.7 +0.7**
	baz=255,SNR=6.0					
PMR	**Palmer**	**61.61**	**30**	P	**P**	**07 10 47.3 0.0**
PMR	**Palmer**	**61.61**	**30**	IAmb	IAmb	07 10 56.3
	comp=Z,26nm,1.4s					
PMR	**Palmer**	**61.61**	**30**	P	**P**	**07 10 47.8 +0.6**
	baz=257					
C21K	**Knifeblade Rid**	**61.64**	**20**	P	**P**	**07 10 48.5 +1.1**
	baz=248,SNR=10					
E21K	**Killik River**	**61.65**	**21**	P	**P**	**07 10 48.8 +1.3**
	baz=249					
GHO	**Glory Hole Cre**	**61.75**	**29**	IAmb	IAmb	07 12 02.6
	comp=Z,18nm,1.1s					
H22K	**Ishtalitna Cre**	**61.77**	**24**	P	**P**	**07 10 49.2 +0.9**
	baz=253,SNR=5.5					
MLY	**Manley**	**61.77**	**26**	IAmb	IAmb	07 10 50.4
	comp=Z,16nm,1.2s					
MLY	**Manley**	**61.77**	**26**	P	**P**	**07 10 49.0 +0.6**
	baz=254,SNR=16					
B21K	**Ikpikpuk River**	**61.88**	**20**	IAmb	IAmb	07 10 51.3
	comp=Z,16nm,0.9s					
B21K	**Ikpikpuk River**	**61.88**	**20**	P	**P**	**07 10 49.7 +0.8**
	baz=248,SNR=16					
KNK	**Knik Glacier**	**61.89**	**30**	IAmb	IAmb	07 11 05.1
	comp=Z,25nm,1.2s					
KNK	**Knik Glacier**	**61.89**	**30**	P	**P**	**07 10 49.7 +0.5**
	baz=258					
A21K	**Barrow**	**61.95**	**18**	P	**P**	**07 10 50.4 +1.1**
	baz=245					
F22K	**John River**	**61.97**	**23**	P	**P**	**07 10 50.7 +1.0**
	baz=251					
G22K	**Bettles**	**62.03**	**23**	P	**P**	**07 10 51.1 +1.1**
	baz=252					
SML	**Sawmill**	**62.03**	**29**	P	**P**	**07 10 50.9 +0.8**
	baz=258,SNR=6.8					
P23K	**Montague Islan**	**62.12**	**32**	P	**P**	**07 10 51.3 +0.6**
	baz=260					
RND	**Reindeer**	**62.15**	**28**	P	**P**	**07 10 50.0 -1.0**
WAT1	**Susitna Watana**	**62.15**	**28**	P	**P**	**07 10 51.3 +0.4**
	baz=257					
MCK	**McKinley**	**62.19**	**27**	P	**P**	**07 10 51.9 +0.7**
	baz=256					
MCK	**McKinley**	**62.19**	**27**	P	**P**	**07 10 51.6 +0.4**
D22K	**Ayikyak River**	**62.25**	**21**	P	**P**	**07 10 52.8 +1.3**
	baz=250,SNR=28					
E22K	**Anaktuvuk Pass**	**62.30**	**22**	P	**P**	**07 10 52.8 +0.9**
	baz=251					
A22K	**Sinclair Lake**	**62.30**	**19**	P	**P**	**07 10 52.9 +1.2**
	baz=247					
M23K	**Glacier View**	**62.31**	**29**	P	**P**	**07 10 52.7 +0.7**
	baz=258					
NEA2	**Nenana**	**62.35**	**26**	P	**P**	**07 10 52.7 +0.5**
	baz=256,SNR=6.4					
I23K	**Minto, Yukon-K**	**62.37**	**26**	IAmb	IAmb	07 10 54.6
	comp=Z,91nm,0.7s					
I23K	**Minto, Yukon-K**	**62.37**	**26**	P	**P**	**07 10 53.0 +0.7**
	baz=255,SNR=14					
GLI	**Glacier Island**	**62.43**	**31**	P	**P**	**07 10 53.5 +0.7**
	baz=259					
WAT6	**Susitna Watana**	**62.46**	**29**	P	**P**	**07 10 53.5 +0.3**
	baz=258,SNR=5.7					
H23K	**Yukon River**	**62.47**	**25**	P	**P**	**07 10 53.8 +0.8**
	baz=255,SNR=7.1					
SCM	**Sheep Creek Mo**	**62.50**	**29**	P	**P**	**07 10 54.1 +0.7**
	baz=259					
B22K	**Teshekpuk Lake**	**62.53**	**19**	IAmb	IAmb	07 10 55.3
	comp=Z,17nm,0.8s					
B22K	**Teshekpuk Lake**	**62.53**	**19**	P	**P**	**07 10 54.3 +1.0**
	baz=248,SNR=13					
G23K	**Bananza Creek**	**62.53**	**24**	P	**P**	**07 10 54.5 +1.1**
	baz=254,SNR=10					
Q23K	**Middleton Isla**	**62.55**	**32**	P	**P**	**07 10 54.3 +0.8**
	baz=261					
COLD	**Coldfoot**	**62.61**	**23**	P	**P**	**07 10 55.5 +1.7**
	baz=253,SNR=10					
DHY	**Denali Highway**	**62.73**	**28**	IAmb	IAmb	07 12 13.7
	comp=Z,30nm,1.8s					
DHY	**Denali Highway**	**62.73**	**28**	P	**P**	**07 10 56.2 +1.2**
	baz=258					
MDM	**Murphy Dome**	**62.78**	**26**	IAmb	IAmb	07 10 57.5
	comp=Z,9.9nm,0.6s					
COLA	**College**	**62.92**	**26**	P	**P**	**07 10 56.8 +0.9**
COLA	**College**	**62.92**	**26**	P	**P**	**07 10 57.1 +1.1**
	baz=257					
COLA	**College**	**62.92**	**26**	*i* P	**P**	**07 10 56.1 +0.2**
COLA				pmax	pmax	
	comp=Z,9.0nm,0.9s					
D23K	**Nanushuk River**	**62.96**	**21**	P	**P**	**07 10 57.1 +0.9**
	baz=252					
EYAK	**Cordova Ski Ar**	**63.02**	**31**	P	**P**	**07 10 57.7 +1.0**
	baz=261					
E23K	**Chandalar**	**63.06**	**22**	P	**P**	**07 10 58.0 +1.0**
	baz=253					
M24K	**Tolsona, Glenn**	**63.09**	**29**	P	**P**	**07 10 58.5 +1.3**
	baz=260					
KLU	**Klutina**	**63.10**	**30**	P	**P**	**07 10 58.1 +0.8**
	baz=260					
H24K	**Noodor Dome**	**63.14**	**25**	IAmb	IAmb	07 10 59.4
	comp=Z,7.6nm,0.6s					
H24K	**Noodor Dome**	**63.14**	**25**	P	**P**	**07 10 58.8 +1.3**
	baz=256,SNR=10					
POKR	**Poker Plat Res**	**63.15**	**26**	P	**P**	**07 10 57.9 +0.4**
	baz=257					
HDA	**Harding Lake**	**63.20**	**27**	IAmb	IAmb	07 11 05.0
	comp=Z,24nm,1.7s					
HDA	**Harding Lake**	**63.20**	**27**	P	**P**	**07 10 58.2 +0.4**
	baz=258,SNR=5.4					
TOLK	**Toolik Lake Re**	**63.25**	**22**	P	**P**	**07 10 59.4 +1.2**
	baz=253,SNR=44					
C23K	**Itkillik River**	**63.26**	**20**	P	**P**	**07 10 59.8 +1.7**
	baz=252,SNR=44					
IL31		**63.30**	**26**	IAmb	IAmb	07 11 06.5
	comp=Z,13nm,1.1s					
ILAR	**Eielson Array**	**63.30**	**26**	P	**P**	**07 10 58.0 -0.5**
	comp=Z,4.7nm,0.7s,baz=252,slow=4.8,SNR=60					
ILAR				LR	LR	07 34 41.6
	comp=Z,85nm,21.9s,baz=292,slow=32					
	comp=Z,4.7nm,0.7s					
ILAR	**Eielson Array**	**63.30**	**26**	P	**P**	**07 10 58.0 -0.5**
HIZ	**Hauiti**	**63.39**	**155**	P	**P**	**07 10 60.0 +0.6**
E24K	**Your Creek**	**63.47**	**22**	P	**P**	**07 11 01.2 +1.5**
E24K	**Your Creek**	**63.47**	**22**	P	**P**	**07 11 01.3 +1.6**
	baz=254					
G24K	**Hadweenzic Riv**	**63.50**	**24**	P	**P**	**07 11 01.4 +1.6**
G24K				IAmb	IAmb	07 11 02.1
	comp=Z,8.4nm,0.7s					
G24K	**Hadweenzic Riv**	**63.50**	**24**	P	**P**	**07 11 01.4 +1.6**
	baz=256,SNR=7.5					
F24K	**Squaw Lake**	**63.55**	**23**	P	**P**	**07 11 02.0 +1.8**
F24K	**Squaw Lake**	**63.55**	**23**	P	**P**	**07 11 01.3 +1.2**
	baz=255,SNR=14					
PAX	**Paxson**	**63.56**	**28**	P	**P**	**07 11 01.3 +1.0**
	baz=260,SNR=7.2					
K24K	**Donnelly Dome**	**63.58**	**27**	P	**P**	**07 11 01.9 +1.5**
	baz=259					
KAIM	**Kayak Island**	**63.59**	**32**	P	**P**	**07 11 01.6 +1.1**
	baz=262					
HARP	**HAARP**	**63.61**	**29**	P	**P**	**07 11 01.5 +0.9**
	baz=260					
BMRM	**Bremner River**	**63.64**	**31**	P	**P**	**07 11 01.4 +0.5**
	baz=262					
D24K	**Happy Valley**	**63.65**	**21**	P	**P**	**07 11 02.8 +2.1**
D24K	**Happy Valley**	**63.65**	**21**	P	**P**	**07 11 02.0 +1.3**
	baz=254					
N25K	**Chitina, Valde**	**63.74**	**30**	P	**P**	**07 11 02.2 +0.7**
	baz=261					
C24K	**Franklin

M26K Nabesna, AK 64.60 29 P P 07 11 07.4 +0.3
baz=262
BKZ Black Stump Fm 64.62 154 P P 07 11 06.3 -1.1
BKZ Black Stump Fm 64.62 154 P P 07 11 06.2 -1.3
J26L Joseph Creek 64.66 27 P P 07 11 08.4 +0.9
J26L IAmb IAmb 07 11 16.9
comp=Z,17nm,1.1s
J26L Joseph Creek 64.66 27 P P 07 11 07.8 +0.4
baz=261,SNR=13
BMAR Burnt Mountain 64.77 24 P P 07 11 10.1 +2.0
MESA MESA 64.85 32 P P 07 11 09.4 +0.5
baz=264
I26K Coal Creek Min 64.96 26 P P 07 11 09.2 -0.1
baz=261
G26K Porcupine Rive 64.98 24 P P 07 11 10.6 +1.2
baz=260,SNR=21
F26K Sheenjek River 64.98 23 P P 07 11 10.5 +1.1
baz=259,SNR=28
M27K Edge Creek, AK 65.11 29 P P 07 11 11.6 +1.1
baz=264
C26K Camden Bay 65.18 21 P P 07 11 12.1 +1.5
baz=257,SNR=39
L27K Beaver Creek, 65.22 29 IAmb IAmb 07 12 07.1
comp=Z,32nm,1.9s
L27K Beaver Creek, 65.22 29 P P 07 11 12.2 +1.2
baz=263,SNR=5.6
CTG Chitna Glacier 65.22 31 P P 07 11 12.3 +1.0
baz=265
K27K Chicken 65.23 27 P P 07 11 12.3 +1.3
baz=262
MRZ Mangatainoka R 65.52 155 P P 07 11 12.0 -1.2
C27K Jago River 65.52 21 P P 07 11 14.6 +1.7
baz=258,SNR=18
I27K Kandik River 65.64 26 P P 07 11 14.7 +1.0
baz=262
EGAK Eagle 65.72 27 P P 07 11 14.8 +0.7
EGAK IAmb IAmb 07 12 27.1
comp=Z,23nm,1.6s
EGAK Eagle 65.72 27 P P 07 11 15.7 +1.5
baz=263
YUK3 Moose Creek 65.72 30 P P 07 11 15.7 +1.2
baz=265
SNZO South Karori 65.74 156 P P 07 11 13.5 -1.0
H27K Steamboat Moun 65.76 25 P P 07 11 15.4 +0.9
baz=262,SNR=20
O28M Mount Upton 65.77 31 P P 07 11 15.9 +0.9
baz=266
G27K Doyon Strip 65.79 24 P P 07 11 16.0 +1.4
baz=262,SNR=6.3
YUK8 Steele Glacier 66.01 31 P P 07 11 17.9 +1.4
baz=266
E27K Coleen River 66.02 23 P P 07 11 17.7 +1.6
baz=261,SNR=15
PNL Peninsula 66.09 32 P P 07 11 18.2 +1.5
baz=267
PLWZ Palliser 66.17 156 P P 07 11 16.3 -1.1
I28M Miner Creek 66.31 26 P P 07 11 19.1 +1.0
baz=264,SNR=8.1
BRVK Borovoye 66.36 320 P P 07 11 19.0 +0.5
BRVK Borovoye 66.36 320 P P 07 11 19.0 +0.5
BRVK pmax pmax
comp=Z,173nm,1.0s
D27M Malcolm River 66.41 22 P P 07 11 19.6 +1.0
baz=261
YUK4 Talbot Arm 66.56 31 P P 07 11 21.0 +1.1
baz=267
F28M Old Crow 66.59 24 P P 07 11 21.3 +1.6
baz=263,SNR=16
YUK6 Outpost Mounta 66.67 31 P P 07 11 21.2 +0.5
baz=267
M29M Somme Creek 66.71 29 P P 07 11 21.6 +0.9
baz=266,SNR=7.3
E28M Babbage River 66.83 23 P P 07 11 21.6 +0.4
baz=263,SNR=14
L29M L29M 66.90 29 IAmb IAmb 07 11 31.6
comp=Z,11nm,0.8s
L29M L29M 66.90 29 P P 07 11 22.7 +0.9
baz=266,SNR=6.7
P29M Windy Craggy 66.93 32 P P 07 11 22.8 +0.8
baz=268
J29N Klondike Camp 66.95 27 P P 07 11 23.4 +1.2
baz=266
H29M Whitestone 67.03 25 P P 07 11 23.4 +0.9
baz=265,SNR=6.8
HYT Haines Junctio 67.09 31 P P 07 11 25.4 +2.3
HYT IAmb IAmb 07 11 34.1
comp=Z,15nm,1.0s
HYT Haines Junctio 67.09 31 P P 07 11 23.8 +0.7
baz=268
D28M Stokes Point 67.21 22 P P 07 11 24.6 +1.0
baz=263,SNR=17
K29M Barlow Dome 67.22 28 P P 07 11 24.4 +0.5
baz=267,SNR=5.4
G29M Pine Creek 67.23 25 IAmb IAmb 07 11 25.8
comp=Z,9.0nm,0.7s
G29M Pine Creek 67.23 25 P P 07 11 24.2 +0.4
baz=265,SNR=11
N30M Aishikik Lake 67.31 30 P P 07 11 25.5 +1.1
baz=268
P30M Million Dollar 67.34 32 P P 07 11 25.6 +0.9
baz=269
E29M Blow River 67.41 23 P P 07 11 26.1 +1.3
baz=264,SNR=11
PLBC Pleasant Camp 67.63 33 P P 07 11 27.1 +0.7
baz=270
S31K Pelican 67.70 34 P P 07 11 27.3 +0.5
baz=270
EPYK Eagle Plains 67.70 25 IAmb IAmb 07 11 28.7
comp=Z,8.1nm,0.7s
EPYK Eagle Plains 67.70 25 P P 07 11 27.3 +0.5
baz=266,SNR=9.5
J30M Hart River 67.77 27 P P 07 11 28.4 +1.0
baz=268
O30N Mendenhall 67.78 31 P P 07 11 28.9 +1.5
baz=269
I30M Mount Dempster 67.78 26 P P 07 11 28.5 +1.1
baz=267
MAYO Mayo, Yukon 67.93 28 P P 07 11 29.6 +1.4
baz=268
N31M Braeburn, Yuko 67.94 30 IAmb IAmb 07 11 35.5
comp=Z,14nm,0.9s
N31M Braeburn, Yuko 67.94 30 P P 07 11 29.5 +1.1
baz=269
G30M tAoh Zraii Nji 67.94 25 P P 07 11 28.4 +0.2
baz=267,SNR=7.4
F30M Barrier River 68.14 24 P P 07 11 30.7 +1.2
baz=267,SNR=20
SIT Sitka 68.20 35 P P 07 11 30.3 +0.3
baz=272
WHY Whitehorse 68.37 31 P P 07 11 32.4 +1.2
baz=270
S32K Killisnoo 68.60 35 P P 07 11 32.8 +0.3
baz=272
M31M Drury Creek, Y 68.60 30 P P 07 11 33.8 +1.3
baz=270
R32K Eaglecrest 68.60 34 P P 07 11 33.8 +1.3
baz=272
H31M Peel River 68.65 26 P P 07 11 34.1 +1.4
baz=269,SNR=8.3
G31M Satah River 68.70 25 IAmb IAmb 07 11 34.6
comp=Z,20nm,0.7s
G31M Satah River 68.70 25 P P 07 11 33.7 +0.8
baz=268,SNR=21
KBL Kabul 68.80 300 P P 07 11 34.8 +0.3
KBL IAmb IAmb 07 12 14.3
comp=Z,28nm,0.9s
KBL Kabul 68.80 300 P P 07 11 34.8 +0.3
KBL pmax pmax
comp=Z,28nm,1.0s
P32M Atlin 68.98 33 P P 07 11 35.6 +0.7
baz=272
INK Inuvik 69.03 23 P P 07 11 35.5 +0.6
INK IAmb IAmb 07 11 36.3
comp=Z,10nm,0.7s
INK Inuvik 69.03 23 P P 07 11 35.4 +0.6
baz=269,SNR=17
INK Inuvik 69.03 23 P P 07 11 35.5 +0.6
INK pmax pmax
comp=Z,10.0nm,0.7s
FARO Faro, Yukon 69.09 30 P P 07 11 36.3 +0.9
baz=271
N32M Quiet Lake 69.24 31 P P 07 11 37.8 +1.3
baz=272
P33M Teslin, Yukon 69.41 32 P P 07 11 38.6 +1.1
baz=272
U33K Whale Pass 69.46 36 P P 07 11 38.9 +1.1
baz=274
CRAG Craig 69.50 37 P P 07 11 39.1 +1.1
baz=274
T33K Petersburg 69.51 35 P P 07 11 39.4 +1.3
baz=274
WRAK Wrangell Islan 69.87 36 P P 07 11 41.6 +1.3
baz=274
V35K Ketchikan 70.37 37 P P 07 11 44.7 +1.3
baz=275
R33M Jennings River 70.39 33 P P 07 11 44.2 +0.6
baz=274
S34M Telegraph Cree 70.42 34 P P 07 11 44.5 +0.8
baz=275
DLBC Dease Lake 70.95 34 P P 07 11 48.2 +1.2
baz=275
T35M Bob Quinn 70.98 35 P P 07 11 47.8 +0.8
baz=276
TGTN Hyland Airport 71.53 30 P P 07 11 51.5 +1.1
baz=276
SVE Sverdlovsk 71.67 325 eP P 07 11 51.4 +0.2
SVE pmax pmax
comp=Z,14nm,0.9s
A36M Sachs Harbour 71.73 19 IAmb IAmb 07 11 53.0
comp=Z,20nm,0.9s
A36M Sachs Harbour 71.73 19 P P 07 11 52.4 +1.2
baz=275
C36M Paulatuk 72.40 22 IAmb IAmb 07 11 56.6
comp=Z,19nm,1.0s
C36M Paulatuk 72.40 22 P P 07 11 55.9 +0.6
baz=277,SNR=21
ARU Arti 72.86 325 P P 07 11 57.9 -0.4
ARU IAmb IAmb 07 11 58.9
comp=Z,13nm,0.7s
ARU Arti 72.86 325 P P 07 11 58.4 +0.1
comp=Z,11nm,0.5s,baz=84,slow=1.8,SNR=11
comp=Z,11nm,0.5s
ARU Arti 72.86 325 c iP P 07 11 57.9 -0.4
ARU *PP pwP 07 12 34.8 -0.8
ARU 07 14 37.9
ARU S S 07 21 11.3 -1.6
ARU pmax pmax
comp=Z,14nm,0.7s
ARU Arti 72.86 325 P P 07 11 58.0 -0.3
comp=Z,21nm,1.0s
PPT Papeete 73.16 116 P P 07 12 01.3 +0.6
comp=Z,30nm,0.9s,baz=275,slow=6.0,SNR=4.8
comp=Z,30nm,0.9s
PPTF Pamatai, Papee 73.17 116 P P 07 12 01.2 +0.3
ABKAR Akbulak array 73.18 317 P P 07 12 00.2 -0.1
TOAD Toad River Com 73.39 33 P P 07 12 02.9 +1.5
baz=279
WRGLY Wrigley 73.53 28 P P 07 12 03.4 +1.4
WRGLY Wrigley 73.53 28 P P 07 12 04.0 +1.9
baz=280,SNR=6.2
AKTO Aktyubinsk 74.19 318 P P 07 12 05.6 -0.6
comp=Z,4.3nm,0.5s,baz=95,slow=8.5,SNR=3.5
comp=Z,4.3nm,0.5s
PGC Sidney 76.43 43 P P 07 12 20.7 +1.7
NLWA Neilton Lookou 76.45 44 P P 07 12 20.0 +0.8
NLWA IAmb IAmb 07 12 21.9
comp=Z,19nm,0.8s
WISH Wishkah 76.58 45 IAmb IAmb 07 12 22.5
comp=Z,20nm,0.8s
GEYT Alibeck 76.80 306 P P 07 12 21.6 +0.3
comp=Z,1.6nm,0.4s,baz=79,slow=7.5,SNR=2.9
comp=Z,1.6nm,0.4s
E03A Lebam 76.85 45 P P 07 12 22.8 +1.4
E03A IAmb IAmb 07 12 23.9
comp=Z,26nm,0.8s
GNW Green Mountain 77.10 44 P P 07 12 24.2 +1.5
GNW IAmb IAmb 07 12 25.4
comp=Z,25nm,1.0s
KIRV Kirov 77.24 328 ceP P 07 12 23.4 +0.1
YKA Yellowknife Ar 77.64 28 P P 07 12 25.9 +0.4
comp=Z,1.9nm,0.5s,baz=290,slow=5.9,SNR=28
comp=Z,1.9nm,0.5s
YKA Yellowknife Ar 77.64 28 ceP P 07 12 25.8 +0.3
YKA pmax pmax
comp=Z,2.0nm,0.6s
D05A Enumclaw 77.74 44 IAmb IAmb 07 12 29.0
comp=Z,21nm,0.8s
F04A Amboy 77.77 46 IAmb IAmb 07 12 28.7
comp=Z,22nm,0.7s
JCC Jacoby Creek, 77.93 51 IAmb IAmb 07 12 30.3
comp=Z,45nm,1.4s
KHMM Horse Mountain 78.13 51 IAmb IAmb 07 12 31.5
comp=Z,20nm,0.9s
HUMO Hull Mountain 78.25 49 IAmb IAmb 07 12 32.7
comp=Z,47nm,1.6s
H04A Detroit Lake 78.25 47 IAmb IAmb 07 12 31.1
comp=Z,20nm,0.9s
KMRM Mail Ridge 78.32 51 IAmb IAmb 07 12 32.5
comp=Z,27nm,1.3s
I04A Tendick Farm, 78.33 48 IAmb IAmb 07 12 31.5
comp=Z,18nm,0.9s
HOOD Mount Hood Mea 78.45 46 IAmb IAmb 07 12 36.3
comp=Z,2.0nm,1.1s
L04D Klamath Falls 78.82 49 IAmb IAmb 07 12 34.5
comp=Z,33nm,1.2s
SPA0 Spitsbergen Ar 78.86 351 eP P 07 12 32.7 +0.7
SPITS Spitsbergen Ar 78.86 351 P P 07 12 31.6 -0.4
comp=Z,4.0nm,0.5s,baz=111,slow=6.3,SNR=17
comp=Z,4.0nm,0.5s
KBS Kingsbay 78.98 352 eP P 07 12 33.4 +0.8
KBS Kingsbay 78.98 352 i P P 07 12 32.8 +0.2
HAWA Hanford 79.58 45 IAmb IAmb 07 12 38.5
comp=Z,24nm,1.1s
D08A Wollman Farm, 79.79 44 IAmb IAmb 07 12 39.5
comp=Z,20nm,0.9s
C09A Chrisman Ranch 80.00 43 IAmb IAmb 07 12 40.5
comp=Z,16nm,0.8s
BELG Belogornoye 80.01 322 i P P 07 12 39.3 +0.7
BELG pmax pmax
comp=Z,8.0nm,1.1s
ORV Oroville 80.13 52 IAmb IAmb 07 12 41.1
comp=Z,24nm,1.2s
LVZ Lovozero 80.17 339 ceP P 07 12 40.2 +0.9
LVZ pmax pmax
comp=Z,12nm,0.8s
E09A Wood Farm, Sta 80.46 44 IAmb IAmb 07 12 43.2
comp=Z,23nm,0.7s
NEW Newport 80.59 42 IAmb IAmb 07 12 43.7
comp=Z,15nm,0.8s
NEW Newport 80.59 42 P P 07 12 42.6 +0.6
baz=288,SNR=9.7
NEW Newport 80.59 42 P P 07 12 42.5 +0.6
VADS Vadso 80.77 342 eP P 07 12 42.6 +0.2
J08A Circle Bar Ran 81.19 47 IAmb IAmb 07 12 47.3
comp=Z,16nm,0.8s
KLMR Klimovskoe 81.22 332 eP P 07 12 41.6 -3.3
KLMR pmax pmax
comp=Z,14nm,0.7s
MPK Martis Peak 81.30 52 IAmb IAmb 07 12 48.1
comp=Z,32nm,0.9s
EMB Emerald Bay 81.34 52 IAmb IAmb 07 12 48.1
comp=Z,34nm,1.5s
WVOR Will Horse Val 81.36 48 IAmb IAmb 07 12 48.1
comp=Z,17nm,0.8s
WVOR Wild Horse Val 81.36 48 P P 07 12 47.1 +0.9
CMB Columbia Colle 81.41 53 IAmb IAmb 07 12 48.2
comp=Z,21nm,1.1s
BMO Blue Mountains 81.53 46 IAmb IAmb 07 12 48.8
comp=Z,24nm,1.2s
PAHR Pah Rah Range 81.65 51 IAmb IAmb 07 12 49.5
comp=Z,18nm,1.1s
WAKR Walker 81.98 52 IAmb IAmb 07 12 51.7
comp=Z,16nm,0.7s
HAMF Hammerfest 82.08 343 eP P 07 12 49.1 -0.1
ARA0 ARCESS Array S 82.22 342 eP P 07 12 50.0 0.0
ARCES ARCESS Array B 82.22 342 P P 07 12 50.1 +0.1
ARCES pmax pmax
comp=Z,23nm,0.8s
ARCES ARCESS Array B 82.22 342 P P 07 12 49.9 -0.1
comp=Z,19nm,0.6s,baz=76,slow=7.1,SNR=51
comp=Z,19nm,0.6s
ARCES ARCESS Array B 82.22 342 P P 07 12 50.1 +0.1
baz=288,SNR=5.4
LHV Little Huntoon 82.75 52 IAmb IAmb 07 12 55.7
comp=Z,28nm,1.2s
PKM Mcpherson Peak 82.80 56 P P 07 12 55.2 +1.2
baz=288,SNR=5.4
NVAR Mina Array Bea 82.85 52 P P 07 12 55.1 +0.9
comp=Z,23nm,0.7s,baz=267,slow=6.0,SNR=126
comp=Z,23nm,0.7s
NV11 Mina Array Sit 82.96 52 IAmb IAmb 07 12 56.5
comp=Z,18nm,0.8s
BMN Battle Mountai 83.00 50 IAmb IAmb 07 12 56.3
comp=Z,8.5nm,0.7s
MFID Camas Ranch 83.00 47 IAmb IAmb 07 12 56.6
comp=Z,20nm,0.9s
SBC Santa Barbara 83.02 56 P P 07 12 55.4 +0.6
baz=288
VES Vestal, Richgr 83.07 55 P P 07 12 55.1 0.0
baz=288,SNR=9.0
MSO Missoula 83.10 43 P P 07 12 55.9 +0.7
baz=290
KTK1 Kautokeino 83.18 342 eP P 07 12 54.6 -0.3
NEEM North Greenlan 83.21 4 i P P 07 12 54.6 -0.8
NEEM IAmb IAmb 07 12 56.5
comp=Z,14nm,0.6s
TIN Tinemaha, Big 83.34 53 P P 07 12 56.7 0.0
baz=289
DSP Deep Springs 83.44 53 IAmb IAmb 07 12 59.2
comp=Z,22nm,1.3s
ARVC Arvin 83.49 55 P P 07 12 57.8 +0.5
baz=289
SNCC San Nicolas Is 83.54 57 P P 07 12 58.1 +0.5
baz=288
ISA Isabella, Lake 83.60 55 P P 07 12 58.3 +0.4
baz=289
CWC Cottonwood Cre 83.65 54 P P 07 12 58.8 +0.5
baz=289
OSI Osito Audit: C 83.74 56 P P 07 12 59.2 +0.6
baz=289
JOF Joensuu 83.77 335 eP P 07 12 57.3 -0.8
HLID Hailey 83.92 46 P P 07 13 00.4 +0.8
baz=290,SNR=12
DAG Danmarks Havn 83.95 356 i P P 07 12 57.1 -1.7
DAG IAmb IAmb 07 12 58.7
comp=Z,4.8nm,0.7s
TRO Tromso 83.99 344 eP P 07 12 58.8 -0.2
GMN Gold Mountain 83.99 53 IAmb IAmb 07 13 01.7
comp=Z,14nm,0.7s
GRAC Grapevine Rang 84.01 53 P P 07 13 00.3 +0.3
baz=288
DECC Green Verdugo 84.16 56 P P 07 13 01.6 +0.9
baz=289
EDW2 Edwards Air Fo 84.22 55 P P 07 13 02.2 +1.1
baz=289,SNR=5.3
MPMC Manual Prospec 84.23 54 P P 07 13 02.0 +0.8
baz=289,SNR=12
LRMC Laurel Mtn Rad 84.27 55 P P 07 13 01.4 0.0
baz=289,SNR=6.2
ELK Elko 84.32 49 IAmb IAmb 07 13 03.5
comp=Z,18nm,0.8s
ELK Elko 84.32 49 P P 07 13 02.7 +1.0
FMP Fort Macarthur 84.37 56 P P 07 13 02.0 +0.3
baz=289
CIS Catalina Islan 84.37 57 P P 07 13 00.9 -0.9
baz=289
SCI2 San Clemente I 84.40 57 P P 07 13 01.9 -0.1
baz=289
FURC Furnace Creek, 84.57 53 P P 07 13 03.6 +0.9
baz=290,SNR=11
WCT Wildcat Mounta 84.64 53 IAmb IAmb 07 13 04.8
comp=Z,15nm,0.7s
BFSC Mount Baldy Ra 84.69 56 P P 07 13 04.0 +0.4
baz=289
QSM Queen of Sheba 84.73 54 IAmb IAmb 07 13 05.1
comp=Z,27nm,1.5s
GWY Greenwater Val 84.81 54 IAmb IAmb 07 13 05.5
comp=Z,37nm,1.5s
R11B Troy Canyon, C 84.89 51 IAmb IAmb 07 13 06.4
comp=Z,19nm,1.4s
R11B Troy Canyon, C 84.89 51 P P 07 13 04.7 +0.2
baz=290,SNR=18
RRX Edison Barstow 85.00 55 P P 07 13 04.8 -0.1
baz=290
GSC Goldstone, Bar 85.00 55 IAmb IAmb 07 13 06.6
comp=Z,18nm,1.3s
GSC Goldstone, Bar 85.00 55 P P 07 13 05.3 +0.3
baz=290,SNR=5.8
S11A Rachel 85.01 52 IAmb IAmb 07 13 07.0
comp=Z,19nm,0.8s
BOZ Bozeman (W) 85.04 43 P P 07 13 05.8 +0.7
baz=292,SNR=14
OBN Obninsk 85.06 327 ||eP P 07 13 04.0 -0.7
OBN *PP pwP 07 13 41.0 -1.3
OBN *SP sP 07 13 57.0 +2.5
OBN e 07 25 03.8
OBN SS SS 07 28 59.0 +1.2
OBN pmax pmax
comp=Z,3.0nm,0.5s
OBN MLR MLR
comp=Z,57nm,16.0s
Q12A Willow Creek R 85.20 50 IAmb IAmb 07 13 08.0
comp=Z,14nm,0.8s
SHOC Shoshone, Teco 85.21 54 P P 07 13 06.1 +0.1
baz=290
BBRC Big Bear Solar 85.26 56 P P 07 13 06.2 -0.3
baz=290
MURC Murrieta 85.27 56 P P 07 13 06.3 0.0
baz=290
EGMT Eagleton 85.30 41 P P 07 13 06.5 +0.2
baz=293
KULLO Kullorsuaq 85.45 6 i P P 07 13 06.4 +0.1
KULLO IAmb IAmb 07 13 28.0
comp=Z,10nm,0.9s
HEC Hector,Ludlow 85.53 55 P P 07 13 08.1 +0.5
baz=290
109C Camp Elliot, M 85.58 57 IAmb IAmb 07 13 09.2
comp=Z,18nm,0.8s
109C Camp Elliot, M 85.58 57 P P 07 13 08.0 +0.3
baz=290
SPR3 Spring Creek 3 85.58 50 IAmb IAmb 07 13 10.2
comp=Z,17nm,1.1s
TUQ Turquoise Moun 85.64 54 P P 07 13 08.4 +0.2
baz=290,SNR=6.8
HVU Hansel Valley 85.69 47 IAmb IAmb 07 13 10.5
comp=Z,21nm,1.1s
PFO Pinyon Flats O 85.84 56 P P 07 13 09.0 -0.3
baz=290
PFO Pinyon Flats O 85.84 56 LR LR 07 49 30.6
comp=Z,24nm,18.4s,baz=344,slow=34
PFO Pinyon Flats O 85.84 56 P P 07 13 09.4 +0.1
TPFO Pinon Flats 85.85 56 P P 07 13 09.1 -0.2
baz=290,SNR=5.0
YFT Old Faithful 86.00 44 IAmb IAmb 07 13 13.7
comp=Z,19nm,0.9s
KIV Kislovodsk 86.05 315 eP P 07 13 08.5 -1.5
KIV pmax pmax
comp=Z,6.0nm,1.1s
GMRC Granite Mounta 86.06 55 P P 07 13 10.3 0.0
baz=290,SNR=7.1
BELC Belle Mtn. Jos 86.07 56 P P 07 13 10.1 -0.3
baz=290
SPUT South Promonto 86.09 48 IAmb IAmb 07 13 12.2
comp=Z,16nm,0.9s
PSUT Pine Spring 86.10 51 IAmb IAmb 07 13 12.2
comp=Z,16nm,0.8s
MONP2 Monument Peak 86.12 57 P P 07 13 11.2 +0.4
baz=290
IMW Indian Meadow 86.14 45 IAmb IAmb 07 13 13.1
comp=Z,13nm,0.8s
H17A Grant Village 86.19 44 IAmb IAmb 07 13 14.7
comp=Z,16nm,1.1s
H17A Grant Village 86.19 44 P P 07 13 12.9 +2.0
baz=293,SNR=14
LKWY Lake 86.24 44 IAmb IAmb 07 13 14.9
comp=Z,9.6nm,0.8s
DUG Dugway, Tooele 86.24 49 IAmb IAmb 07 13 12.8
comp=Z,16nm,0.8s
DUG Dugway, Tooele 86.24 49 P P 07 13 11.9 +0.8
baz=292,SNR=22
DUG Dugway, Tooele 86.24 49 P P 07 13 11.7 +0.6
YMP Mirror Lake Pl 86.33 44 IAmb IAmb 07 13 14.6
comp=Z,20nm,0.9s
V12A Nelson 86.35 54 IAmb IAmb 07 13 13.6
comp=Z,15nm,0.9s
DBG Daneborg 86.45 356 i P P 07 13 10.2 -1.1
DBG IAmb IAmb 07 13 11.9
comp=Z,13nm,0.6s
IKP In-Ko-Pah, Jac 86.45 57 P P 07 13 11.9 -0.3
baz=290
AHID Auburn Hatcher 86.47 46 IAmb IAmb 07 13 14.0
comp=Z,12nm,0.8s

FAUS Fauske 86.50 343 eP P 07 13 11.2 -0.3
SWSC Sam W. Stewart 86.59 56 P P 07 13 12.5 -0.2
baz=290
BC3 Big Chuckawall 86.62 56 P P 07 13 13.6 +0.6
baz=291,SNR=7.4
FINES FINESS Array B 86.63 335 P P 07 13 11.1 -1.2
FINES FINESS Array B 86.63 335 P P 07 13 10.7 -1.6
comp=Z,14nm,0.5s,baz=74,slow=4.8,SNR=281
comp=Z,14nm,0.5s
FINES FINESS Array B 86.63 335 i P P 07 13 10.6 -1.7
IRM Iron Mountain 86.68 55 P P 07 13 13.6 +0.4
baz=291,SNR=6.0
KEF Keuruu 86.68 336 eP P 07 13 10.8 -1.8
FFC Flin Flon 86.75 33 P P 07 13 13.5 +0.4
FFC Flin Flon 86.75 33 P P 07 13 13.5 +0.4
FFC pmax pmax
comp=Z,6.0nm,0.9s
RLMT Red Lodge 86.76 43 P P 07 13 13.9 +0.2
baz=294,SNR=12
ESJX Sierra Juarez 86.80 57 IAmb IAmb 07 13 18.0
comp=Z,14nm,1.4s
CTU Camp Tracy 86.81 48 IAmb IAmb 07 13 15.5
comp=Z,11nm,0.8s
CCUT Cedar City 86.82 51 IAmb IAmb 07 13 16.2
comp=Z,9.9nm,0.8s
NLU North Lily Min 86.86 49 IAmb IAmb 07 13 15.9
comp=Z,13nm,0.9s
NEE2 Needles Airpor 86.87 54 P P 07 13 14.7 +0.6
baz=291
VAF Ylistaro 86.98 338 eP P 07 13 12.5 -1.5
SZCU Shurtz Canyon 87.00 51 IAmb IAmb 07 13 16.8
comp=Z,11nm,0.8s
LCMT Little Creek M 87.10 52 IAmb IAmb 07 13 17.4
comp=Z,8.8nm,0.9s
MPU Maple Canyon 87.15 49 IAmb IAmb 07 13 17.2
comp=Z,11nm,1.0s
GLA Glamis 87.32 56 P P 07 13 16.5 +0.1
baz=291
PDMCI Parker Dam,Lak 87.41 55 P P 07 13 16.9 +0.2
baz=291
BW06 Boulder Array 87.51 45 P P 07 13 17.4 +0.1
baz=294
PDAR Pinedale Array 87.51 45 P P 07 13 17.6 +0.2
PDAR Pinedale Array 87.51 45 P P 07 13 17.2 -0.2
comp=Z,1.7nm,0.7s,baz=239,slow=2.4,SNR=17
comp=Z,1.7nm,0.7s
TMUT Trail Mountain 87.73 49 IAmb IAmb 07 13 20.2
comp=Z,9.6nm,0.8s
ARBE Arbavere 87.82 334 eP P 07 13 16.8 -1.3
MEF Metsahovi 88.02 335 eP P 07 13 17.4 -1.6
SFX San Felipe 88.02 58 IAmb IAmb 07 13 21.2
comp=Z,13nm,0.9s
LAO LASA Array 88.04 41 IAmb IAmb 07 14 24.4
comp=Z,24nm,1.6s
LAO LASA Array 88.04 41 P P 07 13 19.7 +0.2
baz=296
SRU San Rafael Swe 88.29 49 IAmb IAmb 07 13 22.5
comp=Z,14nm,0.8s
RDMU Red Mountain 88.39 48 IAmb IAmb 07 13 23.2
comp=Z,10nm,0.9s
RAF Rauma 88.56 336 eP P 07 13 19.3 -2.2
SUMG Summit 88.58 1 IAmb IAmb 07 13 24.1
comp=Z,8.8nm,1.0s
SUMG Summit 88.58 1 P P 07 13 22.7 +0.8
SUMG Summit 88.58 1 i P P 07 13 22.0 +0.1
SUMG IAmb IAmb 07 13 23.9
comp=Z,11nm,1.1s
HMU Henry Mountain 88.59 50 IAmb IAmb 07 13 23.9
comp=Z,13nm,0.7s
WUAZ Wupatki 89.06 53 P P 07 13 25.2 +0.5
baz=293,SNR=17
MTSE Matsula 89.15 334 eP P 07 13 22.9 -1.4
214A Organ Pipe Nat 89.30 56 P P 07 13 25.6 -0.1
baz=292,SNR=12
X16A Lo Mia Camp, P 89.44 54 IAmb IAmb 07 13 28.7
comp=Z,20nm,1.8s
O20A White River Ci 89.49 47 IAmb IAmb 07 13 28.1
comp=Z,8.9nm,1.0s
O20A White River Ci 89.49 47 P P 07 13 26.7 0.0
baz=295,SNR=6.5
RWWY Rawlins 89.55 46 IAmb IAmb 07 13 27.5
comp=Z,17nm,1.4s
K22A Casper 89.59 45 P P 07 13 26.7 -0.3
baz=296
MNK Minsk 89.73 329 i P P 07 13 24.0 -3.1
MNK i S SKSac 07 23 39.8 -4.6
MNK i SS SS 07 30 04.1 -1.6
MNK i SSS SSS 07 33 41.1
MNK pmax pmax
comp=N,13nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK pmax pmax
comp=Z,24nm,0.8s
AAL Aland 89.77 336 eP P 07 13 24.9 -2.3
ISAL Salakas 89.97 330 eP P 07 13 27.9 -0.4
W18A Petrified Fore 90.45 53 P P 07 13 31.3 +0.1
baz=294
SLIT Slitere, Latvi 90.45 333 eP P 07 13 28.2 -2.3
MVCO Mesa Verde 90.52 50 IAmb IAmb 07 13 33.4
comp=Z,11nm,1.2s
MVCO Mesa Verde 90.52 50 P P 07 13 31.5 0.0
baz=294,SNR=6.1
X18A Snowflake 90.52 53 IAmb IAmb 07 13 33.7
comp=Z,8.8nm,1.0s
RSSD Black Hills 90.56 43 P P 07 13 31.8 +0.3
baz=297
N23A Red Feather La 90.75 46 P P 07 13 33.2 +0.6
baz=296,SNR=10
TUC Tucson 90.76 55 P P 07 13 33.0 +0.5
TUC IAmb IAmb 07 13 34.8
comp=Z,6.9nm,1.1s
TUC Tucson 90.76 55 P P 07 13 33.1 +0.6
baz=293
TUC Tucson 90.76 55 P P 07 13 33.0 +0.5
TUC pmax pmax
comp=Z,7.0nm,1.1s
SMCO Snowmass 90.78 48 P P 07 13 33.2 +0.2
SMCO IAmb IAmb 07 13 34.7
comp=Z,8.5nm,1.0s
UPP Uppsala 90.88 337 eP P 07 13 30.4 -2.0
PABE Paberze 91.00 331 eP P 07 13 32.0 -1.0
AKASG Malin Array Be 91.10 325 P P 07 13 31.6 -2.0
comp=Z,0.8nm,0.4s,baz=52,slow=4.9,SNR=6.6
comp=Z,0.8nm,0.4s
ISCO Idaho Springs 91.46 47 P P 07 13 35.5 -0.4
ISCO Idaho Springs 91.46 47 P P 07 13 36.0 +0.1
baz=296,SNR=7.9
ISCO Idaho Springs 91.46 47 P P 07 13 35.5 -0.4
ISCO pmax pmax
comp=Z,5.0nm,1.0s
HSIG 91.91 59 P P 07 13 37.1 -0.7
ICESG Greenland Ices 92.04 2 i P P 07 13 36.8 -1.3
ICESG IAmb IAmb 07 13 38.3
comp=Z,7.2nm,0.7s
HFS Hagfors 92.12 338 P P 07 13 36.3 -1.8
comp=Z,2.4nm,0.5s,baz=96,slow=4.6,SNR=30
comp=Z,2.4nm,0.5s
Q24A Divide 92.15 48 IAmb IAmb 07 14 08.0
comp=Z,7.5nm,0.8s
Q24A Divide 92.15 48 P P 07 13 39.9 +0.7
baz=297
VIKU Vikbolandet 92.15 336 eP P 07 13 36.3 -2.0
ULM Lac du Bonnet 92.26 34 P P 07 13 38.1 -0.9
comp=Z,0.6nm,0.4s,baz=315,slow=11,SNR=2.1
comp=Z,0.6nm,0.4s
319A Douglas 92.30 56 IAmb IAmb 07 13 42.0
comp=Z,7.1nm,1.0s
NB2 NORSAR Subarra 92.30 340 P P 07 13 37.3 -1.7
comp=Z,2.1nm,0.7s,baz=44,slow=5.1
NB2 NORSAR Subarra 92.30 340 P P 07 13 37.3 -1.7
baz=44,slow=5.1
NB2 NORSAR Subarra 92.30 340 P P 07 13 37.7 -1.3
NOA NORSAR Array B 92.30 340 P P 07 13 37.1 -1.9
comp=Z,1.0nm,0.5s,baz=43,slow=4.6,SNR=8.6
NOA PP PP 07 17 17.6 -3.1
comp=Z,1.4nm,0.8s,baz=35,slow=7.5,SNR=3.8
NOA LR LR 07 59 09.7
comp=Z,14nm,18.9s,baz=230,slow=38
comp=Z,1.0nm,0.5s
SDCO Great Sand Dun 92.44 49 P P 07 13 40.8 +0.3
baz=296,SNR=7.1
ANMO Albuquerque 92.97 52 P P 07 13 43.2 +0.4
ANMO IAmb IAmb 07 13 44.8
comp=Z,7.6nm,1.1s
ANMO Albuquerque 92.97 52 P P 07 13 43.2 +0.4
baz=296
ANMO Albuquerque 92.97 52 LR LR 07 51 50.8
comp=Z,34nm,19.2s,baz=103,slow=33
ANMO Albuquerque 92.97 52 P P 07 13 43.3 +0.4
ANMO pmax pmax
comp=Z,8.0nm,1.1s
121A Cookes Peak, D 92.99 54 P P 07 13 43.9 +0.9
baz=295,SNR=7.5
AGMN Agassiz Nation 93.35 36 P P 07 13 44.7 +0.6
baz=304
T25A Trinidad 93.49 49 IAmb IAmb 07 13 47.7
comp=Z,4.8nm,0.9s
T25A Trinidad 93.49 49 P P 07 13 45.9 +0.6
baz=297
SUSD Miller 93.59 40 P P 07 13 45.6 +0.3
baz=301
KSCO Kaye Shedlock' 93.88 47 P P 07 13 47.0 +0.1
baz=298
BRTR Keskin Array B 93.96 314 P P 07 13 46.0 -1.3
comp=Z,1.2nm,0.7s,baz=97,slow=3.0,SNR=7.2
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 93.96 314 eP P 07 13 46.0 -1.3
BRTR pmax pmax
comp=Z,1.0nm,0.7s
DEL Delary 94.67 336 eP P 07 13 47.8 -2.1
MNTX Cornudas Mount 95.19 54 P P 07 13 53.1 +0.2
baz=296,SNR=7.1
BSD Bornholm Skovb 95.20 334 eP P 07 13 50.2 -2.1
BSD Bornholm Skovb 95.20 334 i P P 07 13 49.5 -2.8
BSD IAmb IAmb 07 13 50.5
comp=Z,4.4nm,0.8s
ECSD EROS Data Cent 95.40 40 P P 07 13 54.3 +0.7
baz=303
KOLS Kolonicke sedl 95.80 326 ePDIFF P 07 13 58.7 +3.4
KOLS Kolonicke sedl 95.80 326 i P P 07 13 58.7 +3.4
CBKS Cedar Bluff 95.94 46 P P 07 13 56.1 -0.1
baz=300
EYMN Ely 95.94 35 P P 07 13 56.2 +0.2
baz=307
AMTX Amarillo 96.50 50 P P 07 13 58.7 -0.2
baz=298
SPMN Marine on St. 96.82 37 P P 07 14 00.5 +0.6
baz=306
TXAR Lajitas Array 97.56 56 P Pdif 07 14 04.2 +0.4
comp=Z,0.7nm,0.7s,baz=267,slow=1.8,SNR=4.6
comp=Z,0.7nm,0.7s
KSU1 Kansas State U 97.88 44 P P 07 14 03.9 -1.0
baz=302
VRAC Vrancy 98.42 329 LR LR 08 01 11.2
comp=Z,63nm,18.3s,baz=170,slow=37
SCIA State Center 98.49 40 P P 07 14 07.2 -0.3
baz=305
WMOK Wichita Mounta 98.65 49 P P 07 14 07.9 -0.5
baz=300
CLL Collm 98.70 332 ePdif P 07 14 07.0 -1.3
CLL ePP PP 07 18 10.0 -0.3
CLL Collm 98.70 332 eP P 07 14 07.0 -1.3
ABTX Abilene, Hawle 99.07 51 P Pdif 07 14 09.8 -0.6
baz=300
JFWS Jewell Farm 99.68 38 P Pdif 07 14 12.2 -0.6
baz=307
JCT Junction City 99.99 53 P Pdif 07 14 13.9 -0.7
baz=299
TUL3 Leonard 100.13 47 P Pdif 07 14 14.1 -0.9
baz=302
WHTX Lake Whitney, 100.99 51 P Pdif 07 14 18.0 -0.9
baz=301
833A Chaparral WMA, 101.34 55 P Pdif 07 14 19.8 -0.8
baz=299
EKA Eskdalemuir Ar 101.38 343 PP PP 07 18 28.2 -2.1
comp=Z,1.5nm,0.7s,baz=30,slow=7.3,SNR=6.0
L44A Lake County Fo 101.49 38 P Pdif 07 14 20.6 -0.3
baz=309
435B Jarrell 101.51 52 P Pdif 07 14 20.8 -0.4
baz=300
GLMI Grayling 101.60 34 P Pdif 07 14 20.8 -0.6
baz=312
HDIL Hopedale 101.68 40 P Pdif 07 14 20.7 -1.0
baz=308
CCM Cathedral Cave 101.95 43 P Pdif 07 14 21.9 -1.1
baz=306
MIAR Mount Ida 102.39 47 P Pdif 07 14 24.3 -0.8
baz=304
SFIN Lafayette 103.10 39 P Pdif 07 14 27.3 -0.8
baz=309
NATX Nacogdoches 103.14 50 P Pdif 07 14 27.9 -0.6
baz=302
AAM Ann Arbor 103.81 35 P Pdif 07 14 30.7 -0.5
baz=312
O48B Farmland 104.32 38 P Pdif 07 14 33.0 -0.5
baz=311
WCI Wyandotte Cave 104.94 40 P Pdif 07 14 35.9 -0.4
baz=310
P49A Miami Univ. Ec 105.04 38 P Pdif 07 14 35.9 -0.9
baz=311
OXF Oxford 105.23 45 P PKiKP 07 18 51.0 -0.2
baz=306
WVT Waverly 105.29 43 P PKiKP 07 18 51.1 -0.2
baz=308
ACSO Alum Creek Sta 105.58 37 P PKiKP 07 18 51.6 -0.1
baz=312
ERPA Erie 105.91 34 P PKiKP 07 18 52.2 -0.1
baz=315
M53A WI Miller and 106.02 35 P PKiKP 07 18 52.5 0.0
baz=315
P52A Corning 106.46 37 P PKiKP 07 18 53.4 0.0
baz=313
O53A New Philadelph 106.56 36 P PKiKP 07 18 53.7 +0.1
baz=314
LONY Lake Ozonia 106.72 29 P PKiKP 07 18 53.9 +0.2
baz=320
TZTN Tazewell 107.70 40 P PKiKP 07 18 55.8 0.0
baz=311
MCWV Mont Chateau 107.72 35 P PKiKP 07 18 55.7 0.0
baz=315
LRAL Lakeview Retre 107.72 45 P PKiKP 07 18 55.7 -0.2
baz=308
BINY Binghamton 107.89 31 P PKiKP 07 18 55.8 -0.2
baz=319
SSPA Standing Stone 108.07 34 P PKiKP 07 18 56.3 0.0
baz=317
LBNH Lisbon 108.20 28 P PKiKP 07 18 56.9 +0.4
baz=323
PKME Peaks-Kenny Pk 108.49 25 P PKiKP 07 18 56.3 -0.7
baz=325
BRAL Brewton 108.82 46 P PKiKP 07 18 57.5 -0.5
baz=307
BLA Blacksburg 109.10 38 P PKiKP 07 18 57.7 -0.7
baz=314
L61B Northampton 109.27 29 P PKiKP 07 18 58.0 -0.6
baz=322
HRV Adam Dziewonsk 109.74 28 P PKiKP 07 18 58.6 -0.8
baz=322
GOGA Godfrey 109.79 42 P PKiKP 07 18 59.2 -0.6
baz=310
PAL Palisades 109.81 31 P PKiKP 07 18 58.4 -1.1
baz=320
KMSC Kings Mountain 109.97 40 P PKiKP 07 18 59.6 -0.5
baz=313
TIGA Tifton 110.97 44 P PKiKP 07 19 01.5 -0.5
baz=310
CNNC Cliffs of the 111.94 38 P PKiKP 07 19 03.9 +0.1
baz=315
ESDC Sonseca Array 115.14 335 PKKPab PKKPab 07 29 51.6 -2.3
comp=Z,1.0nm,0.8s,baz=227,slow=4.3,SNR=9.9
PLCA Paso Flores 142.14 133 PKhKP PKPpre 07 19 56.2
comp=Z,2.9nm,0.9s,baz=261,slow=6.5,SNR=7.1
PLCA SKPbc SKPbc 07 23 24.6 -0.7
comp=Z,1.6nm,0.8s,baz=323,slow=4.0,SNR=2.9
BO01 Tunca 143.88 123 PKPdf PKPbc 07 20 02.1 +0.1
BO02 Sierra Bellavi 144.01 123 PKPdf PKPbc 07 20 03.0 +0.5
MT02 Cuevav 144.13 121 PKPdf PKPbc 07 20 03.0 +0.1
VA06 Catapilco 144.16 120 PKPdf PKPab 07 20 02.7 +0.3
LCO Las Campanas 145.32 114 PKPdf PKPab 07 20 07.5 +0.2
LCO Las Campanas 145.32 114 PKP2 PKPab 07 20 07.5 +0.2
GO02 Mina Guanaco 146.70 107 PKPbc 07 20 12.0 +0.7
LVC Limon Verde 147.39 102 PKPbc 07 20 14.5 +1.2
LVC Limon Verde 147.39 102 PKPbc PKPbc 07 20 13.9 +0.6
comp=Z,27nm,0.7s,baz=267,slow=2.9,SNR=36
LVC pPKPbc pPKPab 07 20 50.4 -0.6
comp=Z,13nm,0.7s,baz=254,slow=5.4,SNR=5.1
LVC Limon Verde 147.39 102 PKP2 PKPbc 07 20 14.5 +1.2
LPAZ La Paz 147.56 91 PKP PKPdf 07 20 10.6 -0.9
comp=Z,9.2nm,0.6s,baz=274,slow=4.8,SNR=24
LPAZ PKPbc PKPbc 07 20 14.7 +0.4
comp=Z,9.2nm,0.6s,baz=303,slow=2.1,SNR=51
LPAZ pPKPbc pPKPab 07 20 51.0 -1.2
comp=Z,16nm,1.0s,baz=260,slow=2.0,SNR=3.4
ETMB Extrema 147.71 78 PKPbc 07 20 13.2 -0.8
SAML Samuel 150.18 74 PKPbc 07 20 20.1 0.0
SAML PKPab PKPab 07 20 26.4 -0.2
SAML Samuel 150.18 74 PKIKP PKPbc 07 20 20.2 0.0
SAML 07 20 26.4
SIV San Ignacio 154.19 87 PKP PKPdf 07 20 18.9 -2.0
comp=Z,1.4nm,0.8s,baz=266,slow=3.0,SNR=7.8
SIV PKPbc PKPbc 07 20 28.4 -0.7
comp=Z,1.2nm,0.5s,baz=257,slow=3.5,SNR=7.5
SIV PKPab PKPab 07 20 43.3 -0.2
comp=Z,2.4nm,0.6s,baz=272,slow=3.9,SNR=7.5
VILB Vilhena 154.29 80 PKPbc PKPbc 07 20 29.4 -0.1
VILB PKPab PKPab 07 20 43.8 -0.1
CPUP Villa Florida 157.46 113 PKP PKPdf 07 20 23.0 -1.9
comp=Z,0.9nm,0.8s,baz=22,slow=7.3,SNR=3.0
CPUP PKPab PKPab 07 20 57.6 +0.4
comp=Z,8.0nm,0.8s,baz=268,slow=5.0,SNR=19
CPUP pPKPab pPKPab 07 21 32.8 +0.4
comp=Z,4.4nm,0.9s,baz=243,slow=7.8,SNR=3.0
BDFB Brasilia 166.37 78 PKPab PKPab 07 21 36.8 +0.1
comp=Z,1.9nm,0.6s,baz=195,slow=5.4,SNR=5.0

BJI **06** *07:06:18.4±0.0, 45°.32N×79°.90E, h10km, mb4.6/12, mB4.7/7, ML4.3/10, Ms3.7/1*
IDC **06** *07:06:18.1±0.8, 45°.19N×80°.07E, h0km, mb3.5/8, mbtmp3.7/16, ML3.8/8, MS4.4/1, Error ellipse: s-maj=12.5km s-min=8.4km az=137.0*
MOS **06** *07:06:19.1±1.2, 45°.35N×79°.89E, h12km, mb4.6/4, Error ellipse: s-maj=7.3km s-min=4.5km az=59.4*
NEIC **06** *07:06:19.2±1.2, 45°.35N±0°.08×79°.9E±0°.1, h15km±6km, mb4.4/6, Error ellipse: s-maj=13.4km s-min=7.8km az=141.0*
NNC **06** *07:06:20.4±0.5, 45°.26N×79°.93E, h3km±3km, mb5.1, mpv4.9, Error ellipse: s-maj=4.5km s-min=2.4km az=118.0*
SOME **06** *07:06:21.6, 45°.23N×79°.97E, h20km, MS3.5*
ISC 06 07:06:18.1±1.1, 45°.31N±0°.02×79°.93E±0°.02, h5km±8km, n178, σ1°.83/223, mb3.7/14, 28C-7D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPS	**Kapalarasan**	**0.41**	**267**	P	**Pn**	**07 06 29.3**	**-1.5**
KAPS	4μm,0.3s			S	**Sb**	**07 06 34.6**	**+0.1**
	9μm,0.3s						
KAPS	**Kapalarasan**	**0.41**	**267**	↑eP	**Pn**	**07 06 29.3**	**-1.5**
KAPS	4μm,0.3s			eS	**Sb**	**07 06 35.1**	**+0.7**
	9μm,0.3s						
DJR	**Jarkent**	**0.98**	**186**	P	**Pb**	**07 06 38.3**	**+0.6**
DJR	2μm,0.2s			S	**Sb**	**07 06 49.9**	**-1.1**
	7μm,0.4s						
DJR	**Jarkent**	**0.98**	**186**	↓eP	**Pb**	**07 06 38.3**	**+0.6**
DJR	2μm,0.2s			eS	**Sb**	**07 06 50.3**	**-0.7**
	7μm,0.4s						
KNOS	**Konyrlen**	**1.09**	**210**	P	**Pn**	**07 06 40.4**	**+0.1**
KNOS	536nm,0.1s			S	**Sb**	**07 06 53.6**	**-0.6**
	3μm,0.3s						
TDK	**Taldyqorghan**	**1.12**	**255**	P	**Pg**	**07 06 42.0**	**+2.3**
TDK	6μm,0.3s			S	**Sn**	**07 06 56.4**	**0.0**
	27nm,0.5s						
TDK	**Taldyqorghan**	**1.12**	**255**	eP	**Pg**	**07 06 41.9**	**+2.3**
	baz=251						
TDK	**Taldyqorghan**	**1.12**	**255**	eP	**Pg**	**07 06 42.0**	**+2.3**
TDK	6μm,0.3s			eS	**Sn**	**07 06 56.4**	**0.0**
	27nm,0.5s						
TDK	**Taldyqorghan**	**1.12**	**255**	ePG	**Pg**	**07 06 41.8**	**+2.1**
BLB	**Baldybastay**	**1.59**	**221**	P	**Pg**	**07 06 49.8**	**+1.1**
BLB	11μm,0.4s			S	**Sb**	**07 07 09.9**	**+1.2**
	27μm,0.7s						
ARXS	**Arharly**	**1.86**	**235**	P	**Pg**	**07 06 54.1**	**+0.3**
ARXS	1μm,0.3s			S	**Sb**	**07 07 17.1**	**+0.9**
	6μm,0.5s						
ARXS	**Arharly**	**1.86**	**235**	eP	**Pg**	**07 06 54.1**	**+0.3**
ARXS	1μm,0.3s			eS	**Sb**	**07 07 17.1**	**+0.9**
	6μm,0.5s						
ARXS	**Arharly**	**1.86**	**235**	ePN	**Pg**	**07 06 54.0**	**+0.3**
PDGK	**Podgornoye**	**2.00**	**189**	P	**Pb**	**07 06 56.6**	**+1.5**
PDGK	464nm,0.3s			S	**Sb**	**07 07 21.5**	**+1.1**
	4μm,0.7s						
PDGK	**Podgornoye**	**2.00**	**189**	↑Pn	**Pb**	**07 06 55.2**	**0.0**
PDGK	874nm,0.8s			↑Sn	**Sb**	**07 07 21.3**	**+0.8**
	6μm,0.5s						
PDGK	**Podgornoye**	**2.00**	**189**	PN	**Pb**	**07 06 55.1**	**0.0**
PDGK						07 07 21.2	
MAKZ	**Makanchi**	**2.07**	**43**	↓Pn	**Pb**	**07 06 56.1**	**-0.2**
MAKZ	123nm,0.5s			↓Sn	**Sg**	**07 07 24.0**	**-0.6**
	3μm,0.4s						
MAKZ	**Makanchi**	**2.07**	**43**		**Pn**	**07 06 53.1**	**-0.5**
MAKZ	**Makanchi**	**2.07**	**43**	PN	**Pb**	**07 06 56.0**	**-0.2**
MAKZ						07 07 24.0	
SHLS	**Shalkode**	**2.18**	**189**	Pg	**Pb**	**07 06 59.5**	**+1.4**
SHLS	748nm,0.5s			Lg	Lg	07 07 26.4	
	3μm,0.5s						
SHLS	**Shalkode**	**2.18**	**189**	eP	**Pb**	**07 06 57.3**	**-0.8**
	baz=180						
SHLS	**Shalkode**	**2.18**	**189**	eP	**Pb**	**07 06 59.5**	**+1.4**
SHLS	748nm,0.5s			eS	**Sb**	**07 07 26.4**	**+1.0**
	3μm,0.5s						
SHLS	**Shalkode**	**2.18**	**189**	ePN	**Pb**	**07 06 57.3**	**-0.8**
MK31	**Makanchi Array**	**2.21**	**47**	Pn	**Pb**	**07 06 58.6**	**-0.1**
MK31	145nm,0.3s,baz=217,slow=13,SNR=4102			↑Sn	**Sb**	**07 07 26.5**	**0.0**
	254nm,0.2s,baz=222,slow=29,SNR=9.0						
MK31	**Makanchi Array**	**2.21**	**47**		**Pn**	**07 06 54.9**	**-0.8**
MK31	**Makanchi Array**	**2.21**	**47**	PN	**Pb**	**07 06 58.6**	**-0.1**
MK31						07 07 26.4	
MKAR	**Makanchi Array**	**2.21**	**47**		**Pn**	**07 06 54.7**	**-0.9**
MKAR	**Makanchi Array**	**2.21**	**47**	Pn	**Pb**	**07 06 58.7**	**0.0**
MKAR	133nm,0.3s,baz=219,slow=14,SNR=4098			Lg	Lg	07 07 27.4	
	854nm,0.3s,baz=227,slow=28,SNR=7.9						
	286nm,0.4s						
MKAR	**Makanchi Array**	**2.21**	**47**	PN	**Pn**	**07 06 54.7**	**-0.9**
KURS	**Kuram**	**2.21**	**215**	Pg	**Pg**	**07 07 00.7**	**+0.1**
KURS	426nm,0.4s			Lg	Lg	07 07 28.3	
	2μm,0.4s						
KURS	**Kuram**	**2.21**	**215**	eP	**Pg**	**07 07 00.7**	**+0.1**
KURS	426nm,0.4s			eS	**Sb**	**07 07 28.3**	**+1.8**
	2μm,0.4s						
UZB	**Uzynbulak**	**2.26**	**197**	eP	**Pb**	**07 06 58.8**	**-0.8**
	baz=196						
UZB	**Uzynbulak**	**2.26**	**197**	ePN	**Pb**	**07 06 58.7**	**-0.8**
ZHN	**Zhinishke**	**2.40**	**207**	Pg	**Pb**	**07 07 03.9**	**+2.1**
ZHN	253nm,0.3s			Lg	Lg	07 07 33.9	
	12μm,0.2s						
ZHN	**Zhinishke**	**2.40**	**207**	ePn	**Pb**	**07 07 01.1**	**-0.7**
	baz=206						
ZHN				ePg	**Pg**	**07 07 03.6**	**-0.4**
	baz=206						
ZHN	**Zhinishke**	**2.40**	**207**	eP	**Pb**	**07 07 03.9**	**+2.1**
	253nm,0.3s						
ZHN				eS	**Sb**	**07 07 33.9**	**+2.2**
	12μm,0.2s						
ZHN	**Zhinishke**	**2.40**	**207**	ePN	**Pb**	**07 07 01.1**	**-0.7**
ZHN				e		07 07 03.6	
SATY	**Saty**	**2.50**	**207**	Pg	**Pb**	**07 07 05.5**	**+1.9**
SATY	476nm,0.1s			Lg	Lg	07 07 36.8	
	8μm,0.2s						
SATY	**Saty**	**2.50**	**207**	ePn	**Pb**	**07 07 02.5**	**-1.2**
	baz=205						
SATY				ePg	**Pg**	**07 07 05.9**	**-0.2**
	baz=205						
SATY	**Saty**	**2.50**	**207**	eP	**Pb**	**07 07 05.5**	**+1.9**
SATY	476nm,0.1s			eS	**Sb**	**07 07 36.8**	**+2.0**
	8μm,0.2s						
SATY	**Saty**	**2.50**	**207**	ePN	**Pb**	**07 07 02.5**	**-1.2**

SATY e 07 07 05.8
CHKK Chushkaly **2.56 236** Pg **Pg** **07 07 06.6 -0.6**
261nm,0.4s
CHKK Lg Lg 07 07 38.3
3μm,0.4s
CHKK Chushkaly **2.56 236** *e*Pn **Pb** **07 07 03.3 -1.2**
baz=235
CHKK *e*Pg **Pg** **07 07 06.5 -0.6**
baz=235
CHKK Chushkaly **2.56 236** *e*P **Pg** **07 07 06.6 -0.6**
261nm,0.4s
CHKK *e*S **Sb** **07 07 38.3 +2.0**
3μm,0.4s
CHKK Chushkaly **2.56 236** *e*PN **Pb** **07 07 03.3 -1.2**
CHKK e 07 07 06.5
KTBS Karatobe **2.82 237** P **Pg** **07 07 12.1 -0.1**
236nm,0.5s
KTBS Karatobe **2.82 237** *e*P **Pg** **07 07 12.1 -0.1**
236nm,0.5s
KOTS Kotyrbulak **2.90 225** Pg **Pg** **07 07 13.2 -0.5**
9.6nm,0.4s
KOTS Lg Lg 07 07 49.7
3μm,0.5s
KOTS Kotyrbulak **2.90 225** *e*P **Pg** **07 07 13.2 -0.5**
9.6nm,0.4s
KOTS *e*S **Sg** **07 07 49.7 -1.5**
3μm,0.5s
MDOK Medeo **2.98 225** ⇑Pn **Pn** **07 07 08.7 +2.4**
22nm,0.5s
MDOK ⇑Pg **Pb** **07 07 13.9 +2.0**
265nm,0.6s
MDOK Pg **Pg** **07 07 14.6 -0.7**
289nm,0.5s
MDOK Lg Lg 07 07 52.2
1μm,0.6s
MDOK ⇑Lg Lg 07 07 52.8
1μm,0.6s
MDOK Medeo **2.98 225** *e*Pn **Pn** **07 07 08.9 +2.6**
baz=224
MDOK *e*Pg **Pg** **07 07 14.5 -0.7**
baz=224
MDOK Medeo **2.98 225** *e*P **Pg** **07 07 14.6 -0.7**
289nm,0.5s
MDOK *e*S **Sg** **07 07 52.2 -1.7**
1μm,0.6s
MDOK Medeo **2.98 225** *e*PN **Pn** **07 07 08.9 +2.6**
MDOK e 07 07 14.5
KNDC Almaty **2.98 227** ⇑Pg **Pg** **07 07 15.0 -0.3**
725nm,0.7s
KNDC ⇑Lg Lg 07 07 52.0
2μm,0.7s
AAA Alma-Ata **3.02 227** Pg **Pg** **07 07 15.2 -0.7**
516nm,0.5s
AAA Lg Lg 07 07 53.1
2μm,0.4s
AAA Alma-Ata **3.02 227** *e*P **Pg** **07 07 15.2 -0.7**
516nm,0.5s
AAA *e*S **Sg** **07 07 53.1 -1.9**
2μm,0.4s
TNSS Tian-Shan **3.12 224** Pg **Pg** **07 07 17.2 -0.8**
248nm,0.5s
TNSS Lg Lg 07 07 56.6
610nm,0.3s
TNSS Tian-Shan **3.12 224** *e*Pn **Pn** **07 07 11.4 +2.9**
baz=223
TNSS *e*Pg **Pg** **07 07 17.4 -0.7**
baz=223
TNSS Tian-Shan **3.12 224** *e*P **Pg** **07 07 17.2 -0.8**
248nm,0.5s
TNSS *e*S **Sg** **07 07 56.6 -2.0**
610nm,0.3s
TNSS Tian-Shan **3.12 224** *e*PN **Pn** **07 07 11.3 +2.9**
TNSS e 07 07 17.3
KASK Kaskelen **3.15 230** ⇑Pg **Pg** **07 07 18.0 -0.6**
KASK ⇑Lg Lg 07 07 58.6
MTBS Maitube **3.33 230** Pg **Pg** **07 07 21.0 -1.0**
316nm,0.7s
MTBS Lg Lg 07 08 03.1
2μm,0.4s
MTBS Maitube **3.33 230** *e*P **Pg** **07 07 21.0 -1.0**
316nm,0.7s
MTBS *e*S **Sg** **07 08 03.1 -2.0**
2μm,0.4s
KRBS Karabastau **3.45 244** Pg **Pg** **07 07 23.0 -1.1**
236nm,0.4s
KRBS Lg Lg 07 08 06.7
562nm,0.5s
KRBS Karabastau **3.45 244** *e*P **Pg** **07 07 23.0 -1.1**
236nm,0.4s
KRBS *e*S **Sg** **07 08 06.7 -2.1**
562nm,0.5s
DGS Degeres **3.63 237** Pg **Pg** **07 07 26.4 -1.3**
543nm,0.6s
DGS Lg Lg 07 08 12.3
1μm,0.7s
DGS Degeres **3.63 237** *e*P **Pg** **07 07 26.4 -1.3**
543nm,0.6s
DGS *e*S **Sg** **07 08 12.2 -2.5**
1μm,0.7s
KST Kastek **3.64 233** Pg **Pg** **07 07 26.5 -1.5**
915nm,0.6s
KST Lg Lg 07 08 12.6
734nm,0.7s
KST Kastek **3.64 233** *e*P **Pg** **07 07 26.5 -1.5**
915nm,0.6s
KST *e*S **Sg** **07 08 12.6 -2.6**
734nm,0.7s
TARG Taragay, Kyrgy **3.90 204** **Pn** **07 07 19.3 +0.2**
TARG Taragay, Kyrgy **3.90 204** PN **Pn** **07 07 19.3 +0.2**
TKM2 Tokmak 2 **3.93 234** P **Pn** **07 07 22.9 +3.5**
SNR=7.3
TKM2 Tokmak 2 **3.93 234** ⇓Pn **Pn** **07 07 21.5 +2.1**
26nm,0.6s
TKM2 ⇑Pg **Pg** **07 07 31.5 -1.9**
155nm,0.6s
TKM2 ⇑Lg Lg 07 08 23.2
271nm,0.3s
TKM2 Tokmak 2 **3.93 234** PN **Pn** **07 07 21.4 +2.1**
TKM2 07 07 31.5
ZSN Zaisan **4.03 56** Pg **Pb** **07 07 32.5 +2.9**
175nm,0.5s
ZSN Lg Lg 07 08 23.0
309nm,0.5s
ZSN Zaisan **4.03 56** *e*P **Pb** **07 07 28.7 -1.0**
175nm,0.5s
ZSN *e*S **Sb** **07 08 16.7 -2.0**
309nm,0.5s
BOOM Boomskoye usch **4.03 227** **Pn** **07 07 20.8 0.0**
BOOM Boomskoye usch **4.03 227** PN **Pn** **07 07 20.8 0.0**
ULHL Ulahol **4.06 222** P **Pn** **07 07 25.6 +4.4**
SNR=39
BTLS Baital **4.17 268** Pg **Pg** **07 07 37.6 -0.5**
126nm,0.4s
BTLS Lg Lg 07 08 31.4
357nm,0.4s
BTLS Baital **4.17 268** *e*Pn **Pn** **07 07 25.0 +2.5**
baz=268
BTLS Baital **4.17 268** *e*P **Pg** **07 07 37.6 -0.5**
126nm,0.4s
BTLS *e*S **Sg** **07 08 31.4 -0.6**
357nm,0.4s
BTLS Baital **4.17 268** *e*PN **Pn** **07 07 25.0 +2.5**
SGDS Sogindy **4.23 246** Pg **Pg** **07 07 37.5 -1.6**
139nm,0.5s
SGDS Lg Lg 07 08 31.5
427nm,0.6s
SGDS Sogindy **4.23 246** *e*Pn **Pn** **07 07 25.7 +2.3**
baz=245
SGDS *e*Pg **Pg** **07 07 36.9 -2.3**
baz=245
SGDS *e*Lg Lg 07 08 33.9
baz=245
SGDS Sogindy **4.23 246** *e*PN **Pn** **07 07 25.6 +2.3**
SGDS e 07 07 36.9
CHMS Chumysh **4.38 240** P **Pn** **07 07 28.0 +2.5**
SNR=7.6
CHMS Chumysh **4.38 240** ⇑Pn **Pn** **07 07 27.9 +2.4**
36nm,0.7s
CHMS ⇑Pg **Pb** **07 07 38.8 +3.1**
131nm,0.8s
CHMS ⇓Lg Lg 07 08 36.0
363nm,0.6s
CHMS Pg Sg 07 08 49.9 +11
155nm,0.2s
CHMS Lg Lg 07 10 35.4
376nm,0.5s
CHMS Chumysh **4.38 240** PN **Pn** **07 07 27.8 +2.4**

USP Ospenovka **4.40 244** P **Pn** **07 07 28.1 +2.4**
SNR=12
KBK Karagaybulak **4.47 235** P **Pn** **07 07 30.0 +3.3**
SNR=27
FRU1 Bishkek **4.56 239** Pn **Pn** **07 07 28.2 +0.2**
FRU1 Bishkek **4.56 239** PN **Pn** **07 07 28.2 +0.2**
AAK Ala-Archa **4.75 238** P **Pn** **07 07 33.4 +2.8**
SNR=26
AAK Ala-Archa **4.75 238** ⇑Pn **Pn** **07 07 33.4 +2.8**
24nm,0.5s
AAK ⇑Pg **Pb** **07 07 42.9 +1.0**
62nm,0.6s
AAK ⇑Lg Lg 07 08 49.0
680nm,1.1s
AAK Ala-Archa **4.75 238** **Pn** **07 07 30.3 -0.2**
AAK Ala-Archa **4.75 238** Pn **Pn** **07 07 33.4 +2.8**
6.6nm,0.3s,baz=101,slow=5.2,SNR=47
AAK Lg Lg 07 08 48.5
23nm,0.3s,baz=180,slow=22,SNR=22
16nm,0.3s
AAK Ala-Archa **4.75 238** *i* PN **Pn** **07 07 33.5 +3.0**
UCH Uchtor **4.99 234** P **Pn** **07 07 37.5 +3.4**
SNR=21
SEM Semipalatinsk **5.11 2** Pg **Pg** **07 07 57.9 +2.0**
76nm,0.5s
SEM Lg Lg 07 09 06.3
435nm,0.5s
SEM Semipalatinsk **5.11 2** *e*Pn **Pn** **07 07 37.2 +1.7**
baz=2.5
SEM Semipalatinsk **5.11 2** *e*PN **Pn** **07 07 37.2 +1.7**
EKS2 Erkin-Say **5.17 241** P **Pn** **07 07 39.6 +3.3**
SNR=16
KURBB Kurchatov Arra **5.40 350** Pn **Pn** **07 07 41.5 +2.1**
1.3nm,0.3s,baz=170,slow=12,SNR=9.2
KURBB Pg Pg 07 07 57.4 -4.1
3.1nm,0.3s,baz=166,slow=16,SNR=8.7
KURBB Sn **Sn** **07 08 44.0 +2.1**
4.2nm,0.3s,baz=176,slow=14,SNR=5.4
KURBB Lg Lg 07 09 10.1
8.8nm,0.3s,baz=167,slow=31,SNR=13
4.6nm,0.2s
MRKS Merke **5.47 244** Pg **Pg** **07 08 01.7 -1.3**
67nm,0.6s
MRKS Lg Lg 07 09 12.5
272nm,0.3s
MRKS Merke **5.47 244** *e*P **Pg** **07 08 01.7 -1.3**
67nm,0.6s
MRKS *e*S **Sg** **07 09 12.5 -1.3**
272nm,0.3s
KURK Kurchatov **5.48 351** ⇑Pn **Pn** **07 07 43.1 +2.6**
12nm,0.6s
KURK ⇑Pg **Pg** **07 08 00.5 -2.7**
62nm,0.7s
KURK ⇑Lg Lg 07 09 16.7
695nm,1.0s
KURK Kurchatov **5.48 351** Pn **Pn** **07 07 39.5 -0.9**
KURK Kurchatov **5.48 351** *i* PN **Pn** **07 07 43.3 +2.8**
WMQ Urumqi **5.74 102** Pn **Pn** **07 07 46.8 +2.7**
WMQ Sn **Sn** **07 08 51.4 +1.0**
WMQ smax smax
comp=N,190nm,0.9s
WMQ smax smax
comp=E,260nm,1.1s
OTUK Ortayu **5.99 302** ⇑Pn **Pn** **07 07 49.3 +1.8**
10nm,0.3s
OTUK ⇓Lg Lg 07 09 29.8
416nm,0.9s
OTUK Ortayu **5.99 302** PN **Pn** **07 07 49.2 +1.8**
ARSB Arslanbob **6.45 234** Pn **Pn** **07 07 53.9 +0.1**
ARSB Arslanbob **6.45 234** PN **Pn** **07 07 53.9 +0.1**
DZA Taraz **6.65 252** Pg **Pg** **07 08 23.6 -1.8**
122nm,0.3s
DZA Lg Lg 07 09 50.7
346nm,0.6s
DZA Taraz **6.65 252** *e*Pn **Pn** **07 07 57.4 +0.9**
baz=251
DZA Taraz **6.65 252** *e*PN **Pn** **07 07 57.4 +0.9**
BRZS Berezniki **6.77 316** Pg **Pg** **07 08 28.7 +0.9**
15nm,0.4s
BRZS Lg Lg 07 09 58.7
256nm,0.5s
BRZS Berezniki **6.77 316** *e*Pn **Pn** **07 08 00.7 +2.5**
baz=316
BRZS Berezniki **6.77 316** *e*PN **Pn** **07 08 00.7 +2.5**
KK31 Karatay Array **7.12 255** ⇑Pn **Pn** **07 08 04.7 +1.6**
3.5nm,0.3s,baz=70,slow=12,SNR=134
KK31 Pg **Pg** **07 08 31.2 -3.3**
14nm,0.4s,baz=66,slow=17,SNR=13
KK31 Lg Lg 07 10 05.9
50nm,0.5s,baz=66,slow=29,SNR=8.9
KK31 Karatay Array **7.12 255** Pn **Pn** **07 08 02.7 -0.3**
KK31 Karatay Array **7.12 255** PN **Pn** **07 08 04.6 +1.6**
KK31 *i* 07 08 31.1
KKAR Karatay Array **7.12 255** Pn **Pn** **07 08 02.8 -0.2**
KKAR Karatay Array **7.12 255** PN **Pn** **07 08 02.8 -0.2**
BRLS Borolday **7.61 256** Pg Pb 07 08 45.5 +15
12nm,0.1s
BRLS Lg Lg 07 10 28.0
82nm,0.8s
BRLS Borolday **7.61 256** *e*Pn **Pn** **07 08 13.9 +4.2**
baz=254
BRLS Borolday **7.61 256** *e*P **Pn** **07 08 13.9 +4.2**
IUG luzhnay **7.84 250** Pg Pb 07 08 45.9 +11
92nm,0.5s
IUG Lg Lg 07 10 28.6
285nm,1.0s
IUG luzhnay **7.84 250** *e*Pn **Pn** **07 08 16.8 +3.9**
baz=249
IUG *e*Lg Lg 07 10 28.5
baz=249
IUG luzhnay **7.84 250** *e*P **Pn** **07 08 16.8 +3.9**
CHM Chimkent **8.04 252** *e*Pn **Pn** **07 08 17.2 +1.4**
baz=251
CHM Chimkent **8.04 252** *e*P **Pn** **07 08 17.1 +1.4**
BTK Batken **8.52 235** Pn **Pn** **07 08 22.4 +0.2**
BTK Batken **8.52 235** P **Pn** **07 08 22.4 +0.2**
ZAA0 Zalesovo Array **9.21 18** ⇓Pn **Pn** **07 08 33.6 +2.0**
1.8nm,0.6s
ZAA0 ⇑Sn **Sn** **07 10 18.5 +3.0**
3.3nm,0.5s
ZAA0 ⇑Lg Lg 07 11 13.5
17nm,0.8s
ZAA0 Zalesovo Array **9.21 18** **Pn** **07 08 30.7 -0.9**
ZALV Zalesovo Beam **9.21 18** **Pn** **07 08 31.1 -0.5**
ZALV Zalesovo Beam **9.21 18** Pn **Pn** **07 08 33.5 +1.9**
1.9nm,0.3s,baz=199,slow=13,SNR=20
ZALV Sn **Sn** **07 10 12.8 -2.7**
8.4nm,0.3s,baz=207,slow=27,SNR=8.7
ZALV Lg Lg 07 11 11.6
4.1nm,0.3s,baz=196,slow=26,SNR=4.2
4.4nm,0.2s
ZALV Zalesovo Beam **9.21 18** *i* P **Pn** **07 08 34.0 +2.4**
ZALV pmax pmax
comp=Z,4.0nm,0.3s
BVA0 Borovoye Array **9.93 324** Pn **Pn** **07 08 43.1 +1.7**
comp=Z,1.6nm,0.3s,baz=137,slow=13,SNR=11
BVA0 ⇑Lg Lg 07 11 33.8
comp=Z,93nm,0.8s,baz=123,slow=24,SNR=7.7
BVA0 Borovoye Array **9.93 324** P **Pn** **07 08 43.1 +1.7**
BVAR Borovoye Array **9.93 324** Pn **Pn** **07 08 43.1 +1.6**
comp=Z,0.3nm,0.3s,baz=139,slow=12,SNR=9.6
BVAR Sn **Sn** **07 10 32.0 -1.2**
comp=Z,0.4nm,0.3s,baz=130,slow=17,SNR=4.0
BVAR Lg Lg 07 11 29.6
comp=Z,1.5nm,0.3s,baz=131,slow=24,SNR=10
comp=Z,3.5nm,0.3s
BRVK Borovoye **10.00 324** ⇑Lg Lg 07 11 34.6
comp=Z,294nm,1.0s
BRVK Borovoye **10.00 324** Pn **Pn** **07 08 41.3 -1.0**
BRVK Borovoye **10.00 324** P **Pn** **07 08 41.3 -1.0**
CHGR Chuyangaron **10.41 234** Pn **Pn** **07 08 46.7 -1.5**
CHGR Chuyangaron **10.41 234** P **Pn** **07 08 46.7 -1.5**
SIMJ Simiganj **10.49 235** **Pn** **07 08 47.5 -1.9**
AB31 Akbulak array **14.12 293** Pn **Pn** **07 09 37.0 -1.8**
comp=Z,5.8nm,0.7s,baz=98,slow=16,SNR=53
AB31 ⇑Lg Lg 07 13 47.2
comp=Z,9.9nm,0.7s
AB31 Akbulak array **14.12 293** *e*P **Pn** **07 09 36.9 -1.8**
ABKAR Akbulak array **14.12 293** **Pn** **07 09 37.2 -1.6**
AKTO Aktyubinsk **15.55 297** Pn **Pn** **07 09 57.1 -0.9**
comp=Z,1.1nm,0.3s,baz=104,slow=9.9,SNR=16
AKTO Sn **Sn** **07 12 43.1 -7.5**
comp=Z,0.5nm,0.3s,baz=38,slow=15,SNR=2.5
AKTO Lg Lg 07 14 27.9
comp=Z,0.1nm,0.3s,baz=161,slow=22,SNR=1.2
comp=Z,4.1nm,0.5s
ARU Arti **17.41 317** Lg Lg 07 15 25.2
baz=273,slow=21,SNR=2.3
ARU Arti **17.41 317** P **P** **07 10 23.7 +0.8**
ARU S **S** **07 13 39.3 -4.8**
GEYT Alibeck **17.87 253** P **Pn** **07 10 26.6 -0.9**
GEYT Alibeck **17.87 253** P **P** **07 10 30.0 +1.8**
comp=Z,0.3nm,0.3s,baz=34,slow=8.7,SNR=1.8
comp=Z,1.2nm,0.6s
GEYT Alibeck **17.87 253** P **Pn** **07 10 26.6 -0.9**
GEYT pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array **18.34 73** P **P** **07 10 34.9 +1.4**
comp=Z,0.2nm,0.3s,baz=294,slow=11,SNR=1.6
SONM Lg Lg 07 16 00.2
baz=102,slow=41
comp=Z,1.4nm,0.8s
HHC Hu-ho-hao-te **23.44 90** *e*P **P** **07 11 28.6 +0.2**
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,160nm,5.0s
PZH PanZhiHua **25.63 130** P **P** **07 11 50.0 +1.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.5s
GNI Garni **26.22 271** P **P** **07 11 51.9 -2.2**
GNI IAmb IAmb 07 12 05.2
comp=Z,5.3nm,0.7s
GNI Garni **26.22 271** P **P** **07 11 51.9 -2.2**
GNI pmax pmax
comp=Z,5.0nm,0.7s
KBZ Khabaz **26.31 280** P **P** **07 11 56.7 +2.1**
comp=Z,0.6nm,0.4s,baz=89,slow=8.5,SNR=2.1
comp=Z,0.6nm,0.4s
KIV Kislovodsk **26.39 280** P **P** **07 11 54.2 -1.3**
KIV IAmb IAmb 07 11 59.9
comp=Z,5.0nm,0.5s
KIV Kislovodsk **26.39 280** *e*P **P** **07 11 54.5 -1.0**
KIV pmax pmax
comp=Z,5.0nm,1.1s
HIA Hailar **27.07 67** P **P** **07 12 01.1 -0.3**
HIA IAmb IAmb 07 12 15.1
comp=Z,7.5nm,1.1s
HIA Hailar **27.07 67** P **P** **07 12 01.2 -0.3**
HIA pmax pmax
comp=Z,8.0nm,1.1s
ENH Enshi **27.57 113** P **P** **07 12 05.2 -1.0**
AKASG Malin Array Be **33.80 298** P **P** **07 13 04.4 +3.5**
comp=Z,0.1nm,0.3s,baz=65,slow=8.8,SNR=1.9
comp=Z,0.1nm,0.3s
BRTR Keskin Array B **34.20 277** P **P** **07 13 06.9 +2.2**
comp=Z,0.3nm,0.6s,baz=60,slow=10,SNR=2.4
comp=Z,0.3nm,0.6s
MDJ Mudanjiang **34.70 73** P **P** **07 13 06.5 -2.2**
MDJ IAmb IAmb 07 13 15.6
comp=Z,7.1nm,1.0s
NOA NORSAR Array B **41.96 317** P **P** **07 14 13.4 +3.7**
comp=Z,0.5nm,0.5s,baz=80,slow=8.1,SNR=2.3
comp=Z,0.5nm,0.5s
DAV Davao City (W) **54.81 120** LR LR 07 39 44.0
comp=Z,395nm,21.7s,baz=187,slow=37
ILAR Eielson Array **64.33 20** P **P** **07 16 53.7 -0.6**
comp=Z,0.2nm,0.6s,baz=325,slow=6.5,SNR=1.7
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar **71.92 7** P **P** **07 17 42.9 +1.0**
comp=Z,0.4nm,0.7s,baz=349,slow=6.6,SNR=5.1
comp=Z,0.4nm,0.7s
TORD Torodi Ar. Bea **72.53 271** P **P** **07 17 45.9 -0.4**
comp=Z,0.2nm,0.3s,baz=37,slow=4.4,SNR=5.5
comp=Z,0.2nm,0.3s
WRA Warramunga Arr **81.59 129** P **P** **07 18 36.3 -0.8**
comp=Z,0.2nm,0.5s,baz=338,slow=6.2,SNR=1.1
comp=Z,0.2nm,0.5s

CATAC ***06*** *07:07:23.3±0.4, 14°.20N×92°.06W, h29km±5km, MB4.9, mb4.6, ML4.5*
MEX ***06*** *07:07:25.0±1.1, 14°.21N×92°.10W, h55km±16km, MD4.6*
NEIC ***06*** *07:07:26.0±1.6, 14°.40N±0°.09×91°.80W±0°.03, h81km±15km, mb4.0/49, Error ellipse: s-maj=13.5km s-min=2.7km az=192.0*
IDC ***06*** *07:07:28.7±2.5, 14°.64N×91°.50W, h121km±17km, mb3.4/4, mbtmp3.7/6, Error ellipse: s-maj=45.9km s-min=20.1km az=54.0*
GCG ***06*** *07:07:28.9±0.4, 14°.39N×91°.64W, h48km±37km, MD3.9*
ISC 06 07:07:22.8±0.8, 14°.23N±0°.05×92°.07W±0°.04, h74km±7km, n154, σ1§56/199, mb4.0/19, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTAL	**Retalhuleu**	**0.46**	**51**			**Pn**	**07 07 34.6**	**-1.0**
RTAL	**Retalhuleu**	**0.46**	**51**	*e*P		**Pn**	**07 07 34.7**	**-0.9**
RTAL				*e*S		**Sn**	**07 07 43.3**	**-1.7**
RTAL	**Retalhuleu**	**0.46**	**51**	*i* P		**Pn**	**07 07 34.6**	**-1.0**
RTAL				IAML			07 07 34.8	
comp=Z,35μm,1.0s								
SULM	**Suchitepequez,**	**0.49**	**82**	*e*P		**Pn**	**07 07 36.4**	**+0.5**
STG3	**Santiaguito 3,**	**0.68**	**45**	*e*P		**Pn**	**07 07 37.3**	**-0.6**
THIG		**0.70**	**344**	*e*P		**Pn**	**07 07 38.0**	**0.0**
THIG				*i* S		**Sn**	**07 07 48.9**	**-0.3**
SMSP	**San Marcos**	**0.79**	**21**	*e*P		**Pn**	**07 07 38.7**	**-0.6**
SMSP				*e*S		**Sn**	**07 07 50.3**	**-1.1**
SMSP	**San Marcos**	**0.79**	**21**	*i* P		**Pn**	**07 07 38.6**	**-0.7**
SMSP				*i* S		**Sn**	**07 07 50.6**	**-0.8**
SMSP				IAML			07 07 53.5	
comp=Z,51μm,1.0s								
CHUJ	**Union Juarez**	**0.86**	**357**	*e*P		**Pn**	**07 07 39.0**	**-1.1**
CHUJ				*e*S		**Sn**	**07 07 50.9**	**-1.8**
PATR	**El Naranjo**	**0.89**	**350**	*e*P		**Pn**	**07 07 39.3**	**-1.2**
PATR				*e*S		**Sn**	**07 07 51.3**	**-2.2**
FUG	**Fuego 3**	**1.21**	**80**	*e*P		**Pn**	**07 07 44.1**	**-0.1**
HUEH	**Huehuetenango**	**1.21**	**27**			**Pn**	**07 07 44.6**	**+0.3**
HUEH	**Huehuetenango**	**1.21**	**27**	*e*P		**Pn**	**07 07 44.5**	**+0.2**
HUEH				*e*S		**Sn**	**07 08 00.5**	**+0.1**
HUEH	**Huehuetenango**	**1.21**	**27**	*i* P		**Pn**	**07 07 45.0**	**+0.7**
HUEH				*i* S		**Sn**	**07 08 01.0**	**+0.6**
HUEH				IAML			07 08 06.1	
comp=Z,24μm,1.0s								
PCG	**Pacaya**	**1.42**	**84**	*e*P		**Pn**	**07 07 47.6**	**+0.4**
GUMI	**Mixco**	**1.46**	**74**	*i* P		**Pn**	**07 07 47.8**	**+0.2**
GUMI				*i* S		**Sn**	**07 08 06.5**	**+0.2**
GUMI				IAML			07 08 09.1	
comp=Z,23μm,1.0s								
GCG4	**OSOP**	**1.53**	**77**	*i* P		**Pn**	**07 07 48.8**	**+0.4**
GCG4				*i* S		**Sn**	**07 08 08.0**	**+0.2**
GCG4				IAML			07 08 14.1	
comp=Z,8μm,1.0s								
NBG	**Las Nubes**	**1.70**	**78**	*e*P		**Pn**	**07 07 51.0**	**+0.2**
GUNB	**GUNB**	**1.71**	**78**	*i* P		**Pn**	**07 07 51.2**	**+0.3**
GUNB				*i* S		**Sn**	**07 08 14.2**	**+2.0**
GUNB				IAML			07 08 17.8	
comp=Z,3μm,1.0s								
APG	**El Apazote**	**1.73**	**64**	P		**Pn**	**07 07 50.9**	**-0.2**
comp=Z,12nm,0.3s,baz=208,slow=16,SNR=179								
APG				S		**Sn**	**07 08 09.5**	**-3.1**
comp=Z,58nm,0.3s,baz=195,slow=12,SNR=12								
PCIG		**1.84**	**323**	*e*P		**Pn**	**07 07 53.1**	**+0.8**
PCIG				*e*S		**Sn**	**07 08 14.2**	**-0.6**
CCIG	**Comitan**	**2.04**	**358**			**Pn**	**07 07 56.9**	**+1.7**
CCIG	**Comitan**	**2.04**	**358**	*e*P		**Pn**	**07 07 56.7**	**+1.5**
CCIG				*e*S		**Sn**	**07 08 20.6**	**+0.7**
CCIG	**Comitan**	**2.04**	**358**	*i* P		**Pn**	**07 07 56.9**	**+1.7**
CCIG				*i* S		**Sn**	**07 08 21.5**	**+1.6**
CCIG				IAML			07 08 29.1	
comp=Z,2μm,1.0s								
LOAL	**Lomas de Alarc**	**2.23**	**96**	*i* P		**Pn**	**07 07 58.1**	**+0.4**
LOAL				IAML			07 08 29.0	
comp=Z,4μm,1.0s								
NUBE	**Las Nubes**	**2.24**	**98**	*i* P		**Pn**	**07 07 58.1**	**+0.1**
NUBE				*i* S		**Sn**	**07 08 22.7**	**-2.1**
NUBE				IAML			07 08 26.5	
comp=Z,2μm,1.0s								
JUAM	**Asuncion Mita**	**2.29**	**87**	*i* P		**Pn**	**07 07 58.4**	**-0.1**
JUAM				*i* S		**Sn**	**07 08 27.4**	**+1.6**
JUAM				IAML			07 08 37.0	
comp=Z,750nm,1.0s								
CEVE	**Cerro Verde**	**2.41**	**99**	*i* P		**Pn**	**07 08 01.1**	**+0.9**
CEVE				IAML			07 08 30.8	
comp=Z,3μm,1.0s								
MRL	**Marmol**	**2.46**	**70**	*e*P		**Pn**	**07 08 01.4**	**+0.5**
UNIC	**Universidad Ca**	**2.46**	**96**	*i* P		**Pn**	**07 08 00.7**	**-0.1**
UNIC				IAML			07 08 32.3	
comp=Z,370nm,1.0s								
JAYA	**Jayaque - finc**	**2.61**	**102**	*i* P		**Pn**	**07 08 03.0**	**+0.1**

JAYA IAML 07 08 33.7
comp=Z,3µm,1.0s
CEDA San Andres 2.63 99 *i* P **Pn 07 08 03.6 +0.5**
CEDA IAML 07 08 43.0
comp=Z,3µm,1.0s
MTO3 Montecristo 2.63 86 Pn **Pn 07 08 02.7 -0.5**
MTO3 Montecristo 2.63 86 *i* P **Pn 07 08 03.6 +0.4**
MTO3 IAML 07 08 29.3
comp=Z,230nm,1.0s
ESQI Esquipulas 2.66 83 Pn 07 08 02.9 -0.7
ESQI Esquipulas 2.66 83 *i* P **Pn 07 08 03.7 +0.1**
ESQI IAML 07 08 51.1
comp=Z,590nm,1.0s
CARR Arriaga 2.68 319 *eP* **Pn 07 08 05.8 +2.1**
CARR *i* S **Sn 07 08 36.6 +1.4**
PMON Piamonte 2.72 101 *i* P **Pn 07 08 05.2 +0.8**
PMON *i* S **Sn 07 08 37.6 +1.2**
PMON IAML 07 08 52.7
comp=Z,2µm,1.0s
TGIG 2.73 338 *eP* **Pn 07 08 05.0 +0.6**
TGIG *eS* **Sn 07 08 37.3 +0.9**
QUEZ Alcaldia de Qu 2.74 98 *i* P **Pn 07 08 06.7 +2.1**
QUEZ *i* S **Sn 07 08 37.9 +1.2**
QUEZ IAML 07 08 41.3
comp=Z,3µm,1.0s
ITCA Escuela Especi 2.76 101 *i* P **Pn 07 08 05.5 +0.5**
ITCA IAML 07 08 48.9
comp=Z,2µm,1.0s
LALI Alcalda de L 2.77 105 *i* P **Pn 07 08 05.3 +0.4**
LALI IAML 07 08 40.1
comp=Z,260nm,1.0s
UEES Universidad Ev 2.79 100 *i* P **Pn 07 08 06.5 +1.2**
UEES *i* S **Sn 07 08 39.4 +1.3**
UEES IAML 07 08 43.0
comp=Z,1µm,1.0s
SNET Serv Nac Est T 2.81 101 Pn 07 08 05.8 +0.3
SNET Serv Nac Est T 2.81 101 *i* P **Pn 07 08 06.4 +0.9**
SNET IAML 07 08 43.2
comp=Z,2µm,1.0s
UTEC Universidad Te 2.83 100 *i* P **Pn 07 08 07.5 +1.6**
UTEC IAML 07 08 52.0
comp=Z,770nm,1.0s
IGN Direccin Gen 2.86 100 *i* P **Pn 07 08 06.7 +0.5**
IGN IAML 07 08 46.9
comp=Z,4µm,1.0s
PANCS Alcalda de 2.87 102 *i* P **Pn 07 08 07.5 +1.1**
PANCS IAML 07 08 41.0
comp=Z,2µm,1.0s
LOMA Loma Larga 2.87 101 *i* P **Pn 07 08 07.5 +1.0**
LOMA *i* S **Sn 07 08 41.2 +1.2**
LOMA IAML 07 08 42.7
comp=Z,880nm,1.0s
UDBS Universidad Do 2.87 100 *i* P **Pn 07 08 07.2 +0.8**
UDBS *i* S **Sn 07 08 41.3 +1.3**
UDBS IAML 07 08 45.0
comp=Z,1µm,1.0s
LLGN La Laguna 3.03 91 *i* P **Pn 07 08 08.1 -0.5**
LLGN IAML 07 09 06.8
comp=Z,240nm,1.0s
UESV Universidad de 3.24 100 *i* P **Pn 07 08 13.6 +2.2**
UESV IAML 07 08 54.3
comp=Z,460nm,1.0s
TECO Alcaldia de Te 3.27 102 *i* P **Pn 07 08 12.0 +0.3**
TECO *i* S **Sn 07 08 50.6 +1.1**
TECO IAML 07 09 00.0
comp=Z,230nm,1.0s
SCLA Alcaldia de Sa 3.28 99 *i* P **Pn 07 08 12.5 +0.5**
SCLA *i* S **Sn 07 08 51.4 +1.4**
SCLA IAML 07 08 57.5
comp=Z,130nm,1.0s
NILT Santiago Nilte 3.38 314 *eP* **Pn 07 08 15.0 +1.8**
NILT *eS* **Sn 07 08 51.9 -0.3**
PETF Flores 3.41 38 Pn 07 08 13.3 -0.3
PETF Flores 3.41 38 *eP* **Pn 07 08 13.8 +0.2**
PETF *eS* Sn 07 08 46.0 -6.9
PETF Flores 3.41 38 *i* P **Pn 07 08 14.3 +0.7**
PETF IAML 07 08 15.6
comp=Z,510nm,1.0s
PQSS Presa 15 de Se 3.46 100 *i* P **Pn 07 08 14.5 +0.2**
PQSS *i* S **Sn 07 08 56.0 +1.9**
PQSS IAML 07 09 00.1
comp=Z,200nm,1.0s
COEB Comit de Eme 3.51 102 *i* P **Pn 07 08 15.9 +0.8**
COEB *i* S **Sn 07 08 56.9 +1.3**
COEB IAML 07 09 02.0
comp=Z,210nm,1.0s
UXUV UXUV 3.66 327 *eP* **Pn 07 08 18.6 +1.5**
UXUV *eS* **Sn 07 09 00.6 +1.4**
IZABA Izabal, Puerto 3.68 66 *i* P **Pn 07 08 18.0 +0.7**
IZABA IAML 07 08 59.2
comp=Z,2.8nm,1.0s
PACA Pacayal 3.71 101 *i* P **Pn 07 08 18.7 +0.8**
PACA *i* S **Sn 07 09 02.3 +1.7**
PACA IAML 07 09 11.3
comp=Z,2µm,1.0s
RANC El Ranchito 3.75 102 *i* P **Pn 07 08 19.0 +0.5**
RANC *i* S **Sn 07 09 03.2 +1.6**
RANC IAML 07 09 08.4
comp=Z,250nm,1.0s
JUCU Jucuarįn 3.84 104 *i* P **Pn 07 08 20.3 +0.8**
JUCU IAML 07 09 06.9
comp=Z,220nm,1.0s
CMIG Matias Romero 3.93 317 P **Pn 07 08 22.6 +1.9**
comp=Z,15nm,0.3s,baz=123,slow=11,SNR=56
CMIG S **Sn 07 09 05.5 -0.1**
comp=Z,39nm,0.3s,baz=105,slow=16,SNR=8.3
CMIG Matias Romero 3.93 317 *eP* **Pn 07 08 22.5 +1.8**
CMIG *eS* **Sn 07 09 05.3 -0.4**
LCND La Caada 4.16 102 *i* P **Pn 07 08 24.4 +0.5**
LCND *i* S **Sn 07 09 12.8 +1.5**
LCND IAML 07 09 16.2
comp=Z,330nm,1.0s
HUIG Huatulco 4.19 292 *eP* **Pn 07 08 25.1 +0.7**
HUIG *eS* **Sn 07 09 05.0 -7.1**
CNCH Conchagua 4.22 103 *i* P **Pn 07 08 25.2 +0.4**
CNCH *i* S **Sn 07 09 14.5 +1.5**
CNCH IAML 07 09 19.6
comp=Z,870nm,1.0s
AMPH Amapala 4.39 102 *i* P **Pn 07 08 28.1 +1.1**
TGUH Tegucigalpa,Un 4.65 92 Pn 07 08 30.4 -0.4
SCIG Sabancuy 4.78 10 *eP* **Pn 07 08 31.5 -0.9**
SCIG *eS* **Sn 07 09 23.9 -2.6**
NEUV Arroyo Zacate 4.99 314 *eP* **Pn 07 08 35.2 0.0**
NEUV *eS* **Sn 07 09 30.6 -0.9**
CRIN San Cristobal 5.11 107 Pn 07 08 37.5 +0.5
CRIN San Cristobal 5.11 107 *i* P **Pn 07 08 38.3 +1.3**
CRIN IAmb IAmb 07 08 42.6
comp=Z,120nm,0.8s
CRIN IAML 07 09 49.7
comp=Z,330nm,1.0s
PMUV Sontecomapan 5.19 326 *eP* **Pn 07 08 39.7 +1.6**
PMUV *eS* **Sn 07 09 35.2 -1.5**
PEIG Puerto Escondi 5.21 290 *eP* **Pn 07 08 39.2 +0.9**
PEIG *eS* **Sn 07 09 33.3 -3.7**
VHO Vista Hermosa 5.31 303 *eP* **Pn 07 08 42.4 +2.7**
VHO *eS* **Sn 07 09 39.6 -0.1**
CNGA Al SSO del Vol 5.50 108 *i* P **Pn 07 08 41.4 -0.8**
CNGA IVmB_BB 07 08 51.1
comp=Z,1µm,1.0s
CNGA IAmb IAmb 07 08 52.8
comp=Z,24nm,0.4s
CNGA IAML 07 09 57.4
comp=Z,100nm,1.0s
CNGN Cerro Negro 5.50 108 Pn 07 08 43.0 +0.7
CNGN Cerro Negro 5.50 108 *i* P **Pn 07 08 43.0 +0.7**
CNGN IAML 07 08 45.7
comp=Z,130nm,1.0s
CNGN IAmb IAmb 07 08 52.2
comp=Z,50nm,0.9s
YOIG Yosondua 5.89 297 *eP* **Pn 07 08 50.6 +2.8**
YOIG *eS* **Sn 07 09 53.7 -0.3**
TOIG Toxpalan 6.15 309 *eP* **Pn 07 08 54.7 +3.6**
TOIG *eS* **Sn 07 10 00.9 +0.8**
PNIG Pinotepa 6.23 291 *eP* **Pn 07 08 54.0 +1.8**
PNIG *eS* **Sn 07 10 00.5 -1.5**
TXIG Tlaxiaco 6.26 299 *eP* **Pn 07 08 55.4 +2.6**
TXIG *eS* **Sn 07 10 03.7 +0.7**
JAUV Jalcomulco 6.83 319 *eP* **Pn 07 08 58.8 -1.5**
JAUV *eS* **Sn 07 10 14.2 -2.5**
TEIG Tepich 6.97 31 Pn **Pn 07 09 01.7 -0.6**
MGIG Malinaltepec 6.99 296 *eP* **Pn 07 09 06.0 +3.3**
MGIG *eS* **Sn 07 10 19.8 -1.1**
TLIG Tlapa 7.08 299 Pn **Pn 07 09 07.4 +3.6**
TLIG Tlapa 7.08 299 *eP* **Pn 07 09 00.3 -3.6**
TLIG *eS* **Sn 07 10 24.5 +1.6**
ACON Acoyapa 7.08 108 Pn **Pn 07 09 03.9 0.0**
HZTE Horizontes, Gu 7.22 118 Pn **Pn 07 09 07.8 +2.0**
ORTG Ortega, Santa 7.52 120 Pn 07 09 12.3 +2.4
DUNO Dulce Nombre, 7.64 122 Pn **Pn 07 09 13.8 +2.4**
ESPN Las Esperanzas 7.83 104 Pn 07 09 15.1 +1.0
PPM Popocatepetl 7.91 308 *eP* Pn 07 09 20.4 +4.8
PPM *eS* **Sn 07 10 49.8 +5.9**
JTS Las Juntas de 7.98 119 Pn **Pn 07 09 18.6 +2.4**
JTS Las Juntas de 7.98 119 P **Pn 07 09 18.1 +1.9**
comp=Z,3.2nm,0.4s,baz=306,slow=16,SNR=11
JTS S **Sn 07 10 40.1 -4.9**
comp=Z,1.5nm,0.3s,baz=100,slow=22,SNR=1.3
LCR2 La Lucha 2 9.06 119 Pn 07 09 33.8 +2.7
RIMA Rio Macho 9.17 118 Pn 07 09 34.5 +2.0
PEZE Perez Zeledon, 9.52 120 Pn **Pn 07 09 39.7 +2.4**
SRBA San Rafael, Bu 9.87 119 Pn **Pn 07 09 44.4 +2.4**
BRU2 Volcan 10.66 119 Pn 07 09 54.5 +1.6
SOR Soroa 12.09 44 Pn **Pn 07 10 10.5 -1.7**
SAND Sanderson 18.19 331 P **Pn 07 11 33.7 +3.2**
WHTX Lake Whitney, 18.35 345 P **Pn 07 11 32.7 +0.5**
250A Grady 18.44 16 P **P 07 11 32.4 -0.1**
250A IAmb IAmb 07 11 39.4
comp=Z,6.3nm,0.8s
TXAR Lajitas Array 18.47 326 P **Pn 07 11 34.8 +1.0**
TXAR Lajitas Array 18.47 326 P **Pn 07 11 35.5 +1.7**
comp=Z,0.8nm,0.8s,baz=158,slow=12,SNR=15
TX31 Lajitas Ar. Si 18.47 326 Pn 07 11 34.8 +0.9
OZNA Ozona 18.58 335 P **Pn 07 11 35.4 +0.3**
H06E1 SOCORRO T-PHAS 18.64 287 T T 07 30 53.8
Z47A Carrollton 19.23 10 P **Pn 07 11 42.5 -0.2**
LRAL Lakeview Retre 19.28 13 Pn 07 11 42.7 -0.6
PLPT Palo Pinto 19.35 344 P **Pn 07 11 43.6 -0.6**
PLPT IAmb IAmb 07 11 44.0
comp=Z,5.8nm,0.5s
Y45A Yeager Farm, C 19.68 6 P **Pn 07 11 48.5 +0.5**
Y45A IAmb IAmb 07 12 06.6
comp=Z,5.8nm,0.8s
MIAR Mount Ida 20.27 356 P 07 11 52.4 0.0
VHRN Van Horn 20.31 326 P Pn 07 11 56.9 +1.2
OXF Oxford 20.33 6 P Pn 07 11 54.9 -0.8
OXF IAmb IAmb 07 11 58.8
comp=Z,11nm,1.0s
APMT Aspermont 20.37 340 P Pn 07 11 55.0 -1.2
APMT IAmb IAmb 07 11 56.0
comp=Z,4.9nm,0.6s
X37A Clayton 20.49 352 P Pn 07 11 56.3 -1.2
X37A IAmb IAmb 07 12 03.2
comp=Z,6.0nm,0.9s
GOGA Godfrey 20.63 21 P P 07 11 56.2 -0.1
X48A Hartselle 20.64 12 P **P 07 11 56.1 -0.2**
X48A IAmb IAmb 07 12 03.0
comp=Z,9.6nm,0.9s
Y52A Lilburn 20.85 19 P P 07 12 00.2 +1.6
Y52A IAmb IAmb 07 12 04.9
comp=Z,6.5nm,0.8s
FPAL Fort Paine 21.04 15 P P 07 12 01.1 +0.3
FPAL IAmb IAmb 07 12 01.7
comp=Z,5.1nm,0.6s
LCAR Lake Charles 21.76 2 P P 07 12 07.0 -1.4
LCAR IAmb IAmb 07 12 26.0
comp=Z,3.5nm,0.6s
HODGE Hodges 21.80 22 P P 07 12 08.2 -0.6
HODGE IAmb IAmb 07 12 10.5
comp=Z,6.0nm,1.0s
SMWD Samnorwood 22.05 342 P P 07 12 12.2 +0.7
WVT Waverly 22.13 9 P P 07 12 11.1 -1.3
WVT IAmb IAmb 07 12 11.5
comp=Z,2.8nm,0.6s
CPCT Cooper Cave 22.19 16 P P 07 12 12.6 -0.4
CLTN Cedars of Leba 22.36 12 P P 07 12 14.7 -0.2
PBMO Poplar Bluff 22.50 3 P P 07 12 14.9 -1.4
PBMO IAmb IAmb 07 12 15.5
comp=Z,7.1nm,1.1s
TKL Tuckaleechee C 22.60 18 P P 07 12 16.4 -1.0
TKL IAmb IAmb 07 12 24.3
comp=Z,7.2nm,1.1s
V52A Sevierville 22.82 18 P P 07 12 18.6 -1.1
V52A IAmb IAmb 07 12 18.8
comp=Z,8.4nm,1.1s
U49A Red Boiling Sp 22.89 13 P P 07 12 19.3 -1.1
U49A IAmb IAmb 07 12 29.7
comp=Z,7.3nm,1.1s
V53A Saluda 22.91 20 P P 07 12 19.9 -0.8
V53A IAmb IAmb 07 12 19.9
comp=Z,3.3nm,0.7s
KMSC Kings Mountain 22.96 23 P P 07 12 20.1 -1.0
CGM3 Cape Girardeau 23.07 5 P P 07 12 20.9 -1.2
TZTN Tazewell 23.49 17 P P 07 12 24.7 -1.4
TZTN IAmb IAmb 07 12 40.0
comp=Z,5.1nm,0.9s
S44A Carbondale 23.50 6 P P 07 12 25.5 -0.6
CCM Cathedral Cave 23.74 2 P P 07 12 28.0 -0.3
U54A Nelsons Funny 24.01 21 P P 07 12 30.1 -0.8
U54A IAmb IAmb 07 12 46.4
comp=Z,7.0nm,1.1s
RTBA Rita Blanca 24.09 339 P P 07 12 32.5 +0.9
RTBA IAmb IAmb 07 12 33.4
comp=Z,4.4nm,0.6s
S51A Beattyville 24.50 16 P P 07 12 33.6 -1.5
S51A IAmb IAmb 07 12 37.6
comp=Z,6.6nm,0.9s
OLIL Olney 24.65 7 P P 07 12 36.1 -0.5
P46A Rosedale 25.64 9 P P 07 12 44.5 -1.1
ACSO Alum Creek Sta 27.10 15 P P 07 12 56.9 -1.7
ACSO IAmb IAmb 07 13 10.5
comp=Z,6.0nm,1.1s
Q56A Snyder Ridge, 27.20 22 P P 07 12 58.9 -0.7
Q56A IAmb IAmb 07 13 01.5
comp=Z,7.7nm,1.1s
SIV San Ignacio 42.90 133 P P 07 15 14.7 +0.2
comp=Z,0.8nm,0.8s,baz=325,slow=9.2,SNR=3.6
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 50.78 347 P **P 07 16 13.8 -1.5**
comp=Z,0.7nm,0.6s,baz=146,slow=6.7,SNR=10
comp=Z,0.7nm,0.6s
ILAR Eielson Array 62.60 337 P **P 07 17 38.9 -0.1**
comp=Z,0.7nm,0.8s,baz=116,slow=6.0,SNR=6.7
comp=Z,0.7nm,0.8s
EKA Eskdalemuir Ar 77.81 36 P **P 07 19 08.9 -3.2**
comp=Z,0.4nm,0.4s,baz=269,slow=6.3,SNR=8.1
comp=Z,0.4nm,0.4s
WRA Warramunga Arr 135.39 256 PKP **PKiKP 07 26 37.6 +0.9**
comp=Z,0.3nm,0.6s,baz=90,slow=3.1,SNR=2.1

IDC 06 07:08:25.8±4.3, 43°.95S×40°.84E, h0km, mb4.0/2, mbtmp4.0/3, ML3.4/1, Error ellipse: s-maj=298.0km s-min=29.8km az=60.0, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**19.75**	**316**	P	Pn	07 12 58.1	-0.6
	0.1nm,0.3s,baz=140,slow=16,SNR=3.8						
	3.5nm,1.0s						
MAW	**Mawson**	**26.45**	**161**	P	P	07 14 04.3	+0.3
	3.1nm,1.0s,baz=294,slow=10.0,SNR=2.8						
	3.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**67.08**	**318**	P	P	07 19 21.0	-0.1
	1.5nm,1.0s,baz=136,slow=5.4,SNR=6.0						
	1.5nm,1.0s						
TXAR	**Lajitas Array**	**148.28**	**255**	PKPbc	PKPbc	07 28 13.0	-1.0
	1.2nm,0.9s,baz=132,slow=5.6,SNR=9.8						

*IDC **06** 07:11:17.9±0.6, 43°.88S×41°.06E, h0km, mb4.2/12, mbtmp4.1/13, ML3.2/1, MS4.0/6, Error ellipse: s-maj=30.4km s-min=17.4km az=72.0*
*NEIC **06** 07:11:20.5±2.1, 43°.84S±0°.09×40°.9E±0°.2, h10km±1km, mb4.4/20, Error ellipse: s-maj=25.3km s-min=15.6km az=86.0*

ISC 06 07:11:19.7±0.5, 43°.85S±0°.08×41°.0E±0°.1, h10km, n40, σ0°.91/36, mb4.2/15, MS4.0/6, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GRHM	**Grahamstown, E**	**15.52**	**308**	Pn	**Pn**	**07 14 57.3**	**-1.2**
GRHM				IAmb	IAmb	07 15 15.5	
	comp=Z,8.8nm,1.0s						
POGA	**Pongola**	**18.08**	**333**		**Pn**	**07 15 29.7**	**-1.3**
FOMA	**Nahampoana Res**	**19.46**	**17**	P	**Pn**	**07 15 47.5**	**-0.2**
FOMA				IAmb	IAmb	07 16 01.4	
	comp=Z,25nm,1.1s						
SUR	**Sutherland**	**19.50**	**299**	P	**P**	**07 15 46.9**	**-0.2**
BOSA	**Boshof**	**19.74**	**315**	P	**P**	**07 15 50.1**	**+0.5**
BOSA	**Boshof**	**19.74**	**315**	P	**P**	**07 15 48.9**	**-0.8**
	baz=248,slow=16,SNR=3.9						
	comp=Z,3.9nm,1.1s						
VOI	**Vohitsoka**	**22.42**	**14**	P	**P**	**07 16 19.5**	**+0.9**
LBTB	**Lobatse**	**22.59**	**321**	P	**P**	**07 16 20.6**	**+0.1**
LBTB	**Lobatse**	**22.59**	**321**	LR	LR	07 23 36.9	
	comp=Z,359nm,19.3s,baz=134,slow=33						
OPO	**Ambohidratompo**	**25.75**	**14**	LR	LR	07 25 32.0	
	comp=Z,404nm,18.2s,baz=4.5,slow=33						
RER	**Riviere de l'E**	**25.76**	**33**	P	**P**	**07 16 50.0**	**-0.6**
MAW	**Mawson**	**26.51**	**161**	P	**P**	**07 16 56.7**	**-0.1**
	comp=Z,4.0nm,1.0s,baz=330,slow=8.8,SNR=4.8						
MAW				LR	LR	07 24 45.4	
	comp=Z,169nm,21.8s,baz=328,slow=30						
	comp=Z,4.0nm,1.0s						
LSZ	**Lusaka**	**30.49**	**335**	P	**P**	**07 17 31.8**	**-1.1**
LSZ				IAmb	IAmb	07 17 35.6	
	comp=Z,7.1nm,1.0s						
TSUM	**Tsumeb**	**31.43**	**314**	P	**P**	**07 17 41.7**	**+0.5**
TSUM				IAmb	IAmb	07 18 02.0	
	comp=Z,4.3nm,1.1s						
SNAA	**Sanae**	**34.90**	**202**	P	**P**	**07 18 11.5**	**+0.5**
SNAA				IAmb	IAmb	07 18 25.5	
	comp=Z,2.9nm,0.9s						
SNAA	**Sanae**	**34.90**	**202**	P	**P**	**07 18 11.7**	**+0.7**
	comp=Z,3.0nm,0.9s,baz=4.0,slow=10,SNR=2.2						
	comp=Z,3.0nm,0.9s						
KIBK	**Kibwezi**	**41.42**	**356**	P	**P**	**07 19 06.2**	**-0.2**
KIBK				IAmb	IAmb	07 19 17.7	
	comp=Z,2.5nm,0.9s						
MBAR	**Mbarara**	**44.02**	**345**	LR	LR	07 36 23.6	
	comp=Z,164nm,21.5s,baz=162,slow=34						
QSPA	**South Pole Qui**	**46.36**	**180**	P	**P**	**07 19 46.0**	**+0.3**
QSPA				IAmb	IAmb	07 19 50.7	
	comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**46.36**	**180**	P	**P**	**07 19 44.4**	**-1.3**
	comp=Z,4.6nm,1.0s,baz=250,slow=5.6,SNR=6.0						
QSPA				LR	LR	07 39 32.1	
	comp=Z,188nm,18.3s,baz=256,slow=37						
	comp=Z,4.6nm,1.0s						
VNDA	**Vanda**	**53.63**	**167**	P	**P**	**07 20 41.1**	**+0.6**
VNDA	**Vanda**	**53.63**	**167**	P	**P**	**07 20 39.6**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=192,slow=5.5,SNR=2.1						
	comp=Z,0.6nm,0.8s						
PALK	**Pallekele**	**62.29**	**46**	LR	LR	07 41 50.6	
	comp=Z,113nm,21.5s,baz=312,slow=29						
TOA0	**Torodi Ar. Sit**	**67.07**	**318**	P	**P**	**07 22 14.2**	**+1.0**
TORD	**Torodi Ar. Bea**	**67.07**	**318**	P	**P**	**07 22 13.9**	**+0.7**
TORD	**Torodi Ar. Bea**	**67.07**	**318**	P	**P**	**07 22 13.5**	**+0.3**
	comp=Z,1.8nm,0.8s,baz=136,slow=4.8,SNR=8.2						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**76.03**	**109**	P	**P**	**07 23 07.4**	**0.0**
	comp=Z,1.5nm,1.0s,baz=225,slow=5.1,SNR=5.7						
	comp=Z,1.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**81.56**	**54**	P	**P**	**07 23 36.9**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=218,slow=5.7,SNR=8.2						
	comp=Z,1.2nm,0.3s						
GEYT	**Alibeck**	**82.88**	**14**	P	**P**	**07 23 43.5**	**-0.6**
	comp=Z,0.5nm,0.3s,baz=212,slow=10,SNR=2.0						
	comp=Z,0.5nm,0.3s						
SHL	**Shillong**	**83.37**	**45**	P	**P**	**07 23 48.2**	**+1.1**
BRTR	**Keskin Array B**	**83.46**	**354**	P	**P**	**07 23 47.7**	**+0.6**
BRTR	**Keskin Array B**	**83.46**	**354**	P	**P**	**07 23 47.4**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=190,slow=6.3,SNR=6.3						
	comp=Z,0.9nm,0.8s						
BR131	**Keskin Array S**	**83.46**	**354**	P	**P**	**07 23 47.9**	**+0.7**
BR131				IAmb	IAmb	07 23 48.8	
	comp=Z,3.2nm,1.1s						
KEST	**Kesra**	**84.27**	**335**	P	**P**	**07 23 52.6**	**+1.3**
	comp=Z,5.4nm,1.1s,baz=158,slow=7.7,SNR=4.1						
	comp=Z,5.4nm,1.1s						
MDT	**Midelt**	**86.89**	**323**	P	**P**	**07 24 06.7**	**+2.2**
	comp=Z,2.9nm,1.0s,baz=68,slow=1.1,SNR=3.7						
	comp=Z,2.9nm,1.0s						
ESDC	**Sonseca Array**	**92.50**	**327**	P	**P**	**07 24 30.2**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=149,slow=3.5,SNR=5.3						
	comp=Z,0.7nm,0.9s						
TXAR	**Lajitas Array**	**148.38**	**255**	PKPbc	**PKPbc**	**07 31 04.7**	**-1.7**
	comp=Z,2.2nm,1.0s,baz=134,slow=5.4,SNR=14						
ULM	**Lac du Bonnet**	**150.23**	**298**	PKPbc	**PKPbc**	**07 31 10.2**	**0.0**
	comp=Z,3.1nm,1.0s,baz=100,slow=2.9,SNR=5.5						
ANMO	**Albuquerque**	**153.43**	**262**	PKPbc	**PKiKP**	**07 31 19.0**	**+0.7**
	comp=Z,0.8nm,0.7s,baz=217,slow=7.7,SNR=4.1						
YKA	**Yellowknife Ar**	**156.53**	**331**	PKP	**PKPdf**	**07 31 12.4**	**-1.3**
	comp=Z,0.3nm,0.9s,baz=14,slow=1.3,SNR=3.8						

*SOME **06** 07:16:46.5, 38°.80N×71°.80E, h15km*
*NNC **06** 07:16:49.3±2.6, 38°.71N×70°.08E, h8km±13km, mb4.2, mpv3.7, Error ellipse: s-maj=20.6km s-min=16.2km az=122.0*

ISC 06 07:17:04.6±3.6, 39°.3N±0°.2×71°.43E±0°.08, h10km, n11, σ1°.12/14, 5C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**3.03**	**340**	Pg	**Pn**	**07 17 51.9**	**-0.9**
	41nm,0.5s						
IUG				Lg	Lg	07 18 38.2	
	60nm,1.2s						
IUG	**Iuzhnay**	**3.03**	**340**	*eP*	**Pn**	**07 17 51.9**	**-0.9**
	41nm,0.5s						
IUG				*eS*	**Sb**	**07 18 38.2**	**+2.4**
	60nm,1.2s						
CHM	**Chimkent**	**3.31**	**336**	*eP*	**Pn**	**07 17 56.1**	**-0.5**
	90nm,0.3s						
CHM				*eS*	**Sb**	**07 18 45.2**	**+1.3**
	159nm,0.5s						
MRKS	**Merke**	**3.70**	**21**	Pg	**Pn**	**07 18 01.2**	**-0.7**
	2.8nm,0.2s						
MRKS				Lg	Lg	07 18 54.2	
	4.4nm,0.8s						
MRKS	**Merke**	**3.70**	**21**	*eP*	**Pn**	**07 18 01.2**	**-0.7**
	2.8nm,0.2s						
MRKS				*eS*	**Sb**	**07 18 54.2**	**-0.8**
	4.4nm,0.8s						
KK31	**Karatay Array**	**3.86**	**350**	⇑Pn	Pn	07 17 56.8	-7.2
	1.5nm,0.3s,baz=316,slow=47,SNR=16						
KK31				⇓Pg	Pb	07 18 08.5	-4.3
	4.8nm,0.6s,baz=191,slow=16,SNR=7.4						
KK31				Lg	Lg	07 19 08.4	
	6.6nm,0.4s,baz=179,slow=28,SNR=5.8						
BRLS	**Borolday**	**3.91**	**343**	Pg	**Pn**	**07 18 04.6**	**-0.2**
	1.5nm,0.3s						
BRLS				Lg	Lg	07 18 60.0	
	0.9nm,0.4s						
BRLS	**Borolday**	**3.91**	**343**	*eP*	**Pn**	**07 18 04.6**	**-0.2**
	1.5nm,0.3s						
BRLS				*eS*	**Sb**	**07 18 60.0**	**-1.1**
	0.9nm,0.4s						
AAK	**Ala-Archa**	**4.06**	**34**	⇑Pn	**Pn**	**07 18 06.5**	**-0.5**
	2.7nm,0.6s						
AAK				⇑Lg	Lg	07 19 36.0	
	9.0nm,1.1s						
CHMS	**Chumysh**	**4.46**	**33**	Pg	Pn	07 17 56.1	-16
	90nm,0.3s						
CHMS				Lg	Lg	07 18 45.2	
	159nm,0.5s						
TKM2	**Tokmak 2**	**4.79**	**40**	⇑Pn	**Pn**	**07 18 18.3**	**+1.2**
	3.1nm,0.5s						
TKM2				⇑Sn	**Sb**	**07 19 26.9**	**+0.3**
	3.0nm,0.7s						

*NEIC **06** 07:17:09.3±2.1, 19°.42N±0°.02×154°.93W±0°.03, h5km±1km, Error ellipse: s-maj=5.6km s-min=2.9km az=289.0*

HVO 06 07:17:07.9±2.3, 19°.44N±0°.02×154°.88W±0°.03, h3km±9km, ML2.7/19, ML2.6/22(NEIC), Error ellipse: s-maj=4.8km s-min=1.9km az=108.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.04**	**343**			Pg	07 17 10.7	+1.9
JOKA	**Jonika Flow**	**0.12**	**267**			Pg	07 17 12.3	+2.0
JCUZ	**Jacuzzi**	**0.22**	**255**			Pg	07 17 07.5	-4.6
JCUZ				IAML			07 17 16.4	
	comp=E,1µm,0.6s						
NPOC	**North of Pu'u**	**0.23**	**258**			Pg	07 17 07.5	-4.8
NPOC				IAML			07 17 19.6	
	comp=E,921nm,0.6s						
STCH	**Steam Cracks**	**0.24**	**257**			Pg	07 17 08.5	-4.1
PUH	**Pauahi**	**0.33**	**258**			Pg	07 17 15.2	+0.9
PUH				IAML			07 17 24.5	
	comp=N,562nm,0.5s						

SBLHI	**Steaming Bluff**	**0.37**	**268**	Pg	Pg	07 17 15.7	+0.7
SBLHI				IAML		07 17 22.4	
	comp=E,639nm,0.3s						
SBLHI				IAML		07 17 23.2	
	comp=N,625nm,0.4s						
RSD	**Rainshed**	**0.38**	**273**		Pg	07 17 16.0	+0.8
RSD				IAML		07 17 28.1	
	comp=N,833nm,0.3s						
RSD				IAML		07 17 28.7	
	comp=E,956nm,0.3s						
HLP	**Hilina Pali**	**0.43**	**251**		Pg	07 17 15.7	-0.5
MLH	**Mauna Loa**	**0.48**	**276**		Pg	07 17 17.6	+0.4
MLH					Sg	07 17 24.9	+1.3
MLH				IAML		07 17 27.6	
	comp=E,672nm,0.2s						
HTC	**Hot Caves**	**0.53**	**248**		Pg	07 17 18.5	+0.3
HMH	**Humu'ula Sheep**	**0.59**	**286**		Pg	07 17 19.3	0.0
HMH					Sg	07 17 28.2	+1.1
MWH	**Moku'aweowe**	**0.68**	**274**		Pg	07 17 20.5	-0.5
MWH				IAML		07 17 34.1	
	comp=N,456nm,0.5s						
MWH				IAML		07 17 45.9	
	comp=E,515nm,0.6s						
KHU	**Kahuku**	**0.72**	**255**		Pg	07 17 21.5	-0.3
KHU				IAML		07 17 27.7	
	comp=E,330nm,4.2s						
KHU				IAML		07 17 31.8	
	comp=N,182nm,1.8s						
ALEP	**Alea Permanent**	**0.73**	**278**		Pg	07 17 21.6	-0.4
ALEP					Sg	07 17 31.8	+0.4

DJA 06 07:26:06.5±0.5,**4°S**±5°×**12°6E**±°, **h81**km±12km, **M3.6/6, mb3.8/2, MLv3.6/6, Buru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.83**	**63**	P	Pn	07 26 25.1	+1.5
SANI	**Sanana**	**1.60**	**347**	P	Pn	07 26 33.3	+0.1
SANI				S	Sn	07 26 53.8	+0.4
LBMI	**Labuha**	**3.17**	**21**	P	Pn	07 26 55.1	+0.8
BBSI	**Bau Bau**	**4.21**	**244**	P	Pn	07 27 08.4	+0.1
LUWI	**Luwuk**	**4.41**	**305**	P	Pn	07 27 09.9	-1.1
FAKI	**Fak Fak**	**5.92**	**83**	P	Pn	07 27 37.0	+5.3
FAKI				S	Sn	07 28 39.2	+1.0

*SOME **06** 07:27:22.4,43°.78N×86°.58E,h10km*
*NNC **06** 07:27:26.4±2.1,43°.83N×86°.39E,h1km±7km,mb3.6, mpv3.4,Error ellipse: s-maj=16.2km s-min=11.5km az=168.0*

ISC 06 07:27:26.5±2.9,**43°.7N**±0°.1×**86°.4E**±0°.1, **h10**km, **n13,** σ2**°15**/15, **3C-5D, Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.90**	**345**	Pg	**Pn**	**07 28 26.5**	**0.0**
	4.1nm,0.1s						
ZSN				Lg	Lg	07 29 34.9	
	12nm,0.7s						
ZSN	**Zaisan**	**3.90**	**345**	*e*P	**Pg**	**07 28 39.0**	**-2.2**
	6.5nm,0.5s						
ZSN				*e*S	**Sg**	**07 29 34.3**	**+2.5**
	12nm,0.7s						
MK31	**Makanchi Array**	**4.23**	**319**	⇓Pn	**Pn**	**07 28 31.2**	**+0.1**
	0.5nm,0.3s,baz=262,slow=13,SNR=39						
MK31				⇑Pg	**Pb**	**07 28 41.5**	**+0.5**
	1.3nm,0.5s,baz=129,slow=17,SNR=6.6						
MK31				Sn	**Sn**	**07 29 21.1**	**+0.5**
	0.5nm,0.2s,baz=132,slow=13,SNR=6.3						
MK31				⇑Lg	Lg	07 29 38.8	
	7.5nm,0.7s,baz=129,slow=28,SNR=5.1						
MAKZ	**Makanchi**	**4.40**	**317**	⇓Pn	**Pn**	**07 28 33.5**	**+0.2**
	1.3nm,0.4s						
MAKZ				⇓Pg	**Pb**	**07 28 43.9**	**0.0**
	1.8nm,0.7s						
MAKZ				⇓Sn	**Sn**	**07 29 24.4**	**-0.2**
	3.6nm,0.6s						
MAKZ				⇓Lg	Lg	07 29 44.7	
	8.8nm,0.9s						
DJR	**Jarkent**	**4.79**	**280**	Pg	**Pn**	**07 28 40.6**	**+1.8**
	0.8nm,0.1s						
DJR				Lg	Lg	07 29 58.9	
	7.4nm,1.2s						
DJR	**Jarkent**	**4.79**	**280**	*e*P	**Pb**	**07 28 52.6**	**+2.0**
	0.5nm,0.1s						
DJR				*e*S	**Sg**	**07 29 57.6**	**-2.7**
	7.4nm,1.2s						
PDGK	**Podgornoye**	**5.02**	**268**	Pg	**Pn**	**07 28 43.9**	**+1.9**
	0.6nm,1.3s						
PDGK				Lg	Lg	07 30 04.7	
	3.6nm,0.9s						
PDGK	**Podgornoye**	**5.02**	**268**	⇑Lg	Lg	07 30 07.7	
	9.7nm,0.8s						
SHLS	**Shalkode**	**5.06**	**266**	Pg	**Pn**	**07 28 39.0**	**-3.6**
	8.0nm,0.4s						
SHLS				Lg	Lg	07 29 56.3	
	10.0nm,0.2s						
KNOS	**Konyrlen**	**5.23**	**280**	Pg	**Pn**	**07 28 48.5**	**+3.6**
	1.9nm,0.2s						
KNOS				Lg	Lg	07 30 12.8	
	5.8nm,0.6s						
KAPS	**Kapalarasan**	**5.26**	**290**	Pg	Pn	07 28 50.5	+5.2
	3.9nm,0.3s						
KAPS				Lg	Lg	07 30 16.0	
	9.5nm,0.5s						
BLB	**Baldybastay**	**5.72**	**277**	Pg	Pb	07 28 59.2	-7.3
	5.7nm,0.1s						
BLB				Lg	Lg	07 30 30.8	
	10.0nm,0.3s						
ARXS	**Arharly**	**6.19**	**278**	Pg	Pn	07 29 05.6	+7.6
	1.8nm,0.3s						
ARXS				Lg	Lg	07 30 41.8	
	4.3nm,0.7s						

IDC 06 07:41:34.5±12.0,**4°.73S**×**153°.97E,h83**km±77km, **mb3.5/2, mbtmp4.1/3, ML2.7/1, Error ellipse: s-maj=163.8km s-min=69.4km az=109.0, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.20**	**235**	P	Pn	07 43 31.3	+0.4
	5.6nm,0.3s,baz=304,slow=3.6,SNR=11						
PMG				S	Sn	07 44 54.0	-7.9
	12nm,0.3s,baz=23,slow=20,SNR=3.2						
	32nm,0.5s						
WRA	**Warramunga Arr**	**24.37**	**230**	P	P	07 46 45.1	0.0
	2.1nm,0.4s,baz=56,slow=10,SNR=23						
	2.1nm,0.4s						
ASAR	**Alice Springs**	**27.00**	**224**	P	P	07 47 08.3	-0.5
	0.4nm,0.7s,baz=54,slow=8.8,SNR=5.6						
	0.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.39**	**289**	PKPbc	PKiKP	08 01 20.1	-0.2
	0.4nm,0.8s,baz=58,slow=1.8,SNR=2.1						

*IDC **06** 07:46:50.9±0.7,32°.89N×75°.96E,h0km,mb3.9/22, mbtmp4.0/26,ML3.6/4,MS3.4/6,Error ellipse: s-maj=18.9km s-min=13.6km az=30.0*
*NEIC **06** 07:46:55.3±1.9,32°.88N±0°.08×76°.12E±0°.08,h42km±9km, mb4.1/16,Error ellipse: s-maj=14.1km s-min=4.3km az=219.0*
*NNC **06** 07:46:57.2±3.3,32°.95N×75°.69E,h36km±34km,mb4.3, Error ellipse: s-maj=33.4km s-min=19.3km az=96.0*

ISC 06 07:46:54.3±0.6,**32°.86N**±0°.07×**76°.02E**±0°.06, **h28**km, **n77,** σ1**°22**/79, **mb4.1**/29, **MS3.7**/3, **6C-4D, Kashmir-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**6.05**	**288**	Pn	**Pn**	**07 48 23.1**	**+1.0**
KBL				Sn	**Sn**	**07 49 31.6**	**+1.1**
DRK	**Karamyk**	**7.43**	**334**		**Pn**	**07 48 41.7**	**+0.6**
GAR	**Garm**	**7.68**	**325**		**Pn**	**07 48 44.7**	**+0.4**
CHGR	**Chuyangaron**	**8.03**	**318**		**Pn**	**07 48 50.5**	**+1.4**
SIMJ	**Simiganj**	**8.12**	**317**	Pn	**Pn**	**07 48 51.2**	**+0.8**
BTK	**Batken**	**8.31**	**331**		**Pn**	**07 48 54.2**	**+1.2**
ARSB	**Arslanbob**	**8.79**	**345**	Pn	**Pn**	**07 48 59.8**	**+0.2**
TARG	**Taragay, Kyrgy**	**8.97**	**9**	Pn	**Pn**	**07 49 03.2**	**+1.0**
BOOM	**Boomskoye usch**	**9.61**	**360**		**Pn**	**07 49 12.2**	**+1.2**
AAK	**Ala-Archa**	**9.84**	**353**	⇑P	**Pn**	**07 49 15.3**	**+1.3**
	7.0nm,0.7s						
AAK				⇑S	**Sn**	**07 51 04.8**	**+1.4**
	21nm,0.8s						
AAK	**Ala-Archa**	**9.84**	**353**	Pn	**Pn**	**07 49 15.2**	**+1.3**
AAK	**Ala-Archa**	**9.84**	**353**	Pn	**Pn**	**07 49 14.9**	**+1.0**
	0.9nm,0.3s,baz=175,slow=13,SNR=22						
AAK				Sn	Sn	07 50 53.0	-10
	0.4nm,0.3s,baz=31,slow=19,SNR=1.5						
AAK				LR	LR	07 53 25.9	
	comp=Z,203nm,18.7s,baz=188,slow=40						
	6.5nm,0.6s						
TKM2	**Tokmak 2**	**10.05**	**358**	⇓P	**Pn**	**07 49 18.5**	**+1.6**
	16nm,1.2s						
TKM2				⇓S	**Sn**	**07 51 10.4**	**+1.6**
	22nm,0.8s						
CHMS	**Chumysh**	**10.17**	**355**	⇑P	**Pn**	**07 49 18.8**	**+0.4**
	9.9nm,1.0s						
CHMS				⇑S	**Sn**	**07 51 12.4**	**+0.8**
	21nm,1.1s						
PDGK	**Podgornoye**	**10.80**	**14**	⇑P	**Pn**	**07 49 28.9**	**+1.8**
	5.2nm,0.5s						
PDGK				⇓S	**Sn**	**07 51 27.6**	**+0.5**
	15nm,0.8s						
KK31	**Karatay Array**	**11.11**	**339**	P	**Pn**	**07 49 30.3**	**-0.9**
	3.2nm,0.3s,baz=145,slow=11,SNR=31						
KK31				S	**Sn**	**07 51 29.4**	**-5.0**
	18nm,0.5s,baz=148,slow=22,SNR=15						
KK31	**Karatay Array**	**11.11**	**339**	Pn	**Pn**	**07 49 30.7**	**-0.5**
KKAR	**Karatay Array**	**11.11**	**339**	Pn	**Pn**	**07 49 30.7**	**-0.5**
MAKZ	**Makanchi**	**14.66**	**16**	Pn	**Pn**	**07 50 18.4**	**-1.2**
MK31	**Makanchi Array**	**14.72**	**17**	P	**Pn**	**07 50 21.1**	**+0.6**
	1.2nm,0.5s,baz=200,slow=12,SNR=24						
MK31	**Makanchi Array**	**14.72**	**17**		**Pn**	**07 50 18.4**	**-2.1**
MKAR	**Makanchi Array**	**14.72**	**17**	Pn	**Pn**	**07 50 19.5**	**-1.0**
MKAR	**Makanchi Array**	**14.72**	**17**	Pn	**Pn**	**07 50 20.0**	**-0.5**
	0.8nm,0.3s,baz=191,slow=14,SNR=22						
MKAR				Sn	Sn	07 52 52.5	-10
	0.1nm,0.3s,baz=256,slow=20,SNR=2.8						
MKAR				LR	LR	07 56 10.6	
	comp=Z,39nm,20.7s,baz=228,slow=38						
	1.5nm,0.4s						
GEYT	**Alibeck**	**15.45**	**294**	Pn	**Pn**	**07 50 28.8**	**-1.4**
GEYT	**Alibeck**	**15.45**	**294**	Pn	**Pn**	**07 50 28.9**	**-1.3**
	0.1nm,0.3s,baz=106,slow=11,SNR=1.8						
	0.9nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**15.45**	**294**	Pn	**Pn**	**07 50 28.8**	**-1.4**
GYA0B				IAmb	IAmb	07 50 46.9	
	comp=Z,4.4nm,0.7s						
SHL	**Shillong**	**15.63**	**114**	Pn	**Pn**	**07 50 31.6**	**-1.2**
KURBB	**Kurchatov Arra**	**17.84**	**5**	P	**Pn**	**07 50 58.4**	**-1.9**
	comp=Z,0.1nm,0.3s,baz=193,slow=11,SNR=13						
KURBB				LR	LR	07 58 39.1	
	comp=Z,87nm,21.2s,baz=177,slow=40						
	comp=Z,2.7nm,0.8s						
KURK	**Kurchatov**	**17.95**	**5**		**Pn**	**07 51 00.2**	**-1.3**
AB31	**Akbulak array**	**20.31**	**328**	⇑P	**P**	**07 51 27.8**	**0.0**
	comp=Z,1.7nm,0.5s,baz=136,slow=11,SNR=32						
ABKAR	**Akbulak array**	**20.31**	**328**	P	**P**	**07 51 27.7**	**-0.2**
BVA0	**Borovoye Array**	**20.56**	**350**	⇓P	**P**	**07 51 30.9**	**+0.3**
	comp=Z,18nm,0.8s,baz=161,slow=10,SNR=75						
BVAR	**Borovoye Array**	**20.56**	**350**	P	**P**	**07 51 31.3**	**+0.7**
	comp=Z,14nm,0.7s,baz=162,slow=11,SNR=79						
BVAR				LR	LR	08 00 12.8	
	comp=Z,87nm,19.1s,baz=172,slow=39						
	comp=Z,14nm,0.7s						
BRVK	**Borovoye**	**20.61**	**350**	P	**P**	**07 51 31.2**	**+0.1**
ZAA0	**Zalesovo Array**	**21.99**	**14**	P	**P**	**07 51 44.5**	**-1.4**
ZAA0				IAmb	IAmb	07 51 49.0	
	comp=Z,6.6nm,0.8s						
ZALV	**Zalesovo Beam**	**21.99**	**14**	P	**P**	**07 51 44.5**	**-1.4**
ZALV	**Zalesovo Beam**	**21.99**	**14**	P	**P**	**07 51 45.5**	**-0.5**
	comp=Z,3.0nm,0.3s,baz=207,slow=10,SNR=14						
	comp=Z,3.0nm,0.3s						
AKTO	**Aktyubinsk**	**22.02**	**328**	P	**P**	**07 51 46.9**	**+0.6**
	comp=Z,4.0nm,0.6s,baz=125,slow=6.6,SNR=17						
AKTO				S	S	07 55 36.0	-12
	comp=Z,0.7nm,0.5s,baz=80,slow=20,SNR=1.4						
	comp=Z,4.0nm,0.6s						
CM31	**Chiang Mai Arr**	**25.08**	**119**	P	**P**	**07 52 14.8**	**-1.7**
CM31				IAmb	IAmb	07 52 27.1	
	comp=Z,6.1nm,0.9s						
CMAR	**Chiang Mai Arr**	**25.08**	**119**	P	**P**	**07 52 14.8**	**-1.7**
CMAR	**Chiang Mai Arr**	**25.08**	**119**	P	**P**	**07 52 18.3**	**+1.8**
	comp=Z,1.1nm,0.7s,baz=307,slow=10.0,SNR=7.9						
	comp=Z,1.1nm,0.7s						
GNI	**Garni**	**26.08**	**295**	P	**P**	**07 52 25.6**	**0.0**
GNI				IAmb	IAmb	07 52 33.1	
	comp=Z,11nm,0.8s						
ARU	**Arti**	**26.48**	**338**	P	**P**	**07 52 28.6**	**-0.3**
ARU				IAmb	IAmb	07 52 30.9	
	comp=Z,5.7nm,0.8s						
ARU	**Arti**	**26.48**	**338**	P	**P**	**07 52 30.1**	**+1.2**
	comp=Z,3.8nm,0.6s,baz=114,slow=2.7,SNR=6.8						
	comp=Z,3.8nm,0.6s						
SONM	**Songino Array**	**27.34**	**48**	P	**P**	**07 52 35.8**	**-1.1**
SONM	**Songino Array**	**27.34**	**48**	P	**P**	**07 52 39.1**	**+2.2**
	comp=Z,1.0nm,0.5s,baz=234,slow=9.8,SNR=5.8						
	comp=Z,1.0nm,0.5s						
RAYN	**Ar Rayn**	**28.38**	**259**	P	**P**	**07 52 45.6**	**-0.7**
RAYN				IAmb	IAmb	07 52 58.7	
	comp=Z,2.5nm,0.9s						
MMAI	**Mount Meron Ar**	**33.94**	**282**	P	**P**	**07 53 34.9**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=135,slow=28,SNR=1.6						
	comp=Z,0.4nm,0.3s						
BR131	**Keskin Array S**	**34.59**	**294**	P	P	07 53 38.0	-2.9
BR131				IAmb	IAmb	07 53 52.8	
	comp=Z,1.4nm,0.8s						
BRTR	**Keskin Array B**	**34.59**	**294**	P	**P**	**07 53 40.2**	**-0.7**
BRTR	**Keskin Array B**	**34.59**	**294**	P	**P**	**07 53 42.3**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=99,slow=8.9,SNR=6.6						
	comp=Z,0.7nm,0.7s						
OBN	**Obninsk**	**35.38**	**321**	LR	LR	08 09 52.5	
	comp=Z,137nm,19.9s,baz=23,slow=39						
HIA	**Hailar**	**36.25**	**50**	P	P	07 53 51.3	-3.6
AKASG	**Malin Array Be**	**38.45**	**312**	P	**P**	**07 54 13.5**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=85,slow=6.3,SNR=6.5						
	comp=Z,1.0nm,0.5s						
AKBB	**Malin Array Si**	**38.45**	**312**	P	**P**	**07 54 12.4**	**-1.0**
AKBB				IAmb	IAmb	07 54 22.4	
	comp=Z,3.5nm,0.6s						
BURAR	**Bucovina Array**	**40.75**	**307**	P	**P**	**07 54 31.9**	**-0.9**
FINES	**FINESS Array B**	**42.79**	**327**	P	**P**	**07 54 49.4**	**+0.3**
FINES	**FINESS Array B**	**42.79**	**327**	P	**P**	**07 54 49.8**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=104,slow=8.0,SNR=6.8						
	comp=Z,1.2nm,0.6s						
YAK	**Yakutsk**	**44.65**	**33**	P	**P**	**07 55 01.9**	**-2.2**
ARCES	**ARCESS Array B**	**46.07**	**338**	P	**P**	**07 55 16.1**	**+0.8**
	comp=Z,5.3nm,0.9s,baz=98,slow=2.5,SNR=9.5						
	comp=Z,5.3nm,0.9s						
HFS	**Hagfors**	**48.46**	**324**	P	**P**	**07 55 34.2**	**+0.2**
	comp=Z,3.2nm,0.7s,baz=99,slow=7.7,SNR=7.0						
	comp=Z,3.2nm,0.7s						
NB2	**NORSAR Subarra**	**49.75**	**325**	P	**P**	**07 55 44.0**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=98,slow=7.4						
NOA	**NORSAR Array B**	**49.75**	**325**	P	**P**	**07 55 44.1**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=95,slow=7.4,SNR=4.7						
	comp=Z,1.4nm,0.8s						
MJAR	**Matsushiro Arr**	**50.48**	**67**	P	**P**	**07 55 50.6**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=283,slow=11,SNR=4.8						
	comp=Z,1.3nm,0.8s						
KEST	**Kesra**	**54.19**	**293**	P	**P**	**07 56 18.1**	**+0.7**
	comp=Z,2.5nm,0.6s,baz=122,slow=4.3,SNR=3.8						
	comp=Z,2.5nm,0.6s						
MA2	**Magadan**	**54.72**	**37**	LR	LR	08 21 33.8	
	comp=Z,57nm,19.0s,baz=298,slow=38						
EKA	**Eskdalemuir Ar**	**57.76**	**318**	P	**P**	**07 56 43.0**	**+0.5**
	comp=Z,0.6nm,0.6s,baz=94,slow=6.7,SNR=5.0						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**62.85**	**301**	P	**P**	**07 57 18.4**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=56,slow=7.2,SNR=12						
	comp=Z,1.2nm,0.8s						
NEEM	**North Greenlan**	**65.42**	**349**	*i* P	**P**	**07 57 34.3**	**0.0**
NEEM				IAmb	IAmb	07 57 36.7	
	comp=Z,7.9nm,0.9s						
SUMG	**Summit**	**65.80**	**343**	P	**P**	**07 57 37.3**	**+0.4**
SUMG	**Summit**	**65.80**	**343**	*i* P	**P**	**07 57 38.0**	**+1.1**
SUMG				IAmb	IAmb	07 57 40.1	
	comp=Z,7.7nm,1.0s						
ICESG	**Greenland Ices**	**68.09**	**340**	*i* P	**P**	**07 57 51.5**	**+0.1**
ICESG				IAmb	IAmb	07 57 54.5	
	comp=Z,8.0nm,1.0s						
TORD	**Torodi Ar. Bea**	**69.91**	**273**	P	**P**	**07 58 02.8**	**-0.3**
	comp=Z,1.8nm,0.8s,baz=41,slow=6.6,SNR=9.1						
	comp=Z,1.8nm,0.8s						
WRA	**Warramunga Arr**	**76.54**	**125**	P	**P**	**07 58 43.7**	**+1.6**
	comp=Z,0.4nm,0.9s,baz=324,slow=5.9,SNR=5.3						
	comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**77.07**	**17**	P	**P**	**07 58 44.5**	**0.0**
	comp=Z,0.8nm,0.8s,baz=314,slow=5.5,SNR=8.6						
	comp=Z,0.8nm,0.8s						
ASAR	**Alice Springs**	**78.77**	**128**	P	**P**	**07 58 56.2**	**+1.7**
	comp=Z,0.4nm,0.7s,baz=336,slow=5.5,SNR=4.2						
	comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**84.59**	**5**	P	**P**	**07 59 25.2**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=345,slow=5.5,SNR=5.1						
	comp=Z,0.3nm,0.8s						

*TEH **06** 08:09:12.1,28°.51N×58°.89E,h9km±40km,ML4.0*
*IDC **06** 08:09:17.6±2.5,28°.43N×58°.83E,h46km±30km,mb3.6/11, mbtmp3.8/12,ML3.9/1,MS2.8/1,Error ellipse: s-maj=25.5km s-min=16.2km az=103.0*
*OMAN **06** 08:09:22.6±1.2,27°.89N×59°.04E,h10km,mb4.7/3, ml3.2/12,Error ellipse: s-maj=13.9km s-min=6.7km az=169.0*

ISC 06 08:09:13.4±0.6,**28°.53N**±0°.04×**58°.95E**±0°.05, **h10**km, **n59,** σ1**°62**/64, **mb3.8**/11, **Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBAM	**BAM**	**0.75**	**324**	Pg	**Pg**	**08 09 27.0**	**-1.0**
KBAM				Sg	**Sg**	**08 09 36.9**	**-0.8**
KHNJ	**Kahnooj**	**1.24**	**243**	Pg	Pn	08 09 35.1	-1.8
KHNJ				Sg	**Sb**	**08 09 51.6**	**-1.6**
CHMN	**Cheshme madani**	**1.81**	**317**	Pg	**Pn**	**08 09 45.3**	**+0.3**
ZHDN	**Zahedan**	**1.84**	**61**	Pn	**Pb**	**08 09 46.8**	**-0.5**
NGRK	**Negar Kerman**	**2.24**	**300**	Pn	**Pn**	**08 09 51.4**	**+0.5**
TVBK	**TV Kerman**	**2.40**	**308**	Pn	**Pn**	**08 09 54.0**	**+0.8**
KRM1	**Kerman Provinc**	**2.45**	**324**	Pn	**Pn**	**08 09 54.1**	**+0.3**
JASK	**Jask - Hormozg**	**2.82**	**200**	Pn	**Pn**	**08 09 59.5**	**+0.9**
JASK	**Jask - Hormozg**	**2.82**	**200**	P	**Pn**	**08 10 00.3**	**+1.7**
	SNR=15						
KHGB	**Koh Gabri**	**2.84**	**311**	Pn	**Pn**	**08 09 59.8**	**+0.7**
ZRDN	**Zarand Kerman**	**3.21**	**320**	Pn	**Pn**	**08 10 04.9**	**+0.7**
SRVN	**Saravan**	**3.25**	**109**	Pn	**Pn**	**08 10 06.5**	**+1.9**
BSRN	**Basiran**	**3.43**	**2**	Pn	**Pn**	**08 10 07.6**	**+0.5**
BANOM	**Banah**	**3.51**	**223**	P	**Pn**	**08 10 12.2**	**+4.1**
BANOM				S	**Sn**	**08 10 50.6**	**+0.9**
SHME	**Shamm**	**3.51**	**226**	P	**Pn**	**08 10 11.2**	**+3.1**
SHME				S	**Sn**	**08 10 51.2**	**+1.4**
NGCH	**Negor - Chabah**	**3.71**	**148**	Pn	**Pn**	**08 10 11.0**	**+0.2**
NGCH	**Negor - Chabah**	**3.71**	**148**	P	**Pn**	**08 10 11.3**	**+0.5**
	SNR=6.5						
IKOO	**Kooshah**	**3.88**	**1**	Pn	**Pn**	**08 10 14.1**	**+0.6**
MDH	**Madha**	**4.00**	**217**	P	**Pn**	**08 10 16.8**	**+2.1**
MDH				S	**Sn**	**08 11 01.5**	**-0.2**
MASF	**Masafi**	**4.01**	**219**	P	Pn	08 10 20.7	+5.7
IDAH	**Dahanechah**	**4.27**	**10**	Pn	**Pn**	**08 10 19.5**	**+0.7**
UOSS	**Minazif**	**4.33**	**215**	P	**Pn**	**08 10 21.8**	**+2.4**
UOSS				S	**Sn**	**08 11 07.9**	**-2.1**
ITEG	**Tejag**	**4.36**	**358**	Pn	**Pn**	**08 10 20.8**	**+0.9**
ASHO	**Ashiyiah**	**4.62**	**215**	P	**Pn**	**08 10 27.6**	**+4.2**
	SNR=13						
AFRZ	**Afriz**	**4.88**	**1**	Pn	**Pn**	**08 10 27.7**	**+0.6**
SOHO	**SOHO**	**4.88**	**207**	P	**Pn**	**08 10 30.7**	**+3.8**
SOHO				S	**Sn**	**08 11 21.5**	**-2.1**
TPRV	**Parvadeh(Tabas**	**4.89**	**337**	Pn	**Pn**	**08 10 27.6**	**+0.4**
BIDO	**Bidbid**	**5.04**	**189**	P	**Pn**	**08 10 30.3**	**+1.2**
HOQ	**Hoqain**	**5.14**	**197**	Pn	**Pn**	**08 10 30.7**	**+0.2**
HOQ	**Hoqain**	**5.14**	**197**	P	**Pn**	**08 10 32.2**	**+1.7**
SHRT	**Shahrakht**	**5.23**	**12**	Pn	**Pn**	**08 10 32.9**	**+1.2**
WSAR	**Wadi Sarin**	**5.28**	**183**	P	**Pn**	**08 10 32.8**	**+0.4**
	4.2nm,0.3s,baz=24,slow=12,SNR=32						
WSAR				S	**Sn**	**08 11 31.1**	**-2.2**
	18nm,0.5s,baz=246,slow=8.6,SNR=9.9						
	15nm,0.5s						
WSAR	**Wadi Sarin**	**5.28**	**183**	P	**Pn**	**08 10 33.4**	**+1.0**
ALNE	**Al Ain**	**5.30**	**214**	P	**Pn**	**08 10 36.6**	**+3.8**
	SNR=11						
TKDS	**Koohdasht(Taba**	**5.31**	**343**	Pn	**Pn**	**08 10 33.3**	**+0.4**
SMDO	**Samad**	**5.51**	**189**	P	**Pn**	**08 10 37.4**	**+1.8**
WBK	**Wadi Bani Khal**	**5.89**	**180**	P	**Pn**	**08 10 40.1**	**-0.8**
	SNR=8.4						
BSY	**Bisya**	**5.97**	**196**	P	**Pn**	**08 10 43.6**	**+1.6**
JMDO	**Jabal Madar**	**6.18**	**187**	P	**Pn**	**08 10 46.1**	**+1.3**
JLN	**Jalan Bani Buh**	**6.36**	**176**	P	**Pn**	**08 10 45.9**	**-1.4**
UMZA	**Um Al Zommool**	**6.72**	**211**	P	**Pn**	**08 10 54.7**	**+2.5**
DSBU	**Dashti - Bushe**	**6.78**	**270**	Pn	**Pn**	**08 10 53.3**	**+0.3**
TBJM	**Torbat-e-JAM**	**6.82**	**10**	Pn	**Pn**	**08 10 55.0**	**+1.2**
MHTO	**MHTO**	**7.56**	**187**	P	**Pn**	**08 11 05.1**	**+1.4**
SBZV	**Sabzevar**	**7.92**	**352**	Pn	**Pn**	**08 11 09.7**	**+0.8**
IAKL	**Akhelmad**	**8.05**	**359**	Pn	**Pn**	**08 11 11.9**	**+1.2**
DOK	**Doka**	**10.81**	**205**	P	**Pn**	**08 11 50.4**	**+2.1**
AKTO	**Aktyubinsk**	**21.89**	**358**	P	**P**	**08 14 08.6**	**+2.1**
	2.2nm,0.8s,baz=151,slow=8.6,SNR=4.1						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**25.80**	**39**	P	**

KK31				S		Sg	08 12 02.6	-2.0
	11nm,0.5s,baz=188,slow=26,SNR=13							
ARLS	**Aral**	**4.40**	**49**	⇑*e*P		**Pn**	**08 11 02.7**	**+2.2**
	baz=48							
ARLS				⇑*i*S		**Sn**	**08 11 53.5**	**+1.6**
	baz=48							
AAK	**Ala-Archa**	**5.01**	**43**	⇓P		**Pn**	**08 11 12.9**	**+4.0**
	0.7nm,0.3s							
AAK	**Ala-Archa**	**5.01**	**43**	⇑*i*P		**Pn**	**08 11 11.3**	**+2.4**
	baz=42							
AAK				⇑*i*S		**Sn**	**08 12 08.3**	**+1.4**
	baz=42							
AB31	**Akbulak array**	**12.45**	**328**	⇓P		**Pn**	**08 12 48.8**	**-1.8**
	0.4nm,0.3s,baz=146,slow=12,SNR=24							

*TRN **06** 08:12:56.8, 11°.14N×61°.96W, h78km, MD3.9, North of the Paria peninsula.*
*FUNV **06** 08:12:57.4, 11°.07N×61°.92W, h34km, MW3.9*
ISC 06 08:12:54.8±1.3**, 11°.11N**±0°.03×**61°.97W**±0°.04**, h99**km±11km**, n32, σ1°963/61, 2C, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.72**	**129**	*e*P		**Pn**	**08 13 13.1**	**+0.8**
TRN				*e*S		**Sn**	**08 13 24.0**	**-1.4**
TPP	**Pointe-a-Pierr**	**0.94**	**147**	*e*P		**Pn**	**08 13 15.8**	**+1.3**
TPP				*e*S		**Sn**	**08 13 28.6**	**-0.7**
GRFF	**Grenada Fort F**	**0.96**	**14**	*e*P		**Pn**	**08 13 14.8**	**+0.1**
GRFF				*e*S		**Sn**	**08 13 28.4**	**-1.4**
GRGR	**Grenville**	**1.07**	**17**	*e*P		**Pn**	**08 13 16.1**	**+0.2**
GRGR				*e*S		**Sn**	**08 13 30.9**	**-0.9**
TBH	**Brigand Hill**	**1.08**	**125**	*e*P		**Pn**	**08 13 17.6**	**+1.5**
TBH				*e*S		**Sn**	**08 13 32.2**	**+0.1**
GRW	**Mount Saint Ca**	**1.09**	**16**	*e*P		**Pn**	**08 13 16.8**	**+0.5**
GRW				*e*S		**Sn**	**08 13 31.7**	**-0.7**
GRHS	**Sauteurs**	**1.16**	**16**	*e*P		**Pn**	**08 13 17.2**	**+0.3**
GRHS				*e*S		**Sn**	**08 13 32.4**	**-1.2**
GRSS	**Sisters**	**1.24**	**17**	*e*P		**Pn**	**08 13 18.5**	**+0.7**
GRSS				*e*S		**Sn**	**08 13 34.9**	**-0.3**
CRUV	**Carupano**	**1.31**	**251**⇑	*e*P		**Pn**	**08 13 19.5**	**+0.8**
CRUV				*e*S		**Sn**	**08 13 36.1**	**-0.6**
CRUV	**Carupano**	**1.31**	**251**	*e*P		**Pn**	**08 13 19.7**	**+1.1**
CRUV				*e*S		**Sn**	**08 13 36.2**	**-0.5**
GCMP	**Grenada, Carri**	**1.47**	**21**	*e*P		**Pn**	**08 13 21.2**	**+0.6**
GCMP				*e*S		**Sn**	**08 13 39.5**	**-0.7**
SVOC	**Richmond Hill,**	**2.16**	**20**	*e*P		**Pn**	**08 13 30.2**	**+0.7**
SVOC				*e*S		**Sn**	**08 13 55.5**	**-0.4**
SVT	**Saint Vincent**	**2.17**	**19**	*e*P		**Pn**	**08 13 30.2**	**+0.6**
SVT				*e*S		**Sn**	**08 13 55.4**	**-0.8**
SVB	**Belmont**	**2.27**	**18**	*e*P		**Pn**	**08 13 31.8**	**+0.9**
SVB				*e*S		**Sn**	**08 13 57.9**	**-0.5**
CUMV	**Cumana_UDO**	**2.28**	**253**	*e*P		**Pn**	**08 13 32.9**	**+1.9**
CUMV				*e*S		**Sn**	**08 13 58.8**	**+0.1**
PCRV	**Puerto La Cruz**	**2.77**	**251**	*e*P		**Pn**	**08 13 40.0**	**+2.4**
PCRV				*e*S		**Sn**	**08 14 09.2**	**-1.3**
PCRV	**Puerto La Cruz**	**2.77**	**251**	*e*P		**Pn**	**08 13 40.3**	**+2.7**
PCRV				*e*S		**Sn**	**08 14 12.0**	**+1.5**
SLCP	**Castries, St.**	**3.04**	**18**	*e*P		**Pn**	**08 13 41.5**	**+0.4**
SLCP				*e*S		**Sn**	**08 14 16.0**	**-0.7**
SLBI	**Saint Lucia, B**	**3.06**	**19**	*e*P		**Pn**	**08 13 42.2**	**+0.9**
SLBI				*e*S		**Sn**	**08 14 16.2**	**-1.0**
BBGH	**Gun Hill**	**3.11**	**49**	*e*P		**Pn**	**08 13 43.0**	**+0.9**
BBGH				*e*S		**Sn**	**08 14 17.9**	**-0.6**
MPOM	**Morne Pois Mar**	**3.49**	**18**	*e*P		**Pn**	**08 13 48.6**	**+1.5**
MPOM				*e*S		**Sn**	**08 14 27.2**	**-0.4**
BIM	**Bigot**	**3.50**	**14**	*e*P		**Pn**	**08 13 48.9**	**+1.5**
BIM				*e*S		**Sn**	**08 14 27.0**	**-0.9**
CBE	**Ff, Capester**	**4.95**	**4**	*e*P		**Sn**	**08 14 09.3**	**+2.4**
CBE				*e*S		**Sn**	**08 15 01.6**	**-1.3**
TACV	**Tcata**	**5.06**	**260**	*e*P		**Pn**	**08 14 09.6**	**+1.2**
TACV				*e*S		**Sn**	**08 15 03.5**	**-2.1**
LUEV	**Luepa**	**5.25**	**174**	*e*P		**Pn**	**08 14 11.5**	**+0.3**
LUEV				*e*S		**Sn**	**08 15 06.1**	**-4.5**
BENV	**Beln**	**5.65**	**259**	*e*P		**Pn**	**08 14 18.3**	**+1.9**
BENV				*e*S		**Sn**	**08 15 17.3**	**-2.7**
CACV	**CAICARA DEL OR**	**5.72**	**232**	*e*P		Pn	08 14 13.3	-4.0
CACV				*e*S		Sn	08 15 09.0	-13
TURV	**Turiamo**	**5.80**	**264**	*e*P		**Pn**	**08 14 19.0**	**+0.6**
TURV				*e*S		**Sn**	**08 15 20.4**	**-3.2**
ANBD	**Bethesda, Anti**	**5.91**	**2**	*e*P		**Pn**	**08 14 22.8**	**+3.0**
BAUV	**El Baul**	**6.35**	**251**⇑	*e*P		**Pn**	**08 14 26.8**	**+0.9**
BAUV				*e*S		**Sn**	**08 15 33.4**	**-3.6**
BAUV	**El Baul**	**6.35**	**251**	*e*P		**Pn**	**08 14 26.8**	**+0.9**
BAUV				*e*S		**Sn**	**08 15 36.1**	**-1.0**
TEPV	**Terepaima**	**7.19**	**262**	*e*P		**Pn**	**08 14 38.9**	**+1.6**
TEPV				*e*S		**Sn**	**08 15 52.9**	**-4.6**

*NEIC **06** 08:14:57.2±1.0, 19°.31N±0°.01×155°.24W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.5km az=78.0*
HVO 06 08:14:56.5±0.5**, 19°.32N**±0°.01×**155°.20W**±0°.01**, h1**km±8km**, ML2.5**/22**, ML2.5**/40(NEIC)**, Error ellipse: s-maj=2.4km s-min=1.3km az=138.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PUH	**Pauahi**	**0.06**	**342**			Pg	08 14 58.8	+1.1
KNHH	**Kane Nui o Ham**	**0.07**	**23**			Pg	08 14 58.8	+1.0
STCH	**Steam Cracks**	**0.10**	**45**			Pg	08 14 59.1	+0.8
STCH				IAML			08 15 01.3	
	comp=N,2μm,0.2s							
STCH				IAML			08 15 01.3	
	comp=E,3μm,0.3s							
KKO	**Keanakako`i**	**0.10**	**321**	Pg		Pg	08 14 59.4	+0.9
KKO				IAML			08 15 01.7	
	comp=E,3μm,0.4s							
RIM	**Rim**	**0.11**	**317**			Pg	08 14 59.5	+1.0
HLP	**Hilina Pali**	**0.11**	**258**			Pg	08 14 59.7	+1.1
BYL	**Byron's Ledge**	**0.11**	**328**			Pg	08 14 59.4	+0.7
BYL				IAML			08 15 01.8	
	comp=N,2μm,0.4s							
BYL				IAML			08 15 02.2	
	comp=E,2μm,0.5s							
JCUZ	**Jacuzzi**	**0.11**	**54**			Pg	08 14 59.5	+0.8
NPOC	**North of Pu'u**	**0.11**	**48**			Pg	08 14 59.4	+0.8
NPOC				IAML			08 15 01.8	
	comp=N,2μm,0.4s							
SDHHI	**Sand Hill**	**0.12**	**308**			Pg	08 14 59.5	+0.8
SDHHI				IAML			08 15 02.0	
	comp=N,3μm,0.1s							
SDHHI				IAML			08 15 02.3	
	comp=E,3μm,0.5s							
HATHI	**Halema'uma'u T**	**0.12**	**330**			Pg	08 14 59.6	+0.7
HATHI				IAML			08 15 02.2	
	comp=E,3μm,0.3s							
HATHI				IAML			08 15 02.2	
	comp=N,2μm,0.3s							
SBLHI	**Steaming Bluff**	**0.13**	**328**			Pg	08 14 59.7	+0.7
SBLHI				IAML			08 15 02.4	
	comp=E,2μm,0.3s							
SBLHI				IAML			08 15 02.4	
	comp=N,2μm,0.6s							
UWB	**Uwekahuna B**	**0.13**	**324**			Pg	08 14 59.7	+0.7
UWB				IAML			08 15 02.5	
	comp=N,1μm,0.6s							
WRMHI	**West Rim**	**0.13**	**312**			Pg	08 14 59.8	+0.8
WRMHI				IAML			08 15 02.9	
	comp=N,2μm,0.5s							
UWE	**Uwekahuna**	**0.14**	**319**			Pg	08 14 59.9	+0.8
UWE				IAML			08 15 03.1	
	comp=E,2μm,0.5s							
UWE				IAML			08 15 03.3	
	comp=N,1μm,0.5s							
RSD	**Rainshed**	**0.16**	**332**			Pg	08 15 00.2	+0.5
HTC	**Hot Caves**	**0.21**	**247**			Pg	08 15 01.5	+1.1
MLH	**Mauna Loa**	**0.25**	**314**			Pg	08 15 01.9	+0.6
MLH				IAML			08 15 08.8	
	comp=N,2μm,0.1s							
HMH	**Humu'ula Sheep**	**0.39**	**316**			Pg	08 15 04.4	+0.4
KHU	**Kahuku**	**0.40**	**260**			Pg	08 15 04.5	+0.4
KHU				IAML			08 15 11.3	
	comp=E,559nm,0.6s							
KHU				IAML			08 15 12.4	
	comp=N,478nm,0.1s							
MWH	**Moku'aweowe**	**0.41**	**294**			Pg	08 15 04.7	+0.3
ALEP	**Alea Permanent**	**0.48**	**298**			Pg	08 15 05.6	-0.1
ALEP						Sb	08 15 13.8	-1.9
POHA	**Pohakuloa**	**0.54**	**324**			Pg	08 15 06.6	-0.3
POHA				IAML			08 15 15.4	
	comp=N,431nm,0.5s							
CPH	**Captain Cook**	**0.70**	**284**			Pg	08 15 09.8	-0.2
HUH	**Hualalai**	**0.70**	**301**			Pg	08 15 09.4	-0.7

RSNC 06 08:35:55.8±0.0, **8°N**±2°×**7°4W**±°, **h13**km±5km, **M2.3, mb4.1, ML2.3, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OCAC	**Ocana**	**0.78**	**33**	P		Pb	08 36 11.3	-0.1
OCAC				S		Sn	08 36 24.8	+0.4
PAMC	**Pamplona, Colo**	**1.07**	**103**	P		Pb	08 36 14.9	-1.6
PAMC				S		Sb	08 36 30.7	+0.2
ZARC	**Zaragoza, Cauc**	**1.10**	**266**	P		Pb	08 36 15.1	-1.6
ZARC				S		Sn	08 36 32.1	0.0
BARC	**Barichara**	**1.13**	**150**	P		Pb	08 36 15.1	-2.3
BARC				S		Sb	08 36 30.5	-1.6
PTBC	**PUERTO BERRIO,**	**1.25**	**214**	P		Pn	08 36 15.8	-3.2
PTBC				S		Sb	08 36 32.8	-2.5
UREC	**San Jos de Ur**	**1.77**	**276**	P		Pn	08 36 23.0	-3.2
UREC				S		Sn	08 36 45.7	-3.0
RUSC	**La Rusia**	**1.80**	**158**	P		Pn	08 36 24.1	-2.9
RUSC				S		Sn	08 36 47.4	-2.6
SPBC	**San Pablo de B**	**1.94**	**190**	P		Pn	08 36 25.0	-3.6
SPBC				S		Sn	08 36 50.0	-2.9
TAMC	**Tame, Arauca**	**2.25**	**120**	P		Pn	08 36 28.2	-4.6
TAMC				S		Sn	08 36 57.5	-3.0
NORC	**Norcasia**	**2.29**	**209**	P		Pn	08 36 30.4	-3.0
NORC				S		Sn	08 36 57.3	-4.2
ARGC	**Ariguani, Magd**	**2.32**	**348**	P		Pn	08 36 31.3	-2.4
ARGC				S		Sn	08 37 03.2	+1.1
SJCC	**San Jacinto, C**	**2.70**	**329**	P		Pn	08 36 35.2	-3.8
SJCC				S		Sn	08 37 06.7	-5.0
ROSC	**El Rosal**	**2.78**	**192**	P		Pn	08 36 38.2	-2.2
ROSC				S		Sn	08 37 14.8	+0.7
CHIC	**Chingaza**	**2.93**	**180**	P		Pn	08 36 40.4	-2.1
CHIC				S		Sn	08 37 19.9	+2.1
RECRC	**Villamaria, Ca**	**3.05**	**212**	P		Pn	08 36 42.0	-2.3
RECRC				S		Sn	08 37 20.8	-0.2
VILC	**Villavicencio,**	**3.45**	**179**	P		Pn	08 36 47.4	-1.9
VILC				S		Sn	08 37 32.3	+2.2
CRJC	**Cerrejon, Guaj**	**3.52**	**14**	P		Pn	08 36 46.1	-4.3
CRJC				S		Sn	08 37 26.3	-5.7
PLMC	**San Jos del P**	**3.66**	**224**	P		Pn	08 36 49.7	-2.5
PLMC				S		Sn	08 37 32.2	-3.2
CAPC	**Capurgana**	**3.72**	**287**	P		Pn	08 36 48.1	-4.9
CAPC				S		Sn	08 37 29.0	-7.6
PTGC	**Puerto Gaitan,**	**3.72**	**154**	P		Pn	08 36 48.0	-5.1
PTGC				S		Sn	08 37 31.1	-5.7
ORTC	**Ortega, Tolima**	**3.94**	**202**	P		Pn	08 36 54.1	-2.0
ORTC				S		Sn	08 37 39.2	-3.0
PRAC	**Prado**	**4.00**	**196**	P		Pn	08 36 54.2	-2.7
PRAC				S		Sn	08 37 43.1	-0.7
MACC	**Macarena, Meta**	**5.40**	**181**	P		Pn	08 37 10.3	-5.8
	9.7nm,0.5s							
MACC				S		Sn	08 38 10.4	-7.8
	9.7nm,0.5s							
GARC	**Garzon, Huila**	**5.63**	**198**	P		Pn	08 37 15.8	-3.7
FLOC	**Florencia**	**6.25**	**198**	P		Pn	08 37 24.1	-3.8

*IDC **06** 08:51:20.9±0.8, 9°.37S×156°.08E, h0km, mb4.0/10, mbtmp4.0/10, MS3.6/7, Error ellipse: s-maj=35.6km s-min=19.6km az=117.0*
*NEIC **06** 08:51:22.6±1.6, 9°.42S±0°.06×156°.20E±0°.09, h10km±1km, mb4.4/22, Error ellipse: s-maj=14.9km s-min=10.3km az=78.0*
ISC 06 08:51:25.8±0.5**, 9°.42S**±0°.08×**156°.13E**±0°.09**, h35**km**, n44, σ1°14/40, mb4.3/20, MS3.2/5, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HNR	**Honiara**	**3.77**	**91**			**Pn**	**08 52 20.0**	**-1.4**
RABL	**Rabaul**	**6.52**	**323**	Pn		**Pn**	**08 52 58.9**	**-0.3**
PMG	**Port Moresby**	**8.85**	**269**	LR		LR	08 56 52.7	
	comp=Z,584nm,19.5s,baz=87,slow=38							
CTAO	**Charters Tower**	**14.27**	**221**	Pn		**Pn**	**08 54 43.2**	**-2.2**
DZM	**Mont Dzumac**	**16.01**	**143**	LR		LR	09 00 45.3	
	comp=Z,228nm,19.2s,baz=20,slow=35							
PATS	**Pohnpei**	**16.29**	**8**	Pn		**Pn**	**08 55 11.0**	**-1.0**
PATS				IAmb		IAmb	08 55 20.3	
	comp=Z,30nm,1.0s							
EIDS	**Eidsvold**	**16.57**	**196**	Pn		**Pn**	**08 55 13.9**	**-1.7**
WR0	**Warramunga Arr**	**23.34**	**241**	P		**P**	**08 56 32.2**	**+1.1**
WR0				IAmb		IAmb	08 56 41.2	
	comp=Z,12nm,1.0s							
WB0	**Warramunga Arr**	**23.39**	**241**	P		**P**	**08 56 31.4**	**-0.2**
WB2	**Warramunga Arr**	**23.49**	**241**	P		**P**	**08 56 31.1**	**-1.5**
WB2				IAmb		IAmb	08 56 38.7	
	comp=Z,11nm,1.1s							
WRA	**Warramunga Arr**	**23.50**	**241**	P		**P**	**08 56 32.5**	**-0.2**
	comp=Z,2.9nm,0.8s,baz=66,slow=9.5,SNR=8.3							
WRA				PcP		**PcP**	**09 00 18.8**	**+0.8**
	comp=Z,0.3nm,0.6s,baz=72,slow=2.2,SNR=1.6							
	comp=Z,2.9nm,0.8s							
SAUI	**Saumlaki**	**24.58**	**271**	P		**P**	**08 56 44.1**	**+1.3**
FAKI	**Fak Fak**	**24.59**	**284**	P		**P**	**08 56 42.3**	**-0.6**
GUMO	**Guam**	**25.44**	**334**	LR		LR	09 07 33.5	
	comp=Z,26nm,18.1s,baz=101,slow=38							
AS31	**Alice Springs**	**25.53**	**234**	P		**P**	**08 56 51.5**	**+0.1**
ASAR	**Alice Springs**	**25.53**	**234**	P		**P**	**08 56 51.1**	**-0.3**
ASAR	**Alice Springs**	**25.53**	**234**	P		**P**	**08 56 51.5**	**+0.1**
	comp=Z,3.7nm,0.8s,baz=71,slow=9.7,SNR=27							
	comp=Z,3.7nm,0.8s							
STKA	**Stephens Creek**	**26.10**	**209**	P		**P**	**08 56 57.2**	**+0.9**
STKA	**Stephens Creek**	**26.10**	**209**	P		**P**	**08 56 56.1**	**-0.2**
	comp=Z,4.9nm,0.9s,baz=37,slow=15,SNR=7.9							
STKA				LR		LR	09 06 57.8	
	comp=Z,78nm,20.2s,baz=28,slow=36							
	comp=Z,4.9nm,0.9s							
BBOO	**Buckleboo**	**29.76**	**216**	P		**P**	**08 57 30.0**	**+0.9**
BBOO				IAmb		IAmb	08 57 31.1	
	comp=Z,7.2nm,1.0s							
BATI	**Baumata**	**31.99**	**266**	LR		LR	09 12 06.0	
	comp=Z,135nm,18.6s,baz=139,slow=39							
FORT	**Forrest**	**33.69**	**227**	P		**P**	**08 58 04.4**	**+0.8**
JCJ	**Chichijima**	**38.73**	**340**	LR		LR	09 12 17.3	
	comp=Z,32nn,18.8s,baz=94,slow=32							
PETK	**Petropavlovsk-**	**62.29**	**1**	P		**P**	**09 01 44.1**	**-0.1**
	comp=Z,2.4nm,0.9s,baz=58,slow=14,SNR=2.6							
	comp=Z,2.4nm,0.9s							
VNDA	**Vanda**	**68.15**	**179**	P		**P**	**09 02 22.1**	**+0.2**
SONM	**Songino Array**	**71.97**	**327**	P		**P**	**09 02 47.1**	**+1.2**
SONM	**Songino Array**	**71.97**	**327**	P		**P**	**09 02 46.3**	**+0.4**
	comp=Z,1.6nm,0.8s,baz=128,slow=5.2,SNR=6.3							
	comp=Z,1.6nm,0.8s							
QSPA	**South Pole Qui**	**80.57**	**180**	P		**P**	**09 03 36.0**	**+1.5**
QSPA				IAmb		IAmb	09 03 43.8	
	comp=Z,4.9nm,0.8s							
QSPA	**South Pole Qui**	**80.57**	**180**	P		**P**	**09 03 35.4**	**+0.9**
	comp=Z,4.6nm,1.0s,baz=5.4,slow=1.3,SNR=11							
QSPA				LR		LR	09 36 28.5	
	comp=Z,155nm,18.7s,baz=254,slow=34							
	comp=Z,4.6nm,1.0s							
CAST	**Castle Rocks**	**82.56**	**21**	P		**P**	**09 03 45.1**	**+0.3**
CAST				IAmb		IAmb	09 03 52.5	
	comp=Z,2.6nm,1.0s							
F19K	**Shaleruckik Mo**	**83.03**	**17**	P		**P**	**09 03 47.3**	**+0.2**
F19K				IAmb		IAmb	09 04 17.1	
	comp=Z,3.2nm,1.1s							
E19K	**Redstone River**	**83.61**	**16**	P		**P**	**09 03 51.2**	**+1.1**
E19K				IAmb		IAmb	09 03 58.8	
	comp=Z,3.8nm,0.8s							
D19K	**Kuna River**	**84.10**	**15**	P		**P**	**09 03 52.8**	**+0.1**
ILAR	**Eielson Array**	**85.21**	**21**			**P**	**09 03 59.6**	**+1.3**
ILAR	**Eielson Array**	**85.21**	**21**	P		**P**	**09 03 58.0**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=243,slow=4.0,SNR=3.5							
	comp=Z,0.4nm,0.8s							
B20K	**Meade River**	**85.41**	**15**	P		**P**	**09 04 01.1**	**+2.0**
B20K				IAmb		IAmb	09 04 12.3	
	comp=Z,3.9nm,1.1s							
D22K	**Ayikyak River**	**85.83**	**16**	P		**P**	**09 04 02.2**	**+0.8**
D22K				IAmb		IAmb	09 04 15.2	
	comp=Z,2.9nm,0.9s							
MKAR	**Makanchi Array**	**85.95**	**319**	P		**P**	**09 04 03.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=93,slow=5.8,SNR=2.2							
	comp=Z,0.4nm,0.7s							
MAKZ	**Makanchi**	**86.16**	**319**	P		**P**	**09 04 00.0**	**-3.4**
TOLK	**Toolik Lake Re**	**86.58**	**17**	P		**P**	**09 04 05.4**	**+0.4**
TOLK				IAmb		IAmb	09 04 19.1	
	comp=Z,4.4nm,1.1s							
DLBC	**Dease Lake**	**89.65**	**30**	P		**P**	**09 04 18.8**	**-1.2**
DLBC				IAmb		IAmb	09 04 19.6	
	comp=Z,2.6nm,1.1s							
NVAR	**Mina Array Bea**	**92.33**	**52**	P		**P**	**09 04 34.7**	**+1.6**
	comp=Z,0.3nm,0.8s,baz=230,slow=7.0,SNR=2.4							
	comp=Z,0.3nm,0.8s							
YKA	**Yellowknife Ar**	**97.94**	**28**	P		**P**	**09 04 57.8**	**0.0**
	comp=Z,0.1nm,0.6s,baz=270,slow=4.9,SNR=2.2							
	comp=Z,0.1nm,0.6s							
BDFB	**Brasilia**	**145.48**	**136**	PKPbc		**PKPdf**	**09 11 01.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=194,slow=8.3,SNR=1.9							

CATAC 06 09:00:15.0±0.5**, 12°.07N×87°.81W, h6**km±4km**, MB5.1, mb3.7, ML3.3, Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRIN	**San Cristobal**	**0.97**	**49**	*i*P		Pb	09 00 34.3	0.0
CRIN				*i*S		Sb	09 00 46.9	-0.5
CRIN				IAML			09 00 50.3	
	comp=Z,2μm,1.0s							
TEL3	**Telica 3**	**1.07**	**62**	*i*P		Pg	09 00 34.4	-1.1
TEL3				IAML			09 00 55.9	
	comp=Z,2μm,1.0s							
TELN	**Telica**	**1.09**	**61**	*i*P		Pg	09 00 35.9	-0.1
TELN				IAML			09 00 50.9	
	comp=Z,220nm,1.0s							
HERN	**Volcan Telica**	**1.10**	**60**	*i*P		Pg	09 00 35.6	-0.5
HERN				IAML			09 00 48.7	
	comp=Z,1μm,1.0s							
POLN	**Al Sur del Vol**	**1.13**	**59**	*i*P		Pg	09 00 35.4	-1.3
POLN				IAML			09 00 55.0	
	comp=Z,460nm,1.0s							
ROCN	**Rota Cerro Neg**	**1.13**	**66**	*i*P		Pg	09 00 36.4	-0.4
ROCN				*i*S		Sb	09 00 52.4	+0.4
ROCN				IAML			09 00 56.1	
	comp=Z,290nm,1.0s							
CNGA	**Al SSO del Vol**	**1.16**	**68**	*i*P		Pg	09 00 37.2	-0.1
CNGA				*i*S		Sg	09 00 52.3	-0.1
CNGA				IAML			09 00 57.6	
	comp=Z,580nm,1.0s							
CNGN	**Cerro Negro**	**1.17**	**68**	*i*P		Pg	09 00 37.0	-0.4
CNGN				IAML			09 00 58.3	
	comp=Z,480nm,1.0s							
COPN	**Copaltepe**	**1.19**	**84**	*i*P		Pg	09 00 37.0	-0.9
COPN				IAML			09 00 37.8	
	comp=Z,700nm,1.0s							
CNCH	**Conchagua**	**1.20**	**359**	*i*P		Pg	09 00 37.4	-0.7
CNCH				*i*S		Sb	09 00 54.7	+0.5
CNCH				IAML			09 00 56.8	
	comp=Z,1μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.21**	**74**	*i*P		Pg	09 00 36.6	-1.7
LEVN				*i*S		Sg	09 00 54.0	0.0
LEVN				IAML			09 01 01.5	
	comp=Z,620nm,1.0s							
AMPH	**Amapala**	**1.22**	**7**	*i*P		Pg	09 00 37.6	-0.9
AMPH				*i*S		Sg	09 00 54.4	+0.1
LCND	**La Caada**	**1.24**	**356**	*i*P		Pg	09 00 37.8	-1.0
LCND				*i*S		Sb	09 00 55.1	0.0
LCND				IAML			09 00 57.1	
	comp=Z,440nm,1.0s							
JUCU	**Jucuarn**	**1.26**	**340**	*i*P		Pg	09 00 38.2	-0.9
JUCU				IAML			09 00 58.0	
	comp=Z,190nm,1.0s							
MOMN	**Momotombo**	**1.28**	**75**	*i*P		Pn	09 00 38.8	-0.8
MOMN				IAML			09 00 39.4	
	comp=Z,23nm,1.0s							
MOMN				*i*S		Sg	09 00 56.2	-0.2
MOM2	**El Cardon**	**1.34**	**74**	*i*P		Pn	09 00 39.3	-1.0
MOM2				IAML			09 00 40.4	
	comp=Z,510nm,1.0s							
APQ3	**Volcan Apoyequ**	**1.42**	**82**	*i*P		Pn	09 00 40.3	-1.1
APQ3				IAML			09 00 40.9	
	comp=Z,580nm,1.0s							
APQ3				*i*S		Sb	09 01 00.0	-0.3
APYN	**Apoyeque**	**1.44**	**83**	*i*P		Pn	09 00 40.9	-0.7
APYN				*i*S		Sb	09 01 00.1	-0.6
APYN				IAML			09 01 04.2	
	comp=Z,460nm,1.0s							
RANC	**El Ranchito**	**1.44**	**341**	*i*P		Pn	09 00 40.9	-0.9
RANC				*i*S		Sb	09 01 00.5	-0.5
RANC				IAML			09 01 06.3	
	comp=Z,210nm,1.0s							
CNRM	**Centro Naciona**	**1.44**	**346**	*i*P		Pn	09 00 41.3	-0.4
CNRM				IAML			09 00 44.2	
	comp=Z,3μm,1.0s							
RE6B4	**Centro civico**	**1.48**	**87**	*i*P		Pn	09 00 42.5	+0.3
RE6B4				IAML			09 01 10.8	
	comp=Z,380nm,1.0s							
APQN	**BB Volcan Apoy**	**1.48**	**84**	*i*P		Pn	09 00 41.6	-0.6
PACA	**Pacayal**

DUNO					IAML			09 02 11.6	
	comp=Z,67nm,1.0s								
RIMA	**Rio Macho**	**4.50**	**120**	*i* P		Pn		09 01 25.9	+2.0
CDM	**Cerro de Muert**	**4.69**	**122**	*i* P		Pn		09 01 27.2	+0.4
CDM					IAML			09 01 46.9	
	comp=Z,23nm,1.0s								
SMSP	**San Marcos**	**4.83**	**307**	*i* P		Pb		09 01 34.6	-5.6
PEZE	**Perez Zeledon,**	**4.86**	**123**	*i* P		Pn		09 01 30.1	+1.4
PEZE					IAML			09 01 31.4	
	comp=Z,33nm,1.0s								
SRBA	**San Rafael, Bu**	**5.20**	**122**	*i* P		Pn		09 01 34.5	+1.0
SRBA					IAmb	IAmb		09 01 35.5	
	comp=Z,6.7nm,0.7s								
SRBA					IAML			09 01 37.8	
	comp=Z,16nm,1.0s								
PLAN	**Los Planes de**	**5.28**	**129**	*i* P		Pn		09 01 35.4	+0.9
PLAN					IVmB_BB			09 01 37.4	
	comp=Z,2μm,1.0s								
PLAN					IAML			09 03 45.5	
	comp=Z,150nm,1.0s								

IDC ***06*** *09:00:34.3±1.7, 16°.47N×95°.14W, h0km, mb3.4/2, mbtmp3.3/5, ML3.2/3, MS3.3/1, Error ellipse: s-maj=18.7km s-min=13.1km az=108.0*

MEX ***06*** *09:00:38.6±1.2, 16°.43N×95°.08W, h68km±25km, MD4.5*

ISC 06 09:00:35.5±1.2, 16°.48N±0°.03×95°.11W±0°.02, h12km±9km, n52, σ1$73/92, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NILT	**Santiago Nilte**	**0.47**	**80**	*e*P		**Pg**	**09 00 45.0**	**+0.1**
NILT				*e*S		**Sb**	**09 00 52.3**	**-0.5**
CMIG	**Matias Romero**	**0.64**	**19**	Pg		**Pg**	**09 00 47.4**	**-0.7**
	205nm,0.3s,baz=198,slow=14,SNR=4335							
CMIG				Lg		Lg	09 00 56.2	
	927nm,0.3s,baz=15,slow=5.0,SNR=60							
CMIG	**Matias Romero**	**0.64**	**19**	*e*P		**Pg**	**09 00 47.5**	**-0.5**
CMIG				*e*S		**Sg**	**09 00 56.1**	**-0.4**
CARR	**Arriaga**	**1.17**	**101**	*e*P		**Pb**	**09 00 57.0**	**-0.6**
CARR				*i* S		**Sb**	**09 01 13.3**	**+0.6**
HUIG	**Huatulco**	**1.20**	**234**	*e*P		**Pn**	**09 00 56.3**	**-1.8**
HUIG				*e*S		**Sb**	**09 01 11.2**	**-2.4**
UXUV	**UXUV**	**1.24**	**48**	*e*P		**Pn**	**09 00 58.4**	**-0.3**
UXUV				*e*S		**Sn**	**09 01 15.4**	**+0.1**
NEUV	**Arroyo Zacate**	**1.39**	**332**	*e*P		**Pn**	**09 00 60.0**	**-0.8**
NEUV				*e*S		**Sn**	**09 01 18.1**	**-1.1**
MIHL	**Minatitlan**	**1.59**	**20**	*e*P		**Pn**	**09 01 04.5**	**+1.0**
MIHL				*e*S		**Sg**	**09 01 30.9**	**+4.0**
OXLC	**Oaxaca**	**1.64**	**291**	*e*P		**Pn**	**09 01 04.4**	**0.0**
OXLC				*e*S		**Sn**	**09 01 25.1**	**-0.4**
OXBJ	**Oaxaca**	**1.66**	**291**	*e*P		**Pn**	**09 01 04.2**	**-0.4**
OXBJ				*e*S		**Sn**	**09 01 25.6**	**-0.3**
VHO	**Vista Hermosa**	**1.67**	**291**	*e*P		**Pn**	**09 01 04.7**	**0.0**
VHO				*e*S		**Sn**	**09 01 26.3**	**+0.1**
TUIG	**Tuzandepetl**	**1.68**	**23**	*e*P		**Pn**	**09 01 05.4**	**+0.7**
TUIG				*e*S		**Sg**	**09 01 28.8**	**-0.7**
TGIG		**1.92**	**81**	*e*P		**Pn**	**09 01 09.9**	**+1.7**
TGIG				*e*S		**Sn**	**09 01 32.2**	**-0.1**
TGBT	**Tuxtla Gutierr**	**1.95**	**81**	*i* P		**Pn**	**09 01 05.5**	**-3.0**
TGBT				*i* S		**Sb**	**09 01 36.1**	**+0.7**
PCIG		**1.97**	**113**	*e*P		**Pn**	**09 01 08.8**	**0.0**
PCIG				*e*S		**Sn**	**09 01 31.2**	**-2.1**
PEIG	**Puerto Escondi**	**2.02**	**256**	*e*P		**Pn**	**09 01 09.1**	**-0.4**
PEIG				*e*S		**Sn**	**09 01 33.2**	**-1.5**
PMUV	**Sontecomapan**	**2.05**	**360**	*e*P		**Pn**	**09 01 09.2**	**-0.8**
PMUV				*e*S		**Sn**	**09 01 34.0**	**-1.5**
YOIG	**Yosondua**	**2.37**	**279**	*e*P		**Pn**	**09 01 15.2**	**+0.7**
YOIG				*e*S		**Sn**	**09 01 44.7**	**+1.0**
TOIG	**Toxpalan**	**2.47**	**311**	*e*P		**Pn**	**09 01 16.6**	**+0.9**
TOIG				*e*S		**Sn**	**09 01 47.7**	**+1.9**
TXIG	**Tlaxiaco**	**2.66**	**287**	*e*P		**Pn**	**09 01 19.9**	**+1.4**
TXIG				*e*S		**Sn**	**09 01 52.8**	**+1.9**
CCIG	**Comitan**	**2.85**	**94**	*e*P		**Pn**	**09 01 23.6**	**+2.6**
CCIG				*e*S		**Sn**	**09 01 54.0**	**-1.5**
TPIG	**Tehuac#an**	**2.89**	**312**	*e*P		**Pn**	**09 01 22.1**	**+0.5**
TPIG				*e*S		**Sn**	**09 01 57.4**	**+1.1**
PNIG	**Pinotepa**	**2.90**	**269**	*e*P		**Pn**	**09 01 20.5**	**-1.1**
PNIG				*e*S		**Sn**	**09 01 55.3**	**-1.1**
OZST	**Orizaba**	**3.03**	**322**	*e*P		**Pn**	**09 01 23.4**	**-0.1**
OZST				*e*P		**Pb**	**09 01 25.7**	**-3.9**
OZST				*i* S		**Sn**	**09 01 59.5**	**-0.4**
OZST				*i* S		**Sb**	**09 02 00.0**	**-6.6**
PATR	**El Naranjo**	**3.08**	**116**	*e*P		**Pn**	**09 01 24.5**	**+0.3**
PATR				*e*S		**Sn**	**09 01 60.0**	**-1.1**
PAVE	**Pavencul**	**3.10**	**114**	*e*P		**Pn**	**09 01 25.6**	**+1.2**
PAVE				*e*S		**Sn**	**09 02 00.6**	**-0.9**
THIG		**3.15**	**119**	*e*P		**Pn**	**09 01 25.5**	**+0.5**
THIG				*e*S		**Sn**	**09 02 00.3**	**-2.2**
CHUJ	**Union Juarez**	**3.20**	**115**	*e*P		**Pn**	**09 01 26.9**	**+1.0**
CHUJ				*e*S		**Sn**	**09 02 02.9**	**-1.1**
FTIG	**Fresnillo de T**	**3.22**	**297**	*e*P		**Pn**	**09 01 28.0**	**+1.9**
FTIG				*e*S		**Sn**	**09 02 07.8**	**+3.3**
JAUV	**Jalcomulco**	**3.29**	**331**	*e*P		**Pn**	**09 01 25.0**	**-2.0**
JAUV				*e*S		**Sn**	**09 02 04.2**	**-1.9**
MGIG	**Malinaltepec**	**3.46**	**283**	*e*P		**Pn**	**09 01 29.9**	**+0.4**
MGIG				*i*			09 02 19.6	
TLIG	**Tlapa**	**3.48**	**288**	*e*P		**Pn**	**09 01 31.4**	**+1.7**
TLIG				*e*S		**Sn**	**09 02 11.6**	**+0.7**
HMTT	**Tlapaneco**	**3.55**	**292**	*e*		**Pb**	**09 01 40.0**	**+1.6**
HMTT				*i*			09 02 23.6	
CRIG	**Cruz Grande**	**3.87**	**274**	*e*P		**Pn**	**09 01 34.0**	**-0.8**
CRIG				*e*S		**Sn**	**09 02 18.3**	**-2.0**
PPM	**Popocatepetl**	**4.23**	**308**	*e*P		**Pn**	**09 01 43.2**	**+2.9**
PPM				*e*S		**Sn**	**09 02 31.8**	**+2.0**
AMVM	**AMECAMECA**	**4.39**	**307**	*e*P		**Pn**	**09 01 42.1**	**-0.2**
DAIG	**Los Arroyos**	**4.39**	**278**	*e*P		**Pn**	**09 01 41.1**	**-0.9**
DAIG				*e*S		**Sn**	**09 02 36.1**	**+3.0**
YAIG	**Yautepec**	**4.46**	**303**	*e*P		**Pn**	**09 01 45.3**	**+2.2**
YAIG				*e*S		**Sn**	**09 02 34.5**	**-0.5**
SCIG	**Sabancuy**	**4.48**	**56**	*e*P		**Pn**	**09 01 44.0**	**+0.7**
SCIG				*e*S		**Sn**	**09 02 32.6**	**-2.7**
MEIG	**Mezcala**	**4.55**	**289**	*e*P		**Pn**	**09 01 45.0**	**+0.7**
MEIG				*e*S		**Sn**	**09 02 38.4**	**+1.3**
PLIG	**Platanillo**	**4.61**	**295**	*e*P		**Pn**	**09 01 48.4**	**+3.3**
PLIG				*e*S		**Sn**	**09 02 40.7**	**+2.1**
APG	**El Apazote**	**4.70**	**108**	Pn		**Pn**	**09 01 47.8**	**+1.3**
	0.3nm,0.3s,baz=70,slow=20,SNR=14							
APG				Sn		**Sn**	**09 02 42.5**	**+1.3**
	0.8nm,0.3s,baz=71,slow=20,SNR=7.7 0.5nm,0.3s							
TLVM	**San Miguel Top**	**4.71**	**306**	*e*P		**Pn**	**09 01 48.5**	**+1.6**
MAVM	**Malinalco, Edo**	**4.85**	**301**	*e*P		**Pn**	**09 01 49.2**	**+0.5**
AOVM	**Tlapan**	**4.88**	**305**	*e*P		**Pn**	**09 01 51.6**	**+2.4**
INVM	**La Marquesa**	**4.94**	**305**	*e*P		**Pn**	**09 01 52.2**	**+2.3**
ARIG	**Puente Sto Nin**	**5.32**	**290**	*e*P		**Pn**	**09 01 56.8**	**+2.0**
ARIG				*e*S		**Sn**	**09 02 57.6**	**+1.6**
JTS	**Las Juntas de**	**11.63**	**121**	Pn		**Pn**	**09 03 23.2**	**+1.6**
	0.6nm,0.3s,baz=305,slow=19,SNR=1.1 1.9nm,0.4s							
TXAR	**Lajitas Array**	**15.02**	**330**	Pn		**Pn**	**09 04 09.1**	**+1.3**
	baz=145,slow=14,SNR=2.2 0.2nm,0.8s							
NVAR	**Mina Array Bea**	**29.87**	**322**	P		**P**	**09 06 44.5**	**+1.3**
	0.8nm,0.9s,baz=143,slow=8.5,SNR=4.8 0.8nm,0.9s							
LVC	**Limon Verde**	**46.55**	**146**	LR		LR	09 26 39.4	
	comp=Z,36nm,21.6s,baz=194,slow=34							
YKA	**Yellowknife Ar**	**47.96**	**348**	P		**P**	**09 09 13.3**	**-0.4**
	0.3nm,0.8s,baz=146,slow=6.7,SNR=5.9 0.3nm,0.8s							

VAO ***06*** *09:01:06.1±0.7, 6°.02S×81°.35W, h10km, mb4.4*

NEIC ***06*** *09:01:08.3±2.9, 6°.55S±0°.06×81°.2W±0°.1, h10km±1km, mb4.3/8, Error ellipse: s-maj=21.3km s-min=8.8km az=283.0*

IDC ***06*** *09:01:09.8±1.1, 6°.53S×80°.98W, h0km, mb3.8/9, mbtmp3.8/12, ML3.5/3, MS3.5/10, Error ellipse: s-maj=38.0km s-min=16.6km az=45.0*

ISC 06 09:01:14.1±0.7, 6°.55S±0°.07×80°.89W±0°.07, h34km, n51, σ1$83/47, mb4.0/10, MS3.5/7, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
ATAH	**Atahualpa**	**2.55**	**103**	Pn		**Pn**	**09 01 55.8**	**+2.4**
	35nm,0.3s,baz=335,slow=5.3,SNR=99							
ATAH				Sn		**Sb**	**09 02 28.9**	**-1.6**
	40nm,0.3s,baz=18,slow=22,SNR=10 99nm,0.4s							
ARNL	**Arenillas**	**3.09**	**15**			**Pn**	**09 01 58.0**	**-2.5**
CHSH	**Refugio Sur-Vo**	**5.41**	**22**			**Pn**	**09 02 32.5**	**-0.5**
SLOR	**San Lorenzo -**	**6.25**	**23**			**Pn**	**09 02 43.6**	**-0.8**
NNA	**Nana**	**6.72**	**144**	Pn		**Pn**	**09 02 50.0**	**-0.5**
NNA	**Nana**	**6.72**	**144**	Pn		**Pn**	**09 02 50.4**	**-0.2**
	1.7nm,0.3s,baz=338,slow=7.7,SNR=2.5							
NNA					Sn	**Sn**	**09 04 03.5**	**-2.5**
	3.8nm,0.3s,baz=115,slow=18,SNR=1.8							
NNA					Lg	Lg	09 04 31.1	
	2.9nm,0.3s,baz=209,slow=22,SNR=4.8 3.9nm,0.3s							
PULU	**Pululahua**	**6.95**	**20**			**Pn**	**09 02 55.0**	**+1.1**
IMBA	**Imbabura, San**	**7.29**	**22**			**Pn**	**09 02 54.2**	**-4.5**
TULM	**Tulcn-Chalpat**	**7.85**	**23**			**Pn**	**09 03 03.2**	**-3.2**
CZSB	**Cruzeiro do Su**	**8.21**	**99**	Pn		**Pn**	**09 03 10.8**	**-0.1**
CZSB	**Cruzeiro do Su**	**8.21**	**99**	*e*P		**Pn**	**09 03 13.1**	**+2.2**
CZSB				*e*S		Sn	09 04 53.0	+10
TBTG	**Tabatinga, AM**	**11.18**	**78**			**Pn**	**09 03 50.5**	**-1.1**
TBTG	**Tabatinga, AM**	**11.18**	**78**	*e*P		**Pn**	**09 03 51.3**	**-0.4**
TBTG				*e*S		**Sn**	**09 06 01.2**	**+5.6**
ROSC	**El Rosal**	**13.07**	**30**	LR		LR	09 09 31.7	
	comp=Z,125nm,19.0s,baz=84,slow=38							
ETMB	**Extrema**	**14.88**	**104**	Pn		**Pn**	**09 04 38.7**	**-3.6**
LPAZ	**La Paz**	**15.80**	**129**	Pn		**Pn**	**09 04 56.0**	**+1.2**
	baz=173,slow=18,SNR=2.0							
LPAZ					LR	LR	09 11 05.5	
	comp=Z,64nm,20.9s,baz=308,slow=38 0.3nm,0.4s							
LPAZ	**La Paz**	**15.80**	**129**	*e*P		**P**	**09 04 57.5**	**-0.9**
LPAZ				*e*S		**S**	**09 08 02.3**	**-0.9**
TEFE	**Tefe**	**16.47**	**80**	*e*P		**Pn**	**09 05 02.5**	**-0.2**
JTS	**Las Juntas de**	**17.21**	**346**	LR		LR	09 10 23.2	
	comp=Z,51nm,19.4s,baz=158,slow=32							
SAML	**Samuel**	**17.71**	**99**			**Pn**	**09 05 18.2**	**0.0**
SAML	**Samuel**	**17.71**	**99**	*e*P		**P**	**09 05 18.8**	**0.0**
BAUV	**El Baul**	**20.02**	**40**	P		**P**	**09 05 42.7**	**-1.5**
BAUV					IAmb	IAmb	09 05 56.6	
	comp=Z,13nm,0.8s							
MACA	**Manacapuru-AM**	**20.41**	**81**			**P**	**09 05 47.0**	**-1.5**
MACA					IAmb	IAmb	09 05 49.5	
	comp=Z,14nm,0.6s							
MACA	**Manacapuru-AM**	**20.41**	**81**	*e*P		**P**	**09 05 47.5**	**-1.0**
VILB	**Vilhena**	**21.35**	**109**	*e*P		**P**	**09 05 59.9**	**+1.2**
SIV	**San Ignacio**	**21.56**	**117**	P		**P**	**09 06 01.5**	**+0.5**
	comp=Z,5.6nm,0.9s,baz=291,slow=9.6,SNR=27							
SIV					LR	LR	09 15 08.1	
	comp=Z,57nm,19.1s,baz=290,slow=39 comp=Z,5.6nm,0.9s							
BOAV	**Boa Vista**	**22.19**	**67**	P		**P**	**09 06 05.4**	**-2.2**
BOAV					IAmb	IAmb	09 06 38.5	
	comp=Z,9.2nm,1.3s							
BBSD	**Serra de San D**	**22.46**	**120**	*e*P		**P**	**09 06 11.8**	**+1.2**
PTLB	**Pontes e Lacer**	**23.09**	**114**	*e*P		**P**	**09 06 19.3**	**+2.2**
ITTB	**Itaituba**	**25.13**	**86**	*e*P		**P**	**09 06 35.6**	**-0.7**
CLDB	**Colider**	**25.17**	**102**	*e*P		**P**	**09 06 37.2**	**+0.5**
NPGB	**Novo Progresso**	**25.36**	**93**	*e*P		**P**	**09 06 38.4**	**+0.1**
MURT	**Porto Murtinho**	**27.05**	**126**	*e*P		**P**	**09 06 55.3**	**+1.7**
TEIG	**Tepich**	**27.58**	**345**	LR		LR	09 16 47.9	
	comp=Z,286nm,21.2s,slow=34							
CPUP	**Villa Florida**	**29.86**	**134**	LR		LR	09 19 16.2	
	comp=Z,59nm,20.2s,baz=150,slow=36							
MDP	**Montagnes des**	**30.48**	**68**	LR		LR	09 20 20.5	
	comp=Z,96nm,18.1s,baz=261,slow=38							
SMTB	**Santa Maria do**	**33.07**	**96**	*e*P		**P**	**09 07 47.3**	**+0.2**
BDFB	**Brasilia**	**33.46**	**108**	LR		LR	09 22 18.6	
	comp=Z,132nm,19.6s,baz=311,slow=38							
RPN	**Rapa Nui**	**33.90**	**230**	LR		LR	09 18 21.1	
	comp=Z,91nm,19.2s,baz=86,slow=30							
TXAR	**Lajitas Array**	**41.87**	**330**	P		**P**	**09 09 03.2**	**+1.8**
	comp=Z,0.1nm,0.3s,baz=143,slow=7.7,SNR=2.1 comp=Z,0.1nm,0.3s							
PDAR	**Pinedale Array**	**55.57**	**335**	P		**P**	**09 10 47.6**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=120,slow=8.8,SNR=5.2 comp=Z,0.5nm,0.8s							
ULM	**Lac du Bonnet**	**58.04**	**349**	P		**P**	**09 11 04.1**	**+0.4**
	comp=Z,2.6nm,0.7s,baz=165,slow=6.4,SNR=8.4 comp=Z,2.6nm,0.7s							
YKA	**Yellowknife Ar**	**73.54**	**344**	P		**P**	**09 12 43.0**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=133,slow=4.6,SNR=6.7 comp=Z,0.4nm,0.8s							
DBIC	**Dimbokro**	**76.99**	**82**	LR		LR	09 45 47.2	
	comp=Z,82nm,19.8s,baz=260,slow=35							
SNAA	**Sanae**	**80.07**	**162**	P		**P**	**09 13 19.1**	**-1.0**
QSPA	**South Pole Qui**	**83.55**	**180**	P		**P**	**09 13 36.6**	**-2.1**
QSPA	**South Pole Qui**	**83.55**	**180**	P		**P**	**09 13 40.0**	**+1.4**
	comp=Z,0.7nm,0.6s,baz=308,slow=2.7,SNR=6.5 comp=Z,0.7nm,0.6s							
ESDC	**Sonseca Array**	**84.18**	**49**	P		**P**	**09 13 43.3**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=271,slow=4.8,SNR=6.4 comp=Z,0.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**84.30**	**76**	P		**P**	**09 13 42.4**	**-1.0**
TORD					IAmb	IAmb	09 14 19.4	
	comp=Z,3.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**84.30**	**76**	P		**P**	**09 13 44.5**	**+1.2**
	comp=Z,0.4nm,0.6s,baz=337,slow=3.3,SNR=2.4 comp=Z,0.4nm,0.6s							
EKA	**Eskdalemuir Ar**	**88.41**	**34**	P		**P**	**09 14 03.7**	**+1.1**
	comp=Z,1.3nm,0.9s,baz=218,slow=4.5,SNR=3.9 comp=Z,1.3nm,0.9s							

GUC 06 09:21:09.7±1.0, 34°.33S×72°.21W, h38km±4km, ML3.6, 1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GO05	**Huala**	**0.72**	**161**	*e*P		Pn	09 21 24.3	+0.9
GO05				*e*S		Sn	09 21 34.9	+1.7
GO05					IAML		09 21 36.8	
	comp=E,4μm,0.2s							
VA05	**Santo Domingo**	**0.83**	**37**	*i* P		Pn	09 21 25.7	+0.9
VA05				*e*S		Sn	09 21 38.3	+2.4
VA05					IAML		09 21 39.7	
	comp=E,4μm,0.3s							
MT01	**Popeta**	**0.92**	**60**	*i*P		Pn	09 21 27.4	+1.3
MT01				*e*S		Sn	09 21 40.5	+2.4
MT01					IAML		09 21 45.1	
	comp=N,2μm,0.2s							
BO01	**Tunca**	**0.93**	**94**	*i* P		Pn	09 21 27.7	+1.4
MT09	**Talagante**	**1.15**	**62**	*i* P		Pn	09 21 31.1	+1.7
MT09				*e*S		Sn	09 21 47.3	+3.3
MT09					IAML		09 21 48.7	
	comp=N,2μm,0.3s							
BO02	**Sierra Bellavi**	**1.27**	**112**	*e*P		Pn	09 21 33.8	+2.9
BO04	**La Punta**	**1.37**	**76**	*i* P		Pn	09 21 34.8	+2.5
BO04				*e*S		Sn	09 21 54.2	+5.0
BO04					IAML		09 21 59.3	
	comp=N,1μm,0.3s							
MT02	**Curacav**	**1.39**	**40**	*e*P		Pn	09 21 33.8	+1.2
MT02				*e*S		Sn	09 21 51.8	+2.2
MT12	**Pirque**	**1.50**	**67**	*i* P		Pn	09 21 36.9	+2.8
MT12				*e*S		Sn	09 21 56.9	+4.5
MT12					IAML		09 22 02.4	
	comp=N,3μm,0.3s							
MT05	**Renca**	**1.54**	**53**	*e*P		Pn	09 21 37.4	+2.8
MT05				*e*S		Sn	09 21 57.7	+4.3
MT05					IAML		09 22 06.6	
	comp=E,1μm,0.3s							
ML02	**Panimavida**	**1.57**	**156**	*e*P		Pn	09 21 38.1	+3.0
ML02				*e*S		Sn	09 21 59.8	+5.5
ML02					IAML		09 22 07.2	
	comp=N,1μm,0.7s							
MT15	**Las Vizcachas**	**1.59**	**63**	*e*P		Pn	09 21 37.8	+2.4
MT15				*e*S		Sn	09 21 59.5	+4.8
MT15					IAML		09 22 07.2	
	comp=E,2μm,0.2s							
MT14	**Cerro Calan**	**1.67**	**57**	*i* P		Pn	09 21 39.0	+2.5
MT14				*e*S		Sn	09 22 01.6	+4.8
MT14					IAML		09 22 09.1	
	comp=N,2μm,0.5s							
ROCH	**El Roble**	**1.68**	**37**	*e*P		Pn	09 21 38.5	+1.8
ROCH				*e*S		Sn	09 21 59.3	+2.2
ROCH					IAML		09 22 11.2	
	comp=N,1μm,0.5s							
MT13	**San Alfonso**	**1.70**	**71**	*e*P		Pn	09 21 39.9	+3.0
MT13				*e*S		Sn	09 22 03.4	+5.9
MT13					IAML		09 22 06.1	
	comp=N,1μm,0.2s							
LMEL	**Las Melosas**	**1.73**	**75**	*e*P		Pn	09 21 40.6	+3.2
LMEL				*e*S		Sn	09 22 04.6	+6.3
LMEL					IAML		09 22 09.9	
	comp=N,1μm,0.3s							
PEL	**Peldehue**	**1.73**	**48**	*e*P		Pn	09 21 40.1	+2.8
PEL				*e*S		Sn	09 22 02.3	+4.2
PEL					IAML		09 22 14.7	
	comp=E,847nm,0.5s							
MT10	**Hacienda Santa**	**1.74**	**53**	*e*P		Pn	09 21 40.1	+2.5
MT10				*e*S		Sn	09 22 03.2	+4.6
MT10					IAML		09 22 07.2	
	comp=N,2μm,0.4s							
FCH	**Farellones**	**1.88**	**59**	*e*P		Pn	09 21 42.2	+2.6
FCH				*e*S		Sn	09 22 06.8	+4.6
FCH					IAML		09 22 15.9	
	comp=E,602nm,0.3s							
VA06	**Catapilco**	**1.92**	**24**	*e*P		Pn	09 21 40.6	+0.8
VA06					IAML		09 22 23.1	
	comp=E,829nm,0.3s							
MT04	**Ro Olivares**	**1.95**	**63**	*e*P		Pn	09 21 43.3	+2.8
MT04				*e*S		Sn	09 22 08.4	+4.5
MT04					IAML		09 22 15.3	
	comp=N,587nm,0.2s							
MT08	**Bocatoma Ro**	**2.02**	**65**	*e*P		Pn	09 21 45.8	+4.3
MT08					IAML		09 22 19.0	
	comp=N,356nm,0.3s							
VA03	**San Esteban**	**2.08**	**42**	*e*P		Pn	09 21 44.5	+2.4
VA03				*e*S		Sn	09 22 10.8	+3.9
BI02	**San Fabin de**	**2.46**	**162**	*e*P		Pn	09 21 49.9	+2.6
BI02					IAML		09 22 32.2	
	comp=N,173nm,0.7s							
CO02	**Combarbal**	**3.27**	**18**	*e*P		Pn	09 21 59.6	+1.0

IDC ***06*** *09:23:35.9±0.5, 34°.57N×96°.65E, h0km, mb4.5/27, mbtmp4.6/31, ML4.4/4, MS4.7/79, Error ellipse: s-maj=15.2km s-min=8.7km az=46.0*

MOS ***06*** *09:23:36.5±0.9, 34°.51N×96°.45E, h17km, mb5.0/74, MS5.0/18, Error ellipse: s-maj=6.6km s-min=3.3km az=129.1*

BJI ***06*** *09:23:37.1±0.0, 34°.57N×96°.56E, h10km, mb4.7/60, mB5.0/50, ML5.7/13, Ms5.5/82, Ms7 5.2/76*

NEIC ***06*** *09:23:39.0±1.3, 34°.56N±0°.06×96°.52E±0°.06, h18km±4km, mb5.0/165, Error ellipse: s-maj=10.2km s-min=6.1km az=145.0*

GCMT ***06*** *09:23:39.0±0.1, 34°.58N±0°.01×96°.59E±0°.01, h24km, MW5.2/141, Moment Tensor Solution. s90,c134; s141,c257; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr=0.01±.01; Mθθ=0.58±.01; Mϕϕ=0.59±.01; Mrθ=0.00±.03; Mθϕ=0.68±.01; Mϕr=0.11±.03; Best double couple: M=0.90600×10^17 NP1:ϕs=340.00000°, δ88.00000°, λ174.00000°. NP2:ϕs=70.00000°, δ84.00000°, λ2.00000°. Principal axes: T 0.9170, Plg6.0000°, Azm295.0000°; N -0.0210, Plg83.0000°, Azm120.0000°; P -0.8960, Plg3.0000°, Azm25.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 09:23:37.4±0.2, 34°.52N±0°.03×96°.49E±0°.03, h10km, n865, σ1$62/833, mb4.9/202, MS4.8/109, 46C-19D, Qinghai

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GOMU	**GeErMu**	**2.17**	**321**	Pn		**Pn**	**09 24 15.4**	**+1.5**
GOMU				Sn		**Sg**	**09 24 47.2**	**+0.1**
GOMU				LR		LR		
	comp=N,112μm,4.3s							
GOMU				LR		LR		
	comp=E,112μm,4.5s							
GOMU				LR		LR		
	comp=Z,122μm,6.9s							
GTA	**Gaotai**	**5.56**	**28**	*e*Pn		**Pn**	**09 25 01.6**	**+1.3**
GTA				Sn		**Sn**	**09 26 06.8**	**+2.5**
GTA				LR		LR		
	comp=N,11μm,10.8s							
GTA				LR		LR		
	comp=E,9μm,13.5s							
GTA				LR		LR		
	comp=Z,13μm,11.9s							
LZH	**Lanzhou**	**6.21**	**73**	*e*Pn		**Pn**	**09 25 11.3**	**+2.0**
LZH				Sg		**Sg**	**09 26 51.8**	**-5.0**
LZH				smax		smax		
	comp=N,760nm,1.3s							
LZH				LR		LR		
	comp=N,58μm,7.0s							
LZH				LR		LR		
	comp=E,16μm,6.4s							
LZH				LR		LR		
	comp=Z,16μm,7.0s							
LSA	**Lhasa**	**6.61**	**225**	Pn		**Pn**	**09 25 18.6**	**+3.6**
LSA				LR		LR		
	comp=N,11μm,14.4s							
LSA				LR		LR		
	comp=E,16μm,15.1s							
LSA				LR		LR		
	comp=Z,16μm,10.8s							
LSA	**Lhasa**	**6.61**	**225**	Pn		**Pn**	**09 25 18.6**	**+3.6**
LSA	**Lhasa**	**6.61**	**225**	P		**Pn**	**09 25 18.6**	**+3.6**
CD2	**Chengdu**	**7

comp=E,15μm,9.5s
SHL Shillong 9.77 205 Pn Pn 09 25 57.1 -1.2
SHL Sn **Sn 09 27 45.3 -2.9**
SHL Shillong 9.77 205 eP Pn 09 25 57.8 -0.5
SHL eS **Sn 09 27 45.6 -2.6**
SHL IAML 09 27 52.5
comp=N,213nm,0.6s
SHL IAML 09 27 53.4
comp=E,159nm,0.9s
SHL Shillong 9.77 205 P Pn 09 25 57.5 -0.8
SHL S **Sn 09 27 45.3 -2.9**
GTK Tadong 9.87 225 eP Pn 09 26 01.9 +2.4
GTK eS **Sn 09 27 48.0 -2.5**
GTK IAML 09 27 57.9
comp=E,67nm,0.5s
GTK IAML 09 28 09.5
comp=E,106nm,0.8s
IMP Imphal 9.90 194 eP Pn 09 26 00.2 +0.2
IMP ⇑eS **Sn 09 27 56.3 +5.1**
IMP IAML 09 28 04.2
comp=E,74nm,1.5s
IMP IAML 09 28 13.1
comp=E,73nm,1.5s
SILR SILCHAR 10.22 199⇑eP Pn 09 26 06.5 +2.3
SILR eS **Sn 09 27 59.0 +0.1**
SILR IAML 09 28 04.8
comp=E,403nm,1.2s
SILR IAML 09 28 33.7
comp=E,573nm,1.2s
XAN Xi'an 10.30 89 ⇓P Pn 09 26 03.9 -1.4
XAN pP 09 26 08.2
XAN PP **PnPn 09 26 13.9 +1.1**
XAN S **Sn 09 28 01.7 +0.9**
XAN SS **SnSn 09 28 14.8 +2.5**
XAN pmax pmax
comp=E,15nm,1.3s
XAN LR LR
comp=E,19μm,8.6s
XAN LR LR
comp=E,16μm,12.4s
XAN LR LR
comp=E,16μm,15.8s
KMI Kunming 10.82 148 ⇓P Pn 09 26 14.5 +1.9
KMI S **Sn 09 28 14.2 +0.3**
KMI pmax pmax
comp=E,24nm,1.1s
KMI pmax pmax
comp=E,280nm,4.2s
KMI LR LR
comp=E,17μm,11.1s
KMI LR LR
comp=E,39μm,11.2s
KMI LR LR
comp=E,15μm,9.9s
WMQ Urumqi 11.52 326⇑iP Pn 09 26 21.4 -0.6
WMQ S **Sn 09 28 39.1 +8.4**
WMQ pmax pmax
comp=E,120nm,1.1s
WMQ pmax pmax
comp=E,150nm,3.6s
WMQ LR LR
comp=E,11μm,6.5s
WMQ LR LR
comp=E,13μm,10.3s
WMQ LR LR
comp=E,5μm,16.7s
ENH Enshi 11.77 108 P Pn 09 26 26.3 +0.9
ENH Enshi 11.77 108 Pn Pn 09 26 25.7 +0.2
GYA Guiyang 11.89 130⇑iP Pn 09 26 28.3 +1.1
GYA sP 09 26 36.5
GYA S **Sn 09 28 39.2 -0.7**
GYA pmax pmax
comp=E,61nm,1.1s
GYA LR LR
comp=E,4μm,9.8s
GYA LR LR
comp=E,3μm,5.6s
GYA LR LR
comp=E,8μm,10.4s
BELO BELONIA 12.07 203 eP Pn 09 26 30.4 +0.9
BELO ⇑eS **Sn 09 28 40.8 -3.3**
BTO Baotou 12.33 57 eP Pn 09 26 32.5 -0.6
BTO pP 09 26 35.9
BTO sP 09 26 39.1
BTO PP **PnPn 09 26 42.6 +1.8**
BTO S **Sn 09 28 49.9 -0.7**
BTO SS **SnSn 09 29 05.8 +3.2**
BTO pmax pmax
comp=E,36nm,1.2s
BTO pmax pmax
comp=E,300nm,11.2s
BTO LR LR
comp=E,33μm,12.5s
BTO LR LR
comp=E,19μm,15.6s
BTO LR LR
comp=E,12μm,12.7s
LYN LuoYang 13.17 85 ⇓P Pn 09 26 45.8 +1.2
LYN S **Sn 09 29 14.6 +3.5**
LYN sS S 09 29 21.0 -15
LYN SS **SnSn 09 29 28.1 +4.9**
LYN pmax pmax
comp=E,16nm,0.8s
LYN pmax pmax
comp=E,180nm,8.2s
LYN LR LR
comp=E,37μm,12.7s
LYN LR LR
comp=E,10μm,12.0s
LYN LR LR
comp=E,12μm,11.0s
HHC Hu-ho-hao-te 13.50 58 eP Pn 09 26 49.0 -0.1
HHC sP P 09 26 55.5 -2.9
HHC S **Sn 09 29 16.2 -3.0**
HHC SS **SnSn 09 29 35.7 +4.3**
HHC pmax pmax
comp=E,23nm,0.9s
HHC pmax pmax
comp=E,140nm,4.3s
HHC LR LR
comp=E,8μm,11.8s
HHC LR LR
comp=E,10μm,12.6s
HHC LR LR
comp=E,11μm,11.8s
BOK Bokaro 14.13 224 eP Pn 09 26 56.4 -1.3
BOK eS Sn 09 29 27.1 -7.6
CRAI Chiangrai 14.64 165 Pn Pn 09 27 04.7 -0.1
SLVN Son La 14.67 152 Pn Pn 09 26 59.6 -5.5
HNS HongShan 15.03 74 ⇑P Pn 09 27 13.0 +3.2
HNS S **Sn 09 30 01.2 +4.9**
HNS SS **S 09 30 18.3 +4.3**
HNS pmax pmax
comp=E,8.0nm,0.6s
HNS LR LR
comp=E,25μm,14.3s
HNS LR LR
comp=E,5μm,13.1s
HNS LR LR
comp=E,7μm,10.0s
GULI GuiLin 15.13 124 ⇓P Pn 09 26 57.9 -13
GULI S Sn 09 29 29.9 -29
GULI LR LR
comp=N,6μm,13.6s
GULI LR LR
comp=E,10μm,13.0s
GULI LR LR
comp=E,7μm,17.4s
SONM Songino Array 15.23 26 Pn Pn 09 27 12.4 -0.2
SONM IAmb IAmb 09 27 14.9
comp=E,152nm,1.6s
SONM Songino Array 15.23 26 Pn Pn 09 27 12.9 +0.3
comp=E,2.9nm,0.3s,baz=211,slow=14,SNR=69
SONM Lg Lg 09 31 38.1
comp=Z,0.1nm,0.3s,baz=307,slow=20,SNR=2.2
SONM LR LR 09 33 30.7
comp=E,5μm,20.5s,baz=209,slow=39
comp=E,30nm,0.7s
CNSH ChangSha 15.39 110 ⇑P Pn 09 27 12.7 -2.0
CNSH S **Sn 09 30 13.5 +8.2**
CNSH LR LR
comp=E,13μm,12.9s
CNSH LR LR
comp=E,5μm,12.8s
CNSH LR LR
comp=Z,9μm,12.2s
ULN Ulaanbaatar 15.50 27 Pn Pn 09 27 15.3 -0.9
ULN IAmb IAmb 09 27 18.3
comp=E,100nm,1.6s
ULN Ulaanbaatar 15.50 27ceP Pn 09 27 15.9 -0.3
ULN pmax pmax
comp=E,77nm,1.7s
WHN Wuhan 15.57 100 ⇓P Pn 09 27 15.0 -2.0
WHN sP **P 09 27 23.5 +2.2**
WHN SS **S 09 30 29.1 +3.9**
WHN pmax pmax
comp=E,66nm,0.9s
WHN LR LR
comp=E,38μm,8.6s
WHN LR LR
comp=E,29μm,9.1s
SHLS Shalkode 15.80 308 eP Pn 09 27 15.3 -4.8
comp=Z,27nm,0.9s,baz=309
SHLS Shalkode 15.80 308 eP Pn 09 27 15.3 -4.8
SHLS pmax pmax
comp=E,27nm,0.9s
CM31 Chiang Mai Arr 16.15 172 Pn 09 27 24.3 -0.2
CM31 IAmb IAmb 09 27 29.8
comp=E,92nm,0.8s
CMAR Chiang Mai Arr 16.15 172 Pn Pn 09 27 24.1 -0.5
CMAR Chiang Mai Arr 16.15 172 Pn Pn 09 27 24.8 +0.2
comp=Z,0.4nm,0.3s,baz=343,slow=12,SNR=48
CMAR Sn **Sn 09 30 26.7 +3.0**
baz=38,slow=40
CMAR Lg Lg 09 32 11.7
comp=Z,0.2nm,0.3s,baz=60,slow=40,SNR=1.2
CMAR LR LR 09 34 12.2
comp=Z,3μm,18.2s,baz=350,slow=39
comp=Z,54nm,0.8s
CMAR Chiang Mai Arr 16.15 172 *i* **P Pn 09 27 24.7 +0.2**
CMAR pmax pmax
comp=E,61nm,0.8s
MK31 Makanchi Array 16.29 323 pmax pmax
comp=Z,53nm,1.4s
MKAR Makanchi Array 16.29 323 Pn Pn 09 27 23.1 -3.1
MKAR Makanchi Array 16.29 323 Pn Pn 09 27 23.6 -2.7
comp=Z,2.5nm,0.3s,baz=124,slow=8.5,SNR=70
MKAR Lg Lg 09 32 16.8
baz=318,slow=29,SNR=1.9
MKAR LR LR 09 34 25.8
comp=E,6μm,18.6s,baz=142,slow=40
comp=Z,8.6nm,0.5s
PHRA Phrae 16.30 167 Pn Pn 09 27 26.1 -0.4
TARG Taragay, Kyrgy 16.36 302 Pn Pn 09 27 25.1 -2.4
TARG Taragay, Kyrgy 16.36 302 P Pn 09 27 25.1 -2.4
TARG pmax pmax
comp=Z,38nm,0.9s
SATY Saty 16.45 307 eP Pn 09 27 27.3 -1.2
baz=306
SATY Saty 16.45 307 eP Pn 09 27 27.3 -1.2
MAKZ Makanchi 16.46 323 Pn Pn 09 27 26.5 -1.9
MAKZ Makanchi 16.46 323 P Pn 09 27 26.5 -1.9
MAKZ pmax pmax
comp=Z,68nm,1.2s
ZHN Zhinishke 16.48 307 eP Pn 09 27 27.4 -1.4
baz=307
ZHN Zhinishke 16.48 307 eP Pn 09 27 27.4 -1.4
BJI Beijing 16.59 65 P P 09 27 34.1 +1.5
BJI S **S 09 30 42.7 -3.3**
BJI LR LR
comp=E,3μm,16.4s
BJI LR LR
comp=E,3μm,16.7s
BJI LR LR
comp=E,3μm,16.4s
ZAK Zakamensk 16.61 15 eP Pn 09 27 31.3 +0.9
ZAK pmax pmax
comp=E,24nm,1.8s
TIA Tai'an 16.91 78 P P 09 27 40.1 +3.9
TIA S **Sn 09 30 47.1 +4.9**
TIA pmax pmax
comp=Z,9.0nm,0.9s
TIA pmax pmax
comp=E,78nm,6.5s
TIA LR LR
comp=N,2μm,10.4s
TIA LR LR
comp=E,3μm,8.8s
TIA LR LR
comp=Z,2μm,8.4s
KSH Kashi 17.12 293 P P 09 27 40.2 +1.6
KSH pP pP 09 27 42.8 0.0
KSH S **Sn 09 30 53.6 +6.2**
KSH pmax pmax
comp=E,26nm,0.9s
KSH pmax pmax
comp=E,290nm,10.0s
KSH LR LR
comp=E,6μm,14.6s
KSH LR LR
comp=E,4μm,12.5s
KSH LR LR
comp=E,7μm,14.4s
ARXS Arharly 17.34 309 eP Pn 09 27 37.9 -1.8
TDK Taldyqorghan 17.37 312 eP Pn 09 27 39.2 -0.7
comp=Z,57nm,0.9s,baz=312
TDK Taldyqorghan 17.37 312 eP Pn 09 27 39.1 -0.7
TDK pmax pmax
comp=E,57nm,0.9s
MDOK Medeo 17.41 305 eP Pn 09 27 39.8 -0.7
baz=305
MDOK Medeo 17.41 305 eP Pn 09 27 39.8 -0.7
TNSS Tian-Shan 17.42 305 eP Pn 09 27 40.0 -1.0
baz=305
TNSS Tian-Shan 17.42 305 eP Pn 09 27 40.0 -1.0
MOY Mondy 17.45 9 eP Pn 09 27 42.1 +1.2
MOY pmax pmax
comp=E,88nm,2.5s
AAA Alma-Ata 17.51 305 eP Pn 09 27 41.4 -0.3
comp=E,64nm,0.9s,baz=305
AAA Alma-Ata 17.51 305 eP Pn 09 27 41.4 -0.3
AAA pmax pmax
comp=E,64nm,0.9s
CHKK Chushkaly 17.73 308 eP Pn 09 27 44.6 +0.2
baz=308
CHKK Chushkaly 17.73 308 eP Pn 09 27 44.5 +0.2
IRK Irkutsk 18.58 15 eP Pn 09 27 55.8 +1.1
IRK pmax pmax
comp=E,123nm,2.3s
NJ2 Nanjing 18.85 91 ⇓P Pn 09 27 59.9 +1.8
NJ2 pP **pP 09 28 01.9 +0.1**
NJ2 S **S 09 31 34.2 +2.2**
NJ2 pmax pmax
comp=E,13nm,0.7s
NJ2 pmax pmax
comp=E,350nm,5.2s
NJ2 LR LR
comp=E,10μm,14.2s
NJ2 LR LR
comp=E,4μm,10.9s
NJ2 LR LR
comp=E,6μm,13.3s
AAK Ala-Archa 18.98 302 P P 09 28 00.8 +1.7
comp=Z,0.5nm,0.3s,baz=93,slow=14,SNR=5.9
AAK S **S 09 31 36.6 +1.9**
comp=Z,1.7nm,0.6s,baz=199,slow=14,SNR=1.6
AAK Lg Lg 09 33 43.4
comp=Z,0.3nm,0.3s,baz=292,slow=17,SNR=1.5
AAK LR LR 09 36 39.7
comp=Z,4μm,21.0s,baz=83,slow=41
comp=Z,10nm,0.7s
AAK Ala-Archa 18.98 302 *i* **P P 09 28 00.4 +1.3**
AAK pmax pmax
comp=Z,10.0nm,0.7s
QIZ Qiongzhong 19.46 139 P P 09 28 05.8 +1.4
QIZ S **Sn 09 31 45.0 +0.9**
QIZ pmax pmax
comp=E,21nm,1.5s
QIZ pmax pmax
comp=E,590nm,6.1s
QIZ LR LR
comp=E,6μm,15.2s
QIZ LR LR
comp=E,9μm,15.5s
QIZ LR LR
comp=E,8μm,8.6s
HKPS Hong Kong Po S 19.71 124 P Pn 09 28 10.0 +1.5
HKPS Hong Kong Po S 19.71 124 P P 09 28 09.0 +2.0
HKPS IAmb IAmb 09 28 12.0
comp=Z,96nm,1.1s
SEM Semipalatinsk 19.82 328 *e***P P 09 28 08.1 -0.3**
comp=Z,36nm,0.6s,baz=328
SEM Semipalatinsk 19.82 328 *e***P P 09 28 08.0 -0.3**
SEM pmax pmax
comp=E,37nm,0.6s
BHPL Bhopal 20.09 241 *e***P P 09 28 12.0 +0.7**
BTLS Baital 20.14 308 *e***P P 09 28 11.5 -0.1**
baz=308
BTLS *e*S **S 09 31 57.1 -0.5**
baz=308
BTLS Baital 20.14 308 *e***P P 09 28 11.4 -0.1**
BTLS *e*S **S 09 31 57.1 -0.5**
SRDT SRDT 20.22 173 P P 09 28 13.6 +0.9
DRK Karamyk 20.31 291 P P 09 28 14.9 +1.1
DRK IAmb IAmb 09 28 17.0
comp=E,52nm,0.8s
DRK Karamyk 20.31 291 P P 09 28 14.9 +1.1
DRK pmax pmax
comp=E,53nm,0.8s
DL2 Dalian 20.60 70 P P 09 28 18.3 +1.7
DL2 S **S 09 32 08.0 +1.2**
DL2 pmax pmax
comp=E,37nm,1.0s
DL2 pmax pmax
comp=E,320nm,8.9s
DL2 LR LR
comp=E,4μm,13.9s
DL2 LR LR
comp=E,7μm,12.1s
DL2 LR LR
comp=E,9μm,11.9s
KURBB Kurchatov Arra 20.74 326 P P 09 28 18.0 -0.1
comp=E,66nm,0.7s,baz=132,slow=11,SNR=236
KURBB S **S 09 32 10.8 +1.2**
comp=Z,1.1nm,0.2s,baz=256,slow=30,SNR=5.2
KURBB Lg Lg 09 34 37.0
comp=Z,0.2nm,0.3s,baz=36,slow=47,SNR=2.0
KURBB LR LR 09 37 20.4
comp=E,7μm,20.8s,baz=141,slow=40
comp=Z,66nm,0.7s
KURK Kurchatov 20.77 327 P P 09 28 18.0 -0.3
KURK IAmb IAmb 09 28 19.8
comp=E,80nm,0.9s
KURK Kurchatov 20.77 327ceP P 09 28 18.5 +0.1
KURK pmax pmax
comp=E,165nm,1.7s
UBPT Khong Chiam 20.80 155 P P 09 28 18.8 -0.1
UBPT Khong Chiam 20.80 155 P P 09 28 18.6 -0.3
UBPT IAmb IAmb 09 28 20.1
comp=E,77nm,0.9s
SSE Sheshan 21.02 92 P P 09 28 21.3 +0.1
SSE S **S 09 32 15.4 +0.1**
SSE pmax pmax
comp=E,24nm,0.9s
SSE pmax pmax
comp=E,89nm,4.1s
SSE LR LR
comp=E,2μm,11.5s
SSE LR LR
comp=E,4μm,11.1s
ZAA0 Zalesovo Array 21.09 341 P P 09 28 21.2 -0.7
ZAA0 IAmb IAmb 09 28 26.6
comp=E,64nm,0.9s
ZALV Zalesovo Beam 21.09 341 P P 09 28 21.3 -0.6
comp=E,51nm,0.8s,baz=153,slow=10,SNR=50
ZALV S **S 09 32 17.9 +1.4**
comp=E,0.6nm,0.5s,baz=270,slow=40,SNR=1.6
ZALV LR LR 09 37 02.4
comp=Z,1μm,18.4s,baz=162,slow=38
comp=Z,51nm,0.8s
ZALV Zalesovo Beam 21.09 341 *i* **P P 09 28 22.7 +0.8**
ZALV pmax pmax
comp=E,51nm,0.8s
DZA Taraz 21.28 301 *e***P P 09 28 23.7 -0.4**
baz=300
DZA Taraz 21.28 301 *e***P P 09 28 23.7 -0.4**
QZH Quanzhou 21.39 111⇑iP P 09 28 26.5 +1.2
QZH S **S 09 32 21.4 -1.4**
QZH pmax pmax
comp=E,430nm,7.9s
QZH LR LR
comp=E,12μm,13.4s
QZH LR LR
comp=E,7μm,12.4s
QZH LR LR
comp=E,11μm,12.0s
KNMB Chin-men Tao 21.49 112 P P 09 28 26.2 -0.2
KNMB IAmb IAmb 09 28 29.5
comp=E,94nm,1.1s
IUG luzhnay 22.05 298 eP P 09 28 32.3 -0.1
comp=Z,23nm,0.9s,baz=298
IUG luzhnay 22.05 298 eP P 09 28 32.3 -0.1
IUG pmax pmax
comp=E,23nm,0.9s
CHGR Chuyangaron 22.30 289 P P 09 28 35.1 0.0
CHGR Chuyangaron 22.30 289 P P 09 28 35.1 0.0
CHGR pmax pmax
comp=E,274nm,1.2s
BRLS Borolday 22.38 300 *e***P P 09 28 35.1 -0.8**
baz=300
BRLS Borolday 22.38 300 eP P 09 28 36.0 +0.1
CHM Chimkent 22.40 298 eP P 09 28 35.8 -0.2
baz=298
CHM Chimkent 22.40 298 eP P 09 28 35.8 -0.2
SIMJ Simiganj 22.42 289 P P 09 28 36.3 -0.1
SIMJ IAmb IAmb 09 28 43.4
comp=E,66nm,1.0s
SNY Shenyang 22.45 63 ⇑P P 09 28 38.0 +1.5
SNY S **S 09 32 43.0 +0.1**
SNY pmax pmax
comp=E,12nm,0.9s
SNY pmax pmax
comp=E,96nm,3.5s
SNY LR LR
comp=E,3μm,14.5s
SNY LR LR
comp=E,3μm,11.1s
SNY LR LR
comp=E,3μm,11.0s
KBL Kabul 22.59 278 P P 09 28 39.3 +0.9
KBL Kabul 22.59 278 P P 09 28 39.3 +0.9
KBL pmax pmax
comp=E,205nm,1.0s
BRZS Berezniki 23.30 319 eP P 09 28 45.1 -0.3
baz=319
BRZS Berezniki 23.30 319 eP P 09 28 45.0 -0.3
HYB Hyderabad 23.39 228 eP P 09 28 46.8 +0.3
HYB *e*S **S 09 33 00.8 +1.1**
HYB IVMs_BB IVMs_BB 09 38 00.2
comp=E,2μm,10.6s
YHNB Yeheng 23.70 108 P P 09 28 53.0 +3.4
YHNB Yeheng 23.70 108 P P 09 28 51.8 +2.2
YHNB IAmb IAmb 09 28 53.2
comp=E,63nm,1.1s
SSLB Suanglung 23.83 110 P P 09 28 53.5 +2.7
SSLB Suanglung 23.83 110 P P 09 28 51.2 +0.4
TPUB Ta-pu 23.84 112 P P 09 28 53.3 +2.4
NACB Ninganchiao 24.13 109 P P 09 28 56.2 +2.6
CN2 Changchun 24.19 59 eP P 09 28 55.8 +1.8
CN2 *e*S **S 09 33 08.5 -3.5**
CN2 pmax pmax
comp=E,20nm,1.1s
CN2 pmax pmax
comp=E,100nm,4.5s
CN2 LR LR
comp=E,4μm,12.0s
CN2 LR LR
comp=E,4μm,12.0s
CN2 LR LR
comp=E,4μm,14.0s
YULB Yu-li 24.31 111 P P 09 28 57.7 +2.5
YULB Yu-li 24.31 111 P P 09 28 55.5 +0.3
YULB IAmb IAmb 09 28 59.0
comp=E,71nm,1.3s
TWGBT Beinan 24.45 112 P P 09 28 59.5 +2.9
INCN Inchon 24.51 74 P P 09 28 57.7 +0.7
INCN Inchon 24.51 74 P P 09 28 57.2 +0.1
INCN Inchon 24.51 74 P P 09 28 57.2 +0.1
INCN pmax pmax
comp=E,76nm,1.0s
DLV T Lat 24.99 151 P P 09 29 03.3 +1.7
TJN Taejon 25.17 77 P P 09 29 07.0 +4.1
TJN Taejon 25.17 77ceP P 09 29 03.6 +0.7
KS19 Wonju Array Si 25.49 74 P P 09 29 06.6 +0.7
KS19 IAmb IAmb 09 29 11.3
comp=E,33nm,1.1s
KSAR Wonju Array Be 25.51 74 P P 09 29 07.1 +1.1

KSAR **Wonju Array Be** 25.51 74 P **P** 09 29 07.1 +1.1
KSRS **Korea Array** 25.54 74 P **P** 09 29 05.7 -0.6
comp=Z,18nm,0.8s,baz=270,slow=9.3,SNR=35
KSRS LR LR 09 38 28.2
comp=Z,811nm,19.0s,baz=280,slow=35
comp=Z,18nm,0.8s
SRIT Nakonsritamara 25.96 173 P **P** 09 29 11.2 +1.0
SRIT Nakonsritamara 25.96 173 P **P** 09 29 11.4 +1.2
BNX BinXian 26.00 55 ⇑P **P** 09 29 15.2 +0.4
BNX pP **pP** 09 29 16.5 -0.2
BNX sP **sP** 09 29 49.2 +1.2
BNX PP **PnPn** 09 33 41.9 +0.9
BNX S **S** 09 33 47.3 +1.7
BNX sS **pS** 09 33 47.3 +1.7
BNX pmax pmax
comp=Z,18nm,1.4s
BNX pmax pmax
comp=Z,110nm,4.3s
BNX LR LR
comp=Z,11μm,15.2s
BNX LR LR
comp=Z,4μm,14.1s
BNX LR LR
comp=Z,5μm,9.8s
BVAR Borovoye Array 26.18 323 P **P** 09 29 12.4 +0.5
comp=Z,14nm,0.9s,baz=122,slow=11,SNR=23
BVAR S **S** 09 33 50.4 +6.8
comp=Z,0.4nm,0.4s,baz=168,slow=41,SNR=1.4
BVAR LR LR 09 40 52.0
comp=Z,4μm,18.4s,baz=121,slow=40
comp=Z,14nm,0.9s
BRVK Borovoye 26.25 323 P **P** 09 29 13.2 +0.6
BRVK Borovoye 26.25 323 *ce*P **P** 09 29 13.4 +0.9
BRVK pmax pmax
comp=Z,16nm,0.8s
MDJ Mudanjiang 27.27 58 P **P** 09 29 19.6 -2.2
MDJ sP pP 09 29 27.2 +0.9
MDJ S **S** 09 33 59.4 -1.6
MDJ sS pS 09 34 06.5 +0.7
MDJ pmax pmax
comp=Z,12nm,1.3s
MDJ pmax pmax
comp=Z,110nm,4.1s
MDJ LR LR
comp=Z,3μm,8.7s
MDJ LR LR
comp=Z,2μm,9.8s
MDJ LR LR
comp=Z,3μm,10.5s
HEH HeiHe 27.47 46 *e*P **P** 09 29 25.0 +1.4
HEH pmax pmax
comp=Z,7.0nm,1.1s
HEH pmax pmax
comp=Z,79nm,5.8s
HEH LR LR
comp=Z,3μm,15.0s
HEH LR LR
comp=Z,2μm,13.7s
HEH LR LR
comp=Z,3μm,12.0s
HRA Herat 28.17 280 P **P** 09 29 31.0 +0.8
HRA IAmb IAmb 09 29 36.1
comp=Z,43nm,1.6s
JOW Kunigami 28.30 97 LR LR 09 41 27.3
comp=Z,2μm,19.8s,baz=310,slow=38
JNU Nakatsue 28.52 83 LR LR 09 40 12.1
comp=Z,1μm,21.3s,baz=291,slow=35
USRK Ussuriysk Ar. 28.90 60 LR LR 09 42 32.7
comp=Z,797nm,19.6s,baz=261,slow=40
KULM Kulim 29.34 172 P **P** 09 29 39.4 -1.1
KULM IAmb IAmb 09 29 41.8
comp=Z,66nm,1.9s
KLR Kul'dur 29.77 50 LR LR 09 42 28.0
comp=Z,2μm,19.7s,baz=254,slow=38
KLR Kul'dur 29.77 50 *e*P **P** 09 29 43.7 -0.4
KLR pmax pmax
comp=Z,4.0nm,0.9s
TGY Tagaytay City 30.01 127 LR LR 09 42 05.2
comp=Z,1μm,18.3s,baz=358,slow=37
ABKAR Akbulak array 30.60 310 P **P** 09 29 52.5 +1.1
ABKAR Akbulak array 30.60 310 P **P** 09 29 51.9 +0.5
PALK Pallekele 30.78 212 LR LR 09 42 38.9
comp=Z,1μm,21.4s,baz=132,slow=37
GEYT Alibeck 31.00 288 P **P** 09 29 57.0 +1.9
GEYT IAmb IAmb 09 29 58.6
comp=Z,28nm,1.1s
GEYT Alibeck 31.00 288 P **P** 09 29 57.0 +1.9
comp=Z,12nm,0.9s,baz=90,slow=11,SNR=16
GEYT LR LR 09 44 10.7
comp=Z,1μm,18.7s,baz=120,slow=40
comp=Z,12nm,0.9s
GEYT Alibeck 31.00 288 P **P** 09 29 57.0 +1.9
GYA0 ALIBECK ARRAY 31.00 288 P **P** 09 29 56.0 +0.9
GYA0 pmax pmax
comp=Z,27nm,1.1s
GYA0B ALIBECK ARRAY 31.00 288 P **P** 09 29 57.0 +1.8
GYA0B IAmb IAmb 09 29 59.2
comp=Z,27nm,1.1s
SNSI Sinabang, Aceh 31.95 180 P **P** 09 30 01.4 -2.1
comp=Z,139nm,1.0s
AKTO Aktyubinsk 32.11 312 P **P** 09 30 05.5 +0.8
comp=Z,12nm,0.8s,baz=102,slow=7.1,SNR=21
AKTO LR LR 09 44 09.9
comp=Z,2μm,19.9s,baz=88,slow=38
comp=Z,12nm,0.8s
SVE Sverdlovsk 32.95 324 *e*P **P** 09 30 13.4 +1.4
SVE pmax pmax
comp=Z,35nm,0.9s
SVE MLR MLR
comp=Z,4μm,19.0s
GSI Gunungsitoli 33.06 178 P **P** 09 30 13.2 -0.1
GSI Gunungsitoli 33.06 178 P **P** 09 30 12.2 -1.1
GSI Gunungsitoli 33.06 178 P **P** 09 30 11.7 -1.6
comp=Z,56nm,1.2s,comp=Z,3μm
ARU Arti 33.81 322 P **P** 09 30 19.5 0.0
ARU Arti 33.81 322 LR LR 09 45 12.0
comp=Z,3μm,20.8s,baz=104,slow=38
ARU Arti 33.81 322 *c i*P **P** 09 30 20.1 +0.6
ARU 09 31 30.3
ARU 09 32 58.5
ARU S **S** 09 35 45.1 +1.9
ARU SS **SnSn** 09 37 47.4 -0.5
ARU pmax pmax
comp=Z,43nm,0.9s
ARU MLR MLR
comp=Z,3μm,19.0s
MJAR Matsushiro Arr 33.82 74 LR LR 09 43 59.7
comp=Z,564nm,19.9s,baz=272,slow=36
YAK Yakutsk 34.59 27 LR LR 09 45 24.6
comp=Z,3μm,19.2s,baz=222,slow=38
YAK Yakutsk 34.59 27 *e*P **P** 09 30 26.8 +0.7
YAK *e*S **S** 09 35 57.0 +2.0
YAK *e*SS **SnSn** 09 37 59.2 -7.3
YAK pmax pmax
comp=Z,14nm,0.9s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,1.1s
YAK smax smax
comp=E,80nm,3.5s
YAK MLR MLR
comp=Z,3μm,18.0s
YAK MLR MLR
comp=N,1μm,20.0s
YAK MLR MLR
comp=E,2μm,16.0s
SBUM Sibu 35.11 152 P **P** 09 30 31.8 +0.7
KSM Kuching 35.32 156 P **P** 09 30 34.2 +1.3
KSM Kuching 35.32 156 P **P** 09 30 32.6 -0.3
KSM IAmb IAmb 09 30 34.8
comp=Z,19nm,1.1s
SISI Saibi 35.74 176 P **P** 09 30 36.7 +0.2
comp=Z,63nm,1.4s
JHJ Hachijo jima 2 35.79 80 LR LR 09 44 52.8
comp=Z,560nm,19.6s,baz=67,slow=36
ASAJ Asahikawa 36.52 61 LR LR 09 46 39.0
comp=Z,598nm,19.7s,baz=281,slow=38
YSS Yuzh-Sakhalins 36.68 56 *e*P **P** 09 30 42.7 -1.6
YSS *e*S **S** 09 36 23.7 -3.7
YSS *e* 09 39 19.0
YSS pmax pmax
comp=Z,10.0nm,1.1s
YSS MLR MLR
comp=E,3μm,14.0s
YSS MLR MLR
comp=Z,3μm,14.0s
STKI Sintang 37.03 155 P **P** 09 30 46.9 -0.7
PPSI Pulau Pagai 37.23 174 P **P** 09 30 48.6 -0.6
comp=Z,97nm,1.5s
LKRN Lenkeran, Azer 38.19 291 P **P** 09 30 56.2 -1.0
DAV Davao City (W) 38.27 129 LR LR 09 49 04.1
comp=Z,1μm,18.1s,baz=14,slow=40
MAK Makhachkala 38.66 298 *e*P **P** 09 30 58.1 -3.0
MAK *e* 09 32 29.1
MAK *e*S **S** 09 36 53.8 -3.9
MAK pmax pmax
comp=Z,147nm,1.2s
MAK MLR MLR
comp=Z,881nm,14.0s
BELG Belogornoye 38.87 313 LR LR 09 46 25.9
comp=Z,576nm,21.9s,baz=92,slow=35
BELG Belogornoye 38.87 313 *i*P **P** 09 31 03.2 +0.5
BELG pmax pmax
comp=Z,12nm,0.9s
SEKA Sheki 39.06 295 P **P** 09 31 02.8 -1.8
KIRV Kirov 39.19 323 LR LR 09 48 29.7
comp=Z,2μm,21.4s,baz=108,slow=38
KIRV Kirov 39.19 323 *ce*P **P** 09 31 06.3 +1.0
MNGR Mingechevir, A 39.20 294 P **P** 09 31 04.6 -1.0
ZKTA Zakatala 39.44 296 P **P** 09 31 06.5 -1.2
JCJ Chichijima 39.67 88 LR LR 09 47 34.9
comp=Z,548nm,20.5s,baz=271,slow=36
GANJ Ganja 39.79 294 P **P** 09 31 09.4 -1.2
GROC Groznyy 39.89 298 *e*P **P** 09 31 11.3 -0.1
GROC *e* 09 32 43.5
GROC pmax pmax
comp=Z,43nm,1.3s
TOLI2 Tolitoli 40.24 140 P **P** 09 31 18.0 +3.5
NAX Nakhchivan 40.64 292 P **P** 09 31 16.5 -1.3
TIXI Tiksi 40.89 15 P **P** 09 31 18.3 -1.0
TIXI Tiksi 40.89 15 LR LR 09 49 03.4
comp=Z,886nm,19.9s,baz=242,slow=37
TIXI Tiksi 40.89 15 *i*P **P** 09 31 17.8 -1.5
TIXI pmax pmax
comp=Z,13nm,1.1s
GNI Garni 41.05 294 P **P** 09 31 23.1 +1.8
GNI IAmb IAmb 09 31 30.2
comp=Z,33nm,1.1s
GNI Garni 41.05 294 P **P** 09 31 23.9 +2.6
comp=Z,13nm,1.0s,baz=144,slow=4.1,SNR=14
GNI LR LR 09 52 22.0
comp=Z,589nm,18.9s,baz=78,slow=42
comp=Z,13nm,1.0s
GNI Garni 41.05 294 *ce*P **P** 09 31 23.4 +2.1
GNI pmax pmax
comp=Z,35nm,1.3s
GTOI Gorontalo 41.84 138 P **P** 09 31 26.7 -1.0
comp=Z,11nm,1.2s,comp=Z,209nm
KBZ Khabaz 41.94 299 P **P** 09 31 29.5 +1.2
comp=Z,3.0nm,0.8s,baz=106,slow=8.4,SNR=7.0
KBZ LR LR 09 51 11.3
comp=Z,1μm,20.0s,baz=74,slow=39
comp=Z,3.0nm,0.8s
KBZ Khabaz 41.94 299 *ce*P **P** 09 31 28.5 +0.2
KBZ pmax pmax
comp=Z,5.0nm,1.0s
KVAR Kislovodsk Arr 42.06 300 LR LR 09 52 25.4
comp=Z,1μm,18.1s,slow=41
KIV Kislovodsk 42.07 300 P **P** 09 31 30.7 +1.3
KIV Kislovodsk 42.07 300 *e*P **P** 09 31 31.1 +1.6
KIV *e*S **S** 09 37 50.6 +1.8
KIV pmax pmax
comp=Z,11nm,1.1s
KIV MLR MLR
comp=Z,513nm,16.0s
SHA1 Shidzhatmaz 42.12 299 *ce*P **P** 09 31 29.7 -0.3
KARS Kars 42.23 295 P **P** 09 31 32.4 +1.5
KARS Kars 42.23 295 P **P** 09 31 32.4 +1.5
KARS pmax pmax
comp=Z,59nm,0.9s
VRH Novokhopyorsk 42.43 310 *e*P **P** 09 31 29.9 -2.2
VRH pmax pmax
comp=Z,10.0nm,1.0s
LEM Lembang 42.45 164 LR LR 09 50 02.9
comp=Z,1μm,18.3s,baz=346,slow=37
MA2 Magadan 43.03 37 LR LR 09 50 32.0
comp=Z,891nm,19.9s,baz=256,slow=38
BCA Borcka 43.18 296 ⇓P **P** 09 31 39.8 +1.3
TTSI Tana Toraja 43.33 145 P **P** 09 31 39.7 -0.1
comp=Z,11nm,1.3s
GURO Guroymak-BITLI 43.41 292 P **P** 09 31 42.1 +1.6
VORR Voronezh 44.01 311 *e*P **P** 09 31 43.8 -1.1
VORR pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 44.03 310 *e*P **P** 09 31 43.0 -2.1
VSR pmax pmax
comp=Z,10.0nm,1.0s
LPSR Galich'ya Gora 44.18 312 *e*P **P** 09 31 45.2 -1.1
LPSR pmax pmax
comp=Z,30nm,0.8s
SOC Sochi 44.25 299 *e*P **P** 09 31 44.6 -2.4
SOC *e* 09 33 28.7
SOC *i* PPP PPP 09 34 02.5
SOC *e*S **S** 09 38 17.9 -2.7
SOC *e*SS **SS** 09 41 38.0 -0.5
SOC *e*SSS SSS 09 42 18.5
SOC MLR MLR
comp=Z,744nm,19.0s
SEY Seymchan 44.48 33 LR LR 09 51 46.7
comp=Z,2μm,19.7s,baz=258,slow=38
SEY Seymchan 44.48 33 *e*P **P** 09 31 48.3 -0.3
SEY pmax pmax
comp=Z,8.0nm,1.3s
KLMR Klimovskoe 44.59 324 *e*P **P** 09 31 46.8 -2.6
KLMR *e* 09 33 30.3
KLMR pmax pmax
comp=Z,31nm,1.0s
KLMR MLR MLR
comp=Z,3μm,19.0s
MOS Moscow 45.04 317 *e*P **P** 09 31 52.2 -0.8
MOS *e* 09 33 36.8
MOS pmax pmax
comp=Z,48nm,0.7s
MOS pmax pmax
comp=Z,100nm,1.1s
MOS MLR MLR
comp=Z,2μm,14.0s
MOS MLR MLR
comp=E,2μm,15.0s
RAYN Ar Rayn 45.50 270 P **P** 09 31 57.3 +0.1
RAYN Ar Rayn 45.50 270 P **P** 09 31 57.3 +0.1
RAYN pmax pmax
comp=Z,5.0nm,1.1s
OBN Obninsk 45.62 316 P **P** 09 31 57.3 -0.3
OBN Obninsk 45.62 316 LR LR 09 52 26.9
comp=Z,1μm,19.4s,baz=82,slow=38
OBN Obninsk 45.62 316 ⇑*e*P **P** 09 31 57.8 +0.2
OBN 09 33 44.0
OBN PPP PPP 09 34 21.0
OBN *i* S **S** 09 38 42.9 +2.9
OBN *i* SS **ScS** 09 41 57.0 +3.2
OBN pmax pmax
comp=Z,33nm,1.7s
OBN MLR MLR
comp=Z,2μm,16.0s
ARPR Arapgir-MALATY 46.11 293 P **P** 09 32 03.0 +0.9
ARPR IAmb IAmb 09 32 05.2
comp=Z,15nm,0.9s
PETK Petropavlovsk- 46.38 47 P **P** 09 32 04.7 +0.9
comp=Z,6.5nm,1.2s,baz=298,slow=3.1,SNR=4.2
PETK LR LR 09 51 36.7
comp=Z,763nm,18.0s,baz=276,slow=36
comp=Z,6.5nm,1.2s
PET Petropavlovsk 46.96 47 *e*P **P** 09 32 10.7 +2.4
PET *e*S **S** 09 38 58.7 -0.6
PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,700nm,13.0s
GAZ Gaziantep 47.45 291 P **P** 09 32 11.4 -1.0
GAZ IAmb IAmb 09 32 15.0
comp=Z,17nm,0.9s
DIKM Dikmen 47.84 298 ⇓P **P** 09 32 16.2 +0.9
SIM Simferopol' 48.01 302 *e*P **P** 09 32 17.7 +1.1
SIM pmax pmax
comp=Z,16nm,0.9s
BNN Bunyan 48.05 294 P **P** 09 32 17.6 +0.4
GUMO Guam 48.32 103 LR LR 09 51 29.0
comp=Z,912nm,21.4s,baz=305,slow=35
JOF Joensuu 48.69 326 *e*P **P** 09 32 21.4 -0.1
BR131 Keskin Array S 49.49 295 P **P** 09 32 28.4 +0.2
BR131 IAmb IAmb 09 32 29.9
comp=Z,15nm,0.9s
BR131 Keskin Array S 49.49 295 *i*P **P** 09 32 28.5 +0.3
BRTR Keskin Array B 49.49 295 P **P** 09 32 28.2 0.0
BRTR Keskin Array B 49.49 295 P **P** 09 32 28.7 +0.5
comp=Z,10nm,0.9s,baz=98,slow=7.6,SNR=59
BRTR LR LR 09 58 21.8
comp=Z,598nm,18.1s,baz=48,slow=42
comp=Z,10nm,0.9s
BRTR Keskin Array B 49.49 295 P **P** 09 32 28.2 0.0
ANTO Ankara 50.08 296 P **P** 09 32 33.3 +0.7
ANTO Ankara 50.08 296 P **P** 09 32 33.3 +0.7
ANTO pmax pmax
comp=Z,32nm,0.9s
BR231 Keskin MP Arra 50.10 296 P **P** 09 32 33.2 +0.4
MMAI Mount Meron Ar 50.11 287 P **P** 09 32 34.0 +1.0
comp=Z,3.7nm,0.6s,baz=78,slow=12,SNR=7.5
MMAI LR LR 09 59 50.2
comp=Z,521nm,18.6s,baz=20,slow=43
comp=Z,3.7nm,0.6s
AKASG Malin Array Be 50.34 310 P **P** 09 32 34.1 -0.2
comp=Z,4.5nm,0.8s,baz=73,slow=6.5,SNR=16
AKASG LR LR 09 58 06.9
comp=Z,813nm,18.3s,baz=69,slow=41
comp=Z,4.5nm,0.8s
AKBB Malin Array Si 50.34 310 P **P** 09 32 33.4 -0.9
AKBB Malin Array Si 50.34 310 *ce*P **P** 09 32 34.0 -0.3
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 50.35 310 P **P** 09 32 33.7 -0.7
KIEV Kiev 50.35 310 P **P** 09 32 33.7 -0.7
KIEV pmax pmax
comp=Z,13nm,1.2s
VSU Vasula 50.95 321 *ce*P **P** 09 32 39.6 +0.9
VSU pmax pmax
comp=Z,31nm,1.7s
BILL Bilibino 50.95 27 P **P** 09 32 39.2 +0.6
BILL Bilibino 50.95 27 ⇑*e*P **P** 09 32 41.1 +2.5
BILL pmax pmax
comp=Z,22nm,1.7s
MDUB Mudurnu 51.10 297 P **P** 09 32 40.6 +0.2
FINES FINESS Array B 51.12 324 P **P** 09 32 39.9 -0.2
comp=Z,5.4nm,0.8s,baz=110,slow=10,SNR=14
FINES LR LR 09 55 40.1
comp=Z,2μm,19.8s,baz=88,slow=38
comp=Z,5.4nm,0.8s
NACGM Naroch 51.25 316 *e*P **P** 09 32 39.6 -1.5
comp=Z,12nm,0.8s,baz=83
SORM Soroca 51.34 307 ⇑P **P** 09 32 41.5 -0.4
SORM Soroca 51.34 307 P **P** 09 32 41.4 -0.4
BATI Baumata 51.41 145 LR LR 09 55 07.3
comp=Z,793nm,21.9s,baz=303,slow=37
ARCES ARCESS Array B 51.49 335 P **P** 09 32 43.0 +0.3
comp=Z,3.0nm,0.7s,baz=89,slow=7.7,SNR=8.8
ARCES LR LR 09 57 27.9
comp=Z,1μm,19.1s,baz=95,slow=40
comp=Z,3.0nm,0.7s
EIL Elat 51.67 283 LR LR 09 59 02.6
comp=Z,769nm,19.1s,baz=68,slow=41
ISP Isparta 52.36 294 P **P** 09 32 49.4 -0.4
ISP IAmb IAmb 09 32 50.9
comp=Z,25nm,0.9s
ISP Isparta 52.36 294 *ce*P **P** 09 32 50.2 +0.4
ISP pmax pmax
comp=Z,34nm,1.3s
MTSE Matsula 52.45 321 *e*P **P** 09 32 50.3 +0.3
VAF Ylistaro 52.63 327 *e*P **P** 09 32 51.0 -0.2
PABE Paberze 52.77 317 *e*P **P** 09 32 52.3 -0.1
VRI Vrincioaia 52.91 305 ⇑P **P** 09 32 54.2 +0.5
VRI Vrincioaia 52.91 305 P **P** 09 32 54.1 +0.5
PLOR Plostina 52.97 305 ⇑P **P** 09 32 54.8 +0.7
PLOR Plostina 52.97 305 P **P** 09 32 54.7 +0.7
ELL Elmali 53.16 293 P **P** 09 32 55.3 -0.5
ELL Elmali 53.16 293 P **P** 09 32 55.3 -0.5
ELL pmax pmax
comp=Z,85nm,0.8s
TURR Turia 53.34 305 ⇓P **P** 09 32 56.4 -0.5
SUW Suwalki 53.47 315 P **P** 09 32 56.9 -0.6
SUW Suwalki 53.47 315 *e*P **P** 09 32 57.6 +0.1
SUW Suwalki 53.47 315 P **P** 09 32 56.9 -0.6
SUW pmax pmax
comp=Z,28nm,0.9s
BURAR Bucovina Array 53.51 307 ⇑P **P** 09 32 57.5 -0.6
BURAR Bucovina Array 53.51 307 P **P** 09 32 58.4 +0.3
BURAR Bucovina Array 53.51 307 P **P** 09 32 57.5 -0.6
MLR Muntele Rosu 53.53 304 ⇑P **P** 09 32 59.6 +1.2
MLR Muntele Rosu 53.53 304 P **P** 09 32 59.2 +0.8
MLR IAmb IAmb 09 33 07.3
comp=Z,14nm,0.9s
MLR Muntele Rosu 53.53 304 P **P** 09 32 59.2 +0.8
MLR pmax pmax
comp=Z,14nm,0.9s
LVV L'vov 53.78 310 *e*P **P** 09 33 00.5 +0.6
LVV *e*S **S** 09 40 29.9 -4.4
LVV MLR MLR
comp=Z,400nm,16.0s
LVV MLR MLR
comp=N,400nm,15.0s
LVV MLR MLR
comp=Z,600nm,17.0s
DOPR Dopca 53.79 305 ⇓P **P** 09 33 01.1 +1.0
VOIR 54.16 305 ⇑P **P** 09 33 03.8 +0.9
VOIR 54.16 305 P **P** 09 33 03.7 +0.9
SPITS Spitsbergen Ar 54.47 346 LR LR 10 00 39.1
comp=Z,666nm,19.4s,baz=59,slow=41
KWP Kalwaria Pacla 54.66 310 P **P** 09 33 06.7 +0.4
KWP Kalwaria Pacla 54.66 310 P **P** 09 33 06.7 +0.4
KWP pmax pmax
comp=Z,47nm,0.6s
LOT Lotru 55.02 305 ⇑P **P** 09 33 09.6 +0.4
KOLS Kolonicke sedl 55.10 309 *e*P **P** 09 33 10.4 +0.8
KOLS Kolonicke sedl 55.10 309 *e*P **P** 09 33 10.4 +0.8
KOLS pmax pmax
comp=Z,5.0nm,0.8s
MARR Marisel-Cluj 55.13 306 ⇑P **P** 09 33 10.6 +0.6
DRGR 55.37 307 ⇑P **P** 09 33 12.2 +0.5
DRGR 55.37 307 P **P** 09 33 12.1 +0.5
UPP Uppsala 55.43 323 *e*P **P** 09 33 12.1 +0.3
GZR Gura Zlata 55.71 305 ⇑P **P** 09 33 14.7 +0.6
SURR Surduc 56.05 306 ⇓P **P** 09 33 17.1 +0.7
VIKU Vikbolandet 56.16 322 *e*P **P** 09 33 17.1 +0.1
SIRR Siria 56.21 306 ⇑P **P** 09 33 17.9 +0.3
NIE Niedzica 56.23 310 P **P** 09 33 19.5 +1.8
SHEM Shemya Is, Ala 56.25 46 LR LR 09 57 04.8
comp=Z,805nm,21.5s,baz=308,slow=36
BLKB Belogradchik 56.30 303 ⇑P **P** 09 33 18.6 +0.3
OJC Ojcow 56.33 311 P **P** 09 33 18.4 0.0
OJC Ojcow 56.33 311 P **P** 09 33 18.4 0.0
OJC pmax pmax
comp=Z,9.0nm,0.9s
MDVR Moldovita 56.61 305 ⇑P **P** 09 33 20.3 -0.2
BOVS Bovan 56.96 303 ⇑P **P** 09 33 22.8 -0.1
HFS Hagfors 57.30 324 P **P** 09 33 24.8 -0.3
comp=Z,4.0nm,0.8s,baz=88,slow=7.9,SNR=5.3
HFS LR LR 09 59 21.4
comp=Z,2μm,20.0s,baz=74,slow=37
comp=Z,4.0nm,0.8s
VYHS Vyhne 57.41 310 *e*P **P** 09 33 27.0 +0.9
VYHS Vyhne 57.41 310 *e*P **P** 09 33 27.0 +0.9
VYHS pmax pmax
comp=Z,11nm,1.3s
OKC Ostrava-Krasne 57.46 311 AMS AMS 09 59 30.0
comp=Z,1μm,16.1s
IDI Anoyia 57.48 293 LR LR 10 02 30.7
comp=Z,5.4nm,22.0s,baz=82,slow=41
MORC Moravsky Berou 57.85 311 ⇑P **P** 09 33 29.5 +0.2
MORC Moravsky Berou 57.85 311 P **P** 09 33 29.2 0.0
MORC Moravsky Berou 57.85 311 *e*P **P** 09 33 29.7 +0.5
MORC Moravsky Berou 57.85 311 P **P** 09 33 29.4 +0.2
BSD Bornholm Skovb 57.91 318 *i*P **P** 09 33 26.5 -3.0
BSD IAmb IAmb 09 33 30.1
comp=Z,3.0nm,0.7s
JAVC Velka Javorina 58.04 310 *e*P **P** 09 33 31.9 +1.3
AGG Agios Georgios 58.05 298 P **P** 09 33 30.2 -0.5
AGG Agios Georgios 58.05 298 P **P** 09 33 30.2 -0.5
AGG pmax pmax
comp=Z,11nm,1.1s
DEL Delary 58.12 320 *e*P **P** 09 33 30.3 -0.6
MORH Mrgy, Hungar 58.22 307 ⇑P **P** 09 33 31.6 -0.2
KRLC Kraliky 58.24 312 *e*P **P** 09 33 32.7 +0.8
KRLC AMS AMS 10 00 00.0
comp=Z,1μm,15.9s
KRLC Kraliky 58.24 312 *e*P **P** 09 33 32.7 +0.8

KRLC MLR MLR
comp=Z,1μm,15.9s
NB2 NORSAR Subarra 58.27 325 P **P** **09 33 31.2 -0.7**
comp=Z,5.2nm,0.9s,baz=75,slow=7.4
NB2 NORSAR Subarra 58.27 325 P **P** **09 33 31.3 -0.7**
NOA NORSAR Array B 58.27 325 P **P** **09 33 31.6 -0.3**
comp=Z,3.3nm,0.8s,baz=76,slow=7.1,SNR=11
NOA LR LR 10 00 02.1
comp=Z,2μm,20.6s,baz=85,slow=38
comp=Z,3.3nm,0.8s
DPC Dobruska-Polom 58.44 312 *e*P **P** **09 33 34.2 +0.9**
DPC AMS AMS 10 00 00.0
comp=Z,1μm,16.2s
DPC Dobruska-Polom 58.44 312 *e*P **P** **09 33 34.2 +0.9**
DPC MLR MLR
comp=Z,1μm,16.2s
MODS Modra-Piesok 58.44 310 *e*P **P** **09 33 33.9 +0.6**
MODS Modra-Piesok 58.44 310 *e*P **P** **09 33 33.9 +0.6**
MODS pmax pmax
comp=Z,13nm,1.0s
OSTC Ostas 58.44 312 AMS AMS 10 00 00.0
comp=Z,2μm,16.3s
CHVC Chvalec 58.53 313 *e*P **P** **09 33 35.0 +1.1**
CHVC AMS AMS 10 00 10.0
comp=Z,2μm,17.2s
CHVC Chvalec 58.53 313 *e*P **P** **09 33 35.0 +1.1**
CHVC MLR MLR
comp=Z,2μm,17.2s
UPC Upice 58.58 312 *e*P **P** **09 33 35.5 +1.3**
UPC AMS AMS 10 00 10.0
comp=Z,2μm,15.6s
UPC Upice 58.58 312 *e*P **P** **09 33 35.5 +1.3**
UPC MLR MLR
comp=Z,2μm,15.6s
VRAC Vranov 58.58 311 *e*P **P** **09 33 34.7 +0.4**
VRAC Vranov 58.58 311 LR LR 10 00 34.3
comp=Z,1μm,18.4s,baz=74,slow=38
KRUC Moravsky 58.78 311 *e*P **P** **09 33 36.1 +0.4**
PDG Podgorica 59.05 303 ⇑P **P** **09 33 36.9 -0.7**
PDG Podgorica 59.05 303 P **P** **09 33 35.6 -2.0**
PDG IAmb IAmb 09 33 38.6
comp=Z,9.3nm,0.8s
RONA Rosalia, Austr 59.27 309 *i* P **P** **09 33 39.9 +0.7**
comp=Z,7.5nm,1.0s
CONA Conrad Observa 59.48 310 *e*P **P** **09 33 41.3 +0.7**
comp=Z,7.3nm,0.9s
GOPC GO Pecny, Ondr 59.51 312 AMS AMS 10 00 40.0
comp=Z,2μm,15.6s
PRU Pruhonice 59.64 312 AMS AMS 10 00 50.0
comp=Z,2μm,15.8s
PRA Prague 59.68 312 AMS AMS 10 00 50.0
comp=Z,2μm,14.5s
BRG Berggiesshubel 59.72 313 *i* P **P** **09 33 42.8 +0.7**
BRG Amp 09 33 43.6
comp=Z,4.5nm,0.9s
BRG Berggiesshubel 59.72 313 P **P** **09 33 45.7 +3.6**
BRG Amp 09 33 48.8
comp=Z,2.5nm,0.7s
BRG Amp 10 01 03.0
comp=Z,1.8nm,15.1s
BRG Amp 10 01 07.0
comp=E,1.4nm,14.6s
BRG Amp 10 01 14.0
comp=N,0.6nm,14.2s
BRG Berggiesshubel 59.72 313 *i* P **P** **09 33 42.8 +0.7**
BRG 09 33 45.6
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG MLR MLR
comp=Z,2μm,15.1s
BRG MLR MLR
comp=E,1μm,14.6s
BRG MLR MLR
comp=N,648nm,14.2s
RICC Richard 59.73 313 AMS AMS 10 00 50.0
comp=N,2μm,15.1s
ARSA Arzberg 59.92 309 *e*P **P** **09 33 43.9 +0.3**
comp=N,2.7nm,0.9s
HSKC Hora Svate Kat 60.11 313 AMS AMS 10 01 00.0
comp=N,2μm,15.6s
CLL Collm 60.14 314 P **P** **09 33 44.6 -0.3**
CLL Collm 60.14 314 *i* P **P** **09 33 44.7 -0.3**
comp=Z,7.0nm,1.1s
CLL *e*S **S** **09 41 54.0 -4.2**
CLL *ex* x 09 42 54.0
CLL *ex* x 09 44 00.0
CLL *e*SS SS 09 46 06.0 +11
CLL AMS AMS 10 01 00.0
comp=N,600nm,18.2s
CLL AMS AMS 10 01 00.0
comp=E,600nm,20.3s
CLL Collm 60.14 314 *i* P **P** **09 33 44.7 -0.3**
CLL pmax pmax
comp=Z,7.0nm,1.1s
CKRC Cesky Krumlov 60.16 311 *e*P **P** **09 33 46.4 +1.2**
CKRC AMS AMS 09 33 50.0
CKRC AMS AMS 10 04 30.0
comp=Z,900nm,15.0s
CKRC Cesky Krumlov 60.16 311 *e*P **P** **09 33 46.4 +1.2**
CKRC MLR MLR
comp=Z,900nm,15.0s
SOKA Soboth 60.43 308 *i* P **P** **09 33 47.2 0.0**
comp=Z,4.8nm,0.8s
KHC Kasperske Hory 60.51 312 *e*P **P** **09 33 48.5 +0.9**
KHC AMS AMS 10 01 50.0
comp=Z,1μm,13.5s
KHC Kasperske Hory 60.51 312 *e*P **P** **09 33 48.5 +0.9**
KHC MLR MLR
comp=Z,1μm,13.5s
MOA Molln 60.52 310 *i* P **P** **09 33 47.4 -0.3**
comp=Z,4.7nm,1.1s
GEC2 GERESS Array S 60.53 311 P **P** **09 33 47.8 0.0**
GERES GERESS Array B 60.53 311 P **P** **09 33 47.4 -0.5**
GERES GERESS Array B 60.53 311 P **P** **09 33 48.1 +0.3**
comp=Z,2.4nm,0.8s,baz=77,slow=6.0,SNR=8.3
GERES LR LR 10 01 43.4
comp=Z,1μm,18.8s,baz=74,slow=38
comp=Z,2.4nm,0.8s
OBKA Obir 60.80 308 *i* P **P** **09 33 50.2 +0.5**
comp=Z,9.4nm,1.2s
NKC Novy Kostel 60.83 313 AMS AMS 10 01 30.0
comp=Z,2μm,14.0s
C16K Lisburne Hills 61.32 25 P **P** **09 33 52.5 -0.2**
baz=291
TNA Tin City 61.34 28 P **P** **09 33 52.3 -0.6**
baz=291
KBA Koelnbreinsper 61.37 309 *e*P **P** **09 33 53.9 +0.2**
comp=Z,1.5nm,0.5s
MATE Matera 61.48 302 ⇓P **P** **09 33 54.1 -0.2**
LESA Schwarzleotal 61.67 310 *i* P **P** **09 33 56.1 +0.5**
comp=Z,14nm,0.6s
A19K Wainwright 61.98 22 P **P** **09 33 55.7 -1.4**
baz=294
C17K DeLong Mountai 61.99 24 P **P** **09 33 56.8 -0.5**
baz=293
F14K Arctic Creek 61.99 28 P **P** **09 33 57.0 -0.3**
baz=292
TIP Timpagrande 62.01 300 ⇑P **P** **09 33 58.0 0.0**
ABTA Abfaltersbach 62.02 309 *i* P **P** **09 33 56.5 -1.4**
comp=Z,3.4nm,0.7s
DAG Danmarks Havn 62.09 346 *i* P **P** **09 33 56.0 -1.8**
DAG IAmb IAmb 09 33 58.1
comp=Z,2.4nm,0.7s
B18K Kokolik River 62.09 23 P **P** **09 33 58.2 +0.2**
baz=294
RDOG Red Dog Mine 62.25 25 P **P** **09 33 58.1 -1.0**
baz=294
D17K Noatak River 62.33 25 P **P** **09 33 59.6 +0.1**
baz=294
CUC Castrocucco 62.36 301 P **P** **09 33 59.4 -0.9**
CUC IAmb IAmb 09 34 02.0
comp=Z,13nm,1.0s
WTTA Wattenberg 62.39 310 *i* P **P** **09 34 00.8 +0.2**
comp=Z,8.1nm,1.0s
WATA Walderalm 62.40 310 *i* P **P** **09 34 00.9 +0.3**
comp=Z,4.7nm,0.7s
JMIC Jan Mayen 62.42 339 LR LR 10 05 04.9
comp=Z,193nm,19.6s,baz=117,slow=40
F15K North Star Dit 62.55 27 P **P** **09 34 01.1 0.0**
baz=293
C18K Utukok River 62.59 24 P **P** **09 34 01.0 -0.4**
baz=295
SQTA Sankt Quirin 62.68 310 *i* P **P** **09 34 02.6 +0.2**
comp=Z,5.3nm,0.7s
MOTA Moosalm 62.70 310 *i* P **P** **09 34 02.6 0.0**
comp=Z,11nm,1.1s
ANM Nome 62.72 29 P **P** **09 34 02.6 +0.3**
baz=293
A21K Barrow 62.82 20 P **P** **09 34 03.6 +0.8**
baz=297
RETA Reutte 62.86 311 *i* P **P** **09 34 03.9 +0.4**
comp=Z,3.5nm,1.0s
C19K Lookout Ridge 62.92 23 P **P** **09 34 04.1 +0.6**
C19K Lookout Ridge 62.92 23 P **P** **09 34 03.0 -0.5**
baz=296
CEL Celeste 63.00 299 P **P** **09 34 04.4 -0.2**
E17K Hotham Inlet 63.03 25 P **P** **09 34 03.8 -0.5**
baz=295
FETA Feichten 63.05 310 *i* P **P** **09 34 02.5 -2.5**
comp=Z,6.8nm,0.9s
G15K Niukluk 63.07 28 P **P** **09 34 05.2 +0.7**
baz=294
NRCA Norcia 63.12 305 P **P** **09 34 04.0 -1.3**
B20K Meade River 63.27 22 P **P** **09 34 05.7 0.0**
B20K IAmb IAmb 09 34 09.0
comp=Z,15nm,1.0s
B20K Meade River 63.27 22 P **P** **09 34 06.2 +0.4**
baz=298
E18K Tukpahlearik C 63.31 25 P **P** **09 34 05.3 -0.8**
baz=296
SPIA Saint Paul Isl 63.41 37 P **P** **09 34 06.4 -0.5**
baz=293
A22K Sinclair Lake 63.45 20 P **P** **09 34 06.8 -0.1**
baz=299
DAVA Damuels 63.49 311 *i* P **P** **09 34 05.5 -2.3**
comp=Z,3.4nm,1.0s
FUORN Ofenpass-Fuorn 63.51 310 P **P** **09 34 07.3 -0.7**
F17K Baldwin Pennin 63.51 26 P **P** **09 34 07.7 +0.4**
F17K IAmb IAmb 09 34 10.6
comp=Z,14nm,1.0s
F17K Baldwin Pennin 63.51 26 P **P** **09 34 07.3 -0.1**
baz=296
G16K Koyuk River 63.55 27 P **P** **09 34 07.1 -0.6**
baz=295
D19K Kuna River 63.67 23 P **P** **09 34 08.8 +0.3**
D19K IAmb IAmb 09 34 13.1
comp=Z,8.3nm,0.8s
D19K Kuna River 63.67 23 P **P** **09 34 07.3 -1.2**
baz=297
DAVOX Davos/Dischmat 63.69 310 LR LR 10 05 56.7
comp=Z,962nm,18.7s,baz=73,slow=40
H16K Elim 63.92 28 P **P** **09 34 08.7 -1.5**
baz=296
P08K Saint George I 63.99 38 P **P** **09 34 08.9 -1.9**
baz=294
F18K Selawik 64.01 26 P **P** **09 34 10.4 -0.3**
baz=297
BFO Black Forest 64.04 312 P **P** **09 34 11.1 -0.2**
BFO Black Forest 64.04 312 P **P** **09 34 11.1 -0.2**
BFO pmax pmax
comp=Z,6.0nm,0.9s
D20K Etivluk River 64.05 23 P **P** **09 34 11.4 +0.3**
baz=298,SNR=13
M11K Meryuk 64.06 33 P **P** **09 34 10.9 -0.2**
baz=294
K13K Kusilvak Mount 64.09 31 P **P** **09 34 10.1 -1.2**
baz=295
G17K Kiwalik Mounta 64.14 27 P **P** **09 34 11.3 -0.3**
baz=297
TUE Stuetta 64.14 310 P **P** **09 34 11.6 -0.7**
J14K Nanvaranak Lak 64.21 30 P **P** **09 34 11.9 -0.1**
baz=295
B22K Teshekpuk Lake 64.22 21 P **P** **09 34 11.8 -0.2**
B22K Teshekpuk Lake 64.22 21 P **P** **09 34 11.0 -1.1**
baz=301,SNR=8.6
B21K Ikpikpuk River 64.23 22 P **P** **09 34 12.2 +0.1**
B21K IAmb IAmb 09 34 15.4
comp=Z,13nm,1.1s
B21K Ikpikpuk River 64.23 22 P **P** **09 34 10.5 -1.6**
baz=300
VAE Valguarnera 64.39 299 LR LR 10 07 01.7
comp=Z,311nm,21.5s,baz=104,slow=40
E20K Nigu River 64.41 23 P **P** **09 34 11.7 -1.7**
baz=299,SNR=9.4
C21K Knifeblade Rid 64.41 22 P **P** **09 34 12.2 -1.2**
baz=300
E19K Redstone River 64.45 24 P **P** **09 34 13.3 -0.4**
E19K IAmb IAmb 09 34 17.0
comp=Z,13nm,1.3s
E19K Redstone River 64.45 24 P **P** **09 34 12.3 -1.3**
baz=299
MEM Membach 64.51 315 *d*P **P** **09 34 14.7 +0.4**
F19K Shaleruckik Mo 64.56 25 P **P** **09 34 14.1 -0.2**
F19K IAmb IAmb 09 34 16.8
comp=Z,9.3nm,1.1s
F19K Shaleruckik Mo 64.56 25 P **P** **09 34 13.0 -1.3**
baz=298
CDF Champ du Feu 64.65 313 *e*P **P** **09 34 14.7 -0.6**
CDF pmax pmax
comp=Z,5.0nm,1.0s
H17K Granite Mounta 64.68 27 P **P** **09 34 13.8 -1.4**
baz=297
G18K Tagagawik 64.70 26 P **P** **09 34 14.1 -1.2**
baz=298
ECH Echery 64.80 312 P **P** **09 34 15.6 -0.7**
ECH Echery 64.80 312 P **P** **09 34 15.6 -0.7**
ECH pmax pmax
comp=Z,5.0nm,1.2s
WLF Walferdange 64.81 314 P **P** **09 34 16.1 -0.1**
WLF IAmb IAmb 09 34 18.3
comp=Z,16nm,1.0s
WLF Walferdange 64.81 314 *d*P **P** **09 34 17.0 +0.7**
comp=Z,11nm,1.0s
WLF Walferdange 64.81 314 P **P** **09 34 16.1 -0.1**
WLF pmax pmax
comp=Z,16nm,1.0s
I17K Unalakleet 64.86 28 P **P** **09 34 15.1 -1.2**
baz=297
PMG Port Moresby 64.86 123 LR LR 10 03 09.3
comp=Z,181nm,19.7s,baz=274,slow=37
BCLA Clavier 65.00 315 *d*P **P** **09 34 16.9 -0.6**
WRAB Tennant Creek 65.03 140 P **P** **09 34 18.3 +0.3**
WRAB Tennant Creek 65.03 140 P **P** **09 34 18.3 +0.3**
WRAB pmax pmax
comp=Z,23nm,1.3s
WRA Warramunga Arr 65.03 140 P **P** **09 34 17.2 -0.7**
comp=Z,8.7nm,1.0s,baz=333,slow=7.2,SNR=24
comp=Z,8.7nm,1.0s
E21K Killik River 65.03 23 P **P** **09 34 17.1 -0.3**
E21K IAmb IAmb 09 34 20.2
comp=Z,11nm,1.0s
E21K Killik River 65.03 23 P **P** **09 34 14.7 -2.7**
baz=301
G19K Purcell Mounta 65.14 25 P **P** **09 34 18.0 -0.2**
G19K IAmb IAmb 09 34 20.8
comp=Z,14nm,1.2s
G19K Purcell Mounta 65.14 25 P P 09 34 14.4 -3.7
baz=299
HINF Hinteralfeld 65.15 312 *e*P **P** **09 34 17.8 -0.8**
HINF pmax pmax
comp=Z,2.0nm,0.7s
RCHB Rochefort 65.15 315 *d*P **P** **09 34 18.6 +0.1**
H18K Honhosa River 65.16 27 P **P** **09 34 17.1 -1.2**
baz=299
F20K Avaraart Lake 65.16 24 P **P** **09 34 17.4 -0.9**
F20K Avaraart Lake 65.16 24 P P 09 34 14.5 -3.7
baz=300
J16K Anvik River 65.17 29 P **P** **09 34 19.2 +0.8**
J16K IAmb IAmb 09 34 21.4
comp=Z,16nm,1.1s
J16K Anvik River 65.17 29 P P 09 34 13.9 -4.4
baz=298
L14K Kuka Creek 65.20 31 P P 09 34 14.1 -4.4
baz=297
D22K Ayikyak River 65.21 22 P **P** **09 34 19.2 +0.6**
D22K IAmb IAmb 09 34 21.7
comp=Z,11nm,1.1s
D22K Ayikyak River 65.21 22 P P 09 34 14.8 -3.7
baz=302,SNR=9.5
K15K Wolf Creek Mou 65.25 30 P **P** **09 34 18.6 -0.3**
K15K Wolf Creek Mou 65.25 30 P **P** **09 34 15.8 -3.1**
baz=297
C23K Itkillik River 65.31 21 P **P** **09 34 19.3 +0.1**
C23K Itkillik River 65.31 21 P **P** **09 34 17.2 -2.0**
baz=303,SNR=16
M13K Dall Lake 65.32 33 P **P** **09 34 16.0 -3.4**
baz=297
BMRD Maredsous 65.36 315 *d*P P 09 34 16.3 -3.5
BMRD *d*PcP **PcP** **09 34 48.9 -3.0**
HAU Haudompre 65.38 312 *e*P **P** **09 34 19.3 -0.7**
HAU pmax pmax
comp=Z,2.0nm,0.6s
GIVF Givet 65.41 315 *e*P **P** **09 34 19.9 -0.3**
GIVF pmax pmax
comp=Z,5.0nm,0.8s
SENIN Lac Senin/Sane 65.48 310 P **P** **09 34 20.1 -0.9**
DOU Dourbes 65.55 315 *d*P **P** **09 34 21.5 +0.4**
L15K Ungalak Mounta 65.56 31 P P 09 34 17.1 -3.8
baz=298
H19K Roundabout Mou 65.67 26 P **P** **09 34 21.2 -0.3**
H19K Roundabout Mou 65.67 26 P **P** **09 34 19.6 -2.0**
baz=300,SNR=8.1
J17K VABM Dome 65.73 29 P **P** **09 34 21.8 -0.2**
J17K VABM Dome 65.73 29 P **P** **09 34 19.2 -2.7**
baz=299
D23K Nanushuk River 65.77 21 P **P** **09 34 20.8 -1.3**
baz=303
M14K Bethel 65.78 32 P **P** **09 34 19.3 -3.0**
baz=298
BAIF Baives 65.79 315 *e*P **P** **09 34 22.4 -0.2**
BAIF pmax pmax
comp=Z,3.0nm,0.9s
F21K Alatna River 65.83 24 P **P** **09 34 22.4 -0.2**
F21K IAmb IAmb 09 34 26.2
comp=Z,26nm,1.6s
F21K Alatna River 65.83 24 P **P** **09 34 21.9 -0.7**
baz=302,SNR=7.4
NIKH Nikolski High 65.87 41 P **P** **09 34 22.0 -1.1**
baz=296
E22K Anaktuvuk Pass 65.88 22 P **P** **09 34 23.4 +0.5**
E22K IAmb IAmb 09 34 25.7
comp=Z,10nm,1.2s
E22K Anaktuvuk Pass 65.88 22 P **P** **09 34 20.5 -2.4**
baz=303
MORW Morawa 65.89 161 P **P** **09 34 22.9 -0.5**
GCSA Galena City Sc 65.91 27 P **P** **09 34 22.1 -1.0**
baz=300
C24K Franklin Bluff 65.92 20 P **P** **09 34 20.1 -3.0**
baz=305
PGF Pioggiola 66.00 306 *e*P **P** **09 34 23.9 -0.3**
PGF pmax pmax
comp=Z,16nm,1.1s
F22K John River 66.10 23 P **P** **09 34 20.9 -3.4**
baz=303
G21K Allakaket 66.19 24 P **P** **09 34 24.9 0.0**
G21K Allakaket 66.19 24 P **P** **09 34 21.5 -3.4**
baz=302
LPG La Plagne 66.19 310 *e*P **P** **09 34 25.6 -0.1**
LPG pmax pmax
comp=Z,10.0nm,0.8s
LPL La Plagne 66.20 310 *e*P **P** **09 34 25.6 0.0**
LPL pmax pmax
comp=Z,9.0nm,0.8s
D24K Happy Valley 66.22 21 P **P** **09 34 24.3 -0.8**
D24K IAmb IAmb 09 34 27.8
comp=Z,12nm,1.4s
D24K Happy Valley 66.22 21 P **P** **09 34 22.3 -2.7**
baz=305
H20K Anotleneega Mo 66.25 26 P **P** **09 34 24.6 -0.7**
baz=301
TOLK Toolik Lake Re 66.29 21 P **P** **09 34 25.6 0.0**
TOLK IAmb IAmb 09 34 28.4
comp=Z,14nm,1.0s
TOLK Toolik Lake Re 66.29 21 P **P** **09 34 22.1 -3.5**
baz=304,SNR=13
N14K Kuskokwak Cree 66.29 33 P **P** **09 34 22.9 -2.7**
baz=298
M15K Kasigluk River 66.36 32 P **P** **09 34 23.0 -3.1**
baz=298
K17K Iditarod 66.37 29 P **P** **09 34 24.6 -1.5**
K17K IAmb IAmb 09 34 30.8
comp=Z,16nm,1.0s
K17K Iditarod 66.37 29 P P 09 34 21.6 -4.5
baz=300
L16K Owhat River 66.38 30 P P 09 34 22.1 -4.1
baz=299
IMAR Indian Mountai 66.39 25 P **P** **09 34 26.3 +0.1**
SBF Sospel 66.46 308 *e*P **P** **09 34 26.6 -0.5**
SBF pmax pmax
comp=Z,10.0nm,0.8s
NEEM North Greenlan 66.55 353 *i* P **P** **09 34 26.3 -1.1**
NEEM IAmb IAmb 09 34 29.0
comp=Z,13nm,0.8s
E23K Chandalar 66.60 22 P **P** **09 34 26.0 -1.6**
baz=305
J18K Innoko River 66.62 28 P **P** **09 34 27.8 +0.1**
J18K Innoko River 66.62 28 P **P** **09 34 25.6 -2.1**
baz=301
L17K Donlin 66.66 30 P P 09 34 24.2 -3.8
baz=300
UNV Unalaska Valle 66.75 40 P P 09 34 24.2 -4.5
baz=297
J19K Poorman 66.76 27 P **P** **09 34 28.6 0.0**
J19K IAmb IAmb 09 34 32.6
comp=Z,21nm,1.3s
J19K Poorman 66.76 27 P **P** **09 34 25.9 -2.7**
baz=301,SNR=6.9
I20K Naaghedeneel 66.77 26 P P 09 34 23.1 -5.4
baz=302
O14K Tigyukauivet M 66.80 33 P P 09 34 24.1 -4.8
baz=299
D25K Kavik River 66.82 20 P **P** **09 34 29.1 +0.2**
D25K Kavik River 66.82 20 P **P** **09 34 26.6 -2.4**
baz=307
C26K Camden Bay 66.87 19 P **P** **09 34 26.5 -2.7**
baz=308
N15K Kwethluk River 66.87 32 P P 09 34 25.6 -3.8
baz=299
COLD Coldfoot 66.89 23 P P 09 34 24.9 -4.4
baz=304,SNR=9.7
H21K Melozitna Rive 66.90 25 P **P** **09 34 30.1 +0.6**
H21K IAmb IAmb 09 34 33.1
comp=Z,20nm,1.3s
H21K Melozitna Rive 66.90 25 P P 09 34 24.6 -4.8
baz=303,SNR=10
M16K Timber Creek 66.94 31 P **P** **09 34 27.0 -2.8**
baz=300
E24K Your Creek 66.94 22 P **P** **09 34 29.5 -0.3**
E24K IAmb IAmb 09 34 32.8
comp=Z,15nm,1.2s
E24K Your Creek 66.94 22 P **P** **09 34 26.3 -3.5**
baz=306
ORIF Oris-en-Rattie 67.00 309 *e*P **P** **09 34 30.6 0.0**
ORIF pmax pmax
comp=Z,7.0nm,0.9s
J20K Nowinta River 67.22 27 P **P** **09 34 31.4 -0.1**
J20K Nowinta River 67.22 27 P **P** **09 34 28.4 -3.1**
baz=302
LOR Lormes 67.22 312 *e*P **P** **09 34 30.6 -1.2**
LOR pmax pmax
comp=Z,6.0nm,1.2s
G23K Bananza Creek 67.25 23 P **P** **09 34 32.6 +0.9**
G23K Bananza Creek 67.25 23 P P 09 34 27.9 -3.8
baz=305
H22K Ishtalitna Cre 67.26 24 P P 09 34 26.6 -5.2
baz=304
L18K Granite Mounta 67.27 29 P P 09 34 26.7 -5.2
baz=301
N16K Nishlik Lake 67.29 31 P P 09 34 27.2 -4.9
baz=300
C27K Jago River 67.38 19 P **P** **09 34 29.0 -3.4**
baz=309,SNR=13
M17K Holitna River 67.38 30 P P 09 34 26.7 -5.9
baz=301
EKA Eskdalemuir Ar 67.43 322 P **P** **09 34 32.0 -0.9**
comp=Z,4.2nm,0.8s,baz=62,slow=6.8,SNR=16
comp=Z,4.2nm,0.8s
EKA Eskdalemuir Ar 67.43 322 P **P** **09 34 32.5 -0.5**
F24K Squaw Lake 67.45 22 P **P** **09 34 32.8 -0.2**
F24K IAmb IAmb 09 34 53.2
comp=Z,16nm,1.9s
F24K Squaw Lake 67.45 22 P P 09 34 28.8 -4.2
baz=306
O15K Ungalikthiuk R 67.48 33 P P 09 34 28.4 -4.8
baz=300
SMF Signal de Mont 67.51 312 *e*P **P** **09 34 32.9 -0.8**
SMF pmax pmax
comp=Z,11nm,1.0s
K20K Telida 67.69 27 P **P** **09 34 34.4 -0.1**
K20K IAmb IAmb 09 34 38.6
comp=Z,26nm,1.6s
K20K Telida 67.69 27 P P 09 34 30.0 -4.5
baz=303
E25K Arctic Village 67.79 21 P **P** **09 34 34.9 -0.2**
E25K Arctic Village 67.79 21 P P 09 34 30.6 -4.5
baz=308,SNR=7.0
VIVF Saint-Julien-l 67.80 310 *e*P **P** **09 34 35.0 -0.6**
VIVF pmax pmax
comp=Z,6.0nm,1.1s

AS31 **Alice Springs** 67.90 143 P P 09 34 36.1 -0.3
ASAR **Alice Springs** 67.90 143 P P 09 34 36.0 -0.4
comp=Z,2.3nm,0.6s,baz=330,slow=6.6,SNR=29
ASAR LR LR 10 05 54.3
comp=Z,141nm,21.3s,baz=310,slow=37
comp=Z,2.3nm,0.6s
ASAR **Alice Springs** 67.90 143 P P 09 34 36.0 -0.4
H23K **Yukon River** 67.92 24 P P 09 34 35.9 0.0
H23K **Yukon River** 67.92 24 P P 09 34 32.5 -3.5
baz=306
N17K **Nushagak Hills** 67.94 31 P P 09 34 35.1 -1.1
baz=301
MLY **Manley** 67.97 25 P P 09 34 35.8 -0.5
MLY IAmb IAmb 09 34 40.8
comp=Z,9.9nm,1.1s
MLY **Manley** 67.97 25 P P 09 34 34.1 -2.1
baz=305,SNR=7.0
M18K **Stony River** 68.00 30 P P 09 34 34.0 -2.4
baz=302
L19K **White Mountain** 68.02 29 P P 09 34 36.8 +0.2
L19K **White Mountain** 68.02 29 P P 09 34 35.9 -0.7
baz=302
O16K **Kokwok River B** 68.03 32 P P 09 34 30.8 -5.9
baz=301
CHUM **Lake Minchumin** 68.05 26 P P 09 34 33.7 -3.1
baz=304
G24K **Hadweenzic Riv** 68.07 23 P P 09 34 32.4 -4.5
baz=307
F25K **Christian Rive** 68.10 21 P P 09 34 34.6 -2.5
baz=308,SNR=9.3
S12K **Black Hills** 68.14 37 P P 09 34 33.3 -4.2
baz=299
BGF **Bois d'Agland** 68.16 312 eP P 09 34 37.0 -0.8
BGF pmax pmax
comp=Z,4.0nm,0.4s
L20K **Farewell, AK** 68.24 28 P P 09 34 32.5 -5.6
baz=303
M19K **Big River Lodg** 68.35 29 P P 09 34 38.6 -0.2
M19K **Big River Lodg** 68.35 29 P P 09 34 34.5 -4.2
baz=303
D27M **Malcolm River** 68.36 19 P P 09 34 38.4 -0.3
D27M **Malcolm River** 68.36 19 P P 09 34 34.6 -4.2
baz=312
P16K **Nushagak River** 68.37 32 P P 09 34 32.6 -6.2
baz=301
O17K **Koliganek Bris** 68.37 31 P P 09 34 36.1 -2.8
baz=302
I23K **Minto, Yukon-K** 68.38 25 P P 09 34 32.2 -6.5
baz=306
CAST **Castle Rocks** 68.40 27 P P 09 34 39.2 +0.2
CAST IAmb IAmb 09 34 42.2
comp=Z,8.6nm,1.1s
CAST **Castle Rocks** 68.40 27 P P 09 34 35.8 -3.1
baz=304,SNR=5.1
N18K **Kilae Creek** 68.41 30 P P 09 34 35.9 -3.2
baz=302
BPAW **Bear Paw Mtn.** 68.41 26 P P 09 34 38.6 -0.4
BPAW **Bear Paw Mtn.** 68.41 26 P P 09 34 36.6 -2.5
baz=305
H24K **Noodor Dome** 68.46 24 P P 09 34 36.9 -2.5
baz=307
G25K **Bearman Lake** 68.47 22 P P 09 34 38.7 -0.6
baz=308
F26K **Sheenjek River** 68.48 21 P P 09 34 39.7 +0.3
baz=309
BMAR **Burnt Mountain** 68.52 21 P P 09 34 39.8 +0.1
PPLA **Purkeypile** 68.66 27 P P 09 34 40.2 -0.5
baz=304
TCF **Toulx Ste Croi** 68.67 312 eP P 09 34 40.6 -0.4
TCF pmax pmax
comp=Z,10.0nm,0.9s
KTH **Kantishna Hill** 68.75 26 P P 09 34 41.2 -0.1
SUMG **Summit** 68.77 347 P P 09 34 40.2 -1.4
SUMG IAmb IAmb 09 34 41.5
comp=Z,6.6nm,0.7s
SUMG **Summit** 68.77 347 P P 09 34 40.2 -1.4
SUMG pmax pmax
comp=Z,7.0nm,0.7s
SUMG **Summit** 68.77 347 i P P 09 34 40.0 -1.6
SUMG IAmb IAmb 09 34 41.8
comp=Z,3.8nm,0.7s
NEA2 **Nenana** 68.80 25 P P 09 34 41.5 0.0
NEA2 IAmb IAmb 09 34 44.2
comp=Z,11nm,1.2s
NEA2 **Nenana** 68.80 25 P P 09 34 41.1 -0.4
baz=306
KEST **Kesra** 68.81 299 P P 09 34 41.2 -0.9
KEST IAmb IAmb 09 34 43.7
comp=Z,11nm,1.1s
KEST **Kesra** 68.81 299 P P 09 34 42.7 +0.6
comp=Z,6.9nm,1.0s,baz=9.5,slow=2.7,SNR=5.0
KEST LR LR 10 11 40.5
comp=Z,284nm,18.1s,baz=350,slow=42
comp=Z,6.9nm,1.0s
FYU **Fort Yukon** 68.86 22 P P 09 34 41.9 +0.1
M20K **Styx River** 68.86 28 P P 09 34 42.0 0.0
M20K **Styx River** 68.86 28 P P 09 34 40.8 -1.2
baz=304
H25L **Birch Creek** 68.87 23 P P 09 34 39.8 -2.0
baz=308
D28M **Stokes Point** 68.89 18 P P 09 34 40.6 -1.3
baz=313
E27K **Coleen River** 68.89 20 P P 09 34 41.8 -0.2
E27K **Coleen River** 68.89 20 P P 09 34 42.4 +0.3
baz=311,SNR=12
N19K **Bonanza Creek** 68.91 30 P P 09 34 40.5 -1.9
baz=303
TRF **Thorofare Moun** 69.04 26 P P 09 34 42.6 -0.6
baz=306
POKR **Poker Flat Res** 69.05 24 P P 09 34 39.2 -3.8
baz=307
COLA **College** 69.06 24 P P 09 34 42.4 -0.6
COLA IAmb IAmb 09 34 46.1
comp=Z,8.9nm,0.8s
COLA **College** 69.06 24 P P 09 34 42.0 -1.0
baz=307
COLA **College** 69.06 24 P P 09 34 42.4 -0.6
COLA pmax pmax
comp=Z,9.0nm,0.9s
G26K **Porcupine Rive** 69.06 21 P P 09 34 44.3 +1.3
baz=310,SNR=7.8
S14K **Fog Glacier** 69.07 35 P P 09 34 43.5 +0.2
baz=301
SDPT **Sand Point** 69.10 37 P P 09 34 44.8 +1.4
baz=301
O18K **Koktuh Hills** 69.14 31 P P 09 34 44.6 +1.0
baz=303
Q16K **King Salmon** 69.15 32 P P 09 34 41.2 -2.4
baz=302
E28M **Babbage River** 69.18 19 P P 09 34 44.0 +0.3
E28M IAmb IAmb 09 34 46.7
comp=Z,11nm,1.2s
E28M **Babbage River** 69.18 19 P P 09 34 44.1 +0.3
baz=313,SNR=9.1
O19K **Port Alsworth** 69.32 30 P P 09 34 45.7 +1.0
baz=304
R16K **Pilot Point** 69.33 34 P P 09 34 43.0 -1.7
baz=302
MCK **McKinley** 69.36 26 P P 09 34 43.9 -1.1
baz=307
P18K **Big Mountain,** 69.38 31 P P 09 34 44.0 -1.1
baz=303
CAF **Calviac** 69.41 311 eP P 09 34 45.5 -0.1
CAF pmax pmax
comp=Z,4.0nm,0.9s
TATN **Tataouine** 69.43 296 P P 09 34 44.9 -1.1
TATN IAmb IAmb 09 34 46.6
comp=Z,22nm,1.3s
PRP **Porcupine Dome** 69.43 23 P P 09 34 44.0 -1.6
baz=309
SKT **Skwentna** 69.43 28 P P 09 34 44.8 -0.6
SKT **Skwentna** 69.43 28 P P 09 34 44.3 -1.1
baz=305
IL31 69.44 24 P P 09 34 44.8 -0.5
IL31 IAmb IAmb 09 34 48.0
comp=Z,18nm,1.6s
ILAR **Eielson Array** 69.44 24 P P 09 34 43.9 -1.5
ILAR **Eielson Array** 69.44 24 P P 09 34 44.5 -0.9
comp=Z,1.9nm,0.9s,baz=296,slow=5.9,SNR=15
ILAR LR LR 10 07 50.2
comp=Z,521nm,18.5s,baz=286,slow=38
comp=Z,1.9nm,0.9s
GRR **Gorron** 69.51 315 eP P 09 34 45.4 -0.7
GRR pmax pmax
comp=Z,11nm,0.9s
RJF **Les Rejaudoux** 69.57 311 eP P 09 34 46.6 +0.1
RJF pmax pmax
comp=Z,10.0nm,1.1s
CHGN **Chignik** 69.60 35 P P 09 34 44.8 -1.7
baz=302
N20K **Mount Spurr** 69.61 29 P P 09 34 44.4 -2.2
baz=305
HDA **Harding Lake** 69.65 24 P P 09 34 45.3 -1.4
baz=308
CUT **Chulitna** 69.67 27 P P 09 34 46.5 -0.3
baz=306
Q17K **Contact Creek** 69.71 32 P P 09 34 43.7 -3.6
baz=303
F28M **Old Crow** 69.76 20 P P 09 34 46.4 -1.0
F28M **Old Crow** 69.76 20 P P 09 34 47.9 +0.5
baz=313,SNR=9.3
E29M **Blow River** 69.77 19 P P 09 34 47.4 +0.1
E29M **Blow River** 69.77 19 P P 09 34 47.7 +0.4
baz=314,SNR=13
KULLO **Kullorsuaq** 69.79 353 i P P 09 34 45.2 -2.1
KULLO IAmb IAmb 09 34 48.8
comp=Z,9.3nm,0.8s
G27K **Doyon Strip** 69.79 21 P P 09 34 47.8 +0.2
G27K IAmb IAmb 09 35 23.5
comp=Z,12nm,1.4s
G27K **Doyon Strip** 69.79 21 P P 09 34 46.5 -1.1
baz=312,SNR=6.2
A36M **Sachs Harbour** 69.85 13 P P 09 34 47.9 +0.2
A36M IAmb IAmb 09 34 51.0
comp=Z,15nm,0.8s
A36M **Sachs Harbour** 69.85 13 P P 09 34 48.0 +0.2
baz=324,SNR=18
BORG **Borgarnes** 69.86 336 LR LR 10 06 42.8
comp=Z,360nm,19.5s,baz=31,slow=37
NWAO **Narrogin (SRO)** 69.86 162 LR LR 10 05 07.8
comp=Z,256nm,21.5s,baz=350,slow=36
MFF **Saint Martin d** 69.95 313 eP P 09 34 48.3 -0.6
MFF pmax pmax
comp=Z,9.0nm,1.1s
SUA **Susitna One** 70.04 28 P P 09 34 48.2 -1.0
SUA IAmb IAmb 09 34 51.5
comp=Z,22nm,1.2s
SUA **Susitna One** 70.04 28 P P 09 34 48.4 -0.9
baz=306
WAT1 **Susitna Watana** 70.05 26 P P 09 34 49.5 +0.3
baz=307
J25K **Salcha River,** 70.05 24 P P 09 34 49.9 +0.6
baz=309
P19K **Oil Pt** 70.08 30 P P 09 34 50.1 +0.6
baz=305
O20K **Slope Mountain** 70.09 30 P P 09 34 48.4 -1.2
baz=305
M22K **Willow** 70.11 28 P P 09 34 49.2 -0.3
baz=306
H27K **Steamboat Moun** 70.22 21 P P 09 34 48.8 -1.4
baz=312,SNR=15
LFF **La Frestale** 70.22 311 eP P 09 34 50.6 0.0
LFF pmax pmax
comp=Z,15nm,1.2s
CAPN **Captain Cook N** 70.28 29 P P 09 34 49.9 -0.7
baz=306
Q19K **Cape Douglas,** 70.32 31 P P 09 34 51.2 +0.2
baz=304
DHY **Denali Highway** 70.32 26 P P 09 34 49.1 -1.9
baz=308
I26K **Coal Creek Min** 70.33 23 P P 09 34 50.0 -0.9
I26K **Coal Creek Min** 70.33 23 P P 09 34 51.5 +0.7
baz=311
K24K **Donnelly Dome** 70.43 25 P P 09 34 49.7 -1.8
baz=309
WAT6 **Susitna Watana** 70.50 26 P P 09 34 49.5 -2.7
baz=308
MBAR **Mbarara** 70.54 255 LR LR 10 08 49.7
comp=Z,267nm,18.5s,baz=57,slow=38
SGMF **Saint Gilles** 70.56 316 eP P 09 34 52.3 -0.3
SGMF pmax pmax
comp=Z,26nm,1.4s
PMR **Palmer** 70.58 28 P P 09 34 52.5 +0.1
PMR IAmb IAmb 09 34 55.4
comp=Z,21nm,1.3s
PMR **Palmer** 70.58 28 P P 09 34 51.4 -1.0
baz=307
PMR **Palmer** 70.58 28 P P 09 34 52.5 +0.1
PMR pmax pmax
comp=Z,21nm,1.3s
I27K **Kandik River** 70.61 22 P P 09 34 50.2 -2.5
baz=312,SNR=7.8
RC01 **Rabbit Creek A** 70.65 28 P P 09 34 52.7 -0.2
RC01 **Rabbit Creek A** 70.65 28 P P 09 34 50.1 -2.8
baz=307
J26L **Joseph Creek** 70.72 23 P P 09 34 52.9 -0.5
baz=311
SML **Sawmill** 70.75 27 P P 09 34 53.5 -0.1
SML **Sawmill** 70.75 27 P P 09 34 53.5 -0.1
baz=308
SML **Sawmill** 70.75 27 P P 09 34 53.5 -0.1
SML pmax pmax
comp=Z,28nm,1.1s
G29M **Pine Creek** 70.77 20 P P 09 34 54.1 +0.5
G29M IAmb IAmb 09 34 56.5
comp=Z,12nm,1.3s
G29M **Pine Creek** 70.77 20 P P 09 34 52.8 -0.7
baz=315
RES **Resolute Bay** 70.81 3 P P 09 34 53.0 -0.6
RES **Resolute Bay** 70.81 3 LR LR 10 06 48.8
comp=Z,346nm,20.8s,baz=6.0,slow=37
RES **Resolute Bay** 70.81 3 P P 09 34 53.0 -0.6
RES pmax pmax
comp=Z,6.0nm,1.3s
F30M **Barrier River** 70.88 19 P P 09 34 53.5 -0.7
baz=316,SNR=9.3
SCRK **Sand Creek** 70.93 24 P P 09 34 54.4 -0.3
SCRK IAmb IAmb 09 34 57.4
comp=Z,17nm,1.4s
SCRK **Sand Creek** 70.93 24 P P 09 34 54.1 -0.5
baz=311
INK **Inuvik** 70.95 18 P P 09 34 54.4 -0.1
INK **Inuvik** 70.95 18 P P 09 34 53.9 -0.6
baz=318,SNR=6.9
INK **Inuvik** 70.95 18 LR LR 10 11 45.7
comp=Z,267nm,18.7s,baz=358,slow=41
INK **Inuvik** 70.95 18 P P 09 34 54.4 -0.1
INK pmax pmax
comp=Z,8.0nm,1.1s
KNK **Knik Glacier** 70.95 27 P P 09 34 52.9 -1.8
baz=308
M23K **Glacier View** 70.99 27 P P 09 34 53.9 -1.1
baz=308
O22K **Cooper Landing** 71.02 29 P P 09 34 53.1 -2.1
baz=307
Q20K **Shuyak Island** 71.03 31 P P 09 34 53.5 -1.7
baz=306
BRSE **Bradley Lake S** 71.06 30 P P 09 34 53.6 -1.8
baz=306
SCM **Sheep Creek Mo** 71.11 27 P P 09 34 54.3 -1.5
baz=308
H29M **Whitestone** 71.16 21 P P 09 34 55.5 -0.4
H29M IAmb IAmb 09 35 50.5
comp=Z,19nm,1.4s
H29M **Whitestone** 71.16 21 P P 09 34 55.9 0.0
baz=314
G30M **tAoh Zraii Nji** 71.22 19 P P 09 34 54.2 -2.1
baz=316
I28M **Miner Creek** 71.23 22 P P 09 34 56.1 -0.3
I28M IAmb IAmb 09 35 00.7
comp=Z,12nm,1.2s
I28M **Miner Creek** 71.23 22 P P 09 34 55.3 -1.2
baz=313
EGAK **Eagle** 71.31 22 P P 09 34 56.7 -0.2
EGAK IAmb IAmb 09 35 00.1
comp=Z,13nm,1.2s
EGAK **Eagle** 71.31 22 P P 09 34 55.8 -1.0
baz=313,SNR=5.2
UPNV **Upernavik** 71.33 352 i P P 09 34 55.2 -1.6
UPNV IAmb IAmb 09 34 57.3
comp=Z,7.9nm,0.8s
SEW **Seward** 71.36 29 P P 09 34 55.4 -1.7
baz=307
M24K **Tolsona, Glenn** 71.36 26 P P 09 34 54.8 -2.5
baz=309
SII **Sitkinak Islan** 71.43 33 P P 09 34 54.2 -3.5
baz=305
KDAK **Kodiak Island** 71.44 32 P P 09 34 54.2 -3.5
baz=306
KDAK **Kodiak Island** 71.44 32 LR LR 10 08 37.4
comp=Z,1µm,19.2s,baz=319,slow=38
OHAK **Old Harbor** 71.45 33 P P 09 34 57.1 -0.7
baz=305
EPYK **Eagle Plains** 71.52 20 P P 09 34 57.4 -0.7
EPYK IAmb IAmb 09 35 22.7
comp=Z,26nm,1.6s
EPYK **Eagle Plains** 71.52 20 P P 09 34 55.0 -3.2
baz=316
K27K **Chicken** 71.52 23 P P 09 34 56.9 -1.3
K27K IAmb IAmb 09 35 02.1
comp=Z,23nm,1.8s
K27K **Chicken** 71.52 23 P P 09 34 56.7 -1.4
baz=312
L26K **Log Cabin Wild** 71.77 25 P P 09 34 57.2 -2.5
baz=311
ICESG **Greenland Ices** 71.78 345 i P P 09 34 58.2 -1.8
ICESG IAmb IAmb 09 35 01.1
comp=Z,10nm,1.0s
G31M **Satah River** 71.79 19 P P 09 34 58.7 -0.9
G31M IAmb IAmb 09 35 01.3
comp=Z,8.3nm,0.8s
G31M **Satah River** 71.79 19 P P 09 34 59.4 -0.3
baz=318,SNR=8.1
GLI **Glacier Island** 71.80 27 P P 09 34 56.4 -3.5
baz=309
KLU **Klutina** 71.85 27 P P 09 35 00.3 +0.1
KLU IAmb IAmb 09 35 03.3
comp=Z,22nm,1.2s
KLU **Klutina** 71.85 27 P P 09 34 58.4 -1.9
baz=310
ETSF **Etsaut** 72.06 310 eP P 09 35 01.7 -0.1
ETSF pmax pmax
comp=Z,3.0nm,0.8s
C36M **Paulatuk** 72.25 14 P P 09 35 01.5 -0.9
C36M IAmb IAmb 09 35 05.0
comp=Z,23nm,1.6s
C36M **Paulatuk** 72.25 14 P P 09 35 01.7 -0.7
baz=326,SNR=7.2
L27K **Beaver Creek,** 72.26 24 P P 09 35 02.6 0.0
L27K **Beaver Creek,** 72.26 24 P P 09 35 01.5 -1.1
baz=312,SNR=5.4
N25K **Chitina, Valde** 72.26 26 P P 09 35 02.2 -0.5
baz=311
BCAR **Beaver Creek A** 72.27 24 P P 09 35 02.7 -0.1
M26K **Nabesna, AK** 72.30 25 P P 09 35 01.8 -1.2
baz=312
DAWY **Dawson** 72.36 22 P P 09 35 02.4 -0.9
DAWY IAmb IAmb 09 35 06.3
comp=Z,26nm,1.9s
SJPF **Ste Jean** 72.36 310 eP P 09 35 03.9 +0.3
SJPF pmax pmax
comp=Z,16nm,1.4s
I30M **Mount Dempster** 72.45 21 P P 09 35 03.4 -0.4
I30M IAmb IAmb 09 35 05.9
comp=Z,12nm,1.2s
I30M **Mount Dempster** 72.45 21 P P 09 35 03.5 -0.3
baz=316,SNR=7.8
J29N **Klondike Camp** 72.45 22 P P 09 35 03.5 -0.3
J29N IAmb IAmb 09 35 21.0
comp=Z,36nm,1.9s
J29N **Klondike Camp** 72.45 22 P P 09 35 04.0 +0.2
baz=315
H31M **Peel River** 72.60 20 P P 09 35 03.8 -0.8
H31M IAmb IAmb 09 35 07.6
comp=Z,22nm,1.4s
H31M **Peel River** 72.60 20 P P 09 35 04.9 +0.3
baz=318
BMRM **Bremner River** 72.68 27 P P 09 35 04.3 -0.8
baz=311
M27K **Edge Creek, AK** 72.72 25 P P 09 35 03.9 -1.6
baz=313
J30M **Hart River** 72.94 21 P P 09 35 06.5 -0.2
J30M IAmb IAmb 09 35 13.1
comp=Z,24nm,2.0s
J30M **Hart River** 72.94 21 P P 09 35 04.5 -2.3
baz=316
MCARA **McCarthy VSAT** 72.97 26 P P 09 35 04.4 -2.5
baz=312
Q23K **Middleton Isla** 73.01 28 P P 09 35 05.0 -2.1
baz=310
K29M **Barlow Dome** 73.10 22 P P 09 35 07.1 -0.6
K29M IAmb IAmb 09 35 44.5
comp=Z,26nm,1.9s
K29M **Barlow Dome** 73.10 22 P P 09 35 07.5 -0.2
baz=316
KAIM **Kayak Island** 73.43 27 P P 09 35 06.4 -3.2
baz=311
L29M **L29M** 73.44 23 P P 09 35 03.3 -6.3
baz=315
YUK3 **Moose Creek** 73.61 25 P P 09 35 08.8 -2.1
baz=314
M29M **Somme Creek** 73.81 23 P P 09 35 10.6 -1.2
baz=315
CTG **Chitna Glacier** 73.86 25 P P 09 35 11.3 -0.9
baz=313
YUK8 **Steele Glacier** 74.19 25 P P 09 35 13.6 -0.8
baz=314
O28M **Mount Upton** 74.40 25 P P 09 35 14.1 -1.5
baz=314
YUK4 **Talbot Arm** 74.53 24 P P 09 35 15.0 -1.2
baz=315
N30M **Aishikik Lake** 74.97 24 P P 09 35 17.1 -1.5
baz=317
M31M **Drury Creek, Y** 75.28 22 P P 09 35 19.9 -0.5
baz=319
HYT **Haines Junctio** 75.29 24 P P 09 35 19.5 -1.1
HYT IAmb IAmb 09 35 57.8
comp=Z,16nm,1.4s
HYT **Haines Junctio** 75.29 24 P P 09 35 18.9 -1.6
baz=316
DY2G **Dye2** 75.36 345 i P P 09 35 18.1 -2.8
DY2G IAmb IAmb 09 35 21.2
comp=Z,5.2nm,0.8s
N31M **Braeburn, Yuko** 75.38 23 P P 09 35 19.1 -1.8
baz=318
FARO **Faro, Yukon** 75.58 22 P P 09 35 19.2 -2.9
baz=319
SFJD **Kangerlussuaq** 75.75 347 P P 09 35 21.5 -1.4
SFJD IAmb IAmb 09 35 22.9
comp=Z,13nm,0.8s
SFJD **Kangerlussuaq** 75.75 347 LR LR 10 10 55.8
comp=Z,552nm,20.9s,baz=24,slow=38
SFJD **Kangerlussuaq** 75.75 347 P P 09 35 21.5 -1.4
SFJD pmax pmax
comp=Z,13nm,0.9s
SFJD **Kangerlussuaq** 75.75 347 i P P 09 35 19.1 -3.7
SFJD IAmb IAmb 09 35 23.2
comp=Z,8.8nm,0.8s
O30N **Mendenhall** 75.80 24 P P 09 35 21.2 -2.2
baz=318
ESDC **Sonseca Array** 75.93 309 P P 09 35 23.6 -1.0
ESDC **Sonseca Array** 75.93 309 P P 09 35 25.2 +0.7
comp=Z,1.6nm,0.8s,baz=54,slow=5.5,SNR=13
ESDC LR LR 10 11 41.6
comp=Z,419nm,18.8s,baz=47,slow=38
comp=Z,1.6nm,0.8s
P29M **Windy Craggy** 76.08 25 P P 09 35 23.8 -1.2
baz=316
WHY **Whitehorse** 76.28 23 P P 09 35 23.9 -2.3
baz=318
N32M **Quiet Lake** 76.49 22 P P 09 35 27.5 +0.2
baz=320
PLBC **Pleasant Camp** 76.68 25 P P 09 35 25.8 -2.5
baz=318
P33M **Teslin, Yukon** 77.29 23 P P 09 35 31.0 -0.9
baz=320
P32M **Atlin** 77.48 24 P P 09 35 30.7 -2.2
baz=320
WRGLY **Wrigley** 77.51 17 P P 09 35 31.1 -1.8
baz=327
TGTN **Hyland Airport** 77.63 20 P P 09 35 31.5 -2.2
baz=324
R31K **City Hall, Gus** 77.67 25 P P 09 35 29.4 -4.5
baz=318
S31K **Pelican** 77.84 26 P P 09 35 31.3 -3.5
baz=318
R32K **Eaglecrest** 78.20 25 P P 09 35 33.3 -3.5
baz=319
STKA **Stephens Creek** 78.50 142 P P 09 35 37.9 -0.9
comp=Z,4.4nm,1.0s,baz=317,slow=9.2,SNR=4.5
STKA LR LR 10 13 52.6
comp=Z,179nm,19.3s,baz=322,slow=38
comp=Z,4.4nm,1.0s
R33M **Jennings River** 78.52 23 P P 09 35 38.6 -0.2
R33M IAmb IAmb 09 35 46.7
comp=Z,41nm,2.0s
R33M **Jennings River** 78.52 23 P P 09 35 37.1 -1.7
baz=322
WTLY **Watson Lake, Y** 78.62 21 P P 09 35 34.2 -5.0
baz=323
S32K **Killisnoo** 78.80 25 P P 09 35 35.2 -4.9

baz=319
SIT Sitka 78.84 26 P **P** 09 35 37.2 -3.2
baz=319
DLBC Dease Lake 79.58 23 P **P** 09 35 43.2 -1.3
DLBC Dease Lake 79.58 23 P **P** 09 35 43.6 -0.9
baz=322
DLBC Dease Lake 79.58 23 LR LR 10 14 08.8
comp=Z,664nm,19.8s,baz=302,slow=38
S34M Telegraph Cree 79.63 24 P **P** 09 35 42.2 -2.5
baz=322
T33K Petersburg 79.87 25 P **P** 09 35 44.2 -1.8
baz=320,SNR=5.3
KOTAN Kotaneelee Air 79.96 19 P **P** 09 35 45.3 -1.2
baz=327
YKA Yellowknife Ar 80.13 14 P **P** 09 35 46.9 -0.4
comp=Z,1.8nm,0.9s,baz=333,slow=5.4,SNR=19
YKA LR LR 10 13 49.6
comp=Z,214nm,20.8s,baz=6.5,slow=38
comp=Z,1.8nm,0.9s
U33K Whale Pass 80.35 26 P **P** 09 35 46.8 -1.8
baz=320
WRAK Wrangell Islan 80.39 25 P P 09 35 45.3 -3.5
baz=321
T35M Bob Quinn 80.66 24 P **P** 09 35 47.8 -2.6
baz=322
TOAD Toad River Com 80.70 21 P **P** 09 35 47.6 -2.9
baz=326
CRAG Craig 80.85 26 P **P** 09 35 50.1 -1.1
baz=320
FRB Frobisher Bay 81.34 353 LR LR 10 13 57.7
comp=Z,400nm,19.6s,baz=17,slow=37
V35K Ketchikan 81.50 25 P **P** 09 35 52.9 -1.8
baz=322
LSZ Lusaka 81.55 245 LR LR 10 10 15.7
comp=Z,308nm,20.5s,baz=70,slow=34
BBB Bella Bella 85.26 26 LR LR 10 17 09.5
comp=Z,330nm,18.6s,baz=334,slow=38
TORD Torodi Ar. Bea 86.55 283 P **P** 09 36 20.9 -0.3
comp=Z,1.5nm,0.9s,baz=42,slow=6.1,SNR=6.7
TORD PP **PP** 09 39 40.3 -2.5
comp=Z,1.7nm,1.0s,baz=45,slow=7.3,SNR=4.7
TORD LR LR 10 19 50.5
comp=Z,386nm,18.0s,baz=60,slow=39
comp=Z,1.5nm,0.9s
DZM Mont Dzumac 87.03 119 eLR LR 10 03 53.8
comp=Z,442nm,24.7s
DZM Mont Dzumac 87.03 119 LR LR 10 12 02.7
comp=Z,224nm,21.9s,baz=322,slow=33
EDM Edmonton 88.85 17 P **P** 09 36 30.8 -0.9
EDM Edmonton 88.85 17 P **P** 09 36 30.8 -0.9
EDM pmax pmax
comp=Z,28nm,1.5s
LBTB Lobatse 89.54 239 P **P** 09 36 34.1 -1.2
LBTB IAmb IAmb 09 36 39.7
comp=Z,4.9nm,0.8s
LBTB Lobatse 89.54 239 LR LR 10 14 22.8
comp=Z,183nm,20.0s,baz=53,slow=34
LBTB Lobatse 89.54 239 P **P** 09 36 34.1 -1.2
LBTB pmax pmax
comp=Z,5.0nm,0.8s
SCHQ Schefferville 89.86 350 LR LR 10 20 31.3
comp=Z,250nm,19.0s,baz=19,slow=38
TSUM Tsumeb 91.97 248 LR LR 10 17 44.4
comp=Z,405nm,20.8s,baz=334,slow=35
BOSA Boshof 92.02 236 P **P** 09 36 46.8 0.0
comp=Z,2.2nm,0.9s,baz=64,slow=8.2,SNR=3.8
BOSA LR LR 10 17 16.0
comp=Z,204nm,18.7s,baz=50,slow=35
comp=Z,2.2nm,0.9s
NEW Newport 92.28 22 P **P** 09 36 46.0 -1.8
baz=333
NEW Newport 92.28 22 LR LR 10 21 54.7
comp=Z,620nm,18.4s,baz=327,slow=38
MSO Missoula 94.51 20 P **P** 09 36 56.9 -1.2
baz=335
EGMT Eagleton 94.53 17 P P 09 36 52.5 -5.7
baz=339
ULM Lac du Bonnet 94.89 8 LR LR 10 22 57.1
comp=Z,306nm,19.6s,baz=5.0,slow=38
DGMT Dagmar 95.34 14 P P 09 36 58.2 -3.6
baz=343
DBIC Dimbokro 95.53 282 LR LR 10 23 33.6
comp=Z,293nm,21.1s,baz=45,slow=38
BOZ Bozeman (W) 96.29 19 P **P** 09 37 04.0 -2.4
baz=337
LAO LASA Array 96.61 16 P **P** 09 37 06.4 -1.3
baz=341
AGMN Agassiz Nation 96.82 8 P **P** 09 37 06.6 -1.9
baz=350
SUR Sutherland 97.35 236 LR LR 10 19 07.4
comp=Z,292nm,19.7s,baz=42,slow=34
K22A Casper 100.36 17 P **Pdif** 09 37 23.8 -0.9
baz=341
GRAC Grapevine Rang 102.18 27 P **Pdif** 09 37 31.7 -1.1
baz=332
MPMC Manual Prospec 102.96 28 P **Pdif** 09 37 33.4 -3.0
baz=332
ARVC Arvin 103.24 29 P **Pdif** 09 37 35.4 -2.0
baz=331
BGNE Belgrade 103.25 11 P **Pdif** 09 37 35.6 -1.8
baz=348
ISCO Idaho Springs 103.28 17 P **Pdif** 09 37 35.1 -2.9
baz=341
BINY Binghamton 103.34 354 P **Pdif** 09 37 35.3 -2.5
baz=6.3
SHOC Shoshone, Teco 103.56 27 P **Pdif** 09 37 39.6 +0.8
baz=333
GSC Goldstone, Bar 103.88 28 P **Pdif** 09 37 38.1 -2.3
baz=332
TUQ Turquoise Moun 104.10 27 P **Pdif** 09 37 40.0 -1.4
baz=333
Q24A Divide 104.19 17 P **Pdif** 09 37 42.3 +0.3
baz=342
HEC Hector,Ludlow 104.48 27 P **Pdif** 09 37 44.2 +1.2
baz=333
BFSC Mount Baldy Ra 104.49 29 P **Pdif** 09 37 41.8 -1.4
baz=332
MVCO Mesa Verde 104.94 20 P **Pdif** 09 37 45.7 +0.5
baz=339
SSPA Standing Stone 105.03 356 P **Pdif** 09 37 45.5 +0.2
baz=4.8
HDIL Hopedale 105.10 5 P **Pdif** 09 37 47.3 +1.7
baz=355
SDCO Great Sand Dun 105.25 18 P **Pdif** 09 37 48.0 +1.3
baz=341
SFIN Lafayette 105.40 3 P **Pdif** 09 37 47.1 +0.2
baz=357
PFO Pinyon Flats O 105.51 28 P **PKiKP** 09 42 00.3 -0.8
baz=332
TPFO Pinon Flats 105.52 28 P **PKiKP** 09 42 01.3 +0.2
baz=332
IRM Iron Mountain 105.53 27 P **PKiKP** 09 42 00.8 -0.2
baz=333
O53A New Philadelph 105.57 358 P **PKiKP** 09 42 01.4 +0.4
baz=1.9
ACSO Alum Creek Sta 105.62 360 P **PKiKP** 09 42 01.4 +0.4
baz=0.4
WUAZ Wupatki 105.62 23 P **PKiKP** 09 41 59.5 -1.9
baz=336
KSU1 Kansas State U 105.75 11 P **PKiKP** 09 42 01.2 -0.1
baz=349
PDMCI Parker Dam,Lak 105.76 26 P **PKiKP** 09 42 01.3 -0.1
baz=334
BC3 Big Chuckawall 105.86 27 P **PKiKP** 09 42 02.0 +0.2
baz=333
109C Camp Elliot, M 105.89 29 P **PKiKP** 09 42 01.5 -0.2
baz=332
P52A Corning 106.20 359 P **PKiKP** 09 42 02.0 -0.1
baz=1.2
TUC Tucson 108.75 24 P **PKiKP** 09 42 06.8 -0.3
baz=337
AMTX Amarillo 108.89 16 P **PKiKP** 09 42 08.6 +1.2
baz=344
ABTX Abilene, Hawle 111.51 15 P **PKiKP** 09 42 10.5 -1.8
baz=346
GOGA Godfrey 112.42 360 P **PKiKP** 09 42 12.2 -1.7
baz=0.0
WHTX Lake Whitney, 112.55 13 P **PKiKP** 09 42 13.0 -1.3
baz=348
LRAL Lakeview Retre 112.72 3 P **PKiKP** 09 42 12.8 -1.8
baz=357
NATX Nacogdoches 113.24 10 P **PKiKP** 09 42 15.3 -0.3
baz=350
TXAR Lajitas Array 113.69 19 PKiKP **PKiKP** 09 42 17.4 +0.8
comp=Z,0.2nm,0.8s,baz=0.0,slow=1.4,SNR=3.9
BRAL Brewton 114.58 3 P **PKiKP** 09 42 18.8 +0.7
baz=357
833A Chaparral WMA, 115.72 16 P **PKiKP** 09 42 21.1 +0.7
baz=346
PPT2 Papeete2 119.27 92 eLR LR 10 18 51.9
comp=Z,770nm,24.5s
PPT2 eLR LR 10 18 55.3
comp=Z,578nm,24.8s
TBI Tubuai 122.11 98 eLR LR 10 20 10.8
comp=Z,1μm,28.0s
TBI eLR LR 10 20 11.1
comp=Z,1μm,34.5s
TAOE Nuku Hiva Isla 122.34 78 eLR LR 10 20 19.8
comp=Z,213nm,23.1s
QSPA South Pole Qui 124.29 180 PKP **PKPdf** 09 42 36.3 +0.7
comp=Z,2.0nm,1.1s,baz=125,slow=18,SNR=3.4

*IDC **06** 09:24:21.2±4.1,36°.28N×70°.97E,h180km±36km,mb3.4/10, mbtmp3.9/14,Error ellipse: s-maj=29.7km s-min=17.8km az=32.0*
*NNC **06** 09:24:27.8±1.5,36°.92N×70°.88E,h216km±24km,mb3.2, mpv4.2,Error ellipse: s-maj=16.5km s-min=9.6km az=18.0*
ISC 06 09:24:22.8±1.0,36°.52N±0°.10×71°.0E±0°.1,h188km,n30, σ1s17/33,mb3.4/10,3C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor** SNR=30	**6.32**	**25**	P		**Pn**	**09 25 55.5**	**+1.1**
EKS2	**Erkin-Say** SNR=12	**6.50**	**19**	P		**Pn**	**09 25 57.8**	**+1.3**
KK31	**Karatay Array** 3.5nm,0.2s,baz=176,slow=11,SNR=180	**6.58**	**357**	⇑P		**Pn**	**09 25 58.0**	**+0.5**
KK31	25nm,0.5s,baz=189,slow=24,SNR=8.0			⇓S		**Sn**	**09 27 09.2**	**-3.1**
AAK	**Ala-Archa** SNR=16	**6.68**	**23**	P		**Pn**	**09 26 00.2**	**+1.3**
AAK	**Ala-Archa** 5.3nm,0.3s	**6.68**	**23**	⇑P		**Pn**	**09 25 59.8**	**+0.9**
AAK	22nm,0.9s			⇑S		**Sn**	**09 27 13.9**	**-1.0**
AAK	**Ala-Archa** 12nm,0.3s,baz=161,slow=5.7,SNR=42	**6.68**	**23**	P		**Pn**	**09 26 00.2**	**+1.3**
AAK	6.5nm,0.3s,baz=325,slow=23,SNR=10			S		**Sn**	**09 27 13.5**	**-1.4**
KBK	**Karagaybulak** SNR=8.1	**6.85**	**25**	P		**Pn**	**09 26 03.5**	**+2.4**
CHMS	**Chumysh** SNR=5.6	**7.09**	**23**	P		**Pn**	**09 26 05.4**	**+1.3**
CHMS	**Chumysh** 8.5nm,0.5s	**7.09**	**23**	⇓P		**Pn**	**09 26 04.8**	**+0.7**
USP	**Ospenovka** SNR=9.2	**7.26**	**21**	P		**Pn**	**09 26 07.3**	**+1.0**
TKM2	**Tokmak 2** SNR=15	**7.31**	**28**	P		**Pn**	**09 26 08.7**	**+1.5**
TKM2	**Tokmak 2** 26nm,0.6s	**7.31**	**28**	⇓P		**Pn**	**09 26 08.2**	**+1.0**
MK31	**Makanchi Array** 9.1nm,0.6s,baz=130,slow=13,SNR=108	**13.28**	**36**	P		**Pn**	**09 27 24.6**	**+0.5**
MK31	**Makanchi Array**	**13.28**	**36**	P		**Pn**	**09 27 24.2**	**+0.1**
MK31	**Makanchi Array**	**13.28**	**36**	Pn		**Pn**	**09 27 24.2**	**+0.1**
AB31	**Akbulak array** 0.6nm,0.3s,baz=147,slow=12,SNR=48	**15.06**	**331**	P		**Pn**	**09 27 45.4**	**-0.6**
KURBB	**Kurchatov Arra** 0.4nm,0.3s,baz=212,slow=10,SNR=4.9	**15.11**	**19**	P		**P**	**09 27 47.4**	**0.0**
BVAR	**Borovoye Array** 1.6nm,0.4s,baz=163,slow=12,SNR=8.9	**16.51**	**359**	P		**Pn**	**09 28 03.8**	**+0.2**
AKTO	**Aktyubinsk** 6.1nm,0.6s,baz=132,slow=11,SNR=16	**16.75**	**330**	P		**Pn**	**09 28 06.9**	**+0.4**
AKASG	**Malin Array Be** 0.5nm,0.5s,baz=80,slow=7.1,SNR=2.3	**32.92**	**309**	P		**P**	**09 30 39.7**	**+0.6**
FINES	**FINESS Array B** 1.1nm,0.4s,baz=124,slow=8.6,SNR=16	**37.45**	**326**	P		**P**	**09 31 18.8**	**+1.1**
ARCES	**ARCESS Array B** 2.1nm,0.5s,baz=108,slow=7.8,SNR=17	**41.12**	**338**	P		**P**	**09 31 49.3**	**+1.4**
HFS	**Hagfors** 2.2nm,0.6s,baz=96,slow=12,SNR=6.7	**43.04**	**322**	P		**P**	**09 32 04.5**	**+0.9**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,baz=93,slow=7.9	**44.35**	**323**	P		**P**	**09 32 14.1**	**0.0**
NOA	**NORSAR Array B** comp=Z,1.0nm,0.7s,baz=96,slow=7.8,SNR=5.4	**44.35**	**323**	P		**P**	**09 32 14.4**	**+0.4**
TORD	**Torodi Ar. Bea** comp=Z,0.7nm,0.6s,baz=51,slow=6.4,SNR=9.4	**65.70**	**269**	P		**P**	**09 34 46.2**	**-1.3**
ILAR	**Eielson Array** comp=Z,0.7nm,0.9s,baz=296,slow=4.8,SNR=1.2	**74.76**	**16**	P		**P**	**09 35 42.0**	**+0.3**
YKA	**Yellowknife Ar** comp=Z,0.7nm,0.9s,baz=351,slow=6.4,SNR=5.9	**81.22**	**3**	P		**P**	**09 36 17.2**	**-0.1**
WRA	**Warramunga Ar** comp=Z,0.3nm,0.4s,baz=323,slow=5.0,SNR=8.8	**82.02**	**122**	P		**P**	**09 36 21.1**	**-0.9**
ASAR	**Alice Springs** comp=Z,0.5nm,0.8s,baz=323,slow=6.0,SNR=1.6	**84.28**	**125**	P		**P**	**09 36 32.6**	**-1.0**

*IDC **06** 09:33:46.7±2.9,23°.16S×179°.12E,h531km±30km,mb3.2/7, mbtmp4.1/8,Error ellipse: s-maj=26.5km s-min=20.0km az=167.0*
ISC 06 09:33:48.0±0.8,23°.4S±0°.1×179°.1E±0°.2,h550km,n12, σ1s66/12,mb3.7/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera** 8.0nm,0.7s,baz=274,slow=23,SNR=3.8	**14.91**	**186**	P		**P**	**09 36 56.2**	**-0.1**
URZ	3.7nm,0.5s,baz=233,slow=23,SNR=1.4			S		**S**	**09 39 28.6**	**-2.8**
STKA	**Stephens Creek** 2.5nm,0.4s,baz=82,slow=9.6,SNR=7.5	**34.18**	**247**	P		**P**	**09 39 49.1**	**+1.2**
ASAR	**Alice Springs** 3.5nm,0.6s,baz=94,slow=7.3,SNR=56	**41.34**	**260**	P		**P**	**09 40 46.5**	**0.0**
ASAR	0.9nm,0.8s,baz=109,slow=4.4,SNR=8.2			ScP		**ScP**	**09 45 31.3**	**+1.7**
WRA	**Warramunga Arr** 4.1nm,0.6s,baz=96,slow=8.3,SNR=218	**41.66**	**266**	P		**P**	**09 40 48.3**	**-0.7**
QSPA	**South Pole Qui** 2.0nm,0.8s,baz=240,slow=0.5,SNR=7.7	**66.67**	**180**	P		**P**	**09 43 46.2**	**+1.9**
NVAR	**Mina Array Bea** 0.2nm,0.4s,baz=223,slow=8.1,SNR=3.8	**84.95**	**44**	P		**P**	**09 45 25.6**	**-0.1**
TXAR	**Lajitas Array** 0.3nm,0.8s,baz=215,slow=6.3,SNR=4.7	**90.84**	**58**	P		**P**	**09 45 54.0**	**+0.6**
ILAR	**Eielson Array** 0.1nm,0.5s,baz=249,slow=3.8,SNR=1.7	**91.74**	**14**	P		**P**	**09 45 56.4**	**-0.1**
HFS	**Hagfors** 0.5nm,0.3s,baz=57,slow=5.5,SNR=7.7	**141.91**	**348**	PKhKP		PKPpre	09 52 11.6	
AKASG	**Malin Array Be** 0.1nm,0.3s,baz=36,slow=4.1,SNR=4.3	**144.13**	**327**	PKP		PKPbc	09 52 18.8	-1.9
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=86,slow=1.3,SNR=1.1	**146.65**	**307**	PKPbc		**PKPab**	**09 52 29.3**	**-2.1**
EKA	**Eskdalemuir Ar** 0.4nm,0.4s,baz=355,slow=2.8,SNR=5.4	**148.07**	**2**	PKPbc		**PKPbc**	**09 52 29.6**	**-2.0**

*IDC **06** 09:38:26.4±0.8,18°.66N×145°.49E,h123km±6km,mb3.6/9, mbtmp4.0/11,Error ellipse: s-maj=31.4km s-min=10.6km az=102.0*
*NEIC **06** 09:38:29.4±2.0,18°.5N±0°.1×145°.9E±0°.2,h147km±9km, mb4.3/38,Error ellipse: s-maj=23.6km s-min=14.7km az=109.0*
ISC 06 09:38:28.3±0.5,18°.58N±0°.07×145°.8E±0°.2,h150km,n56, σ1s57/61,mb4.2/29,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.04**	**190**	Pn		**Pn**	**09 39 43.0**	**+0.8**
GUMO	**Guam**	**5.04**	**190**	P		**Pn**	**09 39 42.2**	**-0.1**
GUMO	52nm,0.6s,baz=74,slow=21,SNR=1.8			S		**Sn**	**09 40 36.7**	**-3.3**
PATS	**Pohnpei** 24nm,0.3s,baz=58,slow=23,SNR=1.4	**16.91**	**132**	P		**Pn**	**09 42 15.8**	**-0.4**
MJAR	**Matsushiro Arr** 0.7nm,0.8s,baz=171,slow=10,SNR=1.5	**19.09**	**341**	P		**P**	**09 42 37.2**	**-2.2**
WB0	**Warramunga Arr**	**39.70**	**197**	P		**P**	**09 45 47.2**	**+1.1**
WB0						IAmb	IAmb	09 45 48.1
WR0	**Warramunga Arr**	**39.85**	**197**	P		**P**	**09 45 48.4**	**+1.1**
WR0						IAmb	IAmb	09 45 51.6
WB2	**Warramunga Ar**	**39.88**	**197**	P		**P**	**09 45 48.9**	**+1.3**
WB2						IAmb	IAmb	09 45 50.6
WRA	**Warramunga Ar**	**39.89**	**197**	P		**P**	**09 45 48.5**	**+0.8**
WRA	comp=Z,1.4nm,0.3s,baz=18,slow=8.2,SNR=40			PcP		**PcP**	**09 47 51.2**	**+0.7**
AS31	**Alice Springs** comp=Z,0.4nm,0.6s,baz=17,slow=3.7,SNR=1.9	**43.55**	**196**	P		**P**	**09 46 18.2**	**+0.7**
ASAR	**Alice Springs** comp=Z,1.4nm,0.3s	**43.55**	**196**	P		**P**	**09 46 17.3**	**-0.1**
ASAR	**Alice Springs** comp=Z,0.7nm,0.4s,baz=19,slow=6.7,SNR=34	**43.55**	**196**	P		**P**	**09 46 18.4**	**+0.9**
STKA	**Stephens Creek** comp=Z,0.7nm,0.4s	**50.33**	**185**	P		**P**	**09 47 10.1**	**+0.3**
STKA	**Stephens Creek** comp=Z,1.2nm,0.7s,baz=1.9,slow=6.4,SNR=4.5	**50.33**	**185**	P		**P**	**09 47 10.7**	**+0.9**
BBOO	**Buckleboo** comp=Z,1.2nm,0.7s	**51.93**	**190**	P		**P**	**09 47 22.6**	**+0.7**
FORT	**Forrest**	**51.94**	**199**	P		**P**	**09 47 23.4**	**+1.5**
MORW	**Morawa**	**55.38**	**212**	P		**P**	**09 47 47.6**	**+0.6**
TOO	**Toolangi**	**55.85**	**180**	P		**P**	**09 47 49.2**	**-1.0**
K17K	**Iditarod**	**58.27**	**27**	P		**P**	**09 48 08.2**	**+1.3**
F17K	**Baldwin Pennin**	**58.70**	**22**	P		**P**	**09 48 11.4**	**+1.6**
F17K	comp=Z,7.4nm,1.2s					IAmb	IAmb	09 48 27.4
H18K	**Honhosa River**	**59.22**	**24**	P		**P**	**09 48 14.1**	**+0.6**
G18K	**Tagagawik**	**59.41**	**23**	P		**P**	**09 48 15.4**	**+0.7**
G18K	comp=Z,7.0nm,1.4s					IAmb	IAmb	09 48 41.6
C18K	**Utukok River**	**59.77**	**20**	P		**P**	**09 48 18.1**	**+0.8**
J20K	**Nowinta River**	**60.54**	**26**	P		**P**	**09 48 23.6**	**+1.1**
J20K	comp=Z,6.0nm,1.4s					IAmb	IAmb	09 48 56.8
SUA	**Susitna One**	**61.25**	**29**	P		**P**	**09 48 28.0**	**+0.6**
IMAR	**Indian Mountai**	**61.31**	**24**	P		**P**	**09 48 29.2**	**+1.6**
H21K	**Melozitna Rive**	**61.56**	**24**	P		**P**	**09 48 31.4**	**+2.0**
H21K	comp=Z,4.0nm,1.3s					IAmb	IAmb	09 49 11.3
B20K	**Meade River**	**61.66**	**19**	P		**P**	**09 48 32.9**	**+3.0**
B20K	comp=Z,3.5nm,0.9s					IAmb	IAmb	09 48 33.8
F21K	**Alatna River**	**61.83**	**23**	P		**P**	**09 48 32.3**	**+1.2**
F21K	comp=Z,5.3nm,1.4s					IAmb	IAmb	09 49 08.7
BPAW	**Bear Paw Mtn.**	**61.84**	**26**	P		**P**	**09 48 32.6**	**+1.4**
BPAW	comp=Z,6.9nm,1.2s					IAmb	IAmb	09 49 04.8
MLY	**Manley**	**62.20**	**25**	P		**P**	**09 48 33.7**	**0.0**
D22K	**Ayikyak River**	**62.69**	**21**	P		**P**	**09 48 39.1**	**+2.3**
H23K	**Yukon River**	**62.90**	**25**	P		**P**	**09 48 39.7**	**+1.4**
H23K	comp=Z,3.8nm,1.2s					IAmb	IAmb	09 48 49.7
H24K	**Noodor Dome**	**63.57**	**25**	P		**P**	**09 48 44.3**	**+1.6**
IL31		**63.73**	**26**	P		**P**	**09 48 43.7**	**0.0**
IL31	comp=Z,4.8nm,1.3s					IAmb	IAmb	09 49 14.9
ILAR	**Eielson Array**	**63.73**	**26**	P		**P**	**09 48 42.8**	**-0.9**
ILAR	**Eielson Array** comp=Z,1.0nm,0.5s,baz=253,slow=6.0,SNR=22	**63.73**	**26**	P		**P**	**09 48 44.4**	**+0.7**
ILAR	comp=Z,1.2nm,0.9s,baz=257,slow=5.3,SNR=6.5			pP		**pP**	**09 49 13.8**	**-4.7**
E24K	**Your Creek** comp=Z,1.0nm,0.5s	**63.91**	**22**	P		**P**	**09 48 47.2**	**+2.3**
E24K	comp=Z,1.8nm,0.6s					IAmb	IAmb	09 48 48.4
F24K	**Squaw Lake**	**63.98**	**23**	P		**P**	**09 48 47.0**	**+1.7**
F24K	comp=Z,3.3nm,1.1s					IAmb	IAmb	09 49 19.0
J25K	**Salcha River,**	**64.33**	**26**	P		**P**	**09 48 47.0**	**-0.8**
J25K	comp=Z,3.7nm,1.3s					IAmb	IAmb	09 49 20.9
SCRK	**Sand Creek**	**64.82**	**27**	P		**P**	**09 48 51.4**	**+0.5**
SCRK	comp=Z,4.6nm,1.3s					IAmb	IAmb	09 49 29.2
D25K	**Kavik River**	**64.98**	**21**	P		**P**	**09 48 52.5**	**+0.6**
D25K	comp=Z,4.4nm,1.2s					IAmb	IAmb	09 49 25.9
BMAR	**Burnt Mountain**	**65.20**	**23**	P		**P**	**09 48 55.4**	**+2.1**
L27K	**Beaver Creek,**	**65.64**	**28**	P		**P**	**09 48 57.9**	**+1.7**
L27K	comp=Z,4.6nm,1.5s					IAmb	IAmb	09 49 19.0
BCAR	**Beaver Creek A**	**65.66**	**28**	P		**P**	**09 48 57.8**	**+1.4**
EGAK	**Eagle**	**66.15**	**27**	P		**P**	**09 49 01.1**	**+1.8**
EGAK	comp=Z,5.9nm,1.4s					IAmb	IAmb	09 49 05.1
BVAR	**Borovoye Array** comp=Z,1.0nm,0.5s,baz=76,slow=6.3,SNR=5.0	**66.60**	**320**	P		**P**	**09 49 02.9**	**+0.5**
I28M	**Miner Creek** comp=Z,1.0nm,0.5s	**66.74**	**26**	P		**P**	**09 49 04.7**	**+1.4**
DAWY	**Dawson**	**66.83**	**27**	P		**P**	**09 49 05.5**	**+1.7**
DAWY	comp=Z,5.0nm,1.4s					IAmb	IAmb	09 49 38.5
F28M	**Old Crow**	**67.02**	**24**	P		**P**	**09 49 06.2**	**+1.4**
H29M	**Whitestone**	**67.46**	**25**	P		**P**	**09 49 08.8**	**+1.2**
INK	**Inuvik**	**69.46**	**23**	P		**P**	**09 49 20.0**	**0.0**
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.6s,baz=292,slow=5.8,SNR=9.8	**78.07**	**28**	P		**P**	**09 50 11.6**	**+1.4**
YKA	comp=Z,0.5nm,0.7s,baz=292,slow=5.6,SNR=5.5			pP		**pP**	**09 50 43.2**	**-3.1**
NVAR	**Mina Array Bea** comp=Z,2.5nm,0.9s,baz=268,slow=5.7,SNR=16	**83.17**	**52**	P		**P**	**09 50 40.5**	**+2.3**
NVAR	comp=Z,0.8nm,0.8s,baz=261,slow=6.9,SNR=3.6			pP		**pP**	**09 51 12.3**	**-2.2**
FINES	**FINESS Array B** comp=Z,0.6nm,0.5s,baz=43,slow=3.6,SNR=8.3	**87.01**	**335**	P		**P**	**09 50 55.8**	**-0.7**
PDAR	**Pinedale Array** comp=Z,0.2nm,0.4s,baz=199,slow=2.5,SNR=4.4	**87.87**	**45**	P		**P**	**09 51 03.1**	**+1.7**
LPAZ	**La Paz** comp=Z,1.0nm,0.7s,baz=2.9,slow=7.4,SNR=5.1	**147.62**	**91**	PKPbc		**PKiKP**	**09 57 58.4**	**-0.2**

*NEIC **06** 09:47:48.9±1.9,19°.46N±0°.02×154°.99W±0°.03,h5km±2km, Error ellipse: s-maj=4.3km s-min=3.0km az=292.0*
HVO 06 09:47:47.4±1.8,19°.45N±0°.03×154°.90W±0°.03,h4km±6km, ML2.5/15,ML2.7/34(NEIC),Error ellipse: s-maj=5.2km s-min=1.9km az=133.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.10**	**262**			Pg	09 47 51.5	+2.1
JCUZ	**Jacuzzi**	**0.20**	**252**			Pg	09 47 50.6	-0.7
NPOC	**North of Pu'u**	**0.20**	**255**			Pg	09 47 50.9	-0.5
STCH	**Steam Cracks**	**0.22**	**254**			Pg	09 47 51.2	-0.5
KNHH	**Kane Nui o Ham**	**0.26**	**255**			Pb	09 47 54.0	-0.8
PUH	**Pauahi**	**0.31**	**256**			Pg	09 47 54.3	+0.9
PUH	**Pauahi** comp=E,320nm,0.4s	**0.31**	**256**	IAML			09 48 01.2	
PUH	comp=N,446nm,0.4s			IAML			09 48 03.0	
BYL	**Byron's Ledge**	**0.34**	**264**	Pg		Pg	09 47 53.1	-1.0
BYL	comp=E,1μm,0.4s			IAML			09 48 05.8	
BYL	comp=N,1μm,0.5s			IAML			09 48 05.8	
HATHI	**Halema'uma'u T**	**0.34**	**266**	Pg		Pg	09 47 53.1	-1.0
HATHI	comp=E,2μm,0.8s			IAML			09 48 02.5	
KKO	**Keanakako'i**	**0.35**	**262**	Pg		Pg	09 47 53.6	-0.6
KKO	comp=E,1μm,0.8s			IAML			09 48 06.3	
RIM	**Rim**	**0.36**	**262**	Pg		Pg	09 47 53.8	-0.6
RSD	**Rainshed**	**0.36**	**273**			Pg	09 47 55.1	+0.7
RSD	**Rainshed** comp=E,699nm,0.3s	**0.36**	**273**	IAML			09 48 02.0	
RSD	comp=N,710nm,0.3s			IAML			09 48 02.2	
UWB	**Uwekahuna B**	**0.36**	**266**	Pg		Pg	09 47 52.9	-1.4
UWB	comp=N,960nm,1.6s			IAML			09 48 02.4	
UWB	comp=E,850nm,0.6s			IAML			09 48 05.8	
NPH	**North Pit**	**0.36**	**265**	Pg		Pg	09 47 54.1	-0.4
NPH	comp=E,469nm,0.3s			IAML			09 47 56.3	
NPH	comp=N,1μm,0.6s			IAML			09 48 04.4	
OBL	**Observatory Le**	**0.36**	**265**	Pg		Pg	09 47 54.4	-0.1

HLP	**Hilina Pali**	**0.41**	**249**		Pg	09 47 56.1	+0.7
HLP	**Hilina Pali**	**0.41**	**249**	IAML		09 48 03.0	
	comp=N,900nm,0.5s						
HLP				IAML		09 48 03.2	
	comp=E,742nm,0.4s						
MLH	**Mauna Loa**	**0.46**	**276**		Pg	09 47 56.2	-0.1
MLH	**Mauna Loa**	**0.46**	**276**		Sg	09 48 04.0	+1.6
MLH	**Mauna Loa**	**0.46**	**276**	IAML		09 48 04.3	
	comp=N,850nm,0.6s						
MLH				IAML		09 48 09.3	
	comp=E,580nm,0.3s						
HMH	**Humu'ula Sheep**	**0.57**	**286**		Pg	09 47 58.5	+0.1
HMH	**Humu'ula Sheep**	**0.57**	**286**		Sb	09 48 07.9	-0.9
MWH	**Moku'aweowe**	**0.66**	**273**		Pg	09 47 59.5	-0.6
MWH				IAML		09 48 13.3	
	comp=N,349nm,0.5s						
MWH				IAML		09 48 17.5	
	comp=E,511nm,0.9s						
KHU	**Kahuku**	**0.70**	**254**		Pg	09 48 00.5	-0.5
KHU	**Kahuku**	**0.70**	**254**	IAML		09 48 04.7	
	comp=E,326nm,4.2s						
KHU				IAML		09 48 15.8	
	comp=N,216nm,3.4s						
ALEP	**Alea Permanent**	**0.71**	**278**		Pg	09 48 00.8	-0.3
ALEP					Sg	09 48 11.1	+0.8

GII ***06*** *09:48:33.7±0.5,34.80N×23.41E,h5km,Mws3.4, confirmed*
IDC ***06*** *09:48:42.0±1.5,34.90N×23.41E,h0km,mb3.7/6, mbtmp3.6/7,ML2.7/1, Error ellipse: s-maj=45.1km s-min=26.1km az=142.0*
ATH ***06*** *09:48:45.4,34.68N×23.27E,h9km±2km,ML3.1/12,Error ellipse: s-maj=3.3km s-min=1.7km az=47.0*
THE ***06*** *09:48:47.9,34.80N×23.41E,h5km±2km,ML3.1/5,Error ellipse: s-maj=2.2km s-min=0.9km az=42.0*
ISK ***06*** *09:48:47.7,34.83N×23.46E,h25km,ML3.1/9*
AFAD ***06*** *09:48:58.6±0.0,34.70N×24.87E,h7km±3km,ML2.6*

ISC 06 09:48:46.2±1.6,34.74N±0.05×23.36E±0.05,h15km±9km, n62,σ1°08/59,mb3.8/6,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDR	**Palaiochora Ch**	**0.56**	**29**	Pg	**Pg**	**09 48 57.3**	**+0.1**
KNDR	**Palaiochora Ch**	**0.56**	**29**	P	**Pg**	**09 48 57.4**	**+0.2**
KNDR				S	**Sb**	**09 49 06.3**	**+0.8**
KNDR				AML	AML	09 49 10.1	
	comp=N,6408μm,0.4s						
KNDR				AML	AML	09 49 12.0	
	comp=E,6730μm,0.4s						
GVD	**Gavdhos**	**0.61**	**81**	Pg	**Pg**	**09 48 58.8**	**+0.7**
GVD	**Gavdhos**	**0.61**	**81**	P	**Pg**	**09 48 58.9**	**+0.8**
GVD				S	**Sb**	**09 49 07.4**	**+0.5**
	comp=E,6μm,0.4s						
GVD	**Gavdhos**	**0.61**	**81**	P	**Pg**	**09 48 59.1**	**+1.0**
GVD				S	**Sb**	**09 49 08.3**	**+1.4**
GVD				AML	AML	09 49 11.2	
	comp=N,13387μm,0.4s						
GVD				AML	AML	09 49 12.3	
	comp=E,11526μm,0.4s						
GVDS	**Gavdos**	**0.61**	**80**	Pg	**Pg**	**09 48 58.4**	**+0.2**
GVDS	**Gavdos**	**0.61**	**80**	P	**Pg**	**09 48 58.7**	**+0.5**
GVDS				S	**Sg**	**09 49 06.0**	**-0.3**
	comp=E,4μm,0.4s						
RODP	**Rodopos**	**0.88**	**22**	Pg	**Pg**	**09 49 03.3**	**+0.1**
RODP	**Rodopos**	**0.88**	**22**	P	**Pb**	**09 49 03.9**	**+0.7**
RODP				S	**Sb**	**09 49 15.4**	**+0.6**
IMMV	**Iera Moni Meta**	**0.88**	**35**	Pg	**Pg**	**09 49 03.1**	**-0.2**
IMMV				Sg	**Sg**	**09 49 14.4**	**-0.4**
IMMV	**Iera Moni Meta**	**0.88**	**35**	P	**Pg**	**09 49 02.9**	**-0.3**
IMMV				S	**Sb**	**09 49 15.2**	**+0.4**
	comp=E,2μm,0.5s						
IMMV	**Iera Moni Meta**	**0.88**	**35**	P	**Pg**	**09 49 03.1**	**-0.2**
IMMV				S	**Sb**	**09 49 16.4**	**+1.6**
IMMV				AML	AML	09 49 19.0	
	comp=E,3098μm,0.3s						
IMMV				AML	AML	09 49 20.6	
	comp=N,3902μm,0.6s						
CHAN	**Chania**	**0.95**	**36**	P	**Pg**	**09 49 04.5**	**-0.2**
CHAN				S	**Sn**	**09 49 19.5**	**+1.0**
CHAN				AML	AML	09 49 22.4	
	comp=N,2744μm,0.5s						
CHAN				AML	AML	09 49 25.2	
	comp=E,2414μm,0.4s						
ANKY	**Antikythira Is**	**1.12**	**358**	P	**Pb**	**09 49 08.4**	**+1.1**
ANKY				S	**Sb**	**09 49 22.9**	**+1.1**
	comp=E,582nm,1.1s						
ANKY	**Antikythira Is**	**1.12**	**358**	P	**Pg**	**09 49 07.7**	**-0.1**
ANKY				S	**Sn**	**09 49 23.7**	**+1.0**
ANKY				AML	AML	09 49 31.0	
	comp=N,1063μm,1.4s						
ANKY				AML	AML	09 49 33.5	
	comp=E,1151μm,1.1s						
PRNS	**Prines Rethymn**	**1.12**	**56**	P	**Pg**	**09 49 06.1**	**-1.8**
PRNS				S	**Sg**	**09 49 21.4**	**-1.2**
TMBK	**Timbaki Herakl**	**1.20**	**74**	P	**Pg**	**09 49 08.8**	**-0.6**
TMBK				S	**Sn**	**09 49 25.6**	**+1.0**
TMBK	**Timbaki Herakl**	**1.20**	**74**	P	**Pg**	**09 49 09.2**	**-0.2**
IDI	**Anoyia**	**1.37**	**66**	Pn	**Pn**	**09 49 10.2**	**-0.7**
IDI	**Anoyia**	**1.37**	**66**	P	**Pn**	**09 49 10.8**	**-0.1**
IDI				S	**Sn**	**09 49 30.9**	**+2.1**
	comp=E,270nm,0.6s						
IDI	**Anoyia**	**1.37**	**66**	P	**Pn**	**09 49 10.7**	**-0.1**
IDI				S	**Sn**	**09 49 30.1**	**+1.2**
IDI				AML	AML	09 49 32.2	
	comp=N,663μm,0.7s						
IDI				AML	AML	09 49 36.5	
	comp=E,647μm,0.4s						
KSTL	**Kastelli Herak**	**1.51**	**68**	P	**Pg**	**09 49 16.0**	**+0.7**
KSTL				AML	AML	09 49 50.8	
	comp=E,317μm,0.5s						
KSTL				AML	AML	09 49 52.7	
	comp=N,730μm,0.5s						
FRMA	**Ierapetra Chan**	**1.97**	**81**	P	**Pn**	**09 49 21.9**	**+2.8**
VLI	**Veliai**	**2.00**	**350**	P	**Pn**	**09 49 21.1**	**+1.6**
VLI	**Veliai**	**2.00**	**350**	P	**Pn**	**09 49 19.9**	**+0.3**
VLI				AML	AML	09 50 02.0	
	comp=E,436μm,0.9s						
VLI				AML	AML	09 50 03.6	
	comp=N,453μm,0.7s						
MHLO	**Agia Marina, M**	**2.12**	**23**	P	**Pn**	**09 49 20.6**	**-0.5**
MHLO				AML	AML	09 49 55.0	
	comp=E,991μm,0.9s						
MHLO				AML	AML	09 50 07.7	
	comp=N,1006μm,0.5s						
ZKR	**Zakros**	**2.38**	**80**	Pn	**Pn**	**09 49 24.8**	**+0.1**
ZKR	**Zakros**	**2.38**	**80**	P	**Pn**	**09 49 25.4**	**+0.7**
ZKR	**Zakros**	**2.38**	**80**	P	**Pn**	**09 49 23.9**	**-0.8**
ZKR				AML	AML	09 50 31.2	
	comp=E,346μm,1.2s						
ZKR				AML	AML	09 50 32.9	
	comp=N,66μm,1.0s						
KRND	**KRANIDI**	**2.64**	**356**	P	**Pn**	**09 49 28.5**	**+0.2**
KRND				AML	AML	09 50 27.6	
	comp=N,125μm,0.6s						
KRND				AML	AML	09 50 29.3	
	comp=E,156μm,0.7s						
APE	**Apeiranthos**	**2.91**	**37**	Pn	**Pn**	**09 49 31.5**	**-0.6**
KARP	**Karpathos**	**3.22**	**74**	Pn	**Pn**	**09 49 37.0**	**+0.7**
KARP	**Karpathos**	**3.22**	**74**	P	**Pn**	**09 49 35.7**	**-0.5**
GUR	**Goura**	**3.29**	**346**	P	**Pn**	**09 49 38.0**	**+0.7**
GUR				AML	AML	09 50 21.5	
	comp=E,147μm,0.7s						
GUR				AML	AML	09 50 35.8	
	comp=N,110μm,0.5s						
KLV	**Kalavryta, Ach**	**3.44**	**344**	P	**Pn**	**09 49 40.0**	**+0.7**
DAT	**Datca**	**3.96**	**59**	Pn	**Pn**	**09 49 46.2**	**-0.4**
DAT	**Datca**	**3.96**	**59**	P	**Pn**	**09 49 44.5**	**-2.1**
DNZT	**Denizli-Tavas-**	**5.24**	**60**	P	**Pn**	**09 50 03.8**	**-0.4**
DNZT				S	Sn	09 50 52.8	-12
DNZT				*i* AML	AML	09 51 01.0	
	comp=N,7.5nm,0.8s						
DNZT				*i* AML	AML	09 52 14.0	
	comp=N,6.8nm,2.0s						
TAVA	**DENIZLI_Tavas**	**5.25**	**57**	P	**Pn**	**09 50 04.0**	**-0.3**
TAVA				S	Sn	09 50 52.8	-12
TAVA				*i* AML	AML	09 52 09.0	
	comp=N,9.1nm,2.9s						
KNIK	**Mula-Seydike**	**5.47**	**66**	P	**Pn**	**09 50 04.7**	**-2.6**
KNIK				S	Sn	09 50 56.1	-14
KNIK				*i* AML	AML	09 51 11.0	
	comp=N,13nm,0.9s						
AKUM	**Antalya-Kumluc**	**5.91**	**73**	P	**Pn**	**09 50 11.7**	**-1.5**
AKUM				S	Sn	09 51 00.9	-20
AKUM				*i* AML	AML	09 51 18.0	
	comp=N,13nm,0.7s						
BRTR	**Keskin Array B**	**9.58**	**56**	Pn	**Pn**	**09 51 02.6**	**-1.3**
	comp=N,0.1nm,0.3s,baz=257,slow=12,SNR=2.2						
	comp=N,0.3nm,0.5s						
KZIT	**Kziot**	**10.04**	**109**	S	Sn	09 52 51.3	-11
KZIT	**Kziot**	**10.04**	**109**	P	Pn	09 50 58.6	-11
YTIR	**Yattir**	**10.43**	**106**	P	Pn	09 51 04.6	-11
YTIR	**Yattir**	**10.43**	**106**	S	Sn	09 53 01.4	-11
DSI	**Dead Sea**	**10.56**	**104**	P	Pn	09 51 06.3	-11
DSI	**Dead Sea**	**10.56**	**104**	S	Sn	09 53 04.0	-11
MSBI	**Mazada**	**10.64**	**105**	P	Pn	09 51 07.2	-11
MSBI	**Mazada**	**10.64**	**105**	S	Sn	09 53 05.2	-12
KRMI	**Paran Flat**	**10.65**	**113**	S	Sn	09 53 05.9	-11
KRMI	**Paran Flat**	**10.65**	**113**	P	Pn	09 51 07.4	-11
PRNI	**Paran**	**10.76**	**111**	S	Sn	09 53 08.5	-12
PRNI	**Paran**	**10.76**	**111**	P	Pn	09 51 08.0	-12
EIL	**Elat**	**11.04**	**114**	P	Pn	09 51 12.6	-11
EIL	**Elat**	**11.04**	**114**	S	Sn	09 53 16.4	-11
HFS	**Hagfors**	**26.17**	**349**	P	**P**	**09 54 17.1**	**-2.8**
	comp=N,1.4nm,0.7s,baz=141,slow=9.3,SNR=2.9						
	comp=N,1.4nm,0.7s						
TORD	**Torodi Ar. Bea**	**29.10**	**228**	P	**P**	**09 54 45.7**	**-0.8**
	comp=N,0.2nm,0.5s,baz=25,slow=8.7,SNR=1.7						
	comp=N,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**34.87**	**1**	P	P	09 55 32.7	-3.8
	comp=N,2.0nm,0.9s,baz=185,slow=10.0,SNR=1.5						
	comp=N,2.0nm,0.9s						
KURBB	**Kurchatov Arra**	**42.53**	**51**	P	P	09 56 38.0	-3.0
	comp=N,0.7nm,0.3s,baz=271,slow=8.7,SNR=4.9						
	comp=N,0.7nm,0.3s						
MKAR	**Makanchi Array**	**45.23**	**56**	P	P	09 56 59.9	-3.0
	comp=N,0.2nm,0.3s,baz=267,slow=7.9,SNR=6.2						
	comp=N,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**46.36**	**46**	P	P	09 57 08.0	-3.6
	comp=N,0.5nm,0.3s,baz=258,slow=7.6,SNR=2.0						
	comp=N,0.5nm,0.3s						

HEL ***06*** *09:56:19.7±0.0,60.02N×26.20E,h0km,ML1.3,Explosion*
IDC ***06*** *09:56:21.9±2.2,60.10N×26.18E,h0km,mbtmp3.0/3, ML2.0/3,Error ellipse: s-maj=21.4km s-min=10.1km az=127.0*

ISC 06 09:56:18.6±0.8,60.05N±0.03×26.11E±0.04,h0km,n14, σ0°87/21,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.51**	**346**	*e*P	**Pb**	**09 56 29.7**	**-0.8**
PVF				*e*S	**Sb**	**09 56 37.0**	**-1.5**
ARBE	**Arbavere**	**0.62**	**186**	*e*P	**Pg**	**09 56 30.2**	**-0.2**
ARBE				*e*S	**Sg**	**09 56 37.5**	**-0.9**
NUR	**Nurmijrvi**	**0.86**	**303**	*e*P	**Pb**	**09 56 36.1**	**-0.3**
MEF	**Metsahovi**	**0.87**	**282**	*e*P	**Pb**	**09 56 36.3**	**-0.3**
VJF	**Virojoki**	**0.87**	**55**	*e*P	**Pg**	**09 56 35.5**	**+0.2**
FIA0	**FINESS Array S**	**1.40**	**359**	*e*P	**Pg**	**09 56 45.3**	**-0.1**
FIA0				*e*SB	**Sn**	**09 57 04.5**	**+0.1**
FIA0				MSG		09 57 05.0	
	comp=Z,1.7nm,0.1s						
FINES	**FINESS Array B**	**1.40**	**359**	Pg	**Pg**	**09 56 45.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=182,slow=17,SNR=6.9						
FINES				Lg	Lg	09 57 04.7	
	comp=Z,0.3nm,0.3s,baz=183,slow=28,SNR=9.3						
VSU	**Vasula**	**1.62**	**168**	*e*PN	**Pb**	**09 56 49.0**	**-0.3**
MTSE	**Matsula**	**1.78**	**222**	*e*PG	**Pb**	**09 56 51.7**	**-0.3**
MTSE				*e*SG	**Sg**	**09 57 14.7**	**-0.9**
RUF	**Ruokolahti**	**1.96**	**44**	*e*P	**Pn**	**09 56 53.9**	**+0.8**
RUF				*e*S	**Sn**	**09 57 19.1**	**+0.7**
RUF				MSG		09 57 22.9	
	comp=Z,1.9nm,0.1s						
RAF	**Rauma**	**2.36**	**296**	*e*PB	**Pb**	**09 57 01.6**	**-0.2**
RAF				*e*SG	**Sg**	**09 57 33.6**	**-0.6**
RAF				MSG		09 57 34.0	
	comp=Z,1.5nm,0.2s						
HFS	**Hagfors**	**6.21**	**276**	Pn	**Pn**	**09 57 52.7**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=98,slow=13,SNR=1.9						
HFS				Sn	**Sn**	**09 59 02.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=180,slow=40,SNR=1.3						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B**	**7.41**	**284**	Pn	**Pn**	**09 58 10.2**	**+2.3**
	baz=82,slow=17,SNR=1.0						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**9.53**	**359**	Pn	**Pn**	**09 58 36.6**	**-0.3**
	baz=183,slow=15,SNR=1.4						
	comp=Z,1.7nm,0.9s						

TAP ***06*** *09:57:25.3,24.05N×122.66E,h29km,ML2.9,C*
JMA ***06*** *09:57:25.1±0.2,24.1N±2.3×122.6E±0.6,h28km±4km, MV2.4/12,NW OFF ISHIGAKIJIMA IS*

ISC 06 09:57:24.7±1.1,23.96N±0.04×122.65E±0.02,h27km±12km, n58,σ0°76/84,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.34**	**298**	*i* P	**Pn**	**09 57 32.9**	**-0.7**
	baz=283						
EOS4				*i* S	**Sn**	**09 57 38.4**	**-1.0**
	baz=283						
EOS3	**EOS3**	**0.44**	**317**	⇓*i* P	**Pn**	**09 57 34.6**	**-0.6**
	baz=307						
JYNG	**Yonagunijimaku**	**0.56**	**29**	P	**Pb**	**09 57 35.6**	**-0.4**
JYNG				S	**Sb**	**09 57 43.0**	**-0.7**
EOS2	**EOS2**	**0.59**	**320**	P	**Pn**	**09 57 37.3**	**0.0**
	baz=314						
EOS2				S	**Sn**	**09 57 46.2**	**+0.2**
	baz=314						
YOJ	**Yonaguni jima**	**0.60**	**34**	P	**Pb**	**09 57 36.3**	**-0.4**
YOJ				S	**Sb**	**09 57 44.1**	**-0.7**
YOJ	**Yonaguni jima**	**0.60**	**34**	⇓*i* P	**Pb**	**09 57 36.2**	**-0.4**
	baz=42						
YOJ				*i* S	**Sb**	**09 57 44.0**	**-0.8**
	baz=42						
EWUT	**Wuta**	**0.93**	**301**	*e*P	**Pb**	**09 57 41.9**	**-0.3**
	baz=296						
EWUT				S	**Sn**	**09 57 55.4**	**+0.9**
	baz=296						
ENA	**Nanau**	**0.95**	**300**	*e*P	**Pb**	**09 57 42.7**	**+0.1**
	baz=306						
ENA				S	**Sn**	**09 57 55.5**	**+0.6**
	baz=306						
ETL	**Fush Village**	**0.95**	**282**	*e*P	**Pb**	**09 57 42.7**	**0.0**
	baz=261						
ETL				*e*S	**Sn**	**09 57 55.5**	**+0.3**
	baz=261						
TEYL	**Yanliau Villag**	**0.96**	**265**	*e*S	**Sb**	**09 57 56.0**	**+0.9**
	baz=249						
TWC	**Suao**	**0.97**	**312**	*i* P	**Pb**	**09 57 42.5**	**-0.5**
	baz=308						
TWC				*i* S	**Sn**	**09 57 55.6**	**+0.1**
	baz=308						
NACB	**Ninganchiao**	**0.98**	**283**	*i* P	**Pn**	**09 57 42.3**	**-0.5**
	baz=262						
NACB				*e*S	**Sn**	**09 57 55.0**	**-0.9**
	baz=262						
SHUL	**Shoufeng**	**1.01**	**260**	*e*P	**Pn**	**09 57 43.0**	**-0.1**
	baz=255						
SHUL				*e*S	**Sn**	**09 57 55.6**	**-0.8**
	baz=255						
ETM	**Tongmen**	**1.05**	**270**	*e*P	**Pn**	**09 57 42.6**	**-1.2**
	baz=265						
ETM				*e*S	**Sn**	**09 57 57.2**	**-0.4**
	baz=265						
IRIF	**Iriomote-Funau**	**1.06**	**69**	P	**Pb**	**09 57 44.3**	**-0.1**
IRIF				S	**Sb**	**09 57 58.8**	**+1.0**
HATJ	**Hateruma jima**	**1.06**	**85**	*e*S	**Sb**	**09 57 59.0**	**+1.0**
NDS	**Dongshan**	**1.08**	**308**	*e*P	**Pb**	**09 57 45.0**	**+0.2**
	baz=304						
ETLH	**Xiulin Townshi**	**1.09**	**283**	P	**Pn**	**09 57 44.2**	**-0.2**
	baz=264						
ETLH				*i* S	**Sn**	**09 57 58.5**	**-0.1**
	baz=264						
ESL	**Shilin**	**1.12**	**263**	P	**Pn**	**09 57 44.1**	**-0.6**
	baz=247						
ESL				S	**Sn**	**09 57 58.1**	**-1.1**
	baz=247						
LXIB	**Xiulin Townshi**	**1.13**	**273**	⇑*i* P	**Pn**	**09 57 44.7**	**-0.3**
	baz=268						
LXIB				S	**Sn**	**09 57 59.3**	**-0.4**
	baz=268						
TWE	**Neicheng**	**1.17**	**310**	P	**Pb**	**09 57 46.9**	**+0.6**
	baz=308						
TWE				S	**Sb**	**09 58 02.9**	**+1.8**
	baz=308						
LATG	**Datong**	**1.17**	**299**	P	**Pb**	**09 57 45.8**	**-0.6**
	baz=295						
LATG				*e*S	**Sb**	**09 58 03.8**	**+2.5**
	baz=295						
WARBT	**Fenglin Townsh**	**1.18**	**258**	*i* P	**Pn**	**09 57 45.0**	**-0.5**
	baz=242						
WARBT				*e*S	**Sn**	**09 57 59.7**	**-1.0**
	baz=242						
ENTT	**Nioudou**	**1.20**	**305**	P	**Pb**	**09 57 46.7**	**0.0**
	baz=301						
TWB1	**Santiao Chiao**	**1.20**	**330**	P	**Pn**	**09 57 45.5**	**-0.3**
	baz=327						
HGSD	**Ruisui**	**1.21**	**248**	*e*P	**Pn**	**09 57 45.6**	**-0.3**
	baz=244						
NDT	**Datong Townshi**	**1.22**	**302**	*e*P	**Pb**	**09 57 47.2**	**+0.1**
	baz=285						
NNSB	**Datong**	**1.24**	**292**	P	**Pn**	**09 57 46.5**	**0.0**
	baz=288						
FUSB	**Fushanzhiwuyua**	**1.25**	**310**	P	**Pb**	**09 57 47.2**	**-0.5**
	baz=307						
FUSB				S	**Sb**	**09 58 06.0**	**+2.5**
	baz=307						
NNS	**Nan Shan**	**1.26**	**293**	*e*P	**Pn**	**09 57 46.9**	**+0.2**
	baz=288						
NNS				*e*S	**Sb**	**09 58 03.9**	**+0.2**
	baz=288						
WHF	**Hehuan Shan**	**1.27**	**279**	*e*P	**Pn**	**09 57 47.0**	**-0.2**
	baz=274						
JKRS	**Kuro-shima**	**1.28**	**77**	*e*P	**Pb**	**09 57 48.3**	**+0.2**
JKRS				*e*S	**Sb**	**09 58 05.2**	**+1.1**
EHY	**Hungye**	**1.29**	**250**	*e*P	**Pn**	**09 57 46.1**	**-1.0**
	baz=246						
EHY				*e*S	**Sn**	**09 58 02.9**	**-0.7**
	baz=246						
NWLT	**Wulai**	**1.32**	**308**	*e*P	**Pb**	**09 57 49.6**	**+0.7**
	baz=319						
SXI1	**Grass Mountain**	**1.33**	**328**	P	**Pn**	**09 57 47.2**	**-0.4**
	baz=339						
SXI1				*e*S	**Sb**	**09 58 04.4**	**-1.3**
	baz=339						
OWD	**Renai**	**1.34**	**270**	*e*P	**Pn**	**09 57 47.6**	**-0.3**
	baz=266						
CHGB	**Renai**	**1.35**	**274**	*e*P	**Pn**	**09 57 47.8**	**-0.3**
	baz=259						
YHNB	**Yeheng**	**1.36**	**302**	*e*P	**Pn**	**09 57 48.2**	**+0.2**
	baz=284						
WFSB	**Wu-fen Shan**	**1.36**	**325**	*e*P	**Pb**	**09 57 48.3**	**-1.2**
	baz=322						
YULB	**Yu-li**	**1.36**	**246**	P	**Pn**	**09 57 48.2**	**+0.2**
	baz=243						
EYUL	**Yuli**	**1.36**	**244**	*e*P	**Pn**	**09 57 48.5**	**+0.5**
	baz=230						
NSK	**Sanguang**	**1.37**	**301**	*e*P	**Pn**	**09 57 48.6**	**+0.4**
	baz=284						
TWF1	**Yuli**	**1.38**	**244**	*e*P	**Pn**	**09 57 48.5**	**+0.3**
	baz=231						
VWDT	**VWDT**	**1.39**	**262**	P	**Pn**	**09 57 49.1**	**+0.7**
	baz=258						
WUSB	**Renai**	**1.40**	**272**	*e*P	**Pn**	**09 57 49.2**	**+0.6**
	baz=268						
JIJ	**Ishigaki jima**	**1.43**	**73**	P	**Pn**	**09 57 49.4**	**+0.5**
JIJ				S	**Sn**	**09 58 07.0**	**+0.3**
TNOU	**National Taiwa**	**1.43**	**326**	*e*P	**Pn**	**09 57 48.9**	**0.0**
	baz=323						
YM01	**YM01**	**1.53**	**321**	*e*P	**Pb**	**09 57 51.8**	**-0.7**
	baz=318						
NFF	**Wufeng Townshi**	**1.55**	**296**	*e*P	**Pn**	**09 57 50.3**	**-0.3**
	baz=282						
SSLB	**Suanglung**	**1.56**	**264**	*e*P	**Pn**	**09 57 50.8**	**+0.1**
	baz=261						
EDH	**Donghe**	**1.58**	**232**	*e*P	**Pn**	**09 57 49.5**	**-1.4**
	baz=219						
WHP	**Taichung City**	**1.58**	**282**	*e*P	**Pb**	**09 57 53.5**	**0.0**
	baz=268						
WCS	**Beigang Elemen**	**1.59**	**274**	*e*P	**Pn**	**09 57 52.2**	**+1.1**
	baz=270						
SMLT	**Sun Moon Lake**	**1.60**	**268**	*e*P	**Pn**	**09 57 52.0**	**+0.6**
	baz=264						
TWY	**Chenhua**	**1.62**	**324**	*e*P	**Pn**	**09 57 52.0**	**+0.5**
	baz=332						
TYC	**Yuchr**	**1.64**	**268**	*e*P	**Pb**	**09 57 53.8**	**-0.4**
	baz=265						
JISG	**Ishigakijimahi**	**1.64**	**67**	*e*P	**Pn**	**09 57 51.8**	**-0.1**
JISG				S	**Sn**	**09 58 11.8**	**-0.2**
NSTT	**Nanjuang**	**1.64**	**294**	*e*P	**Pb**	**09 57 53.4**	**-1.0**
	baz=291						

IDC ***06*** *10:05:35.1±2.3,34.46N×96.69E,h0km,mb3.4/3, mbtmp3.5/6,ML3.6/3,Error ellipse: s-maj=48.9km s-min=29.4km az=45.0*

ISC 06 10:05:39.1±1.3,34.5N±0.1×96.5E±0.2,h35km,n6,σ1°93/6, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**15.24**	**26**	Pn	**Pn**	**10 09 11.4**	**-0.4**
	0.1nm,0.3s,baz=206,slow=15,SNR=4.9						
	0.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**16.10**	**172**	Pn	**Pn**	**10 09 23.1**	**+0.2**
	0.3nm,0.3s,baz=346,slow=10,SNR=1.6						
	0.5nm,0.2s						
MKAR	**Makanchi Array**	**16.35**	**323**	Pn	**Pn**	**10 09 24.3**	**-1.5**
	0.1nm,0.3s,baz=137,slow=14,SNR=3.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**20.80**	**326**	P	**P**	**10 10 17.2**	**0.0**
	1.3nm,0.6s,baz=132,slow=11,SNR=6.7						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**21.15**	**341**	P	**P**	**10 10 23.8**	**+2.9**
	1.3nm,0.7s,baz=164,slow=12,SNR=5.6						
	1.3nm,0.7s						
KSRS	**Korea Array**	**25.51**	**74**	P	**P**	**10 11 03.7**	**-0.5**
	0.6nm,0.6s,baz=272,slow=8.1,SNR=2.6						
	0.6nm,0.6s						

NEIC ***06*** *10:09:40.8±1.4,19.39N±0.02×155.04W±0.02,h5km±1km, Error ellipse: s-maj=4.5km s-min=2.8km az=309.0*

HVO 06 10:09:40.7±1.4,19.38N±0.02×155.03W±0.02,h4km±4km, ML2.3/8,ML2.5/20(NEIC),Error ellipse: s-maj=3.6km s-min=2.8km az=127.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.06**	**26**		Pg	10 09 42.5	+0.4
JCUZ	**Jacuzzi**	**0.07**	**275**		Pg	10 09 42.3	+0.1
JCUZ				IAML		10 09 44.0	
	comp=E,3μm,0.4s						
NPOC	**North of Pu'u**	**0.07**	**282**		Pg	10 09 42.4	+0.1
NPOC				IAML		10 09 44.3	
	comp=E,

comp=E,1μm,0.4s
HMH IAML 10 10 04.0
comp=N,1μm,0.6s
MWH Moku'aweowe 0.54 281 Pg 10 09 50.6 -0.6
KHU Kahuku 0.56 257 Pg 10 09 50.9 -0.6
ALEP Alea Permanent 0.60 286 Pg 10 09 51.5 -0.7
ALEP Sb 10 10 01.5 -1.4

*NEIC **06** 10:59:47.1±1.8, 19°.33N±0°.02×154°.89W±0°.03, h5km±2km, Error ellipse: s-maj=4.7km s-min=3.0km az=302.0*
HVO 06 10:59:48.5±1.8, 19°.39N±0°.02×154°.94W±0°.03, h5km±6km, ML2.5/4, ML2.6/28(NEIC), Error ellipse: s-maj=4.8km s-min=1.1km az=120.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.08**	**306**		Pg	10 59 50.5	+0.3
JCUZ	**Jacuzzi**	**0.15**	**269**		Pg	10 59 51.3	-0.3
NPOC	**North of Pu'u**	**0.16**	**272**		Pg	10 59 51.4	-0.3
NPOC					IAML	10 59 54.3	
comp=E,2μm,0.7s							
STCH	**Steam Cracks**	**0.18**	**269**		Pg	10 59 51.5	-0.5
STCH					IAML	10 59 54.6	
comp=E,2μm,0.2s							
KNHH	**Kane Nui o Ham**	**0.22**	**268**		Sg	10 59 55.2	-0.4
PUH	**Pauahi**	**0.26**	**267**	Pg	Pg	10 59 53.1	-0.6
BYL	**Byron's Ledge**	**0.31**	**275**	Pg	Pg	10 59 53.2	-1.2
BYL					IAML	10 59 55.7	
comp=N,873nm,0.6s							
BYL					IAML	10 59 57.4	
comp=E,1μm,0.4s							
OBL	**Observatory Le**	**0.33**	**275**	Pg	Pg	10 59 54.7	-0.1
RSD	**Rainshed**	**0.33**	**283**		Sg	11 00 00.5	+1.2
RSD	**Rainshed**	**0.33**	**283**		Pg	10 59 55.1	+0.2
RSD	**Rainshed**	**0.33**	**283**		IAML	10 59 57.9	
comp=N,466nm,1.1s							
RSD	**Rainshed**	**0.33**	**283**		IAML	11 00 01.4	
comp=E,427nm,0.4s							
UWE	**Uwekahuna**	**0.34**	**276**	Pg	Pg	10 59 54.2	-0.8
HLP	**Hilina Pali**	**0.36**	**255**		Sg	11 00 01.2	+1.0
HLP	**Hilina Pali**	**0.36**	**255**	Pg	Pg	10 59 55.1	-0.3
HLP	**Hilina Pali**	**0.36**	**255**	IAML		11 00 01.5	
comp=E,934nm,0.6s							
HLP					IAML	11 00 04.3	
comp=N,519nm,0.9s							
MLH	**Mauna Loa**	**0.44**	**284**	IAML		11 00 03.4	
comp=N,570nm,0.5s							
MLH	**Mauna Loa**	**0.44**	**284**		Pg	10 59 56.9	-0.1
MLH					Sg	11 00 03.2	+0.5
HTC	**Hot Caves**	**0.46**	**251**		Pg	10 59 57.4	+0.1
HMH	**Humu'ula Sheep**	**0.56**	**293**		Pg	10 59 58.7	-0.6
HMH					IAML	11 00 07.2	
comp=E,592nm,0.4s							
MWH	**Moku'aweowe**	**0.63**	**279**		Pg	10 59 59.6	-1.0
MWH	**Moku'aweowe**	**0.63**	**279**	IAML		11 00 18.4	
comp=N,298nm,1.3s							
MWH					IAML	11 00 22.4	
comp=E,344nm,1.1s							
KHU	**Kahuku**	**0.66**	**258**		Pg	11 00 00.2	-0.9
KHU	**Kahuku**	**0.66**	**258**	IAML		11 00 09.1	
comp=E,315nm,3.3s							
KHU					IAML	11 00 09.5	
comp=N,193nm,1.2s							
ALEP	**Alea Permanent**	**0.68**	**283**		Pg	11 00 00.7	-0.9
ALEP					Sg	11 00 09.8	-0.7
HUH	**Hualalai**	**0.90**	**289**		Pb	11 00 06.3	-0.3
CPH	**Captain Cook**	**0.93**	**276**		Pg	11 00 05.3	-1.1

*IDC **06** 11:00:58.9±0.8, 24°.28N×127°.21E, h0km, mb3.8/11, mbtmp3.8/13, ML3.8/2, MS3.2/5, Error ellipse: s-maj=31.2km s-min=17.2km az=76.0*
ISC 06 11:01:03.3±0.9, 24°.4N±0°.1×127°.2E±0°.1, h31km, n26, σ1s66/23, mb3.8/11, MS3.5/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.80**	**285**	P	**Pn**	**11 01 30.9**	**-1.3**
JOW	**Kunigami**	**2.66**	**21**	P	**Pn**	**11 01 43.3**	**-0.8**
JOW	**Kunigami**	**2.66**	**21**	Pn	**Pn**	**11 01 43.3**	**-0.8**
17nm,0.3s,baz=160,slow=20,SNR=172							
JOW				Sn	**Sn**	**11 02 12.0**	**-3.2**
45nm,0.3s,baz=124,slow=25,SNR=20							
JOW				LR	LR	11 02 16.3	
comp=Z,93nm,19.2s,baz=138,slow=28							
44nm,0.2s							
YOJ	**Yonaguni jima**	**3.82**	**273**	P	**Pn**	**11 01 58.5**	**-1.6**
JMZ	**Minamidaito 2**	**3.93**	**67**	P	**Pn**	**11 01 58.4**	**-3.1**
NACB	**Ninganchiao**	**5.12**	**269**	P	**Pn**	**11 02 15.5**	**-2.4**
YHNB	**Yeheng**	**5.32**	**275**	P	**Pn**	**11 02 19.8**	**-0.9**
YULB	**Yu-li**	**5.49**	**261**	P	**Pn**	**11 02 20.1**	**-2.9**
SSLB	**Suanglung**	**5.74**	**266**	P	**Pn**	**11 02 24.7**	**-1.7**
TPUB	**Ta-pu**	**6.11**	**262**	P	**Pn**	**11 02 30.1**	**-1.4**
JNU	**Nakatsue**	**9.32**	**19**	Pn	**Pn**	**11 03 15.2**	**-0.4**
1.1nm,0.3s,baz=218,slow=12,SNR=5.7							
5.8nm,0.8s							
SONM	**Songino Array**	**28.67**	**330**	P	**P**	**11 06 59.0**	**+1.6**
0.8nm,0.6s,baz=144,slow=9.5,SNR=6.4							
0.8nm,0.6s							
MKAR	**Makanchi Array**	**42.13**	**314**	P	**P**	**11 08 53.3**	**+0.6**
0.7nm,0.5s,baz=97,slow=10,SNR=9.6							
0.7nm,0.5s							
ZALV	**Zalesovo Beam**	**43.20**	**324**	P	**P**	**11 09 01.4**	**+0.1**
0.8nm,0.4s,baz=128,slow=9.2,SNR=4.1							
0.8nm,0.4s							
WRA	**Warramunga Arr**	**44.57**	**170**	P	**P**	**11 09 11.9**	**-0.7**
1.5nm,0.8s,baz=349,slow=8.9,SNR=12							
1.5nm,0.8s							
KURBB	**Kurchatov Arra**	**45.60**	**318**	P	**P**	**11 09 20.4**	**-0.1**
1.5nm,0.2s,baz=105,slow=7.6,SNR=4.3							
1.5nm,0.2s							
ASAR	**Alice Springs**	**48.17**	**172**	P	**P**	**11 09 40.5**	**-0.3**
0.5nm,0.8s,baz=358,slow=15,SNR=8.1							
0.5nm,0.8s							
BVAR	**Borovoye Array**	**51.08**	**319**	P	**P**	**11 10 02.8**	**+0.1**
1.4nm,0.7s,baz=102,slow=11,SNR=5.3							
1.4nm,0.7s							
KIRV	**Kirov**	**63.24**	**325**	LR	LR	11 43 20.1	
comp=Z,31nm,18.2s,baz=85,slow=40							
ILAR	**Eielson Array**	**66.53**	**28**	P	**P**	**11 11 51.3**	**+1.4**
0.1nm,0.6s,baz=294,slow=9.7,SNR=1.6							
0.1nm,0.6s							
KVAR	**Kislovodsk Arr**	**69.72**	**310**	LR	LR	11 46 28.7	
comp=Z,45nm,19.9s,baz=244,slow=39							
FINES	**FINESS Array B**	**74.04**	**331**	P	**P**	**11 12 36.7**	**+0.8**
1.0nm,0.6s,baz=69,slow=6.3,SNR=6.3							
1.0nm,0.6s							
BBB	**Bella Bella**	**79.59**	**37**	LR	LR	11 48 42.8	
comp=Z,18nm,20.0s,baz=166,slow=36							
HFS	**Hagfors**	**80.05**	**332**	P	**P**	**11 13 11.5**	**+1.9**
0.9nm,0.7s,baz=74,slow=15,SNR=1.8							
0.9nm,0.7s							
NOA	**NORSAR Array B**	**80.58**	**334**	LR	LR	11 53 34.3	
comp=Z,14nm,18.7s,baz=50,slow=39							
YKA	**Yellowknife Ar**	**80.62**	**25**	P	**P**	**11 13 13.2**	**+0.5**
0.3nm,0.8s,baz=302,slow=5.5,SNR=5.1							
0.3nm,0.8s							

*IDC **06** 11:16:54.6±1.9, 1°.22N×125°.97E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=162.8km s-min=26.5km az=64.0*
*DJA **06** 11:17:19.5±0.4, 1°.5N±1°.2×126°.7E±°, h10km, M3.5/7, MLv3.5/7*
ISC 06 11:16:56.6±1.4, 1°.3N±0°.1×126°.01E±0°.08, h10km, n10, σ1s75/8, mb3.8/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.46**	**112**	P	**Pg**	**11 17 26.8**	**+2.0**
KMSI	**Cibinong**	**2.16**	**250**	P	**Sg**	**11 18 07.8**	**+1.6**
LBMI	**Labuha**	**2.45**	**143**	P	**Pg**	**11 17 45.1**	**+1.4**
SANI	**Sanana**	**3.35**	**180**	P	Pg	11 18 04.8	+3.9
NLAI	**Namlea**	**4.66**	**166**	P	**Pb**	**11 18 18.5**	**-0.1**
SWI	**Sorong**	**5.68**	**112**	P	Pn	11 18 27.5	+6.3
WRA	**Warramunga Arr**	**22.66**	**159**	P	**P**	**11 21 57.4**	**-0.9**
1.1nm,0.4s,baz=336,slow=11,SNR=21							
1.1nm,0.4s							
ASAR	**Alice Springs**	**26.00**	**163**	P	**P**	**11 22 29.1**	**-0.9**
0.4nm,0.3s,baz=349,slow=7.4,SNR=18							
0.4nm,0.3s							
STKA	**Stephens Creek**	**36.18**	**157**	P	**P**	**11 23 57.2**	**-2.3**
1.8nm,0.4s,baz=334,slow=10.0,SNR=6.5							
1.8nm,0.4s							
MKAR	**Makanchi Array**	**59.13**	**326**	P	**P**	**11 26 57.7**	**+0.2**
0.3nm,0.4s,baz=112,slow=7.0,SNR=2.5							
0.3nm,0.4s							

*IDC **06** 11:20:23.4±2.2, 1°.71N×126°.82E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=165.7km s-min=27.6km az=66.0*
*DJA **06** 11:20:27.6±0.5, 2°.1N±4°×12°.6E±°, h65km±21km, M4.1/9, mb5.0/1, mB5.3/1, MLv3.7/9, Mw(mB)4.8/1*
ISC 06 11:20:30.2±1.4, 1°.6N±0°.1×126°.33E±0°.08, h47km, n11, σ1s10/12, mb3.5/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.33**	**129**	P	**Pn**	**11 20 51.9**	**-0.5**
LBMI	**Labuha**	**2.53**	**152**	P	**Pn**	**11 21 09.7**	**+0.9**
LBMI				S	**Sn**	**11 21 39.7**	**+1.3**
KMSI	**Cibinong**	**2.57**	**246**	P	**Pn**	**11 21 09.3**	**-0.1**
GTOI	**Gorontalo**	**3.46**	**254**	P	**Pn**	**11 21 21.7**	**+0.1**
SANI	**Sanana**	**3.66**	**185**	P	**Pn**	**11 21 24.6**	**+0.2**
LUWI	**Luwuk**	**4.43**	**233**	P	**Pn**	**11 21 35.5**	**+0.5**
MRSI	**Marisa**	**4.54**	**256**	P	**Pn**	**11 21 35.4**	**-1.0**
NLAI	**Namlea**	**4.89**	**171**	P	**Pn**	**11 21 40.3**	**-0.9**
WRA	**Warramunga Arr**	**22.82**	**160**	P	**P**	**11 25 27.5**	**-1.8**
0.8nm,0.4s,baz=340,slow=11,SNR=24							
0.8nm,0.4s							
ASAR	**Alice Springs**	**26.19**	**164**	P	**P**	**11 25 59.4**	**-1.2**
0.4nm,0.4s,baz=345,slow=7.7,SNR=12							
0.4nm,0.4s							
MKAR	**Makanchi Array**	**59.06**	**326**	P	**P**	**11 30 26.7**	**+1.1**
0.3nm,0.7s,baz=109,slow=7.8,SNR=1.7							
0.3nm,0.7s							

IDC 06 11:36:36.2±9.7, 17°.56S×175°.95W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=429.4km s-min=39.3km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**47.00**	**259**	P	P	11 45 08.4	-1.2
0.3nm,0.9s,baz=98,slow=7.9,SNR=1.8							
0.3nm,0.9s							
ASAR	**Alice Springs**	**47.14**	**254**	P	P	11 45 11.2	+0.6
0.4nm,0.5s,baz=89,slow=8.1,SNR=9.1							
0.4nm,0.5s							
ILAR	**Eielson Array**	**85.04**	**12**	P	P	11 49 13.2	0.0
0.5nm,1.0s,baz=220,slow=5.7,SNR=5.0							
0.5nm,1.0s							

*HEL **06** 11:41:56.4±0.1, 60°.03N×26°.18E, h0km, ML1.6, Explosion*
*IDC **06** 11:41:57.1±2.0, 60°.06N×26°.17E, h0km, mbtmp2.8/3, ML1.7/3, Error ellipse: s-maj=21.8km s-min=10.6km az=118.0*
ISC 06 11:41:54.8±0.8, 60°.05N±0°.03×26°.17E±0°.04, h0km, n20, σ0s71/28, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVF	**Pernaja**	**0.52**	**343**	*eP*	**Pb**	**11 42 06.1**	**-0.7**
PVF				*eS*	**Sb**	**11 42 13.6**	**-1.1**
ARBE	**Arbavere**	**0.63**	**189**	*eP*	**Pb**	**11 42 07.7**	**-0.8**
ARBE	**Arbavere**	**0.63**	**189**	*eP*	**Pg**	**11 42 07.2**	**+0.4**
ARBE				*eS*	**Sg**	**11 42 14.8**	**0.0**
VJF	**Virojoki**	**0.84**	**54**	*eP*	**Pb**	**11 42 11.8**	**-0.4**
VJF				*eS*	**Sg**	**11 42 22.3**	**+0.5**
NUR	**Nurmijrvi**	**0.89**	**302**	*eP*	**Pb**	**11 42 12.5**	**-0.5**
MEF	**Metsahovi**	**0.91**	**281**	*eP*	**Pb**	**11 42 13.3**	**0.0**
MEF	**Metsahovi**	**0.91**	**281**	*eP*	**Pb**	**11 42 12.8**	**-0.5**
FIA0	**FINESS Array S**	**1.40**	**358**	*eP*	**Pb**	**11 42 21.7**	**0.0**
FIA0				*eS*	**Sn**	**11 42 40.6**	**0.0**
FIA0				MSG		11 42 41.6	
comp=Z,3.1nm,0.1s							
FINES	**FINESS Array B**	**1.40**	**358**	Pg	**Pb**	**11 42 21.8**	**+0.1**
comp=Z,0.3nm,0.3s,baz=176,slow=18,SNR=17							
FINES				Lg	Lg	11 42 40.8	
comp=Z,1.1nm,0.3s,baz=182,slow=28,SNR=15							
VSU	**Vasula**	**1.62**	**170**	*eP*	**Pb**	**11 42 25.3**	**-0.2**
VSU				*eS*	**Sg**	**11 42 46.4**	**-0.4**
MTSE	**Matsula**	**1.81**	**223**	*eP*	**Pb**	**11 42 28.2**	**-0.5**
MTSE	**Matsula**	**1.81**	**223**	*ePN*	**Pb**	**11 42 28.3**	**-0.3**
MTSE				*eSG*	**Sb**	**11 42 51.6**	**-0.2**
RUF	**Ruokolahti**	**1.94**	**44**	*eP*	**Pb**	**11 42 30.4**	**-0.5**
RUF				*eS*	**Sg**	**11 42 56.8**	**-0.2**
RUF				MSG		11 42 59.4	
comp=Z,3.0nm,0.1s							
KEF	**Keuruu**	**2.21**	**344**	*eP*	**Pb**	**11 42 34.6**	**-1.0**
RAF	**Rauma**	**2.39**	**296**	*eP*	**Pn**	**11 42 36.4**	**+1.3**
RAF	**Rauma**	**2.39**	**296**	*ePB*	**Pb**	**11 42 37.9**	**-0.6**
RAF				*eSG*	**Sb**	**11 43 09.7**	**+1.2**
RAF				MSG		11 43 10.5	
comp=Z,3.6nm,0.2s							
JOF	**Joensuu**	**3.79**	**38**	*eP*	**Pn**	**11 42 56.2**	**+1.9**
HFS	**Hagfors**	**6.25**	**276**	Pn	**Pn**	**11 43 28.4**	**+0.3**
comp=Z,0.1nm,0.3s,baz=96,slow=14,SNR=1.2							
comp=Z,0.4nm,0.6s							
NOA	**NORSAR Array B**	**7.44**	**284**	Pn	**Pn**	**11 43 44.4**	**-0.1**
baz=95,slow=16,SNR=1.8							
comp=Z,0.1nm,0.5s							
ARCES	**ARCESS Array B**	**9.53**	**359**	Pn	**Pn**	**11 44 12.9**	**-0.1**
baz=180,slow=13,SNR=8.1							
comp=Z,1.2nm,0.8s							

*IDC **06** 11:52:58.0±2.6, 5°.52S×131°.99E, h0km, mb4.3/2, mbtmp4.1/4, ML4.1/2, Error ellipse: s-maj=205.8km s-min=24.9km az=70.0*
*DJA **06** 11:53:13.3±0.5, 6°.5S±3°×13°.1E±°, h139km±14km, M4.3/13, mb4.1/7, mB5.4/3, MLv4.4/13, Mw(mB)4.8/3*
ISC 06 11:53:12.9±0.9, 6°.11S±0°.05×130°.94E±0°.10, h150km, n12, σ3s04/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.88**	**327**	P	**Pn**	**11 53 45.4**	**-1.3**
SAUI	**Saumlaki**	**1.90**	**169**	P	**Pn**	**11 53 47.4**	**+0.6**
SAUI				S	**Sn**	**11 54 12.7**	**-0.3**
FAKI	**Fak Fak**	**3.42**	**22**	P	**Pn**	**11 54 05.2**	**-0.5**
FAKI				S	**Sn**	**11 54 43.8**	**-2.8**
KMPI	**Kaimana, Papua**	**3.67**	**49**	P	**Pn**	**11 54 10.4**	**+1.6**
SWI	**Sorong**	**5.22**	**3**	P	**Pn**	**11 54 28.2**	**-1.0**
40nm,0.7s,5μm0.8nm							
SANI	**Sanana**	**6.38**	**309**	P	**Pn**	**11 54 44.0**	**-0.7**
12nm,0.8s,0.1nm							
SOEI	**Soe**	**7.54**	**241**	P	**Pn**	**11 55 00.3**	**0.0**
23nm,1.0s,0.2nm							
EDFI	**Ende, Flores**	**9.54**	**253**	P	**Pn**	**11 55 27.6**	**+0.6**
WRA	**Warramunga Arr**	**14.14**	**167**	Pn	**Pn**	**11 56 24.0**	**-2.7**
0.7nm,0.3s,baz=353,slow=13,SNR=24							
WRA				Sn	Sn	11 58 51.5	-12
2.1nm,0.3s,baz=350,slow=24,SNR=9.7							
0.9nm,0.5s							
ASAR	**Alice Springs**	**17.69**	**171**	P	**Pn**	**11 57 11.9**	**+1.8**
1.0nm,0.3s,baz=346,slow=9.3,SNR=86							
ASAR				S	**S**	**12 00 17.2**	**-7.8**
1.2nm,0.7s,baz=352,slow=24,SNR=5.4							
3.5nm,0.8s							
STKA	**Stephens Creek**	**27.50**	**160**	P	**P**	**11 58 48.4**	**+3.0**
0.6nm,0.4s,baz=333,slow=11,SNR=1.2							
0.6nm,0.4s							
MKAR	**Makanchi Array**	**68.00**	**326**	P	**P**	**12 03 59.8**	**+3.9**
2.6nm,0.4s,baz=129,slow=7.3,SNR=41							
2.6nm,0.4s							

*HVO **06** 12:00:21.2±1.8, 19°.31N±0°.02×154°.90W±0°.03, h-1km±10km, ML2.6/7, ML2.8/30(NEIC), Error ellipse: s-maj=4.1km s-min=2.4km az=126.0*
NEIC 06 12:00:24.2±1.9, 19°.39N±0°.02×155°.04W±0°.02, h5km±1km, Error ellipse: s-maj=4.8km s-min=2.6km az=141.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.06**	**31**		Pg	12 00 25.3	-0.4
JOKA					Sg	12 00 29.1	+2.4
JCUZ	**Jacuzzi**	**0.06**	**269**		Pg	12 00 24.2	-1.6
NPOC	**North of Pu'u**	**0.07**	**276**		Pg	12 00 23.7	-2.1
STCH	**Steam Cracks**	**0.09**	**270**		Pg	12 00 26.1	0.0
STCH					IAML	12 00 32.8	
comp=E,1μm,0.5s							
KNHH	**Kane Nui o Ham**	**0.13**	**267**		Pg	12 00 27.3	+0.5
PUH	**Pauahi**	**0.17**	**266**		Pg	12 00 27.8	+0.2
PUH					IAML	12 00 36.7	
comp=N,1μm,0.7s							
BYL	**Byron's Ledge**	**0.21**	**277**		Sg	12 00 34.6	+3.3
BYL	**Byron's Ledge**	**0.21**	**277**	Pg	Pg	12 00 27.3	-1.1
BYL	**Byron's Ledge**	**0.21**	**277**	IAML		12 00 36.2	
comp=N,2μm,0.3s							
BYL					IAML	12 00 36.6	
comp=E,2μm,0.6s							
HATHI	**Halema'uma'u T**	**0.22**	**280**		Sg	12 00 34.7	+3.4
RIM	**Rim**	**0.23**	**273**	Pg	Pg	12 00 27.4	-1.2
RIM					IAML	12 00 37.5	
comp=E,2μm,0.7s							
UWB	**Uwekahuna B**	**0.23**	**280**	Pg	Pg	12 00 26.8	-2.0
UWB					IAML	12 00 35.6	
comp=N,1μm,0.7s							
RSD	**Rainshed**	**0.24**	**289**		Pg	12 00 28.1	-0.9
RSD					IAML	12 00 35.5	
comp=E,1μm,0.2s							
RSD					IAML	12 00 37.4	
comp=N,1μm,0.2s							
SDHHI	**Sand Hill**	**0.24**	**271**	Pg	Pg	12 00 27.1	-1.9
WRMHI	**West Rim**	**0.25**	**275**	Pg	Pg	12 00 27.7	-1.4
HLP	**Hilina Pali**	**0.27**	**251**		Pg	12 00 28.5	-1.0
HLP					IAML	12 00 39.5	
comp=N,1μm,0.7s							
HLP					IAML	12 00 39.9	
comp=E,870nm,0.3s							
MLH	**Mauna Loa**	**0.35**	**288**		Pg	12 00 31.1	+0.1
MLH	**Mauna Loa**	**0.35**	**288**	IAML		12 00 38.8	
comp=E,484nm,0.6s							
MLH					IAML	12 00 43.7	
comp=N,698nm,0.6s							
HTC	**Hot Caves**	**0.37**	**247**		Pg	12 00 31.6	+0.2
HMH	**Humu'ula Sheep**	**0.47**	**297**		Pg	12 00 33.5	+0.1
HMH	**Humu'ula Sheep**	**0.47**	**297**		Sb	12 00 41.7	-0.9
HMH	**Humu'ula Sheep**	**0.47**	**297**	IAML		12 00 48.9	
comp=E,951nm,0.3s							
MWH	**Moku'aweowe**	**0.54**	**281**		Pg	12 00 34.4	-0.3
MWH					IAML	12 00 53.3	
comp=N,562nm,0.5s							
MWH					IAML	12 00 53.7	
comp=E,608nm,0.6s							
KHU	**Kahuku**	**0.56**	**256**		Pg	12 00 34.6	-0.5
KHU	**Kahuku**	**0.56**	**256**		Sb	12 00 44.4	-0.8
KHU	**Kahuku**	**0.56**	**256**	IAML		12 00 50.7	
comp=N,264nm,2.9s							
KHU					IAML	12 00 54.5	
comp=E,353nm,2.3s							
ALEP	**Alea Permanent**	**0.59**	**285**		Pg	12 00 35.0	-0.7
POHA	**Pohakuloa**	**0.60**	**308**		Sb	12 00 45.7	-0.5

JMA 06 12:06:05.7±0.6, 34°.N±2°×14°.3E±°, h50km, MV3.5/31, FAR E OFF CENTRAL HONSHU, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.65**	**296**	P	Pn	12 06 32.8	+1.2
BSO1				*eS*	Sn	12 06 53.0	+1.7
BSO3	**Boso 3**	**2.06**	**295**	P	Pn	12 06 39.1	+1.5
BSO4	**Boso 4**	**2.27**	**298**	P	Pn	12 06 42.6	+2.0
JKUC	**kamogawauchiur**	**2.45**	**301**	P	Pn	12 06 44.6	+1.4
JHJ2	**Mitsune**	**2.60**	**252**	P	Pn	12 06 45.8	+0.6
JAOM	**Aogashimamukai**	**2.91**	**241**	*eP*	Pn	12 06 52.2	+2.6
JYT	**Yasato**	**3.11**	**318**	*eP*	Pn	12 06 54.2	+2.0
JHO	**Hitachi**	**3.22**	**327**	P	Pn	12 06 54.1	+0.3
JAG	**Ashikaga**	**3.68**	**313**	*eP*	Pn	12 07 01.6	+1.5
JOTO	**OTAMA OYAMA**	**4.12**	**332**	P	Pn	12 07 07.5	+1.3
JOTO				S	Sn	12 07 52.5	-0.6
JMK	**Ichinoseki**	**5.16**	**346**	S	Sn	12 08 15.9	-2.6

*SOME **06** 12:07:06.7, 39°.33N×74°.68E, h10km*
*NNC **06** 12:07:10.2±1.5, 39°.45N×75°.01E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=11.2km s-min=8.1km az=141.0*
*KRNET **06** 12:07:16.9±0.1, 39°.34N×74°.92E, mb2.9*
ISC 06 12:07:15.3±1.9, 39°.63N±0°.07×75°.07E±0°.04, h1km±12km, n36, σ1s73/59, 18C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**1.27**	**288**	*↑eP*	**Pg**	**12 07 40.8**	**+1.2**
baz=2.0							
SFK				*↑eS*	**Sn**	**12 07 58.3**	**+0.1**
baz=2.0							
OHH	**Osh**	**1.97**	**298**	*↑eP*	**Pg**	**12 07 53.1**	**+0.1**
baz=6.0							
OHH				*↑eS*	**Sg**	**12 08 20.0**	**+1.5**
baz=6.0							
ARLS	**Aral**	**2.30**	**346**	*↑eP*	**Pg**	**12 08 00.4**	**+1.1**
baz=50							
ARLS				*↑eS*	**Sg**	**12 08 32.9**	**+3.8**
baz=50							
ARSB	**Arslanbob**	**2.32**	**317**	*↑eP*	**Pg**	**12 07 59.7**	**-0.1**
baz=24							
ARSB				*↑eS*	**Sg**	**12 08 31.1**	**+1.2**
baz=24							
DRK	**Karamyk**	**2.53**	**268**	*↓eP*	**Pn**	**12 07 58.6**	**+0.7**
baz=74							
DRK				*↓eS*	**Sn**	**12 08 29.4**	**-0.1**
baz=74							
BOOM	**Boomskoye usch**	**2.93**	**13**	*↑eP*	**Pg**	**12 08 10.5**	**-0.9**
baz=13							
BOOM				*↑eS*	**Sg**	**12 08 49.6**	**+0.2**
baz=13							
KDJ	**Kajisay**	**2.96**	**32**	*↑eP*	**Pg**	**12 08 10.9**	**-1.2**
baz=31							
KDJ				*↑eS*	**Sg**	**12 08 50.0**	**-0.5**
baz=31							
AAK	**Ala-Archa**	**3.03**	**352**	*↓Pg*	**Pb**	**12 08 10.1**	**-0.1**
5.9nm,0.7s							
AAK				*↑Lg*	Lg	12 08 52.0	
9.4nm,0.7s							
ARK	**Arkit**	**3.20**	**313**	*↓eP*	**Pb**	**12 08 11.6**	**-1.5**
baz=18							
ARK				*↓eS*	**Sb**	**12 08 51.4**	**-1.3**
baz=18							
BTK	**Batken**	**3.30**	**279**	*↑eP*	**Pn**	**12 08 10.5**	**+2.3**
baz=84							
BTK				*↑eS*	**Sn**	**12 08 49.6**	**+1.4**
baz=84							
TKM2	**Tokmak 2**	**3.31**	**7**	*↓Pg*	**Pb**	**12 08 14.3

	2.3nm,0.3s								
TNSS					*e*S		**Sg**	**12 09 13.7**	**+0.1**
	6.1nm,0.5s								
ANVS	**Anan'yevo**	**3.71**	**31**	⇓	*e*P		**Pb**	**12 08 21.0**	**-0.7**
ANVS	baz=30			⇓	*e*S		**Sb**	**12 09 07.8**	**+0.6**
	baz=30								
PRZ	**Przheval'sk**	**3.80**	**40**	⇓	*e*P		**Pb**	**12 08 22.8**	**-0.5**
PRZ	baz=39			⇓	*e*S		**Sb**	**12 09 10.3**	**+0.4**
	baz=39								
MDOK	**Medeo**	**3.83**	**22**		Pg		**Pb**	**12 08 23.2**	**-0.5**
	2.4nm,0.2s								
MDOK					Lg		Lg	12 09 18.8	
	9.6nm,0.1s								
MDOK	**Medeo**	**3.83**	**22**		*e*P		**Pb**	**12 08 23.2**	**-0.5**
	2.4nm,0.2s								
MDOK					*e*S		**Sg**	**12 09 18.8**	**+0.5**
	9.6nm,0.1s								
SGDS	**Sogindy**	**3.83**	**355**		Pg		**Pb**	**12 08 23.4**	**-0.3**
	0.4nm,0.1s								
SGDS					Lg		Lg	12 09 19.2	
	4.9nm,0.3s								
KOTS	**Kotyrbulak**	**3.91**	**22**		Pg		**Pb**	**12 08 24.2**	**-1.0**
	0.2nm,0.3s								
KOTS					Lg		Lg	12 09 20.5	
	20nm,0.7s								
KOTS	**Kotyrbulak**	**3.91**	**22**		*e*P		**Pb**	**12 08 24.2**	**-1.0**
	0.2nm,0.3s								
KOTS					*e*S		**Sg**	**12 09 20.5**	**-0.5**
	20nm,0.7s								
KRBS	**Karabastau**	**4.09**	**6**		Pg		**Pb**	**12 08 27.7**	**-0.4**
	0.8nm,0.4s								
KRBS					Lg		Lg	12 09 26.5	
	11nm,1.6s								
KRBS	**Karabastau**	**4.09**	**6**		*e*P		**Pb**	**12 08 27.7**	**-0.4**
	0.8nm,0.4s								
KRBS					*e*S		**Sg**	**12 09 26.5**	**0.0**
	11nm,1.6s								
CHKK	**Chushkaly**	**4.46**	**18**		Pg		**Pb**	**12 08 34.5**	**+0.1**
	0.7nm,0.1s								
CHKK					Lg		Lg	12 09 38.3	
	5.5nm,0.4s								
CHKK	**Chushkaly**	**4.46**	**18**		*e*P		**Pb**	**12 08 34.5**	**+0.1**
	0.7nm,0.1s								
CHKK					*e*S		**Sg**	**12 09 38.3**	**-0.1**
	5.5nm,0.4s								
IUG	**luzhnay**	**4.57**	**305**		Pg		**Pn**	**12 08 27.2**	**+1.4**
	8.6nm,0.5s								
IUG					Lg		Lg	12 09 25.6	
	24nm,0.1s								
IUG	**luzhnay**	**4.57**	**305**		*e*P		**Pn**	**12 08 27.1**	**+1.4**
	8.6nm,0.5s								
IUG					*e*S		**Sb**	**12 09 25.6**	**-6.5**
	24nm,0.1s								
KK31	**Karatay Array**	**4.88**	**317**	⇑	Pn		**Pn**	**12 08 27.1**	**-2.7**
	0.2nm,0.3s,baz=127,slow=16,SNR=8.1								
KK31				⇑	Pg		**Pb**	**12 08 42.5**	**+0.9**
	0.8nm,0.5s,baz=129,slow=14,SNR=4.1								
KK31				⇓	Lg		Lg	12 09 47.3	
	3.1nm,0.7s,baz=136,slow=27,SNR=4.2								

IDC ***06*** *12:13:16.6±0.9, 32°.59N×130°.58E, h0km, mb3.6/7, mbtmp3.5/10, ML2.8/3, MS2.6/3, Error ellipse: s-maj=27.5km s-min=9.1km az=116.0*
JMA ***06*** *12:13:19.0±0.0, 32°.7N±0°.1×130°.7E±0°.1, h11km, MD3.9/20, MV3.9/20, NW KUMAMOTO PREF*
JMA Felt IV J1 at NW KUMAMOTO PREF .
NIED ***06*** *12:13:19.0, 32°.66N×130°.67E, h11km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-4.71; $M_{\theta\theta}$7.29; $M_{\phi\phi}$-2.57; $M_{r\theta}$1.57; $M_{\theta\phi}$1.10; $M_{\phi r}$-2.72; Fault plane solution: $M_0$7.19000×10^{14} NP1: ϕ_s293.00000°, δ60.00000°, λ-49.00000°. NP2:ϕ_s53.00000°, δ49.00000°, λ-138.00000°.*
NEIC ***06*** *12:13:21.2±1.4, 32°.83N±0°.06×130°.63E±0°.07, h22km±6km, mb4.4/10 Error ellipse: s-maj=9.0km s-min=8.6km az=85.0*

ISC 06 12:13:19.0±0.9, 32°.67N±0°.03×130°.64E±0°.05, h13km±6km, n69, σ1ᵖ21/51, mb4.0/13, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JIU3	**Izumi3**	**0.19**	**130**	*i* P		**Pg**	**12 13 22.8**	**-0.5**
JIU3				S		**Sg**	**12 13 25.4**	**-0.8**
JIU3	**Izumi3**	**0.19**	**130**	A		A	12 13 22.8	
	comp=E,41nm,0.3s,comp=N,57nm,1.8s							
JTA	**Tamana**	**0.30**	**343**	P		**Pg**	**12 13 25.7**	**+0.4**
JTA				S		**Sg**	**12 13 30.4**	**+0.8**
JTA	**Tamana**	**0.30**	**343**	A		A	12 13 25.7	
	comp=E,8.0nm,1.1s,comp=N,10.0nm,0.5s							
JHD	**Hondo**	**0.47**	**244**	A		A	12 13 28.6	
	comp=E,7.0nm,0.3s,comp=N,9.0nm,0.5s							
JNU	**Nakatsue**	**0.49**	**24**	Pg		**Pg**	**12 13 28.8**	**+0.1**
JNU				Sg		**Sg**	**12 13 35.9**	**+0.6**
JNU	**Nakatsue**	**0.49**	**24**	Pg		**Pg**	**12 13 28.7**	**0.0**
	comp=N,456nm,0.3s,baz=210,slow=13,SNR=2350							
JNU				Lg		Lg	12 13 35.7	
	comp=N,1μm,0.3s,baz=283,slow=18,SNR=30							
JNU				LR		LR	12 13 50.6	
	comp=N,522nm,21.2s,baz=70,slow=57							
JNU	**Nakatsue**	**0.49**	**24**	A		A	12 13 28.7	
	comp=E,8.0nm,1.4s,comp=N,7.0nm,1.6s							
JZO	**Okuchi**	**0.53**	**184**	*i* P		**Pg**	**12 13 29.2**	**-0.3**
JZO				S		**Sg**	**12 13 36.3**	**-0.2**
JZO	**Okuchi**	**0.53**	**184**	A		A	12 13 29.2	
	comp=E,15nm,0.3s,comp=N,17nm,0.5s							
JKIT	**Kitakata**	**0.69**	**94**	A		A	12 13 31.7	
	comp=E,4.0nm,0.3s,comp=N,9.0nm,0.9s							
JFI	**Itaya**	**0.78**	**344**	A		A	12 13 34.3	
	comp=E,7.0nm,0.4s,comp=N,6.0nm,0.3s							
JTSN	**Tsuno**	**0.85**	**120**	A		A	12 13 34.5	
	comp=E,5.0nm,1.6s,comp=N,12nm,0.4s							
JTZ	**Takazaki**	**0.86**	**154**	*i* P		**Pg**	**12 13 35.4**	**-0.2**
JTZ				S		**Sg**	**12 13 46.6**	**-0.2**
JTZ	**Takazaki**	**0.86**	**154**	A		A	12 13 35.4	
	comp=E,6.0nm,0.5s,comp=N,6.0nm,0.4s							
JHHC	**Hyugahichiya**	**0.87**	**105**	A		A	12 13 35.0	
	comp=E,6.0nm,9.1s,comp=N,6.0nm,1.7s							
JBEP	**Beppuamama**	**0.93**	**44**	A		A	12 13 36.3	
	comp=E,5.0nm,0.8s,comp=N,7.0nm,3.0s							
JUS	**Usuki**	**1.01**	**67**	A		A	12 13 37.7	
	comp=E,3.0nm,0.5s,comp=N,4.0nm,1.8s							
JFA	**Akaike**	**1.04**	**7**	A		A	12 13 38.8	
	comp=E,4.0nm,5.2s,comp=N,6.0nm,9.2s							
JSU	**Suzuyama**	**1.17**	**188**	A		A	12 13 40.5	
	comp=E,3.0nm,0.9s,comp=N,3.0nm,2.4s							
JNKG	**Nichinankitago**	**1.19**	**148**	A		A	12 13 40.5	
	comp=E,6.0nm,2.1s,comp=N,5.0nm,1.7s							
JKI	**Kunimi**	**1.23**	**39**	A		A	12 13 41.7	
	comp=E,8.0nm,0.8s,comp=N,8.0nm,1.5s							
JNAR	**Kushima--Naru**	**1.26**	**155**	A		A	12 13 41.7	
	comp=E,5.0nm,1.1s,comp=N,7.0nm,2.8s							
JSJ	**Shimokoshiki**	**1.26**	**219**	A		A	12 13 42.3	
	comp=E,3.0nm,3.6s,comp=N,3.0nm,7.8s							
JII	**Iki**	**1.35**	**326**	A		A	12 13 44.1	
	comp=E,7.0nm,1.6s,comp=N,5.0nm,2.8s							
JTY	**Toyota**	**1.63**	**13**	A		A	12 13 48.0	
	comp=E,3.0nm,5.9s,comp=N,2.0nm,2.4s							
JTU	**Tsushima**	**2.12**	**331**	Pn		**Pn**	**12 13 54.5**	**+0.4**
JTU	**Tsushima**	**2.12**	**331**	A		A	12 13 55.5	
	comp=E,2.0nm,4.1s,comp=N,2.0nm,0.7s							
JMN	**Monobe**	**2.91**	**68**	Pn		**Pn**	**12 14 05.3**	**+0.2**
TJN	**Taejon**	**4.58**	**325**	Pn		**Pn**	**12 14 27.6**	**-0.3**
KSRS	**Korea Array**	**5.26**	**336**	Pn		**Pn**	**12 14 38.2**	**+0.8**
	comp=N,0.2nm,0.3s,baz=151,slow=14,SNR=2.9							
KSRS				Lg		Lg	12 15 58.5	
	comp=N,1.3nm,0.3s,baz=153,slow=30,SNR=4.7							
KSRS				LR		LR	12 17 00.7	
	comp=N,42nm,19.6s,baz=140,slow=42							
	comp=N,0.7nm,0.3s							
KSAR	**Wonju Array Be**	**5.27**	**335**	Pn		**Pn**	**12 14 36.4**	**-1.1**
KS19	**Wonju Array Si**	**5.33**	**336**	Pn		**Pn**	**12 14 37.4**	**-0.8**
INCN	**Inchon**	**5.81**	**327**	Pn		**Pn**	**12 14 42.1**	**-2.9**
JOW	**Kunigami**	**6.17**	**200**	Pn		**Pn**	**12 14 52.9**	**+3.0**
JGF	**Kuroka**	**6.29**	**60**	Pn		**Pn**	**12 14 51.5**	**0.0**
JSG	**Sagara**	**6.60**	**70**	Pn		**Pn**	**12 14 57.0**	**+1.2**
JMZ	**Minamidaito 2**	**6.85**	**176**	Pn		**Pn**	**12 15 02.2**	**+3.1**
MAJO	**Matsushiro**	**7.34**	**56**	Pn		**Pn**	**12 15 04.2**	**-1.6**
MJB9	**Matsu-Tunnel**	**7.34**	**56**	Pn		**Pn**	**12 15 05.5**	**-0.4**
MJAR	**Matsushiro Arr**	**7.34**	**56**	Pn		**Pn**	**12 15 07.5**	**+1.7**
	comp=N,0.1nm,0.3s,baz=243,slow=13,SNR=8.6							
	comp=N,1.9nm,0.5s							
JHJ2	**Mitsune**	**7.73**	**84**	Pn		**Pn**	**12 15 13.2**	**+1.9**
JSD	**Sado**	**8.21**	**47**	Pn		**Pn**	**12 15 18.2**	**+0.4**

JCJ	**Chichijima**	**11.45**	**116**		LR		LR	12 18 58.3	
	comp=N,31nm,21.3s,baz=122,slow=30								
USA0B	**Ussuriysk Arra**	**11.56**	**5**		Pn		**Pn**	**12 16 02.6**	**-1.0**
KLR	**Kul'dur**	**16.56**	**3**		Pn		**Pn**	**12 17 11.7**	**+0.8**
	comp=N,0.1nm,0.3s,baz=256,slow=18,SNR=1.6								
	comp=N,0.2nm,0.3s								
PETK	**Petropavlovsk-**	**28.18**	**36**		P		**P**	**12 19 10.1**	**-1.0**
MA2	**Magadan**	**30.06**	**20**		LR		LR	12 32 41.9	
	comp=N,19nm,18.1s,baz=256,slow=39								
MK31	**Makanchi Array**	**39.15**	**306**		P		**P**	**12 20 46.2**	**-0.2**
MK31					IAmb		IAmb	12 20 55.4	
	comp=Z,2.8nm,0.8s								
MKAR	**Makanchi Array**	**39.15**	**306**		P		**P**	**12 20 45.3**	**-1.0**
MAKZ	**Makanchi**	**39.37**	**306**		P		**P**	**12 20 46.2**	**-2.0**
MAKZ					IAmb		IAmb	12 21 04.7	
	comp=Z,7.8nm,1.2s								
RABL	**Rabaul**	**41.97**	**147**		P		**P**	**12 21 11.8**	**+1.9**
JAGI	**Jajag, Banyuwa**	**43.83**	**204**		P		**P**	**12 21 26.2**	**+1.2**
M14K	**Bethel**	**51.16**	**36**		P		**P**	**12 22 21.0**	**-0.4**
M14K					IAmb		IAmb	12 22 39.8	
	comp=Z,15nm,1.2s								
WRA	**Warramunga Arr**	**52.44**	**176**		P		**P**	**12 22 30.0**	**-1.4**
	comp=Z,0.8nm,1.0s,baz=354,slow=8.0,SNR=3.0								
	comp=Z,0.8nm,1.0s								
J17K	**VABM Dome**	**52.57**	**32**		P		**P**	**12 22 30.4**	**-1.5**
J17K					IAmb		IAmb	12 22 34.3	
	comp=Z,9.0nm,1.2s								
ABKAR	**Akbulak array**	**53.95**	**310**		P		**P**	**12 22 42.9**	**+0.7**
ABKAR	**Akbulak array**	**53.95**	**310**		P		**P**	**12 22 41.2**	**-1.0**
ABKAR					IAmb		IAmb	12 23 01.4	
	comp=Z,1.5nm,1.1s								
ASAR	**Alice Springs**	**56.11**	**176**		P		**P**	**12 22 57.5**	**-0.6**
	comp=Z,0.4nm,1.0s,baz=1.4,slow=7.9,SNR=4.8								
	comp=Z,0.4nm,1.0s								
H23K	**Yukon River**	**56.56**	**29**		P		**P**	**12 22 59.6**	**-1.3**
ILAR	**Eielson Array**	**57.81**	**30**		P		**P**	**12 23 10.3**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=277,slow=6.8,SNR=2.9								
	comp=Z,0.4nm,0.7s								
MENT	**Mentasta**	**59.53**	**32**		P		**P**	**12 23 21.4**	**-0.4**
MENT					IAmb		IAmb	12 23 23.7	
	comp=Z,5.0nm,0.9s								
BCAR	**Beaver Creek A**	**60.36**	**32**		P		**P**	**12 23 28.6**	**+1.1**
C36M	**Paulatuk**	**64.95**	**22**		P		**P**	**12 23 57.8**	**-0.1**
C36M					IAmb		IAmb	12 24 38.2	
	comp=Z,3.2nm,1.4s								
KBZ	**Khabaz**	**66.79**	**308**		P		**P**	**12 24 10.4**	**+0.3**
	comp=Z,2.2nm,0.8s,baz=191,slow=3.6,SNR=4.9								
	comp=Z,2.2nm,0.8s								
FINES	**FINESS Array B**	**68.33**	**330**		P		**P**	**12 24 18.7**	**-0.9**
	1.8nm,0.5s,baz=71,slow=7.5,SNR=5.2								
	comp=Z,0.6nm,0.7s								
YKA	**Yellowknife Ar**	**71.83**	**26**		P		**P**	**12 24 39.6**	**-1.5**
	comp=Z,0.1nm,0.4s,baz=314,slow=6.2,SNR=2.1								
	comp=Z,0.1nm,0.4s								
BRTR	**Keskin Array B**	**74.77**	**308**		P		**P**	**12 24 59.4**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=116,slow=5.6,SNR=4.0								
	comp=Z,0.6nm,0.7s								
CLL	**Collm**	**80.06**	**326**		*e*P		**P**	**12 25 29.0**	**+0.8**

IDC ***06*** *12:21:59.0±1.8, 47°.16N×145°.59E, h384km±25km, mb3.0/4, mbtmp3.6/9, Error ellipse: s-maj=42.1km s-min=25.5km az=142.0*

ISC 06 12:21:59.2±1.1, 47°.1N±0°.1×145°.6E±0°.1, h391km, n9, σ0ᵖ92/9, mb3.3/4, Sea of Okhotsk

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**3.65**	**216**	P		**Pn**	**12 23 06.2**	**-1.3**
	1.8nm,0.5s,baz=70,slow=17,SNR=4.6							
KLR	**Kul'dur**	**9.47**	**288**	P		**Pn**	**12 24 10.7**	**-0.2**
	1.7nm,0.8s,baz=91,slow=12,SNR=5.0							
PETK	**Petropavlovsk-**	**9.83**	**48**	P		**Pn**	**12 24 15.2**	**+0.1**
	0.7nm,0.7s,baz=267,slow=13,SNR=1.4							
USRK	**Ussuriysk Ar.**	**9.94**	**258**	P		**P**	**12 24 16.2**	**-0.2**
	0.6nm,0.4s,baz=64,slow=10,SNR=1.8							
MJAR	**Matsushiro Arr**	**11.89**	**210**	P		**P**	**12 24 39.2**	**+1.1**
	1.7nm,0.6s,baz=13,slow=14,SNR=8.5							
MKAR	**Makanchi Array**	**42.12**	**294**	P		**P**	**12 29 15.6**	**+0.9**
	0.4nm,0.5s,baz=71,slow=7.4,SNR=4.3							
	0.4nm,0.5s							
FINES	**FINESS Array B**	**61.38**	**332**	P		**P**	**12 31 35.1**	**+0.3**
	0.7nm,0.6s,baz=6.9,slow=4.6,SNR=3.6							
	0.7nm,0.6s							
NOA	**NORSAR Array B**	**66.07**	**338**	P		**P**	**12 32 04.0**	**-1.1**
	0.2nm,0.4s,baz=35,slow=6.8,SNR=1.4							
	0.2nm,0.4s							
HFS	**Hagfors**	**66.16**	**336**	P		**P**	**12 32 05.7**	**0.0**
	0.6nm,0.3s,baz=66,slow=7.0,SNR=5.1							
	0.6nm,0.3s							

IDC ***06*** *12:25:04.0±1.9, 13°.00N×88°.18W, h0km, mb3.7/3, mbtmp3.7/5, ML2.9/3, MS2.9/3, Error ellipse: s-maj=67.2km s-min=17.1km az=39.0*
CATAC ***06*** *12:25:05.1±0.2, 13°.26N×88°.05W, h3km±1km, ML3.9*

ISC 06 12:25:04.7±1.1, 13°.23N±0°.05×88°.06W±0°.03, h5km±8km, n49, σ1ᵖ14/62, mb3.6/3, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.19**	**278**	*i* P		**Pg**	**12 25 09.1**	**+0.6**
JUCU				*i* S		**Sg**	**12 25 11.4**	**+0.4**
JUCU				IAML			12 25 13.4	
	comp=Z,44μm,1.0s							
CNCH	**Conchagua**	**0.22**	**77**	*i* P		**Pg**	**12 25 09.3**	**+0.2**
CNCH				*i* S		**Sg**	**12 25 12.1**	**0.0**
CNCH				IAML			12 25 15.7	
	comp=Z,87μm,1.0s							
CNRM	**Centro Naciona**	**0.27**	**336**	*i* P		**Pg**	**12 25 10.5**	**+0.5**
CNRM				IAML			12 25 22.5	
	comp=Z,210μm,1.0s							
RANC	**El Ranchito**	**0.31**	**312**	*i* P		**Pg**	**12 25 11.4**	**+0.6**
RANC				IAML			12 25 24.6	
	comp=Z,11μm,1.0s							
PACA	**Pacayal**	**0.35**	**313**	*i* P		**Pg**	**12 25 11.9**	**+0.2**
PACA				*i* S		**Sg**	**12 25 16.7**	**+0.3**
PACA				IAML			12 25 27.3	
	comp=Z,54μm,1.0s							
COEB	**Comit de Eme**	**0.54**	**300**	*i* P		**Pg**	**12 25 15.3**	**+0.2**
COEB				*i* S		**Sg**	**12 25 22.5**	**+0.5**
COEB				IAML			12 25 24.6	
	comp=Z,4μm,1.0s							
PQSS	**Presa 15 de Se**	**0.63**	**309**	*i* P		**Pg**	**12 25 17.0**	**+0.1**
PQSS				*i* S		**Sg**	**12 25 25.4**	**+0.3**
PQSS				IAML			12 25 27.5	
	comp=Z,2μm,1.0s							
TECO	**Alcaldia de Te**	**0.77**	**294**	*i* P		**Pg**	**12 25 19.2**	**-0.3**
TECO				*i* S		**Sg**	**12 25 30.4**	**+0.8**
TECO				IAML			12 25 34.0	
	comp=Z,2μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.81**	**306**	*i* P		**Pg**	**12 25 20.3**	**0.0**
SCLA				IAML			12 25 40.4	
	comp=Z,2μm,1.0s							
UESV	**Universidad de**	**0.82**	**300**	*i* P		**Pg**	**12 25 20.5**	**0.0**
UESV				IAML			12 25 33.3	
	comp=Z,2μm,1.0s							
COEG	**Centro de Oper**	**0.89**	**296**	*i* P		**Pg**	**12 25 21.8**	**-0.1**
COEG				*i* S		**Sb**	**12 25 34.3**	**-0.7**
COEG				IAML			12 25 38.2	
	comp=Z,2μm,1.0s							
PAVA	**Las Pavas**	**0.98**	**300**	*i* P		**Pg**	**12 25 23.4**	**-0.2**
PAVA				IAML			12 25 40.4	
	comp=Z,6μm,1.0s							
CRIN	**San Cristobal**	**1.11**	**118**	*i* P		**Pg**	**12 25 26.1**	**0.0**
CRIN				IAML			12 25 27.4	
	comp=Z,10μm,1.0s							
CRIN				*i* S		**Sb**	**12 25 42.2**	**+0.9**
TGUH	**Tegucigalpa,Un**	**1.12**	**43**	*i* P		**Pg**	**12 25 25.4**	**-0.9**
TGUH				IAML			12 25 46.3	
	comp=Z,7μm,1.0s							
PANCS	**Alcalda de**	**1.16**	**289**	*i* P		**Pg**	**12 25 26.2**	**-0.8**
PANCS				IAML			12 25 42.4	
	comp=Z,6μm,1.0s							
LOMA	**Loma Larga**	**1.16**	**291**	*i* P		**Pg**	**12 25 26.3**	**-0.7**
LOMA				IAML			12 25 51.5	
	comp=Z,2μm,1.0s							
SNET	**Serv Nac Est T**	**1.23**	**292**	*i* P		**Pg**	**12 25 27.8**	**-0.6**
SNET				IAML			12 25 48.3	
	comp=Z,3μm,1.0s							
UEES	**Universidad Ev**	**1.25**	**293**	*i* P		**Pg**	**12 25 28.5**	**-0.2**
UEES				IAML			12 25 53.2	
	comp=Z,1μm,1.0s							
LALI	**Alcalda de L**	**1.26**	**282**	*i* P		**Pn**	**12 25 29.2**	**+0.2**
LALI				IAML			12 25 51.7	
	comp=Z,510nm,1.0s							

LLGN	**La Laguna**	**1.27**	**317**	*i* P		**Pg**	**12 25 27.7**	**-1.4**
LLGN				IAML			12 25 49.7	
	comp=Z,1μm,1.0s							
PMON	**Piamonte**	**1.32**	**292**	*i* P		**Pg**	**12 25 29.1**	**-0.9**
PMON				IAML			12 25 56.7	
	comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**1.42**	**288**	*i* P		**Pn**	**12 25 30.6**	**-0.8**
JAYA				IAML			12 25 33.6	
	comp=Z,5μm,1.0s							
CEDA	**San Andres**	**1.42**	**294**	*i* P		**Pn**	**12 25 30.9**	**-0.4**
CEDA				IAML			12 26 08.7	
	comp=Z,3μm,1.0s							
CNGA	**Al SSO del Vol**	**1.51**	**119**	*i* P		**Pn**	**12 25 29.9**	**-2.6**
CNGN	**Cerro Negro**	**1.51**	**118**	*i* P		**Pn**	**12 25 31.6**	**-0.9**
CNGN				*i* S		**Sg**	**12 25 54.4**	**+1.2**
CNGN				IAML			12 26 08.5	
	comp=Z,2μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.63**	**120**	*i* P		**Pn**	**12 25 34.0**	**0.0**
LEVN				*i* S		**Sg**	**12 25 57.4**	**+0.4**
LEVN				IAML			12 26 01.7	
	comp=Z,1μm,1.0s							
CEVE	**Cerro Verde**	**1.64**	**292**	*i* P		**Pn**	**12 25 34.7**	**+0.3**
CEVE				*i* S		**Sg**	**12 25 57.5**	**+0.1**
CEVE				IAML			12 26 01.6	
	comp=Z,2μm,1.0s							
MOMN	**Momotombo**	**1.69**	**119**	*i* P		**Pn**	**12 25 34.2**	**-0.7**
MOM2	**El Cardon**	**1.72**	**117**	*i* P		**Pn**	**12 25 34.2**	**-1.2**
MTO3	**Montecristo**	**1.72**	**313**	*i* P		**Pn**	**12 25 35.4**	**-0.2**
MTO3				IAML			12 26 01.1	
	comp=Z,700nm,1.0s							
COPN	**Copaltepe**	**1.77**	**126**	*i* P		**Pn**	**12 25 35.0**	**-1.0**
NUBE	**Las Nubes**	**1.81**	**292**	*i* P		**Pn**	**12 25 36.6**	**-0.1**
NUBE				IAML			12 26 07.0	
	comp=Z,1μm,1.0s							
ESQI	**Esquipulas**	**1.82**	**317**	*i* P		**Pn**	**12 25 37.3**	**+0.5**
ESQI				*i* S		**Sn**	**12 26 01.6**	**+1.2**
ESQI				IAML			12 26 09.1	
	comp=Z,1μm,1.0s							
APYN	**Apoyeque**	**1.94**	**120**	*i* P		**Pn**	**12 25 39.0**	**+0.7**
APYN				IAML			12 25 40.5	
	comp=Z,1μm,1.0s							
TISN	**Laguna Tiscapa**	**2.05**	**122**	*i* P		**Pn**	**12 25 38.5**	**-1.4**
OMEN	**Al SSO del Vol**	**2.92**	**125**	*i* P		**Pn**	**12 25 52.8**	**+0.9**
OMEN				IAML			12 26 37.1	
	comp=Z,170nm,1.0s							
APG	**El Apazote**	**2.93**	**307**	Pn		**Pn**	**12 25 53.4**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=129,slow=14,SNR=28							
APG				Lg		Lg	12 26 38.4	
	comp=Z,0.6nm,0.3s,baz=159,slow=10,SNR=5.1							
APG				LR		LR	12 27 01.3	
	comp=Z,29nm,18.8s,baz=56,slow=39							
ACON	**Acoyapa**	**3.08**	**114**	*i* P		**Pn**	**12 25 57.3**	**+3.3**
ORTG	**Ortega, Santa**	**3.82**	**138**	*i* P		**Pn**	**12 26 04.8**	**+0.5**
SAJU	**San Juanillo,**	**3.89**	**144**	*i* P		**Pn**	**12 26 05.5**	**+0.3**
PETF	**Flores**	**4.06**	**335**	*i* P		**Pb**	**12 26 13.7**	**-3.1**
JTS	**Las Juntas de**	**4.21**	**134**	Pn		**Pn**	**12 26 09.0**	**-0.7**
	comp=Z,2.2nm,0.3s,baz=291,slow=15,SNR=12							
JTS				Sn		**Sn**	**12 26 57.9**	**-1.4**
	baz=344,slow=18							
JTS				LR		LR	12 28 05.7	
	comp=Z,268nm,21.9s,baz=298,slow=44							
	comp=Z,7.4nm,0.5s							
CDM	**Cerro de Muert**	**5.57**	**130**	*i* P		**Pn**	**12 26 31.2**	**+2.5**
TEIG	**Tepich**	**6.96**	**358**	LR		LR	12 30 13.0	
	comp=Z,479nm,18.8s,slow=43							
CMIG	**Matias Romero**	**7.63**	**301**	Pn		**Pn**	**12 26 58.7**	**+2.1**
	comp=Z,0.3nm,0.3s,baz=120,slow=14,SNR=5.9							
CMIG				Sn		**Sn**	**12 28 22.9**	**-0.7**
	baz=72,slow=4.8							
	comp=Z,8.2nm,0.9s							
TXAR	**Lajitas Array**	**21.60**	**320**	P		**P**	**12 29 56.3**	**+0.5**
	comp=Z,1.9nm,0.9s,baz=142,slow=6.3,SNR=17							
	comp=Z,1.9nm,0.9s							
ULM	**Lac du Bonnet**	**37.47**	**352**	P		**P**	**12 32 21.5**	**+2.4**
	comp=Z,0.8nm,0.6s,baz=148,slow=9.5,SNR=2.0							
	comp=Z,0.8nm,0.6s							

mbtmp4.5/25,ML3.3/4,MS4.7/36,Error ellipse: s-maj=22.6km s-min=10.3km az=58.0

CATAC ***06*** *12:37:57.9±0.1, 13°.25N×88°.03W,h1km±1km,MB5.5, mb5.3,ML5.2*

SNET ***06*** *12:37:57.2±1.1, 13°.26N×88°.06W,h3km,ML5.4*

NEIC ***06*** *12:37:58.9, 13°.22N×88°.02W,h12km*

NEIC ***06*** *12:37:59.0±1.9, 13°.22N±0°.07×88°.03W±0°.05,h10km±1km, mb5.2/229,Mww5.2/29,Error ellipse: s-maj=12.6km s-min=6.0km az=212.0*

NEIC ***06*** *12:37:58.9, 13°.32N×88°.02W,h12km,Moment Tensor Solution. Duration: 29s1 Moment tensor: Scale 10^16Nm; Mrr~0.60; Mθθ1.03; Mϕϕ~0.43; Mrθ~0.56; Mθϕ~7.35; Mϕr~0.64; Fault plane solution: M0 7.44000×10^16 NP1: ϕs356.92000°,δ84.85000°,λ~5.31000°. NP2:ϕs87.40000°, δ84.71000°,λ~174.82000°. Principal axes: T 7.6859, Plg0.0000°, Azm42.0000°; N -0.4877, Plg83.0000°, Azm133.0000°; P -7.1982, Plg7.0000°, Azm312.0000°;*

GCMT ***06*** *12:38:00.0±0.2, 13°.25N±0°.01×88°.11W±0°.01,h15km, MW5.2/138,Moment Tensor Solution. s87,c145; s138,c247; Duration: 1s0 Moment tensor: Scale 10^16 Nm; Mrr~0.75±.14; Mθθ1.44±.14; Mϕϕ~0.69±.17; Mrθ~0.87±.40; Mθϕ~8.39±.15; Mϕr3.05±.49; Best double couple: M0 9.01000×10^16 NP1:ϕs356.00000°,δ89.00000°, λ20.00000°. NP2:ϕs266.00000°,δ70.00000°,λ179.00000°. Principal axes: T 9.5380, Plg15.0000°, Azm223.0000°; N -1.0520, Plg70.0000°, Azm359.0000°; P -8.4820, Plg13.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

GCG ***06*** *12:38:01.3±0.7, 13°.70N×87°.92W,h166km±55km,MD4.5*

RSNC ***06*** *12:38:39.0±4.2, 12°N±19°×8°6W±3°0,h92km±16km,M4.7, mB5.2,mb4.8,ML4.0,Mw(mB)4.6,MwMwp4.9,Mwp5.2*

ISC 06 12:37:58.2±0.8, 13°.23N±0°.03×88°.05W±0°.02, h10km±5km, n932, σ1§14/923, mb5.2/146, MS4.8/38, 2C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JUCU	**Jucuarįn**	**0.20**	**276**	*eP*		**Pg**	**12 38 01.7**		**-0.8**
JUCU				*eS*		**Sg**	**12 38 05.3**		**-0.1**
JUCU					IAML		12 38 07.5		
	comp=Z,870μm,0.5s								
JUCU	**Jucuarįn**	**0.20**	**276**	*i* P		**Pg**	**12 38 01.7**		**-0.8**
JUCU				*i* S		**Sg**	**12 38 05.1**		**-0.3**
JUCU					IAML		12 38 07.2		
	comp=Z,600μm,1.0s								
CNCH	**Conchagua**	**0.21**	**78**	*eP*		**Pg**	**12 38 02.5**		**-0.2**
CNCH				*eS*		**Sg**	**12 38 05.4**		**-0.3**
CNCH	**Conchagua**	**0.21**	**78**	*i* P		**Pg**	**12 38 02.4**		**-0.2**
CNCH					IAML		12 38 11.5		
	comp=Z,750μm,1.0s								
CNRM	**Centro Naciona**	**0.27**	**333**	*i* P		**Pg**	**12 38 02.7**		**-1.0**
CNRM				*i* S		**Sg**	**12 38 06.4**		**-1.0**
CNRM					IAML		12 38 16.1		
	comp=Z,1100μm,1.0s								
BLLM	**Bellamira**	**0.28**	**318**	*i* P		**Pg**	**12 38 03.1**		**-0.8**
VSM	**San Miguel**	**0.30**	**311**	*i* P		**Pg**	**12 38 03.6**		**-0.6**
LCY	**Lacayo**	**0.31**	**308**	*i* P		**Pg**	**12 38 03.7**		**-0.7**
RANC	**El Ranchito**	**0.31**	**310**	*eP*		**Pg**	**12 38 03.8**		**-0.8**
RANC	**El Ranchito**	**0.31**	**310**	*i* P		**Pg**	**12 38 03.7**		**-0.8**
RANC				*i* S		**Sg**	**12 38 08.0**		**-0.7**
RANC					IAML		12 38 24.5		
	comp=Z,120μm,1.0s								
PACA	**Pacayal**	**0.36**	**311**	*eP*		**Pg**	**12 38 04.6**		**-0.8**
PACA				*eS*		**Sg**	**12 38 11.4**		**+1.3**
PACA	**Pacayal**	**0.36**	**311**	*i* P		**Pg**	**12 38 04.6**		**-0.8**
PACA				*i* S		**Sg**	**12 38 09.6**		**-0.6**
PACA					IAML		12 38 22.7		
	comp=Z,570μm,1.0s								
AMPH	**Amapala**	**0.38**	**82**	*eP*		**Pg**	**12 38 05.4**		**-0.2**
AMPH				*eS*		**Sg**	**12 38 11.5**		**+0.8**
AMPH	**Amapala**	**0.38**	**82**	*i* P		**Pg**	**12 38 05.5**		**-0.2**
AMPH				*i* S		**Sg**	**12 38 09.8**		**-0.9**
TECA	**Tecapa**	**0.52**	**300**	*i* P		**Pg**	**12 38 07.4**		**-0.9**
COEB	**Comit de Eme**	**0.54**	**299**	*eP*		**Pg**	**12 38 07.9**		**-0.9**
COEB	**Comit de Eme**	**0.54**	**299**	*i* P		**Pg**	**12 38 08.0**		**-0.8**
COEB				*i* S		**Sg**	**12 38 15.6**		**-0.3**
COEB					IAML		12 38 23.1		
	comp=Z,67μm,1.0s								
PQSS	**Presa 15 de Se**	**0.64**	**308**	*eP*		**Pg**	**12 38 09.4**		**-1.1**
PQSS	**Presa 15 de Se**	**0.64**	**308**	*i* P		**Pg**	**12 38 09.9**		**-0.6**
PQSS					IAML		12 38 11.9		
	comp=Z,25μm,1.0s								
PQSS				*i* S		**Sg**	**12 38 18.6**		**-0.3**
TECO	**Alcaldia de Te**	**0.78**	**293**	*eP*		**Pg**	**12 38 11.8**		**-1.4**
TECO	**Alcaldia de Te**	**0.78**	**293**	*i* P		**Pg**	**12 38 12.0**		**-1.2**
TECO				*i* S		**Sg**	**12 38 23.3**		**-0.1**
TECO					IAML		12 38 27.6		
	comp=Z,47μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*eP*		**Pg**	**12 38 12.7**		**-1.2**
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*i* P		**Pg**	**12 38 13.1**		**-0.8**
SCLA				*i* S		**Sg**	**12 38 24.5**		**0.0**
SCLA					IAML		12 38 34.3		
	comp=Z,22μm,1.0s								
UESV	**Universidad de**	**0.83**	**299**	*eP*		**Pg**	**12 38 13.1**		**-1.1**
UESV	**Universidad de**	**0.83**	**299**	*i* P		**Pg**	**12 38 13.7**		**-0.5**
UESV				*i* S		**Sg**	**12 38 24.9**		**-0.1**
UESV					IAML		12 38 27.0		
	comp=Z,52μm,1.0s								
SNVI	**San Vicente**	**0.86**	**296**	*eP*		**Pg**	**12 38 13.6**		**-1.2**
COEG	**Centro de Oper**	**0.90**	**295**	*eP*		**Pg**	**12 38 14.0**		**-1.5**
COEG	**Centro de Oper**	**0.90**	**295**	*i* P		**Pg**	**12 38 14.3**		**-1.2**
COEG				*i* S		**Sg**	**12 38 26.9**		**-0.4**
COEG					IAML		12 38 31.1		
	comp=Z,53μm,1.0s								
PAVA	**Las Pavas**	**0.99**	**299**	*eP*		**Pg**	**12 38 15.9**		**-1.5**
PAVA	**Las Pavas**	**0.99**	**299**	*i* P		**Pg**	**12 38 15.8**		**-1.5**
PAVA					IAML		12 38 33.0		
	comp=Z,160μm,1.0s								
LBRS	**Las Brisas**	**1.09**	**297**	*eP*		**Pg**	**12 38 18.3**		**-0.9**
CRIN	**San Cristobal**	**1.10**	**119**			**Pg**	**12 38 18.6**		**-0.9**
CRIN					Sg	**Sn**	**12 38 36.9**		**+1.8**
CRIN	**San Cristobal**	**1.10**	**119**	*i* P		**Pg**	**12 38 18.8**		**-0.6**
CRIN				*i* S		**Sb**	**12 38 34.6**		**+0.7**
CRIN					IAML		12 38 42.0		
	comp=Z,190μm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.11**	**42**			**Pg**	**12 38 18.5**		**-1.1**
TGUH	**Tegucigalpa,Un**	**1.11**	**42**	*i* P		**Pg**	**12 38 17.8**		**-1.8**
TGUH				*i* S		**Sg**	**12 38 33.6**		**-0.5**
TGUH					IAML		12 38 40.2		
	comp=Z,140μm,1.0s								
AEIL	**Aeropuerto Ilo**	**1.14**	**294**	*eP*		**Pb**	**12 38 18.9**		**-1.1**
LFU	**La Fuente**	**1.16**	**296**	*eP*		**Pb**	**12 38 19.1**		**-1.2**
PANCS	**Alcalda de**	**1.17**	**289**	*i* P		**Pb**	**12 38 20.3**		**-0.2**
PANCS					IAML		12 38 38.4		
	comp=Z,87μm,1.0s								
LOMA	**Loma Larga**	**1.17**	**291**	*eP*		**Pb**	**12 38 18.7**		**-1.9**
LOMA	**Loma Larga**	**1.17**	**291**	*i* S		**Sb**	**12 38 35.0**		**-0.8**
UDBS	**Universidad Do**	**1.18**	**294**	*eP*		**Pb**	**12 38 19.6**		**-1.2**
UDBS	**Universidad Do**	**1.18**	**294**	*i* P		**Pb**	**12 38 19.9**		**-0.8**
UDBS				*i* S		**Sb**	**12 38 35.8**		**-0.3**
UDBS					IAML		12 38 42.0		
	comp=Z,33μm,1.0s								
IGN	**Direccin Gen**	**1.20**	**294**	*i* P		**Pb**	**12 38 19.9**		**-1.0**
IGN				*i* S		**Sb**	**12 38 37.4**		**+0.9**
IGN					IAML		12 38 48.3		
	comp=Z,92μm,1.0s								
UTEC	**Universidad Te**	**1.22**	**293**	*i* P		**Pn**	**12 38 20.6**		**-0.7**
UTEC					IAML		12 38 42.3		
	comp=Z,40μm,1.0s								
UESS	**Universidad de**	**1.22**	**293**	*eP*		**Pn**	**12 38 20.4**		**-1.0**
SNET	**Serv Nac Est T**	**1.24**	**291**			**Pn**	**12 38 20.2**		**-1.4**
SNET	**Serv Nac Est T**	**1.24**	**291**	*eP*		**Pn**	**12 38 20.1**		**-1.6**
SNET	**Serv Nac Est T**	**1.24**	**291**	*i* P		**Pn**	**12 38 20.7**		**-0.9**
SNET					IAML		12 38 46.8		
	comp=Z,57μm,1.0s								
UEES	**Universidad Ev**	**1.26**	**293**	*eP*		**Pn**	**12 38 20.4**		**-1.5**
UEES	**Universidad Ev**	**1.26**	**293**	*i* P		**Pn**	**12 38 20.5**		**-1.4**
UEES					IAML		12 38 40.6		
	comp=Z,20μm,1.0s								
LALI	**Alcalda de L**	**1.27**	**282**	*eP*		**Pn**	**12 38 20.3**		**-1.6**
LALI	**Alcalda de L**	**1.27**	**282**	*i* P		**Pn**	**12 38 21.2**		**-0.7**
LALI					IAML		12 38 45.1		
	comp=Z,7μm,1.0s								
LLGN	**La Laguna**	**1.27**	**317**	*eP*		**Pn**	**12 38 20.1**		**-1.9**
LLGN	**La Laguna**	**1.27**	**317**	*i* P		**Pn**	**12 38 20.2**		**-1.9**
LLGN					IAML		12 38 42.9		
	comp=Z,18μm,1.0s								
PIC2	**El Picacho**	**1.28**	**293**	*eP*		**Pn**	**12 38 21.3**		**-1.0**
MAGS	**Ministerio de**	**1.29**	**291**	*eP*		**Pn**	**12 38 21.2**		**-1.1**
BOQS	**Boqueron**	**1.30**	**293**	*eP*		**Pn**	**12 38 21.3**		**-1.3**
PMON	**Piamonte**	**1.32**	**291**	*eP*		**Pn**	**12 38 21.4**		**-1.4**
PMON	**Piamonte**	**1.32**	**291**	*i* P		**Pn**	**12 38 21.5**		**-1.3**
PMON					IAML		12 38 42.7		
	comp=Z,57μm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.34**	**297**	*i* P		**Pn**	**12 38 22.7**		**-0.2**
QUEZ					IAML		12 38 56.1		
	comp=Z,87μm,1.0s								
JAYA	**Jayaque - finc**	**1.43**	**287**	*eP*		**Pn**	**12 38 23.0**		**-1.3**
JAYA	**Jayaque - finc**	**1.43**	**287**	*i* P		**Pn**	**12 38 23.1**		**-1.2**
JAYA					IAML		12 38 45.7		
	comp=Z,99μm,1.0s								
CEDA	**San Andres**	**1.43**	**294**	*eP*		**Pn**	**12 38 23.1**		**-1.1**
CEDA	**San Andres**	**1.43**	**294**	*i* P		**Pn**	**12 38 23.7**		**-0.5**
CEDA					IAML		12 38 53.8		
	comp=Z,72μm,1.0s								
CNGA	**Al SSO del Vol**	**1.50**	**119**	*i* P		**Pn**	**12 38 22.7**		**-2.5**
CNGA					IAML		12 38 55.2		
	comp=Z,18μm,1.0s								
CNGN	**Cerro Negro**	**1.50**	**119**			**Pn**	**12 38 24.0**		**-1.2**
CNGN	**Cerro Negro**	**1.50**	**119**	*i* P		**Pn**	**12 38 25.8**		**+0.6**
CNGN					IAML		12 38 49.2		
	comp=Z,32μm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.62**	**121**	*i* P		**Pn**	**12 38 25.7**		**-1.1**
LEVN					IAML		12 38 57.0		
	comp=Z,22μm,1.0s								
UNIC	**Universidad Ca**	**1.64**	**297**	*i* P		**Pn**	**12 38 27.3**		**+0.2**
UNIC					IAML		12 38 55.3		
	comp=Z,7μm,1.0s								
SNJE	**San Jose**	**1.64**	**293**	*eP*		**Pn**	**12 38 26.7**		**-0.6**
CEVE	**Cerro Verde**	**1.65**	**291**	*eP*		**Pn**	**12 38 27.1**		**-0.3**
CEVE	**Cerro Verde**	**1.65**	**291**	*i* P		**Pn**	**12 38 27.3**		**-0.1**
CEVE					IAML		12 38 54.2		
	comp=Z,50μm,1.0s								
SBLS	**San Blas**	**1.65**	**292**	*eP*		**Pn**	**12 38 27.2**		**-0.2**
MOMN	**Momotombo**	**1.68**	**119**	*i* P		**Pn**	**12 38 26.6**		**-1.1**
MOMN					IAML		12 38 58.0		
	comp=Z,730nm,1.0s								
BC84	**Volcan Momotom**	**1.69**	**119**	*i* P		**Pn**	**12 38 28.4**		**+0.7**
BC84					IAML		12 38 52.9		
	comp=Z,29μm,1.0s								
RTR	**El Retiro**	**1.69**	**293**	*eP*		**Pn**	**12 38 28.0**		**+0.1**
MOM2	**El Cardon**	**1.71**	**117**	*i* P		**Pn**	**12 38 26.8**		**-1.3**
MOM2					IAML		12 39 02.4		
	comp=Z,13μm,1.0s								
MTO3	**Montecristo**	**1.73**	**312**			**Pn**	**12 38 27.7**		**-0.8**
MTO3	**Montecristo**	**1.73**	**312**	*eP*		**Pn**	**12 38 27.2**		**-1.3**
MTO3	**Montecristo**	**1.73**	**312**	*i* P		**Pn**	**12 38 27.6**		**-0.8**
MTO3					IAML		12 38 55.2		
	comp=Z,17μm,1.0s								
BRAN	**Las Pilas**	**1.73**	**107**	*i* P		**Pb**	**12 38 31.1**		**+1.1**
BRAN					IAML		12 38 33.5		
	comp=Z,12μm,1.0s								
BC86	**Nagarote**	**1.74**	**124**	*i* P		**Pn**	**12 38 28.2**		**-0.2**
BC86					IAML		12 39 12.8		
	comp=Z,20μm,1.0s								
COPN	**Copaltepe**	**1.76**	**126**	*i* P		**Pn**	**12 38 27.8**		**-0.9**
COPN					IAML		12 39 05.4		
	comp=Z,10μm,1.0s								
NUBE	**Las Nubes**	**1.81**	**292**	*eP*		**Pn**	**12 38 29.0**		**-0.6**
NUBE	**Las Nubes**	**1.81**	**292**	*i* P		**Pn**	**12 38 29.0**		**-0.6**
NUBE					IAML		12 39 00.9		
	comp=Z,19μm,1.0s								
ESQI	**Esquipulas**	**1.82**	**316**			**Pn**	**12 38 29.5**		**-0.2**
LOAL	**Lomas de Alarc**	**1.85**	**294**	*i* P		**Pn**	**12 38 30.3**		**+0.3**
LOAL					IAML		12 39 11.0		
	comp=Z,30μm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.87**	**295**	*eP*		**Pn**	**12 38 29.7**		**-0.5**
APQ3	**Volcan Apoyequ**	**1.89**	**120**	*i* P		**Pn**	**12 38 30.3**		**-0.2**
APQ3					IAML		12 39 09.6		
	comp=Z,13μm,1.0s								
APYN	**Apoyeque**	**1.93**	**121**	*i* P		**Pn**	**12 38 30.6**		**-0.4**
APYN					IAML		12 39 04.2		
	comp=Z,13μm,1.0s								
JUAM	**Asuncion Mita**	**1.95**	**304**	*i* P		**Pn**	**12 38 31.9**		**+0.5**
JUAM					IAML		12 38 37.2		
	comp=Z,14μm,1.0s								
RE6B4	**Centro civico**	**2.03**	**123**	*i* P		**Pn**	**12 38 32.7**		**+0.3**
ALLN	**Telcor Managua**	**2.03**	**122**	*i* P		**Pn**	**12 38 30.4**		**-2.1**
ALLN					IAML		12 39 12.1		
	comp=Z,15μm,1.0s								
TISN	**Laguna Tiscapa**	**2.04**	**122**	*i* P		**Pn**	**12 38 31.5**		**-1.1**
TISN					IAML		12 38 34.2		
	comp=Z,1μm,1.0s								
MGA1	**Managua**	**2.06**	**121**	*i* P		**Pn**	**12 38 34.0**		**+1.2**
MGA1					IAML		12 39 19.0		
	comp=Z,11μm,1.0s								
R4DEC	**Barrio San Lui**	**2.06**	**121**	*i* P		**Pn**	**12 38 33.9**		**+1.1**
R4DEC					IAML		12 38 36.9		
	comp=Z,8μm,1.0s								
ENAN	**Enatrel Managu**	**2.06**	**122**	*i* P		**Pn**	**12 38 33.7**		**+0.8**
ENAN					IAML		12 38 35.7		
	comp=Z,26μm,1.0s								
RB213	**Mirador 2 Volc**	**2.21**	**124**	*i* P		**Pn**	**12 38 32.4**		**-2.6**
RB213					IAML		12 39 14.3		
	comp=Z,11μm,1.0s								
MRL	**Marmol**	**2.43**	**319**	*eP*		**Pb**	**12 38 40.9**		**-1.2**
NADN	**Granada**	**2.46**	**127**	*i* P		**Pn**	**12 38 38.6**		**+0.3**
NADN					IAML		12 39 17.4		
	comp=Z,11μm,1.0s								
IZABA	**Izabal, Puerto**	**2.54**	**348**	*i* P		**Pb**	**12 38 42.7**		**-1.1**
IZABA					IAML		12 39 31.3		
	comp=Z,120nm,1.0s								
NBG	**Las Nubes**	**2.61**	**301**	*eP*		**Pb**	**12 38 44.5**		**-0.8**
GUNB	**GUNB**	**2.61**	**302**	*i* P		**Pn**	**12 38 42.6**		**+1.9**
GUNB					IAML		12 38 49.7		
	comp=Z,10μm,1.0s								
PCG	**Pacaya**	**2.74**	**295**	*eP*		**Pb**	**12 38 47.5**		**0.0**
GCG4	**OSOP**	**2.77**	**299**	*i* P		**Pb**	**12 38 47.5**		**-0.3**
GUMI	**Mixco**	**2.86**	**299**	*i* P		**Pb**	**12 38 49.5**		**+0.1**
GUMI					IAML		12 38 57.6		
	comp=Z,11μm,1.0s								
JAPN	**AI SSO del Vol**	**2.87**	**126**	*i* P		**Pn**	**12 38 45.1**		**+1.1**
JAPN					IAML		12 39 24.8		
	comp=Z,2μm,1.0s								
MORN	**AI O del Volca**	**2.88**	**125**	*i* P		**Pn**	**12 38 44.8**		**+0.7**
MORN					IAML		12 39 24.7		
	comp=Z,7μm,1.0s								
CONN	**Concepcion**	**2.89**	**125**	*i* P		**Pn**	**12 38 44.1**		**-0.1**
CONN					IAML		12 39 27.6		
	comp=Z,31μm,1.0s								
OMEN	**AI SSO del Vol**	**2.92**	**126**	*i* P		**Pn**	**12 38 44.6**		**0.0**
OMEN					IAML		12 39 30.4		
	comp=Z,4μm,1.0s								
APG	**El Apazote**	**2.94**	**307**	Pn		**Pn**	**12 38 45.5**		**+0.4**
	comp=Z,3.1nm,0.3s,baz=117,slow=11,SNR=40								
APG					Sn	**Sb**	**12 39 27.8**		**+1.0**
	comp=Z,3.1nm,0.3s,baz=66,slow=20,SNR=2.7								
FUG	**Fuego 3**	**2.97**	**294**	*eP*		**Pb**	**12 38 50.0**		**-1.4**
ACON	**Acoyapa**	**3.07**	**114**			**Pn**	**12 38 44.7**		**-2.1**
ACON	**Acoyapa**	**3.07**	**114**	*i* P		**Pn**	**12 38 45.1**		**-1.7**
ACON					IAML		12 39 40.5		
	comp=Z,5μm,1.0s								
ACON	**Acoyapa**	**3.07**	**114**	*eP*		**Pn**	**12 38 44.4**		**-2.4**
HZTE	**Horizontes, Gu**	**3.47**	**136**			**Pn**	**12 38 52.4**		**+0.1**
HZTE	**Horizontes, Gu**	**3.47**	**136**	*i* P		**Pn**	**12 38 52.3**		**+0.1**
HZTE					IAML		12 39 41.7		
	comp=Z,3μm,1.0s								
HZTE	**Horizontes, Gu**	**3.47**	**136**	*eP*		**Pn**	**12 38 51.5**		**-0.7**
ELI1	**Hacienda Flor**	**3.54**	**136**	*eP*		**Pn**	**12 38 52.6**		**-0.6**
SULM	**Suchitepequez,**	**3.58**	**288**	*eP*		**Pn**	**12 38 57.2**		**+3.4**
STG3	**Santiaguito 3,**	**3.73**	**294**	*eP*		**Pn**	**12 38 59.7**		**+3.7**
STG3					*eS*	**Sn**	**12 39 44.9**		**+5.0**
VMAR	**Armenia, Volca**	**3.74**	**130**	*eP*		**Pn**	**12 38 55.5**		**-0.5**
RTAL	**Retalhuleu**	**3.77**	**290**			**Pn**	**12 38 57.9**		**+1.5**
RTAL	**Retalhuleu**	**3.77**	**290**	*i* P		**Pn**	**12 38 59.1**		**+2.7**
RTAL					IAML		12 40 13.5		
	comp=Z,3μm,1.0s								
ESPN	**Las Esperanzas**	**3.80**	**105**			**Pn**	**12 38 55.5**		**-1.3**
ESPN	**Las Esperanzas**	**3.80**	**105**	*i* P		**Pn**	**12 38 55.6**		**-1.1**
ESPN					IAML		12 40 02.5		
	comp=Z,4μm,1.0s								
ESPN	**Las Esperanzas**	**3.80**	**105**	*eP*		**Pn**	**12 38 54.9**		**-1.9**
ESPN					*eS*	**Sb**	**12 39 51.6**		**+0.2**
ORTG	**Ortega, Santa**	**3.81**	**138**			**Pn**	**12 38 57.3**		**+0.3**
ORTG	**Ortega, Santa**	**3.81**	**138**	*i* P		**Pn**	**12 38 57.0**		**-0.1**
ORTG					IAML		12 39 46.7		
	comp=Z,1μm,1.0s								
ORTG	**Ortega, Santa**	**3.81**	**138**	*eP*		**Pn**	**12 38 57.1**		**+0.1**
SAJU	**San Juanillo,**	**3.89**	**144**	*i* P		**Pn**	**12 38 57.9**		**-0.1**
SAJU					IAML		12 40 04.9		
	comp=Z,1μm,1.0s								
JUD3	**Juan Diaz 3**	**3.91**	**141**	*eP*		**Pn**	**12 38 59.1**		**+0.7**
HUEH	**Huehuetenango**	**3.94**	**302**			**Pn**	**12 38 58.1**		**-0.8**
HUEH	**Huehuetenango**	**3.94**	**302**	*i* P		**Pb**	**12 39 08.7**		**+0.8**
DUNO	**Dulce Nombre,**	**4.01**	**141**			**Pn**	**12 38 59.6**		**0.0**
DUNO	**Dulce Nombre,**	**4.01**	**141**	*i* P		**Pn**	**12 39 00.4**		**+0.7**
DUNO					IAML		12 40 01.1		
	comp=Z,2μm,1.0s								
SMSP	**San Marcos**	**4.02**	**296**	*i* P		Pn	12 39 05.3		+5.3
SMSP					IAML		12 39 37.4		
	comp=Z,4μm,1.0s								
PETF	**Flores**	**4.06**	**335**			**Pn**	**12 39 01.1**		**+0.8**
PETF	**Flores**	**4.06**	**335**	*i* P		**Pn**	**12 39 01.2**		**+0.8**
PETF					IAML		12 40 28.1		
	comp=Z,3μm,1.0s								
JTS	**Las Juntas de**	**4.21**	**134**	Pn		**Pn**	**12 39 01.9**		**-0.6**
JTS	**Las Juntas de**	**4.21**	**134**	Pn		**Pn**	**12 39 01.6**		**-0.8**
	comp=Z,161nm,0.5s,baz=317,slow=16,SNR=89								
JTS					Sn	**Sn**	**12 39 52.0**		**+0.3**
	comp=Z,53nm,0.3s,baz=202,slow=18,SNR=3.7								
VACR	**Volcan Arenal**	**4.29**	**129**	*eP*		**Pn**	**12 39 04.1**		**+0.6**
COVE	**Coope Vega, Sa**	**4.35**	**125**			**Pn**	**12 39 04.0**		**-0.3**
COVE	**Coope Vega, Sa**	**4.35**	**125**	*i* P		**Pn**	**12 39 05.0**		**+0.6**
COVE					IAML		12 40 34.0		
	comp=Z,1μm,1.0s								
SOCE	**Pocosol**	**4.39**	**130**			**Pn**	**12 39 04.7**		**-0.3**
SOCE	**Pocosol**	**4.39**	**130**	*i* P		**Pn**	**12 39 05.5**		**+0.6**
SOCE					IAML		12 39 40.1		
	comp=Z,640nm,1.0s								
SOCE	**Pocosol**	**4.39**	**130**	*eP*		**Pn**	**12 39 05.2**		**+0.2**
LAFE	**Finca La Fe, P**	**4.58**	**138**	*i* P		**Pn**	**12 39 08.8**		**+1.2**
LAFE					IAML		12 39 25.4		
	comp=Z,7.4nm,1.0s								
CPMI	**Catarata Coope**	**4.63**	**129**	*i* P		**Pn**	**12 39 09.3**		**+0.9**
CPMI					IAML		12 41 28.1		
	comp=Z,1μm,1.0s								
JACO	**JACO, Garabito**	**4.86**	**137**			**Pn**	**12 39 11.4**		**+0.1**
JACO	**JACO, Garabito**	**4.86**	**137**	*i* P		**Pn**	**12 39 13.6**		**+2.3**
JACO					IAML		12 40 21.2		
	comp=Z,510nm,1.0s								
RIFO	**Rio Frio, Sara**	**4.97**	**125**	*i* P		**Pn**	**12 39 13.8**		**+0.9**
RIFO					IAML		12 41 08.0		
	comp=Z,2μm,1.0s								
CCIG	**Comitan**	**4.99**	**308**			**Pn**	**12 39 14.1**		**+0.8**
HDC	**Heredia**	**5.01**	**129**			**Pn**	**12 39 13.7**		**+0.1**
HDC	**Heredia**	**5.01**	**129**	*eP*		**Pn**	**12 39 13.8**		**+0.2**
HDC				*eS*		**Sn**	**12 40 11.2**		**-0.5**
HDC3	**Heredia 3**	**5.01**	**129**	*i* P		**Pn**	**12 39 15.2**		**+1.6**
HDC3					IVmB_BB		12 39 27.3		
	comp=Z,6μm,1.0s								
HDC3					IAmb	IAmb	12 39 39.0		
	comp=Z,420nm,0.6s								
HDC3					IAML		12 41 42.2		
	comp=Z,700nm,1.0s								
OCM	**Ochomogo**	**5.20**	**129**	*i* P		**Pn**	**12 39 18.3**		**+2.1**
OCM					IAmb	IAmb	12 39 27.3		
	comp=Z,180nm,0.8s								
OCM					IVmB_BB		12 39 40.3		
	comp=Z,4μm,1.0s								
OCM					IAML		12 40 26.4		
	comp=Z,340nm,1.0s								
LCR2	**La Lucha 2**	**5.26**	**131**			**Pn**	**12 39 17.4**		**+0.3**
VTCV	**VTCV, Calle Va**	**5.32**	**127**	*i* P		**Pn**	**12 39 19.3**

SJCC San Jacinto, C 13.03 103 P **Pn** **12 41 04.0 +0.4**
comp=Z,81nm,1.7s,comp=Z,1µm
DBBC Dabeiba 13.18 117 P **Pn** **12 41 08.4 +2.8**
UREC San Jos de Ur 13.45 113 P **Pn** **12 41 08.2 -1.0**
comp=Z,26nm,0.8s,comp=Z,532nm
I20EC Galapagos 13.94 190 I I 14 07 40.0
baz=8.6,slow=314,SNR=2.2
JRQG Juriquilla Cam 13.99 304 **Pn** **12 41 14.9 -1.9**
MOIG Morelia 14.14 299 **Pn** **12 41 20.2 +1.4**
CRJC Cerrejon, Guaj 14.99 97 P **P** **12 41 36.5 +0.7**
comp=Z,58nm,0.6s,comp=Z,1µm
OCAC Ocana 15.29 107 P **Pn** **12 41 34.4 0.0**
comp=Z,95nm,1.2s,comp=Z,1µm
POPC Popayan, Colom 15.47 132 P **Pn** **12 41 35.1 -1.7**
comp=Z,40nm,0.8s,comp=Z,729nm
ORTC Ortega, Tolima 15.67 125 P **Pn** **12 41 39.6 +0.3**
comp=Z,45nm,1.1s,comp=Z,1µmcomp=Z,3µm
ROSC El Rosal 15.90 120 **Pn** **12 41 43.2 +0.6**
ROSC El Rosal 15.90 120 Pn **Pn** **12 41 42.2 -0.4**
comp=Z,1.2nm,0.3s,baz=308,slow=15,SNR=7.0
ROSC LR LR 12 48 44.5
comp=Z,5µm,19.9s,baz=326,slow=41
comp=Z,4.2nm,0.4s
TULM Tulcn-Chalpat 16.06 140 P **Pn** **12 41 47.1 +2.4**
TULM IAmb IAmb 12 41 51.1
comp=Z,224nm,1.4s
TULM Tulcn-Chalpat 16.06 140 P **Pn** **12 41 46.5 +1.8**
comp=Z,106nm,1.6s,comp=Z,2µm
IMBA Imbabura, San 16.15 142 P **Pn** **12 41 48.2 +2.4**
IMBA IAmb IAmb 12 41 53.1
comp=Z,349nm,1.4s
PULU Pululahua 16.18 143 P **Pn** **12 41 48.5 +2.4**
CHIC Chingaza 16.51 120 P **Pn** **12 41 52.2 +1.8**
SLOR San Lorenzo - 16.80 145 P **P** **12 41 57.1 +0.8**
KVTX Kingsville 16.96 329 P **P** **12 41 59.5 +2.1**
KVTX IAmb IAmb 12 42 04.0
comp=Z,556nm,1.8s
HBVL Hebbronville 16.98 326 P **Pn** **12 41 57.5 +1.6**
SDV Santo Domingo 17.62 102 **Pn** **12 42 03.8 -0.4**
SDV Santo Domingo 17.62 102 P **Pn** **12 42 03.4 -0.7**
comp=Z,0.8nm,0.3s,baz=262,slow=7.2,SNR=28
comp=Z,29nm,0.8s
SDV Santo Domingo 17.62 102 *e*P **Pn** **12 42 02.7 -1.5**
SDV *e*S **S** **12 45 25.8 -2.6**
BRAL Brewton 17.88 3 P **P** **12 42 09.0 +1.4**
baz=183
735A Kenedy 18.00 331 P **Pn** **12 42 09.4 +0.9**
735A IAmb IAmb 12 42 16.0
comp=Z,208nm,1.4s
HKT Hockley 18.13 338 P **P** **12 42 11.2 +0.8**
833A Chaparral WMA, 18.37 327 P **Pn** **12 42 13.4 +0.3**
833A Chaparral WMA, 18.37 327 P **P** **12 42 14.4 +1.4**
baz=143,SNR=49
EF01 Eagle Ford 01 18.50 330 P **P** **12 42 13.8 -0.8**
TIGA Tifton 18.58 12 P **Pn** **12 42 16.4 +0.8**
baz=194
250A Grady 18.73 5 P **P** **12 42 16.4 -0.6**
HNVL Huntsville, TX 18.74 340 P **Pn** **12 42 19.6 +2.1**
VBMS Vicksburg 19.03 354 P **Pn** **12 42 21.9 +0.8**
VBMS Vicksburg 19.03 354 P **Pn** **12 42 22.8 +1.7**
baz=173
HNDO Hondo 19.27 329 P **P** **12 42 24.0 +0.9**
HNDO IAmb IAmb 12 42 29.2
comp=Z,87nm,0.9s
NATX Nacogdoches 19.42 343 P **Pn** **12 42 26.8 +1.1**
NATX IAmb IAmb 12 42 33.5
comp=Z,103nm,0.9s
NATX Nacogdoches 19.42 343 P **Pn** **12 42 27.1 +1.3**
baz=160,SNR=11
435B Jarrell 19.56 335 P **Pn** **12 42 27.5 +0.1**
435B IAmb IAmb 12 42 34.5
comp=Z,112nm,1.1s
435B Jarrell 19.56 335 P **Pn** **12 42 28.0 +0.5**
baz=151
143A Socs Landing, 19.62 352 P **Pn** **12 42 28.2 0.0**
LRAL Lakeview Retre 19.73 3 P **Pn** **12 42 30.4 +0.9**
baz=183,SNR=14
Z47A Carrollton 19.88 360 P **Pn** **12 42 31.1 0.0**
DRIO Del Rio 19.89 326 P **P** **12 42 29.9 +0.1**
DRIO IAmb IAmb 12 42 36.9
comp=Z,164nm,1.2s
JCT Junction City 20.31 330 P **P** **12 42 34.9 +0.5**
JCT IAmb IAmb 12 42 40.3
comp=Z,283nm,1.8s
JCT Junction City 20.31 330 P **P** **12 42 35.5 +1.1**
baz=145,SNR=38
GOGA Godfrey 20.52 11 P Pn 12 42 38.5 -0.2
baz=193
WHTX Lake Whitney, 20.57 337 P **P** **12 42 38.8 +1.6**
WHTX IAmb IAmb 12 42 47.3
comp=Z,131nm,1.2s
WHTX Lake Whitney, 20.57 337 P Pn 12 42 39.5 +0.1
baz=153,SNR=14
BRDY Brady 20.60 332 P **P** **12 42 37.6 +0.1**
BRDY IAmb IAmb 12 42 43.2
comp=Z,148nm,1.3s
Z38A Mt. Pleasant 20.92 344 P **P** **12 42 42.7 +1.8**
SAND Sanderson 21.14 324 P **P** **12 42 44.3 +0.9**
SAND IAmb IAmb 12 42 49.2
comp=Z,278nm,1.6s
OXF Oxford 21.22 357 P **P** **12 42 45.9 +1.8**
baz=176,SNR=7.6
OZNA Ozona 21.34 328 P **P** **12 42 45.6 0.0**
HPIG 21.40 312 P **P** **12 42 47.4 +0.9**
TX31 Lajitas Ar. Si 21.61 320 P **P** **12 42 49.1 +0.6**
TXAR Lajitas Array 21.61 320 P **P** **12 42 49.1 +0.6**
TXAR Lajitas Array 21.61 320 P **P** **12 42 49.9 +1.4**
comp=Z,37nm,0.9s,baz=141,slow=7.4,SNR=60
comp=Z,37nm,0.9s
PLPT Palo Pinto 21.64 336 P **P** **12 42 49.4 +0.7**
PLPT IAmb IAmb 12 42 58.3
comp=Z,218nm,1.8s
PLAL Pickwick Lake 21.66 360 P **P** **12 42 49.8 +1.0**
Z35A Perchaven, San 21.70 339 P **P** **12 42 49.8 +0.5**
MIAR Mount Ida 21.80 348 P **P** **12 42 52.5 +2.0**
MIAR Mount Ida 21.80 348 P **P** **12 42 52.9 +2.4**
baz=165,SNR=104
JSC Jenkinsville 21.84 15 P **P** **12 42 51.0 +0.2**
SWET Sewanee 21.97 5 P **P** **12 42 53.3 +1.1**
W50A Signal Mountai 22.01 6 P **P** **12 42 53.6 +0.9**
ABTX Abilene, Hawle 22.03 333 P **P** **12 42 51.9 -1.0**
ABTX IAmb IAmb 12 42 58.2
comp=Z,171nm,1.7s
ABTX Abilene, Hawle 22.03 333 P **P** **12 42 54.4 +1.5**
baz=149,SNR=13
W52A Murphy 22.08 9 P **P** **12 42 54.9 +1.5**
SGCY Sterling City 22.13 329 P **P** **12 42 53.0 -1.1**
SGCY IAmb IAmb 12 43 01.2
comp=Z,109nm,1.1s
X37A Clayton 22.28 344 **P** **12 42 56.4 +0.9**
ALPN Alpine 22.33 322 P **P** **12 42 55.1 -1.2**
ALPN IAmb IAmb 12 43 02.7
comp=Z,231nm,1.8s
ATAH Atahualpa 22.39 154 P **P** **12 42 57.9 +0.6**
comp=Z,15nm,1.1s,baz=320,slow=12,SNR=12
comp=Z,15nm,1.1s
MNHN Monahans 22.54 325 P **P** **12 42 58.3 -0.2**
KMSC Kings Mountain 22.64 14 P **P** **12 43 01.0 +1.6**
baz=197
TKL Tuckaleechee C 22.66 9 P **P** **12 43 00.9 +1.3**
TKL IAmb IAmb 12 43 06.6
comp=Z,50nm,0.8s
WVT Waverly 22.80 0 P **P** **12 43 00.7 -0.4**
WVT Waverly 22.80 0 P **P** **12 43 02.8 +1.7**
baz=180
SN05 Snyder 5 22.81 331 P **P** **12 43 00.6 -0.6**
SN05 IAmb IAmb 12 43 05.5
comp=Z,194nm,1.6s
APMT Aspermont 22.83 333 P **P** **12 43 01.3 -0.2**
FCAR Ozark Folk Cen 22.86 351 P **P** **12 43 02.6 +0.9**
FCAR IAmb IAmb 12 43 08.8
comp=Z,89nm,1.5s
SN07 Snyder 07 22.98 331 P **P** **12 43 02.1 -1.0**
SN07 IAmb IAmb 12 43 07.1
comp=Z,77nm,1.4s
ODSA Odessa 23.03 327 P **P** **12 43 02.3 -1.3**
ODSA IAmb IAmb 12 43 08.1
comp=Z,134nm,1.2s
PECS Pecos 23.19 324 P **P** **12 43 06.0 +0.7**
PECS IAmb IAmb 12 43 12.5
comp=Z,197nm,1.9s
HICK Hickman 23.23 358 P **P** **12 43 06.8 +1.2**
W35A Tecumseh 23.24 341 P **P** **12 43 06.7 +1.1**
POST Post 23.25 330 P **P** **12 43 04.3 -1.6**
U49A Red Boiling Sp 23.27 5 P **P** **12 43 06.5 +0.6**

VHRN Van Horn 23.44 321 P **P** **12 43 08.0 +0.2**
VHRN IAmb IAmb 12 43 14.1
comp=Z,164nm,1.6s
DKNS Dickens 23.48 332 P **P** **12 43 07.7 -0.4**
DKNS IAmb IAmb 12 43 15.2
comp=Z,66nm,1.3s
FNO Franklin 23.50 341 **P** **12 43 09.3 +1.1**
WMOK Wichita Mounta 23.52 337 **P** **12 43 08.9 +0.5**
WMOK IAmb IAmb 12 43 14.1
comp=Z,83nm,1.2s
WMOK Wichita Mounta 23.52 337 P **P** **12 43 09.7 +1.3**
baz=153,SNR=51
PBMO Poplar Bluff 23.55 355 P **P** **12 43 09.4 +0.8**
HHAR Hobbs 23.55 348 P **P** **12 43 09.1 +0.3**
TZTN Tazewell 23.56 9 P **P** **12 43 09.3 +0.5**
TZTN IAmb IAmb 12 43 15.6
comp=Z,95nm,1.4s
TZTN Tazewell 23.56 9 P **P** **12 43 10.2 +1.4**
baz=191,SNR=7.7
TUL3 Leonard 23.63 344 P **P** **12 43 10.1 +0.5**
TUL3 IAmb IAmb 12 43 16.5
comp=Z,94nm,0.9s
TUL3 Leonard 23.63 344 P **P** **12 43 11.1 +1.6**
baz=161,SNR=19
OKCSW OKLAHOMA CITY 23.65 341 **P** **12 43 08.7 -1.1**
T47A Sharon Grove 23.67 2 P **P** **12 43 11.0 +1.1**
T47A IAmb IAmb 12 43 15.4
comp=Z,160nm,1.6s
CNNC Cliffs of the 23.75 21 P **P** **12 43 12.2 +1.5**
baz=205
U38A Gravette 23.80 347 P **P** **12 43 10.7 -0.4**
U38A IAmb IAmb 12 43 16.1
comp=Z,59nm,1.0s
U54A Nelsons Funny 23.85 12 P **P** **12 43 12.9 +1.2**
U54A IAmb IAmb 12 43 18.6
comp=Z,53nm,0.7s
T42A Van Buren 23.86 354 P **P** **12 43 12.7 +1.1**
T50A Nancy 23.86 6 P **P** **12 43 13.1 +1.3**
V58A Windy Hill, Pi 23.86 18 P **P** **12 43 11.8 +0.1**
V58A IAmb IAmb 12 43 19.9
comp=Z,61nm,1.2s
MNTX Cornudas Mount 24.32 322 P **P** **12 43 16.7 +0.6**
baz=135,SNR=190
S51A Beattyville 24.63 9 P **P** **12 43 19.3 +0.5**
S51A IAmb IAmb 12 43 25.1
comp=Z,45nm,0.8s
USIN University of 24.63 1 P **P** **12 43 20.5 +1.7**
USIN IAmb IAmb 12 43 39.5
comp=Z,48nm,1.1s
FVM French Village 24.74 356 P **P** **12 43 21.2 +1.4**
S39A Bolivar 24.81 350 P **P** **12 43 20.8 +0.4**
S39A IAmb IAmb 12 43 25.8
comp=Z,61nm,1.0s
BLA Blacksburg 24.83 15 P **P** **12 43 21.3 +0.6**
baz=198,SNR=13
AMTX Amarillo 24.84 333 P **P** **12 43 22.4 +1.5**
baz=147
CCM Cathedral Cave 24.89 354 P **P** **12 43 21.3 +0.1**
CCM IAmb IAmb 12 43 26.1
comp=Z,63nm,1.1s
CCM Cathedral Cave 24.89 354 P **P** **12 43 23.3 +2.2**
baz=173
WCI Wyandotte Cave 24.94 3 P **P** **12 43 22.0 +0.3**
WCI IAmb IAmb 12 43 27.0
comp=Z,119nm,1.6s
WCI Wyandotte Cave 24.94 3 P **P** **12 43 22.9 +1.3**
baz=184
OLIL Olney 25.40 360 P **P** **12 43 26.3 +0.6**
OLIL IAmb IAmb 12 43 31.1
comp=Z,65nm,1.4s
CZSB Cruzeiro do Su 25.80 143 P **P** **12 43 29.4 -0.2**
CZSB IAmb IAmb 12 43 35.7
comp=Z,103nm,1.7s
Q51A Peebles 26.03 8 P **P** **12 43 32.4 +0.9**
Q52A Bidwell 26.13 10 P **P** **12 43 33.9 +1.4**
Q52A IAmb IAmb 12 43 41.7
comp=Z,83nm,1.1s
P48A Milroy 26.23 5 P **P** **12 43 32.6 -0.7**
P48A IAmb IAmb 12 43 37.6
comp=Z,83nm,1.6s
R58B Mineral 26.24 18 P **P** **12 43 33.8 +0.4**
P49A Miami Univ. Ec 26.36 6 P **P** **12 43 34.7 +0.2**
P49A IAmb IAmb 12 43 40.3
comp=Z,81nm,1.6s
P49A Miami Univ. Ec 26.36 6 P **P** **12 43 36.0 +1.5**
baz=187,SNR=5.3
121A Cookes Peak, D 26.37 320 P **P** **12 43 35.7 +0.9**
121A IAmb IAmb 12 43 41.2
comp=Z,77nm,0.9s
121A Cookes Peak, D 26.37 320 P **P** **12 43 36.3 +1.4**
baz=132,SNR=54
P40A Paris 26.43 353 P **P** **12 43 35.6 +0.5**
Q54A Coxs Mills 26.43 13 P **P** **12 43 35.4 +0.3**
Q54A IAmb IAmb 12 43 41.2
comp=Z,78nm,1.1s
P51A Williamsport 26.51 9 P **P** **12 43 37.0 +1.2**
RTBA Rita Blanca 26.61 333 P **P** **12 43 37.3 +0.4**
P38A Dawn 26.73 351 P **P** **12 43 37.4 -0.4**
P38A IAmb IAmb 12 43 42.2
comp=Z,45nm,0.8s
P52A Corning 26.81 10 P **P** **12 43 40.3 +1.8**
baz=193,SNR=12
KSU1 Kansas State U 26.86 345 P **P** **12 43 38.9 -0.1**
KSU1 IAmb IAmb 12 43 43.6
comp=Z,90nm,1.5s
KSU1 Kansas State U 26.86 345 P **P** **12 43 40.3 +1.3**
baz=161,SNR=6.4
Q56A Snyder Ridge, 26.88 15 P **P** **12 43 39.5 +0.4**
Q56A IAmb IAmb 12 43 45.9
comp=Z,46nm,1.1s
Y22D IRIS PASSCAL i 26.92 324 P **P** **12 43 40.1 +0.3**
Y22D IRIS PASSCAL i 26.92 324 P **P** **12 43 41.1 +1.3**
baz=136,SNR=16
Y22F Passcal Instru 26.92 324 P **P** **12 43 41.3 +1.6**
baz=136,SNR=16
O48B Farmland 27.04 5 P **P** **12 43 41.7 +1.1**
baz=186
O49A Compton 27.05 6 P **P** **12 43 41.9 +1.2**
SFIN Lafayette 27.05 2 P **P** **12 43 40.9 +0.2**
baz=182
HDIL Hopedale 27.24 358 P **P** **12 43 43.2 +0.8**
baz=177
ACSO Alum Creek Sta 27.26 8 P **P** **12 43 43.7 +1.1**
baz=191,SNR=7.2
ANMO Albuquerque 27.29 326 P **P** **12 43 44.0 +0.9**
ANMO IAmb IAmb 12 43 49.3
comp=Z,87nm,1.4s
ANMO Albuquerque 27.29 326 P **P** **12 43 44.6 +1.4**
baz=138
ANMO Albuquerque 27.29 326 LR LR 12 57 50.8
comp=Z,670nm,18.2s,baz=217,slow=44
MCWV Mont Chateau 27.30 14 P **P** **12 43 44.6 +1.6**
baz=198,SNR=6.2
N41A Harden Midland 27.48 355 P **P** **12 43 44.5 0.0**
N41A IAmb IAmb 12 43 49.0
comp=Z,90nm,1.6s
CBKS Cedar Bluff 27.51 340 P **P** **12 43 45.5 +0.6**
CBKS Cedar Bluff 27.51 340 P **P** **12 43 47.2 +2.3**
baz=155,SNR=12
O53A New Philadelph 27.57 11 P **P** **12 43 47.6 +2.2**
baz=194,SNR=20
P57A Homestead Farm 27.61 17 P **P** **12 43 46.4 +0.7**
N38A Joes South For 27.83 352 P **P** **12 43 47.0 -0.7**
N38A IAmb IAmb 12 43 52.0
comp=Z,68nm,1.4s
SDMD Soldier's Deli 27.89 19 P **P** **12 43 48.5 +0.3**
T25A Trinidad 27.95 331 P **P** **12 43 50.3 +1.3**
baz=144,SNR=23
TUC Tucson 28.18 316 P **P** **12 43 52.1 +1.1**
TUC Tucson 28.18 316 P **P** **12 43 52.1 +1.1**
baz=127
M50A Fremont 28.40 8 **P** **12 43 54.6 +1.8**
M50A IAmb IAmb 12 43 57.6
comp=Z,36nm,0.8s
MVL Millersville 28.58 19 P **P** **12 43 54.9 +0.5**
MVL IAmb IAmb 12 44 02.7
comp=Z,78nm,1.6s
L42A Oliver, Polo 28.70 357 P **P** **12 43 56.0 +0.6**
SSPA Standing Stone 28.72 16 P **P** **12 43 57.5 +1.9**
baz=201
KSCO Kaye Shedlock' 28.74 336 P **P** **12 43 54.9 -1.1**
KSCO Kaye Shedlock' 28.74 336 P **P** **12 43 57.7 +1.7**
baz=149,SNR=7.9
WUPA West Chester U 28.76 20 P **P** **12 43 54.1 -1.9**
M52A Chesterland 28.80 10 P **P** **12 43 56.0 -0.4**

M53A WI Miller and 28.83 12 P **P** **12 43 58.4 +1.8**
baz=195,SNR=6.3
L44A Lake County Fo 28.84 0 P **P** **12 43 58.8 +2.1**
baz=180
SCIA State Center 28.92 352 P **P** **12 43 60.0 +2.6**
baz=170
SDCO Great Sand Dun 28.95 331 P **P** **12 43 58.0 -0.1**
SDCO IAmb IAmb 12 44 03.5
comp=Z,46nm,1.1s
SDCO Great Sand Dun 28.95 331 P **P** **12 43 59.4 +1.3**
baz=143,SNR=55
AAM Ann Arbor 29.21 7 P **P** **12 44 01.2 +1.2**
AAM IAmb IAmb 12 44 05.3
comp=Z,63nm,1.5s
AAM Ann Arbor 29.21 7 P **P** **12 44 02.5 +2.6**
baz=189
M55A Ridgway 29.27 14 P **P** **12 44 01.2 +0.6**
M55A IAmb IAmb 12 44 06.1
comp=Z,38nm,0.9s
BOAV Boa Vista 29.27 109 P **P** **12 43 59.9 -1.0**
BOAV Boa Vista 29.27 109 *e*P **P** **12 43 59.2 -1.7**
W18A Petrified Fore 29.31 322 P **P** **12 44 02.3 +1.2**
W18A Petrified Fore 29.31 322 P **P** **12 44 03.6 +2.5**
baz=133,SNR=14
214A Organ Pipe Nat 29.38 313 P **P** **12 44 03.6 +2.0**
baz=124
BGNE Belgrade 29.42 344 P **P** **12 44 03.0 +1.1**
BGNE Belgrade 29.42 344 P **P** **12 44 03.5 +1.6**
baz=160
M57A Sunshine Farm, 29.58 17 P **P** **12 44 04.5 +1.2**
M57A IAmb IAmb 12 44 09.2
comp=Z,51nm,0.9s
ERPA Erie 29.62 12 P **P** **12 44 04.3 +0.7**
ERPA Erie 29.62 12 P **P** **12 44 05.5 +1.9**
baz=196,SNR=9.4
JFWS Jewell Farm 29.64 357 P **P** **12 44 03.5 -0.3**
JFWS Jewell Farm 29.64 357 P **P** **12 44 05.4 +1.7**
baz=176
Q24A Divide 29.77 332 P **P** **12 44 06.4 +1.1**
baz=145,SNR=14
MVCO Mesa Verde 30.07 326 P **P** **12 44 07.6 -0.4**
MVCO IAmb IAmb 12 44 13.2
comp=Z,61nm,1.1s
MVCO Mesa Verde 30.07 326 P **P** **12 44 09.0 +1.0**
baz=137,SNR=33
WVNY West Valley, N 30.20 14 P **P** **12 44 09.3 +0.6**
WVNY IAmb IAmb 12 44 14.3
comp=Z,49nm,0.8s
OGNE Ogallala 30.20 339 P **P** **12 44 10.6 +1.7**
baz=152,SNR=11
L56A Greenwood 30.20 16 P **P** **12 44 08.5 -0.3**
L56A IAmb IAmb 12 44 14.3
comp=Z,42nm,1.1s
PAL Palisades 30.31 21 P **P** **12 44 10.8 +1.2**
baz=208
WUAZ Wupatki 30.57 321 P **P** **12 44 13.4 +1.1**
baz=131,SNR=15
ISCO Idaho Springs 30.66 333 P **P** **12 44 14.5 +1.3**
baz=145,SNR=20
BINY Binghamton 30.70 18 P **P** **12 44 14.5 +1.3**
baz=203,SNR=16
L59A Walton 30.98 19 P **P** **12 44 17.4 +1.7**
L59A IAmb IAmb 12 44 21.7
comp=Z,38nm,0.8s
K30B Basset 31.00 343 P **P** **12 44 16.4 +0.6**
I37A Lemond, Waseca 31.02 352 P **P** **12 44 16.4 +0.4**
I37A IAmb IAmb 12 44 21.3
comp=Z,15nm,0.7s
K57A Scipio Center 31.04 17 P **P** **12 44 16.8 +0.6**
H43A Windswept, Lux 31.13 0 P **P** **12 44 18.2 +1.3**
H43A IAmb IAmb 12 44 21.2
comp=Z,26nm,0.8s
ECSD EROS Data Cent 31.27 348 P **P** **12 44 19.5 +1.3**
baz=164,SNR=18
GLA Glamis 31.40 313 P **P** **12 44 20.6 +1.1**
baz=123
ETMB Extrema 31.53 136 *e*S **S** **12 49 30.8 +1.4**
GLMI Grayling 31.62 5 P **P** **12 44 23.0 +1.7**
baz=186
PDMCI Parker Dam,Lak 31.62 316 P **P** **12 44 22.6 +1.2**
baz=125
MACA Manacapuru-AM 31.67 119 *e*S **S** **12 49 31.7 +0.1**
N23A Red Feather La 31.70 334 P **P** **12 44 23.1 +0.8**
baz=145,SNR=9.1
G40A Rib Lake 31.98 357 P **P** **12 44 24.6 +0.2**
G40A IAmb IAmb 12 44 28.2
comp=Z,31nm,1.1s
L61B Northampton 32.01 22 P **P** **12 44 27.0 +2.3**
baz=209,SNR=7.4
SWSC Sam W. Stewart 32.04 312 P **P** **12 44 26.0 +1.0**
baz=121
IKP In-Ko-Pah, Jac 32.11 312 P **P** **12 44 27.0 +1.2**
baz=121
SPMN Marine on St. 32.14 354 P **P** **12 44 25.2 -0.6**
SPMN IAmb IAmb 12 44 29.3
comp=Z,26nm,0.7s
SPMN Marine on St. 32.14 354 P **P** **12 44 27.6 +1.8**
baz=171,SNR=9.2
O20A White River Ci 32.15 330 P **P** **12 44 26.9 +0.7**
O20A White River Ci 32.15 330 P **P** **12 44 27.6 +1.5**
baz=141,SNR=72
BC3 Big Chuckawall 32.16 314 P **P** **12 44 27.6 +1.3**
baz=123
NEE2 Needles Airpor 32.21 316 P **P** **12 44 27.9 +1.3**
baz=125
IRM Iron Mountain 32.22 315 P **P** **12 44 28.4 +1.7**
baz=124,SNR=6.5
SADO Sadowa 32.34 12 LR LR 12 57 55.3
comp=Z,1µm,18.7s,baz=212,slow=37
MONP2 Monument Peak 32.46 312 P **P** **12 44 29.7 +0.7**
baz=120
SUSD Miller 32.48 345 P **P** **12 44 30.5 +1.7**
baz=160
HRV Adam Dziewonsk 32.48 23 P **P** **12 44 30.1 +1.3**
baz=211
BELC Belle Mtn. Jos 32.73 314 P **P** **12 44 32.9 +1.6**
baz=122
TPFO Pinon Flats 32.85 313 P **P** **12 44 33.4 +1.0**
baz=122
PFO Pinyon Flats O 32.85 313 P **P** **12 44 33.3 +0.9**
baz=122
PFO Pinyon Flats O 32.85 313 LR LR 12 59 32.2
comp=Z,2µm,18.4s,baz=134,slow=39
GMRC Granite Mounta 32.92 315 P **P** **12 44 34.5 +1.5**
baz=124
109C Camp Elliot, M 32.95 311 P **P** **12 44 34.0 +0.9**
baz=120
MSU Marysvale 33.05 324 P **P** **12 44 34.5 +0.4**
E43A Lone Tree Farm 33.05 1 P **P** **12 44 32.3 -1.4**
E43A IAmb IAmb 12 44 37.2
comp=Z,19nm,0.8s
SAML Samuel 33.09 130 *e*P **P** **12 44 35.4 +0.9**
LONY Lake Ozonia 33.33 18 P **P** **12 44 37.9 +1.7**
baz=204,SNR=14
MURC Murrieta 33.38 312 P **P** **12 44 37.5 +0.7**
baz=120
K22A Casper 33.39 335 P **P** **12 44 38.7 +1.7**
baz=146,SNR=17
HEC Hector,Ludlow 33.41 315 P **P** **12 44 38.3 +1.1**
baz=123,SNR=6.3
TUQ Turquoise Moun 33.47 316 P **P** **12 44 39.1 +1.3**
baz=124,SNR=6.7
BBRC Big Bear Solar 33.52 314 P **P** **12 44 39.4 +1.1**
baz=122
RSSD Black Hills 33.70 339 P **P** **12 44 41.8 +2.0**
baz=151
BSUT Blindstream Ca 33.71 328 P **P** **12 44 41.1 +1.0**
BSUT IAmb IAmb 12 44 45.4
comp=Z,57nm,1.2s
MPU Maple Canyon 33.79 326 P **P** **12 44 40.6 0.0**
LBNH Lisbon 33.84 21 P **P** **12 44 40.8 0.0**
LBNH IAmb IAmb 12 44 46.9
comp=Z,38nm,1.4s
LBNH Lisbon 33.84 21 P **P** **12 44 42.3 +1.5**
baz=209
SHOC Shoshone, Teco 33.97 317 P **P** **12 44 42.9 +1.0**
baz=125
GSC Goldstone, Bar 33.99 315 P **P** **12 44 43.9 +1.7**
baz=123,SNR=5.5
BFSC Mount Baldy Ra 34.03 313 P **P** **12 44 43.6 +1.0**
baz=121
SCI2 San Clemente I 34.06 310 P **P** **12 44 44.2 +1.4**
baz=118
JLU Jordanelle 34.12 327 P **P** **12 44 43.4 -0.1**
JLU IAmb IAmb 12 44 48.6
comp=Z,38nm,1.1s
CIS Catalina Islan 34.16 311 P **P** **12 44 45.0 +1.3**

baz=119
FMP Fort Macarthur 34.23 312 P P 12 44 45.8 +1.6
baz=119
DUG Dugway, Tooele 34.56 326 P P 12 44 48.8 +1.6
baz=134,SNR=25
EDW2 Edwards Air Fo 34.60 314 P P 12 44 49.1 +1.6
baz=121
FURC Furnace Creek, 34.68 317 P P 12 44 49.5 +1.5
baz=124
LRMC Laurel Mtn Rad 34.69 315 P P 12 44 49.4 +1.0
baz=122
EYMN Ely 34.73 356 P P 12 44 50.0 +1.6
baz=174,SNR=5.9
BW06 Boulder Array 34.81 332 P P 12 44 50.7 +1.3
baz=141,SNR=19
PD31 Pinedale Array 34.81 332 P P 12 44 49.6 +0.1
PDAR Pinedale Array 34.81 332 P P 12 44 49.2 -0.2
PDAR Pinedale Array 34.81 332 P P 12 44 49.9 +0.4
comp=Z,10nm,1.0s,baz=134,slow=8.6,SNR=36
comp=Z,10nm,1.0s
MPMC Manual Prospec 34.87 316 P P 12 44 51.0 +1.0
baz=123,SNR=8.8
E28A Huff 34.90 345 P P 12 44 49.7 -0.2
R11B Troy Canyon, C 34.97 321 P P 12 44 52.7 +1.9
baz=128,SNR=16
OSI Osito Audit: C 34.98 313 P P 12 44 51.9 +1.2
baz=120
G62A West of Eustis 35.19 22 P P 12 44 53.8 +1.5
G62A IAmb IAmb 12 44 58.2
comp=Z,37nm,0.7s
BGU Big Grassy Mou 35.19 326 P P 12 44 53.2 +0.6
GRAC Grapevine Rang 35.31 317 P P 12 44 55.1 +1.5
baz=124,SNR=7.1
ARVC Arvin 35.31 313 P P 12 44 54.9 +1.4
baz=120
LPAZ La Paz 35.33 146 P P 12 44 53.4 -1.1
LPAZ La Paz 35.33 146 P P 12 44 53.5 -1.1
comp=Z,3.0nm,0.6s,baz=25,slow=2.6,SNR=8.7
comp=Z,3.0nm,0.6s
ISA Isabella, Lake 35.34 315 P P 12 44 55.2 +1.3
baz=122
CWC Cottonwood Cre 35.48 316 P P 12 44 56.2 +1.0
baz=123
AGMN Agassiz Nation 35.56 351 P P 12 44 57.4 +1.9
baz=167,SNR=10
SBC Santa Barbara 35.61 312 P P 12 44 57.8 +1.7
baz=119
PKME Peaks-Kenny Pk 35.69 23 P P 12 44 59.1 +2.5
baz=212
MDND Maddock 35.83 347 P P 12 45 00.6 +2.7
baz=161,SNR=14
MDP Montagnes des 35.83 100 LR LR 13 01 45.3
comp=Z,2µm,20.0s,baz=286,slow=40
VES Vestal, Richgr 35.85 314 P P 12 44 59.8 +1.6
baz=121
PKM Mcpherson Peak 35.90 312 P P 12 44 59.8 +1.0
baz=119
TPAW Teton Pass 36.02 331 P P 12 45 00.3 +0.4
MOOW Moose Ponds 36.12 332 P P 12 45 01.0 +0.3
MOOW IAmb IAmb 12 45 05.7
comp=Z,43nm,1.2s
FXWY Fox Creek 36.17 331 P P 12 45 01.0 -0.1
SMMC Simmler 36.23 313 P P 12 45 02.9 +1.4
baz=119
ELK Elko 36.30 324 P P 12 45 03.1 +0.9
ELK IAmb IAmb 12 45 07.6
comp=Z,36nm,1.4s
VOG Valley Oaks Go 36.31 315 P P 12 45 03.5 +1.4
baz=121
H17A Grant Village 36.55 333 P P 12 45 05.9 +1.6
baz=141
RLMT Red Lodge 36.55 335 P P 12 45 06.2 +1.9
baz=144,SNR=22
MLAC Mammoth, Mammo 36.64 317 P P 12 45 06.6 +1.5
baz=124
LAO LASA Array 36.69 339 P P 12 45 07.3 +2.1
baz=150,SNR=11
NVAR Mina Array Bea 36.74 319 P P 12 45 07.2 +1.2
NVAR Mina Array Bea 36.74 319 P P 12 45 06.9 +0.9
comp=Z,8.1nm,0.9s,baz=132,slow=7.2,SNR=27
NVAR LR LR 13 03 39.5
comp=Z,2µm,18.2s,baz=128,slow=42
comp=Z,8.1nm,0.9s
PB11 IPOC Station P 37.45 151 P P 12 45 11.3 -0.8
ULM Lac du Bonnet 37.47 352 P P 12 45 13.3 +1.6
ULM IAmb IAmb 12 45 15.8
comp=Z,45nm,1.4s
ULM Lac du Bonnet 37.47 352 P P 12 45 12.8 +1.1
comp=Z,9.3nm,0.7s,baz=168,slow=8.8,SNR=22
comp=Z,9.3nm,0.7s
GO01 Chusmiza 37.59 150 P P 12 45 14.2 +0.6
DGMT Dagmar 37.60 342 P P 12 45 14.5 +1.5
DGMT Dagmar 37.60 342 P P 12 45 14.9 +1.9
baz=154,SNR=15
HLID Hailey 37.78 328 P P 12 45 16.1 +1.5
baz=135,SNR=28
BOZ Bozeman (W) 37.95 333 P P 12 45 16.8 +0.7
BOZ Bozeman (W) 37.95 333 P P 12 45 16.8 +0.7
baz=141,SNR=62
PATCX Punta Patache 38.14 152 P P 12 45 16.2 -1.6
EGMT Eagleton 39.11 337 P P 12 45 26.5 +0.7
EGMT IAmb IAmb 12 45 30.8
comp=Z,63nm,1.1s
EGMT Eagleton 39.11 337 P P 12 45 26.7 +0.9
baz=145,SNR=19
LYMT Lyon Mountain 39.30 334 P P 12 45 28.1 +0.5
SIV San Ignacio 39.43 137 P P 12 45 27.1 -1.6
comp=Z,3.1nm,1.0s,baz=306,slow=13,SNR=4.3
SIV LR LR 13 03 05.7
comp=Z,703nm,18.1s,baz=330,slow=38
comp=Z,3.1nm,1.0s
MSO Missoula 39.93 332 P P 12 45 33.4 +0.8
baz=139,SNR=38
BMO Blue Mountains 40.17 327 P P 12 45 35.8 +1.2
LVC Limon Verde 40.26 152 P P 12 45 33.9 -2.0
LVC Limon Verde 40.26 152 P P 12 45 35.0 -0.9
comp=Z,2.0nm,0.8s,baz=317,slow=3.2,SNR=5.8
LVC LR LR 13 02 38.3
comp=Z,848nm,21.0s,baz=306,slow=37
comp=Z,2.0nm,0.8s
LVC Limon Verde 40.26 152 eP P 12 45 37.7 +1.8
BBSD Serra de San D 40.59 137 eP P 12 45 39.9 +1.6
G08A Pilot Rock 41.34 327 P P 12 45 44.9 +0.6
YBH Yreka Blue Hor 41.38 320 LR LR 13 06 19.5
comp=Z,802nm,18.2s,baz=154,slow=41
L04D Klamath Falls 41.40 321 P P 12 45 46.0 +1.1
L04D IAmb IAmb 12 45 50.3
comp=Z,134nm,1.7s
I04A Tendick Farm, 42.36 323 P P 12 45 53.5 +0.9
I04A IAmb IAmb 12 45 58.4
comp=Z,36nm,1.1s
NEW Newport 42.45 331 P P 12 45 53.0 -0.3
NEW Newport 42.45 331 P P 12 45 54.2 +0.9
baz=136,SNR=5.7
FFC Flin Flon 42.82 348 P P 12 45 57.9 +1.9
FFC IAmb IAmb 12 46 01.4
comp=Z,107nm,1.6s
HOOD Mount Hood Mea 42.83 325 P P 12 45 58.7 +2.2
MXC Moxie City 42.88 327 P P 12 45 58.3 +1.6
MXC IAmb IAmb 12 46 02.3
comp=Z,75nm,1.2s
LTY Liberty 43.52 328 P P 12 46 03.3 +1.4
D05A Enumclaw 44.17 327 P P 12 46 07.7 +0.6
D05A IAmb IAmb 12 46 12.1
comp=Z,36nm,1.2s
EDM Edmonton 44.68 339 P P 12 46 12.2 +1.1
SCHQ Schefferville 44.70 17 P P 12 46 12.0 +0.7
SCHQ IAmb IAmb 12 46 22.1
comp=Z,76nm,1.8s
SCHQ Schefferville 44.70 17 P P 12 46 10.3 -1.0
comp=Z,6.2nm,0.5s,baz=226,slow=6.6,SNR=9.4
SCHQ LR LR 13 05 58.1
comp=Z,2µm,18.6s,baz=214,slow=38
comp=Z,6.2nm,0.5s
GNW Green Mountain 44.85 327 P P 12 46 14.0 +1.5
GNW IAmb IAmb 12 46 16.6
comp=Z,36nm,1.4s
RPN Rapa Nui 45.13 207 LR LR 13 00 31.2
comp=Z,671nm,19.1s,baz=24,slow=30
AC05 El Transito 45.21 158 P P 12 46 15.3 -0.5
AC05 IAmb IAmb 12 46 18.9
comp=Z,37nm,1.7s
NLWA Neilton Lookou 45.30 326 P P 12 46 16.6 +0.3
BDQN Bodoquena, MS 45.47 137 eP P 12 46 19.9 +2.2
FCC Fort Churchill 45.67 356 P P 12 46 18.1 -0.7
FCC IAmb IAmb 12 46 23.5
comp=Z,27nm,1.3s

PGC Sidney 45.85 328 P P 12 46 21.7 +1.3
BRLDA Berland Lookou 46.86 337 P P 12 46 28.2 -0.3
TICA Tres Isletas 47.69 146 eP P 12 46 36.9 +1.8
ZON Zonda 48.24 158 P P 12 46 39.4 0.0
ZON IAmb IAmb 12 46 45.5
comp=Z,29nm,1.4s
VA03 San Esteban 48.70 160 P P 12 46 42.6 -0.3
VA03 IAmb IAmb 12 46 48.1
comp=Z,24nm,0.8s
BDFB Brasilia 48.90 125 LR LR 13 09 07.7
comp=Z,2µm,19.3s,baz=304,slow=38
CPUP Villa Florida 49.38 143 P P 12 46 45.2 -2.9
comp=Z,0.8nm,0.6s,baz=315,slow=6.7,SNR=3.0
comp=Z,0.8nm,0.6s
HILA High Level 50.19 341 P P 12 46 54.6 +0.7
FRB Frobisher Bay 52.27 11 LR LR 13 10 39.2
comp=Z,1µm,18.3s,baz=200,slow=38
YKA Yellowknife Ar 52.71 345 P P 12 47 11.9 -0.8
YKA Yellowknife Ar 52.71 345 P P 12 47 12.0 -0.6
comp=Z,29nm,1.0s,baz=129,slow=8.1,SNR=47
comp=Z,29nm,1.0s
TOAD Toad River Com 53.30 337 P P 12 47 17.8 +0.6
baz=133,SNR=11
U35K Hyder 53.45 332 P P 12 47 19.6 +1.4
baz=126
KOTAN Kotaneelee Air 53.76 339 P P 12 47 21.9 +1.5
baz=135
V35K Ketchikan 53.85 331 P P 12 47 22.6 +1.4
baz=124
LIRD Liard River Hi 54.01 337 P P 12 47 23.7 +1.3
baz=132
T35M Bob Quinn 54.18 333 P P 12 47 24.6 +1.0
baz=126
CRAG Craig 54.65 330 P P 12 47 28.3 +1.2
baz=122
WRAK Wrangell Islan 54.80 332 P P 12 47 29.3 +1.1
baz=124
DLBC Dease Lake 54.96 335 P P 12 47 29.8 +0.4
DLBC Dease Lake 54.96 335 P P 12 47 29.9 +0.6
baz=127,SNR=13
U33K Whale Pass 55.00 331 P P 12 47 30.4 +0.9
baz=123
S34M Telegraph Cree 55.11 334 P P 12 47 30.4 0.0
S34M IAmb IAmb 12 47 35.3
comp=Z,55nm,1.9s
S34M Telegraph Cree 55.11 334 P P 12 47 31.2 +0.8
baz=126
RCBR Riachuelo 55.14 107 LR LR 13 14 06.1
comp=Z,1µm,19.0s,baz=294,slow=40
T33K Petersburg 55.30 332 P P 12 47 33.0 +1.3
baz=123
WTLY Watson Lake, Y 55.51 337 P P 12 47 34.6 +1.4
WTLY IAmb IAmb 12 47 37.3
comp=Z,42nm,1.3s
WTLY Watson Lake, Y 55.51 337 P P 12 47 34.7 +1.4
baz=130,SNR=10
WRGLY Wrigley 55.79 342 P P 12 47 35.4 +0.2
WRGLY IAmb IAmb 12 47 38.8
comp=Z,42nm,1.2s
WRGLY Wrigley 55.79 342 P P 12 47 36.2 +1.1
baz=137,SNR=9.9
R33M Jennings River 55.92 335 P P 12 47 37.0 +0.6
R33M IAmb IAmb 12 47 41.7
comp=Z,38nm,1.4s
R33M Jennings River 55.92 335 P P 12 47 36.9 +0.6
baz=127,SNR=7.1
PLCA Paso Flores 56.09 164 P P 12 47 36.1 -1.5
comp=Z,1.9nm,0.8s,baz=350,slow=9.6,SNR=8.4
comp=Z,1.9nm,0.8s
TGTN Hyland Airport 56.23 338 P P 12 47 38.9 +0.6
baz=131,SNR=5.7
S32K Killisnoo 56.40 332 P P 12 47 40.4 +0.8
baz=122
SIT Sitka 56.53 331 P P 12 47 41.4 +0.9
baz=121
TRQA Tornquist 56.57 155 P P 12 47 41.1 +0.1
TRQA IAmb IAmb 12 47 53.6
comp=Z,40nm,1.8s
NUUK Nuuk 56.76 18 *i* P P 12 47 44.7 +2.7
NUUK IAmb IAmb 12 47 47.6
comp=Z,19nm,0.8s
R32K Eaglecrest 56.81 333 P P 12 47 42.7 +0.2
baz=122
P33M Teslin, Yukon 57.16 335 P P 12 47 45.2 +0.1
P33M IAmb IAmb 12 47 50.0
comp=Z,56nm,1.9s
P33M Teslin, Yukon 57.16 335 P P 12 47 45.6 +0.6
baz=125,SNR=6.1
P32M Atlin 57.18 334 P P 12 47 45.8 +0.6
baz=124
S31K Pelican 57.42 332 P P 12 47 47.4 +0.7
baz=121
R31K City Hall, Gus 57.43 332 P P 12 47 47.6 +0.8
baz=121
SKAG Skagway 57.80 334 P P 12 47 50.6 +1.1
baz=122
N32M Quiet Lake 57.82 336 P P 12 47 49.9 +0.3
baz=126
PLBC Pleasant Camp 58.25 333 P P 12 47 53.3 +0.7
baz=121
WHY Whitehorse 58.26 335 P P 12 47 54.0 +1.2
baz=123
FARO Faro, Yukon 58.55 337 P P 12 47 55.7 +1.0
baz=126
O30N Mendenhall 58.82 335 P P 12 47 57.0 +0.4
O30N IAmb IAmb 12 48 01.5
comp=Z,14nm,0.9s
O30N Mendenhall 58.82 335 P P 12 47 58.3 +1.6
baz=122,SNR=6.2
P30M Million Dollar 58.85 334 P P 12 47 57.6 +0.8
baz=121
M31M Drury Creek, Y 58.93 337 P P 12 47 58.8 +1.4
baz=125
P29M Windy Craggy 58.94 333 P P 12 47 57.2 -0.2
baz=122
N31M Braeburn, Yuko 59.08 336 P P 12 47 58.8 +0.4
baz=123
SFJD Kangerlussuaq 59.13 16 P P 12 47 59.4 +0.8
SFJD IAmb IAmb 12 48 02.5
comp=Z,16nm,1.1s
SFJD Kangerlussuaq 59.13 16 LR LR 13 13 36.4
comp=Z,583nm,18.8s,baz=219,slow=36
SFJD Kangerlussuaq 59.13 16 *i* P P 12 47 57.7 -0.9
SFJD IAmb IAmb 12 48 01.6
comp=Z,4.9nm,0.8s
HYT Haines Junctio 59.44 334 P P 12 48 01.1 0.0
baz=121
N30M Aishikik Lake 59.60 335 P P 12 48 02.3 +0.2
baz=122
PNL Peninsula 59.69 333 P P 12 48 03.3 +0.7
baz=118
YUK6 Outpost Mounta 59.86 334 P P 12 48 04.3 +0.2
baz=120
DY2G Dye2 60.01 18 *i* P P 12 48 05.7 +0.7
DY2G IAmb IAmb 12 48 08.8
comp=Z,7.7nm,0.8s
YUK4 Talbot Arm 60.19 335 P P 12 48 06.1 -0.2
baz=120
MAYO Mayo, Yukon 60.29 338 P P 12 48 07.3 +0.6
baz=124
C36M Paulatuk 60.52 346 P P 12 48 08.7 +0.5
C36M Paulatuk 60.52 346 P P 12 48 08.6 +0.5
baz=139,SNR=9.8
O28M Mount Upton 60.56 334 P P 12 48 08.7 -0.2
baz=118
YUK8 Steele Glacier 60.63 334 P P 12 48 08.9 -0.4
baz=119
ILULI Ilulissat 60.64 14 *i* P P 12 48 10.7 +1.8
M29M Somme Creek 60.66 336 P P 12 48 09.1 -0.3
M29M IAmb IAmb 12 48 14.2
comp=Z,15nm,0.9s
M29M Somme Creek 60.66 336 P P 12 48 09.5 +0.1
baz=121,SNR=7.0
L29M L29M 60.88 336 P P 12 48 11.1 +0.3
baz=121,SNR=7.0
J30M Hart River 60.99 338 P P 12 48 12.4 +0.7
baz=124,SNR=6.2
H31M Peel River 61.02 340 P P 12 48 12.2 +0.5
baz=126,SNR=6.0
K29M Barlow Dome 61.03 337 P P 12 48 12.8 +0.9
K29M Barlow Dome 61.03 337 P P 12 48 12.0 +0.1
baz=122,SNR=7.3
MESA MESA 61.07 333 P P 12 48 11.2 -1.1
baz=116
CTG Chitna Glacier 61.15 333 P P 12 48 12.4 -0.4
baz=117
YUK3 Moose Creek 61.15 335 P P 12 48 12.2 -0.7

baz=118
I30M Mount Dempster 61.37 339 P P 12 48 13.9 -0.3
baz=124,SNR=13
J29N Klondike Camp 61.61 338 P P 12 48 16.4 +0.6
baz=122
G31M Satah River 61.67 341 P P 12 48 16.7 +0.7
baz=127,SNR=15
ISOG Isortoq, Green 61.81 21 *i* P P 12 48 19.4 +2.5
NUUG Nuugaatsiaq 61.95 12 *i* P P 12 48 19.4 +1.6
M27K Edge Creek, AK 62.02 335 P P 12 48 19.1 +0.5
M27K Edge Creek, AK 62.02 335 P P 12 48 19.6 +0.9
baz=117
MCARA McCarthy VSAT 62.07 333 P P 12 48 19.6 +0.8
baz=116
KAIM Kayak Island 62.09 332 P P 12 48 19.3 +0.4
baz=114
EPYK Eagle Plains 62.14 340 P P 12 48 20.7 +1.5
EPYK IAmb IAmb 12 48 23.5
comp=Z,26nm,1.2s
EPYK Eagle Plains 62.14 340 P P 12 48 19.2 0.0
baz=124,SNR=9.1
INK Inuvik 62.29 343 P P 12 48 21.5 +1.4
INK IAmb IAmb 12 48 24.4
comp=Z,29nm,1.1s
INK Inuvik 62.29 343 P P 12 48 20.8 +0.7
baz=128,SNR=32
BCAR Beaver Creek A 62.30 335 P P 12 48 21.0 +0.6
L27K Beaver Creek, 62.32 335 P P 12 48 19.9 -0.6
L27K IAmb IAmb 12 48 25.1
comp=Z,17nm,1.1s
L27K Beaver Creek, 62.32 335 P P 12 48 21.5 +1.0
baz=118,SNR=8.0
G30M tAoh Zraii Nji 62.32 341 P P 12 48 21.3 +0.8
baz=125
M26K Nabesna, AK 62.50 335 P P 12 48 22.2 +0.5
baz=116
F30M Barrier River 62.55 341 P P 12 48 22.5 +0.5
baz=126,SNR=16
BMRM Bremner River 62.59 333 P P 12 48 22.7 +0.3
baz=114
H29M Whitestone 62.61 339 P P 12 48 22.9 +0.5
H29M IAmb IAmb 12 48 26.9
comp=Z,16nm,1.1s
H29M Whitestone 62.61 339 P P 12 48 23.5 +1.2
baz=122,SNR=6.9
I28M Miner Creek 62.76 338 P P 12 48 23.8 +0.4
baz=120
A36M Sachs Harbour 62.78 348 P P 12 48 24.0 +0.7
A36M Sachs Harbour 62.78 348 P P 12 48 24.1 +0.8
baz=139,SNR=25
Q23K Middleton Isla 62.81 331 P P 12 48 24.1 +0.4
baz=111
N25K Chitina, Valde 62.85 333 P P 12 48 24.8 +0.6
baz=114
K27K Chicken 62.87 336 P P 12 48 24.9 +0.8
baz=118
G29M Pine Creek 62.87 340 P P 12 48 23.8 -0.3
baz=123,SNR=11
EGAK Eagle 62.87 337 P P 12 48 24.2 +0.2
baz=119
EYAK Cordova Ski Ar 62.95 332 P P 12 48 25.4 +0.8
baz=112
KLU Klutina 63.39 333 P P 12 48 27.6 -0.1
baz=113
HARP HAARP 63.41 334 P P 12 48 27.7 -0.1
baz=114
I27K Kandik River 63.44 338 P P 12 48 28.9 +1.0
baz=119,SNR=6.0
P23K Montague Islan 63.51 331 P P 12 48 28.4 0.0
baz=111
SCRK Sand Creek 63.60 336 P P 12 48 29.8 +0.7
baz=116,SNR=5.1
ICESG Greenland Ices 63.61 17 *i* P P 12 48 29.6 +0.2
ICESG IAmb IAmb 12 48 33.6
comp=Z,18nm,0.7s
E29M Blow River 63.65 342 P P 12 48 30.9 +1.8
E29M Blow River 63.65 342 P P 12 48 30.4 +1.2
baz=124,SNR=27
J26L Joseph Creek 63.66 337 P P 12 48 31.0 +1.6
J26L IAmb IAmb 12 48 34.3
comp=Z,14nm,1.0s
J26L Joseph Creek 63.66 337 P P 12 48 29.7 +0.2
baz=116,SNR=9.5
GLI Glacier Island 63.68 332 P P 12 48 29.6 0.0
baz=111
H27K Steamboat Moun 63.72 339 P P 12 48 30.3 +0.5
baz=119,SNR=11
M24K Tolsona, Glenn 63.73 334 P P 12 48 30.4 +0.4
baz=113
PAX Paxson 63.78 335 P P 12 48 30.3 +0.1
baz=114
F28M Old Crow 63.86 340 P P 12 48 30.7 +0.1
baz=122,SNR=62
I26K Coal Creek Min 63.87 337 P P 12 48 31.5 +0.8
baz=117,SNR=7.4
G27K Doyon Strip 64.05 339 P P 12 48 31.9 0.0
G27K Doyon Strip 64.05 339 P P 12 48 32.3 +0.4
baz=119,SNR=8.3
SCM Sheep Creek Mo 64.14 333 P P 12 48 32.8 +0.2
baz=112
K24K Donnelly Dome 64.24 335 P P 12 48 33.6 +0.4
baz=114
E28M Babbage River 64.27 341 P P 12 48 33.9 +0.6
E28M IAmb IAmb 12 48 37.5
comp=Z,12nm,0.9s
E28M Babbage River 64.27 341 P P 12 48 34.0 +0.7
baz=122,SNR=14
M23K Glacier View 64.30 333 P P 12 48 34.5 +0.9
baz=111
J25K Salcha River, 64.41 336 P P 12 48 35.7 +1.4
baz=115,SNR=9.1
D28M Stokes Point 64.43 342 P P 12 48 35.8 +1.6
baz=123,SNR=18
KNK Knik Glacier 64.49 332 P P 12 48 35.5 +0.7
baz=110
SEW Seward 64.51 331 P P 12 48 35.7 +0.7
baz=109
SML Sawmill 64.57 333 P P 12 48 36.0 +0.5
baz=110
WAT6 Susitna Watana 64.59 334 P P 12 48 36.4 +0.7
baz=112,SNR=8.2
DHY Denali Highway 64.62 334 P P 12 48 36.2 +0.3
baz=112
E27K Coleen River 64.71 341 P P 12 48 36.9 +0.7
baz=120,SNR=12
O22K Cooper Landing 64.76 331 P P 12 48 37.1 +0.5
baz=109
G26K Porcupine Rive 64.85 339 P P 12 48 38.3 +1.2
baz=117,SNR=13
PMR Palmer 64.86 332 P P 12 48 37.0 -0.2
baz=110
PRP Porcupine Dome 64.86 337 P P 12 48 37.6 +0.3
baz=115,SNR=5.2
HDA Harding Lake 64.96 336 P P 12 48 37.3 -0.5
baz=113,SNR=10
RC01 Rabbit Creek A 64.96 332 P P 12 48 38.4 +0.5
baz=109
BRSE Bradley Lake S 65.02 330 P P 12 48 38.7 +0.4
baz=107
WAT1 Susitna Watana 65.03 334 P P 12 48 38.4 0.0
baz=111
D27M Malcolm River 65.05 342 P P 12 48 39.0 +0.5
baz=121
IL31 65.08 336 P P 12 48 38.9 +0.4
IL31 IAmb IAmb 12 48 42.8
comp=Z,24nm,1.2s
ILAR Eielson Array 65.08 336 P P 12 48 38.1 -0.5
ILAR Eielson Array 65.08 336 P P 12 48 36.8 -1.8
comp=Z,9.7nm,1.0s,baz=118,slow=5.0,SNR=30
ILAR PP **PP 12 51 02.5 +0.8**
comp=Z,1.6nm,1.1s,baz=119,slow=5.2,SNR=3.8
ILAR LR LR 13 22 50.6
comp=Z,506nm,18.1s,baz=105,slow=41
comp=Z,9.7nm,1.0s
H25L Birch Creek 65.28 338 P P 12 48 40.2 +0.4
baz=115,SNR=7.5
F26K Sheenjek River 65.32 340 P P 12 48 40.5 +0.3
baz=117,SNR=10
BMAR Burnt Mountain 65.35 339 P P 12 48 39.8 -0.6
M22K Willow 65.35 332 P P 12 48 40.2 -0.2
baz=109
RND Reindeer 65.36 334 P P 12 48 41.1 +0.5
KDAK Kodiak Island 65.40 328 P P 12 48 40.6 -0.2
baz=105
POKR Poker Plat Res 65.42 336 P P 12 48 40.7 -0.2
baz=113
HOM Homer 65.43 330 P P 12 48 40.7 -0.2
baz=106

WRH	Wood River Hil	65.44	336	P		P	12 48 41.0	0.0	
COLA	College	65.50	336	P		P	12 48 41.9	+0.6	
COLA				IAmb		IAmb	12 48 45.0		
	comp=Z,9.7nm,0.8s								
COLA	College	65.50	336	P		P	12 48 41.1	-0.2	
	baz=112								
MCK	McKinley	65.51	335	P		P	12 48 42.1	+0.6	
	baz=111,SNR=10								
Q20K	Shuyak Island	65.52	329	P		P	12 48 41.5	0.0	
	baz=105								
CAPN	Captain Cook N	65.52	331	P		P	12 48 42.0	+0.5	
	baz=107								
SUA	Susitna One	65.55	332	P		P	12 48 42.1	+0.3	
	baz=108								
G25K	Bearman Lake	65.59	338	P		P	12 48 42.3	+0.4	
	baz=115,SNR=9.0								
OHAK	Old Harbor	65.63	327	P		P	12 48 41.6	-0.6	
	baz=104								
CUT	Chulitna	65.63	333	P		P	12 48 42.2	0.0	
	baz=109								
F25K	Christian Rive	65.79	339	P		P	12 48 43.7	+0.5	
	baz=116,SNR=12								
H24K	Noodor Dome	65.88	337	P		P	12 48 44.2	+0.3	
	baz=113,SNR=7.9								
NEA2	Nenana	65.88	336	P		P	12 48 44.3	+0.5	
	baz=111,SNR=7.3								
SII	Sitkinak Islan	65.95	326	P		P	12 48 44.7	+0.3	
	baz=103								
SUMG	Summit	65.98	15	P		P	12 48 45.5	+0.7	
SUMG	Summit	65.98	15	*i* P		P	12 48 45.5	+0.7	
SUMG				IAmb		IAmb	12 48 49.1		
	comp=Z,12nm,0.9s								
TRF	Thorofare Moun	65.98	334	P		P	12 48 44.9	+0.1	
	baz=109								
E25K	Arctic Village	65.99	340	P		P	12 48 44.8	+0.3	
E25K				IAmb		IAmb	12 48 49.5		
	comp=Z,12nm,0.9s								
E25K	Arctic Village	65.99	340	P		P	12 48 44.6	+0.1	
	baz=116,SNR=12								
O20K	Slope Mountain	66.02	330	P		P	12 48 44.4	-0.5	
	baz=106								
SKT	Skwentna	66.06	332	P		P	12 48 44.9	-0.2	
	baz=108								
G24K	Hadweenzic Riv	66.07	338	P		P	12 48 44.9	-0.1	
	baz=114,SNR=10								
C27K	Jago River	66.08	342	P		P	12 48 45.0	-0.1	
	baz=118								
N20K	Mount Spurr	66.14	332	P		P	12 48 45.4	-0.2	
	baz=107								
I23K	Minto, Yukon-K	66.19	336	P		P	12 48 46.4	+0.7	
I23K				IAmb		IAmb	12 48 50.2		
	comp=Z,20nm,1.1s								
I23K	Minto, Yukon-K	66.19	336	P		P	12 48 46.1	+0.3	
	baz=111,SNR=13								
P19K	Oil Pt	66.21	330	P		P	12 48 46.1	+0.1	
	baz=105								
Q19K	Cape Douglas,	66.23	329	P		P	12 48 46.3	+0.1	
	baz=104								
BPAW	Bear Paw Mtn.	66.49	335	P		P	12 48 47.8	0.0	
BPAW				IAmb		IAmb	12 48 51.6		
	comp=Z,18nm,1.0s								
BPAW	Bear Paw Mtn.	66.49	335	P		P	12 48 47.5	-0.2	
	baz=109,SNR=20								
H23K	Yukon River	66.51	337	P		P	12 48 47.8	-0.1	
	baz=111								
F24K	Squaw Lake	66.54	339	P		P	12 48 48.5	+0.5	
	baz=113,SNR=6.2								
CHIR	Chirikof Islan	66.58	325	P		P	12 48 48.1	-0.4	
	baz=101								
C26K	Camden Bay	66.59	342	P		P	12 48 48.6	+0.4	
	baz=117,SNR=11								
PPLA	Purkeypile	66.63	333	P		P	12 48 49.1	+0.3	
	baz=107								
MLY	Manley	66.70	336	P		P	12 48 49.5	+0.3	
MLY				IAmb		IAmb	12 48 53.2		
	comp=Z,17nm,1.0s								
MLY	Manley	66.70	336	P		P	12 48 48.6	-0.5	
	baz=110,SNR=24								
CAST	Castle Rocks	66.74	334	P		P	12 48 48.7	-0.7	
	baz=108,SNR=6.7								
M20K	Styx River	66.76	332	P		P	12 48 49.9	+0.3	
	baz=106								
D25K	Kavik River	66.78	341	P		P	12 48 50.6	+1.0	
D25K				IAmb		IAmb	12 48 54.4		
	comp=Z,23nm,0.9s								
D25K	Kavik River	66.78	341	P		P	12 48 49.1	-0.5	
	baz=116,SNR=21								
EUNU	Eureka	66.84	0	P		P	12 48 50.5	+0.7	
O19K	Port Alsworth	66.87	330	P		P	12 48 49.7	-0.5	
	baz=104								
NEEM	North Greenlan	66.91	8	*i* P		P	12 48 50.5	-0.1	
NEEM				IAmb		IAmb	12 48 55.1		
	comp=Z,14nm,0.7s								
NEEM	North Greenlan	66.91	8	*i* P		PKiKP	12 55 19.6	+0.9	
NEEM				IAmb		IAmb	12 55 23.8		
	comp=Z,15nm,0.7s								
PMOZ	Porto Moniz, M	66.94	60	*e*LR		LR	13 09 36.1		
	comp=Z,550nm,20.0s								
E24K	Your Creek	66.97	339	P		P	12 48 50.5	-0.3	
	baz=113								
CHUM	Lake Minchumin	66.98	334	P		P	12 48 50.9	0.0	
	baz=108								
G23K	Bananza Creek	67.01	338	P		P	12 48 51.2	+0.2	
G23K				IAmb		IAmb	12 48 55.9		
	comp=Z,13nm,1.0s								
G23K	Bananza Creek	67.01	338	P		P	12 48 50.8	-0.2	
	baz=111,SNR=12								
N19K	Bonanza Creek	67.11	331	P		P	12 48 51.0	-0.9	
	baz=104								
P18K	Big Mountain,	67.13	329	P		P	12 48 51.2	-0.7	
	baz=103								
Q17K	Contact Creek	67.22	328	P		P	12 48 51.7	-0.9	
	baz=102								
O18K	Koktuh Hills	67.22	330	P		P	12 48 51.9	-0.6	
	baz=103								
H22K	Ishtalitna Cre	67.24	337	P		P	12 48 51.7	-0.8	
	baz=109								
I21K	Tanana	67.25	336	P		P	12 48 51.7	-0.8	
	baz=108								
L20K	Farewell, AK	67.26	333	P		P	12 48 51.4	-1.3	
	baz=106								
COLD	Coldfoot	67.26	338	P		P	12 48 52.6	+0.1	
	baz=111,SNR=18								
M19K	Big River Lodg	67.34	332	P		P	12 48 52.5	-0.6	
	baz=105								
E23K	Chandalar	67.36	339	P		P	12 48 53.0	-0.3	
	baz=112,SNR=18								
D24K	Happy Valley	67.51	340	P		P	12 48 53.6	-0.5	
	baz=113								
TOLK	Toolik Lake Re	67.56	340	P		P	12 48 54.3	-0.2	
TOLK	Toolik Lake Re	67.56	340	P		P	12 48 54.0	-0.6	
	baz=112,SNR=6.0								
K20K	Telida	67.58	334	P		P	12 48 53.3	-1.4	
	baz=106								
L19K	White Mountain	67.62	332	P		P	12 48 54.2	-0.8	
	baz=104								
G22K	Bettles	67.63	338	P		P	12 48 54.0	-1.0	
	baz=110								
C24K	Franklin Bluff	67.69	341	P		P	12 48 55.4	+0.1	
	baz=113								
P17K	Kvichak River	67.69	329	P		P	12 48 55.1	-0.3	
	baz=102								
Q16K	King Salmon	67.70	328	P		P	12 48 54.6	-0.9	
	baz=102								
H21K	Melozitna Rive	67.72	336	P		P	12 48 54.6	-0.9	
H21K	Melozitna Rive	67.72	336	P		P	12 48 54.6	-0.9	
	baz=108								
N18K	Kilae Creek	67.74	330	P		P	12 48 54.4	-1.4	
	baz=103								
J20K	Nowinta River	67.84	334	P		P	12 48 55.5	-0.8	
	baz=106								
M18K	Stony River	67.90	331	P		P	12 48 56.1	-0.6	
	baz=103								
R16K	Pilot Point	67.97	327	P		P	12 48 55.9	-1.2	
	baz=100								
PPT	Papeete	68.00	245	LR		LR	13 11 07.8		
	comp=Z,804nm,18.8s,baz=52,slow=29								
D23K	Nanushuk River	68.06	340	P		P	12 48 57.4	-0.2	
	baz=111								
F22K	John River	68.08	338	P		P	12 48 57.3	-0.5	
	baz=109								
O17K	Koliganek Bris	68.14	329	P		P	12 48 57.8	-0.4	
	baz=102								
I20K	Naaghedeneel	68.15	335	P		P	12 48 58.4	+0.2	
I20K				IAmb		IAmb	12 49 02.0		
	comp=Z,29nm,1.1s								
I20K	Naaghedeneel	68.15	335	P		P	12 48 58.2	0.0	
	baz=106								
E22K	Anaktuvuk Pass	68.15	339	P		P	12 48 58.3	0.0	
	baz=110								
CHGN	Chignik	68.21	326	P		P	12 48 58.8	+0.1	
	baz=99								
G21K	Allakaket	68.26	337	P		P	12 48 58.3	-0.6	
	baz=108								
N17K	Nushagak Hills	68.34	330	P		P	12 48 58.6	-0.9	
	baz=102								
C23K	Itkillik River	68.35	341	P		P	12 48 60.0	+0.6	
C23K	Itkillik River	68.35	341	P		P	12 48 59.7	+0.3	
	baz=112,SNR=19								
J19K	Poorman	68.41	334	P		P	12 48 59.8	-0.2	
	baz=104								
P16K	Nushagak River	68.45	329	P		P	12 48 60.0	-0.2	
	baz=100								
F21K	Alatna River	68.46	338	P		P	12 49 00.7	+0.5	
F21K				IAmb		IAmb	12 49 05.2		
	comp=Z,18nm,0.9s								
F21K	Alatna River	68.46	338	P		P	12 49 00.7	+0.5	
	baz=108,SNR=24								
L18K	Granite Mounta	68.46	332	P		P	12 49 00.1	-0.2	
	baz=103								
H20K	Anotleneega Mo	68.50	336	P		P	12 48 59.8	-0.6	
	baz=106								
O16K	Kokwok River B	68.60	329	P		P	12 49 00.2	-0.9	
	baz=101								
M17K	Holitna River	68.64	331	P		P	12 49 01.2	-0.1	
	baz=102								
D22K	Ayikyak River	68.70	339	P		P	12 49 02.3	+0.7	
D22K				IAmb		IAmb	12 49 06.5		
	comp=Z,40nm,1.6s								
D22K	Ayikyak River	68.70	339	P		P	12 49 02.7	+1.0	
	baz=109,SNR=9.7								
J18K	Innoko River	68.76	333	P		P	12 49 02.1	0.0	
	baz=103								
S14K	Fog Glacier	68.84	325	P		P	12 49 02.7	-0.1	
	baz=98								
E21K	Killik River	69.01	339	P		P	12 49 03.8	+0.2	
	baz=108								
N16K	Nishlik Lake	69.09	330	P		P	12 49 04.1	-0.2	
	baz=100								
GCSA	Galena City Sc	69.13	335	P		P	12 49 04.3	0.0	
	baz=104								
H19K	Roundabout Mou	69.14	336	P		P	12 49 04.8	+0.4	
H19K	Roundabout Mou	69.14	336	P		P	12 49 04.3	-0.1	
	baz=104,SNR=6.5								
L17K	Donlin	69.18	332	P		P	12 49 04.5	-0.2	
	baz=101								
SDPT	Sand Point	69.23	324	P		P	12 49 04.9	-0.2	
	baz=97								
F20K	Avaraart Lake	69.25	337	P		P	12 49 04.7	-0.3	
	baz=106								
M16K	Timber Creek	69.29	331	P		P	12 49 05.0	-0.4	
	baz=100								
K17K	Iditarod	69.30	332	P		P	12 49 04.8	-0.7	
	baz=102								
O15K	Ungalikthiuk R	69.41	328	P		P	12 49 04.9	-1.3	
	baz=99								
B22K	Teshekpuk Lake	69.43	341	P		P	12 49 06.2	+0.1	
B22K				IAmb		IAmb	12 49 12.0		
	comp=Z,30nm,1.3s								
B22K	Teshekpuk Lake	69.43	341	P		P	12 49 05.1	-0.9	
	baz=109,SNR=8.3								
C21K	Knifeblade Rid	69.51	339	P		P	12 49 05.9	-0.8	
	baz=107								
G19K	Purcell Mounta	69.55	336	P		P	12 49 06.0	-0.9	
	baz=104								
B21K	Ikpikpuk River	69.59	340	P		P	12 49 07.0	-0.1	
B21K				IAmb		IAmb	12 49 12.2		
	comp=Z,53nm,1.9s								
B21K	Ikpikpuk River	69.59	340	P		P	12 49 06.4	-0.7	
	baz=108,SNR=7.2								
L16K	Owhat River	69.65	331	P		P	12 49 07.0	-0.7	
	baz=100								
N15K	Kwekluk River	69.69	330	P		P	12 49 07.1	-0.8	
	baz=99								
E20K	Nigu River	69.75	338	P		P	12 49 07.2	-1.0	
	baz=106								
J17K	VABM Dome	69.78	333	P		P	12 49 07.5	-0.9	
	baz=101								
H18K	Honhosa River	69.83	335	P		P	12 49 08.0	-0.8	
	baz=102								
E19K	Redstone River	69.92	337	P		P	12 49 07.8	-1.4	
	baz=104								
F19K	Shaleruckik Mo	69.98	337	P		P	12 49 09.6	+0.1	
F19K	Shaleruckik Mo	69.98	337	P		P	12 49 08.8	-0.7	
	baz=104								
D20K	Etivluk River	70.02	339	P		P	12 49 09.0	-0.8	
	baz=105,SNR=8.5								
M15K	Kasigluk River	70.07	330	P		P	12 49 08.8	-1.4	
	baz=99								
G18K	Tagagawik	70.11	336	P		P	12 49 09.4	-1.0	
	baz=102								
A22K	Sinclair Lake	70.13	341	P		P	12 49 09.6	-0.8	
	baz=108								
O14K	Tigyukauivet M	70.15	328	P		P	12 49 09.9	-0.8	
	baz=98								
S12K	Black Hills	70.17	325	P		P	12 49 09.4	-1.5	
	baz=96								
H17K	Granite Mounta	70.44	335	P		P	12 49 11.9	-0.5	
	baz=101								
J16K	Anvik River	70.44	333	P		P	12 49 11.6	-0.8	
	baz=100								
N14K	Kuskokwak Cree	70.45	329	P		P	12 49 11.0	-1.5	
	baz=98								
D19K	Kuna River	70.50	338	P		P	12 49 12.3	-0.5	
	baz=104								
B20K	Meade River	70.55	340	P		P	12 49 12.7	-0.3	
	baz=105								
I17K	Unalakleet	70.58	333	P		P	12 49 12.5	-0.7	
	baz=100								
L15K	Ungalak Mounta	70.59	331	P		P	12 49 12.7	-0.7	
	baz=98								
F18K	Selawik	70.66	336	P		P	12 49 12.9	-0.8	
	baz=102								
M14K	Bethel	70.69	330	P		P	12 49 12.7	-1.2	
	baz=98								
K15K	Wolf Creek Mou	70.70	332	P		P	12 49 12.4	-1.7	
	baz=98								
A21K	Barrow	70.73	341	P		P	12 49 13.0	-1.1	
	baz=106								
G17K	Kiwalik Mounta	70.85	335	P		P	12 49 13.6	-1.3	
	baz=100								
FALS	False Pass	70.87	324	P		P	12 49 14.0	-1.1	
	baz=94								
L14K	Kuka Creek	71.12	331	P		P	12 49 15.4	-1.1	
	baz=97								
C19K	Lookout Ridge	71.16	339	P		P	12 49 15.6	-1.2	
	baz=103								
E18K	Tukpahlearik C	71.19	337	P		P	12 49 15.7	-1.2	
	baz=101								
F17K	Baldwin Pennin	71.25	336	P		P	12 49 15.8	-1.5	
	baz=100								
M13K	Dall Lake	71.33	330	P		P	12 49 16.7	-1.2	
	baz=96								
H16K	Elim	71.37	334	P		P	12 49 16.8	-1.2	
	baz=99								
G16K	Koyuk River	71.53	335	P		P	12 49 18.0	-1.0	
	baz=99								
E17K	Hotham Inlet	71.59	337	P		P	12 49 18.0	-1.3	
	baz=100								
C18K	Utukok River	71.64	338	P		P	12 49 18.3	-1.4	
	baz=101								
J14K	Nanvaranak Lak	71.69	332	P		P	12 49 19.7	-0.3	
	baz=97								
A19K	Wainwright	71.90	340	P		P	12 49 20.9	-0.2	
	baz=102								
B18K	Kokolik River	71.99	339	P		P	12 49 21.4	-0.3	
	baz=100								
K13K	Kusilvak Mount	72.12	331	P		P	12 49 22.3	-0.3	
	baz=96								
RDOG	Red Dog Mine	72.16	338	P		P	12 49 22.6	-0.2	
	baz=99								
D17K	Noatak River	72.17	337	P		P	12 49 22.8	-0.1	
	baz=99								
G15K	Niukluk	72.18	334	P		P	12 49 22.8	-0.1	
	baz=97								
C17K	DeLong Mountai	72.33	338	P		P	12 49 23.2	-0.6	
	baz=99								
F15K	North Star Dit	72.52	335	P		P	12 49 24.9	0.0	
	baz=97								
DAG	Danmarks Havn	72.53	13	*i* P		P	12 49 23.0	-1.8	
DAG				IAmb		IAmb	12 49 28.3		
	comp=Z,8.3nm,0.6s								
UNV	Unalaska Valle	72.62	323	P		P	12 49 25.2	-0.5	
	baz=91								
ANM	Nome	72.70	334	P		P	12 49 25.7	-0.4	
	baz=96								
M11K	Mekoryuk	72.74	329	P		P	12 49 26.5	+0.2	
	baz=94								
C16K	Lisburne Hills	73.09	338	P		P	12 49 27.8	-0.5	
	baz=97								
F14K	Arctic Creek	73.19	335	P		P	12 49 28.9	0.0	
	baz=95								
PTEO	Sao Teotonio	73.65	54	*e*P		P	12 49 31.6	-0.6	
PCAS	Casmilo, Conde	73.66	52	*e*P		P	12 49 33.2	+1.0	
	comp=Z,37nm,1.5s								
PGAV	Gavieira, Arco	73.71	50	*e*LR		LR	13 12 30.4		
	comp=Z,781nm,20.0s								
TNA	Tin City	73.86	335	P		P	12 49 31.9	-0.9	
	baz=94								
PMTG	Montargil	73.93	53	*e*P		P	12 49 34.8	+1.0	
	comp=Z,17nm,1.5s								
NIKH	Nikolski High	74.03	322	P		P	12 49 32.9	-1.2	
	baz=89								
MESJ	Messejana	74.03	54	*e*P		P	12 49 38.0	+3.6	
PVIS	Viseu	74.07	51	*e*P		P	12 49 36.3	+1.6	
JMIC	Jan Mayen	74.17	20	LR		LR	13 21 44.4		
	comp=Z,372nm,19.8s,baz=282,slow=36								
NOR	Nord	74.29	8	*i* P		P	12 49 34.4	-0.8	
NOR				IAmb		IAmb	12 49 39.4		
	comp=Z,3.6nm,0.7s								
MTE	Manteigas	74.36	51	*e*P		P	12 49 37.7	+1.3	
MTE	Manteigas	74.36	51	*e*LR		LR	13 12 34.0		
	comp=Z,577nm,18.0s								
P08K	Saint George I	74.39	325	P		P	12 49 35.5	-0.6	
	baz=90								
PESTR	Estremoz	74.44	53	*e*P		P	12 49 37.3	+0.5	
	comp=Z,20nm,1.9s								
PCBR	Castelo Branco	74.45	52	*e*P		P	12 49 37.3	+0.4	
	comp=Z,19nm,1.7s								
PVAQ	Vaqueiros	74.46	55	*e*LR		LR	13 12 19.8		
	comp=Z,798nm,18.0s								
PMRV	Marv??o	74.55	52	*e*P		P	12 49 38.2	+0.7	
	comp=Z,16nm,1.5s								
PMRV	Marv??o	74.55	52	*e*LR		LR	13 12 57.1		
	comp=Z,471nm,18.0s								
MVO	Moncorvo	74.69	51	*e*P		P	12 49 41.5	+3.2	
	comp=Z,17nm,1.5s								
MVO	Moncorvo	74.69	51	*e*LR		LR	13 12 38.7		
	comp=Z,510nm,20.0s								
SPIA	Saint Paul Isl	74.77	326	P		P	12 49 37.8	-0.5	
	baz=89								
ESK	Eskdalemuir	76.31	36	P		P	12 49 46.0	-1.2	
ESK				IAmb		IAmb	12 51 10.7		
	comp=Z,39nm,1.6s								
EKA	Eskdalemuir Ar	76.33	36	P		P	12 49 45.9	-1.5	
	comp=Z,6.7nm,0.7s,baz=273,slow=5.7,SNR=14								
	comp=Z,6.7nm,0.7s								
PAB	San Pablo	76.89	52	P		P	12 49 51.7	+0.8	
ESDC	Sonseca Array	77.17	52	P		P	12 49 52.4	0.0	
ESDC	Sonseca Array	77.17	52	P		P	12 49 51.5	-0.9	
	comp=Z,2.3nm,0.7s,baz=286,slow=5.4,SNR=19								
ESDC				LR		LR	13 21 26.4		
	comp=Z,414nm,18.1s,baz=281,slow=34								
	comp=Z,2.3nm,0.7s								
MDT	Midelt	77.50	59	LR		LR	13 20 02.4		
	comp=Z,435nm,19.2s,baz=298,slow=33								
RAR	Rarotonga	78.28	245	LR		LR	13 16 20.5		
	comp=Z,559nm,18.5s,baz=60,slow=29								
SPITS	Spitsbergen Ar	80.06	12	P		P	12 50 06.2	-1.4	
	comp=Z,5.1nm,0.8s,baz=207,slow=0.9,SNR=4.4								
SPITS				LR		LR	13 25 44.3		
	comp=Z,666nm,20.5s,baz=264,slow=36								
	comp=Z,5.1nm,0.8s								
DOU	Dourbes	81.66	41	*d*P		P	12 50 17.0	+0.4	
DBIC	Dimbokro	81.90	85	LR		LR	13 22 03.5		
	comp=Z,295nm,21.7s,baz=266,slow=32								
BGES	Gesves	81.91	40	*d*P		P	12 50 17.9	-0.1	
BCLA	Clavier	82.04	40	*d*P		P	12 50 19.3	+0.6	
RCHB	Rochefort	82.05	40	*d*P		P	12 50 18.7	0.0	
MEM	Membach	82.44	40	*d*P		P	12 50 19.9	-0.9	
NB2	NORSAR Subarra	82.97	29	P		P	12 50 24.2	+0.9	
	comp=Z,5.3nm,0.9s,baz=286,slow=5.1								
NOA	NORSAR Array B	82.97	29	P		P	12 50 22.7	-0.6	
	comp=Z,2.3nm,0.8s,baz=286,slow=5.0,SNR=5.8								
NOA				LR		LR	13 24 07.7		
	comp=Z,402nm,20.8s,baz=280,slow=33								
	comp=Z,2.3nm,0.8s								
SENIN	Lac Senin/Sane	84.19	44	P		P	12 50 27.6	-2.5	
HFS	Hagfors	84.39	29	P		P	12 50 29.1	-1.5	
	comp=Z,3.2nm,0.8s,baz=280,slow=4.2,SNR=4.8								
HFS				LR		LR	13 24 27.3		
	comp=Z,359nm,21.8s,baz=284,slow=33								
	comp=Z,3.2nm,0.8s								
TUE	Stuetta	85.54	43	P		P	12 50 36.8	-0.1	
ARCES	ARCESS Array B	85.64	19	P		P	12 50 36.6	-0.1	
	comp=Z,4.3nm,0.9s,baz=28,slow=5.5,SNR=4.6								
ARCES				LR		LR	13 27 14.5		
	comp=Z,312nm,20.7s,baz=304,slow=35								
	comp=Z,4.3nm,0.9s								
DAVA	Damuels	85.69	43	*e*P		P	12 50 37.9	+0.3	
	comp=Z,3.8nm,0.9s								
DAVOX	Davos/Dischmat	85.82	43	LR		LR	13 27 29.0		
	comp=Z,351nm,18.1s,baz=263,slow=35								
RETA	Reutte	86.21	42	*e*P		P	12 50 41.1	+1.0	
	comp=Z,5.8nm,1.1s								
FETA	Feichten	86.32	43	*e*P		P	12 50 38.3	-2.4	
	comp=Z,4.1nm,1.3s								
MOTA	Moosalm	86.48	42	*i* PcP		P	12 50 42.6	+1.1	
	comp=Z,8.2nm,1.3s								
CLL	Collm	86.56	38	*e*P		P	12 50 43.0	+1.4	
	comp=Z,4.0nm,0.7s								
CLL				*ex*		x	12 50 49.0		
CLL				AMS		AMS	13 36 00.0		
	comp=N,200nm,19.3s								
CLL				AMS		AMS	13 36 00.0		
	comp=E,600nm,20.0s								
CLL				AMS		AMS	13 36 00.0		
	comp=Z,600nm,19.5s								
SQTA	Sankt Quirin	86.58	42	*e*pP		pP	12 50 47.5	+2.0	
	comp=Z,2.9nm,0.8s								
TORD	Torodi Ar. Bea	86.81	77	P		P	12 50 40.5	-3.0	
	comp=Z,0.2nm,0.5s,baz=298,slow=5.0,SNR=1.3								
LESA	Schwarzleotal	87.48	42	*e*pP		pP	12 50 50.0	+0.3	
	comp=Z,2.4nm,0.7s								
KHC	Kasperske Hory	87.56	40	P		P	12 50 45.7	-0.9	
ABTA	Abfaltersbach	87.57	43	*e*PcP		P	12 50 47.9	+1.2	
	comp=Z,0.3nm,0.4s								
GERES	GERESS Array B	87.72	40	P		P	12 50 46.0	-1.4	
	comp=Z,0.9nm,0.7s,baz=316,slow=2.7,SNR=2.0								
GERES				LR		LR	13 28 01.2		
	comp=Z,523nm,18.9s,baz=286,slow=34								
	comp=Z,0.9nm,0.7s								
KEST	Kesra	88.26	54	LR		LR	13 26 07.0		
	comp=Z,132nm,19.6s,baz=220,slow=33								
MYKA	Terra Mystica	88.34	42	*e*pP		pP	12 50 53.

WMQ					LR	LR		
	comp=Z,450nm,24.0s							
HHC	**Hu-ho-hao-te**	**123.21 342**	*eP*		**PKPdf**	**12 56 51.5**	**-4.2**
HHC					LR	LR		
	comp=N,270nm,17.6s							
HHC					LR	LR		
	comp=E,190nm,17.6s							
HHC					LR	LR		
	comp=Z,440nm,18.3s							
CASY	**Casey**	**125.55 189**		PKPdf	**PKPdf**	**12 56 58.1**	**-1.1**	
NJ2	**Nanjing**	**128.12 331**	*eP*		**PKPdf**	**12 57 04.7**	**-0.5**	
NJ2			pmax		pmax			
	comp=Z,12nm,0.6s							
LZH	**Lanzhou**	**129.68 347**	*e*PKP		PKPdf	12 56 58.1	-10	
LZH			sPKP			12 57 10.4		
STKA	**Stephens Creek**	**131.00 239**	PKP		**PKPdf**	**12 57 10.0**	**-0.7**	
	comp=Z,6.2nm,1.1s,baz=154,slow=3.2,SNR=4.0							
WRA	**Warramunga Arr**	**138.92 255**	PKP		**PKPdf**	**12 57 24.1**	**-1.7**	
	comp=Z,1.6nm,0.6s,baz=87,slow=1.9,SNR=7.1							
AS31	**Alice Springs**	**139.01 249**	PKPdf		**PKPdf**	**12 57 24.3**	**-1.6**	
ASAR	**Alice Springs**	**139.01 249**	PKPdf		**PKPdf**	**12 57 23.9**	**-2.0**	
ASAR	**Alice Springs**	**139.01 249**	PKhKP		PKPpre	12 57 15.9		
	comp=Z,0.6nm,0.6s,baz=107,slow=3.6,SNR=10							
ASAR			PKP		**PKPdf**	**12 57 25.2**	**-0.7**	
	comp=Z,7.0nm,0.8s,baz=99,slow=1.9,SNR=25							
PZH	**PanZhiHua**	**139.37 346**	PKP		**PKPdf**	**12 57 25.4**	**-1.3**	
QIZ	**Qiongzhong**	**143.42 331**	PKP		**PKPdf**	**12 57 34.0**	**+0.1**	
QIZ			PP		**PP**	**13 00 43.5**	**-0.3**	
CMAR	**Chiang Mai Arr**	**147.77 347**	PKPbc		**PKPdf**	**12 57 43.2**	**+1.8**	
	comp=Z,0.4nm,0.3s,baz=315,slow=3.7,SNR=8.9							

*NNC **06** 12:40:07.6±0.8, 50°.33N×73°.35E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=8.5km s-min=5.8km az=141.0, Suspected Mining explosion.*

*IDC **06** 12:40:10.8±0.9, 50°.06N×73°.63E, h0km, mbtmp3.0/5, ML2.5/5, Error ellipse: s-maj=12.3km s-min=8.8km az=49.0*

ISC 06 12:40:07.0±0.9, **50°.31N**±0°.05×**73°.28E**±0°.05, **h0km, n16,** σ1§**63**/19, **6C-4D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BRZS	**Berezniki**	**0.51**	**230**	P		**Pb**		**12 40 18.2**	**-0.5**
	7.4nm,0.1s								
BRZS				S		**Sb**		**12 40 26.2**	**-0.5**
	52nm,0.6s								
OTUK	**Ortayu**	**2.16**	**197**	⇑Pn		**Pb**		**12 40 47.0**	**+0.1**
	5.6nm,0.5s								
OTUK				⇓Lg		Lg		12 41 15.8	
	54nm,0.8s								
BVA0	**Borovoye Array**	**3.26**	**328**	⇓Pg		**Pb**		**12 41 07.4**	**+1.7**
	2.7nm,0.5s,baz=262,slow=42,SNR=14								
BVA0				⇑Lg		Lg		12 41 50.8	
	11nm,0.7s,baz=137,slow=28,SNR=8.9								
BVAR	**Borovoye Array**	**3.26**	**328**	Pn		**Pb**		**12 41 06.8**	**+1.0**
	0.4nm,0.3s,baz=140,slow=17,SNR=18								
BVAR				Sn		**Sg**		**12 41 51.4**	**-0.3**
	0.5nm,0.3s,baz=133,slow=27,SNR=13								
	4.4nm,0.4s								
BRVK	**Borovoye**	**3.33**	**327**	⇑Pg		**Pb**		**12 41 08.5**	**+1.7**
	2.6nm,0.5s								
BRVK				⇓Lg		Lg		12 41 52.5	
	32nm,0.7s								
KURBB	**Kurchatov Arra**	**3.37**	**83**	⇑Pg		**Pb**		**12 41 08.1**	**+0.6**
	8.1nm,0.6s								
KURBB				⇓Lg		Lg		12 41 55.1	
	61nm,0.6s								
KURBB	**Kurchatov Arra**	**3.37**	**83**	Pn		**Pn**		**12 41 02.3**	**+1.5**
	0.1nm,0.3s,baz=266,slow=13,SNR=2.8								
KURBB				Pg		**Pb**		**12 41 07.2**	**-0.3**
	0.3nm,0.3s,baz=268,slow=17,SNR=6.6								
KURBB				Lg		Lg		12 41 49.5	
	0.5nm,0.3s,baz=264,slow=31,SNR=9.9								
	0.3nm,0.3s								
KURK	**Kurchatov**	**3.43**	**81**	⇑Pg		**Pb**		**12 41 08.0**	**-0.5**
	5.5nm,0.8s								
KURK				⇑Lg		Lg		12 41 55.7	
	13nm,0.6s								
BTLS	**Baital**	**5.29**	**174**	Pg		**Pn**		**12 41 28.7**	**+1.5**
	5.4nm,0.2s								
BTLS				Lg		Lg		12 42 27.6	
	3.4nm,0.7s								
KAPS	**Kapalarasan**	**6.48**	**139**	Pg		**Pb**		**12 42 03.1**	**+2.6**
	2.5nm,0.1s								
KAPS				Lg		Lg		12 43 26.0	
	7.7nm,0.9s								
MKAR	**Makanchi Array**	**6.93**	**117**	Pn		**Pn**		**12 41 50.1**	**+0.3**
	0.1nm,0.3s,baz=299,slow=12,SNR=2.1								
MKAR				Lg		Lg		12 43 39.9	
	0.5nm,0.3s,baz=308,slow=30,SNR=6.6								
	0.7nm,0.9s								
DJR	**Jarkent**	**7.43**	**141**	Pg		**Pb**		**12 42 19.3**	**+2.5**
	0.5nm,0.2s								
DJR				Lg		Lg		12 43 54.4	
	3.5nm,0.6s								
AAK	**Ala-Archa**	**7.72**	**173**	Pn		**Pn**		**12 42 00.0**	**-0.7**
	0.6nm,0.3s,baz=266,slow=14,SNR=3.2								
AAK				Sn		**Sn**		**12 43 26.5**	**-2.4**
	0.5nm,0.3s,baz=82,slow=22,SNR=2.6								
AAK				Lg		Lg		12 44 07.5	
	0.4nm,0.3s,baz=207,slow=23,SNR=1.7								
	1.2nm,0.3s								
I46RU	**ZALESOVO INFRA**	**7.98**	**58**	I		I		13 29 20.0	
	baz=245,slow=330,SNR=1.3								
ZALV	**Zalesovo Beam**	**7.98**	**58**	Pn		**Pn**		**12 42 05.6**	**+1.6**
	0.3nm,0.3s,baz=252,slow=13,SNR=4.1								
ZALV				Sn		**Sn**		**12 43 32.0**	**-2.9**
	0.2nm,0.3s,baz=246,slow=25,SNR=2.5								
	0.5nm,0.3s								
ZSN	**Zaisan**	**8.15**	**106**	Pg		Pg		12 42 36.9	-6.2
	1.4nm,0.2s								
ZSN				Lg		Lg		12 44 24.1	
	4.7nm,0.8s								

GCMT 06 12:40:21.0±0.2, **49°.66S**±0°.01×**115°.83W**±0°.02, **h20km**±1km, **MW5.1**/113, **Moment Tensor Solution. s67,c96; s113,c169; Duration: 0 Moment tensor: Scale** 10^{16} **Nm;** M_{rr}-0.11±.20; $M_{\theta\theta}$2.40±.19; $M_{\phi\phi}$-2.30±.17; $M_{r\theta}$0.97±.36; $M_{\theta\phi}$5.85±.14; $M_{\phi r}$1.00±.34; **Best double couple:** $M_0$6.44900×10^{16} **NP1:**ϕ_s10.00000°,δ84.00000°, λ170.00000°. **NP2:**ϕ_s102.00000°,δ80.00000°,λ6.00000°. **Principal axes:** T 6.6310, Plg11.0000°, Azm326.0000°; N -0.3690, Plg78.0000°, Azm159.0000°; P -6.2680, Plg3.0000°, Azm56.0000°; **nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function Southern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBI	**Tubuai**	**37.17**	**303**	*e*S		S		12 52 43.3	-33
	356nm,27.2s								
TBI				*e*SS		SnSn		12 55 29.8	-22
	2μm,29.0s								
TBI				*e*LR		LR		12 57 09.6	
	1μm,32.5s								
TBI				*e*LR		LR		12 57 13.4	
	4μm,28.5s								
PPT2	**Papeete2**	**41.95**	**308**	*e*P		P		12 47 40.8	-30
	38nm,25.8s								
PPT2				*e*S		S		12 54 02.7	-25
	163nm,26.0s								
PPT2				*e*SS		SS		12 57 03.0	-32
	985nm,28.8s								
PPT2				*e*LR		LR		12 58 56.5	
	892nm,28.5s								
PPT2				*e*LR		LR		12 59 26.0	
	1μm,27.8s								
TAOE	**Nuku Hiva Isla**	**45.46**	**325**	*e*S		S		12 54 53.8	-26
	186nm,25.2s								
TAOE				*e*LR		LR		13 01 16.3	
	1μm,27.4s								
DZM	**Mont Dzumac**	**65.66**	**264**	*e*S		S		12 59 11.0	-38
	118nm,24.9s								
DZM				*e*SS		SS		13 03 09.2	-54
	91nm,25.2s								
DZM				*e*LR		LR		13 09 43.0	
	340nm,23.8s								

*IDC **06** 12:44:25.0±0.6, 13°.29N×87°.97W, h0km, mb4.4/25, mbtmp4.5/30, ML3.6/5, MS4.6/3 Error ellipse: s-maj=20.0km s-min=9.1km az=50.0*

*CATAC **06** 12:44:26.4±0.1, 13°.21N×88°.05W, h2km±1km, ML5.2*
*SNET **06** 12:44:26.3±1.3, 13°.23N×88°.08W, h5km, ML5.1*
*MOS **06** 12:44:26.7±1.0, 13°.20N×87°.99W, h18km, mb5.0/50, Error ellipse: s-maj=9.8km s-min=5.6km az=107.9*
*NEIC **06** 12:44:28.1, 13°.27N×87°.95W, h16km*
*RSNC **06** 12:44:28.7±0.5, 13°.N±2°×8°.8W±°, h10km, M4.8, mb4.8, mB5.6, ML4.6, Mw(mB)4.9, MwMwp4.9, Mwp5.2*
*GCG **06** 12:44:28.1±0.6, 13°.67N×87°.80W, h172km±29km, MD4.5*
*NEIC **06** 12:44:28.1±1.6, 13°.27N±0°.05×87°.96W±0°.04, h10km±1km, mb5.1/209, Mww5.2/23, Error ellipse: s-maj=8.0km s-min=6.7km az=201.0*
*NEIC **06** 12:44:28.1, 13°.17N×88°.05W, h16km, Moment Tensor Solution. Duration: 1§9 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.63; $M_{\theta\theta}$-0.73; $M_{\phi\phi}$1.36; $M_{r\theta}$1.17; $M_{\theta\phi}$-6.73; $M_{\phi r}$2.41; Fault plane solution: $M_0$7.33000×10^{16} NP1: ϕ_s182.92000°,δ81.77000°,λ-20.34000°. NP2: ϕ_s275.96000°,δ69.88000°,λ-171.23000°. Principal axes: T 7.2750, Plg8.0000°, Azm231.0000°; N 0.1179, Plg68.0000°, Azm342.0000°; P -7.3928, Plg20.0000°, Azm138.0000°;*
*UCR **06** 12:44:29.2±1.2, 13°.33N×87°.81W, h20km, MW5.1*
*GCMT **06** 12:44:31.1±0.2, 13°.29N±0°.01×88°.16W±0°.01, h18km, MW5.2/122, Moment Tensor Solution. s50,c65; s122,c199; Duration: 1§0 Moment tensor: Scale 10^{16} Nm; M_{rr}-0.71±.18; $M_{\theta\theta}$-0.49±.15; $M_{\phi\phi}$1.20±.16; $M_{r\theta}$-3.34±.43; $M_{\theta\phi}$-7.45±.16; $M_{\phi r}$0.57±.35; Best double couple: $M_0$8.22000×10^{16} NP1:ϕ_s94.00000°,δ89.00000°, λ-156.00000°. NP2:ϕ_s3.00000°,δ66.00000°,λ-1.00000°. Principal axes: T 8.6280, Plg16.0000°, Azm226.0000°; N -0.8120, Plg66.0000°, Azm96.0000°; P -7.8130, Plg18.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 12:44:26.8±0.8, **13°.24N**±0°.03×**88°.05W**±0°.02, **h9km**±5km, **n881,** σ1§**11**/908, **mb5.0**/163, **MS5.0**/5, **12C-14D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.19**	**274**	*e*P		**Pg**		**12 44 30.6**	**-0.2**
JUCU				*e*S		**Sg**		**12 44 33.6**	**-0.1**
JUCU					IAML			12 44 36.8	
	comp=Z,580μm,0.4s								
JUCU	**Jucuarįn**	**0.19**	**274**	*i* P		**Pg**		**12 44 30.6**	**-0.2**
JUCU				*i* S		**Sg**		**12 44 32.7**	**-0.9**
JUCU					IAML			12 44 35.7	
	comp=Z,660μm,1.0s								
CNCH	**Conchagua**	**0.21**	**80**	⇑*e*P		**Pg**		**12 44 31.3**	**+0.1**
CNCH				*e*S		**Sg**		**12 44 34.8**	**+0.5**
CNCH	**Conchagua**	**0.21**	**80**	*i* P		**Pg**		**12 44 31.3**	**+0.1**
CNCH				*i* S		**Sg**		**12 44 33.8**	**-0.4**
CNCH					IAML			12 44 37.9	
	comp=Z,1400μm,1.0s								
CNRM	**Centro Naciona**	**0.26**	**333**	⇓*i* P		**Pg**		**12 44 31.7**	**-0.3**
CNRM	**Centro Naciona**	**0.26**	**333**	*i* P		**Pg**		**12 44 31.8**	**-0.3**
CNRM				*i* S		**Sg**		**12 44 35.7**	**+0.1**
CNRM					IAML			12 44 44.2	
	comp=Z,1200μm,1.0s								
BLLM	**Bellamira**	**0.27**	**318**	⇑*i* P		**Pg**		**12 44 32.0**	**-0.3**
VSM	**San Miguel**	**0.29**	**311**	⇓*i* P		**Pg**		**12 44 32.5**	**-0.1**
LCY	**Lacayo**	**0.30**	**307**	⇑*i* P		**Pg**		**12 44 32.6**	**-0.2**
RANC	**El Ranchito**	**0.30**	**310**	⇑*i* P		**Pg**		**12 44 32.8**	**-0.1**
RANC	**El Ranchito**	**0.30**	**310**	*i* P		**Pg**		**12 44 32.6**	**-0.3**
RANC				*i* S		**Sg**		**12 44 36.9**	**-0.1**
RANC					IAML			12 44 39.9	
	comp=Z,150μm,1.0s								
PACA	**Pacayal**	**0.35**	**311**	⇑*e*P		**Pg**		**12 44 33.6**	**-0.2**
PACA				*e*S		**Sg**		**12 44 39.9**	**+1.4**
PACA	**Pacayal**	**0.35**	**311**	*i* P		**Pg**		**12 44 33.6**	**-0.2**
PACA				*i* S		**Sg**		**12 44 38.5**	**0.0**
PACA					IAML			12 44 43.7	
	comp=Z,1300μm,1.0s								
AMPH	**Amapala**	**0.38**	**83**	*e*P		**Pg**		**12 44 34.3**	**-0.1**
AMPH	**Amapala**	**0.38**	**83**	*i* P		**Pg**		**12 44 34.1**	**-0.2**
AMPH				*i* S		**Sg**		**12 44 39.4**	**0.0**
TECA	**Tecapa**	**0.51**	**300**	⇓*i* P		**Pg**		**12 44 36.4**	**-0.3**
COEB	**Comit de Eme**	**0.53**	**299**	⇓*i* P		**Pg**		**12 44 36.8**	**-0.4**
COEB	**Comit de Eme**	**0.53**	**299**	*i* P		**Pg**		**12 44 36.8**	**-0.4**
COEB				*i* S		**Sg**		**12 44 44.4**	**+0.2**
COEB					IAML			12 44 46.6	
	comp=Z,50μm,1.0s								
PQSS	**Presa 15 de Se**	**0.63**	**308**	⇑*e*P		**Pg**		**12 44 38.4**	**-0.6**
PQSS	**Presa 15 de Se**	**0.63**	**308**	*i* P		**Pg**		**12 44 38.7**	**-0.2**
PQSS					IAML			12 44 39.4	
	comp=Z,20μm,1.0s								
PQSS				*i* S		**Sg**		**12 44 48.0**	**+0.8**
TECO	**Alcaldia de Te**	**0.77**	**293**	*e*P		**Pg**		**12 44 40.7**	**-0.9**
TECO	**Alcaldia de Te**	**0.77**	**293**	*i* S		**Sg**		**12 44 51.8**	**+0.1**
SCLA	**Alcaldia de Sa**	**0.81**	**305**	⇓*i* P		**Pg**		**12 44 41.6**	**-0.7**
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*i* P		**Pg**		**12 44 41.7**	**-0.7**
SCLA					IAML			12 45 03.0	
	comp=Z,23μm,1.0s								
UESV	**Universidad de**	**0.82**	**299**	*i* P		**Pg**		**12 44 41.9**	**-0.7**
UESV				*i* S		**Sg**		**12 44 53.6**	**+0.3**
UESV					IAML			12 45 04.0	
	comp=Z,36μm,1.0s								
SNVI	**San Vicente**	**0.85**	**296**	*e*P		**Pg**		**12 44 42.4**	**-0.8**
COEG	**Centro de Oper**	**0.89**	**295**	⇓*i* P		**Pg**		**12 44 43.0**	**-0.9**
COEG	**Centro de Oper**	**0.89**	**295**	*i* P		**Pg**		**12 44 43.1**	**-0.9**
COEG				*i* S		**Sg**		**12 44 56.1**	**+0.5**
COEG					IAML			12 44 56.9	
	comp=Z,51μm,1.0s								
PAVA	**Las Pavas**	**0.98**	**299**	⇓*i* P		**Pg**		**12 44 44.8**	**-0.9**
PAVA	**Las Pavas**	**0.98**	**299**	*i* P		**Pg**		**12 44 44.8**	**-0.9**
PAVA				*i* S		**Sg**		**12 44 59.1**	**+0.6**
PAVA					IAML			12 45 01.8	
	comp=Z,84μm,1.0s								
INTHN	**La Esperanza I**	**1.07**	**357**	*i* P		**Pg**		**12 44 47.5**	**+0.1**
LBRS	**Las Brisas**	**1.09**	**297**	*e*P		**Pg**		**12 44 47.0**	**-0.7**
TGUH	**Tegucigalpa,Un**	**1.11**	**43**			**Pg**		**12 44 46.7**	**-1.5**
TGUH					Sg	**Sg**		**12 45 01.3**	**-1.3**
TGUH	**Tegucigalpa,Un**	**1.11**	**43**	⇑*i*P		**Pg**		**12 44 46.7**	**-1.5**
TGUH	**Tegucigalpa,Un**	**1.11**	**43**	*i* P		**Pg**		**12 44 46.8**	**-1.3**
TGUH					IAML			12 45 14.0	
	comp=Z,67μm,1.0s								
CRIN	**San Cristobal**	**1.11**	**119**			**Pg**		**12 44 47.6**	**-0.6**
CRIN						**Sn**		**12 45 05.1**	**+0.9**
CRIN	**San Cristobal**	**1.11**	**119**	⇓*i*P		**Pg**		**12 44 47.6**	**-0.6**
CRIN	**San Cristobal**	**1.11**	**119**	*i* P		**Pg**		**12 44 47.7**	**-0.5**
CRIN				*i* S		**Sb**		**12 45 02.8**	**-0.1**
CRIN					IAML			12 45 12.5	
	comp=Z,220μm,1.0s								
AEIL	**Aeropuerto Ilo**	**1.13**	**294**	*e*P		**Pg**		**12 44 47.6**	**-1.0**
LFU	**La Fuente**	**1.15**	**296**	*e*P		**Pg**		**12 44 47.7**	**-1.2**
PANCS	**Alcalda de**	**1.16**	**289**	*i* P		**Pg**		**12 44 47.7**	**-1.4**
PANCS					IAML			12 45 07.8	
	comp=Z,52μm,1.0s								
LOMA	**Loma Larga**	**1.16**	**290**	*e*P		**Pg**		**12 44 47.5**	**-1.7**
LOMA	**Loma Larga**	**1.16**	**290**	*i* P		**Pg**		**12 44 48.2**	**-1.0**
LOMA					IAML			12 45 05.8	
	comp=Z,47μm,1.0s								
UDBS	**Universidad Do**	**1.18**	**294**	*e*P		**Pg**		**12 44 48.1**	**-1.3**
UDBS	**Universidad Do**	**1.18**	**294**	*i* P		**Pg**		**12 44 48.1**	**-1.3**
UDBS					IAML			12 45 09.1	
	comp=Z,46μm,1.0s								
IGN	**Direccin Gen**	**1.19**	**294**	*i* P		**Pb**		**12 44 48.9**	**-0.6**
IGN				*i* S		**Sn**		**12 45 05.9**	**-0.1**
IGN					IAML			12 45 17.4	
	comp=Z,84μm,1.0s								
UTEC	**Universidad Te**	**1.21**	**292**	*i* P		**Pb**		**12 44 48.9**	**-1.0**
UTEC					IAML			12 45 13.6	
	comp=Z,36μm,1.0s								
SNET	**Serv Nac Est T**	**1.23**	**291**			**Pb**		**12 44 48.6**	**-1.7**
SNET	**Serv Nac Est T**	**1.23**	**291**	*e*P		**Pb**		**12 44 48.6**	**-1.7**
SNET	**Serv Nac Est T**	**1.23**	**291**	*i* P		**Pb**		**12 44 49.1**	**-1.2**
SNET					IAML			12 45 12.2	
	comp=Z,68μm,1.0s								
UEES	**Universidad Ev**	**1.25**	**292**	*e*P		**Pn**		**12 44 49.2**	**-1.3**
UEES	**Universidad Ev**	**1.25**	**292**	*i* P		**Pn**		**12 44 49.5**	**-1.1**
UEES					IAML			12 45 12.7	
	comp=Z,17μm,1.0s								
LALI	**Alcalda de L**	**1.26**	**281**	*e*P		**Pn**		**12 44 48.9**	**-1.7**
LALI	**Alcalda de L**	**1.26**	**281**	*i* P		**Pn**		**12 44 49.2**	**-1.4**
LALI				*i* S		**Sn**		**12 45 08.1**	**+0.4**
LALI					IAML			12 45 14.8	
	comp=Z,11μm,1.0s								
LLGN	**La Laguna**	**1.26**	**317**	⇓*e*P		**Pn**		**12 44 49.0**	**-1.8**
LLGN	**La Laguna**	**1.26**	**317**	*i* P		**Pn**		**12 44 49.0**	**-1.8**
LLGN					IAML			12 45 14.0	
	comp=Z,15μm,1.0s								
PIC2	**El Picacho**	**1.28**	**293**	*e*P		**Pn**		**12 44 50.1**	**-0.9**
MAGS	**Ministerio de**	**1.28**	**290**	*e*P		**Pn**		**12 44 49.7**	**-1.3**
COMHN	**El Horno**	**1.29**	**22**	*i* P		**Pb**		**12 44 51.4**	**0.0**
BOQS	**Boqueron**	**1.29**	**293**	*e*P		**Pn**		**12 44 50.1**	**-1.1**
PMON	**Piamonte**	**1.32**	**291**	*e*P		**Pn**		**12 44 50.3**	**-1.2**
PMON	**Piamonte**	**1.32**	**291**	*i* P		**Pn**		**12 44 51.0**	**-0.5**
PMON					IAML			12 45 12.0	
	comp=Z,45μm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.33**	**297**	*i* P		**Pn**		**12 44 51.1**	**-0.5**
QUEZ					IAML			12 45 15.8	
	comp=Z,92μm,1.0s								
CEDA	**San Andres**	**1.42**	**293**	⇓*e*P		**Pn**		**12 44 52.1**	**-0.7**
CEDA	**San Andres**	**1.42**	**293**	*i* P		**Pn**		**12 44 52.6**	**-0.3**
CEDA				*i* S		**Sg**		**12 45 13.6**	**+1.0**
CEDA					IAML			12 45 32.0	
	comp=Z,80μm,1.0s								
JAYA	**Jayaque - finc**	**1.42**	**287**	*e*P		**Pn**		**12 44 51.7**	**-1.3**
JAYA	**Jayaque - finc**	**1.42**	**287**	*i* P		**Pn**		**12 44 51.9**	**-1.1**
JAYA					IAML			12 45 17.3	
	comp=Z,63μm,1.0s								
CNGA	**Al SSO del Vol**	**1.51**	**119**	*i* P		**Pn**		**12 44 54.5**	**+0.4**
CNGA					IAML			12 45 15.3	
	comp=Z,14μm,1.0s								
CNGN	**Cerro Negro**	**1.51**	**119**	Pn		**Pn**		**12 44 52.6**	**-1.4**
CNGN	**Cerro Negro**	**1.51**	**119**	*i* P		**Pn**		**12 44 53.0**	**-1.1**
CNGN					IAML			12 45 32.1	
	comp=Z,34μm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.63**	**121**	*i* P		**Pn**		**12 44 54.4**	**-1.2**
LEVN				*i* S		**Sb**		**12 45 18.0**	**+0.4**
LEVN					IAML			12 45 27.2	
	comp=Z,31μm,1.0s								
UNIC	**Universidad Ca**	**1.63**	**297**	*i* P		**Pn**		**12 44 55.9**	**+0.1**
UNIC					IAML			12 45 23.1	
	comp=Z,14μm,1.0s								
SNJE	**San Jose**	**1.64**	**293**	*e*P		**Pn**		**12 44 55.5**	**-0.5**
CEVE	**Cerro Verde**	**1.64**	**291**	*i* P		**Pn**		**12 44 56.3**	**+0.3**
CEVE				*i* S		**Sb**		**12 45 18.9**	**+0.6**
CEVE					IAML			12 45 21.7	
	comp=Z,26μm,1.0s								
SBLS	**San Blas**	**1.64**	**291**	*e*P		**Pn**		**12 44 56.0**	**0.0**
LIMN	**Finca el Limon**	**1.65**	**96**	*i* P		**Pb**		**12 44 57.7**	**+0.3**
RTR	**El Retiro**	**1.68**	**293**	*e*P		**Pn**		**12 44 56.5**	**-0.1**
MOMN	**Momotombo**	**1.69**	**119**	*i* P		**Pn**		**12 44 55.5**	**-1.0**
MOMN					IAML			12 45 27.0	
	comp=Z,1μm,1.0s								
BC84	**Volcan Momotom**	**1.69**	**120**	*i* P		**Pn**		**12 44 56.6**	**0.0**
BC84				*i* S		**Sb**		**12 45 19.9**	**+0.3**
BC84					IAML			12 45 21.8	
	comp=Z,34μm,1.0s								
MTO3	**Montecristo**	**1.72**	**312**	Pn		**Pn**		**12 44 56.3**	**-0.8**
MTO3	**Montecristo**	**1.72**	**312**	⇓*e*P		**Pn**		**12 44 56.1**	**-1.0**
MTO3	**Montecristo**	**1.72**	**312**	*i* P		**Pn**		**12 44 57.0**	**-0.1**
MTO3					IAML			12 45 25.0	
	comp=Z,13μm,1.0s								
MOM2	**El Cardon**	**1.72**	**117**	*i* P		**Pn**		**12 44 55.8**	**-1.1**
MOM2					IAML			12 45 41.0	
	comp=Z,18μm,1.0s								
BRAN	**Las Pilas**	**1.73**	**107**	*i* P		**Pg**		**12 44 59.7**	**-0.4**
BRAN					IAML			12 45 36.7	
	comp=Z,7μm,1.0s								
BC86	**Nagarote**	**1.74**	**124**	*i* P		**Pn**		**12 44 56.4**	**-0.8**
BC86					IAML			12 45 36.5	
	comp=Z,25μm,1.0s								
COPN	**Copaltepe**	**1.77**	**126**	*i* P		**Pn**		**12 44 57.0**	**-0.6**
COPN					IAML			12 45 28.3	
	comp=Z,13μm,1.0s								
NUBE	**Las Nubes**	**1.81**	**292**	*e*P		**Pn**		**12 44 58.0**	**-0.3**
NUBE	**Las Nubes**	**1.81**	**292**	*i* P		**Pn**		**12 44 58.0**	**-0.3**
NUBE					IAML			12 45 29.1	
	comp=Z,28μm,1.0s								
ESQI	**Esquipulas**	**1.82**	**316**			**Pn**		**12 44 57.9**	**-0.5**
ESQI	**Esquipulas**	**1.82**	**316**	*i* P		**Pn**		**12 44 58.7**	**+0.3**
ESQI					IAML			12 45 41.5	
	comp=Z,36μm,1.0s								
LOAL	**Lomas de Alarc**	**1.84**	**294**	*i* P		**Pn**		**12 44 58.9**	**+0.2**
LOAL					IAML			12 45 30.9	
	comp=Z,56μm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.86**	**295**	*e*P		**Pn**		**12 44 58.4**	**-0.5**
APQ3	**Volcan Apoyequ**	**1.90**	**120**	*i* P		**Pn**		**12 44 59.8**	**+0.4**
APQ3				*i* S		**Sb**		**12 45 25.2**	**-0.3**
APQ3					IAML			12 45 38.3	
	comp=Z,10μm,1.0s								
APYN	**Apoyeque**	**1.94**	**121**	*i* P		**Pn

SULM Suchitepequez, 3.58 288 *eP* **Pn 12 45 25.9 +3.4**
VRLE La Escondida, 3.58 133 *eP* **Pn 12 45 21.7 -1.0**
STG3 Santiaguito 3, 3.72 294 *eP* **Pn 12 45 28.7 +4.1**
STG3 *eS* **Sb 12 46 15.2 -2.8**
VMAR Armenia, Volca 3.75 130 *eP* **Pn 12 45 24.1 -0.8**
RTAL Retalhuleu 3.76 290 Pn 12 45 27.9 +2.9
RTAL Retalhuleu 3.76 290 *i* P **Pn 12 45 25.7 +0.6**
RTAL *i* S **Sn 12 46 11.5 +2.0**
RTAL IAML 12 46 27.7
comp=Z,4µm,1.0s
ESPN Las Esperanzas 3.80 105 *i* P **Pn 12 45 25.7 +0.1**
ESPN IAML 12 46 34.6
comp=Z,8µm,1.0s
ESPN Las Esperanzas 3.80 105 *eP* **Pn 12 45 24.2 -1.4**
SACU Santa Cruz 3.82 141 *eP* **Pn 12 45 26.4 +0.5**
ORTG Ortega, Santa 3.82 138 Pn 12 45 25.9 0.0
ORTG Ortega, Santa 3.82 138 *i* P **Pn 12 45 25.9 0.0**
ORTG IAML 12 46 16.0
comp=Z,1µm,1.0s
ORTG Ortega, Santa 3.82 138 *eP* **Pn 12 45 25.6 -0.4**
SAJU San Juanillo, 3.90 144 *i* P **Pn 12 45 26.8 -0.1**
SAJU IAML 12 46 26.1
comp=Z,1µm,1.0s
JUD3 Juan Diaz 3 3.92 141 *eP* **Pn 12 45 27.4 +0.1**
HUEH Huehuetenango 3.93 302 Pn 12 45 30.0 +2.4
DUNO Dulce Nombre, 4.02 141 Pn 12 45 29.0 +0.5
DUNO Dulce Nombre, 4.02 141 *i* P **Pn 12 45 28.5 0.0**
DUNO IAML 12 46 22.7
comp=Z,1µm,1.0s
DUNO Dulce Nombre, 4.02 141 *eP* **Pn 12 45 28.8 +0.3**
PETF Flores 4.05 335 Pn 12 45 30.1 +1.0
JTS Las Juntas de 4.22 134 Pn Pn 12 45 31.0 -0.4
JTS Las Juntas de 4.22 134 Pn Pn 12 45 30.5 -0.8
comp=Z,32nm,0.3s,baz=312,slow=18,SNR=81
JTS Sn **Sn 12 46 19.1 -1.6**
comp=Z,6.0nm,0.3s,baz=287,slow=19,SNR=1.2
comp=Z,144nm,0.4s
JTS Las Juntas de 4.22 134 *i* P **Pn 12 45 30.0 -1.3**
JTS Las Juntas de 4.22 134 *eP* **Pn 12 45 30.6 -0.8**
COVE Coope Vega, Sa 4.36 125 Pn 12 45 32.9 -0.4
SOCE Pocosol 4.40 130 Pn 12 45 33.0 -0.9
ITAL Pital 4.62 126 *eP* **Pn 12 45 36.7 -0.2**
CPMI Catarata Coope 4.64 129 *eP* **Pn 12 45 37.0 -0.3**
JACO JACO, Garabito 4.87 137 Pn 12 45 40.2 0.0
CCIG Comitan 4.98 308 Pn 12 45 44.6 +2.7
HDC Heredia 5.02 129 Pn 12 45 42.9 +0.4
HDC Heredia 5.02 129 *eP* **Pn 12 45 43.9 +1.4**
OCM Ochomogo 5.21 129 *eP* **Pn 12 45 45.1 0.0**
ICR3 Volcano Irazu 5.25 128 *eP* **Pn 12 45 47.7 +1.8**
LCR2 La Lucha 2 5.27 131 Pn 12 45 46.1 +0.1
LCR2 La Lucha 2 5.27 131 ‖ *eP* **Pn 12 45 45.2 -0.8**
VTCV VTCV, Calle Va 5.33 127 *eP* **Pn 12 45 47.6 +0.8**
BATAN Batan 5.54 124 Pn 12 45 50.5 +1.0
BATAN Batan 5.54 124 *eP* **Pn 12 45 49.4 -0.1**
PEZE Perez Zeledon, 5.75 131 Pn 12 45 54.4 +2.0
SRBA San Rafael, Bu 6.08 130 Pn Pn 12 45 57.9 +0.8
SRBA San Rafael, Bu 6.08 130 *eP* **Pn 12 45 56.5 -0.5**
DRK0 Durika 6.15 129 *eP* **Pn 12 45 57.8 -0.2**
BRU2 Volcan 6.87 129 Pn 12 46 08.9 +1.0
CDITO Canoas 6.88 132 Pn 12 46 08.7 +0.8
TEIG Tepich 6.95 358 Pn Pn 12 46 10.8 +1.9
CMIG Matias Romero 7.63 301 Pn Pn 12 46 19.9 +1.7
comp=Z,4.7nm,0.3s,baz=156,slow=12,SNR=24
CMIG Sn **Sn 12 47 48.5 +3.7**
comp=Z,1.6nm,0.3s,baz=191,slow=19,SNR=1.5
comp=Z,106nm,1.1s
BCIP Isla Barro Col 9.02 116 Pn Pn 12 46 36.6 -0.6
BCIP Isla Barro Col 9.02 116 P Pn 12 46 36.7 -0.6
TLIG Tlapa 11.01 294 Pn 12 47 08.0 +3.3
MTDJ Mount Denham 11.27 63 Pn Pn 12 47 07.0 -1.2
ROSC El Rosal 15.91 120 Pn 12 48 11.7 +0.2
ROSC El Rosal 15.91 120 Pn Pn 12 48 11.1 -0.4
comp=Z,1.2nm,0.3s,baz=335,slow=11,SNR=8.8
comp=Z,5.5nm,0.5s
ROSC El Rosal 15.91 120 P Pn 12 48 11.7 +0.2
ROSC pmax pmax
comp=Z,112nm,1.8s
TULM Tulcn-Chalpat 16.07 140 P P 12 48 16.0 -1.1
IMBA Imbabura, San 16.16 142 Pn 12 48 14.9 +0.2
IMBA IAmb IAmb 12 48 22.5
comp=Z,366nm,1.6s
PULU Pululahua 16.19 143 P P 12 48 17.1 -1.1
ZAIG Zacatecas 16.73 307 P 12 48 23.4 -0.8
SLOR San Lorenzo - 16.80 145 P Pn 12 48 24.0 +1.1
KVTX Kingsville 16.95 329 P P 12 48 25.6 -0.6
KVTX IAmb IAmb 12 48 31.6
comp=Z,360nm,1.6s
HBVL Hebbronville 16.97 326 P P 12 48 26.8 +0.3
SDV Santo Domingo 17.63 102 P Pn 12 48 32.3 -0.8
SDV Santo Domingo 17.63 102 P Pn 12 48 32.2 -0.8
comp=Z,1.3nm,0.3s,baz=288,slow=7.7,SNR=16
comp=Z,36nm,1.0s
SDV Santo Domingo 17.63 102 *eP* **Pn 12 48 33.2 +0.1**
BRAL Brewton 17.87 3 P Pn 12 48 34.8 -0.9
BRAL IAmb IAmb 12 48 43.0
comp=Z,130nm,1.1s
BRAL Brewton 17.87 3 P P 12 48 36.6 +0.3
baz=183
735A Kenedy 17.99 331 P P 12 48 38.5 +0.7
735A IAmb IAmb 12 48 43.4
comp=Z,277nm,1.4s
441A DeRidder 18.06 346 P P 12 48 39.6 +1.1
441A IAmb IAmb 12 48 47.8
comp=Z,160nm,1.1s
HKT Hockley 18.12 338 P P 12 48 40.1 +1.0
HKT IAmb IAmb 12 48 48.5
comp=Z,180nm,1.7s
HKT Hockley 18.12 338 *i* P **P 12 48 40.8 +1.7**
HKT pmax pmax
comp=Z,107nm,1.6s
833A Chaparral WMA, 18.36 327 P P 12 48 42.7 +0.9
833A IAmb IAmb 12 48 47.4
comp=Z,265nm,1.4s
833A Chaparral WMA, 18.36 327 P P 12 48 42.5 +0.7
baz=142,SNR=32
352A Blakely 18.38 8 P Pn 12 48 42.0 +0.1
MLDN Muldoon 18.46 335 P Pn 12 48 44.2 +1.2
ARNL Arenillas 18.46 154 P Pn 12 48 44.5 +1.4
EF01 Eagle Ford 01 18.49 330 P Pn 12 48 43.8 +0.4
TIGA Tifton 18.57 12 P P 12 48 43.5 -0.6
baz=193,SNR=13
250A Grady 18.72 5 P Pn 12 48 46.3 +0.2
HNVL Huntsville, TX 18.73 340 P Pn 12 48 47.5 +1.2
VBMS Vicksburg 19.03 354 P Pn 12 48 50.7 +0.9
VBMS IAmb IAmb 12 48 56.9
comp=Z,160nm,0.9s
VBMS Vicksburg 19.03 354 P Pn 12 48 50.0 +0.2
baz=172,SNR=9.0
HNDO Hondo 19.27 329 P Pn 12 48 52.9 +0.1
NATX Nacogdoches 19.41 343 P Pn 12 48 55.0 +0.6
NATX IAmb IAmb 12 48 59.3
comp=Z,151nm,1.3s
NATX Nacogdoches 19.41 343 P P 12 48 53.9 +0.6
baz=160,SNR=10.0
435B Jarrell 19.55 335 P Pn 12 48 55.8 -0.4
435B IAmb IAmb 12 49 03.1
comp=Z,126nm,1.1s
435B Jarrell 19.55 335 P P 12 48 55.4 +0.6
baz=151
143A Socs Landing, 19.62 352 P Pn 12 48 57.6 +0.7
143A IAmb IAmb 12 49 01.4
comp=Z,71nm,0.9s
LRAL Lakeview Retre 19.73 3 P Pn 12 48 57.7 -0.5
LRAL Lakeview Retre 19.73 3 P P 12 48 56.8 +0.1
baz=183,SNR=19
DRIO Del Rio 19.88 326 P P 12 48 59.2 +0.6
DRIO IAmb IAmb 12 49 05.4
comp=Z,168nm,1.1s
BAUV El Baul 20.09 100 P P 12 49 00.2 -0.7
BAUV IAmb IAmb 12 49 06.8
comp=Z,150nm,1.1s
JCT Junction City 20.30 330 P P 12 49 03.4 +0.3
JCT IAmb IAmb 12 49 08.2
comp=Z,116nm,1.1s
JCT Junction City 20.30 330 P P 12 49 03.9 +0.8
baz=145,SNR=19
JCT Junction City 20.30 330 P P 12 49 03.4 +0.3
JCT pmax pmax
comp=Z,116nm,1.2s
GOGA Godfrey 20.51 11 P P 12 49 05.6 +0.3
baz=192,SNR=8.5
GOGA Godfrey 20.51 11 P Pn 12 49 10.5 +3.0
GOGA pmax pmax
comp=Z,40nm,1.3s

WHTX Lake Whitney, 20.56 337 P P 12 49 06.7 +0.8
WHTX IAmb IAmb 12 49 21.9
comp=Z,145nm,1.2s
WHTX Lake Whitney, 20.56 337 P P 12 49 06.9 +1.0
baz=153,SNR=7.2
BRDY Brady 20.60 332 P P 12 49 07.1 +0.8
BRDY IAmb IAmb 12 49 11.2
comp=Z,68nm,1.0s
FW14 Alvarado 20.83 338 P P 12 49 09.6 +0.8
SAND Sanderson 21.13 324 P P 12 49 13.1 +1.0
OXF Oxford 21.21 357 P P 12 49 13.6 +0.7
baz=176
OZNA Ozona 21.33 328 P P 12 49 15.0 +0.7
HPIG 21.39 312 P P 12 49 16.8 +1.7
TXAR Lajitas Array 21.60 320 P P 12 49 18.0 +0.8
TXAR Lajitas Array 21.60 320 P P 12 49 18.1 +1.0
comp=Z,23nm,0.9s,baz=134,slow=9.4,SNR=56
TXAR LR LR 12 58 21.4
comp=Z,632nm,20.9s,baz=129,slow=39
comp=Z,23nm,0.9s
TXAR Lajitas Array 21.60 320 P P 12 49 18.2 +1.0
TX31 Lajitas Ar. Si 21.60 320 P P 12 49 18.4 +1.2
TX31 IAmb IAmb 12 49 27.8
comp=Z,125nm,1.2s
PLPT Palo Pinto 21.63 336 P P 12 49 18.2 +0.8
PLPT IAmb IAmb 12 49 38.2
comp=Z,96nm,1.2s
MIAR Mount Ida 21.80 348 P P 12 49 21.1 +1.9
MIAR IAmb IAmb 12 49 25.3
comp=Z,70nm,0.9s
MIAR Mount Ida 21.80 348 P P 12 49 19.8 +0.6
baz=165,SNR=35
MIAR Mount Ida 21.80 348 P P 12 49 21.1 +1.9
MIAR pmax pmax
comp=Z,70nm,1.0s
SWET Sewanee 21.96 5 P P 12 49 21.9 +0.8
SWET IAmb IAmb 12 49 30.4
comp=Z,57nm,1.0s
W50A Signal Mountai 22.00 6 P P 12 49 21.6 +0.2
W50A IAmb IAmb 12 49 31.7
comp=Z,46nm,0.8s
ABTX Abilene, Hawle 22.02 333 P P 12 49 21.8 +0.2
ABTX IAmb IAmb 12 49 43.9
comp=Z,117nm,1.3s
ABTX Abilene, Hawle 22.02 333 P P 12 49 22.5 +0.9
baz=148,SNR=5.4
SGCY Sterling City 22.13 329 P P 12 49 22.2 -0.7
SGCY IAmb IAmb 12 49 28.9
comp=Z,63nm,1.0s
ALPN Alpine 22.32 322 P P 12 49 24.6 -0.4
ALPN IAmb IAmb 12 49 30.4
comp=Z,56nm,1.0s
BIRD Birdtown, Kers 22.39 17 P P 12 49 25.6 0.0
ATAH Atahualpa 22.40 154 P P 12 49 27.7 +1.5
comp=Z,16nm,1.1s,baz=42,slow=0.7,SNR=7.3
comp=Z,16nm,1.1s
WTFS Witchita Falls 22.53 337 P 12 49 27.4 +0.3
WTFS IAmb IAmb 12 49 40.4
comp=Z,70nm,1.1s
MNHN Monahans 22.53 325 P P 12 49 27.1 -0.1
KMSC Kings Mountain 22.64 14 P P 12 49 28.8 +0.7
baz=197
TKL Tuckaleechee C 22.65 9 P P 12 49 29.8 +1.4
TKL IAmb IAmb 12 49 35.2
comp=Z,85nm,0.8s
TKL Tuckaleechee C 22.65 9 P P 12 49 29.8 +1.4
TKL pmax pmax
comp=Z,85nm,0.9s
WVT Waverly 22.79 0 P P 12 49 30.6 +0.8
WVT Waverly 22.79 0 P P 12 49 30.9 +1.1
baz=180
WVT Waverly 22.79 0 P P 12 49 30.6 +0.8
WVT pmax pmax
comp=Z,30nm,0.9s
SN05 Snyder 5 22.80 331 P P 12 49 29.6 -0.4
SN05 IAmb IAmb 12 49 49.9
comp=Z,62nm,1.0s
APMT Aspermont 22.82 333 P P 12 49 30.0 -0.2
APMT IAmb IAmb 12 49 50.6
comp=Z,88nm,1.1s
V53A Saluda 22.83 11 P P 12 49 30.5 +0.3
V53A IAmb IAmb 12 49 51.3
comp=Z,93nm,1.2s
FCAR Ozark Folk Cen 22.85 351 P P 12 49 31.1 +0.7
LCAR Lake Charles 22.90 354 P P 12 49 31.4 +0.5
SN07 Snyder 07 22.98 331 P P 12 49 31.5 -0.4
SN07 IAmb IAmb 12 49 53.2
comp=Z,60nm,1.3s
ODSA Odessa 23.02 327 P P 12 49 32.1 -0.2
PCRV Puerto La Cruz 23.12 95 P P 12 49 34.3 +0.8
comp=Z,40nm,0.9s,baz=222,slow=5.4,SNR=12
comp=Z,40nm,0.9s
PECS Pecos 23.18 324 P P 12 49 34.1 +0.1
PECS IAmb IAmb 12 49 41.3
comp=Z,154nm,1.7s
SLBS Sierra La Lagu 23.19 300 P P 12 49 35.9 +1.8
POST Post 23.25 330 P P 12 49 33.8 -0.8
U49A Red Boiling Sp 23.26 5 P P 12 49 35.0 +0.4
U49A IAmb IAmb 12 49 46.6
comp=Z,69nm,1.2s
VHRN Van Horn 23.43 321 P P 12 49 36.5 -0.1
VHRN IAmb IAmb 12 49 41.0
comp=Z,125nm,1.6s
WMOK Wichita Mounta 23.51 337 P P 12 49 37.6 +0.5
baz=153,SNR=7.4
WMOK Wichita Mounta 23.51 337 P P 12 49 38.5 +1.3
WMOK pmax pmax
comp=Z,45nm,1.4s
HHAR Hobbs 23.55 348 P P 12 49 37.9 +0.4
HHAR IAmb IAmb 12 50 01.9
comp=Z,48nm,1.1s
TZTN Tazewell 23.55 9 P P 12 49 36.9 -0.7
baz=191,SNR=6.6
TUL3 Leonard 23.63 344 P P 12 49 38.1 -0.2
baz=161,SNR=11
LPIG La Paz 23.66 300 LR LR 12 58 49.3
comp=Z,2µm,20.3s,baz=116,slow=36
CNNC Cliffs of the 23.75 21 P P 12 49 39.4 -0.1
baz=205
U38A Gravette 23.79 347 P P 12 49 40.2 +0.3
MNTX Cornudas Mount 24.31 322 P P 12 49 44.6 -0.2
baz=135,SNR=82
MSTX Muleshoe 24.60 330 P P 12 49 48.0 +0.4
baz=143
S39A Bolivar 24.80 350 P P 12 49 49.2 0.0
S39A IAmb IAmb 12 49 56.7
comp=Z,50nm,0.9s
BLA Blacksburg 24.83 15 P P 12 49 49.2 -0.3
baz=198,SNR=7.3
AMTX Amarillo 24.83 333 P P 12 49 49.7 +0.1
baz=147
CCM Cathedral Cave 24.88 354 P P 12 49 49.3 -0.6
CCM IAmb IAmb 12 49 54.5
comp=Z,35nm,0.9s
CCM Cathedral Cave 24.88 354 P P 12 49 50.0 +0.2
baz=172
CCM Cathedral Cave 24.88 354 P P 12 49 49.3 -0.6
CCM pmax pmax
comp=Z,35nm,0.9s
WCI Wyandotte Cave 24.94 3 P P 12 49 50.4 0.0
baz=184
WCI Wyandotte Cave 24.94 3 P P 12 49 50.8 +0.4
WCI pmax pmax
comp=Z,47nm,0.8s
R50A Paris 25.16 7 P P 12 49 52.3 -0.1
R50A IAmb IAmb 12 49 57.0
comp=Z,25nm,0.8s
T59A Double "B" Far 25.43 20 P P 12 49 55.5 +0.6
T59A IAmb IAmb 12 49 59.7
comp=Z,32nm,1.1s
Q44A Meyer Farm, Va 25.58 358 P P 12 49 54.9 -1.2
Q44A IAmb IAmb 12 50 00.3
comp=Z,33nm,0.8s
CZSB Cruzeiro do Su 25.81 143 P P 12 49 58.2 -0.3
CZSB IAmb IAmb 12 50 06.5
comp=Z,34nm,0.9s
CZSB Cruzeiro do Su 25.81 143 *eP* **P 12 49 58.2 -0.3**
Q51A Peebles 26.02 8 P P 12 50 00.7 +0.5
P49A Miami Univ. Ec 26.36 6 P P 12 50 03.4 +0.1
baz=187
121A Cookes Peak, D 26.36 320 P P
121A IAmb IAmb 12 50 08.3
comp=Z,62nm,1.1s
121A Cookes Peak, D 26.36 320 P P 12 50 03.8 +0.2
baz=132,SNR=35
Q54A Coxs Mills 26.43 13 P P 12 50 04.8 +0.9

319A Douglas 26.59 316 P P 12 50 07.8 +2.2
319A IAmb IAmb 12 50 14.2
comp=Z,85nm,1.5s
SRIG Santa Rosalia 26.60 305 P P 12 50 07.8 +2.3
SRIG IAmb IAmb 12 50 18.5
comp=Z,86nm,1.8s
RTBA Rita Blanca 26.60 333 P P 12 50 05.7 0.0
CBN Corbin Frederi 26.62 19 P P 12 50 05.8 +0.2
baz=204
P38A Dawn 26.72 351 P P 12 50 06.1 -0.5
P38A IAmb IAmb 12 50 10.7
comp=Z,36nm,0.8s
P52A Corning 26.80 10 P P 12 50 07.4 +0.1
baz=193,SNR=13
R32A Long Quarter, 26.81 341 P P 12 50 08.1 +0.7
KSU1 Kansas State U 26.85 345 P P 12 50 07.9 +0.1
baz=161,SNR=7.1
Y22D IRIS PASSCAL I 26.91 324 P P 12 50 09.6 +1.1
baz=136,SNR=12
Y22F Passcal Instru 26.91 324 P P 12 50 09.0 +0.5
baz=136,SNR=12
O48B Farmland 27.03 5 P P 12 50 10.0 +0.6
baz=186
SFIN Lafayette 27.05 2 P P 12 50 10.3 +0.8
baz=182
DUN6 Lazy B Ranch 27.20 318 P P 12 50 12.9 +1.7
HDIL Hopedale 27.23 358 P P 12 50 12.0 +0.8
baz=177
ACSO Alum Creek Sta 27.25 8 P P 12 50 12.5 +1.1
baz=191
ANMO Albuquerque 27.28 326 P P 12 50 12.7 +0.9
ANMO IAmb IAmb 12 50 17.0
comp=Z,54nm,1.3s
ANMO Albuquerque 27.28 326 P P 12 50 12.8 +0.9
baz=138
ANMO Albuquerque 27.28 326 *ceP* **P 12 50 12.8 +0.9**
ANMO pmax pmax
comp=Z,58nm,1.5s
MCWV Mont Chateau 27.29 14 P P 12 50 12.2 +0.5
baz=197,SNR=5.1
O52A Adamsville 27.32 10 P P 12 50 12.7 +0.7
O52A IAmb IAmb 12 50 16.4
comp=Z,50nm,0.9s
CBKS Cedar Bluff 27.50 340 P P 12 50 15.1 +1.5
baz=155
O53A New Philadelph 27.57 11 P P 12 50 14.0 -0.2
baz=194,SNR=16
O54A Avella 27.67 13 P P 12 50 15.8 +0.6
T25A Trinidad 27.94 331 P P 12 50 18.4 +0.6
T25A IAmb IAmb 12 50 23.4
comp=Z,62nm,1.5s
T25A Trinidad 27.94 331 P P 12 50 17.7 -0.1
baz=144
TUC Tucson 28.17 316 P P 12 50 19.8 +0.1
baz=127
TUC Tucson 28.17 316 P P 12 50 24.1 +4.3
TUC pmax pmax
comp=Z,22nm,1.8s
N53A Lisbon 28.18 12 P P 12 50 19.9 +0.2
N53A IAmb IAmb 12 50 24.0
comp=Z,53nm,1.0s
N35A Tabor 28.31 348 P P 12 50 21.2 +0.4
N35A IAmb IAmb 12 50 36.7
comp=Z,56nm,1.1s
SSPA Standing Stone 28.71 16 P P 12 50 25.4 +1.0
SSPA IAmb IAmb 12 50 29.6
comp=Z,28nm,0.9s
SSPA Standing Stone 28.71 16 P P 12 50 24.3 -0.1
baz=201
KSCO Kaye Shedlock' 28.73 336 P P 12 50 24.7 0.0
baz=149
L48A N Adams 28.77 6 P P 12 50 24.8 -0.1
M53A WI Miller and 28.82 12 P P 12 50 24.3 -1.0
baz=195,SNR=8.6
L44A Lake County Fo 28.83 0 P P 12 50 24.5 -0.9
baz=180
L40A Anamosa 28.85 355 P P 12 50 25.2 -0.3
L40A IAmb IAmb 12 50 29.8
comp=Z,23nm,0.9s
SCIA State Center 28.91 352 P P 12 50 25.6 -0.6
baz=169
SDCO Great Sand Dun 28.94 331 P P 12 50 27.6 +0.7
SDCO IAmb IAmb 12 50 31.2
comp=Z,42nm,1.4s
SDCO Great Sand Dun 28.94 331 P P 12 50 26.7 -0.1
baz=143,SNR=26
X18A Snowflake 29.03 321 P P 12 50 28.5 +1.0
X18A IAmb IAmb 12 50 33.1
comp=Z,79nm,1.7s
AAM Ann Arbor 29.21 7 P P 12 50 29.0 +0.3
baz=189
BOAV Boa Vista 29.28 109 P P 12 50 28.2 -1.6
BOAV IAmb IAmb 12 50 33.6
comp=Z,19nm,0.7s
BOAV Boa Vista 29.28 109 *eP* **P 12 50 30.3 +0.5**
W18A Petrified Fore 29.30 322 P P 12 50 30.0 +0.1
baz=133,SNR=8.0
214A Organ Pipe Nat 29.37 313 P P 12 50 30.7 +0.3
baz=124
BGNE Belgrade 29.42 344 P P 12 50 30.3 -0.3
baz=160
M57A Sunshine Farm, 29.57 17 P P 12 50 33.1 +1.0
ERPA Erie 29.61 12 P P 12 50 31.7 -0.7
baz=196,SNR=17
JFWS Jewell Farm 29.63 357 P P 12 50 31.0 -1.5
baz=176
Q24A Divide 29.76 332 P P 12 50 33.4 -0.7
baz=145
BRNJ Basking Ridge 29.79 21 P P 12 50 33.4 -0.5
BRNJ IAmb IAmb 12 50 38.9
comp=Z,40nm,0.9s
X16A Lo Mia Camp, P 29.90 319 P P 12 50 36.9 +1.6
MVCO Mesa Verde 30.06 326 P P 12 50 37.4 +0.7
MVCO IAmb IAmb 12 50 40.9
comp=Z,32nm,0.9s
MVCO Mesa Verde 30.06 326 P P 12 50 36.7 0.0
baz=137,SNR=25
OGNE Ogallala 30.19 339 P P 12 50 37.6 0.0
baz=152,SNR=7.1
WVNY West Valley, N 30.19 14 P P 12 50 38.9 +1.3
PAL Palisades 30.30 21 P P 12 50 37.2 -1.2
baz=208
WUAZ Wupatki 30.56 321 P P 12 50 40.6 -0.5
baz=131,SNR=14
ISCO Idaho Springs 30.65 333 P P 12 50 41.4 -0.5
baz=145,SNR=8.5
ISCO Idaho Springs 30.65 333 P P 12 50 43.5 +1.6
ISCO pmax pmax
comp=Z,15nm,2.0s
BINY Binghamton 30.70 18 P P 12 50 40.7 -1.3
baz=203,SNR=18
J55A Hilton 31.20 15 P P 12 50 46.6 +0.3
J55A IAmb IAmb 12 50 50.9
comp=Z,34nm,0.9s
ECSD EROS Data Cent 31.27 348 P P 12 50 46.3 -0.7
baz=164,SNR=18
GLA Glamis 31.39 313 P P 12 50 47.3 -1.0
baz=123
ETMB Extrema 31.54 136 P P 12 50 48.8 -0.8
ETMB IAmb IAmb 12 51 00.4
comp=Z,19nm,0.7s
ETMB Extrema 31.54 136 *eP* **P 12 50 51.4 +1.8**
PDMCI Parker Dam,Lak 31.61 316 P P 12 50 49.1 -1.0
baz=125
GLMI Grayling 31.61 5 P P 12 50 49.0 -1.0
baz=186
N23A Red Feather La 31.69 334 P P 12 50 50.4 -0.6
baz=145
L61B Northampton 32.01 22 P P 12 50 51.5 -2.0
baz=209,SNR=7.4
SWSC Sam W. Stewart 32.03 312 P P 12 50 53.1 -0.7
baz=121
IKP In-Ko-Pah, Jac 32.10 312 P P 12 50 53.0 -1.6
baz=120
SPMN Marine on St. 32.13 354 P P 12 50 53.6 -0.9
SPMN IAmb IAmb 12 50 56.7
comp=Z,27nm,0.8s
SPMN Marine on St. 32.13 354 P P 12 50 53.7 -0.9
baz=171,SNR=7.9
O20A White River Ci 32.14 330 P P 12 50 55.8 +0.9
O20A White River Ci 32.14 330 P P 12 50 54.0 -0.9
baz=141,SNR=49
BC3 Big Chuckawall 32.16 314 P P 12 50 54.7 -0.4
baz=123
IRM Iron Mountain 32.22 315 P P 12 50 53.9 -1.6
baz=124
MONP2 Monument Peak 32.45 312 P P 12 50 56.0 -1.8

baz=120
SUSD Miller 32.47 345 P **P** 12 50 55.4 -2.1
baz=160
HRV Adam Dziewonsk 32.47 23 P **P** 12 50 55.8 -1.8
baz=211
BELC Belle Mtn. Jos 32.72 314 P **P** 12 50 57.6 -2.5
baz=122
TPFO Pinon Flats 32.84 313 P **P** 12 50 58.6 -2.5
baz=121
PFO Pinyon Flats O 32.84 313 P **P** 12 50 58.1 -3.0
baz=121
GMRC Granite Mounta 32.92 315 P **P** 12 50 58.8 -2.9
baz=124
109C Camp Elliot, M 32.95 311 P **P** 12 50 59.9 -2.0
baz=120
MVU Marysvale 33.05 324 P **P** 12 51 04.6 +1.6
CCUT Cedar City 33.10 322 P **P** 12 51 04.8 +1.4
CCUT IAmb IAmb 12 51 08.5
comp=Z,29nm,1.4s
LONY Lake Ozonia 33.32 18 P **P** 12 51 02.8 -2.2
baz=204,SNR=27
MURC Murrieta 33.37 312 P **P** 12 51 03.5 -2.1
baz=120
K22A Casper 33.38 335 P **P** 12 51 04.0 -1.8
baz=146,SNR=13
HEC Hector,Ludlow 33.41 315 P **P** 12 51 04.7 -1.3
baz=123
TUQ Turquoise Moun 33.46 316 P **P** 12 51 05.1 -1.3
baz=124
BBRC Big Bear Solar 33.51 314 P **P** 12 51 06.1 -0.9
baz=122
RSSD Black Hills 33.69 339 P **P** 12 51 07.7 -0.7
baz=151
RSSD Black Hills 33.69 339 P **P** 12 51 08.8 +0.3
FRNY Flat Rock 33.82 19 P **P** 12 51 09.8 +0.5
LBNH Lisbon 33.84 21 P **P** 12 51 08.1 -1.4
baz=209,SNR=5.1
SHOC Shoshone, Teco 33.96 317 P **P** 12 51 09.5 -1.2
baz=124
NLU North Lily Min 33.98 326 P **P** 12 51 11.7 +0.6
GSC Goldstone, Bar 33.99 315 P **P** 12 51 12.4 +1.4
GSC Goldstone, Bar 33.99 315 P **P** 12 51 09.7 -1.3
baz=123
GSC Goldstone, Bar 33.99 315 P **P** 12 51 12.4 +1.4
GSC pmax pmax
comp=Z,5.0nm,1.1s
BFSC Mount Baldy Ra 34.02 313 P **P** 12 51 10.3 -1.1
baz=121
SCI2 San Clemente I 34.05 310 P **P** 12 51 10.3 -1.3
baz=118
CIS Catalina Islan 34.16 311 P **P** 12 51 11.4 -1.0
baz=119
FMP Fort Macarthur 34.22 312 P **P** 12 51 12.2 -0.7
baz=119
DECC Green Verdugo 34.51 313 P **P** 12 51 15.1 -0.5
baz=120
DUG Dugway, Tooele 34.55 326 P **P** 12 51 15.2 -0.7
baz=134,SNR=16
EDW2 Edwards Air Fo 34.59 314 P **P** 12 51 16.0 -0.2
baz=121
FURC Furnace Creek, 34.67 317 P **P** 12 51 15.3 -1.4
baz=124
LRMC Laurel Mtn Rad 34.68 315 P **P** 12 51 15.3 -1.8
baz=122
EYMN Ely 34.72 356 P **P** 12 51 15.9 -1.2
baz=174,SNR=7.4
BW06 Boulder Array 34.80 332 P **P** 12 51 16.0 -2.2
baz=141,SNR=13
PDAR Pinedale Array 34.80 332 P **P** 12 51 18.3 +0.1
comp=Z,5.1nm,0.9s,baz=128,slow=9.7,SNR=26
comp=Z,5.1nm,0.9s
MPMC Manual Prospec 34.86 316 P **P** 12 51 17.0 -1.7
baz=123
SNCC San Nicolas Is 34.90 310 P **P** 12 51 17.9 -1.0
baz=117
R11B Troy Canyon, C 34.96 321 P **P** 12 51 18.4 -1.1
baz=128,SNR=8.7
OSI Osito Audit: C 34.97 313 P **P** 12 51 18.2 -1.3
baz=120
SPUT South Promonto 35.14 327 P **P** 12 51 23.2 +2.2
BGU Big Grassy Mou 35.18 326 P **P** 12 51 22.4 +1.0
G62A West of Eustis 35.18 22 P **P** 12 51 22.0 +0.8
GRAC Grapevine Rang 35.30 317 P **P** 12 51 23.8 +1.4
GRAC Grapevine Rang 35.30 317 P **P** 12 51 21.9 -0.4
baz=124
ARVC Arvin 35.30 313 P **P** 12 51 22.9 +0.6
baz=120
ISA Isabella, Lake 35.33 315 P **P** 12 51 22.4 -0.2
baz=122
LPAZ La Paz 35.33 146 P **P** 12 51 22.8 -0.6
LPAZ La Paz 35.33 146 P **P** 12 51 22.6 -0.9
comp=Z,3.5nm,0.6s,baz=349,slow=4.2,SNR=12
comp=Z,3.5nm,0.6s
LPAZ La Paz 35.33 146 *e*P **P** 12 51 22.5 -0.9
LPAZ pmax pmax
comp=Z,4.0nm,0.6s
LPAZ La Paz 35.33 146 *e*P **P** 12 51 22.5 -0.9
CWC Cottonwood Cre 35.47 316 P **P** 12 51 23.9 0.0
baz=123
AGMN Agassiz Nation 35.55 351 P **P** 12 51 24.6 +0.3
baz=167,SNR=7.4
SBC Santa Barbara 35.60 312 P **P** 12 51 25.6 +0.7
baz=118
PKME Peaks-Kenny Pk 35.68 23 P **P** 12 51 25.4 0.0
baz=212,SNR=5.6
MDND Maddock 35.83 347 P **P** 12 51 27.3 +0.6
baz=160,SNR=7.9
PKM Mcpherson Peak 35.89 312 P **P** 12 51 27.8 +0.2
baz=119
TPAW Teton Pass 36.01 331 P **P** 12 51 29.4 +0.8
MOOW Moose Ponds 36.11 332 P **P** 12 51 30.0 +0.6
MOOW IAmb IAmb 12 51 34.4
comp=Z,29nm,1.1s
SMMC Simmler 36.22 313 P **P** 12 51 30.9 +0.6
baz=119
ELK Elko 36.29 324 P **P** 12 51 33.5 +2.5
H17A Grant Village 36.54 333 P **P** 12 51 33.9 +0.8
baz=141,SNR=18
RLMT Red Lodge 36.55 335 P **P** 12 51 32.9 -0.2
baz=144,SNR=23
LAO LASA Array 36.68 339 P **P** 12 51 36.1 +2.1
LAO IAmb IAmb 12 51 38.9
comp=Z,63nm,1.4s
LAO LASA Array 36.68 339 P **P** 12 51 34.3 +0.2
baz=149,SNR=5.6
NVAR Mina Array Bea 36.73 319 P **P** 12 51 36.4 +1.6
NVAR Mina Array Bea 36.73 319 P **P** 12 51 35.5 +0.8
comp=Z,3.7nm,0.8s,baz=129,slow=8.3,SNR=19
comp=Z,3.7nm,0.8s
LHV Little Huntoon 36.76 318 P **P** 12 51 36.4 +1.7
LHV IAmb IAmb 12 51 43.9
comp=Z,33nm,1.3s
RYN Ryan 36.98 319 P **P** 12 51 37.9 +1.1
LMQ La Malbaie 37.27 20 P **P** 12 51 38.4 -0.6
LMQ IAmb IAmb 12 51 43.3
comp=Z,28nm,1.0s
ULM Lac du Bonnet 37.46 352 P **P** 12 51 38.9 -1.6
comp=Z,11nm,0.9s,baz=173,slow=9.0,SNR=17
comp=Z,11nm,0.9s
ULM Lac du Bonnet 37.46 352 *e*P **P** 12 51 41.2 +0.7
ULM pmax pmax
comp=Z,11nm,0.9s
DGMT Dagmar 37.60 342 P **P** 12 51 42.6 +0.8
baz=154,SNR=7.0
HLID Hailey 37.77 328 P **P** 12 51 43.7 +0.2
baz=135,SNR=27
BOZ Bozeman (W) 37.94 333 P **P** 12 51 45.7 +0.9
baz=141,SNR=46
MPK Martis Peak 38.33 318 P **P** 12 51 48.4 0.0
EGMT Eagleton 39.10 337 P **P** 12 51 54.9 +0.4
baz=145,SNR=11
LYMT Lyon Mountain 39.30 334 P **P** 12 51 56.8 +0.5
WVOR Wild Horse Val 39.33 324 P **P** 12 51 57.0 +0.5
WVOR Wild Horse Val 39.33 324 P **P** 12 51 57.0 +0.5
WVOR pmax pmax
comp=Z,20nm,1.1s
BPMT Black Pine Rid 39.40 332 P **P** 12 51 57.4 +0.2
PB09 IPOC Station P 39.41 152 P **P** 12 51 57.1 -0.3
SIV San Ignacio 39.44 137 P **P** 12 51 55.4 -2.1
comp=Z,1.6nm,0.6s,baz=299,slow=10,SNR=4.7
comp=Z,1.6nm,0.6s
MSO Missoula 39.92 332 P **P** 12 52 01.7 +0.3
baz=138,SNR=41
LVC Limon Verde 40.26 152 P **P** 12 52 05.2 +0.5
LVC Limon Verde 40.26 152 P **P** 12 52 04.4 -0.3
comp=Z,5.7nm,0.9s,baz=328,slow=13,SNR=4.5
comp=Z,5.7nm,0.9s

LVC Limon Verde 40.26 152 P **P** 12 52 05.2 +0.5
LVC pmax pmax
comp=Z,24nm,1.5s
LVC Limon Verde 40.26 152 *e*P **P** 12 52 05.3 +0.6
I07A Izee 40.85 325 P **P** 12 52 09.3 +0.2
F10A Beach Ranch, E 40.88 329 P **P** 12 52 09.6 +0.3
KHMM Horse Mountain 41.57 318 P **P** 12 52 16.1 +0.9
E09A Wood Farm, Sta 41.72 329 P **P** 12 52 17.4 +1.3
NEW Newport 42.44 331 P **P** 12 52 22.4 +0.4
baz=135,SNR=5.2
NEW Newport 42.44 331 P **P** 12 52 23.1 +1.1
FFC Flin Flon 42.81 348 P **P** 12 52 24.9 +0.1
FFC Flin Flon 42.81 348 *e*P **P** 12 52 24.9 +0.1
HOOD Mount Hood Mea 42.82 325 P **P** 12 52 25.9 +0.7
EDM Edmonton 44.67 339 P **P** 12 52 40.0 +0.1
EDM Edmonton 44.67 339 P **P** 12 52 40.0 +0.1
EDM pmax pmax
comp=Z,83nm,1.4s
SCHQ Schefferville 44.70 17 P **P** 12 52 41.1 +1.1
SCHQ IAmb IAmb 12 52 43.6
comp=Z,33nm,0.9s
SCHQ Schefferville 44.70 17 P **P** 12 52 39.1 -1.0
comp=Z,28nm,1.0s,baz=215,slow=4.9,SNR=16
comp=Z,28nm,1.0s
GNW Green Mountain 44.84 327 P **P** 12 52 41.9 +0.7
PGC Sidney 45.84 328 P **P** 12 52 50.7 +1.6
CLRS Cowichan Lake 46.30 327 P **P** 12 52 53.6 +0.8
CLRS IAmb IAmb 12 53 12.5
comp=Z,22nm,1.3s
BRLDA Berland Lookou 46.85 337 P **P** 12 52 57.5 +0.2
BDFB Brasilia 48.90 125 P **P** 12 53 12.4 -1.2
comp=Z,1.4nm,0.5s,baz=328,slow=3.4,SNR=3.0
comp=Z,1.4nm,0.5s
BDFB Brasilia 48.90 125 P **P** 12 53 12.4 -1.2
CPUP Villa Florida 49.39 143 P **P** 12 53 16.4 -0.7
comp=Z,0.8nm,0.6s,baz=1.5,slow=10,SNR=1.6
comp=Z,0.8nm,0.6s
CPUP Villa Florida 49.39 143 P **P** 12 53 16.4 -0.7
MT08 Bocatoma Ro 49.51 160 P **P** 12 53 19.1 +0.9
HILA High Level 50.18 341 P **P** 12 53 22.8 +0.1
YKA Yellowknife Ar 52.70 345 P **P** 12 53 40.8 -0.6
comp=Z,19nm,1.0s,baz=137,slow=6.8,SNR=65
comp=Z,19nm,1.0s
YKA Yellowknife Ar 52.70 345 P **P** 12 53 40.8 -0.6
TOAD Toad River Com 53.30 337 P **P** 12 53 46.1 +0.1
baz=133,SNR=7.9
U35K Hyder 53.44 332 P **P** 12 53 47.1 +0.1
baz=126
KOTAN Kotaneelee Air 53.75 339 P **P** 12 53 49.6 +0.3
baz=135
V35K Ketchikan 53.85 331 P **P** 12 53 50.0 0.0
baz=124
T35M Bob Quinn 54.17 333 P **P** 12 53 52.9 +0.5
T35M IAmb IAmb 12 53 56.6
comp=Z,25nm,1.4s
T35M Bob Quinn 54.17 333 P **P** 12 53 52.7 +0.3
baz=126
CRAG Craig 54.64 330 P **P** 12 53 56.6 +0.8
baz=122
WRAK Wrangell Islan 54.80 332 P **P** 12 53 57.6 +0.7
baz=124
DLBC Dease Lake 54.95 335 P **P** 12 53 58.8 +0.8
DLBC Dease Lake 54.95 335 P **P** 12 53 58.6 +0.5
baz=127,SNR=15
U33K Whale Pass 54.99 331 P **P** 12 53 58.9 +0.6
baz=123
S34M Telegraph Cree 55.11 334 P **P** 12 54 00.5 +1.3
S34M Telegraph Cree 55.11 334 P **P** 12 53 59.9 +0.8
baz=126
T33K Petersburg 55.29 332 P **P** 12 54 00.2 -0.2
baz=123
WTLY Watson Lake, Y 55.50 337 P **P** 12 54 03.5 +1.5
WTLY Watson Lake, Y 55.50 337 P **P** 12 54 02.2 +0.2
baz=130,SNR=9.1
WRGLY Wrigley 55.78 342 P **P** 12 54 04.6 +0.7
WRGLY Wrigley 55.78 342 P **P** 12 54 04.2 +0.4
baz=137,SNR=6.3
IVI Ivigtut 55.88 22 *i*P **P** 12 54 04.3 -0.3
IVI IAmb IAmb 12 54 10.1
comp=Z,7.6nm,0.8s
R33M Jennings River 55.92 335 P **P** 12 54 06.5 +1.4
R33M Jennings River 55.92 335 P **P** 12 54 05.5 +0.4
baz=127,SNR=7.5
PLCA Paso Flores 56.09 164 P **P** 12 54 06.7 +0.2
PLCA Paso Flores 56.09 164 P **P** 12 54 05.7 -0.9
comp=Z,5.5nm,0.9s,baz=334,slow=9.1,SNR=12
comp=Z,5.5nm,0.9s
PLCA Paso Flores 56.09 164 *e*P **P** 12 54 06.8 +0.2
PLCA pmax pmax
comp=Z,5.0nm,0.8s
PLCA Paso Flores 56.09 164 *e*P **P** 12 54 06.7 +0.2
TAOE Nuku Hiva Isla 56.20 250 *e*LR LR 13 10 29.2
comp=Z,1µm,23.3s
TGTN Hyland Airport 56.22 338 P **P** 12 54 07.3 +0.1
baz=131,SNR=6.4
S32K Killisnoo 56.39 332 P **P** 12 54 07.8 -0.5
baz=122
SIT Sitka 56.52 331 P **P** 12 54 08.9 -0.4
baz=121
TRQA Tornquist 56.58 155 P **P** 12 54 09.7 -0.2
TRQA IAmb IAmb 12 54 31.4
comp=Z,42nm,1.8s
TRQA Tornquist 56.58 155 P **P** 12 54 09.7 -0.2
TRQA pmax pmax
comp=Z,42nm,1.8s
R32K Eaglecrest 56.80 333 P **P** 12 54 11.6 +0.4
baz=122
P33M Teslin, Yukon 57.16 335 P **P** 12 54 13.8 0.0
baz=125
P32M Atlin 57.17 334 P **P** 12 54 13.9 0.0
baz=124
S31K Pelican 57.41 332 P **P** 12 54 15.2 -0.3
baz=120
R31K City Hall, Gus 57.42 332 P **P** 12 54 15.0 -0.6
baz=121
SKAG Skagway 57.79 334 P **P** 12 54 17.1 -1.1
baz=122
N32M Quiet Lake 57.81 336 P **P** 12 54 18.7 +0.3
N32M IAmb IAmb 12 54 21.3
comp=Z,30nm,1.6s
N32M Quiet Lake 57.81 336 P **P** 12 54 17.7 -0.7
baz=125
PLBC Pleasant Camp 58.24 333 P **P** 12 54 20.8 -0.6
baz=121
WHY Whitehorse 58.25 335 P **P** 12 54 22.1 +0.5
WHY Whitehorse 58.25 335 P **P** 12 54 21.1 -0.5
baz=123
FARO Faro, Yukon 58.54 337 P **P** 12 54 20.9 -2.6
baz=126
O30N Mendenhall 58.81 335 P **P** 12 54 26.6 +1.1
O30N Mendenhall 58.81 335 P **P** 12 54 24.8 -0.7
baz=122
P30M Million Dollar 58.84 334 P **P** 12 54 24.7 -1.0
baz=121
M31M Drury Creek, Y 58.92 337 P **P** 12 54 28.1 +1.9
M31M IAmb IAmb 12 54 30.0
comp=Z,37nm,1.9s
M31M Drury Creek, Y 58.92 337 P **P** 12 54 25.8 -0.4
baz=125
P29M Windy Craggy 58.93 333 P **P** 12 54 27.3 +1.1
P29M IAmb IAmb 12 54 29.7
comp=Z,21nm,1.1s
P29M Windy Craggy 58.93 333 P **P** 12 54 25.8 -0.4
baz=120
N31M Braeburn, Yuko 59.07 336 P **P** 12 54 26.5 -0.7
baz=123
SFJD Kangerlussuaq 59.12 16 P **P** 12 54 27.9 +0.5
SFJD IAmb IAmb 12 54 30.2
comp=Z,10.0nm,0.9s
SFJD Kangerlussuaq 59.12 16 P **P** 12 54 27.9 +0.5
SFJD pmax pmax
comp=Z,10.0nm,1.0s
SFJD Kangerlussuaq 59.12 16 *i*P **P** 12 54 27.8 +0.4
SFJD IAmb IAmb 12 54 30.5
comp=Z,5.3nm,0.8s
HYT Haines Junctio 59.43 334 P **P** 12 54 28.8 -1.1
baz=121
N30M Aishikik Lake 59.59 335 P **P** 12 54 30.1 -0.7
baz=121
PNL Peninsula 59.68 333 P **P** 12 54 29.7 -1.8
baz=118
YUK6 Outpost Mounta 59.86 334 P **P** 12 54 31.4 -1.5
baz=120
DY2G Dye2 60.01 18 *i*P **P** 12 54 31.3 -2.5
YUK4 Talbot Arm 60.18 335 P **P** 12 54 34.7 -0.3
baz=120

MAYO Mayo, Yukon 60.28 338 P **P** 12 54 35.9 +0.4
MAYO IAmb IAmb 12 54 38.4
comp=Z,30nm,1.4s
MAYO Mayo, Yukon 60.28 338 P **P** 12 54 35.9 +0.4
baz=124
COYC Coyhaique 60.29 167 P **P** 12 54 35.9 +0.2
COYC IAmb IAmb 12 54 39.6
comp=Z,23nm,1.1s
C36M Paulatuk 60.52 346 P **P** 12 54 36.6 -0.3
baz=139
O28M Mount Upton 60.56 334 P **P** 12 54 37.6 -0.2
baz=118
YUK8 Steele Glacier 60.62 334 P **P** 12 54 37.4 -0.7
baz=119
M29M Somme Creek 60.66 336 P **P** 12 54 37.7 -0.5
baz=120
L29M L29M 60.87 336 P **P** 12 54 39.6 +0.1
baz=121,SNR=7.0
J30M Hart River 60.99 338 P **P** 12 54 40.3 -0.1
baz=124,SNR=6.2
H31M Peel River 61.01 340 P **P** 12 54 41.5 +1.0
H31M IAmb IAmb 12 54 44.9
comp=Z,48nm,2.0s
H31M Peel River 61.01 340 P **P** 12 54 41.2 +0.7
baz=126
K29M Barlow Dome 61.02 337 P **P** 12 54 41.7 +1.1
K29M IAmb IAmb 12 54 43.8
comp=Z,36nm,1.9s
K29M Barlow Dome 61.02 337 P **P** 12 54 40.4 -0.2
baz=122
MESA MESA 61.06 333 P **P** 12 54 41.6 +0.5
baz=116
CTG Chitna Glacier 61.14 333 P **P** 12 54 40.7 -0.9
baz=117
YUK3 Moose Creek 61.15 335 P **P** 12 54 41.0 -0.7
baz=118
I30M Mount Dempster 61.37 339 P **P** 12 54 43.7 +0.8
I30M Mount Dempster 61.37 339 P **P** 12 54 42.7 -0.2
baz=134,SNR=11
UMMG Uummannaq 61.51 13 *i*P **P** 12 54 43.5 -0.1
UMMG IAmb IAmb 12 54 46.8
comp=Z,4.9nm,0.8s
RES Resolute Bay 61.55 358 P **P** 12 54 42.9 -1.0
RES IAmb IAmb 12 54 46.2
comp=Z,14nm,0.9s
RES Resolute Bay 61.55 358 P **P** 12 54 42.9 -1.0
RES pmax pmax
comp=Z,14nm,0.9s
J29N Klondike Camp 61.61 338 P **P** 12 54 45.0 +0.4
J29N IAmb IAmb 12 54 47.8
comp=Z,41nm,1.9s
J29N Klondike Camp 61.61 338 P **P** 12 54 44.4 -0.2
baz=122
BGLC Bering Glacier 61.64 332 P **P** 12 54 44.2 -0.5
baz=114
G31M Satah River 61.66 341 P **P** 12 54 45.3 +0.5
G31M Satah River 61.66 341 P **P** 12 54 43.9 -0.9
baz=127,SNR=17
AY03 Cochrane 61.79 168 P **P** 12 54 46.5 +0.8
AY03 IAmb IAmb 12 54 47.2
comp=Z,23nm,1.4s
NUUG Nuugaatsiaq 61.95 12 *i*P **P** 12 54 43.3 -3.3
NUUG IAmb IAmb 12 54 50.4
comp=Z,10nm,0.9s
M27K Edge Creek, AK 62.01 335 P **P** 12 54 46.2 -1.1
baz=117
MCARA McCarthy VSAT 62.06 333 P **P** 12 54 47.7 +0.1
baz=115
KAIM Kayak Island 62.08 332 P **P** 12 54 48.1 +0.4
baz=113
EPYK Eagle Plains 62.13 340 P **P** 12 54 48.7 +0.7
EPYK Eagle Plains 62.13 340 P **P** 12 54 49.2 +1.2
baz=124,SNR=8.2
INK Inuvik 62.28 343 P **P** 12 54 49.6 +0.7
INK IAmb IAmb 12 54 51.5
comp=Z,26nm,1.2s
INK Inuvik 62.28 343 P **P** 12 54 50.3 +1.4
baz=128,SNR=22
INK Inuvik 62.28 343 LR LR 13 26 45.1
comp=Z,928nm,18.3s,baz=136,slow=41
INK Inuvik 62.28 343 P **P** 12 54 49.6 +0.7
INK pmax pmax
comp=Z,26nm,1.2s
L27K Beaver Creek, 62.31 335 P **P** 12 54 50.8 +1.5
L27K IAmb IAmb 12 54 53.8
comp=Z,9.7nm,1.0s
L27K Beaver Creek, 62.31 335 P **P** 12 54 47.8 -1.4
baz=117,SNR=7.6
G30M tAoh Zraii Nji 62.31 341 P **P** 12 54 49.9 +0.7
G30M IAmb IAmb 12 54 52.4
comp=Z,17nm,1.5s
G30M tAoh Zraii Nji 62.31 341 P **P** 12 54 48.5 -0.7
baz=125
M26K Nabesna, AK 62.49 335 P **P** 12 54 51.4 +0.8
M26K Nabesna, AK 62.49 335 P **P** 12 54 48.4 -2.2
baz=116
F30M Barrier River 62.54 341 P **P** 12 54 48.9 -1.8
baz=126,SNR=13
BMRM Bremner River 62.58 333 P **P** 12 54 50.1 -1.1
baz=114
H29M Whitestone 62.60 339 P **P** 12 54 50.4 -0.7
H29M IAmb IAmb 12 54 53.7
comp=Z,19nm,1.4s
H29M Whitestone 62.60 339 P **P** 12 54 50.0 -1.2
baz=122
I28M Miner Creek 62.75 338 P **P** 12 54 51.7 -0.5
baz=120
A36M Sachs Harbour 62.77 348 P **P** 12 54 52.4 +0.3
A36M Sachs Harbour 62.77 348 P **P** 12 54 50.9 -1.2
baz=138,SNR=11
Q23K Middleton Isla 62.80 331 P **P** 12 54 50.7 -1.8
baz=111
N25K Chitina, Valde 62.84 333 P **P** 12 54 51.2 -1.7
baz=114
K27K Chicken 62.86 336 P **P** 12 54 52.4 -0.5
baz=118
G29M Pine Creek 62.86 340 P **P** 12 54 51.9 -1.0
baz=123,SNR=8.9
EGAK Eagle 62.87 337 P **P** 12 54 51.9 -0.9
baz=119
EYAK Cordova Ski Ar 62.94 332 P **P** 12 54 52.4 -1.0
baz=112
KLU Klutina 63.38 333 P **P** 12 54 55.5 -1.0
baz=113
HARP HAARP 63.41 334 P **P** 12 54 56.3 -0.2
baz=114
I27K Kandik River 63.44 338 P **P** 12 54 55.8 -0.9
baz=119
P23K Montague Islan 63.50 331 P **P** 12 54 56.7 -0.5
baz=110
SCRK Sand Creek 63.59 336 P **P** 12 54 59.5 +1.7
SCRK IAmb IAmb 12 55 01.6
comp=Z,36nm,1.8s
SCRK Sand Creek 63.59 336 P **P** 12 54 57.1 -0.8
baz=116
ICESG Greenland Ices 63.61 17 *i*P **P** 12 54 57.9 -0.3
ICESG IAmb IAmb 12 55 07.3
comp=Z,13nm,0.7s
E29M Blow River 63.64 342 P **P** 12 54 60.0 +2.0
E29M Blow River 63.64 342 P **P** 12 54 57.4 -0.6
baz=124,SNR=21
J26L Joseph Creek 63.65 337 P **P** 12 54 58.6 +0.4
J26L IAmb IAmb 12 55 02.0
comp=Z,19nm,1.2s
J26L Joseph Creek 63.65 337 P **P** 12 54 58.1 -0.2
baz=116,SNR=10
GLI Glacier Island 63.67 332 P **P** 12 54 57.0 -1.3
baz=111
H27K Steamboat Moun 63.71 339 P **P** 12 54 57.8 -0.7
baz=119,SNR=24
M24K Tolsona, Glenn 63.73 334 P **P** 12 54 58.5 -0.3
baz=113
PAX Paxson 63.77 335 P **P** 12 54 59.3 +0.3
baz=114
F28M Old Crow 63.85 340 P **P** 12 54 59.2 -0.2
baz=121,SNR=47
I26K Coal Creek Min 63.86 337 P **P** 12 54 59.4 -0.1
baz=117,SNR=6.3
G27K Doyon Strip 64.04 339 P **P** 12 55 00.7 0.0
baz=119
SCM Sheep Creek Mo 64.13 333 P **P** 12 55 01.0 -0.4
baz=111
K24K Donnelly Dome 64.23 335 P **P** 12 55 01.7 -0.3
baz=114
E28M Babbage River 64.27 341 P **P** 12 55 02.3 +0.2
baz=122,SNR=17
M23K Glacier View 64.29 333 P **P** 12 55 02.5 +0.1

baz=111
J25K Salcha River, 64.41 336 P **P** 12 55 02.9 -0.2
baz=115,SNR=6.6
D28M Stokes Point 64.42 342 P **P** 12 55 02.8 -0.2
baz=123,SNR=17
KNK Knik Glacier 64.48 332 P **P** 12 55 03.7 +0.1
baz=110
SEW Seward 64.50 331 P **P** 12 55 04.2 +0.4
baz=109
SML Sawmill 64.56 333 P **P** 12 55 04.6 +0.4
baz=110
WAT6 Susitna Watana 64.58 334 P **P** 12 55 05.3 +0.8
baz=111
DHY Denali Highway 64.61 334 P **P** 12 55 05.5 +0.9
baz=112
E27K Coleen River 64.70 341 P **P** 12 55 06.3 +1.3
baz=120,SNR=10
O22K Cooper Landing 64.75 331 P **P** 12 55 04.1 -1.3
baz=108
G26K Porcupine Rive 64.84 339 P **P** 12 55 05.2 -0.7
baz=117,SNR=6.2
PRP Porcupine Dome 64.85 337 P **P** 12 55 06.5 +0.3
PRP IAmb IAmb 12 55 08.6
comp=Z,11nm,1.1s
PRP Porcupine Dome 64.85 337 P **P** 12 55 04.5 -1.6
baz=115
PMR Palmer 64.85 332 P **P** 12 55 05.2 -0.7
baz=110
HDA Harding Lake 64.95 336 P **P** 12 55 07.2 +0.6
HDA IAmb IAmb 12 55 10.5
comp=Z,29nm,1.5s
HDA Harding Lake 64.95 336 P **P** 12 55 05.9 -0.8
baz=113,SNR=7.1
RC01 Rabbit Creek A 64.96 332 P **P** 12 55 06.5 -0.2
baz=109
BRSE Bradley Lake S 65.01 330 P **P** 12 55 05.5 -1.6
baz=107
D27M Malcolm River 65.04 342 P **P** 12 55 08.3 +1.1
D27M IAmb IAmb 12 55 10.2
comp=Z,12nm,1.1s
D27M Malcolm River 65.04 342 P **P** 12 55 05.9 -1.3
baz=121
IL31 65.07 336 P **P** 12 55 07.9 +0.6
ILAR Eielson Array 65.07 336 P **P** 12 55 07.2 -0.1
ILAR Eielson Array 65.07 336 P **P** 12 55 05.8 -1.6
comp=Z,4.2nm,0.8s,baz=105,slow=5.6,SNR=30
ILAR PP **PP** 12 57 34.0 +3.7
comp=Z,1.4nm,0.9s,baz=109,slow=6.2,SNR=4.4
comp=Z,4.2nm,0.8s
ILAR Eielson Array 65.07 336 *e*P **P** 12 55 08.6 +1.2
ILAR pmax pmax
comp=Z,4.0nm,0.8s
FYU Fort Yukon 65.19 338 P **P** 12 55 09.7 +1.6
H25L Birch Creek 65.27 338 P **P** 12 55 07.1 -1.5
baz=115,SNR=5.5
F26K Sheenjek River 65.31 340 P **P** 12 55 07.6 -1.3
baz=117,SNR=11
BMAR Burnt Mountain 65.34 339 P **P** 12 55 09.2 0.0
M22K Willow 65.34 332 P **P** 12 55 07.6 -1.5
baz=109
RND Reindeer 65.35 334 P **P** 12 55 09.2 -0.2
RND Reindeer 65.35 334 P **P** 12 55 09.2 -0.2
RND pmax pmax
comp=Z,20nm,0.9s
KDAK Kodiak Island 65.39 328 P **P** 12 55 08.8 -0.8
baz=105
POKR Poker Plat Res 65.42 336 P **P** 12 55 09.2 -0.5
baz=113
HOM Homer 65.42 330 P **P** 12 55 09.0 -0.7
baz=106
COLA College 65.49 336 P **P** 12 55 10.1 0.0
COLA College 65.49 336 P **P** 12 55 08.3 -1.8
baz=112
COLA College 65.49 336 *i* P **P** 12 55 11.4 +1.4
COLA pmax pmax
comp=Z,8.0nm,0.9s
MCK McKinley 65.50 335 P **P** 12 55 09.8 -0.5
baz=111,SNR=6.8
Q20K Shuyak Island 65.51 329 P **P** 12 55 10.1 -0.2
baz=105
CAPN Captain Cook N 65.51 331 P **P** 12 55 09.6 -0.7
baz=107
SUA Susitna One 65.54 332 P **P** 12 55 09.7 -0.9
baz=108
G25K Bearman Lake 65.59 338 P **P** 12 55 10.5 -0.2
baz=115,SNR=6.3
OHAK Old Harbor 65.62 327 P **P** 12 55 12.0 +0.9
baz=104
MDM Murphy Dome 65.67 336 P **P** 12 55 11.8 +0.5
F25K Christian Rive 65.78 339 P **P** 12 55 12.8 +0.8
baz=116,SNR=10
H24K Noodor Dome 65.87 337 P **P** 12 55 13.7 +1.1
H24K Noodor Dome 65.87 337 P **P** 12 55 13.0 +0.4
baz=113
NEA2 Nenana 65.87 336 P **P** 12 55 13.1 +0.5
NEA2 Nenana 65.87 336 P **P** 12 55 12.8 +0.2
baz=111,SNR=5.2
BWN Browne 65.88 335 P **P** 12 55 12.9 +0.3
SII Sitkinak Islan 65.94 326 P **P** 12 55 13.5 +0.3
baz=103
SUMG Summit 65.97 15 P **P** 12 55 13.5 -0.1
SUMG Summit 65.97 15 P **P** 12 55 13.5 -0.1
SUMG pmax pmax
comp=Z,41nm,1.2s
SUMG Summit 65.97 15 *i* P **P** 12 55 14.8 +1.2
SUMG IAmb IAmb 12 55 24.6
comp=Z,12nm,1.0s
TRF Thorofare Moun 65.98 334 P **P** 12 55 14.4 +0.9
baz=109,SNR=8.1
E25K Arctic Village 65.98 340 P **P** 12 55 15.1 +1.8
E25K IAmb IAmb 12 55 16.6
comp=Z,9.9nm,1.0s
E25K Arctic Village 65.98 340 P **P** 12 55 13.9 +0.6
baz=116,SNR=7.8
O20K Slope Mountain 66.02 330 P **P** 12 55 14.4 +0.7
baz=106
SKT Skwentna 66.05 332 P **P** 12 55 15.3 +1.4
baz=108
G24K Hadweenzic Riv 66.06 338 P **P** 12 55 15.4 +1.6
baz=113,SNR=5.8
C27K Jago River 66.08 342 P **P** 12 55 15.4 +1.5
baz=118
I23K Minto, Yukon-K 66.18 336 P **P** 12 55 15.9 +1.3
baz=111,SNR=8.5
P19K Oil Pt 66.20 330 P **P** 12 55 15.4 +0.6
baz=105
Q19K Cape Douglas, 66.22 329 P **P** 12 55 15.0 0.0
baz=104
BPAW Bear Paw Mtn. 66.48 335 P **P** 12 55 17.2 +0.6
baz=109,SNR=11
H23K Yukon River 66.50 337 P **P** 12 55 17.6 +1.0
baz=111
F24K Squaw Lake 66.53 339 P **P** 12 55 17.4 +0.6
baz=113,SNR=5.6
C26K Camden Bay 66.58 342 P **P** 12 55 17.9 +0.9
baz=117,SNR=7.1
PPLA Purkeypile 66.62 333 P **P** 12 55 18.5 +0.9
baz=107
MLY Manley 66.69 336 P **P** 12 55 16.4 -1.5
baz=110,SNR=11
CAST Castle Rocks 66.73 334 P **P** 12 55 17.0 -1.2
baz=108
M20K Styx River 66.75 332 P **P** 12 55 18.1 -0.2
M20K IAmb IAmb 12 55 21.4
comp=Z,10.0nm,1.1s
M20K Styx River 66.75 332 P **P** 12 55 17.7 -0.6
baz=106
D25K Kavik River 66.78 341 P **P** 12 55 18.0 -0.4
baz=116,SNR=8.7
O19K Port Alsworth 66.86 330 P **P** 12 55 18.8 -0.2
baz=104
E24K Your Creek 66.96 339 P **P** 12 55 19.4 -0.2
E24K IAmb IAmb 12 57 16.3
comp=Z,18nm,1.9s
E24K Your Creek 66.96 339 P **P** 12 55 18.4 -1.2
baz=113
CHUM Lake Minchumin 66.97 334 P **P** 12 55 19.4 -0.2
baz=108
G23K Bananza Creek 67.00 338 P **P** 12 55 19.6 -0.3
baz=111,SNR=7.4
N19K Bonanza Creek 67.10 331 P **P** 12 55 21.2 +0.6
N19K IAmb IAmb 12 55 24.1
comp=Z,14nm,1.1s
N19K Bonanza Creek 67.10 331 P **P** 12 55 19.4 -1.2
baz=104
P18K Big Mountain, 67.12 329 P **P** 12 55 18.7 -2.0
baz=103
Q17K Contact Creek 67.21 328 P **P** 12 55 19.9 -1.5
baz=102
O18K Koktuh Hills 67.22 330 P **P** 12 55 21.0 -0.3
baz=103
H22K Ishtalitna Cre 67.23 337 P **P** 12 55 21.3 0.0
baz=109,SNR=5.8
I21K Tanana 67.24 336 P **P** 12 55 21.6 +0.3
I21K IAmb IAmb 12 55 39.0
comp=Z,30nm,1.9s
I21K Tanana 67.24 336 P **P** 12 55 21.7 +0.3
baz=108
L20K Farewell, AK 67.25 333 P **P** 12 55 21.6 +0.2
baz=106
COLD Coldfoot 67.25 338 P **P** 12 55 21.4 +0.1
baz=111,SNR=14
M19K Big River Lodg 67.33 332 P **P** 12 55 22.0 +0.1
baz=105
E23K Chandalar 67.35 339 P **P** 12 55 22.4 +0.3
baz=112,SNR=12
D24K Happy Valley 67.50 340 P **P** 12 55 24.2 +1.3
D24K IAmb IAmb 12 55 37.5
comp=Z,12nm,1.2s
D24K Happy Valley 67.50 340 P **P** 12 55 23.6 +0.7
baz=113
TOLK Toolik Lake Re 67.55 340 P **P** 12 55 23.1 -0.2
TOLK Toolik Lake Re 67.55 340 P **P** 12 55 23.7 +0.4
baz=112,SNR=7.0
K20K Telida 67.57 334 P **P** 12 55 22.6 -0.9
K20K IAmb IAmb 12 55 40.2
comp=Z,42nm,2.0s
K20K Telida 67.57 334 P **P** 12 55 24.4 +1.0
baz=106
L19K White Mountain 67.61 332 P **P** 12 55 24.0 +0.3
baz=104
G22K Bettles 67.62 338 P **P** 12 55 25.7 +2.0
baz=110
C24K Franklin Bluff 67.69 341 P **P** 12 55 25.1 +1.1
baz=113
P17K Kvichak River 67.69 329 P **P** 12 55 25.4 +1.2
baz=102
Q16K King Salmon 67.69 328 P **P** 12 55 25.1 +0.9
baz=101
H21K Melozitna Rive 67.71 336 P **P** 12 55 24.4 +0.1
H21K Melozitna Rive 67.71 336 P **P** 12 55 25.6 +1.2
baz=108
N18K Kilae Creek 67.74 330 P **P** 12 55 25.7 +1.1
baz=103
J20K Nowinta River 67.83 334 P **P** 12 55 26.2 +1.1
baz=106
M18K Stony River 67.89 331 P **P** 12 55 25.8 +0.3
baz=103
R16K Pilot Point 67.96 327 P **P** 12 55 26.7 +0.8
baz=100
PPT2 Papeete2 68.01 245 *e*LR LR 13 15 56.0
comp=Z,2µm,25.5s
PPT2 *e*LR LR 13 16 03.0
comp=Z,960nm,24.8s
D23K Nanushuk River 68.05 340 P **P** 12 55 26.2 -0.2
baz=111
F22K John River 68.07 338 P **P** 12 55 26.6 0.0
baz=109
O17K Koliganek Bris 68.13 329 P **P** 12 55 27.8 +0.8
baz=101
I20K Naaghedeneel 68.14 335 P **P** 12 55 27.9 +0.9
baz=106
E22K Anaktuvuk Pass 68.14 339 P **P** 12 55 27.0 -0.1
E22K Anaktuvuk Pass 68.14 339 P **P** 12 55 27.7 +0.6
baz=110
CHGN Chignik 68.20 326 P **P** 12 55 28.6 +1.1
baz=99
G21K Allakaket 68.25 337 P **P** 12 55 28.1 +0.4
G21K Allakaket 68.25 337 P **P** 12 55 28.6 +0.9
baz=107
N17K Nushagak Hills 68.33 330 P **P** 12 55 28.5 +0.3
baz=102
C23K Itkillik River 68.34 341 P **P** 12 55 28.4 +0.2
C23K IAmb IAmb 12 55 31.8
comp=Z,22nm,1.1s
C23K Itkillik River 68.34 341 P **P** 12 55 28.0 -0.2
baz=112,SNR=11
J19K Poorman 68.41 334 P **P** 12 55 28.2 -0.5
baz=104
P16K Nushagak River 68.44 329 P **P** 12 55 27.9 -1.1
baz=100
F21K Alatna River 68.45 338 P **P** 12 55 29.9 +0.9
F21K IAmb IAmb 12 55 35.6
comp=Z,11nm,0.8s
F21K Alatna River 68.45 338 P **P** 12 55 27.7 -1.3
baz=108,SNR=14
L18K Granite Mounta 68.45 332 P **P** 12 55 28.2 -0.8
baz=103
H20K Anotleneega Mo 68.49 336 P **P** 12 55 28.4 -0.8
baz=106
O16K Kokwok River B 68.59 329 P **P** 12 55 28.5 -1.4
baz=100
M17K Holitna River 68.63 331 P **P** 12 55 29.3 -0.8
baz=102
D22K Ayikyak River 68.70 339 P **P** 12 55 31.1 +0.7
D22K IAmb IAmb 12 55 35.1
comp=Z,11nm,1.1s
D22K Ayikyak River 68.70 339 P **P** 12 55 29.7 -0.7
baz=109
J18K Innoko River 68.75 333 P **P** 12 55 30.1 -0.8
baz=103
S14K Fog Glacier 68.83 325 P **P** 12 55 29.8 -1.8
baz=98
E21K Killik River 69.00 339 P **P** 12 55 32.6 +0.2
E21K Killik River 69.00 339 P **P** 12 55 31.0 -1.4
baz=108
N16K Nishlik Lake 69.09 330 P **P** 12 55 31.6 -1.5
baz=100
GCSA Galena City Sc 69.12 335 P **P** 12 55 32.6 -0.5
baz=104
H19K Roundabout Mou 69.13 336 P **P** 12 55 33.1 -0.1
H19K Roundabout Mou 69.13 336 P **P** 12 55 32.7 -0.5
baz=104
L17K Donlin 69.17 332 P **P** 12 55 32.8 -0.8
baz=101
SDPT Sand Point 69.22 324 P **P** 12 55 33.9 0.0
baz=97
F20K Avaraart Lake 69.24 337 P **P** 12 55 34.3 +0.5
F20K IAmb IAmb 12 56 08.9
comp=Z,28nm,1.9s
F20K Avaraart Lake 69.24 337 P **P** 12 55 33.5 -0.3
baz=106
M16K Timber Creek 69.28 331 P **P** 12 55 33.9 -0.3
baz=100
K17K Iditarod 69.29 332 P **P** 12 55 33.7 -0.5
baz=102
O15K Ungalikthiuk R 69.40 328 P **P** 12 55 34.6 -0.3
baz=99
B22K Teshekpuk Lake 69.42 341 P **P** 12 55 35.3 +0.4
B22K IAmb IAmb 12 55 39.1
comp=Z,18nm,1.1s
B22K Teshekpuk Lake 69.42 341 P **P** 12 55 34.4 -0.5
baz=109,SNR=10
C21K Knifeblade Rid 69.50 339 P **P** 12 55 35.6 +0.2
baz=107
G19K Purcell Mounta 69.54 336 P **P** 12 55 35.9 +0.2
baz=104
B21K Ikpikpuk River 69.58 340 P **P** 12 55 36.0 +0.1
baz=108,SNR=6.8
L16K Owhat River 69.64 331 P **P** 12 55 36.9 +0.5
baz=100
N15K Kwethluk River 69.69 330 P **P** 12 55 37.5 +0.8
baz=99
E20K Nigu River 69.74 338 P **P** 12 55 37.8 +0.8
baz=106,SNR=8.8
J17K VABM Dome 69.77 333 P **P** 12 55 37.7 +0.5
baz=101
H18K Honhosa River 69.83 335 P **P** 12 55 37.1 -0.4
baz=102
E19K Redstone River 69.92 337 P **P** 12 55 38.1 +0.1
E19K Redstone River 69.92 337 P **P** 12 55 38.4 +0.4
baz=104
F19K Shaleruckit Mo 69.97 337 P **P** 12 55 39.2 +0.9
F19K Shaleruckit Mo 69.97 337 P **P** 12 55 38.7 +0.4
baz=103
D20K Etivluk River 70.01 339 P **P** 12 55 39.2 +0.6
baz=105,SNR=8.2
G18K Tagagawik 70.11 336 P **P** 12 55 38.8 -0.4
baz=102
TBI Tubuai 70.21 239 *e*LR LR 13 16 57.0
comp=Z,4µm,26.8s
H17K Granite Mounta 70.43 335 P **P** 12 55 40.5 -0.7
baz=101
J16K Anvik River 70.43 333 P **P** 12 55 39.9 -1.3
baz=100
D19K Kuna River 70.49 338 P **P** 12 55 41.0 -0.6
baz=104
B20K Meade River 70.54 340 P **P** 12 55 42.1 +0.3
B20K IAmb IAmb 12 55 46.9
comp=Z,10nm,0.9s
B20K Meade River 70.54 340 P **P** 12 55 41.6 -0.1
baz=105
F18K Selawik 70.65 336 P **P** 12 55 41.3 -1.2
baz=102
C19K Lookout Ridge 71.15 339 P **P** 12 55 46.0 +0.4
C19K IAmb IAmb 12 56 16.9
comp=Z,25nm,1.4s
J14K Nanvaranak Lak 71.69 332 P **P** 12 55 50.0 +1.2
baz=97
DAG Danmarks Havn 72.52 13 P **P** 12 55 52.8 -0.8
DAG Danmarks Havn 72.52 13 *i* P **P** 12 55 51.5 -2.1
DAG IAmb IAmb 12 55 56.3
comp=Z,6.6nm,0.7s
PCAS Casmilo, Conde 73.66 52 *e*P **P** 12 56 03.6 +2.6
comp=Z,41nm,1.4s
MORF Marmelete 73.73 55 *e*P **P** 12 56 04.5 +2.9
PVIS Viseu 74.07 51 *e*P **P** 12 56 06.1 +2.6
NOR Nord 74.28 8 *i* P **P** 12 56 02.4 -1.6
NOR IAmb IAmb 12 56 07.4
comp=Z,4.6nm,0.8s
PBEJ Beja 74.29 54 *e*P **P** 12 56 09.1 +4.3
MTE Manteigas 74.36 51 *e*P **P** 12 56 08.9 +3.7
comp=Z,21nm,1.3s
PESTR Estremoz 74.44 53 *e*P **P** 12 56 08.2 +2.5
comp=Z,20nm,1.7s
PCBR Castelo Branco 74.45 52 *e*P **P** 12 56 08.3 +2.6
comp=Z,15nm,1.5s
PMRV Marv??o 74.55 52 *e*P **P** 12 56 09.1 +2.8
comp=Z,24nm,1.7s
MVO Moncorvo 74.69 51 *e*P **P** 12 56 10.1 +2.9
EKA Eskdalemuir Ar 76.33 36 P **P** 12 56 14.2 -1.9
comp=Z,7.0nm,0.9s,baz=273,slow=6.1,SNR=13
comp=Z,7.0nm,0.9s
EKA Eskdalemuir Ar 76.33 36 P **P** 12 56 14.3 -1.9
PAB San Pablo 76.88 52 P **P** 12 56 20.1 +0.4
PAB San Pablo 76.88 52 P **P** 12 56 20.1 +0.4
PAB pmax pmax
comp=Z,15nm,1.4s
QUIF Quistinic 76.89 43 *e*P **P** 12 56 20.0 +0.5
QUIF pmax pmax
comp=Z,10.0nm,1.0s
ESDC Sonseca Array 77.17 52 P **P** 12 56 20.6 -0.7
ESDC Sonseca Array 77.17 52 P **P** 12 56 20.4 -0.9
comp=Z,4.0nm,1.0s,baz=286,slow=5.9,SNR=14
comp=Z,4.0nm,1.0s
GRR Gorron 78.38 43 *e*P **P** 12 56 27.2 -0.6
GRR pmax pmax
comp=Z,20nm,1.2s
FLN La Foliniere 78.58 42 *e*P **P** 12 56 29.4 +0.5
FLN pmax pmax
comp=Z,15nm,1.1s
LDF La Druitiere 78.84 43 *e*P **P** 12 56 30.7 +0.4
LDF pmax pmax
comp=Z,11nm,1.1s
KBS Kingsbay 79.01 11 *i* P **P** 12 56 33.5 +2.8
MFF Saint Martin d 79.08 45 *e*P **P** 12 56 33.1 +1.4
MFF pmax pmax
comp=Z,8.0nm,1.1s
LFF La Frestale 79.93 46 *e*P **P** 12 56 36.0 -0.4
LFF pmax pmax
comp=Z,25nm,1.4s
EPF Esparros 79.93 48 *e*P **P** 12 56 37.3 +0.8
EPF pmax pmax
comp=Z,7.0nm,1.3s
SPITS Spitsbergen Ar 80.06 12 P **P** 12 56 36.0 -0.4
comp=Z,10nm,0.8s,baz=289,slow=4.4,SNR=1.8
comp=Z,10nm,0.8s
SPITS Spitsbergen Ar 80.06 12 P **P** 12 56 36.0 -0.4
RJF Les Rejaudoux 80.42 46 *e*P **P** 12 56 39.5 +0.5
RJF pmax pmax
comp=Z,15nm,1.4s
TCF Toulx Ste Croi 80.74 45 *e*P **P** 12 56 41.8 +1.1
TCF pmax pmax
comp=Z,4.0nm,1.0s
CAF Calviac 80.86 46 *e*P **P** 12 56 41.9 +0.5
CAF pmax pmax
comp=Z,3.0nm,0.7s
BGF Bois d'Agland 81.13 44 *e*P **P** 12 56 42.9 +0.1
BGF pmax pmax
comp=Z,8.0nm,1.2s
MTLF Montolieu 81.24 48 *e*P **P** 12 56 43.8 +0.4
MTLF pmax pmax
comp=Z,6.0nm,1.2s
SSF Saint Saulge 81.49 44 *e*P **P** 12 56 43.4 -1.3
SSF pmax pmax
comp=Z,6.0nm,1.2s
LOR Lormes 81.69 43 *e*P **P** 12 56 45.8 0.0
LOR pmax pmax
comp=Z,7.0nm,1.2s
VIVF Saint-Julien-l 82.70 46 *e*P **P** 12 56 52.1 +1.0
VIVF pmax pmax
comp=Z,8.0nm,1.2s
NB2 NORSAR Subarra 82.96 29 P **P** 12 56 52.0 -0.2
comp=Z,1.1nm,0.8s,baz=284,slow=5.1
NOA NORSAR Array B 82.96 29 P **P** 12 56 52.0 -0.2
comp=Z,2.0nm,0.8s,baz=285,slow=5.1,SNR=4.9
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 82.96 29 *e*P **P** 12 56 54.2 +2.0
NOA pmax pmax
comp=Z,3.0nm,1.0s
HAU Haudompre 83.19 42 *e*P **P** 12 56 53.7 +0.1
HAU pmax pmax
comp=Z,1.0nm,0.3s
CABF La Chapelle 83.31 44 *e*P **P** 12 56 54.6 +0.2
CABF pmax pmax
comp=Z,23nm,1.7s
HINF Hinteralfeld 83.57 43 *e*P **P** 12 56 56.1 +0.5
HINF pmax pmax
comp=Z,8.0nm,1.4s
BILL Bilibino 83.58 339 P **P** 12 56 53.8 -1.4
BILL IAmb IAmb 12 57 03.8
comp=Z,29nm,1.8s
BILL Bilibino 83.58 339 *e*P **P** 12 56 53.2 -1.9
BILL pmax pmax
comp=Z,16nm,1.6s
LPL La Plagne 83.99 45 *e*P **P** 12 57 00.7 +2.7
LPL pmax pmax
comp=Z,5.0nm,1.2s
LPG La Plagne 84.00 45 *e*P **P** 12 57 01.6 +3.4
LPG pmax pmax
comp=Z,1.0nm,0.3s
HFS Hagfors 84.39 29 P **P** 12 56 58.0 -1.4
comp=Z,2.2nm,0.8s,baz=246,slow=2.5,SNR=3.1
comp=Z,2.2nm,0.8s
HFS Hagfors 84.39 29 P **P** 12 56 58.0 -1.4
ARCES ARCESS Array B 85.63 19 P **P** 12 57 06.5 +1.0
comp=Z,2.2nm,0.8s,baz=336,slow=2.7,SNR=4.8
comp=Z,2.2nm,0.8s
ARCES ARCESS Array B 85.63 19 *e*P P 12 57 10.4 +4.9
ARCES pmax pmax
comp=Z,3.0nm,0.8s
DAVA Damuels 85.69 43 *i* P **P** 12 57 07.4 +1.0
comp=Z,7.7nm,1.0s
DAVOX Davos/Dischmat 85.81 43 P **P** 12 57 06.7 -0.4
comp=Z,3.2nm,0.9s,baz=259,slow=9.2,SNR=6.3
comp=Z,3.2nm,0.9s
DAVOX Davos/Dischmat 85.81 43 P **P** 12 57 06.7 -0.4
RETA Reutte 86.21 42 *e*PcP **PcP** 12 57 10.8 -0.7
comp=Z,5.9nm,1.1s
FETA Feichten 86.31 43 *e*PcP **PcP** 12 57 11.2 -0.9
comp=Z,3.8nm,1.0s
MOTA Moosalm 86.47 42 *e*P **P** 12 57 09.3 -1.0
comp=Z,5.1nm,1.3s
CLL Collm 86.56 38 *e*P **P** 12 57 12.0 +1.6
comp=Z,7.0nm,1.1s
CLL Collm 86.56 38 *e*P **P** 12 57 12.0 +1.6
CLL pmax pmax
comp=Z,7.0nm,1.1s
TORD Torodi Ar. Bea 86.81 77 P **P** 12 57 12.7 +0.3
comp=Z,0.6nm,0.9s,baz=293,slow=7.4,SNR=2.2
comp=Z,0.6nm,0.9s
LESA Schwarzleotal 87.48 42 *e*P **P** 12 57 16.0 +0.9
comp=Z,4.3nm,1.3s
KHC Kasperske Hory 87.55 40 *i* P **P** 12 57 15.0 -0.4
KHC pmax pmax
comp=Z,19nm,2.1s
ABTA Abfaltersbach 87.56 43 *e*P **P** 12 57 16.2 +0.7
comp=Z,5.7nm,1.2s
GERES GERESS Array B 87.72 40 P **P** 12 57 14.2 -2.0
comp=Z,2.1nm,1.0s,baz=277,slow=8.7,SNR=3.3
comp=Z,2.1nm,1.0s

GERES	**GERESS Array B**	87.72	40	P		**P**		12 57 14.2	-2.0
MOA	**Molln**	88.38	41	*e*PcP		**PcP**		12 57 20.6	-0.4
	comp=Z,2.4nm,0.9s								
APA	**Apatity**	89.13	19	*i*P		**P**		12 57 18.0	-4.4
APA				pmax		pmax			
	comp=Z,7.0nm,0.7s								
LVZ	**Lovozero**	89.34	19	*i* P		**P**		12 57 26.3	+2.9
LVZ				pmax		pmax			
	comp=Z,11nm,1.1s								
FINES	**FINESS Array B**	89.52	26	P		**P**		12 57 24.6	+0.2
	comp=Z,2.6nm,0.9s,baz=328,slow=5.1,SNR=4.5								
	comp=Z,2.6nm,0.9s								
FINES	**FINESS Array B**	89.52	26	P		**P**		12 57 24.6	+0.2
TIXI	**Tiksi**	91.76	349	*ce*P		**P**		12 57 35.7	+1.1
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.7s								
DZM	**Mont Dzumac**	109.06	251	*e*LR		LR		13 35 03.2	
	comp=Z,377nm,22.6s								
ELIB	**Princess Elisa**	109.09	162	*d*PKiKP		**PKiKP**		13 02 58.4	+1.8
ELIB				*d*PP		**PP**		13 03 27.4	+2.8
GNI	**Garni**	111.15	37	*c i*PKIKP		**PKiKP**		13 03 03.3	+1.8
GNI				pmax		pmax			
	comp=Z,4.0nm,1.3s								
ZALV	**Zalesovo Beam**	112.80	5	PP		**PP**		13 03 46.4	-4.3
	comp=Z,0.4nm,0.3s,baz=353,slow=10,SNR=2.5								
KURBB	**Kurchatov Arra**	115.33	9	PP		**PP**		13 04 04.2	-4.4
	comp=Z,0.3nm,0.2s,baz=342,slow=5.6,SNR=2.9								
SONM	**Songino Array**	117.85	349	PP		**PP**		13 04 24.8	-1.7
	comp=Z,1.4nm,1.0s,baz=1.4,slow=5.9,SNR=6.2								
WMQ	**Urumqi**	123.08	4	*e*P		**PKiKP**		13 03 31.4	+7.0
WMQ				LR		LR			
	comp=N,3μm,23.7s								
WMQ				LR		LR			
	comp=E,2μm,22.3s								
WMQ				LR		LR			
	comp=Z,370nm,22.3s								
HHC	**Hu-ho-hao-te**	123.20	342	*e*P		**PKPdf**		13 03 21.7	-2.9
HHC				LR		LR			
	comp=N,220nm,16.8s								
HHC				LR		LR			
	comp=E,140nm,16.8s								
HHC				LR		LR			
	comp=Z,400nm,16.0s								
NJ2	**Nanjing**	128.11	331	*e*P		**PKPdf**		13 03 34.5	+0.4
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
STKA	**Stephens Creek**	131.00	239	PKP		**PKPdf**		13 03 39.0	-0.5
	comp=Z,1.8nm,0.6s,baz=89,slow=5.2,SNR=5.0								
STKA	**Stephens Creek**	131.00	239	*e*PKiKP		**PKiKP**		13 03 40.5	+0.1
STKA				pmax		pmax			
	comp=Z,2.0nm,0.6s								
CD2	**Chengdu**	134.66	346	PKP		**PKPdf**		13 03 45.8	-0.8
WRA	**Warramunga Arr**	138.92	255	PKhKP		PKPpre		13 03 45.1	
	comp=Z,1.0nm,0.7s,baz=93,slow=2.6,SNR=7.7								
WRA				PKP		**PKPdf**		13 03 53.2	-1.4
	comp=Z,6.2nm,0.7s,baz=90,slow=2.1,SNR=23								
WRA	**Warramunga Arr**	138.92	255	PKiKP		**PKPdf**		13 03 53.2	-1.4
ASAR	**Alice Springs**	139.01	249			**PKPdf**		13 03 53.9	-0.9
ASAR	**Alice Springs**	139.01	249	PKhKP		PKPpre		13 03 45.9	
	comp=Z,1.1nm,0.7s,baz=108,slow=3.6,SNR=11								
ASAR	**Alice Springs**	139.01	249	PKiKP		**PKPdf**		13 03 53.9	-0.9
PZH	**PanZhiHua**	139.37	346	PKP		**PKPdf**		13 03 55.5	0.0
CMAR	**Chiang Mai Arr**	147.76	347			**PKPbc**		13 04 12.4	-0.6
CMAR	**Chiang Mai Arr**	147.76	347	PKPbc		**PKPdf**		13 04 11.1	+0.9
	comp=Z,0.7nm,0.6s,baz=337,slow=2.0,SNR=5.3								
CMAR	**Chiang Mai Arr**	147.76	347	PKP2		**PKPdf**		13 04 11.1	+0.9

*IDC **06** 12:47:50.8±1.9, 13°.05N×87°.98W, h0km, mb3.6/2, mbtmp3.8/3, ML2.8/2, Error ellipse: s-maj=98.9km s-min=22.4km az=44.0*

ISC 06 12:47:51.1±1.4, 12°.8N±0°.4×88°.3W±0°.4, h10km, n6, σ1s 64/7, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
APG	**El Apazote**	**3.04**	**316**	Pn	**Pn**		**12 48 40.0**	**+0.5**
	0.2nm,0.3s,baz=153,slow=11,SNR=0.8							
APG				Sn	**Sb**		**12 49 20.5**	**-2.2**
	0.6nm,0.3s,baz=82,slow=17,SNR=1.2							
JTS	**Las Juntas de**	**4.11**	**127**	Pn	**Pn**		**12 48 52.6**	**-1.5**
	3.3nm,0.3s,baz=223,slow=15,SNR=1.1							
JTS				Sn	**Sn**		**12 49 43.7**	**+1.4**
	baz=150,slow=2.2							
	50nm,0.8s							
TXAR	**Lajitas Array**	**21.78**	**321**	P	**P**		**12 52 43.1**	**-0.3**
	1.5nm,1.0s,baz=134,slow=13,SNR=1.9							
	1.5nm,1.0s							
YKA	**Yellowknife Ar**	**53.05**	**345**	P	**P**		**12 57 09.0**	**+0.8**
	1.4nm,0.9s,baz=136,slow=6.8,SNR=4.8							
	1.4nm,0.9s							
WRA	**Warramunga Arr**	**138.59**	**254**	PKhKP	PKPpre		13 07 14.3	
	0.3nm,0.7s,baz=100,slow=0.6,SNR=1.5							
WRA				PKP	pPKPdf		13 07 21.3	-0.3
	0.7nm,0.7s,baz=90,slow=1.2,SNR=3.6							
ASAR	**Alice Springs**	**138.65**	**249**	PKP	**PKiKP**		**13 07 21.2**	**+0.8**
	0.4nm,0.7s,baz=90,slow=1.9,SNR=2.0							

*IDC **06** 12:54:16.4±1.7, 13°.50N×87°.67W, h0km, mb3.2/2, mbtmp3.3/3, ML2.5/2, Error ellipse: s-maj=66.7km s-min=22.5km az=45.0*
*SNET **06** 12:54:16.6±1.0, 13°.27N×88°.05W, h1km±6km, ML3.4*
*CATAC **06** 12:54:17.0±0.3, 13°.22N×88°.07W, h4km±2km, ML3.6*

ISC 06 12:54:16.8±0.8, 13°.26N±0°.05×88°.06W±0°.02, h12km±6km, n45, σ1s 17/53, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JUCU	**Jucuarįn**	**0.19**	**268**	*e*P	**Pb**		**12 54 21.3**	**-0.9**
JUCU				*e*S	**Sg**		**12 54 24.6**	**+0.7**
JUCU				IAML			12 54 31.0	
	comp=Z,11μm,0.4s							
JUCU	**Jucuarįn**	**0.19**	**268**	*i* P	**Pb**		**12 54 21.4**	**-0.9**
JUCU				*i* S	**Sg**		**12 54 23.4**	**-0.5**
JUCU				IAML			12 54 29.7	
	comp=Z,10μm,1.0s							
CNCH	**Conchagua**	**0.22**	**86**	*e*P	**Pb**		**12 54 22.0**	**-0.8**
CNCH				*e*S	**Sg**		**12 54 25.7**	**+0.9**
CNCH	**Conchagua**	**0.22**	**86**	*i* P	**Pb**		**12 54 22.5**	**-0.4**
CNCH				*i* S	**Sg**		**12 54 25.0**	**+0.2**
CNCH				IAML			12 54 29.9	
	comp=Z,34μm,1.0s							
CNRM	**Centro Naciona**	**0.24**	**333**	*i* P	**Pb**		**12 54 22.4**	**-0.8**
CNRM				*i* S	**Sb**		**12 54 26.5**	**+1.2**
CNRM				IAML			12 54 33.4	
	comp=Z,28μm,1.0s							
LCY	**Lacayo**	**0.28**	**305**	*e*P	**Pb**		**12 54 23.1**	**-0.9**
RANC	**El Ranchito**	**0.28**	**308**	*i* P	**Pb**		**12 54 23.4**	**-0.6**
RANC				IAML			12 54 34.5	
	comp=Z,7μm,1.0s							
PACA	**Pacayal**	**0.33**	**309**	*e*P	**Pb**		**12 54 24.8**	**-0.1**
PACA	**Pacayal**	**0.33**	**309**	*i* P	**Pb**		**12 54 23.8**	**-1.0**
PACA				IAML			12 54 34.2	
	comp=Z,30μm,1.0s							
AMPH	**Amapala**	**0.39**	**86**	*e*P	**Pb**		**12 54 25.1**	**-0.6**
AMPH	**Amapala**	**0.39**	**86**	*i* P	**Pn**		**12 54 25.3**	**-3.0**
TECA	**Tecapa**	**0.49**	**298**	*e*P	**Pb**		**12 54 27.1**	**-0.5**
COEB	**Comit de Eme**	**0.52**	**297**	*e*P	**Pb**		**12 54 27.3**	**-0.7**
COEB	**Comit de Eme**	**0.52**	**297**	*i* P	**Pb**		**12 54 27.5**	**-0.5**
COEB				*i* S	**Sb**		**12 54 34.7**	**-0.8**
COEB				IAML			12 54 36.5	
	comp=Z,2μm,1.0s							
PQSS	**Presa 15 de Se**	**0.61**	**307**	*e*P	**Pn**		**12 54 29.6**	**-1.7**
PQSS	**Presa 15 de Se**	**0.61**	**307**	*i* P	**Pn**		**12 54 29.6**	**-1.7**
PQSS				IAML			12 54 40.7	
	comp=Z,930nm,1.0s							
TECO	**Alcaldia de Te**	**0.76**	**292**	*e*P	**Pb**		**12 54 31.4**	**-0.5**
TECO	**Alcaldia de Te**	**0.76**	**292**	*i* P	**Pb**		**12 54 31.5**	**-0.5**
TECO				IAML			12 54 42.7	
	comp=Z,1μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.79**	**304**	*i* P	**Pn**		**12 54 32.7**	**-1.1**
SCLA				IAML			12 54 47.3	
	comp=Z,530nm,1.0s							
UESV	**Universidad de**	**0.80**	**298**	*i* P	**Pn**		**12 54 32.5**	**-1.5**
UESV				IAML			12 54 46.7	
	comp=Z,1μm,1.0s							
SNVI	**San Vicente**	**0.84**	**295**	*e*P	**Pn**		**12 54 33.1**	**-1.5**
COEG	**Centro de Oper**	**0.88**	**294**	*e*P	**Pn**		**12 54 33.8**	**-1.3**
COEG	**Centro de Oper**	**0.88**	**294**	*i* P	**Pn**		**12 54 33.9**	**-1.2**
COEG				IAML			12 54 48.9	
	comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**0.97**	**298**	*i* P	**Pn**		**12 54 35.6**	**-0.8**
PAVA				IAML			12 54 51.0	
	comp=Z,5μm,1.0s							
INTHN	**La Esperanza I**	**1.05**	**358**	*i* P	**Pn**		**12 54 37.6**	**0.0**
LFU	**La Fuente**	**1.14**	**295**	*e*P	**Pg**		**12 54 38.7**	**-0.1**
PANCS	**Alcalda de**	**1.15**	**288**	*i* P	**Pg**		**12 54 38.5**	**-0.4**
PANCS				IAML			12 54 54.1	
	comp=Z,4μm,1.0s							
LOMA	**Loma Larga**	**1.15**	**290**	*e*P	**Pg**		**12 54 38.9**	**-0.1**
LOMA	**Loma Larga**	**1.15**	**290**	*i* P	**Pg**		**12 54 39.3**	**+0.3**
LOMA				IAML			12 54 56.2	
	comp=Z,2μm,1.0s							
LLGN	**La Laguna**	**1.24**	**316**	*i* P	**Pg**		**12 54 39.9**	**-0.9**
LLGN				IAML			12 54 59.5	
	comp=Z,800nm,1.0s							
PMON	**Piamonte**	**1.30**	**290**	*i* P	**Pg**		**12 54 41.7**	**-0.2**
PMON				IAML			12 55 04.1	
	comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**1.41**	**286**	*e*P	**Pg**		**12 54 42.9**	**-1.1**
MTO3	**Montecristo**	**1.70**	**312**	*i* P	**Pb**		**12 54 47.8**	**-0.4**
MTO3				IAML			12 55 11.2	
	comp=Z,320nm,1.0s							
MOM2	**El Cardon**	**1.74**	**118**	*i* P	**Pb**		**12 54 46.5**	**-2.2**
MOM2				IAML			12 55 23.0	
	comp=Z,430nm,1.0s							
COPN	**Copaltepe**	**1.79**	**127**	*i* P	**Pb**		**12 54 48.0**	**-1.6**
COPN				IAML			12 55 18.2	
	comp=Z,340nm,1.0s							
NUBE	**Las Nubes**	**1.79**	**291**	*i* P	**Pn**		**12 54 46.8**	**-1.0**
NUBE				IAML			12 55 16.6	
	comp=Z,890nm,1.0s							
ESQI	**Esquipulas**	**1.80**	**316**	*i* P	**Pb**		**12 54 49.4**	**-0.4**
ESQI				IAML			12 55 18.6	
	comp=Z,400nm,1.0s							
APYN	**Apoyeque**	**1.95**	**121**	*i* P	**Pb**		**12 54 51.1**	**-1.3**
APYN				IAML			12 55 24.6	
	comp=Z,380nm,1.0s							
APG	**El Apazote**	**2.91**	**307**	Pn	**Pb**		**12 55 07.1**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=9.9,SNR=5.3							
APG				Sn	**Sb**		**12 55 46.5**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=156,slow=9.6,SNR=2.8							
SAJU	**San Juanillo,**	**3.92**	**144**	*i* P	**Pn**		**12 55 18.3**	**+1.4**
SAJU				IAML			12 55 19.7	
	comp=Z,74nm,1.0s							
JTS	**Las Juntas de**	**4.24**	**134**	Pn	**Pn**		**12 55 22.3**	**+1.0**
	comp=Z,0.7nm,0.3s,baz=279,slow=15,SNR=2.1							
JTS				Sn	**Sn**		**12 56 12.3**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=252,slow=19,SNR=1.4							
	comp=Z,2.8nm,0.5s							
TXAR	**Lajitas Array**	**21.58**	**320**	P	**P**		**12 59 08.9**	**+2.3**
	comp=Z,0.6nm,0.9s,baz=144,slow=12,SNR=3.4							
	comp=Z,0.6nm,0.9s							
YKA	**Yellowknife Ar**	**52.68**	**345**	P	**P**		**13 03 31.2**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=140,slow=6.6,SNR=9.1							
	comp=Z,0.6nm,0.9s							
WRA	**Warramunga Arr**	**138.91**	**255**	PKP	**PKPdf**		**13 13 43.8**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=89,slow=2.6,SNR=3.7							
ASAR	**Alice Springs**	**139.01**	**249**	PKP	**PKPdf**		**13 13 43.8**	**-0.5**
	comp=Z,0.5nm,0.9s,baz=110,slow=5.0,SNR=2.7							

*HVO **06** 12:56:02.3±2.7, 19°.43N±0°.01×154°.92W±0°.03, h-1km±9km, ML2.0/3, ML2.5/18(NEIC), Error ellipse: s-maj=5.0km s-min=1.2km az=110.0*

NEIC 06 12:56:03.5±2.3, 19°.38N±0°.02×154°.951W±0°.005, h2km±10km, Error ellipse: s-maj=2.7km s-min=0.8km az=183.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
JOKA	**Jonika Flow**	**0.07**	**315**		Pg		12 56 00.3	-4.6
JOKA					Sg		12 56 05.3	-0.6
PHO	**Puu Honuaula**	**0.11**	**30**		Pg		12 56 04.6	-1.1
PUH	**Pauahi**	**0.25**	**268**	Pg	Pg		12 56 08.4	+0.3
BYL	**Byron's Ledge**	**0.29**	**276**	Pg	Pg		12 56 08.4	-0.7
HATHI	**Halema'uma'u T**	**0.29**	**278**	Pg	Pg		12 56 08.4	-0.7
RSD	**Rainshed**	**0.32**	**285**		Pg		12 56 10.0	+0.4
RSD					Sb		12 56 16.0	-1.6
RSD	**Rainshed**	**0.32**	**285**	IAML			12 56 16.5	
	comp=N,773nm,0.3s							
RSD				IAML			12 56 16.8	
	comp=E,723nm,0.1s							
HLP	**Hilina Pali**	**0.35**	**256**		Pg		12 56 10.8	+0.6
HLP					Sb		12 56 17.1	-1.3
HLP	**Hilina Pali**	**0.35**	**256**	IAML			12 56 17.7	
	comp=E,430nm,0.3s							
HLP				IAML			12 56 21.7	
	comp=N,550nm,1.3s							
MLH	**Mauna Loa**	**0.42**	**285**		Pg		12 56 11.6	0.0
MLH					Sg		12 56 18.6	+1.4
MLH	**Mauna Loa**	**0.42**	**285**	IAML			12 56 19.2	
	comp=E,205nm,0.8s							
MLH				IAML			12 56 26.4	
	comp=N,291nm,1.2s							
HMH	**Humu'ula Sheep**	**0.55**	**294**		Pg		12 56 11.4	-2.6
HMH					Sg		12 56 17.2	-3.9
HMH				IAML			12 56 32.5	
	comp=E,323nm,0.7s							
HMH				IAML			12 56 33.0	
	comp=N,453nm,0.4s							
MWH	**Moku'aweowe**	**0.62**	**280**	Pg	Pg		12 56 14.3	-1.0
MWH				IAML			12 56 27.5	
	comp=E,327nm,1.9s							
MWH				IAML			12 56 34.8	
	comp=N,181nm,0.9s							
KHU	**Kahuku**	**0.64**	**258**		Pg		12 56 14.7	-1.1
KHU	**Kahuku**	**0.64**	**258**	IAML			12 56 19.7	
	comp=N,155nm,3.4s							
KHU					Sg		12 56 23.7	-0.4
KHU				IAML			12 56 36.2	
	comp=E,307nm,4.0s							
ALEP	**Alea Permanent**	**0.67**	**284**		Pg		12 56 15.1	-1.2
ALEP					Sb		12 56 26.7	-1.3

*IDC **06** 12:56:52.5±0.8, 43°.81S×40°.61E, h0km, mb4.2/7, mbtmp4.2/8, ML3.1/1, MS3.6/4, Error ellipse: s-maj=38.8km s-min=21.3km az=54.0*
*NEIC **06** 12:56:55.3±1.3, 43°.72S±0°.06×40°.7E±0°.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=26.1km s-min=10.4km az=87.0*

ISC 06 12:56:54.2±0.6, 43°.72S±0°.09×40°.8E±0°.1, h10km, n30, σ1s 27/25, mb4.4/12, MS3.2/3, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
GRHM	**Grahamstown, E**	**15.34**	**308**	P	**P**		**13 00 35.4**	**-0.2**
GRHM				IAmb	IAmb		13 01 19.3	
	comp=Z,23nm,1.3s							
BOSA	**Boshof**	**19.56**	**315**	P	**Pn**		**13 01 23.0**	**-0.6**
BOSA	**Boshof**	**19.56**	**315**	P	**P**		**13 01 20.8**	**-1.5**
	baz=140,slow=7.9,SNR=5.5							
BOSA				LR	LR		13 07 22.0	
	comp=Z,116nm,21.0s,baz=94,slow=32							
	comp=Z,11nm,1.2s							
VOI	**Vohitsoka**	**22.32**	**15**	P	**P**		**13 01 53.2**	**+1.0**
VOI				IAmb	IAmb		13 01 56.9	
	comp=Z,33nm,1.2s							
LBTB	**Lobatse**	**22.42**	**321**	LR	LR		13 09 54.3	
	comp=Z,90nm,18.4s,baz=136,slow=35							
WIN	**Windhoek**	**28.78**	**310**	P	**P**		**13 02 52.2**	**-0.2**
WIN				IAmb	IAmb		13 02 53.9	
	comp=Z,8.5nm,1.3s							
LSZ	**Lusaka**	**30.32**	**335**	P	**P**		**13 03 05.8**	**-0.3**
LSZ				IAmb	IAmb		13 03 07.6	
	comp=Z,5.9nm,1.1s							
LSZ	**Lusaka**	**30.32**	**335**	P	**P**		**13 03 06.2**	**+0.2**
	comp=Z,1.3nm,0.4s,baz=168,slow=14,SNR=4.0							
LSZ				LR	LR		13 14 27.9	
	comp=Z,42nm,18.5s,baz=184,slow=35							
	comp=Z,1.3nm,0.4s							
TSUM	**Tsumeb**	**31.25**	**314**	P	**P**		**13 03 14.3**	**+0.1**
TSUM				IAmb	IAmb		13 03 16.0	
	comp=Z,12nm,1.3s							
SNAA	**Sanae**	**34.97**	**202**	P	**P**		**13 03 46.4**	**+0.2**
SNAA				IAmb	IAmb		13 03 51.8	
	comp=Z,9.3nm,1.3s							
QSPA	**South Pole Qui**	**46.49**	**180**	P	**P**		**13 05 21.1**	**-0.2**
QSPA				IAmb	IAmb		13 05 25.5	
	comp=Z,8.3nm,1.2s							
QSPA	**South Pole Qui**	**46.49**	**180**	P	**P**		**13 05 19.7**	**-1.6**
	comp=Z,3.4nm,1.0s,baz=280,slow=5.3,SNR=4.6							
	comp=Z,3.4nm,1.0s							
HOPE	**Hope Point**	**49.34**	**229**	P	**P**		**13 05 43.9**	**+0.6**
VNDA	**Vanda**	**53.78**	**167**	P	**P**		**13 06 13.4**	**-2.8**
H01W2	**Cape Leeuwin H**	**55.73**	**108**	T	T		14 06 48.5	
	baz=238,slow=75,SNR=6.7							
H01W3	**Cape Leeuwin H**	**55.74**	**108**	T	T		14 06 47.9	
	baz=238,slow=75,SNR=6.7							
H01W1	**Cape Leeuwin H**	**55.75**	**108**	T	T		14 06 48.2	
	baz=238,slow=75,SNR=8.5							
EFI	**East Falkland**	**62.00**	**224**	P	**P**		**13 07 18.3**	**+4.1**
MG03	**Isla Dawson**	**66.47**	**217**	P	**P**		**13 07 44.3**	**+0.8**
TORD	**Torodi Ar. Bea**	**66.89**	**318**	P	**P**		**13 07 46.7**	**0.0**
	comp=Z,1.6nm,0.9s,baz=100,slow=4.9,SNR=6.9							
	comp=Z,1.6nm,0.9s							
PLCA	**Paso Flores**	**75.68**	**227**	P	**P**		**13 08 39.7**	**0.0**
PLCA				IAmb	IAmb		13 08 42.7	
	comp=Z,11nm,1.4s							
STKA	**Stephens Creek**	**75.74**	**120**	P	**P**		**13 08 41.1**	**+1.0**
STKA	**Stephens Creek**	**75.74**	**120**	P	**P**		**13 08 40.5**	**+0.4**
	comp=Z,2.9nm,0.9s,baz=147,slow=6.1,SNR=4.0							
	comp=Z,2.9nm,0.9s							
ASAR	**Alice Springs**	**76.19**	**109**	P	**P**		**13 08 43.7**	**+0.8**
ASAR	**Alice Springs**	**76.19**	**109**	P	**P**		**13 08 43.4**	**+0.6**
	comp=Z,1.1nm,1.1s,baz=225,slow=5.1,SNR=3.7							
	comp=Z,1.1nm,1.1s							
BDFB	**Brasilia**	**78.51**	**259**	P	**P**		**13 08 55.7**	**-0.4**
	comp=Z,4.6nm,0.9s,baz=59,slow=6.9,SNR=5.6							
	comp=Z,4.6nm,0.9s							
BRTR	**Keskin Array B**	**83.32**	**354**	P	**P**		**13 09 21.3**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=164,slow=4.9,SNR=4.6							
	comp=Z,1.0nm,0.8s							
MDT	**Midelt**	**86.72**	**323**	LR	LR		13 47 44.1	
	comp=Z,157nm,18.7s,baz=244,slow=35							
TXAR	**Lajitas Array**	**148.29**	**255**	PKPbc	**PKPbc**		**13 16 39.8**	**-0.9**
	comp=Z,0.7nm,0.9s,baz=134,slow=5.4,SNR=5.6							
YKA	**Yellowknife Ar**	**156.35**	**331**	PKPab	**PKPab**		**13 17 15.5**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=37,slow=4.4,SNR=8.1							

*IDC **06** 12:57:46.5±2.0, 13°.48N×87°.69W, h0km, mb3.0/2, mbtmp3.2/3, ML2.5/2, Error ellipse: s-maj=86.8km s-min=29.6km az=47.0*
*SNET **06** 12:57:47.4±0.9, 13°.25N×88°.07W, h9km±3km, ML3.3*
*CATAC **06** 12:57:47.7±0.2, 13°.26N×88°.02W, h1km±1km, mb3.9, ML3.9*

ISC 06 12:57:48.1±0.8, 13°.27N±0°.04×88°.04W±0°.02, h12km±6km, n49, σ0s 80/58, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CNCH	**Conchagua**	**0.20**	**87**	*e*P	**Pg**		**12 57 52.8**	**+0.3**
CNCH				*e*S	**Sg**		**12 57 56.5**	**+0.9**
CNCH	**Conchagua**	**0.20**	**87**	*i* S	**Pg**		**12 57 52.8**	**+0.3**
JUCU	**Jucuarįn**	**0.21**	**266**	*e*P	**Pg**		**12 57 52.1**	**-0.5**
JUCU				*e*S	**Sg**		**12 57 55.1**	**-0.5**
JUCU				AMP			12 57 57.3	
JUCU	**Jucuarįn**	**0.21**	**266**	*i* P	**Pg**		**12 57 52.1**	**-0.5**
JUCU				*i* S	**Sg**		**12 57 54.9**	**-0.8**
JUCU				IAML			12 58 23.6	
	comp=Z,24μm,1.0s							
CNRM	**Centro Naciona**	**0.24**	**328**	*e*P	**Pg**		**12 57 53.0**	**-0.3**
CNRM				*e*S	**Sg**		**12 57 57.0**	**+0.4**
CNRM	**Centro Naciona**	**0.24**	**328**	*i* P	**Pg**		**12 57 52.9**	**-0.3**
CNRM				*i* S	**Sg**		**12 57 56.0**	**-0.7**
CNRM				IAML			12 58 24.3	
	comp=Z,110μm,1.0s							
BLLM	**Bellamira**	**0.26**	**312**	*e*P	**Pg**		**12 57 53.3**	**-0.3**
RANC	**El Ranchito**	**0.29**	**304**	*i* P	**Pg**		**12 57 54.1**	**-0.1**
RANC				IAML			12 58 28.8	
	comp=Z,10μm,1.0s							
PACA	**Pacayal**	**0.34**	**306**	*e*P	**Pg**		**12 57 55.0**	**-0.1**
PACA	**Pacayal**	**0.34**	**306**	*i* P	**Pg**		**12 57 55.0**	**-0.1**
PACA				*i* S	**Sg**		**12 57 59.3**	**-0.4**
PACA				IAML			12 58 23.4	
	comp=Z,52μm,1.0s							
AMPH	**Amapala**	**0.37**	**87**	*i* P	**Pb**		**12 57 55.8**	**-0.9**
AMPH				*e*S	**Sb**		**12 58 01.9**	**-0.5**
AMPH	**Amapala**	**0.37**	**87**	*i* P	**Pb**		**12 57 55.9**	**-0.7**
COEB	**Comit de Eme**	**0.53**	**296**	*e*P	**Pg**		**12 57 58.1**	**-0.5**
COEB				*e*S	**Sg**		**12 58 05.9**	**+0.3**
COEB				IAML			12 58 07.2	
	comp=Z,2μm,0.3s							
COEB	**Comit de Eme**	**0.53**	**296**	*i* P	**Pg**		**12 57 58.2**	**-0.4**
COEB				*i* S	**Sg**		**12 58 05.8**	**+0.2**
COEB				IAML			12 58 38.0	
	comp=Z,2μm,1.0s							
PQSS	**Presa 15 de Se**	**0.62**	**305**	*i* P	**Pg**		**12 57 59.8**	**-0.4**
PQSS				IAML			12 58 24.0	
	comp=Z,2μm,1.0s							
TECO	**Alcaldia de Te**	**0.77**	**290**	*i* P	**Pg**		**12 58 02.5**	**-0.6**
TECO				IAML			12 58 25.3	
	comp=Z,2μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.80**	**303**	*i* P	**Pg**

CDM				IAmb	IAmb	12 59 39.6	
	comp=Z,17nm,1.3s						
CDM				IAML		12 59 44.0	
	comp=Z,31nm,1.0s						
TXAR	**Lajitas Array**	**21.58 320**	P	**P**		**13 02 39.1**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=137,slow=11,SNR=2.6						
	comp=Z,0.3nm,0.8s						
YKA	**Yellowknife Ar**	**52.68 345**	P	**P**		**13 07 01.4**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=137,slow=7.5,SNR=5.7						
	comp=Z,0.4nm,0.9s						
WRA	**Warramunga Arr**	**138.94 255**	PKP	**PKPdf**		**13 17 17.6**	**+2.1**
	comp=Z,0.5nm,1.0s,baz=90,slow=2.4,SNR=1.7						

*IDC **06** 12:58:14.8±2.1,8˚.27S×125˚.10E,h0km,mb3.7/1, mbtmp3.3/3,ML3.2/2,Error ellipse: s-maj=193.7km s-min=33.1km az=59.0*
*DJA **06** 12:58:26.2±0.6,9˚S±3˚×12˚4E±˚,h33km±14km,M3.2/7, MLv3.2/7*
ISC 06 12:58:17.2±1.4,**8˚.79S**±0˚.09×**124˚.38E**±0˚.09,**h10**km,**n8**, σ**2°24/11**,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.97**	**187**	P	**Pn**	**12 58 40.9**	**+3.9**
BATI	**Baumata**	**1.58**	**207**	P	**Pb**	**12 58 46.6**	**+0.1**
BATI				S	**Sn**	12 59 02.5	**-3.3**
MMRI	**Maumere**	**2.12**	**274**	P	**Pb**	**12 58 55.9**	**+0.1**
MMRI				S	**Sn**	12 59 19.6	**+0.4**
EDFI	**Ende, Flores**	**2.66**	**271**	P	**Pn**	**12 59 03.0**	**+2.7**
EDFI				S	**Sn**	12 59 31.1	**-1.5**
BASI	**Baing, Sumba**	**4.01**	**249**	P	**Pn**	**12 59 19.7**	**+0.9**
WRA	**Warramunga Arr**	**14.69**	**140**	Pn	**Pn**	**13 01 44.0**	**-1.3**
	0.1nm,0.3s,baz=321,slow=13,SNR=11						
WRA				Sn	Sn	13 04 16.3	-12
	0.4nm,0.3s,baz=314,slow=22,SNR=8.4						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**17.38**	**149**	P	**Pn**	**13 02 20.0**	**0.0**
	0.1nm,0.3s,baz=320,slow=12,SNR=7.8						
ASAR				S	Sn	13 05 17.1	-17
	0.3nm,0.6s,baz=322,slow=22,SNR=2.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**66.82**	**330**	P	**P**	**13 09 07.9**	**-1.3**
	0.6nm,0.8s,baz=147,slow=5.3,SNR=2.3						
	0.6nm,0.8s						

*CATAC **06** 13:07:30.4±0.2,13˚.26N×88˚.02W,h2km±2km,ML3.5*
*SNET **06** 13:07:30.0±0.6,13˚.28N×88˚.06W,h5km±3km,ML3.7*
ISC 06 13:07:30.7±0.9,**13˚28N**±0˚.05×**88˚.05W**±0˚.03,**h13**km±7km, **n38**,σ**0°69/44**,**3C-4D**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.19**	**264**	*i*P	**Pg**	**13 07 34.6**	**-0.4**
JUCU				*e*S	**Sg**	**13 07 37.8**	**-0.3**
JUCU				IAML		13 07 44.3	
	comp=Z,10µm,0.4s						
JUCU	**Jucuarįn**	**0.19**	**264**	*i* P	**Pg**	**13 07 34.7**	**-0.4**
JUCU				IAML		13 07 52.5	
	comp=Z,8µm,1.0s						
CNCH	**Conchagua**	**0.21**	**89**	⇓*i*P	**Pg**	**13 07 35.5**	**+0.1**
CNCH				*e*S	**Sg**	**13 07 39.1**	**+0.5**
CNCH	**Conchagua**	**0.21**	**89**	*i* P	**Pg**	**13 07 35.5**	**+0.1**
CNCH				IAML		13 07 42.7	
	comp=Z,33µm,1.0s						
CNRM	**Centro Naciona**	**0.23**	**330**	*i* P	**Pg**	**13 07 35.6**	**-0.1**
CNRM				*i* S	**Sg**	**13 07 38.3**	**-0.7**
CNRM				IAML		13 07 47.2	
	comp=Z,38µm,1.0s						
BLLM	**Bellamira**	**0.25**	**313**	⇑*i*P	**Pg**	**13 07 35.9**	**-0.1**
VSM	**San Miguel**	**0.27**	**305**	⇓*i*P	**Pg**	**13 07 36.5**	**+0.1**
RANC	**El Ranchito**	**0.28**	**304**	⇑*i*P	**Pg**	**13 07 36.6**	**0.0**
RANC	**El Ranchito**	**0.28**	**304**	*i* P	**Pg**	**13 07 36.7**	**0.0**
RANC				IAML		13 07 48.3	
	comp=Z,4µm,1.0s						
PACA	**Pacayal**	**0.33**	**306**	⇑*e*P	**Pg**	**13 07 37.4**	**-0.1**
PACA	**Pacayal**	**0.33**	**306**	*i* P	**Pg**	**13 07 37.6**	**+0.1**
PACA				*i* S	**Sg**	**13 07 41.5**	**-0.5**
PACA				IAML		13 07 48.5	
	comp=Z,17µm,1.0s						
COEB	**Comit de Eme**	**0.52**	**296**	⇓*e*P	**Pg**	**13 07 40.7**	**-0.2**
COEB	**Comit de Eme**	**0.52**	**296**	*i* P	**Pg**	**13 07 40.7**	**-0.2**
COEB				IAML		13 07 40.9	
	comp=Z,1µm,1.0s						
COEB				*i* S	**Sg**	**13 07 47.6**	**-0.2**
PQSS	**Presa 15 de Se**	**0.60**	**305**	*i* P	**Pg**	**13 07 42.2**	**-0.3**
PQSS				IAML		13 07 43.6	
	comp=Z,980nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.78**	**303**	*i* P	**Pg**	**13 07 45.7**	**-0.2**
SCLA				IAML		13 07 48.5	
	comp=Z,370nm,1.0s						
UESV	**Universidad de**	**0.80**	**297**	*i* P	Pn	13 07 57.2	+9.4
UESV				IAML		13 08 01.8	
	comp=Z,600nm,1.0s						
COEG	**Centro de Oper**	**0.88**	**293**	*i* P	**Pg**	**13 07 46.9**	**-0.8**
COEG	**Centro de Oper**	**0.88**	**293**	*i* P	**Pg**	**13 07 47.1**	**-0.6**
COEG				IAML		13 08 00.4	
	comp=Z,1µm,1.0s						
PAVA	**Las Pavas**	**0.97**	**297**	*i* P	**Pg**	**13 07 48.8**	**-0.6**
PAVA				IAML		13 08 04.8	
	comp=Z,2µm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.08**	**44**	*i* P	**Pg**	**13 07 50.6**	**-1.0**
TGUH				IAML		13 08 09.7	
	comp=Z,2µm,1.0s						
CRIN	**San Cristobal**	**1.13**	**120**	*i* P	**Pb**	**13 07 52.2**	**0.0**
CRIN				IAML		13 07 52.8	
	comp=Z,6µm,1.0s						
PANCS	**Alcalda de**	**1.15**	**287**	*i* P	**Pg**	**13 07 52.6**	**-0.2**
PANCS				IAML		13 08 07.7	
	comp=Z,3µm,1.0s						
LOMA	**Loma Larga**	**1.15**	**289**	*i* P	**Pg**	**13 07 52.2**	**-0.7**
LOMA				IAML		13 08 08.9	
	comp=Z,1µm,1.0s						
UDBS	**Universidad Do**	**1.16**	**292**	*i* P	**Pg**	**13 07 52.2**	**-0.9**
UDBS				IAML		13 08 12.2	
	comp=Z,850nm,1.0s						
SNET	**Serv Nac Est T**	**1.22**	**290**	*i* P	**Pg**	**13 07 53.0**	**-1.2**
SNET				IAML		13 07 53.5	
	comp=Z,1µm,1.0s						
UEES	**Universidad Ev**	**1.24**	**291**	*i* P	**Pg**	**13 07 53.6**	**-0.9**
UEES				IAML		13 08 19.6	
	comp=Z,500nm,1.0s						
LLGN	**La Laguna**	**1.24**	**316**	*i* P	**Pg**	**13 07 52.7**	**-1.9**
LLGN				IAML		13 07 55.8	
	comp=Z,850nm,1.0s						
LLGN				*i* S	**Sn**	**13 08 11.7**	**+1.2**
LALI	**Alcalda de L**	**1.25**	**280**	*i* P	**Pb**	**13 07 54.6**	**+0.4**
LALI				IAML		13 08 21.2	
	comp=Z,200nm,1.0s						
PMON	**Piamonte**	**1.30**	**290**	*i* P	**Pg**	**13 07 54.7**	**-1.1**
PMON				*i* S	**Sn**	**13 08 13.5**	**+1.4**
PMON				IAML		13 08 14.8	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**1.41**	**286**	*i* P	**Pn**	**13 07 56.0**	**-0.3**
JAYA				IAML		13 08 16.1	
	comp=Z,2µm,1.0s						
CNGA	**Al SSO del Vol**	**1.53**	**120**	*i* P	**Pn**	**13 07 56.4**	**-1.4**
CNGA				IAML		13 08 31.9	
	comp=Z,450nm,1.0s						
CNGN	**Cerro Negro**	**1.53**	**120**	*i* P	**Pn**	**13 07 57.5**	**-0.3**
CNGN				IAML		13 08 27.6	
	comp=Z,580nm,1.0s						
MTO3	**Montecristo**	**1.69**	**311**	*i* P	**Pn**	**13 08 00.8**	**+0.6**
MTO3				IAML		13 08 01.4	
	comp=Z,200nm,1.0s						
MOMN	**Momotombo**	**1.71**	**120**	*i* P	**Pn**	**13 08 00.7**	**+0.5**
MOMN				IAML		13 08 27.1	
	comp=Z,20nm,1.0s						
MOM2	**El Cardon**	**1.74**	**118**	*i* P	**Pn**	**13 08 00.1**	**-0.5**
MOM2				IAML		13 08 33.3	
	comp=Z,220nm,1.0s						
COPN	**Copaltepe**	**1.79**	**127**	*i* P	**Pn**	**13 08 01.2**	**-0.2**
COPN				IAML		13 08 31.2	
	comp=Z,230nm,1.0s						
NUBE	**Las Nubes**	**1.79**	**291**	*i* P	**Pn**	**13 08 02.0**	**+0.5**
NUBE				IAML		13 08 29.3	
	comp=Z,440nm,1.0s						
APYN	**Apoyeque**	**1.96**	**122**	*i* P	**Pn**	**13 08 03.8**	**+0.2**
APYN				IAML		13 08 06.1	
	comp=Z,300nm,1.0s						

*NNC **06** 13:11:07.1±0.5,50˚.05N×78˚.99E,h0km,mb3.3,mpv2.6, Error ellipse: s-maj=10.7km s-min=2.5km az=62.0, Suspected Mining explosion.*
*IDC **06** 13:11:08.8±1.0,50˚.06N×78˚.75E,h0km,mbtmp2.5/2, ML1.9/2,Error ellipse: s-maj=11.5km s-min=6.4km az=65.0*
ISC 06 13:11:08.2±1.1,**50˚.08N**±0˚.06×**78˚.7E**±0˚.1,**h0**km,**n17**, σ**0°83/24**,**13C-8D**,**Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR07	**Kurchatov Arra**	**0.52**	**346**	⇓P	**Pb**	**13 11 19.2**	**-1.0**
KUR07				⇑S	**Sb**	**13 11 28.6**	**+0.4**
KUR06	**Kurchatov Arra**	**0.53**	**347**	⇓P	**Pb**	**13 11 19.4**	**-1.0**
KUR06				⇓S	**Sb**	**13 11 28.7**	**+0.1**
KUR14	**Kurchatov Arra**	**0.54**	**352**	⇓P	**Pb**	**13 11 19.4**	**-1.1**
KUR14				⇓S	**Sb**	**13 11 28.7**	**0.0**
KUR15	**Kurchatov Arra**	**0.54**	**350**	⇑P	**Pb**	**13 11 19.6**	**-1.0**
KUR15				⇑S	**Sb**	**13 11 28.7**	**-0.3**
KURBB	**Kurchatov Arra**	**0.55**	**348**	⇑P	**Pg**	**13 11 19.6**	**+0.8**
	8.7nm,0.6s						
KURBB				⇑S	**Sb**	**13 11 29.1**	**-0.1**
	135nm,0.8s						
KURBB	**Kurchatov Arra**	**0.55**	**348**	Pg	**Pb**	**13 11 19.8**	**-1.0**
	0.7nm,0.3s,baz=167,slow=18,SNR=26						
KURBB				Lg	Lg	13 11 28.8	
	1.1nm,0.3s,baz=168,slow=32,SNR=32						
KUR16	**Kurchatov Arra**	**0.56**	**346**	⇓P	**Pb**	**13 11 20.1**	**-0.8**
KUR16				⇑S	**Sb**	**13 11 29.0**	**-0.5**
KUR05	**Kurchatov Arra**	**0.57**	**349**	⇑P	**Pb**	**13 11 20.0**	**-1.0**
KUR05				⇑S	**Sb**	**13 11 29.2**	**-0.5**
KUR04	**Kurchatov Arra**	**0.59**	**350**	⇑P	**Pb**	**13 11 20.5**	**-0.9**
KUR04				⇓S	**Sb**	**13 11 29.6**	**-0.7**
KURK	**Kurchatov**	**0.64**	**355**	⇑P	**Pg**	**13 11 21.0**	**+0.6**
	8.1nm,0.9s						
KURK				⇑S	**Sb**	**13 11 30.4**	**-1.2**
	53nm,0.9s						
MAKZ	**Makanchi**	**3.93**	**145**	⇓Lg	Lg	13 13 07.3	
	6.7nm,0.7s						
MK31	**Makanchi Array**	**4.07**	**143**	⇑Pg	**Pb**	**13 12 19.5**	**-1.2**
	1.9nm,0.7s						
MK31				Lg	Lg	13 13 12.5	
	4.8nm,0.6s,baz=336,slow=28,SNR=16						
MKAR	**Makanchi Array**	**4.07**	**143**	Pn	**Pn**	**13 12 12.2**	**+0.5**
	0.1nm,0.3s,baz=321,slow=10.0,SNR=18						
MKAR				Pg	**Pb**	**13 12 20.0**	**-0.6**
	0.2nm,0.3s,baz=324,slow=17,SNR=9.0						
MKAR				Lg	Lg	13 13 13.2	
	0.7nm,0.3s,baz=331,slow=27,SNR=12						
	0.4nm,0.7s						
OTUK	**Ortayu**	**4.57**	**249**	⇑Lg	Lg	13 13 34.4	
	3.7nm,0.6s						
I46RU	**ZALESOVO INFRA**	**5.40**	**42**	I	I	13 44 30.0	
	baz=224,slow=332,SNR=7.4						
ZALV	**Zalesovo Beam**	**5.40**	**42**	Pn	**Pn**	**13 12 30.8**	**+0.8**
	0.2nm,0.3s,baz=226,slow=14,SNR=4.2						
ZALV				Lg	Lg	13 13 57.0	
	0.2nm,0.3s,baz=225,slow=27,SNR=4.5						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**5.97**	**303**	Sn	**Sn**	**13 13 47.1**	**+0.3**
	baz=111,slow=25,SNR=3.1						
BVAR				Lg	Lg	13 14 15.0	
	baz=114,slow=30,SNR=2.1						

*CATAC **06** 13:14:13.7±0.2,13˚.29N×88˚.04W,h5km±2km,MB5.3, mb3.7,ML3.6*
*SNET **06** 13:14:13.0±0.7,13˚.27N×88˚.07W,h5km±3km,ML3.7*
ISC 06 13:14:13.7±0.8,**13˚30N**±0˚.04×**88˚.06W**±0˚.02,**h14**km±6km, **n37**,σ**0°62/54**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.20**	**256**	*e*P	**Pg**	**13 14 17.8**	**-0.5**
JUCU				*e*S	**Sg**	**13 14 20.8**	**-0.4**
JUCU	**Jucuarįn**	**0.20**	**256**	*i* P	**Pg**	**13 14 17.7**	**-0.5**
JUCU				*i* S	**Sg**	**13 14 21.1**	**-0.2**
JUCU				IAML		13 14 26.8	
	comp=Z,13µm,1.0s						
CNRM	**Centro Naciona**	**0.20**	**327**	*i* P	**Pg**	**13 14 18.4**	**+0.1**
CNCH	**Conchagua**	**0.22**	**97**	*e*P	**Pg**	**13 14 18.3**	**-0.2**
CNCH				*e*S	**Sg**	**13 14 22.2**	**+0.3**
CNCH	**Conchagua**	**0.22**	**97**	*i* P	**Pg**	**13 14 18.4**	**-0.2**
CNCH				*i* S	**Sg**	**13 14 22.2**	**+0.3**
CNCH				IAML		13 14 22.6	
	comp=Z,43µm,1.0s						
BLLM	**Bellamira**	**0.23**	**308**	*i* P	**Pg**	**13 14 18.9**	**+0.2**
VSM	**San Miguel**	**0.25**	**300**	*i* P	**Pg**	**13 14 19.4**	**+0.2**
LCY	**Lacayo**	**0.26**	**297**	*i* P	**Pg**	**13 14 19.6**	**+0.3**
RANC	**El Ranchito**	**0.26**	**300**	*i* P	**Pg**	**13 14 19.5**	**+0.1**
RANC				*i* S	**Sg**	**13 14 23.9**	**+0.7**
RANC				IAML		13 14 28.9	
	comp=Z,5µm,1.0s						
PACA	**Pacayal**	**0.31**	**302**	*e*P	**Pg**	**13 14 20.5**	**+0.3**
PACA	**Pacayal**	**0.31**	**302**	*i* P	**Pg**	**13 14 20.4**	**+0.2**
PACA				*i* S	**Sb**	**13 14 25.8**	**-0.3**
PACA				IAML		13 14 26.5	
	comp=Z,29µm,1.0s						
AMPH	**Amapala**	**0.39**	**92**	*e*P	**Pg**	**13 14 21.3**	**-0.2**
AMPH				*e*S	**Sg**	**13 14 27.1**	**+0.4**
TECA	**Tecapa**	**0.48**	**294**	*e*P	**Pg**	**13 14 23.2**	**0.0**
COEB	**Comit de Eme**	**0.50**	**293**	*e*P	**Pg**	**13 14 23.7**	**0.0**
COEB	**Comit de Eme**	**0.50**	**293**	*i* P	**Pg**	**13 14 23.8**	**+0.1**
COEB				*i* S	**Sb**	**13 14 31.4**	**-0.3**
COEB				IAML		13 14 33.6	
	comp=Z,1µm,1.0s						
PQSS	**Presa 15 de Se**	**0.59**	**303**	*i* P	**Pg**	**13 14 25.4**	**+0.2**
PQSS				*i* S	**Sb**	**13 14 35.6**	**+1.6**
PQSS				IAML		13 14 39.3	
	comp=Z,580nm,1.0s						
TECO	**Alcaldia de Te**	**0.74**	**288**	*e*P	**Pg**	**13 14 27.8**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.77**	**301**	*i* P	**Pg**	**13 14 28.7**	**+0.1**
SCLA				*i* S	**Sn**	**13 14 41.1**	**-0.5**
SCLA				IAML		13 14 47.4	
	comp=Z,470nm,1.0s						
UESV	**Universidad de**	**0.79**	**295**	*i* P	**Pg**	**13 14 28.9**	**-0.1**
COEG	**Centro de Oper**	**0.86**	**292**	*e*P	**Pg**	**13 14 30.0**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.07**	**45**	*i* P	**Pb**	**13 14 33.2**	**-0.9**
TGUH				*i* S	**Sg**	**13 14 48.4**	**+0.1**
TGUH				IAML		13 14 52.6	
	comp=Z,3µm,1.0s						
CRIN	**San Cristobal**	**1.15**	**121**	*i* P	**Pb**	**13 14 35.2**	**-0.2**
CRIN				IAML		13 14 35.8	
	comp=Z,7µm,1.0s						
LLGN	**La Laguna**	**1.22**	**315**	*i* P	**Pn**	**13 14 35.9**	**-0.5**
PMON	**Piamonte**	**1.29**	**289**	*i* P	**Pn**	**13 14 37.7**	**+0.2**
PMON				*i* S	**Sg**	**13 14 55.5**	**+0.1**
PMON				IAML		13 14 59.9	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**1.40**	**285**	*i* P	**Pn**	**13 14 38.8**	**-0.2**
JAYA				*i* S	**Sg**	**13 14 58.4**	**-0.5**
JAYA				IAML		13 14 59.2	
	comp=Z,2µm,1.0s						
CNGA	**Al SSO del Vol**	**1.54**	**121**	*i* P	**Pn**	**13 14 38.9**	**-2.0**
CNGA				*i* S	**Sb**	**13 15 01.9**	**+0.3**
CNGN	**Cerro Negro**	**1.54**	**121**	*i* P	**Pn**	**13 14 40.1**	**-0.8**
CNGN				*i* S	**Sb**	**13 15 02.3**	**+0.7**
CNGN				IAML		13 15 11.5	
	comp=Z,640nm,1.0s						
CEVE	**Cerro Verde**	**1.61**	**289**	*i* P	**Pb**	**13 14 43.5**	**+0.1**
CEVE				IAML		13 15 09.6	
	comp=Z,1µm,1.0s						
MTO3	**Montecristo**	**1.67**	**311**	*i* P	**Pn**	**13 14 43.1**	**+0.3**
MTO3				*i* S	**Sg**	**13 15 06.9**	**-0.8**
MTO3				IAML		13 15 07.4	
	comp=Z,200nm,1.0s						
MOMN	**Momotombo**	**1.72**	**121**	*i* P	**Pn**	**13 14 43.3**	**-0.1**
MOMN				IAML		13 14 44.4	
	comp=Z,27nm,1.0s						
MOMN				*i* S	**Sb**	**13 15 06.5**	**-0.3**
MOM2	**El Cardon**	**1.76**	**119**	*i* P	**Pn**	**13 14 43.1**	**-0.6**
NUBE	**Las Nubes**	**1.78**	**290**	*i* P	**Sb**	**13 15 09.5**	**+1.0**
COPN	**Copaltepe**	**1.81**	**128**	*i* P	**Pn**	**13 14 44.3**	**-0.2**
COPN				IAML		13 15 13.0	
	comp=Z,280nm,1.0s						
APYN	**Apoyeque**	**1.97**	**122**	*i* P	**Pn**	**13 14 48.0**	**+1.2**
APYN				IAML		13 14 49.0	
	comp=Z,560nm,1.0s						
HZTE	**Horizontes, Gu**	**3.52**	**137**	*i* P	**Pn**	**13 15 09.0**	**+0.9**
HZTE				IAML		13 17 30.6	
	comp=Z,110nm,1.0s						
ORTG	**Ortega, Santa**	**3.87**	**139**	*i* P	**Pn**	**13 15 14.0**	**+1.0**
ORTG				IAML		13 17 13.9	
	comp=Z,43nm,1.0s						
CDM	**Cerro de Muert**	**5.62**	**131**	*i* P	**Pn**	**13 15 38.6**	**+1.3**
CDM				IAML	IAmb	13 15 42.8	
	comp=Z,5.9nm,0.6s						
CDM				IAML		13 16 23.2	
	comp=Z,23nm,1.0s						

*CATAC **06** 13:15:35.9±0.3,13˚.28N×88˚.06W,h8km±2km,ML3.5*
*SNET **06** 13:15:35.5±0.6,13˚.27N×88˚.06W,h3km±3km,ML3.7*
ISC 06 13:15:36.1±0.8,**13˚30N**±0˚.05×**88˚.07W**±0˚.02,**h16**km±6km, **n27**,σ**0°36/37**,**1C-4D**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.18**	**256**	*e*P	**Pg**	**13 15 40.4**	**-0.3**
JUCU				*e*S	**Sg**	**13 15 43.4**	**-0.3**
JUCU				IAML		13 15 50.0	
	comp=Z,16µm,0.5s						
JUCU	**Jucuarįn**	**0.18**	**256**	*i* P	**Pg**	**13 15 40.6**	**-0.1**
JUCU				*i* S	**Sg**	**13 15 43.7**	**0.0**
JUCU				IAML		13 15 49.8	
	comp=Z,14µm,1.0s						
CNRM	**Centro Naciona**	**0.20**	**330**	*i* P	**Pg**	**13 15 41.2**	**+0.3**
CNRM				*i* S	**Sb**	**13 15 45.6**	**+0.5**
CNRM				IAML		13 15 52.6	
	comp=Z,42µm,1.0s						
BLLM	**Bellamira**	**0.22**	**310**	⇑*i*P	**Pg**	**13 15 41.5**	**+0.3**
CNCH	**Conchagua**	**0.23**	**96**	*e*P	**Pg**	**13 15 41.2**	**-0.2**
CNCH				*e*S	**Sg**	**13 15 45.0**	**0.0**
CNCH				IAML		13 15 46.4	
	comp=Z,41µm,0.2s						
CNCH	**Conchagua**	**0.23**	**96**	*i* P	**Pg**	**13 15 41.2**	**-0.2**
CNCH				*i* S	**Sg**	**13 15 45.1**	**+0.2**
CNCH				IAML		13 15 46.4	
	comp=Z,43µm,1.0s						
VSM	**San Miguel**	**0.24**	**302**	*e*P	**Pg**	**13 15 42.2**	**+0.5**
RANC	**El Ranchito**	**0.26**	**302**	*i* P	**Pb**	**13 15 42.4**	**-0.1**
RANC				IAML		13 15 53.9	
	comp=Z,6µm,1.0s						
PACA	**Pacayal**	**0.30**	**304**	*e*P	**Pb**	**13 15 43.2**	**-0.1**
PACA	**Pacayal**	**0.30**	**304**	*i* P	**Pg**	**13 15 43.1**	**+0.5**
PACA				IAML		13 15 54.2	
	comp=Z,31µm,1.0s						
AMPH	**Amapala**	**0.40**	**92**	⇓*i*P	**Pg**	**13 15 44.2**	**0.0**
TECA	**Tecapa**	**0.47**	**295**	⇓*i*P	**Pg**	**13 15 46.0**	**+0.4**
COEB	**Comit de Eme**	**0.49**	**294**	⇓*i*P	**Pg**	**13 15 46.4**	**+0.3**
COEB				IAML		13 15 55.4	
	comp=Z,2µm,0.3s						
COEB	**Comit de Eme**	**0.49**	**294**	*i* P	**Pb**	**13 15 46.5**	**0.0**
COEB				*i* S	**Sb**	**13 15 53.8**	**+0.2**
COEB				IAML		13 15 55.3	
	comp=Z,2µm,1.0s						
PQSS	**Presa 15 de Se**	**0.58**	**304**	*i* P	**Pg**	**13 15 47.6**	**0.0**
PQSS				IAML		13 15 49.3	
	comp=Z,1µm,1.0s						
TECO	**Alcaldia de Te**	**0.73**	**289**	*e*P	**Pg**	**13 15 50.2**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.76**	**302**	*i* P	**Pb**	**13 15 51.2**	**+0.2**
SCLA				IAML		13 15 54.1	
	comp=Z,380nm,1.0s						
SCLA				*i* S	**Sn**	**13 16 03.7**	**+0.2**
UESV	**Universidad de**	**0.78**	**296**	*i* P	**Pb**	**13 15 51.5**	**+0.1**
UESV				*i* S	**Sn**	**13 16 03.0**	**-0.9**
UESV				IAML		13 16 03.5	
	comp=Z,1µm,1.0s						
COEG	**Centro de Oper**	**0.85**	**292**	⇓*e*P	**Pb**	**13 15 52.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**1.08**	**46**	*i* P	**Pb**	**13 15 55.8**	**-0.7**
TGUH				IAML		13 15 59.6	
	comp=Z,2µm,1.0s						
TGUH				*i* S	**Sg**	**13 16 11.2**	**0.0**
PANCS	**Alcalda de**	**1.13**	**286**	*i* P	**Sn**	**13 16 12.5**	**-0.1**
CRIN	**San Cristobal**	**1.16**	**121**	*i* P	**Pb**	**13 15 57.9**	**+0.1**
CRIN				IAML		13 15 58.5	
	comp=Z,9µm,1.0s						
LLGN	**La Laguna**	**1.21**	**315**	*i* P	**Pn**	**13 15 58.3**	**-0.3**
LLGN				IAML		13 16 01.5	
	comp=Z,450nm,1.0s						
LLGN				*i* S	**Sg**	**13 16 15.5**	**+0.1**
MOM2	**El Cardon**	**1.76**	**119**	*i* P	**Pn**	**13 16 06.5**	**+0.5**
MOM2				IAML		13 16 08.6	
	comp=Z,330nm,1.0s						
COPN	**Copaltepe**	**1.82**	**128**	*i* P	**Pn**	**13 16 06.9**	**+0.1**
COPN				IAML		13 16 36.8	
	comp=Z,220nm,1.0s						
APYN	**Apoyeque**	**1.98**	**122**	*i* P	**Pn**	**13 16 09.8**	**+0.7**
APYN				IAML		13 16 11.7	
	comp=Z,540nm,1.0s						
GUMI	**Mixco**	**2.81**	**298**	*i* P	**Pn**	**13 16 20.0**	**-0.6**

*AEIC **06** 13:17:19±2.4,51˚.2N×0˚.2×178˚.60W±0˚.05,h77km±9km, Error ellipse: s-maj=26.9km s-min=4.2km az=176.0*
NEIC 06 13:17:21.1±1.0,**51˚.3N**±0˚.1×**178˚.67W**±0˚.03,**h35**km±2km, **ML3.6**(AEIC),**Error ellipse: s-maj=20.2km s-min=3.1km az=177.0**,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEPE	**Semis' Perret**	**1.25**	**304**		Pn	13 17 42.4	+0.3
CEPE					Sn	13 17 59.9	+2.1
CESW	**Semis' Southwe**	**1.27**	**300**		Pn	13 17 42.3	0.0
AMKA	**Amchitka**	**1.27**	**275**		Pn	13 17 41.1	-1.3
AMKA	**Amchitka**	**1.27**	**275**		Sn	13 18 01.1	+2.8
LSSE	**Little Sitkin**	**1.84**	**292**		Pn	13 17 50.1	-0.1
LSPA	**Little Sitkin**	**1.85**	**293**		Pn	13 17 50.5	+0.2
ATKA	**Atka Island**	**2.94**	**70**		Pn	13 18 03.1	-2.1

LPAZ	**La Paz**	**3.14**	**22**	Pn	**Pn**	**13 18 39.5**	**+0.6**		
	comp=N,1.5nm,0.3s,baz=201,slow=5.5,SNR=21								
	comp=N,3.0nm,0.3s								
SIV	**San Ignacio**	**8.52**	**69**	Pn	Pn	13 19 47.3	-3.3		
	baz=238,slow=12,SNR=10								
	comp=N,1.6nm,0.5s								
BDFB	**Brasilia**	**20.66**	**83**	P	**P**	**13 22 21.4**	**+0.8**		
	comp=N,4nm,0.5s,baz=246,slow=9.2,SNR=4.9								
	comp=N,2.4nm,0.5s								
PLCA	**Paso Flores**	**21.46**	**182**	LR	LR	13 28 33.8			
	comp=N,314nm,18.9s,baz=30,slow=33								
SNAA	**Sanae**	**64.55**	**161**	LR	LR	13 55 20.4			
	comp=N,220nm,18.0s,baz=10.0,slow=36								
TORD	**Torodi Ar. Bea**	**77.00**	**71**	P	**P**	**13 29 30.0**	**-0.3**		
	comp=N,0.6nm,0.7s,baz=250,slow=4.6,SNR=12								
	comp=N,0.6nm,0.7s								
YKA	**Yellowknife Ar**	**88.92**	**341**	P	**P**	**13 30 29.6**	**-1.0**		
	comp=N,0.3nm,0.8s,baz=129,slow=3.9,SNR=6.4								
	comp=N,0.3nm,0.8s								

*AEIC **06** 13:20:57.0±0.8,56°.56N±0°.10×148°.6W±0°.1,h11km±8km, Error ellipse: s-maj=14.0km s-min=9.1km az=169.0*

NEIC 06 13:20:51.5±0.8,56°.54N±0°.08×148°.58W±0°.06,h10km±1km, ML3.3/56,ML2.5(AEIC), Error ellipse: s-maj=14.1km s-min=5.6km az=8.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.51**	**301**	Pn	Pn	13 21 32.5	+0.1
KDAK	**Kodiak Island**	**2.51**	**301**	Sn	Sn	13 22 00.3	-2.7
OHAK	**Old Harbor**	**2.67**	**287**		Pn	13 21 33.9	-0.7
OHAK					Sn	13 22 03.3	-3.7
SYI	**Shuyak Island**	**2.92**	**317**		Pn	13 21 38.5	+0.6
SYI					Sn	13 22 09.7	-3.4
Q23K	**Middleton Isla**	**3.13**	**21**		Pn	13 21 40.1	-0.8
Q23K				IAML		13 22 53.9	
	comp=E,106nm,1.1s						
Q23K				IAML		13 23 38.4	
	comp=N,72nm,1.0s						
MID	**Middleton Isla**	**3.13**	**21**	Pn	Pn	13 21 40.0	-0.8
MID				IAML		13 22 54.0	
	comp=E,108nm,1.1s						
MID				IAML		13 22 56.5	
	comp=N,88nm,1.0s						
CNPM	**China Poot**	**3.31**	**336**		Pn	13 21 43.1	-0.3
CNPM					Sn	13 22 19.4	-3.4
BRSE	**Bradley Lake S**	**3.41**	**341**		Pn	13 21 44.6	-0.1
BRSE					Sn	13 22 22.5	-2.7
BRLK	**Bradley Lake**	**3.46**	**340**	Pn	Pn	13 21 45.1	-0.2
P23K	**Montague Islan**	**3.52**	**10**		Pn	13 21 46.1	-0.2
SEW	**Seward**	**3.60**	**353**		Pn	13 21 47.4	0.0
Q19K	**Cape Douglas,**	**3.62**	**313**		Pn	13 21 47.9	+0.2
Q19K				IAML		13 23 33.3	
	comp=N,59nm,1.2s						
P19K	**Oil Pt**	**3.98**	**324**	Pn	Pn	13 21 52.9	+0.3
CHIR	**Chirikof Islan**	**4.00**	**263**	Pn	Pn	13 21 53.1	+0.2
CHIR				IAML		13 23 28.2	
	comp=E,42nm,0.4s						
CHIR				IAML		13 23 29.5	
	comp=N,53nm,1.1s						
HIN	**Hinchinbrook I**	**4.02**	**15**		Pn	13 21 52.9	-0.2
KAIM	**Kayak Island**	**4.04**	**31**		Pn	13 21 53.3	-0.1
SLKM	**Skilak Lake**	**4.07**	**348**		Pn	13 21 53.2	-0.6
ILSW	**Iliamna Southw**	**4.21**	**327**	Pn	Pn	13 21 56.3	-0.6
ILSW				IAML		13 23 43.3	
	comp=N,18nm,0.4s						
ILSW				IAML		13 24 09.1	
	comp=E,15nm,1.1s						
EYAK	**Cordova Ski Ar**	**4.28**	**19**		Pn	13 21 56.5	-0.2
SUCK	**Suckling Hills**	**4.35**	**34**		Pn	13 21 57.6	-0.1
SUCK	**Suckling Hills**	**4.35**	**34**	IAML		13 23 53.8	
	comp=N,35nm,1.0s						
SUCK				IAML		13 24 10.5	
	comp=E,29nm,1.0s						
RAGM	**Ragged Mountai**	**4.37**	**26**		Pn	13 21 58.0	+0.1
GLI	**Glacier Island**	**4.42**	**9**	Pn	Pn	13 21 58.5	-0.1
GLI				IAML		13 23 53.2	
	comp=N,31nm,1.2s						
NICHA	**Nichawak Mount**	**4.43**	**31**		Pn	13 21 59.2	+0.5
HMT	**Hamilton**	**4.43**	**29**		Pn	13 21 59.1	+0.4
RDSO	**Redoubt South**	**4.49**	**333**		Pn	13 21 58.6	-1.1
RSO	**Redoubt South**	**4.50**	**333**	Pn	Pn	13 21 59.9	0.0
GOAT	**Goat Mountain**	**4.53**	**25**		Pn	13 22 00.7	+0.6
P18K	**Big Mountain,**	**4.55**	**312**	Pn	Pn	13 22 00.6	+0.2
RC01	**Rabbit Creek A**	**4.60**	**353**	Pn	Pn	13 22 00.9	-0.2
RC01				IAML		13 23 47.3	
	comp=E,16nm,0.6s						
BERG	**Berg Lake**	**4.63**	**31**		Pn	13 22 01.5	0.0
GRIN	**Grindle Hills**	**4.66**	**34**		Pn	13 22 02.2	+0.3
SNH	**Sunshine Point**	**4.74**	**37**	Pn	Pn	13 22 02.4	-0.6
SNH				IAML		13 23 46.9	
	comp=E,24nm,1.0s						
SNH				IAML		13 23 50.9	
	comp=N,26nm,1.2s						
O19K	**Port Alsworth**	**4.75**	**323**	Pn	Pn	13 22 03.2	+0.1
O19K				IAML		13 23 53.9	
	comp=E,33nm,0.5s						
O18K	**Koktuh Hills**	**4.83**	**316**		Pn	13 22 02.7	-1.5
O18K	**Koktuh Hills**	**4.83**	**316**	IAML		13 23 53.8	
	comp=E,9.9nm,0.6s						
O18K				IAML		13 23 55.1	
	comp=N,9.9nm,1.1s						
BMRM	**Bremner River**	**4.90**	**23**		Pn	13 22 05.4	+0.2
WAX	**Waxell Ridge**	**4.94**	**35**		Pn	13 22 05.8	0.0
WAX	**Waxell Ridge**	**4.94**	**35**	IAML		13 24 02.2	
	comp=E,29nm,1.1s						
KLU	**Klutina**	**5.15**	**14**		Pn	13 22 08.4	-0.3
KLU				IAML		13 23 56.8	
	comp=N,14nm,0.9s						
KLU				IAML		13 24 12.8	
	comp=E,15nm,1.1s						
ISLE	**Juniper Island**	**5.22**	**36**		Pn	13 22 09.7	0.0
ISLE	**Juniper Island**	**5.22**	**36**	IAML		13 24 01.4	
	comp=N,17nm,1.1s						
ISLE				IAML		13 24 05.5	
	comp=E,16nm,0.9s						
GHO	**Glory Hole Cre**	**5.25**	**358**	Pn	Pn	13 22 10.5	+0.4
GHO				IAML		13 24 03.7	
	comp=E,14nm,1.2s						
N19K	**Bonanza Creek**	**5.28**	**327**	Pn	Pn	13 22 10.3	-0.1
VRDI	**Verde Repeater**	**5.40**	**27**		Pn	13 22 11.1	-1.1
KIAG	**Kiagna River**	**5.46**	**34**		Pn	13 22 12.9	-0.1
N25K	**Chitina, Valde**	**5.48**	**20**		Pn	13 22 13.4	+0.2
GLB	**Gilahina Butte**	**5.50**	**25**	Pn	Pn	13 22 13.5	+0.1
MCARA	**McCarthy VSAT**	**5.64**	**28**	Pn	Pn	13 22 15.8	+0.4
BARN	**Barnard Glacie**	**5.78**	**36**	Pn	Pn	13 22 17.8	+0.3
CTGM	**Chitina Glacie**	**5.82**	**37**	Pn	Pn	13 22 17.1	-0.8
BCPM	**Bancas Point**	**5.83**	**50**	Pn	Pn	13 22 17.7	-0.2
LOGN	**Logan Glacier**	**5.83**	**39**	Pn	Pn	13 22 17.8	-0.3
L19K	**White Mountain**	**6.50**	**333**	Pn	Pn	13 22 26.7	-0.5
P29M	**Windy Craggy**	**6.53**	**57**	Pn	Pn	13 22 26.9	-0.6
N15K	**Kwethluk River**	**7.06**	**306**	Pn	Pn	13 22 34.9	0.0
S32K	**Killisnoo**	**7.70**	**77**	Pn	Pn	13 22 43.2	-0.4
N30M	**Aishikik Lake**	**7.71**	**45**	Pn	Pn	13 22 44.0	+0.2
M29M	**Somme Creek**	**7.84**	**37**	Pn	Pn	13 22 45.7	+0.1
P33M	**Teslin, Yukon**	**9.05**	**60**	Pn	Pn	13 23 02.4	+0.1

*IDC **06** 13:20:58.8±0.6,44°.09S×40°.26E,h0km,mb4.1/14, mbtmp4.0/16,ML3.5/2,MS4.2/15,Error ellipse: s-maj=22.6km s-min=15.8km az=61.0*

*NEIC **06** 13:21:00.0±2.7,43°.88S±0°.07×40°.7E±0°.2,h10km±1km, mb4.5/14,Error ellipse: s-maj=25.6km s-min=11.8km az=274.0*

ISC 06 13:20:60.0±0.5,43°.94S±0°.09×40°.4E±0°.1,h10km,n51, σ1§48/38,mb4.2/18,MS4.3/15,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**15.25**	**310**	P	**P**	**13 24 42.1**	**+1.8**
GRHM				IAmb	IAmb	13 25 20.9	
	comp=Z,19nm,1.1s						
SUR	**Sutherland**	**19.19**	**300**	P	**Pn**	**13 25 25.2**	**+0.3**
SUR	**Sutherland**	**19.19**	**300**	P	**Pn**	**13 25 25.3**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=133,slow=14,SNR=7.5						
	comp=Z,3.5nm,0.7s						
BOSA	**Boshof**	**19.52**	**317**	P	**P**	**13 25 27.5**	**0.0**
BOSA				IAmb	IAmb	13 25 49.8	
	comp=Z,22nm,1.4s						
BOSA	**Boshof**	**19.52**	**317**	P	**P**	**13 25 27.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=136,slow=9.6,SNR=5.3						
	comp=Z,3.5nm,1.0s						

LBTB	**Lobatse**	**22.41**	**323**	P	**P**	**13 25 56.2**	**-2.6**		
LBTB				IAmb	IAmb	13 26 06.9			
	comp=Z,9.3nm,1.1s								
VOI	**Vohitsoka**	**22.61**	**16**	P	**P**	**13 25 57.0**	**-4.0**		
OPO	**Ambohidratompo**	**25.93**	**15**	LR	LR	13 35 24.8			
	comp=Z,828nm,18.6s,baz=356,slow=33								
MAW	**Mawson**	**26.56**	**161**	P	**P**	**13 26 38.8**	**+1.2**		
	comp=Z,2.9nm,1.0s,baz=325,slow=16,SNR=3.4								
	comp=Z,2.9nm,1.0s								
TSUM	**Tsumeb**	**31.20**	**315**	P	**P**	**13 27 18.7**	**-0.8**		
TSUM				IAmb	IAmb	13 27 20.1			
	comp=Z,12nm,1.4s								
SNAA	**Sanae**	**34.67**	**202**	P	**P**	**13 27 51.1**	**+1.8**		
SNAA				IAmb	IAmb	13 27 52.5			
	comp=Z,18nm,1.3s								
SNAA	**Sanae**	**34.67**	**202**	P	**P**	**13 27 49.9**	**+0.6**		
	comp=Z,7.1nm,1.0s,baz=90,slow=1.0,SNR=3.9								
SNAA				LR	LR	13 39 44.6			
	comp=Z,210nm,18.4s,baz=11,slow=33								
	comp=Z,7.1nm,1.0s								
KMBO	**Kilima Mbogo**	**42.72**	**355**	P	**P**	**13 29 00.6**	**+3.1**		
	comp=Z,0.1nm,0.5s,baz=197,slow=24,SNR=2.1								
QSPA	**South Pole Qui**	**46.27**	**180**	P	**P**	**13 29 24.3**	**-1.1**		
QSPA	**South Pole Qui**	**46.27**	**180**	P	**P**	**13 29 23.9**	**-1.5**		
	comp=Z,3.8nm,1.0s,baz=281,slow=4.9,SNR=7.1								
	comp=Z,3.8nm,1.0s								
VNDA	**Vanda**	**53.64**	**167**	P	**P**	**13 30 20.9**	**0.0**		
	comp=Z,0.6nm,0.8s,baz=219,slow=5.9,SNR=2.6								
	comp=Z,0.6nm,0.8s								
H01W2	**Cape Leeuwin H**	**55.94**	**108**	T	T	14 30 51.4			
	baz=238,slow=75,SNR=12								
H01W3	**Cape Leeuwin H**	**55.96**	**108**	T	T	14 30 52.1			
	baz=238,slow=75,SNR=10								
H01W1	**Cape Leeuwin H**	**55.96**	**108**	T	T	14 30 52.7			
	baz=238,slow=75,SNR=14								
PMSA	**Palmer Station**	**56.80**	**210**	LR	LR	13 49 30.5			
	comp=Z,211nm,20.2s,baz=104,slow=30								
TORD	**Torodi Ar. Bea**	**66.86**	**319**	P	**P**	**13 31 53.3**	**+1.1**		
TORD				IAmb	IAmb	13 32 03.9			
	comp=Z,7.7nm,1.2s								
TORD	**Torodi Ar. Bea**	**66.86**	**319**	P	**P**	**13 31 52.7**	**+0.5**		
	comp=Z,0.5nm,0.7s,baz=136,slow=5.0,SNR=3.1								
	comp=Z,0.5nm,0.7s								
RAYN	**Ar Rayn**	**67.29**	**5**	P	**P**	**13 31 54.0**	**-0.8**		
RAYN				IAmb	IAmb	13 32 00.9			
	comp=Z,2.0nm,0.8s								
WSAR	**Wadi Sarin**	**68.91**	**18**	LR	LR	13 58 10.9			
	comp=Z,171nm,18.9s,baz=276,slow=32								
PLCA	**Paso Flores**	**75.33**	**227**	LR	LR	13 58 40.0			
	comp=Z,172nm,20.7s,baz=161,slow=30								
STKA	**Stephens Creek**	**75.88**	**121**	P	**P**	**13 32 45.7**	**-1.0**		
STKA	**Stephens Creek**	**75.88**	**121**	P	**P**	**13 32 46.6**	**-0.1**		
	comp=Z,2.5nm,0.5s,baz=123,slow=2.2,SNR=4.7								
	comp=Z,2.5nm,0.5s								
RCBR	**Riachuelo**	**76.11**	**275**	LR	LR	13 59 05.4			
	comp=Z,77nm,21.0s,baz=236,slow=30								
ASAR	**Alice Springs**	**76.38**	**110**	P	**P**	**13 32 48.2**	**-1.4**		
ASAR	**Alice Springs**	**76.38**	**110**	P	**P**	**13 32 49.1**	**-0.6**		
	comp=Z,1.9nm,1.1s,baz=217,slow=4.5,SNR=6.1								
	comp=Z,1.9nm,1.1s								
AS31	**Alice Springs**	**76.39**	**110**	P	**P**	**13 32 49.3**	**-0.4**		
CPUP	**Villa Florida**	**77.41**	**246**	P	**P**	**13 32 55.9**	**+0.5**		
CPUP				IAmb	IAmb	13 33 07.5			
	comp=Z,9.5nm,1.1s								
CPUP	**Villa Florida**	**77.41**	**246**	P	**P**	**13 32 53.9**	**-1.5**		
	comp=Z,1.5nm,0.8s,baz=113,slow=5.6,SNR=4.1								
CPUP				LR	LR	14 03 58.1			
	comp=Z,70nm,18.3s,baz=143,slow=33								
	comp=Z,1.5nm,0.8s								
BATI	**Baumata**	**78.17**	**93**	LR	LR	14 02 50.7			
	comp=Z,273nm,21.0s,baz=128,slow=32								
BDFB	**Brasilia**	**78.19**	**260**	P	**P**	**13 32 58.1**	**-1.9**		
	comp=Z,1.5nm,0.6s,baz=118,slow=15,SNR=1.7								
BDFB				LR	LR	13 59 35.9			
	comp=Z,129nm,21.5s,baz=138,slow=30								
	comp=Z,1.5nm,0.6s								
WRA	**Warramunga Arr**	**79.18**	**107**	P	**P**	**13 33 05.6**	**+0.3**		
	comp=Z,1.8nm,1.2s,baz=224,slow=4.7,SNR=3.3								
	comp=Z,1.8nm,1.2s								
CMAR	**Chiang Mai Arr**	**81.94**	**55**	P	**P**	**13 33 22.4**	**+2.5**		
	comp=Z,0.3nm,0.3s,baz=219,slow=5.6,SNR=4.4								
CMAR				LR	LR	14 05 34.5			
	comp=Z,129nm,18.2s,baz=220,slow=33								
	comp=Z,0.3nm,0.3s								
BRTR	**Keskin Array B**	**83.51**	**355**	P	**P**	**13 33 26.5**	**-1.2**		
BRTR	**Keskin Array B**	**83.51**	**355**	P	**P**	**13 33 28.1**	**+0.4**		
	comp=Z,1.0nm,0.8s,baz=187,slow=7.5,SNR=5.1								
	comp=Z,1.0nm,0.8s								
SIV	**San Ignacio**	**87.06**	**251**	LR	LR	14 07 53.4			
	comp=Z,121nm,18.3s,baz=130,slow=32								
KBZ	**Khabza**	**87.31**	**2**	P	**P**	**13 33 47.0**	**+0.6**		
	comp=Z,1.4nm,0.8s,baz=241,slow=10,SNR=2.2								
	comp=Z,1.4nm,0.8s								
LVC	**Limon Verde**	**87.50**	**241**	LR	LR	14 07 15.4			
	comp=Z,115nm,20.6s,baz=159,slow=32								
LPAZ	**La Paz**	**91.58**	**246**	LR	LR	14 11 05.7			
	comp=Z,129nm,19.0s,baz=108,slow=33								
ESDC	**Sonseca Array**	**92.35**	**327**	P	**P**	**13 34 10.9**	**+0.7**		
	comp=Z,0.6nm,0.8s,baz=150,slow=3.1,SNR=2.6								
	comp=Z,0.6nm,0.8s								
MDP	**Montagnes des**	**95.69**	**272**	LR	LR	14 15 14.5			
	comp=Z,78nm,18.2s,baz=118,slow=34								
BELG	**Belogornoye**	**96.16**	**4**	LR	LR	14 17 48.4			
	comp=Z,93nm,22.0s,baz=118,slow=35								
TXAR	**Lajitas Array**	**147.96**	**255**	PKPbc	**PKPbc**	**13 40 45.2**	**-0.3**		
	comp=Z,0.6nm,0.9s,baz=137,slow=6.3,SNR=5.1								
ULM	**Lac du Bonnet**	**149.91**	**298**	PKPbc	**PKPbc**	**13 40 48.2**	**-1.5**		
	comp=Z,3.4nm,0.7s,baz=40,slow=3.9,SNR=3.2								
YKA	**Yellowknife Ar**	**156.41**	**331**	PKP	**PKPdf**	**13 40 56.0**	**+2.2**		
	comp=Z,0.8nm,1.0s,baz=33,slow=2.3,SNR=6.3								
YKA				PKPab	**pPKPab**	**13 41 24.2**	**-0.6**		
	comp=Z,0.8nm,0.8s,baz=37,slow=4.5,SNR=8.3								
PDAR	**Pinedale Array**	**158.17**	**277**	PKPab	**PKPab**	**13 41 32.5**	**+1.4**		
	comp=Z,0.5nm,0.7s,baz=119,slow=8.4,SNR=2.2								
NVAR	**Mina Array Bea**	**163.06**	**258**	PKPab	**PKPab**	**13 41 51.1**	**-1.4**		
	comp=Z,0.3nm,0.5s,baz=120,slow=4.6,SNR=2.0								

*AEIC **06** 13:21:41.0±1.8,56°.2N±0°.1×148°.7W±0°.1,h3km±8km, Error ellipse: s-maj=18.7km s-min=9.5km az=183.0*

NEIC 06 13:21:39.7±1.2,56°.41N±0°.06×148°.76W±0°.10,h10km±2km, ML3.4/42,ML3.0(AEIC), Error ellipse: s-maj=12.7km s-min=6.8km az=143.0, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.50**	**305**		Pn	13 22 19.1	-1.3
KDAK					Sn	13 22 50.1	-0.8
OHAK	**Old Harbor**	**2.62**	**290**	IAML		13 22 56.8	
	comp=N,28nm,0.8s						
OHAK				IAML		13 23 00.5	
	comp=E,37nm,0.6s						
OHAK	**Old Harbor**	**2.62**	**290**		Pn	13 22 22.1	+0.1
OHAK					Sn	13 22 53.5	-0.3
OHAK	**Old Harbor**	**2.62**	**290**	IAML		13 22 56.8	
	comp=N,28nm,0.8s						
OHAK				IAML		13 23 00.5	
	comp=E,37nm,0.6s						
SYI	**Shuyak Island**	**2.95**	**320**		Pn	13 22 27.4	+0.8
SYI					Sn	13 23 01.6	-0.4
SYI	**Shuyak Island**	**2.95**	**320**	IAML		13 23 04.5	
	comp=E,29nm,1.5s						
SYI				IAML		13 23 08.1	
	comp=N,38nm,0.5s						
Q23K	**Middleton Isla**	**3.29**	**22**		Pn	13 22 30.3	-0.9
Q23K	**Middleton Isla**	**3.29**	**22**	IAML		13 23 04.3	
	comp=E,132nm,1.5s						
Q23K				IAML		13 24 02.7	
	comp=N,101nm,1.4s						
MID	**Middleton Isla**	**3.29**	**22**		Pn	13 22 30.4	-0.8
CNPM	**China Poot**	**3.39**	**338**		Pn	13 22 33.3	+0.6
CNPM	**China Poot**	**3.39**	**338**	IAML		13 23 15.7	
	comp=N,21nm,1.3s						
CNPM				IAML		13 23 33.4	
	comp=E,24nm,1.4s						
BRSE	**Bradley Lake S**	**3.50**	**343**		Pn	13 22 34.8	+0.6
BRLK	**Bradley Lake**	**3.55**	**342**	Pn	Pn	13 22 35.3	+0.5
Q19K	**Cape Douglas,**	**3.64**	**316**		Pn	13 22 34.9	-1.3
Q19K	**Cape Douglas,**	**3.64**	**316**	IAML		13 23 50.0	
	comp=N,94nm,1.3s						
P23K	**Montague Islan**	**3.67**	**11**		Pn	13 22 35.8	-0.7
ACHA	**Angle Creek He**	**3.99**	**300**		Pn	13 22 42.4	+1.4
P19K	**Oil Pt**	**4.03**	**326**	Pn	Pn	13 22 39.5	-1.9
P19K				IAML		13 23 33.1	
	comp=E,51nm,0.8s						
P19K				IAML		13 23 35.7	
	comp=N,55nm,1.1s						
HIN	**Hinchinbrook I**	**4.17**	**16**		Pn	13 22 42.9	-0.5
HIN	**Hinchinbrook I**	**4.17**	**16**	IAML		13 23 41.3	
	comp=E,71nm,1.3s						
HIN				IAML		13 23 41.9	
	comp=N,67nm,1.5s						
KAIM	**Kayak Island**	**4.21**	**31**		Pn	13 22 43.5	-0.3
KAIM	**Kayak Island**	**4.21**	**31**	IAML		13 23 35.6	
	comp=N,78nm,1.0s						
KAIM				IAML		13 23 37.6	
	comp=E,76nm,1.1s						
SUCK	**Suckling Hills**	**4.51**	**34**	Pn	Pn	13 22 47.6	-0.5
SUCK				IAML		13 23 49.7	
	comp=N,40nm,1.4s						
SUCK				IAML		13 25 19.7	
	comp=E,32nm,1.3s						
RAGM	**Ragged Mountai**	**4.53**	**27**		Pn	13 22 47.9	-0.4
GLI	**Glacier Island**	**4.56**	**10**	Pn	Pn	13 22 47.5	-1.2
GLI				IAML		13 23 49.6	
	comp=E,45nm,1.2s						
GLI				IAML		13 25 28.1	
	comp=N,34nm,1.3s						
RSO	**Redoubt South**	**4.57**	**334**	Pn	Pn	13 22 49.7	+0.7
NICHA	**Nichawak Mount**	**4.59**	**31**		Pn	13 22 49.4	+0.3
RC01	**Rabbit Creek A**	**4.72**	**354**	Pn	Pn	13 22 50.9	0.0
RC01				IAML		13 23 48.7	
	comp=E,22nm,1.5s						
RC01				IAML		13 23 50.8	
	comp=N,16nm,0.6s						
RC01	**Rabbit Creek A**	**4.72**	**354**	IAML		13 23 50.8	
	comp=N,16nm,0.6s						
BERG	**Berg Lake**	**4.79**	**32**		Pn	13 22 51.6	-0.4
BERG				IAML		13 23 50.5	
	comp=E,56nm,1.0s						
BERG				IAML		13 23 51.9	
	comp=N,46nm,0.9s						
SNH	**Sunshine Point**	**4.90**	**37**	Pn	Pn	13 22 53.2	-0.2
SNH				IAML		13 23 54.0	
	comp=N,39nm,1.5s						
SNH				IAML		13 25 59.2	
	comp=E,37nm,1.3s						
WAX	**Waxell Ridge**	**5.10**	**35**		Pn	13 22 55.5	-0.7
PMR	**Palmer**	**5.20**	**358**	Pn	Pn	13 22 57.2	-0.3
PMR				IAML		13 24 02.4	
	comp=E,13nm,0.6s						
PMR				IAML		13 24 04.6	
	comp=N,8.2nm,1.4s						
KLU	**Klutina**	**5.30**	**15**		Pn	13 22 58.9	0.0
KLU				IAML		13 23 58.8	
	comp=N,16nm,1.2s						
KLU				IAML		13 24 03.4	
	comp=E,15nm,1.5s						
GHO	**Glory Hole Cre**	**5.38**	**359**		Pn	13 23 00.5	+0.5
GHO				IAML		13 24 09.6	
	comp=N,21nm,0.9s						
GHO				IAML		13 24 26.8	
	comp=E,18nm,1.2s						
GHO	**Glory Hole Cre**	**5.38**	**359**	IAML		13 24 09.6	
	comp=N,21nm,0.9s						
ISLE	**Juniper Island**	**5.38**	**36**		Pn	13 22 59.4	-0.7
ISLE				IAML		13 24 03.1	
	comp=E,20nm,1.5s						
ISLE				IAML		13 25 59.4	
	comp=N,21nm,1.5s						
VRDI	**Verde Repeater**	**5.56**	**27**	Pn	Pn	13 23 02.5	-0.1
N25K	**Chitina, Valde**	**5.63**	**21**	Pn	Pn	13 23 03.7	+0.1
GLB	**Gilahina Butte**	**5.66**	**25**	Pn	Pn	13 23 03.7	-0.1
PTPK	**Patty Peak**	**5.80**	**32**		Pn	13 23 06.5	+0.6
MCARA	**McCarthy VSAT**	**5.80**	**28**	Pn	Pn	13 23 05.3	+0.1
M24K	**Tolsona, Glenn**	**5.86**	**12**	Pn	Pn	13 23 07.0	+0.3
BARN	**Barnard Glacie**	**5.95**	**35**		Pn	13 23 07.8	-0.1
CTGM	**Chitina Glacie**	**5.98**	**37**	Pn	Pn	13 23 08.2	-0.1
BCPM	**Bancas Point**	**5.99**	**50**	Pn	Pn	13 23 08.5	+0.2
LOGN	**Logan Glacier**	**6.00**	**39**	Pn	Pn	13 23 08.3	-0.3
M19K	**Big River Lodg**	**6.22**	**335**	Pn	Pn	13 23 11.8	+0.3
L19K	**White Mountain**	**6.57**	**334**	Pn	Pn	13 23 16.1	-0.3
P29M	**Windy Craggy**	**6.68**	**57**		Pn	13 23 17.5	-0.3
M26K	**Nabesna, AK**	**6.69**	**24**	Pn	Pn	13 23 18.1	+0.2
M27K	**Edge Creek, AK**	**6.92**	**28**	Pn	Pn	13 23 20.6	-0.5
S31K	**Pelican**	**6.98**	**72**	Pn	Pn	13 23 21.2	-0.7
SIT	**Sitka**	**7.42**	**79**	Pn	Pn	13 23 25.9	-2.0
S32K	**Killisnoo**	**7.83**	**76**	Pn	Pn	13 23 33.2	-0.3
N30M	**Aishikik Lake**	**7.87**	**45**	Pn	Pn	13 23 34.4	+0.2
O30N	**Mendenhall**	**7.92**	**51**	Pn	Pn	13 23 35.3	+0.4
R32K	**Eaglecrest**	**7.93**	**70**	Pn	Pn	13 23 35.1	+0.2
JIS	**Juneau Island**	**8.00**	**71**	Pn	Pn

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UUDB                          Pmax                    13 25 52.8
     comp=E,2µm,0.5s
UUDB                          eSg      Sg             13 26 04.2 -1.7
UUDB                          eSb      Sn             13 26 07.7 +0.3
UUDB                          max                     13 26 08.1
     comp=E,2µm,0.6s
OGRR Ongureny          1.01  21⇑iPg      Pb             13 25 55.1 +0.3
OGRR                          ePb      Pn             13 25 56.4 +1.1
OGRR                          max                     13 25 56.7
     comp=E,302nm,0.4s
OGRR                          eSg      Sb             13 26 08.1 +0.1
OGRR                          Smax                    13 26 13.2
     comp=E,1µm,0.3s
OGRR Ongureny          1.01  21 ePG      Pb             13 25 55.1 +0.3
OGRR                          e                       13 26 09.0
OGRR                          pmax     pmax
     comp=Z,295nm,0.4s
OGRR                          smax     smax
     comp=N,1µm,0.7s
HRMR Khuramsha         1.08 181⇑iPg      Pg             13 25 54.4 -1.9
HRMR                          Pmax                    13 25 54.6
     comp=N,1µm,0.4s
HRMR                          eSg      Sg             13 26 08.1 -2.3
HRMR                          Smax                    13 26 10.9
     comp=N,11µm,0.3s
VBR  Suhoy Ruchey      1.09 214 ePg      Pg             13 25 55.1 -1.4
VBR                           eSg      Sg             13 26 09.4 -1.3
VBR                           eSb      Sn             13 26 12.4 +1.3
BGT  Bolshoye Golou    1.17 236 ePg      Pg             13 25 56.0 -2.1
BGT                           Pmax                    13 25 56.8
     comp=N,237nm,0.2s
BGT                           ePb      Pb             13 25 57.3 -0.2
BGT                           eSg      Sg             13 26 10.8 -2.6
BGT                           Smax                    13 26 12.2
     comp=N,3µm,0.2s
BGT  Bolshoye Golou    1.17 236⇑iPG      Pg             13 25 56.1 -2.1
BGT                           e                       13 26 10.9
BGT                           pmax     pmax
     comp=Z,238nm,0.2s
BGT                           smax     smax
     comp=N,3µm,0.1s
MXMB Maximikha         1.20  61 ePg      Pn             13 25 58.8 +0.9
MXMB                          eSg      Sn             13 26 15.9 +1.9
LSTR Listvyanka        1.57 239⇓iPg      Pn             13 26 02.0 -0.9
LSTR                          ePb      Pb             13 26 02.6 -1.7
LSTR                          e                       13 26 07.0
LSTR                          max                     13 26 07.4
     comp=N,169nm,0.3s
LSTR                          eSg      Sn             13 26 22.1 -0.8
LSTR                          Smax                    13 26 23.1
     comp=N,1µm,0.1s
IRK  Irkutsk           1.73 256 ePg      Pn             13 26 05.7 +0.6
IRK                           Pmax                    13 26 06.9
     comp=N,742nm,0.2s
IRK                           eSg      Sn             13 26 27.1 +0.3
IRK                           Smax                    13 26 28.1
     comp=N,12µm,0.4s
IRK                           e                       13 26 33.3
IRK  Irkutsk           1.73 256 ePN      Pn             13 26 05.5 +0.4
IRK                           e                       13 26 27.4
IRK                           pmax     pmax
     comp=Z,712nm,0.2s
IRK                           smax     smax
     comp=N,12µm,0.4s
IVK  Ivanovka          1.82 241 ePn      Pn             13 26 05.9 -0.5
IVK                           ePg      Pb             13 26 07.3 -1.3
IVK                           Pmax                    13 26 08.4
     comp=N,182nm,0.2s
IVK                           e                       13 26 10.3
IVK                           eSn      Sn             13 26 28.9 -0.3
IVK                           eSg      Sb             13 26 29.7 -1.6
IVK                           Smax                    13 26 31.6
     comp=N,2µm,0.2s
IVK                           e                       13 26 33.0
SYVR Suvo              2.05  61⇓iPn      Pn             13 26 10.4 +0.9
SYVR                          ePg      Pg             13 26 13.3 -1.6
SYVR                          Pmax                    13 26 21.0
     comp=N,86nm,0.6s
SYVR                          eSn      Sb             13 26 37.2 -0.6
SYVR                          eSg      Sg             13 26 41.5 +0.1
SYVR                          Smax                    13 26 46.0
     comp=N,305nm,0.3s
SYVR Suvo              2.05  61 ePN      Pn             13 26 10.6 +1.1
SYVR                          e                       13 26 13.7
SYVR                          e                       13 26 41.6
SYVR                          pmax     pmax
     comp=Z,88nm,0.5s
SYVR                          smax     smax
     comp=E,316nm,0.3s
TLY  Talaya            2.30 245 ePn      Pn             13 26 12.4 -0.6
TLY                           e                       13 26 13.7
TLY                           ePg      Pb             13 26 15.2 -1.6
TLY                           e                       13 26 19.1
TLY                           max                     13 26 19.6
     comp=E,89nm,0.1s
TLY                           eSg      Sb             13 26 43.9 -1.1
TLY                           Smax                    13 26 45.4
     comp=E,1µm,0.2s
TLY  Talaya            2.30 245 ePN      Pn             13 26 13.8 +0.8
TLY                           e                       13 26 44.2
TLY                           pmax     pmax
     comp=Z,92nm,0.1s
TLY                           smax     smax
     comp=E,1µm,0.4s
ARS  Arshan            2.91 256 ePn      Pn             13 26 21.6 +0.2
ARS                           e                       13 26 25.5
ARS                           e                       13 26 27.3
ARS                           max                     13 26 28.2
     comp=E,385nm,0.4s
ARS                           eSg      Sb             13 27 02.1 -0.5
ARS                           Smax                    13 27 05.4
     comp=E,3µm,0.5s
ZAK  Zakamensk         3.28 226 ePn      Pn             13 26 26.5  0.0
ZAK                           ePg      Pb             13 26 33.9 +0.4
ZAK                           Pmax                    13 26 46.4
     comp=E,30nm,0.3s
ZAK                           eSn      Sn             13 27 04.0 -1.3
ZAK                           eSg      Sb             13 27 15.1 +1.8
ZAK                           Smax                    13 27 18.7
     comp=E,256nm,0.4s
ZAK  Zakamensk         3.28 226 ePN      Pn             13 26 26.2 -0.3
ZAK                           e                       13 26 33.9
ZAK                           e                       13 27 14.5
ZAK                           pmax     pmax
     comp=Z,29nm,0.2s
ZAK                           smax     smax
     comp=N,255nm,0.2s
YLYR Ulyunkhan         3.30  47 ePn      Pn             13 26 27.8 +1.1
YLYR                          ePg      Pb             13 26 35.6 +1.8
YLYR                          Pmax                    13 27 02.3
     comp=N,46nm,1.4s
YLYR                          eSg      Sg             13 27 18.2 -3.2
YLYR                          Smax                    13 27 24.0
     comp=N,190nm,1.1s
NIZB Nizh Angarsk      3.42  25 ePn      Pn             13 26 29.7 +1.3
NIZB                          ePg      Pb             13 26 37.6 +1.7
NIZB                          Pmax                    13 26 39.6
     comp=N,69nm,0.5s
NIZB                          e                       13 27 11.4
NIZB                          eSg      Sg             13 27 22.3 -3.1
NIZB                          Smax                    13 27 27.5
     comp=N,510nm,1.1s
MOY  Mondy             3.83 257 e        Pn             13 26 36.4 +2.2
MOY                           e                       13 26 43.8
MOY                           max                     13 26 45.2
     comp=N,133nm,0.9s
MOY                           e                       13 26 50.1
MOY                           e                       13 27 20.9
MOY                           eSg      Sb             13 27 30.1 +0.9
MOY                           e                       13 27 36.0
MOY                           max                     13 27 37.1
     comp=N,683nm,0.8s
MOY  Mondy             3.83 257 ePN      Pn             13 26 36.6 +2.5
MOY                           e                       13 26 43.8
MOY                           eS       Sn             13 27 24.6 +5.6
MOY                           e                       13 27 33.8
KMO  Kumora            4.03  36 ePn      Pn             13 26 36.8  0.0
KMO                           ePg      Pb             13 26 48.1 +1.8
KMO                           Pmax                    13 27 03.1
     comp=N,48nm,0.6s
KMO                           eSn      Sn             13 27 22.6 -1.2
KMO                           eSg      Sg             13 27 41.0 -4.0
KMO                           Smax                    13 27 55.9
     comp=N,329nm,1.0s
CIT  Chita             4.08  97 ePg      Pb             13 26 49.6 +2.5
CIT                           Pmax                    13 26 50.0
     comp=N,68nm,0.3s
CIT                           eSg      Sg             13 27 43.3 -3.2
CIT                           Smax                    13 27 50.4
     comp=N,531nm,1.0s
CIT  Chita             4.08  97 ePN      Pb             13 26 47.9 +0.8
CIT                           eS       Sn             13 27 24.1 -0.9
CIT                           e                       13 27 43.8
CIT                           pmax     pmax
     comp=Z,90nm,0.7s
CIT                           smax     smax
     comp=N,531nm,1.0s
YOA  Uoyan             4.41  37 ePg      Pb             13 26 55.8 +3.1
YOA                           Pmax                    13 27 20.9
     comp=N,88nm,0.8s
YOA                           eSg      Sg             13 27 54.3 -2.8
YOA                           Smax                    13 28 34.4
     comp=N,581nm,1.1s
KPC  Khapcheranga      4.53 129 ePn      Pn             13 26 42.8 -0.9
KPC                           ePg      Pb             13 26 56.7 +1.9
KPC                           Pmax                    13 26 59.6
     comp=N,81nm,0.7s
KPC                           e                       13 27 06.2
KPC                           eSg      Sg             13 27 56.1 -4.7
KPC                           e                       13 27 57.8
KPC                           max                     13 28 00.3
     comp=N,461nm,1.2s
KPC                           e                       13 28 09.3
KPC  Khapcheranga      4.53 129 ePN      Pn             13 26 42.4 -1.3
KPC                           e                       13 26 55.4
KPC                           eS       Sn             13 27 35.9 -0.1
KPC                           e                       13 27 56.1
KPC                           pmax     pmax
     comp=Z,81nm,0.7s
KPC                           smax     smax
     comp=E,461nm,1.3s
UKT  Uakit             4.80  52 ePn      Pn             13 26 48.4 +1.0
UKT                           ePg      Pb             13 27 02.6 +3.2
UKT                           e                       13 27 10.3
UKT                           max                     13 27 13.3
     comp=E,19nm,0.8s
UKT                           eSg      Sg             13 28 05.9 -3.7
UKT                           e                       13 28 09.5
UKT                           max                     13 28 25.4
     comp=E,80nm,1.4s
ULN  Ulaanbaatar       4.84 179 i PN      Pn             13 26 47.8 -0.3
SVKR Severomuysk       5.14  46 eSg      Sg             13 28 17.3 -3.1
SVKR                          Smax                    13 28 35.0
     comp=E,281nm,1.1s
NLYR Nelyaty           6.33  50 ePn      Pn             13 27 09.2 +0.9
NLYR                          ePg      Pg             13 27 30.8 -5.8
NLYR                          Pmax                    13 27 49.4
     comp=E,21nm,1.6s
NLYR                          eSn      Sn             13 28 20.4 +0.1
NLYR                          eSg      Sg             13 28 53.6 -4.9
NLYR                          Smax                    13 29 08.1
     comp=E,102nm,1.1s
NLYR                          e                       13 29 23.6
NLYR Nelyaty           6.33  50 ePN      Pn             13 27 10.6 +2.3
NLYR                          e                       13 27 29.0
NLYR                          e                       13 28 54.9
NLYR                          pmax     pmax
     comp=Z,21nm,1.1s
NLYR                          smax     smax
     comp=E,102nm,1.0s
BOD  Bodaibo           6.51  35 ePn      Pn             13 27 11.0 +0.3
BOD                           ePg      Pb             13 27 32.6 +4.2
BOD                           Pmax                    13 27 50.4
     comp=E,7.0nm,0.7s
BOD                           e                       13 28 44.5
BOD                           eSg      Sg             13 28 58.0 -6.2
BOD                           Smax                    13 29 23.8
     comp=E,63nm,1.2s
VTMR Vitim             7.43  23 eSn      Sn             13 28 43.7 -3.7
VTMR                          eSg      Sg             13 29 27.5 -6.3
CRS  Chara             7.75  53 ePg      Pb             13 27 56.2 +6.6
CRS                           Pmax                    13 28 17.5
     comp=E,14nm,2.0s
CRS                           eSg      Sg             13 29 37.3 -6.8
CRS                           Smax                    13 29 47.6
     comp=E,83nm,2.2s
CRS                           e                       13 30 11.5
TUP  Tupik             7.91  72 ePn      Pn             13 27 30.2 +0.2
TUP                           ePg      Pg             13 27 59.2 -7.7
TUP                           Pmax                    13 28 15.7
     comp=E,10.0nm,1.3s
TUP                           eSg      Sg             13 29 42.2 -7.0
TUP                           e                       13 29 54.5
TUP                           max                     13 29 56.9
     comp=E,133nm,1.1s
TUP  Tupik             7.91  72 ePN      Pn             13 27 30.3 +0.2
YKLR Yuktali           9.35  60 eSg      Sn             13 30 25.8  +51
ZEA  Zeya             12.19  77 i P      Pn             13 28 32.2 +3.7
YAK  Yakutsk          15.31  44 i P      P              13 29 16.9 +1.2
YAK                           pmax     pmax
     comp=Z,4.0nm,0.6s
MKAR Makanchi Array   16.98 260 i P      P              13 29 36.9 +2.6
MKAR                          pmax     pmax
     comp=Z,1.0nm,0.3s
```

*NEIC **06** 13:26:06.9±1.4, 19.°04N±0.°03×155.°19W±0.°02, h10km±2km, Error ellipse: s-maj=5.3km s-min=3.0km az=326.0*
*IDC **06** 13:26:07.5±1.4, 19.°30N×155.°52W, h0km, mb3.9/7, mbtmp3.9/7, Error ellipse: s-maj=44.6km s-min=25.9km az=142.0*
*HVO **06** 13:26:07.6±1.1, 19.°08N±0.°03×155.°19W±0.°02, h13km±5km, ML4.3/44, mb4.3/3(NEIC), ML4.5/48(NEIC), Error ellipse: s-maj=5.5km s-min=1.6km az=155.0*

ISC 06 13:26:07.5±0.8, 19.°12N±0.°06×155.°27W±0.°04, h10km, n58, σ1§65/52, mb4.2/12, 1C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	Hot Caves	0.17	313		Pg	13 26 13.3	+2.1
HLP	Hilina Pali	0.18	348		Pg	13 26 12.6	+1.3
HLP	Hilina Pali	0.18	348		Sg	13 26 18.0	+4.0
PUH	Pauahi	0.25	11		Pb	13 26 13.4	-0.9
PUH				IAML		13 26 21.3	
	comp=N,69µm,1.0s						
PUH	Pauahi	0.25	11		Sb	13 26 18.9	+0.1
SDHHI	Sand Hill	0.27	355		Pb	13 26 13.9	-0.6
SDHHI				IAML		13 26 19.9	
	comp=N,75µm,0.6s						
KNHH	Kane Nui o Ham	0.27	20		Pb	13 26 13.7	-0.8
RIM	Rim	0.27	359		Pb	13 26 14.0	-0.5
RIM				IAML		13 26 24.0	
	comp=N,72µm,0.9s						
RIM				IAML		13 26 24.6	
	comp=E,58µm,0.7s						
RIM	Rim	0.27	359		Sb	13 26 19.6	+0.3
KKO	Keanakako`i	0.27	0		Pb	13 26 13.9	-0.7
KKO				IAML		13 26 24.3	
	comp=E,74µm,0.9s						
KKO	Keanakako`i	0.27	0		Sb	13 26 19.6	+0.3
WRMHI	West Rim	0.28	354		Pb	13 26 13.8	-0.9
BYL	Byron's Ledge	0.29	2		Pb	13 26 13.9	-0.9
BYL				IAML		13 26 20.8	
	comp=N,42µm,1.0s						
BYL				IAML		13 26 22.5	
	comp=E,61µm,0.6s						
NPH	North Pit	0.29	358		Pb	13 26 14.0	-0.9
NPH	North Pit	0.29	358		Sb	13 26 19.4	-0.4
OBL	Observatory Le	0.29	357		Pb	13 26 13.9	-1.1
STCH	Steam Cracks	0.29	27		Pb	13 26 13.8	-1.2
STCH				IAML		13 26 23.4	
	comp=E,50µm,0.9s						
STCH				IAML		13 26 23.6	
	comp=N,62µm,0.9s						
STCH	Steam Cracks	0.29	27		Sb	13 26 19.1	-0.7
UWE	Uwekahuna	0.30	355		Pb	13 26 14.3	-0.7
UWE				IAML		13 26 25.2	
	comp=N,68µm,0.6s						
UWE	Uwekahuna	0.30	355		Sb	13 26 21.1	+1.1
HATHI	Halema'uma'u T	0.30	1		Pb	13 26 14.2	-0.8
HATHI				IAML		13 26 24.6	
	comp=N,57µm,0.9s						
UWB	Uwekahuna B	0.30	358		Pb	13 26 14.1	-1.0
SBLHI	Steaming Bluff	0.30	0		Pb	13 26 14.0	-1.1
SBLHI				IAML		13 26 21.2	
	comp=N,46µm,0.8s						
SBLHI				IAML		13 26 21.2	

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     comp=E,67µm,0.7s
JCUZ Jacuzzi           0.30  31                Pb       13 26 13.9 -1.2
JCUZ                                IAML               13 26 20.8
     comp=E,52µm,0.6s
JCUZ                                IAML               13 26 21.0
     comp=N,49µm,0.9s
JCUZ Jacuzzi           0.30  31                Sb       13 26 19.8 -0.3
NPOC North of Pu'u     0.31  29                Pb       13 26 14.0 -1.1
NPOC                                IAML               13 26 21.5
     comp=N,47µm,0.8s
NPOC                                IAML               13 26 24.8
     comp=E,41µm,1.1s
NPOC North of Pu'u     0.31  29                Sb       13 26 20.1 -0.1
RSD  Rainshed          0.34 358                Pb       13 26 14.7 -1.0
RSD                                 IAML               13 26 28.1
     comp=N,34µm,0.9s
KHU  Kahuku            0.35 290                Pb       13 26 15.8 -0.1
KHU  Kahuku            0.35 290                Sb       13 26 22.7 +1.0
MLH  Mauna Loa         0.39 343                Pb       13 26 16.1 -0.5
MLH                                 IAML               13 26 28.9
     comp=E,44µm,0.6s
MWH  Moku'aweowe       0.47 319                Pg       13 26 17.4 +0.5
MWH                                 IAML               13 26 37.1
     comp=N,36µm,0.9s
PHO  Puu Honuaula      0.51  45                Pb       13 26 17.1 -1.3
HMH  Humu'ula Sheep    0.52 337                IAML     13 26 27.8
     comp=N,30µm,0.7s
HMH                                 IAML               13 26 32.9
     comp=E,35µm,0.6s
POHA Pohakuloa         0.68 338                Pg       13 26 20.3 -0.4
CPH  Captain Cook      0.71 301                Pg       13 26 20.6 -0.7
I59US HAWAII INFRASO   0.75 308          Pg    Pg       13 26 20.0 -2.0
     baz=148,slow=16
HUH  Hualalai          0.77 316                Pg       13 26 22.3 -0.2
HUH                                 IAML               13 26 46.2
     comp=N,19µm,0.9s
HUH                                 IAML               13 26 50.3
     comp=E,16µm,0.4s
HLK  Haleakala         1.87 331                Pn       13 26 36.9 -2.9
KHLH Kahului Airpor    2.07 329                Pn       13 26 39.2 -3.1
HON  Honolulu          3.37 311                Pn       13 26 57.1 -3.1
KIP  Kipapa            3.45 312                Pn       13 26 57.8 -3.4
NVAR Mina Array Bea   37.35  51          P     P        13 33 22.8 +2.2
     comp=E,0.7nm,0.7s,baz=238,slow=12,SNR=6.9
     comp=E,0.7nm,0.7s
WUAZ Wupatki           41.91  58          P     P        13 33 51.3 -7.3
WUAZ                                IAmb  IAmb       13 34 05.4
     comp=Z,5.4nm,0.9s
BSUT Blindstream Ca    43.55  51          P     P        13 34 04.8 -7.3
BSUT                                IAmb  IAmb       13 34 18.5
     comp=Z,3.8nm,1.0s
PDAR Pinedale Array    45.05  48          P     P        13 34 25.4 +1.6
     comp=Z,1.4nm,0.9s,baz=255,slow=5.7,SNR=10
     comp=Z,1.4nm,0.9s
ILAR Eielson Array     45.96   5          P     P        13 34 30.3 -0.2
     comp=Z,2.2nm,0.7s,baz=192,slow=7.4,SNR=20
     comp=Z,2.2nm,0.7s
RLMT Red Lodge         45.98  45          P     P        13 34 26.4 -4.7
RLMT                                IAmb  IAmb       13 34 27.5
     comp=Z,5.9nm,1.1s
TXAR Lajitas Array     47.82  67          P     P        13 34 48.3 +2.7
     comp=Z,1.7nm,0.8s,baz=257,slow=8.6,SNR=23
     comp=Z,1.7nm,0.8s
INK  Inuvik            51.04  10          P     P        13 35 10.2 +0.8
     comp=Z,2.2nm,0.9s,baz=180,slow=6.4,SNR=12
     comp=Z,2.2nm,0.9s
YKA  Yellowknife Ar    51.58  23          P     P        13 35 15.1 +1.5
     comp=Z,0.4nm,0.6s,baz=237,slow=7.2,SNR=9.8
     comp=Z,0.4nm,0.6s
HHC  Hu-ho-hao-te      80.06 310 eP        P     P        13 38 16.2 -1.6
HHC                                 pmax  pmax
     comp=Z,19nm,0.6s
HHC                                 pmax  pmax
     comp=Z,47nm,4.8s
HHC                                 LR    LR
     comp=N,110nm,14.5s
HHC                                 LR    LR
     comp=E,150nm,13.8s
HHC                                 LR    LR
     comp=Z,160nm,14.1s
ASAR Alice Springs     81.10 241          P     P        13 38 24.6 +1.1
     comp=Z,1.0nm,0.8s,baz=62,slow=6.5,SNR=9.7
     comp=Z,1.0nm,0.8s
H03N2 Juan Fernandez   89.53 126          T     T        15 18 14.0
     baz=298,slow=76,SNR=59
H03N3 Juan Fernandez   89.55 126          T     T        15 18 10.4
     baz=298,slow=76,SNR=87
H03N1 Juan Fernandez   89.55 126          T     T        15 18 15.2
     baz=298,slow=76,SNR=80
KMI  Kunming           92.33 297 ⇑P        P     P        13 39 17.2 -1.7
KMI                                 pmax  pmax
     comp=Z,21nm,0.8s
WMQ  Urumqi            94.96 320 eP        P     P        13 39 31.4 +0.9
WMQ                                 sP    pwP        13 39 44.9 +12
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NOU 06 13:30:09.9, 21.°35S×171.°53E, h0km, MLv4.2/7, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	3.26	267	P	Pn	13 31 01.9	-0.4
PINNC	Pines Island,	3.99	251	P	Pn	13 31 12.2	-0.2
LIFNC	LIFOU	4.05	277	P	Pn	13 31 13.1	0.0
OUENC	Ouen Island, N	4.48	255	P	Pn	13 31 19.0	-0.1
DZM	Mont Dzumac	4.78	260	P	Pn	13 31 23.5	+0.1
ONTNC	Ouen Toro	4.81	258	P	Pn	13 31 23.6	0.0
NOUC	Port Laguerre	4.92	260	P	Pn	13 31 25.0	-0.1

*CATAC **06** 13:33:54.6±0.2, 13.°31N×88.°04W, h5km±1km, ML3.5*
*SNET **06** 13:33:54.0±0.6, 13.°30N×88.°04W, h5km±5km, ML3.6*

ISC 06 13:33:54.7±1.0, 13.°33N±0.°04×88.°04W±0.°02, h9km±8km, n35, σ0§80/53, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	Jucuarįn	0.21	250⇑	eP	Pg	13 33 58.6	-0.5
JUCU				eS	Sg	13 34 01.8	-0.4
JUCU	Jucuarįn	0.21	250	i P	Pg	13 33 58.6	-0.5
JUCU				i S	Sg	13 34 02.1	-0.1
JUCU				IAML		13 34 02.7	
	comp=Z,9µm,1.0s						
BLLM	Bellamira	0.22	301	eP	Pg	13 33 59.6	+0.3
VSM	San Miguel	0.25	294	eP	Pg	13 34 00.1	+0.2
RANC	El Ranchito	0.26	294	i P	Pg	13 34 00.4	+0.3
RANC				i S	Sb	13 34 05.1	-1.2
RANC				IAML		13 34 08.8	
	comp=Z,7µm,1.0s						
LCY	Lacayo	0.26	291	eP	Pg	13 34 00.5	+0.4
PACA	Pacayal	0.31	297	eP	Pg	13 34 01.4	+0.5
PACA	Pacayal	0.31	297	i P	Pg	13 34 01.2	+0.3
PACA				i S	Sb	13 34 06.6	-1.0
PACA				IAML		13 34 07.1	
	comp=Z,31µm,1.0s						
AMPH	Amapala	0.38	96⇑	iP	Pg	13 34 02.1	-0.1
AMPH				eS	Sb	13 34 08.1	-1.4
TECA	Tecapa	0.48	290	eP	Pg	13 34 04.1	0.0
COEB	Comit de Eme	0.50	290	eP	Pg	13 34 04.5	-0.1
COEB	Comit de Eme	0.50	290	i P	Pg	13 34 04.6	+0.1
COEB				i S	Sg	13 34 12.2	+1.0
COEB				IAML		13 34 13.7	
	comp=Z,2µm,1.0s						
PQSS	Presa 15 de Se	0.58	300	i P	Pg	13 34 06.0	0.0
PQSS				IAML		13 34 06.7	
	comp=Z,660nm,1.0s						
TECO	Alcaldia de Te	0.75	286	eP	Pg	13 34 08.6	-0.6
SCLA	Alcaldia de Sa	0.76	299	i P	Pg	13 34 09.3	-0.2
SCLA				IAML		13 34 09.9	
	comp=Z,500nm,1.0s						
SCLA				i S	Sb	13 34 21.7	+1.0
UESV	Universidad de	0.79	293	i P	Pg	13 34 09.6	-0.3
UESV				IAML		13 34 10.1	
	comp=Z,970nm,1.0s						
UESV				i S	Sb	13 34 21.5	+0.1
COEG	Centro de Oper	0.86	290	eP	Pg	13 34 10.8	-0.6
COEG	Centro de Oper	0.86	290	i P	Pg	13 34 10.9	-0.5
COEG				i S	Sg	13 34 23.2	+0.5
COEG				IAML		13 34 27.5	
	comp=Z,1µm,1.0s						
PAVA	Las Pavas	0.95	294	i P	Pg	13 34 12.6	-0.4
PAVA				IAML		13 34 14.6	
	comp=Z,2µm,1.0s						
TGUH	Tegucigalpa,Un	1.04	46	i P	Pg	13 34 13.8	-1.0

TGUH					IAML			13 34 14.3	
	comp=Z,3μm,1.0s								
TGUH					*i* S		**Sg**	**13 34 28.9**	**+0.6**
CRIN	**San Cristobal**	**1.15**	**123**		*i* P		**Pg**	**13 34 16.1**	**-0.8**
CRIN					*i* S		**Sn**	**13 34 32.9**	**-0.1**
CRIN					IAML			13 34 39.9	
	comp=Z,4μm,1.0s								
PMON	**Piamonte**	**1.29**	**287**		*i* P		**Pn**	**13 34 18.7**	**-0.4**
PMON					*i* S		**Sg**	**13 34 36.0**	**-0.4**
PMON					IAML			13 34 42.4	
	comp=Z,1μm,1.0s								
CEDA	**San Andres**	**1.40**	**290**		*i* P		Pn	13 34 11.5	-8.9
JAYA	**Jayaque - finc**	**1.41**	**283**		*i* P		**Pn**	**13 34 20.2**	**-0.4**
JAYA					*i* S		**Sb**	**13 34 38.9**	**-0.4**
JAYA					IAML			13 34 40.2	
	comp=Z,2μm,1.0s								
CNGN	**Cerro Negro**	**1.55**	**122**		*i* P		**Pb**	**13 34 23.2**	**-0.4**
CNGN					*i* S		**Sn**	**13 34 42.4**	**-0.3**
CNGN					IAML			13 34 55.1	
	comp=Z,570nm,1.0s								
CEVE	**Cerro Verde**	**1.62**	**288**		*i* P		**Pn**	**13 34 23.8**	**+0.2**
CEVE					*i* S		**Sg**	**13 34 47.4**	**+0.6**
CEVE					IAML			13 34 52.1	
	comp=Z,880nm,1.0s								
MTO3	**Montecristo**	**1.66**	**310**		*i* P		**Pn**	**13 34 23.7**	**-0.6**
MTO3					IAML			13 34 24.8	
	comp=Z,410nm,1.0s								
MTO3					*i* S		**Sb**	**13 34 47.7**	**+0.9**
ESQI	**Esquipulas**	**1.76**	**314**		*i* P		**Pn**	**13 34 25.5**	**+0.1**
ESQI					IAML			13 34 27.0	
	comp=Z,460nm,1.0s								
MOM2	**El Cardon**	**1.76**	**120**		*i* P		**Pn**	**13 34 24.7**	**-0.6**
MOM2					*i* S		**Sg**	**13 34 50.2**	**-1.1**
MOM2					IAML			13 34 51.8	
	comp=Z,310nm,1.0s								
NUBE	**Las Nubes**	**1.78**	**289**		*i* P		**Pn**	**13 34 25.9**	**+0.1**
NUBE					*i* S		**Sb**	**13 34 51.0**	**+0.8**
NUBE					IAML			13 34 57.2	
	comp=Z,510nm,1.0s								
APYN	**Apoyeque**	**1.98**	**123**		*i* P		**Pn**	**13 34 28.8**	**+0.4**
APYN					*i* S		**Sn**	**13 34 53.8**	**+0.5**
APYN					IAML			13 34 59.9	
	comp=Z,460nm,1.0s								
GUNB	**GUNB**	**2.57**	**300**		*i* P		**Pn**	**13 34 36.1**	**-0.6**
GUNB					IAML			13 34 42.4	
	comp=Z,160nm,1.0s								
OMEN	**AI SSO del Vol**	**2.97**	**127**		*i* P		**Pg**	**13 34 55.3**	**+3.6**
ACON	**Acoyapa**	**3.11**	**115**		*i* P		**Pb**	**13 34 50.9**	**+0.7**
DUNO	**Dulce Nombre,**	**4.08**	**142**		*i* P		**Pn**	**13 34 56.5**	**-0.8**

*TIR **06** 13:36:09.9,43˙.50N×20˙.08E,h50km±43km,MI3.4*
*PDG **06** 13:36:10.8±0.1,42˙.69N×18˙.67E,h20km,MD3.2/6,*
ML3.1/12,Error ellipse: s-maj=0.1km s-min=0.1km az=0.0
*PRU **06** 13:36:10.3,42˙.82N×19˙.29E,h1km*
*BEO **06** 13:36:11.8±0.2,42˙.68N×18˙.66E,h11km±1km, ML2.7/22*
*RHSSO **06** 13:36:12.1±0.2,42˙.69N×18˙.66E,h8km±1km, ML2.9/17*

ISC 06 13:36:11.8±0.8, 42.70N±0˙.02×18.67E±0˙.01, h16km±5km, n79, σ1s51/147, 15C-6D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NKME	**Niksic**	**0.22**	**72**	⇓*i*Pg			**Pg**	**13 36 16.2**	**-0.7**
NKME				*i* Sg			**Sg**	**13 36 20.5**	**+0.1**
BRY	**Bratogost**	**0.22**	**335**	⇑*i*Pg			**Pg**	**13 36 16.6**	**-0.4**
BRY				*e*Sg			**Sg**	**13 36 21.0**	**+0.5**
BRY	**Bratogost**	**0.22**	**335**	⇑*i*Pg			**Pg**	**13 36 16.6**	**-0.4**
BRY				*i* Sg			**Sg**	**13 36 21.0**	**+0.5**
TREB	**Trebinje**	**0.23**	**274**	*e*Pg			**Pg**	**13 36 16.6**	**-0.5**
TREB				*e*Sg			**Sg**	**13 36 20.9**	**+0.2**
TREB	**Trebinje**	**0.23**	**274**	⇓*i*Pg			**Pg**	**13 36 16.6**	**-0.5**
TREB				*e*Sg			**Sg**	**13 36 21.1**	**+0.4**
CEME	**Cevo**	**0.24**	**130**	⇑*i*Pg			**Pg**	**13 36 16.3**	**-0.9**
CEME				*i* Sg			**Sg**	**13 36 20.6**	**-0.3**
DBRK	**Dubrovnik**	**0.39**	**265**	*i* Pg			**Pg**	**13 36 18.8**	**-0.8**
DBRK				Sg			**Sb**	**13 36 25.4**	**-0.6**
BUM	**Brajici-Budva**	**0.43**	**157**	⇓*i*Pg			**Pg**	**13 36 19.5**	**-1.1**
BUM				*i* Sg			**Sb**	**13 36 26.7**	**-0.7**
KLINJ	**Klinje**	**0.47**	**353**	*e*Pg			**Pg**	**13 36 20.4**	**-0.9**
KLINJ				*e*Sg			**Sb**	**13 36 28.1**	**-0.5**
PDG	**Podgorica**	**0.51**	**122**	*e*Pg			**Pg**	**13 36 20.6**	**-1.4**
PDG				*e*Sg			**Sb**	**13 36 28.4**	**-1.1**
PDG	**Podgorica**	**0.51**	**122**	⇑*i*Pg			**Pg**	**13 36 20.5**	**-1.4**
PDG				*e*Sg			**Sb**	**13 36 29.7**	**+0.2**
PDG	**Podgorica**	**0.51**	**122**	⇓*i*Pg			**Pg**	**13 36 20.7**	**-1.3**
PDG				*i* Sg			**Sb**	**13 36 29.2**	**-0.3**
UPM	**Unac-Piva**	**0.53**	**19**	⇑*i*Pg			**Pg**	**13 36 21.6**	**-0.8**
UPM				*e*Sg			**Sb**	**13 36 30.2**	**-0.2**
UPM	**Unac-Piva**	**0.53**	**19**	⇓*i*Pg			**Pg**	**13 36 21.3**	**-1.1**
UPM				*i* Sg			**Sb**	**13 36 30.1**	**-0.3**
DRME	**Dracevica, Mon**	**0.64**	**143**	⇑*i*Pg			**Pb**	**13 36 23.7**	**-0.9**
DRME				*e*Sg			**Sb**	**13 36 33.8**	**+0.5**
DRME	**Dracevica, Mon**	**0.64**	**143**	⇑*i*Pg			**Pg**	**13 36 23.0**	**-1.4**
DRME				*i* Sg			**Sb**	**13 36 33.4**	**+0.1**
KOME	**Kolasin**	**0.64**	**76**	⇑*i*Pg			**Pg**	**13 36 23.1**	**-1.3**
KOME				*i* Sg			**Sb**	**13 36 33.5**	**+0.1**
NEVS	**Nevesinje**	**0.73**	**325**	*e*Pg			**Pb**	**13 36 25.7**	**-0.4**
NEVS				*e*Sg			**Sb**	**13 36 36.2**	**+0.3**
STON	**Ston**	**0.73**	**284**	*e*Pg			**Pb**	**13 36 26.3**	**+0.2**
STON				*e*Sg			**Sb**	**13 36 36.6**	**+0.7**
STON	**Ston**	**0.73**	**284**	*e*Pg			**Pg**	**13 36 24.9**	**-1.2**
STON				Sg			**Sb**	**13 36 36.4**	**+0.4**
STON	**Ston**	**0.73**	**284**	⇑*i*Pg			**Pg**	**13 36 24.9**	**-1.2**
STON				*e*Sg			**Sb**	**13 36 35.9**	**0.0**
PLE	**Pljevlja**	**0.82**	**40**	⇑*i*Pg			**Pg**	**13 36 26.4**	**-1.4**
PLE				*i* Sg			**Sb**	**13 36 39.4**	**+0.8**
ULC	**Ulcinj**	**0.85**	**150**	⇑*i*Pg			**Pg**	**13 36 26.8**	**-1.6**
ULC				*i* Sg			**Sb**	**13 36 40.3**	**+0.9**
IVA	**Berane**	**0.92**	**79**	⇓*i*Pg			**Pg**	**13 36 28.1**	**-1.5**
IVA				*i* Sg			**Sb**	**13 36 42.8**	**+1.4**
PVY	**Plav**	**0.96**	**96**	⇑*i*Pg			**Pg**	**13 36 28.8**	**-1.6**
PVY				*i* Sg			**Sn**	**13 36 44.0**	**-0.1**
RUDO	**Rudo**	**1.05**	**29**	*e*Pg			**Pg**	**13 36 30.2**	**-1.9**
RUDO				*e*Sg			**Sb**	**13 36 46.4**	**+1.3**
BCI	**Bajram Curri**	**1.09**	**107**	P			**Pg**	**13 36 29.9**	**-2.9**
	baz=181								
BCI				S			**Sb**	**13 36 46.9**	**+0.8**
	baz=181								
BCI				AMP					
	comp=E,2.2nm,0.2s,baz=181								
SJES	**Sjenica**	**1.11**	**59**	*e*Pg			**Pg**	**13 36 32.2**	**-1.0**
SJES				*e*Sg			**Sn**	**13 36 49.3**	**+1.5**
SJES	**Sjenica**	**1.11**	**59**	⇑*i*Pg			**Pg**	**13 36 32.3**	**-1.0**
SJES				*e*Sg			**Sb**	**13 36 48.0**	**+1.1**
PUK	**Puka**	**1.12**	**126**	P			**Pn**	**13 36 35.7**	**+2.8**
	baz=186								
PUK				S			**Sn**	**13 36 56.2**	**+8.2**
	baz=186								
PUK				AMP					
	comp=E,2.2nm,0.4s,baz=186								
BBLS	**Lazi&#263i**	**1.28**	**25**	*e*Pg			**Pn**	**13 36 35.6**	**+0.4**
BBLS				*e*Sg			**Sn**	**13 36 54.0**	**+2.0**
BBLS	**Lazi&#263i**	**1.28**	**25**	⇑*i*Pg			**Pn**	**13 36 35.5**	**+0.4**
BBLS				*e*Sg			**Sn**	**13 36 53.6**	**+1.6**
LSTV	**Lastovo**	**1.31**	**274**	*e*Pg			**Pn**	**13 36 34.6**	**-0.7**
LSTV				Sg			**Sb**	**13 36 52.7**	**+0.2**
MAKA	**Makarska**	**1.34**	**296**	*e*Pn			**Pn**	**13 36 35.6**	**-0.3**
MAKA				Sn			**Sn**	**13 36 56.3**	**+2.9**
DIVS	**Divibare**	**1.70**	**34**	*e*Pn			**Pn**	**13 36 41.1**	**+0.3**
DIVS				*e*Sn			**Sb**	**13 37 04.2**	**+0.4**
HVAR	**Hvar**	**1.70**	**287**	*e*Pn			**Pn**	**13 36 41.0**	**+0.3**
HVAR				Sn			**Sb**	**13 37 04.0**	**+0.3**
SRKY	**Kupres RS**	**1.75**	**322**	*e*Pn			**Pb**	**13 36 43.1**	**-0.5**
SRKY				*e*Sn			**Sb**	**13 37 06.0**	**+0.6**
SELS	**Selova**	**1.87**	**73**	*e*Pn			**Pn**	**13 36 44.4**	**+1.2**
SELS				*e*Sn			**Sb**	**13 37 08.7**	**-0.1**
GRUS	**Gruza**	**1.91**	**51**	*e*Pn			**Pn**	**13 36 44.5**	**+0.9**
GRUS				*e*Sn			**Sn**	**13 37 09.0**	**+1.7**
TEKS	**Tekeris**	**1.95**	**18**	*e*Pn			**Pn**	**13 36 43.9**	**-0.3**
TEKS				*e*Sn			**Sn**	**13 37 09.1**	**+0.7**
TEKS	**Tekeris**	**1.95**	**18**	*e*Pn			**Pn**	**13 36 44.9**	**+0.7**
TEKS				*e*Sn			**Sn**	**13 37 10.7**	**+2.3**
TRUS	**Trudelj**	**1.98**	**39**	*e*Pn			**Pn**	**13 36 45.1**	**+0.5**
TRUS				*e*Sn			**Sn**	**13 37 10.9**	**+1.8**
MGRS	**Mrkonjic Grad**	**2.07**	**327**	*e*Pn			**Pn**	**13 36 47.3**	**+1.5**
MGRS				*e*Sn			**Sn**	**13 37 12.9**	**+1.6**
KIJV	**Kijevo**	**2.10**	**309**	*i* Pn			**Pb**	**13 36 48.4**	**-1.1**
KIJV				Sn			**Sb**	**13 37 16.5**	**+1.1**
BLY	**Banja Luka**	**2.31**	**333**	*e*Pn			**Pn**	**13 36 51.1**	**+1.9**
BLY	**Banja Luka**	**2.31**	**333**	*e*Pn			**Pn**	**13 36 50.9**	**+1.7**
BLY				*e*Sn			**Sn**	**13 37 19.5**	**+2.2**
BARS	**Barje**	**2.32**	**86**	*e*Pn			**Pn**	**13 36 50.6**	**+1.3**
BARS				*e*Sn			**Sn**	**13 37 18.6**	**+1.1**
A050A	**Klekovaca**	**2.36**	**320**	*e*Pn			**Pn**	**13 36 51.1**	**+1.2**
A050A				*e*Sn			**Sn**	**13 37 20.9**	**+2.3**
ZIRJ	**Zirje**	**2.41**	**294**	*e*Pn			**Pn**	**13 36 51.4**	**+0.9**
ZIRJ				Sn			**Sn**	**13 37 22.4**	**+2.8**
BOVS	**Bovan**	**2.41**	**66**	*e*Pn			**Pn**	**13 36 51.8**	**+1.3**
BOVS				*e*Sn			**Sn**	**13 37 21.9**	**+2.2**
MORI	**Morici**	**2.46**	**299**	*e*Pn			**Pn**	**13 36 52.6**	**+1.5**
MORI				Sn			**Sb**	**13 37 23.9**	**-1.6**
PRVS	**Prvonek**	**2.52**	**93**	*e*Pn			**Pn**	**13 36 53.5**	**+1.4**
PRVS				*e*Sn			**Sn**	**13 37 25.0**	**+2.5**
FRGS	**Fruska Gora**	**2.59**	**18**	*e*Pn			**Pn**	**13 36 52.9**	**-0.1**
FRGS				*e*Sn			**Sn**	**13 37 25.6**	**+1.4**
FRGS	**Fruska Gora**	**2.59**	**18**	*e*Pn			**Pn**	**13 36 54.5**	**+1.5**
FRGS				*e*Sn			**Sn**	**13 37 25.7**	**+1.5**
A051A	**Mrakovica**	**2.64**	**332**	⇑*i*Pn			**Pn**	**13 36 55.3**	**+1.6**
A051A				*e*Sn			**Sn**	**13 37 26.7**	**+1.3**
KUBS	**Kucevo**	**2.78**	**51**	*e*Pn			**Pn**	**13 36 55.3**	**-0.3**
KUBS				*e*Sn			**Sn**	**13 37 29.5**	**+0.8**
UDBI	**Udbina**	**2.79**	**312**	*e*Pn			**Pn**	**13 36 57.9**	**+2.1**
UDBI				Sn			**Sb**	**13 37 34.1**	**-1.1**
STIP	**Stip**	**2.80**	**110**	*i* Pn			**Pb**	**13 37 00.1**	**-1.3**
STIP				*i* Sn			**Sb**	**13 37 37.5**	**+2.0**
ZAGS	**Zajecar**	**2.83**	**66**	*e*Pn			**Pn**	**13 36 57.3**	**+1.0**
ZAGS				*e*Sn			**Sn**	**13 37 31.6**	**+1.5**
DUGI	**Dugi Otok**	**2.93**	**297**	*e*Pn			**Pn**	**13 36 58.4**	**+0.7**
DUGI				Sn			**Sn**	**13 37 34.8**	**+2.3**
LSK	**Leskovik**	**2.93**	**150**	P			**Pg**	**13 37 04.9**	**-3.1**
	baz=173								
LSK				S			**Sg**	**13 37 44.5**	**-1.5**
	baz=173								
ZAPS	**Zavoj**	**2.97**	**78**	*e*Pn			**Pn**	**13 36 59.5**	**+1.3**
ZAPS				*e*Sn			**Sn**	**13 37 33.9**	**+0.4**
SRN	**Sarande**	**2.99**	**160**	P			**Pg**	**13 37 07.7**	**-1.4**
	baz=181								
SRN				S			**Sg**	**13 37 47.5**	**-0.4**
	baz=181								
VIRC	**Vir**	**3.07**	**302**	*e*Pn			**Pn**	**13 37 00.9**	**+1.3**
VIRC				Sn			**Sn**	**13 37 39.0**	**+3.0**
BOJS	**Bojanci**	**3.73**	**320**	*e*Pn			**Pn**	**13 37 09.3**	**+0.7**
BOJS				*e*Sn			**Sn**	**13 37 53.0**	**+0.8**
CRES	**Cresnjev**	**3.88**	**325**	*e*Pn			**Pn**	**13 37 11.9**	**+1.1**
CRES				*e*Sn			**Sn**	**13 37 57.2**	**+1.2**
BRJN	**Brijuni**	**4.19**	**303**	*e*Pn			**Pn**	**13 37 15.4**	**+0.5**
BRJN				Sn			**Sn**	**13 38 04.3**	**+0.8**
CEY	**Cerknica**	**4.30**	**316**	*e*Pn			**Pn**	**13 37 18.1**	**+1.5**
CEY				*e*Sn			**Sn**	**13 38 07.0**	**+0.6**
OBKA	**Obir**	**4.81**	**324**	*i* Pn			**Pn**	**13 37 21.1**	**-2.5**
	comp=E,0.7nm,0.2s								
ARSA	**Arzberg**	**5.07**	**335**	*i* Pn			**Pn**	**13 37 24.9**	**-2.2**
	comp=E,3.2nm,0.5s								
RONA	**Rosalia, Austr**	**5.27**	**342**	*e*Pn			**Pn**	**13 37 28.4**	**-1.4**
	comp=E,1.5nm,0.3s								
MYKA	**Terra Mystica**	**5.32**	**319**	*e*Pn			**Pn**	**13 37 27.4**	**-3.1**
	comp=E,0.3nm,0.2s								
CONA	**Conrad Observa**	**5.59**	**340**	*i* Pn			**Pn**	**13 37 32.4**	**-1.9**
	comp=E,0.6nm,0.5s								
VYHS	**Vyhne**	**5.79**	**1**	*e*PN			**Pn**	**13 37 38.4**	**+1.4**
MOA	**Molln**	**6.01**	**330**	*i* Pn			**Pn**	**13 37 37.9**	**-2.2**
	comp=E,1.1nm,0.3s								
LESA	**Schwarzleotal**	**6.35**	**320**	*e*Pn			**Pn**	**13 37 42.3**	**-2.4**
	comp=E,1.1nm,0.4s								
WTTA	**Wattenberg**	**6.76**	**315**	*e*Pn			**Pn**	**13 37 50.1**	**-0.3**
	comp=E,1.0nm,0.3s								
MOTA	**Moosalm**	**7.09**	**314**	*e*Pn			**Pn**	**13 37 53.6**	**-1.3**
	comp=E,0.8nm,0.3s								
KHC	**Kasperske Hory**	**7.34**	**333**	*e*PN			**Pn**	**13 37 58.2**	**-0.1**
KHC				*e*SN			**Sn**	**13 39 21.3**	**0.0**

*NDI **06** 13:37:16.2±2.7,24˙.06N×96˙.74E,h40km,ML4.4,MW4.6,*
mb4.6(NEIC)
*IDC **06** 13:37:20.5±0.6,24˙.65N×95˙.90E,h0km,mb4.1/19,*
mbtmp4.1/20,ML4.5/1,Error ellipse: s-maj=27.0km
s-min=12.1km az=53.0
*BJI **06** 13:37:24.8±0.0,24˙.58N×96˙.07E,h45km,mb4.3/26,*
mB4.7/9,ML3.9/6,Ms3.9/15,Ms7 3.8/13
*NEIC **06** 13:37:26.5±1.3,24˙.64N±0˙.08×96˙.02E±0˙.08,h41km±7km,*
mb4.6/44,Error ellipse: s-maj=13.7km s-min=9.0km
az=217.0

ISC 06 13:37:25.7±0.4, 24˙.59N±0˙.06×96˙.08E±0˙.04, h35km, n113, σ1s74/119, mb4.5/51, 1C, Myanmar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.95**	**278**	*e*P			**Pn**	**13 37 57.8**	**+1.3**
IMP				*e*S			**Sn**	**13 38 26.6**	**+6.7**
IMP				IAML				13 38 36.8	
	1μm,0.5s								
KOHI	**KOHIMA**	**2.11**	**303**	*e*P			**Pn**	**13 38 00.4**	**+1.7**
KOHI				*e*S			**Sn**	**13 38 31.4**	**+7.6**
KOHI				IAML				13 38 35.0	
	1μm,0.7s								
KOHI				IAML				13 38 38.7	
	comp=E,1μm,0.7s								
TNCH	**TengChong**	**2.26**	**78**	P			**Pn**	**13 38 02.1**	**+1.3**
TNCH				smax			smax		
	comp=E,2μm,1.0s								
TNCH				smax			smax		
	comp=E,2μm,1.3s								
TNCH				LR			LR		
	comp=E,2μm,8.2s								
JORH	**JORHAT**	**2.71**	**323**	*e*P			**Pn**	**13 38 09.8**	**+3.1**
JORH				*e*S			Sn	13 38 47.9	+10
JORH				IAML				13 38 49.9	
	comp=E,1μm,0.8s								
JORH				IAML				13 38 55.7	
	comp=E,1μm,0.5s								
LKP	**Lekhapani**	**2.74**	**356**	*e*P			**Pn**	**13 38 05.9**	**-1.4**
LKP				*e*S			**Sn**	**13 38 42.3**	**+3.2**
ITAN	**ITANAGAR**	**3.31**	**321**	*e*P			**Pn**	**13 38 15.3**	**+0.2**
ITAN				*e*S			**Sn**	**13 38 58.6**	**+5.3**
ZIRO	**ZIRO**	**3.55**	**326**	*e*P			**Pn**	**13 38 17.7**	**-0.8**
ZIRO				*e*S			**Sn**	**13 39 05.0**	**+5.6**
ZIRO				IAML				13 39 22.9	
	comp=E,2μm,0.4s								
ZIRO				IAML				13 39 25.8	
	comp=E,2μm,0.7s								
SHL	**Shillong**	**3.93**	**285**	Pn			**Pn**	**13 38 23.1**	**-0.7**
SHL	**Shillong**	**3.93**	**285**	*e*P			**Pn**	**13 38 23.7**	**0.0**
SHL				*e*S			**Sn**	**13 39 12.2**	**+3.5**
SHL				IAML				13 39 16.5	
	comp=N,1μm,0.8s								
SHL				IAML				13 39 17.5	
	comp=E,1μm,0.6s								
PZH	**PanZhiHua**	**5.46**	**68**	P			Pn	13 38 50.0	+5.3
PZH				smax			smax		
	comp=E,60nm,0.9s								
PZH				smax			smax		
	comp=E,60nm,1.3s								
PZH				LR			LR		
	comp=E,1μm,10.8s								
PZH				LR			LR		
	comp=E,560nm,9.2s								
PZH				LR			LR		
	comp=E,600nm,8.8s								
CRAI	**Chiangrai**	**5.88**	**137**				**Pn**	**13 38 51.2**	**+0.7**
CM31	**Chiang Mai Arr**	**6.66**	**156**				**Pn**	**13 39 02.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**6.66**	**156**				**Pn**	**13 39 02.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**6.66**	**156**	Pn			**Pn**	**13 39 03.2**	**+2.1**
	comp=E,2.6nm,0.3s,baz=329,slow=13,SNR=55								
CMAR				Pg				13 39 24.1	
	comp=E,1.2nm,0.3s,baz=333,slow=18,SNR=6.8								
CMAR				Lg			Lg	13 40 56.3	
	comp=E,0.3nm,0.3s,baz=319,slow=15,SNR=4.3								
	comp=E,7.4nm,0.5s								
LSA	**Lhasa**	**6.72**	**320**				**Pn**	**13 39 03.3**	**+0.9**
PHRA	**Phrae**	**7.18**	**147**	Pn			**Pn**	**13 39 10.1**	**+1.8**
GTK	**Tadong**	**7.26**	**294**	*e*P			**Pn**	**13 39 09.2**	**-0.3**
GTK				*e*S			**Sn**	**13 40 33.6**	**+2.9**
GTK				IAML				13 40 41.6	
	comp=E,831nm,1.0s								
GTK				IAML				13 40 43.7	
	comp=E,740nm,0.7s								
LZH	**Lanzhou**	**13.27**	**28**	*e*P			**Pn**	**13 40 35.6**	**+3.8**
LZH				pP			P	13 40 45.8	+4.7
LZH				pmax			pmax		
	comp=E,21nm,1.0s								
QIZ	**Qiongzhong**	**13.93**	**111**	P			**Pn**	**13 40 41.5**	**+0.8**
QIZ				S			**Sn**	**13 43 16.6**	**+2.5**
QIZ				LR			LR		
	comp=E,370nm,14.6s								
QIZ				LR			LR		
	comp=E,180nm,12.7s								
QIZ				LR			LR		
	comp=E,240nm,12.9s								
XAN	**Xi'an**	**14.62**	**47**	⇑P			**Pn**	**13 40 51.6**	**+1.5**
XAN				pP			P	13 41 00.1	+4.1
XAN				pmax			pmax		
	comp=E,11nm,1.4s								
XAN				LR			LR		
	comp=E,660nm,14.8s								
XAN				LR			LR		
	comp=E,450nm,14.4s								
LYN	**LuoYang**	**17.35**	**51**	*e*P			**Pn**	**13 41 24.8**	**-0.4**
LYN				pmax			pmax		
	comp=E,17nm,0.5s								
KULM	**Kulim**	**19.68**	**166**	P			**P**	**13 41 53.6**	**+1.6**
HHC	**Hu-ho-hao-te**	**20.75**	**35**	*e*P			Pn	13 42 05.4	-0.7
HHC				pmax			pmax		
	comp=E,16nm,0.8s								
HHC				LR			LR		
	comp=E,270nm,16.8s								
HHC				LR			LR		
	comp=E,190nm,17.1s								
HHC				LR			LR		
	comp=E,420nm,16.4s								
NJ2	**Nanjing**	**21.36**	**64**	*e*P			**P**	**13 42 11.1**	**+1.1**
NJ2				pmax			pmax		
	comp=E,6.0nm,0.6s								
NJ2				pmax			pmax		
	comp=E,200nm,3.8s								
KSH	**Kashi**	**22.55**	**316**	P			**P**	**13 42 22.7**	**-0.2**
KSH				pP			pP	13 42 33.2	+0.8
KSH				pmax			pmax		
	comp=E,8.0nm,1.0s								
SONM	**Songino Array**	**24.60**	**17**	P			**P**	**13 42 43.3**	**+0.5**
	comp=E,0.6nm,0.7s,baz=204,slow=13,SNR=2.0								
	comp=E,0.6nm,0.7s								
MK31	**Makanchi Array**	**24.75**	**337**	P			**P**	**13 42 44.2**	**+0.2**
MKAR	**Makanchi Array**	**24.75**	**337**	P			**P**	**13 42 43.8**	**-0.2**
MKAR	**Makanchi Array**	**24.75**	**337**	P			**P**	**13 42 44.4**	**+0.3**
	comp=E,1.9nm,0.5s,baz=155,slow=8.4,SNR=17								
	comp=E,1.9nm,0.5s								
TKM2	**Tokmak 2**	**24.88**	**322**	P			**P**	**13 42 46.1**	**+0.7**
	SNR=5.8								
UCH	**Uchtor**	**25.06**	**320**	P			**P**	**13 42 48.1**	**+0.8**
	SNR=7.6								
KBK	**Karagaybulak**	**25.07**	**321**	P			**P**	**13 42 48.6**	**+1.5**
	SNR=6.9								
AAK	**Ala-Archa**	**25.32**	**321**	P			**P**	**13 42 50.7**	**+1.4**
	SNR=6.6								
AAK	**Ala-Archa**	**25.32**	**321**	P			**P**	**13 42 48.9**	**-0.5**
AAK	**Ala-Archa**	**25.32**	**321**	P			**P**	**13 42 48.7**	**-0.6**
	comp=E,4.4nm,0.6s,baz=133,slow=7.1,SNR=18								
	comp=E,4.4nm,0.6s								
KBL	**Kabul**	**25.45**	**299**	P			**P**	**13 42 50.3**	**-0.4**
KBL				IAmb			IAmb	13 43 05.0	
	comp=Z,14nm,0.9s								
USP	**Ospenovka**	**25.71**	**322**	P			**P**	**13 42 53.1**	**+0.3**
	SNR=12								
EKS2	**Erkin-Say**	**25.75**	**320**	P			**P**	**13 42 54.5**	**+1.2**
	SNR=6.1								
SIMJ	**Simiganj**	**26.86**	**308**	P			**P**	**13 43 02.7**	**-0.7**
HRA	**Herat**	**30.91**	**296**	P			**P**	**13 43 37.1**	**-2.3**
BVAR	**Borovoye Array**	**34.38**	**332**	P			**P**	**13 44 07.7**	**-1.6**
	comp=E,1.6nm,0.5s,baz=140,slow=11,SNR=9.5								
	comp=E,1.6nm,0.5s								
GEYT	**Alibeck**	**34.83**	**302**	P			**P**	**13 44 13.6**	**+0.1**
GEYT				IAmb			IAmb	13 44 15.5	
	comp=Z,12nm,1.0s								
GEYT	**Alibeck**	**34.83**	**302**	P			**P**	**13 44 11.9**	**-1.6**

RETA	**Reutte**	**69.24**	**314**	*i* P	**P**	**13 48 27.8**	**-1.4**
	comp=Z,3.9nm,0.5s						
FETA	**Feichten**	**69.37**	**313**	*e*P	**P**	**13 48 28.9**	**-1.3**
	comp=Z,3.7nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**69.78**	**313**	P	**P**	**13 48 31.0**	**-1.9**
DAVA	**Damuels**	**69.87**	**314**	*i* P	**P**	**13 48 31.7**	**-1.5**
	comp=Z,2.3nm,0.5s						
TUE	**Stuetta**	**70.43**	**313**	P	**P**	**13 48 34.9**	**-1.8**
TUE				IAmb	IAmb	13 48 48.3	
	comp=Z,3.8nm,1.1s						
WLF	**Walferdange**	**71.62**	**317**	P	**P**	**13 48 43.4**	**-0.2**
WLF				IAmb	IAmb	13 48 44.5	
	comp=Z,7.3nm,0.7s						
F17K	**Baldwin Pennin**	**72.62**	**24**	P	**P**	**13 48 49.8**	**+0.5**
F17K				IAmb	IAmb	13 49 12.3	
	comp=Z,8.6nm,1.2s						
D19K	**Kuna River**	**72.95**	**22**	P	**P**	**13 48 51.1**	**-0.2**
D19K				IAmb	IAmb	13 49 13.2	
	comp=Z,9.5nm,1.4s						
KEST	**Kesra**	**73.57**	**302**	P	**P**	**13 48 54.6**	**-1.1**
KEST				IAmb	IAmb	13 48 55.9	
	comp=Z,9.1nm,1.2s						
KEST	**Kesra**	**73.57**	**302**	P	**P**	**13 48 55.0**	**-0.7**
	comp=Z,3.0nm,0.8s,baz=41,slow=4.3,SNR=4.4						
	comp=Z,3.0nm,0.8s						
B22K	**Teshekpuk Lake**	**73.65**	**19**	P	**P**	**13 48 54.9**	**-0.4**
B22K				IAmb	IAmb	13 49 12.6	
	comp=Z,6.6nm,1.4s						
CLF	**Chambon-Foret**	**74.57**	**316**	P	**P**	**13 49 00.7**	**-0.4**
C23K	**Itkillik River**	**74.74**	**19**	P	**P**	**13 49 01.6**	**-0.1**
EKA	**Eskdalemuir Ar**	**75.16**	**324**	P	**P**	**13 49 03.2**	**-1.2**
	comp=Z,1.2nm,0.6s,baz=68,slow=5.9,SNR=7.2						
	comp=Z,1.2nm,0.6s						
ESK	**Eskdalemuir**	**75.19**	**324**	P	**P**	**13 49 04.3**	**-0.2**
ESK				IAmb	IAmb	13 49 29.9	
	comp=Z,14nm,1.2s						
SCO	**Scoresbysund**	**75.76**	**342**	P	**P**	**13 49 07.2**	**-0.3**
H21K	**Melozitna Rive**	**76.08**	**23**	P	**P**	**13 49 09.0**	**-0.5**
H21K				IAmb	IAmb	13 49 13.2	
	comp=Z,7.0nm,1.4s						
BMAR	**Burnt Mountain**	**77.91**	**20**	P	**P**	**13 49 21.1**	**+1.3**
ESDC	**Sonseca Array**	**81.92**	**310**	P	**P**	**13 49 39.8**	**-2.2**
	comp=Z,0.8nm,1.1s,baz=46,slow=6.4,SNR=4.5						
	comp=Z,0.8nm,1.1s						
BOSA	**Boshof**	**86.23**	**236**	P	**P**	**13 50 03.6**	**-0.5**
BOSA				IAmb	IAmb	13 50 07.0	
	comp=Z,7.3nm,1.4s						
BOSA	**Boshof**	**86.23**	**236**	P	**P**	**13 50 03.5**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=90,slow=3.0,SNR=1.9						
	comp=Z,1.1nm,0.6s						
TOA0	**Torodi Ar. Sit**	**88.53**	**284**	P	**P**	**13 50 13.4**	**-2.0**
TOA0				IAmb	IAmb	13 50 43.8	
	comp=Z,4.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**88.53**	**284**	P	**P**	**13 50 14.7**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=56,slow=4.9,SNR=2.4						
	comp=Z,0.3nm,0.5s						

*SNET **06** 13:38:32.0, 13°.26N×88°.07W, h5km, ML3.8*
*CATAC **06** 13:38:32.5±0.2, 13°.24N×88°.05W, h6km±1km, ML3.6*
ISC 06 13:38:32.9±0.8, 13°28N±0°.04×88°.06W±0°.02, h13km±6km, n51, σ0°81/75, 2C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.18**	**263**	*i*P	**Pg**	**13 38 36.8**	**-0.4**
JUCU				*e*S	**Sg**	**13 38 39.9**	**-0.2**
JUCU	**Jucuarįn**	**0.18**	**263**	*i* P	**Pg**	**13 38 36.8**	**-0.4**
JUCU				*i* S	**Sg**	**13 38 40.3**	**+0.2**
JUCU				IAML		13 38 40.9	
	comp=Z,21µm,1.0s						
CNCH	**Conchagua**	**0.22**	**90**	*i*P	**Pg**	**13 38 37.5**	**-0.4**
CNCH				*e*S	**Sg**	**13 38 41.1**	**0.0**
CNCH	**Conchagua**	**0.22**	**90**	*i* P	**Pg**	**13 38 37.4**	**-0.4**
CNCH				*i* S	**Sg**	**13 38 41.2**	**0.0**
CNCH				IAML		13 38 41.6	
	comp=Z,34µm,1.0s						
CNRM	**Centro Naciona**	**0.23**	**332**	*i*P	**Pg**	**13 38 38.0**	**+0.2**
CNRM	**Centro Naciona**	**0.23**	**332**	*i* P	**Pg**	**13 38 38.0**	**+0.2**
CNRM				*i* S	**Sb**	**13 38 43.1**	**+0.3**
CNRM				IAML		13 38 44.9	
	comp=Z,33µm,1.0s						
BLLM	**Bellamira**	**0.24**	**314**	*e*P	**Pg**	**13 38 38.2**	**+0.1**
VSM	**San Miguel**	**0.26**	**306**	*e*P	**Pg**	**13 38 38.8**	**+0.3**
RANC	**El Ranchito**	**0.27**	**306**	*e*P	**Pg**	**13 38 38.9**	**+0.3**
RANC	**El Ranchito**	**0.27**	**306**	*i* P	**Pg**	**13 38 39.0**	**+0.3**
RANC				*i* S	**Sb**	**13 38 43.9**	**-0.4**
RANC				IAML		13 38 46.7	
	comp=Z,7µm,1.0s						
PACA	**Pacayal**	**0.32**	**307**	*e*P	**Pg**	**13 38 39.8**	**+0.2**
PACA	**Pacayal**	**0.32**	**307**	*i* P	**Pg**	**13 38 39.7**	**+0.2**
PACA				*i* S	**Sb**	**13 38 45.4**	**-0.2**
PACA				IAML		13 38 48.7	
	comp=Z,41µm,1.0s						
TECA	**Tecapa**	**0.48**	**297**	*e*P	**Pg**	**13 38 42.6**	**+0.1**
COEB	**Comit de Eme**	**0.51**	**296**	*e*P	**Pg**	**13 38 43.1**	**+0.2**
COEB	**Comit de Eme**	**0.51**	**296**	*i* P	**Pg**	**13 38 43.1**	**+0.2**
COEB				*i* S	**Sb**	**13 38 50.7**	**-0.3**
COEB				IAML		13 38 51.3	
	comp=Z,2µm,1.0s						
PQSS	**Presa 15 de Se**	**0.60**	**306**	*e*P	**Pg**	**13 38 44.6**	**+0.1**
PQSS	**Presa 15 de Se**	**0.60**	**306**	*i* P	**Pg**	**13 38 44.5**	**-0.1**
PQSS				IAML		13 38 45.9	
	comp=Z,970nm,1.0s						
PQSS				*i* S	**Sb**	**13 38 54.8**	**+1.3**
TECO	**Alcaldia de Te**	**0.75**	**290**	*e*P	**Pg**	**13 38 47.0**	**-0.5**
TECO	**Alcaldia de Te**	**0.75**	**290**	*i* P	**Pg**	**13 38 46.8**	**-0.6**
TECO				*i* S	**Sb**	**13 38 57.8**	**0.0**
TECO				IAML		13 38 58.3	
	comp=Z,1µm,1.0s						
SCLA	**Alcaldia de Sa**	**0.78**	**303**	*e*P	**Pg**	**13 38 48.0**	**0.0**
SCLA	**Alcaldia de Sa**	**0.78**	**303**	*i* P	**Pb**	**13 38 48.1**	**-0.1**
SCLA				*i* S	**Sn**	**13 39 00.2**	**-0.8**
SCLA				IAML		13 39 02.2	
	comp=Z,480nm,1.0s						
UESV	**Universidad de**	**0.79**	**297**	*e*P	**Pg**	**13 38 48.3**	**0.0**
UESV	**Universidad de**	**0.79**	**297**	*i* P	**Pg**	**13 38 48.2**	**0.0**
UESV				*i* S	**Sb**	**13 38 59.9**	**+0.7**
UESV				IAML		13 39 04.3	
	comp=Z,1µm,1.0s						
COEG	**Centro de Oper**	**0.87**	**293**	*e*P	**Pg**	**13 38 49.3**	**-0.4**
COEG	**Centro de Oper**	**0.87**	**293**	*i* S	**Sb**	**13 39 01.7**	**+0.3**
PAVA	**Las Pavas**	**0.96**	**297**	*e*P	**Pg**	**13 38 51.1**	**-0.3**
PAVA	**Las Pavas**	**0.96**	**297**	*i* P	**Pg**	**13 38 51.2**	**-0.2**
PAVA				*i* S	**Sb**	**13 39 04.8**	**+0.8**
PAVA				IAML		13 39 07.8	
	comp=Z,4µm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.09**	**45**	*i* P	**Pb**	**13 38 52.7**	**-1.0**
TGUH				*i* S	**Sb**	**13 39 07.8**	**-0.1**
TGUH				IAML		13 39 09.4	
	comp=Z,2µm,1.0s						
CRIN	**San Cristobal**	**1.14**	**120**	*i* P	**Pb**	**13 38 54.0**	**-0.5**
CRIN				*i* S	**Sn**	**13 39 10.8**	**+0.7**
CRIN				IAML		13 39 17.8	
	comp=Z,5µm,1.0s						
LOMA	**Loma Larga**	**1.14**	**289**	*i* P	**Pb**	**13 38 53.9**	**-0.6**
LOMA				*i* S	**Sg**	**13 39 09.9**	**+0.1**
LOMA				IAML		13 39 13.5	
	comp=Z,2µm,1.0s						
UEES	**Universidad Ev**	**1.23**	**291**	*i* P	**Pn**	**13 38 55.7**	**-0.1**
UEES				*i* S	**Sg**	**13 39 12.9**	**+0.4**
UEES				IAML		13 39 20.4	
	comp=Z,680nm,1.0s						
PIC2	**El Picacho**	**1.25**	**292**	*e*P	**Pn**	**13 38 56.5**	**+0.2**
PMON	**Piamonte**	**1.29**	**290**	*e*P	**Pn**	**13 38 56.4**	**-0.3**
PMON	**Piamonte**	**1.29**	**290**	*i* P	**Pn**	**13 38 56.8**	**+0.1**
PMON				*i* S	**Sb**	**13 39 13.9**	**+0.2**
PMON				IAML		13 39 17.1	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**1.40**	**286**	*e*P	**Pn**	**13 38 57.9**	**-0.3**
JAYA	**Jayaque - finc**	**1.40**	**286**	*i* P	**Pn**	**13 38 58.2**	**0.0**
JAYA				*i* S	**Sn**	**13 39 16.9**	**+0.2**
JAYA				IAML		13 39 22.1	
	comp=Z,2µm,1.0s						
CNGA	**Al SSO del Vol**	**1.54**	**120**	*i* P	**Pn**	**13 38 58.1**	**-1.9**
CNGA				*i* S	**Sn**	**13 39 19.0**	**-0.8**
CNGN	**Cerro Negro**	**1.54**	**120**	*i* P	**Pn**	**13 38 59.3**	**-0.7**
CNGN				*i* S	**Sb**	**13 39 20.6**	**0.0**
CNGN				IAML		13 39 29.0	
	comp=Z,760nm,1.0s						
MTO3	**Montecristo**	**1.69**	**312**	*i* P	**Pn**	**13 39 02.5**	**+0.3**
MTO3				*i* S	**Sg**	**13 39 26.5**	**-0.7**
MTO3				IAML		13 39 28.4	
	comp=Z,300nm,1.0s						
MOMN	**Momotombo**	**1.72**	**120**	*i* P	**Pn**	**13 39 02.1**	**-0.4**
MOMN				*i* S	**Sb**	**13 39 25.5**	**-0.3**
MOMN				IAML		13 39 29.7	
	comp=Z,24nm,1.0s						
MOM2	**El Cardon**	**1.75**	**118**	*i* P	**Pn**	**13 39 02.2**	**-0.7**
MOM2				*i* S	**Sn**	**13 39 25.2**	**+0.2**
MOM2				IAML		13 39 37.0	
	comp=Z,490nm,1.0s						
ESQI	**Esquipulas**	**1.78**	**316**	*i* P	**Pb**	**13 39 05.1**	**-0.4**
ESQI				IAML		13 39 41.1	
	comp=Z,410nm,1.0s						
NUBE	**Las Nubes**	**1.78**	**291**	*i* S	**Sb**	**13 39 28.5**	**+0.7**
COPN	**Copaltepe**	**1.80**	**127**	*i* S	**Pb**	**13 39 03.0**	**-2.7**
JUAM	**Asuncion Mita**	**1.91**	**304**	*i* P	Pg	13 39 19.1	+9.5
APYN	**Apoyeque**	**1.96**	**122**	*i* P	**Pn**	**13 39 06.6**	**+0.7**
APYN				*i* S	**Sb**	**13 39 32.2**	**-0.7**
APYN				IAML		13 39 35.1	
	comp=Z,450nm,1.0s						
CRUN	**El Crucero**	**2.15**	**127**	*i* P	**Pg**	**13 39 16.5**	**+2.4**
ORTG	**Ortega, Santa**	**3.86**	**138**	*i* P	**Pn**	**13 39 32.1**	**+0.1**
ORTG				IAML		13 40 03.0	
	comp=Z,55nm,1.0s						
SAJU	**San Juanillo,**	**3.93**	**144**	*i* P	**Pn**	**13 39 32.9**	**0.0**
SAJU				IAML		13 40 33.2	
	comp=Z,43nm,1.0s						
CDM	**Cerro de Muert**	**5.61**	**131**	*i* P	**Pn**	**13 39 59.8**	**+3.4**
PLAN	**Los Planes de**	**6.28**	**136**	*i* P	**Pn**	**13 40 07.6**	**+2.4**

*IDC **06** 13:38:38.5±5.7, 34°.5N×96°.5E, h0km, mb3.5/3, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=114.2km s-min=30.9km az=25.0*
ISC 06 13:38:38.8±2.4, 34°.5N±0°.2×96°.5E±0°.1, h10km, n7, σ0°89/8, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GOMU	**GeErMu**	**2.16**	**322**	P	**Pb**	**13 39 17.2**	**-1.1**
GOMU				pP	Pg	13 39 22.2	+1.9
GOMU				sP	Pn	13 39 24.9	+10
GOMU				S	**Sg**	**13 39 49.4**	**+1.0**
GOMU				pmax	pmax		
	comp=Z,170nm,0.6s						
GOMU				LR	LR		
	comp=N,1µm,4.4s						
GOMU				LR	LR		
	comp=E,1µm,4.0s						
GOMU				LR	LR		
	comp=Z,1µm,7.0s						
GTA	**Gaotai**	**5.60**	**28**	*e*P	**Pg**	**13 40 25.8**	**-0.3**
GTA				pP	Pb	13 40 29.7	+13
GTA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
SONM	**Songino Array**	**15.27**	**26**	Pn	**Pn**	**13 42 14.6**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=209,slow=14,SNR=8.3						
	comp=Z,1.8nm,0.6s						
MKAR	**Makanchi Array**	**16.29**	**323**	Pn	**Pn**	**13 42 27.2**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=135,slow=13,SNR=7.0						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**20.75**	**326**	P	**P**	**13 43 20.1**	**+0.6**
	comp=Z,2.0nm,0.6s,baz=132,slow=11,SNR=13						
	comp=Z,2.0nm,0.6s						
ZALV	**Zalesovo Beam**	**21.11**	**341**	P	**P**	**13 43 24.4**	**+1.0**
	comp=Z,1.7nm,0.7s,baz=159,slow=9.5,SNR=6.2						
	comp=Z,1.7nm,0.7s						
KSRS	**Korea Array**	**25.59**	**74**	P	**P**	**13 44 08.4**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=273,slow=9.6,SNR=4.5						
	comp=Z,0.8nm,0.7s						

IDC 06 13:49:01.1±27.0, 14°.22S×165°.82E, h0km, mb3.6/3, mbtmp3.6/4, ML3.2/1, MS3.7/4, Error ellipse: s-maj=466.6km s-min=48.8km az=51.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**7.83**	**176**	Pn	Pn	13 50 56.6	+0.1
	0.3nm,0.3s,baz=323,slow=20,SNR=6.3						
DZM				Sn	Sn	13 52 18.3	-7.7
	0.2nm,0.3s,baz=90,slow=23,SNR=1.6						
	1.5nm,0.4s						
STKA	**Stephens Creek**	**28.28**	**227**	P	P	13 54 56.0	-0.4
	1.3nm,0.6s,baz=28,slow=10,SNR=3.4						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**30.60**	**255**	P	P	13 55 16.4	-0.6
	0.4nm,0.8s,baz=85,slow=8.5,SNR=1.7						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**31.55**	**248**	P	P	13 55 26.1	+0.7
	0.2nm,0.4s,baz=78,slow=9.3,SNR=9.1						
	0.2nm,0.4s						
JNU	**Nakatsue**	**57.70**	**325**	LR	LR	14 21 54.8	
	comp=Z,85nn,21.0s,baz=235,slow=34						
KSRS	**Korea Array**	**62.53**	**327**	LR	LR	14 26 03.7	
	comp=Z,32nn,18.5s,baz=270,slow=36						
KLR	**Kul'dur**	**69.98**	**337**	LR	LR	14 28 55.7	
	comp=Z,94nn,20.5s,baz=230,slow=34						
YAK	**Yakutsk**	**81.14**	**344**	LR	LR	14 32 43.0	
	comp=Z,50nn,21.6s,baz=243,slow=32						

*CATAC **06** 14:08:59.7±0.2, 13°.27N×88°.04W, h5km±2km, ML3.2*
*SNET **06** 14:08:59.0±0.8, 13°.24N×88°.06W, h5km±4km, ML3.2*
ISC 06 14:08:59.7±0.9, 13°25N±0°.05×88°.05W±0°.02, h10km±7km, n29, σ0°75/46, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.19**	**271**	*e*P	**Pg**	**14 09 03.6**	**-0.3**
JUCU				*e*S	**Sg**	**14 09 06.4**	**-0.2**
CNCH	**Conchagua**	**0.21**	**83**	*i*P	**Pg**	**14 09 04.2**	**-0.1**
CNCH				*e*S	**Sg**	**14 09 07.8**	**+0.4**
CNCH	**Conchagua**	**0.21**	**83**	*i* P	**Pg**	**14 09 04.1**	**-0.1**
CNCH				*i* S	**Sg**	**14 09 08.2**	**+0.9**
CNCH				IAML		14 09 13.2	
	comp=Z,20µm,1.0s						
CNRM	**Centro Naciona**	**0.25**	**333**	*e*P	**Pg**	**14 09 04.7**	**-0.2**
BLLM	**Bellamira**	**0.26**	**317**	*e*P	**Pg**	**14 09 05.1**	**0.0**
LCY	**Lacayo**	**0.29**	**306**	*e*P	**Pg**	**14 09 05.9**	**+0.2**
RANC	**El Ranchito**	**0.29**	**309**	*e*P	**Pg**	**14 09 05.9**	**+0.1**
RANC	**El Ranchito**	**0.29**	**309**	*i* P	**Pg**	**14 09 05.9**	**+0.1**
RANC				*i* S	**Sg**	**14 09 10.6**	**+0.8**
RANC				IAML		14 09 15.6	
	comp=Z,3µm,1.0s						
TECA	**Tecapa**	**0.50**	**299**	*e*P	**Pb**	**14 09 10.0**	**-0.8**
PQSS	**Presa 15 de Se**	**0.62**	**307**	*e*P	**Pb**	**14 09 12.0**	**-0.7**
PQSS	**Presa 15 de Se**	**0.62**	**307**	*i* P	**Pb**	**14 09 12.0**	**-0.7**
PQSS				*i* S	**Sb**	**14 09 22.7**	**+1.2**
PQSS				IAML		14 09 22.8	
	comp=Z,350nm,1.0s						
TECO	**Alcaldia de Te**	**0.77**	**292**	*e*P	**Pg**	**14 09 14.0**	**-0.5**
TECO	**Alcaldia de Te**	**0.77**	**292**	*i* P	**Pg**	**14 09 14.0**	**-0.5**
TECO				*i* S	**Sg**	**14 09 24.2**	**-0.3**
TECO				IAML		14 09 27.1	
	comp=Z,290nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.80**	**304**	*i* P	**Pb**	**14 09 15.3**	**-0.5**
SCLA				*i* S	**Sb**	**14 09 27.2**	**+0.6**
SCLA				IAML		14 09 48.2	
	comp=Z,210nm,1.0s						
COEG	**Centro de Oper**	**0.89**	**295**	*e*P	**Pg**	**14 09 16.4**	**-0.5**
COEG	**Centro de Oper**	**0.89**	**295**	*i* P	**Pg**	**14 09 16.6**	**-0.3**
COEG				*i* S	**Sb**	**14 09 28.8**	**-0.4**
COEG				IAML		14 09 31.8	
	comp=Z,460nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.10**	**43**	*i* P	**Pg**	**14 09 19.9**	**-1.1**
TGUH				*i* S	**Sn**	**14 09 37.3**	**+0.5**
TGUH				IAML		14 09 40.4	
	comp=Z,910nm,1.0s						
CRIN	**San Cristobal**	**1.12**	**119**	*i* P	**Pg**	**14 09 21.0**	**-0.3**
CRIN				*i* S	**Sn**	**14 09 39.3**	**+2.2**
CRIN				IAML		14 09 42.1	
	comp=Z,2µm,1.0s						
PMON	**Piamonte**	**1.31**	**291**	*e*P	**Pn**	**14 09 23.9**	**-0.4**
PMON	**Piamonte**	**1.31**	**291**	*i* P	**Pn**	**14 09 23.7**	**-0.6**
PMON				*i* S	**Sn**	**14 09 42.3**	**+0.4**
PMON				IAML		14 09 46.2	
	comp=Z,590nm,1.0s						
JAYA	**Jayaque - finc**	**1.42**	**287**	*i* P	**Pn**	**14 09 25.2**	**-0.6**
JAYA				*i* S	**Sg**	**14 09 45.0**	**-0.4**
JAYA				IAML		14 09 47.0	
	comp=Z,900nm,1.0s						
CNGA	**Al SSO del Vol**	**1.52**	**120**	*i* P	**Pn**	**14 09 25.0**	**-2.0**
CNGA				*i* S	**Sb**	**14 09 47.5**	**+0.2**
CNGN	**Cerro Negro**	**1.52**	**119**	*i* P	**Pn**	**14 09 25.7**	**-1.3**
CNGN				IAML		14 10 04.8	
	comp=Z,280nm,1.0s						
CEVE	**Cerro Verde**	**1.63**	**291**	*i* P	**Pn**	**14 09 29.3**	**+0.5**
CEVE				IAML		14 10 00.1	
	comp=Z,310nm,1.0s						
MOMN	**Momotombo**	**1.69**	**119**	*i* P	**Pn**	**14 09 29.5**	**0.0**
MOMN				*i* S	**Sg**	**14 09 53.5**	**-0.8**
MOMN				IAML		14 10 53.7	
	comp=Z,19nm,1.0s						
MOM2	**El Cardon**	**1.73**	**118**	*i* P	**Pn**	**14 09 30.0**	**+0.1**
MOM2				IAML		14 09 36.7	
	comp=Z,130nm,1.0s						
MOM2				*i* S	**Sg**	**14 09 54.8**	**-0.6**
NUBE	**Las Nubes**	**1.80**	**291**	*i* P	**Pn**	**14 09 31.5**	**+0.5**
NUBE				IAML		14 09 35.3	
	comp=Z,190nm,1.0s						
NUBE				*i* S	**Sb**	**14 09 56.5**	**+0.8**
APYN	**Apoyeque**	**1.94**	**121**	*i* P	**Pn**	**14 09 33.4**	**+0.5**
APYN				IAML		14 09 35.5	
	comp=Z,140nm,1.0s						
APYN				*i* S	**Sb**	**14 09 59.8**	**+0.2**
ORTG	**Ortega, Santa**	**3.83**	**138**	*i* P	**Pn**	**14 10 00.0**	**+1.1**
ORTG				IAML		14 10 11.7	
	comp=Z,47nm,1.0s						

*SNET **06** 14:20:53.0±0.6, 13°.29N×88°.07W, h5km±2km, ML4.0*
*CATAC **06** 14:20:53.8±0.2, 13°.28N×88°.06W, h5km±1km, ML4.0*
ISC 06 14:20:53.2±0.8, 13°.31N±0°.05×88°.06W±0°.02, h15km±6km, n47, σ0°63/76, 6C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNRM	**Centro Naciona**	**0.20**	**325**	*i* P	**Pb**	**14 20 58.0**	**-0.6**
CNRM				*i* S	**Sb**	**14 21 02.2**	**+0.1**
CNRM				IAML		14 21 12.6	
	comp=Z,110µm,1.0s						
JUCU	**Jucuarįn**	**0.20**	**253**	*e*P	**Pg**	**14 20 57.6**	**-0.3**
JUCU				*e*S	**Sg**	**14 21 00.8**	**-0.2**
JUCU				IAML		14 21 02.1	
	comp=Z,41µm,0.3s						
JUCU	**Jucuarįn**	**0.20**	**253**	*i* P	**Pg**	**14 20 57.6**	**-0.3**
JUCU				*i* S	**Sg**	**14 21 01.2**	**+0.2**
JUCU				IAML		14 21 02.0	
	comp=Z,38µm,1.0s						
CNCH	**Conchagua**	**0.22**	**99**	*e*P	**Pg**	**14 20 58.2**	**0.0**
CNCH				*e*S	**Sg**	**14 21 01.8**	**+0.1**
CNCH	**Conchagua**	**0.22**	**99**	*i* P	**Pg**	**14 20 58.4**	**+0.1**
CNCH				*i* S	**Sg**	**14 21 02.1**	**+0.4**
CNCH				IAML		14 21 02.6	
	comp=Z,150µm,1.0s						
BLLM	**Bellamira**	**0.22**	**306**	*i*P	**Pb**	**14 20 58.6**	**-0.4**
VSM	**San Miguel**	**0.24**	**298**	*i*P	**Pb**	**14 20 59.2**	**-0.3**
RANC	**El Ranchito**	**0.26**	**298**	*i* P	**Pg**	**14 20 59.1**	**+0.2**
RANC				*i* S	**Sb**	**14 21 04.2**	**+0.2**
RANC				IAML		14 21 07.7	
	comp=Z,15µm,1.0s						
LCY	**Lacayo**	**0.26**	**295**	*i*P	**Pb**	**14 20 59.3**	**-0.4**
PACA	**Pacayal**	**0.30**	**301**	*i*P	**Pb**	**14 21 00.1**	**-0.3**
PACA	**Pacayal**	**0.30**	**301**	*i* P	**Pb**	**14 21 00.3**	**-0.2**
PACA				*i* S	**Sb**	**14 21 06.1**	**+0.8**
PACA				IAML		14 21 17.6	
	comp=Z,84µm,1.0s						
AMPH	**Amapala**	**0.39**	**94**	*e*P	**Pg**	**14 21 01.1**	**0.0**
AMPH				*e*S	**Sb**	**14 21 07.0**	**-0.6**
TECA	**Tecapa**	**0.47**	**293**	*e*P	**Pb**	**14 21 03.0**	**-0.3**
COEB	**Comit de Eme**	**0.50**	**292**	*e*P	**Pg**	**14 21 03.4**	**+0.3**
COEB	**Comit de Eme**	**0.50**	**292**	*i* P	**Pb**	**14 21 03.6**	**-0.2**
COEB				*i* S	**Sb**	**14 21 10.9**	**0.0**
COEB				IAML		14 21 11.9	
	comp=Z,4µm,1.0s						
PQSS	**Presa 15 de Se**	**0.58**	**302**	*i* S	**Sb**	**14 21 14.2**	**+1.0**
TECO	**Alcaldia de Te**	**0.74**	**288**	*e*P	**Pg**	**14 21 07.5**	**-0.1**
TECO	**Alcaldia de Te**	**0.74**	**288**	*i* P	**Pg**	**14 21 07.6**	**-0.1**
TECO				*i* S	**Sb**	**14 21 18.2**	**+0.4**
TECO				IAML		14 21 20.6	
	comp=Z,2µm,1.0s						
SCLA	**Alcaldia de Sa**	**0.76**	**301**	*i* P	**Pb**	**14 21 08.3**	**+0.1**
SCLA				*i* S	**Sn**	**14 21 20.7**	**-0.1**
SCLA				IAML		14 21 33.2	
	comp=Z,1µm,1.0s						
UESV	**Universidad de**	**0.78**	**294**	*i* P	**Pg**	**14 21 08.6**	**+0.1**
UESV				*i* S	**Sn**	**14 21 20.3**	**-1.0**
UESV				IAML		14 21 22.4	
	comp=Z,3µm,1.0s						
COEG	**Centro de Oper**	**0.86**	**291**	*e*P	**Pb**	**14 21 09.7**	**-0.2**
COEG	**Centro de Oper**	**0.86**	**291**	*i* P	**Pg**	**14 21 09.9**	**0.0**
COEG				*i* S	**Sn**	**14 21 22.4**	**-0.8**
COEG				IAML		14 21 28.5	
	comp=Z,3µm,1.0s						
PAVA	**Las Pavas**	**0.95**	**295**	*i* P	**Pg**	**14 21 11.6**	**0.0**
PAVA				*i* S	**Sn**	**14 21 25.6**	**+0.2**
PAVA				IAML		14 21 29.7	
	comp=Z,6µm,1.0s						
PANCS	**Alcalda de**	**1.13**	**285**	*i* P	**Pn**	**14 21 14.4**	**-0.2**
PANCS				*i* S	**Sn**	**14 21 29.8**	**-0.2**
PANCS				IAML		14 21 30.4	
	comp=Z,13µm,1.0s						
LOMA	**Loma Larga**	**1.14**	**287**	*i* P	**Pn

*NEIC **06** 14:28:06.0±1.6,44.°05S±0.°2×40.°7E±0.°2,h10km±2km, mb4.7/14,Error ellipse: s-maj=36.6km s-min=19.6km az=183.0*

ISC 06 14:28:06.7±0.5,43.°39S±0.°1×40.°8E±0.°1,h10km,n44, σ1s23/33,mb4.3/17,MS3.9/13,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SUR	**Sutherland**	**19.41**	**300**	P		**P**	**14 32 32.4**	**-0.7**
SUR				IAmb		IAmb	14 32 46.5	
	comp=Z,41nm,1.4s							
SUR	**Sutherland**	**19.41**	**300**	P		**P**	**14 32 31.6**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=117,slow=15,SNR=6.2							
SUR				LR		LR	14 38 45.1	
	comp=Z,219nm,18.5s,baz=136,slow=33							
	comp=Z,4.5nm,0.7s							
BOSA	**Boshof**	**19.68**	**316**	P		**P**	**14 32 33.8**	**-2.2**
BOSA	**Boshof**	**19.68**	**316**	P		**P**	**14 32 35.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=151,slow=7.4,SNR=5.0							
BOSA				LR		LR	14 38 49.0	
	comp=Z,342nm,18.3s,baz=150,slow=33							
	comp=Z,2.8nm,0.9s							
VOI	**Vohitsoka**	**22.51**	**15**	P		**P**	**14 33 04.2**	**-2.5**
LBTB	**Lobatse**	**22.55**	**322**	P		**P**	**14 33 03.8**	**-3.3**
LBTB				IAmb		IAmb	14 33 17.9	
	comp=Z,29nm,1.4s							
LBTB	**Lobatse**	**22.55**	**322**	LR		LR	14 40 26.5	
	comp=Z,303nm,19.1s,baz=144,slow=33							
ABPO	**Ambohimpanom**	**25.41**	**14**	P		**P**	**14 33 34.1**	**-0.4**
OPO	**Ambohidratompo**	**25.84**	**14**	LR		LR	14 42 20.8	
	comp=Z,654nm,19.4s,baz=358,slow=33							
RER	**Riviere de l'E**	**25.89**	**34**	P		**P**	**14 33 39.6**	**+0.8**
MAW	**Mawson**	**26.50**	**161**	P		**P**	**14 33 44.6**	**+0.8**
	comp=Z,1.4nm,0.6s,baz=306,slow=7.3,SNR=3.6							
MAW				LR		LR	14 41 37.3	
	comp=Z,159nm,21.8s,baz=324,slow=31							
	comp=Z,1.4nm,0.6s							
TSUM	**Tsumeb**	**31.37**	**314**	P		**P**	**14 34 30.0**	**+2.2**
TSUM				IAmb		IAmb	14 34 31.3	
	comp=Z,14nm,1.4s							
TSUM	**Tsumeb**	**31.37**	**314**	LR		LR	14 46 52.8	
	comp=Z,187nm,18.1s,baz=153,slow=36							
SNAA	**Sanae**	**34.79**	**202**	P		**P**	**14 34 56.9**	**-0.1**
	comp=Z,8.7nm,1.1s,baz=7.1,slow=21,SNR=2.4							
SNAA				LR		LR	14 46 03.6	
	comp=Z,142nm,19.7s,baz=8.5,slow=31							
	comp=Z,8.7nm,1.1s							
MBAR	**Mbarara**	**44.04**	**346**	LR		LR	14 54 33.5	
	comp=Z,104nm,18.1s,baz=142,slow=36							
QSPA	**South Pole Qui**	**46.30**	**180**	P		**P**	**14 36 31.4**	**-0.9**
	comp=Z,1.8nm,1.0s,baz=196,slow=5.4,SNR=2.9							
	comp=Z,1.8nm,1.0s							
ATD	**Arta Tunnel**	**55.21**	**2**	LR		LR	14 58 53.5	
	comp=Z,9.0nm,20.2s,baz=146,slow=33							
H01W2	**Cape Leeuwin H**	**55.70**	**108**	T		T	15 37 57.5	
	baz=238,slow=75,SNR=10							
H01W3	**Cape Leeuwin H**	**55.71**	**108**	T		T	15 37 59.2	
	baz=238,slow=75,SNR=12							
H01W1	**Cape Leeuwin H**	**55.71**	**108**	T		T	15 37 58.6	
	baz=238,slow=75,SNR=11							
PALK	**Pallekele**	**62.44**	**46**	LR		LR	14 58 38.2	
	comp=Z,209nm,20.8s,baz=318,slow=29							
DBIC	**Dimbokro**	**65.01**	**308**	LR		LR	15 04 03.8	
	comp=Z,92nm,19.8s,baz=136,slow=33							
TOA0	**Torodi Ar. Sit**	**67.02**	**318**	P		**P**	**14 38 59.9**	**0.0**
TOA0				IAmb		IAmb	14 39 05.1	
	comp=Z,10nm,1.4s							
TORD	**Torodi Ar. Bea**	**67.02**	**318**	P		**P**	**14 38 58.6**	**-1.3**
TORD				IAmb		IAmb	14 39 05.1	
	comp=Z,8.3nm,1.3s							
TORD	**Torodi Ar. Bea**	**67.02**	**318**	P		**P**	**14 39 01.5**	**+1.6**
	comp=Z,2.8nm,1.0s,baz=133,slow=4.1,SNR=8.6							
TORD				LR		LR	15 08 41.8	
	comp=Z,86nm,18.1s,baz=126,slow=36							
	comp=Z,2.8nm,1.0s							
MBWA	**Marble Bar**	**67.85**	**98**	P		**P**	**14 39 04.2**	**-1.0**
WSAR	**Wadi Sarin**	**68.81**	**18**	LR		LR	15 03 01.9	
	comp=Z,68nm,19.9s,baz=204,slow=30							
STKA	**Stephens Creek**	**75.66**	**120**	P		**P**	**14 39 51.9**	**-0.2**
	comp=Z,3.3nm,1.0s,baz=171,slow=6.6,SNR=3.1							
	comp=Z,3.3nm,1.0s							
ASAR	**Alice Springs**	**76.14**	**109**	P		**P**	**14 39 54.9**	**-0.1**
	comp=Z,1.1nm,1.0s,baz=236,slow=6.0,SNR=4.7							
	comp=Z,1.1nm,1.0s							
CPUP	**Villa Florida**	**77.66**	**245**	P		**P**	**14 40 02.8**	**-0.7**
	comp=Z,4.4nm,1.2s,baz=81,slow=9.1,SNR=3.0							
	comp=Z,4.4nm,1.2s							
WRA	**Warramunga Arr**	**78.94**	**107**	P		**P**	**14 40 10.4**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=226,slow=3.9,SNR=3.3							
	comp=Z,0.9nm,0.9s							
CMAR	**Chiang Mai Arr**	**81.71**	**55**	P		**P**	**14 40 27.1**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=231,slow=5.7,SNR=8.8							
CMAR				LR		LR	15 10 08.4	
	comp=Z,100nm,20.6s,baz=180,slow=31							
	comp=Z,0.6nm,0.3s							
GEYT	**Alibeck**	**82.97**	**14**	P		**P**	**14 40 31.9**	**+0.3**
GEYT				IAmb		IAmb	14 40 37.1	
	comp=Z,5.0nm,1.0s							
BRTR	**Keskin Array B**	**83.50**	**354**	P		**P**	**14 40 33.9**	**-0.6**
BRTR	**Keskin Array B**	**83.50**	**354**	P		**P**	**14 40 34.5**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=173,slow=5.1,SNR=4.2							
	comp=Z,1.2nm,0.8s							
GNI	**Garni**	**83.76**	**3**	LR		LR	15 16 27.9	
	comp=Z,81nm,21.0s,baz=228,slow=35							
CRAI	**Chiangrai**	**83.93**	**55**	P		**P**	**14 40 36.7**	**-0.2**
CRAI				IAmb		IAmb	14 40 42.8	
	comp=Z,7.1nm,1.4s							
KEST	**Kesra**	**84.26**	**335**	P		**P**	**14 40 39.3**	**+1.0**
	comp=Z,0.8nm,0.7s,baz=146,slow=3.6,SNR=1.3							
	comp=Z,0.8nm,0.7s							
MLR	**Muntele Rosu**	**89.99**	**350**	P		**P**	**14 41 07.6**	**+1.6**
ESDC	**Sonseca Array**	**92.47**	**327**	P		**P**	**14 41 18.0**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=147,slow=3.6,SNR=5.7							
	comp=Z,0.7nm,0.9s							
TXAR	**Lajitas Array**	**148.23**	**255**	PKPbc		**PKPbc**	**14 47 53.2**	**+0.2**
	comp=Z,2.1nm,1.1s,baz=123,slow=6.1,SNR=7.3							
ULM	**Lac du Bonnet**	**150.14**	**298**	PKPbc		**PKiKP**	**14 47 58.1**	**+0.3**
	comp=Z,2.3nm,0.8s,baz=136,slow=1.5,SNR=4.3							
YKA	**Yellowknife Ar**	**156.51**	**331**	PKP		**PKPdf**	**14 48 00.7**	**0.0**
	comp=Z,0.5nm,0.9s,baz=51,slow=2.0,SNR=3.2							
YKA				PKPab		**pPKPab**	**14 48 32.2**	**+0.1**
	comp=Z,0.4nm,0.8s,baz=43,slow=5.0,SNR=5.2							
PDAR	**Pinedale Array**	**158.43**	**277**	PKPab		**PKPab**	**14 48 38.5**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=124,slow=1.6,SNR=3.9							

*TAP **06** 14:35:12.0,24.°95N×122.°44E,h19km,ML2.9,D*
*JMA **06** 14:35:12.9±0.2,25.°N±1.°×122.°4E±0.°5,h11km,MV2.6/8, NW OFF ISHIGAKIJIMA IS*

ISC 06 14:35:12.4±1.0,24.°89N±0.°03×122.°43E±0.°02,h15km±8km, n76,σ0s53/115,1C-2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.42**	**287**	*i*P		**Pg**	**14 35 21.0**	**+0.2**
	baz=278							
TWB1				*i* S		**Sg**	**14 35 26.7**	**+0.1**
	baz=278							
EGS		**0.46**	**265**	*i* P		**Pb**	**14 35 22.0**	**-0.1**
	baz=248							
EGS				*i* S		**Sb**	**14 35 29.7**	**+0.9**
	baz=248							
EOS2	**EOS2**	**0.50**	**201**	*i* P		**Pb**	**14 35 23.3**	**+0.4**
	baz=208							
EOS2				*i* S		**Sb**	**14 35 31.2**	**+1.3**
	baz=208							
SXI1	**Grass Mountain**	**0.54**	**292**	*i*P		**Pb**	**14 35 23.7**	**0.0**
	baz=286							
SXI1				*i* S		**Sb**	**14 35 31.4**	**0.0**
	baz=286							
TWC	**Suao**	**0.60**	**242**	*i* P		**Pg**	**14 35 24.0**	**-0.1**
	baz=222							
TWC				S		**Sb**	**14 35 34.0**	**+1.2**
	baz=222							
EOS3	**EOS3**	**0.61**	**190**	P		**Pb**	**14 35 25.2**	**+0.6**
	baz=195							
EOS3				S		**Sn**	**14 35 35.3**	**-0.5**
	baz=195							
NWF	**Wu-fen Shan**	**0.62**	**287**	*i* P		**Pb**	**14 35 25.2**	**+0.2**
	baz=281							
NWF				*i* S		**Sb**	**14 35 33.3**	**-0.2**
	baz=281							
WFSB	**Wu-fen Shan**	**0.62**	**287**	*i* P		**Pb**	**14 35 24.9**	**0.0**
	baz=281							
WFSB				*i* S		**Sb**	**14 35 33.5**	**+0.1**
	baz=281							
JYNG	**Yonagunijimaku**	**0.64**	**133**	*e*P		**Pg**	**14 35 24.9**	**0.0**
JYNG				*e*S		**Sg**	**14 35 33.4**	**0.0**
TNOU	**National Taiwa**	**0.65**	**294**	*e*P		**Pg**	**14 35 24.7**	**-0.5**
	baz=288							
TNOU				*e*S		**Sg**	**14 35 33.9**	**0.0**
	baz=288							
YOJ	**Yonaguni jima**	**0.68**	**129**	P		**Pg**	**14 35 25.5**	**-0.2**
YOJ	**Yonaguni jima**	**0.68**	**129**	P		**Pg**	**14 35 25.5**	**-0.2**
YOJ				S		**Sg**	**14 35 34.2**	**-0.4**
YOJ	**Yonaguni jima**	**0.68**	**129**	*i*P		**Pg**	**14 35 25.6**	**0.0**
	baz=124							
YOJ				*i* S		**Sg**	**14 35 34.4**	**-0.3**
	baz=124							
NDS	**Dongshan**	**0.70**	**249**	P		**Pg**	**14 35 26.1**	**0.0**
	baz=244							
NDS				S		**Sb**	**14 35 35.9**	**+0.2**
	baz=244							
TWE	**Neicheng**	**0.71**	**257**	*i* P		**Pg**	**14 35 26.2**	**-0.2**
	baz=251							
TWE				S		**Sb**	**14 35 36.9**	**+0.7**
	baz=251							
EWUT	**Wuta**	**0.74**	**234**	P		**Pg**	**14 35 26.7**	**-0.1**
	baz=230							
EOS4	**EOS4**	**0.77**	**188**	*e*P		**Pn**	**14 35 28.1**	**-0.4**
	baz=187							
FUSB	**Fushanzhiwuyua**	**0.78**	**261**	*e*P		**Pg**	**14 35 27.4**	**-0.2**
	baz=256							
FUSB				*e*S		**Sb**	**14 35 39.1**	**+1.0**
	baz=256							
ENA	**Nanau**	**0.78**	**234**	*e*P		**Pg**	**14 35 27.5**	**-0.1**
	baz=230							
ENA				S		**Sb**	**14 35 38.4**	**+0.4**
	baz=230							
YM01	**YM01**	**0.82**	**288**	*i* P		**Pg**	**14 35 28.3**	**-0.1**
	baz=284							
YM01				*e*S		**Sb**	**14 35 39.7**	**+0.4**
	baz=284							
ENTT	**Nioudou**	**0.82**	**253**	*e*P		**Pb**	**14 35 28.4**	**0.0**
	baz=236							
ENTT				S		**Sn**	**14 35 40.6**	**-0.8**
	baz=236							
NHDH	**Xindian Distri**	**0.83**	**275**	P		**Pg**	**14 35 28.5**	**0.0**
	baz=270							
NHDH				*i* S		**Sb**	**14 35 39.7**	**+0.3**
	baz=270							
EAHA	**Aohua**	**0.84**	**229**	P		**Pb**	**14 35 28.6**	**-0.1**
	baz=225							
EAHA				S		**Sb**	**14 35 39.7**	**-0.1**
	baz=225							
TWY	**Chenhua**	**0.85**	**297**	P		**Pb**	**14 35 28.2**	**-0.6**
	baz=293							
TWY				*i* S		**Sg**	**14 35 40.1**	**+0.1**
	baz=293							
NWLT	**Wulai**	**0.85**	**263**	*e*P		**Pb**	**14 35 28.5**	**-0.4**
	baz=258							
NWLT				*e*S		**Sb**	**14 35 39.9**	**-0.3**
	baz=258							
TATO	**Taipei**	**0.86**	**276**	P		**Pb**	**14 35 29.0**	**-0.1**
ANP	**Anpu**	**0.88**	**290**	P		**Pg**	**14 35 29.6**	**+0.1**
	baz=273							
ANP				S		**Sb**	**14 35 41.0**	**0.0**
	baz=273							
NDT	**Datong Townshi**	**0.88**	**251**	*e*P		**Pb**	**14 35 29.3**	**-0.1**
	baz=236							
NDT				S		**Sg**	**14 35 41.9**	**+0.7**
	baz=236							
LATG	**Datong**	**0.90**	**247**	*i* P		**Pb**	**14 35 29.7**	**0.0**
	baz=231							
LATG				S		**Sn**	**14 35 42.6**	**-0.7**
	baz=231							
NTST	**Danshui**	**0.93**	**287**	*e*P		**Pn**	**14 35 31.5**	**+0.6**
	baz=283							
NTST				*e*S		**Sn**	**14 35 44.1**	**0.0**
	baz=283							
TWS1	**Kuangyinshan**	**0.94**	**283**	P		**Pb**	**14 35 30.3**	**-0.2**
	baz=279							
TWS1				S		**Sg**	**14 35 43.6**	**+0.5**
	baz=279							
YHNB	**Yeheng**	**0.98**	**257**	P		**Pb**	**14 35 31.2**	**0.0**
YHNB	**Yeheng**	**0.98**	**257**	*e*P		**Pb**	**14 35 31.1**	**-0.1**
	baz=266							
YHNB				*e*S		**Sn**	**14 35 45.2**	**-0.2**
	baz=266							
NSK	**Sanguang**	**1.00**	**258**	*e*P		**Pb**	**14 35 30.7**	**-0.7**
	baz=266							
NSK				*e*S		**Sg**	**14 35 45.2**	**+0.3**
	baz=266							
ETL	**Fush Village**	**1.03**	**226**	P		**Pg**	**14 35 32.6**	**+0.1**
	baz=232							
ETL				S		**Sn**	**14 35 46.5**	**-0.1**
	baz=232							
NACB	**Ninganchiao**	**1.04**	**227**	P		**Pb**	**14 35 31.6**	**-0.6**
NACB	**Ninganchiao**	**1.04**	**227**	P		**Pb**	**14 35 31.6**	**-0.6**
	baz=234							
NACB				*e*S		**Sb**	**14 35 45.7**	**+0.1**
	baz=234							
NNSB	**Datong**	**1.06**	**245**	*e*P		**Pb**	**14 35 32.4**	**-0.2**
	baz=230							
NNSB				S		**Sg**	**14 35 46.6**	**-0.2**
	baz=230							
NNS	**Nan Shan**	**1.06**	**245**	*i* P		**Pb**	**14 35 32.6**	**0.0**
	baz=241							
NNS				*e*S		**Sg**	**14 35 46.7**	**-0.1**
	baz=241							
ETLH	**Xiulin Townshi**	**1.10**	**232**	*i* P		**Pb**	**14 35 33.0**	**-0.2**
	baz=229							
ETLH				S		**Sn**	**14 35 48.5**	**+0.2**
	baz=229							
TWD	**Chiawan**	**1.11**	**224**	*e*P		**Pg**	**14 35 33.8**	**-0.1**
	baz=228							
TWD				S		**Sg**	**14 35 48.0**	**-0.3**
	baz=228							
NFF	**Wufeng Townshi**	**1.22**	**258**	*e*P		**Pn**	**14 35 34.9**	**-0.1**
	baz=254							
ETM	**Tongmen**	**1.26**	**223**	*e*P		**Pb**	**14 35 36.1**	**+0.3**
	baz=203							
LXIB	**Xiulin Townshi**	**1.27**	**227**	*i* P		**Pb**	**14 35 36.3**	**+0.2**
	baz=241							
LXIB				*e*S		**Sg**	**14 35 53.5**	**0.0**
	baz=241							
WHF	**Hehuan Shan**	**1.29**	**235**	*e*P		**Pb**	**14 35 36.8**	**+0.1**
	baz=232							
WHF				S		**Sg**	**14 35 54.3**	**-0.1**
	baz=232							
IRIF	**Iriomote-Funau**	**1.30**	**115**	*e*P		**Pb**	**14 35 37.1**	**+0.5**
TWT	**Tachien**	**1.31**	**241**	*e*P		**Pn**	**14 35 36.4**	**+0.1**
	baz=238							
TWT				*e*S		**Sg**	**14 35 56.0**	**+1.3**
	baz=238							
LIOB	**Emei**	**1.31**	**260**	*e*P		**Pn**	**14 35 36.1**	**-0.1**
	baz=256							
TDCB	**Techi**	**1.32**	**242**	*e*P		**Pb**	**14 35 37.3**	**+0.3**
	baz=238							
TDCB				*e*S		**Sg**	**14 35 54.9**	**-0.2**
	baz=238							
NSTT	**Nanjuang**	**1.32**	**259**	*e*P		**Pn**	**14 35 35.8**	**-0.6**
	baz=255							
SHUL	**Shoufeng**	**1.35**	**216**	*e*P		**Pn**	**14 35 36.6**	**-0.1**
	baz=198							
ESL	**Shilin**	**1.41**	**221**	*e*P		**Pn**	**14 35 37.2**	**-0.2**
	baz=218							
CHGB	**Renai**	**1.41**	**234**	*e*P		**Pb**	**14 35 38.3**	**-0.3**
	baz=232							
OWD	**Renai**	**1.48**	**231**	*e*P		**Pb**	**14 35 39.5**	**-0.1**
	baz=211							
WHP	**Taichung City**	**1.48**	**246**	*e*P		**Pb**	**14 35 40.0**	**+0.3**
	baz=256							
WUSB	**Renai**	**1.49**	**234**	*e*P		**Pb**	**14 35 40.2**	**+0.3**
	baz=215							
WARBT	**Fenglin Townsh**	**1.51**	**219**	*e*P		**Pn**	**14 35 38.4**	**-0.5**
	baz=218							
WCS	**Beigang Elemen**	**1.61**	**239**	*e*P		**Pb**	**14 35 41.6**	**-0.3**
	baz=236							
VWDT	**VWDT**	**1.63**	**226**	*e*P		**Pn**	**14 35 41.1**	**+0.5**
	baz=208							
HGSD	**Ruisui**	**1.67**	**214**	*e*P		**Pn**	**14 35 41.4**	**+0.3**
	baz=198							
EHY	**Hungye**	**1.71**	**217**	*e*P		**Pn**	**14 35 41.6**	**-0.1**
	baz=215							
SMLT	**Sun Moon Lake**	**1.72**	**235**	*e*P		**Pb**	**14 35 43.8**	**0.0**
	baz=216							
SSLB	**Suanglung**	**1.74**	**231**	P		**Pb**	**14 35 43.8**	**-0.2**
SSLB	**Suanglung**	**1.74**	**231**	*e*P		**Pn**	**14 35 43.0**	**+1.0**
	baz=212							
TYC	**Yuchr**	**1.74**	**236**	*e*P		**Pb**	**14 35 43.5**	**-0.5**
	baz=217							
YULB	**Yu-li**	**1.81**	**215**	P		**Pb**	**14 35 44.8**	**-0.6**
YULB	**Yu-li**	**1.81**	**215**	*e*P		**Pn**	**14 35 42.5**	**-0.6**
	baz=214							
WHYT	**Xinyi Township**	**1.87**	**231**	*e*P		**Pb**	**14 35 45.5**	**-0.7**
	baz=228							
ALS	**Alishan**	**2.02**	**228**	*e*P		**Pn**	**14 35 47.4**	**+1.1**
	baz=210							
ELDTW	**Lidau**	**2.13**	**218**	*e*P		**Pn**	**14 35 47.8**	**+0.2**
	baz=203							
WCKO	**Fanlu**	**2.21**	**229**	*e*P		**Pn**	**14 35 49.9**	**+1.3**
	baz=213							
CHN4	**Tsaushan**	**2.27**	**228**	*e*P		**Pb**	**14 35 51.4**	**-1.8**
	baz=211							
TPUB	**Ta-pu**	**2.28**	**227**	P		**Pb**	**14 35 52.0**	**-1.4**
TPUB	**Ta-pu**	**2.28**	**227**	*e*P		**Pb**	**14 35 51.9**	**-1.4**
	baz=210							
STYH	**Taoyuan**	**2.28**	**222**	*e*P		**Pn**	**14 35 50.0**	**+0.4**
	baz=206							
WTP	**Ta-pu**	**2.33**	**226**	*e*P		**Pb**	**14 35 52.7**	**-1.5**
	baz=210							

*IDC **06** 14:35:14.5±3.9,38.°75N×48.°91E,h0km,mb3.5/4, mbtmp3.5/6,ML3.2/2,Error ellipse: s-maj=74.0km s-min=21.2km az=20.0*
*AZER **06** 14:35:19.4,38.°98N×48.°80E,h29km,ml3.2*
*TEH **06** 14:35:19.0,38.°82N×48.°86E,h20km,ML3.3*

ISC 06 14:35:18.5±1.6,38.°98N±0.°03×48.°90E±0.°03,h12km±12km, n52,σ1s84/79,mb3.5/3,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LKRN	**Lenkeran, Azer**	**0.29**	**200**	P		**Pn**	**14 35 28.5**	**-0.1**
LKRN				S		**Sb**	**14 35 34.6**	**+4.3**
ASTR	**Astara**	**0.43**	**192**	P		**Pn**	**14 35 30.1**	**-0.4**
ASTR				S		**Sb**	**14 35 37.6**	**+3.1**
GLBA	**Clilabad**	**0.47**	**303**	Pg		**Pb**	**14 35 30.2**	**+1.4**
GLBA	**Clilabad**	**0.47**	**303**	P		**Pb**	**14 35 30.3**	**+1.4**
GLBA				S		**Sb**	**14 35 38.3**	**+2.5**
YRD	**Yardimli**	**0.52**	**263**	Pg		**Pb**	**14 35 30.6**	**+0.9**
YRD	**Yardimli**	**0.52**	**263**	P		**Pb**	**14 35 30.6**	**+0.9**
YRD				S		**Sb**	**14 35 38.4**	**+1.1**
LRK	**Lerik**	**0.55**	**233**	P		**Pb**	**14 35 31.2**	**+0.9**
LRK				S		**Sb**	**14 35 39.6**	**+1.3**
SAAT	**Saatly**	**0.95**	**337**	Pg		**Pn**	**14 35 38.3**	**+0.6**
SAAT	**Saatly**	**0.95**	**337**	P		**Pn**	**14 35 38.4**	**+0.7**
SAAT				S		**Sn**	**14 35 52.9**	**+1.7**
ALIB	**&Aumlli-Bayram**	**0.98**	**5**	Pg		**Pn**	**14 35 40.7**	**+2.6**
ALIB	**&Aumlli-Bayram**	**0.98**	**5**	P		**Pn**	**14 35 37.8**	**-0.3**
ALIB				S		**Sn**	**14 35 56.1**	**+4.2**
BLQ	**Beylaqan**	**1.28**	**306**	P		**Pn**	**14 35 41.4**	**-0.8**
BLQ				S		**Sg**	**14 35 58.0**	**-1.7**
QRD	**Qoradiz**	**1.32**	**292**	P		**Pn**	**14 35 42.3**	**-0.5**
QRD				S		**Sg**	**14 35 58.9**	**-2.2**
KDMR	**Kurdemir**	**1.50**	**339**	Pn		**Pn**	**14 35 45.3**	**+0.1**
KDMR				Sn		**Sn**	**14 36 05.5**	**+0.9**
GBS	**Qobustan**	**1.55**	**1**	Sn		**Sg**	**14 36 07.8**	**-0.7**
IHRS	**Heris**	**1.60**	**246**	Pg		**Pn**	**14 35 47.1**	**+0.2**
IHRS				Sg		**Sn**	**14 36 06.8**	**-0.7**
AGDM	**Agdam**	**1.79**	**310**	Pn		**Pn**	**14 35 48.5**	**-0.7**
AGDM				Sn		**Sn**	**14 36 09.7**	**-2.1**
NDR	**Nardaran**	**1.80**	**27**	Sn		**Sg**	**14 36 16.2**	**-0.3**
BRDA	**Brd**	**1.85**	**314**	Pn		**Pn**	**14 35 50.8**	**+0.8**
BRDA				Sn		**Sn**	**14 36 15.2**	**+1.9**
ATGJ	**Altiaghaj**	**1.88**	**1**	Sn		**Sn**	**14 36 15.5**	**+1.3**
IML	**Ismayilli**	**1.89**	**343**	Pn		**Pn**	**14 35 51.2**	**+0.5**
IML				Sn		**Sn**	**14 36 15.0**	**+0.5**
IHSH	**Hashtrud**	**2.11**	**218**	Pn		**Pn**	**14 35 53.4**	**-0.6**
XNQ	**Khinaliq**	**2.27**	**345**	Pn		**Pn**	**14 35 55.8**	**-0.2**
XNQ				Sn		**Sn**	**14 36 22.7**	**-1.2**
ORD	**Ordubad**	**2.27**	**270**	Pn		**Pn**	**14 35 55.8**	**-0.1**
ORD				Sn		**Sn**	**14 36 22.7**	**-1.1**
ITBZ	**Tabriz**	**2.28**	**252**	Pn		**Pn**	**14 35 56.1**	**-0.1**
IMRD	**Marand**	**2.51**	**265**	Pn		**Pn**	**14 35 59.9**	**+0.6**
SEKA	**Sheki**	**2.58**	**330**	Pn		**Pn**	**14 35 59.7**	**-0.5**
SEKA				Sn		**Sn**	**14 36 28.9**	**-2.6**
GANJ	**Ganja**	**2.59**	**311**	Pn		**Pn**	**14 35 59.7**	**-0.6**
GANJ				Sn		**Sn**	**14 36 28.4**	**-3.4**
SBZ	**Shahbuz**	**2.63**	**280**	Pn		**Pn**	**14 36 01.4**	**+0.4**
SBZ				Sn		**Sn**	**14 36 33.6**	**+0.7**
NAX	**Nakhchivan**	**2.66**	**275**	Pn		**Pn**	**14 36 01.5**	**+0.2**
NAX				Sn		**Sn**	**14 36 36.1**	**+2.7**
ISHB	**Shabestar**	**2.67**	**256**	Pn		**Pn**	**14 36 01.2**	**-0.3**
GDB	**GEDABAY**	**2.98**	**307**	Pn		**Pn**	**14 36 05.8**	**0.0**
GDB				Sn		**Sn**	**14 36 38.9**	**-2.7**
KLST	**Kelardasht - M**	**3.00**	**145**	Pn		**Pn**	**14 36 05.5**	**-0.6**
ZKTA	**Zakatala**	**3.17**	**327**	Pn		**Pn**	**14 36 08.8**	**+0.5**
ZKTA				Sn		**Sn**	**14 36 44.4**	**-1.7**
HYR	**Heyderabad**	**3.23**	**284**	Pg		**Pb**	**14 36 15.7**	**-0.1**
HYR				Sg		**Sb**	**14 36 58.7**	**+3.7**
MZPU	**Pul - Mazandar**	**3.30**	**139**	Pn		**Pn**	**14 36 09.8**	**-0.4**
QABG	**Abgarm-Qazvin**	**3.31**	**170**	Pn		**Pn**	**14 36 09.9**	**-0.6**
QZX	**Qazax, Azerbai**	**3.41**	**309**	Pn		**Pn**	**14 36 12.1**	**+0.5**
QZX				Sn		**Sn**	**14 36 49.8**	**-2.1**
LGD	**Lagodekhi**	**3.50**	**325**	P		**Pn**	**14 36 13.0**

s-min=44.0km az=26.0
*CATAC **06** 14:37:48.9±0.2, 13°.25N×88°.05W, h5km±1km, ML4.1*
*SNET **06** 14:37:49.0±0.7, 13°.26N×88°.07W, h5km±2km, ML4.3*
*NEIC **06** 14:37:50.6±1.7, 13°.25N±0°.06×87°.98W±0°.05, h10km±1km, mb4.3/10, Error ellipse: s-maj=11.2km s-min=6.7km az=214.0*

ISC 06 14:37:49.4±0.8, 13°.24N±0°.03×88°.05W±0°.02, h10km±5km, n100, σ1≤06/133, mb4.1/8, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.19**	**276**	*eP*			**Pg**	**14 37 53.2**	**-0.3**
JUCU				*eS*			**Sg**	**14 37 56.4**	**+0.1**
JUCU	**Jucuarįn**	**0.19**	**276**	*i P*			**Pg**	**14 37 53.2**	**-0.3**
JUCU				*i S*			**Sg**	**14 37 56.6**	**+0.3**
JUCU				IAML				14 37 57.6	
	comp=Z,40μm,1.0s								
CNCH	**Conchagua**	**0.22**	**79**	*eP*			**Pg**	**14 37 54.0**	**0.0**
CNCH				*eS*			**Sg**	**14 37 57.5**	**+0.4**
CNCH	**Conchagua**	**0.22**	**79**	*i P*			**Pg**	**14 37 53.8**	**-0.2**
CNCH				*i S*			**Sg**	**14 37 57.8**	**+0.7**
CNCH				IAML				14 37 58.5	
	comp=Z,100μm,1.0s								
CNRM	**Centro Naciona**	**0.27**	**334**	*i P*			**Pg**	**14 37 54.3**	**-0.5**
CNRM				*i S*			**Sg**	**14 37 58.9**	**+0.5**
CNRM				IAML				14 38 05.7	
	comp=Z,130μm,1.0s								
BLLM	**Bellamira**	**0.27**	**319**	*eP*			**Pg**	**14 37 54.4**	**-0.7**
VSM	**San Miguel**	**0.29**	**312**	*eP*			**Pg**	**14 37 54.9**	**-0.5**
LCY	**Lacayo**	**0.30**	**309**	*eP*			**Pg**	**14 37 55.1**	**-0.4**
RANC	**El Ranchito**	**0.30**	**311**	*i P*			**Pg**	**14 37 55.3**	**-0.3**
RANC				*i S*			**Sg**	**14 38 00.5**	**+0.8**
RANC				IAML				14 38 03.9	
	comp=Z,18μm,1.0s								
PACA	**Pacayal**	**0.35**	**311**	*eP*			**Pg**	**14 37 55.8**	**-0.7**
PACA	**Pacayal**	**0.35**	**311**	*i P*			**Pg**	**14 37 55.9**	**-0.6**
PACA				*i S*			**Sg**	**14 38 01.8**	**+0.6**
PACA				IAML				14 38 25.5	
	comp=Z,110μm,1.0s								
AMPH	**Amapala**	**0.39**	**82**	*eP*			**Pg**	**14 37 56.8**	**-0.2**
AMPH				*eS*			**Sg**	**14 38 02.8**	**+0.6**
TECA	**Tecapa**	**0.51**	**301**	*eP*			**Pg**	**14 37 58.7**	**-0.7**
COEB	**Comit de Eme**	**0.53**	**299**	*eP*			**Pg**	**14 37 59.2**	**-0.6**
COEB	**Comit de Eme**	**0.53**	**299**	*i P*			**Pg**	**14 37 59.4**	**-0.4**
COEB				*i S*			**Sg**	**14 38 06.6**	**-0.3**
COEB				IAML				14 38 08.5	
	comp=Z,6μm,1.0s								
PQSS	**Presa 15 de Se**	**0.63**	**308**	*i P*			**Pg**	**14 38 00.5**	**-1.1**
PQSS				*i S*			**Sb**	**14 38 11.2**	**-0.2**
PQSS				IAML				14 38 14.8	
	comp=Z,2μm,1.0s								
TECO	**Alcaldia de Te**	**0.77**	**293**	*eP*			**Pg**	**14 38 03.5**	**-0.8**
TECO	**Alcaldia de Te**	**0.77**	**293**	*i P*			**Pg**	**14 38 03.3**	**-1.0**
TECO				*i S*			**Sg**	**14 38 14.1**	**-0.3**
TECO				IAML				14 38 14.9	
	comp=Z,4μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*i P*			**Pg**	**14 38 04.4**	**-0.6**
SCLA				*i S*			**Sg**	**14 38 16.3**	**+0.8**
SCLA				IAML				14 38 17.6	
	comp=Z,2μm,1.0s								
UESV	**Universidad de**	**0.82**	**299**	*i P*			**Pg**	**14 38 04.6**	**-0.6**
UESV				*i S*			**Sg**	**14 38 15.7**	**-0.2**
UESV				IAML				14 38 19.1	
	comp=Z,4μm,1.0s								
COEG	**Centro de Oper**	**0.89**	**296**	*eP*			**Pg**	**14 38 05.6**	**-1.1**
COEG	**Centro de Oper**	**0.89**	**296**	*i P*			**Pg**	**14 38 05.8**	**-0.8**
COEG				*i S*			**Sg**	**14 38 18.3**	**0.0**
COEG				IAML				14 38 19.8	
	comp=Z,7μm,1.0s								
PAVA	**Las Pavas**	**0.98**	**299**	*i P*			**Pg**	**14 38 07.5**	**-0.9**
PAVA				*i S*			**Sg**	**14 38 21.1**	**-0.1**
PAVA				IAML				14 38 24.3	
	comp=Z,9μm,1.0s								
CRIN	**San Cristobal**	**1.11**	**118**	Pn			**Pg**	**14 38 10.2**	**-0.6**
CRIN	**San Cristobal**	**1.11**	**118**	*i P*			**Pb**	**14 38 10.6**	**-0.2**
CRIN				IAML				14 38 11.3	
	comp=Z,20μm,1.0s								
CRIN				*i S*			**Sn**	**14 38 27.6**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.11**	**43**	Pn			**Pg**	**14 38 09.0**	**-1.9**
TGUH	**Tegucigalpa,Un**	**1.11**	**43**	*i P*			**Pg**	**14 38 09.2**	**-1.7**
TGUH				*i S*			**Sg**	**14 38 24.2**	**-1.2**
TGUH				IAML				14 38 31.7	
	comp=Z,6μm,1.0s								
PANCS	**Alcalda de**	**1.16**	**289**	*i P*			**Pb**	**14 38 10.1**	**-1.5**
PANCS				*i S*			**Sb**	**14 38 25.4**	**-1.4**
PANCS				IAML				14 38 27.8	
	comp=Z,8μm,1.0s								
LOMA	**Loma Larga**	**1.16**	**291**	*i P*			**Pb**	**14 38 10.5**	**-1.2**
LOMA				*i S*			**Sb**	**14 38 26.2**	**-0.7**
LOMA				IAML				14 38 28.3	
	comp=Z,5μm,1.0s								
UDBS	**Universidad Do**	**1.17**	**294**	*i P*			**Pb**	**14 38 10.8**	**-1.1**
UDBS				*i S*			**Sb**	**14 38 27.1**	**-0.1**
UDBS				IAML				14 38 30.9	
	comp=Z,6μm,1.0s								
IGN	**Direccin Gen**	**1.19**	**294**	*i P*			**Sg**	**14 38 27.9**	**+0.2**
SNET	**Serv Nac Est T**	**1.23**	**292**	Pn			**Pn**	**14 38 11.2**	**-1.7**
SNET	**Serv Nac Est T**	**1.23**	**292**	*i P*			**Pn**	**14 38 11.6**	**-1.2**
SNET				*i S*			**Sb**	**14 38 28.4**	**-0.5**
SNET				IAML				14 38 33.1	
	comp=Z,5μm,1.0s								
UEES	**Universidad Ev**	**1.25**	**293**	*i P*			**Pn**	**14 38 12.0**	**-1.1**
UEES				*i S*			**Sb**	**14 38 29.2**	**-0.2**
UEES				IAML				14 38 38.0	
	comp=Z,2μm,1.0s								
LALI	**Alcalda de L**	**1.26**	**282**	*i P*			**Pn**	**14 38 11.4**	**-1.7**
LALI				*i S*			**Sb**	**14 38 29.4**	**-0.2**
LALI				IAML				14 38 37.5	
	comp=Z,860nm,1.0s								
LLGN	**La Laguna**	**1.27**	**317**	*i P*			**Pn**	**14 38 11.6**	**-1.7**
LLGN				*i S*			**Sb**	**14 38 28.9**	**-1.0**
LLGN				IAML				14 38 37.1	
	comp=Z,2μm,1.0s								
ITCA	**Escuela Especi**	**1.27**	**290**	*i P*			**Sg**	**14 38 30.1**	**-0.3**
PMON	**Piamonte**	**1.32**	**291**	*i P*			**Pn**	**14 38 13.1**	**-0.9**
PMON				*i S*			**Sb**	**14 38 31.0**	**-0.3**
PMON				IAML				14 38 33.5	
	comp=Z,5μm,1.0s								
JAYA	**Jayaque - finc**	**1.42**	**287**	*i P*			**Pn**	**14 38 14.7**	**-0.8**
JAYA				*i S*			**Sn**	**14 38 33.9**	**-0.5**
JAYA				IAML				14 38 37.1	
	comp=Z,5μm,1.0s								
CNGA	**Al SSO del Vol**	**1.51**	**119**	*i P*			**Pn**	**14 38 14.5**	**-2.1**
CNGA				*i S*			**Sb**	**14 38 36.1**	**-0.7**
CNGN	**Cerro Negro**	**1.51**	**119**	Pn			**Pn**	**14 38 15.0**	**-1.6**
CNGN	**Cerro Negro**	**1.51**	**119**	*i P*			**Pn**	**14 38 15.3**	**-1.3**
CNGN				*i S*			**Sb**	**14 38 36.8**	**0.0**
CNGN				IAML				14 38 45.8	
	comp=Z,3μm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.63**	**120**	*i P*			**Pn**	**14 38 17.6**	**-0.6**
LEVN				*i S*			**Sg**	**14 38 41.4**	**-0.4**
LEVN				IAML				14 38 55.1	
	comp=Z,2μm,1.0s								
UNIC	**Universidad Ca**	**1.63**	**297**	*i P*			**Pn**	**14 38 18.0**	**-0.3**
UNIC				*i S*			**Sb**	**14 38 40.3**	**-0.1**
UNIC				IAML				14 38 45.2	
	comp=Z,940nm,1.0s								
CEVE	**Cerro Verde**	**1.64**	**291**	*i P*			**Pn**	**14 38 19.0**	**+0.4**
CEVE				*i S*			**Sg**	**14 38 41.7**	**-0.5**
CEVE				IAML				14 38 56.1	
	comp=Z,2μm,1.0s								
MOMN	**Momotombo**	**1.69**	**119**	*i P*			**Pn**	**14 38 18.0**	**-1.1**
MOMN				*i S*			**Sb**	**14 38 42.1**	**+0.1**
MOMN				IAML				14 38 45.1	
	comp=Z,88nm,1.0s								
MTO3	**Montecristo**	**1.72**	**312**	Pn			**Pn**	**14 38 18.8**	**-0.9**
MOM2	**El Cardon**	**1.72**	**117**	*i P*			**Pn**	**14 38 18.2**	**-1.3**
MOM2				*i S*			**Sg**	**14 38 44.1**	**-0.7**
MOM2				IAML				14 38 54.1	
	comp=Z,2μm,1.0s								
BRAN	**Las Pilas**	**1.74**	**107**	*i P*			**Pg**	**14 38 21.9**	**-0.8**
COPN	**Copaltepe**	**1.77**	**126**	*i P*			**Pn**	**14 38 19.6**	**-0.5**
COPN				IAML				14 38 51.1	
	comp=Z,1μm,1.0s								
NUBE	**Las Nubes**	**1.81**	**292**	*i P*			**Pn**	**14 38 20.9**	**+0.1**
NUBE				IAML				14 38 49.8	
	comp=Z,2μm,1.0s								
ESQI	**Esquipulas**	**1.82**	**317**	Pn			**Pn**	**14 38 19.9**	**-1.0**
ESQI	**Esquipulas**	**1.82**	**317**	*i P*			**Pn**	**14 38 21.6**	**+0.7**
ESQI				*i S*			**Sb**	**14 38 46.8**	**+1.0**
ESQI				IAML				14 38 52.3	
	comp=Z,2μm,1.0s								
APQ3	**Volcan Apoyequ**	**1.90**	**120**	*i P*			**Pn**	**14 38 22.5**	**+0.6**
APQ3				*i S*			**Sb**	**14 38 48.0**	**0.0**
APYN	**Apoyeque**	**1.94**	**121**	*i P*			**Pn**	**14 38 22.4**	**0.0**
TISN	**Laguna Tiscapa**	**2.05**	**122**	*i P*			**Pn**	**14 38 22.5**	**-1.5**
R4DEC	**Barrio San Lui**	**2.06**	**121**	*i P*			**Pn**	**14 38 24.6**	**+0.4**
R4DEC				IAML				14 38 27.7	
	comp=Z,1μm,1.0s								
MAS3	**Al N del Volca**	**2.19**	**123**	*i P*			**Pn**	**14 38 25.0**	**-1.0**
MAS3				IAML				14 39 06.6	
	comp=Z,680nm,1.0s								
RB213	**Mirador 2 Volc**	**2.22**	**124**	*i P*			**Pn**	**14 38 23.2**	**-3.2**
RB213				IAML				14 40 02.0	
	comp=Z,2μm,1.0s								
NADN	**Granada**	**2.46**	**127**	*i P*			**Pn**	**14 38 27.1**	**-2.6**
GUNB	**GUNB**	**2.60**	**302**	*i P*			**Pn**	**14 38 34.1**	**+2.2**
JAPN	**Al SSO del Vol**	**2.88**	**126**	*i P*			**Pn**	**14 38 36.1**	**+0.7**
JAPN				IAML				14 38 44.3	
	comp=Z,250nm,1.0s								
MORN	**Al O del Volca**	**2.89**	**125**	*i P*			**Pn**	**14 38 35.9**	**+0.4**
MORN				IAML				14 38 37.6	
	comp=Z,760nm,1.0s								
CONN	**Concepcion**	**2.89**	**125**	*i P*			**Pn**	**14 38 36.1**	**+0.5**
OMEN	**Al SSO del Vol**	**2.92**	**126**	*i P*			**Pn**	**14 38 36.8**	**+0.8**
OMEN				IAML				14 39 17.0	
	comp=Z,350nm,1.0s								
APG	**El Apazote**	**2.93**	**307**	LR			LR	14 40 00.5	
	comp=Z,23nm,19.4s,baz=282,slow=41								
ACON	**Acoyapa**	**3.08**	**114**				**Pn**	**14 38 40.1**	**+1.9**
ACON	**Acoyapa**	**3.08**	**114**	*i P*			**Pb**	**14 38 41.7**	**-2.6**
HZTE	**Horizontes, Gu**	**3.47**	**136**	Pn			**Pn**	**14 38 42.5**	**-1.1**
HZTE	**Horizontes, Gu**	**3.47**	**136**	*i P*			**Pn**	**14 38 43.6**	**0.0**
HZTE				IAML				14 39 06.9	
	comp=Z,210nm,1.0s								
ESPN	**Las Esperanzas**	**3.80**	**105**	Pn			**Pn**	**14 38 48.8**	**+0.7**
ORTG	**Ortega, Santa**	**3.82**	**138**				**Pn**	**14 38 48.2**	**-0.2**
ORTG	**Ortega, Santa**	**3.82**	**138**	*i P*			**Pn**	**14 38 48.7**	**+0.3**
ORTG				IAML				14 38 50.8	
	comp=Z,180nm,1.0s								
DUNO	**Dulce Nombre,**	**4.01**	**141**				**Pn**	**14 38 50.4**	**-0.6**
JTS	**Las Juntas de**	**4.22**	**134**	Pn			**Pn**	**14 38 53.2**	**-0.6**
SOCE	**Pocosol**	**4.40**	**130**	Pn			**Pn**	**14 38 56.4**	**+0.1**
JACO	**JACO, Garabito**	**4.87**	**137**	Pn			**Pn**	**14 39 03.4**	**+0.6**
JACO	**JACO, Garabito**	**4.87**	**137**	*i P*			**Pn**	**14 39 05.3**	**+2.6**
CCIG	**Comitan**	**4.98**	**308**	Pn			**Pn**	**14 39 06.3**	**+1.9**
LCR2	**La Lucha 2**	**5.27**	**131**				**Pn**	**14 39 08.9**	**+0.4**
CDM	**Cerro de Muert**	**5.57**	**131**	*i P*			**Pn**	**14 39 13.8**	**+0.9**
SRBA	**San Rafael, Bu**	**6.08**	**130**	Pn			**Pn**	**14 39 20.4**	**+0.9**
PLAN	**Los Planes de**	**6.24**	**136**	*i P*			**Pn**	**14 39 24.5**	**+2.8**
SDV	**Santo Domingo**	**17.63**	**102**	LR			LR	14 48 37.4	
	comp=Z,75nm,18.9s,baz=266,slow=38								
BAUV	**El Baul**	**20.09**	**100**	P			**P**	**14 42 22.9**	**-0.5**
BAUV				IAmb			IAmb	14 42 23.5	
	comp=Z,13nm,0.6s								
TXAR	**Lajitas Array**	**21.60**	**320**	P			**P**	**14 42 40.5**	**+0.8**
TXAR	**Lajitas Array**	**21.60**	**320**	P			**P**	**14 42 41.2**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=138,slow=11,SNR=14								
	comp=Z,1.4nm,0.8s								
TX31	**Lajitas Ar. Si**	**21.60**	**320**	P			**P**	**14 42 40.5**	**+0.7**
MIAR	**Mount Ida**	**21.80**	**348**	P			**P**	**14 42 42.4**	**+0.7**
TKL	**Tuckaleechee C**	**22.66**	**9**	P			**P**	**14 42 50.9**	**0.0**
TKL				IAmb			IAmb	14 42 57.5	
	comp=Z,6.2nm,0.8s								
S39A	**Bolivar**	**24.81**	**350**	P			**P**	**14 43 12.2**	**+0.5**
S39A				IAmb			IAmb	14 43 25.4	
	comp=Z,3.5nm,0.8s								
J56A	**Wolcott**	**31.45**	**16**	P			**P**	**14 44 12.0**	**+0.9**
J56A				IAmb			IAmb	14 44 15.9	
	comp=Z,10nm,0.8s								
REDW	**Red Top Meadow**	**35.87**	**331**	P			**P**	**14 44 51.9**	**+2.0**
JCC	**Jacoby Creek,**	**41.74**	**318**	P			**P**	**14 45 39.7**	**+0.9**
YKA	**Yellowknife Ar**	**52.70**	**345**	P			**P**	**14 47 03.1**	**-0.9**
	comp=Z,0.8nm,0.9s,baz=136,slow=7.0,SNR=16								
	comp=Z,0.8nm,0.9s								
E27K	**Coleen River**	**64.71**	**341**	P			**P**	**14 48 28.9**	**+1.4**
E27K				IAmb			IAmb	14 48 32.2	
	comp=Z,4.1nm,1.4s								
BMAR	**Burnt Mountain**	**65.34**	**339**	P			**P**	**14 48 33.0**	**+1.4**
F21K	**Alatna River**	**68.46**	**338**	P			**P**	**14 48 53.0**	**+1.5**
F21K				IAmb			IAmb	14 48 55.6	
	comp=Z,2.6nm,1.1s								
ESDC	**Sonseca Array**	**77.17**	**52**	P			**P**	**14 49 41.5**	**-2.4**
	comp=Z,0.6nm,1.0s,baz=282,slow=5.3,SNR=3.0								
	comp=Z,0.6nm,1.0s								
WRA	**Warramunga Arr**	**138.91**	**255**	PKP			**PKPdf**	**14 57 16.1**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=88,slow=2.6,SNR=1.2								

*HVO **06** 14:41:05.2±0.8, 19°.37N±0°.01×155°.247W±0°.006, h-0km±5km, ML2.6/16, ML1.7/40(NEIC), Error ellipse: s-maj=1.9km s-min=0.7km az=183.0*

NEIC 06 14:41:05.5±0.8, 19°.37N±0°.01×155°.245W±0°.005, h1km±5km, Error ellipse: s-maj=1.9km s-min=0.7km az=180.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.03**	**87**				Pg	14 41 06.1	0.0
KKO	**Keanakako`i**	**0.03**	**321**				Pg	14 41 06.2	0.0
RIM	**Rim**	**0.04**	**309**				Pg	14 41 06.3	0.0
BYL	**Byron's Ledge**	**0.04**	**340**				Pg	14 41 06.1	-0.3
BYL				IAML				14 41 06.2	
	comp=E,892nm,0.4s								
BYL				IAML				14 41 06.8	
	comp=N,938nm,0.5s								
SDHHI	**Sand Hill**	**0.05**	**290**				Pg	14 41 06.2	-0.3
SDHHI				IAML				14 41 06.6	
	comp=E,1μm,0.3s								
SDHHI				IAML				14 41 07.6	
	comp=N,1μm,0.4s								
NPH	**North Pit**	**0.05**	**319**	Pg			Pg	14 41 06.3	-0.3
NPH				IAML				14 41 07.7	
	comp=N,580nm,0.4s								
HATHI	**Halema'uma'u T**	**0.05**	**343**				Pg	14 41 06.6	-0.1
HATHI				IAML				14 41 07.9	
	comp=E,647nm,0.3s								
HATHI				IAML				14 41 08.1	
	comp=N,1μm,0.2s								
OBL	**Observatory Le**	**0.06**	**320**	Pg			Pg	14 41 06.7	0.0
SBLHI	**Steaming Bluff**	**0.06**	**338**				Pg	14 41 06.5	-0.2
UWB	**Uwekahuna B**	**0.06**	**329**				Pg	14 41 06.9	+0.1
UWB				IAML				14 41 07.8	
	comp=E,464nm,0.8s								
UWB				IAML				14 41 08.2	
	comp=N,682nm,0.4s								
WRMHI	**West Rim**	**0.06**	**303**				Pg	14 41 06.4	-0.4
UWE	**Uwekahuna**	**0.07**	**317**	Pg			Pg	14 41 06.5	-0.4
KNHH	**Kane Nui o Ham**	**0.07**	**84**				Pg	14 41 07.2	+0.2
RSD	**Rainshed**	**0.10**	**341**	Pg			Pg	14 41 07.1	-0.4
STCH	**Steam Cracks**	**0.11**	**83**				Pg	14 41 07.7	-0.1
STCH				IAML				14 41 10.9	
	comp=N,409nm,0.7s								
NPOC	**North of Pu'u**	**0.13**	**81**				Pg	14 41 08.0	-0.1
NPOC				IAML				14 41 11.7	
	comp=E,349nm,0.7s								
NPOC				IAML				14 41 12.1	
	comp=N,381nm,0.7s								
JCUZ	**Jacuzzi**	**0.14**	**85**				Pg	14 41 07.9	-0.2
JCUZ				IAML				14 41 11.9	
	comp=N,246nm,1.3s								
JCUZ				IAML				14 41 12.0	
	comp=E,249nm,0.6s								
MLH	**Mauna Loa**	**0.18**	**312**	Pg			Pg	14 41 08.8	-0.3
MLH				IAML				14 41 14.3	
	comp=N,176nm,0.7s								
MLH				IAML				14 41 15.0	
	comp=E,201nm,1.0s								
HMH	**Humu'ula Sheep**	**0.32**	**316**	Pg			Pg	14 41 11.6	-0.2
HMH				IAML				14 41 20.2	
	comp=N,87nm,1.4s								
HMH				IAML				14 41 22.7	
	comp=E,110nm,1.4s								
MWH	**Moku'aweowe**	**0.35**	**289**	Pg			Pg	14 41 12.4	+0.1
KHU	**Kahuku**	**0.37**	**250**				Pg	14 41 12.7	0.0
KHU				IAML				14 41 14.2	
	comp=E,66nm,1.1s								
KHU				IAML				14 41 23.0	
	comp=N,99nm,1.4s								
HUH	**Hualalai**	**0.64**	**299**				Pg	14 41 17.5	-0.3
CPH	**Captain Cook**	**0.65**	**280**				Pg	14 41 17.4	-0.6
HPAH	**Hawaii Prepara**	**0.78**	**327**	Pg			Pg	14 41 19.3	-1.3

*IDC **06** 14:44:19.4±0.4, 54°.32S×133°.39W, h0km, mb4.4/15, mbtmp4.4/15, MS4.6/28, Error ellipse: s-maj=19.8km s-min=15.4km az=156.0*

*NEIC **06** 14:44:20.4±1.4, 54°.56S±0°.2×133°.4W±0°.2, h10km±1km, mb5.1/52, Error ellipse: s-maj=26.3km s-min=18.1km az=344.0*

*GCMT **06** 14:44:25.4±0.1, 54°.56S±0°.01×133°.33W±0°.02, h12km, MW5.3/137, Moment Tensor Solution. s89,c128; s137,c236; Duration: 1≤1 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.97±.01; $M_{\theta\theta}$=0.94±.01; $M_{\phi\phi}$=0.02±.01; $M_{r\theta}$=0.35±.04; $M_{\theta\phi}$=0.01±.01; $M_{\phi r}$=-0.05±.04; Best double couple: M_0=1.02100×10^{17} NP1:ϕ_{s}=272.00000°, δ55.00000°, λ-87.00000°. NP2:ϕ_{s}=87.00000°, δ35.00000°, λ-94.00000°. Principal axes: T 1.0080, Plg10.0000°, Azm360.0000°; N 0.0250, Plg3.0000°, Azm90.0000°; P -1.0330, Plg80.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 14:44:20.3±0.4, 54°.3S±0°.1×133°.49W±0°.08, h10km, n154, σ1≤28/125, mb5.0/37, MS4.6/32, 1D, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.27**	**201**	P			**P**	**14 50 36.1**	**-3.6**
VNDA	**Vanda**	**32.25**	**202**	P			**P**	**14 50 44.6**	**-3.7**
VNDA				IAmb			IAmb	14 50 57.4	
	comp=Z,39nm,2.0s								
VNDA	**Vanda**	**32.25**	**202**	P			**P**	**14 50 51.1**	**+2.8**
	comp=Z,2.0nm,0.9s,baz=79,slow=8.2,SNR=5.7								
VNDA				PcP			**PcP**	**14 53 36.4**	**+0.2**
	comp=Z,1.6nm,0.9s,baz=45,slow=2.9,SNR=5.0								
VNDA				LR			LR	15 00 36.6	
	comp=Z,1μm,20.1s,baz=90,slow=30								
	comp=Z,2.0nm,0.9s								
RPN	**Rapa Nui**	**32.45**	**43**	LR			LR	15 00 45.1	
	comp=Z,949nm,20.1s,baz=206,slow=30								
PMSA	**Palmer Station**	**34.86**	**135**	LR			LR	15 01 37.9	
	comp=Z,813nm,18.7s,baz=248,slow=30								
QSPA	**South Pole Qui**	**35.83**	**180**	P			**P**	**14 51 21.9**	**+2.2**
	comp=Z,7.4nm,1.0s,baz=88,slow=2.3,SNR=16								
QSPA				PcP			**PcP**	**14 53 46.6**	**-0.1**
	comp=Z,2.0nm,0.9s,baz=0.0,slow=1.0,SNR=3.0								
QSPA				LR			LR	15 03 17.1	
	comp=Z,1μm,21.7s,baz=82,slow=32								
	comp=Z,7.4nm,1.0s								
BHW	**Baring Head**	**36.15**	**269**	P			**P**	**14 51 22.9**	**+0.5**
URZ	**Urewera**	**36.88**	**275**	LR			LR	15 03 29.0	
	comp=Z,602nm,19.0s,baz=218,slow=31								
RPZ	**Rata Peaks**	**36.97**	**263**	LR			LR	15 03 14.8	
	comp=Z,502nm,18.7s,baz=119,slow=31								
RAR	**Rarotonga**	**38.60**	**319**	LR			LR	15 03 36.0	
	comp=Z,520nm,19.1s,baz=164,slow=30								
PPT	**Papeete**	**38.75**	**335**	LR			LR	15 03 55.1	
	comp=Z,827nm,18.5s,baz=158,slow=30								
BELA	**Belgrano 2**	**39.36**	**161**	P			**P**	**14 51 48.9**	**-0.2**
RAO	**Raoul Island**	**40.58**	**290**	LR			LR	15 04 33.4	
	comp=Z,211nm,19.8s,baz=143,slow=30								
H03S2	**Juan Fernandez**	**42.96**	**84**	T			T	15 38 17.1	
	baz=222,slow=74,SNR=106								
H03S1	**Juan Fernandez**	**42.96**	**84**	T			T	15 38 22.5	
	baz=222,slow=74,SNR=88								
H03S3	**Juan Fernandez**	**42.97**	**84**	T			T	15 38 21.8	
	baz=222,slow=74,SNR=76								
PLCA	**Paso Flores**	**43.17**	**98**	P			**P**	**14 52 20.7**	**-0.3**
PLCA	**Paso Flores**	**43.17**	**98**	P			**P**	**14 52 20.5**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=225,slow=13,SNR=4.2								
PLCA				PcP			**PcP**	**14 54 10.4**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=190,slow=3.0,SNR=4.0								
	comp=Z,1.8nm,0.9s								
H03N3	**Juan Fernandez**	**43.23**	**84**	T			T	15 38 32.8	
	baz=225,slow=72,SNR=38								
H03N2	**Juan Fernandez**	**43.24**	**84**	T			T	15 38 40.6	
	baz=225,slow=72,SNR=80								
H03N1	**Juan Fernandez**	**43.25**	**84**	T			T	15 38 32.8	
	baz=225,slow=72,SNR=39								
BO02	**Sierra Bellavi**	**47.05**	**92**	P			**P**	**14 52 49.9**	**-2.0**
VA03	**San Esteban**	**48.62**	**90**	P			**P**	**14 53 03.4**	**-0.7**
VA03				IAmb			IAmb	14 53

PMG	Port Moresby	76.21	273	LR	LR	15 25 21.8		
	comp=Z,206nm,19.1s,baz=120,slow=32							
JTS	Las Juntas de	76.25	49	LR	LR	15 19 20.6		
	comp=Z,278nm,20.4s,baz=232,slow=28							
HDC	Heredia	76.37	50	P	P	14 56 08.8	-1.0	
CMIG	Matias Romero	78.41	38	LR	LR	15 23 25.3		
	comp=Z,554nm,21.2s,baz=59,slow=30							
LPIG	La Paz	80.64	21	LR	LR	15 25 11.3		
	comp=Z,510nm,18.1s,baz=174,slow=30							
PSA00	Pilbara Seismi	81.95	244	P	P	14 56 39.8	-0.4	
MBWA	Marble Bar	82.35	244	P	P	14 56 41.3	-1.0	
MBWA				IAmb	IAmb	14 56 43.2		
	comp=Z,48nm,1.6s							
MTN	Manton Dam	82.79	258	P	P	14 56 44.5	-0.2	
PCRV	Puerto La Cruz	86.23	67	LR	LR	15 30 15.0		
	comp=Z,515nm,20.4s,slow=32							
TXAR	Lajitas Array	87.22	26	P	P	14 57 08.2	+1.6	
	comp=Z,1.1nm,0.8s,baz=195,slow=8.4,SNR=13							
	comp=Z,1.1nm,0.8s							
PIX	Pinacate	87.28	17	P	P	14 57 06.2	-0.4	
VHRN	Van Horn	88.28	24	P	P	14 57 12.4	+0.8	
VHRN				IAmb	IAmb	14 58 40.0		
	comp=Z,13nm,0.9s							
TUC	Tucson	88.50	19	P	P	14 57 12.4	-0.1	
PFO	Pinyon Flats O	88.82	14	P	P	14 57 15.0	+0.9	
PFO				IAmb	IAmb	14 57 33.4		
	comp=Z,14nm,1.2s							
PFO	Pinyon Flats O	88.82	14	P	P	14 57 16.6	+2.5	
	comp=Z,7.0nm,1.1s,baz=184,slow=5.8,SNR=4.3							
PFO				LR	LR	15 28 11.9		
	comp=Z,384nm,19.1s,baz=138,slow=30							
	comp=Z,7.0nm,1.1s							
PECS	Pecos	89.11	25	P	P	14 57 15.3	-0.2	
PECS				IAmb	IAmb	14 58 18.7		
	comp=Z,16nm,1.1s							
BATI	Baumata	89.17	254	LR	LR	15 32 02.3		
	comp=Z,155nm,21.9s,baz=174,slow=32							
121A	Cookes Peak, D	89.32	21	P	P	14 57 16.7	+0.1	
JCT	Junction City	89.34	29	P	P	14 57 16.9	+0.4	
OZNA	Ozona	89.39	27	P	P	14 57 17.9	+1.1	
BCW	Bitter Crk WRg	89.74	12	P	P	14 57 18.8	+0.4	
BCW				IAmb	IAmb	14 57 22.2		
	comp=Z,16nm,0.9s							
435B	Jarrell	90.26	30	P	P	14 57 21.4	+0.7	
X16A	Lo Mia Camp, P	90.42	18	P	P	14 57 22.4	+0.8	
V12A	Nelson	91.13	15	P	P	14 57 24.9	+0.1	
V12A				IAmb	IAmb	14 59 38.5		
	comp=Z,6.4nm,0.9s							
ABTX	Abilene, Hawle	91.41	28	P	P	14 57 26.9	+0.8	
SHPR	Sheep Range	91.85	15	P	P	14 57 30.2	+2.0	
WCT	Wildcat Mounta	91.92	13	P	P	14 57 29.9	+1.5	
ANMO	Albuquerque	91.93	22	P	P	14 57 28.8	+0.1	
ANMO				IAmb	IAmb	14 58 47.2		
	comp=Z,7.2nm,0.9s							
ANMO	Albuquerque	91.93	22	P	P	14 57 29.9	+1.3	
	comp=Z,3.4nm,1.0s,baz=255,slow=6.6,SNR=6.7							
ANMO				LR	LR	15 29 32.5		
	comp=Z,466nm,21.8s,baz=235,slow=30							
	comp=Z,3.4nm,1.0s							
237A	Washetta, Mont	91.94	31	P	P	14 57 28.0	-0.5	
GMN	Gold Mountain	92.34	13	P	P	14 57 31.2	+0.6	
LCMT	Little Creek M	92.64	16	P	P	14 57 32.8	+1.0	
LCMT				IAmb	IAmb	14 59 53.1		
	comp=Z,16nm,1.7s							
CCUT	Cedar City	93.15	16	P	P	14 57 35.1	+0.8	
CCUT				IAmb	IAmb	14 59 41.2		
	comp=Z,7.1nm,1.1s							
NVAR	Mina Array Bea	93.32	12	P	P	14 57 36.7	+1.7	
	comp=Z,0.7nm,0.8s,baz=205,slow=6.8,SNR=4.6							
NVAR				LR	LR	15 30 28.3		
	comp=Z,442nm,19.3s,baz=122,slow=30							
	comp=Z,0.7nm,0.8s							
R11B	Troy Canyon, C	93.60	14	P	P	14 57 36.6	+0.3	
R11B				IAmb	IAmb	15 00 20.6		
	comp=Z,17nm,1.9s							
PSUT	Pine Spring	94.04	15	P	P	14 57 37.4	-0.9	
PSUT				IAmb	IAmb	14 59 49.8		
	comp=Z,6.3nm,0.9s							
MSU	Marysvale	94.28	17	P	P	14 57 39.9	+0.4	
ELK	Elko	96.00	14	LR	LR	15 32 18.9		
	comp=Z,249nm,19.3s,slow=30							
YBH	Yreka Blue Hor	96.14	8	LR	LR	15 31 36.7		
	comp=Z,509nm,19.9s,baz=134,slow=30							
PDAR	Pinedale Array	98.88	18	LR	LR	15 35 17.2		
	comp=Z,457nm,18.7s,baz=152,slow=31							
LBTB	Lobatse	98.94	161	LR	LR	15 37 45.9		
	comp=Z,269nm,20.9s,baz=246,slow=32							
MAYO	Mayo, Yukon	117.61	359		PKiKP	15 03 06.4	+1.4	
IL31		119.23	353		PKiKP	15 03 08.3	+0.3	
ILAR	Eielson Array	119.23	353	PKP	PKiKP	15 03 08.6	+0.5	
	comp=Z,1.6nm,0.8s,baz=201,slow=1.7,SNR=21							
PETK	Petropavlovsk-	121.27	319	PKP	PKiKP	15 03 13.1	+0.7	
	comp=Z,3.3nm,0.9s,baz=174,slow=4.5,SNR=3.8							
NJ2	Nanjing	125.37	277	*e*PKP	PKiKP	15 03 22.4	+1.2	
TORD	Torodi Ar. Bea	126.01	122		PKPdf	15 03 22.1	-0.5	
TORD	Torodi Ar. Bea	126.01	122	PKP	PKPdf	15 03 22.4	-0.2	
	comp=Z,1.6nm,0.6s,baz=242,slow=0.3,SNR=10							
CMAR	Chiang Mai Arr	126.44	249	PKP	PKiKP	15 03 23.8	0.0	
	comp=Z,0.5nm,0.6s,baz=178,slow=2.3,SNR=6.0							
CD2	Chengdu	133.36	264	PKP	PKPdf	15 03 36.2	0.0	
HHC	Hu-ho-hao-te	135.69	280	*e*PKP	PKPdf	15 03 36.2	-4.1	
HHC				LR	LR			
	comp=Z,240nm,16.0s							
HHC				LR	LR			
	comp=Z,140nm,16.0s							
HHC				LR	LR			
	comp=Z,250nm,16.0s							
LZH	Lanzhou	137.00	269	*e*PKP	PKPdf	15 03 36.4	-6.6	
LZH				LR	LR			
	comp=N,330nm,16.8s							
LZH				LR	LR			
	comp=E,240nm,16.3s							
LZH				LR	LR			
	comp=Z,460nm,18.2s							
PBDV	Barranco-do-Ve	139.49	92	*e*PKP	PKiKP	15 03 49.3	-0.3	
PCVE	Castro Verde	139.69	92	*e*PKP	PKiKP	15 03 49.1	-0.9	
EVO	Evora	140.31	91	*e*PKP	PKiKP	15 03 50.1	-1.1	
PSBE	So Bento	140.49	89	*e*PKP	PKiKP	15 03 52.0	+0.4	
PESTR	Estremoz	140.77	90	*e*PKP	PKPdf	15 03 50.7	+1.1	
PCAS	Casmilo, Conde	141.02	88	*e*PKP	PKPdf	15 03 50.9	+0.9	
PCBR	Castelo Branco	141.48	89	*e*PKP	PKPdf	15 03 51.7	+0.9	
GTA	Gaotai	141.60	270	PKP	PKiKP	15 03 54.6	+0.6	
GTA				LR	LR			
	comp=Z,140nm,20.3s							
GTA				LR	LR			
	comp=Z,200nm,21.5s							
GTA				LR	LR			
	comp=Z,180nm,19.9s							
TIXI	Tiksi	142.52	329	PKPpre	PKPpre	15 03 48.5		
MVO	Moncorvo	142.59	88	*e*PKP	PKPdf	15 03 54.1	+1.3	
SONM	Songino Array	142.84	285		PKPpre	15 03 49.3		
SONM	Songino Array	142.84	285	PKhKP	PKPpre	15 03 50.0		
	comp=Z,1.1nm,0.6s,baz=108,slow=1.3,SNR=6.4							
ESDC	Sonseca Array	143.43	92	PKPdf	PKPdf	15 03 53.9	-0.4	
ESDC	Sonseca Array	143.43	92	PKP	PKPbc	15 03 52.8	+1.2	
	comp=Z,1.5nm,0.9s,baz=254,slow=1.6,SNR=9.7							
KEST	Kesra	148.32	111	PKPbc	PKPbc	15 04 06.8	+0.6	
	comp=Z,14nm,0.8s,baz=265,slow=2.9,SNR=9.6							
CEST	Esterri de Car	148.33	93	PKPbc	PKiKP	15 04 07.1	-0.7	
WMQ	Urumqi	151.44	265	*e*PKPbc	PKPdf	15 04 08.0	+0.5	
WMQ				LR	LR			
	comp=Z,410nm,24.1s							
EKA	Eskdalemuir Ar	151.86	67	PKPbc	PKiKP	15 04 14.7	+0.3	
	comp=Z,2.4nm,0.5s,baz=249,slow=2.7,SNR=19							
KSH	Kashi	155.25	245	PKP	PKPdf	15 04 14.8	+1.6	
DAVA	Damuels	156.02	92	*i* PKP	PKPdf	15 04 15.7	+1.7	
	comp=Z,5.7nm,0.8s							
MKAR	Makanchi Array	156.26	266	PKPab	PKPab	15 04 42.5	+0.1	
MKAR	Makanchi Array	156.26	266	PKPab	PKPab	15 04 42.6	+0.3	
	comp=Z,3.2nm,0.7s,baz=113,slow=4.8,SNR=13							
FETA	Feichten	156.38	93	*i* PKP	PKPdf	15 04 15.9	+1.4	
	comp=Z,6.5nm,1.6s							
RETA	Reutte	156.64	92	*i* PKP	PKPdf	15 04 15.6	+0.9	
	comp=Z,8.3nm,1.2s							
SQTA	Sankt Quirin	156.76	93	*i* PKP	PKPdf	15 04 16.3	+1.4	
	comp=Z,8.4nm,1.0s							
MOTA	Moosalm	156.77	93	*i* PKP	PKPdf	15 04 15.9	+0.9	
	comp=Z,6.8nm,0.8s							
WTTA	Wattenberg	157.04	94	*i* PKP	PKPdf	15 04 16.6	+1.3	
	comp=Z,7.6nm,1.2s							
WATA	Walderalm	157.04	93	*e*PKP	PKPdf	15 04 16.6	+1.2	
	comp=Z,8.3nm,1.2s							
ABTA	Abfaltersbach	157.28	95	*i* PKP	PKPdf	15 04 16.9	+1.3	
	comp=Z,2.4nm,0.8s							
LESA	Schwarzleotal	157.73	94	*i* PKP	PKPdf	15 04 17.0	+0.9	
	comp=Z,5.9nm,1.8s							
ZAA0	Zalesovo Array	157.74	285	PKPab	PKPab	15 04 48.8	+0.4	
ZALV	Zalesovo Beam	157.74	285	PKPab	PKPab	15 04 48.9	+0.5	
ZALV	Zalesovo Beam	157.74	285	PKPab	PKPab	15 04 48.8	+0.4	
	comp=Z,1.5nm,0.6s,baz=128,slow=3.9,SNR=9.0							
KBA	Koelnbreinsper	157.94	96	*e*PKP	PKPdf	15 04 15.6	-0.9	
	comp=Z,1.5nm,0.6s							
OBKA	Obir	158.33	98	*i* PKP	PKPdf	15 04 18.2	+1.3	
	comp=Z,8.3nm,1.4s							
BIOA	Bad Ischl, Aus	158.42	94	*i* PKP	PKPdf	15 04 17.4	+0.5	
	comp=Z,3.2nm,0.9s							
SOKA	Soboth	158.71	98	*i* pPKP	pPKPdf	15 04 20.7	+1.0	
	comp=Z,4.3nm,1.0s							
GEC2	GERESS Array S	159.02	92	PKPdf	PKPdf	15 04 16.4	-1.2	
GERES	GERESS Array B	159.02	92	PKP	PKPdf	15 04 18.1	+0.5	
	comp=Z,1.2nm,0.7s,baz=316,slow=7.5,SNR=3.0							
ARSA	Arzberg	159.29	97	*i* PKP	PKPdf	15 04 18.7	+0.8	
	comp=Z,7.0nm,1.4s							
CONA	Conrad Observa	159.84	96	*i* PKP	PKPdf	15 04 18.5	-0.1	
	comp=Z,3.2nm,0.9s							
RONA	Rosalia, Austr	159.98	97	*e*PKP	PKPdf	15 04 18.1	-0.6	
	comp=Z,4.5nm,1.0s							
KURBB	Kurchatov Arra	160.24	272	PKPab	PKPab	15 05 00.2	+0.8	
	comp=Z,0.2nm,0.4s,baz=116,slow=4.4,SNR=4.5							
BRTR	Keskin Array B	162.99	144		PKPdf	15 04 20.4	-1.9	
BRTR	Keskin Array B	162.99	144	PKP	PKPdf	15 04 22.3	0.0	
	comp=Z,1.0nm,0.8s,baz=170,slow=1.8,SNR=2.2							
BRTR				PKPab	PKPab	15 05 11.7	-0.2	
	baz=175,slow=6.2,SNR=4.6							
BVAR	Borovoye Array	165.80	274	PKPab	PKPab	15 05 21.9	-1.9	
	comp=Z,0.6nm,0.6s,baz=116,slow=5.8,SNR=4.6							
AKASG	Malin Array Be	168.86	102	PKP	PKPdf	15 04 25.8	-0.6	
	comp=Z,0.5nm,0.5s,baz=269,slow=0.7,SNR=7.1							
AKASG				PKPab	PKPab	15 05 36.5	-0.9	
	comp=Z,0.3nm,0.4s,baz=255,slow=4.2,SNR=4.5							

*SNET **06** 14:47:52.2±1.0, 13°.24N×88°.06W, h2km±3km, ML3.8*
*CATAC **06** 14:47:53.4±0.2, 13°.24N×88°.10W, h5km±2km, ML3.3*

ISC 06 14:47:53.1±0.9, 13°25N±0°.04×88°07W±0°.02, h12km±6km, n37, σ0s56/52, 4C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	0.17	271	*i*	P	Pg	14 47 57.0	-0.1
JUCU					*e*S	Sg	14 48 00.1	+0.2
JUCU					IAML		14 48 01.7	
	comp=Z,21µm,0.4s							
CNCH	Conchagua	0.23	83	*i*	P	Pg	14 47 57.9	-0.3
CNCH					*e*S	Sg	14 48 01.5	-0.1
CNCH					IAML		14 48 07.0	
	comp=Z,25µm,0.2s							
CNRM	Centro Naciona	0.24	337	*e*	P	Pg	14 47 58.5	+0.2
CNRM	Centro Naciona	0.24	337	*i*	P	Pg	14 47 58.4	+0.2
CNRM					*i* S	Sg	14 48 02.7	+0.9
CNRM					IAML		14 48 09.9	
	comp=Z,13µm,1.0s							
LCY	Lacayo	0.28	309	*e*	P	Pg	14 47 59.3	+0.3
RANC	El Ranchito	0.28	311	*e*	P	Pg	14 47 59.4	+0.4
PACA	Pacayal	0.33	312	*e*	P	Pb	14 48 01.0	0.0
AMPH	Amapala	0.40	85	*i*	P	Pg	14 48 00.8	-0.4
AMPH					*e*S	Sg	14 48 06.8	+0.2
TECA	Tecapa	0.48	300	*e*	P	Pg	14 48 03.0	+0.3
COEB	Comit de Eme	0.51	299	*e*	P	Pg	14 48 03.5	+0.3
PQSS	Presa 15 de Se	0.60	308	*e*	P	Pg	14 48 05.1	+0.1
PQSS	Presa 15 de Se	0.60	308	*i*	P	Pg	14 48 05.3	+0.4
PQSS					*i* S	Sb	14 48 14.5	+0.4
PQSS					IAML		14 48 14.9	
	comp=Z,890nm,1.0s							
TECO	Alcaldia de Te	0.75	293	*e*	P	Pg	14 48 07.1	-0.5
SCLA	Alcaldia de Sa	0.78	305	*e*	P	Pg	14 48 08.2	-0.1
SCLA	Alcaldia de Sa	0.78	305	*i*	P	Pg	14 48 08.3	0.0
SCLA					*i* S	Sb	14 48 20.5	+1.2
SCLA					IAML		14 48 24.6	
	comp=Z,290nm,1.0s							
UESV	Universidad de	0.80	299	*i*	P	Pg	14 48 08.4	-0.1
UESV					IAML		14 48 21.5	
	comp=Z,670nm,1.0s							
COEG	Centro de Oper	0.87	295	*e*	P	Pg	14 48 09.5	-0.4
COEG	Centro de Oper	0.87	295	*i*	P	Pg	14 48 09.8	-0.1
COEG					*i* S	Sb	14 48 21.8	0.0
COEG					IAML		14 48 24.8	
	comp=Z,1µm,1.0s							
PAVA	Las Pavas	0.96	299	*e*	P	Pg	14 48 11.4	-0.3
PAVA	Las Pavas	0.96	299	*i*	P	Pg	14 48 11.2	-0.5
PAVA					*i* S	Sb	14 48 25.1	+0.6
PAVA					IAML		14 48 26.2	
	comp=Z,2µm,1.0s							
TGUH	Tegucigalpa,Un	1.12	44	*e*	P	Pb	14 48 13.3	-1.2
TGUH	Tegucigalpa,Un	1.12	44	*i*	P	Pb	14 48 13.3	-1.2
TGUH					*i* S	Sn	14 48 30.4	+0.3
CRIN	San Cristobal	1.14	119	*e*	P	Pb	14 48 14.2	-0.5
CRIN	San Cristobal	1.14	119	*i*	P	Pb	14 48 14.3	-0.5
CRIN					*i* S	Sn	14 48 31.5	+1.0
CRIN					IAML		14 48 34.4	
	comp=Z,2µm,1.0s							
PANCS	Alcalda de	1.14	289	*i*	P	Sb	14 48 29.1	-0.4
LOMA	Loma Larga	1.14	290	*e*	P	Pb	14 48 14.0	-0.9
LOMA	Loma Larga	1.14	290	*i*	P	Pb	14 48 13.9	-0.9
LOMA					*i* S	Sb	14 48 29.5	-0.2
LOMA					IAML		14 48 30.8	
	comp=Z,950nm,1.0s							
LALI	Alcalda de L	1.24	281	*i*	P	Sb	14 48 31.6	-0.8
PMON	Piamonte	1.29	291	*e*	P	Pn	14 48 17.2	+0.1
PMON	Piamonte	1.29	291	*i*	P	Pb	14 48 17.4	-0.1
PMON					*i* S	Sn	14 48 34.4	0.0
PMON					IAML		14 48 37.2	
	comp=Z,830nm,1.0s							
JAYA	Jayaque - finc	1.40	287	*i*	P	Pn	14 48 18.3	-0.3
JAYA					*i* S	Sn	14 48 37.1	0.0
JAYA					IAML		14 48 40.5	
	comp=Z,2µm,1.0s							
CNGN	Cerro Negro	1.53	119	*i*	P	Pg	14 48 23.8	+1.2
CNGN					*i* S	Sg	14 48 42.4	-0.1
UNIC	Universidad Ca	1.61	297	*i*	P	Pg	14 48 29.2	+5.1
MTO3	Montecristo	1.69	313	*i*	P	Pn	14 48 23.2	+0.4
MTO3					*i* S	Sb	14 48 46.1	+0.3
MTO3					IAML		14 48 49.0	
	comp=Z,110nm,1.0s							
MOMN	Momotombo	1.71	119	*i*	P	Pb	14 48 23.9	-0.7
MOMN					IAML		14 50 45.9	
	comp=Z,10.0nm,1.0s							
MOM2	El Cardon	1.75	117	*i*	P	Pb	14 48 24.6	-0.5
MOM2					*i* S	Sb	14 48 47.8	+0.8
MOM2					IAML		14 49 00.2	
	comp=Z,110nm,1.0s							
COPN	Copaltepe	1.79	126	*i*	P	Pn	14 48 23.5	-0.4

SNET 06 14:49:49.7±0.9, 13°27N×88°.06W, h6km±8km, ML3.6, 2C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	0.18	266	*e*	P	Pg	14 49 53.8	+0.4
JUCU					*e*S	Sg	14 49 56.8	+0.9
JUCU					IAML		14 49 59.4	
	comp=Z,10µm,0.3s							
CNCH	Conchagua	0.22	88	*i*	P	Pg	14 49 54.7	+0.5
CNCH					*e*S	Sg	14 49 58.2	+1.1
CNCH					IAML		14 50 00.9	
	comp=Z,20µm,0.5s							
CNRM	Centro Naciona	0.23	333	*e*	P	Pg	14 49 54.7	+0.4
BLLM	Bellamira	0.24	315	*i*	P	Pg	14 49 55.1	+0.6
VSM	San Miguel	0.26	308	*e*	P	Pg	14 49 55.4	+0.4
LCY	Lacayo	0.27	304	*i*	P	Pg	14 49 55.8	+0.6
RANC	El Ranchito	0.28	307	*i*	P	Pg	14 49 55.8	+0.6
PACA	Pacayal	0.32	308	*e*	P	Pg	14 49 56.6	+0.5
AMPH	Amapala	0.39	87	*e*	P	Pg	14 49 57.6	+0.2
TECA	Tecapa	0.48	298	*e*	P	Pg	14 49 59.5	+0.4
COEB	Comit de Eme	0.51	297	*e*	P	Pg	14 49 59.7	+0.1
PQSS	Presa 15 de Se	0.60	306	*e*	P	Pg	14 50 01.4	+0.1
TECO	Alcaldia de Te	0.75	291	*e*	P	Pg	14 50 03.7	-0.4
SCLA	Alcaldia de Sa	0.78	304	*e*	P	Pg	14 50 04.9	+0.2
UESV	Universidad de	0.80	298	*e*	P	Pg	14 50 04.8	-0.2
COEG	Centro de Oper	0.87	294	*e*	P	Pg	14 50 06.0	-0.5
TGUH	Tegucigalpa,Un	1.10	44	*e*	P	Pg	14 50 09.8	-1.0
CRIN	San Cristobal	1.14	120	*e*	P	Pg	14 50 11.0	-0.5
LOMA	Loma Larga	1.14	289	*e*	P	Pg	14 50 10.9	-0.8
PMON	Piamonte	1.30	290	*e*	P	Pn	14 50 13.7	-0.8
JAYA	Jayaque - finc	1.40	286	*e*	P	Pn	14 50 14.9	-1.0

CATAC 06 14:50:32.9±0.3, 13°28N×88°.06W, h5km±2km, MB5.5, mb4.2, ML3.8, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	0.18	260	*i*	P	Pg	14 50 36.9	+0.4
JUCU					*i* S	Sg	14 50 40.1	+1.1
JUCU					IAML		14 50 42.1	
	comp=Z,34µm,1.0s							
CNRM	Centro Naciona	0.22	331	*i*	P	Pg	14 50 37.7	+0.5
CNRM					*i* S	Sg	14 50 42.4	+2.4
CNRM					IAML		14 50 49.8	
	comp=Z,89µm,1.0s							
CNCH	Conchagua	0.22	92	*i*	P	Pg	14 50 37.7	+0.4
CNCH					*i* S	Sg	14 50 41.8	+1.5
CNCH					IAML		14 50 45.1	
	comp=Z,56µm,1.0s							
RANC	El Ranchito	0.27	304	*i*	P	Pg	14 50 38.8	+0.7
RANC					IAML		14 50 54.3	
	comp=Z,10µm,1.0s							
PACA	Pacayal	0.31	306	*i*	P	Pg	14 50 39.7	+0.7
PACA					IAML		14 50 52.4	
	comp=Z,40µm,1.0s							
COEB	Comit de Eme	0.50	295	*i*	P	Pg	14 50 42.8	+0.2
COEB					*i* S	Sb	14 50 50.6	-1.4
COEB					IAML		14 50 53.0	
	comp=Z,3µm,1.0s							
PQSS	Presa 15 de Se	0.59	305	*i*	P	Pg	14 50 44.8	+0.5
PQSS					IAML		14 50 45.7	
	comp=Z,2µm,1.0s							
TECO	Alcaldia de Te	0.74	290	*i*	P	Pg	14 50 46.9	-0.3
TECO					*i* S	Sg	14 50 57.7	+0.9
TECO					IAML		14 51 00.5	
	comp=Z,2µm,1.0s							
SCLA	Alcaldia de Sa	0.77	303	*i*	P	Pg	14 50 48.1	+0.4
SCLA					IAML		14 51 14.7	
	comp=Z,700nm,1.0s							
UESV	Universidad de	0.79	297	*i*	P	Pg	14 50 47.9	-0.1
UESV					*i* S	Sb	14 50 59.6	-0.5
UESV					IAML		14 51 07.6	
	comp=Z,2µm,1.0s							
COEG	Centro de Oper	0.86	293	*i*	P	Pg	14 50 49.2	-0.3
COEG					*i* S	Sb	14 51 01.6	-0.7
COEG					IAML		14 51 03.1	
	comp=Z,3µm,1.0s							
PAVA	Las Pavas	0.95	297	*i*	P	Pg	14 50 51.0	-0.2
PAVA					*i* S	Sb	14 51 04.9	0.0
PAVA					IAML		14 51 07.8	
	comp=Z,4µm,1.0s							
TGUH	Tegucigalpa,Un	1.09	45	*i*	P	Pg	14 50 53.1	-0.7
TGUH					IAML		14 50 53.3	
	comp=Z,4µm,1.0s							
TGUH					*i* S	Sg	14 51 08.1	+0.2
PANCS	Alcalda de	1.13	287	*i*	P	Pg	14 50 53.7	-1.0
PANCS					*i* S	Sg	14 51 09.1	-0.3
PANCS					IAML		14 51 10.1	
	comp=Z,3µm,1.0s							
LOMA	Loma Larga	1.14	289	*i*	P	Pg	14 50 54.2	-0.5
LOMA					*i* S	Sb	14 51 10.1	-0.1
LOMA					IAML		14 51 13.5	
	comp=Z,3µm,1.0s							
UDBS	Universidad Do	1.15	292	*i*	P	Sg	14 51 10.3	+0.5
UEES	Universidad Ev	1.22	291	*i*	P	Pg	14 50 55.7	-0.7
UEES					*i* S	Sn	14 51 13.4	-0.3
UEES					IAML		14 51 21.5	
	comp=Z,880nm,1.0s							
LLGN	La Laguna	1.22	316	*i*	P	Pg	14 50 55.4	-1.0
LLGN					IAML		14 50 58.2	
	comp=Z,1µm,1.0s							
LLGN					*i* S	Sb	14 51 12.7	0.0
LALI	Alcalda de L	1.24	280	*i*	P	Pg	14 50 55.8	-0.9
LALI					*i* S	Sg	14 51 12.7	-0.1
LALI					IAML		14 51 24.9	
	comp=Z,360nm,1.0s							
MOM2	El Cardon	1.75	118	*i*	P	Pn	14 51 03.8	-0.2
MOM2					IAML		14 51 05.8	
	comp=Z,340nm,1.0s							
ESQI	Esquipulas	1.77	316	*i*	P	Pb	14 51 05.3	-0.7
ESQI					IAML		14 51 42.8	
	comp=Z,790nm,1.0s							
GUNB	GUNB	2.57	301	*i*	S	Pb	14 51 18.0	-1.7
ACON	Acoyapa	3.11	115	*i*	P	Pb	14 51 29.6	+0.9
OCHAL	Ojochal	6.01	133	*i*	P	Pn	14 52 03.3	+0.8
OCHAL					IAmb	IAmb	14 52 05.3	
	comp=Z,11nm,0.5s							
OCHAL					IVmB_BB		14 52 05.7	
	comp=Z,4µm,1.0s							
OCHAL					IAML		14 54 28.9	
	comp=Z,150nm,1.0s							

*IDC **06** 14:52:52.2±0.7, 13°.38

TECO	Alcaldia de Te	0.73	291	eP		Pg	14 53 07.1	-0.6	
TECO	Alcaldia de Te	0.73	291	i P		Pg	14 53 07.1	-0.6	
TECO				i S		Sg	14 53 17.5	+0.2	
TECO				IAML			14 53 22.5		
comp=Z,54µm,1.0s									
SCLA	Alcaldia de Sa	0.77	304	eP		Pg	14 53 07.7	-0.6	
SCLA	Alcaldia de Sa	0.77	304	i P		Pg	14 53 08.3	0.0	
SCLA				i S		Sb	14 53 20.4	+1.2	
SCLA				IAML			14 53 26.4		
comp=Z,24µm,1.0s									
UESV	Universidad de	0.78	298	i P		Pg	14 53 08.3	-0.3	
UESV				i S		Sb	14 53 20.3	+0.7	
UESV				IAML			14 53 26.5		
comp=Z,56µm,1.0s									
COEG	Centro de Oper	0.85	294	eP		Pg	14 53 09.0	-1.0	
COEG	Centro de Oper	0.85	294	i P		Pg	14 53 09.6	-0.4	
COEG				i S		Sb	14 53 22.5	+0.7	
COEG				IAML			14 53 26.1		
comp=Z,58µm,1.0s									
PAVA	Las Pavas	0.95	298	eP		Pg	14 53 11.3	-0.4	
PAVA	Las Pavas	0.95	298	i P		Pg	14 53 11.7	0.0	
PAVA				i S		Sb	14 53 25.3	+0.9	
PAVA				IAML			14 53 28.6		
comp=Z,94µm,1.0s									
LBRS	Las Brisas	1.05	297	eP		Pb	14 53 13.4	-0.2	
AEIL	Aeropuerto Ilo	1.10	293	eP		Pb	14 53 14.2	-0.2	
TGUH	Tegucigalpa,Un	1.11	45	Pg		Pb	14 53 12.8	-1.8	
TGUH	Tegucigalpa,Un	1.11	45	eP		Pb	14 53 12.8	-1.8	
TGUH	Tegucigalpa,Un	1.11	45	S		Sb	14 53 27.9	-1.2	
TGUH	Tegucigalpa,Un	1.11	45	i P		Pb	14 53 13.0	-1.6	
TGUH				i S		Sb	14 53 28.2	-0.9	
TGUH				IAML			14 53 43.5		
comp=Z,110µm,1.0s									
TGUH	Tegucigalpa,Un	1.11	45	P		Pb	14 53 12.9	-1.8	
LFU	La Fuente	1.11	296	eP		Pb	14 53 14.0	-0.7	
PANCS	Alcalda de	1.12	288	eP		Pb	14 53 14.0	-0.9	
PANCS	Alcalda de	1.12	288	i P		Pb	14 53 13.7	-1.2	
PANCS				i S		Sg	14 53 29.8	0.0	
PANCS				IAML			14 53 30.3		
comp=Z,70µm,1.0s									
LOMA	Loma Larga	1.13	290	eP		Pb	14 53 14.1	-0.9	
LOMA	Loma Larga	1.13	290	i P		Pb	14 53 14.4	-0.6	
LOMA				i S		Sg	14 53 30.3	+0.4	
LOMA				IAML			14 53 32.4		
comp=Z,50µm,1.0s									
UDBS	Universidad Do	1.14	293	eP		Pb	14 53 14.9	-0.2	
UDBS	Universidad Do	1.14	293	i P		Pb	14 53 14.8	-0.3	
UDBS				i S		Sn	14 53 31.6	+0.7	
UDBS				IAML			14 53 35.3		
comp=Z,49µm,1.0s									
CRIN	San Cristobal	1.15	119			Pb	14 53 14.4	-0.9	
CRIN	San Cristobal	1.15	119	eP		Pb	14 53 14.2	-1.1	
CRIN	San Cristobal	1.15	119	S		Sn	14 53 31.6	+0.4	
CRIN	San Cristobal	1.15	119	eS		Sn	14 53 32.4	+1.2	
CRIN	San Cristobal	1.15	119	P		Pb	14 53 14.6	-0.7	
IGN	Direccin Gen	1.15	293	i P		Pb	14 53 14.8	-0.5	
IGN				i S		Sn	14 53 32.2	+1.0	
IGN				IAML			14 53 36.1		
comp=Z,110µm,1.0s									
UTEC	Universidad Te	1.17	292	eP		Pb	14 53 15.5	-0.2	
UTEC	Universidad Te	1.17	292	i P		Pb	14 53 15.2	-0.5	
UTEC				i S		Sn	14 53 32.0	+0.2	
UTEC				IAML			14 53 38.7		
comp=Z,32µm,1.0s									
UESS	Universidad de	1.18	293	eP		Pb	14 53 15.7	-0.1	
SNET	Serv Nac Est T	1.20	290			Pn	14 53 15.0	-1.1	
SNET	Serv Nac Est T	1.20	290	eP		Pn	14 53 15.2	-0.9	
SNET	Serv Nac Est T	1.20	290	i P		Pn	14 53 15.4	-0.7	
SNET				i S		Sn	14 53 32.3	-0.1	
SNET				IAML			14 53 37.4		
comp=Z,62µm,1.0s									
UEES	Universidad Ev	1.21	292	eP		Pn	14 53 15.7	-0.7	
UEES	Universidad Ev	1.21	292	i P		Pn	14 53 15.9	-0.4	
UEES				i S		Sn	14 53 33.2	+0.4	
UEES				IAML			14 53 38.0		
comp=Z,22µm,1.0s									
LLGN	La Laguna	1.23	317	eP		Pn	14 53 15.0	-1.6	
LLGN	La Laguna	1.23	317	i P		Pn	14 53 14.9	-1.6	
LLGN				i S		Sn	14 53 33.4	+0.3	
LLGN				IAML			14 53 40.6		
comp=Z,26µm,1.0s									
LALI	Alcalda de L	1.23	280	eP		Pn	14 53 15.4	-1.0	
LALI	Alcalda de L	1.23	280	i P		Pn	14 53 15.9	-0.6	
LALI				i S		Sg	14 53 33.4	+0.3	
LALI				IAML			14 53 45.7		
comp=Z,9µm,1.0s									
ITCA	Escuela Especi	1.23	289	i P		Pn	14 53 16.6	0.0	
ITCA				i S		Sg	14 53 33.4	+0.1	
ITCA				IAML			14 53 40.6		
comp=Z,140µm,1.0s									
PIC2	El Picacho	1.24	293	eP		Pn	14 53 16.5	-0.4	
MAGS	Ministerio de	1.25	290	eP		Pn	14 53 16.6	-0.2	
BOQS	Boqueron	1.26	292	eP		Pn	14 53 16.5	-0.6	
PMON	Piamonte	1.28	290	eP		Pn	14 53 16.8	-0.5	
PMON	Piamonte	1.28	290	i P		Pb	14 53 17.5	-0.1	
PMON				i S		Sg	14 53 35.1	+0.3	
PMON				IAML			14 53 37.8		
comp=Z,48µm,1.0s									
QUEZ	Alcaldia de Qu	1.29	296	i P		Pn	14 53 17.4	0.0	
QUEZ				i S		Sg	14 53 37.3	+2.2	
QUEZ				IAML			14 53 51.5		
comp=Z,68µm,1.0s									
CEDA	San Andres	1.39	293	eP		Pn	14 53 18.9	+0.2	
CEDA	San Andres	1.39	293	i P		Pn	14 53 19.0	+0.3	
CEDA				i S		Sg	14 53 39.4	+1.3	
CEDA				IAML			14 53 43.2		
comp=Z,68µm,1.0s									
JAYA	Jayaque - finc	1.39	286	eP		Pn	14 53 18.1	-0.7	
JAYA	Jayaque - finc	1.39	286	i P		Pn	14 53 18.9	+0.1	
JAYA				i S		Sg	14 53 38.1	-0.1	
JAYA				IAML			14 53 39.5		
comp=Z,47µm,1.0s									
CNGA	Al SSO del Vol	1.55	120	i P		Pn	14 53 19.9	-1.0	
CNGA				i S		Sn	14 53 41.0	+0.1	
CNGA				IAML			14 53 47.8		
comp=Z,19µm,1.0s									
CNGN	Cerro Negro	1.55	119			Pn	14 53 19.8	-1.1	
CNGN	Cerro Negro	1.55	119	S		Sb	14 53 41.6	-0.1	
CNGN	Cerro Negro	1.55	119	i P		Pn	14 53 20.2	-0.7	
CNGN				i S		Sb	14 53 42.2	+0.5	
CNGN				IAML			14 53 50.2		
comp=Z,30µm,1.0s									
CNGN	Cerro Negro	1.55	119	P		Pn	14 53 19.9	-1.0	
UNIC	Universidad Ca	1.60	297	eP		Pn	14 53 22.1	+0.6	
UNIC	Universidad Ca	1.60	297	i P		Pn	14 53 21.5	-0.1	
UNIC				i S		Sg	14 53 45.6	+0.8	
UNIC				IAML			14 53 47.6		
comp=Z,7µm,1.0s									
SNJE	San Jose	1.60	292	eP		Pn	14 53 21.9	+0.2	
CEVE	Cerro Verde	1.60	290	eP		Pn	14 53 22.1	+0.3	
CEVE	Cerro Verde	1.60	290	i P		Pn	14 53 22.2	+0.4	
CEVE				i S		Sg	14 53 48.7	+3.6	
CEVE				IAML			14 53 55.2		
comp=Z,26µm,1.0s									
SBLS	San Blas	1.61	291	eP		Pn	14 53 22.1	+0.3	
RTR	El Retiro	1.65	292	eP		Pn	14 53 22.8	+0.4	
LEVN	Ruinas Leon Vi	1.67	121	i P		Pn	14 53 22.6	+0.1	
LEVN				i S		Sg	14 53 46.9	-0.1	
LEVN				IAML			14 53 54.0		
comp=Z,19µm,1.0s									
MTO3	Montecristo	1.68	312	Pn		Pn	14 53 22.3	-0.6	
MTO3	Montecristo	1.68	312	i P		Pn	14 53 22.7	-0.2	
MTO3				IAML			14 53 24.8		
comp=Z,14µm,1.0s									
MTO3				i S		Sg	14 53 47.1	-0.4	
MOMN	Momotombo	1.73	119	i P		Pn	14 53 22.4	-1.0	
MOMN				i S		Sb	14 53 47.2	+0.4	
MOMN				IAML			14 53 54.4		
comp=Z,700nm,1.0s									
BC84	Volcan Momotom	1.73	120	i P		Pn	14 53 23.6	+0.2	
BC84				i S		Sb	14 53 47.6	+0.6	
BC84				IAML			14 53 58.9		
comp=Z,15µm,1.0s									
MOM2	El Cardon	1.76	118	i P		Pn	14 53 22.5	-1.3	
MOM2				i S		Sg	14 53 49.3	-0.8	
MOM2				IAML			14 53 58.4		
comp=Z,16µm,1.0s									
BRAN	Las Pilas	1.77	108	i P		Pg	14 53 27.2	-0.2	
BRAN				IAML			14 53 29.9		
comp=Z,6µm,1.0s									
BRAN				i S		Sg	14 53 54.4	+4.0	
NUBE	Las Nubes	1.77	291	eP		Pn	14 53 24.1	0.0	
NUBE	Las Nubes	1.77	291	i P		Pb	14 53 25.1	-0.9	
NUBE				i S		Sb	14 53 49.2	+1.0	
NUBE				IAML			14 53 52.1		
comp=Z,25µm,1.0s									
ESQI	Esquipulas	1.78	316			Pn	14 53 24.1	0.0	
ESQI	Esquipulas	1.78	316	‖ i P		Pn	14 53 24.1	0.0	
ESQI	Esquipulas	1.78	316	i P		Pn	14 53 24.0	0.0	
ESQI				IAML			14 54 04.3		
comp=Z,28µm,1.0s									
LOAL	Lomas de Alarc	1.81	294	i P		Pb	14 53 26.0	-0.5	
LOAL				i S		Sg	14 53 52.6	+1.0	
LOAL				IAML			14 53 57.3		
comp=Z,44µm,1.0s									
COPN	Copaltepe	1.81	127	i P		Pn	14 53 23.8	-0.6	
COPN				IAML			14 53 51.1		
comp=Z,7µm,1.0s									
SLOZ	Alcaldia de Sa	1.82	295	eP		Pn	14 53 25.5	+0.9	
JUAM	Asuncion Mita	1.90	304	i P		Pn	14 53 26.7	+0.9	
JUAM				i S		Sg	14 53 53.9	-0.8	
JUAM				IAML			14 54 01.7		
comp=Z,13µm,1.0s									
APQ3	Volcan Apoyequ	1.94	120	i P		Pn	14 53 25.4	-0.8	
APQ3				i S		Sg	14 53 54.5	-1.3	
APQ3				IAML			14 54 01.6		
comp=Z,10µm,1.0s									
APYN	Apoyeque	1.98	121	i P		Pn	14 53 26.5	-0.2	
APYN				IAML			14 53 29.8		
comp=Z,11µm,1.0s									
APYN				i S		Sb	14 53 53.2	-0.8	
RE6B4	Centro civico	2.08	123	i P		Pn	14 53 27.6	-0.5	
RE6B4				IAML			14 53 59.9		
comp=Z,8µm,1.0s									
TISN	Laguna Tiscapa	2.09	122	i P		Pn	14 53 26.6	-1.7	
R4DEC	Barrio San Lui	2.10	122	i P		Pn	14 53 28.9	+0.4	
R4DEC				IAML			14 54 09.1		
comp=Z,7µm,1.0s									
ENAN	Enatrel Managu	2.11	123	i P		Pn	14 53 29.8	+1.2	
ENAN				i S		Sb	14 53 59.4	+1.5	
ENAN				IAML			14 54 04.3		
comp=Z,18µm,1.0s									
MAS3	Al N del Volca	2.23	123	i P		Pn	14 53 30.1	-0.2	
MAS3				i S		Sb	14 53 59.5	-1.8	
MAS3				IAML			14 54 17.2		
comp=Z,7µm,1.0s									
RB213	Mirador 2 Volc	2.26	124	i P		Pn	14 53 27.5	-3.2	
RB213				IAML			14 54 04.0		
comp=Z,10µm,1.0s									
MASN	Masaya	2.27	124	i P		Pn	14 53 31.4	+0.6	
MASN				i S		Sn	14 54 00.4	+1.6	
MASN				IAML			14 54 11.1		
comp=Z,2µm,1.0s									
MRL	Marmol	2.38	319	eP		Pb	14 53 35.6	-0.8	
IZABA	Izabal, Puerto	2.50	349	i P		Pb	14 53 37.4	-0.8	
IZABA				i S		Sg	14 54 13.0	-0.7	
IZABA				IAML			14 54 17.7		
comp=Z,300nm,1.0s									
NADN	Granada	2.50	127	i P		Pn	14 53 34.8	+0.8	
NADN				i S		Sn	14 54 06.1	+1.6	
NADN				IAML			14 54 14.6		
comp=Z,8µm,1.0s									
NBG	Las Nubes	2.56	301	eP		Pb	14 53 40.1	+0.6	
GUNB	GUNB	2.57	301	i P		Pb	14 53 37.7	-1.9	
GUNB				IAML			14 54 19.6		
comp=Z,8µm,1.0s									
PCG	Pacaya	2.70	295	eP		Pb	14 53 41.4	-0.5	
GCG4	OSOP	2.72	299	i P		Pn	14 53 38.9	+1.7	
GCG4				IAML			14 53 49.2		
comp=Z,9µm,1.0s									
APG	El Apazote	2.89	307	Pn		Pb	14 53 42.9	-2.1	
comp=Z,3.2nm,0.3s,baz=120,slow=11,SNR=17									
APG				Sn		Sb	14 54 19.7	-0.8	
comp=Z,7.2nm,0.3s,baz=142,slow=10.0,SNR=5.2									
APG				LR		LR	14 54 32.2		
comp=Z,156nm,19.7s,baz=293,slow=33									
comp=Z,84nm,0.8s									
JAPN	Al SSO del Vol	2.91	126	i P		Pn	14 53 41.0	+1.3	
JAPN				IAML			14 54 29.4		
comp=Z,2µm,1.0s									
MORN	Al O del Volca	2.93	126	i P		Pn	14 53 41.1	+1.3	
MORN				IAML			14 54 21.5		
comp=Z,4µm,1.0s									
FUG	Fuego 3	2.93	294	eP		Pb	14 53 44.9	-0.8	
CONN	Concepcion	2.93	125	i P		Pn	14 53 41.6	+1.7	
CONN				IAML			14 54 26.9		
comp=Z,25µm,1.0s									
OMEN	Al SSO del Vol	2.96	126	i P		Pn	14 53 40.8	+0.4	
OMEN				IAML			14 54 22.3		
comp=Z,3µm,1.0s									
ACON	Acoyapa	3.12	114			Pn	14 53 42.1	-0.3	
ACON	Acoyapa	3.12	114	S		Sb	14 54 28.5	+1.7	
ACON	Acoyapa	3.12	114	i P		Pn	14 53 42.1	-0.3	
ACON				IAML			14 54 34.2		
comp=Z,4µm,1.0s									
ACON	Acoyapa	3.12	114	P		Pn	14 53 42.8	+0.4	
LCRUZ	La Cruz	3.23	132	eP		Pn	14 53 44.2	+0.1	
HZTE	Horizontes, Gu	3.51	136	Pn		Pn	14 53 47.4	-0.5	
HZTE	Horizontes, Gu	3.51	136	i P		Pn	14 53 47.5	-0.5	
HZTE				IAML			14 55 28.9		
comp=Z,2µm,1.0s									
HZTE	Horizontes, Gu	3.51	136	eP		Pn	14 53 46.8	-1.1	
SULM	Suchitepequez,	3.54	287	eP		Pb	14 53 52.8	-3.2	
ALIBA	Liberia Airpor	3.63	137	eP		Pn	14 53 51.2	+1.6	
STG3	Santiaguito 3,	3.68	293	eP		Pb	14 53 55.3	-3.3	
STG3				eS		Sb	14 54 40.7	-2.6	
RTAL	Retalhuleu	3.73	290	Pn		Pn	14 53 50.6	-0.3	
RTAL	Retalhuleu	3.73	290	i P		Pn	14 53 53.7	+2.8	
RTAL				IAML			14 55 03.9		
comp=Z,3µm,1.0s									
VMAR	Armenia, Volca	3.79	130	eP		Pn	14 53 51.6	-0.2	
ESPN	Las Esperanzas	3.84	106			Pn	14 53 51.7	-0.6	
ESPN	Las Esperanzas	3.84	106	i P		Pn	14 53 54.0	+1.6	
ESPN				IAML			14 55 04.4		
comp=Z,5µm,1.0s									
ORTG	Ortega, Santa	3.86	138			Pn	14 53 53.0	+0.2	
ORTG	Ortega, Santa	3.86	138	i P		Pn	14 53 53.4	+0.6	
ORTG				IAML			14 53 55.3		
comp=Z,920nm,1.0s									
ORTG	Ortega, Santa	3.86	138	eP		Pn	14 53 53.1	+0.2	
BAGA	Bagaces	3.88	134	eP		Pn	14 53 53.4	+0.5	
HUEH	Huehuetenango	3.90	302	i P		Pb	14 54 03.9	+1.7	
JUD3	Juan Diaz 3	3.96	141	eP		Pn	14 53 54.7	+0.6	
PETF	Flores	4.02	335			Pn	14 53 55.6	+0.8	
PETF	Flores	4.02	335	i P		Pn	14 53 55.9	+1.1	
PETF				IAML			14 55 13.3		
comp=Z,4µm,1.0s									
DUNO	Dulce Nombre,	4.06	141			Pn	14 53 54.9	-0.5	
DUNO	Dulce Nombre,	4.06	141	eP		Pn	14 53 55.9	+0.5	
JTS	Las Juntas de	4.26	134	Pn		Pn	14 53 57.4	-0.7	
JTS	Las Juntas de	4.26	134	Pn		Pn	14 53 57.3	-0.9	
comp=Z,30nm,0.3s,baz=314,slow=17,SNR=42									
JTS				Sn		Sn	14 54 46.6	-1.3	
comp=Z,29nm,0.3s,baz=294,slow=22,SNR=1.7									
comp=Z,90nm,0.4s									
JTS	Las Juntas de	4.26	134	S		Sn	14 54 47.4	-0.4	
JTS	Las Juntas de	4.26	134	eP		Pn	14 53 56.6	-1.6	
JTS	Las Juntas de	4.26	134	P		Pn	14 53 57.8	-0.4	
VACR	Volcan Arenal	4.33	129	eP		Pn	14 53 59.0	-0.3	
COVE	Coope Vega, Sa	4.40	125			Pn	14 53 59.3	-0.8	
COVE	Coope Vega, Sa	4.40	125	eP		Pn	14 53 60.0	-0.1	
SOCE	Pocosol	4.44	130			Pn	14 53 59.7	-1.0	
SOCE	Pocosol	4.44	130	i P		Pn	14 54 00.7	0.0	
SOCE				IAML			14 54 26.2		
comp=Z,520nm,1.0s									
LAFE	Finca La Fe, P	4.63	138	i P		Pn	14 54 04.8	+1.5	
LAFE				IAML			14 54 25.6		
comp=Z,5.0nm,1.0s									
CPMI	Catarata Coope	4.68	129	i P		Pn	14 54 04.6	+0.4	
CPMI				IAML			14 55 40.7		
comp=Z,890nm,1.0s									
JACO	JACO, Garabito	4.91	137			Pn	14 54 07.3	+0.2	
JACO	JACO, Garabito	4.91	137	i P		Pn	14 54 09.2	+2.1	
JACO				IAML			14 54 27.0		
comp=Z,550nm,1.0s									
JACO	JACO, Garabito	4.91	137	eP		Pn	14 54 08.1	+1.0	
CCIG	Comitan	4.94	308			Pn	14 54 09.6	+1.9	
CCIG	Comitan	4.94	308	i P		Pb	14 54 15.9	-4.1	
HDC	Heredia	5.06	129			Pn	14 54 09.8	+0.5	
OCM	Ochomogo	5.25	129	i P		Pn	14 54 13.0	+1.1	
OCM				IAmb	IAmb		14 54 35.3		
comp=Z,150nm,0.9s									
OCM				IAML			14 54 36.3		
comp=Z,250nm,1.0s									
OCM				IVmB_BB			14 54 37.6		
comp=Z,3µm,1.0s									
LCR2	La Lucha 2	5.31	131			Pn	14 54 12.8	0.0	
LCR2	La Lucha 2	5.31	131	eP		Pn	14 54 12.2	-0.6	
BATAN	Batan	5.58	124			Pn	14 54 16.9	+0.5	
CDM	Cerro de Muert	5.61	131	i P		Pn	14 54 18.1	+0.9	
CDM				IAML			14 54 32.9		
comp=Z,330nm,1.0s									
CDM				IVmB_BB			14 54 32.9		
comp=Z,3µm,1.0s									
CDM				IAmb	IAmb		14 54 33.3		
comp=Z,260nm,1.2s									
CDM	Cerro de Muert	5.61	131	‖ eP		Pn	14 54 16.6	-0.6	
BUS1	Rivas	5.63	131	eP		Pn	14 54 16.9	-0.5	
PEZE	Perez Zeledon,	5.79	131			Pn	14 54 19.1	-0.2	
OCHAL	Ojochal	6.01	133	i P		Pn	14 54 26.7	+4.5	
SRBA	San Rafael, Bu	6.12	130	Pn		Pn	14 54 24.5	+0.6	
SRBA	San Rafael, Bu	6.12	130	i P		Pn	14 54 25.1	+1.2	
SRBA				IVmB_BB			14 54 28.1		
comp=Z,2µm,1.0s									
SRBA				IAmb	IAmb		14 54 31.1		
comp=Z,130nm,1.1s									
SRBA				IAML			14 54 49.8		
comp=Z,180nm,1.0s									
PLAN	Los Planes de	6.29	136	i P		Pn	14 54 28.2	+2.2	
PLAN				IAML			14 54 30.3		
comp=Z,850nm,1.0s									
PLAN				IVmB_BB			14 54 30.3		
comp=Z,8µm,1.0s									
PLAN				IAmb	IAmb		14 54 30.4		
comp=Z,400nm,0.4s									
PRVC	Isla de Provid	6.54	88	i P		Pn	14 54 32.9	+3.4	
PIRO	Carate, Puerto	6.71	136	i P		Pn	14 54 34.3	+2.4	
PIRO				IVmB_BB			14 54 40.3		
comp=Z,5µm,1.0s									
PIRO				IAmb	IAmb		14 54 46.4		
comp=Z,240nm,0.9s									
PIRO				IAML			14 54 46.6		
comp=Z,520nm,1.0s									
PIRO	Carate, Puerto	6.71	136	‖ eP		Pn	14 54 32.1	+0.2	
BRU2	Volcan	6.91	130	Pn		Pn	14 54 35.7	+0.9	
TEIG	Tepich	6.92	358			Pn	14 54 35.9	+1.2	
TEIG	Tepich	6.92	358	LR		LR	14 57 45.0		
comp=Z,7µm,21.7s,slow=43									
TEIG	Tepich	6.92	358	S		Sn	14 55 59.2	+5.7	
comp=Z,266nm,0.6s,comp=Z,5µmcomp=Z,4µm									
TEIG	Tepich	6.92	358	P		Pn	14 54 38.0	+3.2	
comp=Z,266nm,0.6s,comp=Z,5µmcomp=Z,4µm									
CMIG	Matias Romero	7.59	301	Pn		Pn	14 54 46.4	+2.5	
comp=Z,8.5nm,0.3s,baz=153,slow=11,SNR=24									
CMIG				Sn		Sn	14 56 14.4	+4.4	
comp=Z,1.5nm,0.3s,baz=181,slow=14,SNR=1.8									
CMIG				Lg	Lg		14 56 49.9		
comp=Z,2.6nm,0.3s,baz=90,slow=20,SNR=5.3									
comp=Z,53nm,0.8s									
GMAL	Guarumal, Vera	8.67	128	P		Pn	14 55 01.3	+2.5	
BCIP	Isla Barro Col	9.05	116	Pn		Pn	14 54 04.8	+0.7	
BCIP	Isla Barro Col	9.05	116	P		Pn	14 55 06.7	+2.7	
comp=Z,60nm,2.1s,comp=Z,1µm									
CACAO	El Cacao, Vera	9.22	129	P		Pn	14 55 19.0	+13	
AZU	Azuero	9.40	125	P		Pn	14 55 14.8	+5.9	
comp=Z,30nm,2.0s									
MTDJ	Mount Denham	11.28	63	P		Pn	14 55 34.5	-0.2	
comp=Z,79nm,1.1s									
CAPC	Capurgana	11.49	113	P		Pn	14 55 41.3	+3.8	
comp=Z,27nm,1.2s,comp=Z,632nm									
PTAC	Punta Ardita,	11.79	120	P		Pn	14 55 33.8	-7.8	
comp=Z,22nm,1.9s									
APAC	Apartado, Choc	12.50	114	P		Pn	14 55 53.0	+1.8	
comp=Z,47nm,0.8s,comp=Z,1µm									
DBBC	Dabeiba	13.23	117	P		Pn	14 56 01.1	-0.2	
UREC	San Jos de Ur	13.49	113	P		P	14 56 11.2	-3.0	
comp=Z,15nm,0.8s									
I20EC	Galapagos	13.97	190	I		I	16 24 20.0		
baz=88.0,slow=320,SNR=2.1									
MOIG	Morelia	14.09	299	Pn		Pn	14 56 13.0	-0.3	
POPC	Popayan, Colom	15.52	132	P		P	14 56 35.5	-1.4	
comp=Z,20nm,0.8s,comp=Z,2µm									
ROSC	El Rosal	15.95	120	Pn		Pn	14 56 38.9	+0.7	
ROSC	El Rosal	15.95	120	Pn		P	14 56 40.2	-1.7	
comp=Z,1.2nm,0.3s,baz=335,slow=5.2,SNR=6.0									
ROSC				LR		LR	15 03 30.2		
comp=Z,4µm,20.1s,baz=330,slow=40									
TULM	Tulcn-Chalpat	16.11	140	P		P	14 56 43.5	-0.2	
comp=Z,70nm,1.0s,comp=Z,1µm									
IMBA	Imbabura, San	16.20	142	P		P	14 56 45.0	+0.3	
IMBA				IAmb	IAmb		14 56 47.6		
comp=Z,197nm,1.7s									
PULU	Pululahua

comp=Z,72nm,1.2s
FW13 Cleburne 20.84 337 IAmb IAmb 14 57 46.4
comp=Z,49nm,0.9s
X48A Hartselle 21.11 2 IAmb IAmb 14 57 47.7
comp=Z,50nm,0.8s
OXF Oxford 21.18 357 P P 14 57 40.2 +1.4
baz=176
OBIP Obispado Ponce 21.21 74 P P 14 57 41.6 +2.4
OBIP IAmb IAmb 14 57 45.8
comp=Z,34nm,0.9s
FW07 Weatherford 21.29 337 IAmb IAmb 14 57 55.0
comp=Z,39nm,0.7s
OZNA Ozona 21.29 328 IAmb IAmb 14 57 46.0
comp=Z,36nm,0.9s
FPAL Fort Paine 21.30 6 IAmb IAmb 14 57 59.4
comp=Z,40nm,0.9s
X51A Calhoun 21.40 7 IAmb IAmb 14 57 51.1
comp=Z,44nm,0.8s
FW06 Azle 21.44 338 IAmb IAmb 14 57 50.1
comp=Z,88nm,1.3s
TXAR Lajitas Array 21.56 320 P P 14 57 43.8 +0.8
TXAR Lajitas Array 21.56 320 P P 14 57 44.5 +1.4
comp=Z,4.0nm,0.6s,baz=145,slow=11,SNR=34
TXAR LR LR 15 09 00.2
comp=Z,559nm,18.2s,baz=144,slow=45
comp=Z,4.0nm,0.6s
TX31 Lajitas Ar. Si 21.56 320 IAmb IAmb 14 57 54.1
comp=Z,41nm,1.1s
PLPT Palo Pinto 21.59 336 P P 14 57 44.2 +1.0
PLPT IAmb IAmb 14 57 54.8
comp=Z,64nm,1.4s
Z35A Perchaven, San 21.65 339 IAmb IAmb 14 57 54.6
comp=Z,52nm,0.8s
FW03 Perrin-Whitt E 21.69 337 IAmb IAmb 14 58 04.2
comp=Z,25nm,0.8s
UALR University of 21.76 350 IAmb IAmb 14 58 00.5
comp=Z,31nm,1.1s
MIAR Mount Ida 21.76 348 P P 14 57 46.6 +1.6
MIAR IAmb IAmb 14 57 50.6
comp=Z,62nm,1.1s
MIAR Mount Ida 21.76 348 P P 14 57 46.5 +1.4
baz=166,SNR=36
ABTX Abilene, Hawle 21.98 333 P P 14 57 47.7 +0.2
baz=149
BG3 Lake Jocassee 22.13 11 IAmb IAmb 14 58 00.1
comp=Z,35nm,1.0s
PAULI Pauline 22.20 14 IAmb IAmb 14 57 59.4
comp=Z,33nm,0.8s
WHAR Wooly Hollow 22.25 351 IAmb IAmb 14 58 08.4
comp=Z,53nm,1.3s
WTFS Witchita Falls 22.49 337 IAmb IAmb 14 58 03.0
comp=Z,33nm,0.8s
MNHN Monahans 22.49 325 IAmb IAmb 14 58 00.1
comp=Z,46nm,0.9s
KMSC Kings Mountain 22.62 14 P P 14 57 54.4 +0.2
baz=197
TKL Tuckaleechee C 22.63 9 IAmb IAmb 14 58 01.2
comp=Z,33nm,0.8s
TKL Tuckaleechee C 22.63 9 P P 14 57 55.9 +1.6
comp=Z,34nm,0.7s,baz=186,slow=12,SNR=20
TKL LR LR 15 06 40.5
comp=Z,833nm,18.4s,baz=187,slow=37
SN05 Snyder 5 22.76 331 IAmb IAmb 14 58 09.1
comp=Z,26nm,0.9s
WVT Waverly 22.77 1 P P 14 57 54.9 -0.8
baz=181
APMT Aspermont 22.79 333 IAmb IAmb 14 58 12.9
comp=Z,31nm,0.8s
V53A Saluda 22.80 11 IAmb IAmb 14 58 10.4
comp=Z,33nm,1.1s
V52A Sevierville 22.84 9 IAmb IAmb 14 58 09.6
comp=Z,26nm,0.9s
SN07 Snyder 07 22.94 331 IAmb IAmb 14 58 22.3
comp=Z,32nm,1.0s
ODSA Odessa 22.98 327 IAmb IAmb 14 58 07.1
comp=Z,18nm,0.7s
PCRV Puerto La Cruz 23.15 95 LR LR 15 08 54.1
comp=Z,1µm,18.8s,slow=42
POST Post 23.21 330 IAmb IAmb 14 58 15.1
comp=Z,34nm,0.7s
U49A Red Boiling Sp 23.24 5 IAmb IAmb 14 58 15.8
comp=Z,23nm,1.0s
DKNS Dickens 23.43 332 IAmb IAmb 14 58 22.3
comp=Z,21nm,0.7s
WMOK Wichita Mounta 23.47 337 P P 14 58 01.6 -1.5
baz=153,SNR=8.8
TZTN Tazewell 23.53 9 IAmb IAmb 14 58 08.3
comp=Z,36nm,1.3s
TZTN Tazewell 23.53 9 P P 14 58 02.9 -0.7
baz=191
TUL3 Leonard 23.59 344 P P 14 58 03.0 -1.1
baz=161
LPIG La Paz 23.62 300 LR LR 15 07 16.2
comp=Z,4µm,19.9s,baz=118,slow=36
RLO Rose Lookout 23.64 346 IAmb IAmb 14 58 11.4
comp=Z,22nm,0.8s
CNNC Cliffs of the 23.73 21 P P 14 58 03.3 -2.2
baz=205
U38A Gravette 23.76 347 IAmb IAmb 14 58 12.4
comp=Z,16nm,0.8s
T42A Van Buren 23.82 354 IAmb IAmb 14 58 30.3
comp=Z,28nm,1.4s
U54A Nelsons Funny 23.83 13 IAmb IAmb 14 58 13.3
comp=Z,30nm,0.9s
T50A Nancy 23.83 6 IAmb IAmb 14 58 12.9
comp=Z,16nm,0.7s
V58A Windy Hill, Pi 23.84 18 IAmb IAmb 14 58 13.7
comp=Z,39nm,1.0s
OK031 S. Brethren Rd 23.93 342 IAmb IAmb 14 58 14.4
comp=Z,35nm,0.9s
OK052 Battle Ridge R 23.95 342 IAmb IAmb 14 58 12.6
comp=Z,43nm,0.9s
MNTX Cornudas Mount 24.27 322 P P 14 58 09.0 -1.6
baz=135,SNR=28
S44A Carbondale 24.35 358 IAmb IAmb 14 58 26.9
comp=Z,19nm,0.8s
SIUC Southern Illin 24.37 358 IAmb IAmb 14 58 24.6
comp=Z,22nm,0.9s
OK048 Pawnee Station 24.39 342 IAmb IAmb 14 58 35.5
comp=Z,23nm,0.7s
MSTX Muleshoe 24.56 330 P P 14 58 10.3 -3.1
baz=144
USIN University of 24.60 1 IAmb IAmb 14 58 20.4
comp=Z,20nm,0.7s
T35A Sooner Cattle 24.73 344 IAmb IAmb 14 58 47.8
comp=Z,53nm,1.6s
AMTX Amarillo 24.79 333 IAmb IAmb 14 58 48.4
comp=Z,24nm,0.7s
AMTX Amarillo 24.79 333 P P 14 58 13.9 -1.6
baz=147
BLA Blacksburg 24.81 15 IAmb IAmb 14 58 26.8
comp=Z,31nm,0.8s
BLA Blacksburg 24.81 15 P P 14 58 13.5 -2.0
baz=198
CCM Cathedral Cave 24.85 354 P P 14 58 15.7 -0.1
CCM IAmb IAmb 14 58 21.1
comp=Z,19nm,0.8s
CCM Cathedral Cave 24.85 354 P P 14 58 14.9 -0.9
baz=173
WCI Wyandotte Cave 24.91 3 P P 14 58 16.6 +0.2
WCI IAmb IAmb 14 58 24.3
comp=Z,25nm,0.8s
WCI Wyandotte Cave 24.91 3 P P 14 58 15.7 -0.6
baz=184
T57A Hurt 24.92 17 IAmb IAmb 14 58 23.5
comp=Z,29nm,0.9s
R50A Paris 25.14 7 IAmb IAmb 14 58 38.4
comp=Z,15nm,0.8s
KAN14 Manchester OK 25.20 341 IAmb IAmb 14 58 26.3
comp=Z,18nm,0.9s
R58B Mineral 26.22 18 IAmb IAmb 14 58 34.8
comp=Z,29nm,1.2s
121A Cookes Peak, D 26.32 320 P P 14 58 27.5 -2.0
baz=132,SNR=18
P49A Miami Univ. Ec 26.33 6 P P 14 58 27.5 -1.7
baz=187
P51A Williamsport 26.48 9 IAmb IAmb 14 59 03.6
comp=Z,19nm,0.9s
RTBA Rita Blanca 26.56 333 IAmb IAmb 14 58 52.3
comp=Z,21nm,0.8s
CBN Corbin Frederi 26.60 19 P P 14 58 30.2 -1.4
baz=204
P38A Dawn 26.69 351 IAmb IAmb 14 58 36.9
comp=Z,20nm,0.8s
R32A Long Quarter, 26.77 341 IAmb IAmb 14 58 38.5
comp=Z,15nm,0.8s
P52A Corning 26.78 10 IAmb IAmb 14 58 39.6
comp=Z,30nm,0.8s
P52A Corning 26.78 10 P P 14 58 33.0 -0.3
baz=193,SNR=11
KSU1 Kansas State U 26.82 345 IAmb IAmb 14 58 58.4
comp=Z,27nm,0.8s
KSU1 Kansas State U 26.82 345 P P 14 58 31.8 -1.8
baz=161
Q56A Snyder Ridge, 26.85 15 IAmb IAmb 14 58 41.3
comp=Z,30nm,1.1s
Y22D IRIS PASSCAL I 26.87 324 P P 14 58 32.2 -2.1
baz=136
Y22F Passcal Instru 26.87 324 P P 14 58 31.9 -2.5
baz=136
O48B Farmland 27.01 5 P P 14 58 33.6 -1.7
baz=186
SFIN Lafayette 27.02 2 P P 14 58 34.3 -1.1
baz=182
HDIL Hopedale 27.20 358 P P 14 58 35.7 -1.4
baz=177
ACSO Alum Creek Sta 27.23 9 IAmb IAmb 14 58 42.0
comp=Z,19nm,0.9s
ACSO Alum Creek Sta 27.23 9 P P 14 58 35.4 -2.0
baz=191
ANMO Albuquerque 27.24 326 P P 14 58 38.8 +1.1
ANMO Albuquerque 27.24 326 P P 14 58 36.1 -1.7
baz=138
ANMO Albuquerque 27.24 326 P P 14 58 39.6 +1.9
comp=Z,2.5nm,0.8s,baz=228,slow=12,SNR=8.4
comp=Z,2.5nm,0.8s
MCWV Mont Chateau 27.27 14 IAmb IAmb 14 58 44.8
comp=Z,25nm,0.9s
MCWV Mont Chateau 27.27 14 P P 14 58 36.4 -1.3
baz=198
O52A Adamsville 27.30 10 IAmb IAmb 14 58 43.3
comp=Z,28nm,0.8s
CBKS Cedar Bluff 27.46 340 IAmb IAmb 14 58 42.3
comp=Z,31nm,1.2s
CBKS Cedar Bluff 27.46 340 P P 14 58 38.4 -1.1
baz=155
O53A New Philadelph 27.55 11 P P 14 58 37.4 -2.8
baz=194,SNR=13
P57A Homestead Farm 27.58 17 IAmb IAmb 14 58 48.3
comp=Z,22nm,0.9s
N49A Columbus Grove 27.76 6 IAmb IAmb 14 59 04.8
comp=Z,12nm,0.9s
N38A Joes South For 27.79 352 IAmb IAmb 14 58 49.0
comp=Z,22nm,0.8s
T25A Trinidad 27.90 331 IAmb IAmb 14 59 10.9
comp=Z,12nm,0.9s
T25A Trinidad 27.90 331 P P 14 58 41.7 -2.0
baz=144
TUC Tucson 28.13 316 P P 14 58 46.6 +1.0
TUC Tucson 28.13 316 P P 14 58 43.5 -2.1
baz=127
M50A Fremont 28.37 8 IAmb IAmb 14 58 53.1
comp=Z,23nm,0.9s
SSPA Standing Stone 28.69 16 P P 14 58 52.2 +1.8
SSPA IAmb IAmb 14 58 57.0
comp=Z,17nm,1.1s
SSPA Standing Stone 28.69 16 P P 14 58 50.3 -0.1
baz=201
KSCO Kaye Shedlock' 28.69 336 IAmb IAmb 14 58 58.9
comp=Z,12nm,0.8s
KSCO Kaye Shedlock' 28.69 336 P P 14 58 49.4 -1.2
baz=150
M52A Chesterland 28.77 11 IAmb IAmb 14 58 56.0
comp=Z,17nm,0.7s
M53A WI Miller and 28.80 12 P P 14 58 50.6 -0.7
baz=195,SNR=6.5
L44A Lake County Fo 28.80 0 P P 14 58 49.5 -1.8
baz=180
L40A Anamosa 28.82 355 IAmb IAmb 14 58 55.8
comp=Z,11nm,0.8s
SCIA State Center 28.88 352 P P 14 58 50.4 -1.7
baz=170
SDCO Great Sand Dun 28.90 331 P P 14 58 49.6 -3.1
baz=143
AAM Ann Arbor 29.18 7 P P 14 58 53.9 -0.8
baz=189
W18A Petrified Fore 29.26 322 P P 14 58 53.9 -1.8
baz=133
BOAV Boa Vista 29.32 109 P P 14 58 56.8 +0.6
BOAV IAmb IAmb 14 59 03.1
comp=Z,11nm,0.9s
214A Organ Pipe Nat 29.33 313 P P 14 58 53.8 -2.4
baz=124
BGNE Belgrade 29.38 344 P P 14 58 54.2 -2.3
baz=160
ERPA Erie 29.59 12 P P 14 58 56.6 -1.7
baz=196
JFWS Jewell Farm 29.60 357 P P 14 58 56.1 -2.3
baz=176
Q24A Divide 29.72 333 P P 14 58 57.7 -2.3
baz=145
MVCO Mesa Verde 30.02 326 IAmb IAmb 14 59 11.1
comp=Z,14nm,0.8s
MVCO Mesa Verde 30.02 326 P P 14 59 00.1 -2.5
baz=137
OGNE Ogallala 30.16 339 P P 14 59 01.9 -1.6
baz=152
PAL Palisades 30.29 22 P P 14 59 03.1 -1.4
baz=208
WUAZ Wupatki 30.52 321 IAmb IAmb 14 59 16.5
comp=Z,11nm,0.9s
WUAZ Wupatki 30.52 321 P P 14 59 04.4 -2.5
baz=131
I42A Draeger Farm, 30.52 359 IAmb IAmb 14 59 08.1
comp=Z,18nm,1.2s
ISCO Idaho Springs 30.61 333 P P 14 59 05.7 -2.2
baz=145
BINY Binghamton 30.68 18 P P 14 59 07.0 -1.0
baz=204,SNR=11
MEDO Medina 30.93 14 IAmb IAmb 14 59 16.2
comp=Z,15nm,0.8s
I37A Lemond, Waseca 30.98 353 IAmb IAmb 14 59 27.4
comp=Z,18nm,1.1s
ECSD EROS Data Cent 31.23 348 IAmb IAmb 14 59 17.0
comp=Z,14nm,0.8s
ECSD EROS Data Cent 31.23 348 P P 14 59 11.5 -1.4
baz=164,SNR=10
M63A Gates Ferry 31.33 24 IAmb IAmb 14 59 21.2
comp=Z,18nm,0.9s
GLA Glamis 31.35 313 P P 14 59 11.7 -2.4
baz=123
PDMCI Parker Dam,Lak 31.57 316 P P 14 59 13.9 -2.1
baz=125
ETMB Extrema 31.58 136 P P 14 59 16.1 -0.1
ETMB IAmb IAmb 14 59 28.3
comp=Z,12nm,0.7s
GLMI Grayling 31.59 5 P P 14 59 14.8 -1.2
baz=186
N23A Red Feather La 31.65 334 P P 14 59 14.6 -2.3
baz=146
HMU Henry Mountain 31.79 325 IAmb IAmb 14 59 27.2
comp=Z,19nm,0.9s
G40A Rib Lake 31.95 357 IAmb IAmb 14 59 19.8
comp=Z,18nm,1.3s
QUA2 Belchertown 31.96 22 IAmb IAmb 14 59 22.3
comp=Z,21nm,1.2s
SWSC Sam W. Stewart 31.99 312 P P 14 59 17.0 -2.6
baz=121
L61B Northampton 31.99 22 IAmb IAmb 14 59 21.7
comp=Z,26nm,1.4s
L61B Northampton 31.99 22 P P 14 59 18.9 -0.7
baz=209
M65A Busby, Falmout 32.02 25 P P 14 59 18.6 -1.2
baz=213
IKP In-Ko-Pah, Jac 32.06 312 P P 14 59 18.9 -1.5
baz=121
O20A White River Ci 32.10 330 P P 14 59 19.2 -1.6
baz=141,SNR=16
SPMN Marine on St. 32.10 354 P P 14 59 19.4 -1.0
baz=171
BC3 Big Chuckawall 32.12 314 P P 14 59 18.8 -2.1
baz=123
NEE2 Needles Airpor 32.16 316 P P 14 59 19.2 -1.9
baz=125
IRM Iron Mountain 32.18 315 P P 14 59 19.2 -2.1
baz=124
SADO Sadowa 32.31 12 LR LR 15 12 50.3
comp=Z,1µm,18.4s,baz=204,slow=37
PKCU Pink Cliffs 32.36 322 IAmb IAmb 14 59 31.9
comp=Z,14nm,0.9s
KNB Kanab 32.38 321 IAmb IAmb 14 59 37.8
comp=Z,18nm,1.6s
MONP2 Monument Peak 32.41 312 P P 14 59 20.6 -3.0
baz=121
SUSD Miller 32.43 345 P P 14 59 22.0 -1.4
baz=160
HRV Adam Dziewonsk 32.46 23 P P 14 59 22.6 -1.1
baz=211
ACCN Adirondack Com 32.48 20 IAmb IAmb 14 59 29.2
comp=Z,11nm,0.9s
SRU San Rafael Swe 32.50 326 IAmb IAmb 14 59 31.8
comp=Z,9.5nm,0.8s
BELC Belle Mtn. Jos 32.68 314 P P 14 59 22.0 -3.9
baz=123
MTPU Mount Pierson 32.68 323 IAmb IAmb 14 59 35.4
comp=Z,7.6nm,0.8s
Q16A Castle Valley 32.72 326 IAmb IAmb 14 59 29.1
comp=Z,20nm,1.4s
P18A Preston Nutter 32.73 327 IAmb IAmb 14 59 34.9
comp=Z,10nm,0.8s
COWI Conover 32.74 359 IAmb IAmb 14 59 29.4
comp=Z,9.5nm,0.8s
TPFO Pinon Flats 32.80 313 P P 14 59 23.2 -3.7
baz=122
PFO Pinyon Flats O 32.81 313 P P 14 59 23.5 -3.5
baz=122
PFO Pinyon Flats O 32.81 313 LR LR 15 14 18.3
comp=Z,1µm,19.4s,baz=140,slow=39
F36A Milaca 32.81 353 IAmb IAmb 14 59 30.2
comp=Z,10nm,0.8s
J61A Chester 32.82 21 IAmb IAmb 14 59 32.2
comp=Z,27nm,1.2s
NCB Newcomb 32.83 19 IAmb IAmb 14 59 44.8
comp=Z,16nm,1.0s
RWWY Rawlins 32.85 333 IAmb IAmb 14 59 29.3
comp=Z,34nm,1.6s
V12A Nelson 32.87 318 P P 14 59 28.4 +0.9
GMRC Granite Mounta 32.88 315 P P 14 59 23.2 -4.4
baz=124
109C Camp Elliot, M 32.91 311 P P 14 59 24.3 -3.4
baz=120
SZCU Shurtz Canyon 32.92 322 IAmb IAmb 14 59 37.1
comp=Z,9.1nm,1.0s
E43A Lone Tree Farm 33.01 1 IAmb IAmb 14 59 31.5
comp=Z,9.2nm,0.7s
RDMU Red Mountain 33.09 329 IAmb IAmb 14 59 31.8
comp=Z,22nm,1.6s
LONY Lake Ozonia 33.30 18 P P 14 59 26.9 -4.1
baz=204,SNR=20
MURC Murrieta 33.33 312 P P 14 59 28.2 -3.2
baz=121
K22A Casper 33.35 335 P P 14 59 28.6 -3.0
baz=146
E38A The Farm, Brul 33.36 356 IAmb IAmb 14 59 35.5
comp=Z,12nm,0.8s
HEC Hector,Ludlow 33.37 315 P P 14 59 28.0 -3.8
baz=123
TUQ Turquoise Moun 33.42 316 P P 14 59 27.4 -5.0
baz=124
BBRC Big Bear Solar 33.47 314 P P 14 59 28.3 -4.6
baz=122
RSSD Black Hills 33.65 339 P P 14 59 35.3 +0.9
RSSD Black Hills 33.65 339 P P 14 59 30.7 -3.6
baz=151
D41A Chassel 33.69 359 IAmb IAmb 14 59 38.1
comp=Z,12nm,0.7s
MPU Maple Canyon 33.75 326 IAmb IAmb 14 59 44.3
comp=Z,17nm,1.0s
LBNH Lisbon 33.82 21 IAmb IAmb 14 59 42.6
comp=Z,22nm,1.1s
LBNH Lisbon 33.82 21 P P 14 59 31.6 -4.0
baz=209
RRX Edison Barstow 33.85 314 P P 14 59 31.1 -4.8
baz=122
SHOC Shoshone, Teco 33.92 317 P P 14 59 31.6 -5.0
baz=125
NLU North Lily Min 33.94 326 IAmb IAmb 14 59 39.8
comp=Z,21nm,1.6s
GSC Goldstone, Bar 33.95 315 P P 14 59 31.8 -5.1
baz=123
BFSC Mount Baldy Ra 33.98 313 P P 14 59 32.6 -4.6
baz=121
SCI2 San Clemente I 34.01 310 P P 14 59 32.7 -4.7
baz=118
CIS Catalina Islan 34.12 311 P P 14 59 33.7 -4.6
baz=119
H62A Milan 34.39 22 IAmb IAmb 14 59 47.9
comp=Z,17nm,1.2s
TCUT Toone Canyon 34.42 328 IAmb IAmb 14 59 52.4
comp=Z,10nm,0.7s
DECC Green Verdugo 34.47 312 P P 14 59 36.4 -5.0
baz=120
DUG Dugway, Tooele 34.52 326 P P 14 59 36.3 -5.5
baz=134,SNR=6.2
EDW2 Edwards Air Fo 34.55 314 P P 14 59 38.2 -3.9
baz=121
EYMN Ely 34.69 356 IAmb IAmb 14 59 47.6
comp=Z,9.8nm,0.8s
EYMN Ely 34.69 356 P P 14 59 39.5 -3.5
baz=174
BW06 Boulder Array 34.77 332 P P 14 59 40.6 -3.4
baz=141
PDAR Pinedale Array 34.77 332 P P 14 59 44.1 +0.1
PDAR Pinedale Array 34.77 332 P P 14 59 44.6 +0.6
comp=Z,1.2nm,0.9s,baz=138,slow=11,SNR=3.7
PDAR LR LR 15 18 28.7
comp=Z,610nm,18.3s,baz=138,slow=44
comp=Z,1.2nm,0.9s
TRQ Mont Tremblant 34.78 17 IAmb IAmb 14 59 49.6
comp=Z,22nm,0.9s
MPMC Manual Prospec 34.82 316 P P 14 59 41.0 -3.6
baz=123
HWUT Hardware Ranch 34.86 328 IAmb IAmb 14 59 52.3
comp=Z,14nm,0.8s
SNCC San Nicolas Is 34.86 310 P P 14 59 40.8 -3.9
baz=118
R11B Troy Canyon, C 34.92 321 P P 14 59 41.6 -3.8
baz=128
OSI Osito Audit: C 34.93 313 P P 14 59 41.5 -3.9
baz=120
WVL Waterville 34.94 23 IAmb IAmb 14 59 51.3
comp=Z,14nm,0.9s
SPUT South Promonto 35.10 327 IAmb IAmb 14 59 55.4
comp=Z,12nm,1.0s
BGU Big Grassy Mou 35.14 326 IAmb IAmb 14 59 50.7
comp=Z,15nm,1.3s
GRAC Grapevine Rang 35.26 317 P P 14 59 45.0 -3.2
baz=125
LPAZ La Paz 35.37 146 P P 14 59 49.8 -0.1
LPAZ La Paz 35.37 146 P P 14 59 49.2 -0.7
comp=Z,2.2nm,0.8s,baz=345,slow=8.2,SNR=6.6
comp=Z,2.2nm,0.8s
AHID Auburn Hatcher 35.49 330 IAmb IAmb 14 59 58.0
comp=Z,16nm,0.8s
AGMN Agassiz Nation 35.52 351 IAmb IAmb 14 59 56.4
comp=Z,12nm,0.7s
AGMN Agassiz Nation 35.52 351 P P 14 59 47.5 -2.7
baz=167
HVU Hansel Valley 35.61 328 IAmb IAmb 15 00 00.6
comp=Z,8.9nm,0.8s
PKME Peaks-Kenny Pk 35.67 23 P P 14 59 48.1 -3.3
baz=212
MDND Maddock 35.79 347 P P 14 59 51.2 -1.3
baz=161,SNR=5.3
VES Vestal, Richgr 35.81 314 P P 14 59 49.7 -3.1
baz=121
PKM Mcpherson Peak 35.85 312 P P 14 59 50.2 -3.2
baz=119
VLDQ Val d'Or 35.85 12 IAmb IAmb 14 59 58.9
comp=Z,13nm,0.9s
F62A Pittston Farm, 35.95 22 IAmb IAmb 15 00 00.4
comp=Z,24nm,1.1s
TPAW Teton Pass 35.97 331 IAmb IAmb 15 00 04.5
comp=Z,22nm,1.1s
MOOW Moose Ponds 36.08 332 IAmb IAmb 15 00 03.5
comp=Z,11nm,0.9s
F63A Nahmakanta, Br 36.11 23 IAmb IAmb 15 00 00.6
comp=Z,12nm,0.9s
ELK Elko 36.25 324 P P 14 59 58.4 +1.5
ELK LR LR 15 17 25.4
comp=Z,1µm,18.6s,slow=40
comp=Z,3.4nm,0.8s
VOG Valley Oaks Go 36.26 315 P P 14 59 54.3 -2.4
baz=121
FLWY Flagg Ranch 36.31 332 IAmb IAmb 15 00 06.0
comp=Z,10.0nm,0.8s
H17A Grant Village 36.50 333 P P 14 59 56.6 -2.3
baz=141
RLMT Red Lodge 36.51 335 IAmb IAmb 15 00 01.1
comp=Z,30nm,1.7s
RLMT Red Lodge 36.51 335 P P 14 59 57.6 -1.4
baz=144
F64A Sherman 36.53 23 IAmb IAmb 15 00 05.3

	comp=Z,27nm,1.0s						
LKWY	**Lake**	**36.55**	**333**	IAmb	IAmb	15 00 11.7	
	comp=Z,32nm,1.8s						
MLAC	**Mammoth, Mammc**	**36.59**	**317**	P	P	14 59 52.9	-6.9
	baz=124						
LAO	**LASA Array**	**36.65**	**339**	P	P	14 59 54.9	-5.0
	baz=150						
YFT	**Old Faithful**	**36.66**	**332**	IAmb	IAmb	15 00 10.0	
	comp=Z,15nm,1.0s						
NVAR	**Mina Array Bea**	**36.69**	**319**	P	**P**	**15 00 02.5**	**+1.9**
NVAR	**Mina Array Bea**	**36.69**	**319**	P	**P**	**15 00 03.0**	**+2.4**
	comp=Z,1.5nm,0.8s,baz=125,slow=5.8,SNR=11						
NVAR				LR	LR	15 19 11.1	
	comp=Z,1µm,18.2s,baz=130,slow=43						
	comp=Z,1.5nm,0.8s						
E62A	**Clayton Lake**	**36.73**	**22**	IAmb	IAmb	15 00 12.7	
	comp=Z,37nm,1.5s						
KVN	**Kaiserville**	**36.92**	**320**	P	**P**	**15 00 03.8**	**+1.3**
LMQ	**La Malbaie**	**37.26**	**20**	IAmb	IAmb	15 00 11.2	
	comp=Z,33nm,1.1s						
D62A	**Allapoint, All**	**37.30**	**22**	IAmb	IAmb	15 00 11.1	
	comp=Z,30nm,0.9s						
LDAQ	**Lac Daran**	**37.33**	**19**	IAmb	IAmb	15 00 10.2	
	comp=Z,15nm,1.0s						
ULM	**Lac du Bonnet**	**37.43**	**352**	IAmb	IAmb	15 00 11.2	
	comp=Z,37nm,1.8s						
ULM	**Lac du Bonnet**	**37.43**	**352**	P	**P**	**15 00 05.9**	**-0.5**
	comp=Z,6.7nm,0.6s,baz=168,slow=10,SNR=12						
	comp=Z,6.7nm,0.6s						
DGMT	**Dagmar**	**37.56**	**342**	P	**P**	**15 00 03.2**	**-4.4**
	baz=154,SNR=7.5						
HLID	**Hailey**	**37.73**	**328**	P	P	15 00 03.7	-5.6
	baz=135,SNR=5.8						
BOZ	**Bozeman (W)**	**37.90**	**333**	P	P	15 00 04.7	-6.0
	baz=141,SNR=9.9						
BATG	**Bathurst New B**	**38.59**	**24**	IAmb	IAmb	15 00 23.2	
	comp=Z,29nm,1.1s						
EGMT	**Eagleton**	**39.07**	**337**	P	P	15 00 14.6	-5.8
	baz=145						
SIV	**San Ignacio**	**39.48**	**137**	LR	LR	15 17 29.5	
	comp=Z,614nm,18.8s,baz=341,slow=38						
MSO	**Missoula**	**39.88**	**332**	P	**P**	**15 00 27.7**	**+0.5**
MSO	**Missoula**	**39.88**	**332**	P	P	15 00 20.3	-6.9
	baz=139						
BMO	**Blue Mountains**	**40.12**	**327**	P	**P**	**15 00 28.9**	**-0.4**
LVC	**Limon Verde**	**40.30**	**152**	P	**P**	**15 00 31.2**	**0.0**
	comp=Z,1.7nm,0.6s,baz=336,slow=20,SNR=2.7						
LVC				LR	LR	15 17 34.6	
	comp=Z,558nm,21.1s,baz=317,slow=37						
	comp=Z,1.7nm,0.6s						
F10A	**Beach Ranch, E**	**40.85**	**329**	IAmb	IAmb	15 00 41.9	
	comp=Z,14nm,0.8s						
YBH	**Yreka Blue Hor**	**41.34**	**320**	P	**P**	**15 00 39.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=126,slow=8.7,SNR=3.5						
YBH				LR	LR	15 18 57.8	
	comp=Z,940nm,21.7s,baz=152,slow=38						
	comp=Z,0.5nm,0.6s						
L04D	**Klamath Falls**	**41.35**	**321**	IAmb	IAmb	15 01 05.9	
	comp=Z,28nm,1.5s						
NEW	**Newport**	**42.40**	**331**	P	P	15 00 42.1	-5.8
	baz=136						
NEW	**Newport**	**42.40**	**331**	P	**P**	**15 00 48.9**	**+1.1**
	comp=Z,3.1nm,0.8s,baz=87,slow=16,SNR=2.6						
NEW				LR	LR	15 22 35.9	
	comp=Z,707nm,19.3s,baz=132,slow=42						
	comp=Z,3.1nm,0.8s						
FFC	**Flin Flon**	**42.78**	**348**	P	**P**	**15 00 50.9**	**+0.2**
FFC				IAmb	IAmb	15 00 55.7	
	comp=Z,13nm,0.8s						
AC02	**Maricunga**	**43.91**	**155**	P	**P**	**15 01 00.6**	**-0.3**
EDM	**Edmonton**	**44.63**	**339**	IAmb	IAmb	15 01 25.7	
	comp=Z,12nm,0.8s						
SCHQ	**Schefferville**	**44.68**	**17**	P	**P**	**15 01 07.3**	**+1.2**
SCHQ	**Schefferville**	**44.68**	**17**	P	**P**	**15 01 04.7**	**-1.4**
	comp=Z,16nm,0.9s,baz=194,slow=11,SNR=6.1						
SCHQ				LR	LR	15 20 51.6	
	comp=Z,737nm,18.2s,baz=215,slow=38						
	comp=Z,16nm,0.9s						
GNW	**Green Mountain**	**44.80**	**327**	P	**P**	**15 01 05.0**	**-2.1**
RPN	**Rapa Nui**	**45.15**	**207**	LR	LR	15 15 16.3	
	comp=Z,541nm,21.0s,baz=44,slow=30						
FCC	**Fort Churchill**	**45.63**	**356**	IAmb	IAmb	15 01 18.2	
	comp=Z,5nm,1.1s						
BDFB	**Brasilia**	**48.94**	**125**	P	**P**	**15 01 42.0**	**+1.9**
	comp=Z,1.1nm,0.4s,baz=225,slow=7.1,SNR=2.0						
BDFB				LR	LR	15 23 54.5	
	comp=Z,1µm,20.4s,baz=306,slow=38						
CPUP	**Villa Florida**	**49.43**	**143**	LR	LR	15 25 03.8	
	comp=Z,538nm,18.2s,baz=322,slow=39						
FRB	**Frobisher Bay**	**52.24**	**11**	LR	LR	15 26 29.1	
	comp=Z,709nm,19.4s,baz=200,slow=39						
YKA	**Yellowknife Ar**	**52.67**	**345**	P	**P**	**15 02 07.3**	**-0.1**
YKA	**Yellowknife Ar**	**52.67**	**345**	P	**P**	**15 02 06.9**	**-0.4**
	comp=Z,9.7nm,0.8s,baz=136,slow=6.9,SNR=46						
YKA				LR	LR	15 26 57.5	
	comp=Z,553nm,21.1s,baz=144,slow=39						
	comp=Z,9.7nm,0.8s						
TOAD	**Toad River Com**	**53.26**	**337**	P	P	15 02 05.6	-6.2
	baz=133,SNR=7.2						
U35K	**Hyder**	**53.40**	**332**	P	P	15 02 06.7	-6.2
	baz=126						
KOTAN	**Kotaneelee Air**	**53.71**	**339**	P	P	15 02 09.7	-5.5
	baz=135						
V35K	**Ketchikan**	**53.81**	**331**	P	P	15 02 09.8	-6.1
	baz=124						
T35M	**Bob Quinn**	**54.13**	**333**	P	P	15 02 12.5	-5.8
	baz=126						
CRAG	**Craig**	**54.61**	**330**	P	P	15 02 15.2	-6.5
	baz=122						
WRAK	**Wrangell Islan**	**54.76**	**332**	P	P	15 02 15.9	-6.9
	baz=124						
DLBC	**Dease Lake**	**54.91**	**335**	IAmb	IAmb	15 02 32.6	
	comp=Z,11nm,0.7s						
DLBC	**Dease Lake**	**54.91**	**335**	P	P	15 02 14.9	-9.1
	baz=127						
DLBC	**Dease Lake**	**54.91**	**335**	P	**P**	**15 02 24.8**	**+0.8**
	comp=Z,3.9nm,0.8s,baz=143,slow=6.8,SNR=8.8						
DLBC				LR	LR	15 29 59.4	
	comp=Z,782nm,18.5s,baz=129,slow=40						
	comp=Z,3.9nm,0.8s						
U33K	**Whale Pass**	**54.95**	**331**	P	P	15 02 15.7	-8.5
	baz=123						
S34M	**Telegraph Cree**	**55.07**	**334**	P	P	15 02 17.2	-7.8
	baz=126						
RCBR	**Riachuelo**	**55.18**	**107**	LR	LR	15 28 53.1	
	comp=Z,1µm,19.5s,baz=282,slow=39						
T33K	**Petersburg**	**55.26**	**332**	P	P	15 02 18.5	-7.8
	baz=123						
WTLY	**Watson Lake, Y**	**55.46**	**337**	IAmb	IAmb	15 02 35.2	
	comp=Z,6.9nm,0.9s						
WTLY	**Watson Lake, Y**	**55.46**	**337**	P	P	15 02 21.0	-6.9
	baz=130						
R33M	**Jennings River**	**55.88**	**335**	P	P	15 02 24.2	-6.8
	baz=127						
PLCA	**Paso Flores**	**56.13**	**164**	P	**P**	**15 02 33.6**	**+0.7**
	comp=Z,2.6nm,0.8s,baz=340,slow=6.9,SNR=7.5						
PLCA				LR	LR	15 23 22.7	
	comp=Z,184nm,18.6s,baz=348,slow=33						
	comp=Z,2.6nm,0.8s						
TGTN	**Hyland Airport**	**56.18**	**338**	P	P	15 02 26.7	-6.3
	baz=131						
S32K	**Killisnoo**	**56.35**	**332**	P	P	15 02 26.1	-8.2
	baz=122						
SIT	**Sitka**	**56.49**	**331**	P	P	15 02 29.1	-6.1
	baz=121						
R32K	**Eaglecrest**	**56.76**	**333**	P	P	15 02 31.7	-5.5
	baz=123						
P33M	**Teslin, Yukon**	**57.12**	**335**	P	**P**	**15 02 37.7**	**-2.1**
	baz=125						
P32M	**Atlin**	**57.13**	**334**	P	**P**	**15 02 36.8**	**-3.0**
	baz=124						
S31K	**Pelican**	**57.37**	**332**	P	**P**	**15 02 38.1**	**-3.3**
	baz=121						
N32M	**Quiet Lake**	**57.77**	**336**	P	**P**	**15 02 42.6**	**-1.8**
	baz=126						
MMPY	**Sheldon Lake,**	**57.96**	**338**	IAmb	IAmb	15 03 09.3	
	comp=Z,7.9nm,1.1s						
WHY	**Whitehorse**	**58.22**	**335**	P	**P**	**15 02 44.3**	**-3.2**
	baz=124						
FARO	**Faro, Yukon**	**58.51**	**337**	P	**P**	**15 02 48.0**	**-1.4**
	baz=126						
O30N	**Mendenhall**	**58.78**	**335**	P	**P**	**15 02 48.9**	**-2.4**
	baz=122						
P29M	**Windy Craggy**	**58.89**	**333**	P	**P**	**15 02 48.7**	**-3.5**
	baz=120						
N31M	**Braeburn, Yuko**	**59.04**	**336**	P	**P**	**15 02 49.4**	**-3.7**
	baz=123						
SFJD	**Kangerlussuaq**	**59.10**	**16**	LR	LR	15 28 14.1	
	comp=Z,396nm,18.7s,baz=218,slow=36						

HYT	**Haines Junctio**	**59.40**	**334**	P	P	15 02 51.0	-4.8
	baz=121						
N30M	**Aishikik Lake**	**59.55**	**335**	P	P	15 02 51.8	-5.0
	baz=122						
YUK6	**Outpost Mounta**	**59.82**	**334**	P	**P**	**15 02 54.8**	**-4.0**
	baz=120						
DY2G	**Dye2**	**59.99**	**18**	*i* P	**P**	**15 03 01.1**	**+1.2**
DY2G				IAmb	IAmb	15 03 04.9	
	comp=Z,4.4nm,0.7s						
YUK4	**Talbot Arm**	**60.14**	**335**	P	P	15 02 55.8	-5.1
	baz=120						
MAYO	**Mayo, Yukon**	**60.24**	**338**	P	**P**	**15 02 58.0**	**-3.4**
	baz=124						
C36M	**Paulatuk**	**60.48**	**346**	P	**P**	**15 03 00.4**	**-2.5**
	baz=139						
O28M	**Mount Upton**	**60.52**	**334**	P	P	15 02 58.4	-5.3
	baz=118						
YUK8	**Steele Glacier**	**60.58**	**334**	P	**P**	**15 03 00.3**	**-3.8**
	baz=119						
ILULI	**Ilulissat**	**60.61**	**14**	*i* P	**P**	**15 03 07.4**	**+3.7**
ILULI				IAmb	IAmb	15 03 10.6	
	comp=Z,8.5nm,0.7s						
M29M	**Somme Creek**	**60.62**	**336**	P	**P**	**15 03 03.6**	**-0.5**
	baz=121						
L29M	**L29M**	**60.83**	**336**	P	**P**	**15 03 02.0**	**-3.4**
	baz=121						
J30M	**Hart River**	**60.95**	**338**	P	**P**	**15 03 02.6**	**-3.8**
	baz=124						
H31M	**Peel River**	**60.98**	**340**	P	**P**	**15 03 03.3**	**-3.0**
	baz=126						
K29M	**Barlow Dome**	**60.99**	**337**	P	**P**	**15 03 05.5**	**-1.1**
	baz=122						
MESA	**MESA**	**61.02**	**333**	P	**P**	**15 03 06.3**	**-0.7**
	baz=116						
CTG	**Chitna Glacier**	**61.11**	**333**	P	**P**	**15 03 07.7**	**+0.3**
	baz=117						
YUK3	**Moose Creek**	**61.11**	**335**	P	**P**	**15 03 05.1**	**-2.5**
	baz=118						
I30M	**Mount Dempster**	**61.33**	**339**	P	**P**	**15 03 08.4**	**-0.5**
	baz=124						
UMMG	**Uummannaq**	**61.48**	**13**	*i* P	**P**	**15 03 12.9**	**+3.3**
UMMG				IAmb	IAmb	15 03 15.0	
	comp=Z,6.8nm,0.6s						
RES	**Resolute Bay**	**61.53**	**358**	IAmb	IAmb	15 03 14.1	
	comp=Z,13nm,1.1s						
J29N	**Klondike Camp**	**61.57**	**338**	P	**P**	**15 03 08.2**	**-2.3**
	baz=122						
G31M	**Satah River**	**61.62**	**341**	P	**P**	**15 03 08.6**	**-2.0**
	baz=127,SNR=12						
NUUG	**Nuugaatsiaq**	**61.92**	**12**	*i* P	**P**	**15 03 15.9**	**+3.2**
NUUG				IAmb	IAmb	15 03 18.8	
	comp=Z,9.8nm,0.8s						
M27K	**Edge Creek, AK**	**61.97**	**335**	P	**P**	**15 03 11.0**	**-2.3**
	baz=117						
MCARA	**McCarthy VSAT**	**62.02**	**333**	P	**P**	**15 03 12.4**	**-1.1**
	baz=116						
KAIM	**Kayak Island**	**62.04**	**332**	P	**P**	**15 03 10.1**	**-3.5**
	baz=114						
EPYK	**Eagle Plains**	**62.09**	**340**	IAmb	IAmb	15 03 20.8	
	comp=Z,5.1nm,0.8s						
EPYK	**Eagle Plains**	**62.09**	**340**	P	**P**	**15 03 11.5**	**-2.5**
	baz=124						
INK	**Inuvik**	**62.25**	**343**	P	**P**	**15 03 12.2**	**-2.6**
	baz=128,SNR=8.6						
INK	**Inuvik**	**62.25**	**343**	LR	LR	15 35 13.0	
	comp=Z,991nm,18.5s,baz=161,slow=41						
BCAR	**Beaver Creek A**	**62.26**	**335**	P	**P**	**15 03 18.1**	**+3.0**
L27K	**Beaver Creek,**	**62.27**	**335**	IAmb	IAmb	15 03 21.4	
	comp=Z,3.9nm,0.7s						
L27K	**Beaver Creek,**	**62.27**	**335**	P	**P**	**15 03 14.1**	**-1.1**
	baz=118						
G30M	**tAoh Zrail Nji**	**62.28**	**341**	P	**P**	**15 03 15.1**	**-0.1**
	baz=125						
GLB	**Gilahina Butte**	**62.39**	**333**	IAmb	IAmb	15 03 22.6	
	comp=Z,3.1nm,0.9s						
M26K	**Nabesna, AK**	**62.46**	**335**	P	**P**	**15 03 15.3**	**-1.1**
	baz=116						
F30M	**Barrier River**	**62.51**	**341**	P	**P**	**15 03 16.6**	**-0.1**
	baz=126,SNR=12						
BMRM	**Bremner River**	**62.55**	**333**	P	**P**	**15 03 15.3**	**-1.8**
	baz=114						
H29M	**Whitestone**	**62.57**	**339**	IAmb	IAmb	15 03 24.1	
	comp=Z,5.3nm,0.8s						
H29M	**Whitestone**	**62.57**	**339**	P	**P**	**15 03 15.8**	**-1.2**
	baz=122						
I28M	**Miner Creek**	**62.71**	**338**	P	**P**	**15 03 16.8**	**-1.4**
	baz=120						
A36M	**Sachs Harbour**	**62.73**	**348**	P	**P**	**15 03 18.8**	**+0.7**
	baz=139,SNR=12						
N25K	**Chitina, Valde**	**62.80**	**333**	P	**P**	**15 03 18.5**	**-0.3**
	baz=114						
K27K	**Chicken**	**62.82**	**336**	P	**P**	**15 03 19.3**	**+0.5**
	baz=118						
G29M	**Pine Creek**	**62.83**	**340**	IAmb	IAmb	15 03 24.9	
	comp=Z,7.6nm,0.8s						
G29M	**Pine Creek**	**62.83**	**340**	P	**P**	**15 03 18.7**	**-0.1**
	baz=123,SNR=5.6						
EGAK	**Eagle**	**62.83**	**337**	P	**P**	**15 03 19.6**	**+0.8**
	baz=119						
L26K	**Log Cabin Wild**	**62.88**	**335**	P	**P**	**15 03 19.3**	**+0.1**
	baz=116						
KLU	**Klutina**	**63.34**	**333**	P	**P**	**15 03 21.8**	**-0.6**
	baz=113						
I27K	**Kandik River**	**63.40**	**338**	P	**P**	**15 03 23.1**	**+0.4**
	baz=119						
P23K	**Montague Islan**	**63.46**	**331**	P	**P**	**15 03 23.1**	**0.0**
	baz=111						
SCRK	**Sand Creek**	**63.55**	**336**	P	**P**	**15 03 22.3**	**-1.5**
	baz=116						
ICESG	**Greenland Ices**	**63.59**	**17**	*i* P	**P**	**15 03 24.0**	**-0.2**
ICESG				IAmb	IAmb	15 03 31.1	
	comp=Z,14nm,0.7s						
E29M	**Blow River**	**63.61**	**342**	P	**P**	**15 03 24.2**	**+0.3**
	baz=124						
J26L	**Joseph Creek**	**63.62**	**337**	P	**P**	**15 03 24.5**	**+0.3**
	baz=116						
H27K	**Steamboat Moun**	**63.67**	**339**	P	**P**	**15 03 22.8**	**-1.6**
	baz=119,SNR=8.7						
KULLO	**Kullorsuaq**	**63.68**	**9**	*i* P	**P**	**15 03 28.3**	**+4.0**
KULLO				IAmb	IAmb	15 03 53.1	
	comp=Z,10.0nm,0.6s						
M24K	**Tolsona, Glenn**	**63.69**	**334**	P	**P**	**15 03 22.6**	**-2.1**
	baz=113						
PAX	**Paxson**	**63.73**	**335**	P	**P**	**15 03 24.9**	**0.0**
	baz=114						
F28M	**Old Crow**	**63.81**	**340**	P	**P**	**15 03 23.1**	**-2.2**
	baz=122,SNR=11						
I26K	**Coal Creek Min**	**63.83**	**337**	P	**P**	**15 03 24.4**	**-1.0**
	baz=117						
G27K	**Doyon Strip**	**64.00**	**339**	P	**P**	**15 03 25.3**	**-1.3**
	baz=119						
SCM	**Sheep Creek Mo**	**64.09**	**333**	P	**P**	**15 03 27.0**	**-0.3**
	baz=112						
K24K	**Donnelly Dome**	**64.20**	**335**	P	**P**	**15 03 27.7**	**-0.2**
	baz=114						
E28M	**Babbage River**	**64.23**	**341**	P	**P**	**15 03 28.0**	**0.0**
	baz=122						
M23K	**Glacier View**	**64.25**	**333**	P	**P**	**15 03 27.4**	**-0.9**
	baz=111						
J25K	**Salcha River,**	**64.37**	**336**	IAmb	IAmb	15 03 35.7	
	comp=Z,6.3nm,0.7s						
J25K	**Salcha River,**	**64.37**	**336**	P	**P**	**15 03 26.7**	**-2.3**
	baz=115,SNR=11						
D28M	**Stokes Point**	**64.38**	**342**	P	**P**	**15 03 28.1**	**-0.9**
	baz=123						
KNK	**Knik Glacier**	**64.44**	**332**	P	**P**	**15 03 29.3**	**-0.3**
	baz=110						
SEW	**Seward**	**64.47**	**331**	P	**P**	**15 03 26.1**	**-3.6**
	baz=109						
SML	**Sawmill**	**64.53**	**333**	P	**P**	**15 03 27.7**	**-2.4**
	baz=111						
WAT6	**Susitna Watana**	**64.55**	**334**	P	**P**	**15 03 29.1**	**-1.3**
	baz=112						
DHY	**Denali Highway**	**64.57**	**334**	P	**P**	**15 03 28.9**	**-1.6**
	baz=112						
E27K	**Coleen River**	**64.67**	**341**	P	**P**	**15 03 30.8**	**-0.1**
	baz=120						
G26K	**Porcupine Rive**	**64.81**	**339**	P	**P**	**15 03 30.2**	**-1.6**
	baz=117						
PRP	**Porcupine Dome**	**64.81**	**337**	IAmb	IAmb	15 03 36.9	
	comp=Z,4.0nm,0.7s						
PRP	**Porcupine Dome**	**64.81**	**337**	P	**P**	**15 03 30.5**	**-1.5**
	baz=115						
HDA	**Harding Lake**	**64.91**	**336**	IAmb	IAmb	15 03 37.9	
	comp=Z,7.2nm,0.7s						
HDA	**Harding Lake**	**64.91**	**336**	P	**P**	**15 03 30.3**	**-2.3**
	baz=113						
RC01	**Rabbit Creek A**	**64.92**	**332**	P	**P**	**15 03 30.6**	**-2.1**

	baz=109						
WAT1	**Susitna Watana**	**64.98**	**334**	P	**P**	**15 03 33.1**	**0.0**
	baz=111						
D27M	**Malcolm River**	**65.01**	**342**	IAmb	IAmb	15 03 39.4	
	comp=Z,4.9nm,0.8s						
D27M	**Malcolm River**	**65.01**	**342**	P	**P**	**15 03 32.2**	**-1.0**
	baz=121						
IL31		**65.03**	**336**	IAmb	IAmb	15 03 38.6	
	comp=Z,6.4nm,0.8s						
ILAR	**Eielson Array**	**65.03**	**336**	P	**P**	**15 03 34.9**	**+1.6**
ILAR	**Eielson Array**	**65.03**	**336**	P	**P**	**15 03 34.1**	**+0.8**
	comp=Z,3.8nm,0.8s,baz=102,slow=5.9,SNR=25						
ILAR				LR	LR	15 38 03.3	
	comp=Z,434nm,18.6s,baz=108,slow=42						
	comp=Z,3.8nm,0.8s						
H25L	**Birch Creek**	**65.24**	**338**	P	**P**	**15 03 32.4**	**-2.2**
	baz=115						
F26K	**Sheenjek River**	**65.28**	**340**	P	**P**	**15 03 33.3**	**-1.6**
	baz=117						
BMAR	**Burnt Mountain**	**65.30**	**339**	P	**P**	**15 03 36.6**	**+1.5**
M22K	**Willow**	**65.31**	**332**	P	**P**	**15 03 31.9**	**-3.2**
	baz=109						
RND	**Reindeer**	**65.32**	**334**	P	**P**	**15 03 37.8**	**+2.5**
KDAK	**Kodiak Island**	**65.35**	**328**	P	**P**	**15 03 30.9**	**-4.6**
	baz=105						
POKR	**Poker Plat Res**	**65.38**	**336**	IAmb	IAmb	15 03 41.6	
	comp=Z,5.9nm,0.7s						
POKR	**Poker Plat Res**	**65.38**	**336**	P	**P**	**15 03 32.7**	**-2.9**
	baz=113,SNR=8.9						
WRH	**Wood River Hil**	**65.39**	**336**	IAmb	IAmb	15 03 40.8	
	comp=Z,5.6nm,0.8s						
COLA	**College**	**65.45**	**336**	P	**P**	**15 03 38.0**	**+2.0**
COLA				IAmb	IAmb	15 03 42.1	
	comp=Z,5.2nm,0.7s						
COLA	**College**	**65.45**	**336**	P	**P**	**15 03 33.8**	**-2.2**
	baz=112						
MCK	**McKinley**	**65.47**	**335**	P	**P**	**15 03 34.5**	**-1.8**
	baz=111						
CAPN	**Captain Cook N**	**65.47**	**331**	P	**P**	**15 03 34.5**	**-1.8**
	baz=108						
SUA	**Susitna One**	**65.50**	**332**	P	**P**	**15 03 35.2**	**-1.3**
	baz=108						
G25K	**Bearman Lake**	**65.55**	**338**	P	**P**	**15 03 34.7**	**-1.9**
	baz=115						
CUT	**Chulitna**	**65.59**	**333**	P	**P**	**15 03 35.2**	**-1.7**
	baz=109						
F25K	**Christian Rive**	**65.74**	**339**	P	**P**	**15 03 36.3**	**-1.7**
	baz=116,SNR=7.4						
H24K	**Noodor Dome**	**65.83**	**337**	P	**P**	**15 03 36.2**	**-2.3**
	baz=113,SNR=5.3						
NEA2	**Nenana**	**65.83**	**336**	IAmb	IAmb	15 03 44.7	
	comp=Z,4.5nm,0.7s						
NEA2	**Nenana**	**65.83**	**336**	P	**P**	**15 03 36.8**	**-1.7**
	baz=111,SNR=8.7						
SII	**Sitkinak Islan**	**65.91**	**326**	P	**P**	**15 03 38.1**	**-1.1**
	baz=103						
TRF	**Thorofare Moun**	**65.94**	**334**	P	**P**	**15 03 37.5**	**-2.0**
	baz=109,SNR=9.9						
E25K	**Arctic Village**	**65.95**	**340**	IAmb	IAmb	15 03 44.5	
	comp=Z,4.1nm,0.8s						
E25K	**Arctic Village**	**65.95**	**340**	P	**P**	**15 03 37.6**	**-1.6**
	baz=116,SNR=6.7						
SUMG	**Summit**	**65.95**	**15**	P	**P**	**15 03 40.7**	**+1.0**
SUMG				IAmb	IAmb	15 03 53.1	
	comp=Z,12nm,1.0s						
SUMG	**Summit**	**65.95**	**15**	*i* P	**P**	**15 03 39.0**	**-0.7**
SUMG				IAmb	IAmb	15 03 52.9	
	comp=Z,7.1nm,1.0s						
O20K	**Slope Mountain**	**65.98**	**330**	P	**P**	**15 03 38.3**	**-1.3**
	baz=106						
SKT	**Skwentna**	**66.01**	**332**	IAmb	IAmb	15 03 45.4	
	comp=Z,5.0nm,0.7s						
SKT	**Skwentna**	**66.01**	**332**	P	**P**	**15 03 36.1**	**-3.6**
	baz=108						
G24K	**Hadweenzic Riv**	**66.02**	**338**	IAmb	IAmb	15 03 46.2	
	comp=Z,6.3nm,0.8s						
G24K	**Hadweenzic Riv**	**66.02**	**338**	P	**P**	**15 03 37.1**	**-2.6**
	baz=114						
C27K	**Jago River**	**66.04**	**342**	P	**P**	**15 03 37.0**	**-2.8**
	baz=118						
I23K	**Minto, Yukon-K**	**66.15**	**336**	IAmb	IAmb	15 03 46.2	
	comp=Z,7.6nm,0.7s						
I23K	**Minto, Yukon-K**	**66.15**	**336**	P	**P**	**15 03 37.0**	**-3.5**
	baz=111,SNR=9.7						
P19K	**Oil Pt**	**66.16**	**330**	P	**P**	**15 03 38.2**	**-2.5**
	baz=105						
Q19K	**Cape Douglas,**	**66.18**	**329**	P	**P**	**15 03 40.5**	**-0.3**
	baz=104						
KTH	**Kantishna Hill**	**66.24**	**334**	IAmb	IAmb	15 03 47.0	
	comp=Z,6.4nm,0.8s						
BPAW	**Bear Paw Mtn.**	**66.45**	**335**	P	**P**	**15 03 42.5**	**0.0**
	baz=109,SNR=11						
H23K	**Yukon River**	**66.46**	**337**	P	**P**	**15 03 42.4**	**-0.1**
	baz=111						
F24K	**Squaw Lake**	**66.50**	**339**	P	**P**	**15 03 41.3**	**-1.5**
	baz=114						
C26K	**Camden Bay**	**66.55**	**342**	P	**P**	**15 03 42.0**	**-0.9**
	baz=117						
PPLA	**Purkeypile**	**66.58**	**333**	P	**P**	**15 03 41.3**	**-2.3**
	baz=107						
MLY	**Manley**	**66.65**	**336**	P	**P**	**15 03 41.5**	**-2.4**
	baz=110,SNR=20						
CAST	**Castle Rocks**	**66.69**	**334**	IAmb	IAmb	15 03 49.8	
	comp=Z,5.1nm,0.7s						
CAST	**Castle Rocks**	**66.69**	**334**	P	**P**	**15 03 42.0**	**-2.1**
	baz=108						
M20K	**Styx River**	**66.71**	**332**	IAmb	IAmb	15 03 50.7	
	comp=Z,4.9nm,0.7s						
M20K	**Styx River**	**66.71**	**332**	P	**P**	**15 03 40.9**	**-3.4**
	baz=106						
D25K	**Kavik River**	**66.74**	**341**	IAmb	IAmb	15 03 58.4	
	comp=Z,8.4nm,0.8s						
D25K	**Kavik River**	**66.74**	**341**	P	**P**	**15 03 41.7**	**-2.6**
	baz=116,SNR=6.3						
O19K	**Port Alsworth**	**66.83**	**330**	P	**P**	**15 03 41.3**	**-3.6**
	baz=104						
NEEM	**North Greenlan**	**66.88**	**8**	*i* P	**P**	**15 03 46.4**	**+1.0**
NEEM				IAmb	IAmb	15 03 50.5	
	comp=Z,9.8nm,0.8s						
E24K	**Your Creek**	**66.93**	**339**	P	**P**	**15 03 43.2**	**-2.3**
	baz=113						
PMOZ	**Porto Moniz, M**	**66.95**	**60**	*e* LR	LR	15 24 00.2	
	comp=Z,393nm,22.0s						
G23K	**Bananza Creek**	**66.96**	**338**	IAmb	IAmb	15 03 52.2	
	comp=Z,5.5nm,0.8s						
G23K	**Bananza Creek**	**66.96**	**338**	P	**P**	**15 03 42.8**	**-2.9**
	baz=111,SNR=11						
N19K	**Bonanza Creek**	**67

baz=100
PPT Papeete 67.99 245 LR LR 15 26 22.3
comp=Z,626nm,18.5s,baz=63,slow=29
D23K Nanushuk River 68.01 340 P **P** **15 03 50.7 -1.7**
baz=111
F22K John River 68.03 338 P **P** **15 03 52.6 +0.1**
baz=109
I20K Naaghedeneel 68.10 335 P **P** **15 03 52.1 -0.8**
baz=106
E22K Anaktuvuk Pass 68.11 339 IAmb IAmb 15 04 15.1
comp=Z,5.2nm,1.0s
E22K Anaktuvuk Pass 68.11 339 P **P** **15 03 51.0 -2.0**
baz=110,SNR=6.9
G21K Allakaket 68.21 337 P **P** **15 03 50.7 -2.9**
baz=108
BORG Borgarnes 68.23 25 LR LR 15 36 48.0
comp=Z,131nm,18.6s,baz=260,slow=39
C23K Itkillik River 68.31 341 IAmb IAmb 15 04 00.6
comp=Z,9.8nm,0.8s
C23K Itkillik River 68.31 341 P **P** **15 03 52.2 -1.9**
baz=112,SNR=8.4
J19K Poorman 68.37 334 IAmb IAmb 15 04 05.8
comp=Z,5.3nm,0.9s
J19K Poorman 68.37 334 P **P** **15 03 50.4 -4.2**
baz=105
F21K Alatna River 68.42 338 P **P** **15 03 52.9 -2.1**
baz=108,SNR=13
H20K Anotleneega Mo 68.45 336 P **P** **15 03 54.3 -0.9**
baz=106
O16K Kokwok River B 68.56 329 P **P** **15 03 54.8 -1.0**
baz=101
D22K Ayikyak River 68.66 339 P **P** **15 03 57.0 +0.5**
baz=109
E21K Killik River 68.97 339 P **P** **15 03 57.5 -0.8**
baz=108
GCSA Galena City Sc 69.08 335 P **P** **15 03 57.3 -1.8**
baz=104
H19K Roundabout Mou 69.09 336 IAmb IAmb 15 04 21.0
comp=Z,15nm,1.3s
H19K Roundabout Mou 69.09 336 P **P** **15 03 57.4 -1.7**
baz=104
L17K Donlin 69.14 332 P **P** **15 03 57.9 -1.6**
baz=101
SDPT Sand Point 69.19 324 P **P** **15 03 57.5 -2.3**
baz=97
F20K Avaraart Lake 69.21 337 P **P** **15 03 59.9 +0.1**
baz=106
B22K Teshekpuk Lake 69.39 341 P **P** **15 03 59.2 -1.6**
baz=109
C21K Kniefblade Rid 69.47 339 P **P** **15 03 59.5 -1.9**
baz=107
G19K Purcell Mounta 69.50 336 IAmb IAmb 15 04 07.5
comp=Z,4.7nm,0.8s
G19K Purcell Mounta 69.50 336 P **P** **15 04 00.3 -1.3**
baz=104
B21K Ikpikpuk River 69.55 340 IAmb IAmb 15 04 08.2
comp=Z,9.9nm,0.8s
B21K Ikpikpuk River 69.55 340 P **P** **15 04 00.5 -1.3**
baz=108,SNR=9.3
L16K Owhat River 69.61 331 P **P** **15 04 01.7 -0.7**
baz=100
E20K Nigu River 69.70 338 P **P** **15 04 02.6 -0.3**
baz=106,SNR=9.4
J17K VABM Dome 69.74 333 P **P** **15 04 01.7 -1.4**
baz=101
F19K Shaleruckik Mo 69.93 337 IAmb IAmb 15 04 11.1
comp=Z,4.9nm,0.8s
F19K Shaleruckik Mo 69.93 337 P **P** **15 04 02.8 -1.4**
baz=104
D20K Etivluk River 69.98 339 P **P** **15 04 04.6 0.0**
baz=105
G18K Tagagawik 70.07 336 P **P** **15 04 04.9 -0.2**
baz=102
A22K Sinclair Lake 70.09 341 P **P** **15 04 04.7 -0.4**
baz=108
B20K Meade River 70.51 340 IAmb IAmb 15 04 13.9
comp=Z,11nm,0.9s
B20K Meade River 70.51 340 P **P** **15 04 07.2 -0.5**
baz=105,SNR=9.0
F18K Selawik 70.61 336 P **P** **15 04 07.7 -0.7**
baz=102
A21K Barrow 70.69 341 P **P** **15 04 09.3 +0.5**
baz=106
E17K Hotham Inlet 71.55 337 P **P** **15 04 14.7 +0.6**
baz=100
C18K Utukok River 71.59 338 P **P** **15 04 13.0 -1.4**
baz=101
J14K Nanvaranak Lak 71.65 332 P **P** **15 04 13.9 -0.8**
baz=97
A19K Wainwright 71.86 340 P **P** **15 04 13.9 -2.0**
baz=102
B18K Kokolik River 71.94 339 P **P** **15 04 16.2 -0.3**
baz=101
D17K Noatak River 72.13 337 P **P** **15 04 16.1 -1.5**
baz=99
G15K Niukluk 72.13 334 P **P** **15 04 14.7 -3.0**
baz=97
F15K North Star Dit 72.47 335 P **P** **15 04 16.7 -3.0**
baz=97
UNV Unalaska Valle 72.58 323 P **P** **15 04 17.8 -2.6**
baz=91
ANM Nome 72.65 334 P **P** **15 04 18.4 -2.4**
baz=96
PMAFR Mafra 73.12 53 *eP* **P** **15 04 25.5 +1.4**
PFVI Vila Bisbo 73.61 55 *eP* **P** **15 04 30.3 +3.3**
PCAS Casmilo, Conde 73.66 52 *eP* **P** **15 04 30.0 +2.8**
PGAV Gavieira, Arco 73.72 50 *e*LR LR 15 26 29.8
comp=Z,461nm,18.0s
MORF Marmelete 73.73 55 *eP* **P** **15 04 30.1 +2.3**
MESJ Messejana 74.03 54 *eP* P 15 04 34.6 +5.1
EVO Evora 74.14 53 *eP* **P** **15 04 32.9 +2.8**
JMIC Jan Mayen 74.14 20 LR LR 15 36 38.8
comp=Z,213nm,19.8s,baz=262,slow=36
MTE Manteigas 74.36 51 *eP* **P** **15 04 33.1 +1.7**
comp=Z,14nm,1.7s
MTE Manteigas 74.36 51 *e*LR LR 15 27 44.4
comp=Z,306nm,16.0s
PESTR Estremoz 74.45 53 *eP* **P** **15 04 34.9 +3.0**
comp=Z,13nm,1.8s
PCBR Castelo Branco 74.46 52 *eP* **P** **15 04 34.8 +2.9**
comp=Z,13nm,1.9s
PVAQ Vaqueiros 74.47 55 *e*LR LR 15 27 52.5
comp=Z,488nm,20.0s
PMRV Marv??o 74.56 52 *eP* **P** **15 04 34.7 +2.2**
PMRV Marv??o 74.56 52 *e*LR LR 15 27 55.7
comp=Z,209nm,22.0s
MVO Moncorvo 74.70 51 *eP* **P** **15 04 36.3 +2.9**
comp=Z,12nm,1.3s
MVO Moncorvo 74.70 51 *e*LR LR 15 28 00.8
comp=Z,304nm,20.0s
PBRG Braganca 74.86 50 *eP* **P** **15 04 37.3 +3.0**
EKA Eskdalemuir Ar 76.32 36 P **P** **15 04 41.7 -0.6**
comp=Z,6.9nm,0.8s,baz=272,slow=6.3,SNR=11
comp=Z,6.9nm,0.8s
ESDC Sonseca Array 77.17 52 P **P** **15 04 49.2 +1.8**
ESDC Sonseca Array 77.17 52 P **P** **15 04 47.0 -0.5**
comp=Z,3.4nm,1.0s,baz=280,slow=4.9,SNR=12
comp=Z,3.4nm,1.0s
MDT Midelt 77.51 59 LR LR 15 33 03.6
comp=Z,309nm,21.9s,baz=304,slow=31
RAR Rarotonga 78.27 245 LR LR 15 31 34.7
comp=Z,327nm,18.6s,baz=64,slow=30
PMSA Palmer Station 79.92 170 LR LR 15 34 47.4
comp=Z,279nm,20.0s,baz=316,slow=32
SPITS Spitsbergen Ar 80.03 12 LR LR 15 40 48.0
comp=Z,499nm,19.9s,baz=264,slow=36
CLF Chambon-Foret 80.49 43 P **P** **15 05 07.0 +1.5**
CLF IAmb IAmb 15 05 08.5
comp=Z,15nm,1.1s
DOU Dourbes 81.65 41 *dP* **P** **15 05 13.9 +2.3**
BGES Gesves 81.91 40 *dP* **P** **15 05 14.7 +1.7**
DBIC Dimbokro 81.92 85 LR LR 15 37 43.6
comp=Z,212nm,20.8s,baz=254,slow=33
BCLA Clavier 82.04 40 *dP* **P** **15 05 14.9 +1.3**
comp=Z,3.6nm,1.0s
RCHB Rochefort 82.04 40 *dP* **P** **15 05 14.8 +1.2**
BSTI Sart Tilman 82.17 40 *dP* **P** **15 05 16.1 +1.7**
MEM Membach 82.44 40 *dP* **P** **15 05 17.2 +1.4**
NB2 NORSAR Subarra 82.95 29 P **P** **15 05 21.5 +3.2**
comp=Z,0.9nm,0.7s,baz=284,slow=5.1
NOA NORSAR Array B 82.95 29 P **P** **15 05 18.4 +0.1**
comp=Z,2.1nm,0.8s,baz=285,slow=5.0,SNR=5.8
NOA LR LR 15 38 52.2
comp=Z,314nm,20.6s,baz=280,slow=33
comp=Z,2.1nm,0.8s
SHEM Shemya Is, Ala 84.24 323 LR LR 15 42 36.9
comp=Z,170nm,20.1s,baz=88,slow=35
HFS Hagfors 84.38 29 P **P** **15 05 27.4 +1.9**
comp=Z,2.8nm,0.9s,baz=290,slow=5.5,SNR=3.2
HFS LR LR 15 39 22.0
comp=Z,359nm,21.5s,baz=282,slow=33
ARCES ARCESS Array B 85.61 19 P **P** **15 05 33.8 +2.2**
comp=Z,4.0nm,1.0s,baz=291,slow=3.8,SNR=1.6
ARCES LR LR 15 42 08.8
comp=Z,233nm,20.9s,baz=300,slow=35
FUORN Ofenpass-Fuorn 86.11 43 P **P** **15 05 34.6 -0.3**
TORD Torodi Ar. Bea 86.83 77 P **P** **15 05 36.7 -1.9**
comp=Z,0.3nm,0.8s,baz=293,slow=5.1,SNR=2.5
TORD LR LR 15 40 43.6
comp=Z,365nm,20.9s,baz=274,slow=33
comp=Z,0.3nm,0.8s
KHC Kasperske Hory 87.55 40 IAmb IAmb 15 07 03.0
comp=Z,7.5nm,1.6s
SEY Seymchan 90.96 337 LR LR 15 53 52.0
comp=Z,246nm,19.3s,baz=76,slow=40
MA2 Magadan 93.44 334 LR LR 15 52 16.3
comp=Z,283nm,19.7s,baz=66,slow=38
AKASG Malin Array Be 96.20 35 LR LR 15 49 14.0
comp=Z,340nm,18.8s,baz=264,slow=35
RAO Raoul Island 96.23 242 LR LR 15 38 51.0
comp=Z,214nm,21.8s,baz=122,slow=29
YAK Yakutsk 99.31 343 LR LR 16 00 27.3
comp=Z,227nm,18.0s,baz=32,slow=41
WMQ Urumqi 123.06 4 *eP* **PKiKP 15 11 51.1 +0.6**
WMQ LR LR
comp=Z,400nm,24.7s
HHC Hu-ho-hao-te 123.17 342 *e*P **PKPdf 15 11 47.3 -3.4**
HHC LR LR
comp=N,230nm,16.1s
HHC LR LR
comp=E,140nm,16.8s
HHC LR LR
comp=Z,240nm,17.6s
NJ2 Nanjing 128.07 331 *e*P **PKiKP 15 12 00.5 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,1.1s
WRA Warramunga Arr 138.90 255 PKP **PKiKP 15 12 21.9 -1.1**
comp=Z,2.9nm,0.8s,baz=92,slow=2.5,SNR=2.5
ASAR Alice Springs 138.99 249 PKP **PKiKP 15 12 22.3 -0.8**
comp=Z,2.0nm,0.7s,baz=74,slow=3.4,SNR=3.5
PZH PanZhiHua 139.33 346 PKP **PKPdf 15 12 21.3 -0.3**
CMAR Chiang Mai Arr 147.72 347 PKPbc **PKPbc 15 12 39.8 +0.7**
comp=Z,0.3nm,0.3s,baz=338,slow=3.9,SNR=2.1

*UUSS **06** 14:54:02.9±1.1, 44.°75N±0.°01×110.°96W±0.°02, h11km±5km, ML3.1/10, ML2.8/38(NEIC), Error ellipse: s-maj=2.2km s-min=1.7km az=58.0*
*IDC **06** 14:54:02.4±1.0, 44.°67N×111.°13W, h0km, mb3.9/1, mbtmp3.3/4, ML3.4/3, Error ellipse: s-maj=13.1km s-min=8.5km az=62.0*
*NEIC **06** 14:54:03.7±1.1, 44.°73N±0.°02×110.°98W±0.°02, h13km±7km, Error ellipse: s-maj=2.8km s-min=0.9km az=208.0*
ISC 06 14:54:03.1±1.0, 44.72N±0.°02×111.00W±0.°02, h11km±7km**, n54, σ0.897/55, Hebgen Lake region, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YMC	**Maple Creek**	**0.04**	**358**		**Pg**	**14 54 05.8**	**+0.3**
GCR	**Grayling Creek**	**0.10**	**315**		**Pb**	**14 54 07.2**	**-0.1**
YPM	**Purple Mountai**	**0.12**	**125**		**Pb**	**14 54 07.3**	**-0.2**
YHH	**Holmes Hill**	**0.13**	**59**		**Pg**	**14 54 06.5**	**+0.1**
YPWB	**West Boundary**	**0.14**	**210**		**Pb**	**14 54 08.3**	**+0.5**
YHB	**Horse Butte**	**0.14**	**281**		**Pb**	**14 54 08.0**	**+0.1**
YPDC	**Denny Creek**	**0.17**	**265**		**Pb**	**14 54 08.7**	**+0.3**
YNM	**Yellowstone No**	**0.21**	**89**		**Pb**	**14 54 08.2**	**-1.0**
YNR	**Norris Junctio**	**0.23**	**92**		**Pb**	**14 54 08.5**	**-0.9**
YML	**Mary Lake**	**0.28**	**115**		**Pb**	**14 54 10.2**	**-0.2**
YFT	**Old Faithful**	**0.30**	**156**		**Pb**	**14 54 10.5**	**0.0**
YFT				IAML		14 54 18.1	
	comp=N,2μm,0.5s						
YMV	**Mammoth Vault**	**0.34**	**42**		**Pb**	**14 54 10.5**	**-0.7**
H17A	**Grant Village**	**0.45**	**137**		**Pb**	**14 54 13.3**	**+0.2**
H17A				IAML		14 54 21.6	
	comp=N,898nm,0.2s						
H17A				IAML		14 54 21.7	
	comp=E,1μm,0.5s						
LKWY	**Lake**	**0.46**	**110**		**Pb**	**14 54 13.2**	**-0.1**
LKWY				IAML		14 54 27.4	
	comp=E,893nm,0.5s						
YPP	**Pitchstone Pla**	**0.47**	**162**		**Pb**	**14 54 14.4**	**+0.8**
CMI	**Centennial Mou**	**0.48**	**246**		**Pb**	**14 54 14.3**	**+0.6**
MCID	**Moose Creek**	**0.55**	**194**		**Pb**	**14 54 15.8**	**+1.0**
YMP	**Mirror Lake Pl**	**0.60**	**88**		**Pb**	**14 54 16.1**	**+0.2**
YMP				IAML		14 54 27.0	
	comp=E,334nm,0.4s						
YMP				IAML		14 54 31.4	
	comp=N,326nm,0.7s						
YTP	**The Promontory**	**0.61**	**123**		**Pb**	**14 54 16.0**	**+0.1**
YPSB	**Soda Butte**	**0.63**	**75**		**Pb**	**14 54 16.0**	**-0.2**
FLWY	**Flagg Ranch**	**0.68**	**161**	Pg	**Pb**	**14 54 17.3**	**+0.3**
FLWY				IAML		14 54 32.3	
	comp=N,241nm,0.7s						
IMW	**Indian Meadow**	**0.83**	**177**	Pg	**Pb**	**14 54 20.0**	**+0.4**
IMW				IAML		14 54 33.0	
	comp=N,682nm,0.3s						
BOZ	**Bozeman (W)**	**0.98**	**333**		**Pb**	**14 54 22.0**	**-0.1**
BOZ				IAML		14 54 35.4	
	comp=N,235nm,0.5s						
BOZ				IAML		14 54 40.7	
	comp=N,445nm,0.8s						
MOOW	**Moose Ponds**	**0.99**	**169**	Pg	**Pb**	**14 54 22.6**	**+0.2**
FXWY	**Fox Creek**	**1.09**	**181**		**Pb**	**14 54 24.0**	**0.0**
LOHW	**Long Hollow**	**1.15**	**165**		**Pn**	**14 54 25.5**	**+0.2**
LOHW				IAML		14 54 48.4	
	comp=N,143nm,0.7s						
TPAW	**Teton Pass**	**1.23**	**178**		**Pg**	**14 54 27.0**	**+0.2**
TPAW				IAML		14 54 45.8	
	comp=N,164nm,0.4s						
SNOW	**Snow King Moun**	**1.27**	**172**		**Pg**	**14 54 27.8**	**+0.3**
SNOW				IAML		14 54 50.9	
	comp=N,184nm,0.9s						
SNOW				IAML		14 54 55.3	
	comp=N,124nm,0.8s						
RLMT	**Red Lodge**	**1.30**	**72**	Pn	**Pg**	**14 54 27.4**	**-0.6**
RLMT				IAML		14 54 45.6	
	comp=N,364nm,0.4s						
RLMT				IAML		14 54 46.0	
	comp=N,263nm,0.4s						
REDW	**Red Top Meadow**	**1.37**	**175**		**Pb**	**14 54 29.0**	**+0.2**
ECR	**Eagle Creek**	**1.69**	**189**		**Pb**	**14 54 34.5**	**+0.2**
GRRI	**Grays Lake**	**1.81**	**190**		**Pg**	**14 54 37.4**	**-0.4**
AHID	**Auburn Hatcher**	**1.96**	**182**	Pn	**Pb**	**14 54 38.4**	**-0.5**
AHID				IAML		14 54 47.8	
	comp=N,64nm,0.6s						
AHID				IAML		14 55 11.1	
	comp=N,41nm,0.6s						
BW06	**Boulder Array**	**2.22**	**151**		**Pb**	**14 54 43.1**	**-0.2**
PD31	**Pinedale Array**	**2.22**	**151**		**Pb**	**14 54 42.2**	**-1.1**
PDAR	**Pinedale Array**	**2.22**	**151**		**Pb**	**14 54 42.5**	**-0.8**
PDAR	**Pinedale Array**	**2.22**	**151**	Pn	**Pb**	**14 54 43.3**	**0.0**
	comp=N,2.8nm,0.3s,baz=338,slow=12,SNR=82						
PDAR				Sn	**Sg**	**14 55 14.1**	**-0.3**
	comp=N,1.0nm,0.3s,baz=340,slow=20,SNR=1.3						
	comp=N,5.9nm,0.5s						
BPMT	**Black Pine Rid**	**2.42**	**316**	Pn	**Pb**	**14 54 44.9**	**-1.9**
HLID	**Hailey**	**2.71**	**246**	Pn	**Pb**	**14 54 49.7**	**-2.0**
HLID				IAML		14 55 30.4	
	comp=N,75nm,0.6s						
HLID				IAML		14 55 30.6	
	comp=N,64nm,0.5s						
OVMT	**Ovando**	**2.72**	**330**		**Pn**	**14 54 49.0**	**+2.1**
MSO	**Missoula**	**2.94**	**317**	Pn	**Pn**	**14 54 51.9**	**+2.1**
HWUT	**Hardware Ranch**	**3.14**	**188**	Pn	**Pn**	**14 54 55.0**	**+2.4**
HVU	**Hansel Valley**	**3.21**	**204**		**Pn**	**14 54 52.8**	**-0.8**
PLID	**Pearl Lake**	**3.57**	**278**		**Pn**	**14 54 58.2**	**-0.4**
BGU	**Big Grassy Mou**	**4.08**	**202**		**Pn**	**14 55 04.7**	**-0.8**
NLU	**North Lily Min**	**4.83**	**190**	Pn	**Pn**	**14 55 16.3**	**+0.4**
ELK	**Elko**	**5.05**	**220**	Pn	**Pn**	**14 55 18.4**	**-0.5**
ELK	**Elko**	**5.05**	**220**	Pg	**Pb**	**14 55 29.1**	**-2.5**
ELK				Lg	Lg	14 56 36.5	
NEW	**Newport**	**5.51**	**312**	Pn	**Pn**	**14 55 27.3**	**+2.3**
	comp=N,1.0nm,0.3s,baz=120,slow=11,SNR=9.2						
NEW				Sn	**Sn**	**14 56 29.2**	**+0.8**
	comp=N,0.8nm,0.3s,baz=47,slow=19,SNR=2.4						
NEW				Lg	Lg	14 56 54.9	
	comp=N,1.3nm,0.3s,baz=37,slow=20,SNR=4.5						
	comp=N,3.4nm,0.3s						
J08A	**Circle Bar Ran**	**5.56**	**258**	Pn	**Pn**	**14 55 26.0**	**+0.3**
NVAR	**Mina Array Bea**	**8.33**	**224**	Pg	**Pb**	**14 56 25.6**	**-1.9**
	baz=40,slow=15,SNR=1.9						
NVAR				Lg	Lg	14 58 22.0	
	baz=42,slow=17,SNR=1.7						
ULM	**Lac du Bonnet**	**11.62**	**56**	Pg	Pn	14 57 34.5	+46
	comp=N,0.1nm,0.3s,baz=251,slow=14,SNR=4.3						
YKA	**Yellowknife Ar**	**17.93**	**355**	P	**P**	**14 58 12.3**	**-0.3**
	baz=167,slow=12,SNR=2.6						
	comp=N,0.1nm,0.5s						
MKAR	**Makanchi Array**	**88.11**	**351**	P	**P**	**15 06 53.9**	**+0.3**
	comp=N,0.7nm,0.8s,baz=14,slow=3.0,SNR=2.1						
	comp=N,0.7nm,0.9s						

*BJI **06** 14:57:37.0±0.0, 7.°38S×130.°03E, h153km, mb4.8/67, mB4.9/28*
*IDC **06** 14:57:38.7±1.3, 7.°04S×129.°67E, h119km±10km, mb4.5/23, mbtmp4.9/25, MS4.0/7, Error ellipse: s-maj=12.9km s-min=9.2km az=75.0*
*MOS **06** 14:57:38.8±0.8, 6.°90S×129.°74E, h131km, mb5.0/25, Error ellipse: s-maj=9.1km s-min=5.6km az=114.9*
*NEIC **06** 14:57:39.4, 7.°20S×130.°13E, h140km, Moment Tensor Solution. Duration: 15 Moment tensor: Scale 10^{16}Nm; M_{rr}2.23; $M_{\theta\theta}$0.52; $M_{\phi\phi}$-2.75; $M_{r\theta}$0.54; $M_{\theta\phi}$1.29; $M_{\phi r}$1.10; Fault plane solution: M_o3.06000×10^{16} NP1:ϕ_s3.33000°, δ58.65000°, λ119.53000°. NP2:ϕ_s135.89000°, δ42.01000°, λ51.02000°. Principal axes: T 2.7781, Plg63.0000°, Azm324.0000°; N 0.5579, Plg25.0000°, Azm167.0000°; P -3.3360, Plg9.0000°, Azm73.0000°;*
*NEIC **06** 14:57:39.7±1.4, 7.°01S±0.°07×129.°74E±0.°07, h122km±4km, mb5.0/108, Mww4.9/19 Error ellipse: s-maj=10.1km s-min=9.4km az=220.0*
*NEIC **06** 14:57:39.4, 7.°00S×129.°73E, h140km*
*DJA **06** 14:57:40.2±0.2, 7.°S±2.°×13.°0E±.°, h127km±2km, M5.0/72, mb5.2/72, mB5.5/38, MLv5.6/19, Mw4.9/100, Mw(mB)5.0/38, MwMwp4.6/6, Mwp5.0/6*
*GCMT **06** 14:57:41.7±0.3, 7.°04S±0.°02×129.°81E±0.°02, h144km±3km, MW5.0/94, Moment Tensor Solution. s27,c29; s94,c135; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.83±.13; $M_{\theta\theta}$-0.11±.14; $M_{\phi\phi}$-1.72±.17; $M_{r\theta}$0.36±.09; $M_{\theta\phi}$1.79±.14; $M_{\phi r}$2.55±.11; Best double couple: M_o3.60400×10^{16} NP1:ϕ_s357.00000°, δ72.00000°, λ119.00000°. NP2: ϕ_s116.00000°, δ34.00000°, λ34.00000°. Principal axes: T 3.5530, Plg54.0000°, Azm303.0000°; N 0.1030, Plg28.0000°, Azm167.0000°; P -3.6540, Plg22.0000°, Azm65.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 14:57:39.8±0.4, 7.°06S±0.°04×129.°75E±0.°04, h131km±3km**, h130**km**:pP-P, n779,** σ**1915/747, mb5.0**/125**, 12C-6D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.79**	**121**	P	**Pn**	**14 58 12.4**	**+1.0**
SAUI	**Saumlaki**	**1.79**	**121**	Pn	**Pn**	**14 58 11.7**	**+0.4**
SAUI	**Saumlaki**	**1.79**	**121**	P	**Pn**	**14 58 11.8**	**+0.4**
BNDI	**Bandanaira**	**2.52**	**4**	P	**Pn**	**14 58 21.7**	**+1.3**
BNDI	**Bandanaira**	**2.52**	**4**	P	**Pn**	**14 58 21.6**	**+1.2**
NLAI	**Namlea**	**4.62**	**325**	P	**Pn**	**14 58 50.3**	**+2.4**
FAKI	**Fak Fak**	**4.81**	**31**	Pn	**Pn**	**14 58 48.7**	**-1.7**
FAKI	**Fak Fak**	**4.81**	**31**	P	**Pn**	**14 58 48.6**	**-1.8**
KMPI	**Kaimana, Papua**	**5.19**	**50**	P	**Pn**	**14 58 54.3**	**-1.2**
DRS	**Darwin Rock St**	**5.46**	**168**	P	**Pn**	**14 58 57.8**	**-1.3**
MTN	**Manton Dam**	**5.91**	**167**	P	**Pn**	**14 59 03.6**	**-1.5**
	baz=5.9,SNR=303						
MTN	**Manton Dam**	**5.91**	**167**	P	**Pn**	**14 59 03.5**	**-1.7**
MTN	**Manton Dam**	**5.91**	**167**	Pn	**Pn**	**14 59 03.4**	**-1.8**
SOEI	**Soe**	**6.05**	**243**	P	**Pn**	**14 59 07.8**	**+0.7**
SOEI	**Soe**	**6.05**	**243**	Pn	**Pn**	**14 59 06.4**	**-0.8**
SOEI	**Soe**	**6.05**	**243**	P	**Pn**	**14 59 07.2**	**+0.1**
	2μm,1.0s,16μm12nm						
KDU	**Kakadu**	**6.21**	**155**	P	**Pn**	**14 59 07.1**	**-2.0**
	baz=6.2,SNR=692						
KDU	**Kakadu**	**6.21**	**155**	P	**Pn**	**14 59 07.6**	**-1.5**
SANI	**Sanana**	**6.23**	**323**	P	**Pn**	**14 59 12.0**	**+2.5**
SANI	**Sanana**	**6.23**	**323**	P	**Pn**	**14 59 11.9**	**+2.5**
	323nm,1.2s,3μm0.9nm						
SWI	**Sorong**	**6.34**	**14**	P	**Pn**	**14 59 09.6**	**-1.3**
	358nm,0.6s,8μm2μm3.8nm						
SWI	**Sorong**	**6.34**	**14**	P	**Pn**	**14 59 09.3**	**-1.6**
SWI				pmax	pmax		
	comp=Z,246nm,0.8s						
LBMI	**Labuha**	**6.76**	**341**	P	**Pn**	**14 59 18.8**	**+2.2**
	comp=Z,769nm,1.0s,comp=Z,6μmcomp=Z,3.9nm						
BATI	**Baumata**	**6.78**	**242**	P	**Pn**	**14 59 16.3**	**-0.6**
	comp=Z,933nm,0.3s,baz=130,slow=3.8,SNR=378						
BATI				S	**Sn**	**15 00 28.3**	**-4.5**
	comp=Z,1μm,0.6s,baz=67,slow=23,SNR=19						
BATI	**Baumata**	**6.78**	**242**	P	**Pn**	**14 59 16.7**	**-0.2**
	comp=Z,2μm,1.0s,comp=Z,21μmcomp=Z,7.7nm						
BBSI	**Bau Bau**	**7.30**	**282**	P	**Pn**	**14 59 26.6**	**+2.7**
	comp=Z,287nm,1.0s,comp=Z,3μmcomp=Z,0.8nm						
MMRI	**Maumere**	**7.60**	**258**	P	**Pn**	**14 59 28.5**	**+0.5**
MMRI	**Maumere**	**7.60**	**258**	Pn	**Pn**	**14 59 27.3**	**-0.7**
MMRI	**Maumere**	**7.60**	**258**	P	**Pn**	**14 59 28.1**	**+0.1**
	comp=Z,242nm,1.1s,comp=Z,3μmcomp=Z,1μmcomp=Z,0.8nm						
TNTI	**Ternate**	**8.13**	**343**	Pn	**Pn**	**14 59 34.4**	**-0.7**
TNTI	**Ternate**	**8.13**	**343**	P	**Pn**	**14 59 36.4**	**+1.3**
	comp=Z,135nm,0.8s,comp=Z,1μm						
EDFI	**Ende, Flores**	**8.15**	**258**	P	**Pn**	**14 59 36.2**	**+0.7**
	comp=Z,64nm,0.9s,comp=Z,1μm						
KNRA	**Kununurra**	**8.62**	**186**	P	**Pn**	**14 59 38.8**	**-2.8**
	baz=8.7,SNR=138						
KNRA				P	**Pn**	**14 59 38.8**	**-2.8**
	baz=8.7,SNR=138						
KNRA	**Kununurra**	**8.62**	**186**	P	**Pn**	**14 59 39.2**	**-2.4**
KNRA	**Kununurra**	**8.62**	**186**	Pn	**Pn**	**14 59 38.7**	**-2.9**
LUWI	**Luwuk**	**9.17**	**310**	P	**Pn**	**14 59 50.4**	**+1.4**
LUWI	**Luwuk**	**9.17**	**310**	P	**Pn**	**14 59 52.0**	**+3.0**
	comp=Z,198nm,1.0s,comp=Z,2μm						
KMSI	**Cibinong**	**9.52**	**323**	P	**Pn**	**14 59 55.9**	**+2.2**
	comp=Z,537nm,1.1s,comp=Z,5μm						
BASI	**Baing, Sumba**	**9.59**	**250**	P	**Pn**	**14 59 53.8**	**-0.9**
	comp=Z,364nm,0.6s,comp=Z,5μm						
BKSI	**Bukuumba**	**9.72**	**280**	P	**Pn**	**14 59 57.5**	**+1.0**
	comp=Z,88nm,0.9s,comp=Z,946nm						
KAPI	**Kappang**	**10.14**	**281**	P	**Pn**	**15 00 01.5**	**-0.6**
KAPI	**Kappang**	**10.14**	**281**	Pn	**Pn**	**15 00 01.8**	**-0.4**
KAPI	**Kappang**	**10.14**	**281**	*i* P	**Pn**	**15 00 02.0**	**-0.1**
GTOI	**Gorontalo**	**10.18**	**318**	P	Pn	15 00 07.8	+5.2
	comp=Z,113nm,1.0s,comp=Z,905nm						
MMPI	**Merauke**	**10.63**	**98**	P	**Pn**	**15 00 07.7**	**-1.0**
	comp=Z,699nm,0.7s,comp=Z,8μm						
TTSI	**Tana Toraja**	**10.66**	**291**	P	**Pn**	**15 00 11.6**	**+2.6**
	comp=Z,196nm,1.0s,comp=Z,1μm						
GENI	**Genyem**	**11.29**	**67**	P	**Pn**	**15 00 18.6**	**+1.2**
GENI	**Genyem**	**11.29**	**67**	P	**Pn**	**15 00 17.6**	**+0.2**
	comp=Z,259nm,0.7s,comp=Z,3μm						
TABU	**Tabubil**	**11.55**	**82**	P	**Pn**	**15 00 21.1**	**+0.2**
JAY	**Jayapura**	**11.81**	**68**	P	**Pn**	**15 00 24.3**	**-0.1**
	comp=Z,78nm,0.8s,comp=Z,711nm						
JAY	**Jayapura**	**11.81**	**68**	P	**Pn**	**15 00 23.2**	**-1.2**
JAY				pmax	pmax		
	comp=Z,79nm,0.9s						
PLAI	**Plampang**	**11.98**	**261**	P	**Pn**	**15 00 25.7**	**-0.9**
PLAI	**Plampang**	**11.98**	**261**	P	**Pn**	**15 00 25.1**	**-1.5**
	comp=Z,117nm,0.5s,comp=Z,43μm						
TOLI2	**Tolitoli**	**12.08**	**312**	P	**Pn**	**15 00 30.0**	**+2.2**
TOLI2	**Tolitoli**	**12.08**	**312**	Pn	**Pn**	**15 00 28.2**	**+0.5**
MPSI	**Mapaga**	**12.27**	**306**	P	**Pn**	**15 00 33.4**	**+3.2**
	comp=Z,59nm,0.8s,comp=Z,765nm						
TWSI	**Taliwang, Sumb**	**12.85**	**262**	P	**Pn**	**15 00 36.4**	**-1.4**
	comp=Z,45nm,0.7s						
WRAB	**Tennant Creek**	**13.56**	**161**	Pn	**Pn**	**15 00 43.1**	**-3.8**
WRAB	**Tennant Creek**	**13.56**	**161**	*i* P	**Pn**	**15 00 43.4**	**

MTKI **Muara Teweh, K** 16.00 292 P P 15 01 20.5 +1.9
comp=Z,484nm,0.9s,comp=Z,7µm
BLJI **Banyuglugur** 16.03 267 P P 15 01 18.6 -0.3
comp=Z,143nm,0.8s
QIS **Mount Isa** 16.47 146 P Pn 15 01 22.1 -1.3
baz=16,SNR=56
QIS **Mount Isa** 16.47 146 P P 15 01 23.8 +0.1
AS31 **Alice Springs** 16.99 167 P P 15 01 27.0 -2.4
ASAR **Alice Springs** 16.99 167 P P 15 01 27.2 -2.2
ASAR **Alice Springs** 16.99 167 P P 15 01 27.9 -1.5
comp=Z,22nm,0.5s,baz=343,slow=9.1,SNR=174
ASAR S Sn 15 04 24.9 -14
comp=Z,20nm,0.5s,baz=341,slow=19,SNR=5.6
ASAR ScP ScP 15 09 31.0 +0.1
comp=Z,9.8nm,0.4s,baz=0.9,slow=1.8,SNR=8.7
MBWA **Marble Bar** 17.04 214 P P 15 01 30.2 +0.2
MBWA **Marble Bar** 17.04 214 P P 15 01 28.8 -1.1
PSA00 **Pilbara Seismi** 17.31 213 P Pn 15 01 33.7 +0.1
PSA00 **Pilbara Seismi** 17.31 213 P P 15 01 32.6 -0.4
PMG **Port Moresby** 17.39 99 P Pn 15 01 34.7 +0.2
comp=Z,240nm,0.9s,baz=281,slow=8.3,SNR=31
PMG S S 15 04 38.2 -10
comp=Z,46nm,0.8s,baz=189,slow=22,SNR=7.1
PMG LR LR 15 08 09.4
comp=Z,182nm,20.8s,baz=264,slow=36
PWJI **Pagerwojo** 17.81 266 P P 15 01 37.9 -0.6
comp=Z,69nm,0.8s
WRKA **Warakurna** 17.93 184 P P 15 01 39.2 -0.6
baz=18,SNR=132
WRKA **Warakurna** 17.93 184 P P 15 01 39.2 -0.6
MTSU **Mount Surprise** 17.97 129 P Pn 15 01 41.2 -0.2
baz=18,SNR=58
MTSU **Mount Surprise** 17.97 129 P Pn 15 01 42.3 +0.9
MANU **Manus Island** 18.25 75 P Pn 15 01 47.0 +2.1
MANU **Manus Island** 18.25 75 Pn 15 01 46.0 +1.1
UGM **Wanagama** 19.08 266 P P 15 01 52.9 +0.5
STKI **Sintang** 19.55 290 P Pn 15 01 58.9 -1.2
comp=Z,155nm,1.1s
SBUM **Sibu** 19.88 298 P P 15 02 01.2 +0.2
TV1H **Townsville Har** 20.53 128 P P 15 02 09.2 +1.2
CTAO **Charters Tower** 20.59 131 P P 15 02 08.8 +0.1
CTAO **Charters Tower** 20.59 131 P P 15 02 09.2 +0.6
CTAO **Charters Tower** 20.59 131 P P 15 02 09.2 +0.6
KPJI **Karang Pucung** 20.65 268 P P 15 02 07.9 -1.4
KSM **Kuching** 21.17 293 P P 15 02 13.7 -1.2
KAVG **Kavieng** 21.45 79 P P 15 02 19.8 +1.9
GIRL **Giralia** 21.53 222 P P 15 02 19.7 +1.1
baz=22,SNR=20
GIRL **Giralia** 21.53 222 P P 15 02 18.9 +0.3
BBJI **Bungbulang** 21.92 268 P P 15 02 21.9 -1.1
LEM **Lembang** 21.97 269 P P 15 02 23.1 -0.5
comp=Z,60nm,0.8s,baz=82,slow=11,SNR=9.5
comp=Z,60nm,0.8s
MEEK **Meekatharra** 22.17 207 P P 15 02 26.3 +1.0
baz=22,SNR=17
MEEK **Meekatharra** 22.17 207 P P 15 02 26.0 +0.7
CNJI **Cibinong** 22.44 268 P P 15 02 26.8 -1.3
comp=Z,89nm,1.2s,comp=Z,809nm
RABL **Rabaul** 22.49 84 P P 15 02 30.4 +1.8
RABL **Rabaul** 22.49 84 P P 15 02 27.9 -0.7
INKA **Innaminka** 23.06 154 P P 15 02 36.3 +2.4
MULG **Mulgathing** 23.46 171 P P 15 02 38.5 +1.0
FORT **Forrest** 23.65 184 P P 15 02 40.9 +1.7
baz=24,SNR=13
FORT **Forrest** 23.65 184 P P 15 02 41.3 +2.1
FORT **Forrest** 23.65 184 P P 15 02 38.9 -0.4
QLP **Quilpie** 23.82 146 P P 15 02 41.7 +0.9
baz=24,SNR=66
QLP **Quilpie** 23.82 146 P P 15 02 42.8 +2.0
PPBI **Pangkal Pinang** 24.02 281 P P 15 02 44.0 +1.2
comp=Z,151nm,1.0s,comp=Z,7µm
LCRK **Leigh Creek** 24.59 162 P P 15 02 49.9 +2.1
KMBL **Kambalda** 25.28 196 P P 15 02 54.7 +0.7
baz=25,SNR=10
KMBL **Kambalda** 25.28 196 P P 15 02 54.6 +0.6
MORW **Morawa** 25.43 209 P P 15 02 56.0 +0.6
baz=26,SNR=9.1
MORW **Morawa** 25.43 209 P P 15 02 56.0 +0.6
DSRI **Dabo** 25.94 284 P P 15 03 02.2 +2.0
comp=Z,66nm,1.1s
BBOO **Buckleboo** 26.29 168 P P 15 03 04.0 +0.9
baz=26,SNR=21
BBOO **Buckleboo** 26.29 168 P P 15 03 05.1 +2.0
TPRI **Tanjung Pinang** 26.38 287 P P 15 03 06.2 +2.0
comp=Z,26nm,0.6s,comp=Z,6µm
BLDU **Ballidu** 26.43 206 P P 15 03 05.0 +0.5
baz=26,SNR=10
BLDU **Ballidu** 26.43 206 P P 15 03 04.2 -0.2
KLBR **Kellerberrin** 26.86 203 P P 15 03 09.2 +1.0
baz=27,SNR=9.2
KLBR **Kellerberrin** 26.86 203 P P 15 03 09.0 +0.8
STKA **Stephens Creek** 27.06 157 P P 15 03 11.1 +1.1
baz=27,SNR=29
STKA **Stephens Creek** 27.06 157 P P 15 03 10.9 +0.9
STKA **Stephens Creek** 27.06 157 P P 15 03 10.5 +0.5
STKA **Stephens Creek** 27.06 157 P P 15 03 10.7 +0.7
comp=Z,10nm,0.5s,baz=338,slow=7.8,SNR=44
comp=Z,10nm,0.5s
STKA **Stephens Creek** 27.06 157 *i* P P 15 03 11.1 +1.1
HTT **Hallett** 27.59 163 P P 15 03 15.8 +1.0
baz=28,SNR=4.6
HTT **Hallett** 27.59 163 P P 15 03 15.6 +0.8
MUN **Mundaring** 27.82 205 P P 15 03 17.5 +0.6
baz=28,SNR=3.9
MUN **Mundaring** 27.82 205 P P 15 03 17.9 +1.0
NWAO **Narrogin (SRO)** 28.24 203 P P 15 03 21.4 +0.9
baz=28,SNR=6.5
NWAO P P 15 03 21.4 +0.9
baz=28,SNR=6.5
NWAO **Narrogin (SRO)** 28.24 203 P P 15 03 21.6 +1.0
CMSA **Cobar Meteorol** 28.55 151 P P 15 03 24.3 +1.0
baz=29,SNR=32
CMSA **Cobar Meteorol** 28.55 151 P P 15 03 24.8 +1.5
PDSI **Padang** 29.83 281 P P 15 03 34.4 -0.5
comp=Z,22nm,0.9s
HNR **Honiara** 29.98 97 P P 15 03 36.5 +0.3
HNR **Honiara** 29.98 97 P P 15 03 36.5 +0.3
HNR pmax pmax
comp=Z,91nm,0.8s
HNR **Honiara** 29.98 97 P P 15 03 36.7 +0.6
KULM **Kulim** 31.52 292 IAmb IAmb 15 03 52.4
comp=Z,38nm,1.2s
ARPS **Mount Arapiles** 31.57 161 P P 15 03 50.8 +1.0
baz=32,SNR=13
ARPS **Mount Arapiles** 31.57 161 P P 15 03 51.7 +1.8
SSLB **Suanglung** 31.84 345 P P 15 03 55.1 +2.7
SSLB **Suanglung** 31.84 345 P P 15 03 48.5 -3.9
YNG **Young** 32.11 150 P P 15 03 55.8 +1.1
baz=32,SNR=16
YNG **Young** 32.11 150 P P 15 03 55.9 +1.2
UBPT **Khong Chiam** 32.73 313 IAmb IAmb 15 04 01.8
comp=Z,22nm,0.7s
COCO **West Island** 32.83 259 P P 15 04 02.3 +1.1
GSI **Gunungsitoli** 33.16 283 P P 15 04 04.8 +0.7
comp=Z,47nm,1.4s
CAN **Canberra** 33.23 151 P P 15 04 06.4 +1.9
CAN **Canberra** 33.23 151 P P 15 04 06.7 +2.2
CAN pP pP 15 04 34.1 +1.4
CAN sP sP 15 04 47.0 -0.7
CAN ScP ScP 15 10 16.0 -0.4
CNB **Canberra Magne** 33.40 150 P P 15 04 06.9 +0.9
baz=34,SNR=5.9
CNB **Canberra Magne** 33.40 150 P P 15 04 07.1 +1.1
TOO **Toolangi** 33.58 157 P P 15 04 08.5 +1.1
KCSI **Kotacane, Aceh** 33.60 287 P P 15 04 07.7 -0.2
comp=Z,25nm,0.8s
JOW **Kunigami** 33.72 358 P P 15 04 08.7 0.0
JOW IAmb IAmb 15 04 10.2
comp=Z,33nm,0.9s
JOW **Kunigami** 33.72 358 LR LR 15 17 56.3
comp=Z,41nm,21.1s,baz=121,slow=36
LHMI **Lhok Sumawe** 34.93 290 P P 15 04 20.1 +0.7
comp=Z,192nm,0.9s
MLSI **Meulaboh, Aceh** 35.13 288 P P 15 04 20.4 -0.7
comp=Z,65nm,0.8s
SRDT **SRDT** 37.09 305 P P 15 04 38.3 +0.6
NOUC **Port Laguerre** 38.28 117 P P 15 04 49.9 +2.2
NOUC **Port Laguerre** 38.28 117 P P 15 04 48.8 +1.2
DZM **Mont Dzumac** 38.39 117 P P 15 04 50.3 +1.5
DZM **Mont Dzumac** 38.39 117 P P 15 04 49.7 +1.0
comp=Z,9.2nm,0.9s,baz=271,slow=15,SNR=5.8
comp=Z,9.2nm,0.9s
DZM **Mont Dzumac** 38.39 117 P P 15 04 50.3 +1.5
PINNC **Pines Island,** 39.44 117 P P 15 04 59.3 +2.0
CMAR **Chiang Mai Arr** 39.58 310 P P 15 04 58.5 0.0

CMAR **Chiang Mai Arr** 39.58 310 P P 15 04 58.1 -0.4
comp=Z,15nm,0.7s,baz=138,slow=7.2,SNR=110
CMAR PcP PcP 15 07 04.8 +1.4
comp=Z,4.2nm,0.8s,baz=171,slow=2.9,SNR=6.8
CMAR ScP ScP 15 10 40.8 +0.7
comp=Z,1.4nm,0.7s,baz=147,slow=3.1,SNR=8.4
CMAR LR LR 15 21 51.5
comp=Z,51nm,20.7s,baz=140,slow=37
comp=Z,15nm,0.7s
CMAR **Chiang Mai Arr** 39.58 310 P P 15 04 58.5 0.0
CRAI **Chiangrai** 39.62 314 IAmb IAmb 15 05 00.0
comp=Z,46nm,1.5s
WHN **Wuhan** 40.20 339 ⇓P P 15 05 04.3 +0.9
WHN pmax pmax
comp=Z,130nm,1.4s
NJ2 **Nanjing** 40.26 346 ⇓P P 15 05 04.4 +0.5
NJ2 pmax pmax
comp=Z,16nm,0.7s
NJ2 pmax pmax
comp=Z,150nm,4.0s
JMN **Monobe** 40.75 5 P P 15 05 08.8 +0.8
KMI **Kunming** 41.40 322 ⇑P P 15 05 14.3 +0.6
KMI pmax pmax
comp=Z,24nm,1.1s
ENH **Enshi** 41.90 333 P P 15 05 17.5 +0.1
ENH **Enshi** 41.90 333 IAmb IAmb 15 05 18.2
comp=Z,27nm,0.7s
ENH **Enshi** 41.90 333 P P 15 05 16.6 -0.9
PZH **PanZhiHua** 43.02 322 P P 15 05 26.6 -0.1
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
TJN **Taejon** 43.26 357 *ce*P P 15 05 27.8 -0.5
MJAR **Matsushiro Arr** 44.09 10 P P 15 05 34.0 -1.0
comp=Z,12nm,0.9s,baz=190,slow=9.4,SNR=31
MJAR PcP PcP 15 07 18.6 +0.7
comp=Z,2.2nm,0.9s,baz=172,slow=6.3,SNR=1.8
MJAR ScP ScP 15 10 57.7 -0.1
comp=Z,3.2nm,1.0s,baz=179,slow=4.4,SNR=4.7
comp=Z,12nm,0.9s
MAJO **Matsushiro** 44.09 10 P P 15 05 33.1 -1.8
MAJO **Matsushiro** 44.09 10 P P 15 05 33.1 -1.8
MAJO pmax pmax
comp=Z,18nm,0.9s
MAJO **Matsushiro** 44.09 10 P P 15 05 34.0 -1.0
MAJO ScP ScP 15 10 58.2 +0.5
KSAR **Wonju Array Be** 44.30 358 P P 15 05 36.6 0.0
KSAR **Wonju Array Be** 44.30 358 P P 15 05 36.6 0.0
KSRS **Korea Array** 44.31 358 P P 15 05 36.8 +0.2
comp=Z,3.7nm,0.9s,baz=180,slow=12,SNR=15
KSRS PcP PcP 15 07 19.1 +0.4
comp=Z,1.1nm,0.7s,baz=185,slow=2.4,SNR=4.8
comp=Z,3.7nm,0.9s
TIA **Tai'an** 44.64 345 P P 15 05 38.4 -0.9
TIA pmax pmax
comp=Z,6.0nm,1.3s
XAN **Xi'an** 45.39 335 ⇑P P 15 05 44.3 -1.0
XAN PcP PcP 15 07 23.5 +1.0
XAN pmax pmax
comp=Z,28nm,0.8s
XAN **Xi'an** 45.39 335 P P 15 05 44.1 -1.2
XAN pP pP 15 06 13.7 -0.8
XAN PcP PcP 15 07 22.7 +0.2
HNS **HongShan** 46.41 343 ⇑P P 15 05 52.9 -0.3
HNS pmax pmax
comp=Z,32nm,1.1s
BJT **Baijiatuan** 48.49 346 IAmb IAmb 15 06 10.1
comp=Z,22nm,0.9s
BJT **Baijiatuan** 48.49 346 P P 15 06 09.2 -0.1
BJI **Beijing** 48.51 346 P P 15 06 09.0 -0.4
BJI pmax pmax
comp=Z,13nm,0.8s
SNY **Shenyang** 48.98 354 ⇓P P 15 06 12.1 -0.8
SNY pmax pmax
comp=Z,18nm,0.7s
LZH **Lanzhou** 49.34 332 *e*P P 15 06 16.6 +0.6
LZH pmax pmax
comp=Z,58nm,1.0s
HHC **Hu-ho-hao-te** 50.52 342 *e*P P 15 06 25.0 +0.2
HHC pmax pmax
comp=Z,20nm,0.8s
HHC pmax pmax
comp=Z,99nm,4.7s
BTO **Baotou** 50.79 341 *e*P P 15 06 31.7 +4.9
BTO sP sP 15 07 14.7 +3.8
BTO pmax pmax
comp=Z,8.0nm,0.7s
BTO pmax pmax
comp=Z,240nm,6.1s
PALK **Pallekele** 50.95 285 *i* P P 15 06 28.1 -0.3
PALK **Pallekele** 50.95 285 P P 15 06 28.5 +0.1
PALK pP pwP 15 06 59.9 -1.0
PALK PcP PcP 15 07 44.4 +1.4
USA0B **Ussuriysk Arra** 51.06 2 P P 15 06 28.3 -0.3
USA0B IAmb IAmb 15 06 29.8
comp=Z,22nm,1.2s
USA0B **Ussuriysk Arra** 51.06 2 *i* P P 15 06 27.9 -0.7
USRK **Ussuriysk Ar.** 51.06 2 P P 15 06 27.7 -0.9
USRK **Ussuriysk Ar.** 51.06 2 P P 15 06 28.8 +0.2
comp=Z,9.7nm,0.8s,baz=182,slow=7.7,SNR=15
comp=Z,9.7nm,0.8s
MDJ **Mudanjiang** 51.44 360 P P 15 06 31.9 +0.5
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,94nm,4.3s
LSA **Lhasa** 52.07 317 IAmb IAmb 15 06 38.8
comp=Z,12nm,0.7s
XLT **XiLinHaoTe** 52.21 348 *e*P P 15 06 37.3 0.0
XLT pmax pmax
comp=Z,25nm,0.9s
XLT pmax pmax
comp=Z,99nm,4.9s
ASAJ **Asahikawa** 52.24 12 P P 15 06 37.4 0.0
BNX **BinXian** 52.60 358 ⇓P P 15 06 39.6 -0.4
BNX pmax pmax
comp=Z,10.0nm,0.9s
BNX pmax pmax
comp=Z,74nm,4.6s
URZ **Urewera** 52.81 133 P P 15 06 41.5 -0.3
comp=Z,7.0nm,0.9s,baz=297,slow=14,SNR=1.9
comp=Z,7.0nm,0.9s
GTA **Gaotai** 53.90 331 *e*P P 15 06 50.0 +0.2
GTA PcP PcP 15 07 54.9 +1.2
GTA pmax pmax
comp=Z,10.0nm,0.9s
GOMU **GeErMu** 54.10 325 P P 15 06 51.6 0.0
GOMU pmax pmax
comp=Z,8.0nm,0.6s
YSS **Yuzh-Sakhalins** 55.00 11 *e*P P 15 06 56.9 -0.5
YSS *e*S S 15 14 26.1 -3.2
YSS pmax pmax
comp=Z,100nm,3.8s
YSS pmax pmax
comp=Z,10.0nm,1.1s
KLR **Kul'dur** 56.08 2 *e*P P 15 07 03.9 -1.2
KLR pmax pmax
comp=Z,14nm,1.0s
HYB **Hyderabad** 56.11 296 *e*P P 15 07 04.4 -1.6
HYB IVmB_BB 15 07 08.5
comp=Z,194nm,1.3s
HEH **HeiHe** 57.11 358 *e*P P 15 07 12.0 -0.4
HEH pmax pmax
comp=Z,29nm,1.1s
HEH pmax pmax
comp=Z,120nm,4.6s
ULN **Ulaanbaatar** 58.24 342 P P 15 07 20.9 +0.3
ULN **Ulaanbaatar** 58.24 342 *ce*P P 15 07 21.3 +0.7
ULN pmax pmax
comp=Z,27nm,0.7s
ULN **Ulaanbaatar** 58.24 342 P P 15 07 21.4 +0.9
SONM **Songino Array** 58.42 342 P P 15 07 22.0 +0.2
SONM IAmb IAmb 15 07 23.6
comp=Z,24nm,1.2s
SONM **Songino Array** 58.42 342 P P 15 07 21.6 -0.2
comp=Z,9.7nm,0.8s,baz=154,slow=6.3,SNR=40
SONM PKP2bc 15 37 12.7
comp=Z,0.4nm,0.4s,baz=322,slow=1.8,SNR=6.0
comp=Z,9.7nm,0.8s
SONM **Songino Array** 58.42 342 P P 15 07 22.0 +0.2
SONM pmax pmax
comp=Z,24nm,1.2s
TYV **Tymovskoe** 58.76 10 *e*P P 15 07 24.8 +1.0
TYV pmax pmax
comp=Z,100nm,4.1s

TYV pmax pmax
comp=Z,3.0nm,1.2s
ZEA **Zeya** 60.60 358 *e*P P 15 07 36.7 +0.3
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,20nm,0.9s
CASY **Casey** 60.61 189 P P 15 07 37.3 +0.9
CASY pP pP 15 08 09.9 +2.5
WMQ **Urumqi** 63.30 327 *e*P P 15 07 56.7 +1.9
WMQ PcP PcP 15 08 32.6 +1.8
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ pmax pmax
comp=Z,110nm,3.7s
MOY **Mondy** 63.48 340 *e*P P 15 07 56.4 +0.5
MOY pmax pmax
comp=Z,47nm,1.5s
PEA0B **Petropavlovsk-** 64.46 18 *ce*P P 15 08 04.5 +2.4
PETK **Petropavlovsk-** 64.46 18 P P 15 08 02.7 +0.6
comp=Z,6.9nm,0.8s,baz=161,slow=4.6,SNR=16
PETK PcP PcP 15 08 35.5 +0.2
comp=Z,3.4nm,0.6s,baz=154,slow=1.0,SNR=6.8
comp=Z,6.9nm,0.8s
PET **Petropavlovsk** 64.69 19 P P 15 08 04.3 +0.8
comp=Z,20nm,1.6s
BOD **Bodaibo** 65.91 351 *e*P P 15 08 11.3 -0.1
BOD pmax pmax
comp=Z,17nm,1.1s
ZSN **Zaisan** 67.19 329 *e*P P 15 08 19.2 -0.5
baz=329
ZSN **Zaisan** 67.19 329 *e*P P 15 08 19.2 -0.5
SHLS **Shalkode** 67.61 322 *e*P P 15 08 21.1 -1.6
comp=Z,7.4nm,0.7s,baz=323
SHLS **Shalkode** 67.61 322 *e*P P 15 08 21.0 -1.6
SHLS pmax pmax
comp=Z,7.0nm,0.7s
PDGK **Podgornoye** 67.69 323 P P 15 08 23.3 +0.2
KSH **Kashi** 67.89 318 P P 15 08 26.4 +1.9
KSH pmax pmax
comp=Z,15nm,0.7s
CCD **Concordia, Ant** 68.10 182 P P 15 08 27.2 +1.7
CCD PcP PcP 15 08 52.2 +1.6
MK31 **Makanchi Array** 68.14 327 IAmb IAmb 15 08 27.4
comp=Z,22nm,0.8s
MK31 **Makanchi Array** 68.14 327 *e*P P 15 08 26.0 +0.3
MKAR **Makanchi Array** 68.14 327 P P 15 08 25.7 0.0
MKAR **Makanchi Array** 68.14 327 P P 15 08 26.1 +0.4
comp=Z,18nm,0.3s,baz=116,slow=8.2,SNR=276
comp=Z,18nm,0.3s
SATY **Saty** 68.20 322 *e*P P 15 08 26.3 0.0
comp=Z,7.2nm,0.7s,baz=322
SATY **Saty** 68.20 322 *e*P P 15 08 26.3 0.0
SATY pmax pmax
comp=Z,7.0nm,0.7s
ZHN **Zhinishke** 68.24 322 *e*P P 15 08 26.2 -0.4
baz=322
ZHN **Zhinishke** 68.24 322 *e*P P 15 08 26.1 -0.4
MAKZ **Makanchi** 68.31 327 P P 15 08 26.7 -0.2
MAKZ **Makanchi** 68.31 327 P P 15 08 26.8 0.0
MAKZ **Makanchi** 68.31 327 P P 15 08 27.2 +0.4
MA2 **Magadan** 68.50 11 *ce*P P 15 08 28.2 +0.5
MA2 pmax pmax
comp=Z,23nm,1.1s
MA2 **Magadan** 68.50 11 P P 15 08 28.7 +1.0
MA2 PcP PcP 15 08 52.4 +0.4
MA2 **Magadan** 68.50 11 P P 15 08 29.0 +1.3
comp=Z,21nm,1.1s
YAK **Yakutsk** 68.88 360 P P 15 08 30.1 +0.2
YAK **Yakutsk** 68.88 360 *e*P P 15 08 30.1 +0.2
YAK *e**PP pwP 15 09 05.7 +4.0
YAK *e*S S 15 17 25.1 +1.8
YAK *e**SS sS 15 18 14.5 -1.8
YAK pmax pmax
comp=Z,61nm,0.8s
YAK pmax pmax
comp=N,15nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.9s
YAK smax smax
comp=N,43nm,3.4s
YAK smax smax
comp=E,53nm,3.5s
MDOK **Medeo** 69.09 321 *e*P P 15 08 31.8 -0.1
baz=321
MDOK **Medeo** 69.09 321 *e*P P 15 08 31.8 -0.1
TDK **Taldyqorghan** 69.28 324 *e*P P 15 08 32.7 -0.1
comp=E,9.8nm,0.6s,baz=324
TDK **Taldyqorghan** 69.28 324 *e*P P 15 08 32.6 -0.2
TDK pmax pmax
comp=Z,10.0nm,0.6s
CHKK **Chushkaly** 69.50 322 *e*P P 15 08 33.4 -0.8
baz=322
CHKK **Chushkaly** 69.50 322 *e*P P 15 08 33.3 -0.9
TKM2 **Tokmak 2** 69.87 321 P P 15 08 37.7 +0.9
SNR=18
TKM2 **Tokmak 2** 69.87 321 P P 15 08 37.0 +0.3
KBK **Karagaybulak** 70.14 320 P P 15 08 40.0 +1.6
SNR=9.2
UCH **Uchtor** 70.21 320 P P 15 08 40.4 +1.3
SNR=13
AAK **Ala-Archa** 70.42 320 P P 15 08 41.7 +1.6
SNR=10
AAK **Ala-Archa** 70.42 320 P P 15 08 41.2 +1.1
AAK **Ala-Archa** 70.42 320 P P 15 08 41.6 +1.6
AAK PcP PcP 15 09 00.5 -0.2
CHMS **Chumysh** 70.44 320 P P 15 08 41.0 +1.0
SNR=6.4
KBL **Kabul** 70.61 310 P P 15 08 41.0 -0.4
KBL **Kabul** 70.61 310 P P 15 08 41.0 -0.4
KBL pmax pmax
comp=Z,7.0nm,0.7s
USP **Ospenovka** 70.74 321 P P 15 08 42.4 +0.6
SNR=19
SGDS **Sogindy** 70.75 321 *e*P P 15 08 41.6 -0.3
baz=321
SGDS **Sogindy** 70.75 321 *e*P P 15 08 41.6 -0.3
EKS2 **Erkin-Say** 70.89 320 P P 15 08 44.4 +1.5
SNR=15
SEM **Semipalatinsk** 71.42 329 *e*P P 15 08 45.2 -0.8
baz=329
SEM **Semipalatinsk** 71.42 329 *e*P P 15 08 45.1 -0.8
ZALV **Zalesovo Beam** 71.52 334 P P 15 08 45.4 -0.9
ZALV **Zalesovo Beam** 71.52 334 P P 15 08 45.8 -0.5
comp=Z,20nm,0.7s,baz=117,slow=5.2,SNR=72
comp=Z,20nm,0.7s
ZALV **Zalesovo Beam** 71.52 334 *i* P P 15 08 45.7 -0.5
ZALV pmax pmax
comp=Z,19nm,0.7s
SEY **Seymchan** 71.91 11 *ce*P P 15 08 49.6 +1.3
SEY pmax pmax
comp=Z,30nm,1.0s
BTLS **Baital** 71.91 322 *e*P P 15 08 53.9 +5.1
BTLS pmax pmax
comp=Z,6.0nm,0.7s
SIMJ **Simiganj** 72.31 314 P P 15 08 51.2 -0.3
SIMJ IAmb IAmb 15 08 53.2
comp=Z,26nm,0.8s
VNDA **Vanda** 72.42 173 P P 15 08 52.0 +0.7
VNDA **Vanda** 72.42 173 P P 15 08 51.9 +0.6
comp=Z,1.7nm,0.7s,baz=311,slow=7.5,SNR=9.1
comp=Z,1.7nm,0.7s
VNDA **Vanda** 72.42 173 P P 15 08 52.0 +0.7
VNDA pmax pmax
comp=Z,4.0nm,1.0s
KURBB **Kurchatov Arra** 72.43 329 P P 15 08 51.8 +0.1
comp=Z,29nm,0.8s,baz=131,slow=4.9,SNR=98
comp=Z,29nm,0.8s
KURK **Kurchatov** 72.44 329 P P 15 08 51.7 0.0
KURK **Kurchatov** 72.44 329 P P 15 08 51.8 0.0
DZA **Taraz** 72.59 319 *e*P P 15 08 52.7 -0.2
baz=319
DZA **Taraz** 72.59 319 *e*P P 15 08 52.6 -0.3
IUG **luzhnay** 73.11 318 *e*P P 15 08 55.7 -0.4
comp=Z,16nm,0.8s,baz=318
IUG **luzhnay** 73.11 318 *e*P P 15 08 55.6 -0.4
IUG pmax pmax
comp=Z,16nm,0.8s
KK31 **Karatay Array** 73.22 319 P P 15 08 56.1 -0.4
KK31 IAmb IAmb 15 08 58.0
comp=Z,26nm,1.1s
KK31 **Karatay Array** 73.22 319 *i* P P 15 08 56.6 0.0
KKAR **Karatay Array** 73.22 319 IAmb IAmb 15 08 58.0
comp=Z,25nm,1.1s
CHM **Chimkent** 73.47 318 *e*P P 15 08 58.0 0.0
baz=318

CHM	Chimkent	73.47	318	*e*P		P		15 08 58.0	0.0	
BRLS	Boroldaу	73.63	319	*e*P		P		15 08 58.7	-0.3	
	comp=Z,12nm,0.8s,baz=318									
BRLS	Boroldaу	73.63	319	*e*P		P		15 08 58.7	-0.3	
BRLS				pmax		pmax				
	comp=Z,12nm,0.8s									
OTUK	Ortayu	74.54	324	P		P		15 09 04.5	+0.3	
MAW	Mawson	74.81	201	P		P		15 09 06.3	+0.9	
	baz=75,SNR=6.9									
MAW	Mawson	74.81	201	P		P		15 09 06.2	+0.9	
	comp=Z,7.4nm,0.9s,baz=41,slow=8.3,SNR=9.2									
	comp=Z,7.4nm,0.9s									
BRZS	Berezniki	75.22	326	*e*P		P		15 09 07.7	-0.4	
	baz=326									
BRZS	Berezniki	75.22	326	*e*P		P		15 09 07.6	-0.4	
BVA0	Borovoye Array	77.98	328	*i* P		P		15 09 23.0	-0.5	
BVAR	Borovoye Array	77.98	328	P		P		15 09 23.6	+0.1	
	comp=Z,24nm,0.9s,baz=123,slow=5.5,SNR=73									
	comp=Z,24nm,0.9s									
BRVK	Borovoye	78.05	328	P		P		15 09 23.5	-0.3	
BRVK				IAmb		IAmb		15 09 25.1		
	comp=Z,32nm,0.9s									
BRVK	Borovoye	78.05	328	P		P		15 09 23.5	-0.3	
BRVK				pmax		pmax				
	comp=Z,32nm,1.0s									
TIXI	Tiksi	78.55	360	P		P		15 09 24.9	-1.3	
TIXI	Tiksi	78.55	360	*i* P		P		15 09 25.5	-0.7	
TIXI				pmax		pmax				
	comp=Z,7.0nm,0.4s									
NIKH	Nikolski High	79.04	33	P		P		15 09 28.8	-0.4	
	baz=243									
GEYT	Alibeck	80.06	310	P		P		15 09 35.4	+0.2	
GEYT				IAmb		IAmb		15 09 36.9		
	comp=Z,31nm,1.4s									
GEYT	Alibeck	80.06	310	P		P		15 09 35.0	-0.2	
	comp=Z,6.5nm,0.7s,baz=145,slow=5.4,SNR=19									
	comp=Z,6.5nm,0.7s									
GEYT	Alibeck	80.06	310	P		P		15 09 35.4	+0.2	
GEYT				pmax		pmax				
	comp=Z,31nm,1.4s									
GYA0B	ALIBECK ARRAY	80.06	310	IAmb		IAmb		15 09 36.9		
	comp=Z,34nm,1.5s									
SPIA	Saint Paul Isl	80.34	29	P		P		15 09 35.6	-0.5	
	baz=241									
P08K	Saint George I	80.39	29	P		P		15 09 36.7	+0.3	
	baz=241									
UNV	Unalaska Valle	80.69	33	P		P		15 09 38.1	0.0	
	baz=244									
OPO	Ambohidratompo	80.76	252	LR		LR		15 40 53.4		
	comp=Z,285nm,21.9s,baz=9.0,slow=32									
VOI	Vohitsoka	80.89	249	P		P		15 09 42.5	+2.4	
VOI	Vohitsoka	80.89	249	P		P		15 09 40.7	+0.6	
VOI				IAmb		IAmb		15 09 41.9		
	comp=Z,17nm,0.8s									
AB31	Akbulak array	82.40	322	P		P		15 09 46.5	-0.7	
ABKAR	Akbulak array	82.40	322	IAmb		IAmb		15 09 49.6		
	comp=Z,23nm,0.8s									
QSPA	South Pole Qui	82.92	180	P		P		15 09 50.3	+0.5	
	comp=Z,4.5nm,0.8s,baz=309,slow=1.5,SNR=29									
QSPA				LR		LR		15 47 39.5		
	comp=Z,135nm,19.2s,baz=150,slow=36									
	comp=Z,4.5nm,0.8s									
GAMB	Gambell	83.07	22	P		P		15 09 51.3	+1.0	
	baz=238									
M11K	Mekoryuk	83.70	27	P		P		15 09 53.6	0.0	
	baz=244									
S12K	Black Hills	83.80	32	P		P		15 09 54.5	+0.2	
	baz=248									
SDPT	Sand Point	84.50	33	P		P		15 09 57.8	-0.1	
	baz=249									
SVE	Sverdlovsk	84.69	329	*e*P		P		15 09 59.3	+0.6	
SVE				pmax		pmax				
	comp=Z,59nm,1.1s									
K13K	Kusilvak Mount	85.04	26	P		P		15 10 00.2	-0.2	
	baz=245									
S14K	Fog Glacier	85.32	32	P		P		15 10 01.9	-0.1	
	baz=250									
TNA	Tin City	85.37	22	P		P		15 10 01.7	-0.2	
	baz=242									
O14K	Tigyukauivet M	85.52	29	P		P		15 10 02.8	0.0	
	baz=248									
N14K	Kuskokwak Cree	85.57	28	P		P		15 10 02.8	-0.2	
	baz=248									
ARU	Arti	85.62	328	P		P		15 10 02.3	-1.1	
ARU	Arti	85.62	328	LR		LR		15 51 51.0		
	comp=Z,189nm,21.1s,baz=320,slow=38									
ARU	Arti	85.62	328	*c i*P		P		15 10 03.2	-0.2	
ARU				*PP		pwP		15 10 38.2	+1.8	
ARU				S		SKSac		15 20 16.5	+0.1	
ARU				SS		SS		15 25 59.7	-3.9	
ARU				pmax		pmax				
	comp=Z,39nm,1.0s									
ARU	Arti	85.62	328	P		P		15 10 02.9	-0.5	
	comp=Z,36nm,0.9s									
L14K	Kuka Creek	85.66	27	IAmb		IAmb		15 10 05.9		
	comp=Z,24nm,1.1s									
L14K	Kuka Creek	85.66	27	P		P		15 10 03.0	-0.5	
	baz=247									
M14K	Bethel	85.76	27	P		P		15 10 05.1	+1.2	
M14K				IAmb		IAmb		15 10 06.2		
	comp=Z,25nm,0.9s									
M14K	Bethel	85.76	27	P		P		15 10 03.8	-0.2	
	baz=248									
J14K	Nanvaranak Lak	85.85	25	IAmb		IAmb		15 10 06.8		
	comp=Z,26nm,1.1s									
J14K	Nanvaranak Lak	85.85	25	P		P		15 10 03.9	-0.5	
	baz=246									
ANM	Nome	85.88	23	P		P		15 10 04.1	-0.4	
	baz=244									
F14K	Arctic Creek	85.92	22	P		P		15 10 04.2	-0.5	
	baz=243									
O15K	Ungalikthiuk R	86.18	29	P		P		15 10 04.8	-1.3	
	baz=250									
M15K	Kasigluk River	86.32	28	P		P		15 10 06.1	-0.6	
	baz=249									
L15K	Ungalak Mounta	86.32	26	P		P		15 10 05.5	-1.2	
	baz=248									
N15K	Kwethluk River	86.41	28	IAmb		IAmb		15 10 09.0		
	comp=Z,14nm,0.9s									
N15K	Kwethluk River	86.41	28	P		P		15 10 07.5	+0.3	
	baz=249									
K15K	Wolf Creek Mou	86.54	26	P		P		15 10 07.1	-0.7	
	baz=248									
G15K	Niukluk	86.58	23	P		P		15 10 06.6	-1.3	
	baz=246									
F15K	North Star Dit	86.65	22	P		P		15 10 07.4	-0.9	
	baz=245									
R16K	Pilot Point	86.77	31	P		P		15 10 08.2	-0.8	
	baz=252									
P16K	Nushagak River	87.03	30	P		P		15 10 09.4	-0.8	
	baz=251									
N16K	Nishlik Lake	87.13	28	P		P		15 10 09.4	-1.4	
	baz=250									
H16K	Elim	87.14	24	P		P		15 10 09.0	-1.7	
	baz=247									
O16K	Kokwok River B	87.16	29	P		P		15 10 09.6	-1.2	
	baz=251									
M16K	Timber Creek	87.23	28	P		P		15 10 10.1	-1.1	
	baz=250									
L16K	Owhat River	87.23	27	IAmb		IAmb		15 10 13.2		
	comp=Z,12nm,0.9s									
L16K	Owhat River	87.23	27	P		P		15 10 10.0	-1.2	
	baz=250									
CHIR	Chirikof Islan	87.27	33	P		P		15 10 10.1	-1.3	
	baz=253									
J16K	Anvik River	87.30	25	P		P		15 10 09.0	-2.4	
	baz=249									
G16K	Koyuk River	87.39	23	IAmb		IAmb		15 10 13.3		
	comp=Z,12nm,0.9s									
G16K	Koyuk River	87.39	23	P		P		15 10 09.9	-1.9	
	baz=247									
C16K	Lisburne Hills	87.51	20	P		P		15 10 11.1	-1.3	
	baz=244									
RAYN	Ar Rayn	87.54	294	P		P		15 10 13.1	-0.5	
RAYN	Ar Rayn	87.54	294	P		P		15 10 13.1	-0.5	
RAYN				pmax		pmax				
	comp=Z,20nm,0.8s									
Q16K	King Salmon	87.57	30	P		P		15 10 11.5	-1.4	
	baz=252									
O17K	Koliganek Bris	87.70	29	P		P		15 10 11.8	-1.6	
	baz=252									
Q17K	Contact Creek	87.84	31	P		P		15 10 12.9	-1.3	
	baz=253									
P17K	Kvichak River	87.84	30	P		P		15 10 13.0	-1.0	
	baz=252									
N17K	Nushagak Hills	87.89	28	P		P		15 10 13.1	-1.3	
	baz=252									
L17K	Donlin	87.90	27	P		P		15 10 13.2	-1.1	
	baz=251									
J17K	VABM Dome	87.98	25	P		P		15 10 15.1	+0.4	
J17K				IAmb		IAmb		15 10 18.0		
	comp=Z,16nm,0.9s									
J17K	VABM Dome	87.98	25	P		P		15 10 14.2	-0.5	
	baz=250									
D17K	Noatak River	88.04	21	P		P		15 10 13.3	-1.6	
	baz=246									
M17K	Holitna River	88.05	27	P		P		15 10 13.3	-1.7	
	baz=252									
K17K	Iditarod	88.09	26	P		P		15 10 13.3	-1.9	
	baz=251									
G17K	Kiwalik Mounta	88.09	23	P		P		15 10 13.3	-1.8	
	baz=249									
H17K	Granite Mounta	88.18	24	P		P		15 10 14.5	-1.1	
	baz=249									
F17K	Baldwin Pennin	88.21	22	P		P		15 10 13.6	-2.1	
	baz=248									
SII	Sitkinak Islan	88.24	33	P		P		15 10 13.3	-2.8	
	baz=254									
E17K	Hotham Inlet	88.25	21	P		P		15 10 13.1	-2.8	
	baz=247									
RDOG	Red Dog Mine	88.25	20	P		P		15 10 13.3	-2.6	
	baz=246									
C17K	DeLong Mountai	88.33	20	P		P		15 10 14.5	-1.8	
	baz=246									
ELIB	Princess Elisa	88.36	197	*d*P		P		15 10 16.1	-0.5	
	comp=Z,4.4nm,0.9s									
P18K	Big Mountain,	88.49	30	P		P		15 10 15.4	-1.8	
	baz=254									
N18K	Kilae Creek	88.54	28	P		P		15 10 16.1	-1.3	
	baz=253									
O18K	Koktuh Hills	88.63	29	P		P		15 10 15.9	-2.0	
	baz=254									
L18K	Granite Mounta	88.64	27	P		P		15 10 16.1	-1.8	
	baz=252									
M18K	Stony River	88.81	28	P		P		15 10 17.3	-1.4	
	baz=253									
E18K	Tukpahlearik C	88.81	21	P		P		15 10 17.2	-1.4	
	baz=249									
F18K	Selawik	88.87	22	P		P		15 10 16.6	-2.2	
	baz=250									
H18K	Honhosa River	88.87	24	P		P		15 10 17.6	-1.3	
	baz=251									
OHAK	Old Harbor	88.89	32	P		P		15 10 17.5	-1.6	
	baz=255									
G18K	Tagagawik	89.00	23	P		P		15 10 18.2	-1.3	
	baz=250									
J18K	Innoko River	89.01	26	P		P		15 10 18.5	-1.1	
	baz=252									
SEKA	Sheki	89.03	312	P		P		15 10 20.6	+0.4	
MNGR	Mingechevir, A	89.03	311	P		P		15 10 21.1	+1.0	
B18K	Kokolik River	89.14	19	P		P		15 10 19.6	-0.4	
	baz=247									
Q19K	Cape Douglas,	89.15	30	P		P		15 10 19.4	-1.0	
	baz=255									
O19K	Port Alsworth	89.15	29	P		P		15 10 19.5	-0.7	
	baz=254									
N19K	Bonanza Creek	89.24	28	P		P		15 10 20.1	-0.7	
	baz=254									
GCSA	Galena City Sc	89.34	24	P		P		15 10 21.1	+0.1	
	baz=252									
KDAK	Kodiak Island	89.40	32	P		P		15 10 21.2	-0.2	
	baz=256									
L19K	White Mountain	89.45	27	P		P		15 10 20.5	-1.2	
	baz=254									
ZKTA	Zakatala	89.53	312	P		P		15 10 23.1	+0.6	
GANJ	Ganja	89.58	311	P		P		15 10 23.2	+0.4	
M19K	Big River Lodg	89.58	27	P		P		15 10 21.0	-1.3	
	baz=254									
J19K	Poorman	89.63	25	P		P		15 10 21.9	-0.5	
	baz=253									
F19K	Shaleruckik Mo	89.65	22	P		P		15 10 21.9	-0.6	
	baz=251									
A19K	Wainwright	89.69	19	P		P		15 10 21.2	-1.3	
	baz=248									
G19K	Purcell Mounta	89.69	23	P		P		15 10 22.2	-0.5	
	baz=252									
Q20K	Shuyak Island	89.70	31	P		P		15 10 21.7	-1.2	
	baz=256									
H19K	Roundabout Mou	89.75	24	IAmb		IAmb		15 10 25.0		
	comp=Z,9.3nm,0.9s									
H19K	Roundabout Mou	89.75	24	P		P		15 10 22.5	-0.4	
	baz=252									
C19K	Lookout Ridge	89.77	20	IAmb		IAmb		15 10 24.8		
	comp=Z,16nm,0.8s									
C19K	Lookout Ridge	89.77	20	P		P		15 10 22.2	-0.9	
	baz=250									
O20K	Slope Mountain	89.94	29	P		P		15 10 23.3	-0.8	
	baz=256									
L20K	Farewell, AK	89.97	27	P		P		15 10 23.6	-0.5	
	baz=255									
E19K	Redstone River	90.05	22	P		P		15 10 23.3	-1.0	
	baz=252									
D19K	Kuna River	90.07	21	P		P		15 10 23.5	-0.9	
	baz=251									
K20K	Telida	90.12	26	IAmb		IAmb		15 13 04.2		
	comp=Z,35nm,2.0s									
K20K	Telida	90.12	26	P		P		15 10 24.2	-0.6	
	baz=255									
M20K	Styx River	90.15	28	P		P		15 10 24.7	-0.3	
	baz=255									
J20K	Nowinta River	90.31	25	P		P		15 10 24.9	-0.7	
	baz=254									
HOM	Homer	90.32	30	P		P		15 10 24.9	-0.8	
	baz=257									
I20K	Naaghedeneel	90.34	25	P		P		15 10 25.5	-0.2	
	baz=254									
H20K	Anotleneega Mo	90.37	24	P		P		15 10 25.2	-0.7	
	baz=254									
F20K	Avaraart Lake	90.48	22	P		P		15 10 25.6	-0.7	
	baz=253									
D20K	Etivluk River	90.66	21	P		P		15 10 27.0	-0.2	
	baz=252									
E20K	Nigu River	90.67	21	P		P		15 10 27.0	-0.3	
	baz=253									
BRSE	Bradley Lake S	90.79	30	P		P		15 10 28.1	+0.1	
	baz=257									
CAPN	Captain Cook N	90.81	29	P		P		15 10 27.2	-0.7	
	baz=257									
PPLA	Purkeypile	90.83	27	P		P		15 10 27.2	-1.1	
	baz=256									
B20K	Meade River	90.88	19	IAmb		IAmb		15 10 29.4		
	comp=Z,14nm,1.1s									
B20K	Meade River	90.88	19	P		P		15 10 27.0	-1.1	
	baz=252									
SKT	Skwentna	90.91	28	P		P		15 10 28.3	-0.1	
	baz=257									
KIRV	Kirov	90.95	329	*ce*P		P		15 10 27.7	-1.0	
CAST	Castle Rocks	91.00	26	P		P		15 10 28.9	0.0	
	baz=256									
CHUM	Lake Minchumin	91.01	26	P		P		15 10 28.4	-0.4	
	baz=256									
SUA	Susitna One	91.16	28	P		P		15 10 28.3	-1.5	
	baz=258									
G21K	Allakaket	91.18	23	P		P		15 10 29.3	-0.4	
	baz=255									
H21K	Melozitna Rive	91.24	24	P		P		15 10 29.2	-0.7	
	baz=256									
F21K	Alatna River	91.37	22	P		P		15 10 30.2	-0.3	
	baz=255									
C21K	Knifeblade Rid	91.42	20	P		P		15 10 31.3	+0.6	
	baz=254									
O22K	Cooper Landing	91.44	29	P		P		15 10 30.2	-0.7	
	baz=258									
A21K	Barrow	91.46	18	P		P		15 10 30.1	-0.7	
	baz=252									
I21K	Tanana	91.46	24	P		P		15 10 29.4	-1.5	
	baz=256									
SEW	Seward	91.50	30	P		P		15 10 31.1	-0.1	
	baz=259									
E21K	Killik River	91.51	21	P		P		15 10 30.3	-0.8	
	baz=255									
M22K	Willow	91.52	28	P		P		15 10 31.2	0.0	
	baz=258									
RC01	Rabbit Creek A	91.56	29	P		P		15 10 30.9	-0.5	
	baz=258									
CUT	Chulitna	91.58	27	P		P		15 10 31.2	-0.3	
	baz=258									
B21K	Ikpikpuk River	91.61	20	IAmb		IAmb		15 10 32.7		
	comp=Z,8.1nm,0.8s									
B21K	Ikpikpuk River	91.61	20	P		P		15 10 32.2	+0.7	
	baz=254									
BPAW	Bear Paw Mtn.	91.63	26	P		P		15 10 31.7	-0.1	
	baz=257									
TRF	Thorofare Moun	91.80	26	P		P		15 10 31.6	-1.1	
	baz=258									
H22K	Ishtalitna Cre	91.87	24	P		P		15 10 33.4	+0.6	
	baz=257									
A22K	Sinclair Lake	91.88	18	P		P		15 10 33.2	+0.5	
	baz=254									
F22K	John River	91.93	22	P		P		15 10 32.1	-1.0	
	baz=256									
MLY	Manley	91.94	25	IAmb		IAmb		15 10 36.0		
	comp=Z,9.7nm,1.2s									
MLY	Manley	91.94	25	P		P		15 10 32.3	-0.9	
	baz=258,SNR=8.1									
PMR	Palmer	91.95	28	P		P		15 10 32.6	-0.6	
	baz=259									
G22K	Bettles	92.05	23	P		P		15 10 33.1	-0.5	
	baz=257									
D22K	Ayikyak River	92.08	21	P		P		15 10 32.9	-0.8	
	baz=256									
B22K	Teshekpuk Lake	92.20	19	P		P		15 10 33.5	-0.7	
	baz=255									
E22K	Anaktuvuk Pass	92.22	22	P		P		15 10 34.0	-0.5	
	baz=257,SNR=5.8									
KNK	Knik Glacier	92.23	28	P		P		15 10 33.9	-0.7	
	baz=260									
SML	Sawmill	92.36	28	P		P		15 10 34.3	-0.9	
	baz=260									
RND	Reindeer	92.42	26	P		P		15 10 34.7	-0.8	
MCK	McKinley	92.44	26	P		P		15 10 35.2	-0.3	
	baz=259									
WAT1	Susitna Watana	92.45	27	P		P		15 10 33.8	-1.8	
	baz=259									
P23K	Montague Islan	92.49	30	P		P		15 10 34.5	-1.3	
	baz=260									
I23K	Minto, Yukon-K	92.54	25	P		P		15 10 35.0	-0.9	
	baz=259,SNR=10									
NEA2	Nenana	92.55	25	P		P		15 10 34.5	-1.5	
	baz=259									
KBZ	Khabaz	92.55	314	P		P		15 10 35.5	-0.9	
	comp=Z,4.1nm,1.0s,baz=104,slow=2.4,SNR=6.9									
	comp=Z,4.1nm,1.0s									
KBZ	Khabaz	92.55	314	*ce*P		P		15 10 35.3	-1.1	
KBZ				pmax		pmax				
	comp=Z,6.0nm,1.0s									
G23K	Bananza Creek	92.58	23	IAmb		IAmb		15 10 38.2		
	comp=Z,9.8nm,1.0s									
G23K	Bananza Creek	92.58	23	P		P		15 10 34.9	-1.2	
	baz=258,SNR=12									
H23K	Yukon River	92.59	24	IAmb		IAmb		15 10 37.6		
	comp=Z,5.7nm,0.8s									
H23K	Yukon River	92.59	24	P		P		15 10 35.4	-0.8	
	baz=259,SNR=5.6									
COLD	Coldfoot	92.62	23	P		P		15 10 35.5	-0.7	
	baz=258,SNR=11									
M23K	Glacier View	92.64	28	P		P		15 10 36.0	-0.5	
	baz=260									
KIV	Kislovodsk	92.73	314	*e*P		P		15 10 35.7	-1.7	
KIV				pmax		pmax				
	comp=Z,4.0nm,1.0s									
KIV				MLR		MLR				
	comp=Z,154nm,20.0s									
WAT6	Susitna Watana	92.77	27	P		P		15 10 36.3	-0.9	
	baz=260									
GLI	Glacier Island	92.79	29	P		P		15 10 36.7	-0.5	
	baz=261									
D23K	Nanushuk River	92.81	21	P		P		15 10 36.2	-0.8	
	baz=258,SNR=8.0									
SCM	Sheep Creek Mo	92.83	28	P		P		15 10 36.9	-0.5	
	baz=260									
WRH	Wood River Hil	92.94	25	IAmb		IAmb		15 10 38.0		
	comp=Z,13nm,1.0s									
E23K	Chandalar	93.00	22	P		P		15 10 38.3	+0.1	
	baz=259,SNR=11									
C23K	Itkillik River	93.02	20	IAmb		IAmb		15 10 39.1		
	comp=Z,11nm,1.0s									
C23K	Itkillik River	93.02	20	P		P		15 10 38.3	+0.3	
	baz=258,SNR=5.7									
DHY	Denali Highway	93.02	27	IAmb		IAmb		15 10 39.5		
	comp=Z,7.6nm,0.9s									
DHY	Denali Highway	93.02	27	P		P		15 10 37.6	-0.7	
	baz=260									
COLA	College	93.12	25	P		P		15 10 37.4	-1.2	
	baz=260									
TOLK	Toolik Lake Re	93.14	21	P		P		15 10 38.2	-0.5	
	baz=259									
H24K	Noodor Dome	93.27	24	P		P		15 10 38.8	-0.6	
	baz=260,SNR=10									
POKR	Poker Plat Res	93.33	25	P		P		15 10 39.3	-0.3	
	baz=261									
EYAK	Cordova Ski Ar	93.39	30	P		P		15 10 38.8	-1.1	
	baz=262									
M24K	Tolsona, Glenn	93.42	28	P		P		15 10 39.7	-0.4	
	baz=262									
HDA	Harding Lake	93.42	26	IAmb		IAmb		15 10 40.7		
	comp=Z,8.5nm,0.8s									
HDA	Harding Lake	93.42	26	P		P		15 10 39.7	-0.3	
	baz=261,SNR=9.5									
E24K	Your Creek	93.42	22	P		P		15 10 38.9	-1.1	
	baz=260									
KLU	Klutina	93.44	29	P		P		15 10 39.1	-1.1	
	baz=262									
D24K	Happy Valley	93.50	21	P		P		15 10 39.3	-1.0	
	baz=260									
ILAR	Eielson Array	93.51	25	P		P		15 10 38.4	-2.0	
ILAR	Eielson Array	93.51	25	P		P		15 10 38.8	-1.6	
	comp=Z,3.4nm,0.8s,baz=276,slow=4.3,SNR=32									
ILAR				PKKP		PKKPdf		15 27 46.8	-0.3	
	comp=Z,0.4nm,0.6s,baz=328,slow=1.5,SNR=6.0									
	comp=Z,3.4nm,0.8s									
F24K	Squaw Lake	93.55	22	IAmb		IAmb		15 10 42.4		
	comp=Z,9.5nm,0.9s									
F24K	Squaw Lake	93.55	22	P		P		15 10 38.7	-1.9	
	baz=260,SNR=14									
G24K	Hadweenzic Riv	93.58	23	IAmb		IAmb		15 10 42.3		
	comp=Z,7.3nm,0.9s									
G24K	Hadweenzic Riv	93.58	23	P		P		15 10 39.6	-1.1	
	baz=261,SNR=5.4									
C24K	Franklin Bluff	93.64	20	P		P		15 10 40.5	-0.4	
	baz=260									
K24K	Donnelly Dome	93.84	26	P		P		15 10 40.5	-1.5	
	baz=262									
PAX	Paxson	93.86	27	P		P		15 10 41.3	-0.9	
	baz=262									
HARP	HAARP	93.93	28	P		P		15 10 40.9	-1.5	
	baz=262									
KAIM	Kayak Island	93.97	30	P		P		15 10 41.1	-1.5	
	baz=263									
BMRM	Bremner River	94.00	29	P		P		15 10 42.4	-0.4	
	baz=263									
N25K	Chitina, Valde	94.09	29	P		P		15 10 41.7	-1.6	
	baz=263									
G25K	Bearman Lake	94.12	23	P		P		15 10 42.0	-1.2	
	baz=262,S

K27K	Chicken baz=265	95.49	26	P		P	15 10 48.7	-0.8	
L27K	Beaver Creek, comp=Z,7.4nm,0.9s	95.52	27	IAmb		IAmb	15 10 51.9		
L27K	Beaver Creek, baz=265,SNR=6.7	95.52	27	P		P	15 10 49.0	-0.7	
BCAR	Beaver Creek A	95.54	27	P		P	15 10 50.0	+0.2	
SNAA	Sanae comp=Z,4.5nm,1.0s,baz=162,slow=20,SNR=2.9 comp=Z,4.5nm,1.0s	95.55	194	P		P	15 10 48.9	-0.9	
SNAA	Sanae	95.55	194	*ce*P		P	15 10 50.9	+1.1	
SNAA	comp=Z,5.0nm,1.0s			pmax		pmax			
CTG	Chitna Glacier baz=266	95.59	29	P		P	15 10 48.9	-1.3	
I27K	Kandik River baz=266,SNR=16	95.81	25	P		P	15 10 49.9	-1.1	
G27K	Doyon Strip baz=266	95.88	23	P		P	15 10 50.7	-0.5	
H27K	Steamboat Moun baz=266,SNR=6.3	95.89	24	P		P	15 10 50.8	-0.6	
EGAK	Eagle comp=Z,6.4nm,0.9s	95.94	26	IAmb		IAmb	15 10 52.7		
EGAK	Eagle baz=266,SNR=7.0	95.94	26	P		P	15 10 51.1	-0.4	
E27K	Coleen River comp=Z,7.5nm,1.0s	96.00	22	IAmb		IAmb	15 10 53.2		
E27K	Coleen River baz=266,SNR=10	96.00	22	P		P	15 10 51.4	-0.4	
YUK3	Moose Creek baz=266	96.07	29	P		P	15 10 51.6	-0.9	
O28M	Mount Upton baz=267	96.14	30	P		P	15 10 51.7	-1.1	
D27M	Malcolm River comp=Z,4.5nm,1.0s	96.30	21	IAmb		IAmb	15 10 54.4		
D27M	Malcolm River baz=267,SNR=7.0	96.30	21	P		P	15 10 53.3	+0.2	
YUK8	Steele Glacier baz=267	96.37	29	P		P	15 10 53.2	-0.7	
PNL	Peninsula baz=267	96.47	31	P		P	15 10 53.5	-0.6	
I28M	Miner Creek baz=267,SNR=15	96.50	25	P		P	15 10 52.9	-1.2	
F28M	Old Crow comp=Z,3.6nm,0.8s	96.62	23	IAmb		IAmb	15 10 55.8		
F28M	Old Crow baz=268,SNR=6.3	96.62	23	P		P	15 10 53.8	-0.8	
E28M	Babbage River comp=Z,7.3nm,1.2s	96.78	22	IAmb		IAmb	15 10 56.6		
E28M	Babbage River baz=268,SNR=8.1	96.78	22	P		P	15 10 54.8	-0.5	
YUK4	Talbot Arm baz=268	96.91	29	P		P	15 10 55.6	-0.7	
M29M	Somme Creek baz=268	97.04	28	P		P	15 10 56.2	-0.5	
D28M	Stokes Point baz=269,SNR=7.0	97.09	21	P		P	15 10 55.4	-1.1	
H29M	Whitestone baz=269,SNR=19	97.17	24	P		P	15 10 56.9	-0.2	
J29N	Klondike Camp comp=Z,7.4nm,1.1s	97.20	26	IAmb		IAmb	15 10 59.9		
J29N	Klondike Camp baz=269	97.20	26	P		Pdif	15 10 57.3	-0.1	
L29M	L29M baz=269	97.21	27	P		Pdif	15 10 58.1	+0.7	
P29M	Windy Craggy baz=269	97.31	31	P		Pdif	15 10 58.5	+0.6	
G29M	Pine Creek baz=269	97.32	23	P		Pdif	15 10 58.5	+0.7	
E29M	Blow River baz=270	97.38	22	P		Pdif	15 10 58.6	+0.6	
MMAI	Mount Meron Ar comp=Z,2.6nm,0.7s,baz=77,slow=1.9,SNR=3.7 comp=Z,2.6nm,0.7s	97.43	302	P		P	15 10 58.4	-0.7	
HYT	Haines Junctio baz=269	97.45	30	P		Pdif	15 10 58.9	+0.2	
K29M	Barlow Dome comp=Z,7.7nm,1.2s	97.49	27	IAmb		IAmb	15 11 00.6		
K29M	Barlow Dome baz=269,SNR=5.8	97.49	27	P		Pdif	15 10 59.7	+1.0	
N30M	Aishikik Lake baz=269	97.67	29	P		Pdif	15 10 59.8	+0.3	
P30M	Million Dollar baz=269	97.71	30	P		Pdif	15 11 00.4	+0.6	
I30M	Mount Dempster baz=271,SNR=41	97.99	25	P		Pdif	15 11 01.6	+0.6	
J30M	Hart River comp=Z,4.8nm,0.9s	98.01	26	IAmb		IAmb	15 11 03.2		
J30M	Hart River baz=270,SNR=18	98.01	26	P		Pdif	15 11 01.2	+0.2	
G30M	tAoh Zrail Nji baz=271	98.03	23	P		Pdif	15 11 01.2	+0.2	
S31K	Pelican baz=270	98.07	32	P		Pdif	15 11 01.6	+0.4	
O30N	Mendenhall baz=270	98.15	30	P		Pdif	15 11 01.7	+0.1	
F30M	Barrier River baz=272,SNR=15	98.19	23	P		P	15 11 01.1	-0.5	
N31M	Braeburn, Yuko baz=271	98.29	29	P		Pdif	15 11 02.8	+0.6	
SKAG	Skagway baz=271	98.54	31	P		Pdif	15 11 03.7	+0.4	
SIT	Sitka baz=270	98.56	33	P		Pdif	15 11 03.7	+0.2	
WHY	Whitehorse baz=271	98.74	30	P		Pdif	15 11 04.6	+0.2	
G31M	Satah River baz=273	98.80	23	P		Pdif	15 11 04.7	+0.4	
H31M	Peel River baz=272	98.82	25	P		Pdif	15 11 05.0	+0.5	
MBAR	Mbarara comp=Z,506nm,21.1s,baz=202,slow=33	98.87	268	LR		LR	15 52 40.7		
M31M	Drury Creek, Y baz=272	98.94	28	P		P	15 11 04.8	-0.2	
S32K	Killisnoo baz=271	98.96	33	P		Pdif	15 11 05.6	+0.4	
R32K	Eaglecrest baz=271	98.98	32	P		Pdif	15 11 05.5	+0.2	
INK	Inuvik baz=274	99.01	22	P		Pdif	15 11 05.6	+0.4	
BR131	Keskin Array S comp=Z,5.7nm,1.4s	99.16	309	IAmb		IAmb	15 15 07.5		
BRTR	Keskin Array B comp=Z,1.0nm,0.7s,baz=132,slow=5.2,SNR=8.4 comp=Z,1.0nm,0.7s	99.16	309	P		Pdif	15 11 05.8	-1.0	
P32M	Atlin baz=272	99.36	31	P		Pdif	15 11 06.8	-0.2	
FARO	Faro, Yukon baz=273	99.42	28	P		Pdif	15 11 07.4	+0.1	
N32M	Quiet Lake baz=273	99.60	29	P		Pdif	15 11 07.7	-0.5	
U33K	Whale Pass baz=272	99.80	34	P		Pdif	15 11 08.6	-0.3	
CRAG	Craig baz=272	99.82	35	P		Pdif	15 11 08.5	-0.6	
MMPY	Sheldon Lake, baz=275	100.37	28	P		Pdif	15 11 11.0	-0.5	
V35K	Ketchikan baz=273	100.68	35	P		Pdif	15 11 12.3	-0.6	
R33M	Jennings River baz=274	100.77	31	P		Pdif	15 11 12.5	-0.9	
S34M	Telegraph Cree baz=274	100.79	32	P		Pdif	15 11 13.0	-0.3	
A36M	Sachs Harbour baz=282	101.30	18	P		Pdif	15 11 14.7	-0.6	
DLBC	Dease Lake baz=275	101.33	32	P		Pdif	15 11 15.7	-0.2	
T35M	Bob Quinn baz=275	101.33	33	P		Pdif	15 11 15.7	-0.2	
ARCES	ARCESS Array B comp=Z,7.1nm,0.9s,baz=15,slow=5.0,SNR=5.2	101.55	340	P		Pdif	15 11 16.1	-0.4	
ARCES	comp=Z,8.9nm,1.2s,baz=48,slow=1.8,SNR=5.7			PKiKP		PKiKP	15 15 39.8	+0.1	
SPITS	Spitsbergen Ar comp=Z,3.3nm,0.7s,baz=108,slow=5.4,SNR=5.4	101.57	349	P		Pdif	15 11 17.2	+0.7	
WTLY	Watson Lake, Y baz=276	101.79	30	P		Pdif	15 11 18.0	+0.2	
AKASG	Malin Array Be comp=Z,0.2nm,0.4s,baz=74,slow=4.6,SNR=1.9	102.09	320	P		Pdif	15 11 18.5	-0.8	
C36M	Paulatuk baz=283	102.25	20	P		Pdif	15 11 20.1	+0.4	
FINES	FINESS Array B comp=Z,1.0nm,0.5s,baz=67,slow=3.1,SNR=12	102.69	331	PKiKP		PKiKP	15 15 42.1	+0.2	
YKA	Yellowknife Ar comp=Z,0.9nm,0.6s,baz=309,slow=2.0,SNR=20	107.91	26	PKiKP		PKiKP	15 15 51.9	+0.4	
YKA	comp=Z,0.8nm,0.7s,baz=96,slow=2.6,SNR=18			PKKPbc		PKKPbc	15 27 05.1	-2.2	
NVAR	Mina Array Bea comp=Z,0.5nm,0.7s,baz=298,slow=1.9,SNR=3.6	111.53	52	PKiKP		PKiKP	15 16 00.9	+1.6	
NVAR	comp=Z,0.3nm,0.5s,baz=130,slow=4.6,SNR=3.6			PKKPbc		PKKPbc	15 26 54.6	-0.5	
NVAR	comp=Z,0.2nm,0.5s,baz=113,slow=4.4,SNR=3.6			PKKPab		PKKPab	15 27 04.6	+0.9	
ISA	Isabella, Lake baz=277	111.76	55	P		PKiKP	15 15 60.0	+0.3	
TIN	Tinemaha, Big baz=278	111.78	53	P		PKiKP	15 15 59.3	-0.4	
CWC	Cottonwood Cre baz=278	111.98	54	P		PKiKP	15 16 00.5	+0.3	
SCI2	San Clemente I baz=276	112.00	57	P		PKiKP	15 15 59.8	-0.3	
CLL	Collm	112.05	323	*e*P		Pdif	15 12 04.0	+0.4	
EDW2	Edwards Air Fo baz=277	112.25	55	P		PKiKP	15 16 01.3	+0.7	
GERES	GERESS Array B comp=Z,1.8nm,0.6s,baz=54,slow=1.6,SNR=6.3	112.30	320	PKiKP		PKiKP	15 16 00.6	+0.3	
GRAC	Grapevine Rang baz=278,SNR=17	112.47	53	P		PKiKP	15 16 01.1	+0.1	
MPMC	Manual Prospec baz=278	112.50	54	P		PKiKP	15 16 00.6	-0.7	
MSO	Missoula baz=285	113.01	42	P		PKiKP	15 16 02.2	+0.4	
MURC	Murrieta baz=277	113.06	57	P		PKiKP	15 16 01.4	-0.8	
GSC	Goldstone, Bar baz=278	113.16	55	P		PKiKP	15 16 02.1	-0.3	
LESA	Schwarzleotal comp=Z,2.4nm,0.6s	113.35	319	*i* PKiKP		PKiKP	15 16 02.6	+0.2	
HLID	Hailey baz=283,SNR=6.6	113.47	46	P		PKiKP	15 16 02.5	-0.3	
SHOC	Shoshone, Teco baz=279	113.50	54	P		PKiKP	15 16 02.7	-0.2	
HEC	Hector,Ludlow baz=278	113.61	55	P		PKiKP	15 16 03.2	0.0	
ABTA	Abfaltersbach comp=Z,4.8nm,0.8s	113.64	318	*e*PKiKP		PKiKP	15 16 02.8	-0.1	
R11B	Troy Canyon, C baz=280	113.65	51	P		PKiKP	15 16 02.9	-0.5	
PFO	Pinyon Flats O baz=278	113.67	56	P		PKiKP	15 16 02.5	-0.9	
TPFO	Pinon Flats baz=278	113.67	56	P		PKiKP	15 16 02.7	-0.8	
MONP2	Monument Peak baz=277	113.79	57	P		PKiKP	15 16 02.6	-1.2	
TUQ	Turquoise Moun baz=279	113.85	54	P		PKiKP	15 16 02.3	-1.4	
BELC	Belle Mtn. Jos baz=278	114.00	56	P		PKiKP	15 16 03.3	-0.8	
WTTA	Wattenberg comp=Z,8.7nm,0.4s	114.07	319	*i* PKP		PKiKP	15 16 04.2	+0.4	
IKP	In-Ko-Pah, Jac baz=277	114.08	57	P		PKPdf	15 16 03.5	-0.7	
WATA	Waldeim comp=Z,2.9nm,0.5s	114.09	319	*i* PKP		PKiKP	15 16 03.9	+0.1	
GMRC	Granite Mounta baz=279	114.16	55	P		PKPdf	15 16 03.9	-0.5	
SWSC	Sam W. Stewart baz=278	114.30	57	P		PKiKP	15 16 05.0	+0.6	
SQTA	Sankt Quirin comp=Z,2.2nm,0.6s	114.36	319	*i* PKP		PKiKP	15 16 04.5	+0.2	
MOTA	Moosalm comp=Z,3.1nm,0.5s	114.39	319	*i* PKP		PKiKP	15 16 04.7	+0.2	
BC3	Big Chuckawall baz=278	114.49	56	P		PKPdf	15 16 04.0	-1.0	
IRM	Iron Mountain baz=279	114.67	56	P		PKiKP	15 16 05.8	+0.5	
FETA	Feichten comp=Z,1.2nm,0.5s	114.73	319	*i* PKP		PKiKP	15 16 04.9	-0.2	
BOZ	Bozeman (W) baz=286	114.88	43	P		PKPdf	15 16 05.9	+0.4	
FUORN	Ofenpass-Fuorn	115.16	318	PKiKP		PKiKP	15 16 06.0	-0.1	
DAVA	Damuels comp=Z,5.6nm,0.5s	115.21	319	*i* PKP		PKPdf	15 16 06.2	+0.2	
EGMT	Eagleton	115.38	40			PKPdf	15 16 06.5	+0.3	
EGMT	Eagleton baz=289	115.38	40	P		PKPdf	15 16 06.8	+0.6	
DUG	Dugway, Tooele baz=283	115.39	49	P		PKiKP	15 16 06.1	-0.5	
PDMCI	Parker Dam,Lak baz=279	115.47	55	P		PKPdf	15 16 06.5	-0.2	
H17A	Grant Village baz=287	115.94	44	P		PKPdf	15 16 06.5	-1.1	
LOHW	Log Hollow	116.14	45			PKiKP	15 16 08.9	+0.8	
RLMT	Red Lodge baz=288	116.61	43	P		PKPdf	15 16 08.0	-0.9	
BCLA	Clavier	116.93	324	*d*PKPdf		PKiKP	15 16 09.0	0.0	
214A	Organ Pipe Nat baz=279	116.94	58	P		PKiKP	15 16 09.6	-0.1	
BW06	Boulder Array baz=287	117.11	45	P		PKPdf	15 16 08.1	-1.8	
PDAR	Pinedale Array	117.11	45			PKiKP	15 16 10.3	+0.3	
PDAR	Pinedale Array comp=Z,1.4nm,0.7s,baz=215,slow=0.8,SNR=16	117.11	45	PKP		PKiKP	15 16 10.6	+0.6	
WUAZ	Wupatki baz=282	117.49	54	P		PKPdf	15 16 09.8	-1.0	
LAO	LASA Array baz=291,SNR=8.8	118.09	40	P		PKPdf	15 16 11.3	-0.1	
TUC	Tucson baz=280	118.58	57	P		PKPdf	15 16 12.7	-0.1	
KEST	Kesra	118.66	307			PKiKP	15 16 13.1	+0.1	
KEST	Kesra comp=Z,3.6nm,0.8s,baz=131,slow=1.7,SNR=6.4	118.66	307	PKP		PKPdf	15 16 12.6	-0.3	
KEST	comp=Z,3.3nm,0.9s,baz=146,slow=3.6,SNR=5.4			PP		PP	15 17 28.3	-4.1	
DGMT	Dagmar baz=294	118.68	38	P		PKiKP	15 16 13.0	+0.4	
O20A	White River Ci baz=286	118.80	48	P		PKiKP	15 16 13.8	+0.5	
W18A	Petrified Fore baz=283	118.89	54	P		PKiKP	15 16 15.2	+1.6	
EKA	Eskdalemuir Ar comp=Z,0.8nm,0.3s,baz=33,slow=3.5,SNR=12	119.09	331	PKP		PKiKP	15 16 13.0	-0.1	
EKA	Eskdalemuir Ar	119.09	331	PKiKP		PKiKP	15 16 13.0	-0.1	
K22A	Casper baz=289	119.28	45	P		PKiKP	15 16 14.8	+0.8	
MVCO	Mesa Verde baz=284	119.38	51	P		PKiKP	15 16 14.8	+0.3	
N23A	Red Feather La baz=288	120.25	46	P		PKiKP	15 16 16.9	+0.8	
RSSD	Black Hills	120.47	42	PKPdf		PKPdf	15 16 15.9	-0.4	
RSSD	Black Hills baz=292	120.47	42	P		PKiKP	15 16 16.4	0.0	
RSSD	Black Hills	120.47	42	PKiKP		PKPdf	15 16 15.9	-0.4	
ISCO	Idaho Springs baz=288	120.83	48	P		PKiKP	15 16 17.3	-0.1	
121A	Cookes Peak, D baz=282	121.03	56	P		PKPdf	15 16 17.5	-0.2	
Y22D	IRIS PASSCAL I baz=284	121.38	54	P		PKiKP	15 16 18.8	+0.3	
Y22F	Passcal Instru baz=284	121.38	54	P		PKiKP	15 16 18.6	+0.1	
Q24A	Divide baz=288	121.43	48	P		PKiKP	15 16 18.5	-0.1	
SDCO	Great Sand Dun baz=287	121.53	50	P		PKiKP	15 16 19.5	+0.7	
ANMO	Albuquerque baz=285	121.54	53	P		PKiKP	15 16 19.5	+0.7	
MDND	Maddock baz=298	121.72	37	P		PKiKP	15 16 19.6	+1.1	
T25A	Trinidad baz=288	122.53	50	P		PKPdf	15 16 20.3	-0.3	
ULM	Lac du Bonnet	122.63	33	PKPdf		PKPdf	15 16 19.8	-0.2	
ULM	Lac du Bonnet comp=Z,6.6nm,0.6s,baz=322,slow=2.2,SNR=17	122.63	33	PKP		PKiKP	15 16 20.1	0.0	
OGNE	Ogallala baz=292	123.01	45	P		PKPdf	15 16 20.0	-1.1	
MNTX	Cornudas Mount baz=283	123.20	57	P		PKiKP	15 16 22.8	+0.9	
KSCO	Kaye Shedlock' baz=290	123.27	48	P		PKiKP	15 16 22.2	+0.2	
SUSD	Miller baz=296	123.67	40	P		PKiKP	15 16 23.4	+0.9	
AGMN	Agassiz Nation baz=302	123.68	35	P		PKiKP	15 16 22.4	0.0	
TXAR	Lajitas Array comp=Z,1.5nm,0.9s,baz=330,slow=2.1,SNR=11	125.17	59	PKP		PKPdf	15 16 25.6	0.0	
AMTX	Amarillo baz=288	125.33	52	P		PKiKP	15 16 26.3	+0.1	
CBKS	Cedar Bluff baz=292	125.45	47	P		PKiKP	15 16 26.6	+0.4	
ECSD	EROS Data Cent	125.49	40	PKPdf		PKPdf	15 16 25.3	-0.5	
ECSD	EROS Data Cent baz=298,SNR=6.1	125.49	40	P		PKiKP	15 16 26.6	+0.5	
BGNE	Belgrade baz=295	125.52	43	P		PKiKP	15 16 26.4	+0.1	
EYMN	Ely baz=306	126.31	33	P		PKiKP	15 16 27.7	+0.1	
SPMN	Marine on St. baz=303	127.09	37	P		PKiKP	15 16 29.0	-0.2	
ESDC	Sonseca Array	127.37	315	PKPdf		PKiKP	15 16 29.9	-0.1	
ESDC	Sonseca Array comp=Z,1.7nm,1.0s,baz=10,slow=2.5,SNR=7.4	127.37	315	PKP		PKPdf	15 16 28.8	-0.6	
ESDC	comp=Z,1.5nm,0.9s,baz=64,slow=6.5,SNR=9.3			PP		PP	15 18 30.0	-0.7	
KSU1	Kansas State U baz=295	127.57	45	P		PKiKP	15 16 30.5	+0.1	
WMOK	Wichita Mounta baz=290	127.63	51	P		PKiKP	15 16 30.8	+0.1	
ABTX	Abilene, Hawle baz=288	127.64	54	P		PKiKP	15 16 30.4	-0.4	
PAB	San Pablo	127.69	315			PKPdf	15 16 29.9	-0.2	
PAB	San Pablo	127.69	315	PKIKP		PKPdf	15 16 30.0	-0.2	
JCT	Junction City baz=286	128.14	57	P		PKiKP	15 16 31.5	-0.3	
PBRG	Braganca	128.26	319	*e*PKP		PKiKP	15 16 32.6	+0.9	
TORD	Torodi Ar. Bea	128.57	281	PKPdf		PKPdf	15 16 32.5	+0.2	
TORD	Torodi Ar. Bea comp=Z,4.8nm,0.6s,baz=64,slow=2.6,SNR=28	128.57	281	PKP		PKPdf	15 16 32.4	0.0	
MVO	Moncorvo	128.76	318	*e*PKP		PKiKP	15 16 33.9	+1.1	
PLCA	Paso Flores comp=Z,3.1nm,0.7s,baz=182,slow=2.7,SNR=12	128.91	160	PKP		PKiKP	15 16 33.3	+0.1	
833A	Chaparral WMA, baz=285	129.05	59	P		PKiKP	15 16 33.3	-0.4	
PGAV	Gavieira, Arco	129.16	320	*e*PKP		PKiKP	15 16 34.3	+0.7	
TUL3	Leonard baz=294	129.47	49	P		PKPdf	15 16 33.0	-0.5	
MTE	Manteigas	129.48	318	*e*PKP		PKiKP	15 16 34.6	+0.4	
PVIS	Viseu	129.55	318	*e*PKP		PKiKP	15 16 35.5	+1.1	
WHTX	Lake Whitney, baz=289	129.59	54	P		PKPdf	15 16 33.9	0.0	
PCBR	Castelo Branco	129.70	317	*e*PKP		PKiKP	15 16 36.0	+1.4	
JFWS	Jewell Farm baz=304	129.90	38	P		PKiKP	15 16 35.3	+0.4	
PCAS	Casmilo, Conde	130.28	318	*e*PKP		PKiKP	15 16 35.5	-0.3	
SCHQ	Schefferville comp=Z,17nm,0.9s,baz=346,slow=5.1,SNR=13	130.53	13	SKPbc		SKPab	15 19 47.1	+0.4	
MIAR	Mount Ida baz=294	131.68	49	P		PKiKP	15 16 38.7	-0.1	
L44A	Lake County Fo baz=306	131.74	37	P		PKiKP	15 16 38.3	-0.4	
CCM	Cathedral Cave baz=299	131.78	44	P		PKiKP	15 16 38.6	-0.2	
NATX	Nacogdoches baz=291	131.91	53	P		PKiKP	15 16 39.5	+0.2	
GLMI	Grayling baz=311	131.97	33	P		PKiKP	15 16 39.0	-0.1	
SFIN	Lafayette baz=305	133.28	39	P		PKiKP	15 16 41.3	-0.5	
O48B	Farmland baz=307	134.55	38	P		PKiKP	15 16 43.9	-0.5	
OXF	Oxford baz=298	134.78	47	P		PKiKP	15 16 44.9	-0.1	
DBIC	Dimbokro comp=Z,5.7nm,0.5s,baz=89,slow=1.7,SNR=7.7	134.94	272	PKP		PKPdf	15 16 44.8	+0.4	
DBIC	comp=Z,3.0nm,0.7s,baz=81,slow=4.3,SNR=4.2			SKPbc		SKPbc	15 20 04.9	+1.9	
VBMS	Vicksburg baz=295	134.97	51	P		PKiKP	15 16 45.3	-0.2	
WCI	Wyandotte Cave baz=304	135.01	41	P		PKiKP	15 16 45.3	-0.1	
WVT	Waverly baz=301	135.11	44	P		PKPdf	15 16 44.6	+0.4	
P49A	Miami Univ. Ec baz=307	135.25	38	P		PKPdf	15 16 44.7	+0.4	
ACSO	Alum Creek Sta baz=310	135.87	36	P		PKPdf	15 16 45.8	+0.4	
ERPA	Erie baz=315	136.28	32	P		PKPdf	15 16 46.3	+0.1	
M53A	WI Miller and baz=313	136.38	33	P		PKPdf	15 16 46.5	+0.1	
P52A	Corning baz=310	136.75	37	P		PKPdf	15 16 47.0	-0.1	
O53A	New Philadelph baz=312	136.88	35	P		PKPdf	15 16 47.0	-0.4	
LONY	Lake Ozonia baz=323	137.00	26	P		PKPdf	15 16 46.7	-0.7	
LRAL	Lakeview Retre baz=299	137.25	48	P		PKPdf	15 16 47.7	-0.5	
J58A	Remsen	137.68	27			PKPdf	15 16 48.8	+0.1	
TZTN	Tazewell baz=306	137.77	41	P		PKPdf	15 16 48.6	-0.5	
MCWV	Mont Chateau baz=313	138.06	35	P		PKPdf	15 16 48.7	-0.8	
TKL	Tuckaleechee C comp=Z,9.2nm,0.7s,baz=178,slow=3.2,SNR=14	138.13	42	PKP		PKPdf	15 16 50.4	+0.7	
BINY	Binghamton baz=320	138.25	29	P		PKiKP	15 16 51.2	-0.7	
LBNH	Lisbon baz=327	138.40	24	P		PKiKP	15 16 51.5	-0.6	
SSPA	Standing Stone baz=316	138.45	32	P		PKPdf	15 16 51.1	+0.9	
BLA	Blacksburg baz=310	139.34	38	P		PKiKP	15 16 53.6	-0.7	
L61B	Northampton baz=324	139.56	26	P		PKPdf	15 16 52.8	+0.6	
GOGA	Godfrey baz=303	139.59	45	P		PKPdf	15 16 52.9	+0.4	
HRV	Adam Dziewonsk baz=326	139.99	25	P		PKPdf	15 16 53.9	+1.0	
KMSC	Kings Mountain baz=307	140.05	41	P		PKPdf	15 16 54.4	+1.1	
CBN	Corbin Frederi baz=315	140.46	34	P		PKiKP	15 16 55.7	-0.7	
GO02	Mina Guanaco	142.85	150			PKPdf	15 16 56.8	-2.2	
PB14	IPOC Station P	142.88	149	PKPdf		PKPdf	15 16 57.2	-1.9	
CPUP	Villa Florida	146.11	169			PKPbc	15 17 05.4	+0.1	
CPUP	Villa Florida comp=Z,19nm,0.8s,baz=191,slow=1.9,SNR=41	146.11	169	PKPbc		PKPbc	15 17 04.8	-0.5	
CPUP	comp=Z,16nm,0.9s,baz=207,slow=0.3,SNR=16			SKPbc		SKiKP	15 20 32.9	+0.2	
CPUP	Villa Florida	146.11	169	PKP2		PKPbc	15 17 05.4	+0.1	
PB12	IPOC Station P	147.71	142			PKiKP	15 17 12.1	0.0	
LPAZ	La Paz comp=Z,9.9nm,0.4s,baz=326,slow=3.0,SNR=75	150.83	143	PKPbc		PKiKP	15 17 20.0	+0.8	
BDFB	Brasilia comp=Z,3.0nm,0.7s,baz=195,slow=9.0,SNR=4.7	157.34	186	PKP		PKPdf	15 17 22.0	+0.6	

IDC ***06*** *15:02:06.4±2.3, 12°.79N×87°.84W, h0km, mb3.8/10, mbtmp3.9/12, ML3.3/2, Error ellipse: s-maj=51.4km s-min=22.4km az=17.0*

GCG ***06*** *15:02:09.7±0.7, 13°.78N×87°.78W, h207km±32km, MD4.2*
CATAC ***06*** *15:02:10.5±0.1, 13°.28N×88°.05W, h5km±1km, mb4.4, ML4.5*
SNET ***06*** *15:02:10.0±0.9, 13°.29N×88°.07W, h5km±2km, ML4.6*
NEIC ***06*** *15:02:11.0±1.9, 13°.30N±0°.05×88°.00W±0°.03, h10km±2km, mb4.4/32, Error ellipse: s-maj=8.5km s-min=5.3km az=185.0*

ISC 06 15:02:10.3±0.8, 13°.21N±0°.03×88°.07W±0°.02, h12km±5km, n166, σ1°31/200, mb4.4/24, 9C-13D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	Jucuarɲn	0.17	284	⇑*i*P	Pb	15 02 15.0	-0.6
JUCU				*e*S	Sg	15 02 18.0	+0.8
JUCU	comp=Z,190μm,0.3s			IAML		15 02 20.7	
JUCU	Jucuarɲn	0.17	284	*i* P	Pb	15 02 14.9	-0.6
JUCU				*i* S	Sg	15 02 18.4	+1.2
JUCU	comp=Z,190μm,1.0s			IAML		15 02 20.2	
CNCH	Conchagua	0.24	75	⇑*i*P	Pb	15 02 15.7	-0.9
CNCH				*e*S	Sg	15 02 19.3	+0.3
CNCH	comp=Z,333μm,0.4s

PACA **Pacayal** 0.35 317⇑ *i*P Pb 15 02 17.5 -1.1
PACA **Pacayal** 0.35 317 *i* P Pb 15 02 17.4 -1.1
PACA *i* S Sb 15 02 23.0 -1.1
PACA IAML 15 02 31.5
comp=Z,300µm,1.0s
AMPH **Amapala** 0.41 80⇑ *i*P Pb 15 02 18.5 -0.9
AMPH *e*S Sb 15 02 24.2 -1.5
TECA **Tecapa** 0.50 304⇓ *i*P Pb 15 02 20.3 -0.8
COEB **Comit de Eme** 0.53 303⇓ *i*P Pb 15 02 20.7 -0.8
COEB **Comit de Eme** 0.53 303 *i* P Pb 15 02 20.7 -0.8
COEB *i* S Sb 15 02 28.0 -1.1
COEB IAML 15 02 30.2
comp=Z,19µm,1.0s
PQSS **Presa 15 de Se** 0.63 311⇑ *e*P Pb 15 02 22.2 -1.0
PQSS **Presa 15 de Se** 0.63 311 *i* P Pb 15 02 22.1 -1.0
PQSS IAML 15 02 22.9
comp=Z,7µm,1.0s
TECO **Alcaldia de Te** 0.76 295⇓ *i*P Pb 15 02 24.6 -0.8
TECO **Alcaldia de Te** 0.76 295 *i* P Pb 15 02 24.8 -0.6
TECO *i* S Sb 15 02 35.2 -0.6
TECO IAML 15 02 40.4
comp=Z,9µm,1.0s
SCLA **Alcaldia de Sa** 0.80 308⇓ *i*P Pb 15 02 25.4 -0.8
SCLA **Alcaldia de Sa** 0.80 308 *i* P Pb 15 02 25.7 -0.5
SCLA *i* S Sn 15 02 38.5 -0.8
SCLA IAML 15 02 53.4
comp=Z,5µm,1.0s
UESV **Universidad de** 0.81 301 *e*P Pb 15 02 25.7 -0.7
UESV **Universidad de** 0.81 301 *i* P Pb 15 02 25.7 -0.7
UESV *i* S Sb 15 02 37.6 +0.3
UESV IAML 15 02 43.5
comp=Z,8µm,1.0s
SNVI **San Vicente** 0.84 298 *e*P Pb 15 02 26.4 -0.6
COEG **Centro de Oper** 0.88 297⇓ *i*P Pb 15 02 26.9 -0.7
COEG **Centro de Oper** 0.88 297 *i* P Pb 15 02 26.9 -0.7
COEG *i* S Sb 15 02 39.5 +0.1
COEG IAML 15 02 43.3
comp=Z,7µm,1.0s
PAVA **Las Pavas** 0.98 301⇓ *i*P Pb 15 02 28.6 -0.6
PAVA **Las Pavas** 0.98 301 *i* P Pb 15 02 28.6 -0.6
PAVA *i* S Sn 15 02 42.8 -0.9
PAVA IAML 15 02 45.0
comp=Z,15µm,1.0s
CRIN **San Cristobal** 1.12 117 Pn Pn 15 02 32.0 +0.2
CRIN **San Cristobal** 1.12 117⇓ *i*P Pn 15 02 32.1 +0.2
CRIN **San Cristobal** 1.12 117 *i* P Pn 15 02 32.3 +0.5
CRIN *i* S Sn 15 02 48.8 +1.6
CRIN IAML 15 02 55.9
comp=Z,61µm,1.0s
TGUH **Tegucigalpa,Un** 1.15 43 Pb 15 02 30.4 -1.6
TGUH **Tegucigalpa,Un** 1.15 43⇑ *i*P Pb 15 02 30.5 -1.6
TGUH **Tegucigalpa,Un** 1.15 43 *i* P Pb 15 02 30.5 -1.6
TGUH IAML 15 02 30.9
comp=Z,24µm,1.0s
TGUH *i* S Sb 15 02 45.6 -1.4
PANCS **Alcalda de** 1.15 290 *e*P Pb 15 02 31.4 -0.6
PANCS **Alcalda de** 1.15 290 *i* P Pb 15 02 31.5 -0.6
PANCS *i* S Sn 15 02 47.0 -0.8
PANCS IAML 15 02 49.1
comp=Z,15µm,1.0s
LOMA **Loma Larga** 1.15 292⇓ *e*P Pg 15 02 31.7 -0.8
LOMA **Loma Larga** 1.15 292 *i* P Pg 15 02 31.7 -0.8
LOMA *i* S Sn 15 02 47.6 -0.4
LOMA IAML 15 02 51.3
comp=Z,12µm,1.0s
UDBS **Universidad Do** 1.17 296 *i* P Pg 15 02 32.2 -0.5
UDBS *i* S Sn 15 02 48.4 +0.1
UDBS IAML 15 02 54.3
comp=Z,9µm,1.0s
IGN **Direccin Gen** 1.18 295 *e*P Pg 15 02 32.2 -0.8
IGN **Direccin Gen** 1.18 295 *i* P Pg 15 02 32.2 -0.8
IGN *i* S Sn 15 02 49.0 +0.4
IGN IAML 15 02 52.1
comp=Z,26µm,1.0s
UTEC **Universidad Te** 1.20 294 *i* P Pg 15 02 32.6 -0.8
UTEC *i* S Sn 15 02 49.5 +0.3
UTEC IAML 15 03 01.0
comp=Z,9µm,1.0s
SNET **Serv Nac Est T** 1.22 293 Pn 15 02 32.6 -0.6
SNET **Serv Nac Est T** 1.22 293 *e*P Pb 15 02 32.8 -0.5
SNET **Serv Nac Est T** 1.22 293 *i* P Pb 15 02 32.9 -0.5
SNET *i* S Sn 15 02 50.1 +0.4
SNET IAML 15 02 51.9
comp=Z,13µm,1.0s
UEES **Universidad Ev** 1.24 294 *e*P Pg 15 02 33.2 -0.9
UEES IAML 15 02 54.4
comp=Z,5µm,0.5s
UEES **Universidad Ev** 1.24 294 *i* P Pg 15 02 33.4 -0.8
UEES IAML 15 02 53.8
comp=Z,4µm,1.0s
LALI **Alcalda de L** 1.24 283 *e*P Pg 15 02 33.2 -1.0
LALI **Alcalda de L** 1.24 283 *i* P Pg 15 02 33.3 -1.0
LALI *i* S Sg 15 02 50.4 0.0
LALI IAML 15 03 02.7
comp=Z,3µm,1.0s
ITCA **Escuela Especi** 1.26 292 *i* P Pg 15 02 33.7 -0.8
ITCA *i* S Sn 15 02 50.8 +0.2
ITCA IAML 15 02 54.4
comp=Z,22µm,1.0s
PIC2 **El Picacho** 1.27 295⇓ *e*P Pg 15 02 34.1 -0.6
LLGN **La Laguna** 1.27 318 *e*P Pn 15 02 32.6 -1.3
LLGN **La Laguna** 1.27 318 *i* P Pn 15 02 32.7 -1.2
LLGN *i* S Sb 15 02 49.9 -0.6
LLGN IAML 15 02 52.4
comp=Z,6µm,1.0s
BOQS **Boqueron** 1.28 294 *e*P Pg 15 02 34.1 -0.9
PMON **Piamonte** 1.30 293⇓ *e*P Pb 15 02 34.3 -0.5
PMON **Piamonte** 1.30 293 *i* P Pg 15 02 34.6 -0.8
PMON *i* S Sg 15 02 52.6 +0.2
PMON IAML 15 02 55.1
comp=Z,12µm,1.0s
QUEZ **Alcaldia de Qu** 1.32 298 *i* P Pb 15 02 34.3 -0.7
QUEZ *i* S Sg 15 02 53.7 +0.8
QUEZ IAML 15 03 00.0
comp=Z,16µm,1.0s
JAYA **Jayaque - finc** 1.41 288⇓ *i*P Pb 15 02 35.9 -0.7
JAYA **Jayaque - finc** 1.41 288 *i* P Pb 15 02 35.7 -0.9
JAYA IAML 15 02 37.9
comp=Z,15µm,1.0s
JAYA *i* S Sg 15 02 55.3 -0.4
CEDA **San Andres** 1.41 295 *e*P Pb 15 02 35.8 -0.8
CEDA **San Andres** 1.41 295 *i* P Pb 15 02 36.2 -0.4
CEDA *i* S Sg 15 02 56.8 +0.9
CEDA IAML 15 03 11.0
comp=Z,15µm,1.0s
CNGA **Al SSO del Vol** 1.52 118 *i* P Pn 15 02 35.6 -1.6
CNGA *i* S Sg 15 02 57.9 -1.3
CNGN **Cerro Negro** 1.52 118 Pn 15 02 36.7 -0.5
CNGN **Cerro Negro** 1.52 118 *e*P Pn 15 02 36.8 -0.5
CNGN **Cerro Negro** 1.52 118 *i* P Pn 15 02 37.0 -0.3
CNGN IAML 15 03 06.1
comp=Z,6µm,1.0s
UNIC **Universidad Ca** 1.62 298 *i* P Pn 15 02 38.7 -0.1
UNIC *i* S Sg 15 03 01.6 -1.1
UNIC IAML 15 03 07.8
comp=Z,2µm,1.0s
CEVE **Cerro Verde** 1.63 292 *i* P Pb 15 02 39.5 -0.9
CEVE *i* S Sg 15 03 03.3 +0.5
CEVE IAML 15 03 05.8
comp=Z,7µm,1.0s
LEVN **Ruinas Leon Vi** 1.63 119 *i* P Pb 15 02 39.5 -0.8
LEVN IAML 15 03 07.4
comp=Z,4µm,1.0s
MOMN **Momotombo** 1.70 118 *i* P Pn 15 02 39.7 0.0
MOMN *i* S Sg 15 03 03.8 -1.1
MOMN IAML 15 03 07.5
comp=Z,160nm,1.0s
MTO3 **Montecristo** 1.72 314 Pn Pn 15 02 39.6 -0.6
MTO3 **Montecristo** 1.72 314 *i* P Pn 15 02 39.9 -0.3
MTO3 IAML 15 02 41.4
comp=Z,3µm,1.0s
MTO3 *i* S Sb 15 03 04.0 +0.4
MOM2 **El Cardon** 1.73 116 *i* P Pn 15 02 39.8 -0.3
MOM2 *i* S Sg 15 03 06.1 +0.1
MOM2 IAML 15 03 08.9
comp=Z,3µm,1.0s
BRAN **Las Pilas** 1.75 106 *i* P Pg 15 02 44.6 +0.7
BRAN *i* S Sg 15 03 12.1 +5.5
BRAN IAML 15 03 24.0
comp=Z,1µm,1.0s
COPN **Copaltepe** 1.77 125 *i* P Pb 15 02 41.1 -1.6
COPN IAML 15 03 06.4
comp=Z,2µm,1.0s

NUBE **Las Nubes** 1.79 293 *e*P Pn 15 02 41.4 +0.2
NUBE **Las Nubes** 1.79 293 *i* P Pb 15 02 41.7 -1.5
NUBE *i* S Sg 15 03 06.9 -1.2
NUBE IAML 15 03 11.1
comp=Z,6µm,1.0s
ESQI **Esquipulas** 1.82 318 Pn 15 02 41.4 -0.1
ESQI **Esquipulas** 1.82 318 *i* P Pn 15 02 41.5 0.0
ESQI IAML 15 02 45.6
comp=Z,5µm,1.0s
LOAL **Lomas de Alarc** 1.83 295 *i* P Pg 15 02 44.1 -1.4
LOAL *i* S Sg 15 03 09.9 +0.5
APQ3 **Volcan Apoyequ** 1.91 119 *i* P Pn 15 02 42.4 -0.2
APQ3 IAML 15 02 45.7
comp=Z,2µm,1.0s
APQ3 *i* S Sg 15 03 10.6 -1.1
JUAM **Asuncion Mita** 1.94 305 *i* P Pb 15 02 44.0 -1.6
JUAM IAML 15 02 49.4
comp=Z,3µm,1.0s
JUAM *i* S Sg 15 03 11.8 -0.9
APYN **Apoyeque** 1.94 120 *i* P Pb 15 02 44.6 -1.0
APYN IAML 15 02 46.5
comp=Z,4µm,1.0s
APYN *i* S Sg 15 03 11.3 -1.5
TISN **Laguna Tiscapa** 2.06 121 *i* P Pn 15 02 43.8 -0.9
USIM **UNAN** 2.07 122 *i* P Pn 15 02 45.2 +0.4
USIM IAML 15 03 20.4
comp=Z,6µm,1.0s
R4DEC **Barrio San Lui** 2.07 120 *i* P Pg 15 02 48.3 -1.7
MAS3 **Al N del Volca** 2.20 122 *i* P Pn 15 02 46.4 -0.2
RB213 **Mirador 2 Volc** 2.22 123 *i* P Pn 15 02 44.8 -2.2
RB213 IAML 15 02 48.2
comp=Z,2µm,1.0s
MASN **Masaya** 2.24 123 *i* P Pb 15 02 49.4 -1.3
MASN IAML 15 03 28.4
comp=Z,440nm,1.0s
MRL **Marmol** 2.43 320 *e*P Pb 15 02 53.4 -0.6
MRL *e*S Sg 15 03 26.4 -2.0
NBG **Las Nubes** 2.60 302 *e*P Pb 15 02 57.1 +0.2
GUNB **GUNB** 2.60 302 *i* P Pb 15 02 55.3 -1.7
JAPN **Al SSO del Vol** 2.88 125 *i* P Pn 15 02 57.9 +1.9
JAPN IAML 15 03 05.1
comp=Z,480nm,1.0s
MORN **Al O del Volca** 2.89 125 *i* P Pb 15 02 58.2 -3.6
MORN IAML 15 03 04.8
comp=Z,1µm,1.0s
CONN **Concepcion** 2.90 124 *i* P Pn 15 02 57.1 +0.9
CONN IAML 15 03 54.0
comp=Z,5µm,1.0s
APG **El Apazote** 2.92 308 Pn Pb 15 03 01.0 -1.5
comp=Z,1.2nm,0.3s,baz=121,slow=11,SNR=40
APG Sn Sg 15 03 42.0 -2.4
comp=Z,1.3nm,0.3s,baz=232,slow=21,SNR=7.7
comp=Z,15nm,0.5s
OMEN **Al SSO del Vol** 2.93 125 *i* P Pn 15 02 58.6 +1.9
OMEN IAML 15 03 44.2
comp=Z,590nm,1.0s
FUG **Fuego 3** 2.96 295 *e*P Pb 15 03 01.9 -1.1
FUG *e*S Sg 15 03 42.8 -2.6
ACON **Acoyapa** 3.09 113 Pn 15 02 57.8 -1.1
ACON **Acoyapa** 3.09 113 *i* P Pb 15 03 04.1 -1.1
ACON *i* S Sb 15 03 44.2 +1.4
HZTE **Horizontes, Gu** 3.47 135 Pn Pn 15 03 04.0 -0.2
HZTE **Horizontes, Gu** 3.47 135 *i* P Pn 15 03 05.0 +0.9
HZTE *i* S Sb 15 03 49.6 -4.2
HZTE IAML 15 04 12.0
comp=Z,490nm,1.0s
SULM **Suchitepequez,** 3.56 288 *e*P Pb 15 03 09.1 -4.1
STG3 **Santiaguito 3,** 3.71 294 *e*P Pb 15 03 13.5 -2.3
STG3 *e*S Sb 15 03 59.3 -1.5
RTAL **Retalhuleu** 3.75 291 Pn 15 03 09.3 +1.3
ORTG **Ortega, Santa** 3.82 138 Pn 15 03 09.8 +0.8
ORTG **Ortega, Santa** 3.82 138 *i* P Pn 15 03 10.4 +1.4
ORTG IAML 15 03 12.4
comp=Z,230nm,1.0s
ESPN **Las Esperanzas** 3.82 105 Pn 15 03 08.4 -0.4
DUNO **Dulce Nombre,** 4.01 141 Pn 15 03 12.8 +1.3
PETF **Flores** 4.07 335 Pn 15 03 12.5 +0.1
JTS **Las Juntas de** 4.21 133 Pn Pn 15 03 14.7 +0.3
JTS **Las Juntas de** 4.21 133 Pn Pn 15 03 15.7 +1.3
comp=Z,7.7nm,0.3s,baz=309,slow=18,SNR=24
JTS Sn Sn 15 04 04.0 +0.5
comp=Z,4.9nm,0.3s,baz=82,slow=20,SNR=1.4
COVE **Coope Vega, Sa** 4.36 124 Pn Pn 15 03 17.7 +1.3
SOCE **Pocosol** 4.40 129 Pn 15 03 17.8 +0.9
JACO **JACO, Garabito** 4.86 136 Pn 15 03 24.3 +1.0
JACO **JACO, Garabito** 4.86 136 *i* P Pn 15 03 27.5 +4.2
CCIG **Comitan** 4.98 308 Pn 15 03 26.5 +1.5
LCR2 **La Lucha 2** 5.27 130 Pn 15 03 29.1 0.0
CDM **Cerro de Muert** 5.57 130 *i* P Pn 15 03 35.9 +2.4
CDM IAML 15 03 50.5
comp=Z,80nm,1.0s
CDM IAmb IAmb 15 03 50.5
comp=Z,45nm,1.1s
PEZE **Perez Zeledon,** 5.75 131 Pn 15 03 36.6 +1.1
OCHAL **Ojochal** 5.97 133 *i* P Pn 15 03 42.0 +3.6
SRBA **San Rafael, Bu** 6.08 130 Pn Pn 15 03 41.2 +1.1
SRBA **San Rafael, Bu** 6.08 130 *i* P Pb 15 03 53.3 -3.0
PLAN **Los Planes de** 6.24 136 *i* P Pn 15 03 45.7 +3.5
TEIG **Tepich** 6.98 350 Pn Pn 15 03 51.5 -0.9
CMIG **Matias Romero** 7.62 301 Pn Pn 15 04 03.8 +2.6
comp=Z,0.9nm,0.3s,baz=112,slow=9.0,SNR=12
CMIG Sn Sn 15 05 37.7 +10
comp=Z,0.9nm,0.3s,baz=100,slow=14,SNR=3.5
comp=Z,11nm,0.7s
CAMR **Camarioca** 11.68 32 Pn Pn 15 04 56.4 -0.4
MOIG **Morelia** 14.12 299 *i* P P 15 05 45.4 +7.3
HBVL **Hebbronville** 16.98 326 P 15 06 10.2 +0.6
HBVL IAmb IAmb 15 06 17.7
comp=Z,26nm,1.0s
HNDO **Hondo** 19.28 329 Pn 15 06 35.9 -0.1
DRIO **Del Rio** 19.89 326 Pn 15 06 42.1 -1.1
DRIO IAmb IAmb 15 06 48.7
comp=Z,14nm,0.9s
JCT **Junction City** 20.32 330 P P 15 06 46.1 -0.1
BRDY **Brady** 20.61 333 P P 15 06 49.4 0.0
X48A **Hartselle** 21.17 2 P P 15 06 53.9 -1.5
X48A IAmb IAmb 15 07 05.2
comp=Z,12nm,0.8s
OZNA **Ozona** 21.34 328 P P 15 06 58.5 +1.1
TX31 **Lajitas Ar. Si** 21.60 320 IAmb IAmb 15 07 08.4
comp=Z,11nm,0.9s
TXAR **Lajitas Array** 21.60 320 P P 15 07 01.5 +1.2
TXAR **Lajitas Array** 21.60 320 P P 15 07 02.2 +1.9
comp=Z,6.0nm,0.9s,baz=127,slow=11,SNR=20
comp=Z,6.0nm,0.9s
MNHN **Monahans** 22.54 326 IAmb IAmb 15 07 17.6
comp=Z,12nm,0.9s
TKL **Tuckaleechee C** 22.68 9 P P 15 07 14.4 +2.8
comp=Z,11nm,0.8s,baz=176,slow=12,SNR=10.0
comp=Z,11nm,0.8s
POST **Post** 23.26 330 IAmb IAmb 15 07 23.8
comp=Z,9.8nm,0.8s
S39A **Bolivar** 24.82 350 IAmb IAmb 15 07 41.2
comp=Z,10nm,0.8s
121A **Cookes Peak, D** 26.36 320 P P 15 07 48.2 +1.6
121A IAmb IAmb 15 07 55.4
comp=Z,15nm,1.3s
Q54A **Coxs Mills** 26.46 13 IAmb IAmb 15 07 49.6
comp=Z,17nm,0.9s
P38A **Dawn** 26.75 351 IAmb IAmb 15 07 51.0
comp=Z,8.1nm,0.9s
O53A **New Philadelph** 27.60 11 IAmb IAmb 15 08 07.4
comp=Z,15nm,1.1s
M55A **Ridgway** 29.30 14 P P 15 08 12.8 +0.2
WVNY **West Valley, N** 30.23 14 P P 15 08 21.2 +0.4
HMU **Henry Mountain** 31.84 325 IAmb IAmb 15 08 44.1
comp=Z,6.7nm,0.9s
O20A **White River Ci** 32.15 330 IAmb IAmb 15 08 47.9
comp=Z,4.8nm,0.8s
P17A **Butcher Ranch,** 32.93 327 IAmb IAmb 15 08 53.0
comp=Z,4.4nm,0.9s
MPU **Maple Canyon** 33.80 327 IAmb IAmb 15 09 00.2
comp=Z,6.5nm,1.3s
PDAR **Pinedale Array** 34.82 332 P P 15 09 04.3 +3.0
comp=Z,0.3nm,0.6s,baz=146,slow=9.8,SNR=2.3
comp=Z,0.3nm,0.6s
NVAR **Mina Array Bea** 36.73 319 P P 15 09 19.8 +2.0
comp=Z,0.6nm,0.8s,baz=128,slow=7.6,SNR=4.6
comp=Z,0.6nm,0.8s
ULM **Lac du Bonnet** 37.48 352 P P 15 09 24.9 +1.3
comp=Z,1.3nm,0.6s,baz=165,slow=8.4,SNR=4.0
comp=Z,1.3nm,0.6s
FFC **Flin Flon** 42.83 348 P P 15 10 08.1 +0.2
SCHQ **Schefferville** 44.73 17 P P 15 10 23.6 +0.3
comp=Z,3.2nm,0.9s,baz=202,slow=11,SNR=3.6
comp=Z,3.2nm,0.9s
YKA **Yellowknife Ar** 52.72 345 P P 15 11 25.2 +0.6
comp=Z,1.0nm,0.7s,baz=136,slow=7.2,SNR=18
comp=Z,1.0nm,0.7s
RES **Resolute Bay** 61.58 358 P P 15 12 26.8 -0.2
RES IAmb IAmb 15 12 33.0
comp=Z,2.7nm,0.8s
ILAR **Eielson Array** 65.08 336 P P 15 12 52.5 +2.1
comp=Z,0.5nm,0.7s,baz=174,slow=5.1,SNR=9.4
comp=Z,0.5nm,0.7s
PPT2 **Papeete2** 67.98 245 *e*LR LR 15 33 35.5
comp=Z,135nm,24.0s
PPT2 *e*LR LR 15 33 39.0
comp=Z,139nm,25.2s
EKA **Eskdalemuir Ar** 76.37 36 P P 15 13 58.6 -0.6
comp=Z,0.9nm,0.6s,baz=274,slow=5.6,SNR=3.4
comp=Z,0.9nm,0.6s
ESDC **Sonseca Array** 77.20 52 P P 15 14 02.8 -1.7
comp=Z,0.6nm,0.9s,baz=286,slow=6.2,SNR=4.1
comp=Z,0.6nm,0.9s
WRA **Warramunga Arr** 138.89 255 PKP PKPdf 15 21 36.0 -1.5
comp=Z,0.2nm,0.5s,baz=90,slow=2.2,SNR=1.3
ASAR **Alice Springs** 138.98 249 PKP PKPdf 15 21 35.6 -2.0
comp=Z,0.3nm,0.7s,baz=106,slow=2.7,SNR=4.1

CATAC 06 15:15:13.6±0.4, 13°27N×88°05W, h7km±3km, ML3.0, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarˌn**		0.19 267	*i*	P	Pg		15 15 17.9	+0.4
JUCU					IAML			15 15 18.5	
	comp=Z,2µm,1.0s								
JUCU				*i*	S	Sg		15 15 21.8	+1.7
CNCH	**Conchagua**		0.21 87	*i*	P	Pg		15 15 18.3	+0.4
CNCH				*i*	S	Sg		15 15 22.1	+1.3
CNCH					IAML			15 15 27.1	
	comp=Z,5µm,1.0s								
CNRM	**Centro Naciona**		0.24 331	*i*	P	Pg		15 15 18.9	+0.6
CNRM				*i*	S	Sg		15 15 23.3	+1.7
CNRM					IAML			15 15 25.0	
	comp=Z,8µm,1.0s								
RANC	**El Ranchito**		0.28 306	*i*	P	Pg		15 15 20.1	+0.8
RANC				*i*	S	Sb		15 15 24.7	-1.5
RANC					IAML			15 15 26.5	
	comp=Z,2µm,1.0s								
PACA	**Pacayal**		0.33 308	*i*	P	Pb		15 15 21.1	-0.9
PACA				*i*	S	Sg		15 15 25.9	+1.3
PACA					IAML			15 15 26.9	
	comp=Z,9µm,1.0s								
COEB	**Comit de Eme**		0.52 297	*i*	P	Pg		15 15 24.0	+0.3
COEB				*i*	S	Sg		15 15 31.7	+1.2
COEB					IAML			15 15 32.0	
	comp=Z,440nm,1.0s								
PQSS	**Presa 15 de Se**		0.61 306	*i*	P	Pg		15 15 25.6	+0.2
PQSS				*i*	S	Sg		15 15 33.8	+0.4
PQSS					IAML			15 15 37.6	
	comp=Z,290nm,1.0s								
TECO	**Alcaldia de Te**		0.76 291	*i*	P	Pg		15 15 28.0	-0.2
TECO				*i*	S	Sg		15 15 38.7	+0.6
TECO					IAML			15 15 41.3	
	comp=Z,420nm,1.0s								
SCLA	**Alcaldia de Sa**		0.79 304	*i*	P	Pb		15 15 29.3	-0.4
SCLA				*i*	S	Sb		15 15 41.4	+0.8
SCLA					IAML			15 15 42.5	
	comp=Z,100nm,1.0s								
COEG	**Centro de Oper**		0.88 294	*i*	P	Pg		15 15 30.3	-0.2
COEG				*i*	S	Sb		15 15 42.9	-0.4
COEG					IAML			15 15 43.5	
	comp=Z,490nm,1.0s								
CRIN	**San Cristobal**		1.13 120	*i*	P	Pg		15 15 34.9	-0.4
CRIN					IAML			15 15 57.1	
	comp=Z,750nm,1.0s								
LOMA	**Loma Larga**		1.15 289	*i*	P	Pg		15 15 34.4	-1.4
LOMA				*i*	S	Sb		15 15 51.3	+0.1
JAYA	**Jayaque - finc**		1.41 286	*i*	P	Pn		15 15 39.5	-0.4
NUBE	**Las Nubes**		1.80 291	*i*	P	Pb		15 15 46.3	-0.6

SNET ***06*** *15:16:29.6±0.9, 13°.26N×88°.06W, h2km±2km, ML3.6*
CATAC ***06*** *15:16:30.6±0.2, 13°.29N×88°.07W, h6km±2km, ML3.4*
ISC 06 15:16:30.0±1.0, 13°27N±0°.04×88°05W±0°.02, h18km±2km, n39, σ0s59/59, 8C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarˌn**		0.19 265⇑	*e*P		Pb		15 16 34.4	-0.1
JUCU				*e*S		Sb		15 16 37.3	0.0
JUCU					IAML			15 16 43.9	
	comp=Z,10µm,0.3s								
JUCU	**Jucuarˌn**		0.19 265	*i*	P	Pb		15 16 34.4	-0.1
JUCU				*i*	S	Sb		15 16 37.6	+0.3
JUCU					IAML			15 16 38.5	
	comp=Z,9µm,1.0s								
CNCH	**Conchagua**		0.21 89⇑	*i*P		Pg		15 16 35.3	0.0
CNCH				*e*S		Sg		15 16 39.1	+0.2
CNCH					IAML			15 16 44.9	
	comp=Z,19µm,0.4s								
CNCH	**Conchagua**		0.21 89	*i*	P	Pg		15 16 35.4	+0.1
CNCH				*i*	S	Sg		15 16 39.1	+0.2
CNCH					IAML			15 16 44.6	
	comp=Z,18µm,1.0s								
CNRM	**Centro Naciona**		0.23 330⇓	*e*P		Pg		15 16 35.4	-0.1
CNRM				*e*S		Sg		15 16 39.5	+0.3
CNRM	**Centro Naciona**		0.23 330	*i*	P	Pg		15 16 35.5	-0.1
CNRM				*i*	S	Sg		15 16 39.6	+0.3
CNRM					IAML			15 16 42.0	
	comp=Z,23µm,1.0s								
BLLM	**Bellamira**		0.25 313⇑	*i*P		Pg		15 16 35.8	0.0
VSM	**San Miguel**		0.27 306⇓	*i*P		Pg		15 16 36.3	0.0
LCY	**Lacayo**		0.28 303⇑	*i*P		Pg		15 16 36.4	0.0
RANC	**El Ranchito**		0.28 305⇑	*i*P		Pb		15 16 36.4	-0.1
RANC	**El Ranchito**		0.28 305	*i*	P	Pb		15 16 36.6	+0.1
RANC				*i*	S	Sb		15 16 41.3	+0.4
RANC					IAML			15 16 51.5	
	comp=Z,6µm,1.0s								
PACA	**Pacayal**		0.33 307⇑	*e*P		Pg		15 16 37.2	0.0
PACA	**Pacayal**		0.33 307	*i*	P	Pb		15 16 37.4	0.0
PACA				*i*	S	Sb		15 16 42.5	+0.1
PACA					IAML			15 16 46.4	
	comp=Z,17µm,1.0s								
AMPH	**Amapala**		0.38 88⇑	*i*P		Pb		15 16 38.2	-0.2
AMPH				*e*S		Sb		15 16 44.1	+0.2
TECA	**Tecapa**		0.49 297	*e*P		Pg		15 16 40.0	0.0
COEB	**Comit de Eme**		0.52 296⇓	*e*P		Pg		15 16 40.5	0.0
COEB	**Comit de Eme**		0.52 296	*i*	P	Pg		15 16 40.5	0.0
COEB				*i*	S	Sb		15 16 47.9	+0.1
COEB					IAML			15 16 49.8	
	comp=Z,2µm,1.0s								
PQSS	**Presa 15 de Se**		0.61 305	*e*P		Pg		15 16 42.0	-0.1
PQSS	**Presa 15 de Se**		0.61 305	*i*	P	Pg		15 16 42.2	+0.1
PQSS					IAML			15 16 43.2	
	comp=Z,730nm,1.0s								
PQSS				*i*	S	Sg		15 16 51.2	+1.0
TECO	**Alcaldia de Te**		0.76 290	*e*P		Pb		15 16 44.3	-0.3
SCLA	**Alcaldia de Sa**		0.78 303	*e*P		Pg		15 16 45.2	-0.2
SCLA	**Alcaldia de Sa**		0.78 303	*i*	P	Pg		15 16 45.5	+0.1
SCLA				*i*	S	Sn		15 16 56.9	-0.6
SCLA					IAML			15 16 58.8	
	comp=Z,270nm,1.0s								
COEG	**Centro de Oper**		0.88 293	*e*P		Pb		15 16 46.7	0.0
COEG	**Centro de Oper**		0.88 293	*i*	P	Pb		15 16 46.8	+0.1
COEG				*i*	S	Sg		15 16 59.1	+0.3
COEG					IAML			15 17 02.4	
	comp=Z,1µm,1.0s								
PAVA	**Las Pavas**		0.97 297	*e*P		Pn		15 16 48.5	-0.3
PAVA	**Las Pavas**		0.97 297	*i*	P	Pn		15 16 48.7	-0.1
TGUH	**Tegucigalpa,Un**		1.09 44⇑	*i*P		Pn		15 16 50.5	0.0
TGUH	**Tegucigalpa,Un**		1.09 44	*i*	P	Pn		15 16 50.6	+0.1
TGUH					IAML			15 16 50.8	
	comp=Z,1µm,1.0s								
TGUH				*i*	S	Sg		15 17 05.4	-0.1
CRIN	**San Cristobal**		1.13 120	*e*P		Pg		15 16 51.7	-0.3
CRIN	**San Cristobal**		1.13 120	*i*	S	Sg		15 17 09.7	+2.9
LOMA	**Loma Larga**		1.15 289	*e*P		Pb		15 16 51.6	+0.2
BOQS	**Boqueron**		1.28 291	*e*P		Pb		15 16 54.0	+0.3
PMON	**Piamonte**		1.30 290	*i*	P	Pb		15 16 54.6	+0.6
PMON				*i*	S	Sb		15 17 11.2	+0.7
PMON					IAML			15 17 17.0	
	comp=Z,1µm,1.0s								
JAYA	**Jayaque - finc**		1.41 286	*e*P		Pb		15 16 55.9	0.0
JAYA	**Jayaque - finc**		1.41 286	*i*	P	Pb		15 16 55.7	-0.2
JAYA					IAML			15 16 56.4	

comp=Z,1μm,1.0s

JAYA		*i* S	**Sb**	**15 17 14.5**	**+0.9**
CEVE	**Cerro Verde** **1.62 290**	*i* P	**Pb**	**15 16 59.7**	**+0.1**
CEVE		*i* S	**Sg**	**15 17 22.5**	**-0.1**
CEVE		IAML		15 17 25.8	

comp=Z,630nm,1.0s

MTO3	**Montecristo** **1.69 312**	*i* P	**Pb**	**15 17 00.0**	**-0.8**
MTO3		IAML		15 17 01.1	

comp=Z,160nm,1.0s

MTO3		*i* S	**Sb**	**15 17 22.9**	**+1.1**
MOM2	**El Cardon** **1.74 118**	*i* P	**Pb**	**15 17 00.5**	**-0.9**
MOM2		*i* S	**Sg**	**15 17 25.4**	**-0.8**
MOM2		IAML		15 17 34.9	

comp=Z,200nm,1.0s

NUBE	**Las Nubes** **1.79 291**	*i* P	**Pb**	**15 17 01.7**	**-0.7**
NUBE		*i* S	**Sg**	**15 17 26.3**	**-1.6**
NUBE		IAML		15 17 32.7	

comp=Z,400nm,1.0s

DJA 06 15:30:10.8±0.7,2°N±8°×12°3E±°,h452km±4km,M3.9/10, mb3.9/7,mB4.5/2,MLv3.9/10,Mw(mB)3.6/2,MwMwp5.7/1, Mwp5.8/1,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	**Gorontalo**	**1.68**	**174**	P	P	15 31 08.9	-1.0
GTOI				S	S	15 31 57.4	-0.4
LUWI	**Luwuk**	**3.34**	**181**	P	P	15 31 19.8	-0.8
LUWI				S	S	15 32 16.5	-0.8
MPSI	**Mapaga**	**3.53**	**236**	P	P	15 31 22.0	-0.2
TNTI	**Ternate**	**4.79**	**109**	P	P	15 31 31.9	-1.4
SANI	**Sanana**	**5.37**	**144**	P	P	15 31 37.6	-1.3

11nm,0.8s,650nm0.4nm

LBMI	**Labuha**	**5.52**	**122**	P	P	15 31 39.6	-0.8

33nm,0.7s,2μm0.3nm

TTSI	**Tana Toraja**	**6.12**	**209**	P	P	15 31 47.6	+1.1

18nm,0.6s,0.1nm

EDFI	**Ende, Flores**	**11.05**	**186**	P	P	15 32 40.3	+0.7

6.7nm,1.8s

*NOU **06** 15:32:44.4,36°99S×179°79E,h0km,MLv4.2/9, Off E. Coast of N. Island, N.Z.*
*WEL **06** 15:32:51.8±0.7,37°S±4°×17°9E±°,h12km,M3.6/37, ML3.9/40,MLv3.6/37,Error ellipse: s-maj=0.0km s-min=0.0km az=101.4,confirmed*
ISC 06 15:32:49.1±2.7,37°04S±0°07×179°4E±0°1,h3km±12km, n94,σ0s95/110,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.98**	**238**	P	**Pg**	**15 33 08.5**	**+0.6**
MXZ	**Matakaoa Point**	**0.98**	**238**	P	**Pg**	**15 33 08.3**	**+0.5**
MXZ				S	**Sg**	**15 33 18.3**	**-2.3**
WMGZ	**Waiomatatini S**	**1.07**	**224**	P	**Pn**	**15 33 12.2**	**+1.3**
WMGZ				S	**Sn**	**15 33 27.7**	**+1.4**
PKGZ	**Pakihiroa**	**1.32**	**230**	P	**Pn**	**15 33 14.8**	**+0.4**
PKGZ				S	**Sb**	**15 33 31.9**	**+0.1**
PUZ	**Puketiti**	**1.34**	**220**	P	**Pb**	**15 33 15.7**	**+0.8**
PUZ				S	**Sn**	**15 33 33.6**	**+0.5**
HAZ	**Te Kaha**	**1.44**	**240**	P	**Pn**	**15 33 15.1**	**-0.8**
HAZ				S	**Sn**	**15 33 35.9**	**+0.6**
TWGZ	**Tauwhareparae**	**1.57**	**223**	P	**Pb**	**15 33 19.3**	**+0.6**
TWGZ				S	**Sn**	**15 33 39.0**	**+0.3**
RUGZ	**Raukumara Rang**	**1.62**	**235**	P	**Pn**	**15 33 19.5**	**+0.9**
RUGZ				S	**Sn**	**15 33 39.7**	**-0.2**
CNGZ	**Carnagh Statio**	**1.70**	**212**	P	**Pb**	**15 33 21.5**	**+0.5**
TKGZ	**Te Karaka**	**1.83**	**220**	P	**Pn**	**15 33 22.6**	**+1.3**
TKGZ				S	**Sn**	**15 33 44.5**	**-0.5**
MWZ	**Matawai**	**1.94**	**228**	P	**Pn**	**15 33 23.9**	**+1.0**
MWZ				S	**Sn**	**15 33 46.8**	**-0.9**
WHRZ	**Whale Island**	**2.06**	**246**	P	**Pn**	**15 33 25.6**	**+1.1**
RIGZ	**Rimuhau**	**2.08**	**217**	P	**Pn**	**15 33 25.8**	**+1.0**
RIGZ				S	**Sn**	**15 33 48.8**	**-2.5**
RAGZ	**Rawiri**	**2.11**	**226**	P	**Pn**	**15 33 26.4**	**+1.1**
RAGZ				S	**Sn**	**15 33 51.3**	**-0.7**
URZ	**Urewera**	**2.15**	**235**	P	**Pn**	**15 33 26.8**	**+1.0**
URZ	**Urewera**	**2.15**	**235**	P	**Pn**	**15 33 26.6**	**+0.8**
URZ				S	**Sn**	**15 33 51.5**	**-1.5**
PRGZ	**Paritu Road**	**2.21**	**211**	P	**Pn**	**15 33 27.6**	**+1.0**
PRGZ				S	**Sn**	**15 33 54.0**	**-0.3**
MARZ	**Manawahe**	**2.33**	**245**	P	**Pn**	**15 33 28.3**	**0.0**
EDRZ	**Edgecumbe**	**2.33**	**242**	P	**Pn**	**15 33 29.5**	**+1.2**
SNGZ	**Shannon Statio**	**2.35**	**222**	P	**Pn**	**15 33 29.3**	**+0.7**
SNGZ				S	**Sn**	**15 33 58.7**	**+0.7**
OPRZ	**Ohinepanea**	**2.36**	**249**	P	**Pn**	**15 33 28.3**	**-0.4**
KNZ	**Kokohu**	**2.38**	**213**	P	**Pn**	**15 33 29.1**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.39**	**208**	P	**Pn**	**15 33 30.1**	**+1.0**
RTZ	**Ruatahuna**	**2.44**	**229**	P	**Pn**	**15 33 30.8**	**+0.9**
RTZ				S	**Sn**	**15 33 59.0**	**-1.3**
MUGZ	**Murupara**	**2.50**	**234**	P	**Pn**	**15 33 31.0**	**+0.4**
MYRZ	**Mayor Island**	**2.50**	**264**	P	**Pn**	**15 33 30.5**	**0.0**
LIRZ	**Lichensteins R**	**2.54**	**247**	P	**Pn**	**15 33 32.4**	**+1.2**
LIRZ				S	**Sn**	**15 34 02.6**	**-0.1**
TARZ	**Mount Tarawera**	**2.55**	**241**	P	**Pn**	**15 33 32.8**	**+1.4**
TGRZ	**Tauranga**	**2.55**	**254**	P	**Pn**	**15 33 31.2**	**+0.1**
RAHZ	**Arahi**	**2.59**	**223**	P	**Pn**	**15 33 32.4**	**+0.6**
OMRZ	**Omania**	**2.59**	**245**	P	**Pn**	**15 33 33.1**	**+1.2**
RRRZ	**Republican Roa**	**2.59**	**239**	P	**Pn**	**15 33 33.6**	**+1.7**
WHHZ	**Waihua**	**2.63**	**219**	P	**Pn**	**15 33 33.6**	**+1.2**
KARZ	**Kaharoa**	**2.65**	**248**	P	**Pn**	**15 33 33.5**	**+0.7**
HLRZ	**Highlands Stat**	**2.67**	**242**	P	**Pn**	**15 33 34.1**	**+1.2**
MTHZ	**Maungataniwha**	**2.68**	**227**	P	**Pn**	**15 33 34.1**	**+1.0**
PRRZ	**Plateau Road**	**2.76**	**237**	P	**Pn**	**15 33 34.6**	**+0.5**
HSRZ	**Hossack Road**	**2.77**	**242**	P	**Pn**	**15 33 36.1**	**+1.8**
NMHZ	**Naumai**	**2.87**	**224**	P	**Pn**	**15 33 36.5**	**+0.7**
ARHZ	**Aropaoanui**	**2.89**	**219**	P	**Pn**	**15 33 36.5**	**+0.6**
WPRZ	**Whakapapatarin**	**2.92**	**239**	P	**Pn**	**15 33 37.2**	**+0.8**
KUZ	**Kuaotunu**	**2.92**	**275**	P	**Pn**	**15 33 35.4**	**-1.0**
KUZ	**Kuaotunu**	**2.92**	**275**	P	**Pn**	**15 33 35.2**	**-1.2**
MRHZ	**Matea Rd**	**2.93**	**231**	P	**Pn**	**15 33 37.1**	**+0.6**
BKZ	**Black Stump Fm**	**3.09**	**226**	P	**Pn**	**15 33 39.4**	**+0.6**
BKZ	**Black Stump Fm**	**3.09**	**226**	P	**Pn**	**15 33 39.4**	**+0.6**
TOZ	**Tahuroa Road**	**3.14**	**256**	P	**Pn**	**15 33 38.5**	**-0.9**
KUTZ	**Kaahu Road**	**3.15**	**242**	P	**Pn**	**15 33 40.5**	**+1.0**
CKHZ	**Cape Kidnapper**	**3.16**	**214**	P	**Pn**	**15 33 39.3**	**-0.4**
MCHZ	**McNeill Hill**	**3.18**	**220**	P	**Pn**	**15 33 40.2**	**+0.3**
GRZ	**Great Barrier**	**3.23**	**283**	P	**Pn**	**15 33 40.8**	**+0.2**
MKAZ	**Moumakai**	**3.35**	**268**	P	**Pn**	**15 33 41.4**	**-0.9**
KAHZ	**Kahuranaki**	**3.36**	**215**	P	**Pn**	**15 33 41.9**	**-0.6**
RITZ	**Rihia Road**	**3.37**	**234**	P	**Pn**	**15 33 44.2**	**+1.7**
WIAZ	**Waiheke Island**	**3.39**	**273**	P	**Pn**	**15 33 42.7**	**-0.1**
ETAZ	**East Tamaki Re**	**3.54**	**270**	P	**Pn**	**15 33 44.6**	**-0.3**
TMVZ	**Te Maari**	**3.54**	**233**	P	**Pn**	**15 33 45.4**	**+0.4**
ETVZ	**East Tongariro**	**3.55**	**233**	P	**Pn**	**15 33 45.6**	**+0.5**
BHHZ	**Black Hill Sta**	**3.56**	**226**	P	**Pn**	**15 33 45.3**	**+0.1**
PXZ	**Pawanui**	**3.56**	**212**	P	**Pn**	**15 33 44.5**	**-0.7**
KBAZ	**Karaka Road Bo**	**3.57**	**268**	P	**Pn**	**15 33 45.3**	**0.0**
MBAZ	**Motutapu North**	**3.58**	**273**	P	**Pn**	**15 33 45.2**	**-0.2**
NNVZ	**North Ngauruho**	**3.61**	**234**	P	**Pn**	**15 33 47.8**	**+1.8**
WTVZ	**West Tongariro**	**3.62**	**234**	P	**Pn**	**15 33 47.6**	**+1.6**
NGZ	**Ngauruhoe**	**3.64**	**233**	P	**Pn**	**15 33 46.8**	**+0.3**
ABAZ	**Army Bay**	**3.65**	**276**	P	**Pn**	**15 33 47.0**	**+0.6**
MOVZ	**Moawhango**	**3.69**	**229**	P	**Pn**	**15 33 46.9**	**0.0**
TWVZ	**Taurewa**	**3.69**	**236**	P	**Pn**	**15 33 48.3**	**+1.2**
EPAZ	**Eden Park BICE**	**3.69**	**271**	P	**Pn**	**15 33 47.2**	**+0.2**
COVZ	**Chateau Observ**	**3.69**	**233**	P	**Pn**	**15 33 48.2**	**+1.1**
HBAZ	**Herne Bay Bore**	**3.71**	**272**	P	**Pn**	**15 33 48.4**	**+1.3**
WHVZ	**Whangaehu Hut**	**3.71**	**232**	P	**Pn**	**15 33 47.9**	**+0.4**
WNVZ	**Wahianoa**	**3.73**	**231**	P	**Pn**	**15 33 48.0**	**+0.3**
TRVZ	**Turoa**	**3.75**	**232**	P	**Pn**	**15 33 48.3**	**+0.4**
AWAZ	**Awhitu Peninsu**	**3.77**	**268**	P	**Pn**	**15 33 48.0**	**0.0**
PNHZ	**Pukenui**	**3.78**	**220**	P	**Pn**	**15 33 48.0**	**-0.3**
WTAZ	**Waiatarua**	**3.83**	**270**	P	**Pn**	**15 33 49.0**	**+0.2**
RVAZ	**Riverhead Bore**	**3.83**	**273**	P	**Pn**	**15 33 49.0**	**+0.1**
HIZ	**Hauiti**	**3.85**	**246**	P	**Pn**	**15 33 50.5**	**+1.3**
HIZ	**Hauiti**	**3.85**	**246**	P	**Pn**	**15 33 50.6**	**+1.5**
PRHZ	**Porangahau**	**3.86**	**213**	P	**Pn**	**15 33 48.1**	**-1.1**
PKVZ	**Pokaka**	**3.87**	**233**	P	**Pn**	**15 33 50.5**	**+1.0**
TSZ	**Takapari Road**	**4.01**	**220**	P	**Pn**	**15 33 50.7**	**-0.7**
VRZ	**Vera Road**	**4.17**	**239**	P	**Pn**	**15 33 54.9**	**+1.2**
WCZ	**Waipu Caves**	**4.18**	**284**	P	**Pn**	**15 33 53.7**	**+0.1**
BFZ	**Birch Farm**	**4.37**	**213**	P	**Pn**	**15 33 54.7**	**-1.5**
WAZ	**Wanganui**	**4.37**	**230**	P	**Pn**	**15 33 56.5**	**+0.2**
LREZ	**Lake Rotokare**	**4.58**	**237**	P	**Pn**	**15 34 00.4**	**+1.2**
TIWZ	**Tintock**	**4.60**	**215**	P	**Pn**	**15 33 58.5**	**-1.1**
MRZ	**Mangatainoka R**	**4.66**	**218**	P	**Pn**	**15 33 58.7**	**-1.6**
OUZ	**Omahuta**	**5.00**	**290**	P	**Pn**	**15 34 05.6**	**+0.7**
OUZ	**Omahuta**	**5.00**	**290**	P	**Pn**	**15 34 05.2**	**+0.3**
QRZ	**Quartz Range**	**6.52**	**233**	P	**Pn**	**15 34 24.3**	**-1.5**
KHZ	**Kahutara**	**6.99**	**218**	P	**Pn**	**15 34 31.5**	**-0.7**

*NEIC **06** 15:37:53.4±1.1,19°.19N±0°.04×155°.41W±0°.02,h5km±2km, Error ellipse: s-maj=7.0km s-min=3.0km az=151.0*
HVO 06 15:37:53.2±1.8,19°19N±0°02×155°44W±0°01,h1km±10km, ML3.3/15,MLv3.2/35(NEIC),Error ellipse: s-maj=3.0km s-min=1.2km az=158.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.06**	**39**		Pg	15 37 55.4	+1.0
HLP	**Hilina Pali**	**0.16**	**49**	Pg	Pg	15 37 57.3	+1.0
KHU	**Kahuku**	**0.18**	**288**		Pg	15 37 57.0	+0.2
SDHHI	**Sand Hill**	**0.24**	**34**		Pg	15 37 56.9	-0.9
SDHHI				IAML		15 38 05.7	

comp=N,11μm,0.7s

SDHHI				IAML		15 38 06.0	

comp=E,10μm,0.5s

WRMHI	**West Rim**	**0.25**	**31**		Pg	15 37 57.6	-0.5
WRMHI				IAML		15 38 04.6	

comp=N,7μm,0.4s

RIM	**Rim**	**0.25**	**37**		Pg	15 37 57.7	-0.5
RIM				IAML		15 38 03.2	

comp=E,7μm,0.7s

KKO	**Keanakako'i**	**0.26**	**38**		Pg	15 37 57.9	-0.3
KKO				IAML		15 38 07.2	

comp=E,7μm,0.9s

NPH	**North Pit**	**0.26**	**34**	Pg	Pg	15 37 57.2	-1.1
NPH				IAML		15 38 01.8	

comp=E,8μm,0.2s

UWE	**Uwekahuna**	**0.27**	**31**		Pg	15 37 58.0	-0.3
UWE				IAML		15 38 07.2	

comp=E,10μm,1.0s

UWE				IAML		15 38 07.3	

comp=N,6μm,0.8s

OBL	**Observatory Le**	**0.27**	**33**		Pg	15 37 57.9	-0.5
BYL	**Byron's Ledge**	**0.28**	**37**		Pg	15 37 57.9	-0.7
BYL				IAML		15 38 03.3	

comp=E,5μm,0.6s

PUH	**Pauahi**	**0.28**	**49**	Pg	Pg	15 37 58.8	+0.2
PUH				IAML		15 38 06.0	

comp=E,401nm,0.8s

PUH				IAML		15 38 07.2	

comp=N,734nm,0.9s

UWB	**Uwekahuna B**	**0.28**	**33**	Pg	Pg	15 37 58.3	-0.2
UWB				IAML		15 38 05.6	

comp=N,5μm,1.1s

UWB				IAML		15 38 05.9	

comp=E,3μm,1.0s

SBLHI	**Steaming Bluff**	**0.28**	**34**	Pg	Pg	15 37 58.8	+0.1
SBLHI				IAML		15 38 05.9	

comp=N,7μm,0.7s

SBLHI				IAML		15 38 07.2	

comp=E,9μm,1.1s

HATHI	**Halema'uma'u T**	**0.28**	**36**	Pg	Pg	15 37 58.5	-0.2
HATHI				IAML		15 38 06.8	

comp=N,10μm,0.8s

MLH	**Mauna Loa**	**0.30**	**9**	Pg	Pg	15 37 59.2	+0.1
RSD	**Rainshed**	**0.31**	**29**	Pg	Pg	15 37 59.3	+0.1
RSD				IAML		15 38 06.3	

comp=N,661nm,1.2s

RSD				IAML		15 38 09.2	

comp=E,1μm,1.4s

STCH	**Steam Cracks**	**0.35**	**57**	Pg	Pg	15 37 59.8	-0.2
STCH				IAML		15 38 11.1	

comp=N,279nm,1.1s

ALEP	**Alea Permanent**	**0.40**	**331**		Pg	15 38 01.2	+0.3
HMH	**Humu'ula Sheep**	**0.41**	**354**	Pg	Pg	15 38 01.6	+0.5

*NEIC **06** 15:41:57.8±1.3,19°.08N±0°.03×155°.20W±0°.02,h5km±2km, Error ellipse: s-maj=5.6km s-min=3.1km az=323.0*
HVO 06 15:41:57.0±0.9,19°06N±0°03×155°15W±0°03,h7km±8km, Md2.3/12,ML2.5/24(NEIC),Error ellipse: s-maj=5.1km s-min=2.1km az=135.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.28**	**328**		Pg	15 42 02.6	0.0
HLP	**Hilina Pali**	**0.28**	**328**	IAML		15 42 09.8	

comp=E,1μm,0.8s

HLP				IAML		15 42 11.3	

comp=N,902nm,0.6s

HTC	**Hot Caves**	**0.30**	**308**		Pg	15 42 03.1	+0.2
KNHH	**Kane Nui o Ham**	**0.32**	**356**		Pg	15 42 03.6	+0.2
PUH	**Pauahi**	**0.32**	**349**	Pg	Pg	15 42 03.1	-0.4
PUH				IAML		15 42 12.0	

comp=N,460nm,0.7s

STCH	**Steam Cracks**	**0.33**	**4**		Sg	15 42 09.1	+1.1
STCH	**Steam Cracks**	**0.33**	**4**		Pg	15 42 03.4	-0.2
STCH	**Steam Cracks**	**0.33**	**4**	IAML		15 42 09.6	

comp=E,579nm,0.2s

STCH				IAML		15 42 09.7	

comp=N,358nm,0.3s

JCUZ	**Jacuzzi**	**0.33**	**8**	Pg	Pg	15 42 03.7	+0.1
JCUZ				IAML		15 42 10.1	

comp=E,561nm,0.4s

NPOC	**North of Pu'u**	**0.34**	**6**	Pg	Pg	15 42 03.8	+0.1
NPOC				IAML		15 42 09.9	

comp=E,511nm,0.3s

NPOC				IAML		15 42 12.7	

comp=N,468nm,0.3s

SDHHI	**Sand Hill**	**0.36**	**337**	Pg	Pg	15 42 04.0	-0.2
RSD	**Rainshed**	**0.42**	**343**	Pg	Pg	15 42 05.0	-0.3
RSD				IAML		15 42 13.8	

comp=E,420nm,3.5s

RSD				IAML		15 42 15.9	

comp=N,361nm,0.7s

KHU	**Kahuku**	**0.48**	**293**		Pg	15 42 05.7	-0.7
MLH	**Mauna Loa**	**0.49**	**333**		Sg	15 42 13.2	+0.1
MLH	**Mauna Loa**	**0.49**	**333**		Pg	15 42 06.0	-0.6
MLH				IAML		15 42 14.1	

comp=N,478nm,0.8s

MLH				IAML		15 42 14.0	

comp=E,430nm,0.5s

MWH	**Moku'aweowe**	**0.60**	**315**	Pg	Pg	15 42 07.5	-1.3
MWH				IAML		15 42 11.7	

comp=N,281nm,2.9s

MWH				IAML		15 42 12.1	

comp=E,287nm,1.8s

HMH	**Humu'ula Sheep**	**0.63**	**330**		Sg	15 42 17.1	-0.4
HMH	**Humu'ula Sheep**	**0.63**	**330**	Pg	Pg	15 42 08.2	-1.1
HMH	**Humu'ula Sheep**	**0.63**	**330**	IAML		15 42 17.6	

comp=E,184nm,0.2s

HMH				IAML		15 42 21.0	

comp=N,232nm,0.6s

ALEP	**Alea Permanent**	**0.67**	**316**		Sg	15 42 18.8	-0.1
HUH	**Hualalai**	**0.90**	**314**	Pg	Pg	15 42 12.4	-2.0

*ATH **06** 15:49:13.6,39°.53N×25°.99E,h9km±1km,ML2.4/9,Error ellipse: s-maj=1.8km s-min=0.8km az=82.0*
*AFAD **06** 15:49:13.9±0.0,39°.56N×26°.08E,h6km±1km,ML2.5*
*ISK **06** 15:49:13.1,39°.55N×26°.02E,h6km,ML2.5/32*
ISC 06 15:49:13.5±0.9,39°54N±0°02×26°00E±0°02,h11km±6km, n64,σ0s61/85,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.11**	**111**	P	**Pg**	**15 49 16.2**	**-0.2**
KOCA				S	**Sg**	**15 49 17.6**	**-0.9**
KOCA				*i* AML	AML	15 49 18.0	

comp=E,5μm,0.2s

GPNR	**Gulpinar-Canak**	**0.13**	**131**	Pg	**Pg**	**15 49 16.3**	**-0.4**
BOZC	**Bozcaada**	**0.30**	**7**	P	**Pg**	**15 49 19.6**	**0.0**
BOZC				S	**Sg**	**15 49 24.1**	**+0.3**
EZNE	**Ezine-Canakkal**	**0.35**	**53**	Pg	**Pg**	**15 49 20.3**	**-0.2**
EZNE				Sg	**Sg**	**15 49 25.6**	**+0.4**
SIGR	**SIGRI**	**0.35**	**199**	Pg	**Pg**	**15 49 20.8**	**+0.3**
SIGR				Sg	**Sg**	**15 49 26.4**	**+1.2**
SIGR	**SIGRI**	**0.35**	**199**	P	**Pg**	**15 49 20.4**	**-0.1**
SIGR				S	**Sg**	**15 49 25.4**	**+0.2**
SIGR				AML	AML	15 49 26.7	

comp=E,1354μm,0.2s

SIGR				AML	AML	15 49 28.1	

comp=N,1680μm,0.3s

PRK	**Paraskevi**	**0.36**	**145**	P	**Pg**	**15 49 20.6**	**-0.1**
PRK				S	**Sg**	**15 49 25.1**	**-0.4**
PRK				AML	AML	15 49 26.1	

comp=E,2742μm,0.4s

PRK				AML	AML	15 49 26.3	

comp=N,4763μm,0.2s

EZN	**Ezine**	**0.38**	**41**	Pg	**Pg**	**15 49 20.8**	**-0.2**
EZN				Sg	**Sg**	**15 49 26.2**	**+0.2**
BAYC	**CANAKKALE_Bayr**	**0.46**	**65**	P	**Pg**	**15 49 22.0**	**-0.6**
BAYC				S	**Sg**	**15 49 28.0**	**-0.8**
EAG1	**Polichnitos, L**	**0.49**	**160**	P	**Pg**	**15 49 22.6**	**-0.4**
EAG1				S	**Sg**	**15 49 29.4**	**-0.1**
ECEA	**Canakkale, Ece**	**0.52**	**15**	P	**Pg**	**15 49 23.4**	**-0.2**
ECEA				S	**Sg**	**15 49 30.7**	**+0.2**
AYVA	**Ayvalik**	**0.58**	**114**	P	**Pb**	**15 49 25.5**	**-0.2**
AYVA				S	**Sb**	**15 49 36.0**	**+2.1**
CNKL	**anakkale-Mer**	**0.60**	**29**	P	**Pg**	**15 49 24.9**	**-0.3**
CNKL				S	**Sg**	**15 49 32.7**	**-0.4**
GOAD	**anakkale-G¶**	**0.62**	**353**	P	**Pg**	**15 49 25.7**	**+0.1**
EAG3	**Mitilini, Lesv**	**0.63**	**136**	P	**Pg**	**15 49 25.6**	**-0.2**
EAG3				S	**Sg**	**15 49 34.2**	**+0.1**
GADA	**Gvkgeada**	**0.65**	**353**	Pg	**Pg**	**15 49 26.0**	**-0.2**
COMU	**Canakkale**	**0.66**	**33**	Pg	**Pg**	**15 49 26.2**	**-0.2**
LIA	**Limnos Island**	**0.73**	**300**	P	**Pg**	**15 49 28.0**	**+0.4**
LIA				S	**Sg**	**15 49 35.9**	**-1.1**
LIA				AML	AML	15 49 41.3	

comp=E,1060μm,0.4s

LIA				AML	AML	15 49 43.5	

comp=N,542μm,0.3s

BUHA	**Balikesir, Bur**	**0.83**	**93**	P	**Pg**	**15 49 29.0**	**-0.6**
BUHA				S	**Sg**	**15 49 39.5**	**-0.9**
DKL	**Dikili**	**0.84**	**124**	Pg	**Pg**	**15 49 29.7**	**-0.1**
CAND	**Candarli**	**0.85**	**133**	Pg	**Pg**	**15 49 30.0**	**0.0**
IZMD	**zmir-Dikili-**	**0.91**	**128**	P	**Pb**	**15 49 32.0**	**+0.6**
IZMD				S	**Sg**	**15 49 43.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.93**	**23**	Pg	**Pg**	**15 49 31.0**	**-0.4**
CANM	**Can-anakkale**	**0.93**	**60**	Pg	**Pg**	**15 49 31.3**	**-0.2**
KARB	**zmir-Karabur**	**0.93**	**160**	P	**Pg**	**15 49 31.6**	**+0.1**
KARB				*i* AML	AML	15 49 45.0	

comp=N,169nm,0.2s

KARB				*i* AML	AML	15 49 46.0	

comp=N,240nm,0.2s

SMTH	**Samothraki Isl**	**1.00**	**339**	P	**Pg**	**15 49 32.6**	**-0.1**
SMTH				S	**Sg**	**15 49 46.0**	**+0.3**
SMTH				AML	AML	15 49 49.4	

comp=N,116μm,0.3s

SMTH				AML	AML	15 49 50.0	

comp=E,113μm,0.4s

FOCM	**Foa**	**1.00**	**145**	Pg	**Pg**	**15 49 33.1**	**+0.3**
LPK	**Lapseki**	**1.01**	**35**	Pg	**Pg**	**15 49 32.5**	**-0.5**
ZEDA	**zmir-Bergama**	**1.01**	**124**	P	**Pb**	**15 49 33.5**	**+0.5**
ZEDA				*i* AML	AML	15 49 49.0	

comp=E,124nm,0.3s

YENI	**Yenice-Canakka**	**1.03**	**67**	Pg	**Pg**	**15 49 32.8**	**-0.6**
PSRA	**Psara**	**1.06**	**199**	P	**Pg**	**15 49 32.6**	**-1.2**
PSRA				S	**Sg**	**15 49 47.3**	**-0.3**
PSRA				AML	AML	15 49 50.4	

comp=N,834μm,0.2s

PSRA				AML	AML	15 49 53.0	

comp=E,921μm,0.2s

ENZZ	**Sultanice-Enez**	**1.07**	**6**	Pg	**Pg**	**15 49 33.8**	**-0.3**
CHOS	**Chios island**	**1.16**	**178**	Pn	**Pg**	**15 49 35.6**	**-0.1**
CHOS	**Chios island**	**1.16**	**178**	P	**Pg**	**15 49 34.8**	**-0.9**
CHOS				S	**Sg**	**15 49 50.2

0.4nm,0.8s
WRA Warramunga Arr 62.16 99 P **P 16 06 18.7 -0.2**
1.0nm,1.0s,baz=240,slow=8.2,SNR=4.0
1.0nm,1.0s
QSPA South Pole Qui 62.59 180 P **P 16 06 21.2 +0.1**
1.6nm,1.1s,baz=259,slow=3.9,SNR=5.2
1.6nm,1.1s
BRTR Keskin Array B 73.49 334 P **P 16 07 29.9 0.0**
0.3nm,0.5s,baz=133,slow=8.1,SNR=2.2
0.3nm,0.5s
ZALV Zalesovo Beam 82.75 11 P **P 16 08 20.7 +0.1**
0.8nm,0.6s,baz=198,slow=4.1,SNR=3.4
0.8nm,0.6s
SONM Songino Array 83.29 26 P **P 16 08 24.2 +0.4**
0.3nm,0.5s,baz=184,slow=3.5,SNR=2.8
0.3nm,0.5s
YKA Yellowknife Ar 145.06 1 PKPbc **PKPbc 16 15 32.5 -0.8**
0.3nm,0.7s,baz=344,slow=3.8,SNR=5.4

*CATAC **06** 16:10:37.1±0.2,13°.20N×88°.07W,h4km±1km,ML3.9*
*SNET **06** 16:10:37.0±1.0,13°.23N×88°.07W,h5km±3km,ML3.9*
ISC 06 16:10:37.2±0.8,13°.20N±0°.04×88°.05W±0°.02,h14km±6km,
n63,σ0°.91/87,6C-6D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarɲn**	**0.20**	**285**	⇓*iP*	**Pg**	**16 10 41.5**	**-0.3**
JUCU				*e*S	**Sg**	**16 10 44.5**	**-0.3**
JUCU	**Jucuarɲn**	**0.20**	**285**	*i* P	**Pg**	**16 10 41.5**	**-0.3**
JUCU				*i* S	**Sg**	**16 10 44.7**	**-0.2**
JUCU				IAML		16 10 45.7	
	comp=Z,52μm,1.0s						
CNCH	**Conchagua**	**0.23**	**71**	*i* P	**Pg**	**16 10 42.3**	**0.0**
CNCH				*e*S	**Sg**	**16 10 46.1**	**+0.4**
CNCH	**Conchagua**	**0.23**	**71**	*i* P	**Pg**	**16 10 42.3**	**0.0**
CNCH				*i* S	**Sg**	**16 10 46.1**	**+0.4**
CNCH				IAML		16 10 49.2	
	comp=Z,62μm,1.0s						
CNRM	**Centro Naciona**	**0.29**	**337**	*e*P	**Pg**	**16 10 42.9**	**-0.5**
CNRM	**Centro Naciona**	**0.29**	**337**	*i* P	**Pg**	**16 10 43.0**	**-0.4**
CNRM				*i* S	**Sg**	**16 10 47.6**	**0.0**
CNRM				IAML		16 10 54.8	
	comp=Z,89μm,1.0s						
BLLM	**Bellamira**	**0.30**	**323**	⇑*iP*	**Pg**	**16 10 43.1**	**-0.4**
VSM	**San Miguel**	**0.31**	**316**	⇓*iP*	**Pg**	**16 10 43.7**	**-0.1**
LCY	**Lacayo**	**0.32**	**313**	⇑*iP*	**Pg**	**16 10 43.7**	**-0.2**
RANC	**El Ranchito**	**0.33**	**315**	⇑*iP*	**Pg**	**16 10 43.8**	**-0.2**
RANC	**El Ranchito**	**0.33**	**315**	*i* P	**Pg**	**16 10 43.8**	**-0.2**
RANC				*i* S	**Sg**	**16 10 48.9**	**+0.3**
RANC				IAML		16 10 50.6	
	comp=Z,8μm,1.0s						
PACA	**Pacayal**	**0.37**	**315**	*i* P	**Pg**	**16 10 44.6**	**-0.2**
PACA				IAML		16 10 53.2	
	comp=Z,35μm,1.0s						
AMPH	**Amapala**	**0.39**	**78**	⇑*eP*	**Pb**	**16 10 45.2**	**-0.7**
AMPH				*e*S	**Sb**	**16 10 51.0**	**-0.8**
TECA	**Tecapa**	**0.53**	**304**	⇓*iP*	**Pg**	**16 10 47.3**	**-0.3**
COEB	**Comit de Eme**	**0.55**	**303**	⇓*iP*	**Pg**	**16 10 47.7**	**-0.4**
COEB	**Comit de Eme**	**0.55**	**303**	*i* P	**Pg**	**16 10 47.7**	**-0.4**
COEB				IAML		16 10 49.6	
	comp=Z,3μm,1.0s						
COEB				*i* S	**Sg**	**16 10 55.5**	**+0.1**
PQSS	**Presa 15 de Se**	**0.65**	**311**	⇑*eP*	**Pg**	**16 10 49.3**	**-0.6**
PQSS	**Presa 15 de Se**	**0.65**	**311**	*i* S	**Pg**	**16 10 49.3**	**-0.6**
TECO	**Alcaldia de Te**	**0.78**	**295**	*eP*	**Pg**	**16 10 51.5**	**-0.9**
TECO	**Alcaldia de Te**	**0.78**	**295**	*i* P	**Pg**	**16 10 51.5**	**-0.9**
TECO				*i* S	**Sg**	**16 11 02.4**	**-0.3**
TECO				IAML		16 11 04.9	
	comp=Z,3μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.82**	**307**	⇓*iP*	**Pg**	**16 10 52.6**	**-0.6**
SCLA	**Alcaldia de Sa**	**0.82**	**307**	*i* S	**Sb**	**16 11 05.5**	**+1.2**
UESV	**Universidad de**	**0.83**	**301**	*eP*	**Pg**	**16 10 52.6**	**-0.7**
UESV	**Universidad de**	**0.83**	**301**	*i* P	**Pg**	**16 10 52.7**	**-0.7**
UESV				*i* S	**Sg**	**16 11 04.0**	**-0.4**
UESV				IAML		16 11 05.7	
	comp=Z,3μm,1.0s						
SNVI	**San Vicente**	**0.87**	**298**	*eP*	**Pg**	**16 10 53.5**	**-0.6**
COEG	**Centro de Oper**	**0.91**	**297**	*eP*	**Pg**	**16 10 53.8**	**-1.0**
COEG	**Centro de Oper**	**0.91**	**297**	*i* P	**Pg**	**16 10 53.9**	**-0.9**
COEG				*i* S	**Sg**	**16 11 06.6**	**-0.1**
COEG				IAML		16 11 07.7	
	comp=Z,3μm,1.0s						
PAVA	**Las Pavas**	**1.00**	**301**	*eP*	**Pg**	**16 10 55.6**	**-0.9**
PAVA	**Las Pavas**	**1.00**	**301**	*i* P	**Pg**	**16 10 55.6**	**-0.9**
PAVA				*i* S	**Sb**	**16 11 10.0**	**+0.6**
PAVA				IAML		16 11 11.9	
	comp=Z,7μm,1.0s						
CRIN	**San Cristobal**	**1.10**	**117**	⇓*iP*	**Pn**	**16 10 58.3**	**+0.1**
CRIN	**San Cristobal**	**1.10**	**117**	*i* P	**Pn**	**16 10 58.5**	**+0.3**
CRIN				IAML		16 11 22.2	
	comp=Z,8μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.14**	**42**	⇑*iP*	**Pb**	**16 10 57.8**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.14**	**42**	*i* P	**Pb**	**16 10 57.8**	**-1.0**
TGUH				*i* S	**Sn**	**16 11 15.0**	**+0.7**
TGUH				IAML		16 11 17.8	
	comp=Z,6μm,1.0s						
PANCS	**Alcalda de**	**1.17**	**291**	*i* P	**Pb**	**16 10 58.2**	**-1.0**
PANCS				*i* S	**Sb**	**16 11 13.7**	**-0.5**
PANCS				IAML		16 11 14.8	
	comp=Z,8μm,1.0s						
LOMA	**Loma Larga**	**1.17**	**292**	*eP*	**Pb**	**16 10 58.5**	**-0.8**
LOMA	**Loma Larga**	**1.17**	**292**	*i* P	**Pb**	**16 10 58.5**	**-0.8**
LOMA				*i* S	**Sb**	**16 11 14.5**	**+0.1**
LOMA				IAML		16 11 16.2	
	comp=Z,3μm,1.0s						
SNET	**Serv Nac Est T**	**1.24**	**293**	*i* P	**Pn**	**16 10 59.7**	**-0.5**
SNET				*i* S	**Sn**	**16 11 17.6**	**+0.8**
SNET				IAML		16 11 19.7	
	comp=Z,3μm,1.0s						
UEES	**Universidad Ev**	**1.26**	**294**	*eP*	**Pn**	**16 11 00.3**	**-0.2**
UEES	**Universidad Ev**	**1.26**	**294**	*i* P	**Pn**	**16 11 00.7**	**+0.2**
UEES				*i* S	**Sn**	**16 11 18.4**	**+1.1**
UEES				IAML		16 11 22.5	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**1.27**	**283**	*i* S	Sb	16 10 59.8	-17
LLGN	**La Laguna**	**1.29**	**318**	*i* S	Sb	16 11 00.1	-18
PMON	**Piamonte**	**1.33**	**293**	*eP*	**Pn**	**16 11 01.1**	**-0.3**
PMON	**Piamonte**	**1.33**	**293**	*i* S	Sb	16 11 01.6	-17
JAYA	**Jayaque - finc**	**1.43**	**289**	*eP*	**Pn**	**16 11 02.6**	**-0.2**
JAYA	**Jayaque - finc**	**1.43**	**289**	*i* P	**Pn**	**16 11 02.7**	**-0.2**
JAYA				*i* S	**Sn**	**16 11 21.7**	**+0.2**
JAYA				IAML		16 11 24.4	
	comp=Z,7μm,1.0s						
CNGA	**Al SSO del Vol**	**1.49**	**118**	*i* P	**Pn**	**16 11 02.5**	**-1.1**
CNGA				*i* S	**Sg**	**16 11 24.5**	**-0.9**
CNGN	**Cerro Negro**	**1.49**	**118**	*eP*	**Pn**	**16 11 02.7**	**-0.9**
CNGN	**Cerro Negro**	**1.49**	**118**	*i* P	**Pn**	**16 11 03.5**	**-0.1**
CNGN				*i* S	**Sg**	**16 11 24.5**	**-0.9**
CNGN				IAML		16 11 37.2	
	comp=Z,1μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.61**	**119**	*i* P	**Pb**	**16 11 06.0**	**-0.7**
LEVN				*i* S	**Sg**	**16 11 28.5**	**-0.6**
LEVN				IAML		16 11 33.6	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.65**	**292**	*eP*	**Pn**	**16 11 06.8**	**+0.9**
CEVE	**Cerro Verde**	**1.65**	**292**	*i* P	**Pn**	**16 11 07.0**	**+1.1**
CEVE				*i* S	**Sb**	**16 11 29.4**	**+1.1**
CEVE				IAML		16 11 33.0	
	comp=Z,2μm,1.0s						
MOMN	**Momotombo**	**1.67**	**118**	*i* P	**Pn**	**16 11 05.8**	**-0.3**
MOMN				*i* S	**Sg**	**16 11 29.8**	**-1.3**
MOMN				IAML		16 11 32.9	
	comp=Z,36nm,1.0s						
MOM2	**El Cardon**	**1.71**	**116**	*i* P	**Pn**	**16 11 06.2**	**-0.3**
MOM2				*i* S	**Sg**	**16 11 32.3**	**+0.1**
MOM2				IAML		16 11 34.7	
	comp=Z,730nm,1.0s						
MTO3	**Montecristo**	**1.74**	**313**	*i* P	**Pn**	**16 11 07.1**	**-0.1**
MTO3				*i* S	**Sb**	**16 11 31.6**	**+0.7**
MTO3				IAML		16 11 33.8	
	comp=Z,630nm,1.0s						
COPN	**Copaltepe**	**1.75**	**125**	*i* P	**Pn**	**16 11 07.7**	**+0.6**
COPN				IAML		16 11 47.7	
	comp=Z,520nm,1.0s						
NUBE	**Las Nubes**	**1.82**	**293**	*i* P	**Pn**	**16 11 08.8**	**+0.6**
NUBE				*i* S	**Sb**	**16 11 33.4**	**+0.4**
NUBE				IAML		16 11 39.4	
	comp=Z,980nm,1.0s						
ESQI	**Esquipulas**	**1.84**	**317**	*i* P	**Pb**	**16 11 10.0**	**-0.7**
ESQI				IAML		16 11 47.4	
	comp=Z,640nm,1.0s						
APYN	**Apoyeque**	**1.92**	**120**	*i* P	**Pb**	**16 11 11.2**	**-0.8**
APYN				*i* S	**Sg**	**16 11 37.1**	**-1.9**
APYN				IAML		16 11 41.4	
	comp=Z,840nm,1.0s						
TISN	**Laguna Tiscapa**	**2.03**	**121**	*i* P	**Pn**	**16 11 11.8**	**+0.8**
TISN				IAML		16 11 13.0	
	comp=Z,69nm,1.0s						
ACON	**Acoyapa**	**3.07**	**113**	*i* P	**Pb**	**16 11 29.8**	**-1.7**
HZTE	**Horizontes, Gu**	**3.45**	**136**	*i* P	**Pn**	**16 11 33.1**	**+2.6**
ORTG	**Ortega, Santa**	**3.80**	**138**	*i* P	**Pn**	**16 11 37.1**	**+1.8**
ORTG				IAML		16 12 25.8	
	comp=Z,48nm,1.0s						
CDM	**Cerro de Muert**	**5.55**	**130**	*i* P	**Pn**	**16 12 04.3**	**+4.5**

*IDC **06** 16:13:38.4±2.7,37°.23N×72°.14E,h145km±23km,mb3.9/18,*
mbtmp4.4/25,Error ellipse: s-maj=17.9km s-min=14.0km
az=162.0
*BJI **06** 16:13:39.0±0.0,37°.28N×72°.12E,h151km,mb4.4/17,*
mB4.8/6
*MOS **06** 16:13:39.3±1.0,37°.40N×72°.05E,h158km,mb4.3/49,Error*
ellipse: s-maj=5.6km s-min=3.4km az=95.0
*NEIC **06** 16:13:40.6±1.4,37°.42N±0°.05×72°.04E±0°.07,h154km±5km,*
mb4.4/97,Error ellipse: s-maj=8.7km s-min=7.5km
az=111.0
*NNC **06** 16:13:41.7±2.4,37°.60N×71°.93E,h158km±31km,mb3.7,*
mpv4.5,Error ellipse: s-maj=23.3km s-min=16.2km
az=164.0
*SOME **06** 16:13:46.3,37°.85N×72°.30E,h25km*
ISC 06 16:13:39.1±0.3,37°.37N±0°.03×72°.10E±0°.03,h150km,n341,
σ1s81/361,mb4.3/115,19C-8D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.12**	**354**	Pn	**Pn**	**16 14 18.4**	**+2.5**
DRK				Sn	**Sn**	**16 14 43.4**	**-0.8**
GAR	**Garm**	**2.15**	**320**	Pn	**Pn**	**16 14 17.4**	**+1.4**
GAR				Sn	**Sn**	**16 14 44.1**	**-0.5**
CHGR	**Chuyangaron**	**2.66**	**300**		**Pn**	**16 14 22.9**	**+0.7**
CHGR	**Chuyangaron**	**2.66**	**300**	PN	**Pn**	**16 14 22.9**	**+0.7**
SIMJ	**Simiganj**	**2.76**	**299**	Pn	**Pn**	**16 14 24.4**	**+0.8**
BTK	**Batken**	**2.86**	**340**	Pn	**Pn**	**16 14 27.1**	**+2.3**
BTK	**Batken**	**2.86**	**340**	PN	**Pn**	**16 14 27.1**	**+2.3**
KSH	**Kashi**	**3.72**	**54**	P	**Pn**	**16 14 33.0**	**-2.7**
KSH				S	**Sn**	**16 15 11.7**	**-8.0**
KBL	**Kabul**	**3.76**	**222**	Pn	**Pn**	**16 14 38.3**	**+1.8**
KBL	**Kabul**	**3.76**	**222**	PN	**Pn**	**16 14 38.3**	**+1.8**
NIL	**Nilore**	**3.83**	**166**	Pn	Pn	16 14 39.5	+2.3
NIL	**Nilore**	**3.83**	**166**	PN	Pn	16 14 39.5	+2.3
ARSB	**Arslanbob**	**4.00**	**10**	Pn	**Pn**	**16 14 40.5**	**+1.0**
ARSB	**Arslanbob**	**4.00**	**10**	PN	**Pn**	**16 14 40.5**	**+1.0**
IUG	**Iuzhnay**	**5.03**	**342**	*eP*	**Pn**	**16 14 54.2**	**+1.3**
	baz=341						
IUG				*e*S	**Sn**	**16 15 49.8**	**-0.8**
	baz=341						
IUG	**Iuzhnay**	**5.03**	**342**	*eP*	**Pn**	**16 14 54.5**	**+1.6**
	154nm,0.3s						
IUG				*e*S	**Sn**	**16 15 47.9**	**-2.6**
	2μm,0.5s						
IUG	**Iuzhnay**	**5.03**	**342**	*e*PN	**Pn**	**16 14 54.2**	**+1.3**
IUG				*e*S	**Sn**	**16 15 49.7**	**-0.8**
UCH	**Uchtor**	**5.19**	**20**	P	**Pn**	**16 14 57.0**	**+1.5**
	SNR=196						
CHM	**Chimkent**	**5.30**	**340**	*eP*	**Pn**	**16 14 57.9**	**+1.5**
	12nm,0.7s,baz=338						
CHM				*e*S	**Sn**	**16 15 56.1**	**-0.8**
	baz=338						
CHM	**Chimkent**	**5.30**	**340**	*e*PN	**Pn**	**16 14 57.9**	**+1.5**
CHM				*e*S	**Sn**	**16 15 56.1**	**-0.8**
CHM				pmax	pmax		
	comp=Z,12nm,0.7s						
MRKS	**Merke**	**5.43**	**9**	*eP*	**Pn**	**16 14 59.6**	**+1.3**
	comp=Z,138nm,0.0s						
MRKS				*e*S	**Sn**	**16 15 57.1**	**-3.0**
	comp=Z,512nm,0.9s						
EKS2	**Erkin-Say**	**5.43**	**13**	P	**Pn**	**16 14 60.0**	**+1.6**
	SNR=38						
DZA	**Taraz**	**5.54**	**354**	*eP*	**Pn**	**16 15 00.9**	**+1.2**
	baz=354						
DZA				*e*S	**Sn**	**16 16 01.1**	**-1.6**
	baz=354						
DZA	**Taraz**	**5.54**	**354**	*eP*	**Pn**	**16 15 01.4**	**+1.7**
	comp=Z,752nm,0.5s						
DZA				*e*S	**Sn**	**16 16 00.4**	**-2.3**
	comp=Z,3μm,1.2s						
DZA	**Taraz**	**5.54**	**354**	*e*PN	**Pn**	**16 15 00.8**	**+1.2**
AAK	**Ala-Archa**	**5.57**	**19**	P	**Pn**	**16 15 02.1**	**+1.9**
	SNR=106						
AAK	**Ala-Archa**	**5.57**	**19**	⇓P	**Pn**	**16 15 01.7**	**+1.6**
	comp=Z,42nm,0.5s						
AAK				⇑S	**Sn**	**16 16 02.7**	**-0.8**
	comp=Z,456nm,0.9s						
AAK	**Ala-Archa**	**5.57**	**19**	Pn	**Pn**	**16 15 01.8**	**+1.7**
AAK	**Ala-Archa**	**5.57**	**19**	P	**Pn**	**16 15 01.1**	**+1.0**
	comp=Z,50nm,0.3s,baz=138,slow=6.4,SNR=308						
AAK				S	**Sn**	**16 16 03.5**	**+0.1**
	comp=Z,70nm,0.4s,baz=54,slow=18,SNR=19						
AAK	**Ala-Archa**	**5.57**	**19**	PN	**Pn**	**16 15 01.8**	**+1.7**
KBK	**Karagaybulak**	**5.71**	**22**	P	**Pn**	**16 15 03.7**	**+1.7**
	SNR=24						
FRU1	**Bishkek**	**5.76**	**19**	Pn	**Pn**	**16 15 04.5**	**+1.8**
FRU1	**Bishkek**	**5.76**	**19**	PN	**Pn**	**16 15 04.5**	**+1.8**
ULHL	**Ulahol**	**5.81**	**32**	P	**Pn**	**16 15 05.2**	**+1.7**
	SNR=18						
KK31	**Karatay Array**	**5.85**	**348**	⇑P	**Pn**	**16 15 04.9**	**+1.1**
	comp=Z,23nm,0.3s,baz=159,slow=11,SNR=795						
KK31				⇑S	**Sn**	**16 16 08.2**	**-1.8**
	comp=Z,766nm,0.5s,baz=166,slow=23,SNR=5.5						
KK31	**Karatay Array**	**5.85**	**348**	Pn	**Pn**	**16 15 04.7**	**+0.9**
KK31	**Karatay Array**	**5.85**	**348**	PN	**Pn**	**16 15 04.7**	**+0.9**
KKAR	**Karatay Array**	**5.85**	**348**	Pn	**Pn**	**16 15 04.8**	**+1.1**
KKAR	**Karatay Array**	**5.85**	**348**	PN	**Pn**	**16 15 04.8**	**+1.1**
BOOM	**Boomskoye usch**	**5.90**	**29**	Pn	**Pn**	**16 15 05.8**	**+1.2**
BOOM	**Boomskoye usch**	**5.90**	**29**	PN	**Pn**	**16 15 05.8**	**+1.2**
BRLS	**Borolday**	**5.91**	**344**	*eP*	**Pn**	**16 15 02.9**	**-1.7**
	baz=341						
BRLS	**Borolday**	**5.91**	**344**	*e*PN	**Pn**	**16 15 02.8**	**-1.7**
CHMS	**Chumysh**	**5.97**	**19**	P	**Pn**	**16 15 07.0**	**+1.6**
	SNR=47						
CHMS	**Chumysh**	**5.97**	**19**	⇓P	**Pn**	**16 15 06.2**	**+0.8**
	comp=Z,53nm,0.7s						
CHMS				⇓S	**Sn**	**16 16 10.6**	**-2.3**
	comp=Z,197nm,0.8s						
CHMS	**Chumysh**	**5.97**	**19**	PN	**Pn**	**16 15 06.2**	**+0.8**
TKM2	**Tokmak 2**	**6.15**	**25**	P	**Pn**	**16 15 09.7**	**+1.8**
	SNR=12						
TKM2	**Tokmak 2**	**6.15**	**25**	⇓P	**Pn**	**16 15 09.0**	**+1.0**
	comp=Z,33nm,0.8s						
TKM2	**Tokmak 2**	**6.15**	**25**	PN	**Pn**	**16 15 09.0**	**+1.0**
USP	**Ospenovka**	**6.16**	**17**	P	**Pn**	**16 15 09.2**	**+1.3**
	SNR=18						
DHRM	**DHARAMSHALA**	**6.17**	**145**	*eP*	**Pn**	**16 15 08.6**	**+0.4**
DHRM				*e*S	**Sn**	**16 16 12.8**	**-5.2**
DHRM				IAML		16 16 19.7	
	comp=Z,2μm,0.5s						
DHRM				IAML		16 16 20.4	
	comp=E,2μm,0.6s						
TARG	**Taragay, Kyrgy**	**6.19**	**44**	Pn	**Pn**	**16 15 09.7**	**+1.1**
TARG	**Taragay, Kyrgy**	**6.19**	**44**	PN	**Pn**	**16 15 09.7**	**+1.1**
SGDS	**Sogindy**	**6.37**	**17**	*eP*	**Pn**	**16 15 11.8**	**+1.0**
	baz=18						
SGDS	**Sogindy**	**6.37**	**17**	*e*PN	**Pn**	**16 15 11.7**	**+1.0**
KST	**Kastek**	**6.39**	**26**	*eP*	**Pn**	**16 15 12.6**	**+1.6**
	comp=E,17nm,0.5s						
KST				*e*S	**Sn**	**16 16 20.5**	**-2.5**
	comp=E,48nm,0.8s						
DGS	**Degeres**	**6.50**	**24**	*eP*	**Pn**	**16 15 14.1**	**+1.7**
	comp=E,18nm,0.2s						
DGS				*e*S	**Sn**	**16 16 23.4**	**-2.1**
	comp=E,49nm,0.4s						
TNSS	**Tian-Shan**	**6.76**	**32**	*eP*	**Pn**	**16 15 17.1**	**+0.8**
	baz=33						
TNSS	**Tian-Shan**	**6.76**	**32**	*e*PN	**Pn**	**16 15 17.1**	**+0.8**
KRBS	**Karabastau**	**6.88**	**22**	*eP*	**Pn**	**16 15 18.4**	**+1.0**
	comp=E,14nm,0.5s						
KRBS				*e*S	**Sn**	**16 16 31.3**	**-3.3**
	comp=E,13nm,1.3s						
AAA	**Alma-Ata**	**6.89**	**31**	*eP*	**Pn**	**16 15 19.0**	**+1.4**
	comp=E,8.0nm,0.5s,baz=32						
AAA	**Alma-Ata**	**6.89**	**31**	*e*PN	**Pn**	**16 15 19.0**	**+1.4**
AAA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MDOK	**Medeo**	**6.91**	**32**	⇓P	**Pn**	**16 15 18.5**	**+0.6**
	comp=Z,15nm,0.8s						
MDOK	**Medeo**	**6.91**	**32**	*eP*	**Pn**	**16 15 19.0**	**+1.0**
	baz=33						
MDOK	**Medeo**	**6.91**	**32**	*e*PN	**Pn**	**16 15 18.9**	**+1.0**
KNDC	**Almaty**	**6.92**	**31**	⇑P	**Pn**	**16 15 19.5**	**+1.5**
	comp=Z,23nm,0.5s						
KNDC	**Almaty**	**6.92**	**31**	PN	**Pn**	**16 15 19.5**	**+1.5**
SATY	**Saty**	**7.45**	**38**	*eP*	**Pn**	**16 15 26.1**	**+0.9**
	baz=40						
SATY	**Saty**	**7.45**	**38**	*e*PN	**Pn**	**16 15 26.0**	**+0.9**
CHKK	**Chushkaly**	**7.46**	**28**	*eP*	**Pn**	**16 15 26.0**	**+0.7**
	baz=30						
CHKK	**Chushkaly**	**7.46**	**28**	*e*PN	**Pn**	**16 15 25.9**	**+0.7**
SMLA	**Simla**	**7.51**	**145**	*eP*	**Pn**	**16 15 25.8**	**-0.1**
SMLA				*e*S	**Sn**	**16 16 45.2**	**-4.6**
SMLA				IAML		16 16 47.0	
	comp=E,819nm,0.5s						
SMLA				IAML		16 16 50.5	
	comp=E,633nm,0.1s						
BTLS	**Baital**	**7.80**	**10**	*eP*	**Pn**	**16 15 30.2**	**+0.4**
	baz=11						
BTLS	**Baital**	**7.80**	**10**	*e*PN	**Pn**	**16 15 30.1**	**+0.4**
SHLS	**Shalkode**	**8.06**	**42**	*eP*	Pn	16 15 37.8	+4.4
	baz=45						
SHLS	**Shalkode**	**8.06**	**42**	*e*PN	Pn	16 15 37.7	+4.4
HRA	**Herat**	**8.54**	**253**	Pn	**Pn**	**16 15 40.4**	**+0.5**
DDI	**Dehra Dun**	**8.60**	**143**	*eP*	**Pn**	**16 15 40.3**	**-0.3**
DDI				*e*S	**Sn**	**16 17 10.1**	**-6.1**
DDI				IAML		16 17 19.6	
	comp=E,674nm,0.4s						
DDI				IAML		16 17 21.6	
	comp=E,685nm,0.3s						
TDK	**Taldyqorghan**	**8.98**	**30**	*eP*	**Pn**	**16 15 45.7**	**+0.3**
	comp=E,5.8nm,0.8s,baz=31						
TDK	**Taldyqorghan**	**8.98**	**30**	*e*PN	**Pn**	**16 15 45.7**	**+0.3**
TDK				pmax	pmax		
	comp=E,6.0nm,0.8s						
OTUK	**Ortayu**	**10.87**	**1**	⇑P	**Pn**	**16 16 09.2**	**-1.2**
	comp=Z,4.4nm,0.5s						
GEYT	**Alibeck**	**11.10**	**277**	Pn	**Pn**	**16 16 11.3**	**-2.3**
GEYT	**Alibeck**	**11.10**	**277**	P	**Pn**	**16 16 11.4**	**-2.2**
	comp=Z,10nm,0.5s,baz=105,slow=11,SNR=43						
GEYT				S	**Sn**	**16 18 09.8**	**-6.6**
	comp=Z,22nm,0.5s,baz=92,slow=25,SNR=11						
GEYT	**Alibeck**	**11.10**	**277**	P	**Pn**	**16 16 11.3**	**-2.3**
GYA0	**ALIBECK ARRAY**	**11.10**	**277**	P	**Pn**	**16 16 11.5**	**-2.1**
GYA0B	**ALIBECK ARRAY**	**11.10**	**277**	⇓P	**Pn**	**16 16 11.4**	**-2.2**
GYA0B	**ALIBECK ARRAY**	**11.10**	**277**	Pn	**Pn**	**16 16 11.5**	**-2.2**
MAKZ	**Makanchi**	**11.93**	**35**	Pn	**Pn**	**16 16 24.5**	**+0.1**
MAKZ	**Makanchi**	**11.93**	**35**	P	**Pn**	**16 16 24.5**	**+0.1**
MK31	**Makanchi Array**	**12.07**	**36**	⇑P	**Pn**	**16 16 27.2**	**+1.0**
	comp=Z,4.0nm,0.6s,baz=212,slow=12,SNR=38						
MK31	**Makanchi Array**	**12.07**	**36**	*eP*	**Pn**	**16 16 26.4**	**+0.3**
MK31	**Makanchi Array**	**12.07**	**36**	*ceP*	**Pn**	**16 16 26.9**	**+0.8**
MKAR	**Makanchi Array**	**12.07**	**36**	P	**Pn**	**16 16 26.6**	**+0.4**
MKAR	**Makanchi Array**	**12.07**	**36**	P	**Pn**	**16 16 26.8**	**+0.6**
	comp=Z,1.2nm,0.5s,baz=218,slow=14,SNR=11						
BRZS	**Berezniki**	**12.61**	**2**	*eP*	**Pn**	**16 16 32.4**	**-0.8**
	baz=1.8						
BRZS	**Berezniki**	**12.61**	**2**	*eP*	**Pn**	**16 16 32.3**	**-0.8**
WMQ	**Urumqi**	**13.48**	**57**	*eP*	**P**	**16 16 45.4**	**-2.9**
WMQ				pmax	pmax		
	comp=Z,32nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,89nm,3.9s						
KURBB	**Kurchatov Arra**	**14.02**	**17**	P	**P**	**16 16 53.7**	**-0.5**
	comp=Z,11nm,0.9s,baz=209,slow=11,SNR=39						
KURK	**Kurchatov**	**14.13**	**17**	⇓P	**P**	**16 16 55.7**	**+0.3**
	comp=Z,21nm,1.0s						
KURK	**Kurchatov**	**14.13**	**17**	Pn	**Pn**	**16 16 52.5**	**+0.1**
KURK				P	**P**	**16 16 55.7**	**+0.3**
KURK	**Kurchatov**	**14.13**	**17**	*ceP*	**P**	**16 16 55.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,25nm,1.0s						
AB31	**Akbulak array**	**14.79**	**327**	P	**Pn**	**16 16 58.8**	**-1.9**
	comp=Z,11nm,0.5s,baz=141,slow=12,SNR=348						
AB31	**Akbulak array**	**14.79**	**327**	P	**Pn**	**16 16 58.8**	**-1.9**
ABKAR	**Akbulak array**	**14.79**	**327**	Pn	**Pn**	**16 16 59.4**	**-1.2**
ABKAR	**Akbulak array**	**14.79**	**327**	Pn	**Pn**	**16 16 59.3**	**-1.3**
BHPL	**Bhopal**	**14.81**	**161**	*eP*	Pn	16 16 55.7	-5.6
BHPL				*e*S	Sn	16 19 35.4	-10
BVA0	**Borovoye Array**	**15.70**	**356**	P	**Pn**	**16 17 11.1**	**-0.7**

LKP Lekhapani 22.36 110 *e*P **P** **16 18 26.1 +1.3**
IMP Imphal 22.43 118 *e*P **P** **16 18 26.7 +1.0**
BELG Belogornoye 22.79 319 P **P** **16 18 29.3 +0.7**
comp=Z,13nm,0.7s,baz=50,slow=17,SNR=7.2
BELG S **S** **16 22 31.5 +5.6**
comp=Z,13nm,0.6s,baz=24,slow=20,SNR=2.6
comp=Z,13nm,0.7s
BELG Belogornoye 22.79 319 *i* P **P** **16 18 29.9 +1.3**
BELG pmax pmax
comp=Z,7.0nm,1.4s
KBZ Khabaz 23.01 295 P **P** **16 18 31.7 +1.0**
comp=Z,1.8nm,0.6s,baz=56,slow=7.2,SNR=5.0
KBZ S S 16 22 43.0 +13
comp=Z,1.0nm,0.6s,baz=52,slow=12,SNR=1.7
comp=Z,1.8nm,0.6s
KBZ Khabaz 23.01 295 *i* P **P** **16 18 32.8 +2.1**
KBZ pmax pmax
comp=Z,9.0nm,1.7s
KVAR Kislovodsk Arr 23.18 296 S S 16 22 42.5 +10
comp=Z,1.5nm,0.3s,baz=215,slow=13,SNR=2.3
KIV Kislovodsk 23.18 296 *e*P **P** **16 18 32.8 +0.3**
KIV *e*S **S** **16 22 30.7 -2.1**
KIV pmax pmax
comp=Z,7.0nm,1.0s
LZH Lanzhou 25.41 83 *e*P **P** **16 18 48.0 -4.9**
LZH pP pP 16 19 19.5 -6.0
LZH pmax pmax
comp=Z,20nm,1.0s
LZH LR LR
comp=N,120nm,13.7s
LZH LR LR
comp=E,180nm,15.3s
LZH LR LR
comp=Z,260nm,14.4s
TNCH TengChong 25.64 111 *e*P **P** **16 18 56.9 +1.9**
TNCH pP pP 16 19 26.7 -0.9
TNCH pmax pmax
comp=Z,7.0nm,0.7s
KIRV Kirov 25.86 332 *ce*P **P** **16 18 57.5 +1.1**
RAYN Ar Rayn 26.66 246 P **P** **16 19 04.0 -0.1**
RAYN IAmb IAmb 16 19 11.6
comp=Z,3.1nm,0.6s
RAYN Ar Rayn 26.66 246 P **P** **16 19 04.0 -0.1**
RAYN pmax pmax
comp=Z,3.0nm,0.6s
ANN Anapa 27.01 297 *e*P **P** **16 19 10.5 +3.6**
ANN *e**PP **pP** **16 19 44.1 +4.6**
ANN pmax pmax
comp=Z,47nm,1.3s
SONM Songino Array 27.11 56 P **P** **16 19 08.2 +0.2**
SONM Songino Array 27.11 56 P **P** **16 19 10.7 +2.7**
comp=Z,0.8nm,0.8s,baz=252,slow=9.0,SNR=5.7
SONM Songino Array 27.11 56 *e*P **P** **16 19 13.6 +5.6**
SONM pmax pmax
comp=Z,1.0nm,0.8s
PZH PanZhiHua 27.28 105 P **P** **16 19 12.4 +2.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
ULN Ulaanbaatar 27.56 56 *i* P **P** **16 19 13.9 +1.9**
ULN pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 29.87 318 *i* P **P** **16 19 33.5 +1.4**
OBN *e**PP pP 16 20 11.5 +6.7
OBN 16 20 35.8
OBN 16 22 35.0
OBN pmax pmax
comp=Z,7.0nm,0.7s
OBN MLR MLR
comp=Z,58nm,18.0s
BR131 Keskin Array S 30.02 287 P **P** **16 19 34.8 +0.9**
BR131 IAmb IAmb 16 19 36.6
comp=Z,2.9nm,0.6s
BR131 Keskin Array S 30.02 287 *i* P **P** **16 19 35.6 +1.7**
BRTR Keskin Array B 30.02 287 P **P** **16 19 35.2 +1.4**
comp=Z,1.9nm,0.6s,baz=108,slow=9.2,SNR=19
comp=Z,1.9nm,0.6s
BRTR Keskin Array B 30.02 287 *e*P **P** **16 19 35.9 +2.0**
BRTR pmax pmax
comp=Z,2.0nm,0.6s
CMAR Chiang Mai Arr 30.13 121 P **P** **16 19 35.9 +1.1**
comp=Z,0.3nm,0.3s,baz=322,slow=12,SNR=2.2
CMAR Chiang Mai Arr 30.13 121 *e*P P 16 19 41.0 +6.2
CMAR pmax pmax
comp=Z,1.0nm,0.9s
HHC Hu-ho-hao-te 30.64 71 *e*P **P** **16 19 40.9 +1.7**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.0s
KLMR Klimovskoe 31.17 329 *e*P **P** **16 19 42.7 -0.8**
KLMR *e* 16 20 47.1
KLMR pmax pmax
comp=Z,9.0nm,1.5s
AKASG Malin Array Be 33.10 308 P **P** **16 20 01.1 +0.6**
AKASG Malin Array Be 33.10 308 P **P** **16 20 01.4 +0.9**
comp=Z,2.5nm,0.6s,baz=106,slow=9.4,SNR=21
comp=Z,2.5nm,0.6s
AKASG Malin Array Be 33.10 308 *e*P **P** **16 20 02.3 +1.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKBB Malin Array Si 33.10 308 P **P** **16 20 01.1 +0.6**
AKBB IAmb IAmb 16 20 01.8
comp=Z,6.0nm,0.8s
AKBB Malin Array Si 33.10 308 *ce*P **P** **16 20 00.1 -0.4**
AKBB pmax pmax
comp=Z,5.0nm,0.8s
KIEV Kiev 33.11 308 P **P** **16 20 01.0 +0.5**
KIEV IAmb IAmb 16 20 01.8
comp=Z,5.4nm,0.8s
KIEV Kiev 33.11 308 P **P** **16 20 01.0 +0.5**
KIEV pmax pmax
comp=Z,5.0nm,0.9s
TIRR Tirgusor 33.45 296 P **P** **16 20 03.9 +0.4**
TIRR IAmb IAmb 16 20 04.8
comp=Z,8.1nm,0.7s
TIRR Tirgusor 33.45 296 P **P** **16 20 03.9 +0.4**
TIRR pmax pmax
comp=Z,8.0nm,0.7s
ELL Elmali 33.47 282 P **P** **16 20 06.5 +2.5**
ELL Elmali 33.47 282 P **P** **16 20 06.6 +2.5**
ELL pmax pmax
comp=Z,26nm,0.7s
MNK Minsk 34.51 314 *i* P P 16 20 00.6 -12
comp=E,10.0nm,0.9s
MNK *i* pP pP 16 20 38.3 -7.7
MNK *i* PP PnPn 16 21 21.8 -11
MNK *i* S S 16 25 05.9 -24
MNK *i* sS sS 16 26 22.2 -6.3
MNK *i* SS **SnSn** **16 27 47.6 -11**
MNK *i* LQ LQ 16 30 27.2
MNK *i* LR LR 16 32 42.7
MNK *i* LRM MLR 16 34 28.8
comp=E,196nm,23.0s
MNK *i* LRM MLR 16 34 44.1
comp=Z,60nm,16.2s
MNK *i* LRM MLR 16 34 47.9
comp=N,504nm,23.1s
MLR Muntele Rosu 35.14 298 P **P** **16 20 19.3 +1.0**
MLR IAmb IAmb 16 20 22.3
comp=Z,8.4nm,0.9s
MLR Muntele Rosu 35.14 298 P **P** **16 20 19.3 +1.0**
MLR pmax pmax
comp=Z,8.0nm,0.9s
BURAR Bucovina Array 35.56 302 P **P** **16 20 23.3 +1.4**
BURAR Bucovina Array 35.56 302 P **P** **16 20 23.3 +1.4**
BURAR pmax pmax
comp=Z,2.0nm,0.7s
JOF Joensuu 35.56 329 *e*P **P** **16 20 22.8 +1.3**
BUR08 Bucovina Ar. S 35.57 302 P **P** **16 20 23.5 +1.5**
LVZ Lovozero 36.98 338 P **P** **16 20 34.1 +0.5**
LVZ Lovozero 36.98 338 P **P** **16 20 34.1 +0.5**
LVZ pmax pmax
comp=Z,32nm,1.4s
FIA1 FINESS Array S 37.26 325 P **P** **16 20 35.8 -0.1**
FINES FINESS Array B 37.26 325 P **P** **16 20 36.8 +0.8**
FINES FINESS Array B 37.26 325 P **P** **16 20 37.0 +1.1**
comp=Z,2.7nm,0.5s,baz=116,slow=9.1,SNR=25
comp=Z,2.7nm,0.5s
MTSE Matsula 37.60 320 *e*P **P** **16 20 39.8 +1.0**
MEF Metsahovi 37.69 323 *e*P **P** **16 20 40.2 +0.7**
KEF Keuruu 38.04 326 *e*P **P** **16 20 43.2 +0.8**
STHS Stebnicka Huta 38.17 305 *e*P P 16 20 51.3 +7.5
STHS Stebnicka Huta 38.17 305 *e*P P 16 20 51.3 +7.5

OJC Ojcow 39.09 306 P **P** **16 20 52.7 +1.3**
OJC IAmb IAmb 16 20 53.7
comp=Z,4.3nm,0.8s
OJC Ojcow 39.09 306 P **P** **16 20 52.7 +1.3**
OJC pmax pmax
comp=Z,4.0nm,0.8s
VAF Ylistaro 39.27 327 *e*P **P** **16 20 54.3 +1.6**
ARCES ARCESS Array B 40.68 337 P **P** **16 21 05.6 +1.3**
ARCES IAmb IAmb 16 21 06.5
comp=Z,12nm,1.0s
ARCES ARCESS Array B 40.68 337 P **P** **16 21 05.4 +1.1**
comp=Z,8.3nm,0.8s,baz=114,slow=8.6,SNR=17
comp=Z,8.3nm,0.8s
ARCES ARCESS Array B 40.68 337 P **P** **16 21 05.6 +1.3**
ARCES pmax pmax
comp=Z,12nm,1.0s
HEH HeiHe 41.02 54 *e*P **P** **16 21 09.3 +2.0**
HEH pmax pmax
comp=Z,4.0nm,0.6s
HEH pmax pmax
comp=Z,130nm,5.9s
CONA Conrad Observa 41.84 303 *e*P P **16 21 16.0 +1.9**
comp=Z,4.5nm,0.8s
ARSA Arzberg 42.15 302 *i* P P **16 21 18.0 +1.5**
comp=Z,2.5nm,0.7s
SOKA Soboth 42.56 301 *e*P **P** **16 21 20.4 +0.4**
comp=Z,5.1nm,1.0s
YAK Yakutsk 42.74 36 *ce*P **P** **16 21 21.8 +0.7**
YAK pmax pmax
comp=Z,5.0nm,0.8s
BRG Berggiesshubel 42.78 308 *i* P P **16 21 23.6 +1.9**
BRG Amp 16 21 25.3
comp=Z,3.6nm,0.8s
BRG Berggiesshubel 42.78 308 *i* P **P** **16 21 23.5 +1.9**
BRG pmax pmax
comp=Z,4.0nm,0.8s
GSI Gunungsitoli 42.89 141 P **P** **16 21 24.8 +2.0**
MOA Molln 42.91 303 *e*P **P** **16 21 21.4 -1.3**
comp=Z,3.7nm,1.2s
OBKA Obir 42.92 301 *e*P **P** **16 21 23.3 +0.4**
comp=Z,7.0nm,1.3s
HFS Hagfors 42.93 321 P **P** **16 21 23.6 +0.9**
comp=Z,11nm,0.6s,baz=98,slow=11,SNR=26
comp=Z,11nm,0.6s
SGRT San Giovanni R 43.01 294 P **P** **16 21 24.1 +0.4**
SGRT IAmb IAmb 16 21 27.3
comp=Z,16nm,1.0s
CLL Collm 43.34 308 *e*P **P** **16 21 26.0 0.0**
CLL Collm 43.34 308 *e*P **P** **16 21 26.0 0.0**
CUC Castrocucco 43.40 292 P **P** **16 21 27.4 +0.7**
CUC IAmb IAmb 16 21 29.7
comp=Z,6.9nm,0.6s
NC405 NORSAR Array S 43.98 323 P **P** **16 21 30.4 -0.7**
NC405 IAmb IAmb 16 21 33.3
comp=Z,12nm,0.9s
NC303 NORSAR Array S 44.16 323 P **P** **16 21 32.5 +0.1**
NC303 IAmb IAmb 16 21 34.2
comp=Z,11nm,0.8s
NB201 NORSAR Array S 44.18 322 P **P** **16 21 33.4 +0.7**
NB201 IAmb IAmb 16 22 09.8
comp=Z,20nm,1.4s
NB2 NORSAR Subarra 44.22 322 P **P** **16 21 33.4 +0.4**
comp=Z,2.4nm,0.6s,baz=92,slow=7.9
NOA NORSAR Array B 44.22 322 P **P** **16 21 33.3 +0.3**
comp=Z,3.7nm,0.7s,baz=94,slow=7.7,SNR=16
comp=Z,3.7nm,0.7s
NBO00 NORSAR Array S 44.43 322 P **P** **16 21 35.3 +0.6**
NBO00 IAmb IAmb 16 21 39.2
comp=Z,16nm,1.3s
NC204 NORSAR Array S 44.45 323 P **P** **16 21 35.3 +0.5**
FDMO Fiordimonte 44.62 297 P **P** **16 21 37.9 +1.4**
FDMO IAmb IAmb 16 21 38.9
comp=Z,4.2nm,0.7s
TIXI Tiksi 44.63 22 P **P** **16 21 37.0 +0.9**
TIXI IAmb IAmb 16 21 37.8
comp=Z,6.5nm,0.8s
TIXI Tiksi 44.63 22 *ce*P **P** **16 21 37.0 +0.9**
TIXI pmax pmax
comp=Z,6.0nm,0.7s
WATA Walderalm 44.79 303 *i* P P **16 21 38.0 +0.1**
comp=Z,4.3nm,0.5s
KONO Kongsberg 44.97 320 P **P** **16 21 39.3 +0.4**
KONO IAmb IAmb 16 22 09.0
comp=Z,20nm,1.4s
KONO Kongsberg 44.97 320 P **P** **16 21 39.3 +0.4**
KONO pmax pmax
comp=Z,20nm,1.4s
YOJ Yonaguni jima 45.03 92 P **P** **16 21 41.4 +1.5**
YOJ Yonaguni jima 45.03 92 P **P** **16 21 41.4 +1.5**
MOTA Moosalm 45.10 303 *i* P **P** **16 21 39.6 -0.7**
comp=Z,3.6nm,0.9s
FUORN Ofenpass-Fuorn 45.81 302 P **P** **16 21 45.4 -0.6**
DAVA Damuels 45.93 303 *i* P **P** **16 21 47.8 +1.0**
comp=Z,6.1nm,0.7s
MSSA Maissana 46.83 299 P **P** **16 21 54.7 +0.9**
MSSA IAmb IAmb 16 22 32.9
comp=Z,18nm,1.1s
SPB2 Spitsbergen Ar 46.84 346 P **P** **16 21 53.9 +0.6**
SPB1 Spitsbergen Ar 46.84 346 P **P** **16 21 54.1 +0.7**
SPA2 Spitsbergen Ar 46.84 346 P **P** **16 21 54.0 +0.6**
SPB3 Spitsbergen Ar 46.85 346 P **P** **16 21 55.1 +1.8**
SPITS Spitsbergen Ar 46.85 346 P **P** **16 21 55.2 +1.8**
comp=Z,4.8nm,0.6s,baz=112,slow=10.0,SNR=9.1
comp=Z,4.8nm,0.6s
SPB5 Spitsbergen Ar 46.85 346 P **P** **16 21 55.5 +2.1**
SPB4 Spitsbergen Ar 46.85 346 P **P** **16 21 55.3 +1.9**
HINF Hinteralfeld 47.83 304 *e*P **P** **16 22 01.8 +0.4**
HINF pmax pmax
comp=Z,1.0nm,0.6s
SENIN Lac Senin/Sane 47.86 302 P **P** **16 22 02.0 0.0**
KBS Kingsbay 47.96 347 P **P** **16 22 03.2 +1.3**
KBS Kingsbay 47.96 347 P **P** **16 22 03.2 +1.3**
KBS pmax pmax
comp=Z,44nm,1.4s
KBS Kingsbay 47.96 347 *i* P **P** **16 22 03.5 +1.5**
HAU Haudompre 48.12 305 *e*P **P** **16 22 04.2 +0.5**
HAU pmax pmax
comp=Z,1.0nm,0.2s
VSL Villasalto 48.29 293 P **P** **16 22 05.1 +0.1**
VSL IAmb IAmb 16 22 48.0
comp=Z,9.4nm,1.2s
SBF Sospel 48.40 299 *e*P **P** **16 22 08.0 +2.1**
SBF pmax pmax
comp=Z,14nm,1.2s
LPL La Plagne 48.45 301 *e*P **P** **16 22 07.4 +0.9**
LPL pmax pmax
comp=Z,2.0nm,0.7s
CABF La Chapelle 48.62 303 *e*P **P** **16 22 09.2 +1.7**
CABF pmax pmax
comp=Z,21nm,1.8s
MBDF Montbardon 48.63 300 *e*P P 16 22 10.7 +3.0
MBDF pmax pmax
comp=Z,10.0nm,1.1s
BAIF Baives 49.05 308 *e*P **P** **16 22 11.9 +1.2**
BAIF pmax pmax
comp=Z,4.0nm,0.8s
KEST Kesra 49.60 288 P **P** **16 22 15.2 +0.1**
comp=Z,2.9nm,0.8s,baz=48,slow=1.5,SNR=4.1
comp=Z,2.9nm,0.8s
LOR Lormes 49.93 304 *e*P **P** **16 22 15.2 -2.2**
LOR pmax pmax
comp=Z,2.0nm,0.8s
VIVF Saint-Julien-l 50.03 301 *e*P **P** **16 22 20.1 +1.9**
VIVF pmax pmax
comp=Z,20nm,1.9s
SMF Signal de Mont 50.10 303 *e*P **P** **16 22 19.1 +0.4**
SMF pmax pmax
comp=Z,5.0nm,0.9s
SSF Saint Saulge 50.22 304 *e*P **P** **16 22 19.8 +0.2**
SSF pmax pmax
comp=Z,13nm,1.6s
TCF Toulx Ste Croi 51.29 303 *e*P **P** **16 22 28.3 +0.7**
TCF pmax pmax
comp=Z,7.0nm,1.1s
JGF Kuroka 51.53 71 P **P** **16 22 29.7 +0.1**
JGF IAmb IAmb 16 22 41.9
comp=Z,8.4nm,1.3s
CAF Calviac 51.78 302 *e*P **P** **16 22 32.2 +0.9**
CAF pmax pmax
comp=Z,1.0nm,1.1s
LDF La Druitiere 52.16 307 *e*P **P** **16 22 35.0 +1.0**
LDF pmax pmax
comp=Z,3.0nm,0.7s
MTLF Montolieu 52.17 300 *e*P **P** **16 22 34.9 +0.7**
MTLF pmax pmax
comp=Z,2.0nm,0.7s

EKA Eskdalemuir Ar 52.28 316 P **P** **16 22 35.4 +0.6**
comp=Z,1.5nm,0.6s,baz=90,slow=7.4,SNR=10
comp=Z,1.5nm,0.6s
ESK Eskdalemuir 52.31 316 P **P** **16 22 35.4 +0.4**
ESK Eskdalemuir 52.31 316 P **P** **16 22 35.4 +0.4**
ESK pmax pmax
comp=Z,24nm,1.5s
FLN La Foliniere 52.34 307 *e*P **P** **16 22 35.3 0.0**
FLN pmax pmax
comp=Z,18nm,1.5s
GRR Gorron 52.69 307 *e*P **P** **16 22 37.9 0.0**
GRR pmax pmax
comp=Z,3.0nm,0.6s
MFF Saint Martin d 52.75 304 *e*P **P** **16 22 39.3 +0.9**
MFF pmax pmax
comp=Z,15nm,1.6s
CEST Esterri de Car 53.09 299 P **P** **16 22 41.7 +0.7**
CEST IAmb IAmb 16 22 42.8
comp=Z,3.9nm,0.9s
NOR Nord 53.10 349 *e*P **P** **16 22 41.2 +0.8**
NOR IAmb IAmb 16 22 47.6
comp=Z,1.0nm,0.7s
SEY Seymchan 53.20 34 *ce*P **P** **16 22 43.7 +2.3**
SEY pmax pmax
comp=Z,6.0nm,2.5s
DAG Danmarks Havn 54.14 343 *i* P **P** **16 22 48.0 -0.1**
DAG IAmb IAmb 16 22 50.1
comp=Z,6.3nm,0.8s
ETSF Etsaut 54.24 300 *e*P **P** **16 22 50.0 +0.6**
ETSF pmax pmax
comp=Z,3.0nm,0.8s
ROSF Rostrenen 54.24 307 *e*P **P** **16 22 49.3 +0.1**
ROSF pmax pmax
comp=Z,6.0nm,0.8s
QUIF Quistinic 54.30 307 *e*P **P** **16 22 49.6 0.0**
QUIF pmax pmax
comp=Z,23nm,1.6s
BILL Bilibino 57.43 26 P **P** **16 23 13.1 +1.5**
ESDC Sonseca Array 57.83 298 P **P** **16 23 15.6 +0.6**
ESDC Sonseca Array 57.83 298 P **P** **16 23 15.6 +0.6**
comp=Z,1.8nm,0.7s,baz=58,slow=7.5,SNR=23
comp=Z,1.8nm,0.7s
NEEM North Greenlan 60.37 348 *i* P **P** **16 23 32.1 0.0**
NEEM IAmb IAmb 16 23 34.0
comp=Z,6.6nm,0.8s
SUMG Summit 60.52 341 P **P** **16 23 34.2 +0.9**
SUMG Summit 60.52 341 P **P** **16 23 34.2 +0.9**
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 60.52 341 *i* P **P** **16 23 34.0 +0.7**
SUMG IAmb IAmb 16 23 35.6
comp=Z,6.7nm,0.8s
ICESG Greenland Ices 62.73 338 *i* P **P** **16 23 48.4 +0.3**
ICESG IAmb IAmb 16 23 50.3
comp=Z,3.9nm,0.8s
DY2G Dye2 66.32 337 *i* P **P** **16 24 12.1 +0.8**
DY2G IAmb IAmb 16 24 13.3
comp=Z,8.3nm,1.0s
C16K Lisburne Hills 66.33 20 P **P** **16 24 11.6 +0.6**
TOA0 Torodi Ar. Sit 66.62 269 P **P** **16 24 12.6 -1.1**
TOA0 IAmb IAmb 16 24 31.9
comp=Z,7.1nm,1.5s
TORD Torodi Ar. Bea 66.62 269 P **P** **16 24 12.8 -0.9**
TORD Torodi Ar. Bea 66.62 269 P **P** **16 24 12.6 -1.1**
comp=Z,0.8nm,0.5s,baz=45,slow=6.0,SNR=15
comp=Z,0.8nm,0.5s
C18K Utukok River 67.17 19 P **P** **16 24 17.1 +0.7**
C19K Lookout Ridge 67.23 18 P **P** **16 24 17.9 +1.1**
C19K IAmb IAmb 16 24 18.6
comp=Z,4.7nm,0.8s
RES Resolute Bay 67.89 356 **P** **16 24 21.4 +0.7**
RES Resolute Bay 67.89 356 P **P** **16 24 21.4 +0.7**
RES pmax pmax
comp=Z,3.0nm,1.5s
B21K Ikpikpuk River 67.99 16 P **P** **16 24 22.0 +0.6**
B21K IAmb IAmb 16 24 23.5
comp=Z,2.7nm,0.7s
E18K Tukpahlearik C 68.21 19 P **P** **16 24 23.1 +0.2**
E18K IAmb IAmb 16 25 01.0
comp=Z,12nm,1.4s
C23K Itkillik River 68.66 15 P **P** **16 24 27.0 +1.5**
C23K IAmb IAmb 16 24 28.4
comp=Z,5.8nm,1.1s
F17K Baldwin Pennin 68.76 20 P **P** **16 24 27.0 +0.8**
F17K IAmb IAmb 16 24 47.6
comp=Z,11nm,1.2s
D22K Ayikyak River 69.00 16 P **P** **16 24 28.9 +1.1**
D22K IAmb IAmb 16 24 58.8
comp=Z,6.8nm,1.4s
F20K Avaraart Lake 69.74 18 P **P** **16 24 32.8 +0.5**
E22K Anaktuvuk Pass 69.79 16 P **P** **16 24 32.9 +0.2**
E22K IAmb IAmb 16 24 43.8
comp=Z,6.7nm,1.5s
TOLK Toolik Lake Re 69.85 15 P **P** **16 24 33.9 +0.8**
TOLK IAmb IAmb 16 24 34.9
comp=Z,4.2nm,0.8s
D25K Kavik River 69.91 14 P **P** **16 24 35.0 +1.7**
G19K Purcell Mounta 70.10 19 P **P** **16 24 35.2 +0.7**
G19K IAmb IAmb 16 24 36.4
comp=Z,2.6nm,0.8s
F21K Alatna River 70.14 17 P **P** **16 24 35.5 +0.7**
A36M Sachs Harbour 70.25 6 P **P** **16 24 36.3 +0.9**
A36M IAmb IAmb 16 24 37.8
comp=Z,6.5nm,0.8s
E24K Your Creek 70.55 15 P **P** **16 24 38.2 +0.9**
IMAR Indian Mountai 71.07 18 P **P** **16 24 40.6 +0.2**
E25K Arctic Village 71.09 14 P **P** **16 24 41.0 +0.5**
J16K Anvik River 71.28 22 P **P** **16 24 43.0 +1.3**
E28M Babbage River 71.74 12 P **P** **16 24 45.7 +1.3**
E27K Coleen River 71.77 13 P **P** **16 24 45.3 +0.6**
BMAR Burnt Mountain 71.88 14 P **P** **16 24 46.6 +1.3**
L14K Kuka Creek 72.05 24 P **P** **16 24 47.2 +0.9**
L14K IAmb IAmb 16 24 58.0
comp=Z,13nm,1.4s
E29M Blow River 72.19 11 P **P** **16 24 48.6 +1.5**
M14K Bethel 72.73 25 P **P** **16 24 52.0 +1.7**
L16K Owhat River 72.81 23 P **P** **16 24 52.4 +1.6**
L16K IAmb IAmb 16 25 02.8
comp=Z,16nm,1.4s
INK Inuvik 72.90 10 **P** **16 24 52.2 +1.0**
INK Inuvik 72.90 10 P **P** **16 24 52.2 +1.0**
INK pmax pmax
comp=Z,4.0nm,1.1s
C36M Paulatuk 72.92 6 P **P** **16 24 51.5 +0.2**
C36M IAmb IAmb 16 24 52.6
comp=Z,4.4nm,0.6s
BPAW Bear Paw Mtn. 73.29 18 P **P** **16 24 54.1 +0.4**
BPAW IAmb IAmb 16 24 55.9
comp=Z,4.6nm,1.1s
CAST Castle Rocks 73.57 19 P **P** **16 24 56.2 +0.9**
CAST IAmb IAmb 16 24 57.2
comp=Z,6.3nm,1.1s
ILAR Eielson Array 73.70 16 P **P** **16 24 56.2 +0.3**
ILAR Eielson Array 73.70 16 P **P** **16 24 56.0 0.0**
comp=Z,1.1nm,0.8s,baz=314,slow=4.0,SNR=8.7
comp=Z,1.1nm,0.8s
ILAR Eielson Array 73.70 16 *e*P **P** **16 24 55.3 -0.7**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
PPLA Purkeypile 73.97 19 P **P** **16 24 57.5 -0.3**
PPLA IAmb IAmb 16 25 29.4
comp=Z,16nm,1.4s
G31M Satah River 74.09 10 P **P** **16 24 58.8 +0.6**
H29M Whitestone 74.09 12 P **P** **16 24 59.1 +0.8**
I30M Mount Dempster 75.34 12 P **P** **16 25 06.3 +0.6**
K27K Chicken 75.37 15 P **P** **16 25 06.7 +1.0**
GHO Glory Hole Cre 75.76 19 P **P** **16 25 08.3 +0.3**
GHO IAmb IAmb 16 25 47.5
comp=Z,14nm,1.2s
SML Sawmill 75.88 19 P **P** **16 25 07.5 -1.2**
SML Sawmill 75.88 19 P **P** **16 25 07.5 -1.2**
SML pmax pmax
comp=Z,18nm,1.4s
SCM Sheep Creek Mo 76.11 18 P **P** **16 25 10.4 +0.5**
SCM IAmb IAmb 16 25 11.2
comp=Z,7.9nm,0.9s
SCM Sheep Creek Mo 76.11 18 P **P** **16 25 10.5 +0.5**
SCM pmax pmax
comp=Z,8.0nm,0.9s
K29M Barlow Dome 76.42 13 P **P** **16 25 12.4 +0.7**
K29M IAmb IAmb 16 25 43.0
comp=Z,6.4nm,1.4s
M29M Somme Creek 77.52 14 P **P** **16 25 19.3 +1.4**
O30N Mendenhall 79.51 14 P **P** **16 25 29.7 +0.9**
YKA Yellowknife Ar 80.33 3 P **P** **16 25 33.7 +0.7**

YKA	Yellowknife Ar	80.33	3	P	P	16 25 33.4	+0.4
	comp=Z,1.9nm,0.7s,baz=348,slow=6.0,SNR=40						
	comp=Z,1.9nm,0.7s						
YKA	Yellowknife Ar	80.33	3	*e*P	P	16 25 33.7	+0.7
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKAB2	New Yellowknif	80.40	3	P	P	16 25 33.8	+0.4
WRA	Warramunga Arr	81.71	123	P	P	16 25 40.6	-0.3
	comp=Z,0.6nm,0.7s,baz=324,slow=5.0,SNR=6.9						
	comp=Z,0.6nm,0.7s						
QSPA	South Pole Qui	127.17	180	PKP	PKiKP	16 32 24.5	-0.6
	comp=Z,1.7nm,1.0s,baz=273,slow=3.7,SNR=3.1						
PLCA	Paso Flores	150.95	252	PKPbc	PKiKP	16 33 13.4	-1.1
	comp=Z,0.4nm,0.6s,baz=347,slow=4.9,SNR=3.2						

IDC 06 16:16:17.0±4.1, 19.02N×121.78E, h0km, mb3.4/3, mbtmp3.4/4, ML3.5/1, Error ellipse: s-maj=249.6km s-min=26.4km az=90.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	19.14	15	P	Pn	16 20 42.2	-0.3
	0.1nm,0.3s,baz=195,slow=11,SNR=7.6						
	0.6nm,0.5s						
WRA	Warramunga Arr	40.64	162	P	P	16 23 57.5	-1.5
	0.4nm,0.7s,baz=342,slow=9.1,SNR=2.0						
	0.4nm,0.7s						
ASAR	Alice Springs	44.05	164	P	P	16 24 28.1	+1.2
	0.1nm,0.5s,baz=343,slow=7.1,SNR=5.3						
	0.1nm,0.5s						
YKA	Yellowknife Ar	87.49	23	P	P	16 29 06.0	-0.5
	0.4nm,0.6s,baz=310,slow=5.0,SNR=8.1						
	0.4nm,0.6s						

*CATAC **06** 16:26:03.3±0.1, 13.27N×88.07W, h5km±1km, mb4.0, ML4.1*
*SNET **06** 16:26:03.0±0.9, 13.29N×88.06W, h5km±7km, ML4.3*
ISC 06 16:26:02.9±0.8, 13.29N±0.04×88.06W±0.02, h16km±5km, n77, σ0.977/112, 8C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	0.19	259	*i*P	Pg	16 26 07.2	-0.4
JUCU				*e*S	Sg	16 26 10.2	-0.5
JUCU	Jucuarįn	0.19	259	*i*P	Pg	16 26 07.2	-0.4
JUCU				*i*S	Sg	16 26 10.7	0.0
JUCU				IAML		16 26 13.5	
	comp=Z,33μm,1.0s						
CNRM	Centro Naciona	0.21	329	*e*P	Pg	16 26 08.1	+0.2
CNRM	Centro Naciona	0.21	329	*i*P	Pg	16 26 08.1	+0.2
CNRM				*i*S	Sb	16 26 12.3	0.0
CNRM				IAML		16 26 14.1	
	comp=Z,130μm,1.0s						
CNCH	Conchagua	0.22	94	*i*P	Pg	16 26 08.0	0.0
CNCH				*e*S	Sg	16 26 11.6	+0.1
CNCH	Conchagua	0.22	94	*i*P	Pg	16 26 08.0	0.0
CNCH				*i*S	Sg	16 26 11.7	+0.3
CNCH				IAML		16 26 15.5	
	comp=Z,82μm,1.0s						
BLLM	Bellamira	0.23	310	*i*P	Pg	16 26 08.4	+0.1
VSM	San Miguel	0.25	303	*i*P	Pb	16 26 08.9	-0.4
LCY	Lacayo	0.27	300	*i*P	Pg	16 26 09.1	+0.2
RANC	El Ranchito	0.27	302	*i*P	Pb	16 26 09.2	-0.3
RANC	El Ranchito	0.27	302	*i*P	Pb	16 26 09.2	-0.3
RANC				*i*S	Sb	16 26 14.1	+0.2
RANC				IAML		16 26 24.5	
	comp=Z,24μm,1.0s						
PACA	Pacayal	0.32	304	*e*P	Pg	16 26 09.9	+0.2
PACA	Pacayal	0.32	304	*i*P	Pg	16 26 09.6	-0.1
PACA				*i*S	Sb	16 26 15.4	+0.1
PACA				IAML		16 26 21.9	
	comp=Z,120μm,1.0s						
AMPH	Amapala	0.39	91	*i*P	Pg	16 26 10.8	0.0
AMPH				*e*S	Sg	16 26 16.6	+0.5
TECA	Tecapa	0.48	295	*i*P	Pg	16 26 12.8	+0.2
COEB	Comit de Eme	0.51	294	*e*P	Pg	16 26 13.2	0.0
COEB	Comit de Eme	0.51	294	*i*P	Pg	16 26 13.1	0.0
COEB				*i*S	Sb	16 26 20.6	-0.2
COEB				IAML		16 26 21.5	
	comp=Z,10μm,1.0s						
PQSS	Presa 15 de Se	0.59	304	*e*P	Pg	16 26 14.5	-0.1
PQSS	Presa 15 de Se	0.59	304	*i*P	Pg	16 26 14.6	-0.1
PQSS				IAML		16 26 16.0	
	comp=Z,3μm,1.0s						
TECO	Alcaldia de Te	0.75	289	*e*P	Pg	16 26 17.1	-0.4
TECO	Alcaldia de Te	0.75	289	*i*P	Pg	16 26 17.2	-0.4
TECO				*i*S	Sb	16 26 27.8	+0.2
TECO				IAML		16 26 30.7	
	comp=Z,6μm,1.0s						
SCLA	Alcaldia de Sa	0.77	302	*e*P	Pg	16 26 17.8	-0.2
SCLA	Alcaldia de Sa	0.77	302	*i*P	Pg	16 26 17.8	-0.2
SCLA				*i*S	Sn	16 26 30.1	-0.5
SCLA				IAML		16 26 39.7	
	comp=Z,2μm,1.0s						
UESV	Universidad de	0.79	296	*e*P	Pg	16 26 18.2	-0.1
UESV	Universidad de	0.79	296	*i*P	Pg	16 26 18.3	-0.1
UESV				*i*S	Sn	16 26 30.0	-1.0
UESV				IAML		16 26 35.2	
	comp=Z,4μm,1.0s						
SNVI	San Vicente	0.83	293	*e*P	Pg	16 26 18.9	-0.2
COEG	Centro de Oper	0.87	292	*e*P	Pb	16 26 19.4	-0.3
COEG	Centro de Oper	0.87	292	*i*P	Pb	16 26 19.5	-0.2
COEG				*i*S	Sg	16 26 31.8	+0.5
COEG				IAML		16 26 32.4	
	comp=Z,8μm,1.0s						
PAVA	Las Pavas	0.96	296	*e*P	Pb	16 26 21.2	0.0
PAVA	Las Pavas	0.96	296	*i*P	Pg	16 26 21.4	-0.1
PAVA				*i*S	Sn	16 26 35.1	-0.1
PAVA				IAML		16 26 36.8	
	comp=Z,11μm,1.0s						
TGUH	Tegucigalpa,Un	1.08	45	*e*P	Pb	16 26 22.9	-0.4
TGUH	Tegucigalpa,Un	1.08	45	*i*P	Pb	16 26 22.9	-0.4
LFU	La Fuente	1.13	294	*e*P	Pn	16 26 24.4	+0.2
PANCS	Alcalda de	1.14	286	*e*P	Pb	16 26 24.1	-0.3
PANCS	Alcalda de	1.14	286	*i*P	Pb	16 26 23.8	-0.5
PANCS				*i*S	Sb	16 26 39.3	+0.4
PANCS				IAML		16 26 41.6	
	comp=Z,10μm,1.0s						
CRIN	San Cristobal	1.14	121	*e*P	Pn	16 26 24.4	+0.1
CRIN	San Cristobal	1.14	121	*i*P	Pg	16 26 24.7	-0.3
CRIN				IAML		16 26 47.1	
	comp=Z,21μm,1.0s						
LOMA	Loma Larga	1.14	288	*e*P	Pb	16 26 23.8	-0.6
LOMA	Loma Larga	1.14	288	*i*P	Pb	16 26 23.9	-0.5
LOMA				*i*S	Sn	16 26 40.2	+0.4
LOMA				IAML		16 26 42.0	
	comp=Z,6μm,1.0s						
SNET	Serv Nac Est T	1.21	289	*e*P	Pn	16 26 25.1	-0.3
SNET	Serv Nac Est T	1.21	289	*i*P	Pn	16 26 25.0	-0.3
SNET				*i*S	Sg	16 26 42.1	-0.1
LLGN	La Laguna	1.23	315	*e*P	Pn	16 26 25.0	-0.5
LLGN	La Laguna	1.23	315	*i*P	Pn	16 26 25.2	-0.3
LLGN				*i*S	Sg	16 26 42.3	-0.3
UEES	Universidad Ev	1.23	290	*e*P	Pn	16 26 25.6	0.0
UEES	Universidad Ev	1.23	290	*i*P	Pn	16 26 25.5	0.0
UEES				*i*S	Sg	16 26 43.0	+0.3
UEES				IAML		16 26 46.2	
	comp=Z,2μm,1.0s						
LALI	Alcalda de L	1.25	279	*e*P	Pn	16 26 25.4	-0.4
LALI	Alcalda de L	1.25	279	*i*P	Pn	16 26 25.7	0.0
LALI				*i*S	Sg	16 26 43.0	-0.3
PIC2	El Picacho	1.25	291	*e*P	Pb	16 26 26.7	+0.3
BOQS	Boqueron	1.27	291	*e*P	Pb	16 26 26.7	0.0
PMON	Piamonte	1.29	289	*e*P	Pn	16 26 26.5	0.0
PMON	Piamonte	1.29	289	*i*P	Pb	16 26 26.9	-0.1
PMON				*i*S	Sg	16 26 45.0	+0.1
PMON				IAML		16 26 47.1	
	comp=Z,7μm,1.0s						
CEDA	San Andres	1.40	292	*i*P	Pb	16 26 29.1	+0.4
CEDA				*i*S	Sg	16 26 49.1	+0.9
CEDA				IAML		16 26 53.3	
	comp=Z,6μm,1.0s						
JAYA	Jayaque - finc	1.40	285	*e*P	Pn	16 26 28.1	0.0
JAYA	Jayaque - finc	1.40	285	*i*P	Pn	16 26 28.2	+0.2
JAYA				*i*S	Sb	16 26 47.2	+0.6
JAYA				IAML		16 26 48.7	
	comp=Z,8μm,1.0s						
CNGA	Al SSO del Vol	1.54	121	*i*P	Pn	16 26 28.5	-1.3
CNGA				*i*S	Sn	16 26 49.9	+0.4
CNGN	Cerro Negro	1.54	121	*e*P	Pn	16 26 29.3	-0.5
CNGN	Cerro Negro	1.54	121	*i*P	Pn	16 26 29.5	-0.3
CNGN				*i*S	Sb	16 26 51.3	+0.9
UNIC	Universidad Ca	1.61	296	*i*P	Pn	16 26 31.5	+0.8
UNIC				*i*S	Sg	16 26 55.0	+0.2
UNIC				IAML		16 27 00.2	
	comp=Z,710nm,1.0s						
CEVE	Cerro Verde	1.62	289	*i*P	Pb	16 26 32.3	-0.3
CEVE				*i*S	Sg	16 26 55.7	+0.5
CEVE				IAML		16 27 02.3	
	comp=Z,3μm,1.0s						
LEVN	Ruinas Leon Vi	1.66	122	*i*P	Pb	16 26 33.3	+0.2
LEVN				*i*S	Sb	16 26 55.0	+1.2
LEVN				IAML		16 27 02.3	
	comp=Z,2μm,1.0s						
MTO3	Montecristo	1.68	311	*i*P	Pn	16 26 32.3	+0.4
MTO3				*i*S	Sg	16 26 56.3	-0.9
MTO3				IAML		16 26 56.9	
	comp=Z,940nm,1.0s						
MOMN	Momotombo	1.72	120	*i*P	Pn	16 26 32.1	-0.2
MOMN				*i*S	Sb	16 26 56.2	+0.6
MOM2	El Cardon	1.75	119	*i*P	Pn	16 26 32.4	-0.2
MOM2				*i*S	Sg	16 26 58.4	-1.0
ESQI	Esquipulas	1.78	315	*i*P	Pb	16 26 34.3	-0.9
ESQI				*i*S	Sg	16 26 59.8	-0.4
ESQI				IAML		16 27 05.2	
	comp=Z,2μm,1.0s						
NUBE	Las Nubes	1.78	290	*i*P	Pb	16 26 34.4	-1.0
NUBE				*i*S	Sg	16 26 59.2	-1.3
NUBE				IAML		16 27 02.1	
	comp=Z,2μm,1.0s						
COPN	Copaltepe	1.80	128	*i*P	Pn	16 26 34.0	+0.6
COPN				IAML		16 26 59.3	
	comp=Z,1μm,1.0s						
APQ3	Volcan Apoyequ	1.93	121	*i*P	Pb	16 26 36.7	-1.1
APQ3				*i*S	Sb	16 27 03.0	+1.3
APQ3				IAML		16 27 13.6	
	comp=Z,1μm,1.0s						
APYN	Apoyeque	1.97	122	*i*P	Pb	16 26 38.2	-0.2
APYN				IAML		16 26 39.2	
	comp=Z,1μm,1.0s						
TISN	Laguna Tiscapa	2.08	123	*i*P	Pn	16 26 37.8	+0.6
TISN				IAML		16 26 39.7	
	comp=Z,87nm,1.0s						
MAS3	Al N del Volca	2.22	124	*i*P	Pb	16 26 41.1	-1.7
MAS3				*i*S	Sb	16 27 09.0	-1.1
MAS3				IAML		16 27 18.0	
	comp=Z,990nm,1.0s						
CONN	Concepcion	2.93	126	*i*S	Sb	16 27 28.9	-1.5
OMEN	Al SSO del Vol	2.96	126	*i*P	Pn	16 26 50.6	+1.3
OMEN				IAML		16 27 31.7	
	comp=Z,380nm,1.0s						
ACON	Acoyapa	3.10	115	*i*P	Pb	16 26 56.1	-1.7
HZTE	Horizontes, Gu	3.51	137	*i*P	Pn	16 26 59.1	+2.2
HZTE				IAML		16 27 48.9	
	comp=Z,160nm,1.0s						
RTAL	Retalhuleu	3.74	290	*i*P	Pn	16 27 04.1	+4.0
ORTG	Ortega, Santa	3.86	139	*i*P	Pn	16 27 03.8	+2.0
ORTG				IAML		16 27 52.8	
	comp=Z,62nm,1.0s						
CDM	Cerro de Muert	5.61	131	*i*P	Pn	16 27 28.3	+2.1
CDM				IAmb	IAmb	16 27 45.5	
	comp=Z,19nm,1.2s						
CDM				IAML		16 27 49.1	
	comp=Z,34nm,1.0s						

*NEIC **06** 16:29:23.8±1.5, 40.59N±0.04×125.01W±0.04, h25km±10km, Error ellipse: s-maj=6.5km s-min=2.7km az=143.0*
NCEDC 06 16:29:24.0±1.2, 40.60N±0.04×125.09W±0.08, h18km±8km, ML3.2/18, ML2.9/48(NEIC), Error ellipse: s-maj=9.3km s-min=5.6km az=83.0, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	Capetown	0.59	101		Pg	16 29 35.7	0.0
KCTM					Sb	16 29 43.0	-0.6
FER	Ferndale	0.63	91		Pb	16 29 36.2	-0.1
FER					Sg	16 29 45.9	+1.0
KMPM	Mount Pierce	0.76	103		Pb	16 29 37.9	-0.8
KSMM	Slide Mountain	0.81	120		Pb	16 29 38.2	-1.3
JCC	Jacoby Creek,	0.84	74	Pg	Pb	16 29 38.6	-1.3
JCC				IAML		16 29 49.7	
	comp=E,524nm,0.4s						
KCRM	Chalk Rock	0.98	99		Pb	16 29 41.3	-1.2
KRPM	Rodgers	0.99	55		Pb	16 29 40.9	-1.7
KHMM	Horse Mountain	1.07	74		Pb	16 29 42.5	-1.6
KHMM	Horse Mountain	1.07	74	IAML		16 29 56.8	
	comp=E,435nm,0.2s						
KMRM	Mail Ridge	1.12	109		Pn	16 29 43.7	-1.1
KRMB	Red Mountain	1.29	44		Pn	16 29 44.8	-2.3
KRMB	Red Mountain	1.29	44	IAML		16 30 01.2	
	comp=N,201nm,0.4s						
KOMM	Orleans Mounta	1.42	61		Pn	16 29 47.1	-1.8
KHBM	Hayfork Bally	1.43	87		Pn	16 29 47.5	-1.6
KIPM	Iron Peak	1.46	122		Pn	16 29 48.1	-1.4
KCPM	Cahto Peak	1.47	128		Pn	16 29 48.1	-1.5
KCPM	Cahto Peak	1.47	128	IAML		16 30 10.8	
	comp=E,238nm,0.3s						
KCPM				IAML		16 30 27.8	
	comp=N,205nm,0.6s						
KSXB	Camp Six Broad	1.54	36		Pn	16 29 48.4	-2.2
KSXB	Camp Six Broad	1.54	36	IAML		16 30 07.5	
	comp=E,242nm,0.2s						
KSXB				IAML		16 30 08.1	
	comp=N,225nm,0.2s						
KFPM	Farley Peak	1.60	126		Pn	16 29 49.7	-1.6
KBNM	Bluenose Ridge	1.61	115		Pn	16 29 50.9	-0.7
GTC	Three Chop Rid	1.68	135		Pn	16 29 50.6	-1.8
LBPM	Beegum Peak	1.71	99		Pn	16 29 51.5	-1.4
KBO	Bosley Butte	1.74	22		Pn	16 29 51.6	-1.7
KBO	Bosley Butte	1.74	22	IAML		16 30 11.8	
	comp=E,205nm,0.3s						
KBO				IAML		16 30 12.3	
	comp=N,203nm,0.3s						
LGPM	Granite Peak	1.75	79		Pn	16 29 51.8	-1.7
DCMP	DeCamp, Califo	1.75	129		Pn	16 29 51.7	-1.7
O02D	Mt. Diablo Mer	1.81	103		Pn	16 29 53.0	-1.3
N02D	Trinity Center	1.85	77		Pn	16 29 53.1	-1.7
LBKM	Bonanza King	1.91	74		Pn	16 29 54.0	-1.6
L02F	Cave Junction	1.91	36	Pn	Pn	16 29 53.3	-2.2
L02F				IAML		16 30 17.2	
	comp=N,111nm,0.8s						
L02F				IAML		16 30 17.7	
	comp=E,110nm,0.5s						
GWRM	Wonder Ranch	1.96	135		Pn	16 29 54.4	-1.8
GHMM	Hull Mountain	1.99	123		Pn	16 29 55.5	-1.3
GVV	Valley View	2.02	113		Pn	16 29 56.4	-0.9
LAMM	Antelope Mount	2.12	61		Pn	16 29 57.2	-1.4
GGUM	Gualala	2.13	144		Pn	16 29 56.8	-1.8
YBH	Yreka Blue Hor	2.13	57		Pn	16 29 57.3	-1.4
YBH	Yreka Blue Hor	2.13	57	IAML		16 30 24.7	
	comp=N,54nm,0.4s						
GHLM	Highland Sprin	2.23	134		Pn	16 29 58.5	-1.5
HOPS	Hopland Field	2.23	135	Pn	Pn	16 29 58.4	-1.6
GCK	Clark Valley	2.29	116		Pn	16 30 00.8	0.0
LTCM	Tuscan Springs	2.30	99		Pn	16 30 00.1	-0.8
LGBM	Gray Butte	2.32	70		Pn	16 30 01.1	-0.3
LSHM	Sage Hen Hill	2.33	84		Pn	16 30 00.3	-1.0
M03C	McCloud	2.35	72		Pn	16 30 01.1	-0.6
K02D	Willamette Mer	2.35	27	Pn	Pn	16 30 00.2	-1.6
K02D				IAML		16 30 27.8	
	comp=N,61nm,0.2s						
K02D				IAML		16 30 28.1	
	comp=E,62nm,0.3s						
B040	Montague	2.36	58		Pn	16 30 01.4	-0.5
LMPM	Military Pass	2.39	67		Pn	16 30 02.5	+0.1
LHEM	Herd Peak	2.40	64		Pn	16 30 02.1	-0.5
GPMM	Pine Mountain	2.41	136		Pn	16 30 01.2	-1.2
GHCM	House Creek	2.47	143		Pn	16 30 01.4	-1.9
LDBM	Digger Butte	2.53	93		Pn	16 30 02.8	-1.4
O03E	Paynes Creek	2.53	96		Pn	16 30 02.7	-1.4
LBFM	Black Fox Moun	2.54	72		Pn	16 30 04.2	-0.3
HUMO	Hull Mountain	2.57	38	Pn	Pn	16 30 03.4	-1.2
HUMO				IAML		16 30 35.6	
	comp=E,34nm,0.5s						
L04D	Klamath Falls	2.65	51	Pn	Pn	16 30 05.8	0.0
J01E	Myrtle Point	2.71	18	Pn	Pn	16 30 06.6	+0.1
J01E				IAML		16 30 39.4	
	comp=N,50nm,0.2s						
J01E				IAML		16 30 40.0	
	comp=E,50nm,0.2s						
ORV	Oroville	2.94	110		Pn	16 30 08.2	-1.6
ORV				IAML		16 30 44.9	
	comp=E,26nm,0.4s						
MCCM	Marconi Confer	2.99	144	Pn	Pn	16 30 08.3	-2.0
MCCM				IAML		16 31 06.7	
	comp=E,27nm,1.6s						
MCCM				IAML		16 31 33.8	
	comp=N,28nm,1.8s						
FARB	Farallon Islan	3.32	150		Pn	16 30 15.0	+0.1
I03D	Drain, OR	3.36	22	Pn	Pn	16 30 15.4	0.0
I03D				IAML		16 30 40.8	
	comp=E,20nm,2.0s						
I03D				IAML		16 31 55.2	
	comp=N,36nm,2.3s						
AFDM	Forest Hills D	3.58	116	Pn	Pn	16 30 17.5	-1.0
K05A	Summer Lake	3.80	55	Pn	Pn	16 30 20.7	-1.0
K05A				IAML		16 31 49.0	
	comp=E,14nm,2.7s						
YERR	Yerington	4.79	108	IAML		16 31 42.5	
	comp=E,10nm,2.2s						

*IDC **06** 16:47:08.3±0.7, 27.88N×88.70W, h0km, mb4.2/17, mbtmp4.3/22, ML4.3/5, MS3.5/34, Error ellipse: s-maj=16.3km s-min=14.1km az=141.0*
*NEIC **06** 16:47:09.2±1.6, 27.87N±0.07×88.68W±0.07, h10km±1km, mb4.6/170, Error ellipse: s-maj=11.5km s-min=10.1km az=209.0*
ISC 06 16:47:10.0±0.4, 28.02N±0.05×88.57W±0.05, h10km, n455, σ1.971/366, mb4.5/86, MS3.6/29, Gulf of Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
545A	Edgard	2.63	321	Pn	Pn	16 47 52.4	-0.1
BRAL	Brewton	3.41	23		Pn	16 48 04.1	+0.9
BRAL	Brewton	3.41	23	P	Pn	16 48 05.4	+2.1
	baz=204,SNR=13						
BRAL				S	Sn	16 48 41.1	-2.7
	baz=204						
346A	Big Creek Wild	3.45	347	Pn	Pn	16 48 05.3	+1.5
451A	Vernon	3.58	43		Pn	16 48 07.0	+1.5
250A	Grady	4.42	26	Pn	Pn	16 48 18.1	+0.9
VBMS	Vicksburg	4.51	339		Pn	16 48 18.3	-0.1
VBMS	Vicksburg	4.51	339	P	Pn	16 48 19.5	+1.0
	baz=159,SNR=29						
VBMS				S	Sn	16 49 07.4	-3.6
	baz=159						
146A	Union	4.62	355		Pn	16 48 20.2	+0.3
352A	Blakely	4.69	42		Pn	16 48 23.4	+2.6
LRAL	Lakeview Retre	5.18	15	Pn	Pn	16 48 28.2	+0.5
LRAL	Lakeview Retre	5.18	15	P	Pn	16 48 28.4	+0.7
	baz=196,SNR=97						
LRAL				S	Sn	16 49 21.5	-6.0
	baz=196						
Z47A	Carrollton	5.18	5		Pn	16 48 28.3	+0.7
143A	Socs Landing,	5.27	333		Pn	16 48 29.4	+0.6
656A	Willston	5.47	74		Pn	16 48 32.3	+0.7
TIGA	Tifton	5.51	51	Pn	Pn	16 48 33.5	+1.3
TIGA	Tifton	5.51	51	P	Pn	16 48 34.3	+2.1
	baz=232,SNR=112						
152A	Waverly Hall	5.71	35		Pn	16 48 35.8	+1.0
Y45A	Yeager Farm, C	5.89	352	Pn	Pn	16 48 37.9	+0.6
Y49A	Blount Mountai	6.11	17	Pn	Pn	16 48 41.7	+1.3
456A	Hilliard	6.32	63		Pn	16 48 44.6	+1.3
Z41A	Richland Creek	6.37	326	Pn	Pn	16 48 43.8	-0.2
NATX	Nacogdoches	6.47	307	Pn	Pn	16 48 45.0	-0.3
NATX	Nacogdoches	6.47	307	P	Pn	16 48 46.4	+1.1
	baz=125,SNR=103						
CCAR	Cane Creek	6.49	336		Pn	16 48 46.4	+0.8
OXF	Oxford	6.51	354	Pn	Pn	16 48 47.0	+1.1
OXF	Oxford	6.51	354	P	Pn	16 48 47.3	+1.4
	baz=174,SNR=283						
HNVL	Huntsville, TX	6.61	296		Pn	16 48 46.8	-0.4
HKT	Hockley	6.64	289	Pn	Pn	16 48 46.6	-1.1
GOGA	Godfrey	6.94	38	P	Pn	16 48 54.1	+2.3
	baz=220,SNR=156						
PLAL	Pickwick Lake	6.96	3	Pn	Pn	16 48 51.9	-0.1
SOR	Soroa	7.24	135		Pn	16 48 55.4	-0.5
UALR	University of	7.47	335	Pn	Pn	16 48 59.0	0.0
TEIG	Tepich	7.76	178	LR	LR	16 53 07.1	
	comp=Z,2μm,20.0s,slow=47						
MIAR	Mount Ida	7.79	328	Pn	Pn	16 49 03.5	+0.1
MIAR	Mount Ida	7.79	328	P	Pn	16 49 03.7	+0.2
	baz=147,SNR=42						
WVT	Waverly	8.11	4		Pn	16 49 08.8	+0.9
WVT	Waverly	8.11	4	P	Pn	16 49 09.2	+1.4
	baz=185						
WVT				S	Sn	16 50 31.6	-8.1
	baz=185						
CAMR	Camarioca	8.16	126		Pn	16 49 07.4	-1.2
435B	Jarrell	8.33	291	P	Pn	16 49 09.2	-1.7
	baz=108						
TKL	Tuckaleechee C	8.64	27	Pn	Pn	16 49 16.8	+1.6
	15nm,0.3s,baz=217,slow=11,SNR=182						
TKL				Sn	Sn	16 50 46.7	-6.0
	56nm,0.3s,baz=111,slow=22,SNR=17						
TKL				LR	LR	16 52 50.7	
	comp=Z,293nm,21.9s,baz=191,slow=39 33nm,0.3s						
WHTX	Lake Whitney,	8.66	299	P	Pn	16 49 15.4	+0.1
	baz=116,SNR=137						
EF01	Eagle Ford 01	8.69	280		Pn	16 49 12.2	-3.7
HBVL	Hebbronville	9.01	266		Pn	16 49 16.6	-3.6
Y57A	Sumter	9.22	48		Pn	16 49 23.1	0.0
KMSC	Kings Mountain	9.41	39	P	Pn	16 49 26.0	+0.4
	baz=223,SNR=18						
TZTN	Tazewell	9.50	25	P	Pn	16 49 27.7	+0.7
	baz=208,SNR=13						
833A	Chaparral WMA,	9.55	274		Pn	16 49 23.4	-4.4
833A	Chaparral WMA,	9.55	274	P	Pn	16 49 23.3	-4.4
	baz=90						
BIRD	Birdtown, Kers	9.58	44		Pn	16 49 27.7	-0.2
TUL3	Leonard	9.97	324	P	Pn	16 49 33.7	+0.3
	baz=141,SNR=13						
JCT	Junction City	10.11	287	P	Pn	16 49 33.0	-2.3
	baz=102,SNR=104						
W57A	Gilead	10.20	44		Pn	16 49 36.3	-0.2
CCM	Cathedral Cave	10.26	348		Pn	16 49 37.8	+0.5
CCM	Cathedral Cave	10.26	348	P	Pn	16 49 38.1	+0.8
	baz=167						
WCI	Wyandotte Cave	10.36	10

2.5nm,0.3s,baz=115,slow=24,SNR=6.7
3.9nm,0.6s

R32A Long Quarter, 13.39 323 Pn Pn 16 50 19.8 -0.4
O53A New Philadelph 13.63 25 P **Pn 16 50 22.7 -0.7**
baz=209,SNR=11
MCWV Mont Chateau 13.68 30 P **Pn 16 50 23.2 -0.8**
baz=214
CBN Corbin Frederi 13.82 40 P **Pn 16 50 24.9 -1.1**
baz=226,SNR=9.7
L44A Lake County Fo 14.14 2 P **Pn 16 50 28.4 -2.0**
baz=183
CBKS Cedar Bluff 14.23 322 P **Pn 16 50 30.8 -0.9**
baz=137,SNR=20
SCIA State Center 14.37 346 P **Pn 16 50 33.0 -0.4**
baz=164,SNR=14
M53A WI Miller and 14.87 24 P **Pn 16 50 38.8 -1.5**
baz=208,SNR=6.5
JFWS Jewell Farm 14.93 355 P **Pn 16 50 40.2 -0.9**
baz=175,SNR=31
MNTX Cornudas Mount 15.04 288 P **Pn 16 50 40.2 -2.5**
baz=100,SNR=12
ALLY Alegheny Colle 15.25 25 IAmb IAmb 16 50 55.6
comp=Z,29nm,0.7s
SSPA Standing Stone 15.36 32 Pn 16 50 46.0 -0.8
SSPA IAmb IAmb 16 50 58.1
comp=Z,11nm,0.6s
SSPA Standing Stone 15.36 32 P **Pn 16 50 46.0 -0.8**
baz=218
J47A Sunmer 15.49 10 IAmb IAmb 16 50 56.9
comp=Z,36nm,0.7s
BGNE Belgrade 15.49 332 P **Pn 16 50 47.9 -0.7**
baz=147,SNR=7.2
K50A Casco 15.50 17 IAmb IAmb 16 50 55.2
comp=Z,32nm,0.8s
M55A Ridgway 15.64 28 IAmb IAmb 16 50 52.0
comp=Z,23nm,0.8s
ERPA Erie 15.71 24 IAmb IAmb 16 50 55.2
comp=Z,20nm,0.7s
ERPA Erie 15.71 24 P **Pn 16 50 50.4 -1.0**
baz=209,SNR=6.8
I42A Draeger Farm, 15.84 359 IAmb IAmb 16 50 53.6
comp=Z,26nm,0.6s
KSCO Kaye Shedlock' 16.03 317 IAmb IAmb 16 50 56.7
comp=Z,49nm,0.9s
KSCO Kaye Shedlock' 16.03 317 P **Pn 16 50 54.0 -1.7**
baz=130,SNR=11
T25A Trinidad 16.14 308 P **Pn 16 50 56.1 -1.0**
baz=120,SNR=8.3
ESPN Las Esperanzas 16.24 165 Pn 16 50 58.5 +0.2
ESPN IAmb IAmb 16 51 04.3
comp=Z,44nm,0.8s
I37A Lemond, Waseca 16.43 348 IAmb IAmb 16 51 01.8
comp=Z,40nm,0.8s
H43A Windswept, Lux 16.43 2 IAmb IAmb 16 51 04.7
comp=Z,27nm,0.6s
WVNY West Valley, N 16.49 27 Pn 16 51 00.6 -0.8
WVNY IAmb IAmb 16 51 04.4
comp=Z,28nm,0.8s
I49A Point Hope 16.55 15 IAmb IAmb 16 51 03.0
comp=Z,40nm,0.8s
L56A Greenwood 16.70 30 IAmb IAmb 16 51 05.3
comp=Z,23nm,0.6s
ANMO Albuquerque 16.73 299 Pn 16 51 03.3 -1.5
ANMO IAmb IAmb 16 51 25.8
comp=Z,35nm,1.1s
ANMO Albuquerque 16.73 299 P **Pn 16 51 04.1 -0.7**
baz=110
ANMO Albuquerque 16.73 299 Pn **Pn 16 51 03.6 -1.2**
comp=Z,0.4nm,0.3s,baz=205,slow=14,SNR=14
ANMO Sn **Sn 16 54 13.8 +3.0**
comp=Z,0.4nm,0.3s,baz=306,slow=19,SNR=2.5
comp=Z,3.1nm,0.7s
ECSD EROS Data Cent 16.97 340 IAmb IAmb 16 51 08.8
comp=Z,31nm,0.7s
ECSD EROS Data Cent 16.97 340 P **Pn 16 51 07.7 +0.2**
baz=156,SNR=44
OGNE Ogallala 16.99 323 P **Pn 16 51 06.7 -1.1**
baz=136,SNR=21
GLMI Grayling 17.07 10 P **Pn 16 51 07.9 -0.8**
baz=192
SDCO Great Sand Dun 17.19 309 P **Pn 16 51 09.7 -0.9**
baz=120,SNR=23
121A Cookes Peak, D 17.19 290 P **Pn 16 51 08.3 -2.2**
baz=101,SNR=6.7
G40A Rib Lake 17.27 356 IAmb IAmb 16 51 24.9
comp=Z,19nm,0.5s
BINY Binghamton 17.47 33 IAmb IAmb 16 51 19.4
comp=Z,52nm,1.4s
BINY Binghamton 17.47 33 P **P 16 51 14.8 -0.1**
baz=220
SPMN Marine on St. 17.50 350 IAmb IAmb 16 51 16.6
comp=Z,34nm,0.8s
SPMN Marine on St. 17.50 350 P **Pn 16 51 13.1 -1.0**
baz=168,SNR=12
Q24A Divide 17.59 313 P **Pn 16 51 15.3 -0.2**
baz=124
K57A Scipio Center 17.64 31 IAmb IAmb 16 51 17.7
comp=Z,66nm,1.0s
PAL Palisades 17.69 39 IAmb IAmb 16 51 23.0
comp=Z,18nm,0.6s
PAL Palisades 17.69 39 P **P 16 51 18.4 +1.1**
baz=227
F42A Maple Grove Fa 17.71 1 IAmb IAmb 16 51 17.9
comp=Z,36nm,0.7s
J56A Wolcott 17.93 29 IAmb IAmb 16 51 24.1
comp=Z,20nm,0.6s
JTS Las Juntas de 17.96 168 P **Pn 16 51 16.9 -3.1**
comp=Z,0.3nm,0.3s,baz=175,slow=13,SNR=1.4
JTS LR LR 16 58 23.9
comp=Z,90nm,21.3s,baz=343,slow=38
comp=Z,1.4nm,0.4s
F36A Milaca 18.24 349 IAmb IAmb 16 51 26.2
comp=Z,36nm,0.8s
SADO Sadowa 18.34 22 IAmb IAmb 16 51 27.5
comp=Z,18nm,0.7s
SADO Sadowa 18.34 22 P **Pn 16 51 23.3 -1.1**
comp=Z,17nm,0.6s,baz=222,slow=11,SNR=14
SADO LR LR 16 58 43.6
comp=Z,162nm,21.9s,baz=176,slow=38
ISCO Idaho Springs 18.35 314 P **Pn 16 51 25.2 +0.3**
baz=125,SNR=26
E43A Lone Tree Farm 18.37 3 IAmb IAmb 16 51 27.5
comp=Z,40nm,0.8s
J58A Remsen 18.69 32 IAmb IAmb 16 51 32.8
comp=Z,30nm,1.2s
D41A Chassel 19.01 0 IAmb IAmb 16 51 38.6
comp=Z,44nm,1.2s
MVCO Mesa Verde 19.10 304 P **P 16 51 33.9 +0.7**
baz=114
N23A Red Feather La 19.20 316 IAmb IAmb 16 51 40.6
comp=Z,21nm,0.6s
N23A Red Feather La 19.20 316 P **Pn 16 51 36.6 +1.5**
baz=127
L61B Northampton 19.34 38 P **Pn 16 51 38.8 +2.2**
baz=227
TUC Tucson 19.67 288 P **Pn 16 51 42.5 +1.8**
baz=97
LONY Lake Ozonia 19.99 30 P **P 16 51 42.8 +0.2**
LONY Lake Ozonia 19.99 30 P **P 16 51 43.6 +1.0**
baz=219
WBO Williamsburg 19.99 29 P Pn 16 51 44.1 -0.2
WBO IAmb IAmb 16 51 47.4
comp=Z,15nm,0.8s
EYMN Ely 20.03 354 P **P 16 51 43.0 0.0**
EYMN Ely 20.03 354 P **P 16 51 43.2 +0.2**
baz=173,SNR=11
O20A White River Ci 20.23 312 P Pn 16 51 48.3 +0.9
baz=121
BCIP Isla Barro Col 20.48 155 P **P 16 51 45.8 -2.3**
BCIP IAmb IAmb 16 52 04.6
comp=Z,56nm,1.4s
K22A Casper 20.62 320 P Pn 16 51 54.7 +2.8
baz=130
B35A Bob, Littlefor 20.70 350 IAmb IAmb 16 51 56.4
comp=Z,15nm,0.7s
WUAZ Wupatki 20.75 297 P Pn 16 51 55.8 +2.3
baz=105
E28A Huff 20.84 336 IAmb IAmb 16 51 59.2
comp=Z,26nm,0.8s
AGMN Agassiz Nation 21.02 346 P **P 16 51 55.6 +1.8**
baz=162
I62A Tamworth 21.03 37 IAmb IAmb 16 52 01.0
comp=Z,14nm,0.8s
MDND Maddock 21.58 339 P **P 16 51 58.8 -1.0**
baz=153
VLDQ Val d'Or 21.85 20 IAmb IAmb 16 52 08.2
comp=Z,13nm,0.9s
BSUT Blindstream Ca 22.11 310 P **P 16 52 05.7 -0.3**

BW06 Boulder Array 22.48 316 P **P 16 52 12.0 +2.2**
baz=125
PDAR Pinedale Array 22.48 316 P **P 16 52 09.8 +0.1**
PDAR Pinedale Array 22.48 316 P **P 16 52 09.5 -0.3**
comp=Z,0.6nm,0.5s,baz=123,slow=11,SNR=7.0
PDAR PcP **PcP 16 56 04.3 +0.5**
comp=Z,0.5nm,0.7s,baz=114,slow=4.4,SNR=3.4
PDAR LR LR 17 03 19.1
comp=Z,112nm,18.0s,baz=46,slow=43
comp=Z,0.6nm,0.5s
PDMCI Parker Dam,Lak 22.73 292 P **P 16 52 15.5 +3.4**
baz=100
NLU North Lily Min 22.76 308 P **P 16 52 10.3 -2.5**
TCUT Toone Canyon 22.82 311 IAmb IAmb 16 52 20.4
comp=Z,12nm,0.7s
ULM Lac du Bonnet 22.89 348 P **P 16 52 13.8 +0.1**
ULM Lac du Bonnet 22.89 348 P **P 16 52 14.9 +1.2**
comp=Z,14nm,0.5s,baz=164,slow=9.8,SNR=23
ULM S **S 16 56 13.3 -10**
comp=Z,1.6nm,0.6s,baz=329,slow=12,SNR=1.8
ULM LR LR 17 02 27.0
comp=Z,146nm,18.5s,baz=112,slow=40
comp=Z,14nm,0.5s
PKME Peaks-Kenny Pk 23.05 37 P **P 16 52 18.5 +3.2**
baz=228
LAO LASA Array 23.23 328 IAmb IAmb 16 52 27.1
comp=Z,16nm,0.8s
LAO LASA Array 23.23 328 P **P 16 52 19.0 +1.6**
baz=138
DUG Dugway, Tooele 23.38 308 P **P 16 52 19.8 +0.8**
baz=114
SNOW Snow King Moun 23.60 317 IAmb IAmb 16 52 41.2
comp=Z,8.8nm,0.8s
RLMT Red Lodge 23.72 322 IAmb IAmb 16 52 34.1
comp=Z,21nm,1.2s
RLMT Red Lodge 23.72 322 P **P 16 52 23.2 +0.8**
baz=130
TPAW Teton Pass 23.73 316 IAmb IAmb 16 52 43.7
comp=Z,21nm,1.1s
DGMT Dagmar 23.74 334 P **P 16 52 23.7 +1.4**
baz=144
E62A Clayton Lake 23.86 34 P **P 16 52 23.6 +0.1**
E62A IAmb IAmb 16 52 53.0
comp=Z,16nm,1.4s
FLWY Flagg Ranch 23.91 318 IAmb IAmb 16 52 39.9
comp=Z,12nm,1.1s
GMRC Granite Mounta 24.04 293 P **P 16 52 28.2 +2.7**
baz=99
TUQ Turquoise Moun 24.36 295 P **P 16 52 31.2 +2.8**
baz=100
D62A Allapoint, All 24.41 34 IAmb IAmb 16 52 31.8
comp=Z,16nm,0.8s
MONP2 Monument Peak 24.46 288 P **P 16 52 32.0 +2.6**
baz=94
TPFO Pinon Flats 24.55 290 P **P 16 52 32.8 +2.7**
R11B Troy Canyon, C 24.77 302 P **P 16 52 34.3 +2.2**
baz=107
GSC Goldstone, Bar 25.05 294 P **P 16 52 37.0 +2.4**
baz=99
ELK Elko 25.30 307 LR LR 17 04 21.8
comp=Z,92nm,20.4s,slow=41
BOZ Bozeman (W) 25.33 320 IAmb IAmb 16 52 55.7
comp=Z,11nm,1.2s
BOZ Bozeman (W) 25.33 320 P **P 16 52 39.0 +1.9**
baz=126
SDV Santo Domingo 25.46 135 LR LR 17 02 32.4
comp=Z,63nm,21.7s,baz=310,slow=36
MPMC Manual Prospec 25.72 295 P **P 16 52 43.3 +2.5**
baz=100
GRAC Grapevine Rang 25.80 298 P **P 16 52 44.2 +2.9**
baz=102
EGMT Eagleton 25.88 326 P **P 16 52 43.1 +1.1**
baz=133
HLID Hailey 25.93 314 P **P 16 52 45.1 +2.4**
baz=119
EDW2 Edwards Air Fo 25.95 293 P **P 16 52 45.6 +2.8**
baz=98
ROSC El Rosal 26.74 147 LR LR 17 03 16.4
comp=Z,72nm,21.3s,baz=310,slow=36
NVAR Mina Array Bea 26.85 300 P **P 16 52 53.1 +2.1**
comp=Z,1.5nm,0.7s,baz=107,slow=8.6,SNR=11
PCRV Puerto La Cruz 28.65 124 LR LR 17 06 33.8
comp=Z,31nm,18.5s,slow=41
NEW Newport 29.94 320 LR LR 17 08 18.3
comp=Z,77nm,18.1s,baz=42,slow=42
YBH Yreka Blue Hor 30.95 305 LR LR 17 06 45.5
comp=Z,72nm,20.9s,baz=52,slow=38
FCC Fort Churchill 30.97 354 P **P 16 53 27.6 +0.5**
FCC IAmb IAmb 16 53 28.9
comp=Z,10nm,0.8s
SCHQ Schefferville 31.10 25 P **P 16 53 29.0 +0.6**
comp=Z,7.2nm,0.7s,baz=225,slow=9.7,SNR=6.7
SCHQ LR LR 17 06 23.7
comp=Z,177nm,19.6s,baz=298,slow=37
comp=Z,7.2nm,0.7s
BBB Bella Bella 38.00 320 LR LR 17 12 54.9
comp=Z,97nm,18.1s,baz=74,slow=41
FRB Frobisher Bay 38.01 14 LR LR 17 10 54.4
comp=Z,131nm,18.1s,baz=274,slow=37
YKA Yellowknife Ar 38.49 341 P **P 16 54 33.1 +1.1**
comp=Z,1.0nm,0.9s,baz=136,slow=7.9,SNR=18
YKA PcP **PcP 16 56 45.9 +1.1**
comp=Z,1.0nm,0.9s,baz=135,slow=1.9,SNR=5.8
YKA LR LR 17 12 04.5
comp=Z,93nm,18.3s,baz=282,slow=39
comp=Z,1.0nm,0.9s
MDP Montagnes des 41.03 117 LR LR 17 13 44.8
comp=Z,33nm,19.6s,baz=74,slow=39
DLBC Dease Lake 41.76 328 LR LR 17 14 38.1
comp=Z,133nm,18.6s,baz=106,slow=39
MMPY Sheldon Lake, 44.37 333 IAmb IAmb 16 55 25.1
comp=Z,9.6nm,1.3s
SFJD Kangerlussuaq 45.28 20 LR LR 17 14 23.3
comp=Z,93nm,20.3s,baz=217,slow=36
SFJD Kangerlussuaq 45.28 20 *i* P **P 16 55 27.9 +0.5**
SFJD IAmb IAmb 16 55 29.1
comp=Z,8.5nm,0.8s
N30M Aishikik Lake 46.28 330 P **P 16 55 37.8 +2.3**
baz=114
YUK6 Outpost Mounta 46.65 329 P **P 16 55 41.2 +2.5**
baz=112
RES Resolute Bay 46.84 358 LR LR 17 16 48.1
comp=Z,89nm,18.1s,baz=335,slow=38
YUK4 Talbot Arm 46.93 330 P **P 16 55 42.4 +1.5**
baz=112
M29M Somme Creek 47.27 331 IAmb IAmb 16 55 46.7
comp=Z,4.8nm,0.9s
M29M Somme Creek 47.27 331 P **P 16 55 45.6 +2.2**
baz=113
J30M Hart River 47.31 334 IAmb IAmb 16 55 48.8
comp=Z,3.6nm,1.1s
J30M Hart River 47.31 334 P **P 16 55 43.7 +0.1**
baz=117
L29M L29M 47.39 332 P **P 16 55 44.1 -0.1**
baz=114,SNR=7.7
YUK8 Steele Glacier 47.41 329 P **P 16 55 46.0 +1.4**
baz=111
K29M Barlow Dome 47.45 333 P **P 16 55 46.3 +1.6**
baz=115,SNR=12
I30M Mount Dempster 47.62 335 IAmb IAmb 16 55 48.9
comp=Z,6.7nm,1.3s
I30M Mount Dempster 47.62 335 P **P 16 55 47.2 +1.1**
baz=118,SNR=5.2
G31M Satah River 47.71 338 P **P 16 55 45.9 -0.6**
baz=121
YUK3 Moose Creek 47.89 330 P **P 16 55 47.1 -1.2**
baz=111
J29N Klondike Camp 47.99 334 IAmb IAmb 16 55 52.5
comp=Z,6.6nm,0.8s
J29N Klondike Camp 47.99 334 P **P 16 55 49.9 +1.1**
baz=115
CTG Chitna Glacier 48.02 329 P **P 16 55 50.2 +1.0**
baz=109,SNR=5.2
INK Inuvik 48.21 339 IAmb IAmb 16 55 53.1
comp=Z,6.6nm,1.4s
INK Inuvik 48.21 339 P **P 16 55 50.8 +0.4**
baz=123
INK Inuvik 48.21 339 LR LR 17 16 28.3
comp=Z,62nm,20.1s,baz=316,slow=36
EPYK Eagle Plains 48.29 336 P **P 16 55 49.8 -1.3**
baz=118
A36M Sachs Harbour 48.34 346 P **P 16 55 51.4 +0.1**
baz=135,SNR=20
F30M Barrier River 48.57 338 P **P 16 55 52.4 -0.9**
baz=120
M27K Edge Creek, AK 48.72 330 P **P 16 55 55.5 +0.8**
baz=110,SNR=8.3

H29M Whitestone 48.81 336 IAmb IAmb 16 55 58.2
comp=Z,5.6nm,0.8s
H29M Whitestone 48.81 336 P **P 16 55 56.0 +0.9**
baz=116,SNR=5.4
MCARA McCarthy VSAT 48.93 329 P **P 16 55 55.2 -0.9**
baz=108
L27K Beaver Creek, 48.94 331 P **P 16 55 56.6 +0.5**
baz=110
G29M Pine Creek 49.00 337 P **P 16 55 57.6 +1.0**
baz=117,SNR=7.7
I28M Miner Creek 49.07 334 IAmb IAmb 16 56 00.3
comp=Z,6.0nm,0.8s
I28M Miner Creek 49.07 334 P **P 16 55 56.6 -0.6**
baz=114,SNR=9.6
KAIM Kayak Island 49.18 327 P **P 16 55 57.6 -0.4**
baz=105
M26K Nabesna, AK 49.23 330 IAmb IAmb 16 56 02.6
comp=Z,6.6nm,0.9s
M26K Nabesna, AK 49.23 330 P **P 16 55 59.7 +1.3**
baz=108,SNR=5.7
EGAK Eagle 49.28 333 IAmb IAmb 16 56 02.5
comp=Z,3.4nm,0.8s
EGAK Eagle 49.28 333 P **P 16 55 58.0 -0.7**
baz=112
KULLO Kullorsuaq 49.29 11 *i* P **P 16 55 58.0 -0.5**
KULLO IAmb IAmb 16 56 37.0
comp=Z,5.7nm,0.8s
K27K Chicken 49.38 332 IAmb IAmb 16 56 03.9
comp=Z,5.8nm,1.1s
K27K Chicken 49.38 332 P **P 16 56 00.9 +1.4**
baz=111
BMRM Bremner River 49.54 328 P **P 16 56 00.7 -0.2**
baz=106
E29M Blow River 49.65 338 IAmb IAmb 16 56 04.7
comp=Z,5.6nm,0.7s
E29M Blow River 49.65 338 P **P 16 56 03.2 +1.8**
baz=119,SNR=12
N25K Chitina, Valde 49.72 329 P **P 16 56 03.8 +1.7**
baz=106
I27K Kandik River 49.77 334 P **P 16 56 04.9 +2.4**
baz=112,SNR=5.9
F28M Old Crow 49.96 337 P **P 16 56 05.5 +1.7**
baz=116,SNR=18
EYAK Cordova Ski Ar 49.98 327 P **P 16 56 04.5 +0.4**
baz=104
H27K Steamboat Moun 49.98 335 P **P 16 56 04.7 +0.6**
baz=113
J26L Joseph Creek 50.15 332 IAmb IAmb 16 56 09.4
comp=Z,6.0nm,0.9s
J26L Joseph Creek 50.15 332 P **P 16 56 06.4 +0.9**
baz=110,SNR=10
SCRK Sand Creek 50.15 332 IAmb IAmb 16 56 08.8
comp=Z,4.9nm,1.0s
SCRK Sand Creek 50.15 332 P **P 16 56 06.6 +1.1**
baz=109,SNR=5.8
G27K Doyon Strip 50.25 336 P **P 16 56 08.1 +1.9**
baz=113,SNR=5.9
I26K Coal Creek Min 50.26 334 P **P 16 56 08.4 +2.3**
baz=111
E28M Babbage River 50.28 338 P **P 16 56 08.2 +1.9**
baz=117,SNR=7.7
KLU Klutina 50.30 328 P **P 16 56 07.9 +1.3**
baz=105
D28M Stokes Point 50.36 339 P **P 16 56 08.7 +1.8**
baz=118,SNR=12
PAX Paxson 50.49 330 P **P 16 56 10.1 +2.1**
baz=106,SNR=7.1
M24K Tolsona, Glenn 50.57 329 P **P 16 56 09.8 +1.2**
baz=105
P23K Montague Islan 50.66 326 P **P 16 56 11.4 +2.2**
baz=102
E27K Coleen River 50.79 337 IAmb IAmb 16 56 13.5
comp=Z,9.9nm,1.1s
E27K Coleen River 50.79 337 P **P 16 56 12.4 +2.2**
baz=114,SNR=10
K24K Donnelly Dome 50.86 331 P **P 16 56 12.8 +2.1**
baz=107
J25K Salcha River, 50.92 332 IAmb IAmb 16 56 14.6
comp=Z,5.0nm,0.8s
J25K Salcha River, 50.92 332 P **P 16 56 13.2 +1.9**
baz=108,SNR=7.4
D27M Malcolm River 51.03 339 IAmb IAmb 16 56 15.5
comp=Z,12nm,1.4s
D27M Malcolm River 51.03 339 P **P 16 56 13.5 +1.5**
baz=116,SNR=7.3
SCM Sheep Creek Mo 51.03 329 P **P 16 56 14.2 +2.1**
baz=104
G26K Porcupine Rive 51.09 335 P **P 16 56 14.5 +2.2**
baz=111,SNR=5.1
M23K Glacier View 51.20 328 P **P 16 56 14.7 +1.4**
baz=103
PRP Porcupine Dome 51.27 333 IAmb IAmb 16 56 16.9
comp=Z,5.5nm,1.0s
PRP Porcupine Dome 51.27 333 P **P 16 56 15.8 +1.9**
baz=108
WAT6 Susitna Watana 51.39 329 P **P 16 56 17.1 +2.2**
baz=104
KNK Knik Glacier 51.46 328 P **P 16 56 17.6 +2.3**
baz=102
F26K Sheenjek River 51.49 336 P **P 16 56 17.7 +2.3**
baz=112,SNR=9.0
SML Sawmill 51.49 328 P **P 16 56 17.2 +1.6**
baz=103
HDA Harding Lake 51.52 332 IAmb IAmb 16 56 19.3
comp=Z,7.3nm,0.8s
HDA Harding Lake 51.52 332 P **P 16 56 17.4 +1.8**
baz=106,SNR=6.9
ILAR Eielson Array 51.59 332 P **P 16 56 17.8 +1.5**
ILAR Eielson Array 51.59 332 P **P 16 56 17.6 +1.4**
comp=Z,9.1nm,0.8s,baz=115,slow=5.2,SNR=97
ILAR PcP **PcP 16 57 31.2 +1.3**
comp=Z,1.4nm,0.6s,baz=112,slow=1.9,SNR=5.1
ILAR LR LR 17 20 42.3
comp=Z,59nm,18.1s,baz=98,slow=39
comp=Z,9.1nm,0.8s
H25L Birch Creek 51.62 334 P **P 16 56 17.6 +1.3**
baz=109
G25K Bearman Lake 51.88 335 P **P 16 56 20.3 +2.0**
baz=105
O22K Cooper Landing 51.89 327 P **P 16 56 18.9 +0.5**
baz=100
POKR Poker Flat Res 51.91 333 P **P 16 56 20.1 +1.5**
baz=106
SUMG Summit 51.95 17 P **P 16 56 19.8 +0.6**
SUMG IAmb IAmb 16 56 20.8
comp=Z,7.6nm,0.9s
SUMG Summit 51.95 17 *i* P **P 16 56 18.2 -1.0**
SUMG IAmb IAmb 16 56 21.4
comp=Z,9.3nm,1.2s
F25K Christian Rive 51.99 336 P **P 16 56 20.4 +1.2**
baz=110,SNR=8.5
WRH Wood River Hil 52.01 332 IAmb IAmb 16 56 22.9
comp=Z,4.5nm,0.9s
COLA College 52.02 332 P **P 16 56 20.1 +0.8**
COLA College 52.02 332 P **P 16 56 20.2 +0.9**
baz=106
C27K Jago River 52.07 339 P **P 16 56 21.9 +2.2**
baz=113,SNR=7.5
EUNU Eureka 52.14 0 P **P 16 56 21.5 +1.4**
E25K Arctic Village 52.14 337 IAmb IAmb 16 56 23.6
comp=Z,9.0nm,1.4s
E25K Arctic Village 52.14 337 P **P 16 56 21.2 +0.9**
baz=110,SNR=6.8
MCK McKinley 52.19 331 P **P 16 56 22.0 +1.2**
baz=104
MDM Murphy Dome 52.20 332 IAmb IAmb 16 56 23.2
comp=Z,7.3nm,1.0s
BRSE Bradley Lake S 52.27 326 P **P 16 56 21.9 +0.6**
baz=99
H24K Noodor Dome 52.29 333 P **P 16 56 21.8 +0.3**
baz=106
M22K Willow 52.31 328 P **P 16 56 21.8 +0.2**
baz=101
G24K Hadweenzic Riv 52.38 335 IAmb IAmb 16 56 25.6
comp=Z,8.0nm,1.2s
G24K Hadweenzic Riv 52.38 335 P **P 16 56 24.3 +2.2**
baz=107
NEA2 Nenana 52.45 332 IAmb IAmb 16 56 24.8
comp=Z,3.9nm,0.8s
NEA2 Nenana 52.45 332 P **P 16 56 23.9 +1.3**
baz=104,SNR=5.9
NEEM North Greenlan 52.45 10 *i* P **P 16 56 22.4 -0.3**
NEEM IAmb IAmb 16 56 24.8
comp=Z,23nm,0.8s
SUA Susitna One 52.55 328 P **P 16 56 25.2 +1.7**
baz=100
C26K Camden Bay 52.57 339 P **P 16 56 25.8 +2.5**
baz=112,SNR=5.4

I23K	Minto, Yukon-K	52.71	332	P	P	16 56 26.1 +1.7
	baz=104,SNR=9.5					
TRF	Thorofare Moun	52.72	330	IAmb	IAmb	16 56 27.8
	comp=Z,8.9nm,1.0s					
TRF	Thorofare Moun	52.72	330	P	P	16 56 26.2 +1.4
	baz=102					
F24K	Squaw Lake	52.78	335	P	P	16 56 27.2 +2.2
	baz=108					
D25K	Kavik River	52.83	338	IAmb	IAmb	16 56 28.4
	comp=Z,4.9nm,0.9s					
D25K	Kavik River	52.83	338	P	P	16 56 26.3 +0.9
	baz=110,SNR=7.7					
H23K	Yukon River	52.95	333	P	P	16 56 27.4 +1.1
	baz=105					
KDAK	Kodiak Island	52.98	323	P	P	16 56 28.4 +1.8
	baz=96					
KDAK	Kodiak Island	52.98	323	LR	LR	17 20 14.3
	comp=Z,103nm,20.0s,baz=168,slow=38					
SKT	Skwentna	53.01	328	P	P	16 56 27.4 +0.6
	baz=100					
BPAW	Bear Paw Mtn.	53.16	331	IAmb	IAmb	16 56 30.5
	comp=Z,8.0nm,0.8s					
BPAW	Bear Paw Mtn.	53.16	331	P	P	16 56 29.2 +1.4
	baz=102,SNR=6.5					
E24K	Your Creek	53.16	336	P	P	16 56 30.1 +2.2
	baz=107					
MLY	Manley	53.25	332	P	P	16 56 30.2 +1.7
	baz=103,SNR=14					
OHAK	Old Harbor	53.31	322	P	P	16 56 30.6 +1.7
	baz=95					
G23K	Bananza Creek	53.36	334	IAmb	IAmb	16 56 32.5
	comp=Z,7.3nm,0.9s					
G23K	Bananza Creek	53.36	334	P	P	16 56 31.3 +2.0
	baz=105,SNR=8.4					
PPLA	Purkeypile	53.46	329	P	P	16 56 31.9 +1.7
	baz=106					
CAST	Castle Rocks	53.51	330	IAmb	IAmb	16 56 32.5
	comp=Z,5.7nm,0.9s					
CAST	Castle Rocks	53.51	330	P	P	16 56 31.5 +1.1
	baz=100,SNR=5.1					
COLD	Coldfoot	53.56	335	P	P	16 56 32.6 +1.9
	baz=105					
E23K	Chandalar	53.57	336	P	P	16 56 32.7 +1.8
	baz=106					
D24K	Happy Valley	53.60	337	P	P	16 56 32.5 +1.5
	baz=108					
CHUM	Lake Minchumin	53.69	330	P	P	16 56 32.6 +0.9
	baz=100					
H22K	Ishtalitna Cre	53.70	333	P	P	16 56 32.8 +1.0
	baz=103					
TOLK	Toolik Lake Re	53.71	337	IAmb	IAmb	16 56 34.3
	comp=Z,3.5nm,0.7s					
TOLK	Toolik Lake Re	53.71	337	P	P	16 56 33.8 +1.9
	baz=107					
C24K	Franklin Bluff	53.74	338	P	P	16 56 33.6 +1.7
	baz=108					
M20K	Styx River	53.74	328	P	P	16 56 33.5 +1.3
	baz=98,SNR=7.5					
I21K	Tanana	53.80	332	P	P	16 56 33.8 +1.3
	baz=102					
G22K	Bettles	53.98	334	P	P	16 56 36.2 +2.4
	baz=104					
L20K	Farewell, AK	54.17	329	P	P	16 56 36.6 +1.3
	baz=98					
D23K	Nanushuk River	54.19	337	P	P	16 56 37.1 +1.8
	baz=106					
H21K	Melozitna Rive	54.23	333	IAmb	IAmb	16 56 38.0
	comp=Z,6.4nm,0.8s					
H21K	Melozitna Rive	54.23	333	P	P	16 56 36.8 +1.1
	baz=101,SNR=7.1					
N19K	Bonanza Creek	54.26	327	P	P	16 56 37.1 +1.1
	baz=96					
M19K	Big River Lodg	54.34	328	IAmb	IAmb	16 56 38.5
	comp=Z,4.7nm,0.8s					
M19K	Big River Lodg	54.34	328	P	P	16 56 37.1 +0.6
	baz=97					
F22K	John River	54.37	335	P	P	16 56 37.7 +1.0
	baz=103					
K20K	Telida	54.38	330	P	P	16 56 37.8 +1.0
	baz=98					
E22K	Anaktuvuk Pass	54.38	336	IAmb	IAmb	16 56 49.4
	comp=Z,4.8nm,1.2s					
E22K	Anaktuvuk Pass	54.38	336	P	P	16 56 38.1 +1.3
	baz=104					
C23K	Itkillik River	54.41	338	P	P	16 56 38.9 +2.1
	baz=106,SNR=7.5					
O18K	Koktuh Hills	54.52	325	P	P	16 56 36.6 -1.3
	baz=95					
J20K	Nowinta River	54.54	331	P	P	16 56 39.1 +1.2
	baz=99,SNR=8.2					
L19K	White Mountain	54.59	328	P	P	16 56 39.4 +1.1
	baz=97					
G21K	Allakaket	54.67	334	P	P	16 56 40.3 +1.5
	baz=101					
Q17K	Contact Creek	54.77	323	P	P	16 56 40.8 +1.0
	baz=93					
F21K	Alatna River	54.80	334	IAmb	IAmb	16 56 42.9
	comp=Z,6.0nm,0.9s					
F21K	Alatna River	54.80	334	P	P	16 56 42.0 +2.1
	baz=102,SNR=7.2					
D22K	Ayikyak River	54.87	337	P	P	16 56 41.8 +1.5
	baz=104,SNR=10					
N18K	Kilae Creek	54.93	326	P	P	16 56 42.4 +1.5
	baz=95					
M18K	Stony River	54.97	327	P	P	16 56 42.2 +1.1
	baz=96					
J19K	Poorman	55.15	330	P	P	16 56 42.7 +0.4
	baz=97					
Q16K	King Salmon	55.19	324	P	P	16 56 44.3 +1.7
	baz=93					
E21K	Killik River	55.23	336	P	P	16 56 43.9 +1.0
	baz=102					
BORG	Borgarnes	55.34	29	LR	LR	17 18 40.0
	comp=Z,46nm,21.4s,baz=256,slow=34					
L18K	Granite Mounta	55.44	328	P	P	16 56 45.8 +1.3
	baz=95,SNR=5.1					
B22K	Teshekpuk Lake	55.47	338	P	P	16 56 45.8 +1.3
	baz=104					
O17K	Koliganek Bris	55.47	325	P	P	16 56 45.7 +1.0
	baz=93					
N17K	Nushagak Hills	55.56	326	P	P	16 56 46.5 +1.2
	baz=94					
J18K	Innoko River	55.58	330	P	P	16 56 45.7 +0.3
	baz=96					
F20K	Avaraart Lake	55.63	334	IAmb	IAmb	16 56 48.8
	comp=Z,7.4nm,0.9s					
F20K	Avaraart Lake	55.63	334	P	P	16 56 47.2 +1.5
	baz=99,SNR=8.0					
R16K	Pilot Point	55.64	322	P	P	16 56 45.6 -0.4
	baz=91					
C21K	Knifeblade Rid	55.67	337	P	P	16 56 47.4 +1.4
	baz=102,SNR=6.2					
B21K	Ikpikpuk River	55.71	337	P	P	16 56 47.0 +0.8
	baz=102,SNR=10					
M17K	Holitna River	55.74	327	P	P	16 56 46.5 -0.1
	baz=94					
O16K	Kokwok River B	55.97	325	P	P	16 56 48.9 +0.7
	baz=92					
E20K	Nigu River	56.01	335	P	P	16 56 49.9 +1.4
	baz=100					
G19K	Purcell Mounta	56.04	333	P	P	16 56 49.6 +0.9
	baz=98					
A22K	Sinclair Lake	56.12	339	P	P	16 56 51.1 +1.9
	baz=103,SNR=7.2					
L17K	Donlin	56.19	328	P	P	16 56 50.1 +0.3
	baz=94					
K17K	Iditarod	56.23	329	P	P	16 56 51.0 +0.9
	baz=94					
D20K	Etivluk River	56.24	336	P	P	16 56 51.3 +1.1
	baz=100					
E19K	Redstone River	56.28	334	P	P	16 56 51.3 +0.9
	baz=98					
N16K	Nishlik Lake	56.34	326	P	P	16 56 52.3 +1.3
	baz=92					
F19K	Shaleruckik Mo	56.40	334	IAmb	IAmb	16 56 53.8
	comp=Z,3.9nm,0.8s					
F19K	Shaleruckik Mo	56.40	334	P	P	16 56 52.2 +1.0
	baz=97					
M16K	Timber Creek	56.45	327	P	P	16 56 52.6 +0.9
	baz=92					
H18K	Honhosa River	56.46	332	P	P	16 56 52.2 +0.5
	baz=96					
B20K	Meade River	56.65	337	P	P	16 56 54.7 +1.8
	baz=100,SNR=8.1					
A21K	Barrow	56.71	339	P	P	16 56 53.7 +0.3
	baz=101					
L16K	Owhat River	56.73	327	P	P	16 56 53.6 0.0
	baz=92					
D19K	Kuna River	56.75	336	P	P	16 56 55.4 +1.6
	baz=98					
F18K	Selawik	57.12	333	P	P	16 56 57.8 +1.4
	baz=95					
J16K	Anvik River	57.31	329	P	P	16 56 58.5 +0.8
	baz=92					
C19K	Lookout Ridge	57.36	336	P	P	16 56 57.7 -0.4
	baz=97					
G17K	Kiwalik Mounta	57.44	332	P	P	16 57 00.2 +1.5
	baz=94					
E18K	Tukpahlearik C	57.56	334	P	P	16 57 00.7 +1.3
	baz=95					
L15K	Ungalak Mounta	57.68	327	P	P	16 57 01.1 +0.7
	baz=91					
C18K	Utukok River	57.89	336	P	P	16 57 01.9 0.0
	baz=95					
M14K	Bethel	57.91	326	P	P	16 57 02.5 +0.5
M14K	Bethel	57.91	326	P	P	16 57 02.1 0.0
	baz=90					
A19K	Wainwright	58.00	337	P	P	16 57 03.7 +1.2
	baz=96					
E17K	Hotham Inlet	58.01	334	P	P	16 57 03.4 +0.7
	baz=94					
G16K	Koyuk River	58.15	332	P	P	16 57 01.5 -2.1
	baz=92					
B18K	Kokolik River	58.17	336	P	P	16 57 02.6 -1.2
	baz=95					
L14K	Kuka Creek	58.26	327	P	P	16 57 01.1 -3.3
	baz=89					
DAG	Danmarks Havn	58.36	15	*i* P	P	16 57 03.6 -1.3
DAG				IAmb	IAmb	16 57 05.3
	comp=Z,4.6nm,0.9s					
M13K	Dall Lake	58.61	326	P	P	16 57 06.0 -0.8
	baz=88					
G15K	Niukluk	58.85	331	P	P	16 57 10.4 +1.9
	baz=90					
JMIC	Jay Mayen	60.56	22	LR	LR	17 22 25.5
	comp=Z,45nm,21.4s,baz=219,slow=35					
CPUP	Villa Florida	61.82	148	LR	LR	17 24 49.5
	comp=Z,18nm,21.9s,baz=36,slow=37					
EKA	Eskdalemuir Ar	64.92	39	P	P	16 57 49.6 +0.1
	comp=Z,3.3nm,0.6s,baz=276,slow=6.1,SNR=24					
	comp=Z,3.3nm,0.6s					
SPITS	Spitsbergen Ar	65.78	13	P	P	16 57 55.9 +1.1
	comp=Z,2.7nm,0.5s,baz=222,slow=1.1,SNR=25					
SPITS				LR	LR	17 27 51.5
	comp=Z,45nm,18.2s,baz=207,slow=37					
	comp=Z,2.7nm,0.5s					
ESDC	Sonseca Array	68.82	55	P	P	16 58 15.3 +0.5
	comp=Z,1.5nm,1.0s,baz=294,slow=6.0,SNR=9.2					
	comp=Z,1.5nm,1.0s					
BILL	Bilibino	69.76	337	P	P	16 58 20.4 +0.4
PLCA	Paso Flores	70.42	166	P	P	16 58 24.5 +0.1
	comp=Z,1.4nm,1.0s,baz=6.8,slow=6.2,SNR=3.8					
	comp=Z,1.4nm,1.0s					
NOA	NORSAR Array B	70.42	31	P	P	16 58 25.2 +0.9
	comp=Z,1.0nm,0.7s,baz=292,slow=6.3,SNR=4.0					
NOA				LR	LR	17 27 31.3
	comp=Z,19nm,18.8s,baz=290,slow=34					
	comp=Z,1.0nm,0.7s					
ARCES	ARCESS Array B	71.91	20	P	P	16 58 33.7 +0.7
	comp=Z,2.2nm,0.5s,baz=299,slow=4.3,SNR=24					
	comp=Z,2.2nm,0.5s					
CLL	Collm	75.38	39	*i* P	P	16 58 55.1 +1.4
	comp=Z,5.0nm,0.9s					
FUORN	Ofenpass-Fuorn	75.82	45	P	P	16 58 57.3 +0.6
FUORN				IAmb	IAmb	16 58 59.1
	comp=Z,3.7nm,0.6s					
FETA	Feichten	75.94	44	*e*pP	P	16 58 58.7 +1.5
	comp=Z,3.8nm,0.7s					
MOTA	Moosalm	76.02	44	*i* P	P	16 58 55.7 -2.0
	comp=Z,5.7nm,1.7s					
BRG	Berggiesshubel	76.11	40	*e*P	P	16 58 59.4 +1.5
BRG				Amp		16 59 00.6
	comp=Z,2.8nm,0.7s					
SQTA	Sankt Quirin	76.14	44	*e*pP	P	16 58 59.7 +1.4
	comp=Z,4.3nm,0.8s					
WTTA	Wattenberg	76.38	44	*e*pP	P	16 59 01.0 +1.2
	comp=Z,2.6nm,0.8s					
FINES	FINESS Array B	76.55	27	P	P	16 59 01.6 +1.4
	comp=Z,5.4nm,0.4s,baz=317,slow=4.9,SNR=61					
FINES				LR	LR	17 33 45.2
	comp=Z,26nm,18.9s,baz=263,slow=36					
	comp=Z,5.4nm,0.4s					
GERES	GERESS Array B	76.90	42	P	P	16 59 04.3 +1.7
	comp=Z,1.0nm,0.6s,baz=309,slow=6.7,SNR=4.8					
	comp=Z,1.0nm,0.6s					
LESA	Schwarzleotal	76.94	43	*i* P	P	16 59 00.4 -2.4
	comp=Z,0.1nm,0.3s					
ABTA	Abtersbach	77.15	44	*i* P	P	16 59 02.7 -1.3
	comp=Z,0.6nm,0.3s					
TIXI	Tiksi	77.24	349	P	P	16 59 04.2 +0.3
TIXI				IAmb	IAmb	16 59 05.1
	comp=Z,5.3nm,0.8s					
TIXI	Tiksi	77.24	349	LR	LR	17 36 24.5
	comp=Z,35nm,19.7s,baz=194,slow=38					
BIOA	Bad Ischl, Aus	77.40	43	*i* pP	P	16 59 06.3 +1.0
	comp=Z,1.1nm,0.6s					
KBA	Koenbreinsper	77.51	43	*i* P	P	16 59 04.2 -1.9
	comp=Z,4.1nm,1.2s					
VRAC	Vranov	78.35	40	*e*P	P	16 59 12.1 +1.5
KRUC	Moravsky	78.36	40	*e*P	P	16 59 11.7 +1.1
OBKA	Obir	78.50	43	*i* pP	P	16 59 12.7 +1.1
	comp=Z,5.1nm,0.6s					
SOKA	Soboth	78.72	43	*i* pP	P	16 59 13.3 +0.6
	comp=Z,6.1nm,1.2s					
ARSA	Arzberg	78.73	42	*i* pP	P	16 59 13.4 +0.6
	comp=Z,0.8nm,0.4s					
RONA	Rosalia, Austr	78.97	42	*i* P	P	16 59 13.7 -0.4
	comp=Z,3.8nm,0.8s					
VYHS	Vyhne	80.04	40	*e*P	P	16 59 21.7 +1.9
KEST	Kesra	80.06	55	P	P	16 59 21.0 +0.7
	comp=Z,3.7nm,0.7s,baz=236,slow=2.3,SNR=6.5					
	comp=Z,3.7nm,0.7s					
PETK	Petropavlovsk-	80.89	326	P	P	16 59 25.5 +1.2
	comp=Z,2.6nm,0.9s,baz=67,slow=10,SNR=5.6					
PETK				LR	LR	17 39 03.0
	comp=Z,27nm,19.4s,baz=210,slow=38					
	comp=Z,2.6nm,0.9s					
STHS	Stebnicka Huta	80.90	38	*e*P	P	16 59 26.4 +2.0
TORD	Torodi Ar. Bea	84.17	78	P	P	16 59 42.0 -0.1
	comp=Z,1.1nm,0.7s,baz=308,slow=5.3,SNR=6.0					
	comp=Z,1.1nm,0.7s					
AKASG	Malin Array Be	84.35	34	P	P	16 59 42.7 +0.4
	comp=Z,0.3nm,0.3s,baz=286,slow=4.0,SNR=8.8					
AKASG				LR	LR	17 38 51.3
	comp=Z,39nm,18.4s,baz=344,slow=37					
	comp=Z,0.3nm,0.3s					
YAK	Yakutsk	85.14	343	LR	LR	17 42 57.9
	comp=Z,28nm,19.1s,baz=355,slow=39					
QSPA	South Pole Qui	117.90	180	PKP	PKiKP	17 05 56.5 +0.3
	comp=Z,0.6nm,0.6s,baz=110,slow=4.4,SNR=8.2					
WRA	Warramunga Arr	140.14	272	PKhKP	PKPpre	17 06 32.5
	comp=Z,0.3nm,0.6s,baz=70,slow=3.9,SNR=1.8					
ASAR	Alice Springs	141.66	267	PKhKP	PKPpre	17 06 36.6
	comp=Z,1.6nm,0.8s,baz=78,slow=3.1,SNR=24					

GUC 06 16:51:28.3±0.8, 32°54S×70°10W, h111km±3km, ML3.6, 2C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA03	San Esteban	0.44	239	*i* P	Pn	16 51 45.4	+0.3
VA03				*i* S	Sn	16 51 58.4	+0.8
PEL	Peldehue	0.78	219	*e*P	Pn	16 51 47.5	+0.1
PEL				*i* S	Sn	16 52 02.3	+0.3
PEL				IAML		16 52 04.5	
	comp=N,1μm,0.1s						
FCH	Farellones	0.80	191	*e*P	Pn	16 51 48.4	+0.4
FCH				*e*S	Sn	16 52 03.0	+0.1
FCH				IAML		16 52 05.0	
	comp=N,1μm,0.2s						
MT10	Hacienda Santa	0.82	207	*e*P	Pn	16 51 48.5	+0.6
MT10				*i* S	Sn	16 52 03.7	+0.9
MT10				IAML		16 52 05.5	
	comp=N,3μm,0.6s						
MT04	Ro Olivares	0.86	182	*e*P	Pn	16 51 48.8	+0.3
MT04				*i* S	Sn	16 52 04.4	+0.7
ROCH	El Roble	0.88	240	*i* P	Pn	16 51 49.3	+0.6
ROCH				*e*P	Pn	16 51 49.3	+0.6
ROCH				*e*S	Sn	16 52 05.1	+1.1
ROCH				*e*S		16 52 05.2	
ROCH				IAML		16 52 06.4	
	comp=N,2μm,0.3s						
ROCH				IAML		16 52 06.4	
	comp=N,4μm,0.3s						
MT08	Bocatoma Ro	0.90	175	*i* P	Pn	16 51 49.4	+0.5
MT08				*e*S	Sn	16 52 04.6	+0.1
MT14	Cerro Calan	0.93	203	*e*P	Pn	16 51 49.6	+0.6
MT14				*i* S	Sn	16 52 05.7	+1.1
MT14				IAML		16 52 06.8	
	comp=E,1μm,0.5s						
MT05	Renca	1.00	212	*e*P	Pn	16 51 50.5	+0.8
MT05				*i* S	Sn	16 52 07.2	+1.3
MT05				IAML		16 52 08.3	
	comp=E,3μm,0.3s						
VA06	Catapilco	1.01	269	*e*P	Pn	16 51 50.1	+0.4
VA06				*e*S	Sn	16 52 06.8	+1.0
VA06				IAML		16 52 08.1	
	comp=E,2μm,0.3s						
MT15	Las Vizcachas	1.11	198	*e*P	Pn	16 51 51.0	+0.2
MT15				*i* S	Sn	16 52 08.6	+0.8
MT15				IAML		16 52 10.8	
	comp=E,2μm,0.2s						
MT02	Curacav	1.13	230	*e*P	Pn	16 51 51.2	+0.3
MT02				*i* S	Sn	16 52 08.8	+0.7
MT13	San Alfonso	1.21	187	*e*P	Pn	16 51 52.7	+0.7
MT13				*e*S	Sn	16 52 10.8	+0.9
MT13				IAML		16 52 12.6	
	comp=N,663nm,0.2s						
MT12	Pirque	1.25	197	*e*P	Pn	16 51 53.1	+0.8
MT12				*e*S	Sn	16 52 11.3	+0.8
MT12				IAML		16 52 14.0	
	comp=N,999nm,0.2s						
LMEL	Las Melosas	1.31	184	*e*P	Pn	16 51 53.5	+0.4
LMEL				*i* S	Sn	16 52 14.0	+2.1
LMEL				IAML		16 52 19.1	
	comp=N,960nm,0.2s						
VA01	Torpederas	1.39	249	*e*P	Pn	16 51 53.9	+0.1
VA01				*i* S	Sn	16 52 13.7	+0.6
VA01				IAML		16 52 20.6	
	comp=E,874nm,0.2s						
MT09	Talagante	1.44	211	*e*P	Pn	16 51 54.8	+0.2
MT09				*i* S	Sn	16 52 15.1	+0.6
MT09				IAML		16 52 17.0	
	comp=N,1μm,0.4s						
BO04	La Punta	1.50	196	*e*P	Pn	16 51 55.6	+0.3
BO04				*e*S	Sn	16 52 16.6	+0.8
BO04				IAML		16 52 18.4	
	comp=E,536nm,0.2s						
CO02	Combarbal	1.54	330	*e*P	Pn	16 51 57.1	+1.4
CO02				*e*S	Sn	16 52 18.8	+2.2
MT01	Popeta	1.63	216	*e*P	Pn	16 51 56.5	-0.2
MT01				*i* S	Sn	16 52 17.9	-0.6
MT01				IAML		16 52 20.1	
	comp=E,530nm,0.3s						
VA05	Santo Domingo	1.69	228	*e*P	Pn	16 51 57.6	+0.2
VA05				*i* S	Sn	16 52 19.4	-0.2
VA05				IAML		16 52 28.9	
	comp=E,948nm,0.4s						
CO03	El Pedregal	1.77	343	*e*P	Pn	16 52 00.2	+1.6
CO03				*i* S	Sn	16 52 24.1	+2.5
BO01	Tunca	2.02	204	*e*P	Pn	16 52 01.1	-0.5
BO01				*i* S	Sn	16 52 26.2	-0.9
CO06	Fray Jorge	2.27	325	*e*P	Pn	16 52 06.5	+1.6
CO06				*i* S	Sn	16 52 31.6	-1.3
BO02	Sierra Bellavi	2.32	194	*e*P	Pn	16 52 05.9	+0.5
BO02				*i* S	Sn	16 52 34.0	0.0
BO02				IAML		16 52 37.9	
	comp=N,270nm,0.3s						
GO04	Tololo Observa	2.44	346	*e*P	Pn	16 52 08.2	+1.0
GO04				*i* S	Sn	16 52 37.7	+0.7
GO04				IAML		16 52 42.3	
	comp=N,370nm,0.5s						
CO01	Juntas del Tor	2.56	0	*e*P	Pn	16 52 10.9	+2.1
CO05	La Serena	2.79	339	*e*S	Sn	16 52 45.1	+0.2
CO05				IAML		16 52 56.3	
	comp=E,137nm,0.1s						
LCO	Las Campanas	3.56	352	*e*P	Pn	16 52 22.1	+0.1
AC05	El Transito	3.70	358	*e*P	Pn	16 52 24.8	+1.1
AC04	Llanos de Chal	4.40	349	*e*P	Pn	16 52 33.3	+0.2

NOU ***06*** *17:15:26.9, 42°.24S×173°.98E, h44km, MLv3.6/8, South Island, New Zealand*
WEL ***06*** *17:15:27.4±0.4, 42°.5S±4°×17°4E±°, h35km±4km, M2.8/8, ML3.1/10, MLv2.8/8, Error ellipse: s-maj=0.0km s-min=0.0km az=124.8, confirmed*

ISC 06 17:15:27.1±1.3, 42°.16S±0°.04×173°.91E±0°.04, h55km±7km, n72, σ0°.971/79, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KEKS	Kekerengu Vall	0.21	14	P	Pn	17 15 35.7	-0.4
KEKS				S	Sn	17 15 41.5	-0.9
KIKS	Kaikoura	0.32	213	P	Pn	17 15 37.5	+0.7
KIKS				S	Sn	17 15 44.6	+0.8
WDFS	Ward Fire Stat	0.37	27	P	Pn	17 15 37.6	+0.3
KHZ	Kahutara	0.38	227	P	Pn	17 15 37.7	+0.4
KHZ	Kahutara	0.38	227	P	Pn	17 15 37.8	+0.4
KHZ				S	Sn	17 15 44.9	+0.2
BSWZ	Blackbirch Sta	0.45	356	P	Pn	17 15 37.7	-0.3
BSWZ				S	Sn	17 15 44.9	-1.0
CMWZ	Cape Campbell	0.47	29	P	Pn	17 15 38.9	+0.6
MOLW	Molesworth Sta	0.49	278	P	Pn	17 15 38.1	-0.5
SEDS	Seddon Fire St	0.50	14	P	Pn	17 15 38.8	+0.2
SDNS	Seddon	0.52	19	P	Pn	17 15 39.4	+0.5
BWRS	Waikakaho Road	0.72	360	P	Pn	17 15 40.8	-0.4
TUWZ	Tuamarina	0.73	2	P	Pn	17 15 41.0	-0.4
THZ	Tophouse	0.85	297	P	Pn	17 15 42.3	-0.7
THZ				S	Sn	17 15 53.1	-1.5
TCW	Tory Channel	0.99	16	P	Pn	17 15 44.5	-0.2
NNZ	Nelson	1.02	337	P	Pn	17 15 44.5	-0.7
SNZO	South Karori	1.03	35	P	Pn	17 15 45.6	+0.3
GVZ	Greta Valley S	1.04	218	P	Pn	17 15 46.3	+0.9
GVZ				S	Sn	17 15 59.6	+0.6
BHW	Baring Head	1.04	44	P	Pn	17 15 45.7	+0.3
WEL	Wellington	1.08	36	P	Pn	17 15 46.4	+0.4
WEL				S	Sn	17 15 59.8	-0.2
MRNZ	Matariki Terra	1.15	311	P	Pn	17 15 46.6	-0.3
PLWZ	Palliser	1.16	60	P	Pn	17 15 47.3	+0.1
TKNZ	Takaka Hill	1.33	327	P	Pn	17 15 49.2	-0.2
DUWZ	D'Urville Isla	1.36	0	P	Pn	17 15 49.7	0.0
CAW	Cannon Point	1.36	40	P	Pn	17 15 49.9	+0.2
LTZ	Lake Taylor	1.36	242	P	Pn	17 15 50.1	+0.3
PAWZ	Paruwai Farm	1.37	56	P	Pn	17 15 49.8	-0.1
KIW	Kapiti Island	1.50	30	P	Pn	17 15 51.9	+0.3
TRWZ	Traveller	1.53	61	P	Pn	17 15 51.8	-0.2
MTW	Mount Morrison	1.56	50	P	Pn	17 15 52.1	-0.2
DSZ	Denniston Nort	1.63	284	P	Pn	17 15 53.8	+0.4
OGWZ	Otaki Gorge	1.64	36	P	Pn	17 15 53.7	+0.1
QRZ	Quartz Range	1.69	322	P	Pn	17 15 54.2	0.0
QRZ	Quartz Range	1.69	322	P	Pn	17 15 54.3	0.0
HOWZ	Holdsworth Sta	1.74	44	P	Pn	17 15 54.6	-0.3
MQZ	McQueen's Vall	1.80	210	P	Pn	17 15 55.1	-0.6
OXZ	Oxford	1.81	229	P	Pn	17 15 55.3	-0.6
TMWZ	Te Maipa	1.82	55	P	Pn	17 15 55.5	-0.4
AKCZ	Akaroa Harbour	1.86	203	P	Pn	17 15 56.6	+0.1
INZ	Inchbonnie	1.91	252	P	Pn	17 15 57.4	+0.2
MRZ	Mangatainoka R	1.95	40	P	Pn	17 15 56.3	-1.5
TIWZ	Tintock	2.03	48	P	Pn	17 15 58.4	-0.4
RACZ	Rakaia	2.04	219	P	Pn	17 15 58.3	-0.6
MHCZ	Mount Hutt	2.20	231	P	Pn	17 16 00.

MKAZ	Moumakai	5.14	11	P	Pn	17 16 41.8	+0.3
ETAZ	East Tamaki Re	5.26	9	P	Pn	17 16 44.2	+1.1
MBAZ	Motutapu North	5.44	8	P	Pn	17 16 46.4	+0.9
WIAZ	Waiheke Island	5.44	10	P	Pn	17 16 46.4	+0.9

*IDC **06** 17:18:30.4±0.5,44˚.06S×40˚.60E,h0km,mb4.1/17, mbtmp4.1/19,ML3.7/2,MS3.8/3,Error ellipse: s-maj=22.6km s-min=15.5km az=64.0*
*NEIC **06** 17:18:32.5±2.9,44˚.0S±0˚.1×40˚.6E±0˚.2,h10km±1km, mb4.7/24,Error ellipse: s-maj=24.6km s-min=19.6km az=253.0*
*GCMT **06** 17:18:33.0±0.3,43˚.81S±0˚.02×40˚.57E±0˚.03,h30km±1km, MW4.9/84,Moment Tensor Solution. s20,c22; s84,c113; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.40±.19; $M_{\theta\theta}$0.83±.13; $M_{\phi\phi}$0.56±.12; $M_{r\theta}$-0.39±.16; $M_{r\phi}$-2.41±.09; $M_{\theta\phi}$1.26±.16; Best double couple: M_o2.86000×10^{16} NP1:ϕ_s167.00000°,δ72.00000°,λ-43.00000°. NP2: ϕ_s274.00000°,δ50.00000°,λ-156.00000°. Principal axes: T 3.3960, Plg14.0000°, Azm225.0000°; N -1.0670, Plg44.0000°, Azm329.0000°; P -2.3250, Plg43.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 06 17:18:32.0±0.4,44˚.02S±0˚.08×40˚.61E±0˚.10,h10km,n53, σ1$35/49,mb4.4/25,MS3.9/3,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GRHM	Grahamstown, E	15.43	309			P	17 22 12.3	-2.0
POGA	Pongola	18.12	334	P		Pn	17 22 43.9	+0.1
SUR	Sutherland	19.36	300	P		Pn	17 22 58.4	-0.7
SUR	Sutherland	19.36	300	P		P	17 22 57.3	-0.6
	0.3nm,0.3s,baz=125,slow=12,SNR=13 7.1nm,0.7s							
BOSA	Boshof	19.68	316	P		P	17 22 59.4	-1.9
BOSA	Boshof	19.68	316	P		P	17 23 00.1	-1.3
	0.1nm,0.3s,baz=150,slow=8.8,SNR=6.9 3.5nm,0.9s							
FOMA	Nahampoana Res	19.70	17	P		P	17 23 01.4	0.0
FOMA					IAmb	IAmb	17 23 17.6	
	comp=Z,60nm,1.3s							
LBTB	Lobatse	22.57	322	P		P	17 23 29.7	-2.9
LBTB					IAmb	IAmb	17 23 41.5	
	comp=Z,22nm,1.4s							
VOI	Vohitsoka	22.64	15	P		P	17 23 30.8	-2.6
VOI					IAmb	IAmb	17 23 38.2	
	comp=Z,45nm,1.2s							
ABPO	Ambohimpanom	25.54	15	P		P	17 23 58.5	-2.6
ABPO					IAmb	IAmb	17 24 08.6	
	comp=Z,10nm,0.9s							
MAW	Mawson	26.43	161	P		P	17 24 08.7	+0.2
	comp=Z,1.6nm,0.7s,baz=285,slow=10,SNR=2.6 comp=Z,1.6nm,0.7s							
WIN	Windhoek	28.87	310	P		P	17 24 31.1	+0.1
WIN					IAmb	IAmb	17 24 46.9	
	comp=Z,11nm,1.3s							
LSZ	Lusaka	30.54	336	P		P	17 24 46.8	+1.0
LSZ					IAmb	IAmb	17 24 49.2	
	comp=Z,7.7nm,0.9s							
TSUM	Tsumeb	31.37	315	P		P	17 24 53.1	+0.1
TSUM					IAmb	IAmb	17 25 01.3	
	comp=Z,18nm,1.3s							
SNAA	Sanae	34.65	202	P		P	17 25 20.3	-0.9
	comp=Z,2.9nm,0.7s,baz=72,slow=12,SNR=2.8 comp=Z,2.9nm,0.7s							
BELA	Belgrano 2	44.30	197	P		P	17 26 41.0	-0.4
QSPA	South Pole Qui	46.19	180	P		P	17 26 56.1	-0.6
QSPA	South Pole Qui	46.19	180	P		P	17 26 55.6	-1.1
	comp=Z,1.8nm,0.9s,baz=275,slow=1.8,SNR=6.5 comp=Z,1.8nm,0.9s							
VNDA	Vanda	53.52	167	P		P	17 27 51.5	-0.6
	comp=Z,0.4nm,0.9s,baz=252,slow=18,SNR=2.1 comp=Z,0.4nm,0.9s							
SBA	Scott Base	54.08	168	P		P	17 27 57.6	+1.4
SBA					IAmb	IAmb	17 28 23.4	
	comp=Z,16nm,1.5s							
H01W2	Cape Leeuwin H	55.77	108	T		T	18 28 34.0	
	baz=238,slow=75,SNR=10							
H01W3	Cape Leeuwin H	55.78	108	T		T	18 28 35.3	
	baz=238,slow=75,SNR=8.6							
H01W1	Cape Leeuwin H	55.78	108	T		T	18 28 40.4	
	baz=238,slow=75,SNR=9.2							
NWAO	Narrogin (SRO)	59.00	107	LR		LR	17 47 49.1	
	comp=Z,78nm,19.1s,baz=192,slow=30							
MORW	Morawa	60.42	103	P		P	17 28 43.0	+1.2
DBIC	Dimbokro	65.00	309	P		P	17 29 11.9	-0.3
	comp=Z,5.2nm,0.9s,baz=180,slow=6.1,SNR=3.0							
DBIC					LR	LR	17 54 17.2	
	comp=Z,84nm,19.8s,baz=158,slow=33 comp=Z,5.2nm,0.9s							
TOA0	Torodi Ar. Sit	67.03	318	P		P	17 29 27.2	+1.9
TOA0					IAmb	IAmb	17 29 30.2	
	comp=Z,5.4nm,0.9s							
TORD	Torodi Ar. Bea	67.03	318	P		P	17 29 26.9	+1.6
TORD					IAmb	IAmb	17 29 35.0	
	comp=Z,6.3nm,1.1s							
TORD	Torodi Ar. Bea	67.03	318	P		P	17 29 24.5	-0.8
	comp=Z,3.0nm,0.9s,baz=143,slow=5.0,SNR=3.5 comp=Z,3.0nm,0.9s							
GSI	Gunungsitoli	67.82	65	P		P	17 29 29.4	-1.1
PLCA	Paso Flores	75.39	227	P		P	17 30 17.3	+1.5
	comp=Z,1.3nm,0.8s,baz=178,slow=6.9,SNR=3.7 comp=Z,1.3nm,0.8s							
STKA	Stephens Creek	75.70	120	P		P	17 30 17.2	-0.4
	comp=Z,2.7nm,0.9s,baz=262,slow=3.6,SNR=4.0 comp=Z,2.7nm,0.9s							
ASAR	Alice Springs	76.21	110	P		P	17 30 19.9	-0.8
	comp=Z,1.0nm,1.0s,baz=223,slow=5.6,SNR=4.2 comp=Z,1.0nm,1.0s							
CPUP	Villa Florida	77.52	246	P		P	17 30 27.2	-0.8
	comp=Z,1.3nm,0.8s,baz=196,slow=10,SNR=3.3 comp=Z,1.3nm,0.8s							
WRA	Warramunga Arr	79.01	107	P		P	17 30 36.7	+0.3
	comp=Z,0.8nm,0.9s,baz=225,slow=5.0,SNR=2.8 comp=Z,0.8nm,0.9s							
CMAR	Chiang Mai Arr	81.86	55	P		P	17 30 51.8	+0.2
	comp=Z,1.6nm,1.0s,baz=216,slow=5.6,SNR=5.7 comp=Z,1.6nm,1.0s							
GEYT	Alibeck	83.10	14	P		P	17 30 57.8	+0.2
GEYT					IAmb	IAmb	17 31 02.9	
	comp=Z,6.0nm,1.1s							
GEYT	Alibeck	83.10	14	P		P	17 30 58.1	+0.5
	comp=Z,4.2nm,1.1s,baz=243,slow=9.5,SNR=3.6 comp=Z,4.2nm,1.1s							
BRTR	Keskin Array B	83.60	355	P		P	17 31 00.1	-0.1
BRTR	Keskin Array B	83.60	355	P		P	17 30 59.9	-0.4
	comp=Z,2.3nm,0.9s,baz=178,slow=7.4,SNR=5.6 comp=Z,2.3nm,0.9s							
SHL	Shillong	83.67	45	P		P	17 31 00.9	-0.1
AGG	Agios Georgios	84.30	346	P		P	17 31 07.3	+3.6
KEST	Kesra	84.31	335	P		P	17 31 04.0	+0.1
	comp=Z,1.9nm,0.8s,baz=105,slow=10,SNR=3.2 comp=Z,1.9nm,0.8s							
CEL	Celeste	84.90	341	P		P	17 31 09.6	+2.8
FNA	Florina	86.18	345	P		P	17 31 15.1	+2.0
KBZ	Khabaz	87.39	2	P		P	17 31 17.6	-1.1
	comp=Z,0.9nm,0.7s,baz=192,slow=7.5,SNR=2.1 comp=Z,0.9nm,0.7s							
ESDC	Sonseca Array	92.51	327	P		P	17 31 44.7	+1.7
	comp=Z,1.3nm,0.9s,baz=147,slow=5.0,SNR=9.2 comp=Z,1.3nm,0.9s							
DZM	Mont Dzumac	97.65	131	LR		LR	18 12 12.5	
	comp=Z,40nm,18.2s,baz=208,slow=33							
PETK	Petropavlovsk-	138.64	54	PKP		PKPdf	17 37 57.1	-0.1
	comp=Z,1.4nm,0.9s,baz=266,slow=4.3,SNR=1.4							
TXAR	Lajitas Array	149.09	255	PKPbc		PKPbc	17 38 17.1	-0.8
	comp=Z,1.5nm,1.0s,baz=123,slow=4.6,SNR=5.7							
ULM	Lac du Bonnet	150.09	298	PKPbc		PKPbc	17 38 22.1	-0.1
	comp=Z,2.3nm,0.6s,baz=75,slow=2.2,SNR=6.6							
YKA	Yellowknife Ar	156.55	331	PKP		PKPdf	17 38 25.6	-0.4
	comp=Z,0.1nm,0.4s,baz=57,slow=2.5,SNR=2.9							
YKA				PKPab		pPKPab	17 38 56.8	-1.0
	comp=Z,0.8nm,0.7s,baz=44,slow=4.6,SNR=12							
ILAR	Eielson Array	158.79	9	PKPab		PKPab	17 39 06.0	+1.3
	comp=Z,0.5nm,0.8s,baz=308,slow=4.4,SNR=3.6							

*IDC **06** 17:24:06.8±0.6,44˚.41S×40˚.31E,h0km,mb3.9/11, mbtmp3.9/13,ML3.6/2,MS4.0/19,Error ellipse: s-maj=33.2km s-min=16.9km az=50.0*
*GCMT **06** 17:24:10.0±0.3,43˚.90S±0˚.02×40˚.67E±0˚.03,h20km±1km, MW4.9/89,Moment Tensor Solution. s20,c29; s89,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.60±.18; $M_{\theta\theta}$0.50±.11; $M_{\phi\phi}$1.10±.12; $M_{r\theta}$-0.56±.17; $M_{r\phi}$-2.01±.08; $M_{\theta\phi}$1.85±.24; Best double couple: M_o3.04100×10^{16} NP1:ϕ_s163.00000°,δ69.00000°,λ-63.00000°. NP2: ϕ_s287.00000°,δ34.00000°,λ-141.00000°. Principal axes: T 3.4640, Plg20.0000°, Azm233.0000°; N -0.8480, Plg26.0000°, Azm332.0000°; P -2.6170, Plg57.0000°, Azm109.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 06 17:24:08.2±0.6,44˚.5S±0˚.2×40˚.2E±0˚.2,h10km,n37, σ1$15/19,mb3.9/11,MS4.0/20,Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SUR	Sutherland	19.34	302	P		P	17 28 32.6	-1.3
	0.2nm,0.3s,baz=139,slow=15,SNR=6.6 4.0nm,0.8s							
BOSA	Boshof	19.80	318	P		P	17 28 37.1	-1.7
	0.1nm,0.3s,baz=156,slow=11,SNR=4.6 1.8nm,0.9s							
LBTB	Lobatse	22.74	324	LR		LR	17 36 16.8	
	comp=Z,365nm,20.2s,baz=140,slow=32							
MAW	Mawson	26.12	160	P		P	17 29 40.9	-1.0
	0.5nm,0.4s,baz=265,slow=13,SNR=1.8							
MAW				LR		LR	17 38 54.9	
	comp=Z,153nm,18.8s,baz=321,slow=34 0.5nm,0.4s							
OPO	Ambohidratompo	26.45	15	LR		LR	17 38 02.9	
	comp=Z,773nm,19.9s,baz=359,slow=32							
LSZ	Lusaka	30.82	337	LR		LR	17 40 38.0	
	comp=Z,159nm,21.3s,baz=148,slow=32							
SNAA	Sanae	34.15	203	LR		LR	17 43 21.8	
	comp=Z,218nm,18.3s,baz=12,slow=34							
MBAR	Mbarara	44.46	346	LR		LR	17 48 57.2	
	comp=Z,89nm,21.5s,baz=152,slow=34							
QSPA	South Pole Qui	45.76	180	P		P	17 32 30.5	+0.9
	1.2nm,0.9s,baz=278,slow=4.8,SNR=3.1							
QSPA				LR		LR	17 50 26.9	
	comp=Z,137nm,20.4s,baz=254,slow=34 1.2nm,0.9s							
VNDA	Vanda	53.17	167	P		P	17 33 25.4	-0.3
	0.6nm,1.0s,baz=309,slow=3.2,SNR=1.9							
VNDA				LR		LR	17 55 11.4	
	comp=Z,94nm,18.8s,baz=220,slow=35 0.6nm,1.0s							
ATD	Arta Tunnel	55.76	3	LR		LR	17 54 56.1	
	comp=Z,11nm,20.6s,baz=158,slow=33							
H01W2	Cape Leeuwin H	55.91	108	T		T	18 34 03.1	
	baz=238,slow=75,SNR=18							
H01W3	Cape Leeuwin H	55.92	107	T		T	18 34 04.4	
	baz=238,slow=75,SNR=22							
H01W1	Cape Leeuwin H	55.93	108	T		T	18 34 04.9	
	baz=238,slow=75,SNR=18							
PALK	Pallekele	63.09	46	LR		LR	17 54 40.8	
	comp=Z,179nm,21.5s,baz=314,slow=29							
DBIC	Dimbokro	65.04	309	P		P	17 34 48.5	-0.2
	3.6nm,1.0s,baz=135,slow=16,SNR=1.5 3.6nm,1.0s							
TORD	Torodi Ar. Bea	67.16	319	P		P	17 35 03.1	+0.9
	1.7nm,0.9s,baz=122,slow=3.5,SNR=5.8 1.7nm,0.9s							
LEM	Lembang	69.17	79	LR		LR	17 58 44.4	
	comp=Z,142nm,19.8s,baz=176,slow=30							
WSAR	Wadi Sarin	69.43	18	LR		LR	18 00 19.0	
	comp=Z,94nm,19.4s,baz=224,slow=31							
PLCA	Paso Flores	74.89	227	LR		LR	18 02 24.7	
	comp=Z,165nm,21.0s,baz=138,slow=31							
STKA	Stephens Creek	75.73	121	P		P	17 35 54.0	0.0
	1.9nm,0.6s,baz=213,slow=4.9,SNR=4.3 1.9nm,0.6s							
ASAR	Alice Springs	76.33	110	P		P	17 35 56.4	-1.2
	0.5nm,1.0s,baz=226,slow=5.9,SNR=1.6 0.5nm,1.0s							
CPUP	Villa Florida	77.08	246	LR		LR	18 02 26.8	
	comp=Z,99nm,21.8s,baz=137,slow=30							
WRA	Warramunga Arr	79.16	107	P		P	17 36 14.3	+0.9
	0.8nm,1.1s,baz=226,slow=4.2,SNR=2.0 0.8nm,1.1s							
CMAR	Chiang Mai Arr	82.34	55	P		P	17 36 29.7	-0.5
	1.2nm,1.1s,baz=228,slow=4.4,SNR=4.1							
CMAR				LR		LR	18 08 59.8	
	comp=Z,110nm,18.2s,baz=225,slow=33 1.2nm,1.1s							
BRTR	Keskin Array B	84.00	355	P		P	17 36 39.5	+1.1
	1.0nm,0.8s,baz=149,slow=2.9,SNR=3.6 1.0nm,0.8s							
MDT	Midelt	87.05	324	LR		LR	18 15 09.1	
	comp=Z,82nm,19.8s,baz=156,slow=35							
LVC	Limon Verde	87.14	241	LR		LR	18 08 52.0	
	comp=Z,123nm,19.9s,baz=168,slow=31							
LPAZ	La Paz	91.26	246	LR		LR	18 16 20.6	
	comp=Z,127nm,18.5s,baz=119,slow=34							
DAV	Davao City (W)	91.60	82	LR		LR	18 11 37.7	
	comp=Z,49nm,21.0s,baz=220,slow=31							
ESDC	Sonseca Array	92.71	327	P		P	17 37 21.6	+1.5
	0.5nm,0.8s,baz=160,slow=4.1,SNR=4.2 0.5nm,0.8s							
MKAR	Makanchi Array	98.15	28	LR		LR	18 16 21.5	
	comp=Z,45nm,20.9s,baz=318,slow=32							
MJAR	Matsushiro Arr	119.60	67	PKP		PKiKP	17 42 58.0	+0.1
	1.5nm,1.0s,baz=276,slow=5.5,SNR=1.6							
TXAR	Lajitas Array	147.71	254	PKPbc		PKiKP	17 43 53.9	-1.2
	0.1nm,0.5s,baz=139,slow=5.9,SNR=2.2							
ULM	Lac du Bonnet	150.03	297	PKPbc		PKiKP	17 43 58.5	-0.5
	1.8nm,0.8s,baz=134,slow=7.6,SNR=2.5							
YKA	Yellowknife Ar	156.78	330	PKP		PKPdf	17 44 02.7	+0.2
	0.1nm,0.5s,baz=50,slow=4.9,SNR=1.9							
YKA				PKPab		PKPab	17 44 30.4	-1.8
	0.3nm,0.8s,baz=34,slow=4.4,SNR=3.1							
PDAR	Pinedale Array	158.10	276	PKPab		PKPab	17 44 40.6	+1.7
	0.2nm,0.3s,baz=134,slow=5.1,SNR=1.5							

*CATAC **06** 17:31:50.4±0.2,13˚.26N×88˚.06W,h6km±1km,ML3.6*
*SNET **06** 17:31:50.0±0.9,13˚.28N×88˚.07W,h6km±3km,ML3.8*

ISC 06 17:31:50.7±0.8,13˚.27N±0˚.04×88˚.07W±0˚.02,h13km±5km, n47,σ0$57/76,6C-3D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	0.18	265	i̯P	eP	Pg	17 31 54.5	-0.3
JUCU					eS	Sg	17 31 57.3	-0.4
JUCU					IAML		17 32 04.1	
	comp=Z,18μm,0.4s							
JUCU	Jucuarįn	0.18	265	i P		Pg	17 31 54.6	-0.3
JUCU					i S	Sg	17 31 57.8	+0.1
JUCU					IAML		17 32 00.2	
	comp=Z,14μm,1.0s							
CNRM	Centro Naciona	0.23	334	i̯P		Pg	17 31 55.5	-0.1
CNRM					eS	Sg	17 31 59.6	+0.7
CNRM	Centro Naciona	0.23	334	i P		Pg	17 31 55.7	+0.1
CNRM					i S	Sg	17 31 59.9	+0.9
CNRM					IAML		17 32 06.6	
	comp=Z,39μm,1.0s							
CNCH	Conchagua	0.23	88	i̯eP		Pg	17 31 55.5	-0.2
CNCH					eS	Sg	17 31 59.1	0.0
CNCH					IAML		17 32 01.8	
	comp=Z,32μm,0.3s							
CNCH	Conchagua	0.23	88	i P		Pg	17 31 55.8	+0.1
CNCH					i S	Sg	17 31 59.4	+0.3
CNCH					IAML		17 32 04.8	
	comp=Z,33μm,1.0s							
VSM	San Miguel	0.26	308	i̯P		Pg	17 31 56.5	+0.2
RANC	El Ranchito	0.27	307	i̯P		Pg	17 31 56.6	+0.1
RANC	El Ranchito	0.27	307	i P		Pg	17 31 56.5	+0.1
RANC					i S	Sb	17 32 01.5	-0.5
RANC					IAML		17 32 11.9	
	comp=Z,7μm,1.0s							
PACA	Pacayal	0.32	308	i̯eP		Pg	17 31 57.4	+0.1
PACA	Pacayal	0.32	308	i S		Pg	17 31 57.3	+0.1
AMPH	Amapala	0.40	88	i̯eP		Pg	17 31 58.4	-0.2
AMPH					eS	Sg	17 32 04.4	+0.4
TECA	Tecapa	0.48	298	i̯P		Pg	17 32 00.2	+0.1
COEB	Comit de Eme	0.50	297	i P		Pg	17 32 00.6	-0.1
COEB					i S	Sg	17 32 08.1	+0.7
COEB					IAML		17 32 09.0	
	comp=Z,2μm,1.0s							
PQSS	Presa 15 de Se	0.59	306	i P		Pg	17 32 02.1	-0.2
PQSS					IAML		17 32 03.3	
	comp=Z,1μm,1.0s							
PQSS					i S	Sb	17 32 12.4	+1.2
TECO	Alcaldia de Te	0.74	291	eP		Pg	17 32 04.6	-0.5
TECO	Alcaldia de Te	0.74	291	i P		Pg	17 32 04.7	-0.4
TECO					i S	Sg	17 32 15.2	+0.3
TECO					IAML		17 32 18.1	
	comp=Z,2μm,1.0s							
SCLA	Alcaldia de Sa	0.77	304	i P		Pg	17 32 05.5	-0.2
SCLA					i S	Sn	17 32 17.9	-0.9
SCLA					IAML		17 32 19.0	
	comp=Z,470nm,1.0s							
UESV	Universidad de	0.79	298	i S		Sb	17 32 17.4	+0.5
COEG	Centro de Oper	0.86	294	eP		Pg	17 32 06.8	-0.6
COEG	Centro de Oper	0.86	294	i P		Pg	17 32 07.0	-0.4
COEG					i S	Sg	17 32 18.9	+0.1
COEG					IAML		17 32 21.9	
	comp=Z,2μm,1.0s							
PAVA	Las Pavas	0.95	298	i P		Sg	17 32 22.5	+0.9
TGUH	Tegucigalpa,Un	1.10	45	i̯P		Pb	17 32 10.6	-0.9
TGUH	Tegucigalpa,Un	1.10	45	i P		Pb	17 32 10.7	-0.9
TGUH					IAML		17 32 10.9	
	comp=Z,2μm,1.0s							
TGUH					i S	Sb	17 32 25.4	-0.5
PANCS	Alcalda de	1.13	288	i P		Pb	17 32 11.4	-0.8
PANCS					i S	Sb	17 32 26.8	0.0
PANCS					IAML		17 32 27.2	
	comp=Z,5μm,1.0s							
LOMA	Loma Larga	1.14	289	i P		Pb	17 32 11.8	-0.4
LOMA					i S	Sg	17 32 27.5	0.0
LOMA					IAML		17 32 28.7	
	comp=Z,2μm,1.0s							
CRIN	San Cristobal	1.14	120	eP		Pb	17 32 11.9	-0.4
CRIN	San Cristobal	1.14	120	i P		Pn	17 32 12.3	-0.1
CRIN					i S	Sn	17 32 29.8	+1.9
CRIN					IAML		17 32 36.7	
	comp=Z,4μm,1.0s							
SNET	Serv Nac Est T	1.21	290	eP		Pn	17 32 12.8	-0.4
SNET	Serv Nac Est T	1.21	290	i P		Pn	17 32 12.9	-0.4
SNET					i S	Sn	17 32 29.5	0.0
SNET					IAML		17 32 30.9	
	comp=Z,3μm,1.0s							
UEES	Universidad Ev	1.22	291	eP		Pn	17 32 13.3	-0.3
UEES	Universidad Ev	1.22	291	i S		Sg	17 32 30.2	0.0
LLGN	La Laguna	1.23	316	i P		Pn	17 32 12.8	-0.8
LLGN					IAML		17 32 15.8	
	comp=Z,600nm,1.0s							
LLGN					i S	Sg	17 32 30.9	+0.5
LALI	Alcalda de L	1.24	280	i P		Pb	17 32 13.8	-0.1
LALI					i S	Sn	17 32 30.4	+0.2
LALI					IAML		17 32 41.0	
	comp=Z,300nm,1.0s							
PMON	Piamonte	1.29	290	i P		Pn	17 32 14.5	0.0
PMON					i S	Sg	17 32 32.2	-0.2
PMON					IAML		17 32 35.1	
	comp=Z,2μm,1.0s							
JAYA	Jayaque - finc	1.40	286	eP		Pn	17 32 15.9	-0.1
JAYA	Jayaque - finc	1.40	286	i P		Pn	17 32 16.2	+0.2
JAYA					i S	Sb	17 32 34.8	+0.3
JAYA					IAML		17 32 35.9	
	comp=Z,4μm,1.0s							
CNGA	Al SSO del Vol	1.54	120	i P		Pn	17 32 16.7	-1.1
CNGA					i S	Sn	17 32 37.6	-0.1
CNGA					IAML		17 32 42.4	
	comp=Z,550nm,1.0s							
CNGN	Cerro Negro	1.54	120	i P		Pn	17 32 17.7	-0.1
CNGN					i S	Sn	17 32 37.8	+0.1
CNGN					IAML		17 32 47.2	
	comp=Z,540nm,1.0s							
CEVE	Cerro Verde	1.61	290	i P		Pb	17 32 20.1	-0.3
CEVE					i S	Sg	17 32 42.8	+0.1
CEVE					IAML		17 32 49.0	
	comp=Z,1μm,1.0s							
MTO3	Montecristo	1.68	312	i P		Pn	17 32 19.9	-0.1
MTO3					IAML		17 32 21.2	
	comp=Z,300nm,1.0s							
MTO3					i S	Sb	17 32 43.6	+0.8
MOMN	Momotombo	1.72	120	i S		Sb	17 32 43.7	+0.1
MOM2	El Cardon	1.75	118	i P		Pn	17 32 21.5	+0.8
MOM2					IAML		17 32 55.2	
	comp=Z,310nm,1.0s							
NUBE	Las Nubes	1.78	291	i P		Pn	17 32 22.0	+0.8
NUBE					i S	Sb	17 32 46.5	+1.0
NUBE					IAML		17 32 50.9	
	comp=Z,560nm,1.0s							
ESQI	Esquipulas	1.78	316	i P		Pb	17 32 22.5	-0.7
ESQI					IAML		17 32 27.0	
	comp=Z,360nm,1.0s							
ESQI					i S	Sg	17 32 49.6	+1.5
COPN	Copaltepe	1.80	127	i P		Pn	17 32 21.6	+0.2
COPN					IAML		17 33 04.9	
	comp=Z,260nm,1.0s							
APYN	Apoyeque	1.97	121	i P		Pn	17 32 24.9	+1.2
APYN					IAML		17 32 25.9	
	comp=Z,340nm,1.0s							
APYN					i S	Sb	17 32 50.4	-0.4

*CATAC **06** 17:34:32.4±0.1,13˚.26N×88˚.06W,h5km±1km,ML4.1*
*SNET **06** 17:34:32.0±1.1,13˚.30N×88˚.06W,h1km±3km,ML4.1*

ISC 06 17:34:32.6±0.8,13˚.29N±0˚.03×88˚.06W±0˚.02,h14km±5km, n57,σ0$89/94,4C-1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JUCU	Jucuarįn	0.19	258	i̯P		Pg	17 34 36.5	-0.6
JUCU					eS	Sg	17 34 39.3	-0.8
JUCU	Jucuarįn	0.19	258	i P		Pg	17 34 36.6	-0.5
JUCU					i S	Sg	17 34 39.6	-0.5
JUCU					IAML		17 34 42.3	
	comp=Z,36μm,1.0s							
CNRM	Centro Naciona	0.21	328	i̯P		Pg	17 34 37.4	+0.1
CNRM					eS	Sb	17 34 41.5	-0.6
CNRM	Centro Naciona	0.21	328	i P		Pg	17 34 37.5	+0.1
CNRM					i S	Sb	17 34 42.1	0.0
CNRM					IAML		17 34 48.8	
	comp=Z,120μm,1.0s							
CNCH	Conchagua	0.22	94	i̯P		Pg	17 34 37.6	+0.1
CNCH					eS	Sg	17 34 41.2	+0.5
CNCH	Conchagua	0.22	94	i P		Pg	17 34 37.5	+0.1
CNCH					i S	Sg	17 34 41.5	+0.7
CNCH					IAML		17 34 44.3	
	comp=Z,130μm,1.0s							
VSM	San Miguel

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,12μm,1.0s						
LOMA	**Loma Larga**	**1.14**	**288**	*i* P	**Pb**	**17 34 53.8**	**-0.4**
LOMA				*i* S	**Sg**	**17 35 09.5**	**-0.1**
LOMA				IAML		17 35 10.7	
	comp=Z,6μm,1.0s						
CRIN	**San Cristobal**	**1.14**	**121**	*e*P	**Pb**	**17 34 54.0**	**-0.2**
CRIN	**San Cristobal**	**1.14**	**121**	*i* P	**Pn**	**17 34 54.4**	**+0.1**
CRIN				*i* S	**Sn**	**17 35 12.0**	**+2.2**
CRIN				IAML		17 35 18.6	
	comp=Z,17μm,1.0s						
UDBS	**Universidad Do**	**1.15**	**292**	*i* P	**Pb**	**17 34 54.0**	**-0.3**
UDBS				*i* S	**Sn**	**17 35 10.1**	**+0.1**
UDBS				IAML		17 35 14.0	
	comp=Z,4μm,1.0s						
IGN	**Direccin Gen**	**1.16**	**291**	*i* S	**Sn**	**17 35 10.8**	**+0.5**
SNET	**Serv Nac Est T**	**1.21**	**289**	*i* P	**Pn**	**17 34 54.9**	**-0.3**
SNET				*i* S	**Sn**	**17 35 11.3**	**-0.2**
SNET				IAML		17 35 12.9	
	comp=Z,6μm,1.0s						
LLGN	**La Laguna**	**1.22**	**315**	*i* S	**Pn**	**17 34 54.8**	**-0.6**
UEES	**Universidad Ev**	**1.23**	**290**	*i* P	**Pn**	**17 34 55.3**	**-0.2**
UEES				*i* S	**Sg**	**17 35 12.2**	**-0.1**
UEES				IAML		17 35 21.1	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**1.25**	**279**	*i* P	**Pn**	**17 34 55.6**	**-0.1**
LALI				*i* S	**Sn**	**17 35 12.5**	**+0.2**
LALI				IAML		17 35 23.0	
	comp=Z,920nm,1.0s						
PMON	**Piamonte**	**1.29**	**289**	*i* P	**Pb**	**17 34 56.6**	**-0.2**
PMON				*i* S	**Sg**	**17 35 14.4**	**0.0**
PMON				IAML		17 35 19.2	
	comp=Z,5μm,1.0s						
CEDA	**San Andres**	**1.40**	**291**	*i* P	**Pb**	**17 34 58.2**	**-0.4**
CEDA				*i* S	**Sg**	**17 35 18.3**	**+0.6**
CEDA				IAML		17 35 22.0	
	comp=Z,5μm,1.0s						
JAYA	**Jayaque - finc**	**1.40**	**285**	*e*P	**Pn**	**17 34 57.8**	**-0.2**
JAYA	**Jayaque - finc**	**1.40**	**285**	*i* P	**Pn**	**17 34 57.9**	**-0.1**
JAYA				*i* S	**Sb**	**17 35 16.6**	**0.0**
JAYA				IAML		17 35 17.9	
	comp=Z,10μm,1.0s						
CNGA	**Al SSO del Vol**	**1.54**	**121**	*i* P	**Pn**	**17 34 57.9**	**-1.8**
CNGA				*i* S	**Sn**	**17 35 19.4**	**-0.2**
CNGA				IAML		17 35 29.8	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**1.54**	**121**	*i* P	**Sg**	**17 35 20.5**	**-1.8**
UNIC	**Universidad Ca**	**1.60**	**295**	*i* P	**Pn**	**17 35 00.7**	**0.0**
UNIC				*i* S	**Sb**	**17 35 23.2**	**+0.9**
UNIC				IAML		17 35 28.8	
	comp=Z,600nm,1.0s						
CEVE	**Cerro Verde**	**1.62**	**289**	*i* P	**Pb**	**17 35 01.8**	**-0.6**
CEVE				*i* S	**Sg**	**17 35 25.0**	**+0.2**
CEVE				IAML		17 35 31.0	
	comp=Z,4μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.66**	**122**	*i* P	**Pb**	**17 35 02.8**	**-0.2**
LEVN				*i* S	**Sb**	**17 35 24.0**	**+0.2**
LEVN				IAML		17 35 32.3	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**1.68**	**311**	*i* P	**Pn**	**17 35 01.9**	**+0.1**
MTO3				IAML		17 35 03.3	
	comp=Z,1μm,1.0s						
MTO3				*i* S	**Sb**	**17 35 25.3**	**+0.7**
MOMN	**Momotombo**	**1.72**	**121**	*i* P	**Pn**	**17 35 02.5**	**+0.3**
MOMN				*i* S	**Sb**	**17 35 25.1**	**-0.5**
MOMN				IAML		17 35 28.9	
	comp=Z,62nm,1.0s						
MOM2	**El Cardon**	**1.75**	**119**	*i* P	**Pn**	**17 35 03.4**	**+0.8**
MOM2				*i* S	**Sb**	**17 35 25.6**	**-0.9**
MOM2				IAML		17 35 30.7	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.77**	**315**	*i* P	**Pn**	**17 35 03.8**	**+0.8**
ESQI				*i* S	**Sg**	**17 35 31.4**	**+1.6**
ESQI				IAML		17 35 35.3	
	comp=Z,1μm,1.0s						
NUBE	**Las Nubes**	**1.78**	**290**	*i* P	**Pn**	**17 35 03.9**	**+0.7**
NUBE				*i* S	**Sb**	**17 35 28.7**	**+1.2**
NUBE				IAML		17 35 31.6	
	comp=Z,2μm,1.0s						
COPN	**Copaltepe**	**1.81**	**128**	*i* S	**Pn**	**17 35 03.4**	**0.0**
LOAL	**Lomas de Alarc**	**1.82**	**293**	*i* S	**Sg**	**17 35 32.3**	**+1.1**
APYN	**Apoyeque**	**1.97**	**122**	*i* P	**Pb**	**17 35 07.0**	**-1.3**
APYN				IAML		17 35 08.0	
	comp=Z,2μm,1.0s						
APYN				*i* S	**Sb**	**17 35 32.6**	**-0.1**
TISN	**Laguna Tiscapa**	**2.08**	**123**	*i* P	**Pn**	**17 35 07.3**	**+0.1**
TISN				IAML		17 35 09.1	
	comp=Z,72nm,1.0s						
MORN	**Al O del Volca**	**2.92**	**126**	*i* P	**Pn**	**17 35 20.4**	**+1.6**
MORN				IAML		17 36 19.4	
	comp=Z,490nm,1.0s						
CONN	**Concepcion**	**2.93**	**126**	*i* P	**Pn**	**17 35 19.8**	**+0.9**
CONN				IAML		17 36 22.2	
	comp=Z,2μm,1.0s						
ESPN	**Las Esperanzas**	**3.82**	**106**	*i* P	**Pn**	**17 35 27.5**	**-3.6**
ORTG	**Ortega, Santa**	**3.87**	**139**	*i* P	**Pn**	**17 35 32.8**	**+1.0**
ORTG				IAML		17 36 26.5	
	comp=Z,85nm,1.0s						
SAJU	**San Juanillo,**	**3.94**	**144**	*i* P	**Pn**	**17 35 33.3**	**+0.5**
SAJU				IAML		17 36 23.8	
	comp=Z,64nm,1.0s						
DUNO	**Dulce Nombre,**	**4.06**	**142**	*i* P	**Pb**	**17 35 44.2**	**+0.2**
CDM	**Cerro de Muert**	**5.61**	**131**	*i* P	**Pn**	**17 36 00.0**	**+3.8**

*ISK **06** 17:39:49.8, 39°.40N×26°.20E, h9km, ML3.8/43*
*ATH **06** 17:39:50.5, 39°.41N×26°.20E, h12km±1km, ML3.5/20, Error ellipse: s-maj=1.6km s-min=0.7km az=207.0*
*THE **06** 17:39:50.4, 39°.40N×26°.18E, h10km, ML3.6/6, Error ellipse: s-maj=0.8km s-min=0.4km az=133.0*
*AFAD **06** 17:39:50.2±0.0, 39°.41N×26°.21E, h9km, MW3.9*
*CFUSG **06** 17:39:52.6, 39°.50N×26°.30E, h10km, mb2.9/3, Western Turkey Magtype MSH 3.3 from 3 stations*
*SOF **06** 17:39:53.2, 39°.81N±0°.06×26°.19E±0°.02, h2km±4km, MD3.3/11*
ISC 06 17:39:50.3±0.8**, 39°.41N**±0°.01×**26°.19E**±0°.02**, h13**km±4km**, n161, σ0.96**/228**, 25C-4D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.06**	**320**	Pg	**Pg**	**17 39 52.3**	**-0.6**
GPNR				Sg	**Sg**	**17 39 54.3**	**-0.4**
KOCA	**Canakkale, Ayv**	**0.10**	**339**	P	**Pg**	**17 39 53.2**	**-0.1**
KOCA				S	**Sg**	**17 39 55.0**	**-0.5**
KOCA				*i* AML	AML	17 39 55.0	
	comp=N,5μm,0.4s						
KOCA				*i* AML	AML	17 39 56.0	
	comp=E,6μm,0.4s						
PRK	**Paraskevi**	**0.17**	**157**	P	**Pg**	**17 39 54.3**	**0.0**
PRK				S	**Sg**	**17 39 57.0**	**-0.1**
PRK	**Paraskevi**	**0.17**	**157**	P	**Pg**	**17 39 54.4**	**0.0**
PRK				S	**Sg**	**17 39 56.9**	**-0.1**
PRK				AML	AML	17 39 58.6	
PRK				AML	AML	17 39 58.8	
EAG1	**Polichnitos, L**	**0.32**	**175**	P	**Pg**	**17 39 57.0**	**+0.1**
EAG1				S	**Sg**	**17 40 00.9**	**-0.4**
SIGR	**SIGRI**	**0.32**	**233**	Pg	**Pg**	**17 39 56.9**	**0.0**
SIGR				Sg	**Sg**	**17 40 01.9**	**+0.6**
SIGR	**SIGRI**	**0.32**	**233**	P	**Pg**	**17 39 56.9**	**0.0**
SIGR				S	**Sg**	**17 40 01.4**	**+0.1**
	10μm,0.6s						
SIGR	**SIGRI**	**0.32**	**233**	P	**Pg**	**17 39 56.9**	**0.0**
SIGR				S	**Sg**	**17 40 01.7**	**+0.5**
SIGR				AML	AML	17 40 07.2	
	comp=E,18932μm,0.6s						
SIGR				AML	AML	17 40 07.3	
	comp=N,20646μm,0.6s						
EZNE	**Ezine-Canakkal**	**0.38**	**22**	Pg	**Pg**	**17 39 57.9**	**0.0**
EZNE				Sg	**Sb**	**17 40 03.8**	**-0.8**
AYVA	**Ayvalik**	**0.40**	**104**	P	**Pg**	**17 39 58.4**	**0.0**
AYVA				S	**Sg**	**17 40 04.0**	**+0.2**
AYVA				*i* AML	AML	17 40 12.0	
	comp=N,5μm,0.2s						
AYVA				*i* AML	AML	17 40 13.0	
	comp=N,7μm,0.3s						
LESV	**Lesvos island,**	**0.42**	**136**	P	**Pg**	**17 39 58.4**	**-0.2**
LESV				S	**Sg**	**17 40 04.7**	**+0.5**
EZN	**Ezine**	**0.43**	**14**	Pg	**Pg**	**17 39 58.8**	**-0.1**
EZN				Sg	**Sg**	**17 40 05.3**	**+0.6**
EZN	**Ezine**	**0.43**	**14**	P	**Pg**	**17 39 58.8**	**-0.1**
EZN				S	**Sg**	**17 40 05.0**	**+0.3**
	comp=N,13μm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.43**	**40**	P	**Pg**	**17 39 58.5**	**-0.4**
BAYC				S	**Sg**	**17 40 04.8**	**0.0**
BAYC				*i* AML	AML	17 40 05.0	
	comp=N,4μm,0.2s						
BAYC				*i* AML	AML	17 40 05.0	
	comp=N,7μm,0.2s						
EAG3	**Mitilini, Lesv**	**0.44**	**137**	P	**Pg**	**17 39 58.8**	**-0.2**
EAG3				S	**Sg**	**17 40 05.5**	**+0.7**
BOZC	**Bozcaada**	**0.45**	**347**	P	**Pg**	**17 39 59.2**	**0.0**
BOZC				P	**Pg**	**17 39 59.2**	**0.0**
BOZC				S	**Sg**	**17 40 05.5**	**+0.4**
BOZC				*i* AML	AML	17 40 06.0	
	comp=N,4μm,0.7s						
BOZC				*i* AML	AML	17 40 06.0	
	comp=N,4μm,0.7s						
BOZC				*i* AML	AML	17 40 08.0	
	comp=N,2μm,0.3s						
BOZC				*i* AML	AML	17 40 11.0	
	comp=N,3μm,0.4s						
ECEA	**Canakkale, Ece**	**0.64**	**359**	P	**Pg**	**17 40 02.9**	**+0.1**
ECEA				S	**Sb**	**17 40 11.9**	**-0.2**
ECEA				*i* AML	AML	17 40 12.0	
	comp=N,4μm,0.3s						
ECEA				*i* AML	AML	17 40 17.0	
	comp=N,6μm,0.3s						
DKL	**Dikili**	**0.65**	**121**	Pg	**Pg**	**17 40 02.7**	**-0.3**
CAND	**Candarli**	**0.66**	**133**	Pg	**Pg**	**17 40 02.7**	**-0.4**
CNKL	**anakkale-Mer**	**0.68**	**13**	P	**Pg**	**17 40 03.3**	**-0.2**
CNKL				P	**Pg**	**17 40 03.3**	**-0.2**
CNKL				S	**Sg**	**17 40 12.3**	**-0.1**
CNKL				S	**Sg**	**17 40 12.3**	**-0.1**
CNKL				*i* AML	AML	17 40 16.0	
	comp=N,6μm,0.4s						
CNKL				*i* AML	AML	17 40 16.0	
	comp=N,6μm,0.4s						
CNKL				*i* AML	AML	17 40 18.0	
	comp=N,3μm,0.3s						
CNKL				*i* AML	AML	17 40 18.0	
	comp=N,3μm,0.3s						
BUHA	**Balikesir, Bur**	**0.70**	**82**	P	**Pg**	**17 40 03.5**	**-0.4**
BUHA				*i* AML	AML	17 40 17.0	
	comp=N,4μm,0.3s						
BUHA				*i* AML	AML	17 40 18.0	
	comp=N,7μm,0.4s						
IZMD	**zmir-Dikili-**	**0.71**	**126**	P	**Pg**	**17 40 04.2**	**-0.1**
IZMD				P	**Pb**	**17 40 04.6**	**-0.1**
IZMD				*i* AML	AML	17 40 18.0	
	comp=N,921nm,0.5s						
IZMD				*i* AML	AML	17 40 18.0	
	comp=N,1μm,0.4s						
IZMD				*i* AML	AML	17 40 18.0	
	comp=N,907nm,0.4s						
IZMD				*i* AML	AML	17 40 18.0	
	comp=N,1μm,0.4s						
COMU	**Canakkale**	**0.73**	**18**	Pg	**Pg**	**17 40 04.3**	**-0.1**
COMU				Sg	**Sb**	**17 40 15.1**	**+0.3**
KARB	**zmir-Karabur**	**0.76**	**167**	P	**Pg**	**17 40 05.0**	**-0.1**
KARB				S	**Sb**	**17 40 16.4**	**+0.6**
KARB				*i* AML	AML	17 40 18.0	
	comp=N,8μm,0.7s						
KARB				*i* AML	AML	17 40 18.0	
	comp=N,7μm,0.6s						
GOAD	**anakkale-G¶**	**0.78**	**344**	P	**Pg**	**17 40 05.2**	**-0.3**
GOAD				S	**Sg**	**17 40 15.5**	**-0.3**
GOAD				*i* AML	AML	17 40 16.0	
	comp=N,2μm,0.3s						
GOAD				*i* AML	AML	17 40 22.0	
	comp=N,2μm,0.3s						
FOCM	**Foa**	**0.81**	**148**	Pg	**Pg**	**17 40 05.6**	**-0.4**
GADA	**Gvkgeada**	**0.81**	**344**	Pg	**Pg**	**17 40 05.5**	**-0.6**
GOKC	**Gokceada-Canak**	**0.82**	**346**	Pg	**Pg**	**17 40 06.0**	**-0.2**
ZEDA	**zmir-Bergama**	**0.82**	**122**	P	**Pg**	**17 40 06.1**	**-0.1**
ZEDA				S	**Sb**	**17 40 17.6**	**+0.1**
ZEDA				*i* AML	AML	17 40 20.0	
	comp=N,5μm,0.5s						
ZEDA				*i* AML	AML	17 40 20.0	
	comp=N,4μm,0.3s						
EAG2	**Marmaro, Chios**	**0.86**	**184**	P	**Pg**	**17 40 07.1**	**+0.1**
EAG2				S	**Sb**	**17 40 19.6**	**+0.9**
CANM	**Can-anakkale**	**0.90**	**48**	Pg	**Pg**	**17 40 07.6**	**-0.1**
LIA	**Limnos Island**	**0.92**	**303**	P	**Pg**	**17 40 07.9**	**-0.1**
LIA				S	**Sb**	**17 40 20.9**	**+0.7**
	comp=N,6μm,0.4s						
LIA	**Limnos Island**	**0.92**	**303**	P	**Pg**	**17 40 08.0**	**-0.1**
LIA				S	**Sg**	**17 40 20.4**	**+0.4**
LIA				AML	AML	17 40 22.2	
	comp=E,11807μm,0.6s						
LIA				AML	AML	17 40 23.5	
	comp=N,12322μm,0.3s						
EFSA	**Agios Efstrati**	**0.94**	**279**	P	**Pg**	**17 40 08.2**	**-0.2**
EFSA				AML	AML	17 40 23.1	
	comp=E,6797μm,0.3s						
EFSA				AML	AML	17 40 23.8	
	comp=N,6305μm,0.6s						
YENI	**Yenice-Canakka**	**0.97**	**57**	Pg	**Pg**	**17 40 08.8**	**-0.3**
PSRA	**Psara**	**0.99**	**209**	P	**Pg**	**17 40 09.1**	**-0.3**
PSRA				S	**Sb**	**17 40 22.9**	**+0.6**
PSRA				AML	AML	17 40 26.2	
	comp=E,30356μm,0.2s						
PSRA				AML	AML	17 40 27.8	
	comp=N,19731μm,0.2s						
GELI	**Tayfur-Gelibol**	**1.01**	**13**	Pg	**Pg**	**17 40 09.5**	**-0.4**
CHOS	**Chios island**	**1.02**	**186**	Pg	**Pg**	**17 40 09.7**	**-0.3**
CHOS	**Chios island**	**1.02**	**186**	P	**Pg**	**17 40 09.3**	**-0.8**
CHOS				S	**Sb**	**17 40 23.9**	**+0.5**
CHOS	**Chios island**	**1.02**	**186**	P	**Pg**	**17 40 09.8**	**-0.3**
CHOS				S	**Sg**	**17 40 23.2**	**-0.2**
CHOS				AML	AML	17 40 26.3	
	comp=E,17189μm,0.3s						
CHOS				AML	AML	17 40 26.3	
	comp=N,13064μm,0.3s						
LPK	**Lapseki**	**1.06**	**24**	Pg	**Pg**	**17 40 10.3**	**-0.5**
SOMA	**Soma-Manisa**	**1.08**	**103**	Pg	**Pg**	**17 40 10.7**	**-0.4**
CESE	**eme**	**1.08**	**175**	Pg	**Pg**	**17 40 10.6**	**-0.5**
URLA	**Izmir**	**1.09**	**163**	Pn	**Pg**	**17 40 10.7**	**-0.7**
URLA	**Izmir**	**1.09**	**163**	P	**Pg**	**17 40 11.1**	**-0.3**
URLA				S	**Sb**	**17 40 26.1**	**+0.8**
BALY	**Balya**	**1.16**	**73**	P	**Pg**	**17 40 12.5**	**-0.1**
BALY				S	**Sg**	**17 40 27.5**	**-0.2**
SMTH	**Samothraki Isl**	**1.18**	**335**	P	**Pb**	**17 40 12.2**	**-0.3**
SMTH				S	**Sb**	**17 40 28.1**	**+0.4**
	comp=N,2μm,0.3s						
SMTH	**Samothraki Isl**	**1.18**	**335**	P	**Pb**	**17 40 12.1**	**-0.5**
SMTH				S	**Sb**	**17 40 27.5**	**-0.2**
SMTH				AML	AML	17 40 31.5	
	comp=N,3348μm,0.3s						
SMTH				AML	AML	17 40 32.5	
	comp=E,2785μm,0.4s						
STEP	**BALIKESIR_Sava**	**1.19**	**91**	P	**Pb**	**17 40 12.9**	**+0.1**
STEP				S	**Sn**	**17 40 29.6**	**+0.8**
ZEYE	**Izmir, Urla-Ze**	**1.19**	**168**	P	**Pb**	**17 40 12.3**	**-0.5**
ZEYE				S	**Sb**	**17 40 28.4**	**+0.2**
ENZZ	**Sultanice-Enez**	**1.20**	**358**	Pn	**Pb**	**17 40 13.2**	**+0.3**
BLCB	**Balcova**	**1.22**	**147**	Pn	**Pn**	**17 40 13.1**	**0.0**
BLCB	**Balcova**	**1.22**	**147**	P	**Pn**	**17 40 12.6**	**-0.5**
BLCB				S	**Sb**	**17 40 29.2**	**+0.3**
CAVK	**Edirne/Enez-Ca**	**1.28**	**359**	P	**Pn**	**17 40 14.2**	**+0.2**
CAVK				S	**Sg**	**17 40 32.0**	**+0.3**
ERIK	**Erikli-Kesan**	**1.29**	**11**	Pn	**Pn**	**17 40 14.3**	**+0.3**
KRBG	**Karabiga-Canak**	**1.30**	**41**	Pn	**Pn**	**17 40 14.1**	**-0.2**
GONE	**Gonen-Balikesi**	**1.32**	**61**	Pn	**Pn**	**17 40 14.9**	**+0.4**
ENEZ	**Enez**	**1.33**	**359**	Pn	**Pn**	**17 40 14.7**	**+0.1**
ENEZ	**Enez**	**1.33**	**359**	P	**Pn**	**17 40 14.5**	**-0.1**
ENEZ				S	**Sn**	**17 40 32.8**	**+0.6**
KNL	**Balıkesir**	**1.34**	**50**	P	**Pb**	**17 40 15.6**	**+0.2**
KNL				S	**Sg**	**17 40 33.3**	**-0.4**
AKS	**Akhisar**	**1.37**	**112**	Pn	**Pn**	**17 40 15.5**	**+0.3**
SKY	**Skiros Island**	**1.38**	**248**	P	**Pn**	**17 40 15.1**	**-0.2**
SKY				S	**Sb**	**17 40 32.6**	**-0.9**
	comp=E,4μm,0.7s						
SKY	**Skiros Island**	**1.38**	**248**	P	**Pn**	**17 40 15.7**	**+0.4**
SKY				AML	AML	17 40 37.3	
	comp=N,7491μm,0.7s						
SKY				AML	AML	17 40 37.6	
	comp=E,7181μm,0.7s						
BKES	**Balkesir-Mer**	**1.39**	**76**	P	**Pb**	**17 40 16.3**	**+0.1**
BKES				S	**Sg**	**17 40 34.6**	**-0.4**
GMLD	**Gumuldur**	**1.45**	**157**	Pn	**Pn**	**17 40 16.4**	**+0.2**
BLKS	**Balkesir-Sus**	**1.45**	**71**	P	**Pn**	**17 40 16.8**	**+0.5**
BLKS				P	**Pn**	**17 40 16.9**	**+0.5**
BLKS				S	**Sn**	**17 40 35.1**	**-0.2**
DGB	**zmir**	**1.46**	**158**	P	**Pn**	**17 40 16.4**	**0.0**
DGB				S	**Sb**	**17 40 36.2**	**+0.4**
RKY	**Sarkoy-Tekirda**	**1.49**	**30**	Pn	**Pn**	**17 40 16.7**	**-0.2**
SART	**Tekirdag**	**1.49**	**30**	P	**Pn**	**17 40 17.5**	**+0.6**
SART				S	**Sb**	**17 40 37.6**	**+0.7**
GOMA	**Golmarmara-Man**	**1.52**	**117**	Pn	**Pn**	**17 40 17.9**	**+0.7**
SUSR	**Susurluk-Balik**	**1.57**	**69**	Pn	**Pn**	**17 40 18.2**	**+0.3**
EDC	**Edincik**	**1.60**	**53**	Pn	**Pn**	**17 40 18.5**	**+0.2**
MRMT	**Marmara Adasi**	**1.61**	**42**	Pn	**Pn**	**17 40 18.8**	**+0.2**
GORD	**Gordes-Manisa**	**1.63**	**107**	Pn	**Pn**	**17 40 19.2**	**+0.4**
THAS	**Thassos island**	**1.64**	**317**	P	**Pn**	**17 40 17.9**	**-1.1**
THAS				AML	AML	17 40 44.8	
	comp=N,1579μm,0.4s						
THAS				AML	AML	17 40 45.9	
	comp=E,1929μm,0.5s						
BAND	**Balkesir-Ban**	**1.75**	**57**	P	**Pn**	**17 40 21.0**	**+0.6**
BAND				S	**Sn**	**17 40 43.3**	**+0.7**
UKOP	**Uzunkopru-Edir**	**1.75**	**11**	Pn	**Pb**	**17 40 21.8**	**-0.6**
SMG	**Samos**	**1.77**	**163**	P	**Pn**	**17 40 20.2**	**-0.5**
SMG	**Samos**	**1.77**	**163**	P	**Pn**	**17 40 20.2**	**-0.5**
SMG				AML	AML	17 40 50.7	
	comp=N,6744μm,0.3s						
SMG				AML	AML	17 40 53.3	
	comp=E,4839μm,0.3s						
DURS	**Dursunbey**	**1.78**	**83**	P	**Pn**	**17 40 21.7**	**+0.8**
DURS				S	**Sn**	**17 40 43.5**	**0.0**
RDO	**Rodhopi**	**1.81**	**344**	Pn	**Pn**	**17 40 21.4**	**+0.2**
RDO	**Rodhopi**	**1.81**	**344**	P	**Pn**	**17 40 21.3**	**+0.2**
RDO				S	**Sn**	**17 40 41.8**	**-2.1**
RDO				AML	AML	17 40 48.5	
	comp=E,1140μm,0.3s						
RDO				AML	AML	17 40 49.5	
	comp=N,1068μm,0.3s						
ODEM	**Odemis-Izmir**	**1.86**	**127**	Pn	**Pn**	**17 40 22.3**	**+0.3**
IZMR	**zmir-demi**	**1.88**	**132**	P	**Pn**	**17 40 22.8**	**+0.6**
IZMR				S	**Sg**	**17 40 49.5**	**-1.1**
KCTX	**Karacabey (Bur**	**1.88**	**62**	Pn	**Pn**	**17 40 22.2**	**0.0**
TKR	**Tekirdag**	**1.89**	**33**	Pn	**Pn**	**17 40 23.2**	**+0.9**
GCAM	**G?zelcaml?**	**1.89**	**154**	Pn	**Pn**	**17 40 22.7**	**+0.3**
GCAM	**G?zelcaml?**	**1.89**	**154**	P	**Pn**	**17 40 22.7**	**+0.3**
GCAM				S	**Sg**	**17 40 50.2**	**-0.9**
DST	**Dursunbey**	**1.89**	**83**	Pn	**Pn**	**17 40 23.0**	**+0.6**
OUR	**Ouranopolis**	**1.93**	**299**	Pn	**Pn**	**17 40 24.4**	**+1.5**
OUR	**Ouranopolis**	**1.93**	**299**	P	**Pn**	**17 40 23.2**	**+0.3**
OUR				AML	AML	17 40 55.0	
	comp=N,1213μm,0.5s						
OUR				AML	AML	17 40 59.6	
	comp=E,1158μm,0.5s						
DEMI	**Demirci**	**2.00**	**100**	P	**Pn**	**17 40 24.6**	**+0.7**
DEMI				S	**Sg**	**17 40 53.5**	**-1.1**
PAIG	**Paliouri**	**2.00**	**286**	Pn	**Pn**	**17 40 24.6**	**+0.7**
CRLT	**Corlu**	**2.09**	**34**	Pn	**Pn**	**17 40 25.8**	**+0.7**
KIRA	**zmir-Kiraz**	**2.11**	**124**	P	**Pn**	**17 40 23.4**	**-2.1**
KIRA				S	**Sb**	**17 40 56.1**	**+1.4**
KULA	**Kula-Manisa**	**2.13**	**114**	Pn	**Pn**	**17 40 26.2**	**+0.5**
ORLT	**Orhaneli**	**2.19**	**72**	Pn	**Pn**	**17 40 27.1**	**+0.6**
SMAA	**Simav-Kutahya**	**2.19**	**97**	Pn	**Pn**	**17 40 27.1**	**+0.5**
DION	**Dionisos Attik**	**2.21**	**234**	P	**Pn**	**17 40 26.9**	**+0.2**
DION				AML	AML	17 41 05.5	
	comp=E,1068μm,0.5s						
DION				AML	AML	17 41 13.0	
	comp=N,959μm,0.9s						
NEO	**Neokhori**	**2.30**	**268**	P	**Pn**	**17 40 28.4**	**+0.4**
NEO				AML	AML	17 41 08.1	
	comp=N,542μm,0.5s						
NEO				AML	AML	17 41 08.7	
	comp=E,346μm,0.7s						
USAK	**Uak-Merkez**	**2.31**	**107**	P	**Pn**	**17 40 29.2**	**+1.1**
KDZ	**Kurdzhali**	**2.31**	**344**	P	**Pn**	**17 40 28.3**	**+0.1**
ULDT	**Uludag**	**2.39**	**71**	P	**Pn**	**17 40 30.3**	**+0.9**
ULDT				S	**Sn**	**17 40 59.0**	**+0.4**
APE	**Apeiranthos**	**2.39**	**193**	⇑P	**Pn**	**17 40 28.7**	**-0.6**
APE				⇓S	**Sn**	**17 40 58.3**	**-0.1**
APE	**Apeiranthos**	**2.39**	**193**	P	**Pn**	**17 40 28.4**	**-0.9**
APE				S	**Sn**	**17 40 57.7**	**-0.8**
	comp=E,335nm,0.7s						
APE	**Apeiranthos**	**2.39**	**193**	P	**Pn**	**17 40 28.2**	**-1.1**
APE				AML	AML	17 41 10.0	
	comp=E,719μm,0.7s						
APE				AML	AML	17 41 17.9	
	comp=N,618μm,0.7s						
ELBA	**Catalca**	**2.44**	**44**	P	**Pn**	**17 40 30.5**	**+0.5**
ELBA				S	**Sb**	**17 41 05.7**	**+1.5**
KIRK	**Kırklareli**	**2.47**	**16**	P	**Pn**	**17 40 30.8**	**+0.5**
KIRK				S	**Sb**	**17 41 06.1**	**+1.1**
BODT	**Bodrum**	**2.50**	**159**	P	**Pn**	**17 40 30.7**	**-0.1**
VIZE	**Kirklareli, Vi**	**2.51**	**30**	P	**Pn**	**17 40 31.6**	**+0.7**
VIZE				S	**Sb**	**17 41 05.6**	**-0.5**
RZN	**Rozhen**	**2.54**	**335**	P	**Pn**	**17 40 32.1**	**+0.7**
RZN				S	**Sn**	**17 41 01.6**	**-0.7**
VIL2	**Platees**	**2.57**	**243**	P	**Pn**	**17 40 31.3**	**-0.5**
VIL2				AML	AML	17 41 24.6	
	comp=E,568μm,1.0s						
VIL2				AML	AML	17 41 26.1	
	comp=N,495μm,0.8s						
NVR	**Nevrokopi**	**2.63**	**318**	P	**Pn**	**17 40 33.2**	**+0.7**
NVR				AML	AML	17 41 17.0	
	comp=E,322μm,0.3s						
NVR				AML	AML	17 41 18.8	
	comp=N,294μm,0.4s						
DIM	**Dimitrovgrad**	**2.68**	**350**	P	**Pn**	**17 40 33.8**	**+0.7**
AXAR	**Agios Charalam**	**2.82**	**258**	P	**Pn**	**17 40 35.9**	**+0.8**
AXAR				AML	AML	17 41 32.9	
	comp=N,592μm,0.7s						
AXAR				AML	AML	17 41 42.6	
	comp=E,360μm,0.9s						
PLD	**Plovdiv**	**2.95**	**339**	P	**Pn**	**17 40 37.6**	**+0.7**
JMB	**Yambol**	**3.09**	**5**	P	**Pn**	**17 40 38.7**	**-0.2**
THL	**Klokotos Trika**	**3.23**	**274**	P	**Pn**	**17 40 41.0**	**+0.2**
THL				AML	AML	17 41 34.4	
	comp=N,55μm,0.9s						
THL				AML	AML	17 41 43.8	
	comp=E,41μm,0.8s						
VAY	**Valandovo**	**3.36**	**306**	*i* Pn	**Pn**	**17 40 46.0**	**+3.5**
VAY				*i* Sn	**Sg**	**17 41 38.5**	**+0.3**
KKB	**Krupnik**	**3.37**	**317**	P	**Pn**	**17 40 44.8**	**+2.2**
KLV	**Kalavryta, Ach**	**3.44**	**248**	P	**Pn**	**17 40 44.7**	**+1.1**
KLV				AML	AML	17 41 47.9	
	comp=N,117μm,1.1s						
KLV				AML	AML	17 41 54.0	
	comp=E,63μm,0.9s						
ELND	**Elena**	**3.53**	**356**	⇑P	**Pn**	**17 40 45.6**	**+0.7**
PLNA	**Plana**	**3.71**	**327**	P	**Pn**	**17 40 49.9**	**+2.4**
ROIA	**ROIAK**	**3.79**	**13**	P	**Pn**	**17 40 49.5**	**+1.0**
PRD	**Provadia**	**3.86**	**13**	P	**Pn**	**17 40 50.4**	**+1.0**
AVR	**AVREN**	**3.87**	**16**	P	**Pn**	**17 40 50.3**	**+0.7**
VTS	**Vitosha**	**3.91**	**326**	P	**Pn**	**17 40 51.3**	**+1.1**
VTS				S	**Sn**	**17 41 35.0**	**-1.1**
NEF	**NEVSHA**	**3.94**	**12**	P	**Pn**	**17 40 51.7**	**+1.2**
RAZG	**Razgrad**	**4.16**	**3**	⇑P	**Pn**	**17 40 54.9**	**+1.3**
ZKR	**Zakros**	**4.29**	**180**	P	Pn	17 40 40.2	-15
MPEP	**Malo Peshtene**	**4.35**	**336**	P	**Pn**	**17 40 57.0**	**+0.8**
PSN	**Preselentsi**	**4.47**	**18**	P	**Pn**	**17 40 58.6**	**+0.8**
VALD	**Valchedram**	**4.75**	**335**	P	**Pn**	**17 41 03.0**	**+1.4**
BLKB	**Belogradchik**	**4.97**	**329**	⇑P	**Pn**	**17 41 05.4**	**+0.7**
MFTR	**Murfatlar**	**5.05**	**19**	⇓P	**Pn**	**17 41 08.0**	**+2.3**
TLBR	**Topalu**	**5.32**	**15**	⇑P	**Pn**	**17 41 12.6**	**+3.2**
BOVS	**Bovan**	**5.40**	**323**	⇑P	**Pn**	**17 41 10.9**	**+0.3**
TPGR	**Topolog**	**5.69**	**16**	⇓P	**Pn**	**17 41 17.8**	**+3.2**
CFR	**Carcaliu**	**5.95**	**13**	⇑P	**Pn**	**17 41 18.6**	**+0.6**
MLR	**Muntele Rosu**	**6.08**	**358**	⇑P	**Pn**	**17 41 21.7**	**+1.6**
VOIR		**6.08**	**352**	⇑P	**Pn**	**17 41 20.4**	**+0.3**
HERR	**Herculane**	**6.14**	**334**	⇑P	**Pn**	**17 41 20.4**	**-0.4**
LOT	**Lotru**	**6.30**	**344**	⇑P	**Pn**	**17 41 23.4**	**+0.4**
MDVR	**Moldovita**	**6.32**	**330**	⇑P	**Pn**	**17 41 23.6**	**+0.4**
COVR	**Voineasa-Covas**	**6.43**	**0**	⇑P	**Pn**	**17 41 27.2**	**+2.3**
PLOR	**Plostina**	**6.45**	**3**	⇑P	**Pn**	**17 41 27.4**	**+2.4**
VRI	**Vrincioaia**	**6.47**	**3**	⇑P	**Pn**	**17 41 27.6**	**+2.4**
VRI				⇑S	**Sn**	**17 42 41.9**	**+3.0**
GZR	**Gura Zlata**	**6.49**	**338**	⇑P	**Pn**	**17 41 25.5**	**-0.1**
DOPR	**Dopca**	**6.58**	**355**	⇑P	**Pn**	**17 41 28.3**	**+1.4**
TURR	**Turia**	**6.64**	**359**	⇓P	**Pn**	**17 41 29.5**	**+1.8**
OZUR		**6.69**	**358**	⇑P	**Pn**	**17 41 29.1**	**+0.8**
SURR	**Surduc**	**7.01**	**336**	⇑P	**Pn**	**17 41 32.7**	**0.0**
BZS	**Buzias**	**7.06**	**333**	⇑P	**Pn**	**17 41 33.7**	**+0.3**
TESR	**Tescani**	**7.11**	**3**	⇑P	**Pn**	**17 41 35.2**	**+1.1**
SEV	**Sevastopol'**	**7.58**	**45**	*e*P	**Pn**	**17 41 40.9**	**+0.5**
SEV				Pm		17 41 46.2	
	comp=Z,4.0nm,0.4s						
SEV				Sm		17 42 04.5	
	comp=E,4.0nm,0.4s						
SEV				*e*S	**Sn**	**17 43 02.1**	**-4.0**
SEV				Sm		17 43 04.5	
	comp=N,6.0nm,0.4s						
TARU	**Tarkhankut**	**7.59**	**36**	*e*P	**Pn**	**17 41 41.2**	**+0.6**

TARU				Pm			17 41 46.4	
	comp=Z,17nm,0.8s							
TARU				eS		Sn	17 43 02.9	-3.6
TARU				Sm			17 43 03.2	
	comp=N,6.0nm,0.4s							
TARU				Sm			17 43 03.2	
	comp=E,4.0nm,0.4s							
MARR	**Marisel-Cluj**	**7.60**	**344**	⇑P		**Pn**	**17 41 40.7**	**-0.2**
SIRR	**Siria**	**7.62**	**336**	⇑P		**Pn**	**17 41 40.4**	**-0.7**
SIM	**Simferopol'**	**8.08**	**44**	eS		**Sn**	**17 43 15.3**	**-3.3**
SIM				Sm			17 43 17.4	
	comp=N,15nm,0.4s							
SIM				Sm			17 43 17.4	
	comp=E,9.0nm,0.3s							
BURAR	**Bucovina Array**	**8.23**	**355**	⇑P		**Pn**	**17 41 51.8**	**+2.2**
SUDU	**Sudak**	**8.53**	**47**	eP		**Pn**	**17 41 52.9**	**-0.7**
SUDU				Pm			17 42 02.7	
	comp=Z,3.0nm,0.2s							
SUDU				eS		**Sn**	**17 43 27.0**	**-2.7**
SUDU				Sm			17 43 32.7	
	comp=N,18nm,0.8s							
SUDU				Sm			17 43 32.7	
	comp=E,12nm,0.6s							

IDC ***06*** *17:43:38.1±1.3,13°.30N×87°.78W,h0km,mb3.8/7, mbtmp3.9/12,ML3.4/4,MS3.7/29,Error ellipse: s-maj=44.1km s-min=14.0km az=33.0*
CATAC ***06*** *17:43:41.1±0.1, 13°.28N×88°.05W,h4km±1km,ML4.5*
NEIC ***06*** *17:43:41.1±1.9,13°.32N±0°.06×88°.07W±0°.05,h10km±1km, mb4.5/68,Error ellipse: s-maj=11.5km s-min=5.5km az=218.0*
GCG ***06*** *17:43:41.9±2.8, 13°.41N×87°.77W,h0km±999km,MD4.4*
SNET ***06*** *17:43:41.0±1.0, 13°.29N×88°.05W,h7km±3km,ML4.6*
ISC 06 17:43:40.4±0.8,13°.26N±0°.03×88°.03W±0°.02,h13km±5km, n180,σ1°47/172,mb4.4/36,MS3.6/26,5C-5D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.19**	**86⇑**	**eP**	**Pb**	**17 43 46.0**	**0.0**
CNCH				eS	Sb	17 43 49.8	+0.2
CNCH	**Conchagua**	**0.19**	**86**	**i P**	**Pb**	**17 43 46.1**	**+0.2**
CNCH				i S	Sb	17 43 49.3	-0.3
CNCH				IAML		17 43 53.8	
	comp=Z,230µm,1.0s						
JUCU	**Jucuarįn**	**0.21**	**268⇑**	**eP**	**Pg**	**17 43 45.0**	**-0.1**
JUCU				eS	Sg	17 43 48.1	-0.2
JUCU	**Jucuarįn**	**0.21**	**268**	**i P**	**Pg**	**17 43 45.2**	**+0.1**
JUCU				i S	Sg	17 43 48.4	+0.1
JUCU				IAML		17 43 49.0	
	comp=Z,95µm,1.0s						
CNRM	**Centro Naciona**	**0.25**	**327⇓**	**eP**	**Pg**	**17 43 46.0**	**+0.3**
CNRM				eS	Sg	17 43 50.3	+0.9
CNRM	**Centro Naciona**	**0.25**	**327**	**i P**	**Pg**	**17 43 46.0**	**+0.3**
CNRM				IAML		17 43 57.8	
	comp=Z,470µm,1.0s						
VSM	**San Miguel**	**0.29**	**305⇓**	**iP**	**Pg**	**17 43 46.9**	**+0.4**
RANC	**El Ranchito**	**0.30**	**304⇑**	**iP**	**Pg**	**17 43 47.1**	**+0.3**
RANC				eS	Sg	17 43 51.6	+0.6
RANC	**El Ranchito**	**0.30**	**304**	**i P**	**Pg**	**17 43 47.1**	**+0.3**
RANC				IAML		17 43 50.2	
	comp=Z,38µm,1.0s						
RANC				i S	Sb	17 43 52.4	-0.4
PACA	**Pacayal**	**0.35**	**306⇑**	**eP**	**Pg**	**17 43 47.9**	**+0.3**
PACA	**Pacayal**	**0.35**	**306**	**i P**	**Pg**	**17 43 47.8**	**+0.3**
PACA				i S	Sb	17 43 55.9	+1.7
PACA				IAML		17 44 07.4	
	comp=Z,210µm,1.0s						
AMPH	**Amapala**	**0.36**	**86⇑**	**eP**	**Pb**	**17 43 48.9**	**+0.1**
AMPH				eS	Sb	17 43 55.1	+0.7
TECA	**Tecapa**	**0.51**	**297⇓**	**iP**	**Pg**	**17 43 50.7**	**+0.2**
COEB	**Comit de Eme**	**0.54**	**296**	**i P**	**Pg**	**17 43 51.2**	**+0.1**
COEB				i S	Sg	17 43 58.6	+0.3
COEB				IAML		17 44 04.8	
	comp=Z,13µm,1.0s						
PQSS	**Presa 15 de Se**	**0.63**	**305**	**i P**	**Pg**	**17 43 52.4**	**-0.3**
PQSS				IAML		17 43 54.2	
	comp=Z,9µm,1.0s						
TECO	**Alcaldia de Te**	**0.78**	**291**	**eP**	**Pg**	**17 43 55.1**	**-0.5**
TECO	**Alcaldia de Te**	**0.78**	**291**	**i P**	**Pg**	**17 43 55.1**	**-0.5**
TECO				i S	Sg	17 44 05.9	+0.1
TECO				IAML		17 44 09.5	
	comp=Z,6µm,1.0s						
SCLA	**Alcaldia de Sa**	**0.81**	**303**	**i P**	**Pg**	**17 43 56.1**	**0.0**
SCLA				i S	Sn	17 44 08.4	-1.1
SCLA				IAML		17 44 27.3	
	comp=Z,5µm,1.0s						
UESV	**Universidad de**	**0.82**	**297**	**i P**	**Pg**	**17 43 56.3**	**-0.1**
UESV				IAML		17 43 56.9	
	comp=Z,9µm,1.0s						
UESV				i S	Sb	17 44 07.9	+0.2
COEG	**Centro de Oper**	**0.90**	**293⇓**	**eP**	**Pb**	**17 43 57.4**	**-0.6**
COEG	**Centro de Oper**	**0.90**	**293**	**i P**	**Pb**	**17 43 57.6**	**-0.4**
COEG				i S	Sb	17 44 10.3	+0.4
COEG				IAML		17 44 11.3	
	comp=Z,9µm,1.0s						
PAVA	**Las Pavas**	**0.99**	**297**	**i P**	**Pb**	**17 43 59.1**	**-0.4**
PAVA				i S	Sg	17 44 13.2	+0.7
PAVA				IAML		17 44 16.0	
	comp=Z,18µm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.08**	**43**	Pn	Pb	**17 44 01.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.08**	**43**	**i P**	**Pb**	**17 44 01.2**	**+0.1**
TGUH				IAML		17 44 01.7	
	comp=Z,21µm,1.0s						
TGUH				i S	Sn	17 44 16.7	+0.3
CRIN	**San Cristobal**	**1.11**	**120**		**Pg**	**17 44 02.2**	**+0.4**
CRIN	**San Cristobal**	**1.11**	**120⇓**	**eP**	**Pg**	**17 44 02.4**	**+0.6**
CRIN	**San Cristobal**	**1.11**	**120**	**i P**	**Pg**	**17 44 02.6**	**+0.8**
CRIN				i S	Sn	17 44 20.0	+3.1
CRIN				IAML		17 44 28.9	
	comp=Z,29µm,1.0s						
PANCS	**Alcalda de**	**1.17**	**287**	**i P**	**Pn**	**17 44 02.0**	**-0.6**
PANCS				i S	Sb	17 44 17.4	-0.3
PANCS				IAML		17 44 19.5	
	comp=Z,16µm,1.0s						
LOMA	**Loma Larga**	**1.17**	**289**	**i P**	**Pn**	**17 44 02.3**	**-0.4**
LOMA				i S	Sg	17 44 18.6	+0.3
LOMA				IAML		17 44 20.4	
	comp=Z,13µm,1.0s						
UDBS	**Universidad Do**	**1.18**	**293**	**i P**	**Pn**	**17 44 02.7**	**-0.1**
UDBS				i S	Sg	17 44 19.0	+0.4
UDBS				IAML		17 44 22.7	
	comp=Z,11µm,1.0s						
IGN	**Direccin Gen**	**1.20**	**292**	**i P**	**Pn**	**17 44 02.8**	**-0.1**
IGN				i S	Sg	17 44 19.2	+0.2
IGN				IAML		17 44 26.1	
	comp=Z,18µm,1.0s						
UTEC	**Universidad Te**	**1.22**	**291**	**i S**	**Pn**	**17 44 03.2**	**-0.1**
SNET	**Serv Nac Est T**	**1.24**	**290**		**Pn**	**17 44 03.1**	**-0.5**
SNET	**Serv Nac Est T**	**1.24**	**290**	**eP**	**Pn**	**17 44 03.2**	**-0.5**
SNET	**Serv Nac Est T**	**1.24**	**290**	**i P**	**Pn**	**17 44 03.4**	**-0.2**
SNET				IAML		17 44 04.1	
	comp=Z,13µm,1.0s						
SNET				i S	Sn	17 44 20.3	0.0
UEES	**Universidad Ev**	**1.26**	**291**	**eP**	**Pn**	**17 44 03.6**	**-0.3**
UEES	**Universidad Ev**	**1.26**	**291**	**i P**	**Pn**	**17 44 03.7**	**-0.1**
UEES				IAML		17 44 04.5	
	comp=Z,4µm,1.0s						
LLGN	**La Laguna**	**1.26**	**315**	**i P**	**Pn**	**17 44 03.4**	**-0.5**
LLGN				IAML		17 44 06.2	
	comp=Z,4µm,1.0s						
LLGN				i S	Sn	17 44 20.7	-0.1
LALI	**Alcalda de L**	**1.27**	**280**	**i P**	**Pn**	**17 44 03.6**	**-0.4**
LALI				i S	Sn	17 44 21.0	0.0
LALI				IAML		17 44 31.2	
	comp=Z,2µm,1.0s						
ITCA	**Escuela Especi**	**1.28**	**289**	**i S**	**Sn**	**17 44 21.3**	**+0.1**
PMON	**Piamonte**	**1.33**	**290**	**i P**	**Pn**	**17 44 05.1**	**+0.3**
PMON				i S	Sg	17 44 23.2	0.0
PMON				IAML		17 44 24.4	
	comp=Z,9µm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.33**	**295**	**i P**	**Pb**	**17 44 05.2**	**-0.2**
QUEZ				i S	Sg	17 44 24.1	+0.6
QUEZ				IAML		17 44 38.1	
	comp=Z,19µm,1.0s						
CEDA	**San Andres**	**1.43**	**292**	**i P**	**Pn**	**17 44 06.6**	**+0.4**
CEDA				i S	Sg	17 44 27.5	+0.9
CEDA				IAML		17 44 30.0	
	comp=Z,19µm,1.0s						
JAYA	**Jayaque - finc**	**1.43**	**286**	**eP**	**Pn**	**17 44 06.2**	**-0.1**
JAYA	**Jayaque - finc**	**1.43**	**286**	**i P**	**Pn**	**17 44 06.6**	**+0.3**
JAYA				IAML		17 44 07.3	
	comp=Z,24µm,1.0s						
JAYA				i S	Sb	17 44 25.5	+0.1
CNGA	**Al SSO del Vol**	**1.50**	**120**	**i S**	**Sg**	**17 44 29.1**	**+0.2**
CNGN	**Cerro Negro**	**1.50**	**120**		**Pn**	**17 44 07.2**	**+0.1**
CNGN	**Cerro Negro**	**1.50**	**120**	**eP**	**Pn**	**17 44 07.3**	**+0.1**
CNGN	**Cerro Negro**	**1.50**	**120**	**i P**	**Pn**	**17 44 07.6**	**+0.4**
CNGN				i S	Sg	17 44 29.1	+0.2
CNGN				IAML		17 44 46.8	
	comp=Z,6µm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.62**	**122**	**i P**	**Pg**	**17 44 12.2**	**+0.6**
LEVN				i S	Sg	17 44 32.3	-0.4
LEVN				IAML		17 44 41.6	
	comp=Z,4µm,1.0s						
UNIC	**Universidad Ca**	**1.64**	**296**	**i P**	**Pn**	**17 44 09.4**	**+0.3**
UNIC				i S	Sb	17 44 31.8	+0.6
UNIC				IAML		17 44 37.0	
	comp=Z,2µm,1.0s						
CEVE	**Cerro Verde**	**1.65**	**290**	**i S**	**Sg**	**17 44 33.5**	**-0.1**
MOMN	**Momotombo**	**1.68**	**120**	**i P**	**Pn**	**17 44 10.2**	**+0.6**
MOMN				i S	Sb	17 44 33.7	+1.2
MOMN				IAML		17 44 37.2	
	comp=Z,170nm,1.0s						
MTO3	**Montecristo**	**1.72**	**311**	Pn	**Pn**	**17 44 10.3**	**0.0**
MTO3	**Montecristo**	**1.72**	**311**	**i S**	**Sb**	**17 44 33.7**	**+0.1**
MOM2	**El Cardon**	**1.72**	**118**	**i P**	**Pn**	**17 44 10.6**	**+0.6**
MOM2				i S	Sg	17 44 36.9	+1.2
MOM2				IAML		17 44 46.5	
	comp=Z,3µm,1.0s						
COPN	**Copaltepe**	**1.77**	**127**	**i P**	**Pn**	**17 44 11.8**	**+1.0**
COPN				IAML		17 44 48.3	
	comp=Z,2µm,1.0s						
ESQI	**Esquipulas**	**1.81**	**316**		**Pn**	**17 44 11.8**	**+0.3**
ESQI	**Esquipulas**	**1.81**	**316**	**i P**	**Pn**	**17 44 12.4**	**+0.9**
ESQI				IAML		17 44 55.6	
	comp=Z,5µm,1.0s						
NUBE	**Las Nubes**	**1.81**	**291**	**i P**	**Pn**	**17 44 12.5**	**+0.9**
NUBE				i S	Sb	17 44 37.6	+1.2
NUBE				IAML		17 44 40.3	
	comp=Z,6µm,1.0s						
LOAL	**Lomas de Alarc**	**1.85**	**294**	**i P**	**Pb**	**17 44 13.6**	**-0.6**
LOAL				i S	Sg	17 44 40.1	+0.1
LOAL				IAML		17 44 45.0	
	comp=Z,11µm,1.0s						
APQ3	**Volcan Apoyequ**	**1.90**	**121**	**i P**	**Pb**	**17 44 15.6**	**+0.7**
APQ3				i S	Sg	17 44 40.7	-0.8
APQ3				IAML		17 44 48.5	
	comp=Z,2µm,1.0s						
APYN	**Apoyeque**	**1.93**	**122**	**i P**	**Pb**	**17 44 15.9**	**+0.3**
APYN				IAML		17 44 49.1	
	comp=Z,2µm,1.0s						
JUAM	**Asuncion Mita**	**1.95**	**303**	**i S**	**Sg**	**17 44 42.5**	**-0.6**
TISN	**Laguna Tiscapa**	**2.05**	**123**	**i P**	**Pn**	**17 44 14.6**	**0.0**
MAS3	**Al N del Volca**	**2.19**	**124**	**i P**	**Pb**	**17 44 19.5**	**-0.4**
MAS3				IAML		17 44 57.6	
	comp=Z,2µm,1.0s						
MRL	**Marmol**	**2.42**	**319**	**eP**	**Pb**	**17 44 24.1**	**+0.1**
MRL				eS	Sg	17 44 56.9	-1.2
IZABA	**Izabal, Puerto**	**2.51**	**348**	**i P**	**Pb**	**17 44 25.9**	**+0.5**
IZABA				i S	Sg	17 45 00.9	-0.3
NBG	**Las Nubes**	**2.61**	**301**	**eP**	**Pb**	**17 44 28.0**	**+0.8**
GUNB	**GUNB**	**2.61**	**301**	**i S**	**Sb**	**17 45 01.4**	**+2.0**
PCG	**Pacaya**	**2.74**	**294**	**eP**	**Pb**	**17 44 30.0**	**+0.5**
JAPN	**Al SSO del Vol**	**2.87**	**127**	**i P**	**Pn**	**17 44 28.7**	**+2.7**
JAPN				IAML		17 45 14.8	
	comp=Z,560nm,1.0s						
MORN	**Al O del Volca**	**2.89**	**126**	**i P**	**Pn**	**17 44 27.9**	**+1.7**
MORN				IAML		17 45 16.4	
	comp=Z,880nm,1.0s						
CONN	**Concepcion**	**2.89**	**125**	**i P**	**Pb**	**17 44 29.3**	**-2.6**
CONN				IAML		17 45 16.1	
	comp=Z,4µm,1.0s						
OMEN	**Al SSO del Vol**	**2.92**	**126**	**i P**	**Pn**	**17 44 28.9**	**+2.2**
OMEN				IAML		17 45 11.5	
	comp=Z,500nm,1.0s						
APG	**El Apazote**	**2.93**	**307**	Pn	**Pn**	**17 44 27.9**	**+0.9**
	comp=Z,17nm,0.8s,baz=133,slow=11,SNR=10.0						
APG				Lg	Lg	17 45 14.4	
	comp=Z,2.5nm,0.3s,baz=78,slow=18,SNR=7.2						
FUG	**Fuego 3**	**2.97**	**294**	**eP**	**Pb**	**17 44 34.0**	**+0.6**
FUG				eS	Sb	17 45 12.8	+3.1
ACON	**Acoyapa**	**3.07**	**114**		**Pn**	**17 44 28.9**	**+0.2**
HZTE	**Horizontes, Gu**	**3.48**	**136**	Pn	**Pn**	**17 44 36.1**	**+1.8**
HZTE	**Horizontes, Gu**	**3.48**	**136**	**i P**	**Pn**	**17 44 36.0**	**+1.7**
HZTE				IAML		17 46 16.6	
	comp=Z,560nm,1.0s						
SULM	**Suchitepequez,**	**3.59**	**287**	**eP**	**Pn**	**17 44 39.2**	**+3.5**
STG3	**Santiaguito 3,**	**3.73**	**293**	**eP**	**Pb**	**17 44 44.1**	**-2.1**
STG3				eS	Sb	17 45 29.5	-1.9
RTAL	**Retalhuleu**	**3.77**	**290**	Pn	**Pn**	**17 44 41.2**	**+2.8**
RTAL	**Retalhuleu**	**3.77**	**290**	**i P**	**Pn**	**17 44 40.9**	**+2.5**
RTAL				IAML		17 45 52.3	
	comp=Z,1µm,1.0s						
ORTG	**Ortega, Santa**	**3.83**	**139**		**Pn**	**17 44 41.0**	**+1.8**
ORTG	**Ortega, Santa**	**3.83**	**139**	**i P**	**Pn**	**17 44 41.1**	**+1.9**
ORTG				IAML		17 44 43.0	
	comp=Z,140nm,1.0s						
SAJU	**San Juanillo,**	**3.91**	**144**	**i P**	**Pn**	**17 44 41.9**	**+1.7**
SAJU				IAML		17 45 40.8	
	comp=Z,150nm,1.0s						
DUNO	**Dulce Nombre,**	**4.02**	**142**		**Pn**	**17 44 44.2**	**+2.4**
PETF	**Flores**	**4.04**	**334**	**i P**	**Pb**	**17 44 53.2**	**+1.7**
INDI	**Punta indio, G**	**4.19**	**143**	**i P**	**Pn**	**17 44 46.4**	**+2.4**
INDI				IAML		17 46 00.0	
	comp=Z,130nm,1.0s						
JTS	**Las Juntas de**	**4.22**	**134**	Pn	**Pn**	**17 44 45.7**	**+1.1**
JTS	**Las Juntas de**	**4.22**	**134**	Pn	**Pn**	**17 44 42.7**	**-1.8**
	comp=Z,4.8nm,0.3s,baz=313,slow=6.2,SNR=11						
JTS				Sn	**Sn**	**17 45 31.1**	**-2.6**
	comp=Z,1.3nm,0.3s,baz=334,slow=15,SNR=1.3						
	comp=Z,10nm,0.5s						
SOCE	**Pocosol**	**4.40**	**130**		**Pn**	**17 44 49.3**	**+2.3**
JACO	**JACO, Garabito**	**4.87**	**137**		**Pn**	**17 44 56.9**	**+3.5**
JACO	**JACO, Garabito**	**4.87**	**137**	**i P**	**Pn**	**17 44 56.3**	**+2.8**
JACO				IAML		17 46 57.6	
	comp=Z,86nm,1.0s						
LCR2	**La Lucha 2**	**5.27**	**131**		**Pn**	**17 45 00.7**	**+1.5**
CDM	**Cerro de Muert**	**5.58**	**131**	**i P**	**Pn**	**17 45 07.5**	**+3.9**
OCHAL	**Ojochal**	**5.97**	**133**	**i P**	**Pn**	**17 45 04.9**	**-3.7**
PLAN	**Los Planes de**	**6.25**	**136**	**i P**	**Pn**	**17 45 13.1**	**+0.7**
TEIG	**Tepich**	**6.93**	**358**	LR	LR	17 48 31.7	
	comp=Z,3µm,19.4s,slow=42						
CMIG	**Matias Romero**	**7.63**	**301**	Pn	**Pn**	**17 45 34.3**	**+2.9**
	comp=Z,0.6nm,0.3s,baz=95,slow=11,SNR=11						
CMIG				Sn	**Sn**	**17 47 04.1**	**+6.2**
	comp=Z,1.0nm,0.3s,baz=109,slow=17,SNR=2.1						
	comp=Z,9.5nm,0.7s						
ROSC	**El Rosal**	**15.91**	**120**	Pn	**Pn**	**17 47 20.7**	**-3.9**
	comp=Z,1.2nm,0.3s,baz=295,slow=15,SNR=1.4						
ROSC				LR	LR	17 54 17.0	
	comp=Z,394nm,18.7s,baz=291,slow=41						
	comp=Z,3.4nm,0.3s						
HBVL	**Hebbronville**	**16.96**	**326**	**P**	**P**	**17 47 39.3**	**-0.1**
SDV	**Santo Domingo**	**17.62**	**103**	**P**	**Pn**	**17 47 41.6**	**-4.5**
	comp=Z,1.7nm,0.3s,baz=353,slow=8.1,SNR=1.6						
SDV				LR	LR	17 55 57.2	
	comp=Z,286nm,18.3s,baz=288,slow=42						
	comp=Z,6.1nm,0.3s						
BAUV	**El Baul**	**20.08**	**100**	**P**	**P**	**17 48 14.1**	**+0.2**
BAUV				IAmb	IAmb	17 48 28.8	
	comp=Z,19nm,0.9s						
BRDY	**Brady**	**20.58**	**332**	**P**	**P**	**17 48 16.1**	**-3.2**
TXAR	**Lajitas Array**	**21.59**	**320**	**P**	**P**	**17 48 31.3**	**+1.1**
TXAR	**Lajitas Array**	**21.59**	**320**	**P**	**P**	**17 48 32.4**	**+2.2**
	comp=Z,5.9nm,0.9s,baz=138,slow=10,SNR=43						
TXAR				LR	LR	17 57 48.8	
	comp=Z,56nm,19.1s,baz=138,slow=39						
	comp=Z,5.9nm,0.9s						
SGCY	**Sterling City**	**22.12**	**329**	**P**	**P**	**17 48 34.9**	**-0.9**
SGCY				IAmb	IAmb	17 48 40.7	
	comp=Z,12nm,1.0s						
LOOK	**Love County**	**22.25**	**340**	**P**	**P**	**17 48 36.9**	**-0.3**
ALPN	**Alpine**	**22.31**	**322**		**P**	**17 48 37.0**	**-1.0**
ATAH	**Atahualpa**	**22.41**	**154**	LR	LR	17 56 49.0	
	comp=Z,88nm,19.0s,baz=321,slow=35						
MNHN	**Monahans**	**22.52**	**325**	IAmb	IAmb	17 48 45.3	
	comp=Z,22nm,1.0s						
TKL	**Tuckaleechee C**	**22.63**	**9**	LR	LR	17 57 06.7	
	comp=Z,83nm,21.0s,baz=178,slow=36						
APMT	**Aspermont**	**22.81**	**333**	IAmb	IAmb	17 49 02.4	
	comp=Z,14nm,0.9s						
W35A	**Tecumseh**	**23.22**	**341**	**P**	**P**	**17 48 46.9**	**-0.4**
W35A				IAmb	IAmb	17 49 11.7	
	comp=Z,32nm,1.5s						
POST	**Post**	**23.23**	**330**	IAmb	IAmb	17 48 49.1	
	comp=Z,20nm,1.0s						
WMOK	**Wichita Mounta**	**23.49**	**337**	IAmb	IAmb	17 48 56.5	
	comp=Z,8.9nm,1.1s						
LPIG	**La Paz**	**23.66**	**300**	LR	LR	17 58 12.2	
	comp=Z,219nm,18.5s,baz=124,slow=37						
S39A	**Bolivar**	**24.78**	**350**	IAmb	IAmb	17 49 05.5	
	comp=Z,7.2nm,0.8s						
AMTX	**Amarillo**	**24.82**	**332**	IAmb	IAmb	17 49 05.8	
	comp=Z,16nm,1.0s						
CCM	**Cathedral Cave**	**24.86**	**354**	P	**P**	**17 49 01.6**	**-1.2**
121A	**Cookes Peak, D**	**26.35**	**320**	IAmb	IAmb	17 49 20.6	
	comp=Z,12nm,0.9s						
RTBA	**Rita Blanca**	**26.59**	**333**	IAmb	IAmb	17 50 03.0	
	comp=Z,12nm,1.1s						
P38A	**Dawn**	**26.70**	**351**	IAmb	IAmb	17 49 21.4	
	comp=Z,5.8nm,0.8s						
DUN6	**Lazy B Ranch**	**27.20**	**318**	IAmb	IAmb	17 49 30.3	
	comp=Z,17nm,1.1s						
ANMO	**Albuquerque**	**27.27**	**325**	P	**P**	**17 49 26.1**	**+1.3**
ANMO	**Albuquerque**	**27.27**	**325**	LR	LR	18 03 07.3	
	comp=Z,44nm,18.3s,baz=204,slow=43						
TUC	**Tucson**	**28.17**	**316**	P	**P**	**17 49 32.9**	**+0.1**
MVCO	**Mesa Verde**	**30.06**	**326**	IAmb	IAmb	17 49 52.7	
	comp=Z,5.0nm,0.9s						
WUAZ	**Wupatki**	**30.56**	**321**	IAmb	IAmb	17 49 58.2	
	comp=Z,6.3nm,1.0s						
ISCO	**Idaho Springs**	**30.64**	**333**	IAmb	IAmb	17 50 07.2	
	comp=Z,5.5nm,0.6s						
ECSD	**EROS Data Cent**	**31.25**	**348**	IAmb	IAmb	17 50 01.5	
	comp=Z,7.6nm,1.1s						
J56A	**Wolcott**	**31.42**	**16**	P	**P**	**17 50 00.6**	**-0.8**
SADO	**Sadowa**	**32.31**	**12**	LR	LR	18 03 37.4	
	comp=Z,91nm,19.4s,baz=192,slow=37						
SRU	**San Rafael Swe**	**32.53**	**326**	IAmb	IAmb	17 50 14.3	
	comp=Z,5.8nm,0.9s						
Q16A	**Castle Valley**	**32.75**	**325**	IAmb	IAmb	17 50 17.4	
	comp=Z,4.7nm,1.1s						
P18A	**Preston Nutter**	**32.76**	**327**	IAmb	IAmb	17 50 20.4	
	comp=Z,4.7nm,0.9s						
PFO	**Pinyon Flats O**	**32.84**	**313**	LR	LR	18 05 14.9	
	comp=Z,112nm,18.7s,baz=145,slow=39						
V12A	**Nelson**	**32.91**	**317**	P	**P**	**17 50 16.1**	**+1.4**
SZCU	**Shurtz Canyon**	**32.95**	**322**	IAmb	IAmb	17 50 19.4	
	comp=Z,10nm,1.5s						
TMUT	**Trail Mountain**	**33.03**	**326**	IAmb	IAmb	17 50 38.4	
	comp=Z,5.4nm,1.3s						
BSUT	**Blindstream Ca**	**33.69**	**328**	IAmb	IAmb	17 50 24.9	
	comp=Z,6.2nm,1.3s						
MPU	**Maple Canyon**	**33.78**	**326**	IAmb	IAmb	17 50 25.9	
	comp=Z,8.2nm,1.0s						
DUG	**Dugway, Tooele**	**34.55**	**326**	IAmb	IAmb	17 50 32.9	
	comp=Z,8.9nm,1.5s						
PDAR	**Pinedale Array**	**34.79**	**332**	LR	LR	18 09 23.8	
	comp=Z,57nm,19.0s,baz=136,slow=44						
HWUT	**Hardware Ranch**	**34.89**	**328**	IAmb	IAmb	17 50 34.7	
	comp=Z,5.7nm,0.9s						
BGU	**Big Grassy Mou**	**35.17**	**326**	IAmb	IAmb	17 50 37.6	
	comp=Z,5.9nm,1.2s						
ELK	**Elko**	**36.28**	**324**	LR	LR	18 08 22.7	
	comp=Z,105nm,18.7s,slow=41						
NVAR	**Mina Array Bea**	**36.72**	**319**	P	**P**	**17 50 49.6**	**+1.9**
	comp=Z,1.4nm,0.9s,baz=126,slow=9.1,SNR=8.5						
NVAR				LR	LR	18 10 07.0	
	comp=Z,139nm,18.1s,baz=122,slow=43						
	comp=Z,1.4nm,0.9s						
KVN	**Kaiserville**	**36.95**	**320**	P	**P**	**17 50 50.3**	**+0.6**
ULM	**Lac du Bonnet**	**37.44**	**352**	P	**P**	**17 50 53.3**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=177,slow=11,SNR=2.9						
ULM				LR	LR	18 06 56.8	
	comp=Z,38nm,21.3s,baz=158,slow=37						
	comp=Z,1.2nm,0.5s						
YBH	**Yreka Blue Hor**	**41.37**	**320**	LR	LR	18 09 55.0	
	comp=Z,80nm,20.7s,baz=167,slow=38						
BRLDA	**Berland Lookou**	**46.84**	**337**		**P**	**17 52 10.9**	**+0.8**
BDFB	**Brasilia**	**48.90**	**125**	LR	LR	18 14 41.3	
	comp=Z,172nm,18.5s,baz=323,slow=38						
BBB	**Bella Bella**	**50.34**	**329**	LR	LR	18 18 48.4	
	comp=Z,45nm,18.1s,baz=70,slow=42						
FRB	**Frobisher Bay**	**52.24**	**11**	LR	LR	18 17 17.1	
	comp=Z,75nm,18.2s,baz=188,slow=39						
YKA	**Yellowknife Ar**	**52.69**	**345**	P	**P**	**17 52 54.7**	**+0.3**
	comp=Z,2.4nm,0.9s,baz=136,slow=7.1,SNR=33						
	comp=Z,2.4nm,0.9s						
RCBR	**Riachuelo**	**55.13**	**107**	LR	LR	18 19 19.0	
	comp=Z,109nm,19.3s,baz=245,slow=39						
TAOE	**Nuku Hiva Isla**	**56.22**	**250**	eLR

comp=Z,4µm,1.0s
PACA Pacayal 0.33 311 *e*P **Pg 17 56 08.6 +0.1**
PACA Pacayal 0.33 311 *i* P **Pb 17 56 08.9 0.0**
PACA *i* S **Sn 17 56 18.6 +0.5**
PACA IAML 17 56 21.5
comp=Z,22µm,1.0s
AMPH Amapala 0.40 85 *e*P **Pg 17 56 09.6 -0.1**
AMPH *e*S **Sb 17 56 15.6 -0.5**
TECA Tecapa 0.48 300 *e*P **Pg 17 56 11.3 +0.1**
COEB Comit de Eme 0.51 299 *i* S **Sb 17 56 19.2 -0.1**
PQSS Presa 15 de Se 0.60 308 *i* P **Pb 17 56 13.5 -0.1**
PQSS IAML 17 56 14.6
comp=Z,1µm,1.0s
PQSS *i* S **Sb 17 56 22.7 +0.9**
TECO Alcaldia de Te 0.75 292 *e*P **Pb 17 56 15.7 -0.4**
TECO Alcaldia de Te 0.75 292 *i* P **Pb 17 56 15.8 -0.2**
TECO *i* S **Sg 17 56 26.4 +0.4**
TECO IAML 17 56 36.3
comp=Z,920nm,1.0s
SCLA Alcaldia de Sa 0.78 305 *i* S **Sn 17 56 29.0 -0.2**
UESV Universidad de 0.80 299 *i* P **Pg 17 56 16.9 -0.1**
UESV IAML 17 56 17.5
comp=Z,1µm,1.0s
UESV *i* S **Sn 17 56 28.5 -1.0**
COEG Centro de Oper 0.87 295 *e*P **Pb 17 56 17.9 -0.2**
COEG Centro de Oper 0.87 295 *i* P **Pg 17 56 18.3 -0.1**
COEG *i* S **Sn 17 56 30.7 -0.7**
COEG IAML 17 56 35.2
comp=Z,1µm,1.0s
PAVA Las Pavas 0.96 299 *i* P **Pn 17 56 20.1 -0.2**
PAVA IAML 17 56 36.6
comp=Z,3µm,1.0s
TGUH Tegucigalpa,Un 1.11 44⇑*i* P **Pb 17 56 21.9 -0.5**
TGUH Tegucigalpa,Un 1.11 44 *i* P **Pb 17 56 21.9 -0.5**
TGUH IAML 17 56 26.7
comp=Z,2µm,1.0s
TGUH *i* S **Sb 17 56 36.5 -0.2**
CRIN San Cristobal 1.14 119 *e*P **Pg 17 56 23.0 -0.5**
CRIN San Cristobal 1.14 119 *i* P **Pg 17 56 23.1 -0.3**
CRIN IAML 17 56 23.9
comp=Z,6µm,1.0s
CRIN *i* S **Sg 17 56 40.3 +2.0**
PANCS Alcalda de 1.14 288 *i* P **Pn 17 56 22.5 -0.2**
PANCS IAML 17 56 22.7
comp=Z,2µm,1.0s
PANCS *i* S **Sn 17 56 37.9 -0.1**
LOMA Loma Larga 1.14 290 *i* P **Pg 17 56 23.1 -0.4**
LOMA *i* S **Sg 17 56 38.6 +0.1**
LOMA IAML 17 56 40.6
comp=Z,1µm,1.0s
SNET Serv Nac Est T 1.21 291 *e*P **Pb 17 56 24.1 +0.1**
UEES Universidad Ev 1.23 292 *e*P **Pb 17 56 24.4 +0.1**
LALI Alcalda de L 1.24 281 *i* S **Sg 17 56 41.4 -0.2**
LLGN La Laguna 1.24 317 *i* P **Pn 17 56 24.0 -0.2**
LLGN IAML 17 56 53.7
comp=Z,540nm,1.0s
PMON Piamonte 1.29 291 *i* P **Pb 17 56 25.4 0.0**
PMON *i* S **Sb 17 56 42.5 +0.7**
PMON IAML 17 56 45.5
comp=Z,2µm,1.0s
JAYA Jayaque - finc 1.40 287 *e*P **Pb 17 56 27.2 -0.1**
JAYA Jayaque - finc 1.40 287 *i* P **Pb 17 56 27.3 0.0**
JAYA IAML 17 56 28.1
comp=Z,2µm,1.0s
JAYA *i* S **Sg 17 56 46.1 -0.6**
CNGA Al SSO del Vol 1.53 119 *i* P **Pn 17 56 27.3 -0.8**
CNGA *i* S **Sb 17 56 48.8 +0.1**
CNGA IAML 17 56 57.4
comp=Z,910nm,1.0s
CNGN Cerro Negro 1.53 119 *e*P **Pn 17 56 28.2 +0.1**
CNGN Cerro Negro 1.53 119 *i* P **Pn 17 56 28.3 +0.1**
CNGN *i* S **Sg 17 56 49.9 -1.1**
CNGN IAML 17 56 56.7
comp=Z,1µm,1.0s
CEVE Cerro Verde 1.61 291 *i* P **Pb 17 56 31.2 +0.2**
CEVE IAML 17 57 02.9
comp=Z,730nm,1.0s
MTO3 Montecristo 1.69 312 *i* S **Pn 17 56 31.4 +0.9**
MOMN Momotombo 1.71 119 *i* S **Pn 17 56 31.6 +1.0**
MOM2 El Cardon 1.75 117 *i* S **Pn 17 56 31.1 +0.1**
NUBE Las Nubes 1.78 291 *i* P **Pb 17 56 33.2 -0.6**
NUBE *i* S **Sg 17 56 57.8 -1.2**
NUBE IAML 17 57 03.9
comp=Z,610nm,1.0s
COPN Copaltepe 1.79 126 *i* P **Pn 17 56 32.1 +0.4**
COPN IAML 17 57 01.6
comp=Z,380nm,1.0s
APYN Apoyeque 1.96 121 *i* P **Pb 17 56 35.7 -1.1**
APYN *i* S **Sb 17 56 59.6 -1.4**
APYN IAML 17 57 08.3
comp=Z,590nm,1.0s
HZTE Horizontes, Gu 3.50 136 *i* P **Pn 17 56 56.8 +1.7**
HZTE IAML 17 58 46.5
comp=Z,200nm,1.0s
CDM Cerro de Muert 5.60 131 *i* P **Pn 17 57 27.8 +3.4**

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*SNET **06** 18:00:31.0±0.9, 13°.28N×88°.06W, h2km±5km, ML3.5*
*CATAC **06** 18:00:31.8±0.2, 13°.25N×88°.06W, h6km±2km, MB5.5, ML3.3*
ISC 06 18:00:31.7±0.9, 13°27N±0'.04×88°06W±0'.02, h14km±6km, n39, σ0°68/54, 7C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JUCU	**Jucuarˌn**	**0.18**	**265**	⇑*i*P		**Pg**		**18 00 35.9**	**0.0**
JUCU				*e*S		**Sg**		**18 00 38.7**	**-0.2**
JUCU	**Jucuarˌn**	**0.18**	**265**	*i* P		**Pg**		**18 00 36.0**	**0.0**
JUCU				*i* S		**Sg**		**18 00 39.2**	**+0.3**
JUCU				IAML				18 00 42.8	
	comp=Z,7µm,1.0s								
CNCH	**Conchagua**	**0.22**	**88**⇑*i*P			**Pb**		**18 00 37.0**	**-0.7**
CNCH				*e*S		**Sb**		**18 00 40.7**	**-0.9**
CNCH	**Conchagua**	**0.22**	**88** *i* P			**Pb**		**18 00 36.9**	**-0.7**
CNCH				*i* S		**Sb**		**18 00 41.0**	**-0.6**
CNCH				IAML				18 00 41.3	
	comp=Z,22µm,1.0s								
CNRM	**Centro Naciona**	**0.23**	**332**	*e*P		**Pg**		**18 00 36.9**	**+0.2**
CNRM	**Centro Naciona**	**0.23**	**332**	*i* P		**Pg**		**18 00 36.9**	**+0.2**
CNRM				IAML				18 00 50.6	
	comp=Z,15µm,1.0s								
BLLM	**Bellamira**	**0.24**	**315**⇑*i*P			**Pg**		**18 00 37.3**	**+0.4**
VSM	**San Miguel**	**0.26**	**307**⇓*i*P			**Pb**		**18 00 37.9**	**-0.5**
LCY	**Lacayo**	**0.27**	**304**⇑*i*P			**Pb**		**18 00 38.0**	**-0.6**
RANC	**El Ranchito**	**0.28**	**306**⇑*i*P			**Pb**		**18 00 38.0**	**-0.6**
RANC	**El Ranchito**	**0.28**	**306** *i* P			**Pb**		**18 00 37.9**	**-0.6**
RANC				*i* S		**Sb**		**18 00 42.8**	**-0.4**
RANC				IAML				18 00 48.9	
	comp=Z,3µm,1.0s								
PACA	**Pacayal**	**0.32**	**308**⇑*i*P			**Pb**		**18 00 38.8**	**-0.6**
PACA	**Pacayal**	**0.32**	**308** *i* P			**Pb**		**18 00 38.8**	**-0.6**
PACA				IAML				18 00 50.6	
	comp=Z,14µm,1.0s								
TECA	**Tecapa**	**0.48**	**297**⇓*e*P			**Pb**		**18 00 41.7**	**-0.5**
COEB	**Comit de Eme**	**0.51**	**296** *i* P			**Pb**		**18 00 42.1**	**-0.5**
COEB				*i* S		**Sb**		**18 00 49.6**	**-0.3**
COEB				IAML				18 00 49.9	
	comp=Z,990nm,1.0s								
PQSS	**Presa 15 de Se**	**0.60**	**306** *e*P			**Pb**		**18 00 43.7**	**-0.3**
PQSS	**Presa 15 de Se**	**0.60**	**306** *i* P			**Pb**		**18 00 43.7**	**-0.3**
PQSS				*i* S		**Sb**		**18 00 53.2**	**+0.8**
PQSS				IAML				18 00 55.9	
	comp=Z,440nm,1.0s								
TECO	**Alcaldia de Te**	**0.75**	**291** *e*P			**Pg**		**18 00 46.0**	**-0.2**
TECO	**Alcaldia de Te**	**0.75**	**291** *i* P			**Pg**		**18 00 46.1**	**-0.2**
TECO				*i* S		**Sb**		**18 00 56.8**	**+0.1**
TECO				IAML				18 00 59.6	
	comp=Z,860nm,1.0s								
SCLA	**Alcaldia de Sa**	**0.78**	**304** *e*P			**Pb**		**18 00 46.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.78**	**304** *i* P			**Pb**		**18 00 47.1**	**0.0**
SCLA				*i* S		**Sn**		**18 00 59.0**	**-1.0**
SCLA				IAML				18 01 04.7	
	comp=Z,310nm,1.0s								
COEG	**Centro de Oper**	**0.87**	**294** *e*P			**Pg**		**18 00 48.3**	**-0.2**
COEG	**Centro de Oper**	**0.87**	**294** *i* P			**Pg**		**18 00 48.4**	**-0.2**
COEG				*i* S		**Sb**		**18 01 00.8**	**+0.5**
COEG				IAML				18 01 03.4	
	comp=Z,1µm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.09**	**44** *i* P			**Pb**		**18 00 52.0**	**-0.6**
TGUH				IAML				18 00 52.4	
	comp=Z,740nm,1.0s								
TGUH				*i* S		**Sg**		**18 01 07.3**	**+0.1**
CRIN	**San Cristobal**	**1.14**	**120** *i* P			**Pg**		**18 00 53.5**	**-0.1**
CRIN				*i* S		**Sn**		**18 01 11.4**	**+2.6**
CRIN				IAML				18 01 18.0	
	comp=Z,2µm,1.0s								
PANCS	**Alcalda de**	**1.14**	**287** *i* P			**Sg**		**18 01 08.4**	**-0.2**
LOMA	**Loma Larga**	**1.14**	**289**⇑*i*P			**Pn**		**18 00 53.3**	**-0.1**
LOMA	**Loma Larga**	**1.14**	**289** *i* P			**Sg**		**18 01 09.1**	**+0.4**
LLGN	**La Laguna**	**1.23**	**316** *i* P			**Pn**		**18 00 53.9**	**-0.8**
LLGN				IAML				18 00 59.1	
	comp=Z,290nm,1.0s								
LLGN				*i* S		**Sg**		**18 01 13.4**	**+1.8**
PMON	**Piamonte**	**1.30**	**290** *e*P			**Pb**		**18 00 55.9**	**-0.1**
PMON	**Piamonte**	**1.30**	**290** *i* P			**Pg**		**18 00 56.4**	**-0.3**
PMON				IAML				18 01 16.6	
	comp=Z,1µm,1.0s								
JAYA	**Jayaque - finc**	**1.40**	**286** *e*P			**Pb**		**18 00 57.5**	**-0.3**
JAYA	**Jayaque - finc**	**1.40**	**286** *i* P			**Pb**		**18 00 57.5**	**-0.3**
JAYA				*i* S		**Sg**		**18 01 16.5**	**-0.5**
JAYA				IAML				18 01 17.4	
	comp=Z,2µm,1.0s								
MOMN	**Momotombo**	**1.71**	**120** *i* P			**Pb**		**18 01 01.9**	**-1.1**
MOMN				IAML				18 01 02.7	
	comp=Z,11nm,1.0s								
MOMN				*i* S		**Sb**		**18 01 24.3**	**-0.2**
MOM2	**El Cardon**	**1.75**	**118** *i* P			**Pb**		**18 01 02.7**	**-0.9**
MOM2				*i* S		**Sb**		**18 01 25.3**	**-0.1**
MOM2				IAML				18 01 30.2	
	comp=Z,200nm,1.0s								
NUBE	**Las Nubes**	**1.79**	**291** *i* P			**Pb**		**18 01 04.1**	**-0.3**
NUBE				IAML				18 01 32.0	
	comp=Z,270nm,1.0s								
COPN	**Copaltepe**	**1.80**	**127** *i* P			**Pn**		**18 01 02.6**	**+0.2**
COPN				IAML				18 01 28.3	
	comp=Z,110nm,1.0s								
GUMI	**Mixco**	**2.82**	**299** *i* P			Pn		18 01 11.2	-5.5
BATAN	**Batan**	**5.57**	**124** *i* P			**Pn**		**18 01 55.4**	**+1.2**
BATAN				IAML				18 02 24.9	
	comp=Z,410nm,1.0s								
BATAN				IVmB_BB				18 02 24.9	
	comp=Z,4µm,1.0s								

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*OSPL **06** 18:14:11.0±0.7, 19°.38N×69°.67W, h24km±2km, ML2.2*
*SDD **06** 18:14:12.1±2.4, 19°.52N×69°.95W, h12km±36km, MD3.2, ML2.8, MW3.0*
ISC 06 18:14:12.3±1.3, 19°47N±0'.06×69°93W±0'.04, h19km±3km, n14, σ0°99/22, 7C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LONA1	**Toro Cenizo, N**	**0.10**	**145**	*i* P		**Pg**		**18 14 15.6**	**-0.7**
LONA1				IAML				18 14 16.7	
	comp=Z,360nm,0.1s								
LONA1				*e*S		**Sg**		**18 14 19.8**	**+0.9**
NADR	**Nagua**	**0.13**	**148**⇓*e*Pg			**Pg**		**18 14 16.0**	**-0.5**
NADR				IAML				18 14 22.1	
	comp=N,870nm,0.9s								
NADR				IAML				18 14 24.0	
	comp=E,716nm,0.2s								
DR08	**Loma La Naviza**	**0.51**	**190** *e*Pg			**Pg**		**18 14 21.3**	**-1.4**
DR08				⇑*e*Sg		**Sg**		**18 14 30.1**	**+0.5**
DR08				IAML				18 14 31.6	
	comp=N,2µm,0.1s								
DR08				IAML				18 14 33.0	
	comp=E,1µm,0.2s								
SC01	**Santiago de lo**	**0.76**	**267** *i* P			**Pn**		**18 14 28.5**	**+0.6**
SC01				*e*S		**Sn**		**18 14 40.5**	**+1.6**
SC01				IAML				18 14 45.9	
	comp=Z,126nm,0.2s								
HATOM	**Hato Mayor del**	**0.85**	**142**⇓*e*Pg			**Pg**		**18 14 27.4**	**-1.6**
HATOM				⇑*e*Sg		**Sg**		**18 14 41.5**	**+1.2**
HATOM				IAML				18 14 41.9	
	comp=E,102nm,0.7s								
HATOM				IAML				18 14 43.5	
	comp=N,76nm,0.2s								
ABDR	**Alto Bandera**	**0.93**	**225** *e*Pg			**Pg**		**18 14 29.4**	**-1.1**
ABDR				IAML				18 14 45.1	
	comp=N,174nm,0.2s								
LUDR	**Luperon**	**1.05**	**294** *e*Pg			**Pb**		**18 14 30.8**	**-1.2**
LUDR				⇑*e*Sg		**Sn**		**18 14 45.7**	**-0.5**
LUDR				IAML				18 14 46.1	
	comp=N,696nm,0.3s								
LUDR				IAML				18 14 48.0	
	comp=E,790nm,0.3s								
BANI	**BANI**	**1.14**	**201**⇑*e*Pg			**Pb**		**18 14 33.2**	**-0.4**
BANI				*e*Sg		**Sg**		**18 14 50.6**	**+1.0**
BANI				IAML				18 14 51.9	
	comp=E,473nm,0.1s								
BANI				IAML				18 14 52.1	
	comp=N,362nm,0.1s								
SDDR	**Presa de Saban**	**1.37**	**250**⇑*e*Pg			**Pn**		**18 14 36.0**	**-0.5**
SDDR				⇓*e*Sg		**Sn**		**18 14 54.8**	**+0.6**
SDDR				IAML				18 14 59.4	
	comp=E,27nm,0.9s								
SDDR				IAML				18 15 09.8	
	comp=N,43nm,1.6s								
SDDR	**Presa de Saban**	**1.37**	**250** *i* P			**Pn**		**18 14 36.0**	**-0.5**
SDDR				*e*S		**Sn**		**18 14 54.8**	**+0.6**
SDDR				IAML				18 14 57.3	
	comp=Z,24nm,0.3s								
REDR	**Restauracion**	**1.42**	**258** *e*Pg			**Pg**		**18 14 40.5**	**+0.9**
REDR				IAML				18 15 04.0	
	comp=N,172nm,0.2s								
REDR				IAML				18 15 04.5	
	comp=E,218nm,0.2s								
HIDR	**Higuey Centro**	**1.44**	**127**⇑*e*Pg			**Pb**		**18 14 39.4**	**+0.8**
HIDR				IAML				18 15 02.5	
	comp=E,97nm,0.3s								
HIDR				IAML				18 15 03.1	
	comp=N,253nm,0.2s								
LODA1	**ITESIL, Dajabo**	**1.68**	**273** *e*S			**Sb**		**18 15 02.9**	**-0.4**
MCDR	**Montecristi**	**1.68**	**285**⇑*e*Sg			**Sb**		**18 15 03.7**	**+0.2**
MCDR				IAML				18 15 04.6	
	comp=E,78nm,0.3s								
MCDR				IAML				18 15 10.1	
	comp=N,104nm,0.8s								

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*NSSP **06** 18:18:11.6, 39°.85N×4°.12E, h9km, Ms4.2*
*IDC **06** 18:18:13.9±0.6, 39°.88N×43°.28E, h0km, mb3.8/21, mbtmp3.8/34, ML3.0/10, MS3.3/14, Error ellipse: s-maj=10.2km s-min=6.7km az=170.0*
*ISK **06** 18:18:13.6, 39°.93N×43°.25E, h3km, ML4.2/17*
*TIF **06** 18:18:13.9, 39°.96N×43°.28E, h4km±1km*
*AFAD **06** 18:18:14.4±0.0, 39°.89N×43°.24E, h19km±1km, MW4.2*
*MOS **06** 18:18:14.3±1.3, 39°.85N×43°.32E, h11km, mb4.3/16, Error ellipse: s-maj=5.2km s-min=3.5km az=91.8*
*NEIC **06** 18:18:16.3±2.8, 39°.91N±0'.04×43°.32E±0'.09, h10km±1km, mb4.2/28, Error ellipse: s-maj=11.1km s-min=6.8km az=265.0*
*MCSM **06** 18:18:18.4±0.6, 40°.N±3°×4°.4E±°, h39km±8km, mb3.9, mB3.6, Mw(mB)2.6*
ISC 06 18:18:15.7±0.7, 39°91N±0'.01×43°27E±0'.02, h12km±5km, n297, σ1°59/334, mb4.0/55, MS3.5/11, 32C-7D, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOTA	**Agri, Merkez-K**	**0.12**	**207**	P		**Pg**		**18 18 18.1**	**-0.8**
KOTA				*i* AML		AML		18 18 21.0	
	comp=E,8µm,0.7s								
KOTA				S		**Sg**		**18 18 21.1**	**-0.1**
KOTA				*i* AML		AML		18 18 26.0	
	comp=N,6µm,0.4s								
VNNZ	**Vanand**	**0.47**	**65**⇑*i*P			**Pg**		**18 18 25.0**	**+0.1**
VNNZ				⇑*i*S		**Sn**		**18 18 35.2**	**+4.2**
DYDN	**Diyadin**	**0.48**	**138** P			**Pg**		**18 18 24.2**	**-1.1**
DYDN				S		**Sg**		**18 18 31.7**	**0.0**
DYDN				*i* AML		AML		18 18 34.0	
	comp=N,2µm,0.4s								
DYDN				*i* AML		AML		18 18 35.0	
	comp=E,3µm,0.4s								
DIGO	**Kars**	**0.51**	**9** P			**Pg**		**18 18 24.1**	**-1.8**
DIGO				S		**Sb**		**18 18 34.0**	**-0.4**
EATA	**Eleskirt**	**0.60**	**266** P			**Pg**		**18 18 25.9**	**-1.7**
EATA				S		**Sb**		**18 18 37.4**	**+0.3**
EATA				*i* AML		AML		18 18 39.0	
	comp=N,1µm,0.7s								
EATA				*i* AML		AML		18 18 39.0	
	comp=E,9µm,0.8s								
IGDI	**IGDIR**	**0.62**	**93** P			**Pg**		**18 18 26.8**	**-1.0**
IGDI				S		**Sb**		**18 18 37.4**	**+0.2**
IGDI				*i* AML		AML		18 18 43.0	
	comp=N,5µm,0.7s								
IGDI				*i* AML		AML		18 18 49.0	
	comp=E,4µm,0.7s								
DORK	**Agr/Tutak/Do**	**0.64**	**216**	P		**Pg**		**18 18 26.9**	**-1.4**
DORK				*i* AML		AML		18 18 36.0	
	comp=E,2µm,0.7s								
DORK				S		**Sg**		**18 18 36.5**	**-0.3**
DORK				*i* AML		AML		18 18 45.0	
	comp=N,2µm,0.8s								
METS	**Metsamor**	**0.67**	**68**⇑*i*P			**Pg**		**18 18 28.4**	**-0.2**
METS				⇑*i*S		**Sn**		**18 18 41.1**	**-0.4**
BOZK	**Kars-Merkez-Bo**	**0.72**	**342** P			**Pg**		**18 18 27.9**	**-1.8**
BOZK				S		**Sg**		**18 18 39.5**	**+0.3**
BOZK				*i* AML		AML		18 18 44.0	
	comp=E,3µm,0.5s								
BOZK				*i* AML		AML		18 18 46.0	
	comp=N,2µm,0.5s								
ARUZ	**Aruch**	**0.73**	**59**⇑*i*P			**Pg**		**18 18 28.9**	**-1.0**
ARUZ				⇓*i*S		**Sb**		**18 18 41.2**	**+0.7**
KARS	**Kars**	**0.73**	**348** Pg			**Pg**		**18 18 27.1**	**-2.9**
KARS	**Kars**	**0.73**	**348**			**Pg**		**18 18 27.7**	**-2.3**
KARS	**Kars**	**0.73**	**348** PG			**Pg**		**18 18 27.7**	**-2.3**
TASB	**TASBURUN-IGDIR**	**0.74**	**84** Pg			**Pg**		**18 18 29.4**	**-0.7**
EAK	**Akyaka**	**0.82**	**18** P			**Pg**		**18 18 30.6**	**-1.0**
EAK				S		**Sn**		**18 18 44.8**	**-0.7**
EAK				*i* AML		AML		18 18 47.0	
	comp=N,8µm,0.7s								
EAK				*i* AML		AML		18 18 58.0	
	comp=E,5µm,0.6s								
ERCV	**ERCIS-VAN**	**0.89**	**177** Pg			**Pg**		**18 18 31.7**	**-1.2**
AMBZ	**Amberd**	**0.90**	**57**⇑*i*P			**Pg**		**18 18 31.9**	**-1.1**
AMBZ				⇑*i*S		**Sn**		**18 18 47.3**	**-0.1**
CLDR	**Caldiran**	**0.91**	**147** Pg			**Pg**		**18 18 31.5**	**-1.8**
CLDR	**Caldiran**	**0.91**	**147** P			**Pg**		**18 18 31.5**	**-1.8**
CLDR				S		**Sb**		**18 18 45.1**	**-0.7**
CLDR				*i* AML		AML		18 18 49.0	
	comp=N,7µm,0.6s								
CLDR				*i* AML		AML		18 18 53.0	
	comp=E,9µm,0.5s								
VMUR	**Van-Muradiye**	**0.94**	**166** P			**Pb**		**18 18 33.0**	**-1.2**
VMUR				S		**Sn**		**18 18 47.5**	**-1.0**
VMUR				*i* AML		AML		18 18 53.0	
	comp=E,4µm,0.6s								
VMUR				*i* AML		AML		18 18 59.0	
	comp=N,4µm,0.9s								
MLAZ	**Malazgirt-MUS**	**0.95**	**216** Pg			**Pb**		**18 18 32.4**	**-1.8**
SENK	**Senkaya-Erzuru**	**0.96**	**313** Pg			**Pb**		**18 18 32.5**	**-2.0**
HOMI	**Horasan**	**1.06**	**278** P			**Pb**		**18 18 34.1**	**-2.1**
HOMI				S		**Sn**		**18 18 52.2**	**+0.7**
HOMI				*i* AML		AML		18 19 01.0	
	comp=E,7µm,0.7s								
HOMI				*i* AML		AML		18 19 10.0	
	comp=N,5µm,1.3s								
GOLE	**Ardahan-G¶le**	**1.06**	**331** P			**Pb**		**18 18 34.4**	**-1.8**
GOLE				S		**Sn**		**18 18 51.3**	**-0.2**
GOLE				*i* AML		AML		18 18 56.0	
	comp=N,3µm,0.8s								
GOLE				*i* AML		AML		18 18 57.0	
	comp=E,2µm,0.6s								
KOPR	**Koprukoy-ERZUR**	**1.10**	**275** Pg			**Pb**		**18 18 34.9**	**-1.8**
EKAR	**Karacoban**	**1.14**	**236** P			**Pb**		**18 18 36.7**	**-0.8**
EKAR				S		**Sn**		**18 18 55.7**	**+2.3**
GNI	**Garni**	**1.15**	**77**⇑*i*P			**Pb**		**18 18 36.5**	**-1.2**
GNI				⇓*i*S		**Sn**		**18 18 55.5**	**+1.9**
GNI	**Garni**	**1.15**	**77** Pg			**Pb**		**18 18 36.5**	**-1.2**
	348nm,0.3s,baz=288,slow=4.6,SNR=554								
GNI				Lg		Lg		18 18 54.4	
	580nm,0.3s,baz=195,slow=21,SNR=9.9								
GNI				LR		LR		18 19 03.5	
	comp=Z,502nm,21.6s,baz=324,slow=43								
GNI	**Garni**	**1.15**	**77***ce*PG			**Pb**		**18 18 36.4**	**-1.2**
GNI				pmax		pmax			
	comp=Z,2µm,0.8s								
GNI	**Garni**	**1.15**	**77** P			**Pb**		**18 18 36.7**	**-1.0**
KAPZ	**Kaputan**	**1.17**	**69**⇑*i*P			**Pb**		**18 18 36.7**	**-1.3**
KAPZ				⇑*i*S		**Sn**		**18 18 54.5**	**+0.4**
ADCV	**BITLIS_Adilcev**	**1.18**	**201** P			**Pb**		**18 18 36.6**	**-1.6**
ADCV				S		**Sg**		**18 18 53.4**	**-0.3**
ADCV				*i* AML		AML		18 18 57.0	
	comp=Z,3µm,0.5s								
ADCV				*i* AML		AML		18 18 57.0	
	comp=Z,3µm,0.5s								
VANB	**Van**	**1.31**	**176** Pn			**Pg**		**18 18 41.1**	**+0.1**
AHAN	**Ardahan-Merkez**	**1.35**	**339** P			**Pn**		**18 18 40.1**	**-0.5**
AHAN				S		**Sg**		**18 19 02.4**	**+3.2**
OZAP	**Van, Ozalp-Mer**	**1.36**	**156** P			**Pb**		**18 18 40.8**	**-0.5**
OZAP				S		**Sg**		**18 19 01.9**	**+2.3**
OZAP				*i* AML		AML		18 19 07.0	
	comp=Z,1µm,0.8s								
OZAP				*i* AML		AML		18 19 09.0	
	comp=Z,2µm,0.9s								
TVAN	**Van**	**1.38**	**176** P			**Pb**		**18 18 41.2**	**-0.4**
TVAN				S		**Sg**		**18 19 02.6**	**+2.5**
TVAN				*i* AML		AML		18 19 04.0	
	comp=Z,4µm,0.5s								
TVAN				*i* AML		AML		18 19 06.0	
	comp=Z,4µm,0.6s								
ERZM	**Erzurum**	**1.47**	**271** P			**Pn**		**18 18 42.1**	**-0.2**
AKH	**Akhalkalaki**	**1.51**	**6** P			**Pn**		**18 18 41.8**	**-1.0**
AKH	**Akhalkalaki**	**1.51**	**6** PG			**Pn**		**18 18 41.8**	**-1.0**
DDEM	**Demirkent**	**1.52**	**311** P			**Pn**		**18 18 42.7**	**-0.2**
DDEM				S		**Sg**		**18 19 07.6**	**+2.8**
DAGI	**Agillar**	**1.56**	**319** P			**Pn**		**18 18 43.2**	**-0.3**
DAGI				S		**Sg**		**18 19 07.0**	**+0.9**
VRTB	**Varto-Mus**	**1.59**	**243** Pn			**Pn**		**18 18 43.4**	**-0.5**
VRTB	**Varto-Mus**	**1.59**	**243** P			**Pn**		**18 18 43.5**	**-0.4**
VRTB				S		**Sg**		**18 19 07.0**	**+0.1**
AKDM	**Akdamar-Van**	**1.59**	**188** Pn			**Pn**		**18 18 43.9**	**0.0**
GEVA	**Gevas**	**1.60**	**186** P			**Pb**		**18 18 44.1**	**-1.2**
GEVA				S		**Sg**		**18 19 06.4**	**-0.8**
DBAD	**Bademkaya**	**1.64**	**313** P			**Pn**		**18 18 44.4**	**+0.1**
DBAD				S		**Sg**		**18 19 09.5**	**+1.0**
EPOS	**Posof**	**1.65**	**346** P			**Pn**		**18 18 44.8**	**+0.1**
EPOS				S		**Sg**		**18 19 09.9**	**+1.1**
GURO	**Guroymak-BITLI**	**1.66**	**216** Pn			**Pn**		**18 18 44.5**	**-0.3**
GURO	**Guroymak-BITLI**	**1.66**	**216** Pn			**Pb**		**18 18 45.3**	**-1.1**
KZRT	**Kazreti**	**1.71**	**30** P			**Pb**		**18 18

CHRG Chargali 2.72 27 P Pn 18 19 00.7 +1.3
VSHL Vashlovani 2.72 60 P Pb 18 19 01.7 -2.7
ERZN Erzincan 2.76 264 Pn Pn 18 18 59.8 -0.1
KTUT Trabzon 2.89 293 Pn Pn 18 19 01.6 +0.1
MTEO Meteo 2.93 18 P Pb 18 19 05.6 -2.5
MTEO Meteo 2.93 18 PN Pb 18 19 05.6 -2.5
LGD Lagodekhi 2.96 48 P Pn 18 19 03.9 +1.3
LGD S Sg 18 19 50.6 -0.2
LGD Lagodekhi 2.96 48 PN Pn 18 19 03.9 +1.3
LGD S Sg 18 19 50.7 -0.2
EZC Erzincan 3.02 268 PN Pn 18 19 00.7 -2.9
MNGR Mingechevir, A 3.04 72 PN Pn 18 19 03.6 0.0
SHTL Shatili 3.09 27 P Pn 18 19 06.2 +1.7
SHTL S Sg 18 19 53.8 -1.2
SHTL Shatili 3.09 27 PN Pn 18 19 06.2 +1.7
SHTL S Sg 18 19 53.8 -1.2
SEKA Sheki 3.26 65 PN Pn 18 19 07.6 +0.9
NCK Nalchik 3.59 4 *i* PN Pn 18 19 13.3 +2.0
DOMR Dombai 3.60 340 *i* PN Pn 18 19 14.0 +2.5
GNBR Gunib 3.73 47 *i* PN Pn 18 19 14.1 +0.9
GROC Groznyy 3.80 29 *e*PN Pb 18 19 25.0 +2.3
GROC *e* 18 19 59.5
GROC *e* 18 20 16.9
GROC pmax pmax
comp=Z,69nm,1.2s
GROC smax smax
comp=E,97nm,0.6s
GROC smax smax
comp=N,62nm,0.6s
GROC smax smax
comp=N,211nm,1.0s
GROC smax smax
comp=E,261nm,0.7s
GROC smax smax
comp=E,368nm,1.0s
GROC MLR MLR
comp=Z,497nm,2.0s
KBZ Khabaz 3.83 356 Pn Pn 18 19 16.4 +2.0
comp=Z,0.7nm,0.3s,baz=185,slow=12,SNR=15
KBZ Lg Lg 18 20 18.1
baz=228,slow=12
comp=Z,4.0nm,0.4s
KBZ Khabaz 3.83 356 *ce*PN Pn 18 19 16.7 +2.2
SHA1 Shidzhatmaz 3.86 353 *ce*PN Pn 18 19 16.3 +1.2
ARXR Arkhyz 3.95 338 *i* PN Pn 18 19 17.6 +1.3
KIV Kislovodsk 4.07 354 Pn Pn 18 19 19.6 +1.7
KIV Kislovodsk 4.07 354 *e*PN Pn 18 19 19.7 +1.8
KIV pmax pmax
comp=Z,23nm,1.1s
KIV MLR MLR
comp=Z,58nm,9.0s
KIV Kislovodsk 4.07 354 P Pn 18 19 20.0 +2.1
KVAR Kislovodsk Arr 4.07 354 Pn Pn 18 19 20.0 +2.1
baz=253,slow=11
KVAR Lg Lg 18 20 24.6
baz=102,slow=20
comp=Z,4.5nm,0.5s
RPOR Krasnaya Polya 4.41 330 *i* PN Pn 18 19 23.5 +1.0
MAK Makhachkala 4.41 45 *e*PN Pn 18 19 19.2 -3.2
MAK pmax pmax
comp=Z,204nm,1.1s
MAK MLR MLR
comp=Z,328nm,8.0s
LKRN Lenkeran, Azer 4.43 104 PN Pn 18 19 22.8 0.0
SOC Sochi 4.54 325 *e*PN Pn 18 19 23.9 -0.3
SOC *e*PPP PPP 18 19 38.8
SOC *e* 18 20 18.0
SOC pmax pmax
comp=Z,15nm,0.3s
SOC MLR MLR
comp=Z,268nm,14.0s
GUZR Guzeripl' 4.71 331 *i* PN Pn 18 19 28.0 +1.3
LABN Labinsk 5.09 339 *e*PN Pb 18 19 38.9 -5.9
LABN *e*S Sn 18 20 35.5 +4.8
LABN pmax pmax
comp=Z,15nm,0.5s
LABN MLR MLR
comp=Z,287nm,6.0s
BNN Bunyan 5.85 262 Pn Pn 18 19 45.1 +2.7
ERBR Yeremizino-Bor 6.16 341 *e*P Pn 18 19 45.0 -1.5
ERBR *e*S Sn 18 20 51.8 -5.0
ERBR pmax pmax
comp=Z,4.0nm,0.6s
ANN Anapa 6.53 320 *e*P Pn 18 19 54.8 +3.3
ANN *e*S Sn 18 21 11.3 +5.4
ANN pmax pmax
comp=Z,41nm,1.2s
ANN MLR MLR
comp=Z,259nm,14.0s
BR104 Keskin Array S 7.42 272 P Pn 18 20 08.1 +4.2
comp=Z,2.6nm,0.9s,comp=Z,34nm
BR131 Keskin Array S 7.42 272 Pn Pn 18 20 06.3 +2.3
BR131 Keskin Array S 7.42 272 P Pn 18 20 06.3 +2.3
BRTR Keskin Array B 7.42 272 Pn Pn 18 20 06.4 +2.5
BRTR Keskin Array B 7.42 272 Pn Pn 18 20 06.3 +2.3
comp=Z,0.1nm,0.3s,baz=111,slow=13,SNR=12
BRTR Lg Lg 18 22 11.2
baz=112,slow=16,SNR=2.0
comp=Z,1.2nm,0.7s
BRTR Keskin Array B 7.42 272 *i* P Pn 18 20 08.6 +4.6
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR106 Keskin Array S 7.43 272 P Pn 18 20 08.0 +3.8
comp=Z,4.0nm,0.9s
BR105 Keskin Array S 7.44 272 P Pn 18 20 07.3 +3.1
comp=Z,4.5nm,1.0s,comp=Z,52nm
SEV Sevastopol' 8.50 306 ⇑*i* P Pn 18 20 30.9 +12
MDUB Mudurnu 9.26 277 Pn Pn 18 20 31.8 +2.7
ASF Jabal al Asfar 9.28 216 Pn Pn 18 20 29.1 -0.4
baz=119,slow=0.1,SNR=2.1
ASF Lg Lg 18 23 13.1
comp=Z,0.1nm,0.3s,baz=239,slow=0.1,SNR=3.8
comp=Z,2.1nm,0.7s
CSS Mathiatis 9.32 241 Pn Pn 18 20 33.0 +3.0
MMAI Mount Meron Ar 9.35 225 Pn Pn 18 20 30.8 +0.4
comp=Z,0.5nm,0.3s,baz=58,slow=14,SNR=2.0
MMAI Lg Lg 18 23 08.1
comp=Z,0.3nm,0.3s,baz=33,slow=32,SNR=1.4
MMAI LR LR 18 23 52.3
comp=Z,36nm,20.0s,baz=50,slow=36
comp=Z,1.1nm,0.5s
KARJ KARJ 10.74 218 P Pn 18 20 49.3 0.0
KHAM Kharkiv 11.24 336 P Pn 18 20 58.9 +2.7
GEYT Alibeck 11.73 95 Pn Pn 18 21 02.0 -0.9
comp=Z,0.1nm,0.3s,baz=271,slow=14,SNR=2.8
comp=Z,0.9nm,0.6s
EIL Elat 12.28 216 Pn Pn 18 21 10.7 +0.2
comp=Z,0.1nm,0.3s,baz=66,slow=12,SNR=2.4
EIL Lg Lg 18 24 46.2
comp=Z,0.1nm,0.3s,baz=340,slow=19,SNR=1.5
EIL LR LR 18 25 22.6
comp=Z,44nm,21.9s,baz=50,slow=35
comp=Z,1.2nm,0.6s
BELG Belogornoye 12.84 12 Pn Pn 18 21 18.4 +0.4
comp=Z,9.5nm,0.6s,baz=187,slow=12,SNR=5.0
BELG Belogornoye 12.84 12 *i* P Pn 18 21 18.2 +0.2
BELG pmax pmax
comp=Z,3.0nm,0.9s
VRI Vrincioaia 13.51 302 ⇑P P 18 21 40.9 +4.6
NEHR Nehoiu 13.65 299 P P 18 21 47.2 +9.2
COVR Voineasa-Covas 13.84 301 ⇓P P 18 21 38.3 -1.8
MLR Muntele Rosu 13.90 299 ⇑P P 18 21 44.9 +4.0
MLR Muntele Rosu 13.90 299 P P 18 21 40.0 -0.9
NDNU Novodnistrovsk 14.31 313 P Pn 18 21 39.9 +1.8
DOPR Dopca 14.42 301 ⇓P P 18 21 45.6 -0.9
VOIR 14.49 298 ⇑P P 18 21 50.8 +3.4
AK07 Malin Array Si 14.52 322 P P 18 21 45.4 -2.1
AK09 Malin Array Si 14.52 322 P P 18 21 47.6 0.0
AK10 Malin Array Si 14.53 322 P P 18 21 44.6 -3.0
AK08 Malin Array Si 14.55 322 P P 18 21 47.7 -0.2
AK05 Malin Array Si 14.56 322 P P 18 21 48.4 +0.4
AK02 Malin Array Si 14.59 322 P P 18 21 47.0 -1.3
AK12 Malin Array Si 14.60 322 P P 18 21 48.0 -0.5
AK01 Malin Array Si 14.61 322 P P 18 21 48.2 -0.3
AKASG Malin Array Be 14.61 322 Pn Pn 18 21 41.0 -1.1
comp=Z,0.3nm,0.3s,baz=134,slow=12,SNR=4.5
AKASG LR LR 18 28 42.3
comp=Z,87nm,19.0s,baz=147,slow=43
comp=Z,0.3nm,0.4s
AKASG Malin Array Be 14.61 322 P Pn 18 21 41.0 -1.1
AKBB Malin Array Si 14.61 322 P P 18 21 48.7 +0.2
AKBB Malin Array Si 14.61 322 *i* P Pn 18 21 44.3 +2.2
KIEV Kiev 14.61 322 ⇑P P 18 21 48.8 +0.2
KIEV Kiev 14.61 322 P P 18 21 48.7 +0.2
KIEV Kiev 14.61 322 P P 18 21 48.7 +0.2

AK11 Malin Array Si 14.62 322 P Pn 18 21 45.1 +2.8
AK03 Malin Array Si 14.63 322 P P 18 21 45.8 -2.9
AKTO Aktyubinsk 14.77 40 Pn Pn 18 21 41.1 -3.2
comp=Z,0.2nm,0.3s,baz=211,slow=7.5,SNR=4.2
comp=Z,0.6nm,0.3s
BURAR Bucovina Array 15.13 307 ⇑P P 18 21 55.8 +1.3
BURAR Bucovina Array 15.13 307 P P 18 21 55.7 +1.3
BURAR IAmb IAmb 18 22 11.3
comp=Z,7.0nm,0.8s
BURAR Bucovina Array 15.13 307 ⇑P P 18 21 55.8 +1.3
BUR08 Bucovina Ar. S 15.15 307 P P 18 21 56.1 +1.4
HORU Horodok 15.16 313 P P 18 21 52.8 -1.9
IDI Anoyia 15.28 258 Pn Pn 18 21 51.0 -0.3
comp=Z,0.2nm,0.3s,baz=345,slow=12,SNR=1.4
KSV Kosov 15.52 309 P P 18 21 58.3 -0.4
KSV Kosov 15.52 309 P P 18 21 57.5 -1.2
OBN Obninsk 15.86 346 Pn Pn 18 21 57.5 -1.2
comp=Z,5.9nm,0.5s,baz=79,slow=19,SNR=3.8
OBN Obninsk 15.86 346 ⇑*i* P Pn 18 21 57.3 -1.4
OBN S Sn 18 24 56.0 +1.7
OBN pmax pmax
comp=Z,22nm,1.5s
OBN MLR MLR
comp=Z,174nm,15.0s
GZR Gura Zlata 16.03 297 ⇑P P 18 22 03.7 -0.7
MARR Marisel-Cluj 16.14 301 ⇑P P 18 22 08.2 +2.6
HERR Herculane 16.18 295 ⇑P P 18 22 08.4 +2.4
MOS Moscow 16.28 349 *e*P Pn 18 22 02.0 -2.0
MOS *e*S Sn 18 25 04.2 -0.2
MOS pmax pmax
comp=Z,54nm,1.2s
DRGR 16.44 301 ⇓P P 18 22 12.4 +3.4
DRGR 16.44 301 ⇓P P 18 22 12.4 +3.4
RAYN Ar Rayn 16.44 173 Pn Pn 18 22 05.7 -0.7
RAYN Ar Rayn 16.44 173 P Pn 18 22 05.7 -0.7
RAYN pmax pmax
comp=Z,7.0nm,1.0s
BOVS Bovan 16.51 290 ⇑P P 18 22 09.8 +0.1
SURR Surduc 16.56 298 ⇑P P 18 22 11.2 +1.0
MORS Morshin 16.58 310 P P 18 22 12.5 +2.1
MORS Morshin 16.58 310 P P 18 22 12.5 +2.1
RNPP5 Staryi Chortor 16.58 319 P P 18 22 10.9 +0.5
MDVR Moldovita 16.65 294 ⇓P P 18 22 12.4 +1.0
RNPP8 Varash 16.66 319 P P 18 22 10.4 -0.9
LVV L'vov 16.82 312 *e*P P 18 22 15.5 +2.5
HOLU Holmets 17.23 307 P P 18 22 17.1 -0.6
KIRV Kirov 19.11 10 P P 18 22 37.5 -0.7
comp=Z,5.5nm,0.6s,baz=177,slow=16,SNR=3.8
KIRV Kirov 19.11 10 *i* P Pn 18 22 39.6 +0.6
LANS Liptovska Anna 19.26 307 *e*P Pn 18 22 42.3 +1.3
LANS Liptovska Anna 19.26 307 *e*P Pn 18 22 42.3 +1.3
ARU Arti 19.35 26 P P 18 22 38.4 -2.5
ARU Arti 19.35 26 P P 18 22 39.8 -1.1
baz=220,slow=9.3,SNR=7.1
comp=Z,4.0nm,0.7s
ARU Arti 19.35 26 *c* *i* P P 18 22 40.3 -0.6
ARU S Sn 18 26 16.6 -2.0
ARU pmax pmax
comp=Z,10.0nm,1.2s
VYHS Vyhne 19.45 304 *e*P Pn 18 22 45.4 +2.2
VYHS Vyhne 19.45 304 *e*P Pn 18 22 45.4 +2.2
SIMJ Simiganj 19.94 85 P P 18 22 47.0 -0.6
SIMJ IAmb IAmb 18 23 06.0
comp=Z,18nm,1.4s
MPLH Magyarpolny 19.96 300 P Pn 18 22 50.7 +1.4
comp=Z,22nm,1.3s
CHGR Chuyangaron 20.06 85 P P 18 22 46.6 -2.3
CHGR Chuyangaron 20.06 85 P P 18 22 46.6 -2.3
CHGR pmax pmax
comp=Z,25nm,0.9s
SVE Sverdlovsk 20.38 28 *e*P Pn 18 22 53.6 -0.6
SVE pmax pmax
comp=Z,30nm,1.3s
TIP Timpagrande 20.44 277 P Pn 18 22 58.1 +3.0
comp=Z,8.0nm,1.2s
KK31 Karatay Array 20.61 72 P P 18 22 54.5 -0.3
KK31 IAmb IAmb 18 23 02.5
comp=Z,8.4nm,0.8s
KK31 Karatay Array 20.61 72 P P 18 22 54.5 -0.3
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 20.61 72 P P 18 22 54.4 -0.4
KKAR IAmb IAmb 18 23 02.5
comp=Z,8.3nm,0.8s
KKAR Karatay Array 20.61 72 P P 18 22 54.4 -0.4
KKAR pmax pmax
comp=Z,8.0nm,0.8s
RONA Rosalia, Austr 20.90 301 *i* Pn P 18 22 57.6 -0.2
comp=Z,5.0nm,0.8s
CUC Castrococco 21.02 279 P P 18 23 00.9 +1.6
BTK Batken 21.08 81 IAmb IAmb 18 23 06.6
comp=Z,13nm,1.0s
WSAR Wadi Sarin 21.10 137 P P 18 22 59.2 -0.9
comp=Z,3.5nm,0.9s,baz=319,slow=20,SNR=1.6
comp=Z,3.5nm,0.9s
VRAC Vranov 21.10 305 P P 18 22 59.8 -0.2
comp=Z,1.2nm,0.7s,baz=172,slow=15,SNR=3.0
comp=Z,1.2nm,0.7s
KLMR Klimovskoe 21.10 355 *e*P P 18 22 56.8 -3.1
KLMR pmax pmax
comp=Z,31nm,1.4s
KRUC Moravsky 21.16 305 *e*P P 18 23 01.5 +0.9
KBL Kabul 21.17 97 P P 18 22 59.7 -1.4
KBL IAmb IAmb 18 23 08.9
comp=Z,17nm,1.4s
KBL Kabul 21.17 97 P P 18 22 59.7 -1.4
KBL pmax pmax
comp=Z,17nm,1.4s
CONA Conrad Observa 21.23 301 *i* pP P 18 23 02.5 +1.0
comp=Z,5.5nm,1.4s
CEL Celeste 21.29 274 P P 18 23 06.1 +3.9
comp=Z,12nm,1.0s
ARSA Arerg 21.32 299 *i* P P 18 23 02.8 +0.4
comp=Z,2.5nm,0.9s
SOKA Soboth 21.57 298 *e*P P 18 23 04.3 -0.8
comp=Z,4.9nm,1.4s
DPC Dobruska-Polom 21.58 308 P P 18 23 07.8 +2.6
DPC Dobruska-Polom 21.58 308 P P 18 23 07.8 +2.6
comp=Z,3.7nm,1.9s
OBKA Obir 21.88 297 *i* P P 18 23 07.5 -0.9
comp=Z,0.9nm,0.6s
DRK Karamyk 21.92 82 P P 18 23 08.9 -0.3
DRK Karamyk 21.92 82 P P 18 23 08.9 -0.3
DRK pmax pmax
comp=Z,11nm,0.7s
MOA Molln 22.27 300 *e*P P 18 23 09.9 -2.6
comp=Z,2.2nm,1.2s
MYKA Terra Mystica 22.51 297 *e*pP P 18 23 16.3 +1.1
comp=Z,4.1nm,1.0s
BRVK Borovoye 22.61 45 P P 18 23 17.8 +1.6
BRVK IAmb IAmb 18 23 30.7
comp=Z,6.1nm,0.8s
BRVK Borovoye 22.61 45 *ce*P P 18 23 17.9 +1.7
BRVK pmax pmax
comp=Z,6.0nm,0.8s
BVAR Borovoye Array 22.66 46 P P 18 23 16.4 -0.2
comp=Z,0.9nm,0.6s,baz=242,slow=8.2,SNR=7.8
BVAR LR LR 18 33 46.6
comp=Z,59nm,18.9s,baz=248,slow=41
comp=Z,0.9nm,0.6s
BIOA Bad Ischl, Aus 22.66 300 *e*pP P 18 23 19.0 +2.2
comp=Z,2.4nm,0.6s
KBA Koelnbreinsper 22.77 298 *i* pP pP 18 23 21.3 -0.8
comp=Z,4.2nm,0.8s
KBA Koelnbreinsper 22.77 298 P P 18 23 20.6 +2.5
GERES GERESS Array B 22.83 303 P P 18 23 19.7 +1.1
comp=Z,1.2nm,0.8s,baz=79,slow=14,SNR=3.9
comp=Z,1.2nm,0.8s
KHC Kasperske Hory 22.97 304 P P 18 23 17.9 -2.2
KHC Kasperske Hory 22.97 304 *ce*P P 18 23 21.3 +1.3
KHC pmax pmax
comp=Z,5.0nm,1.0s
KHC Kasperske Hory 22.97 304 P P 18 23 19.9 -0.1
LESA Schwarzleotal 23.27 299 *e*pP P 18 23 22.9 -0.2
comp=Z,4.4nm,0.7s
ABTA Abfaltersbach 23.30 297 *e*pP P 18 23 23.0 -0.4
comp=Z,7.0nm,1.5s
AAK Ala-Archa 23.56 73 P P 18 23 27.0 +0.8
AAK IAmb IAmb 18 23 51.4
comp=Z,5.9nm,0.9s
AAK Ala-Archa 23.56 73 LR LR 18 33 39.0
comp=Z,56nm,19.2s,baz=287,slow=39
AAK Ala-Archa 23.56 73 *ce*P P 18 23 27.3 +1.2
AAK pmax pmax
comp=Z,5.0nm,1.0s

CTI Castel Tesino 23.84 295 P P 18 23 29.3 +0.6
CTI Castel Tesino 23.84 295 P P 18 23 29.3 +0.6
CTI pmax pmax
comp=Z,3.0nm,0.7s
CLL Collm 23.88 309 *e*P P 18 23 30.0 +1.1
CLL *ex* x 18 23 38.0
CLL *ex* x 18 23 45.0
CLL Collm 23.88 309 *e*P P 18 23 30.0 +1.1
WTTA Wattenberg 23.95 298 *e*pP P 18 23 31.2 +1.3
comp=Z,2.8nm,0.8s
WATA Walderalm 24.00 299 *e*pP P 18 23 30.6 +0.3
comp=Z,6.6nm,1.1s
FINES FINESS Array B 24.01 340 P P 18 23 29.4 -0.6
comp=Z,1.2nm,0.7s,baz=132,slow=13,SNR=7.2
comp=Z,1.2nm,0.7s
SQTA Sankt Quirin 24.23 298 *e*pP P 18 23 33.3 +0.8
comp=Z,3.9nm,0.6s
MOTA Moosalm 24.32 298 *e*P P 18 23 33.0 -0.3
comp=Z,3.9nm,1.0s
FETA Feichten 24.54 298 *e*pP P 18 23 36.4 +1.1
comp=Z,4.0nm,0.9s
RETA Reutte 24.56 299 *i* P P 18 23 33.9 -1.5
comp=Z,3.5nm,0.8s
FUORN Ofenpass-Fuorn 24.83 297 P P 18 23 39.0 +1.0
FUORN IAmb IAmb 18 24 16.6
comp=Z,5.7nm,1.2s
KSH Kashi 25.09 80 P P 18 23 41.2 +0.9
DAVOX Davos/Dischmat 25.10 297 P P 18 23 40.7 +0.2
comp=Z,2.1nm,0.5s,baz=126,slow=10,SNR=4.8
comp=Z,2.1nm,0.5s
DAVA Damuels 25.14 298 *i* P P 18 23 40.8 +0.1
comp=Z,5.7nm,0.9s
KURBB Kurchatov Arra 26.79 55 P P 18 23 55.5 +0.1
comp=Z,1.3nm,0.6s,baz=264,slow=8.8,SNR=16
KURBB LR LR 18 36 32.0
comp=Z,114nm,18.5s,baz=173,slow=41
comp=Z,1.3nm,0.6s
KURK Kurchatov 26.86 54 P P 18 23 57.1 +1.0
KURK IAmb IAmb 18 24 05.1
comp=Z,4.7nm,0.9s
KURK Kurchatov 26.86 54 *ce*P P 18 23 57.7 +1.7
KURK pmax pmax
comp=Z,7.0nm,1.1s
SENIN Lac Senin/Sane 26.87 296 P P 18 23 55.4 -1.0
HFS Hagfors 27.38 327 P P 18 23 59.9 -0.7
comp=Z,2.3nm,0.7s,baz=141,slow=9.6,SNR=4.0
HFS LR LR 18 35 59.3
comp=Z,57nm,19.1s,baz=124,slow=39
comp=Z,2.3nm,0.7s
MAKZ Makanchi 28.75 63 P P 18 24 13.7 +0.6
MAKZ Makanchi 28.75 63 P P 18 24 13.7 +0.6
MAKZ pmax pmax
comp=Z,9.0nm,1.4s
SSB Saint Sauveur 28.82 294 P P 18 24 14.7 +1.0
SSB IAmb IAmb 18 24 57.4
comp=Z,5.8nm,1.4s
SSB Saint Sauveur 28.82 294 P P 18 24 14.7 +1.0
SSB pmax pmax
comp=Z,6.0nm,1.4s
MK31 Makanchi Array 28.96 63 P P 18 24 15.8 +0.8
MK31 Makanchi Array 28.96 63 *i* P P 18 24 16.2 +1.2
MKAR Makanchi Array 28.96 63 P P 18 24 14.9 0.0
MKAR Makanchi Array 28.96 63 P P 18 24 16.3 +1.3
comp=Z,1.2nm,0.6s,baz=264,slow=8.5,SNR=11
MKAR LR LR 18 37 14.4
comp=Z,52nm,18.6s,baz=288,slow=39
comp=Z,1.2nm,0.6s
MKAR Makanchi Array 28.96 63 *i* P P 18 24 16.5 +1.5
MKAR pmax pmax
comp=Z,1.0nm,0.6s
ZALV Zalesovo Beam 31.16 49 P P 18 24 34.2 -0.1
comp=Z,0.4nm,0.4s,baz=264,slow=10.0,SNR=2.0
comp=Z,0.4nm,0.4s
EKA Eskdalemuir Ar 34.17 313 P P 18 25 00.5 -0.1
comp=Z,2.5nm,0.9s,baz=75,slow=9.7,SNR=4.6
comp=Z,2.5nm,0.9s
ESDC Sonseca Array 35.96 285 P P 18 25 16.5 +0.2
comp=Z,0.5nm,0.7s,baz=69,slow=8.8,SNR=7.3
comp=Z,0.5nm,0.7s
SPITS Spitsbergen Ar 39.94 352 P P 18 25 50.3 +0.9
comp=Z,6.3nm,0.9s,baz=163,slow=10,SNR=2.0
comp=Z,6.3nm,0.9s
SONM Songino Array 45.05 58 P P 18 26 32.8 +1.4
comp=Z,0.4nm,0.6s,baz=276,slow=11,SNR=3.0
SONM LR LR 18 47 51.5
comp=Z,128nm,19.0s,baz=300,slow=39
comp=Z,0.4nm,0.6s
TORD Torodi Ar. Bea 45.18 246 P P 18 26 32.3 -0.3
comp=Z,0.6nm,0.6s,baz=34,slow=7.9,SNR=4.8
comp=Z,0.6nm,0.6s
ULN Ulaanbaatar 45.47 58 *ce*P P 18 26 37.0 +2.2
ULN pmax pmax
comp=Z,4.0nm,1.3s
PZH PanZhiHua 49.90 87 P P 18 27 11.0 +1.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
HHC Hu-ho-hao-te 50.79 65 *e*P P 18 27 16.8 +0.9
HHC pmax pmax
comp=Z,29nm,0.8s
HHC pmax pmax
comp=Z,64nm,6.0s
CMAR Chiang Mai Arr 52.20 97 P P 18 27 26.7 +0.1
comp=Z,1.0nm,0.7s,baz=304,slow=8.2,SNR=8.4
comp=Z,1.0nm,0.7s
CMAR Chiang Mai Arr 52.20 97 *i* P P 18 27 27.2 +0.6
CMAR pmax pmax
comp=Z,1.0nm,0.7s
YAK Yakutsk 54.11 36 LR LR 18 52 21.7
comp=Z,48nm,18.1s,baz=287,slow=38
DBIC Dimbokro 54.29 246 P P 18 27 41.4 -0.6
comp=Z,1.7nm,0.6s,baz=125,slow=7.6,SNR=1.5
comp=Z,1.7nm,0.6s
FRB Frobisher Bay 63.56 333 LR LR 18 57 53.7
comp=Z,39nm,18.6s,baz=302,slow=37
KSRS Korea Array 63.64 62 P P 18 28 46.7 0.0
comp=Z,0.5nm,0.7s,baz=284,slow=5.3,SNR=3.8
KSRS LR LR 18 59 42.9
comp=Z,28nm,19.0s,baz=220,slow=39
comp=Z,0.5nm,0.7s
MA2 Magadan 64.38 33 LR LR 19 01 04.4
comp=Z,53nm,18.2s,baz=301,slow=40
MJAR Matsushiro Arr 71.00 58 LR LR 19 02 38.0
comp=Z,39nm,18.7s,baz=342,slow=38
ILAR Eielson Array 75.35 4 P P 18 29 58.4 -0.2
comp=Z,0.3nm,0.9s,baz=331,slow=5.4,SNR=2.2
comp=Z,0.3nm,0.9s
YKA Yellowknife Ar 76.40 350 P P 18 30 04.6 0.0
comp=Z,0.9nm,0.8s,baz=13,slow=6.8,SNR=12
comp=Z,0.9nm,0.8s
YKA Yellowknife Ar 76.40 350 *i* P P 18 30 04.9 +0.3
YKA pmax pmax
comp=Z,2.0nm,1.1s
PDAR Pinedale Array 94.11 340 P P 18 31 35.1 +0.6
comp=Z,0.2nm,0.8s,baz=100,slow=5.0,SNR=1.4
comp=Z,0.2nm,0.8s

CATAC ***06*** *18:21:08.1±1.1, 13°.19N×88°.05W, h5km±5km, ML3.9*
SNET ***06*** *18:21:08.0±0.7, 13°.24N×88°.06W, h5km±2km, ML4.1*
ISC 06 18:21:08.5±1.1, 13°.20N±0°.07×88°.07W±0°.03, h15km±6km, n41, σ0°64/56, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**0.18**	**288**	*eP*	**Pg**	**18 21 12.8**	**-0.2**
JUCU				*eS*	**Sg**	**18 21 16.0**	**+0.1**
JUCU	**Jucuarįn**	**0.18**	**288**	*iP*	**Pg**	**18 21 12.7**	**-0.2**
JUCU				*i* S	**Sg**	**18 21 16.2**	**+0.3**
JUCU				IAML		18 21 17.1	
	comp=Z,84µm,1.0s						
CNCH	**Conchagua**	**0.24**	**71**	⇑*eP*	**Pg**	**18 21 13.5**	**-0.4**
CNCH				*eS*	**Sg**	**18 21 17.2**	**-0.5**
CNCH	**Conchagua**	**0.24**	**71**	*iP*	**Pg**	**18 21 13.6**	**-0.4**
CNCH				*i* S	**Sg**	**18 21 18.0**	**+0.3**
CNRM	**Centro Naciona**	**0.29**	**341**	*eP*	**Pg**	**18 21 14.2**	**-0.5**
CNRM	**Centro Naciona**	**0.29**	**341**	*iP*	**Pg**	**18 21 14.3**	**-0.5**
CNRM				*i* S	**Sb**	**18 21 19.6**	**-0.6**
CNRM				IAML		18 21 26.6	
	comp=Z,85µm,1.0s						
BLLM	**Bellamira**	**0.29**	**327**	⇑*iP*	**Pg**	**18 21 14.3**	**-0.4**
VSM	**San Miguel**	**0.30**	**319**	*eP*	**Pg**	**18 21 14.9**	**-0.2**
LCY	**Lacayo**	**0.31**	**316**	*eP*	**Pg**	**18 21 14.9**	**-0.2**
RANC	**El Ranchito**	**0.32**	**318**	*eP*	**Pg**	**18 21 15.0**	**-0.2**
RANC	**El Ranchito**	**0.32**	**318**	*iP*	**Pg**	**18 21 15.0**	**-0.2**
RANC				*i* S	**Sg**	**18 21 20.1**	**+0.3**

RANC					IAML		18 21 24.2	
	comp=Z,10μm,1.0s							
PACA	**Pacayal**	**0.37**	**318**	*eP*	**Pg**	**18 21 15.8**	**-0.2**	
PACA	**Pacayal**	**0.37**	**318**	*i* P	**Pg**	**18 21 16.0**	**-0.1**	
PACA					IAML	18 21 24.7		
	comp=Z,37μm,1.0s							
TECA	**Tecapa**	**0.51**	**305**	*eP*	**Pg**	**18 21 18.6**	**-0.2**	
COEB	**Comit de Eme**	**0.54**	**304**	*eP*	**Pg**	**18 21 19.0**	**-0.1**	
COEB	**Comit de Eme**	**0.54**	**304**	*i* P	**Pg**	**18 21 19.1**	**-0.1**	
COEB				*i* S	**Sb**	**18 21 27.2**	**-0.2**	
COEB					IAML	18 21 28.6		
	comp=Z,4μm,1.0s							
PQSS	**Presa 15 de Se**	**0.64**	**312**	*eP*	**Pg**	**18 21 20.7**	**-0.4**	
PQSS	**Presa 15 de Se**	**0.64**	**312**	*i* P	**Pg**	**18 21 20.6**	**-0.4**	
PQSS				*i* S	**Sb**	**18 21 30.8**	**+0.7**	
PQSS					IAML	18 21 30.9		
	comp=Z,2μm,1.0s							
TECO	**Alcaldia de Te**	**0.77**	**296**	*eP*	**Pg**	**18 21 22.9**	**-0.6**	
TECO	**Alcaldia de Te**	**0.77**	**296**	*i* P	Pn	18 21 33.9	+9.0	
SCLA	**Alcaldia de Sa**	**0.81**	**308**	*eP*	**Pg**	**18 21 23.8**	**-0.6**	
SCLA	**Alcaldia de Sa**	**0.81**	**308**	*i* P	**Pg**	**18 21 23.9**	**-0.5**	
SCLA				*i* S	**Sb**	**18 21 36.4**	**+1.2**	
SCLA					IAML	18 21 37.9		
	comp=Z,1μm,1.0s							
UESV	**Universidad de**	**0.82**	**302**	*eP*	**Pg**	**18 21 24.2**	**-0.3**	
UESV	**Universidad de**	**0.82**	**302**	*i* P	**Pg**	**18 21 24.2**	**-0.3**	
UESV				*i* S	**Sg**	**18 21 35.6**	**+0.2**	
UESV					IAML	18 21 37.2		
	comp=Z,3μm,1.0s							
COEG	**Centro de Oper**	**0.89**	**298**	*eP*	**Pg**	**18 21 25.4**	**-0.5**	
COEG	**Centro de Oper**	**0.89**	**298**	*i* P	**Pg**	**18 21 25.5**	**-0.4**	
COEG					IAML	18 21 41.0		
	comp=Z,4μm,1.0s							
PAVA	**Las Pavas**	**0.99**	**301**	*eP*	**Pb**	**18 21 27.1**	**-0.3**	
PAVA	**Las Pavas**	**0.99**	**301**	*i* P	**Pb**	**18 21 27.3**	**-0.1**	
PAVA				*i* S	**Sn**	**18 21 41.5**	**-0.2**	
PAVA					IAML	18 21 42.2		
	comp=Z,4μm,1.0s							
LOMA	**Loma Larga**	**1.16**	**293**	*i* P	**Pb**	**18 21 29.9**	**-0.5**	
LOMA				*i* S	**Sg**	**18 21 46.0**	**-0.1**	
LOMA					IAML	18 21 49.6		
	comp=Z,3μm,1.0s							
UEES	**Universidad Ev**	**1.25**	**295**	*i* P	**Pb**	**18 21 32.3**	**+0.4**	
UEES				*i* S	**Sn**	**18 21 48.8**	**+0.6**	
UEES					IAML	18 21 58.3		
	comp=Z,1μm,1.0s							
LALI	**Alcalda de L**	**1.25**	**284**	*i* P	**Pn**	**18 21 31.8**	**+0.3**	
LALI				*i* S	**Sg**	**18 21 49.3**	**+0.3**	
LALI					IAML	18 22 10.4		
	comp=Z,350nm,1.0s							
PIC2	**El Picacho**	**1.27**	**295**	*eP*	**Pn**	**18 21 32.4**	**+0.3**	
LLGN	**La Laguna**	**1.28**	**319**	*i* S	**Sg**	**18 21 50.9**	**+0.9**	
PMON	**Piamonte**	**1.31**	**293**	*eP*	**Pn**	**18 21 32.3**	**-0.1**	
PMON	**Piamonte**	**1.31**	**293**	*i* P	**Sn**	**18 21 49.9**	**+0.1**	
JAYA	**Jayaque - finc**	**1.42**	**289**	*i* P	**Sg**	**18 21 53.0**	**-1.3**	
UNIC	**Universidad Ca**	**1.64**	**299**	*i* P	**Pn**	**18 21 37.4**	**+0.6**	
UNIC				*i* S	**Sg**	**18 22 00.7**	**-0.6**	
CEVE	**Cerro Verde**	**1.64**	**293**	*i* P	**Pb**	**18 21 38.6**	**0.0**	
CEVE				*i* S	**Sg**	**18 22 01.9**	**+0.6**	
MTO3	**Montecristo**	**1.73**	**314**	*i* P	**Sg**	**18 22 03.3**	**-1.1**	
NUBE	**Las Nubes**	**1.80**	**293**	*i* P	**Sg**	**18 22 03.7**	**-3.0**	
ESQI	**Esquipulas**	**1.83**	**318**	*i* P	**Pn**	**18 21 40.4**	**+0.8**	

*NSSP **06** 18:37:00.3,38˚.42N×45˚.10E,h5km,Ms3.2*
*AFAD **06** 18:37:00.6±0.0,38˚.47N×45˚.10E,h4km±1km,ML2.5*
*TEH **06** 18:37:01.7,38˚.40N×44˚.98E,h5km,ML2.7*
*ISK **06** 18:37:02.5,38˚.53N×44˚.97E,h5km,ML2.5/8*
*AZER **06** 18:37:03.2,38˚.65N×44˚.99E,h2km,ml2.9*
ISC 06 18:37:02.5±1.1,38˚.45N±0˚.02×45˚.04E±0˚.02,h10km±10km, n50,σ1$13/87,2D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.48**	**110**	Pg	**Pg**	**18 37 12.2**	**+0.3**
IMRD	**Marand**	**0.58**	**63**	Pg	**Pb**	**18 37 14.6**	**-0.2**
IMRD				Sg	**Sn**	**18 37 25.6**	**-1.0**
NAX	**Nakhchivan**	**0.80**	**26**	P	**Pg**	**18 37 18.2**	**+0.3**
NAX				S	**Sb**	**18 37 30.1**	**+0.5**
OZAP	**Van, Ozalp-Mer**	**0.85**	**285**	P	**Pg**	**18 37 17.5**	**-1.4**
OZAP				S	**Sb**	**18 37 31.1**	**+0.1**
OZAP				*i* AML	AML	18 37 36.0	
	comp=N,148nm,0.7s						
ORD	**Ordubad**	**0.88**	**57**	P	**Pb**	**18 37 20.0**	**+0.1**
ORD				S	**Sb**	**18 37 32.9**	**+1.1**
ITBZ	**Tabriz**	**0.89**	**104**	Pg	**Pg**	**18 37 19.3**	**-0.4**
SBZ	**Shahbuz**	**1.02**	**23**	P	**Pb**	**18 37 21.9**	**-0.5**
SBZ				S	**Sn**	**18 37 36.7**	**-0.8**
YOVA	**Hakkari_Yksek**	**1.05**	**215**	P	**Pb**	**18 37 21.8**	**-1.0**
YOVA				S	**Sn**	**18 37 39.8**	**+1.6**
YOVA				*i* AML	AML	18 37 44.0	
	comp=N,102nm,0.5s						
YOVA				*i* AML	AML	18 37 44.0	
	comp=E,89nm,0.6s						
IAZR	**Azarshahr**	**1.07**	**136**	Pg	**Pn**	**18 37 23.8**	**+0.1**
CLDR	**Caldiran**	**1.12**	**308**	Pg	**Pb**	**18 37 22.6**	**-1.5**
CLDR				Sg	**Sg**	**18 37 38.8**	**+0.2**
CLDR	**Caldiran**	**1.12**	**308**	P	**Pb**	**18 37 22.2**	**-1.8**
CLDR				S	**Sg**	**18 37 38.5**	**-0.1**
VMUR	**Van-Muradiye**	**1.27**	**295**	P	**Pn**	**18 37 25.8**	**-0.7**
VMUR				S	**Sb**	**18 37 42.6**	**-0.5**
VMUR				*i* AML	AML	18 37 49.0	
	comp=N,144nm,0.4s						
VMUR				*i* AML	AML	18 37 49.0	
	comp=E,114nm,0.4s						
HYR	**Heyderabad**	**1.27**	**353**	P	**Pn**	**18 37 25.6**	**-0.8**
HYR				S	**Sg**	**18 37 43.6**	**+0.1**
TVAN	**Van**	**1.29**	**274**	P	**Pb**	**18 37 26.6**	**-0.3**
TVAN				S	**Sg**	**18 37 45.1**	**+1.1**
TVAN				*i* AML	AML	18 37 50.0	
	comp=N,106nm,0.5s						
TVAN				*i* AML	AML	18 37 54.0	
	comp=E,92nm,0.8s						
VANB	**Van**	**1.31**	**277**	Pn	**Pb**	**18 37 27.0**	**-0.2**
VANB				Sn	**Sg**	**18 37 45.1**	**+0.6**
HAKT	**HAKKARI**	**1.38**	**230**	P	**Pn**	**18 37 27.8**	**-0.2**
HAKT				S	**Sg**	**18 37 48.2**	**+1.2**
HAKT				*i* AML	AML	18 37 52.0	
	comp=E,61nm,0.6s						
HAKT				*i* AML	AML	18 37 53.0	
	comp=N,74nm,0.7s						
DYDN	**Diyadin**	**1.52**	**316**	P	**Pg**	**18 37 31.1**	**-0.5**
DYDN				S	**Sg**	**18 37 51.4**	**+0.1**
DYDN				*i* AML	AML	18 37 56.0	
	comp=N,91nm,1.2s						
IGDI	**IGDIR**	**1.60**	**332**	P	**Pg**	**18 37 32.7**	**-0.5**
IGDI				S	**Sb**	**18 37 51.8**	**-0.7**
AKDM	**Akdamar-Van**	**1.63**	**266**	Pn	**Pb**	**18 37 32.5**	**-0.2**
AKDM				Sn	**Sg**	**18 37 55.1**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.65**	**338**	Pn	**Pb**	**18 37 32.6**	**-0.5**
CUKT	**Cukurca**	**1.66**	**224**	Pn	**Pg**	**18 37 34.1**	**-0.1**
GNI	**Garni**	**1.71**	**352**	⇓*i* P	**Pn**	**18 37 33.1**	**+0.5**
GNI				⇓*i* S	**Sg**	**18 37 59.5**	**+1.9**
ADCV	**BITLIS_Adilcev**	**1.85**	**282**	P	**Pg**	**18 37 37.2**	**-0.7**
ADCV				S	**Sg**	**18 38 03.3**	**+1.3**
KAPZ	**Kaputan**	**1.89**	**352**	*eP*	**Pb**	**18 37 37.6**	**+0.5**
KAPZ				*eS*	**Sg**	**18 38 04.5**	**+1.4**
VNNZ	**Vanand**	**1.90**	**331**	*eP*	**Pg**	**18 37 38.6**	**-0.4**
VNNZ				*eS*	**Sg**	**18 38 06.8**	**+3.2**
KOTA	**Agri, Merkez-K**	**1.96**	**314**	P	**Pb**	**18 37 37.9**	**-0.6**
KOTA				S	**Sg**	**18 38 05.7**	**0.0**
ARUZ	**Aruch**	**1.97**	**338**	*eP*	**Pb**	**18 37 39.3**	**+0.8**
ARUZ				*eS*	**Sg**	**18 38 08.0**	**+2.1**
DORK	**Agr/Tutak/Do**	**2.00**	**299**	P	**Pb**	**18 37 38.2**	**-0.8**
DORK				S	**Sb**	**18 38 03.8**	**-0.3**
AMBZ	**Amberd**	**2.03**	**343**	*eP*	**Pb**	**18 37 38.2**	**-1.4**
QRD	**Qoradiz**	**2.04**	**60**	P	**Pb**	**18 37 40.6**	**+1.0**
QRD				S	**Sg**	**18 38 08.2**	**+0.2**
MLAZ	**Malazgirt-MUS**	**2.07**	**290**	Pn	**Pb**	**18 37 38.7**	**-1.5**
IHSH	**Hashtrud**	**2.10**	**122**	Pn	**Pg**	**18 37 42.1**	**-0.6**
ISRB	**Sarab**	**2.16**	**106**	Pn	**Pb**	**18 37 42.2**	**+0.5**
AGDM	**Agdam**	**2.30**	**43**	P	**Pb**	**18 37 43.3**	**-0.8**
AGDM				S	**Sg**	**18 38 14.9**	**-1.6**
GDB	**GEDABAY**	**2.33**	**13**	P	**Pb**	**18 37 44.7**	**0.0**
GDB				S	**Sb**	**18 38 15.4**	**+1.7**
GURO	**Guroymak-BITLI**	**2.37**	**273**	Pn	**Pb**	**18 37 43.2**	**-2.0**
GANJ	**Ganja**	**2.40**	**24**	P	**Pb**	**18 37 46.0**	**+0.1**
GANJ				S	**Sb**	**18 38 16.7**	**+1.2**
BRDA	**Brd**	**2.45**	**42**	P	**Pb**	**18 37 46.2**	**-0.4**
BRDA				S	**Sb**	**18 38 17.0**	**+0.1**
YRD	**Yardimli**	**2.54**	**79**	P	**Pb**	**18 37 47.5**	**-0.8**
YRD				S	**Sg**	**18 38 24.4**	**+0.2**
LRK	**Lerik**	**2.59**	**85**	P	**Pb**	**18 37 50.5**	**+1.4**
LRK				S	**Sg**	**18 38 25.7**	**-0.1**
QZX	**Qazax, Azerbai**	**2.62**	**5**	P	**Pb**	**18 37 47.8**	**-1.6**
QZX				S	**Sb**	**18 38 20.6**	**-1.0**
GLBA	**Clilabad**	**2.73**	**72**	P	**Pb**	**18 37 51.5**	**+0.1**
GLBA				S	**Sg**	**18 38 28.7**	**-1.5**
ZRD	**Zardab**	**2.74**	**47**	P	**Pb**	**18 37 52.6**	**+1.1**
ZRD				S	**Sg**	**18 38 29.0**	**-1.5**
MNGR	**Mingechevir, A**	**2.80**	**34**	S	**Sb**	**18 38 26.5**	**-0.5**
KOPR	**Koprukoy-ERZUR**	**2.92**	**303**	Pn	**Pn**	**18 37 51.1**	**+2.0**
ASTR	**Astara**	**2.94**	**87**	P	**Pb**	**18 37 54.0**	**-1.0**
ASTR				S	**Sg**	**18 38 36.2**	**-0.7**
SVAN	**Silvan-Diyarba**	**3.04**	**266**	Pn	**Pn**	**18 37 53.0**	**+2.3**
SEKA	**Sheki**	**3.21**	**30**	P	**Pb**	**18 38 01.6**	**+1.9**
SEKA				S	**Sb**	**18 38 39.0**	**+0.1**
QBL	**Gabala**	**3.29**	**40**	P	**Pb**	**18 38 02.7**	**+1.7**
QBL				S	**Sb**	**18 38 40.7**	**-0.5**
PQL	**Pirkuli**	**3.60**	**48**	P	**Pb**	**18 38 02.8**	**-3.5**
PQL				S	**Sb**	**18 38 49.3**	**-0.8**

*IDC **06** 18:58:14.8±0.9,13˚.19N×88˚.03W,h0km,mb4.0/14, mbtmp4.1/18,ML3.3/5,Error ellipse: s-maj=28.1km s-min=12.3km az=39.0*
*NEIC **06** 18:58:16.7±2.2,13˚.33N±0˚.08×87˚.97W±0˚.07,h10km±1km, mb4.5/119,Error ellipse: s-maj=15.9km s-min=7.7km az=217.0*
*SNET **06** 18:58:16.0±0.8,13˚.21N×88˚.06W,h3km±3km,ML4.7*
*GCG **06** 18:58:16.4±0.9,13˚.21N×87˚.55W,h50km±823km,MD4.3*
*CATAC **06** 18:58:16.4±0.1,13˚.18N×88˚.07W,h3km±1km,ML4.6*
ISC 06 18:58:16.6±0.8,13˚.21N±0˚.03×88˚.07W±0˚.02,h12km±5km, n309,σ1$08/316,mb4.5/62,6C-9D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.18**	**283**	⇑*eP*	**Pg**	**18 58 20.8**	**+0.2**
JUCU				*eS*	**Sg**	**18 58 23.9**	**+0.4**
JUCU	**Jucuarįn**	**0.18**	**283**	*i* P	**Pb**	**18 58 21.1**	**-0.8**
JUCU				*i* S	**Sg**	**18 58 24.2**	**+0.8**
JUCU					IAML	18 58 25.2	
	comp=Z,550μm,1.0s						
LCND	**La Caada**	**0.20**	**62**	*i* P	**Pg**	**18 58 20.8**	**-0.2**
LCND				*eS*	**Sg**	**18 58 23.8**	**-0.2**
LCND	**La Caada**	**0.20**	**62**	*i* P	**Pg**	**18 58 20.8**	**-0.2**
LCND				*i* P	**Pg**	**18 58 20.8**	**-0.2**
LCND				*i* S	**Sg**	**18 58 24.1**	**+0.2**
LCND					IAML	18 58 25.6	
	comp=Z,370μm,1.0s						
LCND					IAML	18 58 25.6	
	comp=Z,310μm,1.0s						
CNCH	**Conchagua**	**0.24**	**75**	⇑*i* P	**Pg**	**18 58 21.6**	**-0.1**
CNCH				*eS*	**Sg**	**18 58 25.1**	**-0.1**
CNCH	**Conchagua**	**0.24**	**75**	*i* P	**Pg**	**18 58 21.7**	**0.0**
CNCH				*i* S	**Sg**	**18 58 24.6**	**-0.5**
CNCH					IAML	18 58 29.5	
	comp=Z,350μm,1.0s						
CNRM	**Centro Naciona**	**0.28**	**339**	⇓*i* P	**Pg**	**18 58 22.2**	**-0.1**
CNRM	**Centro Naciona**	**0.28**	**339**	*i* P	**Pg**	**18 58 22.2**	**-0.1**
CNRM				*i* S	**Sg**	**18 58 26.9**	**+0.8**
CNRM					IAML	18 58 28.8	
	comp=Z,700μm,1.0s						
VSM	**San Miguel**	**0.29**	**317**	⇓*i* P	**Pg**	**18 58 23.0**	**+0.3**
LCY	**Lacayo**	**0.30**	**314**	⇑*i* P	**Pg**	**18 58 23.0**	**+0.2**
RANC	**El Ranchito**	**0.30**	**316**	⇑*i* P	**Pg**	**18 58 23.1**	**+0.2**
RANC	**El Ranchito**	**0.30**	**316**	*i* P	**Pg**	**18 58 23.2**	**+0.3**
RANC				*i* S	**Sg**	**18 58 28.1**	**+1.0**
RANC					IAML	18 58 38.8	
	comp=Z,56μm,1.0s						
PACA	**Pacayal**	**0.35**	**316**	⇑*eP*	**Pg**	**18 58 23.9**	**+0.1**
AMPH	**Amapala**	**0.41**	**80**	*i* P	**Pg**	**18 58 24.6**	**-0.1**
AMPH				*i* S	**Sg**	**18 58 30.8**	**+0.7**
TECA	**Tecapa**	**0.50**	**304**	⇓*i* P	**Pg**	**18 58 26.6**	**+0.1**
COEB	**Comit de Eme**	**0.53**	**302**	⇓*eP*	**Pg**	**18 58 27.0**	**0.0**
COEB	**Comit de Eme**	**0.53**	**302**	*i* P	**Pg**	**18 58 27.0**	**0.0**
COEB				*i* S	**Sg**	**18 58 34.6**	**+0.6**
COEB					IAML	18 58 36.6	
	comp=Z,23μm,1.0s						
PQSS	**Presa 15 de Se**	**0.63**	**311**	⇑*i* P	**Pg**	**18 58 28.6**	**-0.2**
PQSS	**Presa 15 de Se**	**0.63**	**311**	*i* P	**Pg**	**18 58 28.6**	**-0.2**
PQSS					IAML	18 58 31.4	
	comp=Z,8μm,1.0s						
PQSS				*i* S	**Sb**	**18 58 39.0**	**+0.7**
TECO	**Alcaldia de Te**	**0.76**	**295**	⇓*i* P	**Pg**	**18 58 30.8**	**-0.6**
TECO	**Alcaldia de Te**	**0.76**	**295**	*i* P	**Pg**	**18 58 31.1**	**-0.3**
TECO				*i* S	**Sb**	**18 58 41.7**	**-0.5**
TECO					IAML	18 58 42.9	
	comp=Z,18μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.80**	**307**	⇓*i* P	**Pg**	**18 58 31.8**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.80**	**307**	*i* P	**Pg**	**18 58 32.1**	**-0.1**
SCLA				*i* S	**Sb**	**18 58 43.3**	**-0.1**
SCLA					IAML	18 58 48.5	
	comp=Z,8μm,1.0s						
UESV	**Universidad de**	**0.81**	**301**	*i* P	**Pg**	**18 58 32.0**	**-0.4**
UESV				*i* S	**Sb**	**18 58 43.4**	**-0.3**
UESV					IAML	18 58 47.4	
	comp=Z,15μm,1.0s						
SNVI	**San Vicente**	**0.84**	**298**	*eP*	**Pg**	**18 58 32.6**	**-0.4**
COEG	**Centro de Oper**	**0.89**	**297**	⇓*i* P	**Pg**	**18 58 33.1**	**-0.6**
COEG	**Centro de Oper**	**0.89**	**297**	*i* P	**Pg**	**18 58 33.4**	**-0.3**
COEG				*i* S	**Sb**	**18 58 45.6**	**-0.2**
COEG					IAML	18 58 48.7	
	comp=Z,19μm,1.0s						
PAVA	**Las Pavas**	**0.98**	**301**	⇓*eP*	**Pg**	**18 58 35.0**	**-0.5**
PAVA	**Las Pavas**	**0.98**	**301**	*i* P	**Pg**	**18 58 35.0**	**-0.5**
PAVA				*i* S	**Sb**	**18 58 48.9**	**+0.4**
PAVA					IAML	18 58 56.0	
	comp=Z,31μm,1.0s						
CRIN	**San Cristobal**	**1.12**	**117**	Pn	**Pb**	**18 58 37.6**	**-0.3**
CRIN	**San Cristobal**	**1.12**	**117**	*i* P	**Pb**	**18 58 37.8**	**-0.2**
CRIN					IAML	18 58 39.9	
	comp=Z,37μm,1.0s						
CRIN				*i* S	**Sn**	**18 58 55.9**	**+2.3**
TGUH	**Tegucigalpa,Un**	**1.14**	**43**	Pn	**Pb**	**18 58 37.0**	**-1.3**
TGUH	**Tegucigalpa,Un**	**1.14**	**43**	*i* P	**Pb**	**18 58 37.1**	**-1.3**
TGUH				*i* S	**Sb**	**18 58 53.6**	**+0.3**
TGUH					IAML	18 59 03.0	
	comp=Z,27μm,1.0s						
LFU	**La Fuente**	**1.15**	**298**	*eP*	**Pb**	**18 58 37.6**	**-0.8**
PANCS	**Alcalda de**	**1.15**	**290**	*i* P	**Pb**	**18 58 37.5**	**-1.0**
PANCS				*i* S	**Sb**	**18 58 52.5**	**-0.9**
PANCS					IAML	18 58 54.8	
	comp=Z,33μm,1.0s						
LOMA	**Loma Larga**	**1.15**	**292**	*eP*	**Pb**	**18 58 37.6**	**-1.0**
LOMA	**Loma Larga**	**1.15**	**292**	*i* P	**Pb**	**18 58 38.0**	**-0.6**
LOMA				*i* S	**Sn**	**18 58 54.7**	**+0.2**
LOMA					IAML	18 59 01.5	
	comp=Z,16μm,1.0s						
UDBS	**Universidad Do**	**1.17**	**295**	*i* P	**Pb**	**18 58 38.3**	**-0.5**
UDBS				*i* S	**Sg**	**18 58 54.3**	**0.0**
UDBS					IAML	18 58 59.4	
	comp=Z,11μm,1.0s						
IGN	**Direccin Gen**	**1.18**	**295**	*i* P	**Pn**	**18 58 38.5**	**-0.5**
IGN				*i* S	**Sn**	**18 58 55.1**	**0.0**
IGN					IAML	18 58 58.7	
	comp=Z,35μm,1.0s						
UTEC	**Universidad Te**	**1.20**	**294**	*i* P	**Pn**	**18 58 38.8**	**-0.5**
UTEC				*i* S	**Sg**	**18 58 55.2**	**-0.2**
UTEC					IAML	18 58 59.7	
	comp=Z,13μm,1.0s						
SNET	**Serv Nac Est T**	**1.22**	**293**		**Pn**	**18 58 39.0**	**-0.6**
SNET	**Serv Nac Est T**	**1.22**	**293**	*i* P	**Pn**	**18 58 39.1**	**-0.6**
SNET				*i* S	**Sn**	**18 58 55.7**	**-0.5**
SNET					IAML	18 59 03.1	
	comp=Z,17μm,1.0s						
UEES	**Universidad Ev**	**1.24**	**294**	*i* P	**Pn**	**18 58 39.4**	**-0.5**
UEES				*i* S	**Sn**	**18 58 56.3**	**-0.4**
UEES					IAML	18 58 58.8	
	comp=Z,7μm,1.0s						
LALI	**Alcalda de L**	**1.25**	**283**	*i* P	**Pn**	**18 58 39.3**	**-0.6**
LALI				*i* S	**Sg**	**18 58 56.5**	**-0.3**
LALI					IAML	18 58 58.8	
	comp=Z,3μm,1.0s						
ITCA	**Escuela Especi**	**1.26**	**291**	*i* S	**Sn**	**18 58 56.7**	**-0.4**
PIC2	**El Picacho**	**1.27**	**295**	⇓*eP*	**Pn**	**18 58 40.1**	**-0.3**
LLGN	**La Laguna**	**1.27**	**318**	*i* P	**Pn**	**18 58 39.2**	**-1.1**
LLGN				*i* S	**Sg**	**18 58 59.3**	**+1.7**
LLGN					IAML	18 58 59.4	
	comp=Z,5μm,1.0s						
PMON	**Piamonte**	**1.31**	**292**	*eP*	**Pn**	**18 58 40.6**	**-0.2**
PMON	**Piamonte**	**1.31**	**292**	*i* P	**Pb**	**18 58 41.0**	**-0.2**
PMON				*i* S	**Sn**	**18 58 58.0**	**-0.3**
PMON					IAML	18 58 59.8	
	comp=Z,19μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.32**	**298**	*i* P	**Pn**	**18 58 40.8**	**-0.2**
QUEZ				*i* S	**Sg**	**18 58 59.8**	**+0.6**
QUEZ					IAML	18 59 13.2	
	comp=Z,33μm,1.0s						
CEDA	**San Andres**	**1.41**	**295**	*i* P	**Pn**	**18 58 42.3**	**0.0**
CEDA				*i* S	**Sg**	**18 59 03.8**	**+1.6**
CEDA					IAML	18 59 11.7	
	comp=Z,22μm,1.0s						
CNGA	**Al SSO del Vol**	**1.52**	**118**	*i* P	**Pn**	**18 58 41.5**	**-2.1**
CNGA				*i* S	**Sn**	**18 59 02.7**	**-0.7**
CNGA					IAML	18 59 14.7	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**1.52**	**118**	Pn	**Pn**	**18 58 43.1**	**-0.6**
CNGN	**Cerro Negro**	**1.52**	**118**	*i* P	**Pn**	**18 58 43.0**	**-0.6**
CNGN				*i* S	**Sg**	**18 59 05.0**	**-0.4**
CNGN					IAML	18 59 16.8	
	comp=Z,10μm,1.0s						
UNIC	**Universidad Ca**	**1.63**	**298**	*i* P	**Pn**	**18 58 45.1**	**-0.1**
UNIC				*i* S	**Sg**	**18 59 08.3**	**-0.7**
UNIC					IAML	18 59 15.4	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**1.63**	**292**	*i* P	**Pb**	**18 58 46.1**	**-0.7**
CEVE				*i* S	**Sb**	**18 59 06.7**	**-0.7**
CEVE					IAML	18 59 12.2	
	comp=Z,17μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.63**	**119**	*i* P	**Pn**	**18 58 44.3**	**-0.9**
LEVN				*i* S	**Sg**	**18 59 08.0**	**-1.2**
LEVN					IAML	18 59 13.2	
	comp=Z,6μm,1.0s						
MOMN	**Momotombo**	**1.69**	**118**	*i* P	**Pn**	**18 58 45.5**	**-0.6**
MOMN					IAML	18 58 50.1	
	comp=Z,230nm,1.0s						
MOMN				*i* S	**Sb**	**18 59 09.1**	**0.0**
MTO3	**Montecristo**	**1.72**	**313**	Pn	**Pn**	**18 58 46.0**	**-0.6**
MTO3	**Montecristo**	**1.72**	**313**	*i* P	**Pn**	**18 58 46.4**	**-0.2**
MTO3					IAML	18 58 47.9	
	comp=Z,6μm,1.0s						
MTO3				*i* S	**Sb**	**18 59 10.9**	**+0.9**
MOM2	**El Cardon**	**1.73**	**116**	*i* P	**Pn**	**18 58 45.5**	**-1.0**
MOM2				*i* S	**Sg**	**18 59 11.2**	**-1.1**
MOM2					IAML	18 59 24.3	
	comp=Z,4μm,1.0s						
BRAN	**Las Pilas**	**1.75**	**106**	*i* P	**Pg**	**18 58 51.1**	**+0.9**
BRAN					IAML	18 59 20.2	
	comp=Z,2μm,1.0s						
COPN	**Copaltepe**	**1.77**	**125**	*i* P	**Pn**	**18 58 46.8**	**-0.3**
COPN					IAML	18 59 12.4	
	comp=Z,4μm,1.0s						
NUBE	**Las Nubes**	**1.80**	**293**	*i* P	**Pn**	**18 58 48.2**	**+0.6**
NUBE					IAML	18 59 18.8	
	comp=Z,7μm,1.0s						
ESQI	**Esquipulas**	**1.82**	**317**		**Pn**	**18 58 47.7**	**-0.2**
ESQI	**Esquipulas**	**1.82**	**317**	*i* P	**Pn**	**18 58 48.1**	**+0.2**
ESQI					IAML	18 59 25.0	
	comp=Z,7μm,1.0s						
LOAL	**Lomas de Alarc**	**1.84**	**295**	*i* P	**Pb**	**18 58 49.5**	**-0.7**
LOAL					IAML	18 59 20.9	
	comp=Z,12μm,1.0s						
JUAM	**Asuncion Mita**	**1.94**	**305**	*i* P	**Pb**	**18 58 50.7**	**-1.3**
JUAM					IAML	18 59 20.2	
	comp=Z,4μm,1.0s						
APYN	**Apoyeque**	**1.94**	**120**	*i* P	**Pn**	**18 58 50.1**	**+0.6**
APYN					IAML	18 58 54.3	
	comp=Z,5μm,1.0s						
TISN	**Laguna Tiscapa**	**2.06**	**121**	*i* P	**Pn**	**18 58 51.1**	**+0.1**
TISN					IAML	18 58 57.0	
	comp=Z,310nm,1.0s						
R4DEC	**Barrio San Lui**	**2.07**	**121**	*i* P	**Pb**	**18 58 54.4**	**+0.2**
R4DEC					IAML	18 59 26.6	
	comp=Z,3μm,1.0s						
WILN	**Americas 2**	**2.12**	**119**	*i* P	**Pn**	**18 58 51.2**	**-0.7**
WILN				*i* S	**Sb**	**18 59 20.7**	**-0.5**
WILN					IAML	18 59 39.0	
	comp=Z,2μm,1.0s						
MAS3	**Al N del Volca**	**2.20**	**122**	*i* P

HBVL	**Hebbronville**	**16.98**	**326**		**P**	**19 02 15.9**	**-0.1**
HBVL				IAmb	IAmb	19 02 18.8	
	comp=Z,74nm,1.4s						
SDV	**Santo Domingo**	**17.64**	**102**	P	**P**	**19 02 22.9**	**-0.7**
SDV	**Santo Domingo**	**17.64**	**102**	P	**Pn**	**19 02 21.4**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=280,slow=7.6,SNR=3.3						
	comp=Z,3.5nm,0.3s						
HKT	**Hockley**	**18.14**	**338**	P	**Pn**	**19 02 28.0**	**-0.4**
833A	**Chaparral WMA,**	**18.37**	**327**	P	**P**	**19 02 29.6**	**-1.7**
833A	**Chaparral WMA,**	**18.37**	**327**	P	**Pn**	**19 02 33.6**	**+2.3**
	baz=143						
TIGA	**Tifton**	**18.60**	**12**	P	**Pn**	**19 02 36.0**	**+1.8**
	baz=194						
HNVL	**Huntsville, TX**	**18.75**	**340**	P	**P**	**19 02 33.6**	**-1.8**
VBMS	**Vicksburg**	**19.05**	**354**	P	**Pn**	**19 02 42.4**	**+2.9**
	baz=173						
HNDO	**Hondo**	**19.28**	**329**	P	**P**	**19 02 41.1**	**-0.2**
HNDO				IAmb	IAmb	19 02 44.0	
	comp=Z,23nm,0.7s						
NATX	**Nacogdoches**	**19.43**	**343**	P	**Pn**	**19 02 46.2**	**+2.1**
	baz=160						
435B	**Jarrell**	**19.56**	**335**	P	**P**	**19 02 43.8**	**-0.7**
435B				IAmb	IAmb	19 02 58.5	
	comp=Z,25nm,1.1s						
435B	**Jarrell**	**19.56**	**335**	P	**Pn**	**19 02 47.0**	**+1.3**
	baz=151						
LRAL	**Lakeview Retre**	**19.75**	**3**	P	**Pn**	**19 02 48.7**	**+0.7**
	baz=183						
DRIO	**Del Rio**	**19.89**	**326**	P	**P**	**19 02 46.6**	**-1.5**
DRIO				IAmb	IAmb	19 02 51.2	
	comp=Z,20nm,1.0s						
Z47A	**Carrollton**	**19.89**	**0**	P	**Pn**	**19 02 49.4**	**-0.3**
Z47A				IAmb	IAmb	19 02 55.9	
	comp=Z,18nm,0.8s						
237A	**Washetta, Mont**	**20.00**	**340**	P	**P**	**19 02 47.7**	**-1.5**
237A				IAmb	IAmb	19 02 56.8	
	comp=Z,26nm,0.9s						
BAUV	**El Baul**	**20.11**	**100**	P	**P**	**19 02 50.0**	**-0.5**
BAUV				IAmb	IAmb	19 03 03.8	
	comp=Z,17nm,0.8s						
JCT	**Junction City**	**20.31**	**330**	P	**P**	**19 02 52.2**	**-0.5**
JCT	**Junction City**	**20.31**	**330**	P	Pn	19 02 54.2	-0.5
	baz=145						
GOGA	**Godfrey**	**20.54**	**11**	P	Pn	19 02 57.5	+0.3
	baz=193						
BRDY	**Brady**	**20.61**	**333**		Pn	19 02 56.9	-1.2
BRDY				IAmb	IAmb	19 02 57.6	
	comp=Z,13nm,0.8s						
WLAR	**White Oak Lake**	**20.89**	**348**	P	**P**	**19 02 56.6**	**-2.3**
WLAR				IAmb	IAmb	19 03 05.4	
	comp=Z,30nm,1.1s						
AOPR	**Arecibo Observ**	**21.13**	**73**	P	**P**	**19 02 58.8**	**-2.8**
SAND	**Sanderson**	**21.14**	**324**	P	**P**	**19 03 01.9**	**+0.3**
OZNA	**Ozona**	**21.34**	**328**	IAmb	IAmb	19 03 07.1	
	comp=Z,21nm,1.3s						
TXAR	**Lajitas Array**	**21.60**	**320**	P	**P**	**19 03 02.8**	**-3.9**
TXAR	**Lajitas Array**	**21.60**	**320**	P	**P**	**19 03 08.0**	**+1.3**
	comp=Z,4.1nm,0.6s,baz=140,slow=10,SNR=50						
	comp=Z,4.1nm,0.6s						
PLPT	**Palo Pinto**	**21.64**	**336**	P	**P**	**19 03 04.0**	**-3.0**
PLPT				IAmb	IAmb	19 03 35.4	
	comp=Z,14nm,1.0s						
GCPR	**Guaynabo City**	**21.75**	**74**	P	**P**	**19 03 04.1**	**-4.1**
MIAR	**Mount Ida**	**21.82**	**348**	IAmb	IAmb	19 03 13.9	
	comp=Z,22nm,0.8s						
MIAR	**Mount Ida**	**21.82**	**348**	P	**P**	**19 03 11.3**	**+2.5**
	baz=165,SNR=14						
ABTX	**Abilene, Hawle**	**22.03**	**333**	P	**P**	**19 03 11.8**	**+0.6**
	baz=149						
W50A	**Signal Mountai**	**22.03**	**6**	P	**P**	**19 03 11.6**	**+0.4**
W50A				IAmb	IAmb	19 03 27.2	
	comp=Z,15nm,1.1s						
SGCY	**Sterling City**	**22.14**	**329**	P	**P**	**19 03 10.6**	**-1.8**
SGCY				IAmb	IAmb	19 03 19.4	
	comp=Z,16nm,0.9s						
X37A	**Clayton**	**22.29**	**344**	P	**P**	**19 03 13.2**	**-0.7**
X37A				IAmb	IAmb	19 03 42.6	
	comp=Z,23nm,1.1s						
ALPN	**Alpine**	**22.33**	**322**	P	**P**	**19 03 13.8**	**-0.7**
CPCT	**Cooper Cave**	**22.37**	**8**	P	**P**	**19 03 14.6**	**-0.2**
MNHN	**Monahans**	**22.54**	**326**	P	**P**	**19 03 15.7**	**-1.0**
MNHN				IAmb	IAmb	19 03 19.1	
	comp=Z,18nm,0.8s						
KMSC	**Kings Mountain**	**22.67**	**14**	P	**P**	**19 03 18.4**	**+0.5**
	baz=197						
TKL	**Tuckaleechee C**	**22.68**	**9**	IAmb	IAmb	19 03 29.6	
	comp=Z,28nm,1.1s						
TKL	**Tuckaleechee C**	**22.68**	**9**	P	**P**	**19 03 19.3**	**+1.2**
	comp=Z,18nm,1.0s,baz=182,slow=13,SNR=5.0						
	comp=Z,18nm,1.0s						
SN05	**Snyder S**	**22.81**	**331**	P	**P**	**19 03 16.9**	**-2.7**
SN05				IAmb	IAmb	19 03 19.9	
	comp=Z,9.7nm,0.7s						
WVT	**Waverly**	**22.82**	**1**	P	**P**	**19 03 20.2**	**+0.7**
	baz=180						
APMT	**Aspermont**	**22.84**	**333**	P	**P**	**19 03 18.6**	**-1.1**
APMT				IAmb	IAmb	19 03 21.6	
	comp=Z,12nm,0.8s						
FCAR	**Ozark Folk Cen**	**22.87**	**352**	P	**P**	**19 03 20.3**	**+0.2**
PCRV	**Puerto La Cruz**	**23.14**	**95**	P	**P**	**19 03 25.7**	**+2.5**
	comp=Z,16nm,0.9s,baz=357,slow=23,SNR=2.4						
W35A	**Tecumseh**	**23.25**	**341**	IAmb	IAmb	19 03 46.3	
	comp=Z,12nm,0.8s						
DKNS	**Dickens**	**23.48**	**332**	IAmb	IAmb	19 04 02.9	
	comp=Z,8.5nm,0.8s						
WMOK	**Wichita Mounta**	**23.52**	**337**	P	**P**	**19 03 26.6**	**-0.1**
	baz=153,SNR=8.8						
PBMO	**Poplar Bluff**	**23.56**	**355**	IAmb	IAmb	19 04 03.6	
	comp=Z,12nm,1.1s						
TZTN	**Tazewell**	**23.58**	**9**	P	**P**	**19 03 27.8**	**+0.5**
	baz=191						
TUL3	**Leonard**	**23.64**	**344**	IAmb	IAmb	19 03 35.4	
	comp=Z,13nm,0.7s						
TUL3	**Leonard**	**23.64**	**344**	P	**P**	**19 03 28.2**	**+0.3**
	baz=161						
T47A	**Sharon Grove**	**23.69**	**2**	IAmb	IAmb	19 03 36.2	
	comp=Z,7.1nm,0.7s						
U38A	**Gravette**	**23.81**	**347**	IAmb	IAmb	19 03 31.1	
	comp=Z,8.7nm,0.8s						
MNTX	**Cornudas Mount**	**24.32**	**322**	P	**P**	**19 03 33.8**	**-0.5**
	baz=135,SNR=23						
S39A	**Bolivar**	**24.82**	**350**	IAmb	IAmb	19 03 45.6	
	comp=Z,9.5nm,0.8s						
AMTX	**Amarillo**	**24.84**	**333**	IAmb	IAmb	19 03 40.8	
	comp=Z,17nm,0.9s						
AMTX	**Amarillo**	**24.84**	**333**	P	**P**	**19 03 39.9**	**+0.8**
	baz=147						
BLA	**Blacksburg**	**24.86**	**15**	P	**P**	**19 03 39.4**	**+0.2**
	baz=198						
CCM	**Cathedral Cave**	**24.90**	**354**	P	**P**	**19 03 38.1**	**-1.4**
CCM				IAmb	IAmb	19 03 40.3	
	comp=Z,8.4nm,0.9s						
CCM	**Cathedral Cave**	**24.90**	**354**	P	**P**	**19 03 39.8**	**+0.3**
	baz=173						
WCI	**Wyandotte Cave**	**24.96**	**3**	P	**P**	**19 03 40.7**	**+0.6**
	baz=184						
U32A	**Winter Ranch,**	**25.07**	**339**	IAmb	IAmb	19 03 42.5	
	comp=Z,15nm,1.0s						
R40A	**Maddies Statio**	**25.25**	**352**	IAmb	IAmb	19 04 11.6	
	comp=Z,9.7nm,1.2s						
OK035	**E0210 Rd and N**	**25.27**	**340**	IAmb	IAmb	19 03 45.4	
	comp=Z,16nm,0.9s						
KAN17	**Caldwell West**	**25.27**	**342**	IAmb	IAmb	19 03 44.4	
	comp=Z,9.5nm,0.8s						
KAN09	**Caldwell North**	**25.31**	**342**	IAmb	IAmb	19 03 49.9	
	comp=Z,10nm,0.6s						
121A	**Cookes Peak, D**	**26.36**	**320**	P	**P**	**19 03 53.2**	**+0.1**
121A				IAmb	IAmb	19 03 55.7	
	comp=Z,11nm,0.9s						
121A	**Cookes Peak, D**	**26.36**	**320**	P	**P**	**19 03 54.3**	**+1.3**
	baz=132,SNR=9.1						
RTBA	**Rita Blanca**	**26.61**	**333**	IAmb	IAmb	19 03 58.4	
	comp=Z,9.6nm,0.8s						
P38A	**Dawn**	**26.75**	**351**	IAmb	IAmb	19 03 57.0	
	comp=Z,13nm,0.7s						
P52A	**Corning**	**26.83**	**10**	P	**P**	**19 03 58.3**	**+1.4**
	baz=193						
Y22F	**Passcal Instru**	**26.91**	**324**	P	**P**	**19 03 59.8**	**+1.8**
	baz=136						
ANMO	**Albuquerque**	**27.29**	**326**	P	**P**	**19 04 01.6**	**+0.2**
ANMO	**Albuquerque**	**27.29**	**326**	P	**P**	**19 04 02.8**	**+1.4**
	baz=138						
O52A	**Adamsville**	**27.35**	**10**	P	**P**	**19 04 00.5**	**-1.2**
O52A				IAmb	IAmb	19 04 07.2	
	comp=Z,9.4nm,0.8s						
O53A	**New Philadelph**	**27.60**	**11**	P	**P**	**19 04 01.1**	**-2.7**
O53A	**New Philadelph**	**27.60**	**11**	P	**P**	**19 04 05.5**	**+1.7**
	baz=194						
T25A	**Trinidad**	**27.95**	**331**	P	**P**	**19 04 08.8**	**+1.5**
	baz=144						
TUC	**Tucson**	**28.17**	**316**	P	**P**	**19 04 10.7**	**+1.5**
	baz=127						
SSPA	**Standing Stone**	**28.74**	**16**	P	**P**	**19 04 15.3**	**+1.3**
	baz=201						
SDCO	**Great Sand Dun**	**28.95**	**331**	P	**P**	**19 04 16.9**	**+0.6**
	baz=143,SNR=5.8						
BOAV	**Boa Vista**	**29.29**	**109**	P	**P**	**19 04 19.3**	**0.0**
BOAV				IAmb	IAmb	19 04 25.4	
	comp=Z,5.3nm,0.7s						
MVCO	**Mesa Verde**	**30.07**	**326**	IAmb	IAmb	19 04 31.3	
	comp=Z,6.2nm,0.9s						
MVCO	**Mesa Verde**	**30.07**	**326**	P	**P**	**19 04 27.0**	**+0.8**
	baz=137						
WUAZ	**Wupatki**	**30.57**	**321**	IAmb	IAmb	19 04 33.7	
	comp=Z,6.8nm,1.1s						
WUAZ	**Wupatki**	**30.57**	**321**	P	**P**	**19 04 32.0**	**+1.5**
	baz=131						
ISCO	**Idaho Springs**	**30.66**	**333**	P	**P**	**19 04 31.8**	**+0.4**
	baz=145						
BINY	**Binghamton**	**30.73**	**18**	P	**P**	**19 04 32.8**	**+1.2**
	baz=203						
SMCO	**Snowmass**	**30.79**	**331**	IAmb	IAmb	19 04 34.8	
	comp=Z,3.6nm,0.8s						
ECSD	**EROS Data Cent**	**31.29**	**348**	IAmb	IAmb	19 04 37.0	
	comp=Z,10nm,1.2s						
ECSD	**EROS Data Cent**	**31.29**	**348**	P	**P**	**19 04 37.0**	**+0.5**
	baz=164						
HMU	**Henry Mountain**	**31.83**	**325**	IAmb	IAmb	19 04 44.8	
	comp=Z,11nm,1.1s						
O20A	**White River Ci**	**32.15**	**330**	P	**P**	**19 04 45.5**	**+1.1**
	baz=141,SNR=10						
PKCU	**Pink Cliffs**	**32.40**	**322**	IAmb	IAmb	19 04 49.9	
	comp=Z,11nm,1.2s						
SRU	**San Rafael Swe**	**32.55**	**326**	IAmb	IAmb	19 04 49.8	
	comp=Z,5.5nm,0.9s						
P18A	**Preston Nutter**	**32.78**	**327**	IAmb	IAmb	19 04 55.6	
	comp=Z,5.6nm,0.8s						
F36A	**Milaca**	**32.87**	**353**	IAmb	IAmb	19 04 50.9	
	comp=Z,4.3nm,1.0s						
P17A	**Butcher Ranch,**	**32.93**	**327**	IAmb	IAmb	19 04 56.7	
	comp=Z,7.2nm,0.7s						
LONY	**Lake Ozonia**	**33.35**	**18**	P	**P**	**19 04 55.3**	**+0.6**
	baz=204						
K22A	**Casper**	**33.40**	**335**	P	**P**	**19 04 56.2**	**+1.0**
	baz=146						
BSUT	**Blindstream Ca**	**33.71**	**328**	IAmb	IAmb	19 05 05.8	
	comp=Z,4.1nm,1.0s						
DUG	**Dugway, Tooele**	**34.56**	**326**	P	**P**	**19 05 05.9**	**+0.5**
	baz=134						
BW06	**Boulder Array**	**34.82**	**332**	P	**P**	**19 05 07.8**	**+0.1**
	baz=127						
PDAR	**Pinedale Array**	**34.82**	**332**	P	**P**	**19 05 07.8**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=126,slow=9.8,SNR=7.0						
	comp=Z,0.9nm,0.8s						
MPMC	**Manual Prospec**	**34.87**	**316**	P	**P**	**19 05 08.2**	**+0.1**
	baz=123						
HWUT	**Hardware Ranch**	**34.91**	**329**	IAmb	IAmb	19 05 13.8	
	comp=Z,5.8nm,0.8s						
BGU	**Big Grassy Mou**	**35.19**	**326**	IAmb	IAmb	19 05 13.1	
	comp=Z,7.1nm,1.3s						
AHID	**Auburn Hatcher**	**35.54**	**330**	IAmb	IAmb	19 05 19.6	
	comp=Z,7.2nm,0.8s						
LOHW	**Long Hollow**	**35.96**	**332**	IAmb	IAmb	19 05 22.5	
	comp=Z,6.2nm,0.9s						
TPAW	**Teton Pass**	**36.02**	**331**	IAmb	IAmb	19 05 24.0	
	comp=Z,9.6nm,0.9s						
H17A	**Grant Village**	**36.55**	**333**	P	**P**	**19 05 24.3**	**+1.7**
	baz=141						
RLMT	**Red Lodge**	**36.56**	**335**	P	**P**	**19 05 23.6**	**+1.0**
	baz=144						
NVAR	**Mina Array Bea**	**36.73**	**319**	P	**P**	**19 05 24.5**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=121,slow=8.5,SNR=7.5						
	comp=Z,1.5nm,0.8s						
KVN	**Kaiserville**	**36.96**	**320**	P	**P**	**19 05 24.2**	**-1.9**
ULM	**Lac du Bonnet**	**37.48**	**352**	P	**P**	**19 05 30.7**	**+0.6**
	comp=Z,1.4nm,0.4s,baz=167,slow=9.0,SNR=3.3						
	comp=Z,1.4nm,0.4s						
HLID	**Hailey**	**37.78**	**328**	P	**P**	**19 05 34.0**	**+1.0**
	baz=135						
BOZ	**Bozeman (W)**	**37.95**	**333**	P	**P**	**19 05 35.5**	**+1.1**
	baz=141						
EGMT	**Eagleton**	**39.12**	**337**	P	**P**	**19 05 44.9**	**+0.9**
	baz=145						
MSO	**Missoula**	**39.93**	**332**	P	**P**	**19 05 51.8**	**+0.9**
	baz=138						
FFC	**Flin Flon**	**42.83**	**348**	P	**P**	**19 06 13.2**	**-1.2**
SCHQ	**Schefferville**	**44.73**	**17**	P	**P**	**19 06 31.1**	**+1.4**
	comp=Z,5.2nm,0.8s,baz=227,slow=8.9,SNR=5.7						
	comp=Z,5.2nm,0.8s						
BRLDA	**Berland Lookou**	**46.87**	**337**	P	**P**	**19 06 44.9**	**-1.8**
YKA	**Yellowknife Ar**	**52.72**	**345**	P	**P**	**19 07 30.1**	**-0.8**
	comp=Z,4.8nm,1.0s,baz=135,slow=6.9,SNR=29						
	comp=Z,4.8nm,1.0s						
TOAD	**Toad River Com**	**53.31**	**337**	P	**P**	**19 07 36.5**	**+1.0**
	baz=133						
DLBC	**Dease Lake**	**54.96**	**335**	P	**P**	**19 07 48.4**	**+0.8**
	baz=127						
U33K	**Whale Pass**	**55.00**	**331**	P	**P**	**19 07 48.1**	**+0.3**
	baz=123						
R33M	**Jennings River**	**55.93**	**335**	P	**P**	**19 07 54.1**	**-0.5**
	baz=127						
PLCA	**Paso Flores**	**56.08**	**164**	P	**P**	**19 07 56.0**	**+0.2**
	comp=Z,1.8nm,0.9s,baz=348,slow=4.8,SNR=4.3						
	comp=Z,1.8nm,0.9s						
S32K	**Killisnoo**	**56.41**	**332**	P	**P**	**19 07 58.5**	**+0.7**
	baz=122						
RES	**Resolute Bay**	**61.58**	**358**	IAmb	IAmb	19 08 36.6	
	comp=Z,4.4nm,0.8s						
BGLC	**Bering Glacier**	**61.65**	**332**	P	**P**	**19 08 34.5**	**+0.4**
	baz=115						
G31M	**Satah River**	**61.67**	**341**	IAmb	IAmb	19 08 40.5	
	comp=Z,2.6nm,0.8s						
G31M	**Satah River**	**61.67**	**341**	P	**P**	**19 08 34.3**	**+0.1**
	baz=127						
F31M	**Tsiigehtchic**	**61.83**	**342**	P	**P**	**19 08 35.6**	**+0.4**
	baz=128						
M27K	**Edge Creek, AK**	**62.02**	**335**	P	**P**	**19 08 37.2**	**+0.4**
	baz=117						
EPYK	**Eagle Plains**	**62.15**	**340**	P	**P**	**19 08 37.8**	**+0.4**
	baz=124						
INK	**Inuvik**	**62.30**	**343**	P	**P**	**19 08 39.9**	**+1.5**
INK				IAmb	IAmb	19 08 42.0	
	comp=Z,3.9nm,1.0s						
INK	**Inuvik**	**62.30**	**343**	P	**P**	**19 08 38.2**	**-0.2**
	baz=128						
L27K	**Beaver Creek,**	**62.33**	**335**	P	**P**	**19 08 38.6**	**-0.1**
	baz=118						
F30M	**Barrier River**	**62.56**	**341**	P	**P**	**19 08 40.5**	**+0.3**
	baz=126						
H29M	**Whitestone**	**62.62**	**339**	P	**P**	**19 08 41.1**	**+0.5**
	baz=122						
A36M	**Sachs Harbour**	**62.79**	**348**	P	**P**	**19 08 40.9**	**-0.7**
	baz=138						
N25K	**Chitina, Valde**	**62.85**	**333**	P	**P**	**19 08 42.2**	**-0.1**
	baz=114						
K27K	**Chicken**	**62.87**	**336**	P	**P**	**19 08 42.0**	**-0.3**
	baz=118						
EGAK	**Eagle**	**62.88**	**337**	P	**P**	**19 08 42.4**	**0.0**
	baz=119						
G29M	**Pine Creek**	**62.88**	**340**	P	**P**	**19 08 41.8**	**-0.5**
	baz=123						
E29M	**Blow River**	**63.66**	**342**	P	**P**	**19 08 47.2**	**-0.3**
	baz=124						
J26L	**Joseph Creek**	**63.67**	**337**	P	**P**	**19 08 47.4**	**-0.3**
	baz=116						
H27K	**Steamboat Moun**	**63.72**	**339**	P	**P**	**19 08 48.1**	**+0.1**
	baz=119						
M24K	**Tolsona, Glenn**	**63.74**	**334**	P	**P**	**19 08 48.1**	**-0.1**
	baz=113						
PAX	**Paxson**	**63.78**	**335**	P	**P**	**19 08 48.1**	**-0.4**
	baz=114						
F28M	**Old Crow**	**63.86**	**340**	P	**P**	**19 08 48.7**	**-0.2**
	baz=122						
I26K	**Coal Creek Min**	**63.88**	**337**	P	**P**	**19 08 49.1**	**+0.1**
	baz=117						
G27K	**Doyon Strip**	**64.05**	**339**	P	**P**	**19 08 50.4**	**+0.2**
	baz=119						
E28M	**Babbage River**	**64.28**	**341**	P	**P**	**19 08 52.0**	**+0.4**
	baz=122						
J25K	**Salcha River,**	**64.42**	**336**	P	**P**	**19 08 52.8**	**+0.1**
	baz=115						
D28M	**Stokes Point**	**64.44**	**342**	P	**P**	**19 08 53.1**	**+0.6**
	baz=123						
KNK	**Knik Glacier**	**64.50**	**332**	P	**P**	**19 08 53.3**	**+0.1**
	baz=110						
SEW	**Seward**	**64.52**	**331**	P	**P**	**19 08 52.6**	**-0.5**
	baz=109						
E27K	**Coleen River**	**64.72**	**341**	P	**P**	**19 08 54.7**	**+0.2**
	baz=120						
G26K	**Porcupine Rive**	**64.86**	**339**	P	**P**	**19 08 56.1**	**+0.8**
	baz=117						
HDA	**Harding Lake**	**64.96**	**336**	P	**P**	**19 08 56.3**	**+0.2**
	baz=113						
D27M	**Malcolm River**	**65.06**	**342**	P	**P**	**19 08 57.1**	**+0.4**
	baz=121						
ILAR	**Eielson Array**	**65.08**	**336**	P	**P**	**19 08 56.7**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=167,slow=5.6,SNR=9.2						
	comp=Z,0.8nm,0.9s						
F26K	**Sheenjek River**	**65.33**	**340**	P	**P**	**19 08 58.6**	**+0.2**
	baz=117						
BMAR	**Burnt Mountain**	**65.36**	**339**	P	**P**	**19 08 58.1**	**-0.6**
RND	**Reindeer**	**65.37**	**334**	P	**P**	**19 08 57.6**	**-1.2**
F25K	**Christian Rive**	**65.80**	**339**	P	**P**	**19 09 01.4**	**-0.1**
	baz=116						
G24K	**Hadweenzic Riv**	**66.07**	**338**	P	**P**	**19 09 02.9**	**-0.3**
	baz=114						
C27K	**Jago River**	**66.09**	**342**	P	**P**	**19 09 02.8**	**-0.5**
	baz=118						
N20K	**Mount Spurr**	**66.14**	**332**	P	**P**	**19 09 03.9**	**0.0**
	baz=107						
I23K	**Minto, Yukon-K**	**66.20**	**336**	P	**P**	**19 09 04.7**	**+0.7**
	baz=111						
H23K	**Yukon River**	**66.51**	**337**	P	**P**	**19 09 05.8**	**-0.3**
	baz=111						
C26K	**Camden Bay**	**66.60**	**342**	P	**P**	**19 09 06.5**	**0.0**
	baz=117						
M20K	**Styx River**	**66.76**	**332**	P	**P**	**19 09 08.8**	**+1.0**
	baz=106						
D25K	**Kavik River**	**66.79**	**341**	P	**P**	**19 09 08.0**	**+0.2**
	baz=116						
E24K	**Your Creek**	**66.98**	**339**	P	**P**	**19 09 08.7**	**-0.4**
	baz=113						
M19K	**Big River Lodg**	**67.34**	**332**	P	**P**	**19 09 11.1**	**-0.3**
	baz=105						
E23K	**Chandalar**	**67.36**	**339**	P	**P**	**19 09 11.1**	**-0.5**
	baz=112						
D24K	**Happy Valley**	**67.52**	**340**	P	**P**	**19 09 12.8**	**+0.5**
	baz=113						
TOLK	**Toolik Lake Re**	**67.57**	**340**	P	**P**	**19 09 13.2**	**+0.4**
	baz=112						
G21K	**Allakaket**	**68.26**	**337**	P	**P**	**19 09 17.3**	**+0.1**
	baz=108						
L18K	**Granite Mounta**	**68.47**	**332**	P	**P**	**19 09 18.6**	**+0.1**
	baz=103						
F21K	**Alatna River**	**68.47**	**338**	P	**P**	**19 09 18.3**	**-0.1**
	baz=108						
EKA	**Eskdalemuir Ar**	**76.36**	**36**	P	**P**	**19 10 05.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=264,slow=6.4,SNR=1.8						
	comp=Z,1.6nm,0.8s						
ESDC	**Sonseca Array**	**77.20**	**52**	P	**P**	**19 10 10.0**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=290,slow=7.4,SNR=6.0						
	comp=Z,0.8nm,0.8s						
SPITS	**Spitsbergen Ar**	**80.08**	**12**	P	**P**	**19 10 26.7**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=284,slow=5.8,SNR=1.0						
	comp=Z,2.6nm,0.7s						
TORD	**Torodi Ar. Bea**	**86.83**	**77**	P	**P**	**19 11 02.7**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=264,slow=5.4,SNR=2.0						
	comp=Z,0.5nm,0.9s						
GERES	**GERESS Array B**	**87.75**	**40**	P	**P**	**19 11 05.2**	**-0.6**
	comp=Z,0.2nm,0.5s,baz=256,slow=4.0,SNR=1.8						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**138.89**	**255**	PKP	**PKPdf**	**19 17 44.3**	**+0.4**
	comp=Z,1.7nm,0.7s,baz=86,slow=2.0,SNR=16						
ASAR	**Alice Springs**	**138.98**	**249**	PKhKP	PKPpre	19 17 38.3	
	comp=Z,0.4nm,0.8s,baz=115,slow=3.8,SNR=6.0						
ASAR				PKP	**PKPdf**	**19 17 44.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=91,slow=1.8,SNR=8.1						

IDC ***06*** *19:02:19.2±0.6, 13.10N±88.05W, h0km, mb4.6/22, mbtmp4.7/26, ML4.2/4, MS4.9/57, Error ellipse: s-maj=21.0km s-min=10.1km az=47.0*

MOS ***06*** *19:02:20.0±1.1, 13.10N±88.07W, h12km, mb5.2/62, MS4.7/13, Error ellipse: s-maj=8.3km s-min=4.9km az=104.4*

UCR ***06*** *19:02:21.0±1.4, 13.52N±87.78W, h6km, MW5.3*

BJI ***06*** *19:02:21.0±0.0, 13.10N±88.10W, h10km, mB5.7/2, Ms5.8/14, Ms7 5.4/14*

SNET ***06*** *19:02:21.7±0.9, 13.24N±88.06W, h5km, ML5.6*

NEIC ***06*** *19:02:22.8, 13.15N±88.03W, h10km*

NEIC ***06*** *19:02:22.4±2.5, 13.10N±0.07×88.06W±0.06, h10km±1km, mb5.3/658, Ms_20 5.0/398, Mwb5.3/24, Mwr5.3/30, Mww5.4/38, Error ellipse: s-maj=14.1km s-min=6.8km az=214.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.25; $M_{\theta\theta}$-0.04; $M_{\phi\phi}$0.29; $M_{r\theta}$0.02; $M_{\theta\phi}$-1.09; $M_{r\phi}$0.40; Fault plane solution: $M_0$1.20000×10^{17} NP1:ϕ_s182.57000°,δ84.16000°,λ-21.81000°. NP2: ϕ_s274.90000°,δ68.31000°,λ-173.71000°. Principal axes: T 1.2870, Plg11.0000°, Azm231.0000°; N -0.2077, Plg67.0000°, Azm348.0000°; P -1.0793, Plg19.0000°, Azm137.0000°; Moment Tensor Solution. Moment tensor: Scale 10^{17} Nm; M_{rr}-0.01; $M_{\theta\theta}$-0.20; $M_{\phi\phi}$0.21; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.96; $M_{r\phi}$0.18; Fault plane solution: $M_0$1.00000×10^{17} NP1:ϕ_s276.22000°,δ79.34000°, λ-178.57000°. NP2:ϕ_s185.95000°,δ88.60000°, λ-10.67000°. Principal axes: T 1.0048, Plg7.0000°, Azm232.0000°; N -0.0017, Plg79.0000°, Azm359.0000°; P -1.0032, Plg9.0000°, Azm141.0000°;*

NEIC ***06*** *19:02:22.8, 13.15N±88.03W, h10km*

CATAC ***06*** *19:02:22.0±0.1, 13.23N±88.05W, h5km±1km, MB6.0, mb

RANC El Ranchito 0.35 319 *i* P **Pg 19 02 28.8 -0.5**
RANC *i* S **Sg 19 02 34.4 +0.2**
RANC IAML 19 02 42.2
comp=Z,420µm,1.0s
PACA Pacayal 0.40 319⇑ *e*P **Pg 19 02 29.4 -0.8**
PACA Pacayal 0.40 319 *i* P **Pg 19 02 29.3 -0.8**
PACA *i* S **Sb 19 02 36.5 -0.6**
PACA IAML 19 02 46.2
comp=Z,2100µm,1.0s
AMPH Amapala 0.41 73⇑ *e*P **Pg 19 02 29.8 -0.4**
TECA Tecapa 0.54 307⇓ *i* P **Pg 19 02 32.1 -0.8**
COEB Comit de Eme 0.57 305⇓ *e*P **Pg 19 02 32.4 -0.9**
COEB Comit de Eme 0.57 305 *i* P **Pg 19 02 32.8 -0.5**
COEB *i* S **Sg 19 02 40.5 -0.4**
COEB IAML 19 02 43.6
comp=Z,160µm,1.0s
PQSS Presa 15 de Se 0.67 313 *e*P **Pg 19 02 34.1 -1.1**
PQSS Presa 15 de Se 0.67 313 *i* P **Pg 19 02 34.2 -1.0**
PQSS IAML 19 02 46.4
comp=Z,50µm,1.0s
TECO Alcaldia de Te 0.79 298 *e*P **Pg 19 02 36.3 -1.3**
TECO Alcaldia de Te 0.79 298 *i* P Pn 19 02 47.5 +8.5
SCLA Alcaldia de Sa 0.84 309⇓ *i* P **Pg 19 02 37.4 -1.1**
SCLA Alcaldia de Sa 0.84 309 *i* P **Pg 19 02 37.7 -0.8**
SCLA IAML 19 02 54.8
comp=Z,64µm,1.0s
UESV Universidad de 0.85 303 *i* P **Pg 19 02 37.7 -0.9**
UESV *i* S **Sg 19 02 49.6 -0.2**
UESV IAML 19 02 59.4
comp=Z,93µm,1.0s
SNVI San Vicente 0.88 300 *e*P **Pg 19 02 38.1 -1.2**
COEG Centro de Oper 0.92 299 *e*P **Pb 19 02 38.6 -1.3**
COEG Centro de Oper 0.92 299 *i* P **Pb 19 02 39.0 -0.9**
COEG *i* S **Sg 19 02 51.6 -0.4**
COEG IAML 19 02 54.8
comp=Z,91µm,1.0s
PAVA Las Pavas 1.01 302 *e*P **Pb 19 02 40.4 -1.2**
PAVA Las Pavas 1.01 302 *i* P **Pb 19 02 40.8 -0.8**
PAVA *i* S **Sb 19 02 54.2 -0.7**
PAVA IAML 19 02 57.7
comp=Z,210µm,1.0s
CRIN San Cristobal 1.09 115 Pg **Pb 19 02 42.8 0.0**
CRIN San Cristobal 1.09 115⇓ *e*P **Pb 19 02 42.9 +0.1**
CRIN San Cristobal 1.09 115 *i* P **Pn 19 02 43.1 0.0**
CRIN IAML 19 02 45.3
comp=Z,510µm,1.0s
CRIN *i* S **Sn 19 02 59.5 +1.5**
LBRS Las Brisas 1.11 301 *e*P **Pb 19 02 42.4 -0.9**
AEIL Aeropuerto Ilo 1.16 297 *e*P **Pb 19 02 43.0 -1.0**
TGUH Tegucigalpa,Un 1.17 41 *i* P **Pb 19 02 42.4 -1.8**
TGUH Tegucigalpa,Un 1.17 41⇑ *i* P **Pb 19 02 42.4 -1.8**
TGUH Tegucigalpa,Un 1.17 41 *i* P **Pb 19 02 42.3 -1.9**
TGUH *i* S **Sb 19 02 58.2 -1.1**
TGUH IAML 19 03 05.7
comp=Z,210µm,1.0s
PANCS Alcalde de 1.18 292 *i* P **Pn 19 02 43.1 -1.2**
PANCS *i* S **Sb 19 02 58.5 -1.0**
PANCS IAML 19 03 01.0
comp=Z,130µm,1.0s
LFU La Fuente 1.18 299 *e*P **Pn 19 02 43.1 -1.2**
LOMA Loma Larga 1.18 294 *e*P **Pn 19 02 43.3 -1.2**
LOMA Loma Larga 1.18 294 *i* P **Pn 19 02 43.5 -1.0**
LOMA *i* S **Sb 19 03 00.1 +0.3**
LOMA IAML 19 03 03.6
comp=Z,97µm,1.0s
UDBS Universidad Do 1.20 297 *i* P **Pn 19 02 44.0 -0.6**
UDBS *i* S **Sb 19 03 00.4 +0.3**
UDBS IAML 19 03 05.1
comp=Z,87µm,1.0s
IGN Direccin Gen 1.21 297 *i* P **Sg 19 03 00.5 -0.8**
UTEC Universidad Te 1.23 296 *i* S **Sn 19 03 01.8 +0.2**
SNET Serv Nac Est T 1.25 294 **Pn 19 02 44.2 -1.1**
SNET Serv Nac Est T 1.25 294 *e*P **Pn 19 02 44.2 -1.1**
SNET Serv Nac Est T 1.25 294 *i* P **Pn 19 02 44.8 -0.6**
SNET *i* S **Sn 19 03 02.1 0.0**
SNET IAML 19 03 05.6
comp=Z,170µm,1.0s
LALI Alcalda de L 1.27 285 *e*P **Pn 19 02 44.5 -1.0**
LALI Alcalda de L 1.27 285 *i* P **Pn 19 02 44.9 -0.6**
LALI *i* S **Sg 19 03 02.9 -0.3**
LALI IAML 19 03 11.1
comp=Z,19µm,1.0s
UEES Universidad Ev 1.27 295 *e*P **Pn 19 02 44.8 -0.9**
UEES Universidad Ev 1.27 295 *i* P **Pn 19 02 45.3 -0.4**
UEES *i* S **Sg 19 03 03.0 -0.3**
UEES IAML 19 03 07.4
comp=Z,53µm,1.0s
ITCA Escuela Especi 1.29 293 *i* P **Pn 19 02 45.3 -0.6**
ITCA *i* S **Sn 19 03 03.4 +0.3**
ITCA IAML 19 03 26.9
comp=Z,230µm,1.0s
PIC2 El Picacho 1.30 296 *e*P **Pn 19 02 45.7 -0.5**
MAGS Ministerio de 1.30 293 *e*P **Pn 19 02 45.6 -0.5**
LLGN La Laguna 1.31 319 *e*P **Pn 19 02 44.6 -1.7**
LLGN La Laguna 1.31 319 *i* P **Pn 19 02 44.5 -1.7**
LLGN IAML 19 02 49.2
comp=Z,41µm,1.0s
LLGN *i* S **Sb 19 03 03.4 0.0**
BOQS Boqueron 1.32 295 *e*P **Pn 19 02 45.5 -0.8**
PMON Piamonte 1.34 294 *e*P **Pn 19 02 46.0 -0.6**
PMON Piamonte 1.34 294 *i* P **Pn 19 02 45.7 -0.9**
PMON IAML 19 03 06.8
comp=Z,110µm,1.0s
QUEZ Alcaldia de Qu 1.35 299 *i* P **Pn 19 02 46.4 -0.3**
QUEZ *i* S **Sg 19 03 05.8 -0.1**
QUEZ IAML 19 03 22.1
comp=Z,210µm,1.0s
JAYA Jayaque - finc 1.44 290 *e*P **Pn 19 02 47.4 -0.6**
JAYA Jayaque - finc 1.44 290 *i* P **Pn 19 02 47.6 -0.4**
JAYA *i* S **Sg 19 03 08.0 -0.6**
JAYA IAML 19 03 10.0
comp=Z,200µm,1.0s
CEDA San Andres 1.45 296⇓ *i* P **Pn 19 02 47.6 -0.4**
CEDA San Andres 1.45 296 *i* P **Pn 19 02 48.0 0.0**
CEDA *i* S **Sg 19 03 09.8 +1.0**
CEDA IAML 19 03 28.1
comp=Z,180µm,1.0s
CNGA Al SSO del Vol 1.48 117 *i* P **Pn 19 02 47.0 -1.5**
CNGN Cerro Negro 1.48 116 **Pn 19 02 47.4 -1.1**
CNGN Cerro Negro 1.48 116 *i* S **Sb 19 03 08.9 +0.6**
LEVN Ruinas Leon Vi 1.60 118 *i* P **Pn 19 02 50.0 0.0**
LEVN *i* S **Sg 19 03 13.3 -0.4**
LEVN IAML 19 03 16.6
comp=Z,60µm,1.0s
CEVE Cerro Verde 1.66 293 *e*P **Pn 19 02 51.7 +0.5**
CEVE Cerro Verde 1.66 293 *i* P **Sg 19 03 16.9 +1.2**
SNJE San Jose 1.66 295 *e*P **Pn 19 02 50.8 -0.2**
SNJE *e*P **Pb 19 02 51.0 -1.6**
MOMN Momotombo 1.66 117 *i* P **Sg 19 03 14.0 -1.7**
UNIC Universidad Ca 1.66 299 *i* P **Pn 19 02 50.5 -0.5**
UNIC *i* S **Sb 19 03 14.1 +0.7**
UNIC IAML 19 03 28.0
comp=Z,25µm,1.0s
SBLS San Blas 1.66 294 *e*P **Pn 19 02 51.3 +0.1**
BC84 Volcan Momotom 1.67 117 *i* P **Pn 19 02 51.3 +0.3**
BC84 *i* S **Sb 19 03 14.1 +0.5**
BC84 IAML 19 03 23.7
comp=Z,51µm,1.0s
MOM2 El Cardon 1.70 115 *i* P **Pn 19 02 51.0 -0.4**
MOM2 *i* S **Sg 19 03 16.7 -0.1**
MOM2 IAML 19 03 21.4
comp=Z,63µm,1.0s
RTR El Retiro 1.71 295 *e*P **Pn 19 02 51.8 +0.1**
BRAN Las Pilas 1.72 105 *i* P **Pb 19 02 54.3 +0.7**
BRAN IAML 19 03 34.5
comp=Z,13µm,1.0s
COPN Copaltepe 1.73 124 *i* P **Pn 19 02 52.4 +0.5**
COPN IAML 19 03 31.7
comp=Z,22µm,1.0s
MTO3 Montecristo 1.76 314 Pn **Pn 19 02 51.5 -1.0**
MTO3 Montecristo 1.76 314 *i* P **Pn 19 02 51.8 -0.7**
MTO3 *i* S **Sb 19 03 15.8 -0.7**
MTO3 IAML 19 03 22.1
comp=Z,36µm,1.0s
NUBE Las Nubes 1.83 294 *e*P **Pn 19 02 53.4 +0.1**
NUBE Las Nubes 1.83 294 *i* P **Pn 19 02 53.7 +0.4**
NUBE IAML 19 03 26.1
comp=Z,49µm,1.0s
ESQI Esquipulas 1.86 318 Pn **Pn 19 02 53.6 -0.2**
ESQI Esquipulas 1.86 318 *i* P **Pn 19 02 53.7 -0.1**
ESQI IAML 19 03 35.9
comp=Z,57µm,1.0s
LOAL Lomas de Alarc 1.87 296 *i* P **Pn 19 02 54.3 +0.5**
LOAL IAML 19 03 37.7
comp=Z,110µm,1.0s
APQ3 Volcan Apoyequ 1.87 118 *i* P **Sg 19 03 21.3 -1.1**
APYN Apoyeque 1.91 119 *i* P **Pn 19 02 54.0 -0.3**
APYN IAML 19 02 57.0
comp=Z,44µm,1.0s
JUAM Asuncion Mita 1.98 306 *i* P **Pn 19 02 56.4 +1.1**
JUAM IAML 19 03 26.5
comp=Z,30µm,1.0s
RE6B4 Centro civico 2.01 121 *i* P **Pn 19 02 56.9 +1.2**
RE6B4 IAML 19 03 00.8
comp=Z,33µm,1.0s
ALLN Telcor Managua 2.01 120 *i* P **Pb 19 02 58.1 -0.4**
ALLN IAML 19 03 33.8
comp=Z,37µm,1.0s
TISN Laguna Tiscapa 2.02 120 *i* P **Pn 19 02 55.1 -0.8**
USIM UNAN 2.03 121 *i* P **Pn 19 02 55.6 -0.4**
USIM IAML 19 03 45.5
comp=Z,42µm,1.0s
MGA1 Managua 2.04 120 *i* P **Pb 19 02 58.5 -0.4**
MGA1 IAML 19 03 43.3
comp=Z,38µm,1.0s
R4DEC Barrio San Lui 2.04 120 *i* P **Pb 19 02 58.5 -0.5**
R4DEC IAML 19 03 44.9
comp=Z,31µm,1.0s
ENAN Enatrel Managu 2.04 121 *i* P **Pb 19 02 58.4 -0.7**
ENAN IAML 19 03 48.0
comp=Z,48µm,1.0s
WILN Americas 2 2.08 119 *i* P **Pn 19 02 56.4 -0.3**
WILN IAML 19 03 43.3
comp=Z,29µm,1.0s
MAS3 Al N del Volca 2.16 122 *i* P **Pn 19 02 57.8 0.0**
MAS3 IAML 19 03 35.6
comp=Z,26µm,1.0s
RB213 Mirador 2 Volc 2.19 122 *i* P **Pn 19 02 56.9 -1.3**
RB213 IAML 19 03 33.2
comp=Z,33µm,1.0s
MASN Masaya 2.20 122 *i* P **Pn 19 02 59.4 +1.0**
MASN IAML 19 03 33.1
comp=Z,7µm,1.0s
NADN Granada 2.43 125 *i* P **Pn 19 03 02.6 +1.1**
NADN IAML 19 03 51.4
comp=Z,19µm,1.0s
MRL Marmol 2.47 320 *e*P **Pn 19 03 03.0 +0.8**
IZABA Izabal, Puerto 2.60 349 *i* P **Pb 19 03 07.1 -1.4**
NBG Las Nubes 2.63 303 *e*P **Pn 19 03 06.3 +1.7**
GUNB GUNB 2.64 303 *i* P **Pn 19 03 04.6 0.0**
GUNB IAML 19 03 48.0
comp=Z,24µm,1.0s
PCG Pacaya 2.76 296 *e*P **Pn 19 03 08.1 +1.8**
GCG4 OSOP 2.79 301 *i* P **Pb 19 03 11.1 -0.8**
JAPN Al SSO del Vol 2.84 125 *i* P **Pn 19 03 08.6 +1.5**
JAPN IAML 19 03 24.8
comp=Z,4µm,1.0s
MORN Al O del Volca 2.85 124 *i* P **Pn 19 03 08.3 +1.0**
MORN IAML 19 03 20.1
comp=Z,15µm,1.0s
CONN Concepcion 2.86 124 *i* P **Pn 19 03 07.9 +0.5**
CONN IAML 19 03 15.7
comp=Z,70µm,1.0s
GUMI Mixco 2.88 301 *i* P **Pb 19 03 13.2 -0.3**
OMEN Al SSO del Vol 2.89 125 *i* P **Pn 19 03 08.2 +0.4**
OMEN IAML 19 03 55.5
comp=Z,7µm,1.0s
APG El Apazote 2.96 308 Pn **Pn 19 03 09.6 +0.5**
comp=Z,11nm,0.3s,baz=117,slow=11,SNR=66
APG LR LR 19 03 41.6
comp=Z,965nm,19.2s,baz=246,slow=27
APG Lg Lg 19 03 54.4
comp=Z,9.0nm,0.3s,baz=176,slow=11,SNR=5.1
comp=Z,46nm,0.5s
FUG Fuego 3 2.99 295 *e*P **Pn 19 03 10.8 +1.4**
ACON Acoyapa 3.06 113 Pn **Pn 19 03 08.8 -1.4**
ACON Acoyapa 3.06 113 *i* P **Pn 19 03 09.0 -1.1**
ACON Acoyapa 3.06 113 *e*P **Pn 19 03 07.9 -2.2**
LCRUZ La Cruz 3.15 131 *e*P **Pn 19 03 12.7 +1.2**
HZTE Horizontes, Gu 3.43 135 Pn **Pn 19 03 15.6 +0.4**
HZTE Horizontes, Gu 3.43 135 *i* P **Pn 19 03 14.9 -0.3**
HZTE IAML 19 04 05.5
comp=Z,8µm,1.0s
ELI1 Hacienda Flor 3.51 135 *e*P **Pn 19 03 16.9 +0.6**
VRLE La Escondida, 3.54 132 *e*P **Pn 19 03 16.2 -0.7**
ALIBA Liberia Airpor 3.55 136 *e*P **Pn 19 03 18.4 +1.5**
SULM Suchitepequez, 3.59 289 *e*P **Pn 19 03 20.9 +3.4**
DELF Filadelfia 3.65 138 *e*P **Pn 19 03 19.9 +1.6**
VMAR Armenia, Volca 3.71 129 *e*P **Pn 19 03 19.3 +0.1**
STG3 Santiaguito 3, 3.74 295 *e*P **Pn 19 03 22.8 +3.1**
ORTG Ortega, Santa 3.77 137 **Pn 19 03 20.7 +0.6**
ORTG Ortega, Santa 3.77 137 *i* P **Pn 19 03 21.0 +0.9**
ORTG IAML 19 03 24.2
comp=Z,3µm,1.0s
ORTG Ortega, Santa 3.77 137 *e*P **Pn 19 03 20.7 +0.6**
RTAL Retalhuleu 3.78 291 Pn **Pn 19 03 21.5 +1.4**
RTAL Retalhuleu 3.78 291 *i* P **Pn 19 03 22.8 +2.7**
RTAL IAML 19 04 41.8
comp=Z,8µm,1.0s
ESPN Las Esperanzas 3.79 104 *i* P **Pn 19 03 19.5 -0.7**
ESPN IAML 19 04 37.8
comp=Z,20µm,1.0s
ESPN Las Esperanzas 3.79 104 *e*P **Pn 19 03 18.0 -2.2**
BAGA Bagaces 3.79 134 *e*P **Pn 19 03 20.4 +0.2**
SAJU San Juanillo, 3.84 143 *i* P **Pn 19 03 22.0 +1.0**
SAJU IAML 19 04 18.8
comp=Z,2µm,1.0s
JUD3 Juan Diaz 3 3.87 140 *e*P **Pn 19 03 22.6 +1.2**
NICO Nicoya 3.95 139 *e*P **Pn 19 03 23.4 +1.0**
DUNO Dulce Nombre, 3.97 140 **Pn 19 03 23.8 +1.1**
DUNO Dulce Nombre, 3.97 140 *i* P **Pn 19 03 23.9 +1.2**
DUNO IAML 19 04 27.4
comp=Z,3µm,1.0s
DUNO Dulce Nombre, 3.97 140 *e*P **Pn 19 03 23.8 +1.1**
HUEH Huehuetenango 3.97 303 *i* P **Pb 19 03 32.4 +0.4**
CNAS Canas 3.98 133 *e*P **Pn 19 03 24.9 +2.1**
SMSP San Marcos 4.04 297 *i* P **Pb 19 03 29.5 -3.7**
CMARA Lajas Hojancha 4.06 140 *e*P **Pn 19 03 25.0 +1.1**
PETF Flores 4.12 335 **Pn 19 03 25.4 +0.7**
PETF Flores 4.12 335 *i* P **Pn 19 03 25.6 +0.9**
PETF IAML 19 04 38.9
comp=Z,7µm,1.0s
INDI Punta indio, G 4.13 142 *i* P **Pn 19 03 25.9 +1.0**
INDI IAML 19 04 26.5
comp=Z,3µm,1.0s
INDI Punta indio, G 4.13 142 *e*P **Pn 19 03 25.9 +1.0**
JTS Las Juntas de 4.17 133 Pn **Pn 19 03 25.4 -0.1**
JTS Las Juntas de 4.17 133 Pn **Pn 19 03 25.1 -0.4**
comp=Z,54nm,0.3s,baz=305,slow=5.6,SNR=26
JTS Sn **Sn 19 04 13.1 -1.1**
comp=Z,16nm,0.3s,baz=307,slow=20,SNR=1.4
comp=Z,161nm,0.3s
JTS Las Juntas de 4.17 133 *i* P **Pn 19 03 25.9 +0.4**
JTS Las Juntas de 4.17 133 *e*P **Pn 19 03 25.5 -0.1**
COVE Coope Vega, Sa 4.33 124 **Pn 19 03 27.5 -0.1**
COVE Coope Vega, Sa 4.33 124 *i* P **Pn 19 03 28.5 +0.9**
COVE IAML 19 05 13.3
comp=Z,7µm,1.0s
COVE Coope Vega, Sa 4.33 124 *e*P **Pn 19 03 27.7 +0.1**
SOCE Pocosol 4.36 129 **Pn 19 03 28.7 +0.6**
SOCE Pocosol 4.36 129 *i* P **Pn 19 03 29.7 +1.6**
SOCE IAML 19 05 01.0
comp=Z,2µm,1.0s
LAFE Finca La Fe, P 4.55 137 *i* P **Pn 19 03 32.5 +1.9**
LAFE IAML 19 03 49.0
comp=Z,18nm,1.0s
CPMI Catarata Coope 4.60 128 *i* P **Pn 19 03 33.1 +1.5**
CPMI IAML 19 05 28.1
comp=Z,3µm,1.0s
CPMI Catarata Coope 4.60 128 *e*P **Pn 19 03 32.4 +0.8**
JACO JACO, Garabito 4.82 136 **Pn 19 03 35.9 +1.6**
JACO JACO, Garabito 4.82 136 *i* P **Pn 19 03 37.2 +2.8**
JACO IAML 19 03 52.6
comp=Z,1µm,1.0s
RIFO Rio Frio, Sara 4.94 125 *i* P **Pn 19 03 37.6 +1.5**
RIFO IAML 19 04 58.0
comp=Z,6µm,1.0s
RIFO Rio Frio, Sara 4.94 125 *e*P **Pn 19 03 34.2 -1.9**
HDC Heredia 4.98 129 **Pn 19 03 38.0 +1.2**
HDC Heredia 4.98 129 *e*P **Pn 19 03 35.6 -1.2**
HDC3 Heredia 3 4.98 129 *i* P **Pn 19 03 39.6 +2.8**
HDC3 IAmb IAmb 19 04 05.6
comp=Z,1µm,0.8s
HDC3 IVmB_BB 19 04 18.9
comp=Z,15µm,1.0s
HDC3 IAML 19 05 41.5
comp=Z,2µm,1.0s
CCIG Comitan 5.02 309 *i* P **Pn 19 03 39.0 +1.8**
CCIG IAML 19 05 14.9
comp=Z,4µm,1.0s
LCR2 La Lucha 2 5.23 130 Pn **Pn 19 03 41.0 +0.8**
LCR2 La Lucha 2 5.23 130 *e*P **Pn 19 03 39.6 -0.6**
REPA Paraso 5.28 129 *e*P **Pn 19 03 42.1 +1.3**
VTCV VTCV, Calle Va 5.29 126 *i* P **Pn 19 03 43.0 +1.9**
VTCV IVmB_BB 19 04 09.1
comp=Z,13µm,1.0s
VTCV IAmb IAmb 19 04 09.5
comp=Z,2µm,1.2s
VTCV IAML 19 05 26.2
comp=Z,2µm,1.0s
BATAN Batan 5.51 123 **Pn 19 03 45.4 +1.5**
BATAN Batan 5.51 123 *i* P **Pn 19 03 45.7 +1.9**
BATAN IAmb IAmb 19 04 10.6
comp=Z,2µm,1.2s
BATAN IVmB_BB 19 04 16.3
comp=Z,26µm,1.0s
BATAN IAML 19 05 38.4
comp=Z,4µm,1.0s
CDM Cerro de Muert 5.53 130 *i* P **Pn 19 03 45.7 +1.1**
CDM IAML 19 03 51.5
comp=Z,1µm,1.0s
CDM IVmB_BB 19 03 51.5
comp=Z,10µm,1.0s
CDM IAmb IAmb 19 03 51.5
comp=Z,1µm,1.1s
CDM Cerro de Muert 5.53 130 *e*P **Pn 19 03 44.4 -0.2**
BUS1 Rivas 5.55 130 *e*P **Pn 19 03 45.7 +0.9**
PEZE Perez Zeledon, 5.71 131 **Pn 19 03 49.1 +2.4**
PEZE Perez Zeledon, 5.71 131 *i* P **Pn 19 03 50.0 +3.3**
PEZE IAmb IAmb 19 03 51.8
comp=Z,820nm,0.8s
PEZE IAML 19 04 04.7
comp=Z,1µm,1.0s
PEZE IVmB_BB 19 04 32.1
comp=Z,35µm,1.0s
OCHAL Ojochal 5.92 133 *i* P **Pn 19 03 53.9 +4.3**
SRBA San Rafael, Bu 6.04 130 Pn **Pn 19 03 53.5 +2.2**
SRBA San Rafael, Bu 6.04 130 *i* P **Pn 19 03 54.7 +3.4**
PLAN Los Planes de 6.20 136 *i* P **Pn 19 03 56.6 +3.2**
PLAN IAmb IAmb 19 03 57.9
comp=Z,1µm,1.0s
PLAN IAML 19 03 58.1
comp=Z,2µm,1.0s
PLAN IVmB_BB 19 03 58.1
comp=Z,19µm,1.0s
PRVC Isla de Provid 6.52 87 *i* P **Pn 19 03 57.2 -0.5**
PRVC IAmb IAmb 19 04 21.5
comp=Z,250nm,0.9s
PRVC IVmB_BB 19 04 26.2
comp=Z,3µm,1.0s
PRVC IAML 19 06 07.3
comp=Z,1µm,1.0s
PIRO Carate, Puerto 6.63 135 *i* P **Pn 19 04 02.9 +3.7**
PIRO Carate, Puerto 6.63 135 *e*P **Pn 19 04 01.1 +1.9**
BRU2 Volcan 6.83 129 Pn **Pn 19 04 04.7 +2.5**
BRU2 Volcan 6.83 129 *i* P **Pn 19 04 05.7 +3.5**
BRU2 Volcan 6.83 129⇑ *e*P **Pn 19 04 02.6 +0.4**
CDITO Canoas 6.84 131 **Pn 19 04 05.1 +2.9**
CDITO Canoas 6.84 131 *i* P **Pn 19 04 05.2 +3.1**
CDITO IAmb IAmb 19 04 11.7
comp=Z,770nm,0.9s
CDITO IVmB_BB 19 04 42.1
comp=Z,13µm,1.0s
CDITO IAML 19 06 18.2
comp=Z,1µm,1.0s
CCOL Caracol de Cor 6.88 133 *i* P **Pn 19 04 07.2 +4.5**
TEIG Tepich 7.02 358 Pn **Pn 19 04 09.0 +4.3**
TEIG Tepich 7.02 358 LR LR 19 07 00.3
comp=Z,135µm,18.0s,slow=40
CMIG Matias Romero 7.66 301 Pn **Pn 19 04 14.0 +0.6**
comp=Z,6.9nm,0.3s,baz=105,slow=9.6,SNR=23
CMIG Sn **Sn 19 05 42.4 +2.3**
comp=Z,3.8nm,0.3s,baz=94,slow=14,SNR=1.9
comp=Z,135nm,0.9s
BCIP Isla Barro Col 8.99 115 Pn **Pn 19 04 32.8 +1.1**
BCIP Isla Barro Col 8.99 115 *i* P **Pn 19 04 34.1 +2.4**
BCIP IVmB_BB 19 04 40.3
comp=Z,3µm,1.0s
BCIP IAmb IAmb 19 04 41.9
comp=Z,190nm,1.6s
BCIP Isla Barro Col 8.99 115 P **Pn 19 04 32.8 +1.1**
SOR Soroa 10.71 26 Pn **Pn 19 04 57.9 +2.7**
SOR Soroa 10.71 26 P **Pn 19 04 57.9 +2.7**
TLIG Tiapa 11.04 295 Pn **Pn 19 05 00.5 +0.6**
I20EC Galapagos 13.87 190 I I 20 31 50.0
baz=9.0,slow=317,SNR=1.1
JRQG Juriquilla Cam 14.02 304 **Pn 19 05 42.3 +1.6**
GTBY Guantanamo Bay 14.11 60 Pn **Pn 19 05 42.5 +0.8**
MOIG Morelia 14.16 299 **Pn 19 05 45.0 +2.3**
060A Indiantown 15.57 26 P **P 19 06 05.5 -0.1**
060A IAmb IAmb 19 06 09.5
comp=Z,107nm,0.8s
ROSC El Rosal 15.88 120 **Pn 19 06 07.6 +1.7**
ROSC El Rosal 15.88 120 Pn **P 19 06 08.2 -1.3**
comp=Z,1.2nm,0.3s,baz=337,slow=4.7,SNR=13
ROSC LR LR 19 13 55.0
comp=Z,7µm,19.6s,baz=331,slow=44
ROSC El Rosal 15.88 120 P **Pn 19 06 07.6 +1.7**
ROSC pmax pmax
comp=Z,55nm,0.8s
TULM Tulcn-Chalpat 16.02 140 Pn **Pn 19 06 09.2 +1.5**
TULM IAmb IAmb 19 06 15.2
comp=Z,267nm,1.4s
IMBA Imbabura, San 16.11 142 IAmb IAmb 19 06 15.4
comp=Z,286nm,1.0s
SLOR San Lorenzo - 16.75 145 IAmb IAmb 19 06 24.4
comp=Z,291nm,1.2s
656A Willston 16.92 17 **P 19 06 20.0 -0.5**
656A IAmb IAmb 19 06 28.9
comp=Z,149nm,1.0s
HBVL Hebbronville 17.03 326 P **P 19 06 22.2 +0.5**
SDDR Presa de Saban 17.11 68 P **P 19 06 23.4 +0.6**
CHSH Refugio Sur-Vo 17.18 147 IAmb IAmb 19 06 31.2
comp=Z,151nm,0.9s
451A Vernon 17.49 7 **P 19 06 30.0 +3.1**
451A IAmb IAmb 19 06 33.4
comp=Z,270nm,1.8s
SDV Santo Domingo 17.62 102 **Pn 19 06 27.9 +0.2**
SDV IAmb IAmb 19 06 32.0
comp=Z,161nm,0.9s
SDV Santo Domingo 17.62 102 P **Pn 19 06 27.6 -0.1**
comp=Z,3.2nm,0.3s,baz=278,slow=7.8,SNR=32
SDV LR LR 19 14 29.8
comp=Z,4µm,19.3s,baz=276,slow=42
comp=Z,122nm,0.8s
SDV Santo Domingo 17.62 102 *e*P **Pn 19 06 27.8 +0.1**
BRAL Brewton 17.94 3 P **P 19 06 32.9 +1.1**
baz=183
735A Kenedy 18.05 331 **P 19 06 34.2 +1.1**
735A IAmb IAmb 19 06 40.0
comp=Z,275nm,1.1s
MLDN Muldoon 18.52 335 IAmb IAmb 19 06 47.5
comp=Z,215nm,1.1s
EF01 Eagle Ford 01 18.55 330 IAmb IAmb 19 06 45.6
comp=Z,173nm,1.1s
TIGA Tifton 18.64 12 IAmb IAmb 19 06 51.3
comp=Z,207nm,1.2s
TIGA Tifton 18.64 12 P **Pn 19 06 41.5 +1.6**
baz=194,SNR=7.1
250A Grady 18.79 5 P **Pn 19 06 46.2 +4.5**
VBMS Vicksburg 19.09 354 IAmb IAmb 19 06 53.2
comp=Z,224nm,1.0s
VBMS Vicksburg 19.09 354 P **Pn 19 06 47.9 +2.6**
baz=173,SNR=8.1
HNDO Hondo 19.32 329 IAmb IAmb 19 06 56.6
comp=Z,140nm,0.9s
146A Union 19.40 357 IAmb IAmb 19 06 59.6
comp=Z,138nm,1.0s
NATX Nacogdoches 19.47 343 P **Pn 19 06 52.2 +2.3**

NATX	Nacogdoches	19.47	343	P		Pn		19 06 51.6	+1.6
	baz=160,SNR=18								
435B	Jarrell	19.61	335	P		Pn		19 06 51.0	-0.6
435B				IAmb		IAmb		19 07 05.1	
	comp=Z,141nm,1.0s								
435B	Jarrell	19.61	335	P		Pn		19 06 52.5	+0.9
	baz=152								
LRAL	Lakeview Retre	19.80	3	P		Pn		19 06 55.1	+1.3
LRAL	Lakeview Retre	19.80	3	P		Pn		19 06 55.2	+1.4
	baz=183,SNR=16								
DRIO	Del Rio	19.94	326	IAmb		IAmb		19 07 02.0	
	comp=Z,232nm,1.1s								
Z47A	Carrollton	19.94	360	IAmb		IAmb		19 07 04.5	
	comp=Z,78nm,0.8s								
BAUV	El Baul	20.08	100			P		19 06 55.0	-0.5
JCT	Junction City	20.36	330	P		P		19 06 59.2	+0.8
JCT				IAmb		IAmb		19 07 04.7	
	comp=Z,136nm,1.1s								
JCT	Junction City	20.36	330	P		P		19 06 59.4	+1.0
	baz=146,SNR=23								
JCT	Junction City	20.36	330	P		P		19 06 59.2	+0.8
JCT				pmax		pmax			
	comp=Z,136nm,1.1s								
JCT				MLR		MLR			
	comp=Z,700nm,21.0s								
Z41A	Richland Creek	20.46	349	P		Pn		19 07 02.1	+0.5
Z41A				IAmb		IAmb		19 07 11.7	
	comp=Z,111nm,0.9s								
GOGA	Godfrey	20.58	11	P		Pn		19 07 02.7	-0.3
GOGA	Godfrey	20.58	11	P		Pn		19 07 03.5	+0.5
	baz=193,SNR=8.3								
GOGA	Godfrey	20.58	11	P		Pn		19 07 02.7	-0.3
GOGA				pmax		pmax			
	comp=Z,35nm,0.9s								
GOGA				MLR		MLR			
	comp=Z,2µm,18.0s								
WHTX	Lake Whitney,	20.63	337	P		Pn		19 07 03.3	-0.3
WHTX				IAmb		IAmb		19 07 19.2	
	comp=Z,214nm,1.0s								
WHTX	Lake Whitney,	20.63	337	P		Pn		19 07 03.2	-0.4
	baz=153,SNR=8.6								
Y49A	Blount Mountai	20.65	4	P		Pn		19 07 03.6	-0.2
Y49A				IAmb		IAmb		19 07 17.4	
	comp=Z,189nm,1.5s								
BRDY	Brady	20.66	333	P		P		19 07 02.1	+0.5
BRDY				IAmb		IAmb		19 07 08.3	
	comp=Z,109nm,0.9s								
CRPR	Cabo Rojo, PR	20.74	74	IAMs_20		IAMs_20		19 14 47.9	
	comp=Z,6µm,18.0s								
TREL	Terrell	20.81	341	P		Pn		19 07 05.8	+0.1
FW16	Waxahatchie	20.86	339	P		Pn		19 07 05.6	-0.7
FW14	Alvarado	20.89	338	P		Pn		19 07 05.9	-0.7
Y52A	Lilburn	20.92	9	P		Pn		19 07 06.3	-0.6
FW13	Cleburne	20.94	337	IAmb		IAmb		19 07 23.3	
	comp=Z,168nm,0.9s								
WLAR	White Oak Lake	20.94	348	IAmb		IAmb		19 07 16.2	
	comp=Z,142nm,0.9s								
AOPR	Arecibo Observ	21.13	73	IAmb		IAmb		19 07 18.2	
	comp=Z,80nm,0.9s								
SAND	Sanderson	21.18	324	P		P		19 07 08.1	+0.7
SAND				IAmb		IAmb		19 07 17.8	
	comp=Z,279nm,1.4s								
X48A	Hartselle	21.21	2	P		P		19 07 10.0	+2.5
X48A				IAmb		IAmb		19 07 18.6	
	comp=Z,158nm,0.8s								
CELP	Cerrillos	21.25	74	P		P		19 07 07.4	-0.7
CELP				IAmb		IAmb		19 07 23.3	
	comp=Z,159nm,1.6s								
OXF	Oxford	21.28	357	P		P		19 07 11.3	+3.0
OXF				IAmb		IAmb		19 07 19.2	
	comp=Z,223nm,1.1s								
OXF	Oxford	21.28	357	P		P		19 07 11.5	+3.2
	baz=176,SNR=16								
OXF	Oxford	21.28	357	P		P		19 07 11.3	+3.0
OXF				pmax		pmax			
	comp=Z,223nm,1.1s								
OXF				MLR		MLR			
	comp=Z,2µm,20.0s								
OZNA	Ozona	21.39	328	P		P		19 07 10.4	+0.9
OZNA				IAmb		IAmb		19 07 23.3	
	comp=Z,142nm,1.1s								
FPAL	Fort Paine	21.39	6	IAmb		IAmb		19 07 25.9	
	comp=Z,80nm,0.9s								
X51A	Calhoun	21.50	7	IAmb		IAmb		19 07 21.6	
	comp=Z,156nm,0.9s								
TXAR	Lajitas Array	21.65	320	P		P		19 07 13.2	+0.7
	comp=Z,20nm,0.6s,baz=140,slow=9.1,SNR=153								
TXAR				LR		LR		19 16 52.8	
	comp=Z,764nm,18.2s,baz=140,slow=40								
	comp=Z,20nm,0.6s								
TX31	Lajitas Ar. Si	21.65	320	IAmb		IAmb		19 07 21.8	
	comp=Z,177nm,1.2s								
X40A	Basin Creek Fa	21.66	349	IAmb		IAmb		19 07 22.7	
	comp=Z,180nm,1.6s								
PLPT	Palo Pinto	21.69	336	IAmb		IAmb		19 07 21.3	
	comp=Z,104nm,1.0s								
FW03	Perrin-Whitt E	21.79	337	IAmb		IAmb		19 07 35.1	
	comp=Z,105nm,0.9s								
UALR	University of	21.86	350	P		P		19 07 17.7	+3.2
UALR				IAmb		IAmb		19 07 23.6	
	comp=Z,71nm,0.8s								
MIAR	Mount Ida	21.86	348	P		P		19 07 17.1	+2.6
	baz=166,SNR=37								
Y57A	Sumter	21.89	17	IAmb		IAmb		19 07 26.6	
	comp=Z,72nm,0.8s								
ABTX	Abilene, Hawle	22.08	333	P		P		19 07 17.3	+0.4
ABTX				IAmb		IAmb		19 07 29.4	
	comp=Z,127nm,1.1s								
ABTX	Abilene, Hawle	22.08	333	P		P		19 07 17.4	+0.4
	baz=149,SNR=19								
SGCY	Sterling City	22.18	329	IAmb		IAmb		19 07 26.3	
	comp=Z,120nm,1.0s								
BG3	Lake Jocassee	22.22	11	IAmb		IAmb		19 07 30.1	
	comp=Z,124nm,1.1s								
LOOK	Love County	22.33	340			P		19 07 21.7	+2.1
ATAH	Atahualpa	22.34	154	P		P		19 07 22.4	+2.1
	comp=Z,82nm,1.1s,baz=354,slow=6.8,SNR=38								
ALPN	Alpine	22.37	322	IAmb		IAmb		19 07 28.4	
	comp=Z,96nm,1.0s								
WTFS	Witchita Falls	22.59	337	IAmb		IAmb		19 07 31.1	
	comp=Z,84nm,0.9s								
KMSC	Kings Mountain	22.71	14	P		P		19 07 25.7	+2.1
	baz=197,SNR=15								
TKL	Tuckaleechee C	22.72	9	P		P		19 07 25.3	+1.5
	comp=Z,46nm,1.0s,baz=183,slow=11,SNR=48								
TKL				LR		LR		19 16 11.0	
	comp=Z,2µm,18.1s,baz=187,slow=36								
	comp=Z,46nm,1.0s								
SN05	Snyder 5	22.86	331	IAmb		IAmb		19 07 49.4	
	comp=Z,103nm,1.1s								
WVT	Waverly	22.86	0	P		P		19 07 27.6	+2.4
	baz=181								
WVT	Waverly	22.86	0	P		P		19 07 28.3	+3.1
APMT	Aspermont	22.89	333	IAmb		IAmb		19 07 50.6	
	comp=Z,174nm,1.3s								
LCAR	Lake Charles	22.97	354	P		P		19 07 27.5	+1.1
LCAR				IAmb		IAmb		19 07 39.7	
	comp=Z,114nm,1.4s								
SN07	Snyder 07	23.04	332	IAmb		IAmb		19 07 52.3	
	comp=Z,74nm,1.0s								
PCRV	Puerto La Cruz	23.12	95	P		P		19 07 28.9	+0.7
	comp=Z,54nm,0.8s,baz=216,slow=2.7,SNR=21								
PCRV				LR		LR		19 18 23.3	
	comp=Z,3µm,19.2s,slow=42								
	comp=Z,54nm,0.8s								
SLBS	Sierra La Lagu	23.22	300	IAMs_20		IAMs_20		19 15 57.7	
	comp=Z,8µm,22.0s								
POST	Post	23.30	330	P		P		19 07 28.8	-1.0
POST				IAmb		IAmb		19 07 34.8	
	comp=Z,128nm,0.9s								
VHRN	Van Horn	23.48	321	IAmb		IAmb		19 07 44.9	
	comp=Z,77nm,1.2s								
DKNS	Dickens	23.53	332	IAmb		IAmb		19 07 57.9	
	comp=Z,74nm,0.9s								
WMOK	Wichita Mounta	23.57	337	IAmb		IAmb		19 07 52.5	
	comp=Z,122nm,1.4s								
WMOK	Wichita Mounta	23.57	337	P		P		19 07 33.5	+1.0
	baz=153,SNR=49								
WMOK	Wichita Mounta	23.57	337	P		P		19 07 32.4	0.0
WMOK				pmax		pmax			
	comp=Z,76nm,1.8s								
PBMO	Poplar Bluff	23.61	355	IAmb		IAmb		19 07 40.5	
	comp=Z,84nm,0.9s								
HHAR	Hobbs	23.61	348	IAmb		IAmb		19 07 40.7	
	comp=Z,48nm,0.8s								
TZTN	Tazewell	23.63	9	IAmb		IAmb		19 07 41.3	
	comp=Z,55nm,0.8s								
TZTN	Tazewell	23.63	9	P		P		19 07 34.4	+1.4
	baz=191,SNR=19								
LPIG	La Paz	23.69	301	LR		LR		19 16 46.7	
	comp=Z,5µm,20.5s,baz=118,slow=37								
TUL3	Leonard	23.69	344	P		P		19 07 35.5	+1.9
	baz=161,SNR=38								
T47A	Sharon Grove	23.73	2	P		P		19 07 35.0	+1.1
RLO	Rose Lookout	23.74	346	IAmb		IAmb		19 07 42.0	
	comp=Z,90nm,0.9s								
CNNC	Cliffs of the	23.82	21	P		P		19 07 36.6	+1.9
	baz=205								
U38A	Gravette	23.86	347	IAmb		IAmb		19 07 59.4	
	comp=Z,70nm,1.1s								
T42A	Van Buren	23.92	354	IAmb		IAmb		19 07 43.1	
	comp=Z,58nm,0.8s								
V58A	Windy Hill, Pi	23.93	18	IAmb		IAmb		19 07 41.8	
	comp=Z,70nm,1.1s								
CGM3	Cape Girardeau	24.07	357	IAmb		IAmb		19 07 44.3	
	comp=Z,49nm,0.9s								
U56A	King	24.09	15	P		P		19 07 38.0	+0.6
U56A				IAmb		IAmb		19 07 46.2	
	comp=Z,70nm,1.1s								
MGMO	Mountain Grove	24.18	352	IAmb		IAmb		19 07 45.8	
	comp=Z,80nm,0.9s								
SABA	Saba	24.32	76	IAMs_20		IAMs_20		19 16 16.9	
	comp=Z,5µm,22.0s								
MNTX	Cornudas Mount	24.36	322	P		P		19 07 40.4	+0.5
	baz=136,SNR=131								
S44A	Carbondale	24.45	358	IAmb		IAmb		19 07 58.1	
	comp=Z,116nm,1.1s								
SIUC	Southern Illin	24.47	358	IAmb		IAmb		19 07 58.3	
	comp=Z,110nm,1.1s								
SMRT	St. Maarten	24.53	75	IAMs_20		IAMs_20		19 18 15.5	
	comp=Z,5µm,19.0s								
SEUS	St. Eustatius	24.55	77	IAMs_20		IAMs_20		19 16 24.0	
	comp=Z,5µm,20.0s								
MSTX	Muleshoe	24.65	330	IAMs_20		IAMs_20		19 15 00.6	
	comp=Z,4µm,20.0s								
USIN	University of	24.70	1	IAmb		IAmb		19 08 03.3	
	comp=Z,70nm,1.0s								
T35A	Sooner Cattle	24.83	344	IAmb		IAmb		19 08 02.1	
	comp=Z,57nm,1.1s								
AMTX	Amarillo	24.89	333	P		P		19 07 45.6	+0.9
	baz=147								
BLA	Blacksburg	24.90	15	P		P		19 07 46.1	+1.3
	baz=198,SNR=24								
TBTG	Tatabinga, AM	24.94	133	*e*P		P		19 07 44.6	-0.7
CCM	Cathedral Cave	24.95	354	P		P		19 07 45.4	+0.3
CCM				IAmb		IAmb		19 07 52.2	
	comp=Z,44nm,0.8s								
CCM	Cathedral Cave	24.95	354	P		P		19 07 46.1	+1.0
	baz=173								
CCM	Cathedral Cave	24.95	354	P		P		19 07 45.4	+0.3
CCM				pmax		pmax			
	comp=Z,44nm,0.8s								
CCM				MLR		MLR			
	comp=Z,1µm,22.0s								
T57A	Hurt	25.00	17	IAmb		IAmb		19 07 54.3	
	comp=Z,80nm,0.8s								
WCI	Wyandotte Cave	25.01	3	P		P		19 07 46.2	+0.5
WCI	Wyandotte Cave	25.01	3	P		P		19 07 47.0	+1.3
	baz=184								
WCI	Wyandotte Cave	25.01	3	P		P		19 07 46.2	+0.5
WCI				pmax		pmax			
	comp=Z,109nm,0.9s								
WCI				MLR		MLR			
	comp=Z,2µm,21.0s								
EPT	El Paso	25.10	321	P		P		19 07 44.9	-1.8
EPT				IAmb		IAmb		19 07 52.4	
	comp=Z,97nm,1.7s								
KAN13	South Haven SW	25.20	342	IAmb		IAmb		19 07 54.6	
	comp=Z,59nm,0.9s								
R50A	Paris	25.23	7	IAmb		IAmb		19 08 08.8	
	comp=Z,88nm,1.3s								
KAN14	Manchester OK	25.30	341	IAmb		IAmb		19 07 55.8	
	comp=Z,65nm,1.1s								
R40A	Maddies Statio	25.30	352	P		P		19 07 48.2	-0.1
R40A				IAmb		IAmb		19 07 55.9	
	comp=Z,110nm,1.4s								
KAN17	Caldwell West	25.32	342	IAmb		IAmb		19 07 56.1	
	comp=Z,113nm,1.1s								
KAN09	Caldwell North	25.36	342	IAmb		IAmb		19 07 56.1	
	comp=Z,77nm,0.9s								
KAN01	Argonia South	25.41	342	IAmb		IAmb		19 07 56.6	
	comp=Z,80nm,0.8s								
OLIL	Olney	25.46	360	P		P		19 07 49.8	0.0
OLIL				IAmb		IAmb		19 07 58.9	
	comp=Z,65nm,1.1s								
KAN06	Argonia West S	25.53	342	IAmb		IAmb		19 08 18.2	
	comp=Z,78nm,0.9s								
KAN08	Anthony NE Sta	25.55	341	IAmb		IAmb		19 07 57.5	
	comp=Z,96nm,0.9s								
Q44A	Meyer Farm, Va	25.65	358	P		P		19 07 51.5	0.0
Q44A				IAmb		IAmb		19 08 00.3	
	comp=Z,83nm,0.8s								
CBE	Ff, Capester	25.75	80	IAMs_20		IAMs_20		19 16 08.6	
	comp=Z,4µm,20.0s								
CZSB	Cruzeiro do Su	25.76	143	IAmb		IAmb		19 08 14.9	
	comp=Z,107nm,1.0s								
CZSB	Cruzeiro do Su	25.76	143	*e*P		P		19 07 51.9	-0.9
S57A	Dark Hollow, R	25.80	17	IAmb		IAmb		19 08 01.7	
	comp=Z,46nm,1.0s								
ABD	La Joyeuse, An	25.89	79	IAMs_20		IAMs_20		19 16 23.3	
	comp=Z,4µm,20.0s								
BLO	Bloomington	25.94	3	IAmb		IAmb		19 08 29.2	
	comp=Z,74nm,1.4s								
MAGL	Barre de l'ile	26.05	81	IAMs_20		IAMs_20		19 16 27.8	
	comp=Z,4µm,20.0s								
SVN	Savane Anatole	26.14	83	IAMs_20		IAMs_20		19 16 57.1	
	comp=Z,4µm,18.0s								
FDF	Fort de France	26.15	83	IAMs_20		IAMs_20		19 16 57.5	
	comp=Z,5µm,18.0s								
BIM	Bigot	26.23	84	IAMs_20		IAMs_20		19 16 51.2	
	comp=Z,4µm,21.0s								
GDSD	La Desirade Is	26.28	80	IAMs_20		IAMs_20		19 16 35.4	
	comp=Z,4µm,21.0s								
P48A	Milroy	26.29	5	IAmb		IAmb		19 08 04.7	
	comp=Z,127nm,1.6s								
R58B	Mineral	26.31	18	IAmb		IAmb		19 08 06.7	
	comp=Z,75nm,1.2s								
P43A	Skaggs, Pawnee	26.40	357	IAmb		IAmb		19 08 06.4	
	comp=Z,77nm,1.5s								
121A	Cookes Peak, D	26.41	320	IAmb		IAmb		19 08 01.9	
	comp=Z,70nm,0.9s								
121A	Cooks Peak, D	26.41	320	P		P		19 08 00.5	+1.8
	baz=133,SNR=55								
ILAM	Ilet Lapin Mar	26.42	83	IAMs_20		IAMs_20		19 16 55.1	
	comp=Z,4µm,18.0s								
P49A	Miami Univ. Ec	26.43	6	IAmb		IAmb		19 08 06.6	
	comp=Z,54nm,1.0s								
P49A	Miami Univ. Ec	26.43	6	P		P		19 07 60.0	+1.4
	baz=187								
MPOM	Mone Pois Mar	26.44	84	IAMs_20		IAMs_20		19 16 56.6	
	comp=Z,4µm,20.0s								
P51A	Williamsport	26.58	9	IAmb		IAmb		19 08 22.3	
	comp=Z,66nm,1.1s								
319A	Douglas	26.63	316	IAmb		IAmb		19 08 13.0	
	comp=Z,66nm,1.2s								
RTBA	Rita Blanca	26.66	333	IAmb		IAmb		19 08 24.6	
	comp=Z,119nm,1.1s								
CBN	Corbin Frederi	26.68	19	IAmb		IAmb		19 08 08.0	
	comp=Z,60nm,0.9s								
CBN				IAMs_20		IAMs_20		19 18 31.2	
	comp=Z,3µm,18.0s								
CBN	Corbin Frederi	26.68	19	P		P		19 08 01.9	+1.1
	baz=204								
P52A	Corning	26.88	10	P		P		19 08 04.1	+1.6
	baz=193,SNR=24								
KSU1	Kansas State U	26.92	345	IAmb		IAmb		19 08 34.2	
	comp=Z,56nm,0.8s								
KSU1	Kansas State U	26.92	345	P		P		19 08 03.4	+0.4
	baz=162								
Q56A	Snyder Ridge,	26.94	15	IAmb		IAmb		19 08 12.5	
	comp=Z,85nm,0.9s								
Y22D	IRIS PASSCAL I	26.96	324	P		P		19 08 04.3	+0.7
Y22D	IRIS PASSCAL I	26.96	324	P		P		19 08 04.1	+0.5
	baz=136								
Y22F	Passcal Instru	26.96	324	P		P		19 08 04.8	+1.2
	baz=136								
O48B	Farmland	27.10	5	IAmb		IAmb		19 08 11.8	
	comp=Z,55nm,1.2s								
O48B	Farmland	27.10	5	P		P		19 08 06.0	+1.3
	baz=186								
O49A	Covington	27.11	6	IAmb		IAmb		19 08 11.8	
	comp=Z,52nm,1.1s								
SFIN	Lafayette	27.12	2	IAmb		IAmb		19 08 33.3	
	comp=Z,111nm,1.8s								
SFIN	Lafayette	27.12	2	P		P		19 08 05.9	+1.1
	baz=182								
HDIL	Hopedale	27.30	358	P		P		19 08 08.0	+1.5
	baz=177								
ACSO	Alum Creek Sta	27.33	8	IAmb		IAmb		19 08 14.9	
	comp=Z,78nm,1.1s								
ACSO	Alum Creek Sta	27.33	8	P		P		19 08 08.2	+1.6
	baz=191,SNR=15								
ANMO	Albuquerque	27.34	326	P		P		19 08 06.8	-0.2
ANMO				IAmb		IAmb		19 08 14.5	
	comp=Z,49nm,1.2s								
ANMO	Albuquerque	27.34	326	P		P		19 08 08.2	+1.2
	baz=138								
ANMO	Albuquerque	27.34	326	LR		LR		19 22 15.4	
	comp=Z,1µm,19.0s,baz=199,slow=44								
ANMO	Albuquerque	27.34	326	*i* P		P		19 08 07.6	+0.6
ANMO				pmax		pmax			
	comp=Z,54nm,1.3s								
NNA	Nana	27.36	156	LR		LR		19 18 35.3	
	comp=Z,949nm,18.7s,baz=332,slow=36								
NNA	Nana	27.36	156	*i* P		P		19 08 07.1	-0.1
NNA				pmax		pmax			
	comp=Z,68nm,1.8s								
MCWV	Mont Chateau	27.36	14	P		P		19 08 08.5	+1.6
MCWV				IAmb		IAmb		19 08 14.3	
	comp=Z,79nm,1.1s								
MCWV	Mont Chateau	27.36	14	P		P		19 08 08.9	+2.0
	baz=198,SNR=18								
N41A	Harden Midland	27.54	355	IAmb		IAmb		19 08 16.7	
	comp=Z,53nm,0.9s								
CBKS	Cedar Bluff	27.56	340	P		P		19 08 09.9	+1.1
	baz=155,SNR=8.6								
O53A	New Philadelph	27.64	11	P		P		19 08 11.3	+1.9
	baz=194,SNR=31								
N49A	Columbus Grove	27.86	6	IAmb		IAmb		19 08 19.0	
	comp=Z,40nm,0.8s								
N38A	Joes South For	27.89	352	IAmb		IAmb		19 08 18.6	
	comp=Z,58nm,0.8s								
T25A	Trinidad	28.00	331	IAmb		IAmb		19 08 24.6	
	comp=Z,68nm,1.1s								
T25A	Trinidad	28.00	331	P		P		19 08 14.7	+1.7
	baz=144,SNR=11								
N51A	Ashland	28.09	9	IAmb		IAmb		19 08 21.5	
	comp=Z,50nm,0.8s								
M44A	Midewin, Midew	28.11	0	IAmb		IAmb		19 08 21.1	
	comp=Z,102nm,1.6s								
TUC	Tucson	28.22	316	P		P		19 08 16.0	+1.2
TUC				IAmb		IAmb		19 08 25.2	
	comp=Z,104nm,1.9s								
TUC	Tucson	28.22	316	IAMs_20		IAMs_20		19 21 32.5	
	comp=Z,3µm,19.0s								
TUC	Tucson	28.22	316	P		P		19 08 16.3	+1.5
	baz=128								
TUC	Tucson	28.22	316	P		P		19 08 16.0	+1.2
TUC				pmax		pmax			
	comp=Z,105nm,1.9s								
TUC				MLR		MLR			
	comp=Z,3µm,19.0s								
N35A	Tabor	28.38	348	P		P		19 08 16.1	0.0
M50A	Fremont	28.47	8	IAmb		IAmb		19 08 24.3	
	comp=Z,76nm,0.9s								
MVL	Millersville	28.64	19	IAmb		IAmb		19 08 28.6	
	comp=Z,65nm,1.2s								
L42A	Oliver, Polo	28.76	358	IAmb		IAmb		19 08 26.4	
	comp=Z,51nm,1.2s								
SSPA	Standing Stone	28.78	16	P		P		19 08 20.2	+0.6
SSPA				IAmb		IAmb		19 08 28.1	
	comp=Z,51nm,0.8s								
SSPA	Standing Stone	28.78	16	P		P		19 08 20.7	+1.1
	baz=201								
KSCO	Kaye Shedlock'	28.79	336	IAmb		IAmb		19 08 26.2	
	comp=Z,64nm,1.0s								
KSCO	Kaye Shedlock'	28.79	336	P		P		19 08 21.2	+1.3
	baz=150								
M52A	Chesterland	28.86	10	IAmb		IAmb		19 08 26.8	
	comp=Z,46nm,0.8s								
M53A	Wi Miller and	28.89	12	P		P		19 08 21.3	+0.6
	baz=195,SNR=12								
L44A	Lake County Fo	28.90	0	P		P		19 08 22.4	+1.7
	baz=180								
L40A	Anamosa	28.92	355	IAmb		IAmb		19 08 27.9	
	comp=Z,48nm,1.0s								
SCIA	State Center	28.98	352	P		P		19 08 22.1	+0.7
SCIA				IAmb		IAmb		19 08 29.2	
	comp=Z,132nm,1.6s								
SCIA	State Center	28.98	352	P		P		19 08 22.1	+0.7
	baz=170								
SDCO	Great Sand Dun	29.00	331	P		P		19 08 23.1	+1.1
SDCO				IAmb		IAmb		19 08 28.7	
	comp=Z,39nm,1.1s								
SDCO	Great Sand Dun	29.00	331	P		P		19 08 23.6	+1.7
	baz=143,SNR=45								
X18A	Snowflake	29.08	321	IAmb		IAmb		19 08 30.6	
	comp=Z,71nm,1.6s								
ALLY	Allegheny Colle	29.20	12	P		P		19 08 24.9	+1.5
BOAV	Boa Vista	29.27	109	IAmb		IAmb		19 08 30.9	
	comp=Z,45nm,0.8s								
BOAV	Boa Vista	29.27	109	*e*P		P		19 08 21.7	-2.5
N58A	Sunbury	29.30	18	IAmb		IAmb		19 08 33.2	
	comp=Z,56nm,0.9s								
W18A	Petrified Fore	29.35	322	IAmb		IAmb		19 08 32.1	
	comp=Z,39nm,0.9s								
W18A	Petrified Fore	29.35	322	P		P		19 08 25.8	+0.9
	baz=133								
214A	Organ Pipe Nat	29.41	314	P		P		19 08 26.1	+0.7
	baz=124								
BGNE	Belgrade	29.48	344	P		P		19 08 26.3	+0.4
	baz=160								
LUPA	Lehigh Univers	29.50	20	IAmb		IAmb		19 08 36.9	
	comp=Z,82nm,1.3s								
M57A	Sunshine Farm,	29.64	17	P		P		19 08 27.5	+0.2
ERPA	Erie	29.68	12	P		P		19 08 29.3	+1.7
	baz=196,SNR=27								
JFWS	Jewell Farm	29.70	357	P		P		19 08 29.8	+2.1

ECSD **EROS Data Cent** 31.34 348 P P 19 08 42.1 -0.1
baz=164,SNR=20
GLA **Glamis** 31.43 314 P P 19 08 43.6 +0.4
baz=123
ETMB **Extrema** 31.49 135 eP P 19 08 43.4 -0.5
PDMCI **Parker Dam,Lak** 31.66 316 P P 19 08 45.7 +0.5
baz=126
GLMI **Grayling** 31.68 5 IAmb IAmb 19 08 51.9
comp=Z,50nm,0.8s
GLMI **Grayling** 31.68 5 P P 19 08 47.2 +1.9
baz=186
N23A **Red Feather La** 31.75 334 P P 19 08 46.8 +0.6
baz=146
U15A **North Rim** 31.77 321 IAmb IAmb 19 08 53.8
comp=Z,42nm,1.5s
G40A **Rib Lake** 32.04 357 IAmb IAmb 19 08 55.9
comp=Z,66nm,1.1s
QUA2 **Belchertown** 32.05 22 IAmb IAmb 19 08 57.4
comp=Z,50nm,1.0s
SWSC **Sam W. Stewart** 32.07 313 P P 19 08 49.3 +0.5
baz=122
L61B **Northampton** 32.08 22 IAmb IAmb 19 08 55.8
comp=Z,53nm,0.9s
L61B **Northampton** 32.08 22 P P 19 08 49.5 +0.7
baz=209,SNR=16
O20A **White River Ci** 32.20 330 P P 19 08 50.4 +0.3
baz=141,SNR=85
BC3 **Big Chuckawall** 32.20 314 P P 19 08 50.3 +0.2
baz=123
SPMN **Marine on St.** 32.20 354 P P 19 08 51.1 +1.3
baz=171,SNR=7.0
IRM **Iron Mountain** 32.26 315 P P 19 08 50.9 +0.4
baz=124
SADO **Sadowa** 32.40 12 P P 19 08 52.1 +0.6
SADO **Sadowa** 32.40 12 LR LR 19 22 20.6
comp=Z,2µm,18.5s,baz=206,slow=37
K62A **Royalston** 32.43 22 IAmb IAmb 19 08 58.5
comp=Z,57nm,1.2s
KNB **Kanab** 32.48 321 IAmb IAmb 19 09 05.6
comp=Z,32nm,1.2s
MONP2 **Monument Peak** 32.49 312 P P 19 08 51.6 -1.2
baz=121
WES **Weston** 32.53 23 IAmb IAmb 19 08 59.2
comp=Z,56nm,1.1s
WES IAMs_20 IAMs_20 19 20 43.9
comp=Z,3µm,22.0s
SUSD **Miller** 32.53 345 P P 19 08 52.6 -0.2
baz=160
HRV **Adam Dziewonsk** 32.54 23 IAMs_20 IAMs_20 19 20 45.3
comp=Z,2µm,21.0s
HRV **Adam Dziewonsk** 32.54 23 P P 19 08 53.8 +1.0
baz=211
HRV **Adam Dziewonsk** 32.54 23 P P 19 08 55.9 +3.1
BCX **Boston College** 32.54 24 IAMs_20 IAMs_20 19 24 32.3
comp=Z,3µm,22.0s
ACCN **Adirondack Com** 32.56 20 IAmb IAmb 19 09 00.1
comp=Z,43nm,0.9s
SRU **San Rafael Swe** 32.59 327 P P 19 08 54.6 +1.0
SRU IAmb IAmb 19 08 60.0
comp=Z,61nm,1.1s
SRU **San Rafael Swe** 32.59 327 P P 19 08 54.6 +1.0
SRU pmax pmax
comp=Z,61nm,1.1s
BELC **Belle Mtn. Jos** 32.77 314 P P 19 08 54.6 -0.5
baz=123
P18A **Preston Nutter** 32.82 327 IAmb IAmb 19 09 02.1
comp=Z,37nm,1.0s
COWI **Conover** 32.84 359 IAmb IAmb 19 09 01.9
comp=Z,43nm,0.9s
TPFO **Pinon Flats** 32.88 313 P P 19 08 54.8 -1.3
baz=122
PFO **Pinyon Flats O** 32.89 313 P P 19 08 55.1 -1.0
baz=122
PFO **Pinyon Flats O** 32.89 313 LR LR 19 23 47.3
comp=Z,3µm,19.1s,baz=138,slow=39
PFO **Pinyon Flats O** 32.89 313 *i* P P 19 08 54.5 -1.6
PFO pmax pmax
comp=Z,11nm,1.1s
NCB **Newcomb** 32.91 19 IAmb IAmb 19 09 05.2
comp=Z,48nm,1.1s
F36A **Milaca** 32.91 353 IAmb IAmb 19 09 02.6
comp=Z,26nm,0.9s
RWWY **Rawlins** 32.95 333 IAmb IAmb 19 09 02.5
comp=Z,68nm,1.1s
GMRC **Granite Mounta** 32.96 315 P P 19 08 57.8 +1.0
baz=124,SNR=5.9
109C **Camp Elliot, M** 32.99 311 IAMs_20 IAMs_20 19 22 22.8
comp=Z,3µm,21.0s
SAML **Samuel** 33.06 130 P P 19 08 56.0 -1.6
SAML **Samuel** 33.06 130 IAMs_20 IAMs_20 19 24 41.6
comp=Z,2µm,19.0s
SAML **Samuel** 33.06 130 P P 19 08 56.0 -1.6
SAML pmax pmax
comp=Z,8.0nm,0.9s
SAML MLR MLR
comp=Z,2µm,19.0s
SAML **Samuel** 33.06 130 eP P 19 08 55.9 -1.8
TMUT **Trail Mountain** 33.10 326 IAmb IAmb 19 09 05.5
comp=Z,38nm,1.2s
E43A **Lone Tree Farm** 33.11 1 IAmb IAmb 19 09 04.4
comp=Z,67nm,1.3s
CCUT **Cedar City** 33.15 322 IAmb IAmb 19 09 06.1
comp=Z,29nm,1.2s
RDMU **Red Mountain** 33.18 329 IAmb IAmb 19 09 05.0
comp=Z,66nm,1.3s
LONY **Lake Ozonia** 33.39 18 IAMs_20 IAMs_20 19 24 32.8
comp=Z,3µm,19.0s
LONY **Lake Ozonia** 33.39 18 P P 19 09 02.6 +2.4
baz=204,SNR=38
MURC **Murrieta** 33.41 312 P P 19 09 00.7 +0.2
baz=121
K22A **Casper** 33.45 335 IAmb IAmb 19 09 07.4
comp=Z,50nm,1.1s
K22A **Casper** 33.45 335 P P 19 09 02.2 +1.3
baz=146,SNR=16
HEC **Hector,Ludlow** 33.45 315 P P 19 09 01.1 +0.1
baz=123
E38A **The Farm, Brul** 33.46 356 IAmb IAmb 19 09 07.5
comp=Z,47nm,1.0s
TUQ **Turquoise Moun** 33.51 316 P P 19 09 01.9 +0.4
baz=125
VT1 **Waterbury** 33.71 20 IAMs_20 IAMs_20 19 21 25.9
comp=Z,2µm,21.0s
RSSD **Black Hills** 33.75 339 P P 19 09 03.7 +0.1
RSSD IAmb IAmb 19 09 10.4
comp=Z,100nm,1.8s
RSSD **Black Hills** 33.75 339 P P 19 09 05.2 +1.6
baz=151
RSSD **Black Hills** 33.75 339 P P 19 09 03.7 +0.1
RSSD pmax pmax
comp=Z,100nm,1.8s
RSSD MLR MLR
comp=Z,1µm,21.0s
BSUT **Blindstream Ca** 33.76 328 IAmb IAmb 19 09 10.5
comp=Z,40nm,1.0s
D41A **Chassel** 33.79 359 IAmb IAmb 19 09 10.3
comp=Z,46nm,1.1s
LBNH **Lisbon** 33.91 21 IAmb IAmb 19 09 11.9
comp=Z,42nm,0.9s
LBNH **Lisbon** 33.91 21 P P 19 09 06.8 +2.1
baz=209,SNR=6.2
SHOC **Shoshone, Teco** 34.00 317 P P 19 09 07.2 +1.5
baz=125
GSC **Goldstone, Bar** 34.03 315 P P 19 09 06.7 +0.6
GSC **Goldstone, Bar** 34.03 315 P P 19 09 06.9 +0.9
baz=123
GSC **Goldstone, Bar** 34.03 315 P P 19 09 06.7 +0.6
GSC pmax pmax
comp=Z,7.0nm,1.1s
NLU **North Lily Min** 34.04 326 IAmb IAmb 19 09 12.9
comp=Z,91nm,1.7s
PSUT **Pine Spring** 34.08 322 IAmb IAmb 19 09 14.6
comp=Z,76nm,1.9s
JLU **Jordanelle** 34.16 327 IAmb IAmb 19 09 13.7
comp=Z,29nm,1.0s
CTU **Camp Tracy** 34.39 327 IAmb IAmb 19 09 16.7
comp=Z,30nm,1.1s
PASC **Pasadena Art C** 34.41 313 IAMs_20 IAMs_20 19 23 21.4
comp=Z,3µm,21.0s
QSM **Queen of Sheba** 34.44 316 P P 19 09 09.0 -0.5
DUG **Dugway, Tooele** 34.61 326 IAmb IAmb 19 09 17.9
comp=Z,39nm,1.2s
DUG IAMs_20 IAMs_20 19 24 56.7
comp=Z,2µm,18.0s
DUG **Dugway, Tooele** 34.61 326 P P 19 09 12.7 +1.6
baz=134,SNR=19
DUG **Dugway, Tooele** 34.61 326 P P 19 09 12.7 +1.6
EDW2 **Edwards Air Fo** 34.63 314 P P 19 09 11.9 +0.7
baz=121
S11A **Rachel** 34.68 320 IAmb IAmb 19 09 20.4
comp=Z,34nm,0.9s
FURC **Furnace Creek,** 34.72 317 P P 19 09 13.2 +1.4
baz=125
EYMN **Ely** 34.79 356 P P 19 09 11.2 -1.2
EYMN IAmb IAmb 19 09 19.1
comp=Z,20nm,0.8s
EYMN **Ely** 34.79 356 P P 19 09 11.5 -0.9
baz=174,SNR=6.9
BW06 **Boulder Array** 34.86 332 P P 19 09 13.9 +0.6
baz=142,SNR=12
PD31 **Pinedale Array** 34.86 332 IAmb IAmb 19 09 20.4
comp=Z,61nm,1.8s
PDAR **Pinedale Array** 34.86 332 P P 19 09 12.8 -0.5
PDAR **Pinedale Array** 34.86 332 P P 19 09 13.3 0.0
comp=Z,4.2nm,0.8s,baz=128,slow=9.6,SNR=29
PDAR LR LR 19 27 58.9
comp=Z,2µm,18.5s,baz=139,slow=44
comp=Z,4.2nm,0.8s
TRQ **Mont Tremblant** 34.87 16 IAmb IAmb 19 09 20.1
comp=Z,49nm,0.8s
MPMC **Manual Prospec** 34.91 316 P P 19 09 14.5 +0.7
baz=123,SNR=9.2
R11B **Troy Canyon, C** 35.01 321 IAMs_20 IAMs_20 19 25 33.4
comp=Z,3µm,18.0s
R11B **Troy Canyon, C** 35.01 321 P P 19 09 16.0 +1.4
baz=128,SNR=12
WVL **Waterville** 35.02 23 IAmb IAmb 19 09 22.1
comp=Z,52nm,0.8s
WVL IAMs_20 IAMs_20 19 22 18.8
comp=Z,2µm,22.0s
SPUT **South Promonto** 35.20 327 IAmb IAmb 19 09 23.9
comp=Z,81nm,1.2s
BGU **Big Grassy Mou** 35.24 326 IAmb IAmb 19 09 23.2
comp=Z,106nm,1.7s
LPAZ **La Paz** 35.28 145 P P 19 09 17.2 -0.4
comp=Z,11nm,0.7s,baz=330,slow=7.4,SNR=41
LPAZ LR LR 19 25 30.1
comp=Z,1µm,18.6s,baz=312,slow=40
comp=Z,11nm,0.7s
LPAZ **La Paz** 35.28 145 eP P 19 09 17.6 0.0
LPAZ pmax pmax
comp=Z,11nm,0.7s
LPAZ **La Paz** 35.28 145 eP P 19 09 15.3 -2.3
ARVC **Arvin** 35.35 314 P P 19 09 18.3 +1.0
baz=121
ISA **Isabella, Lake** 35.37 315 P P 19 09 18.4 +0.7
baz=122
AHID **Auburn Hatcher** 35.59 330 IAmb IAmb 19 09 25.6
comp=Z,64nm,0.9s
AGMN **Agassiz Nation** 35.62 351 IAmb IAmb 19 09 26.6
comp=Z,47nm,0.8s
AGMN **Agassiz Nation** 35.62 351 P P 19 09 20.5 +1.0
baz=167,SNR=8.5
HVU **Hansel Valley** 35.71 328 IAmb IAmb 19 09 29.0
comp=Z,40nm,0.9s
PKME **Peaks-Kenny Pk** 35.75 23 IAMs_20 IAMs_20 19 22 31.1
comp=Z,2µm,20.0s
PKME **Peaks-Kenny Pk** 35.75 23 P P 19 09 22.6 +2.0
baz=212,SNR=16
MDP **Montagnes des** 35.83 100 LR LR 19 26 20.2
comp=Z,3µm,20.2s,baz=285,slow=40
TPH **Tonopah** 35.88 319 IAmb IAmb 19 09 54.7
comp=Z,112nm,1.6s
VES **Vestal, Richgr** 35.89 314 P P 19 09 22.3 +0.4
baz=121
MDND **Maddock** 35.89 347 P P 19 09 23.0 +1.2
baz=161
PKM **Mcpherson Peak** 35.93 312 P P 19 09 21.8 -0.8
baz=119
VLDQ **Val d'Or** 35.94 12 IAmb IAmb 19 09 28.3
comp=Z,41nm,1.1s
LOHW **Long Hollow** 36.00 332 IAmb IAmb 19 09 29.5
comp=Z,58nm,1.1s
EMMW **East Machias** 36.02 25 IAMs_20 IAMs_20 19 23 48.2
comp=Z,2µm,19.0s
F62A **Pittston Farm,** 36.04 22 IAmb IAmb 19 09 29.9
comp=Z,41nm,0.9s
PB12 **IPOC Station P** 36.10 151 IAmb IAmb 19 09 30.1
comp=Z,39nm,0.9s
MOOW **Mose Ponds** 36.17 332 IAmb IAmb 19 09 31.9
comp=Z,44nm,1.0s
F63A **Nahmakanta, Br** 36.19 23 IAmb IAmb 19 09 31.3
comp=Z,34nm,0.9s
SMMC **Simmler** 36.27 313 P P 19 09 25.4 +0.1
baz=120
ELK **Elko** 36.34 324 IAMs_20 IAMs_20 19 27 02.6
comp=Z,2µm,20.0s
ELK **Elko** 36.34 324 LR LR 19 27 33.7
comp=Z,3µm,18.1s,slow=42
ELK **Elko** 36.34 324 P P 19 09 27.9 +1.9
FLWY **Flagg Ranch** 36.41 332 IAmb IAmb 19 09 34.5
comp=Z,46nm,0.9s
ITTB **Itaituba** 36.52 116 eP P 19 09 25.4 -2.2
H17A **Grant Village** 36.60 333 IAmb IAmb 19 09 37.1
comp=Z,49nm,1.2s
H17A **Grant Village** 36.60 333 P P 19 09 28.7 +0.5
baz=141,SNR=16
RLMT **Red Lodge** 36.61 335 IAmb IAmb 19 09 34.3
comp=Z,35nm,1.1s
RLMT **Red Lodge** 36.61 335 P P 19 09 28.8 +0.5
baz=144,SNR=24
F64A **Sherman** 36.61 23 IAmb IAmb 19 09 35.2
comp=Z,44nm,0.8s
LKWY **Lake** 36.65 333 IAmb IAmb 19 09 39.3
comp=Z,50nm,1.2s
YMP **Mirror Lake Pl** 36.68 333 IAmb IAmb 19 09 57.7
comp=Z,39nm,1.2s
MALB **Monte Alegre** 36.70 112 eP P 19 09 27.4 -1.7
LAO **LASA Array** 36.74 339 P P 19 09 29.7 +0.5
baz=150,SNR=7.0
YFT **Old Faithful** 36.76 332 IAmb IAmb 19 09 37.2
comp=Z,62nm,0.9s
NVAR **Mina Array Bea** 36.78 319 P P 19 09 30.4 +0.6
NVAR **Mina Array Bea** 36.78 319 P P 19 09 30.6 +0.8
comp=Z,10nm,0.9s,baz=132,slow=7.8,SNR=34
NVAR LR LR 19 28 40.4
comp=Z,3µm,18.1s,baz=130,slow=43
comp=Z,10nm,0.9s
E62A **Clayton Lake** 36.82 21 IAmb IAmb 19 09 36.3
comp=Z,36nm,0.8s
YHH **Holmes Hill** 37.03 333 P P 19 09 33.1 +1.2
RYN **Ryan** 37.03 319 P P 19 09 33.2 +1.4
LMQ **La Malbaie** 37.34 20 IAmb IAmb 19 09 40.6
comp=Z,66nm,1.0s
PB11 **IPOC Station P** 37.40 151 IAmb IAmb 19 09 43.4
comp=Z,35nm,0.8s
PQI **Presque Isle** 37.41 23 IAMs_20 IAMs_20 19 22 51.1
comp=Z,3µm,22.0s
ULM **Lac du Bonnet** 37.53 352 P P 19 09 35.6 -0.1
ULM IAmb IAmb 19 09 42.1
comp=Z,42nm,1.1s
ULM **Lac du Bonnet** 37.53 352 P P 19 09 35.2 -0.5
comp=Z,9.6nm,0.6s,baz=168,slow=8.8,SNR=18
comp=Z,9.6nm,0.6s
ULM **Lac du Bonnet** 37.53 352 eP P 19 09 34.3 -1.4
ULM pmax pmax
comp=Z,10.0nm,0.6s
GO01 **Chusmiza** 37.55 150 IAmb IAmb 19 09 49.3
comp=Z,42nm,0.8s
TA02 **Huaiquique** 37.62 152 IAmb IAmb 19 09 46.8
comp=Z,31nm,0.6s
DGMT **Dagmar** 37.66 342 P P 19 09 37.7 +0.8
baz=154,SNR=7.2
HLID **Hailey** 37.82 328 IAMs_20 IAMs_20 19 27 43.8
comp=Z,2µm,20.0s
HLID **Hailey** 37.82 328 P P 19 09 39.2 +0.7
baz=135,SNR=42
TA01 **Diego Aracena** 37.85 152 IAmb IAmb 19 09 50.4
comp=Z,43nm,1.1s
TA01 PcP PcP 19 11 53.9 -1.3
VILB **Vilhena** 37.90 132 IAmb IAmb 19 10 23.9
comp=Z,50nm,1.3s
VILB **Vilhena** 37.90 132 eP P 19 09 36.5 -2.8
CMB **Columbia Colle** 37.93 317 IAMs_20 IAMs_20 19 25 56.5
comp=Z,2µm,20.0s
BOZ **Bozeman (W)** 38.00 333 P P 19 09 39.3 -0.7
BOZ **Bozeman (W)** 38.00 333 P P 19 09 40.7 +0.7
baz=141,SNR=39
BOZ **Bozeman (W)** 38.00 333 P P 19 09 39.3 -0.7
BOZ pmax pmax
comp=Z,27nm,0.9s
BOZ MLR MLR
comp=Z,700nm,20.0s
LMN **Caledonia Moun** 38.06 27 IAmb IAmb 19 09 49.0
comp=Z,80nm,1.1s
PATCX **Punta Patache** 38.09 152 IAmb IAmb 19 09 44.9
comp=Z,37nm,1.0s
MCPB **Macapa, AP** 38.13 108 eP P 19 09 41.6 +0.3
NPGB **Novo Progresso** 38.19 120 eP P 19 09 41.8 0.0
MFID **Camas Ranch** 38.46 327 IAMs_20 IAMs_20 19 28 27.6
comp=Z,2µm,20.0s
PB01 **IPOC Station P** 38.59 152 PcP PcP 19 11 57.2 -0.3
BATG **Bathurst New B** 38.67 24 IAmb IAmb 19 09 52.1
comp=Z,36nm,0.9s
EGMT **Eagleton** 39.16 337 IAmb IAmb 19 09 56.0
comp=Z,42nm,0.9s
EGMT **Eagleton** 39.16 337 P P 19 09 50.4 +0.8
baz=145,SNR=19
GBN **Guysborough** 39.24 30 P P 19 09 51.5 +1.4
GBN IAmb IAmb 19 09 59.5
comp=Z,69nm,1.2s
PB09 **IPOC Station P** 39.35 152 IAmb IAmb 19 09 58.8
comp=Z,43nm,1.0s
LYMT **Lyon Mountain** 39.35 334 P P 19 09 52.0 +0.6
WVOR **Wild Horse Val** 39.38 324 P P 19 09 52.0 +0.4
WVOR IAMs_20 IAMs_20 19 28 12.9
comp=Z,2µm,21.0s
WVOR **Wild Horse Val** 39.38 324 P P 19 09 52.0 +0.4
WVOR pmax pmax
comp=Z,21nm,0.9s
WVOR MLR MLR
comp=Z,2µm,21.0s
SIV **San Ignacio** 39.39 137 LR LR 19 27 40.1
comp=Z,2µm,18.2s,baz=336,slow=39
ORV **Oroville** 39.47 318 IAMs_20 IAMs_20 19 29 11.4
comp=Z,2µm,18.0s
MCCM **Marconi Confer** 39.67 315 IAMs_20 IAMs_20 19 26 40.8
comp=Z,3µm,21.0s
PLID **Pearl Lake** 39.71 329 P P 19 09 54.1 -0.3
MSO **Missoula** 39.98 332 IAmb IAmb 19 10 02.4
comp=Z,49nm,1.1s
MSO **Missoula** 39.98 332 P P 19 09 56.9 +0.4
baz=139,SNR=31
LVC **Limon Verde** 40.20 152 P P 19 09 57.8 -1.1
LVC **Limon Verde** 40.20 152 LR LR 19 27 02.7
comp=Z,1µm,21.6s,baz=316,slow=37
LVC **Limon Verde** 40.20 152 P P 19 09 57.8 -1.1
LVC pmax pmax
comp=Z,33nm,1.2s
LVC **Limon Verde** 40.20 152 eP P 19 09 57.8 -1.1
BMO **Blue Mountains** 40.22 327 IAMs_20 IAMs_20 19 29 33.1
comp=Z,3µm,21.0s
PTLB **Pontes e Lacer** 40.34 134 eP P 19 09 59.2 -0.5
PB15 **IPOC Station P** 40.47 153 P P 19 09 59.6 -1.3
BBSD **Serra de San D** 40.55 137 eP P 19 10 00.3 -1.1
KCPM **Cahto Peak** 40.91 317 IAmb IAmb 19 10 12.2
comp=Z,101nm,2.0s
F10A **Beach Ranch, E** 40.94 329 IAmb IAmb 19 10 12.4
comp=Z,35nm,0.8s
YBH **Yreka Blue Hor** 41.42 320 IAMs_20 IAMs_20 19 28 28.1
comp=Z,2µm,22.0s
YBH **Yreka Blue Hor** 41.42 320 LR LR 19 28 38.8
comp=Z,2µm,21.7s,baz=152,slow=38
KHMM **Horse Mountain** 41.62 318 P P 19 10 09.4 -0.7
KMPM **Mount Pierce** 41.64 317 IAmb IAmb 19 10 19.8
comp=Z,113nm,2.0s
JCC **Jacoby Creek,** 41.78 318 IAmb IAmb 19 10 19.5
comp=Z,48nm,1.2s
JCC IAMs_20 IAMs_20 19 28 26.6
comp=Z,2µm,19.0s
KRPM **Rodgers** 41.95 318 IAmb IAmb 19 10 21.1
comp=Z,40nm,1.0s
HUMO **Hull Mountain** 42.06 321 IAMs_20 IAMs_20 19 28 18.9
comp=Z,3µm,21.0s
GO02 **Mina Guanaco** 42.14 155 IAmb IAmb 19 10 21.8
comp=Z,32nm,0.8s
HAWA **Hanford** 42.41 328 P P 19 10 15.4 -1.0
HAWA IAMs_20 IAMs_20 19 30 48.1
comp=Z,2µm,20.0s
NEW **Newport** 42.50 331 P P 19 10 17.0 -0.1
baz=136
NEW **Newport** 42.50 331 LR LR 19 32 14.2
comp=Z,2µm,18.1s,baz=129,slow=42
NEW **Newport** 42.50 331 P P 19 10 16.4 -0.7
TMAB **Tom-Au,PA,Br** 42.55 108 eP P 19 10 16.8 -1.1
HOOD **Mount Hood Mea** 42.88 325 IAmb IAmb 19 10 29.9
comp=Z,73nm,0.8s
FFC **Flin Flon** 42.88 348 P P 19 10 20.2 +0.2
FFC IAmb IAmb 19 10 27.7
comp=Z,122nm,1.8s
FFC **Flin Flon** 42.88 348 P P 19 10 20.2 +0.2
FFC pmax pmax
comp=Z,122nm,1.8s
SALV **Santo Antonio** 43.11 131 eP P 19 10 22.0 -0.4
COR **Corvallis** 43.38 323 IAMs_20 IAMs_20 19 30 22.0
comp=Z,2µm,20.0s
AC06 **Mina Casimiro** 43.80 157 P P 19 10 26.4 -1.3
SNDB **Serra Nova Dou** 44.20 123 eP P 19 10 29.7 -1.5
FDPY **Filadelfia** 44.73 142 eP P 19 10 34.6 -0.7
EDM **Edmonton** 44.73 339 P P 19 10 34.2 -0.8
EDM **Edmonton** 44.73 339 P P 19 10 34.2 -0.8
EDM pmax pmax
comp=Z,68nm,1.0s
SCHQ **Schefferville** 44.77 17 P P 19 10 36.0 +0.7
SCHQ IAmb IAmb 19 10 40.9
comp=Z,55nm,1.0s
SCHQ **Schefferville** 44.77 17 P P 19 10 34.6 -0.6
comp=Z,4.7nm,0.7s,baz=212,slow=9.4,SNR=5.8
SCHQ LR LR 19 28 15.9
comp=Z,1µm,21.3s,baz=211,slow=35
comp=Z,4.7nm,0.7s
GNW **Green Mountain** 44.89 327 IAmb IAmb 19 10 41.0
comp=Z,62nm,2.0s
RPN **Rapa Nui** 45.07 207 LR LR 19 24 45.5
comp=Z,1µm,21.7s,baz=34,slow=30
AC05 **El Transito** 45.16 158 P P 19 10 40.1 +1.3
AC05 IAmb IAmb 19 10 41.9
comp=Z,44nm,1.2s
LCO **Las Campanas** 45.16 158 P P 19 10 36.4 -2.5
LCO IAmb IAmb 19 10 41.9
comp=Z,23nm,1.0s
LCO **Las Campanas** 45.16 158 P P 19 10 36.4 -2.5
LCO pmax pmax
comp=Z,23nm,1.0s
NLWA **Neilton Lookou** 45.35 326 IAMs_20 IAMs_20 19 32 52.0
comp=Z,2µm,20.0s
BDQN **Bodoquena, MS** 45.43 137 eP P 19 10 39.4 -1.5
FCC **Fort Churchill** 45.73 356 P P 19 10 42.1 -0.7
FCC IAmb IAmb 19 10 48.2
comp=Z,51nm,1.1s
FCC **Fort Churchill** 45.73 356 P P 19 10 42.1 -0.7
FCC pmax pmax
comp=Z,51nm,1.1s
SMTB **Santa Maria do** 45.76 116 eP P 19 10 43.6 -0.1
PGC **Sidney** 45.89 328 P P 19 10 43.9 -0.3
PGC IAmb IAmb 19 11 09.1
comp=Z,26nm,1.2s
ARAG **Araguaiana, MT** 45.92 128 eP P 19 10 42.8 -2.0
AQDB **Aquidauana** 46.15 136 IAmb IAmb 19 11 31.4
comp=Z,57nm,2.0s
AQDB **Aquidauana** 46.15 136 eP P 19 10 45.4 -1.2
CO01 **Juntas del Tor** 46.26 158 IAmb IAmb 19 10 57.4
comp=Z,31nm,1.6s
CO03 **El Pedregal** 46.83 159 P P 19 10 49.2 -2.7
CO03 IAmb IAmb 19 10 54.8
comp=Z,44nm,1.1s
BRLDA **Berland Lookou** 46.92 337 P P 19 10 51.5 -0.8
OZB **Mount Ozzard** 47.16 327 IAmb IAmb 19 11 00.7
comp=Z,20nm,0.8s
TICA **Tres Isletas** 47.65 146 eP P 19 10 57.5 -0.7
CBB **Campbell River** 47.73 328 IAmb IAmb 19 11 07.8
comp=Z,23nm,1.1s
VA06 **Catapilco** 48.22 161 IAmb IAmb 19 11 09.9
comp=Z,40nm,1.1s
AMBA **Amambai (Brazi** 48.33 138 eP P 19 11 01.8 -1.8
BDFB **Brasilia** 48.87 125 P P 19 11 04.0 -4.0
comp=Z,2.0nm,0.5s,baz=282,slow=13,SNR=5.4
BDFB LR LR 19 33 33.6
comp=Z,3µm,20.5s,baz=302,slow=38
PEL **Peldehue** 48.95 161 IAmb IAmb 19 11 23.7
comp=Z,49nm,1.3s
PEL **Peldehue** 48.95 161 P P 19 11 10.1 +1.9
CPUP **Villa Florida** 49.34 143 P P 19 11 09.4 -1.8
comp=Z,5.0nm,1.1s,baz=338,slow=8.6,SNR=6.0
CPUP LR LR 19 35 02.9
comp=Z,1µm,18.9s,baz=335,slow=40
comp=Z,5.0nm,1.1s
CPUP **Villa Florida** 49.34 143 eP P 19 11 09.6 -1.6
MT01 **Popeta** 49.44 162 IAmb IAmb 19 11 26.2
comp=Z,30nm,1.2s
MT09 **Talagante** 49.44 161 IAmb IAmb 19 11 19.4
comp=Z,75nm,1.6s

MT13	San Alfonso	49.63	161		IAmb	IAmb	19 11 26.6		
	comp=Z,56nm,1.2s								
BO04	La Punta	49.75	161		IAmb	IAmb	19 11 22.5		
	comp=Z,24nm,1.0s								
SDBA	SAO DESIDERIO	49.77	119	*e*	P	P	19 11 14.1	-0.7	
BO01	Tunca	49.98	162		IAmb	IAmb	19 11 18.6		
	comp=Z,64nm,1.4s								
PCMB	Pacaembu	49.99	133	*e*	P	P	19 11 15.5	-0.8	
GO05	Huala	50.30	163		IAmb	IAmb	19 11 26.2		
	comp=Z,40nm,0.9s								
BBB	Bella Bella	50.40	329		LR	LR	19 33 56.1		
	comp=Z,877nm,21.1s,baz=140,slow=38								
BO02	Sierra Bellavi	50.44	162		IAmb	IAmb	19 11 36.9		
	comp=Z,74nm,1.4s								
JANB	Januaria	51.58	122	*e*	P	P	19 11 25.1	-3.4	
CRSM	Crissiumal (Br	52.17	141	*e*	P	P	19 11 29.9	-2.8	
ITQB	Itaqui	52.28	145		IAmb	IAmb	19 11 38.7		
	comp=Z,42nm,0.9s								
ITQB	Itaqui	52.28	145	*e*	P	P	19 11 33.0	-0.4	
FRB	Frobisher Bay	52.33	11		LR	LR	19 34 21.4		
	comp=Z,μm,18.9s,baz=198,slow=37								
UNIS	Unistalda (Bra	52.71	143	*e*	P	P	19 11 35.9	-0.7	
YKA	Yellowknife Ar	52.77	345		P	P	19 11 35.9	-0.6	
	comp=Z,7.0nm,0.7s,baz=135,slow=7.0,SNR=80								
YKA					LR	LR	19 36 26.8		
	comp=Z,1μm,21.0s,baz=146,slow=39								
	comp=Z,7.0nm,0.7s								
PSAL	Palomas, Salto	52.83	147	*e*	P	P	19 11 36.7	-0.7	
ITAB	Concordia	53.18	139	*e*	P	P	19 11 37.9	-2.2	
TOAD	Tuad River Com	53.36	337		P	P	19 11 40.8	-0.2	
	baz=133								
U35K	Hyder	53.50	332		IAMs_20	IAMs_20	19 37 06.5		
	comp=Z,1μm,21.0s								
RODS	Rosario do Sul	53.59	144	*e*	P	P	19 11 41.5	-1.6	
ALGR	Alto Alegre (B	53.73	141	*e*	P	P	19 11 41.7	-2.5	
KOTAN	Kotaneelee Air	53.81	339		P	P	19 11 44.8	+0.5	
	baz=135								
V35K	Ketchikan	53.90	331		IAMs_20	IAMs_20	19 38 38.2		
	comp=Z,1μm,20.0s								
V35K	Ketchikan	53.90	331		P	P	19 11 45.2	+0.2	
	baz=124								
VAO	Valinhos	53.95	131	*e*	P	P	19 11 44.6	-1.3	
SPB	Sao Paulo	53.98	132		IAMs_20	IAMs_20	19 36 24.9		
	comp=Z,1μm,19.0s								
LIRD	Liard River Hi	54.07	337		P	P	19 11 46.9	+0.7	
	baz=132								
TBOT	Tacuaremb	54.20	146	*e*	P	P	19 11 46.6	-0.9	
T35M	Bob Quinn	54.23	333		P	P	19 11 47.6	+0.2	
	baz=126,SNR=5.7								
CPSB	Cacapava Do Su	54.65	143	*e*	P	P	19 11 50.3	-0.5	
CRAG	Craig	54.70	330		P	P	19 11 51.1	+0.3	
	baz=122								
WRAK	Wrangell Islan	54.85	332		IAMs_20	IAMs_20	19 39 49.3		
	comp=Z,1μm,20.0s								
DLBC	Dease Lake	55.01	335		IAmb	IAmb	19 12 08.0		
	comp=Z,39nm,0.9s								
DLBC	Dease Lake	55.01	335		P	P	19 11 54.1	+1.0	
	baz=127,SNR=20								
DLBC	Dease Lake	55.01	335		LR	LR	19 39 30.1		
	comp=Z,μm,18.5s,baz=124,slow=40								
U33K	Whale Pass	55.05	331		P	P	19 11 54.2	+0.9	
	baz=123								
RCBR	Riachuelo	55.13	107		LR	LR	19 38 21.3		
	comp=Z,2μm,19.8s,baz=304,slow=39								
S34M	Telegraph Cree	55.17	334		P	P	19 11 54.8	+0.6	
	baz=126								
LR05	Currie	55.18	165		IAmb	IAmb	19 12 02.2		
	comp=Z,70nm,1.4s								
PLTB	Pedras Altas	55.56	144		IAmb	IAmb	19 12 25.2		
	comp=Z,75nm,1.7s								
PLTB	Pedras Altas	55.56	144	*e*	P	P	19 11 54.9	-2.5	
WTLY	Watson Lake, Y	55.56	337		IAmb	IAmb	19 12 02.5		
	comp=Z,22nm,0.9s								
WTLY	Watson Lake, Y	55.56	337		P	P	19 11 56.8	-0.2	
	baz=130								
WRGLY	Wrigley	55.85	342		IAmb	IAmb	19 12 03.9		
	comp=Z,30nm,0.9s								
WRGLY	Wrigley	55.85	342		P	P	19 11 59.4	+0.5	
	baz=137,SNR=8.4								
IVI	Ivigtut	55.95	22	*i*	P	P	19 12 04.0	+4.3	
IVI					IAmb	IAmb	19 12 06.2		
	comp=Z,16nm,0.8s								
R33M	Jennings River	55.98	335		IAMs_20	IAMs_20	19 37 34.0		
	comp=Z,2μm,22.0s								
R33M	Jennings River	55.98	335		P	P	19 11 59.9	-0.2	
	baz=127								
PLCA	Paso Flores	56.03	164		P	P	19 12 01.8	+1.1	
PLCA					IAmb	IAmb	19 12 08.6		
	comp=Z,28nm,1.2s								
PLCA	Paso Flores	56.03	164		P	P	19 11 59.3	-1.4	
	comp=Z,9.2nm,1.0s,baz=337,slow=8.0,SNR=18								
	comp=Z,9.2nm,1.0s								
PLCA	Paso Flores	56.03	164	*e*	P	P	19 12 01.7	+1.1	
PLCA					pmax	pmax			
	comp=Z,9.0nm,1.0s								
PLCA	Paso Flores	56.03	164	*e*	P	P	19 11 60.0	-0.7	
TAOE	Nuku Hiva Isla	56.17	250	*e*	P	P	19 11 58.4	-3.7	
	comp=Z,48nm,24.4s								
TAOE				*e*	S	S	19 19 57.3	+5.7	
	comp=Z,621nm,27.2s								
TAOE				*e*	SS	SS	19 23 40.2	+1.9	
	comp=Z,197nm,29.8s								
TAOE				*e*	LR	LR	19 28 18.9		
	comp=Z,3μm,25.8s								
TGTN	Hyland Airport	56.28	338		P	P	19 12 03.5	+1.3	
	baz=131								
S32K	Killisnoo	56.45	332		IAMs_20	IAMs_20	19 40 56.6		
	comp=Z,1μm,20.0s								
TRQA	Tornquist	56.52	155		P	P	19 12 03.3	-0.8	
TRQA	Tornquist	56.52	155		P	P	19 12 03.3	-0.8	
TRQA					pmax	pmax			
	comp=Z,14nm,1.0s								
JIS	Juneau Island	56.80	333		IAMs_20	IAMs_20	19 38 17.7		
	comp=Z,2μm,21.0s								
NUUK	Nuuk	56.83	18	*i*	P	P	19 12 07.1	+1.2	
NUUK					IAmb	IAmb	19 12 12.7		
	comp=Z,33nm,0.8s								
R32K	Eaglecrest	56.86	333		IAMs_20	IAMs_20	19 38 19.3		
	comp=Z,2μm,21.0s								
R32K	Eaglecrest	56.86	333		P	P	19 12 06.7	+0.4	
	baz=123								
NRS	Narsarsuaq	56.95	23		P	P	19 12 08.3	+1.5	
NRS					PcP	PcP	19 13 01.3	-0.7	
NRS	Narsarsuaq	56.95	23	*i*	P	P	19 12 09.6	+2.8	
NRS					IAmb	IAmb	19 12 13.1		
	comp=Z,16nm,0.7s								
RIB01	Linhares ES	56.97	124	*e*	P	P	19 12 07.7	+0.1	
LL01	San Ignacio de	57.11	166		IAmb	IAmb	19 13 14.8		
	comp=Z,19nm,0.9s								
P33M	Teslin, Yukon	57.22	335		IAmb	IAmb	19 12 15.9		
	comp=Z,51nm,1.9s								
P33M					IAMs_20	IAMs_20	19 41 26.7		
	comp=Z,1μm,20.0s								
P33M	Teslin, Yukon	57.22	335		P	P	19 12 09.5	+0.6	
	baz=125								
P32M	Atlin	57.23	334		IAMs_20	IAMs_20	19 40 26.2		
	comp=Z,2μm,20.0s								
P32M	Atlin	57.23	334		P	P	19 12 09.6	+0.6	
	baz=124								
S31K	Pelican	57.47	332		IAMs_20	IAMs_20	19 41 34.4		
	comp=Z,2μm,18.0s								
S31K	Pelican	57.47	332		P	P	19 12 11.4	+0.9	
	baz=121								
SKAG	Skagway	57.85	334		P	P	19 12 13.5	+0.2	
	baz=122								
N32M	Quiet Lake	57.87	336		IAmb	IAmb	19 12 25.9		
	comp=Z,18nm,0.9s								
N32M					IAMs_20	IAMs_20	19 41 15.0		
	comp=Z,1μm,19.0s								
N32M	Quiet Lake	57.87	336		P	P	19 12 13.7	+0.3	
	baz=126								
MMPY	Sheldon Lake,	58.06	338		IAmb	IAmb	19 12 22.8		
	comp=Z,54nm,1.5s								
MMPY	Sheldon Lake,	58.06	338		P	P	19 12 14.9	+0.1	
	baz=128,SNR=22								
PLBC	Pleasant Camp	58.30	333		P	P	19 12 16.6	+0.2	
	baz=121								
WHY	Whitehorse	58.31	335		P	P	19 12 16.6	0.0	
	baz=124								
FARO	Faro, Yukon	58.60	337		P	P	19 12 18.2	-0.3	
	baz=126								
O30N	Mendenhall	58.88	335		IAmb	IAmb	19 12 26.6		
	comp=Z,14nm,0.8s								
O30N	Mendenhall	58.88	335		P	P	19 12 20.0	-0.4	
	baz=122,SNR=7.7								
P30M	Million Dollar	58.90	334		P	P	19 12 20.9	+0.2	
	baz=121								
M31M	Drury Creek, Y	58.99	337		IAMs_20	IAMs_20	19 41 50.5		
	comp=Z,1μm,20.0s								
M31M	Drury Creek, Y	58.99	337		P	P	19 12 21.4	+0.2	
	baz=125								
P29M	Windy Craggy	58.99	333		P	P	19 12 21.5	+0.3	
	baz=120,SNR=8.9								
N31M	Braeburn, Yuko	59.13	336		IAmb	IAmb	19 12 29.8		
	comp=Z,17nm,0.8s								
N31M					IAMs_20	IAMs_20	19 40 17.4		
	comp=Z,973nm,19.0s								
N31M	Braeburn, Yuko	59.13	336		P	P	19 12 22.5	+0.3	
	baz=123								
SFJD	Kangerlussuaq	59.19	16		P	P	19 12 21.9	-0.5	
SFJD					IAmb	IAmb	19 12 28.4		
	comp=Z,28nm,0.9s								
SFJD	Kangerlussuaq	59.19	16		IAMs_20	IAMs_20	19 34 35.0		
	comp=Z,1μm,21.0s								
SFJD	Kangerlussuaq	59.19	16		LR	LR	19 37 34.8		
	comp=Z,858nm,18.0s,baz=218,slow=36								
SFJD	Kangerlussuaq	59.19	16		P	P	19 12 21.9	-0.5	
SFJD					pmax	pmax			
	comp=Z,28nm,0.9s								
SFJD					MLR	MLR			
	comp=Z,1μm,21.0s								
SFJD	Kangerlussuaq	59.19	16	*i*	P	P	19 12 26.2	+3.8	
SFJD					IAmb	IAmb	19 12 28.8		
	comp=Z,17nm,0.8s								
HYT	Haines Junctio	59.49	334		P	P	19 12 25.2	+0.4	
	baz=121								
N30M	Aishikik Lake	59.65	335		P	P	19 12 25.9	+0.1	
	baz=122,SNR=6.8								
PNL	Peninsula	59.74	333		P	P	19 12 26.4	0.0	
	baz=118								
YUK6	Outpost Mounta	59.92	334		P	P	19 12 28.0	+0.1	
	baz=120								
BCPM	Bancas Point	59.98	333		IAMs_20	IAMs_20	19 41 09.0		
	comp=Z,1μm,21.0s								
DY2G	Dye2	60.08	18	*i*	P	P	19 12 30.6	+1.7	
DY2G					IAmb	IAmb	19 12 34.3		
	comp=Z,14nm,0.7s								
COYC	Coyhaique	60.22	167		P	P	19 12 30.9	+1.1	
YUK4	Talbot Arm	60.24	335		P	P	19 12 30.6	+0.5	
	baz=120,SNR=8.3								
MAYO	Mayo, Yukon	60.34	338		P	P	19 12 31.2	+0.7	
	baz=124								
C36M	Paulatuk	60.58	346		IAMs_20	IAMs_20	19 40 06.6		
	comp=Z,1μm,22.0s								
C36M	Paulatuk	60.58	346		P	P	19 12 32.2	+0.3	
	baz=139,SNR=11								
O28M	Mount Upton	60.62	334		P	P	19 12 32.3	-0.5	
	baz=118,SNR=6.2								
YUK8	Steele Glacier	60.68	334		P	P	19 12 32.6	-0.5	
	baz=119,SNR=9.9								
ILULI	Ilulissat	60.70	14		IAmb	IAmb	19 12 38.9		
	comp=Z,23nm,0.8s								
ILULI	Ilulissat	60.70	14	*i*	P	P	19 12 34.1	+1.3	
ILULI					IAmb	IAmb	19 12 39.1		
	comp=Z,17nm,0.7s								
M29M	Somme Creek	60.72	336		IAmb	IAmb	19 12 45.7		
	comp=Z,24nm,1.1s								
M29M					IAMs_20	IAMs_20	19 42 10.3		
	comp=Z,878nm,19.0s								
M29M	Somme Creek	60.72	336		P	P	19 12 33.1	-0.1	
	baz=121,SNR=9.7								
L29M	L29M	60.93	336		IAmb	IAmb	19 12 41.9		
	comp=Z,25nm,1.1s								
L29M	L29M	60.93	336		P	P	19 12 33.9	-0.7	
	baz=121,SNR=7.3								
LOGN	Logan Glacier	60.99	333		IAmb	IAmb	19 12 55.4		
	comp=Z,47nm,1.6s								
J30M	Hart River	61.05	338		IAMs_20	IAMs_20	19 42 29.0		
	comp=Z,1μm,21.0s								
J30M	Hart River	61.05	338		P	P	19 12 35.2	-0.2	
	baz=124,SNR=7.2								
H31M	Peel River	61.08	340		IAmb	IAmb	19 12 41.9		
	comp=Z,27nm,1.4s								
H31M					IAMs_20	IAMs_20	19 43 14.6		
	comp=Z,1μm,22.0s								
H31M	Peel River	61.08	340		P	P	19 12 35.3	-0.2	
	baz=126,SNR=8.9								
K29M	Barlow Dome	61.09	337		IAMs_20	IAMs_20	19 41 35.0		
	comp=Z,1μm,21.0s								
K29M	Barlow Dome	61.09	337		P	P	19 12 35.3	-0.4	
	baz=122								
MESA	MESA	61.12	333		P	P	19 12 35.1	-1.0	
	baz=116								
CTGM	Chitina Glacie	61.20	333		IAmb	IAmb	19 12 42.9		
	comp=Z,18nm,0.8s								
CTGM					IAMs_20	IAMs_20	19 43 41.2		
	comp=Z,1μm,18.0s								
CTG	Chitna Glacier	61.20	333		P	P	19 12 35.9	-0.6	
	baz=117,SNR=9.8								
YUK3	Moose Creek	61.21	335		P	P	19 12 36.0	-0.7	
	baz=118,SNR=6.5								
BARN	Barnard Glacie	61.39	334		IAmb	IAmb	19 12 43.7		
	comp=Z,17nm,0.8s								
BARN					IAMs_20	IAMs_20	19 43 36.0		
	comp=Z,1μm,20.0s								
I30M	Mount Dempster	61.43	339		IAmb	IAmb	19 12 45.4		
	comp=Z,20nm,1.1s								
I30M	Mount Dempster	61.43	339		P	P	19 12 37.8	-0.2	
	baz=124,SNR=17								
UMMG	Ummannaq	61.58	13	*i*	P	P	19 12 40.6	+1.9	
UMMG					IAmb	IAmb	19 12 45.2		
	comp=Z,14nm,0.8s								
RES	Resolute Bay	61.62	358		LR	LR	19 39 46.5		
	comp=Z,889nm,20.2s,baz=178,slow=36								
J29N	Klondike Camp	61.67	338		IAMs_20	IAMs_20	19 41 51.4		
	comp=Z,1μm,20.0s								
G31M	Satah River	61.72	341		P	P	19 12 38.5	-1.2	
	baz=127,SNR=44								
F31M	Tsiigehtchic	61.88	342		IAMs_20	IAMs_20	19 41 30.8		
	comp=Z,1μm,22.0s								
F31M	Tsiigehtchic	61.88	342		P	P	19 12 39.8	-1.0	
	baz=128								
ISOG	Isortoq, Green	61.88	21	*i*	P	P	19 12 42.4	+1.6	
ISOG					IAmb	IAmb	19 12 46.5		
	comp=Z,31nm,0.7s								
BERG	Berg Lake	62.00	332		IAMs_20	IAMs_20	19 41 19.3		
	comp=Z,2μm,22.0s								
NUUG	Nuugaatsiaq	62.02	12	*i*	P	P	19 12 43.2	+1.6	
NUUG					IAmb	IAmb	19 12 48.7		
	comp=Z,36nm,0.9s								
M27K	Edge Creek, AK	62.07	335		IAmb	IAmb	19 12 48.4		
	comp=Z,11nm,0.8s								
M27K	Edge Creek, AK	62.07	335		P	P	19 12 41.5	-0.8	
	baz=117,SNR=6.8								
MCARA	McCarthy VSAT	62.12	334		IAmb	IAmb	19 13 08.6		
	comp=Z,28nm,0.9s								
MCARA					IAMs_20	IAMs_20	19 40 56.4		
	comp=Z,1μm,21.0s								
MCARA	McCarthy VSAT	62.12	334		P	P	19 12 42.0	-0.6	
	baz=116,SNR=8.4								
EPYK	Eagle Plains	62.19	340		IAmb	IAmb	19 12 50.4		
	comp=Z,27nm,1.1s								
EPYK					IAMs_20	IAMs_20	19 43 55.2		
	comp=Z,969nm,20.0s								
EPYK	Eagle Plains	62.19	340		P	P	19 12 42.3	-0.7	
	baz=124,SNR=11								
VRDI	Verde Repeater	62.24	333		IAmb	IAmb	19 12 49.2		
	comp=Z,15nm,0.8s								
INK	Inuvik	62.35	343		IAmb	IAmb	19 12 49.4		
	comp=Z,29nm,0.9s								
INK	Inuvik	62.35	343		P	P	19 12 43.2	-0.7	
	baz=128,SNR=38								
INK	Inuvik	62.35	343		LR	LR	19 44 42.9		
	comp=Z,2μm,18.6s,baz=126,slow=41								
INK	Inuvik	62.35	343		P	P	19 12 43.8	-0.1	
BCAR	Beaver Creek A	62.36	336		P	P	19 12 43.4	-0.8	
L27K	Beaver Creek,	62.37	336		IAmb	IAmb	19 12 50.2		
	comp=Z,17nm,0.8s								
L27K					IAMs_20	IAMs_20	19 42 48.0		
	comp=Z,1μm,19.0s								
L27K	Beaver Creek,	62.37	336		P	P	19 12 43.6	-0.7	
	baz=118,SNR=12								
G30M	tAoh Zraii Nji	62.38	341		IAMs_20	IAMs_20	19 44 46.1		
	comp=Z,1μm,21.0s								
G30M	tAoh Zraii Nji	62.38	341		P	P	19 12 43.8	-0.4	
	baz=125								
ANGG	Ammassalik, Gr	62.38	21	*i*	P	P	19 12 46.1	+1.9	
ANGG					IAmb	IAmb	19 12 48.8		
	comp=Z,22nm,0.7s								
UPNV	Upernavik	62.46	10	*i*	P	P	19 12 48.7	+4.1	
UPNV					IAmb	IAmb	19 12 52.5		
	comp=Z,17nm,0.9s								
GLB	Gilahina Butte	62.49	333		IAmb	IAmb	19 12 50.9		
	comp=Z,19nm,0.9s								
M26K	Nabesna, AK	62.55	335		IAmb	IAmb	19 12 52.6		
	comp=Z,21nm,1.5s								
M26K					IAMs_20	IAMs_20	19 43 43.8		
	comp=Z,1μm,20.0s								
M26K	Nabesna, AK	62.55	335		P	P	19 12 44.8	-0.8	
	baz=116,SNR=6.9								
F30M	Barrier River	62.61	341		P	P	19 12 44.9	-0.8	
	baz=126,SNR=40								
BMRM	Bremner River	62.64	333		P	P	19 12 45.1	-1.0	
	baz=114,SNR=6.6								
H29M	Whitestone	62.67	339		IAmb	IAmb	19 12 53.7		
	comp=Z,17nm,1.0s								
H29M					IAMs_20	IAMs_20	19 44 16.7		
	comp=Z,1μm,21.0s								
H29M	Whitestone	62.67	339		P	P	19 12 45.7	-0.4	
	baz=122								
I28M	Miner Creek	62.81	338		IAMs_20	IAMs_20	19 45 17.6		
	comp=Z,1μm,19.0s								
I28M	Miner Creek	62.81	338		P	P	19 12 46.4	-0.8	
	baz=121								
A36M	Sachs Harbour	62.84	348		IAMs_20	IAMs_20	19 42 47.1		
	comp=Z,1μm,21.0s								
A36M	Sachs Harbour	62.84	348		P	P	19 12 46.2	-0.9	
	baz=139,SNR=48								
GO08	Villa O'Higgin	62.89	168		IAmb	IAmb	19 13 00.9		
	comp=Z,31nm,1.4s								
N25K	Chitina, Valde	62.90	333		IAmb	IAmb	19 12 53.8		
	comp=Z,23nm,0.8s								
N25K					IAMs_20	IAMs_20	19 41 16.0		
	comp=Z,1μm,21.0s								
N25K	Chitina, Valde	62.90	333		P	P	19 12 46.8	-1.1	
	baz=114,SNR=10								
K27K	Chicken	62.92	336		IAmb	IAmb	19 12 54.2		
	comp=Z,13nm,0.8s								
K27K	Chicken	62.92	336		P	P	19 12 47.2	-0.6	
	baz=118								
EGAK	Eagle	62.93	337		IAMs_20	IAMs_20	19 42 52.6		
	comp=Z,1μm,21.0s								
EGAK	Eagle	62.93	337		P	P	19 12 47.3	-0.6	
	baz=119								
G29M	Pine Creek	62.93	340		IAmb	IAmb	19 13 07.5		
	comp=Z,30nm,1.1s								
G29M					IAMs_20	IAMs_20	19 44 24.6		
	comp=Z,828nm,19.0s								
G29M	Pine Creek	62.93	340		P	P	19 12 47.3	-0.6	
	baz=123,SNR=9.1								
L26K	Log Cabin Wild	62.98	335		P	P	19 12 48.0	-0.3	
	baz=116								
EYAK	Cordova Ski Ar	62.99	332		P	P	19 12 47.9	-0.5	
	baz=112								
HIN	Hinchinbrook I	63.28	332		IAMs_20	IAMs_20	19 42 56.2		
	comp=Z,1μm,19.0s								
KLU	Klutina	63.44	333		IAMs_20	IAMs_20	19 45 35.2		
	comp=Z,817nm,19.0s								
KLU	Klutina	63.44	333		P	P	19 12 50.8	-0.6	
	baz=113,SNR=6.7								
HARP	HAARP	63.47	334		P	P	19 12 50.6	-1.0	
	baz=114								
I27K	Kandik River	63.50	338		P	P	19 12 51.6	-0.1	
	baz=119,SNR=9.6								
P23K	Montague Islan	63.56	331		P	P	19 12 51.0	-1.1	
	baz=111								
SCRK	Sand Creek	63.65	336		IAMs_20	IAMs_20	19 45 36.8		
	comp=Z,1μm,19.0s								
SCRK	Sand Creek	63.65	336		P	P	19 12 52.4	-0.5	
	baz=116,SNR=7.7								
ICESG	Greenland Ices	63.68	17	*i*	P	P	19 12 52.3	-0.9	
ICESG					IAmb	IAmb	19 12 58.9		
	comp=Z,39nm,0.9s								
E29M	Blow River	63.71	342		P	P	19 12 52.5	-0.5	
	baz=124,SNR=36								
J26L	Joseph Creek	63.72	337		IAmb	IAmb	19 13 01.1		
	comp=Z,23nm,1.1s								
J26L	Joseph Creek	63.72	337		P	P	19 12 53.1	-0.1	
	baz=116,SNR=11								
GLI	Glacier Island	63.73	332		IAMs_20	IAMs_20	19 43 42.1		
	comp=Z,1μm,21.0s								
GLI	Glacier Island	63.73	332		P	P	19 12 51.9	-1.5	
	baz=111								
H27K	Steamboat Moun	63.77	339		P	P	19 12 52.9	-0.6	
	baz=119,SNR=30								
KULLO	Kullorsuaq	63.78	9	*i*	P	P	19 12 53.7	+0.4	
KULLO					IAmb	IAmb	19 13 00.0		
	comp=Z,24nm,1.4s								
M24K	Tolsona, Glenn	63.79	334		IAMs_20	IAMs_20	19 41 53.4		
	comp=Z,1μm,20.0s								
M24K	Tolsona, Glenn	63.79	334		P	P	19 12 52.6	-1.1	
	baz=113								
PAX	Paxson	63.83	335		P	P	19 12 53.7	-0.4	
	baz=114,SNR=9.0								
F28M	Old Crow	63.91	340		IAMs_20	IAMs_20	19 44 31.6		
	comp=Z,835nm,18.0s								
F28M	Old Crow	63.91	340		P	P	19 12 54.3	-0.1	
	baz=122,SNR=91								
I26K	Coal Creek Min	63.92	337		IAmb	IAmb	19 13 02.5		
	comp=Z,22nm,1.2s								
I26K					IAMs_20	IAMs_20	19 43 23.0		
	comp=Z,1μm,21.0s								
I26K	Coal Creek Min	63.92	337		P	P	19 12 53.5	-1.0	
	baz=117,SNR=9.1								
G27K	Doyon Strip	64.10	339		IAmb	IAmb	19 13 01.6		
	comp=Z,9.1nm,0.7s								
G27K	Doyon Strip	64.10	339		P	P	19 12 55.0	-0.7	
	baz=119,SNR=26								
SCM	Sheep Creek Mo	64.19	333		IAMs_20	IAMs_20	19 43 43.0		
	comp=Z,759nm,20.0s								
K24K	Donnelly Dome	64.30	335		P	P	19 12 55.5	-1.5	
	baz=114								
E28M	Babbage River	64.33	341		IAmb	IAmb	19 13 21.9		
	comp=

ILAR pmax pmax
comp=Z,15nm,1.0s
BRLK Bradley Lake 65.14 330 IAMs_20 IAMs_20 19 45 31.5
comp=Z,983nm,20.0s
FIS Fire Island 65.25 332 IAMs_20 IAMs_20 19 40 56.2
comp=Z,1µm,19.0s
H25L Birch Creek 65.34 338 P **P** **19 13 03.6 0.0**
baz=115,SNR=11
F26K Sheenjek River 65.38 340 P **P** **19 13 03.6 -0.3**
baz=117,SNR=27
BMAR Burnt Mountain 65.40 339 P **P** **19 13 03.4 -0.7**
M22K Willow 65.41 332 IAMs_20 IAMs_20 19 44 33.2
comp=Z,1µm,21.0s
RND Reindeer 65.42 334 IAMs_20 IAMs_20 19 46 10.5
comp=Z,1µm,20.0s
KDAK Kodiak Island 65.44 328 LR LR 19 42 00.1
comp=Z,738nm,20.9s,baz=137,slow=36
POKR Poker Flat Res 65.48 336 P **P** **19 13 03.6 -1.0**
baz=113,SNR=11
WRH Wood River Hil 65.49 336 IAMs_20 IAMs_20 19 43 44.5
comp=Z,1µm,22.0s
COLA College 65.55 336 IAMs_20 IAMs_20 19 43 49.1
comp=Z,848nm,20.0s
COLA College 65.55 336 *i* P **P** **19 13 06.4 +1.4**
COLA pmax pmax
comp=Z,18nm,0.8s
SYI Shuyak Island 65.56 329 IAMs_20 IAMs_20 19 47 10.5
comp=Z,1µm,19.0s
MCK McKinley 65.56 335 P **P** **19 13 04.9 -0.3**
baz=111,SNR=15
MCK McKinley 65.56 335 P **P** **19 13 08.4 +3.1**
CAPN Captain Cook N 65.57 331 P **P** **19 13 03.7 -1.6**
baz=108
SUA Susitna One 65.60 332 IAmb IAmb 19 13 13.0
comp=Z,20nm,0.9s
SUA IAMs_20 IAMs_20 19 46 27.3
comp=Z,1µm,20.0s
SUA Susitna One 65.60 332 P **P** **19 13 04.9 -0.7**
baz=108
G25K Bearman Lake 65.65 338 P **P** **19 13 05.0 -0.7**
baz=115,SNR=10
OHAK Old Harbor 65.67 327 P **P** **19 13 05.4 -0.6**
baz=104
CUT Chulitna 65.68 333 IAMs_20 IAMs_20 19 42 44.5
comp=Z,997nm,22.0s
CUT Chulitna 65.68 333 P **P** **19 13 05.8 -0.2**
baz=109,SNR=8.1
MDM Murphy Dome 65.73 336 IAmb IAmb 19 13 12.6
comp=Z,13nm,0.8s
MDM IAMs_20 IAMs_20 19 43 32.8
comp=Z,911nm,21.0s
SOEG Soedalen 65.81 20 *i* P **P** **19 13 06.7 +0.1**
SOEG IAmb IAmb 19 13 11.3
comp=Z,7.7nm,0.9s
F25K Christian Rive 65.84 339 P **P** **19 13 06.1 -0.9**
baz=116,SNR=33
NEA2 Nenana 65.93 336 IAmb IAmb 19 13 12.7
comp=Z,17nm,0.8s
NEA2 IAMs_20 IAMs_20 19 43 10.0
comp=Z,1µm,22.0s
NEA2 Nenana 65.93 336 P **P** **19 13 07.5 0.0**
baz=111,SNR=14
H24K Noodor Dome 65.93 337 IAmb IAmb 19 13 15.0
comp=Z,16nm,0.9s
H24K Noodor Dome 65.93 337 P **P** **19 13 07.1 -0.5**
baz=113,SNR=10
BWN Browne 65.94 335 IAMs_20 IAMs_20 19 45 49.5
comp=Z,1µm,20.0s
SII Sitkinak Islan 66.00 326 IAMs_20 IAMs_20 19 43 04.1
comp=Z,1µm,20.0s
TRF Thorofare Moun 66.04 334 P **P** **19 13 07.8 -0.6**
baz=110,SNR=14
SUMG Summit 66.04 15 P **P** **19 13 10.0 +1.4**
SUMG Summit 66.04 15 *i* P **P** **19 13 08.5 -0.1**
SUMG IAmb IAmb 19 13 16.3
comp=Z,27nm,0.9s
E25K Arctic Village 66.05 340 IAmb IAmb 19 13 14.7
comp=Z,15nm,0.8s
E25K Arctic Village 66.05 340 P **P** **19 13 08.0 -0.3**
baz=116,SNR=7.5
SKT Skwentna 66.11 332 IAmb IAmb 19 13 13.6
comp=Z,18nm,0.9s
SKT IAMs_20 IAMs_20 19 44 53.9
comp=Z,1µm,20.0s
SKT Skwentna 66.11 332 P **P** **19 13 07.8 -1.0**
baz=108,SNR=6.3
G24K Hadweenzic Riv 66.12 338 IAmb IAmb 19 13 14.5
comp=Z,21nm,0.8s
G24K Hadweenzic Riv 66.12 338 P **P** **19 13 08.7 -0.1**
baz=114,SNR=12
C27K Jago River 66.14 342 P **P** **19 13 08.6 -0.2**
baz=118,SNR=7.5
N20K Mount Spurr 66.19 332 P **P** **19 13 08.7 -0.7**
baz=107
I23K Minto, Yukon-K 66.25 336 IAmb IAmb 19 13 14.8
comp=Z,23nm,0.8s
I23K IAMs_20 IAMs_20 19 44 09.4
comp=Z,1µm,21.0s
I23K Minto, Yukon-K 66.25 336 P **P** **19 13 09.0 -0.6**
baz=111,SNR=13
P19K Oil Pt 66.25 330 IAMs_20 IAMs_20 19 45 56.8
comp=Z,979nm,18.0s
P19K Oil Pt 66.25 330 P **P** **19 13 08.2 -1.6**
baz=105
Q19K Cape Douglas, 66.28 329 IAMs_20 IAMs_20 19 46 05.4
comp=Z,840nm,19.0s
KTH Kantishna Hill 66.34 334 IAmb IAmb 19 13 14.9
comp=Z,27nm,0.8s
BPAW Bear Paw Mtn. 66.54 335 IAMs_20 IAMs_20 19 45 34.3
comp=Z,1µm,20.0s
BPAW Bear Paw Mtn. 66.54 335 P **P** **19 13 11.2 -0.3**
baz=109,SNR=19
H23K Yukon River 66.56 337 P **P** **19 13 11.2 -0.4**
baz=111,SNR=9.2
F24K Squaw Lake 66.60 339 IAMs_20 IAMs_20 19 45 13.6
comp=Z,1µm,20.0s
F24K Squaw Lake 66.60 339 P **P** **19 13 11.7 -0.1**
baz=114,SNR=12
CHIR Chirikof Islan 66.63 325 P **P** **19 13 11.4 -0.8**
baz=101
C26K Camden Bay 66.65 342 P **P** **19 13 11.9 -0.1**
baz=117,SNR=11
PPLA Purkeypile 66.68 333 P **P** **19 13 12.2 -0.4**
baz=107,SNR=5.1
MLY Manley 66.75 336 IAMs_20 IAMs_20 19 43 45.8
comp=Z,915nm,20.0s
MLY Manley 66.75 336 P **P** **19 13 12.2 -0.7**
baz=110,SNR=61
CAST Castle Rocks 66.79 334 IAmb IAmb 19 13 17.3
comp=Z,15nm,0.8s
CAST IAMs_20 IAMs_20 19 47 25.9
comp=Z,1µm,18.0s
CAST Castle Rocks 66.79 334 P **P** **19 13 11.9 -1.3**
baz=108,SNR=13
M20K Styx River 66.81 332 IAMs_20 IAMs_20 19 44 23.3
comp=Z,1µm,22.0s
M20K Styx River 66.81 332 P **P** **19 13 11.8 -1.5**
baz=106,SNR=6.8
D25K Kavik River 66.84 341 P **P** **19 13 12.3 -1.0**
baz=116,SNR=32
O19K Port Alsworth 66.92 330 IAMs_20 IAMs_20 19 47 50.4
comp=Z,1µm,18.0s
O19K Port Alsworth 66.92 330 P **P** **19 13 12.6 -1.3**
baz=104
NEEM North Greenlan 66.98 8 *i* P **P** **19 13 14.2 -0.2**
NEEM IAmb IAmb 19 13 20.5
comp=Z,30nm,0.8s
PMOZ Porto Moniz, M 66.98 60 *e*S **S** **19 22 01.5 -6.9**
PMOZ Porto Moniz, M 66.98 60 *e*LR LR 19 33 32.1
comp=Z,682nm,22.0s
E24K Your Creek 67.03 339 IAMs_20 IAMs_20 19 43 54.9
comp=Z,915nm,21.0s
E24K Your Creek 67.03 339 P **P** **19 13 13.1 -1.5**
baz=113
CHUM Lake Minchumin 67.03 334 P **P** **19 13 13.2 -1.4**
baz=108,SNR=7.1
G23K Bananza Creek 67.06 338 IAmb IAmb 19 13 20.9
comp=Z,19nm,0.8s
G23K Bananza Creek 67.06 338 P **P** **19 13 13.6 -1.2**
baz=111,SNR=16
N19K Bonanza Creek 67.16 331 IAmb IAmb 19 13 22.5
comp=Z,19nm,0.9s
N19K IAMs_20 IAMs_20 19 47 55.5
comp=Z,740nm,19.0s
N19K Bonanza Creek 67.16 331 P **P** **19 13 14.1 -1.5**
baz=104,SNR=6.1
P18K Big Mountain, 67.18 329 IAMs_20 IAMs_20 19 47 01.2
comp=Z,933nm,19.0s
P18K Big Mountain, 67.18 329 P **P** **19 13 14.5 -1.2**
baz=103
Q17K Contact Creek 67.27 328 P **P** **19 13 15.5 -0.9**
baz=102
O18K Koktuh Hills 67.27 330 IAmb IAmb 19 13 20.6
comp=Z,14nm,0.8s
O18K IAMs_20 IAMs_20 19 46 35.7
comp=Z,882nm,19.0s
O18K Koktuh Hills 67.27 330 P **P** **19 13 15.3 -0.9**
baz=103,SNR=5.1
H22K Ishtalitna Cre 67.29 337 P **P** **19 13 15.4 -0.9**
baz=109,SNR=12
I21K Tanana 67.30 336 IAmb IAmb 19 13 21.1
comp=Z,12nm,0.9s
I21K IAMs_20 IAMs_20 19 46 45.2
comp=Z,760nm,18.0s
I21K Tanana 67.30 336 P **P** **19 13 16.0 -0.3**
L20K Farewell, AK 67.31 333 P **P** **19 13 14.8 -1.7**
baz=106
COLD Coldfoot 67.31 338 P **P** **19 13 15.6 -0.8**
baz=111,SNR=16
M19K Big River Lodg 67.39 332 IAmb IAmb 19 13 30.1
comp=Z,12nm,0.8s
M19K IAMs_20 IAMs_20 19 44 40.7
comp=Z,1µm,22.0s
M19K Big River Lodg 67.39 332 P **P** **19 13 15.8 -1.1**
baz=105
E23K Chandalar 67.41 339 P **P** **19 13 16.5 -0.6**
baz=112
D24K Happy Valley 67.56 340 IAmb IAmb 19 13 26.1
comp=Z,15nm,0.9s
D24K IAMs_20 IAMs_20 19 46 50.1
comp=Z,1µm,19.0s
D24K Happy Valley 67.56 340 P **P** **19 13 17.4 -0.5**
baz=113
TOLK Toolik Lake Re 67.62 340 IAmb IAmb 19 13 23.7
comp=Z,13nm,0.8s
TOLK IAMs_20 IAMs_20 19 46 04.5
comp=Z,861nm,20.0s
TOLK Toolik Lake Re 67.62 340 P **P** **19 13 17.4 -0.9**
baz=112,SNR=14
K20K Telida 67.63 334 IAmb IAmb 19 13 22.9
comp=Z,18nm,0.9s
K20K IAMs_20 IAMs_20 19 46 10.0
comp=Z,1µm,21.0s
K20K Telida 67.63 334 P **P** **19 13 17.4 -1.1**
baz=106
L19K White Mountain 67.67 332 IAMs_20 IAMs_20 19 45 01.1
comp=Z,1µm,22.0s
L19K White Mountain 67.67 332 P **P** **19 13 17.8 -0.9**
baz=105
G22K Bettles 67.69 338 P **P** **19 13 18.1 -0.6**
baz=110
P17K Kvichak River 67.74 329 P **P** **19 13 18.7 -0.4**
baz=102
C24K Franklin Bluff 67.75 341 P **P** **19 13 18.0 -1.0**
baz=114
H21K Melozitna Rive 67.78 336 IAMs_20 IAMs_20 19 44 28.8
comp=Z,1µm,22.0s
H21K Melozitna Rive 67.78 336 P **P** **19 13 18.1 -1.2**
baz=108,SNR=9.2
N18K Kilae Creek 67.79 331 IAMs_20 IAMs_20 19 44 13.4
comp=Z,857nm,22.0s
N18K Kilae Creek 67.79 331 P **P** **19 13 18.6 -0.9**
baz=103,SNR=5.6
J20K Nowinta River 67.89 334 IAmb IAmb 19 13 27.8
comp=Z,43nm,1.9s
J20K IAMs_20 IAMs_20 19 46 39.8
comp=Z,1µm,20.0s
J20K Nowinta River 67.89 334 P **P** **19 13 18.8 -1.2**
baz=106,SNR=7.8
M18K Stony River 67.95 331 P **P** **19 13 18.8 -1.7**
baz=104,SNR=6.8
PPT Papeete 67.97 245 LR LR 19 36 19.8
comp=Z,1µm,18.2s,baz=46,slow=30
PPT2 Papeete2 67.97 245 *e*P **P** **19 13 17.4 -4.0**
comp=Z,68nm,25.2s
PPT2 *e*S **S** **19 22 18.5 -2.1**
comp=Z,415nm,26.5s
PPT2 Papeete2 67.97 245 *e*LR LR 19 33 44.7
comp=Z,3µm,26.2s
PPT2 *e*LR LR 19 33 45.5
comp=Z,2µm,28.2s
D23K Nanushuk River 68.11 340 P **P** **19 13 20.8 -0.6**
baz=111,SNR=9.6
F22K John River 68.13 338 P **P** **19 13 20.7 -0.8**
baz=109,SNR=12
O17K Koliganek Bris 68.19 329 P **P** **19 13 21.3 -0.7**
baz=102
I20K Naaghedeneel 68.20 335 IAMs_20 IAMs_20 19 47 56.0
comp=Z,1µm,18.0s
I20K Naaghedeneel 68.20 335 P **P** **19 13 21.4 -0.5**
baz=106,SNR=5.7
E22K Anaktuvuk Pass 68.21 339 IAmb IAmb 19 13 29.6
comp=Z,16nm,0.9s
E22K Anaktuvuk Pass 68.21 339 P **P** **19 13 21.2 -0.9**
baz=110
CHGN Chignik 68.26 326 P **P** **19 13 21.0 -1.4**
baz=99
G21K Allakaket 68.31 337 IAmb IAmb 19 13 27.9
comp=Z,21nm,0.8s
G21K Allakaket 68.31 337 P **P** **19 13 21.4 -1.2**
baz=108
BORG Borgarnes 68.31 25 LR LR 19 45 59.5
comp=Z,252nm,18.1s,baz=257,slow=38
N17K Nushagak Hills 68.39 330 IAMs_20 IAMs_20 19 47 30.1
comp=Z,679nm,19.0s
N17K Nushagak Hills 68.39 330 P **P** **19 13 22.7 -0.5**
baz=102
C23K Itkillik River 68.41 341 IAmb IAmb 19 13 29.4
comp=Z,24nm,0.8s
C23K IAMs_20 IAMs_20 19 47 22.4
comp=Z,941nm,20.0s
C23K Itkillik River 68.41 341 P **P** **19 13 22.5 -0.6**
baz=112,SNR=16
J19K Poorman 68.47 334 IAmb IAmb 19 13 27.9
comp=Z,15nm,0.9s
J19K IAMs_20 IAMs_20 19 46 09.1
comp=Z,1µm,21.0s
J19K Poorman 68.47 334 P **P** **19 13 22.6 -1.0**
baz=105,SNR=7.6
L18K Granite Mounta 68.51 332 IAMs_20 IAMs_20 19 49 09.4
comp=Z,1µm,18.0s
L18K Granite Mounta 68.51 332 P **P** **19 13 22.5 -1.4**
baz=103,SNR=7.6
F21K Alatna River 68.52 338 P **P** **19 13 23.4 -0.5**
baz=108,SNR=67
H20K Anotleneega Mo 68.55 336 P **P** **19 13 23.5 -0.7**
baz=106,SNR=5.5
O16K Kokwok River B 68.65 329 IAMs_20 IAMs_20 19 49 10.1
comp=Z,811nm,20.0s
O16K Kokwok River B 68.65 329 P **P** **19 13 24.0 -0.8**
baz=101
M17K Holitna River 68.69 331 IAMs_20 IAMs_20 19 45 37.0
comp=Z,1µm,21.0s
M17K Holitna River 68.69 331 P **P** **19 13 23.8 -1.2**
baz=102
D22K Ayikyak River 68.76 339 IAmb IAmb 19 13 31.5
comp=Z,12nm,0.8s
D22K IAMs_20 IAMs_20 19 44 47.8
comp=Z,1µm,22.0s
D22K Ayikyak River 68.76 339 P **P** **19 13 24.6 -0.8**
baz=109,SNR=7.0
J18K Innoko River 68.81 333 P **P** **19 13 25.0 -0.9**
baz=103
E21K Killik River 69.07 339 P **P** **19 13 26.5 -0.9**
baz=108,SNR=10
N16K Nishlik Lake 69.14 330 P **P** **19 13 26.7 -1.3**
baz=100
H19K Roundabout Mou 69.19 336 IAmb IAmb 19 13 33.4
comp=Z,20nm,0.9s
H19K IAMs_20 IAMs_20 19 44 52.3
comp=Z,897nm,21.0s
H19K Roundabout Mou 69.19 336 P **P** **19 13 27.0 -1.1**
baz=104,SNR=9.1
L17K Donlin 69.23 332 P **P** **19 13 27.3 -1.1**
baz=101
SDPT Sand Point 69.28 324 P **P** **19 13 27.3 -1.5**
baz=97
F20K Avaraart Lake 69.31 337 IAMs_20 IAMs_20 19 49 48.2
comp=Z,1µm,21.0s
F20K Avaraart Lake 69.31 337 P **P** **19 13 28.2 -0.6**
baz=106,SNR=11
M16K Timber Creek 69.33 331 IAMs_20 IAMs_20 19 48 52.2
comp=Z,1µm,20.0s
M16K Timber Creek 69.33 331 P **P** **19 13 27.4 -1.7**
baz=100
K17K Iditarod 69.35 332 IAMs_20 IAMs_20 19 47 30.6
comp=Z,925nm,20.0s
K17K Iditarod 69.35 332 P **P** **19 13 28.0 -1.2**
baz=102
O15K Ungalikthiuk R 69.45 329 P **P** **19 13 28.2 -1.7**
baz=99
B22K Teshekpuk Lake 69.49 341 IAmb IAmb 19 13 35.5
comp=Z,18nm,0.8s
B22K IAMs_20 IAMs_20 19 48 13.9
comp=Z,932nm,21.0s
B22K Teshekpuk Lake 69.49 341 P **P** **19 13 28.5 -1.3**
baz=109,SNR=12
C21K Knifeblade Rid 69.57 339 P **P** **19 13 28.9 -1.5**
baz=107
G19K Purcell Mounta 69.60 336 IAmb IAmb 19 13 35.8
comp=Z,13nm,0.8s
G19K IAMs_20 IAMs_20 19 46 41.0
comp=Z,990nm,21.0s
G19K Purcell Mounta 69.60 336 P **P** **19 13 29.2 -1.5**
baz=104,SNR=9.9
B21K Ikpikpuk River 69.65 340 IAmb IAmb 19 13 36.4
comp=Z,17nm,0.8s
B21K IAMs_20 IAMs_20 19 49 01.2
comp=Z,1µm,19.0s
B21K Ikpikpuk River 69.65 340 P **P** **19 13 29.9 -0.9**
baz=108,SNR=15
L16K Owhat River 69.70 331 IAMs_20 IAMs_20 19 47 24.9
comp=Z,1µm,21.0s
L16K Owhat River 69.70 331 P **P** **19 13 29.1 -2.3**
baz=100
N15K Kwethluk River 69.74 330 IAMs_20 IAMs_20 19 48 38.0
comp=Z,870nm,20.0s
N15K Kwethluk River 69.74 330 P **P** **19 13 29.0 -2.7**
baz=99
E20K Nigu River 69.80 338 P **P** **19 13 30.2 -1.7**
baz=106
J17K VABM Dome 69.83 333 P **P** **19 13 29.9 -2.2**
baz=101
H18K Honhosa River 69.89 335 IAMs_20 IAMs_20 19 48 14.7
comp=Z,1µm,21.0s
H18K Honhosa River 69.89 335 P **P** **19 13 30.4 -2.1**
baz=102
E19K Redstone River 69.98 337 P **P** **19 13 33.3 +0.4**
baz=104
F19K Shaleruckik Mo 70.03 337 IAMs_20 IAMs_20 19 47 57.4
comp=Z,1µm,21.0s
F19K Shaleruckik Mo 70.03 337 P **P** **19 13 34.2 +1.0**
baz=104,SNR=11
D20K Etivluk River 70.08 339 P **P** **19 13 34.4 +0.8**
baz=105
M15K Kasigluk River 70.11 330 P **P** **19 13 34.1 +0.2**
baz=99
G18K Tagagawik 70.17 336 IAMs_20 IAMs_20 19 44 52.0
comp=Z,1µm,21.0s
G18K Tagagawik 70.17 336 P **P** **19 13 35.0 +0.9**
baz=102,SNR=7.1
A22K Sinclair Lake 70.19 341 P **P** **19 13 34.2 +0.1**
baz=108
O14K Tigyukauivet M 70.20 328 IAMs_20 IAMs_20 19 50 22.0
comp=Z,633nm,19.0s
O14K Tigyukauivet M 70.20 328 P **P** **19 13 34.4 -0.1**
baz=98
S12K Black Hills 70.21 325 P **P** **19 13 34.2 -0.4**
baz=96
H17K Granite Mounta 70.49 335 IAMs_20 IAMs_20 19 49 17.5
comp=Z,814nm,20.0s
H17K Granite Mounta 70.49 335 P **P** **19 13 37.3 +1.2**
baz=101
J16K Anvik River 70.49 333 P **P** **19 13 36.6 +0.5**
baz=100
N14K Kuskokwak Cree 70.50 329 P **P** **19 13 36.4 +0.2**
baz=98
D19K Kuna River 70.55 338 P **P** **19 13 36.7 +0.2**
baz=104
B20K Meade River 70.61 340 IAmb IAmb 19 13 42.7
comp=Z,19nm,0.8s
B20K IAMs_20 IAMs_20 19 50 00.5
comp=Z,1µm,20.0s
B20K Meade River 70.61 340 P **P** **19 13 37.1 +0.3**
baz=105,SNR=10.0
I17K Unalakleet 70.63 333 IAMs_20 IAMs_20 19 47 40.4
comp=Z,1µm,19.0s
L15K Ungalak Mounta 70.64 331 P **P** **19 13 37.6 +0.4**
baz=98
F18K Selawik 70.71 336 P **P** **19 13 37.4 0.0**
baz=102
M14K Bethel 70.74 330 IAmb IAmb 19 13 58.0
comp=Z,22nm,1.0s
M14K IAMs_20 IAMs_20 19 49 25.4
comp=Z,626nm,20.0s
M14K Bethel 70.74 330 P **P** **19 13 38.5 +0.8**
baz=98
K15K Wolf Creek Mou 70.75 332 IAMs_20 IAMs_20 19 49 54.7
comp=Z,828nm,18.0s
K15K Wolf Creek Mou 70.75 332 P **P** **19 13 38.5 +0.7**
baz=98
G17K Kiwalik Mounta 70.90 335 P **P** **19 13 39.1 +0.5**
baz=100
L14K Kuka Creek 71.17 331 IAMs_20 IAMs_20 19 48 45.6
comp=Z,913nm,20.0s
L14K Kuka Creek 71.17 331 P **P** **19 13 41.1 +0.8**
baz=97
C19K Lookout Ridge 71.22 339 IAmb IAmb 19 13 48.7
comp=Z,32nm,1.4s
C19K Lookout Ridge 71.22 339 P **P** **19 13 41.2 +0.7**
baz=103
E18K Tukpahlearik C 71.24 337 IAMs_20 IAMs_20 19 48 35.3
comp=Z,1µm,21.0s
E18K Tukpahlearik C 71.24 337 P **P** **19 13 41.0 +0.3**
baz=101
F17K Baldwin Pennin 71.31 336 IAMs_20 IAMs_20 19 49 08.2
comp=Z,1µm,20.0s
M13K Dall Lake 71.38 330 P **P** **19 13 41.6 0.0**
baz=96
H16K Elim 71.42 334 P **P** **19 13 40.6 -1.1**
baz=99
DBG Daneborg 71.47 15 *i* P **P** **19 13 45.8 +3.9**
DBG IAmb IAmb 19 13 51.0
comp=Z,4.8nm,0.8s
G16K Koyuk River 71.58 335 IAMs_20 IAMs_20 19 49 28.5
comp=Z,1µm,20.0s
E17K Hotham Inlet 71.64 337 P **P** **19 13 43.4 +0.3**
baz=100,SNR=8.4
C18K Utukok River 71.69 338 P **P** **19 13 43.4 -0.1**
baz=101
J14K Nanvaranak Lak 71.75 332 IAMs_20 IAMs_20 19 50 06.9
comp=Z,707nm,18.0s
J14K Nanvaranak Lak 71.75 332 P **P** **19 13 44.0 +0.2**
baz=97
A19K Wainwright 71.95 340 P **P** **19 13 45.4 +0.5**
baz=102
B18K Kokolik River 72.04 339 P **P** **19 13 45.8 +0.4**
baz=101,SNR=7.3
K13K Kusilvak Mount 72.17 331 IAMs_20 IAMs_20 19 48 05.1
comp=Z,832nm,20.0s
K13K Kusilvak Mount 72.17 331 P **P** **19 13 44.5 -1.9**
baz=96
RDOG Red Dog Mine 72.22 338 IAMs_20 IAMs_20 19 49 20.1
comp=Z,832nm,19.0s
RDOG Red Dog Mine 72.22 338 P **P** **19 13 45.6 -0.9**
baz=99
D17K Noatak River 72.22 337 P **P** **19 13 46.5 0.0**
baz=99
C17K DeLong Mountai 72.38 338 P **P** **19 13 47.8 +0.3**
baz=99
F15K North Star Dit 72.57 335 IAMs_20 IAMs_20 19 49 55.6
comp=Z,1µm,20.0s
F15K North Star Dit 72.57 335 P **P** **19 13 48.8 +0.1**
baz=97
DAG Danmarks Havn 72.59 13 P **P** **19 13 48.3 -0.3**
DAG Danmarks Havn 72.59 13 *i* P **P** **19 13 50.4 +1.8**
UNV Unalaska Valle 72.67 323 P **P** **19 13 47.8 -1.7**
baz=91
ANM Nome 72.75 334 IAMs_20 IAMs_20 19 50 39.4
comp=Z,1µm,20.0s
ANM Nome 72.75 334 P **P** **19 13 49.0 -0.8**
baz=96
C16K Lisburne Hills 73.15 338 IAMs_20 IAMs_20 19 50 00.8
comp=Z,868nm,20.0s
PSBE So Bento 73.51 52 *e*P P 19 13 59.8 +5.0
comp=Z,52nm,1.6s
PTEO Sao Teotonio 73.70 54 *e*P P 19 14 01.1 +5.2
PCAS Casmilo, Conde 73.70 52 *e*P **P** **19 13 56.5 +0.6**
comp=Z,66nm,1.3s
PGAV Gavieira, Arco 73.76 50 *e*P **P** **19 13 56.6 +0.3**
comp=Z,27nm,1.9s
PGAV Gavieira, Arco 73.76 50 *e*LR LR 19 36 51.8
comp=Z,867nm,20.0s

MORF Marmelete 73.77 55 *e*P **P** **19 13 58.5 +2.1**
PMTG Montargil 73.98 53 *e*P **P** **19 13 58.8 +1.3**
comp=Z,24nm,1.2s
MESJ Messejana 74.08 54 *e*P **P** **19 13 59.0 +0.9**
PVIS Viseu 74.12 51 *e*P **P** **19 13 58.8 +0.4**
comp=Z,27nm,0.9s
EVO Evora 74.19 53 *e*P **P** **19 14 00.9 +2.2**
JMIC Jan Mayen 74.23 20 LR LR 19 48 36.8
comp=Z,365nm,18.6s,baz=258,slow=37
PBDV Barranco-do-Ve 74.35 55 *e*P **P** **19 14 00.8 +1.0**
NOR Nord 74.36 8 *i* P **P** **19 14 02.6 +3.7**
NOR IAmb IAmb 19 14 04.8
comp=Z,11nm,0.8s
MTE Manteigas 74.41 51 *e*P **P** **19 13 59.5 -0.6**
comp=Z,31nm,1.1s
MTE *e*S SKiKP 19 23 09.8 -17
MTE Manteigas 74.41 51 *e*LR LR 19 36 45.2
comp=Z,786nm,18.0s
MTE Manteigas 74.41 51 IAmb IAmb 19 14 05.9
comp=Z,17nm,0.9s
MTE IAMs_20 IAMs_20 19 51 30.7
comp=Z,884nm,18.0s
PESTR Estremoz 74.49 53 *e*P **P** **19 14 00.1 -0.4**
comp=Z,37nm,1.4s
PCBR Castelo Branco 74.50 52 *e*P **P** **19 14 00.4 -0.1**
comp=Z,34nm,1.5s
PVAQ Vaqueiros 74.51 55 *e*S **S** **19 23 36.8 +1.1**
PVAQ Vaqueiros 74.51 55 *e*LR LR 19 37 02.3
comp=Z,1µm,18.0s
PMRV Marv??o 74.60 52 *e*P **P** **19 14 01.6 +0.4**
comp=Z,29nm,1.5s
PMRV *e*S **S** **19 23 43.3 +6.6**
PMRV Marv??o 74.60 52 *e*LR LR 19 37 09.3
comp=Z,536nm,20.0s
MVO Moncorvo 74.74 51 *e*P **P** **19 14 01.6 -0.4**
comp=Z,24nm,1.4s
MVO *e*S **S** **19 23 38.7 +0.3**
MVO Moncorvo 74.74 51 *e*LR LR 19 37 18.3
comp=Z,564nm,18.0s
PBRG Braganca 74.91 50 *e*P **P** **19 14 05.1 +2.1**
comp=Z,16nm,1.3s
PBAR Barrancos 74.98 54 *e*P **P** **19 14 04.2 +0.9**
comp=Z,34nm,1.4s
AVE Averroes 75.15 59 IAMs_20 IAMs_20 19 42 58.6
comp=Z,682nm,19.0s
ESK Eskdalemuir 76.37 36 P **P** **19 14 10.2 -0.7**
ESK IAmb IAmb 19 14 15.7
comp=Z,41nm,1.0s
ESK Eskdalemuir 76.37 36 P **P** **19 14 10.2 -0.7**
ESK pmax pmax
comp=Z,41nm,1.0s
EKA Eskdalemuir Ar 76.39 36 P **P** **19 14 09.7 -1.4**
comp=Z,8.2nm,0.8s,baz=266,slow=6.0,SNR=15
comp=Z,8.2nm,0.8s
PAB San Pablo 76.93 52 P **P** **19 14 14.2 -0.4**
PAB IAmb IAmb 19 14 20.1
comp=Z,27nm,1.4s
PAB San Pablo 76.93 52 IAMs_20 IAMs_20 19 45 51.5
comp=Z,736nm,20.0s
PAB San Pablo 76.93 52 P **P** **19 14 14.2 -0.4**
PAB pmax pmax
comp=Z,27nm,1.4s
PAB MLR MLR
comp=Z,700nm,20.0s
QUIF Quistinic 76.95 43 *e*P **P** **19 14 14.9 +0.5**
QUIF pmax pmax
comp=Z,29nm,1.0s
ESDC Sonseca Array 77.21 52 P **P** **19 14 14.8 -1.4**
ESDC Sonseca Array 77.21 52 P **P** **19 14 15.5 -0.7**
comp=Z,7.7nm,1.0s,baz=285,slow=5.9,SNR=17
comp=Z,7.7nm,1.0s
ESBB Sonseca Array 77.22 52 IAmb IAmb 19 14 21.6
comp=Z,22nm,1.3s
MDT Midelt 77.55 59 LR LR 19 44 07.0
comp=Z,430nm,19.8s,baz=290,slow=32
RAR Rarotonga 78.25 245 LR LR 19 40 45.2
comp=Z,731nm,18.6s,baz=78,slow=30
GRR Gorron 78.44 43 *e*P **P** **19 14 22.0 -0.7**
GRR pmax pmax
comp=Z,24nm,0.9s
FLN La Foliniere 78.64 42 *e*P **P** **19 14 22.0 -1.8**
FLN pmax pmax
comp=Z,19nm,0.9s
SJPF Ste Jean 78.84 48 *e*P **P** **19 14 25.1 +0.1**
SJPF pmax pmax
comp=Z,20nm,1.0s
KBS Kingsbay 79.08 11 *i* P P 19 14 30.9 +5.2
MFF Saint Martin d 79.14 45 *e*P **P** **19 14 25.9 -0.7**
MFF pmax pmax
comp=Z,20nm,1.1s
ETSF Etsaut 79.35 48 *e*P **P** **19 14 27.0 -0.9**
ETSF pmax pmax
comp=Z,5.0nm,0.8s
CART Cartagena 79.79 54 IAMs_20 IAMs_20 19 46 40.2
comp=Z,535nm,20.0s
EPF Esparros 79.98 48 *e*P **P** **19 14 31.1 -0.3**
EPF pmax pmax
comp=Z,14nm,1.1s
LFF La Frestale 79.99 46 *e*P **P** **19 14 30.9 -0.3**
LFF pmax pmax
comp=Z,25nm,1.0s
SPITS Spitsbergen Ar 80.13 12 P **P** **19 14 31.4 0.0**
comp=Z,7.3nm,0.8s,baz=298,slow=3.1,SNR=5.6
SPITS LR LR 19 50 18.6
comp=Z,1µm,19.9s,baz=258,slow=36
comp=Z,7.3nm,0.8s
RJF Les Rejaudoux 80.47 46 *e*P **P** **19 14 32.2 -1.7**
RJF pmax pmax
comp=Z,29nm,1.3s
CLF Chambon-Foret 80.55 43 IAmb IAmb 19 14 39.7
comp=Z,43nm,1.0s
CLF IAMs_20 IAMs_20 19 49 24.7
comp=Z,776nm,20.0s
CEST Esterri de Car 80.72 48 IAmb IAmb 19 14 40.9
comp=Z,17nm,1.3s
TCF Toulx Ste Croi 80.80 45 *e*P **P** **19 14 34.5 -1.1**
TCF pmax pmax
comp=Z,14nm,1.1s
BGF Bois d'Agland 81.19 44 *e*P **P** **19 14 37.5 -0.2**
BGF pmax pmax
comp=Z,21nm,1.1s
MTLF Montolieu 81.29 48 *e*P **P** **19 14 37.6 -0.7**
MTLF pmax pmax
comp=Z,18nm,1.3s
BAIF Baives 81.47 41 *e*P **P** **19 14 41.3 +2.2**
BAIF pmax pmax
comp=Z,14nm,1.2s
AVF Avril sur Loir 81.49 44 *e*P **P** **19 14 37.8 -1.4**
AVF pmax pmax
comp=Z,6.0nm,1.0s
SSF Saint Saulge 81.54 44 *e*P **P** **19 14 38.8 -0.7**
SSF pmax pmax
comp=Z,10.0nm,1.1s
DOU Dourbes 81.71 41 *d*P **P** **19 14 38.1 -2.3**
comp=Z,8.2nm,1.2s
LOR Lormes 81.74 43 *e*P **P** **19 14 39.6 -1.0**
LOR pmax pmax
comp=Z,22nm,1.2s
BMRD Maredsous 81.78 40 *d*P **P** **19 14 41.0 +0.3**
comp=Z,6.2nm,1.2s
SMF Signal de Mont 81.84 44 *e*P **P** **19 14 44.0 +2.8**
SMF pmax pmax
comp=Z,5.0nm,0.8s
DBIC Dimbokro 81.91 85 P **P** **19 14 41.9 -0.2**
comp=Z,2.0nm,0.6s,baz=281,slow=5.2,SNR=2.1
DBIC LR LR 19 46 27.8
comp=Z,426nm,21.9s,baz=240,slow=32
comp=Z,2.0nm,0.6s
BGES Gesves 81.97 40 *d*P **P** **19 14 40.2 -1.4**
comp=Z,13nm,1.1s
BCLA Clavier 82.10 40 *d*P **P** **19 14 40.2 -2.1**
comp=Z,9.6nm,1.1s
RCHB Rochefort 82.10 40 *d*P **P** **19 14 42.2 -0.2**
comp=Z,6.1nm,1.2s
MEM Membach 82.50 40 *d*PcP **PcP** **19 14 49.0 -0.6**
BTNL Ternell 82.58 40 *d*P **P** **19 14 47.6 +2.6**
VIVF Saint-Julien-l 82.75 46 *e*P **P** **19 14 46.9 +0.9**
VIVF pmax pmax
comp=Z,18nm,1.2s
WLF Walferdange 82.78 41 *d*P **P** **19 14 45.2 -0.7**
comp=Z,9.3nm,1.2s
WLF *d*x x 19 14 50.0
NAO01 NORSAR Array S 82.92 29 IAmb IAmb 19 14 52.7
comp=Z,26nm,1.0s
NB2 NORSAR Subarra 83.03 29 P **P** **19 14 47.0 -0.1**
comp=Z,17nm,1.0s,baz=285,slow=5.1
NB2 NORSAR Subarra 83.03 29 P **P** **19 14 47.0 -0.1**
baz=285,slow=5.1
NB2 NORSAR Subarra 83.03 29 P **P** **19 14 51.2 +4.1**
NB2 pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 83.03 29 P **P** **19 14 46.8 -0.3**
comp=Z,2.1nm,0.9s,baz=284,slow=5.1,SNR=6.9
NOA LR LR 19 48 32.3
comp=Z,562nm,20.6s,baz=280,slow=33
comp=Z,2.1nm,0.9s
MUD Monsted U'grnd 83.09 34 *i* P **P** **19 14 50.0 +2.6**
HAU Haudompre 83.25 42 *e*P **P** **19 14 47.5 -1.0**
HAU pmax pmax
comp=Z,7.0nm,0.8s
NC602 NORSAR Array S 83.26 29 IAmb IAmb 19 14 53.9
comp=Z,34nm,1.2s
NORES NORESS Array B 83.26 29 P P 19 14 53.4 +5.2
NORES pmax pmax
comp=Z,5.0nm,0.9s
MAHO Mahon 83.44 51 IAMs_20 IAMs_20 19 53 43.6
comp=Z,736nm,18.0s
ORIF Oris-en-Rattie 83.58 46 *e*P **P** **19 14 54.3 +4.0**
ORIF pmax pmax
comp=Z,11nm,1.3s
BILL Bilibino 83.64 339 P **P** **19 14 49.5 -0.5**
BILL IAmb IAmb 19 15 04.5
comp=Z,16nm,1.2s
BILL Bilibino 83.64 339 *i* P **P** **19 14 50.2 +0.2**
BILL pmax pmax
comp=Z,14nm,1.1s
ECH Echery 83.74 42 IAmb IAmb 19 14 55.5
comp=Z,19nm,1.3s
ECH IAMs_20 IAMs_20 19 50 50.0
comp=Z,755nm,21.0s
ECH Echery 83.74 42 P **P** **19 14 51.2 +0.2**
CDF Champ du Feu 83.77 42 *e*P **P** **19 14 53.7 +2.5**
CDF pmax pmax
comp=Z,10.0nm,1.0s
LPL La Plagne 84.04 45 *e*P **P** **19 14 52.5 -0.3**
LPL pmax pmax
comp=Z,6.0nm,0.9s
LPG La Plagne 84.06 45 *e*P **P** **19 14 53.9 +0.9**
LPG pmax pmax
comp=Z,7.0nm,1.0s
BNI Bardonecchia 84.11 45 IAMs_20 IAMs_20 19 47 25.9
comp=Z,750nm,20.0s
LMR La Mourre 84.36 47 *e*P **P** **19 14 57.8 +3.6**
LMR pmax pmax
comp=Z,11nm,1.4s
HFS Hagfors 84.45 29 P **P** **19 14 53.4 -0.9**
comp=Z,5.0nm,0.7s,baz=279,slow=2.9,SNR=8.0
HFS LR LR 19 50 11.0
comp=Z,529nm,20.4s,baz=282,slow=34
comp=Z,5.0nm,0.7s
BFO Black Forest 84.47 42 P **P** **19 14 55.0 +0.3**
BFO IAmb IAmb 19 14 59.6
comp=Z,19nm,1.4s
BFO Black Forest 84.47 42 P **P** **19 14 55.0 +0.3**
BFO pmax pmax
comp=Z,19nm,1.4s
STU Stuttgart 84.93 41 IAMs_20 IAMs_20 19 57 37.4
comp=Z,682nm,18.0s
TUE Stuetta 85.59 43 IAMs_20 IAMs_20 19 56 36.1
comp=Z,624nm,19.0s
ARCES ARCESS Array B 85.70 19 P **P** **19 15 00.8 +0.3**
ARCES ARCESS Array B 85.70 19 P **P** **19 15 00.1 -0.3**
comp=Z,16nm,1.2s,baz=345,slow=4.3,SNR=3.6
ARCES LR LR 19 51 38.8
comp=Z,460nm,20.8s,baz=302,slow=34
comp=Z,16nm,1.2s
ARCES ARCESS Array B 85.70 19 *e*P **P** **19 15 01.2 +0.8**
ARCES pmax pmax
comp=Z,10.0nm,0.9s
DAVA Damuels 85.74 43 *i* P **P** **19 15 00.6 -0.7**
comp=Z,21nm,0.9s
DAVA Damuels 85.74 43 *i* PcP **P'P'df** **19 41 10.0 -2.6**
comp=Z,3.1nm,1.0s
DAVOX Davos/Dischmat 85.87 43 LR LR 19 51 17.0
comp=Z,428nm,18.4s,baz=288,slow=34
FUORN Ofenpass-Fuorn 86.17 43 IAMs_20 IAMs_20 19 56 22.3
comp=Z,502nm,18.0s
RETA Reutte 86.27 42 *e*P **P** **19 15 02.6 -1.2**
comp=Z,19nm,0.9s
PGF Pioggiola 86.33 47 *e*P **P** **19 15 07.4 +3.2**
PGF pmax pmax
comp=Z,9.0nm,1.0s
FETA Feichten 86.37 43 *e*P **P** **19 15 04.0 -0.4**
comp=Z,8.0nm,1.0s
MOTA Moosalm 86.53 42 *i* P **P** **19 15 04.1 -1.0**
comp=Z,8.9nm,1.0s
MOTA Moosalm 86.53 42 *i* pP **P'P'df** **19 41 10.4 -0.8**
comp=Z,4.3nm,1.1s
NKC Novy Kostel 86.59 39 *e*P **P** **19 15 05.5 +0.3**
NKC *e*pP **PcP** **19 15 08.4 +0.8**
NKC Novy Kostel 86.59 39 *e*P **P** **19 15 05.5 +0.3**
NKC *e* 19 15 08.4
CLL Collm 86.62 38 IAmb IAmb 19 15 10.8
comp=Z,11nm,0.9s
CLL IAMs_20 IAMs_20 19 59 22.0
comp=Z,734nm,20.0s
CLL Collm 86.62 38 *e*P **P** **19 15 04.0 -1.3**
CLL *i* 19 15 09.4
CLL *e*S **S** **19 25 40.0 -1.9**
SQTA Sankt Quirin 86.63 42 *e*PcP **PcP** **19 15 08.8 +0.8**
comp=Z,7.0nm,0.8s
TORD Torodi Ar. Bea 86.83 77 P **P** **19 15 05.8 -1.2**
comp=Z,0.3nm,0.7s,baz=285,slow=4.9,SNR=1.8
TORD LR LR 19 50 22.6
comp=Z,784nm,21.4s,baz=265,slow=33
WATA Walderalm 86.84 42 *e*pP pP 19 15 10.0 -1.3
comp=Z,3.9nm,0.7s
WATA Walderalm 86.84 42 *i* pP **P'P'df** **19 41 11.3 +0.7**
comp=Z,2.3nm,0.9s
WTTA Wattenberg 86.90 42 *i* pP pP 19 15 10.9 -0.7
comp=Z,7.6nm,1.2s
WTTA Wattenberg 86.90 42 *i* pP **P'P'df** **19 41 10.9 +0.4**
comp=Z,6.2nm,1.1s
HSKC Hora Svate Kat 87.08 39 AMS AMS 19 52 10.0
comp=Z,500nm,16.8s
BRG Berggiesshubel 87.32 38 *e*P **P** **19 15 09.3 +0.6**
BRG Amp 19 15 11.0
comp=Z,1.3nm,0.6s
BRG Berggiesshubel 87.32 38 P **P** **19 15 13.0 +4.3**
BRG Amp 19 15 14.0
comp=Z,4.6nm,0.8s
BRG Berggiesshubel 87.32 38 *e*P **P** **19 15 09.3 +0.6**
BRG 19 15 13.0
BRG 19 18 38.6
BRG pmax pmax
comp=Z,1.0nm,0.6s
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG MLR MLR
comp=Z,554nm,17.0s
BRG MLR MLR
comp=N,226nm,17.6s
BRG MLR MLR
comp=E,366nm,19.9s
VSL Villasalto 87.37 50 IAMs_20 IAMs_20 19 51 40.6
comp=Z,669nm,19.0s
LESA Schwarzleotal 87.53 42 *i* pP pP 19 15 14.4 -0.2
comp=Z,2.8nm,0.6s
LESA Schwarzleotal 87.53 42 *e*pP **P'P'df** **19 41 09.7 +0.5**
comp=Z,4.9nm,1.3s
KHC Kasperske Hory 87.61 40 *e*P **P** **19 15 09.4 -0.8**
KHC *e*pP **pP** **19 15 14.4 -0.5**
KHC AMS AMS 19 51 30.0
comp=Z,1µm,21.6s
KHC Kasperske Hory 87.61 40 *i* P **P** **19 15 09.1 -1.1**
KHC pmax pmax
comp=Z,22nm,1.1s
ABTA Abfaltersbach 87.62 43 *i* P **P** **19 15 10.1 -0.3**
comp=Z,9.5nm,1.1s
ABTA Abfaltersbach 87.62 43 *i* pP **P'P'df** **19 41 07.9 -1.1**
comp=Z,7.4nm,1.2s
GERES GERESS Array B 87.78 40 P **P** **19 15 09.5 -1.6**
GERES GERESS Array B 87.78 40 P **P** **19 15 10.2 -0.9**
comp=Z,0.7nm,0.5s,baz=289,slow=3.0,SNR=3.3
GERES LR LR 19 52 16.5
comp=Z,656nm,18.8s,baz=296,slow=34
comp=Z,0.7nm,0.5s
PRU Pruhonice 87.95 39 AMS AMS 19 51 40.0
comp=Z,800nm,21.7s
KBA Koelnbreinsper 88.07 42 *i* PcP **PcP** **19 15 15.1 +0.7**
comp=Z,9.7nm,1.0s
BIOA Bad Ischl, Aus 88.08 41 *e*pP pP 19 15 15.8 -1.4
comp=Z,12nm,1.7s
BIOA Bad Ischl, Aus 88.08 41 *e*PcP **P'P'df** **19 41 08.2 +0.1**
comp=Z,5.1nm,1.5s
GOPC GO Pecny, Ondr 88.12 39 AMS AMS 19 51 50.0
comp=Z,800nm,19.3s
CKRC Cesky Krumlov 88.17 40 AMS AMS 19 51 30.0
comp=Z,900nm,19.9s
TAM Tamanrasset 88.22 67 IAMs_20 IAMs_20 19 54 15.3
comp=Z,767nm,20.0s
KEST Kesra 88.31 54 P **P** **19 15 13.0 -0.9**
comp=Z,1.5nm,0.6s,baz=266,slow=3.1,SNR=1.3
KEST LR LR 19 52 12.6
comp=Z,185nm,18.7s,baz=265,slow=34
comp=Z,1.5nm,0.6s
MYKA Terra Mystica 88.40 42 *i* pP pP 19 15 17.7 -1.1
comp=Z,7.3nm,1.0s
MYKA Terra Mystica 88.40 42 *i* PcP **P'P'df** **19 41 03.3 -4.3**
comp=Z,4.0nm,1.2s
PRED Cave del Predi 88.41 43 IAmb IAmb 19 15 19.2
comp=Z,9.2nm,0.8s
MOA Molln 88.44 41 *i* pP pP 19 15 18.5 -0.3
comp=Z,4.4nm,0.7s
MOA Molln 88.44 41 *i* pP **P'P'df** **19 41 10.6 +3.2**
comp=Z,4.2nm,1.2s
UPC Upice 88.68 38 AMS AMS 19 55 30.0
comp=Z,600nm,18.7s
TREC Trest 88.75 40 AMS AMS 19 52 00.0
comp=Z,900nm,19.3s
OSTC Ostas 88.79 38 *e*P **P** **19 15 15.3 -0.5**
OSTC *ex* x 19 15 20.0
OSTC Ostas 88.79 38 *e*P **P** **19 15 15.3 -0.5**
OSTC *e* 19 15 20.0
DPC Dobruska-Polom 88.92 38 *e*P **P** **19 15 15.6 -0.8**
DPC *e*pP **pP** **19 15 20.6 -0.5**
DPC Dobruska-Polom 88.92 38 *e*P **P** **19 15 15.6 -0.8**
DPC *e* 19 15 20.6
APA Apatity 89.20 19 || *i*P P 19 15 11.2 -6.1
APA pmax pmax
comp=Z,6.0nm,1.1s
KRLC Kraliky 89.29 39 AMS AMS 19 52 40.0
comp=Z,700nm,20.1s
SOKA Soboth 89.30 42 *e*pP pP 19 15 21.7 -1.3
comp=Z,2.1nm,1.0s
SOKA Soboth 89.30 42 *i* pP **P'P'df** **19 41 04.6 -1.3**
comp=Z,7.1nm,1.6s
KRUC Moravsky 89.39 40 *e*P **P** **19 15 22.8 +4.2**
CONA Conrad Observa 89.43 41 *i* P **P** **19 15 18.1 -0.8**
comp=Z,4.2nm,1.2s
CONA Conrad Observa 89.43 41 *e*P **P'P'df** **19 41 04.6 -1.1**
comp=Z,2.8nm,1.1s
ARSA Arzberg 89.43 41 *i* pP pP 19 15 22.7 -0.9
comp=Z,5.0nm,1.1s
ARSA Arzberg 89.43 41 *i* pP **P'P'df** **19 41 06.4 +0.8**
comp=Z,5.8nm,1.3s
VRAC Vranov 89.43 39 *e*P **P** **19 15 22.7 +3.9**
VRAC Vranov 89.43 39 LR LR 19 53 57.7
comp=Z,649nm,18.6s,baz=284,slow=35
FINES FINESS Array B 89.59 26 P **P** **19 15 18.9 -0.4**
comp=Z,1.2nm,0.6s,baz=265,slow=3.4,SNR=10
FINES LR LR 19 53 10.8
comp=Z,481nm,21.3s,baz=294,slow=34
comp=Z,1.2nm,0.6s
FINES FINESS Array B 89.59 26 *e*P **P** **19 15 21.4 +2.2**
FINES pmax pmax
comp=Z,3.0nm,0.8s
RONA Rosalia, Austr 89.78 41 *i* P **P** **19 15 19.7 -0.8**
comp=Z,2.8nm,0.9s
OKC Ostrava-Krasne 90.20 38 AMS AMS 19 52 50.0
comp=Z,800nm,22.3s
SEY Seymchan 91.06 337 LR LR 20 03 13.1
comp=Z,386nm,18.7s,baz=62,slow=40
SEY Seymchan 91.06 337 *e*P **P** **19 15 27.0 +0.9**
SEY pmax pmax
comp=Z,4.0nm,1.0s
VYHS Vyhne 91.10 40 *e*P P 19 15 31.7 +5.1
VYHS *e*PP **PP** **19 19 07.7 +4.8**
VYHS Vyhne 91.10 40 *e*P P 19 15 31.7 +5.1
VYHS *e* 19 19 07.7
VSU Vasula 91.27 29 *i* P **P** **19 15 30.0 +2.9**
VSU pmax pmax
comp=Z,14nm,0.9s
VAE Valguarnera 91.73 51 LR LR 19 52 11.7
comp=Z,692nm,20.0s,baz=292,slow=33
TIXI Tiksi 91.83 349 P **P** **19 15 30.6 +1.1**
TIXI Tiksi 91.83 349 *i* P **P** **19 15 30.8 +1.4**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
PSZ Piszkesteto 91.97 40 IAMs_20 IAMs_20 19 55 51.7
comp=Z,590nm,20.0s
CUC Castrocucco 91.98 48 IAMs_20 IAMs_20 19 53 30.4
comp=Z,637nm,22.0s
WDD Wied Dalam 92.32 53 IAMs_20 IAMs_20 19 51 49.8
comp=Z,474nm,20.0s
CEL Celeste 92.59 50 IAMs_20 IAMs_20 20 02 32.9
comp=Z,472nm,19.0s
TIP Timpagrande 92.93 49 IAMs_20 IAMs_20 19 56 22.7
comp=Z,588nm,19.0s
HOLU Holmets 93.27 39 P **P** **19 15 38.0 +1.4**
MA2 Magadan 93.54 334 IAMs_20 IAMs_20 20 01 36.9
comp=Z,616nm,20.0s
MA2 Magadan 93.54 334 LR LR 20 02 06.6
comp=Z,395nm,18.1s,baz=51,slow=38
PDG Podgorica 93.58 45 IAMs_20 IAMs_20 19 53 12.7
comp=Z,502nm,21.0s
STNU Starunia 94.47 38 P **P** **19 15 45.4 +3.3**
KSV Kosov 94.98 38 P **P** **19 15 47.2 +2.7**
KSV Kosov 94.98 38 P **P** **19 15 47.2 +2.7**
KLMR Klimovskoe 95.36 23 *e*P **P** **19 15 49.1 +3.2**
KLMR *e* 19 19 38.3
KLMR pmax pmax
comp=Z,21nm,1.3s
HORU Horodok 95.38 37 P **P** **19 15 49.7 +3.4**
HORU Horodok 95.38 37 P **P** **19 15 49.7 +3.4**
RAO Raoul Island 96.20 242 LR LR 19 49 26.9
comp=Z,415nm,21.5s,baz=118,slow=29
AKASG Malin Array Be 96.27 35 LR LR 19 58 53.1
comp=Z,676nm,19.0s,baz=281,slow=35
OBN Obninsk 97.62 28 LR LR 19 59 36.3
comp=Z,347nm,18.6s,baz=315,slow=35
YAK Yakutsk 99.41 343 LR LR 20 09 50.6
comp=Z,435nm,18.5s,baz=30,slow=41
KARP Karpathos 101.97 49 IAMs_20 IAMs_20 20 10 59.0
comp=Z,625nm,21.0s
DZM Mont Dzumac 109.03 251 *e*LR LR 19 53 02.2
comp=Z,756nm,22.6s
GNI Garni 111.21 37 IAMs_20 IAMs_20 20 02 36.6
comp=Z,497nm,18.0s
ULN Ulaanbaatar 117.76 349 IAMs_20 IAMs_20 20 15 24.8
comp=Z,502nm,21.0s
WMQ Urumqi 123.16 4 *e*PKP **PKiKP** **19 21 20.3 +1.2**
WMQ LR LR
comp=Z,1µm,24.1s
WMQ LR LR
comp=Z,1µm,24.2s
WMQ LR LR
comp=Z,600nm,22.3s
HHC Hu-ho-hao-te 123.27 342 *e*PKP **PKPdf** **19 21 14.3 -5.0**
HHC LR LR
comp=Z,300nm,16.0s
HHC LR LR
comp=Z,510nm,16.8s
HHC LR LR
comp=Z,750nm,16.8s
GTA Gaotai 127.18 352 PKP **PKPdf** **19 21 24.4 -2.4**
GTA LR LR
comp=Z,570nm,17.5s
GTA LR LR
comp=Z,680nm,16.3s
GTA LR LR
comp=Z,620nm,23.5s
NJ2 Nanjing 128.17 331 *e*PKP **PKPdf** **19 21 28.2 -0.5**
STKA Stephens Creek 130.96 239 PKP **PKPdf** **19 21 31.5 -2.4**
comp=Z,3.9nm,0.7s,baz=112,slow=4.8,SNR=3.9
TWG Pinlang 134.25 321 IAMs_20 IAMs_20 20 25 28.3
comp=Z,374nm,21.0s
CD2 Chengdu 134.73 346 PKP **PKPdf** **19 21 40.1 -1.1**
CD2 SKS **SKSdf** **19 28 50.7 -1.8**
CD2 SKKS **SKKSac** **19 31 07.2 -2.8**
CD2 LR LR
comp=Z,740nm,25.9s
CD2 LR LR
comp=Z,690nm,28.6s
CD2 LR LR
comp=Z,530nm,27.8s
GYA Guiyang 138.09 340 PKP **PKPdf** **19 21 47.3 -0.4**
GYA PP **PP** **19 24 37.1 +2.7**
GYA LR LR
comp=Z,470nm,19.6s

GYA LR LR
comp=Z,480nm,22.8s
GYA LR LR
comp=Z,640nm,20.1s
WRA Warramunga Arr 138.89 255 PKhKP PKPpre 19 21 40.3
comp=Z,1.7nm,0.9s,baz=124,slow=0.7,SNR=5.4
WRA PKP **PKPdf 19 21 46.7 -2.4**
comp=Z,5.9nm,0.9s,baz=88,slow=2.5,SNR=18
ASAR Alice Springs 138.98 249 PKhKP PKPpre 19 21 41.6
comp=Z,1.5nm,0.8s,baz=112,slow=3.7,SNR=11
ASAR PKP **PKPdf 19 21 47.6 -1.6**
comp=Z,4.6nm,0.7s,baz=108,slow=3.4,SNR=13
PZH PanZhiHua 139.43 346 PKP **PKPdf 19 21 49.5 -0.7**
QIZ Qiongzhong 143.47 331 PKP PKPbc 19 21 55.9 +1.4
QIZ PP **PP 19 25 07.2 -0.3**
QIZ SS SS 19 43 50.2 +2.3
QIZ LR LR
comp=Z,470nm,18.2s
QIZ LR LR
comp=Z,310nm,19.8s
QIZ LR LR
comp=Z,490nm,19.2s
CRAI Chiangrai 145.79 346 PKPdf **PKPab 19 22 02.9 +0.7**
LUWI Luwuk 147.18 289 IAMs_20 IAMs_20 20 14 59.4
comp=Z,340nm,22.0s
CMAR Chiang Mai Arr 147.82 347 PKPbc **PKPdf 19 22 06.2 +1.3**
comp=Z,1.5nm,0.7s,baz=4.9,slow=2.9,SNR=5.3
CMAR Chiang Mai Arr 147.82 347 *e*PKIKP **PKPdf 19 22 05.1 +0.2**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
TOLI2 Tolitoli 148.07 294 **PKPab 19 22 11.7 +0.4**
TOLI2 IAMs_20 IAMs_20 20 15 29.7
comp=Z,296nm,22.0s

CATAC 06 19:09:54.4±1.0, 13°29N×88°06W, h8km±7km, ML3.7, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**82**	*i* P	Pg	19 09 58.8	+0.9
LCND				*i* P	Pg	19 09 58.8	+0.9
LCND				IAML		19 10 03.2	
	comp=Z,46μm,1.0s						
LCND				IAML		19 10 03.2	
	comp=Z,42μm,1.0s						
JUCU	**Jucuarįn**	**0.18**	**260**	*i* P	Pg	19 09 59.1	+0.9
JUCU				IAML		19 10 03.8	
	comp=Z,13μm,1.0s						
CNRM	**Centro Naciona**	**0.21**	**331**	*i* P	Pg	19 09 59.6	+0.8
CNRM				IAML		19 10 05.5	
	comp=Z,43μm,1.0s						
CNCH	**Conchagua**	**0.22**	**92**	*i* P	Pg	19 10 00.0	+1.1
CNCH				IAML		19 10 04.3	
	comp=Z,49μm,1.0s						
RANC	**El Ranchito**	**0.27**	**304**	*i* P	Pb	19 10 00.8	-0.7
RANC				IAML		19 10 09.0	
	comp=Z,5μm,1.0s						
TECO	**Alcaldia de Te**	**0.74**	**290**	*i* P	Pn	19 10 19.1	+7.9
LLGN	**La Laguna**	**1.22**	**316**	*i* P	Pb	19 10 17.0	-0.9
LLGN				IAML		19 10 17.9	
	comp=Z,790nm,1.0s						

*SNET **06** 19:12:42.0±1.0, 13°.30N×88°.07W, h5km±3km, ML3.8*
*CATAC **06** 19:12:42.3±0.2, 13°.28N×88°.07W, h5km±2km, ML3.7*
ISC 06 19:12:42.8±0.9, 13°.31N±0°.04×88°.08W±0°.02, h12km±5km, n44, σ1°96/66, 5C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.17**	**251** ⇑	*i*P	**Pg**	**19 12 46.3**	**-0.5**
JUCU				*e*S	**Sg**	**19 12 49.2**	**-0.5**
JUCU	**Jucuarįn**	**0.17**	**251**	*i* P	**Pg**	**19 12 46.4**	**-0.5**
JUCU				*i* S	**Sg**	**19 12 49.6**	**-0.1**
JUCU				IAML		19 12 55.5	
	comp=Z,23μm,1.0s						
LCND	**La Caada**	**0.18**	**91** ⇑	*e*P	**Pg**	**19 12 46.2**	**-0.8**
LCND				*e*S	**Sg**	**19 12 49.0**	**-0.9**
LCND	**La Caada**	**0.18**	**91**	*i* P	**Pg**	**19 12 45.6**	**-1.4**
LCND				*i* P		19 12 46.1	
LCND				*i* S	**Sg**	**19 12 49.2**	**-0.7**
LCND				IAML		19 12 50.4	
	comp=Z,42μm,1.0s						
CNRM	**Centro Naciona**	**0.18**	**331** ⇓	*i*P	**Pg**	**19 12 46.9**	**-0.1**
CNRM	**Centro Naciona**	**0.18**	**331**	*i* P	**Pg**	**19 12 46.9**	**-0.1**
CNRM				*i* S	**Sg**	**19 12 51.2**	**+1.3**
CNRM				IAML		19 13 03.5	
	comp=Z,130μm,1.0s						
BLLM	**Bellamira**	**0.20**	**310** ⇑	*i*P	**Pg**	**19 12 47.3**	**0.0**
LCY	**Lacayo**	**0.24**	**298**	*e*P	**Pg**	**19 12 48.0**	**0.0**
RANC	**El Ranchito**	**0.24**	**301**	*e*P	**Pg**	**19 12 48.1**	**+0.1**
RANC	**El Ranchito**	**0.24**	**301**	*i* P	**Pg**	**19 12 48.2**	**+0.2**
RANC				*i* S	**Sb**	**19 12 53.1**	**+1.6**
RANC				IAML		19 12 59.4	
	comp=Z,11μm,1.0s						
CNCH	**Conchagua**	**0.24**	**98** ⇓	*i*P	**Pg**	**19 12 47.2**	**-0.8**
CNCH				*e*S	**Pg**	**19 12 51.0**	**+3.0**
CNCH	**Conchagua**	**0.24**	**98**	*i* P	**Pg**	**19 12 51.0**	**+3.0**
TECA	**Tecapa**	**0.45**	**294**	*e*P	**Pg**	**19 12 51.8**	**0.0**
COEB	**Comit de Eme**	**0.48**	**293**	*e*P	**Pg**	**19 12 52.1**	**-0.1**
COEB	**Comit de Eme**	**0.48**	**293**	*i* P	**Pg**	**19 12 52.4**	**+0.1**
COEB				*i* S	**Sb**	**19 12 59.6**	**-0.6**
COEB				IAML		19 13 01.9	
	comp=Z,4μm,1.0s						
PQSS	**Presa 15 de Se**	**0.56**	**304** ⇑	*e*P	**Pg**	**19 12 53.7**	**-0.1**
PQSS	**Presa 15 de Se**	**0.56**	**304**	*i* P	**Pg**	**19 12 53.7**	**-0.1**
PQSS				*i* S	**Sb**	**19 13 04.2**	**+1.6**
PQSS				IAML		19 13 07.8	
	comp=Z,1μm,1.0s						
TECO	**Alcaldia de Te**	**0.72**	**288** ⇓	*e*P	**Pg**	**19 12 56.2**	**-0.6**
TECO	**Alcaldia de Te**	**0.72**	**288**	*i* S	**Sb**	**19 13 07.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.74**	**302**	*i* P	**Pg**	**19 12 57.2**	**-0.1**
SCLA				IAML		19 12 57.8	
	comp=Z,920nm,1.0s						
SCLA				*i* S	**Sb**	**19 13 09.4**	**+1.6**
UESV	**Universidad de**	**0.76**	**295**	*e*P	**Pg**	**19 12 57.3**	**-0.3**
UESV	**Universidad de**	**0.76**	**295**	*i* P	**Pg**	**19 12 57.4**	**-0.2**
UESV				*i* S	**Sn**	**19 13 10.8**	**0.0**
UESV				IAML		19 13 14.4	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**0.84**	**292** ⇓	*i*P	**Pg**	**19 12 58.5**	**-0.6**
COEG	**Centro de Oper**	**0.84**	**292**	*i* P	**Pg**	**19 12 58.5**	**-0.6**
COEG				*i* S	**Sg**	**19 13 09.2**	**-0.9**
COEG				IAML		19 13 14.9	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**0.93**	**296**	*i* P	**Pg**	**19 13 00.4**	**-0.4**
PAVA				*i* S	**Sn**	**19 13 15.8**	**+0.8**
PAVA				IAML		19 13 18.1	
	comp=Z,3μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.08**	**46**	*i* P	**Pg**	**19 13 02.2**	**-1.5**
TGUH				IAML		19 13 02.5	
	comp=Z,3μm,1.0s						
TGUH				*i* S	**Sn**	**19 13 19.1**	**+0.3**
PANCS	**Alcalda de**	**1.11**	**286**	*i* P	**Pg**	**19 13 03.0**	**-1.3**
PANCS				*i* S	**Sg**	**19 13 18.4**	**-0.4**
PANCS				IAML		19 13 20.8	
	comp=Z,3μm,1.0s						
LOMA	**Loma Larga**	**1.11**	**287** ⇑	*e*P	**Pg**	**19 13 03.4**	**-1.0**
LOMA	**Loma Larga**	**1.11**	**287**	*i* P	**Pg**	**19 13 03.3**	**-1.0**
LOMA				*i* S	**Sb**	**19 13 19.7**	**+1.1**
LOMA				IAML		19 13 21.5	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.17**	**121**	*i* P	**Pg**	**19 13 04.3**	**-1.1**
CRIN				*i* S	**Sn**	**19 13 22.4**	**+1.4**
CRIN				IAML		19 13 32.6	
	comp=Z,7μm,1.0s						
LLGN	**La Laguna**	**1.19**	**315**	*e*P	**Pg**	**19 13 04.2**	**-1.6**
LLGN	**La Laguna**	**1.19**	**315**	*i* P	**Pg**	**19 13 04.3**	**-1.6**
LLGN				IAML		19 13 05.5	
	comp=Z,960nm,1.0s						
LLGN				*i* S	**Sb**	**19 13 21.6**	**+0.7**
UEES	**Universidad Ev**	**1.20**	**290**	*i* P	**Pg**	**19 13 05.0**	**-0.9**
UEES				IAML		19 13 27.9	
	comp=Z,950nm,1.0s						
LALI	**Alcalda de L**	**1.22**	**278**	*i* P	**Pg**	**19 13 05.7**	**-0.7**
LALI				*i* S	**Sb**	**19 13 22.5**	**+1.0**
LALI				IAML		19 13 24.6	
	comp=Z,440nm,1.0s						
PIC2	**El Picacho**	**1.22**	**291**	*e*P	**Pg**	**19 13 06.0**	**-0.5**
PMON	**Piamonte**	**1.27**	**288**	*i* P	**Pg**	**19 13 06.5**	**-0.7**
PMON				*i* S	**Sn**	**19 13 24.1**	**+0.7**
PMON				IAML		19 13 28.0	
	comp=Z,2μm,1.0s						

JAYA Jayaque - finc 1.38 285 *e*P **Pn** **19 13 07.7 -0.2**
JAYA Jayaque - finc 1.38 285 *i* P **Pn** **19 13 07.9 -0.1**
JAYA IAML 19 13 08.7
comp=Z,3μm,1.0s
JAYA *i* S **Sb** **19 13 26.5 +0.3**
MTO3 Montecristo 1.65 311 *i* P **Pn** **19 13 11.7 -0.1**
MTO3 IAML 19 13 13.0
comp=Z,810nm,1.0s
MOMN Momotombo 1.75 121 *i* P **Pn** **19 13 12.9 -0.1**
MOMN *i* S **Sn** **19 13 36.0 +0.8**
MOMN IAML 19 13 43.6
comp=Z,24nm,1.0s
MOM2 El Cardon 1.78 119 *i* S **Sn** **19 13 36.3 +0.4**
COPN Copaltepe 1.84 128 *i* P **Pn** **19 13 13.3 -0.9**
COPN IAML 19 13 39.9
comp=Z,470nm,1.0s
APYN Apoyeque 2.00 122 *i* P **Pn** **19 13 16.5 +0.1**
APYN IAML 19 13 19.5
comp=Z,810nm,1.0s
ORTG Ortega, Santa 3.90 139 *i* P **Pn** **19 13 42.8 +0.2**
ORTG IAML 19 13 46.7
comp=Z,85nm,1.0s

CATAC 06 19:19:23.1±0.9, 13°22N×88°06W, h10km±5km, ML2.8, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarįn**	**0.19**	**280**	*i* P	Pg	19 19 28.5	+1.3
JUCU				*i* S	Sg	19 19 31.5	+1.5
CNCH	**Conchagua**	**0.22**	**76**	*i* P	Pg	19 19 28.6	+0.8
RANC	**El Ranchito**	**0.31**	**313**	*i* P	Pb	19 19 30.5	-0.3
RANC				*i* S	Sb	19 19 35.4	-0.6
RANC				IAML		19 19 36.1	
	comp=Z,750nm,1.0s						
PACA	**Pacayal**	**0.36**	**314**	*i* P	Pb	19 19 31.5	-0.2
PACA				IAML		19 19 42.1	
	comp=Z,4μm,1.0s						
COEB	**Comit de Eme**	**0.54**	**301**	*i* P	Pb	19 19 34.2	-0.5
COEB				IAML		19 19 43.4	
	comp=Z,510nm,1.0s						
PQSS	**Presa 15 de Se**	**0.63**	**309**	*i* P	Pb	19 19 36.4	+0.1
PQSS				IAML		19 19 45.8	
	comp=Z,160nm,1.0s						
TECO	**Alcaldia de Te**	**0.77**	**294**	*i* S	Sb	19 19 49.0	-0.2
SCLA	**Alcaldia de Sa**	**0.81**	**306**	*i* P	Pg	19 19 38.6	-0.1
SCLA				IAML		19 19 41.4	
	comp=Z,150nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.13**	**42**	*i* P	Pb	19 19 44.0	-0.8
TGUH				IAML		19 21 55.8	
	comp=Z,280nm,1.0s						

*SNET **06** 19:21:34.9±0.6, 13°.36N×88°.01W, h11km±5km, ML3.4*
CATAC 06 19:21:35.2±0.4, 13°22N×88°06W, h5km±3km, ML2.7, 2C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.18**	**62**	*i* P	Pg	19 21 39.1	+0.2
LCND				*i* P		19 21 39.2	
LCND				*i* S	Sg	19 21 42.3	+1.0
JUCU	**Jucuarįn**	**0.19**	**279**	*i* P	Pg	19 21 39.7	+0.7
JUCU				*i* S	Sg	19 21 43.1	+1.6
JUCU				IAML		19 21 44.5	
	comp=Z,4μm,1.0s						
JUCU	**Jucuarįn**	**0.19**	**279**	IAML		19 21 44.5	
	comp=Z,4μm,1.0s						
CNCH	**Conchagua**	**0.22**	**76** ⇑	*i*P	Pg	19 21 40.1	+0.4
CNCH				*e*S	Sg	19 21 43.4	+0.8
CNCH				IAML		19 21 46.1	
	comp=Z,8μm,0.2s						
CNCH	**Conchagua**	**0.22**	**76**	IAML		19 21 45.8	
	comp=Z,8μm,1.0s						
CNRM	**Centro Naciona**	**0.27**	**336**	*i* P	Pg	19 21 40.8	+0.2
CNRM				*i* S	Sg	19 21 45.1	+0.9
VSM	**San Miguel**	**0.29**	**314**	*e*P	Pg	19 21 41.6	+0.6
LCY	**Lacayo**	**0.30**	**311** ⇑	*e*P	Pg	19 21 41.7	+0.5
RANC	**El Ranchito**	**0.31**	**313**	*i* P	Pg	19 21 41.6	+0.3
RANC				*i* S	Sg	19 21 46.6	+1.2
RANC				IAML		19 21 47.9	
	comp=Z,680nm,1.0s						
PACA	**Pacayal**	**0.36**	**313**	*e*P	Pg	19 21 42.5	+0.3
PACA				*e*S	Sg	19 21 47.7	+0.8
PACA	**Pacayal**	**0.36**	**313**	*i* S	Sg	19 21 48.4	+1.5
TECA	**Tecapa**	**0.51**	**302**	*e*P	Pg	19 21 45.3	+0.2
COEB	**Comit de Eme**	**0.54**	**301**	*i* P	Pg	19 21 45.6	+0.1
COEB				*i* S	Sg	19 21 53.1	+0.6
COEB				IAML		19 21 59.1	
	comp=Z,270nm,1.0s						
PQSS	**Presa 15 de Se**	**0.63**	**309**	*i* P	Pg	19 21 47.5	+0.1
PQSS				*i* S	Sg	19 21 56.3	+0.7
PQSS				IAML		19 21 57.7	
	comp=Z,140nm,1.0s						
CRIN	**San Cristobal**	**1.11**	**118**	*i* P	Pg	19 21 56.2	-0.3
CRIN				IAML		19 21 56.8	
	comp=Z,990nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.13**	**43**	*i* P	Pn	19 22 10.2	+12
MOM2	**El Cardon**	**1.72**	**117**	*i* P	Pn	19 22 05.5	-0.3
MOM2				*i* S	Sb	19 22 29.1	-0.2
MOM2				IAML		19 22 32.4	
	comp=Z,51nm,1.0s						
NUBE	**Las Nubes**	**1.81**	**292**	*i* P	Pn	19 22 06.5	-0.7
NUBE				*i* S	Sb	19 22 31.3	-0.6
NUBE				IAML		19 23 39.3	
	comp=Z,83nm,1.0s						

*IDC **06** 19:27:44.3±0.5, 43°.88S×40°.75E, h0km, mb4.1/17, mbtmp4.1/19, ML3.7/2, Error ellipse: s-maj=20.2km s-min=16.1km az=59.0*
*NEIC **06** 19:27:45.3±2.7, 43°.6S±0°.1×40°.9E±0°.2, h10km±1km, mb4.7/26, Error ellipse: s-maj=20.7km s-min=16.9km az=46.0*
*GCMT **06** 19:27:48.3±0.4, 43°.90S±0°.03×40°.74E±0°.03, h26km±1km, MW5.2/68, Moment Tensor Solution. s34,c37; s68,c82; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.25±.40; $M_{\theta\theta}$=1.18±.34; $M_{\phi\phi}$=2.07±.32; $M_{r\theta}$=1.35±.52; $M_{\theta\phi}$=-4.41±.24; $M_{\phi r}$=4.60±.63; Best double couple: M_0=7.09300×10^{16} NP1:ϕ_s174.00000°, δ71.00000°, λ-50.00000°. NP2: ϕ_s284.00000°, δ44.00000°, λ-152.00000°. Principal axes: T 6.8120, Plg17.0000°, Azm235.0000°; N 0.5620, Plg38.0000°, Azm338.0000°; P -7.3740, Plg48.0000°, Azm126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 19:27:45.0±0.4, 43.72S±0.08×40.81E±0.10, h10km, n56, σ1°65/51, mb4.5/25, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**15.35**	**308**	Pn	**Pn**	**19 31 19.2**	**-2.5**
POGA	**Pongola**	**17.91**	**333**	Pn	**Pn**	**19 31 51.6**	**-2.6**
SUR	**Sutherland**	**19.34**	**299**		**Pn**	**19 32 11.9**	**+0.2**
SUR	**Sutherland**	**19.34**	**299**	P	**Pn**	**19 32 11.8**	**+0.1**
	0.3nm,0.3s,baz=142,slow=14,SNR=6.1 6.4nm,0.8s						
BOSA	**Boshof**	**19.57**	**315**	P	**P**	**19 32 13.2**	**+0.2**
BOSA	**Boshof**	**19.57**	**315**	P	**Pn**	**19 32 13.8**	**-0.6**
	0.1nm,0.3s,baz=132,slow=8.6,SNR=4.6 4.3nm,1.1s						
LBTB	**Lobatse**	**22.42**	**321**	P	**P**	**19 32 43.6**	**-0.4**
MAW	**Mawson**	**26.67**	**161**	P	**P**	**19 33 23.0**	**-0.6**
	3.5nm,0.8s,baz=300,slow=7.7,SNR=4.7 3.5nm,0.8s						
TSUM	**Tsumeb**	**31.26**	**314**	P	**P**	**19 34 03.2**	**-1.8**
TSUM				IAmb	IAmb	19 34 06.7	
	comp=Z,7.5nm,1.1s						
SNAA	**Sanae**	**34.99**	**202**	P	**P**	**19 34 33.3**	**-3.7**
SNAA				IAmb	IAmb	19 34 43.2	
	comp=Z,15nm,1.1s						
SNAA	**Sanae**	**34.99**	**202**	P	**P**	**19 34 36.0**	**-1.0**
	comp=Z,7.4nm,1.1s,baz=29,slow=13,SNR=3.3 comp=Z,7.4nm,1.1s						
QSPA	**South Pole Qui**	**46.49**	**180**	P	**P**	**19 36 10.6**	**-1.5**
QSPA				IAmb	IAmb	19 36 19.4	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**46.49**	**180**	P	**P**	**19 36 09.9**	**-2.2**
	comp=Z,5.5nm,1.1s,baz=241,slow=6.3,SNR=6.8 comp=Z,5.5nm,1.1s						
HOPE	**Hope Point**	**49.36**	**229**	P	**P**	**19 36 36.1**	**+2.0**
VNDA	**Vanda**	**53.78**	**167**	P	**P**	**19 37 06.0**	**-1.0**
	comp=Z,1.1nm,1.1s,baz=236,slow=8.5,SNR=3.0 comp=Z,1.1nm,1.1s						
SBA	**Scott Base**	**54.35**	**168**	P	**P**	**19 37 12.3**	**+1.2**
SBA				IAmb	IAmb	19 37 19.3	
	comp=Z,12nm,1.4s						
H01W2	**Cape Leeuwin H**	**55.72**	**108**	T	T	20 37 45.4	
	baz=238,slow=75,SNR=15						
H01W3	**Cape Leeuwin H**	**55.73**	**108**	T	T	20 37 43.0	
	baz=238,slow=75,SNR=19						
H01W1	**Cape Leeuwin H**	**55.74**	**108**	T	T	20 37 47.7	
	baz=238,slow=75,SNR=22						
MORW	**Morawa**	**60.35**	**103**	P	**P**	**19 37 52.0**	**-2.2**
TORD	**Torodi Ar. Bea**	**66.90**	**318**	P	**P**	**19 38 38.5**	**+1.1**
TORD				IAmb	IAmb	19 38 44.4	
	comp=Z,3.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.90**	**318**	P	**P**	**19 38 38.7**	**+1.3**
	comp=Z,1.6nm,1.1s,baz=128,slow=4.6,SNR=4.9 comp=Z,1.6nm,1.1s						
RAYN	**Ar Rayn**	**67.05**	**5**	P	**P**	**19 38 36.0**	**-2.2**
PLCA	**Paso Flores**	**75.70**	**227**	P	**P**	**19 39 32.1**	**+1.5**
	comp=Z,0.7nm,1.0s,baz=141,slow=8.7,SNR=1.4 comp=Z,0.7nm,1.0s						
STKA	**Stephens Creek**	**75.73**	**120**	P	**P**	**19 39 30.6**	**-0.3**
STKA				IAmb	IAmb	19 39 38.5	
	comp=Z,3.4nm,0.8s						
STKA	**Stephens Creek**	**75.73**	**120**	P	**P**	**19 39 31.6**	**+0.8**
	comp=Z,4.7nm,0.8s,baz=264,slow=3.7,SNR=9.0 comp=Z,4.7nm,0.8s						
ASAR	**Alice Springs**	**76.17**	**109**	P	**P**	**19 39 32.1**	**-1.4**
ASAR	**Alice Springs**	**76.17**	**109**	P	**P**	**19 39 34.6**	**+1.1**
	comp=Z,3.1nm,1.1s,baz=222,slow=5.6,SNR=7.1 comp=Z,3.1nm,1.1s						
CPUP	**Villa Florida**	**77.78**	**245**	P	**P**	**19 39 41.6**	**-0.8**
CPUP				IAmb	IAmb	19 39 47.5	
	comp=Z,7.9nm,1.1s						
CPUP	**Villa Florida**	**77.78**	**245**	P	**P**	**19 39 43.3**	**+0.9**
	comp=Z,3.6nm,0.9s,baz=137,slow=3.9,SNR=4.2 comp=Z,3.6nm,0.9s						
BDFB	**Brasilia**	**78.53**	**259**	P	**P**	**19 39 44.3**	**-2.6**
BDFB				IAmb	IAmb	19 39 58.2	
	comp=Z,11nm,1.1s						
BDFB	**Brasilia**	**78.53**	**259**	P	**P**	**19 39 48.4**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=123,slow=5.4,SNR=3.5 comp=Z,2.8nm,0.9s						
WRA	**Warramunga Arr**	**78.96**	**107**	P	**P**	**19 39 50.8**	**+1.7**
	comp=Z,1.9nm,1.1s,baz=217,slow=4.4,SNR=5.1 comp=Z,1.9nm,1.1s						
CMAR	**Chiang Mai Arr**	**81.57**	**55**	P	**P**	**19 40 02.2**	**-0.7**
CMAR	**Chiang Mai Arr**	**81.57**	**55**	P	**P**	**19 40 04.6**	**+1.6**
	comp=Z,0.9nm,0.8s,baz=232,slow=5.9,SNR=13 comp=Z,0.9nm,0.8s						
GURO	**Guroymak-BITLI**	**81.90**	**1**	P	**P**	**19 40 05.2**	**+0.9**
GURO				IAmb	IAmb	19 40 13.9	
	comp=Z,5.2nm,1.1s						
BNN	**Bunyan**	**82.31**	**356**	P	**P**	**19 40 08.4**	**+1.8**
BNN				IAmb	IAmb	19 40 23.2	
	comp=Z,8.6nm,1.0s						
GEYT	**Alibeck**	**82.77**	**14**	P	**P**	**19 40 08.5**	**-0.3**
GEYT				IAmb	IAmb	19 40 16.6	
	comp=Z,4.9nm,0.9s						
GEYT	**Alibeck**	**82.77**	**14**	P	**P**	**19 40 11.7**	**+2.9**
	comp=Z,3.0nm,0.9s,baz=251,slow=9.2,SNR=8.1 comp=Z,3.0nm,0.9s						
BRTR	**Keskin Array B**	**83.31**	**354**	P	**P**	**19 40 08.0**	**-3.8**
BRTR	**Keskin Array B**	**83.31**	**354**	P	**P**	**19 40 12.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=165,slow=5.1,SNR=7.9 comp=Z,1.2nm,0.8s						
AC02	**Maricunga**	**84.93**	**237**	P	**P**	**19 40 21.8**	**+0.8**
AC02				IAmb	IAmb	19 40 32.2	
	comp=Z,6.9nm,0.9s						
CHGR	**Chuyangaron**	**85.92**	**22**	P	**P**	**19 40 24.4**	**-0.5**
KBZ	**Khabaz**	**87.08**	**2**	P	**P**	**19 40 31.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=190,slow=12,SNR=1.5 comp=Z,0.8nm,0.8s						
KIV	**Kislovodsk**	**87.30**	**1**	P	**P**	**19 40 33.1**	**+1.6**
PZH	**PanZhiHua**	**89.43**	**52**	P	**P**	**19 40 45.2**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MLR	**Muntele Rosu**	**89.80**	**350**		**P**	**19 40 43.6**	**+0.3**
LPAZ	**La Paz**	**91.95**	**245**	P	**P**	**19 40 57.0**	**+2.2**
	comp=Z,0.4nm,0.4s,baz=152,slow=3.6,SNR=2.1 comp=Z,0.4nm,0.4s						
ESDC	**Sonseca Array**	**92.33**	**327**	P	**P**	**19 40 56.2**	**+1.0**
	comp=Z,0.5nm,0.9s,baz=209,slow=2.7,SNR=4.6 comp=Z,0.5nm,0.9s						
CD2	**Chengdu**	**93.93**	**50**	P	**P**	**19 41 03.4**	**+0.6**
WMQ	**Urumqi**	**96.69**	**32**	*e*P	P	19 41 21.3	+6.2
WMQ				pmax	pmax		
	comp=Z,13nm,0.7s						
WMQ				LR	LR		
	comp=N,1μm,17.9s						
WMQ				LR	LR		
	comp=E,1μm,21.9s						
WMQ				LR	LR		
	comp=Z,820nm,21.9s						
LZH	**Lanzhou**	**97.91**	**47**	*e*P	Pdif	19 41 27.1	+6.2
LZH				pP	sP	19 41 31.5	+6.7
LZH				pmax	pmax		
	comp=Z,14nm,1.2s						
TXAR	**Lajitas Array**	**148.31**	**255**	PKPbc	**PKPbc**	**19 47 31.2**	**-0.3**
	comp=Z,2.2nm,1.1s,baz=133,slow=5.3,SNR=9.5						
ULM	**Lac du Bonnet**	**150.08**	**298**	PKPbc	**PKPbc**	**19 47 34.7**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=31,slow=3.5,SNR=2.1						
ANMO	**Albuquerque**	**153.35**	**262**	PKPbc	**PKiKP**	**19 47 44.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=243,slow=6.8,SNR=2.0						
YKA	**Yellowknife Ar**	**156.36**	**331**	PKP	**PKPdf**	**19 47 39.6**	**+0.9**
	comp=Z,0.7nm,1.1s,baz=28,slow=2.8,SNR=2.0						

*MOS **06** 19:32:32.3±1.2, 43°.86S×40°.50E, h10km, mb5.3/28, Error ellipse: s-maj=18.3km s-min=8.3km az=96.4*
*IDC **06** 19:32:32.3±0.4, 43°.90S×40°.59E, h0km, mb4.5/24, mbtmp4.5/26, ML4.0/2, MS4.6/30, Error ellipse: s-maj=16.5km s-min=12.9km az=65.0*
*NEIC **06** 19:32:33.4±2.3, 43°.85S±0°.10×40°.8E±0°.2, h10km±1km, mb5.2/68, Error ellipse: s-maj=19.6km s-min=15.9km az=68.0*
*GCMT **06** 19:32:35.4±0.2, 43°.74S±0°.01×40°.63E±0°.01, h16km, MW5.3/128, Moment Tensor Solution. s65,c92; s128,c226; Duration: 181 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.58±.03; $M_{\theta\theta}$=0.31±.02; $M_{\phi\phi}$=0.27±.02; $M_{r\theta}$=0.18±.06; $M_{\theta\phi}$=-0.82±.01; $M_{\phi r}$=0.50±.06; Best double couple: M_0=1.09900×10^{17} NP1:ϕ_s168.00000°, δ65.00000°, λ-42.00000°. NP2:ϕ_s279.00000°, δ52.00000°, λ-148.00000°. Principal axes: T 1.1470, Plg8.0000°, Azm227.0000°; N -0.0950, Plg42.0000°, Azm324.0000°; P -1.0520, Plg47.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
**ISC 06 19:32:33.8±0.3, 43.91S±0.05×40.64E±0.07, h10km, n326, σ

SNR=9.0
ABPO Ambohimpanom 25.43 15 P **P** **19 38 02.2 +0.3**
ABPO IAmb IAmb 19 38 10.2
comp=Z,43nm,1.1s
ABPO Ambohimpanom 25.43 15 P **P** **19 38 02.2 +0.3**
ABPO pmax pmax
comp=Z,43nm,1.1s
OPO Ambohidratompo 25.86 14 LR LR 19 46 39.2
comp=Z,4µm,20.0s,baz=358,slow=33
MAW Mawson 26.52 161 P **P** **19 38 12.3 +1.2**
comp=Z,8.9nm,0.7s,baz=334,slow=9.1,SNR=12
MAW LR LR 19 46 09.1
comp=Z,1µm,20.8s,baz=325,slow=31
comp=Z,8.9nm,0.7s
WIN Windhoek 28.82 310 P **P** **19 38 31.2 -1.2**
WIN Windhoek 28.82 310 P **P** **19 38 31.2 -1.2**
WIN pmax pmax
comp=Z,26nm,1.3s
ELIB Princess Elisa 29.33 191 *d*P **P** **19 38 33.8 -2.6**
comp=Z,21nm,0.7s
ELIB *d*PP **PnPn** **19 39 22.4 -7.1**
LSZ Lusaka 30.45 336 P **P** **19 38 44.0 -2.8**
LSZ Lusaka 30.45 336 P **P** **19 38 45.9 -0.9**
LSZ Lusaka 30.45 336 P **P** **19 38 44.0 -2.8**
LSZ pmax pmax
comp=Z,15nm,0.9s
NVL N'lazarevskaya 30.46 198 *e*P **P** **19 38 46.9 +0.7**
NVL *e*S **S** **19 43 49.9 +3.0**
NVL pmax pmax
comp=Z,47nm,1.2s
NVL MLR MLR
comp=Z,1µm,17.0s
TSUM Tsumeb 31.31 315 LR LR 19 50 27.4
comp=Z,1µm,18.1s,baz=242,slow=34
SNAA Sanae 34.76 202 P **P** **19 39 24.9 +1.1**
SNAA IAmb IAmb 19 39 31.5
comp=Z,84nm,1.5s
SNAA Sanae 34.76 202 ⇑P **P** **19 39 25.7 +1.8**
comp=Z,156nm,0.9s
SNAA Sanae 34.76 202 P **P** **19 39 25.0 +1.1**
comp=Z,11nm,1.0s,baz=48,slow=7.9,SNR=5.7
SNAA LR LR 19 50 41.1
comp=Z,1µm,18.8s,baz=23,slow=31
comp=Z,11nm,1.0s
SNAA Sanae 34.76 202 *ce*P **P** **19 39 23.4 -0.5**
SNAA pmax pmax
comp=Z,31nm,1.3s
VNA2 Neumayer--Watz 35.75 205 ⇓P **P** **19 39 35.0 +2.6**
comp=Z,6.6nm,0.5s,baz=65,slow=6.8
KMBO Kilima Mbogo 42.71 355 LR LR 19 55 15.0
comp=Z,5.3nm,21.9s,baz=134,slow=32
CASY Casey 42.90 146 P **P** **19 40 30.1 -1.9**
MBAR Mbarara 44.02 346 P **P** **19 40 39.9 -1.9**
MBAR Mbarara 44.02 346 P **P** **19 40 42.2 +0.4**
MBAR Mbarara 44.02 346 *i* P **P** **19 40 41.0 -0.8**
MBAR pmax pmax
comp=Z,11nm,0.9s
BELA Belgrano 2 44.41 197 P **P** **19 40 44.3 +0.2**
QSPA South Pole Qui 46.30 180 P **P** **19 40 58.5 -0.8**
QSPA IAmb IAmb 19 41 01.3
comp=Z,59nm,1.5s
QSPA South Pole Qui 46.30 180 P **P** **19 40 58.6 -0.8**
comp=Z,9.5nm,1.0s,baz=271,slow=2.4,SNR=24
QSPA LR LR 19 58 52.1
comp=Z,1µm,19.2s,baz=247,slow=34
comp=Z,9.5nm,1.0s
LODK Lodwar 47.36 353 P **P** **19 41 09.5 +1.4**
VNDA Vanda 53.62 167 P **P** **19 41 53.0 -1.7**
VNDA Vanda 53.62 167 P **P** **19 41 54.5 -0.1**
comp=Z,1.6nm,0.7s,baz=265,slow=6.8,SNR=9.3
VNDA LR LR 20 03 13.3
comp=Z,328nm,18.1s,baz=194,slow=34
comp=Z,1.6nm,0.7s
SBA Scott Base 54.18 168 P **P** **19 41 59.3 +0.6**
SBA Scott Base 54.18 168 P **P** **19 41 59.3 +0.6**
SBA pmax pmax
comp=Z,81nm,1.7s
H01W2 Cape Leeuwin H 55.77 108 T T 20 42 27.2
baz=238,slow=75,SNR=23
H01W3 Cape Leeuwin H 55.78 108 T T 20 42 30.1
baz=238,slow=75,SNR=29
H01W1 Cape Leeuwin H 55.79 108 T T 20 42 26.1
baz=238,slow=75,SNR=30
PMSA Palmer Station 56.91 210 LR LR 20 02 26.6
comp=Z,665nm,19.6s,baz=108,slow=32
ABTO Aybut 62.06 14 P **P** **19 42 55.6 +1.0**
PALK Pallekele 62.49 46 LR LR 20 03 07.6
comp=Z,949nm,21.3s,baz=345,slow=29
PALK Pallekele 62.49 46 P **P** **19 42 59.7 +2.0**
WHFO Wadi Hawf 62.69 14 P **P** **19 42 59.2 +0.4**
DOK Doka 63.44 14 P **P** **19 43 03.3 -0.4**
KIC Kosan Boka 64.63 308⇑ *e*PKP2 **P** **19 43 11.4 -0.3**
comp=Z,13nm,0.9s
LIC Lamto 64.68 308⇑ *e*PKP2 **P** **19 43 12.0 0.0**
comp=Z,24nm,0.9s
DBIC Dimbokro 64.95 309 P **P** **19 43 12.7 -1.1**
comp=Z,8.6nm,0.9s,baz=130,slow=7.3,SNR=8.5
DBIC LR LR 20 08 39.4
comp=Z,572nm,20.0s,baz=210,slow=33
comp=Z,8.6nm,0.9s
TIC Toumodi 65.02 308⇑ *e*PKP2 **P** **19 43 12.9 -1.4**
comp=Z,11nm,0.6s
MHTO MHTO 66.51 18 P **P** **19 43 22.9 -0.7**
SNR=8.8
MHTO S **S** **19 52 17.4 +3.1**
TOA0 Torodi Ar. Sit 66.96 318 P **P** **19 43 25.9 -0.8**
TOA0 IAmb IAmb 19 43 37.2
comp=Z,36nm,1.5s
TOA0 Torodi Ar. Sit 66.96 318 P **P** **19 43 27.5 +0.8**
TOA0 P **P** **19 43 27.5 +0.8**
TORD Torodi Ar. Bea 66.96 318 P **P** **19 43 26.0 -0.7**
TORD IAmb IAmb 19 43 37.1
comp=Z,34nm,1.6s
TORD Torodi Ar. Bea 66.96 318 P **P** **19 43 26.4 -0.3**
comp=Z,5.7nm,1.0s,baz=137,slow=5.8,SNR=19
TORD LR LR 20 10 16.2
comp=Z,277nm,21.5s,baz=208,slow=34
comp=Z,5.7nm,1.0s
RAYN Ar Rayn 67.25 5 P **P** **19 43 27.9 -0.5**
RAYN Ar Rayn 67.25 5 P **P** **19 43 30.3 +1.9**
RAYN Ar Rayn 67.25 5 P **P** **19 43 27.9 -0.5**
RAYN pmax pmax
comp=Z,65nm,1.9s
MZR Muzera 67.62 13 P **P** **19 43 31.8 +1.1**
JMDO Jabal Madar 67.88 17 P **P** **19 43 34.8 +2.5**
JLN Jalan Bani Buh 67.96 19 P **P** **19 43 35.1 +2.3**
BSY Bisya 68.05 16 P **P** **19 43 34.7 +1.3**
WBK Wadi Bani Khal 68.30 18 P **P** **19 43 39.0 +4.0**
ARQ Araqi 68.49 16 P **P** **19 43 39.9 +3.8**
SMDO Samad 68.53 17 P **P** **19 43 37.7 +1.1**
SMDO P **P** **19 43 37.7 +1.1**
LEM Lembang 68.76 79 LR LR 20 09 03.1
comp=Z,435nm,18.2s,baz=205,slow=32
WSAR Wadi Sarin 68.83 18 P **P** **19 43 37.1 -1.2**
HOQ Hoqain 68.89 16 P **P** **19 43 42.3 +3.7**
HOQ P **P** **19 43 42.3 +3.7**
SMRA Abu-Samra 68.96 10 P P 19 43 44.4 +5.4
ALNE Al Ain 69.04 15 P **P** **19 43 41.4 +1.8**
SOHO SOHO 69.27 16 P **P** **19 43 42.0 +1.1**
ASUD Al Ashush, Dub 69.52 14 P **P** **19 43 43.7 +1.2**
ASHO Ashiyiah 69.71 15 P **P** **19 43 44.9 +1.2**
CAM01 Campos-RJ 69.79 259 *e*P **P** **19 43 45.7 +1.2**
HATD Hatta, Dubai 69.86 15 P **P** **19 43 45.7 +1.1**
ALF01 Guarapari-ES 69.91 260 *e*P **P** **19 43 46.2 +1.0**
UOSS Minazif 69.99 15 P **P** **19 43 47.3 +1.9**
HYB Hyderabad 70.20 39 *e*P **P** **19 43 45.8 -1.1**
HYB *e* 19 43 52.5
MDH Madha 70.36 15 P **P** **19 43 51.7 +4.0**
SHME Shamm 71.06 15 P **P** **19 43 55.4 +3.5**
PLTB Pedras Altas 71.55 244 *e*P **P** **19 43 56.6 +1.5**
CPSB Cacapava Do Su 72.33 245 *e*P **P** **19 44 01.2 +1.4**
BSCB Bom Sucesso 72.53 258 *e*P **P** **19 44 02.2 +1.0**
TRQA Tornquist 72.56 234 P **P** **19 44 01.9 +0.8**
TRQA IAmb IAmb 19 44 07.1
comp=Z,38nm,1.4s
TRQA Tornquist 72.56 234 P **P** **19 44 01.9 +0.8**
TRQA pmax pmax
comp=Z,38nm,1.4s
KULM Kulim 72.76 65 P **P** **19 43 60.0 -2.5**
KULM IAmb IAmb 19 44 10.4
comp=Z,46nm,1.5s
VAO Valinhos 72.76 255 *e*P **P** **19 44 02.6 +0.1**
RODS Rosario do Sul 73.51 244 *e*P **P** **19 44 08.2 +1.4**
DIAM Diamantina, MG 73.52 260 *e*P **P** **19 44 06.1 -1.0**
TAM Tamanrasset 73.78 326 P **P** **19 44 07.4 -1.0**
TAM Tamanrasset 73.78 326 P **P** **19 44 07.4 -1.0**
TAM pmax pmax
comp=Z,12nm,1.5s
TOO Toolangi 74.19 127 P **P** **19 44 12.4 +1.7**
TOO pmax pmax
comp=Z,31nm,1.6s
UNIS Unistalda (Bra 74.27 245 *e*P **P** **19 44 10.8 -0.5**
PSAL Palomas, Salto 74.57 242 *e*P **P** **19 44 14.4 +1.4**
ITQB Itaqui 74.88 243 P **P** **19 44 14.3 -0.4**
ITQB Itaqui 74.88 243 *e*P **P** **19 44 15.2 +0.4**
PMNB Patos De Minas 75.33 258 *e*P **P** **19 44 17.9 +0.3**
PLCA Paso Flores 75.48 227 P **P** **19 44 18.1 0.0**
comp=Z,1.9nm,0.9s,baz=132,slow=6.4,SNR=9.0
PLCA LR LR 20 11 35.2
comp=Z,366nm,21.9s,baz=138,slow=31
comp=Z,1.9nm,0.9s
PLCA Paso Flores 75.48 227 *e*P **P** **19 44 19.8 +1.6**
STKA Stephens Creek 75.73 120 P **P** **19 44 19.3 -0.4**
STKA Stephens Creek 75.73 120 P **P** **19 44 20.2 +0.5**
comp=Z,25nm,0.9s,baz=218,slow=3.4,SNR=32
comp=Z,25nm,0.9s
STKA Stephens Creek 75.73 120 *i* P **P** **19 44 19.7 0.0**
BALJ Balqa 75.77 356 P **P** **19 44 19.2 -0.4**
BALJ IAmb IAmb 19 44 26.4
comp=Z,22nm,0.9s
JANB Januaria 76.12 262 *e*P **P** **19 44 21.0 -1.2**
ASAR Alice Springs 76.22 110 P **P** **19 44 21.7 -0.9**
ASAR Alice Springs 76.22 110 P **P** **19 44 22.6 0.0**
comp=Z,7.2nm,1.1s,baz=219,slow=6.7,SNR=20
comp=Z,7.2nm,1.1s
RCBR Riachuelo 76.29 275 LR LR 20 09 47.3
comp=Z,125nm,21.5s,baz=72,slow=29
PCMB Pacaembu 76.66 253 *e*P **P** **19 44 27.1 +2.0**
MMAI Mount Meron Ar 76.71 355 P **P** **19 44 24.6 -0.4**
comp=Z,2.9nm,0.8s,baz=157,slow=7.8,SNR=2.4
comp=Z,2.9nm,0.8s
IPMB Ipameri, GO 76.95 258 *e*P **P** **19 44 27.7 +0.9**
CPUP Villa Florida 77.59 246 P **P** **19 44 30.2 0.0**
CPUP IAmb IAmb 19 44 36.2
comp=Z,23nm,1.1s
CPUP Villa Florida 77.59 246 P **P** **19 44 29.7 -0.5**
comp=Z,3.7nm,0.9s,baz=145,slow=5.3,SNR=15
CPUP LR LR 20 13 43.8
comp=Z,298nm,18.0s,baz=145,slow=32
comp=Z,3.7nm,0.9s
CPUP Villa Florida 77.59 246 P **P** **19 44 30.2 0.0**
CPUP pmax pmax
comp=Z,23nm,1.1s
CPUP Villa Florida 77.59 246 *e*P **P** **19 44 29.9 -0.4**
CAN Canberra 77.78 127 P **P** **19 44 29.7 -1.5**
CAN pmax pmax
comp=Z,30nm,1.2s
SDBA SAO DESIDERIO 78.32 264 *e*P **P** **19 44 35.3 +0.8**
AMBA Amambai (Brazi 78.33 250 *e*P **P** **19 44 35.6 +1.2**
BDFB Brasilia 78.37 260 P **P** **19 44 35.3 +0.4**
BDFB IAmb IAmb 19 44 47.0
comp=Z,29nm,1.2s
BDFB Brasilia 78.37 260 P **P** **19 44 33.5 -1.4**
comp=Z,3.6nm,0.8s,baz=158,slow=6.3,SNR=5.2
BDFB LR LR 20 12 03.8
comp=Z,457nm,21.6s,baz=140,slow=30
comp=Z,3.6nm,0.8s
BDFB Brasilia 78.37 260 P **P** **19 44 35.3 +0.4**
BDFB pmax pmax
comp=Z,29nm,1.2s
WRA Warramunga Arr 79.02 107 P **P** **19 44 37.8 -0.4**
comp=Z,5.6nm,1.1s,baz=220,slow=4.5,SNR=14
comp=Z,5.6nm,1.1s
NBCL Cascavel-CE 79.11 275 *e*P **P** **19 44 40.2 +1.5**
NBPB Pedra_Branca-C 79.14 273 *e*P **P** **19 44 39.6 +0.7**
HRA Herat 80.38 18 P **P** **19 44 44.4 -1.0**
HRA IAmb IAmb 19 44 51.2
comp=Z,24nm,1.1s
AQDB Aquidauana 80.47 251 P **P** **19 44 45.6 -0.5**
AQDB IAmb IAmb 19 44 57.7
comp=Z,39nm,1.3s
AQDB Aquidauana 80.47 251 *e*P **P** **19 44 46.8 +0.7**
GAZ Gaziantep 80.77 357 P **P** **19 44 48.0 +0.8**
GAZ IAmb IAmb 19 44 54.0
comp=Z,15nm,0.8s
ELL Elmali 80.88 351 P **P** **19 44 47.4 -0.4**
ELL Elmali 80.88 351 P **P** **19 44 47.4 -0.4**
ELL pmax pmax
comp=Z,88nm,1.0s
RVDE Rio Verde (Bra 80.94 252 *e*P **P** **19 44 49.4 +0.7**
ARAG Araguaiana, MT 81.02 257 *e*P **P** **19 44 49.7 +0.7**
PEL Peldehue 81.05 232 P **P** **19 44 48.1 -0.9**
PEL IAmb IAmb 19 44 55.0
comp=Z,19nm,0.9s
PEL Peldehue 81.05 232 P **P** **19 44 48.2 -0.9**
PEL pmax pmax
comp=Z,19nm,0.9s
BDQN Bodoquena, MS 81.21 250 *e*P **P** **19 44 50.6 +0.5**
CM31 Chiang Mai Arr 81.78 55 P P 19 44 58.3 +5.3
SNR=5.8
CMAR Chiang Mai Arr 81.78 55 P **P** **19 44 51.3 -1.6**
CMAR Chiang Mai Arr 81.78 55 P **P** **19 44 52.2 -0.7**
comp=Z,1.7nm,1.0s,baz=223,slow=5.5,SNR=10
CMAR LR LR 20 16 41.5
comp=Z,383nm,18.1s,baz=235,slow=32
comp=Z,1.7nm,1.0s
ISP Isparta 81.87 352 *ce*P **P** **19 44 51.7 -1.4**
ISP pmax pmax
comp=Z,14nm,1.7s
GURO Guroymak-BITLI 82.09 1 P **P** **19 44 54.8 +0.6**
RPZ Rata Peaks 82.17 146 LR LR 20 17 15.1
comp=Z,126nm,21.7s,baz=236,slow=33
KBL Kabul 82.26 23 P **P** **19 44 59.9 +4.6**
SNR=6.3
MPSI Mapaga 82.49 82 P **P** **19 44 57.7 +0.9**
comp=Z,9.7nm,1.9s
ARPR Arapgir-MALATY 82.65 358 IAmb IAmb 19 45 05.2
comp=Z,36nm,1.5s
SMTB Santa Maria do 82.66 265 *e*P **P** **19 44 59.0 +1.3**
CO03 El Pedregal 82.74 234 P **P** **19 44 55.8 -2.3**
CO03 IAmb IAmb 19 45 03.9
comp=Z,29nm,1.0s
GEYT Alibeck 82.99 14 P **P** **19 44 57.9 -0.9**
GEYT Alibeck 82.99 14 P **P** **19 44 59.0 +0.2**
comp=Z,3.0nm,1.0s,baz=251,slow=9.2,SNR=10
comp=Z,3.0nm,1.0s
GYA0B ALIBECK ARRAY 82.99 14 IAmb IAmb 19 45 05.7
comp=Z,34nm,1.2s
SNDB Serra Nova Dou 83.19 260 *e*P **P** **19 45 00.5 -0.1**
BR131 Keskin Array S 83.50 355 IAmb IAmb 19 45 07.2
comp=Z,11nm,0.9s
BR131 Keskin Array S 83.50 355 P **P** **19 45 06.3 +4.7**
SNR=7.9
BR131 Keskin Array S 83.50 355 *i* P **P** **19 45 01.1 -0.4**
BRTR Keskin Array B 83.50 355 P **P** **19 45 00.0 -1.5**
BRTR Keskin Array B 83.50 355 P **P** **19 45 01.3 -0.2**
comp=Z,2.3nm,0.8s,baz=172,slow=7.7,SNR=17
comp=Z,2.3nm,0.8s
SALV Santo Antonio 83.60 254 *e*P **P** **19 45 02.7 +0.1**
TOLI2 Tolitoli 83.66 82 P **P** **19 45 00.6 -2.3**
GNI Garni 83.76 3 P **P** **19 45 00.8 -2.2**
GNI Garni 83.76 3 LR LR 20 20 47.0
comp=Z,484nm,22.0s,baz=153,slow=35
GNI Garni 83.76 3 *i* P **P** **19 45 00.3 -2.6**
GNI pmax pmax
comp=Z,42nm,1.7s
AC05 El Transito 83.96 236 IAmb IAmb 19 45 10.4
comp=Z,23nm,1.0s
CRAI Chiangrai 84.00 55 IAmb IAmb 19 45 11.9
comp=Z,38nm,1.6s
KEST Kesra 84.23 335 IAmb IAmb 19 45 23.2
comp=Z,14nm,1.2s
KEST Kesra 84.23 335 P **P** **19 45 05.9 +0.6**
comp=Z,4.8nm,0.9s,baz=239,slow=6.3,SNR=5.6
KEST LR LR 20 24 23.1
comp=Z,577nm,18.5s,baz=171,slow=37
comp=Z,4.8nm,0.9s
VAE Valguarnera 84.44 339 LR LR 20 25 00.9
comp=Z,895nm,18.2s,baz=129,slow=37
AC06 Mina Casimiro 85.09 236 IAmb IAmb 19 45 16.4
comp=Z,34nm,1.4s
TUWZ Tuamarina 85.25 147 P **P** **19 45 10.2 -0.3**
RDO Rodhopi 85.76 349 IAmb IAmb 19 45 19.2
comp=Z,10nm,0.9s
FNA Florina 86.08 345 IAmb IAmb 19 45 24.7
comp=Z,13nm,0.9s
BBSD Serra de San D 86.09 250 *e*P **P** **19 45 15.7 +0.5**
PTLB Pontes e Lacer 86.30 252 IAmb IAmb 19 45 27.6
comp=Z,24nm,1.2s
PTLB Pontes e Lacer 86.30 252 *e*P **P** **19 45 16.7 +0.5**
TNCH TengChong 86.69 50 P **P** **19 45 17.3 -0.7**
TNCH sP pwP 19 45 23.7 -0.3
TNCH S **S** **19 55 53.8 -1.5**
TNCH SS **SS** **20 01 39.5 +2.2**
TNCH pmax pmax
comp=Z,8.0nm,1.5s
TNCH pmax pmax
comp=Z,150nm,4.6s
TNCH LR LR
comp=Z,240nm,13.6s
TNCH LR LR
comp=Z,250nm,16.2s
TNCH LR LR
comp=Z,510nm,17.5s
MDT Midelt 86.81 323 LR LR 20 23 51.6
comp=Z,456nm,19.2s,baz=140,slow=36
GROC Groznyy 86.86 4 *e*P **P** **19 45 16.2 -1.9**
GROC *e* 19 48 38.8
GROC *e* 19 55 44.4
GROC pmax pmax
comp=Z,103nm,1.4s
VSLR Vesyoloye 86.99 360 *i* P **P** **19 45 17.9 -0.8**
VSLR pmax pmax
comp=Z,19nm,1.2s
SIV San Ignacio 87.24 251 LR LR 20 17 23.5
comp=Z,528nm,21.8s,baz=139,slow=31
KBZ Khabaz 87.28 2 P **P** **19 45 20.9 +0.8**
comp=Z,2.3nm,0.8s,baz=201,slow=2.2,SNR=8.7
comp=Z,2.3nm,0.8s
KBZ Khabaz 87.28 2 *ce*P **P** **19 45 21.4 +1.3**
KBZ pmax pmax
comp=Z,17nm,1.2s
TMAB Tom-Au,PA,Br 87.46 269 *e*P **P** **19 45 22.2 +0.4**
KIV Kislovodsk 87.50 1 P **P** **19 45 19.3 -2.1**
KIV Kislovodsk 87.50 1 P **P** **19 45 22.1 +0.8**
KIV Kislovodsk 87.50 1 *e*P **P** **19 45 21.6 +0.3**
KIV pmax pmax
comp=Z,15nm,0.9s
LVC Limon Verde 87.67 241 LR LR 20 18 37.9
comp=Z,447nm,21.1s,baz=148,slow=32
LABN Labinsk 88.17 0 *e*P **P** **19 45 27.5 +3.1**
LABN pmax pmax
comp=Z,29nm,0.6s
ANN Anapa 88.38 358 *e*P P 19 45 30.5 +5.2
ANN pmax pmax
comp=Z,41nm,1.3s
KSH Kashi 88.97 27 P **P** **19 45 31.4 +3.0**
KSH LR LR
comp=Z,580nm,17.9s
KSH LR LR
comp=Z,230nm,17.9s
KSH LR LR
comp=Z,290nm,17.9s
URZ Urewera 89.21 147 LR LR 20 24 21.6
comp=Z,148nm,18.0s,baz=3.5,slow=35
ERBR Yeremizino-Bor 89.24 360 *e*P **P** **19 45 30.4 +1.0**
ERBR pmax pmax
comp=Z,37nm,1.3s
NPGB Novo Progresso 89.47 261 *e*P **P** **19 45 32.4 +1.0**
PZH PanZhiHua 89.64 52 P **P** **19 45 33.7 +1.8**
PZH S **S** **19 56 23.1 -0.2**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,120nm,4.1s
PZH LR LR
comp=Z,370nm,16.8s
PZH LR LR
comp=Z,420nm,18.0s
PZH LR LR
comp=Z,460nm,22.0s
PB11 IPOC Station P 90.22 242 IAmb IAmb 19 45 46.4
comp=Z,24nm,1.1s
KK31 Karatay Array 90.66 21 IAmb IAmb 19 45 42.8
comp=Z,15nm,1.5s
KKAR Karatay Array 90.66 21 IAmb IAmb 19 45 42.8
comp=Z,15nm,1.5s
AAK Ala-Archa 91.35 24 P **P** **19 45 38.8 -0.7**
AAK Ala-Archa 91.35 24 *i* P **P** **19 45 39.6 +0.1**
AAK pmax pmax
comp=Z,7.0nm,1.4s
ITTB Itaituba 91.59 262 *e*P **P** **19 45 40.9 -0.4**
MCPB Macapa, AP 91.70 268 *e*P **P** **19 45 42.0 +0.3**
LPAZ La Paz 91.76 245 P **P** **19 45 44.1 +1.3**
comp=Z,1.0nm,0.7s,baz=98,slow=3.7,SNR=4.0
LPAZ LR LR 20 22 21.3
comp=Z,526nm,19.2s,baz=117,slow=33
comp=Z,1.0nm,0.7s
LPAZ La Paz 91.76 245 *e*P **P** **19 45 42.3 -0.5**
BURAR Bucovina Array 92.16 350 P **P** **19 45 43.3 +0.3**
BURAR Bucovina Array 92.16 350 P **P** **19 45 43.3 +0.3**
BURAR pmax pmax
comp=Z,4.0nm,0.9s
BUR08 Bucovina Ar. S 92.19 350 P **P** **19 45 40.1 -3.1**
BUR08 IAmb IAmb 19 45 50.9
comp=Z,25nm,1.6s
ESDC Sonseca Array 92.43 327 P **P** **19 45 42.6 -1.9**
ESDC Sonseca Array 92.43 327 P **P** **19 45 44.8 +0.3**
comp=Z,1.8nm,1.0s,baz=162,slow=3.7,SNR=9.1
comp=Z,1.8nm,1.0s
TGY Tagaytay City 92.82 73 LR LR 20 22 30.8
comp=Z,284nm,20.0s,baz=247,slow=32
OBKA Obir 92.95 342 *i* P **P** **19 45 47.1 +0.3**
comp=Z,14nm,1.5s
SOKA Soboth 93.01 343 *i* P **P** **19 45 48.3 +1.3**
comp=Z,5.0nm,1.2s
ARSA Arzberg 93.45 343 *i* PcP **P** **19 45 52.0 +3.1**
comp=Z,4.3nm,1.0s
ABTA Abfaltersbach 93.64 341 *e*PcP **PcP** **19 45 51.5 +1.1**
comp=Z,13nm,1.7s
SAML Samuel 93.66 254 P **P** **19 45 49.0 -1.7**
SAML IAmb IAmb 19 45 57.0
comp=Z,13nm,0.9s
SAML Samuel 93.66 254 P **P** **19 45 49.1 -1.7**
SAML pmax pmax
comp=Z,13nm,1.0s
SAML Samuel 93.66 254 *e*P **P** **19 45 49.8 -1.0**
RONA Rosalia, Austr 93.72 344 *e*P **P** **19 45 50.7 +0.5**
comp=Z,4.9nm,1.4s
KBA Koelnbreinsper 93.76 342 *i* P **P** **19 45 51.4 +0.8**
comp=Z,4.5nm,1.1s
VYHS Vyhne 94.00 346 *e*P P 19 45 56.8 +5.4
VYHS Vyhne 94.00 346 *e*P P 19 45 56.8 +5.4
CD2 Chengdu 94.15 50 P **P** **19 45 52.6 0.0**
LESA Schwarzleotal 94.24 341 *i* PcP **P** **19 45 55.3 +2.6**
comp=Z,4.4nm,1.1s
MOA Molln 94.29 343 *e*P **P** **19 45 52.7 -0.1**
comp=Z,5.2nm,1.1s
ABKAR Akbulak array 94.31 13 P **P** **19 45 50.0 -2.8**
FETA Feichten 94.33 340 *i* P **P** **19 45 53.6 +0.4**
comp=Z,5.1nm,1.3s
WTTA Wattenberg 94.33 341 *i* P **P** **19 45 53.0 -0.2**
comp=Z,3.8nm,1.2s
SQTA Sankt Quirin 94.40 340 *i* P **P** **19 45 54.7 +1.3**
comp=Z,2.0nm,1.4s
WATA Walderalm 94.42 341 *i* P **P** **19 45 54.0 +0.5**
comp=Z,5.6nm,1.6s
MOTA Moosalm 94.54 340 *e*P **P** **19 45 55.2 +1.1**
comp=Z,5.1nm,1.6s
AKASG Malin Array Be 94.76 353 P **P** **19 45 55.6 +0.8**
comp=Z,0.8nm,0.7s,baz=187,slow=5.2,SNR=4.2
comp=Z,0.8nm,0.7s
DAVA Damuels 94.79 340 *e*P **P** **19 45 56.5 +1.2**
comp=Z,2.2nm,0.6s
ETMB Extrema 95.13 251 IAmb IAmb 19 46 08.3
comp=Z,7.8nm,1.1s
ETMB Extrema 95.13 251 *e*P **P** **19 45 57.7 +0.1**
MDP Montagnes des 95.87 271 LR LR 20 21 49.4
comp=Z,345nm,22.0s,baz=108,slow=31
BELG Belogornoye 96.12 4 *i* P **P** **19 46 00.7 -0.2**
BELG pmax pmax
comp=Z,3.0nm,1.0s
WMQ Urumqi 96.92 32 *e*P **P** **19 46 05.3 +0.3**
WMQ LR LR
comp=Z,1µm,18.3s
WMQ LR LR
comp=Z,1µm,21.7s
WMQ LR LR
comp=Z,860nm,24.9s
MKAR Makanchi Array 97.54 27 P Pdif 19 46 08.4 +0.7
comp=Z,1.4nm,0.9s,baz=218,slow=7.7,SNR=5.6
comp=Z,1.4nm,0.9s
DZM Mont Dzumac 97.70 131 *e*LR LR 20 17 43.4
comp=Z,358nm,34.9s
GTA Gaotai 98.63 42 *e*P Pdif 19 46 17.7 +4.8
GTA pP pwP 19 46 23.5 +4.6
GTA pmax pmax

comp=Z,2.0nm,0.9s
GTA LR LR
comp=Z,440nm,17.9s
GTA LR LR
comp=Z,480nm,16.7s
GTA LR LR
comp=Z,580nm,19.9s
OBN Obninsk 98.72 358 ⇓eP Pdif 19 46 14.9 +2.3
OBN e*PP pwP 19 46 17.8 -0.7
OBN e*SP sP 19 46 19.4 +3.4
OBN S **SKSac 19 56 43.0 -7.0**
OBN SS **SS 20 04 31.0 +2.4**
OBN SSS SSS 20 08 11.0
OBN pmax pmax
comp=Z,15nm,1.2s
OBN MLR MLR
comp=Z,165nm,16.0s
KURBB Kurchatov Arra 99.76 23 P **Pdif 19 46 18.0 +0.6**
comp=Z,0.4nm,0.7s,baz=214,slow=5.1,SNR=4.1
comp=Z,0.4nm,0.7s
KURK Kurchatov 99.87 23 P **Pdif 19 46 18.0 +0.1**
BVAR Borovoye Array 99.89 18 P **Pdif 19 46 19.1 +1.1**
comp=Z,0.7nm,0.6s,baz=213,slow=4.8,SNR=2.2
comp=Z,0.7nm,0.6s
NJ2 Nanjing 103.86 59 eP **Pdif 19 46 36.4 +0.2**
NJ2 pmax pmax
comp=Z,12nm,1.3s
HHC Hu-ho-hao-te 105.73 48 eP **Pdif 19 46 42.8 -1.6**
HHC LR LR
comp=N,180nm,16.0s
HHC LR LR
comp=E,230nm,16.8s
HHC LR LR
comp=Z,540nm,17.6s
PPT2 Papeete2 118.09 169 eLR LR 20 27 06.0
comp=Z,200nm,22.0s
PPT2 eLR LR 20 27 09.9
comp=Z,219nm,23.8s
KBS Kingsbay 123.75 354 iP **PKiKP 19 51 34.5 +3.9**
ICESG Greenland Ices 126.97 334 iP **PKiKP 19 51 38.4 +0.8**
TAOE Nuku Hiva Isla 127.48 179 eLR LR 20 31 30.6
comp=Z,373nm,22.4s
SUMG Summit 128.16 338 iP **PKiKP 19 51 40.8 +0.8**
NOR Nord 128.78 351 iP **PKiKP 19 51 44.8 +4.3**
NEEM North Greenlan 132.78 343 iP **PKiKP 19 51 52.7 +3.7**
KULLO Kullorsuaq 133.82 338 iP **PKiKP 19 51 52.9 +2.1**
CCM Cathedral Cave 143.63 278 P PKPbc 19 52 05.8 -0.2
baz=115
JFWS Jewell Farm 144.73 286 P **PKPab 19 52 07.8 -1.4**
baz=109
WHTX Lake Whitney, 145.23 264 P **PKPbc 19 52 11.0 -0.2**
baz=122
BRDY Brady 145.96 262 PKPdf **PKPdf 19 52 12.9 0.0**
TUL3 Leonard 145.97 272 P **PKPdf 19 52 12.2 -0.5**
baz=117
PLPT Palo Pinto 146.28 265 PKPdf **PKPdf 19 52 13.8 +0.5**
EYMN Ely 146.89 294 PKPdf **PKPdf 19 52 14.1 +0.3**
EYMN Ely 146.89 294 P **PKPbc 19 52 15.0 -0.8**
baz=101
ABTX Abilene, Hawle 147.14 264 P **PKPbc 19 52 17.4 +0.4**
baz=122
WMOK Wichita Mounta 147.58 268 P **PKPdf 19 52 15.4 0.0**
baz=119
KSU1 Kansas State U 147.90 276 P **PKPdf 19 52 16.4 +0.5**
baz=113
TXAR Lajitas Array 148.15 255 PKPbc **PKPdf 19 52 18.0 +1.4**
comp=Z,0.9nm,0.6s,baz=132,slow=3.7,SNR=7.8
ECSD EROS Data Cent 149.41 285 P **PKPbc 19 52 20.6 -2.0**
baz=105
AGMN Agassiz Nation 149.83 294 P **PKPbc 19 52 22.1 -1.3**
baz=98
ULM Lac du Bonnet 150.06 298 PKPbc **PKPbc 19 52 22.3 -1.6**
comp=Z,5.9nm,0.8s,baz=104,slow=3.3,SNR=9.4
MNTX Cornudas Mount 150.72 257 P **PKPbc 19 52 25.2 -0.9**
baz=124
A36M Sachs Harbour 151.03 351 P **PKPbc 19 52 25.0 -0.5**
baz=21
A22K Sinclair Lake 151.76 11 P **PKPbc 19 52 27.3 +0.1**
baz=336
B20K Meade River 152.33 13 P **PKPbc 19 52 28.3 -0.3**
baz=332
OGNE Ogallala 152.44 277 P **PKPbc 19 52 29.5 -0.4**
baz=109
B22K Teshekpuk Lake 152.58 10 P **PKPbc 19 52 29.0 -0.2**
baz=337
T25A Trinidad 152.73 268 P **PKPbc 19 52 30.2 -0.6**
baz=115
B21K Ikpikpuk River 153.07 12 P **PKPbc 19 52 30.1 -0.2**
baz=335
ANMO Albuquerque 153.20 262 P **PKPbc 19 52 31.4 -0.5**
baz=120
ANMO Albuquerque 153.20 262 PKPbc **PKPbc 19 52 30.4 -1.5**
comp=Z,1.9nm,0.9s,baz=188,slow=8.8,SNR=3.5
C23K Itkillik River 153.39 9 P **PKPbc 19 52 31.1 +0.2**
baz=342
C21K Knifeblade Rid 153.47 12 P **PKPbc 19 52 30.7 -0.4**
baz=334
C24K Franklin Bluff 153.69 7 P **PKPbc 19 52 31.7 +0.1**
baz=344
E20K Nigu River 154.04 14 P **PKiKP 19 52 32.9 +0.4**
baz=331
E28M Babbage River 155.25 0 P **PKPab 19 52 53.0 +1.8**
baz=360
INK Inuvik 155.36 355 P **PKPab 19 52 51.7 +0.2**
baz=9.9
F22K John River 155.38 12 P **PKPab 19 52 52.7 +1.0**
baz=337
E29M Blow River 155.45 359 P **PKPab 19 52 53.0 +1.0**
baz=2.3
E27K Coleen River 155.64 2 P **PKPab 19 52 54.5 +1.7**
baz=356
F25K Christian River 156.03 6 P **PKPab 19 52 56.0 +1.4**
baz=349
H18K Honhosa River 156.23 20 P **PKPab 19 52 52.5 -2.9**
baz=324
F28M Old Crow 156.24 0 P **PKPab 19 52 57.1 +1.6**
baz=359
YKA Yellowknife Ar 156.47 331 PKP **PKPdf 19 52 28.1 +0.4**
comp=Z,0.5nm,0.9s,baz=36,slow=1.7,SNR=5.4
G31M Satah River 156.78 355 P **PKPab 19 52 58.7 +1.0**
baz=9.1
G29M Pine Creek 156.94 359 P **PKPab 19 52 59.8 +1.3**
baz=2.2
WUAZ Wupatki 156.98 258 P **PKPab 19 53 00.0 +0.2**
baz=120
G27K Doyon Strip 157.02 2 P **PKPab 19 53 00.4 +1.6**
baz=356
EPYK Eagle Plains 157.45 357 P **PKPab 19 53 02.0 +1.3**
baz=4.7
I21K Tanana 157.56 14 P **PKPab 19 53 02.5 +1.4**
baz=335
H27K Steamboat Moun 157.60 2 P **PKPab 19 53 02.8 +1.4**
baz=356
H29M Whitestone 157.64 359 P **PKPab 19 53 01.8 +0.3**
baz=1.6
H31M Peel River 157.89 355 P **PKPab 19 53 02.6 0.0**
baz=9.4
PDAR Pinedale Array 158.34 277 PKP **PKPdf 19 52 32.8 +1.7**
comp=Z,0.5nm,0.8s,baz=329,slow=1.7,SNR=4.6
PDAR PKPab **PKPab 19 53 06.7 +1.0**
comp=Z,0.8nm,0.8s,baz=132,slow=4.0,SNR=2.6
I30M Mount Dempster 158.58 357 P **PKPab 19 53 07.0 +1.3**
baz=5.7
L16K Owhat River 158.59 27 P **PKPab 19 53 07.9 +2.2**
baz=317
ILAR Eielson Array 158.67 9 PKP **PKPdf 19 52 30.9 +0.4**
comp=Z,0.6nm,1.0s,baz=326,slow=4.0,SNR=5.3
ILAR PKPab **PKPab 19 53 06.7 +0.7**
comp=Z,0.9nm,0.8s,baz=336,slow=4.3,SNR=6.9
J25K Salcha River, 158.98 7 P **PKPab 19 53 08.6 +1.2**
baz=348
EGAK Eagle 159.07 2 P **PKPab 19 53 09.3 +1.6**
baz=356
J30M Hart River 159.23 356 P **PKPab 19 53 09.8 +1.2**
baz=5.9
J26L Joseph Creek 159.23 5 P **PKPab 19 53 09.6 +1.0**
baz=351
SCRK Sand Creek 159.72 6 P **PKPab 19 53 12.4 +1.6**
baz=350
DAWY Dawson 159.81 0 P **PKPab 19 53 12.4 +1.4**
baz=360
DUG Dugway, Tooele 159.97 268 P **PKPab 19 53 14.3 +1.7**
baz=109
K29M Barlow Dome 160.00 358 P **PKPab 19 53 13.2 +1.3**
baz=3.6
BOZ Bozeman (W) 160.27 285 P **PKPab 19 53 14.6 +0.8**
baz=95
L29M L29M 160.75 358 P **PKPab 19 53 16.7 +1.6**
baz=2.4
L27K Beaver Creek, 160.76 3 P **PKPab 19 53 17.0 +1.8**
baz=354
FARO Faro, Yukon 161.32 351 P **PKPab 19 53 19.5 +1.9**
baz=13
M29M Somme Creek 161.43 359 P **PKPab 19 53 19.6 +1.4**
baz=1.8
M31M Drury Creek, Y 161.45 353 P **PKPab 19 53 18.9 +0.7**
baz=11
M27K Edge Creek, AK 161.46 4 P **PKPab 19 53 19.6 +1.2**
baz=354
N30M Aishikik Lake 162.37 356 P **PKPab 19 53 22.7 +0.5**
baz=5.1
YUK4 Talbot Arm 162.53 359 P **PKPab 19 53 24.3 +1.1**
baz=1.7
NVAR Mina Array Bea 163.24 258 PKP **PKPdf 19 52 38.2 +1.7**
comp=Z,0.2nm,0.4s,baz=99,slow=5.8,SNR=2.1
NVAR PKPab **pPKPab 19 53 29.1 -0.8**
comp=Z,1.8nm,0.9s,baz=121,slow=5.8,SNR=6.6

CATAC 06 19:43:03.0±0.2, 13°20N×88°05W, h5km±2km, ML3.2, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.19**	**56**	*i* P	Pg	19 43 07.2	+0.4
LCND				*i* P		19 43 07.4	
LCND				*i* S	Sg	19 43 10.2	+0.8
LCND				IAML		19 43 11.8	
comp=Z,6μm,1.0s							
JUCU	**Jucuarįn**	**0.20**	**286**	*i* P	Pg	19 43 07.5	+0.6
JUCU				*i* S	Sg	19 43 10.8	+1.2
JUCU				IAML		19 43 11.7	
comp=Z,8μm,1.0s							
CNCH	**Conchagua**	**0.23**	**70**	*i* P	Pg	19 43 08.2	+0.7
CNCH				IAML		19 43 15.4	
comp=Z,8μm,1.0s							
RANC	**El Ranchito**	**0.33**	**315**	*i* P	Pg	19 43 09.8	+0.4
RANC				*i* S	Sg	19 43 14.7	+0.9
RANC				IAML		19 43 18.7	
comp=Z,1μm,1.0s							
PACA	**Pacayal**	**0.38**	**315**	*i* P	Pg	19 43 10.8	+0.5
AMPH	**Amapala**	**0.39**	**77**	*i* P	Pg	19 43 11.0	+0.4
AMPH				*i* S	Sg	19 43 17.0	+1.2
COEB	**Comit de Eme**	**0.55**	**303**	*i* P	Pg	19 43 13.8	+0.2
COEB				*i* S	Sg	19 43 21.4	+0.6
COEB				IAML		19 43 22.2	
comp=Z,590nm,1.0s							
PQSS	**Presa 15 de Se**	**0.65**	**311**	*i* P	Pg	19 43 15.4	-0.1
PQSS				IAML		19 43 25.5	
comp=Z,340nm,1.0s							
PAVA	**Las Pavas**	**1.00**	**301**	*i* P	Pg	19 43 22.1	-0.1
PAVA				*i* S	Sb	19 43 36.0	-0.4
PAVA				IAML		19 43 38.8	
comp=Z,900nm,1.0s							
CRIN	**San Cristobal**	**1.10**	**117**	*i* P	Pb	19 43 24.4	-0.1
CRIN				*i* S	Sn	19 43 41.6	+0.9
CRIN				IAML		19 43 48.0	
comp=Z,2μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.14**	**42**	*i* P	Pg	19 43 23.7	-1.2
TGUH				*i* S	Sb	19 43 40.6	+0.1
TGUH				IAML		19 43 46.9	
comp=Z,900nm,1.0s							
JAYA	**Jayaque - finc**	**1.43**	**289**	*i* P	Pn	19 43 29.5	-0.3
JAYA				*i* S	Sb	19 43 47.6	-1.3
JAYA				IAML		19 43 50.6	
comp=Z,650nm,1.0s							
CNGA	**Al SSO del Vol**	**1.49**	**118**	*i* P	Pn	19 43 28.2	-2.3
CNGN	**Cerro Negro**	**1.49**	**118**	*i* P	Pn	19 43 29.2	-1.3
CNGN				IAML		19 43 59.8	
comp=Z,210nm,1.0s							
MOMN	**Momotombo**	**1.67**	**118**	*i* P	Pn	19 43 32.3	-0.7
MOMN				IAML		19 43 34.5	
comp=Z,7.9nm,1.0s							
MOM2	**El Cardon**	**1.71**	**116**	*i* P	Pn	19 43 33.6	+0.2
MOM2				*i* SA		19 43 55.1	
MOM2				IAML		19 44 02.0	
comp=Z,86nm,1.0s							
COPN	**Copaltepe**	**1.75**	**125**	*i* P	Pn	19 43 33.5	-0.5
COPN				IAML		19 43 59.4	
comp=Z,69nm,1.0s							
NUBE	**Las Nubes**	**1.82**	**293**	*i* P	Pg	19 43 37.8	-0.1
NUBE				*i* SA		19 43 59.7	
SAJU	**San Juanillo,**	**3.87**	**143**	*i* P	Pn	19 44 04.0	+0.8
SAJU				IAML		19 46 01.1	
comp=Z,77nm,1.0s							

*IDC **06** 19:44:58.8±1.6, 13°.68N×87°.56W, h0km, mb3.6/4, mbtmp3.7/7, ML3.3/3, MS4.4/1, Error ellipse: s-maj=38.9km s-min=20.5km az=40.0*
*CATAC **06** 19:44:59.4±0.1, 13°.29N×88°.06W, h5km±1km, ML4.2*
*SNET **06** 19:44:59.0±1.0, 13°.30N×88°.06W, h2km±5km, ML4.3*
ISC 06 19:44:59.3±0.8, **13°.31N**±0°.03×**88°.05W**±0°.02, **h13**km±5km, **n87**, σ1°**08**/126, **mb3.6/4**, **8C-1D**, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.16**	**91**	⇑*i*P	**Pg**	**19 45 03.2**	**0.0**
LCND				*e*S	**Sg**	**19 45 06.0**	**+0.2**
LCND	**La Caada**	**0.16**	**91**	*i* P	**Pg**	**19 45 03.2**	**0.0**
LCND				*i* S	**Sg**	**19 45 06.4**	**+0.5**
LCND				IAML		19 45 08.2	
comp=Z,140μm,1.0s							
CNRM	**Centro Naciona**	**0.20**	**325**	⇓*e*P	**Pg**	**19 45 03.8**	**0.0**
CNRM	**Centro Naciona**	**0.20**	**325**	*i* P	**Pg**	**19 45 03.9**	**0.0**
CNRM				*i* S	**Sb**	**19 45 08.6**	**+0.1**
CNRM				IAML		19 45 10.5	
comp=Z,110μm,1.0s							
JUCU	**Jucuarįn**	**0.20**	**253**	⇑*e*P	**Pg**	**19 45 03.4**	**-0.5**
JUCU				*e*S	**Sg**	**19 45 06.2**	**-0.7**
JUCU	**Jucuarįn**	**0.20**	**253**	*i* P	**Pg**	**19 45 03.3**	**-0.5**
JUCU				*i* S	**Sg**	**19 45 07.4**	**+0.5**
JUCU				IAML		19 45 08.9	
comp=Z,39μm,1.0s							
CNCH	**Conchagua**	**0.22**	**99**	⇑*i*P	**Pg**	**19 45 04.3**	**+0.1**
CNCH				*e*S	**Sg**	**19 45 08.1**	**+0.6**
CNCH	**Conchagua**	**0.22**	**99**	*i* P	**Pg**	**19 45 04.3**	**+0.1**
CNCH				*i* S	**Sb**	**19 45 08.6**	**-0.5**
CNCH				IAML		19 45 10.0	
comp=Z,210μm,1.0s							
BLLM	**Bellamira**	**0.22**	**306**	⇑*i*P	**Pg**	**19 45 04.3**	**+0.1**
LCY	**Lacayo**	**0.26**	**296**	⇑*e*P	**Pg**	**19 45 05.1**	**+0.1**
RANC	**El Ranchito**	**0.26**	**298**	⇑*e*P	**Pg**	**19 45 05.1**	**+0.2**
RANC	**El Ranchito**	**0.26**	**298**	*i* P	**Pg**	**19 45 05.1**	**+0.2**
RANC				*i* S	**Sb**	**19 45 09.8**	**-0.6**
RANC				IAML		19 45 14.0	
comp=Z,23μm,1.0s							
PACA	**Pacayal**	**0.31**	**301**	⇑*e*P	**Pg**	**19 45 05.9**	**+0.2**
PACA	**Pacayal**	**0.31**	**301**	*i* P	**Pg**	**19 45 06.1**	**+0.4**
PACA				*i* S	**Sb**	**19 45 11.0**	**-0.7**
PACA				IAML		19 45 14.8	
comp=Z,160μm,1.0s							
AMPH	**Amapala**	**0.39**	**94**	*i* P	**Pg**	**19 45 06.9**	**-0.2**
AMPH				*i* S	**Sb**	**19 45 13.5**	**-0.4**
TECA	**Tecapa**	**0.47**	**293**	*e*P	**Pg**	**19 45 08.8**	**0.0**
COEB	**Comit de Eme**	**0.50**	**292**	*e*P	**Pg**	**19 45 09.4**	**+0.2**
COEB	**Comit de Eme**	**0.50**	**292**	*i* P	**Pg**	**19 45 09.2**	**-0.1**
COEB				IAML		19 45 19.1	
comp=Z,6μm,1.0s							
PQSS	**Presa 15 de Se**	**0.58**	**302**	⇑*e*P	**Pg**	**19 45 10.7**	**-0.1**
PQSS	**Presa 15 de Se**	**0.58**	**302**	*i* P	**Pg**	**19 45 10.7**	**-0.1**
PQSS				IAML		19 45 14.2	
comp=Z,3μm,1.0s							
PQSS				*i* S	**Sb**	**19 45 19.8**	**+0.2**
TECO	**Alcaldia de Te**	**0.74**	**288**	*e*P	**Pg**	**19 45 13.5**	**-0.3**
TECO	**Alcaldia de Te**	**0.74**	**288**	*i* P	**Pg**	**19 45 13.5**	**-0.3**
TECO				*i* S	**Sg**	**19 45 23.7**	**+0.1**
TECO				IAML		19 45 24.7	
comp=Z,4μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.76**	**301**	*e*P	**Pg**	**19 45 13.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.76**	**301**	*i* P	**Pg**	**19 45 14.0**	**-0.2**
SCLA				*i* S	**Sn**	**19 45 27.1**	**-0.1**
SCLA				IAML		19 45 32.4	
comp=Z,3μm,1.0s							
UESV	**Universidad de**	**0.78**	**294**	*e*P	**Pg**	**19 45 14.4**	**-0.1**
UESV	**Universidad de**	**0.78**	**294**	*i* P	**Pg**	**19 45 14.3**	**-0.3**
UESV				*i* S	**Sb**	**19 45 26.0**	**+0.6**
UESV				IAML		19 45 28.4	
comp=Z,5μm,1.0s							
COEG	**Centro de Oper**	**0.86**	**291**	*e*P	**Pg**	**19 45 15.6**	**-0.5**
COEG	**Centro de Oper**	**0.86**	**291**	*i* P	**Pg**	**19 45 15.8**	**-0.3**
COEG				*i* S	**Sb**	**19 45 27.7**	**0.0**
COEG				IAML		19 45 32.3	
comp=Z,6μm,1.0s							
PAVA	**Las Pavas**	**0.95**	**295**	*e*P	**Pg**	**19 45 17.8**	**+0.1**
PAVA	**Las Pavas**	**0.95**	**295**	*i* P	**Pb**	**19 45 17.2**	**-0.5**
PAVA				IAML		19 45 35.9	
comp=Z,10μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.06**	**46**	*i* P	**Pb**	**19 45 18.7**	**-0.9**
TGUH				IAML		19 45 36.4	
comp=Z,9μm,1.0s							
PANCS	**Alcalda de**	**1.14**	**285**	*i* S	**Sb**	**19 45 35.4**	**-0.2**
LOMA	**Loma Larga**	**1.14**	**287**	*e*P	**Pb**	**19 45 20.7**	**-0.2**
LOMA	**Loma Larga**	**1.14**	**287**	*i* P	**Pb**	**19 45 20.5**	**-0.4**
LOMA				*i* S	**Sn**	**19 45 36.6**	**0.0**
LOMA				IAML		19 45 40.4	
comp=Z,6μm,1.0s							
UDBS	**Universidad Do**	**1.14**	**291**	*i* S	**Sn**	**19 45 36.6**	**-0.1**
CRIN	**San Cristobal**	**1.15**	**122**	*i* P	**Pn**	**19 45 21.2**	**0.0**
CRIN				*i* S	**Sn**	**19 45 38.9**	**+2.0**
CRIN				IAML		19 45 47.4	
comp=Z,24μm,1.0s							
UTEC	**Universidad Te**	**1.18**	**289**	*i* P	**Pn**	**19 45 21.5**	**-0.1**
UTEC				*i* S	**Sg**	**19 45 37.4**	**-0.2**
UTEC				IAML		19 45 40.1	
comp=Z,4μm,1.0s							
SNET	**Serv Nac Est T**	**1.21**	**288**	*i* P	**Pn**	**19 45 21.7**	**-0.3**
SNET				*i* S	**Sn**	**19 45 38.2**	**0.0**
SNET				IAML		19 45 40.8	
comp=Z,9μm,1.0s							
LLGN	**La Laguna**	**1.21**	**314**	*e*P	**Pn**	**19 45 21.2**	**-0.9**
LLGN	**La Laguna**	**1.21**	**314**	*i* P	**Pn**	**19 45 21.3**	**-0.8**
LLGN				IAML		19 45 22.4	
comp=Z,3μm,1.0s							
LLGN				*i* S	**Sg**	**19 45 38.9**	**+0.4**
UEES	**Universidad Ev**	**1.22**	**289**	*i* P	**Pn**	**19 45 22.0**	**-0.2**
UEES				*i* S	**Sg**	**19 45 39.3**	**+0.5**
UEES				IAML		19 45 44.7	
comp=Z,3μm,1.0s							
LALI	**Alcalda de L**	**1.25**	**278**	*i* P	**Pn**	**19 45 22.0**	**-0.4**
LALI				*i* S	**Sg**	**19 45 39.3**	**-0.3**
LALI				IAML		19 45 41.8	
comp=Z,1μm,1.0s							
PIC2	**El Picacho**	**1.25**	**290**	*e*P	**Pb**	**19 45 23.1**	**+0.2**
BOQS	**Boqueron**	**1.27**	**290**	*e*P	**Pb**	**19 45 23.2**	**0.0**
PMON	**Piamonte**	**1.29**	**288**	*e*P	**Pn**	**19 45 23.1**	**0.0**
PMON	**Piamonte**	**1.29**	**288**	*i* P	**Pn**	**19 45 23.2**	**0.0**
PMON				*i* S	**Sg**	**19 45 41.1**	**+0.1**
PMON				IAML		19 45 45.9	
comp=Z,7μm,1.0s							
JAYA	**Jayaque - finc**	**1.40**	**284**	*e*P	**Pn**	**19 45 24.6**	**-0.2**
JAYA	**Jayaque - finc**	**1.40**	**284**	*i* P	**Sg**	**19 45 44.2**	**-0.3**
CNGA	**Al SSO del Vol**	**1.55**	**121**	*i* P	**Pn**	**19 45 25.5**	**-1.1**
CNGA				*i* S	**Sn**	**19 45 46.5**	**-0.1**
CNGA				IAML		19 46 00.9	
comp=Z,3μm,1.0s							
CNGN	**Cerro Negro**	**1.55**	**121**	*i* P	**Pn**	**19 45 26.5**	**-0.1**
CNGN				*i* S	**Sb**	**19 45 47.7**	**+0.3**
CNGN				IAML		19 46 02.4	
comp=Z,4μm,1.0s							
UNIC	**Universidad Ca**	**1.60**	**295**	*i* P	**Pn**	**19 45 27.8**	**+0.4**
UNIC				IAML		19 45 52.7	
comp=Z,990nm,1.0s							
CEVE	**Cerro Verde**	**1.61**	**289**	*i* P	**Pb**	**19 45 28.4**	**-0.7**
CEVE				*i* S	**Sg**	**19 45 52.4**	**+1.1**
CEVE				IAML		19 45 55.7	
comp=Z,5μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.67**	**123**	*i* P	**Pb**	**19 45 29.1**	**-0.8**
LEVN				*i* S	**Sb**	**19 45 51.7**	**+0.9**
LEVN				IAML		19 46 03.6	
comp=Z,3μm,1.0s							
MTO3	**Montecristo**	**1.67**	**311**	*i* P	**Pn**	**19 45 28.5**	**0.0**
MTO3				*i* S	**Sb**	**19 45 52.0**	**+1.0**
MTO3				IAML		19 45 52.8	
comp=Z,2μm,1.0s							
MOMN	**Momotombo**	**1.73**	**121**	*i* P	**Pn**	**19 45 28.8**	**-0.3**
MOMN				*i* S	**Sb**	**19 45 53.5**	**+0.9**
MOMN				IAML		19 45 57.9	
comp=Z,100nm,1.0s							
MOM2	**El Cardon**	**1.76**	**119**	*i* P	**Pn**	**19 45 29.4**	**-0.1**
MOM2				*i* S	**Sg**	**19 45 55.4**	**-0.6**
MOM2				IAML		19 46 01.2	
comp=Z,2μm,1.0s							
NUBE	**Las Nubes**	**1.78**	**290**	*i* P	**Pn**	**19 45 30.7**	**+0.8**
NUBE				*i* S	**Sg**	**19 45 55.7**	**-1.0**
NUBE				IAML		19 45 57.0	
comp=Z,2μm,1.0s							
LOAL	**Lomas de Alarc**	**1.81**	**292**	*i* P	**Pb**	**19 45 32.9**	**+0.5**
LOAL				*i* S	**Sg**	**19 45 58.4**	**+0.7**
COPN	**Copaltepe**	**1.82**	**128**	*i* P	**Pn**	**19 45 31.0**	**+0.7**
COPN				IAML		19 46 00.9	
comp=Z,2μm,1.0s							
JUAM	**Asuncion Mita**	**1.90**	**303**	*i* P	**Sg**	**19 45 59.8**	**-0.8**
APQ3	**Volcan Apoyequ**	**1.94**	**122**	*i* P	**Pn**	**19 45 33.1**	**+1.1**
APQ3				*i* S	**Sb**	**19 45 58.4**	**-0.3**
APQ3				IAML		19 46 04.4	
comp=Z,2μm,1.0s							
APYN	**Apoyeque**	**1.98**	**123**	*i* P	**Pb**	**19 45 34.8**	**-0.4**
APYN				*i* S	**Sb**	**19 45 58.5**	**-1.3**
APYN				IAML		19 46 05.2	
comp=Z,3μm,1.0s							
TISN	**Laguna Tiscapa**	**2.09**	**124**	*i* P	**Pn**	**19 45 35.3**	**+1.2**
TISN				IAML		19 46 08.9	
comp=Z,130nm,1.0s							
MAS3	**Al N del Volca**	**2.23**	**125**	*i* P	**Pb**	**19 45 38.2**	**-1.4**
MAS3				IAML		19 46 18.5	
comp=Z,2μm,1.0s							
APG	**El Apazote**	**2.88**	**306**	Pn	**Pb**	**19 45 50.0**	**-0.8**
comp=Z,0.8nm,0.3s,baz=119,slow=12,SNR=17							
APG				Sn	**Sb**	**19 46 28.5**	**+2.5**
comp=Z,0.9nm,0.3s,baz=239,slow=23,SNR=7.8							
APG				LR	LR	19 46 54.2	
comp=Z,40nm,19.9s,baz=229,slow=37							
comp=Z,5.9nm,0.7s							
JAPN	**Al SSO del Vol**	**2.92**	**127**	*i* P	**Pn**	**19 45 47.8**	**+2.3**
JAPN				*i* S	**Sb**	**19 46 27.0**	**+0.1**
JAPN				IAML		19 46 33.5	
comp=Z,420nm,1.0s							
JAPN	**Al SSO del Vol**	**2.92**	**127**	*i* P	**Pn**	**19 45 47.4**	**+1.9**
JAPN				IAML		19 46 33.5	
comp=Z,420nm,1.0s							
MORN	**Al O del Volca**	**2.93**	**126**	*i* P	**Pn**	**19 45 48.5**	**+2.8**
MORN				IAML		19 46 28.8	
comp=Z,750nm,1.0s							
MORN	**Al O del Volca**	**2.93**	**126**	*i* P	**Pb**	**19 45 50.6**	**-0.9**
CONN	**Concepcion**	**2.94**	**126**	*i* P	**Pn**	**19 45 47.2**	**+1.4**
CONN				IAML		19 46 28.5	
comp=Z,3μm,1.0s							
OMEN	**Al SSO del Vol**	**2.97**	**127**	*i* P	**Pn**	**19 45 47.4**	**+1.2**
OMEN				IAML		19 46 30.2	
comp=Z,430nm,1.0s							
ACON	**Acoyapa**	**3.11**	**115**	*i* P	**Pb**	**19 45 52.6**	**-1.9**
ACON				*i* S	**Sb**	**19 46 33.8**	**+1.4**
ACON				IAML		19 46 44.5	
comp=Z,630nm,1.0s							
HZTE	**Horizontes, Gu**	**3.53**	**137**	*i* P	**Pn**	**19 45 55.3**	**+1.4**
HZTE				*i* S	**Sn**	**19 46 38.9**	**+3.4**
HZTE				IAML		19 46 41.8	
comp=Z,240nm,1.0s							
HZTE	**Horizontes, Gu**	**3.53**	**137**	*i* P	**Pn**	**19 45 55.7**	**+1.8**
HZTE				IAML		19 46 41.8	
comp=Z,240nm,1.0s							
ORTG	**Ortega, Santa**	**3.88**	**139**	*i* P	**Pn**	**19 45 59.8**	**+1.1**
ORTG				IAML		19 46 49.7	
comp=Z,120nm,1.0s							
SAJU	**San Juanillo,**	**3.96**	**144**	*i* P	**Pn**	**19 46 00.5**	**+0.7**
SAJU				IAML		19 46 55.2	
comp=Z,96nm,1.0s							
DUNO	**Dulce Nombre,**	**4.08**	**142**	*i* P	**Pn**	**19 46 03.4**	**+2.0**
DUNO				*i* S	**Sn**	**19 46 48.6**	**-0.4**
DUNO				IAML		19 47 00.6	
comp=Z,110nm,1.0s							
INDI	**Punta indio, G**	**4.24**	**144**	*i* P	**Pb**	**19 46 10.6**	**-3.2**
INDI	**Punta indio, G**	**4.24**	**144**	*i* P	**Pn**	**19 46 04.7**	**+1.1**
INDI				IAML		19 47 12.4	
comp=Z,120nm,1.0s							
JTS	**Las Juntas de**	**4.27**	**134**	Pn	**Pn**	**19 46 05.1**	**+1.0**
comp=Z,6.6nm,0.3s,baz=314,slow=23,SNR=8.4							
JTS				Sn	**Sn**	**19 46 55.9**	**+2.1**
comp=Z,2.8nm,0.3s,baz=294,slow=20,SNR=1.2							
comp=Z,15nm,0.4s							
CMIG	**Matias

TXAR	**Lajitas Array**	**21.54**	**320**	P	**P**	19 49 50.6	**+2.1**	
	comp=Z,2.0nm,0.9s,baz=136,slow=12,SNR=9.0							
	comp=Z,2.0nm,0.9s							
TKL	**Tuckaleechee C**	**22.58**	**9**	P	**P**	19 49 56.4	**-3.1**	
	comp=Z,2.2nm,0.9s,baz=176,slow=15,SNR=1.5							
	comp=Z,2.2nm,0.9s							
ANMO	**Albuquerque**	**27.22**	**325**	P	**P**	19 50 46.3	**+3.0**	
	comp=Z,0.7nm,0.6s,baz=131,slow=7.1,SNR=2.4							
	comp=Z,0.7nm,0.6s							
YKA	**Yellowknife Ar**	**52.63**	**345**	P	**P**	19 54 10.8	**-2.0**	
	comp=Z,0.8nm,0.9s,baz=146,slow=5.7,SNR=4.4							
	comp=Z,0.8nm,0.9s							
SEY	**Seymchan**	**90.93**	**337**	LR	LR	20 41 51.6		
	comp=Z,192nm,22.0s,baz=282,slow=38							
WRA	**Warramunga Arr**	**138.93**	**255**	PKP	**PKiKP**	20 04 28.2	**-0.4**	
	comp=Z,0.6nm,0.8s,baz=89,slow=2.6,SNR=4.6							

NEIC ***06*** *19:49:02.2±1.1, 19°.024N×0°.008×155°.20W×0°.02, h10km±2km, Error ellipse: s-maj=3.2km s-min=2.8km az=302.0*

HVO 06 19:49:03.6±0.7, **19°.11N**±0°.02×**155°.21W**±0°.02, **h9**km±7km, **ML2.8**/19, **ML3.0**/36(NEIC), **Error ellipse: s-maj=3.5km s-min=1.3km az=139.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.21**	**334**		Pg		19 49 08.1	+0.1
HLP	**Hilina Pali**	**0.21**	**334**	IAML			19 49 13.3	
	comp=N,5μm,0.7s							
HLP				IAML			19 49 15.0	
	comp=E,7μm,0.7s							
HTC	**Hot Caves**	**0.22**	**306**		Pg		19 49 08.6	+0.5
PUH	**Pauahi**	**0.26**	**359**		Pg		19 49 09.0	0.0
PUH	**Pauahi**	**0.26**	**359**	IAML			19 49 16.9	
	comp=E,1μm,0.6s							
PUH				IAML			19 49 18.3	
	comp=N,2μm,0.7s							
KNHH	**Kane Nui o Ham**	**0.27**	**9**		Pg		19 49 09.1	0.0
STCH	**Steam Cracks**	**0.29**	**17**		Pg		19 49 09.5	0.0
STCH	**Steam Cracks**	**0.29**	**17**	IAML			19 49 17.5	
	comp=E,1μm,0.4s							
STCH				IAML			19 49 17.6	
	comp=N,996nm,0.4s							
SDHHI	**Sand Hill**	**0.29**	**345**		Pg		19 49 09.6	+0.1
SDHHI	**Sand Hill**	**0.29**	**345**	IAML			19 49 14.8	
	comp=N,3μm,0.5s							
SDHHI				IAML			19 49 18.7	
	comp=E,4μm,0.5s							
RIM	**Rim**	**0.29**	**349**	Pg	Pg		19 49 09.3	-0.2
RIM				IAML			19 49 19.5	
	comp=E,2μm,0.5s							
RIM				IAML			19 49 20.1	
	comp=N,3μm,0.4s							
KKO	**Keanakako`i**	**0.29**	**350**	IAML			19 49 14.9	
	comp=E,2μm,0.4s							
KKO				IAML			19 49 18.3	
	comp=N,3μm,0.7s							
JCUZ	**Jacuzzi**	**0.29**	**21**		Pg		19 49 09.0	-0.5
NPOC	**North of Pu'u**	**0.30**	**19**		Pg		19 49 09.7	+0.1
BYL	**Byron's Ledge**	**0.30**	**352**	Pg	Pg		19 49 09.4	-0.4
BYL				IAML			19 49 16.5	
	comp=E,2μm,0.5s							
BYL				IAML			19 49 19.9	
	comp=N,2μm,0.6s							
WRMHI	**West Rim**	**0.31**	**345**	Pg	Pg		19 49 09.5	-0.3
HATHI	**Halema'uma'u T**	**0.32**	**352**	Pg	Pg		19 49 09.7	-0.3
HATHI				IAML			19 49 17.9	
	comp=N,2μm,0.6s							
HATHI				IAML			19 49 18.0	
	comp=E,3μm,0.6s							
RSD	**Rainshed**	**0.36**	**350**		Pg		19 49 10.4	-0.3
RSD	**Rainshed**	**0.36**	**350**	IAML			19 49 16.6	
	comp=E,609nm,0.6s							
RSD				IAML			19 49 18.7	
	comp=N,753nm,0.9s							
JOKA	**Jonika Flow**	**0.38**	**31**		Pg		19 49 11.0	-0.2
JOKA					Sg		19 49 17.3	+1.2
KHU	**Kahuku**	**0.40**	**290**		Pg		19 49 11.5	-0.2
KHU					Sg		19 49 18.1	+1.1
KHU	**Kahuku**	**0.40**	**290**	IAML			19 49 25.0	
	comp=N,970nm,0.8s							
KHU				IAML			19 49 25.4	
	comp=E,880nm,0.7s							
MLH	**Mauna Loa**	**0.42**	**337**		Pg		19 49 11.8	-0.1
MLH					Sg		19 49 18.3	+0.9
MLH	**Mauna Loa**	**0.42**	**337**	IAML			19 49 19.1	
	comp=N,3μm,0.7s							
MLH				IAML			19 49 19.9	
	comp=E,2μm,0.4s							
PHO	**Puu Honuaula**	**0.48**	**39**		Pg		19 49 12.8	-0.2
MWH	**Moku'aweowe**	**0.52**	**316**		Pg		19 49 13.3	-0.6
MWH	**Moku'aweowe**	**0.52**	**316**	IAML			19 49 29.0	
	comp=E,2μm,0.7s							
HMH	**Humu'ula Sheep**	**0.55**	**333**		Pg		19 49 14.1	-0.4
HMH					Sg		19 49 22.3	+0.5
HMH	**Humu'ula Sheep**	**0.55**	**333**	IAML			19 49 22.6	
	comp=E,1μm,0.3s							
HMH				IAML			19 49 26.9	
	comp=N,1μm,0.3s							
ALEP	**Alea Permanent**	**0.59**	**317**		Pg		19 49 14.1	-1.1
ALEP					Sg		19 49 22.6	-0.4
POHA	**Pohakuloa**	**0.71**	**335**		Pg		19 49 16.0	-1.4
POHA				IAML			19 49 31.6	
	comp=N,421nm,0.4s							
HUH	**Hualalai**	**0.82**	**314**		Pg		19 49 17.6	-1.9
HUH				IAML			19 49 45.5	
	comp=E,763nm,0.4s							

TEH ***06*** *19:56:59.7, 30°.76N×51°.48E, h5km, ML4.8*

GCMT ***06*** *19:57:00.8±0.3, 30°.55N±0°.02×51°.46E±0°.02, h21km±1km, MW5.0/74, Moment Tensor Solution. s21,c25; s74,c119; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.26±.29; Mθθ-3.56±.20; Mφφ 1.31±.18; Mrθ 0.65±.31; Mrφ2.39±.14; Mθφ-2.44±.42; Best double couple: M=4.65400×10^16 NP1:φs146.00000°, δ89.00000°, λ134.00000°. NP2: φs256.00000°, δ48.00000°, λ28.00000°. Principal axes: T 4.4200, Plg46.0000°, Azm102.0000°; N 0.4780, Plg41.0000°, Azm307.0000°; P -4.8880, Plg13.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

MOS ***06*** *19:57:00.7±1.2, 30°.67N×51°.47E, h15km, mb5.2/77, MS4.2/16 Error ellipse: s-maj=4.5km s-min=2.8km az=120.5*

IDC ***06*** *19:57:00.3±0.5, 30°.75N×51°.48E, h0km, mb4.8/32, mbtmp4.7/41, ML4.0/9, MS4.4/27, Error ellipse: s-maj=10.7km s-min=10.1km az=172.0*

NEIC ***06*** *19:57:01.8±1.8, 30°.69N±0°.06×51°.48E±0°.07, h10km±1km, mb5.3/176, Error ellipse: s-maj=10.8km s-min=10.5km az=347.0*

SGS ***06*** *19:57:02.1, 31°.05N×51°.63E, h9km, Ml5.7*

GII ***06*** *19:57:02.8±0.5, 30°.79N×51°.48E, h10km, confirmed*

THR ***06*** *19:57:02.1±1.1, 30°.77N×51°.46E, h15km, ML4.7*

DSN ***06*** *19:57:03.2±0.6, 30°.60N×51°.47E, h15km, mb5.5/3, ML4.7/16, Error ellipse: s-maj=11.9km s-min=6.5km az=50.0*

OMAN ***06*** *19:57:05.4±1.2, 30°.61N×51°.53E, h22km±10km, mb4.9/49, ms4.1/7, Mwp4.9/4, Error ellipse: s-maj=4.5km s-min=3.6km az=77.0*

AFAD ***06*** *19:57:07.0±0.0, 30°.85N×51°.05E, h18km±76km, MW5.0*

ISC 06 19:57:01.8±0.5, **30°.79N**±0°.03×**51°.53E**±0°.03, **h11**km±2km, **h11**km:**pP-P, n1094,** σ**1959**/1152, **mb5.2**/243, **MS4.4**/49, **96C-22D, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.23**	**14**	Pg		**Pg**	19 57 05.0	**-1.8**
IBRJ	**Brojen**	**1.14**	**348**	Pg		**Pb**	19 57 22.2	**-1.6**
KAZ2	**Kazeron-Fars-I**	**1.18**	**174**	Pg		**Pb**	19 57 23.7	**-0.5**
SHI	**Shiraz**	**1.42**	**143**	Pg		**Pn**	19 57 27.4	**-0.4**
ZNGN	**Zangian**	**1.45**	**337**	Pg		**Pn**	19 57 28.4	**+0.1**
JHBN	**Jahan bin**	**1.62**	**333**	Pg		**Pb**	19 57 31.4	**-0.5**
IGAR	**Gharneh**	**1.67**	**15**	Pg		**Pb**	19 57 32.3	**-0.5**
IPIR	**Pirpir**	**1.97**	**344**	Pn		**Pb**	19 57 37.1	**-0.8**
ISAD	**Sadrabad**	**2.16**	**58**	Pn		**Pb**	19 57 39.7	**-1.5**
IZEF	**Zefreh**	**2.21**	**18**	Pn		**Pb**	19 57 40.5	**-1.6**
NASN	**Na'in**	**2.28**	**28**	*e*Pn		**Pb**	19 57 41.7	**-1.6**
DSBU	**Dashti - Bushe**	**2.43**	**186**	Pn		**Pn**	19 57 43.0	**+1.4**
IKLH	**Kolahrood**	**2.52**	**1**	Pn		**Pb**	19 57 45.6	**-1.8**
AHWZ	**Ahwaz**	**2.53**	**283**	Pn		**Pn**	19 57 43.9	**+0.9**
QIR1	**Qir**	**2.65**	**150**	Pn		**Pn**	19 57 45.9	**+1.3**
IMEH	**Mehriz**	**2.71**	**76**	Pn		**Pn**	19 57 48.0	**+2.4**
GHIR	**Ghir-Karzin**	**2.80**	**153**	*e*Pn		**Pn**	19 57 48.0	**+1.3**
ICHK	**Chekchek**	**2.86**	**59**	Pn		**Pn**	19 57 49.8	**+2.2**
JHRM	**Jahrom**	**2.89**	**141**	Pn		**Pn**	19 57 49.4	**+1.5**
QAMS	**Qamsar**	**2.94**	**358**	Pn		**Pn**	19 57 51.2	**+2.4**
ANAR	**Anarak**	**3.04**	**37**	Pn		**Pn**	19 57 52.1	**+2.1**
YZKH	**Yazd**	**3.06**	**58**	*e*Pn		**Pn**	19 57 52.8	**+2.5**
KRSH	**Karshahi**	**3.21**	**9**	Pn		**Pb**	19 57 55.9	**-3.2**
KHMZ	**Khomeyn**	**3.23**	**336**	*e*Pn		**Pn**	19 57 54.9	**+2.2**
KHMZ				IAML			19 59 20.9	
	comp=N,1μm,0.9s							
IBAF	**Bafgh**	**3.55**	**76**	Pn		**Pn**	19 57 59.6	**+2.5**
ISFB	**Sefidab**	**3.61**	**9**	Pn		**Pn**	19 57 59.7	**+1.9**
GHVR	**GHOM**	**3.69**	**357**	*e*Pn		**Pn**	19 58 01.0	**+2.1**
GHVR				IAML			19 59 26.3	
	comp=E,594nm,0.7s							
GHVR				IAML			19 59 39.0	
	comp=N,1μm,1.0s							
KBD	**Kabd**	**3.69**	**245**	P		**Pn**	19 58 02.2	**+3.3**
KBD				S		**Sn**	19 58 45.1	**+2.7**
LMD1	**Lamerd**	**3.72**	**157**	Pn		**Pn**	19 58 00.5	**+1.2**
BDRS	**Dareh Seyedi**	**3.87**	**325**	Pn		**Pn**	19 58 03.3	**+1.6**
ASAO	**Ashtian**	**3.96**	**342**	*e*Pn		**Pn**	19 58 05.2	**+2.4**
ASAO				IAML			19 59 22.2	
	comp=N,548nm,0.8s							
LAR1	**LAR**	**3.98**	**141**	Pn		**Pn**	19 58 04.4	**+1.5**
IQOM	**Qom**	**4.06**	**355**	Pn		**Pn**	19 58 05.8	**+1.6**
IDOB	**Doab**	**4.12**	**317**	Pn		**Pn**	19 58 06.3	**+1.3**
IKFM	**Kafar-mosalman**	**4.15**	**312**	Pn		**Pn**	19 58 06.4	**+1.3**
IVRN	**Varamin**	**4.20**	**2**	Pn		**Pn**	19 58 07.5	**+1.5**
HSAM	**Samen**	**4.22**	**325**	Pn		**Pn**	19 58 08.0	**+1.7**
KHGB	**Koh Gabri**	**4.29**	**94**	Pn		**Pn**	19 58 09.4	**+2.1**
ZRDN	**Zarand Kerman**	**4.31**	**86**	Pn		**Pn**	19 58 09.4	**+1.9**
HAGD	**Aghdareh**	**4.50**	**334**	Pn		**Pn**	19 58 11.7	**+1.5**
KRBR	**Kerman**	**4.59**	**99**	*e*Pn		**Pn**	19 58 14.1	**+2.6**
KRBR				IAML			19 59 40.0	
	comp=N,348nm,0.7s							
KRBR				IAML			19 59 41.0	
	comp=E,521nm,0.8s							
IHSB	**Hasanabad**	**4.64**	**357**	Pn		**Pn**	19 58 14.2	**+2.1**
NGRK	**Negar Kerman**	**4.64**	**103**	Pn		**Pn**	19 58 14.7	**+2.4**
IRAZ	**Razeghan**	**4.80**	**344**	Pn		**Pn**	19 58 16.2	**+2.0**
DAMV	**Damavand**	**4.84**	**4**	*e*Pn		**Pn**	19 58 17.0	**+2.0**
DAMV				IAML			19 59 19.6	
	comp=E,430nm,0.8s							
DAMV				IAML			19 59 32.1	
	comp=N,241nm,0.7s							
SAKB	**Bahrain**	**4.87**	**191**	P		**Pn**	19 58 18.1	**+3.0**
TPRV	**Parvadeh(Tabas**	**4.92**	**62**	Pn		**Pn**	19 58 18.3	**+2.4**
SHMA	**Al-Shehemyia**	**4.94**	**186**	P		**Pn**	19 58 18.0	**+2.0**
SHMA	SNR=233			S		**Sn**	19 59 12.3	**-0.8**
IMHD	**Mahdasht**	**4.94**	**352**	Pn		**Pn**	19 58 18.0	**+1.9**
TEHA	**Amirabad Tehra**	**4.95**	**359**	Pn		**Pn**	19 58 18.3	**+2.0**
KRM1	**Kerman Provinc**	**4.96**	**92**	Pn		**Pn**	19 58 18.7	**+2.3**
QYSM	**Um Kedad**	**5.00**	**235**	P		**Pn**	19 58 18.9	**+1.9**
CHTH	**Charan**	**5.12**	**356**	*e*Pn		**Pn**	19 58 20.6	**+1.9**
THKV	**Tehran--Karaj**	**5.14**	**354**	*e*Pn		**Pn**	19 58 21.1	**+2.1**
THKV				IAML			20 00 18.1	
	comp=N,207nm,0.6s							
QABG	**Abgarm-Qazvin**	**5.17**	**342**	Pn		**Pn**	19 58 21.2	**+1.7**
SNQR	**Sonqor, Kerman**	**5.22**	**322**	Pn		**Pn**	19 58 21.6	**+1.4**
BOOSS		**5.25**	**202**	P		**Pn**	19 58 20.9	**+2.5**
CHMN	**Cheshme madani**	**5.28**	**99**	Pn		**Pn**	19 58 23.1	**+2.1**
BNDS	**Bandar-Abbas**	**5.28**	**129**	*e*Pn		**Pn**	19 58 22.6	**+1.7**
BNDS				IAML			20 00 02.7	
	comp=N,189nm,0.6s							
BNDS				IAML			20 00 09.6	
	comp=E,209nm,0.6s							
ILBA	**Ilam Banvizeh**	**5.32**	**303**	*e*Pn		**Pn**	19 58 21.7	**+0.4**
ILBA				IAML			20 00 17.8	
	comp=N,744nm,0.7s							
ILBA				IAML			20 00 27.6	
	comp=E,570nm,0.8s							
IPRN	**Peran**	**5.48**	**7**	Pn		**Pn**	19 58 25.8	**+2.1**
SMAN	**Sihmah**	**5.51**	**214**	P		**Pn**	19 58 25.7	**+1.9**
TKDS	**Koohdasht(Taba**	**5.52**	**58**	Pn		**Pn**	19 58 26.1	**+2.0**
TABS	**Tabas**	**5.53**	**57**	*e*Pn		**Pn**	19 58 27.5	**+3.2**
TABS				IAML			20 00 20.9	
	comp=N,142nm,0.5s							
SNGE	**Sanandaj**	**5.55**	**322**	*e*Pn		**Pn**	19 58 25.9	**+1.3**
SNGE				IAML			20 00 23.0	
	comp=N,174nm,0.7s							
MZPU	**Pul - Mazandar**	**5.64**	**0**	Pn		**Pn**	19 58 28.2	**+2.4**
KLST	**Kelardasht - M**	**5.73**	**356**	Pn		**Pn**	19 58 29.5	**+2.3**
JRN	**Qarnain Island**	**5.94**	**168**	P		**Pn**	19 58 30.7	**+1.0**
JRN				S		**Sn**	19 59 37.1	**-0.7**
RQBS	**RQBS**	**5.96**	**236**	P		**Pn**	19 58 31.3	**+1.2**
TRNA	**Turayna**	**6.03**	**183**	P		**Pn**	19 58 32.3	**+1.2**
TRNA	SNR=111			S		**Sn**	19 59 41.7	**+1.5**
SMRA	**Abu-Samra**	**6.05**	**186**	P		**Pn**	19 58 32.5	**+1.2**
SMRA	SNR=43			S		**Sn**	19 59 40.1	**-0.4**
	SNR=5.8							
KHNJ	**Kahnooj**	**6.09**	**116**	Pn		**Pn**	19 58 34.1	**+2.3**
SHME	**Shamm**	**6.23**	**138**	P		**Pn**	19 58 33.5	**-0.2**
SHME	**Shamm**	**6.23**	**138**	P		**Pn**	19 58 34.0	**+0.3**
SHME	SNR=11			S		**Sn**	19 59 45.1	**+0.2**
KBAM	**BAM**	**6.23**	**104**	Pn		**Pn**	19 58 36.0	**+2.2**
GIDE	**GILAN DEYLAMAN**	**6.27**	**348**	*e*Pn		**Pn**	19 58 36.7	**+2.2**
ZNJK	**Zanjan**	**6.33**	**339**	*e*Pn		**Pn**	19 58 38.2	**+2.9**
UMQ	**Umm Al-Quwin**	**6.39**	**144**	P		**Pn**	19 58 36.1	**+0.2**
UMQ	**Umm Al-Quwin**	**6.39**	**144**	P		**Pn**	19 58 38.2	**+2.3**
UMQ				S		**Sn**	19 59 49.9	**+1.1**
SHRO	**Shahrood**	**6.40**	**35**	*e*Pn		**Pn**	19 58 39.2	**+3.0**
BANOM	**Banah**	**6.41**	**138**	P		**Pn**	19 58 36.1	**-0.2**
BANOM	**Banah**	**6.41**	**138**	P		**Pn**	19 58 38.5	**+2.1**
BANOM				S		**Sn**	19 59 48.8	**-0.8**
NHRD	**Haradh**	**6.44**	**201**	P		**Pn**	19 58 38.5	**+1.9**
LHJ2	**Lahijan - Gila**	**6.48**	**350**	Pn		**Pn**	19 58 39.4	**+2.2**
ITEG	**Tejag**	**6.49**	**69**	Pn		**Pn**	19 58 40.1	**+2.5**
IKOO	**Kooshah**	**6.58**	**74**	Pn		**Pn**	19 58 41.5	**+2.6**
BSRN	**Basiran**	**6.60**	**78**	*e*Pn		**Pn**	19 58 41.7	**+2.7**
SLWR	**Sila**	**6.69**	**179**	P		**Pn**	19 58 40.7	**+0.6**
SLWR				P		**Pn**	19 58 40.7	**+0.6**
SLWR				S		**Sn**	19 59 55.6	**-0.8**
SLWR				S		**Sn**	19 59 55.6	**-0.8**
MASF	**Masafi**	**6.77**	**142**	P		**Pn**	19 58 41.3	**+0.1**
MASF	SNR=28			S		**Sn**	19 59 56.5	**-1.9**
MSFE	**Esma-Masafi**	**6.78**	**142**	*i* P		**Pn**	19 58 41.2	**-0.1**
	SNR=28							
RMAH	**Rumah**	**6.80**	**218**	P		**Pn**	19 58 42.6	**+1.0**
RMAH	**Rumah**	**6.80**	**218**	S		**Sn**	19 59 58.9	**-0.1**
NAZ	**Nazwa, Dubai**	**6.84**	**147**	*i* P		**Pn**	19 58 43.4	**+1.3**
	SNR=31							
NAZ	**Nazwa, Dubai**	**6.84**	**147**	P		**Pn**	19 58 43.7	**+1.6**
NAZ	SNR=30			S		**Sn**	19 59 59.5	**-0.4**
	SNR=5.7							
GHWR	**Ruwais**	**6.90**	**170**	P		**Pn**	19 58 42.8	**-0.2**
GHWR				S		**Sn**	20 00 00.5	**-1.0**
MDH	**Madha**	**6.90**	**141**	*i* P		**Pn**	19 58 42.4	**-0.6**
	SNR=19							
MDH	**Madha**	**6.90**	**141**	P		**Pn**	19 58 42.4	**-0.6**
	SNR=21							
MDH				S		**Sn**	19 59 58.9	**-2.6**
AJN	**Ajban**	**6.92**	**153**	*i* P		**Pn**	19 58 44.0	**+0.8**
	SNR=12							
AJN	**Ajban**	**6.92**	**153**	P		**Pn**	19 58 44.2	**+1.0**
AJN				S		**Sn**	20 00 02.6	**+0.7**
	SNR=6.3							
ASUD	**Al Ashush, Dub**	**7.00**	**150**	*i* P		**Pn**	19 58 44.9	**+0.5**
	SNR=6.7							
ASUD	**Al Ashush, Dub**	**7.00**	**150**	P		**Pn**	19 58 46.2	**+1.8**
ASUD				S		**Sn**	20 00 02.5	**-1.5**
FAQ	**Al Faqa, Dubai**	**7.01**	**148**	P		**Pn**	19 58 44.6	**+0.1**
FAQ	**Al Faqa, Dubai**	**7.01**	**148**	P		**Pn**	19 58 45.3	**+0.8**
	SNR=16							
FAQ				S		**Sn**	20 00 03.8	**-0.5**
UOSS	**Minazif**	**7.14**	**143**	Pn		**Pn**	19 58 46.1	**-0.2**
UOSS				Sn		**Sn**	20 00 05.2	**-2.3**
UOSS	**Minazif**	**7.14**	**143**	*i* P		**Pn**	19 58 45.8	**-0.5**
	SNR=20							
UOSS	**Minazif**	**7.14**	**143**	P		**Pn**	19 58 47.1	**+0.8**
UOSS				S		**Sn**	20 00 06.3	**-1.2**
HATD	**Hatta, Dubai**	**7.20**	**144**	*i* P		**Pn**	19 58 47.5	**+0.4**
	SNR=23							
HATD	**Hatta, Dubai**	**7.20**	**144**	P		**Pn**	19 58 48.9	**+1.8**
	SNR=22							
HATD				S		**Sn**	20 00 06.2	**-2.7**
IMND	**Minoodasht**	**7.21**	**25**	Pn		**Pn**	19 58 50.1	**+2.8**
SHBH1	**SHBH1**	**7.24**	**180**	P		**Pn**	19 58 47.3	**-0.3**
ASHO	**Ashiyiah**	**7.28**	**145**	*i* P		**Pn**	19 58 48.0	**-0.3**
	SNR=29							
ASHO				S		**Sn**	20 00 06.9	**-4.2**
ASHO	**Ashiyiah**	**7.28**	**145**	P		**Pn**	19 58 48.3	**0.0**
	SNR=29							
ASHO				P		**Pn**	19 58 48.3	**0.0**
	SNR=29							
ASHO				S		**Sn**	20 00 10.3	**-0.8**
ASHO				S		**Sn**	20 00 10.3	**-0.8**
MZWR	**Madinat Zayed**	**7.30**	**163**	P		**Pn**	19 58 48.6	**+0.1**
IMON	**Monand**	**7.32**	**69**	Pn		**Pn**	19 58 51.8	**+2.9**
SRSL	**SARDASHT**	**7.43**	**318**	*e*Pn		**Pn**	19 58 52.5	**+2.1**
JASK	**Jask - Hormozg**	**7.43**	**130**	P		**Pn**	19 58 51.9	**+1.7**
	SNR=24							
JASK				S		**Sn**	20 00 11.9	**-2.6**
SBZV	**Sabzevar**	**7.55**	**41**	Pn		**Pn**	19 58 54.1	**+2.1**
ALNE	**Al Ain**	**7.68**	**150**	*i* P		**Pn**	19 58 53.2	**-0.6**
	SNR=64							
ALNE	**Al Ain**	**7.68**	**150**	P		**Pn**	19 58 54.0	**+0.3**
	SNR=10							
ALNE				S		**Sn**	20 00 18.1	**-2.7**
KHRJ	**Al Kharj**	**7.72**	**207**	P		**Pn**	19 58 55.6	**+1.3**
MRVT	**Maraveh tapeh**	**7.83**	**28**	*e*Pn		**Pn**	19 58 58.6	**+2.9**
TBHD	**Torbat heydari**	**7.94**	**52**	Pn		**Pn**	19 58 59.5	**+2.0**
MZR	**Muzera**	**7.95**	**167**	*i* P		**Pn**	19 58 57.0	**-0.4**
	SNR=40							
MZR	**Muzera**	**7.95**	**167**	P		**Pn**	19 58 57.3	**0.0**
	SNR=40							
MZR				S		**Sn**	20 00 24.8	**-2.5**
SHRT	**Shahrakht**	**7.95**	**67**	*e*Pn		**Pn**	19 59 00.6	**+3.1**
SOHO	**SOHO**	**7.98**	**145**	*i* P		**Pn**	19 58 57.0	**-0.8**
	SNR=54							
SOHO	**SOHO**	**7.98**	**145**	P		**Pn**	19 58 56.6	**-1.2**
SOHO				S		**Sn**	20 00 24.9	**-3.2**
ZHSF	**Zahedan**	**8.09**	**96**	*e*Pn		Pn	19 59 05.2	+5.8
ZHDN	**Zahedan**	**8.16**	**97**	Pn		**Pn**	19 59 02.8	**+2.4**
IPAY	**Payeh**	**8.41**	**46**	Pn		**Pn**	19 59 06.6	**+2.8**
IMOG	**Moghan**	**8.41**	**49**	Pn		**Pn**	19 59 06.5	**+2.5**
BJRD	**Bojnurd**	**8.44**	**34**	*e*Pn		**Pn**	19 59 07.3	**+3.1**
GRMI	**Germi**	**8.54**	**341**	*e*Pn		**Pn**	19 59 08.6	**+3.0**
TBJM	**Torbat-e-JAM**	**8.63**	**57**	Pn		**Pn**	19 59 09.1	**+2.1**
ARQ	**Araqi**	**8.65**	**148**	P		**Pn**	19 59 06.0	**-1.1**
	SNR=40							
ARQ				S		**Sn**	20 00 43.5	**-1.2**
ITBZ	**Tabriz**	**8.65**	**331**	Pn		**Pn**	19 59 08.7	**+1.6**
UMZA	**Um Al Zommool**	**8.67**	**157**	P		**Pn**	19 59 06.2	**-1.1**
UMZA				P		**Pn**	19 59 06.2	**-1.1**
UMZA				S		**Sn**	20 00 43.1	**-2.0**
UMZA				S		**Sn**	20 00 43.1	**-2.0**
HOQ	**Hoqain**	**8.83**	**143**	P		**Pn**	19 59 07.5	**-1.9**
	SNR=8.3							
HOQ				P		**Pn**	19 59 07.5	**-1.9**
	SNR=8.3							
ISHB	**Shabestar**	**8.93**	**329**	Pn		**Pn**	19 59 12.6	**+1.7**
GEYT	**Alibeck**	**8.97**	**36**			**Pn**	19 59 15.0	**+3.7**
GEYT	**Alibeck**	**8.97**	**36**	Pn		**Pn**	19 59 13.8	**+2.5**
	comp=N,1.1nm,0.3s,baz=207,slow=11,SNR=40							
GEYT					Lg	Lg	20 01 45.5	
	baz=234,slow=9.0 comp=N,38nm,0.8s							
GEYT	**Alibeck**	**8.97**	**36**	P		**Pn**	19 59 15.0	**+3.7**
GYA0B	**ALIBECK ARRAY**	**8.97**	**36**			**Pn**	19 59 14.7	**+3.4**
RAYN	**Ar Rayn**	**9.01**	**218**	Pn		**Pn**	19 59 10.6	**-1.4**
RAYN	**Ar Rayn**	**9.01**	**218**	*i* P		**Pn**	19 59 10.8	**-1.2**
	SNR=38							
RAYN	**Ar Rayn**	**9.01**	**218**	P		**Pn**	19 59 10.9	**-1.1**
RAYN	**Ar Rayn**	**9.01**	**218**	P		**Pn**	19 59 10.6	**-1.4**
IMYA	**Miami**	**9.05**	**50**	Pn		**Pn**	19 59 15.0	**+2.5**
YOVA	**Hakkari_Yks

comp=N,5,5nm,0.3s,baz=318,slow=0.0,SNR=25
comp=N,14nm,0.3s
MAK Makhachkala 12.57 346 *e*P **Pn 19 59 57.4 -3.1**
MAK *e*S **Sn 20 02 17.6 -2.9**
MAK pmax pmax
comp=Z,164nm,0.9s
MAK MLR MLR
comp=Z,1μm,15.0s
WHFO Wadi Hawf 12.97 170 P **Pn 20 00 04.1 -2.1**
SNR=24
AZEY Adyaman-Merk 13.02 306 P **Pn 20 00 11.2 +4.4**
AZEY S Sn 20 02 44.2 +13
MAYA Malatya/Merkez 13.15 308 P **Pn 20 00 09.8 +1.2**
HSUJ Al Zarqa 13.16 280 P **Pn 20 00 10.2 +1.4**
SHAO Shalim 13.24 163 *i* P **Pn 20 00 07.7 -2.2**
SNR=13
SHAO Shalim 13.24 163 P **Pn 20 00 07.6 -2.2**
SNR=13
SWQJ Swaqa 13.28 276 P **Pn 20 00 09.6 -0.8**
BCA Borcka 13.30 326 ⇑P **Pn 20 00 14.5 +3.9**
BCA Borcka 13.30 326 *e*P **Pn 20 00 14.0 +3.4**
DMTO DMTO 13.38 166 P **Pn 20 00 09.0 -2.8**
SNR=18
ONI Oni 13.44 333 **Pn 20 00 14.8 +2.3**
ONI Oni 13.44 333 P **Pn 20 00 14.8 +2.3**
RBK Rabkut 13.45 169 P **Pn 20 00 10.0 -2.7**
SNR=10
ABTO Aybut 13.47 173 P **Pn 20 00 11.0 -2.1**
SNR=18
GAZ Gaziantep 13.47 302 *e*P **Pn 20 00 12.1 -0.9**
GAZ Gaziantep 13.47 302 Pn **Pn 20 00 13.0 -0.1**
CHOM Ceyeli-Rize 13.48 323 *e*P **Pn 20 00 10.4 -2.6**
KSHT Keshet 13.54 283 P **Pn 20 00 15.3 +1.4**
SHMJ Saham 13.55 282 P **Pn 20 00 15.7 +1.6**
ARPR Arapgir-MALATY 13.62 311 *e*P **Pn 20 00 16.7 +1.6**
ARPR Arapgir-MALATY 13.62 311 Pn **Pn 20 00 15.1 +0.1**
NATI Neve Ativ 13.62 285 P **Pn 20 00 17.3 +2.3**
BALJ Balqa 13.63 280 Pn **Pn 20 00 15.9 +0.7**
BALJ Balqa 13.63 280 P **Pn 20 00 17.8 +2.7**
KARJ KARJ 13.63 275 P **Pn 20 00 17.1 +2.0**
HSNJ Maan 13.67 272 P **Pn 20 00 16.5 +0.7**
GEM Giv'at Ha'Em 13.68 284 P **Pn 20 00 18.5 +2.7**
GEM Giv'at Ha'Em 13.68 284 P **Pn 20 00 16.5 +0.7**
QRNJ Al-Qirein 13.69 281 P **Pn 20 00 18.9 +3.0**
GHAJ Ghor Haditha 13.70 276 Pn **Pn 20 00 14.1 -2.0**
GHAJ Ghor Haditha 13.70 276 P **Pn 20 00 16.3 +0.3**
HMDT Nahal Hemdat 13.73 280 P **Pn 20 00 19.3 +2.8**
HMDT Nahal Hemdat 13.73 280 P **Pn 20 00 16.9 +0.4**
LISJ El Lisan 13.77 276 P **Pn 20 00 18.0 +1.0**
UJAP Al Uja 13.78 279 P **Pn 20 00 20.1 +3.0**
MMLI Mount Malkishu 13.83 281 P **Pn 20 00 17.8 0.0**
DSI Dead Sea 13.85 277 P **Pn 20 00 19.1 +1.0**
DSI Dead Sea 13.85 277 P **Pn 20 00 18.8 +0.6**
MSBI Mazada 13.88 276 P **Pn 20 00 20.0 +1.6**
MSBI Mazada 13.88 276 P **Pn 20 00 19.3 +0.9**
MMA0 Mount Meron ar 13.88 283 P **Pn 20 00 20.3 +1.7**
MMA0B Mount Meron ar 13.88 283 P **Pn 20 00 20.0 +1.4**
MMAI Mount Meron Ar 13.88 283 Pn **Pn 20 00 18.5 -0.1**
comp=Z,2.4nm,0.3s,baz=96,slow=16,SNR=17
MMAI Sn **Sn 20 02 51.0 -1.8**
comp=Z,0.9nm,0.3s,baz=111,slow=35,SNR=1.9
MMAI Lg Lg 20 04 32.3
baz=116,slow=37
MMAI LR LR 20 07 08.6
comp=Z,1μm,19.1s,baz=44,slow=44
comp=Z,8.4nm,0.6s
MMC7 Mount Meron ar 13.89 283 P **Pn 20 00 19.1 +0.4**
DARE Darende-Malaty 13.91 308 *e*P **Pn 20 00 20.0 +0.9**
KTUT Trabzon 13.93 320 ⇓P **Pn 20 00 20.1 +0.9**
KTUT Trabzon 13.93 320 *e*P **Pn 20 00 21.7 +2.5**
TAHT Tahtakopru-Hat 13.95 298 *e*P **Pn 20 00 20.9 +1.5**
HNTI Hanita 14.08 284 P **Pn 20 00 22.8 +1.6**
ZFRI Zfri 14.08 273 P **Pn 20 00 22.8 +1.6**
ZFRI Zfri 14.08 273 P **Pn 20 00 22.5 +1.2**
YTIR Yattir 14.08 277 P **Pn 20 00 23.4 +2.0**
YTIR Yattir 14.08 277 P **Pn 20 00 22.0 +0.6**
SLTI Sal'it 14.14 280 P **Pn 20 00 24.8 +2.7**
SLTI Sal'it 14.14 280 P **Pn 20 00 23.0 +0.8**
NCK Nalchik 14.16 336 *i* P **P 20 00 26.3 -3.7**
OFRI `Ofer 14.20 282 P **Pn 20 00 23.2 +0.1**
PRNI Paran 14.24 272 P **Pn 20 00 23.6 0.0**
AMAZ Amatzia 14.25 277 P **Pn 20 00 24.5 +0.9**
AMAZ Amatzia 14.25 277 P **Pn 20 00 24.6 +1.0**
HRFI Mount Harif 14.25 271 *e*P **Pn 20 00 25.8 +2.1**
HRFI Mount Harif 14.25 271 P **Pn 20 00 23.7 0.0**
AQBJ Aqaba 14.28 270 P **Pn 20 00 25.0 +0.9**
EIL Elat 14.38 270 *e*P **Pn 20 00 24.6 -0.8**
EIL Elat 14.38 270 Pn **Pn 20 00 24.8 -0.6**
comp=Z,1.1nm,0.3s,baz=58,slow=7.0,SNR=12
EIL Sn **Sn 20 03 03.8 -1.0**
comp=Z,0.6nm,0.3s,baz=94,slow=14,SNR=1.4
EIL Lg Lg 20 04 44.4
comp=Z,0.9nm,0.3s,baz=299,slow=20,SNR=1.4
comp=Z,17nm,0.9s
EIL Elat 14.38 270 P **Pn 20 00 25.3 -0.1**
EIL Elat 14.38 270 P **Pn 20 00 25.0 -0.4**
MBRI Mt Berech 14.39 270 P **Pn 20 00 24.9 -0.7**
ESPY Espiye-Giresun 14.47 318 *e*P **Pn 20 00 27.8 +1.2**
CEYT Ceyhan 14.49 300 *e*P **Pn 20 00 27.8 +0.9**
SARI SarD1z-Kayseri 14.57 306 *e*P **Pn 20 00 28.7 +0.5**
KBZ Khabaz 14.62 334 Pn **P 20 00 32.2 -2.8**
comp=Z,0.1nm,0.3s,baz=128,slow=9.8,SNR=30
comp=Z,9.8nm,0.9s
KBZ Khabaz 14.62 334*ce*P **Pn 20 00 31.6 +3.0**
SHA1 Shidzhatmaz 14.72 334*ce*P **P 20 00 34.0 -2.4**
KZIT Kziot 14.72 275 P **Pn 20 00 31.0 +0.9**
KZIT Kziot 14.72 275 P **Pn 20 00 31.0 +0.9**
KVAR Kislovodsk Arr 14.89 334 Pn **Pn 20 00 33.9 +1.5**
baz=269,slow=23
KVAR Sn **S 20 03 27.3 -8.3**
baz=108,slow=16
comp=Z,14nm,1.2s
KIV Kislovodsk 14.89 334 ⇑P **P 20 00 36.6 -1.6**
KIV Kislovodsk 14.89 334 Pn **P 20 00 35.5 -2.7**
KIV Kislovodsk 14.89 334 P **P 20 00 36.7 -1.4**
KIV Kislovodsk 14.89 334 *e*P **P 20 00 35.5 -2.7**
KIV *e*S **Sn 20 03 22.5 +5.1**
KIV pmax pmax
comp=Z,159nm,1.0s
KIV MLR MLR
comp=Z,202nm,13.0s
SVSK Karacayir 14.94 312 *e*P **Pn 20 00 34.6 +1.7**
RSDY Resadiye-TOKAT 15.00 314 *e*P **Pn 20 00 35.6 +1.8**
BNN Bunyan 15.17 306 *e*P **Pn 20 00 37.6 +1.4**
BNN Bunyan 15.17 306 Pn **Pn 20 00 37.3 +1.1**
BNN IAmb IAmb 20 00 39.5
comp=Z,212nm,1.1s
KBL Kabul 15.22 71 **Pn 20 00 38.5 +1.6**
KBL Kabul 15.22 71 P **Pn 20 00 38.5 +1.6**
KBL pmax pmax
comp=Z,14nm,1.2s
EREN Erenkoy 15.29 293 *e*P **Pn 20 00 37.8 +0.2**
CMRD Camardi-Nigde 15.29 301 *e*P **Pn 20 00 39.3 +1.5**
TOKT Tokat 15.45 312 *e*P **Pn 20 00 40.5 +0.8**
KIZK Mersin 15.55 296 *e*P **Pn 20 00 42.6 +1.6**
VSLR Vesyoloye 15.60 327 *i* P **P 20 00 45.2 -0.7**
VSLR pmax pmax
comp=Z,163nm,1.1s
SILI Silifke-Mersin 15.69 295 *e*P **Pn 20 00 42.7 -0.1**
GOF Gofitskoye 15.73 337*ce*P **P 20 00 45.6 -1.7**
LFK Lefkose 15.74 291 *e*P **Pn 20 00 45.5 +1.9**
IKL Isikli 15.84 295 *e*P **Pn 20 00 44.6 -0.2**
CSS Mathiatis 15.84 290 *e*P **Pn 20 00 45.0 +0.1**
CSS Mathiatis 15.84 290 Pn **Pn 20 00 45.0 +0.1**
CSS IAmb IAmb 20 00 52.2
comp=Z,355nm,1.3s
CSS Mathiatis 15.84 290 P **Pn 20 00 45.9 +1.0**
CSS Mathiatis 15.84 290 P **Pn 20 00 45.8 +0.9**
SOC Sochi 15.84 327 *e*P **Pn 20 00 46.4 +1.6**
SOC *e* 20 03 45.4
SOC pmax pmax
comp=Z,133nm,1.0s
SOC MLR MLR
comp=Z,610nm,13.0s
KEBE Keben-Mersin 15.87 296 *e*P **Pn 20 00 46.7 +1.4**
KVT Kavak 16.18 314 *e*P **Pn 20 00 50.8 +1.5**
BERE Bereket-Mersin 16.23 295 *e*P **Pn 20 00 51.3 +1.4**
LEF Lefka 16.23 290 *e*P **Pn 20 00 51.1 +1.3**
LABN Labinsk 16.24 331 *e*P **P 20 00 55.3 +2.3**
LABN pmax pmax
comp=Z,147nm,0.8s
LABN MLR MLR
comp=Z,1μm,12.0s
YESY Yesilyurt 16.26 300 *e*P **P 20 00 53.1 -0.3**
SIMJ Simiganj 16.36 57 P **Pn 20 00 51.6 0.0**
CHGR Chuyangaron 16.47 57 P **Pn 20 00 53.8 +0.8**
CHGR Chuyangaron 16.47 57 P **Pn 20 00 53.8 +0.8**
CHGR pmax pmax
comp=Z,96nm,1.1s
SULT Sultanhani-AKS 16.57 301 *e*P **P 20 00 55.8 -1.0**
CORM Corum 16.63 309 *e*P **Pn 20 00 55.9 +0.9**
SERE Sereflikochisa 16.82 304 *e*P **P 20 00 59.4 -0.2**
GAZI Gazipasa 16.91 294 *e*P **P 20 00 59.8 -0.7**
HDMB Hadim 16.96 296 *e*P **P 20 01 00.7 -0.6**
DIKM Dikmen 17.00 314 ⇑P **P 20 01 01.1 -0.3**
DIKM Dikmen 17.00 314 *e*P **Pn 20 01 00.4 +0.9**
DIKM Dikmen 17.00 314 P **Pn 20 01 00.2 +0.7**
DELI KIRIKKALE 17.02 307 P **Pn 20 00 58.7 -1.2**
BR104 Keskin Array S 17.09 306 P **Pn 20 01 01.4 +0.6**
BR131 Keskin Array S 17.09 306 **Pn 20 01 00.9 0.0**
BR131 Keskin Array S 17.09 306 P **P 20 01 04.3 +1.7**
SNR=36
BR131 Keskin Array S 17.09 306 *i* P **Pn 20 01 01.0 0.0**
BRTR Keskin Array B 17.09 306 Pn **Pn 20 01 00.5 -0.4**
BRTR Keskin Array B 17.09 306 P **Pn 20 01 01.6 +0.6**
comp=Z,0.6nm,0.3s,baz=128,slow=10,SNR=32
BRTR LR LR 20 09 04.1
comp=Z,1μm,18.7s,baz=122,slow=42
BRTR ScP **ScP 20 09 20.9 +0.3**
comp=Z,0.9nm,0.9s,baz=130,slow=2.9,SNR=3.3
comp=Z,15nm,0.9s
BRTR Keskin Array B 17.09 306 *i* P **P 20 01 04.4 +1.7**
BRTR pmax pmax
comp=Z,16nm,0.6s
BR105 Keskin Array S 17.11 306 P **Pn 20 01 01.8 +0.7**
BR106 Keskin Array S 17.11 306 P **Pn 20 01 02.0 +0.9**
CHBY Cihanbeyli 17.17 302 *e*P **P 20 01 03.7 +0.2**
KAGI orum-Kargı 17.21 312 P **Pn 20 01 03.0 +0.8**
ERBR Yeremizino-Bor 17.22 333 *e*P **P 20 01 05.8 +2.0**
ERBR *e*S **S 20 04 23.9 +1.0**
ERBR pmax pmax
comp=Z,219nm,1.5s
ERBR MLR MLR
comp=Z,696nm,15.0s
KULU Kulu 17.26 304 *e*P **Pn 20 01 03.7 +0.7**
BOYA Sinop/Boyabat- 17.29 313 P **Pn 20 01 03.0 -0.2**
KONT Konya--Tatoy 17.34 299 *e*P **P 20 01 05.7 +0.4**
AFSR Afar-Bala (An 17.37 305 *e*P **P 20 01 05.4 -0.3**
LADK Ladik-KONYA 17.43 300 *e*P **P 20 01 06.4 +0.1**
SEYD Seydisehir-KON 17.58 297 *e*P **P 20 01 10.6 +2.6**
ANTO Ankara 17.74 306 ⇑P **P 20 01 10.7 +1.0**
ANTO Ankara 17.74 306 P **P 20 01 09.8 +0.1**
ANTO Ankara 17.74 306 P **P 20 01 12.0 +2.2**
ANTO Ankara 17.74 306 P **P 20 01 10.9 +1.1**
ANTO Ankara 17.74 306 P **P 20 01 10.2 +0.4**
BR231 Keskin MP Arra 17.75 306 P **Pn 20 01 08.9 -0.1**
ANN Anapa 17.84 326*c* *i*P **P 20 01 11.2 +0.5**
ANN *e*S **S 20 04 36.8 +1.2**
ANN pmax pmax
comp=Z,62nm,1.2s
ANN MLR MLR
comp=Z,807nm,12.0s
KIZT Kizilcal 18.02 302 *e*P **Pn 20 01 11.3 -1.0**
SVRH Sivrihisar-ESK 18.48 303 *e*P **Pn 20 01 18.9 +0.9**
CHM Chimkent 18.49 47 *e*P **Pn 20 01 19.7 +1.7**
baz=46
CHM Chimkent 18.49 47 *e*P **Pn 20 01 19.7 +1.7**
BCK Bucak 18.55 297 *e*P **Pn 20 01 21.7 +2.8**
BCK Bucak 18.55 297 P **Pn 20 01 19.3 +0.4**
NIL Nilore 18.60 75 P **Pn 20 01 20.0 +0.6**
NIL Nilore 18.60 75 P **Pn 20 01 20.0 +0.6**
NIL pmax pmax
comp=Z,92nm,1.4s
KORT Korkueli 18.63 295 *e*P **Pn 20 01 22.6 +2.8**
IUG luzhnay 18.67 48 *e*P **Pn 20 01 21.6 +1.3**
comp=Z,37nm,0.8s,baz=47
IUG luzhnay 18.67 48 *e*P **Pn 20 01 21.6 +1.3**
IUG pmax pmax
comp=Z,37nm,0.8s
KURC Kurucasile-Bar 18.69 311 *e*P **Pn 20 01 20.4 0.0**
ISP Isparta 18.70 298 *e*P **Pn 20 01 21.8 +1.1**
ISP Isparta 18.70 298 **Pn 20 01 22.0 +1.3**
ISP IAmb IAmb 20 01 25.2
comp=Z,116nm,1.0s
ISP Isparta 18.70 298*ce*P **Pn 20 01 22.5 +1.8**
ISP pmax pmax
comp=Z,146nm,1.3s
YUVA Yuva-Kibriscik 18.73 306 *e*P **Pn 20 01 22.2 +1.1**
CIFT Cifteler, Eski 18.78 303 *e*P **Pn 20 01 22.6 +1.0**
SHUT Suhut-Afyon 18.89 300 *e*P **Pn 20 01 23.0 0.0**
ELL Elmali 18.92 294 *e*P **P 20 01 22.7 0.0**
ELL Elmali 18.92 294 P **P 20 01 22.7 0.0**
ELL IAmb IAmb 20 01 29.7
comp=Z,312nm,0.7s
ELL Elmali 18.92 294 P **P 20 01 22.7 0.0**
ELL pmax pmax
comp=Z,312nm,0.7s
BRLS Boroldav 19.02 45 *e*P **P 20 01 23.1 -0.7**
baz=45
BRLS Boroldav 19.02 45 *e*P **P 20 01 23.0 -0.7**
AKAS Kas 19.06 292 *e*P **Pn 20 01 23.6 -0.7**
BASM Basmaki-Afyon 19.09 298 *e*P **Pn 20 01 26.8 +1.5**
MDUB Mudurnu 19.11 306 *e*P **Pn 20 01 26.2 +0.6**
MDUB Mudurnu 19.11 306 P **Pn 20 01 25.5 -0.1**
MDUB IAmb IAmb 20 01 28.7
comp=Z,299nm,1.0s
SRCK Saricakaya, Es 19.34 304 *e*P **Pn 20 01 28.3 0.0**
CAME Cameli-Denizli 19.43 294 *e*P **Pn 20 01 30.2 +0.6**
KK31 Karatay Array 19.48 46 **Pn 20 01 31.1 +1.2**
KK31 Karatay Array 19.48 46 P **Pn 20 01 31.1 +1.2**
KK31 pmax pmax
comp=Z,55nm,1.0s
KKAR Karatay Array 19.48 46 **Pn 20 01 31.5 +1.6**
KKAR Karatay Array 19.48 46 P **Pn 20 01 31.5 +1.6**
KKAR pmax pmax
comp=Z,55nm,1.0s
ABKAR Akbulak array 19.52 17 P **P 20 01 29.6 +0.5**
ABKAR Akbulak array 19.52 17 P **Pn 20 01 29.7 -0.6**
ABKAR IAmb IAmb 20 01 37.3
comp=Z,61nm,1.4s
FETY Fethiye 19.54 293 *e*P **P 20 01 30.0 +0.5**
APMY Acipayam-Deniz 19.55 296 *e*P **Pn 20 01 31.2 +0.3**
GULT Gulveren 19.57 305 *e*P **Pn 20 01 32.1 +1.0**
SIM Simferopol' 19.66 321 *e*P **P 20 01 31.2 +0.5**
SIM pmax pmax
comp=Z,84nm,1.1s
SAUV Serdivan-Sakar 19.82 306 *e*P **Pn 20 01 33.3 -0.7**
DZA Taraz 19.87 47 *e*P **Pn 20 01 34.6 -0.1**
baz=47
DZA Taraz 19.87 47 *e*P **Pn 20 01 34.6 -0.1**
GEDZ Gediz 19.89 300 *e*P **Pn 20 01 35.3 +0.4**
DALY Dalyan (Mula) 19.92 294 *e*P **P 20 01 34.3 +0.8**
CAVI Cavuskoy 19.96 304 *e*P **Pn 20 01 35.2 -0.5**
ADVT Abdulvahap 20.12 305 *e*P **Pn 20 01 37.0 -0.5**
AKTO Aktyubinsk 20.22 12 P **Pn 20 01 37.9 -0.8**
comp=Z,29nm,0.7s,baz=200,slow=9.7,SNR=37
AKTO ScP **ScP 20 09 26.2 -0.8**
comp=Z,2.1nm,0.9s,baz=195,slow=5.0,SNR=2.6
AKTO LR LR 20 11 54.3
comp=Z,662nm,19.1s,baz=274,slow=44
comp=Z,29nm,0.7s
TURN Turunc 20.23 293 *e*P **Pn** 20 01 39.7 +0.8
ARG Arkhangelos 20.23 292 *e*P **Pn** 20 01 39.3 +0.3
ARG Arkhangelos 20.23 292 P **P 20 01 36.5 -0.5**
ARG IAmb IAmb 20 01 43.5
comp=Z,134nm,1.0s
ARG Arkhangelos 20.23 292 P **P 20 01 36.5 -0.5**
ARG pmax pmax
comp=Z,134nm,1.0s
KULA Kula-Manisa 20.30 299 *e*P **Pn** 20 01 39.5 -0.3
HRT Hereke 20.31 306 *e*P **P 20 01 38.9 +1.0**
SILT Sile 20.46 306 *e*P **P 20 01 39.9 +0.5**
GEMT Gemlik 20.51 304 *e*P **Pn** 20 01 41.9 -0.2
ODEM Odemis-Izmir 20.68 298 *e*P **Pn** 20 01 43.2 -1.1
MLSB Milas 20.70 295 *e*P **Pn** 20 01 43.5 -0.9
MDNY Mudanya-Bursa 20.70 304 *e*P **Pn** 20 01 43.3 -1.1
DAT Datca 20.75 293 *e*P **P 20 01 43.9 +1.1**
GORD Gordes-Manisa 20.77 299 *e*P **Pn** 20 01 44.8 -0.5
ATD Arta Tunnel 20.78 205 **P 20 01 42.7 -0.5**
ATD IAmb IAmb 20 01 58.8
comp=Z,101nm,1.0s
ATD Arta Tunnel 20.78 205 P **Pn** 20 01 44.5 -1.1
comp=Z,0.3nm,0.3s,baz=335,slow=8.2,SNR=7.3
ATD Arta Tunnel 20.78 205 P **Pn** 20 01 45.3 -0.3
SNR=11
ARMT Armutlu 20.79 304 *e*P **P 20 01 43.6 +0.6**
KAVV Kandilli-Istan 20.83 306 *e*P **P 20 01 43.1 -0.3**
ISK Istanbul-Kandi 20.83 306 *e*P **P 20 01 44.4 +0.9**
ISK Istanbul-Kandi 20.83 306 P **P 20 01 44.3 +0.8**
ISK pmax pmax
comp=Z,63nm,0.8s
KLYT Kilyos 20.92 306 *e*P **P 20 01 44.8 +0.4**
KLYT Kilyos 20.92 306 P **P 20 01 44.4 0.0**
KARP Karpathos 20.92 290 *e*P **P 20 01 45.6 +1.0**
KARP Karpathos 20.92 290 P **P 20 01 44.2 -0.4**
KARP Karpathos 20.92 290 P **P 20 01 45.8 +1.2**
KARP Karpathos 20.92 290 P **Pn** 20 01 46.0 -1.1
BODT Bodrum 21.02 294 *e*P **P 20 01 46.3 +0.7**
KCTX Karacabey (Bur 21.05 303 *e*P **P 20 01 47.1 +1.3**
BGKT Bogazkoy 21.08 306 *e*P **P 20 01 46.7 +0.6**
SUSR Susurluk-Balik 21.15 302 *e*P **P 20 01 48.3 +1.4**
GCAM G?zelcaml? 21.20 296 *e*P **P 20 01 47.8 +0.3**
CTKS Kestanelik-??a 21.28 306 *e*P **P 20 01 46.3 -2.0**
EKS2 Erkin-Say 21.34 50 P **P 20 01 53.0 +3.9**
SNR=19
EDC Edincik 21.43 303 *e*P **P 20 01 49.9 0.0**
EDC Edincik 21.43 303 P **P 20 01 50.9 +1.0**
SLVT Silivri 21.49 305 *e*P **P 20 01 51.2 +0.7**
BLCB Balcova 21.50 297 *e*P **P 20 01 50.9 +0.3**
CTYL Yalikoy Yolu 21.52 306 *e*P **P 20 01 51.8 +0.8**
CTYL Yalikoy Yolu 21.52 306 P **P 20 01 51.7 +0.8**
UCH Uchtor 21.65 52 P **P 20 01 54.7 +1.9**
SNR=42
ZKR Zakros 21.65 288 *e*P **P 20 01 54.5 +2.1**
VRH Novokhopyorsk 21.66 343 *e*P **P 20 01 51.5 -0.7**
VRH *e*S **S 20 05 50.1 -1.8**
VRH pmax pmax
comp=Z,277nm,1.8s
MRMT Marmara Adasi 21.71 303 *e*P **P 20 01 54.2 +1.2**
KSH Kashi 21.75 60 P **P 20 01 51.2 -2.3**
KSH pP pP 20 01 55.7 -1.7
KSH PcP **PcP 20 05 54.5 +0.5**
KSH pmax pmax
comp=Z,24nm,1.2s
KSH LR LR
comp=Z,2μm,16.8s
KSH LR LR
comp=Z,1μm,17.5s
DKL Dikili 21.77 299 *e*P **P 20 01 53.5 0.0**
BELG Belogornoye 21.78 354 P **P 20 01 53.9 +0.4**
comp=Z,150nm,0.9s,baz=345,slow=3.4,SNR=22
BELG LR LR 20 12 52.2
comp=Z,450nm,18.3s,baz=262,slow=44
comp=Z,150nm,0.9s
BELG Belogornoye 21.78 354 *i* P **P 20 01 53.4 -0.1**
BELG pmax pmax
comp=Z,74nm,1.3s
AAK Ala-Archa 21.81 51 P **P 20 01 56.5 +2.4**
SNR=9.6
AAK Ala-Archa 21.81 51 P **P 20 01 55.7 +1.6**
AAK IAmb IAmb 20 02 16.7
comp=Z,148nm,1.4s
AAK Ala-Archa 21.81 51 P **P 20 01 56.5 +2.4**
AAK Ala-Archa 21.81 51 P **P 20 01 56.3 +2.1**
comp=Z,9.3nm,1.1s,baz=248,slow=9.3,SNR=12
AAK S **S 20 05 54.9 -0.4**
comp=Z,2.6nm,0.6s,baz=165,slow=6.0,SNR=4.1
AAK LR LR 20 11 42.7
comp=Z,658nm,18.1s,baz=312,slow=40
comp=Z,9.3nm,1.1s
AAK Ala-Archa 21.81 51 P **P 20 01 58.2 +4.0**
AAK Ala-Archa 21.81 51*ce*P **P 20 01 56.9 +2.7**
AAK pmax pmax
comp=Z,30nm,1.7s
URLA Izmir 21.83 297 *e*P **P 20 01 55.6 +1.3**
KRBG Karabiga-Canak 21.85 303 *e*P **P 20 01 55.0 +0.6**
CANM Can-anakkale 21.92 302 *e*P **P 20 01 57.9 +2.8**
RKY Sarkoy-Tekirda 22.04 303 *e*P **P 20 01 58.1 +1.6**
USP Ospenovka 22.09 49 P **P 20 02 00.9 +3.9**
SNR=26
KBK Karagaybulak 22.12 51 P **P 20 02 01.8 +4.3**
SNR=24
CHMS Chumysh 22.14 50 P **P 20 02 01.1 +3.6**
SNR=20
LPK Lapseki 22.24 302 *e*P **P 20 01 58.2 -0.4**
CHOS Chios island 22.25 297 *e*P **P 20 01 59.4 +0.5**
SGDS Sogindy 22.26 49 *e*P **P 20 02 00.4 +1.5**
baz=49
SGDS Sogindy 22.26 49 *e*P **P 20 02 00.4 +1.5**
KHAM Kharkiv 22.36 333 P **P 20 02 00.7 +0.8**
COMU Canakkale 22.37 301 *e*P **P 20 01 59.9 -0.1**
VSR Storozhevoye 22.38 339 *e*P **P 20 01 59.0 -1.0**
VSR *e*S **S 20 06 06.5 +0.8**
VSR pmax pmax
comp=Z,40nm,0.8s
VSR smax smax
comp=N,270nm,1.2s
EZN Ezine 22.40 301 *e*P **P 20 01 59.2 -1.1**
EZN Ezine 22.40 301 P **P 20 02 02.0 +1.7**
EZN Ezine 22.40 301 P **P 20 02 02.3 +2.0**
EFOR EFORIE 22.42 313 ⇑P **P 20 01 59.6 -0.9**
APE Apeiranthos 22.43 293 ⇑P **P 20 02 02.2 +1.5**
APE Apeiranthos 22.43 293 *e*P **P 20 01 59.8 -0.9**
APE Apeiranthos 22.43 293 ⇑P **P 20 02 02.2 +1.5**
GELI Tayfur-Gelibol 22.45 302 *e*P **P 20 01 59.4 -1.5**
NE56 Odesa 22.50 321 P **P 20 02 00.9 -0.4**
ERIK Erikli-Kesan 22.51 303 *e*P **P 20 02 01.8 +0.3**
PSN Preselentsi 22.53 311 P **P 20 02 01.5 -0.2**
UKOP Uzunkopru-Edir 22.57 304 *e*P **P 20 02 03.6 +1.5**
SIGR SIGRI 22.59 299 *e*P **P 20 02 04.7 +2.3**
MFTR Murfatlar 22.60 313 ⇑P **P 20 02 03.4 +1.0**
JURR Jurilovca 22.60 314 ⇑P **P 20 02 03.0 +0.6**
BTLS Baital 22.66 45 *e*P **P 20 02 05.0 +1.9**
comp=N,22nm,0.9s,baz=45
BTLS Baital 22.66 45 *e*P **P 20 02 05.0 +1.9**
BTLS pmax pmax
comp=Z,22nm,0.9s
TKM2 Tokmak 2 22.66 51 P **P 20 02 04.7 +1.3**
SNR=22
BOOM Boomskoye usch 22.72 52 IAmb IAmb 20 02 10.2
comp=Z,124nm,1.2s
EDRB Edirne 22.74 306 *e*P **P 20 02 04.2 +0.3**
IDI Anoyia 22.75 288 P **P 20 02 04.0 -0.2**
IDI IAmb IAmb 20 02 08.6
comp=Z,260nm,1.1s
IDI Anoyia 22.75 288 P **P 20 02 05.0 +0.8**
IDI Anoyia 22.75 288 P **P 20 02 04.6 +0.5**
comp=Z,2.6nm,0.7s,baz=97,slow=12,SNR=32
comp=Z,2.6nm,0.7s
VORR Voronezh 22.77 340 *e*P **P 20 02 03.7 -0.4**
VORR *e*S **S 20 06 13.9 +1.1**
VORR pmax pmax
comp=Z,96nm,1.5s
GADA Gvkgeada 22.82 301 *e*P **P 20 02 05.1 +0.4**
ULHL Ulahol 22.84 53 P **P 20 02 09.8 +4.6**
SNR=5.9
TLCR 22.86 315 ⇑P **P 20 02 05.9 +0.8**
TLCR 22.86 315 ⇑P **P 20 02 05.9 +0.8**
TPGR Topolog 22.93 314 ⇑P **P 20 02 06.5 +0.6**
PURM Purcari 22.98 319 ⇑P **P 20 02 06.4 +0.1**
PURM Purcari 22.98 319 P **P 20 02 06.0 -0.3**
TLBR Topalu 23.01 313 ⇑P **P 20 02 09.4 +2.8**
CFR Carcaliu 23.26 315 ⇑P **P 20 02 09.7 +0.4**
CFR Carcaliu 23.26 315 ⇑P **P 20 02 09.7 +0.4**
RDO Rodhopi 23.36 303 *e*P **P 20 02 10.8 +0.5**
RDO Rodhopi 23.36 303 IAmb IAmb 20 02 13.8
comp=Z,139nm,1.1s
AMRR Amara 23.49 313 ⇑P **P 20 02 12.6 +1.1**
AMRR Amara 23.49 313 ⇑P **P 20 02 12.6 +1.1**
RAZG Razgrad 23.56 310 ⇑P **P 20 02 13.3 +0.9**
KDZ Kurdzhali 23.65 304 *e*P **P 20 02 13.8 +0.6**
KDZ Kurdzhali 23.65 304 P **P 20 02 12.5 -0.7**
LPSR Galich'ya Gora 23.67 341 *e*P **P 20 02 11.9 -1.4**
LPSR *e*S **S 20 06 29.0 +1.2**
LPSR pmax pmax
comp=Z,50nm,0.8s
LPSR smax smax
comp=N,410nm,1.9s
ELND Elena 23.74 308 ⇓P **P 20 02 14.5 +0.4**
MDOK Medeo 23.74 52 *e*P **P 20 02 15.5 +1.3**
baz=51
MDOK Medeo 23.74 52 *e*P **P 20 02 15.5 +1.3**
TARG Taragay, Kyrgy 23.75 55 P **P 20 02 12.3 -2.3**
TARG Taragay, Kyrgy 23.75 55 P **P 20 02 12.3 -2.3**
TARG pmax pmax
comp=Z,48nm,1.3s
MILM Milestii Mici 23.80 319 ⇑P **P 20 02 14.9 +0.4**
MILM Milestii Mici 23.80 319 ⇑P **P 20 02 14.9 +0.4**
SZH Strazhitsa 23.80 309 P **P 20 02 15.0 +0.4**

KIS **Kishinev** 23.84 319⇑ *i*P P 20 02 14.5 -0.4
comp=Z,220nm,6.6s
KIS **Kishinev** 23.84 319*c* *i*P P 20 02 14.5 -0.4
KIS pmax pmax
comp=Z,220nm,6.6s
KIS **Kishinev** 23.84 319 P P 20 02 14.2 -0.7
BAL3X **Bal3x, Balta** 23.96 322 P P 20 02 15.6 -0.5
CHKK **Chushkaly** 23.97 50 *e*P P 20 02 17.8 +1.4
baz=50
CHKK **Chushkaly** 23.97 50 *e*P P 20 02 17.7 +1.4
RZN **Rozhen** 24.10 304 P P 20 02 17.0 -0.7
GHRR 24.15 316⇑ P P 20 02 19.9 +2.0
GHRR 24.15 316 P P 20 02 18.5 +0.6
SGRR **Singureni** 24.19 311⇑ P P 20 02 19.5 +1.3
SULR 24.20 312⇑ P P 20 02 20.7 +2.3
ODBI **Odobesti** 24.21 315 P P 20 02 19.3 +0.8
ISR **Istrita** 24.22 313 P P 20 02 20.2 +1.6
PLD **Plovdiv** 24.24 305 *e*P P 20 02 18.7 -0.1
PLD **Plovdiv** 24.24 305 P P 20 02 19.9 +1.1
PLD pmax pmax
comp=Z,288nm,1.5s
VRI **Vrincioaia** 24.46 315⇑ P P 20 02 22.5 +1.7
VRI **Vrincioaia** 24.46 315⇑ P P 20 02 22.5 +1.7
VRI **Vrincioaia** 24.46 315 P P 20 02 22.1 +1.3
PLOR5 **Plostina Array** 24.49 315 P P 20 02 23.0 +1.9
PLOR **Plostina** 24.50 315⇑ P P 20 02 22.7 +1.4
PLOR **Plostina** 24.50 315 P P 20 02 22.8 +1.6
PLOR3 **Plostina Array** 24.51 315 P P 20 02 22.6 +1.3
SATY **Saty** 24.62 53 *e*P P 20 02 23.1 +0.7
comp=Z,25nm,1.3s,baz=53
SATY **Saty** 24.62 53 *e*P P 20 02 23.1 +0.7
SATY pmax pmax
comp=Z,25nm,1.3s
COPA **Copaceanca** 24.65 310⇑ P P 20 02 24.5 +2.1
ARXS **Arharly** 24.67 50 *e*P P 20 02 23.3 +0.5
ZHN **Zhinishke** 24.68 52 *e*P P 20 02 24.2 +1.2
comp=Z,16nm,0.8s,baz=52
ZHN **Zhinishke** 24.68 52 *e*P P 20 02 24.1 +1.2
ZHN pmax pmax
comp=Z,16nm,0.8s
SORM **Soroca** 24.76 321⇑ P P 20 02 22.9 -0.5
SORM **Soroca** 24.76 321⇑ P P 20 02 22.9 -0.5
SORM **Soroca** 24.76 321 P P 20 02 22.6 -0.8
SRS **Serrai** 24.76 302 *e*P P 20 02 24.4 +0.9
MMB **Musomishta** 24.76 303 P P 20 02 23.0 -0.6
MLR **Muntele Rosu** 24.77 314⇑ P P 20 02 27.1 +3.4
MLR **Muntele Rosu** 24.77 314 *e*P P 20 02 26.9 +3.2
MLR **Muntele Rosu** 24.77 314 IAmb IAmb 20 02 33.4
comp=Z,104nm,0.9s
MLR **Muntele Rosu** 24.77 314 P P 20 02 25.8 +2.1
COVR **Voineasa-Covas** 24.77 314⇓ P P 20 02 25.9 +2.3
TESR **Tescani** 24.83 316⇑ P P 20 02 24.7 +0.5
TESR **Tescani** 24.83 316 P P 20 02 24.6 +0.5
BRZS **Berezniki** 24.89 34 *e*P P 20 02 26.0 +1.4
comp=Z,22nm,1.0s,baz=34
BRZS **Berezniki** 24.89 34 *e*P P 20 02 26.0 +1.4
BRZS pmax pmax
comp=Z,22nm,1.0s
HUMR **Humele** 24.96 311⇑ P P 20 02 27.4 +2.1
HORT **Hortiatis** 24.98 301 *e*P P 20 02 26.1 +0.5
TURR **Turia** 24.99 315⇑ P P 20 02 26.7 +1.1
VLAD **Vladila** 25.13 309⇑ P P 20 02 28.8 +2.0
OZUR 25.15 315⇑ P P 20 02 27.6 +0.6
BOSR **Bodos** 25.22 315⇑ P P 20 02 29.5 +1.8
AGG **Agios Georgios** 25.24 297 *e*P P 20 02 29.3 +1.4
AGG **Agios Georgios** 25.24 297 IAmb IAmb 20 02 31.8
comp=Z,152nm,1.2s
KNT **Kendrikon** 25.27 302 *e*P P 20 02 29.8 +1.6
KKB **Krupnik** 25.29 304 P P 20 02 28.0 -0.3
VOIR 25.31 313⇑ P P 20 02 29.9 +1.4
VOIR 25.31 313⇑ P P 20 02 29.9 +1.4
VOIR 25.31 313 P P 20 02 30.3 +1.8
DOPR **Dopca** 25.34 314⇓ P P 20 02 30.3 +1.6
MPEP **Malo Peshtene** 25.35 307 P P 20 02 29.0 +0.2
TDK **Taldyqorghan** 25.38 48 *e*P P 20 02 29.7 +0.6
comp=Z,32nm,0.8s,baz=48
TDK **Taldyqorghan** 25.38 48 *e*P P 20 02 29.6 +0.6
TDK pmax pmax
comp=Z,32nm,0.8s
SHLS **Shalkode** 25.38 53 *e*P P 20 02 32.8 +3.6
comp=Z,25nm,1.0s,baz=53
SHLS **Shalkode** 25.38 53 *e*P P 20 02 32.8 +3.6
SHLS pmax pmax
comp=Z,25nm,1.0s
VTS **Vitosha** 25.45 306 P P 20 02 30.0 +0.1
PRAR **RASCA** 25.52 318⇑ P P 20 02 31.1 +0.8
VAY **Valandovo** 25.55 302 *i* P P 20 02 31.6 +1.0
NDNU **Novodnistrovsk** 25.56 321 P P 20 02 30.7 +0.1
GRG **Griva** 25.59 301 *e*P P 20 02 31.4 +0.4
VALD **Valchedram** 25.67 308 P P 20 02 32.0 +0.3
AK07 **Malin Array Si** 25.83 326 P P 20 02 33.4 +0.3
AK09 **Malin Array Si** 25.84 326 P P 20 02 32.9 -0.2
AK10 **Malin Array Si** 25.84 326 P P 20 02 32.8 -0.4
BAIL **Bailesti** 25.85 309⇑ P P 20 02 35.9 +2.6
AK08 **Malin Array Si** 25.86 326 P P 20 02 32.8 -0.6
AK05 **Malin Array Si** 25.88 326 P P 20 02 33.0 -0.5
AK02 **Malin Array Si** 25.90 326 P P 20 02 33.0 -0.7
AK12 **Malin Array Si** 25.92 326 P P 20 02 33.4 -0.5
AK01 **Malin Array Si** 25.92 326 P P 20 02 33.6 -0.3
AKASG **Malin Array Be** 25.92 326 P P 20 02 33.4 -0.5
AKASG IAmb IAmb 20 02 38.9
comp=Z,68nm,0.7s
AKASG **Malin Array Be** 25.92 326 P P 20 02 34.4 +0.5
comp=Z,40nm,0.5s,baz=132,slow=9.7,SNR=79
AKASG PcP **PcP** 20 06 01.6 -0.8
comp=Z,1.4nm,0.5s,baz=97,slow=2.4,SNR=3.3
comp=Z,40nm,0.5s
AKASG **Malin Array Be** 25.92 326 *i* P P 20 02 33.2 -0.7
AKASG pmax pmax
comp=Z,14nm,0.5s
AKBB **Malin Array Si** 25.92 326 P P 20 02 33.2 -0.7
AKBB IAmb IAmb 20 02 42.6
comp=Z,89nm,0.7s
AKBB **Malin Array Si** 25.92 326*ce*P P 20 02 33.6 -0.3
AKBB **Malin Array Si** 25.92 326 P P 20 02 33.4 +0.5
KIEV **Kiev** 25.93 326⇑ P P 20 02 34.1 +0.1
KIEV **Kiev** 25.93 326 P P 20 02 33.2 -0.7
KIEV IAmb IAmb 20 02 42.6
comp=Z,80nm,0.7s
KIEV **Kiev** 25.93 326 *i* P P 20 02 33.4 -0.6
SNR=64
KIEV **Kiev** 25.93 326⇑ P P 20 02 34.1 +0.1
KIEV **Kiev** 25.93 326 P P 20 02 33.4 -0.6
comp=Z,469nm,0.8s,comp=Z,3µm
AK14 **Malin Array Si** 25.93 326 P P 20 02 33.8 -0.2
AK11 **Malin Array Si** 25.94 326 P P 20 02 33.4 -0.6
AK03 **Malin Array Si** 25.94 327 P P 20 02 34.7 -0.4
AK13 **Malin Array Si** 25.94 326 P P 20 02 34.0 -0.1
AK04 **Malin Array Si** 25.97 326 P P 20 02 34.2 -0.1
AK15 **Malin Array Si** 25.97 326 P P 20 02 34.2 -0.1
AK18 **Malin Array Si** 26.01 326 P P 20 02 34.6 -0.1
AK23 **Malin Array Si** 26.01 327 P P 20 02 34.6 -0.1
KMPD **K-Podol'skiy** 26.04 320 P P 20 02 34.2 -0.8
AK22 **Malin Array Si** 26.04 326 P P 20 02 34.4 -0.5
AK19 **Malin Array Si** 26.04 326 P P 20 02 34.5 -0.5
MDB **Medias** 26.04 314⇑ P P 20 02 38.0 +3.0
MDB **Medias** 26.04 314⇑ P P 20 02 38.0 +3.0
AK20 **Malin Array Si** 26.05 326 P P 20 02 34.8 -0.3
ARU **Arti** 26.11 9 P P 20 02 36.6 +1.1
ARU **Arti** 26.11 9 P P 20 02 36.9 +1.4
comp=Z,2.1nm,0.4s,baz=192,slow=7.5,SNR=15
ARU LR LR 20 14 59.1
comp=Z,754nm,21.0s,baz=258,slow=41
comp=Z,2.1nm,0.4s
ARU **Arti** 26.11 9*d* *i*P P 20 02 37.3 +1.8
ARU 20 03 18.4
ARU S **S** 20 07 12.1 +5.4
ARU SS **SnSn** 20 08 08.3 +3.6
ARU pmax pmax
comp=Z,28nm,1.3s
ARU MLR MLR
comp=Z,719nm,19.0s
ARU **Arti** 26.11 9 P P 20 02 36.4 +0.9
BRVK **Borovoye** 26.11 26 P P 20 02 36.6 +1.0
BRVK IAmb IAmb 20 03 04.3
comp=Z,43nm,1.1s
BRVK **Borovoye** 26.11 26 P P 20 02 37.7 +2.0
BRVK P P 20 02 37.7 +2.0
BRVK **Borovoye** 26.11 26*ce*P P 20 02 37.6 +2.0
BRVK pmax pmax
comp=Z,51nm,1.7s
LOT **Lotru** 26.13 312⇑ P P 20 02 37.4 +1.4
BVAR **Borovoye Array** 26.13 26 P P 20 02 36.9 +1.1
comp=Z,49nm,0.8s,baz=227,slow=6.9,SNR=42
BVAR PcP **PcP** 20 06 02.2 -0.7
comp=Z,4.2nm,0.7s,baz=218,slow=4.1,SNR=4.9
BVAR LR LR 20 14 08.2
comp=Z,1µm,20.6s,baz=316,slow=39
comp=Z,49nm,0.8s
LUBAR **Lubar, Ukraine** 26.14 324 P P 20 02 36.3 +0.4
BLKB **Belogradchik** 26.17 307⇑ P P 20 02 38.0 +1.8
SRE **Strehaia** 26.18 310⇑ P P 20 02 38.8 +2.5
SRE **Strehaia** 26.18 310⇑ P P 20 02 38.8 +2.5
CHRU **Chernivtsi** 26.19 319 P P 20 02 36.6 +0.2
BURAR **Bucovina Array** 26.24 317⇑ P P 20 02 38.2 +1.2
BURAR **Bucovina Array** 26.24 317 P P 20 02 36.9 -0.1
BURAR IAmb IAmb 20 03 11.4
comp=Z,29nm,0.8s
BURAR **Bucovina Array** 26.24 317⇑ P P 20 02 38.2 +1.2
BUR08 **Bucovina Ar. S** 26.26 317 IAmb IAmb 20 03 06.3
comp=Z,39nm,1.1s
FNA **Florina** 26.30 301 *e*P P 20 02 38.9 +1.3
FNA **Florina** 26.30 301 IAmb IAmb 20 02 42.5
comp=Z,142nm,1.2s
FNA **Florina** 26.30 301 P P 20 02 38.9 +1.3
FNA pmax pmax
comp=Z,50nm,1.4s
MI29 **MI29, Kamyanyy** 26.41 325 P P 20 02 38.3 0.0
HORU **Horodok** 26.42 321 P P 20 02 38.3 -0.2
HORU **Horodok** 26.42 321 P P 20 02 38.5 0.0
MI30 **MI30,Zelenitsa** 26.45 326 P P 20 02 38.2 -0.5
ARCR **ARCALIA** 26.49 316⇑ P P 20 02 42.1 +2.9
SKO **Skopje** 26.54 303 *i* P P 20 02 40.8 +1.2
OBN **Obninsk** 26.55 341 P P 20 02 39.1 -0.4
OBN IAmb IAmb 20 02 45.9
comp=Z,52nm,0.9s
OBN **Obninsk** 26.55 341 P P 20 02 39.3 -0.2
comp=Z,12nm,0.4s,baz=188,slow=14,SNR=12
comp=Z,12nm,0.4s
OBN **Obninsk** 26.55 341*c* *i*P P 20 02 39.6 +0.1
OBN *i* *PP **pP** 20 02 42.3 -1.3
OBN *i* *SP **sP** 20 02 44.4 -0.8
OBN *i* PPP PPP 20 03 30.1
OBN *e*S **S** 20 07 11.7 -2.0
OBN SSS SSS 20 08 46.0
OBN pmax pmax
comp=Z,135nm,2.5s
OBN MLR MLR
comp=Z,560nm,19.0s
OBN **Obninsk** 26.55 341 P P 20 02 40.0 +0.5
DJES **Djerdap** 26.64 309⇑ P P 20 02 41.5 +1.1
KSV **Kosov** 26.68 319 P P 20 02 39.4 -1.5
GZR **Gura Zlata** 26.74 311⇑ P P 20 02 42.5 +1.0
CJR **Cluj-Napoca** 26.78 314⇑ P P 20 02 38.4 -3.4
CJR **Cluj-Napoca** 26.78 314 P P 20 02 44.0 +2.2
HERR **Herculane** 26.79 310⇓ P P 20 02 42.8 +1.0
SVE **Sverdlovsk** 26.80 11 *e*P P 20 02 43.1 +1.3
SVE *e*S **S** 20 07 22.0 +4.4
SVE pmax pmax
comp=Z,53nm,1.7s
OHR **Ohrid** 26.80 301 *i* P P 20 02 43.4 +1.3
OHR **Ohrid** 26.80 301 P P 20 02 43.8 +1.7
OHR pmax pmax
comp=Z,170nm,1.3s
MOS **Moscow** 26.81 342 *e*P P 20 02 41.2 -0.7
MOS *e* 20 03 24.2
MOS pmax pmax
comp=Z,136nm,1.2s
MI28 **Mi28,Pidlybu** 26.82 325 P P 20 02 41.4 -0.6
CBBR **Cluj-Babes-Bol** 26.83 314⇑ P P 20 02 44.2 +2.0
BOVS **Bovan** 26.84 307⇑ P P 20 02 43.6 +1.3
IGT **Igoumenitsa** 26.85 298 P P 20 02 43.2 +0.7
IGT pmax pmax
comp=Z,79nm,1.4s
DEV **Deva** 26.86 312⇑ P P 20 02 43.5 +1.1
DEV **Deva** 26.86 312⇑ P P 20 02 43.5 +1.1
RAKU **Rahkiv** 27.06 317 P P 20 02 44.2 0.0
MARR **Marisel-Cluj** 27.06 314⇑ P P 20 02 45.2 +0.8
STNU **Starunia** 27.21 319 P P 20 02 45.0 -0.6
MDVR **Moldovita** 27.22 309⇑ P P 20 02 46.5 +0.8
BMR **Baia Mare** 27.28 316⇑ P P 20 02 47.8 +1.6
BMR **Baia Mare** 27.28 316⇑ P P 20 02 47.8 +1.6
SURR **Surduc** 27.31 311⇑ P P 20 02 48.4 +1.9
DRGR 27.36 314⇑ P P 20 02 48.6 +1.6
DRGR 27.36 314⇑ P P 20 02 48.6 +1.6
BZS **Buzias** 27.58 311⇑ P P 20 02 50.6 +1.6
BZS **Buzias** 27.58 311⇑ P P 20 02 50.6 +1.6
MEZ **Mezhgor'ye** 27.68 318 P P 20 02 48.9 -0.9
MORS **Morshin** 27.77 319 P P 20 02 51.7 +1.2
MORS **Morshin** 27.77 319 P P 20 02 51.8 +1.2
TRSU **Trosnyk** 27.80 317 P P 20 02 52.3 +1.5
SIRR **Siria** 27.81 312⇑ P P 20 02 52.2 +1.2
KIRV **Kirov** 27.83 358 P P 20 02 52.3 +1.3
comp=Z,42nm,0.8s,baz=173,slow=11,SNR=18
KIRV LR LR 20 16 03.6
comp=Z,680nm,20.9s,baz=217,slow=41
comp=Z,42nm,0.8s
KIRV **Kirov** 27.83 358*ce*P P 20 02 51.9 +0.9
BRIU **Brid** 27.88 317 P P 20 02 52.3 +0.8
RNPP5 **Staryi Chortor** 27.89 324 P P 20 02 51.2 -0.4
HYB **Hyderabad** 27.94 112 *e*P P 20 02 52.5 0.0
HYB *e* 20 02 55.3
RNPP8 **Varash** 27.97 325 P P 20 02 52.1 -0.2
RNPP9 **Sopachiv** 28.00 325 P P 20 02 53.5 +0.9
BERU **Beregovo** 28.05 317 P P 20 02 52.7 -0.4
SHIU **Shidnytsya** 28.12 319 P P 20 02 54.4 +0.7
MUKU **Mukachevo** 28.13 317 P P 20 02 54.1 +0.3
PDG **Podgorica** 28.23 303 IAmb IAmb 20 03 04.5
comp=Z,52nm,1.6s
KURBB **Kurchatov Arra** 28.23 38 P P 20 02 54.9 +0.2
comp=Z,13nm,1.0s,baz=239,slow=9.0,SNR=33
KURBB PcP **PcP** 20 06 08.7 +0.7
comp=Z,1.4nm,0.8s,baz=235,slow=3.3,SNR=5.1
comp=Z,13nm,1.0s
KURK **Kurchatov** 28.33 38 P P 20 02 55.8 +0.2
KURK **Kurchatov** 28.33 38 P P 20 02 58.4 +2.9
KURK P P 20 02 58.4 +2.9
KURK **Kurchatov** 28.33 38*ce*P P 20 02 57.5 +1.9
KURK pmax pmax
comp=Z,35nm,1.3s
HOLU **Holmets** 28.34 317 P P 20 02 56.3 +0.6
MAKZ **Makanchi** 28.39 47 P P 20 02 53.6 -2.6
MAKZ **Makanchi** 28.39 47 P P 20 02 53.6 -2.6
MAKZ pmax pmax
comp=Z,24nm,1.1s
MK31 **Makanchi Array** 28.58 47 P P 20 02 57.0 -0.9
MK31 **Makanchi Array** 28.58 47*ce*P P 20 02 59.6 +1.7
MKAR **Makanchi Array** 28.58 47 P P 20 02 58.0 +0.1
MKAR **Makanchi Array** 28.58 47 P P 20 02 58.9 +1.0
comp=Z,7.6nm,0.8s,baz=250,slow=7.2,SNR=27
MKAR PcP **PcP** 20 06 09.2 +0.3
comp=Z,1.1nm,0.7s,baz=242,slow=3.0,SNR=5.2
MKAR LR LR 20 15 54.6
comp=Z,1µm,19.2s,baz=338,slow=40
comp=Z,7.6nm,0.8s
KOLS **Kolonicke sedl** 28.60 318 *e*P P 20 02 59.9 +1.9
KOLS **Kolonicke sedl** 28.60 318 *e*P P 20 02 59.9 +1.9
KOLS pmax pmax
comp=Z,30nm,1.5s
FRGS **Fruska Gora** 28.61 309⇑ P P 20 02 58.8 +0.6
FRGS **Fruska Gora** 28.61 309 P P 20 02 59.0 +0.8
comp=Z,38nm,0.8s,comp=Z,550nm
KWP **Kalwaria Pacla** 28.69 319 IAmb IAmb 20 03 09.1
comp=Z,38nm,1.1s
KWP **Kalwaria Pacla** 28.69 319 P P 20 03 01.5 +2.7
KWP **Kalwaria Pacla** 28.69 319 P P 20 02 59.1 +0.3
CRVS **Cervenica-Dubn** 29.06 317 *e*P P 20 03 02.6 +0.5
CRVS **Cervenica-Dubn** 29.06 317 *e*P P 20 03 02.6 +0.5
CRVS pmax pmax
comp=Z,26nm,1.5s
MNK **Minsk** 29.13 331 *i* P P 20 03 02.6 0.0
comp=E,5.0nm,1.1s
MNK *i* P P 20 03 02.6 0.0
comp=N,9.0nm,1.0s
MNK *i* P P 20 03 02.6 0.0
comp=Z,16nm,0.8s,baz=135
MNK *i* PP **PnPn** 20 03 55.1 +0.2
MNK *i* S **S** 20 07 54.0 -0.4
MNK *i* SS ScP 20 09 40.0 -12
MNK *i* LQ LQ 20 12 27.9
MNK *i* LR LR 20 14 41.2
MNK *i* LRM MLR 20 15 53.7
comp=Z,520nm,19.1s
MNK *i* LRM MLR 20 16 06.5
comp=E,157nm,20.9s
MNK **Minsk** 29.13 331 *e*P P 20 03 02.6 0.0
TIP **Timpagrande** 29.55 296⇑ P P 20 03 07.6 +0.9
TIP **Timpagrande** 29.55 296 IAmb IAmb 20 03 27.5
comp=Z,82nm,1.4s
TIP **Timpagrande** 29.55 296 P P 20 03 07.4 +0.8
comp=Z,28nm,1.1s
PSZ **Piszkesteto** 29.57 314⇓ P P 20 03 07.2 +0.5
PSZ **Piszkesteto** 29.57 314⇓ P P 20 03 07.2 +0.5
MORH **Mrgy, Hungar** 29.74 311⇓ P P 20 03 08.8 +0.7
MORH **Mrgy, Hungar** 29.74 311 P P 20 03 08.2 +0.1
NACGM **Naroch** 29.87 331 *e*P P 20 03 09.6 +0.4
comp=Z,33nm,0.9s,baz=133
NIE **Niedzica** 29.97 317 P P 20 03 11.5 +1.3
CEL **Celeste** 30.15 294 P P 20 03 11.8 -0.2
CEL IAmb IAmb 20 03 30.8
comp=Z,25nm,0.9s
CEL **Celeste** 30.15 294 P P 20 03 13.7 +1.7
IDID **Didziasalis** 30.17 332 *e*P P 20 03 13.6 +1.7
LANS **Liptovska Anna** 30.34 316 *e*P P 20 03 15.1 +1.6
LANS **Liptovska Anna** 30.34 316 *e*P P 20 03 15.1 +1.6
LANS pmax pmax
comp=Z,8.0nm,1.0s
CUC **Castrocucco** 30.36 297 IAmb IAmb 20 03 20.4
comp=Z,37nm,0.8s
VYHS **Vyhne** 30.45 315 *e*P P 20 03 15.6 +1.2
VYHS **Vyhne** 30.45 315 *e*P P 20 03 15.6 +1.2
VYHS pmax pmax
comp=Z,8.0nm,1.0s
ZSN **Zaisan** 30.46 47 *e*P P 20 03 15.2 +0.7
baz=47
ZSN **Zaisan** 30.46 47 *e*P P 20 03 15.2 +0.7
SRO **Srobarova** 30.51 313 *e*P P 20 03 16.3 +1.4
SRO **Srobarova** 30.51 313 *e*P P 20 03 16.3 +1.4
SRO pmax pmax
comp=Z,35nm,1.4s
ISAL **Salakas** 30.60 331 *e*P P 20 03 17.6 +2.0
OJC **Ojcow** 30.62 318 IAmb IAmb 20 03 25.6
comp=Z,47nm,1.3s
OJC **Ojcow** 30.62 318 P P 20 03 16.6 +0.7
OJC **Ojcow** 30.62 318 P P 20 03 15.6 -0.3
SGRT **San Giovanni R** 30.66 301 P P 20 03 16.5 +0.1
SGRT IAmb IAmb 20 03 33.3
comp=Z,24nm,0.8s
MPLH **Magyarpolny** 30.77 312 P P 20 03 17.2 -0.1
SUW **Suwalki** 30.89 327 P P 20 03 16.7 -1.5
SUW IAmb IAmb 20 03 34.8
comp=Z,86nm,1.1s
SUW **Suwalki** 30.89 327 *e*P P 20 03 18.7 +0.5
SUW **Suwalki** 30.89 327 P P 20 03 16.7 -1.5
SUW pmax pmax
comp=Z,86nm,1.1s
KLMR **Klimovskoe** 31.11 349 *e*P P 20 03 19.2 -0.8
KLMR pmax pmax
comp=Z,105nm,1.3s
KLMR MLR MLR
comp=Z,542nm,17.0s
LODK **Lodwar** 31.21 212 P P 20 03 18.0 -3.4
LODK **Lodwar** 31.21 212 P P 20 03 24.0 +2.6
JAVC **Velka Javorina** 31.31 315 *e*P P 20 03 23.4 +1.4
WMQ **Urumqi** 31.32 55 *e*P P 20 03 25.4 +3.2
WMQ pmax pmax
comp=Z,13nm,1.5s
SMOL **Smolenice** 31.32 314 *e*P P 20 03 22.6 +0.5
SMOL pmax pmax
comp=Z,12nm,1.3s
MODS **Modra-Piesok** 31.36 314 *e*P P 20 03 23.3 +0.8
MODS **Modra-Piesok** 31.36 314 *e*P P 20 03 23.3 +0.8
KOGS **Kog** 31.38 310 *i* P P 20 03 23.1 +0.5
ZST **Bratislava** 31.41 313 *e*P P 20 03 23.5 +0.6
ZST **Bratislava** 31.41 313 *e*P P 20 03 23.5 +0.6
ZST pmax pmax
comp=Z,71nm,1.3s
MAUC **Maruska** 31.41 316 *e*P P 20 03 24.5 +1.6
PTJ **Puntijarka** 31.41 309 P P 20 03 24.1 +1.1
PAOL **Paolisi** 31.43 299 P P 20 03 22.6 -0.5
PAOL IAmb IAmb 20 03 28.9
comp=Z,46nm,0.9s
PABE **Paberze** 31.47 330 P P 20 03 23.2 -0.1
PABE IAmb IAmb 20 03 28.3
comp=Z,48nm,0.7s
PABE **Paberze** 31.47 330 *e*P P 20 03 24.1 +0.8
CRES **Cresnjev** 31.73 308 *e*P P 20 03 26.3 +0.5
MORC **Moravsky Berou** 31.75 316⇑ P P 20 03 26.6 +0.7
MORC **Moravsky Berou** 31.75 316 P P 20 03 25.7 -0.2
MORC **Moravsky Berou** 31.75 316 *e*P P 20 03 25.9 0.0
MORC **Moravsky Berou** 31.75 316⇑ P P 20 03 26.6 +0.7
RONA **Rosalia, Austr** 31.75 312 *i* P P 20 03 26.8 +0.9
comp=Z,39nm,1.2s,SNR=14
VSVD **Vaisvydziai** 31.80 330 *e*P P 20 03 27.0 +0.9
INTR **Introdacqua** 32.05 301 P P 20 03 29.7 +1.0
INTR IAmb IAmb 20 03 35.0
comp=Z,22nm,0.9s
CONA **Conrad Observa** 32.10 312 *i* P P 20 03 29.5 +0.4
comp=Z,26nm,1.3s,SNR=14
CONA *e*S **S** 20 08 46.9 +5.7
comp=Z,4.1nm,1.5s
ARSA **Arzberg** 32.10 311 *e*P P 20 03 29.8 +0.8
comp=Z,22nm,1.0s,SNR=12
VRAC **Vranov** 32.13 315⇑ P P 20 03 29.3 +0.1
VRAC **Vranov** 32.13 315 *e*P P 20 03 29.0 -0.2
VRAC **Vranov** 32.13 315 P P 20 03 30.0 +0.8
comp=Z,3.7nm,0.5s,baz=103,slow=8.7,SNR=13
VRAC LR LR 20 18 30.3
comp=Z,539nm,18.4s,baz=160,slow=40
comp=Z,3.7nm,0.5s
VRAC **Vranov** 32.13 315 P P 20 03 30.0 +0.8
KRUC **Moravsky** 32.16 315 *e*P P 20 03 29.3 -0.2
CLTB **Caltabellotta** 32.24 293 P P 20 03 30.1 -0.3
CLTB IAmb IAmb 20 03 45.1
comp=Z,41nm,0.9s
SOKA **Soboth** 32.25 310 *i* P P 20 03 30.7 +0.3
comp=Z,15nm,1.1s,SNR=9.6
KRLC **Kraliky** 32.32 317 *e*P P 20 03 31.9 +1.0
KRLC **Kraliky** 32.32 317 *e*P P 20 03 31.9 +1.0
LJU **Ljubljana** 32.42 309 *i* P P 20 03 32.6 +0.8
VSU **Vasula** 32.44 336*ce*P P 20 03 32.3 +0.5
VSU pmax pmax
comp=Z,25nm,1.0s
CAMP **Campotosto** 32.49 302 P P 20 03 34.0 +1.5
CAMP IAmb IAmb 20 03 40.3
comp=Z,76nm,1.2s
OBKA **Obir** 32.53 309 *i* P P 20 03 33.9 +1.1
comp=Z,31nm,1.4s,SNR=5.9
GUMA **Gualdo di Mace** 32.63 303 P P 20 03 34.6 +0.9
GUMA IAmb IAmb 20 03 52.2
comp=Z,39nm,0.8s
PBUR **Paburge** 32.69 329 *e*P P 20 03 37.6 +3.6
DPC **Dobruska-Polom** 32.70 317 *e*P P 20 03 34.7 +0.5
DPC AMS AMS 20 19 00.0
comp=Z,500nm,14.6s
DPC **Dobruska-Polom** 32.70 317 *e*P P 20 03 34.7 +0.5
DPC MLR MLR
comp=Z,500nm,14.6s
DPC **Dobruska-Polom** 32.70 317 P P 20 03 34.4 +0.2
NRCA **Norcia** 32.75 302 P P 20 03 34.8 0.0
NRCA IAmb IAmb 20 03 40.0
comp=Z,33nm,0.8s
FDMO **Fiordimonte** 32.80 303 P P 20 03 35.0 -0.2
FDMO IAmb IAmb 20 03 39.9
comp=Z,27nm,0.8s
TREC **Trest** 32.80 315 *e*P P 20 03 36.4 +1.3
TREC AMS AMS 20 18 20.0
comp=Z,700nm,19.0s
TREC **Trest** 32.80 315 *e*P P 20 03 36.4 +1.3
TREC MLR MLR
comp=Z,700nm,19.0s
OSTC **Ostas** 32.84 317 *e*P P 20 03 35.8 +0.4
OSTC *ex* x 20 03 42.6
OSTC **Ostas** 32.84 317 *e*P P 20 03 35.8 +0.4
OSTC *e* 20 03 42.6
UPC **Upice** 32.94 317 *e*P P 20 03 36.1 -0.2
UPC AMS AMS 20 16 50.0
comp=Z,500nm,17.8s
UPC **Upice** 32.94 317 *e*P P 20 03 36.1 -0.2
UPC MLR MLR
comp=Z,500nm,17.8s
CHVC **Chvalec** 32.95 317 *e*P P 20 03 37.8 +1.4
CHVC AMS AMS 20 19 10.0
comp=Z,400nm,17.6s
CHVC **Chvalec** 32.95 317 *e*P P 20 03 37.8 +1.4
CHVC MLR MLR
comp=Z,400nm,17.6s
MOA **Molln** 33.09 312 *e*P P 20 03 38.2 +0.5
comp=Z,24nm,0.9s,SNR=22
CESX **Cesi** 33.11 302 P P 20 03 37.9 +0.1

CESX IAmb IAmb 20 03 40.1
comp=Z,65nm,1.1s
MYKA Terra Mystica 33.16 309 *i* P **P** **20 03 39.4 +1.0**
comp=Z,16nm,1.2s
PRED Cave del Predi 33.17 309 P **P** **20 03 38.7 +0.3**
PRED IAmb IAmb 20 03 47.9
comp=Z,46nm,0.9s
ZAA0 Zalesovo Array 33.28 36 P **P** **20 03 38.4 -0.7**
ZALV Zalesovo Beam 33.28 36 P **P** **20 03 39.7 +0.5**
ZALV Zalesovo Beam 33.28 36 P **P** **20 03 39.8 +0.7**
comp=Z,11nm,0.8s,baz=250,slow=9.5,SNR=28
ZALV PcP **PcP** **20 06 21.3 +0.1**
comp=Z,1.0nm,0.5s,baz=242,slow=4.1,SNR=1.7
comp=Z,11nm,0.8s
ZALV Zalesovo Beam 33.28 36 *i* P **P** **20 03 40.2 +1.0**
ZALV pmax pmax
comp=Z,10.0nm,0.8s
CKRC Cesky Krumlov 33.37 313 *eP* **P** **20 03 40.3 +0.2**
CKRC AMS AMS 20 20 40.0
comp=Z,400nm,13.7s
CKRC Cesky Krumlov 33.37 313 *eP* **P** **20 03 40.3 +0.2**
CKRC MLR MLR
comp=Z,400nm,13.7s
ARBE Arbavere 33.43 336 *eP* **P** **20 03 42.8 +2.5**
GOPC GO Pecny, Ondr 33.45 315 AMS AMS 20 18 40.0
comp=Z,500nm,17.8s
BIOA Bad Ischl, Aus 33.45 311 *i* P **P** **20 03 41.0 +0.2**
comp=Z,46nm,1.1s,SNR=26
KBA Koelnbreinsper 33.48 310 *i* P **P** **20 03 41.7 +0.5**
comp=Z,86nm,1.1s,SNR=51
KBA *eS* **S** **20 09 01.7 -1.1**
comp=Z,2.8nm,0.9s
PRU Pruhonice 33.62 315 *eP* **P** **20 03 45.6 +3.4**
PRU AMS AMS 20 18 50.0
comp=Z,400nm,16.7s
PRU Pruhonice 33.62 315 *eP* **P** **20 03 45.6 +3.4**
PRU MLR MLR
comp=Z,400nm,16.7s
ZVC Zvikov 33.65 314 *eP* **P** **20 03 42.9 +0.5**
MTSE Matsula 33.69 334 *eP* **P** **20 03 43.7 +1.0**
PRA Prague 33.72 316 AMS AMS 20 18 40.0
comp=Z,400nm,17.6s
GEC2 GERESS Array S 33.76 313 P **P** **20 03 42.7 -0.8**
GERES GERESS Array B 33.76 313 P **P** **20 03 42.2 -1.4**
GERES GERESS Array B 33.76 313 P **P** **20 03 43.6 +0.1**
comp=Z,3.7nm,0.6s,baz=96,slow=11,SNR=17
GERES PcP **PcP** **20 06 23.6 +0.8**
comp=Z,2.1nm,0.7s,baz=93,slow=4.9,SNR=4.4
comp=Z,3.7nm,0.6s
PVCC Panska Ves 33.80 316 *eP* **P** **20 03 44.8 +1.0**
PVCC Panska Ves 33.80 316 *eP* **P** **20 03 44.8 +1.0**
KHC Kasperske Hory 33.92 314 P **P** **20 03 44.8 -0.1**
KHC IAmb IAmb 20 03 55.6
comp=Z,74nm,1.4s
KHC Kasperske Hory 33.92 314 *eP* **P** **20 03 44.9 -0.1**
KHC *ex* x 20 03 59.5
KHC AMS AMS 20 20 10.0
comp=Z,400nm,10.7s
KHC Kasperske Hory 33.92 314 *ceP* **P** **20 03 45.0 +0.1**
KHC pmax pmax
comp=Z,104nm,1.3s
KHC Kasperske Hory 33.92 314 P **P** **20 03 44.0 -0.9**
comp=Z,39nm,1.3s
ABTA Abfaltersbach 33.95 309 *i* P **P** **20 03 45.5 +0.3**
comp=Z,60nm,1.0s,SNR=25
ABTA *eS* **S** **20 09 08.4 -1.5**
comp=Z,8.1nm,1.5s
LESA Schwarzleotal 34.01 310 *i* P **P** **20 03 46.0 +0.3**
comp=Z,42nm,1.2s
LESA *i* S **S** **20 09 11.1 +0.2**
comp=Z,9.3nm,1.2s
LSA Lhasa 34.13 82 P **P** **20 03 48.3 +0.9**
LSA pmax pmax
comp=Z,3.0nm,1.2s
TEOL Teolo 34.21 307 IAmb IAmb 20 04 39.0
comp=Z,32nm,0.7s
BRG Berggiesshubel 34.30 317 *eP* **P** **20 03 48.0 -0.2**
BRG Amp 20 03 49.8
comp=Z,4.8nm,0.9s
BRG Berggiesshubel 34.30 317 P **P** **20 03 52.5 +4.4**
BRG Amp 20 03 55.8
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 34.30 317 *eP* **P** **20 03 47.9 -0.2**
BRG 20 03 52.4
BRG pmax pmax
comp=Z,5.0nm,0.9s
BRG pmax pmax
comp=Z,7.0nm,0.9s
CTI Castel Tesino 34.37 308 IAmb IAmb 20 03 53.6
comp=Z,44nm,0.8s
HSKC Hora Svate Kat 34.51 316 *eP* **P** **20 03 49.2 -0.7**
HSKC AMS AMS 20 20 40.0
comp=Z,600nm,15.2s
MEF Metsahovi 34.55 336 *eP* **P** **20 03 51.2 +1.1**
WTTA Wattenberg 34.65 310 *i* P **P** **20 03 51.1 -0.3**
comp=Z,128nm,1.3s,SNR=54
WTTA *i* S **S** **20 09 21.7 +0.7**
comp=Z,11nm,1.2s
JOF Joensuu 34.67 344 *eP* **P** **20 03 52.5 +1.4**
WATA Walderalm 34.71 310 *eP* **P** **20 03 51.2 -0.7**
comp=Z,144nm,1.4s,SNR=64
WATA *eS* **S** **20 09 23.5 +1.7**
comp=Z,14nm,0.9s
FIA1 FINESS Array S 34.91 339 IAmb IAmb 20 04 03.1
comp=Z,66nm,1.1s
FINES FINESS Array B 34.91 339 P **P** **20 03 53.1 -0.1**
FINES FINESS Array B 34.91 339 P **P** **20 03 53.6 +0.4**
comp=Z,10.0nm,0.7s,baz=143,slow=9.3,SNR=20
FINES PcP **PcP** **20 06 25.9 +0.2**
comp=Z,2.7nm,0.7s,baz=125,slow=3.9,SNR=1.7
FINES LR LR 20 19 41.6
comp=Z,544nm,19.2s,baz=150,slow=39
comp=Z,10.0nm,0.7s
VLC Villacollemand 34.91 304 P **P** **20 03 52.3 -1.2**
SQTA Sankt Quirin 34.92 310 *i* P **P** **20 03 53.3 -0.4**
comp=Z,39nm,0.7s,SNR=68
SQTA *eS* **S** **20 09 23.3 -1.8**
comp=Z,9.5nm,0.7s
NKC Novy Kostel 34.97 315 AMS AMS 20 23 00.0
comp=Z,500nm,16.9s
CLL Collm 35.01 317 *i* P **P** **20 03 54.3 +0.1**
comp=Z,28nm,1.7s
CLL *epP* **pP** **20 03 58.0 -0.1**
CLL *ex* x 20 04 02.0
CLL *ePP* **PP** **20 05 15.0 +1.5**
CLL *ePPP* PPP 20 05 25.0
CLL *ePPPP* 20 05 32.0
CLL *i* PcP **PcP** **20 06 24.0 -2.2**
comp=Z,11nm,1.2s
CLL *ex* x 20 06 33.0
CLL *eScP* **ScP** **20 10 12.0 +0.3**
CLL AMS AMS 20 19 00.0
comp=Z,500nm,19.6s
CLL Collm 35.01 317 *i* P **P** **20 03 54.3 +0.1**
CLL *e* 20 03 58.0
CLL *i* 20 06 24.0
CLL pmax pmax
comp=Z,28nm,1.7s
CLL pmax pmax
comp=Z,11nm,1.2s
CLL MLR MLR
comp=Z,500nm,19.6s
CLL Collm 35.01 317 P **P** **20 03 53.5 -0.7**
MOTA Moosalm 35.02 310 *i* P **P** **20 03 54.2 -0.4**
comp=Z,78nm,0.9s,SNR=50
MOTA *eS* **S** **20 09 26.1 -0.6**
comp=Z,7.9nm,1.1s
SALO Salr 35.05 307 IAmb IAmb 20 03 59.8
comp=Z,53nm,0.8s
PRMA PARMA 35.05 305 P **P** **20 03 53.9 -0.8**
PRMA IAmb IAmb 20 03 57.5
comp=Z,118nm,1.3s
FETA Feichten 35.20 309 *i* P **P** **20 03 55.8 -0.3**
comp=Z,102nm,1.2s,SNR=54
FETA *i* S **S** **20 09 27.2 -2.2**
comp=Z,21nm,1.5s
RETA Reutte 35.28 310 *i* P **P** **20 03 56.3 -0.5**
comp=Z,18nm,0.8s,SNR=15
RETA *eS* **S** **20 09 29.8 -0.7**
comp=Z,14nm,1.1s
VSL Villasalto 35.28 296 IAmb IAmb 20 03 59.8
comp=Z,54nm,1.1s
KIBK Kibwezi 35.36 204 P **P** **20 03 59.6 +2.0**
SNR=5.3
KEST Kesra 35.42 289 IAmb IAmb 20 04 02.1
comp=Z,42nm,1.0s
KEST Kesra 35.42 289 P **P** **20 04 00.2 +2.2**
comp=Z,39nm,1.1s,baz=18,slow=2.0,SNR=33
KEST Kesra 35.42 289 P **P** **20 04 01.3 +3.3**
SNR=24
KEST P **P** **20 04 01.3 +3.3**
SNR=24
FUORN Ofenpass-Fuorn 35.43 308 IAmb IAmb 20 04 09.1
comp=Z,35nm,1.1s
BSD Bornholm Skovb 35.54 324 *eP* **P** **20 03 57.8 -0.9**
BSD Bornholm Skovb 35.54 324 *i* P **P** **20 03 57.0 -1.7**
BSD *i* P **P** **20 03 57.0 -1.7**
MSSA Maissana 35.55 304 P **P** **20 03 57.9 -1.2**
MSSA IAmb IAmb 20 04 20.6
comp=Z,28nm,0.9s
GRA1 Grafenberg Arr 35.56 314 P **P** **20 03 58.5 -0.6**
GRA1 IAmb IAmb 20 04 01.0
comp=Z,43nm,0.9s
GRF Grafenberg Arr 35.56 314 P **P** **20 03 58.5 -0.6**
GRF pmax pmax
comp=Z,43nm,0.9s
GRFO Grafenberg 35.56 314 P **P** **20 03 58.2 -0.8**
GRFO IAmb IAmb 20 04 01.0
comp=Z,43nm,0.9s
GRFO Grafenberg 35.56 314 P **P** **20 03 58.2 -0.8**
GRFO pmax pmax
comp=Z,43nm,0.9s
SHL Shillong 35.81 88 P **P** **20 04 00.5 -1.2**
SHL IAmb IAmb 20 04 06.2
comp=Z,26nm,0.8s
SHL Shillong 35.81 88 P **P** **20 04 01.4 -0.3**
SNR=15
SHL Shillong 35.81 88 P **P** **20 04 00.5 -1.2**
SHL pmax pmax
comp=Z,26nm,0.8s
DAVA Damuels 35.82 309 *i* P **P** **20 04 00.9 -0.6**
comp=Z,41nm,0.5s,SNR=90
DAVA *eS* **S** **20 09 35.6 -3.4**
comp=Z,15nm,1.3s
KEF Keuruu 35.84 339 *eP* **P** **20 04 02.5 +1.3**
TUE Stuetta 36.02 308 P **P** **20 04 01.8 -1.4**
TUE IAmb IAmb 20 04 29.2
comp=Z,28nm,0.8s
TUE Stuetta 36.02 308 P **P** **20 04 02.7 -0.5**
RAF Rauma 36.04 336 *eP* **P** **20 04 03.3 +0.4**
RGN Rugen 36.11 322 P **P** **20 04 04.1 +0.5**
RGN IAmb IAmb 20 04 14.2
comp=Z,153nm,1.6s
RGN Rugen 36.11 322 *eP* **P** **20 04 05.1 +1.5**
AAL Aland 36.12 334 *eP* **P** **20 04 04.0 +0.4**
GOMU GeErMu 36.28 70 P **P** **20 04 07.2 +1.4**
GOMU pP sP 20 04 11.7 +0.3
GOMU sP pP 20 04 15.6 +5.8
GOMU pmax pmax
comp=Z,13nm,1.2s
VIKU Vikbolandet 36.45 330 *eP* **P** **20 04 06.9 +0.5**
STU Stuttgart 36.60 312 P **P** 20 04 12.8 +4.9
DEL Delary 36.70 325 *eP* **P** **20 04 08.9 +0.3**
DEL Delary 36.70 325 *i* P **P** **20 04 08.0 -0.6**
SLE Schleitheim 36.84 310 P **P** **20 04 09.2 -0.8**
UPP Uppsala 36.85 332 *eP* **P** **20 04 10.3 +0.4**
MBAR Mbarara 36.95 216 P **P** **20 04 11.3 0.0**
MBAR Mbarara 36.95 216 P **P** **20 04 12.7 +1.4**
MBAR Mbarara 36.95 216 *ceP* **P** **20 04 13.0 +1.6**
MBAR pmax pmax
comp=Z,20nm,1.3s
SBF Sospel 36.99 303 *eP* **P** **20 04 11.9 +0.5**
SBF pmax pmax
comp=Z,37nm,0.8s
BFO Black Forest 37.06 311 P **P** **20 04 12.8 +0.9**
BFO Black Forest 37.06 311 P **P** **20 04 12.8 +0.9**
BFO pmax pmax
comp=Z,12nm,0.9s
VAF Ylistaro 37.17 339 *eP* **P** **20 04 13.1 +0.6**
FABU Falkenberg 37.51 326 *i* P **P** **20 04 14.2 -1.3**
MBDF Montbardon 37.55 305 *eP* **P** **20 04 15.3 -0.9**
MBDF pmax pmax
comp=Z,26nm,0.6s
BNI Bardonecchia 37.65 305 IAmb IAmb 20 04 22.4
comp=Z,42nm,0.8s
BNI Bardonecchia 37.65 305 P **P** **20 04 16.8 -0.3**
LPG La Plagne 37.66 306 *eP* **P** **20 04 16.2 -1.1**
LPG pmax pmax
comp=Z,45nm,0.7s
LPL La Plagne 37.67 306 *eP* **P** **20 04 16.3 -1.0**
LPL pmax pmax
comp=Z,40nm,0.8s
CDF Champ du Feu 37.77 311 *eP* **P** **20 04 16.1 -1.9**
CDF pmax pmax
comp=Z,11nm,0.7s
BORU Boraas 37.78 327 *i* P **P** **20 04 16.0 -1.8**
ECH Echery 37.81 310 IAmb IAmb 20 04 26.6
comp=Z,44nm,1.1s
ECH Echery 37.81 310 P **P** **20 04 17.6 -0.6**
HINF Hinteralfeld 37.94 310 *eP* **P** **20 04 17.9 -1.4**
HINF pmax pmax
comp=Z,35nm,1.4s
ONAU Onsala 38.08 326 *i* P **P** **20 04 18.0 -2.3**
ORIF Oris-en-Rattie 38.20 305 *eP* **P** **20 04 22.4 +0.7**
ORIF pmax pmax
comp=Z,9.0nm,0.6s
HAU Haudompre 38.30 310 *eP* **P** **20 04 20.8 -1.6**
HAU pmax pmax
comp=Z,15nm,0.8s
APA Apatity 38.35 349 ⇓ *iP* **P** **20 04 25.8 +3.3**
APA *i* 20 05 53.6
APA *i* 20 06 34.4
APA *i* S **S** **20 10 21.0 +4.3**
APA *i* SS SS 20 13 28.0 +23
APA pmax pmax
comp=Z,10.0nm,0.8s
APA MLR MLR
comp=Z,700nm,13.0s
LVZ Lovozero 38.46 350 *i* P **P** **20 04 26.0 +2.6**
LVZ pmax pmax
comp=Z,20nm,0.8s
TJOU Tjoern 38.51 327 *i* P **P** **20 04 23.7 -0.3**
HFS Hagfors 38.64 331 P **P** **20 04 25.0 0.0**
comp=Z,9.6nm,0.5s,baz=126,slow=7.5,SNR=37
HFS LR LR 20 21 42.9
comp=Z,609nm,20.9s,baz=122,slow=38
comp=Z,9.6nm,0.5s
WLF Walferdange 38.74 312 IAmb IAmb 20 04 34.8
comp=Z,27nm,0.8s
WLF Walferdange 38.74 312 *dP* **P** **20 04 25.8 -0.2**
comp=Z,23nm,0.9s
WLF Walferdange 38.74 312 P **P** **20 04 24.1 -1.9**
BTNL Ternell 38.96 314 *dP* **P** **20 04 27.6 -0.2**
BHOU Houvegnez 38.98 313 *dP* **P** **20 04 28.1 +0.1**
comp=Z,12nm,1.0s
MEM Membach 39.04 314 *dP* **P** **20 04 29.7 +1.2**
comp=Z,10nm,1.1s
VIVF Saint-Julien-l 39.05 305 *eP* **P** **20 04 27.3 -1.4**
VIVF pmax pmax
comp=Z,15nm,0.9s
MAHO Mahon 39.22 297 P **P** **20 04 29.0 -1.1**
MAHO IAmb IAmb 20 04 32.2
comp=Z,45nm,1.1s
MAHO Mahon 39.22 297 P **P** **20 04 28.8 -1.4**
RCHB Rochefort 39.43 313 *dP* **P** **20 04 31.8 0.0**
comp=Z,16nm,1.0s
BCLA Clavier 39.44 313 *dP* **P** **20 04 32.0 +0.2**
comp=Z,8.5nm,1.3s
BGES Gesves 39.56 313 *dP* **P** **20 04 33.4 +0.5**
comp=Z,9.9nm,0.8s
GIVF Givet 39.67 313 *eP* **P** **20 04 33.4 -0.4**
GIVF pmax pmax
comp=Z,19nm,0.8s
BMRD Maredsous 39.75 313 *dP* **P** **20 04 34.7 +0.3**
comp=Z,11nm,0.9s
SMF Signal de Mont 39.80 307 *eP* **P** **20 04 33.7 -1.2**
SMF pmax pmax
comp=Z,44nm,0.8s
DOU Dourbes 39.82 313 *dP* **P** **20 04 34.6 -0.4**
comp=Z,14nm,1.0s
LOR Lormes 39.86 308 *eP* **P** **20 04 34.0 -1.4**
LOR pmax pmax
comp=Z,16nm,0.8s
NC405 NORSAR Array S 39.98 331 P **P** **20 04 35.5 -0.7**
GTA Gaotai 40.03 64 ScS **SKiKP** **20 17 22.6 -1.9**
GTA pmax pmax
comp=Z,5.0nm,1.1s
GTA LR LR
comp=N,570nm,16.7s
GTA LR LR
comp=E,360nm,14.3s
GTA LR LR
comp=Z,630nm,19.9s
GTA Gaotai 40.03 64 *eP* **P** **20 04 38.4 +1.3**
GTA sP sP 20 04 45.7 +2.9
GTA pmax pmax
comp=Z,6.0nm,1.0s
GTA LR LR
comp=Z,570nm,17.9s
GTA LR LR
comp=Z,690nm,16.7s
GTA LR LR
comp=Z,630nm,20.7s
BAIF Baives 40.06 313 *eP* **P** **20 04 36.9 -0.1**
BAIF pmax pmax
comp=Z,76nm,1.4s
AVF Avril sur Loir 40.15 307 *eP* **P** **20 04 36.6 -1.2**
AVF pmax pmax
comp=Z,63nm,1.5s
NB2 NORSAR Subarra 40.16 331 P **P** **20 04 36.9 -0.8**
comp=Z,2.6nm,0.5s,baz=122,slow=8.6
NB2 PP **PnPn** **20 06 12.1 -1.4**
comp=Z,8.6nm,1.2s,baz=131,slow=8.6
NOA NORSAR Array B 40.16 331 P **P** **20 04 36.6 -1.1**
comp=Z,3.4nm,0.7s,baz=121,slow=8.3,SNR=18
NOA PP **PP** **20 06 09.7 -0.2**
comp=Z,3.4nm,0.9s,baz=133,slow=11,SNR=4.7
NOA LR LR 20 22 40.2
comp=Z,432nm,21.7s,baz=135,slow=38
comp=Z,3.4nm,0.7s
NAO01 NORSAR Array S 40.20 330 P **P** **20 04 36.7 -1.3**
ETOS Mallorca 40.34 297 P **P** **20 04 40.4 +0.9**
BGF Bois d'Agland 40.47 307 *eP* **P** **20 04 39.4 -1.1**
BGF pmax pmax
comp=Z,21nm,1.2s
MTLF Montolieu 40.74 302 *eP* **P** **20 04 42.1 -0.7**
MTLF pmax pmax
comp=Z,7.0nm,0.8s
TCF Toulx Ste Croi 40.89 307 *eP* **P** **20 04 43.1 -0.9**
TCF pmax pmax
comp=Z,13nm,0.8s
CLF Chambon-Foret 41.02 309 P **P** **20 04 42.5 -2.5**
CLF IAmb IAmb 20 04 45.9
comp=Z,79nm,1.5s
CEST Esterri de Car 41.45 301 P **P** **20 04 47.9 -0.9**
CEST IAmb IAmb 20 04 54.0
comp=Z,32nm,1.0s
ARCES ARCESS Array B 41.52 347 P **P** **20 04 48.7 -0.1**
comp=Z,4.5nm,0.5s,baz=141,slow=5.9,SNR=19
ARCES PP **PP** **20 06 23.4 -1.1**
comp=Z,8.4nm,0.8s,baz=142,slow=12,SNR=4.9
comp=Z,4.5nm,0.5s
TAM Tamanrasset 41.60 270 P **P** **20 04 47.7 -2.5**
TAM Tamanrasset 41.60 270 P **P** **20 04 47.7 -2.5**
TAM pmax pmax
comp=Z,15nm,1.0s
TNCH TengChong 41.69 86 ⇑P **P** **20 04 51.4 +0.4**
TNCH PP **PnPn** **20 06 34.2 +2.1**
TNCH PcP **PcP** **20 06 48.9 +1.2**
TNCH S **S** **20 11 07.7 -0.2**
TNCH SS **SS** **20 14 05.6 -7.7**
TNCH pmax pmax
comp=Z,43nm,1.3s
TNCH pmax pmax
comp=Z,170nm,3.5s
TNCH LR LR
comp=Z,240nm,13.6s
TNCH LR LR
comp=Z,250nm,16.2s
TNCH LR LR
comp=Z,520nm,19.7s
MOY Mondy 41.69 45 *eP* **P** **20 04 52.2 +1.6**
MOY pmax pmax
comp=Z,39nm,1.4s
EPF Esparros 42.11 302 *eP* **P** **20 04 54.9 +0.8**
EPF pmax pmax
comp=Z,4.0nm,0.9s
LDF La Druitiere 42.66 310 *eP* **P** **20 04 56.8 -1.6**
LDF pmax pmax
comp=Z,23nm,0.8s
ETSF Etsaut 42.78 301 *eP* **P** **20 05 00.6 +1.1**
ETSF pmax pmax
comp=Z,8.0nm,0.8s
FLN La Foliniere 42.91 310 *eP* **P** **20 04 59.0 -1.4**
FLN pmax pmax
comp=Z,25nm,0.8s
ZAK Zakamensk 42.92 48 *eP* **P** **20 05 01.3 +0.7**
ZAK pmax pmax
comp=Z,10.0nm,1.1s
GRR Gorron 43.13 309 *eP* **P** **20 05 00.9 -1.3**
GRR pmax pmax
comp=Z,38nm,1.0s
SJPF Ste Jean 43.26 302 *eP* P 20 05 10.3 +6.9
SJPF pmax pmax
comp=Z,21nm,0.8s
ECHE Chera 43.27 297 P **P** **20 05 04.7 +1.2**
LZH Lanzhou 43.55 69 *eP* **P** **20 05 05.8 -0.2**
LZH sP sP 20 05 14.0 +2.3
LZH pmax pmax
comp=Z,20nm,1.1s
LZH LR LR
comp=Z,830nm,14.4s
LZH LR LR
comp=Z,610nm,16.0s
LZH LR LR
comp=Z,940nm,19.2s
WOL Wolverton 43.66 314 *eP* **P** **20 05 06.9 +0.5**
EMUR La Murta 43.67 294 P **P** **20 05 04.7 -2.0**
IRK Irkutsk 43.78 45 *eP* **P** **20 05 08.6 +1.2**
IRK pmax pmax
comp=Z,50nm,1.5s
ETOB Tobarra 43.81 295 P **P** **20 05 08.7 +0.7**
CWF Charnwood Fore 43.91 316 *eP* **P** **20 05 08.1 -0.3**
CWF IAmb IAmb 20 05 13.0
comp=Z,12nm,0.7s
PZH PanZhiHua 43.98 83 P **P** **20 05 10.6 +1.1**
PZH S **S** **20 11 41.2 -0.4**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,60nm,3.5s
PZH LR LR
comp=Z,440nm,17.6s
PZH LR LR
comp=Z,460nm,15.7s
PZH LR LR
comp=Z,480nm,14.7s
SWN1 Swindon 44.05 314 *eP* **P** **20 05 09.3 -0.2**
SWN1 IAmb IAmb 20 05 16.9
comp=Z,61nm,0.7s
JSA Saint Aubin 44.06 311 *eP* **P** **20 05 08.4 -1.2**
JSA IAmb IAmb 20 05 13.3
comp=Z,41nm,0.7s
SGMF Saint Gilles 44.26 309 *eP* **P** **20 05 10.3 -1.0**
SGMF pmax pmax
comp=Z,23nm,0.8s
LBWR Ladybower, Pea 44.26 317 *eP* **P** **20 05 10.3 -0.9**
STRD Stroud 44.30 314 *eP* **P** **20 05 11.7 +0.1**
STRD IAmb IAmb 20 05 15.3
comp=Z,48nm,0.7s
CD2 Chengdu 44.49 76 P **P** **20 05 13.5 0.0**
CD2 S **S** **20 11 48.1 -0.6**
CD2 pmax pmax
comp=Z,10.0nm,0.9s
CD2 pmax pmax
comp=Z,60nm,4.1s
CM31 Chiang Mai Arr 44.52 95 P **P** **20 05 12.7 -1.1**
CM31 Chiang Mai Arr 44.52 95 P **P** **20 05 15.2 +1.5**
SNR=6.7
CM31 P **P** **20 05 15.2 +1.5**
SNR=6.7
CMAR Chiang Mai Arr 44.52 95 P **P** **20 05 13.3 -0.4**
CMAR Chiang Mai Arr 44.52 95 P **P** **20 05 14.0 +0.3**
comp=Z,9.4nm,0.7s,baz=288,slow=7.9,SNR=56
CMAR PP **PP** **20 06 56.5 -1.1**
comp=Z,3.1nm,0.8s,baz=292,slow=6.1,SNR=4.1
comp=Z,9.4nm,0.7s
EDMD Edmundbyers 44.63 319 *eP* **P** **20 05 13.6 -0.6**
EDMD IAmb IAmb 20 05 17.1
comp=Z,13nm,0.7s
QUIF Quistinic 44.65 309 *eP* **P** **20 05 13.1 -1.3**
QUIF pmax pmax
comp=Z,35nm,0.9s
MONM Monmouth 44.70 314 *eP* **P** **20 05 13.9 -0.9**
MONM IAmb IAmb 20 05 18.7
comp=Z,24nm,0.8s
ROSF Rostrenen 44.74 309 *eP* **P** **20 05 13.9 -1.2**

ROSF pmax pmax
comp=Z,26nm,0.8s
SONM Songino Array 44.76 51 P **P** **20 05 15.1 -0.4**
SONM IAmb IAmb 20 06 36.8
comp=Z,64nm,2.0s
SONM Songino Array 44.76 51 P **P** **20 05 16.6 +1.1**
comp=Z,2.6nm,0.9s,baz=264,slow=9.6,SNR=12
comp=Z,2.6nm,0.9s
HLM1 Long Mynd 44.83 315 *e*P **P** **20 05 15.7 -0.1**
MCH1 Michaelchurch 44.84 314 IAmb IAmb 20 05 13.2
comp=Z,50nm,0.4s
UCM Universidad Co 44.94 298 P **P** **20 05 17.2 +0.3**
FOEL Foel Wylfa 45.07 316 *e*P **P** **20 05 17.1 -0.6**
FOEL IAmb IAmb 20 05 27.1
comp=Z,23nm,0.8s
ULN Ulaanbaatar 45.21 51 P **P** **20 05 19.2 +0.1**
ULN IAmb IAmb 20 06 32.4
comp=Z,24nm,1.2s
ULN Ulaanbaatar 45.21 51 *c*eP **P** **20 05 20.1 +1.0**
ULN pmax pmax
comp=Z,19nm,1.7s
KESW Keswick, Cumbr 45.24 318 *e*P **P** **20 05 18.8 -0.2**
KESW IAmb IAmb 20 05 26.4
comp=Z,108nm,1.6s
KMI Kunming 45.27 84 ⇓P **P** **20 05 20.4 +0.4**
KMI pmax pmax
comp=Z,37nm,1.1s
KMI LR LR
comp=Z,730nm,22.8s
KMI LR LR
comp=Z,470nm,30.2s
KMI LR LR
comp=Z,660nm,22.5s
LLW Llanuwchllyn 45.34 316 *e*P **P** **20 05 19.4 -0.5**
EKA Eskdalemuir Ar 45.40 319 P **P** **20 05 19.8 -0.5**
comp=Z,2.3nm,0.5s,baz=104,slow=7.6,SNR=24
comp=Z,2.3nm,0.5s
ESBB Sonseca Array 45.56 297 P **P** **20 05 20.7 -1.1**
ESBB IAmb IAmb 20 05 23.7
comp=Z,24nm,1.3s
ESDC Sonseca Array 45.56 297 P **P** **20 05 20.9 -1.0**
ESDC IAmb IAmb 20 05 23.6
comp=Z,25nm,1.4s
ESDC Sonseca Array 45.56 297 P **P** **20 05 22.1 +0.3**
comp=Z,15nm,1.1s,baz=73,slow=7.5,SNR=52
ESDC PP **PP** **20 07 03.4 -5.0**
comp=Z,2.2nm,0.7s,baz=60,slow=3.6,SNR=5.6
ESDC ScP **ScP** **20 10 53.0 -0.3**
comp=Z,0.5nm,0.7s,baz=49,slow=3.9,SNR=2.8
comp=Z,15nm,1.1s
PHRA Phrae 45.60 94 P **P** **20 05 21.3 -1.1**
SBD Saint Breward 45.77 312 *e*P **P** **20 05 22.8 -0.5**
RSBS Rosebush, Pemb 45.91 314 *e*P **P** **20 05 23.4 -1.0**
RSBS IAmb IAmb 20 05 24.1
comp=Z,39nm,1.4s
EADA Adamuz 46.23 295 P **P** **20 05 27.1 0.0**
EMAL Malaga-Limoner 46.34 293 P **P** **20 05 27.6 -0.4**
SRDT SRDT 46.53 100 P **P** **20 05 30.8 +1.1**
EMIJ Mijas 46.65 293 P **P** **20 05 29.4 -1.0**
ECAB El Cabril 46.90 295 P **P** **20 05 31.1 -1.3**
DSB Dublin 47.01 316 P **P** **20 05 32.8 -0.2**
DSB IAmb IAmb 20 05 37.2
comp=Z,20nm,1.0s
PBRG Braganca 47.42 300 *e*P **P** **20 05 37.1 +0.7**
comp=Z,31nm,1.3s
MVO Moncorvo 47.71 299 *e*P **P** **20 05 39.7 +1.0**
comp=Z,40nm,1.3s
MVO Moncorvo 47.71 299 *e*LR LR 20 24 55.9
comp=Z,268nm,16.0s
BTO Baotou 47.73 61 *e*P **P** **20 05 38.8 -0.1**
BTO pP **pP** **20 05 43.3 +0.3**
BTO sP **sP** **20 05 45.9 +1.2**
BTO PP **PP** **20 07 29.7 -0.8**
BTO S **S** **20 12 36.7 +1.5**
BTO sS sS 20 12 51.6 +9.4
BTO pmax pmax
comp=Z,21nm,1.0s
BTO pmax pmax
comp=Z,290nm,9.8s
XAN Xi'an 48.02 70 ⇑P **P** **20 05 41.0 -0.2**
XAN pP pP 20 05 45.6 +0.3
XAN sP sP 20 05 48.1 +1.1
XAN pmax pmax
comp=Z,12nm,1.2s
XAN LR LR
comp=Z,900nm,19.9s
XAN LR LR
comp=Z,450nm,17.2s
PBAR Barrancos 48.15 295 *e*P **P** **20 05 43.0 +0.9**
comp=Z,69nm,1.2s
GYA Guiyang 48.19 81 P **P** **20 05 41.1 -1.6**
GYA pmax pmax
comp=Z,26nm,1.1s
MTE Manteigas 48.20 298 *e*P **P** **20 05 42.8 +0.3**
comp=Z,71nm,1.4s
MTE Manteigas 48.20 298 *e*LR LR 20 25 10.2
comp=Z,305nm,20.0s
MTE Manteigas 48.20 298 IAmb IAmb 20 05 44.8
comp=Z,68nm,1.3s
PMRV Marv??o 48.22 297 *e*P **P** **20 05 42.9 +0.3**
comp=Z,26nm,1.4s
PMRV Marv??o 48.22 297 *e*LR LR 20 20 18.4
comp=Z,323nm,20.0s
PCBR Castelo Branco 48.23 298 *e*P **P** **20 05 43.2 +0.6**
comp=Z,96nm,1.5s
PVIS Viseu 48.42 299 *e*P **P** **20 05 44.9 +0.7**
PESTR Estremoz 48.46 296 *e*P **P** **20 05 44.6 +0.1**
comp=Z,26nm,1.7s
PGAV Gavieira, Arco 48.53 301 *e*P **P** **20 05 45.9 +0.8**
comp=Z,76nm,1.4s
PGAV Gavieira, Arco 48.53 301 *e*LR LR 20 27 04.3
comp=Z,310nm,18.0s
PVAQ Vaqueiros 48.81 295 *e*P **P** **20 05 47.9 +0.7**
comp=Z,38nm,1.3s
PVAQ Vaqueiros 48.81 295 *e*LR LR 20 21 51.5
comp=Z,475nm,18.0s
PBEJ Beja 48.82 295 *e*P **P** **20 05 48.0 +0.8**
comp=Z,43nm,1.4s
EVO Evora 48.84 296 *e*P **P** **20 05 48.4 +1.0**
comp=Z,37nm,1.5s
HHC Hu-ho-hao-te 48.86 61 *e*P **P** **20 05 47.8 +0.2**
HHC pmax pmax
comp=Z,22nm,0.8s
HHC pmax pmax
comp=Z,80nm,4.1s
HHC LR LR
comp=Z,500nm,19.1s
HHC LR LR
comp=Z,290nm,18.3s
HHC LR LR
comp=Z,420nm,19.9s
COI Coimbra 48.88 298 IAmb IAmb 20 05 54.3
comp=Z,27nm,0.7s
PMTG Montargil 48.92 297 *e*P **P** **20 05 48.6 +0.6**
comp=Z,30nm,1.6s
PCAS Casmilo, Conde 48.97 298 *e*P **P** **20 05 48.1 -0.3**
comp=Z,45nm,1.6s
TOA0 Torodi Ar. Sit 49.02 260 P **P** **20 05 47.9 -1.1**
TOA0 IAmb IAmb 20 05 50.4
comp=Z,30nm,0.8s
TOA0 Torodi Ar. Sit 49.02 260 P **P** **20 05 49.5 +0.5**
SNR=14
TORD Torodi Ar. Bea 49.02 260 P **P** **20 05 49.0 0.0**
comp=Z,27nm,0.8s,baz=54,slow=9.4,SNR=110
TORD LR LR 20 26 28.2
comp=Z,244nm,19.1s,baz=62,slow=36
comp=Z,27nm,0.8s
PCVE Castro Verde 49.02 295 *e*P **P** **20 05 49.7 +0.9**
comp=Z,47nm,1.6s
PSBE So Bento 49.28 298 *e*P **P** **20 05 52.0 +1.2**
comp=Z,41nm,2.1s
PNCL Nicolau / Gran 49.32 296 *e*P **P** **20 05 52.4 +1.4**
comp=Z,60nm,1.5s
ENH Enshi 49.43 75 P **P** **20 05 53.6 +1.6**
ENH Enshi 49.43 75 IAmb IAmb 20 06 28.2
comp=Z,39nm,0.7s
CIT Chita 49.47 46 *e*P **P** **20 05 55.8 +3.8**
CIT *e* 20 06 04.8
CIT pmax pmax
comp=Z,167nm,1.5s
ABPO Ambohimpanom 49.69 185 P **P** **20 05 54.0 -0.1**
ABPO Ambohimpanom 49.69 185 P **P** **20 05 54.0 -0.1**
ABPO pmax pmax
comp=Z,15nm,1.0s
PFVI Vila Bisbo 49.73 294 *e*P **P** **20 05 55.3 +1.1**
PMAFR Mafra 49.75 297 *e*P **P** **20 05 57.6 +3.3**

SPITS Spitsbergen Ar 49.95 351 P **P** **20 05 55.9 +0.5**
comp=Z,20nm,0.7s,baz=131,slow=10.0,SNR=22
SPITS LR LR 20 31 02.6
comp=Z,155nm,18.4s,baz=106,slow=41
comp=Z,20nm,0.7s
BOD Bodaibo 49.98 38 *e*P **P** **20 05 55.9 +0.1**
BOD pmax pmax
comp=Z,73nm,1.6s
TIY Taiyuan 50.05 65 ⇑P **P** **20 06 01.5 +4.8**
TIY S **S** **20 13 07.6 -0.3**
TIY pmax pmax
comp=Z,30nm,0.8s
TIY LR LR
comp=Z,360nm,14.3s
TIY LR LR
comp=Z,600nm,20.2s
TIY LR LR
comp=Z,370nm,15.2s
LSZ Lusaka 51.01 209 LR LR 20 28 56.1
comp=Z,528nm,20.6s,baz=30,slow=38
LSZ Lusaka 51.01 209 P **P** **20 06 06.1 +2.1**
LSZ Lusaka 51.01 209 P **P** **20 06 06.2 +2.1**
UBPT Khong Chiam 51.52 95 P **P** **20 06 08.9 +0.9**
UBPT Khong Chiam 51.52 95 P **P** **20 06 08.1 +0.1**
JMIC Jan Mayen 51.53 339 LR LR 20 29 25.6
comp=Z,204nm,20.7s,baz=200,slow=38
VOI Vohitsoka 52.59 186 P P 20 06 22.2 +6.4
VOI Vohitsoka 52.59 186 P **P** **20 06 18.8 +3.0**
SCO Scoresbysund 55.81 337 P **P** **20 06 39.4 +0.8**
SCO IAmb IAmb 20 06 47.7
comp=Z,25nm,1.3s
SCO Scoresbysund 55.81 337 P **P** **20 06 39.4 +0.8**
SCO pmax pmax
comp=Z,25nm,1.3s
NJ2 Nanjing 56.59 70 *e*P **P** **20 06 44.8 0.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.9s
NJ2 pmax pmax
comp=Z,170nm,5.0s
DL2 Dalian 56.83 61 P **P** **20 06 48.8 +2.4**
DL2 pmax pmax
comp=Z,31nm,0.8s
TIXI Tiksi 57.12 22 P **P** **20 06 48.8 +0.9**
TIXI Tiksi 57.12 22 LR LR 20 34 28.5
comp=Z,430nm,21.4s,baz=295,slow=39
TIXI Tiksi 57.12 22 *i* P **P** **20 06 48.4 +0.4**
TIXI pmax pmax
comp=Z,15nm,1.4s
DBIC Dimbokro 57.86 258 P **P** **20 06 54.1 +0.2**
comp=Z,30nm,0.6s,baz=36,slow=6.6,SNR=39
comp=Z,30nm,0.6s
KIC Kosan Boka 57.92 257 ⇓*e*P **P** **20 06 55.2 +0.7**
comp=Z,85nm,0.7s
TIC Toumodi 58.01 258 ⇑*e*P **P** **20 06 55.5 +0.4**
comp=Z,29nm,0.6s
LIC Lamto 58.24 257 ⇓*e*P **P** **20 06 57.4 +0.7**
comp=Z,151nm,0.7s
CN2 Changchun 58.41 55 *e*P **P** **20 06 58.2 +0.7**
CN2 *e*S **S** **20 14 56.3 -4.0**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
TSUM Tsumeb 59.46 218 P **P** **20 07 03.9 -1.2**
SUMG Summit 60.94 340 P **P** **20 07 15.0 +0.1**
SUMG IAmb IAmb 20 07 23.2
comp=Z,49nm,0.9s
SUMG Summit 60.94 340 P **P** **20 07 15.0 +0.1**
SUMG pmax pmax
comp=Z,49nm,0.9s
KLR Kul'dur 61.29 47 LR LR 20 35 11.0
comp=Z,456nm,20.7s,baz=287,slow=37
LWLI Liwa 61.49 116 P **P** **20 07 18.8 -0.3**
comp=Z,71nm,0.8s
KSRS Korea Array 62.00 61 P **P** **20 07 22.6 +0.4**
comp=Z,5.3nm,0.7s,baz=280,slow=6.9,SNR=5.8
comp=Z,5.3nm,0.7s
KASI Kota Agung 62.15 116 P **P** **20 07 22.2 -1.2**
comp=Z,40nm,1.0s
USRK Ussuriysk Ar. 62.84 53 LR LR 20 37 02.0
comp=Z,502nm,19.1s,baz=277,slow=38
SBUM Sibu 63.74 104 P **P** **20 07 33.3 -0.7**
BOSA Boshof 64.16 206 P **P** **20 07 35.5 -1.1**
BOSA IAmb IAmb 20 07 43.9
comp=Z,16nm,0.9s
BOSA Boshof 64.16 206 P **P** **20 07 37.1 +0.5**
comp=Z,12nm,0.9s,baz=17,slow=6.6,SNR=17
BOSA LR LR 20 37 19.1
comp=Z,315nm,18.2s,baz=26,slow=38
comp=Z,12nm,0.9s
MTKI Muara Teweh, K 67.83 105 P **P** **20 08 03.5 +3.1**
comp=Z,41nm,0.4s
YSS Yuzh-Sakhalins 69.00 47 *e*P **P** **20 08 07.9 +0.6**
YSS pmax pmax
comp=Z,30nm,0.7s
SUR Sutherland 69.23 208 P **P** **20 08 07.3 -1.6**
SUR IAmb IAmb 20 08 27.2
comp=Z,24nm,1.2s
SUR Sutherland 69.23 208 LR LR 20 38 40.9
comp=Z,313nm,19.1s,baz=31,slow=36
SUR Sutherland 69.23 208 P **P** **20 08 11.1 +2.1**
ASAJ Asahikawa 70.02 50 LR LR 20 41 16.2
comp=Z,362nm,20.0s,baz=296,slow=38
MPSI Mapaga 71.33 101 P **P** **20 08 22.5 +0.5**
comp=Z,50nm,1.2s,comp=Z,507nm
TOLI2 Tolitoli 71.66 100 P **P** **20 08 22.0 -2.0**
TOLI2 IAmb IAmb 20 08 35.3
comp=Z,25nm,0.9s
RES Resolute Bay 72.52 351 LR LR 20 43 30.0
comp=Z,215nm,20.3s,baz=24,slow=38
B18K Kokolik River 77.21 12 P **P** **20 08 56.0 +0.5**
baz=331
A36M Sachs Harbour 77.48 359 P **P** **20 08 57.2 +0.3**
baz=2.9
C17K DeLong Mountai 77.75 12 P **P** **20 08 58.1 -0.4**
baz=330
C19K Lookout Ridge 77.81 11 P **P** **20 08 59.0 +0.1**
baz=333
C18K Utukok River 77.95 12 P **P** **20 08 59.9 +0.2**
baz=332
RDOG Red Dog Mine 78.16 13 P **P** **20 09 01.5 +0.7**
baz=330
E21K Kilik River 79.27 9 P **P** **20 09 07.5 +0.5**
baz=338
SCHQ Schefferville 79.69 329 IAmb IAmb 20 09 15.7
comp=Z,14nm,0.8s
SCHQ Schefferville 79.69 329 P **P** **20 09 08.8 -0.7**
comp=Z,7.5nm,0.8s,baz=59,slow=7.3,SNR=6.0
comp=Z,7.5nm,0.8s
D27M Malcolm River 79.84 4 IAmb IAmb 20 09 30.1
comp=Z,49nm,1.0s
F19K Shaleruckik Mo 80.17 11 P **P** **20 09 11.2 -0.6**
baz=335
E28M Babbage River 80.57 4 IAmb IAmb 20 09 34.7
comp=Z,68nm,1.1s
E28M Babbage River 80.57 4 P **P** **20 09 14.5 +0.6**
baz=350
E27K Coleen River 80.84 5 IAmb IAmb 20 09 29.4
comp=Z,72nm,1.0s
F31M Tsiigehtchic 82.00 2 P **P** **20 09 21.1 -0.4**
baz=356
G27K Doyon Strip 82.19 5 IAmb IAmb 20 09 32.4
comp=Z,30nm,0.8s
G31M Satah River 82.50 2 P **P** **20 09 24.0 -0.1**
baz=355
K29M Barlow Dome 85.42 4 P **P** **20 09 40.1 +0.8**
YKA Yellowknife Ar 86.38 354 P **P** **20 09 44.3 +0.4**
comp=Z,5.9nm,0.8s,baz=5.6,slow=5.7,SNR=38
comp=Z,5.9nm,0.8s
YKA Yellowknife Ar 86.38 354 *i* P **P** **20 09 44.3 +0.4**
YKA pmax pmax
comp=Z,7.0nm,0.9s
N30M Aishikik Lake 87.82 4 IAmb IAmb 20 09 53.3
comp=Z,20nm,0.7s
HIN Hinchinbrook I 87.95 9 IAmb IAmb 20 09 54.1
comp=Z,254nm,1.5s
S32K Killisnoo 91.94 3 IAmb IAmb 20 10 10.7
comp=Z,43nm,1.2s
SADO Sadowa 92.41 327 LR LR 20 54 13.0
comp=Z,137nm,18.3s,baz=166,slow=37
CRAG Craig 94.00 3 IAmb IAmb 20 10 21.6
comp=Z,60nm,1.0s
WRA Warramunga Arr 94.09 111 P **P** **20 10 19.9 -0.9**
comp=Z,1.3nm,0.8s,baz=316,slow=4.1,SNR=10.0
comp=Z,1.3nm,0.8s
ULM Lac du Bonnet 94.30 340 P **P** **20 10 20.6 -0.6**
comp=Z,2.5nm,0.7s,baz=343,slow=7.9,SNR=5.9
comp=Z,2.5nm,0.7s
ASAR Alice Springs 95.66 114 P **P** **20 10 26.9 -1.0**
comp=Z,0.9nm,0.9s,baz=307,slow=5.1,SNR=6.7
comp=Z,0.9nm,0.9s
PFO Pinyon Flats O 114.95 349 P **PKiKP** **20 15 42.0 -1.3**
baz=11
QSPA South Pole Qui 120.62 180 **PKiKP** **20 15 53.2 +0.1**
QSPA South Pole Qui 120.62 180 PKP **PKPdf** **20 15 52.1 -0.8**
comp=Z,8.7nm,0.8s,baz=260,slow=2.0,SNR=12
DZM Mont Dzumac 121.78 98 *e*LR LR 20 53 29.7
comp=Z,158nm,24.1s
LPAZ La Paz 123.43 270 PKP **PKiKP** **20 16 00.8 0.0**
comp=Z,1.1nm,0.6s,baz=326,slow=2.0,SNR=5.0
VNDA Vanda 124.20 166 PKP **PKiKP** **20 15 59.7 -0.1**
comp=Z,1.1nm,1.1s,baz=243,slow=2.3,SNR=3.0
PLCA Paso Flores 132.72 241 PKP **PKPdf** **20 16 16.2 -0.6**
comp=Z,3.2nm,1.1s,baz=34,slow=5.7,SNR=5.7
TAOE Nuku Hiva Isla 155.61 29 *e*LR LR 21 09 00.6
comp=Z,111nm,23.4s
PPT2 Papeete2 156.75 60 *e*LR LR 21 09 43.3
comp=Z,139nm,31.8s
PPT2 *e*LR LR 21 09 46.3
comp=Z,132nm,23.8s

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*BJI **06** 20:00:46.1±0.0,39.°59N×141.°06E,h99km,mb4.9/75, mB4.9/38*
*MOS **06** 20:00:46.8±0.8,39.°71N×141.°20E,h99km,mb5.2/85,Error ellipse: s-maj=6.3km s-min=4.7km az=92.6*
*JMA **06** 20:00:48.4±0.1,39.°6N±0.°2×141.°2E±0.°4,h98km,MD5.1/40, MW5.1/40,NORTHERN IWATE PREF*
JMA Felt IV J1 at NORTHERN IWATE PREF .
*IDC **06** 20:00:48.2±0.3,39.°62N×141.°11E,h97km±2km,mb4.8/41, mbtmp5.1/47,MS4.1/15,Error ellipse: s-maj=8.5km s-min=7.6km az=49.0*
*NEIC **06** 20:00:48.1,39.°57N×141.°22E,h100km,Moment Tensor Solution. Duration: ↑s8 Moment tensor: Scale 10¹⁶Nm; Mrr4.58; Mθθ-5.28; Mφφ0.70; Mrθ0.28; Mθφ-0.59; Mφr-3.44; Fault plane solution: M₀5.97000×10¹⁶ NP1: φs237.38000°,δ52.82000°,λ50.37000°. NP2: φs111.26000°,δ52.14000°,λ130.06000°. Principal axes: T 6.6131, Plg59.0000°, Azm85.0000°; N -1.2770, Plg31.0000°, Azm264.0000°; P -5.3361, Plg0.0000°, Azm354.0000°;*
*NIED **06** 20:00:48.4,39.°60N×141.°16E,h98km,MW5.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr5.48; Mθθ-5.14; Mφφ-0.35; Mrθ-0.51; Mθφ-0.00; Mφr-4.12; Fault plane solution: M₀6.40000×10¹⁶ NP1: φs243.00000°,δ55.00000°,λ56.00000°. NP2: φs112.00000°,δ47.00000°,λ128.00000°.*
*NEIC **06** 20:00:48.6±1.7,39.°67N±0.°04×141.°08E±0.°07,h97km±4km, mb5.4/668,Mww5.1/30 Error ellipse: s-maj=8.4km s-min=5.1km az=72.0*
*NEIC **06** 20:00:48.1,39.°67N×141.°09E,h100km*
*GCMT **06** 20:00:49.6±0.2,39.°67N±0.°01×141.°08E±0.°01,h91km±1km, MW5.2/142,Moment Tensor Solution. s78,c106; s142,c266; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr5.06±.15; Mθθ-6.23±.12; Mφφ1.17±.14; Mrθ0.11±.10; Mφφ0.13±.13; Mθr-4.63±.09; Best double couple: M₀7.18700×10¹⁶ NP1:φs120.00000°,δ55.00000°, λ132.00000°. NP2:φs242.00000°,δ53.00000°,λ46.00000°. Principal axes: T 8.1370, Plg56.0000°, Azm90.0000°; N -1.9000, Plg34.0000°, Azm273.0000°; P -6.2370, Plg1.0000°, Azm182.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 06 20:00:47.9±0.2,39.°64N±0.°03×141.°14E±0.°03,h96km±1km, h96km:pP-P,n1577,σ1s40/1423,mb5.4/540,86C-70D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZI	**Iwateshizukuis**	**0.17**	**306**	*i* P	**Pn**	**20 01 02.6**	**+1.1**
JSZI				S	**Sn**	**20 01 13.3**	**+1.5**
JSZI	**Iwateshizukuis**	**0.17**	**306**	A	A	20 01 02.6	
comp=E,420nm,1.6s,comp=N,374nm,2.9s							
JOM	**Ohasama**	**0.21**	**144**	*i* P	**Pn**	**20 01 02.1**	**+0.5**
JOM				S	**Sn**	**20 01 12.9**	**+1.0**
JOM	**Ohasama**	**0.21**	**144**	A	A	20 01 02.1	
comp=E,348nm,2.4s,comp=N,111nm,0.3s							
JKZ	**Kuzumaki**	**0.38**	**23**	⇓*i* P	**Pn**	**20 01 03.5**	**+0.9**
JKZ				⇓S	**Sn**	**20 01 14.6**	**+1.1**
JKZ	**Kuzumaki**	**0.38**	**23**	A	A	20 01 03.5	
comp=E,234nm,0.6s,comp=N,305nm,2.6s							
JRG	**Rokugo**	**0.46**	**238**	*i* P	**Pn**	**20 01 03.8**	**+0.8**
JRG				S	**Sn**	**20 01 15.8**	**+1.6**
JRG	**Rokugo**	**0.46**	**238**	A	A	20 01 03.8	
comp=E,228nm,1.0s,comp=N,522nm,1.1s							
MIYJ	**Miyakonagasawa**	**0.53**	**97**	A	A	20 01 04.1	
comp=E,201nm,1.7s,comp=N,116nm,1.7s							
JTH	**Tanohata**	**0.64**	**62**	A	A	20 01 05.2	
comp=E,153nm,1.8s,comp=N,95nm,0.9s							
JAH	**Hinai**	**0.67**	**325**	⇓*i* P	**Pn**	**20 01 06.0**	**+1.3**
JAH				⇓S	**Sn**	**20 01 19.2**	**+2.0**
JAH	**Hinai**	**0.67**	**325**	A	A	20 01 06.0	
comp=E,240nm,1.9s,comp=N,268nm,1.6s							
JMK	**Ichinoseki**	**0.69**	**175**	⇓*i* P	**Pn**	**20 01 05.2**	**+0.3**
JMK				⇓S	**Sn**	**20 01 17.6**	**0.0**
JMK	**Ichinoseki**	**0.69**	**175**	A	A	20 01 05.2	
comp=E,140nm,2.6s,comp=N,109nm,1.1s							
OFUJ	**Ofunato**	**0.70**	**143**	A	A	20 01 05.2	
comp=E,101nm,0.6s,comp=N,106nm,1.3s							
JKEN	**Kujiedanarisaw**	**0.72**	**38**	A	A	20 01 06.1	
comp=E,197nm,0.5s,comp=N,215nm,2.3s							
JYW	**Yuwa**	**0.72**	**262**	A	A	20 01 06.1	
comp=E,310nm,1.6s,comp=N,342nm,1.2s							
JANG	**Nango**	**0.79**	**22**	⇓*i* P	**Pn**	**20 01 06.8**	**+1.0**
JANG				⇓S	**Sn**	**20 01 20.3**	**+1.0**
JANG	**Nango**	**0.79**	**22**	A	A	20 01 06.8	
comp=E,179nm,1.2s,comp=N,194nm,1.2s							
JKMT	**Kesennumamotoy**	**0.87**	**162**	A	A	20 01 06.9	
comp=E,73nm,0.3s,comp=N,160nm,0.9s							
JYK	**Kaneyama**	**0.94**	**220**	*i* P	**Pn**	**20 01 08.2**	**+0.8**
JYK				S	**Sn**	**20 01 23.1**	**+1.1**
JYK	**Kaneyama**	**0.94**	**220**	A	A	20 01 08.2	
comp=E,165nm,1.0s,comp=N,439nm,1.8s							
JNTW	**Noshirotokiwa**	**0.98**	**310**	A	A	20 01 09.1	
comp=E,406nm,2.0s,comp=N,400nm,1.8s							
JOFO	**Osakifurukawao**	**1.05**	**190**	A	A	20 01 09.0	
comp=E,428nm,2.1s,comp=N,516nm,2.4s							
JYYZ	**Yamagatayuza**	**1.12**	**237**	A	A	20 01 10.2	
comp=E,195nm,3.3s,comp=N,334nm,2.6s							
JTM	**Tenmabayashi**	**1.15**	**357**	P	**Pn**	**20 01 11.2**	**+1.5**
JTM	**Tenmabayashi**	**1.15**	**357**	Pn	**Pn**	**20 01 10.9**	**+1.3**
JTM	**Tenmabayashi**	**1.15**	**357**	⇓*i* P	**Pn**	**20 01 11.0**	**+1.3**
JTM				⇓S	**Sn**	**20 01 28.1**	**+2.0**
JTM	**Tenmabayashi**	**1.15**	**357**	A	A	20 01 11.0	
comp=E,56nm,1.7s,comp=N,100nm,2.2s							
JHHS	**Hirosakihyakuz**	**1.17**	**330**	A	A	20 01 11.4	
comp=E,194nm,3.2s,comp=N,382nm,2.6s							
JIO	**Ouri**	**1.20**	**172**	⇓P	**Pn**	**20 01 10.2**	**0.0**
JIO				⇓S	**Sn**	**20 01 26.5**	**-0.6**
JIO	**Ouri**	**1.20**	**172**	A	A	20 01 10.2	
comp=E,53nm,0.9s,comp=N,137nm,1.1s							
JIW	**Iwasaki**	**1.29**	**318**	⇓*i* P	**Pn**	**20 01 12.9**	**+1.6**
JIW				⇓S	**Sn**	**20 01 31.4**	**+2.3**
JIW	**Iwasaki**	**1.29**	**318**	A	A	20 01 12.9	
comp=E,90nm,1.0s,comp=N,179nm,1.6s							
JTB	**Tobi-shima**	**1.30**	**251**	A	A	20 01 12.4	
comp=E,67nm,0.8s,comp=N,124nm,1.8s							
JOU	**Okura**	**1.32**	**196**	⇓*i* P	**Pn**	**20 01 12.7**	**+0.9**
JOU				⇓*e*S	**Sn**	**20 01 31.3**	**+1.4**
JOU	**Okura**	**1.32**	**196**	A	A	20 01 12.7	
comp=E,86nm,0.7s,comp=N,192nm,1.9s							
JIKH	**Ishinomakikobu**	**1.35**	**169**	A	A	20 01 12.4	
comp=E,55nm,0.7s,comp=N,131nm,1.1s							
JARK	**Aomorirokkasho**	**1.38**	**7**	A	A	20 01 13.8	
comp=E,153nm,1.0s,comp=N,115nm,1.9s							
JSI2	**Shiura 2**	**1.52**	**339**	A	A	20 01 15.8	
comp=E,42nm,3.8s,comp=N,67nm,1.4s							
JYA	**Atsumi**	**1.52**	**227**	A	A	20 01 14.9	
comp=E,114nm,0.7s,comp=N,249nm,1.3s							
JOG3	**Oga3**	**1.61**	**281**	A	A	20 01 09.9	
comp=E,162nm,2.0s,comp=N,138nm,2.4s							

JAHD Aomorihigashid 1.63 5 A A 20 01 17.1
comp=E,202nm,1.1s,comp=N,187nm,1.6s
JYS Shirataka 1.65 211 A A 20 01 16.3
comp=E,178nm,1.5s,comp=N,203nm,3.4s
JOT Ohata 1.74 358 ⇓*iP* **Pn 20 01 18.4 +1.4**
JOT ⇓S **Sn 20 01 41.2 +2.2**
JOT Ohata 1.74 358 A A 20 01 18.4
comp=E,31nm,2.1s,comp=N,48nm,2.9s
JMM Marumori 1.79 189 P **Pn 20 01 18.3 +0.7**
JMM Marumori 1.79 189 **Pn 20 01 17.8 +0.2**
JMM Marumori 1.79 189 A A 20 01 18.0
comp=E,51nm,1.9s,comp=N,42nm,1.2s
JAW Awa shima 1.89 232 A A 20 01 19.7
comp=E,47nm,2.1s,comp=N,45nm,3.6s
JYAR Yonezawaarcadi 1.89 205 A A 20 01 19.5
comp=E,77nm,1.5s,comp=N,80nm,1.0s
JMST Minamisoumatoc 1.92 186 A A 20 01 19.8
comp=E,25nm,2.2s,comp=N,35nm,0.9s
JOMM Oshimamatsumae 2.07 336 A A 20 01 22.9
comp=E,19nm,1.0s,comp=N,23nm,2.6s
JOTO OTAMA OYAMA 2.17 197 A A 20 01 23.1
comp=E,51nm,1.2s,comp=N,54nm,3.7s
JKB Kayabe 2.25 358 A A 20 01 25.3
comp=E,50nm,1.8s,comp=N,39nm,2.2s
JFK Kawauchi 2.28 185 A A 20 01 24.5
comp=E,20nm,3.5s,comp=N,21nm,2.6s
JNS Sasagawa 2.31 219 A A 20 01 25.2
comp=E,18nm,4.5s,comp=N,13nm,3.5s
JFY Yanaizu 2.50 207 A A 20 01 27.6
comp=E,18nm,2.4s,comp=N,21nm,3.3s
JYM2 Yakumo 2 2.54 347 A A 20 01 29.3
comp=E,20nm,2.9s,comp=N,33nm,1.5s
ONAJ Iwakimizuishiy 2.55 186 A A 20 01 28.1
comp=E,24nm,1.6s,comp=N,22nm,0.3s
JFFD Fukushimafurud 2.58 190 A A 20 01 28.7
comp=E,14nm,4.9s,comp=N,15nm,1.6s
JOSM Okushiri--Mats 2.75 333 A A 20 01 32.1
comp=E,12nm,1.9s,comp=N,11nm,3.1s
JSD Sado 2.76 235 P **Pn 20 01 31.3 +1.0**
JSD Sado 2.76 235 **Pn 20 01 30.8 +0.5**
JSD Sado 2.76 235 A A 20 01 31.4
comp=E,22nm,1.6s,comp=N,14nm,3.1s
ERM Erimo 2.83 32 P **Pn 20 01 31.6 +0.5**
ERM Erimo 2.83 32 **Pn 20 01 31.4 +0.3**
ERM Erimo 2.83 32*ceP* **Pn 20 01 31.4 +0.3**
ERM pmax pmax
comp=Z,2μm,0.8s
JEM Erimo 2.83 32 P **Pn 20 01 31.6 +0.5**
JEM Erimo 2.83 32 A A 20 01 32.9
comp=E,11nm,1.9s,comp=N,12nm,1.7s
JNB Noboribetsu 2.83 359 A A 20 01 33.1
comp=E,11nm,2.3s,comp=N,15nm,2.5s
JSB Shiboa 2.83 200 A A 20 01 32.1
comp=E,36nm,2.8s,comp=N,39nm,3.4s
JIZZ Izumozaki 2.84 223 A A 20 01 32.4
comp=E,48nm,3.8s,comp=N,47nm,4.8s
JNBK Urakawa-nobuka 2.91 24 A A 20 01 34.1
comp=E,20nm,2.3s,comp=N,21nm,3.6s
JUON Uonuma 2.93 215 A A 20 01 33.5
comp=E,13nm,2.2s,comp=N,13nm,1.5s
JHST Hiyamasetana 2.94 341 A A 20 01 34.7
comp=E,18nm,2.5s,comp=N,16nm,1.7s
JSHD Hidakashinhida 2.94 20 A A 20 01 34.6
comp=E,41nm,4.0s,comp=N,43nm,4.2s
JIAM Iburiatsuma 3.04 11 A A 20 01 35.9
comp=E,27nm,1.1s,comp=N,28nm,2.6s
JHO Hitachi 3.06 189 A A 20 01 35.0
comp=E,15nm,4.4s,comp=N,11nm,1.4s
JSH Shimam 3.11 345 A A 20 01 37.1
comp=E,6.0nm,2.7s,comp=N,8.0nm,1.8s
JTHR Tokachihiroo 3.11 31 A A 20 01 36.8
comp=E,11nm,1.5s,comp=N,10.0nm,2.1s
JKT Katashina 3.23 208 A A 20 01 37.6
comp=E,11nm,1.7s,comp=N,22nm,1.2s
JBT2 Biratori 2 3.27 16 A A 20 01 39.1
comp=E,9.0nm,5.0s,comp=N,10.0nm,3.2s
JHYU Hitachinakayam 3.32 188 A A 20 01 38.7
comp=E,14nm,3.0s,comp=N,14nm,3.4s
JCH Churui 3.41 29 A A 20 01 41.0
comp=E,13nm,4.4s,comp=N,11nm,3.6s
JAG Ashikaga 3.47 203 A A 20 01 40.9
comp=E,10.0nm,6.0s,comp=N,11nm,2.5s
JYT Yasato 3.49 193 A A 20 01 41.0
comp=E,14nm,1.1s,comp=N,11nm,2.6s
JISS Ishikarishitsu 3.64 3 A A 20 01 44.2
comp=E,20nm,2.3s,comp=N,19nm,2.1s
JSZ Suzu 3.68 235 A A 20 01 44.1
comp=E,6.0nm,3.7s,comp=N,9.0nm,1.9s
JFR Furan 3.69 17 A A 20 01 44.8
comp=E,8.0nm,1.6s,comp=N,11nm,2.7s
JIHU Itakohorinouch 3.70 188 A A 20 01 43.9
comp=E,60nm,5.6s,comp=N,52nm,1.8s
JHG Hegura jima 3.75 243 A A 20 01 45.1
comp=E,8.0nm,1.5s,comp=N,10.0nm,2.8s
JOB Onbets 3.84 31 A A 20 01 46.8
comp=E,14nm,5.4s,comp=N,17nm,3.6s
MJB9 Matsu-Tunnel 3.86 218 **Pn 20 01 47.5 +2.4**
MAJO Matsushiro 3.86 218 P **Pn 20 01 46.9 +1.8**
MAJO Matsushiro 3.86 218 **Pn 20 01 46.5 +1.3**
MAJO Matsushiro 3.86 218 P **Pn 20 01 46.7 +1.6**
MJAR Matsushiro Arr 3.86 218 P **Pn 20 01 46.3 +1.2**
comp=N,535nm,0.7s,baz=22,slow=14,SNR=2398
JAB Ashibetsu 3.95 12 A A 20 01 48.4
comp=E,14nm,2.7s,comp=N,15nm,3.9s
JNG Nsakai 4.02 218 A A 20 01 48.5
comp=E,5.0nm,1.6s,comp=N,7.0nm,1.7s
JRY Ryogami san 4.03 207 A A 20 01 48.5
comp=E,7.0nm,2.9s,comp=N,6.0nm,2.7s
JHU Hanno 4.06 202 A A 20 01 48.9
comp=E,8.0nm,2.4s,comp=N,7.0nm,2.3s
JHR Hokuryu 4.12 6 A A 20 01 50.9
comp=E,10.0nm,4.3s,comp=N,9.0nm,1.7s
JAR Ashorobuto 4.16 28 A A 20 01 51.2
comp=E,13nm,1.8s,comp=N,11nm,1.0s
JTT Ttatey 4.26 226 A A 20 01 52.0
comp=E,7.0nm,1.6s,comp=N,8.0nm,4.5s
JCN Nagara 4.28 190 A A 20 01 51.8
comp=E,31nm,2.2s,comp=N,26nm,1.8s
JAK Akkeshi 4.29 38 A A 20 01 53.0
comp=E,14nm,2.4s,comp=N,12nm,1.5s
JSGW Sagamiharawaka 4.31 201 A A 20 01 52.4
comp=E,7.0nm,4.3s,comp=N,5.0nm,5.4s
JJH Hakui 4.37 233 A A 20 01 53.5
comp=E,6.0nm,2.6s,comp=N,9.0nm,2.2s
JKK2 Kamakawa 2 4.40 15 A A 20 01 54.6
comp=E,6.0nm,2.3s,comp=N,5.0nm,5.3s
JKHN Kushirohamanak 4.58 40 A A 20 01 56.9
comp=E,20nm,1.5s,comp=N,28nm,1.5s
ASAJ Asahikawa 4.60 13 P **Pn 20 01 54.9 -0.2**
comp=N,714nm,0.3s,baz=238,slow=11,SNR=1449
ASAJ S **Sn 20 02 45.4 -2.0**
comp=N,323nm,0.6s,baz=291,slow=24,SNR=1.4
ASAJ LR LR 20 04 16.0
comp=N,1μm,18.3s,baz=221,slow=45
JKA Kamikawa-asahi 4.60 13 Pn **Pn 20 01 54.9 -0.3**
JMP Maruseppu 4.67 20 A A 20 01 58.3
comp=E,6.0nm,3.3s,comp=N,6.0nm,1.0s
TATJ Tateyama 2 4.71 193 A A 20 01 57.7
comp=E,20nm,4.5s,comp=N,14nm,3.5s
JNK Nakash 4.77 33 A A 20 01 59.6
comp=E,8.0nm,1.3s,comp=N,13nm,1.5s
JTKR Abashiri--Toko 4.80 25 A A 20 02 00.0
comp=E,5.0nm,1.7s,comp=N,4.0nm,2.3s
JFNN Fujinakano 4.85 204 A A 20 01 59.8
comp=E,15nm,5.2s,comp=N,13nm,2.6s
JHTM Izuhatsuma 4.97 201 A A 20 02 01.5
comp=E,11nm,1.4s,comp=N,11nm,1.7s
JGF Kuroka 5.03 218 P **Pn 20 02 03.1 +2.2**
JGF Kuroka 5.03 218 Pn **Pn 20 02 02.4 +1.4**
JNSB Nemuroshibetsu 5.04 34 A A 20 02 03.4
comp=E,15nm,3.6s,comp=N,20nm,1.6s
NMR Nemuro--Hokkai 5.08 41 ⇓*iP* **Pn 20 01 59.6 -1.9**
NMR *eS* **Sn 20 02 52.7 -6.1**
NEM2 Nemuro 2 5.08 41 A A 20 02 03.8
comp=E,6.0nm,0.5s,comp=N,11nm,2.7s
JIM2 Oshima 3 5.10 196 A A 20 02 03.2
comp=E,8.0nm,4.5s,comp=N,8.0nm,1.3s
SHZ3 Shizuoka 3 5.13 208 A A 20 02 03.7
comp=E,4.0nm,4.4s,comp=N,6.0nm,2.0s
JRA Rausu 5.23 33 A A 20 02 05.9
comp=E,12nm,1.8s,comp=N,6.0nm,0.7s
RUSJ Misakicho 5.41 33 ⇓*iP* **Pn 20 02 05.3 -0.8**
RUSJ *eS* **Sn 20 03 04.6 -2.4**
JSG Sagara 5.49 206 P **Pn 20 02 08.5 +1.3**
JSG Sagara 5.49 206 **Pn 20 02 07.5 +0.3**
JSG Sagara 5.49 206 A A 20 02 08.6
comp=E,12nm,5.2s,comp=N,14nm,4.1s

JKKS Kakegawashinom 5.49 208 A A 20 02 08.7
comp=E,9.0nm,3.7s,comp=N,11nm,3.4s
YUK Yuzh-Kuril'sk 5.63 37 ⇓*iP* **Pn 20 02 07.8 -1.3**
YUK *eS* **Sn 20 03 07.1 -5.2**
YUK pmax pmax
comp=N,1μm,0.3s
YUK pmax pmax
comp=E,755nm,0.3s
YUK pmax pmax
comp=Z,4μm,0.3s
YUK smax smax
comp=N,15μm,0.5s
YUK smax smax
comp=E,11μm,0.5s
JFM Mihama 5.79 227 A A 20 02 13.1
comp=E,3.0nm,5.8s,comp=N,4.0nm,5.1s
SHO Shikotan 6.00 43 ⇓*iP* **Pn 20 02 11.5 -2.5**
SHO *eS* **Sn 20 03 13.6 -7.7**
SHO pmax pmax
comp=Z,630nm,0.3s
SHO pmax pmax
comp=E,303nm,0.2s
SHO smax smax
comp=N,5μm,0.3s
SHO smax smax
comp=E,1μm,0.3s
JKY Yasaka 6.24 232 A A 20 02 19.3
comp=E,3.0nm,1.3s,comp=N,2.0nm,1.6s
JWT Wachi 6.30 228 A A 20 02 20.1
comp=E,3.0nm,2.6s,comp=N,4.0nm,3.6s
TEY Ternei 6.35 330⇑*eP* **Pn 20 02 20.8 +2.0**
TEY *e* 20 03 30.5
TEY pmax pmax
comp=N,360nm,0.9s
TEY pmax pmax
comp=E,590nm,0.9s
TEY pmax pmax
comp=Z,360nm,0.9s
TEY pmax pmax
comp=N,610nm,0.9s
JHJ Hachijo jima 2 6.60 190 P **Pn 20 02 19.4 -2.9**
comp=N,1μm,0.5s,baz=332,slow=17,SNR=112
JHJ S **Sn 20 03 29.7 -6.3**
comp=N,490nm,0.3s,baz=70,slow=22,SNR=1.4
JHJ2 Mitsune 6.60 190 Pn **Pn 20 02 19.2 -3.1**
YSS Yuzh-Sakhalins 7.41 9 P **Pn 20 02 33.9 +0.8**
YSS Yuzh-Sakhalins 7.41 9 Pn **Pn 20 02 32.5 -0.6**
YSS Yuzh-Sakhalins 7.41 9*keP* **Pn 20 02 32.9 -0.2**
YSS *eS* **Sn 20 03 53.5 -2.0**
YSS pmax pmax
comp=Z,450nm,1.0s
YSS pmax pmax
comp=Z,700nm,3.9s
YSS smax smax
comp=N,230nm,1.1s
YSS smax smax
comp=E,110μm,0.9s
YSS smax smax
comp=E,600nm,3.6s
YSS MLR MLR
comp=Z,800nm,14.0s
KUR Kuril'sk 7.48 39*di P* **Pn 20 02 33.7 -0.5**
KUR *eS* **Sn 20 03 52.7 -4.7**
KUR pmax pmax
comp=E,376nm,1.0s
KUR pmax pmax
comp=Z,2μm,1.0s
KUR pmax pmax
comp=N,312nm,0.8s
KUR smax smax
comp=E,8μm,2.1s
KUR smax smax
comp=E,2.0nm,0.5s
KUR MLR MLR
comp=Z,2μm,11.0s
VLA Vladivostok 7.78 300 *i P* **Pn 20 02 39.7 +1.5**
MSHR Mys Shultsa 8.09 295*ceP* **Pn 20 02 44.3 +1.9**
MSHR pmax pmax
comp=Z,153nm,0.8s
USA0B Ussuriysk Arra 8.20 307 Pn **Pn 20 02 45.8 +1.8**
USA0B Ussuriysk Arra 8.20 307 P **Pn 20 02 45.8 +1.8**
USRK Ussuriysk Ar. 8.20 307 **Pn 20 02 45.5 +1.5**
USRK Ussuriysk Ar. 8.20 307 P **Pn 20 02 46.1 +2.2**
comp=Z,544nm,1.0s,baz=117,slow=9.6,SNR=254
USRK Ussuriysk Ar. 8.20 307 P **Pn 20 02 45.5 +1.5**
JMN Monobe 8.29 227 P **Pn 20 02 47.5 +2.1**
PSTR Posyet 8.36 294 *i P* **Pn 20 02 47.2 +1.1**
UGL Uglegorsk 9.46 4 *eP* **Pn 20 02 59.5 -1.6**
UGL *eS* **Sn 20 04 40.7 -4.8**
UGL pmax pmax
comp=Z,132nm,0.4s
UGL smax smax
comp=N,700nm,3.0s
MDJ Mudanjiang 9.91 304 P **Pn 20 03 10.4 +3.2**
MDJ Mudanjiang 9.91 304 P **Pn 20 03 09.3 +2.1**
MDJ sP 20 03 31.4
MDJ S **Sn 20 04 52.8 -3.7**
MDJ pmax pmax
comp=N,280nm,1.3s
MDJ LR LR
comp=N,2μm,12.6s
MDJ LR LR
comp=N,1μm,13.1s
MDJ LR LR
comp=N,1μm,15.8s
JNU Nakatsue 10.52 235 P **Pn 20 03 16.5 +0.9**
JNU Nakatsue 10.52 235 **Pn 20 03 15.5 -0.1**
JNU Nakatsue 10.52 235 P **Pn 20 03 15.7 +0.1**
comp=N,65nm,0.9s,baz=62,slow=9.1,SNR=21
KSRS Korea Array 10.58 262 P **Pn 20 03 17.4 +1.1**
comp=N,38nm,1.1s,baz=76,slow=13,SNR=44
KSRS S **Sn 20 05 15.9 +3.1**
comp=N,7.2nm,0.9s,baz=75,slow=23,SNR=3.2
KSRS LR LR 20 06 54.8
comp=N,707nm,18.3s,baz=75,slow=35
KSRS PcP **PcP 20 09 12.3 +0.9**
comp=N,3.9nm,0.8s,baz=18,slow=0.3,SNR=6.4
KSRS ScP **ScP 20 12 35.3 +0.3**
comp=N,0.9nm,0.7s,baz=18,slow=0.1,SNR=6.1
KS19 Wonju Array Si 10.61 263 **Pn 20 03 17.6 +0.8**
KSAR Wonju Array Be 10.61 262 **Pn 20 03 16.5 -0.3**
KSAR Wonju Array Be 10.61 262 P **Pn 20 03 16.5 -0.3**
TYV Tymovskoe 11.27 5 *eP* **Pn 20 03 25.5 -0.2**
TYV *eS* **Sn 20 05 30.4 +0.8**
TYV pmax pmax
comp=Z,500nm,2.3s
TYV pmax pmax
comp=Z,143nm,0.7s
TYV smax smax
comp=N,400nm,5.2s
TYV smax smax
comp=E,400nm,5.2s
TYV smax smax
comp=N,19nm,1.5s
TYV MLR MLR
comp=Z,800nm,15.0s
TJN Taejon 11.34 258 P **Pn 20 03 28.4 +1.7**
TJN Taejon 11.34 258 **Pn 20 03 27.1 +0.3**
TJN Taejon 11.34 258*ceP* **Pn 20 03 29.1 +2.4**
GRNR Gornyy 11.61 345 ⇓*iP* **Pn 20 03 28.9 -1.4**
GRNR pmax pmax
comp=N,20nm,0.9s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=E,490nm,14.0s
GRNR MLR MLR
comp=N,340nm,15.0s
GRNR MLR MLR
comp=Z,590nm,13.0s
KLR Kul'dur 11.69 328 P **Pn 20 03 31.7 +0.4**
comp=Z,12nm,0.8s,baz=132,slow=12,SNR=33
KLR LR LR 20 07 55.2
comp=Z,791nm,20.9s,baz=56,slow=36
KLR Kul'dur 11.69 328 *eP* **Pn 20 03 29.6 -1.7**
KLR pmax pmax
comp=Z,45nm,0.9s
BNX BinXian 11.79 306 ⇓P **Pn 20 03 32.3 -0.4**
BNX sP 20 03 56.5
BNX S **Sn 20 05 46.6 +4.3**
BNX pmax pmax
comp=Z,63nm,1.0s
BNX pmax pmax
comp=Z,330nm,6.5s
BNX LR LR
comp=Z,930nm,8.7s

CN2 Changchun 12.44 295 *eP* **Pn 20 03 41.2 -0.1**
CN2 *es*P P 20 04 08.3 +19
CN2 *eS* **Sn 20 05 57.9 0.0**
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 pmax pmax
comp=Z,100nm,5.0s
CN2 LR LR
comp=Z,800nm,12.0s
CN2 LR LR
comp=Z,700nm,12.0s
CN2 LR LR
comp=Z,400nm,12.0s
JCJ Chichijima 12.54 176 Pn 20 03 37.4 -5.4
JCJ Chichijima 12.54 176 P Pn 20 03 33.4 -9.4
comp=Z,350nm,0.5s,baz=298,slow=23,SNR=46
JCJ S Sn 20 05 42.8 -18
comp=Z,163nm,0.7s,baz=112,slow=23,SNR=3.9
SNY Shenyang 13.49 285 ⇓P **Pn 20 03 55.8 +0.6**
SNY pmax pmax
comp=Z,17nm,1.3s
SNY pmax pmax
comp=Z,80nm,3.5s
SNY LR LR
comp=Z,580nm,9.9s
SNY LR LR
comp=Z,500nm,12.5s
SNY LR LR
comp=Z,580nm,13.2s
HEH HeiHe 14.36 322 *eP* **Pn 20 04 03.4 -3.0**
HEH pmax pmax
comp=Z,37nm,1.1s
DL2 Dalian 15.13 273 P **Pn 20 04 16.5 +0.2**
DL2 pP P 20 04 28.1 +8.9
DL2 sP **pP 20 04 40.6 +3.4**
DL2 pmax pmax
comp=Z,140nm,1.4s
DL2 pmax pmax
comp=Z,330nm,9.1s
SKR Severo-Kuril's 15.25 39 *eP* **P 20 04 20.4 0.0**
SKR pmax pmax
comp=Z,98nm,2.1s
SKR MLR MLR
comp=Z,1μm,16.0s
JOW Kunigami 16.68 224 P **Pn 20 04 33.4 -2.3**
JOW Kunigami 16.68 224 P **Pn 20 04 32.7 -3.0**
JOW Kunigami 16.68 224 P **Pn 20 04 33.2 -2.4**
comp=Z,46nm,0.7s,baz=52,slow=5.9,SNR=11
JOW LR LR 20 11 18.8
comp=Z,417nm,21.4s,baz=142,slow=38
ZEA Zeya 16.97 331 *eP* **Pn 20 04 37.1 -2.0**
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,60nm,0.7s
ZEA pmax pmax
comp=Z,100nm,0.7s
PEA0B Petropavlovsk- 17.61 35 P **P 20 04 43.8 -2.6**
PEA0B Petropavlovsk- 17.61 35 P **P 20 04 43.8 -2.6**
PETK Petropavlovsk- 17.61 35 P **P 20 04 43.8 -2.7**
comp=Z,10nm,0.7s,baz=215,slow=7.8,SNR=20
PETK pP **sP 20 05 12.1 -4.7**
comp=Z,21nm,0.9s,baz=211,slow=8.4,SNR=4.6
PETK PcP **PcP 20 09 21.1 +0.6**
comp=Z,2.9nm,0.6s,baz=224,slow=3.1,SNR=2.4
PETK LR LR 20 11 34.9
comp=Z,492nm,20.5s,baz=204,slow=37
PET Petropavlovsk 17.97 36 *eP* **Pn 20 04 52.5 +1.3**
PET *eS* **S 20 08 04.2 -7.1**
PET pmax pmax
comp=Z,42nm,0.7s
PET MLR MLR
comp=Z,300nm,17.0s
PET Petropavlovsk 17.97 36 P **Pn 20 04 52.0 +0.8**
comp=Z,38nm,0.9s
SSE Sheshan 18.34 248 P **P 20 04 54.1 -0.6**
SSE pmax pmax
comp=Z,59nm,1.0s
SSE pmax pmax
comp=Z,250nm,3.5s
SSE LR LR
comp=Z,200nm,12.3s
SSE LR LR
comp=Z,340nm,12.0s
XLT XiLinHaoTe 19.14 291⇑*iP* **P 20 05 02.0 -1.4**
XLT pP pP 20 05 16.9 -4.8
XLT PP **PnPn 20 05 24.2 +2.5**
XLT sP sP 20 05 31.9 -2.0
XLT S **S 20 08 27.3 -8.0**
XLT PcP **PcP 20 09 24.4 +1.0**
XLT ScP **ScP 20 12 51.4 +1.0**
XLT pmax pmax
comp=Z,28nm,0.9s
XLT pmax pmax
comp=Z,140nm,4.1s
XLT LR LR
comp=Z,590nm,15.3s
XLT LR LR
comp=Z,540nm,18.3s
BJI Beijing 19.16 279 P **P 20 05 01.7 -1.8**
BJI pmax pmax
comp=Z,29nm,1.0s
TIA Tai'an 19.23 267 P **P 20 05 04.0 -0.4**
TIA pP **pP 20 05 24.8 +2.1**
TIA sP **sP 20 05 39.9 +5.0**
TIA S **S 20 08 30.4 -6.7**
TIA pmax pmax
comp=Z,75nm,1.1s
TIA pmax pmax
comp=Z,210nm,3.5s
TIA LR LR
comp=Z,640nm,13.1s
TIA LR LR
comp=Z,370nm,12.8s
TIA LR LR
comp=Z,520nm,12.6s
NJ2 Nanjing 19.55 254 *eP* **P 20 05 06.5 -1.4**
NJ2 pP **pP 20 05 25.4 -0.8**
NJ2 PcP **PcP 20 09 21.1 -3.1**
NJ2 pmax pmax
comp=Z,83nm,1.2s
NJ2 pmax pmax
comp=Z,210nm,5.7s
HNS HongShan 20.78 272 ⇑P **P 20 05 21.1 +0.1**
HNS S **S 20 09 03.7 -3.8**
HNS pmax pmax
comp=Z,22nm,1.2s
HNS LR LR
comp=Z,740nm,13.7s
HNS LR LR
comp=Z,600nm,17.7s
MA2 Magadan 20.87 14 P **P 20 05 22.2 +0.4**
MA2 Magadan 20.87 14 P **P 20 05 21.1 -0.7**
MA2 Magadan 20.87 14 P **P 20 05 22.0 +0.2**
comp=Z,54nm,0.7s,baz=202,slow=8.8,SNR=42
comp=Z,54nm,0.7s
MA2 Magadan 20.87 14*ceP* **P 20 05 22.1 +0.3**
MA2 pmax pmax
comp=Z,325nm,2.5s
MA2 Magadan 20.87 14 P **P 20 05 22.1 +0.3**
comp=Z,124nm,0.7s,comp=Z,3μm
TATO Taipei 22.06 234 P **P 20 05 35.7 +0.9**
TATO Taipei 22.06 234 P **P 20 05 33.1 -1.6**
YHNB Yeheng 22.35 234 P **P 20 05 34.3 -3.7**
TIY Taiyuan 22.45 274 ⇑P **P 20 05 40.4 +1.4**
TIY sP **sP 20 06 10.0 +0.2**
TIY pmax pmax
comp=Z,29nm,0.6s
TIY LR LR
comp=Z,590nm,14.5s
TIY LR LR
comp=Z,690nm,15.3s
TIY LR LR
comp=Z,570nm,19.4s
HHC Hu-ho-hao-te 22.56 283 *eP* **P 20 05 38.6 -1.5**
HHC pmax pmax
comp=Z,34nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.7s
HHC LR LR
comp=Z,320nm,14.5s
HHC LR LR
comp=Z,510nm,14.5s
HHC LR LR
comp=Z,750nm,16.0s
CIT Chita 22.70 312 *eP* **P 20 05 37.4 -4.0**

CIT pmax pmax
comp=Z,159nm,1.8s
SSLB Suanglung 23.25 233 P **P** **20 05 43.3 -3.6**
LYN LuoYang 23.37 266 ⇓P **P** **20 05 45.2 -2.7**
LYN pP pP 20 06 06.4 -1.3
LYN SS Sn 20 10 43.7 +23
LYN pmax pmax
comp=Z,43nm,1.0s
LYN pmax pmax
comp=Z,180nm,3.9s
YAK Yakutsk 23.48 346 P **P** **20 05 46.2 -2.5**
YAK Yakutsk 23.48 346 *e*P **P** **20 05 46.6 -2.0**
YAK *e* 20 09 30.1
YAK *e*S **S** **20 09 52.5 -2.1**
YAK *e**SS Sn 20 10 25.0 +1.8
YAK pmax pmax
comp=Z,269nm,0.8s
YAK pmax pmax
comp=N,60nm,0.9s
YAK pmax pmax
comp=E,32nm,0.9s
YAK smax smax
comp=E,409nm,1.9s
YAK smax smax
comp=N,869nm,1.8s
YAK MLR MLR
comp=Z,338nm,13.0s
YAK MLR MLR
comp=N,260nm,12.0s
WHN Wuhan 23.65 256 P **P** **20 05 50.1 -0.3**
WHN sP **sP** **20 06 22.3 -0.4**
WHN S **S** **20 09 57.0 -0.9**
WHN SS **SnSn** **20 10 52.9 +6.9**
WHN pmax pmax
comp=N,64nm,0.7s
WHN LR LR
comp=N,1μm,11.7s
WHN LR LR
comp=N,2μm,15.3s
WHN LR LR
comp=N,2μm,12.6s
TWGBT Beinan 23.90 231 P **P** **20 05 51.4 -1.3**
QZH Quanzhou 23.95 239 ⇓*i*P **P** **20 05 51.0 -2.1**
QZH S **S** **20 10 02.5 -0.3**
QZH pmax pmax
comp=N,94nm,1.0s
SEY Seymchan 24.29 13 LR LR 20 15 57.1
comp=N,327nm,19.8s,baz=352,slow=37
SEY Seymchan 24.29 13 *e*P **P** **20 05 55.2 -0.6**
SEY pmax pmax
comp=Z,174nm,1.0s
ULN Ulaanbaatar 25.79 300 *i*P **P** **20 06 08.7 -1.1**
ULN pmax pmax
comp=Z,16nm,1.4s
CNSH ChangSha 25.94 252 ⇑P **P** **20 06 11.1 -0.1**
CNSH S **S** **20 10 32.2 -2.3**
CNSH pmax pmax
comp=Z,40nm,0.7s
CNSH LR LR
comp=Z,470nm,12.8s
CNSH LR LR
comp=Z,360nm,13.0s
CNSH LR LR
comp=Z,520nm,12.7s
SONM Songino Array 26.23 300 P **P** **20 06 12.1 -1.7**
SONM ScP **ScP** **20 13 08.4 -0.4**
SONM Songino Array 26.23 300 P **P** **20 06 14.1 +0.4**
comp=Z,7.0nm,0.9s,baz=99,slow=9.5,SNR=14
SONM PcP **PcP** **20 09 38.0 +0.1**
comp=Z,4.1nm,0.7s,baz=139,slow=2.4,SNR=5.2
SONM ScP **ScP** **20 13 08.2 -0.6**
comp=Z,7.5nm,0.9s,baz=115,slow=3.1,SNR=17
comp=Z,7.0nm,0.9s
XAN Xi'an 26.29 268 ⇓P **P** **20 06 14.7 +0.3**
XAN PcP **PcP** **20 09 39.0 +0.8**
XAN ScP **ScP** **20 13 09.2 0.0**
XAN pmax pmax
comp=Z,34nm,1.4s
XAN LR LR
comp=Z,980nm,19.2s
XAN LR LR
comp=Z,1μm,17.5s
XAN LR LR
comp=Z,800nm,16.5s
ENH Enshi 27.45 260 P **P** **20 06 24.4 -0.4**
IRK Irkutsk 28.24 309 *e*P **P** **20 06 31.2 -0.4**
IRK pmax pmax
comp=Z,40nm,1.5s
LZH Lanzhou 29.52 275 *e*P **P** **20 06 43.8 +0.6**
LZH pP pP 20 07 07.4 +2.4
LZH sP sP 20 07 19.4 +3.2
LZH pmax pmax
comp=Z,46nm,1.0s
LZH LR LR
comp=Z,830nm,14.9s
LZH LR LR
comp=Z,500nm,14.8s
LZH LR LR
comp=Z,940nm,20.6s
GYA Guiyang 31.54 256 ⇑*i*P **P** **20 07 00.6 -0.5**
GYA pmax pmax
comp=Z,32nm,0.7s
CD2 Chengdu 31.55 266 P **P** **20 06 59.9 -1.2**
BILL Bilibino 31.60 18 P **P** **20 07 00.8 -0.2**
BILL PcP **PcP** **20 09 52.6 +1.7**
BILL Bilibino 31.60 18⇑ *e*P **P** **20 07 02.3 +1.2**
BILL pmax pmax
comp=Z,36nm,1.7s
BILL Bilibino 31.60 18 P **P** **20 07 00.9 -0.1**
BILL sP **sP** **20 07 34.1 0.0**
BILL PcP **PcP** **20 09 52.4 +1.5**
GTA Gaotai 31.67 283 *e*P P 20 06 54.8 -7.4
GTA pP pP 20 07 20.9 -3.2
GTA PcP **PcP** **20 09 52.5 +0.7**
GTA ScP **ScP** **20 13 26.2 0.0**
GTA PcS **PcS** **20 13 36.8 +0.3**
TIXI Tiksi 32.68 353*ce*P **P** **20 07 10.8 +0.4**
TIXI pmax pmax
comp=Z,31nm,1.7s
ATKA Atka Island 32.99 53 P **P** **20 07 12.6 -0.7**
QIZ Qiongzhong 33.88 242 P **P** **20 07 22.3 +0.8**
QIZ LR LR
comp=Z,420nm,17.5s
QIZ LR LR
comp=Z,390nm,16.5s
QIZ LR LR
comp=Z,590nm,23.3s
KMI Kunming 35.23 257 ⇑P **P** **20 07 33.1 -0.2**
KMI S **S** **20 12 55.0 -4.9**
KMI ScP **ScP** **20 13 39.4 +0.4**
KMI pmax pmax
comp=Z,16nm,0.9s
KMI pmax pmax
comp=Z,170nm,4.8s
KMI LR LR
comp=Z,730nm,22.8s
KMI LR LR
comp=Z,470nm,16.6s
KMI LR LR
comp=Z,660nm,22.5s
SPIA Saint Paul Isl 35.81 44 P **P** **20 07 39.2 +1.5**
baz=262
MIDW Midway 35.98 96 P **P** **20 07 39.5 +0.1**
P08K Saint George I 36.12 45 P **P** **20 07 41.7 +1.4**
baz=263
NIKH Nikolski High 36.28 52 P **P** **20 07 42.8 +1.1**
baz=269
GOMU GeErMu 36.39 280 P **P** **20 07 42.5 -0.8**
GOMU S **S** **20 13 15.3 -2.6**
GOMU pmax pmax
comp=Z,12nm,0.6s
GOMU LR LR
comp=Z,880nm,16.3s
GOMU LR LR
comp=Z,750nm,16.4s
GOMU LR LR
comp=Z,2μm,17.8s
SLVN Son La 36.58 251 P **P** **20 07 44.7 0.0**
GAMB Gambell 36.63 33 P **P** **20 07 46.0 +1.5**
baz=252
M11K Mekoryuk 38.36 40 P **P** **20 08 01.5 +2.3**
baz=262
TNCH TengChong 38.48 261 ⇓P **P** **20 08 01.3 +0.5**
TNCH pP pP 20 08 24.1 +1.0
TNCH sP sP 20 08 38.3 +4.2
TNCH S **S** **20 13 47.8 -1.5**
TNCH ScP **ScP** **20 13 50.8 -0.3**
TNCH pmax pmax
comp=Z,61nm,1.1s
TNCH pmax pmax
comp=Z,110nm,3.5s
TNCH LR LR
comp=Z,280nm,18.8s
TNCH LR LR
comp=Z,290nm,18.1s
TNCH LR LR
comp=Z,540nm,14.4s
TNA Tin City 38.72 31 P **P** **20 08 03.9 +1.9**
baz=254,SNR=5.4
F14K Arctic Creek 39.33 32 P **P** **20 08 09.3 +2.0**
baz=255,SNR=5.6
K13K Kusilvak Mount 39.34 37 IAmb IAmb 20 08 10.4
comp=Z,76nm,0.9s
K13K Kusilvak Mount 39.34 37 P **P** **20 08 09.4 +2.1**
baz=261
UBPT Khong Chiam 39.48 242 P **P** **20 08 09.3 +0.4**
ANM Nome 39.51 33 P **P** **20 08 11.0 +2.3**
baz=257,SNR=9.2
WMQ Urumqi 39.52 294 *e*P **P** **20 08 10.5 +1.3**
WMQ pP pP 20 08 27.9 -3.8
WMQ pmax pmax
comp=Z,26nm,0.7s
M13K Dall Lake 39.77 40 IAmb IAmb 20 08 14.5
comp=Z,81nm,0.8s
M13K Dall Lake 39.77 40 P **P** **20 08 13.5 +2.7**
baz=264,SNR=10
CRAI Chiangrai 39.86 253 P **P** **20 08 12.6 +0.5**
CRAI IAmb IAmb 20 08 13.8
comp=Z,40nm,0.7s
DLV T Lat 39.92 235 P **P** **20 08 13.9 +1.0**
DLV T Lat 39.92 235 IAmb IAmb 20 08 22.1
comp=Z,24nm,0.7s
J14K Nanvaranak Lak 39.97 36 P **P** **20 08 14.1 +1.6**
J14K IAmb IAmb 20 08 15.5
comp=Z,60nm,0.8s
J14K Nanvaranak Lak 39.97 36 P **P** **20 08 14.6 +2.1**
baz=261,SNR=10
ZAA0 Zalesovo Array 40.03 310 P **P** **20 08 12.8 -0.4**
ZAA0 IAmb IAmb 20 08 37.1
comp=Z,47nm,0.9s
ZAA0 PcP **PcP** **20 10 16.4 +0.2**
ZALV Zalesovo Beam 40.03 310 P **P** **20 08 12.6 -0.6**
ZALV PcP **PcP** **20 10 16.5 +0.4**
ZALV ScP **ScP** **20 13 55.9 -0.4**
ZALV Zalesovo Beam 40.03 310 P **P** **20 08 13.3 +0.2**
comp=Z,37nm,0.5s,baz=90,slow=8.1,SNR=126
ZALV pP **pP** **20 08 36.3 +0.7**
comp=Z,35nm,0.8s,baz=80,slow=8.1,SNR=7.6
ZALV PcP **PcP** **20 10 16.3 +0.1**
comp=Z,16nm,0.5s,baz=88,slow=3.2,SNR=12
ZALV ScP **ScP** **20 13 55.5 -0.9**
comp=Z,7.2nm,0.8s,baz=97,slow=3.4,SNR=11
comp=Z,37nm,0.5s
ZALV Zalesovo Beam 40.03 310 *i*P **P** **20 08 13.3 +0.2**
ZALV pmax pmax
comp=Z,38nm,0.5s
F15K North Star Dit 40.07 31 IAmb IAmb 20 08 16.7
comp=Z,79nm,1.1s
F15K North Star Dit 40.07 31 P **P** **20 08 15.5 +2.1**
baz=257,SNR=8.8
G15K Niukluk 40.16 33 P **P** **20 08 16.4 +2.3**
baz=258,SNR=20
L14K Kuka Creek 40.19 38 P **P** **20 08 16.1 +1.8**
L14K IAmb IAmb 20 08 17.8
comp=Z,60nm,0.9s
L14K Kuka Creek 40.19 38 P **P** **20 08 16.8 +2.4**
baz=264,SNR=19
S12K Black Hills 40.26 47 P **P** **20 08 14.9 -0.1**
baz=271
C16K Lisburne Hills 40.48 27 IAmb IAmb 20 08 18.4
comp=Z,61nm,0.9s
C16K Lisburne Hills 40.48 27 P **P** **20 08 17.5 +0.9**
baz=253,SNR=7.9
M14K Bethel 40.48 39 P **P** **20 08 18.7 +1.9**
M14K IAmb IAmb 20 08 20.0
comp=Z,89nm,0.8s
M14K PcP **PcP** **20 10 18.8 +1.4**
M14K Bethel 40.48 39 P **P** **20 08 19.0 +2.3**
baz=265,SNR=19
N14K Kuskokwak Cree 40.56 41 P **P** **20 08 19.4 +2.1**
baz=266,SNR=9.6
TNTI Ternate 40.68 201 P **P** **20 08 19.0 +0.2**
comp=Z,24nm,1.1s,comp=Z,765nm
O14K Tigyukauivet M 40.74 42 IAmb IAmb 20 08 22.0
comp=Z,61nm,1.1s
O14K Tigyukauivet M 40.74 42 P **P** **20 08 20.9 +2.1**
baz=268
ZSN Zaisan 40.74 300 *e*P **P** **20 08 19.6 +0.5**
comp=Z,15nm,0.5s,baz=300
ZSN Zaisan 40.74 300 *e*P **P** **20 08 19.6 +0.5**
ZSN pmax pmax
comp=Z,15nm,0.5s
L15K Ungalak Mounta 40.80 38 P **P** **20 08 21.2 +1.8**
baz=264,SNR=9.7
K15K Wolf Creek Mou 40.84 37 IAmb IAmb 20 08 23.2
comp=Z,73nm,1.0s
K15K Wolf Creek Mou 40.84 37 P **P** **20 08 22.0 +2.3**
baz=264
H16K Elim 40.85 33 P **P** **20 08 21.7 +2.0**
baz=260,SNR=9.7
G16K Koyuk River 40.94 32 IAmb IAmb 20 08 23.3
comp=Z,60nm,1.1s
G16K Koyuk River 40.94 32 P **P** **20 08 22.3 +1.9**
baz=259,SNR=10
PHRA Phrae 41.04 251 P **P** **20 08 22.1 +0.2**
M15K Kasigluk River 41.10 39 P **P** **20 08 23.6 +1.8**
baz=266
D17K Noatak River 41.15 29 P **P** **20 08 23.3 +1.2**
baz=256,SNR=7.0
SDPT Sand Point 41.17 48 P **P** **20 08 22.0 -0.5**
SDPT Sand Point 41.17 48 P **P** **20 08 21.4 -1.0**
SDPT IAmb IAmb 20 08 23.1
comp=Z,62nm,0.7s
SDPT Sand Point 41.17 48 P **P** **20 08 22.1 -0.3**
baz=273,SNR=5.3
RDOG Red Dog Mine 41.30 28 IAmb IAmb 20 09 03.2
comp=Z,89nm,1.5s
RDOG Red Dog Mine 41.30 28 P **P** **20 08 24.7 +1.3**
baz=256,SNR=8.8
C17K DeLong Mountai 41.30 28 P **P** **20 08 24.7 +1.2**
baz=255,SNR=8.2
SWI Sorong 41.31 195 P **P** **20 08 24.4 +0.4**
comp=Z,46nm,0.7s,comp=Z,608nm
SWI Sorong 41.31 195 P **P** **20 08 24.6 +0.6**
SWI pmax pmax
comp=Z,45nm,0.7s
N15K Kwethluk River 41.37 40 IAmb IAmb 20 09 00.7
comp=Z,99nm,1.1s
N15K Kwethluk River 41.37 40 P **P** **20 08 26.2 +2.2**
baz=268,SNR=25
J16K Anvik River 41.38 36 P **P** **20 08 26.1 +2.0**
J16K Anvik River 41.38 36 P **P** **20 08 26.3 +2.3**
baz=264,SNR=11
I17K Unalakleet 41.41 35 IAmb IAmb 20 08 27.6
comp=Z,75nm,1.1s
I17K Unalakleet 41.41 35 P **P** **20 08 26.6 +2.3**
baz=263,SNR=6.8
O15K Ungalikthiuk R 41.47 42 P **P** **20 08 26.7 +1.8**
baz=269,SNR=20
E17K Hotham Inlet 41.48 30 P **P** **20 08 26.6 +1.7**
baz=258,SNR=24
SMPI Sarmi 41.49 184 P **P** **20 08 27.2 +1.7**
comp=Z,46nm,1.0s
F17K Baldwin Pennin 41.58 31 IAmb IAmb 20 08 28.7
comp=Z,80nm,1.1s
F17K Baldwin Pennin 41.58 31 P **P** **20 08 27.6 +2.0**
baz=259,SNR=13
S14K Fog Glacier 41.65 46 P **P** **20 08 27.1 +0.6**
baz=272
G17K Kiwalik Mounta 41.66 32 P **P** **20 08 28.5 +2.1**
baz=261,SNR=53
L16K Owhat River 41.76 38 IAmb IAmb 20 08 30.0
comp=Z,74nm,1.1s
L16K Owhat River 41.76 38 P **P** **20 08 29.0 +1.8**
baz=266,SNR=28
H17K Granite Mounta 41.88 33 IAmb IAmb 20 08 31.5
comp=Z,75nm,0.9s
H17K Granite Mounta 41.88 33 P **P** **20 08 30.4 +2.2**
baz=262,SNR=27
KMSI Cibinong 41.92 206 P **P** **20 08 29.4 +0.4**
comp=Z,300nm,0.9s,comp=Z,2μm
JAY Jayapura 41.95 181 P **P** **20 08 29.7 +0.4**
comp=Z,16nm,0.9s
JAY pP pP 20 08 43.4 -8.5
comp=Z,16nm,0.9s
M16K Timber Creek 41.97 39 IAmb IAmb 20 09 05.5
comp=Z,107nm,1.2s
M16K Timber Creek 41.97 39 P **P** **20 08 30.9 +2.0**
baz=268
LBMI Labuha 41.98 201 P **P** **20 08 30.3 +0.8**
comp=Z,79nm,1.2s,comp=Z,1μm
B18K Kokolik River 42.01 26 P **P** **20 08 30.9 +1.7**
baz=256,SNR=17
CMAR Chiang Mai Arr 42.01 252 P **P** **20 08 30.1 +0.3**
comp=Z,4.5nm,0.7s,baz=48,slow=6.3,SNR=19
CMAR PcP **PcP** **20 10 24.0 +0.8**
comp=Z,3.5nm,0.6s,baz=11,slow=2.5,SNR=5.2
CMAR pPcP 20 10 50.0
comp=Z,5.8nm,0.9s,baz=15,slow=2.2,SNR=7.1
CMAR ScP **ScP** **20 14 05.1 +0.3**
comp=Z,1.8nm,0.8s,baz=16,slow=3.5,SNR=6.9
comp=Z,4.5nm,0.7s
E18K Tukpahlearik C 42.01 29 IAmb IAmb 20 08 33.0
comp=Z,43nm,0.9s
E18K Tukpahlearik C 42.01 29 P **P** **20 08 31.2 +2.0**
baz=259
GENI Genyem 42.04 181 P **P** **20 08 31.6 +1.7**
comp=Z,50nm,0.8s,comp=Z,2μm
N16K Nishlik Lake 42.04 40 P **P** **20 08 31.8 +2.2**
baz=268,SNR=39
C18K Utukok River 42.05 28 IAmb IAmb 20 08 31.6
comp=Z,51nm,0.8s
C18K Utukok River 42.05 28 P **P** **20 08 30.7 +1.1**
baz=257,SNR=24
J17K VABM Dome 42.07 35 P **P** **20 08 32.2 +2.5**
baz=265,SNR=44
GTOI Gorontalo 42.20 208 P **P** **20 08 30.7 -0.6**
comp=Z,24nm,1.0s,comp=Z,246nm
F18K Selawik 42.23 31 P **P** **20 08 33.1 +2.1**
baz=261,SNR=61
L17K Donlin 42.34 37 P **P** **20 08 34.4 +2.5**
baz=267,SNR=35
O16K Kokwok River B 42.37 41 IAmb IAmb 20 08 35.1
comp=Z,64nm,1.0s
O16K Kokwok River B 42.37 41 P **P** **20 08 34.1 +2.0**
baz=270,SNR=25
K17K Iditarod 42.37 37 P **P** **20 08 34.5 +2.3**
baz=266
P16K Nushagak River 42.42 42 P **P** **20 08 34.7 +2.1**
baz=271,SNR=11
A19K Wainwright 42.47 25 P **P** **20 08 34.3 +1.5**
baz=255
G18K Tagagawik 42.53 32 P **P** **20 08 35.4 +1.9**
baz=262,SNR=77
H18K Honhosa River 42.56 33 P **P** **20 08 35.6 +1.9**
baz=264
MK31 Makanchi Array 42.59 300 P **P** **20 08 34.0 -0.3**
MK31 ScP **ScP** **20 14 06.1 -0.6**
MK31 Makanchi Array 42.59 300*ce*P **P** **20 08 34.5 +0.2**
MKAR Makanchi Array 42.59 300 P **P** **20 08 34.0 -0.3**
MKAR Makanchi Array 42.59 300 P **P** **20 08 34.2 -0.1**
comp=Z,20nm,0.7s,baz=86,slow=9.7,SNR=88
MKAR PcP **PcP** **20 10 24.9 +0.1**
comp=Z,5.3nm,0.8s,baz=75,slow=5.7,SNR=2.6
MKAR ScP **ScP** **20 14 05.5 -1.3**
comp=Z,4.4nm,0.8s,baz=70,slow=4.2,SNR=8.4
comp=Z,20nm,0.7s
M17K Holitna River 42.72 39 IAmb IAmb 20 08 38.4
comp=Z,97nm,0.9s
M17K Holitna River 42.72 39 P **P** **20 08 37.4 +2.4**
baz=268,SNR=33
C19K Lookout Ridge 42.72 27 IAmb IAmb 20 08 46.3
comp=Z,48nm,0.9s
C19K PcP **PcP** **20 10 26.8 +1.9**
C19K Lookout Ridge 42.72 27 P **P** **20 08 36.5 +1.5**
baz=258
MAKZ Makanchi 42.80 300 P **P** **20 08 35.9 0.0**
MAKZ Makanchi 42.80 300 P **P** **20 08 35.9 0.0**
MAKZ pmax pmax
comp=Z,29nm,0.8s
MAKZ Makanchi 42.80 300 P **P** **20 08 36.0 0.0**
MAKZ pP **pP** **20 08 59.1 +0.5**
MAKZ PcP **PcP** **20 10 25.0 -0.4**
N17K Nushagak Hills 42.82 40 IAmb IAmb 20 09 12.9
comp=Z,95nm,1.2s
N17K Nushagak Hills 42.82 40 P **P** **20 08 38.0 +2.2**
baz=270,SNR=21
O17K Koliganek Bris 42.87 41 P **P** **20 08 38.3 +2.1**
baz=271
F19K Shaleruckik Mo 43.01 31 IAmb IAmb 20 08 50.0
comp=Z,98nm,1.1s
F19K Shaleruckik Mo 43.01 31 P **P** **20 08 38.7 +1.4**
baz=262,SNR=56
L18K Granite Mounta 43.09 37 IAmb IAmb 20 08 41.6
comp=Z,119nm,1.4s
L18K Granite Mounta 43.09 37 P **P** **20 08 40.3 +2.3**
baz=268,SNR=28
Q16K King Salmon 43.12 43 P **P** **20 08 39.9 +1.7**
baz=272
FAKI Fak Fak 43.13 193 P **P** **20 08 39.2 +0.4**
FAKI Fak Fak 43.13 193 P **P** **20 08 39.1 +0.3**
FAKI IAmb IAmb 20 08 50.2
comp=Z,38nm,0.7s
FAKI Fak Fak 43.13 193 P **P** **20 08 38.8 0.0**
comp=Z,55nm,1.1s,comp=Z,812nm
D19K Kuna River 43.13 28 IAmb IAmb 20 08 51.6
comp=Z,72nm,0.9s
D19K Kuna River 43.13 28 P **P** **20 08 39.8 +1.5**
baz=260
J18K Innoko River 43.13 36 P **P** **20 08 39.9 +1.6**
baz=267
GCSA Galena City Sc 43.15 34 P **P** **20 08 39.5 +1.1**
baz=265,SNR=6.8
G19K Purcell Mounta 43.20 32 P **P** **20 08 40.4 +1.5**
baz=264,SNR=66
P17K Kvichak River 43.22 42 P **P** **20 08 40.9 +1.9**
baz=272,SNR=11
E19K Redstone River 43.30 30 P **P** **20 08 41.5 +1.8**
baz=262
H19K Roundabout Mou 43.40 33 P **P** **20 08 42.5 +2.2**
baz=265,SNR=130
N18K Kilae Creek 43.46 40 IAmb IAmb 20 08 44.5
comp=Z,101nm,1.0s
N18K Kilae Creek 43.46 40 P **P** **20 08 43.4 +2.3**
baz=271,SNR=36
M18K Stony River 43.49 38 P **P** **20 08 43.6 +2.3**
baz=270,SNR=19
Q17K Contact Creek 43.55 43 P **P** **20 08 42.5 +0.7**
baz=273,SNR=12
SVW2 Sparrevohn 43.61 39 IAmb IAmb 20 08 45.6
comp=Z,61nm,1.0s
J19K Poorman 43.65 35 P **P** **20 08 44.1 +1.7**
baz=267,SNR=100
D20K Etivluk River 43.71 28 P **P** **20 08 44.4 +1.5**
baz=262
B20K Meade River 43.73 26 P **P** **20 08 44.5 +1.5**
baz=260,SNR=56
SANI Sanana 43.76 202 P **P** **20 08 43.4 -0.4**
SANI Sanana 43.76 202 P **P** **20 08 43.1 -0.7**
comp=Z,72nm,0.7s,comp=Z,639nm
E20K Nigu River 43.80 29 P **P** **20 08 45.3 +1.5**
baz=262
O18K Koktuh Hills 43.82 41 IAmb IAmb 20 08 47.1
comp=Z,83nm,1.1s
O18K Koktuh Hills 43.82 41 P **P** **20 08 45.9 +1.9**
baz=272,SNR=21
P18K Big Mountain, 43.83 41 IAmb IAmb 20 09 20.5
comp=Z,90nm,1.0s
P18K Big Mountain, 43.83 41 P **P** **20 08 45.9 +1.8**
baz=273,SNR=22
F20K Avaraart Lake 43.84 30 IAmb IAmb 20 08 46.7
comp=Z,46nm,1.0s
F20K Avaraart Lake 43.84 30 P **P** **20 08 45.7 +1.8**
baz=264,SNR=42
CHIR Chirikof Islan 43.88 47 P **P** **20 08 45.6 +1.1**
baz=276
L19K White Mountain 43.95 37 IAmb IAmb 20 08 48.1
comp=Z,66nm,1.1s
L19K White Mountain 43.95 37 P **P** **20 08 46.9 +1.9**
baz=270,SNR=39
H20K Anotlenenega Mo 44.05 33 P **P** **20 08 47.5 +1.9**
baz=266,SNR=45
N19K Bonanza Creek 44.15 39 IAmb IAmb 20 09 23.6
comp=Z,54nm,1.1s
N19K Bonanza Creek 44.15 39 P **P** **20 08 48.8 +2.1**
baz=272,SNR=19
A21K Barrow 44.16 24 P **P** **20 08 47.6 +1.2**
baz=259
M19K Big River Lodg 44.17 38 IAmb IAmb 20 08 50.0
comp=Z,48nm,1.1s

M19K Big River Lodg 44.17 38 P P 20 08 48.8 +2.1
baz=271
I20K Naaghedeneel 44.18 34 IAmb IAmb 20 08 50.0
comp=Z,105nm,1.1s
I20K Naaghedeneel 44.18 34 P P 20 08 48.8 +2.1
baz=268,SNR=10
KURK Kurchatov 44.19 306 P P 20 08 46.5 -0.5
KURK IAmb IAmb 20 09 11.5
comp=Z,92nm,0.9s
KURK Kurchatov 44.19 306 *ce*P P 20 08 47.1 +0.2
KURK pmax pmax
comp=Z,81nm,1.3s
KURK Kurchatov 44.19 306 P P 20 08 46.8 -0.1
KURK pP **pP** 20 09 09.9 0.0
O19K Port Alsworth 44.25 40 P P 20 08 49.3 +2.0
baz=272
KURBB Kurchatov Arra 44.26 306 P P 20 08 47.4 -0.2
comp=Z,42nm,0.8s,baz=82,slow=8.3,SNR=127
KURBB pP **pP** 20 09 10.4 0.0
comp=Z,65nm,0.9s,baz=82,slow=8.5,SNR=10.0
KURBB PcP **PcP** 20 10 29.9 -0.4
comp=Z,14nm,0.8s,baz=81,slow=4.2,SNR=6.8
KURBB pPcP 20 10 56.4
comp=Z,7.6nm,1.0s,baz=85,slow=3.8,SNR=4.0
KURBB ScP **ScP** 20 14 11.3 -2.0
comp=Z,3.3nm,0.9s,baz=86,slow=3.5,SNR=7.0
comp=Z,42nm,0.8s
J20K Nowinta River 44.30 35 IAmb IAmb 20 08 50.8
comp=Z,97nm,1.1s
J20K Nowinta River 44.30 35 P P 20 08 49.7 +2.0
baz=269,SNR=65
K20K Telida 44.32 36 IAmb IAmb 20 08 51.0
comp=Z,74nm,0.9s
K20K Telida 44.32 36 P P 20 08 49.9 +2.1
baz=270
L20K Farewell, AK 44.41 37 P P 20 08 50.6 +2.0
baz=271
C21K Knifeblade Rid 44.43 27 P P 20 08 50.6 +1.9
baz=263,SNR=72
IMAR Indian Mountai 44.54 32 P P 20 08 50.8 +1.2
IMAR ScP **ScP** 20 14 13.9 -0.4
B21K Ikpikpuk River 44.55 27 P P 20 08 51.4 +1.8
baz=263,SNR=85
NLAI Namlea 44.58 200 P P 20 08 49.7 -0.7
comp=Z,17nm,0.5s
SII Sitkinak Islan 44.60 45 P P 20 08 50.7 +0.5
SII Sitkinak Islan 44.60 45 P P 20 08 51.1 +0.9
baz=276
A22K Sinclair Lake 44.63 25 P P 20 08 51.7 +1.5
baz=261
E21K Killik River 44.64 28 IAmb IAmb 20 08 52.9
comp=Z,101nm,1.1s
E21K Killik River 44.64 28 P P 20 08 51.8 +1.4
baz=264,SNR=139
G21K Allakaket 44.67 31 P P 20 08 52.6 +2.0
baz=267
Q19K Cape Douglas, 44.67 42 P P 20 08 51.5 +0.7
baz=274,SNR=8.2
F21K Alatna River 44.72 30 IAmb IAmb 20 08 54.3
comp=Z,64nm,1.0s
F21K Alatna River 44.72 30 P P 20 08 52.6 +1.6
baz=266,SNR=68
M20K Styx River 44.77 38 IAmb IAmb 20 09 28.8
comp=Z,63nm,1.2s
M20K Styx River 44.77 38 P P 20 08 53.9 +2.3
baz=272,SNR=21
P19K Oil Pt 44.83 41 P P 20 08 53.4 +1.4
baz=274,SNR=7.7
ILSW Iliamna Southw 44.85 41 IAmb IAmb 20 09 30.5
comp=Z,68nm,1.3s
H21K Melozitna Rive 44.92 32 IAmb IAmb 20 09 29.2
comp=Z,120nm,1.4s
H21K Melozitna Rive 44.92 32 P P 20 08 54.4 +1.8
baz=268,SNR=54
OHAK Old Harbor 45.02 44 P P 20 08 53.8 +0.4
OHAK Old Harbor 45.02 44 P P 20 08 53.6 +0.2
OHAK IAmb IAmb 20 09 28.9
comp=Z,50nm,0.8s
OHAK Old Harbor 45.02 44 P P 20 08 54.1 +0.7
baz=276,SNR=16
B22K Teshekpuk Lake 45.05 26 P P 20 08 54.8 +1.3
baz=263
CHUM Lake Minchumin 45.11 35 P P 20 08 56.5 +2.5
baz=270,SNR=45
O20K Slope Mountain 45.11 40 P P 20 08 55.5 +1.3
baz=274,SNR=9.5
D22K Ayikyak River 45.15 28 P P 20 08 56.4 +2.0
baz=265,SNR=133
PPLA Purkeypile 45.18 36 P P 20 08 57.2 +2.4
baz=272,SNR=33
CAST Castle Rocks 45.22 36 IAmb IAmb 20 08 58.2
comp=Z,67nm,0.9s
CAST Castle Rocks 45.22 36 P P 20 08 57.2 +2.2
baz=271,SNR=61
F22K John River 45.24 30 P P 20 08 57.3 +2.1
baz=267,SNR=67
I21K Tanana 45.25 33 IAmb IAmb 20 09 32.2
comp=Z,122nm,1.4s
I21K Tanana 45.25 33 P P 20 08 57.4 +2.3
baz=270
KDAK Kodiak Island 45.34 44 P P 20 08 56.6 +0.6
KDAK Kodiak Island 45.34 44 P P 20 08 56.5 +0.6
baz=276
KDAK Kodiak Island 45.34 44 LR LR 20 27 28.6
comp=Z,81nm,21.5s,baz=307,slow=35
KDAK Kodiak Island 45.34 44 *i*P P 20 08 56.9 +1.0
KDAK pmax pmax
comp=Z,118nm,0.9s
KDAK Kodiak Island 45.34 44 P P 20 08 56.5 +0.6
KDAK pP **pP** 20 09 19.1 +0.2
KDAK sP **sP** 20 09 30.5 +0.5
KDAK PcP **PcP** 20 10 34.7 +0.9
Q20K Shuyak Island 45.35 42 P P 20 08 56.8 +0.8
baz=276,SNR=11
SBUM Sibu 45.39 223 P P 20 08 56.4 -0.4
E22K Anaktuvuk Pass 45.42 29 P P 20 08 58.5 +1.9
baz=267
SHLS Shalkode 45.48 295 *e*P P 20 08 55.2 -2.3
comp=Z,20nm,0.6s,baz=295
SHLS Shalkode 45.48 295 *e*P P 20 08 55.1 -2.3
SHLS pmax pmax
comp=Z,20nm,0.6s
G22K Bettles 45.48 31 P P 20 08 58.4 +1.5
baz=268
H22K Ishtalitna Cre 45.51 32 P P 20 08 59.5 +2.2
baz=269,SNR=41
SKT Skwentna 45.52 38 P P 20 08 58.7 +1.3
baz=273,SNR=10.0
TDK Taldygorghan 45.67 298 *e*P P 20 08 59.4 +0.5
comp=Z,26nm,0.7s,baz=298
TDK Taldyqorghan 45.67 298 *e*P P 20 08 59.3 +0.5
TDK pmax pmax
comp=Z,26nm,0.7s
BPAW Bear Paw Mtn. 45.69 35 P P 20 09 00.6 +1.9
baz=272,SNR=34
MLY Manley 45.78 33 P P 20 09 01.5 +2.1
baz=271,SNR=61
CNPM China Poot 45.85 41 IAmb IAmb 20 09 02.5
comp=Z,60nm,0.7s
D23K Nanushuk River 45.88 28 P P 20 09 02.2 +2.1
baz=267
SUA Susitna One 45.93 38 P P 20 09 02.9 +2.2
baz=274
C23K Itkillik River 45.96 27 P P 20 09 02.4 +1.7
baz=266
COLD Coldfoot 46.00 30 P P 20 09 02.9 +1.8
baz=269,SNR=59
BRLK Bradley Lake 46.01 41 PcP **PcP** 20 10 36.8 +0.6
TRF Thorofare Moun 46.02 36 IAmb IAmb 20 09 05.2
comp=Z,43nm,0.8s
TRF Thorofare Moun 46.02 36 P P 20 09 02.6 +1.1
baz=273,SNR=22
G23K Bananza Creek 46.06 31 IAmb IAmb 20 09 04.4
comp=Z,81nm,0.9s
G23K Bananza Creek 46.06 31 P P 20 09 03.4 +1.8
baz=270,SNR=97
BRSE Bradley Lake S 46.08 41 P P 20 09 02.9 +1.1
baz=276,SNR=13
CUT Chulitna 46.09 37 IAmb IAmb 20 09 37.6
comp=Z,109nm,1.1s
CUT PcP **PcP** 20 10 37.2 +0.9
CUT Chulitna 46.09 37 P P 20 09 02.9 +1.1
baz=274,SNR=12
ZHN Zhinishke 46.19 296 *e*P P 20 09 03.3 +0.2
baz=296
ZHN Zhinishke 46.19 296 *e*P P 20 09 03.2 +0.2
M22K Willow 46.20 38 IAmb IAmb 20 10 17.7
comp=Z,81nm,1.2s
E23K Chandalar 46.24 29 P P 20 09 05.2 +2.1
baz=269
SATY Saty 46.24 296 *e*P P 20 09 03.9 +0.4
baz=295
SATY Saty 46.24 296 *e*P P 20 09 03.9 +0.4
H23K Yukon River 46.27 32 PcP **PcP** 20 10 38.2 +1.1
H23K Yukon River 46.27 32 P P 20 09 05.7 +2.5
baz=271,SNR=74
TOLK Toolik Lake Re 46.27 28 IAmb IAmb 20 09 06.1
comp=Z,51nm,0.9s
TOLK PcP **PcP** 20 10 39.0 +2.0
TOLK Toolik Lake Re 46.27 28 P P 20 09 04.9 +1.7
baz=268
WUS Wushi 46.27 293 P P 20 09 04.5 +0.8
WUS pP **pP** 20 09 27.4 +0.7
ARXS Arharly 46.29 297 *e*P P 20 09 03.6 -0.2
I23K Minto, Yukon-K 46.36 33 IAmb IAmb 20 09 41.8
comp=Z,156nm,1.6s
I23K PcP **PcP** 20 10 39.1 +1.8
I23K Minto, Yukon-K 46.36 33 P P 20 09 05.8 +2.0
baz=272,SNR=27
RC01 Rabbit Creek A 46.45 39 P P 20 09 05.4 +0.7
baz=276,SNR=12
NEA2 Nenana 46.50 34 PcP **PcP** 20 10 39.1 +1.2
NEA2 Nenana 46.50 34 P P 20 09 06.8 +1.8
baz=273,SNR=79
O22K Cooper Landing 46.51 40 P P 20 09 05.9 +0.8
baz=276
D24K Happy Valley 46.55 28 P P 20 09 07.2 +1.8
baz=269
MCK McKinley 46.61 35 P P 20 09 07.1 +1.2
baz=274,SNR=46
MCK McKinley 46.61 35 P P 20 09 07.1 +1.2
C24K Franklin Bluff 46.61 27 P P 20 09 07.5 +1.7
baz=268
E24K Your Creek 46.66 29 P P 20 09 08.5 +2.1
baz=270
RND Reindeer 46.67 36 P P 20 09 06.8 +0.4
SEW Seward 46.69 40 P P 20 09 07.2 +0.7
baz=277,SNR=10
PMR Palmer 46.69 38 IAmb IAmb 20 09 08.3
comp=Z,65nm,0.9s
PMR Palmer 46.69 38 P P 20 09 07.1 +0.6
baz=276,SNR=19
WAT1 Susitna Watana 46.85 36 P P 20 09 08.6 +0.8
baz=275
F24K Squaw Lake 46.90 30 P P 20 09 10.0 +1.9
baz=271,SNR=44
WRH Wood River Hil 46.93 34 PcP **PcP** 20 10 40.0 +0.7
WRH IAmb IAmb 20 10 40.6
comp=Z,43nm,0.8s
H24K Noodor Dome 46.95 32 IAmb IAmb 20 09 12.0
comp=Z,71nm,1.0s
H24K Noodor Dome 46.95 32 P P 20 09 10.9 +2.4
baz=273,SNR=58
CHKK Chushkaly 46.98 297 *e*P P 20 09 09.2 +0.1
baz=297
CHKK Chushkaly 46.98 297 *e*P P 20 09 09.2 +0.1
MTKI Muara Teweh, K 46.99 217 P P 20 09 09.4 0.0
comp=Z,46nm,0.6s,comp=Z,3µmcomp=Z,3µm
COLA College 47.01 33 P P 20 09 10.7 +1.7
baz=274
COLA College 47.01 33 *i*P P 20 09 09.6 +0.7
COLA pmax pmax
comp=Z,46nm,0.9s
COLA College 47.01 33 P P 20 09 10.6 +1.7
COLA sP **sP** 20 09 44.5 +1.5
COLA PcP **PcP** 20 10 40.9 +1.4
KNK Knik Glacier 47.03 38 IAmb IAmb 20 09 11.4
comp=Z,57nm,0.9s
KNK Knik Glacier 47.03 38 P P 20 09 10.4 +1.2
baz=276,SNR=17
SML Sawmill 47.05 38 IAmb IAmb 20 09 11.6
comp=Z,73nm,0.8s
SML Sawmill 47.05 38 P P 20 09 10.6 +1.2
baz=276,SNR=29
G24K Hadweenzic Riv 47.08 31 P P 20 09 11.8 +2.3
baz=272
TARG Taragay, Kyrgy 47.10 294 IAmb IAmb 20 09 12.5
comp=Z,44nm,0.7s
MDOK Medeo 47.16 296 *e*P P 20 09 11.1 +0.5
baz=296
MDOK Medeo 47.16 296 *e*P P 20 09 11.1 +0.5
POKR Poker Plat Res 47.17 33 P P 20 09 12.3 +2.0
baz=274,SNR=44
AAA Alma-Ata 47.23 296 *e*P P 20 09 11.8 +0.6
comp=Z,20nm,0.5s,baz=296
AAA Alma-Ata 47.23 296 *e*P P 20 09 11.7 +0.6
AAA pmax pmax
comp=Z,20nm,0.5s
WAT6 Susitna Watana 47.24 37 P P 20 09 11.8 +0.7
baz=276,SNR=19
TNSS Tian-Shan 47.27 296 *e*P P 20 09 12.0 +0.2
baz=296
TNSS Tian-Shan 47.27 296 *e*P P 20 09 12.0 +0.2
M23K Glacier View 47.33 38 P P 20 09 12.3 +0.7
baz=276,SNR=17
DHY Denali Highway 47.36 36 IAmb IAmb 20 09 14.0
comp=Z,68nm,0.8s
DHY Denali Highway 47.36 36 P P 20 09 12.8 +0.8
baz=276,SNR=32
D25K Kavik River 47.43 27 P P 20 09 13.8 +1.6
baz=271
ILAR Eielson Array 47.43 34 P P 20 09 13.0 +0.7
comp=Z,62nm,0.8s,baz=271,slow=6.1,SNR=538
ILAR PcP **PcP** 20 10 40.5 -0.6
comp=Z,6.5nm,0.6s,baz=276,slow=4.0,SNR=5.0
comp=Z,62nm,0.8s
HDA Harding Lake 47.43 34 P P 20 09 13.0 +0.7
baz=275,SNR=68
SCM Sheep Creek Mo 47.52 38 P P 20 09 14.6 +1.5
baz=277,SNR=23
G25K Bearman Lake 47.62 31 P P 20 09 16.2 +2.6
baz=273
P23K Montague Islan 47.72 40 P P 20 09 15.9 +1.3
baz=268,SNR=6.9
GLI Glacier Island 47.75 39 IAmb IAmb 20 09 16.6
comp=Z,56nm,0.7s
GLI Glacier Island 47.75 39 P P 20 09 15.6 +0.9
baz=278,SNR=7.4
F25K Christian Rive 47.75 30 P P 20 09 17.3 +2.5
baz=273
E25K Arctic Village 47.76 29 P P 20 09 17.0 +2.3
baz=273
H25L Birch Creek 47.76 32 P P 20 09 17.1 +2.3
baz=274
STKI Sintang 47.80 222 P P 20 09 16.4 +0.7
TARA Tarawa 47.85 135 P P 20 09 17.1 +1.0
C26K Camden Bay 47.93 27 P P 20 09 18.5 +2.5
baz=272,SNR=34
PRP Porcupine Dome 47.94 33 P P 20 09 18.2 +1.9
baz=275,SNR=72
K24K Donnelly Dome 48.00 35 P P 20 09 17.6 +0.8
baz=276,SNR=13
M24K Tolsona, Glenn 48.02 37 IAmb IAmb 20 09 19.9
comp=Z,85nm,0.8s
M24K Tolsona, Glenn 48.02 37 P P 20 09 19.0 +2.0
baz=278,SNR=17
BRZS Berezniki 48.06 306 ⇓*i*P P 20 09 17.4 0.0
comp=Z,12nm,0.6s,baz=306
BRZS Berezniki 48.06 306 *d i*P P 20 09 17.4 0.0
BRZS pmax pmax
comp=Z,12nm,0.6s
J25K Salcha River, 48.09 34 P P 20 09 17.4 -0.1
baz=276,SNR=23
BOOM Boomskoye usch 48.15 296 IAmb IAmb 20 09 44.0
comp=Z,90nm,1.2s
BOOM PcP **PcP** 20 10 44.9 +0.5
BMAR Burnt Mountain 48.17 30 P P 20 09 19.3 +1.3
KLU Klutina 48.23 38 IAmb IAmb 20 09 21.0
comp=Z,57nm,0.7s
KLU Klutina 48.23 38 P P 20 09 20.2 +1.6
baz=278,SNR=30
PAX Paxson 48.24 36 P P 20 09 20.2 +1.5
baz=277,SNR=8.3
TKM2 Tokmak 2 48.24 296 P P 20 09 20.2 +1.1
SNR=47
SRIT Nakonsritamara 48.24 242 P P 20 09 19.4 +0.2
SRIT IAmb IAmb 20 09 44.5
comp=Z,53nm,1.0s
F26K Sheenjek River 48.32 30 P P 20 09 21.9 +2.8
baz=274
C27K Jago River 48.36 27 P P 20 09 21.3 +2.0
baz=273
EYAK Cordova Ski Ar 48.45 39 P P 20 09 22.0 +1.8
EYAK Cordova Ski Ar 48.45 39 P P 20 09 21.9 +1.8
baz=279,SNR=18
HARP HAARP 48.46 37 P P 20 09 22.2 +2.0
baz=278,SNR=19
G26K Porcupine Rive 48.52 31 P P 20 09 22.7 +2.1
baz=275
BTLS Baital 48.61 299 ⇓*i*P P 20 09 21.5 -0.2
baz=299
BTLS Baital 48.61 299 *d i*P P 20 09 21.4 -0.2
KAPI Kappang 48.61 209 P P 20 09 22.4 +0.5
KAPI IAmb IAmb 20 09 53.1
comp=Z,57nm,1.1s
KAPI Kappang 48.61 209 P P 20 09 22.4 +0.5
KAPI pmax pmax
comp=Z,57nm,1.1s
BVAR Borovoye Array 48.69 311 P P 20 09 22.3 +0.2
comp=Z,18nm,0.5s,baz=72,slow=9.3,SNR=69
BVAR pP **pP** 20 09 45.2 -0.2
comp=Z,7.9nm,0.5s,baz=69,slow=7.5,SNR=3.3
BVAR PcP **PcP** 20 10 46.2 +0.4
comp=Z,31nm,0.7s,baz=65,slow=3.0,SNR=14
BVAR ScP **ScP** 20 14 29.2 -2.7
comp=Z,3.5nm,1.0s,baz=17,slow=1.5,SNR=4.5
comp=Z,18nm,0.5s
SGDS Sogindy 48.73 297 *e*P P 20 09 22.9 +0.2
baz=297
SGDS Sogindy 48.73 297 *e*P P 20 09 22.8 +0.2
BRVK Borovoye 48.74 311 P P 20 09 22.5 0.0
BRVK Borovoye 48.74 311 *ce*P P 20 09 23.1 +0.6
BRVK pmax pmax
comp=Z,36nm,1.7s
BRVK Borovoye 48.74 311 P P 20 09 22.9 +0.4
BRVK pP **pP** 20 09 46.1 +0.3
BRVK PcP **PcP** 20 10 46.3 +0.3
BKSI Bulukumba 48.76 208 P P 20 09 22.9 -0.1
comp=Z,27nm,0.7s,comp=Z,385nm
SCRK Sand Creek 48.77 34 P P 20 09 23.6 +0.9
baz=278,SNR=157
KBK Karagaybulak 48.78 296 P P 20 09 24.1 +0.9
SNR=43
CHMS Chumysh 48.80 297 P P 20 09 23.7 +0.6
SNR=6.8
N25K Chitina, Valde 48.84 38 IAmb IAmb 20 09 29.4
comp=Z,25nm,0.7s
N25K Chitina, Valde 48.84 38 P P 20 09 24.9 +1.7
baz=279,SNR=19
USP Ospenovka 48.88 297 P P 20 09 24.3 +0.6
SNR=12
J26L Joseph Creek 48.88 34 P P 20 09 23.7 +0.2
baz=278
BMRM Bremner River 48.94 39 P P 20 09 25.5 +1.6
baz=280,SNR=19
I26K Coal Creek Min 48.95 33 PcP **PcP** 20 10 47.1 +0.5
I26K Coal Creek Min 48.95 33 P P 20 09 24.3 +0.3
baz=277
AAK Ala-Archa 49.10 296 P P 20 09 26.2 +0.6
SNR=12
AAK Ala-Archa 49.10 296 P P 20 09 25.4 -0.2
AAK Ala-Archa 49.10 296 P P 20 09 26.1 +0.6
comp=Z,7.4nm,0.4s,baz=131,slow=5.9,SNR=26
AAK pP **pP** 20 09 48.1 -0.8
comp=Z,19nm,0.8s,baz=101,slow=5.4,SNR=9.5
comp=Z,7.4nm,0.4s
AAK Ala-Archa 49.10 296 *ce*P P 20 09 26.2 +0.6
AAK pmax pmax
comp=Z,51nm,2.5s
AAK Ala-Archa 49.10 296 P P 20 09 26.1 +0.6
AAK pP **pP** 20 09 49.1 +0.3
AAK PcP **PcP** 20 10 48.0 +0.3
KSH Kashi 49.19 292 P P 20 09 30.3 +4.0
KSH pP pP 20 09 53.9 +4.3
KSH S **S** 20 16 32.2 +7.6
KSH ScS **ScS** 20 19 08.7 -0.1
KSH pmax pmax
comp=Z,15nm,0.7s
KSH LR LR
comp=Z,560nm,17.0s
KSH LR LR
comp=Z,230nm,17.5s
KSH LR LR
comp=Z,490nm,17.2s
L26K Log Cabin Wild 49.19 36 P P 20 09 27.7 +1.9
baz=279,SNR=61
KAIM Kayak Island 49.21 40 P P 20 09 28.3 +2.3
baz=281,SNR=6.1
UCH Uchtor 49.23 296 P P 20 09 27.8 +0.8
SNR=5.3
E27K Coleen River 49.23 29 P P 20 09 28.1 +2.0
baz=276
GLB Oilahina Butte 49.24 38 IAmb IAmb 20 10 04.0
comp=Z,124nm,1.6s
D27M Malcolm River 49.35 27 P P 20 09 29.0 +1.9
baz=276
G27K Doyon Strip 49.37 31 P P 20 09 29.4 +2.2
baz=277
VRDI Verde Repeater 49.44 38 IAmb IAmb 20 09 30.7
comp=Z,61nm,1.0s
M26K Nabesna, AK 49.45 36 P P 20 09 29.9 +2.0
baz=280,SNR=44
BERG Berg Lake 49.48 39 PcP **PcP** 20 10 50.5 +1.8
H27K Steamboat Moun 49.50 31 P P 20 09 30.6 +2.5
baz=278
I27K Kandik River 49.55 32 P P 20 09 29.6 +1.0
baz=278
EKS2 Erkin-Say 49.59 297 P P 20 09 29.8 +0.6
SNR=15
K27K Chicken 49.59 34 P P 20 09 30.6 +1.8
baz=279
MCARA McCarthy VSAT 49.62 38 P P 20 09 31.0 +1.9
baz=281,SNR=26
BGLC Bering Glacier 49.74 39 P P 20 09 32.0 +2.1
baz=282
EGAK Eagle 49.87 33 IAmb IAmb 20 09 46.7
comp=Z,32nm,0.8s
EGAK Eagle 49.87 33 P P 20 09 31.7 +0.8
baz=279
L27K Beaver Creek, 49.87 35 P P 20 09 33.0 +2.1
baz=280
BCAR Beaver Creek A 49.88 35 P P 20 09 33.0 +1.9
E28M Babbage River 49.94 28 P P 20 09 33.6 +2.1
baz=278
F28M Old Crow 49.95 29 P P 20 09 33.8 +2.2
baz=278
M27K Edge Creek, AK 49.97 36 P P 20 09 33.8 +1.9
baz=281
KULM Kulim 49.98 238 IAmb IAmb 20 09 58.2
comp=Z,34nm,1.2s
D28M Stokes Point 50.13 27 P P 20 09 34.7 +1.9
baz=278
I28M Miner Creek 50.26 32 P P 20 09 36.0 +2.0
baz=280
MESA MESA 50.38 39 IAmb IAmb 20 09 37.8
comp=Z,51nm,1.0s
MESA MESA 50.38 39 P P 20 09 36.7 +1.7
baz=282,SNR=6.6
CTG Chitna Glacier 50.50 38 P P 20 09 37.7 +1.8
baz=282,SNR=37
E29M Blow River 50.57 28 P P 20 09 38.5 +2.3
baz=279
LOGN Logan Glacier 50.69 38 IAmb IAmb 20 09 43.5
comp=Z,34nm,0.9s
YUK3 Moose Creek 50.74 37 P P 20 09 39.4 +1.6
baz=282
H29M Whitestone 50.76 31 P P 20 09 39.7 +2.1
baz=281
G29M Pine Creek 50.77 30 P P 20 09 40.5 +2.7
baz=280,SNR=24
O28M Mount Upton 51.09 38 P P 20 09 41.9 +1.4
baz=283
MMRI Maumere 51.13 204 P P 20 09 40.5 -0.4
MMRI Maumere 51.13 204 P P 20 09 40.6 -0.3
comp=Z,43nm,0.7s,comp=Z,1µm
MMRI pP **pP** 20 09 57.4 -6.9
comp=Z,43nm,0.7s,comp=Z,1µm
YUK8 Steele Glacier 51.18 37 P P 20 09 42.4 +1.3
baz=283
DZA Taraz 51.18 298 *e*P P 20 09 41.6 +0.4
comp=Z,15nm,0.6s,baz=298
DZA Taraz 51.18 298 *e*P P 20 09 41.6 +0.4
DZA pmax pmax
comp=Z,15nm,0.6s
EPYK Eagle Plains 51.39 31 P P 20 09 44.6 +2.2
baz=282,SNR=36
EDFI Ende, Flores 51.41 205 P P 20 09 41.8 -1.3
comp=Z,21nm,1.6s,comp=Z,443nm
G30M tAoh Zrai Nji 51.46 30 P P 20 09 44.9 +2.0
baz=282,SNR=9.6
F30M Barrier River 51.49 29 P P 20 09 45.5 +2.4

baz=282
L29M **L29M** 51.50 35 P **P** 20 09 45.9 +2.6
baz=283
M29M **Somme Creek** 51.51 36 P **P** 20 09 45.8 +2.4
baz=284
SOEI **Soe** 51.58 201 P **P** 20 09 44.3 -0.1
SOEI **Soe** 51.58 201 P **P** 20 09 44.0 -0.4
comp=Z,61nm,1.2s
SOEI pP **pP** 20 10 02.1 -5.8
comp=Z,61nm,1.2s
K29M **Barlow Dome** 51.60 34 P **P** 20 09 46.1 +2.1
baz=283
KK31 **Karatay Array** 51.66 298 IAmb IAmb 20 10 09.0
comp=Z,55nm,1.0s
KKAR **Karatay Array** 51.66 298 IAmb IAmb 20 10 09.0
comp=Z,55nm,1.0s
YUK4 **Talbot Arm** 51.69 37 P **P** 20 09 47.0 +2.1
baz=284
PNL **Peninsula** 51.75 39 P **P** 20 09 46.8 +1.7
PNL **Peninsula** 51.75 39 P **P** 20 09 46.7 +1.6
baz=285
I30M **Mount Dempster** 51.77 32 P **P** 20 09 47.4 +2.0
baz=283
YUK6 **Outpost Mounta** 51.92 38 P **P** 20 09 48.8 +2.1
baz=285
BRLS **Boroldav** 52.15 298 ⇓*i* P **P** 20 09 50.1 +1.7
baz=298
BRLS **Boroldav** 52.15 298 *d i* P **P** 20 09 50.1 +1.7
DRK **Karamyk** 52.17 294 IAmb IAmb 20 10 14.1
comp=Z,44nm,1.1s
INK **Inuvik** 52.18 28 P **P** 20 09 49.8 +1.7
baz=283,SNR=23
INK **Inuvik** 52.18 28 P **P** 20 09 49.5 +1.4
BATI **Baumata** 52.18 202 P **P** 20 09 48.7 -0.1
comp=Z,54nm,1.8s
G31M **Satah River** 52.22 30 P **P** 20 09 49.8 +1.3
baz=284
F31M **Tsiigehtchic** 52.30 29 P **P** 20 09 50.4 +1.4
baz=284
IUG **Iuzhnay** 52.35 297 *e* P **P** 20 09 50.6 +0.6
baz=297
IUG **Iuzhnay** 52.35 297 *e* P **P** 20 09 50.6 +0.6
HYT **Haines Junctio** 52.36 38 P **P** 20 09 52.3 +2.5
baz=286
MAYO **Mayo, Yukon** 52.37 34 P **P** 20 09 51.7 +2.1
baz=285
N30M **Aishikik Lake** 52.38 37 P **P** 20 09 51.6 +1.8
baz=285
H31M **Peel River** 52.46 31 P **P** 20 09 52.3 +2.0
baz=284
CHM **Chimkent** 52.58 298 *e* P **P** 20 09 52.1 +0.6
comp=Z,11nm,0.6s,baz=298
CHM **Chimkent** 52.58 298 *e* P **P** 20 09 52.1 +0.6
CHM pmax pmax
comp=Z,11nm,0.6s
BTK **Batken** 52.63 295 IAmb IAmb 20 10 17.6
comp=Z,50nm,1.1s
KDU **Kakadu** 52.68 191 P **P** 20 09 52.3 -0.1
P30M **Million Dollar** 52.81 38 P **P** 20 09 55.5 +2.6
baz=286
N31M **Braeburn, Yuko** 52.98 37 P **P** 20 09 56.7 +2.5
baz=286
MTN **Manton Dam** 53.04 192 P **P** 20 09 54.0 -1.0
MTN **Manton Dam** 53.04 192 P **P** 20 09 54.0 -1.0
O30N **Mendenhall** 53.04 38 P **P** 20 09 56.7 +2.0
baz=287
SVE **Sverdlovsk** 53.07 317 *ce* P **P** 20 09 55.7 +0.8
SVE *e* S **S** 20 17 17.6 +0.3
SVE pmax pmax
comp=Z,97nm,0.9s
TWSI **Taliwang, Sumb** 53.13 211 P **P** 20 09 54.5 -1.2
comp=Z,43nm,1.2s
PLBC **Pleasant Camp** 53.29 39 P **P** 20 09 58.7 +2.3
baz=287
COEN **Coen** 53.35 178 P **P** 20 09 58.3 +1.0
COEN **Coen** 53.35 178 P **P** 20 09 57.6 +0.3
COEN IAmb IAmb 20 09 59.0
comp=Z,42nm,0.9s
M31M **Drury Creek, Y** 53.41 36 P **P** 20 09 59.3 +2.0
baz=287
NIL **Nilore** 53.63 286 P **P** 20 10 00.8 +1.4
NIL **Nilore** 53.63 286 P **P** 20 10 00.8 +1.4
NIL pmax pmax
comp=Z,114nm,1.0s
WHY **Whitehorse** 53.64 37 P **P** 20 10 01.3 +2.2
baz=288
SKAG **Skagway** 53.79 39 P **P** 20 10 02.3 +2.2
baz=288
S31K **Pelican** 53.81 41 P **P** 20 10 02.2 +1.9
baz=288
FARO **Faro, Yukon** 53.87 35 P **P** 20 10 02.7 +2.1
baz=288
R31K **City Hall, Gus** 53.92 40 P **P** 20 10 02.9 +1.9
baz=288
A36M **Sachs Harbour** 53.93 23 P **P** 20 10 02.7 +1.8
baz=288
ARU **Arti** 54.28 317 P **P** 20 10 03.6 -0.1
ARU **Arti** 54.28 317 P **P** 20 10 04.1 +0.4
comp=Z,35nm,0.6s,baz=81,slow=4.1,SNR=35
ARU pP **pP** 20 10 27.8 +0.5
comp=Z,60nm,0.9s,baz=79,slow=4.6,SNR=7.8
ARU PcP **PcP** 20 11 06.8 +0.1
comp=Z,22nm,0.7s,baz=79,slow=5.2,SNR=3.3
ARU LR LR 20 35 35.6
comp=Z,397nm,18.4s,baz=158,slow=38
comp=Z,35nm,0.6s
ARU **Arti** 54.28 317 *ce* P **P** 20 10 04.3 +0.6
ARU pmax pmax
comp=Z,55nm,1.0s
ARU **Arti** 54.28 317 P **P** 20 10 04.0 +0.3
ARU pP **pP** 20 10 28.2 +0.9
ARU PcP **PcP** 20 11 06.7 +0.1
ARU **Arti** 54.28 317 P **P** 20 10 04.0 +0.3
comp=Z,112nm,1.1s,comp=Z,1μm
N32M **Quiet Lake** 54.32 37 P **P** 20 10 05.5 +1.5
baz=289
KIP **Kipapa** 54.47 91 P **P** 20 10 06.7 +1.2
KIP **Kipapa** 54.47 91 *ce* P **P** 20 10 08.0 +2.5
KIP pmax pmax
comp=Z,52nm,0.8s
SIMJ **Simiganj** 54.49 294 P **P** 20 10 06.1 +0.4
SIMJ **Simiganj** 54.49 294 P **P** 20 10 05.9 +0.2
SIMJ pP **pP** 20 10 29.0 -0.4
P32M **Atlin** 54.53 38 IAmb IAmb 20 10 08.7
comp=Z,33nm,0.9s
P32M **Atlin** 54.53 38 P **P** 20 10 07.5 +2.0
baz=289
R32K **Eaglecrest** 54.57 40 P **P** 20 10 08.2 +2.4
baz=290
SIT **Sitka** 54.57 42 P **P** 20 10 08.1 +2.3
baz=290
PWJI **Pagerwojo** 54.65 216 P **P** 20 10 05.5 -1.3
MMPY **Sheldon Lake,** 54.66 34 P **P** 20 10 08.7 +2.2
baz=289
P33M **Teslin, Yukon** 54.75 38 P **P** 20 10 09.3 +2.2
baz=290
S32K **Killisnoo** 54.82 41 P **P** 20 10 09.6 +2.1
baz=290
GSI **Gunungsitoli** 54.99 237 P **P** 20 10 09.5 +0.2
GSI **Gunungsitoli** 54.99 237 P **P** 20 10 09.0 -0.3
comp=Z,136nm,1.5s,comp=Z,2μm
C36M **Paulatuk** 55.17 26 P **P** 20 10 11.0 +1.2
baz=290,SNR=22
KPJI **Karang Pucung** 55.42 220 P **P** 20 10 11.7 -0.7
comp=Z,53nm,1.3s
LEM **Lembang** 55.65 222 P **P** 20 10 14.3 +0.1
comp=Z,55nm,1.2s
R33M **Jennings River** 55.91 38 P **P** 20 10 17.8 +2.2
baz=291,SNR=8.7
U33K **Whale Pass** 56.05 42 P **P** 20 10 18.9 +2.5
baz=292
ABKAR **Akbulak array** 56.12 309 P **P** 20 10 16.7 -0.3
ABKAR **Akbulak array** 56.12 309 IAmb IAmb 20 10 17.7
comp=Z,37nm,0.6s
KNRA **Kununurra** 56.23 194 P **P** 20 10 18.2 +0.2
CRAG **Craig** 56.29 43 P **P** 20 10 18.6 +0.5
CRAG **Craig** 56.29 43 P **P** 20 10 20.2 +2.1
baz=292
KBL **Kabul** 56.31 289 P **P** 20 10 18.6 -0.3
KBL IAmb IAmb 20 10 45.2
comp=Z,35nm,0.9s
KBL **Kabul** 56.31 289 P **P** 20 10 18.6 -0.3
KBL pmax pmax
comp=Z,35nm,0.9s
WRAK **Wrangell Islan** 56.34 42 IAmb IAmb 20 10 21.9
comp=Z,57nm,1.2s
WRAK **Wrangell Islan** 56.34 42 P **P** 20 10 20.7 +2.3
baz=292
TGTN **Hyland Airport** 56.37 35 P **P** 20 10 20.7 +2.0
baz=292,SNR=5.9
S34M **Telegraph Cree** 56.38 40 P **P** 20 10 21.4 +2.6
baz=292
WTLY **Watson Lake, Y** 56.66 37 IAmb IAmb 20 10 23.7
comp=Z,46nm,0.8s
WTLY **Watson Lake, Y** 56.66 37 P **P** 20 10 22.7 +1.9
baz=292,SNR=7.1
DLBC **Dease Lake** 56.73 39 P **P** 20 10 23.8 +2.5
baz=293,SNR=7.5
AKTO **Aktyubinsk** 56.79 311 P **P** 20 10 21.8 0.0
comp=Z,25nm,0.8s,baz=48,slow=6.2,SNR=30
AKTO PcP **PcP** 20 11 16.2 -0.3
comp=Z,19nm,0.7s,baz=90,slow=5.5,SNR=5.2
comp=Z,25nm,0.8s
V35K **Ketchikan** 57.14 43 IAmb IAmb 20 10 27.0
comp=Z,52nm,1.3s
V35K **Ketchikan** 57.14 43 P **P** 20 10 25.8 +1.7
baz=293
T35M **Bob Quinn** 57.18 41 P **P** 20 10 27.6 +3.1
baz=293
POHA **Pohakuloa** 57.32 91 P **P** 20 10 26.9 +0.7
ALE **Alert** 57.53 4 P **P** 20 10 27.3 +0.8
ALE pP **pP** 20 10 51.2 +0.9
DIB **Dawson Inlet,** 57.53 45 IAmb IAmb 20 10 29.4
comp=Z,61nm,1.1s
MTSU **Mount Surprise** 57.55 176 P **P** 20 10 28.4 +1.0
KHU **Kahuku** 57.55 91 P **P** 20 10 28.2 +0.4
KHU **Kahuku** 57.55 91 P **P** 20 10 28.2 +0.4
U35K **Hyder** 57.73 42 P **P** 20 10 30.3 +2.1
baz=294
WRGLY **Wrigley** 57.75 32 P **P** 20 10 30.1 +1.8
baz=295
SPITS **Spitsbergen Ar** 57.93 348 P **P** 20 10 29.8 +0.4
comp=Z,1.8nm,0.4s,baz=83,slow=7.0,SNR=19
SPITS pP **pP** 20 10 52.5 -0.7
comp=Z,5.5nm,0.5s,baz=72,slow=8.0,SNR=2.9
KIRV **Kirov** 58.05 322 P **P** 20 10 30.4 0.0
comp=Z,46nm,0.6s,baz=97,slow=0.5,SNR=17
KIRV pP **pP** 20 10 53.6 -0.8
comp=Z,62nm,0.9s,baz=87,slow=4.3,SNR=6.8
comp=Z,46nm,0.6s
KIRV **Kirov** 58.05 322 *ce* P **P** 20 10 31.2 +0.8
KBS **Kingsbay** 58.06 350 *ce* P **P** 20 10 32.5 +2.3
KBS pmax pmax
comp=Z,65nm,2.5s
KBS **Kingsbay** 58.06 350 *i* P **P** 20 10 31.3 +1.1
HYB **Hyderabad** 58.10 267 *e* P **P** 20 10 31.7 +0.2
LIRD **Liard River Hi** 58.20 37 P **P** 20 10 33.8 +2.3
baz=295,SNR=15
RUBB **Prince Rupert** 58.27 44 IAmb IAmb 20 10 34.8
comp=Z,43nm,0.9s
NOR **Nord** 58.44 356 *i* P **P** 20 10 32.7 -0.2
NOR IAmb IAmb 20 10 34.3
comp=Z,14nm,0.8s
TOAD **Toad River Com** 58.84 37 P **P** 20 10 37.9 +1.9
baz=296,SNR=13
FUNA **Funafuti** 59.49 135 P **P** 20 10 41.7 +0.8
WRAB **Tennant Creek** 59.60 187 *i* P **P** 20 10 40.3 -1.3
WRAB pmax pmax
comp=Z,21nm,0.6s
CTAO **Charters Tower** 59.61 174 P **P** 20 10 40.9 -0.7
WRA **Warramunga Arr** 59.61 187 P **P** 20 10 41.0 -0.7
comp=Z,29nm,0.8s,baz=1.3,slow=7.1,SNR=62
WRA pP **pP** 20 11 04.5 -1.1
comp=Z,17nm,0.6s,baz=1.2,slow=7.4,SNR=7.0
WRA ScP **ScP** 20 15 18.2 -1.6
comp=Z,1.8nm,0.8s,baz=0.9,slow=4.5,SNR=5.5
comp=Z,29nm,0.8s
QIS **Mount Isa** 59.90 182 P **P** 20 10 43.1 -0.5
VADS **Vadso** 60.06 338 *e* P **P** 20 10 44.7 +0.5
RES **Resolute Bay** 60.14 15 IAmb IAmb 20 10 46.0
comp=Z,63nm,0.9s
APA **Apatity** 60.23 335 ⇓*i* P **P** 20 10 44.9 -0.5
APA *i* *PP **sP** 20 11 17.1 -3.1
APA *i* 20 11 27.4
APA pmax pmax
comp=Z,12nm,0.9s
BBB **Bella Bella** 60.37 45 IAmb IAmb 20 10 48.9
comp=Z,50nm,1.1s
HRA **Herat** 61.30 292 IAmb IAmb 20 10 55.0
comp=Z,23nm,0.6s
KLMR **Klimovskoe** 61.45 327 *e* P **P** 20 10 52.9 -0.8
KLMR *e**PP **pP** 20 11 16.2 -1.6
KLMR pmax pmax
comp=Z,24nm,0.9s
ARCES **ARCESS Array B** 61.49 339 P **P** 20 10 54.3 +0.4
comp=Z,3.0nm,0.5s,baz=59,slow=7.8,SNR=21
ARCES pP **pP** 20 11 18.2 +0.2
comp=Z,4.7nm,0.6s,baz=61,slow=8.5,SNR=2.9
ARCES LR LR 20 40 15.8
comp=Z,155nm,20.9s,baz=126,slow=38
comp=Z,3.0nm,0.5s
YKA **Yellowknife Ar** 61.67 31 P **P** 20 10 55.4 +0.2
YKA **Yellowknife Ar** 61.67 31 P **P** 20 10 55.9 +0.6
comp=Z,22nm,0.7s,baz=303,slow=7.0,SNR=82
comp=Z,22nm,0.7s
BELG **Belogornoye** 61.76 316 P **P** 20 10 56.1 +0.2
comp=Z,32nm,0.6s,baz=336,slow=0.6,SNR=14
comp=Z,32nm,0.6s
GEYT **Alibeck** 62.41 298 P **P** 20 11 00.4 -0.2
GEYT IAmb IAmb 20 11 27.7
comp=Z,44nm,0.9s
GEYT **Alibeck** 62.41 298 P **P** 20 11 00.8 +0.2
comp=Z,8.2nm,0.8s,baz=67,slow=5.0,SNR=19
GEYT pP **pP** 20 11 24.9 0.0
comp=Z,29nm,0.9s,baz=48,slow=2.2,SNR=14
comp=Z,8.2nm,0.8s
GYA0B **ALIBECK ARRAY** 62.41 298 IAmb IAmb 20 11 27.7
comp=Z,36nm,1.0s
KTK1 **Kautokeino** 62.45 339 *e* P **P** 20 11 01.2 +1.0
HILA **High Level** 62.74 35 IAmb IAmb 20 11 39.1
comp=Z,1μm,1.1s
NEEM **North Greenlan** 62.94 3 *i* P **P** 20 11 04.0 +0.2
NEEM IAmb IAmb 20 11 05.7
comp=Z,59nm,0.8s
DAG **Danmarks Havn** 63.16 355 P **P** 20 11 04.4 -0.5
DAG **Danmarks Havn** 63.16 355 *i* P **P** 20 11 04.0 -0.9
DAG IAmb IAmb 20 11 06.4
comp=Z,26nm,0.8s
ASAR **Alice Springs** 63.34 187 P **P** 20 11 06.4 -0.3
ASAR **Alice Springs** 63.34 187 P **P** 20 11 06.6 -0.1
comp=Z,25nm,0.8s,baz=359,slow=6.7,SNR=224
ASAR pP **pP** 20 11 30.2 -0.7
comp=Z,4.4nm,0.6s,baz=15,slow=12,SNR=6.1
comp=Z,25nm,0.8s
JOF **Joensuu** 63.57 331 *e* P **P** 20 11 06.8 -1.0
MBWA **Marble Bar** 63.70 202 P **P** 20 11 09.0 -0.1
PSA00 **Pilbara Siesmi** 64.06 202 P **P** 20 11 11.1 -0.3
CLRS **Cowichan Lake** 64.23 47 IAmb IAmb 20 11 14.8
comp=Z,33nm,0.9s
PGC **Sidney** 64.70 47 IAmb IAmb 20 11 17.8
comp=Z,43nm,0.8s
BRLDA **Berland Lookou** 64.97 40 IAmb IAmb 20 11 19.3
comp=Z,80nm,1.2s
B04A **Port Angeles** 64.99 47 IAmb IAmb 20 11 20.1
comp=Z,50nm,0.8s
MOS **Moscow** 65.04 323 *e* P **P** 20 11 16.8 -0.7
MOS *e**PP **pP** 20 11 39.8 -2.2
MOS *e* 20 11 50.1
MOS *e* 20 13 41.6
MOS *e*S **S** 20 19 49.6 -2.2
MOS pmax pmax
comp=Z,46nm,1.2s
STEI **Steigen** 65.34 340 *e* P **P** 20 11 19.7 +0.5
KULLO **Kullorsuaq** 65.41 5 *i* P **P** 20 11 18.8 -0.8
KULLO IAmb IAmb 20 11 20.5
comp=Z,17nm,0.7s
WRKA **Warakurna** 65.45 193 P **P** 20 11 20.7 +0.2
VRH **Novokhopyorsk** 65.52 317 *e* P **P** 20 11 20.2 -0.4
VRH *e**PP **pP** 20 11 44.5 -0.7
VRH pmax pmax
comp=Z,33nm,1.6s
GNW **Green Mountain** 65.64 48 IAmb IAmb 20 11 24.7
comp=Z,99nm,1.6s
FAUS **Fauske** 65.73 340 *e* P **P** 20 11 22.1 +0.4
NOUC **Port Laguerre** 65.77 154 P **P** 20 11 23.1 +0.6
DZM **Mont Dzumac** 65.79 154 P **P** 20 11 22.4 -0.4
DZM IAmb IAmb 20 11 25.8
comp=Z,80nm,1.3s
DZM **Mont Dzumac** 65.79 154 P **P** 20 11 23.9 +1.2
comp=Z,38nm,1.1s,baz=31,slow=7.4,SNR=5.5
DZM pP **pP** 20 11 47.5 +0.4
comp=Z,23nm,1.1s,baz=359,slow=14,SNR=3.3
comp=Z,38nm,1.1s
OBN **Obninsk** 65.89 322 P **P** 20 11 23.3 +0.3
comp=Z,20nm,0.5s,baz=76,slow=5.9,SNR=5.2
OBN pP **pP** 20 11 47.8 +0.3
comp=Z,10nm,0.4s,baz=89,slow=3.6,SNR=2.2
comp=Z,20nm,0.5s
OBN **Obninsk** 65.89 322 *c i* P **P** 20 11 22.9 -0.1
OBN *i* *PP **pP** 20 11 47.6 +0.1
OBN *i* 20 11 50.3
OBN *e**SP **sP** 20 12 00.1 +1.9
OBN *i* S **S** 20 20 00.4 -1.8
OBN *i* *SS **sS** 20 20 39.2 -4.4
OBN SS **SS** 20 24 17.0 -0.9
OBN *e*SSS SSS 20 27 09.1
OBN pmax pmax
comp=Z,52nm,1.7s
OBN MLR MLR
comp=Z,154nm,16.0s
LPSR **Galich'ya Gora** 66.17 319 *e* P **P** 20 11 23.4 -1.4
LPSR *e**PP **pP** 20 11 47.4 -2.0
LPSR pmax pmax
comp=Z,30nm,0.8s
KEF **Keuruu** 66.38 333 *e* P **P** 20 11 25.6 -0.4
FINES **FINESS Array B** 66.42 332 P **P** 20 11 25.9 -0.4
FINES **FINESS Array B** 66.42 332 P **P** 20 11 26.2 0.0
comp=Z,20nm,0.6s,baz=42,slow=8.5,SNR=92
FINES pP **pP** 20 11 51.3 +0.6
comp=Z,20nm,0.6s,baz=46,slow=7.5,SNR=7.8
FINES LR LR 20 43 29.8
comp=Z,101nm,18.4s,baz=120,slow=39
comp=Z,20nm,0.6s
VAF **Ylistaro** 66.56 334 *e* P **P** 20 11 26.4 -0.7
VORR **Voronezh** 66.56 318 *e* P **P** 20 11 27.3 0.0
VORR *e**PP **pP** 20 11 51.0 -0.9
VORR pmax pmax
comp=Z,24nm,1.5s
MAK **Makhachkala** 66.70 307 *e* P **P** 20 11 27.4 -0.9
MAK *e**PP **pP** 20 11 52.7 -0.2
MAK *e**SP **sP** 20 12 03.6 +0.1
MAK *e* 20 13 57.0
MAK *e*S **S** 20 20 10.4 -2.0
MAK *e**SS **sS** 20 20 55.1 +1.3
MAK pmax pmax
comp=Z,214nm,1.2s
MAK MLR MLR
comp=Z,233nm,13.0s
F04A **Amboy** 66.76 49 IAmb IAmb 20 11 31.4
comp=Z,76nm,0.9s
VSR **Storozhevoye** 66.84 318 *e* P **P** 20 11 27.8 -1.3
VSR *e**PP **pP** 20 11 51.7 -2.0
VSR pmax pmax
comp=Z,10.0nm,0.6s
MOR8 **Moi Rana** 66.85 339 *e* P **P** 20 11 28.0 -1.0
COR **Corvallis** 66.98 51 P **P** 20 11 32.5 +2.4
COR **Corvallis** 66.98 51 P **P** 20 11 32.5 +2.4
COR pmax pmax
comp=Z,140nm,1.1s
COR **Corvallis** 66.98 51 P **P** 20 11 32.5 +2.4
COR pP **PcP** 20 11 57.5 -0.4
COR sP **sP** 20 12 07.6 +2.3
LTY **Liberty** 67.03 47 IAmb IAmb 20 11 32.8
comp=Z,117nm,1.5s
INKA **Innaminka** 67.03 180 P **P** 20 11 31.1 +0.6
B08A **Colville Reser** 67.16 46 IAmb IAmb 20 11 33.6
comp=Z,50nm,1.4s
UPNV **Upernavik** 67.23 6 *i* P **P** 20 11 30.6 -0.7
UPNV IAmb IAmb 20 11 33.2
comp=Z,20nm,1.0s
OOD **Oodnadatta** 67.28 185 P **P** 20 11 32.4 +0.4
J01E **Myrtle Point** 67.39 52 IAmb IAmb 20 11 36.0
comp=Z,58nm,1.0s
EDM **Edmonton** 67.45 39 IAmb IAmb 20 11 34.8
comp=Z,66nm,1.0s
H04A **Detroit Lake** 67.59 50 IAmb IAmb 20 11 36.7
comp=Z,62nm,1.1s
GROC **Groznyy** 67.61 308 *e* P **P** 20 11 32.6 -1.5
GROC *e* 20 11 58.5
GROC *e**SP **sP** 20 12 07.6 -1.7
GROC pmax pmax
comp=Z,9.0nm,0.5s
MXC **Moxie City** 67.63 48 IAmb IAmb 20 11 37.0
comp=Z,56nm,1.0s
ARBE **Arbavere** 67.76 330 *e* P **P** 20 11 34.2 -0.6
G05A **Wamic** 67.79 49 IAmb IAmb 20 11 43.5
comp=Z,41nm,0.9s
MEF **Metsahovi** 67.84 331 *e* P **P** 20 11 34.4 -0.8
SEKA **Sheki** 67.85 306 P **P** 20 11 33.9 -1.9
E07A **Sunnyside** 67.89 47 IAmb IAmb 20 11 38.7
comp=Z,58nm,1.0s
I04A **Tendick Farm,** 67.95 51 IAmb IAmb 20 11 39.1
comp=Z,70nm,1.1s
ZKTA **Zakatala** 67.97 306 P **P** 20 11 34.9 -1.6
SUMG **Summit** 68.08 360 IAmb IAmb 20 11 39.2
comp=Z,48nm,0.9s
SUMG **Summit** 68.08 360 P **P** 20 11 37.9 +0.8
SUMG **Summit** 68.08 360 *i* P **P** 20 11 37.0 -0.1
SUMG IAmb IAmb 20 11 39.1
comp=Z,27nm,0.8s
VSU **Vasula** 68.11 329 *ce* P **P** 20 11 37.5 +0.6
VSU pmax pmax
comp=Z,44nm,1.7s
D08A **Wollman Farm,** 68.13 47 IAmb IAmb 20 11 39.6
comp=Z,46nm,0.8s
HAWA **Hanford** 68.16 47 IAmb IAmb 20 11 40.2
comp=Z,45nm,1.1s
L02F **Cave Junction** 68.19 53 IAmb IAmb 20 11 41.0
comp=Z,43nm,1.2s
RAF **Rauma** 68.25 333 *e* P **P** 20 11 36.8 -1.0
I05D **Terrebonne, OR** 68.28 50 IAmb IAmb 20 11 41.3
comp=Z,122nm,1.7s
KRMB **Red Mountain** 68.31 54 IAmb IAmb 20 11 42.1
comp=Z,59nm,1.3s
NEW **Newport** 68.42 45 IAmb IAmb 20 11 41.5
comp=Z,71nm,1.0s
NEW **Newport** 68.42 45 P **P** 20 11 40.4 +1.2
baz=306,SNR=38
KRPM **Rodgers** 68.44 54 IAmb IAmb 20 11 43.0
comp=Z,78nm,1.5s
GANJ **Ganja** 68.72 306 P **P** 20 11 39.6 -1.6
KHMM **Horse Mountain** 68.79 54 P **P** 20 11 43.9 +2.1
KHMM IAmb IAmb 20 11 45.2
comp=Z,122nm,1.5s
KMPM **Mount Pierce** 68.80 55 IAmb IAmb 20 11 45.1
comp=Z,46nm,1.0s
J05D **Fort Rock, OR** 68.95 51 IAmb IAmb 20 11 45.8
comp=Z,47nm,1.0s
KIV **Kislovodsk** 69.05 310 ⇓P **P** 20 11 44.1 +0.8
KIV **Kislovodsk** 69.05 310 P **P** 20 11 43.5 +0.3
KIV **Kislovodsk** 69.05 310 *e* P **P** 20 11 44.1 +0.8
KIV *e**PP **pP** 20 12 08.5 +0.6
KIV *e*S **S** 20 20 40.9 +0.2
KIV pmax pmax
comp=Z,66nm,1.1s
KIV **Kislovodsk** 69.05 310 P **P** 20 11 43.9 +0.7
KIV pP **pP** 20 12 08.5 +0.6
KIV sP **sP** 20 12 19.6 +1.1
KIV **Kislovodsk** 69.05 310 P **P** 20 11 44.3 +1.1
comp=Z,157nm,1.2s,comp=Z,1μm
KBZ **Khabaz** 69.05 310 P **P** 20 11 43.7 +0.6
comp=Z,15nm,0.8s,baz=65,slow=3.9,SNR=27
KBZ pP **pP** 20 12 08.6 +0.9
comp=Z,30nm,0.9s,baz=60,slow=5.3,SNR=8.9
comp=Z,15nm,0.8s
KBZ **Khabaz** 69.05 310 *ce* P **P** 20 11 43.8 +0.7
KBZ pmax pmax
comp=Z,19nm,0.8s
MTSE **Matsula** 69.08 330 *e* P **P** 20 11 42.0 -1.0
SHA1 **Shidzhatmaz** 69.19 310 *ce* P **P** 20 11 45.5 +1.2
ERBR **Yeremizino-Bor** 69.31 313 *e* P **P** 20 11 44.2 -0.5
ERBR *e**PP **pP** 20 12 09.1 -0.3
ERBR *e*S **S** 20 20 41.4 -2.0
ERBR pmax pmax
comp=Z,49nm,0.7s
AAL **Aland** 69.47 333 *e* P **P** 20 11 44.3 -1.0
K05A **Summer Lake** 69.47 51 IAmb IAmb 20 11 49.2
comp=Z,104nm,1.2s
KCPM **Cahto Peak** 69.56 55 IAmb IAmb 20 11 49.4
comp=Z,39nm,0.8s
UMMG **Uummannaq** 69.57 5 *i* P **P** 20 11 45.4 -0.5
UMMG IAmb IAmb 20 11 47.6
comp=Z,16nm,0.8s
LCRK **Leigh Creek** 69.78 183 P **P** 20 11 48.6 +1.1
LABN **Labinsk** 69.80 312 *e* P **P** 20 11 48.1 +0.4
LABN *e**PP **pP** 20 12 13.3 +1.0
LABN *e*S **S** 20 20 50.0 +0.8
LABN pmax pmax

comp=Z,52nm,0.8s
MULG Mulgathing 69.88 187 P **P** **20 11 48.2 +0.1**
GNI Garni 69.99 306 P **P** **20 11 49.5 +0.3**
GNI IAmb IAmb 20 12 16.8
comp=Z,118nm,1.7s
GNI Garni 69.99 306 *ce*P **P** **20 11 50.8 +1.6**
GNI pmax pmax
comp=Z,28nm,1.7s
NAX Nakhchivan 70.08 305 P **P** **20 11 48.1 -1.5**
IDID Didziasalis 70.18 326 *e*P **P** **20 11 50.3 +0.5**
MNK Minsk 70.22 325 *c i*P **P** **20 11 51.3 +1.2**
ISAL Salakas 70.27 327 *e*P **P** **20 11 51.6 +1.2**
SLIT Slitere, Latvi 70.41 330 *e*P **P** **20 11 50.0 -1.1**
UPP Uppsala 70.52 333 *e*P **P** **20 11 51.1 -0.7**
J08A Circle Bar Ran 70.54 50 IAmb IAmb 20 11 55.3
comp=Z,49nm,1.1s
VSVD Vaisvydziai 70.91 328 *e*P **P** **20 11 53.4 -0.8**
PLID Pearl Lake 70.93 47 IAmb IAmb 20 11 56.8
comp=Z,76nm,1.8s
WVOR Wild Horse Val 70.99 50 P **P** **20 11 56.6 +1.4**
SOC Sochi 71.01 311 *e*P **P** **20 11 54.0 -1.1**
SOC *e**PP **pP** **20 12 19.5 -0.4**
SOC *i* *SP **sP** **20 12 30.0 -0.6**
SOC *e* 20 14 31.4
SOC *e*PPP PPP 20 16 15.5
SOC *e*S **S** **20 21 02.0 -1.3**
SOC *e*SS **SS** **20 25 39.1 +1.8**
SOC pmax pmax
comp=Z,10.0nm,0.5s
MSO Missoula 71.01 45 IAmb IAmb 20 11 57.2
comp=Z,53nm,1.2s
MSO Missoula 71.01 45 P **P** **20 11 56.1 +0.9**
baz=308,SNR=27
ILULI Ilulissat 71.09 5 IAmb IAmb 20 11 56.5
comp=Z,30nm,0.8s
ILULI Ilulissat 71.09 5 *i* P **P** **20 11 55.0 -0.1**
ILULI IAmb IAmb 20 11 56.8
comp=Z,24nm,0.8s
FORT Forrest 71.11 192 P **P** **20 11 56.2 +0.6**
BCA Borcka 71.15 308 ⇑P **P** **20 11 56.4 +0.3**
STKA Stephens Creek 71.16 180 P **P** **20 11 56.2 +0.3**
STKA Stephens Creek 71.16 180 P **P** **20 11 55.8 -0.1**
STKA Stephens Creek 71.16 180 P **P** **20 11 56.2 +0.3**
comp=Z,14nm,0.8s,baz=333,slow=8.2,SNR=17
comp=Z,14nm,0.8s
PABE Paberze 71.22 328 IAmb IAmb 20 11 57.4
comp=Z,47nm,0.7s
PABE Paberze 71.22 328 *e*P **P** **20 11 55.2 -0.9**
NC405 NORSAR Array S 71.50 337 IAmb IAmb 20 11 58.9
comp=Z,71nm,1.3s
DOMB Dombas 71.54 338 *e*P **P** **20 11 58.5 +0.5**
ANN Anapa 71.58 313 *e*P **P** **20 11 57.9 -0.6**
ANN *e**PP **pP** **20 12 22.9 -0.4**
ANN *e*S **S** **20 21 17.5 +7.7**
ANN pmax pmax
comp=Z,48nm,1.2s
ICESG Greenland Ices 71.59 0 *i* P **P** **20 11 58.4 -0.1**
HFS Hagfors 71.63 335 P **P** **20 11 58.6 +0.1**
comp=Z,21nm,0.4s,baz=46,slow=6.4,SNR=154
HFS pP **pP** **20 12 23.5 +0.3**
comp=Z,9.9nm,0.5s,baz=69,slow=8.1,SNR=4.5
comp=Z,21nm,0.4s
FFC Flin Flon 71.64 33 P **P** **20 11 58.8 +0.1**
FFC IAmb IAmb 20 12 00.2
comp=Z,55nm,0.9s
FFC Flin Flon 71.64 33 P **P** **20 11 58.8 +0.1**
FFC pmax pmax
comp=Z,55nm,0.9s
FFC Flin Flon 71.64 33 P **P** **20 11 59.1 +0.4**
FFC PcP **PcP** **20 12 17.9 +0.5**
FFC pP **pP** **20 12 23.6 +0.2**
FFC sP **sP** **20 12 34.5 +0.4**
NC204 NORSAR Array S 71.66 337 IAmb IAmb 20 12 00.1
comp=Z,41nm,0.8s
NB201 NORSAR Array S 71.67 337 IAmb IAmb 20 11 60.0
comp=Z,95nm,1.5s
NB2 NORSAR Subarra 71.70 337 P **P** **20 11 58.9 -0.1**
comp=Z,18nm,0.6s,baz=38,slow=6.2
NB2 NORSAR Subarra 71.70 337 P **P** **20 11 58.9 -0.1**
baz=38,slow=6.2
NB2 NORSAR Subarra 71.70 337 P **P** **20 11 55.2 -3.8**
NB2 pmax pmax
comp=Z,4.0nm,0.6s
NOA NORSAR Array B 71.70 337 P **P** **20 11 59.1 +0.1**
comp=Z,16nm,0.7s,baz=39,slow=6.1,SNR=60
NOA pP **pP** **20 12 24.4 +0.6**
comp=Z,12nm,0.8s,baz=39,slow=6.0,SNR=5.9
NOA LR LR 20 46 26.6
comp=Z,106nm,21.9s,baz=55,slow=38
comp=Z,16nm,0.7s
FCC Fort Churchill 71.77 27 IAmb IAmb 20 12 00.8
comp=Z,120nm,1.2s
NC602 NORSAR Array S 71.84 337 *e*P **P** **20 11 59.8 0.0**
NORES NORESS Array B 71.84 337 P **P** **20 12 01.7 +1.9**
VIKU Vikbolandet 71.85 333 *e*P **P** **20 11 59.1 -0.7**
AKN Aaknes 72.01 339 *e*P **P** **20 12 01.6 +0.8**
AKASG Malin Array Be 72.11 322 P **P** **20 12 01.2 -0.4**
AKASG Malin Array Be 72.11 322 P **P** **20 12 01.4 -0.2**
comp=Z,15nm,0.6s,baz=44,slow=6.4,SNR=60
AKASG pP **pP** **20 12 26.7 +0.3**
comp=Z,13nm,0.6s,baz=44,slow=6.4,SNR=7.7
comp=Z,15nm,0.6s
AKASG Malin Array Be 72.11 322 *i* P **P** **20 12 01.3 -0.3**
AKASG pmax pmax
comp=Z,10.0nm,0.4s
AKBB Malin Array Si 72.11 322 IAmb IAmb 20 12 27.2
comp=Z,75nm,1.1s
AKBB Malin Array Si 72.11 322 *ce*P **P** **20 12 01.2 -0.4**
KIEV Kiev 72.12 322 ⇑P **P** **20 12 01.6 -0.1**
KIEV Kiev 72.12 322 P **P** **20 12 00.9 -0.7**
KIEV IAmb IAmb 20 12 27.2
comp=Z,62nm,1.1s
KIEV Kiev 72.12 322 P **P** **20 12 01.5 -0.1**
KIEV Kiev 72.12 322 P **P** **20 12 01.3 -0.3**
KIEV pP **pP** **20 12 26.0 -0.5**
KIEV Kiev 72.12 322 P **P** **20 12 01.6 -0.1**
comp=Z,242nm,1.2s
BBOO Buckleboo 72.24 184 P **P** **20 12 02.6 +0.2**
MORW Morawa 72.24 203 P **P** **20 12 02.6 +0.1**
SOEG Soedalen 72.33 357 *i* P **P** **20 12 01.5 -1.0**
SOEG IAmb IAmb 20 12 03.9
comp=Z,15nm,0.7s
EGMT Eagleton 72.47 42 IAmb IAmb 20 12 05.9
comp=Z,89nm,1.1s
EGMT Eagleton 72.47 42 P **P** **20 12 04.8 +1.0**
baz=310,SNR=17
CMB Columbia Colle 72.54 55 IAmb IAmb 20 12 06.9
comp=Z,37nm,0.8s
SUW Suwalki 72.58 327 *e*P **P** **20 12 03.6 -0.7**
GURO Guroymak-BITLI 72.63 306 IAmb IAmb 20 12 32.4
comp=Z,60nm,1.3s
YERR Yerington 72.69 54 IAmb IAmb 20 12 08.1
comp=Z,70nm,0.9s
OSL Oslo 72.72 336 *e*P **P** **20 12 05.9 +0.9**
HTT Hallett 72.73 182 P **P** **20 12 06.3 +0.9**
HLID Hailey 72.77 47 P **P** **20 12 07.3 +1.5**
baz=309,SNR=33
SKAR Skarslia 72.86 338 *e*P **P** **20 12 06.9 +1.0**
BBGB Big Mountain B 73.00 57 IAmb IAmb 20 12 10.0
comp=Z,80nm,1.0s
BOZ Bozeman (W) 73.03 45 IAmb IAmb 20 12 09.6
comp=Z,52nm,0.8s
BOZ Bozeman (W) 73.03 45 P **P** **20 12 08.7 +1.3**
baz=310,SNR=96
HYA Hoyanger 73.06 339 *e*P **P** **20 12 07.7 +0.7**
KONO Kongsberg 73.30 337 *ce*P **P** **20 12 09.4 +1.0**
KONO pmax pmax
comp=Z,29nm,1.7s
SFJD Kangerlussuaq 73.31 5 P **P** **20 12 08.4 0.0**
SFJD IAmb IAmb 20 12 09.8
comp=Z,46nm,0.9s
SFJD Kangerlussuaq 73.31 5 LR LR 20 44 58.6
comp=Z,165nm,21.1s,baz=55,slow=36
SFJD Kangerlussuaq 73.31 5 P **P** **20 12 08.4 0.0**
SFJD pmax pmax
comp=Z,46nm,0.9s
SFJD Kangerlussuaq 73.31 5 *i* P **P** **20 12 07.0 -1.3**
SFJD IAmb IAmb 20 12 10.1
comp=Z,27nm,0.8s
SIM Simferopol' 73.33 315 *e*P **P** **20 12 09.2 +0.3**
SIM *e**PP **pP** **20 12 34.2 +0.3**
SIM pmax pmax
comp=Z,31nm,0.9s
KVN Kaiserville 73.36 53 IAmb IAmb 20 12 12.1
comp=Z,67nm,0.9s

BLDU Ballidu 73.49 202 P **P** **20 12 09.8 0.0**
SUE Sulen 73.54 340 *e*P **P** **20 12 10.6 +0.8**
LHV Little Huntoon 73.59 54 IAmb IAmb 20 12 13.9
comp=Z,100nm,1.0s
NVAR Mina Array Bea 73.61 54 P **P** **20 12 12.2 +1.2**
NVAR Mina Array Bea 73.61 54 P **P** **20 12 12.6 +1.6**
comp=Z,38nm,0.8s,baz=287,slow=6.0,SNR=187
NVAR pP **pP** **20 12 35.9 0.0**
comp=Z,13nm,1.0s,baz=299,slow=4.6,SNR=3.2
comp=Z,38nm,0.8s
MLAC Mammoth, Mammo 73.77 55 P **P** **20 12 13.7 +1.8**
baz=308,SNR=8.8
ASK Askoy 73.90 339 *e*P **P** **20 12 13.0 +1.0**
BER Bergen 73.95 339 *e*P **P** **20 12 13.1 +0.9**
ELK Elko 74.04 50 P **P** **20 12 14.8 +1.3**
DY2G Dye2 74.06 3 *i* P **P** **20 12 13.6 +0.5**
DY2G IAmb IAmb 20 12 15.0
comp=Z,47nm,0.6s
KLBR Kellerberrin 74.12 201 P **P** **20 12 13.3 -0.2**
VOG Valley Oaks Go 74.22 56 P **P** **20 12 15.2 +1.0**
baz=308
SORM Soroca 74.25 320 ⇑P **P** **20 12 14.1 -0.1**
SORM Soroca 74.25 320 P **P** **20 12 14.0 -0.1**
SORM Soroca 74.25 320 P **P** **20 12 14.1 -0.1**
comp=Z,64nm,1.2s
H17A Grant Village 74.38 45 IAmb IAmb 20 12 19.6
comp=Z,98nm,0.9s
H17A Grant Village 74.38 45 P **P** **20 12 18.5 +3.1**
baz=311,SNR=93
BLS5 Blasjo 74.42 338 *e*P **P** **20 12 15.9 +0.9**
SMMC Simmler 74.44 57 P **P** **20 12 17.2 +1.6**
baz=308,SNR=6.3
DSP Deep Springs 74.47 54 IAmb IAmb 20 12 18.7
comp=Z,64nm,1.0s
TIN Tinemaha, Big 74.50 55 P **P** **20 12 17.8 +1.8**
baz=308
IMW Indian Meadow 74.50 46 IAmb IAmb 20 12 19.2
comp=Z,53nm,0.8s
RLMT Red Lodge 74.61 44 IAmb IAmb 20 12 19.2
comp=Z,143nm,1.6s
RLMT Red Lodge 74.61 44 P **P** **20 12 18.1 +1.5**
baz=311,SNR=37
FXWY Fox Creek 74.62 46 IAmb IAmb 20 12 19.8
comp=Z,38nm,0.8s
VES Vestal, Richgr 74.70 56 P **P** **20 12 17.7 +0.7**
baz=308,SNR=22
MOOW Moose Ponds 74.70 46 IAmb IAmb 20 12 20.2
comp=Z,47nm,1.1s
TPAW Teton Pass 74.76 46 IAmb IAmb 20 12 20.6
comp=Z,159nm,1.8s
DIKM Dikmen 74.79 312 ⇑P **P** **20 12 18.4 +1.0**
DIKM Dikmen 74.79 312 P **P** **20 12 18.6 +1.1**
comp=Z,49nm,1.0s
PKM Mcpherson Peak 74.81 57 P **P** **20 12 19.6 +1.6**
baz=308,SNR=8.2
MILM Milestii Mici 74.83 319 ⇑P **P** **20 12 17.4 -0.3**
MILM Milestii Mici 74.83 319 P **P** **20 12 17.3 -0.3**
DGMT Dagmar 74.94 39 P **P** **20 12 18.9 +0.7**
baz=314
CAN Canberra 74.94 173 P **P** **20 12 18.4 +0.2**
CAN Canberra 74.94 173 P **P** **20 12 18.4 +0.2**
CAN pmax pmax
comp=Z,35nm,1.2s
CWC Cottonwood Cre 74.97 55 P **P** **20 12 19.9 +1.0**
baz=308
BCW Bitter Crk WRg 75.04 57 IAmb IAmb 20 12 22.0
comp=Z,63nm,0.9s
BSD Bornholm Skovb 75.05 331 *e*P **P** **20 12 17.6 -1.0**
BSD Bornholm Skovb 75.05 331 *i* P **P** **20 12 18.1 -0.6**
BSD IAmb IAmb 20 12 19.5
comp=Z,14nm,0.7s
GRAC Grapevine Rang 75.08 54 IAmb IAmb 20 12 22.0
comp=Z,74nm,0.8s
GRAC Grapevine Rang 75.08 54 P **P** **20 12 21.2 +1.9**
baz=309,SNR=14
SNART Snartemo 75.09 337 *e*P **P** **20 12 19.7 +0.8**
LAO LASA Array 75.15 41 IAmb IAmb 20 12 21.9
comp=Z,70nm,1.1s
LAO LASA Array 75.15 41 P **P** **20 12 20.8 +1.2**
baz=313,SNR=21
BEL Belsk 75.15 326 *e*P **P** **20 12 20.4 +1.0**
BEL Belsk 75.15 326 P **P** **20 12 20.5 +1.2**
LVV L'vov 75.15 323 *e*P **P** **20 12 19.9 +0.5**
LVV *e* 20 12 44.2
ISA Isabella, Lake 75.20 56 P **P** **20 12 20.5 +0.4**
baz=308,SNR=18
ARVC Arvin 75.30 57 P **P** **20 12 21.4 +0.8**
baz=308
R11B Troy Canyon, C 75.33 52 P **P** **20 12 22.4 +1.5**
baz=309,SNR=58
Q12A Willow Creek R 75.36 51 IAmb IAmb 20 12 23.6
comp=Z,42nm,0.9s
COP Copenhagen 75.51 333 *i* P **P** **20 12 21.1 -0.2**
COP IAmb IAmb 20 12 22.7
comp=Z,71nm,0.6s
NWAO Narrogin (SRO) 75.53 201 P **P** **20 12 21.7 +0.2**
MPMC Manual Prospec 75.58 55 P **P** **20 12 23.6 +1.2**
baz=309,SNR=43
HWUT Hardware Ranch 75.63 48 IAmb IAmb 20 12 25.3
comp=Z,65nm,1.1s
WCT Wildcat Mounta 75.67 54 IAmb IAmb 20 12 25.1
comp=Z,65nm,1.5s
SPR3 Spring Creek 3 75.68 51 IAmb IAmb 20 12 26.2
comp=Z,131nm,1.9s
OSI Osito Audit: C 75.69 57 P **P** **20 12 24.2 +1.4**
baz=308,SNR=6.5
FURC Furnace Creek, 75.72 54 P **P** **20 12 24.4 +1.6**
baz=309,SNR=18
CCAC Calif City Air 75.81 56 IAmb IAmb 20 12 25.7
comp=Z,74nm,0.8s
DUG Dugway, Tooele 75.82 49 IAmb IAmb 20 12 26.2
comp=Z,37nm,0.8s
DUG Dugway, Tooele 75.82 49 P **P** **20 12 25.3 +1.7**
baz=310,SNR=42
DUG Dugway, Tooele 75.82 49 P **P** **20 12 25.6 +2.0**
LRMC Laurel Mtn Rad 75.82 56 P **P** **20 12 24.8 +1.1**
baz=309
LLD Lille Linde 75.86 333 *i* P **P** **20 12 22.9 -0.4**
LLD IAmb IAmb 20 12 24.6
comp=Z,26nm,0.6s
KWP Kalwaria Pacla 75.89 324 *e*P **P** **20 12 25.1 +1.4**
KWP Kalwaria Pacla 75.89 324 P **P** **20 12 25.2 +1.6**
KWP Kalwaria Pacla 75.89 324 P **P** **20 12 25.2 +1.6**
comp=Z,108nm,1.5s
EDW2 Edwards Air Fo 75.99 56 P **P** **20 12 25.8 +1.3**
baz=309,SNR=28
BW06 Boulder Array 76.00 46 P **P** **20 12 25.6 +0.9**
baz=312,SNR=64
PDAR Pinedale Array 76.00 46 P **P** **20 12 25.3 +0.6**
PDAR Pinedale Array 76.00 46 P **P** **20 12 25.4 +0.8**
comp=Z,25nm,0.6s,baz=264,slow=2.2,SNR=269
PDAR pP **pP** **20 12 50.4 +0.6**
comp=Z,13nm,0.7s,baz=266,slow=1.8,SNR=6.4
PDAR sP **sP** **20 13 01.1 +0.8**
comp=Z,7.7nm,0.8s,baz=285,slow=2.3,SNR=3.1
comp=Z,25nm,0.6s
MUD Monsted U'grnd 76.00 335 *i* P **P** **20 12 23.9 -0.1**
MUD IAmb IAmb 20 12 25.9
comp=Z,12nm,0.7s
SNCC San Nicolas Is 76.01 58 P **P** **20 12 26.0 +1.4**
baz=308
NUUK Nuuk 76.02 6 *i* P **P** **20 12 23.9 -0.1**
NUUK IAmb IAmb 20 12 26.2
comp=Z,39nm,0.8s
GWY Greenwater Val 76.02 55 IAmb IAmb 20 12 27.1
comp=Z,58nm,0.8s
TCUT Toone Canyon 76.04 48 IAmb IAmb 20 12 27.4
comp=Z,49nm,0.8s
RGN Rugen 76.08 332 IAmb IAmb 20 12 51.7
comp=Z,72nm,1.1s
RGN Rugen 76.08 332 *e*P **P** **20 12 24.4 -0.1**
BURAR Bucovina Array 76.14 321 ⇑P **P** **20 12 25.9 +0.6**
BURAR Bucovina Array 76.14 321 P **P** **20 12 25.3 +0.1**
BURAR Bucovina Array 76.14 321 P **P** **20 12 25.8 +0.6**
DECC Green Verdugo 76.17 57 P **P** **20 12 26.6 +1.1**
baz=309
TESR Tescani 76.20 320 ⇑P **P** **20 12 26.4 +1.0**
TESR Tescani 76.20 320 P **P** **20 12 25.2 -0.3**
comp=Z,66nm,1.4s
CFR Carcaliu 76.36 318 ⇑P **P** **20 12 26.2 -0.1**
CFR Carcaliu 76.36 318 P **P** **20 12 26.4 +0.1**
TPGR Topolog 76.43 318 ⇑P **P** **20 12 27.0 +0.2**
SHOC Shoshone, Teco 76.45 55 P **P** **20 12 28.4 +1.4**
baz=309,SNR=16
GAZ Gaziantep 76.47 307 IAmb IAmb 20 12 54.5
comp=Z,51nm,1.2s

GSC Goldstone, Bar 76.49 55 P **P** **20 12 28.7 +1.3**
baz=309,SNR=22
FMP Fort Macarthur 76.53 57 P **P** **20 12 28.7 +1.2**
baz=309
KOLS Kolonicke sedl 76.59 324 *e*P **P** **20 12 28.2 +0.6**
KOLS *ep*P **pP** **20 12 54.1 +1.3**
KOLS Kolonicke sedl 76.59 324 *e*P **P** **20 12 28.2 +0.6**
KOLS pmax pmax
comp=Z,15nm,0.9s
VRI Vrincioaia 76.61 319 ⇑P **P** **20 12 27.8 0.0**
VRI Vrincioaia 76.61 319 P **P** **20 12 27.7 0.0**
VRI Vrincioaia 76.61 319 P **P** **20 12 29.3 +1.5**
comp=Z,43nm,1.5s
BFSC Mount Baldy Ra 76.61 57 P **P** **20 12 29.1 +0.9**
baz=309,SNR=12
MPU Maple Canyon 76.63 49 IAmb IAmb 20 12 30.6
comp=Z,36nm,0.8s
RRX Edison Barstow 76.64 56 P **P** **20 12 29.4 +1.2**
baz=309
SSRD Sdr. Stenderup 76.64 334 *i* P **P** **20 12 26.4 -1.3**
SSRD IAmb IAmb 20 12 29.5
comp=Z,29nm,0.7s
CIS Catalina Islan 76.64 58 P **P** **20 12 29.1 +0.9**
baz=309
PLOR5 Plostina Array 76.66 319 P **P** **20 12 29.6 +1.5**
comp=Z,38nm,1.2s
PLOR Plostina 76.66 319 ⇓P **P** **20 12 28.5 +0.4**
PLOR Plostina 76.66 319 P **P** **20 12 28.5 +0.4**
PLOR3 Plostina Array 76.66 319 P **P** **20 12 30.0 +1.9**
comp=Z,20nm,1.2s
STHS Stebnicka Huta 76.71 324 *e*P **P** **20 12 28.7 +0.4**
STHS *ep*P **pP** **20 12 54.3 +0.9**
STHS Stebnicka Huta 76.71 324 *e*P **P** **20 12 28.7 +0.4**
STHS pmax pmax
comp=Z,12nm,0.7s
OJC Ojcow 76.76 326 *e*P **P** **20 12 29.3 +0.8**
OJC Ojcow 76.76 326 IAmb IAmb 20 12 55.5
comp=Z,77nm,1.1s
OJC Ojcow 76.76 326 P **P** **20 12 28.9 +0.4**
OJC Ojcow 76.76 326 P **P** **20 12 28.9 +0.4**
comp=Z,76nm,1.3s
TURR Turia 76.83 320 ⇑P **P** **20 12 29.8 +0.7**
COVR Voineasa-Covas 76.89 319 ⇑P **P** **20 12 30.2 +0.8**
OZUR 76.92 320 ⇑P **P** **20 12 30.8 +1.2**
BMR Baia Mare 76.92 322 ⇑P **P** **20 12 30.5 +1.0**
BMR Baia Mare 76.92 322 P **P** **20 12 30.5 +1.0**
TUQ Turquoise Moun 76.96 55 P **P** **20 12 31.5 +1.4**
baz=310,SNR=20
BR131 Keskin Array S 76.97 311 *i* P **P** **20 12 30.3 +0.2**
BRTR Keskin Array B 76.97 311 P **P** **20 12 30.1 0.0**
BRTR Keskin Array B 76.97 311 P **P** **20 12 30.3 +0.2**
comp=Z,3.5nm,0.6s,baz=89,slow=4.3,SNR=26
BRTR pP **pP** **20 12 55.6 +0.3**
comp=Z,20nm,1.1s,baz=90,slow=3.7,SNR=9.8
comp=Z,3.5nm,0.6s
BRTR Keskin Array B 76.97 311 *i* P **P** **20 12 30.2 +0.2**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
BR106 Keskin Array S 76.98 311 P **P** **20 12 30.6 +0.5**
comp=Z,22nm,1.3s,comp=Z,194nm
CRVS Cervenica-Dubn 76.98 324 *e*P **P** **20 12 30.8 +1.0**
CRVS *ep*P **pP** **20 12 55.7 +0.7**
CRVS Cervenica-Dubn 76.98 324 *e*P **P** **20 12 30.8 +1.0**
CRVS pmax pmax
comp=Z,16nm,0.8s
BR105 Keskin Array S 76.99 311 P **P** **20 12 30.9 +0.7**
comp=Z,25nm,1.3s,comp=Z,229nm
BOSR Bodos 77.00 320 ⇑P **P** **20 12 30.6 +0.6**
BBRC Big Bear Solar 77.07 56 P **P** **20 12 32.0 +1.1**
baz=309
HEC Hector,Ludlow 77.09 55 P **P** **20 12 32.2 +1.4**
baz=310,SNR=21
NIE Niedzica 77.13 325 *e*P **P** **20 12 32.0 +1.3**
NIE Niedzica 77.13 325 P **P** **20 12 31.6 +0.9**
NIE Niedzica 77.13 325 P **P** **20 12 31.6 +0.9**
comp=Z,23nm,1.1s
ELS Elsinore Mount 77.13 57 IAmb IAmb 20 12 33.3
comp=Z,104nm,1.9s
DOPR Dopca 77.21 320 ⇓P **P** **20 12 32.2 +1.0**
MLR Muntele Rosu 77.26 319 ⇓P **P** **20 12 32.5 +0.9**
MLR Muntele Rosu 77.26 319 IAmb IAmb 20 12 59.1
comp=Z,61nm,1.4s
MLR Muntele Rosu 77.26 319 P **P** **20 12 32.5 +0.9**
MLR Muntele Rosu 77.26 319 P **P** **20 12 33.8 +2.2**
comp=Z,33nm,1.4s
MURC Murrieta 77.31 57 P **P** **20 12 32.7 +0.7**
baz=309,SNR=5.7
ANTO Ankara 77.37 312 P **P** **20 12 32.5 +0.3**
ANTO IAmb IAmb 20 12 59.0
comp=Z,56nm,1.1s
ANTO Ankara 77.37 312 P **P** **20 12 32.5 +0.3**
ANTO pmax pmax
comp=Z,56nm,1.1s
ANTO Ankara 77.37 312 P **P** **20 12 33.1 +0.9**
comp=Z,29nm,1.2s
PSN Preselentsi 77.41 317 P **P** **20 12 32.5 +0.2**
RDMU Red Mountain 77.45 47 IAmb IAmb 20 12 35.3
comp=Z,84nm,1.0s
ULM Lac du Bonnet 77.45 33 IAmb IAmb 20 12 33.3
comp=Z,54nm,0.8s
ULM Lac du Bonnet 77.45 33 P **P** **20 12 32.3 -0.1**
comp=Z,45nm,0.8s,baz=314,slow=6.9,SNR=69
ULM pP **pP** **20 12 57.5 +0.1**
comp=Z,19nm,0.8s,baz=286,slow=8.4,SNR=5.7
comp=Z,45nm,0.8s
ULM Lac du Bonnet 77.45 33 ⇑P **P** **20 12 32.4 0.0**
P17A Butcher Ranch, 77.50 49 IAmb IAmb 20 12 35.1
comp=Z,41nm,0.8s
GMRC Granite Mounta 77.55 55 P **P** **20 12 34.6 +1.3**
baz=310,SNR=33
MESR Meseseni 77.56 322 ⇓P **P** **20 12 34.4 +1.3**
CJR Cluj-Napoca 77.56 321 ⇑P **P** **20 12 34.3 +1.1**
CJR Cluj-Napoca 77.56 321 P **P** **20 12 34.2 +1.1**
MDND Maddock 77.56 37 P **P** **20 12 34.0 +0.9**
baz=316,SNR=7.8
P18A Preston Nutter 77.69 49 IAmb IAmb 20 12 37.0
comp=Z,63nm,1.3s
LANS Liptovska Anna 77.70 325 *e*P **P** **20 12 35.4 +1.6**
LANS *ep*P **pP** **20 13 00.7 +1.7**
LANS Liptovska Anna 77.70 325 *e*P **P** **20 12 35.4 +1.6**
LANS pmax pmax
comp=Z,10.0nm,0.8s
K22A Casper 77.74 44 P **P** **20 12 34.9 +0.5**
baz=313,SNR=16
VOIR 77.75 320 ⇑P **P** **20 12 35.1 +0.9**
VOIR 77.75 320 P **P** **20 12 35.1 +0.9**
OKC Ostrava-Krasne 77.76 326 *e*P **P** **20 12 35.6 +1.5**
OKC Ostrava-Krasne 77.76 326 *e*P **P** **20 12 35.6 +1.5**
PFO Pinyon Flats O 77.78 57 P **P** **20 12 35.0 +0.3**
PFO Pinyon Flats O 77.78 57 P **P** **20 12 35.7 +1.0**
baz=310,SNR=13
PFO Pinyon Flats O 77.78 57 *i* P **P** **20 12 35.5 +0.8**
PFO pmax pmax
comp=Z,49nm,0.9s
TPFO Pinon Flats 77.79 57 P **P** **20 12 35.8 +1.0**
baz=310,SNR=15
MARR Marisel-Cluj 77.82 322 ⇑P **P** **20 12 35.2 +0.6**
109C Camp Elliot, M 77.82 57 P **P** **20 12 35.7 +1.0**
baz=310
BELC Belle Mtn. Jos 77.83 56 P **P** **20 12 35.7 +0.7**
baz=310,SNR=17
SRU San Rafael Swe 77.87 49 IAmb IAmb 20 12 37.3
comp=Z,52nm,0.9s
DRGR 77.93 322 ⇑P **P** **20 12 35.8 +0.5**
DRGR 77.93 322 P **P** **20 12 35.7 +0.5**
E28A Huff 77.96 38 IAmb IAmb 20 12 37.0
comp=Z,44nm,0.9s
RWWY Rawlins 78.02 45 IAmb IAmb 20 12 36.9
comp=Z,56nm,0.9s
OSTC Ostas 78.03 328 *e*P **P** **20 12 36.5 +0.9**
OSTC Ostas 78.03 328 *e*P **P** **20 12 36.5 +0.9**
RSSD Black Hills 78.03 42 P **P** **20 12 36.0 -0.1**
RSSD Black Hills 78.03 42 P **P** **20 12 36.6 +0.6**
baz=314
RSSD Black Hills 78.03 42 P **P** **20 12 36.0 -0.1**
RSSD pmax pmax
comp=Z,27nm,0.9s
MORC Moravsky Berou 78.06 326 ⇑P **P** **20 12 36.9 +1.0**
MORC Moravsky Berou 78.06 326 IAmb IAmb 20 13 02.9
comp=Z,48nm,1.1s
MORC Moravsky Berou 78.06 326 *e*P **P** **20 12 36.5 +0.6**
MORC *e* 20 13 01.8
MORC Moravsky Berou 78.06 326 P **P** **20 12 36.8 +1.0**
CHVC Chvalec 78.07 328 *e*P **P** **20 12 36.5 +0.6**
CHVC Chvalec 78.07 328 *e*P **P** **20 12 36.5 +0.6**

	DPC	**Dobruska-Polom**	**78.14**	**327**	*e*P		**P**	**20 12 37.0**	**+0.7**
	DPC	**Dobruska-Polom**	**78.14**	**327**	*e*P		**P**	**20 12 37.0**	**+0.7**
	DPC	**Dobruska-Polom**	**78.14**	**327**	P		**P**	**20 12 37.3**	**+1.0**
		comp=Z,30nm,1.9s							
	UPC	**Upice**	**78.15**	**328**	*e*P		**P**	**20 12 37.1**	**+0.8**
	UPC	**Upice**	**78.15**	**328**	*e*P		**P**	**20 12 37.1**	**+0.8**
	KRLC	**Kraliky**	**78.16**	**327**	*e*P		**P**	**20 12 37.2**	**+0.8**
	KRLC	**Kraliky**	**78.16**	**327**	*e*P		**P**	**20 12 37.2**	**+0.8**
	NEE2	**Needles Airpor**	**78.21**	**55**	P		**P**	**20 12 38.0**	**+1.1**
		baz=310							
	MONP2	**Monument Peak**	**78.26**	**57**	P		**P**	**20 12 38.3**	**+0.9**
		baz=310,SNR=6.8							
	IRM	**Iron Mountain**	**78.27**	**55**	P		**P**	**20 12 38.6**	**+1.3**
		baz=310,SNR=40							
	LOT	**Lotru**	**78.38**	**320**	⇑P		**P**	**20 12 38.2**	**+0.5**
	BC3	**Big Chuckawall**	**78.40**	**56**	P		**P**	**20 12 39.1**	**+1.0**
		baz=310,SNR=25							
	PSZ	**Piszkesteto**	**78.42**	**324**	⇑P		**P**	**20 12 38.6**	**+0.7**
	PSZ	**Piszkesteto**	**78.42**	**324**	IAmb		IAmb	20 13 05.1	
		comp=Z,60nm,1.2s							
	PSZ	**Piszkesteto**	**78.42**	**324**	P		**P**	**20 12 38.5**	**+0.7**
	VYHS	**Vyhne**	**78.46**	**325**	*e*P		**P**	**20 12 39.0**	**+0.9**
	VYHS				*ep*P		**pP**	**20 13 04.3**	**+1.0**
	VYHS	**Vyhne**	**78.46**	**325**	*e*P		**P**	**20 12 39.0**	**+0.9**
	VYHS				pmax		pmax		
		comp=Z,17nm,1.2s							
	CBX	**Cerro Bola**	**78.47**	**58**	IAmb		IAmb	20 12 40.6	
		comp=Z,64nm,1.2s							
	O20A	**White River Ci**	**78.49**	**47**	P		**P**	**20 12 39.4**	**+0.8**
		baz=313,SNR=18							
	HMU	**Henry Mountain**	**78.51**	**50**	IAmb		IAmb	20 12 41.1	
		comp=Z,62nm,0.8s							
	U15A	**North Rim**	**78.58**	**52**	IAmb		IAmb	20 12 42.2	
		comp=Z,76nm,1.1s							
	COPA	**Copaceanca**	**78.58**	**319**	⇑P		**P**	**20 12 38.5**	**-0.2**
	IKP	**In-Ko-Pah, Jac**	**78.62**	**57**	P		**P**	**20 12 40.3**	**+1.1**
		baz=310,SNR=8.3							
	SWSC	**Sam W. Stewart**	**78.63**	**57**	P		**P**	**20 12 40.2**	**+1.0**
		baz=310							
	ISK	**Istanbul-Kandi**	**78.67**	**314**	P		**P**	**20 12 39.5**	**+0.2**
	JAVC	**Velka Javorina**	**78.70**	**326**	*e*P		**P**	**20 12 40.9**	**+1.5**
	JAVC				*e*			20 13 06.0	
	BRG	**Berggiesshubel**	**78.70**	**329**	*i* P		**P**	**20 12 39.8**	**+0.4**
	BRG				Amp			20 12 40.9	
		comp=Z,13nm,0.9s							
	BRG				pP		**pP**	**20 13 05.3**	**+0.7**
	BRG				Amp			20 13 08.0	
		comp=Z,29nm,1.3s							
	BRG	**Berggiesshubel**	**78.70**	**329**	*i* P		**P**	**20 12 39.7**	**+0.4**
	BRG							20 13 05.2	
	BRG							20 15 41.3	
	BRG				pmax		pmax		
		comp=Z,13nm,0.9s							
	BRG				pmax		pmax		
		comp=Z,3.0nm,0.9s							
	BRG				MLR		MLR		
		comp=N,407nm,17.1s							
	BRG				MLR		MLR		
		comp=Z,571nm,16.4s							
	BRG				MLR		MLR		
		comp=E,228nm,17.5s							
	PVCC	**Panska Ves**	**78.72**	**328**	*e*P		**P**	**20 12 40.2**	**+0.8**
	PVCC	**Panska Ves**	**78.72**	**328**	*e*P		**P**	**20 12 40.2**	**+0.8**
	CLL	**Collm**	**78.73**	**330**	⇑*i*P		**P**	**20 12 39.5**	**0.0**
	CLL				*e*PcP		**PcP**	**20 12 48.0**	**0.0**
	CLL				*i* pP		**pP**	**20 13 04.9**	**+0.2**
		comp=Z,44nm,1.2s							
	CLL	**Collm**	**78.73**	**330**	⇑*i*P		**P**	**20 12 39.5**	**0.0**
	CLL				*i* *PP		**pP**	**20 13 04.9**	**+0.2**
	CLL				pmax		pmax		
		comp=Z,37nm,1.0s							
	CLL	**Collm**	**78.73**	**330**	P		**P**	**20 12 39.4**	**0.0**
		comp=Z,37nm,0.9s							
	SIRR	**Siria**	**78.81**	**322**	⇑P		**P**	**20 12 40.6**	**+0.7**
	PDMCI	**Parker Dam,Lak**	**78.81**	**55**	P		**P**	**20 12 41.4**	**+1.2**
		baz=311,SNR=14							
	VRAC	**Vranov**	**78.82**	**327**	⇓P		**P**	**20 12 39.6**	**-0.5**
	VRAC	**Vranov**	**78.82**	**327**	*e*P		**P**	**20 12 40.3**	**+0.3**
	VRAC				*e*			20 13 05.6	
	VRAC	**Vranov**	**78.82**	**327**	P		**P**	**20 12 40.9**	**+0.9**
		comp=Z,16nm,0.9s,baz=49,slow=5.0,SNR=21							
	VRAC				pP		**pP**	**20 13 05.6**	**+0.4**
		comp=Z,20nm,0.9s,baz=42,slow=5.7,SNR=7.3							
		comp=Z,16nm,0.9s							
	VRAC	**Vranov**	**78.82**	**327**	P		**P**	**20 12 41.0**	**+1.0**
	RICC	**Richard**	**78.90**	**329**	*e*P		**P**	**20 12 41.5**	**+1.1**
	GZR	**Gura Zlata**	**78.90**	**321**	⇓P		**P**	**20 12 40.9**	**+0.3**
	GZR	**Gura Zlata**	**78.90**	**321**	P		**P**	**20 12 40.9**	**+0.3**
	AGMN	**Agassiz Nation**	**78.92**	**35**	P		**P**	**20 12 40.2**	**-0.3**
		baz=319,SNR=11							
	BLYC	**Blythe**	**78.93**	**55**	IAmb		IAmb	20 12 43.2	
		comp=Z,52nm,0.9s							
	SURR	**Surduc**	**78.96**	**321**	⇑P		**P**	**20 12 41.2**	**+0.4**
	DRUM	**Mains of Drumt**	**79.03**	**341**	*e*P		**P**	**20 12 41.4**	**+0.5**
	SMOL	**Smolenice**	**79.07**	**326**	*e*P		**P**	**20 12 43.0**	**+1.7**
	SMOL				*e*			20 13 08.1	
	ELND	**Elena**	**79.09**	**317**	⇑P		**P**	**20 12 42.1**	**+0.5**
	KRUC	**Moravsky**	**79.09**	**327**	*e*P		**P**	**20 12 41.9**	**+0.4**
	KRUC				*e*			20 12 07.0	
	VLAD	**Vladila**	**79.09**	**319**	⇑P		**P**	**20 12 41.8**	**+0.2**
	GOPC	**GO Pecny, Ondr**	**79.11**	**328**	*e*P		**P**	**20 12 42.3**	**+0.7**
	GOPC	**GO Pecny, Ondr**	**79.11**	**328**	*e*P		**P**	**20 12 42.3**	**+0.7**
	HSKC	**Hora Svate Kat**	**79.12**	**329**	*e*P		**P**	**20 12 42.1**	**+0.5**
	PRU	**Pruhonice**	**79.15**	**328**	*e*P		**P**	**20 12 42.4**	**+0.6**
	PRU				*ep*P		**pP**	**20 13 08.2**	**+1.2**
	PRU	**Pruhonice**	**79.15**	**328**	*e*P		**P**	**20 12 42.4**	**+0.6**
	PRU				*e**PP		**pP**	**20 13 08.2**	**+1.2**
	GLA	**Glamis**	**79.19**	**56**	IAmb		IAmb	20 12 44.7	
		comp=Z,63nm,1.1s							
	GLA	**Glamis**	**79.19**	**56**	P		**P**	**20 12 43.8**	**+1.5**
		baz=310,SNR=13							
	SRO	**Srobarova**	**79.20**	**325**	*e*P		**P**	**20 12 43.5**	**+1.4**
	SRO				*ep*P		**pP**	**20 13 09.0**	**+1.7**
	SRO	**Srobarova**	**79.20**	**325**	*e*P		**P**	**20 12 43.5**	**+1.4**
	SRO				pmax		pmax		
		comp=Z,26nm,1.0s							
	IVI	**Ivigtut**	**79.22**	**5**	IAmb		IAmb	20 12 43.2	
		comp=Z,30nm,0.9s							
	IVI	**Ivigtut**	**79.22**	**5**	*i* P		**P**	**20 12 41.8**	**0.0**
	IVI				IAmb		IAmb	20 12 43.4	
		comp=Z,24nm,1.0s							
	MODS	**Modra-Piesok**	**79.24**	**326**	*e*P		**P**	**20 12 43.4**	**+1.1**
	MODS				*ep*P		**pP**	**20 13 09.0**	**+1.4**
	MODS	**Modra-Piesok**	**79.24**	**326**	*e*P		**P**	**20 12 43.4**	**+1.1**
	MODS				pmax		pmax		
		comp=Z,44nm,1.2s							
	N23A	**Red Feather La**	**79.26**	**45**	IAmb		IAmb	20 12 45.5	
		comp=Z,93nm,1.4s							
	N23A	**Red Feather La**	**79.26**	**45**	P		**P**	**20 12 44.3**	**+1.4**
		baz=314,SNR=27							
	D32A	**Dogwood Acres,**	**79.27**	**36**	IAmb		IAmb	20 12 43.3	
		comp=Z,76nm,0.8s							
	TREC	**Trest**	**79.30**	**327**	*e*P		**P**	**20 12 42.8**	**+0.2**
	TREC	**Trest**	**79.30**	**327**	*e*P		**P**	**20 12 42.8**	**+0.2**
	BZS	**Buzias**	**79.30**	**322**	⇑P		**P**	**20 12 42.7**	**0.0**
	BZS	**Buzias**	**79.30**	**322**	P		**P**	**20 12 42.7**	**0.0**
	NRS	**Narsarsuaq**	**79.41**	**3**	*i* P		**P**	**20 12 42.8**	**-0.1**
	NRS				IAmb		IAmb	20 12 54.5	
		comp=Z,12nm,0.9s							
	KPL	**Plockton**	**79.42**	**342**	*e*P		**P**	**20 12 44.0**	**+0.9**
	KPL				IAmb		IAmb	20 12 44.7	
		comp=Z,63nm,0.8s							
	HERR	**Herculane**	**79.45**	**321**	⇑P		**P**	**20 12 43.6**	**+0.2**
	RAYN	**Ar Rayn**	**79.48**	**292**	P		**P**	**20 12 43.7**	**-0.4**
	ZVC	**Zvikov**	**79.72**	**328**	*e*P		**P**	**20 12 45.4**	**+0.5**
	WUAZ	**Wupatki**	**79.74**	**52**	IAmb		IAmb	20 12 48.2	
		comp=Z,51nm,0.9s							
	WUAZ	**Wupatki**	**79.74**	**52**	P		**P**	**20 12 47.1**	**+1.7**
		baz=312,SNR=40							
	NKC	**Novy Kostel**	**79.80**	**329**	*e*P		**P**	**20 12 45.9**	**+0.6**
	NKC	**Novy Kostel**	**79.80**	**329**	*e*P		**P**	**20 12 45.9**	**+0.6**
	B35A	**Bob, Littlefor**	**79.80**	**34**	IAmb		IAmb	20 12 46.4	
		comp=Z,64nm,1.0s							
	VALD	**Valchedram**	**79.81**	**319**	P		**P**	**20 12 46.0**	**+0.6**
	INVG	**Invergeldie, C**	**79.86**	**341**	*e*P		**P**	**20 12 45.6**	**+0.2**
	MDVR	**Moldovita**	**79.87**	**321**	⇑P		**P**	**20 12 46.0**	**+0.1**
	ASF	**Jabal al Asfar**	**79.88**	**303**	P		**P**	**20 12 46.8**	**+0.6**
		comp=Z,5.6nm,0.7s,baz=221,slow=0.2,SNR=5.1							
		comp=Z,5.6nm,0.7s							
	MPEP	**Malo Peshtene**	**79.89**	**319**	P		**P**	**20 12 46.0**	**+0.1**
	MPLH	**Magyarpolny**	**80.03**	**325**	P		**P**	**20 12 47.5**	**+0.9**
		comp=Z,86nm,1.3s,comp=Z,1µm							
	ISP	**Isparta**	**80.05**	**311**	*ce*P		**P**	**20 12 47.3**	**+0.3**
	ISP				pmax		pmax		
		comp=Z,18nm,1.7s							
	CKRC	**Cesky Krumlov**	**80.16**	**328**	*e*P		**P**	**20 12 47.9**	**+0.6**
	CKRC				*ep*P		**pP**	**20 13 13.6**	**+1.0**
	CKRC	**Cesky Krumlov**	**80.16**	**328**	*e*P		**P**	**20 12 47.9**	**+0.6**
	CKRC				*e**PP		**pP**	**20 13 13.6**	**+1.0**
	RONA	**Rosalia, Austr**	**80.18**	**326**	*i* P		**P**	**20 12 48.5**	**+1.1**
		comp=Z,15nm,0.8s,SNR=12							
	RONA				*ep*P		**pP**	**20 13 14.0**	**+1.3**
		comp=Z,48nm,1.2s,SNR=6.3							
	CONA	**Conrad Observa**	**80.19**	**326**	*e*P		**P**	**20 12 48.7**	**+1.1**
		comp=Z,17nm,1.0s,SNR=9.8							
	CONA				*i* pP		**pP**	**20 13 14.4**	**+1.5**
		comp=Z,33nm,1.1s,SNR=6.0							
	ISCO	**Idaho Springs**	**80.19**	**46**	P		**P**	**20 12 49.3**	**+1.3**
		baz=314,SNR=23							
	ISCO	**Idaho Springs**	**80.19**	**46**	P		**P**	**20 12 49.4**	**+1.3**
	KHC	**Kasperske Hory**	**80.21**	**328**	*e*P		**P**	**20 12 48.6**	**+1.0**
	KHC				*ep*P		**pP**	**20 13 14.0**	**+1.1**
	KHC	**Kasperske Hory**	**80.21**	**328**	*ce*P		**P**	**20 12 48.2**	**+0.6**
	KHC				pmax		pmax		
		comp=Z,104nm,1.7s							
	KHC	**Kasperske Hory**	**80.21**	**328**	P		**P**	**20 12 48.1**	**+0.5**
		comp=Z,29nm,0.9s							
	MORH	**Mrgy, Hungar**	**80.26**	**324**	⇑P		**P**	**20 12 47.4**	**-0.4**
	MORH	**Mrgy, Hungar**	**80.26**	**324**	P		**P**	**20 12 47.8**	**0.0**
		comp=Z,17nm,1.5s							
	MMAI	**Mount Meron Ar**	**80.29**	**305**	P		**P**	**20 12 49.0**	**+0.7**
		comp=Z,7.5nm,0.7s,baz=27,slow=6.0,SNR=9.9							
	MMAI				pP		**pP**	**20 13 14.1**	**+0.4**
		comp=Z,23nm,1.1s,baz=65,slow=6.5,SNR=6.6							
		comp=Z,7.5nm,0.7s							
	CSS	**Mathiatis**	**80.30**	**308**	P		**P**	**20 12 50.3**	**+2.0**
		comp=Z,25nm,0.9s							
	MVCO	**Mesa Verde**	**80.32**	**49**	P		**P**	**20 12 49.7**	**+1.1**
		baz=313,SNR=23							
	LAWE	**Loch Awe, Argy**	**80.34**	**342**	*e*P		**P**	**20 12 48.5**	**+0.4**
	SUSD	**Miller**	**80.35**	**39**	P		**P**	**20 12 48.8**	**+0.4**
		baz=317							
	GERES	**GERESS Array B**	**80.39**	**328**	P		**P**	**20 12 48.4**	**-0.2**
	GERES	**GERESS Array B**	**80.39**	**328**	P		**P**	**20 12 48.9**	**+0.2**
		comp=Z,6.5nm,0.7s,baz=35,slow=4.9,SNR=23							
	GERES				pP		**pP**	**20 13 14.4**	**+0.4**
		comp=Z,4.9nm,0.8s,baz=26,slow=7.4,SNR=5.6							
	GERES				PKKPbc		**PKKPbc**	**20 31 28.3**	**-0.4**
		comp=Z,1.7nm,0.8s,baz=90,slow=4.0,SNR=5.8							
		comp=Z,6.5nm,0.7s							
	FRGS	**Fruska Gora**	**80.50**	**322**	⇑P		**P**	**20 12 49.7**	**+0.5**
	FRGS	**Fruska Gora**	**80.50**	**322**	⇑*i*P		**P**	**20 12 49.4**	**+0.3**
	FRGS	**Fruska Gora**	**80.50**	**322**	P		**P**	**20 12 49.5**	**+0.3**
		comp=Z,44nm,1.4s,comp=Z,609nm							
	PGBU	**Glenifferbraes**	**80.52**	**341**	*e*P		**P**	**20 12 49.2**	**+0.2**
	PGBU				IAmb		IAmb	20 12 50.6	
		comp=Z,54nm,0.9s							
	RDO	**Rodhopi**	**80.53**	**316**	IAmb		IAmb	20 13 17.0	
		comp=Z,87nm,1.2s							
	RZN	**Rozhen**	**80.56**	**317**	P		**P**	**20 12 50.0**	**+0.2**
	F33A	**5 Mile Ranch,**	**80.58**	**37**	IAmb		IAmb	20 12 50.8	
		comp=Z,64nm,1.1s							
	EKA	**Eskdalemuir Ar**	**80.61**	**340**	P		**P**	**20 12 49.9**	**+0.4**
		comp=Z,8.1nm,0.6s,baz=20,slow=4.8,SNR=38							
	EKA				pP		**pP**	**20 13 15.3**	**+0.5**
		comp=Z,3.7nm,0.6s,baz=23,slow=5.0,SNR=4.1							
	EKA				sP		**sP**	**20 13 26.0**	**+0.7**
		comp=Z,1.4nm,0.6s,baz=21,slow=4.8,SNR=2.5							
		comp=Z,8.1nm,0.6s							
	ESK	**Eskdalemuir**	**80.63**	**340**	P		**P**	**20 12 50.0**	**+0.4**
	ESK	**Eskdalemuir**	**80.63**	**340**	P		**P**	**20 12 50.1**	**+0.4**
	ESK				pmax		pmax		
		comp=Z,15nm,0.8s							
	VTS	**Vitosha**	**80.68**	**319**	P		**P**	**20 12 50.0**	**-0.3**
	PLNA	**Plana**	**80.68**	**318**	P		**P**	**20 12 51.0**	**+0.7**
	BOVS	**Bovan**	**80.71**	**320**	⇓P		**P**	**20 12 49.7**	**-0.6**
	GRA1	**Grafenberg Arr**	**80.71**	**330**	IAmb		IAmb	20 12 52.1	
		comp=Z,52nm,0.9s							
	GRFO	**Grafenberg**	**80.71**	**330**	P		**P**	**20 12 50.6**	**+0.4**
	GRFO				IAmb		IAmb	20 12 52.1	
		comp=Z,49nm,0.9s							
	GRFO	**Grafenberg**	**80.71**	**330**	P		**P**	**20 12 50.6**	**+0.4**
	GRFO				pmax		pmax		
		comp=Z,49nm,0.9s							
	BALJ	**Balqa**	**80.75**	**304**	IAmb		IAmb	20 12 52.2	
		comp=Z,30nm,0.7s							
	ARSA	**Arzberg**	**80.86**	**326**	*i* P		**P**	**20 12 51.6**	**+0.5**
		comp=Z,4.8nm,0.7s,SNR=5.7							
	ARSA				*ep*P		**pP**	**20 13 17.3**	**+0.9**
		comp=Z,15nm,1.0s							
	MOA	**Molln**	**80.93**	**327**	*e*P		**P**	**20 12 52.3**	**+0.9**
		comp=Z,15nm,1.3s							
	MOA				*i* pP		**pP**	**20 13 18.9**	**+2.1**
		comp=Z,18nm,1.2s							
	W18A	**Petrified Fore**	**81.00**	**52**	P		**P**	**20 12 53.6**	**+1.4**
		baz=313							
	Q24A	**Divide**	**81.03**	**46**	P		**P**	**20 12 53.4**	**+0.9**
		baz=314,SNR=14							
	EYMN	**Ely**	**81.07**	**33**	IAmb		IAmb	20 12 53.1	
		comp=Z,63nm,0.9s							
	EYMN	**Ely**	**81.07**	**33**	P		**P**	**20 12 52.2**	**+0.1**
		baz=322,SNR=25							
	NEWG	**New Galloway**	**81.08**	**341**	*e*P		**P**	**20 12 52.3**	**+0.3**
	NEWG				IAmb		IAmb	20 12 54.8	
		comp=Z,25nm,1.0s							
	TEKS	**Tekeris**	**81.09**	**322**	*e*P		**P**	**20 12 52.0**	**-0.3**
	MMB	**Musomishta**	**81.19**	**318**	P		**P**	**20 12 53.0**	**+0.1**
	214A	**Organ Pipe Nat**	**81.19**	**56**	P		**P**	**20 12 54.3**	**+1.2**
		baz=312,SNR=17							
	BIOA	**Bad Ischl, Aus**	**81.32**	**327**	*e*P		**P**	**20 12 54.2**	**+0.7**
		comp=Z,17nm,0.6s,SNR=12							
	BIOA				*i* pP		**pP**	**20 13 19.9**	**+1.0**
		comp=Z,32nm,1.3s							
	OGNE	**Ogallala**	**81.33**	**43**	P		**P**	**20 12 54.4**	**+0.7**
		baz=316,SNR=12							
	HPK	**Haverah Park**	**81.41**	**339**	*e*P		**P**	**20 12 54.4**	**+0.6**
	HPK				IAmb		IAmb	20 12 55.2	
		comp=Z,43nm,0.7s							
	GAL1	**Galloway**	**81.42**	**341**	*e*P		**P**	**20 12 54.2**	**+0.4**
	GAL1				IAmb		IAmb	20 12 55.0	
		comp=Z,33nm,0.7s							
	SOKA	**Soboth**	**81.52**	**326**	*i* P		**P**	**20 12 55.2**	**+0.6**
		comp=Z,25nm,0.8s,SNR=16							
	SOKA				*i* pP		**pP**	**20 13 20.6**	**+0.6**
		comp=Z,36nm,1.1s,SNR=5.9							
	BBLS	**Lazi&#263i**	**81.66**	**322**	⇑*i*P		**P**	**20 12 56.0**	**+0.6**
	SDCO	**Great Sand Dun**	**81.69**	**47**	P		**P**	**20 12 57.2**	**+1.3**
		baz=314,SNR=16							
	PTJ	**Puntijarka**	**81.70**	**325**	P		**P**	**20 12 56.1**	**+0.5**
	GOLS	**Golise**	**81.77**	**325**	*i* P		**P**	**20 12 55.9**	**0.0**
	SJES	**Sjenica**	**81.83**	**321**	*e*P		**P**	**20 12 56.8**	**+0.4**
	BEBN	**Eben Emael**	**81.85**	**333**	*d*P		**P**	**20 12 56.2**	**+0.1**
	BEBN				*dp*P		**pP**	**20 13 20.3**	**-1.1**
	OBKA	**Obir**	**81.86**	**326**	*i* P		**P**	**20 12 56.3**	**-0.2**
		comp=Z,8.8nm,0.8s							
	OBKA				*i* pP		**pP**	**20 13 22.1**	**+0.2**
		comp=Z,13nm,1.2s							
	OBKA	**Obir**	**81.86**	**326**	⇑*i*P		**P**	**20 12 56.2**	**-0.2**
	RUDO	**Rudo**	**81.86**	**321**	*e*P		**P**	**20 12 56.1**	**-0.3**
	BTNL	**Ternell**	**81.87**	**333**	*d*P		**P**	**20 12 56.3**	**0.0**
		comp=Z,16nm,1.0s							
	BTNL				*dp*P		**pP**	**20 13 22.4**	**+0.8**
	MEM	**Membach**	**81.89**	**333**	*d*P		**P**	**20 12 55.9**	**-0.4**
		comp=Z,25nm,0.9s							
	MEM				*dp*P		**pP**	**20 13 22.1**	**+0.4**
	KBA	**Koelnbreinsper**	**81.92**	**327**	*i* P		**P**	**20 12 57.5**	**+0.7**
		comp=Z,25nm,0.9s,SNR=15							
	KBA				*i* pP		**pP**	**20 13 23.0**	**+0.7**
		comp=Z,41nm,1.3s							
	KBA	**Koelnbreinsper**	**81.92**	**327**	P		**P**	**20 12 57.7**	**+0.8**
	LESA	**Schwarzleotal**	**81.93**	**328**	*i* P		**P**	**20 12 57.4**	**+0.6**
		comp=Z,27nm,0.9s							
	LESA				*i* pP		**pP**	**20 13 23.4**	**+1.2**
		comp=Z,42nm,1.1s							
	LBWR	**Ladybower, Pea**	**81.93**	**339**	*e*P		**P**	**20 12 56.8**	**+0.2**
	LBWR				IAmb		IAmb	20 12 58.0	
		comp=Z,110nm,0.7s							
	A051A	**Mrakovica**	**81.96**	**324**	⇑*i*P		**P**	**20 12 56.7**	**-0.3**
	CRES	**Cresnjev**	**81.99**	**325**	*i* P		**P**	**20 12 56.9**	**-0.1**
	CRES				*i* pP		**pP**	**20 13 22.2**	**-0.3**
	CRES	**Cresnjev**	**81.99**	**325**	⇑*i*P		**P**	**20 12 56.8**	**-0.2**
	ECSD	**EROS Data Cent**	**82.01**	**38**	IAmb		IAmb	20 12 58.4	
		comp=Z,49nm,1.1s							
	ECSD	**EROS Data Cent**	**82.01**	**38**	P		**P**	**20 12 57.4**	**+0.2**
		baz=319,SNR=25							
	BLY	**Banja Luka**	**82.04**	**323**	*e*P		**P**	**20 12 55.7**	**-1.6**
	WIM	**Isle of Man**	**82.06**	**341**	*e*P		**P**	**20 12 57.7**	**+0.5**
	BSTI	**Sart Tilman**	**82.06**	**333**	*d*P		**P**	**20 12 57.4**	**+0.1**
		comp=Z,5.4nm,0.6s							
	E38A	**The Farm, Brul**	**82.09**	**34**	IAmb		IAmb	20 12 58.3	
		comp=Z,55nm,0.9s							
	BHOU	**Houvegnez**	**82.10**	**333**	*d*P		**P**	**20 12 57.8**	**+0.2**
		comp=Z,12nm,0.8s							
	BHOU				*dp*P		**pP**	**20 13 23.5**	**+0.6**
	MYKA	**Terra Mystica**	**82.15**	**326**	*i* P		**P**	**20 12 57.8**	**-0.1**
		comp=Z,12nm,0.6s,SNR=6.4							
	MYKA				*i* pP		**pP**	**20 13 24.0**	**+0.6**
		comp=Z,26nm,1.4s							
	STU	**Stuttgart**	**82.24**	**330**	IAmb		IAmb	20 12 59.6	
		comp=Z,38nm,0.8s							
	STU	**Stuttgart**	**82.24**	**330**	P		**P**	**20 12 58.9**	**+0.7**
	TUC	**Tucson**	**82.24**	**54**	P		**P**	**20 12 59.2**	**+0.6**
	TUC	**Tucson**	**82.24**	**54**	P		**P**	**20 12 59.3**	**+0.6**
	TUC				pmax		pmax		
		comp=Z,52nm,1.5s							
	VISS	**Visnje**	**82.28**	**325**	*e*P		**P**	**20 12 58.3**	**-0.2**
	VISS				*ep*P		**pP**	**20 13 23.4**	**-0.6**
	BCLA	**Clavier**	**82.29**	**333**	*d*P		**P**	**20 12 58.5**	**0.0**
		comp=Z,16nm,0.8s							
	BCLA				*dp*P		**pP**	**20 13 23.8**	**0.0**
	BOJS	**Bojanci**	**82.33**	**325**	⇑*i*P		**P**	**20 12 58.5**	**-0.3**
	MGRS	**Mrkonjic Grad**	**82.34**	**323**	*e*P		**P**	**20 12 59.7**	**+0.8**
	KSCO	**Kaye Shedlock'**	**82.39**	**45**	P		**P**	**20 12 59.9**	**+0.5**
		baz=316							
	BGES	**Gesves**	**82.40**	**333**	*d*P		**P**	**20 12 58.8**	**-0.2**
		comp=Z,16nm,0.9s							
	BGES				*dp*P		**pP**	**20 13 24.9**	**+0.5**
	CWF	**Charnwood Fore**	**82.40**	**338**	*e*P		**P**	**20 12 59.2**	**+0.2**
	CWF				IAmb		IAmb	20 13 00.0	
		comp=Z,34nm,0.9s							
	WATA	**Walderalm**	**82.45**	**328**	*e*P		**P**	**20 12 59.9**	**+0.3**
		comp=Z,14nm,0.8s,SNR=9.0							
	WATA				*i* pP		**pP**	**20 13 25.5**	**+0.5**
		comp=Z,18nm,1.1s							
	WTTA	**Wattenberg**	**82.49**	**328**	*e*P		**P**	**20 13 00.2**	**+0.4**
		comp=Z,20nm,0.8s,SNR=8.7							
	WTTA				*i* pP		**pP**	**20 13 25.8**	**+0.6**
		comp=Z,26nm,1.3s							
	CEY	**Cerknica**	**82.51**	**326**	⇑*i*P		**P**	**20 12 59.2**	**-0.6**
	ABTA	**Abfaltersbach**	**82.54**	**327**	*e*P		**P**	**20 12 59.6**	**-0.4**
		comp=Z,8.7nm,0.8s,SNR=6.1							
	ABTA				*ep*P		**pP**	**20 13 25.7**	**+0.3**
		comp=Z,18nm,1.1s							
	A050A	**Klekovaca**	**82.54**	**324**	*e*P		**P**	**20 13 00.0**	**0.0**
	RCHB	**Rochefort**	**82.54**	**333**	*d*P		**P**	**20 12 59.8**	**+0.1**
		comp=Z,17nm,1.0s							
	RCHB				*d*PcP		**PcP**	**20 13 02.9**	**-1.8**
	RCHB				*dp*P		**pP**	**20 13 25.7**	**+0.5**
	SRKY	**Kupres RS**	**82.57**	**323**	*e*P		**P**	**20 13 00.4**	**+0.2**
	BMRD	**Maredsous**	**82.58**	**333**	*d*P		**P**	**20 13 00.1**	**+0.1**
		comp=Z,26nm,1.0s

comp=Z,18nm,0.7s
CBKS Cedar Bluff 84.09 43 IAmb IAmb 20 13 08.8
comp=Z,47nm,1.0s
CBKS Cedar Bluff 84.09 43 P **P** **20 13 08.0 -0.1**
baz=318,SNR=7.0
E43A Lone Tree Farm 84.16 31 IAmb IAmb 20 13 09.1
comp=Z,34nm,0.7s
F42A Maple Grove Fa 84.20 32 IAmb IAmb 20 13 09.6
comp=Z,28nm,0.8s
IWEX Carrickbyrne, 84.21 341 *eP* **P** **20 13 08.8 +0.5**
SALO Salr 84.27 328 IAmb IAmb 20 13 09.3
comp=Z,46nm,0.9s
RTZ Ruatahuna 84.53 153 P **P** **20 13 09.2 -0.7**
RTZ IAmb IAmb 20 13 10.6
comp=Z,63nm,1.0s
I40A Norwalk 84.64 35 IAmb IAmb 20 13 11.8
comp=Z,57nm,1.2s
SCIA State Center 85.02 38 P **P** **20 13 13.3 +0.8**
baz=321,SNR=9.3
IDI Anoyia 85.06 313 P **P** **20 13 12.3 -0.7**
comp=Z,0.4nm,0.7s,baz=32,slow=11,SNR=15
IDI pP **pP** **20 13 39.2 +0.6**
comp=Z,0.5nm,0.9s,baz=22,slow=8.2,SNR=3.1
DYA Yadsworthy 85.20 338 *eP* **P** **20 13 13.0 -0.3**
DYA IAmb IAmb 20 13 14.3
comp=Z,77nm,1.4s
E46A Sault Ste Mari 85.22 30 IAmb IAmb 20 13 14.5
comp=Z,100nm,1.3s
FDMO Fiordimonte 85.23 325 IAmb IAmb 20 13 40.7
comp=Z,55nm,1.1s
SBD Saint Breward 85.29 339 *eP* **P** **20 13 14.0 +0.2**
NRCA Norcia 85.38 324 IAmb IAmb 20 13 15.8
comp=Z,36nm,0.8s
CLF Chambon-Foret 85.38 334 IAmb IAmb 20 13 15.9
comp=Z,53nm,1.1s
I42A Draeger Farm, 85.38 34 IAmb IAmb 20 13 15.6
comp=Z,63nm,0.9s
LOR Lormes 85.47 332 *eP* **P** **20 13 13.9 -0.9**
LOR pmax pmax
comp=Z,39nm,0.8s
KSU1 Kansas State U 85.50 41 IAmb IAmb 20 13 16.5
comp=Z,47nm,0.8s
KSU1 Kansas State U 85.50 41 P **P** **20 13 14.9 -0.2**
baz=319,SNR=13
JFWS Jewell Farm 85.58 35 IAmb IAmb 20 13 16.2
comp=Z,44nm,1.2s
JFWS Jewell Farm 85.58 35 P **P** **20 13 14.9 -0.5**
baz=323,SNR=6.0
LDF La Druitiere 85.68 335 *eP* **P** **20 13 14.8 -0.9**
LDF pmax pmax
comp=Z,15nm,0.6s
CCA1 Carnmenellis 85.79 339 *eP* **P** **20 13 16.4 +0.2**
CCA1 IAmb IAmb 20 13 17.4
comp=Z,67nm,1.2s
JSA Saint Aubin 85.80 337 *eP* **P** **20 13 16.1 -0.1**
JSA IAmb IAmb 20 13 17.4
comp=Z,50nm,0.8s
L40A Anamosa 85.82 36 IAmb IAmb 20 13 17.5
comp=Z,65nm,1.0s
LPL La Plagne 85.87 330 *eP* **P** **20 13 16.3 -0.7**
LPL pmax pmax
comp=Z,31nm,0.9s
LPG La Plagne 85.88 330 *eP* **P** **20 13 16.4 -0.8**
LPG pmax pmax
comp=Z,28nm,0.8s
AMTX Amarillo 85.89 47 IAmb IAmb 20 13 19.1
comp=Z,29nm,0.9s
AMTX Amarillo 85.89 47 P **P** **20 13 18.1 +1.0**
baz=317
MNTX Cornudas Mount 85.99 52 P **P** **20 13 18.5 +0.9**
baz=315,SNR=25
PPT Papeete 85.99 117 P **P** **20 13 17.8 +0.1**
comp=Z,47nm,1.0s,baz=299,slow=8.4,SNR=4.2
comp=Z,47nm,1.0s
PPTF Pamatai, Papee 86.02 117 P **P** **20 13 18.7 +0.9**
PPTF IAmb IAmb 20 13 22.9
comp=Z,55nm,1.0s
GRR Gorron 86.09 336 *eP* **P** **20 13 17.2 -0.6**
GRR pmax pmax
comp=Z,46nm,0.8s
U32A Winter Ranch, 86.28 45 IAmb IAmb 20 13 20.2
comp=Z,38nm,1.2s
OK032 Salt Plains WL 86.39 44 IAmb IAmb 20 13 21.2
comp=Z,50nm,1.0s
GLMI Grayling 86.39 31 P **P** **20 13 19.7 +0.4**
baz=326,SNR=6.3
KAN14 Manchester OK 86.40 44 IAmb IAmb 20 13 21.0
comp=Z,43nm,1.1s
SMWD Samnorwood 86.53 46 IAmb IAmb 20 13 22.2
comp=Z,36nm,0.9s
L42A Oliver, Polo 86.56 35 IAmb IAmb 20 13 20.9
comp=Z,31nm,0.9s
K43A Burlington 86.59 34 IAmb IAmb 20 13 21.2
comp=Z,35nm,0.9s
ORIF Oris-en-Rattie 86.70 330 *eP* **P** **20 13 20.0 -1.0**
ORIF pmax pmax
comp=Z,8.0nm,1.0s
TCF Toulx Ste Croi 86.89 333 *eP* **P** **20 13 22.2 +0.4**
TCF pmax pmax
comp=Z,32nm,1.1s
L44A Lake County Fo 87.20 34 P **P** **20 13 23.4 +0.2**
baz=324
DKNS Dickens 87.20 48 IAmb IAmb 20 13 26.5
comp=Z,26nm,0.8s
T35A Sooner Cattle 87.20 43 IAmb IAmb 20 13 25.1
comp=Z,44nm,1.0s
VIVF Saint-Julien-l 87.22 331 *eP* **P** **20 13 23.6 +0.2**
VIVF pmax pmax
comp=Z,12nm,0.9s
QUIF Quistinic 87.23 337 *eP* **P** **20 13 22.6 -0.7**
QUIF pmax pmax
comp=Z,17nm,0.9s
POST Post 87.30 48 IAmb IAmb 20 13 25.8
comp=Z,32nm,1.0s
OK051 E0350 and S346 87.34 43 IAmb IAmb 20 13 25.6
comp=Z,26nm,0.9s
OK048 Pawnee Station 87.35 43 IAmb IAmb 20 13 25.7
comp=Z,37nm,1.1s
PGF Pioggiola 87.40 327 *eP* **P** **20 13 23.7 -0.7**
PGF pmax pmax
comp=Z,9.0nm,1.2s
WMOK Wichita Mounta 87.61 45 P **P** **20 13 25.9 +0.5**
baz=318,SNR=17
SN07 Snyder 07 87.64 48 IAmb IAmb 20 16 05.8
comp=Z,19nm,0.6s
QUOK Quay 87.66 43 IAmb IAmb 20 13 27.3
comp=Z,46nm,1.1s
OK052 Battle Ridge R 87.74 43 IAmb IAmb 20 13 27.7
comp=Z,47nm,1.0s
M44A Midewin, Midew 87.78 35 IAmb IAmb 20 13 27.4
comp=Z,62nm,1.1s
HDIL Hopedale 87.89 36 P **P** **20 13 27.0 +0.4**
baz=324
APMT Aspermont 87.90 47 IAmb IAmb 20 13 28.5
comp=Z,33nm,1.0s
RJF Les Rejaudoux 87.99 333 *eP* **P** **20 13 26.7 -0.3**
RJF pmax pmax
comp=Z,25nm,1.0s
L46A Eue Claire 88.03 33 IAmb IAmb 20 13 28.6
comp=Z,65nm,1.0s
CAF Calviac 88.12 332 *eP* **P** **20 13 27.6 -0.1**
CAF pmax pmax
comp=Z,18nm,0.9s
LDAQ Lac Daran 88.15 21 IAmb IAmb 20 13 28.9
comp=Z,35nm,0.8s
S39A Bolivar 88.24 40 IAmb IAmb 20 13 29.0
comp=Z,41nm,0.8s
W35A Tecumseh 88.34 44 IAmb IAmb 20 13 30.5
comp=Z,28nm,1.0s
TUL3 Leonard 88.34 43 IAmb IAmb 20 13 30.4
comp=Z,32nm,0.9s
TUL3 Leonard 88.34 43 P **P** **20 13 29.4 +0.6**
baz=320,SNR=7.6
SGCY Sterling City 88.36 49 IAmb IAmb 20 13 30.7
comp=Z,44nm,1.0s
SADO Sadowa 88.49 27 IAmb IAmb 20 13 30.3
comp=Z,32nm,1.2s
WTFS Witchita Falls 88.51 46 IAmb IAmb 20 13 31.1
comp=Z,30nm,1.1s
P43A Skaggs, Pawnee 88.52 37 IAmb IAmb 20 13 30.9
comp=Z,53nm,1.1s
RLO Rose Lookout 88.55 42 IAmb IAmb 20 13 31.2
comp=Z,22nm,0.9s
SLBS Sierra La Lagu 88.61 60 P **P** **20 13 31.3 +0.9**
U38A Gravette 88.67 42 IAmb IAmb 20 13 31.6
comp=Z,34nm,0.9s
ABTX Abilene, Hawle 88.69 47 IAmb IAmb 20 13 32.5
comp=Z,39nm,1.1s
ABTX Abilene, Hawle 88.69 47 P **P** **20 13 31.3 +0.7**
baz=318,SNR=12
TX31 Lajitas Ar. Si 88.70 52 IAmb IAmb 20 13 32.7
comp=Z,34nm,1.4s
TXAR Lajitas Array 88.70 52 P **P** **20 13 31.0 +0.2**
TXAR Lajitas Array 88.70 52 P **P** **20 13 31.4 +0.6**
comp=Z,9.6nm,0.7s,baz=301,slow=3.3,SNR=11.1
TXAR pP **pP** **20 13 56.5 -0.1**
comp=Z,4.5nm,0.8s,baz=288,slow=2.8,SNR=4.9
TXAR PKKPbc **PKKPbc** **20 31 10.6 +1.5**
comp=Z,0.2nm,0.8s,baz=142,slow=6.3,SNR=3.5
comp=Z,9.6nm,0.7s
AAM Ann Arbor 88.88 32 P **P** **20 13 31.9 +0.7**
baz=327
CCM Cathedral Cave 88.97 39 P **P** **20 13 31.9 +0.1**
CCM Cathedral Cave 88.97 39 P **P** **20 13 32.2 +0.4**
baz=322
CCM Cathedral Cave 88.97 39 P **P** **20 13 31.9 +0.1**
CCM pmax pmax
comp=Z,69nm,0.8s
HHAR Hobbs 89.02 41 IAmb IAmb 20 13 33.0
comp=Z,26nm,0.9s
SFIN Lafayette 89.02 35 P **P** **20 13 32.4 +0.4**
baz=325,SNR=8.8
ATD Arta Tunnel 89.02 284 P **P** **20 13 32.5 +0.1**
comp=Z,0.8nm,0.9s,baz=324,slow=13,SNR=3.8
LOOK Lone County 89.05 45 IAmb IAmb 20 13 33.7
comp=Z,24nm,1.1s
OZNA Ozona 89.08 50 IAmb IAmb 20 13 33.6
comp=Z,19nm,0.8s
HPIG 89.16 55 IAmb IAmb 20 13 35.0
comp=Z,25nm,1.0s
MGMO Mountain Grove 89.18 40 IAmb IAmb 20 13 33.8
comp=Z,30nm,0.8s
DELO Deloro Mine 89.24 27 IAmb IAmb 20 13 34.1
comp=Z,40nm,1.0s
FW03 Perrin-Whitt E 89.27 46 IAmb IAmb 20 13 34.8
comp=Z,25nm,0.9s
FVM French Village 89.42 38 IAmb IAmb 20 13 35.2
comp=Z,30nm,0.8s
MTLF Montolieu 89.43 331 *eP* **P** **20 13 33.4 -0.4**
MTLF pmax pmax
comp=Z,10.0nm,0.9s
D62A Allapoint, All 89.56 20 IAmb IAmb 20 13 35.7
comp=Z,27nm,0.8s
WBO Williamsburg 89.60 25 IAmb IAmb 20 13 35.5
comp=Z,24nm,0.9s
FW07 Weatherford 89.68 46 IAmb IAmb 20 13 36.9
comp=Z,27nm,0.9s
MNTQ Montreal, Queb 89.68 24 IAmb IAmb 20 13 36.2
comp=Z,46nm,1.1s
E62A Clayton Lake 89.86 21 IAmb IAmb 20 13 37.0
comp=Z,28nm,1.0s
T42A Van Buren 89.86 39 IAmb IAmb 20 13 37.4
comp=Z,55nm,1.2s
O48B Farmland 89.96 34 P **P** **20 13 36.5 +0.1**
baz=326,SNR=9.7
BRDY Brady 90.05 48 IAmb IAmb 20 13 38.7
comp=Z,66nm,1.2s
BATG Bathurst New B 90.13 18 IAmb IAmb 20 13 38.7
comp=Z,28nm,0.9s
FW13 Cleburne 90.14 46 IAmb IAmb 20 13 39.2
comp=Z,39nm,1.1s
LONY Lake Ozonia 90.17 25 P **P** **20 13 37.5 +0.2**
baz=333
JCT Junction City 90.18 49 P **P** **20 13 38.3 +0.7**
baz=318,SNR=13
PQI Presque Isle 90.21 20 IAmb IAmb 20 13 38.6
comp=Z,27nm,0.8s
FCAR Ozark Folk Cen 90.24 41 IAmb IAmb 20 13 38.7
comp=Z,36nm,1.0s
O49A Covington 90.37 33 IAmb IAmb 20 13 39.6
comp=Z,51nm,1.3s
PBMO Poplar Bluff 90.38 39 IAmb IAmb 20 13 39.8
comp=Z,44nm,0.9s
WHTX Lake Whitney, 90.40 46 IAmb IAmb 20 13 40.3
comp=Z,35nm,1.1s
WHTX Lake Whitney, 90.40 46 P **P** **20 13 39.1 +0.6**
baz=319,SNR=8.1
CEST Esterri de Car 90.43 332 IAmb IAmb 20 13 40.1
comp=Z,17nm,1.0s
ERPA Erie 90.47 29 P **P** **20 13 39.3 +0.7**
baz=330,SNR=11
DRIO Del Rio 90.47 50 IAmb IAmb 20 13 41.2
comp=Z,37nm,0.9s
MIAR Mount Ida 90.55 42 P **P** **20 13 39.8 +0.7**
baz=321,SNR=25
MIAR Mount Ida 90.55 42 P **P** **20 13 39.7 +0.5**
LCAR Lake Charles 90.58 40 IAmb IAmb 20 13 40.8
comp=Z,44nm,1.5s
P49A Miami Univ. Ec 90.75 34 IAmb IAmb 20 13 41.4
comp=Z,43nm,1.1s
P49A Miami Univ. Ec 90.75 34 P **P** **20 13 40.4 +0.4**
baz=326,SNR=7.1
M53A WI Miller and 90.79 30 P **P** **20 13 40.8 +0.6**
baz=329,SNR=6.7
ETSF Etsaut 90.82 333 *eP* **P** **20 13 40.9 +0.5**
ETSF pmax pmax
comp=Z,11nm,0.6s
G62A West of Eustis 90.86 22 IAmb IAmb 20 13 42.5
comp=Z,27nm,1.1s
NCB Newcomb 90.86 25 IAmb IAmb 20 13 41.9
comp=Z,23nm,0.8s
SJPF Ste Jean 90.86 333 *eP* **P** **20 13 40.5 0.0**
SJPF pmax pmax
comp=Z,8.0nm,0.9s
ACSO Alum Creek Sta 90.89 32 P **P** **20 13 41.1 +0.4**
baz=328,SNR=5.2
X40A Basin Creek Fa 90.98 42 IAmb IAmb 20 13 42.9
comp=Z,19nm,0.9s
VT1 Waterbury 91.00 24 IAmb IAmb 20 13 42.9
comp=Z,45nm,1.1s
J58A Remsen 91.06 26 IAmb IAmb 20 13 42.7
comp=Z,40nm,0.9s
WCI Wyandotte Cave 91.14 35 P **P** **20 13 42.0 +0.1**
WCI IAmb IAmb 20 13 43.4
comp=Z,23nm,0.9s
WCI Wyandotte Cave 91.14 35 P **P** **20 13 42.3 +0.5**
baz=326
WCI Wyandotte Cave 91.14 35 P **P** **20 13 42.0 +0.1**
WCI pmax pmax
comp=Z,23nm,1.0s
PKME Peaks-Kenny Pk 91.17 21 IAmb IAmb 20 13 43.6
comp=Z,20nm,0.9s
PKME Peaks-Kenny Pk 91.17 21 P **P** **20 13 42.6 +0.8**
baz=337
435B Jarrell 91.23 47 IAmb IAmb 20 13 43.9
comp=Z,26nm,0.8s
435B Jarrell 91.23 47 P **P** **20 13 43.0 +0.6**
baz=319
N53A Lisbon 91.27 31 IAmb IAmb 20 13 45.0
comp=Z,41nm,1.1s
LBNH Lisbon 91.34 23 P **P** **20 13 43.4 +0.7**
baz=335
O52A Adamsville 91.46 32 IAmb IAmb 20 13 45.7
comp=Z,19nm,1.1s
P51A Williamsport 91.49 33 IAmb IAmb 20 13 44.5
comp=Z,22nm,1.1s
ACCN Adirondack Com 91.57 25 IAmb IAmb 20 13 45.3
comp=Z,31nm,1.1s
R49A Shelbyville 91.58 35 IAmb IAmb 20 13 45.7
comp=Z,50nm,1.7s
O53A New Philadelph 91.59 31 IAmb IAmb 20 13 46.4
comp=Z,43nm,1.3s
O53A New Philadelph 91.59 31 P **P** **20 13 44.4 +0.4**
baz=329
G65A Princeton 91.69 20 IAmb IAmb 20 13 45.9
comp=Z,22nm,0.9s
HNH Hanover 91.71 24 IAmb IAmb 20 13 46.4
comp=Z,16nm,0.9s
P52A Corning 91.75 32 P **P** **20 13 44.7 0.0**
baz=328
Q51A Peebles 91.76 33 IAmb IAmb 20 13 46.1
comp=Z,26nm,0.8s
LMN Caledonia Moun 91.77 18 IAmb IAmb 20 13 46.2
comp=Z,28nm,0.8s
BINY Binghamton 91.85 27 IAmb IAmb 20 13 46.1
comp=Z,25nm,0.9s
BINY Binghamton 91.85 27 P **P** **20 13 45.7 +0.6**
baz=332,SNR=7.6
J61A Chester 91.95 24 IAmb IAmb 20 13 47.0
comp=Z,17nm,0.8s
R50A Paris 91.96 34 IAmb IAmb 20 13 47.2
comp=Z,33nm,1.2s
O54A Avella 91.98 31 IAmb IAmb 20 13 48.3
comp=Z,17nm,0.9s
833A Chaparral WMA, 92.01 50 P **P** **20 13 47.0 +0.9**
baz=318
NATX Nacogdoches 92.11 45 P **P** **20 13 47.2 +0.7**
baz=320
WVT Waverly 92.14 38 P **P** **20 13 46.4 -0.2**
WVT Waverly 92.14 38 P **P** **20 13 46.9 +0.4**
baz=324
WVT Waverly 92.14 38 P **P** **20 13 46.4 -0.2**
KSPA Keystone Colle 92.49 27 IAmb IAmb 20 13 49.4
comp=Z,24nm,1.0s
SSPA Standing Stone 92.54 29 P **P** **20 13 48.8 +0.5**
baz=331
MCWV Mont Chateau 92.64 30 P **P** **20 13 49.1 +0.3**
baz=330
OXF Oxford 92.68 40 P **P** **20 13 49.1 +0.1**
baz=324,SNR=5.7
L61B Northampton 92.72 24 P **P** **20 13 49.6 +0.4**
baz=335
U49A Red Boiling Sp 92.78 36 IAmb IAmb 20 13 50.8
comp=Z,20nm,0.8s
T50A Nancy 92.78 35 IAmb IAmb 20 13 50.8
comp=Z,17nm,0.8s
KEST Kesra 92.82 323 P **P** **20 13 49.1 -0.7**
comp=Z,3.9nm,0.9s,baz=310,slow=4.1,SNR=4.8
KEST LR LR 21 00 16.1
comp=Z,106nm,18.3s,baz=294,slow=38
comp=Z,3.9nm,0.9s
CLTN Cedars of Leba 92.87 37 IAmb IAmb 20 13 51.3
comp=Z,13nm,0.7s
V48A Smith Brothers 92.93 37 IAmb IAmb 20 13 51.3
comp=Z,20nm,1.1s
PLAL Pickwick Lake 92.95 39 IAmb IAmb 20 13 50.6
comp=Z,11nm,0.7s
HRV Adam Dziewonsk 93.02 24 P **P** **20 13 51.0 +0.5**
HRV IAmb IAmb 20 13 51.9
comp=Z,20nm,1.0s
HRV Adam Dziewonsk 93.02 24 P **P** **20 13 51.1 +0.7**
baz=335
HRV Adam Dziewonsk 93.02 24 P **P** **20 13 51.0 +0.5**
HRV pmax pmax
comp=Z,20nm,1.0s
TRNY Table Rock, Ra 93.39 26 IAmb IAmb 20 13 53.5
comp=Z,22nm,1.0s
PAL Palisades 93.62 26 P **P** **20 13 53.5 +0.3**
baz=334
TZTN Tazewell 93.75 35 P **P** **20 13 54.0 0.0**
baz=327
SWET Sewanee 93.78 37 IAmb IAmb 20 13 54.8
comp=Z,18nm,0.7s
PBRG Braganca 93.84 337 *eP* **P** **20 13 54.3 0.0**
comp=Z,16nm,1.8s
X48A Hartselle 93.88 38 IAmb IAmb 20 13 55.1
comp=Z,15nm,0.8s
W50A Signal Mountai 94.08 37 IAmb IAmb 20 13 56.5
comp=Z,15nm,0.8s
PGAV Gavieira, Arco 94.15 338 *eP* **P** **20 13 58.6 +2.8**
TKL Tuckaleechee C 94.39 35 IAmb IAmb 20 13 57.5
comp=Z,20nm,0.9s
TKL Tuckaleechee C 94.39 35 LR LR 20 58 00.5
comp=Z,141nm,21.1s,baz=53,slow=36
MVO Moncorvo 94.51 336 *eP* **P** **20 13 57.9 +0.5**
comp=Z,18nm,2.0s
BLA Blacksburg 94.51 32 P **P** **20 13 57.6 +0.1**
baz=329
Y49A Blount Mountai 94.67 38 IAmb IAmb 20 13 58.9
comp=Z,14nm,0.8s
ESDC Sonseca Array 94.86 334 P **P** **20 13 58.5 -0.5**
ESDC Sonseca Array 94.86 334 P **P** **20 13 58.8 -0.3**
comp=Z,3.6nm,0.8s,baz=17,slow=4.4,SNR=28
ESDC pP **pP** **20 14 24.3 -0.6**
comp=Z,0.8nm,0.8s,baz=4.6,slow=4.1,SNR=3.6
ESDC LR LR 21 01 12.1
comp=Z,85nm,19.8s,baz=28,slow=38
comp=Z,3.6nm,0.8s
LRAL Lakeview Retre 95.06 39 P **P** **20 13 59.7 -0.3**
baz=325
MTE Manteigas 95.37 337 *eP* **P** **20 14 01.7 +0.3**
comp=Z,16nm,1.2s
Y52A Lilburn 95.76 36 IAmb IAmb 20 14 04.4
comp=Z,13nm,0.8s
KMSC Kings Mountain 95.89 34 P **P** **20 14 03.5 -0.2**
baz=329
GOGA Godfrey 96.41 36 P **P** **20 14 06.3 +0.1**
baz=327
PBAR Barrancos 97.24 335 *eP* Pdif 20 14 10.0 +0.1
comp=Z,29nm,1.9s
TORD Torodi Ar. Bea 115.33 316 **PKiKP** **20 19 17.9 -0.8**
TORD Torodi Ar. Bea 115.33 316 PKP **PKiKP** **20 19 17.7 -0.9**
comp=Z,1.7nm,0.5s,baz=37,slow=2.2,SNR=16
TORD PP **PP** **20 20 18.9 -1.0**
comp=Z,1.5nm,0.8s,baz=24,slow=9.5,SNR=5.9
TORD PKKPbc **PKKPbc** **20 29 51.1 -0.5**
comp=Z,2.6nm,1.0s,baz=230,slow=2.6,SNR=4.4
VNDA Vanda 117.59 175 PKP **PKPdf** **20 19 20.7 -0.4**
comp=Z,1.5nm,0.8s,baz=323,slow=4.9,SNR=5.4
MAW Mawson 121.78 206 PKP **PKiKP** **20 19 29.5 0.0**
comp=Z,9.9nm,0.8s,baz=211,slow=0.8,SNR=18
MAW PKKPbc **PKKPbc** **20 29 28.9 -0.5**
comp=Z,3.7nm,0.7s,baz=265,slow=10,SNR=6.2
SDV Santo Domingo 123.45 39 PKP **PKPdf** **20 19 34.6 +0.1**
comp=Z,26nm,0.8s,baz=22,slow=0.9,SNR=16
SDV Santo Domingo 123.45 39 *eP* **PKPdf** **20 19 34.7 +0.1**
DBIC Dimboloo 124.23 318 PKP **PKPdf** **20 19 35.3 -0.5**
comp=Z,9.3nm,0.6s,baz=359,slow=2.3,SNR=17
ROSC El Rosal 125.00 45 PKP **PKPdf** **20 19 37.9 +0.1**
comp=Z,16nm,0.9s,baz=225,slow=22,SNR=5.4
BOSA Boshof 126.80 261 **PKiKP** **20 19 41.0 +0.1**
BOSA Boshof 126.80 261 PKP **PKPdf** **20 19 40.3 -0.1**
comp=Z,3.7nm,0.8s,baz=358,slow=0.6,SNR=9.3
BOSA Boshof 126.80 261 PKIKP **PKiKP** **20 19 41.0 +0.1**
QSPA South Pole Qui 129.38 180 PKP **PKPdf** **20 19 43.5 -0.5**
comp=Z,7.1nm,0.9s,baz=290,slow=1.1,SNR=9.4
QSPA PP **PP** **20 21 54.6 -0.5**
comp=Z,7.0nm,1.0s,baz=343,slow=3.3,SNR=4.3
ELIB Princess Elisa 135.72 203 *d*PKPdf **PKPdf** **20 19 56.0 0.0**
TROLL Troll, Antarti 141.63 199 ⇑PKPdf **PKPdf** **20 20 02.0 -4.8**
comp=Z,706nm,0.6s
SAML Samuel 142.50 42 *eP* **PKPdf** **20 20 09.7 -0.2**
SNAA Sanae 143.16 198 ⇑PKPdf PKPab 20 20 05.9 +0.6
comp=Z,454nm,0.6s
SNAA ⇑pPKPdf pPKPdf 20 20 32.6 -3.5
comp=Z,188nm,0.8s
SNAA Sanae 143.16 198 PKhKP PKPpre 20 20 05.9
comp=Z,21nm,0.7s,baz=136,slow=3.7,SNR=24
NBCL Cascavel-CE 144.74 359 *eP* **PKPdf** **20 20 13.5 -0.4**
VNA2 Neumayer--Watz 144.75 197 ⇑PKPbc **PKPab** **20 20 11.1 -0.1**
comp=Z,83nm,0.6s,baz=120,slow=3.0
VNA2 ⇑pPKPbc **pPKPdf** **20 20 37.3 -1.5**
comp=Z,55nm,0.6s,baz=133,slow=2.2
VNA3 Neumayer Olymp 145.02 196 ⇑PKPbc **PKPbc** **20 20 11.7 -0.5**
comp=Z,57nm,0.8s
VNA3 ⇑pPKPbc pPKPab 20 20 37.5 -0.8
comp=Z,23nm,0.7s
VNA1 Neumayer--Stat 145.15 197 ⇑PKPbc **PKPdf** **20 20 13.1 +0.3**
comp=Z,114nm,0.9s
VNA1 ⇑pPKPbc **pPKPdf** **20 20 39.6 +0.1**
comp=Z,33nm,0.8s
LPAZ La Paz 145.49 56 **PKPab** **20 20 16.2 -0.1**
LPAZ La Paz 145.49 56 PKPbc **PKPbc** **20 20 16.0 0.0**
comp=Z,44nm,0.9s,baz=331,slow=3.4,SNR=109
LPAZ pPKPbc **pPKPdf** **20 20 41.9 -0.6**
comp=Z,22nm,1.1s,baz=342,slow=10,SNR=3.2
LPAZ La Paz 145.49 56 PKP2 **PKPab** **20 20 16.2 -0.1**
NBPB Pedra_Branca-C 146.05 1 *eP* **PKPdf** **20 20 15.9 -0.2**
RCBR Riachuelo 146.23 355 PKPdf **PKPab** **20 20 18.1 -0.4**
RCBR Riachuelo 146.23 355 PKP2 **PKPab** **20 20 18.1 -0.4**
VILB Vilhena 147.43 41 *eP* **PKPdf** **20 20 18.3 -0.1**
CLDB Colider 147.64 32 *eP* **PKPdf** **20 20 18.8 0.0**
NBLV Livramento - P 147.81 356 *eP* **PKPdf** **20 20 19.2 0.0**
SMTB Santa Maria do 148.37 17 *eP* **PKPdf** **20 20 20.0 0.0**
NBCA Caruaru-PE 148.62 355 *eP* **PKPdf** **20 20 20.1 -0.3**
LVC Limon Verde 149.38 65 PKPbc **PKiKP** **20 20 27.9 +0.6**
LVC Limon Verde 149.38 65 PKP2 **PKiKP** **20 20 27.9 +0.6**
NBAN Anadia - AL 150.06 355 *eP* **PKPdf** **20 20 22.7 0.0**
SNDB Serra Nova Dou 150.33 25 *eP* **PKPdf** **20 20 23.0 0.0**
BBSD Serra de San D 150.72 46 *eP* **PKPdf** **20 20 23.5 -0.1**
CO06 Fray Jorge 151.88 82 PKPbc **PKiKP** **20 20 31.7 -0.2**
SALV Santo Antonio 152.15 37 *eP* **PKPdf** **20 20 25.8 0.0**
CO02 Combarbal 152.60 82 **PKiKP** **20 20 33.6 +0.1**
MT01 Popeta 153.51 88 **PKiKP** **20 20 35.1 0.0**
ARAG Araguaiana, MT 153.60 29 *eP* **PKPdf** **20 20 27.9 0.0**
BDFB Brasilia 154.79 21 PKP **PKPdf** **20 20 29.9 +0.2**
comp=Z,1.1nm,0.5s,baz=141,slow=8.9,SNR=3.5
BDFB PKPbc **PKiKP** **20 20 38.9 +0.5**
comp=Z,2.6nm,0.6s,baz=30,slow=5.6,SNR=5.5
BDFB PKPab **PKPab** **20 20 54.4 +0.8**
comp=Z,17nm,0.8s,baz=319,slow=4.2,SNR=15
BDFB PP **PP** **20 24 27.2 -1.4**

comp=Z,11nm,1.1s,baz=9.2,slow=7.5,SNR=5.9
JANB Januaria 155.05 13 *e*P **PKPdf 20 20 29.9 -0.1**
PLCA Paso Flores 155.83 103 PKP **PKPdf 20 20 31.0 +0.6**
comp=Z,1.3nm,0.9s,baz=281,slow=5.2,SNR=1.2
PLCA PKPbc PKPbc 20 20 40.5
comp=Z,4.0nm,0.8s,baz=238,slow=3.1,SNR=11
PLCA PKPab **PKPab 20 20 58.5 +0.9**
comp=Z,5.4nm,0.9s,baz=250,slow=5.0,SNR=7.0
CPUP Villa Florida 159.65 55 PKP **PKPdf 20 20 34.9 -0.5**
CPUP PKPab **sPKPdf 20 21 13.2 +0.9**
comp=Z,6.6nm,0.9s,baz=303,slow=5.6,SNR=10
FRTB Fartura 161.39 32 *e*P **PKPdf 20 20 37.6 +0.1**
PTGB Pitanga 161.43 41 *e*P **PKPdf 20 20 37.6 +0.1**

TAP 06 20:08:47.4,24.50N×121.53E,h10km,ML0.6,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LATG	**Datong**	**0.04**	**349**	P	Pg	20 08 49.7	+0.4
	baz=350						
LATG				*i* S	Sg	20 08 51.2	+0.5
	baz=350						
NDT	**Datong Townshi**	**0.10**	**349**	*e*P	Pg	20 08 50.4	+0.4
	baz=352						
NDT				*e*S	Sg	20 08 53.6	+1.7
	baz=352						
ENTT	**Nioudou**	**0.14**	**12**	P	Pg	20 08 51.0	+0.5
	baz=19						
ENTT				*e*S	Sg	20 08 53.5	+0.7
	baz=19						
NNSB	**Datong**	**0.15**	**243**	*e*P	Pg	20 08 51.1	+0.3
	baz=239						
ETLH	**Xiulin Townshi**	**0.30**	**189**	*e*P	Pg	20 08 53.9	+0.6
	baz=187						
ETLH				*e*S	Sg	20 08 57.8	+0.5
	baz=187						

TAP 06 20:08:49.1,24.31N×121.71E,h9km,ML1.0,C,Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EAHA	**Aohua**	**0.04**	**50**	*e*P	Pg	20 08 51.1	+0.4
	baz=51						
EAHA				*e*S	Sg	20 08 52.3	+0.4
	baz=51						
ENA	**Nanau**	**0.12**	**13**	P	Pg	20 08 52.2	+0.3
	baz=111						
ENA				*e*S	Sg	20 08 54.5	+0.6
	baz=111						
ENA	**Nanau**	**0.12**	**13**	*i* P	Pg	20 08 52.2	+0.3
	baz=17						
ENA				*i* S	Sg	20 08 54.5	+0.6
	baz=17						
EWUT	**Wuta**	**0.15**	**24**	*e*P	Pg	20 08 52.6	+0.2
	baz=105						
EWUT				*e*S	Sg	20 08 55.2	+0.6
	baz=105						
EWUT	**Wuta**	**0.15**	**24**	*i* P	Pg	20 08 52.5	+0.2
	baz=24						
EWUT				S	Sg	20 08 55.2	+0.6
	baz=24						
LATG	**Datong**	**0.28**	**324**	*e*P	Pb	20 08 55.9	-0.6
	baz=323						
LATG				*e*S	Sg	20 08 59.6	+1.0
	baz=323						
ENTT	**Nioudou**	**0.36**	**338**	*e*P	Pb	20 08 57.7	0.0
	baz=339						
ENTT				*e*S	Sg	20 09 02.0	+1.2
	baz=339						

CATAC 06 20:12:36.7±0.2,13.24N×88.04W,h5km±2km,ML3.7,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuarįn**	**0.20**	**275**	*i* P	Pg	20 12 41.1	+0.4
JUCU				*i* S	Sg	20 12 44.5	+1.1
JUCU				IAML		20 12 45.3	
	comp=Z,8μm,1.0s						
CNCH	**Conchagua**	**0.21**	**79**	*i* P	Pg	20 12 41.8	+1.0
CNCH				IAML		20 12 47.4	
	comp=Z,9μm,1.0s						
CNRM	**Centro Naciona**	**0.27**	**332**	*i* P	Pg	20 12 42.4	+0.5
CNRM				IAML		20 12 42.6	
	comp=Z,8μm,1.0s						
RANC	**El Ranchito**	**0.31**	**309**	*i* P	Pn	20 12 48.6	+0.5
PACA	**Pacayal**	**0.36**	**310**	*i* P	Pg	20 12 44.4	+0.7
PACA				*i* S	Sg	20 12 50.0	+1.5
PACA				IAML		20 12 55.3	
	comp=Z,10μm,1.0s						
AMPH	**Amapala**	**0.38**	**82**	*i* S	Sb	20 12 50.8	-1.2
COEB	**Comit de Eme**	**0.54**	**299**	*i* P	Pg	20 12 47.1	-0.1
COEB				*i* S	Sg	20 12 55.2	+1.0
COEB				IAML		20 12 55.5	
	comp=Z,830nm,1.0s						
PQSS	**Presa 15 de Se**	**0.64**	**307**	*i* P	Pg	20 12 49.4	+0.5
PQSS				*i* S	Sg	20 12 58.2	+1.0
PQSS				IAML		20 12 58.5	
	comp=Z,480nm,1.0s						
TECO	**Alcaldia de Te**	**0.78**	**293**	*i* P	Pg	20 12 51.3	-0.4
TECO				*i* SA		20 13 01.9	
TECO				IAML		20 15 03.6	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*i* P	Pg	20 12 52.5	+0.2
SCLA				IAML		20 15 08.3	
	comp=Z,1μm,1.0s						
UESV	**Universidad de**	**0.83**	**299**	*i* P	Pg	20 12 52.8	+0.2
UESV				*i* SA		20 13 04.2	
COEG	**Centro de Oper**	**0.90**	**295**	*i* P	Pg	20 12 53.8	-0.2
COEG				*i* SA		20 13 06.0	
TGUH	**Tegucigalpa,Un**	**1.11**	**42**	*i* P	Pg	20 12 57.3	-0.7
TGUH				*i* SA		20 13 12.4	
LOMA	**Loma Larga**	**1.17**	**290**	*i* P	Pg	20 12 58.2	-1.0
LOMA				*i* SA		20 13 14.9	
LALI	**Alcalda de L**	**1.27**	**282**	*i* P	Pg	20 13 00.4	-0.7
LLGN	**La Laguna**	**1.27**	**317**	*i* P	Pg	20 12 59.6	-1.5
PMON	**Piamonte**	**1.32**	**291**	*i* P	Pn	20 13 01.4	-0.6
PMON				*i* SA		20 13 19.7	
PMON				IAML		20 15 23.9	
	comp=Z,4μm,1.0s						
JAYA	**Jayaque - finc**	**1.43**	**287**	*i* P	Pn	20 13 02.4	-1.1
CNGA	**Al SSO del Vol**	**1.50**	**119**	*i* P	Pn	20 13 02.3	-2.0
CNGN	**Cerro Negro**	**1.50**	**119**	*i* P	Pn	20 13 03.4	-0.9
CNGN				IAML		20 15 33.1	
	comp=Z,2μm,1.0s						
MOMN	**Momotombo**	**1.68**	**119**	*i* P	Pn	20 13 06.4	-0.4
MOMN				IAML		20 15 09.8	
	comp=Z,64nm,1.0s						
MOM2	**El Cardon**	**1.71**	**117**	*i* P	Pn	20 13 07.1	-0.1
MOM2				*i* S	Sg	20 13 32.4	+0.6
MOM2				IAML		20 15 16.3	
	comp=Z,1μm,1.0s						
COPN	**Copaltepe**	**1.76**	**126**	*i* P	Pn	20 13 07.1	-0.8
COPN				IAML		20 15 35.2	
	comp=Z,860nm,1.0s						
NUBE	**Las Nubes**	**1.81**	**292**	*i* P	Pn	20 13 09.3	+0.5
NUBE				*i* SA		20 13 34.0	
NUBE				IAML		20 15 37.9	
	comp=Z,2μm,1.0s						
APYN	**Apoyeque**	**1.93**	**121**	*i* P	Pn	20 13 10.2	0.0
SAJU	**San Juanillo,**	**3.89**	**144**	*i* P	Pn	20 13 37.2	0.0

*IDC **06** 20:14:37.9±1.4,13.58N×87.58W,h0km,mb3.7/6, mbtmp3.8/9,ML3.1/4,MS3.5/2,Error ellipse: s-maj=38.0km s-min=17.3km az=33.0*
*SNET **06** 20:14:38.0±0.7,13.29N×88.06W,h6km±4km,ML4.0*
*CATAC **06** 20:14:38.2±0.1,13.31N×88.05W,h5km±1km,ML4.0*
ISC 06 20:14:38.3±0.8,13.32N±0.04×88.05W±0.02,h10km±5km, n71,σ1°45/98,mb3.8/6,3C,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.15**	**94**	*i*P	**Pg**	**20 14 41.9**	**+0.1**
LCND				*e*S	**Sg**	**20 14 44.6**	**+0.4**
LCND				IAML		20 14 47.0	
	comp=Z,67μm,0.3s						
LCND	**La Caada**	**0.15**	**94**	*i* P	**Pg**	**20 14 41.6**	**-0.2**
LCND				*i* P		20 14 41.9	
LCND				*i* S	**Sg**	**20 14 45.0**	**+0.8**
LCND				IAML		20 14 46.7	
	comp=Z,64μm,1.0s						
LCND				IAML		20 14 46.9	
	comp=Z,70μm,1.0s						
JUCU	**Jucuarįn**	**0.21**	**251**	*i* P	**Pg**	**20 14 42.3**	**-0.4**
JUCU				*e*S	**Sg**	**20 14 45.5**	**-0.2**
JUCU				IAML		20 14 47.5	
	comp=Z,23μm,0.3s						
JUCU	**Jucuarįn**	**0.21**	**251**	*i* P	**Pg**	**20 14 42.3**	**-0.4**
JUCU				*i* S	**Sg**	**20 14 46.3**	**+0.6**
JUCU				IAML		20 14 47.5	
	comp=Z,22μm,1.0s						
CNCH	**Conchagua**	**0.21**	**102**	*i*P	**Pg**	**20 14 43.0**	**+0.2**
CNCH				*e*S	**Sg**	**20 14 46.7**	**+0.8**
CNCH	**Conchagua**	**0.21**	**102**	*i* P	**Pg**	**20 14 43.1**	**+0.2**
CNCH				*i* S	**Sg**	**20 14 46.9**	**+1.0**
CNCH				IAML		20 14 48.4	
	comp=Z,97μm,1.0s						
BLLM	**Bellamira**	**0.22**	**303**	*i* P	**Pg**	**20 14 43.3**	**+0.3**
VSM	**San Miguel**	**0.25**	**296**	*e*P	**Pg**	**20 14 43.9**	**+0.4**
RANC	**El Ranchito**	**0.26**	**296**	*i* S	**Sg**	**20 14 44.4**	**-3.0**
PACA	**Pacayal**	**0.31**	**299**	*e*P	**Pg**	**20 14 45.1**	**+0.5**
PACA				*e*S	**Sg**	**20 14 49.7**	**+1.0**
PACA	**Pacayal**	**0.31**	**299**	*i* P	**Pb**	**20 14 45.2**	**-0.8**
PACA				*i* S	**Sb**	**20 14 50.1**	**-1.0**
PACA				IAML		20 15 02.2	
	comp=Z,86μm,1.0s						
AMPH	**Amapala**	**0.38**	**95**	*e*P	**Pg**	**20 14 45.9**	**0.0**
AMPH				*e*S	**Sg**	**20 14 51.9**	**+1.0**
TECA	**Tecapa**	**0.48**	**291**	*e*P	**Pg**	**20 14 47.5**	**-0.2**
COEB	**Comit de Eme**	**0.50**	**291**	*e*P	**Pg**	**20 14 48.3**	**+0.1**
TECO	**Alcaldia de Te**	**0.75**	**287**	*e*P	**Pg**	**20 14 52.2**	**-0.6**
TECO	**Alcaldia de Te**	**0.75**	**287**	*i* P	Pn	20 15 02.7	+7.8
UESV	**Universidad de**	**0.79**	**294**	*i* P	**Pg**	**20 14 53.4**	**-0.1**
UESV				*i* S	**Sb**	**20 15 06.0**	**+1.2**
UESV				IAML		20 15 11.0	
	comp=Z,3μm,1.0s						
COEG	**Centro de Oper**	**0.86**	**290**	*e*P	**Pg**	**20 14 54.6**	**-0.5**
COEG	**Centro de Oper**	**0.86**	**290**	*i* P	**Pg**	**20 14 54.5**	**-0.5**
COEG				*i* S	**Sg**	**20 15 06.1**	**-0.2**
COEG				IAML		20 15 11.1	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**0.95**	**294**	*i* P	**Pg**	**20 14 56.1**	**-0.6**
PAVA				IAML		20 15 02.0	
	comp=Z,5μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.05**	**46**	*i* P	**Pg**	**20 14 57.9**	**-0.7**
TGUH				*i* S	**Sb**	**20 15 12.7**	**+0.1**
TGUH				IAML		20 15 17.4	
	comp=Z,8μm,1.0s						
PANCS	**Alcalda de**	**1.14**	**285**	*i* P	**Pg**	**20 14 59.0**	**-1.3**
PANCS				*i* S	**Sg**	**20 15 14.5**	**-0.6**
PANCS				IAML		20 15 16.4	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**1.14**	**287**	*i* P	**Pg**	**20 14 59.7**	**-0.6**
LOMA				*i* S	**Sb**	**20 15 15.7**	**+0.6**
LOMA				IAML		20 15 17.4	
	comp=Z,3μm,1.0s						
UDBS	**Universidad Do**	**1.15**	**290**	*i* P	**Pg**	**20 14 59.9**	**-0.5**
UDBS				*i* S	**Sb**	**20 15 15.7**	**+0.4**
UDBS				IAML		20 15 20.6	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.15**	**122**	*i* S	**Sn**	**20 15 18.2**	**+1.8**
SNET	**Serv Nac Est T**	**1.21**	**288**	*i* P	**Pg**	**20 15 00.4**	**-1.2**
SNET				*i* S	**Sb**	**20 15 17.8**	**+0.7**
SNET				IAML		20 15 24.2	
	comp=Z,3μm,1.0s						
LLGN	**La Laguna**	**1.21**	**314**	*i* P	**Pg**	**20 15 00.7**	**-0.9**
LLGN				*i* S	**Sb**	**20 15 17.9**	**+0.8**
LLGN				IAML		20 15 20.8	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**1.23**	**289**	*i* P	**Pg**	**20 15 00.7**	**-1.2**
UEES				*i* S	**Sb**	**20 15 18.2**	**+0.7**
UEES				IAML		20 15 23.8	
	comp=Z,1μm,1.0s						
LALI	**Alcalda de L**	**1.25**	**278**	*i* P	**Pg**	**20 15 00.5**	**-1.9**
LALI				*i* S	**Sb**	**20 15 18.6**	**+0.4**
LALI				IAML		20 15 28.4	
	comp=Z,500nm,1.0s						
JAYA	**Jayaque - finc**	**1.40**	**284**	*i* P	**Pn**	**20 15 03.7**	**-0.4**
JAYA				*i* S	**Sb**	**20 15 23.0**	**+0.2**
JAYA				IAML		20 15 25.4	
	comp=Z,4μm,1.0s						
CNGN	**Cerro Negro**	**1.55**	**122**	*i* P	**Pn**	**20 15 05.1**	**-0.9**
CNGN				*i* S	**Sn**	**20 15 26.8**	**+0.7**
CNGN				IAML		20 15 39.8	
	comp=Z,3μm,1.0s						
UNIC	**Universidad Ca**	**1.60**	**294**	*i* P	**Pn**	**20 15 06.9**	**+0.2**
UNIC				IAML		20 15 09.7	
	comp=Z,530nm,1.0s						
UNIC				*i* S	**Sg**	**20 15 30.1**	**+0.2**
CEVE	**Cerro Verde**	**1.61**	**288**	*i* P	**Pb**	**20 15 08.2**	**-0.2**
CEVE				*i* S	**Sg**	**20 15 33.5**	**+3.1**
LEVN	**Ruinas Leon Vi**	**1.67**	**123**	*i* S	**Sb**	**20 15 30.5**	**+0.3**
MTO3	**Montecristo**	**1.67**	**310**	*i* P	**Pn**	**20 15 08.6**	**+0.8**
MTO3				*i* S	**Sg**	**20 15 31.5**	**-0.5**
MTO3				IAML		20 15 39.1	
	comp=Z,770nm,1.0s						
MOMN	**Momotombo**	**1.73**	**121**	*i* P	**Pn**	**20 15 07.2**	**-1.3**
MOMN				*i* S	**Sn**	**20 15 31.6**	**+1.0**
BRAN	**Las Pilas**	**1.76**	**110**	*i* P	**Pg**	**20 15 11.7**	**-0.4**
MOM2	**El Cardon**	**1.76**	**120**	*i* P	**Pn**	**20 15 07.9**	**-0.9**
MOM2				*i* S	**Sb**	**20 15 33.7**	**+0.9**
MOM2				IAML		20 15 44.3	
	comp=Z,1μm,1.0s						
COPN	**Copaltepe**	**1.82**	**128**	*i* P	**Pn**	**20 15 09.1**	**-0.6**
COPN				IAML		20 15 50.0	
	comp=Z,1μm,1.0s						
APQ3	**Volcan Apoyequ**	**1.94**	**122**	*i* P	**Pn**	**20 15 12.2**	**+0.8**
APQ3				IAML		20 15 13.6	
	comp=Z,2μm,1.0s						
APQ3				*i* S	**Sb**	**20 15 38.2**	**+0.1**
APYN	**Apoyeque**	**1.98**	**123**	*i* P	**Pn**	**20 15 12.4**	**+0.5**
APYN				IAML		20 15 13.8	
	comp=Z,3μm,1.0s						
APYN				*i* S	**Sn**	**20 15 37.0**	**+0.3**
TISN	**Laguna Tiscapa**	**2.09**	**124**	*i* P	**Pn**	**20 15 12.5**	**-1.0**
MAS3	**Al N del Volca**	**2.23**	**125**	*i* P	**Pn**	**20 15 16.2**	**+0.8**
MAS3				IAML		20 15 17.7	
	comp=Z,790nm,1.0s						
MAS3				*i* S	**Sn**	**20 15 44.8**	**+1.7**
RB213	**Mirador 2 Volc**	**2.26**	**126**	*i* P	**Pn**	**20 15 12.8**	**-3.1**
RB213				IAML		20 15 15.6	
	comp=Z,2μm,1.0s						
MASN	**Masaya**	**2.28**	**125**	*i* P	**Pn**	**20 15 17.2**	**+1.2**
MASN				IAML		20 16 03.9	
	comp=Z,180nm,1.0s						
APG	**El Apazote**	**2.88**	**306**	Pn	**Pb**	**20 15 28.9**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=113,slow=12,SNR=12						
APG				Sn	**Sb**	**20 16 08.0**	**+2.6**
	comp=Z,0.5nm,0.3s,baz=234,slow=22,SNR=2.0						
JAPN	**Al SSO del Vol**	**2.92**	**127**	*i* P	**Pn**	**20 15 26.1**	**+1.2**
JAPN				IAML		20 15 33.9	
	comp=Z,280nm,1.0s						
MORN	**Al O del Volca**	**2.93**	**127**	*i* P	**Pn**	**20 15 26.6**	**+1.6**
CONN	**Concepcion**	**2.94**	**126**	*i* P	**Pn**	**20 15 25.5**	**+0.4**
CONN				IAML		20 16 07.6	
	comp=Z,3μm,1.0s						
OMEN	**Al SSO del Vol**	**2.97**	**127**	*i* P	**Pn**	**20 15 26.3**	**+0.8**
OMEN				IAML		20 16 09.2	
	comp=Z,300nm,1.0s						
ACON	**Acoyapa**	**3.11**	**115**	*i* P	**Pb**	**20 15 31.3**	**-2.4**
HZTE	**Horizontes, Gu**	**3.53**	**137**	*i* P	**Pn**	**20 15 33.3**	**+0.1**
HZTE				IAML		20 16 21.6	
	comp=Z,210nm,1.0s						
ORTG	**Ortega, Santa**	**3.88**	**139**	*i* P	**Pn**	**20 15 38.6**	**+0.5**
ORTG				IAML		20 15 40.8	
	comp=Z,160nm,1.0s						
SAJU	**San Juanillo,**	**3.96**	**144**	*i* P	**Pn**	**20 15 39.6**	**+0.4**
SAJU				IAML		20 15 39.8	
	comp=Z,110nm,1.0s						
INDI	**Punta indio, G**	**4.24**	**144**	*i* P	**Pn**	**20 15 43.6**	**+0.6**
INDI				IAML		20 16 49.4	
	comp=Z,96nm,1.0s						
JTS	**Las Juntas de**	**4.27**	**134**	Pn	**Pn**	**20 15 43.3**	**-0.1**
	comp=Z,6.9nm,0.3s,baz=319,slow=18,SNR=18						
JTS				Sn	**Sn**	**20 16 32.3**	**-1.1**
	baz=275,slow=19						
	comp=Z,21nm,0.4s						
COVE	**Coope Vega, Sa**	**4.40**	**126**	*i* P	**Pb**	**20 15 57.1**	**+1.3**
JACO	**JACO, Garabito**	**4.92**	**137**	*i* P	**Pn**	**20 15 55.2**	**+2.8**
VTUN	**Crater Central**	**5.32**	**128**	*i* P	Pn	20 16 04.6	+6.3
CDM	**Cerro de Muert**	**5.62**	**131**	*i* P	**Pn**	**20 16 03.5**	**+1.0**
SRBA	**San Rafael, Bu**	**6.13**	**131**	*i* P	**Pn**	**20 16 12.1**	**+2.9**
TEIG	**Tepich**	**6.87**	**358**	LR	LR	20 19 14.5	
	comp=Z,1μm,20.3s,slow=42						
CMIG	**Matias Romero**	**7.59**	**300**	Pn	Pn	20 16 34.2	+5.1
	comp=Z,0.2nm,0.3s,baz=128,slow=5.7,SNR=2.8						
CMIG				Sn	**Sn**	**20 18 02.7**	**+7.5**
	comp=Z,0.3nm,0.3s,baz=326,slow=16,SNR=2.3						
	comp=Z,3.9nm,0.8s						
SDV	**Santo Domingo**	**17.64**	**103**	P	**Pn**	**20 18 40.0**	**-4.6**
	comp=Z,0.5nm,0.3s,baz=302,slow=19,SNR=1.7						
	comp=Z,1.8nm,0.4s						
TXAR	**Lajitas Array**	**21.54**	**320**	P	**P**	**20 19 29.9**	**+2.0**
	comp=Z,1.2nm,0.8s,baz=137,slow=12,SNR=6.7						
	comp=Z,1.2nm,0.8s						
TKL	**Tuckaleechee C**	**22.57**	**9**	P	**P**	**20 19 37.1**	**-1.7**
	comp=Z,3.5nm,1.0s,baz=171,slow=14,SNR=0.9						
	comp=Z,3.5nm,1.0s						
LPIG	**La Paz**	**23.62**	**300**	LR	LR	20 28 31.5	
	comp=Z,54nm,21.1s,baz=356,slow=35						
YKA	**Yellowknife Ar**	**52.62**	**345**	P	**P**	**20 23 52.5**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=138,slow=6.9,SNR=8.6						
	comp=Z,1.0nm,0.8s						
ILAR	**Eielson Array**	**64.99**	**336**	P	**P**	**20 25 18.8**	**+0.5**
	comp=Z,0.7nm,1.0s,baz=100,slow=5.7,SNR=4.4						
	comp=Z,0.7nm,1.0s						
EKA	**Eskdalemuir Ar**	**76.27**	**36**	P	**P**	**20 26 25.6**	**-1.5**
	comp=Z,2.5nm,1.0s,baz=280,slow=4.0,SNR=3.1						
	comp=Z,2.5nm,1.0s						
ESDC	**Sonseca Array**	**77.11**	**52**	P	**P**	**20 26 31.0**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=282,slow=5.0,SNR=3.9						
	comp=Z,0.5nm,0.7s						

*IDC **06** 20:22:03.3±1.5,37.62N×21.99E,h0km,mb3.7/7, mbtmp3.6/8,ML2.9/1,Error ellipse: s-maj=31.9km s-min=26.3km az=141.0*
*ATH **06** 20:22:05.5,37.59N×22.04E,h7km±1km,ML3.2/8,Error ellipse: s-maj=1.8km s-min=0.9km az=353.0*
*THE **06** 20:22:05.2,37.58N×22.07E,h1km±1km,ML3.2/10,Error ellipse: s-maj=1.7km s-min=0.4km az=137.0*
*ISK **06** 20:22:10.3,37.84N×22.42E,h65km,ML2.8/21*
ISC 06 20:22:05.2±1.0,37.60N±0.02×22.05E±0.02,h11km±8km, n76,σ0°78/99,mb3.6/7,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUR	**Goura**	**0.41**	**35**	P	**Pg**	**20 22 13.3**	**0.0**
GUR				S	**Sb**	**20 22 19.6**	**-1.2**
	26μm,0.2s						
GUR	**Goura**	**0.41**	**35**	P	**Pg**	**20 22 13.3**	**0.0**
GUR				S	**Sb**	**20 22 19.8**	**-0.9**
GUR				AML	AML	20 22 21.1	
	comp=N,64707μm,0.3s						
GUR				AML	AML	20 22 22.3	
	comp=E,36536μm,0.2s						
DRO	**Drossia**	**0.44**	**323**	P	**Pg**	**20 22 14.0**	**+0.1**
DRO				S	**Sb**	**20 22 21.4**	**-0.3**
	comp=E,7μm,0.2s						
DRO	**Drossia**	**0.44**	**323**	P	**Pg**	**20 22 14.3**	**+0.4**
DRO				S	**Sg**	**20 22 20.2**	**+0.5**
KLV	**Kalavryta, Ach**	**0.45**	**10**	P	**Pg**	**20 22 13.9**	**-0.1**
KLV				S	**Sb**	**20 22 21.6**	**-0.3**
KLV	**Kalavryta, Ach**	**0.45**	**10**	P	**Pg**	**20 22 13.9**	**-0.1**
KLV				S	**Sb**	**20 22 21.0**	**-0.9**
KLV				AML	AML	20 22 25.6	
	comp=N,5910μm,0.5s						
KLV				AML	AML	20 22 25.9	
	comp=E,6791μm,0.3s						
KLMT	**Kalamata**	**0.54**	**179**	P	**Pg**	**20 22 15.3**	**-0.4**
KLMT				S	**Sg**	**20 22 23.1**	**+0.2**
	comp=E,2μm,0.4s						
LAKA	**Lakka**	**0.64**	**355**	P	**Pg**	**20 22 17.9**	**+0.3**
RLS	**Riolos of Patr**	**0.65**	**315**	P	**Pg**	**20 22 17.4**	**-0.3**
RLS				S	**Sb**	**20 22 27.4**	**-0.2**
	comp=E,1μm,0.3s						
RLS	**Riolos of Patr**	**0.65**	**315**	P	**Pg**	**20 22 17.4**	**-0.3**
THAL	**Thalero**	**0.65**	**48**	P	**Pg**	**20 22 17.6**	**-0.2**
THAL				S	**Sb**	**20 22 27.0**	**-0.7**
	comp=E,12μm,0.3s						
ALIK	**Aliki, Aigiali**	**0.66**	**4**	P	**Pg**	**20 22 17.9**	**-0.1**
ALIK				S	**Sb**	**20 22 28.0**	**+0.1**
UPR	**University Cam**	**0.71**	**343**	P	**Pg**	**20 22 19.1**	**+0.2**
UPR				S	**Sb**	**20 22 30.4**	**+1.0**
PYL	**PYLOS**	**0.75**	**199**	P	**Pg**	**20 22 18.5**	**-1.2**
PYL				S	**Sg**	**20 22 29.3**	**-0.1**
	comp=E,1μm,0.3s						
PYL	**PYLOS**	**0.75**	**199**	P	**Pg**	**20 22 18.7**	**-1.0**
PYL				S	**Sg**	**20 22 29.0**	**-0.4**
PYL				AML	AML	20 22 35.1	
	comp=N,3168μm,0.4s						
PYL				AML	AML	20 22 35.3	
	comp=E,2469μm,0.4s						
LOUT	**Loutraki**	**0.83**	**62**	P	**Pg**	**20 22 21.0**	**-0.2**
LOUT				S	**Sg**	**20 22 32.0**	**0.0**
LOUT				AML	AML	20 22 38.9	
	comp=E,982μm,0.4s						
LOUT				AML	AML	20 22 40.1	
	comp=N,950μm,0.4s						
EFP	**Efpalio**	**0.83**	**352**	P	**Pg**	**20 22 21.2**	**0.0**
LTK	**Loutraki**	**0.84**	**60**	P	**Pg**	**20 22 21.1**	**-0.3**
LTK				S	**Sb**	**20 22 32.8**	**-0.3**
KRND	**KRANIDI**	**0.90**	**104**	P	**Pg**	**20 22 21.9**	**-0.7**
KRND				S	**Sg**	**20 22 34.7**	**+0.3**
	comp=N,1μm,0.3s						
KRND	**KRANIDI**	**0.90**	**104**	P	**Pg**	**20 22 22.4**	**-0.2**
KRND				S	**Sb**	**20 22 35.9**	**+0.9**
KRND				AML	AML	20 22 39.0	
	comp=E,2353μm,0.4s						
KRND				AML	AML	20 22 40.6	
	comp=N,3061μm,0.3s						
DLFA	**Delphi**	**0.94**	**22**	P	**Pg**	**20 22 22.4**	**-0.9**
LTHK	**Lithakia**	**0.97**	**277**	P	**Pg**	**20 22 23.2**	**-0.6**
ANX	**Ano Chora**	**0.99**	**354**	P	**Pg**	**20 22 23.8**	**-0.5**
ANX				S	**Sg**	**20 22 37.5**	**+0.2**
ANX				AML	AML	20 22 41.6	
	comp=E,3978μm,0.5s						
ANX				AML	AML	20 22 41.7	
	comp=N,7759μm,0.5s						
PVO	**Paravola**	**1.09**	**338**	P	**Pb**	**20 22 26.6**	**+0.4**
VLI	**Veliai**	**1.13**	**141**	P	**Pg**	**20 22 26.2**	**-0.8**
VLI				S	**Sg**	**20 22 41.8**	**+0.1**
	comp=N,632nm,0.7s						
VIL2	**Platees**	**1.14**	**57**	P	**Pg**	**20 22 26.6**	**-0.6**
VIL2				S	**Sb**	**20

KNT	Kendrikon	3.61	10	Pn	Pn	20 23 02.2	+1.0
URLA	Izmir	3.67	77	Pn	Pn	20 23 02.1	+0.1
GADA	Gvkgeada	3.96	48	Pn	Pn	20 23 05.8	-0.1
DKL	Dikili	4.09	68	Pn	Pn	20 23 07.7	0.0
BODT	Bodrum	4.23	96	Pn	Pn	20 23 10.8	+1.2
COMU	Canakkale	4.26	53	Pn	Pn	20 23 09.7	-0.4
GELI	Tayfur-Gelibol	4.43	50	Pn	Pn	20 23 12.3	-0.1
LPK	Lapseki	4.60	52	Pn	Pn	20 23 14.6	-0.1
ERIK	Erikli-Kesan	4.63	47	Pn	Pn	20 23 14.9	-0.2
KDZ	Kurdzhali	4.76	31	Pn	Pn	20 23 17.3	+0.4
KRBG	Karabiga-Canak	4.95	54	Pn	Pn	20 23 19.5	0.0
BRTR	Keskin Array B	9.31	73	Pn	Pn	20 24 22.8	+3.3
	comp=E,0.1nm,0.3s,baz=258,slow=14,SNR=2.9						
	comp=E,0.3nm,0.5s						
HFS	Hagfors	23.17	349	P	P	20 27 11.1	-0.4
	comp=E,0.8nm,0.4s,baz=153,slow=10.0,SNR=10						
	comp=E,0.8nm,0.4s						
FINES	FINESS Array B	24.00	5	P	P	20 27 19.1	-0.5
	comp=E,1.4nm,0.8s,baz=168,slow=9.8,SNR=5.1						
	comp=E,1.4nm,0.8s						
EKA	Eskdalemuir Ar	24.60	324	P	P	20 27 24.6	-0.6
	comp=E,1.5nm,0.9s,baz=131,slow=8.6,SNR=2.5						
	comp=E,1.5nm,0.9s						
TORD	Torodi Ar. Bea	30.38	222	P	P	20 28 17.0	-0.4
	comp=E,0.5nm,0.7s,baz=21,slow=10.0,SNR=2.7						
	comp=E,0.5nm,0.7s						
ARCES	ARCESS Array B	32.05	2	P	P	20 28 31.0	-0.6
	comp=E,5.3nm,1.1s,baz=186,slow=9.8,SNR=7.0						
	comp=E,5.3nm,1.1s						
KURBB	Kurchatov Arra	41.60	53	P	P	20 29 52.3	-0.8
	comp=E,0.3nm,0.4s,baz=278,slow=9.1,SNR=4.1						
	comp=E,0.3nm,0.4s						
ZALV	Zalesovo Beam	45.18	48	P	P	20 30 21.8	0.0
	comp=E,0.3nm,0.3s,baz=263,slow=9.9,SNR=2.5						
	comp=E,0.3nm,0.3s						

NEIC ***06*** *20:24:13.7±0.7, 19.°00N±0.°03×155.°23W±0.°02, h10km±2km, Error ellipse: s-maj=6.6km s-min=3.1km az=328.0*

HVO 06 20:24:14.7±1.2, 19.°05N±0.°03×155.°19W±0.°03, h9km±7km, ML2.4/13, ML2.6/22(NEIC), Error ellipse: s-maj=5.6km s-min=2.5km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	Hilina Pali	0.27	336		Pg	20 24 19.9	-0.2
HLP	Hilina Pali	0.27	336	IAML		20 24 27.1	
	comp=E,2μm,0.8s						
HLP				IAML		20 24 27.3	
	comp=N,2μm,0.4s						
HTC	Hot Caves	0.27	314		Pg	20 24 20.4	+0.2
PUH	Pauahi	0.33	356		Pg	20 24 20.7	-0.5
PUH				IAML		20 24 30.2	
	comp=N,755nm,0.9s						
KNHH	Kane Nui o Ham	0.33	3		Pg	20 24 21.3	0.0
STCH	Steam Cracks	0.34	10		Pg	20 24 21.4	-0.1
STCH	Steam Cracks	0.34	10	IAML		20 24 30.1	
	comp=E,570nm,0.5s						
STCH				IAML		20 24 30.1	
	comp=N,672nm,0.4s						
JCUZ	Jacuzzi	0.35	14		Pg	20 24 21.0	-0.6
JCUZ				IAML		20 24 28.1	
	comp=N,603nm,0.4s						
JCUZ				IAML		20 24 28.1	
	comp=E,687nm,0.4s						
NPOC	North of Pu'u	0.35	13		Pg	20 24 21.5	-0.2
NPOC				IAML		20 24 31.6	
	comp=N,519nm,0.6s						
NPOC				IAML		20 24 31.7	
	comp=E,604nm,0.2s						
JOKA	Jonika Flow	0.42	25		Pg	20 24 22.7	-0.3
JOKA					Sg	20 24 29.4	+0.8
KHU	Kahuku	0.45	296		Pg	20 24 23.1	-0.4
KHU	Kahuku	0.45	296		Sg	20 24 30.0	+0.5
MLH	Mauna Loa	0.48	337		Pg	20 24 23.7	-0.5
MLH					Sg	20 24 30.8	+0.3
MLH	Mauna Loa	0.48	337	IAML		20 24 31.1	
	comp=N,1μm,0.6s						
MLH				IAML		20 24 34.2	
	comp=E,816nm,0.5s						
MWH	Moku'aweowe	0.58	319		Pg	20 24 25.0	-1.0
MWH	Moku'aweowe	0.58	319	IAML		20 24 38.0	
	comp=E,425nm,0.6s						
MWH				IAML		20 24 40.3	
	comp=N,431nm,0.7s						
HMH	Humu'ula Sheep	0.62	334		Pg	20 24 25.7	-1.1
HMH					Sg	20 24 34.4	-0.6
HMH	Humu'ula Sheep	0.62	334	IAML		20 24 34.6	
	comp=N,491nm,0.4s						
HMH				IAML		20 24 46.1	
	comp=E,286nm,0.5s						
ALEP	Alea Permanent	0.65	319		Pg	20 24 25.8	-1.6
POHA	Pohakuloa	0.78	336	Pg	Pg	20 24 28.3	-1.4
HUH	Hualalai	0.88	316	Pg	Pg	20 24 29.9	-1.8
HUH				IAML		20 24 49.0	
	comp=N,286nm,2.0s						
HUH				IAML		20 24 56.6	
	comp=E,286nm,0.7s						

IDC ***06*** *20:26:23.9±1.5, 43.°13N×104.°62E, h0km, mb3.5/4, mbtmp3.5/7, ML3.5/3, Error ellipse: s-maj=29.1km s-min=26.8km az=141.0*

ISC 06 20:26:29.0±1.4, 43.°2N±0.°2×104.°5E±0.°2, h35km, n7, σ0s96/7, mb3.6/4, Mongolia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	4.84	15	Pn	Pn	20 27 39.4	0.0
	4.6nm,0.3s,baz=193,slow=15,SNR=172						
SONM				Lg	Lg	20 28 53.0	
	8.9nm,0.3s,baz=193,slow=25,SNR=1.4						
	5.9nm,0.3s						
MKAR	Makanchi Array	16.11	291	Pn	P	20 30 15.0	-0.6
	0.2nm,0.3s,baz=94,slow=14,SNR=9.2						
MKAR				Lg	Lg	20 34 58.0	
	baz=109,slow=25						
	0.8nm,0.6s						
KURBB	Kurchatov Arra	19.17	302	P	Pn	20 30 49.7	-0.7
	baz=108,slow=11,SNR=4.7						
	0.5nm,0.5s						
BVAR	Borovoye Array	24.59	306	P	P	20 31 45.2	-0.4
	0.7nm,0.5s,baz=114,slow=9.9,SNR=4.2						
	0.7nm,0.5s						
CMAR	Chiang Mai Arr	25.09	193	P	P	20 31 49.8	-0.6
	0.4nm,0.6s,baz=2.6,slow=9.9,SNR=2.1						
	0.4nm,0.6s						
GEYT	Alibeck	35.27	278	P	P	20 33 21.8	+1.5
	0.7nm,0.6s,baz=60,slow=8.5,SNR=2.7						
	0.7nm,0.6s						
ILAR	Eielson Array	58.93	28	P	P	20 36 24.4	+0.2
	0.3nm,0.6s,baz=300,slow=5.6,SNR=5.1						
	0.3nm,0.6s						

IDC ***06*** *20:28:21.5±2.9, 1.°57S×136.°20E, h0km, mb4.1/3, mbtmp4.0/4, ML3.7/1, Error ellipse: s-maj=131.1km s-min=25.6km az=81.0*

DJA ***06*** *20:28:25.8±0.4, 2.°3S×13.°6E±.°, h10km, M4.1/9, mb4.0/3, mB5.7/1, MLv4.2/9, Mw(mB)5.3/1*

ISC 06 20:28:24.8±1.1, 1.°7S±0.°1×135.°60E±0.°07, h10km, n10, σ1s87/11, mb3.8/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	2.71	224	P	Pn	20 29 10.5	+2.0
SMPI	Sarmi	3.12	95	P	Pn	20 29 14.3	+0.2
FAKI	Fak Fak	3.56	250	P	Pn	20 29 20.7	+0.5
SWI	Sorong	4.42	281	P	Pn	20 29 32.4	+0.4
GENI	Genyem	4.65	101	P	Pn	20 29 38.4	+3.3
JAY	Jayapura	5.16	99	P	Pn	20 29 42.8	+0.5
	14nm,1.2s,0.1nm						
WRA	Warramunga Arr	18.17	184	P	Pn	20 32 35.6	-1.8
	0.3nm,0.3s,baz=7.3,slow=12,SNR=38						
	1.6nm,0.7s						
ASAR	Alice Springs	21.89	184	P	P	20 33 19.4	+1.1
	2.5nm,0.6s,baz=8.0,slow=11,SNR=39						
ASAR				S	S	20 37 17.5	-2.8
	0.5nm,1.0s,baz=4.8,slow=28,SNR=1.3						
	2.5nm,0.6s						
MKAR	Makanchi Array	67.12	323	P	P	20 39 19.1	+0.3
	0.5nm,0.7s,baz=113,slow=7.7,SNR=3.3						
	0.5nm,0.7s						
KURBB	Kurchatov Arra	71.14	326	P	P	20 39 42.8	-0.8
	1.8nm,0.2s,baz=120,slow=5.9,SNR=1.9						
	1.8nm,0.2s						

IDC ***06*** *20:33:35.6±5.2, 35.°68N×71.°57E, h96km±35km, mb3.5/5, mbtmp3.8/11, Error ellipse: s-maj=62.6km s-min=25.9km az=145.0*

NNC ***06*** *20:33:47.4±4.0, 36.°67N×71.°14E, h71km±94km, mb3.8, mpv4.0, Error ellipse: s-maj=36.4km s-min=29.9km az=106.0*

ISC 06 20:33:40.9±1.8, 36.°2N±0.°2×71.°2E±0.°1, h100km, n24, σ1s75/28, mb3.7/4, 3C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	6.52	22	P	Pn	20 35 15.8	+1.1
	SNR=28						
EKS2	Erkin-Say	6.73	17	P	Pn	20 35 18.2	+1.1
	SNR=32						
KK31	Karatay Array	6.88	356	P	Pn	20 35 19.9	+0.8
	14nm,0.4s,baz=179,slow=12,SNR=355						
KK31				⇓S	Sn	20 36 33.7	-2.1
	2.0nm,0.3s,baz=184,slow=24,SNR=6.5						
AAK	Ala-Archa	6.89	21	P	Pn	20 35 20.7	+1.3
	SNR=16						
AAK	Ala-Archa	6.89	21	⇓P	Pn	20 35 20.4	+1.0
	4.9nm,0.3s						
AAK				⇑S	Sn	20 36 33.6	-2.8
	8.0nm,0.5s						
AAK	Ala-Archa	6.89	21	P	Pn	20 35 20.6	+1.3
	9.4nm,0.3s,baz=168,slow=6.5,SNR=39						
AAK				S	Sn	20 36 33.9	-2.4
	6.4nm,0.5s,baz=344,slow=23,SNR=8.8						
KBK	Karagaybulak	7.05	23	P	Pn	20 35 23.6	+2.1
	SNR=6.6						
CHMS	Chumysh	7.30	21	P	Pn	20 35 26.2	+1.4
	SNR=7.8						
CHMS	Chumysh	7.30	21	⇓P	Pn	20 35 25.5	+0.7
	3.6nm,0.3s						
CHMS				⇓S	Sn	20 36 42.4	-3.6
	4.4nm,0.5s						
USP	Ospenovka	7.48	19	P	Pn	20 35 28.0	+0.8
	SNR=5.5						
TKM2	Tokmak 2	7.50	26	⇑P	Pn	20 35 28.1	+0.4
	2.5nm,0.5s						
GEYT	Alibeck	10.56	283	P	Pn	20 36 10.0	+0.8
	0.4nm,0.3s,baz=102,slow=13,SNR=2.5						
GEYT				S	Sn	20 38 03.9	-1.6
	0.7nm,0.4s,baz=102,slow=27,SNR=2.1						
MK31	Makanchi Array	13.43	35	P	P	20 36 54.3	+1.3
	2.3nm,1.1s,baz=205,slow=9.3,SNR=5.8						
MKAR	Makanchi Array	13.43	35	P	Pn	20 36 45.5	-1.8
	0.3nm,0.5s,baz=219,slow=14,SNR=1.9						
KURBB	Kurchatov Arra	15.33	18	P	Pn	20 37 11.5	-0.1
	0.9nm,0.2s,baz=201,slow=10,SNR=1.8						
AB31	Akbulak array	15.38	331	⇑P	Pn	20 37 12.1	-0.1
	0.5nm,0.3s,baz=142,slow=13,SNR=45						
BVA0	Borovoye Array	16.80	358	P	Pn	20 37 33.5	+3.8
	1.4nm,0.7s,baz=165,slow=9.2,SNR=4.6						
BVAR	Borovoye Array	16.80	358	P	P	20 37 30.4	+0.2
	1.3nm,0.7s,baz=165,slow=8.7,SNR=6.1						
AKTO	Aktyubinsk	17.07	330	P	P	20 37 35.1	+1.7
	2.7nm,0.7s,baz=148,slow=7.8,SNR=12						
AKTO				S	Sn	20 40 35.6	-7.2
	0.7nm,0.6s,baz=138,slow=14,SNR=1.9						
ZALV	Zalesovo Beam	20.10	24	P	P	20 38 05.5	-0.9
	1.3nm,0.3s,baz=217,slow=9.2,SNR=8.9						
	1.3nm,0.3s						
FINES	FINESS Array B	37.78	326	P	P	20 40 47.6	+0.7
	0.7nm,0.8s,baz=106,slow=8.8,SNR=1.3						
	0.8nm,0.8s						
ARCES	ARCESS Array B	41.44	338	P	P	20 41 17.5	+0.3
	4.5nm,1.1s,baz=111,slow=6.9,SNR=3.6						
	4.5nm,1.1s						
HFS	Hagfors	43.36	322	P	P	20 41 33.2	+0.4
	1.0nm,0.7s,baz=98,slow=11,SNR=1.7						
	1.0nm,0.7s						
TORD	Torodi Ar. Bea	65.84	269	P	P	20 44 13.1	-2.9
	0.4nm,0.5s,baz=56,slow=5.3,SNR=6.8						
	0.4nm,0.5s						

IDC 06 21:12:46.4±54.0, 19.°55S×178.°50W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=980.0km s-min=160.3km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	37.79	243	P	P	21 20 04.7	+0.1
	3.1nm,1.0s,baz=101,slow=10,SNR=3.3						
	3.1nm,1.0s						
WRA	Warramunga Arr	44.28	261	P	P	21 20 58.1	0.0
	2.4nm,0.8s,baz=97,slow=7.6,SNR=20						
	2.4nm,0.8s						
ASAR	Alice Springs	44.29	256	P	P	21 20 57.9	-0.4
	3.4nm,0.5s,baz=96,slow=7.6,SNR=54						
	3.4nm,0.5s						

TEH ***06*** *21:16:30.8, 34.°64N×46.°31E, h6km±56km, ML3.0*

ISN ***06*** *21:16:31.7±0.4, 34.°62N×46.°26E, h14km±2km, ML3.0*

ISC 06 21:16:32.1±0.8, 34.°60N±0.°03×46.°26E±0.°03, h10km, n22, σ1s45/27, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	Ghasr-e-Shirin	0.56	260	Pg	Pb	21 16 43.2	-0.8
KGS1				Sg	Sb	21 16 53.0	+0.9
ILIN	Lien	0.66	61	Pg	Pg	21 16 43.6	-1.4
SNQR	Sonqor, Kerman	1.16	77	Pg	Pb	21 16 53.6	-0.8
IBDR	Badra	1.51	190	ePg	Pb	21 16 59.5	-0.8
IBDR				eSg	Sg	21 17 20.0	-0.8
IBDR				AML	AML	21 17 26.5	
	comp=E,212nm,0.5s						
IBDR				AML	AML	21 17 26.8	
	comp=N,131nm,0.3s						
SDS1	Sardasht. Az.	1.67	338	Pg	Pb	21 17 02.2	-0.8
IKFM	Kafar-mosalman	1.70	129	Pg	Pg	21 17 03.9	-0.9
IKRK	Kirkuk	1.76	297	ePn	Pb	21 17 03.5	-1.1
IKRK				eSn	Sb	21 17 27.0	+0.3
IKRK				AML	AML	21 17 31.7	
	comp=N,279nm,0.4s						
IKRK				AML	AML	21 17 31.8	
	comp=E,299nm,0.4s						
IDOB	Doab	1.79	117	Pg	Pb	21 17 04.4	-0.7
HSAM	Samen	1.98	101	Pn	Pb	21 17 07.9	-0.5
BHD	Baghdad	2.05	230	ePn	Pb	21 17 07.8	-1.6
BHD				eSn	Sb	21 17 34.0	-1.0
BHD				AML	AML	21 17 48.5	
	comp=E,171nm,0.4s						
MAHB	Mahabad	2.21	348	Pn	Pb	21 17 11.0	-1.2
BDRS	Dareh Seyedi	2.27	106	Pn	Pb	21 17 11.6	-1.7
HAGD	Aghdareh	2.39	84	Pn	Pb	21 17 13.4	-1.9
IHSH	Hashtrud	2.82	17	Pn	Pn	21 17 19.0	+1.5
RAFI	Al-Rafai	2.88	182	ePn	Pn	21 17 19.5	+1.5
RAFI				eSn	Sn	21 17 54.0	+1.4
ISRB	Sarab	3.41	19	Pn	Pn	21 17 27.0	+1.4
ISHB	Shabestar	3.71	352	Pn	Pn	21 17 31.3	+1.6
IHRS	Heris	3.76	9	Pn	Pn	21 17 32.1	+1.7
QAMS	Qamsar	4.35	100	Pn	Pn	21 17 40.6	+2.1
JHBN	Jahan bin	4.38	121	Pn	Pn	21 17 40.6	+1.6
IKLH	Kolahrood	4.61	105	Pn	Pn	21 17 44.2	+2.2
KRSH	Karshahi	4.91	96	Pn	Pn	21 17 48.3	+2.2

RSNC 06 21:31:58.8±3.7, 1.°N±15.°×80.°W±2.°8, h0km, M2.8, mb4.1, mB4.5, ML2.8, Mw(mB)3.7, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAC1	Pacto, Paraso	0.79	112	P	Pg	21 32 13.2	-0.7
CUSE	Cuicocha Este	1.15	103	P	Pg	21 32 20.0	-0.9
GCUF	Volcan Galeras	2.27	73	P	Pn	21 32 37.8	-0.3
CRUC	La Cruz	2.76	69	P	Pn	21 32 46.1	+1.5
GR1C	Gorgona, Isla	2.78	29	P	Pb	21 32 47.5	-1.9
POPC	Popayan, Colom	3.46	55	P	Pn	21 32 52.9	-1.3
JAMC	Jamundi, Valle	3.88	47	P	Pn	21 32 57.4	-2.5
PLMC	San Jos del P	5.39	37	P	Pn	21 33 16.7	-3.9
	7.3nm,1.2s,438nm						
PRAC	Prado	5.59	56	P	Pn	21 33 24.0	+0.7
	14nm,0.5s						
URMC	La Uribe, Meta	5.79	62	P	Pn	21 33 27.5	+1.4

SNET ***06*** *21:47:11.0±1.1, 13.°30N×88.°08W, h2km±3km, ML3.8*

CATAC ***06*** *21:47:11.0±0.2, 13.°29N×88.°05W, h3km±1km, ML3.8*

ISC 06 21:47:11.4±0.9, 13.°32N±0.°04×88.°06W±0.°02, h13km±6km, n55, σ0s72/72, 8C-3D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	La Caada	0.16	94	⇑iP	Pg	21 47 15.0	-0.3
LCND				eS	Sg	21 47 17.8	-0.2
LCND	La Caada	0.16	94	iP	Pg	21 47 15.0	-0.3
LCND				iP		21 47 18.1	
LCND				IAML		21 47 19.4	
	comp=Z,31μm,1.0s						
CNRM	Centro Naciona	0.19	324	⇓iP	Pg	21 47 15.4	-0.3
CNRM				eS	Sg	21 47 18.8	+0.2
CNRM	Centro Naciona	0.19	324	iP	Pg	21 47 15.4	-0.3
CNRM				iS	Sg	21 47 19.1	+0.4
CNRM				IAML		21 47 22.2	
	comp=Z,130μm,1.0s						
JUCU	Jucuarn	0.20	250	⇑iP	Pg	21 47 15.1	-0.8
JUCU				eS	Sg	21 47 18.2	-0.9
JUCU	Jucuarn	0.20	250	iP	Pg	21 47 15.2	-0.8
JUCU				iS	Sg	21 47 18.3	-0.7
JUCU				IAML		21 47 20.6	
	comp=Z,20μm,1.0s						
BLLM	Bellamira	0.21	304	⇑iP	Pg	21 47 15.9	-0.2
CNCH	Conchagua	0.22	102	⇑iP	Pg	21 47 16.2	-0.1
CNCH				eS	Sg	21 47 20.0	+0.3
CNCH	Conchagua	0.22	102	iS	Pg	21 47 16.3	-0.1
VSM	San Miguel	0.24	297	⇓iP	Pg	21 47 16.6	-0.1
RANC	El Ranchito	0.25	296	⇑iP	Pg	21 47 16.7	-0.1
RANC	El Ranchito	0.25	296	iP	Pg	21 47 17.0	+0.1
RANC				iS	Sg	21 47 21.4	+0.8
RANC				IAML		21 47 25.3	
	comp=Z,28μm,1.0s						
LCY	Lacayo	0.25	294	⇑eP	Pg	21 47 16.8	-0.1
PACA	Pacayal	0.30	299	⇑eP	Pg	21 47 17.6	-0.1
PACA	Pacayal	0.30	299	iP	Pg	21 47 17.8	+0.1
PACA				IAML		21 47 22.6	
	comp=Z,110μm,1.0s						
PACA				iS	Sb	21 47 23.1	-0.4
AMPH	Amapala	0.39	95	iP	Pg	21 47 19.0	-0.2
AMPH				iS	Sb	21 47 25.6	-0.4
TECA	Tecapa	0.47	292	eP	Pg	21 47 20.5	-0.2
COEB	Comit de Eme	0.49	291	eP	Pg	21 47 20.9	-0.3
COEB	Comit de Eme	0.49	291	iP	Pg	21 47 21.1	-0.1
COEB				iS	Sg	21 47 28.1	+0.3
COEB				IAML		21 47 30.5	
	comp=Z,5μm,1.0s						
PQSS	Presa 15 de Se	0.57	302	⇑iP	Pg	21 47 22.4	-0.3
PQSS	Presa 15 de Se	0.57	302	iP	Pg	21 47 22.4	-0.3
PQSS				iS	Sb	21 47 31.6	+0.2
PQSS				IAML		21 47 33.7	
	comp=Z,1μm,1.0s						
TECO	Alcaldia de Te	0.74	287	eP	Pg	21 47 25.0	-0.7
TECO	Alcaldia de Te	0.74	287	iP	Pg	21 47 25.2	-0.5
TECO				iS	Sg	21 47 35.5	+0.1
TECO				IAML		21 47 40.3	
	comp=Z,2μm,1.0s						
SCLA	Alcaldia de Sa	0.76	300	⇓eP	Pg	21 47 25.6	-0.4
SCLA	Alcaldia de Sa	0.76	300	iP	Pg	21 47 26.0	-0.1
SCLA				IAML		21 47 43.3	
	comp=Z,1μm,1.0s						
UESV	Universidad de	0.78	294	iP	Pg	21 47 26.2	-0.3
UESV				iS	Sb	21 47 37.5	+0.3
UESV				IAML		21 47 49.9	
	comp=Z,2μm,1.0s						
COEG	Centro de Oper	0.85	290	eP	Pg	21 47 27.3	-0.7
COEG	Centro de Oper	0.85	290	iP	Pg	21 47 27.3	-0.7
COEG				iS	Sg	21 47 39.4	+0.2
COEG				IAML		21 47 46.6	
	comp=Z,2μm,1.0s						
PAVA	Las Pavas	0.94	295	eP	Pg	21 47 28.9	-0.7
PAVA	Las Pavas	0.94	295	iP	Pg	21 47 29.1	-0.5
PAVA				IAML		21 47 47.0	
	comp=Z,3μm,1.0s						
TGUH	Tegucigalpa,Un	1.06	46	iP	Pg	21 47 30.9	-0.9
TGUH				IAML		21 47 56.9	
	comp=Z,4μm,1.0s						
PANCS	Alcalda de	1.13	285	iP	Pg	21 47 33.0	-0.2
PANCS				iSA		21 47 47.4	
PANCS				IAML		21 47 48.8	
	comp=Z,4μm,1.0s						
LOMA	Loma Larga	1.13	287	eP	Pg	21 47 32.2	-1.1
LOMA	Loma Larga	1.13	287	iP	Pg	21 47 32.3	-0.9
LOMA				iS	Sg	21 47 47.7	-0.3
LOMA				IAML		21 47 52.8	
	comp=Z,2μm,1.0s						
CRIN	San Cristobal	1.16	122	iP	Pg	21 47 33.3	-0.5
CRIN				IAML		21 47 57.2	
	comp=Z,4μm,1.0s						
LLGN	La Laguna	1.20	314	eP	Pg	21 47 32.8	-1.7
LLGN	La Laguna	1.20	314	iP	Pg	21 47 32.9	-1.7
LLGN				IAML		21 47 50.3	
	comp=Z,1μm,1.0s						
UEES	Universidad Ev	1.22	289	iP	Pb	21 47 34.8	+0.5
UEES				iS	Sg	21 47 50.1	-0.6
UEES				IAML		21 47 57.7	
	comp=Z,960nm,1.0s						
PIC2	El Picacho	1.24	290	eP	Pg	21 47 34.8	-0.6
PMON	Piamonte	1.28	288	eP	Pg	21 47 35.0	-1.2
PMON	Piamonte	1.28	288	iP	Pg	21 47 35.5	-0.6
PMON				iSA		21 47 52.8	
PMON				IAML		21 47 58.1	
	comp=Z,3μm,1.0s						
JAYA	Jayaque - finc	1.39	284	eP	Pn	21 47 36.5	-0.1
JAYA	Jayaque - finc	1.39	284	iP	Pn	21 47 36.6	-0.1
JAYA				IAML		21 47 58.8	
	comp=Z,4μm,1.0s						
CNGA	Al SSO del Vol	1.56	122	iP	Pn	21 47 36.1	-2.7
CNGA				IAML		21 48 07.6	
	comp=Z,870nm,1.0s						
CNGN	Cerro Negro	1.56	122	iP	Pn	21 47 38.5	-0.3
CNGN				IAML		21 48 13.2	
	comp=Z,880nm,1.0s						
CEVE	Cerro Verde	1.60	288	iP	Pn	21 47 40.7	+1.1
CEVE				iS	Sg	21 48 04.9	+1.7
CEVE				IAML		21 48 09.3	
	comp=Z,2μm,1.0s						
MTO3	Montecristo	1.66	310	eP	Pn	21 47 40.1	-0.3
MTO3	Montecristo	1.66	310	iP	Pn	21 47 40.2	-0.2
MTO3				IAML		21 47 41.5	
	comp=Z,720nm,1.0s						
MTO3				iSA		21 48 03.9	
MOMN	Momotombo	1.73	121	iP	Pn	21 47 42.2	+0.9
MOMN				IAML		21 48 11.6	
	comp=Z,20nm,1.0s						
MOM2	El Cardon	1.77	120	iP	Pn	21 47 42.5	+0.9
MOM2				IAML		21 48 21.1	
	comp=Z,560nm,1.0s						
NUBE	Las Nubes	1.77	289	iP	Pn	21 47 42.4	+0.5
NUBE				iSA		21 48 07.6	
NUBE				IAML		21 48 13.7	
	comp=Z,800nm,1.0

CNRM			*i* S	**Sg**	**21 58 43.4**	**+0.9**
CNRM			IAML		21 58 45.8	
	comp=Z,46μm,1.0s					
JUCU	**Jucuaŗn**	**0.20 247** ⇑	*i*P	**Pg**	**21 58 39.4**	**-0.6**
JUCU			*e*S	**Sg**	**21 58 42.5**	**-0.5**
JUCU	**Jucuaŗn**	**0.20 247**	*i* P	**Pg**	**21 58 39.4**	**-0.6**
JUCU			*i* S	**Sg**	**21 58 43.1**	**+0.1**
JUCU			IAML		21 58 47.7	
	comp=Z,11μm,1.0s					
BLLM	**Bellamira**	**0.20 303** ⇑	*i*P	**Pg**	**21 58 40.2**	**+0.1**
CNCH	**Conchagua**	**0.23 104** ⇑	*i*P	**Pg**	**21 58 40.5**	**-0.1**
CNCH			*e*S	**Sg**	**21 58 44.2**	**+0.3**
CNCH	**Conchagua**	**0.23 104**	*i* P	**Pg**	**21 58 40.4**	**-0.1**
CNCH			*i* S	**Sg**	**21 58 44.6**	**+0.7**
CNCH			IAML		21 58 46.2	
	comp=Z,43μm,1.0s					
VSM	**San Miguel**	**0.23 295**	*e*P	**Pg**	**21 58 40.9**	**+0.2**
RANC	**El Ranchito**	**0.24 295** ⇑	*i*P	**Pg**	**21 58 41.1**	**+0.2**
RANC	**El Ranchito**	**0.24 295**	*i* P	**Pg**	**21 58 41.1**	**+0.2**
RANC			*i* S	**Sb**	**21 58 45.7**	**-0.6**
RANC			IAML		21 58 49.2	
	comp=Z,11μm,1.0s					
LCY	**Lacayo**	**0.25 292** ⇑	*e*P	**Pg**	**21 58 41.1**	**+0.2**
PACA	**Pacayal**	**0.29 298** ⇑	*i*P	**Pg**	**21 58 41.8**	**+0.1**
PACA	**Pacayal**	**0.29 298**	*i* P	**Pg**	**21 58 41.7**	**+0.1**
PACA			*i* S	**Sb**	**21 58 47.0**	**-0.6**
PACA			IAML		21 58 56.1	
	comp=Z,43μm,1.0s					
AMPH	**Amapala**	**0.39 96**	*i* P	**Pg**	**21 58 43.1**	**-0.3**
AMPH			*i* S	**Sb**	**21 58 49.8**	**-0.6**
TECA	**Tecapa**	**0.46 291**	*e*P	**Pg**	**21 58 44.8**	**+0.1**
COEB	**Comit de Eme**	**0.49 290** ⇑	*e*P	**Pg**	**21 58 45.3**	**+0.1**
COEB	**Comit de Eme**	**0.49 290**	*i* P	**Pg**	**21 58 45.3**	**+0.1**
COEB			*i* S	**Sg**	**21 58 52.5**	**+0.8**
COEB			IAML		21 58 54.7	
	comp=Z,2μm,1.0s					
PQSS	**Presa 15 de Se**	**0.57 301** ⇑	*i*P	**Pg**	**21 58 46.6**	**0.0**
PQSS	**Presa 15 de Se**	**0.57 301**	*i* P	**Pg**	**21 58 46.7**	**0.0**
PQSS			*i* S	**Sb**	**21 58 55.6**	**+0.2**
PQSS			IAML		21 59 02.6	
	comp=Z,670nm,1.0s					
TECO	**Alcaldia de Te**	**0.73 286**	*i* S	**Pg**	**21 58 49.3**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.75 300** ⇓	*e*P	**Pg**	**21 58 49.9**	**-0.1**
SCLA	**Alcaldia de Sa**	**0.75 300**	*i* P	**Pg**	**21 58 50.1**	**0.0**
SCLA			IAML		21 59 07.5	
	comp=Z,510nm,1.0s					
UESV	**Universidad de**	**0.77 293**	*i* S	**Sb**	**21 59 01.1**	**-0.2**
COEG	**Centro de Oper**	**0.85 290**	*e*P	**Pg**	**21 58 51.7**	**-0.3**
COEG	**Centro de Oper**	**0.85 290**	*i* S	**Sb**	**21 59 03.7**	**+0.1**
PAVA	**Las Pavas**	**0.93 294**	*i* P	**Pb**	**21 58 53.3**	**-0.4**
PAVA			IAML		21 59 07.6	
	comp=Z,2μm,1.0s					
TGUH	**Tegucigalpa,Un**	**1.05 47**	*i* P	**Pb**	**21 58 55.0**	**-0.8**
TGUH			*i* SA		21 59 10.2	
TGUH			IAML		21 59 14.2	
	comp=Z,2μm,1.0s					
LOMA	**Loma Larga**	**1.12 286**	*e*P	**Pb**	**21 58 56.4**	**-0.6**
LOMA	**Loma Larga**	**1.12 286**	*i* P	**Pb**	**21 58 56.7**	**-0.3**
LOMA			IAML		21 59 16.4	
	comp=Z,1μm,1.0s					
PANCS	**Alcalda de**	**1.12 285**	*i* P	**Pn**	**21 58 57.2**	**+0.1**
PANCS			*i* SA		21 59 11.7	
PANCS			IAML		21 59 13.3	
	comp=Z,2μm,1.0s					
CRIN	**San Cristobal**	**1.17 122**	*i* P	**Pb**	**21 58 57.5**	**-0.2**
CRIN			IAML		21 59 19.9	
	comp=Z,4μm,1.0s					
LLGN	**La Laguna**	**1.19 314**	*i* P	**Pn**	**21 58 57.2**	**-0.9**
LLGN			IAML		21 58 58.1	
	comp=Z,710nm,1.0s					
LALI	**Alcalda de L**	**1.24 277**	*i* P	**Pb**	**21 58 58.8**	**0.0**
LALI			*i* SA		21 59 15.8	
LALI			IAML		21 59 18.2	
	comp=Z,290nm,1.0s					
PMON	**Piamonte**	**1.28 287**	*e*P	**Pn**	**21 58 59.3**	**0.0**
PMON	**Piamonte**	**1.28 287**	*i* P	**Pb**	**21 58 59.6**	**0.0**
PMON			*i* SA		21 59 17.2	
PMON			IAML		21 59 20.7	
	comp=Z,2μm,1.0s					
JAYA	**Jayaque - finc**	**1.39 284** ⇑	*e*P	**Pn**	**21 59 00.9**	**0.0**
JAYA	**Jayaque - finc**	**1.39 284**	*i* P	**Pn**	**21 59 00.9**	**0.0**
JAYA			*i* SA		21 59 20.2	
JAYA			IAML		21 59 21.2	
	comp=Z,3μm,1.0s					
CNGN	**Cerro Negro**	**1.56 122**	*i* P	**Pb**	**21 59 03.8**	**-0.6**
CNGN			IAML		21 59 26.4	
	comp=Z,530nm,1.0s					
CEVE	**Cerro Verde**	**1.60 288**	*i* P	**Pb**	**21 59 04.8**	**-0.3**
CEVE			IAML		21 59 33.6	
	comp=Z,1μm,1.0s					
MTO3	**Montecristo**	**1.65 310**	*i* P	**Pn**	**21 59 04.5**	**0.0**
MTO3			IAML		21 59 05.8	
	comp=Z,380nm,1.0s					
MTO3			*i* SA		21 59 28.1	
MOMN	**Momotombo**	**1.74 122**	*i* P	**Pn**	**21 59 06.5**	**+0.9**
MOMN			*i* SA		21 59 29.7	
MOMN			IAML		21 59 32.9	
	comp=Z,14nm,1.0s					
NUBE	**Las Nubes**	**1.77 289**	*i* P	**Pn**	**21 59 06.7**	**+0.7**
NUBE			*i* SA		21 59 31.7	
NUBE			IAML		21 59 40.2	
	comp=Z,540nm,1.0s					
MOM2	**El Cardon**	**1.77 120**	*i* P	**Pn**	**21 59 06.8**	**+0.8**
MOM2			*i* SA		21 59 31.8	
MOM2			IAML		21 59 34.6	
	comp=Z,210nm,1.0s					
COPN	**Copaltepe**	**1.83 128**	*i* P	**Pn**	**21 59 06.8**	**0.0**
COPN			IAML		21 59 37.3	
	comp=Z,200nm,1.0s					
APYN	**Apoyeque**	**1.99 123**	*i* P	**Pn**	**21 59 09.1**	**+0.1**
APYN			IAML		21 59 41.3	
	comp=Z,370nm,1.0s					
HZTE	**Horizontes, Gu**	**3.55 137**	*i* P	**Pn**	**21 59 31.0**	**+0.6**
HZTE			IAML		22 00 27.8	
	comp=Z,87nm,1.0s					
ORTG	**Ortega, Santa**	**3.90 139**	*i* P	**Pn**	**21 59 37.2**	**+1.9**
ORTG			IAML		22 00 04.2	
	comp=Z,66nm,1.0s					

*HVO **06** 22:11:14.7±2.0, 19°.42N±0°.01×155°.281W±0°.007, h-0km±1km, ML2.5/16, ML1.4/27(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=190.0*
NEIC 06 22:11:15.2±1.5, **19°.440N**±0°.007×**155°.27W**±0°.02, **h1**km±4km, **Error ellipse: s-maj=2.9km s-min=0.7km az=72.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.01 193**		Pg		22 11 15.5	-0.2
HATHI	**Halema'uma'u T**	**0.02 168**		IAML		22 11 15.3	
	comp=E,781nm,0.6s						
HATHI				IAML		22 11 15.6	
	comp=N,762nm,0.5s						
HATHI				Pg		22 11 15.7	0.0
UWB	**Uwekahuna B**	**0.02 219**		Pg		22 11 15.2	-0.6
RSD	**Rainshed**	**0.03 331**		Pg		22 11 15.5	-0.4
RSD				IAML		22 11 16.9	
	comp=N,620nm,0.3s						
RSD				IAML		22 11 16.9	
	comp=E,538nm,0.3s						
BYL	**Byron's Ledge**	**0.03 171**		Pg		22 11 15.0	-0.8
BYL				IAML		22 11 15.5	
	comp=E,661nm,0.4s						
OBL	**Observatory Le**	**0.03 219**		Pg		22 11 15.1	-0.8
UWE	**Uwekahuna**	**0.03 235**		Pg		22 11 15.4	-0.5
KKO	**Keanakako'i**	**0.04 182**		Pg		22 11 15.2	-0.9
KKO				IAML		22 11 15.3	
	comp=E,951nm,0.4s						
KKO				IAML		22 11 15.6	
	comp=N,704nm,0.6s						
RIM	**Rim**	**0.04 191**		Pg		22 11 15.2	-0.9
WRMHI	**West Rim**	**0.05 225**		Pg		22 11 15.0	-1.2
WRMHI				IAML		22 11 15.2	
	comp=E,709nm,0.2s						
WRMHI				IAML		22 11 15.3	
	comp=N,1μm,0.6s						
SDHHI	**Sand Hill**	**0.06 209**		Pg		22 11 15.0	-1.4
SDHHI				IAML		22 11 15.8	
	comp=N,599nm,0.3s						
SDHHI				IAML		22 11 15.9	
	comp=E,708nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11 124**		Pg		22 11 18.2	+0.9
MLH	**Mauna Loa**	**0.13 295**		Pg		22 11 17.2	-0.5
MLH				IAML		22 11 19.6	
	comp=E,343nm,0.3s						
MLH				IAML		22 11 21.3	
	comp=N,279nm,0.3s						
MLH	**Mauna Loa**	**0.13 295**		Sg		22 11 21.4	+2.0
HLP	**Hilina Pali**	**0.15 196**		Pg		22 11 17.0	-1.1
HLP				IAML		22 11 21.0	
	comp=N,322nm,1.8s						
HLP	**Hilina Pali**	**0.15 196**		Sg		22 11 20.9	+0.9
HMH	**Humu'ula Sheep**	**0.26 308**		Pg		22 11 19.7	-0.6
HMH				IAML		22 11 21.2	
	comp=E,131nm,2.0s						
MWH	**Moku'aweowe**	**0.32 278**		Pg	Pg	22 11 20.6	-0.7
ALEP	**Alea Permanent**	**0.37 286**			Pg	22 11 22.3	0.0
KHU	**Kahuku**	**0.38 240**			Pg	22 11 22.8	+0.3
KHU	**Kahuku**	**0.38 240**			Sg	22 11 29.2	+1.7

*SJA **06** 22:21:55.2±1.4, 17°.75S×66°.63W, h275km, ML4.2, MW3.9*
*IDC **06** 22:21:56.7±0.8, 17°.78S×66°.81W, h291km±7km, mb3.0/5, mbtmp3.9/10, Error ellipse: s-maj=18.5km s-min=14.2km az=43.0*
*SCB **06** 22:21:57.4±1.4, 17°.92S×66°.97W, h297km±13km, ML4.2/5, Error ellipse: s-maj=5.7km s-min=4.4km az=2.0*
*VAO **06** 22:21:58.0±0.3, 17°.93S×66°.64W, h261km±4km, mb4.0*
ISC 06 22:21:56.2±0.5, **17°.84S**±0°.04×**66°.89W**±0°.04, **h300**km, **n70, σ1892/103, mb3.3/5, Central Bolivia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOET	**ToroToro**	**1.06 105**		Pg	**Pn**	**22 22 38.5**	**+1.2**
SOEO	**Opoqueri**	**1.20 233**		Pg	**Pn**	**22 22 39.5**	**+1.3**
BBOE	**La Paz, Chanca**	**1.46 314**		Pg	**Pn**	**22 22 42.0**	**+2.1**
SOEJ	**Jacaque**	**1.51 304**		Pg	**Pn**	**22 22 42.0**	**+1.8**
AOEA	**Aiquile**	**1.61 103**		Pg	**Pn**	**22 22 41.8**	**+1.3**
AOEA	**Aiquile**	**1.61 103**		Pg	**Pn**	**22 22 41.9**	**+1.4**
LPAZ	**La Paz**	**1.95 322**		*e*P	**Pn**	**22 22 44.4**	**+1.1**
LPAZ				*e*S	**S**	**22 23 19.9**	**-1.0**
LPAZ	**La Paz**	**1.95 322**		P	**Pn**	**22 22 44.5**	**+1.1**
	248nm,0.3s,baz=112,slow=2.7,SNR=2957						
LPAZ				S	**S**	**22 23 19.7**	**-1.1**
	71nm,0.5s,baz=193,slow=11,SNR=12						
LPAZ	**La Paz**	**1.95 322**		Pg	**Pn**	**22 22 44.5**	**+1.1**
LPAZ				Sg	**S**	**22 23 19.8**	**-1.0**
LPAZ				IAML		22 23 20.2	
	45nm,0.7s						
LPAZ	**La Paz**	**1.95 322**		*e*P	**Pn**	**22 22 44.0**	**+0.6**
LPAZ				*e*S	**S**	**22 23 19.5**	**-1.3**
BBOD	**La Paz, Gloria**	**2.02 306**		Pg	**Pn**	**22 22 45.5**	**+1.6**
GO01	**Chusmiza**	**2.85 230**		*e*P	**Pn**	**22 22 52.0**	**+1.0**
GO01				*e*S	**S**	**22 23 35.4**	**+0.7**
GO01	**Chusmiza**	**2.85 230**		Pg	**Pn**	**22 22 52.2**	**+1.2**
PB08	**IPOC Station P**	**3.14 223**		*e*P	**Pn**	**22 22 54.6**	**+0.9**
PB08				*e*S	**S**	**22 23 41.8**	**+2.1**
PB08	**IPOC Station P**	**3.14 223**		Pg	**Pn**	**22 22 54.9**	**+1.1**
PB11	**IPOC Station P**	**3.25 233**		*e*S	**S**	**22 23 40.2**	**-1.1**
PB11				IAML		22 23 41.2	
	comp=Z,125nm,0.2s						
PB11	**IPOC Station P**	**3.25 233**		Pg	**Pn**	**22 22 55.0**	**+0.4**
PB11				Sg	**S**	**22 23 39.2**	**-2.1**
PB11				IAML		22 23 40.4	
	comp=Z,214nm,0.2s						
AP01	**Chacalluta**	**3.33 260**		*e*P	**Pn**	**22 22 55.6**	**+0.4**
AP01				*e*S	**S**	**22 23 41.4**	**-1.1**
AP01				IAML		22 23 46.2	
	comp=Z,478nm,0.1s						
PB12	**IPOC Station P**	**3.36 256**		*e*P	**Pn**	**22 22 55.5**	**-0.3**
PB12				*e*S	**S**	**22 23 41.1**	**-2.2**
PB12				IAML		22 23 42.8	
	comp=Z,288nm,0.3s						
PB12	**IPOC Station P**	**3.36 256**		Pg	**Pn**	**22 22 56.1**	**+0.4**
MOCB	**Mochara**	**3.59 161**		Pg	**Pn**	**22 23 00.8**	**+2.3**
TA02	**Huaiquique**	**3.91 231**		*e*P	**Pn**	**22 23 01.9**	**+0.5**
TA02				*e*S	**S**	**22 23 50.6**	**-3.1**
TA02				IAML		22 23 54.1	
	comp=Z,231nm,0.1s						
PB01	**IPOC Station P**	**4.03 217**		*e*P	**Pn**	**22 23 03.1**	**+0.3**
PB01				*e*S	**S**	**22 23 54.5**	**-1.6**
PB01				IAML		22 23 55.7	
	comp=Z,200nm,0.1s						
PB01	**IPOC Station P**	**4.03 217**		Pg	**Pn**	**22 23 03.2**	**+0.4**
PB01				Sg	**S**	**22 23 53.6**	**-2.5**
PB01				IAML		22 23 55.2	
	comp=Z,211nm,0.3s						
TA01	**Diego Aracena**	**4.13 228**		*e*S	**S**	**22 23 54.5**	**-3.6**
PATCX	**Punta Patache**	**4.28 226**		*e*P	**Pn**	**22 23 05.9**	**+0.3**
PATCX				*e*S	**S**	**22 23 58.1**	**-3.2**
PATCX				IAML		22 24 01.3	
	comp=Z,62nm,0.2s						
PB02	**IPOC Station P**	**4.48 219**		*e*S	**S**	**22 24 02.9**	**-2.4**
PB02				IAML		22 24 05.9	
	comp=Z,247nm,0.4s						
PB02	**IPOC Station P**	**4.48 219**		Pg	**Pn**	**22 23 08.9**	**+1.0**
PB02				Sg	**S**	**22 24 02.2**	**-3.1**
PB02				IAML		22 24 04.1	
	comp=Z,170nm,0.3s						
YJA	**Yavi**	**4.51 164**		*e*P	**Pn**	**22 23 10.5**	**+2.0**
YJA				*e*S	**S**	**22 24 06.7**	**+0.2**
PB09	**IPOC Station P**	**4.52 209**		*e*P	**Pn**	**22 23 09.7**	**+1.4**
PB09				*e*S	**S**	**22 24 06.2**	**-0.1**
PB09				IAML		22 24 11.3	
	comp=Z,62nm,0.4s						
PB09	**IPOC Station P**	**4.52 209**		Pg	**Pn**	**22 23 09.8**	**+1.4**
PB07	**IPOC Station P**	**4.79 216**		*e*P	**Pn**	**22 23 11.7**	**+0.1**
PB07				*e*S	**S**	**22 24 08.2**	**-3.7**
PB07				IAML		22 24 12.1	
	comp=Z,104nm,0.2s						
LVC	**Limon Verde**	**5.12 201**		*e*P	**Pn**	**22 23 16.2**	**+0.7**
LVC				*e*S	**S**	**22 24 17.7**	**-1.4**
LVC	**Limon Verde**	**5.12 201**		P	**Pn**	**22 23 16.1**	**+0.7**
	comp=Z,14nm,0.4s,baz=12,slow=9.3,SNR=44						
LVC				S	**S**	**22 24 15.1**	**-4.0**
	comp=Z,22nm,0.3s,baz=265,slow=22,SNR=12						
LVC	**Limon Verde**	**5.12 201**		*e*P	**Pn**	**22 23 16.1**	**+0.6**
LVC				*e*S	**S**	**22 24 15.7**	**-3.4**
PB04	**IPOC Station P**	**5.42 214**		*e*S	**S**	**22 24 21.2**	**-4.1**
PB04				IAML		22 24 29.2	
	comp=Z,161nm,0.4s						
SIV	**San Ignacio**	**5.86 73**		P	**Pn**	**22 23 23.7**	**-0.3**
	comp=Z,16nm,0.4s,baz=263,slow=10,SNR=112						
PB15	**IPOC Station P**	**5.87 204**		Pg	**Pn**	**22 23 24.9**	**+0.7**
PB15				Sg	**S**	**22 24 31.4**	**-3.6**
PB15				IAML		22 24 37.4	
	comp=Z,862nm,0.3s						
BBSD	**Serra de San D**	**6.02 85**		*e*P	**Pn**	**22 23 25.6**	**-0.3**
BBSD				*e*S	**S**	**22 24 31.7**	**-6.4**
PTLB	**Pontes e Lacer**	**7.80 73**		*e*P	**Pn**	**22 23 48.0**	**+0.6**
ETMB	**Extrema**	**8.00 5**		*e*P	**Pn**	**22 23 50.7**	**+0.8**
VILB	**Vilhena**	**8.07 54**		*e*P	**Pn**	**22 23 50.7**	**0.0**
VILB				*e*S	**S**	**22 25 21.4**	**-2.3**
MURT	**Porto Murtinho**	**9.53 115**		*e*P	**Pn**	**22 24 06.7**	**-1.9**
BDQN	**Bodoquena, MS**	**9.93 107**		*e*P	**P**	**22 24 14.7**	**-2.4**
NNA	**Nana**	**11.24 300**		P	**P**	**22 24 32.4**	**+0.5**
	comp=Z,5.2nm,0.2s,baz=146,slow=15,SNR=1.4						
NNA				S	**S**	**22 26 29.6**	**-5.9**
	comp=Z,11nm,0.7s,baz=16,slow=5.1,SNR=5.1						
RVDE	**Rio Verde (Bra**	**11.40 98**		*e*P	**P**	**22 24 31.6**	**-2.0**
CPUP	**Villa Florida**	**12.24 135**		P	**P**	**22 24 42.1**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=308,slow=11,SNR=4.5						
CPUP	**Villa Florida**	**12.24 135**		*e*P	**P**	**22 24 42.2**	**-0.5**
AMBA	**Amambai (Brazi**	**12.25 116**		*e*P	**Pn**	**22 24 41.0**	**-0.8**
AMBA				*e*S	**S**	**22 26 53.7**	**-4.3**
ITQB	**Itaqui**	**15.06 143**		*e*P	**Pn**	**22 25 15.7**	**+0.4**
ITQB				*e*S	**S**	**22 27 06.7**	**+0.7**
PCMB	**Pacaembu**	**15.18 107**		*e*P	**Pn**	**22 25 17.1**	**+0.2**
CRSM	**Crissiumal (Br**	**15.25 131**		*e*P	**Pn**	**22 25 17.4**	**-0.2**
PTGB	**Pitanga**	**15.41 119**		*e*P	**Pn**	**22 25 20.2**	**+0.6**
PTGB				*e*S	**S**	**22 28 07.0**	**+1.7**
UNIS	**Unistalda (Bra**	**15.56 138**		*e*P	**Pn**	**22 25 21.3**	**+0.1**
UNIS				*e*S	**S**	**22 28 10.0**	**+1.9**
LDASE	**Londrina, Braz**	**15.76 113**		*e*P	**Pn**	**22 25 23.5**	**-0.1**
LDASE				*e*S	**S**	**22 28 13.5**	**+1.2**
SNDB	**Serra Nova Dou**	**16.15 71**		*e*P	**Pn**	**22 25 27.6**	**-0.6**
SNDB				*e*S	**S**	**22 28 22.0**	**+1.8**
RODS	**Rosario do Sul**	**16.39 142**		*e*P	**Pn**	**22 25 29.4**	**-1.4**
RODS				*e*S	**S**	**22 28 26.9**	**+2.2**
ITAB	**Concordia**	**16.52 127**		*e*P	**Pn**	**22 25 31.6**	**-0.8**
ALGR	**Alto Alegre (B**	**16.75 133**		*e*P	**Pn**	**22 25 32.9**	**-2.3**
ALGR				*e*S	**S**	**22 28 34.0**	**+2.0**
TBOT	**Tacuaremb**	**16.98 146**		*e*P	**Pn**	**22 25 36.2**	**-1.5**
FRTB	**Fartura**	**17.11 112**		*e*P	**Pn**	**22 25 38.2**	**-1.2**
ITTB	**Itaituba**	**17.27 40**		*e*P	**Pn**	**22 25 40.1**	**-1.3**
CPSB	**Cacapava Do Su**	**17.50 138**		*e*P	**Pn**	**22 25 41.6**	**-2.3**
CPSB				*e*S	**S**	**22 28 49.4**	**+2.6**
BDFB	**Brasilia**	**18.20 86**		P	**P**	**22 25 50.1**	**+1.8**
	comp=Z,2.1nm,0.4s,baz=257,slow=7.7,SNR=7.4						
PLCA	**Paso Flores**	**23.04 187**		P	**P**	**22 26 37.3**	**+1.7**
	comp=Z,0.6nm,0.4s,baz=350,slow=10,SNR=4.5						
	comp=Z,0.6nm,0.4s						
TXAR	**Lajitas Array**	**58.82 322**		P	**P**	**22 31 25.3**	**+1.3**
	comp=Z,2nm,0.6s,baz=154,slow=11,SNR=2.5						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**71.96 328**		P	**P**	**22 32 49.2**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=129,slow=5.1,SNR=4.4						
	comp=Z,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.33 70**		P	**P**	**22 33 01.6**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=262,slow=5.3,SNR=17						
	comp=Z,0.5nm,0.5s						
YKA	**Yellowknife Ar**	**88.40 340**		P	**P**	**22 34 15.5**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=116,slow=4.3,SNR=6.9						
	comp=Z,0.9nm,0.8s						
SONM	**Songino Array**	**149.58 9**		PKPbc	**PKiKP**	**22 41 11.9**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=318,slow=3.7,SNR=6.0						

*IDC **06** 22:22:14.6±0.9, 44°.30S×40°.93E, h0km, mb4.0/8, mbtmp4.1/8, MS3.5/22, Error ellipse: s-maj=41.6km s-min=22.3km az=55.0*
ISC 06 22:22:16.1±0.9, **44°.3S**±0°.2×**40°.9E**±0°.2, **h10**km, **n30, σ084/8, mb4.2/7, MS3.5/21, Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**19.69 300**		LR	LR	22 32 58.4	
	comp=Z,83nm,18.5s,baz=142,slow=33						
BOSA	**Boshof**	**20.03 316**		P	Pn	22 26 49.9	-1.1
	2.2nm,1.1s,baz=156,slow=14,SNR=2.7						
BOSA				LR	LR	22 32 50.9	
	comp=Z,104nm,21.1s,baz=182,slow=32						
	2.2nm,1.1s						
LBTB	**Lobatse**	**22.92 322**		LR	LR	22 34 37.6	
	comp=Z,107nm,20.5s,baz=144,slow=32						
MAW	**Mawson**	**26.10 161**		P	**P**	**22 27 50.1**	**+0.4**
	1.0nm,0.3s,baz=310,slow=14,SNR=2.4						
MAW				LR	LR	22 35 38.2	
	comp=Z,80nm,20.9s,baz=3.5,slow=31						
	1.0nm,0.3s						
OPO	**Ambohidratompo**	**26.19 14**		LR	LR	22 36 30.4	
	comp=Z,241nm,19.3s,baz=355,slow=33						
LSZ	**Lusaka**	**30.88 336**		LR	LR	22 41 13.8	
	comp=Z,45nm,18.6s,baz=152,slow=37						
TSUM	**Tsumeb**	**31.71 315**		LR	LR	22 40 36.0	
	comp=Z,59nm,18.3s,baz=152,slow=35						
SNAA	**Sanae**	**34.47 203**		LR	LR	22 41 19.4	
	comp=Z,82nm,18.3s,baz=132,slow=33						
MBAR	**Mbarara**	**44.44 345**		LR	LR	22 47 00.1	
	comp=Z,62nm,20.8s,baz=167,slow=33						
QSPA	**South Pole Qui**	**45.91 180**		P	**P**	**22 30 37.9**	**-0.8**
	4.3nm,1.1s,baz=205,slow=2.0,SNR=4.7						
QSPA				LR	LR	22 48 15.5	
	comp=Z,74nm,20.6s,baz=272,slow=34						
	4.3nm,1.1s						
VNDA	**Vanda**	**53.20 167**		LR	LR	22 52 54.4	
	comp=Z,19nm,18.7s,baz=233,slow=35						
H01W2	**Cape Leeuwin H**	**55.48 107**		T	T	23 32 10.5	
	baz=238,slow=75,SNR=9.5						
H01W3	**Cape Leeuwin H**	**55.49 107**		T	T	23 32 06.3	
	baz=238,slow=75,SNR=8.1						
H01W1	**Cape Leeuwin H**	**55.50 107**		T	T	23 32 08.8	
	baz=238,slow=75,SNR=7.3						
DBIC	**Dimbokro**	**65.33 308**		LR	LR	22 57 35.0	
	comp=Z,50nm,18.8s,baz=126,slow=32						
TORD	**Torodi Ar. Bea**	**67.38 318**		P	**P**	**22 33 11.0**	**-0.6**
	1.2nm,1.0s,baz=165,slow=2.8,SNR=3.7						
	1.2nm,1.0s						
PLCA	**Paso Flores**	**75.35 227**		P	**P**	**22 34 00.8**	**+1.0**
	2.9nm,1.2s,baz=170,slow=5.9,SNR=3.1						
PLCA				LR	LR	23 00 56.1	
	comp=Z,23nm,18.6s,baz=157,slow=31						
	2.9nm,1.2s						
STKA	**Stephens Creek**	**75.38 120**		P	**P**	**22 33 59.6**	**-0.3**
	1.6nm,0.8s,baz=236,slow=8.1,SNR=1.3						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**75.92 109**		P	**P**	**22 34 03.6**	**+0.4**
	1.5nm,1.1s,baz=222,slow=5.0,SNR=4.3						
	1.5nm,1.1s						
MMAI	**Mount Meron Ar**	**77.11 355**		LR	LR	23 05 12.3	
	comp=Z,33nm,20.7s,baz=132,slow=33						
CPUP	**Villa Florida**	**77.60 245**		LR	LR	23 03 36.0	
	comp=Z,40nm,18.5s,baz=170,slow=32						
GNI	**Garni**	**84.14 3**		LR	LR	23 10 19.0	
	comp=Z,19nm,21.8s,baz=148,slow=34						
KEST	**Kesra**	**84.65 335**		P	**P**	**22 34 50.3**	**+0.5**
	3.4nm,1.1s,baz=131,slow=4.2,SNR=3.5						
	3.4nm,1.1s						
VAE	**Valguarnera**	**84.86 339**		LR	LR	23 14 20.4	
	comp=Z,76nm,18.7s,baz=318,slow=37						
MDT	**Midelt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.04**	**76**		**Pb**	22 48 10.2	-0.2
MLH	**Mauna Loa**	**0.04**	**76**	IAML		22 48 13.7	
	comp=N,2μm,0.1s						
MLH				IAML		22 48 13.7	
	comp=E,822nm,0.1s						
HMH	**Humu'ula Sheep**	**0.13**	**337**		**Pb**	22 48 11.1	0.0
UWE	**Uwekahuna**	**0.14**	**115**		**Pb**	22 48 10.6	-0.4
UWE	**Uwekahuna**	**0.14**	**115**	IAML		22 48 14.1	
	comp=E,2μm,0.4s						
UWE				IAML		22 48 14.9	
	comp=N,2μm,0.5s						
RSD	**Rainshed**	**0.14**	**98**		**Pb**	22 48 10.6	-0.4
RSD				IAML		22 48 15.2	
	comp=N,812nm,0.1s						
RSD				IAML		22 48 15.5	
	comp=E,1μm,0.1s						
WRMHI	**West Rim**	**0.14**	**122**		**Pb**	22 48 10.5	-0.5
WRMHI	**West Rim**	**0.14**	**122**	IAML		22 48 12.3	
	comp=E,3μm,0.6s						
WRMHI				IAML		22 48 14.0	
	comp=N,2μm,0.5s						
UWB	**Uwekahuna B**	**0.15**	**112**		**Pb**	22 48 10.5	-0.6
UWB	**Uwekahuna B**	**0.15**	**112**	IAML		22 48 14.1	
	comp=E,338nm,0.4s						
UWB				IAML		22 48 14.4	
	comp=N,555nm,0.4s						
MWH	**Moku'aweowe**	**0.16**	**271**		**Pb**	22 48 10.9	-0.7
SBLHI	**Steaming Bluff**	**0.16**	**110**		**Pb**	22 48 10.6	-0.6
SBLHI	**Steaming Bluff**	**0.16**	**110**	IAML		22 48 14.4	
	comp=N,1μm,0.4s						
SBLHI				IAML		22 48 14.4	
	comp=E,1μm,0.5s						
HATHI	**Halema'uma'u T**	**0.17**	**111**		**Pb**	22 48 10.7	-0.6
HATHI	**Halema'uma'u T**	**0.17**	**111**	IAML		22 48 19.8	
	comp=E,1μm,0.6s						
HATHI				IAML		22 48 19.8	
	comp=N,1μm,0.6s						
ALEP	**Alea Permanent**	**0.21**	**286**		**Pb**	22 48 11.4	-0.5
ALEP					**Sb**	22 48 15.5	-0.5
HLP	**Hilina Pali**	**0.22**	**148**		**Sb**	22 48 12.2	-3.5
PUH	**Pauahi**	**0.23**	**118**		**Pb**	22 48 11.2	-0.8
PUH	**Pauahi**	**0.23**	**118**	IAML		22 48 16.6	
	comp=E,317nm,0.6s						
PUH				IAML		22 48 17.9	
	comp=N,409nm,1.3s						
KNHH	**Kane Nui o Ham**	**0.27**	**113**		**Pb**	22 48 11.8	-0.6
POHA	**Pohakuloa**	**0.29**	**341**	Pg	**Pb**	22 48 12.0	-0.9
KHU	**Kahuku**	**0.29**	**216**		**Pb**	22 48 12.1	-0.8
KHU				IAML		22 48 16.7	
	comp=N,566nm,0.1s						
KHU				IAML		22 48 17.0	
	comp=E,819nm,0.3s						
STCH	**Steam Cracks**	**0.30**	**109**		**Pb**	22 48 12.2	-0.7
STCH	**Steam Cracks**	**0.30**	**109**	IAML		22 48 17.0	
	comp=N,830nm,0.2s						
STCH				IAML		22 48 17.1	
	comp=E,1μm,0.1s						
NPOC	**North of Pu'u**	**0.32**	**106**		**Pb**	22 48 12.4	-0.7
NPOC	**North of Pu'u**	**0.32**	**106**	IAML		22 48 17.6	
	comp=N,524nm,0.2s						
NPOC				IAML		22 48 17.6	
	comp=E,586nm,0.3s						
JCUZ	**Jacuzzi**	**0.33**	**108**		**Pb**	22 48 12.5	-0.8
JCUZ					**Sb**	22 48 17.3	-1.1
JCUZ	**Jacuzzi**	**0.33**	**108**	IAML		22 48 17.7	
	comp=E,363nm,0.2s						
JCUZ				IAML		22 48 17.7	
	comp=N,414nm,0.1s						
HPAH	**Hawaii Prepara**	**0.60**	**335**		**Pb**	22 48 16.3	-1.6
HPAH	**Hawaii Prepara**	**0.60**	**335**	IAML		22 48 24.1	
	comp=N,608nm,0.1s						
HPAH				IAML		22 48 24.2	
	comp=E,427nm,0.1s						

*DJA **06** 22:55:34.1±0.8,3°S±5°×13°1E±°,h27km±9km,M3.3/7, MLv3.3/7*
*IDC **06** 22:55:41.5±2.3,4°.59S×130°.35E,h0km,mb3.5/1, mbtmp3.5/3,ML3.3/2,Error ellipse: s-maj=107.2km s-min=29.1km az=71.0*
ISC 06 22:55:33.0±1.3,**3°.37S**±0°.10×**130°.9E**±0°.1,**h30km,n7,** σ1§**43**/6,**Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**1.39**	**71**	P	**Pn**	22 55 56.7	**+0.4**
BNDI	**Bandanaira**	**1.54**	**222**	P	**Pb**	22 56 01.5	**+0.6**
SWI	**Sorong**	**2.51**	**7**	P	**Pn**	22 56 11.7	**-0.1**
KMPI	**Kaimana, Papua**	**2.78**	**96**	P	**Pn**	22 56 15.8	**+0.3**
WRA	**Warramunga Arr**	**16.80**	**169**	Pn	**Pn**	22 59 24.1	**-2.2**
	0.1nm,0.3s,baz=345,slow=11,SNR=1.4						
WRA				Sn	Sn	23 02 21.3	-11
	0.1nm,0.3s,baz=349,slow=24,SNR=3.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**20.38**	**172**	P	**P**	**23 00 08.3**	**+0.9**
	0.5nm,0.3s,baz=351,slow=11,SNR=24						
	2.1nm,0.5s						
MKAR	**Makanchi Array**	**65.75**	**326**	P	P	23 06 32.6	+18
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.4						
	0.3nm,0.6s						

*NOU **06** 23:18:08.9,40°.02S×173°.60E,h19km,MLv3.4/11,Cook Strait, New Zealand*
*WEL **06** 23:18:08.8±0.3,40°S±1°×17°4E±°,h12km,M3.5/48, ML3.8/48,MLv3.5/48,Error ellipse: s-maj=0.0km s-min=0.0km az=103.6,confirmed*
ISC 06 23:18:07.8±0.8,**40°.08S**±0°.02×**173°.74E**±0°.03,**h10km,n98,** σ0§**85**/136,**Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NMEZ	**Namu Road**	**0.67**	**9**	P	**Pb**	**23 18 22.5**	**+0.9**
NMEZ				S	**Sn**	**23 18 33.4**	**-0.5**
DUWZ	**D'Urville Isla**	**0.73**	**169**	P	**Pg**	**23 18 22.2**	**+0.2**
DUWZ				S	**Sg**	**23 18 32.6**	**+1.0**
LREZ	**Lake Rotokare**	**0.80**	**40**	P	**Pb**	**23 18 24.1**	**+0.3**
LREZ				S	**Sn**	**23 18 36.7**	**-0.4**
PREZ	**Palmer Road**	**0.80**	**24**	P	**Pb**	**23 18 24.3**	**+0.4**
PREZ				S	**Sn**	**23 18 36.6**	**-0.7**
KHEZ	**Kahui Hut**	**0.81**	**15**	P	**Pb**	**23 18 24.5**	**+0.4**
KHEZ	**Kahui Hut**	**0.81**	**15**	P	**Pb**	**23 18 24.5**	**+0.4**
KHEZ				S	**Sn**	**23 18 36.7**	**-0.8**
NBEZ	**Newall Road No**	**0.81**	**7**	P	**Pb**	**23 18 24.7**	**+0.7**
NBEZ				S	**Sn**	**23 18 38.0**	**+0.5**
NEZ	**North Egmont**	**0.85**	**19**	P	**Pg**	**23 18 25.0**	**+0.7**
NEZ				S	**Sb**	**23 18 37.2**	**+0.9**
PKE	**Pukeiti**	**0.90**	**12**	P	**Pb**	**23 18 25.9**	**+0.3**
PKE				S	**Sn**	**23 18 39.8**	**+0.1**
DREZ	**Durham Road**	**0.96**	**22**	P	**Pg**	**23 18 26.8**	**+0.5**
DREZ				S	**Sn**	**23 18 41.2**	**+0.2**
WAZ	**Wanganui**	**1.01**	**72**	P	**Pg**	**23 18 26.4**	**-0.8**
WAZ				S	**Sg**	**23 18 40.6**	**+0.2**
TKNZ	**Takaka Hill**	**1.12**	**212**	P	**Pb**	**23 18 29.3**	**-0.1**
TKNZ				S	**Sn**	**23 18 45.7**	**+0.5**
NNZ	**Nelson**	**1.17**	**194**	P	**Pb**	**23 18 29.9**	**-0.2**
NNZ				S	**Sb**	**23 18 46.2**	**+0.8**
KIW	**Kapiti Island**	**1.18**	**132**	P	**Pb**	**23 18 29.3**	**-1.1**
KIW				S	**Sb**	**23 18 44.9**	**-0.9**
QRZ	**Quartz Range**	**1.19**	**231**	P	**Pb**	**23 18 29.7**	**-0.8**
QRZ	**Quartz Range**	**1.19**	**231**	P	**Pb**	**23 18 29.8**	**-0.8**
TCW	**Tory Channel**	**1.20**	**160**	P	**Pn**	**23 18 29.7**	**-1.0**
OHWZ	**Ohakea**	**1.21**	**97**	P	**Pn**	**23 18 30.4**	**-0.4**
OHWZ				S	**Sb**	**23 18 46.6**	**+0.1**
VRZ	**Vera Road**	**1.23**	**40**	P	**Pn**	**23 18 30.7**	**-0.5**
VRZ				S	**Sb**	**23 18 47.8**	**+0.6**
OGWZ	**Otaki Gorge**	**1.31**	**125**	P	**Pn**	**23 18 32.0**	**-0.3**
OGWZ				S	**Sb**	**23 18 49.1**	**-0.5**
TUWZ	**Tuamarina**	**1.36**	**174**	P	**Pn**	**23 18 32.6**	**-0.2**
TUWZ				S	**Sb**	**23 18 49.6**	**-1.2**
SNZO	**South Karori**	**1.43**	**150**	P	**Pn**	**23 18 34.6**	**+0.8**
WEL	**Wellington**	**1.43**	**147**	P	**Pn**	**23 18 34.9**	**+1.0**
WEL				S	**Sn**	**23 18 52.3**	**-0.5**
CAW	**Cannon Point**	**1.44**	**136**	P	**Pn**	**23 18 33.9**	**-0.1**
CAW				S	**Sn**	**23 18 52.1**	**-0.9**
PKVZ	**Pokaka**	**1.47**	**58**	P	**Pn**	**23 18 33.7**	**-0.7**
PKVZ				S	**Sn**	**23 18 52.9**	**-0.8**
MTVZ	**Mangateitei**	**1.50**	**63**	P	**Pn**	**23 18 34.5**	**-0.4**
MTVZ				S	**Sn**	**23 18 53.8**	**-0.8**
MRNZ	**Matariki Terra**	**1.52**	**209**	P	**Pn**	**23 18 35.0**	**0.0**
MRNZ				S	**Sg**	**23 18 56.8**	**+0.2**
MRZ	**Mangatainoka R**	**1.52**	**113**	P	**Pn**	**23 18 35.2**	**+0.1**
MRZ				S	**Sn**	**23 18 53.4**	**-1.5**
HOWZ	**Holdsworth Sta**	**1.58**	**122**	P	**Pn**	**23 18 36.4**	**+0.5**
HOWZ				S	**Sn**	**23 18 57.2**	**+0.8**
POWZ	**Post Office Ro**	**1.58**	**102**	P	**Pn**	**23 18 36.3**	**+0.4**
POWZ				S	**Sn**	**23 18 56.4**	**0.0**
TRVZ	**Turoa**	**1.59**	**61**	P	**Pn**	**23 18 35.7**	**-0.6**
TRVZ				S	**Sn**	**23 18 55.6**	**-1.5**
WNVZ	**Wahianoa**	**1.62**	**63**	P	**Pn**	**23 18 36.2**	**-0.4**
WNVZ				S	**Sn**	**23 18 55.9**	**-1.6**
MAVZ	**Matarangi**	**1.62**	**61**	P	**Pn**	**23 18 36.2**	**-0.5**
MAVZ				S	**Sn**	**23 18 55.8**	**-2.0**
FWVZ	**Far West T-bar**	**1.62**	**60**	P	**Pn**	**23 18 36.2**	**-0.5**
WHVZ	**Whangaehu Hut**	**1.63**	**61**	P	**Pn**	**23 18 36.6**	**-0.2**
WHVZ				S	**Sn**	**23 18 57.0**	**-1.0**
BSWZ	**Blackbirch Sta**	**1.64**	**177**	P	**Pn**	**23 18 37.2**	**+0.5**
BSWZ				S	**Sn**	**23 18 58.7**	**+0.8**
COVZ	**Chateau Observ**	**1.64**	**58**	P	**Pn**	**23 18 36.7**	**-0.1**
COVZ				S	**Sn**	**23 18 55.9**	**-2.2**
TWVZ	**Taurewa**	**1.65**	**53**	P	**Pn**	**23 18 36.2**	**-0.8**
TUVZ	**Tukino**	**1.68**	**62**	P	**Pn**	**23 18 37.5**	**0.0**
TUVZ				S	**Sn**	**23 18 58.3**	**-0.9**
MOVZ	**Moawhango**	**1.69**	**67**	P	**Pn**	**23 18 36.9**	**-0.5**
MOVZ				S	**Sn**	**23 18 57.1**	**-2.1**
NGZ	**Ngauruhoe**	**1.69**	**58**	P	**Pn**	**23 18 37.3**	**-0.3**
NGZ				S	**Sn**	**23 18 58.7**	**-0.8**
TSZ	**Takapari Road**	**1.70**	**90**	P	**Pn**	**23 18 37.7**	**0.0**
TSZ				S	**Sn**	**23 18 59.7**	**+0.2**
SNVZ	**South Ngauruho**	**1.71**	**59**	P	**Pn**	**23 18 37.9**	**-0.1**
MTW	**Mount Morrison**	**1.72**	**129**	P	**Pn**	**23 18 38.0**	**+0.2**
MTW				S	**Sb**	**23 19 01.6**	**+0.4**
WTVZ	**West Tongariro**	**1.72**	**57**	P	**Pn**	**23 18 37.7**	**-0.3**
WTVZ				S	**Sn**	**23 18 58.9**	**-1.1**
NNVZ	**North Ngauruho**	**1.73**	**57**	P	**Pn**	**23 18 38.0**	**-0.1**
NNVZ				S	**Sn**	**23 19 00.0**	**-0.3**
OTVZ	**Oturere**	**1.74**	**59**	P	**Pn**	**23 18 38.3**	**0.0**
KRVZ	**Karewarewa**	**1.77**	**57**	P	**Pn**	**23 18 38.5**	**0.0**
PRWZ	**Pori Road**	**1.77**	**106**	P	**Pb**	**23 18 40.3**	**-0.1**
TIWZ	**Tintock**	**1.78**	**114**	P	**Pn**	**23 18 39.7**	**+1.0**
NTVZ	**North Tongarir**	**1.79**	**57**	P	**Pn**	**23 18 38.9**	**0.0**
HIZ	**Hauiti**	**1.79**	**29**	P	**Pn**	**23 18 39.1**	**+0.4**
HIZ	**Hauiti**	**1.79**	**29**	P	**Pn**	**23 18 37.4**	**-1.3**
ETVZ	**East Tongariro**	**1.79**	**59**	P	**Pn**	**23 18 38.9**	**+0.1**
TMVZ	**Te Maari**	**1.79**	**58**	P	**Pn**	**23 18 38.9**	**-0.1**
THZ	**Tophouse**	**1.80**	**200**	P	**Pn**	**23 18 39.3**	**+0.4**
PAWZ	**Paruwai Farm**	**1.82**	**136**	P	**Pn**	**23 18 40.2**	**+0.8**
DVHZ	**Dannevirke**	**1.87**	**98**	P	**Pn**	**23 18 41.5**	**+1.6**
KATZ	**Kakaramea**	**1.87**	**54**	P	**Pn**	**23 18 40.0**	**0.0**
PLWZ	**Palliser**	**1.88**	**143**	P	**Pn**	**23 18 39.7**	**-0.4**
BHHZ	**Black Hill Sta**	**1.88**	**73**	P	**Pn**	**23 18 39.7**	**-0.4**
PNHZ	**Pukenui**	**1.89**	**86**	P	**Pn**	**23 18 40.7**	**+0.5**
TMWZ	**Te Maipa**	**1.93**	**123**	P	**Pn**	**23 18 42.5**	**+1.8**
TRWZ	**Traveller**	**1.98**	**132**	P	**Pn**	**23 18 43.2**	**+1.8**
RATZ	**Rangitukua**	**1.98**	**53**	P	**Pn**	**23 18 42.1**	**+0.7**
BFZ	**Birch Farm**	**2.00**	**108**	P	**Pn**	**23 18 43.6**	**+1.9**
BFZ	**Birch Farm**	**2.00**	**108**	P	**Pn**	**23 18 43.4**	**+1.7**
WATZ	**Wairara**	**2.06**	**49**	P	**Pn**	**23 18 43.1**	**+0.6**
KRHZ	**Kereru**	**2.07**	**79**	P	**Pn**	**23 18 43.4**	**+0.7**
KWHZ	**Kaweka Forest**	**2.17**	**73**	P	**Pn**	**23 18 45.3**	**+1.3**
DSZ	**Denniston Nort**	**2.22**	**221**	P	**Pn**	**23 18 44.5**	**-0.3**
TLZ	**Tolley Road**	**2.23**	**39**	P	**Pn**	**23 18 43.9**	**-1.0**
KUTZ	**Kaahu Road**	**2.26**	**46**	P	**Pn**	**23 18 46.1**	**+0.7**
BKZ	**Black Stump Fm**	**2.31**	**68**	P	**Pn**	**23 18 47.0**	**+1.0**
BKZ	**Black Stump Fm**	**2.31**	**68**	P	**Pn**	**23 18 46.5**	**+0.5**
KHZ	**Kahutara**	**2.34**	**184**	P	**Pn**	**23 18 47.6**	**+1.3**
KHZ	**Kahutara**	**2.34**	**184**	P	**Pn**	**23 18 47.3**	**+1.0**
MCHZ	**McNeill Hill**	**2.36**	**75**	P	**Pn**	**23 18 48.0**	**+1.4**
KAHZ	**Kahuranaki**	**2.43**	**84**	P	**Pn**	**23 18 47.8**	**+0.2**
NMHZ	**Naumai**	**2.56**	**68**	P	**Pn**	**23 18 51.1**	**+1.6**
MTHZ	**Maungataniwha**	**2.69**	**64**	P	**Pn**	**23 18 51.4**	**+0.2**
TOZ	**Tahuroa Road**	**2.72**	**31**	P	**Pn**	**23 18 50.4**	**-1.1**
RTZ	**Ruatahuna**	**2.90**	**61**	P	**Pn**	**23 18 55.6**	**+1.4**
LTZ	**Lake Taylor**	**2.92**	**202**	P	**Pn**	**23 18 55.5**	**+1.1**
GVZ	**Greta Valley S**	**2.94**	**190**	P	**Pn**	**23 18 54.9**	**+0.4**
INZ	**Inchbonnie**	**3.16**	**212**	P	**Pn**	**23 18 57.4**	**-0.2**
MKAZ	**Moumakai**	**3.17**	**21**	P	**Pn**	**23 18 57.0**	**-0.8**
URZ	**Urewera**	**3.19**	**56**	P	**Pn**	**23 18 58.9**	**+0.9**
URZ	**Urewera**	**3.19**	**56**	P	**Pn**	**23 18 58.7**	**+0.7**
PRGZ	**Paritu Road**	**3.40**	**71**	P	**Pn**	**23 19 00.4**	**-0.6**
MWZ	**Matawai**	**3.42**	**61**	P	**Pn**	**23 19 03.2**	**+2.0**
WIAZ	**Waiheke Island**	**3.46**	**19**	P	**Pn**	**23 19 00.9**	**-0.8**
WVZ	**Waitaha Valley**	**3.75**	**216**	P	**Pn**	**23 19 05.9**	**+0.2**
TWGZ	**Tauwhareparae**	**3.80**	**61**	P	**Pn**	**23 19 07.8**	**+1.3**
AKCZ	**Akaroa Harbour**	**3.84**	**189**	P	**Pn**	**23 19 07.1**	**+0.1**
RPZ	**Rata Peaks**	**4.15**	**208**	P	**Pn**	**23 19 11.1**	**-0.2**
OUZ	**Omahuta**	**4.85**	**359**	P	**Pn**	**23 19 19.7**	**-1.2**
JCZ	**Jackson Bay**	**5.43**	**221**	P	**Pn**	**23 19 28.6**	**-0.4**

*IDC **06** 23:27:58.5±1.4,30°.84N×51°.47E,h0km,mb3.6/9, mbtmp3.6/13,ML3.3/4,Error ellipse: s-maj=29.3km s-min=20.1km az=168.0*
*TEH **06** 23:27:58.2,30°.76N×51°.47E,h5km,ML3.3*
ISC 06 23:27:59.2±0.6,**30°.76N**±0°.03×**51°.50E**±0°.04,**h10km,n45,** σ2§**00**/47,**mb3.9**/15,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLNJ	**Kolanjah**	**0.26**	**18**	Pg	**Pg**	**23 28 03.3**	**-1.2**
KAZ2	**Kazeron-Fars-I**	**1.16**	**173**	Pg	**Pn**	**23 28 21.5**	**0.0**
IBRJ	**Brojen**	**1.16**	**350**	Pg	**Pg**	**23 28 20.0**	**-4.8**
SHI	**Shiraz**	**1.42**	**142**	Pg	**Pg**	**23 28 26.6**	**+0.2**
ZNGN	**Zangian**	**1.46**	**338**	Pg	**Pg**	**23 28 26.7**	**-0.5**
IPIR	**Pirpir**	**1.98**	**345**	Pn	**Pg**	**23 28 36.0**	**-1.2**
ISAD	**Sadrabad**	**2.19**	**58**	Pn	**Pb**	**23 28 39.0**	**-0.1**
IZEF	**Zefreh**	**2.24**	**18**	Pn	**Pb**	**23 28 39.4**	**-0.5**
DSBU	**Dashti - Bushe**	**2.40**	**185**	Pn	**Pb**	**23 28 41.4**	**-1.1**
IKLH	**Kolahrood**	**2.55**	**1**	Pn	**Pb**	**23 28 43.6**	**-1.6**
ICHK	**Chekchek**	**2.89**	**59**	Pn	**Pb**	**23 28 48.2**	**-2.8**
ANAR	**Anarak**	**3.07**	**37**	Pn	**Pb**	**23 28 51.3**	**-2.7**
IBAF	**Bafgh**	**3.58**	**76**	Pn	**Pn**	**23 28 58.2**	**+3.3**
ISFB	**Sefidab**	**3.63**	**10**	Pn	**Pn**	**23 28 58.2**	**+2.6**
BDRS	**Dareh Seyedi**	**3.88**	**326**	Pn	**Pn**	**23 29 01.7**	**+2.6**
IQOM	**Qom**	**4.08**	**355**	Pn	**Pn**	**23 29 04.0**	**+2.1**
IKFM	**Kafar-mosalman**	**4.14**	**313**	Pn	**Pn**	**23 29 05.1**	**+2.6**
HSAM	**Samen**	**4.22**	**325**	Pn	**Pn**	**23 29 06.4**	**+2.6**
IVRN	**Varamin**	**4.22**	**3**	Pn	**Pn**	**23 29 06.3**	**+2.6**
KHGB	**Koh Gabri**	**4.31**	**94**	Pn	**Pn**	**23 29 07.5**	**+2.5**
HAGD	**Aghdareh**	**4.51**	**334**	Pn	**Pn**	**23 29 10.2**	**+2.4**
NGRK	**Negar Kerman**	**4.66**	**103**	Pn	**Pn**	**23 29 13.5**	**+3.5**
TPRV	**Parvadeh(Tabas**	**4.95**	**62**	Pn	**Pn**	**23 29 16.7**	**+3.0**
QABG	**Abgarm-Qazvin**	**5.19**	**342**	Pn	**Pn**	**23 29 19.5**	**+2.4**
SNQR	**Sonqor, Kerman**	**5.22**	**322**	Pn	**Pn**	**23 29 20.5**	**+2.9**
TKDS	**Koohdasht(Taba**	**5.55**	**58**	Pn	**Pn**	**23 29 25.4**	**+3.4**
GEYT	**Alibeck**	**9.00**	**36**	Pn	**Pn**	**23 30 09.8**	**+0.6**
	0.1nm,0.3s,baz=212,slow=14,SNR=4.4						
	0.4nm,0.3s						
WSAR	**Wadi Sarin**	**9.82**	**138**	Pn	**Pn**	**23 30 20.9**	**+0.3**
	0.4nm,0.3s,baz=331,slow=5.6,SNR=7.8						
WSAR				Sn	**Sn**	**23 32 06.5**	**-4.5**
	0.4nm,0.3s,baz=353,slow=20,SNR=2.0						
	3.7nm,0.8s						
MMAI	**Mount Meron Ar**	**13.86**	**284**	Pn	**Pn**	**23 31 17.7**	**+1.9**
	0.3nm,0.3s,baz=105,slow=16,SNR=1.7						
MMAI				Sn	**Sn**	**23 33 46.5**	**-3.4**
	0.5nm,0.3s,baz=199,slow=34,SNR=1.5						
	0.6nm,0.5s						
BRTR	**Keskin Array B**	**17.09**	**306**	P	**P**	**23 31 59.6**	**-0.4**
	0.1nm,0.3s,baz=114,slow=13,SNR=4.3						
	0.3nm,0.5s						
AKASG	**Malin Array Be**	**25.93**	**327**	P	**P**	**23 33 31.4**	**-0.1**
	0.4nm,0.3s,baz=133,slow=9.3,SNR=7.5						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**26.16**	**26**	P	**P**	**23 33 34.9**	**+1.4**
	1.8nm,0.5s,baz=227,slow=6.5,SNR=12						
	1.8nm,0.5s						
MKAR	**Makanchi Array**	**28.61**	**47**	P	**P**	**23 33 56.3**	**+0.7**
	0.2nm,0.6s,baz=245,slow=8.9,SNR=1.7						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**33.31**	**36**	P	**P**	**23 34 37.1**	**+0.2**
	0.5nm,0.4s,baz=253,slow=9.8,SNR=2.7						
	0.5nm,0.4s						
WTTA	**Wattenberg**	**34.65**	**310**	*i* P	**P**	**23 34 49.3**	**+0.5**
	0.7nm,0.4s						
WATA	**Walderalm**	**34.70**	**310**	*e*P	**P**	**23 34 49.5**	**+0.2**
	0.6nm,0.2s						
SQTA	**Sankt Quirin**	**34.92**	**310**	*i* P	**P**	**23 34 51.5**	**+0.3**
	2.2nm,0.3s						
FINES	**FINESS Array B**	**34.92**	**339**	P	**P**	**23 34 50.1**	**-0.7**
	0.9nm,0.7s,baz=150,slow=11,SNR=4.4						
	0.9nm,0.7s						
MOTA	**Moosalm**	**35.02**	**310**	*i* P	**P**	**23 34 52.3**	**+0.3**
	1.4nm,0.2s						
FETA	**Feichten**	**35.19**	**309**	*i* P	**P**	**23 34 54.1**	**+0.5**
	0.6nm,0.3s						
DAVA	**Damuels**	**35.82**	**309**	*i* P	**P**	**23 34 58.9**	**0.0**
	1.9nm,0.3s						
HFS	**Hagfors**	**38.65**	**331**	P	**P**	**23 35 21.7**	**-0.8**
	0.5nm,0.3s,baz=142,slow=7.3,SNR=1.7						
	0.5nm,0.3s						
EKA	**Eskdalemuir Ar**	**45.40**	**319**	P	**P**	**23 36 16.5**	**-1.2**
	0.6nm,0.7s,baz=105,slow=8.2,SNR=2.1						
	0.6nm,0.7s						
ESDC	**Sonseca Array**	**45.55**	**297**	P	**P**	**23 36 19.8**	**+0.6**
	0.1nm,0.6s,baz=77,slow=8.6,SNR=1.6						
	0.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**48.99**	**260**	P	**P**	**23 36 47.5**	**+1.3**
	0.9nm,0.5s,baz=54,slow=9.6,SNR=8.9						
	0.9nm,0.5s						

IDC 07 00:01:08.3±3.2,**1°.73S×136°.57E,h0km,mb3.1**/2, **mbtmp3.2**/3,**ML3.3/1**,**Error ellipse: s-maj=126.7km s-min=31.0km az=81.0**,**Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.23**	**187**	P	Pn	00 05 22.6	-0.4
	0.1nm,0.3s,baz=8.4,slow=12,SNR=5.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**21.96**	**187**	P	P	00 06 04.0	+0.1
	0.3nm,0.5s,baz=12,slow=11,SNR=4.9						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.72**	**323**	P	P	00 12 07.8	+0.1
	0.3nm,0.8s,baz=111,slow=7.4,SNR=1.3						
	0.3nm,0.8s						

*IDC **07** 00:08:19.3±4.0,5°.55S×154°.33E,h137km±34km,mb3.8/13, mbtmp4.3/14,Error ellipse: s-maj=24.9km s-min=16.3km az=72.0*
*NEIC **07** 00:08:19.3±0.9,5°.5S±0°.2×154°.4E±0°.1,h129km±12km, mb4.1/12,Error ellipse: s-maj=25.1km s-min=15.7km az=218.0*
ISC 07 00:08:17.2±0.7,**5°.50S**±0°.08×**154°.42E**±0°.09,**h118km,n31,** σ0§**77**/34,**mb4.1**/16,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.60**	**300**	Pn	**Pn**	**00 08 59.6**	**+1.5**
RABL				Sn	**Sn**	**00 09 29.5**	**-0.2**
PMG	**Port Moresby**	**8.18**	**241**	Pn	**Pn**	**00 10 14.7**	**+1.6**
PMG	**Port Moresby**	**8.18**	**241**	P	**Pn**	**00 10 14.0**	**+0.9**
	113nm,0.8s,baz=50,slow=8.0,SNR=21						
PMG				S	**Sn**	**00 11 44.3**	**+0.3**
	10nm,0.5s,baz=15,slow=20,SNR=1.6						
EIDS	**Eidsvold**	**20.01**	**189**	P	**P**	**00 12 41.3**	**+0.5**
EIDS				IAmb	IAmb	00 12 45.9	
	comp=Z,10.0nm,1.1s						
DZM	**Mont Dzumac**	**20.16**	**146**	P	**P**	**00 12 43.4**	**+0.9**
DZM				IAmb	IAmb	00 12 43.9	
	comp=Z,8.1nm,0.9s						
DZM	**Mont Dzumac**	**20.16**	**146**	P	**P**	**00 12 43.5**	**+1.0**
	comp=Z,5.6nm,0.6s,baz=322,slow=19,SNR=6.1						
	comp=Z,5.6nm,0.6s						
WR0	**Warramunga Arr**	**24.09**	**232**	P	**P**	**00 13 22.4**	**+0.4**
WR0				IAmb	IAmb	00 13 22.7	
	comp=Z,5.9nm,0.7s						
WB0	**Warramunga Arr**	**24.10**	**232**	P	**P**	**00 13 22.1**	**+0.1**
WB0				IAmb	IAmb	00 13 22.7	
	comp=Z,7.0nm,0.6s						
MTN	**Manton Dam**	**24.10**	**251**	P	**P**	**00 13 21.4**	**-0.8**
**

KNRA	Kununurra	16.44	233	P		Pn	00 19 12.2	-2.4
	28nm,0.8s							
KNRA	Kununurra	16.44	233			Pn	00 19 14.0	-0.6
KNRA				IAmb		IAmb	00 19 20.6	
	comp=Z,20nm,0.8s							
AS31	Alice Springs	19.43	204	P		P	00 19 51.7	+1.4
ASAR	Alice Springs	19.43	204	P		P	00 19 51.8	+1.4
ASAR	Alice Springs	19.43	204	P		Pn	00 19 53.9	+2.3
	comp=Z,0.4nm,0.3s,baz=32,slow=9.9,SNR=48							
ASAR				S		Sn	00 23 25.2	-4.5
	comp=Z,3.6nm,0.9s,baz=20,slow=27,SNR=4.7							
ASAR				Lg		Lg	00 25 53.7	
	comp=Z,0.2nm,0.3s,baz=22,slow=33,SNR=6.3							
	comp=Z,5.0nm,0.7s							
DAV	Davao City (W)	21.04	307	LR		LR	00 27 32.7	
	comp=Z,58nm,19.9s,baz=158,slow=35							
DZM	Mont Dzumac	28.38	127	LR		LR	00 32 17.9	
	comp=Z,138nm,18.9s,baz=280,slow=36							
URZ	Urewera	45.13	141	LR		LR	00 42 16.1	
	comp=Z,83nm,18.2s,baz=182,slow=36							
SONM	Songino Array	62.10	333	P		P	00 25 44.3	-0.6
	comp=Z,0.2nm,0.4s,baz=157,slow=7.8,SNR=1.1							
	comp=Z,0.2nm,0.4s							
MKAR	Makanchi Array	74.45	322	P		P	00 27 01.9	-0.2
	comp=Z,2.0nm,1.1s,baz=104,slow=6.8,SNR=3.5							
	comp=Z,2.0nm,1.1s							
ZALV	Zalesovo Beam	76.45	329	P		P	00 27 12.5	-1.0
	comp=Z,0.2nm,0.3s,baz=103,slow=6.2,SNR=1.4							
	comp=Z,0.2nm,0.3s							
BVAR	Borovoye Array	83.93	325	P		P	00 27 53.4	-0.5
	comp=Z,1.1nm,0.8s,baz=111,slow=6.3,SNR=5.2							
	comp=Z,1.1nm,0.8s							
QSPA	South Pole Qui	84.09	180	P		P	00 27 55.5	+0.9
QSPA	South Pole Qui	84.09	180	P		P	00 27 55.1	+0.5
	comp=Z,0.9nm,0.8s,baz=285,slow=5.1,SNR=2.3							
	comp=Z,0.9nm,0.8s							
E19K	Redstone River	84.55	20	P		P	00 27 56.1	-0.6
CAST	Castle Rocks	84.63	24	P		P	00 27 56.0	-1.2
CAST				IAmb		IAmb	00 27 58.1	
	comp=Z,2.1nm,1.0s							
D19K	Kuna River	84.78	19	P		P	00 27 57.0	-0.9
D19K				IAmb		IAmb	00 28 13.6	
	comp=Z,3.1nm,1.1s							
MLY	Manley	85.82	23	P		P	00 28 01.5	-1.6
MLY				IAmb		IAmb	00 28 16.4	
	comp=Z,3.0nm,1.1s							
B20K	Meade River	85.84	17	P		P	00 28 02.1	-0.9
RND	Reindeer	85.96	25	P		P	00 28 02.3	-1.6
RND				IAmb		IAmb	00 28 10.2	
	comp=Z,2.1nm,0.8s							
B21K	Ikpikpuk River	86.43	18	P		P	00 28 05.3	-0.7
E22K	Anaktuvuk Pass	86.69	20	P		P	00 28 06.7	-0.7
E22K				IAmb		IAmb	00 28 12.7	
	comp=Z,1.2nm,0.8s							
D22K	Ayikyak River	86.72	19	P		P	00 28 07.0	-0.5
D22K				IAmb		IAmb	00 28 26.0	
	comp=Z,2.2nm,1.1s							
B22K	Teshekpuk Lake	87.12	18	P		P	00 28 08.7	-0.7
B22K				IAmb		IAmb	00 28 17.0	
	comp=Z,2.4nm,1.1s							
ILAR	Eielson Array	87.25	24	P		P	00 28 06.8	-3.4
	comp=Z,0.8nm,0.8s,baz=250,slow=5.3,SNR=6.3							
	comp=Z,0.8nm,0.8s							
VRDI	Verde Repeater	87.63	28	P		P	00 28 11.0	-1.3
VRDI				IAmb		IAmb	00 28 17.9	
	comp=Z,2.6nm,1.2s							
C23K	Itkillik River	87.78	19	P		P	00 28 12.2	-0.4
F24K	Squaw Lake	87.83	21	P		P	00 28 12.0	-0.9
F24K				IAmb		IAmb	00 28 21.9	
	comp=Z,1.6nm,1.1s							
MCARA	McCarthy VSAT	87.87	28	P		P	00 28 11.5	-1.7
MCARA				IAmb		IAmb	00 28 31.0	
	comp=Z,1.5nm,0.8s							
BARN	Barnard Glacie	88.42	28	P		P	00 28 15.1	-1.0
BMAR	Burnt Mountain	89.00	22	P		P	00 28 17.6	-0.9

*CATAC **07** 00:17:12.6±0.2, 13˚27N×88˚06W, h6km±2km, ML3.4*
*SNET **07** 00:17:13.0±0.9, 13˚30N×88˚05W, h4km±3km, ML3.6*
ISC 07 00:17:12.7±0.8, 13˚30N±0˚05×88˚06W±0˚02, h14km±6km, n51, σ0s41/73, 3C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCND	La Caada	0.17	86	iP	Pg	00 17 16.6	-0.2
LCND				eS	Sg	00 17 19.4	-0.2
LCND	La Caada	0.17	86	i P	Pg	00 17 16.6	-0.2
LCND				i P	Pg	00 17 16.7	-0.2
LCND				i S	Sg	00 17 19.8	+0.2
LCND				IAML		00 17 21.1	
	comp=Z,49μm,1.0s						
JUCU	Jucuarn	0.18	256	iP	Pg	00 17 16.9	-0.2
JUCU				eS	Sg	00 17 20.0	-0.1
JUCU	Jucuarn	0.18	256	i P	Pg	00 17 16.9	-0.2
JUCU				i S	Sg	00 17 20.3	+0.2
JUCU				IAML		00 17 25.6	
	comp=Z,8μm,1.0s						
CNRM	Centro Naciona	0.20	330	eP	Pg	00 17 17.5	+0.2
CNRM	Centro Naciona	0.20	330	i P	Pg	00 17 17.6	+0.2
CNRM				i S	Sb	00 17 21.7	-0.3
CNRM				IAML		00 17 24.7	
	comp=Z,48μm,1.0s						
BLLM	Bellamira	0.22	311	iP	Pg	00 17 18.1	+0.4
CNCH	Conchagua	0.23	95	iP	Pg	00 17 17.7	-0.1
CNCH				eS	Sg	00 17 21.2	0.0
CNCH	Conchagua	0.23	95	i P	Pg	00 17 17.7	-0.1
CNCH				i S	Sg	00 17 21.6	+0.4
CNCH				IAML		00 17 22.4	
	comp=Z,74μm,1.0s						
VSM	San Miguel	0.24	302	eP	Pb	00 17 18.6	-0.4
LCY	Lacayo	0.26	299	eP	Pg	00 17 18.7	+0.4
RANC	El Ranchito	0.26	302	iP	Pg	00 17 18.8	+0.4
RANC	El Ranchito	0.26	302	i P	Pb	00 17 18.9	-0.4
RANC				i S	Sb	00 17 23.6	0.0
RANC				IAML		00 17 27.3	
	comp=Z,8μm,1.0s						
PACA	Pacayal	0.30	304	eP	Pg	00 17 19.4	+0.2
PACA	Pacayal	0.30	304	i P	Pg	00 17 19.6	+0.5
PACA				i S	Sb	00 17 25.4	+0.4
PACA				IAML		00 17 32.6	
	comp=Z,35μm,1.0s						
TECA	Tecapa	0.47	295	eP	Pg	00 17 22.5	+0.3
COEB	Comit de Eme	0.50	294	eP	Pg	00 17 22.8	+0.2
COEB	Comit de Eme	0.50	294	i P	Pg	00 17 22.9	+0.3
COEB				i S	Sb	00 17 30.5	0.0
COEB				IAML		00 17 32.9	
	comp=Z,1μm,1.0s						
TECO	Alcaldia de Te	0.74	289	eP	Pg	00 17 26.8	-0.3
TECO	Alcaldia de Te	0.74	289	i P	Pg	00 17 26.8	-0.3
TECO				i S	Sb	00 17 37.5	+0.2
TECO				IAML		00 17 40.0	
	comp=Z,740nm,1.0s						
SCLA	Alcaldia de Sa	0.76	302	eP	Pb	00 17 27.8	0.0
SCLA	Alcaldia de Sa	0.76	302	i P	Pg	00 17 27.5	-0.1
SCLA				i S	Sn	00 17 39.6	-0.8
SCLA				IAML		00 17 47.7	
	comp=Z,330nm,1.0s						
UESV	Universidad de	0.78	296	i P	Pg	00 17 27.9	0.0
UESV				i S	Sb	00 17 39.6	+1.0
UESV				IAML		00 17 43.2	
	comp=Z,740nm,1.0s						
COEG	Centro de Oper	0.86	292	eP	Pg	00 17 29.1	-0.2
COEG	Centro de Oper	0.86	292	i P	Pg	00 17 29.2	-0.2
COEG				i S	Sb	00 17 41.6	+0.8
COEG				IAML		00 17 44.6	
	comp=Z,1μm,1.0s						
PAVA	Las Pavas	0.94	296	eP	Pb	00 17 30.9	-0.1
PAVA	Las Pavas	0.94	296	i P	Pb	00 17 30.7	-0.3
PAVA				i S	Sn	00 17 44.4	-0.7
PAVA				IAML		00 17 48.4	
	comp=Z,2μm,1.0s						
PANCS	Alcalda de	1.13	286	i P	Pb	00 17 33.5	-0.6
PANCS				i S	Sg	00 17 49.3	0.0
PANCS				IAML		00 17 49.8	
	comp=Z,2μm,1.0s						
LOMA	Loma Larga	1.13	288	eP	Pb	00 17 34.0	-0.2
LOMA	Loma Larga	1.13	288	i P	Pb	00 17 33.6	-0.6
LOMA				IAML		00 17 34.4	
	comp=Z,930nm,1.0s						
LOMA				i S	Sn	00 17 49.9	+0.2
CRIN	San Cristobal	1.15	121	i P	Pn	00 17 34.5	0.0
CRIN				IAML		00 17 35.1	
	comp=Z,5μm,1.0s						
CRIN				i S	Sn	00 17 50.8	+0.7
LLGN	La Laguna	1.21	315	eP	Pn	00 17 35.0	-0.4
LLGN	La Laguna	1.21	315	i P	Pn	00 17 34.9	-0.5
LLGN				i S	Sn	00 17 51.8	+0.1
LLGN				IAML		00 17 52.6	
	comp=Z,750nm,1.0s						
UEES	Universidad Ev	1.22	290	i P	Pb	00 17 35.6	0.0
UEES				IAML		00 17 36.1	
	comp=Z,460nm,1.0s						
UEES				i S	Sg	00 17 52.6	+0.5
LALI	Alcalda de L	1.24	279	i P	Pb	00 17 35.8	-0.1
LALI				i S	Sg	00 17 53.6	+0.9
LALI				IAML		00 18 00.3	
	comp=Z,180nm,1.0s						
PIC2	El Picacho	1.24	291	eP	Pg	00 17 36.5	-0.2
BOQS	Boqueron	1.26	290	eP	Pb	00 17 36.5	+0.1
PMON	Piamonte	1.28	289	eP	Pb	00 17 36.6	-0.2
PMON	Piamonte	1.28	289	i P	Pb	00 17 36.8	0.0
PMON				i S	Sg	00 17 54.6	+0.3
PMON				IAML		00 17 57.4	
	comp=Z,1μm,1.0s						
JAYA	Jayaque - finc	1.39	285	eP	Pn	00 17 38.0	+0.1
JAYA	Jayaque - finc	1.39	285	i P	Sg	00 17 57.4	-0.3
ROCN	Rota Cerro Neg	1.50	121	i P	Pn	00 17 26.7	-13
ROCN				i S	Sn	00 17 47.6	-11
CNGN	Cerro Negro	1.55	121	i P	Pn	00 17 39.3	-0.6
CNGN				i S	Sn	00 17 45.5	-14
CNGN				IAML		00 18 07.8	
	comp=Z,440nm,1.0s						
CNGA	Al SSO del Vol	1.55	121	i P	Pn	00 17 25.9	-14
CEVE	Cerro Verde	1.61	289	i P	Pb	00 17 42.4	+0.1
CEVE				IAML		00 18 08.7	
	comp=Z,860nm,1.0s						
MOMN	Momotombo	1.73	121	i P	Pn	00 17 42.0	-0.4
MOMN				IAML		00 17 43.7	
	comp=Z,18nm,1.0s						
MOM2	El Cardon	1.76	119	i P	Pn	00 17 43.5	+0.7
MOM2				IAML		00 17 47.1	
	comp=Z,210nm,1.0s						
NUBE	Las Nubes	1.77	290	i P	Pb	00 17 44.2	-0.9
NUBE				IAML		00 17 45.6	
	comp=Z,350nm,1.0s						
NUBE				i S	Sg	00 18 09.6	-0.3
COPN	Copaltepe	1.82	128	i P	Pn	00 17 43.0	-0.6
COPN				IAML		00 18 16.5	
	comp=Z,150nm,1.0s						
APYN	Apoyeque	1.98	122	i P	Pn	00 17 46.9	+1.1
APYN				IAML		00 17 48.1	
	comp=Z,430nm,1.0s						
TISN	Laguna Tiscapa	2.09	123	i P	Pn	00 17 47.8	+0.4
TISN				IAML		00 17 49.4	
	comp=Z,26nm,1.0s						

*IDC **07** 00:32:19.4±1.8, 11˚24S×118˚55E, h0km, mb4.0/4, mbtmp3.9/7, ML3.9/3, MS3.1/1, Error ellipse: s-maj=68.8km s-min=23.0km az=41.0*
*NEIC **07** 00:32:22.1±1.7, 11˚34S±0˚08×118˚66E±0˚07, h10km±2km, mb4.2/6, Error ellipse: s-maj=14.1km s-min=11.3km az=9.0*
*DJA **07** 00:32:22.2±0.3, 11˚S±3˚×11˚9E±˚, h10km, M4.9/19, mB5.8/5, mb4.8/16, ML4.7/19, Mw(mB)5.4/5*
ISC 07 00:32:20.9±0.7, 11˚24S±0˚07×118.72E±0˚05, h10km, n39, σ1s77/43, mb4.1/5, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BASI	Baing, Sumba	2.09	61	P	Pn	00 32 58.1	+2.0
PLAI	Plampang	2.57	339	P	Pn	00 33 04.1	+1.4
TWSI	Taliwang, Sumb	3.08	324	P	Pn	00 33 10.5	+0.9
EDFI	Ende, Flores	3.84	50	P	Pn	00 33 21.5	+1.3
DNP	Denpasar	4.29	306	P	Pn	00 33 27.4	+1.0
MMRI	Maumere	4.33	54	Pn	Pn	00 33 29.1	+2.3
MMRI				Sn	Sn	00 34 15.5	-1.9
MMRI	Maumere	4.33	54	P	Pn	00 33 28.9	+2.0
SRBI	Singaraja	4.67	312	P	Pn	00 33 32.7	+1.2
SRBI				S	Sn	00 34 25.4	-0.4
BATI	Baumata	4.97	78	Pn	Pn	00 33 38.5	+2.8
	13nm,0.3s,baz=251,slow=2.5,SNR=2.7						
BATI				Sn	Sn	00 34 28.9	-4.4
	9.5nm,0.3s,baz=317,slow=16,SNR=1.6						
	29nm,0.3s						
BATI	Baumata	4.97	78	P	Pn	00 33 38.2	+2.5
	36nm,0.6s,0.4nm						
JAGI	Jajag, Banyuwa	5.28	301		Pn	00 33 39.7	-0.2
JAGI				Sn	Sn	00 34 36.8	-4.0
JAGI	Jajag, Banyuwa	5.28	301	P	Pn	00 33 39.2	-0.7
	50nm,0.4s,5μm1.1nm						
ABJI	Asem Bagus	5.59	307	P	Pn	00 33 45.5	+1.3
	44nm,1.0s,0.5nm						
SOEI	Soe	5.66	75		Pn	00 33 48.2	+3.0
SOEI	Soe	5.66	75	P	Pn	00 33 48.2	+3.0
	80nm,0.7s,0.4nm						
BLJI	Banyuglugur	6.13	304	P	Pn	00 33 52.9	+1.2
	53nm,0.5s,3μm0.7nm						
KAPI	Kappang	6.27	9		Pn	00 33 57.2	+3.7
PWJI	Pagerwojo	7.53	295	P	Pn	00 34 12.5	+1.6
	41nm,0.7s,0.4nm						
UGM	Wanagama	8.73	292	Pn	Pn	00 34 28.3	+0.9
UGM	Wanagama	8.73	292	P	Pn	00 34 28.7	+1.3
	120nm,1.8s						
MBWA	Marble Bar	9.91	174		Pn	00 34 43.4	-0.1
PSA00	Pilbara Seismi	10.33	174		Pn	00 34 49.0	-0.3
PSA00	Pilbara Seismi	10.33	174		Pn	00 34 47.9	-1.3
KPJI	Karang Pucung	10.41	291	P	Pn	00 34 50.9	+0.5
	23nm,0.7s						
KNRA	Kununurra	10.72	115	Pn	Pn	00 34 55.4	+0.8
GIRL	Giralia	12.12	200		Pn	00 35 13.4	-0.3
WB0	Warramunga Arr	17.31	121	Pn	Pn	00 36 23.0	+0.1
WB0				IAmb	IAmb	00 36 29.8	
	comp=Z,13nm,1.4s						
WRA	Warramunga Arr	17.34	122	P	Pn	00 36 22.9	-0.5
	comp=Z,0.3nm,0.3s,baz=296,slow=13,SNR=8.7						
WRA				S	Sn	00 39 23.6	-13
	comp=Z,1.8nm,0.7s,baz=295,slow=21,SNR=6.0						
	comp=Z,0.9nm,0.5s						
WR0	Warramunga Arr	17.52	122	Pn	Pn	00 36 25.4	-0.1
WR0				IAmb	IAmb	00 36 26.7	
	comp=Z,15nm,1.4s						
MORW	Morawa	17.91	188	P	Pn	00 36 29.7	-0.6
MORW				IAmb	IAmb	00 36 31.4	
	comp=Z,28nm,0.9s						
ASAR	Alice Springs	19.02	133	P	P	00 36 43.5	+0.4
ASAR	Alice Springs	19.02	133	P	Pn	00 36 45.2	+1.4
	comp=Z,0.5nm,0.3s,baz=311,slow=13,SNR=22						
ASAR				S	Sn	00 40 05.5	-12
	comp=Z,2.4nm,0.6s,baz=306,slow=22,SNR=7.4						
ASAR				LR	LR	00 43 19.9	
	comp=Z,58nm,19.3s,baz=326,slow=34						
	comp=Z,2.3nm,0.8s						
AS31	Alice Springs	19.02	133	P	P	00 36 43.9	+0.8
FORT	Forrest	21.28	157	P	P	00 37 09.8	+2.1
FORT				IAmb	IAmb	00 37 18.4	
	comp=Z,35nm,0.8s						
BBOO	Buckleboo	26.74	146	P	P	00 38 00.2	-0.6
SONM	Songino Array	59.83	350	P	P	00 42 26.2	-0.5
	comp=Z,0.7nm,0.7s,baz=165,slow=8.9,SNR=5.3						
	comp=Z,0.7nm,0.7s						
MKAR	Makanchi Array	66.32	334	P	P	00 43 09.9	+0.2
	comp=Z,1.7nm,0.5s,baz=154,slow=6.7,SNR=28						
	comp=Z,1.7nm,0.5s						
KURBB	Kurchatov Arra	70.85	334	P	P	00 43 37.6	-0.2
	comp=Z,0.5nm,0.5s,baz=152,slow=4.3,SNR=5.2						
	comp=Z,0.5nm,0.5s						
ZALV	Zalesovo Beam	71.03	340	P	P	00 43 37.9	-1.0
	comp=Z,0.6nm,0.4s,baz=143,slow=4.7,SNR=5.6						
	comp=Z,0.6nm,0.4s						

*IDC **07** 00:43:48.5±2.0, 8˚90S×124˚88E, h0km, mb3.5/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=169.2km s-min=32.8km az=58.0*
*DJA **07** 00:43:57.7±0.4, 10˚S±4˚×12˚4E±˚, h67km±5km, M3.8/9, mb4.1/3, MLv3.6/9*
ISC 07 00:43:56.3±1.0, 9˚8S±0˚1×124˚13E±0˚09, h100km, n9, σ2s38/13, Timor region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	0.14	74	P	Pn	00 44 09.7	-0.8
SOEI				S	Sn	00 44 18.5	-2.6
BATI	Baumata	0.62	228	P	Pn	00 44 13.4	+0.3
BATI				S	Sn	00 44 23.9	-1.8
MMRI	Maumere	2.20	301	P	Pn	00 44 29.9	-1.6
EDFI	Ende, Flores	2.62	293	P	Pn	00 44 35.6	-1.6
BASI	Baing, Sumba	3.53	263	P	Pn	00 44 48.7	-0.5
PLAI	Plampang	6.35	278	P	Pn	00 45 26.7	-0.7
	24nm,1.7s,0.1nm						
WRA	Warramunga Arr	14.10	137	Pn	Pn	00 47 13.1	+1.4
	0.3nm,0.3s,baz=317,slow=13,SNR=18						
WRA				Sn	Sn	00 49 43.6	-3.5
	0.3nm,0.3s,baz=322,slow=23,SNR=5.4						
	0.4nm,0.4s						
ASAR	Alice Springs	16.66	147	P	P	00 47 47.6	+3.1
	0.3nm,0.3s,baz=320,slow=12,SNR=18						
ASAR				S	Sn	00 50 45.4	-3.4
	0.2nm,0.4s,baz=320,slow=16,SNR=1.3						
	0.8nm,0.5s						
MKAR	Makanchi Array	67.56	330	P	P	00 54 44.3	+2.2
	0.3nm,0.5s,baz=147,slow=8.1,SNR=4.1						
	0.3nm,0.5s						

*IDC **07** 00:51:08.6±1.2, 34˚55N×23˚49E, h0km, mb3.8/8, mbtmp3.7/15, ML3.8/6, MS2.8/1, Error ellipse: s-maj=24.3km s-min=18.0km az=11.0*
*THE **07** 00:51:12.5, 34˚66N×23˚18E, h10km, ML2.9/4, Error ellipse: s-maj=1.1km s-min=0.6km az=79.0*
*ATH **07** 00:51:13.3, 34˚66N×23˚24E, h12km±4km, ML3.1/4, Error ellipse: s-maj=9.1km s-min=1.9km az=33.0*
ISC 07 00:51:11.0±1.3, 34˚55N±0˚06×23˚24E±0˚04, h18km±5km, n40, σ1s35/49, mb3.7/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GVD	Gavdhos	0.76	67	P	Pn	00 51 26.7	0.0
GVD				S	Sn	00 51 38.5	+0.9
	2μm,0.4s						
GVD	Gavdhos	0.76	67	P	Pb	00 51 26.5	+1.0
GVD				S	Sn	00 51 37.5	-0.1
GVD				AML	AML	00 51 46.7	
	comp=E,3041μm,0.5s						
GVD				AML	AML	00 51 47.7	
	comp=N,3834μm,0.4s						
KNDR	Palaiochora Ch	0.78	28	P	Pg	00 51 25.5	-0.6
KNDR				AML	AML	00 51 47.6	
	comp=E,4377μm,0.6s						
KNDR				AML	AML	00 51 53.4	
	comp=N,4199μm,0.8s						
IMMV	Iera Moni Meta	1.09	33	P	Pn	00 51 31.9	+0.5
IMMV				S	Sn	00 51 46.8	+0.8
	comp=N,910nm,0.6s						
IMMV	Iera Moni Meta	1.09	33	P	Pn	00 51 32.1	+0.7
IMMV				AML	AML	00 51 53.4	
	comp=N,1415μm,0.6s						
IMMV				AML	AML	00 51 54.5	
	comp=E,2118μm,0.5s						
RODP	Rodopos	1.10	23	P	Pg	00 51 31.5	-0.7
RODP				S	Sb	00 51 45.9	+0.6
CHAN	Chania	1.17	34	P	Pb	00 51 32.8	+0.1
CHAN				AML	AML	00 52 03.0	
	comp=E,2161μm,0.7s						
CHAN				AML	AML	00 52 03.7	
	comp=N,1046μm,0.5s						
PRNS	Prines Rethymn	1.32	51	P	Pn	00 51 34.5	+0.1
PRNS				S	Sb	00 51 52.0	+0.3
	comp=N,228nm,0.8s						
ANKY	Antikythira Is	1.32	2	P	Pn	00 51 34.5	+0.1
ANKY				S	Sb	00 51 51.2	-0.5
	comp=N,375nm,0.8s						
ANKY	Antikythira Is	1.32	2	P	Pb	00 51 35.7	+0.6
IDI	Anoyia	1.54	61	Pn	Pn	00 51 38.5	+0.9
	comp=N,14nm,0.3s,baz=224,slow=13,SNR=45						
IDI				Sn	Sn	00 51 54.9	-2.3
	comp=N,8.7nm,0.3s,baz=292,slow=9.3,SNR=7.5						
IDI	Anoyia	1.54	61	P	Pb	00 51 39.0	0.0
KSTL	Kastelli Herak	1.68	63	P	Pg	00 51 44.2	+0.9
FRMA	Ierapetra Chan	2.10	76	P	Pb	00 51 48.7	+0.2
VLI	Veliai	2.18	354	P	Pn	00 51 46.5	+0.2
VLI				S	Sn	00 52 12.4	-0.4
VLI	Veliai	2.18	354	P	Pn	00 51 48.2	+1.9
MHLO	Agia Marina, M	2.34	23	P	Pn	00 51 48.9	+0.4
MHLO	Agia Marina, M	2.34	23	P	Pn	00 51 48.8	+0.4
ZKR	Zakros	2.51	76	P	Pn	00 51 53.0	+2.1
SNT5	Nea Kammeni, S	2.55	43	P	Pn	00 51 51.8	+0.4
KRND	KRANIDI	2.83	359	P	Pn	00 51 56.9	+1.6
GUR	Goura	3.46	348	P	Pn	00 52 05.5	+1.5
LTK	Loutraki	3.48	356	P	Pn	00 52 05.2	+1.1
VAE	Kalavryta, Ach	3.60	346	P	Pn	00 52 07.3	+1.5
VIL2	Platees	3.66	0	P	Pn	00 52 06.5	-0.1
VAE	Valguarnera	7.73	295	Pn	Pn	00 53 06.3	+3.7
	comp=N,4.6nm,0.8s,baz=154,slow=21,SNR=1.5						
VAE				Sn	Sn	00 54 25.9	-3.8
	comp=N,0.6nm,0.3s,baz=164,slow=12,SNR=2.3						
BRTR	Keskin Array B	9.78	55	Pn	Pn	00 53 30.8	+0.1
	comp=N,0.1nm,0.3s,baz=228,slow=13,SNR=7.3						
	comp=N,0.8nm,0.8s						
MMAI	Mount Meron Ar	10.24	95	Pn	Pn	00 53 34.1	-2.8
	comp=N,0.5nm,0.3s,baz=293,slow=12,SNR=2.3						
	comp=N,2.6nm,0.9s						
EIL	Elat	11.05	113	Pn	Pn	00 53 47.2	-0.9
	comp=N,0.2nm,0.3s,baz=326,slow=7.3,SNR=2.1						
EIL				Sn	Sn	00 55 41.7	-10
	comp=N,0.2nm,0.3s,baz=13,slow=15,SNR=1.6						
	comp=N,3.1nm,0.7s						
VRAC	Vranov	15.55	344	Pn	P	00 54 53.1	-0.2
	comp=N,0.2nm,0.3s,baz=224,slow=13,SNR=3.6						
VRAC				LR	LR	01 02 11.6	
	comp=N,32nm,18.7s,baz=154,slow=42						
	comp=N,1.7nm,0.6s						
GERES	GERESS Array B	15.94	337	Pn	P	00 54 57.7	-0.2
	comp=N,0.2nm,0.3s,baz=146,slow=11,SNR=4.9						
	comp=N,0.4nm,0.3s						
AKASG	Malin Array Be	16.72	13	Pn	Pn	00 55 03.9	-0.2
	comp=N,1.2nm,0.3s,baz=207,slow=9.7,SNR=7.8						
	comp=N,0.2nm,0.3s						
HFS	Hagfors	26.35	349	P	P	00 56 44.9	-0.7
	comp=N,1.2nm,0.5s,baz=159,slow=13,SNR=13						
	comp=N,1.2nm,0.5s						
NOA	NORSAR Array B	27.62	347	P	P	00 56 56.4	-0.8
	comp=N,0.2nm,0.5s,baz=128,slow=7.3,SNR=1.6						
	comp=N,0.2nm,0.5s						
EKA	Eskdalemuir Ar	27.66	327	P	P	00 57 00.2	+

CNPM				Sn	Sn	01 08 51.0	-0.7	
CNPM				IAML		01 10 21.7		
	comp=E,8.1nm,1.1s							
BRSE	**Bradley Lake S**	**3.69**	**353**		Pn	01 08 13.2	+0.3	
BRSE					Sn	01 08 55.8	-0.1	
BRLK	**Bradley Lake**	**3.73**	**352**	Pn	Pn	01 08 12.1	-1.3	
BRLK				IAML		01 09 02.5		
	comp=N,10.0nm,1.0s							
BRLK				IAML		01 10 18.5		
	comp=E,8.0nm,1.0s							
CNTC	**Contact Creek**	**3.94**	**306**		Pn	01 08 18.1	+1.6	
P19K	**Oil Pt**	**4.00**	**335**	Pn	Pn	01 08 16.9	-0.3	
P19K				IAML		01 10 16.6		
	comp=N,23nm,0.7s							
P19K				IAML		01 10 17.5		
	comp=E,24nm,0.8s							
P23K	**Montague Islan**	**4.13**	**17**		Pn	01 08 19.1	+0.2	
HIN	**Hinchinbrook I**	**4.67**	**21**	Pn	Pn	01 08 25.5	-0.8	
O18K	**Koktuh Hills**	**4.73**	**325**	Pn	Pn	01 08 27.7	+0.5	
KAIM	**Kayak Island**	**4.81**	**35**	Pn	Pn	01 08 28.5	+0.2	
KAIM				IAML		01 09 46.7		
	comp=E,14nm,0.8s							
EYAK	**Cordova Ski Ar**	**4.96**	**24**	Pn	Pn	01 08 30.4	0.0	
SUCK	**Suckling Hills**	**5.13**	**36**	Pn	Pn	01 08 32.3	-0.4	
HMT	**Hamilton**	**5.18**	**32**	Pn	Pn	01 08 34.0	+0.6	
BERG	**Berg Lake**	**5.40**	**34**	Pn	Pn	01 08 36.0	-0.3	
GRIN	**Grindle Hills**	**5.44**	**37**		Pn	01 08 36.6	-0.3	
O16K	**Kokwok River B**	**5.63**	**312**	Pn	Pn	01 08 41.0	+1.4	
WAX	**Waxell Ridge**	**5.72**	**37**	Pn	Pn	01 08 40.1	-0.7	
VRDI	**Verde Repeater**	**6.14**	**30**	Pn	Pn	01 08 45.3	-1.4	
GLB	**Gilahina Butte**	**6.22**	**28**	Pn	Pn	01 08 48.2	+0.6	
CTGM	**Chitina Glacie**	**6.61**	**39**	Pn	Pn	01 08 52.7	-0.4	
PNL	**Peninsula**	**6.63**	**53**		Pn	01 08 53.0	-0.2	
LOGN	**Logan Glacier**	**6.63**	**41**	Pn	Pn	01 08 53.7	+0.3	
BCPM	**Bancas Point**	**6.66**	**50**	Pn	Pn	01 08 53.5	-0.2	

CATAC ***07*** *01:07:54.9±0.1, 13°.28N×88°.07W, h4km±1km, ML3.5*
SNET ***07*** *01:07:55.0±0.9, 13°.34N×88°.04W, h5km±3km, ML3.5*
ISC 07 01:07:54.9±0.8,**13°.30N**±0°.04×**88°.06W**±0°.02,**h14**km±5km,
n56,σ0°.**56**/97,**5C-2D**,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**86**	⇑*i* P		**Pg**	**01 07 58.8**	**-0.3**
LCND				*e*S		**Sg**	**01 08 01.6**	**-0.2**
LCND	**La Caada**	**0.17**	**86**	*i* P		**Pg**	**01 07 58.8**	**-0.3**
LCND				*i* S		**Sg**	**01 08 01.8**	**0.0**
LCND				IAML			01 08 03.1	
	comp=Z,24μm,1.0s							
JUCU	**Jucuarįn**	**0.19**	**257**	⇑*i* P		**Pg**	**01 07 58.9**	**-0.4**
JUCU				*e*S		**Sg**	**01 08 01.9**	**-0.4**
JUCU	**Jucuarįn**	**0.19**	**257**	*i* P		**Pg**	**01 07 59.0**	**-0.4**
JUCU				*i* S		**Sg**	**01 08 02.2**	**-0.1**
JUCU				IAML			01 08 02.8	
	comp=Z,10μm,1.0s							
CNRM	**Centro Naciona**	**0.21**	**329**	⇓*i* P		**Pg**	**01 07 59.5**	**-0.2**
CNRM	**Centro Naciona**	**0.21**	**329**	*i* P		**Pg**	**01 07 59.4**	**-0.2**
CNRM				*i* S		**Sg**	**01 08 03.2**	**+0.4**
CNRM				IAML			01 08 05.5	
	comp=Z,29μm,1.0s							
BLLM	**Bellamira**	**0.22**	**311**	⇑*i* P		**Pg**	**01 07 60.0**	**0.0**
CNCH	**Conchagua**	**0.22**	**95**	⇑*i* P		**Pg**	**01 07 59.9**	**-0.2**
CNCH				*e*S		**Sg**	**01 08 03.5**	**+0.1**
CNCH	**Conchagua**	**0.22**	**95**	*i* P		**Pg**	**01 07 59.8**	**-0.2**
CNCH				*i* S		**Sg**	**01 08 03.4**	**0.0**
CNCH				IAML			01 08 04.2	
	comp=Z,41μm,1.0s							
VSM	**San Miguel**	**0.24**	**303**	*e*P		**Pg**	**01 08 00.5**	**+0.1**
LCY	**Lacayo**	**0.26**	**299**	*e*P		**Pb**	**01 08 00.7**	**-0.8**
RANC	**El Ranchito**	**0.26**	**302**	*i* P		**Pb**	**01 08 00.7**	**-0.9**
RANC	**El Ranchito**	**0.26**	**302**	*i* P		**Pb**	**01 08 00.6**	**-0.9**
RANC				*i* S		**Sb**	**01 08 05.2**	**-0.7**
RANC				IAML			01 08 08.7	
	comp=Z,4μm,1.0s							
PACA	**Pacayal**	**0.31**	**304**	⇑*i* P		**Pb**	**01 08 01.5**	**-0.8**
PACA	**Pacayal**	**0.31**	**304**	*i* P		**Pb**	**01 08 01.5**	**-0.8**
PACA				*i* S		**Sb**	**01 08 06.5**	**-0.7**
PACA				IAML			01 08 18.7	
	comp=Z,21μm,1.0s							
AMPH	**Amapala**	**0.39**	**91**	*i* P		**Pb**	**01 08 02.9**	**-0.8**
AMPH				*i* S		**Sb**	**01 08 08.8**	**-0.8**
TECA	**Tecapa**	**0.47**	**295**	*e*P		**Pg**	**01 08 04.3**	**-0.1**
COEB	**Comit de Eme**	**0.50**	**294**	*e*P		**Pg**	**01 08 04.8**	**-0.1**
COEB	**Comit de Eme**	**0.50**	**294**	*i* P		**Pg**	**01 08 04.8**	**-0.1**
COEB				*i* S		**Sg**	**01 08 11.2**	**-0.3**
COEB				IAML			01 08 14.3	
	comp=Z,1μm,1.0s							
TECO	**Alcaldia de Te**	**0.74**	**289**	*e*P		**Pg**	**01 08 08.8**	**-0.6**
TECO	**Alcaldia de Te**	**0.74**	**289**	*i* P		**Pg**	**01 08 08.9**	**-0.4**
TECO				*i* S		**Sg**	**01 08 19.1**	**0.0**
TECO				IAML			01 08 21.8	
	comp=Z,680nm,1.0s							
SCLA	**Alcaldia de Sa**	**0.76**	**302**	*e*P		**Pb**	**01 08 09.6**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.76**	**302**	*i* P		**Pb**	**01 08 09.9**	**-0.1**
SCLA				*i* S		**Sb**	**01 08 20.3**	**0.0**
SCLA				IAML			01 08 28.3	
	comp=Z,270nm,1.0s							
UESV	**Universidad de**	**0.78**	**296**	*e*P		**Pb**	**01 08 10.0**	**-0.3**
UESV	**Universidad de**	**0.78**	**296**	*i* P		**Pb**	**01 08 10.0**	**-0.3**
UESV				IAML			01 08 10.4	
	comp=Z,800nm,1.0s							
UESV				*i* S		**Sb**	**01 08 21.4**	**+0.6**
COEG	**Centro de Oper**	**0.86**	**292**	*e*P		**Pg**	**01 08 10.9**	**-0.7**
COEG	**Centro de Oper**	**0.86**	**292**	*i* P		**Pg**	**01 08 11.3**	**-0.3**
COEG				*i* S		**Sb**	**01 08 23.1**	**0.0**
COEG				IAML			01 08 27.5	
	comp=Z,630nm,1.0s							
PAVA	**Las Pavas**	**0.95**	**296**	*i* P		**Pb**	**01 08 13.0**	**-0.2**
PAVA				*i* S		**Sb**	**01 08 26.3**	**+0.7**
PAVA				IAML			01 08 28.7	
	comp=Z,2μm,1.0s							
PANCS	**Alcalda de**	**1.13**	**286**	*i* P		**Pg**	**01 08 15.6**	**-1.2**
PANCS				*i* S		**Sg**	**01 08 30.9**	**-0.7**
PANCS				IAML			01 08 31.5	
	comp=Z,2μm,1.0s							
LOMA	**Loma Larga**	**1.13**	**288**	*e*P		**Pg**	**01 08 16.0**	**-0.9**
LOMA	**Loma Larga**	**1.13**	**288**	*i* P		**Pg**	**01 08 15.9**	**-0.9**
LOMA				*i* S		**Sb**	**01 08 31.6**	**+0.6**
LOMA				IAML			01 08 34.1	
	comp=Z,1μm,1.0s							
UDBS	**Universidad Do**	**1.14**	**292**	*i* P		**Pb**	**01 08 16.5**	**0.0**
UDBS				*i* S		**Sb**	**01 08 32.2**	**+1.0**
UDBS				IAML			01 08 35.2	
	comp=Z,510nm,1.0s							
CRIN	**San Cristobal**	**1.15**	**121**	*i* P		**Pg**	**01 08 16.5**	**-0.7**
CRIN				*i* S		**Sn**	**01 08 32.9**	**+0.6**
CRIN				IAML			01 08 36.6	
	comp=Z,3μm,1.0s							
IGN	**Direccin Gen**	**1.15**	**291**	*i* P		**Pn**	**01 08 16.9**	**+0.2**
IGN				*i* S		**Sb**	**01 08 32.0**	**+0.4**
IGN				IAML			01 08 39.2	
	comp=Z,3μm,1.0s							
UTEC	**Universidad Te**	**1.18**	**290**	*i* P		**Pb**	**01 08 17.2**	**+0.1**
UTEC				*i* S		**Sb**	**01 08 33.1**	**+0.8**
UTEC				IAML			01 08 35.2	
	comp=Z,900nm,1.0s							
SNET	**Serv Nac Est T**	**1.20**	**289**	*i* P		**Pb**	**01 08 17.2**	**-0.3**
SNET				*i* S		**Sb**	**01 08 33.6**	**+0.6**
SNET				IAML			01 08 36.8	
	comp=Z,1μm,1.0s							
LLGN	**La Laguna**	**1.22**	**315**	*i* P		**Pb**	**01 08 17.6**	**-0.2**
LLGN				IAML			01 08 17.7	
	comp=Z,600nm,1.0s							
LLGN				*i* S		**Sb**	**01 08 33.9**	**+0.5**
UEES	**Universidad Ev**	**1.22**	**290**	*i* P		**Pb**	**01 08 17.6**	**-0.2**
UEES				*i* S		**Sn**	**01 08 34.4**	**+0.4**
UEES				IAML			01 08 40.0	
	comp=Z,440nm,1.0s							
LALI	**Alcalda de L**	**1.24**	**279**	*i* P		**Pg**	**01 08 18.5**	**-0.3**
LALI				*i* S		**Sn**	**01 08 35.1**	**+0.8**
LALI				IAML			01 08 36.7	
	comp=Z,210nm,1.0s							
ITCA	**Escuela Especi**	**1.24**	**288**	*i* P		**Pb**	**01 08 18.3**	**+0.1**
ITCA				*i* S		**Sg**	**01 08 34.9**	**-0.2**
ITCA				IAML			01 08 41.0	
	comp=Z,2μm,1.0s							
PMON	**Piamonte**	**1.29**	**289**	*i* P		**Pb**	**01 08 19.0**	**0.0**
PMON				*i* S		**Sg**	**01 08 36.2**	**-0.3**
PMON				IAML			01 08 39.2	
	comp=Z,1μm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.29**	**295**	*i* P		**Pg**	**01 08 19.4**	**-0.5**
QUEZ				IAML			01 08 19.6	
	comp=Z,2μm,1.0s							
QUEZ				*i* S		**Sn**	**01 08 36.8**	**+1.1**
CEDA	**San Andres**	**1.39**	**291**	*i* P		**Pb**	**01 08 20.8**	**+0.1**
CEDA				*i* S		**Sg**	**01 08 39.8**	**0.0**
CEDA				IAML			01 08 43.3	
	comp=Z,1μm,1.0s							
JAYA	**Jayaque - finc**	**1.40**	**285**	⇓*e*P		**Pn**	**01 08 20.2**	**+0.1**
JAYA	**Jayaque - finc**	**1.40**	**285**	*i* P		**Pn**	**01 08 20.2**	**+0.1**
JAYA				*i* S		**Sb**	**01 08 39.0**	**+0.4**
JAYA				IAML			01 08 44.0	
	comp=Z,2μm,1.0s							
CNGA	**Al SSO del Vol**	**1.55**	**121**	*i* P		**Pn**	**01 08 22.8**	**+0.7**
CNGA				*i* S		**Sb**	**01 08 43.5**	**+0.6**
CNGA				IAML			01 08 47.3	
	comp=Z,390nm,1.0s							
CNGN	**Cerro Negro**	**1.55**	**121**	*i* P		**Pn**	**01 08 22.1**	**0.0**
CNGN				*i* S		**Sb**	**01 08 43.2**	**+0.3**
CNGN				IAML			01 09 01.3	
	comp=Z,480nm,1.0s							
UNIC	**Universidad Ca**	**1.60**	**295**	*i* P		**Pn**	**01 08 23.6**	**+0.8**
UNIC				*i* S		**Sg**	**01 08 45.5**	**-0.9**
UNIC				IAML			01 08 49.0	
	comp=Z,230nm,1.0s							
CEVE	**Cerro Verde**	**1.61**	**289**	*i* P		**Pb**	**01 08 24.1**	**-0.5**
CEVE				*i* S		**Sg**	**01 08 45.9**	**-0.9**
CEVE				IAML			01 08 50.1	
	comp=Z,730nm,1.0s							
MTO3	**Montecristo**	**1.67**	**311**	*i* P		**Pn**	**01 08 23.8**	**-0.2**
MTO3				IAML			01 08 25.1	
	comp=Z,300nm,1.0s							
MTO3				*i* S		**Sg**	**01 08 47.5**	**-1.3**
MOMN	**Momotombo**	**1.73**	**121**	*i* P		**Pn**	**01 08 25.0**	**+0.4**
MOMN				*i* S		**Sb**	**01 08 48.6**	**+0.5**
MOMN				IAML			01 08 56.3	
	comp=Z,11nm,1.0s							
MOM2	**El Cardon**	**1.76**	**119**	*i* P		**Pn**	**01 08 25.9**	**+0.9**
MOM2				*i* S		**Sb**	**01 08 49.1**	**+0.1**
MOM2				IAML			01 09 02.7	
	comp=Z,250nm,1.0s							
NUBE	**Las Nubes**	**1.77**	**290**	*i* P		**Pn**	**01 08 26.2**	**+0.8**
NUBE				*i* S		**Sb**	**01 08 50.4**	**+0.8**
NUBE				IAML			01 08 54.0	
	comp=Z,430nm,1.0s							
LOAL	**Lomas de Alarc**	**1.81**	**293**	*i* P		**Pn**	**01 08 26.3**	**+0.6**
LOAL				*i* S		**Sb**	**01 08 50.8**	**+0.3**
LOAL				IAML			01 08 54.8	
	comp=Z,3μm,1.0s							
COPN	**Copaltepe**	**1.81**	**128**	*i* P		**Pn**	**01 08 25.7**	**-0.1**
COPN				IAML			01 09 13.1	
	comp=Z,180nm,1.0s							
APYN	**Apoyeque**	**1.98**	**122**	*i* P		**Pn**	**01 08 29.3**	**+1.3**
APYN				IAML			01 08 32.4	
	comp=Z,280nm,1.0s							
APYN				*i* S		**Sb**	**01 08 54.5**	**-0.7**

AEIC ***07*** *01:08:33.3±1.7, 56°.0N±0°.1×149°.7W±0°.1, h4km±8km, Error ellipse: s-maj=19.0km s-min=8.7km az=167.0*
NEIC 07 01:08:31.1±1.4,**56°.0N**±0°.1×**149°.8W**±0°.1,**h21**km±11km,
ML2.9/24,**ML2.8**(AEIC),**Error ellipse: s-maj=15.9km**
s-min=7.9km az=157.0,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.27**	**303**			Pn	01 09 07.5	+0.3
OHAK						Sn	01 09 29.9	-4.5
KDAK	**Kodiak Island**	**2.33**	**320**	Pn		Pn	01 09 08.5	+0.4
KDAK	**Kodiak Island**	**2.33**	**320**	Sn		Sn	01 09 34.3	-1.6
SII	**Sitkinak Islan**	**2.50**	**284**	Pn		Pn	01 09 09.9	-0.6
SII				Sn		Sn	01 09 37.9	-2.4
SII				IAML			01 10 14.5	
	comp=N,44nm,1.5s							
SII				IAML			01 10 34.8	
	comp=E,37nm,0.9s							
SYI	**Shuyak Island**	**2.94**	**333**	Pn		Pn	01 09 16.9	+0.4
SYI				Sn		Sn	01 09 51.6	+0.5
SYI				IAML			01 09 53.6	
	comp=E,13nm,1.3s							
SYI				IAML			01 10 08.1	
	comp=N,16nm,1.4s							
Q19K	**Cape Douglas,**	**3.57**	**326**	Pn		Pn	01 09 25.1	-0.1
Q19K				IAML			01 10 31.2	
	comp=E,40nm,1.4s							
Q19K				IAML			01 10 56.5	
	comp=N,23nm,1.5s							
CNPM	**China Poot**	**3.59**	**348**	Sn		Sn	01 10 06.3	-0.9
BRSE	**Bradley Lake S**	**3.75**	**353**			Pn	01 09 28.3	+0.6
ANCK	**Angle Creek**	**3.79**	**307**			Pn	01 09 29.6	+1.4
CNTC	**Contact Creek**	**4.00**	**307**			Pn	01 09 32.4	+1.2
P19K	**Oil Pt**	**4.07**	**335**	Pn		Pn	01 09 32.4	+0.3
P19K				IAML			01 10 54.9	
	comp=N,30nm,1.2s							
P19K				IAML			01 11 51.2	
	comp=E,30nm,1.4s							
P18K	**Big Mountain.**	**4.45**	**321**	Pn		Pn	01 09 37.8	+0.5
HIN	**Hinchinbrook I**	**4.71**	**20**	Pn		Pn	01 09 40.5	-0.4
HIN				Sn		Sn	01 10 31.2	-3.7
P17K	**Kvichak River**	**4.77**	**314**			Pn	01 09 43.1	+1.4
O18K	**Koktuh Hills**	**4.79**	**325**	Pn		Pn	01 09 41.7	-0.3
O18K				IAML			01 10 28.3	
	comp=N,4.3nm,1.1s							
O18K				IAML			01 10 54.7	
	comp=E,3.1nm,1.3s							
O18K	**Koktuh Hills**	**4.79**	**325**	IAML			01 10 28.3	
	comp=N,4.3nm,1.1s							
KAIM	**Kayak Island**	**4.84**	**34**	Pn		Pn	01 09 42.2	-0.5
SUCK	**Suckling Hills**	**5.16**	**36**	Pn		Pn	01 09 47.1	0.0
SUCK				IAML			01 12 35.7	
	comp=N,17nm,1.4s							
HMT	**Hamilton**	**5.22**	**32**	Pn		Pn	01 09 48.3	+0.4
HMT				IAML			01 11 38.3	
	comp=N,11nm,1.5s							
BERG	**Berg Lake**	**5.43**	**34**	Pn		Pn	01 09 50.4	-0.4
O16K	**Kokwok River B**	**5.69**	**312**	Pn		Pn	01 09 56.1	+1.8
WAX	**Waxell Ridge**	**5.75**	**37**	Pn		Pn	01 09 54.6	-0.6
ISLE	**Juniper Island**	**6.04**	**38**	Pn		Pn	01 09 59.1	-0.1
VRDI	**Verde Repeater**	**6.17**	**30**	Pn		Pn	01 10 01.0	-0.1
N25K	**Chitina, Valde**	**6.21**	**24**	Pn		Pn	01 10 02.1	+0.6
GLB	**Gilahina Butte**	**6.26**	**27**	Pn		Pn	01 10 01.9	-0.2
BARN	**Barnard Glacie**	**6.60**	**37**	Pn		Pn	01 10 07.1	+0.1
PNL	**Peninsula**	**6.64**	**52**			Pn	01 10 07.2	-0.1
CTGM	**Chitina Glacie**	**6.64**	**38**	Pn		Pn	01 10 07.3	-0.2
LOGN	**Logan Glacier**	**6.66**	**40**	Pn		Pn	01 10 06.5	-1.4
BCPM	**Bancas Point**	**6.68**	**50**	Pn		Pn	01 10 07.9	0.0
M16K	**Timber Creek**	**6.92**	**320**	Pn		Pn	01 10 13.9	+2.7
O28M	**Mount Upton**	**6.93**	**43**			Pn	01 10 11.2	-0.4

JMA 07 02:04:34.3±0.2,**24°N**±1°×**123°.9E**±1°.0,**h22**km±2km,
MV1.2/8,**NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.14**	**196**	*i* P		Pb	02 04 38.7	-1.2
HATJ				*e*S		Sb	02 04 41.7	-2.1
JKRS	**Kuro-shima**	**0.15**	**73**	P		Pb	02 04 39.0	-0.8
JKRS				*e*S		Sb	02 04 42.4	-1.4
JIJ	**Ishigaki jima**	**0.32**	**58**	P		Pb	02 04 41.1	-0.2
JIJ				S		Sb	02 04 45.8	-0.3
JISG	**Ishigakijimahi**	**0.58**	**47**	P		Pb	02 04 45.7	-0.1
JISG				*e*S		Sb	02 04 53.9	+0.3
YOJ	**Yonaguni jima**	**0.81**	**289**	P		Pb	02 04 49.2	-0.4
JYNG	**Yonagunijimaku**	**0.86**	**288**	*e*S		Sn	02 05 03.5	+0.5

TAP 07 02:04:41.9,24°.44N×121°.89E,h15km,ML2.5,2D,A,
Taiwan

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.10**	**272**	*i* P		Pg	02 04 45.3	+0.1
	baz=272							
EWUT				S		Sb	02 04 48.0	-0.2
	baz=272							
ENA	**Nanau**	**0.14**	**265**	*i* P		Pg	02 04 45.6	-0.1
	baz=263							
ENA				S		Sg	02 04 48.2	+0.1
	baz=263							
TWC	**Suao**	**0.17**	**347**	⇓*i* P		Pg	02 04 45.9	-0.2
	baz=350							
TWC				*i* S		Sg	02 04 48.6	-0.3
	baz=350							
EAHA	**Aohua**	**0.18**	**231**	P		Pg	02 04 45.9	-0.3
	baz=231							
EAHA				*e*S		Sg	02 04 49.5	+0.4
	baz=231							
EOS2	**EOS2**	**0.31**	**94**	*i* P		Pg	02 04 48.2	-0.1
	baz=94							
EOS2				*i* S		Sb	02 04 53.4	-0.5
	baz=94							
LATG	**Datong**	**0.35**	**286**	⇓*i* P		Pg	02 04 49.0	-0.1
	baz=285							
LATG				*e*S		Sg	02 04 53.9	-0.1
	baz=285							
TWE	**Neicheng**	**0.35**	**324**	*e*P		Pg	02 04 48.9	-0.1
	baz=325							
TWE				*e*S		Sg	02 04 53.4	-0.4
	baz=325							
ILA	**Ilan**	**0.35**	**338**	*e*P		Pg	02 04 49.2	+0.1
	baz=339							
ILA				*e*S		Sg	02 04 54.2	+0.3
	baz=339							
ENTT	**Nioudou**	**0.36**	**304**	P		Pg	02 04 49.3	+0.1
	baz=304							
ENTT				*e*S		Sg	02 04 54.2	0.0
	baz=304							
ETL	**Fush Village**	**0.37**	**221**	P		Pg	02 04 49.0	-0.5
	baz=221							
ETL				*e*S		Sb	02 04 55.4	-0.5
	baz=221							
NACB	**Ninganchiao**	**0.38**	**226**	P		Pg	02 04 49.0	-0.7
	baz=225							
NACB				S		Sg	02 04 54.8	-0.1
	baz=225							
NDT	**Datong Townshi**	**0.38**	**295**	P		Pg	02 04 49.8	+0.2
	baz=294							
NDT				*e*S		Sg	02 04 55.4	+0.4
	baz=294							
EGS		**0.40**	**5**	*e*P		Pg	02 04 49.8	-0.3
	baz=6.0							
EGS				*e*S		Sg	02 04 54.9	-0.7
	baz=6.0							
EOS3	**EOS3**	**0.42**	**112**	*i* P		Pg	02 04 50.1	-0.2
	baz=111							
EOS3				S		Sg	02 04 56.4	+0.5
	baz=111							
FUSB	**Fushanzhiwuyua**	**0.42**	**319**	P		Pg	02 04 50.5	0.0
	baz=318							
FUSB				S		Sg	02 04 55.9	-0.3
	baz=318							
ETLH	**Xiulin Townshi**	**0.44**	**238**	P		Pg	02 04 50.1	-0.6
	baz=238							
ETLH				*e*S		Sg	02 04 56.9	+0.1
	baz=238							
TWD	**Chiawan**	**0.45**	**217**	P		Pg	02 04 50.4	-0.5
	baz=216							
TWD				*e*S		Sg	02 04 56.4	-0.6
	baz=216							
NNSB	**Datong**	**0.46**	**269**	P		Pg	02 04 51.0	-0.2
	baz=268							
NNSB				*e*S		Sg	02 04 57.3	-0.2
	baz=268							
NNSH	**Datong**	**0.46**	**269**	P		Pg	02 04 51.0	-0.2
	baz=268							
NNSH				*e*S		Sg	02 04 57.4	-0.1
	baz=268							
NNS	**Nan Shan**	**0.47**	**270**	P		Pg	02 04 51.2	-0.2
	baz=269							
NNS				*e*S		Sg	02 04 57.2	-0.5
	baz=269							
NWLT	**Wulai**	**0.49**	**313**	*e*P		Pg	02 04 51.6	-0.1
	baz=313							
NWLT				S		Sg	02 04 57.9	-0.3
	baz=313							
EOS4	**EOS4**	**0.50**	**129**	*e*P		Pg	02 04 51.4	-0.3
	baz=129							
EOS4				*e*S		Sg	02 04 58.1	-0.4
	baz=129							
YHNB	**Yeheng**	**0.52**	**296**	P		Pg	02 04 52.1	-0.1
	baz=295							
YHNB				*e*S		Sg	02 04 59.0	-0.3
	baz=295							
NSK	**Sanguang**	**0.54**	**296**	P		Pg	02 04 52.4	-0.2
	baz=295							
NSK				*e*S		Sg	02 04 59.4	-0.4
	baz=295							
TWB1	**Santiao Chiao**	**0.57**	**9**	*i* P		Pg	02 04 52.5	-0.7
	baz=9.0							
TWB1				*e*S		Sg	02 04 59.9	-0.9
	baz=9.0							
ETM	**Tongmen**	**0.60**	**218**	P		Pg	02 04 53.1	-0.5
	baz=217							
LXIB	**Xiulin Townshi**	**0.60**	**226**	P		Pg	02 04 53.0	-0.9
	baz=226							
LXIB				*e*S		Sg	02 05 00.9	-1.0
	baz=226							
FUSS	**Fushou**	**0.62**	**252**	P		Pg	02 04 53.9	-0.3
	baz=251							
FUSS				*e*S		Sg	02 05 02.6	+0.1
	baz=251							
WHF	**Hehuan Shan**	**0.64**	**243**	*e*P		Pg	02 04 53.9	-0.7
	baz=242							
WHF				*e*S		Sg	02 05 02.7	-0.5
	baz=242							
SXI1	**Grass Mountain**	**0.65**	**359**	*e*P		Pg	02 04 54.4	-0.3
	baz=358							
SXI1				*e*S		Sg	02 05 02.3	-1.0
	baz=358							
SHUL	**Shoufeng**	**0.72**	**205**	*e*P		Pb	02 04 56.2	+0.1
	baz=204							
NFF	**Wufeng Townshi**	**0.73**	**285**	*e*P		Pb	02 04 56.5	+0.1
	baz=285							
NFF				*e*S		Sg	02 05 05.8	-0.1
	baz=285							
CHGB	**Renai**	**0.76**	**240**	*e*P		Pg	02 04 56.4	-0.3
	baz=239							
CHGB				*e*S		Sg	02 05 06.7	-0.1
	baz=239							
YM01	**YM01**	**0.76**	**337**	*e*P		Pb	02 04 57.1	+0.1
	baz=337							
YM01				*e*S

KDJ	**Kajisay**	**1.81**	**347**	⇑*e*P		**Pn**	**02 18 17.8**	**+0.8**
	baz=41								
KDJ				⇑*e*S		**Sg**	**02 18 44.6**	**+0.8**
	baz=41								
PRZ	**Przheval'sk**	**2.18**	**13**	⇓*e*P		**Pn**	**02 18 21.5**	**-0.6**
	baz=5.0								
PRZ				⇓*e*S		**Sb**	**02 18 50.8**	**-1.6**
	baz=5.0								
ULHL	**Ulahol**	**2.19**	**330**	P		**Sg**	**02 18 55.6**	**-0.2**
	SNR=6.2								
ULHL	**Ulahol**	**2.19**	**330**	⇑*i*P		**Pn**	**02 18 23.6**	**+1.4**
	baz=26								
ULHL				⇑*i*S		**Sg**	**02 18 55.0**	**-0.8**
	baz=26								
ANVS	**Anan'yevo**	**2.42**	**359**	⇓*e*P		**Pn**	**02 18 25.5**	**+0.2**
	baz=53								
ANVS				⇓*e*S		**Sb**	**02 18 57.8**	**-1.4**
	baz=53								
BOOM	**Boomskoye usch**	**2.51**	**328**	⇑*i*P		**Pn**	**02 18 28.2**	**+1.6**
	baz=26								
BOOM				⇑*i*S		**Sb**	**02 19 02.8**	**+0.9**
	baz=26								
TNSS	**Tian-Shan**	**2.73**	**348**	Pg		**Pb**	**02 18 34.1**	**-0.7**
	38nm,0.2s								
TNSS				Lg		Lg	02 19 10.5		
	12nm,0.5s								
TNSS	**Tian-Shan**	**2.73**	**348**	*e*P		**Pb**	**02 18 34.1**	**-0.7**
	38nm,0.2s								
TNSS				*e*S		**Sb**	**02 19 10.5**	**+2.0**
	12nm,0.5s								
SATY	**Saty**	**2.74**	**11**	Pg		**Pb**	**02 18 36.1**	**+1.3**
	17nm,0.6s								
SATY				Lg		Lg	02 19 14.5		
	45nm,0.7s								
SATY	**Saty**	**2.74**	**11**	*e*P		**Pb**	**02 18 35.2**	**+0.4**
	16nm,0.3s								
SATY				*e*S		**Sg**	**02 19 12.2**	**-1.4**
	45nm,0.7s								
IZV	**Izvestkoviy**	**2.80**	**343**	Pg		**Pg**	**02 18 38.1**	**-1.0**
	11nm,0.4s								
IZV				Lg		Lg	02 19 17.5		
	27nm,0.3s								
IZV	**Izvestkoviy**	**2.80**	**343**	*e*P		**Pg**	**02 18 38.1**	**-1.0**
	11nm,0.4s								
IZV				*e*S		**Sg**	**02 19 17.5**	**+2.1**
	27nm,0.3s								
MDOK	**Medeo**	**2.84**	**350**	⇓Pg		**Pb**	**02 18 36.7**	**+0.2**
	22nm,0.8s								
MDOK				Pg		**Pb**	**02 18 36.9**	**+0.4**
	12nm,0.2s								
MDOK				Lg		Lg	02 19 16.2		
	55nm,0.5s								
MDOK				Lg		Lg	02 19 16.9		
	31nm,0.8s								
MDOK	**Medeo**	**2.84**	**350**	*e*P		**Pb**	**02 18 36.9**	**+0.4**
	12nm,0.2s								
MDOK				*e*S		**Sg**	**02 19 16.2**	**-0.6**
	55nm,0.5s								
ZHN	**Zhinishke**	**2.85**	**11**	Pg		**Pb**	**02 18 36.7**	**+0.1**
	17nm,0.4s								
ZHN				Lg		Lg	02 19 15.0		
	40nm,0.2s								
ZHN	**Zhinishke**	**2.85**	**11**	*e*P		**Pb**	**02 18 36.7**	**+0.1**
	17nm,0.4s								
ZHN				*e*S		**Sg**	**02 19 15.0**	**-2.3**
	40nm,0.2s								
KOTS	**Kotyrbulak**	**2.91**	**351**	Pg		**Pb**	**02 18 38.6**	**+1.1**
	0.4nm,0.2s								
KOTS				Lg		Lg	02 19 18.4		
	45nm,0.6s								
KOTS	**Kotyrbulak**	**2.91**	**351**	*e*P		**Pb**	**02 18 38.6**	**+1.1**
	0.4nm,0.2s								
KOTS				*e*S		**Sg**	**02 19 18.4**	**-0.5**
	45nm,0.6s								
AAA	**Alma-Ata**	**2.91**	**348**	Pg		**Pb**	**02 18 38.4**	**+0.9**
	97nm,0.2s								
AAA				Lg		Lg	02 19 18.4		
	77nm,0.3s								
AAA	**Alma-Ata**	**2.91**	**348**	*e*P		**Pb**	**02 18 38.4**	**+0.9**
	97nm,0.2s								
AAA				*e*S		**Sg**	**02 19 18.4**	**-0.5**
	70nm,0.1s								
KNDC	**Almaty**	**2.91**	**349**	⇑Pg		**Pg**	**02 18 39.8**	**-1.4**
	35nm,0.6s								
KNDC				⇑Lg		Lg	02 19 18.9		
	54nm,0.5s								
MTBS	**Maitube**	**2.93**	**341**	Pg		**Pb**	**02 18 38.3**	**+0.5**
	33nm,0.3s								
MTBS				Lg		Lg	02 19 18.4		
	19nm,0.3s								
MTBS	**Maitube**	**2.93**	**341**	*e*P		**Pb**	**02 18 38.4**	**+0.5**
	33nm,0.3s								
MTBS				*e*S		**Sg**	**02 19 18.4**	**-1.2**
	19nm,0.3s								
ARLS	**Aral**	**2.97**	**301**	⇑*i*P		**Pn**	**02 18 35.0**	**+2.1**
	baz=2.0								
ARLS				⇑*i*S		**Sb**	**02 19 15.0**	**0.0**
	baz=2.0								
KST	**Kastek**	**2.98**	**334**	Pg		**Pb**	**02 18 39.0**	**+0.1**
	5.0nm,0.3s								
KST				Lg		Lg	02 19 19.6		
	15nm,0.3s								
KST	**Kastek**	**2.98**	**334**	*e*P		**Pb**	**02 18 39.4**	**+0.5**
	5.0nm,0.3s								
KST				*e*S		**Sg**	**02 19 19.6**	**-1.7**
	15nm,0.3s								
TKM2	**Tokmak 2**	**3.01**	**329**	P		**Pb**	**02 18 39.5**	**+0.1**
	SNR=5.8								
TKM2	**Tokmak 2**	**3.01**	**329**	⇑Pg		**Pb**	**02 18 39.1**	**-0.3**
	2.8nm,0.4s								
TKM2				⇓Lg		Lg	02 19 21.2		
	9.6nm,0.5s								
TKM2	**Tokmak 2**	**3.01**	**329**	⇑*i*P		**Pn**	**02 18 35.1**	**+1.6**
	baz=26								
TKM2				⇑*i*S		**Sb**	**02 19 14.7**	**-1.5**
	baz=26								
UCH	**Uchtor**	**3.05**	**309**	P		**Pb**	**02 18 38.9**	**-1.2**
	SNR=9.7								
UCH	**Uchtor**	**3.05**	**309**	⇑*i*P		**Pn**	**02 18 35.6**	**+1.4**
	baz=8.0								
UCH				⇑*i*S		**Sb**	**02 19 16.0**	**-1.6**
	baz=8.0								
SHLS	**Shalkode**	**3.08**	**24**	Pg		**Pg**	**02 18 44.6**	**0.0**
	8.3nm,0.2s								
SHLS				Lg		Lg	02 19 28.6		
	15nm,0.4s								
SHLS	**Shalkode**	**3.08**	**24**	*e*P		**Pg**	**02 18 43.2**	**-1.4**
	8.3nm,0.2s								
SHLS				*e*S		**Sg**	**02 19 26.1**	**+1.6**
	15nm,0.4s								
KBK	**Karagaybulak**	**3.10**	**319**	P		**Pb**	**02 18 39.9**	**-0.8**
	SNR=6.0								
KBK	**Karagaybulak**	**3.10**	**319**	⇑*i*P		**Pn**	**02 18 36.4**	**+1.8**
	baz=17								
KBK				⇑*i*S		**Sb**	**02 19 17.0**	**-1.7**
	baz=17								
KURS	**Kuram**	**3.14**	**6**	Pg		**Pb**	**02 18 42.1**	**+0.6**
	6.5nm,0.3s								
KURS				Lg		Lg	02 19 25.6		
	16nm,0.3s								
KURS	**Kuram**	**3.14**	**6**	*e*P		**Pb**	**02 18 42.8**	**+1.2**
	4.9nm,0.2s								
KURS				*e*S		**Sg**	**02 19 25.6**	**-0.8**
	18nm,0.5s								
DGS	**Degeres**	**3.22**	**334**	Pg		**Pb**	**02 18 44.1**	**+1.1**
	6.7nm,0.5s								
DGS				Lg		Lg	02 19 28.2		
	16nm,0.5s								
DGS	**Degeres**	**3.22**	**334**	*e*P		**Pb**	**02 18 44.1**	**+1.1**
	6.7nm,0.5s								
DGS				*e*S		**Sg**	**02 19 28.2**	**-0.9**
	16nm,0.5s								
PDGK	**Podgornoye**	**3.25**	**23**	Pg		**Pb**	**02 18 43.9**	**+0.6**
	5.1nm,0.3s								
PDGK				Lg		Lg	02 19 27.3		
	20nm,0.4s								
PDGK	**Podgornoye**	**3.25**	**23**	⇑Pg		**Pb**	**02 18 43.7**	**+0.3**
	5.4nm,0.5s								
PDGK				⇑Lg		Lg	02 19 27.2		
	31nm,0.6s								
AAK	**Ala-Archa**	**3.32**	**314**	P		**Pb**	**02 18 44.2**	**-0.5**
	SNR=7.8								
AAK	**Ala-Archa**	**3.32**	**314**	⇑Pg		**Pb**	**02 18 44.1**	**-0.5**
	3.4nm,0.3s								
AAK				⇓Lg		Lg	02 19 30.1		
	12nm,0.5s								
AAK	**Ala-Archa**	**3.32**	**314**	⇑*i*P		**Pn**	**02 18 39.5**	**+1.8**
	baz=13								
AAK				⇑*i*S		**Sb**	**02 19 22.5**	**-2.6**
	baz=13								
KTBS	**Karatobe**	**3.44**	**347**	Pg		**Pb**	**02 18 47.6**	**+1.1**
	9.2nm,0.6s								
KTBS				Lg		Lg	02 19 33.7		
	7.5nm,0.3s								
KTBS	**Karatobe**	**3.44**	**347**	*e*P		**Pb**	**02 18 47.6**	**+1.1**
	9.2nm,0.3s								
KTBS				*e*S		**Sg**	**02 19 33.7**	**-2.1**
	7.5nm,0.3s								
CHMS	**Chumysh**	**3.44**	**321**	⇑Pg		**Pb**	**02 18 47.1**	**+0.4**
	7.4nm,0.7s								
CHMS				⇑Lg		Lg	02 19 33.1		
	9.4nm,0.7s								
CHMS	**Chumysh**	**3.44**	**321**	⇑*i*P		**Pn**	**02 18 41.1**	**+1.8**
	baz=19								
CHMS				⇑*e*S		**Sb**	**02 19 25.0**	**-3.6**
	baz=19								
CHKK	**Chushkaly**	**3.53**	**351**	Pg		**Pb**	**02 18 48.8**	**+0.6**
	9.9nm,0.4s								
CHKK				Lg		Lg	02 19 35.8		
	23nm,0.2s								
CHKK	**Chushkaly**	**3.53**	**351**	*e*P		**Pb**	**02 18 48.8**	**+0.6**
	9.9nm,0.4s								
CHKK				*e*S		**Sg**	**02 19 35.8**	**-3.1**
	23nm,0.2s								
KTMS	**Ketmen**	**3.66**	**32**	Pg		**Pb**	**02 18 50.8**	**+0.5**
	1.7nm,0.2s								
KTMS				Lg		Lg	02 19 39.2		
	4.2nm,0.2s								
KTMS	**Ketmen**	**3.66**	**32**	*e*P		**Pb**	**02 18 50.8**	**+0.5**
	1.7nm,0.2s								
KTMS				*e*S		**Sg**	**02 19 39.2**	**-3.7**
	4.2nm,0.2s								
EKS2	**Erkin-Say**	**3.75**	**309**	⇑*i*P		**Pn**	**02 18 45.5**	**+2.0**
	baz=9.0								
EKS2				⇑*i*S		**Sb**	**02 19 32.5**	**-4.8**
	baz=9.0								
USP	**Ospenovka**	**3.77**	**321**	P		**Pb**	**02 18 52.0**	**-0.1**
	SNR=8.3								
USP	**Ospenovka**	**3.77**	**321**	⇑*i*P		**Pn**	**02 18 45.6**	**+1.8**
	baz=20								
USP				⇑*i*S		**Sn**	**02 19 32.9**	**+4.7**
	baz=20								
BLB	**Baldybastay**	**3.77**	**8**	Pg		**Pb**	**02 18 54.1**	**+1.7**
	33nm,0.6s								
BLB				Lg		Lg	02 19 45.2		
	22nm,0.4s								
ARXS	**Arharly**	**3.85**	**1**	Pg		**Pb**	**02 18 55.6**	**+2.0**
	4.3nm,0.3s								
ARXS				Lg		Lg	02 19 47.7		
	16nm,0.4s								
ARXS	**Arharly**	**3.85**	**1**	*e*P		**Pb**	**02 18 55.6**	**+2.0**
	4.3nm,0.3s								
ARXS				*e*S		**Sg**	**02 19 47.7**	**-1.4**
	16nm,0.4s								
MRKS	**Merke**	**4.13**	**307**	Pg		**Pb**	**02 18 59.2**	**+0.9**
	1.4nm,0.2s								
MRKS				Lg		Lg	02 19 53.6		
	6.9nm,0.4s								
MRKS	**Merke**	**4.13**	**307**	*e*P		**Pb**	**02 18 59.2**	**+0.9**
	1.4nm,0.2s								
MRKS				*e*S		**Sg**	**02 19 53.6**	**-4.4**
	6.9nm,0.4s								
KNOS	**Konyrlen**	**4.14**	**15**	Pg		**Pb**	**02 19 00.2**	**+1.7**
	9.0nm,0.3s								
KNOS				Lg		Lg	02 19 55.4		
	9.6nm,0.4s								
DJR	**Jarkent**	**4.25**	**20**	Pg		**Pb**	**02 19 01.7**	**+1.2**
	2.0nm,0.2s								
DJR				Lg		Lg	02 19 58.0		
	16nm,0.4s								
DJR	**Jarkent**	**4.25**	**20**	*e*P		**Pb**	**02 19 02.5**	**+2.1**
	2.0nm,0.1s								
DJR				*e*S		**Sg**	**02 19 59.3**	**-2.8**
	16nm,0.4s								
MNAS	**Manas**	**4.46**	**300**	⇑*e*P		**Pn**	**02 18 55.6**	**+2.3**
	baz=1.0								
MNAS				⇑*i*S		**Sn**	**02 19 50.3**	**+5.0**
	baz=1.0								
KAPS	**Kapalarasan**	**5.07**	**13**	*e*P		**Pg**	**02 19 18.6**	**-3.9**
	2.2nm,0.4s								
KAPS				*e*S		**Sg**	**02 20 26.7**	**-1.4**
	5.6nm,0.7s								
BTLS	**Baital**	**5.40**	**331**	Pg		**Pb**	**02 19 22.1**	**+2.2**
	3.2nm,0.9s								
BTLS				Lg		Lg	02 20 33.3		
	4.5nm,0.5s								
BTLS	**Baital**	**5.40**	**331**	*e*P		**Pb**	**02 19 23.7**	**+3.7**
	3.2nm,0.9s								
BTLS				*e*S		**Sg**	**02 20 35.5**	**-3.4**
	4.5nm,0.5s								
KK31	**Karatay Array**	**6.05**	**299**	⇑Pg		**Pg**	**02 19 38.5**	**-2.8**
	0.3nm,0.5s,baz=119,slow=15,SNR=4.0								
KK31				⇓Lg		Lg	02 20 53.5		
	1.1nm,0.5s,baz=115,slow=29,SNR=3.6								

*IDC **07** 02:26:17.6±0.9, 52°.43S×28°.09E, h0km, mb3.7/9, mbtmp3.8/9, MS3.2/4, Error ellipse: s-maj=43.3km s-min=17.5km az=76.0*

ISC 07 02:26:19.0±1.0, 52°.4S±0°.1×28°.1E±0°.3, h10km, n14, σ0s86/8, mb3.7/8, MS3.0/4, South of Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04S2	**CROZET ISLANDS**	**16.37**	**80**	T	T	02 47 14.5	
	baz=242,slow=73,SNR=7.4						
H04S3	**CROZET ISLANDS**	**16.38**	**80**	T	T	02 47 15.7	
	baz=242,slow=73,SNR=7.4						
H04S1	**CROZET ISLANDS**	**16.39**	**80**	T	T	02 47 20.3	
	baz=242,slow=73,SNR=9.0						
SUR	**Sutherland**	**20.71**	**342**	P	Pn	02 31 01.1	-0.7
	8.0nm,0.8s,baz=171,slow=11,SNR=6.1						
	8.0nm,0.8s						
MAW	**Mawson**	**22.65**	**145**	P	**P**	**02 31 19.4**	**-0.4**
	0.9nm,0.3s,baz=283,slow=8.3,SNR=2.0						
	0.9nm,0.3s						
SNAA	**Sanae**	**23.63**	**204**	P	**P**	**02 31 30.6**	**+0.7**
	1.9nm,0.8s,baz=51,slow=15,SNR=1.9						
	1.9nm,0.8s						
BOSA	**Boshof**	**23.87**	**354**	P	**P**	**02 31 31.7**	**-0.9**
	4.4nm,0.9s,baz=171,slow=11,SNR=9.3						
BOSA				LR	LR	02 39 13.1	
	comp=Z,42nm,19.7s,baz=186,slow=32						
	4.4nm,0.9s						
LBTB	**Lobatse**	**27.43**	**355**	LR	LR	02 41 53.8	
	comp=Z,13nm,19.5s,baz=160,slow=34						
TSUM	**Tsumeb**	**34.15**	**342**	LR	LR	02 46 58.5	
	comp=Z,30nm,18.2s,baz=150,slow=36						
QSPA	**South Pole Qui**	**37.80**	**180**	P	**P**	**02 33 34.6**	**-0.6**
	1.1nm,0.6s,baz=221,slow=1.7,SNR=5.2						
	1.1nm,0.6s						
VNDA	**Vanda**	**47.20**	**168**	P	**P**	**02 34 50.8**	**-0.4**
	0.6nm,0.9s,baz=166,slow=7.7,SNR=2.0						
	0.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**69.16**	**332**	P	**P**	**02 37 25.8**	**+0.4**
	0.8nm,0.8s,baz=168,slow=6.4,SNR=7.3						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**80.66**	**117**	P	**P**	**02 38 32.5**	**+0.3**
	0.3nm,0.7s,baz=210,slow=5.4,SNR=1.6						
ASAR				LR	LR	03 10 24.4	
	comp=Z,52nm,19.3s,baz=42,slow=33						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**83.88**	**115**	P	**P**	**02 38 50.2**	**+1.2**
	0.5nm,0.9s,baz=211,slow=3.8,SNR=1.8						
	0.5nm,0.9s						

*DJA **07** 02:49:17.0±0.9, 5°.5S×6°.14E±°, h34km±12km, M5.0/6, mB5.4/4, mb5.1/6, MLv5.0/4, Mw(mB)4.8/4*
*IDC **07** 02:49:40.5±0.6, 6°.18S×143°.10E, h0km, mb4.3/13, mbtmp4.4/15, ML2.3/1, MS3.4/7, Error ellipse: s-maj=30.0km s-min=14.3km az=74.0*
*NEIC **07** 02:49:43.0±1.6, 6°.30S±0°.05×142°.75E±0°.07, h10km±1km, mb4.7/43, Error ellipse: s-maj=14.6km s-min=4.7km az=124.0*

ISC 07 02:49:46.0±0.4, 6°.37S±0°.05×142°.81E±0°.06, h35km, n104, σ1s67/98, mb4.7/36, MS3.6/6, 1D, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**1.92**	**305**	P	**Pn**	**02 50 17.7**	**+1.4**
JAY	**Jayapura**	**4.37**	**331**	P	**Pn**	**02 50 49.7**	**-0.3**
	70nm,0.6s,906nm0.5nm						
GENI	**Genyem**	**4.58**	**325**	P	**Pn**	**02 50 54.4**	**+1.5**
GENI	**Genyem**	**4.58**	**325**	P	**Pn**	**02 50 52.8**	**-0.1**

	280nm,0.6s,4µm1.7nm								
PMG	**Port Moresby**	**5.26**	**125**		Pn	**Pn**	**02 51 00.8**	**-1.4**
	7.1nm,0.3s,baz=344,slow=5.2,SNR=14								
PMG					Sn	**Sn**	**02 51 58.7**	**-3.0**
	6.6nm,0.3s,baz=221,slow=20,SNR=6.6								
PMG					LR	LR	02 53 17.3		
	comp=Z,193nm,20.3s,baz=281,slow=42								
	49nm,0.6s								
MANU	**Manus Island**	**6.26**	**47**		Pn	**Pn**	**02 51 16.5**	**+0.5**
COEN	**Coen**	**7.54**	**177**		P	**Pn**	**02 51 35.6**	**+2.0**
COEN	**Coen**	**7.54**	**177**		Pn	**Pn**	**02 51 35.2**	**+1.6**
FAKI	**Fak Fak**	**11.07**	**288**		P	**Pn**	**02 52 22.6**	**+0.7**
FAKI	**Fak Fak**	**11.07**	**288**		Pn	**Pn**	**02 52 20.0**	**-1.9**
SAUI	**Saumlaki**	**11.53**	**261**		Pn	**Pn**	**02 52 26.9**	**-1.4**
KDU	**Kakadu**	**11.96**	**238**		P	**Pn**	**02 52 34.2**	**0.0**
MTN	**Manton Dam**	**13.18**	**240**		Pn	**Pn**	**02 52 48.5**	**-2.3**
DRS	**Darwin Rock St**	**13.20**	**242**		P	**Pn**	**02 52 51.3**	**+0.3**
CTAO	**Charters Tower**	**14.04**	**167**		Pn	**Pn**	**02 53 05.4**	**+2.8**
QIS	**Mount Isa**	**14.44**	**192**		P	**Pn**	**02 53 08.6**	**+0.6**
WB0	**Warramunga Arr**	**15.62**	**211**		Pn	**Pn**	**02 53 23.0**	**-0.7**
WR0	**Warramunga Arr**	**15.71**	**210**		Pn	**Pn**	**02 53 23.3**	**-1.6**
WR0					IAmb	IAmb	02 53 35.8		
	comp=Z,19nm,0.7s								
WRAB	**Tennant Creek**	**15.79**	**211**		Pn	**Pn**	**02 53 25.0**	**-0.9**
WB2	**Warramunga Arr**	**15.79**	**211**		Pn	**Pn**	**02 53 25.7**	**-0.2**
WRA	**Warramunga Arr**	**15.80**	**211**		Pn	**Pn**	**02 53 25.9**	**-0.1**
	comp=Z,1.0nm,0.3s,baz=31,slow=13,SNR=32								
WRA					Sn	**Sn**	**02 56 12.2**	**-7.9**
	comp=Z,1.4nm,0.3s,baz=28,slow=20,SNR=4.8								
WRA					Lg	Lg	02 58 03.9		
	comp=Z,0.7nm,0.3s,baz=32,slow=25,SNR=1.4								
KNRA	**Kununurra**	**16.59**	**235**		P	**Pn**	**02 53 36.7**	**+0.7**
KNRA	**Kununurra**	**16.59**	**235**		Pn	**Pn**	**02 53 34.6**	**-1.4**
AS31	**Alice Springs**	**19.21**	**206**		P	**Pn**	**02 54 10.2**	**+2.0**
AS31					IAmb	IAmb	02 54 12.9		
	comp=Z,20nm,0.8s								
ASAR	**Alice Springs**	**19.21**	**206**		P	**Pn**	**02 54 10.1**	**+1.9**
ASAR	**Alice Springs**	**19.21**	**206**		P	**Pn**	**02 54 10.3**	**+2.1**
	comp=Z,63nm,0.7s,baz=32,slow=10.0,SNR=347								
ASAR					S	**Sn**	**02 57 36.8**	**-5.9**
	comp=Z,5.5nm,0.8s,baz=16,slow=28,SNR=4.7								
ASAR					Lg	Lg	02 59 53.9		
	comp=Z,0.3nm,0.3s,baz=16,slow=30,SNR=4.4								
PATS	**Pohnpei**	**20.29**	**50**		P	**P**	**02 54 18.7**	**-0.2**
EIDS	**Eidsvold**	**20.48**	**158**		P	Pn	02 54 24.0	+0.7
EIDS	**Eidsvold**	**20.48**	**158**		P	Pn	02 54 23.3	0.0
EIDS					IAmb	IAmb	02 54 35.8		
	comp=Z,33nm,1.3s								
GTOI	**Gorontalo**	**20.95**	**289**		P	Pn	02 54 32.4	+3.6
	comp=Z,44nm,0.7s,comp=Z,442nm								
DAV	**Davao City (W)**	**21.77**	**308**		LR	LR	03 04 52.8		
	comp=Z,22nm,18.2s,baz=175,slow=42								
OOD	**Oodnadatta**	**22.35**	**197**		P	**P**	**02 54 42.1**	**+1.1**
WRKA	**Warakurna**	**23.18**	**215**		P	**P**	**02 54 51.4**	**+1.5**
TOLI2	**Tolitoli**	**23.21**	**288**		P	**P**	**02 54 49.6**	**-0.6**
TOLI2					IAmb	IAmb	02 54 52.7		
	comp=Z,16nm,0.9s								
LCRK	**Leigh Creek**	**24.33**	**190**		P	**P**	**02 55 01.9**	**+1.3**
MULG	**Mulgathing**	**25.17**	**198**		P	**P**	**02 55 09.8**	**+1.6**
ARMA	**Armidale**	**25.32**	**162**		P	**P**	**02 55 12.2**	**+2.5**
ARMA	**Armidale**	**25.32**	**162**		P	**P**	**02 55 11.1**	**+1.4**
ARMA					IAmb	IAmb	02 55 53.2		
	comp=Z,20nm,1.1s								
STKA	**Stephens Creek**	**25.40**	**182**		P	**P**	**02 55 11.2**	**+0.9**
STKA	**Stephens Creek**	**25.40**	**182**		P	**P**	**02 55 10.3**	**0.0**
STKA	**Stephens Creek**	**25.40**	**182**		P	**P**	**02 55 10.9**	**+0.6**
	comp=Z,6.7nm,0.7s,baz=0.0,slow=6.5,SNR=10								
STKA					LR	LR	03 07 19.7		
	comp=Z,107nm,18.7s,baz=356,slow=41								
	comp=Z,6.7nm,0.7s								
PSA00	**Pilbara Seismi**	**26.86**	**233**		P	**P**	**02 55 24.3**	**+0.7**
BBOO	**Buckleboo**	**27.04**	**193**		P	**P**	**02 55 25.7**	**+0.5**
BBOO	**Buckleboo**	**27.04**	**193**		P	**P**	**02 55 24.3**	**-0.8**
DZM	**Mont Dzumac**	**27.65**	**127**	*e*LR	LR	03 02 33.7		
	comp=Z,58nm,22.3s								
FORT	**Forrest**	**27.95**	**208**		P	**P**	**02 55 33.7**	**+0.4**
NWAO	**Narrogin (SRO)**	**35.54**	**219**		LR	LR	03 12 19.0		
	comp=Z,166nm,20.0s,baz=232,slow=38								
NJ2	**Nanjing**	**44.52**	**331**	*e*P		**P**	**02 57 54.6**	**+0.3**
NJ2					pP	**pP**	**02 57 58.2**	**-6.9**
NJ2					pmax	pmax			
	comp=Z,16nm,0.6s								
NJ2					pmax	pmax			
	comp=Z,200nm,5.0s								
TUWZ	**Tuamarina**	**44.57**	**146**		P	**P**	**02 57 55.8**	**+1.2**
KSRS	**Korea Array**	**45.76**	**343**		P	**P**	**02 58 03.7**	**-0.4**
	comp=Z,1.9nm,0.7s,baz=165,slow=8.9,SNR=6.8								
	comp=Z,1.9nm,0.7s								
CMAR	**Chiang Mai Ar**	**49.80**	**301**		P	**P**	**02 58 36.6**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=128,slow=6.5,SNR=7.6								
	comp=Z,0.9nm,0.3s								
USRK	**Ussuriysk Ar.**	**51.28**	**350**		P	**P**	**02 58 44.6**	**-1.9**
	comp=Z,2.0nm,0.8s,baz=174,slow=7.2,SNR=1.8								
	comp=Z,2.0nm,0.8s								
PZH	**PanZhiHua**	**51.50**	**311**		P	**P**	**02 58 50.3**	**+1.7**
PZH					pmax	pmax			
	comp=Z,7.0nm,0.8s								
PZH					pmax	pmax			
	comp=Z,100nm,5.3s								
BNX	**BinXian**	**53.68**	**347**	⇓P		**P**	**02 59 03.2**	**-1.0**
BNX					pmax	pmax			
	comp=Z,5.0nm,1.0s								
BNX					pmax	pmax			
	comp=Z,90nm,3.5s								
HHC	**Hu-ho-hao-te**	**55.06**	**331**	*e*P		**P**	**02

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J16K	**Anvik River**	**81.43**	**22**	P	**P**	**03 01 59.6**	**+0.4**
K17K	**Iditarod**	**82.02**	**23**	P	**P**	**03 02 03.0**	**+0.7**
K17K				IAmb	IAmb	03 02 31.7	
	comp=Z,14nm,1.4s						
J17K	**VABM Dome**	**82.08**	**23**	P	**P**	**03 02 03.0**	**+0.4**
J17K				IAmb	IAmb	03 02 14.7	
	comp=Z,5.7nm,0.9s						
F17K	**Baldwin Pennin**	**82.95**	**20**	P	**P**	**03 02 07.6**	**+0.6**
M19K	**Big River Lodg**	**83.23**	**25**	P	**P**	**03 02 08.7**	**+0.1**
M19K				IAmb	IAmb	03 02 34.6	
	comp=Z,10.0nm,1.5s						
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**03 02 11.3**	**+0.6**
QSPA	**South Pole Qui**	**83.60**	**180**	P	**P**	**03 02 11.2**	**+0.6**
	comp=Z,8.6nm,0.9s,baz=322,slow=1.0,SNR=34						
	comp=Z,8.6nm,0.9s						
J19K	**Poorman**	**83.71**	**23**	P	**P**	**03 02 10.4**	**-0.6**
J19K				IAmb	IAmb	03 02 31.8	
	comp=Z,8.1nm,1.4s						
H19K	**Roundabout Mou**	**84.14**	**21**	P	**P**	**03 02 13.1**	**-0.1**
BVAR	**Borovoye Array**	**84.64**	**325**	P	**P**	**03 02 16.4**	**+0.4**
	comp=Z,16nm,0.7s,baz=112,slow=6.6,SNR=74						
	comp=Z,16nm,0.7s						
BRVK	**Borovoye**	**84.71**	**325**	P	**P**	**03 02 16.6**	**+0.3**
E19K	**Redstone River**	**84.83**	**20**	P	**P**	**03 02 16.5**	**-0.1**
E19K				IAmb	IAmb	03 02 17.6	
	comp=Z,4.7nm,0.7s						
C19K	**Lookout Ridge**	**84.95**	**18**	P	**P**	**03 02 17.5**	**+0.2**
F20K	**Avaraart Lake**	**85.14**	**20**	P	**P**	**03 02 18.6**	**+0.5**
F20K				IAmb	IAmb	03 02 37.1	
	comp=Z,6.9nm,1.4s						
RND	**Reindeer**	**86.18**	**25**	P	**P**	**03 02 21.9**	**-1.6**
RND				IAmb	IAmb	03 02 22.9	
	comp=Z,5.7nm,0.8s						
D22K	**Ayikyak River**	**87.01**	**19**	P	**P**	**03 02 27.7**	**+0.3**
D22K				IAmb	IAmb	03 02 40.3	
	comp=Z,5.8nm,1.1s						
ILAR	**Eielson Array**	**87.48**	**24**	P	**P**	**03 02 27.6**	**-2.2**
	comp=Z,2.7nm,0.7s,baz=255,slow=5.0,SNR=57						
	comp=Z,2.7nm,0.7s						
F24K	**Squaw Lake**	**88.09**	**21**	P	**P**	**03 02 32.7**	**0.0**
F24K				IAmb	IAmb	03 02 34.3	
	comp=Z,3.5nm,0.8s						
D25K	**Kavik River**	**89.26**	**20**	P	**P**	**03 02 38.0**	**-0.1**
G27K	**Doyon Strip**	**90.17**	**23**	P	**P**	**03 02 42.6**	**+0.2**
L29M	**L29M**	**90.72**	**27**	P	**P**	**03 02 44.9**	**-0.2**
L29M				IAmb	IAmb	03 02 46.2	
	comp=Z,3.8nm,0.8s						
INK	**Inuvik**	**93.53**	**22**	LR	LR	03 44 27.4	
	comp=Z,14nm,18.5s,baz=339,slow=35						
YBH	**Yreka Blue Hor**	**97.54**	**49**	LR	LR	03 40 37.5	
	comp=Z,28nm,19.9s,baz=235,slow=32						
EKA	**Eskdalemuir Ar**	**124.13**	**337**	PKP	**PKPdf**	**03 08 40.7**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=22,slow=2.7,SNR=3.7						
TORD	**Torodi Ar. Bea**	**141.13**	**283**	PKhKP	PKPpre	03 09 08.7	
	comp=Z,0.7nm,0.9s,baz=57,slow=5.1,SNR=4.3						
TORD				PKP	**PKiKP**	**03 09 15.5**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=81,slow=1.8,SNR=5.7						
LPAZ	**La Paz**	**142.00**	**127**	PKP	**PKPdf**	**03 09 14.3**	**-1.9**
	comp=Z,1.1nm,0.9s,baz=230,slow=3.8,SNR=3.0						
DBIC	**Dimbokro**	**147.87**	**272**	PKPbc	**PKPbc**	**03 09 29.6**	**+1.0**
	comp=Z,8.5nm,0.9s,baz=97,slow=4.5,SNR=7.2						

*NEIC **07** 03:00:26.5±1.4, 19°.372N±0°.010×154°.97W±0°.03, h5km±2km, Error ellipse: s-maj=4.8km s-min=3.0km az=275.0*

HVO 07 03:00:26.5±1.2, **19°.39N**±0°.02×**154°.96W**±0°.03, **h6**km±6km, **ML2.3**/6, **ML2.5**/24(NEIC), **Error ellipse: s-maj=4.7km s-min=2.8km az=111.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.06**	**315**		Pg	03 00 28.4	+0.3
JCUZ	**Jacuzzi**	**0.14**	**268**		Pg	03 00 29.3	-0.1
JCUZ				IAML		03 00 32.0	
	comp=E,2μm,0.8s						
NPOC	**North of Pu'u**	**0.14**	**272**	Pg	Pg	03 00 29.3	-0.2
NPOC				IAML		03 00 32.0	
	comp=E,2μm,0.7s						
STCH	**Steam Cracks**	**0.16**	**269**	Pg	Pg	03 00 29.6	-0.2
STCH				IAML		03 00 32.3	
	comp=E,2μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.20**	**268**		Pg	03 00 30.3	-0.2
PUH	**Pauahi**	**0.24**	**267**	Pg	Pg	03 00 30.9	-0.5
PUH					Sg	03 00 35.5	+0.9
PUH				IAML		03 00 39.7	
	comp=N,649nm,1.1s						
RSD	**Rainshed**	**0.31**	**284**	Pg	Pg	03 00 32.7	0.0
RSD				IAML		03 00 38.5	
	comp=N,616nm,0.4s						
RSD				IAML		03 00 40.0	
	comp=E,535nm,0.8s						
HLP	**Hilina Pali**	**0.34**	**255**	Pg	Pg	03 00 33.4	+0.1
HLP				IAML		03 00 42.0	
	comp=N,798nm,0.6s						
MLH	**Mauna Loa**	**0.42**	**285**	Pg	Pg	03 00 34.6	-0.1
MLH				Sg	Sg	03 00 40.5	+0.2
MLH				IAML		03 00 44.3	
	comp=E,486nm,0.3s						
HTC	**Hot Caves**	**0.44**	**250**		Pg	03 00 35.2	+0.1
HMH	**Humu'ula Sheep**	**0.54**	**293**	Sg	Sg	03 00 44.1	0.0
MWH	**Moku'aweowe**	**0.61**	**279**	Pg	Pg	03 00 37.4	-1.0
KHU	**Kahuku**	**0.64**	**257**	Pg	Pg	03 00 37.6	-1.2
KHU				Sg	Sg	03 00 46.0	-1.2
KHU				IAML		03 00 55.4	
	comp=E,270nm,1.3s						
KHU				IAML		03 01 00.8	
	comp=N,252nm,0.9s						
POHA	**Pohakuloa**	**0.66**	**304**	Pg	Pg	03 00 37.7	-1.5
POHA				Sg	Sg	03 00 46.8	-0.9
ALEP	**Alea Permanent**	**0.67**	**283**		Pg	03 00 38.3	-1.1
ALEP					Sg	03 00 47.5	-0.7
HUH	**Hualalai**	**0.88**	**290**	Pg	Pg	03 00 42.8	-0.7
HPAH	**Hawaii Prepara**	**0.95**	**313**	Pg	Pb	03 00 45.7	+0.3
HPAH				IAML		03 01 09.4	
	comp=N,100nm,1.2s						
HPAH				IAML		03 01 10.5	
	comp=E,136nm,1.3s						

*IDC **07** 03:08:23.9±1.0, 6°.25S×143°.04E, h0km, mb4.0/7, mbtmp4.1/9, ML1.9/1, MS3.3/3, Error ellipse: s-maj=34.3km s-min=22.4km az=71.0*

ISC 07 03:08:28.5±0.8, **6°.51S**±0°.09×**142°.9E**±0°.1, **h35**km, **n11, σ1s36/12, mb4.0/7, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.15**	**124**	Pn	**Pn**	**03 09 43.0**	**-0.2**
	3.1nm,0.3s,baz=295,slow=5.2,SNR=7.5						
PMG				Sn	**Sn**	**03 10 41.4**	**0.0**
	2.5nm,0.3s,baz=28,slow=19,SNR=1.9						
	26nm,0.5s						
WRA	**Warramunga Arr**	**15.71**	**211**	Pn	**Pn**	**03 12 07.7**	**+0.4**
	0.4nm,0.3s,baz=30,slow=13,SNR=20						
WRA				Sn	**Sn**	**03 14 57.9**	**-2.4**
	0.2nm,0.3s,baz=40,slow=24,SNR=1.5						
WRA				Lg	Lg	03 16 46.6	
	0.1nm,0.3s,baz=33,slow=27,SNR=2.2						
ASAR	**Alice Springs**	**19.11**	**206**	P	**Pn**	**03 12 52.5**	**+3.0**
	7.4nm,0.6s,baz=31,slow=10,SNR=66						
ASAR				Lg	Lg	03 18 40.5	
	baz=22,slow=27						
ASAR				LR	LR	03 20 46.7	
	comp=Z,83nm,19.6s,baz=3.5,slow=38						
KSRS	**Korea Array**	**45.90**	**343**	P	**P**	**03 16 48.1**	**+0.5**
	0.6nm,0.4s,baz=170,slow=8.7,SNR=2.2						
	0.6nm,0.4s						
USRK	**Ussuriysk Ar.**	**51.41**	**350**	P	**P**	**03 17 29.0**	**-1.0**
	1.9nm,0.8s,baz=182,slow=8.7,SNR=3.0						
	1.9nm,0.8s						
MKAR	**Makanchi Array**	**75.30**	**322**	P	**P**	**03 20 08.3**	**+0.2**
	1.8nm,0.8s,baz=101,slow=9.1,SNR=9.7						
MKAR				LR	LR	03 53 42.4	
	comp=Z,17nm,20.2s,baz=186,slow=36						
	1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**77.28**	**329**	P	**P**	**03 20 19.1**	**0.0**
	0.3nm,0.3s,baz=108,slow=4.8,SNR=3.5						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**79.19**	**324**	P	**P**	**03 20 30.2**	**+0.4**
	0.7nm,0.7s,baz=120,slow=5.8,SNR=6.2						
KURBB				LR	LR	03 55 15.2	
	comp=Z,18nm,20.8s,baz=168,slow=36						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**84.77**	**325**	P	**P**	**03 20 59.2**	**+0.1**
	4.6nm,0.8s						
ILAR	**Eielson Array**	**87.59**	**24**	P	**P**	**03 21 12.2**	**-0.5**
	0.7nm,0.8s,baz=254,slow=4.6,SNR=7.4						
	0.7nm,0.8s						
TORD	**Torodi Ar. Bea**	**141.20**	**283**	PKhKP	PKPpre	03 27 52.3	
	0.2nm,0.8s,baz=90,slow=5.8,SNR=1.1						

*ISK **07** 03:10:36.5, 40°.01N×28°.84E, h15km±1km, ML2.5/11*
*AFAD **07** 03:10:37.0±0.0, 40°.01N×28°.84E, h15km, ML2.1*

ISC 07 03:10:36.9±0.8, **40°.02N**±0°.02×**28°.82E**±0°.03, **h15**km±6km, **n24, σ0s44/40, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORLT	**Orhaneli**	**0.07**	**64**	Pg	**Pg**	**03 10 39.6**	**-0.2**
ORLT				Sg	**Sg**	**03 10 41.8**	**0.0**
ULDT	**Uludag**	**0.27**	**63**	P	**Pb**	**03 10 43.1**	**-0.5**
ULDT				S	**Sg**	**03 10 46.8**	**0.0**
ULDT				*i* AML	AML	03 10 47.0	
	comp=N,466nm,0.3s						
ULDT				*i* AML	AML	03 10 47.0	
	comp=E,317nm,0.5s						
MDNY	**Mudanya-Bursa**	**0.35**	**8**	Pg	**Pg**	**03 10 44.4**	**+0.3**
MDNY				Sg	**Sg**	**03 10 49.7**	**+0.7**
IGD	**Bursa**	**0.38**	**50**	P	**Pb**	**03 10 44.8**	**-0.6**
IGD				S	**Sg**	**03 10 50.0**	**+0.1**
KCTX	**Karacabey (Bur**	**0.43**	**305**	Pg	**Pg**	**03 10 45.9**	**+0.4**
DST	**Dursunbey**	**0.44**	**200**	Pg	**Pg**	**03 10 45.2**	**-0.5**
DURS	**Dursunbey**	**0.49**	**213**	P	**Pg**	**03 10 46.8**	**+0.1**
DURS				S	**Sg**	**03 10 53.5**	**+0.3**
DURS				*i* AML	AML	03 10 54.0	
	comp=N,189nm,0.3s						
DURS				*i* AML	AML	03 10 54.0	
	comp=E,190nm,0.2s						
GEMT	**Gemlik**	**0.50**	**34**	Pg	**Pb**	**03 10 47.3**	**-0.2**
ARMT	**Armutlu**	**0.55**	**3**	Pg	**Pg**	**03 10 47.9**	**+0.2**
SUSR	**Susurluk-Balik**	**0.57**	**265**	Pg	**Pg**	**03 10 48.2**	**+0.2**
BAND	**Balkesir-Ban**	**0.65**	**302**	P	**Pb**	**03 10 49.9**	**0.0**
BAND				S	**Sn**	**03 11 00.5**	**-1.1**
BAND				*i* AML	AML	03 11 02.0	
	comp=N,80nm,0.3s						
BAND				*i* AML	AML	03 11 03.0	
	comp=E,72nm,0.2s						
DOMA	**Ktahya-Doman**	**0.71**	**109**	P	**Pb**	**03 10 50.9**	**-0.2**
DOMA				S	**Sb**	**03 11 00.6**	**-0.2**
DOMA				*i* AML	AML	03 11 04.0	
	comp=E,77nm,0.3s						
EMET	**Ktahya-Emet**	**0.75**	**149**	P	**Pb**	**03 10 51.8**	**+0.1**
EMET				S	**Sb**	**03 11 01.8**	**0.0**
EMET				*i* AML	AML	03 11 03.0	
	comp=N,72nm,0.3s						
EMET				*i* AML	AML	03 11 03.0	
	comp=E,98nm,0.2s						
EDC	**Edincik**	**0.80**	**294**	Pg	**Pn**	**03 10 53.5**	**-0.2**
CAVI	**Cavuskoy**	**0.81**	**76**	Pg	**Pb**	**03 10 52.6**	**0.0**
CAVI				Sg	**Sb**	**03 11 03.7**	**+0.3**
ADVT	**Abdulvahap**	**0.82**	**59**	Pg	**Pb**	**03 10 52.7**	**-0.1**
OSMT	**Osmaniye**	**0.89**	**49**	Pg	**Pb**	**03 10 53.7**	**-0.4**
DEMI	**Demirci**	**0.98**	**185**	P	**Pn**	**03 10 56.0**	**-0.2**
DEMI				S	**Sn**	**03 11 10.1**	**+0.3**
GDZ	**Gediz**	**1.06**	**151**	P	**Pn**	**03 10 58.2**	**+0.8**
GDZ				S	**Sn**	**03 11 11.8**	**-0.1**
USAK	**Uak-Merkez**	**1.31**	**173**	P	**Pg**	**03 11 02.0**	**-0.1**
USAK				S	**Sg**	**03 11 18.8**	**-0.4**
MANT	**Manisa**	**1.54**	**188**	P	**Pg**	**03 11 06.4**	**-0.1**
MANT				S	**Sb**	**03 11 24.8**	**+0.1**
BNAZ	**Uak-Banaz**	**1.57**	**148**	P	**Pg**	**03 11 07.4**	**+0.4**
BNAZ				S	**Sg**	**03 11 28.4**	**+1.0**
PASA	**Karahalli, USA**	**1.75**	**162**	P	**Pg**	**03 11 10.1**	**-0.3**
PASA				S	**Sg**	**03 11 32.4**	**-0.7**
KIRA	**zmir-Kiraz**	**1.85**	**190**	P	**Pg**	**03 11 12.1**	**-0.2**
KIRA				S	**Sg**	**03 11 37.2**	**+0.9**

*IDC **07** 03:17:00.5±2.7, 5°.30N×74°.09W, h161km±9km, mb2.7/1, mbtmp3.2/1, Error ellipse: s-maj=158.3km s-min=45.0km az=93.0*
*RSNC **07** 03:17:02.0±0.0, 5°N±1°×7°4W±°, h141km±2km, M2.9, mb4.3, mB4.7, ML2.9, Mw(mB)4.0*

ISC 07 03:16:58.8±0.9, **5°.30N**±0°.03×**73°.70W**±0°.04, **h160**km±6km, **n35, σ1s51/63, Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPBC	**San Pablo de B**	**0.51**	**313**	P	**Pn**	**03 17 21.7**	**+0.3**
SPBC				S	**Sn**	**03 17 37.8**	**-0.9**
CHIC	**Chingaza**	**0.67**	**183**	P	**Pn**	**03 17 22.8**	**+0.1**
CHIC				S	**Sn**	**03 17 39.4**	**-1.6**
ROSC	**El Rosal**	**0.77**	**233**	P	**Pn**	**03 17 24.4**	**+1.1**
	404nm,0.4s,baz=39,slow=6.5,SNR=255						
ROSC				S	**Sn**	**03 17 42.5**	**+0.6**
	266nm,0.4s,baz=72,slow=20,SNR=8.5						
RUSC	**La Rusia**	**0.85**	**46**	P	**Pn**	**03 17 25.1**	**+1.1**
RUSC				S	**Sn**	**03 17 43.3**	**+0.1**
VILC	**Villavicencio,**	**1.18**	**180**	P	**Pn**	**03 17 26.1**	**-0.2**
VILC				S	**Sn**	**03 17 46.3**	**-1.1**
NORC	**Norcasia**	**1.19**	**283**	P	**Pn**	**03 17 26.2**	**-0.1**
NORC				S	**Sn**	**03 17 46.1**	**-1.2**
BARC	**Barichara**	**1.38**	**22**	P	**Pn**	**03 17 28.9**	**+0.7**
BARC				S	**Sn**	**03 17 50.2**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.44**	**329**	P	**Pn**	**03 17 28.3**	**-0.3**
PTBC				S	**Sn**	**03 17 49.9**	**-1.6**
RECRC	**Villamaria, Ca**	**1.68**	**258**	P	**Pn**	**03 17 32.3**	**+0.7**
RECRC				S	**Sn**	**03 17 56.9**	**+0.2**
NIZA	**Niza - Manizal**	**1.78**	**262**	P	**Pn**	**03 17 35.1**	**+2.7**
NIZA				S	**Sn**	**03 17 58.9**	**+0.7**
ANIL	**Santa Ana**	**1.88**	**245**	P	**Pn**	**03 17 34.1**	**+0.6**
ANIL				S	**Sn**	**03 18 00.0**	**-0.2**
PTGC	**Puerto Gaitan,**	**1.91**	**125**	P	**Pn**	**03 17 34.0**	**+0.5**
PTGC				S	**Sn**	**03 17 58.7**	**-1.5**
PRAC	**Prado**	**1.97**	**217**	P	**Pn**	**03 17 34.5**	**+0.2**
PRAC				S	**Sn**	**03 18 00.1**	**-1.6**
ORTC	**Ortega, Tolima**	**2.07**	**228**	P	**Pn**	**03 17 35.4**	**0.0**
ORTC				S	**Sn**	**03 18 02.1**	**-1.6**
URMC	**La Uribe, Meta**	**2.15**	**198**	P	**Pn**	**03 17 37.2**	**+0.8**
URMC				S	**Sn**	**03 18 05.0**	**-0.4**
TAMC	**Tame, Arauca**	**2.21**	**59**	P	**Pn**	**03 17 38.6**	**+1.6**
TAMC				S	**Sn**	**03 18 06.8**	**+0.3**
PAMC	**Pamplona, Colo**	**2.26**	**26**	P	**Pn**	**03 17 40.0**	**+2.0**
PAMC				S	**Sn**	**03 18 10.4**	**+2.1**
ZARC	**Zaragoza, Cauc**	**2.46**	**332**	P	**Pn**	**03 17 39.2**	**-0.8**
ZARC				S	**Sn**	**03 18 09.9**	**-2.0**
PLMC	**San Jos del P**	**2.60**	**261**	P	**Pn**	**03 17 43.4**	**+1.6**
PLMC				S	**Sn**	**03 18 17.0**	**+2.0**
GUVC	**San Jose del G**	**2.94**	**159**	P	**Pn**	**03 17 45.8**	**-0.1**
GUVC				S	**Sn**	**03 18 20.5**	**-1.9**
OCAC	**Ocana**	**2.94**	**7**	P	**Pn**	**03 17 47.5**	**+1.4**
OCAC				S	**Sn**	**03 18 24.1**	**+1.4**
DBBC	**Dabeiba**	**3.02**	**304**	P	**Pn**	**03 17 47.8**	**+0.8**
DBBC				S	**Sn**	**03 18 24.6**	**+0.3**
URCC	**San Jos de Ur**	**3.04**	**323**	P	**Pn**	**03 17 46.0**	**-1.1**
URCC				S	**Sn**	**03 18 21.9**	**-2.7**
MACC	**Macarena, Meta**	**3.14**	**183**	P	**Pn**	**03 17 47.6**	**-0.8**
MACC				S	**Sn**	**03 18 23.6**	**-3.3**
GARC	**Garzon, Huila**	**3.57**	**210**	P	**Pn**	**03 17 54.0**	**-0.1**
APAC	**Apartado, Choc**	**3.85**	**312**	P	**Pn**	**03 17 58.0**	**+0.5**
APAC				S	**Sn**	**03 18 43.7**	**+0.5**
POPC	**Popayan, Colom**	**4.04**	**227**	P	**Pn**	**03 18 01.5**	**+1.3**
FLOC	**Florencia**	**4.18**	**208**	P	**Pn**	**03 18 02.6**	**+0.9**
ARGC	**Ariguani, Magd**	**4.56**	**353**	P	**Pn**	**03 18 08.3**	**+1.6**
ARGC				S	**Sn**	**03 18 58.2**	**-1.5**
SJCC	**San Jacinto, C**	**4.80**	**342**	P	**Pn**	**03 18 08.5**	**-1.3**
CRJC	**Cerrejon, Guaj**	**5.74**	**8**	P	**Pn**	**03 18 22.9**	**+0.6**
	30nm,0.5s,940nm						
CRJC				P		03 18 23.1	
	30nm,0.5s,940nm						
CRJC				S	**Sn**	**03 19 22.6**	**-5.1**
	30nm,0.5s,940nm						
URIC	**Uribia, Colomb**	**6.58**	**15**	P	**Pn**	**03 18 34.9**	**+1.5**
URIC				S	**Sn**	**03 19 43.7**	**-3.9**
YKA	**Yellowknife Ar**	**64.49**	**340**	P	**P**	**03 27 18.8**	**+0.7**
	0.2nm,0.6s,baz=118,slow=7.8,SNR=4.4						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**147.75**	**233**	PKPbc	**PKPbc**	**03 36 25.5**	**-0.2**
	0.3nm,1.0s,baz=129,slow=3.3,SNR=1.6						
WRA	**Warramunga Arr**	**149.09**	**239**	PKPbc	**PKPbc**	**03 36 29.2**	**0.0**
	0.1nm,0.3s,baz=107,slow=3.1,SNR=5.9						

*IDC **07** 03:23:07.8±2.2, 12°.94N×87°.44W, h0km, mb3.4/3, mbtmp3.4/4, ML2.0/2, MS3.2/1, Error ellipse: s-maj=74.2km s-min=26.1km az=43.0*
*CATAC **07** 03:23:07.7±0.5, 12°.07N×88°.11W, h15km, ML3.2*

ISC 07 03:23:01.5±1.7, **11°.84N**±0°.06×**88°.22W**±0°.04, **h8**km±10km, **n28, σ1s21/49, mb3.2/3, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarn**	**1.41**	**359**	*i* P	**Pg**	**03 23 29.8**	**+1.3**
JUCU				*i* S	**Sg**	**03 23 45.9**	**-0.8**
JUCU				IAML		03 23 55.0	
	comp=Z,200nm,1.0s						
CRIN	**San Cristobal**	**1.43**	**53**	*i* P	**Pg**	**03 23 30.5**	**+1.6**
CRIN				*i* S	**Sn**	**03 23 45.8**	**-1.1**
CRIN				IAML		03 24 09.1	
	comp=Z,1μm,1.0s						
CNCH	**Conchagua**	**1.48**	**15**	*i* P	**Pg**	**03 23 31.3**	**+1.4**
CNCH				*i* S	**Sn**	**03 23 47.0**	**-1.2**
CNCH				IAML		03 23 57.5	
	comp=Z,910nm,1.0s						
LCND	**La Caada**	**1.50**	**12**	*i* P	**Pg**	**03 23 30.8**	**+0.6**
LCND				*i* S	**Sb**	**03 23 47.7**	**-1.1**
LCND				IAML		03 23 58.6	
	comp=Z,270nm,1.0s						
TEL3	**Telica 3**	**1.53**	**61**	*i* P	**Pg**	**03 23 31.3**	**+0.4**
TEL3				IAML		03 24 07.7	
	comp=Z,760nm,1.0s						
RANC	**El Ranchito**	**1.59**	**358**	*i* P	**Pg**	**03 23 32.2**	**+0.3**
RANC				*i* S	**Sn**	**03 23 49.8**	**-1.1**
RANC				IAML		03 23 57.1	
	comp=Z,300nm,1.0s						
CNGA	**Al SSO del Vol**	**1.62**	**66**	*i* P	**Pg**	**03 23 33.4**	**+0.8**
CNGA				*i* S	**Sb**	**03 23 51.3**	**-1.2**
CNGA				IAML		03 23 57.3	
	comp=Z,240nm,1.0s						
PACA	**Pacayal**	**1.62**	**357**	*i* P	**Pg**	**03 23 33.5**	**+0.9**
PACA				*i* S	**Sn**	**03 23 50.9**	**-0.9**
PACA				IAML		03 24 06.1	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**1.63**	**2**	*i* P	**Pg**	**03 23 33.8**	**+1.1**
CNRM				*i* S	**Sb**	**03 23 52.1**	**-0.4**
CNRM				IAML		03 24 14.6	
	comp=Z,3μm,1.0s						
CNGN	**Cerro Negro**	**1.63**	**66**	*i* P	**Pg**	**03 23 33.2**	**+0.5**
CNGN				IAML		03 23 49.4	
	comp=Z,320nm,1.0s						
CNGN				*i* S	**Sg**	**03 23 52.9**	**-1.0**
COPN	**Copaltepe**	**1.63**	**78**	*i* P	**Pg**	**03 23 34.5**	**+1.7**
COPN				IAML		03 23 38.0	
	comp=Z,290nm,1.0s						
COEB	**Comit de Eme**	**1.68**	**350**	*i* P	**Pg**	**03 23 33.2**	**-0.4**
COEB				*i* S	**Sb**	**03 23 52.6**	**-1.4**
COEB				IAML		03 24 03.0	
	comp=Z,220nm,1.0s						
MOMN	**Momotombo**	**1.74**	**71**	*i* P	**Pb**	**03 23 34.3**	**+0.6**
MOMN				*i* S	**Sb**	**03 23 54.9**	**-0.9**
MOMN				IAML		03 24 02.3	
	comp=Z,8.6nm,1.0s						
TECO	**Alcaldia de Te**	**1.77**	**342**	*i* P	**Pb**	**03 23 34.7**	**+0.4**
TECO				*i* S	**Sb**	**03 23 56.4**	**-0.4**
TECO				IAML		03 24 04.6	
	comp=Z,120nm,1.0s						
MOM2	**El Cardon**	**1.80**	**71**	*i* P	**Pg**	**03 23 35.6**	**-0.4**
MOM2				*i* S	**Sb**	**03 23 56.3**	**-1.2**
MOM2				IAML		03 24 06.3	
	comp=Z,250nm,1.0s						
PQSS	**Presa 15 de Se**	**1.80**	**350**	*i* P	**Pg**	**03 23 35.5**	**-0.6**
PQSS				*i* S	**Sb**	**03 23 57.0**	**-0.6**
PQSS				IAML		03 25 00.8	
	comp=Z,600nm,1.0s						
UESV	**Universidad de**	**1.87**	**343**	*i* P	**Pg**	**03 23 37.0**	**-0.3**
UESV				*i* S	**Sb**	**03 23 59.2**	**-0.3**
UESV				IAML		03 24 10.0	
	comp=Z,270nm,1.0s						
COEG	**Centro de Oper**	**1.88**	**340**	*i* P	**Pb**	**03 23 36.4**	**+0.2**
COEG				*i* S	**Sb**	**03 23 59.6**	**-0.4**
COEG				IAML		03 24 08.3	
	comp=Z,130nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.92**	**345**	*i* P	**Pb**	**03 23 36.9**	**+0.1**
SCLA				*i* S	**Sb**	**03 23 59.1**	**-1.8**
SCLA				IAML		03 24 11.0	
	comp=Z,230nm,1.0s						
PAVA	**Las Pavas**	**1.99**	**340**	*i* P	**Pb**	**03 23 38.4**	**+0.4**
PAVA				*i* S	**Sn**	**03 24 01.0**	**+0.2**
PAVA				IAML		03 24 03.2	
	comp=Z,350nm,1.0s						
LOMA	**Loma Larga**	**2.02**	**333**	*i* P	**Pb**	**03 23 39.4**	**+0.8**
LOMA				*i* S	**Sb**	**03 24 02.1**	**-1.8**
LOMA				IAML		03 24 03.8	
	comp=Z,140nm,1.0s						
PMON	**Piamonte**	**2.15**	**330**	*i* P	**Pb**	**03 23 41.7**	**+1.0**
PMON				*i* S	**Sb**	**03 24 06.0**	**-1.5**
PMON				IAML		03 24 22.0	
	comp=Z,180nm,1.0s						
JTS	**Las Juntas de**	**3.56**	**115**	Pn	**Pb**	**03 24 04.6**	**-0.2**
	comp=Z,0.8nm,0.3s,baz=294,slow=19,SNR=5.8						
JTS				Sn	**Sb**	**03 24 45.3**	**-2.9**
	comp=Z,1.1nm,0.3s,baz=263,slow=22,SNR=3.0						
	comp=Z,1.7nm,0.3s						
APG	**El Apazote**	**3.83**	**326**	Pn	**Pb**

comp=N,295nm,0.5s
PNTR IAML 03 52 42.8
comp=E,331nm,0.4s
CASR Casa Diablo Mo 0.88 163 Pg 03 52 29.8 -0.2
RCCR Rock Creek Can 0.94 173 Pg 03 52 30.9 -0.1
EMB Emerald Bay 1.11 300 Pg Pg 03 52 34.1 -0.1
EMB Sg Sg 03 52 48.7 0.0
EMB IAML 03 52 51.1
comp=E,312nm,0.5s
BHPR Bishop 1.16 165 Pg 03 52 35.0 -0.2
RUBR Rubicon Trail 1.18 303 Pg 03 52 35.4 -0.3
CMB Columbia Colle 1.25 253 Pn Pn 03 52 36.0 -0.7
CMB IAML 03 52 53.2
comp=N,259nm,0.2s
MPK Martis Peak 1.26 314 Pn 03 52 36.5 -0.5
MPK IAML 03 52 58.5
comp=N,184nm,0.6s
DSP Deep Springs 1.27 145 Pn Pn 03 52 36.9 +0.1
PAHR Pah Rah Range 1.34 343 Pn Pn 03 52 37.8 -0.2
PAHR IAML 03 52 57.9
comp=E,130nm,0.3s
PAHR IAML 03 52 59.0
comp=N,163nm,0.6s
TPH Tonopah 1.34 104 Pn 03 52 37.8 -0.3
MZP Montezuma Peak 1.38 121 Pn Pb 03 52 38.9 -0.1
MZP IAML 03 53 01.0
comp=N,146nm,0.4s
Q09A Carvers 1.39 72 Pn Pn 03 52 38.8 +0.1
PEAR Peavine Mounta 1.46 325 Pn 03 52 39.9 +0.2
DONR Donner Summit 1.46 310 Pn 03 52 39.9 +0.1
LCH Last Change Ra 1.53 140 Pn Pb 03 52 41.2 -0.4
LCH IAML 03 53 04.9
comp=E,97nm,0.2s
LOY Loyalton 1.63 320 Pn 03 52 42.6 +0.6
GMN Gold Mountain 1.70 131 Pn Pb 03 52 44.3 -0.2
GMN IAML 03 53 09.3
comp=E,133nm,0.4s
GMN IAML 03 53 12.6
comp=N,132nm,0.4s
AFDM Forest Hills D 1.73 288 Pn Pn 03 52 43.7 +0.6
BEKR Beckworth 1.85 322 Pn 03 52 45.2 +0.2
GRAC Grapevine Rang 1.86 140 Pn Pn 03 52 45.8 +0.8
GRAC IAML 03 53 20.7
comp=N,72nm,0.5s
GRAC IAML 03 53 21.4
comp=E,109nm,0.3s
SGV South Grapevin 2.05 134 Pn 03 52 48.0 +0.3
ORV Oroville 2.34 300 Pn Pn 03 52 52.3 +0.7
ORV IAML 03 53 26.7
comp=E,51nm,0.5s
BMN Battle Mountai 2.38 32 Pn Pn 03 52 51.3 -1.0
WCT Wildcat Mounta 2.41 132 Pn Pn 03 52 52.6 -0.1
BBGB Big Mountain B 2.52 224 Pn Pn 03 52 53.6 -0.5
R11B Troy Canyon, C 2.58 91 Pn Pn 03 52 54.6 -0.6
R11B IAML 03 53 34.9
comp=N,52nm,1.0s
R11B IAML 03 53 36.8
comp=E,50nm,0.3s
S11A Rachel 2.59 106 Pn Pn 03 52 55.3 +0.2
SAO San Andreas Ge 2.63 232 Pn Pn 03 52 54.4 -1.2
PMPB Monarch Peak 2.69 216 Sb 03 53 36.6 +2.4
NSP Numbskull Pass 2.71 128 Pn 03 52 57.7 +0.9
ISA Isabella, Lake 2.77 173 Sg 03 53 39.4 -2.5
GWY Greenwater Val 2.84 141 Pn Pn 03 52 56.9 -1.7
MCY Mercury 2.91 126 Pn 03 53 00.6 +1.1
QSM Queen of Sheba 2.93 146 Pn Pn 03 52 56.7 -2.9
Q12A Willow Creek R 3.22 78 Pn Pn 03 53 02.4 -1.4
SHPR Sheep Range 3.52 122 Pn Pn 03 53 08.5 +0.5
SPR3 Spring Creek 3 3.60 79 Pn Pn 03 53 09.1 -0.1
ELK Elko 3.64 49 Pn Pn 03 53 09.0 -0.7
ELK IAML 03 54 10.6
comp=E,13nm,0.3s
PSUT Pine Spring 3.94 87 Pn Pn 03 53 13.7 -0.1
V12A Nelson 4.19 129 Pn Pn 03 53 15.6 -1.5
YBH Yreka Blue Hor 4.43 320 Pn Pn 03 53 22.1 +1.8
CCUT Cedar City 4.44 100 Pn Pn 03 53 20.1 -0.5
K05A Summer Lake 4.57 341 Pn Pn 03 53 21.1 -1.2
LCMT Little Creek M 4.68 106 Pn Pn 03 53 21.9 -2.0
KNB Kanab 5.00 104 Pn Pn 03 53 27.9 -0.4
DUG Dugway, Tooele 5.02 67 Pn Pn 03 53 26.1 -2.5
TCRU Three Creeks R 5.04 86 Pn Pn 03 53 27.5 -1.5
BGU Big Grassy Mou 5.16 59 Pn Pn 03 53 30.6 +0.2
MVU Marysvale 5.23 87 Pn Pn 03 53 29.9 -1.6
MSU Marysvale 5.26 87 Pn Pn 03 53 30.0 -1.9
U15A North Rim 5.60 109 Pn Pn 03 53 35.0 -1.7
HLID Hailey 6.14 32 Pn Pn 03 53 42.0 -2.0
W18A Petrified Fore 8.04 111 Pn Pn 03 54 07.6 -2.4

*NEIC **07** 04:13:59.5±1.1, 19.˚39N±0.˚01×155.˚14W±0.˚01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.2km az=152.0*
HVO 07 04:13:58.5±1.1, 19.˚34N±0.˚02×155.˚11W±0.˚02, h2km±6km, ML2.7/15, ML2.6/32(NEIC), Error ellipse: s-maj=4.2km s-min=1.4km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.04**	**15**	Pg	Pg	04 13 59.6	+0.1
JCUZ				Sg	Sg	04 14 01.4	+1.3
STCH	**Steam Cracks**	**0.05**	**347**	Pg	Pg	04 13 59.8	+0.2
NPOC	**North of Pu'u**	**0.05**	**5**	Pg	Pg	04 14 00.3	+0.7
NPOC				Sg	Sg	04 14 01.8	+1.4
KNHH	**Kane Nui o Ham**	**0.07**	**307**	Pg	Pg	04 14 00.6	+0.7
PUH	**Pauahi**	**0.10**	**289**	Pg	Pg	04 14 00.9	+0.3
PUH				Sg	Sg	04 14 03.1	+1.2
PUH				IAML		04 14 03.7	
	comp=N,5μm,0.6s						
KKO	**Keanakako`i**	**0.15**	**292**	Pg	Pg	04 14 01.7	+0.1
KKO				Sg	Sg	04 14 04.4	+0.8
KKO				IAML		04 14 05.9	
	comp=N,2μm,0.5s						
BYL	**Byron's Ledge**	**0.15**	**297**	Pg	Pg	04 14 01.7	+0.1
BYL				IAML		04 14 05.0	
	comp=N,2μm,0.4s						
BYL				IAML		04 14 05.0	
	comp=E,2μm,0.3s						
HATHI	**Halema'uma'u T**	**0.16**	**301**	Pg	Pg	04 14 01.8	+0.1
HATHI				Sg	Sg	04 14 04.3	+0.5
HATHI				IAML		04 14 05.2	
	comp=N,1μm,0.4s						
HATHI				IAML		04 14 07.0	
	comp=E,2μm,0.6s						
RIM	**Rim**	**0.16**	**290**	Pg	Pg	04 14 01.5	-0.2
RIM				IAML		04 14 07.2	
	comp=N,3μm,0.4s						
RIM				IAML		04 14 07.2	
	comp=E,2μm,0.3s						
HLP	**Hilina Pali**	**0.19**	**256**	Pg	Pg	04 14 02.8	+0.6
HLP				Sg	Sg	04 14 06.1	+1.5
RSD	**Rainshed**	**0.20**	**308**	Pg	Pg	04 14 02.5	+0.1
RSD				IAML		04 14 08.0	
	comp=N,2μm,0.5s						
RSD				IAML		04 14 08.8	
	comp=E,1μm,0.4s						
HTC	**Hot Caves**	**0.29**	**249**		Pg	04 14 05.1	+1.1
MLH	**Mauna Loa**	**0.30**	**301**	Pg	Pg	04 14 04.7	+0.4
MLH				Sg	Sg	04 14 09.1	+0.9
MLH				IAML		04 14 13.7	
	comp=E,748nm,0.3s						
MLH				IAML		04 14 14.9	
	comp=N,1μm,0.3s						
HMH	**Humu'ula Sheep**	**0.43**	**307**	Pg	Pg	04 14 07.1	+0.2
HMH				Sg	Sg	04 14 13.9	+1.3
MWH	**Moku'aweowe**	**0.48**	**288**	Pg	Pg	04 14 07.6	-0.2
KHU	**Kahuku**	**0.48**	**259**	Pg	Pg	04 14 07.7	-0.1
KHU				Sg	Sg	04 14 14.3	+0.2
KHU				IAML		04 14 20.1	
	comp=E,774nm,0.6s						
KHU				IAML		04 14 23.0	
	comp=N,597nm,0.6s						
ALEP	**Alea Permanent**	**0.54**	**292**		Pg	04 14 08.8	-0.1
ALEP					Sg	04 14 16.8	+0.8
POHA	**Pohakuloa**	**0.57**	**316**		Pg	04 14 09.1	-0.5
POHA				Sg	Sg	04 14 16.2	-0.8
POHA				IAML		04 14 17.2	
	comp=N,377nm,0.8s						
POHA				IAML		04 14 21.6	
	comp=N,419nm,0.3s						
HUH	**Hualalai**	**0.76**	**297**	Pg	Pg	04 14 13.1	-0.1
CPH	**Captain Cook**	**0.77**	**281**		Pg	04 14 12.4	-0.9

*IDC **07** 04:19:23.8±0.8, 19.˚03S×12.˚31W, h0km, mb4.1/10,*

mbtmp4.1/10, MS3.8/50, Error ellipse: s-maj=30.9km s-min=20.5km az=120.0
*NEIC **07** 04:19:25.9±0.6, 18.˚96S±0.˚07×12.˚3W±0.˚1, h10km±1km, mb4.6/16, Error ellipse: s-maj=20.5km s-min=4.1km az=239.0*
*GCMT **07** 04:19:27.9±0.4, 19.˚19S±0.˚04×11.˚92W±0.˚03, h21km±1km, MW4.9/89, Moment Tensor Solution. s15,c15; s89,c101; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.20±.17; $M_{\theta\theta}$1.07±.12; $M_{\phi\phi}$1.14±.11; $M_{r\theta}$-0.73±.20; $M_{\theta\phi}$-0.78±.07; $M_{\phi r}$-1.65±.18; Best double couple: $M_0$2.58400×10^{16} NP1:ϕ_s348.00000°, δ63.00000°, λ-65.00000°. NP2: ϕ_s123.00000°, δ37.00000°, λ-130.00000°. Principal axes: T 2.0620, Plg14.0000°, Azm60.0000°; N 1.0540, Plg22.0000°, Azm156.0000°; P -3.1060, Plg63.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 04:19:25.3±0.6, 19.˚05S±0.˚1×12.˚3W±0.˚1, h10km, n72, σ0^{s}60/29, mb4.3/17, MS3.9/50, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR 10.25 347**			T	T	04 32 18.1	
	baz=168,slow=74,SNR=14						
H10S3	**ASCENSION HYDR 10.26 347**			T	T	04 32 24.8	
	baz=52,slow=74,SNR=19						
RCBR	**Riachuelo 26.48 297**			LR	LR	04 32 52.5	
	comp=Z,146nm,20.7s,baz=74,slow=31						
DBIC	**Dimbokro 26.55 17**			LR	LR	04 33 05.7	
	comp=Z,286nm,19.9s,baz=190,slow=31						
TSUM	**Tsumeb 28.20 95**			P	**P**	**04 25 18.4**	**-0.2**
TSUM				IAmb	IAmb	04 25 27.0	
	comp=Z,11nm,1.5s						
TSUM	**Tsumeb 28.20 95**			LR	LR	04 34 38.2	
	comp=Z,298nm,20.2s,baz=278,slow=32						
SUR	**Sutherland 32.51 121**			P	**P**	**04 25 56.9**	**+0.2**
SUR	**Sutherland 32.51 121**			LR	LR	04 36 12.8	
	comp=Z,171nm,20.5s,baz=286,slow=31						
BDFB	**Brasília 34.24 270**			P	**P**	**04 26 11.5**	**-0.3**
	comp=Z,2.3nm,0.9s,baz=165,slow=19,SNR=3.6						
BDFB				LR	LR	04 37 31.5	
	comp=Z,199nm,19.9s,baz=137,slow=32						
	comp=Z,2.3nm,0.9s						
TOA0	**Torodi Ar. Sit 34.80 24**			P	**P**	**04 26 15.5**	**-0.9**
TOA0				IAmb	IAmb	04 26 51.8	
	comp=Z,11nm,1.4s						
TORD	**Torodi Ar. Bea 34.80 24**			P	**P**	**04 26 15.5**	**-0.9**
TORD	**Torodi Ar. Bea 34.80 24**			P	**P**	**04 26 16.1**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=202,slow=7.8,SNR=14						
TORD				LR	LR	04 37 44.0	
	comp=Z,264nm,20.4s,baz=184,slow=32						
	comp=Z,2.6nm,0.7s						
BOSA	**Boshof 35.52 113**			P	**P**	**04 26 22.6**	**-0.2**
BOSA				IAmb	IAmb	04 26 29.2	
	comp=Z,16nm,1.2s						
BOSA	**Boshof 35.52 113**			P	**P**	**04 26 22.6**	**-0.2**
	comp=Z,2.3nm,0.9s,baz=319,slow=9.7,SNR=2.6						
BOSA				LR	LR	04 38 21.5	
	comp=Z,152nm,20.6s,baz=288,slow=32						
	comp=Z,2.3nm,0.9s						
LBTB	**Lobatse 35.54 107**			LR	LR	04 38 59.7	
	comp=Z,234nm,19.2s,baz=268,slow=33						
LSZ	**Lusaka 38.79 91**			P	**P**	**04 26 50.4**	**-0.3**
LSZ				IAmb	IAmb	04 26 54.1	
	comp=Z,5.9nm,0.8s						
LSZ	**Lusaka 38.79 91**			LR	LR	04 41 34.5	
	comp=Z,130nm,18.4s,baz=285,slow=34						
AQDB	**Aquidauana 40.81 260**			P	**P**	**04 27 06.6**	**-0.7**
CPUP	**Villa Florida 42.04 252**			LR	LR	04 42 00.4	
	comp=Z,184nm,19.2s,baz=97,slow=32						
PTLB	**Pontes e Lacer 44.80 267**			P	**P**	**04 27 39.8**	**0.0**
MBAR	**Mbarara 45.97 72**			LR	LR	04 45 31.7	
	comp=Z,133nm,19.2s,baz=240,slow=34						
SIV	**San Ignacio 46.52 266**			LR	LR	04 46 02.7	
	comp=Z,237nm,18.0s,baz=110,slow=34						
TRQA	**Tornquist 47.01 235**			P	**P**	**04 27 56.7**	**-0.3**
TRQA				IAmb	IAmb	04 28 03.9	
	comp=Z,8.2nm,0.8s						
MDT	**Midelt 52.05 8**			LR	LR	04 49 21.4	
	comp=Z,115nm,18.2s,baz=182,slow=34						
LVC	**Limon Verde 52.80 256**			LR	LR	04 49 44.7	
	comp=Z,71nm,20.5s,baz=136,slow=34						
LPAZ	**La Paz 53.11 264**			LR	LR	04 49 53.9	
	comp=Z,280nm,19.8s,baz=48,slow=34						
CO01	**Juntas del Tor 53.26 246**			P	**P**	**04 28 45.4**	**+0.6**
CO01				IAmb	IAmb	04 29 19.4	
	comp=Z,14nm,1.4s						
BO02	**Sierra Bellavi 53.79 240**			P	**P**	**04 28 48.3**	**-0.1**
BO02				IAmb	IAmb	04 29 06.3	
	comp=Z,10nm,1.1s						
PLCA	**Paso Flores 53.94 233**			P	**P**	**04 28 48.7**	**-0.8**
	comp=Z,2.2nm,1.2s,baz=88,slow=10,SNR=3.5						
PLCA				LR	LR	04 49 00.6	
	comp=Z,91nm,19.6s,baz=92,slow=33						
	comp=Z,2.2nm,1.2s						
MT09	**Talagante 53.95 242**			P	**P**	**04 28 48.8**	**-0.9**
BO01	**Tunca 54.03 241**			P	**P**	**04 28 49.8**	**-0.3**
BO01				IAmb	IAmb	04 28 56.5	
	comp=Z,7.7nm,0.9s						
ML02	**Panimavida 54.33 239**			P	**P**	**04 28 52.4**	**+0.2**
PMSA	**Palmer Station 57.08 204**			LR	LR	04 48 52.7	
	comp=Z,92nm,20.7s,baz=70,slow=31						
KEST	**Kesra 58.18 21**			LR	LR	04 53 44.5	
	comp=Z,57nm,18.0s,baz=236,slow=35						
ESDC	**Sonseca Array 58.90 7**			P	**P**	**04 29 25.2**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=190,slow=7.0,SNR=9.7						
ESDC				LR	LR	04 53 58.0	
	comp=Z,60nm,18.1s,baz=162,slow=35						
	comp=Z,0.9nm,0.8s						
PCRV	**Puerto La Cruz 59.20 295**			LR	LR	04 54 24.3	
	comp=Z,54nm,18.9s,slow=36						
VAE	**Valguarnera 61.56 24**			LR	LR	04 55 55.4	
	comp=Z,294nm,18.4s,baz=158,slow=36						
ATD	**Arta Tunnel 62.23 65**			LR	LR	04 55 11.9	
	comp=Z,8.4nm,19.4s,baz=198,slow=34						
NNA	**Nana 62.33 266**			LR	LR	04 55 13.6	
	comp=Z,136nm,21.0s,baz=113,slow=34						
SDV	**Santo Domingo 63.84 290**			LR	LR	04 56 24.0	
	comp=Z,86nm,18.2s,baz=113,slow=35						
ATAH	**Atahualpa 65.16 271**			LR	LR	04 57 40.5	
	comp=Z,152nm,18.5s,baz=132,slow=35						
ROSC	**El Rosal 65.49 285**			LR	LR	04 57 22.8	
	comp=Z,234nm,19.1s,baz=172,slow=35						
EIL	**Elat 66.44 44**			LR	LR	04 58 26.8	
	comp=Z,49nm,18.7s,baz=247,slow=35						
MAW	**Mawson 66.92 156**			LR	LR	04 53 11.5	
	comp=Z,68nm,21.2s,baz=242,slow=30						
DAVOX	**Davos/Dischmat 68.47 16**			LR	LR	05 00 57.7	
	comp=Z,50nm,18.0s,baz=256,slow=36						
MMAI	**Mount Meron Ar 68.93 42**			LR	LR	05 00 14.1	
	comp=Z,42nm,18.2s,baz=144,slow=36						
QSPA	**South Pole Qui 71.17 180**			P	**P**	**04 30 44.9**	**+0.7**
QSPA	**South Pole Qui 71.17 180**			P	**P**	**04 30 44.8**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=210,slow=6.0,SNR=5.9						
	comp=Z,3.6nm,0.8s						
GERES	**GERESS Array B 71.41 18**			LR	LR	05 00 18.5	
	comp=Z,78nm,21.9s,baz=226,slow=34						
BR131	**Keskin Array S 72.45 36**			P	**P**	**04 30 52.5**	**+0.3**
BRTR	**Keskin Array B 72.45 36**			P	**P**	**04 30 53.2**	**+1.0**
BRTR	**Keskin Array B 72.45 36**			P	**P**	**04 30 52.9**	**+0.7**
	comp=Z,1.1nm,0.9s,baz=216,slow=6.1,SNR=7.4						
BRTR				LR	LR	05 02 12.1	
	comp=Z,35nm,21.2s,baz=216,slow=35						
	comp=Z,1.1nm,0.9s						
VRAC	**Vranov 72.70 19**			LR	LR	05 01 53.5	
	comp=Z,84nm,20.5s,baz=225,slow=35						
JTS	**Las Juntas de 77.30 286**			LR	LR	05 04 45.4	
	comp=Z,89nm,19.3s,baz=106,slow=35						
AKASG	**Malin Array Be 78.42 25**			P	**P**	**04 31 24.9**	**-1.2**
AKASG	**Malin Array Be 78.42 25**			P	**P**	**04 31 26.1**	**0.0**
	comp=Z,1.2nm,0.6s,baz=224,slow=5.7,SNR=13						
AKASG				LR	LR	05 07 09.6	
	comp=Z,42nm,18.4s,baz=226,slow=36						
	comp=Z,1.2nm,0.6s						
GNI	**Garni 79.23 41**			LR	LR	05 06 59.2	
	comp=Z,21nm,20.2s,baz=242,slow=36						
KBZ	**Khabaz 80.29 37**			LR	LR	05 07 57.6	
	comp=Z,18nm,18.2s,baz=196,slow=36						
WSAR	**Wadi Sarin 80.93 62**			LR	LR	05 07 50.8	
	comp=Z,133nm,18.2s,baz=236,slow=36						
HFS	**Hagfors 81.64 13**			P	**P**	**04 31 43.8**	**+0.6**
	comp=Z,1.8nm,0.7s,baz=207,slow=1.3,SNR=3.9						
HFS				LR	LR	05 07 27.8	
	comp=Z,55nm,18.6s,baz=200,slow=35						
	comp=Z,1.8nm,0.7s						
NOA	**NORSAR Array B 81.99 11**			LR	LR	05 09 50.4	
	comp=Z,25nm,18.1s,baz=215,slow=37						
VNDA	**Vanda 83.61 179**			LR	LR	05 04 08.1	
	comp=Z,32nm,19.2s,baz=168,slow=32						
FINES	**FINESS Array B 85.84 17**			P	**P**	**04 32 05.4**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=174,slow=5.3,SNR=2.5						
FINES				LR	LR	05 11 39.6	
	comp=Z,56nm,18.4s,baz=196,slow=36						
	comp=Z,1.0nm,0.7s						
TKL	**Tuckaleechee C 86.75 309**			LR	LR	05 02 43.9	
	comp=Z,24nm,21.8s,baz=154,slow=30						
GEYT	**Alibeck 86.97 48**			LR	LR	05 09 27.2	
	comp=Z,52nm,20.4s,baz=318,slow=34						
RPN	**Rapa Nui 87.52 242**			LR	LR	05 05 26.0	
	comp=Z,48nm,19.1s,baz=18,slow=32						
CMIG	**Matias Romero 88.75 288**			LR	LR	05 12 18.1	
	comp=Z,60nm,18.9s,baz=116,slow=36						
ARCES	**ARCESS Array B 92.30 12**			LR	LR	05 15 41.5	
	comp=Z,46nm,18.5s,baz=170,slow=37						
KIRV	**Kirov 92.34 27**			LR	LR	05 15 14.0	
	comp=Z,16nm,19.8s,baz=229,slow=36						
AKTO	**Aktyubinsk 92.58 37**			LR	LR	05 17 37.4	
	comp=Z,26nm,18.8s,baz=104,slow=38						
PALK	**Pallekele 95.14 84**			LR	LR	05 08 39.5	
	comp=Z,69nm,21.3s,baz=4.7,slow=31						
ILAR	**Eielson Array 125.26 338**			PKP	**PKPdf**	**04 38 25.7**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=154,slow=1.6,SNR=4.8						

*KRNET **07** 04:21:13.9±0.1, 40.˚74N×78.˚08E, h21km, mb2.9*
*NNC **07** 04:21:15.8±2.1, 40.˚79N×77.˚90E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.0km s-min=9.4km az=171.0*
SOME 07 04:21:16.6, 40.˚85N×77.˚82E, h10km
ISC 07 04:21:12.8±2.2, 40.˚71N±0.˚08×77.˚84E±0.˚03, h4km±13km, n60, σ1^{s}21/90, 20C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy 1.02 359**			⇑*iP*	**Pg**	**04 21 33.1**	**+0.7**
	baz=48						
TARG				⇑*iS*	**Sb**	**04 21 47.0**	**-0.3**
	baz=48						
KDJ	**Kajisay 1.50 341**			⇑*eP*	**Pg**	**04 21 42.1**	**+0.4**
	baz=35						
KDJ				⇑*eS*	**Sg**	**04 22 02.8**	**+1.6**
	baz=35						
PRZ	**Przheval'sk 1.82 13**			⇑*eP*	**Pb**	**04 21 46.3**	**-0.6**
	baz=8.0						
PRZ				⇑*eS*	**Sb**	**04 22 10.0**	**-0.2**
	baz=8.0						
ULHL	**Ulahol 1.95 323**			⇓*iP*	**Pg**	**04 21 50.8**	**+0.6**
	baz=18						
ULHL				⇓*iS*	**Sg**	**04 22 17.6**	**+2.1**
	baz=18						
ANVS	**Anan'yevo 2.08 357**			⇑*eP*	**Pb**	**04 21 50.9**	**-0.3**
	baz=52						
ANVS				⇑*eS*	**Sb**	**04 22 18.1**	**+0.6**
	baz=52						
BOOM	**Boomskoye usch 2.28 322**			⇑*iP*	**Pb**	**04 21 55.3**	**+0.6**
	baz=18						
BOOM				⇑*iS*	**Sg**	**04 22 25.4**	**-0.7**
	baz=18						
SATY	**Saty 2.39 10**			Pg	**Pg**	**04 21 60.0**	**+1.4**
	9.1nm,0.1s						
SATY				Lg	Lg	04 22 30.7	
	27nm,0.1s						
SATY	**Saty 2.39 10**			*eP*	**Pg**	**04 21 59.7**	**+1.1**
	9.1nm,0.1s						
SATY				*eS*	**Sg**	**04 22 30.7**	**+1.2**
	27nm,0.1s						
TNSS	**Tian-Shan 2.42 344**			Pg	**Pg**	**04 21 59.2**	**0.0**
	9.2nm,0.4s						
TNSS				Lg	Lg	04 22 29.5	
	15nm,0.5s						
TNSS	**Tian-Shan 2.42 344**			*eP*	**Pg**	**04 21 59.2**	**0.0**
	9.2nm,0.2s						
TNSS				*eS*	**Sb**	**04 22 29.5**	**+1.9**
	15nm,0.5s						
ZHN	**Zhinishke 2.50 10**			Pg	**Pg**	**04 22 00.9**	**+0.2**
	14nm,0.2s						
ZHN				Lg	Lg	04 22 32.4	
	58nm,0.3s						
ZHN	**Zhinishke 2.50 10**			*eP*	**Pg**	**04 22 00.9**	**+0.2**
	14nm,0.2s						
ZHN				*eS*	**Sg**	**04 22 32.3**	**-0.8**
	58nm,0.3s						
IZV	**Izvestkoviy 2.50 339**			Pg	**Pg**	**04 22 03.7**	**+3.0**
	5.8nm,0.5s						
IZV				Lg	Lg	04 22 37.2	
	25nm,0.3s						
IZV	**Izvestkoviy 2.50 339**			*eP*	**Pg**	**04 22 02.5**	**+1.8**
	5.8nm,0.5s						
IZV				*eS*	**Sg**	**04 22 35.9**	**+2.8**
	25nm,0.3s						
MDOK	**Medeo 2.52 347**			Pg	**Pg**	**04 22 00.9**	**-0.3**
	3.5nm,0.4s						
MDOK				Pg	**Pg**	**04 22 01.5**	**+0.4**
	6.5nm,0.4s						
MDOK				Lg	Lg	04 22 34.2	
	32nm,0.8s						
MDOK				⇓Lg	Lg	04 22 35.3	
	12nm,0.5s						
MDOK	**Medeo 2.52 347**			*eP*	**Pg**	**04 22 01.5**	**+0.4**
	6.5nm,0.4s						
MDOK				*eS*	**Sg**	**04 22 34.2**	**+0.3**
	32nm,0.8s						
KOTS	**Kotyrbulak 2.58 348**			Pg	**Pg**	**04 22 02.1**	**-0.2**
	0.4nm,0.2s						
KOTS				Lg	Lg	04 22 36.2	
	44nm,0.5s						
KOTS	**Kotyrbulak 2.58 348**			*eP*	**Pg**	**04 22 02.1**	**-0.2**
	0.4nm,0.2s						
KOTS				*eS*	**Sg**	**04 22 36.2**	**+0.4**
	44nm,0.5s						
KNDC	**Almaty 2.59 346**			⇓Pn	Pn	04 21 49.7	-5.9
	17nm,0.3s						
KNDC				⇑Lg	Lg	04 22 37.8	
	31nm,0.3s						
MTBS	**Maitube 2.64 337**			Pg	**Pg**	**04 22 03.5**	**+0.1**
	7.8nm,0.4s						
MTBS				Lg	Lg	04 22 37.0	
	22nm,0.3s						
MTBS	**Maitube 2.64 337**			*eP*	**Pg**	**04 22 03.5**	**+0.1**
	7.8nm,0.4s						
MTBS				*eS*	**Sg**	**04 22 37.0**	**-0.6**
	22nm,0.3s						
KST	**Kastek 2.72 330**			Pg	**Pg**	**04 22 04.7**	**-0.3**
	5.6nm,0.4s						
KST				Lg	Lg	04 22 39.2	
	13nm,0.3s						
KST	**Kastek 2.72 330**			*eP*	**Pg**	**04 22 04.7**	**-0.3**
	5.6nm,0.4s						
KST				*eS*	**Sg**	**04 22 39.2**	**-1.1**
	13nm,0.3s						
SHLS	**Shalkode 2.73 26**			Pg	**Pg**	**04 22 06.8**	**+1.6**
	16nm,0.3s						
SHLS				Lg	Lg	04 22 42.5	
	36nm,0.4s						
SHLS	**Shalkode 2.73 26**			*eP*	**Pg**	**04 22 06.8**	**+1.6**
	16nm,0.3s						
SHLS				*eS*	**Sg**	**04 22 42.5**	**+1.9**
	36nm,0.4s						
TKM2	**Tokmak 2 2.77 324**			⇑Pg	**Pg**	**04 22 06.7**	**+0.7**
	1.9nm,0.4s						
TKM2				⇓Lg	Lg	04 22 43.2	
	8.7nm,0.6s						
**TK

PDGK	**Podgornoye**	**2.89**	**25**	⇑Pg		**Pg**	**04 22 06.6**	**-1.7**
	4.1nm,0.3s							
PDGK				⇓Lg		Lg	04 22 41.6	
	27nm,0.7s							
KBK	**Karagaybulak**	**2.91**	**313**	⇓*i*P		**Pb**	**04 22 04.6**	**-0.8**
	baz=10.0							
KBK				⇓*i*S		**Sb**	**04 22 41.3**	**-0.2**
	baz=10.0							
UCH	**Uchtor**	**2.92**	**302**	⇑*i*P		**Pb**	**04 22 05.4**	**-0.4**
	baz=0.0							
UCH				⇑*i*S		**Sb**	**04 22 42.7**	**+0.6**
	baz=0.0							
DGS	**Degeres**	**2.96**	**329**	Pg		**Pg**	**04 22 09.9**	**+0.2**
	4.8nm,0.3s							
DGS				Lg		Lg	04 22 48.4	
	8.4nm,0.4s							
DGS	**Degeres**	**2.96**	**329**	*e*P		**Pg**	**04 22 09.8**	**+0.2**
	4.8nm,0.3s							
DGS				*e*S		**Sg**	**04 22 48.4**	**+0.4**
	8.4nm,0.2s							
KTBS	**Karatobe**	**3.12**	**344**	Pg		**Pg**	**04 22 11.3**	**-1.3**
	10.0nm,0.3s							
KTBS				Lg		Lg	04 22 51.3	
	23nm,0.4s							
KTBS	**Karatobe**	**3.12**	**344**	*e*P		**Pg**	**04 22 11.3**	**-1.3**
	10.0nm,0.3s							
KTBS				*e*S		**Sg**	**04 22 51.3**	**-1.8**
	23nm,0.4s							
AAK	**Ala-Archa**	**3.16**	**309**	⇑Pg		**Pg**	**04 22 13.1**	**-0.3**
	2.9nm,0.5s							
AAK				⇓Lg		Lg	04 22 55.2	
	5.4nm,0.5s							
AAK	**Ala-Archa**	**3.16**	**309**	⇓*i*P		**Pb**	**04 22 08.2**	**-1.5**
	baz=6.0							
AAK				⇓*i*S		**Sb**	**04 22 47.7**	**-0.9**
	baz=6.0							
CHKK	**Chushkaly**	**3.21**	**349**	Pg		**Pg**	**04 22 13.5**	**-0.8**
	2.1nm,0.3s							
CHKK				Lg		Lg	04 22 55.5	
	27nm,0.4s							
CHKK	**Chushkaly**	**3.21**	**349**	*e*P		**Pg**	**04 22 13.6**	**-0.6**
	1.5nm,0.1s							
CHKK				*e*S		**Sg**	**04 22 54.9**	**-0.9**
	27nm,0.4s							
KTMS	**Ketmen**	**3.31**	**34**	Pg		**Pg**	**04 22 16.8**	**+0.4**
	1.5nm,0.3s							
KTMS				Lg		Lg	04 22 59.7	
	9.8nm,0.6s							
KTMS	**Ketmen**	**3.31**	**34**	*e*P		**Pg**	**04 22 16.8**	**+0.4**
	1.5nm,0.3s							
KTMS				*e*S		**Sg**	**04 22 59.7**	**+0.4**
	9.8nm,0.6s							
KRBS	**Karabastau**	**3.39**	**332**	Pg		**Pb**	**04 22 15.6**	**+2.0**
	5.1nm,0.4s							
KRBS				Lg		Lg	04 22 57.7	
	4.9nm,0.3s							
KRBS	**Karabastau**	**3.39**	**332**	*e*P		**Pb**	**04 22 15.6**	**+2.0**
	5.1nm,0.4s							
KRBS				*e*S		**Sb**	**04 22 57.7**	**+2.5**
	4.9nm,0.3s							
BLB	**Baldybastay**	**3.42**	**8**	Pg		**Pg**	**04 22 17.5**	**-0.8**
	15nm,0.3s							
BLB				Lg		Lg	04 23 00.9	
	47nm,0.4s							
ARXS	**Arharly**	**3.50**	**360**	Pg		**Pg**	**04 22 18.3**	**-1.6**
	2.3nm,0.4s							
ARXS				Lg		Lg	04 23 03.0	
	21nm,0.4s							
ARXS	**Arharly**	**3.50**	**360**	*e*P		**Pg**	**04 22 18.5**	**-1.4**
	1.7nm,0.1s							
ARXS				*e*S		**Sg**	**04 23 03.0**	**-2.3**
	21nm,0.4s							
KNOS	**Konyrlen**	**3.78**	**15**	Pg		**Pg**	**04 22 24.8**	**-0.4**
	3.2nm,0.3s							
KNOS				Lg		Lg	04 23 13.5	
	5.2nm,0.6s							
DJR	**Jarkent**	**3.90**	**21**	Pg		**Pg**	**04 22 25.4**	**-2.1**
	0.9nm,0.2s							
DJR				Lg		Lg	04 23 14.8	
	8.0nm,0.5s							
DJR	**Jarkent**	**3.90**	**21**	*e*P		**Pg**	**04 22 25.4**	**-2.1**
	0.9nm,0.2s							
DJR				*e*S		**Sg**	**04 23 14.8**	**-3.3**
	8.0nm,0.5s							
MRKS	**Merke**	**4.01**	**302**	Pg		**Pg**	**04 22 29.6**	**0.0**
	1.3nm,0.2s							
MRKS				Lg		Lg	04 23 21.6	
	4.2nm,0.4s							
MRKS	**Merke**	**4.01**	**302**	*e*P		**Pg**	**04 22 29.6**	**0.0**
	1.3nm,0.2s							
MRKS				*e*S		**Sg**	**04 23 21.6**	**+0.1**
	4.2nm,0.4s							
KAPS	**Kapalarasan**	**4.71**	**13**	Pg		**Pg**	**04 22 42.5**	**-0.5**
	1.6nm,0.2s							
KAPS				Lg		Lg	04 23 43.7	
	4.9nm,0.5s							
KAPS	**Kapalarasan**	**4.71**	**13**	*e*P		**Pg**	**04 22 42.2**	**-0.8**
	1.6nm,0.2s							
KAPS				*e*S		**Sg**	**04 23 43.7**	**-0.3**
	4.5nm,0.2s							
BTLS	**Baital**	**5.15**	**329**	Pg		**Pg**	**04 22 50.1**	**-1.4**
	1.5nm,0.7s							
BTLS				Lg		Lg	04 23 55.9	
	3.9nm,0.6s							
BTLS	**Baital**	**5.15**	**329**	*e*P		**Pg**	**04 22 50.1**	**-1.4**
	1.5nm,0.7s							
BTLS				*e*S		**Sg**	**04 23 55.9**	**-2.3**
	3.9nm,0.6s							
KK31	**Karatay Array**	**5.97**	**296**	⇑Lg		Lg	04 24 22.6	
	0.8nm,0.5s,baz=181,slow=20							
MK31	**Makanchi Array**	**6.88**	**26**	⇑Sn		**Sn**	**04 24 13.3**	**-0.1**
	1.0nm,0.7s,baz=212,slow=22							
MK31				⇓Lg		Lg	04 24 45.8	
	0.6nm,0.6s,baz=114,slow=34							

*IDC **07** 04:33:16.5±1.0, 0.°52N×126.°37E, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=62.3km s-min=19.4km az=70.0*

*NEIC **07** 04:33:18.4±1.7, 0.°6N±0.°1×126.°54E±0.°03, h10km±1km, mb4.3/12, Error ellipse: s-maj=19.8km s-min=3.1km az=168.0*

ISC 07 04:33:18.4±0.7, 0.°6N±0.°1×126.°58E±0.°07, h10km, n28, σ1°31/23, mb4.2/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.81**	**77**		**Pg**	**04 33 34.6**	**+0.5**
TNTI				Sg	**Sg**	**04 33 45.6**	**+0.9**
LUWI	**Luwuk**	**4.13**	**247**		**Pn**	**04 34 22.8**	**+1.2**
TOLI2	**Tolitoli**	**5.82**	**275**		Pn	04 34 44.2	-0.6
WB0	**Warramunga Arr**	**21.63**	**160**	P	**P**	**04 38 07.9**	**-1.0**
WRAB	**Tennant Creek**	**21.77**	**160**	P	**P**	**04 38 08.6**	**-1.8**
WRAB				IAmb	IAmb	04 38 19.3	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**21.77**	**160**	P	**P**	**04 38 09.9**	**-0.6**
	comp=Z,3.7nm,0.5s,baz=337,slow=10,SNR=44						
	comp=Z,3.7nm,0.5s						
WB2	**Warramunga Arr**	**21.78**	**160**	P	**P**	**04 38 09.8**	**-0.8**
WB2				IAmb	IAmb	04 38 12.3	
	comp=Z,5.3nm,0.6s						
WR0	**Warramunga Arr**	**21.86**	**160**	P	**P**	**04 38 09.8**	**-1.6**
ASAR	**Alice Springs**	**25.14**	**164**	P	**P**	**04 38 43.8**	**-0.1**
	comp=Z,1.3nm,0.5s,baz=347,slow=13,SNR=3.7						
	comp=Z,1.3nm,0.5s						
STKA	**Stephens Creek**	**35.28**	**158**	P	**P**	**04 40 13.1**	**-0.5**
STKA	**Stephens Creek**	**35.28**	**158**	P	**P**	**04 40 13.3**	**-0.3**
	comp=Z,3.6nm,0.8s,baz=340,slow=12,SNR=3.0						
	comp=Z,3.6nm,0.8s						
ERM	**Erimo**	**43.87**	**18**	P	**P**	**04 41 24.3**	**-0.7**
PETK	**Petropavlovsk-**	**58.39**	**21**	P	**P**	**04 43 13.6**	**-0.4**
PETK	**Petropavlovsk-**	**58.39**	**21**	P	**P**	**04 43 14.3**	**+0.3**
	comp=Z,1.1nm,0.6s,baz=199,slow=4.1,SNR=4.6						
	comp=Z,1.1nm,0.6s						
MK31	**Makanchi Array**	**60.05**	**326**	P	P	04 43 23.8	-1.9
MK31				IAmb	IAmb	04 43 36.5	
	comp=Z,2.5nm,1.2s						
MKAR	**Makanchi Array**	**60.05**	**326**	P	P	04 43 24.2	-1.5
MKAR	**Makanchi Array**	**60.05**	**326**	P	**P**	**04 43 24.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=122,slow=7.2,SNR=6.7						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**63.31**	**334**	P	**P**	**04 43 47.0**	**-0.5**
KURBB	**Kurchatov Arra**	**64.30**	**328**	P	**P**	**04 43 53.6**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=125,slow=5.7,SNR=5.8						
	comp=Z,0.6nm,0.6s						
KURK	**Kurchatov**	**64.31**	**328**	P	P	04 43 52.8	-1.2
KURK				IAmb	IAmb	04 43 53.7	
	comp=Z,5.7nm,1.4s						
ABKAR	**Akbulak array**	**74.48**	**321**	P	P	04 44 55.5	-1.5
L18K	**Granite Mounta**	**83.31**	**27**	P	**P**	**04 45 44.0**	**-1.3**
J18K	**Innoko River**	**83.55**	**26**	P	**P**	**04 45 46.2**	**-0.3**
J18K				IAmb	IAmb	04 46 08.2	
	comp=Z,3.8nm,1.2s						
G19K	**Purcell Mounta**	**83.95**	**23**	P	**P**	**04 45 48.7**	**+0.2**
D19K	**Kuna River**	**84.09**	**21**	P	P	04 45 46.3	-2.9
D19K				IAmb	IAmb	04 46 05.6	
	comp=Z,4.4nm,1.4s						
AC05	**El Transito**	**147.62**	**152**	PKPbc	**PKPdf**	**04 53 03.8**	**+2.4**
PLTB	**Pedras Altas**	**148.99**	**180**	PKPbc	**PKPdf**	**04 53 06.3**	**+2.9**
GO02	**Mina Guanaco**	**151.00**	**149**	PKPdf	**PKPdf**	**04 53 04.7**	**-2.5**

*NEIC **07** 04:35:03.1±1.5, 19.°37N±0.°03×155.°06W±0.°03, h3km±2km, Error ellipse: s-maj=5.0km s-min=2.2km az=133.0*

HVO 07 04:35:01.8±0.8, 19.°35N±0.°03×154.°99W±0.°03, h5km±5km, ML2.6/10, ML2.7/42(NEIC), Error ellipse: s-maj=5.4km s-min=1.8km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.08**	**352**		Pg	04 35 04.1	+0.5
JCUZ	**Jacuzzi**	**0.11**	**288**		Pg	04 35 04.2	+0.1
JCUZ				Sg	Sg	04 35 05.6	-0.1
NPOC	**North of Pu'u**	**0.12**	**291**		Pg	04 35 04.3	+0.1
NPOC				Sg	Sg	04 35 06.0	+0.1
NPOC				IAML		04 35 07.0	
	comp=N,2μm,0.2s						
NPOC				IAML		04 35 07.7	
	comp=E,3μm,0.2s						
STCH	**Steam Cracks**	**0.13**	**285**		Pg	04 35 04.4	-0.1
STCH				Sg	Sg	04 35 06.3	+0.1
STCH				IAML		04 35 06.6	
	comp=E,3μm,0.3s						
STCH				IAML		04 35 06.8	
	comp=N,2μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.17**	**280**		Pg	04 35 05.2	-0.1
PUH	**Pauahi**	**0.21**	**276**		Pg	04 35 05.8	-0.3
PUH				Sg	Sg	04 35 08.6	-0.2
BYL	**Byron's Ledge**	**0.26**	**284**	Pg	Pg	04 35 06.6	-0.3
BYL				Sg	Sg	04 35 10.2	-0.2
BYL				IAML		04 35 14.0	
	comp=N,1μm,0.6s						
BYL				IAML		04 35 15.7	
	comp=E,994nm,0.4s						
KKO	**Keanakako`i**	**0.26**	**280**	Pg	Pg	04 35 06.1	-0.8
KKO				IAML		04 35 13.4	
	comp=E,880nm,0.9s						
KKO				IAML		04 35 14.7	
	comp=N,1μm,0.5s						
HATHI	**Halema'uma'u T**	**0.26**	**286**	Pg	Pg	04 35 06.5	-0.5
HATHI				Sg	Sg	04 35 10.6	+0.1
HATHI				IAML		04 35 15.5	
	comp=N,1μm,0.7s						
HATHI				IAML		04 35 15.5	
	comp=E,1μm,0.7s						
RIM	**Rim**	**0.27**	**279**	Pg	Pg	04 35 06.6	-0.5
RIM				Sg	Sg	04 35 10.8	+0.1
RIM				IAML		04 35 14.1	
	comp=E,949nm,0.3s						
RIM				IAML		04 35 14.1	
	comp=N,1μm,0.3s						
SBLHI	**Steaming Bluff**	**0.27**	**286**	Pg	Pg	04 35 06.9	-0.3
SBLHI				Sg	Sg	04 35 10.9	+0.2
SBLHI				IAML		04 35 13.8	
	comp=N,1μm,0.6s						
SBLHI				IAML		04 35 14.7	
	comp=E,1μm,0.5s						
NPH	**North Pit**	**0.28**	**283**	Pg	Pg	04 35 06.9	-0.3
UWB	**Uwekahuna B**	**0.28**	**285**	Pg	Pg	04 35 06.6	-0.7
UWB				Sg	Sg	04 35 10.9	-0.1
SDHHI	**Sand Hill**	**0.29**	**278**	Pg	Pg	04 35 07.4	0.0
RSD	**Rainshed**	**0.29**	**292**	Pg	Pg	04 35 07.4	-0.2
RSD				Sg	Sg	04 35 12.0	+0.6
HLP	**Hilina Pali**	**0.30**	**260**	Pg	Pg	04 35 07.4	-0.3
HLP				Sg	Sg	04 35 12.0	+0.3
HLP				IAML		04 35 13.4	
	comp=N,1μm,0.2s						
HLP				IAML		04 35 13.6	
	comp=E,1μm,0.3s						
MLH	**Mauna Loa**	**0.40**	**291**	Pg	Pg	04 35 09.6	0.0
MLH				Sg	Sg	04 35 15.1	+0.3
MLH				IAML		04 35 15.7	
	comp=E,1μm,0.3s						
HTC	**Hot Caves**	**0.40**	**254**		Pg	04 35 09.8	+0.3
HMH	**Humu'ula Sheep**	**0.53**	**298**	Pg	Pg	04 35 11.7	-0.3
HMH				Sg	Sg	04 35 19.0	+0.1
MWH	**Moku'aweowe**	**0.59**	**283**	Pg	Pg	04 35 12.2	-1.0
MWH				Sg	Sg	04 35 21.0	+0.2
MWH				IAML		04 35 30.9	
	comp=E,569nm,1.2s						
KHU	**Kahuku**	**0.60**	**260**	Pg	Pg	04 35 12.3	-1.0
KHU				Sg	Sg	04 35 20.8	-0.3
KHU				IAML		04 35 22.7	
	comp=N,347nm,0.5s						
KHU				IAML		04 35 29.6	
	comp=E,363nm,0.7s						
ALEP	**Alea Permanent**	**0.64**	**287**		Pg	04 35 13.1	-1.1
ALEP					Sg	04 35 22.6	0.0
POHA	**Pohakuloa**	**0.65**	**309**	Pg	Pg	04 35 12.6	-1.8
POHA				Sg	Sg	04 35 21.7	-1.1
HUH	**Hualalai**	**0.86**	**293**	Pg	Pg	04 35 17.6	-0.7
HPAH	**Hawaii Prepara**	**0.95**	**316**	Pg	Pg	04 35 19.5	-0.5
HPAH					Sg	04 35 31.4	-0.9
HPAH				IAML		04 35 31.6	
	comp=N,159nm,0.2s						
HPAH				IAML		04 35 31.6	
	comp=E,212nm,0.2s						
MHA	**Mahukona**	**1.20**	**314**	Pg	Pg	04 35 20.5	-4.2
HLK	**Haleakala**	**1.83**	**320**	Pn	Pn	04 35 29.5	-4.7

IDC 07 05:03:11.6±2.0, 0.°43N×126.°36E, h0km, mb3.6/3, mbtmp3.6/3, MS3.6/1, Error ellipse: s-maj=166.8km s-min=26.6km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.71**	**159**	P	P	05 08 04.3	-0.1
	2.0nm,0.5s,baz=338,slow=10,SNR=25						
	2.0nm,0.5s						
ASAR	**Alice Springs**	**25.05**	**163**	P	P	05 08 37.9	+0.1
	0.7nm,0.4s,baz=348,slow=13,SNR=10						
	0.7nm,0.4s						
JHJ	**Hachijo jima 2**	**34.88**	**20**	LR	LR	05 23 39.8	
	comp=Z,106nm,20.9s,baz=99,slow=35						
MKAR	**Makanchi Array**	**60.06**	**327**	P	P	05 13 20.4	-0.1
	0.1nm,0.3s,baz=124,slow=6.0,SNR=4.3						
	0.1nm,0.3s						

IDC 07 05:09:02.9±0.9, 15.°25S×173.°46W, h0km, mb3.9/6, mbtmp3.9/6, MS3.7/28, Error ellipse: s-maj=43.3km s-min=24.9km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAR	**Rarotonga**	**14.29**	**117**	LR	LR	05 16 34.5	
	comp=Z,236nm,18.3s,baz=322,slow=32						
DZM	**Mont Dzumac**	**20.20**	**247**	LR	LR	05 20 23.9	
	comp=Z,289nm,18.6s,baz=41,slow=34						
PPT	**Papeete**	**23.02**	**99**	LR	LR	05 20 25.2	
	comp=Z,110nm,20.7s,baz=252,slow=30						
PMG	**Port Moresby**	**38.87**	**274**	LR	LR	05 30 50.3	
	comp=Z,72nm,19.4s,baz=262,slow=34						
WRA	**Warramunga Arr**	**49.82**	**257**	P	P	05 17 57.9	-0.2
	1.4nm,0.6s,baz=97,slow=6.0,SNR=25						
WRA				PcP	PcP	05 19 19.1	+0.2
	0.6nm,0.8s,baz=96,slow=3.6,SNR=2.7						
	1.4nm,0.6s						
ASAR	**Alice Springs**	**50.10**	**252**	P	P	05 18 00.1	-0.1
	2.5nm,0.5s,baz=87,slow=8.1,SNR=21						
ASAR				LR	LR	05 38 10.0	
	comp=Z,212nm,18.3s,baz=109,slow=35						
	2.5nm,0.5s						
GUMO	**Guam**	**50.20**	**303**	LR	LR	05 36 01.8	
	comp=Z,27nm,21.7s,baz=80,slow=32						
JCJ	**Chichijima**	**60.21**	**314**	LR	LR	05 40 10.2	
	comp=Z,64nm,21.1s,baz=114,slow=31						
MJAR	**Matsushiro Arr**	**68.78**	**320**	LR	LR	05 44 25.0	
	comp=Z,59nm,22.0s,baz=123,slow=31						
ASAJ	**Asahikawa**	**71.38**	**328**	LR	LR	05 48 43.8	
	comp=Z,37nm,18.6s,baz=188,slow=33						
JNU	**Nakatsue**	**71.65**	**313**	LR	LR	05 45 21.1	
	comp=Z,38nm,21.2s,baz=152,slow=30						
PFO	**Pinyon Flats O**	**72.86**	**47**	LR	LR	05 47 07.8	
	comp=Z,46nm,19.3s,baz=234,slow=31						
LPIG	**La Paz**	**73.01**	**58**	LR	LR	05 44 21.4	
	comp=Z,54nm,19.6s,baz=208,slow=29						
YBH	**Yreka Blue Hor**	**73.51**	**37**	LR	LR	05 46 52.8	
	comp=Z,48nm,20.5s,baz=244,slow=31						
NVAR	**Mina Array Bea**	**74.25**	**42**	LR	LR	05 46 18.7	
	comp=Z,58nm,20.3s,baz=276,slow=30						
KDAK	**Kodiak Island**	**74.78**	**11**	LR	LR	05 46 16.6	
	comp=Z,56nm,20.9s,baz=227,slow=30						
QSPA	**South Pole Qui**	**74.80**	**180**	P	P	05 20 44.9	0.0
	3.8nm,1.0s,baz=44,slow=2.7,SNR=7.2						
QSPA					LR	LR	05 49 38.7
	comp=Z,28nm,20.4s,baz=330,slow=33						
	3.8nm,1.0s						
KSRS	**Korea Array**	**76.01**	**316**	LR	LR	05 49 03.4	
	comp=Z,28nm,21.2s,baz=95,slow=32						
USRK	**Ussuriysk Ar.**	**77.23**	**323**	LR	LR	05 53 11.0	
	comp=Z,58nm,18.2s,baz=138,slow=34						
ELK	**Elko**	**77.50**	**41**	LR	LR	05 51 02.0	
	comp=Z,40nm,18.4s,slow=32						
MA2	**Magadan**	**80.00**	**342**	LR	LR	05 53 20.0	
	comp=Z,21nm,20.7s,baz=126,slow=33						
TXAR	**Lajitas Array**	**80.57**	**56**	P	P	05 21 17.9	+0.1
	0.5nm,1.0s,baz=186,slow=2.5,SNR=4.5						
	0.5nm,1.0s						
ANMO	**Albuquerque**	**80.75**	**50**	LR	LR	05 51 01.0	
	comp=Z,33nm,18.9s,baz=360,slow=31						
PDAR	**Pinedale Array**	**82.19**	**42**	LR	LR	05 54 12.2	
	comp=Z,46nm,18.7s,baz=256,slow=33						
ILAR	**Eielson Array**	**82.31**	**11**	P	P	05 21 25.8	-0.3
	0.7nm,1.0s,baz=225,slow=6.9,SNR=4.4						
	0.7nm,1.0s						
CMIG	**Matias Romero**	**83.88**	**71**	LR	LR	05 50 38.4	
	comp=Z,58nm,20.5s,baz=221,slow=30						
PMSA	**Palmer Station**	**84.34**	**156**	LR	LR	05 50 42.1	
	comp=Z,68nm,21.8s,baz=62,slow=30						
INK	**Inuvik**	**88.13**	**14**	LR	LR	05 54 15.7	
	comp=Z,25nm,19.9s,baz=226,slow=31						
YKA	**Yellowknife Ar**	**89.98**	**23**	P	P	05 22 03.8	-0.1
	0.2nm,0.9s,baz=246,slow=4.0,SNR=4.4						
	0.2nm,0.9s						
JTS	**Las Juntas de**	**91.24**	**80**	LR	LR	05 53 47.3	
	comp=Z,36nm,19.3s,baz=287,slow=29						
ATAH	**Atahualpa**	**93.00**	**98**	LR	LR	05 53 54.1	
	comp=Z,64nm,22.0s,baz=223,slow=29						
ULM	**Lac du Bonnet**	**93.85**	**39**	LR	LR	06 01 10.6	
	comp=Z,54nm,18.3s,baz=282,slow=33						
BRTR	**Keskin Array B**	**146.00**	**321**	PKPbc	PKPdf	05 28 44.6	+0.1
	2.0nm,0.9s,baz=108,slow=2.7,SNR=9.9						

IDC 07 05:20:21.2±3.5, 54.°48N×87.°16E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=32.1km s-min=21.0km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**250**	I	I	05 28 50.0	
	baz=70,slow=338,SNR=6.1						
ZALV	**Zalesovo Beam**	**1.47**	**250**	Pg	Pn	05 20 46.9	-2.1
	2.0nm,0.3s,baz=67,slow=17,SNR=10						
ZALV				Lg	Lg	05 21 08.3	
	1.5nm,0.3s,baz=65,slow=26,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.52**	**237**	Pn	Pn	05 21 59.1	+0.8
	0.1nm,0.3s,baz=56,slow=14,SNR=4.7						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.29**	**204**	Pn	Pn	05 22 23.9	+1.2
	0.1nm,0.3s,baz=25,slow=13,SNR=4.9						
	0.2nm,0.4s						

*NEIC **07** 05:50:54.0±0.9, 19.°352N±0.°008×155.°269W±0.°009, h7km±1km, Error ellipse: s-maj=1.3km s-min=1.2km az=131.0*

HVO 07 05:50:53.3±1.0, 19.°35N±0.°01×155.°271W±0.°008, h0km±6km, ML3.7/15, ML2.7/44(NEIC), Error ellipse: s-maj=1.8km s-min=0.9km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.04**	**357**		Pg	05 50 55.1	+0.9
RIM				Sg	Sg	05 50 56.4	+1.6
SDHHI	**Sand Hill**	**0.04**	**330**	IAML		05 50 55.0	
	comp=N,7μm,0.9s						
SDHHI					Pg	05 50 55.0	+0.8
SDHHI				Sg	Sg	05 50 56.3	+1.5
KKO	**Keanakako`i**	**0.05**	**6**		Pg	05 50 55.2	+1.0
KKO				Sg	Sg	05 50 56.6	+1.7
PUH	**Pauahi**	**0.06**	**67**		Pg	05 50 55.5	+1.0
PUH				Sg	Sg	05 50 57.5	+2.2
BYL	**Byron's Ledge**	**0.06**	**10**		Pg	05 50 55.6	+1.1
BYL				IAML		05 50 56.5	
	comp=E,8μm,0.3s						
BYL				Sg	Sg	05 50 57.2	+1.8
NPH	**North Pit**	**0.06**	**351**		Pg	05 50 55.3	+0.8
NPH				IAML		05 50 55.9	
	comp=N,5μm,0.6s						
NPH				Sg	Sg	05 50 56.8	+1.4
WRMHI	**West Rim**	**0.06**	**333**		Pg	05 50 55.3	+0.8
WRMHI				IAML		05 50 56.4	
	comp=N,5μm,0.8s						
WRMHI				IAML		05 50 56.6	
	comp=E,10μm,0.6s						
WRMHI				Sg	Sg	05 50 57.1	+1.7
HLP	**Hilina Pali**	**0.07**	**212**		Pg	05 50 55.8	+1.1
HLP				IAML		05 50 56.3	
	comp=N,5μm,0.2s						
HLP				IAML		05 50 56.4	
	comp=E,6μm,0.5s						
OBL	**Observatory Le**	**0.07**	**350**		Pg	05 50 55.7	+1.1
OBL				IAML		05 50 56.5	
	comp=E,6μm,0.3s						
OBL				IAML		05 50 56.7	
	comp=N,6μm,0.3s						
OBL				Sg	Sg	05 50 57.2	+1.6
HATHI	**Halema'uma'u T**	**0.07**	**8**		Pg	05 50 55.9	+1.1
HATHI				IAML		05 50 56.8	
	comp=N,5μm,0.2s						
HATHI				Sg	Sg	05 50 57.4	+1.7
UWE	**Uwekahuna**	**0.07**	**343**	Pg	Pg	05 50 55.9	+1.1
UWE				IAML		05 50 56.8	
	comp=N,4μm,0.6s						
UWE				Sg	Sg	05 50 57.6	+1.9
UWB	**Uwekahuna B**	**0.07**	**355**		Pg	05 50 55.8	+1.0
UWB				IAML		05 50 57.2	
	comp=E,4μm,0.5

comp=E,1µm,0.6s
ALEP Alea Permanent 0.40 298 Pg 05 51 02.1 +1.1
POHA Pohakuloa 0.47 329 Pg 05 51 03.0 +0.5
CPH Captain Cook 0.62 283 Pg 05 51 05.2 -0.1
HUH Hualalai 0.63 302 Pg 05 51 05.8 +0.5
HPAH Hawaii Prepara 0.79 329 Pg 05 51 08.0 -0.5

*IDC **07** 05:54:48.3±0.9, 32°.90N×90°.40E, h0km, mb3.8/7, mbtmp3.7/10, ML3.5/3, MS3.3/12, Error ellipse: s-maj=58.0km s-min=16.8km az=57.0*
*NEIC **07** 05:54:54.3±2.4, 33°.11N±0°.03×90°.6E±0°.1, h35km±2km, mb4.2/20, Error ellipse: s-maj=18.8km s-min=3.0km az=257.0*
ISC 07 05:54:53.7±0.5, **33°.09N**±0°.08×**90°.53E**±0°.10, **h35**km, **n47**, σ1°**32**/38, **mb4.2**/12, **MS3.2**/11, **Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.42**	**171**	Pn	**Pn**	**05 55 48.5**	**+3.6**
SHL	**Shillong**	**7.59**	**171**	Pn	**Pn**	**05 56 40.4**	**-1.5**
NIL	**Nilore**	**14.46**	**277**	Pn	**Pn**	**05 58 13.7**	**-2.0**
MK31	**Makanchi Array**	**15.06**	**338**	Pn	**Pn**	**05 58 23.5**	**-0.3**
MKAR	**Makanchi Array**	**15.06**	**338**	Pn	**Pn**	**05 58 23.0**	**-0.8**
MKAR	**Makanchi Array** baz=154,slow=13,SNR=3.1	**15.06**	**338**	Pn	**Pn**	**05 58 22.9**	**-0.9**
MKAR	comp=Z,70nm,20.6s,baz=166,slow=38 0.3nm,0.6s			LR	LR	06 04 22.5	
AAK	**Ala-Archa** 0.1nm,0.3s,baz=66,slow=10,SNR=2.3	**15.83**	**312**	Pn	**P**	**05 58 39.9**	**+2.5**
DRK	**Karamyk**	**16.38**	**298**		**P**	**05 58 45.0**	**+1.3**
DRK	comp=Z,9.4nm,0.7s			IAmb	IAmb	05 58 47.1	
CMAR	**Chiang Mai Arr**	**16.41**	**151**		**Pn**	**05 58 42.8**	**+1.5**
CMAR	**Chiang Mai Arr** comp=Z,0.6nm,0.3s,baz=330,slow=11,SNR=1.9 comp=Z,0.7nm,0.3s	**16.41**	**151**	Pn	**Pn**	**05 58 38.9**	**-2.5**
SLVN	**Son La**	**16.67**	**131**		**P**	**05 58 48.0**	**+1.2**
SLVN	comp=Z,4.4nm,0.6s			IAmb	IAmb	05 58 51.2	
PHRA	**Phrae**	**16.93**	**147**	Pn	**Pn**	**05 58 47.0**	**-0.9**
PHRA	comp=Z,62nm,1.3s			IAmb	IAmb	05 58 52.8	
BTK	**Batken**	**17.28**	**299**		**P**	**05 58 54.6**	**+1.2**
BTK	comp=Z,23nm,1.5s			IAmb	IAmb	05 58 56.9	
SIMJ	**Simiganj**	**18.29**	**294**	P	**P**	**05 59 05.5**	**+0.8**
KK31	**Karatay Array**	**18.62**	**308**	P	**P**	**05 59 08.2**	**+0.1**
KKAR	**Karatay Array**	**18.62**	**308**	P	**P**	**05 59 07.6**	**-0.4**
KURBB	**Kurchatov Arra** baz=150,slow=12,SNR=7.1 comp=Z,0.9nm,0.7s	**19.62**	**337**	P	**P**	**05 59 18.9**	**0.0**
ZALV	**Zalesovo Beam**	**21.25**	**351**	P	**P**	**05 59 37.1**	**+0.6**
ZALV	**Zalesovo Beam** comp=Z,1.3nm,0.5s,baz=163,slow=11,SNR=6.4	**21.25**	**351**	P	**P**	**05 59 37.4**	**+0.9**
ZALV	comp=Z,50nm,19.8s,baz=148,slow=39 comp=Z,1.3nm,0.5s			LR	LR	06 08 48.6	
UBPT	**Khong Chiam**	**22.31**	**139**	P	**P**	**05 59 48.5**	**+0.2**
UBPT	comp=Z,8.4nm,0.8s			IAmb	IAmb	05 59 55.5	
HKPS	**Hong Kong Po S**	**23.46**	**111**	P	**P**	**05 59 58.9**	**-1.2**
BVAR	**Borovoye Array** comp=Z,0.5nm,0.3s,baz=142,slow=7.3,SNR=2.9	**24.62**	**330**	P	**P**	**06 00 11.4**	**+0.8**
BVAR	comp=Z,75nm,20.0s,baz=133,slow=40 comp=Z,0.5nm,0.3s			LR	LR	06 11 10.7	
GEYT	**Alibeck** comp=Z,49nm,20.9s,baz=146,slow=39	**26.75**	**290**	LR	LR	06 12 15.1	
AKTO	**Aktyubinsk** comp=Z,70nm,20.2s,baz=92,slow=40	**29.49**	**316**	LR	LR	06 14 18.6	
ARU	**Arti** comp=Z,108nm,18.2s,baz=224,slow=39	**32.07**	**326**	LR	LR	06 15 47.9	
USA0B	**Ussuriysk Arra**	**33.90**	**59**	P	**P**	**06 01 31.7**	**-1.4**
USRK	**Ussuriysk Ar.**	**33.90**	**59**	P	**P**	**06 01 30.9**	**-2.2**
KIRV	**Kirov** comp=Z,37nm,19.5s,baz=82,slow=37	**37.43**	**325**	LR	LR	06 17 40.9	
ASAJ	**Asahikawa** comp=Z,32nm,19.4s,baz=244,slow=38	**41.53**	**59**	LR	LR	06 21 07.3	
MA2	**Magadan** comp=Z,46nm,19.2s,baz=152,slow=38	**47.17**	**37**	LR	LR	06 24 51.4	
AKASG	**Malin Array Be** comp=Z,0.6nm,0.6s,baz=81,slow=6.7,SNR=2.2 comp=Z,0.6nm,0.6s	**47.50**	**311**	P	**P**	**06 03 25.1**	**0.0**
SEY	**Seymchan** comp=Z,24nm,19.4s,baz=354,slow=40	**48.37**	**33**	LR	LR	06 26 57.2	
NOA	**NORSAR Array B** comp=Z,23nm,18.7s,baz=0.0,slow=36	**56.61**	**325**	LR	LR	06 28 19.9	
GERES	**GERESS Array B** comp=Z,29nm,21.9s,baz=74,slow=40	**57.71**	**310**	LR	LR	06 32 59.8	
MBWA	**Marble Bar**	**60.72**	**149**	P	**P**	**06 05 00.5**	**-1.2**
WB0	**Warramunga Arr**	**67.21**	**135**	P	**P**	**06 05 44.7**	**+0.2**
WB0	comp=Z,4.6nm,0.9s			IAmb	IAmb	06 05 45.5	
WRA	**Warramunga Arr** comp=Z,1.8nm,0.8s,baz=328,slow=6.4,SNR=12 comp=Z,1.8nm,0.8s	**67.31**	**135**	P	**P**	**06 05 44.7**	**-0.4**
C23K	**Itkillik River**	**68.34**	**19**	P	**P**	**06 05 52.2**	**+1.3**
C23K	comp=Z,6.1nm,1.4s			IAmb	IAmb	06 05 57.2	
AS31	**Alice Springs**	**69.96**	**138**	P	**P**	**06 06 02.1**	**+0.5**
AS31	comp=Z,2.4nm,1.2s			IAmb	IAmb	06 06 46.1	
ASAR	**Alice Springs**	**69.96**	**138**	P	**P**	**06 06 02.2**	**+0.5**
ASAR	**Alice Springs** comp=Z,2.3nm,0.8s,baz=326,slow=6.5,SNR=20 comp=Z,2.3nm,0.8s	**69.96**	**138**	P	**P**	**06 06 01.6**	**-0.1**
J19K	**Poorman**	**70.24**	**25**	P	**P**	**06 06 04.1**	**+1.3**
J19K	comp=Z,4.9nm,1.4s			IAmb	IAmb	06 06 27.8	
NWAO	**Narrogin (SRO)**	**70.32**	**156**	P	**P**	**06 06 03.7**	**+0.2**
BMAR	**Burnt Mountain**	**71.59**	**19**	P	**P**	**06 06 11.9**	**+0.9**
ESDC	**Sonseca Array** comp=Z,0.8nm,0.8s,baz=47,slow=5.6,SNR=6.6 comp=Z,0.8nm,0.8s	**72.86**	**306**	P	**P**	**06 06 19.2**	**+0.1**
BCAR	**Beaver Creek A**	**75.52**	**22**	P	**P**	**06 06 35.4**	**+1.3**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.8s,baz=341,slow=5.9,SNR=6.7 comp=Z,0.5nm,0.8s	**82.62**	**11**	P	**P**	**06 07 14.0**	**+1.1**

IDC 07 05:55:21.2±3.5, **53°.48N**×**87°.59E**, **h0**km, **mbtmp2.5**/2, **ML2.2**/2, **Error ellipse: s-maj=32.8km s-min=18.2km az=53.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=104,slow=335,SNR=2.2	**1.71**	**287**	I	I	06 06 00.0	
ZALV	**Zalesovo Beam** 0.4nm,0.3s,baz=109,slow=14,SNR=4.2	**1.71**	**287**	Pg	Pn	05 55 52.0	-0.3
ZALV	1.0nm,0.3s,baz=112,slow=27,SNR=2.7			Lg	Lg	05 56 15.5	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=62,slow=14,SNR=2.3	**6.27**	**247**	Pn	Pn	05 56 55.7	+0.8
KURBB	baz=64,slow=35,SNR=2.9 0.1nm,0.2s			Lg	Lg	05 58 40.0	
MKAR	**Makanchi Array** baz=25,slow=14,SNR=2.3 0.3nm,0.8s	**7.50**	**209**	Pn	Pn	05 57 13.0	+1.1

*IDC **07** 06:03:57.3±19.0, 18°.51N×156°.30W, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=408.0km s-min=56.2km az=37.0*
*HVO **07** 06:04:04.2±1.1, 19°.382N±0°.009×155°.249W±0°.007, h0km±3km, ML3.6/28, ML3.0/38(NEIC), Error ellipse: s-maj=1.3km s-min=0.7km az=200.0*
*NEIC **07** 06:04:05.2±1.2, 19°.375N±0°.009×155°.240W±0°.007, h1km±4km, Error ellipse: s-maj=1.4km s-min=0.8km az=200.0*
ISC 07 06:04:04.8±0.9, **19°.40N**±0°.03×**155°.26W**±0°.02, **h1**km±5km, **n37**, σ1°**30**/47, **mb3.5**/4, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.01**	**287**		**Pg**	**06 04 05.5**	**+0.2**
RIM	**Rim**	**0.01**	**265**		**Pg**	**06 04 05.5**	**+0.2**
RIM				Sg	**Sg**	**06 04 06.6**	**+0.9**
BYL	**Byron's Ledge**	**0.02**	**4**		**Pg**	**06 04 05.3**	**0.0**
BYL				Sg	**Sg**	**06 04 06.8**	**+1.1**
NPH	**North Pit** comp=N,8µm,0.8s	**0.02**	**310**	IAML	**Pg**	**06 04 06.0**	**+0.6**
NPH					**Pg**	**06 04 06.0**	**+0.6**
NPH				Sg	**Sg**	**06 04 06.9**	**+1.1**
HATHI	**Halema'uma'u T**	**0.03**	**0**		**Pg**	**06 04 05.8**	**+0.3**
HATHI	comp=N,19µm,1.2s			IAML		06 04 06.0	
HATHI	comp=E,18µm,0.8s			IAML		06 04 06.2	
HATHI				Sg	**Sg**	**06 04 07.1**	**+1.2**
OBL	**Observatory Le**	**0.03**	**314**		**Pg**	**06 04 06.1**	**+0.6**
OBL	comp=E,23µm,0.7s			IAML		06 04 06.4	
OBL	comp=N,19µm,0.8s			IAML		06 04 06.5	
OBL				Sg	**Sg**	**06 04 07.8**	**+1.9**
SBLHI	**Steaming Bluff**	**0.03**	**348**	Pg	**Pg**	**06 04 06.0**	**+0.5**
SBLHI	comp=N,30µm,1.4s			IAML		06 04 06.1	
SBLHI	comp=E,14µm,0.3s			IAML		06 04 06.8	
SDHHI	**Sand Hill**	**0.03**	**258**		**Pg**	**06 04 05.9**	**+0.4**
UWB	**Uwekahuna B** comp=N,13µm,1.9s	**0.03**	**330**	IAML		06 04 05.9	
UWB					**Pg**	**06 04 06.1**	**+0.6**
WRMHI	**West Rim**	**0.04**	**285**		**Pg**	**06 04 06.2**	**+0.6**
WRMHI	comp=N,16µm,0.9s			IAML		06 04 06.5	
WRMHI	comp=E,19µm,1.1s			IAML		06 04 06.5	
UWE	**Uwekahuna** comp=E,10µm,0.9s	**0.04**	**309**	IAML		06 04 05.8	
UWE					**Pg**	**06 04 06.6**	**+1.0**
UWE	comp=N,7µm,0.3s			IAML		06 04 07.0	
PUH	**Pauahi**	**0.05**	**118**		**Pg**	**06 04 05.5**	**-0.2**
PUH				Sg	**Sg**	**06 04 06.5**	**+0.1**
RSD	**Rainshed**	**0.07**	**346**		**Pg**	**06 04 06.9**	**+0.7**
RSD	comp=N,10µm,0.7s			IAML		06 04 08.4	
KNHH	**Kane Nui o Ham**	**0.09**	**101**		**Pg**	**06 04 06.7**	**+0.1**
HLP	**Hilina Pali**	**0.11**	**204**	Pg	**Pg**	**06 04 07.4**	**+0.5**
HLP	comp=N,19µm,0.2s			IAML		06 04 09.8	
STCH	**Steam Cracks**	**0.13**	**95**		**Pg**	**06 04 07.7**	**+0.4**
STCH	comp=N,8µm,0.6s			IAML		06 04 09.2	
NPOC	**North of Pu'u**	**0.14**	**91**		**Pg**	**06 04 08.1**	**+0.5**
NPOC	comp=N,13µm,0.8s			IAML		06 04 10.1	
NPOC	comp=E,17µm,1.3s			IAML		06 04 11.4	
JCUZ	**Jacuzzi**	**0.15**	**95**	Pg	**Pg**	**06 04 08.2**	**+0.5**
JCUZ	comp=E,10µm,0.9s			IAML		06 04 09.8	
JCUZ	comp=N,7µm,0.8s			IAML		06 04 11.6	
MLH	**Mauna Loa**	**0.15**	**309**	Pg	**Pg**	**06 04 08.9**	**+1.1**
MLH					**Sg**	**06 04 12.4**	**+2.5**
HTC	**Hot Caves**	**0.20**	**219**		**Pg**	**06 04 09.2**	**+0.4**
JOKA	**Jonika Flow**	**0.24**	**81**		**Pg**	**06 04 10.4**	**+0.9**
HMH	**Humu'ula Sheep**	**0.29**	**314**	Pg	**Pb**	**06 04 11.3**	**-1.8**
HMH				Sg	**Sb**	**06 04 16.2**	**-2.3**
MWH	**Moku'aweowe**	**0.33**	**286**		**Pg**	**06 04 11.8**	**+0.6**
KHU	**Kahuku**	**0.37**	**246**		**Pg**	**06 04 12.1**	**+0.2**
ALEP	**Alea Permanent**	**0.39**	**292**		**Pb**	**06 04 12.7**	**-2.0**
ALEP					**Sb**	**06 04 19.4**	**-2.0**
POHA	**Pohakuloa**	**0.44**	**325**		**Pb**	**06 04 13.9**	**-1.7**
POHA					**Sb**	**06 04 20.7**	**-2.1**
POHA	comp=N,3µm,0.8s			IAML		06 04 22.2	
HUH	**Hualalai**	**0.61**	**298**		**Pb**	**06 04 17.5**	**-1.1**
CPH	**Captain Cook**	**0.63**	**278**		**Pg**	**06 04 16.6**	**-0.3**
I59US	**HAWAII INFRASO** baz=114,slow=50	**0.63**	**288**	Pg	**Pg**	**06 04 16.6**	**-0.2**
HPAH	**Hawaii Prepara**	**0.75**	**327**	Pg	**Pb**	**06 04 18.6**	**-2.2**
MHA	**Mahukona**	**0.99**	**323**	Pg	**Pb**	**06 04 22.7**	**-2.2**
HLK	**Haleakala**	**1.64**	**326**	Pn	**Pg**	**06 04 34.3**	**-2.1**
KHLH	**Kahului Airpor**	**1.85**	**324**	Pn	**Pb**	**06 04 37.2**	**-2.3**
PDAR	**Pinedale Array** comp=N,0.5nm,0.8s,baz=238,slow=8.4,SNR=3.1 comp=N,0.5nm,0.8s	**44.86**	**48**	P	P	06 12 24.2	+3.1
ILAR	**Eielson Array** comp=N,0.6nm,0.9s,baz=200,slow=7.8,SNR=5.4 comp=N,0.6nm,0.9s	**45.69**	**5**	P	**P**	**06 12 27.8**	**+0.7**
TXAR	**Lajitas Array** comp=N,1.1nm,0.9s,baz=254,slow=8.8,SNR=12 comp=N,1.1nm,0.9s	**47.71**	**68**	P	**P**	**06 12 45.7**	**+2.1**
YKA	**Yellowknife Ar** comp=N,0.4nm,0.9s,baz=244,slow=7.3,SNR=5.4 comp=N,0.4nm,0.9s	**51.33**	**23**	P	**P**	**06 13 11.2**	**+0.7**

*IDC **07** 06:05:32.6±0.9, 33°.22S×78°.04E, h0km, mb4.0/8, mbtmp4.0/8, MS3.7/21, Error ellipse: s-maj=32.7km s-min=26.0km az=78.0*
*NEIC **07** 06:05:32.4±2.4, 33°.1S±0°.1×77°.9E±0°.2, h10km±1km, mb4.7/23, Error ellipse: s-maj=24.7km s-min=20.2km az=135.0*
ISC 07 06:05:32.3±0.6, **33°.1S**±0°.1×**78°.0E**±0°.1, **h10**km, **n59**, σ1°**50**/34, **mb4.6**/19, **MS3.7**/21, **Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04S1	**CROZET ISLANDS** baz=64,slow=76,SNR=49	**24.09**	**228**	T	T	06 35 46.5	
H04S3	**CROZET ISLANDS** baz=64,slow=76,SNR=56	**24.10**	**228**	T	T	06 35 47.7	
H04S2	**CROZET ISLANDS** baz=64,slow=76,SNR=58	**24.10**	**228**	T	T	06 35 53.5	
H08S2	**Diego Garcia H** baz=169,slow=76,SNR=440	**25.82**	**348**	T	T	06 38 02.9	
H08S1	**Diego Garcia H** baz=169,slow=76,SNR=361	**25.83**	**347**	T	T	06 38 03.1	
H08S3	**Diego Garcia H** baz=169,slow=76,SNR=572	**25.84**	**347**	T	T	06 38 04.3	
H01W2	**Cape Leeuwin H** baz=263,slow=75,SNR=206	**29.95**	**104**	T	T	06 42 51.4	
H01W3	**Cape Leeuwin H** baz=263,slow=75,SNR=218	**29.96**	**104**	T	T	06 42 51.6	
H01W1	**Cape Leeuwin H** baz=263,slow=75,SNR=222	**29.97**	**104**	T	T	06 42 52.6	
NWAO	**Narrogin (SRO)** comp=Z,193nm,21.8s,baz=282,slow=30	**32.81**	**101**	LR	LR	06 21 44.8	
MAW	**Mawson** comp=Z,127nm,20.2s,baz=358,slow=32	**35.65**	**190**	LR	LR	06 24 11.8	
PSA00	**Pilbara Seismi**	**38.72**	**84**	P	**P**	**06 12 55.9**	**-0.8**
PALK	**Pallekele** comp=Z,129nm,21.0s,baz=278,slow=30	**40.23**	**4**	LR	LR	06 25 41.1	
BOSA	**Boshof** comp=Z,101nm,18.6s,baz=133,slow=31	**45.07**	**261**	LR	LR	06 28 52.5	
LBTB	**Lobatse** comp=Z,60nm,21.5s,baz=136,slow=31	**46.07**	**266**	LR	LR	06 29 14.7	
SUR	**Sutherland** comp=Z,73nm,19.8s,baz=117,slow=31	**47.54**	**254**	LR	LR	06 30 05.7	
LSZ	**Lusaka** comp=Z,73nm,21.1s,baz=156,slow=31	**48.27**	**279**	LR	LR	06 30 31.5	
ASAR	**Alice Springs**	**49.62**	**94**	P	**P**	**06 14 23.6**	**-0.6**
ASAR	**Alice Springs** 2.5nm,1.1s,baz=237,slow=7.8,SNR=8.1 2.5nm,1.1s	**49.62**	**94**	P	**P**	**06 14 25.1**	**+0.9**
WRA	**Warramunga Arr** 1.8nm,0.9s,baz=248,slow=7.3,SNR=4.9 1.8nm,0.9s	**51.58**	**90**	P	**P**	**06 14 40.0**	**+1.0**
WB2	**Warramunga Arr** comp=Z,18nm,1.3s	**51.59**	**90**	P	**P**	**06 14 39.8**	**+0.7**
WB2				IAmb	IAmb	06 15 21.9	
WB0	**Warramunga Arr** comp=Z,14nm,1.4s	**51.71**	**90**	P	**P**	**06 14 39.7**	**-0.2**
WB0				IAmb	IAmb	06 15 13.9	
WR0	**Warramunga Arr** comp=Z,15nm,1.4s	**51.74**	**90**	P	**P**	**06 14 41.1**	**+0.9**
WR0				IAmb	IAmb	06 15 00.9	
TOLI2	**Tolitoli**	**52.77**	**59**	P	**P**	**06 14 47.3**	**-0.5**
STKA	**Stephens Creek** comp=Z,106nm,18.9s,baz=208,slow=32	**52.94**	**107**	LR	LR	06 33 48.5	
UBPT	**Khong Chiam**	**54.82**	**33**	P	**P**	**06 15 01.2**	**-1.5**
UBPT	comp=Z,10nm,1.4s			IAmb	IAmb	06 15 07.8	
CM31	**Chiang Mai Arr** comp=Z,6.4nm,0.8s	**55.05**	**25**	P	**P**	**06 15 04.0**	**-0.3**
CM31				IAmb	IAmb	06 15 08.0	
CMAR	**Chiang Mai Arr**	**55.05**	**25**	P	**P**	**06 15 04.0**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,1.7nm,0.3s,baz=202,slow=7.5,SNR=7.3	**55.05**	**25**	P	**P**	**06 15 07.0**	**+2.6**
CMAR	comp=Z,58nm,18.2s,baz=200,slow=35			LR	LR	06 37 45.8	
TSUM	**Tsumeb** comp=Z,1.7nm,0.3s	**55.25**	**269**	P	**P**	**06 15 04.1**	**-2.0**
TSUM	**Tsumeb** comp=Z,131nm,20.5s,baz=148,slow=32	**55.25**	**269**	LR	LR	06 35 05.0	
PHRA	**Phrae**	**55.55**	**26**	P	**P**	**06 15 07.4**	**-0.5**
SNAA	**Sanae**	**56.08**	**202**	P	**P**	**06 15 10.0**	**-1.3**
SNAA				IAmb	IAmb	06 15 41.8	
VNDA	**Vanda** comp=Z,62nm,19.8s,baz=278,slow=32	**56.65**	**165**	LR	LR	06 35 51.1	
QSPA	**South Pole Qui** comp=Z,13nm,1.4s	**57.05**	**180**	P	**P**	**06 15 19.5**	**+1.1**
QSPA				IAmb	IAmb	06 15 23.0	
QSPA	**South Pole Qui** comp=Z,4.5nm,1.0s,baz=268,slow=1.4,SNR=10	**57.05**	**180**	P	**P**	**06 15 19.7**	**+1.3**
QSPA	comp=Z,88nm,18.8s,baz=300,slow=34 comp=Z,4.5nm,1.0s			LR	LR	06 37 37.4	
CRAI	**Chiangrai**	**57.19**	**25**	P	**P**	**06 15 19.1**	**-0.6**
CRAI	comp=Z,8.0nm,1.3s			IAmb	IAmb	06 15 29.8	
WSAR	**Wadi Sarin** comp=Z,62nm,21.4s,baz=166,slow=30	**58.97**	**339**	LR	LR	06 35 19.1	
SHL	**Shillong**	**59.83**	**15**	P	**P**	**06 15 38.6**	**+0.4**
DAV	**Davao City (W)** comp=Z,36nm,19.1s,baz=350,slow=36	**60.33**	**58**	LR	LR	06 42 14.6	
COEN	**Coen**	**61.85**	**89**	P	**P**	**06 15 51.7**	**-0.4**
BELA	**Belgrano 2**	**62.42**	**193**	P	**P**	**06 15 56.3**	**+1.4**
BELA	comp=Z,9.5nm,1.3s			IAmb	IAmb	06 15 57.2	
PMG	**Port Moresby** comp=Z,61nm,18.9s,baz=196,slow=35	**67.53**	**87**	LR	LR	06 44 28.1	
NACB	**Ninganchiao**	**70.52**	**42**	P	**P**	**06 16 46.2**	**-1.2**
EIL	**Elat** comp=Z,32nm,21.1s,baz=247,slow=31	**74.53**	**322**	LR	LR	06 44 00.3	
AAK	**Ala-Archa** comp=Z,72nm,20.5s,baz=169,slow=33	**75.43**	**357**	LR	LR	06 47 14.0	
DZM	**Mont Dzumac** comp=Z,32nm,19.3s,baz=6.0,slow=32	**77.09**	**108**	LR	LR	06 46 53.0	
MKAR	**Makanchi Array** comp=Z,1.4nm,1.0s,baz=191,slow=4.4,SNR=5.5	**79.62**	**3**	P	**P**	**06 17 42.8**	**+3.4**
MKAR	comp=Z,48nm,21.3s,baz=228,slow=34 comp=Z,1.4nm,1.0s			LR	LR	06 50 15.8	
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.6s,baz=200,slow=4.9,SNR=4.5 comp=Z,0.3nm,0.6s	**83.35**	**0**	P	**P**	**06 18 02.0**	**+2.9**
TOA0	**Torodi Ar. Sit**	**85.90**	**288**	P	**P**	**06 18 10.6**	**-2.3**
TOA0	comp=Z,5.5nm,1.2s			IAmb	IAmb	06 18 23.2	
TORD	**Torodi Ar. Bea**	**85.90**	**288**	P	**P**	**06 18 12.2**	**-0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.9s,baz=109,slow=4.2,SNR=2.7	**85.90**	**288**	P	**P**	**06 18 14.9**	**+2.1**
TORD	comp=Z,79nm,21.9s,baz=137,slow=33 comp=Z,0.6nm,0.9s			LR	LR	06 52 51.5	
BRVK	**Borovoye**	**86.05**	**355**	P	**P**	**06 18 14.5**	**+1.9**
BRVK	comp=Z,2.7nm,0.8s			IAmb	IAmb	06 18 19.4	
ZAA0	**Zalesovo Array**	**86.89**	**4**	P	**P**	**06 18 18.0**	**+1.2**
ZAA0	comp=Z,6.1nm,1.4s			IAmb	IAmb	06 18 22.4	
ZALV	**Zalesovo Beam**	**86.89**	**4**	P	**P**	**06 18 18.8**	**+2.1**
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.4s,baz=188,slow=4.0,SNR=4.9	**86.89**	**4**	P	**P**	**06 18 18.4**	**+1.7**
ZALV	comp=Z,26nm,21.5s,baz=134,slow=34 comp=Z,0.6nm,0.4s			LR	LR	06 55 09.7	
USA0B	**Ussuriysk Arra**	**91.32**	**36**	P	**P**	**06 18 36.9**	**-1.0**
USRK	**Ussuriysk Ar.**	**91.32**	**36**	P	**P**	**06 18 37.4**	**-0.5**
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.8s,baz=338,slow=2.5,SNR=5.7	**149.51**	**11**	PKPbc	**PKiKP**	**06 25 21.9**	**-0.2**

WEL 07 06:07:15.0±0.8, **37°S**±6°×**17°9E**±°, **h12**km, **M3.2**/23, **ML3.5**/30, **MLv3.2**/23, **Error ellipse: s-maj=0.0km s-min=0.0km az=123.6, confirmed, Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.86**	**236**	P	Pg	06 07 31.0	-0.6
MXZ				S	Sg	06 07 41.4	-1.4
WMGZ	**Waiomatatini S**	**0.96**	**221**	P	Pn	06 07 34.7	+0.4
WMGZ				S	Sn	06 07 48.8	+0.8
PKGZ	**Pakihiroa**	**1.20**	**228**	P	Pn	06 07 37.4	-0.2
PKGZ				S	Sn	06 07 54.4	+0.5
PUZ	**Puketiti**	**1.24**	**217**	P	Pb	06 07 38.2	0.0
HAZ	**Te Kaha**	**1.31**	**239**	P	Pn	06 07 38.2	-0.9
RUGZ	**Raukumara Rang**	**1.50**	**234**	P	Pn	06 07 42.2	+0.5
CNGZ	**Carnagh Statio**	**1.60**	**209**	P	Pb	06 07 44.2	-0.3
TKGZ	**Te Karaka**	**1.73**	**218**	P	Pn	06 07 45.6	+0.8
TKGZ				S	Sb	06 08 07.9	-0.3
MWZ	**Matawai**	**1.82**	**226**	P	Pn	06 07 46.4	+0.3
MWZ				S	Sn	06 08 09.4	+0.2
WHRZ	**Whale Island**	**1.93**	**246**	P	Pb	06 07 49.2	-0.9
RIGZ	**Rimuhau**	**1.98**	**215**	P	Pn	06 07 48.2	-0.1
RAGZ	**Rawiri**	**2.00**	**225**	P	Pn	06 07 49.0	+0.4
URZ	**Urewera**	**2.03**	**234**	P	Pn	06 07 49.4	+0.4
URZ				S	Sn	06 08 13.1	-1.1
PRGZ	**Paritu Road**	**2.11**	**209**	P	Pn	06 07 49.9	-0.2
EDRZ	**Edgecumbe**	**2.21**	**242**	P	Pn	06 07 51.9	+0.5
MHGZ	**Mahia Peninsul**	**2.30**	**206**	P	Pn	06 07 51.4	-1.3
MUGZ	**Murupara**	**2.38**	**234**	P	Pn	06 07 53.8	+0.1
RAHZ	**Arahi**	**2.48**	**222**	P	Pn	06 07 54.7	-0.4
WHHZ	**Waihua**	**2.52**	**217**	P	Pn	06 07 55.4	-0.3
MTHZ	**Maungataniwha**	**2.57**	**226**	P	Pn	06 07 56.6	+0.2
NMHZ	**Naumai**	**2.76**	**223**	P	Pn	06 07 59.5	+0.4
ARHZ	**Aropaoanui**	**2.78**	**218**	P	Pn	06 07 59.0	-0.3
BKZ	**Black Stump Fm**	**2.98**	**225**	P	Pn	06 08 01.8	-0.2
CKHZ	**Cape Kidnapper**	**3.06**	**212**	P	Pn	06 08 01.8	-1.4
MCHZ	**McNeill Hill**	**3.07**	**219**	P	Pn	06 08 03.3	0.0
MKAZ	**Moumakai**	**3.23**	**269**	P	Pn	06 08 04.3	-1.2
KAHZ	**Kahuranaki**	**3.26**	**213**	P	Pn	06 08 04.4	-1.6
WIAZ	**Waiheke Island**	**3.27**	**274**	P	Pn	06 08 06.3	+0.2
KRHZ	**Kereru**	**3.39**	**220**	P	Pn	06 08 06.5	-1.1
TMVZ	**Te Maari**	**3.42**	**233**	P	Pn	06 08 07.8	-0.5
ETAZ	**East Tamaki Re**	**3.43**	**271**	P	Pn	06 08 09.2	+1.0
BHHZ	**Black Hill Sta**	**3.44**	**225**	P	Pn	06 08 08.4	0.0
NGZ	**Ngauruhoe**	**3.52**	**233**	P	Pn	06 08 09.7	0.0
MOVZ	**Moawhango**	**3.57**	**229**	P	Pn	06 08 09.7	-0.5
WNVZ	**Wahianoa**	**3.62**	**231**	P	Pn	06 08 10.6	-0.3
TRVZ	**Turoa**	**3.63**	**231**	P	Pn	06 08 10.1	-1.1
HIZ	**Hauiti**	**3.73**	**246**	P	Pn	06 08 13.5	+1.2
MRZ	**Mangatainoka R**	**4.55**	**217**	P	Pn	06 08 21.5	-2.2

*IDC **07** 06:14:17.8±4.3, 20°.12

GTBY	**Guantanamo Bay**	**1.50**	**80**	⇑	*i* P	**Pn**	**06 14 42.9**	**0.0**
GTBY	**Guantanamo Bay**	**1.50**	**80**		*e*P	**Pn**	**06 14 42.3**	**-0.6**
GTBY					*e*S	**Sn**	**06 14 59.9**	**-2.7**
GTBY					IAML		06 15 10.9	
	comp=E,643nm,0.5s							
GTBY					IAML		06 15 12.1	
	comp=E,576nm,0.7s							
GTBY	**Guantanamo Bay**	**1.50**	**80**		*i* P	**Pn**	**06 14 42.7**	**-0.2**
GTBY					*e*S	**Sn**	**06 15 01.2**	**-1.4**
GTBY					IAML		06 15 14.2	
	comp=Z,323nm,1.4s							
STH	**Stony Hill**	**1.59**	**185**	⇓	*i* P	**Pn**	**06 14 44.1**	**-0.1**
STH	**Stony Hill**	**1.59**	**185**		*e*P	**Pn**	**06 14 44.0**	**-0.2**
STH					*e*S	**Sn**	**06 15 02.8**	**-2.1**
MTDJ	**Mount Denham**	**1.65**	**210**	⇓	*i* P	**Pn**	**06 14 44.9**	**-0.2**
MTDJ					*i* S	**Sn**	**06 15 04.6**	**-1.9**
MTDJ	**Mount Denham**	**1.65**	**210**		*e*P	**Pn**	**06 14 44.7**	**-0.3**
MTDJ					*e*S	**Sn**	**06 15 03.1**	**-3.4**
MTDJ	**Mount Denham**	**1.65**	**210**		*i* P	**Pn**	**06 14 44.9**	**-0.2**
MTDJ					*e*S	**Sn**	**06 15 05.0**	**-1.5**
MTDJ					IAML		06 15 09.7	
	comp=Z,353nm,0.6s							
HOJ	**Hope**	**1.66**	**182**	⇑	*i* P	**Pn**	**06 14 45.4**	**+0.3**
QMBU	**Quimbuelo**	**1.83**	**73**		*e*P	**Pn**	**06 14 46.0**	**-1.5**
QMBU					*e*S	**Sn**	**06 15 07.8**	**-3.1**
QMBU					IAML		06 15 12.4	
	comp=N,248nm,0.4s							
QMBU					IAML		06 15 14.5	
	comp=E,183nm,0.8s							
MOAC	**Moa**	**1.89**	**58**		*e*P	**Pn**	**06 14 48.8**	**+0.6**
MOAC					*e*S	**Sn**	**06 15 11.5**	**-0.8**
MASC	**Masc**	**2.35**	**77**		*e*P	**Pn**	**06 14 54.0**	**-0.7**
MASC					*e*S	**Sn**	**06 15 23.2**	**-0.6**
MASC	**Masc**	**2.35**	**77**		*i* P	**Pn**	**06 14 54.8**	**+0.1**
MASC					*e*S	**Sn**	**06 15 23.7**	**0.0**
MASC					IAML		06 15 39.0	
	comp=Z,104nm,0.5s							
SDDR	**Presa de Saban**	**5.13**	**97**		*i* P	**Pn**	**06 15 34.5**	**+1.5**
SDDR					IAML		06 16 37.3	
	comp=Z,18nm,2.0s							
TXAR	**Lajitas Array**	**26.32**	**297**		P	**P**	**06 19 54.1**	**+1.9**
	comp=Z,0.2nm,0.6s,baz=118,slow=11,SNR=4.3							
	comp=Z,0.2nm,0.6s							
ULM	**Lac du Bonnet**	**34.12**	**338**		P	**P**	**06 21 00.9**	**0.0**
	comp=Z,0.9nm,0.5s,baz=164,slow=7.5,SNR=4.3							
	comp=Z,0.9nm,0.5s							
PDAR	**Pinedale Array**	**35.99**	**317**		P	**P**	**06 21 17.8**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=109,slow=11,SNR=2.0							
	comp=Z,0.2nm,0.4s							
NVAR	**Mina Array Bea**	**40.51**	**307**		P	**P**	**06 21 57.6**	**+2.1**
	comp=Z,0.2nm,0.6s,baz=115,slow=5.2,SNR=2.4							
	comp=Z,0.2nm,0.6s							
YKA	**Yellowknife Ar**	**50.10**	**338**		P	**P**	**06 23 11.3**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=118,slow=7.6,SNR=11							
	comp=Z,0.2nm,0.6s							
EKA	**Eskdalemuir Ar**	**64.70**	**37**		P	**P**	**06 24 55.1**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=277,slow=6.6,SNR=4.1							
	comp=Z,0.4nm,0.6s							
FINES	**FINESS Array B**	**78.84**	**29**		P	**P**	**06 26 20.1**	**+1.0**
	comp=Z,0.8nm,0.6s,baz=276,slow=3.6,SNR=4.9							
	comp=Z,0.8nm,0.6s							

NEIC ***07*** *06:19:44.1±0.9, 19°.40N±0°.02×155°.00W±0°.03, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.9km az=303.0*

HVO 07 06:19:44.1±0.9, 19°.40N±0°.02×155°.00W±0°.03, h5km±4km, ML2.5/9, ML2.6/26(NEIC), Error ellipse: s-maj=5.3km s-min=2.1km az=121.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.04**	**360**		**Pg**	06 19 45.3	-0.1
JCUZ	**Jacuzzi**	**0.09**	**263**	Pg	Pg	06 19 46.3	+0.1
JCUZ				IAML		06 19 48.9	
	comp=E,2μm,0.5s						
NPOC	**North of Pu'u**	**0.10**	**268**		Pg	06 19 46.6	+0.3
NPOC				IAML		06 19 48.7	
	comp=E,3μm,0.3s						
NPOC				IAML		06 19 48.9	
	comp=N,3μm,0.3s						
STCH	**Steam Cracks**	**0.11**	**265**		Pg	06 19 46.8	+0.2
STCH				IAML		06 19 49.1	
	comp=E,3μm,0.2s						
PHO	**Puu Honuaula**	**0.14**	**52**		Pg	06 19 46.2	-0.7
KNHH	**Kane Nui o Ham**	**0.16**	**264**		Pg	06 19 47.3	0.0
PUH	**Pauahi**	**0.20**	**264**		Pg	06 19 48.0	-0.1
PUH					Sg	06 19 51.2	+0.4
HATHI	**Halema'uma'u T**	**0.24**	**276**	Pg	Pg	06 19 48.4	-0.5
HATHI					Sg	06 19 52.8	+0.7
HATHI				IAML		06 19 54.5	
	comp=E,1μm,0.4s						
HATHI				IAML		06 19 57.3	
	comp=N,1μm,0.5s						
OBL	**Observatory Le**	**0.27**	**275**	Pg	Pg	06 19 48.3	-1.0
RSD	**Rainshed**	**0.27**	**285**		Pg	06 19 49.8	+0.4
RSD					Sg	06 19 53.6	+0.7
RSD				IAML		06 19 56.0	
	comp=E,692nm,0.1s						
RSD				IAML		06 19 56.8	
	comp=N,947nm,1.0s						
HLP	**Hilina Pali**	**0.30**	**251**	Pg	Pg	06 19 50.1	+0.1
HLP				IAML		06 19 56.1	
	comp=E,966nm,0.3s						
HLP				IAML		06 19 56.2	
	comp=N,710nm,0.2s						
MLH	**Mauna Loa**	**0.37**	**285**		Pg	06 19 51.6	+0.2
MLH				IAML		06 20 01.2	
	comp=E,668nm,0.3s						
HMH	**Humu'ula Sheep**	**0.50**	**295**		Pg	06 19 54.1	+0.4
HMH					Sg	06 20 01.5	+1.2
MWH	**Moku'aweowe**	**0.57**	**279**		Pg	06 19 54.7	-0.4
MWH				IAML		06 20 11.5	
	comp=N,431nm,0.7s						
KHU	**Kahuku**	**0.60**	**256**	Pg	Pg	06 19 54.8	-0.8
KHU				IAML		06 20 13.6	
	comp=N,214nm,1.1s						
KHU				IAML		06 20 16.8	
	comp=E,292nm,1.5s						
POHA	**Pohakuloa**	**0.61**	**306**		Pg	06 19 55.2	-0.7
ALEP	**Alea Permanent**	**0.62**	**284**		Pg	06 19 55.3	-0.9
ALEP					Sg	06 20 04.5	+0.2

IDC 07 06:20:04.1±3.0, 53°.66N×88°.05E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=26.6km s-min=15.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**280**	I	I	06 32 50.2	
	0.2nm,0.8s,baz=95,slow=335,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.94**	**280**	Pg	Pn	06 20 38.3	+0.1
	2.2nm,0.3s,baz=98,slow=12,SNR=59						
ZALV				Lg	Lg	06 21 05.7	
	4.9nm,0.3s,baz=102,slow=24,SNR=18						
KURBB	**Kurchatov Arra**	**6.60**	**246**	Pn	Pn	06 21 43.0	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=13						
KURBB				Lg	Lg	06 23 33.3	
	baz=58,slow=32,SNR=9.0						
	1.9nm,0.5s						
MKAR	**Makanchi Array**	**7.80**	**211**	Pn	Pn	06 22 00.0	+1.2
	0.1nm,0.3s,baz=28,slow=13,SNR=6.4						
MKAR				Sn	Sn	06 23 27.3	-0.5
	0.1nm,0.3s,baz=29,slow=24,SNR=3.6						
MKAR				Lg	Lg	06 24 10.8	
	0.1nm,0.3s,baz=29,slow=30,SNR=4.1						
	0.5nm,0.6s						

CATAC ***07*** *06:20:32.0±0.2, 13°.28N×88°.06W, h9km±1km, ML3.5*
SNET ***07*** *06:20:32.4±1.1, 13°.28N×88°.08W, h6km±4km, ML3.5*

ISC 07 06:20:32.2±0.8, 13°.27N±0°.04×88°.06W±0°.02, h14km±5km, n45, σ0°.37/85, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**78**	*e*P	**Pg**	**06 20 36.3**	**0.0**
LCND				*i* P	**Pg**	**06 20 36.3**	**0.0**
LCND				*e*S	**Sg**	**06 20 39.4**	**+0.3**
LCND				*e*S	**Sg**	**06 20 39.4**	**+0.3**
LCND	**La Caada**	**0.17**	**78**	*i* P	**Pg**	**06 20 36.2**	**0.0**
LCND				*i* P		06 20 36.3	
LCND				*i* S	**Sg**	**06 20 39.5**	**+0.4**
LCND				IAML		06 20 57.9	
	comp=Z,40μm,1.0s						

JUCU	**Jucuarįn**	**0.18**	**263**		*e*P	**Pg**	**06 20 36.2**	**-0.3**
JUCU					*e*S	**Sg**	**06 20 39.1**	**-0.3**
JUCU	**Jucuarįn**	**0.18**	**263**		*i* P	**Pg**	**06 20 36.1**	**-0.4**
JUCU					*i* S	**Sg**	**06 20 39.4**	**0.0**
JUCU					IAML		06 21 01.1	
	comp=Z,6μm,1.0s							
CNRM	**Centro Naciona**	**0.23**	**332**		*e*P	**Pg**	**06 20 37.2**	**+0.1**
CNRM	**Centro Naciona**	**0.23**	**332**		*i* P	**Pg**	**06 20 37.1**	**0.0**
CNRM					*i* S	**Sb**	**06 20 42.1**	**+0.1**
CNRM					IAML		06 21 07.6	
	comp=Z,21μm,1.0s							
RANC	**El Ranchito**	**0.27**	**306**		*i* P	**Pg**	**06 20 38.1**	**+0.1**
RANC					*i* S	**Sb**	**06 20 43.1**	**-0.4**
RANC					IAML		06 21 10.3	
	comp=Z,6μm,1.0s							
PACA	**Pacayal**	**0.32**	**307**		*e*P	**Pg**	**06 20 39.0**	**+0.2**
PACA	**Pacayal**	**0.32**	**307**		*i* P	**Pg**	**06 20 39.2**	**+0.4**
PACA					*i* S	**Sb**	**06 20 44.6**	**-0.3**
PACA					IAML		06 21 06.7	
	comp=Z,29μm,1.0s							
AMPH	**Amapala**	**0.39**	**88**		*e*P	**Pg**	**06 20 40.2**	**+0.1**
AMPH					*e*S	**Sb**	**06 20 46.5**	**-0.4**
COEB	**Comit de Eme**	**0.51**	**296**		*e*P	**Pg**	**06 20 42.2**	**+0.1**
COEB					*e*S	**Sg**	**06 20 49.7**	**+0.7**
COEB	**Comit de Eme**	**0.51**	**296**		*i* P	**Pg**	**06 20 42.3**	**+0.1**
COEB					*i* S	**Sg**	**06 20 49.5**	**+0.5**
COEB					IAML		06 21 09.9	
	comp=Z,1μm,1.0s							
TECO	**Alcaldia de Te**	**0.74**	**291**		*e*P	**Pg**	**06 20 46.2**	**-0.5**
TECO					*e*S	**Sg**	**06 20 56.7**	**+0.2**
TECO	**Alcaldia de Te**	**0.74**	**291**		*i* P	**Pg**	**06 20 46.4**	**-0.3**
TECO					*i* S	**Sb**	**06 20 56.9**	**-0.2**
TECO					IAML		06 21 14.5	
	comp=Z,1μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.77**	**303**		*e*P	**Pg**	**06 20 47.1**	**-0.1**
SCLA					*e*S	**Sn**	**06 20 59.5**	**-0.8**
SCLA	**Alcaldia de Sa**	**0.77**	**303**		*i* P	**Pg**	**06 20 47.0**	**-0.2**
SCLA					*i* S	**Sb**	**06 20 57.9**	**0.0**
SCLA					IAML		06 21 17.6	
	comp=Z,410nm,1.0s							
UESV	**Universidad de**	**0.79**	**297**		*i* P	**Pg**	**06 20 47.6**	**0.0**
UESV					*i* S	**Sb**	**06 20 58.7**	**+0.3**
UESV					IAML		06 21 17.8	
	comp=N,830nm,1.0s							
COEG	**Centro de Oper**	**0.87**	**293**		*e*P	**Pb**	**06 20 48.6**	**-0.5**
COEG					*e*S	**Sg**	**06 21 00.4**	**0.0**
COEG	**Centro de Oper**	**0.87**	**293**		*i* P	**Pb**	**06 20 48.6**	**-0.5**
COEG					*i* S	**Sg**	**06 21 00.4**	**0.0**
COEG					IAML		06 21 20.8	
	comp=Z,1μm,1.0s							
PAVA	**Las Pavas**	**0.95**	**297**		*i* P	**Pb**	**06 20 50.2**	**-0.4**
PAVA					*i* S	**Sg**	**06 21 04.0**	**+0.8**
PAVA					IAML		06 21 22.8	
	comp=Z,2μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.09**	**45**		*e*P	**Pb**	**06 20 52.4**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.09**	**45**		*i* P	**Pb**	**06 20 52.2**	**-0.8**
TGUH					*i* S	**Sb**	**06 21 07.5**	**+0.3**
TGUH					IAML		06 21 26.9	
	comp=Z,1μm,1.0s							
PANCS	**Alcalda de**	**1.14**	**287**		*i* P	**Pb**	**06 20 53.3**	**-0.4**
PANCS					*i* S	**Sb**	**06 21 08.6**	**+0.2**
PANCS					IAML		06 21 27.5	
	comp=Z,3μm,1.0s							
LOMA	**Loma Larga**	**1.14**	**289**		*i* P	**Pb**	**06 20 53.7**	**-0.1**
LOMA					*i* S	**Sg**	**06 21 09.0**	**-0.1**
LOMA					IAML		06 21 28.5	
	comp=Z,2μm,1.0s							
CRIN	**San Cristobal**	**1.14**	**120**		*e*P	**Pb**	**06 20 53.8**	**0.0**
CRIN	**San Cristobal**	**1.14**	**120**		*i* P	**Pn**	**06 20 54.0**	**+0.1**
CRIN					*i* S	**Sn**	**06 21 09.8**	**+0.4**
CRIN					IAML		06 21 35.5	
	comp=Z,3μm,1.0s							
UDBS	**Universidad Do**	**1.15**	**293**		*i* P	**Pb**	**06 20 53.9**	**0.0**
UDBS					*i* S	**Sb**	**06 21 09.0**	**+0.3**
UDBS					IAML		06 21 30.9	
	comp=Z,1μm,1.0s							
IGN	**Direccin Gen**	**1.16**	**292**		*i* P	**Pb**	**06 20 54.3**	**+0.2**
IGN					*i* S	**Sb**	**06 21 09.2**	**+0.1**
IGN					IAML		06 21 34.0	
	comp=Z,4μm,1.0s							
UTEC	**Universidad Te**	**1.19**	**291**		*i* P	**Pn**	**06 20 54.2**	**-0.3**
UTEC					*i* S	**Sb**	**06 21 10.0**	**+0.2**
UTEC					IAML		06 21 29.4	
	comp=Z,620nm,1.0s							
SNET	**Serv Nac Est T**	**1.21**	**290**		*i* P	**Pb**	**06 20 55.1**	**+0.2**
SNET					*i* S	**Sg**	**06 21 11.4**	**+0.2**
SNET					IAML		06 21 29.6	
	comp=Z,2μm,1.0s							
UEES	**Universidad Ev**	**1.23**	**291**		*i* P	**Pb**	**06 20 55.4**	**+0.2**
UEES					*i* S	**Sn**	**06 21 11.5**	**0.0**
UEES					IAML		06 21 33.5	
	comp=Z,530nm,1.0s							
LLGN	**La Laguna**	**1.23**	**316**		*i* P	**Pn**	**06 20 54.4**	**-0.7**
LLGN					*i* S	**Sb**	**06 21 11.2**	**+0.1**
LLGN					IAML		06 21 12.2	
	comp=Z,440nm,1.0s							
PMON	**Piamonte**	**1.29**	**290**		*e*P	**Pn**	**06 20 56.1**	**+0.1**
PMON					*e*S	**Sg**	**06 21 13.6**	**-0.3**
PMON	**Piamonte**	**1.29**	**290**		*i* P	**Pb**	**06 20 56.4**	**0.0**
PMON					*i* S	**Sn**	**06 21 13.4**	**+0.2**
PMON					IAML		06 21 37.3	
	comp=Z,1μm,1.0s							
TEL3	**Telica 3**	**1.38**	**120**		*i* P	**Pn**	**06 20 56.5**	**-0.6**
TEL3					IAML		06 21 37.5	
	comp=Z,1μm,1.0s							
JAYA	**Jayaque - finc**	**1.40**	**286**		*e*P	**Pn**	**06 20 57.9**	**+0.4**
JAYA					IAML		06 21 17.8	
	comp=Z,776nm,0.2s							
JAYA	**Jayaque - finc**	**1.40**	**286**		*i* P	**Pb**	**06 20 58.0**	**-0.2**
JAYA					*i* S	**Sb**	**06 21 16.6**	**+0.5**
JAYA					IAML		06 21 17.6	
	comp=Z,2μm,1.0s							
CNGA	**AI SSO del Vol**	**1.54**	**120**		*i* P	**Pn**	**06 20 59.2**	**-0.1**
CNGA					*i* S	**Sn**	**06 21 19.4**	**+0.3**
CNGA					IAML		06 21 39.9	
	comp=Z,480nm,1.0s							
CNGN	**Cerro Negro**	**1.54**	**120**		*i* P	**Pn**	**06 20 59.2**	**-0.1**
CNGN					*i* S	**Sb**	**06 21 19.6**	**-0.3**
CNGN					IAML		06 21 41.2	
	comp=Z,470nm,1.0s							
UNIC	**Universidad Ca**	**1.61**	**296**		*i* P	**Pn**	**06 21 00.6**	**+0.4**
UNIC					*i* S	**Sn**	**06 21 20.8**	**0.0**
UNIC					IAML		06 21 41.8	
	comp=Z,180nm,1.0s							
MTO3	**Montecristo**	**1.68**	**312**		*i* P	**Pn**	**06 21 01.8**	**+0.3**
MTO3					IAML		06 21 19.7	
	comp=Z,190nm,1.0s							
MTO3					*i* S	**Sn**	**06 21 22.7**	**-0.3**
MOMN	**Momotombo**	**1.72**	**120**		*i* P	**Pn**	**06 21 02.5**	**+0.7**
MOMN					*i* S	**Sn**	**06 21 24.2**	**+0.6**
MOMN					IAML		06 21 43.6	
	comp=Z,9.7nm,1.0s							
MOM2	**El Cardon**	**1.75**	**118**		*i* P	**Pn**	**06 21 02.9**	**+0.7**
MOM2					*i* S	**Sb**	**06 21 25.2**	**-0.8**
MOM2					IAML		06 21 47.5	
	comp=Z,340nm,1.0s							
NUBE	**Las Nubes**	**1.78**	**291**		*i* P	**Pn**	**06 21 03.3**	**+0.6**
NUBE					*i* S	**Sn**	**06 21 25.5**	**+0.2**
NUBE					IAML		06 21 49.5	
	comp=Z,360nm,1.0s							
COPN	**Copaltepe**	**1.80**	**127**		*i* P	**Pn**	**06 21 02.5**	**-0.4**
COPN					IAML		06 21 58.8	
	comp=Z,160nm,1.0s							

NEIC ***07*** *06:24:11.6±0.7, 19°.36N±0°.02×155°.03W±0°.03, h5km±1km, Error ellipse: s-maj=5.0km s-min=3.0km az=295.0*

HVO 07 06:24:10.9±0.9, 19°.38N±0°.02×154°.99W±0°.02, h5km±4km, ML2.6/11, ML2.8/28(NEIC), Error ellipse: s-maj=3.5km s-min=1.6km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.11**	**273**		Pg	06 24 14.2	+1.0
JCUZ				IAML		06 24 15.9	
	comp=N,4μm,0.5s						
JCUZ				IAML		06 24 17.2	
	comp=E,4μm,0.2s						
NPOC	**North of Pu'u**	**0.12**	**277**		Pg	06 24 14.4	+1.1
NPOC				IAML		06 24 16.4	
	comp=E,4μm,0.4s						
STCH	**Steam Cracks**	**0.13**	**273**		Pg	06 24 14.3	+0.7
PHO	**Puu Honuaula**	**0.14**	**42**		Pg	06 24 13.5	-0.2

KNHH	**Kane Nui o Ham**	**0.17**	**270**			Pg	06 24 14.7	+0.3
PUH	**Pauahi**	**0.21**	**269**			Pg	06 24 15.3	+0.1
PUH					IAML		06 24 17.6	
	comp=E,2μm,0.6s							
BYL	**Byron's Ledge**	**0.26**	**278**	Pg	Pg	Pg	06 24 16.1	+0.1
BYL					IAML		06 24 18.9	
	comp=N,2μm,0.7s							
BYL					IAML		06 24 21.1	
	comp=E,1μm,0.3s							
HATHI	**Halema'uma'u T**	**0.26**	**280**			Pg	06 24 15.8	-0.3
HATHI					IAML		06 24 23.7	
	comp=E,2μm,0.7s							
HATHI					IAML		06 24 24.1	
	comp=N,1μm,0.7s							
KKO	**Keanakako`i**	**0.26**	**274**	Pg	Pg	Pg	06 24 15.8	-0.3
KKO					IAML		06 24 20.2	
	comp=E,1μm,0.5s							
KKO					IAML		06 24 21.5	
	comp=N,2μm,0.4s							
RSD	**Rainshed**	**0.29**	**287**	Pg	Pg	Pg	06 24 16.2	-0.3
HLP	**Hilina Pali**	**0.31**	**255**	Pg	Pg	Pg	06 24 17.5	+0.5
HLP					IAML		06 24 23.0	
	comp=N,1μm,0.1s							
HLP					IAML		06 24 27.1	
	comp=E,874nm,0.4s							
MLH	**Mauna Loa**	**0.39**	**287**	Pg	Pg	Pg	06 24 18.6	0.0
MLH					IAML		06 24 24.7	
	comp=N,974nm,0.2s							
HTC	**Hot Caves**	**0.41**	**250**			Pg	06 24 19.3	+0.4
HMH	**Humu'ula Sheep**	**0.52**	**296**	Pg		Pg	06 24 21.1	+0.2
MWH	**Moku'aweowe**	**0.58**	**281**			Pg	06 24 21.8	-0.5
KHU	**Kahuku**	**0.61**	**258**			Pg	06 24 22.4	-0.3
KHU					IAML		06 24 38.9	
	comp=E,413nm,1.4s							
POHA	**Pohakuloa**	**0.64**	**306**			Pg	06 24 22.7	-0.6
ALEP	**Alea Permanent**	**0.64**	**285**			Pg	06 24 22.5	-0.8

IDC ***07*** *06:28:14.8±5.1, 16°.39N×101°.69W, h0km, mb3.8/4, mbtmp3.6/6, ML3.2/2, MS3.0/6, Error ellipse: s-maj=103.3km s-min=29.9km az=17.0*
MEX ***07*** *06:28:22.2±0.9, 17°.23N×101°.52W, h10km, MD4.5*

ISC 07 06:28:19.4±1.4, 17°.17N±0°.03×101°.46W±0°.02, h9km±9km, n88, σ2°.26/147, mb3.7/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET2	**Petatlan**	**0.41**	**27**	*i* P	**Pg**	**06 28 28.4**	**+0.9**
PET2				*i* S	**Sg**	**06 28 33.4**	**+0.4**
ZIIG	**Zihuatanejo**	**0.44**	**359**	*e*P	**Pb**	**06 28 29.3**	**-0.1**
ZIIG				*e*S	**Sb**	**06 28 34.8**	**-1.2**
UON	**La Union**	**0.87**	**337**	*i* P	**Pb**	**06 28 37.2**	**+0.5**
UON				*i* S	**Sg**	**06 28 48.4**	**+0.8**
ATYC	**Atoyac**	**0.98**	**87**	*i* P	**Pb**	**06 28 38.7**	**+0.1**
ATYC				*i* S	**Sb**	**06 28 51.3**	**-0.3**
CAIG	**El Cayaco**	**1.14**	**96**	*e*P	**Pn**	**06 28 40.5**	**-1.1**
CAIG				*e*S	**Sn**	**06 28 57.1**	**-0.3**
ACP2	**Acapulco**	**1.53**	**101**	*e*P	**Pb**	**06 28 48.4**	**+0.5**
ACP2				*e*S	**Sg**	**06 29 08.8**	**+0.2**
ARIG	**Puente Sto Nin**	**1.53**	**43**	*e*P	**Pn**	**06 28 46.6**	**-0.4**
DAIG	**Los Arroyos**	**1.73**	**94**	*e*P	**Pb**	**06 28 51.0**	**-0.5**
DAIG				*e*S	**Sn**	**06 29 09.3**	**-2.7**
MEIG	**Mezcala**	**1.91**	**66**	*e*P	**Pn**	**06 28 52.5**	**+0.3**
MEIG				*e*S	**Sb**	**06 29 17.4**	**-1.1**
MMIG	**Aquila**	**2.12**	**302**	*e*P	**Pn**	**06 28 54.8**	**-0.3**
MMIG				*i* S	**Sn**	**06 29 19.6**	**-1.9**
TEJU	**Tejupilco**	**2.12**	**35**	*i* P	**Pb**	**06 28 57.4**	**-0.8**
TEJU				*e*S	**Sb**	**06 29 23.7**	**-1.0**
PLIG	**Platanillo**	**2.23**	**56**	*e*P	**Pn**	**06 28 56.8**	**+0.2**
PLIG				*e*S	**Sg**	**06 29 28.6**	**-2.4**
CRIG	**Cruz Grande**	**2.27**	**101**	*e*P	**Pn**	**06 28 56.9**	**-0.2**
CRIG				*e*S	**Sb**	**06 29 28.3**	**-0.4**
MOIG	**Morelia**	**2.51**	**6**	*e*P	**Pb**	**06 29 03.2**	**-1.6**
MAVM	**Malinalco, Edo**	**2.58**	**46**	*e*P	**Pb**	**06 29 05.0**	**-1.0**
MAVM				*e*S	**Sn**	**06 29 31.3**	**-2.0**
MGIG	**Malinaltepec**	**2.70**	**88**	*e*P	**Pn**	**06 29 02.6**	**-0.6**
MGIG				*e*S	**Sn**	**06 29 33.8**	**-2.3**
TLIG	**Tlapa**	**2.79**	**81**	*e*P	**Pn**	**06 29 05.0**	**+0.6**
TLIG				*e*S	**Sb**	**06 29 45.8**	**+1.9**
YAIG	**Yautepec**	**2.83**	**53**	*e*P	**Pn**	**06 29 04.8**	**-0.2**
YAIG				*e*S	**Sn**	**06 29 39.3**	**0.0**
HMTT	**Tlapaneco**	**2.83**	**77**	*i* P	**Pb**	**06 29 09.4**	**-0.9**
HMTT				*e*S	**Sb**	**06 29 47.2**	**+2.1**
INVM	**La Marquesa**	**2.89**	**43**	*e*P	**Pb**	**06 29 09.9**	**-1.5**
AOVM	**Tlapan**	**2.91**	**44**	*e*P	**Pb**	**06 29 10.4**	**-1.5**
AOVM				*e*S	**Sn**	**06 29 41.1**	**-0.7**
COIG	**Colima**	**2.92**	**314**	*e*P	**Pn**	**06 29 07.1**	**+0.9**
COIG				*e*S	**Sn**	**06 29 40.5**	**-0.9**
MZVM		**2.92**	**46**	*e*P	**Pb**	**06 29 10.3**	**-1.4**
MZVM				*i* S	**Sn**	**06 29 40.0**	**-1.3**
ACAM	**Acambaro**	**2.95**	**14**	*i* P	**Pn**	**06 29 04.2**	**-2.4**
ACAM				*i* S	**Sn**	**06 29 42.1**	**-0.2**
TLVM	**San Miguel Top**	**2.99**	**47**	*e*P	**Pn**	**06 29 07.8**	**+0.5**
TLVM				*e*S	**Sn**	**06 29 42.6**	**-0.9**
TLVM				*e*S	**Sb**	**06 29 43.3**	**-6.6**
CDAR	**Ciudad de Arme**	**3.00**	**306**	*e*P	**Pn**	**06 29 07.3**	**0.0**

PEIG				eS		Sn	06 30 17.5	+2.2	
OZST	**Orizaba**	**4.48**	**67**	*i* P		**Pb**	**06 29 35.4**	**-3.0**	
OZST				eS		Sn	06 30 23.3	+3.2	
VHO	**Vista Hermosa**	**4.52**	**90**	*e*P		**Pn**	**06 29 28.7**	**+0.5**	
VHO				eS		Sn	06 30 18.7	-2.3	
OXBJ	**Oaxaca**	**4.53**	**91**	*i* S		Sn	06 30 16.3	-5.0	
ESTA	**Talpa de Allen**	**4.54**	**316**	*e*P		**Pn**	**06 29 30.2**	**+1.7**	
ESTA				eS		Sn	06 30 20.1	-1.5	
OXLC	**Oaxaca**	**4.55**	**91**	*i* S		Sn	06 30 18.9	-2.9	
ANIG	**Ahuacatlan**	**4.83**	**324**	*e*P		**Pn**	**06 29 31.8**	**-0.7**	
ANIG				eS		Sn	06 30 25.9	-2.8	
RPIG	**Rio Verde**	**4.90**	**16**	*e*P		**Pb**	**06 29 42.5**	**-3.0**	
RPIG				eS		Sn	06 30 30.1	-0.2	
JAUV	**Jalcomulco**	**4.93**	**63**	*e*P		**Pn**	**06 29 35.5**	**+1.7**	
JAUV				eS		Sn	06 30 28.2	-2.9	
CTUV	**Llano Grande**	**5.19**	**34**	*e*P		Pn	06 29 42.5	+5.2	
CTUV				eS		Sn	06 30 37.3	0.0	
HUIG	**Huatulco**	**5.32**	**104**	*i* P		**Pn**	**06 29 36.0**	**-3.1**	
HUIG				*i* S		Sn	06 30 42.2	+1.7	
LVIG	**Laguna Verde**	**5.42**	**61**	*i* P		**Pn**	**06 29 43.2**	**+2.8**	
LVIG				eS		Sn	06 30 45.0	+2.0	
NEUV	**Arroyo Zacate**	**5.42**	**83**	*e*P		**Pn**	**06 29 40.4**	**-0.1**	
ZAIG	**Zacatecas**	**5.67**	**350**	*i* P		**Pn**	**06 29 47.5**	**+3.3**	
ZAIG				*i* S		Sn	06 30 45.9	-3.8	
PMUV	**Sontecomapan**	**6.19**	**76**	eS		Sn	06 31 10.3	+8.3	
GTIG	**Gomez Farias**	**6.25**	**20**	*e*P		**Pn**	**06 29 51.5**	**-0.5**	
GTIG				eS		Sn	06 31 03.6	0.0	
CMIG	**Matias Romero**	**6.29**	**90**	Pn		**Pn**	**06 29 53.5**	**+1.1**	
	0.5nm,0.3s,baz=292,slow=9.9,SNR=6.5								
CMIG				Sn		Sn	06 31 09.9	+5.5	
	1.3nm,0.3s,baz=292,slow=12,SNR=4.0								
CMIG				Lg		Lg	06 31 36.2		
	3.4nm,0.3s,baz=19,slow=21,SNR=11 2.1nm,0.5s								
CMIG	**Matias Romero**	**6.29**	**90**	*e*P		**Pn**	**06 29 53.7**	**+1.3**	
CMIG				eS		Sn	06 31 00.2	-4.1	
UXUV	**UXUV**	**6.99**	**88**	*e*P		**Pn**	**06 30 02.9**	**+0.9**	
UXUV				eS		Sn	06 31 17.1	-4.6	
LNIG	**Linares**	**7.92**	**13**	*e*P		Pn	06 30 21.5	+6.8	
LNIG				eS		Sn	06 31 44.9	+0.4	
LPIG	**La Paz**	**10.78**	**311**	LR		LR	06 34 29.5		
	comp=Z,58nm,20.7s,baz=110,slow=34								
APG	**El Apazote**	**10.78**	**100**	Lg		Lg	06 33 53.6		
	baz=191,slow=14,SNR=2.2								
APG				LR		LR	06 34 45.0		
	comp=Z,9.0nm,21.5s,baz=286,slow=36								
TXAR	**Lajitas Array**	**12.28**	**351**	Pn			06 31 24.3		
	baz=178,slow=14,SNR=3.2								
TXAR				Lg		Lg	06 34 55.0		
	baz=169,slow=33,SNR=8.1								
TXAR				LR		LR	06 37 07.7		
	comp=Z,22nm,21.7s,baz=169,slow=41 0.3nm,0.8s								
TEIG	**Tepich**	**12.85**	**74**	LR		LR	06 36 59.2		
	comp=Z,605nm,20.9s,slow=39								
ANMO	**Albuquerque**	**18.26**	**347**	LR		LR	06 40 17.1		
	comp=Z,156nm,18.8s,baz=254,slow=38								
NVAR	**Mina Array Bea**	**25.82**	**328**	P		**P**	**06 33 53.9**	**+2.6**	
	2.6nm,0.8s,baz=148,slow=9.7,SNR=18 2.6nm,0.8s								
PDAR	**Pinedale Array**	**26.44**	**347**	P		**P**	**06 34 00.3**	**+3.4**	
	1.4nm,0.9s,baz=157,slow=9.6,SNR=9.1								
PDAR				LR		LR	06 46 05.3		
	comp=Z,38nm,19.1s,baz=168,slow=39 1.4nm,0.9s								
YKA	**Yellowknife Ar**	**46.21**	**352**	P		**P**	**06 36 45.3**	**+0.8**	
	0.9nm,0.8s,baz=158,slow=6.8,SNR=13 0.9nm,0.8s								
ILAR	**Eielson Array**	**56.46**	**339**	P		**P**	**06 38 03.1**	**+1.7**	
	0.4nm,0.9s,baz=152,slow=8.6,SNR=4.2 0.4nm,0.9s								

*NEIC **07** 06:28:35.6±0.7, 19°.30N±0°.01×155°.25W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.3km az=101.0*

HVO 07 06:28:35.4±0.5, **19°.31N**±0°.01×**155°.248W**±0°.007, **h6**km±3km, **ML2.6**/23, **ML2.7**/44(NEIC), **Error ellipse: s-maj=1.6km s-min=0.9km az=166.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.06**	**259**		Pg	06 28 37.4	+0.4
HLP				Sg	Sg	06 28 39.1	+1.1
HLP				IAML		06 28 39.5	
	comp=E,7μm,0.3s						
PUH	**Pauahi**	**0.07**	**25**		Pg	06 28 37.4	+0.2
PUH				Sg	Sg	06 28 39.1	+0.6
PUH				IAML		06 28 39.3	
	comp=E,4μm,0.5s						
PUH				IAML		06 28 39.3	
	comp=N,3μm,0.2s						
RIM	**Rim**	**0.09**	**345**		Pg	06 28 37.7	+0.2
RIM				Sg	Sg	06 28 39.7	+0.7
RIM				IAML		06 28 40.2	
	comp=E,4μm,0.4s						
KKO	**Keanakako`i**	**0.09**	**349**		Pg	06 28 37.9	+0.4
KKO				Sg	Sg	06 28 40.0	+1.0
KKO				IAML		06 28 40.6	
	comp=E,4μm,0.4s						
SDHHI	**Sand Hill**	**0.09**	**332**		Pg	06 28 37.8	+0.2
KNHH	**Kane Nui o Ham**	**0.10**	**46**		Pg	06 28 37.8	+0.2
BYL	**Byron's Ledge**	**0.10**	**354**		Pg	06 28 37.9	+0.2
BYL				IAML		06 28 40.4	
	comp=N,4μm,0.6s						
BYL				IAML		06 28 41.6	
	comp=E,3μm,0.4s						
NPH	**North Pit**	**0.11**	**343**	Pg	Pg	06 28 37.9	+0.2
WRMHI	**West Rim**	**0.11**	**334**		Pg	06 28 38.0	+0.2
WRMHI				IAML		06 28 40.6	
	comp=N,4μm,0.7s						
WRMHI				IAML		06 28 40.6	
	comp=E,3μm,0.5s						
OBL	**Observatory Le**	**0.12**	**343**	Pg	Pg	06 28 37.8	-0.1
HATHI	**Halema'uma'u T**	**0.12**	**354**		Pg	06 28 38.1	+0.2
HATHI				IAML		06 28 40.6	
	comp=N,2μm,0.9s						
HATHI				IAML		06 28 40.8	
	comp=E,3μm,0.5s						
UWB	**Uwekahuna B**	**0.12**	**347**		Pg	06 28 38.2	+0.3
SBLHI	**Steaming Bluff**	**0.12**	**351**		Pg	06 28 38.0	+0.1
SBLHI				Sg	Sg	06 28 40.5	+0.8
SBLHI				IAML		06 28 40.8	
	comp=E,2μm,0.6s						
SBLHI				IAML		06 28 42.1	
	comp=N,2μm,0.4s						
UWE	**Uwekahuna**	**0.12**	**340**		Pg	06 28 38.2	+0.2
UWE				Sg	Sg	06 28 40.9	+1.1
UWE				IAML		06 28 41.2	
	comp=N,2μm,0.4s						
STCH	**Steam Cracks**	**0.14**	**56**		Pg	06 28 38.3	+0.1
NPOC	**North of Pu'u**	**0.16**	**57**		Pg	06 28 38.6	+0.1
NPOC				Sg	Sg	06 28 41.4	+0.7
HTC	**Hot Caves**	**0.16**	**244**		Pg	06 28 39.0	+0.5
RSD	**Rainshed**	**0.16**	**350**	Pg	Pg	06 28 38.6	0.0
RSD				IAML		06 28 41.8	
	comp=N,1μm,0.7s						
JCUZ	**Jacuzzi**	**0.16**	**61**	Pg	Pg	06 28 38.8	+0.2
JCUZ				Sg	Sg	06 28 41.7	+0.9
MLH	**Mauna Loa**	**0.23**	**325**		Pg	06 28 40.1	+0.2
MLH				Sg	Sg	06 28 44.9	+1.9
MLH				IAML		06 28 45.6	
	comp=E,1μm,0.1s						
MLH				IAML		06 28 45.7	
	comp=N,2μm,0.2s						
JOKA	**Jonika Flow**	**0.26**	**61**		Pg	06 28 39.1	-1.4
KHU	**Kahuku**	**0.35**	**260**		Pg	06 28 42.3	0.0
KHU					Sg	06 28 48.0	+1.0
KHU				IAML		06 28 48.1	
	comp=N,1μm,0.4s						
KHU				IAML		06 28 48.3	
	comp=E,1μm,0.4s						
HMH	**Humu'ula Sheep**	**0.37**	**323**		Pg	06 28 42.4	-0.2
HMH				Sg	Sg	06 28 48.9	+1.4
MWH	**Moku'aweowe**	**0.37**	**298**		Pg	06 28 42.7	-0.1
MWH				Sg	Sg	06 28 49.4	+1.6
MWH				IAML		06 28 50.1	
	comp=N,806nm,0.2s						
POHA	**Pohakuloa**	**0.52**	**329**		Pg	06 28 44.9	-0.6
POHA					Sg	06 28 52.5	+0.2
POHA				IAML		06 28 53.3	
	comp=N,552nm,0.3s						
POHA				IAML		06 28 53.4	
	comp=N,540nm,0.5s						
CPH	**Captain Cook**	**0.66**	**286**		Pg	06 28 47.0	-1.0
HUH	**Hualalai**	**0.67**	**304**		Pg	06 28 47.3	-0.9

CATAC 07 06:38:19.6±2.0, **13°.46N×85°.83W, h1**km, **ML3.9, Nicaragua**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R4DEC	**Barrio San Lui**	**1.37**	**197**	*i* P	Pn	06 38 42.8	-3.1
R4DEC				IAML		06 40 07.7	
	comp=Z,220nm,1.0s						
CNCH	**Conchagua**	**1.96**	**265**	*i* P	Pg	06 38 57.9	+0.8
CNCH				*i* S	Pg	06 39 01.8	+4.7
CNCH				IAML		06 39 04.1	
	comp=Z,970nm,1.0s						
LCND	**La Caada**	**2.01**	**266**	*i* P	Pb	06 38 56.9	0.0
LCND				*i* S	Pg	06 39 00.0	+1.9
LCND				IAML		06 39 01.5	
	comp=Z,710nm,1.0s						
CNRM	**Centro Naciona**	**2.27**	**271**	*i* P	Pn	06 38 57.9	-0.4
CNRM				*i* S	Pg	06 39 02.0	-1.2
CNRM				IAML		06 40 46.2	
	comp=Z,2μm,1.0s						
JUCU	**Jucuarįn**	**2.36**	**265**	*i* P	Pn	06 38 56.7	-2.9
JUCU				*i* S	Pn	06 38 59.1	-0.5
JUCU				IAML		06 39 03.4	
	comp=Z,260nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.82**	**275**	*i* P	Pn	06 39 07.9	+1.9
SCLA				IAML		06 40 29.3	
	comp=Z,210nm,1.0s						
PMON	**Piamonte**	**3.39**	**275**	*i* P	Pn	06 39 08.4	-5.4
PMON				IAML		06 40 24.4	
	comp=Z,2μm,1.0s						

*SNET **07** 06:39:22.3±7.1, 12°.49N×90°.16W, h91km±318km*
*CATAC **07** 06:39:29.5±0.4, 12°.94N×90°.05W, h24km, MB5.9, mb4.2, ML3.6*
*IDC **07** 06:39:30.4±3.4, 13°.56N×89°.74W, h35km±22km, mb3.5/5, mbtmp3.7/7, ML3.3/2, MS3.1/1, Error ellipse: s-maj=52.4km s-min=24.6km az=39.0*

ISC 07 06:39:29.0±1.6, **12°.94N**±0°.07×**90°.16W**±0°.09, **h64**km±14km, **n57**, σ1°.04/82, **mb3.9**/4, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**0.99**	**44**	*e*P	**Pn**	**06 39 46.8**	**-0.5**
JAYA				eS	Sn	06 40 04.7	+3.9
NUBE	**Las Nubes**	**1.02**	**21**	*e*P	**Pn**	**06 39 46.4**	**-1.3**
NUBE	**Las Nubes**	**1.02**	**21**	*i* P	**Pn**	**06 39 47.0**	**-0.7**
NUBE				*i* S	**Sn**	**06 40 01.5**	**0.0**
NUBE				IAML		06 40 06.6	
	comp=Z,920nm,1.0s						
CEVE	**Cerro Verde**	**1.02**	**31**	*e*P	**Pn**	**06 39 47.4**	**-0.4**
CEVE	**Cerro Verde**	**1.02**	**31**	*i* P	**Pn**	**06 39 47.5**	**-0.3**
CEVE				*i* S	**Sn**	**06 40 00.8**	**-0.9**
CEVE				IAML		06 40 10.5	
	comp=Z,2μm,1.0s						
SNJE	**San Jose**	**1.07**	**31**	*e*P	**Pn**	**06 39 47.6**	**-0.7**
SNJE				eS	Sn	06 40 05.1	+2.5
LOAL	**Lomas de Alarc**	**1.11**	**20**	*i* P	**Pn**	**06 39 48.8**	**-0.3**
LOAL				*i* S	**Sn**	**06 40 04.2**	**+0.8**
LOAL				IAML		06 40 14.0	
	comp=Z,3μm,1.0s						
PMON	**Piamonte**	**1.13**	**47**	*e*P	**Pn**	**06 39 48.9**	**0.0**
ITCA	**Escuela Especi**	**1.13**	**50**	*i* P	**Pn**	**06 39 48.7**	**-0.3**
ITCA				*i* S	**Sn**	**06 40 03.4**	**-0.4**
ITCA				IAML		06 40 15.3	
	comp=Z,3μm,1.0s						
MAGS	**Ministerio de**	**1.13**	**49**	*e*P	**Pn**	**06 39 48.6**	**-0.4**
CEDA	**San Andres**	**1.14**	**41**	*e*P	**Pn**	**06 39 48.8**	**-0.2**
SLOZ	**Alcaldia de Sa**	**1.14**	**19**	*e*P	**Pn**	**06 39 48.1**	**-0.9**
PANCS	**Alcalda de**	**1.17**	**55**	*i* P	**Pn**	**06 39 48.8**	**-0.6**
PANCS				*i* S	**Sn**	**06 40 04.4**	**-0.3**
PANCS				IAML		06 40 20.5	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.17**	**51**	*i* P	**Pn**	**06 39 49.7**	**+0.2**
SNET				IAML		06 39 56.2	
	comp=Z,1μm,1.0s						
SNET				*i* S	**Sn**	**06 40 04.3**	**-0.5**
UEES	**Universidad Ev**	**1.18**	**49**	*i* P	**Pn**	**06 39 49.6**	**-0.1**
UEES				*i* S	**Sn**	**06 40 04.2**	**-0.9**
UEES				IAML		06 40 19.4	
	comp=Z,720nm,1.0s						
PIC2	**El Picacho**	**1.19**	**48**	*e*P	Pn	06 39 52.6	+2.7
LOMA	**Loma Larga**	**1.19**	**54**	*e*P	**Pn**	**06 39 49.5**	**-0.4**
LOMA	**Loma Larga**	**1.19**	**54**	*i* P	**Pn**	**06 39 49.8**	**-0.1**
LOMA				*i* S	**Sn**	**06 40 03.6**	**-1.8**
LOMA				IAML		06 40 18.7	
	comp=Z,700nm,1.0s						
UNIC	**Universidad Ca**	**1.19**	**30**	*i* P	**Pn**	**06 39 49.4**	**-0.4**
UNIC				IAML		06 39 59.7	
	comp=Z,340nm,1.0s						
UNIC				*i* S	**Sn**	**06 40 04.4**	**-0.9**
QUEZ	**Alcaldia de Qu**	**1.24**	**44**	*i* P	**Pn**	**06 39 50.9**	**+0.5**
QUEZ				*i* S	**Sn**	**06 40 05.2**	**-1.2**
QUEZ				IAML		06 40 24.4	
	comp=Z,3μm,1.0s						
UDBS	**Universidad Do**	**1.25**	**52**	*i* P	**Pn**	**06 39 50.8**	**+0.3**
UDBS				*i* S	**Sn**	**06 40 05.4**	**-1.2**
UDBS				IAML		06 40 16.1	
	comp=Z,780nm,1.0s						
PAVA	**Las Pavas**	**1.42**	**57**	*e*P	**Pn**	**06 39 53.6**	**+0.8**
PAVA	**Las Pavas**	**1.42**	**57**	*i* P	**Pn**	**06 39 53.1**	**+0.3**
PAVA				*i* S	**Sn**	**06 40 09.2**	**-1.5**
PAVA				IAML		06 40 22.9	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**1.42**	**62**	*e*P	**Pn**	**06 39 52.8**	**0.0**
COEG				eS	**Sn**	**06 40 14.9**	**+4.2**
COEG	**Centro de Oper**	**1.42**	**62**	*i* P	**Pn**	**06 39 53.1**	**+0.3**
COEG				IAML		06 39 53.7	
	comp=Z,580nm,1.0s						
COEG				*i* S	**Sn**	**06 40 10.4**	**-0.3**
JUAM	**Asuncion Mita**	**1.45**	**18**	*i* P	**Pn**	**06 39 53.8**	**+0.5**
JUAM				*i* S	**Sn**	**06 40 11.9**	**+0.4**
JUAM				IAML		06 40 19.2	
	comp=Z,670nm,1.0s						
TECO	**Alcaldia de Te**	**1.47**	**66**	*e*P	**Pn**	**06 39 52.9**	**-0.5**
TECO	**Alcaldia de Te**	**1.47**	**66**	*i* P	**Pn**	**06 39 53.2**	**-0.2**
TECO				*i* S	**Sn**	**06 40 11.2**	**-0.6**
TECO				IAML		06 40 23.1	
	comp=Z,260nm,1.0s						
UESV	**Universidad de**	**1.51**	**63**	*i* P	**Pn**	**06 39 54.3**	**+0.4**
UESV				*i* S	**Sn**	**06 40 12.3**	**-0.4**
UESV				IAML		06 40 27.2	
	comp=Z,580nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.59**	**61**	*e*P	**Pn**	**06 39 55.6**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.59**	**61**	*i* P	**Pn**	**06 39 55.7**	**+0.6**
SCLA				*i* S	**Sn**	**06 40 14.0**	**-0.7**
MTO3	**Montecristo**	**1.64**	**28**	*e*P	**Pn**	**06 39 56.0**	**0.0**
MTO3	**Montecristo**	**1.64**	**28**	*i* P	**Pn**	**06 39 56.0**	**0.0**
MTO3				*i* S	**Sn**	**06 40 16.5**	**+0.2**
MTO3				IAML		06 40 25.9	
	comp=Z,350nm,1.0s						
COEB	**Comit de Eme**	**1.68**	**71**	*e*P	**Pn**	**06 39 56.4**	**-0.1**
COEB	**Comit de Eme**	**1.68**	**71**	*i* P	**Pn**	**06 39 56.3**	**-0.1**
COEB				*i* S	**Sn**	**06 40 17.2**	**+0.1**
COEB				IAML		06 40 29.3	
	comp=Z,200nm,1.0s						
LLGN	**La Laguna**	**1.69**	**44**	*i* P	**Pn**	**06 39 56.8**	**+0.2**
LLGN				*i* S	**Sn**	**06 40 17.7**	**+0.3**
LLGN				IAML		06 40 29.9	
	comp=Z,310nm,1.0s						
PQSS	**Presa 15 de Se**	**1.70**	**66**	*i* P	**Pn**	**06 39 57.0**	**+0.5**
PQSS				*i* S	**Sn**	**06 40 17.3**	**0.0**
PQSS				IAML		06 40 39.0	
	comp=Z,160nm,1.0s						
JUCU	**Jucuarįn**	**1.89**	**80**	*e*P	Pn	06 39 51.3	-7.9
APG	**El Apazote**	**2.07**	**352**	Pg	**Pn**	**06 40 00.8**	**-1.0**
	comp=Z,1.3nm,0.3s,baz=155,slow=11,SNR=59						
APG				Lg	Lg	06 40 28.6	
	comp=Z,1.0nm,0.3s,baz=228,slow=20,SNR=7.4						
LCND	**La Caada**	**2.24**	**80**	*i* P	Pn	06 39 51.2	-13
CRIN	**San Cristobal**	**3.05**	**94**	*i* P	**Pn**	**06 40 15.2**	**+0.3**
CRIN				*i* S	**Sn**	**06 40 49.8**	**-0.5**
CRIN				IAML		06 40 58.7	
	comp=Z,380nm,1.0s						
PACN	**Al O del Volca**	**3.32**	**97**	*i* P	**Pn**	**06 40 18.7**	**+0.1**
COPN	**Copaltepe**	**3.57**	**102**	*i* P	**Pn**	**06 40 22.4**	**+0.4**
COPN				IAML		06 41 07.7	
	comp=Z,74nm,1.0s						
HZTE	**Horizontes, Gu**	**4.99**	**116**	*i* P	**Pn**	**06 40 42.5**	**+1.0**
HZTE				IAML		06 40 46.7	
	comp=Z,100nm,1.0s						
HZTE				*i* S	**Sn**	**06 41 39.0**	**+1.1**
SAJU	**San Juanillo,**	**5.22**	**123**	*i* P	**Pn**	**06 40 44.3**	**-0.2**
SAJU				*i* S	**Sn**	**06 41 42.5**	**-0.9**
SAJU				IAML		06 42 38.0	
	comp=Z,46nm,1.0s						
ORTG	**Ortega, Santa**	**5.27**	**119**	*i* P	**Pn**	**06 40 45.9**	**+0.5**
ORTG				IAmb	IAmb	06 40 49.8	
	comp=Z,25nm,0.7s						
ORTG				IAML		06 41 02.3	
	comp=Z,31nm,1.0s						
ORTG				*i* S	**Sn**	**06 41 44.7**	**-0.3**
JTS	**Las Juntas de**	**5.75**	**117**	Pn	**Pn**	**06 40 53.0**	**+1.2**
	comp=Z,2.4nm,0.3s,baz=306,slow=13,SNR=18 comp=Z,4.8nm,0.3s						
CMIG	**Matias Romero**	**6.15**	**313**	Pn	**Pn**	**06 40 57.7**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=124,slow=3.6,SNR=1.8						
CMIG				Sn	Sn	06 42 19.4	+13
	comp=Z,0.5nm,0.3s,baz=126,slow=23,SNR=1.9 comp=Z,2.0nm,0.7s						
OCM	**Ochomogo**	**6.79**	**116**	*i* P	**Pn**	**06 41 06.1**	**-0.2**
OCM				IAML		06 41 44.9	
	comp=Z,170nm,1.0s						
OCM				IVmB_BB		06 41 44.9	
	comp=Z,10μm,1.0s						
RIMA	**Rio Macho**	**6.94**	**116**	*i* P	**Pn**	**06 41 09.3**	**+1.0**
RIMA				IAML		06 41 14.3	
	comp=Z,25nm,1.0s						
RIMA				IAmb	IAmb	06 41 15.5	
	comp=Z,11nm,0.8s						
RIMA				*i* S	**Sn**	**06 42 25.6**	**-0.4**
CDM	**Cerro de Muert**	**7.12**	**118**	*i* P	**Pn**	**06 41 11.5**	**+0.4**
CDM				IAML		06 41 11.8	
	comp=Z,29nm,1.0s						
CDM				IAmb	IAmb	06 41 17.1	
	comp=Z,11nm,0.4s						
CDM				*i* S	**Sn**	**06 42 28.4**	**-2.5**
TXAR	**Lajitas Array**	**20.57**	**325**	P	Pn	06 44 04.3	-1.3
	comp=Z,0.5nm,0.6s,baz=153,slow=13,SNR=11 comp=Z,0.5nm,0.6s						
TKL	**Tuckaleechee C**	**23.34**	**13**	LR	LR	06 54 48.8	
	comp=Z,39nm,18.1s,baz=196,slow=40						
NVAR	**Mina Array Bea**	**35.61**	**320**	P	**P**	**06 46 23.6**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=131,slow=8.7,SNR=6.9 comp=Z,0.9nm,0.7s						
ULM	**Lac du Bonnet**	**37.49**	**354**	P	**P**	**06 46 35.3**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=155,slow=8.6,SNR=3.5 comp=Z,1.3nm,0.6s						
SCHQ	**Schefferville**	**45.62**	**19**	P	**P**	**06 47 41.8**	**-1.1**
	comp=Z,1.7nm,0.5s,baz=230,slow=8.7,SNR=9.7 comp=Z,1.7nm,0.5s						
YKA	**Yellowknife Ar**	**52.47**	**346**	P	**P**	**06 48 34.9**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=140,slow=7.4,SNR=9.2 comp=Z,0.4nm,0.8s						

CATAC 07 06:50:37.1±0.3, **13°.26N×88°.04W, h2**km±1km, **ML2.8, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.15**	**71**	*i* P	Pg	06 50 37.3	-2.7
LCND				*i* S	Sg	06 50 41.9	-0.1
LCND				*i* P		06 50 42.0	
LCND				IAML		06 50 46.8	
	comp=Z,780nm,1.0s						
CNCH	**Conchagua**	**0.20**	**85**	*i* P	Pg	06 50 41.2	+0.2
CNCH				*i* S	Sg	06 50 43.7	+0.1
CNCH				IAML		06 50 50.2	
	comp=Z,1μm,1.0s						
JUCU	**Jucuarįn**	**0.21**	**269**	*i* P	Pg	06 50 41.4	+0.3
JUCU				*i* S	Sg	06 50 44.5	+0.7
JUCU				IAML		06 50 46.6	
	comp=Z,3μm,1.0s						
RANC	**El Ranchito**	**0.30**	**305**	*i* P	Pg	06 50 43.8	+0.9
RANC				IAML		06 50 43.9	
	comp=Z,300nm,1.0s						
PACA	**Pacayal**	**0.35**	**307**	*i* P	Pg	06 50 44.5	+0.7
PACA				*i* S	Sg	06 50 50.2	+1.8
PACA				IAML		06 50 55.2	
	comp=Z,1μm,1.0s						
COEB	**Comit de Eme**	**0.54**	**296**	*i* P	Pg	06 50 47.8	+0.4
COEB				*i* S	Sg	06 50 54.2	-0.2
COEB				IAML		06 50 58.7	
	comp=Z,110nm,1.0s						
PQSS	**Presa 15 de Se**	**0.62**	**306**	*i* P	Pg	06 50 49.5	+0.4
TECO	**Alcaldia de Te**	**0.78**	**291**	*i* P	Pg	06 50 51.7	-0.3
TECO				IAML		06 50 52.4	
	comp=Z,65nm,1.0s						
TECO				*i* S	Sg	06 51 02.4	+0.4
SCLA	**Alcaldia de Sa**	**0.80**	**303**	*i* P	Pg	06 50 52.8	+0.3
SCLA				IAML		06 50 53.3	
	comp=Z,21nm,1.0s						
UESV	**Universidad de**	**0.82**	**297**	*i* P	Pg	06 50 52.8	-0.1
COEG	**Centro de Oper**	**0.90**	**294**	*i* P	Pg	06 50 54.0	-0.3
COEG				*i* S	Sg	06 51 06.2	+0.3
COEG				IAML		06 51 07.2	
	comp=Z,68nm,1.0s						
PAVA	**Las Pavas**	**0.98**	**297**	*i* P	Pg	06 50 55.7	-0.3
PAVA				*i* S	Sg	06 51 09.4	+0.6
PAVA				IAML		06 51 13.8	
	comp=Z,170nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.09**	**43**	*i* P	Pg	06 50 58.2	+0.2
TGUH				*i* S	Sb	06 51 13.4	0.0
TGUH				IAML		06 51 20.2	
	comp=Z,76nm,1.0s						
CRIN	**San Cristobal**	**1.11**	**120**	*i* P	Pn	06 50 59.6	-0.2
CRIN				IAML		06 53 26.3	
	comp=Z,8μm,1.0s						
LLGN	**La Laguna**	**1.26**	**316**	*i* P	Pg	06 50 59.0	-2.3
LLGN				IAML		06 53 28.6	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**1.43**	**286**	*i* P	Pn	06 51 03.1	-1.1
JAYA				*i* S	Sg	06 51 21.7	-1.4
JAYA				IAML		06 51 24.

RANC El Ranchito 0.30 317 *i* P Pb 06 52 52.1 +0.2
RANC *i* S Sb 06 52 56.4 -0.4
RANC IAML 06 53 05.3
comp=Z,17µm,1.0s
PACA Pacayal 0.35 317 *e*P Pb 06 52 53.0 +0.3
PACA Pacayal 0.35 317 *i* P Pb 06 52 53.1 +0.3
PACA *i* S Sb 06 52 57.5 -0.6
PACA IAML 06 53 03.2
comp=Z,89µm,1.0s
AMPH Amapala 0.41 80 *e*P Pb 06 52 54.0 +0.3
AMPH *e*S Sb 06 53 00.6 +0.8
COEB Comit de Eme 0.53 303 *i* P Pb 06 52 55.9 +0.2
COEB *i* S Sg 06 53 01.5 -0.8
COEB IAML 06 53 06.9
comp=Z,5µm,1.0s
PQSS Presa 15 de Se 0.62 311 *i* P Pb 06 52 57.9 +0.6
PQSS IAML 06 52 59.1
comp=Z,5µm,1.0s
PQSS *i* S Sg 06 53 05.0 -0.3
TECO Alcaldia de Te 0.76 295 *e*P Pb 06 53 00.0 +0.4
TECO *e*S Sb 06 53 10.8 +1.0
TECO Alcaldia de Te 0.76 295 *i* P Pn 06 53 00.2 -0.7
TECO *i* S Sb 06 53 10.7 +1.0
TECO IAML 06 53 13.1
comp=Z,5µm,1.0s
SCLA Alcaldia de Sa 0.80 308 *e*P Pn 06 53 01.1 -0.4
SCLA Alcaldia de Sa 0.80 308 *i* P Pn 06 53 01.0 -0.5
SCLA IAML 06 53 01.9
comp=Z,2µm,1.0s
SCLA *i* S Sb 06 53 11.4 +0.4
UESV Universidad de 0.81 301 *e*P Pn 06 53 01.2 -0.3
UESV Universidad de 0.81 301 *i* P Pn 06 53 01.3 -0.3
UESV *i* S Sn 06 53 12.4 -1.0
UESV IAML 06 53 21.0
comp=Z,4µm,1.0s
COEG Centro de Oper 0.88 297 *e*P Pn 06 53 02.3 -0.3
COEG *e*S Sn 06 53 14.8 -0.3
COEG Centro de Oper 0.88 297 *i* P Pn 06 53 02.3 -0.3
COEG *i* S Sg 06 53 13.5 0.0
COEG IAML 06 53 18.1
comp=Z,6µm,1.0s
PAVA Las Pavas 0.97 301 *e*P Pn 06 53 04.2 +0.2
PAVA *e*S Sn 06 53 18.2 +0.6
PAVA Las Pavas 0.97 301 *i* P Pn 06 53 04.1 +0.2
PAVA *i* S Sn 06 53 17.8 +0.3
PAVA IAML 06 53 21.2
comp=Z,21µm,1.0s
CRIN San Cristobal 1.12 117 *e*P Pg 06 53 07.0 +0.6
CRIN San Cristobal 1.12 117 *i* P Pg 06 53 07.2 +0.7
CRIN *i* S Sn 06 53 21.3 +0.2
CRIN IAML 06 53 31.6
comp=Z,9µm,1.0s
PANCS Alcalda de 1.15 290 *e*P Pg 06 53 06.6 -0.3
PANCS Alcalda de 1.15 290 *i* P Pg 06 53 06.6 -0.3
PANCS *i* S Sn 06 53 21.6 -0.1
PANCS IAML 06 53 25.1
comp=Z,6µm,1.0s
TGUH Tegucigalpa,Un 1.15 43 *e*P Pg 06 53 06.7 -0.3
LOMA Loma Larga 1.15 292 *e*P Pg 06 53 06.9 0.0
LOMA Loma Larga 1.15 292 *i* P Pg 06 53 06.6 -0.4
LOMA *i* S Sg 06 53 23.0 +1.0
LOMA IAML 06 53 28.6
comp=Z,4µm,1.0s
UDBS Universidad Do 1.16 296 *e*P Pg 06 53 07.3 +0.1
UDBS Universidad Do 1.16 296 *i* P Pg 06 53 07.5 +0.3
UDBS *i* S Sg 06 53 23.2 +0.8
UDBS IAML 06 53 30.2
comp=Z,2µm,1.0s
IGN Direccin Gen 1.18 295 *i* P Pg 06 53 07.7 +0.2
IGN *i* S Sg 06 53 24.1 +1.3
IGN IAML 06 53 27.6
comp=Z,6µm,1.0s
UTEC Universidad Te 1.20 294 *i* P Pg 06 53 07.8 -0.1
UTEC *i* S Sg 06 53 23.5 0.0
UTEC IAML 06 53 31.3
comp=Z,3µm,1.0s
SNET Serv Nac Est T 1.22 293 *e*P Pg 06 53 08.1 -0.2
SNET Serv Nac Est T 1.22 293 *i* P Pg 06 53 08.4 +0.1
SNET IAML 06 53 08.9
comp=Z,4µm,1.0s
SNET *i* S Sg 06 53 24.6 +0.4
UEES Universidad Ev 1.24 294 *e*P Pg 06 53 08.5 -0.1
UEES Universidad Ev 1.24 294 *i* P Pg 06 53 08.5 -0.1
UEES IAML 06 53 10.9
comp=Z,2µm,1.0s
UEES *i* S Sg 06 53 26.0 +1.2
LALI Alcalda de L 1.24 283 *e*P Pg 06 53 08.4 -0.3
LALI Alcalda de L 1.24 283 *i* P Pb 06 53 08.0 +0.1
LALI *i* S Sg 06 53 24.8 -0.1
LALI IAML 06 53 36.8
comp=Z,510nm,1.0s
ITCA Escuela Especi 1.26 292 *i* P Pg 06 53 09.1 +0.1
ITCA *i* S Sg 06 53 26.1 +0.7
ITCA IAML 06 53 34.5
comp=Z,6µm,1.0s
PIC2 El Picacho 1.26 295 *e*P Pg 06 53 09.5 +0.3
LLGN La Laguna 1.27 318 *e*P Pg 06 53 08.7 -0.5
LLGN La Laguna 1.27 318 *i* P Pb 06 53 08.4 0.0
LLGN *i* S Sg 06 53 26.5 +0.7
LLGN IAML 06 53 31.7
comp=Z,1µm,1.0s
PMON Piamonte 1.30 293 *e*P Pg 06 53 09.6 -0.3
PMON Piamonte 1.30 293 *i* P Pg 06 53 10.3 +0.4
PMON *i* S Sg 06 53 28.0 +1.1
PMON IAML 06 53 36.1
comp=Z,4µm,1.0s
QUEZ Alcaldia de Qu 1.32 298 *i* P Pg 06 53 10.4 +0.2
QUEZ *i* S Sg 06 53 28.5 +1.1
QUEZ IAML 06 53 38.0
comp=Z,7µm,1.0s
JAYA Jayaque - finc 1.41 288 *e*P Pg 06 53 11.2 -0.7
JAYA Jayaque - finc 1.41 288 *i* P Pg 06 53 11.2 -0.7
JAYA IAML 06 53 12.4
comp=Z,18µm,1.0s
JAYA *i* S Sg 06 53 30.0 -0.2
CEDA San Andres 1.41 295 *e*P Pg 06 53 11.6 -0.4
CEDA San Andres 1.41 295 *i* P Pg 06 53 11.6 -0.4
CEDA *i* S Sg 06 53 30.9 +0.6
CEDA IAML 06 53 48.1
comp=Z,4µm,1.0s
CNGA Al SSO del Vol 1.52 118 *i* P Pn 06 53 11.0 -0.4
CNGA *i* S Sb 06 53 31.4 -0.3
CNGA IAML 06 53 35.2
comp=Z,4µm,1.0s
CNGN Cerro Negro 1.52 118 *e*P Pb 06 53 12.2 -0.5
CNGN Cerro Negro 1.52 118 *i* P Pb 06 53 12.3 -0.3
CNGN *i* S Sn 06 53 31.0 +0.1
CNGN IAML 06 53 45.4
comp=Z,2µm,1.0s
UNIC Universidad Ca 1.62 298 *i* P Pb 06 53 14.9 +0.5
UNIC IAML 06 53 16.4
comp=Z,700nm,1.0s
UNIC *i* S Sg 06 53 36.7 -0.4
CEVE Cerro Verde 1.62 292 *i* P Pg 06 53 16.2 +0.2
CEVE *i* S Sg 06 53 37.6 +0.4
CEVE IAML 06 53 53.1
comp=Z,2µm,1.0s
LEVN Ruinas Leon Vi 1.64 119 *i* P Pg 06 53 15.5 -0.7
LEVN *i* S Sb 06 53 35.5 +0.5
LEVN IAML 06 53 42.4
comp=Z,2µm,1.0s
MOMN Momotombo 1.70 118 *i* P Pb 06 53 15.1 -0.6
MOMN *i* S Sb 06 53 37.6 +0.7
MOMN IAML 06 53 40.6
comp=Z,70nm,1.0s
MTO3 Montecristo 1.72 314 *e*P Pb 06 53 16.4 +0.2
MTO3 Montecristo 1.72 314 *i* S Sg 06 53 39.3 -0.9
MOM2 El Cardon 1.73 116 *i* P Pb 06 53 15.4 -0.8
MOM2 *i* S Sg 06 53 40.8 +0.2
MOM2 IAML 06 53 53.2
comp=Z,1µm,1.0s
BRAN Las Pilas 1.75 106 *i* P Pg 06 53 19.9 +1.5
BRAN IAML 06 53 50.0
comp=Z,830nm,1.0s
COPN Copaltepe 1.77 125 *i* P Pb 06 53 16.3 -0.7
COPN IAML 06 53 43.5
comp=Z,780nm,1.0s
NUBE Las Nubes 1.79 293 *e*P Pb 06 53 17.2 -0.1
NUBE Las Nubes 1.79 293 *i* P Pb 06 53 17.5 +0.1
NUBE *i* S Sg 06 53 42.3 -0.3
NUBE IAML 06 53 51.2
comp=Z,2µm,1.0s
LOAL Lomas de Alarc 1.83 295 *i* P Pb 06 53 18.6 +0.6
LOAL *i* S Sg 06 53 43.1 -0.7
LOAL IAML 06 53 48.3
comp=Z,3µm,1.0s
SLOZ Alcaldia de Sa 1.85 296 *e*P Pb 06 53 17.9 -0.3
APQ3 Volcan Apoyequ 1.91 119 *i* P Pb 06 53 19.1 -0.2
APQ3 IAML 06 53 50.7
comp=Z,1µm,1.0s
JUAM Asuncion Mita 1.94 305 *i* P Pb 06 53 20.1 +0.3
JUAM IAML 06 53 20.5
comp=Z,1µm,1.0s
APYN Apoyeque 1.94 120 *i* P Pb 06 53 19.7 -0.2
APYN IAML 06 53 50.0
comp=Z,1µm,1.0s
MSHP Masachapa 2.04 132 *i* P Pb 06 53 21.6 +0.2
MSHP IAML 06 53 54.4
comp=Z,190nm,1.0s
RE6B4 Centro civico 2.04 122 *i* P Pb 06 53 20.9 -0.7
RE6B4 IAML 06 54 05.4
comp=Z,760nm,1.0s
TISN Laguna Tiscapa 2.06 121 *i* P Pn 06 53 20.1 +1.3
TISN IAML 06 53 23.4
comp=Z,70nm,1.0s
R4DEC Barrio San Lui 2.07 120 *i* P Pg 06 53 23.3 -1.3
R4DEC IAML 06 54 00.5
comp=Z,540nm,1.0s
MAS3 Al N del Volca 2.20 122 *i* P Pb 06 53 23.7 -0.5
MAS3 IAML 06 54 02.5
comp=Z,680nm,1.0s
RB213 Mirador 2 Volc 2.23 123 *i* P Pn 06 53 20.7 -0.4
RB213 IAML 06 53 57.6
comp=Z,1µm,1.0s
NADN Granada 2.47 126 *i* P Pb 06 53 26.9 -1.9
NADN IAML 06 55 32.3
comp=Z,1µm,1.0s
GUMI Mixco 2.84 300 *i* P Pb 06 53 33.1 -2.1
GUMI IAML 06 53 38.4
comp=Z,760nm,1.0s
JAPN Al SSO del Vol 2.88 125 *i* P Pb 06 53 35.6 -0.2
JAPN IAML 06 54 20.8
comp=Z,220nm,1.0s
MORN Al O del Volca 2.89 125 *i* P Pn 06 53 32.9 +2.6
MORN IAML 06 54 15.5
comp=Z,490nm,1.0s
CONN Concepcion 2.90 124 *i* P Pb 06 53 33.1 -3.1
CONN IAML 06 54 13.5
comp=Z,2µm,1.0s
ACON Acoyapa 3.09 113 *i* P Pb 06 53 38.6 -0.8
ACON IAML 06 54 42.4
comp=Z,220nm,1.0s

SNET **07** *06:56:59.9±1.0, 12°.85N×90°.33W, h16km±5km, ML4.2*
CATAC **07** *06:57:00.7±0.5, 12°.81N×90°.25W, h21km±5km, ML4.6*
GCG **07** *06:57:00.0±0.6, 12°.95N×90°.60W, h0km±7km, MD4.3*
IDC **07** *06:57:03.6±2.5, 13°.46N×89°.81W, h35km±18km, mb4.2/18, mbtmp4.4/20, ML4.0/2, MS3.8/32, Error ellipse: s-maj=25.6km s-min=12.9km az=51.0*
NEIC **07** *06:57:03.3±2.7, 13°.03N±0°.06×90°.22W±0°.06, h35km±2km, mb4.6/389, Error ellipse: s-maj=11.4km s-min=8.3km az=218.0*
ISC 07 06:57:00.4±1.3, **12°.93N**±0°.04×**90°.28W**±0°.03, **h15**km±8km, **n891**, σ1**52**/439, **mb4.7**/183, **MS3.8**/31, **Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JAYA	**Jayaque - finc**	**1.08**	**48**	*i* P		**Pg**	**06 57 21.4**	**-0.1**
JAYA					IAML		06 57 42.1	
comp=Z,7µm,0.3s								
JAYA	**Jayaque - finc**	**1.08**	**48**	*i* P		**Pg**	**06 57 21.5**	**0.0**
JAYA					*i* S	**Sg**	**06 57 35.7**	**0.0**
JAYA					IAML		06 57 46.6	
comp=Z,22µm,1.0s								
NUBE	**Las Nubes**	**1.08**	**27**	*i* P		**Pg**	**06 57 20.9**	**-0.5**
NUBE					IAML		06 57 35.6	
comp=Z,3µm,0.5s								
NUBE					*e*S	**Sg**	**06 57 35.8**	**+0.2**
NUBE	**Las Nubes**	**1.08**	**27**	*i* P		**Pg**	**06 57 20.8**	**-0.7**
NUBE					*i* S	**Sg**	**06 57 36.3**	**+0.6**
NUBE					IAML		06 58 10.5	
comp=Z,7µm,1.0s								
LALI	**Alcalda de L**	**1.09**	**59**	*i* P		**Pg**	**06 57 21.0**	**-0.5**
LALI	**Alcalda de L**	**1.09**	**59**	*i* P		**Pg**	**06 57 21.5**	**0.0**
LALI					*i* S	**Sg**	**06 57 35.4**	**-0.3**
LALI					IAML		06 57 57.8	
comp=Z,2µm,1.0s								
CEVE	**Cerro Verde**	**1.10**	**35**	*e*P		**Pg**	**06 57 21.7**	**-0.1**
CEVE	**Cerro Verde**	**1.10**	**35**	*i* P		**Pg**	**06 57 21.9**	**+0.1**
CEVE					*i* S	**Sg**	**06 57 35.8**	**-0.4**
CEVE					IAML		06 57 48.1	
comp=Z,20µm,1.0s								
SNJE	**San Jose**	**1.14**	**35**	*i* P		**Pg**	**06 57 22.2**	**-0.4**
LOAL	**Lomas de Alarc**	**1.17**	**24**	*e*P		**Pg**	**06 57 22.5**	**-0.6**
LOAL	**Lomas de Alarc**	**1.17**	**24**	*i* P		**Pg**	**06 57 22.9**	**-0.2**
LOAL					*i* S	**Sn**	**06 57 40.0**	**+2.0**
LOAL					IAML		06 57 47.5	
comp=Z,16µm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.20**	**24**	*i* P		**Pb**	**06 57 22.6**	**-0.2**
PMON	**Piamonte**	**1.22**	**50**	*e*P		**Pb**	**06 57 23.2**	**-0.1**
PMON	**Piamonte**	**1.22**	**50**	*i* P		**Pb**	**06 57 23.6**	**+0.3**
PMON					*i* S	**Sg**	**06 57 38.5**	**-1.5**
PMON					IAML		06 57 49.5	
comp=Z,17µm,1.0s								
CEDA	**San Andres**	**1.23**	**45**	*i* P		**Pb**	**06 57 23.3**	**0.0**
CEDA					*e*S	**Sn**	**06 57 41.6**	**+2.3**
CEDA	**San Andres**	**1.23**	**45**	*i* P		**Pb**	**06 57 23.0**	**-0.3**
CEDA					*i* S	**Sb**	**06 57 39.7**	**+0.8**
CEDA					IAML		06 58 02.5	
comp=Z,21µm,1.0s								
ITCA	**Escuela Especi**	**1.23**	**53**	*i* P		**Pb**	**06 57 23.7**	**+0.3**
ITCA					*i* S	**Sg**	**06 57 39.1**	**-1.0**
ITCA					IAML		06 57 49.8	
comp=Z,33µm,1.0s								
MAGS	**Ministerio de**	**1.23**	**52**	*e*P		**Pb**	**06 57 23.1**	**-0.2**
UNIC	**Universidad Ca**	**1.27**	**34**	*e*P		**Pb**	**06 57 23.9**	**-0.1**
UNIC	**Universidad Ca**	**1.27**	**34**	*i* P		**Pb**	**06 57 23.7**	**-0.3**
UNIC					*i* S	**Sb**	**06 57 41.0**	**+0.8**
UNIC					IAML		06 57 46.2	
comp=Z,2µm,1.0s								
PANCS	**Alcalda de**	**1.27**	**57**	*e*P		**Pb**	**06 57 23.5**	**-0.6**
PANCS	**Alcalda de**	**1.27**	**57**	*i* P		**Pb**	**06 57 23.5**	**-0.6**
PANCS					*i* S	**Sb**	**06 57 41.1**	**+0.9**
PANCS					IAML		06 57 49.1	
comp=Z,11µm,1.0s								
SNET	**Serv Nac Est T**	**1.27**	**53**			**Pb**	**06 57 23.6**	**-0.4**
SNET	**Serv Nac Est T**	**1.27**	**53**	*e*P		**Pb**	**06 57 23.7**	**-0.4**
SNET	**Serv Nac Est T**	**1.27**	**53**	*i* P		**Pb**	**06 57 23.9**	**-0.2**
SNET					*i* S	**Sb**	**06 57 40.8**	**+0.5**
SNET					IAML		06 57 54.7	
comp=Z,11µm,1.0s								
UEES	**Universidad Ev**	**1.28**	**52**	*i* P		**Pb**	**06 57 24.1**	**-0.2**
UEES					*i* S	**Sg**	**06 57 42.8**	**+0.9**
UEES					IAML		06 57 54.0	
comp=Z,6µm,1.0s								
PIC2	**El Picacho**	**1.29**	**51**	*e*P		**Pb**	**06 57 24.3**	**-0.1**
LOMA	**Loma Larga**	**1.29**	**56**	*i* P		**Pb**	**06 57 24.1**	**-0.5**
LOMA	**Loma Larga**	**1.29**	**56**	*i* P		**Pb**	**06 57 24.3**	**-0.2**
LOMA					IAML		06 57 26.2	
comp=Z,5µm,1.0s								
LOMA					*i* S	**Sb**	**06 57 42.1**	**+1.1**
UTEC	**Universidad Te**	**1.30**	**54**	*i* P		**Pn**	**06 57 24.2**	**+0.1**
UTEC					*i* S	**Sg**	**06 57 43.2**	**+0.6**
UTEC					IAML		06 58 01.2	
comp=Z,6µm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.33**	**47**	*e*P		**Pn**	**06 57 25.4**	**+0.9**
QUEZ	**Alcaldia de Qu**	**1.33**	**47**	*i* P		**Pn**	**06 57 25.6**	**+1.1**
QUEZ					*i* S	**Sn**	**06 57 44.5**	**+2.5**
QUEZ					IAML		06 57 58.7	
comp=Z,30µm,1.0s								
IGN	**Direccin Gen**	**1.33**	**54**	*e*P		**Pn**	**06 57 25.1**	**+0.6**
IGN	**Direccin Gen**	**1.33**	**54**	*i* P		**Pn**	**06 57 25.1**	**+0.6**
IGN					*i* S	**Sb**	**06 57 43.7**	**+1.6**
IGN					IAML		06 57 58.1	
comp=Z,19µm,1.0s								
UDBS	**Universidad Do**	**1.35**	**54**	*e*P		**Pn**	**06 57 24.9**	**+0.2**
UDBS	**Universidad Do**	**1.35**	**54**	*i* P		**Pn**	**06 57 25.6**	**+0.9**
UDBS					*i* S	**Sb**	**06 57 44.0**	**+1.5**
UDBS					IAML		06 57 50.8	
comp=Z,7µm,1.0s								
AEIL	**Aeropuerto Ilo**	**1.37**	**56**	*e*P		**Pn**	**06 57 25.4**	**+0.4**
PCG	**Pacaya**	**1.49**	**348**	*e*P		**Pn**	**06 57 26.2**	**-0.7**
JUAM	**Asuncion Mita**	**1.51**	**22**	*i* P		**Pn**	**06 57 27.3**	**+0.4**
JUAM					*i* S	**Sn**	**06 57 48.3**	**+2.0**
JUAM					IAML		06 58 01.7	
comp=Z,6µm,1.0s								
PAVA	**Las Pavas**	**1.52**	**59**	*e*P		**Pn**	**06 57 27.8**	**+0.6**
PAVA	**Las Pavas**	**1.52**	**59**	*i* P		**Pn**	**06 57 27.9**	**+0.7**
PAVA					IAML		06 57 45.7	
comp=Z,7µm,1.0s								
PAVA					*i* S	**Sn**	**06 57 48.7**	**+1.9**
COEG	**Centro de Oper**	**1.53**	**63**	*i* P		**Pn**	**06 57 27.4**	**+0.2**
COEG					*e*S	**Sn**	**06 57 49.4**	**+2.6**
COEG	**Centro de Oper**	**1.53**	**63**	*i* P		**Pn**	**06 57 27.4**	**+0.2**
COEG					IAML		06 57 39.7	
comp=Z,4µm,1.0s								
COEG					*i* S	**Sn**	**06 57 48.4**	**+1.6**
TECO	**Alcaldia de Te**	**1.58**	**67**	*i* P		**Pn**	**06 57 27.4**	**-0.5**
TECO					*i* S	**Sn**	**06 57 50.3**	**+2.2**
TECO					IAML		06 57 57.7	
comp=Z,2µm,1.0s								
FUG	**Fuego 3**	**1.61**	**340**	*e*P		**Pn**	**06 57 28.1**	**-0.3**
UESV	**Universidad de**	**1.61**	**64**	*i* P		**Pn**	**06 57 28.7**	**+0.3**
UESV					*i* S	**Sn**	**06 57 50.9**	**+1.9**
UESV					IAML		06 58 01.5	
comp=Z,5µm,1.0s								
NBG	**Las Nubes**	**1.65**	**358**	*e*P		**Pn**	**06 57 30.4**	**+1.2**
GCG4	**OSOP**	**1.67**	**352**	*i* P		**Pn**	**06 57 29.0**	**-0.3**
GCG4					*i* S	**Sn**	**06 57 53.8**	**+3.3**
GCG4					IAML		06 58 16.7	
comp=Z,4µm,1.0s								
SCLA	**Alcaldia de Sa**	**1.69**	**63**	*i* P		**Pn**	**06 57 30.1**	**+0.6**
SCLA	**Alcaldia de Sa**	**1.69**	**63**	*i* P		**Pn**	**06 57 30.4**	**+0.9**
SCLA					*i* S	**Sn**	**06 57 52.8**	**+1.8**
SCLA					IAML		06 58 16.8	
comp=Z,2µm,1.0s								
MTO3	**Montecristo**	**1.71**	**31**			**Pn**	**06 57 30.6**	**+0.7**
MTO3	**Montecristo**	**1.71**	**31**	*e*P		**Pn**	**06 57 30.6**	**+0.7**
MTO3	**Montecristo**	**1.71**	**31**	*i* P		**Pn**	**06 57 30.8**	**+0.9**
MTO3					IAML		06 57 35.2	
comp=Z,3µm,1.0s								
MTO3					*i* S	**Sn**	**06 57 54.2**	**+2.5**
GUMI	**Mixco**	**1.73**	**349**	*i* P		**Pn**	**06 57 30.1**	**0.0**
GUMI					*i* S	**Sb**	**06 57 56.1**	**+2.6**
GUMI					IAML		06 57 58.2	
comp=Z,5µm,1.0s								
LLGN	**La Laguna**	**1.79**	**46**	*e*P		**Pn**	**06 57 31.4**	**+0.6**
LLGN	**La Laguna**	**1.79**	**46**	*i* P		**Pn**	**06 57 31.4**	**+0.6**
LLGN					*i* S	**Sn**	**06 57 54.8**	**+1.5**
LLGN					IAML		06 58 01.8	
comp=Z,2µm,1.0s								
COEB	**Comit de Eme**	**1.80**	**71**	*e*P		**Pn**	**06 57 30.5**	**-0.4**
COEB	**Comit de Eme**	**1.80**	**71**	*i* P		**Pn**	**06 57 31.3**	**+0.4**
COEB					*i* S	**Sn**	**06 57 56.0**	**+2.5**
COEB					IAML		06 58 03.9	
comp=Z,2µm,1.0s								
PQSS	**Presa 15 de Se**	**1.81**	**67**	*e*P		**Pn**	**06 57 31.5**	**+0.4**
PQSS	**Presa 15 de Se**	**1.81**	**67**	*i* P		**Pn**	**06 57 31.9**	**+0.8**
PQSS					*i* S	**Sn**	**06 57 55.0**	**+1.2**
PQSS					IAML		06 58 13.6	
comp=Z,2µm,1.0s								
SULM	**Suchitepequez,**	**1.85**	**318**	*e*P		**Pn**	**06 57 31.8**	**+0.2**
ESQI	**Esquipulas**	**1.86**	**29**	Pn		**Pn**	**06 57 32.7**	**+0.8**
RANC	**El Ranchito**	**2.00**	**75**	*e*P		**Pn**	**06 57 34.1**	**+0.2**
JUCU	**Jucuarn**	**2.00**	**80**	*e*P		**Pn**	**06 57 33.4**	**-0.4**
JUCU					IAML		06 58 02.5	
comp=Z,2µm,0.3s								
APG	**El Apazote**	**2.07**	**355**	Pg		**Pn**	**06 57 35.3**	**+0.5**
comp=Z,14nm,0.3s,baz=145,slow=10.0,SNR=174								
APG					Lg	Lg	06 58 02.3	
comp=Z,7.0nm,0.3s,baz=199,slow=13,SNR=2.7								
RTAL	**Retalhuleu**	**2.10**	**319**	Pn		Pn	06 57 33.6	-1.4
STG3	**Santiaguito 3,**	**2.17**	**325**	*e*P		**Pn**	**06 57 35.3**	**-0.9**
STG3					*e*S	**Sn**	**06 58 02.9**	**-0.1**
MRL	**Marmol**	**2.22**	**15**	*e*P		**Pn**	**06 57 39.9**	**+3.0**
LCND	**La Caada**	**2.36**	**80**	*e*P		**Pn**	**06 57 38.9**	**+0.3**
LCND	**La Caada**	**2.36**	**80**	*i* P		**Pn**	**06 57 38.9**	**+0.3**
AMPH	**Amapala**	**2.58**	**82**	*e*P		**Pn**	**06 57 41.5**	**-0.1**
HUEH	**Huehuetenango**	**2.66**	**334**	Pn		**Pn**	**06 57 43.0**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.13**	**69**			**Pn**	**06 57 49.6**	**+0.2**
CRIN	**San Cristobal**	**3.16**	**94**			**Pn**	**06 57 49.5**	**-0.1**
CRIN	**San Cristobal**	**3.16**	**94**	*i* P		**Pn**	**06 57 50.1**	**+0.4**
CRIN					*i* S	**Sn**	**06 58 26.4**	**-0.7**
CRIN					IAML		06 58 37.1	
comp=Z,3µm,1.0s								
CNGN	**Cerro Negro**	**3.52**	**97**			**Pn**	**06 57 53.8**	**-0.8**
CNGN	**Cerro Negro**	**3.52**	**97**	*e*P		Pg	06 58 35.0	+27
COPN	**Copaltepe**	**3.68**	**101**	*i* P		Pn	06 57 55.5	-1.2
COPN					IAML		06 58 48.8	
comp=Z,440nm,1.0s								
MOMN	**Momotombo**	**3.69**	**98**	*i* P		**Pn**	**06 57 55.9**	**-1.0**
MOMN					*i* S	**Sn**	**06 58 37.5**	**-2.6**
MOMN					IAML		06 58 44.5	
comp=Z,37nm,1.0s								
MOM2	**El Cardon**	**3.73**	**97**	*i* P		**Pn**	**06 57 57.0**	**-0.5**
MOM2					*i* S	**Sn**	**06 58 39.1**	**-2.2**
MOM2					IAML		06 58 50.6	
comp=Z,480nm,1.0s								
CCIG	**Comitan**	**3.79**	**332**	Pn		**Pn**	**06 57 59.2**	**+0.8**
PETF	**Flores**	**3.99**	**6**	Pn		**Pn**	**06 58 02.4**	**+1.4**
TISN	**Laguna Tiscapa**	**3.99**	**101**	*i* P		Pn	06 57 59.3	-1.8
TISN					IAML		06 58 48.2	
comp=Z,73nm,1.0s								
R4DEC	**Barrio San Lui**	**4.01**	**101**	*i* P		**Pn**	**06 58 02.1**	**+0.8**
R4DEC					IAML		06 58 56.0	
comp=Z,510nm,1.0s								
JAPN	**Al SSO del Vol**	**4.71**	**107**	*i* P		**Pn**	**06 58 11.2**	**+0.3**
JAPN					*i* S	**Sn**	**06 59 02.0**	**-3.3**
JAPN					IAML		06 59 14.3	
comp=Z,260nm,1.0s								
MORN	**Al O del Volca**	**4.73**	**106**	*i* P		**Pn**	**06 58 10.8**	**-0.5**
MORN					*i* S	**Sn**	**06 59 02.7**	**-3.2**
MORN					IAML		06 59 10.1	
comp=Z,640nm,1.0s								
CONN	**Concepcion**	**4.75**	**106**	*i* P		**Pn**	**06 58 12.1**	**+0.6**
CONN					*i* S	**Sn**	**06 59 03.8**	**-2.5**
CONN					IAML		06 59 05.1	
comp=Z,2µm,1.0s								
ACON	**Acoyapa**	**5.08**	**100**			Pn	06 58 14.8	-1.2
HZTE	**Horizontes, Gu**	**5.09**	**115**			**Pn**	**06 58 17.4**	**+1.3**
ORTG	**Ortega, Santa**	**5.37**	**118**			**Pn**	**06 58 20.8**	**+0.8**
DUNO	**Dulce Nombre,**	**5.48**	**121**			**Pn**	**06 58 22.2**	**+0.6**
JTS	**Las Juntas de**	**5.84**	**116**			**Pn**	**06 58 27.5**	**+1.0**
JTS	**Las Juntas de**	**5.84**	**116**	Pn		**Pn**	**06 58 27.3**	**+0.8**
comp=Z,7.9nm,0.3s,baz=286,slow=23,SNR=49								
comp=Z,26nm,0.4s								
JTS	**Las Juntas de**	**5.84**	**116**	*e*P		**Pn**	**06 58 27.8**	**+1.2**
ESPN	**Las Esperanzas**	**5.88**	**96**			**Pn**	**06 58 27.6**	**+0.6**
CEDE	**Laguna Cedeo**	**5.97**	**113**	*e*P		**Pn**	**06 58 28.2**	**-0.2**
VACR	**Volcan Arenal**	**6.00**	**113**	*e*P		**Pn**	**06 58 29.6**	**+0.9**
CMIG	**Matias Romero**	**6.08**	**314**	Pn		**Pn**	**06 58 30.3**	**+0.6**
comp=Z,2.3nm,0.3s,baz=119,slow=8.3,SNR=15								
CMIG					Sn	**Sn**	**06 59 40.2**	**+1.2**
baz=20,slow=18								
comp=Z,15nm,0.6s								
SOCE	**Pocosol**	**6.09**	**114**			**Pn**	**06 58 30.9**	**+0.9**
SOCE	**Pocosol**	**6.09**	**114**	*e*P		**Pn**	**06 58 30.7**	**+0.7**
LAFE	**Finca La Fe, P**	**6.11**	**120**	*e*P		**Pn**	**06 58 30.6**	**+0.4**
COVE	**Coope Vega, Sa**	**6.16**	**110**			**Pn**	**06 58 31.2**	**+0.4**
SRA1	**San Ramn**	**6.35**	**116**	*e*P		**Pn**	**06 58 34.9**	**+1.3**
CPMI	**Catarata Coope**	**6.35**	**114**	*e*P		**Pn**	**06 58 34.1**	**+0.4**
RAMO	**San Ramon**	**6.36**	**116**	*e*P		**Pn**	**06 58 35.3**	**+1.6**
JACO	**JACO, Garabito**	**6.39**	**120**			**Pn**	**06 58 36.7**	**+2.6**
TRB2	**Turrubares**	**6.45**	**117**	*e*P		**Pn**	**06 58 36.2**	**+1.3**
TCS1	**Tacares**	**6.52**	**115**	*e*P		**Pn**	**06 58 37.7**	**+1.7**
BELE	**Belen**	**6.65**	**116**	*e*P		**Pn**

REPA Paraso 7.00 115 eP Pn 06 58 45.5 +2.9
RIMA Rio Macho 7.03 116 Pn 06 58 44.7 +1.6
RIMA Rio Macho 7.03 116 eP Pn 06 58 44.1 +1.0
VERB Verbena 7.10 114 eP Pn 06 58 45.3 +1.3
TURIB Turrialba 7.13 114 eP Pn 06 58 45.3 +1.0
IRES Siquirres 7.21 112 eP Pn 06 58 46.2 +0.9
CDM Cerro de Muert 7.22 117 eP Pn 06 58 47.7 +1.9
BUS1 Rivas 7.23 117 eP Pn 06 58 47.5 +1.5
BATAN Batan 7.33 112 Pn 06 58 49.1 +2.2
PEZE Perez Zeledon, 7.37 118 Pn 06 58 48.5 +0.8
PEZE Perez Zeledon, 7.37 118 eP Pn 06 58 48.9 +1.2
TEIG Tepich 7.51 15 Pn Pn 06 58 49.5 +0.1
TEIG Tepich 7.51 15 LR LR 07 02 05.8
comp=Z,9µm,20.6s,slow=44
SRBA San Rafael, Bu 7.72 118 Pn 06 58 54.5 +2.1
BURE Buenos Aires 7.77 118 eP Pn 06 58 55.1 +2.1
DRK0 Durika 7.80 117 eP Pn 06 58 56.3 +2.6
EDBA Buenos Aires 7.83 118 eP Pn 06 58 56.1 +2.2
EDP2 Potrero Grande 7.98 118 eP Pn 06 58 59.6 +3.6
JIME Puerto Jimenez 8.11 122 eP Pn 06 58 35.0 -23
PTJ1 Puerto Jimnez 8.13 122 eP Pn 06 59 00.5 +2.6
PIRO Carate, Puerto 8.17 123 eP Pn 06 59 00.9 +2.4
EDAD Golfito 8.18 121 eP Pn 06 58 59.8 +1.2
CDITO Canoas 8.46 120 Pn 06 59 04.4 +1.9
CDITO Canoas 8.46 120 eP Pn 06 59 04.4 +1.9
BRU2 Volcan 8.51 118 Pn Pn 06 59 05.0 +1.7
BRU2 Volcan 8.51 118 eP Pn 06 59 05.1 +1.7
TLIG Tlapa 9.23 301 Pn Pn 06 59 14.1 +0.9
SOR Soroa 12.00 34 Pn Pn 06 59 50.5 -0.6
JRQG Juriquilla Cam 12.43 310 Pn Pn 06 59 59.0 +2.0
MOIG Morelia 12.44 304 Pn Pn 06 59 58.5 +1.3
ZAIG Zacatecas 15.24 312 Pn Pn 07 00 36.1 +0.7
HBVL Hebbronville 16.11 332 Pn 07 00 47.4 +0.9
TULM Tulcn-Chalpat 17.33 133 Pn 07 01 04.1 +1.7
IMBA Imbabura, San 17.36 135 P Pn 07 01 02.3 -0.5
IMBA IAmb IAmb 07 01 29.4
comp=Z,44nm,1.1s
833A Chaparral WMA, 17.52 332 P Pn 07 01 05.6 +1.4
833A Chaparral WMA, 17.52 332 P Pn 07 01 04.4 +0.2
baz=149
ROSC El Rosal 17.69 116 P Pn 07 01 09.1 +2.4
ROSC IAmb IAmb 07 01 12.8
comp=Z,46nm,1.2s
ROSC El Rosal 17.69 116 P Pn 07 01 08.3 +1.6
comp=Z,16nm,0.9s,baz=11,slow=6.1,SNR=13
HKT Hockley 17.70 344 Pn 07 01 05.9 -0.5
656A Willston 17.87 23 Pn 07 01 09.5 +1.0
656A IAmb IAmb 07 01 11.6
comp=Z,48nm,0.9s
SLOR San Lorenzo - 17.91 138 Pn 07 01 09.3 -0.3
MLDN Muldoon 17.92 340 P Pn 07 01 07.9 -1.2
441A DeRidder 17.94 352 Pn 07 01 07.8 -1.5
441A IAmb IAmb 07 01 18.6
comp=Z,72nm,1.3s
CHSH Refugio Sur-Vo 18.26 141 P Pn 07 01 15.2 +1.1
HNVL Huntsville, TX 18.38 346 P Pn 07 01 13.2 -1.5
346A Big Creek Wild 18.39 2 P Pn 07 01 11.5 -3.3
346A IAmb IAmb 07 01 24.7
comp=Z,54nm,1.2s
BRAL Brewton 18.40 9 P Pn 07 01 11.3 -3.6
BRAL Brewton 18.40 9 P Pn 07 01 13.9 -1.1
baz=190
HNDO Hondo 18.51 335 P P 07 01 17.1 +0.9
435B Jarrell 19.01 340 P P 07 01 20.9 -0.8
435B Jarrell 19.01 340 P P 07 01 21.0 -0.6
baz=157
DRIO Del Rio 19.02 331 P P 07 01 21.4 -0.4
352A Blakely 19.11 14 P 07 01 22.7 -0.1
352A IAmb IAmb 07 01 24.8
comp=Z,22nm,0.7s
NATX Nacogdoches 19.17 349 P P 07 01 22.9 -0.6
NATX IAmb IAmb 07 01 24.5
comp=Z,31nm,0.8s
NATX Nacogdoches 19.17 349 P P 07 01 23.2 -0.2
baz=166
VBMS Vicksburg 19.20 359 P P 07 01 24.6 +0.9
VBMS Vicksburg 19.20 359 P P 07 01 23.0 -0.8
baz=179
SDDR Presa de Saban 19.22 69 P P 07 01 22.2 -2.0
ARNL Arenillas 19.25 148 P P 07 01 25.7 +1.3
TIGA Tifton 19.43 17 P P 07 01 26.1 -0.1
TIGA IAmb IAmb 07 01 38.0
comp=Z,34nm,1.1s
TIGA Tifton 19.43 17 P P 07 01 24.5 -1.8
baz=200
JCT Junction City 19.56 335 P P 07 01 26.8 -0.9
JCT Junction City 19.56 335 P P 07 01 27.6 -0.2
baz=151
237A Washetta, Mont 19.65 346 P P 07 01 27.1 -1.6
SDV Santo Domingo 19.70 100 P P 07 01 30.8 +1.2
comp=Z,7.9nm,0.4s,baz=332,slow=3.5,SNR=3.8
SDV LR LR 07 11 18.6
comp=Z,178nm,18.1s,baz=262,slow=44
SDV Santo Domingo 19.70 100 eP P 07 01 29.5 -0.1
143A Socs Landing, 19.71 357 P P 07 01 28.6 -0.7
BRDY Brady 19.96 338 P P 07 01 30.5 -1.6
HPIG 20.05 316 P P 07 01 33.6 +0.2
WHTX Lake Whitney, 20.09 342 P P 07 01 32.3 -1.2
WHTX Lake Whitney, 20.09 342 P P 07 01 32.4 -1.0
baz=159
SAND Sanderson 20.19 329 P P 07 01 34.5 -0.2
LRAL Lakeview Retre 20.24 8 P P 07 01 35.0 -0.1
LRAL Lakeview Retre 20.24 8 P P 07 01 34.2 -0.8
baz=189,SNR=6.2
Z47A Carrollton 20.28 5 P P 07 01 34.9 -0.6
152A Waverly Hall 20.30 14 P P 07 01 34.8 -1.0
Z41A Richland Creek 20.37 354 P P 07 01 34.7 -1.8
Z41A IAmb IAmb 07 01 49.2
comp=Z,36nm,1.1s
FW14 Alvarado 20.39 343 P P 07 01 35.3 -1.5
FW14 IAmb IAmb 07 01 45.5
comp=Z,22nm,0.9s
FW13 Cleburne 20.42 342 P P 07 01 35.7 -1.3
TREL Terrell 20.42 346 P P 07 01 36.1 -0.9
TREL IAmb IAmb 07 01 36.7
comp=Z,33nm,1.1s
OZNA Ozona 20.52 333 P P 07 01 38.8 +0.6
OZNA IAmb IAmb 07 01 49.8
comp=Z,29nm,1.3s
TX31 Lajitas Ar. Si 20.52 325 P P 07 01 39.0 +0.6
TXAR Lajitas Array 20.52 325 P P 07 01 38.8 +0.5
TXAR Lajitas Array 20.52 325 P P 07 01 38.6 +0.3
comp=Z,5.5nm,0.6s,baz=152,slow=13,SNR=106
TXAR PcP PcP 07 05 49.4 -0.3
comp=Z,0.4nm,0.7s,baz=158,slow=2.9,SNR=3.2
comp=Z,5.5nm,0.6s
154A Montrose 20.67 17 P P 07 01 38.2 -1.6
154A IAmb IAmb 07 01 39.5
comp=Z,51nm,1.1s
Z38A Mt. Pleasant 20.69 349 P P 07 01 38.8 -1.2
Z38A IAmb IAmb 07 01 44.3
comp=Z,28nm,0.8s
WLAR White Oak Lake 20.83 353 P P 07 01 40.3 -1.1
WLAR IAmb IAmb 07 01 45.4
comp=Z,32nm,0.9s
FW07 Weatherford 20.85 342 P P 07 01 40.0 -1.7
FW07 IAmb IAmb 07 01 44.8
comp=Z,16nm,0.6s
Y45A Yeager Farm, C 20.86 2 P P 07 01 39.9 -1.9
Y45A IAmb IAmb 07 01 55.8
comp=Z,36nm,0.8s
FW06 Azle 21.04 343 P P 07 01 40.4 -3.4
PLPT Palo Pinto 21.12 341 P P 07 01 43.2 -1.4
PLPT IAmb IAmb 07 01 45.7
comp=Z,14nm,0.7s
Y49A Blount Mountai 21.13 9 P P 07 01 44.2 -0.6
Y49A IAmb IAmb 07 01 45.3
comp=Z,16nm,0.8s
FW03 Perrin-Whitt E 21.25 342 P P 07 01 45.0 -1.0
Z35A Perchaven, San 21.29 344 P P 07 01 46.1 -0.3
Z35A IAmb IAmb 07 01 49.4
comp=Z,22nm,0.9s
ALPN Alpine 21.31 327 P P 07 01 47.1 +0.2
ALPN IAmb IAmb 07 01 48.4
comp=Z,26nm,0.8s
GOGA Godfrey 21.32 16 P P 07 01 45.4 -1.4
GOGA Godfrey 21.32 16 P P 07 01 45.2 -1.6
baz=198
SGCY Sterling City 21.36 334 P P 07 01 45.8 -1.5
ABTX Abilene, Hawle 21.40 338 P P 07 01 45.6 -2.0
ABTX Abilene, Hawle 21.40 338 P P 07 01 47.0 -0.7
baz=154
SLBS Sierra La Lagu 21.49 303 P P 07 01 50.4 +1.6
SLBS IAmb IAmb 07 02 09.7
comp=Z,33nm,1.4s
OXF Oxford 21.50 2 P P 07 01 46.4 -2.3
OXF Oxford 21.50 2 P P 07 01 47.3 -1.4
baz=182
X40A Basin Creek Fa 21.59 354 P P 07 01 49.5 -0.2
Y52A Lilburn 21.60 14 P P 07 01 48.0 -1.8
Y52A IAmb IAmb 07 01 49.5
comp=Z,16nm,0.9s
X48A Hartselle 21.63 7 P P 07 01 49.1 -1.0
X48A IAmb IAmb 07 01 51.5
comp=Z,19nm,0.7s
MNHN Monahans 21.63 330 P P 07 01 49.6 -0.7
MNHN IAmb IAmb 07 01 51.3
comp=Z,37nm,1.0s
MIAR Mount Ida 21.73 353 P P 07 01 49.4 -1.8
MIAR Mount Ida 21.73 353 P P 07 01 50.3 -0.8
baz=171,SNR=18
UALR University of 21.83 355 P P 07 01 53.0 +0.8
UALR IAmb IAmb 07 01 54.8
comp=Z,19nm,0.8s
LOOK Love County 21.89 344 P P 07 01 51.4 -1.6
FPAL Fort Paine 21.93 10 P P 07 01 52.1 -1.2
FPAL IAmb IAmb 07 01 54.9
comp=Z,17nm,0.8s
LPIG La Paz 21.97 303 LR LR 07 10 35.8
comp=Z,197nm,18.8s,baz=172,slow=37
PLAL Pickwick Lake 22.05 5 P P 07 01 53.4 -1.2
PLAL IAmb IAmb 07 01 55.2
comp=Z,15nm,0.8s
X37A Clayton 22.06 349 P P 07 01 53.8 -0.9
X37A IAmb IAmb 07 02 09.7
comp=Z,19nm,0.9s
X51A Calhoun 22.10 12 P P 07 01 53.8 -1.3
X51A IAmb IAmb 07 01 56.8
comp=Z,24nm,1.3s
SN05 Snyder 5 22.10 336 P P 07 01 55.7 +0.4
SN05 IAmb IAmb 07 01 57.3
comp=Z,18nm,0.7s
ODSA Odessa 22.18 331 P P 07 01 55.9 -0.2
ODSA IAmb IAmb 07 01 56.5
comp=Z,14nm,0.8s
BAUV El Baul 22.19 98 P P 07 01 54.4 -1.9
BAUV IAmb IAmb 07 01 59.7
comp=Z,15nm,0.7s
APMT Aspermont 22.20 338 P P 07 01 53.8 -2.5
APMT IAmb IAmb 07 01 58.2
comp=Z,11nm,0.6s
PECS Pecos 22.21 328 P P 07 01 56.0 -0.5
PECS IAmb IAmb 07 01 59.0
comp=Z,17nm,0.7s
SN07 Snyder 07 22.29 336 P P 07 01 56.5 -0.8
WHAR Wooly Hollow 22.34 356 P P 07 01 58.0 +0.3
WHAR IAmb IAmb 07 02 15.1
comp=Z,29nm,1.2s
VHRN Van Horn 22.36 325 P P 07 01 57.5 -0.7
VHRN IAmb IAmb 07 01 58.3
comp=Z,27nm,0.8s
HODGE Hodges 22.43 18 P P 07 01 57.3 -1.3
POST Post 22.52 335 P P 07 01 56.7 -3.0
HBAR Harrisburg 22.53 359 P P 07 01 59.7 -0.1
SWET Sewanee 22.54 9 P P 07 01 58.5 -1.4
SWET IAmb IAmb 07 02 00.5
comp=Z,18nm,0.7s
W50A Signal Mountai 22.63 11 P P 07 01 59.1 -1.7
JSC Jenkinsville 22.79 20 P P 07 02 00.7 -1.8
W52A Murphy 22.81 14 P P 07 02 00.6 -2.1
DKNS Dickens 22.81 337 P P 07 02 02.3 -0.5
DKNS IAmb IAmb 07 02 03.4
comp=Z,30nm,1.1s
Y57A Sumter 22.84 22 P P 07 02 01.5 -1.5
HALT Halls 22.90 2 P P 07 02 03.1 -0.6
W35A Tecumseh 22.92 346 P P 07 02 01.1 -2.8
FCAR Ozark Folk Cen 22.93 356 P P 07 02 02.8 -1.1
V48A Smith Brothers 22.93 7 P P 07 02 02.4 -1.5
V48A IAmb IAmb 07 02 03.8
comp=Z,16nm,0.8s
BG3 Lake Jocassee 22.95 16 P P 07 02 02.8 -1.5
CPCT Cooper Cave 23.02 12 P P 07 02 03.1 -1.8
CPCT IAmb IAmb 07 02 03.5
comp=Z,11nm,0.7s
WMOK Wichita Mounta 23.04 342 P P 07 02 03.1 -2.1
WMOK Wichita Mounta 23.04 342 P P 07 02 03.1 -2.1
baz=158,SNR=5.6
LCAR Lake Charles 23.06 358 P P 07 02 03.5 -1.7
WVT Waverly 23.21 5 P P 07 02 04.3 -2.5
baz=186
MNTX Cornudas Mount 23.28 326 P P 07 02 06.3 -1.3
MNTX Cornudas Mount 23.28 326 P P 07 02 05.8 -1.9
baz=140,SNR=41
CLTN Cedars of Leba 23.34 8 P P 07 02 06.6 -1.5
CLTN IAmb IAmb 07 02 07.5
comp=Z,35nm,1.0s
TKL Tuckaleechee C 23.38 13 IAmb IAmb 07 02 35.6
comp=Z,19nm,0.9s
TKL Tuckaleechee C 23.38 13 P P 07 02 06.6 -1.9
comp=Z,12nm,0.8s,baz=184,slow=11,SNR=21
TKL LR LR 07 12 14.8
comp=Z,456nm,18.5s,baz=198,slow=40
TUL3 Leonard 23.42 349 IAmb IAmb 07 02 08.1
comp=Z,13nm,0.8s
TUL3 Leonard 23.42 349 P P 07 02 06.7 -2.2
baz=166
RLO Rose Lookout 23.53 350 P P 07 02 07.4 -2.6
RLO IAmb IAmb 07 02 08.3
comp=Z,19nm,0.8s
KMSC Kings Mountain 23.55 19 P P 07 02 08.2 -2.0
KMSC IAmb IAmb 07 02 10.1
comp=Z,16nm,1.1s
KMSC Kings Mountain 23.55 19 P P 07 02 07.7 -2.6
baz=202
V52A Sevierville 23.60 14 P P 07 02 09.0 -1.8
V52A IAmb IAmb 07 02 10.1
comp=Z,20nm,1.1s
V53A Saluda 23.63 15 P P 07 02 09.2 -1.8
V53A IAmb IAmb 07 02 10.5
comp=Z,14nm,0.9s
OK031 S. Brethren Rd 23.68 347 IAmb IAmb 07 02 13.7
comp=Z,14nm,0.7s
U38A Gravette 23.70 352 P P 07 02 09.5 -2.2
OK052 Battle Ridge R 23.71 347 IAmb IAmb 07 02 10.1
comp=Z,21nm,0.7s
PBMO Poplar Bluff 23.75 360 IAmb IAmb 07 02 12.6
comp=Z,22nm,1.1s
SMWD Samnorwood 23.85 339 IAmb IAmb 07 02 12.6
comp=Z,22nm,0.7s
QUOK Quay 23.86 347 IAmb IAmb 07 02 12.0
comp=Z,21nm,0.7s
W57A Gilead 24.01 21 P P 07 02 12.5 -2.1
T42A Van Buren 24.01 358 P P 07 02 11.5 -3.1
T47A Sharon Grove 24.13 6 P P 07 02 13.7 -2.1
OK048 Pawnee Station 24.14 347 P P 07 02 12.9 -3.0
OK048 IAmb IAmb 07 02 14.3
comp=Z,25nm,1.1s
AMTX Amarillo 24.18 337 IAmb IAmb 07 02 16.3
comp=Z,13nm,0.6s
AMTX Amarillo 24.18 337 P P 07 02 14.8 -1.5
baz=152
MGMO Mountain Grove 24.19 356 IAmb IAmb 07 02 14.9
comp=Z,15nm,0.8s
TZTN Tazewell 24.28 13 P P 07 02 14.6 -2.6
TZTN IAmb IAmb 07 02 16.8
comp=Z,23nm,1.1s
TZTN Tazewell 24.28 13 P P 07 02 14.7 -2.6
baz=196
T50A Nancy 24.48 11 P P 07 02 16.2 -2.7
T50A IAmb IAmb 07 02 19.7
comp=Z,10nm,0.8s
T35A Sooner Cattle 24.53 348 IAmb IAmb 07 02 18.1
comp=Z,25nm,1.1s
S44A Carbondale 24.68 2 P P 07 02 18.2 -2.5
U54A Nelsons Funny 24.69 16 IAmb IAmb 07 02 21.4
comp=Z,17nm,0.7s
S39A Bolivar 24.81 354 P P 07 02 19.6 -2.3
KAN13 South Haven SW 24.84 346 IAmb IAmb 07 02 20.4
comp=Z,26nm,1.2s
CNNC Cliffs of the 24.88 25 P P 07 02 20.0 -2.6
baz=210
V58A Windy Hill, Pi 24.90 22 IAmb IAmb 07 02 21.1
comp=Z,15nm,0.8s
KAN17 Caldwell West 24.94 346 IAmb IAmb 07 02 21.8
comp=Z,20nm,0.7s
HSIG 25.01 313 P P 07 02 23.8 -0.1
KAN01 Argonia South 25.04 346 P P 07 02 21.9 -2.1
CCM Cathedral Cave 25.04 358 P P 07 02 21.5 -2.5
CCM IAmb IAmb 07 02 22.2
comp=Z,16nm,0.6s
CCM Cathedral Cave 25.04 358 P P 07 02 21.7 -2.3
baz=177
USIN University of 25.04 5 P P 07 02 21.9 -2.1
121A Cookes Peak, D 25.26 323 P P 07 02 26.2 -0.1
baz=136,SNR=30
R40A Maddies Statio 25.32 356 IAmb IAmb 07 02 24.6
comp=Z,9.9nm,0.6s
S51A Beattyville 25.32 12 P P 07 02 23.9 -2.6
S51A IAmb IAmb 07 02 50.9
comp=Z,20nm,1.2s
319A Douglas 25.36 319 IAmb IAmb 07 02 40.9
comp=Z,14nm,1.1s
WCI Wyandotte Cave 25.45 7 P P 07 02 25.7 -2.0
WCI Wyandotte Cave 25.45 7 P P 07 02 25.4 -2.3
baz=189
R49A Shelbyville 25.67 9 P P 07 02 27.2 -2.5
BLA Blacksburg 25.74 18 P P 07 02 27.6 -2.8
baz=202
OLIL Olney 25.78 4 IAmb IAmb 07 02 29.8
comp=Z,19nm,0.8s
Q44A Meyer Farm, Va 25.90 2 P P 07 02 29.2 -2.6
Y22D IRIS PASSCAL I 25.93 327 P P 07 02 30.1 -2.2
baz=140
Y22F Passcal Instru 25.93 327 P P 07 02 30.4 -1.9
baz=140
BLO Bloomington 26.35 7 P P 07 02 33.5 -2.4
BLO IAmb IAmb 07 02 34.3
comp=Z,22nm,0.9s
ANMO Albuquerque 26.37 329 P P 07 02 35.7 -0.6
ANMO Albuquerque 26.37 329 P P 07 02 35.4 -0.9
baz=142
ANMO Albuquerque 26.37 329 LR LR 07 15 12.8
comp=Z,65nm,19.6s,baz=240,slow=42
TBTG Tabatinga, AM 26.43 129 eP P 07 02 36.3 -0.5
R32A Long Quarter, 26.48 345 P P 07 02 35.1 -2.0
R32A IAmb IAmb 07 02 36.9
comp=Z,20nm,0.9s
T59A Double "B" Far 26.52 23 P P 07 02 34.9 -2.5
T59A IAmb IAmb 07 02 36.4
comp=Z,16nm,0.8s
P43A Skaggs, Pawnee 26.62 1 IAmb IAmb 07 02 39.7
comp=Z,10nm,0.8s
KSU1 Kansas State U 26.67 349 P P 07 02 36.2 -2.6
KSU1 Kansas State U 26.67 349 P P 07 02 37.1 -1.7
baz=166
Q51A Peebles 26.71 12 P P 07 02 36.6 -2.6
Q51A IAmb IAmb 07 02 38.4
comp=Z,26nm,1.1s
P46A Rosedale 26.72 5 P P 07 02 36.9 -2.4
P46A IAmb IAmb 07 02 37.9
comp=Z,20nm,0.9s
P38A Dawn 26.75 354 P P 07 02 37.1 -2.4
P38A IAmb IAmb 07 02 38.1
comp=Z,26nm,1.1s
P48A Milroy 26.77 8 P P 07 02 36.9 -2.8
P48A IAmb IAmb 07 02 37.7
comp=Z,28nm,1.3s
Q52A Bidwell 26.89 14 P P 07 02 38.4 -2.3
Q52A IAmb IAmb 07 02 44.9
comp=Z,13nm,0.9s
TUC Tucson 26.93 319 P P 07 02 41.5 +0.1
TUC Tucson 26.93 319 P P 07 02 40.8 -0.6
baz=131
CZSB Cruzeiro do Su 26.95 139 IAmb IAmb 07 02 48.8
comp=Z,21nm,1.2s
CZSB Cruzeiro do Su 26.95 139 eP P 07 02 41.6 +0.1
CBKS Cedar Bluff 27.11 344 P P 07 02 41.4 -1.4
baz=159
P51A Williamsport 27.21 12 IAmb IAmb 07 02 41.6
comp=Z,10nm,0.7s
T25A Trinidad 27.23 335 P P 07 02 43.7 -0.4
T25A Trinidad 27.23 335 P P 07 02 42.9 -1.2
baz=148,SNR=5.2
SFIN Lafayette 27.49 5 P P 07 02 43.5 -2.6
SFIN IAmb IAmb 07 02 44.1
comp=Z,14nm,0.8s
SFIN Lafayette 27.49 5 P P 07 02 43.0 -3.1
baz=186,SNR=5.4
HDIL Hopedale 27.54 2 P P 07 02 44.1 -2.5
HDIL IAmb IAmb 07 02 44.5
comp=Z,17nm,0.9s
HDIL Hopedale 27.54 2 P P 07 02 43.7 -2.8
baz=182
P52A Corning 27.56 14 P P 07 02 43.9 -2.8
baz=197
O48B Farmland 27.60 8 P P 07 02 43.9 -3.2
baz=190
CBN Corbin Frederi 27.67 22 P P 07 02 45.4 -2.4
baz=208
ACSO Alum Creek Sta 27.95 12 P P 07 02 47.9 -2.3
baz=195,SNR=5.6
214A Organ Pipe Nat 28.04 316 P P 07 02 49.8 -1.4
214A Organ Pipe Nat 28.04 316 P P 07 02 50.3 -0.9
baz=127
MCWV Mont Chateau 28.18 17 P P 07 02 49.9 -2.4
baz=202
KSCO Kaye Shedlock' 28.19 339 P P 07 02 51.5 -1.0
baz=154
SDCO Great Sand Dun 28.20 334 P P 07 02 51.7 -1.2
SDCO Great Sand Dun 28.20 334 P P 07 02 51.7 -1.2
baz=147
N35A Tabor 28.22 351 P P 07 02 50.6 -2.1
W18A Petrified Fore 28.25 325 IAmb IAmb 07 02 55.2
comp=Z,10nm,1.0s
W18A Petrified Fore 28.25 325 P P 07 02 52.3 -0.9
baz=136
O53A New Philadelph 28.36 15 P P 07 02 51.6 -2.3
baz=199
X16A Lo Mia Camp, P 28.75 322 P P 07 02 58.6 +1.0
L42A Oliver, Polo 28.98 1 P P 07 02 56.4 -2.9
L42A IAmb IAmb 07 02 57.0
comp=Z,15nm,0.7s
L40A Anamosa 29.04 359 IAmb IAmb 07 02 58.0
comp=Z,15nm,0.8s
M50A Fremont 29.07 11 P P 07 02 57.6 -2.5
Q24A Divide 29.09 336 P P 07 02 58.2 -2.6
baz=149
MVCO Mesa Verde 29.16 329 P P 07 03 00.9 -0.5
MVCO Mesa Verde 29.16 329 P P 07 02 59.6 -1.8
baz=141,SNR=6.9
L46A Eue Claire 29.18 6 P P 07 02 57.9 -3.3
BGNE Belgrade 29.20 348 P P 07 02 59.2 -2.2
baz=164
L44A Lake County Fo 29.22 4 P P 07 02 58.5 -3.0
baz=184
L48A N Adams 29.36 9 P P 07 02 59.5 -3.2
L48A IAmb IAmb 07 03 01.0
comp=Z,15nm,0.8s
L34A Svendsen Farm, 29.42 351 P P 07 03 01.1 -2.2
WUAZ Wupatki 29.47 323 P P 07 03 04.9 +0.9
WUAZ IAmb IAmb 07 03 05.4
comp=Z,9.0nm,1.0s
WUAZ Wupatki 29.47 323 P P 07 03 02.5 -1.5
baz=134,SNR=8.7
M53A WI Miller and 29.62 15 P P 07 03 02.5 -2.5
baz=199
SSPA Standing Stone 29.67 19 P P 07 03 03.2 -2.3
baz=205
K43A Burlington 29.72 3 P P 07 03 03.1 -2.9
K43A IAmb IAmb 07 03 03.7
comp=Z,14nm,0.8s
OGNE Ogallala 29.75 342 P P 07 03 04.8 -1.5
baz=156
AAM Ann Arbor 29.83 10 P P 07 03 04.8 -2.1
baz=193
JFWS Jewell Farm 29.88 0 IAmb IAmb 07 03 05.2
comp=Z,12nm,0.7s
JFWS Jewell Farm 29.88 0 P P 07 03 04.4 -3.0
baz=180,SNR=6.3
ISCO Idaho Springs 29.99 336 P P 07 03 06.9 -1.9
baz=149
SMCO Snowmass 30.03 334 P P 07 03 09.0 -0.3
GLA Glamis 30.06 316 P P 07 03 08.1 -1.1
baz=126
PV02 Paradox Valley 30.06 330 P P 07 03 09.3 0.0
PV02 IAmb IAmb 07 03 09.8
comp=Z,11nm,1.2s
TEFE Tefe 30.25 121 eP P 07 03 10.6 -0.4
PDMCI Parker Dam,Lak 30.36 319 P P 07 03 11.6 -0.2
baz=128
U15A North Rim 30.64 324 IAmb IAmb 07 03 16.5
comp=Z,11nm,1.4s
SWSC Sam W. Stewart 30.67 315 P P 07 03 13.5 -1.0
baz=124

IKP In-Ko-Pah, Jac 30.72 314 P P 07 03 14.3 -0.7
baz=123
BC3 Big Chuckawall 30.84 316 P P 07 03 15.1 -1.0
baz=126,SNR=7.3
HMU Henry Mountain 30.87 327 P **P** **07 03 16.6 +0.1**
HMU IAmb IAmb 07 03 21.1
comp=Z,7.9nm,0.9s
IRM Iron Mountain 30.93 317 P **P** **07 03 16.3 -0.5**
baz=127
N23A Red Feather La 31.06 337 P **P** **07 03 17.4 -0.8**
baz=149
MONP2 Monument Peak 31.07 314 P P 07 03 17.5 -0.8
baz=123
I37A Lemond, Waseca 31.09 356 P P 07 03 15.3 -2.8
ECSD EROS Data Cent 31.18 351 P P 07 03 16.2 -2.6
ECSD EROS Data Cent 31.18 351 P P 07 03 15.7 -3.2
baz=168,SNR=19
BOAV Boa Vista 31.25 107 P P 07 03 19.1 -0.7
BOAV IAmb IAmb 07 03 19.8
comp=Z,10nm,0.8s
BOAV Boa Vista 31.25 107 *eP* **P** **07 03 19.1 -0.7**
KNB Kanab 31.35 324 P **P** **07 03 21.4 +0.7**
KNB IAmb IAmb 07 03 30.9
comp=Z,9.4nm,1.1s
PKCU Pink Cliffs 31.36 325 IAmb IAmb 07 03 22.8
comp=Z,17nm,1.1s
O20A White River Ci 31.38 333 P **P** **07 03 20.3 -0.6**
O20A IAmb IAmb 07 03 21.1
comp=Z,12nm,0.9s
O20A White River Ci 31.38 333 P P 07 03 19.1 -1.8
baz=144,SNR=8.0
BELC Belle Mtn. Jos 31.41 316 P P 07 03 20.0 -1.2
baz=125
PAL Palisades 31.43 24 P P 07 03 17.7 -3.3
baz=212
TPFO Pinon Flats 31.49 315 P P 07 03 21.1 -0.8
baz=124
PFO Pinyon Flats O 31.50 315 P P 07 03 20.7 -1.2
baz=124
H43A Windswept, Lux 31.51 3 P P 07 03 18.8 -2.9
GMRC Granite Mounta 31.65 318 P P 07 03 22.3 -0.9
baz=127
BINY Binghamton 31.70 20 P P 07 03 20.9 -2.6
baz=207
V12A Nelson 31.71 320 P **P** **07 03 24.4 +0.6**
MTPU Mount Pierson 31.72 326 P **P** **07 03 24.6 +0.5**
MTPU IAmb IAmb 07 03 26.0
comp=Z,12nm,0.8s
Q16A Castle Valley 31.83 328 P **P** **07 03 24.2 -0.6**
P18A Preston Nutter 31.91 330 P P 07 03 24.5 -1.2
P18A IAmb IAmb 07 03 25.8
comp=Z,6.4nm,1.0s
SZCU Shurtz Canyon 31.91 324 IAmb IAmb 07 03 27.0
comp=Z,8.7nm,0.9s
MURC Murrieta 32.00 315 P P 07 03 23.7 -2.6
baz=123
P17A Butcher Ranch, 32.03 329 P **P** **07 03 26.4 -0.2**
CCUT Cedar City 32.03 324 P **P** **07 03 27.8 +1.0**
CCUT IAmb IAmb 07 03 29.1
comp=Z,10nm,1.2s
MVU Marysvale 32.07 326 P **P** **07 03 27.2 +0.2**
HEC Hector,Ludlow 32.12 317 P P 07 03 25.2 -2.2
baz=126
GLMI Grayling 32.16 8 P P 07 03 24.2 -3.2
baz=190
TUQ Turquoise Moun 32.22 318 P P 07 03 25.2 -3.0
baz=127
G40A Rib Lake 32.23 0 IAmb IAmb 07 03 27.1
comp=Z,13nm,1.2s
RWWY Rawlins 32.23 336 P P 07 03 27.2 -1.3
RWWY IAmb IAmb 07 03 27.9
comp=Z,9.2nm,1.0s
SPMN Marine on St. 32.26 357 P P 07 03 25.5 -2.8
baz=175,SNR=21
TCRU Three Creeks R 32.27 326 P **P** **07 03 28.9 0.0**
TCRU IAmb IAmb 07 03 29.7
comp=Z,11nm,0.8s
SUSD Miller 32.27 348 P P 07 03 25.9 -2.6
baz=164
SCI2 San Clemente I 32.63 312 P P 07 03 29.5 -2.3
baz=121
BFSC Mount Baldy Ra 32.68 315 P P 07 03 29.9 -2.4
baz=124
GSC Goldstone, Bar 32.71 317 P P 07 03 30.9 -1.7
baz=126
SHOC Shoshone, Teco 32.73 319 P P 07 03 29.7 -2.9
baz=128
CIS Catalina Islan 32.75 313 P P 07 03 30.8 -2.0
baz=122
F42A Maple Grove Fa 32.77 3 P P 07 03 29.6 -3.3
K22A Casper 32.79 338 P **P** **07 03 32.4 -0.8**
K22A IAmb IAmb 07 03 32.5
comp=Z,6.8nm,1.0s
K22A Casper 32.79 338 P P 07 03 30.6 -2.6
baz=150
BSUT Blindstream Ca 32.86 331 P **P** **07 03 33.5 -0.6**
BSUT IAmb IAmb 07 03 34.3
comp=Z,6.1nm,0.8s
MPU Maple Canyon 32.89 329 IAmb IAmb 07 03 34.4
comp=Z,8.3nm,0.8s
ETMB Extrema 32.89 132 P **P** **07 03 35.0 +0.8**
ETMB Extrema 32.89 132 *eP* P 07 03 33.6 -0.5
F36A Milaca 32.94 356 IAmb IAmb 07 03 31.8
comp=Z,7.7nm,1.0s
J58A Remsen 32.97 20 IAmb IAmb 07 03 32.8
comp=Z,7.6nm,0.8s
PSUT Pine Spring 32.99 325 P **P** **07 03 35.4 +0.2**
PSUT IAmb IAmb 07 03 36.3
comp=Z,6.9nm,0.8s
COWI Conover 33.08 1 P P 07 03 32.1 -3.4
SADO Sadowa 33.13 15 P P 07 03 32.4 -3.5
SADO IAmb IAmb 07 03 33.3
comp=Z,5.6nm,0.7s
SADO Sadowa 33.13 15 LR LR 07 17 47.0
comp=Z,295nm,19.6s,baz=236,slow=38
L61B Northampton 33.14 24 P P 07 03 33.2 -2.9
baz=212
DECC Green Verdugo 33.15 315 P P 07 03 35.2 -1.1
baz=123
GWY Greenwater Val 33.15 319 IAmb IAmb 07 03 47.3
comp=Z,11nm,1.5s
F33A 5 Mile Ranch, 33.20 352 P P 07 03 33.2 -3.3
JLU Jordanelle 33.24 330 P P 07 03 36.5 -0.8
RSSD Black Hills 33.25 342 P P 07 03 36.2 -1.2
RSSD IAmb IAmb 07 03 36.5
comp=Z,4.1nm,0.7s
RSSD Black Hills 33.25 342 P P 07 03 36.0 -1.3
baz=155
EDW2 Edwards Air Fo 33.26 316 P P 07 03 36.1 -1.2
baz=124
M65A Busby, Falmout 33.27 27 P P 07 03 34.3 -2.9
baz=216
FURC Furnace Creek, 33.45 319 P P 07 03 37.9 -0.9
baz=127
E43A Lone Tree Farm 33.46 4 P P 07 03 35.5 -3.3
CTU Camp Tracy 33.46 330 IAmb IAmb 07 03 39.4
comp=Z,7.8nm,0.9s
SNCC San Nicolas Is 33.47 312 P P 07 03 38.0 -1.1
baz=120
S11A Rachel 33.50 322 P **P** **07 03 41.0 +1.5**
WCT Wildcat Mounta 33.50 320 P P 07 03 37.5 -1.8
SPR3 Spring Creek 3 33.58 325 P P 07 03 39.6 -0.8
SPR3 IAmb IAmb 07 03 41.0
comp=Z,7.3nm,0.9s
SPR3 **PcP** **07 06 20.2 -0.6**
E38A The Farm, Brul 33.59 358 P P 07 03 36.8 -3.1
MPMC Manual Prospec 33.61 318 P P 07 03 39.3 -1.2
baz=126,SNR=6.4
TCUT Toone Canyon 33.62 331 P **P** **07 03 40.4 -0.2**
TCUT IAmb IAmb 07 03 48.0
comp=Z,10nm,0.9s
DUG Dugway, Tooele 33.62 328 P P 07 03 39.3 -1.2
DUG Dugway, Tooele 33.62 328 P P 07 03 39.4 -1.1
baz=137
E46A Sault Ste Mari 33.71 7 P P 07 03 38.0 -3.0
E46A IAmb IAmb 07 03 39.6
comp=Z,8.8nm,0.8s
R11B Troy Canyon, C 33.86 323 IAmb IAmb 07 03 44.4
comp=Z,7.9nm,1.1s
R11B Troy Canyon, C 33.86 323 P **P** **07 03 42.1 -0.6**
baz=131,SNR=13
Q12A Willow Creek R 33.89 325 P **P** **07 03 43.5 +0.6**
ARVC Arvin 33.97 315 P P 07 03 42.4 -1.0
baz=123
ISA Isabella, Lake 34.03 317 P P 07 03 42.6 -1.4
baz=124

HWUT Hardware Ranch 34.07 331 P P 07 03 43.6 -0.9
HWUT IAmb IAmb 07 03 45.5
comp=Z,9.6nm,1.1s
GRAC Grapevine Rang 34.09 319 P P 07 03 43.0 -1.5
baz=127
PD31 Pinedale Array 34.10 334 P P 07 03 43.0 -1.7
PDAR Pinedale Array 34.10 334 P P 07 03 42.9 -1.8
PDAR Pinedale Array 34.10 334 P P 07 03 43.2 -1.5
comp=Z,1.3nm,0.8s,baz=127,slow=11,SNR=8.8
PDAR PcP **PcP** **07 06 21.1 -0.9**
comp=Z,0.5nm,0.7s,baz=116,slow=5.1,SNR=2.8
comp=Z,1.3nm,0.8s
BW06 Boulder Array 34.10 334 P P 07 03 43.1 -1.6
baz=145
SBC Santa Barbara 34.22 314 P P 07 03 44.2 -1.3
baz=121
CWC Cottonwood Cre 34.22 318 P P 07 03 44.6 -1.1
baz=126
BGU Big Grassy Mou 34.27 329 IAmb IAmb 07 03 46.6
comp=Z,5.1nm,0.8s
LONY Lake Ozonia 34.32 20 P P 07 03 43.8 -2.5
baz=208
VES Vestal, Richgr 34.54 316 P P 07 03 47.1 -1.3
baz=124,SNR=7.4
D32A Dogwood Acres, 34.57 352 P P 07 03 45.3 -3.1
SAML Samuel 34.59 128 P P 07 03 47.1 -1.9
SAML Samuel 34.59 128 *eP* P 07 03 46.9 -2.1
SAML *eS* **S** **07 09 19.6 +1.6**
E28A Huff 34.67 347 P P 07 03 47.4 -2.0
DSP Deep Springs 34.70 319 P **P** **07 03 51.3 +1.6**
AHID Auburn Hatcher 34.77 333 P P 07 03 49.4 -1.1
AHID IAmb IAmb 07 03 49.8
comp=Z,13nm,1.2s
HVU Hansel Valley 34.79 330 P **P** **07 03 50.5 -0.2**
HVU IAmb IAmb 07 03 51.8
comp=Z,7.1nm,1.1s
SMMC Simmler 34.87 315 P P 07 03 48.9 -2.4
baz=122
EYMN Ely 34.93 359 P P 07 03 47.8 -3.7
baz=178,SNR=9.7
LBNH Lisbon 34.95 23 P P 07 03 48.4 -3.4
baz=212
ECR Eagle Creek 35.12 333 P **P** **07 03 52.9 -0.6**
REDW Red Top Meadow 35.13 334 P P 07 03 52.3 -1.3
LOHW Long Hollow 35.23 334 P P 07 03 53.3 -1.1
LOHW IAmb IAmb 07 03 54.1
comp=Z,6.7nm,0.8s
TPAW Teton Pass 35.28 334 P P 07 03 53.8 -1.2
TPAW IAmb IAmb 07 04 01.9
comp=Z,12nm,1.0s
ELK Elko 35.30 326 P **P** **07 03 55.2 +0.1**
ELK IAmb IAmb 07 03 57.2
comp=Z,7.0nm,0.9s
MOOW Moose Ponds 35.40 334 P P 07 03 54.6 -1.3
FXWY Fox Creek 35.43 334 P P 07 03 55.4 -0.8
B35A Bob, Littlefor 35.44 356 P P 07 03 52.8 -3.2
B35A IAmb IAmb 07 03 53.1
comp=Z,8.9nm,0.8s
NVAR Mina Array Bea 35.55 321 P **P** **07 03 58.5 +1.1**
NVAR Mina Array Bea 35.55 321 P **P** **07 03 58.2 +0.8**
comp=Z,10nm,0.7s,baz=134,slow=7.8,SNR=77
NVAR PcP **PcP** **07 06 25.7 -0.6**
comp=Z,1.0nm,0.7s,baz=114,slow=4.9,SNR=4.6
NVAR LR LR 07 20 07.1
comp=Z,168nm,18.0s,baz=103,slow=39
comp=Z,10nm,0.7s
MDPB Devils Postpil 35.56 319 P **P** **07 03 57.8 +0.3**
MDPB IAmb IAmb 07 04 00.1
comp=Z,8.6nm,0.9s
AGMN Agassiz Nation 35.57 354 P P 07 03 54.3 -2.7
AGMN Agassiz Nation 35.57 354 P P 07 03 54.0 -3.1
baz=170,SNR=25
IMW Indian Meadow 35.60 334 P P 07 03 56.3 -1.5
MDND Maddock 35.67 349 P P 07 03 55.9 -2.1
MDND Maddock 35.67 349 P P 07 03 56.0 -2.0
baz=164,SNR=10
RYN Ryan 35.81 321 P **P** **07 04 00.2 +0.7**
RYN IAmb IAmb 07 04 01.4
comp=Z,6.9nm,1.0s
KVN Kaiserville 35.82 322 P **P** **07 04 00.4 +0.9**
KVN IAmb IAmb 07 04 01.7
comp=Z,13nm,1.0s
H17A Grant Village 35.85 335 P **P** **07 03 59.2 -0.6**
H17A Grant Village 35.85 335 P P 07 03 57.8 -2.1
RLMT Red Lodge 35.94 337 P P 07 03 58.2 -2.3
baz=147
YNR Norris Junctio 36.16 335 IAmb IAmb 07 04 01.0
comp=Z,8.2nm,0.7s
BMN Battle Mountai 36.19 324 P **P** **07 04 03.2 +0.5**
BMN IAmb IAmb 07 04 03.9
comp=Z,8.9nm,0.9s
LAO LASA Array 36.24 341 P P 07 04 01.3 -1.6
LAO IAmb IAmb 07 04 01.7
comp=Z,9.1nm,1.1s
LAO LASA Array 36.24 341 P P 07 04 00.9 -2.0
baz=153
WAKR Walker 36.31 320 IAmb IAmb 07 04 07.5
comp=Z,18nm,1.4s
LPAZ La Paz 36.36 142 P **P** **07 04 08.3 +3.4**
comp=Z,1.6nm,1.1s,baz=346,slow=4.2,SNR=2.8
comp=Z,1.6nm,1.1s
CMB Columbia Colle 36.64 318 P **P** **07 04 06.9 +0.5**
PNTR Pine Nut 36.76 320 P **P** **07 04 08.2 +0.6**
PNTR IAmb IAmb 07 04 10.1
comp=Z,10.0nm,0.8s
PKME Peaks-Kenny Pk 36.85 25 P P 07 04 05.2 -2.8
baz=215
HLID Hailey 36.92 330 P P 07 04 07.3 -1.6
baz=138,SNR=6.6
PAHR Pah Rah Range 37.00 321 IAmb IAmb 07 04 11.3
comp=Z,8.8nm,1.1s
BOZ Bozeman (W) 37.27 335 P P 07 04 10.5 -1.3
BOZ Bozeman (W) 37.27 335 P P 07 04 09.9 -1.9
baz=144,SNR=7.8
DGMT Dagmar 37.28 345 P P 07 04 09.8 -1.9
DGMT Dagmar 37.28 345 P P 07 04 09.1 -2.6
baz=157,SNR=13
ULM Lac du Bonnet 37.50 354 P P 07 04 09.7 -3.8
ULM Lac du Bonnet 37.50 354 P P 07 04 09.6 -3.8
comp=Z,18nm,0.9s,baz=169,slow=9.1,SNR=36
ULM LR LR 07 22 53.2
comp=Z,100nm,18.5s,baz=184,slow=42
comp=Z,18nm,0.9s
MFID Camas Ranch 37.51 329 P P 07 04 12.9 -0.9
G65A Princeton 37.53 27 P P 07 04 11.3 -2.4
AFDM Forest Hills D 37.54 319 P P 07 04 12.7 -1.4
LRM Limekiln Ridge 37.79 334 P P 07 04 14.8 -1.5
ORV Oroville 38.22 320 P **P** **07 04 21.3 +1.5**
ORV IAmb IAmb 07 04 22.6
comp=Z,11nm,1.2s
WVOR Wild Horse Val 38.32 325 P **P** **07 04 20.5 -0.2**
WVOR IAmb IAmb 07 04 33.0
comp=Z,8.8nm,0.9s
ITTB Itaituba 38.38 114 *eP* P 07 04 19.2 -2.1
EGMT Eagleton 38.57 339 P P 07 04 21.0 -1.7
EGMT IAmb IAmb 07 04 21.5
comp=Z,8.0nm,0.7s
EGMT Eagleton 38.57 339 P P 07 04 21.1 -1.6
baz=148,SNR=9.5
BPMT Black Pine Rid 38.70 334 P P 07 04 22.6 -1.4
PLID Pearl Lake 38.82 331 P P 07 04 23.9 -1.1
PLID IAmb IAmb 07 04 24.3
comp=Z,9.2nm,0.9s
J08A Circle Bar Ran 38.85 327 P **P** **07 04 24.5 -0.6**
MSO Missoula 39.22 334 IAmb IAmb 07 04 28.2
comp=Z,17nm,1.5s
MSO Missoula 39.22 334 P P 07 04 26.7 -1.5
baz=142,SNR=7.5
VILB Vilhena 39.38 130 P P 07 04 28.9 -0.9
VILB Vilhena 39.38 130 *eP* P 07 04 28.4 -1.3
I07A Izee 39.89 327 P P 07 04 32.7 -1.1
NPGB Novo Progresso 39.97 118 *eP* P 07 04 32.1 -2.6
KMRM Mail Ridge 40.00 319 P **P** **07 04 35.6 +0.8**
KMRM IAmb IAmb 07 04 37.2
comp=Z,16nm,0.9s
F10A Beach Ranch, E 40.05 331 P P 07 04 33.7 -1.5
YBH Yreka Blue Hor 40.24 322 P P 07 04 35.4 -1.3
YBH Yreka Blue Hor 40.24 322 LR LR 07 21 42.1
comp=Z,92nm,20.4s,baz=152,slow=37
L04D Klamath Falls 40.28 322 P **P** **07 04 36.5 -0.7**
KMPM Mount Pierce 40.37 319 P **P** **07 04 37.6 -0.2**
KMPM IAmb IAmb 07 04 39.8
comp=Z,13nm,0.9s
KHMM Horse Mountain 40.38 320 P **P** **07 04 37.7 -0.3**

KHMM IAmb IAmb 07 04 39.8
comp=Z,9.7nm,0.8s
JCC Jacoby Creek, 40.54 320 P **P** **07 04 39.9 +0.9**
KRPM Rodgers 40.72 320 P **P** **07 04 40.8 +0.1**
SIV San Ignacio 40.74 134 LR LR 07 22 03.8
comp=Z,103nm,18.2s,baz=284,slow=37
KRMB Red Mountain 40.85 321 P **P** **07 04 42.2 +0.4**
KRMB IAmb IAmb 07 04 43.6
comp=Z,21nm,1.4s
I05D Terrebonne, OR 41.05 326 P **P** **07 04 43.1 -0.2**
KBO Bosley Butte 41.44 321 P **P** **07 04 47.2 +0.6**
NEW Newport 41.70 333 P P 07 04 46.9 -1.7
baz=138
NEW Newport 41.70 333 LR LR 07 26 17.2
comp=Z,108nm,18.0s,baz=138,slow=42
AF01 San Pedro de A 41.71 149 P **P** **07 04 50.0 +0.8**
AF01 IAmb IAmb 07 04 54.1
comp=Z,14nm,0.9s
H04A Detroit Lake 41.74 326 P **P** **07 04 48.5 -0.5**
H04A IAmb IAmb 07 04 48.8
comp=Z,14nm,0.8s
HOOD Mount Hood Mea 41.86 327 P **P** **07 04 49.8 -0.2**
C09A Chrisman Ranch 41.88 332 P **P** **07 04 49.3 -0.7**
C09A IAmb IAmb 07 04 50.4
comp=Z,9.5nm,0.5s
BBSD Serra de San D 41.88 135 *eP* P 07 04 48.7 -1.7
FFC Flin Flon 42.70 350 P P 07 04 54.3 -2.3
FFC IAmb IAmb 07 04 54.9
comp=Z,8.4nm,0.6s
RPN Rapa Nui 43.90 205 LR LR 07 18 16.5
comp=Z,102nm,21.4s,baz=13,slow=29
EDM Edmonton 44.20 340 P P 07 05 06.5 -2.3
EDM IAmb IAmb 07 05 07.0
comp=Z,14nm,0.9s
SCHQ Schefferville 45.67 19 P P 07 05 16.6 -3.8
SCHQ Schefferville 45.67 19 P P 07 05 16.7 -3.7
comp=Z,18nm,0.5s,baz=219,slow=6.4,SNR=87
SCHQ LR LR 07 25 57.6
comp=Z,134nm,18.7s,baz=232,slow=38
comp=Z,18nm,0.5s
FCC Fort Churchill 45.84 357 P P 07 05 18.2 -3.4
FCC IAmb IAmb 07 05 19.2
comp=Z,8.1nm,0.9s
SNDB Serra Nova Dou 45.91 121 *eP* P 07 05 21.3 -1.6
FDPY Filadelfia 45.92 139 *eP* P 07 05 22.4 -0.4
BRLDA Berland Lookou 46.31 338 P P 07 05 23.5 -2.0
BRLDA IAmb IAmb 07 05 23.9
comp=Z,9.5nm,0.9s
BDQN Bodoquena, MS 46.77 135 *eP* P 07 05 27.4 -2.1
MURT Porto Murtinho 47.01 137 *eP* P 07 05 28.8 -2.5
RVDE Rio Verde (Bra 47.13 132 *eP* P 07 05 30.4 -2.0
ARAG Araguaiana, MT 47.51 126 *eP* P 07 05 34.5 -0.8
AQDB Aquidauana 47.52 134 *eP* P 07 05 33.7 -1.6
SMTB Santa Maria do 47.61 115 *eP* **P** **07 05 36.3 +0.1**
BDFB Brasilia 50.54 123 P **P** **07 05 58.7 0.0**
comp=Z,3.5nm,0.7s,baz=252,slow=10,SNR=5.9
comp=Z,3.5nm,0.7s
YKA Yellowknife Ar 52.46 346 P P 07 06 09.0 -3.2
YKA Yellowknife Ar 52.46 346 P P 07 06 09.2 -3.1
comp=Z,4.5nm,0.8s,baz=145,slow=7.1,SNR=88
YKA PcP **PcP** **07 07 21.0 -1.8**
comp=Z,0.6nm,0.7s,baz=149,slow=3.0,SNR=5.0
YKA LR LR 07 33 44.8
comp=Z,57nm,18.4s,baz=321,slow=42
comp=Z,4.5nm,0.8s
FRB Frobisher Bay 53.00 12 LR LR 07 29 38.2
comp=Z,202nm,19.1s,baz=192,slow=37
V35K Ketchikan 53.08 332 P P 07 06 14.8 -2.1
baz=126
T35M Bob Quinn 53.48 334 P P 07 06 17.4 -2.5
baz=129
CRAG Craig 53.86 331 P P 07 06 20.0 -2.7
baz=125
WRAK Wrangell Islan 54.05 333 P P 07 06 21.4 -2.7
baz=126
U33K Whale Pass 54.23 332 P P 07 06 23.4 -1.9
baz=125
DLBC Dease Lake 54.31 336 IAmb IAmb 07 06 26.1
comp=Z,5.7nm,0.8s
DLBC Dease Lake 54.31 336 P P 07 06 23.8 -2.3
baz=130
S34M Telegraph Cree 54.44 335 P P 07 06 24.3 -2.6
baz=128
WTLY Watson Lake, Y 54.94 338 IAmb IAmb 07 06 29.6
comp=Z,4.7nm,1.0s
WTLY Watson Lake, Y 54.94 338 P P 07 06 28.7 -1.9
baz=132
R33M Jennings River 55.30 336 P P 07 06 30.9 -2.4
baz=129
WRGLY Wrigley 55.41 342 IAmb IAmb 07 06 31.6
comp=Z,4.6nm,0.7s
WRGLY Wrigley 55.41 342 P P 07 06 31.9 -1.9
baz=139
TGTN Hyland Airport 55.72 339 P P 07 06 34.7 -1.5
baz=133
SIT Sitka 55.77 332 P P 07 06 34.8 -1.7
baz=123
PLCA Paso Flores 56.43 162 P **P** **07 06 43.4 +1.9**
comp=Z,4.3nm,1.2s,baz=358,slow=4.9,SNR=4.0
PLCA LR LR 07 24 58.3
comp=Z,46nm,19.5s,baz=236,slow=30
comp=Z,4.3nm,1.2s
PLCA Paso Flores 56.43 162 *eP* P 07 06 40.0 -1.5
P32M Atlin 56.53 335 P P 07 06 40.0 -1.9
baz=126
P33M Teslin, Yukon 56.54 336 P P 07 06 40.2 -1.9
baz=128
S31K Pelican 56.67 333 P P 07 06 40.9 -2.0
baz=123
SKAG Skagway 57.12 335 P P 07 06 42.9 -3.2
baz=124
N32M Quiet Lake 57.23 337 P P 07 06 44.2 -2.8
baz=128
PLBC Pleasant Camp 57.56 334 P P 07 06 46.4 -2.8
baz=124
WHY Whitehorse 57.63 336 P P 07 06 47.1 -2.7
baz=126
FARO Faro, Yukon 57.99 338 P P 07 06 49.5 -2.8
baz=128
P30M Million Dollar 58.18 335 P P 07 06 51.7 -1.9
baz=123
O30N Mendenhall 58.18 336 P P 07 06 51.9 -1.7
O30N IAmb IAmb 07 06 53.0
comp=Z,6.5nm,1.1s
O30N Mendenhall 58.18 336 P P 07 06 51.5 -2.2
baz=124
P29M Windy Craggy 58.24 334 P P 07 06 52.3 -1.8
baz=122
M31M Drury Creek, Y 58.36 337 P P 07 06 52.9 -2.0
baz=127
N31M Braeburn, Yuko 58.47 336 P P 07 06 53.4 -2.2
baz=125
HYT Haines Junctio 58.79 335 P P 07 06 54.9 -3.0
baz=123
N30M Aishikik Lake 58.97 336 P P 07 06 57.3 -1.9
baz=124
PNL Peninsula 58.98 333 P P 07 06 57.0 -2.2
baz=120
YUK6 Outpost Mounta 59.21 335 P P 07 06 58.6 -2.4
baz=122
YUK4 Talbot Arm 59.54 335 P P 07 07 01.1 -2.1
baz=122
MAYO Mayo, Yukon 59.75 338 P P 07 07 02.5 -2.0
baz=126
O28M Mount Upton 59.88 334 P P 07 07 03.0 -2.7
baz=120
YUK8 Steele Glacier 59.97 335 P P 07 07 03.5 -2.7
baz=121
SFJD Kangerlussuaq 60.04 17 LR LR 07 33 35.5
comp=Z,147nm,19.4s,baz=226,slow=37
M29M Somme Creek 60.06 336 P P 07 07 04.3 -2.4
baz=123,SNR=10
L29M L29M 60.30 337 P P 07 07 06.6 -1.7
baz=124
C36M Paulatuk 60.31 347 P P 07 07 06.1 -2.1
baz=141
MESA MESA 60.35 333 P P 07 07 06.6 -2.2
baz=118
CTG Chitna Glacier 60.46 334 P P 07 07 07.3 -2.2
baz=119
K29M Barlow Dome 60.49 338 P P 07 07 07.5 -2.1
baz=124
J30M Hart River 60.49 339 P P 07 07 07.7 -2.0
baz=126
YUK3 Moose Creek 60.50 335 P P 07 07 07.0 -2.9
baz=120
H31M Peel River 60.58 341 P P 07 07 07.6 -2.4

baz=129
I30M **Mount Dempster** 60.89 340 P P 07 07 10.0 -2.3
baz=126
BGLC **Bering Glacier** 60.91 333 P P 07 07 10.4 -2.0
baz=117
J29N **Klondike Camp** 61.08 338 P P 07 07 11.8 -1.8
baz=124
G31M **Satah River** 61.26 342 P P 07 07 12.0 -2.6
G31M IAmb IAmb 07 07 12.4
comp=Z,5.2nm,0.9s
G31M **Satah River** 61.26 342 P P 07 07 12.3 -2.3
baz=129,SNR=5.3
KAIM **Kayak Island** 61.34 332 P P 07 07 13.4 -1.9
baz=116
M27K **Edge Creek, AK** 61.37 335 P P 07 07 13.4 -2.3
baz=119
MCARA **McCarthy VSAT** 61.38 334 P P 07 07 12.8 -2.8
baz=118
F31M **Tsiigehtchic** 61.44 342 IAmb IAmb 07 07 14.1
comp=Z,6.9nm,1.0s
F31M **Tsiigehtchic** 61.44 342 P P 07 07 13.4 -2.4
baz=130,SNR=7.7
EPYK **Eagle Plains** 61.69 341 P P 07 07 14.8 -2.8
baz=126
L27K **Beaver Creek,** 61.70 336 P P 07 07 14.9 -2.9
baz=120
RES **Resolute Bay** 61.80 359 IAmb IAmb 07 07 15.3
comp=Z,5.9nm,0.8s
RES **Resolute Bay** 61.80 359 LR LR 07 35 58.6
comp=Z,119nm,20.4s,baz=350,slow=38
M26K **Nabesna, AK** 61.85 335 P P 07 07 16.1 -2.7
baz=118
BMRM **Bremner River** 61.88 333 P P 07 07 16.2 -2.8
baz=116
G30M **tAoh Zraii Nji** 61.90 341 P P 07 07 16.5 -2.5
baz=127
INK **Inuvik** 61.94 343 IAmb IAmb 07 07 17.5
comp=Z,5.8nm,0.8s
INK **Inuvik** 61.94 343 P P 07 07 16.6 -2.6
baz=131,SNR=6.4
INK **Inuvik** 61.94 343 LR LR 07 38 16.2
comp=Z,57nm,18.9s,baz=189,slow=40
Q23K **Middleton Isla** 62.02 331 P P 07 07 17.5 -2.3
baz=114
H29M **Whitestone** 62.14 340 P P 07 07 18.5 -2.1
baz=125
F30M **Barrier River** 62.16 342 P P 07 07 18.0 -2.7
baz=128,SNR=6.8
N25K **Chitina, Valde** 62.16 334 P P 07 07 19.8 -1.1
N25K **Chitina, Valde** 62.16 334 P P 07 07 18.5 -2.5
baz=116,SNR=5.3
EYAK **Cordova Ski Ar** 62.20 333 P P 07 07 18.2 -2.9
baz=115
I28M **Miner Creek** 62.25 339 P P 07 07 18.9 -2.6
baz=123
K27K **Chicken** 62.28 337 P P 07 07 18.9 -2.7
baz=120
L26K **Log Cabin Wild** 62.29 336 P P 07 07 19.6 -2.1
baz=118
EGAK **Eagle** 62.33 338 P P 07 07 18.9 -3.0
baz=121
G29M **Pine Creek** 62.43 341 IAmb IAmb 07 07 21.1
comp=Z,6.4nm,1.0s
G29M **Pine Creek** 62.43 341 P P 07 07 19.9 -2.7
baz=125
A36M **Sachs Harbour** 62.62 348 P P 07 07 20.4 -3.3
baz=141,SNR=9.7
KLU **Klutina** 62.68 334 P P 07 07 22.9 -1.4
KLU IAmb IAmb 07 07 23.8
comp=Z,5.9nm,0.8s
KLU **Klutina** 62.68 334 P P 07 07 21.4 -3.0
baz=115
HARP **HAARP** 62.74 335 P P 07 07 22.3 -2.5
baz=116
I27K **Kandik River** 62.92 339 P P 07 07 22.8 -3.2
baz=121
GLI **Glacier Island** 62.94 333 P P 07 07 22.9 -3.2
baz=113
SCRK **Sand Creek** 63.00 336 P P 07 07 23.6 -2.9
baz=118
M24K **Tolsona, Glenn** 63.05 334 P P 07 07 24.2 -2.6
baz=115
J26L **Joseph Creek** 63.08 337 IAmb IAmb 07 07 26.3
comp=Z,3.4nm,0.8s
J26L **Joseph Creek** 63.08 337 P P 07 07 25.2 -1.9
baz=119
PAX **Paxson** 63.13 335 P P 07 07 25.1 -2.3
baz=116
H27K **Steamboat Moun** 63.22 339 P P 07 07 25.9 -2.0
baz=121,SNR=5.7
E29M **Blow River** 63.26 342 IAmb IAmb 07 07 27.1
comp=Z,11nm,1.4s
E29M **Blow River** 63.26 342 P P 07 07 25.4 -2.7
baz=126
I26K **Coal Creek Min** 63.33 338 P P 07 07 26.1 -2.4
baz=119
F28M **Old Crow** 63.42 341 P P 07 07 26.9 -2.2
F28M **Old Crow** 63.42 341 P P 07 07 27.0 -2.1
baz=124,SNR=20
SCM **Sheep Creek Mo** 63.43 334 P P 07 07 27.0 -2.4
baz=114
G27K **Doyon Strip** 63.57 340 P P 07 07 28.0 -2.2
baz=122
M23K **Glacier View** 63.59 333 P P 07 07 28.2 -2.1
baz=113
K24K **Donnelly Dome** 63.62 336 P P 07 07 28.6 -1.9
baz=116
SEW **Seward** 63.73 331 P P 07 07 28.6 -2.6
baz=111
KNK **Knik Glacier** 63.76 333 P P 07 07 29.2 -2.3
baz=112
J25K **Salcha River,** 63.83 337 IAmb IAmb 07 07 31.3
comp=Z,9.5nm,1.5s
J25K **Salcha River,** 63.83 337 P P 07 07 30.0 -2.0
baz=117
SML **Sawmill** 63.86 333 P P 07 07 29.7 -2.5
baz=113
E28M **Babbage River** 63.88 342 P P 07 07 29.3 -2.9
E28M IAmb IAmb 07 07 30.5
comp=Z,4.8nm,1.0s
E28M **Babbage River** 63.88 342 P P 07 07 29.9 -2.2
baz=124,SNR=6.0
WAT6 **Susitna Watana** 63.91 334 P P 07 07 30.5 -2.1
baz=114,SNR=5.5
D28M **Stokes Point** 64.06 343 P P 07 07 31.4 -1.9
baz=126,SNR=5.6
GHO **Glory Hole Cre** 64.10 333 P P 07 07 32.0 -1.9
PMR **Palmer** 64.13 333 P P 07 07 31.6 -2.2
baz=112
BRSE **Bradley Lake S** 64.21 331 P P 07 07 31.9 -2.6
baz=109
RC01 **Rabbit Creek A** 64.21 332 P P 07 07 32.1 -2.3
baz=111
E27K **Coleen River** 64.28 341 IAmb IAmb 07 07 33.8
comp=Z,5.7nm,1.1s
E27K **Coleen River** 64.28 341 P P 07 07 32.2 -2.6
baz=122,SNR=5.7
PRP **Porcupine Dome** 64.30 338 P P 07 07 32.6 -2.5
baz=117
HDA **Harding Lake** 64.35 336 IAmb IAmb 07 07 33.7
comp=Z,4.2nm,0.9s
HDA **Harding Lake** 64.35 336 P P 07 07 33.1 -2.2
baz=115
WAT1 **Susitna Watana** 64.35 334 P P 07 07 33.1 -2.3
baz=113
G26K **Porcupine Rive** 64.36 339 P P 07 07 33.1 -2.2
baz=119
IL31 64.48 337 P P 07 07 33.4 -2.6
IL31 IAmb IAmb 07 07 35.2
comp=Z,5.1nm,0.9s
ILAR **Eielson Array** 64.48 337 P P 07 07 34.1 -2.1
ILAR **Eielson Array** 64.48 337 P P 07 07 33.8 -2.4
comp=Z,4.9nm,1.1s,baz=138,slow=4.4,SNR=25
ILAR LR LR 07 38 13.6
comp=Z,70nm,20.8s,baz=98,slow=38
comp=Z,4.9nm,1.1s
KDAK **Kodiak Island** 64.50 328 P P 07 07 34.2 -2.2
baz=107
ICESG **Greenland Ices** 64.56 18 *i* P P 07 07 32.6 -4.4
ICESG IAmb IAmb 07 07 33.8
comp=Z,7.6nm,0.7s
HOM **Homer** 64.61 330 P P 07 07 34.2 -2.9
baz=108
M22K **Willow** 64.62 333 P P 07 07 33.6 -3.4
baz=111
Q20K **Shuyak Island** 64.65 329 P P 07 07 35.1 -2.3
baz=107
D27M **Malcolm River** 64.67 342 P P 07 07 34.4 -3.0
baz=123
RND **Reindeer** 64.70 335 P P 07 07 36.4 -1.3
OHAK **Old Harbor** 64.71 328 P P 07 07 35.5 -2.2
baz=106
H25L **Birch Creek** 64.75 338 P P 07 07 35.5 -2.4
baz=117
SUA **Susitna One** 64.80 332 P P 07 07 35.5 -3.0
baz=110
POKR **Poker Plat Res** 64.84 337 P P 07 07 35.2 -3.3
baz=115
F26K **Sheenjek River** 64.86 340 P P 07 07 36.0 -2.6
baz=119,SNR=5.9
MCK **McKinley** 64.87 335 P P 07 07 35.8 -2.9
baz=113
BMAR **Burnt Mountain** 64.87 340 P P 07 07 37.0 -1.7
G25K **Bearman Lake** 65.08 339 P P 07 07 37.6 -2.4
baz=117
O20K **Slope Mountain** 65.22 331 P P 07 07 39.2 -1.9
baz=108
NEA2 **Nenana** 65.26 336 P P 07 07 39.4 -1.8
baz=113
F25K **Christian Rive** 65.31 340 P P 07 07 40.1 -1.5
baz=118,SNR=5.6
H24K **Noodor Dome** 65.31 338 P P 07 07 39.2 -2.4
baz=115
TRF **Thorofare Moun** 65.32 335 P P 07 07 39.7 -2.1
TRF IAmb IAmb 07 07 40.1
comp=Z,7.6nm,1.1s
TRF **Thorofare Moun** 65.32 335 P P 07 07 39.4 -2.5
baz=112
SKT **Skwentna** 65.33 333 P P 07 07 39.8 -1.9
SKT IAmb IAmb 07 07 40.6
comp=Z,5.6nm,0.9s
SKT **Skwentna** 65.33 333 P P 07 07 39.5 -2.3
baz=110
Q19K **Cape Douglas,** 65.37 329 P P 07 07 39.5 -2.6
baz=106
N20K **Mount Spurr** 65.38 332 P P 07 07 40.3 -1.9
baz=109
P19K **Oil Pt** 65.38 330 P P 07 07 39.2 -2.9
baz=107
E25K **Arctic Village** 65.53 340 P P 07 07 40.4 -2.6
baz=118
G24K **Hadweenzic Riv** 65.54 338 P P 07 07 41.3 -1.8
G24K IAmb IAmb 07 07 41.6
comp=Z,8.0nm,1.2s
G24K **Hadweenzic Riv** 65.54 338 P P 07 07 41.1 -1.9
baz=116
I23K **Minto, Yukon-K** 65.60 337 P P 07 07 41.5 -1.8
I23K IAmb IAmb 07 07 42.2
comp=Z,7.8nm,0.9s
I23K **Minto, Yukon-K** 65.60 337 P P 07 07 41.7 -1.7
baz=113,SNR=7.0
CHIR **Chirikof Islan** 65.60 326 P P 07 07 41.9 -1.7
baz=103
C27K **Jago River** 65.69 342 P P 07 07 42.4 -1.6
baz=121,SNR=5.2
BPAW **Bear Paw Mtn.** 65.85 335 P P 07 07 42.5 -2.6
BPAW IAmb IAmb 07 07 43.4
comp=Z,3.8nm,0.8s
BPAW **Bear Paw Mtn.** 65.85 335 P P 07 07 42.9 -2.2
baz=111
PPT **Papeete** 65.91 244 LR LR 07 29 34.7
comp=Z,72nm,18.6s,baz=120,slow=29
PPLA **Purkeypile** 65.93 334 P P 07 07 43.4 -2.3
baz=109
H23K **Yukon River** 65.94 337 P P 07 07 43.7 -1.9
baz=113
M20K **Styx River** 66.01 333 P P 07 07 44.2 -2.1
baz=108
F24K **Squaw Lake** 66.04 339 P P 07 07 44.3 -2.0
baz=116
O19K **Port Alsworth** 66.06 331 P P 07 07 44.1 -2.3
baz=106
CAST **Castle Rocks** 66.06 334 P P 07 07 43.8 -2.6
baz=110
MLY **Manley** 66.09 336 IAmb IAmb 07 07 45.2
comp=Z,6.5nm,0.7s
MLY **Manley** 66.09 336 P P 07 07 44.3 -2.3
baz=112,SNR=8.7
C26K **Camden Bay** 66.20 342 P P 07 07 45.2 -1.9
baz=120
N19K **Bonanza Creek** 66.31 331 IAmb IAmb 07 07 46.5
comp=Z,6.1nm,0.9s
N19K **Bonanza Creek** 66.31 331 P P 07 07 46.2 -2.0
baz=106
Q17K **Contact Creek** 66.33 328 P P 07 07 46.2 -2.1
baz=104
D25K **Kavik River** 66.36 341 IAmb IAmb 07 07 47.3
comp=Z,8.0nm,0.9s
D25K **Kavik River** 66.36 341 P P 07 07 46.2 -2.1
baz=118,SNR=9.7
O18K **Koktuh Hills** 66.40 330 P P 07 07 46.6 -2.0
baz=105
G23K **Bananza Creek** 66.47 338 P P 07 07 47.2 -1.8
baz=113
E24K **Your Creek** 66.49 340 P P 07 07 48.1 -1.0
baz=115
L20K **Farewell, AK** 66.53 333 P P 07 07 47.5 -2.0
baz=108
M19K **Big River Lodg** 66.59 332 P P 07 07 47.8 -2.1
baz=107
H22K **Ishlatina Cre** 66.66 337 P P 07 07 48.6 -1.6
baz=111
COLD **Coldfoot** 66.74 338 P P 07 07 49.3 -1.4
baz=113,SNR=5.1
Q16K **King Salmon** 66.82 329 P P 07 07 49.6 -1.7
baz=103
SUMG **Summit** 66.83 15 P P 07 07 48.7 -3.0
SUMG **Summit** 66.83 15 *i* P P 07 07 48.0 -3.7
SUMG IAmb IAmb 07 07 50.4
comp=Z,4.7nm,0.6s
P17K **Kvichak River** 66.83 329 P P 07 07 49.7 -1.7
baz=104
E23K **Chandalar** 66.87 339 P P 07 07 50.2 -1.4
baz=114
L19K **White Mountain** 66.88 333 P P 07 07 50.0 -1.8
baz=107
K20K **Telida** 66.89 334 P P 07 07 49.2 -2.5
baz=108
N18K **Kilae Creek** 66.94 331 P P 07 07 50.2 -2.0
baz=105
R16K **Pilot Point** 67.04 327 P P 07 07 50.8 -2.0
baz=102
D24K **Happy Valley** 67.06 341 P P 07 07 50.5 -2.2
baz=115
G22K **Bettles** 67.09 338 P P 07 07 50.2 -2.7
baz=112
TOLK **Toolik Lake Re** 67.09 340 P P 07 07 50.6 -2.4
baz=114
H21K **Melozitna Rive** 67.12 336 P P 07 07 50.5 -2.7
baz=110
M18K **Stony River** 67.13 332 P P 07 07 50.9 -2.4
baz=105
J20K **Nowinta River** 67.18 335 P P 07 07 51.5 -2.1
baz=108
CHGN **Chignik** 67.23 326 P P 07 07 51.5 -2.5
baz=101
C24K **Franklin Bluff** 67.27 341 P P 07 07 52.1 -1.9
baz=116,SNR=5.5
O17K **Koliganek Bris** 67.30 330 P P 07 07 52.3 -2.0
baz=104
I20K **Naaghedeneel** 67.51 335 P P 07 07 53.1 -2.4
baz=108
N17K **Nushagak Hills** 67.52 331 P P 07 07 53.3 -2.5
baz=104
NEEM **North Greenlan** 67.53 9 *i* P P 07 07 52.0 -3.9
NEEM IAmb IAmb 07 07 54.5
comp=Z,7.5nm,0.9s
F22K **John River** 67.55 338 P P 07 07 54.1 -1.8
baz=111
P16K **Nushagak River** 67.58 329 P P 07 07 53.2 -2.9
baz=102
D23K **Nanushuk River** 67.59 340 P P 07 07 53.7 -2.4
baz=113
E22K **Anaktuvuk Pass** 67.66 339 P P 07 07 54.5 -2.1
baz=112
G21K **Allakaket** 67.69 337 P P 07 07 54.7 -2.0
G21K IAmb IAmb 07 07 55.5
comp=Z,3.8nm,0.8s
G21K **Allakaket** 67.69 337 P P 07 07 54.7 -2.0
baz=110
L18K **Granite Mounta** 67.72 332 P P 07 07 54.5 -2.5
baz=105
J19K **Poorman** 67.74 334 P P 07 07 54.7 -2.4
baz=107
O16K **Kokwok River B** 67.75 329 P P 07 07 54.0 -3.2
baz=102
M17K **Holitna River** 67.85 331 P P 07 07 55.4 -2.5
baz=104
S14K **Fog Glacier** 67.86 326 P P 07 07 55.7 -2.4
baz=100
H20K **Anotleneega Mo** 67.89 336 P P 07 07 55.7 -2.3
baz=108
F21K **Alatna River** 67.92 338 P P 07 07 56.2 -2.0
baz=110,SNR=13
C23K **Itkillik River** 67.92 341 IAmb IAmb 07 07 57.7
comp=Z,6.3nm,0.8s
C23K **Itkillik River** 67.92 341 P P 07 07 56.4 -1.8
baz=114,SNR=5.1
J18K **Innoko River** 68.06 334 P P 07 07 57.7 -1.4
baz=105
SDPT **Sand Point** 68.22 325 P P 07 07 58.7 -1.5
baz=99
D22K **Ayikyak River** 68.23 340 P P 07 07 58.1 -2.0
baz=111
N16K **Nishlik Lake** 68.27 330 P P 07 07 59.1 -1.4
baz=102
L17K **Donlin** 68.43 332 P P 07 07 59.1 -2.3
baz=103
M16K **Timber Creek** 68.48 331 P P 07 08 00.1 -1.8
baz=102
H19K **Roundabout Mou** 68.52 336 P P 07 07 59.7 -2.3
H19K IAmb IAmb 07 08 00.9
comp=Z,11nm,1.3s
H19K **Roundabout Mou** 68.52 336 P P 07 08 00.2 -1.7
baz=106
O15K **Ungalikthiuk R** 68.53 329 P P 07 08 00.3 -1.8
baz=101
K17K **Iditarod** 68.57 333 P P 07 08 00.7 -1.6
baz=104
F20K **Avaraart Lake** 68.69 337 P P 07 08 01.0 -2.0
F20K IAmb IAmb 07 08 02.0
comp=Z,3.8nm,0.8s
F20K **Avaraart Lake** 68.69 337 P P 07 08 01.1 -1.9
baz=108
N15K **Kwethluk River** 68.86 330 P P 07 08 02.5 -1.7
baz=101
L16K **Owhat River** 68.88 331 P P 07 08 02.7 -1.5
baz=102
G19K **Purcell Mounta** 68.95 336 P P 07 08 02.6 -2.0
baz=106
B22K **Teshekpuk Lake** 69.01 341 P P 07 08 03.4 -1.5
baz=111
C21K **Knifeblade Rid** 69.04 340 P P 07 08 03.7 -1.5
baz=109
J17K **VABM Dome** 69.07 333 P P 07 08 04.0 -1.4
baz=103
B21K **Ikpikpuk River** 69.14 340 P P 07 08 04.2 -1.5
baz=110
S12K **Black Hills** 69.16 325 P P 07 08 04.1 -2.0
baz=98
H18K **Honhosa River** 69.19 335 P P 07 08 03.8 -2.3
baz=104
E20K **Nigu River** 69.23 339 P P 07 08 04.3 -2.2
baz=108
M15K **Kasigluk River** 69.25 330 P P 07 08 04.0 -2.6
baz=101
E19K **Redstone River** 69.37 338 P P 07 08 05.2 -2.0
baz=106
F19K **Shaleruckik Mo** 69.40 337 P P 07 08 05.6 -1.8
baz=106
BORG **Borgarnes** 69.45 25 LR LR 07 39 50.3
comp=Z,54nm,18.1s,baz=220,slow=37
G18K **Tagagawik** 69.50 336 P P 07 08 06.7 -1.4
baz=104
D20K **Etivluk River** 69.52 339 P P 07 08 06.2 -2.0
baz=107
J16K **Anvik River** 69.72 333 P P 07 08 08.3 -1.1
baz=102
A22K **Sinclair Lake** 69.73 342 P P 07 08 07.8 -1.5
baz=110
H17K **Granite Mounta** 69.78 335 P P 07 08 08.2 -1.6
baz=103
L15K **Ungalak Mounta** 69.81 331 P P 07 08 08.6 -1.4
baz=100
M14K **Bethel** 69.87 330 P P 07 08 09.2 -1.2
baz=100
K15K **Wolf Creek Mou** 69.94 332 P P 07 08 08.8 -2.1
baz=100
D19K **Kuna River** 69.99 339 P P 07 08 09.1 -2.0
baz=106
F18K **Selawik** 70.06 337 P P 07 08 09.4 -2.0
baz=104
B20K **Meade River** 70.10 340 P P 07 08 10.0 -1.7
baz=107
G17K **Kiwalik Mounta** 70.21 335 P P 07 08 11.1 -1.3
baz=102
L14K **Kuka Creek** 70.32 331 P P 07 08 11.8 -1.2
baz=99
C19K **Lookout Ridge** 70.67 339 P P 07 08 14.0 -1.2
baz=105
G16K **Koyuk River** 70.88 335 P P 07 08 14.4 -2.1
baz=101
J14K **Nanvaranak Lak** 70.94 332 P P 07 08 14.7 -2.2
baz=99
E17K **Hotham Inlet** 71.01 337 P P 07 08 15.7 -1.6
baz=102
C18K **Utukok River** 71.12 339 P P 07 08 16.0 -2.0
baz=103
B18K **Kokolik River** 71.50 339 P P 07 08 18.7 -1.4
baz=103
G15K **Niukluk** 71.51 335 P P 07 08 18.8 -1.5
baz=99
D17K **Noatak River** 71.61 337 P P 07 08 19.4 -1.5
baz=101
RDOG **Red Dog Mine** 71.61 338 P P 07 08 19.3 -1.6
baz=101
C17K **DeLong Mountai** 71.80 338 P P 07 08 20.2 -1.8
baz=101
F15K **North Star Dit** 71.88 335 P P 07 08 21.6 -0.9
baz=99
M11K **Mekoryuk** 71.90 330 P P 07 08 21.9 -0.8
baz=96
F14K **Arctic Creek** 72.54 335 P P 07 08 25.1 -1.3
baz=97
C16K **Lisburne Hills** 72.55 338 P P 07 08 24.4 -2.0
baz=99
NIKH **Nikolski High** 72.91 322 P P 07 08 26.9 -2.0
baz=91
TNA **Tin City** 73.21 335 P P 07 08 28.6 -1.9
baz=96
DAG **Danmarks Havn** 73.32 13 *i* P P 07 08 26.0 -4.9
DAG IAmb IAmb 07 08 27.9
comp=Z,3.1nm,0.8s
P08K **Saint George I** 73.41 325 P P 07 08 31.0 -0.8
baz=92
SPIA **Saint Paul Isl** 73.80 326 P P 07 08 32.8 -1.3
baz=91
GAMB **Gambell** 74.71 333 P P 07 08 37.7 -1.5
baz=92
JMIC **Jan Mayen** 75.18 20 LR LR 07 42 36.7
comp=Z,48nm,18.2s,baz=271,slow=37
EKA **Eskdalemuir Ar** 77.85 36 P P 07 08 52.6 -4.7
comp=Z,1.8nm,0.5s,baz=266,slow=6.1,SNR=18
comp=Z,1.8nm,0.5s
ESDC **Sonseca Array** 79.06 52 P P 07 09 00.6 -3.9
comp=Z,1.5nm,0.8s,baz=290,slow=5.2,SNR=11
ESDC LR LR 07 39 56.4
comp=Z,49nm,20.3s,baz=308,slow=33
comp=Z,1.5nm,0.8s
MDT **Midelt** 79.52 59 LR LR 07 38 45.7
comp=Z,48nm,19.2s,baz=286,slow=32
SPITS **Spitsbergen Ar** 80.80 12 P P 07 09 10.4 -2.6
comp=Z,8.1nm,0.8s,baz=54,slow=1.4,SNR=6.2
SPITS LR LR 07 47 48.0
comp=Z,96nm,18.3s,baz=274,slow=38
comp=Z,8.1nm,0.8s
BILL **Bilibino** 83.07 338 P P 07 09 23.5 -1.5
BILL IAmb IAmb 07 09 24.2
comp=Z,7.5nm,1.1s
DBIC **Dimbokro** 84.09 85 P P 07 09 29.8 -1.6
comp=Z,5.3nm,0.8s,baz=268,slow=4.0,SNR=6.3
DBIC LR LR 07 43 41.1
comp=Z,49nm,21.4s,baz=276,slow=34
comp=Z,5.3nm,0.8s
NB2 **NORSAR Subarra** 84.28 29 P P 07 09 28.4 -3.1
comp=Z,4.8nm,1.0s,baz=288,slow=5.1
NOA **NORSAR Array B** 84.28 29 P P 07 09 28.3 -3.2
comp=Z,0.9nm,0.7s,baz=289,slow=5.0,SNR=4.7
NOA LR LR 07 46 32.0
comp=Z,26nm,18.9s,baz=280,slow=36
comp=Z,0.9nm,0.7s
HFS **Hagfors** 85.72 29 P P 07 09 35.4 -3.3
comp=Z,2.7nm,0.8s,baz=297,slow=9.8,SNR=4.4
HFS LR LR 07 45 51.9
comp=Z,32nm,21.3s,baz=317,slow=34

comp=Z,2.7nm,0.8s
ARCES ARCESS Array B 86.62 18 P P 07 09 39.4 -3.6
comp=Z,2.1nm,0.9s,baz=299,slow=2.5,SNR=5.0
ARCES LR LR 07 46 45.7
comp=Z,42nm,21.7s,baz=319,slow=35
comp=Z,2.1nm,0.9s
TORD Torodi Ar. Bea 89.00 77 P P 07 09 52.3 -3.1
comp=Z,0.9nm,0.6s,baz=298,slow=4.6,SNR=6.6
TORD LR LR 07 47 24.6
comp=Z,41nm,19.2s,baz=292,slow=34
comp=Z,0.9nm,0.6s
GERES GERESS Array B 89.36 40 LR LR 07 44 19.0
comp=Z,41nm,20.6s,baz=55,slow=32
FINES FINESS Array B 90.75 26 LR LR 07 47 49.3
comp=Z,33nm,21.4s,baz=344,slow=34
KURBB Kurchatov Arra 115.97 8 PKP **PKiKP 07 15 40.9 -1.8**
comp=Z,0.2nm,0.2s,baz=351,slow=2.1,SNR=4.4
KSRS Korea Array 118.37 326 PKP **PKPdf 07 15 46.9 -0.9**
comp=Z,0.5nm,0.4s,baz=14,slow=1.9,SNR=4.1
BOSA Boshof 118.39 116 PKP **PKPdf 07 15 48.2 0.0**
comp=Z,3.5nm,0.8s,baz=306,slow=4.0,SNR=5.1
MKAR Makanchi Array 120.18 6 PKP **PKPdf 07 15 49.0 -2.0**
comp=Z,0.5nm,0.7s,baz=30,slow=3.2,SNR=2.6
WRA Warramunga Arr 136.74 255 PKP **PKPdf 07 16 22.6 -0.5**
comp=Z,1.1nm,0.8s,baz=89,slow=2.9,SNR=5.6
ASAR Alice Springs 136.87 249 PKhKP PKPpre 07 16 16.3
comp=Z,0.7nm,1.1s,baz=93,slow=3.1,SNR=2.2
CMAR Chiang Mai Arr 147.51 344 PKPbc **PKPdf 07 16 43.6 +1.3**
comp=Z,7.4nm,0.6s,baz=340,slow=3.5,SNR=37

IDC 07 07:13:07.1±1.8, 54.50N×83.57E, h0km, mbtmp2.8/2, ML2.1/2, Error ellipse: s-maj=16.1km s-min=11.2km az=5.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.92**	**126**	I	I	07 18 10.0	
	baz=308,slow=323,SNR=3.3						
ZALV	**Zalesovo Beam**	**0.92**	**126**	Pg	Pg	07 13 24.4	-0.3
	1.6nm,0.3s,baz=310,slow=14,SNR=7.3						
ZALV				Lg	Lg	07 13 38.0	
	2.2nm,0.3s,baz=305,slow=27,SNR=6.3						
MKAR	**Makanchi Array**	**7.76**	**187**	Pn	Pn	07 15 01.6	+0.4
	baz=14,slow=13,SNR=1.8						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**7.95**	**265**	Pn	Pn	07 15 03.0	-0.8
	baz=80,slow=14,SNR=1.6						
	0.3nm,0.3s						

*VAO **07** 07:26:36.9±2.9, 23.42S×71.59W, h16km±15km, mb4.2*
*IDC **07** 07:27:25.8±1.0, 23.06S×67.56W, h145km±15km, mb4.1/2, mbtmp4.1/7, Error ellipse: s-maj=23.8km s-min=18.6km az=113.0*
*NEIC **07** 07:27:25.8±2.3, 23.05S±0.06×67.79W±0.1, h173km±8km, mb4.4/15, Error ellipse: s-maj=14.0km s-min=9.0km az=103.0*
*SJA **07** 07:27:25.9±3.3, 23.06S×67.66W, h130km, ML3.8, MW3.8*
*GUC **07** 07:27:27.7±0.8, 23.04S×67.83W, h157km±4km, ML4.0*
ISC 07 07:27:25.0±0.6, 23.07S±0.03×67.77W±0.04, h172km±6km, n137, σ1s91/178, mb4.4/5, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AF01	**San Pedro de A**	**0.39**	**287**		**Pn**	**07 27 49.0**	**+0.2**
AF01				Sn	**Sn**	**07 28 07.5**	**+0.4**
AF01	**San Pedro de A**	**0.39**	**287**	⇑*eP*	**Pn**	**07 27 48.8**	**0.0**
AF01				*eS*	**Sn**	**07 28 05.8**	**-1.3**
LVC	**Limon Verde**	**1.15**	**293**	*eP*	**Pn**	**07 27 53.9**	**+0.4**
LVC				*eS*	**Sn**	**07 28 16.5**	**+1.1**
LVC	**Limon Verde**	**1.15**	**293**	P	**Pn**	**07 27 53.9**	**+0.4**
	349nm,0.5s,baz=110,slow=6.4,SNR=715						
LVC				S	**Sn**	**07 28 14.5**	**-0.9**
	106nm,0.3s,baz=204,slow=24,SNR=31						
LVC	**Limon Verde**	**1.15**	**293**	⇑*eP*	**Pn**	**07 27 53.8**	**+0.3**
LVC				*eS*	**Sn**	**07 28 13.9**	**-1.5**
LVC				IAML		07 28 14.9	
	comp=Z,2μm,0.6s						
PB15	**IPOC Station P**	**1.57**	**265**		**Pn**	**07 27 57.5**	**+0.3**
PB15				Sn	**Sn**	**07 28 21.2**	**-0.8**
PB15	**IPOC Station P**	**1.57**	**265**	*eP*	**Pn**	**07 27 57.6**	**+0.3**
PB15				*eS*	**Sn**	**07 28 22.6**	**+0.5**
PB15	**IPOC Station P**	**1.57**	**265**	⇑*eP*	**Pn**	**07 27 58.0**	**+0.8**
PB15				*eS*	**Sn**	**07 28 21.3**	**-0.8**
PB06	**IPOC Station P**	**1.70**	**282**		**Pn**	**07 27 59.2**	**+0.7**
PB06	**IPOC Station P**	**1.70**	**282**	*eP*	**Pn**	**07 27 58.5**	**0.0**
PB06				*eS*	**Sn**	**07 28 24.5**	**+0.2**
PB06				IAML		07 28 25.5	
	comp=Z,329nm,0.3s						
PB06	**IPOC Station P**	**1.70**	**282**	⇑*eP*	**Pn**	**07 27 59.3**	**+0.7**
PB06				*eS*	**Sn**	**07 28 23.1**	**-1.2**
PB06				IAML		07 28 26.1	
	comp=E,543nm,0.3s						
PB09	**IPOC Station P**	**1.86**	**313**		**Pn**	**07 28 01.3**	**+1.1**
PB09	**IPOC Station P**	**1.86**	**313**	*eP*	**Pn**	**07 28 00.7**	**+0.5**
PB09				*eS*	**Sn**	**07 28 27.7**	**+0.4**
PB09				IAML		07 28 28.0	
	comp=Z,446nm,0.4s						
PB09	**IPOC Station P**	**1.86**	**313**	⇑*eP*	**Pn**	**07 28 01.3**	**+1.1**
PB09				*eS*	**Sn**	**07 28 26.6**	**-0.7**
PB09				IAML		07 28 31.1	
	comp=E,445nm,0.5s						
PB05	**IPOC Station P**	**2.25**	**275**	Pn	**Pn**	**07 28 04.8**	**+0.4**
YJA	**Yavi**	**2.27**	**67**	*eP*	**Pn**	**07 28 06.4**	**+1.5**
YJA				*eS*	**Sn**	**07 28 36.9**	**+1.0**
PB04	**IPOC Station P**	**2.31**	**288**		**Pn**	**07 28 05.8**	**+0.5**
PB04	**IPOC Station P**	**2.31**	**288**	*eP*	**Pn**	**07 28 05.8**	**+0.5**
PB04				*eS*	**Sn**	**07 28 37.6**	**+1.2**
PB04				IAML		07 28 40.5	
	comp=Z,259nm,0.5s						
PB04	**IPOC Station P**	**2.31**	**288**	⇑*eP*	**Pn**	**07 28 05.8**	**+0.5**
PB04				*eS*	**Sn**	**07 28 34.0**	**-2.5**
PB04				IAML		07 28 43.1	
	comp=N,378nm,0.3s						
PB07	**IPOC Station P**	**2.37**	**304**	Pn	**Pn**	**07 28 06.0**	**+0.1**
PB07	**IPOC Station P**	**2.37**	**304**	*eP*	**Pn**	**07 28 06.4**	**+0.6**
PB07				*eS*	**Sn**	**07 28 36.8**	**-0.8**
PB07				IAML		07 28 37.4	
	comp=Z,520nm,0.3s						
PB07	**IPOC Station P**	**2.37**	**304**	*eP*	**Pn**	**07 28 06.5**	**+0.6**
PB07				*eS*	**Sn**	**07 28 35.3**	**-2.3**
PB07				IAML		07 28 36.7	
	comp=N,874nm,0.5s						
PB01	**IPOC Station P**	**2.57**	**321**	Pn	**Pn**	**07 28 08.6**	**+0.4**
PB01	**IPOC Station P**	**2.57**	**321**	*eP*	**Pn**	**07 28 08.6**	**+0.4**
PB01				*eS*	**Sn**	**07 28 40.9**	**-0.7**
PB01				IAML		07 28 47.5	
	comp=Z,189nm,0.2s						
PB01	**IPOC Station P**	**2.57**	**321**	⇑*eP*	**Pn**	**07 28 08.6**	**+0.4**
PB01				*eS*	**Sn**	**07 28 39.5**	**-2.1**
PB01				IAML		07 28 43.0	
	comp=E,421nm,0.2s						
PB02	**IPOC Station P**	**2.63**	**311**		**Pn**	**07 28 09.2**	**+0.3**
PB02	**IPOC Station P**	**2.63**	**311**	*eP*	**Pn**	**07 28 09.2**	**+0.3**
PB02				*eS*	**Sn**	**07 28 42.2**	**-0.7**
PB02				IAML		07 28 46.0	
	comp=Z,602nm,0.3s						
PB02	**IPOC Station P**	**2.63**	**311**	*eP*	**Pn**	**07 28 09.1**	**+0.3**
PB02				*eS*	**Sn**	**07 28 40.5**	**-2.5**
PB02				IAML		07 28 42.9	
	comp=E,670nm,0.3s						
SLA	**San Lorenzo**	**2.65**	**129**	*eP*	**Pn**	**07 28 06.2**	**-3.0**
GO02	**Mina Guanaco**	**2.67**	**218**	Pn	**Pn**	**07 28 10.4**	**+0.9**
GO02	**Mina Guanaco**	**2.67**	**218**	*eP*	**Pn**	**07 28 09.7**	**+0.1**
GO02				*eS*	**Sn**	**07 28 43.9**	**-0.3**
GO02				IAML		07 28 46.8	
	comp=Z,768nm,0.5s						
GO02	**Mina Guanaco**	**2.67**	**218**	⇓*eP*	**Pn**	**07 28 10.4**	**+0.9**
GO02				*eS*	**Sn**	**07 28 43.3**	**-0.9**
PB14	**IPOC Station P**	**2.87**	**237**	Pn	**Pn**	**07 28 12.3**	**+0.4**
PB14	**IPOC Station P**	**2.87**	**237**	*eP*	**Pn**	**07 28 12.2**	**+0.3**
PB14				*eS*	**Sn**	**07 28 46.5**	**-2.0**
PB14				IAML		07 28 50.2	
	comp=Z,373nm,0.6s						
PB14	**IPOC Station P**	**2.87**	**237**	*eP*	**Pn**	**07 28 12.4**	**+0.4**
PB14				*eS*	**Sn**	**07 28 46.5**	**-2.0**
PB14				IAML		07 28 49.3	
	comp=E,346nm,0.2s						
PATCX	**Punta Patache**	**3.14**	**315**	Pn	**Pn**	**07 28 15.1**	**0.0**
PATCX	**Punta Patache**	**3.14**	**315**	*eP*	**Pn**	**07 28 15.2**	**+0.1**
PATCX				*eS*	**Sn**	**07 28 53.1**	**-1.1**
PATCX				IAML		07 28 58.3	
	comp=Z,154nm,0.3s						
PATCX	**Punta Patache**	**3.14**	**315**	*eP*	**Pn**	**07 28 14.1**	**-1.0**
PATCX				*eS*	**Sn**	**07 28 49.8**	**-4.4**
PATCX				IAML		07 28 57.7	
	comp=N,327nm,0.4s						
PB08	**IPOC Station P**	**3.18**	**336**		**Pn**	**07 28 17.3**	**+1.4**
PB08	**IPOC Station P**	**3.18**	**336**	*eP*	**Pn**	**07 28 17.4**	**+1.4**
PB08				*eS*	**Sn**	**07 28 56.0**	**+0.5**
PB08				IAML		07 28 57.3	
	comp=Z,120nm,0.6s						
PB08	**IPOC Station P**	**3.18**	**336**	*eP*	**Pn**	**07 28 16.9**	**+0.9**
PB08				*eS*	**Sn**	**07 28 54.4**	**-1.1**
PB08				IAML		07 28 57.2	
	comp=E,268nm,0.6s						
TA01	**Diego Aracena**	**3.35**	**318**		**Pn**	**07 28 17.9**	**+0.2**
TA01	**Diego Aracena**	**3.35**	**318**	*eP*	**Pn**	**07 28 17.5**	**-0.1**
TA01				*eS*	**Sn**	**07 28 57.2**	**-1.4**
TA01				IAML		07 28 59.6	
	comp=Z,98nm,0.5s						
TA01	**Diego Aracena**	**3.35**	**318**	*eP*	**Pn**	**07 28 17.9**	**+0.2**
TA01				*eS*	**Sn**	**07 28 56.7**	**-1.9**
TA01				IAML		07 28 58.7	
	comp=E,243nm,0.4s						
HMBC	**Humberstone**	**3.40**	**324**	Pn	**Pn**	**07 28 17.9**	**-0.6**
HMBC	**Humberstone**	**3.40**	**324**	*eP*	**Pn**	**07 28 17.9**	**-0.6**
HMBC				*eS*	**Sn**	**07 28 58.9**	**-1.1**
HMBC				IAML		07 29 03.0	
	comp=Z,348nm,0.4s						
HMBC	**Humberstone**	**3.40**	**324**	*eP*	**Pn**	**07 28 17.9**	**-0.6**
HMBC				*eS*	**Sn**	**07 28 58.0**	**-2.1**
HMBC				IAML		07 28 59.3	
	comp=E,381nm,0.4s						
FSA	**Cafayete**	**3.44**	**152**	*eP*	**Pn**	**07 28 20.7**	**+1.8**
TA02	**Huaiquique**	**3.54**	**321**		**Pn**	**07 28 20.1**	**0.0**
TA02	**Huaiquique**	**3.54**	**321**	*eP*	**Pn**	**07 28 17.6**	**-2.5**
TA02				*eS*	**Sn**	**07 29 00.4**	**-2.7**
TA02				IAML		07 29 07.6	
	comp=Z,93nm,0.1s						
GO01	**Chusmiza**	**3.63**	**338**	Pn	**Pn**	**07 28 22.5**	**+0.8**
GO01	**Chusmiza**	**3.63**	**338**	*eP*	**Pn**	**07 28 22.9**	**+1.2**
GO01				*eS*	**Sn**	**07 29 06.9**	**+1.1**
GO01				IAML		07 29 08.3	
	comp=Z,74nm,0.2s						
GO01	**Chusmiza**	**3.63**	**338**	*eP*	**Pn**	**07 28 22.9**	**+1.2**
GO01				*eS*	**Sn**	**07 29 04.5**	**-1.4**
PB11	**IPOC Station P**	**3.73**	**332**		**Pn**	**07 28 22.5**	**-0.1**
PB11	**IPOC Station P**	**3.73**	**332**	*eP*	**Pn**	**07 28 22.6**	**-0.1**
PB11				*eS*	**Sn**	**07 29 05.9**	**-1.6**
PB11				IAML		07 29 08.1	
	comp=Z,148nm,0.4s						
PB11	**IPOC Station P**	**3.73**	**332**	*eP*	**Pn**	**07 28 22.3**	**-0.3**
PB11				*eS*	**Sn**	**07 29 05.5**	**-2.1**
AC02	**Maricunga**	**3.95**	**198**	Pn	**Pn**	**07 28 26.6**	**+0.9**
AC02	**Maricunga**	**3.95**	**198**	*eP*	**Pn**	**07 28 25.9**	**+0.2**
AC02				*eS*	Sn	07 29 29.0	+16
AC02				IAML		07 29 43.1	
	comp=Z,286nm,0.8s						
AC01	**Pan de Azucar**	**4.00**	**219**		**Pn**	**07 28 25.4**	**-0.5**
AC01	**Pan de Azucar**	**4.00**	**219**	*eP*	**Pn**	**07 28 25.4**	**-0.5**
AC01				*eS*	**Sn**	**07 29 10.9**	**-2.7**
AC01				IAML		07 29 12.5	
	comp=Z,115nm,0.6s						
AC06	**Mina Casimiro**	**4.87**	**208**	Pn	**Pn**	**07 28 35.8**	**-1.3**
GO03	**Copiap**	**5.03**	**206**		**Pn**	**07 28 38.3**	**-0.9**
GO03	**Copiap**	**5.03**	**206**	*eP*	**Pn**	**07 28 38.2**	**-1.0**
GO03				*eS*	**Sn**	**07 29 34.9**	**-2.5**
PB12	**IPOC Station P**	**5.03**	**331**	Pn	**Pn**	**07 28 38.1**	**-1.2**
PB12	**IPOC Station P**	**5.03**	**331**	*eP*	**Pn**	**07 28 39.0**	**-0.4**
PB12				*eS*	**Sn**	**07 29 35.2**	**-2.5**
AP01	**Chacalluta**	**5.25**	**332**	Pn	**Pn**	**07 28 42.1**	**0.0**
PB18	**Visviri**	**5.68**	**343**	Pn	**Pn**	**07 28 47.0**	**-1.2**
AC04	**Llanos de Chal**	**5.92**	**210**	Pn	**Pn**	**07 28 48.2**	**-2.6**
AC05	**El Transito**	**6.17**	**201**	Pn	**Pn**	**07 28 52.3**	**-1.9**
LCO	**Las Campanas**	**6.48**	**203**	Pn	**Pn**	**07 28 56.4**	**-2.1**
LPAZ	**La Paz**	**6.75**	**357**	Pn	**Pn**	**07 29 04.2**	**+1.7**
LPAZ	**La Paz**	**6.75**	**357**	P	**Pn**	**07 29 04.0**	**+1.6**
	comp=Z,3.2nm,0.5s,baz=159,slow=7.2,SNR=30						
LPAZ				S	**Sn**	**07 30 19.4**	**+0.3**
	comp=Z,4.3nm,0.7s,baz=317,slow=12,SNR=5.5						
CO01	**Juntas del Tor**	**7.19**	**196**		**Pn**	**07 29 07.0**	**-0.8**
CO05	**La Serena**	**7.50**	**204**	Pn	**Pn**	**07 29 09.0**	**-2.6**
CO03	**El Pedregal**	**8.17**	**198**		**Pn**	**07 29 18.6**	**-1.9**
CO06	**Fray Jorge**	**8.32**	**204**	Pn	**Pn**	**07 29 22.0**	**-0.6**
CO02	**Combarbal**	**8.60**	**199**	Pn	**Pn**	**07 29 25.3**	**-1.0**
BBRB	**Robore, Bolivi**	**8.84**	**59**	*eP*	**Pn**	**07 29 29.3**	**-0.3**
BBSD	**Serra de San D**	**8.91**	**50**	*eP*	**Pn**	**07 29 28.4**	**-2.0**
SIV	**San Ignacio**	**9.45**	**43**	P	**Pn**	**07 29 35.9**	**-1.7**
	comp=Z,27nm,0.5s,baz=220,slow=10,SNR=204						
SIV				S	**Sn**	**07 31 15.1**	**-7.8**
	comp=Z,2.0nm,0.4s,baz=307,slow=21,SNR=4.2						
MURT	**Porto Murtinho**	**9.51**	**83**	*eP*	**Pn**	**07 29 38.0**	**-0.2**
VA03	**San Esteban**	**9.97**	**194**	Pn	**Pn**	**07 29 43.4**	**-0.9**
CPUP	**Villa Florida**	**10.03**	**111**	Pn	**Pn**	**07 29 44.4**	**-0.7**
CPUP	**Villa Florida**	**10.03**	**111**	P	**Pn**	**07 29 44.2**	**-0.9**
	comp=Z,1.7nm,0.9s,baz=314,slow=13,SNR=3.3						
MT08	**Bocatoma Ro**	**10.53**	**190**	Pn	**Pn**	**07 29 50.1**	**-1.6**
BDQN	**Bodoquena, MS**	**10.57**	**78**	*eP*	**P**	**07 29 56.2**	**-4.2**
MT02	**Curacav**	**10.58**	**196**	Pn	**Pn**	**07 29 49.9**	**-2.3**
PTLB	**Pontes e Lacer**	**11.13**	**49**	Pn	**Pn**	**07 29 59.5**	**+0.1**
PTLB	**Pontes e Lacer**	**11.13**	**49**	*eP*	**Pn**	**07 29 57.8**	**-1.6**
BO04	**La Punta**	**11.16**	**192**	Pn	**Pn**	**07 30 00.5**	**+0.6**
AQDB	**Aquidauana**	**11.51**	**79**	Pn	**Pn**	**07 30 07.0**	**+2.6**
AQDB	**Aquidauana**	**11.51**	**79**	*eP*	**P**	**07 30 09.8**	**-1.2**
BO01	**Tunca**	**11.65**	**194**	Pn	**Pn**	**07 30 06.5**	**+0.4**
BO02	**Sierra Bellavi**	**11.98**	**192**	Pn	**Pn**	**07 30 10.7**	**+0.4**
VILB	**Vilhena**	**12.37**	**37**	Pn	**Pn**	**07 30 15.6**	**+0.2**
VILB	**Vilhena**	**12.37**	**37**	*eP*	Pn	07 30 08.6	-6.8
UNIS	**Unistalda (Bra**	**12.88**	**120**	*eP*	**Pn**	**07 30 19.8**	**-2.1**
ETMB	**Extrema**	**13.26**	**7**	*eP*	Pn	07 30 00.4	-26
SALV	**Santo Antonio**	**13.43**	**60**	*eP*	**P**	**07 30 31.1**	**-1.3**
TRCB	**Terra Rica**	**13.95**	**92**	*eP*	**P**	**07 30 40.5**	**+2.3**
ALGR	**Alto Alegre (B**	**14.44**	**116**	*eP*	**Pn**	**07 30 40.9**	**-0.6**
PTGB	**Pitanga**	**14.46**	**100**	*eP*	**P**	**07 30 46.5**	**+2.7**
CPSB	**Cacapava Do Su**	**14.73**	**123**	*eP*	**Pn**	**07 30 42.2**	**-3.0**
ITAB	**Concordia**	**14.76**	**110**	Pn	**P**	**07 30 46.2**	**-0.8**
PLTB	**Pedras Altas**	**15.26**	**128**	Pn	**Pn**	**07 30 51.5**	**-0.2**
PLTB				IAmb	IAmb	07 31 16.0	
	comp=Z,21nm,1.5s						
LDASE	**Londrina, Braz**	**15.31**	**94**	*eP*	**P**	**07 30 56.3**	**+3.0**
PCMB	**Pacaembu**	**15.35**	**88**	*eP*	**P**	**07 30 56.3**	**+2.7**
TRQA	**Tornquist**	**15.75**	**163**		**Pn**	**07 30 57.5**	**0.0**
ARAG	**Araguaiana, MT**	**16.73**	**67**	*eP*	**Pn**	**07 31 10.8**	**+1.2**
FRTB	**Fartura**	**16.74**	**95**	*eP*	**Pn**	**07 31 11.1**	**+1.4**
GO06	**Curarrehue**	**16.77**	**190**	P	**Pn**	**07 31 10.7**	**+0.9**
GO06				IAmb	IAmb	07 31 27.6	
	comp=Z,12nm,1.5s						
PLCA	**Paso Flores**	**17.77**	**187**		**Pn**	**07 31 22.9**	**+1.2**
PLCA	**Paso Flores**	**17.77**	**187**	P	**Pn**	**07 31 22.6**	**+0.9**
	comp=Z,1.0nm,0.6s,baz=5.5,slow=12,SNR=7.3						
BB19B	**Bebedouro**	**17.95**	**87**	*eP*	**Pn**	**07 31 23.4**	**-0.6**
LL04	**Puerto Octay**	**18.21**	**191**	P	**Pn**	**07 31 27.3**	**+0.4**
IPMB	**Ipameri, GO**	**19.00**	**78**	*eP*	**Pn**	**07 31 35.8**	**-0.6**
VAO	**Valinhos**	**19.15**	**94**	P	**Pn**	**07 31 36.8**	**-1.4**
VAO				IAmb	IAmb	07 31 37.5	
	comp=Z,23nm,0.8s						
VAO	**Valinhos**	**19.15**	**94**	*eP*	**Pn**	**07 31 37.0**	**-1.2**
SNDB	**Serra Nova Dou**	**19.18**	**58**	*eP*	**P**	**07 31 36.3**	**+0.7**
LL01	**San Ignacio de**	**19.64**	**190**	P	**Pn**	**07 31 42.6**	**-1.1**
LL06	**Loncomilla**	**19.71**	**193**	P	**Pn**	**07 31 43.0**	**-1.5**
LL06				IAmb	IAmb	07 32 25.8	
	comp=Z,18nm,1.1s						
BDFB	**Brasilia**	**20.04**	**72**	P	**P**	**07 31 46.6**	**+1.6**
BDFB				IAmb	IAmb	07 31 49.1	
	comp=Z,11nm,1.4s						
BDFB	**Brasilia**	**20.04**	**72**	P	**P**	**07 31 46.2**	**+1.2**
	comp=Z,3.8nm,0.7s,baz=255,slow=11,SNR=8.9						
PARB	**Paraibuna**	**20.36**	**95**	*eP*	**P**	**07 31 48.6**	**+0.3**
PMNB	**Patos De Minas**	**20.44**	**81**	*eP*	**P**	**07 31 50.6**	**+1.3**
GO07	**Milladeo Hill,**	**20.58**	**192**	P	**P**	**07 31 52.3**	**+1.9**
MACA	**Manacapuru-AM**	**20.94**	**20**	P	**P**	**07 31 54.7**	**+0.2**
MACA				IAmb	IAmb	07 32 14.8	
	comp=Z,10nm,0.9s						
JANB	**Januaria**	**23.54**	**74**	*eP*	**P**	**07 32 19.0**	**-0.8**
SDBA	**SAO DESIDERIO**	**24.19**	**68**	*eP*	**P**	**07 32 24.0**	**-1.7**
TULM	**Tulcn-Chalpat**	**25.57**	**336**	P	**P**	**07 32 37.3**	**-1.4**
TULM				IAmb	IAmb	07 32 47.5	
	comp=Z,11nm,1.1s						
GO08	**Villa O'Higgin**	**25.63**	**187**	P	**P**	**07 32 38.3**	**-0.1**
GO08				IAmb	IAmb	07 32 48.8	
	comp=Z,12nm,1.3s						
MG04	**Isla Riesco**	**29.89**	**185**	P	**P**	**07 33 16.3**	**+0.1**
SNAA	**Sanae**	**60.46**	**161**	P	**P**	**07 37 17.1**	**+1.0**
SNAA				IAmb	IAmb	07 37 42.0	
	comp=Z,14nm,1.5s						
DBIC	**Dimbokro**	**68.19**	**72**	P	**P**	**07 38 09.5**	**+2.3**
DBIC	**Dimbokro**	**68.19**	**72**	P	**P**	**07 38 09.6**	**+2.3**
	comp=Z,5.4nm,0.9s,baz=216,slow=7.7,SNR=2.2						
	comp=Z,5.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**76.90**	**69**	P	**P**	**07 39 01.4**	**+2.8**
	comp=Z,2.2nm,0.4s,baz=259,slow=5.5,SNR=27						
	comp=Z,2.2nm,0.4s						
MKAR	**Makanchi Array**	**146.24**	**38**	PKPbc	**PKiKP**	**07 46 48.5**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=320,slow=5.5,SNR=4.4						

IDC 07 07:31:55.4±3.7, 5.74S×152.61E, h0km, mb3.5/2, mbtmp3.6/2, MS2.6/1, Error ellipse: s-maj=161.4km s-min=47.7km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.51**	**236**	LR	LR	07 36 17.9	
	comp=Z,46nm,19.2s,baz=50,slow=40						
WRA	**Warramunga Arr**	**22.69**	**230**	P	P	07 36 58.7	-0.1
	1.0nm,0.5s,baz=53,slow=9.9,SNR=15						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**25.33**	**223**	P	P	07 37 24.2	-0.1
	0.7nm,0.6s,baz=60,slow=8.4,SNR=14						
	0.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.40**	**287**	PKPbc	PKPbc	07 51 49.9	-0.2
	0.3nm,0.3s,baz=75,slow=3.2,SNR=6.5						

*NEIC **07** 07:38:04.4±1.0, 19.39N±0.03×154.97W±0.02, h5km±1km, Error ellipse: s-maj=5.4km s-min=2.9km az=155.0*
HVO 07 07:38:03.6±1.1, 19.37N±0.03×154.95W±0.02, h2km±7km, ML2.6/16, ML2.6/24(NEIC), Error ellipse: s-maj=4.8km s-min=1.3km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.08**	**323**		Pg	07 38 07.6	+2.4
PHO	**Puu Honuaula**	**0.13**	**28**		Pg	07 38 06.9	+0.9
PHO					Sg	07 38 09.3	+1.5
JCUZ	**Jacuzzi**	**0.14**	**276**		Pg	07 38 07.0	+0.6
NPOC	**North of Pu'u**	**0.15**	**279**		Pg	07 38 07.2	+0.7
NPOC				IAML		07 38 09.8	
	comp=N,1μm,0.2s						
NPOC				IAML		07 38 09.8	
	comp=E,1μm,0.2s						
STCH	**Steam Cracks**	**0.16**	**276**		Pg	07 38 07.4	+0.7
STCH				IAML		07 38 10.2	
	comp=N,1μm,0.2s						
STCH				IAML		07 38 10.2	
	comp=E,2μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.20**	**273**		Pg	07 38 08.0	+0.5
PUH	**Pauahi**	**0.25**	**271**	Pg	Pg	07 38 08.6	+0.3
HATHI	**Halema'uma'u T**	**0.29**	**281**	Pg	Pg	07 38 09.5	+0.3
HATHI					Sg	07 38 13.7	+0.6
HATHI				IAML		07 38 18.1	
	comp=N,1μm,0.7s						
RSD	**Rainshed**	**0.32**	**287**		Pg	07 38 10.6	+0.8
RSD				IAML		07 38 16.1	
	comp=E,737nm,0.4s						
RSD				IAML		07 38 17.4	
	comp=N,641nm,0.5s						
HLP	**Hilina Pali**	**0.34**	**258**		Pg	07 38 11.0	+0.9
HLP				IAML		07 38 19.7	
	comp=N,949nm,0.7s						
MLH	**Mauna Loa**	**0.43**	**287**		Pg	07 38 12.4	+0.6
MLH				IAML		07 38 18.9	
	comp=E,604nm,0.5s						
MLH				IAML		07 38 19.2	
	comp=N,663nm,0.4s						
HTC	**Hot Caves**	**0.44**	**253**		Pg	07 38 12.6	+0.6
HMH	**Humu'ula Sheep**	**0.55**	**295**		Pg	07 38 14.4	+0.3
MWH	**Moku'aweowe**	**0.62**	**281**	Pg	Pg	07 38 15.1	-0.4
KHU	**Kahuku**	**0.64**	**259**	Pg	Pg	07 38 15.8	0.0
KHU					Sg	07 38 24.6	+0.5
KHU				IAML		07 38 25.7	
	comp=N,309nm,2.5s						
KHU				IAML		07 38 25.8	
	comp=E,293nm,1.0s						
POHA	**Pohakuloa**	**0.67**	**305**		Pg	07 38 15.8

HLP	**Hilina Pali**	**0.10**	**45**			Pg		08 06 17.9	+0.4
HLP					Sg	Sg		08 06 20.4	+1.4
SDHHI	**Sand Hill**	**0.18**	**27**			Pg		08 06 19.1	+0.1
SDHHI					Sg	Sg		08 06 21.6	+0.2
WRMHI	**West Rim**	**0.19**	**23**			Pg		08 06 19.2	0.0
WRMHI					IAML			08 06 25.9	
	comp=N,2µm,0.3s								
RIM	**Rim**	**0.19**	**31**	Pg		Pg		08 06 19.2	0.0
RIM				Sg		Sg		08 06 22.5	+0.7
RIM				IAML				08 06 24.4	
	comp=E,1µm,0.5s								
RIM				IAML				08 06 25.6	
	comp=N,2µm,0.3s								
KKO	**Keanakako`i**	**0.20**	**33**			Pg		08 06 18.8	-0.6
KKO				Sg		Sg		08 06 22.6	+0.6
KKO				IAML				08 06 25.5	
	comp=N,2µm,0.6s								
KKO				IAML				08 06 26.0	
	comp=E,1µm,0.5s								
OBL	**Observatory Le**	**0.21**	**26**	Pg		Pg		08 06 19.2	-0.3
UWE	**Uwekahuna**	**0.21**	**23**	Pg		Pg		08 06 19.5	0.0
UWE				Sg		Sg		08 06 22.6	+0.3
UWE				IAML				08 06 25.6	
	comp=N,2µm,0.5s								
PUH	**Pauahi**	**0.21**	**47**	Pg		Pg		08 06 19.4	-0.1
PUH				Sg		Sg		08 06 21.5	-0.9
PUH				IAML				08 06 23.4	
	comp=E,1µm,0.3s								
PUH				IAML				08 06 24.1	
	comp=N,996nm,0.3s								
BYL	**Byron's Ledge**	**0.21**	**32**	Pg		Pg		08 06 19.5	-0.1
BYL				IAML				08 06 23.6	
	comp=E,1µm,0.5s								
UWB	**Uwekahuna B**	**0.22**	**26**			Pg		08 06 19.6	-0.1
UWB					Sg	Sg		08 06 23.0	+0.4
HATHI	**Halema'uma'u T**	**0.22**	**30**			Pg		08 06 19.7	-0.1
HATHI				IAML				08 06 23.9	
	comp=E,1µm,0.6s								
HATHI				IAML				08 06 27.1	
	comp=N,1µm,0.5s								
KHU	**Kahuku**	**0.22**	**274**			Pg		08 06 20.3	+0.5
KHU				Sg		Sg		08 06 24.5	+1.7
KHU				IAML				08 06 26.9	
	comp=N,824nm,0.2s								
SBLHI	**Steaming Bluff**	**0.22**	**28**	Pg		Pg		08 06 19.6	-0.2
SBLHI				IAML				08 06 24.8	
	comp=N,1µm,0.5s								
SBLHI				IAML				08 06 27.3	
	comp=E,1µm,0.5s								
KNHH	**Kane Nui o Ham**	**0.25**	**53**			Pg		08 06 20.1	-0.1
RSD	**Rainshed**	**0.25**	**22**	Pg		Pg		08 06 20.6	+0.2
RSD				Sg		Sg		08 06 24.8	+1.1
MLH	**Mauna Loa**	**0.26**	**359**	Pg		Pg		08 06 20.9	+0.3
MLH				IAML				08 06 25.5	
	comp=E,2µm,0.1s								
MLH				IAML				08 06 28.8	
	comp=N,1µm,0.2s								
STCH	**Steam Cracks**	**0.29**	**57**			Pg		08 06 20.6	-0.3
STCH				IAML				08 06 30.9	
	comp=E,642nm,0.3s								
NPOC	**North of Pu'u**	**0.30**	**57**	Pg		Pg		08 06 21.2	-0.1
NPOC				IAML				08 06 26.9	
	comp=E,744nm,0.1s								
JCUZ	**Jacuzzi**	**0.30**	**60**	Pg		Pg		08 06 20.5	-0.8
MWH	**Moku'aweowe**	**0.33**	**321**			Pg		08 06 21.9	-0.1
MWH				IAML				08 06 29.5	
	comp=E,735nm,0.6s								
MWH				IAML				08 06 30.7	
	comp=N,778nm,0.3s								
HMH	**Humu'ula Sheep**	**0.38**	**345**			Pg		08 06 22.9	0.0
HMH				Sg		Sg		08 06 29.2	+1.2
HMH				IAML				08 06 31.4	
	comp=N,1µm,0.2s								
ALEP	**Alea Permanent**	**0.40**	**321**			Pg		08 06 22.8	-0.4
POHA	**Pohakuloa**	**0.55**	**345**			Pg		08 06 25.4	-0.5
POHA				Sg		Sg		08 06 32.8	-0.2
POHA				IAML				08 06 39.2	
	comp=N,276nm,0.3s								
HUH	**Hualalai**	**0.62**	**317**			Pg		08 06 27.0	-0.5

*IDC **07** 08:08:17.6±0.5,20˙92S×172˙27E,h0km,mb4.8/19, mbtmp4.8/21,ML4.6/2,MS4.9/50,Error ellipse: s-maj=17.8km s-min=14.2km az=92.0*

*MOS **07** 08:08:19.5±1.0,20˙85S×172˙23E,h19km,mb5.4/47, MS5.1/20,Error ellipse: s-maj=8.3km s-min=7.6km az=74.7*

*NEIC **07** 08:08:19.8±1.6,20˙91S±0˙08×172˙31E±0˙07,h10km±1km, mb5.3/258,Ms_20 5.3/805,Mwb5.5/23,Mww5.6/20,Error ellipse: s-maj=14.1km s-min=10.9km az=157.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr=0.39; Mθθ0.50; Mφφ=-0.11; Mrθ0.14; Mθφ2.30; Mrφ0.75; Fault plane solution: M₀2.46000×10¹⁷ NP1:φ₁93.71000°, δ71.33000°,λ-2.40000°. NP2:φ₂184.48000°,δ87.73000°, λ-161.31000°. Principal axes: T 2.6313, Plg11.0000°, Azm318.0000°; N -0.3875, Plg71.0000°, Azm191.0000°; P -2.2438, Plg15.0000°, Azm51.0000°;*

*NEIC **07** 08:08:20,20˙86S×172˙39E,h16km,Moment Tensor Solution. Duration: 3¦0 Moment tensor: Scale 10¹⁷Nm; Mrr=0.25; Mθθ0.62; Mφφ=-0.37; Mrθ-0.95; Mθφ2.66; Mrφ0.35; Fault plane solution: M₀2.90000×10¹⁷ NP1:φ₁94.04000°, δ83.57000°,λ-20.17000°. NP2:φ₂186.40000°,δ69.96000°, λ-173.15000°. Principal axes: T 2.9187, Plg9.0000°, Azm142.0000°; N -0.0372, Plg69.0000°, Azm257.0000°; P -2.8815, Plg19.0000°, Azm49.0000°;*

*NEIC **07** 08:08:20.1,20˙86S×172˙28E,h10km*

*NEIC **07** 08:08:20,20˙86S×172˙28E,h16km*

*NOU **07** 08:08:21.6,20˙83S×172˙20E,h14km,mb5.2/97,Vanuatu Islands Region*

*GCMT **07** 08:08:22.8±0.1,20˙84S±0˙01×172˙27E±0˙01,h17km, MW5.6/160,Moment Tensor Solution. s129,c233; s160,c324; Duration: 1¦5 Moment tensor: Scale 10¹⁷ Nm; Mrr-0.50±.03; Mθθ0.46±.03; Mφφ0.04±.03; Mrθ0.13±.08; Mθφ2.88±.03; Mφr-0.20±.08; Best double couple: M₀2.90100×10¹⁷ NP1:φ₁2.00000°,δ86.00000°, λ-175.00000°. NP2:φ₂272.00000°,δ85.00000°, λ-4.00000°. Principal axes: T 3.1370, Plg1.0000°, Azm137.0000°; N -0.4720, Plg84.0000°, Azm41.0000°; P -2.6650, Plg6.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 08:08:19.6±0.2,20˙96S±0˙04×172˙34E±0˙04,h10km, n1314,σ1¦30/952,mb5.3/197,MS5.2/466,37C-33D, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**4.05**	**262**	P		**Pn**	**08 09 21.5**	**-0.2**
MARNC	**Mare, Loyalty**	**4.05**	**262**			**Pn**	**08 09 21.0**	**-0.7**
LIFNC	**LIFOU**	**4.77**	**271**	P		**Pn**	**08 09 29.9**	**-1.7**
LIFNC	**LIFOU**	**4.77**	**271**			**Pn**	**08 09 29.7**	**-1.9**
PINNC	**Pines Island,**	**4.83**	**249**	P		**Pn**	**08 09 32.0**	**-0.5**
PINNC	**Pines Island,**	**4.83**	**249**			**Pn**	**08 09 32.1**	**-0.3**
OUENC	**Ouen Island, N**	**5.31**	**253**	P		**Pn**	**08 09 38.5**	**-0.6**
OUENC	**Ouen Island, N**	**5.31**	**253**			**Pn**	**08 09 38.8**	**-0.3**
DZM	**Mont Dzumac** 1µm,1.6s	**5.60**	**258**	*e*Pn		**Pn**	**08 09 42.3**	**-0.8**
DZM	22µm,26.4s			*e*LR		LR	08 10 57.2	
DZM	**Mont Dzumac** 16nm,0.3s,baz=82,slow=17,SNR=108 146nm,0.6s	**5.60**	**258**	Pn		**Pn**	**08 09 42.7**	**-0.4**
ONTNC	**Ouen Toro**	**5.64**	**255**	P		**Pn**	**08 09 43.1**	**-0.4**
ONTNC	**Ouen Toro**	**5.64**	**255**			**Pn**	**08 09 43.1**	**-0.4**
NOUC	**Port Laguerre**	**5.73**	**258**	P		**Pn**	**08 09 44.6**	**-0.2**
MSVF	**Nonsavu**	**6.28**	**60**	P		**Pn**	**08 09 52.8**	**+0.4**
MSVF	**Nonsavu**	**6.28**	**60**	Pn		**Pn**	**08 09 52.5**	**+0.1**
MSVF	**Nonsavu**	**6.28**	**60**	*de*P		**Pn**	**08 09 52.2**	**-0.2**
YSA	**Yasawairara**	**6.53**	**50**	P		**Pn**	**08 09 57.1**	**+1.3**
KOUNC	**Koumac, New Ca**	**7.55**	**272**	Pn		**Pn**	**08 10 10.1**	**+0.3**
TAVE	**Taveuni**	**8.47**	**61**	P		**Pn**	**08 10 25.0**	**+2.5**
NFK	**Norfolk Island** baz=9.0,SNR=5.1	**8.98**	**206**	P		**Pn**	**08 10 30.8**	**+1.4**
RAO	**Raoul Island** comp=Z,14µm,19.8s,baz=338,slow=33	**12.08**	**135**	LR		LR	08 14 54.1	
LHI	**Lord Howe Isla**	**15.87**	**226**	P		**Pn**	**08 12 04.8**	**+1.6**
LHI	**Lord Howe Isla**	**15.87**	**226**	Pn		**Pn**	**08 12 03.1**	**0.0**
LHI				IAmb		IAmb	08 12 11.3	
	comp=Z,200nm,1.1s							
KUZ	**Kuaotunu**	**16.00**	**170**	P		**P**	**08 12 09.3**	**+1.0**
HNR	**Honiara**	**16.55**	**312**			**Pn**	**08 12 09.3**	**-2.7**
HNR	**Honiara**	**16.55**	**312**	P		**Pn**	**08 12 09.3**	**-2.7**
HNR				pmax		pmax		
	comp=Z,989nm,1.5s							
NIUE	**Niue** baz=17	**16.77**	**87**	P		**Pn**	**08 12 16.2**	**+1.4**
NIUE	**Niue**	**16.77**	**87**	Pn		**Pn**	**08 12 14.5**	**-0.3**
TOZ	**Tuhuroa Road**	**16.93**	**171**	P		**P**	**08 12 18.7**	**+0.1**
HIZ	**Hauiti**	**17.62**	**173**	P		**P**	**08 12 28.6**	**+2.3**
URZ	**Urewera**	**17.72**	**168**	P		**P**	**08 12 28.1**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=78,slow=5.7,SNR=35							
URZ				LR		LR	08 17 41.4	
	comp=Z,8µm,21.8s,baz=68,slow=32 comp=Z,126nm,0.8s							
RTZ	**Ruatahuna**	**18.04**	**168**	P		**P**	**08 12 33.2**	**+2.2**
RTZ				IAmb		IAmb	08 12 34.8	
	comp=Z,286nm,1.2s							
BKZ	**Black Stump Fm**	**18.49**	**170**	P		**Pn**	**08 12 38.4**	**+2.4**
GC1S	**Gold Coast 1 S**	**18.55**	**244**	P		**Pn**	**08 12 38.3**	**+1.5**
AUWSH	**Wavell State H**	**18.73**	**246**	P		**Pn**	**08 12 40.3**	**+1.4**
GD1S	**Gladstone Soft**	**19.78**	**258**	P		**Pn**	**08 12 52.1**	**+0.5**
MRZ	**Mangatainoka R**	**19.83**	**173**	P		**P**	**08 12 51.4**	**+0.9**
MRZ				IAmb		IAmb	08 12 52.6	
	comp=Z,149nm,1.1s							
BFZ	**Birch Farm**	**19.93**	**171**	P		**P**	**08 12 53.1**	**+1.4**
BFZ	**Birch Farm**	**19.93**	**171**	P		**P**	**08 12 51.9**	**+0.2**
BFZ				IAMs_20	IAMs_20		08 19 53.8	
	comp=Z,9µm,19.0s							
TKNZ	**Takaka Hill**	**20.01**	**179**	P		**P**	**08 12 54.1**	**+1.5**
EIDS	**Eidsvold** baz=20,SNR=17	**20.02**	**253**	P		**P**	**08 12 53.5**	**+0.7**
EIDS	**Eidsvold**	**20.02**	**253**	P		Pn	08 12 54.5	0.0
EIDS	**Eidsvold**	**20.02**	**253**	P		Pn	08 12 54.6	0.0
EIDS				IAmb		IAmb	08 13 02.0	
	comp=Z,198nm,1.1s							
TCW	**Tory Channel**	**20.25**	**176**	P		**P**	**08 12 56.4**	**+1.3**
RK1H	**Rockhampton Ha**	**20.37**	**259**	P		**P**	**08 12 56.8**	**+0.2**
MRNZ	**Matariki Terra**	**20.38**	**179**	P		Pn	08 12 58.5	0.0
TUWZ	**Tuamarina**	**20.45**	**177**	P		Pn	08 12 59.2	-0.1
PLWZ	**Palliser**	**20.69**	**174**	P		**P**	**08 12 59.8**	**-0.2**
BSWZ	**Blackbirch Sta**	**20.73**	**177**	P		**P**	**08 13 01.2**	**+0.9**
THZ	**Tophouse**	**20.74**	**179**	P		**P**	**08 13 02.2**	**+1.7**
ARMA	**Armidale** baz=21,SNR=27	**20.88**	**239**	P		**P**	**08 13 03.3**	**+1.2**
ARMA	**Armidale**	**20.88**	**239**	P		Pn	08 13 03.8	-0.8
ARMA	**Armidale**	**20.88**	**239**			**P**	**08 13 03.4**	**+1.3**
ARMA				IAmb		IAmb	08 13 09.3	
	comp=Z,115nm,1.1s							
KHZ	**Kahutara** comp=Z,8µm,18.0s	**21.41**	**178**	IAMs_20	IAMs_20		08 20 24.9	
INZ	**Inchbonnie**	**21.71**	**182**	P		**P**	**08 13 12.6**	**+1.8**
AUPHS	**Peel High Scho**	**21.72**	**238**	P		**P**	**08 13 13.1**	**+2.0**
LTZ	**Lake Taylor**	**21.75**	**180**	P		**P**	**08 13 12.9**	**+1.5**
NTLH	**Newcastle Hard**	**21.86**	**233**	P		**P**	**08 13 14.0**	**+1.5**
TARA	**Tarawa**	**22.19**	**2**	P		**P**	**08 13 17.7**	**+1.5**
TARA	**Tarawa**	**22.19**	**2**	P		**P**	**08 13 15.0**	**-1.2**
RMO	**Roma**	**22.26**	**251**	P		**P**	**08 13 17.4**	**+0.4**
OXZ	**Oxford**	**22.30**	**181**	P		**P**	**08 13 17.7**	**+0.5**
RIV	**Riverview** baz=23,SNR=4.8	**22.70**	**231**	P		**P**	**08 13 23.3**	**+1.7**
RIV	**Riverview**	**22.70**	**231**	P		**P**	**08 13 23.8**	**+2.3**
RIV	**Riverview**	**22.70**	**231**	P		**P**	**08 13 24.1**	**+2.6**
RIV				pmax		pmax		
	comp=Z,237nm,1.6s							
RPZ	**Rata Peaks** comp=Z,2µm,21.1s,baz=2.5,slow=34	**22.71**	**182**	LR		LR	08 21 01.0	
SYDH	**Sydney Hard Ro**	**22.97**	**232**	P		**P**	**08 13 26.6**	**+2.2**
JCZ	**Jackson Bay**	**23.23**	**187**	P		**P**	**08 13 30.0**	**+2.9**
AULRC	**Lightning Ridg**	**23.57**	**244**	P		**P**	**08 13 31.3**	**+0.9**
AUDCS	**Dubbo College**	**23.93**	**237**	P		**P**	**08 13 35.3**	**+1.3**
AUUHS	**Ulladulla High**	**23.96**	**229**	P		**P**	**08 13 35.4**	**+1.3**
TV1H	**Townsville Har**	**24.04**	**270**	P		**P**	**08 13 35.7**	**+0.6**
CTAO	**Charters Tower**	**24.44**	**267**	P		**P**	**08 13 39.6**	**+0.8**
CTAO	**Charters Tower**	**24.44**	**267**	P		**P**	**08 13 37.9**	**-0.9**
CTAO				IAmb		IAmb	08 13 49.8	
	comp=Z,85nm,1.1s							
CTAO	**Charters Tower**	**24.44**	**267**	P		**P**	**08 13 37.9**	**-0.9**
CTAO				pmax		pmax		
	comp=Z,85nm,1.2s							
CTAO				MLR		MLR		
	comp=Z,3µm,18.0s							
CNB	**Canberra Magne** baz=25,SNR=12	**24.72**	**230**	P		**P**	**08 13 42.2**	**+1.0**
CNB	**Canberra Magne**	**24.72**	**230**	P		**P**	**08 13 42.3**	**+1.0**
YNG	**Young** baz=25,SNR=11	**24.95**	**233**	P		**P**	**08 13 44.4**	**+1.1**
YNG	**Young**	**24.95**	**233**	P		**P**	**08 13 44.6**	**+1.3**
CAN	**Canberra**	**24.98**	**230**	P		**P**	**08 13 44.9**	**+1.3**
CAN	**Canberra**	**24.98**	**230**	P		**P**	**08 13 43.6**	**0.0**
CAN				IAmb		IAmb	08 13 46.2	
	comp=Z,97nm,1.4s							
CAN	**Canberra**	**24.98**	**230**	P		**P**	**08 13 43.6**	**0.0**
CAN				pmax		pmax		
	comp=Z,97nm,1.4s							
CAN				MLR		MLR		
	comp=Z,3µm,21.0s							
MILA	**Mila** baz=26,SNR=5.2	**25.75**	**226**	P		**P**	**08 13 50.7**	**+0.1**
MILA	**Mila**	**25.75**	**226**	P		**P**	**08 13 51.6**	**+1.1**
RAR	**Rarotonga** comp=Z,1µm,21.7s,baz=266,slow=31	**26.01**	**96**	LR		LR	08 21 49.8	
CMSA	**Cobar Meteorol** baz=26,SNR=21	**26.05**	**241**	P		**P**	**08 13 53.7**	**+0.4**
CMSA	**Cobar Meteorol**	**26.05**	**241**	P		**P**	**08 13 53.4**	**+0.1**
QLP	**Quilpie** baz=26,SNR=7.5	**26.29**	**252**	P		**P**	**08 13 55.2**	**-0.3**
QLP	**Quilpie**	**26.29**	**252**	P		**P**	**08 13 55.4**	**-0.1**
MTSU	**Mount Surprise** baz=26,SNR=10	**26.54**	**271**	P		**P**	**08 13 58.0**	**+0.1**
MTSU	**Mount Surprise**	**26.54**	**271**	P		**P**	**08 13 58.7**	**+0.8**
PMG	**Port Moresby**	**26.83**	**292**	P		**P**	**08 13 59.6**	**-0.9**
PMG				IAmb		IAmb	08 14 03.3	
	comp=Z,89nm,1.0s							
PMG	**Port Moresby** comp=Z,6µm,18.0s	**26.83**	**292**	IAMs_20	IAMs_20		08 24 18.7	
PMG	**Port Moresby** comp=Z,5µm,18.6s,baz=120,slow=33	**26.83**	**292**	LR		LR	08 22 55.7	
PMG	**Port Moresby**	**26.83**	**292**	P		**P**	**08 13 59.6**	**-0.9**
PMG				pmax		pmax		
	comp=Z,89nm,1.0s							
PMG				MLR		MLR		
	comp=Z,6µm,18.0s							
KAVG	**Kavieng**	**27.82**	**308**	P		**P**	**08 14 08.4**	**-0.9**
TOO	**Toolangi** baz=29,SNR=4.2	**28.54**	**229**	P		**P**	**08 14 16.1**	**+0.5**
TOO	**Toolangi**	**28.54**	**229**	P		**P**	**08 14 16.6**	**+1.0**
TOO	**Toolangi**	**28.54**	**229**	P		**P**	**08 14 16.1**	**+0.5**
TOO				IAmb		IAmb	08 14 49.2	
	comp=Z,91nm,1.6s							
TOO				IAMs_20	IAMs_20		08 23 42.8	
	comp=Z,5µm,19.0s							
TOO	**Toolangi**	**28.54**	**229**	P		**P**	**08 14 16.1**	**+0.5**
TOO				pmax		pmax		
	comp=Z,91nm,1.6s							
COEN	**Coen** baz=29,SNR=5.3	**28.65**	**279**	P		**P**	**08 14 16.7**	**-0.1**
COEN	**Coen**	**28.65**	**279**	P		**P**	**08 14 17.1**	**+0.3**
COEN	**Coen**	**28.65**	**279**	P		**P**	**08 14 15.9**	**-0.8**
COEN				IAmb		IAmb	08 14 27.6	
	comp=Z,43nm,1.1s							
STKA	**Stephens Creek** baz=30,SNR=10	**29.51**	**242**	P		**P**	**08 14 24.2**	**0.0**
STKA	**Stephens Creek**	**29.51**	**242**	P		**P**	**08 14 24.1**	**-0.1**
STKA	**Stephens Creek**	**29.51**	**242**	P		**P**	**08 14 23.8**	**-0.4**
STKA	**Stephens Creek** comp=Z,24nm,1.1s,baz=92,slow=11,SNR=11	**29.51**	**242**	P		**P**	**08 14 23.4**	**-0.8**
STKA				LR		LR	08 25 29.7	
	comp=Z,4µm,19.8s,baz=68,slow=35 comp=Z,24nm,1.1s							
STKA	**Stephens Creek**	**29.51**	**242**	*d*P		**P**	**08 14 23.8**	**-0.4**
INKA	**Innaminka**	**29.51**	**251**	P		**P**	**08 14 24.8**	**+0.5**
BRAT	**Ballarat**	**29.63**	**230**	P		**P**	**08 14 26.6**	**+1.4**
MOO	**Moorlands** baz=30	**30.07**	**219**	P		**P**	**08 14 29.8**	**+0.7**
TAU	**Tasmania Unive** comp=Z,5µm,19.0s	**30.29**	**218**	IAMs_20	IAMs_20		08 24 37.7	
QIS	**Mount Isa** baz=31,SNR=5.9	**30.58**	**265**	P		**P**	**08 14 34.1**	**+0.2**
QIS	**Mount Isa**	**30.58**	**265**	P		**P**	**08 14 35.6**	**+1.7**
ARPS	**Mount Arapiles**	**30.84**	**233**	P		**P**	**08 14 37.6**	**+1.6**
PATS	**Pohnpei**	**30.87**	**332**	P		**P**	**08 14 35.4**	**-1.0**
LCRK	**Leigh Creek**	**32.06**	**246**	P		**P**	**08 14 46.7**	**-0.1**
HTT	**Hallett** baz=32,SNR=6.7	**32.07**	**240**	P		**P**	**08 14 46.5**	**-0.4**
HTT	**Hallett**	**32.07**	**240**	P		**P**	**08 14 46.4**	**-0.5**
WHYH	**Whyalla**	**33.08**	**241**	P		**P**	**08 14 56.9**	**+1.2**
OOD	**Oodnadatta**	**33.98**	**251**	P		**P**	**08 15 03.3**	**-0.3**
TABU	**Tabubil**	**33.98**	**293**	P		**P**	**08 15 04.1**	**+0.3**
BBOO	**Buckleboo**	**34.28**	**242**	P		**P**	**08 15 06.2**	**0.0**
BBOO	**Buckleboo**	**34.28**	**242**	P		**P**	**08 15 05.9**	**-0.3**
BBOO				IAMs_20	IAMs_20		08 28 16.0	
	comp=Z,5µm,20.0s							
WR0	**Warramunga Arr**	**35.38**	**265**	P		**P**	**08 15 14.3**	**-1.4**
TBI	**Tubuai** comp=Z,626nm,28.0s	**35.39**	**101**	*e*P		**P**	**08 15 15.7**	**-0.1**
TBI				*e*S		**S**	**08 20 54.9**	**+4.2**
	comp=Z,1µm,25.0s							
TBI				*e*LQ		LQ	08 23 16.8	
	comp=Z,27µm,43.2s							
TBI				*e*LR		LR	08 24 42.8	
	comp=Z,22µm,31.0s							
TBI				*e*LR		LR	08 24 43.0	
	comp=Z,4µm,26.5s							
TBI				*e*LR		LR	08 24 46.1	
	comp=Z,4µm,30.5s							
WB0	**Warramunga Arr**	**35.54**	**265**	P		**P**	**08 15 16.0**	**-1.2**
WRAB	**Tennant Creek**	**35.56**	**265**	P		**P**	**08 15 15.8**	**-1.6**
WRAB	**Tennant Creek**	**35.56**	**265**	*c iP*		**P**	**08 15 16.9**	**-0.4**
WRAB				pmax		pmax		
	comp=Z,26nm,1.3s							
WRA	**Warramunga Arr** comp=Z,11nm,1.1s,baz=92,slow=5.9,SNR=21 comp=Z,11nm,1.1s	**35.57**	**265**	P		**P**	**08 15 15.5**	**-1.9**
AS31	**Alice Springs**	**35.59**	**258**	P		**P**	**08 15 17.4**	**-0.2**
ASAR	**Alice Springs**	**35.59**	**258**	P		**P**	**08 15 15.9**	**-1.7**
ASAR	**Alice Springs**	**35.59**	**258**	P		**P**	**08 15 16.6**	**-1.0**
ASAR	comp=Z,24nm,1.0s,baz=99,slow=9.1,SNR=51			LR		LR	08 29 17.1	
	comp=Z,3µm,18.9s,baz=98,slow=35 comp=Z,24nm,1.0s							
MULG	**Mulgathing**	**35.60**	**247**	P		**P**	**08 15 16.9**	**-0.7**
JAY	**Jayapura** comp=Z,63nm,1.1s,comp=Z,843nm	**35.86**	**297**	P		**P**	**08 15 19.6**	**-0.4**
JAY	**Jayapura**	**35.86**	**297**	P		**P**	**08 15 19.4**	**-0.6**
JAY				pmax		pmax		
	comp=Z,62nm,1.1s							
PAE	**Paea** comp=Z,381nm,23.3s	**36.03**	**91**	*e*LR		LR	08 25 08.5	
PPT2	**Papeete2** comp=Z,92nm,24.5s	**36.05**	**91**	*e*P		**P**	**08 15 20.9**	**-0.7**
PPT2				*e*S		**S**	**08 21 00.3**	**-0.7**
	comp=Z,100nm,23.0s							
PPT2				*e*LQ		LQ	08 23 28.8	
	comp=Z,6µm,36.0s							
PPT2				*e*LR		LR	08 24 50.6	
	comp=Z,2µm,28.5s							
PPT2				*e*LR		LR	08 25 03.9	
	comp=Z,783nm,23.7s							
PPT2				*e*LR		LR	08 25 05.0	
	comp=Z,3µm,26.2s							
PPT	**Papeete** comp=Z,508nm,18.4s,baz=252,slow=33	**36.05**	**91**	LR		LR	08 28 05.8	
GENI	**Genyem**	**36.27**	**296**	P		**P**	**08 15 23.5**	**+0.1**
GENI	**Genyem** comp=Z,443nm,1.3s,comp=Z,5µm	**36.27**	**296**	P		**P**	**08 15 22.9**	**-0.5**
XMAS	**Kiritimati** comp=Z,4µm,19.0s	**37.39**	**56**	IAMs_20	IAMs_20		08 26 51.6	
SMPI	**Sarmi** comp=Z,85nm,1.1s	**37.82**	**295**	P		**P**	**08 15 36.7**	**+0.1**
PMOR	**Pomariorio Ree** comp=Z,2µm,25.4s	**38.21**	**88**	*e*LR		LR	08 26 09.9	
KDU	**Kakadu**	**38.95**	**276**	P		**P**	**08 15 47.8**	**+1.6**
MTN	**Manton Dam** baz=40,SNR=3.6	**40.15**	**275**	P		**P**	**08 15 55.5**	**-0.7**
MTN	**Manton Dam**	**40.15**	**275**	P		**P**	**08 15 55.9**	**-0.3**
MTN	**Manton Dam**	**40.15**	**275**	P		**P**	**08 15 55.6**	**-0.6**
MTN				IAMs_20	IAMs_20		08 31 09.1	
	comp=Z,3µm,20.0s							
WRKA	**Warakurna** baz=41,SNR=17	**40.62**	**256**	P		**P**	**08 15 58.4**	**-1.6**
WRKA	**Warakurna**	**40.62**	**256**	P		**P**	**08 16 00.1**	**+0.1**
FORT	**Forrest** baz=41	**40.80**	**247**	P		**P**	**08 16 01.1**	**-0.4**
FORT	**Forrest**	**40.80**	**247**	P		**P**	**08 16 01.0**	**-0.4**
FORT	**Forrest**	**40.80**	**247**	P		**P**	**08 16 00.8**	**-0.6**
FORT				IAmb		IAmb	08 16 11.3	
	comp=Z,75nm,0.9s							
FORT				IAMs_20	IAMs_20		08 32 03.4	
	comp=Z,4µm,20.0s							
FAKI	**Fak Fak**	**42.94**	**289**	P		**P**	**08 16 17.9**	**-1.2**
FAKI	**Fak Fak**	**42.94**	**289**	P		**P**	**08 16 17.6**	**-1.5**
FAKI				IAmb		IAmb	08 16 21.2	
	comp=Z,78nm,1.0s							
FAKI	**Fak Fak** comp=Z,79nm,1.0s,comp=Z,922nm	**42.94**	**289**	P		**P**	**08 16 17.6**	**-1.5**
GUMO	**Guam** comp=Z,2µm,21.3s,baz=139,slow=34	**43.68**	**319**	LR		LR	08 32 52.8	
SWI	**Sorong** comp=Z,87nm,1.3s	**44.79**	**291**	P		**P**	**08 16 32.9**	**-1.0**
SWI	**Sorong** comp=Z,96nm,1.3s	**44.79**	**291**	P		**P**	**08 16 33.1**	**-0.8**
SWI				pmax		pmax		
KMBL	**Kambalda** baz=46	**46.12**	**246**	P		**P**	**08 16 44.0**	**-0.4**
KMBL	**Kambalda**	**46.12**	**246**	P		**P**	**08 16 44.6**	**+0.3**
TAOE	**Nuku Hiva Isla** comp=Z,63nm,22.4s	**47.29**	**83**	*e*P		**P**	**08 16 57.4**	**+3.6**
TAOE				*e*S

MHA Mahukona 51.36 39 P P 08 17 23.6 -1.0
MHA Mahukona 51.36 39 P P 08 17 23.6 -1.0
HPAH Hawaii Prepara 51.36 40 P P 08 17 24.0 -0.7
KHLH Kahului Airpor 51.60 38 P P 08 17 25.4 -1.0
GIRL Giralia 53.68 257 P P 08 17 41.7 -0.2
baz=54,SNR=3.3
DAV Davao City (W) 53.70 296 LR LR 08 38 54.4
comp=Z,717nm,21.8s,baz=140,slow=34
TOLI2 Tolitoli 54.96 287 P P 08 17 50.2 -1.2
TOLI2 Tolitoli 54.96 287 P P 08 17 49.9 -1.5
TOLI2 IAmb IAmb 08 17 56.3
comp=Z,38nm,0.9s
MPSI Mapaga 55.42 286 P P 08 17 53.5 -1.2
comp=Z,25nm,1.0s
JCJ Chichijima 55.99 327 P P 08 17 58.0 -0.5
JCJ Chichijima 55.99 327 P P 08 17 57.0 -1.6
JCJ Chichijima 55.99 327 P P 08 17 52.6 -5.9
comp=Z,123nm,0.9s,baz=142,slow=4.6,SNR=5.9
VNDA Vanda 56.83 183 P P 08 18 03.8 0.0
VNDA IAmb IAmb 08 18 26.3
comp=Z,22nm,1.1s
VNDA Vanda 56.83 183 P P 08 18 03.4 -0.4
comp=Z,3.4nm,0.8s,baz=353,slow=7.2,SNR=19
VNDA LR LR 08 39 47.6
comp=Z,935nm,18.4s,baz=15,slow=33
comp=Z,3.4nm,0.8s
VNDA Vanda 56.83 183 P P 08 18 03.8 0.0
VNDA pmax pmax
comp=Z,23nm,1.1s
SBA Scott Base 57.00 181 P P 08 18 06.1 +1.1
SBA Scott Base 57.00 181 P P 08 18 06.1 +1.1
SBA pmax pmax
comp=Z,65nm,1.0s
CASY Casey 59.74 204 P P 08 18 25.0 +0.7
TGY Tagaytay City 61.34 300 P P 08 18 34.9 -1.2
comp=Z,121nm,0.3s,baz=266,slow=13,SNR=3.9
TGY LR LR 08 39 20.7
comp=Z,308nm,20.9s,baz=142,slow=30
JOW Kunigami 63.87 316 LR LR 08 44 52.9
comp=Z,952nm,19.4s,baz=134,slow=34
LEM Lembang 64.00 273 LR LR 08 47 44.5
comp=Z,1μm,19.2s,baz=112,slow=37
JGF Kuroka 65.30 329 P P 08 19 01.4 -0.5
JGF IAmb IAmb 08 19 18.6
comp=Z,16nm,1.1s
JMN Monobe 65.59 325 P P 08 19 04.1 +0.3
JMN Monobe 65.59 325 IAMs_20 IAMs_20 08 43 03.9
comp=Z,2μm,21.0s
MJAR Matsushiro Arr 65.66 330 P P 08 19 02.5 -1.7
comp=Z,37nm,1.1s,baz=162,slow=6.7,SNR=34
MJAR LR LR 08 42 34.6
comp=Z,794nm,21.1s,baz=144,slow=31
comp=Z,37nm,1.1s
MAJO Matsushiro 65.66 330 P P 08 19 03.5 -0.7
MAJO Matsushiro 65.66 330 P P 08 19 02.1 -2.1
MAJO Matsushiro 65.66 330*c i* P P 08 19 03.3 -0.9
MAJO pmax pmax
comp=Z,47nm,1.1s
MJB9 Matsu-Tunnel 65.67 330 P P 08 19 02.9 -1.3
YOJ Yonaguni jima 65.88 311 IAMs_20 IAMs_20 08 44 44.1
comp=Z,1μm,22.0s
NACB Ninganchiao 66.72 310 P P 08 19 10.3 -0.9
NACB Ninganchiao 66.72 310 P P 08 19 09.4 -1.8
JNU Nakatsue 66.78 323 LR LR 08 44 19.2
comp=Z,462nm,21.8s,baz=126,slow=32
TPUB Ta-pu 66.89 308 P P 08 19 11.2 -1.1
TPUB Ta-pu 66.89 308 P P 08 19 10.9 -1.4
SSLB Suanglung 66.94 309 P P 08 19 11.7 -1.0
SSLB Suanglung 66.94 309 P P 08 19 11.2 -1.6
YHNB Yeheng 67.18 310 P P 08 19 13.8 -0.4
YHNB Yeheng 67.18 310 P P 08 19 13.2 -1.0
QSPA South Pole Qui 69.10 180 P P 08 19 26.0 +0.2
QSPA IAmb IAmb 08 19 40.0
comp=Z,17nm,0.9s
QSPA South Pole Qui 69.10 180 P P 08 19 25.3 -0.5
comp=Z,17nm,1.0s,baz=14,slow=3.6,SNR=22
QSPA LR LR 08 44 39.6
comp=Z,960nm,21.6s,baz=39,slow=32
comp=Z,17nm,1.0s
QZH Quanzhou 69.36 309⇓ *i* P P 08 19 30.7 +2.9
QZH pmax pmax
comp=Z,190nm,7.5s
QZH LR LR
comp=Z,880nm,20.3s
QZH LR LR
comp=Z,1μm,24.7s
JKA Kamikawa-asahi 70.26 338 IAMs_20 IAMs_20 08 43 29.4
comp=Z,1μm,22.0s
ASAJ Asahikawa 70.26 338 LR LR 08 44 37.6
comp=Z,1μm,21.9s,baz=174,slow=31
RPN Rapa Nui 70.74 112 LR LR 08 42 25.7
comp=Z,724nm,20.3s,baz=264,slow=29
TJN Taejon 71.12 323 P P 08 19 37.7 -0.7
TJN Taejon 71.12 323 P P 08 19 35.2 -3.1
TJN Taejon 71.12 323⇓ *e* P P 08 19 35.1 -3.3
SSE Sheshan 71.33 315 P P 08 19 39.3 -0.4
SSE S S 08 28 58.6 +0.8
SSE pmax pmax
comp=Z,30nm,0.8s
SSE pmax pmax
comp=Z,190nm,3.5s
SSE LR LR
comp=Z,160nm,22.2s
SSE LR LR
comp=Z,230nm,22.2s
KSRS Korea Array 71.59 324 P P 08 19 40.1 -1.0
comp=Z,16nm,1.1s,baz=146,slow=6.1,SNR=24
KSRS LR LR 08 47 18.2
comp=Z,694nm,21.9s,baz=130,slow=33
comp=Z,16nm,1.1s
KSAR Wonju Array Be 71.60 324 P P 08 19 40.5 -0.7
KSAR Wonju Array Be 71.60 324 P P 08 19 40.5 -0.7
KS19 Wonju Array Si 71.65 324 P P 08 19 38.3 -3.3
KS19 IAmb IAmb 08 19 42.1
comp=Z,56nm,1.4s
INCN Inchon 72.32 323 P P 08 19 46.4 +0.8
INCN Inchon 72.32 323 P P 08 19 45.1 -0.5
INCN Inchon 72.32 323 P P 08 19 45.1 -0.5
INCN pmax pmax
comp=Z,248nm,1.9s
YSS Yuzh-Sakhalins 72.68 339 P P 08 19 48.2 +0.7
YSS Yuzh-Sakhalins 72.68 339 P P 08 19 47.6 +0.1
YSS IAmb IAmb 08 19 59.3
comp=Z,30nm,1.1s
YSS IAMs_20 IAMs_20 08 46 26.5
comp=Z,2μm,20.0s
YSS Yuzh-Sakhalins 72.68 339 *e* P P 08 19 48.2 +0.7
YSS *e* 08 20 08.6
YSS *e*S S 08 29 12.2 -0.4
YSS pmax pmax
comp=Z,20nm,1.1s
YSS pmax pmax
comp=Z,100nm,3.7s
YSS MLR MLR
comp=Z,600nm,14.0s
YSS MLR MLR
comp=N,400nm,15.0s
YSS MLR MLR
comp=E,500nm,15.0s
QIZ Qiongzhong 72.96 299 P P 08 19 49.3 -0.5
QIZ S S 08 29 19.7 +2.7
QIZ SS SS 08 33 58.4 +0.5
QIZ pmax pmax
comp=E,250nm,9.5s
QIZ LR LR
comp=E,230nm,17.6s
QIZ LR LR
comp=E,410nm,17.7s
QIZ LR LR
comp=E,550nm,22.2s
SHEM Shemya Is, Ala 73.39 1 LR LR 08 45 52.7
comp=E,621nm,19.6s,baz=140,slow=31
NJ2 Nanjing 73.48 315 *e* P P 08 19 52.8 +0.3
NJ2 pP sP 08 19 56.9 +1.2
NJ2 SKS SKiKP 08 29 54.9 +31
NJ2 pmax pmax
comp=E,39nm,0.7s
NJ2 pmax pmax
comp=E,240nm,4.5s
NJ2 LR LR
comp=E,570nm,23.2s
NJ2 LR LR
comp=E,590nm,23.6s
NJ2 LR LR
comp=E,680nm,22.7s
MSHR Mys Shultsa 73.76 330⇑ *e* P P 08 19 54.0 +0.1
MSHR pmax pmax
comp=Z,39nm,1.2s
IPM Ipoh 74.28 281 P P 08 19 57.2 -0.5
IPM Ipoh 74.28 281 P P 08 19 57.0 -0.7
USA0B Ussuriysk Arra 74.62 331 P P 08 19 58.5 -0.4
USA0B IAmb IAmb 08 20 02.5
comp=Z,46nm,1.3s
USA0B Ussuriysk Arra 74.62 331 *d i* P P 08 19 58.4 -0.6
USRK Ussuriysk Ar. 74.62 331 P P 08 19 58.3 -0.7
comp=Z,34nm,1.2s,baz=139,slow=4.2,SNR=16
USRK LR LR 08 48 36.6
comp=Z,482nm,20.7s,baz=154,slow=32
comp=Z,34nm,1.2s
USRK Ussuriysk Ar. 74.62 331 P P 08 19 58.4 -0.6
PET Petropavlovsk 74.63 351 IAMs_20 IAMs_20 08 45 49.9
comp=Z,1μm,20.0s
PET Petropavlovsk 74.63 351 *e* P P 08 19 59.3 +0.5
PET *e*S S 08 29 33.1 -1.2
PET MLR MLR
comp=Z,600nm,20.0s
PEA0B Petropavlovsk- 74.85 351 P P 08 19 59.8 -0.3
PEA0B Petropavlovsk- 74.85 351 P P 08 19 59.8 -0.3
PEA0B pmax pmax
comp=Z,21nm,0.9s
PETK Petropavlovsk- 74.85 351 P P 08 19 59.3 -0.8
PETK Petropavlovsk- 74.85 351 P P 08 19 60.0 -0.1
comp=Z,23nm,1.2s,baz=129,slow=6.1,SNR=8.9
comp=Z,23nm,1.2s
PETK Petropavlovsk- 74.85 351 P P 08 20 00.0 -0.1
RPSI Rantau Prapat 75.53 279 P P 08 20 04.5 -0.4
PSI Prapat 75.57 279 P P 08 20 04.6 -0.7
WHN Wuhan 75.67 311 P P 08 20 05.6 +0.3
WHN S S 08 29 47.6 +0.7
WHN SS SS 08 34 40.2 +1.4
WHN LR LR
comp=Z,3μm,20.7s
MDJ Mudanjiang 76.04 330 P P 08 20 07.1 0.0
MDJ Mudanjiang 76.04 330 P P 08 20 06.5 -0.6
MDJ pP pP 08 20 09.1 -0.4
MDJ sS sS 08 29 57.8 +3.7
MDJ pmax pmax
comp=Z,19nm,1.3s
MDJ pmax pmax
comp=Z,190nm,4.0s
MDJ LR LR
comp=Z,410nm,22.7s
MDJ LR LR
comp=Z,420nm,22.4s
MDJ LR LR
comp=Z,1μm,24.3s
TYV Tymovskoe 76.15 341 *e* P P 08 20 07.5 -0.1
TYV *e*S S 08 29 52.9 +1.6
TYV pmax pmax
comp=Z,6.0nm,1.1s
TYV pmax pmax
comp=Z,100nm,4.2s
TYV smax smax
comp=N,100nm,6.8s
TYV smax smax
comp=E,100nm,6.8s
DL2 Dalian 76.16 322 P P 08 20 07.6 -0.3
DL2 pmax pmax
comp=E,42nm,1.1s
DL2 LR LR
comp=E,590nm,20.6s
DL2 LR LR
comp=E,590nm,23.7s
DL2 LR LR
comp=E,1μm,22.2s
GSI Gunungsitoli 76.26 277 P P 08 20 08.5 -0.7
GSI IAmb IAmb 08 20 39.9
comp=Z,37nm,1.0s
SNY Shenyang 77.05 325 ⇓ P P 08 20 15.1 +2.2
SNY pmax pmax
comp=Z,9.0nm,0.6s
SNY LR LR
comp=Z,460nm,18.5s
SNY LR LR
comp=Z,390nm,20.6s
SNY LR LR
comp=Z,770nm,22.7s
TIA Tai'an 77.17 317 P P 08 20 12.8 -1.0
TIA SS SS 08 35 02.2 +0.7
TIA pmax pmax
comp=Z,11nm,1.0s
TIA pmax pmax
comp=Z,43nm,3.4s
TIA LR LR
comp=Z,370nm,22.3s
TIA LR LR
comp=Z,320nm,25.9s
TIA LR LR
comp=Z,970nm,24.4s
SRIT Nakonsritamara 77.21 284 P P 08 20 15.5 +1.1
CN2 Changchun 77.46 327 P P 08 20 15.0 -0.2
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,600nm,21.0s
CN2 LR LR
comp=Z,800nm,24.0s
BNX BinXian 77.91 330 ⇓ P P 08 20 16.8 -0.8
BNX pP pP 08 20 20.1 +0.2
BNX PP PP 08 23 16.5 +2.6
BNX S S 08 30 10.7 -0.1
BNX sS sS 08 30 17.5 +3.1
BNX pmax pmax
comp=Z,23nm,0.9s
BNX pmax pmax
comp=Z,120nm,4.6s
BNX LR LR
comp=Z,400nm,16.8s
BNX LR LR
comp=Z,420nm,16.3s
BNX LR LR
comp=Z,670nm,17.4s
MAW Mawson 77.93 202 P P 08 20 17.8 +0.3
comp=Z,6.8nm,1.0s,baz=131,slow=7.5,SNR=6.7
MAW LR LR 08 48 41.6
comp=Z,272nm,20.9s,baz=106,slow=31
comp=Z,6.8nm,1.0s
GRNR Gornyy 78.12 338 ⇓ *i* P P 08 20 18.6 -0.1
GRNR pmax pmax
comp=Z,30nm,1.1s
FALS False Pass 78.31 14 P P 08 20 21.6 +2.0
KLR Kul'dur 78.66 334 P P 08 20 21.4 -0.3
comp=Z,13nm,1.0s,baz=116,slow=3.7,SNR=15
KLR LR LR 08 52 06.8
comp=Z,677nm,20.3s,baz=145,slow=33
comp=Z,13nm,1.0s
KLR Kul'dur 78.66 334 *e* P P 08 20 19.3 -2.4
KLR pmax pmax
comp=Z,15nm,1.0s
ENH Enshi 79.02 308 P P 08 20 23.3 -0.9
GYA Guiyang 79.19 304 P P 08 20 26.5 +1.2
GYA S S 08 30 26.0 +0.4
GYA SS SS 08 35 35.9 +3.4
GYA pmax pmax
comp=Z,220nm,5.1s
GYA LR LR
comp=Z,960nm,23.8s
LYN LuoYang 79.26 313 P P 08 20 25.6 +0.3
LYN sP pwP 08 20 31.3 -0.3
LYN S S 08 30 26.7 +1.0
LYN SS SS 08 35 35.6 +2.7
LYN pmax pmax
comp=Z,32nm,0.8s
LYN pmax pmax
comp=Z,290nm,5.3s
LYN LR LR
comp=Z,650nm,24.6s
LYN LR LR
comp=Z,750nm,24.7s
LYN LR LR
comp=Z,2μm,26.1s
S12K Black Hills 79.40 14 P P 08 20 27.1 +1.4
baz=204
HNS HongShan 79.44 317 ⇑ P P 08 20 25.9 -0.3
HNS S S 08 30 27.2 -0.2
HNS pmax pmax
comp=Z,9.0nm,1.4s
HNS pmax pmax
comp=Z,240nm,6.8s
HNS LR LR
comp=Z,570nm,23.9s
HNS LR LR
comp=Z,860nm,24.7s
HNS LR LR
comp=Z,2μm,25.0s
SDPT Sand Point 79.46 15 P P 08 20 27.2 +1.3
baz=206
SRDT SRDT 79.98 290 P P 08 20 31.2 +1.5
BJT Baijiatuau 80.11 320 P P 08 20 29.1 -0.7
BJI Beijing 80.12 320 P P 08 20 28.8 -1.1
BJI S S 08 30 35.7 +1.1
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI pmax pmax
comp=Z,77nm,6.0s
BJI LR LR
comp=Z,250nm,21.0s
BJI LR LR
comp=Z,200nm,22.4s
BJI LR LR
comp=Z,370nm,21.7s
BELA Belgrano 2 80.12 174 P P 08 20 27.7 -1.7
BELA IAmb IAmb 08 23 03.2
comp=Z,14nm,0.5s
S14K Fog Glacier 80.53 15 P P 08 20 33.5 +1.6
baz=207
PHRA Phrae 80.78 294 P P 08 20 33.3 -0.6
CHGN Chignik 80.84 16 P P 08 20 32.7 -0.6
CHGN Chignik 80.84 16 P P 08 20 34.4 +1.1
baz=208
HEH HeiHe 81.25 333 *e* P P 08 20 35.1 -0.6
HEH pmax pmax
comp=Z,14nm,0.9s
HEH pmax pmax
comp=Z,150nm,4.2s
CRAI Chiangrai 81.41 295 P P 08 20 36.8 -0.4
CRAI IAmb IAmb 08 20 49.1
comp=Z,34nm,1.4s
XAN Xi'an 81.43 311 ⇑ P P 08 20 36.7 -0.4
XAN sP pwP 08 20 44.8 +1.4
XAN S S 08 30 49.6 +1.0
XAN pmax pmax
comp=Z,20nm,1.2s
XAN pmax pmax
comp=Z,360nm,6.9s
XAN LR LR
comp=Z,670nm,23.4s
XAN LR LR
comp=Z,550nm,24.0s
XAN LR LR
comp=Z,1μm,23.4s
KMI Kunming 81.66 301 ⇓ P P 08 20 39.6 +0.9
KMI pmax pmax
comp=Z,31nm,1.0s
KMI pmax pmax
comp=Z,200nm,9.2s
KMI LR LR
comp=Z,280nm,21.4s
KMI LR LR
comp=Z,360nm,21.9s
KMI LR LR
comp=Z,520nm,26.5s
CMAR Chiang Mai Arr 81.86 293 P P 08 20 39.8 +0.1
comp=Z,3.1nm,0.6s,baz=131,slow=4.2,SNR=22
CMAR LR LR 08 59 15.8
comp=Z,153nm,18.8s,baz=105,slow=37
comp=Z,3.1nm,0.6s
CMAR Chiang Mai Arr 81.86 293 *ce* P P 08 20 39.4 -0.3
CMAR pmax pmax
comp=Z,7.0nm,1.0s
MA2 Magadan 82.17 349 P P 08 20 41.2 +0.9
MA2 IAmb IAmb 08 20 42.8
comp=Z,34nm,1.3s
MA2 IAMs_20 IAMs_20 08 49 50.4
comp=Z,1μm,22.0s
MA2 Magadan 82.17 349 LR LR 08 50 24.3
comp=Z,1μm,22.0s,baz=166,slow=31
MA2 Magadan 82.17 349 *ce* P P 08 20 41.5 +1.1
MA2 pmax pmax
comp=Z,19nm,1.2s
SII Sitkinak Islan 82.22 18 IAMs_20 IAMs_20 08 48 51.6
comp=Z,1μm,20.0s
SII Sitkinak Islan 82.22 18 P P 08 20 41.9 +1.2
baz=211
XLT XiLinHaoTe 82.56 323 *e* P P 08 20 44.4 +1.5
XLT pP pwP 08 20 50.0 +0.8
XLT sP PcP 08 20 51.8 +3.9
XLT S S 08 31 00.9 +0.9
XLT sS ScS 08 31 12.8 -2.4
XLT SS SS 08 36 21.2 -0.9
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,140nm,5.4s
XLT LR LR
comp=Z,35nm,17.4s
XLT LR LR
comp=Z,290nm,20.8s
XLT LR LR
comp=Z,880nm,38.7s
M11K Mekoryuk 82.92 11 P P 08 20 46.4 +2.3
baz=200
OHAK Old Harbor 83.04 18 P P 08 20 45.4 +0.5
OHAK Old Harbor 83.04 18 P P 08 20 45.2 +0.3
OHAK IAMs_20 IAMs_20 08 50 08.4
comp=Z,1μm,22.0s
OHAK Old Harbor 83.04 18 P P 08 20 45.8 +0.9
baz=212
O15K Ungalikthiuk R 83.07 14 P P 08 20 45.9 +0.9
baz=206
PZH PanZhiHua 83.09 302 P P 08 20 47.6 +1.5
PZH S SKSac 08 31 08.5 0.0
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,170nm,6.6s
PZH LR LR
comp=Z,220nm,20.6s
PZH LR LR
comp=Z,290nm,23.5s
PZH LR LR
comp=Z,330nm,21.6s
Q17K Contact Creek 83.22 16 P P 08 20 46.9 +0.9
baz=210
N14K Kuskokwak Cree 83.34 13 P P 08 20 48.5 +2.1
baz=204
P16K Nushagak River 83.37 15 P P 08 20 49.1 +2.5
baz=208
Q16K King Salmon 83.39 16 P P 08 20 47.9 +1.3
baz=209
HHC Hu-ho-hao-te 83.43 318 *e* P P 08 20 48.2 +0.7
HHC sP pwP 08 20 54.8 +1.0
HHC sS sS 08 31 21.4 +8.5
HHC SS SS 08 36 37.0 +1.8
HHC pmax pmax
comp=Z,16nm,0.5s
HHC pmax pmax
comp=Z,130nm,4.7s
HHC LR LR
comp=Z,620nm,23.3s
HHC LR LR
comp=Z,820nm,22.2s
HHC LR LR
comp=Z,2μm,23.6s
M13K Dall Lake 83.46 12 P P 08 20 49.1 +2.1
baz=203
CD2 Chengdu 83.60 306 P P 08 20 51.7 +3.2
CD2 S S 08 31 13.7 +2.7
CD2 SS SS 08 36 39.4 +1.5
CD2 pmax pmax
comp=Z,20nm,0.7s
CD2 LR LR
comp=Z,180nm,13.1s
CD2 LR LR
comp=Z,220nm,10.6s
CD2 LR LR
comp=Z,840nm,20.3s
KDAK Kodiak Island 83.72 18 P P 08 20 47.4 -1.0
KDAK Kodiak Island 83.72 18 IAMs_20 IAMs_20 08 50 07.3
comp=Z,2μm,22.0s
KDAK Kodiak Island 83.72 18 P P 08 20 49.3 +0.9
baz=213
KDAK Kodiak Island 83.72 18 LR LR 08 50 29.5
comp=Z,1μm,21.7s,baz=229,slow=30
KDAK Kodiak Island 83.72 18 P P 08 20 47.4 -1.0
KDAK pmax pmax
comp=Z,54nm,1.3s

O16K Kokwok River B 83.84 15 P **P** **08 20 49.5 +0.5**
O16K IAmb IAmb 08 20 57.5
comp=Z,35nm,1.4s
O16K Kokwok River B 83.84 15 P **P** **08 20 49.9 +1.0**
baz=208
P17K Kvichak River 83.89 16 P **P** **08 20 50.0 +0.8**
baz=209
N15K Kwethluk River 83.91 13 P **P** **08 20 49.9 +0.6**
N15K Kwethluk River 83.91 13 P **P** **08 20 49.8 +0.5**
baz=206
ZEA Zeya 83.92 335 *e*P **P** **08 20 50.6 +1.1**
ZEA *e*S **S** **08 31 17.1 +3.9**
ZEA *e*SS **SS** **08 36 47.0 +5.3**
ZEA smax smax
comp=N,300nm,16.0s
M14K Bethel 84.05 12 P **P** **08 20 50.5 +0.5**
M14K Bethel 84.05 12 P **P** **08 20 51.0 +1.0**
baz=204
O17K Koliganek Bris 84.24 15 P **P** **08 20 52.0 +1.0**
baz=209
M15K Kasigluk River 84.25 13 P **P** **08 20 52.0 +0.9**
baz=205
BTO Baotou 84.26 317 *e*P **P** **08 20 54.0 +2.2**
BTO pP **pwP** **08 20 58.9 +0.8**
BTO sP **PcP** **08 21 01.0 +5.5**
BTO sS **sS** **08 31 25.4 +4.1**
BTO pmax pmax
comp=N,19nm,0.5s
BTO pmax pmax
comp=N,340nm,10.5s
BTO LR LR
comp=N,2µm,24.1s
BTO LR LR
comp=N,2µm,23.7s
BTO LR LR
comp=N,4µm,23.3s
PMSA Palmer Station 84.28 159 LR LR 08 54 00.5
comp=N,602nm,18.0s,baz=240,slow=32
P18K Big Mountain, 84.37 16 P **P** **08 20 50.1 -1.6**
P18K Big Mountain, 84.37 16 P **P** **08 20 52.4 +0.6**
baz=210,SNR=17
Q19K Cape Douglas, 84.39 17 P **P** **08 20 51.8 -0.1**
Q19K Cape Douglas, 84.39 17 P **P** **08 20 52.0 +0.1**
baz=212,SNR=8.3
SNCC San Nicolas Is 84.40 51 IAMs_20 IAMs_20 08 49 40.0
comp=Z,1µm,19.0s
L14K Kuka Creek 84.45 12 P **P** **08 20 53.2 +1.2**
L14K IAmb IAmb 08 21 01.5
comp=Z,28nm,1.1s
L14K Kuka Creek 84.45 12 P **P** **08 20 53.6 +1.7**
baz=203
N16K Nishlik Lake 84.47 14 P **P** **08 20 53.7 +1.5**
baz=207,SNR=7.9
Q20K Shuyak Island 84.47 18 P **P** **08 20 52.9 +0.7**
baz=213
K13K Kusilvak Mount 84.64 11 IAMs_20 IAMs_20 08 52 53.1
comp=Z,905nm,21.0s
K13K Kusilvak Mount 84.64 11 P **P** **08 20 55.5 +2.5**
baz=202
O18K Koktuh Hills 84.78 16 P **P** **08 20 53.2 -0.6**
O18K Koktuh Hills 84.78 16 P **P** **08 20 55.8 +2.0**
baz=210
SAO San Andreas Ge 84.79 48 P **P** **08 20 53.5 -0.9**
SAO IAmb IAmb 08 21 03.9
comp=Z,27nm,1.0s
SAO San Andreas Ge 84.79 48 P **P** **08 20 53.5 -0.9**
SAO pmax pmax
comp=Z,27nm,1.0s
SAO MLR MLR
comp=Z,2µm,18.0s
SBC Santa Barbara 84.85 50 P **P** **08 20 55.6 +0.9**
baz=240
HOPS Hopland Field 84.86 45 P **P** **08 20 54.4 -0.3**
HOPS IAMs_20 IAMs_20 09 05 53.5
comp=Z,849nm,19.0s
N17K Nushagak Hills 84.88 15 P **P** **08 20 53.8 -0.4**
N17K IAmb IAmb 08 21 03.0
comp=Z,38nm,1.4s
N17K Nushagak Hills 84.88 15 P **P** **08 20 55.6 +1.4**
baz=208
KCPM Cahto Peak 84.89 44 P **P** **08 20 55.9 +0.9**
M16K Timber Creek 84.92 14 P **P** **08 20 54.4 0.0**
M16K Timber Creek 84.92 14 P **P** **08 20 55.8 +1.4**
baz=207
KMPM Mount Pierce 84.94 43 P **P** **08 20 54.8 -0.4**
ELIB Princess Elisa 84.94 189 *d*P **P** **08 20 54.9 +0.1**
comp=Z,5.2nm,0.9s
GDXM Geysers 84.94 45 IAMs_20 IAMs_20 08 51 11.8
comp=Z,870nm,19.0s
PMPB Monarch Peak 84.96 48 P **P** **08 20 54.1 -1.2**
PMPB IAMs_20 IAMs_20 08 52 55.6
comp=Z,1µm,19.0s
BBGB Big Mountain B 84.98 48 P **P** **08 20 55.7 +0.2**
BBGB IAMs_20 IAMs_20 08 50 22.1
comp=Z,1µm,20.0s
L15K Ungalak Mounta 84.99 12 P **P** **08 20 56.6 +1.8**
baz=204
SCI2 San Clemente I 84.99 52 P **P** **08 20 56.2 +0.7**
baz=241
PKM Mcpherson Peak 85.00 50 P **P** **08 20 55.8 +0.1**
baz=240
TNCH TengChong 85.03 299 *e*P **P** **08 20 56.5 +0.4**
TNCH S **S** **08 31 24.2 -1.7**
TNCH pmax pmax
comp=Z,220nm,5.0s
TNCH LR LR
comp=Z,360nm,19.5s
TNCH LR LR
comp=Z,460nm,18.4s
TNCH LR LR
comp=Z,340nm,20.2s
SMMC Simmler 85.08 49 P **P** **08 20 56.7 +0.8**
baz=240
SEY Seymchan 85.09 351 LR LR 08 53 23.3
comp=Z,872nm,21.0s,baz=164,slow=32
SEY Seymchan 85.09 351 *e*P **P** **08 20 52.2 -3.0**
SEY pmax pmax
comp=Z,23nm,1.1s
KMRM Mail Ridge 85.10 44 P **P** **08 20 57.1 +1.2**
KMRM IAMs_20 IAMs_20 08 56 39.5
comp=Z,964nm,20.0s
P19K Oil Pt 85.12 17 P **P** **08 20 54.6 -0.9**
P19K Oil Pt 85.12 17 P **P** **08 20 56.5 +0.9**
baz=212
CIS Catalina Islan 85.29 52 P **P** **08 20 58.0 +1.0**
baz=241
O19K Port Alsworth 85.30 16 P **P** **08 20 57.9 +1.6**
baz=211
BCW Bitter Crk WRg 85.31 50 P **P** **08 20 57.9 +0.7**
N18K Kilae Creek 85.33 15 P **P** **08 20 57.4 +0.9**
N18K IAmb IAmb 08 21 05.3
comp=Z,30nm,1.2s
N18K Kilae Creek 85.33 15 P **P** **08 20 58.1 +1.5**
baz=210
KRPM Rodgers 85.40 43 P **P** **08 20 58.3 +0.9**
KRPM IAmb IAmb 08 21 07.4
comp=Z,26nm,1.1s
KRPM IAMs_20 IAMs_20 08 48 06.7
comp=Z,763nm,18.0s
ILSW Iliamna Southw 85.43 17 P **P** **08 20 55.2 -2.0**
ILSW IAMs_20 IAMs_20 08 51 53.4
comp=Z,1µm,21.0s
L16K Owhat River 85.43 13 P **P** **08 20 55.9 -1.1**
L16K IAmb IAmb 08 21 06.7
comp=Z,31nm,1.1s
L16K Owhat River 85.43 13 P **P** **08 20 58.3 +1.4**
baz=206
KHMM Horse Mountain 85.43 43 P **P** **08 20 57.6 -0.1**
KHMM IAmb IAmb 08 21 07.5
comp=Z,30nm,1.1s
K15K Wolf Creek Mou 85.54 12 P **P** **08 20 58.2 +0.7**
K15K IAMs_20 IAMs_20 08 53 20.1
comp=Z,932nm,19.0s
K15K Wolf Creek Mou 85.54 12 P **P** **08 20 58.5 +1.0**
baz=204
CNPM China Poot 85.57 18 IAMs_20 IAMs_20 08 51 42.1
comp=Z,1µm,21.0s
J14K Nanvaranak Lak 85.59 11 IAmb IAmb 08 21 19.4
comp=Z,40nm,1.3s
J14K IAMs_20 IAMs_20 08 53 12.3
comp=Z,943nm,20.0s
J14K Nanvaranak Lak 85.59 11 P **P** **08 20 58.9 +1.2**
baz=203
M17K Holitna River 85.60 14 IAmb IAmb 08 21 17.0
comp=Z,19nm,0.9s
M17K Holitna River 85.60 14 P **P** **08 20 58.7 +0.8**
baz=208
OSI Osito Audit: C 85.65 51 P **P** **08 20 59.3 +0.5**
baz=241
O20K Slope Mountain 85.65 17 P **P** **08 20 58.8 +0.6**
baz=213
KRMB Red Mountain 85.67 42 IAmb IAmb 08 21 08.7
comp=Z,37nm,1.2s
DECC Green Verdugo 85.75 51 P **P** **08 20 59.9 +0.6**
baz=241
N19K Bonanza Creek 85.79 16 P **P** **08 21 00.1 +1.2**
baz=211
ARVC Arvin 85.82 50 P **P** **08 20 59.4 -0.2**
baz=241
PASC Pasadena Art C 85.82 51 IAMs_20 IAMs_20 08 52 21.6
comp=Z,1µm,20.0s
KSXB Camp Six Broad 85.86 42 P **P** **08 20 58.7 -1.0**
KSXB IAmb IAmb 08 21 14.5
comp=Z,34nm,1.1s
BRLK Bradley Lake 85.87 18 IAMs_20 IAMs_20 08 51 40.6
comp=Z,1µm,22.0s
TJX Tijuana 85.87 53 IAMs_20 IAMs_20 08 50 44.1
comp=Z,1µm,21.0s
BRSE Bradley Lake S 85.89 18 P **P** **08 21 00.4 +1.1**
baz=214
VES Vestal, Richgr 85.98 49 P **P** **08 21 00.8 +0.4**
baz=241
109C Camp Elliot, M 86.01 53 IAMs_20 IAMs_20 08 50 40.8
comp=Z,857nm,20.0s
109C Camp Elliot, M 86.01 53 P **P** **08 21 00.9 +0.3**
baz=242
LZH Lanzhou 86.05 311 *e*P **P** **08 21 01.4 +0.5**
LZH sP pwP 08 21 08.3 +1.1
LZH SKS **SKSac** **08 31 26.4 -0.8**
LZH pmax pmax
comp=Z,25nm,1.1s
LZH LR LR
comp=Z,210nm,16.7s
LZH LR LR
comp=Z,440nm,17.4s
LZH LR LR
comp=Z,830nm,19.9s
M18K Stony River 86.05 15 P **P** **08 21 01.4 +1.3**
baz=210
L17K Donlin 86.06 13 P **P** **08 21 01.4 +1.3**
baz=207
ELS Elsinore Mount 86.13 52 IAMs_20 IAMs_20 08 50 32.8
comp=Z,921nm,21.0s
CMB Columbia Colle 86.17 47 IAmb IAmb 08 21 10.4
comp=Z,21nm,1.2s
CMB IAMs_20 IAMs_20 08 52 56.3
comp=Z,1µm,20.0s
ORV Oroville 86.19 45 P **P** **08 21 00.6 -0.7**
ORV IAmb IAmb 08 21 10.5
comp=Z,26nm,1.2s
ORV Oroville 86.19 45 P **P** **08 21 00.6 -0.7**
ORV pmax pmax
comp=Z,26nm,1.2s
L02F Cave Junction 86.21 42 IAmb IAmb 08 21 11.7
comp=Z,37nm,1.4s
AFDM Forest Hills D 86.23 46 P **P** **08 21 01.0 -0.6**
AFDM IAmb IAmb 08 21 10.7
comp=Z,26nm,1.1s
BAR Barrett 86.24 53 IAMs_20 IAMs_20 08 50 35.8
comp=Z,900nm,20.0s
BFSC Mount Baldy Ra 86.24 51 P **P** **08 21 01.8 -0.1**
baz=242
MURC Murrieta 86.28 52 P **P** **08 21 01.6 -0.4**
baz=242
EDW2 Edwards Air Fo 86.30 51 P **P** **08 21 02.1 0.0**
baz=242
ISA Isabella, Lake 86.33 50 P **P** **08 21 01.8 -0.4**
ISA IAMs_20 IAMs_20 08 50 53.0
comp=Z,1µm,20.0s
ISA Isabella, Lake 86.33 50 P **P** **08 21 01.6 -0.6**
baz=241
ISA Isabella, Lake 86.33 50 P **P** **08 21 01.8 -0.4**
ISA pmax pmax
comp=Z,40nm,1.1s
CCAC Calif City Air 86.42 50 IAMs_20 IAMs_20 08 51 05.2
comp=Z,1µm,21.0s
K02D Willamette Mer 86.46 42 IAmb IAmb 08 21 12.1
comp=Z,24nm,1.1s
ESJX Sierra Juarez 86.47 54 IAMs_20 IAMs_20 08 51 05.0
comp=Z,853nm,21.0s
L18K Granite Mounta 86.49 14 IAmb IAmb 08 21 17.5
comp=Z,18nm,1.2s
L18K Granite Mounta 86.49 14 P **P** **08 21 04.2 +2.0**
baz=209
MONP2 Monument Peak 86.52 53 P **P** **08 21 03.9 +0.5**
baz=242
YBH Yreka Blue Hor 86.54 43 P **P** **08 21 03.0 0.0**
YBH IAmb IAmb 08 21 12.7
comp=Z,33nm,1.2s
YBH Yreka Blue Hor 86.54 43 LR LR 08 53 40.0
comp=Z,183nm,18.9s,baz=236,slow=32
YBH Yreka Blue Hor 86.54 43 P **P** **08 21 03.1 0.0**
YBH pmax pmax
comp=Z,33nm,1.3s
YBH MLR MLR
comp=Z,500nm,18.0s
J01E Myrtle Point 86.55 41 IAMs_20 IAMs_20 08 51 16.9
comp=Z,929nm,20.0s
SEW Seward 86.56 18 P **P** **08 21 03.9 +1.3**
baz=215
K17K Iditarod 86.58 13 P **P** **08 21 04.1 +1.5**
baz=207
J16K Anvik River 86.62 12 IAmb IAmb 08 21 13.4
comp=Z,28nm,1.1s
J16K Anvik River 86.62 12 P **P** **08 21 04.3 +1.5**
baz=205
CAPN Captain Cook N 86.63 17 P **P** **08 21 03.9 +1.0**
baz=214
IKP In-Ko-Pah, Jac 86.64 53 P **P** **08 21 04.0 +0.2**
baz=243
N20K Mount Spurr 86.71 16 P **P** **08 21 04.4 +1.0**
baz=213
M19K Big River Lodg 86.75 15 P **P** **08 21 04.3 +0.8**
baz=211
YUH Yuha Desert 86.78 53 IAMs_20 IAMs_20 08 51 32.2
comp=Z,1µm,21.0s
O22K Cooper Landing 86.79 18 P **P** **08 21 04.8 +1.1**
baz=215
LRMC Laurel Mtn Rad 86.81 50 P **P** **08 21 05.1 +0.4**
baz=242
PFO Pinyon Flats O 86.83 52 P **P** **08 21 04.6 -0.1**
PFO IAmb IAmb 08 21 14.0
comp=Z,20nm,1.4s
PFO Pinyon Flats O 86.83 52 IAMs_20 IAMs_20 08 51 33.4
comp=Z,1µm,20.0s
PFO Pinyon Flats O 86.83 52 P **P** **08 21 04.9 +0.2**
baz=242
PFO Pinyon Flats O 86.83 52 LR LR 08 51 16.7
comp=Z,1µm,21.4s,baz=237,slow=30
PFO Pinyon Flats O 86.83 52 P **P** **08 21 04.6 -0.1**
PFO pmax pmax
comp=Z,20nm,1.5s
TPFO Pinon Flats 86.83 52 P **P** **08 21 04.5 -0.3**
baz=242
EMB Emerald Bay 86.83 46 P **P** **08 21 03.6 -1.1**
EMB IAmb IAmb 08 21 21.3
comp=Z,15nm,1.1s
HUMO Hull Mountain 86.85 42 IAmb IAmb 08 21 14.2
comp=Z,26nm,1.1s
MDPB Devils Postpil 86.86 48 IAmb IAmb 08 21 14.3
comp=Z,23nm,1.3s
MDPB IAMs_20 IAMs_20 08 50 58.9
comp=Z,1µm,21.0s
SFX San Felipe 86.87 55 IAMs_20 IAMs_20 08 51 13.7
comp=Z,1µm,20.0s
L19K White Mountain 86.88 15 IAmb IAmb 08 21 12.8
comp=Z,28nm,1.4s
L19K White Mountain 86.88 15 P **P** **08 21 04.8 +0.6**
baz=210
CWC Cottonwood Cre 86.98 49 P **P** **08 21 05.6 +0.1**
baz=241
TROLL Troll, Antarti 87.01 183 ⇑P **P** **08 21 03.1 -2.0**
comp=Z,348nm,0.9s
SWSC Sam W. Stewart 87.01 53 P **P** **08 21 06.9 +1.4**
baz=243
J17K VABM Dome 87.03 12 P **P** **08 21 07.0 +2.2**
baz=207
MLAC Mammoth, Mammo 87.03 48 P **P** **08 21 07.1 +1.3**
baz=241
MPK Martis Peak 87.04 46 P **P** **08 21 05.2 -0.6**
M20K Styx River 87.05 16 P **P** **08 21 07.3 +2.3**
baz=212
WAKR Walker 87.05 47 P **P** **08 21 05.3 -0.4**
WAKR IAmb IAmb 08 21 15.4
comp=Z,16nm,1.1s
WAKR IAMs_20 IAMs_20 08 53 35.6
comp=Z,1µm,20.0s
L04D Klamath Falls 87.06 43 P **P** **08 21 04.8 -0.9**
UABX UABC, Campus M 87.14 54 IAMs_20 IAMs_20 08 52 28.6
comp=Z,920nm,20.0s
I03D Drain, OR 87.19 41 IAMs_20 IAMs_20 08 51 57.0
comp=Z,1µm,21.0s
MPMC Manual Prospec 87.22 50 P **P** **08 21 07.0 +0.3**
baz=242
PNTR Pine Nut 87.23 46 IAmb IAmb 08 21 16.1
comp=Z,22nm,1.1s
RC01 Rabbit Creek A 87.28 17 IAMs_20 IAMs_20 08 52 25.5
comp=Z,1µm,22.0s
RC01 Rabbit Creek A 87.28 17 P **P** **08 21 06.7 +0.6**
baz=215
SUA Susitna One 87.32 17 IAMs_20 IAMs_20 08 52 53.3
comp=Z,1µm,21.0s
SUA Susitna One 87.32 17 P **P** **08 21 07.8 +1.4**
baz=214
BELC Belle Mtn. Jos 87.35 52 P **P** **08 21 06.7 -0.6**
baz=243
GSC Goldstone, Bar 87.36 51 IAmb IAmb 08 21 17.1
comp=Z,26nm,1.6s
GSC IAMs_20 IAMs_20 08 54 34.2
comp=Z,1µm,18.0s
GSC Goldstone, Bar 87.36 51 P **P** **08 21 07.0 -0.2**
baz=242
L20K Farewell, AK 87.37 15 P **P** **08 21 08.0 +1.5**
baz=211
YERR Yerington 87.42 47 IAmb IAmb 08 21 16.8
comp=Z,12nm,1.0s
YERR IAMs_20 IAMs_20 08 53 57.4
comp=Z,1µm,18.0s
HEC Hector,Ludlow 87.48 51 P **P** **08 21 08.3 +0.4**
baz=242
DSP Deep Springs 87.51 48 P **P** **08 21 07.5 -0.2**
DSP IAmb IAmb 08 21 17.4
comp=Z,13nm,1.2s
DSP IAMs_20 IAMs_20 08 50 57.9
comp=Z,1µm,22.0s
SKT Skwentna 87.54 16 P **P** **08 21 07.9 +0.6**
baz=214
SNAA Sanae 87.55 182 P **P** **08 21 07.8 +0.2**
SNAA IAmb IAmb 08 21 18.4
comp=Z,38nm,1.5s
SNAA IAMs_20 IAMs_20 08 57 04.3
comp=Z,1µm,21.0s
SNAA Sanae 87.55 182 ⇑P **P** **08 21 04.2 -3.4**
comp=Z,69nm,0.9s
SNAA Sanae 87.55 182 P **P** **08 21 07.2 -0.3**
comp=Z,3.1nm,0.9s,baz=209,slow=8.6,SNR=2.9
SNAA LR LR 08 56 24.6
comp=Z,1µm,21.6s,baz=180,slow=33
comp=Z,3.1nm,0.9s
SNAA Sanae 87.55 182 P **P** **08 21 07.8 +0.2**
SNAA pmax pmax
comp=Z,38nm,1.5s
LPIG La Paz 87.56 63 LR LR 08 52 09.7
comp=Z,1µm,19.8s,baz=234,slow=30
H16K Elim 87.56 11 P **P** **08 21 08.2 +0.8**
baz=204
LHV Little Huntoon 87.56 47 IAmb IAmb 08 21 22.8
comp=Z,18nm,1.3s
LHV IAMs_20 IAMs_20 08 51 22.3
comp=Z,989nm,21.0s
J18K Innoko River 87.58 13 P **P** **08 21 08.8 +1.3**
baz=209
BC3 Big Chuckawall 87.59 53 P **P** **08 21 08.8 +0.4**
baz=243
G15K Niukluk 87.59 10 P **P** **08 21 09.5 +2.0**
baz=202
QSM Queen of Sheba 87.62 50 IAMs_20 IAMs_20 08 52 08.2
comp=Z,1µm,21.0s
HIN Hinchinbrook I 87.67 19 IAMs_20 IAMs_20 08 51 46.8
comp=Z,982nm,20.0s
SLBS Sierra La Lagu 87.70 64 P **P** **08 21 08.1 -1.0**
SLBS IAmb IAmb 08 21 19.7
comp=Z,23nm,1.2s
COR Corvallis 87.70 40 IAMs_20 IAMs_20 08 53 37.2
comp=Z,1µm,19.0s
F14K Arctic Creek 87.70 9 P **P** **08 21 09.3 +1.3**
baz=200
M22K Willow 87.72 17 IAMs_20 IAMs_20 08 53 06.1
comp=Z,1µm,21.0s
M22K Willow 87.72 17 P **P** **08 21 08.5 +0.3**
baz=215
RYN Ryan 87.73 47 P **P** **08 21 08.3 -0.8**
RYN IAMs_20 IAMs_20 08 51 06.8
comp=Z,977nm,21.0s
GRAC Grapevine Rang 87.75 49 P **P** **08 21 08.7 -0.4**
GRAC IAMs_20 IAMs_20 08 54 16.6
comp=Z,1µm,19.0s
GRAC Grapevine Rang 87.75 49 P **P** **08 21 09.6 +0.5**
baz=242
NVAR Mina Array Bea 87.79 47 P **P** **08 21 08.7 -0.7**
NVAR Mina Array Bea 87.79 47 P **P** **08 21 08.9 -0.4**
comp=Z,1.7nm,0.8s,baz=218,slow=5.3,SNR=12
NVAR LR LR 08 51 56.2
comp=Z,1µm,21.9s,baz=248,slow=30
comp=Z,1.7nm,0.8s
GLA Glamis 87.79 53 P **P** **08 21 10.6 +1.3**
GLA IAmb IAmb 08 21 28.0
comp=Z,17nm,1.1s
GLA IAMs_20 IAMs_20 08 51 12.8
comp=Z,905nm,21.0s
GLA Glamis 87.79 53 P **P** **08 21 09.2 -0.1**
baz=243
GLA Glamis 87.79 53 P **P** **08 21 10.6 +1.3**
GLA pmax pmax
comp=Z,17nm,1.1s
I04A Tendick Farm, 87.82 41 P **P** **08 21 08.9 -0.3**
I04A IAmb IAmb 08 21 32.5
comp=Z,23nm,1.3s
I04A IAMs_20 IAMs_20 08 52 27.6
comp=Z,1µm,21.0s
FURC Furnace Creek, 87.86 50 P **P** **08 21 09.6 +0.2**
baz=242
PMR Palmer 87.86 17 P **P** **08 21 11.0 +2.1**
PMR Palmer 87.86 17 P **P** **08 21 09.8 +0.9**
PMR IAMs_20 IAMs_20 08 52 45.8
comp=Z,882nm,21.0s
PMR Palmer 87.86 17 P **P** **08 21 10.1 +1.3**
baz=216
PMR Palmer 87.86 17 P **P** **08 21 09.8 +0.9**
PMR pmax pmax
comp=Z,10.0nm,1.0s
GWY Greenwater Val 87.87 50 P **P** **08 21 08.5 -1.2**
GWY IAMs_20 IAMs_20 08 52 41.7
comp=Z,1µm,22.0s
GLI Glacier Island 87.88 19 P **P** **08 21 09.7 +0.7**
GLI IAMs_20 IAMs_20 08 52 20.2
comp=Z,814nm,20.0s
GLI Glacier Island 87.88 19 P **P** **08 21 10.4 +1.4**
baz=218
NV11 Mina Array Sit 87.89 47 P **P** **08 21 08.8 -1.0**
NV11 IAmb IAmb 08 21 23.5
comp=Z,14nm,1.1s
NV11 IAMs_20 IAMs_20 08 51 22.0
comp=Z,1µm,22.0s
KNK Knik Glacier 87.91 18 P **P** **08 21 08.2 -1.0**
KNK Knik Glacier 87.91 18 P **P** **08 21 10.8 +1.6**
baz=216
GMRC Granite Mounta 87.95 52 P **P** **08 21 10.3 +0.1**
baz=243
FID Port Fidalgo 87.96 19 IAMs_20 IAMs_20 08 52 08.3
comp=Z,971nm,21.0s
H04D Lebanon 88.01 40 IAMs_20 IAMs_20 08 54 08.4
comp=Z,1µm,20.0s
SHOC Shoshone, Teco 88.02 50 P **P** **08 21 11.1 +0.8**
baz=242
VNA3 Neumayer Olymp 88.03 179 ⇑P **P** **08 21 07.4 -2.4**
comp=Z,5.4nm,0.8s
IRM Iron Mountain 88.05 52 P **P** **08 21 10.6 +0.1**
baz=243
G03D McMinnville, O 88.06 40 IAMs_20 IAMs_20 08 52 28.7
comp=Z,1µm,20.0s
TUQ Turquoise Moun 88.06 51 P **P** **08 21 10.8 +0.2**
baz=243
GHO Glory Hole Cre 88.07 17 P **P** **08 21 09.5 -0.5**
GHO IAmb IAmb 08 21 18.5
comp=Z,13nm,1.0s
GHO IAMs_20 IAMs_20 08 53 13.2
comp=Z,988nm,21.0s
K20K Telida 88.08 14 P **P** **08 21 11.3 +1.4**
baz=211
PIX Pinacate 88.17 55 IAMs_20 IAMs_20 08 52 55.1
comp=Z,830nm,20.0s

CUT	Chulitna	88.22	16	IAMs_20	IAMs_20	08 53 34.3					
	comp=Z,1µm,21.0s										
KVN	Kaiserville	88.23	47	IAmb	IAmb	08 21 21.4					
	comp=Z,31nm,1.7s										
KVN				IAMs_20	IAMs_20	08 54 12.8					
	comp=Z,863nm,19.0s										
G16K	Koyuk River	88.24	10	P	P	08 21 11.2	+0.7				
	baz=204										
H17K	Granite Mounta	88.25	11	IAMs_20	IAMs_20	08 54 34.7					
	comp=Z,945nm,21.0s										
H17K	Granite Mounta	88.25	11	P	P	08 21 12.2	+1.5				
	baz=206										
SML	Sawmill	88.26	18	P	P	08 21 12.2	+1.4				
	baz=216										
F03A	Seaside	88.27	39	IAMs_20	IAMs_20	08 51 31.3					
	comp=Z,1µm,21.0s										
SUCK	Suckling Hills	88.28	20	IAMs_20	IAMs_20	08 51 58.3					
	comp=Z,1µm,21.0s										
J19K	Poorman	88.28	14	P	P	08 21 12.5	+1.7				
	baz=210										
J05D	Fort Rock, OR	88.28	42	P	P	08 21 10.4	-1.1				
VNA2	Neumayer--Watz	88.36	180	⇑P	P	08 21 09.3	-2.0				
	comp=Z,4.3nm,0.8s,baz=174,slow=4.3										
TPH	Tonopah	88.36	48	P	P	08 21 11.6	-0.5				
TPH	Tonopah	88.36	48	P	P	08 21 11.6	-0.5				
TPH				pmax	pmax						
	comp=Z,135nm,1.6s										
RADR	Rader Ridge	88.40	38	IAMs_20	IAMs_20	08 51 56.6					
	comp=Z,1µm,21.0s										
HOLB	Holberg	88.42	33	IAMs_20	IAMs_20	08 53 45.8					
	comp=Z,1µm,20.0s										
M23K	Glacier View	88.42	18	P	P	08 21 12.8	+1.2				
	baz=217										
H04A	Detroit Lake	88.42	40	P	P	08 21 10.3	-1.7				
H04A				IAmb	IAmb	08 21 20.1					
	comp=Z,18nm,1.1s										
H04A				IAMs_20	IAMs_20	08 52 13.5					
	comp=Z,951nm,21.0s										
113A	Mohawk Valley,	88.46	54	P	P	08 21 11.4	-1.0				
113A				IAMs_20	IAMs_20	08 57 24.7					
	comp=Z,713nm,18.0s										
BERG	Berg Lake	88.55	20	IAMs_20	IAMs_20	08 53 58.1					
	comp=Z,948nm,20.0s										
SCM	Sheep Creek Mo	88.57	18	P	P	08 21 12.6	+0.2				
SCM	Sheep Creek Mo	88.57	18	P	P	08 21 13.7	+1.3				
	baz=217										
SCM	Sheep Creek Mo	88.57	18	P	P	08 21 12.6	+0.2				
SCM				pmax	pmax						
	comp=Z,17nm,0.6s										
E03A	Lebam	88.60	38	IAMs_20	IAMs_20	08 51 42.0					
	comp=Z,1µm,21.0s										
CAST	Castle Rocks	88.61	15	P	P	08 21 11.8	-0.7				
CAST				IAmb	IAmb	08 21 20.8					
	comp=Z,16nm,1.3s										
CAST	Castle Rocks	88.61	15	P	P	08 21 13.4	+1.0				
	baz=213										
G17K	Kiwalik Mounta	88.63	11	P	P	08 21 13.7	+1.3				
	baz=205										
VNA1	Neumayer--Stat	88.63	180	⇑P	P	08 21 09.8	-2.8				
	comp=Z,12nm,0.9s										
F04D	Rainier, OR	88.67	39	IAMs_20	IAMs_20	08 51 56.0					
	comp=Z,919nm,20.0s										
BMRM	Bremner River	88.70	19	P	P	08 21 14.5	+1.6				
	baz=220										
KLU	Klutina	88.71	19	IAMs_20	IAMs_20	08 52 34.3					
	comp=Z,939nm,22.0s										
H18K	Honhosa River	88.74	12	IAMs_20	IAMs_20	08 54 59.6					
	comp=Z,857nm,20.0s										
Q09A	Carvers	88.75	47	IAMs_20	IAMs_20	08 54 23.8					
	comp=Z,1µm,20.0s										
I05D	Terrebonne, OR	88.76	41	P	P	08 21 13.2	-0.4				
I05D				IAmb	IAmb	08 21 22.9					
	comp=Z,20nm,1.2s										
I05D				IAMs_20	IAMs_20	08 53 07.5					
	comp=Z,846nm,20.0s										
J20K	Nowinta River	88.77	14	P	P	08 21 14.0	+0.9				
	baz=211										
WISH	Wishkah	88.79	38	IAMs_20	IAMs_20	08 52 10.0					
	comp=Z,1µm,19.0s										
C03A	Quillayute Air	88.80	37	IAMs_20	IAMs_20	09 03 48.0					
	comp=Z,930nm,18.0s										
214A	Organ Pipe Nat	88.84	55	IAMs_20	IAMs_20	08 55 32.8					
	comp=Z,1µm,18.0s										
214A	Organ Pipe Nat	88.84	55	P	P	08 21 13.8	-0.4				
	baz=244										
BILL	Bilibino	88.85	358	⇓*i*P	P	08 21 14.0	+0.6				
BILL				pmax	pmax						
	comp=Z,22nm,1.2s										
PDMCI	Parker Dam,Lak	88.86	53	P	P	08 21 14.8	+0.5				
	baz=244										
WAX	Waxell Ridge	88.87	20	IAMs_20	IAMs_20	08 53 19.5					
	comp=Z,1µm,21.0s										
NLWA	Neilton Lookou	88.88	38	IAMs_20	IAMs_20	08 53 05.4					
	comp=Z,999nm,21.0s										
CHUM	Lake Minchumin	88.94	15	P	P	08 21 15.2	+1.3				
	baz=213										
MESA	MESA	88.96	21	IAMs_20	IAMs_20	08 51 33.1					
	comp=Z,1µm,21.0s										
MESA	MESA	88.96	21	P	P	08 21 15.0	+0.6				
	baz=222										
V12A	Nelson	88.97	51	IAMs_20	IAMs_20	08 54 11.9					
	comp=Z,1µm,19.0s										
WAT1	Susitna Watana	89.03	17	P	P	08 21 15.6	+1.1				
	baz=216										
WAT6	Susitna Watana	89.05	17	P	P	08 21 16.4	+1.7				
	baz=217										
CRAG	Craig	89.06	28	IAMs_20	IAMs_20	08 54 58.3					
	comp=Z,776nm,19.0s										
CRAG	Craig	89.06	28	P	P	08 21 16.4	+1.8				
	baz=230										
HOOD	Mount Hood Mea	89.08	40	IAMs_20	IAMs_20	08 54 51.9					
	comp=Z,1µm,20.0s										
TRF	Thorofare Moun	89.08	16	P	P	08 21 16.3	+1.5				
	baz=215										
SHPR	Sheep Range	89.10	50	P	P	08 21 15.2	-0.4				
M24K	Tolsona, Glenn	89.12	18	P	P	08 21 17.1	+2.2				
	baz=218										
ISLE	Juniper Island	89.15	21	IAMs_20	IAMs_20	08 53 28.0					
	comp=Z,903nm,21.0s										
SIT	Sitka	89.19	26	P	P	08 21 17.3	+2.0				
	baz=228										
S11A	Rachel	89.20	49	P	P	08 21 14.3	-1.7				
S11A				IAmb	IAmb	08 21 27.9					
	comp=Z,17nm,1.1s										
S11A				IAMs_20	IAMs_20	08 55 13.8					
	comp=Z,934nm,20.0s										
N25K	Chitina, Valde	89.20	19	P	P	08 21 17.3	+2.0				
	baz=220										
I20K	Naaghedeneel	89.23	14	P	P	08 21 16.2	+1.0				
	baz=211										
G05A	Wamic	89.24	40	IAMs_20	IAMs_20	08 53 21.2					
	comp=Z,1µm,20.0s										
GLB	Gilahina Butte	89.32	19	P	P	08 21 16.1	+0.2				
G18K	Tagagawik	89.35	11	IAMs_20	IAMs_20	08 55 18.7					
	comp=Z,950nm,21.0s										
G18K	Tagagawik	89.35	11	P	P	08 21 17.1	+1.2				
	baz=207										
BBB	Bella Bella	89.35	32	IAMs_20	IAMs_20	08 54 30.2					
	comp=Z,811nm,20.0s										
BBB	Bella Bella	89.35	32	LR	LR	08 57 10.0					
	comp=Z,627nm,18.2s,baz=244,slow=33										
F17K	Baldwin Pennin	89.38	10	P	P	08 21 17.9	+2.0				
	baz=205										
W13A	Hualapai Mount	89.40	52	P	P	08 21 16.0	-1.0				
W13A				IAMs_20	IAMs_20	08 52 24.3					
	comp=Z,899nm,20.0s										
YAK	Yakutsk	89.41	341	IAMs_20	IAMs_20	08 59 57.7					
	comp=Z,895nm,20.0s										
YAK	Yakutsk	89.41	341	LR	LR	09 01 29.4					
	comp=Z,697nm,18.2s,baz=138,slow=36										
YAK	Yakutsk	89.41	341	⇓*e*P	P	08 21 16.5	+0.4				
YAK				pmax	pmax						
	comp=Z,19nm,0.6s										
RND	Reindeer	89.42	16	IAmb	IAmb	08 21 26.9					
	comp=Z,23nm,1.2s										
S31K	Pelican	89.44	25	P	P	08 21 18.0	+1.6				
	baz=227										
BPAW	Bear Paw Mtn.	89.45	15	P	P	08 21 18.5	+2.1				
	baz=214										
H19K	Roundabout Mou	89.45	12	P	P	08 21 18.7	+2.4				
	baz=209										
GRNB	Grenville Isla	89.46	30	P	P	08 21 15.9	-0.7				
GRNB				IAmb	IAmb	08 21 26.0					
	comp=Z,24nm,1.2s										
PNL	Peninsula	89.47	22	P	P	08 21 17.9	+1.4				
	baz=224										
BMN	Battle Mountai	89.48	46	P	P	08 21 16.9	-0.4				
BMN	Battle Mountai	89.48	46	P	P	08 21 16.9	-0.4				
	comp=Z,32nm,1.1s										
U33K	Whale Pass	89.48	27	IAMs_20	IAMs_20	08 58 11.3					
	comp=Z,896nm,19.0s										
U33K	Whale Pass	89.48	27	P	P	08 21 17.9	+1.3				
	baz=230										
WVOR	Wild Horse Val	89.51	44	P	P	08 21 16.6	-0.7				
WVOR				IAmb	IAmb	08 21 32.4					
	comp=Z,28nm,1.2s										
WVOR	Wild Horse Val	89.51	44	P	P	08 21 16.6	-0.7				
WVOR				pmax	pmax						
	comp=Z,28nm,1.3s										
WVOR				MLR	MLR						
	comp=Z,600nm,18.0s										
CLRS	Cowichan Lake	89.52	36	IAmb	IAmb	08 21 26.6					
	comp=Z,21nm,1.0s										
MCARA	McCarthy VSAT	89.52	20	P	P	08 21 18.5	+1.8				
	baz=221										
CBB	Campbell River	89.52	35	P	P	08 21 17.7	+0.7				
CBB				IAMs_20	IAMs_20	08 51 37.0					
	comp=Z,924nm,22.0s										
DHY	Denali Highway	89.55	17	P	P	08 21 19.1	+2.1				
	baz=217										
GNW	Green Mountain	89.57	38	P	P	08 21 17.6	+0.3				
GNW				IAmb	IAmb	08 21 26.4					
	comp=Z,19nm,0.9s										
GNW				IAMs_20	IAMs_20	08 52 12.7					
	comp=Z,1µm,21.0s										
BCPM	Bancas Point	89.59	22	IAMs_20	IAMs_20	08 53 39.7					
	comp=Z,808nm,21.0s										
V35K	Ketchikan	89.63	28	P	P	08 21 16.9	-0.4				
V35K				IAmb	IAmb	08 21 29.2					
	comp=Z,32nm,1.2s										
V35K				IAMs_20	IAMs_20	08 51 20.4					
	comp=Z,801nm,21.0s										
V35K	Ketchikan	89.63	28	P	P	08 21 19.1	+1.8				
	baz=231										
R11B	Troy Canyon, C	89.63	48	IAMs_20	IAMs_20	08 55 46.3					
	comp=Z,974nm,19.0s										
R11B	Troy Canyon, C	89.63	48	P	P	08 21 18.4	+0.3				
	baz=243										
HARP	HAARP	89.65	18	P	P	08 21 18.9	+1.6				
	baz=219										
MCK	McKinley	89.66	16	P	P	08 21 18.5	+1.2				
	baz=216										
BARN	Barnard Glacie	89.71	20	IAmb	IAmb	08 21 26.5					
	comp=Z,26nm,1.1s										
BARN				IAMs_20	IAMs_20	08 53 56.2					
	comp=Z,814nm,20.0s										
LON	Longmire	89.73	39	P	P	08 21 17.2	-0.9				
LON				IAmb	IAmb	08 21 30.3					
	comp=Z,26nm,1.5s										
LON				IAMs_20	IAMs_20	08 55 45.0					
	comp=Z,915nm,19.0s										
LON	Longmire	89.73	39	P	P	08 21 17.3	-0.9				
LON				pmax	pmax						
	comp=Z,26nm,1.5s										
H20K	Anotleneega Mo	89.74	13	P	P	08 21 19.2	+1.5				
	baz=210										
CTG	Chitna Glacier	89.75	21	P	P	08 21 19.4	+1.4				
	baz=223										
LOGN	Logan Glacier	89.76	21	IAMs_20	IAMs_20	08 52 34.4					
	comp=Z,1µm,22.0s										
I07A	Izee	89.77	42	P	P	08 21 18.1	-0.4				
I07A				IAmb	IAmb	08 21 27.8					
	comp=Z,17nm,1.1s										
S32K	Killisnoo	89.77	26	P	P	08 21 19.1	+1.2				
	baz=229										
F18K	Selawik	89.80	11	P	P	08 21 19.6	+1.8				
	baz=206										
D05A	Enumclaw	89.86	38	IAMs_20	IAMs_20	08 52 42.3					
	comp=Z,893nm,21.0s										
G19K	Purcell Mounta	89.87	12	IAMs_20	IAMs_20	08 55 46.4					
	comp=Z,823nm,21.0s										
G19K	Purcell Mounta	89.87	12	P	P	08 21 20.1	+1.9				
	baz=208										
E17K	Hotham Inlet	89.88	10	P	P	08 21 19.5	+1.3				
	baz=204										
BWN	Browne	89.89	16	IAMs_20	IAMs_20	08 54 41.3					
	comp=Z,957nm,20.0s										
O28M	Mount Upton	89.99	21	P	P	08 21 20.7	+1.4				
	baz=224										
ULN	Ulaanbaatar	89.99	322	*c i*P	P	08 21 18.6	-0.9				
ULN				pmax	pmax						
	comp=Z,19nm,1.5s										
PAX	Paxson	90.00	18	P	P	08 21 19.9	+0.9				
	baz=219										
WRAK	Wrangell Islan	90.01	27	IAMs_20	IAMs_20	08 58 17.5					
	comp=Z,920nm,19.0s										
WRAK	Wrangell Islan	90.01	27	P	P	08 21 21.1	+2.0				
	baz=230										
P29M	Windy Craggy	90.03	23	IAmb	IAmb	08 21 28.3					
	comp=Z,18nm,1.1s										
P29M	Windy Craggy	90.03	23	P	P	08 21 20.7	+1.5				
	baz=226										
J08A	Circle Bar Ran	90.06	43	IAmb	IAmb	08 21 29.0					
	comp=Z,23nm,1.1s										
D17K	Noatak River	90.25	9	P	P	08 21 21.9	+2.0				
	baz=203										
MLY	Manley	90.28	15	P	P	08 21 21.6	+1.4				
	baz=214										
M26K	Nabesna, AK	90.30	19	P	P	08 21 21.9	+1.5				
	baz=221										
NEA2	Nenana	90.33	16	P	P	08 21 22.1	+1.6				
	baz=216										
R32K	Eaglecrest	90.33	25	IAMs_20	IAMs_20	08 56 49.6					
	comp=Z,722nm,19.0s										
R32K	Eaglecrest	90.33	25	P	P	08 21 22.3	+1.8				
	baz=228										
H21K	Melozitna Rive	90.33	14	IAMs_20	IAMs_20	08 57 40.9					
	comp=Z,759nm,19.0s										
H21K	Melozitna Rive	90.33	14	P	P	08 21 22.3	+1.9				
	baz=212										
F19K	Shaleruckik Mo	90.35	11	P	P	08 21 18.6	-1.8				
F19K				IAmb	IAmb	08 21 28.6					
	comp=Z,40nm,1.9s										
F19K	Shaleruckik Mo	90.35	11	P	P	08 21 22.6	+2.2				
	baz=208										
SONM	Songino Array	90.35	322	P	P	08 21 19.6	-1.5				
	comp=Z,3.2nm,0.9s,baz=116,slow=6.8,SNR=4.6										
SONM				LR	LR	09 00 28.2					
	comp=Z,394nm,20.6s,baz=110,slow=35										
	comp=Z,3.2nm,0.9s										
E18K	Tukpahlearik C	90.38	10	P	P	08 21 21.8	+1.2				
E18K				IAmb	IAmb	08 21 29.0					
	comp=Z,25nm,1.6s										
E18K				IAMs_20	IAMs_20	08 58 12.0					
	comp=Z,849nm,20.0s										
E18K	Tukpahlearik C	90.38	10	P	P	08 21 22.3	+1.7				
	baz=205										
JIS	Juneau Island	90.38	25	P	P	08 21 21.3	+0.5				
JIS	Juneau Island	90.38	25	IAMs_20	IAMs_20	08 56 51.0					
	comp=Z,758nm,19.0s										
F07A	Phinny Hill Vi	90.42	40	IAMs_20	IAMs_20	08 53 57.2					
	comp=Z,1µm,20.0s										
PLBC	Pleasant Camp	90.42	23	P	P	08 21 22.5	+1.6				
	baz=227										
GTA	Gaotai	90.43	312	*e*P	P	08 21 22.0	+0.3				
GTA				pP	sP	08 21 25.0	+0.1				
GTA				pmax	pmax						
	comp=Z,8.0nm,0.9s										
GTA				LR	LR						
	comp=Z,310nm,23.1s										
GTA				LR	LR						
	comp=Z,580nm,22.1s										
GTA				LR	LR						
	comp=Z,950nm,23.1s										
C16K	Lisburne Hills	90.47	8	P	P	08 21 22.1	+1.1				
	baz=201										
Q12A	Willow Creek R	90.47	48	IAMs_20	IAMs_20	08 53 06.5					
	comp=Z,831nm,21.0s										
WRH	Wood River Hil	90.48	16	P	P	08 21 19.7	-1.4				
MENT	Mentasta	90.49	19	P	P	08 21 23.4	+2.1				
MENT	Mentasta	90.49	19	P	P	08 21 20.6	-0.7				
YUK8	Steele Glacier	90.51	21	P	P	08 21 23.1	+1.5				
	baz=224										
AY03	Cochrane	90.54	142	P	P	08 21 22.0	0.0				
AY03				IAmb	IAmb	08 21 34.8					
	comp=Z,40nm,1.9s										
TUC	Tucson	90.54	56	P	P	08 21 21.4	-0.9				
TUC				IAmb	IAmb	08 21 32.3					
	comp=Z,16nm,1.2s										
TUC	Tucson	90.54	56	IAMs_20	IAMs_20	08 55 05.0					
	comp=Z,1µm,19.0s										
TUC	Tucson	90.54	56	P	P	08 21 22.7	+0.4				
	baz=246										
TUC	Tucson	90.54	56	P	P	08 21 21.4	-0.9				
TUC				pmax	pmax						
	comp=Z,16nm,1.2s										
K24K	Donnelly Dome	90.57	17	P	P	08 21 23.0	+1.4				
	baz=219										
RDOG	Red Dog Mine	90.61	9	P	P	08 21 23.2	+1.5				
	baz=203										
M27K	Edge Creek, AK	90.61	20	P	P	08 21 21.1	-0.8				
M27K				IAmb	IAmb	08 21 30.1					
	comp=Z,38nm,1.4s										
M27K	Edge Creek, AK	90.61	20	P	P	08 21 23.6	+1.6				
	baz=222										
YUK3	Moose Creek	90.63	20	P	P	08 21 23.1	+0.9				
	baz=223										
P30M	Million Dollar	90.66	23	P	P	08 21 23.6	+1.5				
	baz=226										
LTY	Liberty	90.66	39	P	P	08 21 21.7	-0.8				
LTY				IAMs_20	IAMs_20	08 54 00.6					
	comp=Z,931nm,20.0s										
L26K	Log Cabin Wild	90.66	19	P	P	08 21 21.3	-0.8				
L26K	Log Cabin Wild	90.66	19	P	P	08 21 23.4	+1.4				
	baz=221										
LCMT	Little Creek M	90.70	50	P	P	08 21 22.1	-0.9				
LCMT				IAmb	IAmb	08 21 32.5					
	comp=Z,15nm,1.1s										
G08A	Pilot Rock	90.70	41	P	P	08 21 22.2	-0.6				
G08A				IAmb	IAmb	08 21 31.8					
	comp=Z,14nm,1.0s										
G08A				IAMs_20	IAMs_20	08 53 48.9					
	comp=Z,1µm,21.0s										
I23K	Minto, Yukon-K	90.71	15	P	P	08 21 23.5	+1.4				
	baz=216										
HDA	Harding Lake	90.73	16	P	P	08 21 22.8	+0.5				
HDA				IAmb	IAmb	08 21 40.3					
	comp=Z,12nm,1.1s										
HDA				IAMs_20	IAMs_20	08 54 39.5					
	comp=Z,1µm,21.0s										
HDA	Harding Lake	90.73	16	P	P	08 21 24.3	+2.0				
	baz=218										
YUK6	Outpost Mounta	90.74	22	P	P	08 21 24.3	+1.6				
	baz=225										
E07A	Sunnyside	90.79	40	IAMs_20	IAMs_20	08 56 23.1					
	comp=Z,828nm,20.0s										
SPR3	Spring Creek 3	90.80	48	P	P	08 21 22.8	-0.8				
SPR3				IAmb	IAmb	08 21 32.6					
	comp=Z,16nm,1.1s										
SPR3				IAMs_20	IAMs_20	08 53 37.2					
	comp=Z,858nm,21.0s										
SKAG	Skagway	90.81	24	P	P	08 21 24.7	+2.0				
SKAG	Skagway	90.81	24	P	P	08 21 24.8	+2.0				
	baz=228										
MDM	Murphy Dome	90.84	16	P	P	08 21 21.4	-1.5				
MDM				IAmb	IAmb	08 21 40.2					
	comp=Z,18nm,1.2s										
MDM				IAMs_20	IAMs_20	08 55 06.4					
	comp=Z,868nm,21.0s										
CCUT	Cedar City	90.85	50	P	P	08 21 23.7	-0.1				
CCUT				IAmb	IAmb	08 21 33.6					
	comp=Z,18nm,1.1s										
CCUT				IAMs_20	IAMs_20	08 55 08.6					
	comp=Z,958nm,20.0s										
H22K	Ishtalitna Cre	90.85	14	P	P	08 21 24.3	+1.5				
	baz=214										
COLA	College	90.87	16	P	P	08 21 24.8	+1.9				
COLA	College	90.87	16	IAMs_20	IAMs_20	08 54 57.0					
	comp=Z,1µm,21.0s										
COLA	College	90.87	16	P	P	08 21 23.9	+1.1				
	baz=217										
COLA	College	90.87	16⇑	*e*P	P	08 21 24.2	+1.3				
COLA				pmax	pmax						
	comp=Z,14nm,1.1s										
HAWA	Hanford	90.90	40	P	P	08 21 23.0	-0.6				
HAWA				IAmb	IAmb	08 21 40.7					
	comp=Z,23nm,1.1s										
HAWA				IAMs_20	IAMs_20	08 55 30.0					
	comp=Z,954nm,19.0s										
G21K	Allakaket	90.91	13	P	P	08 21 24.8	+1.7				
	baz=212										
X16A	Lo Mia Camp, P	90.92	53	IAmb	IAmb	08 21 34.0					
	comp=Z,17nm,1.1s										
F20K	Avaraart Lake	90.92	12	P	P	08 21 24.2	+1.1				
	baz=210										
YUK4	Talbot Arm	90.93	21	P	P	08 21 24.7	+1.1				
	baz=225										
PSUT	Pine Spring	90.93	49	IAMs_20	IAMs_20	08 56 20.6					
	comp=Z,1µm,19.0s										
HYT	Haines Junctio	90.95	22	IAmb	IAmb	08 21 32.3					
	comp=Z,15nm,1.3s										
HYT	Haines Junctio	90.95	22	P	P	08 21 24.5	+0.9				
	baz=226										
C17K	DeLong Mountai	90.96	9	P	P	08 21 25.0	+1.7				
	baz=203										
ELK	Elko	90.96	46	P	P	08 21 23.7	-0.6				
ELK				IAmb	IAmb	08 21 33.4					
	comp=Z,14nm,1.1s										
ELK	Elko	90.96	46	P	P	08 21 23.7	-0.6				
ELK				pmax	pmax						
	comp=Z,14nm,1.1s										
E19K	Redstone River	91.00	11	IAMs_20	IAMs_20	08 56 21.4					
	comp=Z,1µm,21.0s										
E19K	Redstone River	91.00	11	P	P	08 21 25.0	+1.5				
	baz=208										
KNB	Kanab	91.01	51	IAmb	IAmb	08 21 41.6					

N30M Aishikik Lake 91.54 22 P P 08 21 27.1 +0.8
baz=226
PKCU Pink Cliffs 91.56 50 IAMs_20 IAMs_20 08 57 17.4
comp=Z,737nm,19.0s
D08A Wollman Farm, 91.60 40 IAMs_20 IAMs_20 08 54 31.4
comp=Z,754nm,20.0s
H24K Noodor Dome 91.63 15 P P 08 21 27.6 +1.1
baz=217
G22K Bettles 91.68 13 P P 08 21 28.0 +1.4
baz=214
J26L Joseph Creek 91.72 18 IAmb IAmb 08 21 45.0
comp=Z,21nm,1.4s
J26L Joseph Creek 91.72 18 P P 08 21 28.7 +1.7
baz=221
COYC Coyhaique 91.73 141 P P 08 21 27.6 0.0
D19K Kuna River 91.77 10 IAmb IAmb 08 21 41.5
comp=Z,18nm,1.3s
D19K Kuna River 91.77 10 P P 08 21 28.9 +1.8
baz=208
M29M Somme Creek 91.77 21 P P 08 21 26.9 -0.5
M29M IAmb IAmb 08 21 35.9
comp=Z,11nm,1.1s
M29M IAMs_20 IAMs_20 08 55 03.3
comp=Z,868nm,21.0s
M29M Somme Creek 91.77 21 P P 08 21 29.4 +2.1
baz=225
WHY Whitehorse 91.78 23 P P 08 21 29.1 +1.7
baz=228
E09A Wood Farm, Sta 91.80 40 IAMs_20 IAMs_20 08 55 09.8
comp=Z,812nm,20.0s
K27K Chicken 91.80 18 P P 08 21 26.9 -0.3
K27K Chicken 91.80 18 P P 08 21 28.7 +1.4
baz=222
G23K Bananza Creek 91.84 14 P P 08 21 29.0 +1.6
baz=215
E20K Nigu River 91.90 11 P P 08 21 29.9 +2.2
baz=209,SNR=11
MTPU Mount Pierson 91.90 50 P P 08 21 28.2 -0.6
MTPU IAmb IAmb 08 21 39.0
comp=Z,17nm,1.0s
MTPU IAMs_20 IAMs_20 08 56 30.5
comp=Z,1µm,19.0s
TCRU Three Creeks R 91.96 49 P P 08 21 27.1 -1.9
TCRU IAmb IAmb 08 21 38.8
comp=Z,9.4nm,0.9s
B18K Kokolik River 91.97 9 P P 08 21 30.3 +2.3
baz=204
PRP Porcupine Dome 91.98 16 P P 08 21 28.7 +0.5
baz=219
N31M Braeburn, Yuko 92.02 22 IAmb IAmb 08 21 37.2
comp=Z,24nm,1.2s
N31M Braeburn, Yuko 92.02 22 P P 08 21 29.7 +1.3
baz=227
F22K John River 92.03 13 P P 08 21 29.5 +1.1
baz=213
C19K Lookout Ridge 92.07 10 IAMs_20 IAMs_20 08 59 49.6
comp=Z,1µm,20.0s
C19K Lookout Ridge 92.07 10 P P 08 21 28.8 +0.3
baz=206
X18A Snowflake 92.09 54 IAMs_20 IAMs_20 08 58 20.8
comp=Z,754nm,18.0s
F10A Beach Ranch, E 92.10 41 IAmb IAmb 08 21 37.5
comp=Z,10nm,0.9s
F10A IAMs_20 IAMs_20 08 54 20.8
comp=Z,888nm,21.0s
BOD Bodaibo 92.17 333 eP P 08 21 27.3 -1.8
BOD pmax pmax
comp=Z,9.0nm,1.6s
D20K Etivluk River 92.22 11 P P 08 21 31.0 +1.8
baz=209
COLD Coldfoot 92.22 14 P P 08 21 30.6 +1.5
baz=215
DLBC Dease Lake 92.25 26 IAMs_20 IAMs_20 09 00 06.6
comp=Z,792nm,18.0s
DLBC Dease Lake 92.25 26 P P 08 21 31.0 +1.4
baz=232
DLBC Dease Lake 92.25 26 LR LR 08 57 45.7
comp=Z,584nm,18.7s,baz=242,slow=32
P33M Teslin, Yukon 92.26 24 P P 08 21 31.2 +1.6
baz=230
L29M L29M 92.35 20 P P 08 21 28.7 -1.2
L29M L29M 92.35 20 P P 08 21 30.6 +0.7
baz=225
DUG Dugway, Tooele 92.38 48 P P 08 21 28.9 -1.8
DUG IAMs_20 IAMs_20 08 57 53.8
comp=Z,1µm,19.0s
DUG Dugway, Tooele 92.38 48 P P 08 21 30.5 -0.3
baz=245
DUG Dugway, Tooele 92.38 48 P P 08 21 28.9 -1.8
DUG pmax pmax
comp=Z,6.0nm,1.1s
G24K Hadweenzic Riv 92.42 15 IAmb IAmb 08 21 46.9
comp=Z,16nm,1.5s
G24K Hadweenzic Riv 92.42 15 P P 08 21 31.5 +1.4
baz=217
PLID Pearl Lake 92.45 42 IAMs_20 IAMs_20 08 55 01.2
comp=Z,736nm,20.0s
I26K Coal Creek Min 92.45 17 P P 08 21 30.9 +0.7
baz=221
R33M Jennings River 92.47 25 IAmb IAmb 08 21 40.2
comp=Z,22nm,1.2s
R33M Jennings River 92.47 25 P P 08 21 31.8 +1.2
baz=232
E21K Killik River 92.47 12 IAMs_20 IAMs_20 08 57 51.2
comp=Z,775nm,21.0s
E21K Killik River 92.47 12 P P 08 21 32.4 +2.1
baz=211
W18A Petrified Fore 92.49 53 P P 08 21 31.4 0.0
baz=246
H25L Birch Creek 92.49 16 P P 08 21 31.9 +1.5
baz=219
BGU Big Grassy Mou 92.55 47 IAMs_20 IAMs_20 08 54 22.1
comp=Z,858nm,21.0s
EGAK Eagle 92.62 18 IAMs_20 IAMs_20 08 56 12.0
comp=Z,903nm,21.0s
EGAK Eagle 92.62 18 P P 08 21 31.7 +0.7
baz=223
GOMU GeErMu 92.63 308 P P 08 21 32.6 +0.3
GOMU pP pwP 08 21 37.5 -1.1
GOMU sP sP 08 21 40.1 +4.7
GOMU pmax pmax
comp=Z,5.0nm,1.4s
GOMU LR LR
comp=Z,570nm,20.2s
GOMU LR LR
comp=Z,1µm,22.0s
GOMU LR LR
comp=Z,2µm,21.8s
DAWY Dawson 92.63 19 P P 08 21 32.9 +1.7
baz=224
E22K Anaktuvuk Pass 92.64 13 IAMs_20 IAMs_20 08 57 01.7
comp=Z,991nm,21.0s
E22K Anaktuvuk Pass 92.64 13 P P 08 21 32.4 +1.2
baz=213
N32M Quiet Lake 92.77 23 IAMs_20 IAMs_20 08 53 30.0
comp=Z,801nm,22.0s
N32M Quiet Lake 92.77 23 P P 08 21 32.9 +1.0
baz=230
HLID Hailey 92.78 44 P P 08 21 33.6 +1.1
baz=244
NLU North Lily Min 92.79 48 IAMs_20 IAMs_20 08 56 06.8
comp=Z,1µm,20.0s
G25K Bearman Lake 92.81 15 P P 08 21 33.5 +1.6
baz=218
A19K Wainwright 92.85 9 P P 08 21 33.8 +1.9
baz=205
C21K Knifeblade Rid 92.94 11 P P 08 21 34.3 +1.8
baz=211
121A Cookes Peak, D 92.96 56 P P 08 21 32.3 -1.3
121A IAmb IAmb 08 21 43.3
comp=Z,11nm,1.0s
121A IAMs_20 IAMs_20 08 54 04.0
comp=Z,1µm,22.0s
121A Cookes Peak, D 92.96 56 P P 08 21 32.9 -0.7
baz=247
F24K Squaw Lake 92.98 14 P P 08 21 33.2 +0.4
baz=217
M31M Drury Creek, Y 92.99 22 IAMs_20 IAMs_20 08 54 14.7
comp=Z,890nm,22.0s
M31M Drury Creek, Y 92.99 22 P P 08 21 33.7 +0.9
baz=229
Q16A Castle Valley 92.99 49 P P 08 21 32.0 -1.6
Q16A IAmb IAmb 08 21 43.5
comp=Z,9.5nm,1.0s
E23K Chandalar 93.04 13 P P 08 21 35.2 +2.2
baz=215
K29M Barlow Dome 93.06 20 P P 08 21 32.2 -1.0
K29M IAmb IAmb 08 21 41.9
comp=Z,20nm,1.2s
K29M Barlow Dome 93.06 20 P P 08 21 35.3 +2.0
baz=226
HVU Hansel Valley 93.08 46 P P 08 21 33.2 -0.7
HVU IAmb IAmb 08 21 43.0
comp=Z,11nm,1.1s
HVU Hansel Valley 93.08 46 P P 08 21 33.3 -0.7
HVU pmax pmax
comp=Z,11nm,1.1s
D22K Ayikyak River 93.09 12 P P 08 21 33.0 -0.2
D22K IAmb IAmb 08 21 41.2
comp=Z,19nm,1.3s
D22K IAMs_20 IAMs_20 08 58 22.7
comp=Z,1µm,22.0s
D22K Ayikyak River 93.09 12 P P 08 21 35.0 +1.8
baz=212
I27K Kandik River 93.10 17 P P 08 21 35.1 +1.7
baz=222
MPU Maple Canyon 93.12 48 IAMs_20 IAMs_20 08 57 06.6
comp=Z,1µm,20.0s
LL02 Futaleuf 93.16 139 P P 08 21 34.0 -0.2
LL02 IAmb IAmb 08 21 41.3
comp=Z,12nm,0.8s
NEW Newport 93.24 39 IAMs_20 IAMs_20 09 02 03.9
comp=Z,735nm,19.0s
NEW Newport 93.24 39 P P 08 21 35.5 +1.1
baz=242
NEW Newport 93.24 39 LR LR 09 00 29.1
comp=Z,522nm,18.1s,baz=248,slow=34
J29N Klondike Camp 93.27 19 P P 08 21 35.6 +1.5
baz=225
B20K Meade River 93.27 10 IAMs_20 IAMs_20 09 00 40.3
comp=Z,913nm,20.0s
B20K Meade River 93.27 10 P P 08 21 34.9 +1.0
baz=208
E24K Your Creek 93.30 14 P P 08 21 36.2 +2.0
baz=216
CTU Camp Tracy 93.33 48 IAMs_20 IAMs_20 08 58 14.9
comp=Z,879nm,20.0s
B21K Ikpikpuk River 93.37 11 P P 08 21 34.5 +0.2
B21K IAmb IAmb 08 21 47.1
comp=Z,13nm,1.1s
B21K Ikpikpuk River 93.37 11 P P 08 21 36.7 +2.3
baz=211
FARO Faro, Yukon 93.38 22 P P 08 21 35.2 +0.5
FARO IAMs_20 IAMs_20 08 54 02.9
comp=Z,869nm,22.0s
FARO Faro, Yukon 93.38 22 P P 08 21 36.8 +2.1
baz=230
ZAK Zakamensk 93.41 323 eP P 08 21 33.1 -2.1
ZAK pmax pmax
comp=Z,6.0nm,1.2s
MAYO Mayo, Yukon 93.42 21 P P 08 21 35.4 +0.6
MAYO Mayo, Yukon 93.42 21 P P 08 21 37.1 +2.3
baz=227
I28M Miner Creek 93.47 18 P P 08 21 35.9 +0.8
I28M IAmb IAmb 08 21 54.1
comp=Z,12nm,1.2s
I28M IAMs_20 IAMs_20 08 57 39.0
comp=Z,1µm,21.0s
I28M Miner Creek 93.47 18 P P 08 21 36.2 +1.1
baz=224
JLU Jordanelle 93.50 48 IAMs_20 IAMs_20 08 58 30.4
comp=Z,979nm,20.0s
TOLK Toolik Lake Re 93.53 13 P P 08 21 35.0 -0.2
TOLK IAmb IAmb 08 21 38.6
comp=Z,16nm,1.5s
TOLK Toolik Lake Re 93.53 13 P P 08 21 35.2 0.0
baz=215
P17A Butcher Ranch, 93.53 49 IAMs_20 IAMs_20 08 58 04.3
comp=Z,976nm,19.0s
G26K Porcupine Rive 93.53 16 P P 08 21 35.2 0.0
baz=220
D23K Nanushuk River 93.56 13 P P 08 21 36.8 +1.4
baz=214,SNR=10.0
F25K Christian Rive 93.57 15 P P 08 21 36.5 +1.1
baz=219
H27K Steamboat Moun 93.59 17 P P 08 21 37.3 +1.7
baz=222
ZAIG Zacatecas 93.62 67 IAMs_20 IAMs_20 08 53 54.4
comp=Z,995nm,22.0s
EPT El Paso 93.67 57 P P 08 21 35.1 -1.8
EPT IAmb IAmb 08 21 46.0
comp=Z,10nm,0.8s
EPT IAMs_20 IAMs_20 08 55 29.9
comp=Z,1µm,20.0s
BMAR Burnt Mountain 93.70 15 P P 08 21 36.5 +0.5
TCUT Toone Canyon 93.74 47 P P 08 21 35.0 -2.1
TCUT IAmb IAmb 08 21 46.1
comp=Z,9.6nm,0.8s
TCUT IAMs_20 IAMs_20 08 58 18.8
comp=Z,1µm,20.0s
WTLY Watson Lake, Y 93.78 25 P P 08 21 37.5 +0.9
baz=233
HWUT Hardware Ranch 93.83 47 IAMs_20 IAMs_20 08 55 03.3
comp=Z,871nm,22.0s
P18A Preston Nutter 93.94 49 IAMs_20 IAMs_20 08 56 13.3
comp=Z,1µm,20.0s
J30M Hart River 93.94 20 P P 08 21 38.9 +1.6
baz=227
BSUT Blindstream Ca 93.95 48 P P 08 21 37.5 -0.7
BSUT IAMs_20 IAMs_20 08 54 46.4
comp=Z,1µm,22.0s
G27K Doyon Strip 93.99 17 P P 08 21 38.9 +1.5
baz=222
E25K Arctic Village 94.00 15 P P 08 21 38.1 +0.7
baz=219
F26K Sheenjek River 94.02 15 P P 08 21 38.0 +0.6
baz=220
PALK Pallekele 94.08 276 IAMs_20 IAMs_20 09 06 36.5
comp=Z,768nm,19.0s
PALK Pallekele 94.08 276 LR LR 09 07 24.3
comp=Z,704nm,18.0s,baz=220,slow=38
D24K Happy Valley 94.10 13 P P 08 21 38.7 +1.0
baz=216
B22K Teshekpuk Lake 94.20 11 IAmb IAmb 08 21 55.1
comp=Z,21nm,1.3s
B22K IAMs_20 IAMs_20 08 58 35.9
comp=Z,908nm,21.0s
B22K Teshekpuk Lake 94.20 11 P P 08 21 39.8 +1.6
baz=212
Y22D IRIS PASSCAL I 94.22 55 IAMs_20 IAMs_20 08 56 26.2
comp=Z,1µm,19.0s
MVCO Mesa Verde 94.24 52 IAMs_20 IAMs_20 08 55 20.4
comp=Z,1µm,21.0s
MVCO Mesa Verde 94.24 52 P P 08 21 39.3 -0.2
baz=247
C23K Itkillik River 94.30 12 IAMs_20 IAMs_20 08 58 40.6
comp=Z,1µm,21.0s
C23K Itkillik River 94.30 12 P P 08 21 39.4 +0.7
baz=214
I30M Mount Dempster 94.37 19 P P 08 21 38.0 -1.3
I30M IAmb IAmb 08 21 56.6
comp=Z,17nm,1.2s
I30M Mount Dempster 94.37 19 P P 08 21 40.2 +0.9
baz=227
H29M Whitestone 94.47 18 IAmb IAmb 08 21 58.8
comp=Z,32nm,1.6s
H29M IAMs_20 IAMs_20 08 58 08.5
comp=Z,788nm,20.0s
H29M Whitestone 94.47 18 P P 08 21 40.1 +0.6
baz=225
A22K Sinclair Lake 94.50 10 P P 08 21 40.9 +1.3
baz=210
VHRN Van Horn 94.51 59 P P 08 21 39.4 -1.4
VHRN IAmb IAmb 08 21 50.7
comp=Z,31nm,1.9s
MSO Missoula 94.51 41 IAMs_20 IAMs_20 08 56 48.7
comp=Z,835nm,20.0s
MSO Missoula 94.51 41 P P 08 21 40.8 +0.5
baz=244
A21K Barrow 94.52 10 P P 08 21 40.1 +0.5
baz=209
MNTX Cornudas Mount 94.53 58 P P 08 21 41.4 +0.7
baz=248
TOAD Toad River Com 94.53 28 P P 08 21 40.9 +0.9
baz=236
C24K Franklin Bluff 94.59 13 P P 08 21 41.0 +1.0
baz=216
BPMT Black Pine Rid 94.65 42 P P 08 21 39.3 -1.9
D25K Kavik River 94.76 14 P P 08 21 41.4 +0.5
D25K IAMs_20 IAMs_20 08 58 04.4
comp=Z,784nm,22.0s
D25K Kavik River 94.76 14 P P 08 21 41.9 +1.0
baz=218
RDMU Red Mountain 94.79 48 IAMs_20 IAMs_20 08 59 16.8
comp=Z,1µm,19.0s
TGTN Hyland Airport 94.83 24 P P 08 21 42.1 +0.7
baz=234
ANMO Albuquerque 94.90 55 P P 08 21 41.5 -1.0
ANMO Albuquerque 94.90 55 IAMs_20 IAMs_20 08 56 20.2
comp=Z,978nm,20.0s
ANMO Albuquerque 94.90 55 P P 08 21 42.4 -0.1
baz=248
ANMO Albuquerque 94.90 55 LR LR 08 56 42.5
comp=Z,17nm,20.6s,baz=345,slow=31
ANMO Albuquerque 94.90 55↑ eP P 08 21 41.6 -1.0
ANMO pmax pmax
comp=Z,6.0nm,1.3s
E27K Coleen River 95.02 16 P P 08 21 42.8 +0.7
baz=223
TX31 Lajitas Ar. Si 95.05 61 P P 08 21 43.1 -0.1
TXAR Lajitas Array 95.05 61 P P 08 21 41.6 -1.6
TXAR Lajitas Array 95.05 61 P P 08 21 42.5 -0.7
comp=Z,0.7nm,0.8s,baz=227,slow=5.5,SNR=8.2
TXAR LR LR 08 55 25.8
comp=Z,870nm,21.8s,baz=253,slow=30
comp=Z,0.7nm,0.8s
F28M Old Crow 95.05 17 IAmb IAmb 08 22 06.0
comp=Z,18nm,1.8s
F28M IAMs_20 IAMs_20 08 59 35.7
comp=Z,715nm,20.0s
F28M Old Crow 95.05 17 P P 08 21 42.6 +0.4
baz=224
EPYK Eagle Plains 95.06 18 P P 08 21 41.9 -0.4
EPYK IAmb IAmb 08 21 50.6
comp=Z,13nm,1.1s
EPYK Eagle Plains 95.06 18 P P 08 21 42.9 +0.7
baz=227
G29M Pine Creek 95.06 18 IAmb IAmb 08 21 50.6
comp=Z,16nm,1.2s
G29M IAMs_20 IAMs_20 08 58 58.0
comp=Z,847nm,21.0s
G29M Pine Creek 95.06 18 P P 08 21 43.3 +1.0
baz=226
IMW Indian Meadow 95.20 45 P P 08 21 42.1 -1.7
PLCA Paso Flores 95.30 137 P P 08 21 44.2 0.0
PLCA Paso Flores 95.30 137 P P 08 21 44.0 -0.3
comp=Z,2.5nm,0.9s,baz=221,slow=7.5,SNR=9.7
PLCA LR LR 08 55 05.2
comp=Z,796nm,21.1s,baz=255,slow=29
comp=Z,2.5nm,0.9s
PLCA Paso Flores 95.30 137 P P 08 21 44.3 0.0
PLCA pmax pmax
comp=Z,39nm,1.9s
H31M Peel River 95.39 19 P P 08 21 43.8 0.0
baz=229
ALPN Alpine 95.44 60 P P 08 21 43.2 -1.8
BOZ Bozeman (W) 95.44 43 P P 08 21 43.6 -1.1
BOZ Bozeman (W) 95.44 43 P P 08 21 46.0 +1.3
baz=246
BOZ Bozeman (W) 95.44 43 P P 08 21 43.6 -1.1
BOZ pmax pmax
comp=Z,5.0nm,1.4s
YFT Old Faithful 95.49 44 IAMs_20 IAMs_20 09 01 14.9
comp=Z,902nm,20.0s
C26K Camden Bay 95.55 14 P P 08 21 45.8 +1.4
baz=220
O20A White River Ci 95.56 49 IAMs_20 IAMs_20 08 56 54.1
comp=Z,1µm,21.0s
O20A White River Ci 95.56 49 P P 08 21 46.0 +0.6
baz=247
C27K Jago River 95.60 14 P P 08 21 45.5 +0.9
baz=221,SNR=11
PECS Pecos 95.61 59 P P 08 21 42.5 -3.2
G30M tAoh Zraii Nji 95.62 18 IAMs_20 IAMs_20 08 59 03.9
comp=Z,783nm,21.0s
G30M tAoh Zraii Nji 95.62 18 P P 08 21 46.1 +1.3
baz=227,SNR=16
H17A Grant Village 95.64 45 IAMs_20 IAMs_20 08 57 47.8
comp=Z,915nm,21.0s
H17A Grant Village 95.64 45 P P 08 21 46.1 +0.3
baz=246
BW06 Boulder Array 95.67 46 P P 08 21 46.3 +0.4
baz=247
PDAR Pinedale Array 95.67 46 P P 08 21 43.5 -2.5
PDAR Pinedale Array 95.67 46 P P 08 21 46.3 +0.4
comp=Z,0.5nm,0.7s,baz=222,slow=3.8,SNR=4.1
PDAR PP PP 08 25 33.8 -3.9
comp=Z,1.1nm,1.0s,baz=260,slow=4.1,SNR=7.9
PDAR LR LR 08 57 09.5
comp=Z,482nm,21.7s,baz=250,slow=31
comp=Z,0.5nm,0.7s
YNM Yellowstone No 95.69 44 IAMs_20 IAMs_20 09 04 47.1
comp=Z,670nm,18.0s
KOTAN Kotaneelee Air 95.74 27 P P 08 21 46.5 +1.0
baz=237
LKWY Lake 95.82 44 IAMs_20 IAMs_20 08 59 23.6
comp=Z,899nm,19.0s
BRLDA Berland Lookou 95.82 34 IAMs_20 IAMs_20 08 58 10.6
comp=Z,913nm,20.0s
E28M Babbage River 95.85 16 P P 08 21 45.1 -0.7
E28M IAmb IAmb 08 21 54.6
comp=Z,14nm,1.1s
E28M IAMs_20 IAMs_20 08 57 58.9
comp=Z,1µm,22.0s
E28M Babbage River 95.85 16 P P 08 21 47.6 +1.8
baz=224,SNR=16
D27M Malcolm River 95.96 15 IAMs_20 IAMs_20 08 58 49.0
comp=Z,948nm,21.0s
D27M Malcolm River 95.96 15 P P 08 21 48.2 +1.8
baz=223
YMP Mirror Lake Pl 96.05 44 IAMs_20 IAMs_20 09 00 55.7
comp=Z,833nm,19.0s
SMCO Snowmass 96.10 50 P P 08 21 46.2 -1.9
SMCO IAMs_20 IAMs_20 08 59 43.6
comp=Z,790nm,20.0s
E29M Blow River 96.13 17 IAmb IAmb 08 21 54.7
comp=Z,15nm,1.4s
E29M Blow River 96.13 17 P P 08 21 49.2 +2.1
baz=226
G31M Satah River 96.15 19 IAmb IAmb 08 21 54.8
comp=Z,15nm,1.1s
G31M Satah River 96.15 19 P P 08 21 48.7 +1.5
baz=229
F30M Barrier River 96.17 18 P P 08 21 48.3 +1.0
baz=228
D28M Stokes Point 96.57 16 P P 08 21 50.2 +1.2
baz=225
SDCO Great Sand Dun 96.65 52 IAMs_20 IAMs_20 08 57 10.2
comp=Z,691nm,20.0s
SDCO Great Sand Dun 96.65 52 P P 08 21 51.2 +0.6
baz=249
F31M Tsiigehtchic 96.65 18 P P 08 21 51.0 +1.6
baz=230,SNR=15
RLMT Red Lodge 96.78 44 P P 08 21 52.0 +1.1
baz=247
TIXI Tiksi 97.04 347 IAMs_20 IAMs_20 08 59 25.0
comp=Z,870nm,22.0s
TIXI Tiksi 97.04 347 LR LR 08 59 57.6
comp=Z,705nm,21.9s,baz=152,slow=32
TIXI Tiksi 97.04 347 ↓ iP P 08 21 51.9 +0.8
TIXI pmax pmax
comp=Z,4.0nm,1.1s
INK Inuvik 97.27 18 P Pdif 08 21 53.0 +0.7
INK IAmb IAmb 08 21 59.6
comp=Z,11nm,1.2s
INK Inuvik 97.27 18 P Pdif 08 21 53.7 +1.4
baz=230
INK Inuvik 97.27 18 LR LR 08 59 08.3
comp=Z,584nm,21.1s,baz=184,slow=31
INK Inuvik 97.27 18 P Pdif 08 21 53.0 +0.7
INK pmax pmax
comp=Z,11nm,1.3s
ISCO Idaho Springs 97.31 50 IAMs_20 IAMs_20 09 00 32.3
comp=Z,665nm,20.0s
Q24A Divide 97.34 51 IAMs_20 IAMs_20 09 00 28.6
comp=Z,885nm,19.0s
N23A Red Feather La 97.46 49 IAMs_20 IAMs_20 08 57 26.6
comp=Z,1µm,21.0s
N23A Red Feather La 97.46 49 P P 08 21 54.2 0.0
baz=249
EGMT Eagleton 97.59 41 P Pdif 08 21 54.7 +0.4
baz=247
K22A Casper 97.69 47 IAMs_20 IAMs_20 09 06 34.5
comp=Z,728nm,18.0s
833A Chaparral WMA, 98.22 63 IAMs_20 IAMs_20 08 58 31.9
comp=Z,1µm,20.0s
CMIG Matias Romero 98.46 75 LR LR 08 56 30.5
comp=Z,231nm,21.0s,baz=252,slow=29
AMTX Amarillo 98.55 56 IAMs_20 IAMs_20 08 57 35.9
comp=Z,893nm,21.0s
JCT Junction City 98.59 61 IAMs_20 IAMs_20 08 57 17.5
comp=Z,1µm,22.0s
KSCO Kaye Shedlock' 99.20 52 IAMs_20 IAMs_20 08 58 33.9

comp=Z,1µm,20.0s
EF01 Eagle Ford 01 99.32 62 IAMs_20 IAMs_20 08 58 50.1
comp=Z,750nm,20.0s
LAO LASA Array 99.33 44 IAMs_20 IAMs_20 08 59 04.5
comp=Z,688nm,20.0s
735A Kenedy 99.71 63 IAMs_20 IAMs_20 08 59 20.4
comp=Z,1µm,19.0s
RSSD Black Hills 99.91 47 IAMs_20 IAMs_20 09 01 59.9
comp=Z,820nm,19.0s
435B Jarrell 100.50 61 IAMs_20 IAMs_20 08 58 39.0
comp=Z,1µm,21.0s
WMQ Urumqi 100.50 313 *e*P **Pdif 08 22 08.6 +1.2**
WMQ LR LR
comp=Z,390nm,19.5s
WMQ LR LR
comp=Z,430nm,24.1s
WMQ LR LR
comp=Z,410nm,21.1s
C36M Paulatuk 100.67 19 Pdif **Pdif 08 22 07.5 +0.1**
C36M Paulatuk 100.67 19 P **Pdif 08 22 08.9 +1.5**
baz=238
WMOK Wichita Mounta 100.76 57 IAMs_20 IAMs_20 09 00 35.6
comp=Z,1µm,20.0s
FW03 Perrin-Whitt E 100.81 59 IAMs_20 IAMs_20 09 01 32.9
comp=Z,970nm,19.0s
YKA Yellowknife Ar 100.87 27 P **Pdif 08 22 08.4 0.0**
comp=Z,0.2nm,0.7s,baz=264,slow=4.2,SNR=2.4
YKAW3 Yellowknife Wh 100.89 27 IAMs_20 IAMs_20 09 05 55.0
comp=Z,835nm,19.0s
YKAW1 Yellowknife Wh 100.92 27 IAMs_20 IAMs_20 09 06 03.6
comp=Z,773nm,19.0s
U32A Winter Ranch, 101.09 55 IAMs_20 IAMs_20 08 59 16.2
comp=Z,838nm,20.0s
DGMT Dagmar 101.23 42 IAMs_20 IAMs_20 09 00 13.4
comp=Z,688nm,20.0s
A36M Sachs Harbour 101.73 16 Pdif **Pdif 08 22 11.7 -0.4**
A36M Sachs Harbour 101.73 16 P **Pdif 08 22 13.8 +1.7**
baz=238
OK032 Salt Plains WL 101.83 55 IAMs_20 IAMs_20 09 00 58.6
comp=Z,682nm,20.0s
CROK Carrier 101.91 55 IAMs_20 IAMs_20 09 00 55.9
comp=Z,928nm,20.0s
R32A Long Quarter, 101.93 53 IAMs_20 IAMs_20 09 06 20.1
comp=Z,870nm,18.0s
OK029 Liberty Lake 102.11 56 IAMs_20 IAMs_20 09 00 07.3
comp=Z,937nm,20.0s
K30B Basset 102.52 49 IAMs_20 IAMs_20 09 00 59.3
comp=Z,1µm,21.0s
OK031 S. Brethren Rd 102.64 56 IAMs_20 IAMs_20 09 00 03.2
comp=Z,1µm,21.0s
T35A Sooner Cattle 103.16 55 IAMs_20 IAMs_20 09 02 13.1
comp=Z,1µm,20.0s
BGNE Belgrade 103.20 51 IAMs_20 IAMs_20 09 01 22.5
comp=Z,753nm,20.0s
X37A Clayton 103.40 58 IAMs_20 IAMs_20 09 02 21.6
comp=Z,1µm,20.0s
SUSD Miller 103.48 47 IAMs_20 IAMs_20 09 05 28.5
comp=Z,777nm,19.0s
KSU1 Kansas State U 103.69 53 IAMs_20 IAMs_20 09 03 18.9
comp=Z,720nm,19.0s
MDND Maddock 103.98 44 IAMs_20 IAMs_20 09 02 50.4
comp=Z,858nm,20.0s
441A DeRidder 104.10 62 IAMs_20 IAMs_20 09 03 11.6
comp=Z,930nm,20.0s
RLO Rose Lookout 104.11 56 IAMs_20 IAMs_20 09 01 01.1
comp=Z,3µm,22.0s
FFC Flin Flon 104.41 37 IAMs_20 IAMs_20 09 02 00.1
comp=Z,932nm,20.0s
L34A Svendsen Farm, 104.63 50 IAMs_20 IAMs_20 09 03 26.3
comp=Z,787nm,20.0s
MIAR Mount Ida 104.82 58 IAMs_20 IAMs_20 09 02 27.1
comp=Z,1µm,20.0s
MIAR Mount Ida 104.82 58 P **Pdif 08 22 26.5 -0.2**
baz=255
N35A Tabor 104.88 52 IAMs_20 IAMs_20 09 06 38.0
comp=Z,871nm,18.0s
ECSD EROS Data Cent 104.92 49 IAMs_20 IAMs_20 09 03 13.7
comp=Z,1µm,21.0s
ECSD EROS Data Cent 104.92 49 P **PKiKP 08 26 41.8 -0.2**
baz=255
HHAR Hobbs 104.98 57 IAMs_20 IAMs_20 09 02 30.4
comp=Z,915nm,20.0s
MKAR Makanchi Array 105.01 315 Pdiff **Pdif 08 22 27.0 -0.3**
comp=Z,0.6nm,0.8s,baz=90,slow=5.8,SNR=3.5
ARNL Arenillas 105.08 100 IAMs_20 IAMs_20 09 09 36.1
comp=Z,1µm,22.0s
X40A Basin Creek Fa 105.39 59 IAMs_20 IAMs_20 09 02 14.4
comp=Z,828nm,21.0s
D32A Dogwood Acres, 105.49 45 IAMs_20 IAMs_20 09 03 09.5
comp=Z,788nm,21.0s
S39A Bolivar 105.82 55 IAMs_20 IAMs_20 09 02 04.4
comp=Z,860nm,22.0s
FCAR Ozark Folk Cen 106.31 57 IAMs_20 IAMs_20 09 08 18.5
comp=Z,654nm,18.0s
AGMN Agassiz Nation 106.52 44 IAMs_20 IAMs_20 09 02 32.6
comp=Z,804nm,22.0s
AGMN Agassiz Nation 106.52 44 P **PKiKP 08 26 44.6 -0.2**
baz=257
N38A Joes South For 106.63 52 IAMs_20 IAMs_20 09 06 11.5
comp=Z,837nm,19.0s
VBMS Vicksburg 106.69 61 IAMs_20 IAMs_20 09 02 42.1
comp=Z,974nm,22.0s
R40A Maddies Statio 106.77 55 IAMs_20 IAMs_20 09 02 13.6
comp=Z,757nm,22.0s
SCIA State Center 106.90 51 IAMs_20 IAMs_20 09 04 58.6
comp=Z,787nm,20.0s
ULM Lac du Bonnet 106.94 42 IAMs_20 IAMs_20 09 08 35.6
comp=Z,623nm,19.0s
LCAR Lake Charles 107.11 57 IAMs_20 IAMs_20 09 08 40.9
comp=Z,600nm,18.0s
P40A Paris 107.23 54 IAMs_20 IAMs_20 09 07 05.4
comp=Z,849nm,19.0s
346A Big Creek Wild 107.35 62 IAMs_20 IAMs_20 09 03 08.7
comp=Z,641nm,22.0s
CCM Cathedral Cave 107.50 55 IAMs_20 IAMs_20 09 06 12.0
comp=Z,886nm,19.0s
F36A Milaca 107.55 47 IAMs_20 IAMs_20 09 07 06.2
comp=Z,604nm,19.0s
PBMO Poplar Bluff 107.85 57 IAMs_20 IAMs_20 09 03 55.2
comp=Z,657nm,21.0s
SPMN Marine on St. 107.91 48 IAMs_20 IAMs_20 09 05 25.9
comp=Z,931nm,20.0s
B35A Bob, Littlefor 107.93 44 IAMs_20 IAMs_20 09 05 09.9
comp=Z,934nm,22.0s
GNAR Gosnell 107.99 58 IAMs_20 IAMs_20 09 04 05.0
comp=Z,834nm,20.0s
146A Union 107.99 61 IAMs_20 IAMs_20 09 03 12.5
comp=Z,942nm,22.0s
OXF Oxford 108.14 59 IAMs_20 IAMs_20 09 05 00.2
comp=Z,949nm,20.0s
PEBM Pemiscott Bayo 108.14 58 IAMs_20 IAMs_20 09 04 20.1
comp=Z,733nm,20.0s
KURBB Kurchatov Arra 108.28 318 PP PP 08 27 02.6 -10
comp=Z,0.2nm,0.2s,baz=96,slow=5.2,SNR=4.3
KURBB PKKPbc **PKKPbc 08 38 01.4 +1.0**
comp=Z,0.1nm,0.3s,baz=281,slow=3.6,SNR=1.2
PVMO Portageville 108.34 57 IAMs_20 IAMs_20 09 04 37.2
comp=Z,741nm,21.0s
L40A Anamosa 108.39 51 IAMs_20 IAMs_20 09 04 23.9
comp=Z,959nm,21.0s
SLM Saint Louis 108.41 55 IAMs_20 IAMs_20 09 08 28.8
comp=Z,904nm,19.0s
LNXT Lenox 108.43 58 IAMs_20 IAMs_20 09 04 38.8
comp=Z,750nm,20.0s
HALT Halls 108.51 58 IAMs_20 IAMs_20 09 06 53.9
comp=Z,861nm,18.0s
CGM3 Cape Girardeau 108.56 56 IAMs_20 IAMs_20 09 05 18.1
comp=Z,926nm,20.0s
GLAT Glass 108.63 58 IAMs_20 IAMs_20 09 04 35.0
comp=Z,836nm,21.0s
HICK Hickman 108.74 57 IAMs_20 IAMs_20 09 04 38.8
comp=Z,748nm,20.0s
TULM Tulcn-Chalpat 108.79 97 IAMs_20 IAMs_20 09 00 27.5
comp=Z,617nm,21.0s
UTMT University of 108.98 58 IAMs_20 IAMs_20 09 04 57.3
comp=Z,856nm,19.0s
P43A Skaggs, Pawnee 109.16 54 IAMs_20 IAMs_20 09 07 38.6
comp=Z,724nm,19.0s
JFWS Jewell Farm 109.26 51 IAMs_20 IAMs_20 09 08 01.9
comp=Z,687nm,19.0s
EYMN Ely 109.32 45 IAMs_20 IAMs_20 09 06 32.6
comp=Z,916nm,20.0s
Q44A Meyer Farm, Va 109.39 55 IAMs_20 IAMs_20 09 04 05.9
comp=Z,771nm,21.0s
FCC Fort Churchill 109.51 33 IAMs_20 IAMs_20 09 06 12.4
comp=Z,946nm,20.0s
HDIL Hopedale 109.51 53 IAMs_20 IAMs_20 09 10 54.8
comp=Z,815nm,18.0s
G40A Rib Lake 109.73 48 IAMs_20 IAMs_20 09 06 23.9
comp=Z,782nm,20.0s
WVT Waverly 109.75 58 IAMs_20 IAMs_20 09 04 58.8
comp=Z,928nm,21.0s
LRAL Lakeview Retre 109.77 61 IAMs_20 IAMs_20 09 04 51.6
comp=Z,1µm,22.0s
X48A Hartselle 110.03 60 IAMs_20 IAMs_20 09 04 56.4
comp=Z,1µm,21.0s
I42A Draeger Farm, 110.39 50 IAMs_20 IAMs_20 09 05 10.8
comp=Z,1µm,22.0s
T47A Sharon Grove 110.50 57 IAMs_20 IAMs_20 09 06 41.4
comp=Z,797nm,20.0s
M44A Midewin, Midew 110.59 52 IAMs_20 IAMs_20 09 13 16.4
comp=Z,749nm,18.0s
COWI Conover 110.60 47 IAMs_20 IAMs_20 09 09 00.8
comp=Z,634nm,19.0s
HQIL Hanson Quary C 110.81 52 IAMs_20 IAMs_20 09 05 38.0
comp=Z,904nm,21.0s
P46A Rosedale 110.91 54 IAMs_20 IAMs_20 09 05 17.0
comp=Z,746nm,21.0s
CLTN Cedars of Leba 110.94 58 IAMs_20 IAMs_20 09 05 34.1
comp=Z,974nm,22.0s
SFIN Lafayette 111.13 54 IAMs_20 IAMs_20 09 09 53.6
comp=Z,771nm,20.0s
D41A Chassel 111.14 46 IAMs_20 IAMs_20 09 15 27.0
comp=Z,788nm,18.0s
F42A Maple Grove Fa 111.24 48 IAMs_20 IAMs_20 09 07 47.9
comp=Z,626nm,20.0s
H43A Windswept, Lux 111.30 49 IAMs_20 IAMs_20 09 17 12.7
comp=Z,787nm,21.0s
WCI Wyandotte Cave 111.36 56 IAMs_20 IAMs_20 09 07 33.1
comp=Z,856nm,19.0s
WCI Wyandotte Cave 111.36 56 P **PKiKP 08 26 51.9 -2.3**
baz=260
152A Waverly Hall 111.57 62 IAMs_20 IAMs_20 09 09 25.3
comp=Z,745nm,19.0s
L46A Eue Claire 111.99 52 IAMs_20 IAMs_20 09 07 23.3
comp=Z,913nm,20.0s
E43A Lone Tree Farm 112.11 47 IAMs_20 IAMs_20 09 09 34.9
comp=Z,702nm,20.0s
R49A Shelbyville 112.24 56 IAMs_20 IAMs_20 09 09 59.5
comp=Z,709nm,19.0s
N47A Urbana 112.26 53 IAMs_20 IAMs_20 09 11 38.6
comp=Z,674nm,19.0s
TIGA Tifton 112.26 64 P **PKiKP 08 26 54.3 -1.8**
baz=258
T50A Nancy 112.29 58 IAMs_20 IAMs_20 09 07 17.8
comp=Z,938nm,21.0s
O48B Farmland 112.57 54 IAMs_20 IAMs_20 09 09 51.9
comp=Z,654nm,19.0s
O48B Farmland 112.57 54 P **PKiKP 08 26 55.5 -0.9**
baz=261
154A Montrose 112.89 62 IAMs_20 IAMs_20 09 10 42.4
comp=Z,768nm,19.0s
R50A Paris 112.90 56 IAMs_20 IAMs_20 09 07 35.8
comp=Z,541nm,20.0s
MSEY Mahe Island 113.08 255 IAMs_20 IAMs_20 09 10 23.3
comp=Z,752nm,19.0s
L48A N Adams 113.35 52 IAMs_20 IAMs_20 09 07 12.4
comp=Z,765nm,22.0s
S51A Beattyville 113.37 57 IAMs_20 IAMs_20 09 06 39.3
comp=Z,843nm,21.0s
N49A Columbus Grove 113.40 53 IAMs_20 IAMs_20 09 11 55.8
comp=Z,788nm,18.0s
BVAR Borovoye Array 113.60 320 PP **PP 08 27 46.4 -3.8**
comp=Z,3.6nm,1.1s,baz=116,slow=6.8,SNR=3.6
BRVK Borovoye 113.67 320 IAMs_20 IAMs_20 09 12 59.3
comp=Z,784nm,22.0s
Q51A Peebles 113.77 56 IAMs_20 IAMs_20 09 11 24.8
comp=Z,852nm,19.0s
E46A Sault Ste Mari 113.96 48 IAMs_20 IAMs_20 09 13 52.9
comp=Z,811nm,18.0s
AAM Ann Arbor 113.97 52 IAMs_20 IAMs_20 09 07 52.5
comp=Z,698nm,20.0s
ACSO Alum Creek Sta 114.21 54 P **PKiKP 08 26 59.7 +0.2**
baz=263
M50A Fremont 114.32 53 IAMs_20 IAMs_20 09 11 34.0
comp=Z,741nm,20.0s
257A Skidaway Islan 114.51 64 IAMs_20 IAMs_20 09 10 08.2
comp=Z,730nm,20.0s
Q52A Bidwell 114.59 56 IAMs_20 IAMs_20 09 08 58.6
comp=Z,702nm,20.0s
N51A Ashland 114.76 54 IAMs_20 IAMs_20 09 07 03.7
comp=Z,788nm,22.0s
P52A Corning 114.78 55 P PKPdf 08 26 59.0 -1.7
baz=263
ETMB Extrema 114.85 112 IAMs_20 IAMs_20 09 07 53.8
comp=Z,549nm,20.0s
S54A Dingess, Beckl 115.18 57 IAMs_20 IAMs_20 09 07 46.4
comp=Z,856nm,21.0s
Y57A Sumter 115.37 61 IAMs_20 IAMs_20 09 08 34.9
comp=Z,902nm,21.0s
O53A New Philadelph 115.56 54 P **PKiKP 08 27 02.8 +0.6**
baz=264
M52A Chesterland 115.59 53 IAMs_20 IAMs_20 09 09 40.7
comp=Z,816nm,21.0s
Q54A Coxs Mills 115.70 56 IAMs_20 IAMs_20 09 10 21.0
comp=Z,812nm,20.0s
BLA Blacksburg 115.81 58 P **PKPdf 08 27 02.8 0.0**
baz=263
N53A Lisbon 115.90 54 IAMs_20 IAMs_20 09 10 31.1
comp=Z,834nm,20.0s
Y58A Scranton 115.95 62 IAMs_20 IAMs_20 09 08 20.3
comp=Z,891nm,22.0s
M53A WI Miller and 116.09 53 IAMs_20 IAMs_20 09 09 01.9
comp=Z,751nm,20.0s
M53A WI Miller and 116.09 53 P **PKiKP 08 27 03.3 +0.2**
baz=265
MCWV Mont Chateau 116.54 55 P **PKPdf 08 27 04.0 -0.1**
baz=264
ERPA Erie 116.66 52 IAMs_20 IAMs_20 09 13 03.8
comp=Z,783nm,19.0s
ERPA Erie 116.66 52 P **PKPdf 08 27 03.4 -0.8**
baz=265
Q56A Snyder Ridge, 116.98 56 IAMs_20 IAMs_20 09 11 22.0
comp=Z,656nm,20.0s
M55A Ridgway 117.52 53 IAMs_20 IAMs_20 09 10 16.9
comp=Z,789nm,21.0s
WVNY West Valley, N 117.71 52 IAMs_20 IAMs_20 09 13 46.7
comp=Z,628nm,18.0s
SAML Samuel 117.89 113 IAMs_20 IAMs_20 09 07 47.1
comp=Z,632nm,21.0s
P57A Homestead Farm 117.93 56 IAMs_20 IAMs_20 09 13 04.0
comp=Z,795nm,20.0s
L56A Greenwood 118.47 53 IAMs_20 IAMs_20 09 13 41.8
comp=Z,828nm,20.0s
DELO Deloro Mine 118.53 50 IAMs_20 IAMs_20 09 09 44.2
comp=Z,940nm,22.0s
K57A Scipio Center 119.27 52 IAMs_20 IAMs_20 09 12 51.9
comp=Z,604nm,20.0s
WUPA West Chester U 119.82 55 IAMs_20 IAMs_20 09 11 49.9
comp=Z,556nm,21.0s
ABKAR Akbulak array 120.13 316 PKPdf **PKPdf 08 27 09.1 -1.6**
ARU Arti 120.34 324 PKPdf **PKPdf 08 27 09.1 -1.7**
ARU IAMs_20 IAMs_20 09 16 46.3
comp=Z,699nm,21.0s
ARU Arti 120.34 324 *i* PKiKP **PKPdf 08 27 09.5 -1.3**
ARU 08 28 36.2
ARU 08 34 21.5
ARU MLR MLR
comp=Z,645nm,21.0s
P61A Hammonton 120.43 56 IAMs_20 IAMs_20 09 11 20.1
comp=Z,746nm,22.0s
SPB Sao Paulo 121.16 137 IAMs_20 IAMs_20 09 10 47.4
comp=Z,651nm,22.0s
MNTQ Montreal, Queb 121.37 49 IAMs_20 IAMs_20 09 11 46.2
comp=Z,884nm,22.0s
K62A Royalston 122.42 52 IAMs_20 IAMs_20 09 19 44.4
comp=Z,769nm,19.0s
HRV Adam Dziewonsk 122.92 52 IAMs_20 IAMs_20 09 15 44.7
comp=Z,670nm,19.0s
LMQ La Malbaie 123.53 46 IAMs_20 IAMs_20 09 13 30.9
comp=Z,571nm,20.0s
D62A Allapoint, All 124.44 47 IAMs_20 IAMs_20 09 14 06.0
comp=Z,787nm,20.0s
ILULI Ilulissat 125.06 17 IAMs_20 IAMs_20 09 18 05.9
comp=Z,628nm,21.0s
APA Apatity 126.79 342 *i* PKiKP **PKiKP 08 27 26.3 +2.9**
APA pmax pmax
comp=Z,5.0nm,0.8s
BELG Belogornoye 127.39 321 *e* PKiKP **PKPdf 08 27 21.8 -2.6**
ARCES ARCESS Array B 127.45 346 PKP **PKPdf 08 27 21.8 -2.3**
comp=Z,2.3nm,0.9s,baz=64,slow=2.1,SNR=1.4
LMN Caledonia Moun 127.50 48 PKPdf **PKPdf 08 27 23.9 -1.0**
KLMR Klimovskoe 128.40 333 *e* PKiKP **PKPdf 08 27 24.5 -1.6**
KLMR pmax pmax
comp=Z,26nm,1.7s
KLMR MLR MLR
comp=Z,948nm,19.0s
MAK Makhachkala 129.30 309 *i* P **Pdif 08 24 10.4 -5.0**
MAK *i* 08 27 24.7
MAK *e* 08 34 30.2
MAK *e*SS SS 08 46 55.4 -3.5
MAK *e*SSS SSS 08 51 44.7
KIBK Kibwezi 129.62 248 IAMs_20 IAMs_20 09 20 48.1
comp=Z,624nm,18.0s
LSZ Lusaka 129.64 227 IAMs_20 IAMs_20 09 21 01.7
comp=Z,692nm,20.0s
RAYN Ar Rayn 130.96 283 IAMs_20 IAMs_20 09 25 46.1
comp=Z,513nm,20.0s
DRLN Deer Lake 131.57 42 PKPdf **PKiKP 08 27 33.3 -0.2**
GNI Garni 131.72 306 ⇑ *i* PKIKP **PKPdf 08 27 33.8 +0.5**
ONI Oni 132.31 309 IAMs_20 IAMs_20 09 25 09.4
comp=Z,524nm,21.0s
KBZ Khabaz 132.49 311 *i* PKIKP **PKPdf 08 27 34.5 +0.1**
OBN Obninsk 132.52 327 *e* PKIKP **PKPdf 08 27 33.3 -0.8**
OBN *e*PPP PPP 08 32 46.6
OBN pmax pmax
comp=Z,4.0nm,0.8s
KIV Kislovodsk 132.59 311 IAMs_20 IAMs_20 09 33 16.6
comp=Z,405nm,19.0s
KIV Kislovodsk 132.59 311 *i* PKIKP **PKPdf 08 27 34.0 -0.8**
KIV pmax pmax
comp=Z,4.0nm,1.1s
KIV MLR MLR
comp=Z,203nm,23.0s
TSUM Tsumeb 133.05 213 IAMs_20 IAMs_20 09 27 46.7
comp=Z,636nm,19.0s
FINES FINESS Array B 133.27 339 PKP **PKPdf 08 27 34.0 -1.3**
comp=Z,0.9nm,0.7s,baz=349,slow=19,SNR=3.8
FURI Furi 133.81 262 IAMs_20 IAMs_20 09 25 11.6
comp=Z,537nm,19.0s
LODK Lodwar 134.68 253 IAMs_20 IAMs_20 09 20 52.6
comp=Z,592nm,21.0s
MNK Minsk 137.09 330 *i* PKIKP **PKPdf 08 27 41.8 -0.9**
MNK *i* 08 30 25.4
MNK *i* PPP PPP 08 33 25.7
MNK *i* 08 34 52.4
MNK *i* SS SS 08 48 34.6 +2.7
MNK pmax pmax
comp=N,21nm,0.7s
MNK pmax pmax
comp=Z,5.0nm,0.6s
MNK pmax pmax
comp=E,17nm,1.1s
MNK MLR MLR
comp=Z,732nm,23.0s
MNK MLR MLR
comp=E,115nm,18.0s
MNK MLR MLR
comp=N,370nm,19.0s
NOA NORSAR Array B 137.83 346 PKhKP PKPpre 08 27 38.1
comp=N,0.9nm,0.8s,baz=38,slow=2.2,SNR=2.3
HFS Hagfors 138.04 344 PKP **PKPdf 08 27 43.5 -0.8**
comp=N,0.8nm,0.4s,baz=184,slow=38,SNR=1.9
AKASG Malin Array Be 138.58 325 PKP **PKPdf 08 27 44.3 -1.2**
comp=N,0.4nm,0.3s,baz=52,slow=2.2,SNR=1.8
AKASG PP **PP 08 30 36.3 +0.3**
comp=N,0.2nm,0.3s,baz=46,slow=7.0,SNR=4.1
AKBB Malin Array Si 138.58 325 ⇑ *e* PKIKP **PKPdf 08 27 46.5 +0.9**
KIEV Kiev 138.59 325 IAMs_20 IAMs_20 09 29 33.8
comp=Z,459nm,22.0s
RNPP9 Sopachiv 139.92 327 PKP **PKiKP 08 27 49.7 -0.7**
BALJ Balqa 139.94 295 IAMs_20 IAMs_20 09 31 55.0
comp=Z,367nm,20.0s
RNPP5 Staryi Chortor 140.03 327 PKP **PKiKP 08 27 50.3 -0.3**
GHAJ Ghor Haditha 140.07 294 IAMs_20 IAMs_20 09 28 37.5
comp=Z,405nm,22.0s
KMPD K-Podol'skiy 141.25 323 PKP **PKiKP 08 27 52.9 -0.3**
CSS Mathiatis 141.47 300 IAMs_20 IAMs_20 09 32 49.0
comp=Z,612nm,22.0s
ODBI Odobesti 142.35 319 PKP **PKPdf 08 27 53.5 +1.0**
MLR Muntele Rosu 143.16 320 ⇑ P **PKiKP 08 27 58.3 +0.8**
MLR Muntele Rosu 143.16 320 IAMs_20 IAMs_20 09 34 14.6
comp=Z,446nm,21.0s
MLR Muntele Rosu 143.16 320 ⇑ PKIKP **PKiKP 08 27 58.3 +0.8**
VOIR 143.73 320 ⇑ P **PKiKP 08 27 57.1 -1.5**
VOIR 143.73 320 ⇑ PKIKP **PKiKP 08 27 57.1 -1.5**
MARR Marisel-Cluj 144.18 323 ⇑ P PKPbc 08 27 53.9 -0.1
DRGR 144.34 323 ⇑ P **PKPab 08 27 53.9 -0.3**
DRGR 144.34 323 ⇑ PKIKP **PKPab 08 27 53.9 -0.3**
ELND Elena 144.45 316 ⇑ P PKPbc 08 27 55.0 +0.2
INVG Invergeldie, C 144.48 357 *e* P **PKPab 08 27 52.7 -1.6**
LANS Liptovska Anna 144.53 329 *e*SG **SKPbc 08 31 31.1 -4.6**
OKC Ostrava-Krasne 144.67 331 AMS AMS 09 30 40.0
comp=Z,600nm,17.7s
LAWE Loch Awe, Argy 144.71 358 *e* P **PKPab 08 27 53.6 -1.5**
MORC Moravsky Berou 144.99 331 PKPdf **PKPab 08 27 55.8 -0.6**
MORC Moravsky Berou 144.99 331 *e* PKP **PKPab 08 27 55.7 -0.6**
MORC Moravsky Berou 144.99 331 PKIKP **PKPab 08 27 55.8 -0.6**
OSTC Ostas 144.99 333 AMS AMS 09 28 50.0
comp=Z,900nm,26.7s
CHVC Chvalec 145.03 333 *e* PKP **PKPdf 08 27 58.6 +1.4**
CHVC AMS AMS 09 29 10.0
comp=Z,700nm,18.7s
CHVC Chvalec 145.03 333 *e* PKIKP **PKPdf 08 27 58.6 +1.4**
CHVC MLR MLR
comp=Z,700nm,18.7s
DPC Dobruska-Polom 145.10 333 *e* PKP **PKPab 08 27 56.8 0.0**
DPC *ep*PKP **PKiKP 08 28 01.3 +0.1**
DPC AMS AMS 09 28 50.0
comp=Z,900nm,23.6s
DPC Dobruska-Polom 145.10 333 *e* PKIKP **PKPab 08 27 56.8 0.0**
DPC *e* 08 28 01.3
DPC MLR MLR
comp=Z,900nm,23.6s
GZR Gura Zlata 145.10 321 ⇓ P **PKPbc 08 27 56.4 -0.5**
GZR Gura Zlata 145.10 321 ⇓ PKIKP **PKPbc 08 27 56.4 -0.5**
KRLC Kraliky 145.11 332 *e* PKP **PKPbc 08 27 56.7 -0.1**
KRLC *ep*PKP **PKiKP 08 28 01.9 +0.7**
KRLC Kraliky 145.11 332 *e* PKIKP **PKPbc 08 27 56.7 -0.1**
KRLC *e* 08 28 01.9
UPC Upice 145.11 333 AMS AMS 09 28 50.0
comp=Z,900nm,24.1s
PGBU Glenifferbraes 145.12 357 *e* P **PKPbc 08 27 54.5 -2.0**
PSZ Piszkesteto 145.14 327 ⇑ P **PKPab 08 27 57.2 +0.1**
PSZ Piszkesteto 145.14 327 PKPbc **PKPbc 08 27 56.2 -0.8**
PSZ Piszkesteto 145.14 327 PKIKP **PKPbc 08 27 56.2 -0.8**
PSZ MLR MLR
comp=Z,800nm,22.0s
SIRR Siria 145.23 323 ⇑ P **PKPdf 08 27 57.6 0.0**
SURR Urduc 145.27 322 ⇓ P **PKPbc 08 27 57.2 -0.2**
VYHS Vyhne 145.28 329 *e* **PKiKP 08 28 05.2 +3.6**
VYHS Vyhne 145.28 329 *e* PKIKP **PKPab 08 27 57.5 0.0**
VYHS *e* 08 28 05.2
VYHS Vyhne 145.28 329 *e* PKP **PKPab 08 27 57.5 0.0**
ARG Arkhangelos 145.32 304 PKPbc **PKPab 08 27 58.0 0.0**
ARG Arkhangelos 145.32 304 PKIKP **PKPab 08 27 58.0 0.0**
RDO Rodhopi 145.46 313 **PKPbc 08 27 57.2 -1.0**
RDO IAMs_20 IAMs_20 09 40 28.1
comp=Z,400nm,21.0s
EKA Eskdalemuir Ar 145.52 355 PKPbc **PKPbc 08 27 57.1 -0.7**
comp=Z,19nm,0.9s,baz=344,slow=2.1,SNR=19
EKB Eskdalemuir 145.52 355 **PKPbc 08 27 56.6 -1.2**
ESK Eskdalemuir 145.53 356 *e* P **PKPbc 08 27 56.0 -1.9**
ESK Eskdalemuir 145.53 356 PKPdf **PKPbc 08 27 57.3 -0.6**
ESK Eskdalemuir 145.53 356 PKIKP **PKPbc 08 27 57.3 -0.6**
JAVC Velka Javorina 145.59 330 *e* PKP **PKPdf 08 27 57.7 -0.5**
HERR Herculane 145.60 321 ⇑ P **PKPdf 08 27 58.2 -0.1**
BZS Buzias 145.64 323 ⇑ P **PKPdf 08 27 57.4 -0.9**
BZS Buzias 145.64 323 ⇑ PKIKP **PKPdf 08 27 57.4 -0.9**
BRG Berggiesshubel 145.66 336 *e* PKP **PKPdf 08 27 57.7 -0.5**
BRG Amp 08 27 59.2
comp=Z,9.1nm,1.0s
BRG Berggiesshubel 145.66 336 P **PKiKP 08 28 01.6 -0.6**
BRG Amp 08 28 06.8
comp=Z,40nm,1.0s
BRG Berggiesshubel 145.66 336 *e* PKIKP **PKPdf 08 27 57.6 -0.5**
BRG 08 28 01.6
BRG pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 145.67 337 PKPdf **PKPdf 08 27 57.4 -0.8**
CLL IAMs_20 IAMs_20 09 28 07.0
comp=Z,403nm,22.0s
CLL Collm 145.67 337 *i* PKIKP **PKPdf 08 27 57.7 -0.5**
CLL *i* 08 28 00.1
CLL pmax pmax
comp=Z,14nm,1.1s
CLL MLR MLR
comp=Z,300nm,21.8s
VRAC Vranov 145.75 331 ⇑ P **PKPab 08 27 59.1 -0.1**
VRAC Vranov 145.75 331 *e* PKP **PKPdf 08 27 57.5 -0.9**

VRAC	**Vranov**	**145.75**	**331**	⇑PKIKP	**PKPab**	**08 27 59.1**	**-0.1**
NEWG	**New Galloway**	**145.80**	**356**	*e*P	**PKPdf**	**08 27 56.4**	**-1.9**
EDMD	**Edmundbyers**	**145.91**	**354**	*e*P	**PKPdf**	**08 27 57.0**	**-1.5**
KRUC	**Moravsky**	**146.02**	**331**	*e*PKP	**PKPdf**	**08 27 58.5**	**-0.4**
MDVR	**Moldovita**	**146.07**	**321**	⇑P	**PKPdf**	**08 27 59.4**	**+0.2**
HSKC	**Hora Svate Kat**	**146.07**	**336**	*e*PKP	**PKiKP**	**08 28 05.2**	**+2.1**
HSKC				AMS	AMS	09 32 20.0	
	comp=Z,400nm,18.5s						
GAL1	**Galloway**	**146.08**	**357**	*e*P	**PKPab**	**08 28 00.2**	**0.0**
PRA	**Prague**	**146.10**	**334**	AMS	AMS	09 32 00.0	
	comp=Z,500nm,18.2s						
MODS	**Modra-Piesok**	**146.11**	**330**	*e*	**PKiKP**	**08 28 08.1**	**+4.8**
MODS	**Modra-Piesok**	**146.11**	**330**	*e*PKP2	**PKPbc**	**08 28 00.0**	**0.0**
MODS	**Modra-Piesok**	**146.11**	**330**	*e*PKP	**PKPbc**	**08 28 00.0**	**0.0**
PRU	**Pruhonice**	**146.12**	**334**	*e*PKP	**PKiKP**	**08 28 05.5**	**+2.3**
PRU				AMS	AMS	09 31 40.0	
	comp=Z,700nm,23.9s						
PRU	**Pruhonice**	**146.12**	**334**	*e*PKP2	**PKiKP**	**08 28 05.5**	**+2.3**
PRU				MLR	MLR		
	comp=Z,700nm,23.9s						
BLKB	**Belogradchik**	**146.13**	**319**	⇑P	**PKPdf**	**08 27 59.4**	**+0.1**
GDLE	**Glaisdale, N Y**	**146.19**	**353**	*e*P	**PKPab**	**08 28 00.5**	**-0.1**
TREC	**Trest**	**146.25**	**332**	AMS	AMS	09 30 10.0	
	comp=Z,1μm,25.7s						
ZVC	**Zvikov**	**146.69**	**334**	*e*PKP	**PKPab**	**08 28 02.4**	**-0.3**
BOVS	**Bovan**	**146.72**	**320**	⇑P	**PKPdf**	**08 28 00.2**	**0.0**
HPK	**Haverah Park**	**146.74**	**353**	*e*P	**PKPbc**	**08 28 00.9**	**-0.7**
NKC	**Novy Kostel**	**146.75**	**336**	AMS	AMS	09 31 20.0	
	comp=Z,500nm,21.5s						
MORH	**Mrgy, Hungar**	**146.90**	**326**	⇓P	**PKPbc**	**08 28 01.9**	**-0.4**
FRGS	**Fruska Gora**	**146.94**	**323**	⇓P	**PKPbc**	**08 28 02.3**	**-0.2**
RONA	**Rosalia, Austr**	**147.06**	**330**	*i* PKP	**PKPbc**	**08 28 02.1**	**-0.7**
	comp=Z,1.0nm,0.3s						
CKRC	**Cesky Krumlov**	**147.12**	**333**	*e*PKP	**PKPbc**	**08 28 01.9**	**-1.0**
CKRC				*ex*	x	08 28 07.4	
CKRC				AMS	AMS	09 33 00.0	
	comp=Z,900nm,21.0s						
CKRC	**Cesky Krumlov**	**147.12**	**333**	*e*PKP2	**PKPbc**	**08 28 01.9**	**-1.0**
CKRC				MLR	MLR		
	comp=Z,900nm,21.0s						
KHC	**Kasperske Hory**	**147.18**	**334**		**PKPbc**	**08 28 02.8**	**-0.3**
KHC	**Kasperske Hory**	**147.18**	**334**	*e*PKP	**PKPbc**	**08 28 02.3**	**-0.8**
KHC				*ex*	x	08 28 07.7	
KHC				AMS	AMS	09 33 20.0	
	comp=Z,700nm,24.5s						
KHC	**Kasperske Hory**	**147.18**	**334**	*c i* PKP2	**PKPbc**	**08 28 02.1**	**-1.0**
LBWR	**Ladybower, Pea**	**147.30**	**353**	*e*P	**PKPbc**	**08 28 02.3**	**-0.9**
GERES	**GERESS Array B**	**147.35**	**334**	PKPbc	**PKPbc**	**08 28 02.9**	**-0.7**
	comp=Z,4.5nm,0.8s,baz=40,slow=2.3,SNR=4.8						
WME	**Myndd Eilian**	**147.52**	**356**	*e*P	**PKPbc**	**08 28 04.7**	**+0.9**
GRA1	**Grafenberg Arr**	**147.65**	**337**	IAMs_20	IAMs_20	09 34 43.3	
	comp=Z,518nm,22.0s						
GRFO	**Grafenberg**	**147.65**	**337**	IAMs_20	IAMs_20	09 34 44.4	
	comp=Z,536nm,22.0s						
FOEL	**Foel Wylfa**	**147.95**	**355**	*e*P	**PKPbc**	**08 28 04.3**	**-0.7**
IDI	**Anoyia**	**148.11**	**304**	PKPdf	**PKPdf**	**08 28 00.1**	**-2.7**
HLM1	**Long Mynd**	**148.29**	**354**	*e*P	**PKPdf**	**08 28 01.4**	**-1.1**
SOKA	**Soboth**	**148.39**	**330**	*i* PKP	**PKPbc**	**08 28 05.4**	**-1.1**
	comp=Z,1.1nm,0.3s						
FNA	**Florina**	**148.42**	**315**	PKPbc	**PKPbc**	**08 28 05.5**	**-1.2**
FNA	**Florina**	**148.42**	**315**	PKP2	**PKPbc**	**08 28 05.5**	**-1.2**
BTNL	**Ternell**	**148.50**	**343**	*d*PKP	**PKPbc**	**08 28 05.5**	**-1.1**
MEM	**Membach**	**148.51**	**343**	*d*PKP	**PKPab**	**08 28 11.9**	**+2.0**
BSTI	**Sart Tilman**	**148.65**	**344**	*d*PKP	**PKPab**	**08 28 11.8**	**+1.3**
OBKA	**Obir**	**148.74**	**330**	*i* PKiKP	**PKPbc**	**08 28 07.6**	**+0.2**
	comp=Z,1.4nm,0.4s						
BHOU	**Houvegnez**	**148.75**	**343**	*d*PKP	**PKPab**	**08 28 11.5**	**+0.7**
KBA	**Koelnbreinsper**	**148.87**	**332**	*i* PKP	**PKPbc**	**08 28 06.9**	**-0.9**
	comp=Z,9.6nm,0.8s						
BCLA	**Clavier**	**148.87**	**344**	*d*PKP	**PKPbc**	**08 28 06.7**	**-0.7**
PDG	**Podgorica**	**148.88**	**320**	⇓P	**PKPbc**	**08 28 06.2**	**-1.5**
PDG	**Podgorica**	**148.88**	**320**	PKPbc	**PKPbc**	**08 28 06.6**	**-1.2**
PDG				IAMs_20	IAMs_20	09 34 33.6	
	comp=Z,443nm,22.0s						
LESA	**Schwarzleotal**	**148.89**	**333**	*e*pPKP	pPKPdf	08 28 06.6	+0.4
	comp=Z,1.2nm,0.3s						
BGES	**Gesves**	**148.96**	**344**	*d*PKP	**PKPab**	**08 28 12.9**	**+1.2**
RSBS	**Rosebush, Pemb**	**148.99**	**356**	*e*P	**PKPdf**	**08 28 02.6**	**-1.0**
MYKA	**Terra Mystica**	**149.07**	**331**	*i* pPKP	pPKPdf	08 28 06.7	+0.3
	comp=Z,1.2nm,0.3s						
BMRD	**Maredsous**	**149.12**	**344**	*d*PKP	**PKiKP**	**08 28 10.4**	**+1.1**
RCHB	**Rochefort**	**149.13**	**344**	*d*PKP	**PKiKP**	**08 28 10.4**	**+1.1**
STU	**Stuttgart**	**149.14**	**338**	IAMs_20	IAMs_20	09 33 22.9	
	comp=Z,473nm,20.0s						
WLF	**Walferdange**	**149.33**	**342**	*d*PKP	**PKPab**	**08 28 13.7**	**+0.5**
DOU	**Dourbes**	**149.35**	**344**	*d*PKPdf	**PKPdf**	**08 28 05.7**	**+1.4**
DOU				*d*PKP	**PKPbc**	**08 28 08.2**	**-0.5**
WTTA	**Wattenberg**	**149.45**	**334**	*i* PKP	**PKPbc**	**08 28 09.0**	**-0.3**
	comp=Z,0.6nm,0.3s						
ABTA	**Abfaltersbach**	**149.49**	**332**	*i* pPKP	pPKPdf	08 28 07.8	+0.6
	comp=Z,0.7nm,0.2s						
MOTA	**Moosalm**	**149.61**	**334**	*i* PKP	**PKPbc**	**08 28 08.7**	**-1.0**
	comp=Z,7.1nm,0.6s						
SQTA	**Sankt Quirin**	**149.66**	**334**	*e*PKP	**PKPbc**	**08 28 08.6**	**-1.1**
	comp=Z,0.3nm,0.2s						
BFO	**Black Forest**	**149.82**	**339**		**PKPbc**	**08 28 09.2**	**-0.8**
BFO				IAMs_20	IAMs_20	09 33 44.7	
	comp=Z,548nm,21.0s						
BFO	**Black Forest**	**149.82**	**339**	PKP2	**PKPbc**	**08 28 09.2**	**-0.8**
BFO				MLR	MLR		
	comp=Z,500nm,21.0s						
FETA	**Feichten**	**150.02**	**334**	*i* pPKP	pPKPdf	08 28 08.7	+0.6
	comp=Z,9.0nm,0.9s						
ECH	**Echery**	**150.31**	**340**	IAMs_20	IAMs_20	09 33 34.6	
	comp=Z,541nm,21.0s						
FUORN	**Ofenpass-Fuorn**	**150.53**	**334**	IAMs_20	IAMs_20	09 35 17.8	
	comp=Z,519nm,22.0s						
TUE	**Stuetta**	**151.02**	**335**		**PKPbc**	**08 28 12.5**	**-0.6**
SGRT	**San Giovanni R**	**151.37**	**322**	PKPbc	**PKPbc**	**08 28 12.7**	**-1.3**
MATE	**Matera**	**151.47**	**319**	⇓P	**PKPbc**	**08 28 13.0**	**-1.0**
JSA	**Saint Aubin**	**151.50**	**352**	*e*P	**PKPbc**	**08 28 12.5**	**-1.3**
GUMA	**Gualdo di Mace**	**151.82**	**326**	IAMs_20	IAMs_20	09 35 48.8	
	comp=Z,431nm,21.0s						
CLF	**Chambon-Foret**	**151.84**	**346**		**PKPbc**	**08 28 14.7**	**+0.1**
FDMO	**Fiordimonte**	**151.97**	**326**	IAMs_20	IAMs_20	09 36 45.6	
	comp=Z,504nm,21.0s						
ZCCA	**Zocca**	**152.02**	**331**	PKPbc	**PKPbc**	**08 28 15.3**	**0.0**
TIP	**Timpagrande**	**152.28**	**316**	⇑P	**PKPbc**	**08 28 15.1**	**-0.9**
TIP	**Timpagrande**	**152.28**	**316**	IAMs_20	IAMs_20	09 38 06.1	
	comp=Z,477nm,22.0s						
CUC	**Castrocucco**	**152.41**	**319**	IAMs_20	IAMs_20	09 42 10.2	
	comp=Z,434nm,20.0s						
OSSC	**Osservatorio P**	**152.53**	**329**	IAMs_20	IAMs_20	09 36 52.1	
	comp=Z,494nm,22.0s						
MSSA	**Maissana**	**152.70**	**332**	IAMs_20	IAMs_20	09 41 34.3	
	comp=Z,533nm,20.0s						
BNI	**Bardonecchia**	**153.22**	**337**	PKPdf	**PKPdf**	**08 28 09.2**	**-1.4**
BNI	**Bardonecchia**	**153.22**	**337**	PKIKP	**PKPdf**	**08 28 09.2**	**-1.4**
CASP	**Castiglione de**	**153.26**	**329**	PKPdf	**PKPdf**	**08 28 08.5**	**-2.0**
CASP				PKPab	**PKPab**	**08 28 29.3**	**-0.5**
CEL	**Celeste**	**153.35**	**315**	IAMs_20	IAMs_20	09 45 42.6	
	comp=Z,316nm,20.0s						
WDD	**Wied Dalam**	**155.58**	**312**	IAMs_20	IAMs_20	09 52 50.9	
	comp=Z,389nm,22.0s						
VSL	**Villasalto**	**156.45**	**325**	IAMs_20	IAMs_20	09 37 02.5	
	comp=Z,360nm,21.0s						
CEST	**Esterri de Car**	**157.16**	**343**	PKPdf	**PKPdf**	**08 28 14.9**	**-1.1**
CEST				PKPab	**PKPab**	**08 28 47.0**	**+0.5**
CEST				IAMs_20	IAMs_20	09 36 25.8	
	comp=Z,599nm,21.0s						
MAHO	**Mahon**	**158.55**	**334**	IAMs_20	IAMs_20	09 38 59.0	
	comp=Z,470nm,22.0s						
PGAV	**Gavieira, Arco**	**159.06**	**1**	*e*LR	LR	09 31 27.7	
	comp=Z,424nm,18.0s						
KEST	**Kesra**	**159.06**	**318**	PKPab	**PKPab**	**08 28 54.5**	**-0.5**
	comp=Z,7.7nm,1.2s,baz=252,slow=4.1,SNR=4.0						
PBRG	**Braganca**	**159.21**	**358**	*e*PKPab	**PKPab**	**08 28 57.7**	**+2.4**
MVO	**Moncorvo**	**159.85**	**359**	*e*PKPab	**PKPab**	**08 29 01.9**	**+3.7**
MVO	**Moncorvo**	**159.85**	**359**	*e*LR	LR	09 36 44.2	
	comp=Z,510nm,20.0s						
MTE	**Manteigas**	**160.63**	**360**	*e*LR	LR	09 33 02.0	
	comp=Z,533nm,18.0s						
ESDC	**Sonseca Array**	**161.08**	**351**	PKPdf	**PKPdf**	**08 28 16.7**	**-3.9**
ESDC				PKPab	**PKPab**	**08 29 02.9**	**-0.7**
ESDC	**Sonseca Array**	**161.08**	**351**	PKPab	**PKPab**	**08 29 03.3**	**-0.2**
	comp=Z,7.5nm,1.2s,baz=7.4,slow=4.3,SNR=15						
PCBR	**Castelo Branco**	**161.18**	**360**	*e*PKPab	**PKPab**	**08 29 07.2**	**+3.3**
PMRV	**Marv??o**	**161.59**	**359**	*e*PKPab	**PKPab**	**08 29 07.9**	**+2.2**
PMRV	**Marv??o**	**161.59**	**359**	*e*LR	LR	09 31 54.7	
	comp=Z,427nm,20.0s						
PMTG	**Montargil**	**161.95**	**1**	*e*PKPab	**PKPab**	**08 29 06.3**	**-0.9**
PBAR	**Barrancos**	**162.84**	**358**	*e*PKPab	**PKPab**	**08 29 14.6**	**+3.4**
PVAQ	**Vaqueiros**	**163.62**	**0**	*e*LR	LR	09 32 03.8	
	comp=Z,503nm,18.0s						
PMOZ	**Porto Moniz, M**	**165.45**	**34**	*e*LR	LR	09 29 24.9	
	comp=Z,366nm,18.0s						
TORD	**Torodi Ar. Bea**	**168.15**	**230**	PKPdf	**PKPdf**	**08 28 25.3**	**-2.1**
TORD				PKPab	**PKPab**	**08 29 34.4**	**-1.0**
TORD	**Torodi Ar. Bea**	**168.15**	**230**	PKP	**PKPdf**	**08 28 26.7**	**-0.7**
	comp=Z,1.8nm,1.0s,baz=236,slow=0.5,SNR=5.8						

*IDC **07** 08:10:25.9±0.9, 6°.77N×72°.98W, h160km±16km, mb3.1/3, mbtmp3.6/5, Error ellipse: s-maj=53.1km s-min=8.3km az=132.0*
*RSNC **07** 08:10:27.4±0.0, 7°.1N±1′×7°.3W±′, h146km±2km, M3.3, mb3.9, mB4.6, ML3.3, Mw(mB)3.8*

ISC 07 08:10:25.4±0.8, 6°.84N±0°.03×73°.13W±0°.04, h155km±6km, n32, σ1§16/67, mb3.2/3, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.25**	**193**	P	**Pn**	**08 10 46.6**	**-0.1**
BARC				S	**Sn**	**08 11 01.9**	**-1.0**
PAMC	**Pamplona, Colo**	**0.66**	**40**	P	**Pn**	**08 10 49.5**	**+0.8**
PAMC				S	**Sn**	**08 11 06.6**	**+0.1**
RUSC	**La Rusia**	**0.94**	**177**	P	**Pn**	**08 10 50.5**	**-0.2**
RUSC				S	**Sn**	**08 11 09.4**	**-0.6**
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	P	**Pn**	**08 10 53.0**	**-0.8**
PTBC				S	**Sn**	**08 11 14.3**	**-1.3**
OCAC	**Ocana**	**1.41**	**352**	P	**Pn**	**08 10 55.1**	**+0.6**
OCAC				S	**Sn**	**08 11 16.7**	**-0.3**
SPBC	**San Pablo de B**	**1.50**	**219**	P	**Pn**	**08 10 55.4**	**0.0**
SPBC				S	**Sn**	**08 11 18.5**	**0.0**
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	**Pn**	**08 10 58.8**	**-0.1**
ZARC				S	**Sn**	**08 11 24.5**	**-0.2**
NORC	**Norcasia**	**2.14**	**234**	P	**Pn**	**08 11 02.4**	**-0.1**
NORC				S	**Sn**	**08 11 30.2**	**-0.9**
NORC				S	**Sn**	**08 11 30.2**	**-0.9**
CHIC	**Chingaza**	**2.27**	**195**	P	**Pn**	**08 11 04.6**	**+0.2**
CHIC				S	**Sn**	**08 11 34.7**	**+0.2**
CHIC				S	**Sn**	**08 11 34.7**	**+0.2**
ROSC	**El Rosal**	**2.31**	**211**	P	**Pn**	**08 11 06.5**	**+1.6**
	189nm,0.3s,baz=342,slow=20,SNR=491						
ROSC				S	**Sn**	**08 11 37.3**	**+2.1**
	146nm,0.3s,baz=163,slow=22,SNR=5.1						
UREC	**San Jos de Ur**	**2.55**	**291**	P	**Pn**	**08 11 06.4**	**-0.9**
UREC				P	**Pn**	**08 11 06.5**	**-0.9**
UREC				P	**Pn**	**08 11 06.5**	**-0.9**
UREC				S	**Sn**	**08 11 37.6**	**-2.2**
VILC	**Villavicencio,**	**2.76**	**192**	P	**Pn**	**08 11 10.1**	**0.0**
VILC				S	**Sn**	**08 11 44.7**	**0.0**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	**Pn**	**08 11 09.8**	**-0.7**
PTGC				P		08 11 09.9	
PTGC				P		08 11 10.0	
PTGC				S	**Sn**	**08 11 42.7**	**-2.6**
DBBC	**Dabeiba**	**3.06**	**274**	P	**Pn**	**08 11 14.1**	**+0.3**
DBBC				S	**Sn**	**08 11 49.7**	**-1.6**
SDV	**Santo Domingo**	**3.20**	**50**	P	**Pn**	**08 11 16.7**	**+1.0**
	11nm,0.3s,baz=219,slow=8.9,SNR=3.8						
SDV				S	**Sn**	**08 11 54.1**	**-0.6**
	77nm,0.4s,baz=52,slow=21,SNR=34						
PRAC	**Prado**	**3.56**	**210**	P	**Pn**	**08 11 19.6**	**-0.6**
PRAC				P		08 11 19.9	
PRAC				P		08 11 20.1	
PRAC				S	**Sn**	**08 12 02.3**	**-0.4**
APAC	**Apartado, Choc**	**3.58**	**287**	P	**Pn**	**08 11 20.5**	**+0.1**
APAC				P		08 11 21.1	
APAC				P		08 11 21.2	
APAC				S	**Sn**	**08 12 02.8**	**-0.3**
ORTC	**Ortega, Tolima**	**3.59**	**216**	P	**Pn**	**08 11 20.8**	**+0.3**
ORTC				S	**Sn**	**08 12 04.5**	**+1.1**
SJCC	**San Jacinto, C**	**3.66**	**326**	P	**Pn**	**08 11 20.4**	**-1.0**
SJCC				P		08 11 20.6	
SJCC				S	**Sn**	**08 12 02.4**	**-2.5**
PLMC	**San Jos del P**	**3.68**	**239**	P	**Pn**	**08 11 22.2**	**+0.6**
PLMC				P	**Pn**	**08 11 22.3**	**+0.6**
PLMC				P	**Pn**	**08 11 22.3**	**+0.6**
PLMC				S	**Sn**	**08 12 05.5**	**+0.1**
URMC	**La Uribe, Meta**	**3.78**	**199**	P	**Pn**	**08 11 23.7**	**+0.7**
URMC				S	**Sn**	**08 12 08.0**	**+0.3**
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	**Pn**	**08 11 27.1**	**-0.9**
CRJC				S	**Sn**	**08 12 15.1**	**-1.7**
GUVC	**San Jose del G**	**4.29**	**173**	P	**Pn**	**08 11 29.1**	**-0.5**
GUVC				P		08 11 29.8	
GUVC				S	**Sn**	**08 12 17.7**	**-2.0**
MACC	**Macarena, Meta**	**4.71**	**189**	P	**Pn**	**08 11 33.7**	**-1.5**
MACC				P		08 11 34.4	
MACC				S	**Sn**	**08 12 25.1**	**-4.5**
JAMC	**Jamundi, Valle**	**5.04**	**225**	P	**Pn**	**08 11 39.8**	**+0.1**
	12nm,0.7s,486nm						
GARC	**Garzon, Huila**	**5.18**	**207**	P	**Pn**	**08 11 40.8**	**-0.8**
GARC				P		08 11 41.0	
GARC				S	**Sn**	**08 12 38.3**	**-2.8**
POPC	**Popayan, Colom**	**5.54**	**220**	P	**Pn**	**08 11 46.6**	**+0.3**
	8.7nm,0.7s						
POPC				P	**Pn**	**08 11 46.6**	**+0.3**
	8.7nm,0.7s						
POPC				P	**Pn**	**08 11 46.6**	**+0.3**
	8.7nm,0.7s						
POPC				S	**Sn**	**08 12 50.5**	**+1.0**
	8.7nm,0.7s						
FLOC	**Florencia**	**5.79**	**206**	P	**Pn**	**08 11 49.2**	**-0.3**
FLOC				P		08 11 50.2	
FLOC				S	**Sn**	**08 12 55.1**	**-0.2**
TXAR	**Lajitas Array**	**36.45**	**312**	P	**P**	**08 17 16.6**	**+1.0**
	0.2nm,0.8s,baz=129,slow=9.5,SNR=3.0						
	0.2nm,0.8s						
SCHQ	**Schefferville**	**48.13**	**5**	P	**P**	**08 18 50.2**	**+0.7**
	2.0nm,0.7s,baz=194,slow=6.3,SNR=7.8						
	2.0nm,0.7s						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**08 20 37.4**	**+0.3**
	0.2nm,0.6s,baz=124,slow=6.0,SNR=8.5						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**150.34**	**241**	PKPbc	**PKPbc**	**08 29 58.9**	**-0.4**
	0.2nm,0.4s,baz=106,slow=2.9,SNR=1.5						

*JMA **07** 08:17:39.3±0.3, 28°.7N±0°.6×12°.9E±′, h78km±3km, MD4.1/27, MV4.3/27, NEAR TOKARA ISLANDS*
JMA Felt II J1 at NEAR TOKARA ISLANDS .
*NEIC **07** 08:17:39.2±1.8, 28°.68N±0°.07×129°.05E±0°.10, h86km±8km, mb4.4/68, Error ellipse: s-maj=12.4km s-min=9.5km az=104.0*
*NIED **07** 08:17:39.3, 28°.69N×129°.14E, h78km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}=1.15; $M_{\theta\theta}$=1.26; $M_{\phi\phi}$=-2.41; $M_{r\theta}$=-0.37; $M_{\theta\phi}$=-4.11; $M_{\phi r}$=0.25; Fault plane solution: M_{o}4.52000×10^{15} NP1:φ_s78.00000°, δ90.00000°, λ-175.00000°. NP2:φ_s348.00000°, δ85.00000°, λ0.00000°.*
*IDC **07** 08:17:39.6±1.3, 28°.65N×128°.98E, h92km±14km, mb3.5/9, mbtmp3.8/11, MS2.9/1 Error ellipse: s-maj=24.9km s-min=12.4km az=103.0*

ISC 07 08:17:38.9±0.6, 28°.65N±0°.04×129°.17E±0°.05, h87km±5km, n122, σ1§16/129, mb4.4/42, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMN	**Amaminishikomi**	**0.40**	**180**	P	**Pn**	**08 17 52.4**	**-0.2**
JAMN				S	**Sn**	**08 18 02.2**	**-0.6**
JAMN	**Amaminishikomi**	**0.40**	**180**	A	A	08 17 52.4	
	comp=E,36nm,0.7s,comp=N,42nm,0.3s						
JAM	**Amami Oshima**	**0.45**	**122**	P	**Pn**	**08 17 52.4**	**-0.5**
JAM				S	**Sn**	**08 18 02.2**	**-1.1**
JAM	**Amami Oshima**	**0.45**	**122**	A	A	08 17 52.4	
	comp=E,27nm,0.4s,comp=N,17nm,1.1s						
JTAJ	**Takarajima**	**0.51**	**3**	P	**Pn**	**08 17 52.6**	**-0.7**
JTAJ				S	**Sn**	**08 18 02.9**	**-1.2**
JTAJ	**Takarajima**	**0.51**	**3**	A	A	08 17 52.6	
	comp=E,22nm,1.1s,comp=N,9.0nm,0.5s						
JZK	**Kikaishima**	**0.78**	**115**	P	**Pn**	**08 17 56.9**	**+1.0**
JZK				S	**Sn**	**08 18 10.8**	**+2.1**
JZK	**Kikaishima**	**0.78**	**115**	A	A	08 17 56.9	
	comp=E,90nm,2.2s,comp=N,78nm,0.5s						
JTK	**Tokunoshima**	**0.88**	**193**	P	**Pn**	**08 17 57.4**	**+0.3**
JTK				*e*S	**Sn**	**08 18 10.6**	**0.0**
JTK	**Tokunoshima**	**0.88**	**193**	A	A	08 17 57.4	
	comp=E,18nm,1.4s,comp=N,18nm,0.8s						
JNN	**Nakanoshima**	**1.34**	**27**	P	**Pn**	**08 18 02.2**	**-0.3**
JNN				*e*S	**Sn**	**08 18 20.0**	**-0.2**
JNN	**Nakanoshima**	**1.34**	**27**	A	A	08 18 02.2	
	comp=E,10.0nm,1.2s,comp=N,9.0nm,1.0s						
JOKE	**Okinoerabujima**	**1.39**	**203**	*i* P	**Pn**	**08 18 03.9**	**+0.9**
JOKE				*e*S	**Sn**	**08 18 22.6**	**+1.3**
JYRO	**Yoronjima**	**1.74**	**202**	*i* P	**Pn**	**08 18 08.0**	**+0.4**
JYRO				*e*S	**Sn**	**08 18 30.0**	**+0.7**
JIH	**Iheya**	**1.93**	**214**	*i* P	**Pn**	**08 18 10.6**	**+0.5**
JIH				S	**Sn**	**08 18 34.5**	**+0.8**
JYAK	**Yakushimahirau**	**1.97**	**36**	*i* P	**Pn**	**08 18 10.3**	**-0.2**
JYAK				S	**Sn**	**08 18 33.9**	**-0.8**
JOW	**Kunigami**	**1.98**	**204**	P	**Pn**	**08 18 10.8**	**+0.2**
	comp=N,598nm,0.5s,baz=88,slow=22,SNR=286						
JOW				S	**Sn**	**08 18 34.9**	**-0.1**
	comp=N,452nm,0.3s,baz=224,slow=29,SNR=12						
JOW	**Kunigami**	**1.98**	**204**	P	**Pn**	**08 18 11.1**	**+0.5**
JKC	**Kuchinoerabu**	**2.02**	**26**	P	**Pn**	**08 18 11.4**	**+0.2**
JMTN	**Minamitane**	**2.30**	**40**	P	**Pn**	**08 18 14.9**	**-0.1**
JNTH	**Nagotoyohara**	**2.35**	**206**	*i* P	**Pn**	**08 18 16.3**	**+0.6**
JTN	**Tanegashima 3**	**2.54**	**38**	P	**Pn**	**08 18 18.8**	**+0.6**
JTN	**Tanegashima 3**	**2.54**	**38**	A	A	08 18 18.8	
	comp=E,4.0nm,1.9s,comp=N,3.0nm,2.1s						
JAGN	**Aguni-jima**	**2.67**	**220**	P	**Pn**	**08 18 20.6**	**+0.7**
JJT3	**Tamagusuku3**	**2.78**	**207**	P	**Pn**	**08 18 22.4**	**+1.0**
JKE	**Kume jima 2**	**3.14**	**223**	P	**Pn**	**08 18 26.8**	**+0.6**
JKE				*e*S	**Sn**	**08 19 03.3**	**+0.6**
JKDJ	**Kitadaitoujima**	**3.29**	**144**	*i* P	**Pn**	**08 18 28.1**	**-0.1**
JKDJ				*e*S	**Sn**	**08 19 04.4**	**-1.9**
JMZ	**Minamidaito 2**	**3.36**	**147**		**Pn**	**08 18 28.9**	**-0.3**
JMZ	**Minamidaito 2**	**3.36**	**147**	*i* P	**Pn**	**08 18 28.4**	**-0.7**
JMZ				*e*S	**Sn**	**08 19 03.9**	**-4.0**
JNU	**Nakatsue**	**4.70**	**18**	P	**Pn**	**08 18 47.0**	**-0.3**
JNU	**Nakatsue**	**4.70**	**18**	P	**Pn**	**08 18 48.9**	**+1.5**
	comp=N,152nm,0.9s,baz=243,slow=5.3,SNR=19						
JNU				LR	LR	08 20 41.6	
	comp=N,138nm,19.5s,baz=278,slow=38						
JMN	**Monobe**	**6.47**	**37**	Pn	**Pn**	**08 19 10.4**	**-1.2**
YOJ	**Yonaguni jima**	**6.91**	**234**	Pn	**Pn**	**08 19 16.1**	**-1.5**
YOJ	**Yonaguni jima**	**6.91**	**234**	P	**Pn**	**08 19 16.1**	**-1.5**
NACB	**Ninganchiao**	**8.12**	**238**	Pn	**Pn**	**08 19 32.9**	**-1.2**
YULB	**Yu-li**	**8.80**	**235**	Pn	**Pn**	**08 19 40.3**	**-3.1**
SSLB	**Suanglung**	**8.82**	**239**	Pn	**Pn**	**08 19 42.6**	**-1.1**
JGF	**Kuroka**	**9.80**	**43**	Pn	**Pn**	**08 19 58.5**	**+1.6**
JHJ2	**Mitsune**	**10.17**	**61**	Pn	**Pn**	**08 20 02.7**	**+0.8**
MJAR	**Matsushiro Arr**	**10.95**	**42**	P	**Pn**	**08 20 15.2**	**+2.7**
	comp=N,2.1nm,0.6s,baz=248,slow=14,SNR=4.0						
JCJ	**Chichijima**	**11.62**	**95**	Pn	**Pn**	**08 20 22.7**	**+1.1**
MKAR	**Makanchi Array**	**40.60**	**310**	P	**P**	**08 25 09.6**	**-0.3**
MKAR	**Makanchi Array**	**40.60**	**310**	P	**P**	**08 25 09.8**	**-0.2**
	comp=N,0.8nm,0.6s,baz=96,slow=10,SNR=6.0						
	comp=N,0.8nm,0.6s						
MTN	**Manton Dam**	**41.29**	**177**	P	**P**	**08 25 15.9**	**+0.1**
KURBB	**Kurchatov Arra**	**43.72**	**315**	P	**P**	**08 25 34.7**	**-0.5**
	comp=N,0.8nm,

	comp=Z,6.2nm,1.4s						
I28M	**Miner Creek**	**64.69**	**28**	P	**P**	**08 28 08.2**	**+0.9**
E29M	**Blow River**	**64.76**	**24**	P	**P**	**08 28 08.5**	**+0.8**
ISLE	**Juniper Island**	**64.77**	**33**	P	**P**	**08 28 07.4**	**-0.6**
BARN	**Barnard Glacie**	**64.98**	**32**	P	**P**	**08 28 08.5**	**-0.9**
BARN				IAmb	IAmb	08 28 29.5	
	comp=Z,4.8nm,1.1s						
H29M	**Whitestone**	**65.12**	**27**	P	**P**	**08 28 10.6**	**+0.6**
DAWY	**Dawson**	**65.25**	**29**	P	**P**	**08 28 12.1**	**+1.2**
EPYK	**Eagle Plains**	**65.73**	**26**	P	**P**	**08 28 15.0**	**+1.0**
G30M	**tAoh Zraii Nji**	**65.75**	**25**	P	**P**	**08 28 14.7**	**+0.6**
K29M	**Barlow Dome**	**66.11**	**29**	P	**P**	**08 28 15.6**	**-1.0**
I30M	**Mount Dempster**	**66.19**	**27**	P	**P**	**08 28 18.4**	**+1.3**
INK	**Inuvik**	**66.35**	**24**	P	**P**	**08 28 18.5**	**+0.7**
J30M	**Hart River**	**66.39**	**28**	P	**P**	**08 28 19.7**	**+1.3**
J30M				IAmb	IAmb	08 28 29.1	
	comp=Z,5.3nm,1.5s						
A36M	**Sachs Harbour**	**67.68**	**19**	P	**P**	**08 28 26.8**	**+0.6**
A36M				IAmb	IAmb	08 28 53.8	
	comp=Z,3.2nm,0.8s						
MHA	**Mahukona**	**67.77**	**78**	P	**P**	**08 28 26.9**	**-0.8**
FARO	**Faro, Yukon**	**68.42**	**30**	P	**P**	**08 28 31.5**	**+0.4**
C36M	**Paulatuk**	**69.14**	**21**	P	**P**	**08 28 35.9**	**+0.6**
C36M				IAmb	IAmb	08 29 02.0	
	comp=Z,4.2nm,0.8s						
FIA1	**FINESS Array S**	**71.18**	**330**	P	**P**	**08 28 46.9**	**-1.0**
FINES	**FINESS Array B**	**71.18**	**330**	P	**P**	**08 28 47.6**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=67,slow=6.4,SNR=6.6						
	comp=Z,0.8nm,0.5s						
RES	**Resolute Bay**	**73.02**	**11**	P	**P**	**08 28 59.5**	**+0.7**
YKA	**Yellowknife Ar**	**75.99**	**25**	P	**P**	**08 29 16.7**	**+0.6**
	comp=Z,0.4nm,0.8s,baz=302,slow=6.0,SNR=5.1						
	comp=Z,0.4nm,0.8s						
NC405	**NORSAR Array S**	**77.28**	**334**	P	**P**	**08 29 22.9**	**-0.5**
NC405				IAmb	IAmb	08 29 26.5	
	comp=Z,5.8nm,1.0s						
NOA	**NORSAR Array B**	**77.52**	**334**	P	**P**	**08 29 23.9**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=51,slow=5.6,SNR=2.8						
	comp=Z,0.9nm,0.7s						
EKA	**Eskdalemuir Ar**	**86.95**	**335**	P	**P**	**08 30 13.1**	**-1.0**
	comp=Z,0.7nm,0.7s,baz=47,slow=5.2,SNR=2.2						
	comp=Z,0.7nm,0.7s						

IDC 07 08:20:52.7±3.0, 53.66N×87.05E, h0km, mbtmp2.9/2, ML2.3/2, Error ellipse: s-maj=29.7km s-min=17.4km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**283**	I	I	08 29 20.0	
	baz=104,slow=341,SNR=3.8						
ZALV	**Zalesovo Beam**	**1.36**	**283**	Pg	Pg	08 21 16.9	-1.8
	1.1nm,0.3s,baz=101,slow=17,SNR=7.6						
ZALV				Lg	Lg	08 21 36.9	
	0.7nm,0.3s,baz=109,slow=31,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.06**	**243**	Pn	Pn	08 22 23.8	+0.2
	baz=60,slow=14,SNR=3.5						
	0.3nm,0.2s						
MKAR	**Makanchi Array**	**7.52**	**206**	Pn	Pn	08 22 45.5	+1.9
	0.1nm,0.3s,baz=28,slow=15,SNR=4.1						
	0.6nm,0.6s						

IDC 07 08:21:30.9±1.3, 16.89S×177.74W, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=49.9km s-min=27.8km az=139.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.77**	**191**	P	P	08 26 24.3	+0.1
	3.6nm,0.6s,baz=128,slow=19,SNR=1.0						
	3.6nm,0.6s						
WRA	**Warramunga Arr**	**45.46**	**258**	P	P	08 29 52.2	0.0
	0.7nm,0.6s,baz=94,slow=7.2,SNR=3.6						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**45.69**	**253**	P	P	08 29 53.8	-0.2
	0.4nm,0.3s,baz=91,slow=7.6,SNR=13						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**84.76**	**13**	P	P	08 34 06.4	-0.2
	0.2nm,0.4s,baz=218,slow=5.0,SNR=5.1						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**84.91**	**57**	P	P	08 34 08.6	+0.2
	0.2nm,0.7s,baz=213,slow=7.0,SNR=4.5						
	0.2nm,0.7s						

ROM 07 08:25:52.2±0.1, 43.032N±0.004×13.045E±0.004, h7km, ML1.6/18, 1D, Error ellipse: s-maj=0.3km s-min=0.2km az=176.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**81**	P	Pg	08 25 53.8	+0.1
FDMO				S	Sg	08 25 54.6	0.0
FDMO				AML	AML		
	comp=E,3281µm,0.1s						
T1219	**Muccia, Frazio**	**0.04**	**311**	P	Pg	08 25 53.8	+0.1
T1219				S	Sg	08 25 54.9	+0.1
T1219				AML	AML		
	comp=E,2693µm,0.1s						
T1219				AML	AML		
	comp=E,3774µm,1.3s						
T1219				AML	AML		
	comp=N,2982µm,0.1s						
T1219				AML	AML		
	comp=N,59730µm,0.8s						
T1220	**Camerino, Fraz**	**0.09**	**22**	P	Pg	08 25 54.6	+0.3
T1220				S	Sg	08 25 56.3	+0.6
T1220				AML	AML		
	comp=E,4017µm,0.3s						
T1220				AML	AML		
	comp=N,3602µm,0.1s						
T1220				AML	AML		
	comp=E,2050µm,0.3s						
T1220				AML	AML		
	comp=N,1830µm,0.1s						
MML1	**Montelago di S**	**0.10**	**327**	P	Pg	08 25 54.8	+0.3
MML1				S	Sg	08 25 56.6	+0.5
MML1				AML	AML		
	comp=N,878µm,0.1s						
MML1				AML	AML		
	comp=E,527µm,0.1s						
CESI	**CESI - Serrava**	**0.11**	**255**	P	Pg	08 25 55.1	+0.5
CESI				S	Sg	08 25 57.2	+0.9
CESI				AML	AML		
	comp=E,452µm,0.9s						
CESI				AML	AML		
	comp=N,443µm,0.6s						
CESI				AML	AML		
	comp=N,434µm,0.3s						
CESI				AML	AML		
	comp=E,406µm,0.2s						
CSP1	**Cessapalombo**	**0.13**	**63**	P	Pg	08 25 55.5	+0.4
CSP1				S	Sg	08 25 57.9	+0.9
CSP1				AML	AML		
	comp=E,157µm,0.1s						
CSP1				AML	AML		
	comp=N,97µm,0.2s						
MC2	**Monte Cornacci**	**0.16**	**138**	⇓P	Pg	08 25 56.2	+0.7
PF6	**Pievefavera**	**0.16**	**43**	P	Pg	08 25 55.7	+0.2
PF6				AML	AML		
	comp=N,89µm,0.1s						
PF6				AML	AML		
	comp=E,197µm,0.2s						
GUMA	**Gualdo di Mace**	**0.21**	**82**	P	Pg	08 25 57.2	+0.7
GUMA				S	Sg	08 26 01.3	+1.9
GUMA				AML	AML		
	comp=E,1100µm,0.3s						
GUMA				AML	AML		
	comp=N,474µm,0.3s						
GUMA				AML	AML		
	comp=E,652µm,0.3s						
GUMA				AML	AML		
	comp=N,757µm,0.2s						
GUMA				AML	AML		
	comp=E,1101µm,0.3s						
GUMA				AML	AML		
	comp=N,445µm,1.8s						
T1221	**Campello sul C**	**0.22**	**220**	P	Pg	08 25 57.3	+0.6
T1221				AML	AML		
	comp=E,106µm,0.3s						
T1221				AML	AML		
	comp=N,176µm,0.4s						
SNTG	**Esanatoglia**	**0.24**	**341**	P	Pg	08 25 57.5	+0.6
SNTG				AML	AML		
	comp=E,96µm,0.1s						
SNTG				AML	AML		
	comp=N,116µm,0.1s						
MMO1	**Montemonaco**	**0.25**	**123**	P	Pg	08 25 57.6	+0.5

ROM 07 08:26:31.3±0.1, 43.034N±0.003×13.049E±0.003, h7km, ML1.3/13, 2C-1D, Error ellipse: s-maj=0.2km s-min=0.2km az=143.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1219	**Muccia, Frazio**	**0.04**	**306**	P	Pg	08 26 33.0	+0.1
T1219				S	Sg	08 26 34.0	+0.1
T1219				AML	AML		
	comp=E,452µm,0.6s						
T1219				AML	AML		
	comp=N,717µm,0.3s						
T1220	**Camerino, Fraz**	**0.08**	**21**	⇑P	Pg	08 26 33.7	+0.3
T1220				S	Sg	08 26 35.4	+0.6
T1220				AML	AML		
	comp=E,574µm,1.3s						
T1220				AML	AML		
	comp=E,1142µm,1.3s						
T1220				AML	AML		
	comp=N,1125µm,0.4s						
T1220				AML	AML		
	comp=N,604µm,0.4s						
T1220				AML	AML		
	comp=E,1142µm,0.7s						
T1220				AML	AML		
	comp=E,574µm,0.7s						
MML1	**Montelago di S**	**0.10**	**325**	⇓P	Pg	08 26 34.0	+0.3
MML1				S	Sg	08 26 35.8	+0.5
MML1				AML	AML		
	comp=E,93µm,0.1s						
MML1				AML	AML		
	comp=N,144µm,0.1s						
MML1				AML	AML		
	comp=N,552µm,0.1s						
MML1				AML	AML		
	comp=E,376µm,0.2s						
CESI	**CESI - Serrava**	**0.11**	**255**	P	Pg	08 26 34.2	+0.5
CESI				S	Sg	08 26 36.4	+0.9
CESI				AML	AML		
	comp=E,192µm,0.3s						
CESI				AML	AML		
	comp=N,241µm,0.3s						
CSP1	**Cessapalombo**	**0.13**	**63**	⇑P	Pg	08 26 34.5	+0.4
CSP1				S	Sg	08 26 36.9	+0.8
CSP1				AML	AML		
	comp=E,77µm,0.1s						
PF6	**Pievefavera**	**0.16**	**42**	P	Pg	08 26 34.8	+0.2
PF6				S	Sg	08 26 37.4	+0.6
PF6				AML	AML		
	comp=E,81µm,1.0s						
PF6				AML	AML		
	comp=N,63µm,0.2s						
MC2	**Monte Cornacci**	**0.16**	**139**	P	Pg	08 26 35.3	+0.6
MC2				S	Sg	08 26 37.9	+0.9
T1221	**Campello sul C**	**0.23**	**221**	P	Pg	08 26 36.4	+0.5
T1221				S	Sg	08 26 40.3	+1.4

*NEIC **07** 08:28:21.7±0.7, 19.44N±0.01×155.00W±0.04, h5km±1km, Error ellipse: s-maj=6.1km s-min=2.8km az=98.0*

HVO 07 08:28:20.5±1.0, 19.44N±0.02×154.943W±0.008, h3km±4km, ML2.6/5, ML2.7/38(NEIC), Error ellipse: s-maj=2.5km s-min=1.0km az=168.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.06**	**267**		Pg	08 28 22.2	+0.4
PHO	**Puu Honuaula**	**0.07**	**48**		Pg	08 28 24.1	+2.1
JCUZ	**Jacuzzi**	**0.16**	**251**		Pg	08 28 24.4	+0.8
NPOC	**North of Pu'u**	**0.16**	**255**	Pg	Pg	08 28 24.3	+0.6
STCH	**Steam Cracks**	**0.18**	**253**	Pg	Pg	08 28 24.4	+0.4
STCH				IAML		08 28 24.8	
	comp=N,798nm,1.7s						
PUH	**Pauahi**	**0.27**	**256**	Pg	Pg	08 28 26.0	+0.3
PUH				IAML		08 28 28.6	
	comp=N,611nm,1.4s						
BYL	**Byron's Ledge**	**0.30**	**265**	Pg	Pg	08 28 26.1	-0.2
BYL				IAML		08 28 27.4	
	comp=N,1µm,0.7s						
BYL				IAML		08 28 33.0	
	comp=E,1µm,0.4s						
HATHI	**Halema'uma'u T**	**0.30**	**267**	Pg	Pg	08 28 26.1	-0.2
HATHI				IAML		08 28 32.9	
	comp=N,1µm,0.6s						
HATHI				IAML		08 28 35.0	
	comp=E,1µm,0.7s						
SBLHI	**Steaming Bluff**	**0.31**	**268**	Pg	Pg	08 28 26.1	-0.3
SBLHI				IAML		08 28 30.1	
	comp=E,1µm,0.5s						
SBLHI				IAML		08 28 30.1	
	comp=N,2µm,0.6s						
KKO	**Keanakako'i**	**0.31**	**263**	Pg	Pg	08 28 26.2	-0.3
KKO				IAML		08 28 32.4	
	comp=E,1µm,0.5s						
RIM	**Rim**	**0.32**	**263**	Pg	Pg	08 28 25.9	-0.7
RIM				IAML		08 28 30.5	
	comp=E,1µm,0.8s						
UWB	**Uwekahuna B**	**0.32**	**268**	Pg	Pg	08 28 26.4	-0.3
UWB				IAML		08 28 29.5	
	comp=N,719nm,1.2s						
RSD	**Rainshed**	**0.32**	**275**	Pg	Pg	08 28 26.4	-0.2
NPH	**North Pit**	**0.32**	**266**	Pg	Pg	08 28 26.9	+0.2
NPH				IAML		08 28 34.5	
	comp=N,1µm,0.3s						
NPH				IAML		08 28 35.0	
	comp=E,657nm,0.7s						
OBL	**Observatory Le**	**0.32**	**267**	Pg	Pg	08 28 26.8	0.0
UWE	**Uwekahuna**	**0.33**	**267**	Pg	Pg	08 28 27.2	+0.3
UWE				IAML		08 28 35.0	
	comp=N,2µm,0.7s						
SDHHI	**Sand Hill**	**0.34**	**262**	Pg	Pg	08 28 26.6	-0.4
WRMHI	**West Rim**	**0.34**	**265**	Pg	Pg	08 28 27.1	0.0
HLP	**Hilina Pali**	**0.37**	**248**		Pg	08 28 28.1	+0.4
HLP				IAML		08 28 30.6	
	comp=E,640nm,1.5s						
HLP				IAML		08 28 37.8	
	comp=N,652nm,1.1s						
HTC	**Hot Caves**	**0.47**	**245**		Pg	08 28 30.2	+0.5
HMH	**Humu'ula Sheep**	**0.54**	**288**		Pg	08 28 31.3	+0.4
HMH				IAML		08 28 32.8	
	comp=E,280nm,2.0s						
HMH				IAML		08 28 34.0	
	comp=N,393nm,2.5s						
MWH	**Moku'aweowe**	**0.62**	**275**		Pg	08 28 32.2	-0.2
MWH				IAML		08 28 38.6	
	comp=E,717nm,1.2s						
MWH				IAML		08 28 41.0	
	comp=N,523nm,2.6s						
ALEP	**Alea Permanent**	**0.67**	**279**		Pg	08 28 33.2	-0.2

IDC 07 08:29:52.5±3.7, 53.61N×87.94E, h0km, mbtmp2.7/2, ML2.1/2, Error ellipse: s-maj=34.5km s-min=18.6km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.88**	**282**	I	I	08 42 10.0	
	baz=97,slow=342,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.88**	**282**	Pg	Pn	08 30 26.2	+0.3
	0.7nm,0.3s,baz=97,slow=12,SNR=7.2						
ZALV				Lg	Lg	08 30 51.7	
	1.2nm,0.3s,baz=103,slow=24,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.52**	**246**	Pn	Pn	08 31 31.2	+1.6
	baz=62,slow=14,SNR=3.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	08 31 46.6	+0.4
	baz=26,slow=14,SNR=2.1						
	0.2nm,0.6s						

KRSC 07 08:35:14.1±0.8, 49.08N×156.09E, h11km±9km, Ml3.5, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.44**	**11**	*e*S	Sb	08 36 26.1	-1.8
KDTR	**Khodutka, Kamc**	**3.02**	**24**	*e*P	Pn	08 36 04.4	+2.7
KDTR				*e*S	Sb	08 36 41.8	-2.7
ASAK	**Asacha**	**3.50**	**19**	*e*P	Pn	08 36 12.3	+3.7
MTVR	**Mutnovka**	**3.66**	**21**	*e*P	Pn	08 36 13.7	+3.0
UGLR	**Uglovaya**	**4.48**	**22**	*e*P	Pn	08 36 25.9	+3.9
KOK	**Koryaka**	**4.51**	**20**	*e*P	Pn	08 36 27.0	+4.6
SMAR	**Somma**	**4.52**	**21**	*e*P	Pn	08 36 27.0	+4.3
KRER	**Koryakskii**	**4.55**	**21**	*e*P	Pn	08 36 26.7	+3.7
KRX	**Arik**	**4.58**	**20**	*e*P	Pn	08 36 27.3	+3.9

IDC 07 08:43:12.4±2.1, 0.97S×130.57E, h0km, mb3.8/4, mbtmp3.7/5, ML3.6/1, Error ellipse: s-maj=108.7km s-min=22.0km az=68.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.21**	**169**	P	P	08 47 37.1	-1.1
	0.2nm,0.3s,baz=351,slow=12,SNR=3.4						
WRA				S	Sn	08 50 58.4	-17
	0.6nm,0.9s,baz=351,slow=21,SNR=2.5						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**22.79**	**172**	P	P	08 48 17.6	+0.7
	0.7nm,0.5s,baz=347,slow=11,SNR=15						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**36.60**	**303**	P	P	08 50 20.6	-0.1
	1.0nm,0.3s,baz=134,slow=7.6,SNR=7.3						
	1.0nm,0.3s						
MKAR	**Makanchi Array**	**63.58**	**325**	P	P	08 53 45.1	+0.1
	0.4nm,0.6s,baz=107,slow=7.8,SNR=2.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**67.74**	**327**	P	P	08 54 11.7	-0.1
	1.0nm,0.6s,baz=125,slow=5.6,SNR=8.4						
	1.0nm,0.6s						

IDC 07 08:44:39.5±3.6, 53.60N×87.98E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=34.0km s-min=19.0km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**282**	I	I	08 56 30.0	
	0.1nm,0.6s,baz=99,slow=338,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.91**	**282**	Pg	Pn	08 45 13.4	+0.1
	1.2nm,0.3s,baz=99,slow=14,SNR=7.6						
ZALV				Lg	Lg	08 45 41.0	
	2.4nm,0.3s,baz=107,slow=30,SNR=9.3						
KURBB	**Kurchatov Arra**	**6.54**	**247**	Pn	Pn	08 46 17.4	+0.5
	0.1nm,0.3s,baz=60,slow=13,SNR=4.3						
KURBB				Lg	Lg	08 48 05.3	
	baz=64,slow=33,SNR=2.0						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	08 46 34.7	+1.5
	0.1nm,0.3s,baz=29,slow=13,SNR=2.1						
	0.2nm,0.3s						

*NEIC **07** 08:53:55.1±0.6, 19.32N±0.03×154.816W±0.008, h5km±2km, Error ellipse: s-maj=4.7km s-min=3.0km az=355.0*

HVO 07 08:53:57.0±1.6, 19.44N±0.03×154.92W±0.04, h5km±3km, ML2.5/7, ML2.3/22(NEIC), Error ellipse: s-maj=5.7km s-min=2.7km az=128.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**33**		Pg	08 54 00.3	+1.9
JOKA	**Jonika Flow**	**0.08**	**268**		Pg	08 54 00.8	+2.0
JCUZ	**Jacuzzi**	**0.18**	**253**	Pg	Pg	08 54 00.6	0.0
NPOC	**North of Pu'u**	**0.18**	**256**	Pg	Pg	08 54 00.9	+0.3
NPOC				IAML		08 54 04.2	
	comp=N,257nm,0.8s						
STCH	**Steam Cracks**	**0.20**	**255**	Pg	Pg	08 54 00.8	-0.1
PUH	**Pauahi**	**0.29**	**257**	Pg	Pg	08 54 02.4	-0.2
PUH				IAML		08 54 09.4	
	comp=E,196nm,1.4s						
PUH				IAML		08 54 11.7	
	comp=N,366nm,1.4s						
HATHI	**Halema'uma'u T**	**0.32**	**268**	Pg	Pg	08 54 03.3	0.0
UWB	**Uwekahuna B**	**0.34**	**268**	Pg	Pg	08 54 03.7	+0.1
UWB				IAML		08 54 07.8	
	comp=E,323nm,1.2s						
UWB				IAML		08 54 08.3	
	comp=N,513nm,0.6s						
HLP	**Hilina Pali**	**0.39**	**249**	Pg	Pg	08 54 05.3	+0.7
HLP				IAML		08 54 16.1	
	comp=E,324nm,0.7s						
HLP				IAML		08 54 16.1	
	comp=N,418nm,0.9s						
MLH	**Mauna Loa**	**0.44**	**277**	Pg	Pg	08 54 06.2	+0.5
MLH				IAML		08 54 20.9	
	comp=N,568nm,0.6s						
MLH				IAML		08 54 20.9	
	comp=E,206nm,0.2s						
HMH	**Humu'ula Sheep**	**0.56**	**287**	Pg	Pg	08 54 07.9	+0.2
MWH	**Moku'aweowe**	**0.64**	**274**	Pg	Pg	08 54 09.2	-0.2
MWH				IAML		08 54 19.1	
	comp=N,239nm,1.8s						
POHA	**Pohakuloa**	**0.66**	**299**	Pg	Pb	08 54 11.4	+0.3
POHA				IAML		08 54 26.0	
	comp=N,333nm,0.2s						
POHA				IAML		08 54 26.4	
	comp=N,249nm,0.4s						

IDC 07 08:56:03.2±2.4, 6.84S×129.32E, h0km, mb4.0/1, mbtmp3.7/3, ML3.8/2, Error ellipse: s-maj=191.5km s-min=31.3km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.90**	**160**	Pn	Pn	08 59 20.9	-0.8
	0.6nm,0.3s,baz=333,slow=14,SNR=52						
WRA				Sn	Sn	09 01 43.5	-13
	0.8nm,0.3s,baz=333,slow=22,SNR=9.4						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**17.30**	**166**	P	Pn	09 00 07.2	+0.8
	0.2nm,0.3s,baz=350,slow=14,SNR=13						
ASAR				S	Sn	09 03 07.3	-12
	0.4nm,0.5s,baz=320,slow=17,SNR=5.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**67.73**	**327**	P	P	09 07 02.6	0.0
	0.7nm,0.5s,baz=118,slow=8.3,SNR=7.1						
	0.7nm,0.5s						

RSNC 07 09:03:27.2±0.0, 4°N±2°×7°6W±°, h122km±4km, M2.9, mb4.0, ML2.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.56**	**7**	P	Pn	09 03 43.6	-2.3
PLMC				S	Sn	09 03 59.1	-0.9
ANIL	**Santa Ana**	**0.96**	**81**	P	Pn	09 03 47.0	-2.3
ANIL				S	Sn	09 04 03.3	-2.7
MALC	**Bahia Malaga**	**1.03**	**252**	P	Pn	09 03 49.1	-0.6
MALC				S	Sn	09 04 07.6	+0.8
CMAN1	**Manizales, Cal**	**1.10**	**49**	P	Pn	09 03 49.0	-1.7
CMAN1				S	Sn	09 04 07.3	-1.2
NIZA	**Niza - Manizal**	**1.13**	**51**	P	Pn	09 03 50.4	-0.6
NIZA				S	Sn	09 04 08.0	-1.0
JAMC	**Jamundi, Valle**	**1.16**	**196**	P	Pn	09 03 49.6	-1.7
RECRC	**Villamaria, Ca**	**1.17**	**58**	P	Pn	09 03 50.0	-1.7
RECRC				S	Sn	09 04 08.2	-2.0
ORTC	**Ortega, Tolima**	**1.18**	**111**	P	Pn	09 03 49.4	-1.9
ORTC				S	Sn	09 04 07.5	-2.0
PIZC	**Pizarro, Choco**	**1.18**	**302**	P	Pn	09 03 50.1	-1.1
PIZC				S	Sn	09 04 08.8	-0.7
PRAC	**Prado**	**1.59**	**113**	P	Pn	09 03 54.3	-1.5
PRAC				S	Sn	09 04 16.3	-1.3
POPC	**Popayan, Colom**	**1.82**	**190**	P	Pn	09 03 56.8	-2.0
POPC				S	Sn	09 04 19.1	-3.8
BETC	**Betania**	**1.88**	**151**	P	Pn	09 03 57.8	-1.6
BETC				S	Sn	09 04 22.0	-1.9
NORC	**Norcasia**	**1.91**	**50**	P	Pn	09 03 58.0	-1.7
NORC				S	Sn	09 04 22.2	-2.4
ROSC	**El Rosal**	**2.08**	**76**	P	Pn	09 04 02.2	0.0
ROSC				S	Sn	09 04 30.4	+1.5
SOLC	**Bahia Solano**	**2.15**	**331**	P	Pn	09 04 00.8	-1.8
SOLC				S	Sn	09 04 27.4	-2.4
URMC	**La Uribe, Meta**	**2.25**	**119**	P	Pn	09 04 02.0	-1.9
URMC				S	Sn	09 04 29.6	-2.5
GR1C	**Gorgona, Isla**	**2.25**	**234**	P	Pn	09 04 00.7	-3.2
GARC	**Garzon, Huila**	**2.30**	**158**	P	Pn	09 04 02.8	-2.0
GARC				S	Sn	09 04 30.8	-2.9
SPBC	**San Pablo de B**	**2.62**	**60**	P	Pn	09 04 07.3	-1.4
CHIC	**Chingaza**	**2.63**	**84**	P	Pn	09 04 08.8	-0.3
CHIC				S	Sn	09 04 41.2	0.0

VILC	**Villavicencio,**	**2.66**	**95**	P	Pn	09 04 08.7	-0.6
VILC				S	Sn	09 04 42.1	+0.5
DBBC	**Dabeiba**	**2.66**	**3**	P	Pn	09 04 07.9	-1.4
DBBC				S	Sn	09 04 40.8	-0.9
CRUC	**La Cruz**	**2.82**	**192**	P	Pn	09 04 10.2	-1.4
CRUC				S	Sn	09 04 43.2	-2.5
FLOC	**Florencia**	**2.83**	**166**	P	Pn	09 04 09.4	-2.0
FLOC				S	Sn	09 04 42.9	-2.5
PTBC	**PUERTO BERRIO,**	**2.89**	**41**	P	Pn	09 04 10.0	-2.1
PTBC				S	Sn	09 04 44.6	-2.1
PTAC	**Punta Ardita,**	**3.14**	**333**	P	Pn	09 04 13.3	-2.2
PTAC				S	Sn	09 04 48.1	-4.6
GCUF	**Volcan Galeras**	**3.25**	**198**	P	Pn	09 04 15.1	-2.2
GCUF				S	Sn	09 04 52.6	-3.3
MACC	**Macarena, Meta**	**3.32**	**131**	P	Pn	09 04 15.8	-2.0
ZARC	**Zaragoza, Cauc**	**3.46**	**25**	P	Pn	09 04 17.5	-2.2
ZARC				S	Sn	09 04 57.6	-2.7
UREC	**San Jos de Ur**	**3.48**	**13**	P	Pn	09 04 18.1	-1.9
UREC				P		09 04 18.4	
UREC				P		09 04 18.6	
RUSC	**La Rusia**	**3.60**	**65**	P	Pn	09 04 21.1	-0.8
RUSC				P		09 04 21.3	
RUSC				P		09 04 21.5	
RUSC				S	Sn	09 05 04.6	+0.4
BARC	**Barichara**	**3.87**	**55**	P	Pn	09 04 23.8	-1.4
GUVC	**San Jose del G**	**4.12**	**116**	P	Pn	09 04 26.6	-1.9
GUVC				P	Pn	09 04 26.6	-1.9
PAMC	**Pamplona, Colo**	**4.70**	**50**	P	Pn	09 04 34.6	-2.0
PAMC				P	Pn	09 04 34.6	-2.0
OCAC	**Ocana**	**4.91**	**38**	P	Pn	09 04 37.1	-2.0
CRJC	**Cerrejon, Guaj**	**7.47**	**27**	P	Pn	09 05 10.4	-3.3

*IDC **07** 09:14:45.0±1.1, 14°.87N×147°.09E, h0km, mb3.9/10, mbtmp3.9/11, ML3.7/1, MS3.7/7, Error ellipse: s-maj=29.0km s-min=18.3km az=111.0*

ISC 07 09:14:49.8±1.1, 14°.9N±0°.1×147°.1E±0°.2, h32km, n18, σ0s58/12, mb4.0/10, MS3.9/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.48**	**240**	Pn	**Pn**	**09 15 27.4**	**-0.6**
	16nm,0.3s,baz=39,slow=13,SNR=26						
GUMO				Sn	**Sn**	**09 15 57.6**	**+0.4**
	27nm,0.3s,baz=32,slow=22,SNR=7.3						
GUMO				LR	LR	09 16 11.3	
	comp=Z,109nm,19.7s,baz=52,slow=34 67nm,0.4s						
PMG	**Port Moresby**	**24.10**	**180**	LR	LR	09 28 10.0	
	comp=Z,62nm,18.7s,baz=282,slow=33						
KSRS	**Korea Array**	**28.21**	**326**	P	**P**	**09 20 39.5**	**-0.2**
	1.0nm,0.7s,baz=146,slow=9.4,SNR=5.1 1.0nm,0.7s						
ASAJ	**Asahikawa**	**29.42**	**353**	LR	LR	09 34 44.2	
	comp=Z,17nm,18.4s,baz=66,slow=41						
WRA	**Warramunga Arr**	**36.77**	**200**	P	**P**	**09 21 54.6**	**-0.1**
	1.9nm,1.1s,baz=21,slow=7.9,SNR=6.1 1.9nm,1.1s						
ASAR	**Alice Springs**	**40.39**	**199**	P	**P**	**09 22 25.2**	**+0.2**
	0.7nm,0.8s,baz=20,slow=9.4,SNR=4.4 0.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**46.15**	**281**	P	**P**	**09 23 12.6**	**+0.9**
	0.8nm,0.3s,baz=81,slow=5.9,SNR=6.2 0.8nm,0.3s						
SONM	**Songino Array**	**46.98**	**323**	P	**P**	**09 23 17.6**	**-0.4**
	1.2nm,0.5s,baz=110,slow=6.3,SNR=2.3 1.2nm,0.5s						
MKAR	**Makanchi Array**	**62.09**	**315**	P	**P**	**09 25 08.1**	**+0.4**
	1.1nm,0.5s,baz=94,slow=7.8,SNR=12 1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**65.06**	**319**	P	**P**	**09 25 26.9**	**-0.2**
	4.0nm,0.8s,baz=98,slow=6.8,SNR=33 4.0nm,0.8s						
ILAR	**Eielson Array**	**66.52**	**25**	P	**P**	**09 25 37.1**	**+0.8**
	0.7nm,1.0s,baz=252,slow=4.6,SNR=4.6 0.7nm,1.0s						
BVAR	**Borovoye Array**	**70.28**	**321**	P	**P**	**09 25 59.3**	**-0.7**
	0.9nm,0.5s,baz=116,slow=6.6,SNR=4.3 0.9nm,0.5s						
PPT	**Papeete**	**70.28**	**115**	LR	LR	09 52 34.7	
	comp=Z,45nm,20.4s,baz=244,slow=32						
YKA	**Yellowknife Ar**	**80.76**	**28**	P	**P**	**09 26 59.4**	**-0.5**
	0.4nm,0.9s,baz=289,slow=6.2,SNR=5.6 0.4nm,0.9s						
ARCES	**ARCESS Array B**	**86.54**	**343**	LR	LR	10 09 53.5	
	comp=Z,103nm,21.9s,baz=206,slow=38						
OBN	**Obninsk**	**89.21**	**327**	LR	LR	10 08 22.2	
	comp=Z,150nm,21.5s,baz=189,slow=36						
KBZ	**Khabaz**	**89.78**	**315**	LR	LR	10 10 02.6	
	comp=Z,87nm,21.3s,baz=269,slow=37						
JMIC	**Jan Mayen**	**92.75**	**352**	LR	LR	10 14 49.7	
	comp=Z,40nm,18.2s,baz=156,slow=39						

*CATAC **07** 09:17:57.7±0.2, 13°.20N×88°.06W, h1km±2km, ML3.3*
*SNET **07** 09:17:58.0±0.9, 13°.29N×88°.04W, h5km±4km, ML3.4*

ISC 07 09:17:57.6±0.8, 13°.27N±0°.05×88°.04W±0°.02, h15km±6km, n36, σ0s42/62, 4C-4D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.15**	**73**	⇑*i* P	**Pg**	**09 18 01.7**	**+0.2**
LCND				*e* S	**Sg**	**09 18 03.8**	**-0.3**
LCND	**La Caada**	**0.15**	**73**	*i* P	**Pg**	**09 18 01.7**	**+0.2**
LCND				*i* P		09 18 01.8	
LCND				IAML		09 18 02.0	
	comp=Z,9μm,1.0s						
LCND				*i* S	**Sb**	**09 18 04.6**	**-0.5**
CNCH	**Conchagua**	**0.20**	**87**	⇑*i* P	**Pb**	**09 18 02.7**	**-0.3**
CNCH				*e* S	**Sg**	**09 18 06.0**	**+0.5**
CNCH	**Conchagua**	**0.20**	**87**	*i* P	**Pg**	**09 18 02.6**	**+0.3**
CNCH				*i* S	**Sg**	**09 18 05.2**	**-0.3**
CNCH				IAML		09 18 08.0	
	comp=Z,16μm,1.0s						
JUCU	**Jucuarįn**	**0.21**	**266**	⇑*i* P	**Pg**	**09 18 02.2**	**-0.3**
JUCU				*e* S	**Sg**	**09 18 05.4**	**-0.3**
CNRM	**Centro Naciona**	**0.24**	**328**	⇑*e* P	**Pg**	**09 18 03.4**	**+0.4**
CNRM				*e* S	**Sb**	**09 18 07.8**	**-0.1**
CNRM	**Centro Naciona**	**0.24**	**328**	*i* P	**Pb**	**09 18 03.5**	**-0.2**
CNRM				*i* S	**Sg**	**09 18 06.2**	**-0.5**
CNRM				IAML		09 18 21.8	
	comp=Z,14μm,1.0s						
BLLM	**Bellamira**	**0.26**	**312**	⇓*i* P	**Pg**	**09 18 03.6**	**+0.3**
VSM	**San Miguel**	**0.28**	**305**	*e* P	**Pg**	**09 18 04.2**	**+0.4**
LCY	**Lacayo**	**0.30**	**302**	⇓*i* P	**Pg**	**09 18 04.2**	**+0.3**
RANC	**El Ranchito**	**0.30**	**304**	⇓*i* P	**Pg**	**09 18 04.3**	**+0.3**
RANC	**El Ranchito**	**0.30**	**304**	*i* P	**Pg**	**09 18 04.3**	**+0.3**
RANC				*i* S	**Sg**	**09 18 08.4**	**+0.1**
RANC				IAML		09 18 19.8	
	comp=Z,2μm,1.0s						
PACA	**Pacayal**	**0.34**	**306**	⇓*e* P	**Pg**	**09 18 05.0**	**+0.2**
PACA	**Pacayal**	**0.34**	**306**	*i* P	**Pg**	**09 18 05.0**	**+0.2**
PACA				*i* S	**Sg**	**09 18 09.3**	**-0.4**
PACA				IAML		09 18 14.4	
	comp=Z,14μm,1.0s						
COEB	**Comit de Eme**	**0.53**	**296**	*i* P	**Pg**	**09 18 08.3**	**+0.1**
COEB				*i* S	**Sg**	**09 18 15.5**	**+0.1**
COEB				IAML		09 18 17.8	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**0.62**	**305**	*i* P	**Pb**	**09 18 10.5**	**+0.3**
PQSS				IAML		09 18 12.6	
	comp=Z,330nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.80**	**303**	*i* P	**Pn**	**09 18 13.9**	**-0.5**
SCLA				*i* S	**Sg**	**09 18 24.1**	**+0.3**
SCLA				IAML		09 18 44.0	
	comp=Z,250nm,1.0s						
UESV	**Universidad de**	**0.82**	**297**	*i* P	**Pb**	**09 18 13.4**	**-0.1**
UESV				*i* S	**Sg**	**09 18 24.7**	**+0.4**
UESV				IAML		09 18 33.5	
	comp=Z,560nm,1.0s						
COEG	**Centro de Oper**	**0.89**	**293**	*i* P	**Pb**	**09 18 14.6**	**-0.3**
COEG				*i* S	**Sg**	**09 18 27.0**	**+0.3**
COEG				IAML		09 18 30.2	
	comp=Z,510nm,1.0s						
PAVA	**Las Pavas**	**0.98**	**297**	*i* P	**Pb**	**09 18 16.2**	**-0.2**
PAVA				*i* S	**Sg**	**09 18 29.6**	**0.0**
PAVA				IAML		09 18 36.7	
	comp=Z,1μm,1.0s						
CRIN	**San Cristobal**	**1.11**	**120**	*i* P	**Pg**	**09 18 19.5**	**+0.3**
CRIN				*i* S	**Sg**	**09 18 33.9**	**+0.2**
CRIN				IAML		09 18 47.3	
	comp=Z,3μm,1.0s						
PANCS	**Alcalda de**	**1.16**	**287**	IAML		09 18 16.5	
	comp=Z,1μm,1.0s						
PANCS				*i* P	**Pn**	**09 18 19.3**	**-0.1**
PANCS				*i* S	**Sn**	**09 18 34.7**	**-0.4**
UTEC	**Universidad Te**	**1.21**	**291**	*i* P	**Pb**	**09 18 20.4**	**+0.1**
UTEC				*i* S	**Sg**	**09 18 36.7**	**-0.2**
UTEC				IAML		09 18 43.6	
	comp=Z,730nm,1.0s						
UEES	**Universidad Ev**	**1.25**	**291**	*i* P	**Pb**	**09 18 21.2**	**+0.2**
UEES				*i* S	**Sg**	**09 18 37.9**	**-0.3**
UEES				IAML		09 18 41.5	
	comp=Z,440nm,1.0s						
LLGN	**La Laguna**	**1.25**	**315**	*i* P	**Pb**	**09 18 21.4**	**+0.4**
LLGN				*i* S	**Sg**	**09 18 38.0**	**-0.2**
LLGN				IAML		09 18 40.0	
	comp=Z,390nm,1.0s						
PMON	**Piamonte**	**1.32**	**290**	*i* P	**Pb**	**09 18 22.4**	**+0.2**
PMON				*i* S	**Sg**	**09 18 40.0**	**-0.3**
PMON				IAML		09 18 43.3	
	comp=Z,960nm,1.0s						
TEL3	**Telica 3**	**1.35**	**121**	*i* P	**Pn**	**09 18 21.8**	**-0.1**
JAYA	**Jayaque - finc**	**1.43**	**286**	*i* P	**Pb**	**09 18 23.9**	**-0.1**
JAYA				*i* S	**Sb**	**09 18 42.5**	**+0.4**
JAYA				IAML		09 18 45.7	
	comp=Z,1μm,1.0s						
CNGA	**Al SSO del Vol**	**1.51**	**120**	*i* P	**Pb**	**09 18 24.8**	**-0.6**
CNGA				*i* S	**Sb**	**09 18 44.6**	**+0.2**
CNGA				IAML		09 18 54.9	
	comp=Z,470nm,1.0s						
CNGN	**Cerro Negro**	**1.51**	**120**	*i* P	**Pb**	**09 18 25.5**	**+0.1**
CNGN				*i* S	**Sg**	**09 18 45.4**	**-1.0**
CNGN				IAML		09 19 07.0	
	comp=Z,400nm,1.0s						
MOMN	**Momotombo**	**1.69**	**120**	*i* P	**Pb**	**09 18 28.5**	**+0.1**
MOMN				*i* S	**Sb**	**09 18 49.4**	**-0.2**
MOMN				IAML		09 18 51.9	
	comp=Z,18nm,1.0s						
MTO3	**Montecristo**	**1.71**	**311**	*i* P	**Pb**	**09 18 29.0**	**+0.1**
MTO3				IAML		09 18 32.3	
	comp=Z,88nm,1.0s						
MTO3				*i* S	**Sg**	**09 18 51.7**	**-1.1**
MOM2	**El Cardon**	**1.72**	**118**	*i* P	**Pb**	**09 18 27.9**	**-1.1**
MOM2				*i* S	**Sb**	**09 18 50.6**	**+0.2**
MOM2				IAML		09 19 07.0	
	comp=Z,320nm,1.0s						
COPN	**Copaltepe**	**1.78**	**127**	*i* P	**Pn**	**09 18 28.6**	**+0.8**
COPN				IAML		09 19 00.4	
	comp=Z,210nm,1.0s						
NUBE	**Las Nubes**	**1.81**	**291**	*i* P	**Pb**	**09 18 30.0**	**-0.5**
NUBE				IAML		09 19 03.0	
	comp=Z,330nm,1.0s						
TISN	**Laguna Tiscapa**	**2.06**	**123**	*i* P	**Pn**	**09 18 32.9**	**+1.3**

AFAD 07 09:28:08.6±0.0, 40°.44N×39°.32E, h5km±1km, ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KELT	**Kelkit**	**0.30**	**190**	P	Pb	09 28 15.9	-0.6
KELT				S	Sg	09 28 19.2	+0.8
KELT				*i* AML	AML	09 28 20.0	
	comp=N,64nm,0.3s						
KELT				*i* AML	AML	09 28 21.0	
	comp=E,116nm,0.5s						
KELT	**Kelkit**	**0.30**	**190**	P	Pg	09 28 15.1	+0.7
KELT				S	Sg	09 28 20.0	+1.6
KELT				*i* AML	AML	09 28 20.0	
	comp=N,66nm,0.3s						
KELT				*i* AML	AML	09 28 21.0	
	comp=E,116nm,0.5s						
ALUC	**Giresun/Alucra**	**0.43**	**257**	P	Pg	09 28 16.7	-0.3
ALUC				S	Sg	09 28 22.5	-0.2
ALUC				*i* AML	AML	09 28 27.0	
	comp=E,77nm,0.3s						
ALUC				*i* AML	AML	09 28 28.0	
	comp=N,70nm,0.3s						
ALUC	**Giresun/Alucra**	**0.43**	**257**	P	Pg	09 28 17.5	+0.5
ALUC				S	Sg	09 28 24.1	+1.4
ALUC				*i* AML	AML	09 28 27.0	
	comp=E,77nm,0.3s						
ALUC				*i* AML	AML	09 28 28.0	
	comp=N,70nm,0.3s						
SUSE	**Susehri**	**0.89**	**255**	P	Pg	09 28 25.7	+0.1
SUSE				S	Sb	09 28 38.8	+0.1
SUSE	**Susehri**	**0.89**	**255**	P	Pg	09 28 25.7	+0.1
SUSE				S	Sb	09 28 38.0	-0.7
SUSE				*i* AML	AML	09 28 41.0	
	comp=E,9.4nm,0.2s						
SUSE				*i* AML	AML	09 28 42.0	
	comp=N,11nm,0.3s						
KRIK	**Erzurum-spir**	**1.23**	**94**	P	Pn	09 28 34.7	+2.1
KRIK				S	Sn	09 28 52.8	+3.1
KRIK				*i* AML	AML	09 28 58.0	
	comp=N,3.6nm,0.5s						

*HVO **07** 09:34:09.6±0.8, 19°.25N±0°.01×155°.34W±0°.01, h-1km±9km, ML2.7/14, ML2.5/32(NEIC), Error ellipse: s-maj=2.3km s-min=0.8km az=142.0*

NEIC 07 09:34:10.6±0.6, 19°.24N±0°.02×155°.34W±0°.01, h4km±7km, Error ellipse: s-maj=3.7km s-min=0.5km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.06**	**265**		Pg	09 34 11.8	-0.2
HLP	**Hilina Pali**	**0.06**	**27**		Pg	09 34 12.0	0.0
SDHHI	**Sand Hill**	**0.15**	**15**		Pg	09 34 13.7	0.0
SDHHI	**Sand Hill**	**0.15**	**15**	IAML		09 34 17.0	
	comp=E,3μm,0.5s						
SDHHI				IAML		09 34 17.2	
	comp=N,3μm,0.3s						
RIM	**Rim**	**0.16**	**21**	Pg	Pg	09 34 13.1	-0.9
RIM				IAML		09 34 17.7	
	comp=N,2μm,0.3s						
RIM				IAML		09 34 17.9	
	comp=E,1μm,0.3s						
WRMHI	**West Rim**	**0.17**	**12**		Pg	09 34 13.9	0.0
WRMHI	**West Rim**	**0.17**	**12**	IAML		09 34 17.7	
	comp=E,4μm,0.5s						
WRMHI				IAML		09 34 17.9	
	comp=N,3μm,0.7s						
KKO	**Keanakako'i**	**0.17**	**23**	Pg	Pg	09 34 13.2	-0.8
KKO				IAML		09 34 14.4	
	comp=E,1μm,0.4s						
KKO				IAML		09 34 17.9	
	comp=N,2μm,0.4s						
PUH	**Pauahi**	**0.17**	**41**	Pg	Pg	09 34 14.1	0.0
PUH				IAML		09 34 18.1	
	comp=E,932nm,0.4s						
PUH				IAML		09 34 18.5	
	comp=N,865nm,0.3s						
HATHI	**Halema'uma'u T**	**0.19**	**22**	Pg	Pg	09 34 14.0	-0.5
HATHI				IAML		09 34 18.7	
	comp=E,1μm,0.7s						
HATHI				IAML		09 34 19.4	
	comp=N,1μm,0.6s						
RSD	**Rainshed**	**0.23**	**14**	Pg	Pg	09 34 14.7	-0.4
STCH	**Steam Cracks**	**0.24**	**55**		Pg	09 34 15.2	-0.3
MLH	**Mauna Loa**	**0.25**	**349**	Pg	Pg	09 34 15.8	+0.2
MLH				IAML		09 34 20.9	
	comp=N,960nm,0.2s						
MLH				IAML		09 34 22.4	
	comp=E,1μm,0.2s						
JCUZ	**Jacuzzi**	**0.26**	**58**		Pg	09 34 15.6	-0.2
KHU	**Kahuku**	**0.26**	**271**		Pg	09 34 15.6	-0.2
KHU				IAML		09 34 23.3	
	comp=E,895nm,0.4s						
KHU				IAML		09 34 23.5	
	comp=N,496nm,0.6s						
MWH	**Moku'aweowe**	**0.34**	**314**		Pg	09 34 17.1	-0.4
MWH				IAML		09 34 25.7	
	comp=E,930nm,0.8s						
HMH	**Humu'ula Sheep**	**0.38**	**339**		Pg	09 34 17.8	-0.3
POHA	**Pohakuloa**	**0.54**	**340**	Pg	Pg	09 34 20.8	-0.4
POHA				IAML		09 34 30.0	
	comp=E,269nm,0.6s						
POHA				IAML		09 34 34.6	
	comp=E,346nm,0.4s						
HUH	**Hualalai**	**0.64**	**313**		Pg	09 34 22.6	-0.5
HPAH	**Hawaii Prepara**	**0.85**	**337**	Pg	Pg	09 34 26.6	-0.5

IDC 07 09:39:30.2±2.6, 53°.68N×86°.90E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=23.8km s-min=14.5km az=71.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**283**	I	I	09 47 50.0	
	baz=100,slow=343,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.27**	**283**	Pg	Pg	09 39 53.3	-1.1
	2.5nm,0.3s,baz=100,slow=16,SNR=16						
ZALV				Lg	Lg	09 40 11.2	
	1.7nm,0.3s,baz=102,slow=27,SNR=9.6						
KURBB	**Kurchatov Arra**	**5.99**	**243**	Pn	Pn	09 41 01.2	+1.2
	0.1nm,0.3s,baz=60,slow=14,SNR=4.4						
KURBB				Lg	Lg	09 42 39.8	
	0.1nm,0.3s,baz=62,slow=34,SNR=1.9 0.9nm,0.5s						
MKAR	**Makanchi Array**	**7.50**	**205**	Pn	Pn	09 41 22.2	+1.4
	0.2nm,0.3s,baz=29,slow=14,SNR=5.9						
MKAR				Lg	Lg	09 43 24.4	
	baz=11,slow=24,SNR=2.9 0.3nm,0.2s						

*IDC **07** 09:39:32.8±2.6, 14°.29N×144°.42E, h143km±18km, mb3.2/5, mbtmp3.7/5, Error ellipse: s-maj=89.1km s-min=17.4km az=113.0*

ISC 07 09:39:33.4±1.1, 14°.3N±0°.1×144°.5E±0°.3, h150km, n6, σ0s99/9, mb3.3/5, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.79**	**150**	P	**Pn**	**09 39 57.3**	**+0.7**
	2μm,0.3s,baz=0.0,slow=1.0,SNR=674						
GUMO				S	**Sn**	**09 40 13.3**	**-1.0**
	1μm,0.3s,baz=94,slow=22,SNR=28						
WRA	**Warramunga Arr**	**35.44**	**197**	P	**P**	**09 46 15.0**	**-0.4**
	1.7nm,0.8s,baz=14,slow=8.8,SNR=17						
WRA				PcP	**PcP**	**09 48 43.3**	**+1.4**
	0.3nm,0.6s,baz=18,slow=3.4,SNR=1.5						
WRA				ScP	**ScP**	**09 52 13.2**	**-0.7**
	0.9nm,1.1s,baz=24,slow=3.8,SNR=2.1 1.7nm,0.8s						
ASAR	**Alice Springs**	**39.10**	**195**	P	**P**	**09 46 46.0**	**-0.3**
	0.3nm,0.5s,baz=21,slow=12,SNR=11 0.3nm,0.5s						
ILAR	**Eielson Array**	**68.12**	**25**	P	**P**	**09 50 15.8**	**-1.0**
	0.3nm,0.6s,baz=252,slow=5.8,SNR=5.6 0.3nm,0.6s						
YKA	**Yellowknife Ar**	**82.43**	**27**	P	**P**	**09 51 38.6**	**-0.1**
	0.2nm,0.5s,baz=286,slow=5.4,SNR=6.1 0.2nm,0.5s						
NVAR	**Mina Array Bea**	**86.80**	**51**	P	**P**	**09 52 02.3**	**+0.8**
	0.8nm,0.6s,baz=274,slow=4.4,SNR=9.0 0.8nm,0.6s						

*IDC **07** 09:44:55.7±1.3, 39°.90N×140°.78E, h0km, mb3.4/4, mbtmp3.3/8, ML2.9/4, MS2.5/1, Error ellipse: s-maj=32.7km s-min=22.5km az=104.0*
*JMA **07** 09:44:57.9±0.0, 40°.0N±0°.1×140°.5E±0°.2, h7km±1km, MV3.1/20, NORTHERN AKITA PREF*
JMA Felt I J1 at NORTHERN AKITA PREF .

ISC 07 09:44:57.1±1.3, 39°.99N±0°.04×140°.63E±0°.04, h4km±10km, n16, σ1s26/24, mb3.5/4, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAH	**Hinai**	**0.20**	**2**	P	**Pg**	**09 45 01.6**	**+0.6**
JAH				S	**Sg**	**09 45 04.1**	**+0.5**
JNTW	**Noshirotokiwa**	**0.45**	**308**	P	**Pg**	**09 45 05.4**	**-0.4**
JNTW				*e*S	**Sg**	**09 45 11.1**	**-0.7**
JKZ	**Kuzumaki**	**0.54**	**91**	P	**Pb**	**09 45 09.8**	**+0.6**
JRG	**Rokugo**	**0.59**	**180**	*e*P	**Pb**	**09 45 10.6**	**+0.5**
JRG				S	**Sb**	**09 45 19.5**	**+0.8**
JOM	**Ohasama**	**0.73**	**135**	P	**Pn**	**09 45 13.2**	**-0.9**
JIW	**Iwasaki**	**0.77**	**322**	P	**Pg**	**09 45 10.6**	**-1.2**
JIW				S	**Sg**	**09 45 19.6**	**-2.1**
JANG	**Nango**	**0.78**	**60**	P	**Pb**	**09 45 13.2**	**0.0**
JANG				S	**Sb**	**09 45 23.9**	**-0.3**
JTM	**Tenmabayashi**	**0.86**	**23**	P	**Pg**	**09 45 13.9**	**+0.2**
JTM				S	**Sg**	**09 45 24.6**	**-0.2**
MJAR	**Matsushiro Arr**	**3.94**	**210**	Pn	**Pn**	**09 45 58.9**	**+0.6**
	0.1nm,0.3s,baz=30,slow=18,SNR=2.8						
MJAR				Sn	**Sn**	**09 46 46.4**	**+1.6**
	0.1nm,0.3s,baz=352,slow=26,SNR=1.6						
MJAR				LR	LR	09 47 54.1	
	comp=Z,59nm,19.3s,baz=244,slow=46 0.4nm,0.3s						
ASAJ	**Asahikawa**	**4.38**	**19**	Pn	**Pn**	**09 46 05.8**	**+1.6**
	0.7nm,0.3s,baz=204,slow=11,SNR=5.7 3.4nm,0.4s						
USRK	**Ussuriysk Ar.**	**7.68**	**306**	Pn	**Pn**	**09 46 50.5**	**+0.9**
	0.2nm,0.3s,baz=113,slow=16,SNR=1.3 0.7nm,0.5s						
KSRS	**Korea Array**	**10.25**	**260**	Pn	**Pn**	**09 47 27.6**	**+2.8**
	0.5nm,0.3s,baz=65,slow=14,SNR=8.0						
KSRS				Sn	**Sn**	**09 49 21.6**	**+1.5**
	0.4nm,0.3s,baz=75,slow=24,SNR=6.5 1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**43.74**	**305**	P	**P**	**09 53 02.4**	**-0.9**
	0.3nm,0.4s,baz=84,slow=9.4,SNR=2.0 0.3nm,0.4s						
ILAR	**Eielson Array**	**47.35**	**34**	P	**P**	**09 53 31.1**	**-0.6**
	0.3nm,0.6s,baz=251,slow=5.6,SNR=1.9 0.3nm,0.6s						
WRA	**Warramunga Arr**	**59.91**	**187**	P	**P**	**09 55 02.2**	**-2.0**
	0.3nm,0.9s,baz=3.5,slow=6.9,SNR=1.2 0.3nm,0.9s						
ASAR	**Alice Springs**	**63.64**	**187**	P	**P**	**09 55 28.1**	**-1.2**
	0.3nm,0.9s,baz=0.8,slow=6.8,SNR=1.7 0.3nm,0.9s						

*IDC **07** 09:45:52.8±3.4, 53°.66N×91°.02E, h0km, mbtmp3.3/3, ML2.4/3, Error ellipse: s-maj=31.4km s-min=24.6km az=37.0*
*NNC **07** 09:45:56.1±2.6, 53°.81N×90°.86E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=21.1km s-min=16.5km az=26.0, Suspected Mining explosion.*

ISC 07 09:45:49.7±4.2, 53°.9N±0°.1×91°.3E±0°.2, h0km, n9, σ2s44/12, 4C-6D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.83**	**274**	I	I	10 08 40.0	
	baz=89,slow=336,SNR=3.5						
ZAA0	**Zalesovo Array**	**3.83**	**274**	⇑Pg	**Pg**	**09 47 00.4**	**-2.6**
	1.2nm,0.5s						
ZAA0				⇑Lg	Lg	09 47 49.3	
	12nm,1.1s						
ZALV	**Zalesovo Beam**	**3.83**	**274**	Pn	**Pn**	**09 46 50.2**	**+0.4**
	0.3nm,0.3s,baz=92,slow=16,SNR=2.2						
ZALV				Pg	**Pb**	**09 46 58.4**	**+0.3**
	2.6nm,0.3s,baz=97,slow=15,SNR=18						
ZALV				Sn	**Sn**	**09 47 35.5**	**0.0**
	2.1nm,0.3s,baz=90,slow=25,SNR=4.3						
ZALV				Lg	Lg	09 47 49.0	
	1.3nm,0.3s,baz=93,slow=25,SNR=2.3 0.9nm,0.6s						
**K

SONM	**Songino Array**	**11.28**	**116**	Lg	Lg	09 51 45.6			
	0.3nm,0.3s,baz=327,slow=29,SNR=2.2								

IDC 07 09:57:09.2±9.4, 14°.25S×166°.45E, h151km±95km, mb3.3/4, mbtmp3.7/5, Error ellipse: s-maj=77.8km s-min=36.9km az=156.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**7.78**	**180**	P	Pn	09 58 59.8	+0.1
	4.7nm,0.7s,baz=330,slow=20,SNR=1.9						
DZM				S	Sn	10 00 26.7	+0.2
	5.5nm,0.8s,baz=96,slow=12,SNR=1.6						
STKA	**Stephens Creek**	**28.71**	**228**	P	P	10 02 52.5	+0.2
	1.2nm,0.4s,baz=58,slow=10,SNR=6.0						
	1.2nm,0.4s						
WRA	**Warramunga Arr**	**31.18**	**255**	P	P	10 03 14.5	+0.3
	0.4nm,0.8s,baz=84,slow=7.6,SNR=1.0						
	0.4nm,0.8s						
ASAR	**Alice Springs**	**32.11**	**248**	P	P	10 03 22.0	-0.4
	0.2nm,0.3s,baz=78,slow=9.3,SNR=10						
	0.2nm,0.3s						
YKA	**Yellowknife Ar**	**97.49**	**27**	P	P	10 10 25.2	-0.3
	0.1nm,0.7s,baz=268,slow=4.9,SNR=1.8						
	0.1nm,0.7s						

*HEL **07** 09:58:37.8±0.3, 64°.73N×30°.63E, h0km, ML1.6, Suspected explosion*
*IDC **07** 09:58:38.8±2.8, 64°.74N×30°.30E, h0km, mbtmp2.7/2, ML1.6/2, Error ellipse: s-maj=47.1km s-min=9.1km az=102.0*
ISC 07 09:58:35.5±1.2, 64°.74N±0°.03×31°.06E±0°.07, h0km, n23, σ1s54/32, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.71**	**224**	PG	**Pg**	**09 58 48.4**	**-0.7**
	baz=33						
RMF				MSG		09 58 56.7	
	comp=Z,9.6nm,0.2s						
KU6	**Riekki**	**1.38**	**340**	PG	**Pb**	**09 59 03.8**	**+1.6**
KU6				MSG		09 59 18.2	
	comp=Z,3.3nm,0.2s						
KU6				SB	**Sb**	**09 59 21.2**	**+0.8**
MSF	**Maaselka**	**1.45**	**325**	PG	**Pn**	**09 59 01.5**	**-1.4**
	baz=150						
MSF				SG	**Sg**	**09 59 20.8**	**-1.2**
OLKF	**Oulanka, Finla**	**1.73**	**337**	PB	**Pn**	**09 59 07.3**	**+0.5**
OLKF				MSG		09 59 27.8	
	comp=Z,4.1nm,0.2s						
OLKF				SN	**Sg**	**09 59 32.5**	**+1.4**
JOF	**Joensuu**	**1.83**	**176**	PB	**Pb**	**09 59 09.9**	**+0.1**
JOF				SG	**Sg**	**09 59 35.8**	**+1.6**
NIF	**Nilsia**	**1.97**	**228**	PG	**Pn**	**09 59 10.4**	**+0.4**
RANF	**Ranua**	**2.20**	**308**	PG	**Pn**	**09 59 14.7**	**+1.5**
RANF				SG	**Sn**	**09 59 39.8**	**-1.3**
OUL	**Oulu**	**2.23**	**281**	PG	**Pn**	**09 59 14.0**	**+0.4**
	baz=96						
OUL				SG	**Sn**	**09 59 40.2**	**-1.5**
OBF4	**Vikkela, Lumij**	**2.55**	**274**	PB	**Pn**	**09 59 18.6**	**+0.6**
	baz=90						
OBF4				MSG		09 59 47.8	
	comp=Z,4.0nm,0.2s						
OBF4				SG	**Sn**	**09 59 50.6**	**+0.9**
OUF	**Merijarvi**	**2.76**	**265**	PN	**Pn**	**09 59 21.2**	**+0.4**
	baz=77						
OUF				MSG		09 59 53.7	
	comp=Z,3.6nm,0.2s						
OUF				SG	**Sn**	**09 59 56.2**	**+1.4**
RNF	**Rovaniemi**	**2.81**	**314**	SB	**Sn**	**09 59 58.6**	**+2.5**
OBF0	**Syolatti, Pyha**	**2.95**	**268**	PN	**Pn**	**09 59 23.7**	**+0.2**
OBF0				MSG		09 59 59.2	
	comp=Z,3.5nm,0.2s						
SUF	**Sumiainen**	**2.98**	**229**	PB	**Pb**	**09 59 27.3**	**-2.0**
SUF				MSG		10 00 01.2	
	comp=Z,2.0nm,0.2s						
TOF	**Tornio**	**3.12**	**299**	PN	**Pn**	**09 59 27.1**	**+1.2**
TOF				MSG		10 00 04.9	
	comp=Z,0.9nm,0.2s						
SGF	**Sodankyl**	**3.28**	**328**	SG	**Sb**	**10 00 14.8**	**-0.1**
PAJU	**Pajala**	**3.99**	**309**	PN	**Pn**	**09 59 40.1**	**+2.3**
FINES	**FINESS Array B**	**4.01**	**217**	Pn	**Pn**	**09 59 38.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=37,slow=14,SNR=1.3						
FINES				Sn	**Sn**	**10 00 23.9**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=30,slow=24,SNR=1.9						
FINES				Lg	Lg	10 00 38.9	
	comp=Z,0.6nm,0.3s,baz=24,slow=27,SNR=11						
	comp=Z,0.8nm,0.9s						
VAF	**Ylistaro**	**4.08**	**249**	PN	**Pn**	**09 59 40.2**	**+1.2**
	baz=64						
BURU	**Burvik**	**4.17**	**272**	SG	**Sb**	**10 00 41.4**	**+1.1**
UMAU	**Umeaa**	**4.60**	**264**	PN	**Pn**	**09 59 47.4**	**+1.3**
HEF	**Hetta**	**4.72**	**325**	SB	**Sb**	**10 00 53.7**	**-2.6**
ARCES	**ARCESS Array B**	**5.28**	**338**	Pn	**Pn**	**09 59 55.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=153,slow=12,SNR=14						
ARCES				Sn	**Sn**	**10 00 53.1**	**-3.9**
	comp=Z,0.1nm,0.3s,baz=154,slow=25,SNR=1.5						
ARCES				Lg	Lg	10 01 15.0	
	comp=Z,0.1nm,0.3s,baz=161,slow=28,SNR=1.4						
	comp=Z,3.3nm,0.9s						
I37NO	**I37NO**	**6.54**	**317**	I	I	10 38 20.0	
	baz=124,slow=328,SNR=2.9						

*HVO **07** 10:07:40.3±1.6, 19°.24N±0°.01×155°.34W±0°.01, h-1km±10km, ML3.1/32, ML3.0/42(NEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=134.0*
NEIC 07 10:07:41.4±2.1, 19°.28N±0°.02×155°.324W±0°.009, h1km±11km, Error ellipse: s-maj=3.3km s-min=1.0km az=170.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HLP	**Hilina Pali**	**0.02**	**46**		Pg	10 07 42.7	+0.8
HTC	**Hot Caves**	**0.08**	**238**		Pg	10 07 42.5	-0.5
SDHHI	**Sand Hill**	**0.11**	**15**		Pg	10 07 43.2	-0.3
RIM	**Rim**	**0.12**	**22**	Pg	Pg	10 07 43.5	-0.2
RIM				IAML		10 07 48.5	
	comp=E,6μm,0.3s						
RIM				IAML		10 07 48.5	
	comp=N,6μm,0.4s						
WRMHI	**West Rim**	**0.13**	**10**		Pg	10 07 44.4	+0.6
KKO	**Keanakako`i**	**0.13**	**25**	Pg	Pg	10 07 44.4	+0.5
KKO				IAML		10 07 48.4	
	comp=N,7μm,0.3s						
KKO				IAML		10 07 48.9	
	comp=E,4μm,0.4s						
NPH	**North Pit**	**0.14**	**17**	Pg	Pg	10 07 43.3	-0.8
NPH				IAML		10 07 49.6	
	comp=N,2μm,0.7s						
PUH	**Pauahi**	**0.14**	**48**		Pg	10 07 44.0	0.0
PUH				IAML		10 07 48.8	
	comp=E,3μm,0.4s						
PUH				IAML		10 07 49.4	
	comp=N,3μm,0.4s						
OBL	**Observatory Le**	**0.14**	**15**	Pg	Pg	10 07 43.7	-0.4
OBL				IAML		10 07 48.9	
	comp=E,8μm,0.7s						
OBL				IAML		10 07 49.4	
	comp=N,5μm,0.3s						
UWE	**Uwekahuna**	**0.14**	**12**	Pg	Pg	10 07 42.7	-1.4
UWE				IAML		10 07 50.2	
	comp=N,6μm,0.7s						
UWE				IAML		10 07 50.0	
	comp=E,7μm,0.5s						
BYL	**Byron's Ledge**	**0.14**	**25**	Pg	Pg	10 07 43.4	-0.8
BYL				IAML		10 07 49.2	
	comp=N,4μm,0.8s						
BYL				IAML		10 07 50.3	
	comp=E,5μm,0.4s						
UWB	**Uwekahuna B**	**0.15**	**17**	Pg	Pg	10 07 43.2	-1.1
RSD	**Rainshed**	**0.19**	**13**		Pg	10 07 45.0	0.0
STCH	**Steam Cracks**	**0.21**	**61**		Pg	10 07 46.0	+0.5
MLH	**Mauna Loa**	**0.22**	**344**	IAML		10 07 53.1	
	comp=E,5μm,0.3s						
MLH				IAML		10 07 54.0	
	comp=N,5μm,0.6s						
NPOC	**North of Pu`u**	**0.23**	**61**		Pg	10 07 45.3	-0.5
NPOC				IAML		10 07 54.3	
	comp=N,1μm,0.8s						
NPOC				IAML		10 07 54.6	
	comp=E,1μm,0.5s						
JCUZ	**Jacuzzi**	**0.23**	**64**		Pg	10 07 45.3	-0.5
JCUZ				IAML		10 07 52.5	
	comp=E,2μm,0.7s						
KHU	**Kahuku**	**0.28**	**263**		Pg	10 07 46.2	-0.5
KHU				IAML		10 07 52.3	
	comp=N,2μm,0.3s						
KHU				IAML		10 07 54.1	
	comp=E,3μm,0.4s						
MWH	**Moku'aweowe**	**0.33**	**308**		Pg	10 07 47.7	0.0
HMH	**Humu'ula Sheep**	**0.35**	**335**		Pg	10 07 47.1	-1.1
POHA	**Pohakuloa**	**0.51**	**337**		Pg	10 07 50.5	-0.7
POHA				IAML		10 08 00.3	
	comp=E,1μm,0.5s						
POHA				IAML		10 08 05.3	
	comp=E,2μm,0.4s						
HUH	**Hualalai**	**0.63**	**310**		Pg	10 07 52.7	-0.8
HPAH	**Hawaii Prepara**	**0.82**	**335**		Pg	10 07 55.0	-2.1

*CATAC **07** 10:09:57.6±0.1, 13°.24N×88°.06W, h9km±1km, mb4.0, ML3.7*
*SNET **07** 10:09:58.1±0.4, 13°.22N×88°.07W, h6km±3km, ML3.5*
ISC 07 10:09:58.0±0.8, 13°.28N±0°.04×88°.06W±0°.02, h15km±5km, n56, σ0s52/103, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.16**	**78**	*i* P	**Pb**	**10 10 02.5**	**-0.3**
LCND				*e*S	**Sg**	**10 10 05.9**	**+1.1**
LCND	**La Caada**	**0.16**	**78**	*i* P	**Pb**	**10 10 02.5**	**-0.3**
LCND				*i* S	**Sg**	**10 10 05.0**	**+0.2**
LCND				IAML		10 10 09.3	
	comp=Z,15μm,1.0s						
JUCU	**Jucuarįn**	**0.19**	**263**	*e*P	**Pg**	**10 10 02.2**	**-0.3**
JUCU				*e*S	**Sg**	**10 10 05.4**	**-0.2**
JUCU	**Jucuarįn**	**0.19**	**263**	*i* P	**Pg**	**10 10 02.2**	**-0.3**
JUCU				*i* S	**Sg**	**10 10 05.4**	**-0.2**
JUCU				IAML		10 10 06.2	
	comp=Z,38μm,1.0s						
CNCH	**Conchagua**	**0.21**	**90**	*i* P	**Pb**	**10 10 03.2**	**-0.6**
CNCH				*i* S	**Sg**	**10 10 06.4**	**+0.1**
CNCH				IAML		10 10 14.1	
	comp=Z,30μm,1.0s						
CNRM	**Centro Naciona**	**0.23**	**330**	*i* P	**Pb**	**10 10 03.8**	**-0.1**
CNRM				*i* S	**Sg**	**10 10 07.8**	**+1.3**
CNRM				IAML		10 10 15.8	
	comp=Z,28μm,1.0s						
RANC	**El Ranchito**	**0.28**	**305**	*i* P	**Pb**	**10 10 04.5**	**-0.3**
RANC				*i* S	**Sb**	**10 10 09.1**	**-0.3**
RANC				IAML		10 10 10.3	
	comp=Z,10μm,1.0s						
PACA	**Pacayal**	**0.32**	**306**	*e*P	**Pb**	**10 10 05.4**	**-0.2**
PACA	**Pacayal**	**0.32**	**306**	*i* P	**Pb**	**10 10 05.1**	**-0.5**
PACA				*i* S	**Sb**	**10 10 10.0**	**-0.8**
PACA				IAML		10 10 14.4	
	comp=Z,44μm,1.0s						
AMPH	**Amapala**	**0.39**	**88**	*i* P	**Pb**	**10 10 06.3**	**-0.3**
AMPH				*e*S	**Sb**	**10 10 12.5**	**+0.1**
COEB	**Comit de Eme**	**0.51**	**296**	*e*P	**Pb**	**10 10 08.6**	**-0.2**
COEB				IAML		10 10 17.5	
	comp=Z,3μm,0.3s						
COEB	**Comit de Eme**	**0.51**	**296**	*i* P	**Pb**	**10 10 08.7**	**-0.2**
COEB				*i* S	**Sb**	**10 10 16.2**	**0.0**
COEB				IAML		10 10 17.3	
	comp=Z,4μm,1.0s						
PQSS	**Presa 15 de Se**	**0.60**	**305**	*i* P	**Pb**	**10 10 10.5**	**+0.2**
PQSS				*i* S	**Sb**	**10 10 18.8**	**+0.2**
PQSS				IAML		10 10 20.3	
	comp=Z,3μm,1.0s						
TECO	**Alcaldia de Te**	**0.75**	**290**	*i* P	**Pg**	**10 10 12.3**	**-0.4**
TECO				*i* S	**Sg**	**10 10 22.9**	**+0.3**
TECO				IAML		10 10 24.4	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.78**	**303**	*i* P	**Pb**	**10 10 13.4**	**0.0**
SCLA				IAML		10 10 14.1	
	comp=Z,700nm,1.0s						
SCLA				*i* S	**Sb**	**10 10 23.9**	**+0.1**
UESV	**Universidad de**	**0.80**	**297**	*i* P	**Pb**	**10 10 13.8**	**+0.1**
UESV				*i* S	**Sb**	**10 10 24.3**	**0.0**
UESV				IAML		10 10 25.6	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**0.87**	**293**	*e*P	**Pg**	**10 10 14.8**	**-0.2**
COEG	**Centro de Oper**	**0.87**	**293**	*i* P	**Pg**	**10 10 14.7**	**-0.2**
COEG				*i* S	**Sg**	**10 10 26.4**	**-0.1**
COEG				IAML		10 10 31.8	
	comp=Z,3μm,1.0s						
PAVA	**Las Pavas**	**0.96**	**297**	*i* P	**Pb**	**10 10 16.5**	**0.0**
PAVA				*i* S	**Sb**	**10 10 29.7**	**+0.6**
PAVA				IAML		10 10 32.2	
	comp=Z,7μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.09**	**44**	*i* P	**Pn**	**10 10 18.7**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.09**	**44**	*i* P	**Pn**	**10 10 19.0**	**+0.1**
TGUH				*i* S	**Sn**	**10 10 34.0**	**+0.2**
TGUH				IAML		10 10 36.5	
	comp=Z,3μm,1.0s						
CRIN	**San Cristobal**	**1.13**	**120**	*i* P	**Pb**	**10 10 19.1**	**-0.3**
CRIN				*i* S	**Sb**	**10 10 33.6**	**-0.4**
CRIN				IAML		10 10 38.8	
	comp=Z,5μm,1.0s						
PANCS	**Alcalda de**	**1.14**	**287**	*i* P	**Pb**	**10 10 19.0**	**-0.6**
PANCS				*i* S	**Sb**	**10 10 34.7**	**+0.4**
PANCS				IAML		10 10 36.2	
	comp=Z,5μm,1.0s						
LOMA	**Loma Larga**	**1.15**	**289**	*i* P	**Pb**	**10 10 19.3**	**-0.4**
LOMA				*i* S	**Sb**	**10 10 34.9**	**+0.5**
LOMA				IAML		10 10 38.9	
	comp=Z,2μm,1.0s						
UDBS	**Universidad Do**	**1.16**	**292**	*i* P	**Pb**	**10 10 19.2**	**-0.6**
UDBS				*i* S	**Sb**	**10 10 35.1**	**+0.4**
UDBS				IAML		10 10 41.3	
	comp=Z,1μm,1.0s						
IGN	**Direccin Gen**	**1.17**	**292**	*i* P	**Pb**	**10 10 19.8**	**-0.2**
IGN				*i* S	**Sn**	**10 10 36.4**	**+0.7**
IGN				IAML		10 10 37.8	
	comp=Z,4μm,1.0s						
UTEC	**Universidad Te**	**1.19**	**291**	*i* P	**Pn**	**10 10 19.8**	**-0.5**
UTEC				*i* S	**Sb**	**10 10 36.0**	**+0.3**
UTEC				IAML		10 10 37.2	
	comp=Z,1μm,1.0s						
SNET	**Serv Nac Est T**	**1.22**	**290**	*i* P	**Pg**	**10 10 21.1**	**-0.4**
SNET				*i* S	**Sn**	**10 10 37.1**	**+0.2**
SNET				IAML		10 10 39.5	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**1.23**	**291**	*i* P	**Pb**	**10 10 21.1**	**0.0**
UEES				*i* S	**Sb**	**10 10 37.4**	**+0.5**
UEES				IAML		10 10 45.0	
	comp=Z,960nm,1.0s						
LLGN	**La Laguna**	**1.23**	**316**	*i* P	**Pb**	**10 10 20.6**	**-0.6**
LLGN				*i* S	**Sn**	**10 10 37.6**	**+0.2**
LLGN				IAML		10 10 40.2	
	comp=Z,630nm,1.0s						
PMON	**Piamonte**	**1.30**	**290**	*i* P	**Pn**	**10 10 21.8**	**0.0**
PMON				*i* S	**Sn**	**10 10 39.6**	**+0.6**
PMON				IAML		10 10 42.4	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.31**	**295**	*i* P	**Pb**	**10 10 22.5**	**+0.1**
QUEZ				*i* S	**Sg**	**10 10 39.8**	**-0.5**
QUEZ				IAML		10 10 48.6	
	comp=Z,3μm,1.0s						
TEL3	**Telica 3**	**1.37**	**121**	*i* P	**Pn**	**10 10 22.1**	**-0.6**
TEL3				IAML		10 10 44.9	
	comp=Z,1μm,1.0s						
JAYA	**Jayaque - finc**	**1.41**	**286**	*i* P	**Pn**	**10 10 23.5**	**+0.2**
JAYA				IAML		10 10 24.6	
	comp=Z,4μm,1.0s						
JAYA				*i* S	**Sn**	**10 10 41.8**	**+0.1**
CNGA	**Al SSO del Vol**	**1.53**	**120**	*i* P	**Pn**	**10 10 24.8**	**-0.1**
CNGA				*i* S	**Sn**	**10 10 44.2**	**-0.4**
CNGA				IAML		10 10 47.2	
	comp=Z,1μm,1.0s						
CNGN	**Cerro Negro**	**1.53**	**120**	*i* P	**Pn**	**10 10 24.6**	**-0.3**
CNGN				*i* S	**Sb**	**10 10 45.3**	**-0.1**
CNGN				IAML		10 10 53.0	
	comp=Z,1μm,1.0s						
UNIC	**Universidad Ca**	**1.61**	**296**	*i* P	**Pb**	**10 10 26.9**	**-0.7**
UNIC				IAML		10 10 27.5	
	comp=Z,260nm,1.0s						
UNIC				*i* S	**Sn**	**10 10 47.3**	**+0.6**
CEVE	**Cerro Verde**	**1.62**	**290**	*i* P	**Pn**	**10 10 26.6**	**+0.2**
CEVE				*i* S	**Sn**	**10 10 47.1**	**-0.1**
CEVE				IAML		10 10 53.5	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.69**	**312**	*i* S	**Sb**	**10 10 49.5**	**-0.7**
MOMN	**Momotombo**	**1.71**	**120**	*i* P	**Pn**	**10 10 27.9**	**+0.5**
MOMN				*i* S	**Sn**	**10 10 49.5**	**+0.4**
MOMN				IAML		10 10 53.7	
	comp=Z,32nm,1.0s						
MOM2	**El Cardon**	**1.74**	**118**	*i* P	**Pn**	**10 10 27.7**	**-0.1**
MOM2				*i* S	**Sb**	**10 10 50.8**	**-0.7**
MOM2				IAML		10 10 54.4	
	comp=Z,490nm,1.0s						
NUBE	**Las Nubes**	**1.79**	**291**	*i* P	**Pn**	**10 10 28.9**	**+0.3**
NUBE				*i* S	**Sn**	**10 10 51.8**	**+0.6**
NUBE				IAML		10 10 55.6	
	comp=Z,440nm,1.0s						
COPN	**Copaltepe**	**1.80**	**127**	*i* P	**Pn**	**10 10 29.3**	**+0.8**
COPN				IAML		10 11 02.0	
	comp=Z,290nm,1.0s						
JUAM	**Asuncion Mita**	**1.92**	**303**	*i* P	**Pn**	**10 10 30.9**	**+0.6**
JUAM				*i* S	**Sb**	**10 10 55.2**	**-1.4**
JUAM				IAML		10 12 08.6	
	comp=Z,500nm,1.0s						
MSHP	**Masachapa**	**2.06**	**134**	*i* P	**Pn**	**10 10 31.9**	**-0.3**
MSHP				*i* S	**Sn**	**10 10 58.5**	**+0.8**
MSHP				IAML		10 11 06.4	
	comp=Z,74nm,1.0s						
TISN	**Laguna Tiscapa**	**2.08**	**123**	*i* P	**Pn**	**10 10 32.6**	**+0.2**
TISN				IAML		10 10 34.0	
	comp=Z,30nm,1.0s						
JAPN	**Al SSO del Vol**	**2.90**	**127**	*i* P	**Pn**	**10 10 44.6**	**+0.9**
JAPN				IAML		10 10 52.4	
	comp=Z,83nm,1.0s						
JAPN				*i* S	**Sn**	**10 11 18.7**	**+0.3**
CONN	**Concepcion**	**2.92**	**125**	*i* P	**Pn**	**10 10 44.8**	**+0.8**
CONN				*i* S	**Sn**	**10 11 19.8**	**+0.9**
CONN				IAML		10 11 30.1	
	comp=Z,910nm,1.0s						
ACON	**Acoyapa**	**3.10**	**114**	*i* P	**Pn**	**10 10 46.1**	**-0.4**
ACON				IAML		10 11 21.8	
	comp=Z,420nm,1.0s						
ACON				*i* S	**Sn**	**10 11 25.0**	**+1.7**
HZTE	**Horizontes, Gu**	**3.50**	**136**	*i* P	**Pn**	**10 10 52.7**	**+0.7**
HZTE				*i* S	**Sn**	**10 11 34.1**	**+0.8**
HZTE				IAML		10 12 46.5	
	comp=Z,90nm,1.0s						
ORTG	**Ortega, Santa**	**3.85**	**138**	*i* P	**Pn**	**10 10 57.3**	**+0.4**
ORTG				IAML		10 11 42.1	
	comp=Z,31nm,1.0s						
ORTG				*i* S	**Sn**	**10 11 42.9**	**+0.9**
SAJU	**San Juanillo,**	**3.93**	**144**	*i* P	**Pn**	**10 10 58.5**	**+0.6**
SAJU				*i* S	**Sn**	**10 11 44.4**	**+0.6**
SAJU				IAML		10 11 44.4	
	comp=Z,41nm,1.0s						
DUNO	**Dulce Nombre,**	**4.05**	**141**	*i* P	**Pn**	**10 11 00.0**	**+0.5**
DUNO				*i* S	**Sn**	**10 11 47.4**	**+0.7**
DUNO				IAML		10 11 50.8	
	comp=Z,42nm,1.0s						
RIMA	**Rio Macho**	**5.39**	**130**	*i* P	**Pn**	**10 11 18.3**	**+0.1**
RIMA				IAmb	IAmb	10 11 34.4	
	comp=Z,6.8nm,0.5s						
RIMA				IAML		10 11 34.5	
	comp=Z,22nm,1.0s						
RIMA				*i* S	**Sn**	**10 12 20.4**	**+0.3**
CDM	**Cerro de Muert**	**5.60**	**131**	*i* P	**Pn**	**10 11 20.2**	**-1.1**
CDM				IAML		10 11 27.2	
	comp=Z,27nm,1.0s						
CDM				IAmb	IAmb	10 11 27.8	
	comp=Z,11nm,1.5s						
CDM				*i* S	**Sn**	**10 12 25.9**	**+0.2**
PLAN	**Los Planes de**	**6.28**	**136**	*i* P	**Pn**	**10 11 29.8**	**-0.4**
PLAN				IAmb	IAmb	10 11 33.8	
	comp=Z,30nm,0.9s						
PLAN				IAML		10 13 41.0	
	comp=Z,59nm,1.0s						

*SNET **07** 10:14:21.7±0.5, 13°.22N×88°.06W, h6km±4km, ML3.6*
*CATAC **07** 10:14:22.0±0.1, 13°.24N×88°.06W, h4km±1km, ML3.5*
ISC 07 10:14:22.5±0.8, 13°.26N±0°.04×88°.06W±0°.02, h11km±6km, n38, σ0s67/72, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.17**	**73**	*i* P	**Pg**	**10 14 25.8**	**-0.5**
LCND				*e*S	**Sg**	**10 14 29.1**	**+0.2**
LCND				IAML		10 14 30.4	
	comp=Z,15μm,0.3s						
LCND	**La Caada**	**0.17**	**73**	*i* P	**Pg**	**10 14 25.8**	**-0.5**
LCND				*i* P	**Pg**	**10 14 25.8**	**-0.5**
LCND				*i* S	**Sg**	**10 14 29.1**	**+0.2**
LCND				IAML		10 14 30.2	
	comp=Z,15μm,1.0s						
JUCU	**Jucuarįn**	**0.18**	**269**	*e*P	**Pg**	**10 14 26.1**	**-0.5**
JUCU				*e*S	**Sg**	**10 14 29.4**	**0.0**
JUCU	**Jucuarįn**	**0.18**	**269**	*i* P	**Pg**	**10 14 26.1**	**-0.5**
JUCU				*i* S	**Sg**	**10 14 29.7**	**+0.3**
JUCU				IAML		10 14 30.5	
	comp=Z,16μm,1.0s						
CNCH	**Conchagua**	**0.22**	**85**	*i* P	**Pg**	**10 14 26.5**	**-0.7**
CNCH				*i* S	**Sg**	**10 14 30.6**	**+0.2**
CNCH				IAML		10 14 33.5	
	comp=Z,50μm,1.0s						
RANC	**El Ranchito**	**0.28**	**308**	*i* P	**Pg**	**10 14 28.5**	**+0.1**
RANC				*i* S	**Sg**	**10 14 32.0**	**-0.3**
RANC				IAML		10 14 50.8	
	comp=Z,3μm,1.0s						
PACA	**Pacayal**	**0.33**	**309**	*e*P	**Pg**	**10 14 29.0**	**-0.2**
PACA	**Pacayal**	**0.33**	**309**	*i* P	**Pg**	**10 14 29.4**	**+0.2**
PACA				*i* S	**Sg**	**10 14 33.4**	**-0.3**
PACA				IAML		10 14 39.1	
	comp=Z,14μm,1.0s						
AMPH	**Amapala**	**0.39**	**86**	*e*P	**Pg**	**10 14 29.6**	**-0.6**
AMPH				*e*S	**Sg**	**10 14 35.7**	**+0.3**
COEB	**Comit de Eme**	**0.52**	**298**	*i* P	**Pg**	**10 14 32.5**	**-0.1**
COEB				*i* S	**Sg**	**10 14 39.0**	**-0.5**
COEB				IAML		10 14 46.6	
	comp=Z,1μm,1.0s						
PQSS	**Presa 15 de Se**	**0.61**	**307**	*i* P	**Pg**	**10 14 34.2**	**-0.1**
PQSS				IAML		10 14 35.3	
	comp=Z,430nm,1.0s						
PQSS				*i* S	**Sg**	**10 14 42.2**	**-0.2**
TECO	**Alcaldia de Te**	**0.76**	**292**	*i* P	**Pg**	**10 14 35.9**	**-1.2**
TECO				*i* S	**Sg**	**10 14 47.0**	**0.0**
TECO				IAML		10 14 50.1	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.79**	**304**	*i* P	**Pg**	**10 14 36.8**	**-0.9**
SCLA				*i* S	**Sb**	**10 14 48.8**	**-0.1**
SCLA				IAML		10 15 00.9	
	comp=Z,410nm,1.0s						
UESV	**Universidad de**	**0.80**	**298**	*i* P	**Pg**	**10 14 37.5**	**-0.5**
UESV				*i* S	**Sg**	**10 14 48.8**	**+0.3**
UESV				IAML		10 14 57.4	
	comp=Z,1μm,1.0s				

LLGN			IAML		10 15 08.3	
	comp=Z,320nm,1.0s					
PMON	**Piamonte**	**1.30 290**	*i* P	**Pn**	**10 14 46.5**	**-0.2**
PMON			*i* S	**Sb**	**10 15 04.3**	**+0.5**
PMON			IAML		10 15 09.3	
	comp=Z,870nm,1.0s					
JAYA	**Jayaque - finc**	**1.41 286**	*i* P	**Pn**	**10 14 47.4**	**-0.8**
JAYA			IAML		10 14 50.0	
	comp=Z,1µm,1.0s					
JAYA			*i* S	**Sb**	**10 15 07.0**	**+0.1**
CNGA	**Al SSO del Vol**	**1.52 120**	*i* P	**Pn**	**10 14 49.0**	**-0.7**
CNGA			*i* S	**Sn**	**10 15 09.5**	**-0.1**
CNGA			IAML		10 15 13.9	
	comp=Z,650nm,1.0s					
CNGN	**Cerro Negro**	**1.52 119**	*i* P	**Pn**	**10 14 49.1**	**-0.6**
CNGN			*i* S	**Sn**	**10 15 09.5**	**-0.1**
CNGN			IAML		10 15 17.1	
	comp=Z,490nm,1.0s					
CEVE	**Cerro Verde**	**1.62 291**	*i* P	**Pn**	**10 14 51.9**	**+0.6**
CEVE			*i* S	**Sn**	**10 15 13.2**	**+0.9**
CEVE			IAML		10 15 17.8	
	comp=Z,570nm,1.0s					
MTO3	**Montecristo**	**1.70 312**	*i* P	**Pn**	**10 14 52.5**	**+0.2**
MTO3			IAML		10 14 54.8	
	comp=Z,260nm,1.0s					
MTO3			*i* S	**Sn**	**10 15 15.1**	**+1.0**
MOMN	**Momotombo**	**1.71 120**	*i* P	**Pn**	**10 14 52.7**	**+0.5**
MOMN			*i* S	**Sb**	**10 15 15.0**	**-0.3**
MOMN			IAML		10 15 18.9	
	comp=Z,13nm,1.0s					
MOM2	**El Cardon**	**1.74 118**	*i* P	**Pn**	**10 14 52.7**	**+0.1**
MOM2			*i* S	**Sn**	**10 15 15.4**	**+0.7**
MOM2			IAML		10 15 24.0	
	comp=Z,270nm,1.0s					
COPN	**Copaltepe**	**1.79 127**	*i* P	**Pn**	**10 14 53.1**	**-0.2**
COPN			IAML		10 15 23.3	
	comp=Z,230nm,1.0s					
NUBE	**Las Nubes**	**1.79 291**	*i* P	**Pn**	**10 14 53.8**	**+0.3**
NUBE			*i* S	**Sn**	**10 15 16.6**	**+0.3**
NUBE			IAML		10 15 24.3	
	comp=Z,540nm,1.0s					
TISN	**Laguna Tiscapa**	**2.07 122**	IAML		10 14 57.4	
	comp=Z,28nm,1.0s					
TISN			*i* P	**Pn**	**10 14 57.6**	**+0.5**
ACON	**Acoyapa**	**3.09 114**	*i* P	**Pn**	**10 15 11.7**	**+0.5**
ACON			*i* S	**Sn**	**10 15 50.3**	**+2.1**
ACON			IAML		10 16 18.7	
	comp=Z,61nm,1.0s					
HZTE	**Horizontes, Gu**	**3.49 136**	*i* P	**Pn**	**10 15 16.9**	**+0.2**
HZTE			*i* S	**Sn**	**10 15 58.7**	**+0.6**
HZTE			IAML		10 17 01.7	
	comp=Z,110nm,1.0s					
RIFO	**Rio Frio, Sara**	**4.99 125**	*i* P	**Pn**	**10 15 37.8**	**+0.4**

ISK 07 10:25:50.6,41.17N×28.78E,h0km,ML1.0/5,Suspected Mining explosion.,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BGKT	**Bogazkoy**	**0.01**	**334**	Pg	Pg	10 25 51.6	+0.7
KLYT	**Kilyos**	**0.21**	**66**	Pg	Pg	10 25 55.5	+0.8
KLYT				Sg	Sg	10 25 59.1	+1.6
CTKS	**Kestanelik-??a**	**0.22**	**288**	Pg	Pg	10 25 55.7	+0.9
CTKS				Sg	Sg	10 25 59.0	+1.4
ISK	**Istanbul-Kandi**	**0.23**	**116**	Pg	Pg	10 25 55.7	+0.6
ISK				Sg	Sg	10 25 59.4	+1.3
CTYL	**Yalikoy Yolu**	**0.48**	**310**	Pg	Pg	10 26 00.6	+0.8
ARMT	**Armutlu**	**0.60**	**174**	Pg	Pg	10 26 03.1	+0.9

AFAD 07 10:26:22.9±0.0,40.87N×30.03E,h7km±2km,ML1.4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEMS	**Kocaeli-K¶rfe**	**0.22**	**271**	P	Pg	10 26 22.9	-4.3
SEMS				S	Sg	10 26 29.5	-0.7
KAYN	**Sakarya, Kayna**	**0.26**	**68**	P	Pg	10 26 27.8	-0.2
KAND	**Kocaeli-Kandir**	**0.26**	**29**	P	Pg	10 26 28.6	+0.6
KAND				*i* AML	AML	10 26 33.0	
	comp=E,19nm,1.3s						
KAND				S	Sb	10 26 37.6	+3.1

*CATAC **07** 10:33:31.8±0.1,13.20N×88.05W,h1km±1km,mb4.1, ML3.8*
*SNET **07** 10:33:32.3±1.0,13.25N×88.05W,h6km±4km,ML3.2*
*IDC **07** 10:33:32.1±1.6,13.57N×87.49W,h0km,mb3.4/3, mbtmp3.4/6,ML3.0/3,MS3.3/4,Error ellipse: s-maj=56.2km s-min=21.3km az=43.0*

ISC 07 10:33:31.7±1.1,13.20N±0.03×88.05W±0.02,h2km±8km, n72,σ1s04/115,mb3.4/3,MS3.5/3,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.19**	**54**	*e*P	**Pg**	**10 33 36.0**	**+0.6**
LCND				*e*P	**Pg**	**10 33 36.0**	**+0.6**
LCND				*e*S	**Sg**	**10 33 39.4**	**+1.4**
LCND	**La Caada**	**0.19**	**54**	*i* P	**Pg**	**10 33 35.9**	**+0.5**
LCND				*i* S	**Sg**	**10 33 38.0**	**0.0**
LCND				IAML		10 33 42.0	
	comp=Z,31µm,1.0s						
JUCU	**Jucuar¡n**	**0.20**	**287**	*e*P	**Pg**	**10 33 36.3**	**+0.8**
JUCU	**Jucuar¡n**	**0.20**	**287**	*i* P	**Pg**	**10 33 36.2**	**+0.7**
JUCU				*i* S	**Sg**	**10 33 38.9**	**+0.7**
JUCU				IAML		10 33 45.1	
	comp=Z,28µm,1.0s						
CNRM	**Centro Naciona**	**0.30**	**337**	*e*P	**Pg**	**10 33 37.9**	**+0.5**
CNRM	**Centro Naciona**	**0.30**	**337**	*i* P	**Pg**	**10 33 38.0**	**+0.5**
CNRM				*i* S	**Sg**	**10 33 40.9**	**-0.5**
CNRM				IAML		10 33 55.7	
	comp=Z,32µm,1.0s						
BLLM	**Bellamira**	**0.30**	**324**	*e*P	**Pg**	**10 33 38.1**	**+0.6**
LCY	**Lacayo**	**0.33**	**314**	*e*P	**Pg**	**10 33 38.7**	**+0.7**
RANC	**El Ranchito**	**0.33**	**316**	*e*P	**Pg**	**10 33 38.8**	**+0.7**
RANC	**El Ranchito**	**0.33**	**316**	*i* P	**Pg**	**10 33 38.7**	**+0.7**
RANC				*i* S	**Sg**	**10 33 41.9**	**-0.5**
RANC				IAML		10 33 49.5	
	comp=Z,8µm,1.0s						
PACA	**Pacayal**	**0.38**	**316**	*e*P	**Pg**	**10 33 39.5**	**+0.6**
PACA	**Pacayal**	**0.38**	**316**	*i* P	**Pb**	**10 33 39.9**	**-1.3**
PACA				*i* S	**Sg**	**10 33 43.8**	**-0.1**
PACA				IAML		10 33 50.5	
	comp=Z,49µm,1.0s						
AMPH	**Amapala**	**0.39**	**77**	*e*P	**Pg**	**10 33 39.9**	**+0.7**
AMPH				*e*S	**Sg**	**10 33 45.7**	**+1.4**
TECA	**Tecapa**	**0.53**	**304**	*e*P	**Pg**	**10 33 42.2**	**+0.4**
COEB	**Comit de Eme**	**0.55**	**303**	*e*P	**Pg**	**10 33 42.7**	**+0.4**
COEB	**Comit de Eme**	**0.55**	**303**	*i* P	**Pg**	**10 33 42.8**	**+0.5**
COEB				*i* S	**Sg**	**10 33 49.8**	**+0.3**
COEB				IAML		10 33 53.0	
	comp=Z,4µm,1.0s						
PQSS	**Presa 15 de Se**	**0.65**	**311**	*e*P	**Pg**	**10 33 44.6**	**+0.4**
PQSS	**Presa 15 de Se**	**0.65**	**311**	*i* P	**Pg**	**10 33 44.6**	**+0.4**
PQSS				*i* S	**Sg**	**10 33 52.7**	**0.0**
PQSS				IAML		10 33 54.9	
	comp=Z,2µm,1.0s						
TECO	**Alcaldia de Te**	**0.79**	**296**	*e*P	**Pg**	**10 33 46.7**	**-0.1**
TECO				*e*S	**Sb**	**10 33 57.7**	**-1.5**
TECO				IAML		10 33 59.0	
	comp=Z,893nm,0.2s						
TECO	**Alcaldia de Te**	**0.79**	**296**	*i* P	**Pg**	**10 33 46.6**	**-0.1**
TECO				*i* S	**Sb**	**10 33 57.7**	**-1.5**
TECO				IAML		10 33 59.5	
	comp=Z,3µm,1.0s						
SCLA	**Alcaldia de Sa**	**0.83**	**307**	*e*P	**Pg**	**10 33 47.6**	**0.0**
SCLA	**Alcaldia de Sa**	**0.83**	**307**	*i* P	**Pg**	**10 33 47.6**	**0.0**
SCLA				*i* S	**Sb**	**10 33 59.2**	**-1.2**
SCLA				IAML		10 34 15.9	
	comp=Z,770nm,1.0s						
UESV	**Universidad de**	**0.84**	**302**	*e*P	**Pg**	**10 33 48.0**	**+0.2**
UESV	**Universidad de**	**0.84**	**302**	*i* P	**Pg**	**10 33 47.9**	**+0.2**
UESV				*i* S	**Sb**	**10 33 59.5**	**-1.2**
UESV				IAML		10 34 01.0	
	comp=Z,2µm,1.0s						
COEG	**Centro de Oper**	**0.91**	**298**	*e*P	**Pg**	**10 33 48.8**	**-0.4**
COEG				*e*S	**Sb**	**10 34 01.7**	**-1.1**
COEG	**Centro de Oper**	**0.91**	**298**	*i* P	**Pg**	**10 33 49.1**	**0.0**
COEG				*i* S	**Sg**	**10 34 00.7**	**-0.2**
COEG				IAML		10 34 06.0	
	comp=Z,4µm,1.0s						
PAVA	**Las Pavas**	**1.00**	**301**	*e*P	**Pg**	**10 33 50.8**	**0.0**
PAVA	**Las Pavas**	**1.00**	**301**	*i* P	**Pg**	**10 33 50.9**	**0.0**
PAVA				*i* S	**Sg**	**10 34 04.0**	**+0.1**
PAVA				IAML		10 34 08.1	
	comp=Z,8µm,1.0s						
CRIN	**San Cristobal**	**1.09**	**117**	*e*P	**Pn**	**10 33 52.9**	**-1.1**
CRIN	**San Cristobal**	**1.09**	**117**	*i* P	**Pn**	**10 33 53.1**	**-0.9**
CRIN				IAML		10 33 55.1	
	comp=Z,5µm,1.0s						
CRIN				*i* S	**Sb**	**10 34 07.6**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.14**	**41**	*i* P	**Pb**	**10 33 52.6**	**-1.6**
TGUH				*i* S	**Sb**	**10 34 08.0**	**-1.6**
TGUH				IAML		10 34 15.2	
	comp=Z,4µm,1.0s						
PANCS	**Alcalda de**	**1.17**	**291**	*i* P	**Pb**	**10 33 53.8**	**-0.9**
PANCS				*i* S	**Sb**	**10 34 09.2**	**-1.1**
PANCS				IAML		10 34 10.5	
	comp=Z,8µm,1.0s						
LOMA	**Loma Larga**	**1.18**	**292**	*e*P	**Pb**	**10 33 53.5**	**-1.2**
LOMA	**Loma Larga**	**1.18**	**292**	*i* P	**Pb**	**10 33 54.0**	**-0.8**
LOMA				*i* S	**Sg**	**10 34 09.9**	**+0.4**
LOMA				IAML		10 34 12.8	
	comp=Z,2µm,1.0s						
IGN	**Direccin Gen**	**1.20**	**295**	*i* P	**Pb**	**10 33 53.6**	**-1.6**
IGN				*i* S	**Sg**	**10 34 10.5**	**+0.1**
IGN				IAML		10 34 21.6	
	comp=Z,5µm,1.0s						
SNET	**Serv Nac Est T**	**1.25**	**293**	*i* P	**Pg**	**10 33 55.6**	**0.0**
SNET				*i* S	**Sb**	**10 34 11.2**	**-1.3**
SNET				IAML		10 34 14.7	
	comp=Z,3µm,1.0s						
UEES	**Universidad Ev**	**1.27**	**294**	*e*P	**Pg**	**10 33 55.8**	**-0.2**
UEES	**Universidad Ev**	**1.27**	**294**	*i* P	**Pg**	**10 33 55.7**	**-0.2**
UEES				*i* S	**Sn**	**10 34 12.5**	**-1.5**
UEES				IAML		10 34 15.6	
	comp=Z,1µm,1.0s						
PIC2	**El Picacho**	**1.29**	**295**	*e*P	**Pb**	**10 33 56.2**	**-0.6**
LLGN	**La Laguna**	**1.29**	**318**	*i* P	**Pn**	**10 33 55.3**	**-1.5**
LLGN				*i* S	**Sb**	**10 34 12.6**	**-1.3**
LLGN				IAML		10 34 16.4	
	comp=Z,830nm,1.0s						
PMON	**Piamonte**	**1.33**	**293**	*e*P	**Pb**	**10 33 56.6**	**-0.8**
PMON	**Piamonte**	**1.33**	**293**	*i* P	**Pb**	**10 33 56.9**	**-0.5**
PMON				*i* S	**Sg**	**10 34 14.9**	**+0.4**
PMON				IAML		10 34 24.0	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**1.43**	**289**	*e*P	**Pn**	**10 33 57.7**	**-1.1**
JAYA	**Jayaque - finc**	**1.43**	**289**	*i* P	**Pb**	**10 33 58.2**	**-1.0**
JAYA				IAML		10 33 59.0	
	comp=Z,4µm,1.0s						
JAYA				*i* S	**Sn**	**10 34 16.4**	**-1.9**
CNGA	**Al SSO del Vol**	**1.49**	**118**	*i* P	**Pn**	**10 33 58.3**	**-1.2**
CNGA				*i* S	**Sn**	**10 34 18.0**	**-1.5**
CNGA				IAML		10 34 22.7	
	comp=Z,1µm,1.0s						
CNGN	**Cerro Negro**	**1.49**	**118**	*i* P	**Pb**	**10 33 59.4**	**-0.7**
CNGN				*i* S	**Sg**	**10 34 19.0**	**-0.6**
CNGN				IAML		10 34 33.3	
	comp=Z,1µm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.61**	**119**	*i* P	**Pb**	**10 34 00.9**	**-1.1**
LEVN				*i* S	**Sg**	**10 34 22.9**	**-0.5**
LEVN				IAML		10 34 30.5	
	comp=Z,710nm,1.0s						
UNIC	**Universidad Ca**	**1.65**	**298**	*i* P	**Pb**	**10 34 02.2**	**-0.6**
UNIC				IAML		10 34 03.3	
	comp=Z,410nm,1.0s						
UNIC				*i* S	**Sb**	**10 34 23.3**	**-0.8**
CEVE	**Cerro Verde**	**1.65**	**293**	*i* P	**Pb**	**10 34 02.4**	**-0.6**
CEVE				*i* S	**Sb**	**10 34 23.4**	**-1.0**
CEVE				IAML		10 34 37.2	
	comp=Z,980nm,1.0s						
MOMN	**Momotombo**	**1.67**	**118**	*i* P	**Pb**	**10 34 01.8**	**-1.3**
MOMN				IAML		10 34 06.4	
	comp=Z,28nm,1.0s						
MOMN				*i* S	**Sb**	**10 34 23.9**	**-0.7**
MTO3	**Montecristo**	**1.75**	**313**	*e*P	**Pn**	**10 34 02.4**	**-0.7**
MTO3				*e*S	**Sb**	**10 34 26.7**	**-0.2**
MTO3	**Montecristo**	**1.75**	**313**	*i* P	**Pb**	**10 34 03.3**	**-1.2**
MTO3				*i* S	**Sb**	**10 34 26.8**	**-0.2**
MTO3				IAML		10 34 28.8	
	comp=Z,780nm,1.0s						
COPN	**Copaltepe**	**1.75**	**125**	*i* P	**Pb**	**10 34 03.1**	**-1.3**
COPN				IAML		10 34 29.0	
	comp=Z,370nm,1.0s						
NUBE	**Las Nubes**	**1.82**	**293**	*i* P	**Pn**	**10 34 04.0**	**-0.1**
NUBE				*i* S	**Sb**	**10 34 28.9**	**-0.2**
NUBE				IAML		10 34 34.8	
	comp=Z,920nm,1.0s						
TISN	**Laguna Tiscapa**	**2.03**	**121**	*i* P	**Pn**	**10 34 06.7**	**-0.2**
TISN				IAML		10 34 07.9	
	comp=Z,60nm,1.0s						
RB213	**Mirador 2 Volc**	**2.20**	**123**	*i* P	**Pn**	**10 34 07.0**	**-2.2**
RB213				IAML		10 34 08.5	
	comp=Z,640nm,1.0s						
JAPN	**Al SSO del Vol**	**2.85**	**125**	*i* P	**Pn**	**10 34 18.2**	**0.0**
JAPN				IAML		10 34 29.6	
	comp=Z,130nm,1.0s						
JAPN				*i* S	**Sn**	**10 34 54.1**	**+1.0**
APG	**El Apazote**	**2.95**	**308**	Pn	**Pb**	**10 34 24.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=143,slow=9.4,SNR=17						
APG				Sn	**Sg**	**10 35 04.8**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=232,slow=20,SNR=6.5						
	comp=Z,6.1nm,1.0s						
ACON	**Acoyapa**	**3.06**	**113**	*i* P	**Pn**	**10 34 22.2**	**+1.1**
ACON				*i* S	**Sn**	**10 34 58.4**	**+0.1**
ACON				IAML		10 35 17.4	
	comp=Z,150nm,1.0s						
HZTE	**Horizontes, Gu**	**3.44**	**135**	*i* P	**Pn**	**10 34 26.5**	**+0.2**
HZTE				*i* S	**Sn**	**10 35 08.7**	**+1.0**
HZTE				IAML		10 35 15.3	
	comp=Z,140nm,1.0s						
ORTG	**Ortega, Santa**	**3.79**	**138**	*i* P	**Pn**	**10 34 31.6**	**+0.4**
ORTG				IAML		10 34 51.3	
	comp=Z,63nm,1.0s						
ORTG				*i* S	**Sn**	**10 35 17.0**	**+0.6**
DUNO	**Dulce Nombre,**	**3.98**	**141**	*i* P	**Pn**	**10 34 34.0**	**+0.2**
DUNO				IAML		10 34 39.2	
	comp=Z,53nm,1.0s						
DUNO				*i* S	**Sn**	**10 35 21.2**	**+0.1**
JTS	**Las Juntas de**	**4.19**	**133**	Pn	**Pn**	**10 34 36.2**	**-0.4**
	comp=Z,2.4nm,0.3s,baz=310,slow=18,SNR=31						
JTS				Sn	**Sn**	**10 35 25.4**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=321,slow=23,SNR=1.4						
	comp=Z,4.3nm,0.3s						
RIMA	**Rio Macho**	**5.33**	**129**	*i* P	**Pn**	**10 34 52.9**	**+0.4**
RIMA				IAmb	IAmb	10 34 58.0	
	comp=Z,14nm,0.7s						
RIMA				IAML		10 35 12.6	
	comp=Z,35nm,1.0s						
RIMA				*i* S	**Sn**	**10 35 54.9**	**+0.2**
SRBA	**San Rafael, Bu**	**6.06**	**130**	*i* P	**Pn**	**10 35 02.3**	**-0.1**
SRBA				IAmb	IAmb	10 35 07.3	
	comp=Z,12nm,0.7s						
SRBA				*i* S	**Sn**	**10 36 13.2**	**+0.8**
SRBA				IAML		10 36 53.7	
	comp=Z,21nm,1.0s						
CMIG	**Matias Romero**	**7.65**	**301**	Pn	**Pn**	**10 35 27.7**	**+3.6**
	comp=Z,0.3nm,0.3s,baz=98,slow=15,SNR=4.3						
CMIG				Sn	**Sn**	**10 36 56.0**	**+4.6**
	comp=Z,0.2nm,0.3s,baz=50,slow=17,SNR=1.1						
CMIG				LR	LR	10 38 46.3	
	comp=Z,83nm,20.8s,baz=142,slow=40						
	comp=Z,6.0nm,1.1s						
TXAR	**Lajitas Array**	**21.63**	**320**	P	**P**	**10 38 24.6**	**+1.2**
	comp=Z,1.8nm,1.0s,baz=138,slow=11,SNR=11						
	comp=Z,1.8nm,1.0s						
LPIG	**La Paz**	**23.68**	**300**	LR	LR	10 47 45.8	
	comp=Z,83nm,19.5s,baz=34,slow=36						
NVAR	**Mina Array Bea**	**36.76**	**319**	P	**P**	**10 40 43.0**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=145,slow=11,SNR=2.1						
	comp=Z,0.3nm,0.7s						
BDFB	**Brasilia**	**48.88**	**125**	LR	LR	11 06 29.1	
	comp=Z,54nm,18.4s,baz=137,slow=41						
YKA	**Yellowknife Ar**	**52.74**	**345**	P	**P**	**10 42 46.8**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=138,slow=7.4,SNR=9.3						
	comp=Z,0.6nm,0.8s						
KDAK	**Kodiak Island**	**65.42**	**328**	LR	LR	11 13 08.5	
	comp=Z,29nm,18.4s,baz=21,slow=36						

*IDC **07** 10:41:09.5±5.3,11.45S×166.33E,h79km±45km,mb3.9/6, mbtmp4.2/7,ML4.5/1,MS3.1/2,Error ellipse: s-maj=31.6km s-min=29.8km az=109.0*
*NEIC **07** 10:41:17.9±1.3,11.5S±0.1×166.20E±0.06,h148km±9km, mb4.4/15,Error ellipse: s-maj=16.2km s-min=6.7km az=160.0*

ISC 07 10:41:17.6±0.6,11.66S±0.08×166.2E±0.1,h150km,n33, σ1s69/34,mb4.3/13,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.49**	**289**	Pn	**Pn**	**10 42 49.9**	**-1.0**
KOUNC	**Koumac, New Ca**	**9.02**	**191**	Pn	**Pn**	**10 43 24.8**	**+0.2**
DZM	**Mont Dzumac**	**10.36**	**179**	Pn	**Pn**	**10 43 40.4**	**-2.0**
DZM	**Mont Dzumac**	**10.36**	**179**	P	**Pn**	**10 43 39.9**	**-2.5**
	3.5nm,0.3s,baz=210,slow=17,SNR=33						
DZM				S	**Sn**	**10 45 32.0**	**-5.2**
	3.4nm,0.3s,baz=310,slow=22,SNR=1.6						
	8.2nm,0.4s						
OUENC	**Ouen Island, N**	**10.72**	**177**	Pn	**Pn**	**10 43 47.4**	**+0.3**
PMG	**Port Moresby**	**18.81**	**275**	LR	LR	10 51 56.0	
	comp=Z,52nm,19.6s,baz=94,slow=34						
EIDS	**Eidsvold**	**19.73**	**224**	P	**P**	**10 45 38.6**	**+2.9**
EIDS				IAmb	IAmb	10 45 38.8	
	comp=Z,21nm,1.2s						
CTAO	**Charters Tower**	**20.88**	**244**	P	**P**	**10 45 48.9**	**+0.8**
CTAO				IAmb	IAmb	10 46 29.1	
	comp=Z,15nm,1.2s						
RAO	**Raoul Island**	**22.95**	**142**	LR	LR	10 52 23.6	
	comp=Z,39nm,18.5s,baz=148,slow=29						
NIUE	**Niue**	**24.20**	**111**	P	**P**	**10 46 20.5**	**+0.2**
BKZ	**Black Stump Fm**	**28.90**	**163**	P	**P**	**10 47 03.5**	**+1.2**
BKZ				IAmb	IAmb	10 47 25.3	
	comp=Z,26nm,1.5s						
MRNZ	**Matariki Terra**	**30.19**	**170**	P	**P**	**10 47 15.5**	**+1.8**
WR0	**Warramunga Arr**	**31.47**	**251**	P	**P**	**10 47 25.5**	**+0.2**
WR0				IAmb	IAmb	10 47 32.7	
	comp=Z,7.1nm,1.3s						
WB0	**Warramunga Arr**	**31.58**	**251**	P	**P**	**10 47 26.5**	**+0.3**
WB0				IAmb	IAmb	10 47 27.6	
	comp=Z,4.2nm,0.8s						
WRAB	**Tennant Creek**	**31.64**	**251**	P	**P**	**10 47 26.7**	**-0.1**
WRAB				IAmb	IAmb	10 47 45.2	
	comp=Z,9.8nm,1.3s						
WRA	**Warramunga Arr**	**31.66**	**251**	P	**P**	**10 47 27.4**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=81,slow=9.3,SNR=9.7						
WRA				PcP	**PcP**	**10 50 16.9**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=91,slow=5.9,SNR=3.3						
	comp=Z,1.5nm,0.8s						
AS31	**Alice Springs**	**32.88**	**244**	P	**P**	**10 47 38.1**	**+0.5**
ASAR	**Alice Springs**	**32.88**	**244**	P	**P**	**10 47 37.9**	**+0.3**
	comp=Z,2.1nm,0.7s,baz=68,slow=10,SNR=32						
ASAR				PcP	**PcP**	**10 50 20.6**	**+1.8**
	comp=Z,0.5nm,0.6s,baz=82,slow=2.2,SNR=9.5						
	comp=Z,2.1nm,0.7s						
SOEI	**Soe**	**41.18**	**268**	P	**P**	**10 48 44.3**	**-3.5**
KIP	**Kipapa**	**48.16**	**47**	P	**P**	**10 49 41.1**	**-1.8**
CASY	**Casey**	**65.96**	**201**	P	**P**	**10 51 48.8**	**+1.5**
CASY				IAmb	IAmb	10 51 58.9	
	comp=Z,6.8nm,1.3s						
SBA	**Scott Base**	**66.19**	**180**	P	**P**	**10 51 50.9**	**+2.2**
QSPA	**South Pole Qui**	**78.35**	**180**	P	**P**	**10 53 02.5**	**+1.3**
	comp=Z,2.6nm,0.8s,baz=283,slow=1.3,SNR=10.0						
	comp=Z,2.6nm,0.8s						
IMAR	**Indian Mountai**	**82.90**	**15**	P	**P**	**10 53 24.9**	**-0.2**
E19K	**Redstone River**	**83.23**	**13**	P	**P**	**10 53 27.1**	**+0.3**
C18K	**Utukok River**	**83.38**	**11**	P	**P**	**10 53 27.1**	**-0.4**
C18K				IAmb	IAmb	10 53 53.1	
	comp=Z,16nm,1.5s						
ILAR	**Eielson Array**	**83.96**	**18**	P	**P**	**10 53 28.8**	**-1.7**
	comp=Z,0.3nm,0.5s,baz=226,slow=5.1,SNR=5.8						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**94.24**	**317**		**P**	**10 54 20.5**	**+0.8**
MK31				IAmb	IAmb	10 54 21.2	
	comp=Z,1.9nm,0.8s						
MKAR	**Makanchi Array**	**94.24**	**317**		**P**	**10 54 20.1**	**+0.3**
MKAR	**Makanchi Array**	**94.24**	**317**	P	**P**	**10 54 20.4**	**+0.7**
	comp=Z,1.6nm,0.5s,baz=91,slow=5.5,SNR=19						
	comp=Z,1.6nm,0.5s						
ZALV	**Zalesovo Beam**	**94.28**	**324**	P	**P**	**10 54 19.2**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=94,slow=3.5,SNR=3.8						
	comp=Z,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**117.02**	**346**	PKP	**PKPdf**	**10 59 44.0**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=64,slow=2.1,SNR=8.8						
ESDC	**Sonseca Array**	**150.75**	**344**	PKPbc	**PKPbc**	**11 00 52.1**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=6.2,slow=3.3,SNR=4.4						

*LVSN **07** 10:42:13.9±6.0,59.51N×20.96E,h0km±101km,ML1.2*
EST 10:42:05.9±0.1,59.21N×27.87E,h0km,ML1.2(HEL), **Explosion,Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.96**	**219**	*e*P	Pg	10 42 23.1	-1.1
VJF	**Virojoki**	**1.34**	**353**	*e*P	Pg	10 42 29.9	-1.7
VJF				*e*S	Sg	10 42 47.1	-1.8
VJF				MSG		10 42 54.1	
	comp=Z,1.3nm,0.1s						
EE08	**Sarghaua, Vand**	**1.48**	**249**	*e*P	Pn	10 42 32.0	-1.6
EE08				*e*SB	Sg	10 42 51.4	-1.8
EE02	**Kiisa, Saku**	**1.63**	**271**	*e*PG	Pn	10 42 35.1	-0.7
EE02				*e*SN	Sn	10 42 56.8	-0.7
PVF	**Pernaja**	**1.68**	**324**	*e*P	Pn	10 42 35.8	-0.7
PVF				*e*S	Sn	10 42 57.0	-1.6
MEF	**Metsahovi**	**2.03**	**301**	*e*P	Pn	10 42 42.3	+1.0
MEF				AML	AML	10 42 42.6	
	comp=E,3.5nm,0.2s						
MEF				*e*S	Sn	10 43 08.0	+0.7
MEF				AML	AML	10 43 08

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.17**	**77**	*i* P	Pg	10 52 23.7	+0.5
LCND				*e*P		10 52 23.7	
LCND				*e*S	Sg	10 52 26.5	+1.0
JUCU	**Jucuarįn**	**0.18**	**265**	*i* P	Pg	10 52 24.2	+0.6
JUCU				IAML		10 52 28.6	
	comp=E,529nm,0.2s						
CNCH	**Conchagua**	**0.22**	**88**	*i* P	Pg	10 52 24.8	+0.6
CNCH				IAML		10 52 29.1	
	comp=E,4µm,0.2s						
BLLM	**Bellamira**	**0.24**	**315**	*e*P	Pg	10 52 25.2	+0.6
PACA	**Pacayal**	**0.33**	**308**	*e*P	Pg	10 52 26.8	+0.6
AMPH	**Amapala**	**0.39**	**88**	*i* P	Pg	10 52 27.6	+0.3

*VAO **07** 11:14:12.0±0.5, 18°.12S×69°.57W, h111km±5km, mb4.3*
*GUC **07** 11:14:12.8±0.9, 18°.19S×69°.70W, h116km±5km, ML4.3*
*NEIC **07** 11:14:12.3±2.3, 18°.17S±0°.04×69°.66W±0°.09, h116km±7km, mb4.4/23, Error ellipse: s-maj=11.9km s-min=5.2km az=100.0*
*IDC **07** 11:14:13.4±1.2, 18°.24S×69°.35W, h124km±10km, mb3.7/9, mbtmp4.1/13, Error ellipse: s-maj=19.7km s-min=8.7km az=98.0*

ISC 07 11:14:11.5±0.6, **18°.19S**±0°.04×**69°.62W**±0°.05, **h112**km±5km, **n105**, σ1°39/121, **mb4.2**/12, **8C-1D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB18	**Visviri**	**0.61**	**12**	*i* P	**Pn**	**11 14 32.0**	**+2.0**
PB18				*e*S	**Sn**	**11 14 46.7**	**+2.8**
AP01	**Chacalluta**	**0.71**	**255**		**Pn**	**11 14 30.7**	**+0.5**
AP01				Sn	**Sn**	**11 14 45.2**	**+0.9**
AP01	**Chacalluta**	**0.71**	**255**	*i* P	**Pn**	**11 14 30.7**	**+0.5**
AP01				*e*S	**Sn**	**11 14 44.5**	**+0.2**
AP01				IAML		11 14 45.6	
	comp=E,31µm,0.4s						
PB12	**IPOC Station P**	**0.80**	**238**	Pn	**Pn**	**11 14 31.0**	**0.0**
PB12	**IPOC Station P**	**0.80**	**238**	*i* P	**Pn**	**11 14 31.1**	**+0.1**
PB12				*e*S	**Sn**	**11 14 45.6**	**-0.2**
PB12				IAML		11 14 46.4	
	comp=E,4µm,0.2s						
GO01	**Chusmiza**	**1.53**	**165**	Pn	**Pn**	**11 14 41.3**	**+2.0**
GO01	**Chusmiza**	**1.53**	**165**	⇑*i* P	**Pn**	**11 14 41.2**	**+1.9**
GO01				*e*S	**Sn**	**11 15 03.1**	**+2.7**
GO01				IAML		11 15 08.9	
	comp=N,3µm,0.2s						
PB11	**IPOC Station P**	**1.57**	**181**		**Pn**	**11 14 40.6**	**+1.1**
PB11	**IPOC Station P**	**1.57**	**181**	⇑*i* P	**Pn**	**11 14 40.6**	**+1.1**
PB11				*e*S	**Sn**	**11 15 02.2**	**+1.6**
PB11				IAML		11 15 03.8	
	comp=E,4µm,0.7s						
PB08	**IPOC Station P**	**1.99**	**167**	⇑*i* P	**Pn**	**11 14 46.8**	**+1.8**
PB08				*e*S	**Sn**	**11 15 12.1**	**+1.7**
PB08				IAML		11 15 14.7	
	comp=E,2µm,0.6s						
HMBC	**Humberstone**	**2.10**	**187**	⇑*i* P	**Pn**	**11 14 46.4**	**+0.4**
HMBC				*e*S	**Sn**	**11 15 11.7**	**-0.7**
HMBC				IAML		11 15 15.9	
	comp=N,1µm,0.7s						
TA02	**Huaiquique**	**2.13**	**193**		**Pn**	**11 14 45.8**	**-0.5**
TA02	**Huaiquique**	**2.13**	**193**	⇑*i* P	**Pn**	**11 14 46.7**	**+0.4**
TA02				IAML		11 15 21.1	
	comp=N,2µm,0.1s						
LPAZ	**La Paz**	**2.36**	**37**	Pn	**Pn**	**11 14 52.1**	**+2.3**
LPAZ	**La Paz**	**2.36**	**37**	P	**Pn**	**11 14 52.6**	**+2.6**
	comp=N,237nm,0.3s,baz=209,slow=9.6,SNR=899						
LPAZ				S	**Sn**	**11 15 20.2**	**+1.1**
	comp=N,45nm,0.5s,baz=116,slow=17,SNR=1.9						
LPAZ	**La Paz**	**2.36**	**37**	⇑*i* P	**Pn**	**11 14 52.5**	**+2.6**
LPAZ	**La Paz**	**2.36**	**37**	*e*P	**Pn**	**11 14 50.8**	**+0.9**
TA01	**Diego Aracena**	**2.42**	**193**		**Pn**	**11 14 49.5**	**-0.5**
PATCX	**Punta Patache**	**2.67**	**191**	Pn	**Pn**	**11 14 53.0**	**-0.3**
PATCX	**Punta Patache**	**2.67**	**191**	⇑*i* P	**Pn**	**11 14 54.0**	**+0.6**
PATCX				*e*S	**Sn**	**11 15 24.3**	**-1.2**
PATCX				IAML		11 15 36.0	
	comp=E,1µm,0.8s						
PB01	**IPOC Station P**	**2.84**	**178**	⇑*i* P	**Pn**	**11 14 56.4**	**+0.8**
PB01				*e*S	**Sn**	**11 15 29.7**	**+0.1**
PB01				IAML		11 15 35.3	
	comp=E,543nm,0.2s						
PB02	**IPOC Station P**	**3.13**	**185**	⇓*i* P	**Pn**	**11 14 60.0**	**+0.6**
PB02				*e*S	**Sn**	**11 15 35.4**	**-0.9**
PB02				IAML		11 15 51.8	
	comp=E,1µm,0.4s						
LVC	**Limon Verde**	**4.45**	**172**	P	**Pn**	**11 15 18.8**	**+1.5**
	comp=E,89nm,0.3s,baz=353,slow=9.5,SNR=271						
LVC				S	**Sn**	**11 16 07.1**	**-1.2**
	comp=E,94nm,0.3s,baz=254,slow=22,SNR=11						
LVC	**Limon Verde**	**4.45**	**172**	*e*P	**Pn**	**11 15 18.6**	**+1.3**
PB06	**IPOC Station P**	**4.50**	**179**	Pn	**Pn**	**11 15 17.9**	**+0.1**
AF01	**San Pedro de A**	**4.93**	**164**		**Pn**	**11 15 26.0**	**+2.3**
GO02	**Mina Guanaco**	**6.94**	**180**	Pn	**Pn**	**11 15 49.9**	**-1.0**
AC01	**Pan de Azucar**	**7.97**	**186**		**Pn**	**11 16 01.8**	**-2.9**
SIV	**San Ignacio**	**8.46**	**76**	P	**Pn**	**11 16 10.8**	**-0.5**
	comp=E,4.7nm,0.4s,baz=259,slow=14,SNR=23						
SIV				S	**Sn**	**11 17 40.4**	**-4.7**
	comp=E,5.5nm,0.6s,baz=345,slow=20,SNR=4.5						
AC02	**Maricunga**	**8.62**	**177**	Pn	**Pn**	**11 16 12.8**	**-1.0**
BBSD	**Serra de San D**	**8.64**	**85**	*e*P	**Pn**	**11 16 13.8**	**0.0**
ETMB	**Extrema**	**8.95**	**22**	Pn	**Pn**	**11 16 16.3**	**-1.7**
ETMB	**Extrema**	**8.95**	**22**	*e*P	**Pn**	**11 16 16.3**	**-1.7**
AC06	**Mina Casimiro**	**9.15**	**184**	Pn	**Pn**	**11 16 18.2**	**-2.5**
NNA	**Nana**	**9.31**	**310**	P	**Pn**	**11 16 21.1**	**-1.7**
	comp=E,13nm,0.6s,baz=149,slow=12,SNR=5.2						
BBRB	**Robore, Bolivi**	**9.32**	**92**	*e*S	**Sn**	**11 18 06.1**	**0.0**
GO03	**Copiap**	**9.38**	**183**		**Pn**	**11 16 20.1**	**-3.6**
FDPY	**Filadelfia**	**9.95**	**116**	*e*P	**Pn**	**11 16 31.1**	**-0.4**
AC04	**Llanos de Chal**	**10.06**	**187**	Pn	**Pn**	**11 16 28.1**	**-4.9**
PTLB	**Pontes e Lacer**	**10.40**	**76**	*e*P	**Pn**	**11 16 38.2**	**+0.6**
PTLB				*e*S	**Sn**	**11 18 31.9**	**-0.3**
VILB	**Vilhena**	**10.46**	**61**	Pn	**Pn**	**11 16 38.4**	**+0.1**
VILB	**Vilhena**	**10.46**	**61**	*e*P	**Pn**	**11 16 38.5**	**+0.1**
AC05	**El Transito**	**10.62**	**183**	Pn	**Pn**	**11 16 37.2**	**-3.4**
CZSB	**Cruzeiro do Su**	**10.82**	**343**	*e*P	**Pn**	**11 16 42.4**	**-0.9**
SAML	**Samuel**	**11.11**	**35**	Pn	**Pn**	**11 16 45.8**	**-1.3**
SAML	**Samuel**	**11.11**	**35**	*e*P	**Pn**	**11 16 47.3**	**+0.2**
CO01	**Juntas del Tor**	**11.75**	**182**		**Pn**	**11 16 52.9**	**-2.9**
MURT	**Porto Murtinho**	**11.81**	**109**	*e*P	**Pn**	**11 16 55.1**	**-1.3**
TICA	**Tres Isletas**	**11.81**	**135**	*e*P	**Pn**	**11 16 57.3**	**+0.8**
PAPY	**Pozo Azul**	**12.14**	**121**	*e*P	**Pn**	**11 17 00.3**	**-0.4**
CO03	**El Pedregal**	**12.63**	**184**		**Pn**	**11 17 03.2**	**-4.1**
CPUP	**Villa Florida**	**13.96**	**128**	Pn	**Pn**	**11 17 23.4**	**-1.0**
CPUP	**Villa Florida**	**13.96**	**128**	P	**Pn**	**11 17 23.9**	**-0.6**
	comp=E,1.6nm,0.6s,baz=325,slow=12,SNR=5.2						
CPUP	**Villa Florida**	**13.96**	**128**	*e*P	**Pn**	**11 17 24.6**	**+0.2**
AMBA	**Amambai (Brazi**	**14.49**	**111**	*e*P	**Pn**	**11 17 32.6**	**+1.4**
MT02	**Curacav**	**15.07**	**185**		**Pn**	**11 17 38.0**	**-0.5**
MT02				IAmb	IAmb	11 17 39.1	
	comp=Z,15nm,1.1s						
MT08	**Bocatoma Ro**	**15.20**	**181**		**Pn**	**11 17 38.5**	**-1.9**
MT01	**Popeta**	**15.68**	**185**		**Pn**	**11 17 46.1**	**-0.1**
MT01				IAmb	IAmb	11 17 48.5	
	comp=Z,9.5nm,0.7s						
BO02	**Sierra Bellavi**	**16.57**	**183**	P	**P**	**11 17 58.8**	**+0.9**
PSAL	**Palomas, Salto**	**16.84**	**142**	*e*P	**P**	**11 18 02.1**	**+1.5**
PSAL				*e*S	**Sn**	**11 21 09.1**	**+1.5**
CRSM	**Crissiumal (Br**	**17.07**	**126**	*e*P	**P**	**11 18 02.7**	**-0.6**
UNIS	**Unistalda (Bra**	**17.16**	**132**	*e*P	**Pn**	**11 18 04.6**	**+0.2**
ARNL	**Arenillas**	**17.79**	**324**	P	**P**	**11 18 11.8**	**+0.5**
ARNL				IAmb	IAmb	11 18 14.7	
	comp=Z,23nm,0.7s						
LDASE	**Londrina, Braz**	**18.05**	**110**	*e*P	**P**	**11 18 14.6**	**+0.5**
TBOT	**Tacuaremb**	**18.26**	**140**	*e*P	**Pn**	**11 18 18.4**	**+0.8**
TBOT				*e*S	**Sn**	**11 21 42.3**	**+0.3**
ALGR	**Alto Alegre (B**	**18.50**	**128**	*e*P	**Pn**	**11 18 20.3**	**-0.2**
SNDB	**Serra Nova Dou**	**18.73**	**73**	*e*P	**P**	**11 18 21.6**	**0.0**
CHSH	**Refugio Sur-Vo**	**18.91**	**330**	P	**P**	**11 18 24.7**	**+0.5**
CHSH				IAmb	IAmb	11 18 32.8	
	comp=Z,25nm,0.8s						
CPSB	**Cacapava Do Su**	**19.09**	**133**	*e*P	**P**	**11 18 25.8**	**+0.4**
ITTB	**Itaituba**	**19.32**	**46**	*e*P	**P**	**11 18 27.2**	**-0.8**
SLOR	**San Lorenzo -**	**19.42**	**332**	P	**Pn**	**11 18 32.0**	**+0.1**
SLOR				IAmb	IAmb	11 18 33.6	
	comp=Z,18nm,0.8s						
FRTB	**Fartura**	**19.44**	**109**	*e*P	**P**	**11 18 29.8**	**+0.5**
PLTB	**Pedras Altas**	**19.80**	**136**	P	**P**	**11 18 32.6**	**-0.5**
PLTB				IAmb	IAmb	11 18 33.9	
	comp=Z,7.5nm,0.7s						
PLTB	**Pedras Altas**	**19.80**	**136**	*e*P	**P**	**11 18 32.8**	**-0.3**
TULM	**Tulcn-Chalpat**	**20.43**	**336**	P	**P**	**11 18 40.2**	**-0.3**
TULM				IAmb	IAmb	11 18 46.5	
	comp=Z,25nm,0.9s						
TRQA	**Tornquist**	**20.89**	**163**	P	**P**	**11 18 46.2**	**+1.3**
TRQA				IAmb	IAmb	11 18 47.7	
	comp=Z,8.5nm,0.8s						
GO06	**Curarrehue**	**21.38**	**184**	P	**P**	**11 18 52.4**	**+2.2**
BOAV	**Boa Vista**	**22.33**	**25**	P	**P**	**11 18 59.8**	**-0.3**
PLCA	**Paso Flores**	**22.48**	**182**	P	**P**	**11 19 03.0**	**+1.3**
PLCA	**Paso Flores**	**22.48**	**182**	P	**P**	**11 19 02.7**	**+1.1**
	comp=Z,3.7nm,0.8s,baz=356,slow=11,SNR=11						
	comp=Z,3.7nm,0.8s						
WVT	**Waverly**	**56.70**	**342**	P	**P**	**11 23 42.7**	**-0.6**
TXAR	**Lajitas Array**	**57.55**	**325**	P	**P**	**11 23 49.7**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=145,slow=40,SNR=1.9						
TXAR				PcP	**PcP**	**11 24 43.2**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=128,slow=4.1,SNR=2.3						
	comp=Z,0.1nm,0.5s						
CGM3	**Cape Girardeau**	**58.33**	**341**	P	**P**	**11 23 54.7**	**-0.1**
CGM3				IAmb	IAmb	11 23 55.9	
	comp=Z,5.0nm,0.8s						
S44A	**Carbondale**	**58.58**	**342**	P	**P**	**11 23 56.5**	**0.0**
SIUC	**Southern Illin**	**58.58**	**342**	P	**P**	**11 23 56.9**	**+0.4**
FVM	**French Village**	**59.20**	**341**	P	**P**	**11 24 00.6**	**-0.1**
S39A	**Bolivar**	**59.89**	**338**	P	**P**	**11 24 05.9**	**+0.4**
S39A				IAmb	IAmb	11 24 07.3	
	comp=Z,4.5nm,0.7s						
SNAA	**Sanae**	**65.61**	**161**	P	**P**	**11 24 44.2**	**+1.0**
SNAA				IAmb	IAmb	11 24 46.1	
	comp=Z,12nm,1.4s						
SNAA	**Sanae**	**65.61**	**161**	P	**P**	**11 24 43.8**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=243,slow=12,SNR=5.0						
	comp=Z,2.8nm,0.7s						
DBIC	**Dimbokro**	**68.48**	**75**	P	**P**	**11 24 59.8**	**-2.3**
	comp=Z,2.9nm,0.6s,baz=248,slow=6.0,SNR=5.1						
	comp=Z,2.9nm,0.6s						
ULM	**Lac du Bonnet**	**71.97**	**343**	P	**P**	**11 25 24.4**	**+1.7**
	comp=Z,2.3nm,0.4s,baz=162,slow=6.0,SNR=13						
	comp=Z,2.3nm,0.4s						
QSPA	**South Pole Qui**	**71.99**	**180**	P	**P**	**11 25 24.4**	**+1.6**
QSPA				IAmb	IAmb	11 25 48.1	
	comp=Z,6.0nm,1.4s						
QSPA	**South Pole Qui**	**71.99**	**180**	P	**P**	**11 25 24.3**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=172,slow=2.2,SNR=18						
	comp=Z,1.4nm,0.5s						
TOA0	**Torodi Ar. Sit**	**76.90**	**71**	P	**P**	**11 25 50.8**	**-1.2**
TOA0				IAmb	IAmb	11 25 52.0	
	comp=Z,3.1nm,0.8s						
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P	**P**	**11 25 51.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**76.90**	**71**	P	**P**	**11 25 51.2**	**-0.8**
	comp=Z,2.5nm,0.6s,baz=255,slow=5.0,SNR=17						
	comp=Z,2.5nm,0.6s						
ESDC	**Sonseca Array**	**83.96**	**45**	P	**P**	**11 26 29.7**	**+0.4**
	comp=Z,0.7nm,0.8s,baz=227,slow=5.7,SNR=2.9						
	comp=Z,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**87.86**	**341**	P	**P**	**11 26 48.1**	**+0.3**
	comp=Z,0.6nm,0.7s,baz=131,slow=4.4,SNR=13						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**132.48**	**210**	PKP	**PKPdf**	**11 33 13.2**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=134,slow=1.6,SNR=6.8						
WRA	**Warramunga Arr**	**135.41**	**213**	PKP	**PKiKP**	**11 33 20.0**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=141,slow=1.6,SNR=7.9						
ZALV	**Zalesovo Beam**	**139.21**	**23**	PKP	**PKPdf**	**11 33 25.1**	**+0.1**
	comp=Z,1.1nm,0.6s,baz=298,slow=3.2,SNR=5.9						
MKAR	**Makanchi Array**	**143.29**	**33**	PKP	PKPbc	11 33 30.8	+0.8
	comp=Z,0.2nm,0.5s,baz=54,slow=2.1,SNR=2.3						
USRK	**Ussuriysk Ar.**	**148.35**	**330**	PKPbc	**PKPbc**	**11 33 45.1**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=143,slow=34,SNR=4.0						
MJAR	**Matsushiro Arr**	**149.43**	**312**	PKPbc	**PKiKP**	**11 33 48.5**	**-0.3**
	comp=Z,1.2nm,0.7s,baz=82,slow=1.9,SNR=3.0						
SONM	**Songino Array**	**150.25**	**5**	PKPbc	**PKPbc**	**11 33 50.1**	**+0.5**
	comp=Z,2.3nm,0.6s,baz=337,slow=2.0,SNR=11						

*IDC **07** 11:31:25.2±0.7, 15°.91S×74°.21W, h0km, mb3.8/7, mbtmp3.8/11, ML3.4/4, MS3.1/1, Error ellipse: s-maj=33.5km s-min=17.5km az=69.0*
*NEIC **07** 11:31:27.2±2.5, 16°.12S±0°.07×74°.5W±0°.1, h10km±1km, mb4.6/8, Error ellipse: s-maj=17.3km s-min=11.4km az=247.0*
*GUC **07** 11:31:29.4±0.8, 16°.16S×74°.39W, h15km±8km, ML4.4*

ISC 07 11:31:26.6±0.6, **16°.12S**±0°.07×**74°.26W**±0°.09, **h10**km, **n53**, σ2°.05/46, **mb4.0**/10, **Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB12	**IPOC Station P**	**4.50**	**124**		**Pn**	**11 32 38.2**	**+3.2**
PB12	**IPOC Station P**	**4.50**	**124**	*e*P	**Pn**	**11 32 37.5**	**+2.6**
PB18	**Visviri**	**4.81**	**108**		**Pb**	**11 32 48.0**	**-3.3**
NNA	**Nana**	**4.81**	**328**	Pn	Pn	11 32 45.7	+6.5
NNA	**Nana**	**4.81**	**328**	Pn	Pn	11 32 37.5	-1.7
	1.1nm,0.3s,baz=149,slow=13,SNR=1.6						
NNA				Pg	Pb	11 32 46.7	-4.4
	12nm,0.3s,baz=140,slow=14,SNR=13						
NNA				Lg	Lg	11 33 46.8	
	60nm,0.3s,baz=234,slow=9.4,SNR=10						
	3.0nm,0.3s						
PB11	**IPOC Station P**	**5.69**	**130**		**Pn**	**11 32 54.4**	**+3.1**
PB11	**IPOC Station P**	**5.69**	**130**	*e*P	**Pn**	**11 32 53.6**	**+2.3**
TA02	**Huaiquique**	**5.70**	**137**	Pn	**Pn**	**11 32 53.2**	**+1.9**
HMBC	**Humberstone**	**5.86**	**135**	Pn	**Pn**	**11 32 55.7**	**+2.0**
TA01	**Diego Aracena**	**5.88**	**139**		**Pn**	**11 32 55.5**	**+1.7**
TA01	**Diego Aracena**	**5.88**	**139**	*e*P	**Pn**	**11 32 55.8**	**+2.0**
LPAZ	**La Paz**	**5.89**	**92**	Pn	Pn	11 33 01.2	+6.7
	4.3nm,0.3s,baz=269,slow=8.5,SNR=73						
LPAZ				Lg	Lg	11 34 15.2	
	baz=200,slow=12						
LPAZ				LR	LR	11 35 27.4	
	comp=Z,154nm,19.6s,baz=274,slow=41						
GO01	**Chusmiza**	**5.98**	**127**		**Pn**	**11 32 59.3**	**+3.7**
GO01	**Chusmiza**	**5.98**	**127**	*e*P	**Pn**	**11 32 59.2**	**+3.6**
PATCX	**Punta Patache**	**6.09**	**141**	Pn	**Pn**	**11 32 58.3**	**+1.6**
PB08	**IPOC Station P**	**6.29**	**130**		**Pn**	**11 33 02.8**	**+3.0**
PB02	**IPOC Station P**	**6.62**	**142**		**Pn**	**11 33 05.7**	**+1.6**
PB01	**IPOC Station P**	**6.67**	**138**		**Pn**	**11 33 06.7**	**+2.0**
PB07	**IPOC Station P**	**6.94**	**144**		**Pn**	**11 33 09.4**	**+0.8**
PB04	**IPOC Station P**	**7.30**	**148**	Pn	**Pn**	**11 33 13.9**	**+0.4**
PB09	**IPOC Station P**	**7.38**	**141**		**Pn**	**11 33 17.2**	**+2.7**
LVC	**Limon Verde**	**8.19**	**143**	Pn	**Pn**	**11 33 28.4**	**+2.5**
LVC	**Limon Verde**	**8.19**	**143**	Pn	**Pn**	**11 33 28.6**	**+2.7**
	1.3nm,0.3s,baz=316,slow=11,SNR=12						
LVC				S	**Sn**	**11 34 55.0**	**-3.9**
	1.0nm,0.3s,baz=11,slow=7.7,SNR=1.5						
LVC				Lg	Lg	11 35 46.3	
	0.7nm,0.3s,baz=170,slow=14,SNR=1.4						
	3.5nm,0.3s						
CZSB	**Cruzeiro do Su**	**8.48**	**11**	Pn	**Pn**	**11 33 29.3**	**-0.3**
ATAH	**Atahualpa**	**9.80**	**335**	Pn	Pn	11 33 44.6	-3.5
	0.3nm,0.3s,baz=196,slow=15,SNR=2.1						
ATAH				Sn	Sn	11 35 23.1	-15
	0.3nm,0.3s,baz=63,slow=22,SNR=1.2						
	3.4nm,0.7s						
GO02	**Mina Guanaco**	**10.00**	**155**	Pn	**Pn**	**11 33 48.4**	**-2.3**
ETMB	**Extrema**	**10.04**	**52**		**Pn**	**11 33 53.6**	**+2.7**
SIV	**San Ignacio**	**12.68**	**91**	Pn	**Pn**	**11 34 27.3**	**+0.1**
	baz=253,slow=11,SNR=3.7						
	1.2nm,0.4s						
SAML	**Samuel**	**12.95**	**58**		**Pn**	**11 34 31.1**	**+0.2**
H03N1	**Juan Fernandez**	**17.75**	**193**	T	T	11 53 51.2	
	baz=15,slow=74,SNR=3636						
H03N2	**Juan Fernandez**	**17.75**	**193**	T	T	11 53 48.8	
	baz=15,slow=74,SNR=3767						
H03N3	**Juan Fernandez**	**17.76**	**193**	T	T	11 53 49.9	
	baz=15,slow=74,SNR=4114						
BOAV	**Boa Vista**	**22.87**	**38**	P	**P**	**11 36 29.9**	**-0.5**
BOAV				IAmb	IAmb	11 36 32.5	
	comp=Z,16nm,1.5s						
PLCA	**Paso Flores**	**24.73**	**173**	P	**P**	**11 36 50.4**	**+2.1**
PLCA	**Paso Flores**	**24.73**	**173**	P	**P**	**11 36 50.4**	**+2.1**
	comp=Z,1.1nm,0.6s,baz=339,slow=12,SNR=5.6						
	comp=Z,1.1nm,0.6s						
BAUV	**El Baul**	**25.66**	**14**	P	**P**	**11 36 56.0**	**-0.7**
TXAR	**Lajitas Array**	**53.37**	**328**	P	**P**	**11 40 45.2**	**-1.4**
TXAR	**Lajitas Array**	**53.37**	**328**	P	**P**	**11 40 46.7**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=153,slow=6.8,SNR=4.4						
	comp=Z,0.2nm,0.5s						
SNAA	**Sanae**	**68.98**	**161**	P	**P**	**11 42 32.9**	**+1.0**
SNAA				IAmb	IAmb	11 42 34.4	
	comp=Z,9.0nm,1.3s						
SNAA	**Sanae**	**68.98**	**161**	P	**P**	**11 42 33.3**	**+1.5**
	comp=Z,1.1nm,0.4s,baz=298,slow=11,SNR=6.5						
	comp=Z,1.1nm,0.4s						
SCHQ	**Schefferville**	**70.95**	**5**	P	**P**	**11 42 41.6**	**-2.4**
SCHQ				IAmb	IAmb	11 43 03.6	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**74.03**	**180**	P	**P**	**11 43 03.8**	**+1.3**
QSPA	**South Pole Qui**	**74.03**	**180**	P	**P**	**11 43 04.2**	**+1.7**
	comp=Z,0.9nm,0.5s,baz=179,slow=3.8,SNR=12						
	comp=Z,0.9nm,0.5s						
NRS	**Narsarsuaq**	**80.40**	**14**	P	**P**	**11 43 37.6**	**-0.2**
TOA0	**Torodi Ar. Sit**	**80.52**	**73**		**P**	**11 43 39.9**	**+0.3**
TOA0				IAmb	IAmb	11 43 53.9	
	comp=Z,8.6nm,1.5s						
TORD	**Torodi Ar. Bea**	**80.52**	**73**	P	**P**	**11 43 39.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=261,slow=4.0,SNR=7.3						
	comp=Z,1.2nm,0.6s						
YKA	**Yellowknife Ar**	**84.51**	**342**	P	**P**	**11 43 58.9**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=132,slow=4.7,SNR=8.7						
	comp=Z,0.4nm,0.8s						
ESDC	**Sonseca Array**	**85.72**	**47**	P	**P**	**11 44 05.3**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=267,slow=5.1,SNR=1.9						
	comp=Z,0.3nm,0.4s						
ASAR	**Alice Springs**	**131.82**	**216**	PKP	**PKPdf**	**11 50 40.9**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=140,slow=1.7,SNR=5.8						
WRA	**Warramunga Arr**	**134.45**	**219**	PKP	**PKPdf**	**11 50 46.0**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=132,slow=1.8,SNR=5.7						
ZALV	**Zalesovo Beam**	**138.88**	**19**	PKP	**PKPdf**	**11 50 52.3**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=61,slow=46,SNR=1.8						
MKAR	**Makanchi Array**	**143.75**	**28**	PKP	PKPab	11 51 00.9	+2.0
	comp=Z,0.2nm,0.8s,baz=325,slow=2.3,SNR=2.1						
SONM	**Songino Array**	**148.37**	**359**	PKPbc	**PKPdf**	**11 51 11.7**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=325,slow=1.8,SNR=4.3						

*ASRS **07** 11:40:41.0±0.2, 50°.1×8°.8E±°, h10km, MLh3.3/7, Error ellipse: s-maj=3.3km s-min=2.7km az=88.8, confirmed*
*NNC **07** 11:40:45.6±1.2, 50°.40N×87°.48E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=10.8km s-min=4.6km az=102.0*

ISC 07 11:40:41.8±1.2, **50°.41N**±0°.02×**87°.81E**±0°.03, **h2**km±10km, **n16**, σ1°.78/33, **8C-11D**, **Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKAR	**Aktash**	**0.15**	**234**	⇑Pg	**Pg**	**11 40 45.3**	**+0.5**
AKAR				Sg	**Sg**	**11 40 47.3**	**+0.5**
CHBI	**Chibit, Altay**	**0.22**	**244**	Pg	**Pg**	**11 40 46.4**	**+0.4**
CHBI				Sg	**Sg**	**11 40 49.1**	**+0.2**
CUR	**Chagan-Uzun**	**0.47**	**132**	⇑Pg	**Pg**	**11 40 50.4**	**-0.3**
CUR				Sg	**Sg**	**11 40 56.3**	**-0.4**
DGZ	**Jazzator, Alta**	**0.75**	**199**	⇓Pg	**Pg**	**11 40 55.1**	**-1.1**
DGZ				Sg	**Sg**	**11 41 03.6**	**-2.3**
YALR	**Yailyu, Altay**	**1.37**	**355**	Pg	**Pg**	**11 41 08.4**	**+0.4**
YALR				Sg	**Sg**	**11 41 27.3**	**+1.6**
ARTR	**Artybash**	**1.43**	**347**	Pg	**Pg**	**11 41 09.8**	**+0.6**
ARTR				Sg	**Sg**	**11 41 28.8**	**+1.1**
TEL	**Teeli**	**1.64**	**67**	Pg	**Pg**	**11 41 12.4**	**-0.7**
TEL				Sg	**Sg**	**11 41 36.0**	**+1.7**
GALT	**Gorno-Altaysk,**	**1.94**	**324**	Pg	**Pg**	**11 41 18.6**	**-0.5**
GALT				Sg	**Sg**	**11 41 46.2

KBO	**Bosley Butte**	**1.97**	**116**	Pn		**Pn**	**11 51 18.4**	**-2.3**
KBO				IAML			11 51 44.4	
	comp=E,40nm,0.9s							
KBO				IAML			11 51 52.9	
	comp=N,40nm,1.7s							
K02D	**Willamette Mer**	**2.20**	**99**			**Pn**	**11 51 21.7**	**-2.2**
KSXB	**Camp Six Broad**	**2.38**	**121**			**Pn**	**11 51 24.9**	**-1.6**
L02F	**Cave Junction**	**2.44**	**112**			**Pn**	**11 51 25.8**	**-1.4**
L02F				IAML			11 51 59.5	
	comp=E,25nm,2.0s							
I03D	**Drain, OR**	**2.45**	**75**			**Pn**	**11 51 25.7**	**-1.6**
I03D				IAML			11 51 58.6	
	comp=E,24nm,2.2s							
KRMB	**Red Mountain**	**2.54**	**127**	Pn		**Pn**	**11 51 26.3**	**-2.3**
HUMO	**Hull Mountain**	**2.73**	**99**			**Pn**	**11 51 29.6**	**-1.5**
COR	**Corvallis**	**2.82**	**57**			**Pn**	**11 51 30.9**	**-1.4**
COR				IAML			11 52 07.3	
	comp=E,42nm,0.7s							
COR				IAML			11 52 09.7	
	comp=E,29nm,0.4s							
JCC	**Jacoby Creek,**	**2.98**	**139**	Pn		**Pn**	**11 51 32.9**	**-1.6**
KHMM	**Horse Mountain**	**3.08**	**135**	Pn		**Pn**	**11 51 35.0**	**-1.2**
I04A	**Tendick Farm,**	**3.14**	**76**	Pn		**Pn**	**11 51 35.8**	**-0.9**
I04A				IAML			11 52 17.5	
	comp=E,30nm,0.2s							
I04A				IAML			11 52 18.1	
	comp=N,23nm,0.2s							
H04D	**Lebanon**	**3.15**	**62**			**Pn**	**11 51 36.3**	**-0.5**
H04D				IAML			11 52 16.2	
	comp=E,29nm,0.8s							
H04D				IAML			11 52 27.5	
	comp=N,24nm,1.2s							
YBH	**Yreka Blue Hor**	**3.19**	**114**			**Pn**	**11 51 37.5**	**0.0**
YBH	**Yreka Blue Hor**	**3.19**	**114**	Pn		**Pn**	**11 51 37.4**	**-0.1**
	comp=N,1.1nm,0.3s,baz=293,slow=12,SNR=50							
YBH				LR		LR	11 52 07.0	
	comp=N,16nm,20.4s,baz=333,slow=26							
YBH				Sn		**Sn**	**11 52 14.6**	**-0.8**
	comp=N,0.6nm,0.3s,baz=258,slow=20,SNR=7.1 comp=N,2.5nm,0.3s							
G03D	**McMinnville, O**	**3.21**	**48**			**Pn**	**11 51 36.4**	**-1.2**
L04D	**Klamath Falls**	**3.29**	**104**			**Pn**	**11 51 39.2**	**+0.3**
L04D				IAML			11 52 18.7	
	comp=N,13nm,3.5s							
L04D				IAML			11 52 23.9	
	comp=E,16nm,1.1s							
H04A	**Detroit Lake**	**3.57**	**62**	Pn		**Pn**	**11 51 42.1**	**-0.6**
H04A				IAML			11 52 27.5	
	comp=N,19nm,0.5s							
H04A				IAML			11 52 33.9	
	comp=E,16nm,0.4s							
F03A	**Seaside**	**3.58**	**37**			**Pn**	**11 51 40.3**	**-2.5**
K04D	**Chiloquin, OR**	**3.60**	**96**			**Pn**	**11 51 42.5**	**-0.7**
K04D				IAML			11 52 45.0	
	comp=N,29nm,0.9s							
K04D				IAML			11 52 47.6	
	comp=E,20nm,1.9s							
RADR	**Rader Ridge**	**3.88**	**30**	Pn		**Pn**	**11 51 46.8**	**-0.2**
J05D	**Fort Rock, OR**	**3.93**	**85**	Pn		**Pn**	**11 51 47.4**	**-0.4**
J05D				IAML			11 52 40.9	
	comp=E,11nm,4.7s							
J05D				IAML			11 53 02.7	
	comp=N,9.1nm,4.1s							
F04D	**Rainier, OR**	**3.94**	**39**	Pn		**Pn**	**11 51 46.5**	**-1.2**
I05D	**Terrebonne, OR**	**4.02**	**70**			**Pn**	**11 51 48.1**	**-0.8**
I05D				IAML			11 52 45.6	
	comp=N,13nm,2.6s							
I05D				IAML			11 54 22.8	
	comp=E,11nm,2.9s							
E03A	**Lebam**	**4.08**	**31**	Pn		**Pn**	**11 51 47.7**	**-1.9**
E03A				IAML			11 52 43.7	
	comp=N,24nm,1.9s							
F04A	**Amboy**	**4.13**	**45**			**Pn**	**11 51 49.1**	**-1.1**
HOOD	**Mount Hood Mea**	**4.20**	**56**			**Pn**	**11 51 51.5**	**0.0**
K05A	**Summer Lake**	**4.21**	**93**			**Pn**	**11 51 50.9**	**-0.8**
G05A	**Wamic**	**4.37**	**59**	Pn		**Pn**	**11 51 52.9**	**-0.8**
G05A				IAML			11 52 54.3	
	comp=N,18nm,3.1s							
NLWA	**Neilton Lookou**	**4.71**	**23**	Pn		**Pn**	**11 51 56.9**	**-1.5**
NLWA				IAML			11 54 26.8	
	comp=N,11nm,2.3s							
NLWA				IAML			11 55 02.2	
	comp=N,15nm,2.1s							
LON	**Longmire**	**5.00**	**41**			**Pn**	**11 52 01.8**	**-0.5**
LON				IAML			11 53 01.5	
	comp=N,8.6nm,0.7s							
LON				IAML			11 53 11.5	
	comp=E,5.3nm,2.7s							
GNW	**Green Mountain**	**5.21**	**30**	Pn		**Pn**	**11 52 04.3**	**-0.8**
GNW				IAML			11 53 27.8	
	comp=N,6.5nm,4.7s							
GNW				IAML			11 53 58.1	
	comp=E,5.6nm,4.3s							
D05A	**Enumclaw**	**5.24**	**37**	Pn		**Pn**	**11 52 05.2**	**-0.3**
I07A	**Izee**	**5.25**	**77**	Pn		**Pn**	**11 52 05.3**	**-0.6**
I07A				IAML			11 53 13.7	
	comp=E,5.3nm,3.6s							
I07A				IAML			11 54 09.4	
	comp=N,5.1nm,4.6s							
F07A	**Phinny Hill Vi**	**5.54**	**57**	Pn		**Pn**	**11 52 08.8**	**-0.9**
MXC	**Moxie City**	**5.68**	**50**	Pn		**Pn**	**11 52 10.8**	**-0.9**
WVOR	**Wild Horse Val**	**5.91**	**94**	Pn		**Pn**	**11 52 13.3**	**-1.6**
LTY	**Liberty**	**5.91**	**43**			**Pn**	**11 52 14.6**	**-0.3**
G08A	**Pilot Rock**	**5.92**	**66**	Pn		**Pn**	**11 52 14.9**	**-0.2**
J08A	**Circle Bar Ran**	**5.95**	**85**	Pn		**Pn**	**11 52 13.9**	**-1.5**
CLRS	**Cowichan Lake**	**5.98**	**16**	Pn		**Pn**	**11 52 13.8**	**-1.9**
NVAR	**Mina Array Bea**	**7.84**	**124**	Pn		**Pn**	**11 52 41.9**	**+0.4**
	comp=N,0.1nm,0.5s,baz=310,slow=16,SNR=2.1							
PFO	**Pinyon Flats O**	**12.36**	**137**	LR		LR	11 58 15.8	
	comp=N,40nm,21.8s,baz=214,slow=36							
PDAR	**Pinedale Array**	**12.51**	**86**	Pn		**Pn**	**11 53 46.6**	**+1.2**
	comp=N,0.1nm,0.3s,baz=280,slow=9.9,SNR=5.0							
PDAR				LR		LR	11 59 09.7	
	comp=N,28nm,19.9s,baz=284,slow=41 comp=N,0.7nm,0.9s							
DLBC	**Dease Lake**	**15.51**	**353**	Pn		**Pn**	**11 54 27.4**	**+1.6**
	baz=167,slow=14,SNR=3.1 comp=N,0.8nm,0.6s							
YKA	**Yellowknife Ar**	**20.68**	**16**	P		**P**	**11 55 26.7**	**-0.2**
	comp=N,0.3nm,0.8s,baz=206,slow=10,SNR=5.5 comp=N,0.3nm,0.8s							
ULM	**Lac du Bonnet**	**22.16**	**60**	P		**P**	**11 55 40.6**	**-2.3**
	comp=N,0.7nm,0.4s,baz=266,slow=12,SNR=2.9 comp=N,0.7nm,0.4s							
TXAR	**Lajitas Array**	**22.95**	**119**	P		**P**	**11 55 56.2**	**+4.5**
	comp=N,0.2nm,0.8s,baz=292,slow=11,SNR=2.9							
ILAR	**Eielson Array**	**24.56**	**339**	P		**P**	**11 56 06.5**	**-0.2**
	comp=N,0.4nm,0.8s,baz=148,slow=8.6,SNR=3.0 comp=N,0.4nm,0.8s							

*IDC **07** 12:37:43.0±5.6, 14°.23S×167°.25E, h175km±60km, mb3.8/7, mbtmp4.2/8, Error ellipse: s-maj=53.1km s-min=23.6km az=145.0*
*NEIC **07** 12:37:44.5±2.5, 14°.3S±0°.1×167°.4E±0°.2, h188km±10km, mb4.4/15, Error ellipse: s-maj=24.4km s-min=16.2km az=87.0*
*NOU **07** 12:38:04.5, 15°.80S×168°.26E, h0km, MLv3.9/4, Vanuatu Islands*

ISC 07 12:37:42.4±0.9, 14°26S±0°.08×167°4E±0°.2, h170km, n32, σ1≌24/29, mb4.4/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
LIFNC	**LIFOU**	**6.49**	**181**	Pn	**Pn**		**12 39 16.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**6.92**	**205**	Pn	Pn		12 39 26.1	+4.7
DZM	**Mont Dzumac**	**7.82**	**186**	Pn	**Pn**		**12 39 36.1**	**+2.6**
DZM	**Mont Dzumac**	**7.82**	**186**	P	**Pn**		**12 39 34.7**	**+1.2**
	4.9nm,0.4s,baz=63,slow=12,SNR=16							
DZM				S	**Sn**		**12 41 01.8**	**+0.6**
	4.4nm,0.3s,baz=317,slow=20,SNR=5.7							
ONTNC	**Ouen Toro**	**8.05**	**186**	Pn	Pn		12 39 40.0	+3.6
OUENC	**Ouen Island, N**	**8.13**	**183**	Pn	Pn		12 39 43.9	+6.4
PINNC	**Pines Island,**	**8.31**	**180**	Pn	**Pn**		**12 39 40.4**	**+0.6**
HNR	**Honiara**	**8.70**	**303**		Pn		12 39 40.8	-4.3
EIDS	**Eidsvold**	**18.87**	**232**	P	**Pn**		**12 41 52.0**	**-0.4**
EIDS				IAmb	IAmb		12 42 09.8	
	comp=Z,16nm,1.1s							
CTAO	**Charters Tower**	**20.98**	**251**	P	**P**		**12 42 13.3**	**+0.8**
CTAO				IAmb	IAmb		12 42 18.7	
	comp=Z,32nm,1.4s							
ARMA	**Armidale**	**21.65**	**219**	P	**P**		**12 42 20.5**	**+0.8**
ARMA				IAmb	IAmb		12 42 48.5	
	comp=Z,20nm,1.3s							
PATS	**Pohnpei**	**22.80**	**336**	P	**P**		**12 42 31.6**	**+0.9**
COEN	**Coen**	**23.46**	**268**	P	**P**		**12 42 39.1**	**+2.3**
COEN				IAmb	IAmb		12 43 14.3	
	comp=Z,35nm,1.4s							
STKA	**Stephens Creek**	**29.37**	**229**	P	**P**		**12 43 30.1**	**+0.5**
STKA				IAmb	IAmb		12 43 31.1	
	comp=Z,3.1nm,0.5s							
STKA	**Stephens Creek**	**29.37**	**229**	P	**P**		**12 43 30.1**	**+0.5**
	comp=Z,12nm,0.4s,baz=56,slow=9.1,SNR=68 comp=Z,12nm,0.4s							
WR0	**Warramunga Arr**	**31.85**	**255**	P	**P**		**12 43 50.9**	**-0.7**
WR0				IAmb	IAmb		12 43 55.3	
	comp=Z,11nm,1.4s							
WB0	**Warramunga Arr**	**31.97**	**255**	P	**P**		**12 43 52.0**	**-0.7**
WB0				IAmb	IAmb		12 43 54.7	
	comp=Z,18nm,1.5s							
WB2	**Warramunga Arr**	**32.02**	**255**	P	**P**		**12 43 51.8**	**-1.3**
WRAB	**Tennant Creek**	**32.02**	**255**	P	**P**		**12 43 51.7**	**-1.4**
WRAB				IAmb	IAmb		12 43 56.8	
	comp=Z,11nm,1.4s							
WRA	**Warramunga Arr**	**32.03**	**255**	P	**P**		**12 43 51.5**	**-1.8**
	comp=Z,1.6nm,0.5s,baz=86,slow=9.2,SNR=8.8 comp=Z,1.6nm,0.5s							
AS31	**Alice Springs**	**32.93**	**248**	P	**P**		**12 43 59.8**	**-1.2**
ASAR	**Alice Springs**	**32.93**	**248**	P	**P**		**12 43 59.9**	**-1.1**
	comp=Z,2.0nm,0.4s,baz=77,slow=9.5,SNR=98 comp=Z,2.0nm,0.4s							
BBOO	**Buckleboo**	**33.94**	**232**	P	**P**		**12 44 09.5**	**-0.1**
FORT	**Forrest**	**39.62**	**239**	P	**P**		**12 44 56.7**	**-0.9**
MORW	**Morawa**	**49.56**	**244**	P	**P**		**12 46 15.4**	**-0.9**
MORW				IAmb	IAmb		12 46 41.5	
	comp=Z,17nm,1.3s							
PETK	**Petropavlovsk-**	**67.60**	**354**	P	**P**		**12 48 22.3**	**+1.8**
	comp=Z,2.3nm,0.9s,baz=175,slow=3.9,SNR=2.4 comp=Z,2.3nm,0.9s							
QSPA	**South Pole Qui**	**75.77**	**180**	P	**P**		**12 49 07.4**	**-1.9**
SONM	**Songino Array**	**82.18**	**324**	P	**P**		**12 49 44.3**	**-0.2**
	comp=Z,0.4nm,0.7s,baz=134,slow=6.2,SNR=1.8 comp=Z,0.4nm,0.7s							
IMAR	**Indian Mountai**	**85.09**	**15**	P	**P**		**12 49 59.7**	**+1.1**
ILAR	**Eielson Array**	**86.05**	**18**	P	**P**		**12 50 02.0**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=244,slow=5.6,SNR=7.2 comp=Z,0.7nm,0.7s							
MKAR	**Makanchi Array**	**96.93**	**316**	P	**P**		**12 50 53.8**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=84,slow=4.3,SNR=3.9 comp=Z,0.4nm,0.8s							
ARCES	**ARCESS Array B**	**119.82**	**346**	PKP	**PKPdf**		**12 56 11.7**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=65,slow=2.2,SNR=5.7							

*CNRM **07** 12:44:13.9, 35°.02N×4°.87W, h27km, ML2.7*
*INMG **07** 12:44:16.0±1.9, 34°.90N×4°.48W, h31km±10km, ML2.3, Error ellipse: s-maj=7.2km s-min=3.4km az=97.0*
*SFS **07** 12:44:16.3, 34°.89N×4°.51W, h55km, ML2.6/21, ML2.9/13, MLv2.4/21*
*MDD **07** 12:44:16.6±0.5, 34°.90N×4°.56W, h57km±10km, Mb3.4/18, Error ellipse: s-maj=4.0km s-min=3.4km az=158.0*
*IGIL **07** 12:44:17.5, 34°.88N×4°.67W, h28km, ML2.1*

ISC 07 12:44:14.9±1.1, 34°90N±0°.02×4°55W±0°.02, h35km, n86, σ1≌82/125, 13C, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
PVLZ	**Peæn de**	**0.34**	**36**	Pg	**Pn**		**12 44 26.5**	**+3.2**
PVLZ				Sg	**Sn**		**12 44 33.3**	**+4.2**
PALE	**Palemas**	**0.59**	**57**	P	**Pn**		**12 44 28.3**	**+1.4**
PALE	**Palemas**	**0.59**	**57**	S	**Sn**		**12 44 38.0**	**+2.6**
PALE	**Palemas**	**0.59**	**57**	P	**Pn**		**12 44 29.0**	**+2.2**
PALE	**Palemas**	**0.59**	**57**	S	**Sn**		**12 44 39.0**	**+3.7**
PALE	**Palemas**	**0.59**	**57**	P	**Pn**		**12 44 29.0**	**+2.2**
PALE	**Palemas**	**0.59**	**57**	S	**Sn**		**12 44 39.0**	**+3.7**
CHEFC	**Chefchaouen**	**0.68**	**288**	P	Pn		12 44 32.7	+4.5
AKLM	**AKL**	**0.68**	**124**	S	**Sn**		**12 44 39.2**	**+1.6**
AKLM	**AKL**	**0.68**	**124**	P	**Pn**		**12 44 30.5**	**+2.3**
AKLM	**AKL**	**0.68**	**124**	P	**Pn**		**12 44 30.5**	**+2.3**
SICH	**Sidi Chahed**	**1.01**	**219**	P	**Pn**		**12 44 33.8**	**+1.2**
SICH	**Sidi Chahed**	**1.01**	**219**	S	**Sn**		**12 44 48.4**	**+2.8**
SMIR	**Smir Dam**	**1.04**	**319**	P	**Pn**		**12 44 34.7**	**+1.8**
SMIR	**Smir Dam**	**1.04**	**319**	S	**Sn**		**12 44 49.8**	**+3.6**
RSA	**Sarsar**	**1.05**	**270**	P	**Pn**		**12 44 36.8**	**+3.7**
CEU	**Ceuta**	**1.21**	**326**	Pn	**Pn**		**12 44 36.1**	**+0.9**
CEU				Sn	**Sn**		**12 44 50.6**	**+0.2**
ECEU	**Ceuta**	**1.21**	**326**	Sn	**Sn**		**12 44 52.2**	**+1.8**
ECEU				Pn	**Pn**		**12 44 36.8**	**+1.6**
ECEU	**Ceuta**	**1.21**	**326**	Pg	**Pn**		**12 44 37.0**	**+1.8**
ECEU				⇑*i*Vmb_V			12 44 39.2	
	332nm,SNR=2.3							
ECEU				Sg	**Sn**		**12 44 51.5**	**+1.1**
GOG	**Mont Gurugu**	**1.31**	**75**	P	**Pn**		**12 44 35.4**	**-1.4**
GOG	**Mont Gurugu**	**1.31**	**75**	S	**Sn**		**12 44 52.4**	**-0.8**
EMEL	**Melilla**	**1.37**	**72**	Pg	**Pn**		**12 44 38.8**	**+1.4**
EMEL				Sg	**Sn**		**12 44 54.6**	**+0.3**
EMLI	**Melilla**	**1.37**	**73**	Sn	**Sn**		**12 44 53.7**	**-0.7**
WMELI	**Melilla**	**1.37**	**72**	Sn	**Sn**		**12 44 53.9**	**-0.6**
IFR	**Ifrane**	**1.46**	**199**	Pn	**Pn**		**12 44 39.6**	**+0.8**
IFR				Sn	**Sn**		**12 44 56.7**	**-0.1**
EMIJ	**Mijas**	**1.67**	**354**	Pn	**Pn**		**12 44 41.2**	**-0.5**
EMIJ	**Mijas**	**1.67**	**354**	Pn	**Pn**		**12 44 41.3**	**-0.4**
EMIJ				⇑*i*Vmb_V			12 44 44.7	
	120nm,SNR=1.7							
EMIJ				Sn	**Sn**		**12 45 01.0**	**-1.0**
JBK	**JBK**	**1.73**	**108**	P	**Pn**		**12 44 41.1**	**-1.5**
JBK	**JBK**	**1.73**	**108**	S	**Sn**		**12 44 59.2**	**-4.4**
TAF	**Taforalt**	**1.76**	**92**	P	**Pn**		**12 44 41.4**	**-1.5**
TAF	**Taforalt**	**1.76**	**92**	S	**Sn**		**12 45 02.0**	**-2.1**
CHAS	**Isla Isabel II**	**1.76**	**80**	Sn	**Sn**		**12 45 02.6**	**-1.5**
EMAL	**Malaga-Limoner**	**1.86**	**3**	Pn	**Pn**		**12 44 45.0**	**+0.7**
EMAL				Sn	**Sn**		**12 45 06.9**	**+0.3**
MD31	**MD31**	**2.03**	**185**	P	**Pn**		**12 44 47.4**	**+0.7**
MD31	**MD31**	**2.03**	**185**	S	**Sn**		**12 45 10.3**	**-0.6**
MDT	**Midelt**	**2.08**	**181**	P	**Pn**		**12 44 48.3**	**+1.0**
MDT	**Midelt**	**2.08**	**181**	S	**Sn**		**12 45 11.0**	**-1.1**
MDT	**Midelt**	**2.08**	**181**	P	**Pn**		**12 44 48.3**	**+1.0**
MDT	**Midelt**	**2.08**	**181**	P	**Pn**		**12 44 48.3**	**+1.0**
ELGU	**Los Guajares,**	**2.10**	**21**	Pn	**Pn**		**12 44 47.7**	**0.0**
ELGU				Sn	**Sn**		**12 45 11.5**	**-1.2**
ELGU	**Los Guajares,**	**2.10**	**21**	Pn	**Pn**		**12 44 48.1**	**+0.4**
ELGU				⇑*i*Vmb_V			12 44 49.4	
	417nm,SNR=3.1							
ELGU				Sn	**Sn**		**12 45 11.5**	**-1.2**
ESPR	**Espera**	**2.23**	**332**	Pn	**Pn**		**12 44 50.6**	**+1.2**
ESPR				⇑*i*Vmb_V			12 44 54.8	
	56nm,SNR=0.9							
ESPR				Sn	**Sn**		**12 45 16.5**	**+0.7**
EGOR	**Sierra Gorda,**	**2.24**	**9**	Pn	**Pn**		**12 44 50.6**	**+1.1**
EGOR	**Sierra Gorda,**	**2.24**	**9**	Pn	**Pn**		**12 44 51.1**	**+1.5**
EGOR				⇑*i*Vmb_V			12 44 55.0	
	129nm,SNR=2.5							
EGOR				Sn	**Sn**		**12 45 14.2**	**-1.8**
ZHG	**ZHG**	**2.26**	**231**	P	**Pn**		**12 44 50.7**	**+0.9**
ZHG	**ZHG**	**2.26**	**231**	P	**Pn**		**12 44 50.7**	**+0.9**
ZHG	**ZHG**	**2.26**	**231**	S	**Sn**		**12 45 17.0**	**+0.5**
ZHG	**ZHG**	**2.26**	**231**	P	**Pn**		**12 44 50.7**	**+0.9**
ZHG	**ZHG**	**2.26**	**231**	S	**Sn**		**12 45 17.0**	**+0.5**
EBER	**Berja**	**2.41**	**34**	Pn	**Pn**		**12 44 52.2**	**+0.3**
EBER				Sn	**Sn**		**12 45 19.2**	**-1.1**
EBER	**Berja**	**2.41**	**34**	Pn	**Pn**		**12 44 51.8**	**-0.1**
EBER				⇑*i*Vmb_V			12 44 53.6	
	185nm,SNR=1.3							
EBER				Sn	**Sn**		**12 45 19.6**	**-0.7**
EQUE	**Quentar**	**2.47**	**21**	Pn	**Pn**		**12 44 53.3**	**+0.6**
EQUE				⇑*i*Vmb_V			12 44 58.7	
	95nm,SNR=1.3							
EQUE				Sn	**Sn**		**12 45 19.7**	**-2.1**
AVE	**Averroes**	**2.86**	**237**	Pn	**Pn**		**12 44 59.2**	**+1.2**
AVE				Sn	**Sn**		**12 45 30.9**	**-0.4**
EQES	**Quesada**	**3.13**	**22**	Pn	**Pn**		**12 45 03.6**	**+1.7**
EQES				⇑*i*Vmb_V			12 45 06.1	
	100nm,SNR=1.8							
EQES				Sn	**Sn**		**12 45 36.7**	**-1.5**
ECAB	**El Cabril**	**3.25**	**348**	Pn	**Pn**		**12 45 04.2**	**+0.8**
ECAB				Sn	**Sn**		**12 45 39.1**	**-1.7**
ECAB	**El Cabril**	**3.25**	**348**	Pn	**Pn**		**12 45 04.2**	**+0.8**
ECAB				⇑*i*Vmb_V			12 45 06.7	
	47nm,SNR=1.0							
ECAB				Sn	**Sn**		**12 45 39.7**	**-1.1**
EADA	**Adamuz**	**3.26**	**360**	Pn	**Pn**		**12 45 05.5**	**+1.9**
EADA				Sn	**Sn**		**12 45 40.8**	**-0.4**
EADA	**Adamuz**	**3.26**	**360**	Pn	**Pn**		**12 45 05.3**	**+1.8**
EADA				⇑*i*Vmb_V			12 45 07.5	
	68nm,SNR=1.6							
EADA				Sn	**Sn**		**12 45 41.3**	**+0.1**
EGRO	**El Granado**	**3.54**	**319**	Pn	**Pn**		**12 45 09.0**	**+1.6**
EGRO				Sn	**Sn**		**12 45 46.3**	**-1.7**
EGRO	**El Granado**	**3.54**	**319**	Pn	**Pn**		**12 45 09.0**	**+1.6**
EGRO				⇑*i*Vmb_V			12 45 11.5	
	244nm,SNR=2.8							
EGRO				Sn	**Sn**		**12 45 46.3**	**-1.7**
PVAQ	**Vaqueiros**	**3.58**	**315**	*e*Pn	**Pn**		**12 45 08.9**	**+1.0**
PVAQ				*e*Sn	**Sn**		**12 45 47.4**	**-1.6**
PVAQ				A	A		12 45 47.7	
	11nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.60**	**311**	*e*Pn	**Pn**		**12 45 09.2**	**+1.0**
PBDV				*e*Sn	**Sn**		**12 45 47.9**	**-1.7**
PBDV				A	A		12 45 53.5	
	3.4nm,0.5s							
PBAR	**Barrancos**	**3.84**	**329**	*e*Pn	**Pn**		**12 45 13.2**	**+1.8**
PBAR				*e*Sn	**Sn**		**12 45 52.9**	**-2.4**
PBAR				A	A		12 45 55.8	
	2.7nm,0.3s							
PBAR	**Barrancos**	**3.84**	**329**	Pn	**Pn**		**12 45 13.2**	**+1.8**
PBAR				Sn	**Sn**		**12 45 52.9**	**-2.4**
PCVE	**Castro Verde**	**3.92**	**315**	*e*Pn	**Pn**		**12 45 14.2**	**+1.6**
PCVE				*e*Sn	**Sn**		**12 45 55.1**	**-2.3**
PCVE				A	A		12 45 57.0	
	3.4nm,0.5s							
PCVE	**Castro Verde**	**3.92**	**315**	Pn	**Pn**		**12 45 14.2**	**+1.6**
PCVE				Sn	**Sn**		**12 45 55.7**	**-1.7**
PSIM	**Granatula de C**	**3.97**	**9**	Pn	**Pn**		**12 45 13.8**	**+0.5**
PSIM				Sn	**Sn**		**12 45 57.1**	**-1.5**
MORF	**Marmelete**	**4.10**	**307**	*e*Pn	**Pn**		**12 45 16.7**	**+1.6**
MORF				*e*Sn	**Sn**		**12 45 59.7**	**-2.1**
MORF				A	A		12 46 05.8	
	4.0nm,0.1s							
MORF	**Marmelete**	**4.10**	**307**	*e*P	**Pn**		**12 45 16.2**	**+1.2**
MORF				*e*S	**Sn**		**12 45 58.6**	**-3.3**
MORF				IAML			12 46 00.5	
	comp=N,3.7nm,0.1s							
PFVI	**Vila Bisbo**	**4.12**	**304**	*e*Sn	**Sn**		**12 45 59.6**	**-2.7**
PFVI				A	A		12 46 09.7	
	comp=N,2.8nm,0.1s							
MESJ	**Messejana**	**4.17**	**316**	*e*Pn	**Pn**		**12 45 17.7**	**+1.7**
MESJ				*e*Sn	**Sn**		**12 46 00.6**	**-2.9**
MESJ				A	A		12 46 05.2	
	comp=N,2.8nm,0.2s							
MESJ	**Messejana**	**4.17**	**316**	*e*P	**Pn**		**12 45 17.0**	**+1.0**
MESJ				*e*S	**Sn**		**12 46 00.5**	**-3.0**
MESJ				IAML			12 46 02.2	
	comp=N,3.7nm,0.1s							
PTEO	**Sao Teotonio**	**4.29**	**309**	*e*Pn	**Pn**		**12 45 19.5**	**+1.9**
PTEO				*e*Sn	**Sn**		**12 46 04.3**	**-2.1**
PTEO				A	A		12 46 09.1	
	comp=N,3.2nm,0.4s							
EBAD	**Badajoz**	**4.33**	**334**	Pn	**Pn**		**12 45 19.8**	**+1.6**
EBAD				Sn	**Sn**		**12 46 05.1**	**-2.3**
EBAD	**Badajoz**	**4.33**	**334**	Pn	**Pn**		**12 45 19.1**	**+0.9**
EBAD				⇑*i*Vmb_V			12 45 24.2	
	comp=N,116nm,SNR=1.6							
EBAD				Sn	**Sn**		**12 46 05.2**	**-2.1**
OUZM	**OUZ**	**4.39**	**206**	P	**Pn**		**12 45 20.1**	**+0.9**
ETOB	**Tobarra**	**4.45**	**32**	Pn	**Pn**		**12 45 23.1**	**+3.2**
PNCL	**Nicolau / Gran**	**4.54**	**316**	*e*Pn	**Pn**		**12 45 22.4**	**+1.4**
PNCL				*e*Sn	**Sn**		**12 46 09.1**	**-3.4**
PNCL				A	A		12 46 10.8	
	comp=N,2.4nm,0.1s							
EVO	**Evora**	**4.57**	**324**	Sn	**Sn**		**12 46 10.9**	**-2.5**
PAB	**San Pablo**	**4.64**	**2**	Pn	**Pn**		**12 45 24.0**	**+1.4**
PAB				⇑*i*Vmb_V			12 45 24.5	
	comp=N,52nm,SNR=1.4							
PAB				Sn	**Sn**		**12 46 13.5**	**-1.8**
PESTR	**Estremoz**	**4.65**	**329**	*e*Sn	**Sn**		**12 46 12.7**	**-2.7**
PMRV	**Marv??o**	**5.06**	**334**	*e*Pn	**Pn**		**12 45 29.7**	**+1.5**
PMRV				*e*Sn	**Sn**		**12 46 22.5**	**-3.0**
PMRV				A	A		12 46 23.8	
	comp=N,1.6nm,0.2s							
PMTG	**Montargil**	**5.10**	**326**	*e*Sn	**Sn**		**12 46 24.2**	**-2.2**
PMTG				A	A		12 46 25.6	
	comp=N

*GUC **07** 12:54:35.2±0.6, 19.°64S×69.°07W, h109km±2km, ML3.7*
ISC 07 12:54:34.3±0.9, 19°65S±0.°03×69°11W±0.°06, h111km±6km, n33, σ1901/61, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.08**	**257**	*e*P			**Pn**	**12 54 50.5**	**+0.3**
GO01				*e*S			**Sn**	**12 55 03.2**	**+1.0**
GO01				IAML				12 55 04.2	
	comp=Z,1μm,0.1s								
GO01	**Chusmiza**	**0.08**	**257**	*e*P			**Pn**	**12 54 50.2**	**0.0**
GO01				*i* S			**Sn**	**12 55 02.9**	**+0.7**
PB08	**IPOC Station P**	**0.49**	**185**	*e*P			**Pn**	**12 54 52.2**	**+0.4**
PB08				*e*S			**Sn**	**12 55 05.8**	**+1.0**
PB08				IAML				12 55 06.4	
	comp=Z,2μm,0.2s								
PB08	**IPOC Station P**	**0.49**	**185**	*e*P			**Pn**	**12 54 52.1**	**+0.4**
PB08				*i* S			**Sn**	**12 55 05.4**	**+0.6**
PB08				IAML				12 55 06.2	
	comp=E,5μm,0.2s								
PB11	**IPOC Station P**	**0.53**	**258**	*e*P			**Pn**	**12 54 52.0**	**+0.4**
PB11				*e*S			**Sn**	**12 55 05.8**	**+1.1**
PB11				IAML				12 55 06.3	
	comp=Z,2μm,0.2s								
PB11	**IPOC Station P**	**0.53**	**258**	*e*P			**Pn**	**12 54 52.1**	**+0.4**
PB11				*i* S			**Sn**	**12 55 05.2**	**+0.5**
PB11				IAML				12 55 06.8	
	comp=E,4μm,0.2s								
HMBC	**Humberstone**	**0.96**	**229**	*e*P			**Pn**	**12 54 55.6**	**+0.2**
HMBC				*e*S			**Sn**	**12 55 12.0**	**+0.8**
HMBC				IAML				12 55 12.9	
	comp=Z,1μm,0.4s								
HMBC	**Humberstone**	**0.96**	**229**	*e*P			**Pn**	**12 54 55.6**	**+0.2**
HMBC				*i* S			**Sn**	**12 55 11.7**	**+0.4**
HMBC				IAML				12 55 12.8	
	comp=E,2μm,0.1s								
TA02	**Huaiquique**	**1.14**	**237**	*e*P			**Pn**	**12 54 57.6**	**+0.6**
TA02				*e*S			**Sn**	**12 55 15.4**	**+1.1**
TA02				IAML				12 55 17.4	
	comp=Z,1μm,0.1s								
TA02	**Huaiquique**	**1.14**	**237**	*e*P			**Pn**	**12 54 57.7**	**+0.6**
TA02				*i* S			**Sn**	**12 55 14.7**	**+0.4**
TA02				IAML				12 55 18.1	
	comp=N,2μm,0.2s								
TA01	**Diego Aracena**	**1.36**	**228**	*e*P			**Pn**	**12 54 59.9**	**+0.4**
TA01				*e*S			**Sn**	**12 55 20.0**	**+1.3**
TA01	**Diego Aracena**	**1.36**	**228**	*e*P			**Pn**	**12 54 59.8**	**+0.3**
TA01				*i* S			**Sn**	**12 55 18.9**	**+0.3**
PB01	**IPOC Station P**	**1.43**	**194**	*e*P			**Pn**	**12 55 01.0**	**+0.5**
PB01				*e*S			**Sn**	**12 55 21.3**	**+0.9**
PB01				IAML				12 55 22.2	
	comp=Z,498nm,0.2s								
PB01	**IPOC Station P**	**1.43**	**194**	*e*P			**Pn**	**12 55 01.0**	**+0.5**
PB01				*i* S			**Sn**	**12 55 20.9**	**+0.6**
PB01				IAML				12 55 21.6	
	comp=E,2μm,0.2s								
PATCX	**Punta Patache**	**1.52**	**220**	*e*P			**Pn**	**12 55 02.0**	**+0.4**
PATCX				*e*S			**Sn**	**12 55 23.3**	**+1.1**
PATCX				IAML				12 55 26.4	
	comp=Z,226nm,0.2s								
PATCX	**Punta Patache**	**1.52**	**220**	*e*P			**Pn**	**12 55 01.7**	**+0.2**
PATCX				*i* S			**Sn**	**12 55 22.6**	**+0.4**
PB12	**IPOC Station P**	**1.54**	**312**	*e*P			**Pn**	**12 55 02.3**	**+0.4**
PB12				*e*S			**Sn**	**12 55 23.6**	**+0.9**
PB12				IAML				12 55 25.0	
	comp=Z,253nm,0.3s								
PB12	**IPOC Station P**	**1.54**	**312**	*e*P			**Pn**	**12 55 02.2**	**+0.4**
PB12				*i* S			**Sn**	**12 55 23.3**	**+0.5**
AP01	**Chacalluta**	**1.73**	**317**	*e*P			**Pn**	**12 55 04.5**	**+0.6**
AP01				IAML				12 55 31.8	
	comp=Z,358nm,0.3s								
PB02	**IPOC Station P**	**1.82**	**204**	*e*P			**Pn**	**12 55 05.8**	**+0.6**
PB02				*e*S			**Sn**	**12 55 29.5**	**+0.8**
PB02				IAML				12 55 35.9	
	comp=Z,547nm,0.2s								
PB02	**IPOC Station P**	**1.82**	**204**	*e*P			**Pn**	**12 55 05.7**	**+0.5**
PB02				*i* S			**Sn**	**12 55 29.3**	**+0.5**
PB02				IAML				12 55 38.7	
	comp=E,669nm,0.2s								
PB09	**IPOC Station P**	**2.14**	**183**	*e*P			**Pn**	**12 55 10.3**	**+1.0**
PB09				*e*S			**Sn**	**12 55 37.7**	**+1.6**
PB09				IAML				12 55 41.0	
	comp=Z,320nm,0.5s								
PB09	**IPOC Station P**	**2.14**	**183**	*e*P			**Pn**	**12 55 09.9**	**+0.6**
PB09				*i* S			**Sn**	**12 55 37.3**	**+1.2**
PB07	**IPOC Station P**	**2.19**	**199**	*e*P			**Pn**	**12 55 10.8**	**+0.8**
PB07				*e*S			**Sn**	**12 55 38.1**	**+0.8**
PB07				IAML				12 55 44.6	
	comp=Z,190nm,0.3s								
PB07	**IPOC Station P**	**2.19**	**199**	*e*P			**Pn**	**12 55 10.3**	**+0.4**
PB07				*i* S			**Sn**	**12 55 37.6**	**+0.3**
PB07				IAML				12 55 42.8	
	comp=N,241nm,0.3s								
PB04	**IPOC Station P**	**2.84**	**200**	*e*P			**Pn**	**12 55 19.5**	**+1.1**
PB04				*e*S			**Sn**	**12 55 54.0**	**+1.6**
PB04				IAML				12 56 09.2	
	comp=Z,96nm,0.4s								
LVC	**Limon Verde**	**2.95**	**176**	*e*P			**Pn**	**12 55 21.1**	**+1.0**
LVC				*e*S			**Sn**	**12 55 57.0**	**+1.7**
LVC				IAML				12 56 02.7	
	comp=Z,58nm,0.5s								
LVC	**Limon Verde**	**2.95**	**176**	P			**Pn**	**12 55 20.6**	**+0.6**
	comp=Z,13nm,0.4s,baz=360,slow=12,SNR=30								
LVC				S			**Sn**	**12 55 55.7**	**+0.5**
	comp=Z,26nm,0.3s,baz=64,slow=22,SNR=16								
PB06	**IPOC Station P**	**3.07**	**188**	*e*P			**Pn**	**12 55 22.5**	**+1.0**
PB06				*e*S			Sn	12 55 47.1	-11
PB06				IAML				12 56 06.9	
	comp=Z,102nm,0.4s								
LPAZ	**La Paz**	**3.47**	**16**	P			**Pn**	**12 55 29.0**	**+1.8**
	comp=Z,6.1nm,0.4s,baz=192,slow=7.5,SNR=38								
LPAZ				S			**Sn**	**12 56 10.6**	**+2.5**
	comp=Z,2.4nm,0.6s,baz=178,slow=8.3,SNR=1.8								
SIV	**San Ignacio**	**8.48**	**66**	P			**Pn**	**12 56 31.0**	**-3.4**
	comp=Z,4.8nm,0.6s,baz=247,slow=9.0,SNR=26								
TORD	**Torodi Ar. Bea**	**76.92**	**71**	P			**P**	**13 06 12.8**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=253,slow=5.1,SNR=1.6								
	comp=Z,0.2nm,0.5s								
YKA	**Yellowknife Ar**	**89.39**	**341**	P			**P**	**13 07 18.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=127,slow=4.0,SNR=8.1								
	comp=Z,0.3nm,0.6s								

*DJA **07** 13:00:55.6±0.3, 4.°S±3.°×13.°2E±.°, h10km, M3.8/7, MLv3.8/7*
*IDC **07** 13:01:03.2±5.4, 4.°56S×132.°60E, h0km, mb3.3/1, mbtmp3.5/3, ML3.1/2, Error ellipse: s-maj=336.8km s-min=32.5km az=75.0*
ISC 07 13:00:54.5±1.0, 3.°67S±0.°06×132.°02E±0.°07, h10km, n8, σ2914/9, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**0.78**	**17**	P			**Pb**	**13 01 10.5**	**+0.4**
FAKI				S			**Sg**	**13 01 19.7**	**+0.1**
KMPI	**Kaimana, Papua**	**1.69**	**90**	P			**Pn**	**13 01 24.4**	**+0.4**
BNDI	**Bandanaira**	**2.27**	**248**	P			**Pn**	**13 01 31.9**	**-0.2**
BNDI				S			**Sn**	**13 02 00.2**	**0.0**
SWI	**Sorong**	**2.88**	**345**	P			**Pn**	**13 01 41.7**	**+1.2**
SAUI	**Saumlaki**	**4.35**	**189**	P			**Pn**	**13 02 03.8**	**+3.1**
WRA	**Warramunga Arr**	**16.34**	**172**	Pn			**Pn**	**13 04 40.2**	**-3.9**
	baz=353,slow=13,SNR=1.4								
WRA				Sn			Sn	13 07 28.5	-17
	0.5nm,0.3s,baz=353,slow=24,SNR=2.3								
	0.4nm,0.4s								
ASAR	**Alice Springs**	**19.97**	**175**	P			**P**	**13 05 27.6**	**+0.6**
	0.2nm,0.3s,baz=356,slow=12,SNR=28								
ASAR				S			S	13 08 57.0	-15
	0.6nm,0.8s,baz=357,slow=28,SNR=2.6								
	1.4nm,0.6s								
MKAR	**Makanchi Array**	**66.60**	**325**	P			P	13 12 02.3	+17
	0.2nm,0.6s,baz=127,slow=6.2,SNR=2.4								
	0.2nm,0.6s								

*IDC **07** 13:34:51.0±0.7, 43.°93S×40.°53E, h0km, mb4.1/11, mbtmp4.1/13, ML3.5/2, MS4.3/47, Error ellipse: s-maj=26.0km s-min=18.3km az=60.0*
*NEIC **07** 13:34:52.4±1.6, 43.°8S±0.°1×40.°5E±0.°3, h10km±1km, mb4.8/15, Error ellipse: s-maj=36.7km s-min=13.8km az=71.0*
*GCMT **07** 13:34:54.4±0.2, 43.°70S±0.°01×40.°50E±0.°02, h14km±1km, MW5.0/111, Moment Tensor Solution. s44,c63; s111,c178; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.85±.15; Mθθ0.58±.11; Mϕϕ1.27±.12; Mrθ-0.34±.25; Mrϕ-4.10±.10; Mθϕ2.11±.32; Best double couple: Mo4.72800×10^16 NP1:ϕ1=176.00000°, δ77.00000°, λ-35.00000°. NP2:ϕ2=275.00000°, δ56.00000°, λ-165.00000°. Principal axes: T 5.4820, Plg14.0000°, Azm229.0000°; N -1.5080, Plg53.0000°, Azm339.0000°; P -3.9750, Plg33.0000°, Azm130.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 07 13:34:52.4±0.5, 43.°84S±0.°10×40.°5E±0.°1, h10km, n72, σ0889/30, mb4.3/14, MS4.3/46, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**15.27**	**309**	Pn			**Pn**	**13 38 27.1**	**-1.0**
GRHM				IAmb			IAmb	13 38 30.6	
	comp=Z,52nm,1.4s								
POGA	**Pongola**	**17.94**	**334**	P			**Pn**	**13 39 01.9**	**0.0**
SUR	**Sutherland**	**19.23**	**300**	P			**Pn**	**13 39 19.5**	**+1.7**
SUR				IAmb			IAmb	13 39 24.5	
	comp=Z,114nm,1.6s								
SUR	**Sutherland**	**19.23**	**300**	P			**Pn**	**13 39 17.9**	**0.0**
	comp=Z,0.2nm,0.3s,baz=99,slow=21,SNR=2.1								
SUR				LR			LR	13 44 57.5	
	comp=Z,548nm,21.7s,baz=138,slow=32								
	comp=Z,8.3nm,1.0s								
BOSA	**Boshof**	**19.52**	**316**	P			**Pn**	**13 39 21.0**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=156,slow=11,SNR=2.4								
BOSA				LR			LR	13 45 33.2	
	comp=Z,909nm,18.6s,baz=176,slow=33								
	comp=Z,2.5nm,0.8s								
LBTB	**Lobatse**	**22.40**	**322**	P			**P**	**13 39 50.9**	**-0.2**
LBTB	**Lobatse**	**22.40**	**322**	LR			LR	13 47 19.8	
	comp=Z,837nm,18.7s,baz=140,slow=33								
VOI	**Vohitsoka**	**22.48**	**15**	P			**P**	**13 39 51.3**	**-0.7**
VOI				IAmb			IAmb	13 40 00.1	
	comp=Z,46nm,1.1s								
OPO	**Ambohidratompo**	**25.81**	**15**	LR			LR	13 49 17.8	
	comp=Z,2μm,18.9s,baz=356,slow=34								
MAW	**Mawson**	**26.62**	**161**	P			**P**	**13 40 30.5**	**-0.1**
	comp=Z,4.2nm,1.1s,baz=328,slow=13,SNR=2.0								
MAW				LR			LR	13 48 27.4	
	comp=Z,448nm,20.6s,baz=320,slow=31								
	comp=Z,4.2nm,1.1s								
LSZ	**Lusaka**	**30.35**	**336**	LR			LR	13 51 21.4	
	comp=Z,301nm,20.4s,baz=162,slow=32								
TSUM	**Tsumeb**	**31.20**	**315**	P			**P**	**13 41 12.4**	**+0.4**
TSUM				IAmb			IAmb	13 41 14.1	
	comp=Z,18nm,1.5s								
TSUM	**Tsumeb**	**31.20**	**315**	LR			LR	13 52 46.4	
	comp=Z,586nm,18.1s,baz=156,slow=34								
SNAA	**Sanae**	**34.80**	**202**	P			**P**	**13 41 43.2**	**+0.4**
	comp=Z,1.8nm,0.9s,baz=139,slow=19,SNR=1.9								
SNAA				LR			LR	13 52 59.9	
	comp=Z,516nm,18.9s,baz=33,slow=31								
	comp=Z,1.8nm,0.9s								
MBAR	**Mbarara**	**43.93**	**346**	LR			LR	14 00 52.6	
	comp=Z,227nm,18.0s,baz=148,slow=36								
QSPA	**South Pole Qui**	**46.37**	**180**	P			**P**	**13 43 18.1**	**-0.5**
QSPA				IAmb			IAmb	13 43 46.2	
	comp=Z,10nm,1.1s								
QSPA	**South Pole Qui**	**46.37**	**180**	P			**P**	**13 43 17.1**	**-1.5**
	comp=Z,1.9nm,0.8s,baz=217,slow=1.9,SNR=7.8								
QSPA				LR			LR	14 01 01.6	
	comp=Z,297nm,20.3s,baz=256,slow=34								
	comp=Z,1.9nm,0.8s								
VNDA	**Vanda**	**53.71**	**167**	LR			LR	14 05 39.2	
	comp=Z,153nm,18.3s,baz=226,slow=34								
SBA	**Scott Base**	**54.27**	**168**	P			**P**	**13 44 18.6**	**+0.6**
SBA				IAmb			IAmb	13 44 47.1	
	comp=Z,10nm,0.8s								
ATD	**Arta Tunnel**	**55.14**	**3**	LR			LR	14 05 41.5	
	comp=Z,26nm,20.7s,baz=166,slow=34								
PMSA	**Palmer Station**	**56.94**	**210**	LR			LR	14 05 33.2	
	comp=Z,290nm,18.7s,baz=117,slow=32								
NWAO	**Narrogin (SRO)**	**59.10**	**107**	LR			LR	14 04 37.4	
	comp=Z,88nm,20.3s,baz=208,slow=30								
PALK	**Pallekele**	**62.50**	**46**	LR			LR	14 05 27.1	
	comp=Z,460nm,21.6s,baz=314,slow=29								
DBIC	**Dimbokro**	**64.84**	**309**	LR			LR	14 10 37.3	
	comp=Z,191nm,20.3s,baz=144,slow=33								
TOAO	**Torodi Ar. Sit**	**66.86**	**318**	P			**P**	**13 45 43.1**	**-1.5**
TOAO				IAmb			IAmb	13 45 56.4	
	comp=Z,10nm,1.4s								
TORD	**Torodi Ar. Bea**	**66.86**	**318**	P			**P**	**13 45 42.8**	**-1.8**
TORD	**Torodi Ar. Bea**	**66.86**	**318**	P			**P**	**13 45 43.3**	**-1.3**
	comp=Z,2.1nm,1.2s,baz=123,slow=5.5,SNR=5.0								
TORD				LR			LR	14 14 01.1	
	comp=Z,178nm,18.7s,baz=149,slow=35								
	comp=Z,2.1nm,1.2s								
WSAR	**Wadi Sarin**	**68.78**	**18**	LR			LR	14 10 00.2	
	comp=Z,196nm,20.1s,baz=212,slow=31								
LEM	**Lemband**	**68.82**	**79**	LR			LR	14 11 32.0	
	comp=Z,228nm,18.3s,baz=196,slow=32								
EIL	**Elat**	**73.33**	**355**	LR			LR	14 16 01.9	
	comp=Z,128nm,20.5s,baz=244,slow=34								
PLCA	**Paso Flores**	**75.48**	**227**	LR			LR	14 13 19.6	
	comp=Z,282nm,21.0s,baz=142,slow=31								
STKA	**Stephens Creek**	**75.84**	**121**	P			**P**	**13 46 38.5**	**-0.4**
	comp=Z,3.3nm,0.8s,baz=206,slow=3.6,SNR=6.2								
	comp=Z,3.3nm,0.8s								
RCBR	**Riachuelo**	**76.21**	**275**	P			**P**	**13 46 41.3**	**+0.1**
ASAR	**Alice Springs**	**76.32**	**110**	P			**P**	**13 46 41.2**	**-0.5**
ASAR	**Alice Springs**	**76.32**	**110**	P			**P**	**13 46 41.9**	**+0.1**
	comp=Z,1.7nm,1.1s,baz=230,slow=7.7,SNR=5.8								
	comp=Z,1.7nm,1.1s								
MMAI	**Mount Meron Ar**	**76.63**	**356**	LR			LR	14 20 14.7	
	comp=Z,205nm,18.4s,baz=118,slow=36								
CPUP	**Villa Florida**	**77.55**	**246**	LR			LR	14 17 13.9	
	comp=Z,146nm,18.4s,baz=145,slow=33								
BATI	**Baumata**	**78.07**	**93**	LR			LR	14 17 40.9	
	comp=Z,157nm,18.8s,baz=243,slow=33								
BDFB	**Brasilia**	**78.31**	**260**	LR			LR	14 14 10.6	
	comp=Z,180nm,21.3s,baz=139,slow=30								
WRA	**Warramunga Arr**	**79.11**	**107**	P			**P**	**13 46 57.0**	**-0.3**
	comp=Z,1.4nm,1.1s,baz=222,slow=4.7,SNR=4.9								
	comp=Z,1.4nm,1.1s								
CMAR	**Chiang Mai Arr**	**81.80**	**55**	P			**P**	**13 47 12.7**	**+1.1**
	comp=Z,1.8nm,0.4s,baz=214,slow=5.7,SNR=11								
CMAR				LR			LR	14 19 19.3	
	comp=Z,216nm,18.0s,baz=220,slow=33								
	comp=Z,1.8nm,0.4s								
GEYT	**Alibeck**	**82.94**	**14**	P			**P**	**13 47 17.7**	**+0.6**
GEYT	**Alibeck**	**82.94**	**14**	P			**P**	**13 47 18.8**	**+1.7**
	comp=Z,0.7nm,0.5s,baz=243,slow=9.8,SNR=5.6								
GEYT				LR			LR	14 22 27.7	
	comp=Z,120nm,18.8s,baz=178,slow=34								
	comp=Z,0.7nm,0.5s								
GYA0B	**ALIBECK ARRAY**	**82.94**	**14**	P			**P**	**13 47 17.6**	**+0.4**
BRTR	**Keskin Array B**	**83.42**	**355**	P			**P**	**13 47 19.9**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=193,slow=5.6,SNR=1.4								
BRTR				LR			LR	14 23 08.1	
	comp=Z,176nm,20.6s,baz=170,slow=35								
	comp=Z,0.5nm,0.5s								
GNI	**Garni**	**83.69**	**3**	LR			LR	14 25 46.8	
	comp=Z,154nm,18.1s,baz=174,slow=36								
CRAI	**Chiangrai**	**84.02**	**55**	P			**P**	**13 47 22.7**	**-0.4**
KEST	**Kesra**	**84.13**	**335**	LR			LR	14 26 42.1	
	comp=Z,291nm,18.4s,baz=293,slow=37								
VAE	**Valguarnera**	**84.34**	**339**	LR			LR	14 26 45.3	
	comp=Z,424nm,18.1s,baz=140,slow=37								
MDT	**Midelt**	**86.70**	**323**	LR			LR	14 26 20.0	
	comp=Z,219nm,19.0s,baz=150,slow=36								
SIV	**San Ignacio**	**87.20**	**251**	LR			LR	14 22 03.5	
	comp=Z,227nm,18.2s,baz=97,slow=32								
KBZ	**Khabaz**	**87.21**	**2**	LR			LR	14 25 07.1	
	comp=Z,172nm,21.8s,baz=162,slow=35								
LVC	**Limon Verde**	**87.64**	**241**	LR			LR	14 21 06.3	
	comp=Z,220nm,19.5s,baz=153,slow=32								
AAK	**Ala-Archa**	**91.31**	**24**	LR			LR	14 26 39.1	
	comp=Z,107nm,18.0s,baz=216,slow=34								
LPAZ	**La Paz**	**91.72**	**246**	LR			LR	14 27 04.8	
	comp=Z,246nm,18.3s,baz=117,slow=34								
ESDC	**Sonseca Array**	**92.33**	**327**	LR			LR	14 30 44.1	
	comp=Z,218nm,18.1s,baz=152,slow=36								
TGY	**Tagaytay City**	**92.87**	**73**	LR			LR	14 24 50.7	
	comp=Z,114nm,19.6s,baz=264,slow=32								
DAVOX	**Davos/Dischmat**	**94.22**	**339**	LR			LR	14 33 45.2	
	comp=Z,124nm,18.5s,baz=70,slow=38								
VRAC	**Vranov**	**95.11**	**345**	LR			LR	14 34 25.0	
	comp=Z,62nm,20.6s,baz=171,slow=38								
GERES	**GERESS Array B**	**95.26**	**343**	LR			LR	14 35 08.3	
	comp=Z,44nm,18.1s,baz=104,slow=38								
PMG	**Port Moresby**	**95.29**	**108**	LR			LR	14 27 14.7	
	comp=Z,87nm,18.2s,baz=243,slow=33								
MDP	**Montagnes des**	**95.80**	**271**	LR			LR	14 27 21.2	
	comp=Z,153nm,18.0s,baz=94,slow=33								
MKAR	**Makanchi Array**	**97.50**	**27**	P			Pdif	13 48 27.4	+1.3
	comp=Z,0.4nm,0.8s,baz=200,slow=8.7,SNR=2.8								
MKAR				LR			LR	14 27 07.3	
	comp=Z,96nm,21.8s,baz=238,slow=32								
	comp=Z,0.4nm,0.8s								
DZM	**Mont Dzumac**	**97.80**	**131**	*e*LR			LR	14 20 17.1	
	comp=Z,121nm,31.2s								
DZM	**Mont Dzumac**	**97.80**	**131**	LR			LR	14 25 35.0	
	comp=Z,83nm,18.1s,baz=194,slow=31								
KURBB	**Kurchatov Arra**	**99.72**	**23**	LR			LR	14 32 05.4	
	comp=Z,64nm,18.3s,baz=176,slow=34								
BVAR	**Borovoye Array**	**99.84**	**18**	LR			LR	14 29 44.7	
	comp=Z,80nm,21.0s,baz=207,slow=33								
TBI	**Tubuai**	**112.52**	**170**	*e*LR			LR	14 26 58.8	
	comp=Z,1μm,27.8s								
TBI				*e*LR			LR	14 27 05.8	
	comp=Z,571nm,24.8s								
PPT2	**Papeete2**	**118.17**	**169**	*e*LR			LR	14 29 44.0	
	comp=Z,120nm,24.5s								
PPT2				*e*LR			LR	14 29 47.5	
	comp=Z,133nm,24.5s								
TAOE	**Nuku Hiva Isla**	**127.55**	**179**	*e*LR			LR	14 33 56.3	
	comp=Z,170nm,22.6s								
TXAR	**Lajitas Array**	**148.09**	**255**	PKPbc			**PKPbc**	**13 54 39.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=134,slow=7.3,SNR=6.6								
ULM	**Lac du Bonnet**	**149.96**	**298**	PKP			**PKPdf**	**13 54 38.2**	**+0.9**
	comp=Z,1.9nm,0.9s,baz=27,slow=2.3,SNR=1.8								
ULM				PKPbc			**PKPbc**	**13 54 42.2**	**0.0**
	comp=Z,1.1nm,0.5s,baz=3.1,slow=4.1,SNR=3.4								

IDC 07 13:44:00.5±15.0, 19.°50S×177.°40W, h372km±135km, mb3.3/3, mbtmp4.1/4, Error ellipse: s-maj=115.7km s-min=31.1km az=36.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.29**	**193**	P			P	13 47 59.8	0.0
	6.9nm,1.0s,baz=323,slow=22,SNR=1.4								
ASAR	**Alice Springs**	**45.31**	**256**	P			P	13 51 43.0	-0.1
	1.8nm,0.5s,baz=91,slow=7.8,SNR=65								
ASAR				PcP			PcP	13 53 15.4	-0.3
	0.4nm,0.7s,baz=100,slow=3.2,SNR=3.0								
	1.8nm,0.5s								
WRA	**Warramunga Arr**	**45.31**	**261**	P			P	13 51 43.1	-0.1
	0.7nm,0.3s,baz=97,slow=7.9,SNR=6.4								
WRA				PcP			PcP	13 53 15.5	-0.2
	0.3nm,0.8s,baz=96,slow=3.7,SNR=1.7								
	0.7nm,0.3s								
QSPA	**South Pole Qui**	**70.56**	**180**	P			P	13 54 36.0	0.0
	1.6nm,1.1s,baz=42,slow=8.7,SNR=2.3								
	1.6nm,1.1s								
AKASG	**Malin Array Be**	**142.41**	**332**	PKP			PKPdf	14 02 48.6	-0.7
	1.2nm,0.5s,baz=61,slow=2.9,SNR=8.2								

*AEIC **07** 13:48:17.5±3.9, 51.°7N±0.°1×178.°02E±0.°09, h141km±5km, Error ellipse: s-maj=21.1km s-min=8.3km az=179.0*
*IDC **07** 13:48:19.9±0.7, 52.°19N×178.°31E, h122km±5km, mb4.0/31, mbtmp4.4/36, MS3.3/4, Error ellipse: s-maj=14.0km s-min=6.7km az=178.0*
*MOS **07** 13:48:19.7±1.0, 52.°05N×178.°39E, h138km, mb4.4/36, Error ellipse: s-maj=8.5km s-min=6.8km az=101.1*
*NEIC **07** 13:48:20.0±2.0, 52.°0N±0.°1×178.°32E±0.°09, h124km±6km, mb4.5/237, ML4.3(AEIC), Error ellipse: s-maj=18.1km s-min=7.3km az=189.0*
ISC 07 13:48:19.9±0.5, 51.°99N±0.°07×178.°30E±0.°03, h126km±3km, h126km:pP-P, n619, σ1904/561, mb4.5/154, 13C-11D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LSNW	**Little Sitkin**	**0.13**	**98**				**Pn**	**13 48 36.8**	**-0.3**
LSSA	**Little Sitkin**	**0.14**	**107**				**Pn**	**13 48 36.6**	**-0.5**
LSPA	**Little Sitkin**	**0.17**	**101**				**Pn**	**13 48 37.0**	**-0.1**
LSPA							**Sn**	**13 48 51.6**	**+1.4**
LSSE	**Little Sitkin**	**0.17**	**108**				**Pn**	**13 48 36.9**	**-0.2**
CETU	**Semis' Tuman**	**0.74**	**91**				**Pn**	**13 48 40.0**	**-0.1**
CESW	**Semis' Southwe**	**0.79**	**96**				**Pn**	**13 48 40.0**	**-0.5**
CEAP	**Semis' Anvil P**	**0.79**	**88**				**Pn**	**13 48 40.5**	**0.0**
CERB	**Semis' Cer

baz=244
L16K **Owhat River** 15.49 42 Pn 13 51 51.4 +0.2
L16K IAmb IAmb 13 51 55.6
comp=Z,19nm,0.8s
L16K **Owhat River** 15.49 42 P P 13 51 52.1 -0.7
baz=241,SNR=5.8
F14K **Arctic Creek** 15.63 24 P P 13 51 53.9 -0.4
baz=217
Q16K **King Salmon** 15.68 55 P P 13 51 54.2 -0.7
baz=256
O17K **Koliganek Bris** 15.78 51 P Pn 13 51 55.0 +0.4
baz=251,SNR=5.3
CHIR **Chirikof Islan** 15.80 66 P Pn 13 51 53.9 -1.1
baz=267
G15K **Niukluk** 15.89 28 P Pn 13 51 56.0 0.0
baz=223
J16K **Anvik River** 15.89 36 P Pn 13 51 56.4 +0.3
baz=234
P17K **Kvichak River** 15.92 53 P Pn 13 51 56.4 -0.1
baz=254,SNR=12
Q17K **Contact Creek** 15.98 57 P P 13 51 57.9 -0.4
baz=258,SNR=8.6
N17K **Nushagak Hills** 15.99 48 P P 13 51 58.8 +0.4
N17K IAmb IAmb 13 52 01.6
comp=Z,22nm,0.8s
N17K **Nushagak Hills** 15.99 48 P P 13 51 58.2 -0.2
baz=249,SNR=9.3
L17K **Donlin** 16.18 42 P P 13 52 00.5 0.0
baz=242,SNR=10
H16K **Elim** 16.18 31 P Pn 13 51 59.8 +0.1
baz=228
I17K **Unalakleet** 16.22 35 P Pn 13 52 00.1 0.0
baz=232
M17K **Holitna River** 16.22 45 P P 13 52 01.7 +0.8
M17K **Holitna River** 16.22 45 P Pn 13 52 00.1 -0.1
baz=245,SNR=14
F15K **North Star Dit** 16.25 26 P Pn 13 52 00.3 -0.2
baz=220
K17K **Iditarod** 16.46 40 P Pn 13 52 02.5 -0.6
baz=240
J17K **VABM Dome** 16.52 38 P P 13 52 05.2 +1.0
J17K IAmb IAmb 13 52 07.3
comp=Z,28nm,1.4s
J17K **VABM Dome** 16.52 38 P Pn 13 52 03.7 -0.1
baz=237,SNR=5.9
P18K **Big Mountain,** 16.57 53 Pn 13 52 03.9 -0.6
P18K IAmb IAmb 13 52 08.2
comp=Z,24nm,0.7s
P18K **Big Mountain,** 16.57 53 P Pn 13 52 04.3 -0.3
baz=255,SNR=10
N18K **Kilae Creek** 16.64 48 P Pn 13 52 04.8 -0.6
baz=250,SNR=8.4
SII **Sitkinak Islan** 16.65 63 Pn Pn 13 52 02.5 -3.0
SII IAmb IAmb 13 52 13.6
comp=Z,46nm,1.2s
SII **Sitkinak Islan** 16.65 63 P Pn 13 52 04.1 -1.3
baz=266
G16K **Koyuk River** 16.67 29 P P 13 52 06.5 +0.8
G16K **Koyuk River** 16.67 29 P P 13 52 05.5 -0.3
baz=226
O18K **Koktuh Hills** 16.71 52 P 13 52 07.0 +0.6
O18K **Koktuh Hills** 16.71 52 P Pn 13 52 05.1 -1.1
baz=254,SNR=16
L18K **Granite Mounta** 16.89 43 Pn 13 52 09.4 +1.1
L18K IAmb IAmb 13 52 10.6
comp=Z,34nm,1.2s
L18K **Granite Mounta** 16.89 43 P P 13 52 07.6 -0.7
baz=244,SNR=7.5
M18K **Stony River** 16.97 46 P P 13 52 08.9 -0.2
baz=248,SNR=6.0
BILL **Bilibino** 17.13 345 Pn 13 52 11.4 +0.3
BILL IAmb IAmb 13 52 14.0
comp=Z,25nm,0.8s
BILL **Bilibino** 17.13 345 *i* P Pn 13 52 12.8 +1.7
BILL pmax pmax
comp=Z,28nm,0.8s
H17K **Granite Mounta** 17.14 32 P Pn 13 52 11.0 -0.3
baz=231
MA2 **Magadan** 17.15 307 P P 13 52 08.2 -2.9
comp=Z,4.8nm,0.8s,baz=140,slow=16,SNR=1.6
MA2 **Magadan** 17.15 307 *d i* P Pn 13 52 13.9 +2.5
MA2 pmax pmax
comp=Z,18nm,1.7s
OHAK **Old Harbor** 17.20 61 P P 13 52 08.9 -2.8
OHAK IAmb IAmb 13 52 12.2
comp=Z,13nm,0.6s
OHAK **Old Harbor** 17.20 61 P P 13 52 09.7 -1.9
baz=264
O19K **Port Alsworth** 17.23 51 P Pn 13 52 12.3 -0.1
O19K **Port Alsworth** 17.23 51 P Pn 13 52 12.1 -0.4
baz=254,SNR=38
Q19K **Cape Douglas,** 17.26 55 P P 13 52 11.3 -1.1
Q19K **Cape Douglas,** 17.26 55 P P 13 52 11.8 -0.6
baz=259,SNR=6.7
G17K **Kiwalik Mounta** 17.26 30 P Pn 13 52 12.8 0.0
baz=228
N19K **Bonanza Creek** 17.34 49 Pn 13 52 14.2 +0.4
N19K **Bonanza Creek** 17.34 49 P Pn 13 52 13.5 -0.4
baz=252,SNR=23
J18K **Innoko River** 17.46 39 P Pn 13 52 14.9 -0.4
baz=240
SEY **Seymchan** 17.59 319 P P 13 52 15.5 -0.4
comp=Z,2.3nm,0.8s,baz=135,slow=12,SNR=6.1
SEY ScP ScP 14 00 11.2 -0.3
comp=Z,0.6nm,0.5s,baz=160,slow=11,SNR=3.9
SEY **Seymchan** 17.59 319 *ce* P Pn 13 52 17.2 +0.5
SEY pmax pmax
comp=Z,2.0nm,0.6s
P19K **Oil Pt** 17.62 53 P P 13 52 16.1 -0.3
baz=257
KDAK **Kodiak Island** 17.63 59 P P 13 52 14.2 -2.2
KDAK **Kodiak Island** 17.63 59 P P 13 52 14.7 -1.8
baz=263
KDAK **Kodiak Island** 17.63 59 P P 13 52 13.7 -2.7
comp=Z,20nm,0.5s,baz=296,slow=5.2,SNR=75
KDAK **Kodiak Island** 17.63 59 *c i* P P 13 52 14.6 -1.8
L19K **White Mountain** 17.66 44 IAmb IAmb 13 52 21.7
comp=Z,29nm,0.9s
L19K **White Mountain** 17.66 44 P P 13 52 16.7 -0.1
baz=247,SNR=16
F17K **Baldwin Pennin** 17.73 27 P Pn 13 52 18.6 +0.2
baz=225
ILSW **Iliamna Southw** 17.75 52 P Pn 13 52 18.5 -0.3
ILSW IAmb IAmb 13 52 23.1
comp=Z,30nm,0.8s
M19K **Big River Lodg** 17.76 45 P Pn 13 52 18.4 -0.4
baz=248
H18K **Honhosa River** 17.79 33 P Pn 13 52 18.4 -0.7
baz=233
Q20K **Shuyak Island** 17.85 57 P P 13 52 18.3 -0.5
baz=261,SNR=5.6
O20K **Slope Mountain** 18.02 52 P P 13 52 21.2 +0.4
baz=256,SNR=8.3
E17K **Hotham Inlet** 18.04 25 P Pn 13 52 21.4 -0.6
baz=223
GCSA **Galena City Sc** 18.07 35 P P 13 52 21.2 0.0
baz=237,SNR=6.1
C16K **Lisburne Hills** 18.14 20 P Pn 13 52 22.7 -0.6
baz=214
J19K **Poorman** 18.15 38 Pn 13 52 22.7 -0.7
J19K **Poorman** 18.15 38 P Pn 13 52 22.8 -0.6
baz=241
G18K **Tagagawik** 18.15 31 P P 13 52 22.4 +0.3
baz=231
D17K **Noatak River** 18.18 23 P Pn 13 52 24.0 +0.2
baz=219
L20K **Farewell, AK** 18.20 44 P Pn 13 52 23.3 -0.7
baz=248
F18K **Selawik** 18.31 29 P Pn 13 52 25.4 +0.2
baz=228
M20K **Styx River** 18.31 46 P Pn 13 52 24.9 -0.5
baz=250
HOM **Homer** 18.41 54 P P 13 52 25.5 +0.5
baz=259
K20K **Telida** 18.47 41 IAmb IAmb 13 52 33.0
comp=Z,25nm,1.4s
K20K **Telida** 18.47 41 P Pn 13 52 27.0 -0.3
baz=245,SNR=5.8
RDOG **Red Dog Mine** 18.50 22 P Pn 13 52 27.0 -0.5
baz=219
N20K **Mount Spurr** 18.52 49 P P 13 52 26.4 +0.3
baz=254
CNPM **China Poot** 18.59 54 P P 13 52 26.8 -0.2
E18K **Tukpahlearik C** 18.61 26 P Pn 13 52 28.0 -0.8
baz=224
H19K **Roundabout Mou** 18.66 34 P P 13 52 28.1 +0.5
H19K IAmb IAmb 13 52 34.9
comp=Z,22nm,1.1s
H19K **Roundabout Mou** 18.66 34 P Pn 13 52 29.0 -0.4
baz=236,SNR=6.0
C17K **DeLong Mountai** 18.77 21 P Pn 13 52 29.8 -1.0
baz=218
J20K **Nowinta River** 18.81 39 IAmb IAmb 13 52 31.9
comp=Z,20nm,0.7s
J20K **Nowinta River** 18.81 39 P Pn 13 52 30.4 -0.8
baz=242,SNR=24
G19K **Purcell Mounta** 18.81 32 IAmb IAmb 13 52 35.9
comp=Z,12nm,0.7s
G19K **Purcell Mounta** 18.81 32 P Pn 13 52 30.2 -0.9
baz=233,SNR=12
BRLK **Bradley Lake** 18.81 54 P P 13 52 28.3 -1.1
BRSE **Bradley Lake S** 18.88 54 P P 13 52 29.7 -0.4
baz=260,SNR=13
I20K **Naaghedeneel** 18.98 37 IAmb IAmb 13 52 33.8
comp=Z,20nm,0.8s
I20K **Naaghedeneel** 18.98 37 P P 13 52 31.8 +0.8
baz=240,SNR=5.9
F19K **Shaleruckik Mo** 19.02 29 P Pn 13 52 32.4 -1.3
baz=230
SKT **Skwentna** 19.06 47 IAmb IAmb 13 52 39.9
comp=Z,29nm,0.8s
SKT **Skwentna** 19.06 47 P P 13 52 32.8 +0.8
baz=252,SNR=27
PPLA **Purkeypile** 19.07 44 P P 13 52 32.5 +0.2
baz=249,SNR=12
H20K **Anotleneega Mo** 19.19 35 P Pn 13 52 34.5 -1.1
baz=238,SNR=9.9
SUA **Susitna One** 19.27 48 P P 13 52 34.6 +0.2
baz=255,SNR=23
CAST **Castle Rocks** 19.32 42 IAmb IAmb 13 52 37.1
comp=Z,23nm,0.7s
CAST **Castle Rocks** 19.32 42 P P 13 52 35.0 +0.2
baz=248,SNR=22
C18K **Utukok River** 19.37 23 P P 13 52 36.2 +0.8
baz=221
CHUM **Lake Minchumin** 19.40 41 P P 13 52 36.2 +0.5
baz=246,SNR=8.8
O22K **Cooper Landing** 19.52 52 P P 13 52 37.1 +0.1
baz=258,SNR=19
SEW **Seward** 19.58 53 P P 13 52 37.5 -0.1
baz=260,SNR=16
E19K **Redstone River** 19.59 28 P Pn 13 52 38.8 -1.4
baz=230
M22K **Willow** 19.63 48 P P 13 52 39.0 +0.8
baz=255
RC01 **Rabbit Creek A** 19.64 50 IAmb IAmb 13 52 42.4
comp=Z,21nm,0.6s
RC01 **Rabbit Creek A** 19.64 50 P P 13 52 38.4 0.0
baz=257,SNR=12
CUT **Chulitna** 19.75 46 IAmb IAmb 13 52 45.3
comp=Z,31nm,1.0s
CUT **Chitna** 19.75 46 P P 13 52 39.6 +0.2
baz=253
B18K **Kokolik River** 19.79 21 P P 13 52 40.2 +0.5
baz=218
F20K **Avaraart Lake** 19.79 30 P P 13 52 40.0 +0.1
baz=233
IMAR **Indian Mountai** 19.84 34 P P 13 52 41.0 +0.6
KTH **Kantishna Hill** 19.85 42 IAmb IAmb 13 52 45.1
comp=Z,23nm,0.7s
H21K **Melozitna River** 20.02 36 IAmb IAmb 13 52 47.2
comp=Z,19nm,0.8s
H21K **Melozitna River** 20.02 36 P P 13 52 42.6 +0.3
baz=241,SNR=23
BPAW **Bear Paw Mtn.** 20.03 41 P P 13 52 40.9 -1.5
BPAW IAmb IAmb 13 52 44.5
comp=Z,17nm,0.9s
BPAW **Bear Paw Mtn.** 20.03 41 P P 13 52 42.7 +0.2
baz=247,SNR=17
D19K **Kuna River** 20.04 26 P P 13 52 42.9 +0.4
D19K **Kuna River** 20.04 26 P P 13 52 43.1 +0.5
baz=226
PMR **Palmer** 20.05 49 P P 13 52 42.2 -0.5
PMR **Palmer** 20.05 49 P P 13 52 42.5 -0.1
baz=256
PMR **Palmer** 20.05 49 P P 13 52 42.2 -0.5
PMR pmax pmax
comp=Z,6.0nm,0.7s
TRF **Thorofare Moun** 20.08 43 IAmb IAmb 13 52 46.6
comp=Z,24nm,0.8s
TRF **Thofare River** 20.08 43 P P 13 52 43.4 +0.2
baz=250,SNR=12
I21K **Tanana** 20.09 38 P P 13 52 44.1 +0.9
baz=243
C19K **Lookout Ridge** 20.10 23 P P 13 52 43.2 0.0
baz=223
GHO **Glory Hole Cre** 20.19 48 IAmb IAmb 13 52 46.6
comp=Z,20nm,0.6s
G21K **Allakaket** 20.21 33 P P 13 52 44.1 -0.3
baz=238
KNK **Knik Glacier** 20.32 49 P P 13 52 44.6 -1.0
baz=258,SNR=17
E20K **Nigu River** 20.41 27 P P 13 52 46.4 -0.1
baz=230
SML **Sawmill** 20.47 48 P P 13 52 46.3 -1.0
SML **Sawmill** 20.47 48 P P 13 52 46.1 -1.1
baz=257,SNR=20
SML **Sawmill** 20.47 48 P P 13 52 46.3 -1.0
SML pmax pmax
comp=Z,32nm,0.8s
MLY **Manley** 20.50 39 IAmb IAmb 13 52 49.7
comp=Z,12nm,0.8s
MLY **Manley** 20.50 39 P P 13 52 47.6 0.0
baz=245,SNR=13
P23K **Montague Islan** 20.58 54 P P 13 52 48.1 -0.3
baz=262
D20K **Etivluk River** 20.59 26 P P 13 52 48.8 +0.4
baz=228,SNR=6.9
A19K **Wainwright** 20.61 20 P P 13 52 49.5 +0.9
baz=218
F21K **Alatna River** 20.61 32 IAmb IAmb 13 52 53.1
comp=Z,22nm,1.0s
F21K **Alatna River** 20.61 32 P P 13 52 49.0 +0.4
baz=236,SNR=24
WAT1 **Susitna Watana** 20.63 45 P P 13 52 48.7 -0.2
baz=254
H22K **Ishtalitna Cre** 20.65 36 P P 13 52 49.0 -0.1
baz=242,SNR=6.9
RND **Reindeer** 20.67 44 P P 13 52 49.9 +0.4
MCK **McKinley** 20.74 43 P P 13 52 50.1 -0.1
baz=251,SNR=10.0
MCK **McKinley** 20.74 43 P Pn 13 52 51.8 -2.0
M23K **Glacier View** 20.75 49 P P 13 52 50.2 0.0
baz=257,SNR=17
GLI **Glacier Island** 20.87 51 P P 13 52 50.8 -0.6
baz=260,SNR=19
WAT6 **Susitna Watana** 20.93 46 P P 13 52 52.2 -0.1
baz=255,SNR=21
SCM **Sheep Creek Mo** 20.94 49 IAmb IAmb 13 52 53.7
comp=Z,33nm,1.0s
SCM **Sheep Creek Mo** 20.94 49 P P 13 52 51.9 -0.4
baz=258,SNR=14
NEA2 **Nenana** 20.99 40 P P 13 52 52.4 -0.3
baz=249,SNR=27
Q23K **Middleton Isla** 21.05 55 P P 13 52 53.5 +0.1
baz=265
HIN **Hinchinbrook I** 21.08 53 IAmb IAmb 13 52 56.2
comp=Z,28nm,0.8s
I23K **Minto, Yukon-K** 21.08 39 P P 13 52 54.1 +0.4
baz=247,SNR=11
G22K **Bettles** 21.10 33 P P 13 52 54.1 +0.2
baz=240
E21K **Killik River** 21.17 28 P P 13 52 55.0 +0.4
baz=233
F22K **John River** 21.18 32 P P 13 52 55.4 +0.5
baz=238
DHY **Denali Highway** 21.22 45 P P 13 52 55.0 -0.4
baz=254,SNR=32
H23K **Yukon River** 21.29 37 IAmb IAmb 13 52 59.1
comp=Z,13nm,0.9s
H23K **Yukon River** 21.29 37 P P 13 52 56.3 +0.3
baz=245,SNR=14
B20K **Meade River** 21.34 23 P P 13 52 57.0 +0.6
baz=225
C21K **Knifeblade Rid** 21.38 26 P P 13 52 57.5 +0.5
baz=230
MDM **Murphy Dome** 21.46 40 P P 13 52 57.5 -0.2
MDM IAmb IAmb 13 53 00.2
comp=Z,14nm,0.7s
EYAK **Cordova Ski Ar** 21.47 52 P P 13 52 57.4 -0.6
baz=263,SNR=5.9
G23K **Bananza Creek** 21.51 35 P P 13 52 58.5 +0.1
G23K IAmb IAmb 13 53 01.1
comp=Z,18nm,0.8s
G23K **Bananza Creek** 21.51 35 P P 13 52 57.7 -0.6
baz=242,SNR=20
M24K **Tolsona, Glenn** 21.53 48 P P 13 52 57.9 -0.7
baz=258,SNR=12
KLU **Klutina** 21.53 50 IAmb IAmb 13 53 05.0
comp=Z,17nm,0.9s
KLU **Klutina** 21.53 50 P P 13 52 58.4 -0.3
baz=260,SNR=12
COLA **College** 21.58 40 P P 13 52 59.0 0.0
COLA IAmb IAmb 13 53 01.5
comp=Z,16nm,0.8s
COLA **College** 21.58 40 P P 13 52 58.5 -0.5
baz=250
COLA **College** 21.58 40 *c i* P P 13 52 59.1 +0.1
COLA pmax pmax
comp=Z,14nm,0.9s
COLD **Coldfoot** 21.70 33 P P 13 53 00.1 -0.2
baz=241
B21K **Ikpikpuk River** 21.73 26 P P 13 53 01.0 +0.4
B21K **Ikpikpuk River** 21.73 26 P P 13 53 01.3 +0.7
baz=230
HDA **Harding Lake** 21.79 42 P P 13 53 00.7 -0.6
baz=252,SNR=20
D22K **Ayikyak River** 21.81 28 P P 13 53 00.9 -0.6
baz=234
POKR **Poker Plat Res** 21.83 40 P P 13 53 00.6 -1.1
baz=249
H24K **Noodle Dome** 21.92 38 P P 13 53 02.3 -0.4
baz=247,SNR=16
ILAR **Eielson Array** 21.93 41 P P 13 53 00.6 -2.2
comp=Z,1.8nm,0.5s,baz=246,slow=8.5,SNR=58
ILAR PcP PcP 13 56 56.8 +0.5
comp=Z,0.1nm,0.4s,baz=234,slow=3.9,SNR=1.5
ILAR ScP ScP 14 00 19.4 -2.2
comp=Z,0.6nm,0.6s,baz=276,slow=3.3,SNR=8.5
comp=Z,1.8nm,0.5s
PAX **Paxson** 22.03 46 P P 13 53 03.2 -0.7
baz=257,SNR=20
HARP **HAARP** 22.05 48 P P 13 53 03.5 -0.6
baz=259,SNR=6.0
KAIM **Kayak Island** 22.07 54 P P 13 53 03.4 -0.8
baz=266
BMRM **Bremner River** 22.08 51 P P 13 53 03.7 -0.7
baz=263,SNR=11
K24K **Donnelly Dome** 22.11 44 P P 13 53 03.5 -1.1
baz=255,SNR=9.3
TYV **Tymovskoe** 22.12 281 *e* P P 13 53 06.4 +1.6
TYV pmax pmax
comp=Z,100nm,4.7s
TYV pmax pmax
comp=Z,7.0nm,0.8s
N25K **Chitina, Valde** 22.18 50 IAmb IAmb 13 53 08.5
comp=Z,16nm,0.9s
N25K **Chitina, Valde** 22.18 50 P P 13 53 04.8 -0.6
baz=261,SNR=13
E23K **Chandalar** 22.30 32 P P 13 53 06.1 -0.5
baz=240,SNR=18
G24K **Hadweenzic Riv** 22.42 36 IAmb IAmb 13 53 10.6
comp=Z,30nm,0.9s
G24K **Hadweenzic Riv** 22.42 36 P P 13 53 07.5 -0.2
baz=246,SNR=18
D23K **Nanushuk River** 22.45 29 P P 13 53 07.7 -0.3
baz=236
J25K **Salcha River,** 22.50 42 P P 13 53 07.4 -1.2
baz=253
B22K **Teshekpuk Lake** 22.51 25 P P 13 53 08.0 -0.5
baz=230
GLB **Gilahina Butte** 22.52 50 IAmb IAmb 13 53 12.1
comp=Z,9.5nm,0.7s
A22K **Sinclair Lake** 22.57 23 P P 13 53 09.1 0.0
baz=226
TOLK **Toolik Lake Re** 22.62 30 P P 13 53 09.7 0.0
baz=239,SNR=10
F24K **Squaw Lake** 22.63 34 IAmb IAmb 13 53 11.8
comp=Z,11nm,0.7s
F24K **Squaw Lake** 22.63 34 P P 13 53 09.5 -0.3
baz=243,SNR=24
VRDI **Verde Repeater** 22.67 51 IAmb IAmb 13 53 39.4
comp=Z,18nm,1.2s
E24K **Your Creek** 22.68 32 P P 13 53 09.9 -0.4
baz=241
PRP **Porcupine Dome** 22.72 40 P P 13 53 09.4 -1.4
PRP IAmb IAmb 13 53 12.2
comp=Z,9.7nm,0.6s
PRP **Porcupine Dome** 22.72 40 P P 13 53 09.6 -1.2
baz=251,SNR=15
MENT **Mentasta** 22.81 47 IAmb IAmb 13 53 15.9
comp=Z,14nm,0.7s
H25L **Birch Creek** 22.86 38 P P 13 53 11.8 -0.2
baz=249,SNR=15
SNH **Sunshine Point** 22.88 54 IAmb IAmb 13 53 16.1
comp=Z,23nm,1.0s
MCARA **McCarthy VSAT** 22.89 51 P P 13 53 11.6 -0.8
baz=263,SNR=14
SCRK **Sand Creek** 22.92 44 P P 13 53 11.1 -1.6
baz=256,SNR=16
G25K **Bearman Lake** 22.95 36 P P 13 53 13.0 +0.3
baz=247,SNR=13
C23K **Itkillik River** 22.96 27 P P 13 53 13.5 +0.6
baz=235
L26K **Log Cabin Wild** 22.99 46 IAmb IAmb 13 53 16.6
comp=Z,15nm,0.7s
L26K **Log Cabin Wild** 22.99 46 P P 13 53 13.0 -0.3
baz=259,SNR=24
M26K **Nabesna, AK** 23.05 48 P P 13 53 13.6 -0.2
baz=261,SNR=5.3
D24K **Happy Valley** 23.12 30 P P 13 53 14.9 +0.6
baz=239
ISLE **Juniper Island** 23.15 53 IAmb IAmb 13 53 17.4
comp=Z,25nm,1.2s
FYU **Fort Yukon** 23.19 37 IAmb IAmb 13 53 17.7
comp=Z,21nm,1.1s
J26L **Joseph Creek** 23.22 43 P P 13 53 14.6 -0.9
baz=256,SNR=32
MESA **MESA** 23.32 54 P P 13 53 15.6 -0.9
baz=267
F25K **Christian Rive** 23.44 35 P P 13 53 18.0 +0.6
baz=246,SNR=16
C24K **Franklin Bluff** 23.45 28 P P 13 53 17.9 +0.5
baz=238
YSS **Yuzh-Sakhalins** 23.48 272 P P 13 53 18.9 +1.1
YSS **Yuzh-Sakhalins** 23.48 272 *e* P P 13 53 20.6 +2.7
YSS pmax pmax
comp=Z,30nm,0.8s
M27K **Edge Creek, AK** 23.55 48 IAmb IAmb 13 53 20.9
comp=Z,14nm,0.8s
M27K **Edge Creek, AK** 23.55 48 P P 13 53 18.2 -0.4
baz=262,SNR=12
I26K **Coal Creek Min** 23.60 41 P P 13 53 18.5 -0.4
baz=254
CTG **Chitna Glacier** 23.67 52 P P 13 53 19.4 -0.2
baz=266,SNR=18
L27K **Beaver Creek,** 23.68 47 P P 13 53 19.8 +0.2
baz=261,SNR=34
E25K **Arctic Village** 23.68 33 IAmb IAmb 13 53 22.6
comp=Z,25nm,1.5s
E25K **Arctic Village** 23.68 33 P P 13 53 19.9 +0.3
baz=245,SNR=16
BCAR **Beaver Creek A** 23.70 47 P P 13 53 19.9 +0.1
K27K **Chicken** 23.75 44 P P 13 53 19.9 -0.2
baz=258
BMAR **Burnt Mountain** 23.75 35 P P 13 53 21.0 +0.8
G26K **Porcupine Rive** 23.87 37 P P 13 53 21.2 0.0
baz=250,SNR=31
D25K **Kavik River** 23.96 30 P P 13 53 22.6 +0.5
baz=242,SNR=36
F26K **Sheenjek River** 24.00 35 P P 13 53 22.6 +0.1
baz=248,SNR=24
YUK3 **Moose Creek** 24.15 50 P P 13 53 23.5 -0.6
baz=265,SNR=42
O28M **Mount Upton** 24.22 52 P P 13 53 24.6 -0.2
baz=268,SNR=55
EGAK **Eagle** 24.30 43 P P 13 53 24.4 -0.7
baz=258,SNR=47
I27K **Kandik River** 24.30 41 P P 13 53 24.7 -0.5
baz=255,SNR=5.9
YUK8 **Steele Glacier** 24.45 51 P P 13 53 27.2 +0.3
baz=267,SNR=25
H27K **Steamboat Moun** 24.50 39 P P 13 53 26.1 -0.9
baz=254
PNL **Peninsula** 24.60 55 P P 13 53 27.4 -0.5
baz=271
G27K **Doyon Strip** 24.62 38 P P 13 53 28.4 +0.3
baz=253,SNR=13
C26K **Camden Bay** 24.69 30 P P 13 53 29.3 +0.7
baz=242,SNR=31
DAWY **Dawson** 24.92 45 P P 13 53 31.2 +0.4
baz=261
JKA **Kamikawa-asahi** 24.93 266 P P 13 53 32.5 +1.5

JKA IAmb IAmb 13 53 33.3
comp=Z,17nm,1.0s
ASAJ Asahikawa 24.93 266 P **P 13 53 30.5 -0.5**
comp=Z,13nm,0.9s,baz=60,slow=11,SNR=7.9
comp=Z,13nm,0.9s
ASAJ Asahikawa 24.93 266 P **P 13 53 32.5 +1.5**
ASAJ pmax pmax
comp=Z,17nm,1.0s
C27K Jago River 24.93 31 P **P 13 53 31.7 +0.9**
baz=244,SNR=17
I28M Miner Creek 24.95 41 IAmb IAmb 13 53 31.6
comp=Z,16nm,0.8s
I28M Miner Creek 24.95 41 P **P 13 53 30.9 -0.3**
baz=258,SNR=21
YUK4 Talbot Arm 24.99 51 P **P 13 53 34.5 +2.8**
baz=268,SNR=48
E27K Coleen River 25.08 35 IAmb IAmb 13 53 35.8
comp=Z,13nm,0.8s
E27K Coleen River 25.08 35 P **P 13 53 32.6 +0.4**
baz=250,SNR=23
YUK6 Outpost Mounta 25.12 52 P **P 13 53 34.0 +1.1**
baz=269,SNR=13
M29M Somme Creek 25.14 49 P **P 13 53 33.2 +0.3**
baz=266,SNR=36
L29M L29M 25.36 47 P **P 13 53 35.2 +0.4**
baz=264,SNR=7.6
P29M Windy Craggy 25.44 55 IAmb IAmb 13 53 38.8
comp=Z,17nm,0.8s
P29M Windy Craggy 25.44 55 P **P 13 53 36.5 +0.9**
baz=272,SNR=8.1
J29N Klondike Camp 25.48 44 P **P 13 53 37.2 +1.3**
baz=262
F28M Old Crow 25.52 36 P **P 13 53 37.1 +0.9**
baz=253,SNR=7.5
HYT Haines Junctio 25.54 52 P **P 13 53 38.4 +1.9**
baz=270,SNR=25
D27M Malcolm River 25.67 32 IAmb IAmb 13 53 41.9
comp=Z,14nm,0.8s
D27M Malcolm River 25.67 32 P **P 13 53 38.9 +1.3**
baz=249,SNR=23
K29M Barlow Dome 25.71 45 IAmb IAmb 13 53 46.4
comp=Z,11nm,0.7s
K29M Barlow Dome 25.71 45 P **P 13 53 38.3 +0.3**
baz=264,SNR=6.8
H29M Whitestone 25.74 40 P **P 13 53 38.1 0.0**
baz=258,SNR=8.5
N30M Aishikik Lake 25.75 51 P **P 13 53 41.4 +3.0**
baz=269,SNR=42
E28M Babbage River 25.94 34 P **P 13 53 40.7 +0.7**
baz=252,SNR=9.7
G29M Pine Creek 26.03 38 IAmb IAmb 13 53 42.2
comp=Z,8.4nm,0.7s
G29M Pine Creek 26.03 38 P **P 13 53 41.6 +0.8**
baz=257,SNR=8.9
PLBC Pleasant Camp 26.15 56 P **P 13 53 42.5 +0.6**
baz=274
O30N Mendenhall 26.23 53 P **P 13 53 42.7 0.0**
baz=271
J30M Hart River 26.31 44 IAmb IAmb 13 53 44.6
comp=Z,7.5nm,0.7s
J30M Hart River 26.31 44 P **P 13 53 43.9 +0.4**
baz=263,SNR=15
I30M Mount Dempster 26.37 42 IAmb IAmb 13 53 57.0
comp=Z,6.6nm,0.7s
I30M Mount Dempster 26.37 42 P **P 13 53 43.4 -0.6**
baz=262,SNR=14
N31M Braeburn, Yuko 26.37 51 IAmb IAmb 13 54 02.4
comp=Z,12nm,0.7s
N31M Braeburn, Yuko 26.37 51 P **P 13 53 44.4 +0.4**
baz=270,SNR=10
EPYK Eagle Plains 26.42 40 IAmb IAmb 13 53 45.2
comp=Z,14nm,0.8s
EPYK Eagle Plains 26.42 40 P **P 13 53 43.8 -0.6**
baz=259,SNR=13
D28M Stokes Point 26.45 33 P **P 13 53 45.1 +0.7**
baz=251
E29M Blow River 26.45 35 P **P 13 53 44.9 +0.4**
baz=254,SNR=6.9
SKAG Skagway 26.67 55 P **P 13 53 46.1 -0.5**
baz=274
G30M tAoh Zrii Nji 26.74 39 P **P 13 53 46.8 -0.3**
baz=258,SNR=6.5
F30M Barrier River 27.03 37 P **P 13 53 50.4 +0.6**
baz=258,SNR=7.2
M31M Drury Creek, Y 27.03 49 IAmb IAmb 13 53 56.0
comp=Z,10nm,0.6s
M31M Drury Creek, Y 27.03 49 P **P 13 53 50.3 +0.5**
baz=270,SNR=12
R32K Eaglecrest 27.21 58 P **P 13 53 51.3 -0.2**
baz=277
H31M Peel River 27.29 41 P **P 13 53 52.1 0.0**
baz=263,SNR=7.8
S32K Killisnoo 27.30 60 P **P 13 53 51.8 -0.4**
baz=279
G31M Satah River 27.48 39 IAmb IAmb 13 53 54.7
comp=Z,8.8nm,0.6s
G31M Satah River 27.48 39 P **P 13 53 53.6 -0.2**
baz=261,SNR=11
P32M Atlin 27.48 55 P **P 13 53 53.4 -0.5**
baz=275
FARO Faro, Yukon 27.52 49 P **P 13 53 54.3 +0.1**
baz=271
N32M Quiet Lake 27.68 52 P **P 13 53 55.8 +0.1**
baz=273
F31M Tsiigehtchic 27.77 38 IAmb IAmb 13 53 57.9
comp=Z,6.3nm,0.7s
F31M Tsiigehtchic 27.77 38 P **P 13 53 56.7 +0.4**
baz=260,SNR=7.7
P33M Teslin, Yukon 27.88 54 P **P 13 53 57.4 -0.1**
baz=275
INK Inuvik 28.01 36 P **P 13 53 59.0 +0.6**
baz=259,SNR=7.6
INK Inuvik 28.01 36 P **P 13 53 59.3 +0.9**
INK pmax pmax
comp=Z,8.0nm,0.8s
U33K Whale Pass 28.34 62 P **P 13 54 01.6 +0.2**
baz=282
WRAK Wrangell Islan 28.69 61 P **P 13 54 04.6 0.0**
baz=282
R33M Jennings River 28.90 55 IAmb IAmb 13 54 08.4
comp=Z,5.4nm,0.7s
R33M Jennings River 28.90 55 P **P 13 54 06.9 +0.4**
baz=278,SNR=6.0
S34M Telegraph Cree 29.05 58 P **P 13 54 07.4 -0.3**
baz=280
TIXI Tiksi 29.22 330 P **P 13 54 07.1 -2.0**
comp=Z,0.6nm,0.3s,baz=73,slow=3.4,SNR=1.2
TIXI PcP **PcP 13 57 12.6 -0.1**
comp=Z,0.6nm,0.2s,baz=94,slow=8.0,SNR=1.4
TIXI ScP **ScP 14 00 42.0 -0.4**
comp=Z,2.6nm,0.6s,baz=116,slow=3.3,SNR=16
comp=Z,0.6nm,0.3s
TIXI Tiksi 29.22 330 ⇓*e*P **P 13 54 09.2 +0.2**
TIXI pmax pmax
comp=Z,6.0nm,2.1s
KLR Kul'dur 29.28 283 P **P 13 54 09.3 -0.6**
comp=Z,6.9nm,0.4s,baz=62,slow=8.3,SNR=54
comp=Z,6.9nm,0.4s
KLR Kul'dur 29.28 283 *e*P **P 13 54 09.4 -0.5**
KLR pmax pmax
comp=Z,15nm,0.8s
DLBC Dease Lake 29.53 57 IAmb IAmb 13 54 16.4
comp=Z,9.5nm,1.4s
DLBC Dease Lake 29.53 57 P **P 13 54 12.4 +0.3**
baz=280
DLBC Dease Lake 29.53 57 LR LR 14 05 30.2
comp=Z,45nm,20.0s,baz=352,slow=35
T35M Bob Quinn 29.70 60 IAmb IAmb 13 54 15.7
comp=Z,5.2nm,0.8s
T35M Bob Quinn 29.70 60 P **P 13 54 13.7 +0.2**
baz=283
TGTN Hyland Airport 29.96 50 P **P 13 54 16.5 +0.6**
baz=276
ZEA Zeya 30.33 294 *e*P **P 13 54 19.0 -0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
USA0B Ussuriysk Arra 31.44 274 IAmb IAmb 13 54 30.6
comp=Z,15nm,1.1s
USA0B Ussuriysk Arra 31.44 274*d i*P **P 13 54 29.4 +0.5**
USRK Ussuriysk Ar. 31.44 274 P **P 13 54 28.9 0.0**
comp=Z,8.9nm,0.6s,baz=53,slow=9.6,SNR=26
USRK PcP **PcP 13 57 19.8 +0.7**
comp=Z,2.8nm,0.8s,baz=29,slow=4.4,SNR=5.2
comp=Z,8.9nm,0.6s
A36M Sachs Harbour 31.44 30 P **P 13 54 29.9 +1.3**
baz=261,SNR=22
C36M Paulatuk 31.55 35 IAmb IAmb 13 54 30.9
comp=Z,7.7nm,0.7s
C36M Paulatuk 31.55 35 P **P 13 54 30.2 +0.6**
baz=267,SNR=13
TOAD Toad River Com 31.90 55 P **P 13 54 33.6 +0.7**
baz=283
WRGLY Wrigley 32.00 47 IAmb IAmb 13 54 35.4
comp=Z,7.3nm,0.8s
WRGLY Wrigley 32.00 47 P **P 13 54 34.5 +0.9**
baz=277
MJAR Matsushiro Arr 32.13 257 P **P 13 54 36.2 +1.1**
comp=Z,2.2nm,0.7s,baz=47,slow=7.2,SNR=5.4
comp=Z,2.2nm,0.7s
KOTAN Kotaneelee Air 32.22 52 P **P 13 54 36.3 +0.7**
baz=282
MDJ Mudanjiang 32.70 277 P **P 13 54 43.1 +3.1**
MDJ pmax pmax
comp=Z,13nm,2.1s
MDJ pmax pmax
comp=Z,100nm,6.5s
BNX BinXian 33.48 280 ⇓P **P 13 54 46.4 -0.3**
BNX pmax pmax
comp=Z,34nm,0.6s
BNX pmax pmax
comp=Z,85nm,5.1s
YKA Yellowknife Ar 36.12 47 P **P 13 55 09.4 +0.2**
YKA Yellowknife Ar 36.12 47 P **P 13 55 08.3 -0.9**
comp=Z,4.3nm,0.7s,baz=285,slow=8.7,SNR=54
YKA ScP **ScP 14 01 03.8 -2.6**
comp=Z,0.4nm,0.8s,baz=302,slow=3.7,SNR=6.5
YKA LR LR 14 10 17.8
comp=Z,24nm,19.6s,baz=322,slow=37
comp=Z,4.3nm,0.7s
YKA Yellowknife Ar 36.12 47 P **P 13 55 09.4 +0.2**
BOD Bodaibo 36.16 305 *e*P **P 13 55 09.1 -0.5**
GNW Green Mountain 37.37 73 IAmb IAmb 13 55 21.1
comp=Z,4.2nm,0.8s
KSRS Korea Array 37.84 268 P **P 13 55 25.9 +1.9**
comp=Z,4.8nm,0.8s,baz=58,slow=8.3,SNR=17
KSRS PcP **PcP 13 57 38.1 +0.4**
comp=Z,0.8nm,0.5s,baz=50,slow=3.6,SNR=4.4
comp=Z,4.8nm,0.8s
TJN Taejon 38.87 267 ⇑*i*P **P 13 55 34.8 +2.2**
H04A Detroit Lake 39.24 76 IAmb IAmb 13 55 37.0
comp=Z,6.9nm,0.8s
L02F Cave Junction 39.82 81 P **P 13 55 40.9 +0.4**
RES Resolute Bay 39.93 24 P **P 13 55 41.6 +0.6**
RES pmax pmax
comp=Z,2.0nm,2.4s
EDM Edmonton 40.08 60 P **P 13 55 41.7 -0.8**
EDM Edmonton 40.08 60 P **P 13 55 41.7 -0.8**
EDM pmax pmax
comp=Z,20nm,0.7s
NEW Newport 40.35 69 IAmb IAmb 13 55 44.8
comp=Z,6.7nm,0.7s
NEW Newport 40.35 69 P **P 13 55 44.5 -0.4**
baz=300
NEW Newport 40.35 69 LR LR 14 11 31.2
comp=Z,28nm,18.4s,baz=196,slow=34
NEW Newport 40.35 69 P **P 13 55 43.9 -1.0**
NEW pmax pmax
comp=Z,9.0nm,0.7s
KHMM Horse Mountain 40.45 82 P **P 13 55 47.2 +1.4**
KHMM IAmb IAmb 13 55 48.2
comp=Z,8.4nm,0.7s
KMPM Mount Pierce 40.48 83 IAmb IAmb 13 55 49.0
comp=Z,12nm,0.9s
L04D Klamath Falls 40.54 80 P **P 13 55 46.4 -0.1**
L04D IAmb IAmb 13 55 48.1
comp=Z,9.5nm,0.9s
YBH Yreka Blue Hor 40.57 81 P **P 13 55 46.8 0.0**
YBH Yreka Blue Hor 40.57 81 P **P 13 55 46.8 0.0**
YBH pmax pmax
comp=Z,5.0nm,0.9s
J05D Fort Rock, OR 40.58 78 P **P 13 55 45.9 -1.0**
J05D IAmb IAmb 13 55 48.5
comp=Z,4.8nm,0.8s
KMRM Mail Ridge 40.85 83 P **P 13 55 49.2 +0.1**
KMRM IAmb IAmb 13 55 51.6
comp=Z,9.4nm,0.8s
K05A Summer Lake 41.10 78 IAmb IAmb 13 55 52.8
comp=Z,4.7nm,0.7s
I07A Izee 41.17 76 IAmb IAmb 13 55 52.5
comp=Z,6.5nm,0.8s
XLT XiLinHaoTe 41.29 284 *e*P **P 13 55 52.2 -0.5**
XLT pP pP 13 56 20.9 +0.5
XLT sP sP 13 56 33.3 -1.2
XLT PP **PnPn 13 57 35.0 -1.0**
XLT pmax pmax
comp=Z,13nm,0.7s
XLT pmax pmax
comp=Z,77nm,4.0s
ORV Oroville 42.60 82 IAmb IAmb 13 56 04.0
comp=Z,6.3nm,0.9s
WVOR Wild Horse Val 42.63 77 P **P 13 56 03.5 -0.1**
WVOR pmax pmax
comp=Z,7.0nm,0.9s
MSO Missoula 42.94 69 IAmb IAmb 13 56 05.8
comp=Z,5.5nm,0.8s
MSO Missoula 42.94 69 P **P 13 56 05.0 -1.0**
baz=303
MPK Martis Peak 43.66 82 IAmb IAmb 13 56 13.6
comp=Z,16nm,1.2s
PAHR Pah Rah Range 43.80 81 IAmb IAmb 13 56 13.8
comp=Z,4.4nm,0.6s
PNTR Pine Nut 44.05 82 IAmb IAmb 13 56 16.6
comp=Z,16nm,1.0s
YERR Yerington 44.34 81 IAmb IAmb 13 56 18.3
comp=Z,4.4nm,0.6s
ULN Ulaanbaatar 44.37 294 P **P 13 56 17.5 +0.1**
ULN IAmb IAmb 13 56 19.2
comp=Z,5.2nm,0.8s
ULN Ulaanbaatar 44.37 294*d i*P **P 13 56 18.2 +0.7**
ULN pmax pmax
comp=Z,6.0nm,0.9s
HLID Hailey 44.50 73 P **P 13 56 18.5 -0.1**
baz=306,SNR=6.1
WAKR Walker 44.51 82 IAmb IAmb 13 56 20.0
comp=Z,6.0nm,0.5s
EGMT Eagleton 44.67 65 P **P 13 56 19.0 -0.8**
baz=303
BMN Battle Mountai 44.68 78 IAmb IAmb 13 56 20.6
comp=Z,4.3nm,0.5s
SONM Songino Array 44.76 295 P **P 13 56 20.5 -0.1**
comp=Z,5.5nm,0.6s,baz=62,slow=8.1,SNR=23
SONM PcP **PcP 13 58 00.7 +0.2**
comp=Z,1.2nm,0.6s,baz=85,slow=1.6,SNR=4.1
SONM ScP **ScP 14 01 41.4 +0.7**
comp=Z,0.5nm,0.6s,baz=46,slow=4.3,SNR=4.1
comp=Z,5.5nm,0.6s
BOZ Bozeman (W) 44.96 69 IAmb IAmb 13 56 21.9
comp=Z,7.0nm,0.9s
BOZ Bozeman (W) 44.96 69 P **P 13 56 21.5 -0.7**
baz=305,SNR=6.3
RYN Ryan 45.00 81 IAmb IAmb 13 56 23.7
comp=Z,11nm,1.2s
LHV Little Huntoon 45.24 82 IAmb IAmb 13 56 26.4
comp=Z,7.1nm,1.1s
NVAR Mina Array Bea 45.26 81 P **P 13 56 24.7 0.0**
comp=Z,2.8nm,0.5s,baz=293,slow=7.6,SNR=32
NVAR pP **pP 13 56 53.8 +0.4**
comp=Z,1.4nm,0.6s,baz=294,slow=7.9,SNR=5.0
NVAR ScP **ScP 14 01 42.3 -0.8**
comp=Z,0.4nm,0.6s,baz=278,slow=6.3,SNR=2.9
comp=Z,2.8nm,0.5s
MDPB Devils Postpil 45.28 83 IAmb IAmb 13 56 26.7
comp=Z,6.5nm,0.9s
TIA Tai'an 45.30 275 ⇓P **P 13 56 26.1 +1.3**
TIA pmax pmax
comp=Z,18nm,0.6s
ELK Elko 45.68 77 P **P 13 56 28.1 0.0**
HHC Hu-ho-hao-te 45.79 284 *e*P **P 13 56 29.5 +0.8**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,46nm,4.6s
HNS HongShan 46.03 278 ⇓P **P 13 56 32.2 +1.7**
HNS pmax pmax
comp=Z,16nm,0.8s
H17A Grant Village 46.26 70 P **P 13 56 32.2 -0.3**
baz=306,SNR=5.8
FLWY Flagg Ranch 46.38 70 IAmb IAmb 13 56 34.0
comp=Z,5.9nm,0.8s
VES Vestal, Richgr 46.43 85 P **P 13 56 34.1 +0.5**
baz=311
HVU Hansel Valley 46.53 74 IAmb IAmb 13 56 35.0
comp=Z,4.8nm,0.7s
RLMT Red Lodge 46.59 68 IAmb IAmb 13 56 35.9
comp=Z,7.1nm,0.9s
RLMT Red Lodge 46.59 68 P **P 13 56 35.4 +0.2**
baz=306,SNR=6.2
PKM Mcpherson Peak 46.60 86 P **P 13 56 35.3 0.0**
baz=312
CWC Cottonwood Cre 46.66 83 P **P 13 56 35.4 -0.2**
baz=310
GRAC Grapevine Rang 46.74 82 P **P 13 56 36.3 +0.2**
baz=310
BTO Baotou 46.86 284 *e*P **P 13 56 34.8 -2.3**
BTO pmax pmax
comp=Z,24nm,0.7s
BTO pmax pmax
comp=Z,210nm,6.3s
ISA Isabella, Lake 46.92 84 P **P 13 56 36.9 -0.7**
baz=311
R11B Troy Canyon, C 46.96 80 P **P 13 56 37.3 -0.7**
baz=310,SNR=8.4
NJ2 Nanjing 47.00 269 *e*P **P 13 56 39.6 +1.5**
NJ2 pP **pP 13 57 06.2 -0.6**
NJ2 pmax pmax
comp=Z,11nm,0.6s
NJ2 pmax pmax
comp=Z,140nm,3.8s
MPMC Manual Prospec 47.27 83 P **P 13 56 40.7 +0.2**
baz=311,SNR=5.3
FURC Furnace Creek, 47.39 82 P **P 13 56 41.4 +0.4**
baz=311
LAO LASA Array 47.41 65 P **P 13 56 40.9 -0.3**
baz=306
DUG Dugway, Tooele 47.48 76 IAmb IAmb 13 56 42.7
comp=Z,6.2nm,0.9s
DUG Dugway, Tooele 47.48 76 P **P 13 56 42.2 +0.2**
baz=309,SNR=6.9
DUG Dugway, Tooele 47.48 76 P **P 13 56 42.2 +0.2**
DUG pmax pmax
comp=Z,8.0nm,1.1s
DGMT Dagmar 47.50 62 P **P 13 56 41.9 +0.1**
baz=305
LRMC Laurel Mtn Rad 47.53 84 P **P 13 56 42.6 +0.2**
baz=311
GWY Greenwater Val 47.69 83 IAmb IAmb 13 56 44.5
comp=Z,4.7nm,0.7s
EDW2 Edwards Air Fo 47.73 85 P **P 13 56 43.7 -0.2**
baz=312
BW06 Boulder Array 47.83 71 P **P 13 56 44.1 -0.6**
baz=308,SNR=7.4
PDAR Pinedale Array 47.83 71 P **P 13 56 43.3 -1.5**
PDAR Pinedale Array 47.83 71 P **P 13 56 43.9 -0.9**
comp=Z,3.7nm,0.8s,baz=308,slow=4.0,SNR=23
PDAR pP **pP 13 57 12.7 -1.0**
comp=Z,1.1nm,0.7s,baz=323,slow=2.2,SNR=2.3
comp=Z,3.7nm,0.8s
PSUT Pine Spring 47.90 78 IAmb IAmb 13 56 45.8
comp=Z,4.6nm,0.8s
SHOC Shoshone, Teco 48.12 83 P **P 13 56 47.2 +0.5**
baz=311,SNR=5.2
GSC Goldstone, Bar 48.18 84 IAmb IAmb 13 56 48.4
comp=Z,9.1nm,0.8s
GSC Goldstone, Bar 48.18 84 P **P 13 56 47.6 +0.2**
baz=312,SNR=12
BFSC Mount Baldy Ra 48.36 85 P **P 13 56 49.7 +0.9**
baz=312
TUQ Turquoise Moun 48.64 83 P **P 13 56 50.9 0.0**
baz=311
HEC Hector,Ludlow 48.79 84 P **P 13 56 52.2 +0.3**
baz=312
TMUT Trail Mountain 49.01 76 IAmb IAmb 13 56 55.5
comp=Z,6.6nm,1.0s
MURC Murrieta 49.08 86 P **P 13 56 54.4 +0.2**
baz=313
RDMU Red Mountain 49.18 73 IAmb IAmb 13 56 55.6
comp=Z,7.5nm,0.9s
GMRC Granite Mounta 49.23 83 P **P 13 56 55.7 +0.3**
baz=312,SNR=6.4
LYN LuoYang 49.26 276 ⇑P **P 13 56 57.2 +1.7**
LYN pP pP 13 57 29.7 +5.4
LYN pmax pmax
comp=Z,29nm,0.7s
LYN LR LR
comp=N,290nm,13.3s
LYN LR LR
comp=E,240nm,15.1s
LYN LR LR
comp=Z,430nm,20.9s
KNB Kanab 49.50 79 IAmb IAmb 13 56 58.3
comp=Z,3.0nm,0.6s
PFO Pinyon Flats O 49.52 85 P **P 13 56 57.8 +0.1**
baz=313
PFO Pinyon Flats O 49.52 85 P **P 13 56 57.2 -0.4**
PFO pmax pmax
comp=Z,6.0nm,2.3s
TPFO Pinon Flats 49.53 85 P **P 13 56 57.8 +0.1**
baz=313
SRU San Rafael Swe 49.53 75 IAmb IAmb 13 56 59.9
comp=Z,5.2nm,0.5s
BELC Belle Mtn. Jos 49.55 84 P **P 13 56 57.8 0.0**
baz=312
SPITS Spitsbergen Ar 49.63 355 P **P 13 56 57.1 -0.6**
comp=Z,4.8nm,0.5s,baz=50,slow=7.1,SNR=31
comp=Z,4.8nm,0.5s
K22A Casper 49.66 69 P **P 13 56 58.4 -0.2**
baz=308
IRM Iron Mountain 49.97 84 P **P 13 57 01.0 +0.1**
baz=312
MONP2 Monument Peak 50.03 86 P **P 13 57 01.7 +0.1**
baz=313
BC3 Big Chuckawall 50.11 84 P **P 13 57 02.0 -0.1**
baz=313
HMU Henry Mountain 50.16 77 IAmb IAmb 13 57 03.2
comp=Z,6.3nm,0.8s
RSSD Black Hills 50.18 66 P **P 13 57 01.2 -1.4**
baz=308
RSSD Black Hills 50.18 66 P **P 13 57 00.9 -1.7**
RSSD pmax pmax
comp=Z,4.0nm,0.7s
U15A North Rim 50.20 79 IAmb IAmb 13 57 04.0
comp=Z,8.5nm,1.1s
O20A White River Ci 50.24 73 P **P 13 57 02.4 -0.7**
baz=310
IKP In-Ko-Pah, Jac 50.39 86 P **P 13 57 04.3 +0.2**
baz=313
PDMCI Parker Dam,Lak 50.48 83 P **P 13 57 05.0 +0.3**
baz=312
WHN Wuhan 50.83 271 ⇑P **P 13 57 08.6 +1.3**
ULM Lac du Bonnet 50.84 56 P **P 13 57 05.5 -1.7**
comp=Z,3.1nm,0.6s,baz=306,slow=7.2,SNR=6.6
comp=Z,3.1nm,0.6s
GLA Glamis 50.91 84 P **P 13 57 08.1 +0.1**
baz=313
N23A Red Feather La 51.11 71 P **P 13 57 09.4 -0.2**
baz=310
WUAZ Wupatki 51.36 80 P **P 13 57 11.2 -0.3**
baz=312
MVCO Mesa Verde 51.98 76 P **P 13 57 15.3 -0.9**
baz=311
AGMN Agassiz Nation 52.05 58 P **P 13 57 15.2 -1.0**
baz=309
ZALV Zalesovo Beam 52.29 312 P **P 13 57 16.4 -1.5**
comp=Z,0.8nm,0.4s,baz=51,slow=6.8,SNR=5.4
ZALV PcP **PcP 13 58 28.1 +0.8**
comp=Z,2.7nm,0.7s,baz=32,slow=4.4,SNR=11
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 52.29 312 *i*P **P 13 57 17.6 -0.3**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
W18A Petrified Fore 52.63 79 P **P 13 57 20.4 -0.4**
baz=312
214A Organ Pipe Nat 52.90 84 P **P 13 57 22.7 0.0**
baz=314
B35A Bob, Littlefor 53.12 56 IAmb IAmb 13 57 23.9
comp=Z,4.0nm,0.8s
SDCO Great Sand Dun 53.41 73 P **P 13 57 26.4 -0.4**
baz=312
FRB Frobisher Bay 53.43 31 P **P 13 57 25.5 -0.6**
FRB pmax pmax
comp=Z,10.0nm,1.8s
LZH Lanzhou 53.48 284 *e*P **P 13 57 28.9 +1.8**
LZH pP pP 13 57 56.7 +0.2
LZH sP sP 13 58 08.3 -2.1
LZH pmax pmax
comp=Z,18nm,1.0s
GTA Gaotai 53.66 290 *e*P **P 13 57 29.5 +1.2**
GTA pP pP 13 57 33.6 -24
GTA pmax pmax
comp=Z,18nm,0.5s
TUC Tucson 53.90 82 P **P 13 57 29.9 -0.1**
baz=314
TUC Tucson 53.90 82 P **P 13 57 30.2 +0.1**

T25A	**Trinidad**	**54.47**	**73**	IAmb	IAmb	13 57 35.1		
	comp=Z,7.1nm,1.1s							
T25A	**Trinidad**	**54.47**	**73**	P	**P**	**13 57 34.1**	**-0.3**	
	baz=312							
EYMN	**Ely**	**54.53**	**56**	IAmb	IAmb	13 57 34.4		
	comp=Z,5.7nm,0.8s							
EYMN	**Ely**	**54.53**	**56**	P	**P**	**13 57 33.9**	**-0.5**	
	baz=311,SNR=5.6							
ECSD	**EROS Data Cent**	**54.56**	**62**	P	**P**	**13 57 33.8**	**-0.9**	
	baz=311							
ANMO	**Albuquerque**	**54.72**	**77**	P	**P**	**13 57 35.7**	**-0.4**	
	baz=313							
ANMO	**Albuquerque**	**54.72**	**77**⇑	*e*P	**P**	**13 57 32.7**	**-3.5**	
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.2s							
121A	**Cookes Peak, D**	**55.57**	**80**	P	**P**	**13 57 42.1**	**-0.1**	
	baz=314							
SPMN	**Marine on St.**	**55.64**	**59**	P	**P**	**13 57 42.0**	**-0.3**	
	baz=312							
CBKS	**Cedar Bluff**	**56.07**	**69**	P	**P**	**13 57 45.1**	**-0.5**	
	baz=313							
ARCES	**ARCESS Array B**	**57.16**	**349**	P	**P**	**13 57 52.1**	**-0.7**	
	comp=Z,2.5nm,0.7s,baz=32,slow=8.9,SNR=11							
	comp=Z,2.5nm,0.7s							
KURK	**Kurchatov**	**57.28**	**312**	P	**P**	**13 57 53.9**	**0.0**	
KURK	**Kurchatov**	**57.28**	**312**	*d* iP	**P**	**13 57 54.0**	**+0.1**	
KURK				pmax	pmax			
	comp=Z,14nm,1.3s							
KURBB	**Kurchatov Arra**	**57.39**	**312**	P	**P**	**13 57 54.2**	**-0.4**	
	comp=Z,7.8nm,0.5s,baz=42,slow=6.7,SNR=57							
KURBB				PcP	**PcP**	**13 58 47.6**	**+0.5**	
	comp=Z,2.2nm,0.7s,baz=43,slow=3.6,SNR=7.4							
	comp=Z,7.8nm,0.5s							
WMQ	**Urumqi**	**57.49**	**301**	*e*P	**P**	**13 57 58.8**	**+3.3**	
WMQ				LR	LR			
	comp=Z,150nm,23.7s							
MNTX	**Cornudas Mount**	**57.61**	**79**	P	**P**	**13 57 56.0**	**-0.5**	
	baz=315,SNR=7.2							
MK31	**Makanchi Array**	**58.23**	**307**	IAmb	IAmb	13 58 01.1		
	comp=Z,3.7nm,0.6s							
MK31	**Makanchi Array**	**58.23**	**307**	*d* iP	**P**	**13 58 00.2**	**-0.4**	
MKAR	**Makanchi Array**	**58.23**	**307**	P	**P**	**13 57 59.9**	**-0.7**	
	comp=Z,4.8nm,0.6s,baz=48,slow=6.5,SNR=50							
MKAR				PcP	**PcP**	**13 58 50.6**	**0.0**	
	comp=Z,0.7nm,0.7s,baz=38,slow=6.1,SNR=1.8							
	comp=Z,4.8nm,0.6s							
MKAR	**Makanchi Array**	**58.23**	**307**	*i* P	**P**	**13 58 00.3**	**-0.3**	
MKAR				pmax	pmax			
	comp=Z,5.0nm,0.6s							
MAKZ	**Makanchi**	**58.38**	**307**	P	**P**	**13 58 00.8**	**-0.8**	
MAKZ	**Makanchi**	**58.38**	**307**	P	**P**	**13 58 00.8**	**-0.8**	
MAKZ				pmax	pmax			
	comp=Z,6.0nm,0.6s							
GOMU	**GeErMu**	**58.75**	**290**	P	**P**	**13 58 05.6**	**+0.8**	
GOMU				pP	pP	13 58 09.8	-25	
GOMU				sP	sP	13 58 12.3	-36	
GOMU				pmax	pmax			
	comp=Z,14nm,0.8s							
SGF	**Sodankyl**	**59.02**	**348**	P	**P**	**13 58 06.6**	**+0.9**	
SGF				pmax	pmax			
	comp=Z,18nm,2.4s							
BVA0	**Borovoye Array**	**59.24**	**318**	P	**P**	**13 58 07.6**	**+0.1**	
BVAR	**Borovoye Array**	**59.24**	**318**	P	**P**	**13 58 07.8**	**+0.4**	
	comp=Z,13nm,0.5s,baz=54,slow=6.7,SNR=76							
BVAR				PcP	**PcP**	**13 58 54.9**	**+0.5**	
	comp=Z,3.7nm,0.5s,baz=69,slow=2.3,SNR=6.1							
BVAR				ScP	**ScP**	**14 02 43.8**	**+0.8**	
	comp=Z,0.9nm,0.7s,baz=59,slow=6.1,SNR=3.8							
	comp=Z,13nm,0.5s							
BRVK	**Borovoye**	**59.26**	**318**	P	**P**	**13 58 07.9**	**+0.3**	
BRVK	**Borovoye**	**59.26**	**318**	*d* iP	**P**	**13 58 08.1**	**+0.5**	
BRVK				pmax	pmax			
	comp=Z,5.0nm,0.4s							
WMOK	**Wichita Mounta**	**59.43**	**72**	P	**P**	**13 58 08.6**	**-0.5**	
	baz=315							
TX31	**Lajitas Ar. Si**	**60.33**	**79**	P	**P**	**13 58 14.3**	**-1.1**	
TX31				IAmb	IAmb	13 58 15.7		
	comp=Z,3.0nm,0.6s							
TXAR	**Lajitas Array**	**60.33**	**79**	P	**P**	**13 58 15.2**	**-0.1**	
	comp=Z,2.3nm,0.6s,baz=305,slow=5.2,SNR=28							
TXAR				pP	**pP**	**13 58 45.2**	**-0.3**	
	comp=Z,0.9nm,0.8s,baz=299,slow=3.9,SNR=2.8							
TXAR				ScP	**ScP**	**14 02 47.0**	**-1.3**	
	comp=Z,0.2nm,0.6s,baz=270,slow=3.6,SNR=3.0							
	comp=Z,2.3nm,0.6s							
ABTX	**Abilene, Hawle**	**60.41**	**74**	P	**P**	**13 58 15.2**	**-0.6**	
	baz=315							
SCHQ	**Schefferville**	**60.62**	**37**	P	**P**	**13 58 16.0**	**-0.9**	
	comp=Z,2.1nm,0.7s,baz=326,slow=6.9,SNR=5.4							
	comp=Z,2.1nm,0.7s							
ARU	**Arti**	**61.12**	**327**	P	**P**	**13 58 20.2**	**0.0**	
ARU	**Arti**	**61.12**	**327**	*c* iP	**P**	**13 58 20.8**	**+0.6**	
ARU				S	**S**	**14 06 34.0**	**+5.0**	
ARU				SS	**SS**	**14 10 33.4**	**+3.5**	
ARU				pmax	pmax			
	comp=Z,21nm,1.1s							
ARU	**Arti**	**61.12**	**327**	P	**P**	**13 58 21.2**	**+1.0**	
	comp=Z,21nm,1.0s							
OUL	**Oulu**	**61.33**	**347**	P	**P**	**13 58 22.2**	**+0.8**	
OUL				pmax	pmax			
	comp=Z,10.0nm,2.2s							
CCM	**Cathedral Cave**	**61.41**	**64**	P	**P**	**13 58 21.7**	**-0.7**	
	baz=315							
PZH	**PanZhiHua**	**61.47**	**277**	P	**P**	**13 58 24.6**	**+1.4**	
PZH				pmax	pmax			
	comp=Z,7.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,110nm,5.1s							
JCT	**Junction City**	**61.84**	**76**	P	**P**	**13 58 24.9**	**-0.6**	
	baz=316							
OTUK	**Ortayu**	**61.91**	**313**	P	**P**	**13 58 26.0**	**+0.3**	
SFIN	**Lafayette**	**62.02**	**60**	P	**P**	**13 58 25.8**	**-0.6**	
	baz=316							
PDGK	**Podgornoye**	**62.08**	**305**	P	**P**	**13 58 26.8**	**-0.2**	
DAV	**Davao City (W)**	**62.11**	**243**	LR	LR	14 21 24.9		
	comp=Z,91nm,21.6s,baz=188,slow=32							
FCAR	**Ozark Folk Cen**	**62.46**	**66**	P	**P**	**13 58 27.5**	**-2.0**	
MIAR	**Mount Ida**	**62.59**	**68**	P	**P**	**13 58 30.0**	**-0.3**	
	baz=316							
MIAR	**Mount Ida**	**62.59**	**68**	P	**P**	**13 58 29.7**	**-0.7**	
MIAR				pmax	pmax			
	comp=Z,6.0nm,1.2s							
TKM2	**Tokmak 2**	**64.32**	**307**	*i* P	**P**	**13 58 42.2**	**+0.3**	
TKM2				pmax	pmax			
	comp=Z,6.0nm,1.1s							
ERPA	**Erie**	**64.42**	**54**	P	**P**	**13 58 41.3**	**-1.0**	
	baz=318							
BOOM	**Boomskoye usch**	**64.47**	**307**	P	**P**	**13 58 43.9**	**+1.1**	
BOOM				pmax	pmax			
	comp=Z,12nm,0.8s							
WVT	**Waverly**	**64.69**	**63**	P	**P**	**13 58 43.8**	**-0.3**	
	baz=317							
FINES	**FINESS Array B**	**64.77**	**346**	P	**P**	**13 58 43.8**	**-0.3**	
	comp=Z,0.9nm,0.4s,baz=18,slow=7.2,SNR=15							
	comp=Z,0.9nm,0.4s							
FINES	**FINESS Array B**	**64.77**	**346**	*i* P	**P**	**13 58 44.4**	**+0.2**	
FINES				pmax	pmax			
	comp=Z,1.0nm,0.4s							
OXF	**Oxford**	**64.99**	**66**	P	**P**	**13 58 45.3**	**-0.8**	
	baz=317							
AAK	**Ala-Archa**	**65.07**	**308**	P	**P**	**13 58 47.1**	**+0.4**	
AAK	**Ala-Archa**	**65.07**	**308**	P	**P**	**13 58 47.1**	**+0.4**	
	comp=Z,5.8nm,0.6s,baz=135,slow=4.1,SNR=15							
	comp=Z,5.8nm,0.6s							
AAK	**Ala-Archa**	**65.07**	**308**	*d* iP	**P**	**13 58 47.6**	**+0.9**	
AAK				pmax	pmax			
	comp=Z,3.0nm,0.6s							
LONY	**Lake Ozonia**	**65.16**	**49**	P	**P**	**13 58 46.0**	**-1.0**	
	baz=320							
P52A	**Corning**	**65.17**	**57**	P	**P**	**13 58 46.3**	**-0.9**	
	baz=318							
O53A	**New Philadelph**	**65.19**	**56**	P	**P**	**13 58 46.0**	**-1.3**	
	baz=318							
L56A	**Greenwood**	**65.61**	**52**	P	**P**	**13 58 49.4**	**-0.7**	
SWI	**Sorong**	**65.82**	**233**	P	**P**	**13 58 52.6**	**+1.0**	
SWI				pmax	pmax			
	comp=Z,29nm,0.8s							
BINY	**Binghamton**	**66.33**	**51**	P	**P**	**13 58 54.0**	**-0.6**	
	baz=320							
AB31	**Akbulak array**	**66.34**	**321**	*e*P	**P**	**13 58 55.1**	**+0.6**	
ABKAR	**Akbulak array**	**66.34**	**321**	P	**P**	**13 58 55.0**	**+0.5**	
SSPA	**Standing Stone**	**66.58**	**54**	P	**P**	**13 58 54.6**	**-1.6**	
	baz=319							
KK31	**Karatay Array**	**66.63**	**311**	P	**P**	**13 58 56.4**	**-0.1**	
KK31				IAmb	IAmb	13 58 57.8		
	comp=Z,5.5nm,0.7s							
KK31	**Karatay Array**	**66.63**	**311**	*i* P	**P**	**13 58 56.8**	**+0.3**	
KKAR	**Karatay Array**	**66.63**	**311**	P	**P**	**13 58 56.5**	**0.0**	
KKAR				IAmb	IAmb	13 58 57.8		
	comp=Z,5.5nm,0.7s							
KKAR	**Karatay Array**	**66.63**	**311**	P	**P**	**13 58 56.5**	**0.0**	
KKAR				pmax	pmax			
	comp=Z,6.0nm,0.7s							
KSH	**Kashi**	**66.68**	**305**	P	**P**	**13 59 01.4**	**+4.4**	
KSH				pmax	pmax			
	comp=Z,9.0nm,0.6s							
NOA	**NORSAR Array B**	**66.85**	**353**	P	**P**	**13 58 56.2**	**-1.4**	
	comp=Z,0.9nm,0.7s,baz=8.8,slow=6.3,SNR=3.5							
	comp=Z,0.9nm,0.7s							
CRAI	**Chiangrai**	**66.95**	**274**	P	**P**	**13 58 59.3**	**+0.5**	
CRAI				IAmb	IAmb	13 59 00.9		
	comp=Z,8.8nm,1.2s							
HFS	**Hagfors**	**67.55**	**352**	P	**P**	**13 59 00.9**	**-1.1**	
	comp=Z,0.6nm,0.3s,baz=59,slow=5.7,SNR=6.3							
	comp=Z,0.6nm,0.3s							
L61B	**Northampton**	**67.71**	**49**	P	**P**	**13 59 01.2**	**-2.0**	
	baz=321							
HRV	**Adam Dziewonsk**	**68.19**	**48**	P	**P**	**13 59 04.0**	**-2.2**	
	baz=321							
OBN	**Obninsk**	**68.64**	**338**	*e*P	**P**	**13 59 09.6**	**+0.8**	
OBN				*e*		13 59 31.8		
OBN				*e**PP	**pwP**	**13 59 44.0**	**+2.6**	
OBN				*e**SP	sP	14 00 00.4	+7.8	
OBN				*e*		14 01 42.5		
OBN				*e*PPP	PPP	14 03 25.0		
OBN				pmax	pmax			
	comp=Z,2.0nm,0.5s							
BTK	**Batken**	**68.83**	**308**	IAmb	IAmb	13 59 12.2		
	comp=Z,7.1nm,0.7s							
KMSC	**Kings Mountain**	**68.95**	**60**	P	**P**	**13 59 09.6**	**-1.5**	
	baz=320							
CMAR	**Chiang Mai Arr**	**69.16**	**273**	P	**P**	**13 59 12.7**	**0.0**	
	comp=Z,2.0nm,0.6s,baz=28,slow=7.0,SNR=12							
	comp=Z,2.0nm,0.6s							
CMAR	**Chiang Mai Arr**	**69.16**	**273**	*i* P	**P**	**13 59 13.5**	**+0.8**	
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CHGR	**Chuyangaron**	**70.72**	**308**	P	**P**	**13 59 23.1**	**+1.0**	
CHGR				pmax	pmax			
	comp=Z,29nm,1.1s							
SIMJ	**Simiganj**	**70.80**	**309**	P	**P**	**13 59 23.2**	**+0.6**	
SIMJ				IAmb	IAmb	13 59 24.2		
	comp=Z,7.9nm,0.8s							
KBL	**Kabul**	**74.03**	**306**	P	**P**	**13 59 40.8**	**-1.1**	
KBL				IAmb	IAmb	13 59 44.1		
	comp=Z,9.3nm,0.7s							
KBL	**Kabul**	**74.03**	**306**	P	**P**	**13 59 40.8**	**-1.1**	
KBL				pmax	pmax			
	comp=Z,9.0nm,0.7s							
AKASG	**Malin Array Be**	**74.39**	**340**	P	**P**	**13 59 43.5**	**+0.1**	
	comp=Z,2.0nm,0.4s,baz=21,slow=6.3,SNR=8.0							
	comp=Z,2.0nm,0.4s							
AKASG	**Malin Array Be**	**74.39**	**340**	*i* P	**P**	**13 59 44.2**	**+0.8**	
AKASG				pmax	pmax			
	comp=Z,2.0nm,0.4s							
AKBB	**Malin Array Si**	**74.39**	**340**⇑	*e*P	**P**	**13 59 42.1**	**-1.3**	
AKBB				pmax	pmax			
	comp=Z,3.0nm,0.6s							
LUBAR	**Lubar, Ukraine**	**75.43**	**341**	P	**P**	**13 59 50.0**	**+0.6**	
CLL	**Collm**	**76.33**	**351**	*e*P	**P**	**13 59 54.0**	**-0.5**	
GEYT	**Alibeck**	**76.40**	**315**	P	**P**	**13 59 55.4**	**+0.3**	
	comp=Z,1.5nm,0.6s,baz=14,slow=7.3,SNR=5.5							
	comp=Z,1.5nm,0.6s							
NDNU	**Novodnistrovsk**	**76.77**	**341**	P	**P**	**13 59 57.5**	**+0.5**	
KMPD	**K-Podol'skiy**	**76.98**	**341**	P	**P**	**13 59 58.1**	**-0.1**	
KMPD				P	**P**	**13 59 57.9**	**-0.3**	
KIV	**Kislovodsk**	**77.03**	**329**	*e*P	**P**	**14 00 00.3**	**+1.6**	
KIV				pmax	pmax			
	comp=Z,6.0nm,0.9s							
KBZ	**Khabaz**	**77.17**	**329**	P	**P**	**13 59 58.6**	**-0.6**	
	comp=Z,2.0nm,0.5s,baz=106,slow=5.4,SNR=6.0							
	comp=Z,2.0nm,0.5s							
KBZ	**Khabaz**	**77.17**	**329**⇑	*e*P	**P**	**14 00 00.4**	**+1.1**	
KBZ				pmax	pmax			
	comp=Z,6.0nm,1.5s							
BURAR	**Bucovina Array**	**78.13**	**342**	P	**P**	**14 00 05.0**	**+0.2**	
BURAR				IAmb	IAmb	14 00 07.5		
	comp=Z,3.8nm,0.7s							
BURAR	**Bucovina Array**	**78.13**	**342**	P	**P**	**14 00 04.0**	**-0.8**	
BURAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
WRAB	**Tennant Creek**	**81.23**	**221**⇑	*e*P	**P**	**14 00 21.5**	**0.0**	
WRAB				pmax	pmax			
	comp=Z,30nm,4.0s							
FRGS	**Fruska Gora**	**81.47**	**345**	P	**P**	**14 00 23.8**	**+1.1**	
BRTR	**Keskin Array B**	**83.61**	**333**	P	**P**	**14 00 34.3**	**+0.3**	
	comp=Z,1.1nm,0.7s,baz=43,slow=1.5,SNR=3.2							
	comp=Z,1.1nm,0.7s							
ASAR	**Alice Springs**	**84.75**	**220**	P	**P**	**14 00 40.3**	**+0.7**	
	comp=Z,1.9nm,0.9s,baz=20,slow=4.5,SNR=22							
	comp=Z,1.9nm,0.9s							
STKA	**Stephens Creek**	**89.50**	**211**	P	**P**	**14 01 03.6**	**+1.3**	
	comp=Z,3.4nm,0.8s,baz=356,slow=7.1,SNR=6.5							
	comp=Z,3.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**115.07**	**356**	PKP	**PKiKP**	**14 06 44.9**	**-1.3**	
	comp=Z,0.1nm,0.4s,baz=7.7,slow=2.0,SNR=6.5							
CPUP	**Villa Florida**	**131.30**	**80**	SKPbc	**SKPbc**	**14 10 27.9**	**-2.0**	
	comp=Z,1.3nm,0.7s,baz=20,slow=5.9,SNR=3.6							
QSPA	**South Pole Qui**	**141.74**	**180**	SKPbc	**SKPbc**	**14 11 00.8**	**+0.6**	
	comp=Z,2.4nm,1.1s,baz=2.6,slow=1.8,SNR=3.5							
MAW	**Mawson**	**145.86**	**218**	PKPbc	**PKPab**	**14 07 43.4**	**-0.1**	
	comp=Z,4.8nm,0.8s,baz=79,slow=7.2,SNR=8.6							
LBTB	**Lobatse**	**146.00**	**312**	PKIKP	**PKPdf**	**14 07 41.0**	**-2.7**	
BOSA	**Boshof**	**149.21**	**309**	PKPbc	**PKiKP**	**14 07 54.3**	**-0.2**	
	comp=Z,6.4nm,0.6s,baz=50,slow=2.7,SNR=22							

*IDC **07** 14:00:56.9±2.8, 37°.20N×71°.65E, h60^{km}±24^{km}, mb3.7/10, mbtmp4.0/17, ML4.0/6, Error ellipse: s-maj=21.0km s-min=16.3km az=172.0*

*NEIC **07** 14:01:01.1±2.6, 37°.33N±0°.03×71°.6E±0°.1, h107^{km}±7km, mb4.2/7, Error ellipse: s-maj=12.4km s-min=3.1km az=104.0*

*NNC **07** 14:01:04.3±3.7, 37°.58N×71°.54E, h124^{km}±71^{km}, mb3.3, mpv3.9, Error ellipse: s-maj=37.1km s-min=26.4km az=149.0*

ISC 07 14:01:00.4±0.5, 37°.26N±0°.05×71°.58E±0°.05, h109^{km}, n70, σ1^{s}99/77, mb3.9/16, 5C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**2.22**	**4**		**Pn**	**14 01 37.0**	**+0.5**
CHGR	**Chuyangaron**	**2.37**	**307**		**Pn**	**14 01 39.2**	**+1.1**
SIMJ	**Simiganj**	**2.46**	**305**	Pn	**Pn**	**14 01 40.6**	**+1.2**
BTK	**Batken**	**2.85**	**348**		**Pn**	**14 01 46.1**	**+1.5**
KBL	**Kabul**	**3.41**	**218**	Pn	**Pn**	**14 01 55.0**	**+3.0**
KSH	**Kashi**	**4.12**	**56**	P	Pn	14 01 56.0	-5.5
KSH				S	Sn	14 02 33.8	-15
KSH				smax	smax		
	comp=N,260nm,0.5s						
KSH				smax	smax		
	comp=E,180nm,0.5s						
ARSB	**Arslanbob**	**4.20**	**15**		**Pn**	**14 02 02.0**	**-0.5**
UCH	**Uchtor**	**5.45**	**24**	P	**Pn**	**14 02 20.0**	**+0.3**
	SNR=23						
EKS2	**Erkin-Say**	**5.65**	**17**	P		14 03 24.1	
	SNR=5.5						
AAK	**Ala-Archa**	**5.82**	**22**	P	**Pn**	**14 02 25.2**	**+0.8**
	SNR=22						
AAK	**Ala-Archa**	**5.82**	**22**	⇑P	**Pn**	**14 02 24.8**	**+0.4**
	6.7nm,0.5s						
AAK				⇓S	**Sn**	**14 03 27.0**	**-2.8**
	29nm,0.6s						
AAK	**Ala-Archa**	**5.82**	**22**	Pn	**Pn**	**14 02 24.2**	**-0.2**
AAK	**Ala-Archa**	**5.82**	**22**	P	**Pn**	**14 02 22.8**	**-1.5**
	3.9nm,0.3s,baz=178,slow=6.2,SNR=26						
AAK				S	**Sn**	**14 03 27.1**	**-2.7**
	11nm,0.5s,baz=143,slow=20,SNR=15						
	8.5nm,0.3s						
KK31	**Karatay Array**	**5.89**	**352**	⇓P	**Pn**	**14 02 25.8**	**+0.5**
	5.8nm,0.3s,baz=182,slow=13,SNR=177						
KK31				⇓S	**Sn**	**14 03 30.5**	**-0.9**
	9.9nm,0.4s,baz=165,slow=20,SNR=6.3						
KK31	**Karatay Array**	**5.89**	**352**	Pn	**Pn**	**14 02 25.1**	**-0.1**
KKAR	**Karatay Array**	**5.89**	**352**	Pn	**Pn**	**14 02 25.2**	**-0.1**
BOOM	**Boomskoye usch**	**6.21**	**31**		**Pn**	**14 02 29.0**	**-0.7**
CHMS	**Chumysh**	**6.22**	**22**	P	**Pn**	**14 02 30.4**	**+0.6**
	SNR=8.5						
CHMS	**Chumysh**	**6.22**	**22**	⇓P	**Pn**	**14 02 29.9**	**+0.1**
	13nm,0.6s						
CHMS				⇑S	**Sn**	**14 03 35.6**	**-3.9**
	10nm,0.7s						
DHRM	**DHARAMSHALA**	**6.33**	**141**	*e*P	**Pn**	**14 02 29.3**	**-2.2**
DHRM				*e*S	**Sn**	**14 03 35.7**	**-6.8**
DHRM				IAML		14 03 39.2	
	424nm,0.3s						
DHRM				IAML		14 03 40.4	
	comp=E,705nm,0.5s						
USP	**Ospenovka**	**6.40**	**20**	P	**Pn**	**14 02 31.9**	**-0.3**
	SNR=7.3						
TKM2	**Tokmak 2**	**6.44**	**27**	P	**Pn**	**14 02 34.0**	**+1.2**
	SNR=18						
TKM2	**Tokmak 2**	**6.44**	**27**	⇑P	**Pn**	**14 02 32.6**	**-0.2**
	comp=E,3.9nm,0.4s						
TKM2				⇑S	**Sn**	**14 03 42.6**	**-2.3**
	comp=E,6.0nm,0.6s						
TARG	**Taragay, Kyrgy**	**6.56**	**45**	Pn	**Pn**	**14 02 34.3**	**-0.4**
MDOK	**Medeo**	**7.23**	**34**	P	**Pn**	**14 02 44.2**	**+0.7**
	comp=E,2.4nm,0.5s						
MDOK				S	**Sn**	**14 04 06.7**	**+2.7**
	comp=E,3.2nm,0.6s						
SMLA	**Simla**	**7.67**	**141**	*e*P	**Pn**	**14 02 46.2**	**-3.2**
SMLA				*e*S	Sn	14 04 03.9	-11
SMLA				IAML		14 04 18.7	
	comp=E,156nm,0.3s						
DDI	**Dehra Dun**	**8.77**	**140**	*e*P	Pn	14 02 57.8	-6.6
DDI				*e*S	Sn	14 04 30.4	-11
DDI				IAML		14 04 36.1	
	comp=E,203nm,0.4s						
DDI				IAML		14 04 39.6	
	comp=E,232nm,0.4s						
GEYT	**Alibeck**	**10.70**	**278**	P	**Pn**	**14 03 29.4**	**-1.2**
	comp=E,2.0nm,0.3s,baz=100,slow=11,SNR=11						
GEYT				S	**Sn**	**14 05 24.2**	**-4.2**
	comp=E,7.7nm,0.4s,baz=124,slow=7.9,SNR=12						
	comp=E,3.1nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**10.70**	**278**	Pn	**Pn**	**14 03 29.4**	**-1.1**
MK31	**Makanchi Array**	**12.40**	**36**	⇓P	**Pn**	**14 03 52.6**	**-0.5**
	comp=E,0.8nm,0.5s,baz=0.0,slow=0.1,SNR=7.3						
MK31	**Makanchi Array**	**12.40**	**36**		**Pn**	**14 03 52.2**	**-0.9**
MKAR	**Makanchi Array**	**12.40**	**36**	Pn	**Pn**	**14 03 52.5**	**-0.6**
MKAR	**Makanchi Array**	**12.40**	**36**	P	**Pn**	**14 03 51.4**	**-1.7**
	comp=E,0.3nm,0.3s,baz=225,slow=16,SNR=12						
	comp=E,0.7nm,0.4s						
WMQ	**Urumqi**	**13.89**	**57**	*e*P	**Pn**	**14 04 14.0**	**+1.5**
KURBB	**Kurchatov Arra**	**14.26**	**18**	P	**Pn**	**14 04 15.3**	**-1.8**
	comp=E,0.8nm,0.8s,baz=209,slow=12,SNR=6.0						
AB31	**Akbulak array**	**14.66**	**329**	P	**Pn**	**14 04 20.8**	**-1.4**
	comp=E,1.0nm,0.3s,baz=137,slow=13,SNR=72						
ABKAR	**Akbulak array**	**14.66**	**329**	Pn	**Pn**	**14 04 20.8**	**-1.5**
BHPL	**Bhopal**	**14.85**	**159**	*e*P	**P**	**14 04 28.1**	**+0.1**
BHPL				*e*S	Sn	14 06 55.4	-14
BVA0	**Borovoye Array**	**15.79**	**357**	⇑P	**Pn**	**14 04 36.3**	**-0.1**
	comp=E,2.1nm,0.5s,baz=159,slow=12,SNR=24						
BVAR	**Borovoye Array**	**15.79**	**357**	P	**Pn**	**14 04 34.5**	**-1.8**
	comp=E,0.2nm,0.3s,baz=162,slow=10,SNR=15						
	comp=E,2.3nm,0.5s						
BRVK	**Borovoye**	**15.82**	**357**		**Pn**	**14 04 34.9**	**-1.9**
BRVK				IAmb	IAmb	14 04 41.2	
	comp=E,13nm,1.2s						
AKTO	**Aktyubinsk**	**16.37**	**328**	P	**Pn**	**14 04 43.6**	**+0.1**
	comp=E,2.8nm,0.3s,baz=134,slow=10,SNR=42						
AKTO				S	**Sn**	**14 07 38.5**	**-6.5**
	comp=E,0.5nm,0.3s,baz=227,slow=22,SNR=1.6						
	comp=E,14nm,0.5s						
GOMU	**GeErMu**	**18.65**	**86**	P	**P**	**14 05 07.8**	**-2.3**
GOMU				pP	Pn	14 05 14.8	+3.1
GOMU				sP	pP	14 05 17.4	-14
GOMU				pmax	pmax		
	comp=E,6.0nm,0.7s						
ZAA0	**Zalesovo Array**	**19.03**	**25**	P	**P**	**14 05 12.8**	**-0.8**
ZAA0				IAmb	IAmb	14 05 14.9	
	comp=E,4.2nm,0.4s						
ZALV	**Zalesovo Beam**	**19.03**	**25**	P	**P**	**14 05 13.1**	**-0.6**
ZALV	**Zalesovo Beam**	**19.03**	**25**	P	**P**	**14 05 14.0**	**+0.3**
	comp=E,1.8nm,0.3s,baz=221,slow=11,SNR=28						
	comp=E,5.0nm,0.4s						
ARU	**Arti**	**21.07**	**340**	P	**P**	**14 05 36.3**	**+0.7**
	comp=E,2.4nm,0.3s,baz=152,slow=8.6,SNR=4.8						
	comp=E,2.4nm,0.3s						
GTA	**Gaotai**	**22.22**	**76**	*e*P	**P**	**14 05 49.0**	**+0.9**
GTA				pmax	pmax		
	comp=E,3.0nm,0.7s						
PZH	**PanZhiHua**	**27.66**	**104**	P	**P**	**14 06 40.3**	**+2.1**
PZH				pmax	pmax		
	comp=E,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=E,100nm,6.2s						
CMAR	**Chiang Mai Arr**	**30.43**	**121**	P	**P**	**14 07 03.0**	**+0.4**
	comp=E,0.4nm,0.3s,baz=316,slow=9.8,SNR=5

ILIN	Lien	1.96	308	Pn	Pb	14 19 01.6	-0.3	
IGHG	Ghaleghazi	1.98	289	Pn	Pb	14 19 02.1	-0.2	
IPIR	Pirpir	2.00	120	Pn	Pb	14 19 02.3	-0.4	
QABG	Abgarm-Qazvin	2.08	17	Pn	Pb	14 19 03.1	-0.8	
JHBN	Jahan bin	2.13	134	Pn	Pb	14 19 04.2	-0.7	
IQOM	Qom	2.16	58	Pn	Pb	14 19 04.5	-0.8	
IDHR	Dehrash	2.26	296	Pn	Pb	14 19 05.3	-1.7	
IKLH	Kolahrood	2.32	99	Pn	Pb	14 19 07.0	-1.1	
AHWZ	Ahwaz	2.39	184	Pn	Pb	14 19 07.5	-1.5	
GLG1	Gilan-e-Gharb	2.47	280	Pn	Pb	14 19 08.5	-2.0	
IHSB	Hasanabad	2.64	49	Pn	Pn	14 19 10.5	+1.8	
IVRN	Varamin	2.71	61	Pn	Pb	14 19 12.4	-2.2	
IBRJ	Brojen	2.72	131	Pn	Pn	14 19 11.6	+1.7	
KGS1	Ghasr-e-Shirin	2.81	287	Pn	Pn	14 19 12.7	+1.9	
ISFB	Sefidab	2.89	76	Pn	Pn	14 19 14.7	+2.7	
IGAR	Gharneh	2.99	115	Pn	Pn	14 19 16.0	+2.5	
IZEF	Zefreh	3.03	105	Pn	Pn	14 19 16.7	+2.5	
IDMV	Damavand	3.22	54	Pn	Pn	14 19 18.9	+2.2	
KLNJ	Kolanjah	3.57	138	Pn	Pn	14 19 24.1	+2.5	
IFIR	Firoozkooh	3.75	58	Pn	Pn	14 19 26.6	+2.6	
IHSH	Hashtrud	3.80	341	Pn	Pn	14 19 27.5	+2.7	
MAHB	Mahabad	3.98	321	Pn	Pn	14 19 29.9	+2.8	
ANAR	Anarak	4.12	96	Pn	Pn	14 19 30.9	+1.9	
ISRB	Sarab	4.21	347	Pn	Pn	14 19 33.2	+3.0	
ISAD	Sadrabad	4.46	112	Pn	Pn	14 19 35.3	+1.5	
IMEH	Mehriz	5.40	114	Pn	Pn	14 19 48.4	+1.8	
IBAF	Bafgh	6.06	109	Pn	Pn	14 19 58.0	+2.4	
GNI	Garni 22nm,0.9s,0.1nm	7.21	334	P	Pg	14 20 40.9	-3.3	
SHME	Shamm	9.92	138	Pn	Pn	14 20 47.4	-1.1	
MSFE	Esma-Masafi	10.48	141	Pn	Pn	14 20 54.3	-1.9	
RAYN	Ar Rayn	10.57	197	Pn	Pn	14 20 56.7	-0.8	
ASUD	Al Ashush, Dub	10.68	146	Pn	Pn	14 20 58.5	-0.5	
FAQ	Al Faqa, Dubai	10.71	145	Pn	Pn	14 20 58.7	-0.5	
UOSS	Minazif	10.84	142	Pn	Pn	14 20 60.0	-1.2	
ASHO	Ashiyiah	10.98	143	Pn	Pn	14 21 01.4	-1.8	
ASHO				Sn	Sn	14 22 56.8	-9.1	
MZR	Muzera	11.43	158	Pn	Pn	14 21 09.1	0.0	
EIL	Elat 0.5nm,0.3s,baz=105,slow=4.4,SNR=4.4 3.5nm,0.7s	12.50	255	Pn	Pn	14 21 23.5	-0.2	
WSAR	Wadi Sarin 1.0nm,0.3s,baz=351,slow=8.4,SNR=11 6.5nm,0.6s	13.52	138	Pn	Pn	14 21 35.3	-2.5	
BRTR	Keskin Array B 0.1nm,0.3s,baz=108,slow=14,SNR=2.2 0.8nm,0.8s	13.58	301	Pn	Pn	14 21 41.3	+2.7	
IDI	Anoyia 1.1nm,0.3s,baz=67,slow=14,SNR=7.9	19.80	281	P	Pn	14 22 57.8	-0.1	
SORM	Soroca 11nm,0.8s,435nm	21.05	319	P	P	14 23 13.4	+3.6	
VOIR	 7.3nm,1.1s	21.67	310	P	P	14 23 19.2	+2.7	
AKASG	Malin Array Be 0.6nm,0.5s,baz=137,slow=12,SNR=7.5 0.6nm,0.5s	22.23	326	P	P	14 23 21.7	-0.7	
LUBAR	Lubar, Ukraine	22.44	322	P	P	14 23 27.3	+2.6	
MI29	MI29, Kamyanyy	22.71	324	P	P	14 23 29.0	+1.5	
MI30	MI30,Zelenitsa	22.75	325	P	P	14 23 31.9	+3.9	
BVAR	Borovoye Array 0.6nm,0.5s,baz=234,slow=8.3,SNR=7.5 0.6nm,0.5s	24.68	32	P	P	14 23 47.7	+1.0	
MKAR	Makanchi Array 0.3nm,0.7s,baz=254,slow=6.6,SNR=1.8 0.3nm,0.7s	28.45	53	P	P	14 24 21.2	+0.6	
FINES	FINESS Array B 1.7nm,0.8s,baz=140,slow=8.8,SNR=3.2 1.7nm,0.8s	31.37	339	P	P	14 24 45.4	-0.9	
HFS	Hagfors 1.2nm,0.5s,baz=122,slow=11,SNR=8.8 1.2nm,0.5s	34.97	330	P	P	14 25 17.6	-0.2	
EKA	Eskdalemuir Ar 0.7nm,0.7s,baz=103,slow=9.7,SNR=2.0 0.7nm,0.7s	41.70	317	P	P	14 26 14.0	-0.5	
TORD	Torodi Ar. Bea 0.9nm,0.8s,baz=50,slow=8.1,SNR=3.9 0.9nm,0.8s	47.38	256	P	P	14 27 00.0	-0.3	
ILAR	Eielson Array 0.4nm,1.0s,baz=316,slow=2.6,SNR=2.6 0.4nm,1.0s	81.06	7	P	P	14 30 39.8	-0.8	

*IDC **07** 14:28:21.4±0.9, 43°.82S×40°.80E, h0km, mb4.0/8, mbtmp4.0/8, MS4.0/21, Error ellipse: s-maj=30.3km s-min=25.3km az=88.0*

ISC 07 14:28:22.7±0.9, 43°.8S±0°.2×40°.7E±0°.2, h10km, n31, σ0§65/9, mb4.0/8, MS4.0/21, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	Boshof comp=Z,291nm,18.7s,baz=176,slow=34	19.61	316	LR	LR	14 39 18.7	
LBTB	Lobatse comp=Z,361nm,19.1s,baz=151,slow=34	22.47	322	LR	LR	14 40 55.9	
OPO	Ambohidratompo comp=Z,714nm,18.3s,baz=1.0,slow=34	25.75	14	LR	LR	14 42 52.9	
MAW	Mawson 7.0nm,1.0s,baz=311,slow=8.1,SNR=4.8	26.59	161	P	P	14 34 01.5	+0.9
MAW	 comp=Z,226nm,21.0s,baz=320,slow=31 7.0nm,1.0s			LR	LR	14 41 56.0	
LSZ	Lusaka comp=Z,140nm,20.3s,baz=162,slow=33	30.40	336	LR	LR	14 45 15.7	
SNAA	Sanae 4.2nm,1.0s,baz=88,slow=17,SNR=3.2	34.87	202	P	P	14 35 13.8	0.0
SNAA	 comp=Z,194nm,18.8s,baz=14,slow=31 4.2nm,1.0s			LR	LR	14 46 27.1	
MBAR	Mbarara comp=Z,177nm,20.6s,baz=172,slow=34	43.95	346	LR	LR	14 53 21.7	
QSPA	South Pole Qui 3.7nm,1.0s,baz=223,slow=3.2,SNR=7.4	46.39	180	P	P	14 36 48.4	-0.6
QSPA	 comp=Z,248nm,18.9s,baz=253,slow=34 3.7nm,1.0s			LR	LR	14 54 40.2	
VNDA	Vanda comp=Z,85nm,21.9s,baz=228,slow=33	53.69	167	LR	LR	14 57 49.4	
ATD	Arta Tunnel comp=Z,9.2nm,20.2s,baz=164,slow=34	55.12	3	LR	LR	14 59 27.7	
H01W2	Cape Leeuwin H baz=238,slow=75,SNR=33	55.74	108	T	T	15 38 12.7	
H01W3	Cape Leeuwin H baz=238,slow=75,SNR=40	55.75	108	T	T	15 38 13.4	
H01W1	Cape Leeuwin H baz=238,slow=75,SNR=35	55.75	108	T	T	15 38 14.1	
TORD	Torodi Ar. Bea 0.9nm,0.8s,baz=136,slow=4.4,SNR=5.7 0.9nm,0.8s	66.94	318	P	P	14 39 16.0	+0.5
WSAR	Wadi Sarin comp=Z,86nm,19.6s,baz=208,slow=32	68.72	18	LR	LR	15 04 26.3	
EIL	Elat comp=Z,42nm,18.2s,baz=246,slow=36	73.33	355	LR	LR	15 12 36.6	
PLCA	Paso Flores 1.2nm,0.8s,baz=59,slow=3.7,SNR=3.3 1.2nm,0.8s	75.59	227	P	P	14 40 07.8	+0.1
ASAR	Alice Springs 0.6nm,1.1s,baz=210,slow=7.3,SNR=2.1 0.6nm,1.1s	76.19	109	P	P	14 40 11.4	+0.1
WRA	Warramunga Arr 0.7nm,1.1s,baz=234,slow=7.0,SNR=2.9 0.7nm,1.1s	78.98	107	P	P	14 40 27.2	+0.3
CMAR	Chiang Mai Arr 0.7nm,0.7s,baz=223,slow=5.9,SNR=6.9 0.7nm,0.7s	81.67	55	P	P	14 40 40.9	-0.3
GEYT	Alibeck comp=Z,51nm,19.0s,baz=185,slow=34	82.88	14	LR	LR	15 15 07.4	
KEST	Kesra comp=Z,86nm,18.1s,baz=348,slow=37	84.17	335	LR	LR	15 20 25.0	
VAE	Valguarnera comp=Z,407nm,18.3s,baz=128,slow=37	84.37	339	LR	LR	15 20 20.7	
MDT	Midelt comp=Z,90nm,18.8s,baz=158,slow=36	86.78	323	LR	LR	15 20 14.0	
URZ	Urewera comp=Z,66nm,18.1s,baz=54,slow=35	89.25	147	LR	LR	15 19 58.7	
ESDC	Sonseca Array comp=Z,79nm,18.3s,baz=168,slow=36	92.39	327	LR	LR	15 24 01.6	
DAVOX	Davos/Dischmat comp=Z,73nm,18.2s,baz=50,slow=38	94.26	339	LR	LR	15 27 49.2	
AKTO	Aktyubinsk comp=Z,42nm,19.0s,baz=59,slow=37	95.08	11	LR	LR	15 27 19.8	
VRAC	Vranov comp=Z,36nm,18.4s,baz=177,slow=38	95.13	344	LR	LR	15 28 03.9	
BELG	Belogornoye comp=Z,53nm,21.5s,baz=141,slow=36	96.02	4	LR	LR	15 25 31.8	
TXAR	Lajitas Array 0.4nm,0.8s,baz=141,slow=6.4,SNR=4.9	148.24	255	PKPbc	PKiKP	14 48 09.8	-0.9

IDC 07 14:35:58.1±1.3, 1°.46N×123°.65E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=152.7km s-min=22.3km az=66.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr 0.7nm,0.4s,baz=335,slow=10,SNR=1.2 0.7nm,0.4s	23.72	154	P	P	14 41 11.7	-0.3
ASAR	Alice Springs 0.1nm,0.3s,baz=338,slow=8.1,SNR=10 0.1nm,0.3s	26.90	159	P	P	14 41 41.4	+0.3
SONM	Songino Array 0.3nm,0.3s,baz=169,slow=8.4,SNR=2.4 0.3nm,0.3s	48.55	345	P	P	14 44 45.1	+1.8
MKAR	Makanchi Array 0.3nm,0.5s,baz=116,slow=8.1,SNR=5.9 0.3nm,0.5s	57.73	328	P	P	14 45 49.4	-1.5

*IDC **07** 14:37:30.1±0.8, 43°.94S×40°.49E, h0km, mb4.0/9, mbtmp4.0/10, ML3.1/1, MS3.8/10, Error ellipse: s-maj=31.4km s-min=23.3km az=44.0*

ISC 07 14:37:31.5±0.7, 43°.9S±0°.2×40°.4E±0°.2, h10km, n23, σ1§10/11, mb4.0/9, MS3.8/8, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland comp=Z,186nm,20.4s,baz=138,slow=32	19.19	300	LR	LR	14 47 48.0	
BOSA	Boshof baz=155,slow=7.0,SNR=2.3	19.52	317	P	P	14 41 57.8	-1.2
BOSA	 comp=Z,229nm,18.7s,baz=180,slow=33 1.8nm,0.9s			LR	LR	14 48 12.1	
LBTB	Lobatse comp=Z,214nm,18.2s,baz=142,slow=33	22.41	323	LR	LR	14 49 58.8	
OPO	Ambohidratompo comp=Z,414nm,18.0s,baz=356,slow=34	25.93	15	LR	LR	14 52 06.2	
MAW	Mawson comp=Z,103nm,18.6s,baz=316,slow=32	26.56	161	LR	LR	14 51 47.1	
TSUM	Tsumeb comp=Z,125nm,18.6s,baz=154,slow=34	31.20	315	LR	LR	14 55 26.0	
SNAA	Sanae comp=Z,152nm,19.6s,baz=13,slow=31	34.66	202	LR	LR	14 55 19.1	
QSPA	South Pole Qui 1.3nm,0.8s,baz=246,slow=1.7,SNR=6.1 1.3nm,0.8s	46.27	180	P	P	14 45 56.6	-0.2
H01W2	Cape Leeuwin H baz=238,slow=75,SNR=10	55.94	108	T	T	15 47 26.1	
H01W3	Cape Leeuwin H baz=238,slow=75,SNR=14	55.95	108	T	T	15 47 25.4	
H01W1	Cape Leeuwin H baz=238,slow=75,SNR=15	55.96	108	T	T	15 47 27.4	
DBIC	Dimbokro comp=Z,54nm,19.7s,baz=156,slow=33	64.82	309	LR	LR	15 13 37.2	
TORD	Torodi Ar. Bea 1.2nm,1.0s,baz=191,slow=2.8,SNR=4.0 1.2nm,1.0s	66.86	319	P	P	14 48 24.9	+1.3
STKA	Stephens Creek 4.8nm,0.9s,baz=164,slow=7.4,SNR=5.3 4.8nm,0.9s	75.88	121	P	P	14 49 18.9	+0.7
ASAR	Alice Springs 1.6nm,1.1s,baz=208,slow=8.0,SNR=5.2 1.6nm,1.1s	76.39	110	P	P	14 49 21.5	+0.3
CPUP	Villa Florida 1.4nm,0.8s,baz=194,slow=4.2,SNR=2.2 1.4nm,0.8s	77.41	246	P	P	14 49 26.8	-0.1
WRA	Warramunga Arr 1.6nm,1.1s,baz=225,slow=4.5,SNR=5.8 1.6nm,1.1s	79.19	107	P	P	14 49 35.6	-1.2
CMAR	Chiang Mai Arr 0.4nm,0.3s,baz=231,slow=5.7,SNR=2.0 0.4nm,0.3s	81.95	55	P	P	14 49 51.5	+0.1
GEYT	Alibeck 0.5nm,0.3s,baz=221,slow=5.7,SNR=1.5 0.5nm,0.3s	83.06	14	P	P	14 49 58.1	+1.3
AAK	Ala-Archa comp=Z,42nm,21.0s,baz=190,slow=32	91.45	24	LR	LR	15 26 30.6	
MKAR	Makanchi Array 0.1nm,0.4s,baz=202,slow=7.2,SNR=1.6 0.1nm,0.4s	97.64	28	P	P	14 51 04.1	-1.7
RAO	Raoul Island comp=Z,201nm,18.3s,baz=112,slow=32	99.16	147	LR	LR	15 30 59.6	
TXAR	Lajitas Array 0.5nm,0.9s,baz=197,slow=7.6,SNR=3.5	147.96	255	PKPbc	PKiKP	14 57 18.9	0.0

*SDD **07** 14:51:18.6±2.2, 18°.88N×71°.93W, h24km±54km, MD3.5, ML3.8, MW4.0*
*SSNC **07** 14:51:19.8±2.1, 18°.93N×71°.81W, h6km±21km, MD3.2, ML2.8*
*OSPL **07** 14:51:19.9±2.1, 18°.92N×71°.82W, h0km±12km, ML3.3*

ISC 07 14:51:17.3±1.3, 18°.90N±0°.03×71°.81W±0°.03, h11km±10km, n35, σ1§15/54, 13C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIDR	Jimani comp=E,5μm,0.3s	0.40	185	⇓ePg IAML	Pb	14 51 26.8 14 51 34.5	+0.4
JIDR	 comp=N,6μm,0.4s			IAML		14 51 35.4	
REDR	Restauracion comp=E,29μm,0.2s	0.48	56	ePg ⇓eSg IAML	Pg Sg	14 51 26.3 14 51 32.4 14 51 32.6	-0.4 -0.7
REDR	 comp=N,7μm,0.1s			IAML		14 51 33.0	
SDDR	Presa de Saban comp=N,2μm,0.7s	0.51	80	⇑ePg IAML	Pb	14 51 28.4 14 51 41.9	+0.3
SDDR	 comp=E,4μm,0.8s			IAML		14 51 42.1	
SDDR	Presa de Saban comp=E,2μm,0.7s	0.51	80	eP eS IAMb	Pb Sb IAmb	14 51 28.5 14 51 35.4 14 51 42.2	+0.3 -0.2
SDDR	 comp=E,5μm,0.8s			IAMb	IAmb	14 51 43.0	
SDDR	Presa de Saban SDDR SDDR comp=Z,2μm,0.8s	0.51	80	i P eS IAML	Pb Sb	14 51 28.5 14 51 36.4 14 51 42.1	+0.3 +0.8
NEDR	Neiba UASD NEDR comp=N,3μm,0.5s	0.56	137	ePg IAML	Pb	14 51 28.9 14 51 40.0	-0.1
NEDR	 comp=E,4μm,0.8s			IAML		14 51 42.2	
LODA1	ITESIL, Dajabo LODA1 comp=N,5μm,0.5s	0.66	9	ePg IAML	Pb	14 51 30.9 14 51 47.2	+0.1
LODA1	ITESIL, Dajabo LODA1 comp=Z,2μm,0.3s	0.66	9	i P IAML	Pb	14 51 30.9 14 51 41.6	+0.1
PODR	Polo PODR comp=N,2μm,0.7s	0.88	145	⇑ePg IAML	Pb	14 51 35.4 14 51 59.3	+0.7
PODR	Polo PODR comp=E,5μm,0.8s	0.88	145	i P eS IAML	Pb Sn	14 51 35.5 14 51 48.5	+0.7 -0.3
MADR	Mao Valverde MADR MADR comp=N,4μm,0.5s	0.95	45	⇑ePg ⇑eSg IAML	Pn Sn	14 51 36.6 14 51 49.0 14 51 52.8	0.0 -1.1
MADR	 comp=E,5μm,0.8s			IAML		14 51 54.0	
MCDR	Montecristi MCDR comp=E,653nm,0.2s	1.00	8	⇓ePg IAML	Pn	14 51 37.1 14 51 52.9	-0.2
MCDR	 comp=N,682nm,0.5s			IAML		14 51 57.0	
LOPP1	Punta Rusia, P LOPP1 LOPP1 comp=Z,2μm,0.5s	1.12	31	i P eS IAML	Pn Sn	14 51 39.0 14 51 54.7 14 51 58.6	+0.1 +0.5
ABDR	Alto Bandera ABDR comp=N,864nm,0.5s	1.13	94	⇑ePg IAML	Pn	14 51 39.0 14 51 57.6	-0.3
ABDR	 comp=E,1μm,0.5s			IAML		14 51 58.9	
SC01	Santiago de lo	1.16	63	ePg	Pn	14 51 39.9	+0.6
SC01				⇑eSg	Sn	14 51 56.0	+0.8
SC01	 comp=E,1μm,0.8s			IAML		14 52 05.5	
SC01	 comp=N,1μm,1.4s			IAML		14 52 08.6	
SC01	Santiago de lo	1.16	63	i P	Pn	14 51 40.0	+0.6
SC01				eS	Sn	14 51 55.5	+0.3
SC01	 comp=Z,2μm,0.8s			IAML		14 52 09.6	
LUDR	Luperon LUDR LUDR comp=E,8μm,0.4s	1.28	39	⇑ePg ⇑eSg IAML	Pg Sg	14 51 42.6 14 52 00.9 14 52 01.5	+0.6 +2.3
LUDR	 comp=N,5μm,0.5s			IAML		14 52 01.5	
SODR	Sosua Marina B comp=N,4μm,0.6s	1.45	54	IAML		14 52 08.3	
SODR	 comp=E,3μm,0.7s			IAML		14 52 09.5	
SODR	 comp=Z,2μm,0.9s			IAML		14 52 11.5	
BANI	BANI BANI comp=E,1μm,0.4s	1.47	110	⇑ePg IAML	Pg	14 51 44.9 14 52 08.4	-0.6
BANI	 comp=N,1μm,0.4s			IAML		14 52 08.9	
DR08	Loma La Naviza DR08 DR08 comp=N,1μm,1.3s	1.70	87	⇓ePg ⇑eSg IAML	Pb Sg	14 51 48.4 14 52 10.2 14 52 11.4	-0.1 -1.8
DR08	 comp=E,741nm,0.5s			IAML		14 52 13.5	
HATOM	Hato Mayor del HATOM HATOM comp=N,239nm,0.7s	2.31	92	⇑ePg ⇑eSg IAML	Pb Sb	14 51 58.3 14 52 27.5 14 52 36.9	-0.6 0.0
HATOM	 comp=E,210nm,0.5s			IAML		14 52 42.1	
MASC	Masc MASC MASC comp=Z,44nm,0.9s	2.61	300	i P eS IAML	Pn Sn	14 52 00.1 14 52 32.5 14 52 43.7	+0.7 +1.4
GRTK	Grand Turk GRTK GRTK comp=Z,101nm,1.1s	2.68	14	i P eS IAML	Pb Sn	14 52 03.9 14 52 33.5 14 52 49.7	-1.4 +0.6
QMBU	Quimbuelo QMBU GTBY	3.11	295	eP eS ⇓eSg	Pn Sn Sn	14 52 06.6 14 52 39.6 14 52 49.1	+0.3 -3.9 +1.5
GTBY	Guantanamo Bay GTBY GTBY comp=E,72nm,1.3s	3.28	289	⇑ePg ⇓eSg IAML	Pn Sn	14 52 09.8 14 52 49.1 14 52 49.7	+1.2 +1.5
GTBY	 comp=N,102nm,1.0s			IAML		14 53 00.3	
GTBY	Guantanamo Bay GTBY GTBY	3.28	289	eP eS ⇓eSg	Pn Sn Sn	14 52 09.4 14 52 47.6 14 52 49.1	+0.9 0.0 +1.5
GTBY	Guantanamo Bay GTBY GTBY comp=Z,34nm,3.9s	3.28	289	i P eS IAML	Pn Sn	14 52 09.8 14 52 48.6 14 52 50.0	+1.2 +1.1
MOAC	Moa SABCS SABCS	3.44	301	eP La Quijada eP eS	Pn Pn Sn	14 52 12.3 14 52 14.0 14 52 54.2	+1.5 +0.8 -1.6
SABCS		3.61	294				
RCC	Rio Carpintero RCC	3.82	287	eP eS	Pn Sn	14 52 16.4 14 52 58.3	+0.3 -2.8
MARVS	Santiago de Cu	4.01	287	eP	Pn	14 52 19.1	+0.5
CHIV	Chivirico	4.47	285	eP	Pn	14 52 26.1	+1.1
YAR	Yar	4.53	290	eP	Pn	14 52 27.2	+1.3
LMGC	Las Mercedes LMGC	5.03	284	eP eS	Pn Sn	14 52 33.2 14 53 28.1	+0.4 -2.8
PILO	Pilon	5.37	282	eP	Pn	14 52 38.0	+0.5

*OTT **07** 14:58:08.4±0.2, 45°.15N×83°.39W, h0km, MN2.5/10, Blast, Michigan, U.S. 124km south from Thessalon, On Mining explosion.*
*NEIC **07** 14:58:08.5±0.7, 45°.11N±0°.02×83°.37W±0°.03, h0km±1km, mb_Lg2.4/2, mb_Lg2.5(OTT), Error ellipse: s-maj=3.8km s-min=3.2km az=234.0*

ISC 07 14:58:07.1±1.1, 45°.13N±0°.04×83°.38W±0°.05, h0km, n29, σ1§16/36, Michigan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I49A	Point Hope I49A comp=Z,29nm,0.2s	1.26	161	Pg PG SG Trac	Pg Pg Sg	14 58 30.7 14 58 30.9 14 58 47.7 14 58 50.1	-0.4 -0.2 +0.3
I49A	Point Hope I49A I49A	1.26	161	PG SG Trac	Pg Sg	14 58 30.9 14 58 47.7 14 58 50.1	-0.2 +0.3
TOBO	Tobermory, Bru TOBO TOBO comp=Z,32nm,0.2s	1.31	85	Pg Sg PG SG Trac	Pg Sg Pg Sg	14 58 32.2 14 58 49.6 14 58 32.2 14 58 49.6 14 58 53.3	0.0 +0.3 0.0 +0.3
TOBO	Tobermory, Bru TOBO TOBO	1.31	85	PG SG Trac	Pg Sg	14 58 32.2 14 58 49.6 14 58 53.3	0.0 +0.3
E46A	Sault Ste Mari E46A E46A comp=Z,18nm,0.3s	1.40	333	Pg PG SG Trac	Pn Pn Sg	14 58 34.1 14 58 34.0 14 58 51.9 14 58 56.5	+0.3 +0.3 0.0
G45A	Suttons Bay comp=Z,14nm,0.9s	1.62	268	IAmb_Lg		14 59 00.1	
BMRO	Meriville Lake BMRO BMRO BMRO comp=Z,12nm,0.2s	1.63	109	PN SN Trac	Pn Sb	14 58 37.5 14 58 59.4 14 58 37.5 14 58 59.4 14 59 03.0	+0.5 +0.4 +0.5 +0.4
BASO	Ashfield BASO BASO BASO comp=Z,19nm,0.2s	1.66	132	PN SN Trac	Pn Sg	14 58 37.9 14 59 00.7 14 58 37.9 14 59 00.7 14 59 01.8	+0.4 +0.4 +0.4 +0.4
BWLO	Walkerton BWLO SUNO SUNO comp=Z,12nm,0.2s	1.89	122 Walkerton 1.89 Sudbury Onapin 2.07 Sudbury Onapin 2.07	Sn SN Pn PN SN Trac	Sn Sn Pn Pn Sn	14 59 06.3 14 59 06.3 14 58 44.5 14 59 09.9 14 58 44.5 14 59 09.9 14 59 15.0	+1.1 +1.1 +1.4 +0.2 +1.4 +0.2
SUBO	Sudbury SUBO SUBO comp=Z,3.6nm,0.2s	2.16	46	PN SN Trac	Pn Sn	14 58 44.9 14 59 12.1 14 59 21.9	+0.6 +0.3
KLBO	Killbear Provi KLBO KLBO KLBO comp=Z,7.6nm,0.2s	2.25	83	Pn PN SN Trac	Pn Pn Sn	14 58 46.0 14 59 14.7 14 58 46.0 14 59 14.7 14 59 21.9	+0.5 +0.8 +0.5 +0.8
BUKO	Buck Lake BUKO BUKO BUKO comp=Z,5.6nm,0.2s	2.83	82	Pn PN SN Trac	Pn Pn Sn	14 58 54.3 14 58 54.3 14 59 28.4 14 59 45.3	+0.8 +0.8 +0.1
SADO	Sadowa SADO SADO SADO comp=Z,6.7nm,0.3s	3.03	95 Sadowa 3.03 95	Sn SN SN Trac	Sn Sb	14 59 32.8 14 59 32.8 14 59 33.7 14 59 47.2	-0.4 -0.4 -5.7
JFWS	Jewell Farm comp=Z,9.9nm,0.9s	5.43	248	IAmb_Lg		15 00 59.4	

KRSC 07 15:02:56.1±1.1, 49°.41N×156°.55E, h6km±14km, MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's SKR	1.30	348	eP eS	Pn Sb	15 03 19.2 15 03 37.0	-1.6 -0.9
PAU	Pauzhetka PAU	2.06	5	eP eS	Pb Sb	15 03 32.9 15 03 59.9	-1.0 0.0
KDTR	Khodutka, Kamc KDTR	2.59	21	eP eS	Pn Sb	15 03 39.9 15 04 12.8	+1.5 -2.1
ASAK	Asacha	3.10	16	eP	Pn	15 03 48.2	+2.7
MTVR	Mutnovka MTVR	3.25	18	eP eS	Pn Sb	15 03 50.4 15 04 31.3	+2.8 -2.6
RUS	Russkaya RUS	3.27	22	eP eS	Pn Sb	15 03 50.3 15 04 31.1	+2.5 -3.4
KRMR	Karymshinskiy	3.57	16	eP	Pn	15 03 55.1	+3.2

DALK	**Dalny**	**3.88**	**20**	*eP*	Pn	15 03 59.2	+3.0
UGLR	**Uglovaya**	**4.06**	**20**	*eP*	Pn	15 04 02.6	+3.8
AVH	**Avacha**	**4.10**	**19**	*eP*	Pn	15 04 03.5	+4.3
KOK	**Koryaka**	**4.10**	**18**	*eP*	Pn	15 04 03.3	+3.9
SMAR	**Somma**	**4.11**	**19**	*eP*	Pn	15 04 03.7	+4.2
KRER	**Koryakskii**	**4.13**	**19**	*eP*	Pn	15 04 04.0	+4.1
KRX	**Arik**	**4.17**	**18**	*eP*	Pn	15 04 04.4	+4.1
GNL	**Ganaly**	**4.38**	**11**	*eP*	Pn	15 04 07.8	+4.6

*DJA **07** 15:10:03.4±0.4,5˚S±4˚×10˚3E±˚, h21km±7km, M4.0/7, MLv4.0/7*
*NEIC **07** 15:10:05.2±1.0,5.˚22S±0.˚08×102.˚49E±0.˚10, h37km±7km, mb4.2/8, Error ellipse: s-maj=14.5km s-min=10.9km az=70.0*
*IDC **07** 15:10:09.3±5.0,5.˚24S×102.˚52E, h78km±45km, mb3.3/7, mbtmp3.7/8, ML4.1/1, Error ellipse: s-maj=38.5km s-min=16.5km az=68.0*

ISC 07 15:10:05.5±0.8,5˚22S±0.˚07×102˚6E±0.˚1, h44km, n33,
σ1§15/32, mb4.0/12, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.95**	**25**	Pn	**Pn**	**15 10 22.1**	**-0.4**
MNAI				Sn	**Sn**	**15 10 34.7**	**-0.1**
MNAI	**Manna**	**0.95**	**25**	P	**Pn**	**15 10 21.1**	**-1.4**
MNAI				S	**Sn**	**15 10 33.5**	**-1.4**
LWLI	**Liwa**	**1.52**	**82**	P	**Pn**	**15 10 29.5**	**-0.8**
KASI	**Kota Agung**	**1.96**	**99**	P	**Pn**	**15 10 34.5**	**-1.8**
PMBI	**Palembang**	**3.18**	**44**	Pn	**Pn**	**15 10 53.4**	**+0.3**
SKJI	**Sukabumi**	**4.36**	**114**	P	**Pn**	**15 11 08.3**	**-1.0**
LEM	**Lembang**	**5.29**	**108**	P	**Pn**	**15 11 26.7**	**+4.5**
	6.1nm,0.3s,baz=319,slow=19,SNR=3.8						
	17nm,0.5s						
BKNI	**Bangkinang**	**5.72**	**345**	Pn	**Pn**	**15 11 28.5**	**+0.6**
SMRI	**Semarang**	**8.05**	**103**	Pn	**Pn**	**15 12 00.8**	**+0.8**
JAGI	**Jagi, Banyuwa**	**11.96**	**106**	Pn	**Pn**	**15 12 53.8**	**+0.2**
TOLI2	**Tolitoli**	**19.27**	**71**	P	**Pn**	**15 14 28.2**	**+0.2**
SOEI	**Soe**	**21.99**	**103**	P	**P**	**15 14 55.0**	**-1.3**
PSA00	**Pilbara Seismi**	**23.35**	**136**	P	**P**	**15 15 09.9**	**-0.3**
PSA00				IAmb	IAmb	15 15 47.3	
	comp=Z,9.5nm,1.4s						
CMAR	**Chiang Mai Arr**	**23.80**	**351**	P	**P**	**15 15 14.7**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=190,slow=9.2,SNR=4.1						
	comp=Z,0.3nm,0.4s						
H08S2	**Diego Garcia H**	**29.96**	**264**	T	T	15 47 10.5	
	baz=87,slow=76,SNR=10						
H08S3	**Diego Garcia H**	**29.97**	**264**	T	T	15 47 08.8	
	baz=87,slow=76,SNR=8.1						
H08S1	**Diego Garcia H**	**29.98**	**264**	T	T	15 47 11.7	
	baz=87,slow=76,SNR=8.0						
WB0	**Warramunga Arr**	**34.19**	**118**	P	**P**	**15 16 45.8**	**-1.3**
WB0				IAmb	IAmb	15 16 57.4	
	comp=Z,8.6nm,1.4s						
WRA	**Warramunga Arr**	**34.20**	**118**	P	**P**	**15 16 46.9**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=303,slow=9.0,SNR=2.6						
	comp=Z,0.4nm,0.6s						
WRAB	**Tennant Creek**	**34.21**	**118**	P	**P**	**15 16 47.1**	**-0.2**
WRAB				IAmb	IAmb	15 17 06.4	
	comp=Z,7.9nm,1.3s						
WB2	**Warramunga Arr**	**34.22**	**118**	P	**P**	**15 16 46.8**	**-0.5**
AS31	**Alice Springs**	**35.33**	**124**	P	**P**	**15 16 57.6**	**+0.7**
ASAR	**Alice Springs**	**35.33**	**124**	P	**P**	**15 16 57.8**	**+0.9**
ASAR	**Alice Springs**	**35.33**	**124**	P	**P**	**15 16 57.5**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=298,slow=7.6,SNR=15						
	comp=Z,0.4nm,0.7s						
STKA	**Stephens Creek**	**45.12**	**131**	P	**P**	**15 18 18.9**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=318,slow=12,SNR=2.0						
	comp=Z,1.5nm,0.7s						
SONM	**Songino Array**	**52.94**	**3**	P	**P**	**15 19 18.0**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=176,slow=11,SNR=1.9						
	comp=Z,0.4nm,0.6s						
MK31	**Makanchi Array**	**54.82**	**343**	P	**P**	**15 19 31.1**	**-0.1**
MK31				IAmb	IAmb	15 19 54.6	
	comp=Z,1.7nm,1.3s						
MKAR	**Makanchi Array**	**54.82**	**343**	P	**P**	**15 19 30.8**	**-0.3**
MKAR	**Makanchi Array**	**54.82**	**343**	P	**P**	**15 19 31.4**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=147,slow=7.3,SNR=8.3						
	comp=Z,0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**60.81**	**348**	P	**P**	**15 20 12.8**	**-0.2**
ZALV	**Zalesovo Beam**	**60.81**	**348**	P	**P**	**15 20 13.1**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=176,slow=5.8,SNR=5.1						
	comp=Z,0.8nm,0.4s						
MAW	**Mawson**	**67.84**	**195**	P	**P**	**15 20 58.7**	**-0.1**
	comp=Z,5.1nm,0.4s,baz=9.5,slow=6.1,SNR=13						
TXAR	**Lajitas Array**	**145.51**	**43**	PKPbc	**PKPdf**	**15 29 39.0**	**-0.8**
	comp=Z,0.4nm,0.5s,baz=153,slow=0.3,SNR=6.8						

*IDC **07** 15:10:34.9±2.1,34.˚50S×179.˚98E, h0km, mb3.8/3, mbtmp3.8/4, ML3.5/1, MS3.2/1, Error ellipse: s-maj=49.2km s-min=35.9km az=67.0*
*NEIC **07** 15:10:39.6±1.1,34.˚8S±0.˚1×179.˚7W±0.˚2, h59km±4km, mb4.4/5, Error ellipse: s-maj=21.6km s-min=15.4km az=128.0*
*WEL **07** 15:10:42.6±1.1,35˚S±6˚×18˚0W±1˚2, h12km, M4.0/16, mB4.6/1, ML4.3/19, MLv4.0/16, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=100.8, confirmed*

ISC 07 15:10:37.6±0.9,34.˚78S±0.˚07×179.˚6W±0.˚1, h43km, n47,
σ1§89/50, mb3.9/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.26**	**211**	Pn	**Pn**	**15 11 27.9**	**+1.8**
MXZ	**Matakaoa Point**	**3.26**	**211**	P	**Pn**	**15 11 28.0**	**+1.8**
MXZ				S	**Sn**	**15 12 04.2**	**+0.4**
WMGZ	**Waiomatatini S**	**3.44**	**207**	P	**Pn**	**15 11 31.9**	**+3.3**
WMGZ				S	**Sn**	**15 12 09.8**	**+1.7**
HAZ	**Te Kaha**	**3.65**	**215**	P	**Pn**	**15 11 34.6**	**+3.0**
PUZ	**Puketiti**	**3.72**	**207**	P	**Pn**	**15 11 35.1**	**+2.5**
RUGZ	**Raukumara Rang**	**3.87**	**214**	P	**Pn**	**15 11 36.5**	**+1.8**
RUGZ				S	**Sn**	**15 12 20.1**	**+1.1**
TWGZ	**Tauwhareparae**	**3.92**	**209**	P	**Pn**	**15 11 37.2**	**+1.9**
CNGZ	**Carnagh Statio**	**4.10**	**205**	P	**Pn**	**15 11 39.3**	**+1.6**
TKGZ	**Te Karaka**	**4.20**	**209**	P	**Pn**	**15 11 40.7**	**+1.6**
TKGZ				S	**Sn**	**15 12 26.3**	**-0.5**
MWZ	**Matawai**	**4.24**	**212**	P	**Pn**	**15 11 41.2**	**+1.4**
OPRZ	**Ohinepanea**	**4.37**	**224**	P	**Pn**	**15 11 44.0**	**+2.6**
URZ	**Urewera**	**4.37**	**216**	Pn	**Pn**	**15 11 42.3**	**+0.8**
	2.5nm,0.3s,baz=301,slow=23,SNR=37						
URZ				Sn	**Sn**	**15 12 27.2**	**-3.9**
	5.0nm,0.3s,baz=332,slow=13,SNR=2.3						
	7.5nm,0.3s						
URZ	**Urewera**	**4.37**	**216**	P	**Pn**	**15 11 42.7**	**+1.2**
RAGZ	**Rawiri**	**4.42**	**212**	P	**Pn**	**15 11 43.8**	**+1.5**
RIGZ	**Rimuhau**	**4.46**	**208**	P	**Pn**	**15 11 44.1**	**+1.4**
PRGZ	**Paritu Road**	**4.61**	**205**	P	**Pn**	**15 11 46.1**	**+1.4**
PRGZ				S	**Sn**	**15 12 33.9**	**-3.1**
SNGZ	**Shannon Statio**	**4.69**	**211**	P	**Pn**	**15 11 48.3**	**+2.3**
SNGZ				S	**Sn**	**15 12 38.3**	**-0.8**
MUGZ	**Murupara**	**4.71**	**217**	P	**Pn**	**15 11 47.2**	**+1.0**
MUGZ				S	**Sn**	**15 12 36.6**	**-2.9**
RTZ	**Ruatahuna**	**4.72**	**215**		**Pn**	**15 11 47.7**	**+1.4**
RTZ	**Ruatahuna**	**4.72**	**215**	P	**Pn**	**15 11 48.3**	**+2.0**
TOZ	**Tahuroa Road**	**4.94**	**232**	Pn	**Pn**	**15 11 51.4**	**+2.2**
TOZ	**Tahuroa Road**	**4.94**	**232**	P	**Pn**	**15 11 53.7**	**+4.4**
MTHZ	**Maungataniwha**	**4.97**	**214**	P	**Pn**	**15 11 51.8**	**+2.0**
MTHZ				S	**Sn**	**15 12 44.8**	**-1.2**
WCZ	**Waipu Caves**	**5.09**	**255**	P	**Pn**	**15 11 52.8**	**+1.5**
NMHZ	**Naumai**	**5.19**	**213**	P	**Pn**	**15 11 53.2**	**+0.5**
ARHZ	**Aropaoanui**	**5.24**	**210**	P	**Pn**	**15 11 54.7**	**+1.2**
BKZ	**Black Stump Fm**	**5.39**	**214**		**Pn**	**15 11 57.1**	**+1.6**
RITZ	**Rihia Road**	**5.56**	**220**	P	Pn	15 12 08.0	+10
OUZ	**Omahuta**	**5.61**	**264**	P	**Pn**	**15 11 59.6**	**+1.1**
NTVZ	**North Tongarir**	**5.74**	**220**	P	**Pn**	**15 12 01.7**	**+1.3**
KAHZ	**Kahuranaki**	**5.75**	**208**	P	**Pn**	**15 11 59.9**	**-0.5**
HIZ	**Hauiti**	**5.82**	**229**	Pn	**Pn**	**15 12 03.0**	**+1.7**
MRZ	**Mangatainoka R**	**7.01**	**212**	Pn	**Pn**	**15 12 15.9**	**-1.8**
DZM	**Mont Dzumac**	**17.61**	**312**	LR	LR	15 18 56.0	
	comp=Z,87nm,19.4s,baz=126,slow=29						
RAR	**Rarotonga**	**22.05**	**57**	P	**P**	**15 15 29.4**	**+0.6**
ASAR	**Alice Springs**	**41.74**	**273**	P	**P**	**15 18 21.4**	**-1.4**
ASAR	**Alice Springs**	**41.74**	**273**	P	**P**	**15 18 22.8**	**0.0**
	0.5nm,0.4s,baz=114,slow=7.3,SNR=13						
	0.5nm,0.4s						
WRAB	**Tennant Creek**	**43.13**	**278**	P	**P**	**15 18 32.5**	**-1.5**
WRAB				IAmb	IAmb	15 18 56.9	
	comp=Z,12nm,1.4s						
WRA	**Warramunga Arr**	**43.13**	**278**	P	**P**	**15 18 34.3**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=118,slow=7.6,SNR=4.4						
	comp=Z,0.7nm,0.4s						
WB0	**Warramunga Arr**	**43.17**	**278**	P	**P**	**15 18 32.5**	**-1.9**
JOHN	**Johnston Islan**	**52.11**	**12**	P	**P**	**15 19 42.5**	**-1.0**
QSPA	**South Pole Qui**	**55.34**	**180**	P	**P**	**15 20 07.4**	**+0.5**
QSPA				IAmb	IAmb	15 20 38.7	
	comp=Z,5.4nm,1.4s						
QSPA	**South Pole Qui**	**55.34**	**180**	P	P	15 20 12.6	+5.7
	comp=Z,1.3nm,1.0s,baz=49,slow=9.3,SNR=1.7						
	comp=Z,1.3nm,1.0s						
H03N3	**Juan Fernandez**	**79.39**	**123**	T	T	16 51 08.5	
	baz=237,slow=72,SNR=4.5						
H03N2	**Juan Fernandez**	**79.39**	**123**	T	T	16 51 06.2	
	baz=237,slow=72,SNR=3.9						
H03N1	**Juan Fernandez**	**79.40**	**123**	T	T	16 51 06.1	
	baz=237,slow=72,SNR=5.4						
FINES	**FINESS Array B**	**148.70**	**336**	PKPbc	**PKiKP**	**15 30 21.4**	**+0.7**
	comp=Z,0.7nm,0.6s,baz=40,slow=4.0,SNR=5.7						

*IDC **07** 15:13:33.2±0.6,9.˚39N×40.˚59W, h0km, mb4.0/16, mbtmp4.1/17, ML4.2/1, MS3.5/20, Error ellipse: s-maj=19.7km s-min=16.1km az=130.0*
*NEIC **07** 15:13:37.0±1.5,9.˚6N±0.˚1×40.˚6W±0.˚1, h10km±1km, mb4.6/29, Error ellipse: s-maj=22.1km s-min=18.0km az=161.0*

ISC 07 15:13:35.5±0.5,9.˚47N±0.˚09×40˚57W±0.˚08, h10km, n73,
σ1§10/53, mb4.5/29, MS3.5/19, 2C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.73**	**251**	Pn	**Pn**	**15 16 35.9**	**-0.9**
	1.3nm,0.3s,baz=62,slow=13,SNR=6.9						
MDP				LR	LR	15 20 37.8	
	comp=Z,141nm,20.7s,baz=112,slow=33						
	24nm,1.0s						
RCBR	**Riachuelo**	**15.89**	**163**	P	**P**	**15 17 25.4**	**+2.2**
BOAV	**Boa Vista**	**21.04**	**252**	P	**P**	**15 18 21.7**	**+1.9**
BOAV				IAmb	IAmb	15 18 28.8	
	comp=Z,14nm,0.9s						
BDFB	**Brasilia**	**26.01**	**197**	P	**P**	**15 19 09.3**	**+0.2**
	comp=Z,4.8nm,0.7s,baz=29,slow=13,SNR=5.0						
BDFB				LR	LR	15 28 56.9	
	comp=Z,72nm,19.0s,baz=300,slow=36						
	comp=Z,4.8nm,0.7s						
CELP	**Cerrillos**	**26.64**	**292**	P	**P**	**15 19 13.6**	**-1.0**
BAUV	**El Baul**	**27.12**	**271**	P	**P**	**15 19 19.7**	**+0.7**
SAML	**Samuel**	**29.01**	**232**	P	**P**	**15 19 37.3**	**+1.4**
H10N3	**ASCENSION HYDR**	**31.14**	**123**	T	T	15 52 41.7	
	baz=303,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**31.15**	**123**	T	T	15 52 42.1	
	baz=303,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**31.17**	**123**	T	T	15 52 43.2	
	baz=303,slow=75,SNR=15						
H10S3	**ASCENSION HYDR**	**31.63**	**125**	T	T	15 53 21.8	
	baz=301,slow=74,SNR=9.0						
H10S2	**ASCENSION HYDR**	**31.65**	**125**	T	T	15 53 24.1	
	baz=279,slow=74,SNR=4.1						
ROSC	**El Rosal**	**33.79**	**265**	LR	LR	15 34 13.1	
	comp=Z,112nm,18.4s,baz=188,slow=37						
DBIC	**Dimbokro**	**35.46**	**92**	P	**P**	**15 20 32.2**	**-0.2**
DBIC				IAmb	IAmb	15 20 42.4	
	comp=Z,7.7nm,1.1s						
DBIC	**Dimbokro**	**35.46**	**92**	P	**P**	**15 20 31.9**	**-0.5**
	comp=Z,3.9nm,0.7s,baz=268,slow=4.7,SNR=5.0						
DBIC				LR	LR	15 31 56.4	
	comp=Z,70nm,18.2s,baz=198,slow=31						
	comp=Z,3.9nm,0.7s						
LPAZ	**La Paz**	**37.40**	**227**	P	**P**	**15 20 50.1**	**+0.4**
LPAZ	**La Paz**	**37.40**	**227**	P	**P**	**15 20 48.8**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=17,slow=5.5,SNR=13						
	comp=Z,2.9nm,0.7s						
CPUP	**Villa Florida**	**39.13**	**204**	LR	LR	15 37 06.4	
	comp=Z,66nm,18.1s,baz=188,slow=36						
MDT	**Midelt**	**40.49**	**50**	LR	LR	15 36 10.6	
	comp=Z,55nm,19.2s,baz=152,slow=34						
TOA0	**Torodi Ar. Sit**	**41.57**	**81**	P	**P**	**15 21 23.9**	**0.0**
TORD	**Torodi Ar. Bea**	**41.57**	**81**	P	**P**	**15 21 24.1**	**+0.2**
TORD				IAmb	IAmb	15 21 33.0	
	comp=Z,7.9nm,0.8s						
TORD	**Torodi Ar. Bea**	**41.57**	**81**	P	**P**	**15 21 23.1**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=284,slow=8.3,SNR=10						
TORD				LR	LR	15 37 43.9	
	comp=Z,86nm,18.2s,baz=265,slow=35						
	comp=Z,1.6nm,0.7s						
LVC	**Limon Verde**	**42.28**	**221**	LR	LR	15 41 11.1	
	comp=Z,35nm,18.1s,baz=4.0,slow=39						
PB05	**IPOC Station P**	**43.29**	**222**	P	**P**	**15 21 38.0**	**+0.2**
PB05				IAmb	IAmb	15 21 46.8	
	comp=Z,15nm,1.3s						
ESDC	**Sonseca Array**	**44.35**	**41**	P	**P**	**15 21 45.8**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=240,slow=11,SNR=3.0						
ESDC				LR	LR	15 39 32.0	
	comp=Z,51nm,18.3s,baz=194,slow=35						
	comp=Z,0.5nm,0.3s						
TKL	**Tuckaleechee C**	**47.12**	**310**	LR	LR	15 38 10.7	
	comp=Z,42nm,21.1s,baz=82,slow=31						
TEIG	**Tepich**	**47.19**	**289**	LR	LR	15 39 22.1	
	comp=Z,334nm,21.7s,slow=33						
SCHQ	**Schefferville**	**49.82**	**340**	P	**P**	**15 22 29.2**	**+0.7**
SCHQ	**Schefferville**	**49.82**	**340**	P	**P**	**15 22 29.2**	**+0.7**
	comp=Z,3.9nm,0.8s,baz=157,slow=7.8,SNR=4.4						
	comp=Z,3.9nm,0.8s						
KEST	**Kea**	**52.28**	**52**	LR	LR	15 44 14.3	
	comp=Z,51nm,19.8s,baz=313,slow=35						
DAVOX	**Davos/Dischmat**	**56.60**	**39**	LR	LR	15 43 22.2	
	comp=Z,31nm,20.9s,baz=260,slow=32						
PLCA	**Paso Flores**	**57.10**	**207**	P	**P**	**15 23 19.9**	**-2.4**
	comp=Z,1.6nm,0.9s,baz=34,slow=9.0,SNR=3.1						
	comp=Z,1.6nm,0.9s						
ULM	**Lac du Bonnet**	**60.93**	**323**	P	**P**	**15 23 46.7**	**-2.0**
	comp=Z,1.7nm,0.5s,baz=117,slow=8.3,SNR=3.8						
	comp=Z,1.7nm,0.5s						
TXAR	**Lajitas Array**	**62.00**	**298**	P	**P**	**15 23 56.1**	**-0.4**
	comp=Z,0.4nm,0.6s,baz=112,slow=6.6,SNR=6.1						
	comp=Z,0.4nm,0.6s						
NOA	**NORSAR Array B**	**63.91**	**25**	P	**P**	**15 24 08.6**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=240,slow=6.8,SNR=2.9						
	comp=Z,0.8nm,0.8s						
TSUM	**Tsumeb**	**63.99**	**117**	LR	LR	15 46 06.8	
	comp=Z,39nm,21.9s,baz=322,slow=30						
HFS	**Hagfors**	**64.54**	**27**	P	**P**	**15 24 13.2**	**+0.6**
	comp=Z,2.7nm,0.8s,baz=224,slow=12,SNR=5.6						
	comp=Z,2.7nm,0.8s						
FFC	**Flin Flon**	**65.98**	**326**	P	**P**	**15 24 20.8**	**-1.3**
FFC				IAmb	IAmb	15 24 29.7	
	comp=Z,4.2nm,1.0s						
PDAR	**Pinedale Array**	**68.22**	**312**	LR	LR	15 51 30.3	
	comp=Z,5nm,20.4s,baz=114,slow=33						
HVU	**Hansel Valley**	**70.49**	**311**	P	**P**	**15 24 49.4**	**-1.4**
HVU				IAmb	IAmb	15 24 50.0	
	comp=Z,5.5nm,1.2s						
BGU	**Big Grassy Mou**	**70.61**	**310**	P	**P**	**15 24 51.6**	**0.0**
BGU				IAmb	IAmb	15 25 00.4	
	comp=Z,4.3nm,0.8s						
FINES	**FINESS Array B**	**70.66**	**28**	LR	LR	15 51 13.1	
	comp=Z,19nm,19.5s,baz=230,slow=32						
HLID	**Hailey**	**71.83**	**313**	P	**P**	**15 24 59.9**	**+0.9**
ELK	**Elko**	**72.28**	**310**	P	**P**	**15 25 02.5**	**+0.8**
LSZ	**Lusaka**	**72.41**	**109**	LR	LR	15 52 12.6	
	comp=Z,51nm,18.5s,baz=144,slow=32						
ARCES	**ARCESS Array B**	**72.92**	**20**	P	**P**	**15 25 05.1**	**+0.4**
	comp=Z,2.2nm,0.9s,baz=286,slow=1.6,SNR=1.4						
	comp=Z,2.2nm,0.9s						
EUNU	**Eureka**	**73.72**	**353**	P	**P**	**15 25 10.1**	**+0.8**
NEW	**Newport**	**74.04**	**317**	LR	LR	15 55 37.4	
	comp=Z,35nm,18.9s,baz=57,slow=34						
YKA	**Yellowknife Ar**	**74.29**	**332**	P	**P**	**15 25 12.8**	**-0.1**
YKA	**Yellowknife Ar**	**74.29**	**332**	P	**P**	**15 25 12.3**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=95,slow=5.4,SNR=14						
	comp=Z,0.6nm,0.7s						
KVN	**Kaiserville**	**74.43**	**308**	P	**P**	**15 25 13.8**	**-0.6**
NVAR	**Mina Array Bea**	**74.59**	**307**	P	**P**	**15 25 16.9**	**+1.5**
NVAR	**Mina Array Bea**	**74.59**	**307**	P	**P**	**15 25 15.4**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=136,slow=3.3,SNR=2.1						
	comp=Z,0.1nm,0.5s						
KHMM	**Horse Mountain**	**78.72**	**310**	P	**P**	**15 25 39.5**	**+0.9**
KHMM				IAmb	IAmb	15 25 47.6	
	comp=Z,6.4nm,0.9s						
KSXB	**Camp Six Broad**	**78.78**	**311**	P	**P**	**15 25 38.5**	**-0.4**
KSXB				IAmb	IAmb	15 25 48.6	
	comp=Z,6.4nm,0.9s						
A36M	**Sachs Harbour**	**79.41**	**342**	P	**P**	**15 25 42.1**	**+0.6**
A36M				IAmb	IAmb	15 25 50.5	
	comp=Z,8.3nm,1.0s						
BBB	**Bella Bella**	**81.09**	**321**	LR	LR	15 58 08.1	
	comp=Z,40nm,21.7s,baz=317,slow=33						
INK	**Inuvik**	**82.37**	**338**	P	**P**	**15 25 57.6**	**+0.2**
INK				IAmb	IAmb	15 26 05.8	
	comp=Z,8.2nm,1.2s						
G31M	**Satah River**	**82.81**	**337**	P	**P**	**15 26 00.5**	**+0.8**
G31M				IAmb	IAmb	15 26 07.9	
	comp=Z,6.3nm,1.0s						
N32M	**Quiet Lake**	**83.00**	**331**	P	**P**	**15 26 01.7**	**+0.8**
N32M				IAmb	IAmb	15 26 09.5	
	comp=Z,3.2nm,0.8s						
VNA3	**Neumayer Olymp**	**83.15**	**170**	⇑P	**P**	**15 26 02.5**	**+1.2**
SNAA	**Sanae**	**84.73**	**169**	⇑P	**P**	**15 26 07.0**	**-2.5**
	comp=Z,5.1nm,0.2s						
SNAA	**Sanae**	**84.73**	**169**	P	**P**	**15 26 07.0**	**-2.5**
	comp=Z,3.2nm,0.8s,baz=349,slow=9.9,SNR=5.2						
	comp=Z,3.2nm,0.8s						
E27K	**Coleen River**	**85.35**	**338**	P	**P**	**15 26 14.1**	**+1.3**
G27K	**Doyon Strip**	**85.70**	**337**	P	**P**	**15 26 16.0**	**+1.5**
G27K				IAmb	IAmb	15 26 23.8	
	comp=Z,4.2nm,1.1s						
BMAR	**Burnt Mountain**	**86.64**	**338**	P	**P**	**15 26 20.1**	**+0.9**
BCAR	**Beaver Creek A**	**86.67**	**333**	P	**P**	**15 26 19.5**	**+0.1**
I26K	**Coal Creek Min**	**86.67**	**336**	P	**P**	**15 26 20.1**	**+0.8**
L27K	**Beaver Creek,**	**86.69**	**333**		**P**	**15 26 20.3**	**+0.8**
L27K				IAmb	IAmb	15 26 28.2	
	comp=Z,4.4nm,1.1s						
D25K	**Kavik River**	**86.71**	**340**	P	**P**	**15 26 20.9**	**+1.4**
ILAR	**Eielson Array**	**88.34**	**336**	P	**P**	**15 26 26.8**	**-0.5**
	comp=Z,0.6nm,0.7s,baz=75,slow=4.1,SNR=6.7						
	comp=Z,0.6nm,0.7s						
ABKAR	**Akbulak array**	**89.69**	**40**	P	**P**	**15 26 34.0**	**0.0**
WSAR	**Wadi Sarin**	**94.65**	**66**	LR	LR	16 11 03.1	
	comp=Z,38nm,18.5s,baz=260,slow=36						

*IDC **07** 15:23:34.6±2.2,5.˚70S×130.˚97E, h0km, mb3.7/1, mbtmp3.9/4, ML3.9/3, Error ellipse: s-maj=64.1km s-min=30.5km az=78.0*
*DJA **07** 15:23:50.1±0.4,6˚S±4˚×13˚1E±˚, h147km±10km, M4.2/11, mb4.0/5, mB4.9/4, MLv4.3/11, Mw(mB)4.2/4*

ISC 07 15:23:49.2±1.0,6˚26S±0.˚07×130˚64E±0.˚08, h150km, n15,
σ1§80/17, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.87**	**337**	P	**Pn**	**15 24 22.8**	**-0.1**
BNDI	**Bandanaira**	**1.87**	**337**	P	**Pn**	**15 24 23.0**	**+0.1**
BNDI				S	**Sn**	**15 24 47.8**	**-0.9**
FAKI	**Fak Fak**	**3.68**	**26**	P	**Pn**	**15 24 44.0**	**-1.4**
FAKI	**Fak Fak**	**3.68**	**26**	P	**Pn**	**15 24 44.3**	**-1.1**
KMPI	**Kaimana, Papua**	**4.00**	**50**	P	**Pn**	**15 24 50.0**	**+0.5**
SWI	**Sorong**	**5.39**	**7**	P	**Pn**	**15 25 06.0**	**-1.9**
DRS	**Darwin Rock St**	**6.14**	**178**	P	**Pn**	**15 25 20.1**	**+2.2**
SANI	**Sanana**	**6.24**	**312**	P	**Pn**	**15 25 18.4**	**-0.8**
	9.1nm,0.9s,0.1nm						
LBMI	**Labuha**	**6.40**	**331**	P	**Pn**	**15 25 21.6**	**+0.3**
	20nm,1.3s,860nm0.1nm						
MTN	**Manton Dam**	**6.57**	**176**	P	**Pn**	**15 25 25.7**	**+2.2**
SOEI	**Soe**	**7.20**	**241**	P	**Pn**	**15 25 33.2**	**+1.1**
BATI	**Baumata**	**7.94**	**240**	Pn	Pn	15 25 39.1	-2.8
	1.5nm,0.3s,baz=47,slow=1.3,SNR=1.6						
BATI				Sn	**Sn**	**15 27 08.7**	**-1.8**
	6.1nm,0.3s,baz=78,slow=17,SNR=4.0						
	6.5nm,0.3s						
WRA	**Warramunga Arr**	**14.07**	**166**	Pn	**Pn**	**15 27 01.4**	**-0.7**
	0.5nm,0.3s,baz=348,slow=14,SNR=6.8						
WRA				Sn	Sn	15 29 32.2	-6.0
	0.9nm,0.3s,baz=335,slow=22,SNR=6.9						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**17.59**	**170**	P	**Pn**	**15 27 47.6**	**+2.3**
	0.5nm,0.3s,baz=350,slow=10,SNR=49						
ASAR				S	**S**	**15 30 55.9**	**-3.7**
	0.8nm,

MTN	**Manton Dam**	**12.77**	**109**		**Pn**	**16 02 08.9 -1.4**
KDU	**Kakadu**	**13.98**	**107**	P	**Pn**	**16 02 26.9 +0.8**
GIRL	**Giralia**	**14.43**	**197**	Pn	**Pn**	**16 02 32.7 +0.9**
FAKI	**Fak Fak**	**14.61**	**67**	Pn	**Pn**	**16 02 33.4 -0.8**
WRA	**Warramunga Arr**	**18.67**	**128**	ScP	**ScP**	**16 11 10.2 -3.7**
	0.3nm,0.7s,baz=319,slow=2.1,SNR=1.8					
WRAB	**Tennant Creek**	**18.67**	**128**	P	**P**	**16 03 23.3 +0.6**
WRAB				IAmb	IAmb	16 04 02.8
	comp=Z,12nm,1.4s					
AS31	**Alice Springs**	**20.67**	**137**	P	**P**	**16 03 45.1 +0.7**
ASAR	**Alice Springs**	**20.67**	**137**	P	**P**	**16 03 45.2 +0.8**
ASAR	**Alice Springs**	**20.67**	**137**	P	**P**	**16 03 45.1 +0.7**
	comp=Z,1.6nm,0.5s,baz=318,slow=11,SNR=56					
ASAR				ScP	**ScP**	**16 11 15.7 -2.9**
	comp=Z,0.3nm,0.8s,baz=305,slow=2.1,SNR=1.7					
	comp=Z,1.6nm,0.5s					
COEN	**Coen**	**24.44**	**104**	P	**P**	**16 04 22.5 +0.5**
BBOO	**Buckleboo**	**28.73**	**149**	P	**P**	**16 05 00.9 +0.6**
CMAR	**Chiang Mai Arr**	**33.43**	**324**	P	**P**	**16 05 41.7 -0.1**
	comp=Z,0.5nm,0.6s,baz=151,slow=7.4,SNR=4.7					
CMAR				ScP	**ScP**	**16 11 59.8 +3.1**
	comp=Z,0.4nm,0.4s,baz=127,slow=2.4,SNR=1.9					
	comp=Z,0.5nm,0.6s					
HHC	**Hu-ho-hao-te**	**49.86**	**353**	*e*P	**P**	**16 07 58.8 +3.3**
HHC				pmax	pmax	
	comp=Z,11nm,0.5s					
HHC				pmax	pmax	
	comp=Z,33nm,4.2s					
USRK	**Ussuriysk Ar.**	**54.10**	**12**	P	**P**	**16 08 26.2 -0.6**
	comp=Z,0.8nm,0.5s,baz=201,slow=9.0,SNR=5.9					
	comp=Z,0.8nm,0.5s					
SONM	**Songino Array**	**57.46**	**350**	P	**P**	**16 08 50.2 -0.7**
	comp=Z,1.7nm,0.7s,baz=170,slow=8.6,SNR=7.3					
	comp=Z,1.7nm,0.7s					
MK31	**Makanchi Array**	**64.20**	**333**	P	**P**	**16 09 34.3 -2.1**
MKAR	**Makanchi Array**	**64.20**	**333**	P	**P**	**16 09 34.2 -2.2**
MKAR	**Makanchi Array**	**64.20**	**333**	P	**P**	**16 09 34.0 -2.4**
	comp=Z,1.2nm,0.6s,baz=143,slow=7.6,SNR=19					
	comp=Z,1.2nm,0.6s					
MAKZ	**Makanchi**	**64.35**	**333**	P	**P**	**16 09 35.3 -2.1**
MAKZ				IAmb	IAmb	16 09 49.6
	comp=Z,2.9nm,1.4s					
KURBB	**Kurchatov Arra**	**68.71**	**334**	P	**P**	**16 10 03.2 -1.9**
	comp=Z,0.9nm,0.6s,baz=141,slow=5.9,SNR=16					
	comp=Z,0.9nm,0.6s					
ZAA0	**Zalesovo Array**	**68.79**	**339**	P	**P**	**16 10 02.9 -2.6**
ZAA0				IAmb	IAmb	16 10 05.0
	comp=Z,2.1nm,0.7s					
ZALV	**Zalesovo Beam**	**68.79**	**339**	P	**P**	**16 10 02.5 -3.0**
ZALV	**Zalesovo Beam**	**68.79**	**339**	P	**P**	**16 10 03.5 -2.0**
	comp=Z,2.8nm,0.4s,baz=151,slow=5.5,SNR=14					
	comp=Z,2.8nm,0.4s					
PETK	**Petropavlovsk-**	**69.99**	**24**	P	**P**	**16 10 13.7 +0.8**
	comp=Z,1.8nm,1.0s,baz=221,slow=5.7,SNR=4.2					
	comp=Z,1.8nm,1.0s					
ABKAR	**Akbulak array**	**77.29**	**325**	P	**P**	**16 10 53.5 -2.2**
TIXI	**Tiksi**	**80.57**	**3**	P	**P**	**16 11 12.8 -0.3**
TIXI				IAmb	IAmb	16 11 14.0
	comp=Z,2.1nm,1.0s					
QSPA	**South Pole Qui**	**81.18**	**180**	P	**P**	**16 11 17.0 +0.2**
QSPA				IAmb	IAmb	16 11 22.7
	comp=Z,5.1nm,1.4s					
QSPA	**South Pole Qui**	**81.18**	**180**	P	**P**	**16 11 16.8 0.0**
	comp=Z,1.0nm,0.9s,baz=304,slow=3.6,SNR=6.8					
	comp=Z,1.0nm,0.9s					
RSD	**Rainshed**	**89.10**	**70**	P	**P**	**16 11 56.3 -0.9**

*TEH **07** 16:04:08.5,34.87N×45.82E,h8km±16km, ML3.7*
*ISN **07** 16:04:08.3±1.1,34.82N×45.84E,h25km±233km, ML3.9*
*IDC **07** 16:04:17.6±3.7,35.19N×45.60E,h66km±34km, mb3.3/9, mbtmp3.6/12, ML2.6/2, MS2.6/3, Error ellipse: s-maj=32.3km s-min=18.7km az=6.0*

ISC 07 16:04:07.2±0.5, 34°85N±0.03×45°86E±0.03, h10km, n82, σ2s73/93, mb3.5/9, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.41**	**213**	Pg	**Pb**	**16 04 16.9**	**+0.3**
IDHR	**Dehrash**	**0.46**	**109**	Pg	**Pb**	**16 04 18.4**	**+0.9**
IDHR				Sg	**Sb**	**16 04 26.3**	**+1.9**
GLG1	**Gilan-e-Gharb**	**0.73**	**177**	Pg	**Pn**	**16 04 23.3**	**-0.4**
IGHG	**Ghaleghazi**	**0.78**	**131**	Pg	**Pn**	**16 04 24.7**	**+0.1**
ILIN	**Lien**	**0.91**	**85**	Pg	**Pn**	**16 04 26.7**	**+0.4**
KCHF	**Cheshme Sefid,**	**1.13**	**120**	Pg	**Pn**	**16 04 30.7**	**+1.4**
SDS1	**Sardasht. Az.**	**1.33**	**347**	Pg	**Pg**	**16 04 33.6**	**+0.7**
IKRK	**Kirkuk**	**1.36**	**294**	*e*Pg	**Pg**	**16 04 33.0**	**-0.4**
IKRK				*e*Sg	**Sg**	**16 04 50.9**	**-0.2**
IKRK				AML	AML	16 04 56.6	
	comp=N,4μm,0.6s						
IKRK				AML	AML	16 04 57.6	
	comp=E,3μm,0.9s						
SNQR	**Sonqor, Kerman**	**1.45**	**89**	Pg	**Pg**	**16 04 36.4**	**+1.2**
IBZA	**Bozab**	**1.69**	**102**	Pg	**Pg**	**16 04 40.8**	**+1.1**
IBDR	**Badra**	**1.73**	**178**	*e*Pn	**Pb**	**16 04 39.0**	**-0.1**
IBDR				*e*Sn	**Sn**	**16 05 00.0**	**+0.4**
IBDR				AML	AML	16 05 18.8	
	comp=N,601nm,0.6s						
IBDR				AML	AML	16 05 22.4	
	comp=E,898nm,0.7s						
MAHB	**Mahabad**	**1.92**	**356**	Pn	**Pg**	**16 04 43.1**	**-0.9**
BHD	**Baghdad**	**2.00**	**218**	*e*Pn	**Pn**	**16 04 41.2**	**+0.2**
BHD				*e*Sn	**Sn**	**16 05 07.0**	**+1.0**
BHD				AML	AML	16 05 16.0	
	comp=E,2μm,0.7s						
IKFM	**Kafar-mosalman**	**2.11**	**128**	Pn	**Pg**	**16 04 47.3**	**-0.4**
IDOB	**Doab**	**2.19**	**118**	Pn	**Pb**	**16 04 47.8**	**+0.8**
HSAM	**Samen**	**2.35**	**105**	Pn	**Pb**	**16 04 50.1**	**+0.2**
BDRS	**Dareh Seyedi**	**2.65**	**109**	Pn	**Pb**	**16 04 54.7**	**-0.3**
HAGD	**Aghdareh**	**2.70**	**90**	Pn	**Pb**	**16 04 54.8**	**-1.0**
IHSH	**Hashtrud**	**2.70**	**24**	Pn	**Pb**	**16 04 54.2**	**-1.7**
IAZR	**Azarshahr**	**2.83**	**2**	Pn	**Pb**	**16 04 56.0**	**-2.0**
RAFI	**Al-Rafai**	**3.12**	**176**	*e*Pn	**Pn**	**16 04 58.0**	**+1.5**
RAFI				*e*Sn	**Sn**	**16 05 33.8**	**-0.1**
ISRB	**Sarab**	**3.31**	**26**	Pn	**Pb**	**16 05 03.1**	**-3.1**
ISHB	**Shabestar**	**3.44**	**357**	Pn	**Pn**	**16 05 03.5**	**+2.5**
IHRS	**Heris**	**3.59**	**15**	Pn	**Pb**	**16 05 06.7**	**-4.3**
IMRD	**Marand**	**3.86**	**358**	Pn	**Pn**	**16 05 09.9**	**+3.1**
JHBN	**Jahan bin**	**4.79**	**122**	Pn	**Pn**	**16 05 23.4**	**+3.7**
IKLH	**Kolahrood**	**4.98**	**106**	Pn	**Pn**	**16 05 26.7**	**+4.3**
ISFB	**Sefidab**	**5.29**	**94**	Pn	**Pn**	**16 05 29.7**	**+3.3**
GNI	**Garni**	**5.37**	**351**	LR	LR	16 07 40.8	
	comp=E,58nm,21.0s,baz=197,slow=41						
IGAR	**Gharneh**	**5.70**	**114**	Pn	**Pn**	**16 05 36.0**	**+3.8**
IZEF	**Zefreh**	**5.72**	**108**	Pn	**Pn**	**16 05 36.3**	**+3.8**
IRAM	**Ramesheh**	**6.24**	**117**	Pn	**Pn**	**16 05 43.3**	**+3.7**
GEYT	**Alibeck**	**10.35**	**69**	P	Pn	16 06 42.8	+7.0
	comp=E,0.1nm,0.3s,baz=241,slow=11,SNR=1.9						
	comp=E,0.7nm,0.5s						
EIL	**Elat**	**10.58**	**244**	LR	LR	16 12 03.3	
	comp=E,12nm,19.8s,baz=278,slow=44						
BRTR	**Keskin Array B**	**10.88**	**300**	P	Pn	16 06 47.2	+4.0
	baz=100,slow=14,SNR=3.5						
	comp=E,0.9nm,0.8s						
SHME	**Shamm**	**12.46**	**132**	Pn	**Pn**	**16 07 04.6**	**-0.1**
SHME	**Shamm**	**12.46**	**132**	P	**Pn**	**16 07 05.4**	**+0.6**
UMQ	**Umm Al-Quwin**	**12.57**	**135**	P	**Pn**	**16 07 05.1**	**-1.0**
BANOM	**Banah**	**12.65**	**132**	P	**Pn**	**16 07 08.8**	**+1.5**
AJN	**Ajban**	**12.95**	**140**	P	**Pn**	**16 07 14.5**	**+3.1**
MASF	**Masafi**	**12.98**	**134**	P	**Pn**	**16 07 13.0**	**+1.2**
	SNR=7.6						
MASF				S	**Sn**	**16 09 30.0**	**-6.3**
NAZ	**Nazwa, Dubai**	**12.98**	**137**	Pn	**Pn**	**16 07 11.6**	**-0.2**
NAZ	**Nazwa, Dubai**	**12.98**	**137**	P	**Pn**	**16 07 14.0**	**+2.2**
	SNR=9.6						
MSFE	**Esma-Masafi**	**12.99**	**134**	Pn	**Pn**	**16 07 11.3**	**-0.6**
ASUD	**Al Ashush, Dub**	**13.08**	**139**	Pn	**Pn**	**16 07 13.9**	**+0.7**
ASUD	**Al Ashush, Dub**	**13.08**	**139**	P	**Pn**	**16 07 14.6**	**+1.5**
MDH	**Madha**	**13.12**	**134**	Pn	**Pn**	**16 07 13.0**	**-0.6**
MDH	**Madha**	**13.12**	**134**	P	**Pn**	**16 07 15.1**	**+1.5**
MDH				S	**Sn**	**16 09 34.3**	**-5.2**
FAQ	**Al Faqa, Dubai**	**13.13**	**137**	P	**Pn**	**16 07 16.0**	**+2.1**
UOSS	**Minazif**	**13.33**	**135**	Pn	**Pn**	**16 07 16.0**	**-0.5**
UOSS	**Minazif**	**13.33**	**135**	P	**Pn**	**16 07 18.7**	**+2.1**
UOSS				S	**Sn**	**16 09 39.0**	**-5.7**
HATD	**Hatta, Dubai**	**13.38**	**136**	Pn	**Pn**	**16 07 17.5**	**+0.3**
HATD	**Hatta, Dubai**	**13.38**	**136**	P	**Pn**	**16 07 18.0**	**+0.8**
	SNR=9.8						
HATD				S	**Sn**	**16 09 38.1**	**-7.9**
ASHO	**Ashiyiah**	**13.44**	**136**	Pn	**Pn**	**16 07 18.1**	**0.0**
ASHO				Sn	**Sn**	**16 09 39.7**	**-8.0**
ASHO	**Ashiyiah**	**13.44**	**136**	P	**Pn**	**16 07 18.4**	**+0.3**
	SNR=10						
ASHO				S	**Sn**	**16 09 43.6**	**-4.1**

MZR	**Muzera**	**13.55**	**149**	P	**Pn**	**16 07 21.4 +1.8**
MZR				S	**Sn**	**16 09 44.3 -5.9**
ALNE	**Al Ain**	**13.77**	**139**	Pn	**Pn**	**16 07 22.9 +0.3**
ALNE	**Al Ain**	**13.77**	**139**	P	**Pn**	**16 07 23.9 +1.3**
ALNE				S	**Sn**	**16 09 52.4 -3.2**
SOHO	**SOHO**	**14.14**	**136**	Pn	**Pn**	**16 07 26.9 -0.7**
SOHO	**SOHO**	**14.14**	**136**	P	**Pn**	**16 07 27.7 0.0**
ARQ	**Araqi**	**14.77**	**138**	P	**Pn**	**16 07 37.8 +1.6**
ARQ				S	**Sn**	**16 10 14.7 -5.2**
HOQ	**Hoqain**	**15.02**	**135**	P	**Pn**	**16 07 37.1 -2.5**
BSY	**Bisya**	**15.61**	**138**	P	**Pn**	**16 07 46.6 -0.9**
SMDO	**Samad**	**15.85**	**135**	P	**Pn**	**16 07 50.2 -0.4**
WSAR	**Wadi Sarin**	**16.06**	**133**	P	**Pn**	**16 07 53.2 0.0**
JMDO	**Jabal Madar**	**16.41**	**136**	P	**P**	**16 07 59.6 -1.0**
WBK	**Wadi Bani Khal**	**16.74**	**133**	P	**P**	**16 08 03.4 -0.8**
JLN	**Jalan Bani Buh**	**17.35**	**133**	P	**Pn**	**16 08 09.6 0.0**
MHTO	**MHTO**	**17.45**	**139**	P	**P**	**16 08 11.7 -0.3**
MHTO				S	**Sn**	**16 11 18.0 -7.0**
DOK	**Doka**	**17.76**	**153**	P	**Pn**	**16 08 14.7 +0.1**
DOK				S	**Sn**	**16 11 26.6 -6.0**
WHFO	**Wadi Hawf**	**18.27**	**155**	P	**Pn**	**16 08 21.3 +0.2**
WHFO				S	**Sn**	**16 11 38.4 -6.7**
AKASG	**Malin Array Be**	**19.93**	**328**	P	**Pn**	**16 08 39.5 -1.3**
	comp=E,0.3nm,0.2s,baz=138,slow=9.9,SNR=2.2					
AAK	**Ala-Archa**	**23.57**	**62**	LR	LR	16 20 46.5
	comp=E,31nm,19.2s,baz=175,slow=42					
FINES	**FINESS Array B**	**29.46**	**341**	P	**P**	**16 10 11.9 +0.9**
	comp=E,0.3nm,0.3s,baz=140,slow=11,SNR=4.7					
	comp=E,0.3nm,0.3s					
MKAR	**Makanchi Array**	**29.78**	**55**	P	**P**	**16 10 17.0 +3.0**
	comp=E,0.7nm,0.5s,baz=247,slow=7.3,SNR=6.7					
	comp=E,0.7nm,0.5s					
HFS	**Hagfors**	**32.77**	**331**	P	**P**	**16 10 40.6 +0.5**
	comp=E,1.0nm,0.5s,baz=121,slow=7.2,SNR=2.7					
	comp=E,1.0nm,0.5s					
NOA	**NORSAR Array B**	**34.29**	**331**	P	**P**	**16 10 53.3 -0.1**
	comp=E,0.2nm,0.4s,baz=123,slow=8.8,SNR=1.8					
	comp=E,0.2nm,0.4s					
ESDC	**Sonseca Array**	**39.54**	**292**	P	**P**	**16 11 38.9 +0.5**
	comp=E,0.3nm,0.4s,baz=62,slow=8.8,SNR=5.2					
	comp=E,0.3nm,0.4s					
SPITS	**Spitsbergen Ar**	**45.23**	**352**	P	**P**	**16 12 25.7 +1.5**
	comp=E,5.9nm,0.8s,baz=126,slow=7.3,SNR=8.4					
	comp=E,5.9nm,0.8s					
TORD	**Torodi Ar. Bea**	**45.31**	**253**	P	**P**	**16 12 27.8 +2.3**
	comp=E,0.3nm,0.7s,baz=56,slow=6.3,SNR=2.5					
	comp=E,0.3nm,0.7s					
CMAR	**Chiang Mai Arr**	**49.62**	**95**	P	P	16 13 06.2 +7.1
	comp=E,0.2nm,0.4s,baz=297,slow=8.0,SNR=2.0					
	comp=E,0.2nm,0.4s					
YKA	**Yellowknife Ar**	**81.73**	**351**	P	**P**	**16 16 25.3 -0.3**
	comp=E,0.2nm,0.7s,baz=6.2,slow=6.3,SNR=2.4					
	comp=E,0.2nm,0.7s					

*AUST **07** 16:17:21.5±0.6,33.05S×138.28E, h10km, Error ellipse: s-maj=8.1km s-min=5.2km az=40.0*
*IDC **07** 16:17:23.3±6.1,32.55S×138.31E, h0km, mbtmp2.9/3, ML2.8/3, Error ellipse: s-maj=79.3km s-min=20.0km az=16.0*

ISC 07 16:17:17.6±1.3, 33°00S±0.04×138°30E±0.03, h3km±10km, n14, σ1s87/27, Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUJCS	**Jamestown Cent**	**0.33**	**127**	P	**Pn**	**16 17 27.7**	**-1.6**
	baz=0.3						
AUJCS				S	**Sb**	**16 17 32.2**	**+0.4**
	baz=0.3						
HTT	**Hallett**	**0.67**	**129**	P	**Pn**	**16 17 33.8**	**-0.4**
	baz=0.7,SNR=62						
HTT				S	**Sb**	**16 17 42.9**	**+1.1**
	baz=0.7,SNR=10						
BBOO	**Buckleboo**	**1.90**	**275**	P	**Pg**	**16 17 54.1**	**+0.2**
	baz=1.9,SNR=28						
BBOO				S	**Sg**	**16 18 17.9**	**-0.6**
	baz=1.9,SNR=9.3						
AUMAR	**Marden Senior**	**1.90**	**172**	P	**Pg**	**16 17 53.2**	**-0.8**
	baz=1.9						
AUMAR				S	**Sg**	**16 18 18.7**	**-0.1**
	baz=1.9						
LCRK	**Leigh Creek**	**2.55**	**358**	P	**Pb**	**16 18 03.8**	**-0.2**
	baz=2.6,SNR=4.6						
LCRK				S	**Sg**	**16 18 37.8**	**-1.8**
	baz=2.6						
STKA	**Stephens Creek**	**3.00**	**69**	P	**Pb**	**16 18 10.8**	**-1.0**
	baz=3.0,SNR=12						
STKA				S	**Sg**	**16 18 54.7**	**+0.5**
	baz=3.0						
STKA	**Stephens Creek**	**3.00**	**69**	Pn	**Pb**	**16 18 10.0**	**-1.8**
	0.6nm,0.3s,baz=256,slow=12,SNR=12						
STKA				Pg	**Pg**	**16 18 15.4**	**+0.2**
	1.5nm,0.3s,baz=232,slow=16,SNR=9.9						
STKA				Sn	**Sb**	**16 18 47.6**	**-1.3**
	2.5nm,0.3s,baz=331,slow=10.0,SNR=4.2						
STKA				Lg	Lg	16 18 54.4	
	4.8nm,0.3s,baz=331,slow=19,SNR=4.1						
	1.0nm,0.3s						
MULG	**Mulgathing**	**4.52**	**306**	P	**Pn**	**16 18 30.1**	**+3.1**
	baz=4.5,SNR=5.9						
MULG				S	**Sn**	**16 19 21.0**	**+0.9**
	baz=4.5						
ARPS	**Mount Arapiles**	**4.75**	**143**	P	**Pn**	**16 18 32.2**	**+2.1**
	baz=4.7						
ARPS				S	**Sn**	**16 19 24.6**	**-1.1**
	baz=4.7						
OOD	**Oodnadatta**	**5.66**	**336**	P	**Pn**	**16 18 44.9**	**+2.2**
	baz=5.7						
OOD				S	**Sn**	**16 19 49.6**	**+1.3**
	baz=5.7						
CMSA	**Cobar Meteorol**	**6.43**	**79**	P	**Pn**	**16 18 56.0**	**+2.8**
	baz=6.4						
FORT	**Forrest**	**8.98**	**282**	P	**Pn**	**16 19 30.1**	**+1.7**
	baz=9.0						
FORT				S	**Sn**	**16 21 05.5**	**-4.6**
	baz=9.0						
ASAR	**Alice Springs**	**10.07**	**336**	Pn	**Pn**	**16 19 44.5**	**+1.2**
	0.1nm,0.3s,baz=153,slow=13,SNR=15						
ASAR				Sn	**Sn**	**16 21 34.0**	**-3.0**
	0.1nm,0.3s,baz=159,slow=22,SNR=4.2						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**13.48**	**344**	Pn	**Pn**	**16 20 28.9**	**-1.0**
	0.1nm,0.3s,baz=162,slow=12,SNR=2.6						
	0.6nm,0.9s						

*LVSN **07** 16:47:35.8±5.0,57.39N×24.37E,h0km±456km, ML1.7*

HEL 07 16:47:28.7±0.4, 61°09N×29°93E, h0km, ML1.5, Explosion, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUF	**Ruokolahti**	**0.58**	**306**	PG	Pg	16 47 39.6	-0.2
RUF				SG	Sg	16 47 46.6	-0.7
RUF				MSG		16 47 47.1	
	comp=Z,5.6nm,0.2s						
VJF	**Virojoki**	**1.29**	**246**	PG	Pg	16 47 52.4	-0.9
	baz=64						
VJF				MSG		16 48 07.6	
	comp=Z,4.6nm,0.2s						
FIA0	**FINESS Array S**	**1.89**	**282**	MSG		16 48 25.2	
	comp=Z,2.3nm,0.2s						
FIA0				SG	Sn	16 48 25.4	-1.4
JOF	**Joensuu**	**1.95**	**19**	PG	Pn	16 48 03.7	+0.7
JOF				SG	Sn	16 48 28.3	+0.2
KAF	**Kangasniemi**	**2.01**	**302**	PG	Pb	16 48 05.3	-0.8
	baz=116						
KAF				MSG		16 48 28.6	
	comp=Z,4.6nm,0.2s						
KAF				SG	Sn	16 48 30.4	+0.7
PVF	**Pernaja**	**2.07**	**256**	PG	Pn	16 48 05.3	+0.7
PVF				MSG		16 48 30.1	
	comp=Z,5.4nm,0.2s						
PVF				SG	Sb	16 48 33.9	+0.7
SUF	**Sumiainen**	**2.42**	**314**	PG	Pb	16 48 12.0	-1.1
SUF				MSG		16 48 40.2	
	comp=Z,1.9nm,0.2s						
SUF				SG	Sb	16 48 43.3	-0.2
NIF	**Nilsia**	**2.51**	**338**	PG	Pn	16 48 12.6	+1.9
	baz=159						
NIF				SG	Sb	16 48 44.4	-1.6
ARBE	**Arbavere**	**2.57**	**232**	*e*P	Pb	16 48 14.7	-0.9
ARBE				*e*S	Sn	16 48 39.8	-3.7
ARBE				AML	AML	16 48 51.1	
	comp=N,33nm,0.2s						
ARBE				AML	AML	16 48 57.1	
	comp=E,37nm,0.7s						
ARBE				AML	AML	16 48 59.7	
	comp=Z,26nm,0.7s						
KEF	**Keuruu**	**2.65**	**296**	PB	Pn	16 48 14.5	+2.0
	baz=111						
KEF				MSG		16 48 46.7	
	comp=Z,2.0nm,0.2s						
KEF				SG	Sb	16 48 48.3	-1.6
NUR	**Nurmijrvi**	**2.65**	**260**	PG	Pb	16 48 15.9	-1.1
NUR				MSG		16 48 47.0	
	comp=Z,1.6nm,0.2s						
MEF	**Metsahovi**	**2.86**	**255**	*e*P	Pb	16 48 19.4	-1.1
MEF				*e*S	Sb	16 48 54.5	-1.6
MEF				AML	AML	16 48 57.8	
	comp=Z,3.1nm,0.4s						
MEF				AML	AML	16 49 06.0	
	comp=N,4.3nm,0.7s						
MEF				AML	AML	16 49 06.2	
	comp=E,4.1nm,0.7s						
MEF	**Metsahovi**	**2.86**	**255**	PG	Pb	16 48 18.9	-1.7
MEF				MSG		16 48 52.9	
	comp=Z,1.8nm,0.2s						
MEF				SG	Sb	16 48 58.2	+2.1
RAF	**Rauma**	**3.97**	**273**	*e*S	Sn	16 49 19.9	+2.0
RAF				AML	AML	16 49 34.8	
	comp=N,2.9nm,0.4s						
RAF				AML	AML	16 49 36.3	
	comp=E,2.4nm,0.6s						
RAF				AML	AML	16 49 36.5	
	comp=Z,2.8nm,0.8s						

*NEIC **07** 16:56:38.8±1.6, 19.43N±0.03×155.26W±0.02, h5km±1km, Error ellipse: s-maj=6.0km s-min=2.7km az=32.0*

HVO 07 16:56:38.8±1.1, 19.41N±0.01×155.27W±0.008, h0km±3km, ML2.7/17, ML1.7/18(NEIC), Error ellipse: s-maj=2.1km s-min=1.0km az=181.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**307**		Pg	**16 56 38.9**	**-0.2**
RIM	**Rim**	**0.01**	**176**		Pg	16 56 39.2	0.0
KKO	**Keanakako`i**	**0.01**	**139**		Pg	16 56 39.3	+0.1
OBL	**Observatory Le**	**0.01**	**319**		Pg	16 56 39.3	+0.1
BYL	**Byron's Ledge**	**0.01**	**72**		Pg	16 56 39.4	+0.2
UWB	**Uwekahuna B**	**0.02**	**350**		Pg	16 56 39.3	+0.1
HATHI	**Halema`uma`u T**	**0.02**	**40**		Pg	16 56 39.3	0.0
SBLHI	**Steaming Bluff**	**0.02**	**18**		Pg	16 56 39.4	+0.1
UWE	**Uwekahuna**	**0.02**	**308**	IAML		16 56 39.5	
	comp=N,2μm,0.7s						
UWE					Pg	16 56 39.5	+0.2
UWE				IAML		16 56 39.6	
	comp=E,2μm,0.5s						
WRMHI	**West Rim**	**0.02**	**268**		Pg	16 56 39.3	0.0
SDHHI	**Sand Hill**	**0.03**	**225**		Pg	16 56 39.4	+0.1
RSD	**Rainshed**	**0.06**	**357**		Pg	16 56 40.5	+0.6
PUH	**Pauahi**	**0.07**	**121**		Pg	16 56 40.8	+0.7
PUH				IAML		16 56 41.3	
	comp=N,635nm,0.4s						
PUH				IAML		16 56 41.6	
	comp=E,515nm,0.2s						
HLP	**Hilina Pali**	**0.12**	**196**	Pg	Pg	16 56 41.8	+0.7
HLP				IAML		16 56 42.7	
	comp=N,303nm,1.0s						
MLH	**Mauna Loa**	**0.14**	**309**	Pg	Pg	16 56 42.4	+0.9
MLH				IAML		16 56 43.0	
	comp=N,266nm,2.5s						
MLH				IAML		16 56 45.3	
	comp=E,233nm,0.6s						
STCH	**Steam Cracks**	**0.14**	**99**	Pg	Pg	16 56 42.3	+0.7
STCH				IAML		16 56 44.4	
	comp=N,323nm,0.3s						
NPOC	**North of Pu`u**	**0.16**	**95**		Pg	16 56 42.4	+0.6
JCUZ	**Jacuzzi**	**0.17**	**98**		Pg	16 56 42.4	+0.4
HTC	**Hot Caves**	**0.20**	**214**		Pg	16 56 43.5	+0.8
HMH	**Humu`ula Sheep**	**0.28**	**315**	Pg	Pg	16 56 44.7	+0.6
HMH				IAML		16 56 45.3	
	comp=E,151nm,4.4s						
HMH				IAML		16 56 51.0	
	comp=N,150nm,2.4s						
MWH	**Moku`aweowe**	**0.31**	**284**	Pg	Pg	16 56 45.6	+0.8
KHU	**Kahuku**	**0.36**	**244**		Pg	16 56 45.6	-0.1
HUH	**Hualalai**	**0.60**	**298**	Pg	Pg	16 56 50.5	+0.2

*IDC **07** 17:00:51.6±1.5, 33.82N×135.12E, h0km, mb3.4/2, mbtmp3.2/4, ML2.3/2, Error ellipse: s-maj=31.6km s-min=17.0km az=147.0*
*JMA **07** 17:00:53.8±0.0, 33.9N±0.1×135.1E±0.1, h10km, MV3.6/20, CENTRAL WAKAYAMA PREF*
JMA Felt II J1 at CENTRAL WAKAYAMA PREF .
*NIED **07** 17:00:53.8, 33.92N×135.12E, h10km, MW3.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{13}Nm; M_{rr}3.92; $M_{\theta\theta}$1.83; $M_{\phi\phi}$-5.75; $M_{r\theta}$-4.23; $M_{r\phi}$-1.27; $M_{\theta\phi}$0.50; Fault plane solution: $M_0$6.65000×10^{13} NP1: ϕ_s222.00000°, δ58.00000°, λ138.00000°. NP2: ϕ_s337.00000°, δ55.00000°, λ40.00000°.*

**ISC 07 17:00:53.0±1.0, 33°89

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.38**	**201**	LR	LR	17 34 24.7	
	comp=Z,102nm,18.9s,baz=92,slow=34						
RAO	**Raoul Island**	**18.85**	**144**	LR	LR	17 38 49.8	
	comp=Z,185nm,21.4s,baz=140,slow=29						
WRA	**Warramunga Arr**	**34.20**	**255**	P	P	17 36 32.6	+0.7
	0.5nm,0.8s,baz=90,slow=8.4,SNR=2.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**35.02**	**249**	P	P	17 36 38.5	-0.6
	0.4nm,0.6s,baz=74,slow=9.4,SNR=13						
ASAR				LR	LR	17 49 51.6	
	comp=Z,50nm,18.8s,baz=128,slow=34						
	0.4nm,0.6s						
GUMO	**Guam**	**36.97**	**317**	LR	LR	17 50 38.4	
	comp=Z,46nm,21.5s,baz=86,slow=34						
MJAR	**Matsushiro Arr**	**58.58**	**330**	LR	LR	18 01 13.7	
	comp=Z,9.9nm,20.7s,baz=178,slow=32						
MA2	**Magadan**	**75.13**	**350**	LR	LR	18 08 08.0	
	comp=Z,15nm,21.5s,baz=155,slow=31						
ILAR	**Eielson Array**	**85.36**	**17**	P	P	17 42 23.1	0.0
	0.5nm,0.7s,baz=226,slow=5.4,SNR=6.0						
	0.5nm,0.7s						

*IDC **07** 17:31:37.8±1.2, 44°.34N×89°.16E, h0km, mb3.5/4, mbtmp3.6/9, ML3.3/5, MS2.8/2, Error ellipse: s-maj=30.1km s-min=13.6km az=41.0*
*NNC **07** 17:31:41.1±4.3, 44°.68N×88°.97E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=37.2km s-min=25.9km az=82.0*

ISC 07 17:31:40.4±0.8, 44°.48N±0°.09×88°.97E±0°.09, h10km, n22, σ2s90/26, mb3.5/4, 12C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.22**	**299**	⇑Pn	**Pn**	**17 33 01.1**	**+2.6**
	0.6nm,0.1s,baz=112,slow=14,SNR=502						
MK31				⇓Sn	**Sn**	**17 33 58.8**	**0.0**
	9.0nm,0.3s,baz=107,slow=26,SNR=3.7						
MK31				⇓Lg	Lg	17 34 30.7	
	30nm,0.5s,baz=113,slow=30,SNR=3.9						
MKAR	**Makanchi Array**	**5.22**	**299**	Pn	**Pn**	**17 33 01.1**	**+2.6**
	5.2nm,0.3s,baz=116,slow=14,SNR=290						
MKAR				Sn	**Sn**	**17 33 59.8**	**+0.9**
	8.9nm,0.3s,baz=107,slow=28,SNR=8.8						
MKAR				Lg	Lg	17 34 27.9	
	7.4nm,0.3s,baz=80,slow=30,SNR=4.1						
	7.7nm,0.3s						
MAKZ	**Makanchi**	**5.43**	**298**	⇑Pn	**Pn**	**17 33 03.8**	**+2.5**
	6.6nm,0.3s						
MAKZ				⇑Lg	Lg	17 34 36.5	
	85nm,0.9s						
PDGK	**Podgornoye**	**6.95**	**264**	⇑Pn	**Pn**	**17 33 22.6**	**+0.3**
	12nm,0.3s						
PDGK				⇑Lg	Lg	17 35 20.3	
	30nm,0.7s						
KURBB	**Kurchatov Arra**	**9.35**	**315**	⇑Pn	**Pn**	**17 33 57.6**	**+2.5**
	2.0nm,0.5s						
KURBB				⇑Sn	**Sn**	**17 35 37.9**	**-2.4**
	9.5nm,0.6s						
KURBB				⇓Lg	Lg	17 36 41.7	
	41nm,0.7s						
KURBB	**Kurchatov Arra**	**9.35**	**315**	Pn	**Pn**	**17 33 56.6**	**+1.5**
	0.2nm,0.3s,baz=128,slow=14,SNR=11						
KURBB				Sn	**Sn**	**17 35 38.2**	**-2.0**
	0.4nm,0.3s,baz=253,slow=33,SNR=5.0						
KURBB				Lg	Lg	17 36 42.3	
	0.2nm,0.3s,baz=82,slow=17,SNR=2.1						
	1.0nm,0.4s						
KURK	**Kurchatov**	**9.36**	**315**	⇓Pn	**Pn**	**17 33 56.9**	**+1.6**
	0.4nm,0.2s						
KURK				⇑Sn	**Sn**	**17 35 38.3**	**-2.3**
	3.1nm,0.5s						
KURK				⇑Lg	Lg	17 36 40.5	
	12nm,0.6s						
GOMU	**GeErMu**	**9.40**	**150**	Pn	**Pn**	**17 33 54.5**	**-1.6**
GOMU				Sn	Sn	17 35 26.5	-16
GOMU				Sg		17 36 25.3	
GOMU				smax	smax		
	comp=N,21nm,0.8s						
GOMU				smax	smax		
	comp=E,34nm,0.9s						
TKM2	**Tokmak 2**	**9.81**	**266**	⇑Pn	**Pn**	**17 34 03.2**	**+1.5**
	comp=E,2.7nm,0.5s						
ZALV	**Zalesovo Beam**	**9.85**	**346**	Pn	**Pn**	**17 34 02.1**	**+0.1**
	comp=E,0.2nm,0.3s,baz=178,slow=13,SNR=2.2						
ZALV				Sn	**Sn**	**17 35 50.1**	**-2.5**
	comp=E,1.1nm,0.3s,baz=167,slow=27,SNR=7.9						
ZALV				Lg	Lg	17 36 56.6	
	baz=215,slow=49						
	comp=E,0.5nm,0.3s						
AAK	**Ala-Archa**	**10.67**	**265**	⇑Pn	**Pn**	**17 34 13.4**	**+0.1**
	comp=E,2.1nm,0.6s						
AAK	**Ala-Archa**	**10.67**	**265**	Pn	**Pn**	**17 34 13.6**	**+0.2**
	comp=E,0.7nm,0.3s,baz=96,slow=10,SNR=10						
AAK				Lg	Lg	17 37 19.7	
	comp=E,0.2nm,0.3s,baz=146,slow=23,SNR=1.3						
AAK				LR	LR	17 39 13.2	
	comp=E,36nm,21.6s,baz=46,slow=42						
	comp=E,1.8nm,0.4s						
OTUK	**Ortayu**	**12.09**	**294**	⇑Pn	**Pn**	**17 34 32.9**	**+0.3**
	comp=E,3.0nm,0.6s						
SONM	**Songino Array**	**12.53**	**68**	Lg	Lg	17 38 13.4	
	comp=E,0.2nm,0.3s,baz=311,slow=46,SNR=2.5						
SONM				LR	LR	17 39 44.9	
	comp=E,68nm,18.9s,baz=247,slow=39						
KK31	**Karatay Array**	**13.41**	**271**	Pn	**Pn**	**17 34 51.1**	**+0.4**
	comp=E,2.0nm,0.7s,baz=71,slow=14,SNR=28						
BVAR	**Borovoye Array**	**14.91**	**312**	Pn	**Pn**	**17 35 11.0**	**0.0**
	baz=118,slow=12,SNR=3.8						
BVAR				Sn	Sn	17 37 50.3	-5.8
	comp=E,0.1nm,0.3s,baz=112,slow=23,SNR=6.5						
BVAR				Lg	Lg	17 39 35.1	
	baz=122,slow=24,SNR=1.9						
	comp=E,0.7nm,0.5s						
HHC	**Hu-ho-hao-te**	**17.00**	**94**	*e*P	**P**	**17 35 45.0**	**+4.9**
HHC				sP	sP	17 35 57.4	+13
HHC				pmax	pmax		
	comp=Z,18nm,0.6s						
HHC				pmax	pmax		
	comp=Z,89nm,4.5s						
TNCH	**TengChong**	**20.91**	**155**	*e*P	Pn	17 36 29.2	+3.6
TNCH				pP	sP	17 36 35.2	+7.8
TNCH				pmax	pmax		
	comp=Z,4.0nm,0.8s						
GEYT	**Alibeck**	**24.03**	**265**	P	**P**	**17 36 56.3**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=58,slow=11,SNR=2.8						
	comp=Z,0.4nm,0.4s						
AKASG	**Malin Array Be**	**39.80**	**301**	P	**P**	**17 39 13.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=71,slow=7.7,SNR=1.4						
	comp=Z,0.6nm,0.5s						
WRA	**Warramunga Arr**	**76.33**	**136**	P	**P**	**17 43 27.5**	**-2.0**
	comp=Z,0.4nm,0.8s,baz=338,slow=6.3,SNR=2.4						
	comp=Z,0.4nm,0.8s						
ASAR	**Alice Springs**	**79.29**	**139**	P	**P**	**17 43 43.8**	**-2.2**
	comp=Z,0.2nm,0.5s,baz=325,slow=5.0,SNR=5.9						
	comp=Z,0.2nm,0.5s						

IDC 07 17:35:49.7±6.3, 5°.64S×142°.34E, h0km, mb3.8/2, mbtmp3.6/4, ML3.2/2, MS3.2/3, Error ellipse: s-maj=238.2km s-min=32.7km az=95.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.21**	**208**	Pn	Pn	17 39 37.7	-1.3
	0.1nm,0.3s,baz=36,slow=14,SNR=3.2						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**19.68**	**204**	P	P	17 40 21.1	+0.5
	0.1nm,0.3s,baz=32,slow=11,SNR=22						
	1.3nm,0.6s						
ASAJ	**Asahikawa**	**49.53**	**0**	LR	LR	18 02 32.0	
	comp=Z,19nm,21.7s,baz=170,slow=32						
KLR	**Kul'dur**	**55.42**	**352**	LR	LR	18 07 05.3	
	comp=Z,13nm,18.0s,baz=176,slow=34						
YAK	**Yakutsk**	**68.18**	**354**	LR	LR	18 17 59.3	
	comp=Z,24nm,18.1s,baz=172,slow=37						
MKAR	**Makanchi Array**	**74.31**	**322**	P	P	17 47 28.1	-0.9
	0.6nm,0.8s,baz=112,slow=7.6,SNR=4.5						
	0.6nm,0.8s						
BVAR	**Borovoye Array**	**83.77**	**325**	P	P	17 48 22.0	+1.2
	0.7nm,0.6s,baz=120,slow=5.7,SNR=2.9						
	0.7nm,0.6s						

*TEH **07** 17:37:08.7, 34°.88N×45°.86E, h8km±144km, ML2.6*
*ISN **07** 17:37:09.6±0.9, 34°.85N×45°.91E, h18km±175km, ML2.7*

ISC 07 17:37:08.9±1.0, 34°.88N±0°.05×45°.88E±0°.04, h10km, n10, σ0s69/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.45**	**213**	Pg	**Pg**	**17 37 17.1**	**-0.5**
IDHR	**Dehrash**	**0.45**	**113**	Pg	**Pg**	**17 37 18.0**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.77**	**178**	Pg	**Pg**	**17 37 23.5**	**-0.2**
IGHG	**Ghaleghazi**	**0.79**	**134**	Pg	**Pb**	**17 37 24.3**	**-0.5**
ILIN	**Lien**	**0.89**	**87**	Pg	**Pb**	**17 37 26.4**	**-0.1**
ILIN				Sg	**Sn**	**17 37 39.9**	**-0.9**
IKRK	**Kirkuk**	**1.37**	**293**	*e*Pg	**Pg**	**17 37 35.0**	**-0.2**
IKRK				*e*Sg	**Sg**	**17 37 53.0**	**+0.1**
IKRK				AML	AML	17 37 55.6	
	comp=E,122nm,0.5s						
IKRK				AML	AML	17 37 56.2	
	comp=N,166nm,0.3s						
IBZA	**Bozab**	**1.68**	**104**	Pg	**Pg**	**17 37 40.9**	**-0.3**
IBDR	**Badra**	**1.77**	**179**	*e*Pn	**Pb**	**17 37 41.0**	**-0.4**
IBDR				*e*Sn	**Sb**	**17 38 03.0**	**-0.6**
BHD	**Baghdad**	**2.03**	**218**	*e*Pn	**Pn**	**17 37 44.0**	**+0.8**
BHD				*e*Sn	**Sb**	**17 38 10.5**	**-0.8**
RAFI	**Al-Rafai**	**3.15**	**176**	*e*Pn	**Pn**	**17 38 00.0**	**+1.4**
RAFI				*e*Sn	**Sn**	**17 38 37.0**	**+0.7**

*IDC **07** 18:04:25.8±0.6, 43°.98S×40°.77E, h0km, mb4.2/13, mbtmp4.2/15, ML3.5/2, MS3.6/14, Error ellipse: s-maj=22.3km s-min=18.6km az=67.0*
*NEIC **07** 18:04:28.1±1.6, 44°.0S±0°.1×40°.5E±0°.2, h10km±1km, mb4.5/15, Error ellipse: s-maj=23.3km s-min=20.1km az=95.0*

ISC 07 18:04:27.6±0.5, 43°.95S±0°.09×40°.6E±0°.1, h10km, n52, σ1s25/40, mb4.3/16, MS3.5/12, 2C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
POGA	**Pongola**	**18.04**	**334**		**Pn**	**18 08 37.4**	**-1.0**
SUR	**Sutherland**	**19.29**	**300**	P	**P**	**18 08 51.0**	**-1.7**
SUR				IAmb	IAmb	18 09 26.1	
	comp=Z,66nm,1.4s						
SUR	**Sutherland**	**19.29**	**300**	P	**Pn**	**18 08 54.6**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=126,slow=14,SNR=1.4						
SUR				LR	LR	18 14 41.3	
	comp=Z,155nm,19.4s,baz=150,slow=32						
	comp=Z,14nm,1.1s						
BOSA	**Boshof**	**19.60**	**316**	P	**P**	**18 08 56.9**	**+0.8**
BOSA	**Boshof**	**19.60**	**316**	P	**P**	**18 08 57.0**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=147,slow=16,SNR=2.3						
BOSA				LR	LR	18 15 14.6	
	comp=Z,98nm,18.9s,baz=166,slow=33						
	comp=Z,3.8nm,1.0s						
LBTB	**Lobatse**	**22.49**	**322**	LR	LR	18 16 52.2	
	comp=Z,83nm,18.6s,baz=140,slow=33						
VOI	**Vohitsoka**	**22.59**	**15**	P	**P**	**18 09 29.0**	**+0.7**
VOI				IAmb	IAmb	18 09 32.4	
	comp=Z,17nm,1.1s						
ABPO	**Ambohimpanom**	**25.48**	**15**	P	**P**	**18 09 56.7**	**+0.6**
ABPO				IAmb	IAmb	18 10 01.6	
	comp=Z,6.4nm,0.8s						
OPO	**Ambohidratompo**	**25.91**	**15**	LR	LR	18 18 51.0	
	comp=Z,191nm,18.1s,baz=356,slow=33						
MAW	**Mawson**	**26.51**	**161**	LR	LR	18 17 48.1	
	comp=Z,122nm,20.6s,baz=356,slow=30						
LSZ	**Lusaka**	**30.46**	**336**	LR	LR	18 23 25.2	
	comp=Z,82nm,18.0s,baz=341,slow=37						
TSUM	**Tsumeb**	**31.29**	**315**	LR	LR	18 21 38.2	
	comp=Z,60nm,19.1s,baz=149,slow=33						
SNAA	**Sanae**	**34.70**	**202**	P	**P**	**18 11 16.5**	**-0.7**
SNAA				IAmb	IAmb	18 11 28.5	
	comp=Z,12nm,1.4s						
SNAA	**Sanae**	**34.70**	**202**	P	**P**	**18 11 17.3**	**+0.1**
	comp=Z,4.6nm,1.2s,baz=48,slow=16,SNR=6.5						
SNAA				LR	LR	18 22 17.2	
	comp=Z,91nm,19.0s,baz=27,slow=31						
	comp=Z,4.6nm,1.2s						
VNA2	**Neumayer--Watz**	**35.68**	**205**	⇑P	**P**	**18 11 27.1**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=49,slow=7.5						
VNA3	**Neumayer Olymp**	**36.49**	**205**	⇑P	**P**	**18 11 34.5**	**+2.0**
	comp=Z,5.2nm,1.0s						
MBAR	**Mbarara**	**44.04**	**346**	LR	LR	18 29 14.8	
	comp=Z,57nm,21.1s,baz=153,slow=34						
QSPA	**South Pole Qui**	**46.26**	**180**	P	**P**	**18 12 53.5**	**+0.7**
QSPA				IAmb	IAmb	18 13 01.2	
	comp=Z,7.2nm,1.1s						
QSPA	**South Pole Qui**	**46.26**	**180**	P	**P**	**18 12 53.2**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=253,slow=3.4,SNR=27						
QSPA				LR	LR	18 31 19.7	
	comp=Z,51nm,18.1s,baz=243,slow=35						
	comp=Z,2.9nm,0.7s						
HOPE	**Hope Point**	**49.06**	**229**	P	**P**	**18 13 14.0**	**-0.5**
H01W2	**Cape Leeuwin H**	**55.83**	**108**	T	T	19 15 15.4	
	baz=238,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**55.84**	**108**	T	T	19 15 11.9	
	baz=238,slow=75,SNR=13						
H01W1	**Cape Leeuwin H**	**55.85**	**108**	T	T	19 15 12.3	
	baz=238,slow=75,SNR=12						
DBIC	**Dimbokro**	**64.92**	**309**	P	**P**	**18 15 08.4**	**+1.1**
DBIC	**Dimbokro**	**64.92**	**309**	P	**P**	**18 15 09.3**	**+2.0**
	comp=Z,5.6nm,0.9s,baz=145,slow=12,SNR=5.0						
	comp=Z,5.6nm,0.9s						
TORD	**Torodi Ar. Bea**	**66.95**	**318**	P	**P**	**18 15 20.4**	**+0.1**
TORD				IAmb	IAmb	18 15 27.6	
	comp=Z,2.8nm,1.1s						
TORD	**Torodi Ar. Bea**	**66.95**	**318**	P	**P**	**18 15 22.1**	**+1.8**
	comp=Z,1.7nm,0.8s,baz=151,slow=7.1,SNR=5.2						
	comp=Z,1.7nm,0.8s						
FORT	**Forrest**	**67.72**	**112**	P	**P**	**18 15 27.2**	**+2.0**
WSAR	**Wadi Sarin**	**68.89**	**18**	LR	LR	18 41 30.1	
	comp=Z,65nm,18.4s,baz=224,slow=32						
PLCA	**Paso Flores**	**75.40**	**227**	P	**P**	**18 16 12.5**	**+1.1**
PLCA	**Paso Flores**	**75.40**	**227**	P	**P**	**18 16 11.4**	**-0.1**
	comp=Z,1.8nm,1.0s,baz=94,slow=16,SNR=4.5						
	comp=Z,1.8nm,1.0s						
STKA	**Stephens Creek**	**75.78**	**121**	P	**P**	**18 16 14.1**	**+0.4**
STKA				IAmb	IAmb	18 16 14.9	
	comp=Z,3.7nm,1.5s						
STKA	**Stephens Creek**	**75.78**	**121**	P	**P**	**18 16 14.3**	**+0.7**
	comp=Z,3.1nm,0.6s,baz=246,slow=5.1,SNR=7.0						
	comp=Z,3.1nm,0.6s						
ASAR	**Alice Springs**	**76.27**	**110**	P	**P**	**18 16 14.4**	**-2.3**
	comp=Z,1.1nm,0.9s,baz=231,slow=5.4,SNR=5.0						
	comp=Z,1.1nm,0.9s						
CPUP	**Villa Florida**	**77.51**	**246**	P	**P**	**18 16 22.3**	**-1.2**
	comp=Z,2.2nm,0.8s,baz=150,slow=5.4,SNR=5.3						
	comp=Z,2.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**81.86**	**55**	P	**P**	**18 16 45.6**	**-1.5**
	comp=Z,0.7nm,0.8s,baz=232,slow=4.4,SNR=7.4						
CMAR				LR	LR	18 49 38.7	
	comp=Z,40nm,18.3s,baz=210,slow=33						
	comp=Z,0.7nm,0.8s						
GEYT	**Alibeck**	**83.04**	**14**	P	**P**	**18 16 53.7**	**+0.9**
	comp=Z,0.8nm,0.5s,baz=216,slow=8.7,SNR=4.4						
	comp=Z,0.8nm,0.5s						
BRTR	**Keskin Array B**	**83.53**	**355**	P	**P**	**18 16 55.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=182,slow=9.5,SNR=1.7						
	comp=Z,0.2nm,0.3s						
SIMJ	**Simiganj**	**86.17**	**22**	P	**P**	**18 17 09.2**	**+0.4**
SIMJ				IAmb	IAmb	18 17 17.1	
	comp=Z,6.5nm,1.0s						
PMG	**Port Moresby**	**95.25**	**108**	LR	LR	18 56 32.6	
	comp=Z,33nm,18.1s,baz=226,slow=33						
MDP	**Montagnes des**	**95.80**	**271**	LR	LR	18 59 10.4	
	comp=Z,35nm,18.5s,baz=85,slow=34						
KURBB	**Kurchatov Arra**	**99.82**	**23**	P	**Pdif**	**18 18 09.6**	**-1.8**
	comp=Z,0.2nm,0.8s,baz=214,slow=5.1,SNR=1.6						
	comp=Z,0.2nm,0.8s						
BVAR	**Borovoye Array**	**99.95**	**18**	P	**Pdif**	**18 18 10.4**	**-1.6**
	comp=Z,0.3nm,0.5s,baz=172,slow=2.9,SNR=3.6						
	comp=Z,0.3nm,0.5s						
435B	**Jarrell**	**144.60**	**263**	PKPdf	**PKPab**	**18 24 02.2**	**-0.6**
HHAR	**Hobbs**	**144.73**	**273**		**PKPab**	**18 24 01.9**	**-1.2**
P40A	**Paris**	**144.74**	**280**	PKPdf	**PKPab**	**18 24 02.0**	**-1.0**
COWI	**Conover**	**144.85**	**292**	PKPdf	**PKPab**	**18 24 03.3**	**0.0**
WHTX	**Lake Whitney,**	**145.16**	**264**		**PKPbc**	**18 24 03.0**	**-1.7**
FW13	**Cleburne**	**145.33**	**265**		**PKPbc**	**18 24 03.4**	**-1.9**
G40A	**Rib Lake**	**145.35**	**290**		**PKPbc**	**18 24 03.9**	**-1.1**
TXAR	**Lajitas Array**	**148.07**	**255**	PKPbc	**PKPbc**	**18 24 13.8**	**+0.4**
	comp=Z,1.8nm,0.8s,baz=138,slow=6.9,SNR=16						
ULM	**Lac du Bonnet**	**150.02**	**298**	PKPbc	**PKPbc**	**18 24 16.0**	**-1.5**
	comp=Z,2.9nm,0.7s,baz=101,slow=3.7,SNR=3.8						

*IDC **07** 18:06:45.4±1.6, 2°.83N×126°.61E, h0km, mb3.5/5, mbtmp3.5/5, Error ellipse: s-maj=173.0km s-min=20.9km az=68.0*
*DJA **07** 18:06:52.4±1.7, 3°.N±3°×12°.6E±°, h28km±19km, M3.8/11, mb4.0/5, mB5.9/1, MLv3.7/11, Mw(mB)5.5/1*

ISC 07 18:06:52.7±1.0, 2°.64N±0°.07×126°.38E±0°.09, h55km, n14, σ1s52/15, mb3.5/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.34**	**321**	P	**Pn**	**18 07 15.3**	**+0.2**
SGSI				S	**Sn**	**18 07 31.9**	**+0.1**
TNTI	**Ternate**	**2.11**	**152**	P	**Pn**	**18 07 26.1**	**+0.6**
KMSI	**Cibinong**	**3.15**	**229**	P	**Pn**	**18 07 41.6**	**+1.7**
LBMI	**Labuha**	**3.45**	**161**	P	**Pn**	**18 07 46.0**	**+2.1**
GTOI	**Gorontalo**	**3.91**	**239**	P	**Pn**	**18 07 52.2**	**+2.0**
SANI	**Sanana**	**4.68**	**185**	P	**Pn**	**18 07 57.6**	**-3.2**
LUWI	**Luwuk**	**5.14**	**225**	P	**Pn**	**18 08 05.7**	**-1.4**
	32nm,0.7s,0.3nm						
MPSI	**Mapaga**	**6.87**	**251**	P	**Pn**	**18 08 30.4**	**-0.4**
	8.5nm,0.8s,0.0nm						
TTSI	**Tana Toraja**	**8.65**	**229**	P	**Pn**	**18 08 55.8**	**+0.5**
WRA	**Warramunga Arr**	**23.77**	**161**	P	**P**	**18 11 59.8**	**-0.5**
	0.6nm,0.5s,baz=341,slow=10,SNR=4.7						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**27.16**	**165**	P	**P**	**18 12 32.8**	**+1.7**
	0.1nm,0.4s,baz=339,slow=6.9,SNR=4.5						
	0.1nm,0.4s						
SONM	**Songino Array**	**48.21**	**342**	P	**P**	**18 15 27.1**	**-0.8**
	0.3nm,0.6s,baz=150,slow=6.7,SNR=2.2						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**58.24**	**326**	P	**P**	**18 16 41.6**	**0.0**
	0.3nm,0.5s,baz=116,slow=8.2,SNR=7.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**62.46**	**328**	P	**P**	**18 17 09.9**	**-0.3**
	0.5nm,0.5s,baz=129,slow=6.1,SNR=9.0						
	0.5nm,0.5s						

*IDC **07** 18:09:07.0±1.4, 56°.03N×149°.14W, h0km, mb3.7/7, mbtmp3.6/12, ML3.4/5, MS2.6/4, Error ellipse: s-maj=30.3km s-min=19.5km az=25.0*
*NEIC **07** 18:09:11.2±1.0, 56°.60N±0°.08×149°.3W±0°.1, h10km±2km, mb3.5/2, ML3.7/77, ML3.5(AEIC), Error ellipse: s-maj=13.5km s-min=9.1km az=160.0*
*AEIC **07** 18:09:14.9±1.5, 56°.51N±0°.08×149°.2W±0°.1, h10km±6km, Error ellipse: s-maj=12.6km s-min=7.8km az=155.0*

ISC 07 18:09:11.7±0.9, 56°.63N±0°.08×149°.30W±0°.05, h10km, n240, σ0s90/235, mb3.7/7, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.12**	**304**		**Pn**	**18 09 47.0**	**-0.2**
KDAK	**Kodiak Island**	**2.12**	**304**		**Sn**	**18 10 11.8**	**-1.8**
KDAK	**Kodiak Island**	**2.12**	**304**	S	**Sn**	**18 10 11.8**	**-1.8**
	baz=122						
KDAK	**Kodiak Island**	**2.12**	**304**	Pn	**Pn**	**18 09 47.3**	**+0.1**
	4.3nm,0.3s,baz=128,slow=7.4,SNR=107						
KDAK				Sn	**Sn**	**18 10 12.0**	**-1.7**
	29nm,0.3s,baz=72,slow=19,SNR=45						
KDAK				LR	LR	18 10 25.5	
	comp=Z,35nm,20.7s,baz=98,slow=30						
	14nm,0.3s						
OHAK	**Old Harbor**	**2.26**	**287**	P	**Pn**	**18 09 48.5**	**-0.6**
OHAK	**Old Harbor**	**2.26**	**287**		**Pn**	**18 09 48.4**	**-0.6**
OHAK	**Old Harbor**	**2.26**	**287**		**Sn**	**18 10 14.4**	**-2.6**
OHAK	**Old Harbor**	**2.26**	**287**	P	**Pn**	**18 09 48.6**	**-0.6**
	baz=104						
OHAK				S	**Sn**	**18 10 14.4**	**-2.6**
	baz=104						
Q20K	**Shuyak Island**	**2.59**	**321**	P	**Pn**	**18 09 54.0**	**+0.5**
	baz=139						
Q20K				S	**Sn**	**18 10 24.5**	**-0.6**
	baz=139						
SYI	**Shuyak Island**	**2.59**	**321**		**Pn**	**18 09 53.9**	**+0.3**
SYI				IAML		18 10 26.7	
	comp=E,152nm,0.4s						
SYI	**Shuyak Island**	**2.59**	**321**		**Sn**	**18 10 24.5**	**-0.6**
SII	**Sitkinak Islan**	**2.70**	**270**	P	**Pn**	**18 09 55.7**	**+0.5**
SII	**Sitkinak Islan**	**2.70**	**270**	Pn	**Pn**	**18 09 54.6**	**-0.6**
SII				IAML		18 10 25.7	
	comp=E,138nm,0.4s						
SII				IAML		18 10 45.7	
	comp=N,144nm,0.6s						
SII	**Sitkinak Islan**	**2.70**	**270**		**Sn**	**18 10 24.7**	**-3.2**
SII	**Sitkinak Islan**	**2.70**	**270**	P	**Pn**	**18 09 54.5**	**-0.6**
	baz=87						
SII				S	**Sn**	**18 10 25.2**	**-2.7**
	baz=87						
CNPM	**China Poot**	**3.08**	**341**	Pn	**Pn**	**18 10 00.3**	**0.0**
CNPM				Sn	**Sn**	**18 10 36.7**	**-0.5**
BRSE	**Bradley Lake S**	**3.21**	**347**		**Pn**	**18 10 01.9**	**-0.3**
BRSE	**Bradley Lake S**	**3.21**	**347**	P	**Pn**	**18 10 01.9**	**-0.3**
	baz=166						
Q23K	**Middleton Isla**	**3.21**	**28**	Pn	**Pn**	**18 10 00.8**	**-1.3**
Q23K				IAML		18 10 37.9	
	comp=N,140nm,1.0s						
Q23K				IAML		18 10 38.9	
	comp=E,153nm,1.0s						
Q23K	**Middleton Isla**	**3.21**	**28**	P	**Pn**	**18 10 01.4**	**-0.8**
	baz=210						
MID	**Middleton Isla**	**3.22**	**28**	P	**Pn**	**18 10 01.3**	**-0.9**
MID	**Middleton Isla**	**3.22**	**28**	Pn	**Pn**	**18 10 01.0**	**-1.2**
MID				IAML		18 10 37.9	
	comp=N,156nm

EYAK	Cordova Ski Ar	4.34	24			Pn	18 10 17.4	-0.3	
EYAK	Cordova Ski Ar	4.34	24	P		Pn	18 10 17.4	-0.3	
	baz=206								
FID	Port Fidalgo	4.38	18			Pn	18 10 17.6	-0.7	
FID	Port Fidalgo	4.38	18	IAML			18 11 09.2		
	comp=E,78nm,0.4s								
FID				IAML			18 11 13.2		
	comp=N,62nm,0.7s								
O19K	Port Alsworth	4.44	326			Pn	18 10 18.7	-0.3	
RC01	Rabbit Creek A	4.48	357	Pn		Pn	18 10 19.2	-0.3	
RC01				IAML			18 11 13.5		
	comp=E,53nm,0.5s								
RC01				IAML			18 11 17.7		
	comp=N,44nm,0.5s								
RC01	Rabbit Creek A	4.48	357	P		Pn	18 10 19.5	0.0	
	baz=177								
RAGM	Ragged Mountai	4.48	31			Pn	18 10 18.5	-1.2	
O18K	Koktuh Hills	4.49	318	Pn		Pn	18 10 19.4	-0.4	
O18K				IAML			18 11 35.2		
	comp=N,41nm,1.0s								
O18K	Koktuh Hills	4.49	318	P		Pn	18 10 19.8	+0.1	
	baz=134								
SUCK	Suckling Hills	4.51	38			Pn	18 10 19.6	-0.5	
SUCK				IAML			18 11 11.7		
	comp=E,146nm,1.0s								
FIS	Fire Island	4.55	354	Pn		Pn	18 10 19.9	-0.6	
FIS				IAML			18 11 24.4		
	comp=E,108nm,0.6s								
FIS				IAML			18 11 27.9		
	comp=N,107nm,0.6s								
HMT	Hamilton	4.56	33			Pn	18 10 20.5	-0.2	
NICHA	Nichawak Mount	4.57	36			Pn	18 10 20.4	-0.5	
GOAT	Goat Mountain	4.63	29			Pn	18 10 21.4	-0.2	
BGLC	Bering Glacier	4.72	40			Pn	18 10 22.3	-0.5	
BGLC	Bering Glacier	4.72	40	P		Pn	18 10 22.3	-0.5	
	baz=224								
BERG	Berg Lake	4.78	36			Pn	18 10 23.1	-0.6	
KNK	Knik Glacier	4.81	5			Pn	18 10 24.0	-0.3	
KNK				IAML			18 11 25.4		
	comp=N,26nm,0.8s								
KNK				IAML			18 11 26.2		
	comp=E,37nm,0.8s								
KNK	Knik Glacier	4.81	5	P		Pn	18 10 24.4	+0.2	
	baz=185								
GRIN	Grindle Hills	4.82	38			Pn	18 10 23.9	-0.4	
SPCN	Chakachatna No	4.84	343			Pn	18 10 24.8	+0.2	
SPCP	Crater Peak Br	4.88	344			Pn	18 10 25.4	+0.2	
SPCG	Spurr Capps Gl	4.88	344			Pn	18 10 25.3	+0.1	
SUA	Susitna One	4.90	352			Pn	18 10 25.1	-0.4	
SUA	Susitna One	4.90	352	P		Pn	18 10 25.5	0.0	
	baz=171								
SPBG	Spurr Blockage	4.91	342			Pn	18 10 25.5	0.0	
SNH	Sunshine Point	4.92	41			Pn	18 10 25.4	-0.3	
SNH				IAML			18 11 19.7		
	comp=E,95nm,0.9s								
SNH				IAML			18 11 20.4		
	comp=N,64nm,1.1s								
BMRM	Bremner River	4.99	27			Pn	18 10 26.3	-0.3	
BMRM	Bremner River	4.99	27	P		Pn	18 10 26.3	-0.3	
	baz=211								
N19K	Bonanza Creek	4.99	329	P		Pn	18 10 26.6	0.0	
	baz=145								
SPNN	North Nagishla	5.06	341			Pn	18 10 27.8	0.0	
CHGN	Chignik	5.06	270	Pn		Pn	18 10 28.1	+0.5	
WAX	Waxell Ridge	5.11	39			Pn	18 10 27.5	-0.7	
GHO	Glory Hole Cre	5.16	2			Pn	18 10 29.3	+0.3	
GHO	Glory Hole Cre	5.16	2	IAML			18 11 33.9		
	comp=E,45nm,0.5s								
GHO				IAML			18 11 37.7		
	comp=N,51nm,0.6s								
KLU	Klutina	5.18	18			Pn	18 10 29.1	-0.1	
KLU	Klutina	5.18	18	IAML			18 11 30.1		
	comp=E,37nm,0.5s								
KLU				IAML			18 11 31.9		
	comp=N,50nm,0.5s								
KLU	Klutina	5.18	18	P		Pn	18 10 29.1	-0.1	
	baz=201								
O17K	Koliganek Bris	5.18	311			Pn	18 10 29.3	+0.1	
O17K	Koliganek Bris	5.18	311	P		Pn	18 10 29.3	+0.1	
	baz=124								
BARK	Barkley Ridge	5.20	41			Pn	18 10 28.9	-0.6	
SML	Sawmill	5.21	5			Pn	18 10 29.9	+0.2	
SML	Sawmill	5.21	5	IAML			18 11 31.2		
	comp=N,31nm,0.5s								
SML				IAML			18 11 33.7		
	comp=E,32nm,0.8s								
SML	Sawmill	5.21	5	P		Pn	18 10 29.9	+0.2	
	baz=186								
MESA	MESA	5.25	44			Pn	18 10 29.4	-1.0	
MESA	MESA	5.25	44	IAML			18 11 30.0		
	comp=N,47nm,0.4s								
MESA				IAML			18 11 42.1		
	comp=E,34nm,0.9s								
MESA	MESA	5.25	44	P		Pn	18 10 29.4	-1.0	
	baz=230								
SCM	Sheep Creek Mo	5.32	10			Pn	18 10 31.3	+0.2	
SCM	Sheep Creek Mo	5.32	10	IAML			18 11 40.1		
	comp=N,54nm,0.8s								
SCM				IAML			18 11 42.3		
	comp=E,40nm,0.5s								
SCM	Sheep Creek Mo	5.32	10	P		Pn	18 10 31.3	+0.2	
	baz=192								
N18K	Kilae Creek	5.32	322	Pn		Pn	18 10 31.2	0.0	
N18K	Kilae Creek	5.32	322	P		Pn	18 10 31.1	0.0	
	baz=137								
ISLE	Juniper Island	5.39	40			Pn	18 10 31.4	-0.9	
SKT	Skwentna	5.48	349			Pn	18 10 33.5	+0.1	
SKT	Skwentna	5.48	349	P		Pn	18 10 33.5	+0.1	
	baz=167								
O16K	Kokwok River B	5.52	306			Pn	18 10 34.0	+0.1	
O16K	Kokwok River B	5.52	306	P		Pn	18 10 34.0	+0.1	
	baz=119								
N25K	Chitina, Valde	5.54	24			Pn	18 10 34.3	0.0	
N25K	Chitina, Valde	5.54	24	P		Pn	18 10 34.3	0.0	
	baz=208								
KIAG	Kiagna River	5.62	37			Pn	18 10 34.9	-0.5	
M20K	Styx River	5.62	341			Pn	18 10 35.4	0.0	
M20K	Styx River	5.62	341	P		Pn	18 10 35.4	0.0	
	baz=158								
N17K	Nushagak Hills	5.68	317	Pn		Pn	18 10 35.7	-0.3	
N17K	Nushagak Hills	5.68	317	P		Pn	18 10 36.0	-0.1	
	baz=130								
SAMH	Samovar Hills	5.69	48			Pn	18 10 35.4	-0.9	
M24K	Tolsona, Glenn	5.72	15			Pn	18 10 36.7	+0.1	
M24K	Tolsona, Glenn	5.72	15	P		Pn	18 10 36.7	+0.1	
	baz=197								
MCARA	McCarthy VSAT	5.76	32			Pn	18 10 37.0	-0.2	
MCARA	McCarthy VSAT	5.76	32	P		Pn	18 10 37.0	-0.2	
	baz=217								
PTPK	Patty Peak	5.78	35			Pn	18 10 37.4	-0.2	
M19K	Big River Lodg	5.89	336			Pn	18 10 39.0	0.0	
M19K	Big River Lodg	5.89	336	P		Pn	18 10 39.0	0.0	
	baz=152								
M18K	Stony River	5.92	328			Pn	18 10 39.4	+0.1	
M18K	Stony River	5.92	328	P		Pn	18 10 39.4	+0.1	
	baz=143								
WASW	Wrangell South	5.92	24			Pn	18 10 39.2	-0.5	
WACK	Wrangell Chich	5.94	23			Pn	18 10 39.6	-0.3	
BARN	Barnard Glacie	5.95	39			Pn	18 10 39.5	-0.4	
CTG	Chitna Glacier	6.00	40	P		Pn	18 10 40.0	-0.6	
	baz=227								
CTGM	Chitina Glacie	6.00	40			Pn	18 10 40.0	-0.6	
WAT6	Susitna Watana	6.02	7	P		Pn	18 10 41.2	+0.3	
	baz=188								
LOGN	Logan Glacier	6.03	42			Pn	18 10 40.3	-0.7	
PNL	Peninsula	6.06	56	P		Pn	18 10 40.9	-0.4	
PNL	Peninsula	6.06	56			Pn	18 10 40.4	-0.9	
PNL	Peninsula	6.06	56	P		Pn	18 10 40.4	-0.9	
	baz=244								
BCPM	Bancas Point	6.09	53			Pn	18 10 41.1	-0.5	
HARP	HAARP	6.16	18			Pn	18 10 42.8	+0.2	
HARP	HAARP	6.16	18	P		Pn	18 10 42.8	+0.2	
	baz=202								
WAT7	Susitna Watana	6.22	2			Pn	18 10 44.2	+0.5	
WAT1	Susitna Watana	6.23	3			Pn	18 10 43.8	+0.2	
WAT1	Susitna Watana	6.23	3	P		Pn	18 10 43.8	+0.2	
	baz=184								
L19K	White Mountain	6.24	335			Pn	18 10 43.6	-0.2	
L19K	White Mountain	6.24	335	P		Pn	18 10 43.6	-0.2	
	baz=151								
N16K	Nishlik Lake	6.27	312			Pn	18 10 44.2	0.0	
N16K	Nishlik Lake	6.27	312	P		Pn	18 10 44.2	0.0	
	baz=124								
O28M	Mount Upton	6.30	45			Pn	18 10 44.3	-0.6	
O28M	Mount Upton	6.30	45	P		Pn	18 10 44.3	-0.6	
	baz=232								
M17K	Holitna River	6.36	322	P		Pn	18 10 45.7	+0.3	
	baz=135								
SDPT	Sand Point	6.40	263	P		Pn	18 10 47.1	+1.2	
PPLA	Purkeypile	6.45	348			Pn	18 10 46.8	+0.1	
PPLA	Purkeypile	6.45	348	P		Pn	18 10 46.8	+0.1	
	baz=166								
DHY	Denali Highway	6.54	8			Pn	18 10 47.8	-0.1	
DHY	Denali Highway	6.54	8	P		Pn	18 10 47.8	-0.1	
	baz=189								
M16K	Timber Creek	6.67	315	Pn		Pn	18 10 49.9	+0.3	
M16K	Timber Creek	6.67	315	P		Pn	18 10 49.6	0.0	
	baz=127								
N15K	Kwethluk River	6.69	306	Pn		Pn	18 10 51.8	+1.9	
L18K	Granite Mounta	6.75	329	Pn		Pn	18 10 51.3	+0.6	
L18K	Granite Mounta	6.75	329	P		Pn	18 10 50.7	0.0	
	baz=143								
RND	Reindeer	6.80	2			Pn	18 10 51.6	+0.1	
P29M	Windy Craggy	6.82	59			Pn	18 10 50.7	-1.1	
P29M	Windy Craggy	6.82	59	P		Pn	18 10 50.7	-1.1	
	baz=249								
M27K	Edge Creek, AK	6.87	30			Pn	18 10 52.0	-0.5	
M27K	Edge Creek, AK	6.87	30	P		Pn	18 10 52.0	-0.5	
	baz=216								
CAST	Castle Rocks	6.95	350			Pn	18 10 53.6	+0.1	
CAST	Castle Rocks	6.95	350	P		Pn	18 10 53.6	+0.1	
	baz=167								
KTH	Kantishna Hill	6.99	354			Sn	18 12 11.8	-1.7	
S31K	Pelican	7.21	74			Pn	18 10 54.6	-2.4	
S31K	Pelican	7.21	74	P		Pn	18 10 54.6	-2.4	
	baz=265								
HYT	Haines Junctio	7.44	51	Pn		Pn	18 11 00.2	-0.1	
BPAW	Bear Paw Mtn.	7.54	354	P		Pn	18 11 01.5	-0.1	
	baz=173								
K17K	Iditarod	7.61	327			Pn	18 11 02.4	-0.1	
K17K	Iditarod	7.61	327	P		Pn	18 11 02.4	-0.1	
	baz=139								
SIT	Sitka	7.68	81	P		Pn	18 10 59.6	-3.9	
SCRK	Sand Creek	7.82	17	Pn		Pn	18 11 05.7	+0.2	
N30M	Aishikik Lake	7.94	47			Pn	18 11 06.1	-1.0	
N30M	Aishikik Lake	7.94	47	P		Pn	18 11 06.1	-1.0	
	baz=238								
SKAG	Skagway	7.94	63	Pn		Pn	18 11 06.7	-0.3	
J20K	Nowinta River	7.94	344			Pn	18 11 07.0	0.0	
J20K	Nowinta River	7.94	344	P		Pn	18 11 07.0	0.0	
	baz=160								
NEA2	Nenana	7.99	1			Pn	18 11 07.7	0.0	
NEA2	Nenana	7.99	1	P		Pn	18 11 07.7	0.0	
	baz=181								
BESE	Bessie Mountai	8.00	70			Pn	18 11 06.3	-1.7	
M29M	Somme Creek	8.01	39			Pn	18 11 07.9	-0.3	
M29M	Somme Creek	8.01	39	P		Pn	18 11 07.9	-0.3	
	baz=228								
J19K	Poorman	8.02	340	Pn		Pn	18 11 08.1	0.0	
J19K	Poorman	8.02	340	P		Pn	18 11 07.7	-0.5	
	baz=154								
L15K	Ungalak Mounta	8.04	314			Pn	18 11 08.3	-0.1	
L15K	Ungalak Mounta	8.04	314	P		Pn	18 11 08.3	-0.1	
	baz=124								
S32K	Killisnoo	8.07	78			Pn	18 11 05.9	-3.0	
S32K	Killisnoo	8.07	78	P		Pn	18 11 05.9	-3.0	
	baz=270								
IL31		8.25	7			Pn	18 11 11.3	0.0	
IAMR	Eielson Array	8.25	7	Pn		Pn	18 11 12.7	+1.3	
ILAR	Eielson Array	8.25	7	Pn		Pn	18 11 11.8	+0.5	
	comp=E,0.4nm,0.3s,baz=188,slow=13,SNR=22								
ILAR				Sn		Sn	18 12 41.1	-3.4	
	comp=E,0.5nm,0.3s,baz=182,slow=21,SNR=7.6								
ILAR				LR		LR	18 14 24.8		
	comp=E,57nm,20.1s,baz=142,slow=36								
	comp=E,1.3nm,0.4s								
J17K	VABM Dome	8.36	328	Pn		Pn	18 11 12.5	-0.3	
L14K	Kuka Creek	8.36	310	Pn		Pn	18 11 14.4	+1.6	
MDM	Murphy Dome	8.37	3			Pn	18 11 12.9	0.0	
J26L	Joseph Creek	8.38	17			Pn	18 11 13.0	-0.2	
J26L	Joseph Creek	8.38	17	P		Pn	18 11 13.0	-0.2	
	baz=202								
K15K	Wolf Creek Mou	8.42	317	Pn		Pn	18 11 13.6	+0.1	
K15K	Wolf Creek Mou	8.42	317	P		Pn	18 11 13.5	-0.1	
	baz=127								
MLY	Manley	8.46	356	Pn		Pn	18 11 12.2	-1.9	
WHY	Whitehorse	8.53	56	Pn		Pn	18 11 15.1	-0.1	
I20K	Naaghedeneel	8.57	345			Pn	18 11 15.7	0.0	
I20K	Naaghedeneel	8.57	345	P		Pn	18 11 15.7	0.0	
	baz=160								
L29M	L29M	8.58	36			Pn	18 11 15.1	-0.8	
L29M	L29M	8.58	36	P		Pn	18 11 15.1	-0.8	
	baz=226								
P32M	Atlin	8.77	64			Pn	18 11 16.8	-1.6	
P32M	Atlin	8.77	64	P		Pn	18 11 16.8	-1.6	
	baz=257								
U33K	Whale Pass	9.00	87			Pn	18 11 17.1	-4.4	
U33K	Whale Pass	9.00	87	P		Pn	18 11 17.1	-4.4	
	baz=280								
N32M	Quiet Lake	9.53	55	Pn		Pn	18 11 28.4	-0.4	
IMAR	Indian Mountai	9.62	349	Pn		Pn	18 11 29.9	-0.2	
R33M	Jennings River	10.11	67	Pn		Pn	18 11 36.4	-0.5	
G23K	Bananza Creek	10.12	358	Pn		Pn	18 11 37.0	+0.1	
J30M	Hart River	10.18	33	Pn		Pn	18 11 38.6	+0.7	
T35M	Bob Quinn	10.45	80	Pn		Pn	18 11 40.4	-1.1	
DLBC	Dease Lake	10.52	72	Pn		Pn	18 11 42.5	+0.1	
DLBC	Dease Lake	10.52	72	Pn		Pn	18 11 41.7	-0.7	
	comp=E,0.6nm,0.3s,baz=264,slow=8.6,SNR=7.8								
DLBC				LR		LR	18 15 14.8		
	comp=E,71nm,18.1s,baz=246,slow=35								
	comp=E,1.4nm,0.3s								
F21K	Alatna River	10.80	351	Pn		Pn	18 11 45.8	-0.4	
F24K	Squaw Lake	10.95	3	Pn		Pn	18 11 48.8	+0.5	
BMAR	Burnt Mountain	11.05	10	Pn		Pn	18 11 49.3	-0.4	
F17K	Baldwin Pennin	11.34	335	Pn		Pn	18 11 54.1	+0.5	
E24K	Your Creek	11.49	2	Pn		Pn	18 11 56.0	+0.3	
D22K	Ayikyak River	12.39	354	Pn		Pn	18 12 08.5	+0.6	
B21K	Ikpikpuk River	13.25	352	Pn		Pn	18 12 19.2	-0.3	
C23K	Itkillik River	13.27	358	Pn		Pn	18 12 20.7	+0.9	
INK	Inuvik	13.73	25	Pn		Pn	18 12 29.7	+3.6	
	baz=221,slow=9.3,SNR=1.9								
	comp=E,0.6nm,0.6s								
B20K	Meade River	13.86	349	Pn		Pn	18 12 27.7	-0.2	
B22K	Teshekpuk Lake	13.88	354	Pn		Pn	18 12 26.8	-1.4	
C36M	Paulatuk	16.95	31			Pn	18 13 09.2	+0.7	
C36M				IAmb		IAmb	18 13 49.5		
	comp=Z,2.4nm,1.1s								
YKA	Yellowknife Ar	18.36	57	P		Pn	18 13 26.3	+0.3	
	baz=269,slow=12,SNR=8.0								
	comp=Z,0.8nm,0.8s								
A36M	Sachs Harbour	18.36	24	P		P	18 13 25.7	-0.3	
A36M				IAmb		IAmb	18 13 47.0		
	comp=Z,4.8nm,0.8s								
NVAR	Mina Array Bea	27.39	118	P		P	18 14 49.9	-7.4	
	comp=Z,0.1nm,0.4s,baz=291,slow=7.6,SNR=2.1								
	comp=Z,0.1nm,0.4s								
PDAR	Pinedale Array	28.75	102	P		P	18 15 04.5	-4.9	
	comp=Z,0.1nm,0.4s,baz=232,slow=20,SNR=1.5								
	comp=Z,0.1nm,0.4s								
PETK	Petropavlovsk-	30.07	286	P		P	18 15 20.8	+0.1	
	comp=Z,1.7nm,1.0s,baz=72,slow=12,SNR=1.9								
	comp=Z,1.7nm,1.0s								
SPITS	Spitsbergen Ar	45.16	4	P		P	18 17 30.6	+2.7	
	comp=Z,9.6nm,0.9s,baz=357,slow=16,SNR=2.0								
	comp=Z,9.6nm,0.9s								
KSRS	Korea Array	55.94	288	LR		LR	18 43 03.7		
	comp=Z,7.1nm,19.7s,baz=100,slow=36								
FINES	FINESS Array B	62.21	3	P		P	18 19 33.7	+0.9	
	comp=Z,1.4nm,0.8s,baz=354,slow=7.4,SNR=4.2								
	comp=Z,1.4nm,0.8s								
KURBB	Kurchatov Arra	66.03	329	P		P	18 19 58.5	+0.4	
	comp=Z,0.1nm,0.3s,baz=32,slow=5.5,SNR=1.5								
	comp=Z,0.1nm,0.3s								
AKASG	Malin Array Be	73.03	1	P		P	18 20 40.4	-0.8	
	comp=Z,0.4nm,0.6s,baz=356,slow=6.9,SNR=1.4								
	comp=Z,0.4nm,0.6s								

IDC 07 18:18:42.1±3.5, 22°22S×176°07W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=192.3km s-min=45.9km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	45.90	258	P	P	18 27 07.0	+0.3
	1.6nm,0.7s,baz=97,slow=7.7,SNR=28						
ASAR				PcP	PcP	18 28 43.5	-0.5
	0.4nm,0.6s,baz=106,slow=3.4,SNR=7.4						
	1.6nm,0.7s						
WRA	Warramunga Arr	46.16	263	P	P	18 27 08.0	-0.9
	1.2nm,0.8s,baz=102,slow=6.4,SNR=7.0						
	1.2nm,0.8s						
HFS	Hagfors	141.50	352	PKhKP	PKPpre	18 38 08.4	
	0.3nm,0.4s,baz=54,slow=2.5,SNR=1.3						
AKASG	Malin Array Be	145.38	331	PKPbc	PKPbc	18 38 20.4	-1.3
	0.2nm,0.4s,baz=42,slow=4.2,SNR=6.7						
BRTR	Keskin Array B	149.32	311	PKPbc	PKPbc	18 38 32.8	-0.5
	0.8nm,0.5s,baz=116,slow=6.6,SNR=5.4						
MMAI	Mount Meron Ar	150.22	298	PKPbc	PKiKP	18 38 36.0	-0.4
	1.1nm,0.5s,baz=85,slow=6.1,SNR=4.6						

NEIC ***07*** *18:24:13.6±0.7, 35°97N±0°01×97°19W±0°01, h10km±8km, Error ellipse: s-maj=2.2km s-min=1.1km az=209.0*

TUL 07 18:24:13.7±0.7, 35°98N±0°02×97°20W±0°02, h5km±6km, ML2.6, mb_Lg2.4/31(NEIC), **ML2.6**/53(NEIC), **Error ellipse: s-maj=2.2km s-min=1.9km az=170.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	Liberty Lake	0.28	229		Pg	18 24 19.4	+0.2
OK029				IAML		18 24 23.6	
	1µm,0.4s						
OK029				IAML		18 24 27.5	
	908nm,0.4s						
OK031	S. Brethren Rd	0.29	95		Pg	18 24 19.9	+0.5
OK031				IAML		18 24 24.4	
	994nm,0.2s						
OK052	Battle Ridge R	0.32	87		Pg	18 24 20.3	+0.4
OK052				IAML		18 24 25.4	
	2µm,0.2s						
OK052				IAML		18 24 27.3	
	576nm,0.2s						
ADOK	Arcadia Dam	0.36	203		Pg	18 24 20.9	+0.3
QUOK	Quay	0.44	64	Pg	Pg	18 24 22.5	+0.3
QUOK				IAML		18 24 29.2	
	comp=E,712nm,0.2s						
OK048	Pawnee Station	0.48	25	Pg	Pg	18 24 23.3	+0.3
OK048				IAML		18 24 30.1	
	comp=E,291nm,0.4s						
DEOK	Depew	0.58	103		Pg	18 24 25.1	+0.2
DEOK				IAML		18 24 34.1	
	comp=N,236nm,0.2s						
OK051	E0350 and S346	0.60	29		Pg	18 24 25.5	+0.3
OK051				IAML		18 24 35.5	
	comp=N,454nm,0.2s						
OK051				IAML		18 24 36.2	
	comp=N,497nm,0.1s						
OKCSW	OKLAHOMA CITY	0.61	199		Pg	18 24 25.3	0.0
OKCSW				IAML		18 24 34.3	
	comp=E,688nm,0.4s						
OKCSW				IAML		18 24 34.6	
	comp=N,422nm,0.1s						
FNO	Franklin	0.74	193		Pg	18 24 27.7	-0.2
FNO				IAML		18 24 41.1	
	comp=E,267nm,0.1s						
BLOK	Blackwell	0.78	359		Pg	18 24 28.7	0.0
BLOK				IAML		18 24 49.8	
	comp=E,423nm,0.2s						
CROK	Carrier	0.82	310	Pg	Pg	18 24 29.4	-0.2
W35A	Tecumseh	0.87	162	Pg	Pg	18 24 29.7	-0.6
W35A				IAML		18 24 44.6	
	comp=E,152nm,0.5s						
GC02	Grant County #	1.02	329		Pg	18 24 32.9	-0.5
KAN13	South Haven SW	1.06	348		Pg	18 24 33.6	-0.4
T35A	Sooner Cattle	1.08	30	IAML		18 24 49.7	
	comp=E,145nm,0.2s						
T35A				IAML		18 24 49.7	
	comp=N,235nm,0.2s						
TUL3	Leonard	1.14	93		Pg	18 24 34.6	-1.0
TUL3				IAML		18 24 51.8	
	comp=E,101nm,0.3s						
KAN17	Caldwell West	1.16	337	Pg	Pg	18 24 35.5	-0.4
KAN09	Caldwell North	1.20	344		Pg	18 24 36.2	-0.6
KAN01	Argonia South	1.26	339		Pg	18 24 37.1	-0.7
CSTR	Hydro, Custer	1.26	255		Pg	18 24 37.2	-0.6
OK038	West end E0370	1.34	292		Pn	18 24 38.5	-0.7
KAN10	Anthony SW Sta	1.35	328		Pn	18 24 39.0	-0.3
KAN08	Anthony NE Sta	1.39	334		Pn	18 24 39.7	-0.2
KAN12	Harper NE Stat	1.46	334		Pn	18 24 41.0	+0.2
U32A	Winter Ranch,	1.51	286		Pn	18 24 41.4	-0.1
U32A				IAmb_Lg		18 25 04.1	
	comp=Z,27nm,1.0s						
RLO	Rose Lookout	1.77	83		Pn	18 24 45.1	+0.1
WMOK	Wichita Mounta	1.79	227	Pn	Pn	18 24 45.8	+0.5
LOOK	Love County	1.98	180	Pn	Pn	18 24 48.8	+0.9
X37A	Clayton	2.04	132	Pn	Pn	18 24 49.2	+0.5
X37A				IAmb_Lg		18 25 21.8	
	comp=Z,24nm,0.7s						
U38A	Gravette	2.32	78		Pn	18 24 53.4	+0.8
WTFS	Witchita Falls	2.44	206	Pn	Pn	18 24 54.6	+0.3
SMWD	Samnorwood	2.63	252	Pn	Pn	18 24 56.9	0.0
Z35A	Perchaven, San	2.64	181	Pn	Pn	18 24 55.5	-1.5
HHAR	Hobbs	2.65	83		Pn	18 24 56.8	-0.3
KSU1	Kansas State U	3.15	8		Pn	18 25 04.1	+0.1
MIAR	Mount Ida	3.29	115	Pn	Pn	18 25 06.3	+0.4
MIAR				IAmb_Lg		18 26 05.2	
	comp=Z,16nm,1.2s						

GO02				IAML			18 25 57.3		
	comp=N,313nm,0.2s								
PB05	**IPOC Station P**	**3.23**	**282**	*eP*		**Pn**	**18 25 17.9**	**-0.3**
PB05				*eS*		**S**	**18 25 56.8**	**-1.8**
PB04	**IPOC Station P**	**3.34**	**291**	*eP*		**Pn**	**18 25 19.2**	**-0.4**
PB07	**IPOC Station P**	**3.41**	**302**	⇑*iP*		**Pn**	**18 25 20.4**	**0.0**
PB14	**IPOC Station P**	**3.46**	**252**	⇑*iP*		**Pn**	**18 25 21.1**	**-0.2**
PB01	**IPOC Station P**	**3.56**	**315**	*eP*		**Pn**	**18 25 22.3**	**+0.1**
PB02	**IPOC Station P**	**3.66**	**307**	⇑*iP*		**Pn**	**18 25 23.1**	**-0.3**
AC02	**Maricunga**	**3.87**	**213**	*eP*		**Pn**	**18 25 26.9**	**+0.6**
PB08	**IPOC Station P**	**4.07**	**327**	*eP*		**Pn**	**18 25 29.7**	**+0.9**
AC03	**Pan de Azucar**	**4.30**	**233**	*eP*		**Pn**	**18 25 30.1**	**-1.1**
TA01	**Diego Aracena**	**4.35**	**313**	*eP*		**Pn**	**18 25 32.0**	**+0.1**
CPUP	**Villa Florida**	**9.01**	**110**	P		**Pn**	**18 26 30.9**	**-1.0**
	comp=N,1.4nm,0.6s,baz=265,slow=8.1,SNR=4.6								
SIV	**San Ignacio**	**9.27**	**36**	P		**Pn**	**18 26 33.8**	**-1.8**
	comp=N,1.0nm,0.4s,baz=204,slow=11,SNR=5.4								
PLCA	**Paso Flores**	**17.39**	**190**	P		**Pn**	**18 28 15.8**	**-0.6**
	comp=N,0.8nm,0.9s,baz=350,slow=12,SNR=2.8								
BDFB	**Brasilia**	**19.35**	**69**	P		**P**	**18 28 36.2**	**0.0**
	comp=N,5.6nm,0.7s,baz=244,slow=9.2,SNR=6.9								
QSPA	**South Pole Qui**	**66.62**	**180**	P		**P**	**18 34 56.5**	**+2.3**
	comp=N,0.7nm,0.6s,baz=129,slow=6.5,SNR=9.2								
	comp=N,0.7nm,0.6s								
TORD	**Torodi Ar. Bea**	**76.24**	**69**	P		**P**	**18 35 52.2**	**-0.1**
	comp=N,0.9nm,0.6s,baz=259,slow=5.4,SNR=1.9								
	comp=N,0.9nm,0.6s								
MKAR	**Makanchi Array**	**146.08**	**39**	PKPbc		**PKiKP**	**18 43 44.8**	**-0.1**	
	comp=N,0.2nm,0.5s,baz=332,slow=3.3,SNR=2.0								

KRSC 07 18:26:33.3±1.6, 49.56N×156.69E, h7km±18km, MI4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.18**	**342**	*eP*		Pg	18 26 54.4	-1.6
SKR				*eS*		Sg	18 27 09.7	-1.5
PAU	**Pauzhetka**	**1.91**	**2**	*eP*		Pb	18 27 08.3	-0.1
PAU				*eS*		Sb	18 27 32.7	+0.2
KDTR	**Khodutka, Kamc**	**2.42**	**21**	*eP*		Pn	18 27 14.5	+1.2
KDTR				*eS*		Sb	18 27 45.5	-1.6
ASAK	**Asacha**	**2.93**	**15**	*eP*		Pn	18 27 22.8	+2.4
MTVR	**Mutnovka**	**3.07**	**17**	*eP*		Pn	18 27 25.2	+2.8
MTVR				*eS*		Sb	18 28 03.0	-3.2
RUS	**Russkaya**	**3.10**	**21**	*eP*		Pn	18 27 24.7	+2.1
RUS				*eS*		Sn	18 28 02.5	+2.6
PET	**Petropavlovsk**	**3.68**	**19**	*eS*		Sn	18 28 18.6	+4.4
DALK	**Dalny**	**3.71**	**20**	*eP*		Pn	18 27 34.0	+3.0
DALK				*eS*		Sn	18 28 19.3	+4.4
UGLR	**Uglovaya**	**3.89**	**19**	*eP*		Pn	18 27 37.4	+3.8
UGLR				*eS*		Sb	18 28 25.9	-3.7
AVH	**Avacha**	**3.92**	**18**	*eP*		Pn	18 27 38.4	+4.4
AVH				*eS*		Sb	18 28 26.5	-4.0
KOK	**Koryaka**	**3.93**	**17**	*eP*		Pb	18 27 38.7	-4.3
SMAR	**Somma**	**3.93**	**19**	*eP*		Pn	18 27 38.4	+4.1
KRER	**Koryakskii**	**3.96**	**18**	*eP*		Pn	18 27 38.8	+4.1
KRX	**Arik**	**3.99**	**17**	*eP*		Pn	18 27 38.8	+3.7
SPN	**Mys Shipunski**	**4.11**	**29**	*eP*		Pn	18 27 40.2	+3.6
GNL	**Ganaly**	**4.21**	**10**	*eP*		Pn	18 27 41.8	+3.7

*IDC **07** 18:27:36.7±0.5, 9.50N×40.53W, h0km, mb4.1/27, mbtmp4.1/29, ML4.1/2, MS3.7/36, Error ellipse: s-maj=15.6km s-min=12.0km az=130.0*
*NEIC **07** 18:27:38.1±2.2, 9.45N±0.10×40.53W±0.08, h10km±1km, mb4.6/99, Error ellipse: s-maj=16.4km s-min=13.4km az=192.0*
*GCMT **07** 18:27:42.1±0.4, 9.54N±0.05×40.40W±0.03, h28km±1km, MW4.8/69, Moment Tensor Solution. s20,c20; s69,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=2.54±.19; Mθθ=0.59±.11; Mϕϕ=1.95±.11; Mrθ=0.03±.24; Mrϕ=-0.23±.07; Mθϕ=-0.53±.16; Best double couple: M=2.32400×10^16 NP1:ϕs=352.00000°, δ52.00000°, λ=-89.00000°. NP2: ϕs=170.00000°, δ38.00000°, λ=-91.00000°. Principal axes: T 2.0460, Plg7.0000°, Azm81.0000°; N 0.5510, Plg1.0000°, Azm171.0000°; P -2.6010, Plg83.0000°, Azm269.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 18:27:37.7±0.3, 9.51N±0.06×40.57W±0.06, h10km, n188, σ1.9 24/150, mb4.6/74, MS3.7/35, 3C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MDP	**Montagnes des**	**12.75**	**251**	Pn		**Pn**	**18 30 39.3**	**+0.1**
	1.8nm,0.3s,baz=64,slow=15,SNR=8.0							
MDP				LR		LR	18 34 50.4	
	comp=Z,340nm,19.8s,baz=106,slow=34							
	21nm,0.9s							
TMAB	**Tom-Au,PA,Br**	**13.98**	**213**	*eP*		**Pn**	**18 30 59.3**	**+3.2**
MCPB	**Macapa, AP**	**15.06**	**230**	*eP*		**Pn**	**18 31 13.6**	**+2.8**
RCBR	**Riachuelo**	**15.93**	**163**	Pn		**Pn**	**18 31 19.2**	**-3.0**
RCBR	**Riachuelo**	**15.93**	**163**	Pn		**Pn**	**18 31 24.0**	**+1.8**
	0.4nm,0.3s,baz=349,slow=16,SNR=2.5							
	4.6nm,0.6s							
SMTB	**Santa Maria do**	**19.54**	**201**	*eP*		**Pn**	**18 32 07.2**	**+0.1**
H05S1	**Guadeloupe/Mar**	**20.41**	**286**	T		T	18 53 09.6	
	SNR=5.6							
ITTB	**Itaituba**	**20.45**	**228**	*eP*		**P**	**18 32 15.7**	**+0.1**
BOAV	**Boa Vista**	**21.05**	**252**	P		**P**	**18 32 22.0**	**-0.2**
BOAV				IAmb		IAmb	18 32 30.4	
	comp=Z,28nm,1.3s							
H05N1	**Guadeloupe/Mar**	**21.07**	**291**	T		T	18 53 56.5	
NPGB	**Novo Progresso**	**22.08**	**222**	*eP*		**P**	**18 32 33.3**	**+0.1**
SDBA	**SAO DESIDERIO**	**22.20**	**191**	*eP*		**P**	**18 32 34.4**	**-0.1**
MBO	**M'Bour**	**23.60**	**76**	P		**P**	**18 32 46.9**	**-2.1**
MACA	**Manacapuru-AM**	**23.67**	**239**	P		**P**	**18 32 48.0**	**-1.7**
MACA				IAmb		IAmb	18 32 54.3	
	comp=Z,18nm,0.8s							
MACA	**Manacapuru-AM**	**23.67**	**239**	*eP*		**P**	**18 32 51.3**	**+1.6**
PCRV	**Puerto La Cruz**	**23.72**	**274**	LR		LR	18 42 32.4	
	comp=Z,152nm,20.6s,slow=38							
SNDB	**Serra Nova Dou**	**23.86**	**207**	*eP*		**P**	**18 32 52.7**	**+1.2**
JANB	**Januaria**	**24.69**	**189**	*eP*		**P**	**18 32 58.7**	**-0.5**
HUMP	**Col San Antoni**	**25.97**	**292**	P		**P**	**18 33 09.1**	**-1.7**
BDFB	**Brasilia**	**26.05**	**197**	P		**P**	**18 33 10.6**	**-1.0**
BDFB	**Brasilia**	**26.05**	**197**	P		**P**	**18 33 12.3**	**+0.6**
	comp=Z,3.0nm,0.5s,baz=20,slow=16,SNR=5.5							
	comp=Z,3.0nm,0.5s							
IGPR	**InterUniversit**	**26.16**	**291**	P		**P**	**18 33 11.9**	**-0.6**
CELP	**Cerrillos**	**26.62**	**291**	P		**P**	**18 33 17.7**	**+0.9**
BAUV	**El Baul**	**27.12**	**271**	P		**P**	**18 33 20.4**	**-0.8**
BAUV				IAmb		IAmb	18 34 02.2	
	comp=Z,18nm,0.9s							
ARAG	**Araguaiana, MT**	**27.42**	**204**	*eP*		**P**	**18 33 24.8**	**+1.0**
SAML	**Samuel**	**29.04**	**231**	P		**P**	**18 33 39.0**	**+0.7**
SAML				IAmb		IAmb	18 33 41.5	
	comp=Z,6.0nm,0.9s							
SAML	**Samuel**	**29.04**	**231**	*eP*		**P**	**18 33 39.8**	**+1.5**
SALV	**Santo Antonio**	**29.36**	**211**	*eP*		**P**	**18 33 42.2**	**+1.1**
SDV	**Santo Domingo**	**29.68**	**271**	P		**P**	**18 33 41.5**	**-2.8**
SDV				IAmb		IAmb	18 33 51.8	
	comp=Z,6.1nm,0.7s							
SDV	**Santo Domingo**	**29.68**	**271**	LR		LR	18 46 16.6	
	comp=Z,76nm,18.2s,baz=95,slow=38							
PTLB	**Pontes e Lacer**	**30.88**	**217**	*eP*		**P**	**18 33 56.2**	**+1.6**
H10N3	**ASCENSION HYDR**	**31.17**	**123**	T		T	19 06 50.0	
	baz=302,slow=75,SNR=24							
H10N2	**ASCENSION HYDR**	**31.17**	**123**	T		T	19 06 49.9	
	baz=302,slow=75,SNR=26							
SDDR	**Presa de Saban**	**31.18**	**291**	P		**P**	**18 33 57.5**	**+0.2**
H10N1	**ASCENSION HYDR**	**31.19**	**123**	T		T	19 06 48.8	
	baz=302,slow=75,SNR=30							
H10S3	**ASCENSION HYDR**	**31.65**	**125**	T		T	19 07 28.7	
	baz=301,slow=74,SNR=16							
H10S2	**ASCENSION HYDR**	**31.67**	**125**	T		T	19 07 30.0	
	baz=279,slow=74,SNR=6.6							
RVDE	**Rio Verde (Bra**	**31.70**	**207**	*eP*		**P**	**18 34 03.3**	**+1.5**
ETMB	**Extrema**	**31.94**	**234**	P		**P**	**18 34 04.9**	**+0.9**
ETMB	**Extrema**	**31.94**	**234**	*eP*		**P**	**18 34 05.1**	**+1.1**
SIV	**San Ignacio**	**32.47**	**219**	P		**P**	**18 34 09.6**	**+1.0**
	comp=Z,2.7nm,0.7s,baz=35,slow=17,SNR=13							
SIV				LR		LR	18 47 22.5	
	comp=Z,135nm,18.2s,baz=83,slow=36							
	comp=Z,2.7nm,0.7s							
PCMB	**Pacaembu**	**32.66**	**199**	*eP*		**P**	**18 34 12.0**	**+1.8**
BBSD	**Serra de San D**	**33.11**	**217**	*eP*		**P**	**18 34 15.7**	**+1.5**
BDQN	**Bodoquena, MS**	**33.76**	**208**	*eP*		**P**	**18 34 21.8**	**+2.0**
ROSC	**El Rosal**	**33.79**	**264**	P		**P**	**18 34 19.8**	**-0.9**
ROSC	**El Rosal**	**33.79**	**264**	P		**P**	**18 34 21.8**	**+1.1**
	comp=Z,8.1nm,0.5s,baz=72,slow=20,SNR=1.5							
ROSC				LR		LR	18 48 34.1	
	comp=Z,369nm,18.1s,baz=70,slow=37							
	comp=Z,8.1nm,0.5s							
TRCB	**Terra Rica**	**34.21**	**200**	P		**P**	**18 34 22.9**	**-0.9**
TRCB	**Terra Rica**	**34.21**	**200**	*eP*		**P**	**18 34 25.6**	**+1.9**
AMBA	**Amambai (Brazi**	**35.20**	**203**	*eP*		**P**	**18 34 33.7**	**+1.4**
MURT	**Porto Murtinho**	**35.20**	**208**	*eP*		**P**	**18 34 33.8**	**+1.5**
DBIC	**Dimbokro**	**35.46**	**92**	P		**P**	**18 34 34.2**	**-0.4**
DBIC				IAmb		IAmb	18 34 37.4	
	comp=Z,15nm,1.1s							
DBIC	**Dimbokro**	**35.46**	**92**	P		**P**	**18 34 34.3**	**-0.4**
	comp=Z,4.7nm,0.8s,baz=274,slow=9.0,SNR=5.4							
DBIC				LR		LR	18 46 08.6	
	comp=Z,144nm,19.6s,baz=246,slow=31							
	comp=Z,4.7nm,0.8s							
PTGB	**Pitanga**	**35.82**	**198**	*eP*		**P**	**18 34 38.9**	**+1.2**
LPAZ	**La Paz**	**37.43**	**227**	P		**P**	**18 34 52.4**	**+0.2**
LPAZ				IAmb		IAmb	18 35 02.1	
	comp=Z,7.5nm,0.9s							
LPAZ	**La Paz**	**37.43**	**227**	P		**P**	**18 34 53.1**	**+1.0**
	comp=Z,5.8nm,0.7s,baz=17,slow=5.5,SNR=18							
	comp=Z,5.8nm,0.7s							
LPAZ	**La Paz**	**37.43**	**227**	*eP*		**P**	**18 34 53.6**	**+1.4**
TULM	**Tulcn-Chalpat**	**38.04**	**259**	P		**P**	**18 34 57.1**	**-0.2**
IMBA	**Imbabura, San**	**38.55**	**258**	P		**P**	**18 35 02.5**	**+1.0**
CPUP	**Villa Florida**	**39.17**	**204**	LR		LR	18 51 17.2	
	comp=Z,120nm,18.4s,baz=38,slow=36							
MDT	**Midelt**	**40.46**	**50**	LR		LR	18 49 18.4	
	comp=Z,99nm,18.1s,baz=230,slow=32							
ATAH	**Atahualpa**	**41.15**	**248**	P		**P**	**18 35 24.2**	**+1.0**
	comp=Z,4.6nm,0.7s,baz=58,slow=13,SNR=3.1							
ATAH				LR		LR	18 52 13.3	
	comp=Z,134nm,20.7s,baz=84,slow=36							
	comp=Z,4.6nm,0.7s							
TOA0	**Torodi Ar. Sit**	**41.57**	**81**	P		**P**	**18 35 25.3**	**-0.8**
TORD	**Torodi Ar. Bea**	**41.57**	**81**	P		**P**	**18 35 24.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**41.57**	**81**	P		**P**	**18 35 25.9**	**-0.1**
	comp=Z,2.2nm,0.7s,baz=275,slow=9.9,SNR=12							
TORD				PcP		**PcP**	**18 37 24.3**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=261,slow=3.8,SNR=3.0							
TORD				LR		LR	18 51 00.6	
	comp=Z,215nm,18.9s,baz=287,slow=34							
	comp=Z,2.2nm,0.7s							
NNA	**Nana**	**41.90**	**240**	LR		LR	18 53 51.0	
	comp=Z,160nm,18.3s,baz=25,slow=38							
PB02	**IPOC Station P**	**42.05**	**223**	P		**P**	**18 35 28.2**	**-1.8**
PB02				IAmb		IAmb	18 35 36.5	
	comp=Z,15nm,0.9s							
LVC	**Limon Verde**	**42.31**	**221**	LR		LR	18 52 41.6	
	comp=Z,54nm,19.4s,baz=22,slow=36							
UCCT	**U. Connecticut**	**42.53**	**325**	P		**P**	**18 35 34.0**	**+0.4**
UCCT				IAmb		IAmb	18 35 42.2	
	comp=Z,18nm,0.8s							
P61A	**Hammonton**	**42.78**	**320**	P		**P**	**18 35 35.8**	**+0.2**
W59A	**Clinton**	**42.94**	**312**	P		**P**	**18 35 36.0**	**-1.0**
ESPN	**Las Esperanzas**	**43.00**	**278**	P		**P**	**18 35 36.6**	**-1.1**
ESPN				IAmb		IAmb	18 35 52.9	
	comp=Z,8.1nm,0.7s							
PB15	**IPOC Station P**	**43.10**	**221**	P		**P**	**18 35 35.0**	**-3.6**
PB15				IAmb		IAmb	18 35 41.9	
	comp=Z,9.3nm,0.8s							
JTS	**Las Juntas de**	**43.70**	**275**	LR		LR	18 55 03.4	
	comp=Z,66nm,20.5s,baz=92,slow=38							
ACON	**Acoyapa**	**43.85**	**277**	P		**P**	**18 35 44.9**	**+0.2**
ESDC	**Sonseca Array**	**44.31**	**41**	P		**P**	**18 35 49.7**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=224,slow=5.4,SNR=2.3							
ESDC				PcP		**PcP**	**18 37 33.9**	**+1.6**
	comp=Z,0.8nm,0.8s,baz=248,slow=4.9,SNR=4.7							
ESDC				LR		LR	18 50 30.3	
	comp=Z,87nm,20.1s,baz=218,slow=31							
	comp=Z,0.4nm,0.8s							
GO02	**Mina Guanaco**	**44.58**	**219**	P		**P**	**18 35 50.1**	**-0.5**
PB14	**IPOC Station P**	**44.70**	**220**	P		**P**	**18 35 51.1**	**-0.5**
AC01	**Pan de Azucar**	**45.92**	**219**	P		**P**	**18 35 59.2**	**-1.7**
AC01				IAmb		IAmb	18 36 13.6	
	comp=Z,9.0nm,1.1s							
TAM	**Tamanrasset**	**46.01**	**68**	P		**P**	**18 36 02.4**	**+0.4**
TKL	**Tuckaleechee C**	**47.09**	**310**	LR		LR	18 52 02.8	
	comp=Z,128nm,21.3s,baz=118,slow=31							
MTO3	**Montecristo**	**47.91**	**281**	P		**P**	**18 36 15.1**	**-1.8**
MTO3				IAmb		IAmb	18 36 24.9	
	comp=Z,5.1nm,0.9s							
CO01	**Juntas del Tor**	**48.46**	**215**	P		**P**	**18 36 17.4**	**-3.5**
CO01				IAmb		IAmb	18 36 41.0	
	comp=Z,12nm,1.5s							
ZON	**Zonda**	**48.90**	**212**	P		**P**	**18 36 21.8**	**-2.3**
ZON				IAmb		IAmb	18 36 37.2	
	comp=Z,16nm,1.5s							
SCHQ	**Schefferville**	**49.78**	**340**	P		**P**	**18 36 30.3**	**-0.2**
SCHQ				IAmb		IAmb	18 36 38.8	
	comp=Z,11nm,1.1s							
SCHQ	**Schefferville**	**49.78**	**340**	P		**P**	**18 36 31.6**	**+1.1**
	comp=Z,4.2nm,1.1s,baz=132,slow=12,SNR=2.1							
	comp=Z,4.2nm,1.1s							
BO04	**La Punta**	**51.82**	**212**	P		**P**	**18 36 45.8**	**-0.4**
KEST	**Kesra**	**52.25**	**52**	LR		LR	18 57 57.2	
	comp=Z,88nm,20.0s,baz=288,slow=35							
SSB	**Saint Sauveur**	**52.57**	**39**	P		**P**	**18 36 52.5**	**+0.8**
I42A	**Draeger Farm,**	**54.02**	**318**	P		**P**	**18 37 02.3**	**0.0**
I42A				IAmb		IAmb	18 37 11.4	
	comp=Z,4.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**54.38**	**25**	P		**P**	**18 37 06.6**	**+1.9**
	comp=Z,1.1nm,0.8s,baz=238,slow=4.1,SNR=2.8							
	comp=Z,1.1nm,0.8s							
P40A	**Paris**	**54.60**	**312**	P		**P**	**18 37 07.4**	**+0.8**
P40A				IAmb		IAmb	18 37 14.4	
	comp=Z,9.4nm,1.2s							
GO06	**Curarrehue**	**56.64**	**208**	P		**P**	**18 37 19.2**	**-2.1**
PLCA	**Paso Flores**	**57.14**	**207**	P		**P**	**18 37 24.8**	**0.0**
	comp=Z,1.7nm,0.8s,baz=40,slow=8.7,SNR=8.6							
	comp=Z,1.7nm,0.8s							
CTI	**Castel Tesino**	**57.41**	**41**	P		**P**	**18 37 26.5**	**-0.2**
CTI				IAmb		IAmb	18 37 35.6	
	comp=Z,3.3nm,0.8s							
SAND	**Sanderson**	**60.70**	**299**	P		**P**	**18 37 50.3**	**+0.5**
ULM	**Lac du Bonnet**	**60.90**	**323**	P		**P**	**18 37 50.3**	**-0.4**
ULM				IAmb		IAmb	18 37 57.2	
	comp=Z,5.2nm,0.9s							
ULM	**Lac du Bonnet**	**60.90**	**323**	P		**P**	**18 37 49.9**	**-0.8**
	comp=Z,2.3nm,0.7s,baz=110,slow=12,SNR=5.2							
	comp=Z,2.3nm,0.7s							
VRAC	**Vranov**	**61.69**	**39**	LR		LR	19 02 03.0	
	comp=Z,27nm,19.6s,baz=249,slow=34							
TXAR	**Lajitas Array**	**61.98**	**298**	P		**P**	**18 37 59.0**	**+0.4**
TXAR	**Lajitas Array**	**61.98**	**298**	P		**P**	**18 37 59.2**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=106,slow=6.7,SNR=9.8							
TXAR				LR		LR	19 06 02.1	
	comp=Z,6.9nm,20.1s,baz=78,slow=37							
	comp=Z,0.6nm,0.6s							
GDL2	**Guadalupe Moun**	**62.84**	**301**	P		**P**	**18 38 03.4**	**-0.9**
SUMG	**Summit**	**63.03**	**1**	P		**P**	**18 38 06.2**	**+1.0**
VHRN	**Van Horn**	**63.24**	**300**	P		**P**	**18 38 08.0**	**+1.0**
VHRN				IAmb		IAmb	18 38 29.6	
	comp=Z,3.6nm,1.1s							
NC602	**NORSAR Array S**	**63.86**	**26**	P		**P**	**18 38 11.3**	**+1.0**
NB2	**NORSAR Subarra**	**63.87**	**25**	P		**P**	**18 38 11.7**	**+1.2**
	comp=Z,1.6nm,0.7s,baz=238,slow=7.4							
NOA	**NORSAR Array B**	**63.87**	**25**	P		**P**	**18 38 11.6**	**+1.2**
	comp=Z,0.8nm,0.7s,baz=244,slow=8.4,SNR=2.8							
	comp=Z,0.8nm,0.7s							
TSUM	**Tsumeb**	**64.01**	**117**	LR		LR	18 59 28.5	
	comp=Z,108nm,21.3s,baz=294,slow=30							
SDCO	**Great Sand Dun**	**64.44**	**307**	P		**P**	**18 38 15.4**	**+0.5**
HFS	**Hagfors**	**64.50**	**27**	P		**P**	**18 38 15.7**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=258,slow=6.9,SNR=6.1							
HFS				LR		LR	19 00 52.6	
	comp=Z,16nm,21.9s,baz=252,slow=31							
	comp=Z,2.5nm,0.7s							
ISCO	**Idaho Springs**	**64.83**	**309**	P		**P**	**18 38 17.8**	**+0.3**
ANMO	**Albuquerque**	**64.87**	**304**	LR		LR	19 04 27.8	
	comp=Z,71nm,19.4s,baz=190,slow=34							
PHWY	**Pilot Hill**	**64.95**	**311**	P		**P**	**18 38 17.0**	**-1.3**
PHWY				IAmb		IAmb	18 38 34.1	
	comp=Z,3.6nm,0.8s							
KWP	**Kalwaria Pacla**	**65.60**	**40**	P		**P**	**18 38 20.5**	**-1.4**
FFC	**Flin Flon**	**65.95**	**326**	P		**P**	**18 38 23.1**	**-0.9**
FFC				IAmb		IAmb	18 38 31.9	
	comp=Z,4.8nm,1.0s							
MLR	**Muntele Rosu**	**66.85**	**45**	LR		LR	19 04 23.9	
	comp=Z,39nm,22.0s,baz=256,slow=33							
PV13	**Radium Mtn., P**	**67.10**	**307**	P		**P**	**18 38 30.1**	**-1.9**
PV13				IAmb		IAmb	18 38 42.4	
	comp=Z,4.8nm,1.0s							
PV05	**Paradox Valley**	**67.31**	**307**	P		**P**	**18 38 30.7**	**-2.7**
PV05				IAmb		IAmb	18 39 01.9	
	comp=Z,5.3nm,1.3s							
X18A	**Snowflake**	**67.70**	**303**	P		**P**	**18 38 36.2**	**+0.3**
X18A				IAmb		IAmb	18 38 47.7	
	comp=Z,4.8nm,1.2s							
MANT	**Manisa**	**67.82**	**52**	P		**P**	**18 38 36.9**	**+0.3**
MANT				IAmb		IAmb	18 38 37.5	
	comp=Z,5.0nm,1.0s							
RDMU	**Red Mountain**	**67.93**	**310**	P		**P**	**18 38 38.2**	**+0.9**
RDMU				IAmb		IAmb	18 38 44.9	
	comp=Z,2.2nm,0.7s							
PDAR	**Pinedale Array**	**68.19**	**312**	P		**P**	**18 38 40.5**	**+1.7**
	comp=Z,0.3nm,0.5s,baz=112,slow=11,SNR=1.6							
PDAR				LR		LR	19 05 01.1	
	comp=Z,84nm,21.6s,baz=103,slow=33							
	comp=Z,0.3nm,0.5s							
FLWY	**Flagg Ranch**	**69.18**	**314**	P		**P**	**18 38 43.6**	**-1.4**
FLWY				IAmb		IAmb	18 38 52.7	
	comp=Z,6.6nm,1.2s							
IMW	**Indian Meadow**	**69.33**	**313**	P		**P**	**18 38 46.5**	**+0.5**
IMW				IAmb		IAmb	18 38 53.6	
	comp=Z,7.1nm,1.4s							
FXWY	**Fox Creek**	**69.36**	**313**	P		**P**	**18 38 46.1**	**-0.1**
YHH	**Holmes Hill**	**69.37**	**314**	P		**P**	**18 38 45.0**	**-1.3**
HWUT	**Hardware Ranch**	**69.54**	**311**	P		**P**	**18 38 46.6**	**-0.6**
HWUT				IAmb		IAmb	18 38 55.6	
	comp=Z,4.2nm,0.9s							
NLU	**North Lily Min**	**69.78**	**309**	P		**P**	**18 38 48.5**	**-0.3**
AKASG	**Malin Array Be**	**69.92**	**39**	P		**P**	**18 38 48.7**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=258,slow=4.6,SNR=1.6							
AKASG				LR		LR	19 08 15.9	
	comp=Z,26nm,18.9s,baz=228,slow=35							
	comp=Z,0.3nm,0.5s							
BOZ	**Bozeman (W)**	**70.02**	**315**	P		**P**	**18 38 50.7**	**+0.7**
DUG	**Dugway, Tooele**	**70.37**	**309**	P		**P**	**18 38 53.0**	**+0.7**
BGU	**Big Grassy Mou**	**70.58**	**310**	P		**P**	**18 38 54.5**	**+0.9**
BGU				IAmb		IAmb	18 39 02.1	
	comp=Z,6.4nm,0.8s							
FINES	**FINESS Array B**	**70.62**	**28**	P		**P**	**18 38 53.4**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=260,slow=5.4,SNR=1.8							
	comp=Z,1.1nm,0.8s							
MBAR	**Mbarara**	**71.68**	**94**	LR		LR	19 06 39.1	
	comp=Z,44nm,20.3s,baz=260,slow=33							
HLID	**Hailey**	**71.80**	**313**	P		**P**	**18 39 01.3**	**+0.3**
HLID				IAmb		IAmb	18 39 09.5	
	comp=Z,3.2nm,0.8s							
BRTR	**Keskin Array B**	**71.85**	**51**	P		**P**	**18 39 01.6**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=286,slow=5.4,SNR=5.8							
	comp=Z,0.8nm,0.7s							
ELK	**Elko**	**72.25**	**310**	P		**P**	**18 39 04.8**	**+1.0**
ELK				IAmb		IAmb	18 39 13.1	
	comp=Z,2.9nm,0.8s							
EIL	**Elat**	**72.81**	**62**	LR		LR	19 12 13.0	
	comp=Z,50nm,19.7s,baz=245,slow=37							
ARCES	**ARCESS Array B**	**72.88**	**20**	P		**P**	**18 39 06.7**	**0.0**
	comp=Z,2.1nm,0.8s,baz=253,slow=6.1,SNR=3.7							
	comp=Z,2.1nm,0.8s							
LBTB	**Lobatse**	**72.99**	**120**	LR		LR	19 04 46.8	
	comp=Z,115nm,20.3s,baz=264,slow=31							
MMAI	**Mount Meron Ar**	**73.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.20**	**227**	P	Pn	18 46 41.6	+1.2
MXZ				S	Sn	18 47 27.8	-0.5
WMGZ	**Waiomatatini S**	**4.31**	**224**	P	Pn	18 46 43.4	+1.5
WMGZ				S	Sn	18 47 31.1	+0.1
PKGZ	**Pakihiroa**	**4.55**	**226**	P	Pn	18 46 47.1	+1.8
PKGZ				S	Sn	18 47 36.7	-0.4
PUZ	**Puketiti**	**4.57**	**223**	P	Pn	18 46 46.9	+1.4
PUZ				S	Sn	18 47 36.5	-1.1
HAZ	**Te Kaha**	**4.64**	**229**	P	Pn	18 46 48.9	+2.4
HAZ				S	Sn	18 47 40.3	+1.1
TWGZ	**Tauwhareparae**	**4.80**	**224**	P	Pn	18 46 50.8	+2.0
TWGZ				S	Sn	18 47 44.7	+1.5
RUGZ	**Raukumara Rang**	**4.84**	**227**	P	Pn	18 46 51.3	+1.9
RUGZ				S	Sn	18 47 45.0	+0.7
CNGZ	**Carnagh Statio**	**4.90**	**220**	P	Pn	18 46 51.4	+1.4
TKGZ	**Te Karaka**	**5.06**	**222**	P	Pn	18 46 53.8	+1.6
TKGZ				S	Sn	18 47 48.8	-0.7
MWZ	**Matawai**	**5.17**	**225**	P	Pn	18 46 55.0	+1.2
MWZ				S	Sn	18 47 51.5	-0.8
RAGZ	**Rawiri**	**5.34**	**225**	P	Pn	18 46 57.6	+1.4
RAGZ				S	Sn	18 47 55.8	-0.8
URZ	**Urewera**	**5.37**	**228**	P	Pn	18 46 58.0	+1.5
URZ				S	Sn	18 47 56.1	-1.0
GLKZ	**Green Lake**	**5.49**	**359**	P	Pn	18 46 56.5	-1.7
GLKZ				S	Sn	18 47 56.5	-3.8
MKAZ	**Moumakai**	**6.16**	**246**	P	Pn	18 47 10.7	+3.4
WAZ	**Wanganui**	**7.60**	**227**	S	Sn	18 48 49.3	-2.7
CTZ	**Chatham Island**	**9.00**	**174**	P	Pn	18 47 50.7	+4.4
CTZ				S	Sn	18 49 20.4	-6.0

*NAO **07** 18:46:54.1±1.8, 76°.61N×7°.19E, ML2.8*
*BER **07** 18:46:56.5±3.5, 76°.59N×7°.49E, h10km, mb(Pn)3.7, ML2.8(NAO), Confirmed Earthquake*
*IDC **07** 18:46:59.1±1.1, 76°.60N×8°.42E, h0km, mb3.3/6, mbtmp3.4/10, ML2.8/3, MS3.2/5, Error ellipse: s-maj=19.5km s-min=12.6km az=102.0*
*DNK **07** 18:46:59.8±1.8, 76°.70N×7°.12E, h36km±31km, ML1.4*
*KOLA **07** 18:47:01.5, 76°.97N×9°.34E, h0km, ML2.3, Error ellipse: s-maj=19.0km s-min=12.1km az=50.0, Greenland sea*
*FCIAR **07** 18:47:01.0, 76°.83N×7°.73E, h10km, station SPA0 has station magnitude of 2.84*

ISC 07 18:46:53.6±1.6, 76°.88N±0°.04×7°.74E±0°.04, h1km±10km, n48, σ2s04/63, mb3.2/6, MS3.5/3, 1C, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.78**	**82**	Pn	**Pg**	**18 47 27.6**	**0.0**
HSPB				Sn	**Sb**	**18 47 48.3**	**-1.2**
HSPB	**Hornsund (broa**	**1.78**	**82**	P	**Pg**	**18 47 27.6**	**0.0**
HSPB				*S*	**Sn**	**18 47 46.5**	**-2.0**
HSPB	**Hornsund (broa**	**1.78**	**82**	*eP*	**Pg**	**18 47 27.9**	**+0.3**
HSPB				*eS*	**Sg**	**18 47 48.6**	**-2.0**
HSPB				IAML		18 47 49.7	
	comp=Z,24nm,0.2s						
BRBA	**Barentsburg A**	**1.85**	**47**	Pn	**Pg**	**18 47 30.6**	**+1.6**
BRBA				Sn	**Sg**	**18 47 51.9**	**-1.0**
BRBA	**Barentsburg A**	**1.85**	**47**	*eP*	**Pg**	**18 47 30.8**	**+1.8**
BRBA				IAML		18 47 52.1	
	comp=Z,14nm,0.1s						
BRBA				*eS*	**Sg**	**18 47 52.6**	**-0.3**
BRBB	**Barentsburg B**	**1.87**	**46**	Pn	**Pg**	**18 47 30.9**	**+1.6**
BRBB	**Barentsburg B**	**1.87**	**46**	P	**Pg**	**18 47 30.8**	**+1.5**
BRBB				*S*	**Sb**	**18 47 51.0**	**-1.2**
BRBB	**Barentsburg B**	**1.87**	**46**	*eP*	**Pg**	**18 47 30.6**	**+1.2**
BRBB				*e*		18 47 51.5	
KBS	**Kingsbay**	**2.25**	**21**	Pn	**Pg**	**18 47 35.8**	**-0.8**
KBS				Sn	**Sg**	**18 48 03.4**	**-2.2**
KBS	**Kingsbay**	**2.25**	**21**	P	**Pg**	**18 47 36.8**	**+0.3**
KBS				S	**Sg**	**18 48 03.2**	**-2.3**
KBS	**Kingsbay**	**2.25**	**21**	*eP*	**Pg**	**18 47 37.0**	**+0.5**
KBS				*eS*	**Sg**	**18 48 03.1**	**-2.5**
KBS				IAML		18 48 07.7	
	comp=Z,11nm,0.3s						
KBS	**Kingsbay**	**2.25**	**21**	*eP*	**Pg**	**18 47 36.2**	**-0.3**
KBS				*eS*	**Sg**	**18 48 03.3**	**-2.3**
KBS	**Kingsbay**	**2.25**	**21**	*i* P	**Pg**	**18 47 37.4**	**+0.9**
KBS				*eS*	**Sb**	**18 48 02.0**	**-1.0**
SPA0	**Spitsbergen Ar**	**2.29**	**51**	Pn	**Pg**	**18 47 37.4**	**0.0**
	baz=229,slow=14						
SPA0				Sn	**Sg**	**18 48 04.6**	**-2.3**
	baz=215,slow=28						
SPA0	**Spitsbergen Ar**	**2.29**	**51**	Pn	**Pg**	**18 47 37.4**	**0.0**
	baz=229,slow=14						
SPA0				Sn	**Sg**	**18 48 04.6**	**-2.3**
	baz=215,slow=28						
SPA0	**Spitsbergen Ar**	**2.29**	**51**	*i* P	**Pg**	**18 47 37.4**	**0.0**
SPA0				*i* S	**Sg**	**18 48 04.6**	**-2.3**
SPITS	**Spitsbergen Ar**	**2.29**	**51**	Pn	**Pg**	**18 47 37.4**	**0.0**
	baz=221,slow=15						
SPITS				Sn	**Sg**	**18 48 06.0**	**-0.9**
	baz=224,slow=26						
	comp=Z,7.2nm,0.3s						
BJO1	**Bjornoya**	**3.67**	**125**	Pn	**Pn**	**18 47 52.9**	**+1.6**
BJO1				Sn	**Sn**	**18 48 27.8**	**-7.3**
HOPEN	**Hopen**	**4.00**	**87**	Pn	**Pn**	**18 47 58.7**	**+2.8**
HOPEN				Sn	**Sn**	**18 48 42.5**	**-0.8**
HOPEN	**Hopen**	**4.00**	**87**	*eP*	**Pn**	**18 47 58.8**	**+2.9**
HOPEN				*eS*	**Sn**	**18 48 42.4**	**-0.8**
HOPEN				IAML		18 48 46.5	
	comp=Z,25nm,0.3s						
HOPEN	**Hopen**	**4.00**	**87**	*eP*	**Pn**	**18 47 58.2**	**+2.3**
HOPEN				*eS*	**Sn**	**18 48 42.1**	**-1.3**
DAG	**Danmarks Havn**	**6.00**	**282**	*eP*	**Pn**	**18 48 23.2**	**-0.1**
DAG				*e*		18 48 39.5	
DAG				*eS*	Sn	18 49 24.9	-7.7
DAG				IAML		18 49 26.9	
	comp=Z,2.8nm,0.3s						
DAG	**Danmarks Havn**	**6.00**	**282**	*i* P	**Pn**	**18 48 23.0**	**-0.3**
DAG				*i* P	**Pn**	**18 48 23.0**	**-0.3**
DAG				*i* S	Sn	18 49 24.6	-7.9
DAG				IAML		18 49 26.9	
	comp=Z,2.8nm,0.3s						
NOR	**Nord**	**6.51**	**328**	Pn	**Pn**	**18 48 32.5**	**+2.2**
NOR				Sn	**Sn**	**18 49 46.4**	**+1.4**
NOR	**Nord**	**6.51**	**328**	*eP*	**Pn**	**18 48 32.4**	**+2.2**
NOR				*eS*	**Sn**	**18 49 41.0**	**-4.0**
NOR				IAML		18 49 47.2	
	comp=Z,0.8nm,0.4s						
NOR	**Nord**	**6.51**	**328**	*i* P	**Pn**	**18 48 32.5**	**+2.2**
NOR				*eS*	**Sn**	**18 49 41.0**	**-4.0**
NOR				IAML		18 49 47.2	
	comp=Z,0.8nm,0.4s						
DBG	**Daneborg**	**7.38**	**264**	Pn	**Pn**	**18 48 43.0**	**+0.9**
DBG				Sn	Sn	18 49 56.0	-10
DBG	**Daneborg**	**7.38**	**264**	*eP*	**Pn**	**18 48 41.1**	**-1.0**
DBG				*eS*	Sn	18 49 55.9	-10
DBG				IAML		18 50 02.9	
	comp=Z,0.9nm,0.4s						
DBG	**Daneborg**	**7.38**	**264**	*eP*	**Pn**	**18 48 39.6**	**-2.5**
DBG				*i* S	Sn	18 49 54.3	-12
DBG				IAML		18 50 02.9	
	comp=Z,0.9nm,0.4s						
ZFI2	**Zemlya Franca-**	**8.49**	**44**	*eP*	Pn	18 49 02.3	+5.0
ZFI2				S	**Sn**	**18 50 30.8**	**-2.7**
OMEGA	**Omega**	**8.50**	**45**	P	Pn	18 49 02.5	+5.0
OMEGA				S	**Sn**	**18 50 31.1**	**-2.7**
ARA0	**ARCESS Array S**	**8.93**	**136**	Pn	**Pn**	**18 49 02.5**	**-0.9**
	baz=323,slow=11						
ARA0				Sn	Sn	18 50 31.9	-13
	baz=336,slow=28						
ARA0	**ARCESS Array S**	**8.93**	**136**	Pn	**Pn**	**18 49 02.5**	**-0.9**
	baz=323,slow=11						
ARA0				Sn	Sn	18 50 31.9	-13
	baz=336,slow=28						
ARCES	**ARCESS Array B**	**8.93**	**136**	Pn	**Pn**	**18 49 02.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=336,slow=13,SNR=9.4						
ARCES				Sn	Sn	18 50 30.8	-14
	comp=Z,0.2nm,0.3s,baz=336,slow=27,SNR=7.5						
ARCES				LR	LR	18 52 37.4	
	comp=Z,52nm,18.3s,baz=318,slow=39						
	comp=Z,1.8nm,0.6s						
KEV	**Kevo**	**8.98**	**133**	Pn	**Pn**	**18 49 03.6**	**-0.5**
KEV				Sn	Sn	18 50 35.7	-10
KEV	**Kevo**	**8.98**	**133**	Pn	**Pn**	**18 49 03.6**	**-0.5**
KEV				Sn	Sn	18 50 35.7	-10
BORG	**Borgarnes**	**15.18**	**233**	LR	LR	18 54 50.8	
	comp=Z,30nm,18.4s,baz=231,slow=31						
FINES	**FINESS Array B**	**16.66**	**148**	Pn	**Pn**	**18 50 47.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=347,slow=18,SNR=1.6						
	comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**16.94**	**170**	Pn	**P**	**18 50 53.8**	**+0.2**
	comp=Z,1.0nm,0.8s,baz=8.5,slow=12,SNR=1.9						
EKA	**Eskdalemuir Ar**	**22.00**	**197**	P	**P**	**18 51 53.3**	**+4.6**
	comp=Z,0.9nm,0.8s,baz=15,slow=12,SNR=3.7						
	comp=Z,0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**35.37**	**84**	LR	LR	19 10 24.1	
	comp=Z,25nm,18.4s,baz=27,slow=40						
KURBB	**Kurchatov Array**	**37.02**	**93**	P	P	18 54 09.2	+5.0
	comp=Z,0.2nm,0.4s,baz=333,slow=8.0,SNR=2.3						
	comp=Z,0.2nm,0.4s						
ILAR	**Eielson Array**	**37.71**	**343**	P	P	18 54 18.7	+8.8
	comp=Z,0.3nm,0.6s,baz=12,slow=11,SNR=2.7						
	comp=Z,0.3nm,0.6s						
BRTR	**Keskin Array B**	**38.90**	**148**	P	**P**	**18 54 22.4**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=347,slow=12,SNR=2.2						
	comp=Z,0.5nm,0.7s						
MKAR	**Makanchi Array**	**41.48**	**91**	P	P	18 54 46.9	+5.4
	comp=Z,0.2nm,0.6s,baz=338,slow=11,SNR=3.5						
	comp=Z,0.2nm,0.6s						
ULM	**Lac du Bonnet**	**44.61**	**297**	LR	LR	19 14 00.3	
	comp=Z,54nm,18.2s,baz=148,slow=36						
WSAR	**Wadi Sarin**	**59.03**	**124**	LR	LR	19 25 30.5	
	comp=Z,111nm,18.6s,baz=278,slow=39						
TXAR	**Lajitas Array**	**66.32**	**297**	P	P	18 57 49.7	+6.3
	comp=Z,0.3nm,0.7s,baz=357,slow=4.6,SNR=1.8						
	comp=Z,0.3nm,0.7s						

*IDC **07** 18:59:30.9±1.2, 22°.61S×114°.52W, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/14, Error ellipse: s-maj=52.8km s-min=27.5km az=46.0*

ISC 07 18:59:31.6±1.3, 22°.8S±0°.3×114°.7W±0°.3, h10km, n26, σ0s87/11, mb3.7/5, MS3.5/13, Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**6.51**	**133**	LR	LR	19 03 06.5	
	comp=Z,1μm,18.4s,baz=323,slow=33						
H03N2	**Juan Fernandez**	**33.12**	**117**	T	T	19 41 26.0	
	baz=282,slow=75,SNR=10						
H03N3	**Juan Fernandez**	**33.13**	**117**	T	T	19 41 27.1	
	baz=282,slow=75,SNR=14						
H03N1	**Juan Fernandez**	**33.14**	**117**	T	T	19 41 25.7	
	baz=282,slow=75,SNR=15						
NNA	**Nana**	**37.55**	**80**	LR	LR	19 18 04.2	
	comp=Z,111nm,20.6s,baz=226,slow=30						
PLCA	**Paso Flores**	**41.10**	**126**	P	**P**	**19 07 15.9**	**+0.2**
	2.7nm,1.0s,baz=287,slow=8.8,SNR=6.2						
PLCA				LR	LR	19 20 09.2	
	comp=Z,118nm,19.4s,baz=250,slow=30						
	2.7nm,1.0s						
LVC	**Limon Verde**	**42.09**	**99**	LR	LR	19 20 45.2	
	comp=Z,53nm,18.1s,baz=229,slow=30						
JTS	**Las Juntas de**	**43.89**	**45**	LR	LR	19 21 35.3	
	comp=Z,42nm,20.0s,baz=315,slow=30						
CMIG	**Matias Romero**	**44.08**	**28**	LR	LR	19 22 33.6	
	comp=Z,59nm,19.0s,baz=181,slow=32						
LPAZ	**La Paz**	**44.19**	**90**	P	**P**	**19 07 42.0**	**+0.2**
	0.5nm,0.4s,baz=225,slow=8.5,SNR=3.7						
LPAZ				LR	LR	19 21 54.0	
	comp=Z,96nm,20.6s,baz=218,slow=30						
	0.5nm,0.4s						
SIV	**San Ignacio**	**50.79**	**92**	LR	LR	19 27 11.8	
	comp=Z,55nm,19.9s,baz=266,slow=33						
CPUP	**Villa Florida**	**51.92**	**106**	LR	LR	19 26 18.5	
	comp=Z,73nm,21.4s,baz=223,slow=31						
SDV	**Santo Domingo**	**53.36**	**59**	LR	LR	19 28 24.4	
	comp=Z,44nm,18.6s,baz=250,slow=33						
ANMO	**Albuquerque**	**57.91**	**8**	LR	LR	19 28 56.0	
	comp=Z,31nm,20.0s,baz=262,slow=31						
PCRV	**Puerto La Cruz**	**58.92**	**62**	LR	LR	19 30 50.2	
	comp=Z,44nm,21.2s,slow=32						
NVAR	**Mina Array Bea**	**60.96**	**357**	P	**P**	**19 09 46.2**	**+1.1**
	0.4nm,0.8s,baz=173,slow=8.1,SNR=2.2						
	0.4nm,0.8s						
TKL	**Tuckaleechee C**	**65.05**	**27**	LR	LR	19 35 51.7	
	comp=Z,22nm,19.6s,baz=178,slow=34						
PDAR	**Pinedale Array**	**65.37**	**4**	P	**P**	**19 10 12.7**	**-1.6**
	0.2nm,0.4s,baz=189,slow=11,SNR=1.6						
	0.2nm,0.4s						
MDP	**Montagnes des**	**66.59**	**73**	LR	LR	19 35 28.8	
	comp=Z,49nm,18.4s,baz=112,slow=32						
YKA	**Yellowknife Ar**	**84.96**	**0**	P	**P**	**19 12 07.1**	**+0.7**
	0.9nm,1.0s,baz=174,slow=5.0,SNR=10						
	0.9nm,1.0s						
ZALV	**Zalesovo Beam**	**145.55**	**340**	PKPbc	**PKPab**	**19 19 10.5**	**+0.4**
	0.7nm,0.6s,baz=22,slow=4.7,SNR=2.5						
BRTR	**Keskin Array B**	**148.27**	**50**	PKPbc	**PKiKP**	**19 19 19.2**	**-0.8**
	1.0nm,1.0s,baz=310,slow=3.4,SNR=3.9						
CMAR	**Chiang Mai Arr**	**148.29**	**269**	PKPbc	**PKiKP**	**19 19 20.5**	**0.0**
	0.6nm,0.8s,baz=66,slow=1.2,SNR=4.9						
BVAR	**Borovoye Array**	**149.53**	**354**	PKPbc	**PKPbc**	**19 19 21.3**	**+0.3**
	0.9nm,0.7s,baz=38,slow=2.3,SNR=4.2						
KURBB	**Kurchatov Array**	**150.34**	**343**	PKPbc	**PKPbc**	**19 19 22.4**	**-0.6**
	0.5nm,0.6s,baz=30,slow=1.9,SNR=4.9						
MKAR	**Makanchi Array**	**152.39**	**334**	PKPbc	**PKPbc**	**19 19 27.2**	**-0.7**
	0.2nm,0.6s,baz=34,slow=4.2,SNR=2.4						

*IDC **07** 19:01:35.5±1.9, 4°.55S×125°.72E, h433km±21km, mb3.3/10, mbtmp4.1/12, Error ellipse: s-maj=37.1km s-min=8.8km az=65.0*
*DJA **07** 19:01:35.2±0.4, 5°.3S×12°.6E±°, h418km±8km, M4.0/26, mb4.4/18, mB4.5/11, MLv4.5/26, Mw(mB)3.6/11*
*NEIC **07** 19:01:35.1±1.0, 4°.5S±0°.1×125°.8E±0°.1, h424km±10km, mb4.1/19, Error ellipse: s-maj=20.2km s-min=12.9km az=61.0*

ISC 07 19:01:33.6±0.4, 4°.53S±0°.05×125°.83E±0°.06, h398km, n100, σ1s91/102, mb3.8/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**1.81**	**45**	P	**Pn**	**19 02 31.1**	**+2.8**
SANI	**Sanana**	**2.47**	**4**	P	**Pn**	**19 02 35.8**	**+3.2**
SANI	**Sanana**	**2.47**	**4**	P	**Pn**	**19 02 36.0**	**+3.4**
BBSI	**Bau Bau**	**3.38**	**254**	P	**Pn**	**19 02 42.9**	**+3.0**
BNDI	**Bandanaira**	**4.07**	**90**	P	**Pn**	**19 02 49.8**	**+3.6**
BNDI	**Bandanaira**	**4.07**	**90**	P	**Pn**	**19 02 48.9**	**+2.7**
LBMI	**Labuha**	**4.21**	**23**	P	**Pn**	**19 02 51.3**	**+3.6**
LUWI	**Luwuk**	**4.62**	**319**	P	**Pn**	**19 02 54.8**	**+3.1**
LUWI	**Luwuk**	**4.62**	**319**	P	**Pn**	**19 02 54.0**	**+2.3**
LUWI	**Luwuk**	**4.62**	**319**	P	**Pn**	**19 02 54.4**	**+2.7**
KMSI	**Cibinong**	**5.39**	**340**	P	**Pn**	**19 03 02.8**	**+3.1**
	198nm,0.7s,3μm1.3nm						
SOEI	**Soe**	**5.42**	**197**	P	**Pn**	**19 03 03.0**	**+2.9**
SOEI	**Soe**	**5.42**	**197**		**Pn**	**19 03 03.0**	**+2.9**
SOEI	**Soe**	**5.42**	**197**	P	**Pn**	**19 03 03.0**	**+2.9**
	32nm,1.0s,0.4nm						
MMRI	**Maumere**	**5.42**	**221**	P	**Pn**	**19 03 03.7**	**+3.7**
MMRI	**Maumere**	**5.42**	**221**		**Pn**	**19 03 03.1**	**+3.1**
MMRI	**Maumere**	**5.42**	**221**	P	**Pn**	**19 03 02.8**	**+2.8**
	63nm,1.2s,1μm0.2nm						
TNTI	**Ternate**	**5.49**	**16**	P	**Pn**	**19 03 03.1**	**+2.4**
TNTI	**Ternate**	**5.49**	**16**		**Pn**	**19 03 02.6**	**+1.9**
TNTI	**Ternate**	**5.49**	**16**	P	**Pn**	**19 03 02.6**	**+1.9**
	81nm,0.7s,1μm0.4nm						
BKSI	**Bulukumba**	**5.74**	**262**	P	**Pn**	**19 03 06.3**	**+2.9**
	61nm,0.6s,600nm0.2nm						
GTOI	**Gorontalo**	**5.85**	**331**	P	**Pn**	**19 03 09.0**	**+4.4**
	16nm,0.8s,230nm0.1nm						
EDFI	**Ende, Flores**	**5.87**	**224**	P	**Pn**	**19 03 07.9**	**+3.0**
	54nm,0.7s,783nm0.2nm						
BATI	**Baumata**	**6.03**	**201**	P	**Pn**	**19 03 09.2**	**+2.6**
	62nm,0.3s,baz=36,slow=4.2,SNR=33						
BATI				S	**S**	**19 04 24.7**	**+2.4**
	86nm,0.5s,baz=30,slow=20,SNR=12						
BATI	**Baumata**	**6.03**	**201**	P	**Pn**	**19 03 08.9**	**+2.3**
	78nm,0.5s,0.4nm						
TTSI	**Tana Toraja**	**6.17**	**284**	P	**Pn**	**19 03 10.5**	**+2.4**
	44nm,0.8s,0.1nm						
SAUI	**Saumlaki**	**6.43**	**123**	P	**Pn**	**19 03 15.1**	**+4.1**
SAUI	**Saumlaki**	**6.43**	**123**	P	**Pn**	**19 03 12.0**	**+1.1**
SAUI	**Saumlaki**	**6.43**	**123**	P	**Pn**	**19 03 14.0**	**+3.0**
	213nm,0.9s,1.2nm						
SWI	**Sorong**	**6.54**	**56**	P	**P**	**19 03 14.7**	**+1.9**
	76nm,0.8s,634nm0.2nm						
FAKI	**Fak Fak**	**6.61**	**76**	P	**Pn**	**19 03 15.0**	**+2.0**
FAKI	**Fak Fak**	**6.61**	**76**		**Pn**	**19 03 14.6**	**+1.7**
FAKI	**Fak Fak**	**6.61**	**76**	P	**Pn**	**19 03 14.9**	**+2.0**
	176nm,0.5s,4μm1.0nm						
TOLI2	**Tolitoli**	**7.54**	**318**	P	**P**	**19 03 24.8**	**+0.9**
TOLI2	**Tolitoli**	**7.54**	**318**		**Pn**	**19 03 24.7**	**+1.3**
MPSI	**Mapaga**	**7.64**	**309**	P	**P**	**19 03 26.8**	**+1.7**
	16nm,0.5s,306nm0.1nm						
BASI	**Baing, Sumba**	**7.68**	**222**	P	**P**	**19 03 26.2**	**+0.7**
	105nm,1.2s,0.5nm						
KMPI	**Kaimana, Papua**	**7.91**	**84**	P	**Pn**	**19 03 29.3**	**+1.7**
	188nm,0.7s,3μm0.9nm						
PLAI	**Plampang**	**9.06**	**241**	P	**P**	**19 03 41.8**	**+0.9**
DRS	**Darwin Rock St**	**9.32**	**148**	P	**Pn**	**19 03 45.6**	**+1.8**
MTN	**Manton Dam**	**9.78**	**148**	P	**Pn**	**19 03 50.5**	**+1.3**
MTN	**Manton Dam**	**9.78**	**148**		**Pn**	**19 03 50.1**	**+0.9**
KDU	**Kakadu**	**10.43**	**141**	P	**Pn**	**19 03 57.6**	**+0.9**
KNRA	**Kununurra**	**11.45**	**166**	P	**Pn**	**19 04 09.1**	**+0.6**
KNRA	**Kununurra**	**11.45**	**166**	P	**Pn**	**19 04 08.8**	**+0.3**
JAGI	**Jajag, Banyuwa**	**12.24**	**251**	P	**Pn**	**19 04 17.2**	**-0.5**
JAGI	**Jajag, Banyuwa**	**12.24**	**251**	P	**P**	**19 04 15.9**	**-0.2**
SBUM	**Sibu**	**15.26**	**297**	P	**P**	**19 04 50.6**	**+1.4**
SBUM				IAmb	IAmb	19 04 52.7	
	comp=Z,12nm,0.8s						
WRAB	**Tennant Creek**	**17.42**	**152**	P	**P**	**19 05 12.6**	**+0.4**
WRAB				IAmb	IAmb	19 05 20.2	
	comp=Z,11nm,1.4s						
WRA	**Warramunga Arr**	**17.42**	**152**	P	**P**	**19 05 12.4**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=332,slow=9.9,SNR=11						
WRA				S	**S**	**19 08 11.3**	**-1.9**
	comp=Z,2.5nm,0.9s,baz=327,slow=18,SNR=7.6						
MBWA	**Marble Bar**	**17.56**	**199**	P	**P**	**19 05 15.2**	**+1.6**
MBWA	**Marble Bar**	**17.56**	**199**	P	**P**	**19 05 12.9**	**-0.7**
MBWA				IAmb	IAmb	19 05 15.1	
	comp=Z,7.6nm,0.8s						
PSA00	**Pilbara Seismi**	**17.91**	**198**	P	**P**	**19 05 17.8**	**+0.5**
PSA00	**Pilbara Seismi**	**17.91**	**198**	P	**P**	**19 05 17.2**	**-0.2**
PSA00				IAmb	IAmb	19 05 18.8	
	comp=Z,8.1nm,0.7s						
BBJI	**Bungbulang**	**18.31**	**260**	P	**P**	**19 05 21.5**	**-0.3**
COEN	**Coen**	**19.50**	**120**	P	**P**	**19 05 33.8**	**0.0**
COEN	**Coen**	**19.50**	**120**	P	**P**	**19 05 33.5**	**-0.3**
COEN				IAmb	IAmb	19 05 38.4	
	comp=Z,23nm,1.3s						
WRKA	**Warakurna**	**20.53**	**174**	P	**P**	**19 05 44.0**	**+0.9**
AS31	**Alice Springs**	**20.56**	**158**	P	**P**	**19 05 44.3**	**+0.8**
AS31				IAmb	IAmb	19 05 45.2	
	comp=Z,2.9nm,0.3s						
ASAR	**Alice Springs**	**20.56**	**158**	P	**P**	**19 05 44.0**	**+0.5**
ASAR	**Alice Springs**	**20.56**	**158**	P	**P**	**19 05 44.2**	**+0.7**
	comp=Z,4.5nm,0.4s,baz=328,slow=7.1,SNR=140						
ASAR				S	**S**	**19 09 05.6**	**-1.7**
	comp=Z,2.2nm,0.8s,baz=341,slow=20,SNR=8.7						
	comp=Z,4.5nm,0.4s						
QIS	**Mount Isa**	**20.82**	**141**	P	**P**	**19 05 46.4**	**+0.6**
GIRL	**Giralia**	**21.21**	**211**	P	**P**	**19 05 49.7**	**+0.4**
GIRL	**Giralia**	**21.21**	**211**	P	**P**	**19 05 49.4**	**0.0**
MTSU	**Mount Surprise**	**22.58**	**128**	P	**P**	**19 06 03.3**	**+1.4**
MEEK	**Meekatharra**	**23.04**	**197**	P	**P**	**19 06 06.0**	**+0.1**
OOD	**Oodnadatta**	**24.97**	**159**	P	**P**	**19 06 23.8**	**+0.6**
MORW	**Morawa**	**26.11**	**200**	P	**P**	**19 06 31.9**	**-1.4**
MORW				IAmb	IAmb	19 07 15.6	
	comp=Z,18nm,1.2s						
FORT	**Forrest**	**26.20**	**176**	P	**P**	**19 06 34.2**	**+0.2**
FORT	**Forrest**	**26.20**	**176**	P	**P**	**19 06 32.7**	**-1.3**
MULG	**Mulgathing**	**26.77**	**164**	P	**P**	**19 06 39.8**	**+0.7**
KMBL	**Kambalda**	**26.95**	**187**	P	**P**	**19 06 40.8**	**0.0**
LCRK	**Leigh Creek**	**28.31**	**157**	P	**P**	**19 06 53.0**	**+0.3**
NWAO	**Narrogin (SRO)**	**29.37**	**195**	P	**P**	**19 07 01.2**	**-0.9**
BBOO	**Buckleboo**	**29.72**	**162**	P	**P**	**19 07 05.4**	**+0.3**
BBOO	**Buckleboo**	**29.72**	**162**	P	**P**	**19 07 04.5**	**-0.6**
STKA	**Stephens Creek**	**30.97**	**153**	P	**P**	**19 07 16.6**	**+0.6**
STKA	**Stephens Creek**	**30.97**	**153**	P	**P**	**19 07 16.2**	**+0.2**
STKA	**Stephens Creek**	**30.97**	**153**	P	**P**	**19 07 16.3**	**+0.3**
	comp=Z,2.3nm,0.5s,baz=339,slow=12,SNR=6.5						
	comp=Z,2.3nm,0.5s						
HTT	**Hallett**	**31.24**	**159**	P	**P**	**19 07 19.4**	**+1.0**
CMAR	**Chiang Mai Arr**	**34.98**	**312**	P	**P**	**19 07 49.5**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=140,slow=7.0,SNR=9.1						
	comp=Z,0.7nm,0.6s						
ARPS	**Mount Arapiles**	**35.29**	**157**	P	**P**	**19 07 53.0**

ISCO	Idaho Springs	3.81	183			Pn	19 05 49.7	-0.3
H17A	Grant Village	3.84	284	Pn		Pn	19 05 50.4	0.0
H17A				IAML			19 07 04.3	
	comp=E,29nm,1.9s							
H17A				IAML			19 07 07.3	
	comp=N,30nm,1.4s							
FLWY	Flagg Ranch	3.89	279			Pn	19 05 51.6	+0.6
FLWY				IAML			19 07 15.4	
	comp=N,51nm,1.2s							
FLWY				IAML			19 07 16.1	
	comp=N,48nm,2.2s							
MOOW	Moose Ponds	3.91	274	Pn		Pn	19 05 50.9	-0.3
SNOW	Snow King Moun	3.92	270			Pn	19 05 51.5	0.0
SNOW				IAML			19 07 10.7	
	comp=N,46nm,1.1s							
SNOW				IAML			19 07 13.0	
	comp=N,55nm,1.1s							
YNR	Norris Junctio	3.98	288			Pn	19 05 51.0	-1.3
REDW	Red Top Meadow	4.00	268			Pn	19 05 52.6	+0.1
IMW	Indian Meadow	4.05	276			Pn	19 05 53.1	-0.2
IMW				IAML			19 06 24.1	
	comp=N,43nm,0.6s							
TPAW	Teton Pass	4.06	270			Pn	19 05 51.8	-1.7
TPAW				IAML			19 07 21.7	
	comp=N,47nm,0.8s							
TPAW				IAML			19 07 27.9	
	comp=N,25nm,1.5s							
O20A	White River Ci	4.08	213			Pn	19 05 54.6	+0.9
O20A				IAML			19 07 18.4	
	comp=E,47nm,1.0s							
FXWY	Fox Creek	4.11	272			Pn	19 05 55.3	+1.2
YHH	Holmes Hill	4.12	289			Pn	19 05 55.2	+0.9
AHID	Auburn Hatcher	4.28	261			Pn	19 05 56.0	-0.3
AHID				IAML			19 07 17.5	
	comp=E,34nm,0.8s							
AHID				IAML			19 07 34.5	
	comp=E,31nm,1.1s							
K30B	Basset	4.31	101	Pn		Pn	19 05 57.1	+0.5
RDMU	Red Mountain	4.36	227			Pn	19 05 56.8	-0.6
RDMU				IAML			19 07 23.3	
	comp=N,25nm,0.8s							
RDMU				IAML			19 07 23.5	
	comp=E,28nm,1.2s							
ECR	Eagle Creek	4.42	265			Pn	19 05 58.3	+0.1
E28A	Huff	4.44	46	Pn		Pn	19 05 59.8	+1.4
SMCO	Snowmass	4.59	196			Pg	19 06 16.4	-1.3
SMCO				IAML			19 07 27.9	
	comp=E,24nm,1.3s							
SMCO				IAML			19 08 26.4	
	comp=E,23nm,4.9s							
Q24A	Divide	4.64	178			Pn	19 06 01.1	-0.3
Q24A				IAML			19 07 25.3	
	comp=E,30nm,0.9s							
Q24A				IAML			19 08 30.9	
	comp=N,18nm,4.4s							
BOZ	Bozeman (W)	4.90	296			Pn	19 06 05.1	+0.3
BOZ				IAML			19 07 47.7	
	comp=N,14nm,1.2s							
BOZ				IAML			19 09 17.5	
	comp=N,14nm,4.5s							
DGMT	Dagmar	4.93	9			Pn	19 06 05.3	+0.2
HWUT	Hardware Ranch	4.99	249	Pn		Pn	19 06 05.9	-0.2
HWUT				IAML			19 07 49.6	
	comp=N,24nm,0.9s							
HWUT				IAML			19 07 52.6	
	comp=N,20nm,1.1s							
KSCO	Kaye Shedlock*	5.03	155			Pn	19 06 07.1	+0.4
BSUT	Blindstream Ca	5.05	234	Pn		Pn	19 06 05.6	-1.6
BSUT				IAML			19 07 55.4	
	comp=N,16nm,1.0s							
BSUT				IAML			19 07 59.3	
	comp=E,19nm,1.1s							
P18A	Preston Nutter	5.40	224			Pn	19 06 13.9	+2.0
SRU	San Rafael Swe	5.94	223			Pn	19 06 18.9	-0.2
TMUT	Trail Mountain	6.15	228			Pn	19 06 24.1	+2.0
ULM	Lac du Bonnet	9.28	41	Pn		Pn	19 07 03.7	-1.1
	comp=E,0.6nm,0.3s,baz=235,slow=12,SNR=5.4							
ULM				Lg		Lg	19 09 39.4	
	comp=E,0.1nm,0.3s,baz=254,slow=20,SNR=1.9							
	comp=E,1.1nm,0.3s							
I56US	NEWPORT INFRAS	9.42	304	I		I	20 00 10.0	
	baz=116,slow=317,SNR=1.6							
YKA	Yellowknife Ar	19.68	347	P		Pn	19 09 23.7	+2.2
	baz=155,slow=10,SNR=3.9							
	comp=E,0.3nm,0.9s							

*IDC **07** 19:16:14.3±0.9, 43˚.75S×40˚.50E, h0km, mb4.0/8, mbtmp4.0/8, MS3.7/16, Error ellipse: s-maj=35.0km s-min=23.3km az=69.0*

*NEIC **07** 19:16:16.0±1.5, 43˚.80S±0˚.10×40˚.1E±0˚.2, h10km±1km, mb4.5/14, Error ellipse: s-maj=27.7km s-min=8.2km az=236.0*

ISC 07 19:16:15.3±0.6, **43˚.8S**±0˚.1×**40˚.1E**±0˚.1, **h10**km, **n52,** σ0**80**/34, **mb4.3**/12, **MS3.8**/15, **Prince Edward Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	Sutherland	18.97	301	LR	LR	19 26 37.7	
	comp=Z,149nm,18.2s,baz=142,slow=32						
BOSA	Boshof	19.31	317	LR	LR	19 26 42.8	
	comp=Z,103nm,19.6s,baz=177,slow=32						
LBTB	Lobatse	22.21	323	LR	LR	19 28 58.3	
	comp=Z,138nm,18.3s,baz=138,slow=34						
VOI	Vohitsoka	22.56	16	P	P	19 21 16.1	+0.4
VOI				IAmb	IAmb	19 21 24.0	
	comp=Z,18nm,1.0s						
ABPO	Ambohimpanom	25.45	16	P	P	19 21 44.0	+0.5
ABPO				IAmb	IAmb	19 21 51.6	
	comp=Z,9.2nm,1.1s						
OPO	Ambohidratompo	25.88	16	LR	LR	19 30 20.8	
	comp=Z,328nm,20.5s,baz=4.0,slow=33						
MAW	Mawson	26.72	161	LR	LR	19 29 56.2	
	comp=Z,116nm,20.4s,baz=335,slow=31						
WIN	Windhoek	28.48	311	P	P	19 22 10.9	0.0
TSUM	Tsumeb	30.99	315	LR	LR	19 34 18.7	
	comp=Z,73nm,18.5s,baz=154,slow=35						
SNAA	Sanae	34.69	202	LR	LR	19 35 31.1	
	comp=Z,119nm,18.2s,baz=26,slow=33						
MBAR	Mbarara	43.85	346	LR	LR	19 40 42.3	
	comp=Z,80nm,21.2s,baz=150,slow=34						
QSPA	South Pole Qui	46.38	180	P	P	19 24 42.5	+1.0
QSPA				IAmb	IAmb	19 24 48.2	
	comp=Z,5.5nm,1.2s						
QSPA	South Pole Qui	46.38	180	P	P	19 24 42.3	+0.8
	comp=Z,3.2nm,1.0s,baz=259,slow=3.8,SNR=8.7						
QSPA				LR	LR	19 43 05.4	
	comp=Z,105nm,19.6s,baz=342,slow=35						
	comp=Z,3.2nm,1.0s						
VNDA	Vanda	53.78	167	P	P	19 25 37.4	+0.1
	comp=Z,0.5nm,0.4s,baz=202,slow=5.4,SNR=2.1						
	comp=Z,0.5nm,0.4s						
ATD	Arta Tunnel	55.15	3	LR	LR	19 47 25.2	
	comp=Z,5.0nm,20.9s,baz=167,slow=34						
H01W2	Cape Leeuwin H	56.16	108	T	T	20 26 17.9	
	baz=238,slow=75,SNR=7.4						
H01W3	Cape Leeuwin H	56.17	108	T	T	20 26 17.1	
	baz=238,slow=75,SNR=7.4						
H01W1	Cape Leeuwin H	56.17	108	T	T	20 26 29.8	
	baz=238,slow=75,SNR=7.5						
PALK	Pallekele	62.71	47	LR	LR	19 47 24.5	
	comp=Z,54nm,18.3s,baz=323,slow=30						
GIRL	Giralia	63.44	97	P	P	19 26 46.1	+0.9
TORD	Torodi Ar. Bea	66.66	319	P	P	19 27 07.9	+1.7
	comp=Z,0.6nm,0.9s,baz=134,slow=5.9,SNR=3.6						
	comp=Z,0.6nm,0.9s						
WSAR	Wadi Sarin	68.87	18	LR	LR	19 53 54.8	
	comp=Z,70nm,18.1s,baz=218,slow=33						
EIL	Elat	73.30	355	LR	LR	19 58 25.4	
	comp=Z,34nm,19.5s,baz=244,slow=35						
STKA	Stephens Creek	76.10	121	P	P	19 28 03.5	+0.3
	comp=Z,3.8nm,0.8s,baz=207,slow=3.6,SNR=5.6						
	comp=Z,3.8nm,0.8s						
ASAR	Alice Springs	76.60	110	P	P	19 28 05.6	-0.6
	comp=Z,1.8nm,1.0s,baz=218,slow=5.5,SNR=8.2						
	comp=Z,1.8nm,1.0s						
MMAI	Mount Meron Ar	76.61	356	LR	LR	20 01 28.1	
	comp=Z,42nm,18.4s,baz=111,slow=36						
WRA	Warramunga Arr	79.40	107	P	P	19 28 21.5	-0.2
	baz=222,slow=4.6						
CMAR	Chiang Mai Arr	82.04	55	P	P	19 28 35.5	-0.3
CMAR	Chiang Mai Arr	82.04	55	P	P	19 28 34.8	-0.9
	comp=Z,1.0nm,1.0s,baz=218,slow=5.7,SNR=6.2						
CMAR				LR	LR	20 00 51.1	
	comp=Z,60nm,18.1s,baz=210,slow=33						
	comp=Z,1.0nm,1.0s						
NIL	Nilore	82.83	27	P	P	19 28 38.5	-1.1
NIL				IAmb	IAmb	19 28 42.1	
	comp=Z,3.4nm,0.8s						
GEYT	Alibeck	83.00	14	P	P	19 28 40.9	+0.6
GEYT				IAmb	IAmb	19 28 42.1	
	comp=Z,4.0nm,1.2s						
GEYT	Alibeck	83.00	14	P	P	19 28 39.7	-0.7
	comp=Z,1.3nm,0.9s,baz=202,slow=7.3,SNR=5.5						
	comp=Z,1.3nm,0.9s						
BRTR	Keskin Array B	83.39	355	P	P	19 28 42.8	+0.4
	comp=Z,0.9nm,1.0s,baz=189,slow=8.2,SNR=3.1						
	comp=Z,0.9nm,1.0s						
GNI	Garni	83.71	4	LR	LR	20 04 40.2	
	comp=Z,46nm,20.8s,baz=178,slow=35						
CRAI	Chiangrai	84.26	55	P	P	19 28 47.2	0.0
SIMJ	Simiganj	86.17	22	P	P	19 28 55.6	-0.6
SIMJ				IAmb	IAmb	19 28 58.5	
	comp=Z,9.0nm,1.4s						
CHGR	Chuyangaron	86.22	22	P	P	19 28 56.2	-0.4
KBZ	Khabaz	87.22	2	LR	LR	20 07 11.5	
	comp=Z,48nm,19.9s,baz=137,slow=35						
KKAR	Karatay Array	90.73	22	P	P	19 29 17.9	0.0
P40A	Paris	144.41	280	PKPdf	PKPdf	19 35 50.7	-0.6
COWI	Conover	144.52	292	PKPdf	PKPdf	19 35 51.2	-0.1
S39A	Bolivar	144.58	276	PKPdf	PKPdf	19 35 51.2	-0.4
L40A	Anamosa	144.75	284	PKPdf	PKPdf	19 35 52.1	+0.3
HNDO	Hondo	144.82	260	PKPdf	PKPab	19 35 50.4	-1.0
WHTX	Lake Whitney,	144.87	265	PKPdf	PKPab	19 35 50.9	-0.5
FW13	Cleburne	145.04	265		PKPab	19 35 52.1	0.0
FW07	Weatherford	145.47	266	PKPdf	PKPab	19 35 53.6	-0.1
P38A	Dawn	145.51	279	PKPdf	PKPdf	19 35 52.5	-0.7
BRDY	Brady	145.60	263	PKPdf	PKPdf	19 35 52.7	-1.0
DRIO	Del Rio	145.71	258	PKPdf	PKPdf	19 35 51.4	-2.5
PLPT	Palo Pinto	145.91	265		PKPbc	19 35 54.4	-0.4
TXAR	Lajitas Array	147.80	255	PKPbc	PKiKP	19 36 02.0	-0.4
	comp=Z,0.6nm,1.0s,baz=132,slow=5.4,SNR=4.2						

*BJI **07** 19:25:38.3±0.0, 20˚.73S×173˚.80W, h9km, mb5.2/38, mB5.4/19, Ms4.8/8, Ms7 4.5/7*

*IDC **07** 19:25:38.8±0.4, 20˚.73S×174˚.26W, h0km, mb4.8/19, mbtmp4.7/21, ML4.5/2, MS4.1/45, Error ellipse: s-maj=18.6km s-min=14.0km az=119.0*

*NEIC **07** 19:25:38.6±2.4, 20˚.84S±0˚.10×173˚.9W±0˚.1, h10km±1km, mb5.0/179, Error ellipse: s-maj=21.2km s-min=12.5km az=131.0*

*GCMT **07** 19:25:44.6±0.2, 21˚.12S±0˚.02×173˚.78W±0˚.01, h20km, MW5.0/102, Moment Tension Solution. s54,c76; s102,c153; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr3.61±.14; Mθθ-0.59±.10; Mφφ-3.02±.09; Mrθ0.90±.20; Mθφ-1.47±.06; Mφr1.00±.15; Best double couple: M03.90200×10^16^ NP1:φs31.00000°, δ55.00000°, λ97.00000°. NP2:φs199.00000°, δ36.00000°, λ80.00000°. Principal axes: T 3.8700, Plg79.0000°, Azm327.0000°; N 0.0600, Plg6.0000°, Azm207.0000°; P -3.9350, Plg10.0000°, Azm116.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MOS **07** 19:25:45.8±3.4, 20˚.67S×174˚.62W, h10km, mb5.2/37 Error ellipse: s-maj=10.1km s-min=8.9km az=100.3*

ISC 07 19:25:40.2±0.3, **20˚.99S**±0˚.05×**174˚.16W**±0˚.07, **h10**km, **h10**km:**pP-P, n812,** σ1**$23**/705, **mb5.0**/138, **MS4.2**/47, **51C-57D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.41	65	P	Pn	19 26 40.5	-6.8
NIUE				S	Sn	19 27 23.6	-15
	baz=4.0						
NIUE	Niue	4.41	65	Pn	Pn	19 26 40.6	-6.7
NIUE				Sn	Sn	19 27 22.8	-16
MSVF	Nonsavu	8.03	292	Pn	Pn	19 27 43.5	+6.4
MSVF	Nonsavu	8.03	292	eP	Pn	19 27 41.6	+4.5
RAO	Raoul Island	8.90	202	Pn	Pn	19 27 49.6	+0.7
RAO	Raoul Island	8.90	202	Pn	Pn	19 27 42.4	-6.5
	31nm,0.3s,baz=37,slow=20,SNR=1.5						
RAO				Sn	Sn	19 29 24.6	-4.7
	48nm,0.3s,baz=108,slow=19,SNR=2.0						
RAO	Raoul Island	8.90	202	P	Pn	19 27 49.6	+0.7
RAR	Rarotonga	13.43	94	Pn	Pn	19 28 43.9	-7.1
RAR	Rarotonga	13.43	94	Pn	Pn	19 28 43.4	-7.6
	6.6nm,0.3s,baz=263,slow=6.8,SNR=14						
RAR				Sn	Sn	19 30 57.7	-23
	1.4nm,0.3s,baz=282,slow=20,SNR=1.1						
RAR				LR	LR	19 33 32.2	
	comp=Z,428nm,18.4s,baz=270,slow=35						
MARNC	Mare, Loyalty	16.61	265	Pn	Pn	19 29 32.6	-0.7
PINNC	Pines Island,	17.16	261	Pn	Pn	19 29 38.8	-1.4
LIFNC	LIFOU	17.38	267	Pn	Pn	19 29 40.6	-2.4
LIFNC				IAmb	IAmb	19 29 54.3	
	comp=Z,211nm,1.1s						
ONTNC	Ouen Toro	18.07	262		Pn	19 29 50.9	-0.6
DZM	Mont Dzumac	18.08	263		Pn	19 29 53.5	+1.8
DZM	Mont Dzumac	18.08	263	P	Pn	19 29 51.7	0.0
	comp=Z,1.4nm,0.3s,baz=84,slow=19,SNR=13						
DZM				LR	LR	19 35 45.7	
	comp=Z,1μm,19.6s,baz=109,slow=34						
	comp=Z,15nm,0.8s						
URZ	Urewera	18.79	202	P	Pn	19 30 01.7	+1.5
	comp=Z,1.6nm,0.3s,baz=31,slow=2.5,SNR=9.9						
URZ				S	Sn	19 33 17.8	-13
	comp=Z,8.9nm,0.7s,baz=105,slow=20,SNR=2.6						
URZ				LR	LR	19 35 29.0	
	comp=Z,383nm,20.4s,baz=38,slow=31						
	comp=Z,20nm,0.7s						
TOZ	Tahuroa Road	18.94	206	P	Pn	19 30 03.6	+1.6
RTZ	Ruatahuna	19.16	202	P	P	19 30 04.7	+0.9
BKZ	Black Stump Fm	19.82	202	Pn	Pn	19 30 14.0	+1.4
HIZ	Hauiti	19.87	206	Pn	Pn	19 30 13.8	+0.7
HIZ				IAmb	IAmb	19 30 15.6	
	comp=Z,135nm,1.3s						
KOUNC	Koumac, New Ca	20.16	267		P	19 30 14.6	-0.3
BFZ	Birch Farm	21.26	200	P	P	19 30 25.9	-0.7
BFZ				IAmb	IAmb	19 30 44.4	
	comp=Z,40nm,0.9s						
MRZ	Mangatainoka R	21.47	202	P	P	19 30 25.7	-3.1
MRZ				IAmb	IAmb	19 30 30.0	
	comp=Z,106nm,1.8s						
BHW	Baring Head	22.38	202	P	P	19 30 36.2	-2.4
PLWZ	Palliser	22.39	201	P	P	19 30 38.4	-0.4
TCW	Tory Channel	22.42	203	P	P	19 30 36.7	-2.3
TUWZ	Tuamarina	22.73	204	P	P	19 30 40.3	-2.1
NNZ	Nelson	22.77	205	P	P	19 30 41.1	-1.6
QRZ	Quartz Range	22.78	207	P	P	19 30 41.3	-1.7
QRZ				IAmb	IAmb	19 30 50.8	
	comp=Z,54nm,0.8s						
BSWZ	Blackbirch Sta	23.00	203	P	P	19 30 44.4	-0.8
MRNZ	Matariki Terra	23.17	206	P	P	19 30 44.1	-2.8
THZ	Tophouse	23.42	205	P	P	19 30 48.3	-1.2
THZ				IAmb	IAmb	19 30 56.8	
	comp=Z,28nm,0.8s						
PPT	Papeete	23.45	86	LR	LR	19 38 28.5	
	comp=Z,221nm,18.7s,baz=214,slow=33						
KHZ	Kahutara	23.74	203	P	P	19 30 50.1	-2.4
KHZ				IAmb	IAmb	19 30 59.5	
	comp=Z,44nm,1.0s						
DSZ	Denniston Nort	23.85	207	P	P	19 30 52.6	-1.1
GVZ	Greta Valley S	24.40	203	P	P	19 30 57.5	-1.3
LTZ	Lake Taylor	24.53	205	P	P	19 30 56.5	-3.5
INZ	Inchbonnie	24.81	206	P	P	19 31 01.3	-1.2
OXZ	Oxford	25.08	204	P	P	19 31 04.0	-0.9
OXZ				IAmb	IAmb	19 31 12.9	
	comp=Z,61nm,1.0s						
TARA	Tarawa	25.55	329	P	P	19 31 06.8	-2.6
RPZ	Rata Peaks	25.80	205	P	P	19 31 10.9	-0.5
RPZ				IAmb	IAmb	19 31 35.8	
	comp=Z,78nm,1.3s						
LBZ	Lake Benmore	26.70	206		P	19 31 16.3	-3.3
LBZ				IAmb	IAmb	19 31 28.3	
	comp=Z,87nm,1.6s						
ODZ	Otahua Downs	27.07	204	P	P	19 31 20.3	-2.6
ODZ				IAmb	IAmb	19 31 47.1	
	comp=Z,71nm,1.6s						
MLZ	Mavora Lakes	28.35	207	P	P	19 31 32.9	-1.5
MLZ				IAmb	IAmb	19 31 43.9	
	comp=Z,27nm,1.0s						
ARMA	Armidale	32.12	246	P	P	19 32 06.5	-1.5
ARMA				IAmb	IAmb	19 32 51.8	
	comp=Z,23nm,1.4s						
EIDS	Eidsvold	32.19	255	P	P	19 32 08.2	-0.4
	baz=33,SNR=4.5						
EIDS	Eidsvold	32.19	255	P	P	19 32 07.0	-1.5
EIDS				IAmb	IAmb	19 32 08.8	
	comp=Z,15nm,0.8s						
CNB	Canberra Magne	34.97	238	P	P	19 32 33.0	+0.2
	baz=35,SNR=4.9						
CAN	Canberra	35.26	238	P	P	19 32 34.3	-1.0
CAN	Canberra	35.26	238	P	P	19 32 34.3	-1.0
CAN				pmax	pmax		
	comp=Z,76nm,1.8s						
CTAO	Charters Tower	37.01	264	P	P	19 32 49.8	-0.6
CTAO	Charters Tower	37.01	264	P	P	19 32 49.8	-0.6
CTAO				pmax	pmax		
	comp=Z,11nm,0.8s						
CMSA	Cobar Meteorol	37.32	245	P	P	19 32 51.9	-1.0
	baz=38,SNR=15						
QLP	Quilpie	38.35	253	P	P	19 33 00.3	-1.4
	baz=39,SNR=18						
TOO	Toolangi	38.55	236	P	P	19 33 02.7	-0.5
TOO				IAmb	IAmb	19 34 01.4	
	comp=Z,79nm,1.9s						
TOO	Toolangi	38.55	236	P	P	19 33 02.7	-0.5
TOO				pmax	pmax		
	comp=Z,79nm,1.9s						
TAU	Tasmania Unive	38.86	227	P	P	19 33 06.4	+0.8
TAU	Tasmania Unive	38.86	227	P	P	19 33 06.4	+0.8
TAU				pmax	pmax		
	comp=Z,115nm,1.4s						
MTSU	Mount Surprise	39.15	267	P	P	19 33 07.8	-0.7
	baz=40,SNR=14						
STKA	Stephens Creek	40.83	245	P	P	19 33 21.9	-0.3
	baz=41,SNR=10						
STKA	Stephens Creek	40.83	245	P	P	19 33 21.8	-0.4
STKA	Stephens Creek	40.83	245	P	P	19 33 21.8	-0.4
	comp=Z,6.6nm,0.8s,baz=86,slow=14,SNR=11						
STKA				LR	LR	19 49 08.4	
	comp=Z,308nm,18.3s,baz=61,slow=34						
	comp=Z,6.6nm,0.8s						
STKA	Stephens Creek	40.83	245	iP	P	19 33 22.0	-0.3
COEN	Coen	41.20	273	P	P	19 33 24.3	-1.1
	baz=42,SNR=5.1						
COEN	Coen	41.20	273	P	P	19 33 23.9	-1.6
COEN				IAmb	IAmb	19 33 25.0	
	comp=Z,67nm,1.7s						
MANU	Manus Island	41.95	292	P	P	19 33 31.6	0.0
HTT	Hallett	43.19	243	P	P	19 33 40.8	-0.8
	baz=44,SNR=5.8						
KIP	Kipapa	45.01	21	eP	P	19 33 55.6	-0.5
BBOO	Buckleboo	45.56	244	P	P	19 33 58.8	-1.7
AS31	Alice Springs	47.90	257	P	P	19 34 17.6	-1.4
ASAR	Alice Springs	47.90	257	P	P	19 34 17.7	-1.3
ASAR	Alice Springs	47.90	257	P	P	19 34 17.4	-1.6
	comp=Z,13nm,0.7s,baz=97,slow=7.6,SNR=178						
ASAR				PcP	PcP	19 35 47.6	+0.1
	comp=Z,3.4nm,0.8s,baz=102,slow=3.3,SNR=4.4						
	comp=Z,13nm,0.7s						
ASAR	Alice Springs	47.90	257	P	P	19 34 17.7	-1.3
WRAB	Tennant Creek	48.08	262	P	P	19 34 18.3	-2.1
WRAB				IAmb	IAmb	19 34 26.9	
	comp=Z,9.8nm,0.9s						
WRAB	Tennant Creek	48.08	262	iP	P	19 34 18.5	-1.9
WRAB				pmax	pmax		
	comp=Z,11nm,0.9s						
WRA	Warramunga Arr	48.09	262	P	P	19 34 18.1	-2.3
	comp=Z,6.7nm,0.8s,baz=99,slow=8.1,SNR=28						
WRA				PcP	PcP	19 35 48.6	+0.4
	comp=Z,4.8nm,0.9s,baz=101,slow=3.1,SNR=4.3						
	comp=Z,6.7nm,0.8s						
FORT	Forrest	52.40	247	P	P	19 34 51.7	-1.3
	baz=53,SNR=11						
FORT	Forrest	52.40	247	P	P	19 34 51.4	-1.6
FORT				IAmb	IAmb	19 35 14.6	
	comp=Z,29nm,0.8s						
MTN	Manton Dam	52.75	270	P	P	19 34 55.1	-0.7
WRKA	Warakurna	52.78	254	P	P	19 34 54.4	-1.6
	baz=53,SNR=58						
GUMO	Guam	52.92	307	LR	LR	19 56 15.6	
	comp=Z,116nm,18.7s,baz=142,slow=35						
KNRA	Kununurra	54.20	265	P	P	19 35 06.1	-0.4
KNRA				IAmb	IAmb	19 35 44.8	
	comp=Z,22nm,1.3s						
FAKI	Fak Fak	55.11	282	P	P	19 35 11.0	-2.1
FAKI				IAmb	IAmb	19 35 23.0	
	comp=Z,36nm,1.3s						
SBA	Scott Base	57.65	185	P	P	19 35 33.6	+3.4
SBA				IAmb	IAmb	19 35 35.1	
	comp=Z,10nm,0.9s						
SBA	Scott Base	57.65	185	P	P	19 35 33.6	+3.4
SBA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNDA	Vanda	57.77	186	P	P	19 35 34.0	+2.8
VNDA	Vanda	57.77	186	P	P	19 35 33.9	+2.8
	comp=Z,3.5nm,0.8s,baz=12,slow=8.9,SNR=17						
	comp=Z,3.5nm,0.8s						
RPN	Rapa Nui	58.95	110	LR	LR	19 56 35.2	
	comp=Z,172nm,18.7s,baz=348,slow=31						
SOEI	Soe	60.10	271	P	P	19 35 46.4	-2.0
BATI	Baumata	60.52	270	LR	LR	20 02 14.2	
	comp=Z,278nm,19.0s,baz=148,slow=36						
PSA00	Pilbara Seismi	61.05	256	P	P	19 35 53.2	-1.4
PSA00				IAmb	IAmb	19 36 40.2	
	comp=Z,11nm,0.9s						
TNTI	Ternate	61.06	283	P	P	19 35 53.6	-1.2
KLBR	Kellerberrin	61.10	245	P	P	19 35 53.9	-1.0
	baz=62,SNR=5.2						
MBWA	Marble Bar	61.24	257	P	P	19 35 54.5	-1.5
MBWA				IAmb	IAmb	19 36 04.8	
	comp=Z,14nm,1.1s						
NWAO	Narrogin (SRO)	61.36	243	P	P	19 35 55.0	-1.6
	baz=62,SNR=4.0						
NWAO				P	P	19 35 55.0	-1.6
	baz=62,SNR=4.0						
NWAO	Narrogin (SRO)	61.36	243	LR	LR	20 01 26.8	
	comp=Z,242nm,19.0s,baz=118,slow=35						
BLDU	Ballidu	62.13	246	P	P	19 36 00.4	-1.5
	baz=62,SNR=6.5						
MUN	Mundaring	62.35	244	P	P	19 36 02.2	-1.1
	baz=63,SNR=11						
MORW	Morawa	62.96	247	P	P	19 36 06.0	-1.4
	baz=63,SNR=5.8						
MORW	Morawa	62.96	247	P	P	19 36 06.8	-0.6
MORW				IAmb	IAmb	19 36 08.8	
	comp=Z,17nm,0.9s						
JCJ	Chichijima	63.80

baz=232
JNU Nakatsue 75.13 315 P P 19 37 21.8 -1.0
JNU Nakatsue 75.13 315 LR LR 20 06 15.2
comp=Z,67nm,19.4s,baz=150,slow=32
SCI2 San Clemente I 75.48 46 P P 19 37 25.0 +0.2
baz=233
JKA Kamikawa-asahi 75.92 329 P P 19 37 25.7 -1.3
ASAJ Asahikawa 75.92 329 LR LR 20 09 39.8
comp=Z,113nm,18.2s,baz=147,slow=35
ASAJ Asahikawa 75.92 329 P P 19 37 25.7 -1.3
ASAJ pmax pmax
comp=Z,84nm,1.9s
CCX Cicese 76.11 48 P P 19 37 21.0 -7.4
LPIG La Paz 76.60 57 LR LR 20 08 01.0
comp=Z,165nm,18.1s,baz=224,slow=33
LEM Lembang 76.61 268 P P 19 37 32.2 +0.2
comp=Z,46nm,0.8s,baz=122,slow=13,SNR=13
LEM LR LR 20 11 12.9
comp=Z,230nm,18.8s,baz=190,slow=36
comp=Z,46nm,0.8s
MURC Murrieta 76.76 46 P P 19 37 31.9 -0.2
baz=233
KMPM Mount Pierce 76.81 37 P P 19 37 28.0 -4.3
KMPM IAmb IAmb 19 37 36.1
comp=Z,14nm,1.1s
BFSC Mount Baldy Ra 76.83 45 P P 19 37 32.3 -0.3
baz=233
MONP2 Monument Peak 76.87 47 P P 19 37 31.9 -1.0
baz=234
KMRM Mail Ridge 76.91 37 P P 19 37 27.6 -5.2
SDPT Sand Point 76.92 8 P P 19 37 33.4 +1.0
baz=193
RMX La Rumorosa 76.94 47 P P 19 37 28.6 -4.7
RMX IAmb IAmb 19 37 42.0
comp=Z,12nm,1.0s
IKP In-Ko-Pah, Jac 76.94 47 P P 19 37 32.2 -1.0
baz=234
EDW2 Edwards Air Fo 77.00 44 P P 19 37 33.3 -0.2
baz=233
KSM Kuching 77.04 277 P P 19 37 33.8 -0.3
S12K Black Hills 77.08 7 P P 19 37 34.1 +0.7
baz=191
PFO Pinyon Flats O 77.26 46 P P 19 37 35.0 -0.1
baz=234
TPFO Pinon Flats 77.26 46 P P 19 37 34.8 -0.2
baz=234
SWSC Sam W. Stewart 77.33 47 P P 19 37 34.6 -0.7
baz=234
P08K Saint George I 77.38 3 P P 19 37 35.6 +0.6
baz=184
PET Petropavlovsk 77.39 344 *e*P **P 19 37 37.7 +2.6**
PET *e*S **S 19 47 22.8 -2.5**
PET MLR MLR
comp=Z,100nm,15.0s
CMB Columbia Colle 77.43 41 P P 19 37 33.8 -2.0
CMB Columbia Colle 77.43 41 P P 19 37 33.8 -2.0
CMB pmax pmax
comp=Z,5.0nm,0.9s
LRMC Laurel Mtn Rad 77.56 44 P P 19 37 36.4 -0.3
baz=233
AFDM Forest Hills D 77.66 40 P P 19 37 35.1 -2.0
PEA0B Petropavlovsk- 77.72 343 *c i*P **P 19 37 36.5 -0.5**
PETK Petropavlovsk- 77.72 343 P P 19 37 35.5 -1.5
PETK Petropavlovsk- 77.72 343 P P 19 37 34.1 -2.9
comp=Z,9.4nm,0.7s,baz=126,slow=7.3,SNR=23
PETK LR LR 20 05 17.9
comp=Z,91nm,21.7s,baz=154,slow=31
comp=Z,9.4nm,0.7s
PETK Petropavlovsk- 77.72 343 P P 19 37 35.5 -1.5
ORV Oroville 77.74 39 P P 19 37 31.9 -5.5
BELC Belle Mtn. Jos 77.80 46 P P 19 37 37.6 -0.5
baz=234
CWC Cottonwood Cre 77.89 43 P P 19 37 37.9 -0.6
baz=232
KSXB Camp Six Broad 77.90 36 P P 19 37 32.9 -5.6
S14K Fog Glacier 77.95 8 P P 19 37 38.8 +0.5
baz=194
BC3 Big Chuckawall 77.97 47 P P 19 37 38.9 -0.1
baz=235
MDPB Devils Postpil 77.99 42 P P 19 37 39.6 +0.4
MDPB IAmb IAmb 19 37 41.4
comp=Z,9.1nm,0.9s
YSS Yuzh-Sakhalins 77.99 331 P P 19 37 37.1 -1.5
YSS Yuzh-Sakhalins 77.99 331 *e*P **P 19 37 39.0 +0.4**
YSS *e*S **S 19 47 28.9 -3.2**
YSS pmax pmax
comp=Z,20nm,0.9s
GSC Goldstone, Bar 78.03 45 P P 19 37 39.7 +0.4
GSC IAmb IAmb 19 37 57.6
comp=Z,18nm,1.7s
GSC Goldstone, Bar 78.03 45 P P 19 37 38.6 -0.7
baz=233
GSC Goldstone, Bar 78.03 45 P P 19 37 39.7 +0.4
GSC pmax pmax
comp=Z,18nm,1.7s
MPMC Manual Prospec 78.03 44 P P 19 37 39.1 -0.4
baz=233,SNR=12
GLA Glamis 78.06 48 P P 19 37 39.0 -0.4
baz=235
HEC Hector,Ludlow 78.06 45 P P 19 37 39.2 -0.3
baz=234,SNR=5.9
CHGN Chignik 78.13 9 P P 19 37 40.0 +0.9
baz=195
MLAC Mammoth, Mammo 78.14 42 P P 19 37 39.8 -0.2
baz=232
TIN Tinemaha, Big 78.16 43 P P 19 37 40.1 +0.1
baz=232
WAKR Walker 78.31 41 P P 19 37 41.8 +0.9
WAKR IAmb IAmb 19 38 04.3
comp=Z,18nm,1.2s
IRM Iron Mountain 78.47 47 P P 19 37 41.4 -0.2
baz=235
YBH Yreka Blue Hor 78.48 37 P P 19 37 41.8 +0.2
YBH Yreka Blue Hor 78.48 37 LR LR 20 07 33.4
comp=Z,154nm,18.3s,baz=226,slow=32
YBH Yreka Blue Hor 78.48 37 P P 19 37 41.8 +0.2
YBH pmax pmax
comp=Z,5.0nm,1.1s
GMRC Granite Mounta 78.48 46 P P 19 37 41.5 -0.3
baz=234
DSP Deep Springs 78.52 42 P P 19 37 39.5 -2.3
PNTR Pine Nut 78.58 40 P P 19 37 43.1 +0.7
PNTR IAmb IAmb 19 37 51.5
comp=Z,24nm,1.3s
BELA Belgrano 2 78.59 172 P P 19 37 41.2 -0.5
GRAC Grapevine Rang 78.68 43 P P 19 37 42.2 -0.6
baz=233
FURC Furnace Creek, 78.68 44 P P 19 37 42.2 -0.5
baz=233
LHV Little Huntoon 78.73 42 IAmb IAmb 19 38 05.6
comp=Z,23nm,1.2s
SHOC Shoshone, Teco 78.73 45 P P 19 37 42.2 -0.8
baz=234
214A Organ Pipe Nat 78.86 49 P P 19 37 44.0 +0.1
baz=236
HUMO Hull Mountain 78.93 36 P P 19 37 43.7 -0.3
NVAR Mina Array Bea 78.96 41 P P 19 37 44.1 -0.4
NVAR Mina Array Bea 78.96 41 P P 19 37 44.5 0.0
comp=Z,8.5nm,0.9s,baz=225,slow=8.9,SNR=37
NVAR LR LR 20 07 52.7
comp=Z,184nm,18.2s,baz=238,slow=32
comp=Z,8.5nm,0.9s
SII Sitkinak Islan 79.06 11 P P 19 37 44.6 +0.2
baz=199
PDMCI Parker Dam,Lak 79.23 47 P P 19 37 45.6 -0.2
baz=235
TJN Taejon 79.39 316 ⇑ *i*P **P 19 37 47.3 +0.7**
KSRS Korea Array 79.67 317 P P 19 37 48.5 +0.5
comp=Z,10nm,1.0s,baz=126,slow=6.2,SNR=21
comp=Z,10nm,1.0s
KSAR Wonju Array Be 79.68 317 P P 19 37 47.1 -1.1
KSAR Wonju Array Be 79.68 317 P P 19 37 47.1 -1.1
OHAK Old Harbor 79.86 11 P P 19 37 49.2 +0.6
baz=200
J05D Fort Rock, OR 80.32 36 P P 19 37 50.1 -1.6
J05D IAmb IAmb 19 38 10.5
comp=Z,16nm,1.3s
Q17K Contact Creek 80.40 10 P P 19 37 51.2 -0.5
baz=197
TUC Tucson 80.49 50 P P 19 37 52.1 -0.7
baz=238
KDAK Kodiak Island 80.51 12 P P 19 37 52.4 +0.2
baz=200
KDAK Kodiak Island 80.51 12 LR LR 20 05 38.8
comp=Z,120nm,20.9s,baz=218,slow=30
R11B Troy Canyon, C 80.62 43 P P 19 37 52.1 -1.3
baz=234

O14K Tigyukauivet M 80.65 7 P P 19 37 52.7 -0.1
baz=192
P16K Nushagak River 80.83 8 P P 19 37 54.2 +0.4
baz=195
TYV Tymovskoe 81.00 334 *e*P **P 19 37 54.5 -0.4**
TYV pmax pmax
comp=Z,6.0nm,0.9s
TYV pmax pmax
comp=Z,100nm,5.3s
P17K Kvichak River 81.21 9 P P 19 37 55.8 -0.1
baz=196
WVOR Wild Horse Val 81.25 38 IAmb IAmb 19 38 04.0
comp=Z,19nm,1.5s
WVOR Wild Horse Val 81.25 38 P P 19 37 56.9 +0.3
WVOR pmax pmax
comp=Z,7.0nm,1.0s
N14K Kuskokwak Cree 81.26 6 P P 19 37 56.3 +0.2
baz=192
Q20K Shuyak Island 81.33 11 P P 19 37 56.6 +0.1
baz=200
M11K Mekoryuk 81.34 4 P P 19 37 55.0 -1.4
baz=187
O16K Kokwok River B 81.36 8 P P 19 37 55.4 -1.2
baz=195
Q19K Cape Douglas, 81.40 11 P P 19 37 56.8 -0.2
baz=199
USRK Usuriysk Ar. 81.42 324 LR LR 20 09 31.9
comp=Z,98nm,20.6s,baz=131,slow=32
P18K Big Mountain, 81.58 10 P P 19 37 57.7 -0.2
baz=198
CCUT Cedar City 81.59 45 IAmb IAmb 19 38 22.7
comp=Z,25nm,2.0s
O17K Koliganek Bris 81.67 9 P P 19 37 58.4 +0.2
baz=196
N15K Kwethluk River 81.67 7 P P 19 37 57.4 -0.9
baz=193
U15A North Rim 81.67 46 IAmb IAmb 19 38 14.4
comp=Z,19nm,1.6s
O18K Koktuh Hills 82.03 10 P P 19 37 59.7 -0.5
baz=198
M14K Bethel 82.05 6 P P 19 38 00.4 +0.2
baz=191
M15K Kasigluk River 82.12 7 P P 19 38 00.7 +0.1
baz=192
N16K Nishlik Lake 82.13 8 P P 19 38 01.3 +0.6
baz=194
P19K Oil Pt 82.16 11 P P 19 38 01.5 +0.6
baz=200
PKCU Pink Cliffs 82.22 45 IAmb IAmb 19 38 18.2
comp=Z,35nm,1.6s
MAW Mawson 82.30 199 P P 19 38 03.1 +1.4
comp=Z,4.7nm,0.7s,baz=117,slow=5.8,SNR=8.9
comp=Z,4.7nm,0.7s
N17K Nushagak Hills 82.39 8 P P 19 38 02.6 +0.6
baz=196
O19K Port Alsworth 82.49 10 P P 19 38 03.3 +0.7
baz=198
L14K Kuka Creek 82.56 6 P P 19 38 03.2 +0.3
baz=191
MTPU Mount Pierson 82.64 45 IAmb IAmb 19 38 27.8
comp=Z,16nm,1.2s
M16K Timber Creek 82.64 7 P P 19 38 03.7 +0.4
baz=194
O20K Sleo Mountain 82.67 11 P P 19 38 03.8 +0.2
baz=200
BRSE Bradley Lake S 82.69 12 P P 19 38 04.3 +0.6
baz=202
N18K Kilae Creek 82.72 9 P P 19 38 04.4 +0.6
baz=197
H03S2 Juan Fernandez 82.74 123 T T 21 10 38.1
baz=248,slow=74,SNR=5.4
H03S1 Juan Fernandez 82.75 123 T T 21 10 36.1
baz=248,slow=74,SNR=5.4
H03S3 Juan Fernandez 82.76 123 T T 21 10 32.5
baz=248,slow=74,SNR=7.4
121A Cookes Peak, D 82.78 51 P P 19 38 03.9 -1.1
baz=240
H03N2 Juan Fernandez 82.87 123 T T 21 10 37.4
baz=252,slow=74
H03N3 Juan Fernandez 82.87 123 T T 21 10 14.6
baz=252,slow=74
H03N1 Juan Fernandez 82.89 123 T T 21 10 24.9
baz=252
NJ2 Nanjing 82.98 308 ⇑ P **P 19 38 06.6 +0.8**
NJ2 pP **pP 19 38 08.9 +0.7**
NJ2 sP **sP 19 38 11.8 +2.7**
NJ2 pmax pmax
comp=Z,21nm,0.7s
NJ2 pmax pmax
comp=Z,160nm,4.7s
K13K Kusilvak Mount 82.98 5 P P 19 38 05.6 +0.5
baz=189
L15K Ungalak Mounta 83.00 6 P P 19 38 05.6 +0.4
baz=192,SNR=7.3
MDJ Mudanjiang 83.02 323 P P 19 38 06.3 +0.6
MDJ pmax pmax
comp=Z,16nm,1.0s
MDJ pmax pmax
comp=Z,200nm,5.2s
N19K Bonanza Creek 83.06 10 P P 19 38 05.6 0.0
baz=198
MYKOM Kota Tinggi 83.16 275 IAmb IAmb 19 38 09.2
comp=Z,14nm,0.8s
BBB Bella Bella 83.18 27 LR LR 20 11 50.6
comp=Z,62nm,18.0s,baz=222,slow=33
M17K Holitna River 83.20 8 P P 19 38 06.2 0.0
baz=196
L16K Owhat River 83.25 7 P P 19 38 07.0 +0.5
baz=194
SEW Seward 83.28 12 P P 19 38 07.1 +0.4
baz=203
Q23K Middleton Isla 83.32 14 P P 19 38 06.8 0.0
baz=206
DUG Dugway, Tooele 83.44 43 P P 19 38 07.5 -0.7
baz=236
P23K Montague Islan 83.60 13 P P 19 38 08.0 -0.3
baz=205
K15K Wolf Creek Mou 83.61 6 P P 19 38 08.4 0.0
baz=192,SNR=12
CRAG Craig 83.76 22 P P 19 38 09.5 +0.3
baz=218
L17K Donlin 83.80 7 P P 19 38 09.4 +0.1
baz=195
L18K Granite Mounta 84.08 8 IAmb IAmb 19 38 11.9
comp=Z,16nm,1.2s
L18K Granite Mounta 84.08 8 P P 19 38 10.5 -0.2
baz=196
M19K Big River Lodg 84.11 9 P P 19 38 11.2 +0.3
baz=198
RC01 Rabbit Creek A 84.13 12 P P 19 38 11.5 +0.5
baz=203
MNTX Cornudas Mount 84.14 53 P P 19 38 11.0 -0.9
baz=241
V35K Ketchikan 84.19 23 P P 19 38 11.2 -0.2
baz=219
KAIM Kayak Island 84.20 15 P P 19 38 11.1 -0.4
baz=208
F10A Beach Ranch, E 84.24 36 IAmb IAmb 19 38 20.8
comp=Z,11nm,0.9s
U33K Whale Pass 84.27 22 P P 19 38 11.1 -0.7
baz=218
M20K Styx River 84.28 10 P P 19 38 11.9 -0.1
baz=200
SIT Sitka 84.29 20 P P 19 38 11.7 -0.2
baz=216
SUA Susitna One 84.29 11 IAmb IAmb 19 38 23.9
comp=Z,8.1nm,0.8s
SUA Susitna One 84.29 11 P P 19 38 11.7 -0.3
baz=202
L19K White Mountain 84.30 9 P P 19 38 11.4 -0.5
baz=198
SRU San Rafael Swe 84.31 44 IAmb IAmb 19 38 35.1
comp=Z,16nm,1.3s
TXAR Lajitas Array 84.33 56 P P 19 38 12.1 -0.8
comp=Z,2.3nm,1.0s,baz=213,slow=4.3,SNR=9.7
TXAR LR LR 20 09 39.8
comp=Z,67nm,18.2s,baz=231,slow=31
comp=Z,2.3nm,1.0s
K17K Iditarod 84.36 7 P P 19 38 12.8 +0.6
baz=195
HLID Hailey 84.39 39 IAmb IAmb 19 38 14.9
comp=Z,9.3nm,1.0s
HLID Hailey 84.39 39 P P 19 38 12.1 -1.0
baz=234,SNR=13
EYAK Cordova Ski Ar 84.46 14 P P 19 38 12.9 +0.3
baz=206
SKT Skwentna 84.64 11 IAmb IAmb 19 39 08.0
comp=Z,19nm,1.5s

SKT Skwentna 84.64 11 P P 19 38 12.8 -0.8
baz=201
J16K Anvik River 84.67 6 P P 19 38 14.1 +0.4
baz=192
KNK Knik Glacier 84.68 12 P P 19 38 13.1 -0.7
baz=204,SNR=5.2
M22K Willow 84.68 11 P P 19 38 14.2 +0.4
baz=202
PMR Palmer 84.71 12 P P 19 38 14.3 +0.4
baz=203
L20K Farewell, AK 84.73 9 P P 19 38 14.5 +0.4
baz=199
S31K Pelican 84.74 19 P P 19 38 14.2 0.0
baz=215
KLR Kul'dur 84.81 328 LR LR 20 11 29.3
comp=Z,101nm,20.3s,baz=122,slow=32
KLR Kul'dur 84.81 328 *e*P **P 19 38 14.0 -0.8**
KLR pmax pmax
comp=Z,4.0nm,1.0s
S32K Killisnoo 84.87 20 P P 19 38 14.7 -0.1
baz=216
CN2 Changchun 84.91 321 P P 19 38 16.6 +1.2
CN2 pmax pmax
comp=Z,10.0nm,0.6s
BNX BinXian 84.93 323 ⇓ P **P 19 38 15.7 +0.3**
BNX pmax pmax
comp=Z,21nm,0.9s
BNX pmax pmax
comp=Z,200nm,3.5s
BSUT Blindstream Ca 84.93 43 P P 19 38 10.9 -5.1
BSUT IAmb IAmb 19 38 17.8
comp=Z,7.2nm,1.0s
J17K VABM Dome 84.94 7 IAmb IAmb 19 38 17.2
comp=Z,10nm,0.8s
J17K VABM Dome 84.94 7 P P 19 38 15.2 +0.1
baz=194
ANMO Albuquerque 84.94 50 P P 19 38 11.9 -4.1
ANMO Albuquerque 84.94 50 P P 19 38 15.2 -0.9
baz=240
ANMO Albuquerque 84.94 50 LR LR 20 10 29.4
comp=Z,99nm,18.2s,baz=330,slow=32
ANMO Albuquerque 84.94 50 *c i*P **P 19 38 15.9 -0.1**
ANMO pmax pmax
comp=Z,12nm,1.7s
MESA MESA 85.02 16 P P 19 38 15.3 -0.5
baz=210
SML Sawmill 85.06 12 P P 19 38 16.1 +0.3
baz=244
BMRM Bremner River 85.09 14 P P 19 38 16.1 +0.1
baz=207
M23K Glacier View 85.17 12 P P 19 38 16.6 +0.3
baz=204
I17K Unalakleet 85.25 6 P P 19 38 16.8 +0.3
baz=192
MA2 Magadan 85.25 343 LR LR 20 11 38.1
comp=Z,104nm,20.3s,baz=140,slow=32
KLU Klutina 85.27 13 P P 19 38 16.5 -0.4
baz=206
J18K Innoko River 85.28 8 IAmb IAmb 19 38 18.2
comp=Z,14nm,0.9s
J18K Innoko River 85.28 8 P P 19 38 16.9 +0.1
baz=196,SNR=8.4
SCM Sheep Creek Mo 85.28 12 P P 19 38 16.7 -0.2
baz=205
PPLA Purkeypile 85.39 10 P P 19 38 17.4 -0.1
baz=200
R32K Eaglecrest 85.53 20 P P 19 38 18.3 +0.2
baz=216
K20K Telida 85.54 9 P P 19 38 18.6 +0.5
baz=199
ANM Nome 85.55 4 P P 19 38 18.5 +0.4
baz=188
VRDI Verde Repeater 85.58 14 IAmb IAmb 19 38 32.5
comp=Z,22nm,1.7s
WHN Wuhan 85.65 305 ⇓ P **P 19 38 20.6 +1.2**
WHN pP **PcP 19 38 24.6 +2.3**
N25K Chitina, Valde 85.66 14 IAmb IAmb 19 38 32.9
comp=Z,10.0nm,1.1s
N25K Chitina, Valde 85.66 14 P P 19 38 19.2 +0.4
baz=207
P29M Windy Craggy 85.68 18 P P 19 38 19.3 +0.4
baz=214
NEW Newport 85.71 34 P P 19 38 19.1 -0.3
baz=232
NEW Newport 85.71 34 LR LR 20 12 43.5
comp=Z,243nm,18.2s,baz=218,slow=33
M24K Tolsona, Glenn 85.77 13 P P 19 38 19.3 0.0
baz=206
MCARA McCarthy VSAT 85.82 14 P P 19 38 20.0 +0.5
baz=209
H16K Elim 85.85 5 P P 19 38 19.5 -0.1
baz=191
CTG Chitna Glacier 85.86 15 P P 19 38 19.8 -0.1
baz=210
BARN Barnard Glacie 85.86 15 IAmb IAmb 19 38 21.0
comp=Z,9.4nm,1.0s
WAT6 Susitna Watana 85.88 12 P P 19 38 20.1 +0.1
baz=204,SNR=6.0
CAST Castle Rocks 85.90 10 P P 19 38 19.1 -0.8
baz=200
PLBC Pleasant Camp 85.93 18 P P 19 38 19.7 -0.4
baz=215
J19K Poorman 85.93 8 IAmb IAmb 19 38 46.8
comp=Z,9.8nm,1.1s
J19K Poorman 85.93 8 P P 19 38 19.9 -0.2
baz=197
WAT1 Susitna Watana 85.96 11 P P 19 38 19.8 -0.4
baz=204
O28M Mount Upton 85.98 16 P P 19 38 20.4 -0.3
baz=211
G15K Niukluk 86.06 4 P P 19 38 20.9 +0.3
baz=189
KTH Kantishna Hill 86.21 10 IAmb IAmb 19 39 05.6
comp=Z,25nm,1.6s
TRF Thorofare Moun 86.22 11 IAmb IAmb 19 38 23.1
comp=Z,17nm,0.8s
TRF Thorofare Moun 86.22 11 P P 19 38 21.3 -0.4
baz=202,SNR=13
SKAG Skagway 86.24 19 P P 19 38 21.4 -0.2
baz=216
HARP HAARP 86.24 13 P P 19 38 21.8 +0.2
baz=207
TIA Tai'an 86.28 311 P P 19 38 22.9 +0.5
TIA pmax pmax
comp=Z,8.0nm,1.0s
CHUM Lake Minchumin 86.30 10 P P 19 38 21.3 -0.5
baz=200
J20K Nowinta River 86.31 9 IAmb IAmb 19 38 23.5
comp=Z,14nm,0.9s
J20K Nowinta River 86.31 9 P P 19 38 21.7 -0.2
baz=198,SNR=7.9
P30M Million Dollar 86.31 18 P P 19 38 21.9 -0.1
baz=214
PLCA Paso Flores 86.31 132 LR LR 20 11 22.6
comp=Z,57nm,18.5s,baz=222,slow=32
O20A White River Ci 86.35 45 P P 19 38 22.0 -1.0
baz=239
H17K Granite Mounta 86.35 6 P P 19 38 22.2 +0.1
baz=193
S34M Telegraph Cree 86.36 21 P P 19 38 21.6 -0.7
baz=220
F14K Arctic Creek 86.40 3 P P 19 38 22.5 +0.3
baz=187
DHY Denali Highway 86.41 12 IAmb IAmb 19 38 26.1
comp=Z,21nm,1.6s
DHY Denali Highway 86.41 12 P P 19 38 22.3 -0.3
baz=205
CMIG Matias Romero 86.43 70 LR LR 20 10 09.4
comp=Z,98nm,18.5s,baz=183,slow=31
GCSA Galena City Sc 86.50 7 P P 19 38 23.3 +0.6
baz=196
YUK8 Steele Glacier 86.53 16 P P 19 38 22.9 -0.4
baz=212
ELIB Princess Elisa 86.53 185 *d*P **P 19 38 24.0 +0.7**
comp=Z,12nm,0.9s
MSO Missoula 86.57 37 P P 19 38 22.2 -1.5
baz=234
G16K Koyuk River 86.58 5 P P 19 38 23.4 +0.3
baz=191
YUK6 Outpost Mounta 86.61 17 P P 19 38 23.2 -0.5
baz=213
PAX Paxson 86.69 13 P P 19 38 23.9 0.0
baz=206
UBPT Khong Chiam 86.69 288 IAmb IAmb 19 38 26.7
comp=Z,13nm,1.1s
BPAW Bear Paw Mtn. 86.71 10 P P 19 38 23.3 -0.6
baz=201
M26K Nabesna, AK 86.72 14 IAmb IAmb 19 38 41.9

comp=Z,8.7nm,1.1s
M26K **Nabesna, AK** 86.72 14 P P 19 38 23.9 -0.2
baz=209,SNR=7.0
MCK **McKinley** 86.72 11 P P 19 38 23.9 0.0
baz=203,SNR=16
H18K **Honhosa River** 86.72 7 P P 19 38 23.7 -0.2
baz=194
F15K **North Star Dit** 86.73 4 P P 19 38 23.8 -0.1
baz=189
HYT **Haines Junctio** 86.74 17 P P 19 38 23.8 -0.4
baz=214
YUK3 **Moose Creek** 86.77 15 P P 19 38 24.4 -0.1
baz=211,SNR=7.0
G17K **Kiwalik Mounta** 86.83 6 P P 19 38 24.8 +0.3
baz=192
P32M **Atlin** 86.84 19 P P 19 38 23.8 -0.8
baz=217
I20K **Naaghedeneel** 86.85 8 P P 19 38 24.2 -0.2
baz=198
YUK4 **Talbot Arm** 86.87 16 P P 19 38 25.0 0.0
baz=213
PDAR **Pinedale Array** 86.89 42 P P 19 38 23.0 -2.5
PDAR **Pinedale Array** 86.89 42 P P 19 38 24.3 -1.3
comp=Z,2.7nm,0.9s,baz=212,slow=3.2,SNR=13
comp=Z,2.7nm,0.9s
M27K **Edge Creek, AK** 86.94 14 IAmb IAmb 19 38 26.8
M27K **Edge Creek, AK** 86.94 14 P P 19 38 24.8 -0.4
comp=Z,12nm,1.1s
baz=210,SNR=7.3
SDCO **Great Sand Dun** 86.99 48 P P 19 38 24.7 -1.5
baz=240
O30N **Mendenhall** 87.09 18 P P 19 38 25.5 -0.3
baz=215
DLBC **Dease Lake** 87.14 22 P P 19 38 25.8 -0.3
baz=220
DLBC **Dease Lake** 87.14 22 LR LR 20 11 15.1
comp=Z,50nm,18.1s,baz=208,slow=32
H17A **Grant Village** 87.15 40 P P 19 38 25.8 -1.0
baz=237
L26K **Log Cabin Wild** 87.19 14 P P 19 38 26.5 +0.2
baz=208
BOZ **Bozeman (W)** 87.19 39 P P 19 38 25.7 -1.2
baz=236
833A **Chaparral WMA,** 87.23 58 P P 19 38 25.9 -1.3
baz=244
H19K **Roundabout Mou** 87.30 7 IAmb IAmb 19 38 28.2
comp=Z,11nm,1.1s
H19K **Roundabout Mou** 87.30 7 P P 19 38 26.8 +0.1
baz=196
WHY **Whitehorse** 87.34 18 P P 19 38 26.6 -0.5
baz=216
K24K **Donnelly Dome** 87.38 12 P P 19 38 27.5 +0.4
baz=206
N30M **Aishikik Lake** 87.38 17 P P 19 38 26.9 -0.3
baz=214
VNA3 **Neumayer Olymp** 87.38 175 ⇑P P 19 38 26.6 -0.7
comp=Z,5.8nm,1.0s
SNAA **Sanae** 87.39 177 ⇑P P 19 38 27.9 +0.5
comp=Z,65nm,0.7s
SNAA **Sanae** 87.39 177 P P 19 38 28.0 +0.5
comp=Z,5.0nm,0.9s,baz=208,slow=6.0,SNR=5.3
comp=Z,5.0nm,0.9s
SNAA **Sanae** 87.39 177 ⇓*e*P P 19 38 27.6 +0.2
SNAA pmax pmax
comp=Z,14nm,1.3s
G18K **Tagagawik** 87.41 6 IAmb IAmb 19 38 38.9
comp=Z,12nm,1.2s
G18K **Tagagawik** 87.41 6 P P 19 38 27.3 +0.1
baz=194
H20K **Anotleneega Mo** 87.46 8 P P 19 38 27.5 0.0
baz=198
NEA2 **Nenana** 87.49 11 IAmb IAmb 19 39 26.7
comp=Z,23nm,1.9s
NEA2 **Nenana** 87.49 11 P P 19 38 27.9 +0.2
baz=203
WRH **Wood River Hil** 87.55 11 P P 19 38 27.4 -0.5
R33M **Jennings River** 87.56 21 IAmb IAmb 19 38 44.9
comp=Z,8.7nm,1.3s
R33M **Jennings River** 87.56 21 P P 19 38 28.1 -0.2
baz=220
L27K **Beaver Creek,** 87.56 14 P P 19 38 27.6 -0.5
baz=210
I21K **Tanana** 87.57 9 P P 19 38 28.4 +0.4
baz=200
BCAR **Beaver Creek A** 87.57 14 P P 19 38 27.1 -1.0
P33M **Teslin, Yukon** 87.61 19 P P 19 38 27.9 -0.5
baz=218
MLY **Manley** 87.62 10 P P 19 38 26.3 -2.0
MLY IAmb IAmb 19 38 31.3
comp=Z,6.9nm,1.1s
MLY **Manley** 87.62 10 P P 19 38 27.5 -0.9
baz=202
HEH **HeiHe** 87.65 327 *e*P P 19 38 28.3 -0.4
HEH pmax pmax
comp=Z,7.0nm,1.0s
HEH pmax pmax
comp=Z,120nm,4.4s
HDA **Harding Lake** 87.70 11 IAmb IAmb 19 38 40.9
comp=Z,12nm,1.1s
HDA **Harding Lake** 87.70 11 P P 19 38 28.2 -0.5
baz=205
F17K **Baldwin Pennin** 87.70 5 P P 19 38 29.1 +0.5
baz=192
SEY **Seymchan** 87.71 345 LR LR 20 13 50.9
comp=Z,120nm,19.4s,baz=333,slow=33
SEY **Seymchan** 87.71 345 *e*P P 19 38 27.3 -1.4
SEY pmax pmax
comp=Z,12nm,0.9s
G19K **Purcell Mounta** 87.82 7 IAmb IAmb 19 38 41.3
comp=Z,14nm,1.3s
G19K **Purcell Mounta** 87.82 7 P P 19 38 29.7 +0.5
baz=196
M29M **Somme Creek** 87.84 16 P P 19 38 29.7 +0.2
baz=213
VNA2 **Neumayer--Watz** 87.87 176 ⇑P P 19 38 29.5 -0.1
comp=Z,4.9nm,0.8s,baz=172,slow=3.3
SCRK **Sand Creek** 87.89 13 P P 19 38 29.3 -0.5
baz=208
H21K **Melozitna Rive** 87.90 9 IAmb IAmb 19 38 54.6
comp=Z,27nm,1.8s
H21K **Melozitna Rive** 87.90 9 P P 19 38 30.2 +0.6
baz=200
ISCO **Idaho Springs** 87.92 46 P P 19 38 29.2 -1.5
baz=240
I23K **Minto, Yukon-K** 87.95 10 IAmb IAmb 19 38 33.8
comp=Z,20nm,1.5s
I23K **Minto, Yukon-K** 87.95 10 P P 19 38 29.8 0.0
baz=203
COLA **College** 87.96 11 P P 19 38 29.7 -0.1
baz=204
COLA **College** 87.96 11 ⇓*i*P P 19 38 28.3 -1.5
COLA pmax pmax
comp=Z,22nm,1.5s
MDM **Murphy Dome** 87.97 11 IAmb IAmb 19 38 42.0
comp=Z,19nm,1.3s
F18K **Selawik** 88.00 6 P P 19 38 29.8 -0.2
baz=193
IL31 88.04 11 IAmb IAmb 19 38 43.2
comp=Z,16nm,1.4s
ILAR **Eielson Array** 88.04 11 P P 19 38 29.2 -1.0
ILAR **Eielson Array** 88.04 11 P P 19 38 28.6 -1.6
comp=Z,1.9nm,1.0s,baz=211,slow=5.3,SNR=12
ILAR LR LR 20 10 08.1
comp=Z,50nm,19.4s,baz=216,slow=30
comp=Z,1.9nm,1.0s
J25K **Salcha River,** 88.18 12 IAmb IAmb 19 38 32.0
comp=Z,6.3nm,1.1s
J25K **Salcha River,** 88.18 12 P P 19 38 30.1 -0.9
baz=206,SNR=5.1
N23A **Red Feather La** 88.24 45 P P 19 38 30.7 -1.4
baz=240
POKR **Poker Plat Res** 88.25 11 P P 19 38 31.5 +0.2
baz=205
N32M **Quiet Lake** 88.27 19 P P 19 38 31.0 -0.5
baz=218
E17K **Hotham Inlet** 88.29 5 P P 19 38 30.9 -0.5
baz=191
RLMT **Red Lodge** 88.33 40 P P 19 38 31.0 -1.4
baz=238
H22K **Ishtalitna Cre** 88.33 9 P P 19 38 31.9 +0.3
baz=201
K27K **Chicken** 88.34 14 P P 19 38 31.8 0.0
baz=210
AMTX **Amarillo** 88.37 52 P P 19 38 31.4 -1.3
baz=243
NVL **N'lazarevskaya** 88.40 182 *e*P P 19 38 48.2 +16
NVL *e*S S 19 49 07.1 -10
NVL pmax pmax
comp=Z,7.0nm,1.0s
F19K **Shaleruckik Mo** 88.42 6 IAmb IAmb 19 38 43.9
comp=Z,11nm,1.3s
F19K **Shaleruckik Mo** 88.42 6 P P 19 38 32.6 +0.7
baz=195
J26L **Joseph Creek** 88.44 13 IAmb IAmb 19 38 34.1
comp=Z,14nm,1.1s
J26L **Joseph Creek** 88.44 13 P P 19 38 32.1 -0.2
baz=208,SNR=13
L29M **L29M** 88.48 16 P P 19 38 32.3 -0.2
baz=213,SNR=7.0
H23K **Yukon River** 88.55 10 P P 19 38 32.4 -0.3
baz=203
HNS **HongShan** 88.55 311 ⇑P P 19 38 35.3 +2.0
HNS pmax pmax
comp=Z,13nm,0.8s
HNS LR LR
comp=Z,170nm,17.5s
HNS LR LR
comp=Z,140nm,17.5s
G21K **Allakaket** 88.61 8 P P 19 38 33.5 +0.6
baz=199
E18K **Tukpahlearik C** 88.72 5 P P 19 38 33.7 +0.3
baz=192
M31M **Drury Creek, Y** 88.73 17 P P 19 38 33.7 +0.1
baz=216
K22A **Casper** 88.75 43 P P 19 38 33.1 -1.2
baz=240
D17K **Noatak River** 88.80 4 P P 19 38 33.5 -0.2
baz=190
H24K **Noodor Dome** 88.83 11 P P 19 38 33.7 -0.3
baz=204
F20K **Avaraart Lake** 88.85 7 P P 19 38 34.1 +0.1
baz=197
LYN **LuoYang** 88.87 308 ⇓P P 19 38 36.7 +1.8
LYN S S 19 49 29.6 +6.8
LYN pmax pmax
comp=Z,43nm,0.9s
LYN LR LR
comp=Z,230nm,15.7s
LYN LR LR
comp=Z,160nm,17.0s
LYN LR LR
comp=Z,250nm,18.8s
ABTX **Abilene, Hawle** 88.89 54 P P 19 38 33.1 -2.0
baz=244
PRP **Porcupine Dome** 88.96 12 IAmb IAmb 19 39 00.5
comp=Z,9.3nm,1.2s
PRP **Porcupine Dome** 88.96 12 P P 19 38 34.6 -0.2
baz=206
DAWY **Dawson** 88.98 15 P P 19 38 34.7 -0.1
baz=212
FARO **Faro, Yukon** 89.05 18 P P 19 38 35.2 +0.1
baz=217
E19K **Redstone River** 89.08 6 P P 19 38 35.8 +0.7
baz=196
TOAD **Toad River Com** 89.14 23 P P 19 38 35.5 -0.1
baz=225,SNR=8.6
RDOG **Red Dog Mine** 89.17 4 P P 19 38 35.6 +0.1
baz=190
EGAK **Eagle** 89.19 13 IAmb IAmb 19 38 59.7
comp=Z,11nm,1.2s
EGAK **Eagle** 89.19 13 P P 19 38 36.3 +0.6
baz=210,SNR=5.0
BRLDA **Berland Lookou** 89.20 30 IAmb IAmb 19 38 37.7
comp=Z,9.5nm,0.9s
I26K **Coal Creek Min** 89.24 12 P P 19 38 36.7 +0.9
baz=209
K29M **Barlow Dome** 89.25 15 IAmb IAmb 19 38 37.9
comp=Z,7.8nm,1.1s
K29M **Barlow Dome** 89.25 15 P P 19 38 36.4 +0.3
baz=214,SNR=7.7
F21K **Alatna River** 89.29 8 P P 19 38 36.9 +0.8
baz=199
G23K **Bananza Creek** 89.29 9 P P 19 38 37.0 +0.8
baz=202
C17K **DeLong Mountai** 89.56 4 P P 19 38 37.6 +0.2
baz=190
KSCO **Kaye Shedlock'** 89.58 48 P P 19 38 37.8 -0.5
baz=242
G24K **Hadweenzic Riv** 89.69 10 P P 19 38 38.8 +0.7
baz=205
F22K **John River** 89.73 8 P P 19 38 38.0 -0.1
baz=200
COLD **Coldfoot** 89.75 9 P P 19 38 38.0 -0.2
baz=202
I27K **Kandik River** 89.81 13 P P 19 38 38.7 +0.1
baz=210
ZEA **Zeya** 89.83 330 *e*P P 19 38 39.5 +0.6
ZEA *e* 19 49 24.6
ZEA pmax pmax
comp=Z,10.0nm,0.9s
C18K **Utukok River** 89.88 5 P P 19 38 38.9 0.0
baz=192
BILL **Bilibino** 89.93 353 P P 19 38 37.0 -2.1
BILL **Bilibino** 89.93 353 ⇑*i*P P 19 38 38.8 -0.3
BILL pmax pmax
comp=Z,6.0nm,0.9s
MMPY **Sheldon Lake,** 89.96 18 IAmb IAmb 19 38 50.0
comp=Z,11nm,1.4s
MMPY **Sheldon Lake,** 89.96 18 P P 19 38 39.1 -0.3
baz=219
E20K **Nigu River** 89.96 7 P P 19 38 39.0 -0.3
baz=196
G25K **Bearman Lake** 89.98 11 P P 19 38 39.2 -0.1
baz=206
D19K **Kuna River** 89.99 6 P P 19 38 39.1 -0.4
baz=195
GYA **Guiyang** 90.03 298 P P 19 38 41.9 +1.2
GYA pmax pmax
comp=Z,12nm,0.9s
I28M **Miner Creek** 90.04 14 P P 19 38 35.5 -4.3
I28M **Miner Creek** 90.04 14 P P 19 38 39.3 -0.5
baz=212
J30M **Hart River** 90.15 15 P P 19 38 40.8 +0.5
baz=215
D20K **Etivluk River** 90.35 6 P P 19 38 41.4 +0.3
baz=196
F24K **Squaw Lake** 90.37 10 P P 19 38 41.5 +0.3
baz=204
H27K **Steamboat Moun** 90.38 13 P P 19 38 42.0 +0.8
baz=210
E21K **Killik River** 90.39 7 P P 19 38 41.6 +0.3
baz=199
WMOK **Wichita Mounta** 90.44 53 P P 19 38 40.7 -1.6
baz=245
C19K **Lookout Ridge** 90.45 5 IAmb IAmb 19 38 42.7
comp=Z,8.8nm,0.9s
C19K **Lookout Ridge** 90.45 5 P P 19 38 41.4 -0.1
baz=193
KOTAN **Kotaneelee Air** 90.47 23 P P 19 38 41.6 -0.2
baz=226
B18K **Kokolik River** 90.54 4 P P 19 38 42.2 +0.3
baz=191
G26K **Porcupine Rive** 90.57 11 P P 19 38 42.3 +0.3
baz=208
E23K **Chandalar** 90.60 9 P P 19 38 42.8 +0.4
baz=203
I30M **Mount Dempster** 90.67 15 IAmb IAmb 19 38 50.0
comp=Z,6.6nm,1.1s
I30M **Mount Dempster** 90.67 15 P P 19 38 43.0 +0.3
baz=215,SNR=7.1
XLT **XiLinHaoTe** 90.71 317 *e*P P 19 38 36.4 -7.0
XLT pP pwP 19 38 54.0 +4.5
XLT sP sP 19 38 59.7 +13
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax
comp=Z,83nm,4.3s
E24K **Your Creek** 90.79 9 P P 19 38 43.0 -0.1
baz=204
F25K **Christian Rive** 90.81 11 P P 19 38 43.0 -0.2
baz=206
G27K **Doyon Strip** 90.85 12 P P 19 38 43.4 0.0
baz=210
LAO **LASA Array** 90.95 40 P P 19 38 44.1 -0.3
baz=240
D22K **Ayikyak River** 90.96 8 IAmb IAmb 19 38 56.8
comp=Z,8.6nm,1.1s
D22K **Ayikyak River** 90.96 8 P P 19 38 44.4 +0.5
baz=200
C21K **Knifeblade Rid** 90.97 7 P P 19 38 43.7 -0.2
baz=198
H29M **Whitestone** 91.04 14 P P 19 38 44.4 +0.1
baz=213
RSSD **Black Hills** 91.05 43 P P 19 38 44.2 -1.0
baz=241
TOLK **Toolik Lake Re** 91.15 9 P P 19 38 44.4 -0.4
baz=203
F26K **Sheenjek River** 91.16 11 P P 19 38 45.4 +0.6
baz=208
E25K **Arctic Village** 91.30 10 P P 19 38 46.4 +0.9
baz=206
D23K **Nanushuk River** 91.30 8 P P 19 38 46.6 +1.1
baz=202
XAN **Xi'an** 91.30 306 ⇓P P 19 38 47.9 +1.5
XAN pmax pmax
comp=Z,33nm,0.9s
A19K **Wainwright** 91.42 4 P P 19 38 46.8 +0.9
baz=192
B21K **Ikpikpuk River** 91.44 7 P P 19 38 46.8 +0.7
baz=198
CBKS **Cedar Bluff** 91.50 49 P P 19 38 46.5 -0.7
baz=244
EPYK **Eagle Plains** 91.54 14 P P 19 38 47.1 +0.5
baz=214
B20K **Meade River** 91.55 6 P P 19 38 46.4 -0.2
baz=196
H31M **Peel River** 91.64 15 P P 19 38 47.5 +0.4
baz=217
G29M **Pine Creek** 91.70 13 P P 19 38 47.8 +0.4
baz=213
D24K **Happy Valley** 91.73 9 P P 19 38 48.1 +0.7
baz=203
F28M **Old Crow** 91.90 12 P P 19 38 48.8 +0.5
baz=212
E27K **Coleen River** 92.06 12 IAmb IAmb 19 39 00.4
comp=Z,9.1nm,1.5s
E27K **Coleen River** 92.06 12 P P 19 38 49.1 +0.1
baz=210
C23K **Itkillik River** 92.12 8 P P 19 38 49.9 +0.7
baz=202
G30M **tAoh Zraii Nji** 92.15 14 IAmb IAmb 19 38 50.6
comp=Z,9.7nm,1.1s
G30M **tAoh Zraii Nji** 92.15 14 P P 19 38 50.1 +0.6
baz=215
D25K **Kavik River** 92.25 10 P P 19 38 50.3 +0.4
baz=206
B22K **Teshekpuk Lake** 92.25 7 P P 19 38 50.4 +0.6
baz=199
C24K **Franklin Bluff** 92.27 9 P P 19 38 50.6 +0.7
baz=204
HHC **Hu-ho-hao-te** 92.28 313 *e*P P 19 38 51.5 +0.7
HHC pmax pmax
comp=Z,11nm,0.7s
HHC pmax pmax
comp=Z,140nm,5.0s
NNA **Nana** 92.47 104 LR LR 20 12 57.2
comp=Z,41nm,19.1s,baz=194,slow=31
G31M **Satah River** 92.56 15 P P 19 38 51.8 +0.6
baz=217
A22K **Sinclair Lake** 92.72 6 P P 19 38 52.6 +0.7
baz=198
F30M **Barrier River** 92.77 14 P P 19 38 52.6 +0.3
baz=215
KMI **Kunming** 92.78 296 ⇑P P 19 38 55.2 +1.6
KMI pmax pmax
comp=Z,13nm,1.0s
KMI pmax pmax
comp=Z,91nm,5.1s
KMI LR LR
comp=Z,170nm,18.5s
KMI LR LR
comp=Z,190nm,18.2s
KMI LR LR
comp=Z,290nm,19.5s
E28M **Babbage River** 92.81 12 IAmb IAmb 19 39 19.1
comp=Z,6.0nm,1.1s
E28M **Babbage River** 92.81 12 P P 19 38 52.8 +0.3
baz=212
ATAH **Atahualpa** 92.82 99 LR LR 20 10 50.7
comp=Z,42nm,21.8s,baz=150,slow=29
JTS **Las Juntas de** 92.90 80 LR LR 20 11 04.9
comp=Z,43nm,21.7s,baz=82,slow=29
C27K **Jago River** 92.95 10 P P 19 38 53.4 +0.4
baz=208
E29M **Blow River** 92.96 13 P P 19 38 53.6 +0.4
baz=213
C26K **Camden Bay** 93.01 10 P P 19 38 53.5 +0.2
baz=207
DGMT **Dagmar** 93.02 39 P P 19 38 53.2 -0.7
baz=241
CRAI **Chiangrai** 93.04 290 IAmb IAmb 19 38 56.8
comp=Z,9.5nm,1.0s
D27M **Malcolm River** 93.09 11 IAmb IAmb 19 41 52.0
comp=Z,13nm,1.6s
D27M **Malcolm River** 93.09 11 P P 19 38 53.8 0.0
baz=211
F31M **Tsiigehtchic** 93.10 15 IAmb IAmb 19 38 54.7
comp=Z,9.7nm,0.9s
F31M **Tsiigehtchic** 93.10 15 P P 19 38 53.8 +0.1
baz=217
TUL3 **Leonard** 93.15 53 P P 19 38 53.8 -1.0
baz=246
D28M **Stokes Point** 93.58 12 P P 19 38 56.1 +0.1
baz=213
CMAR **Chiang Mai Arr** 93.67 288 P P 19 38 58.5 +1.0
CMAR **Chiang Mai Arr** 93.67 288 P P 19 38 58.8 +1.3
comp=Z,12nm,0.9s,baz=110,slow=3.1,SNR=68
CMAR LR LR 20 21 19.0
comp=Z,23nm,19.2s,baz=75,slow=36
comp=Z,12nm,0.9s
CMAR **Chiang Mai Arr** 93.67 288 *i*P P 19 38 59.4 +1.8
CMAR pmax pmax
comp=Z,13nm,0.9s
BGNE **Belgrade** 93.71 47 P P 19 38 56.7 -0.5
baz=245
INK **Inuvik** 93.84 14 P P 19 38 57.1 0.0
baz=217
INK **Inuvik** 93.84 14 LR LR 20 18 25.0
comp=Z,74nm,18.2s,baz=187,slow=34
INK **Inuvik** 93.84 14 P P 19 38 56.3 -0.8
KSU1 **Kansas State U** 93.84 50 P P 19 38 57.0 -0.9
baz=246
YAK **Yakutsk** 93.94 337 LR LR 20 20 12.4
comp=Z,54nm,18.2s,baz=145,slow=35
YAK **Yakutsk** 93.94 337 *e*P P 19 38 56.6 -1.1
YAK pmax pmax
comp=Z,8.0nm,1.4s
YAK pmax pmax
comp=N,1.0nm,0.9s
YAK pmax pmax
comp=E,1.0nm,1.3s
PZH **PanZhiHua** 94.12 297 P P 19 39 00.0 +0.3
PZH pmax pmax
comp=E,10.0nm,1.1s
PZH pmax pmax
comp=E,110nm,5.7s
MIAR **Mount Ida** 94.29 55 P P 19 38 59.1 -0.9
baz=248
LVC **Limon Verde** 95.22 116 LR LR 20 14 41.7
comp=E,71nm,19.1s,baz=222,slow=31
YKA **Yellowknife Ar** 95.48 24 P P 19 39 03.9 -0.9
comp=E,1.2nm,0.8s,baz=243,slow=4.0,SNR=16
YKA PKKPbc **PKKPbc** 19 55 56.6 -2.5
comp=E,0.1nm,0.3s,baz=37,slow=3.2,SNR=3.5
comp=E,1.2nm,0.8s
ECSD **EROS Data Cent** 95.70 45 P P 19 39 05.2 -1.1
baz=246
C36M **Paulatuk** 96.91 16 P P 19 39 11.5 +0.4
baz=226
CCM **Cathedral Cave** 97.33 52 P P 19 39 12.8 -1.1
baz=249
ULN **Ulaanbaatar** 98.10 318 ⇓*e*P P 19 39 17.7 +0.4
ULN pmax pmax
comp=Z,4.0nm,1.5s
SONM **Songino Array** 98.50 318 P P 19 39 17.5 -1.6
comp=Z,0.3nm,0.6s,baz=79,slow=3.1,SNR=1.9
SONM LR LR 20 17 28.4
comp=Z,40nm,20.5s,baz=96,slow=32
comp=Z,0.3nm,0.6s
LPAZ **La Paz** 98.55 111 LR LR 20 16 57.3
comp=Z,97nm,18.5s,baz=202,slow=31
ULM **Lac du Bonnet** 98.70 39 LR LR 20 20 02.0
comp=Z,159nm,18.2s,baz=226,slow=33
LRAL **Lakeview Retre** 98.88 58 P P 19 39 19.4 -1.5
baz=251
TIXI **Tiksi** 100.16 344 P Pdif 19 39 22.4 -3.3
comp=Z,0.9nm,0.2s,baz=154,slow=10,SNR=1.3
TIXI LR LR 20 19 16.9
comp=Z,73nm,20.5s,baz=160,slow=32
comp=Z,0.9nm,0.2s
TIXI **Tiksi** 100.16 344 ⇓*e*P Pdif 19 39 25.5 -0.2
TIXI pmax pmax
comp=Z,9.0nm,3.3s
EYMN **Ely** 100.57 43 P Pdif 19 39 26.7 -1.4

	baz=250								
GOGA	**Godfrey**	**101.81**	**59**	P		**Pdif**	19 39 32.3	-1.7	
	baz=253								
KMSC	**Kings Mountain**	**104.00**	**58**	P		**Pdif**	19 39 42.2	-1.5	
	baz=254								
P52A	**Corning**	**104.58**	**53**	P		**Pdif**	19 39 44.9	-1.3	
	baz=255								
BLA	**Blacksburg**	**105.25**	**56**	P		**PKiKP**	19 44 02.4	-1.1	
	baz=255								
O53A	**New Philadelph**	**105.42**	**52**	P		**PKiKP**	19 44 02.0	-1.6	
	baz=255								
M53A	**WI Miller and**	**106.11**	**51**	P		**PKiKP**	19 44 02.8	-2.0	
	baz=256								
MCWV	**Mont Chateau**	**106.30**	**53**	P		**PKiKP**	19 44 03.4	-1.8	
	baz=256								
ZALV	**Zalesovo Beam**	**113.13**	**321**	PKiKP		**PKiKP**	19 44 17.2	-0.4	
	comp=Z,3.6nm,0.6s,baz=108,slow=4.7,SNR=19								
MK31	**Makanchi Array**	**114.15**	**313***c*	*i* PKiKP		PKPdf	19 44 19.0	-0.9	
MKAR	**Makanchi Array**	**114.15**	**313**	PKiKP		PKPdf	19 44 19.0	-0.8	
	comp=Z,2.8nm,0.8s,baz=70,slow=1.4,SNR=27								
KURK	**Kurchatov**	**116.79**	**317**	PKPdf		**PKPdf**	19 44 23.0	-1.8	
KURK	**Kurchatov**	**116.79**	**317***c*	*i* PKiKP		**PKPdf**	19 44 23.7	-1.1	
KURK				pmax		pmax			
	comp=Z,11nm,1.7s								
KURBB	**Kurchatov Arra**	**116.84**	**317**	PKP		**PKPdf**	19 44 23.9	-1.0	
	comp=Z,4.7nm,0.8s,baz=91,slow=1.8,SNR=38								
KSH	**Kashi**	**118.12**	**304**	PKP		**PKPdf**	19 44 28.9	+1.0	
AAK	**Ala-Archa**	**119.42**	**308**	PKPdf		**PKPdf**	19 44 29.6	-0.7	
AAK	**Ala-Archa**	**119.42**	**308***d*	*i* PKiKP		**PKPdf**	19 44 30.3	0.0	
AAK				pmax		pmax			
	comp=Z,4.0nm,1.3s								
BVAR	**Borovoye Array**	**121.76**	**320**	PKP		**PKPdf**	19 44 34.1	-0.2	
	comp=Z,9.7nm,0.7s,baz=73,slow=1.8,SNR=56								
BRVK	**Borovoye**	**121.82**	**320**	PKPdf		**PKPdf**	19 44 33.8	-0.6	
BRVK	**Borovoye**	**121.82**	**320***c*	*i* PKiKP		**PKPdf**	19 44 33.9	-0.5	
BRVK				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SIMJ	**Simiganj**	**123.48**	**303**	PKPdf		**PKPdf**	19 44 37.5	-0.7	
SVE	**Sverdlovsk**	**126.41**	**326**	*e*PKiKP		**PKPdf**	19 44 43.4	+0.3	
SVE				pmax		pmax			
	comp=Z,14nm,0.9s								
ARU	**Arti**	**127.62**	**326**	PKPdf		**PKPdf**	19 44 43.9	-1.5	
ARU	**Arti**	**127.62**	**326**	PKP		**PKPdf**	19 44 45.5	+0.1	
	comp=Z,7.2nm,0.7s,baz=83,slow=2.1,SNR=14								
ARU	**Arti**	**127.62**	**326**	*i* PKiKP		**PKPdf**	19 44 45.3	-0.1	
ARU							19 46 46.6		
ARU							19 51 56.2		
ARU				SS		SS	20 03 50.2	-7.5	
ABKAR	**Akbulak array**	**128.90**	**317**	PKPdf		**PKPdf**	19 44 48.3	+0.2	
ARCES	**ARCESS Array B**	**130.00**	**351**	PKP		**PKPdf**	19 44 49.6	0.0	
	comp=Z,2.2nm,0.6s,baz=33,slow=2.5,SNR=7.5								
APA	**Apatity**	**130.29**	**347**	*i* PKiKP		**PKPdf**	19 44 46.5	-3.6	
APA				*i*			19 47 10.0		
APA				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KIRV	**Kirov**	**131.14**	**331**	*e*PKiKP		**PKPdf**	19 44 51.8	-0.2	
GEYT	**Alibeck**	**132.07**	**303**	PKPdf		**PKPdf**	19 44 53.4	-1.1	
GEYT	**Alibeck**	**132.07**	**303**	PKP		**PKPdf**	19 44 54.3	-0.2	
	comp=Z,3.1nm,0.8s,baz=64,slow=3.4,SNR=7.8								
GEYT	**Alibeck**	**132.07**	**303**	PKiKP		**PKPdf**	19 44 53.4	-1.1	
GYA0B	**ALIBECK ARRAY**	**132.07**	**303**	PKPdf		**PKPdf**	19 44 52.8	-1.8	
KLMR	**Klimovskoe**	**133.72**	**338**	*e*PKHKP		PKPpre	19 44 50.3		
KLMR				pmax		pmax			
	comp=Z,20nm,2.1s								
BELG	**Belogornoye**	**135.10**	**325**	*d* PKiKP		**PKPdf**	19 44 59.6	0.0	
FINES	**FINESS Array B**	**137.19**	**346**	PKP		**PKPdf**	19 45 03.1	-0.2	
	comp=Z,4.1nm,1.0s,baz=29,slow=3.2,SNR=6.0								
OBN	**Obninsk**	**138.84**	**334**	*e*PKiKP		**PKPdf**	19 45 06.6	+0.1	
OBN				*e*			19 47 56.4		
OBN				*e*PPP		PPP	19 51 00.4		
OBN				pmax		pmax			
	comp=Z,8.0nm,1.0s								
VRH	**Novokhopyorsk**	**138.86**	**326**	*e*PKiKP		**PKPdf**	19 45 05.3	-1.3	
VRH				pmax		pmax			
	comp=Z,10.0nm,0.9s								
LPSR	**Galich'ya Gora**	**139.44**	**329**	*e*PKiKP		**PKPdf**	19 45 04.2	-3.4	
LPSR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
VSU	**Vasula**	**139.62**	**343**	*ce*PKiKP		**PKPdf**	19 45 07.0	-0.8	
NOA	**NORSAR Array B**	**139.81**	**356**	PKP		**PKPdf**	19 45 07.1	-1.1	
	comp=Z,1.5nm,0.9s,baz=18,slow=2.7,SNR=3.8								
VORR	**Voronezh**	**139.87**	**328**	*e*PKiKP		**PKPdf**	19 45 07.9	-0.6	
VSR	**Storozhevoye**	**140.16**	**327**	*e*PKiKP		**PKPdf**	19 45 07.2	-1.8	
VSR				pmax		pmax			
	comp=Z,5.0nm,0.5s								
HFS	**Hagfors**	**140.50**	**354**	PKhKP		PKPpre	19 45 03.3		
	comp=Z,4.7nm,0.9s,baz=27,slow=4.8,SNR=7.8								
HFS				PKP		**PKPdf**	19 45 09.0	-0.4	
	comp=Z,1.5nm,0.6s,baz=7.6,slow=4.4,SNR=7.2								
KBZ	**Khabaz**	**141.80**	**315**	PKP		**PKPdf**	19 45 11.0	-1.2	
	comp=Z,1.9nm,0.8s,baz=56,slow=3.6,SNR=5.7								
KBZ	**Khabaz**	**141.80**	**315**	*i* PKiKP		**PKPdf**	19 45 09.4	-2.8	
KIV	**Kislovodsk**	**141.84**	**315**	*i* PKiKP		**PKPdf**	19 45 15.1	+2.7	
KIV				pmax		pmax			
	comp=Z,4.0nm,1.1s								
ERBR	**Yeremizino-Bor**	**142.44**	**319**	*i* PKiKP		**PKPdf**	19 45 15.1	+1.8	
ERBR				*e*			19 45 19.6		
ERBR				pmax		pmax			
	comp=Z,20nm,1.3s								
MNK	**Minsk**	**142.60**	**339**	*i* PKHKP		PKPpre	19 45 10.2		
MNK				*i*			19 48 19.0		
MNK				*i* SSS		SSS	20 12 12.6		
MNK				pmax		pmax			
	comp=E,9.0nm,0.8s								
MNK				pmax		pmax			
	comp=Z,11nm,0.8s								
MNK				pmax		pmax			
	comp=N,16nm,0.8s								
MNK				MLR		MLR			
	comp=Z,65nm,13.0s								
MNK				MLR		MLR			
	comp=N,65nm,15.0s								
MNK				MLR		MLR			
	comp=E,80nm,14.0s								
LABN	**Labinsk**	**142.80**	**318**	*i* PKiKP		**PKPdf**	19 45 17.0	+3.0	
LABN				pmax		pmax			
	comp=Z,9.0nm,0.4s								
SUW	**Suwalki**	**144.48**	**342**	*e*PKP		**PKPab**	19 45 15.9	+1.0	
MUD	**Monsted U'grnd**	**144.50**	**357**	*i* P		**PKPab**	19 45 14.0	-0.8	
KLNR	**Kaliningrad**	**144.71**	**346**	*e*PKiKP		**PKPab**	19 45 16.5	+0.8	
ANN	**Anapa**	**144.76**	**320**	*i* PKiKP		**PKPab**	19 45 16.3	+0.1	
ANN				pmax		pmax			
	comp=Z,35nm,1.0s								
EKA	**Eskdalemuir Ar**	**145.04**	**9**	PKP		**PKPbc**	19 45 16.0	-1.0	
	comp=Z,7.3nm,0.8s,baz=322,slow=3.9,SNR=20								
EKA	**Eskdalemuir Ar**	**145.04**	**9**	PKHKP		PKPpre	19 45 16.0		
AKASG	**Malin Array Be**	**145.11**	**334**	PKP		**PKPbc**	19 45 16.5	-0.7	
	comp=Z,15nm,0.7s,baz=40,slow=4.1,SNR=97								
AKBB	**Malin Array Si**	**145.11**	**334**			**PKPbc**	19 45 15.5	-1.8	
AKBB	**Malin Array Si**	**145.11**	**334**	*c*	*i* PKHKP	PKPpre	19 45 16.4		
KIEV	**Kiev**	**145.12**	**334**			**PKPbc**	19 45 16.2	-1.1	
KIEV	**Kiev**	**145.12**	**334**	PKHKP		PKPpre	19 45 16.2		
EDMD	**Edmundbyers**	**145.70**	**8**	*e*P		**PKPdf**	19 45 18.2	-0.5	
KESW	**Keswick, Cumbr**	**145.77**	**9**	*e*P		**PKPdf**	19 45 18.7	-0.2	
RNPP9	**Sopachiv**	**145.83**	**338**	PKP		**PKPdf**	19 45 19.5	+0.5	
RNPP8	**Varash**	**145.90**	**337**	PKP		**PKPdf**	19 45 19.7	+0.6	
WIM	**Isle of Man**	**145.94**	**11**	*e*P		**PKPdf**	19 45 20.2	+1.1	
GDLE	**Glaisdale, N Y**	**146.24**	**7**	*e*P		**PKPdf**	19 45 20.7	+1.0	
LUBAR	**Lubar, Ukraine**	**146.31**	**334**	PKP		**PKPdf**	19 45 20.5	+0.6	
LODK	**Lodwar**	**146.39**	**243**			**PKPdf**	19 45 23.3	+2.0	
GKP	**Gorka Klasztor**	**146.60**	**348**	*e*PKP		**PKPdf**	19 45 22.1	+1.8	
SIM	**Simferopol'**	**146.62**	**322**	*e*PKP2		**PKPdf**	19 45 23.1	+2.5	
SIM				pmax		pmax			
	comp=Z,58nm,0.8s								
WME	**Myndd Eilian**	**146.72**	**11**	*e*P		**PKPdf**	19 45 21.9	+1.4	
WLF1	**Llynfaes**	**146.81**	**11**	*e*P		**PKPdf**	19 45 21.3	+0.7	
BEL	**Belsk**	**147.08**	**343**	*e*PKP		**PKPdf**	19 45 24.1	+3.0	
FOEL	**Foel Wylfa**	**147.40**	**10**	*e*P		**PKPdf**	19 45 23.6	+1.9	
SORM	**Soroca**	**147.42**	**332**	⇑P		**PKPdf**	19 45 23.0	+1.2	
SORM	**Soroca**	**147.42**	**332**	⇑PKiKP		**PKPdf**	19 45 23.0	+1.2	
MBAR	**Mbarara**	**147.55**	**232**	*c*	*i* PKP2	**PKPbc**	19 45 27.2	+1.3	
MBAR				pmax		pmax			
	comp=Z,11nm,1.0s								
DIKM	**Dikmen**	**147.75**	**316**	⇑P		**PKPbc**	19 45 26.9	+1.5	
HLM1	**Long Mynd**	**147.81**	**10**	*e*P		**PKPdf**	19 45 24.8	+2.5	
LVV	**L'vov**	**147.81**	**338**	*e*PKP2		**PKPdf**	19 45 25.5	+3.1	
CWF	**Charnwood Fore**	**147.83**	**8**	*e*P		**PKPdf**	19 45 22.6	+0.2	
PURM	**Purcari**	**147.87**	**328**	⇓P		**PKPdf**	19 45 25.9	+3.3	
KMPD	**K-Podol'skiy**	**147.90**	**334**	PKP		**PKPdf**	19 45 24.6	+2.0	
MILM	**Milestii Mici**	**148.10**	**330**	⇓P		**PKPdf**	19 45 26.2	+3.2	
MILM	**Milestii Mici**	**148.10**	**330**	⇓PKiKP		**PKPdf**	19 45 26.2	+3.2	
GAZ	**Gaziantep**	**148.38**	**308**	PKPab		**PKPdf**	19 45 27.0	+3.1	
KWP	**Kalwaria Pacla**	**148.43**	**339**	*e*PKP		**PKPbc**	19 45 27.9	+0.9	
MONM	**Monmouth**	**148.48**	**10**	*e*P		**PKPdf**	19 45 24.4	+1.0	
KSV	**Kosov**	**148.66**	**335**	PKP		**PKPdf**	19 45 25.9	+2.0	
BNN	**Bunyan**	**148.68**	**311**	PKPab		**PKPdf**	19 45 27.0	+2.6	
VASR	**Vaslui**	**148.78**	**330**	⇓P		**PKPdf**	19 45 28.1	+4.0	
OJC	**Ojcow**	**148.81**	**343**	*e*PKP		**PKPbc**	19 45 28.4	+0.5	
STHS	**Stebnicka Huta**	**149.09**	**340**	*e*PKP		**PKPdf**	19 45 28.4	+3.8	
STHS	**Stebnicka Huta**	**149.09**	**340**	*e*PKiKP		**PKPdf**	19 45 28.4	+3.8	
BUR08	**Bucovina Ar. S**	**149.15**	**334**	PKPab		**PKPbc**	19 45 29.2	+0.2	
BURAR	**Bucovina Array**	**149.16**	**334**	⇓P		**PKPbc**	19 45 30.0	+0.9	
BURAR	**Bucovina Array**	**149.16**	**334**	PKPdf		**PKPdf**	19 45 23.6	-1.2	
BURAR	**Bucovina Array**	**149.16**	**334**	PKHKP		PKPpre	19 45 24.7		
KOLS	**Kolonicke sedl**	**149.17**	**339**	*e*PKP		**PKPbc**	19 45 29.1	+0.2	
KOLS	**Kolonicke sedl**	**149.17**	**339**	*e*PKiKP		**PKPbc**	19 45 29.1	+0.2	
CLL	**Collm**	**149.22**	**351**			**PKPdf**	19 45 27.0	+2.4	
CLL	**Collm**	**149.22**	**351**	*e*PKPdf		**PKPdf**	19 45 25.0	+0.3	
CLL				⇑*i* PKPbc		**pPKPdf**	19 45 29.2	+2.3	
	comp=Z,33nm,0.9s								
CLL				*i* PKPab		**PKiKP**	19 45 32.4	+2.3	
	comp=Z,63nm,1.7s								
CLL	**Collm**	**149.22**	**351**	⇑*e*PKHKP		PKPpre	19 45 25.0		
CLL				*i*			19 45 29.2		
CLL				*i*			19 45 32.4		
CLL				*e*			19 45 44.0		
CLL				pmax		pmax			
	comp=Z,33nm,0.9s								
BIZ	**Bicaz**	**149.32**	**332**	⇓P		**PKPbc**	19 45 31.8	+2.5	
TLCR		**149.33**	**327**	⇑P		**PKPbc**	19 45 29.6	+0.3	
TLCR		**149.33**	**327**	⇑PKiKP		**PKPbc**	19 45 29.6	+0.3	
SBD	**Saint Breward**	**149.34**	**13**	*e*P		**PKPdf**	19 45 28.8	+3.9	
OSTC	**Ostas**	**149.38**	**347**	⇑*e*PKP		**PKPbc**	19 45 30.6	+1.2	
OSTC	**Ostas**	**149.38**	**347**	*e*PKP2		**PKPbc**	19 45 30.6	+1.2	
CHVC	**Chvalec**	**149.38**	**347**	⇑*e*PKP		**PKPbc**	19 45 30.6	+1.2	
CHVC	**Chvalec**	**149.38**	**347**	*e*PKP2		**PKPbc**	19 45 30.6	+1.2	
NIE	**Niedzica**	**149.38**	**341**	*e*PKP		**PKPbc**	19 45 30.7	+1.2	
GHRR		**149.39**	**330**	⇑P		**PKPbc**	19 45 31.3	+1.8	
UPC	**Upice**	**149.47**	**347**	⇑*e*PKP		**PKPbc**	19 45 30.5	+0.9	
UPC	**Upice**	**149.47**	**347**	*e*PKP2		**PKPbc**	19 45 30.5	+0.9	
CRVS	**Cervenica-Dubn**	**149.47**	**340**	*e*PKP		**PKPbc**	19 45 30.1	+0.5	
CRVS	**Cervenica-Dubn**	**149.47**	**340**	*e*PKP2		**PKPbc**	19 45 30.1	+0.5	
BRG	**Berggiesshubel**	**149.50**	**350**	*i* PKP		**PKPbc**	19 45 30.3	+0.7	
BRG				Amp			19 45 31.3		
	comp=Z,19nm,0.9s								
BRG	**Berggiesshubel**	**149.50**	**350**	*i* PKP2		**PKPbc**	19 45 30.3	+0.7	
BRG				pmax		pmax			
	comp=Z,19nm,0.9s								
DPC	**Dobruska-Polom**	**149.55**	**347**	⇑*e*PKP		**PKPbc**	19 45 30.8	+1.0	
DPC	**Dobruska-Polom**	**149.55**	**347**	*e*PKP2		**PKPbc**	19 45 30.8	+1.0	
OKC	**Ostrava-Krasne**	**149.60**	**344**	⇑*e*PKP		**PKPbc**	19 45 30.5	+0.6	
OKC	**Ostrava-Krasne**	**149.60**	**344**	*e*PKP2		**PKPbc**	19 45 30.5	+0.6	
KRLC	**Kraliky**	**149.71**	**346**	⇑*e*PKP		**PKPbc**	19 45 31.1	+0.9	
KRLC	**Kraliky**	**149.71**	**346**	*e*PKP2		**PKPbc**	19 45 31.1	+0.9	
TPGR	**Topolog**	**149.76**	**327**	⇓P		**PKPbc**	19 45 32.2	+1.7	
BR131	**Keskin Array S**	**149.79**	**314**			**PKPdf**	19 45 30.3	+4.1	
BR131	**Keskin Array S**	**149.79**	**314**	PKHKP		PKPpre	19 45 30.3		
BRTR	**Keskin Array B**	**149.79**	**314**	PKP		**PKPdf**	19 45 25.6	-0.6	
	comp=Z,3.1nm,1.1s,baz=132,slow=1.3,SNR=6.7								
BRTR				PKPbc		**pPKPdf**	19 45 30.8	+2.1	
	comp=Z,9.4nm,0.8s,baz=111,slow=3.2,SNR=50								
RICC	**Richard**	**149.79**	**350**	⇑*e*PKP		**PKPbc**	19 45 31.3	+1.0	
MORC	**Moravsky Berou**	**149.81**	**345**	⇓P		**PKPbc**	19 45 31.5	+1.0	
MORC	**Moravsky Berou**	**149.81**	**345**	*e*PKP		**PKPbc**	19 45 30.9	+0.4	
MORC	**Moravsky Berou**	**149.81**	**345**	⇓PKP2		**PKPbc**	19 45 31.5	+1.0	
HSKC	**Hora Svate Kat**	**149.84**	**350**	⇑*e*PKP		**PKPbc**	19 45 30.7	+0.2	
VRI	**Vrincioaia**	**149.85**	**330**	⇓P		**PKPbc**	19 45 30.9	+0.2	
VRI	**Vrincioaia**	**149.85**	**330**	⇓PKHKP		PKPpre	19 45 30.9		
LANS	**Liptovska Anna**	**149.87**	**342**	*e*PKP		**PKPbc**	19 45 32.1	+1.5	
LANS	**Liptovska Anna**	**149.87**	**342**	*e*PKP2		**PKPbc**	19 45 32.1	+1.5	
PLOR	**Plostina**	**149.90**	**330**	⇑P		**PKPdf**	19 45 30.6	+4.6	
PLOR	**Plostina**	**149.90**	**330**	⇑PKHKP		PKPpre	19 45 30.6		
TURR	**Turia**	**150.04**	**331**	⇓P		**PKPbc**	19 45 32.2	+1.0	
OZUR		**150.11**	**332**	⇓P		**PKPbc**	19 45 32.4	+1.1	
COVR	**Voineasa-Covas**	**150.11**	**331**	⇑P		**PKPbc**	19 45 31.9	+0.5	
MAUC	**Maruska**	**150.11**	**344**	⇑*e*PKP		**PKPbc**	19 45 32.4	+1.2	
BOSR	**Bodos**	**150.18**	**332**	⇓P		**PKPbc**	19 45 32.8	+1.3	
PRU	**Pruhonice**	**150.25**	**349**	⇑*e*PKP		**PKPbc**	19 45 31.9	+0.4	
PRU	**Pruhonice**	**150.25**	**349**	*e*PKHKP		PKPpre	19 45 31.9		
GOPC	**GO Pecny, Ondr**	**150.27**	**348**	⇑*e*PKP		**PKPbc**	19 45 32.2	+0.6	
GOPC	**GO Pecny, Ondr**	**150.27**	**348**	*e*PKHKP		PKPpre	19 45 32.2		
DOPR	**Dopca**	**150.38**	**332**	⇓P		**PKPbc**	19 45 33.2	+1.2	
MEM	**Membach**	**150.44**	**360**	*d*PKP		**PKPbc**	19 45 31.7	-0.2	
BTNL	**Ternell**	**150.46**	**360**	*d*PKP		**PKPbc**	19 45 31.9	-0.1	
BSTI	**Sart Tilman**	**150.46**	**0**	*d*PKP		**PKPbc**	19 45 32.0	+0.1	
VRAC	**Vranov**	**150.47**	**346**	*e*PKP		**PKPbc**	19 45 32.5	+0.4	
ISR	**Istrita**	**150.50**	**329**	⇑P		**PKPbc**	19 45 33.4	+1.1	
ISR	**Istrita**	**150.50**	**329**	⇑PKP2		**PKPbc**	19 45 33.4	+1.1	
MLR	**Muntele Rosu**	**150.50**	**331**	⇓P		**PKPbc**	19 45 33.8	+1.4	
CJR	**Cluj-Napoca**	**150.54**	**335**	⇓P		**PKPbc**	19 45 33.5	+1.1	
CJR	**Cluj-Napoca**	**150.54**	**335**	⇓PKiKP		**PKPbc**	19 45 33.5	+1.1	
JAVC	**Velka Javorina**	**150.62**	**344**	*e*PKP		**PKPbc**	19 45 33.7	+1.2	
BCLA	**Clavier**	**150.63**	**1**	*d*PKP		**PKPbc**	19 45 32.6	+0.2	
LTVH	**Lutvirtes, Hu**	**150.63**	**337**	⇓P		**PKPbc**	19 45 33.7	+1.3	
VYHS	**Vyhne**	**150.64**	**342**	*e*PKP		**PKPbc**	19 45 33.1	+0.6	
VYHS	**Vyhne**	**150.64**	**342**	*e*PKiKP		**PKPbc**	19 45 33.1	+0.6	
BGES	**Gesves**	**150.66**	**1**	*d*PKP		**PKPdf**	19 45 31.5	+4.5	
TREC	**Trest**	**150.72**	**347**	⇑*e*PKP		**PKPbc**	19 45 33.3	+0.6	
TREC	**Trest**	**150.72**	**347**	*e*PKiKP		**PKPbc**	19 45 33.3	+0.6	
BMRD	**Maredsous**	**150.73**	**1**	*d*PKP		**PKPbc**	19 45 32.3	-0.3	
KRUC	**Moravsky**	**150.74**	**346**	*e*PKP		**PKPbc**	19 45 32.9	+0.2	
DRGR		**150.82**	**336**	⇓P		**PKPbc**	19 45 33.5	+0.4	
DRGR		**150.82**	**336**	⇓PKiKP		**PKPbc**	19 45 33.5	+0.4	
PSZ	**Piszkesteto**	**150.84**	**340**	⇓P		**PKPbc**	19 45 33.8	+0.7	
PSZ	**Piszkesteto**	**150.84**	**340**			**PKPbc**	19 45 33.6	+0.5	
PSZ	**Piszkesteto**	**150.84**	**340**	PKiKP		**PKPbc**	19 45 33.6	+0.5	
ZVC	**Zvikov**	**150.84**	**349**	⇑*e*PKP		**PKPbc**	19 45 33.9	+1.0	
RCHB	**Rochefort**	**150.89**	**1**	*d*PKP		**PKPbc**	19 45 32.5	-0.5	
DOU	**Dourbes**	**150.94**	**2**	*d*PKP		**PKPbc**	19 45 33.0	-0.1	
VOIR		**150.94**	**332**	⇓P		**PKPbc**	19 45 34.1	+0.7	
VOIR		**150.94**	**332**	⇓PKiKP		**PKPbc**	19 45 34.1	+0.7	
MDUB	**Mudurnu**	**150.97**	**318**			**PKPbc**	19 45 32.8	+4.9	
JSA	**Saint Aubin**	**151.14**	**11**	*e*P		**PKPbc**	19 45 33.0	-0.6	
MMAI	**Mount Meron Ar**	**151.16**	**301**	PKPbc		**PKPbc**	19 45 35.1	+0.8	
	comp=Z,26nm,0.9s,baz=60,slow=3.5,SNR=18								
MMAI				PKPab		**sPKPbc**	19 45 41.0	+3.4	
	comp=Z,5.9nm,0.7s,baz=67,slow=5.5,SNR=4.6								
MODS	**Modra-Piesok**	**151.17**	**344**	*e*PKP		**PKPbc**	19 45 34.9	+1.2	
MODS	**Modra-Piesok**	**151.17**	**344**	*e*PKiKP		**PKPbc**	19 45 34.9	+1.2	
BALJ	**Balqa**	**151.23**	**299**			**PKPbc**	19 45 34.7	+0.3	
KHC	**Kasperske Hory**	**151.25**	**349**	⇑*e*PKP		**PKPbc**	19 45 34.6	+0.7	
KHC	**Kasperske Hory**	**151.25**	**349**	*e*PKiKP		**PKPbc**	19 45 34.6	+0.7	
ZST	**Bratislava**	**151.38**	**344**	*e*PKP		**PKPbc**	19 45 35.2	+1.0	
ZST	**Bratislava**	**151.38**	**344**	*e*PKiKP		**PKPbc**	19 45 35.2	+1.0	
WLF	**Walferdange**	**151.38**	**360**			**PKPbc**	19 45 34.7	+0.5	
WLF	**Walferdange**	**151.38**	**360**	*d*PKP		**PKPbc**	19 45 34.8	+0.7	
WLF	**Walferdange**	**151.38**	**360**	PKiKP		**PKPbc**	19 45 34.7	+0.5	
CKRC	**Cesky Krumlov**	**151.41**	**348**	⇑*e*PKP		**PKPbc**	19 45 35.1	+0.8	
CKRC	**Cesky Krumlov**	**151.41**	**348**	*e*PKiKP		**PKPbc**	19 45 35.1	+0.8	
DEV	**Deva**	**151.50**	**335**	⇓P		**PKPbc**	19 45 35.1	+0.5	
DEV	**Deva**	**151.50**	**335**	⇓PKiKP		**PKPbc**	19 45 35.1	+0.5	
GEC2	**GERESS Array S**	**151.50**	**349**			**PKPbc**	19 45 34.5	-0.1	
GERES	**GERESS Array B**	**151.50**	**349**	PKPbc		**PKPbc**	19 45 34.6	0.0	
	comp=Z,9.4nm,0.9s,baz=2.9,slow=2.0,SNR=18								
GERES				PKPab		**sPKPbc**	19 45 42.1	+4.5	
	comp=Z,3.0nm,0.8s,baz=5.7,slow=1.0,SNR=5.5								
RAZG	**Razgrad**	**151.65**	**327**	⇑P		**PKPbc**	19 45 35.7	+0.7	
HUMR	**Humele**	**151.68**	**330**	⇓P		**PKPbc**	19 45 35.1	+0.1	
SURR	**Surduc**	**151.91**	**335**	⇓P		**PKPbc**	19 45 35.4	-0.1	
CONA	**Conrad Observa**	**151.93**	**346**	*i* PKiKP		**PKPbc**	19 45 36.1	+0.5	
	comp=Z,14nm,0.8s,SNR=7.0								
GZR	**Gura Zlata**	**151.95**	**334**	⇑P		**PKPbc**	19 45 35.7	0.0	
RONA	**Rosalia, Austr**	**152.04**	**345**	*i* PKiKP		**PKPbc**	19 45 36.2	+0.4	
	comp=Z,15nm,0.7s,SNR=9.4								
BZS	**Buzias**	**152.22**	**336**	⇓P		**PKPbc**	19 45 36.6	+0.4	
MOA	**Molln**	**152.35**	**348**	*i* PKiKP		**PKPbc**	19 45 36.5	0.0	
	comp=Z,9.4nm,0.8s								
ELND	**Elena**	**152.43**	**327**	⇓P		**PKPbc**	19 45 37.3	+0.5	
HERR	**Herculane**	**152.52**	**334**	⇓P		**PKPbc**	19 45 37.1	+0.2	
BIOA	**Bad Ischl, Aus**	**152.62**	**348**	*e*PKiKP		**PKPbc**	19 45 36.7	-0.4	
	comp=Z,7.1nm,0.9s								
ARSA	**Arzberg**	**152.65**	**346**	*i* PKiKP		**PKPbc**	19 45 37.0	-0.2	
	comp=Z,6.5nm,1.1s								
BFO	**Black Forest**	**152.65**	**356**			**PKPbc**	19 45 36.5	-0.6	
BFO	**Black Forest**	**152.65**	**356**	PKiKP		**PKPbc**	19 45 36.5	-0.6	
CLF	**Chambon-Foret**	**152.87**	**5**			**PKPbc**	19 45 38.1	+0.6	
MDVR	**Moldovita**	**152.88**	**335**	⇓P		**PKPbc**	19 45 38.1	+0.3	
LESA	**Schwarzleotal**	**153.05**	**

baz=59,slow=75,SNR=27
H04N1 CROZET ISLANDS 60.77 217 T T 20 55 01.4
baz=59,slow=75,SNR=32
H04N3 CROZET ISLANDS 60.77 217 T T 20 55 00.1
baz=59,slow=75,SNR=27
BVAR Borovoye Array 60.78 340 P **P** **19 49 37.8 -0.1**
comp=Z,0.4nm,0.4s,baz=140,slow=7.6,SNR=2.4
comp=Z,0.4nm,0.4s
H04S1 CROZET ISLANDS 61.03 216 T T 20 55 14.4
baz=58,slow=75,SNR=7.2
H04S3 CROZET ISLANDS 61.05 216 T T 20 55 16.4
baz=58,slow=75,SNR=15
H04S2 CROZET ISLANDS 61.05 216 T T 20 55 16.9
baz=58,slow=75,SNR=10
ABKAR Akbulak array 62.28 331 P **P** **19 49 48.1 +0.1**
ABKAR IAmb IAmb 19 49 49.2
comp=Z,1.6nm,0.8s
BRTR Keskin Array B 74.01 312 P **P** **19 51 02.3 +0.3**
comp=Z,0.4nm,0.7s,baz=93,slow=5.8,SNR=2.9
comp=Z,0.4nm,0.7s
FINES FINESS Array B 84.75 332 P **P** **19 52 01.2 +1.5**
FINES FINESS Array B 84.75 332 P **P** **19 52 00.8 +1.0**
comp=Z,3.8nm,1.1s,baz=94,slow=7.4,SNR=4.4
comp=Z,3.8nm,1.1s
ARCES ARCESS Array B 87.07 340 P **P** **19 52 12.4 +1.3**
comp=Z,2.7nm,0.9s,baz=104,slow=3.8,SNR=1.8
comp=Z,2.7nm,0.9s
TXAR Lajitas Array 144.73 38 PKP **PKPdf** **19 59 03.8 +0.5**
comp=Z,1.0nm,0.5s,baz=270,slow=0.9,SNR=18

HVO 07 19:58:14.0±1.1, 19°43'N±0'.08×155°.26W±0'.05, h0km±10km, ML2.5/4, ML1.6/30(NEIC), Error ellipse: s-maj=11.7km s-min=5.6km az=195.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.01**	**174**	Pg	Pg	19 58 14.6	+0.4
SBLHI	**Steaming Bluff**	**0.01**	**241**	Pg	Pg	19 58 14.4	+0.1
UWB	**Uwekahuna B**	**0.02**	**250**	Pg	Pg	19 58 14.7	+0.3
BYL	**Byron's Ledge**	**0.02**	**175**	Pg	Pg	19 58 14.6	+0.1
OBL	**Observatory Le**	**0.03**	**239**	Pg	Pg	19 58 14.6	0.0
OBL				IAML		19 58 14.6	
	comp=E,2μm,0.4s						
NPH	**North Pit**	**0.03**	**225**	Pg	Pg	19 58 14.3	-0.3
NPH				IAML		19 58 15.2	
	comp=N,1μm,0.2s						
UWE	**Uwekahuna**	**0.03**	**253**	Pg	Pg	19 58 14.4	-0.2
UWE				IAML		19 58 15.1	
	comp=N,1μm,0.6s						
KKO	**Keanakako`i**	**0.03**	**187**	Pg	Pg	19 58 14.1	-0.6
KKO				IAML		19 58 15.6	
	comp=E,990nm,0.5s						
RSD	**Rainshed**	**0.04**	**335**	Pg	Pg	19 58 14.8	0.0
RIM	**Rim**	**0.04**	**198**	Pg	Pg	19 58 14.5	-0.3
RIM				IAML		19 58 15.1	
	comp=E,939nm,0.6s						
RIM				IAML		19 58 15.2	
	comp=N,2μm,0.7s						
WRMHI	**West Rim**	**0.04**	**237**	Pg	Pg	19 58 14.3	-0.6
SDHHI	**Sand Hill**	**0.05**	**217**	Pg	Pg	19 58 14.3	-0.8
PUH	**Pauahi**	**0.07**	**142**	Pg	Pg	19 58 16.0	+0.6
PUH				IAML		19 58 16.4	
	comp=N,464nm,1.0s						
PUH				IAML		19 58 16.5	
	comp=E,224nm,0.7s						
KNHH	**Kane Nui o Ham**	**0.10**	**120**		Pg	19 58 17.1	+1.1
MLH	**Mauna Loa**	**0.13**	**298**	Pg	Pg	19 58 15.4	-1.2
MLH				IAML		19 58 19.0	
	comp=E,130nm,0.4s						
MLH				IAML		19 58 20.1	
	comp=N,366nm,1.7s						
STCH	**Steam Cracks**	**0.14**	**109**		Pg	19 58 17.6	+0.9
STCH				IAML		19 58 20.9	
	comp=E,194nm,0.5s						
STCH	**Steam Cracks**	**0.14**	**109**	IAML		19 58 18.3	
	comp=N,212nm,1.8s						
STCH	**Steam Cracks**	**0.14**	**109**		Sg	19 58 20.4	+2.0
NPOC	**North of Pu'u**	**0.15**	**104**	Pg	Pg	19 58 16.4	-0.5
NPOC				IAML		19 58 21.8	
	comp=N,180nm,1.0s						
NPOC				IAML		19 58 21.9	
	comp=E,233nm,0.9s						
JCUZ	**Jacuzzi**	**0.16**	**107**	Pg	Pg	19 58 16.9	-0.2
JCUZ				IAML		19 58 18.0	
	comp=E,154nm,1.2s						
JCUZ				IAML		19 58 20.4	
	comp=N,229nm,1.6s						

FUNV 07 20:05:38.7, 8°42'N×61°.79W, h22km, MW3.5, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUEV	**Luepa**	**2.58**	**173**	*eP*	Pn	20 06 19.3	-0.2
LUEV				*eS*	Sn	20 06 48.1	-2.2
CACV	**CAICARA DEL OR**	**4.78**	**260**	*eP*	Pn	20 06 41.2	-8.3
CACV				*eS*	Sn	20 07 26.9	-17
BENV	**Beln**	**5.93**	**285**	*eP*	Pn	20 07 02.9	-2.6
BENV				*eS*	Sn	20 08 06.5	-6.4
BAUV	**El Baul**	**6.20**	**275**	*eP*	Pn	20 07 07.0	-2.0
BAUV				*eS*	Sn	20 08 13.0	-6.3

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*KOLA **07** 20:05:43.9, 67°.66N×33°.83E, h0km, ML2.4, Error ellipse: s-maj=3.7km s-min=1.2km az=150.0, Khibiny Mines*
*HEL **07** 20:05:43.8±0.2, 67°.71N×33°.74E, h0km, ML2.3, Suspected explosion*
*IDC **07** 20:05:45.5±1.5, 67°.69N×33°.47E, h0km, mbtmp3.5/6, ML2.5/4, Error ellipse: s-maj=15.9km s-min=9.1km az=84.0*

ISC 07 20:05:42.5±0.8, 67°.62N±0'.04×33°.87E±0'.03, h0km, n37, σ1§94/63, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.18**	**256**	P	**Pg**	**20 05 46.9**	**+0.9**
APA0	**Apatity Array**	**0.33**	**269**	P	**Pg**	**20 05 49.7**	**+0.8**
APA0				S	**Sg**	**20 05 54.3**	**+1.1**
LVZ	**Lovozero**	**0.41**	**46**	P	**Pg**	**20 05 50.9**	**+0.5**
LVZ				S	**Sg**	**20 05 56.5**	**+0.7**
LVZ	**Lovozero**	**0.41**	**46**	PG	**Pg**	**20 05 50.9**	**+0.5**
LVZ				SG	**Sg**	**20 05 56.4**	**+0.7**
VRF	**Varrio**	**1.63**	**277**	PG	**Pn**	**20 06 12.8**	**+0.3**
	baz=88						
VRF				MSG		20 06 31.0	
	comp=Z,38nm,0.2s						
VRF				SN	**Sn**	**20 06 33.8**	**-0.4**
TERR	**Teriberka**	**1.66**	**16**	P	**Pn**	**20 06 13.1**	**+0.3**
TERR				S	**Sn**	**20 06 33.2**	**-1.6**
OLKF	**Oulanka, Finla**	**2.19**	**236**	PB	**Pb**	**20 06 22.0**	**-0.8**
OLKF				MSG		20 06 48.9	
	comp=Z,23nm,0.2s						
OLKF				SG	**Sb**	**20 06 51.4**	**+1.0**
KU6	**Riekki**	**2.24**	**226**	PB	**Pn**	**20 06 22.7**	**+1.9**
KU6				MSG		20 06 50.9	
	comp=Z,11nm,0.2s						
KU6				SG	**Sb**	**20 06 52.5**	**+0.4**
RAJF	**Raja-Jooseppi**	**2.26**	**295**	PG	**Pn**	**20 06 21.9**	**+0.8**
RAJF				SG	**Sn**	**20 06 51.4**	**+1.8**
MSF	**Maaselka**	**2.57**	**230**	PB	**Pn**	**20 06 27.8**	**+2.5**
MSF				SG	**Sb**	**20 07 02.2**	**+0.8**
SGF	**Sodankyl**	**2.83**	**270**	PN	**Pn**	**20 06 29.8**	**+0.9**
	baz=83						
SGF				SG	**Sb**	**20 07 09.0**	**+0.1**
KMNF	**Kaamanen**	**2.97**	**304**	PN	**Pn**	**20 06 31.6**	**+0.7**
KMNF				SB	**Sn**	**20 07 08.3**	**+1.1**
VADS	**Vadso**	**3.00**	**329**	P	**Pn**	**20 06 31.6**	**+0.3**
VADS				S	**Sn**	**20 07 05.7**	**-2.1**
VADS	**Vadso**	**3.00**	**329**	*eP*	**Pn**	**20 06 31.6**	**+0.3**
RANF	**Ranua**	**3.23**	**243**	PN	**Pn**	**20 06 36.0**	**+1.6**
	baz=56						
RANF				SG	**Sb**	**20 07 21.9**	**+1.5**
RNF	**Rovaniemi**	**3.23**	**255**	PN	**Pn**	**20 06 35.3**	**+0.9**
	baz=65						
RNF				SN	**Sn**	**20 07 15.6**	**+2.1**
KEV	**Kevo**	**3.30**	**314**	PN	**Pn**	**20 06 36.6**	**+1.3**
	baz=126						
KEV				SN	**Sn**	**20 07 15.6**	**+0.4**
ARA0	**ARCESS Array S**	**3.62**	**306**	PN	**Pn**	**20 06 40.3**	**+0.5**
	baz=114						
ARCES	**ARCESS Array B**	**3.62**	**306**	Pn	**Pn**	**20 06 40.4**	**+0.5**
	comp=Z,2.5nm,0.3s,baz=122,slow=15,SNR=241						
ARCES				Sn	**Sn**	**20 07 21.9**	**-1.3**
	comp=Z,2.0nm,0.3s,baz=118,slow=26,SNR=22						
ARCES				Lg	Lg	20 07 33.1	
	comp=Z,3.5nm,0.3s,baz=114,slow=31,SNR=12						
	comp=Z,8.4nm,0.2s						
RMF	**Romuvaara**	**3.77**	**207**	PN	**Pn**	**20 06 42.6**	**+0.7**
	baz=25						
RMF				SN	**Sn**	**20 07 27.4**	**+0.5**
KLF	**Kolari**	**3.84**	**269**	PN	**Pn**	**20 06 43.1**	**+0.4**
KLF				SG	**Sb**	**20 07 41.8**	**+3.9**
HEF	**Hetta**	**3.92**	**286**	PN	**Pn**	**20 06 44.3**	**+0.4**
HEF				SN	**Sn**	**20 07 30.1**	**-0.4**
TOF	**Tornio**	**4.07**	**252**	PN	**Pn**	**20 06 48.5**	**+2.6**
TOF				SG	**Sg**	**20 07 50.2**	**-2.9**
OUL	**Oulu**	**4.09**	**235**	PB	**Pb**	**20 06 52.1**	**-3.3**
	baz=45						
OUL				SG	**Sg**	**20 07 52.1**	**-1.7**
KTK1	**Kautokeino**	**4.19**	**294**	*eP*	**Pn**	**20 06 48.2**	**+0.6**
KTK1	**Kautokeino**	**4.19**	**294**	PN	**Pn**	**20 06 48.1**	**+0.6**
KTK1				SN	**Sn**	**20 07 37.6**	**+0.5**
PAJU	**Pajala**	**4.21**	**267**	PN	**Pn**	**20 06 47.7**	**-0.1**
PAJU				SN	**Sn**	**20 07 37.9**	**+0.3**
LANU	**Lannavaara**	**4.52**	**281**	PN	**Pn**	**20 06 51.7**	**-0.4**
LANU				SN	**Sn**	**20 07 44.6**	**-0.7**
KALU	**Kalix**	**4.52**	**252**	PN	**Pn**	**20 06 53.4**	**+1.3**
KALU				SG	**Sb**	**20 08 02.9**	**+5.2**
OBF4	**Vikkela, Lumij**	**4.53**	**236**	PG	**Pb**	**20 07 04.8**	**+2.1**
FINES	**FINESS Array B**	**7.04**	**212**	Pn	**Pn**	**20 07 26.9**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=7.3						
FINES				Sn	**Sn**	**20 08 45.5**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=24,slow=25,SNR=3.1						
FINES				Lg	Lg	20 09 19.0	
	comp=Z,0.8nm,0.3s,baz=25,slow=27,SNR=9.3						
	comp=Z,0.4nm,0.4s						
FAUS	**Fauske**	**7.13**	**277**	S	**Sn**	**20 08 45.8**	**-3.6**
KIRV	**Kirov**	**11.43**	**135**	Lg	Lg	20 11 52.1	
	comp=Z,0.4nm,0.3s,baz=308,slow=23,SNR=1.9						
HFS	**Hagfors**	**11.58**	**239**	Pn	**Pn**	**20 08 27.0**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=45,slow=11,SNR=4.8						
HFS				Sn	**Sn**	**20 10 30.2**	**-8.4**
	comp=Z,0.1nm,0.3s,baz=48,slow=22,SNR=3.9						
HFS				Lg	Lg	20 11 42.5	
	comp=Z,0.3nm,0.3s,baz=47,slow=24,SNR=6.0						
	comp=Z,0.4nm,0.4s						
SPITS	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**20 08 28.2**	**-2.2**
	comp=Z,1.7nm,0.5s,baz=140,slow=17,SNR=7.5						
NOA	**NORSAR Array B**	**11.77**	**247**	Pn	**Pn**	**20 08 28.9**	**-2.5**
	baz=45,slow=21,SNR=2.1						
NOA				Lg	Lg	20 11 48.6	
	baz=46,slow=26,SNR=3.1						
	comp=Z,0.2nm,0.4s						
BELG	**Belogornoye**	**16.67**	**149**	Pn	**P**	**20 09 41.0**	**+1.3**
	comp=Z,4.9nm,0.6s,baz=298,slow=18,SNR=1.7						

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*IDC **07** 20:09:22.3±0.5, 9°.56N×40°.55W, h0km, mb4.0/25, mbtmp4.0/27, ML3.8/2, MS3.6/20, Error ellipse: s-maj=16.8km s-min=14.4km az=145.0*
*NEIC **07** 20:09:24±1.8, 9°.4N±0°.1×40°.5W±0°.1, h10km±1km, mb4.6/18, Error ellipse: s-maj=23.1km s-min=17.0km az=165.0*

ISC 07 20:09:23.5±0.4, 9°49'N±0'.08×40°55'W±0'.07, h10km, n67, σ1§86/49, mb4.2/35, MS3.5/19, 1C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**12.76**	**251**	Pn	**Pn**	**20 12 24.9**	**-0.3**
	0.8nm,0.3s,baz=53,slow=16,SNR=4.5						
MDP				LR	LR	20 16 35.6	
	comp=Z,159nm,19.3s,baz=106,slow=34						
	11nm,0.8s						
RCBR	**Riachuelo**	**15.91**	**163**	Pn	**Pn**	**20 13 06.1**	**-1.5**
RCBR	**Riachuelo**	**15.91**	**163**	Pn	**Pn**	**20 13 08.9**	**+1.2**
	0.3nm,0.3s,baz=350,slow=12,SNR=2.4						
	3.8nm,0.8s						
H05S1	**Guadeloupe/Mar**	**20.44**	**286**	T	T	20 35 00.0	
	SNR=4.6						
BOAV	**Boa Vista**	**21.07**	**252**	P	**P**	**20 14 08.5**	**+0.4**
BOAV				IAmb	IAmb	20 14 16.2	
	comp=Z,16nm,1.0s						
PCRV	**Puerto La Cruz**	**23.74**	**274**	LR	LR	20 25 27.8	
	comp=Z,90nm,18.1s,slow=41						
BDFB	**Brasilia**	**26.04**	**197**	P	**P**	**20 14 57.9**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=20,slow=17,SNR=2.4						
BDFB				LR	LR	20 24 46.1	
	comp=Z,120nm,20.4s,baz=237,slow=35						
	comp=Z,2.1nm,0.6s						
CELP	**Cerrillos**	**26.65**	**291**	P	**P**	**20 15 02.6**	**-0.2**
BAUV	**El Baul**	**27.14**	**271**	P	**P**	**20 15 06.5**	**-0.7**
SAML	**Samuel**	**29.04**	**232**	P	**P**	**20 15 23.1**	**-1.0**
SDV	**Santo Domingo**	**29.70**	**271**	LR	LR	20 27 06.7	
	comp=Z,71nm,20.2s,baz=112,slow=36						
H10N3	**ASCENSION HYDR**	**31.14**	**123**	T	T	20 48 31.4	
	baz=303,slow=75,SNR=20						
H10N2	**ASCENSION HYDR**	**31.14**	**123**	T	T	20 48 31.4	
	baz=303,slow=75,SNR=23						
H10N1	**ASCENSION HYDR**	**31.16**	**123**	T	T	20 48 32.3	
	baz=303,slow=75,SNR=24						
SDDR	**Presa de Saban**	**31.20**	**291**	P	**P**	**20 15 44.4**	**+1.0**
H10S3	**ASCENSION HYDR**	**31.62**	**125**	T	T	20 49 13.9	
	baz=301,slow=74,SNR=14						
H10S2	**ASCENSION HYDR**	**31.64**	**125**	T	T	20 49 15.3	
	baz=279,slow=74,SNR=5.2						
SIV	**San Ignacio**	**32.47**	**219**	LR	LR	20 28 59.0	
	comp=Z,70nm,18.0s,baz=104,slow=36						
ROSC	**El Rosal**	**33.81**	**265**	LR	LR	20 29 40.6	
	comp=Z,153nm,18.5s,baz=96,slow=36						
DBIC	**Dimbokro**	**35.44**	**92**	P	**P**	**20 16 18.5**	**-1.8**
DBIC				IAmb	IAmb	20 16 37.7	
	comp=Z,14nm,1.2s						
DBIC	**Dimbokro**	**35.44**	**92**	P	**P**	**20 16 19.8**	**-0.5**
	comp=Z,4.6nm,0.7s,baz=268,slow=9.2,SNR=7.4						
DBIC				LR	LR	20 27 54.9	
	comp=Z,91nm,20.2s,baz=220,slow=31						
	comp=Z,4.6nm,0.7s						
LPAZ	**La Paz**	**37.43**	**227**	P	**P**	**20 16 38.0**	**+0.1**
LPAZ	**La Paz**	**37.43**	**227**	P	**P**	**20 16 39.2**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=41,slow=4.9,SNR=10						
LPAZ				LR	LR	20 33 17.3	
	comp=Z,35nm,18.7s,baz=52,slow=38						
	comp=Z,2.3nm,0.7s						
CPUP	**Villa Florida**	**39.17**	**204**	LR	LR	20 32 43.0	
	comp=Z,65nm,19.6s,baz=36,slow=36						
MDT	**Midelt**	**40.45**	**50**	P	**P**	**20 17 01.6**	**-0.9**
	comp=Z,0.9nm,0.7s,baz=248,slow=16,SNR=1.8						
MDT				LR	LR	20 30 43.5	
	comp=Z,40nm,18.6s,baz=192,slow=32						
	comp=Z,0.9nm,0.7s						
ATAH	**Atahualpa**	**41.16**	**248**	LR	LR	20 34 09.7	
	comp=Z,71nm,19.3s,baz=84,slow=36						
TOA0	**Torodi Ar. Sit**	**41.55**	**81**	P	**P**	**20 17 10.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**41.55**	**81**	P	**P**	**20 17 10.8**	**-0.8**
TORD	**Torodi Ar. Bea**	**41.55**	**81**	P	**P**	**20 17 11.1**	**-0.5**
	comp=Z,1.8nm,0.6s,baz=282,slow=8.4,SNR=11						
TORD				LR	LR	20 32 54.8	
	comp=Z,96nm,19.4s,baz=275,slow=34						
	comp=Z,1.8nm,0.6s						
NNA	**Nana**	**41.91**	**240**	LR	LR	20 34 59.6	
	comp=Z,68nm,19.2s,baz=42,slow=37						
ESDC	**Sonseca Array**	**44.31**	**41**	P	**P**	**20 17 33.5**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=235,slow=9.0,SNR=2.5						
ESDC				LR	LR	20 34 55.7	
	comp=Z,49nm,18.3s,baz=256,slow=35						
	comp=Z,0.5nm,0.8s						
CNGN	**Cerro Negro**	**45.36**	**278**	P	**P**	**20 17 41.2**	**-1.3**
TKL	**Tuckaleechee C**	**47.12**	**310**	LR	LR	20 34 28.3	
	comp=Z,60nm,20.3s,baz=114,slow=32						
SCHQ	**Schefferville**	**49.81**	**340**	P	**P**	**20 18 16.0**	**-0.4**
	comp=Z,2.5nm,0.8s,baz=108,slow=6.4,SNR=2.6						
	comp=Z,2.5nm,0.8s						
EKA	**Eskdalemuir Ar**	**54.39**	**25**	P	**P**	**20 18 50.1**	**-0.4**
	comp=Z,1.2nm,0.8s,baz=218,slow=4.5,SNR=2.9						
	comp=Z,1.2nm,0.8s						
PLCA	**A Paso Flores**	**57.13**	**207**	P	**P**	**20 19 09.8**	**-0.7**
	comp=Z,1.0nm,0.9s,baz=104,slow=12,SNR=3.0						
	comp=Z,1.0nm,0.9s						
ULM	**Lac du Bonnet**	**60.93**	**323**	P	**P**	**20 19 35.5**	**-1.2**
	comp=Z,2.5nm,0.7s,baz=144,slow=5.2,SNR=4.7						
	comp=Z,2.5nm,0.7s						
TXAR	**Lajitas Array**	**62.01**	**298**	P	**P**	**20 19 44.5**	**0.0**
	comp=Z,0.5nm,0.7s,baz=117,slow=6.6,SNR=7.1						
	comp=Z,0.5nm,0.7s						
SUMG	**Summit**	**63.05**	**1**	P	**P**	**20 19 50.8**	**-0.2**
SUMG				IAmb	IAmb	20 19 51.8	
	comp=Z,8.0nm,1.3s						
NOA	**NORSAR Array B**	**63.88**	**25**	P	**P**	**20 19 57.2**	**+1.0**
	comp=Z,0.7nm,0.8s,baz=272,slow=13,SNR=3.8						
	comp=Z,0.7nm,0.8s						
TSUM	**Tsumeb**	**63.98**	**117**	LR	LR	20 43 16.1	
	comp=Z,106nm,19.4s,baz=182,slow=32						
HFS	**Hagfors**	**64.51**	**27**	P	**P**	**20 20 01.1**	**+0.8**
	comp=Z,2.1nm,0.7s,baz=224,slow=7.8,SNR=6.8						
	comp=Z,2.1nm,0.7s						
ANMO	**Albuquerque**	**64.90**	**304**	LR	LR	20 45 53.4	
	comp=Z,39nm,19.8s,baz=166,slow=34						
PDAR	**Pinedale Array**	**68.22**	**312**	P	**P**	**20 20 25.1**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=99,slow=3.9,SNR=1.5						
PDAR				LR	LR	20 47 46.2	
	comp=Z,31nm,19.0s,baz=84,slow=34						
	comp=Z,0.2nm,0.3s						
BGU	**Big Grassy Mou**	**70.61**	**310**	P	**P**	**20 20 40.0**	**+0.5**
BGU				IAmb	IAmb	20 20 47.3	
	comp=Z,3.7nm,0.8s						
FINES	**FINESS Array B**	**70.63**	**28**	P	**P**	**20 20 39.7**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=266,slow=12,SNR=1.6						
	comp=Z,0.9nm,0.8s						
BRTR	**Keskin Array B**	**71.84**	**51**	P	**P**	**20 20 47.6**	**+0.7**
	comp=Z,0.6nm,0.7s,baz=251,slow=6.5,SNR=4.6						
	comp=Z,0.6nm,0.7s						
ARCES	**ARCESS Array B**	**72.89**	**20**	P	**P**	**20 20 52.1**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=346,slow=7.8,SNR=3.5						
	comp=Z,2.8nm,0.8s						
LBTB	**Lobatse**	**72.96**	**120**	LR	LR	20 48 55.7	
	comp=Z,121nm,18.3s,baz=220,slow=32						
BOSA	**Boshof**	**73.89**	**123**	P	**P**	**20 20 59.9**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=301,slow=5.9,SNR=3.8						
	comp=Z,1.9nm,0.8s						
YKA	**Yellowknife Ar**	**74.28**	**332**	P	**P**	**20 20 59.8**	**-1.0**
	comp=Z,0.5nm,0.6s,baz=94,slow=5.4,SNR=9.5						
	comp=Z,0.5nm,0.6s						
NVAR	**Mina Array Bea**	**74.59**	**307**	P	**P**	**20 21 04.8**	**+1.5**
	comp=Z,0.2nm,0.7s,baz=95,slow=4.0,SNR=1.7						
	comp=Z,0.2nm,0.7s						
YBH	**Yreka Blue Hor**	**77.92**	**311**	LR	LR	20 52 31.4	
	comp=Z,22nm,22.0s,baz=13,slow=33						
KSXB	**Camp Six Broad**	**78.78**	**311**	P	**P**	**20 21 27.7**	**+0.8**
KSXB				IAmb	IAmb	20 21 34.5	
	comp=Z,5.0nm,0.9s						
KBZ	**Khabaz**	**78.79**	**47**	P	**P**	**20 21 26.7**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=193,slow=7.3,SNR=1.9						
	comp=Z,0.7nm,0.7s						
DLBC	**Dease Lake**	**81.72**	**328**	P	**P**	**20 21 43.2**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=96,slow=7.7,SNR=3.1						
	comp=Z,1.3nm,0.5s						
VNA3	**Neumayer Olymp**	**83.17**	**170**	⇑P	**P**	**20 21 50.4**	**+1.0**
	comp=Z,6.0nm,0.7s						
E27K	**Coleen River**	**85.34**	**338**	P	**P**	**20 22 01.4**	**+0.8**
E27K				IAmb	IAmb	20 22 09.3	
	comp=Z,4.3nm,1.1s						
L27K	**Beaver Creek,**	**86.68**	**333**	P	**P**	**20 22 07.8**	**+0.5**
L27K				IAmb	IAmb	20 22 16.1	
	comp=Z,6.1nm,1.3s						
D25K	**Kavik River**	**86.70**	**340**	IAmb	IAmb	20 22 09.2	
	comp=Z,5.4nm,0.8s						
E24K	**Your Creek**	**87.84**	**339**	P	**P**	**20 22 14.2**	**+1.3**
E24K				IAmb	IAmb	20 22 21.0	
	comp=Z,2.6nm,1.1s						
AKTO	**Aktyubinsk**	**88.17**	**39**	P	**P**	**20 22 16.1**	**+1.4**
	comp=Z,1.1nm,0.5s,baz=272,slow=1.7,SNR=4.0						
	comp=Z,1.1nm,0.5s						
ILAR	**Eielson Array**	**88.33**	**336**	P	**P**	**20 22 15.2**	**0.0**
	comp=Z,0.6nm,0.7s,baz=58,slow=5.1,SNR=7.7						
	comp=Z,0.6nm,0.7s						
ABKAR	**Akbulak array**	**89.65**	**40**	P	**P**	**20 22 22.6**	**+0.9**
ABKAR	**Akbulak array**	**89.65**	**40**	P	**P**	**20 22 22.8**	**+1.0**
ABKAR				IAmb	IAmb	20 22 30.4	
	comp=Z,3.1nm,0.9s						
GEYT	**Alibeck**	**90.99**	**51**	P	**P**	**20 22 28.9**	**+0.5**
	comp=Z,0.4nm,0.4s,baz=298,slow=3.1,SNR=2.2						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**164.94**	**160**	PKP	**PKPdf**	**20 29 28.3**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=178,slow=4.5,SNR=3.3						
ASAR				PKPab	**sPKPab**	**20 30 27.5**	**-0.1**
	comp=Z,0.7nm,0.9s,baz=165,slow=2.5,SNR=3.1						

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*DJA **07** 20:12:39.0±0.4, 7°.S±3°×12°.9E±°, h135km±20km, M4.5/13, mb4.5/8, mB5.0/4, MLv4.5/13, Mw(mB)4.4/4*
*NEIC **07** 20:12:39.7±1.5, 7°.00S±0°.09×129°.3E±0°.1, h151km±11km, mb4.3/12, Error ellipse: s-maj=15.4km s-min=12.1km az=112.0*
*IDC **07** 20:12:53.4±6.7, 7°.72S×128°.31E, h290km±69km, mb3.1/3, mbtmp3.9/5, Error ellipse: s-maj=82.9km s-min=18.8km az=55.0*

ISC 07 20:12:38.9±0.6, 7°04S±0'.06×129°25E±0'.05, h156km, n55, σ1§92/58, mb3.8/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.24**	**115**	P	**Pn**	**20 13 18.3**	**+1.1**
SAUI	**Saumlaki**	**2.24**	**115**	Pn	**Pn**	**20 13 19.4**	**+2.2**
SAUI				Sn	**Sn**	**20 13 44.8**	**-2.0**
SAUI	**Saumlaki**	**2.24**	**115**	P	**Pn**	**20 13 18.3**	**+1.1**
BNDI	**Bandanaira**	**2.58**	**15**	P	**Pn**	**20 13 20.1**	**-1.2**
FAKI	**Fak Fak**	**5.07**	**36**	P	**Pn**	**20 13 52.6**	**-0.8**
FAKI	**Fak Fak**	**5.07**	**36**	Pn	**Pn**	**20 13 52.5**	**-0.8**
FAKI	**Fak Fak**	**5.07**	**36**	P	**Pn**	**20 13 52.8**	**-0.5**
	52nm,0.6s,2μm0.4nm						
FAKI				S	**Sn**	**20 14 47.4**	**-4.1**
	52nm,0.6s,2μm0.4nm						
KMPI	**Kaimana, Papua**	**5.56**	**53**	P	**Pn**	**20 14 00.1**	**+0.2**
	161nm,0.7s,3μm1

	comp=Z,27nm,1.4s					
BBOO	**Buckleboo**	**26.42**	**167**	P	**P**	**20 18 03.0 +1.9**
BBOO	**Buckleboo**	**26.42**	**167**	P	**P**	**20 18 02.3 +1.2**
STKA	**Stephens Creek**	**27.27**	**157**	P	**P**	**20 18 09.5 +0.8**
	comp=Z,1.3nm,0.6s,baz=315,slow=13,SNR=1.7					
	comp=Z,1.3nm,0.6s					
CASY	**Casey**	**60.55**	**189**	P	**P**	**20 22 34.0 +1.6**
CASY				IAmb	IAmb	20 22 47.4
	comp=Z,7.6nm,1.3s					
MK31	**Makanchi Array**	**67.85**	**327**	P	**P**	**20 23 21.5 +1.2**
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**20 23 21.5 +1.2**
MKAR	**Makanchi Array**	**67.85**	**327**	P	**P**	**20 23 21.4 +1.0**
	comp=Z,0.3nm,0.4s,baz=124,slow=7.2,SNR=10					
	comp=Z,0.3nm,0.4s					
KURBB	**Kurchatov Arra**	**72.15**	**329**	P	**P**	**20 23 47.1 +0.7**
	comp=Z,0.3nm,0.5s,baz=131,slow=5.1,SNR=6.5					
	comp=Z,0.3nm,0.5s					
KURK	**Kurchatov**	**72.16**	**329**	P	**P**	**20 23 46.8 +0.3**

*IDC **07** 20:15:07.0±0.6, 43°.90S×40°.78E, h0km, mb4.0/14, mbtmp4.0/16, ML3.3/2, MS3.8/33, Error ellipse: s-maj=22.5km s-min=16.9km az=71.0*
*NEIC **07** 20:15:08.2±1.1, 43°.9S±0°.1×41°.1E±0°.2, h10km±1km, mb4.8/24, Error ellipse: s-maj=25.8km s-min=20.0km az=98.0*
*GCMT **07** 20:15:10.2±0.4, 43°.86S±0°.03×40°.78E±0°.07, h19km±1km, MW4.9/66, Moment Tensor Solution. s15,c15; s66,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.86±.23; $M_{\theta\theta}$1.69±.13; $M_{\phi\phi}$0.16±.14; $M_{r\theta}$-0.68±.25; $M_{r\phi}$-1.07±.10; $M_{\theta\phi}$-1.64±.50; Best double couple: M_o2.64500×10^{16} NP1:ϕ_s327.00000°, δ56.00000°, λ-49.00000°. NP2: ϕ_s89.00000°, δ51.00000°, λ-135.00000°. Principal axes: T 2.2500, Plg3.0000°, Azm29.0000°; N 0.7880, Plg33.0000°, Azm121.0000°; P -3.0400, Plg56.0000°, Azm295.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 07 20:15:08.1±0.5, 43°.84S±0°.08×40°.9E±0°.1, h10km, n66, σ1§00/40, mb4.3/20, MS3.9/31, 1C, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRHM	**Grahamstown, E**	**15.45**	**308**	Pn	**P**	**20 18 49.1**	**-1.5**
GRHM				IAmb	IAmb	20 18 53.1	
	comp=Z,68nm,1.6s						
SUR	**Sutherland**	**19.43**	**299**	P	**Pn**	**20 19 36.2**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=202,slow=17,SNR=1.6						
SUR				LR	LR	20 25 42.0	
	comp=Z,283nm,18.4s,baz=143,slow=33						
	comp=Z,8.3nm,0.9s						
BOSA	**Boshof**	**19.68**	**315**	P	**Pn**	**20 19 39.6**	**+0.8**
	baz=114,slow=16,SNR=2.8						
BOSA				LR	LR	20 25 25.2	
	comp=Z,172nm,21.0s,baz=154,slow=31						
	comp=Z,5.1nm,1.2s						
VOI	**Vohitsoka**	**22.42**	**15**	P	**P**	**20 20 04.3**	**-2.8**
VOI				IAmb	IAmb	20 20 12.7	
	comp=Z,44nm,1.2s						
LBTB	**Lobatse**	**22.54**	**321**	P	**P**	**20 20 09.7**	**+1.4**
LBTB	**Lobatse**	**22.54**	**321**	LR	LR	20 27 52.7	
	comp=Z,190nm,18.1s,baz=143,slow=34						
ABPO	**Ambohimpanom**	**25.32**	**14**	P	**P**	**20 20 35.3**	**+0.1**
OPO	**Ambohidratompo**	**25.75**	**14**	LR	LR	20 29 32.6	
	comp=Z,502nm,18.9s,baz=352,slow=34						
MAW	**Mawson**	**26.55**	**161**	P	**P**	**20 20 44.7**	**-1.0**
	comp=Z,2.3nm,0.9s,baz=299,slow=11,SNR=2.2						
MAW				LR	LR	20 28 48.2	
	comp=Z,205nm,19.7s,baz=332,slow=31						
	comp=Z,2.3nm,0.9s						
LSZ	**Lusaka**	**30.45**	**335**	LR	LR	20 31 24.0	
	comp=Z,106nm,20.2s,baz=151,slow=32						
TSUM	**Tsumeb**	**31.36**	**314**	LR	LR	20 33 12.2	
	comp=Z,131nm,18.1s,baz=180,slow=35						
SNAA	**Sanae**	**34.89**	**202**	P	**P**	**20 21 57.9**	**-1.5**
SNAA	**Sanae**	**34.89**	**202**	⇑P	**P**	**20 21 57.8**	**-1.5**
	comp=Z,94nm,0.8s						
SNAA	**Sanae**	**34.89**	**202**	P	**P**	**20 21 57.8**	**-1.5**
	comp=Z,4.1nm,0.8s,baz=85,slow=13,SNR=8.0						
SNAA				LR	LR	20 34 23.7	
	comp=Z,181nm,18.5s,baz=32,slow=33						
	comp=Z,4.1nm,0.8s						
MBAR	**Mbarara**	**43.98**	**345**	LR	LR	20 39 45.8	
	comp=Z,142nm,21.3s,baz=152,slow=34						
BELA	**Belgrano 2**	**44.52**	**197**	P	**P**	**20 23 19.8**	**+0.5**
QSPA	**South Pole Qui**	**46.37**	**180**	P	**P**	**20 23 34.3**	**+0.1**
QSPA				IAmb	IAmb	20 23 48.6	
	comp=Z,18nm,1.4s						
QSPA	**South Pole Qui**	**46.37**	**180**	P	**P**	**20 23 34.4**	**+0.1**
	comp=Z,2.7nm,0.9s,baz=240,slow=2.3,SNR=13						
QSPA				LR	LR	20 40 51.0	
	comp=Z,173nm,21.1s,baz=258,slow=33						
	comp=Z,2.7nm,0.9s						
VNDA	**Vanda**	**53.66**	**167**	P	**P**	**20 24 29.0**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=180,slow=2.0,SNR=2.5						
VNDA				LR	LR	20 44 52.9	
	comp=Z,33nm,21.3s,baz=239,slow=33						
	comp=Z,0.5nm,0.6s						
ATD	**Arta Tunnel**	**55.13**	**2**	LR	LR	20 46 17.2	
	comp=Z,111nm,19.8s,baz=164,slow=34						
H01W2	**Cape Leeuwin H**	**55.65**	**108**	T	T	21 25 07.3	
	baz=238,slow=75,SNR=12						
H01W3	**Cape Leeuwin H**	**55.66**	**108**	T	T	21 25 07.9	
	baz=238,slow=75,SNR=16						
H01W1	**Cape Leeuwin H**	**55.67**	**108**	T	T	21 25 08.5	
	baz=238,slow=75,SNR=16						
PALK	**Pallekele**	**62.33**	**46**	LR	LR	20 46 12.7	
	comp=Z,76nm,19.2s,baz=312,slow=30						
DBIC	**Dimbokro**	**65.02**	**308**	LR	LR	20 49 45.6	
	comp=Z,70nm,21.6s,baz=176,slow=32						
TORD	**Torodi Ar. Bea**	**67.01**	**318**	P	**P**	**20 26 01.0**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=142,slow=6.0,SNR=3.2						
	comp=Z,0.5nm,0.7s						
WSAR	**Wadi Sarin**	**68.71**	**18**	LR	LR	20 52 03.3	
	comp=Z,93nm,19.4s,baz=204,slow=32						
EIL	**Elat**	**73.35**	**355**	LR	LR	20 57 33.3	
	comp=Z,72nm,18.4s,baz=244,slow=35						
PLCA	**Paso Flores**	**75.64**	**227**	P	**P**	**20 26 54.7**	**+1.3**
	comp=Z,1.4nm,0.9s,baz=152,slow=7.4,SNR=4.9						
PLCA				LR	LR	20 52 25.7	
	comp=Z,86nm,19.8s,baz=142,slow=30						
	comp=Z,1.4nm,0.9s						
STKA	**Stephens Creek**	**75.64**	**120**	P	**P**	**20 26 55.2**	**+1.8**
	comp=Z,4.6nm,0.9s,baz=206,slow=3.6,SNR=8.1						
	comp=Z,4.6nm,0.9s						
ASAR	**Alice Springs**	**76.10**	**109**	P	**P**	**20 26 56.9**	**+0.6**
	comp=Z,0.9nm,1.0s,baz=208,slow=5.1,SNR=4.6						
	comp=Z,0.9nm,1.0s						
MMAI	**Mount Meron Ar**	**76.65**	**355**	LR	LR	20 57 44.7	
	comp=Z,94nm,21.8s,baz=95,slow=33						
CPUP	**Villa Florida**	**77.76**	**245**	P	**P**	**20 27 05.5**	**+0.1**
	comp=Z,2.5nm,0.8s,baz=126,slow=3.9,SNR=5.6						
CPUP				LR	LR	20 53 42.2	
	comp=Z,64nm,19.7s,baz=162,slow=30						
	comp=Z,2.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**81.61**	**55**	P	**P**	**20 27 27.4**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=234,slow=6.5,SNR=6.8						
CMAR				LR	LR	20 58 57.2	
	comp=Z,85nm,18.2s,baz=220,slow=32						
	comp=Z,0.6nm,0.3s						
GEYT	**Alibeck**	**82.88**	**14**	P	**P**	**20 27 32.8**	**+0.2**
GEYT				IAmb	IAmb	20 27 40.7	
	comp=Z,7.3nm,1.2s						
GEYT	**Alibeck**	**82.88**	**14**	P	**P**	**20 27 33.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=216,slow=8.6,SNR=1.5						
GEYT				LR	LR	21 02 25.4	
	comp=Z,45nm,18.2s,baz=170,slow=34						
	comp=Z,0.6nm,0.7s						
CO01	**Juntas del Tor**	**83.18**	**235**	P	**P**	**20 27 34.3**	**-0.7**
CO01				IAmb	IAmb	20 27 37.7	
	comp=Z,8.7nm,1.2s						
BRTR	**Keskin Array B**	**83.44**	**354**	P	**P**	**20 27 34.5**	**-1.0**
	comp=Z,0.5nm,0.8s,baz=163,slow=6.0,SNR=2.4						
	comp=Z,0.5nm,0.8s						
GNI	**Garni**	**83.68**	**3**	LR	LR	21 05 44.4	
	comp=Z,62nm,18.1s,baz=158,slow=36						
AC05	**El Transito**	**84.12**	**235**	P	**P**	**20 27 40.0**	**+0.4**
AC05				IAmb	IAmb	20 27 46.1	
	comp=Z,15nm,1.2s						
SIMJ	**Simiganj**	**85.98**	**22**	P	**P**	**20 27 47.2**	**-1.2**
SIMJ				IAmb	IAmb	20 27 57.3	
	comp=Z,9.3nm,1.1s						
CHGR	**Chuyangaron**	**86.02**	**22**	P	**P**	**20 27 48.7**	**+0.2**
PTLB	**Pontes e Lacer**	**86.46**	**252**	P	**P**	**20 27 51.4**	**+0.2**
KBZ	**Khabaz**	**87.20**	**1**	LR	LR	21 06 23.9	
	comp=Z,46nm,19.4s,baz=146,slow=35						
SIV	**San Ignacio**	**87.41**	**250**	LR	LR	21 02 21.8	
	comp=Z,65nm,18.5s,baz=97,slow=32						
KIV	**Kislovodsk**	**87.42**	**1**	P	**P**	**20 27 55.0**	**-0.3**
LVC	**Limon Verde**	**87.84**	**240**	LR	LR	21 00 52.4	
	comp=Z,62nm,19.3s,baz=186,slow=31						
INTR	**Introdacqua**	**88.83**	**340**	P	**P**	**20 28 02.4**	**+0.4**
COEN	**Coen**	**89.11**	**108**	P	**P**	**20 28 02.2**	**-1.8**
PB11	**IPOC Station P**	**90.39**	**242**	P	**P**	**20 28 10.7**	**+0.6**
KK31	**Karatay Array**	**90.54**	**21**	P	**P**	**20 28 10.2**	**+0.4**
KK31				IAmb	IAmb	20 28 17.7	
	comp=Z,4.9nm,1.4s						
KKAR	**Karatay Array**	**90.54**	**21**	P	**P**	**20 28 09.9**	**0.0**
KKAR				IAmb	IAmb	20 28 17.7	
	comp=Z,4.9nm,1.4s						
AAK	**Ala-Archa**	**91.22**	**24**	LR	LR	21 04 33.4	
	comp=Z,46nm,21.0s,baz=204,slow=32						
LPAZ	**La Paz**	**91.93**	**245**	LR	LR	21 07 23.0	
	comp=Z,83nm,18.0s,baz=128,slow=34						
BURAR	**Bucovina Array**	**92.11**	**349**	P	**P**	**20 28 17.9**	**+0.7**
ESDC	**Sonseca Array**	**92.45**	**327**	P	**P**	**20 28 18.7**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=151,slow=2.9,SNR=1.6						
	comp=Z,0.1nm,0.4s						
SAML	**Samuel**	**93.83**	**254**		**P**	**20 28 26.3**	**+0.4**
SAML				IAmb	IAmb	20 28 27.9	
	comp=Z,5.7nm,1.1s						
DAVOX	**Davos/Dischmat**	**94.30**	**339**	LR	LR	21 14 09.2	
	comp=Z,53nm,18.2s,baz=82,slow=38						
AKTO	**Aktyubinsk**	**95.08**	**11**	LR	LR	21 14 19.5	
	comp=Z,38nm,18.4s,baz=80,slow=37						
BELG	**Belogornoye**	**96.03**	**4**	LR	LR	21 11 33.9	
	comp=Z,77nm,22.0s,baz=196,slow=35						
MKAR	**Makanchi Array**	**97.40**	**27**	P	Pdif	20 28 42.2	+0.8
	comp=Z,0.3nm,0.9s,baz=222,slow=5.8,SNR=1.9						
MKAR				LR	LR	21 10 59.3	
	comp=Z,28nm,18.5s,baz=329,slow=34						
	comp=Z,0.3nm,0.9s						
KURBB	**Kurchatov Arra**	**99.63**	**23**	LR	LR	21 10 46.1	
	comp=Z,28nm,18.1s,baz=169,slow=34						
BVAR	**Borovoye Array**	**99.77**	**18**	LR	LR	21 09 49.9	
	comp=Z,42nm,21.2s,baz=215,slow=33						
ULM	**Lac du Bonnet**	**150.16**	**298**	PKPbc	**PKiKP**	**20 34 59.9**	**+0.6**
	comp=Z,1.9nm,0.8s,baz=129,slow=4.5,SNR=2.9						
YKA	**Yellowknife Ar**	**156.48**	**331**	PKPab	**PKPab**	**20 35 30.0**	**-0.9**
	comp=Z,0.3nm,0.9s,baz=25,slow=4.0,SNR=2.1						
NVAR	**Mina Array Bea**	**163.41**	**258**	PKPab	**PKPab**	**20 36 01.8**	**-0.4**
	comp=Z,0.1nm,0.4s,baz=129,slow=5.3,SNR=3.8						

*UPA **07** 20:15:31.5±1.0, 6°.42N×82°.56W, h12km±20km, MW3.5*
*CATAC **07** 20:15:53.7±2.0, 8°.12N×82°.92W, h19km±6km, mb5.5, MB6.0, ML3.3*

ISC 07 20:15:31.4±2.4, 6°.5N±0°.1×82°.57W±0°.06, h10km, n19, σ1§03/28, 2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GMAL	**Guarumal, Vera**	**1.84**	**46**	*e*P	**Pn**	**20 16 03.1**	**+0.1**
GMAL				*e*S	**Sb**	**20 16 27.2**	**-1.0**
CACAO	**El Cacao, Vera**	**1.90**	**63**	⇓*i*P	**Pn**	**20 16 03.0**	**-0.8**
CACAO				*e*S	**Sn**	**20 16 27.0**	**-0.9**
PIRO	**Carate, Puerto**	**2.06**	**338**	*i* P	**Pn**	**20 16 04.9**	**-1.1**
PIRO				*i* S	**Pg**	**20 16 13.4**	**+2.6**
PIRO				IAML		20 16 36.1	
	comp=Z,220nm,1.0s						
MESA3	**La Mesa, Verag**	**2.15**	**40**	*e*P	**Pn**	**20 16 07.8**	**+0.4**
BCO2	**Palmira**	**2.22**	**1**	*e*P	**Pn**	**20 16 08.6**	**+0.1**
BCO2				*e*S	**Sb**	**20 16 37.5**	**-1.9**
BRU2	**Volcan**	**2.30**	**357**	⇓*i*P	**Pn**	**20 16 09.8**	**+0.3**
BRU2				*e*S	**Sb**	**20 16 40.3**	**-1.4**
BRU2	**Volcan**	**2.30**	**357**	*i* P	**Pn**	**20 16 09.0**	**-0.5**
BRU2				IAML		20 16 10.0	
	comp=Z,330nm,1.0s						
BRU2				*i* S	**Pg**	**20 16 16.4**	**+0.9**
PLAN	**Los Planes de**	**2.44**	**333**	*i* P	**Pn**	**20 16 09.4**	**-1.9**
PLAN				IAML		20 16 42.6	
	comp=Z,540nm,1.0s						
CHGR2	**Aguacate**	**2.48**	**10**	*e*P	**Pn**	**20 16 12.2**	**+0.4**
CHGR2				*e*S	**Sn**	**20 16 42.6**	**+0.5**
CHIT3	**Chitre**	**2.59**	**55**	*e*P	**Pn**	**20 16 13.4**	**0.0**
CHIT3				*e*S	**Sn**	**20 16 44.5**	**-0.4**
AZU	**Azuero**	**2.62**	**60**	*e*P	**Pn**	**20 16 14.0**	**+0.1**
AZU				*e*S	**Sn**	**20 16 45.8**	**0.0**
OCHAL	**Ojochal**	**2.81**	**338**	*i* P	**Pn**	**20 16 15.8**	**-0.6**
OCHAL				IAML		20 16 17.2	
	comp=Z,370nm,1.0s						
PEZE	**Perez Zeledon,**	**3.08**	**339**	*i* P	**Pn**	**20 16 20.0**	**-0.3**
PEZE				IAML		20 16 24.2	
	comp=Z,140nm,1.0s						
CDM	**Cerro de Muert**	**3.27**	**339**	*i* P	**Pn**	**20 16 23.0**	**-0.2**
CDM				IAML		20 16 24.2	
	comp=Z,120nm,1.0s						
VTCV	**VTCV, Calle Va**	**3.66**	**342**	*i* P	**Pn**	**20 16 29.5**	**+1.2**
VTCV				IAML		20 17 16.6	
	comp=Z,240nm,1.0s						
COVE	**Coope Vega, Sa**	**4.58**	**337**	*i* P	**Pn**	**20 16 40.3**	**-0.5**
COVE				IAML		20 16 56.6	
	comp=Z,760nm,1.0s						
SAJU	**San Juanillo,**	**4.73**	**319**	*i* P	**Pn**	**20 16 42.1**	**-0.7**
SAJU				IAML		20 17 38.9	
	comp=Z,46nm,1.0s						
HZTE	**Horizontes, Gu**	**5.16**	**325**	*i* P	**Pn**	**20 16 49.7**	**+0.9**
HZTE				IAML		20 18 39.0	
	comp=Z,99nm,1.0s						
QUEN	**Al S del Volca**	**7.39**	**326**	*i* P	**Pn**	**20 17 18.4**	**-1.1**
QUEN				IVmB_BB		20 17 23.3	
	comp=Z,13μm,1.0s						
QUEN				IAmb	IAmb	20 17 27.8	
	comp=Z,350nm,0.6s						
QUEN				IAML		20 17 28.3	
	comp=Z,790nm,1.0s						

*TRN **07** 20:32:49.8, 11°.20N×61°.85W, h67km, MD3.4, North-west of Trinidad.*
*FUNV **07** 20:32:50.7, 11°.15N×61°.75W, h36km, MW3.8*

ISC 07 20:32:48.3±1.3, 11°.17N±0°.03×61°.83W±0°.04, h87km±11km, n25, σ1§42/48, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.66**	**141**	*e*P	**Pn**	**20 33 05.4**	**+1.2**
TRN				*e*S	**Sn**	**20 33 15.8**	**-0.2**
GRFF	**Grenada Fort F**	**0.88**	**6**	*e*P	**Pn**	**20 33 06.5**	**0.0**
GRFF				*e*S	**Sn**	**20 33 18.4**	**-1.6**
GRGR	**Grenville**	**0.97**	**10**	*e*P	**Pn**	**20 33 07.5**	**-0.1**
GRGR				*e*S	**Sn**	**20 33 20.9**	**-1.1**
GRW	**Mount Saint Ca**	**1.00**	**9**	*e*P	**Pn**	**20 33 08.1**	**+0.2**
GRW				*e*S	**Sn**	**20 33 22.1**	**-0.4**
TBH	**Brigand Hill**	**1.01**	**132**	*e*P	**Pn**	**20 33 09.1**	**+1.1**
TBH				*e*S	**Sn**	**20 33 22.7**	**0.0**
TPR	**Prospect**	**1.03**	**89**	*e*P	**Pn**	**20 33 09.2**	**+1.0**
TPR				*e*S	**Sn**	**20 33 22.9**	**-0.2**
GRHS	**Sauteurs**	**1.07**	**10**	*e*P	**Pn**	**20 33 08.6**	**-0.1**
GRHS				*e*S	**Sn**	**20 33 22.3**	**-1.5**
GRIC	**Isle de Caille**	**1.14**	**12**	*e*P	**Pn**	**20 33 08.8**	**-0.7**
GRIC				*e*S	**Sn**	**20 33 24.0**	**-1.3**
GRSS	**Sisters**	**1.15**	**11**	*e*P	**Pn**	**20 33 09.5**	**0.0**
GRSS				*e*S	**Sn**	**20 33 25.0**	**-0.4**
GCMP	**Grenada, Carri**	**1.37**	**17**	*e*P	**Pn**	**20 33 12.6**	**+0.3**
GCMP				*e*S	**Sn**	**20 33 29.6**	**-0.8**
CRUV	**Carupano**	**1.47**	**251**	*e*P	**Pn**	**20 33 14.8**	**+1.3**
CRUV				*e*S	**Sn**	**20 33 31.9**	**-0.6**
CRUV	**Carupano**	**1.47**	**251**	*e*P	**Pn**	**20 33 14.8**	**+1.3**
CRUV				*e*S	**Sn**	**20 33 31.7**	**-0.8**
SVOC	**Richmond Hill,**	**2.06**	**17**	*e*P	**Pn**	**20 33 22.0**	**+0.7**
SVOC				*e*S	**Sn**	**20 33 46.8**	**+0.4**
SVB	**Belmont**	**2.17**	**15**	*e*P	**Pn**	**20 33 23.9**	**+1.2**
SVB				*e*S	**Sn**	**20 33 48.8**	**-0.2**
PCRV	**Puerto La Cruz**	**2.93**	**251**	*e*P	**Pn**	**20 33 34.8**	**+1.9**
PCRV				*e*S	**Sn**	**20 34 06.4**	**-0.8**
PCRV	**Puerto La Cruz**	**2.93**	**251**	*e*P	**Pn**	**20 33 35.3**	**+2.4**
PCRV				*e*S	**Sn**	**20 34 06.7**	**-0.6**
SLCP	**Castries, St.**	**2.94**	**16**	*e*P	**Pn**	**20 33 34.0**	**+1.0**
SLCP				*e*S	**Sn**	**20 34 06.7**	**-0.7**
SLBI	**Saint Lucia, B**	**2.96**	**16**	*e*P	**Pn**	**20 33 34.4**	**+1.1**
SLBI				*e*S	**Sn**	**20 34 06.9**	**-0.9**
MPOM	**Morne Pois Mar**	**3.39**	**16**	*e*P	**Pn**	**20 33 40.5**	**+1.4**
MPOM				*e*S	**Sn**	**20 34 17.9**	**-0.4**
BIM	**Bigot**	**3.41**	**12**	*e*P	**Pn**	**20 33 40.8**	**+1.4**
BIM				*e*S	**Sn**	**20 34 17.5**	**-1.3**
MERV	**Las Mercedes**	**4.79**	**247**	*e*P	**Pn**	**20 34 00.4**	**+2.2**
MERV				*e*S	**Sn**	**20 34 50.8**	**-1.7**
LUEV	**Luepa**	**5.30**	**176**	*e*P	**Pn**	**20 34 06.1**	**+0.8**
LUEV				*e*S	**Sn**	**20 35 00.4**	**-4.7**
CACV	**CAICARA DEL OR**	**5.87**	**233**	*e*P	Pn	20 34 08.6	-4.2
CACV				*e*S	Sn	20 35 06.4	-12
BAUV	**El Baul**	**6.50**	**251**	*e*P	**Pn**	**20 34 22.5**	**+1.0**
BAUV				*e*S	**Sn**	**20 35 30.8**	**-3.5**
BAUV	**El Baul**	**6.50**	**251**	*e*P	**Pn**	**20 34 23.0**	**+1.5**
BAUV				*e*S	**Sn**	**20 35 32.5**	**-1.8**

IDC 07 20:34:32.0±311.0, 57°.90N×29°.68E, h0km, Error ellipse: s-maj=134.8km s-min=85.1km az=117.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I43RU	**DUBNA INFRASON**	**4.25**	**103**	I	I	21 01 20.0	
	baz=290,slow=331,SNR=2.5						
I26DE	**FREYUNG INFRAS**	**13.12**	**233**	I	I	21 55 00.0	
	baz=42,slow=320,SNR=1.3						
I48TN	**KESRA INFRASON**	**25.92**	**220**	I	I	23 12 10.0	
	baz=21,slow=321,SNR=2.0						

WEL 07 20:43:33.6±0.8, 34°S±7°×17°9W±1°7, h12km, M4.1/7, mB4.7/3, ML4.4/11, MLv4.1/7, Mw(mB)3.9/3, Error ellipse: s-maj=0.0km s-min=0.0km az=110.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.35**	**210**	P	Pn	20 44 40.3	+0.8
MXZ				S	Sn	20 45 30.9	+0.7
WMGZ	**Waiomatatini S**	**4.53**	**207**	P	Pn	20 44 43.7	+1.7
WMGZ				S	Sn	20 45 36.1	+1.5
GLKZ	**Green Lake**	**4.62**	**11**	P	Pn	20 44 42.3	-0.9
GLKZ				S	Sn	20 45 35.0	-1.8
PKGZ	**Pakihiroa**	**4.73**	**210**	P	Pn	20 44 45.6	+0.9
PKGZ				S	Sn	20 45 39.3	-0.2
PUZ	**Puketiti**	**4.81**	**207**	P	Pn	20 44 48.2	+2.3
PUZ				S	Sn	20 45 41.3	-0.2
RUGZ	**Raukumara Rang**	**4.96**	**212**	P	Pn	20 44 50.1	+2.0
RUGZ				S	Sn	20 45 47.6	+2.2
TWGZ	**Tauwhareparae**	**5.01**	**209**	P	Pn	20 44 47.6	-1.1
TWGZ				S	Sn	20 45 47.6	+1.1
CNGZ	**Carnagh Statio**	**5.20**	**205**	P	Pn	20 44 51.2	+0.1
CNGZ				S	Sn	20 45 51.3	+0.3
TKGZ	**Te Karaka**	**5.29**	**208**	S	Sn	20 45 52.9	-0.4
MWZ	**Matawai**	**5.33**	**211**	P	Pn	20 44 54.9	+1.9
MWZ				S	Sn	20 45 51.8	-2.6
URZ	**Urewera**	**5.46**	**214**	P	Pn	20 44 57.0	+2.3
URZ				S	Sn	20 45 57.0	-0.5
RAGZ	**Rawiri**	**5.52**	**211**	P	Pn	20 44 54.7	-0.9
RAGZ				S	Sn	20 45 58.4	-0.6
PRGZ	**Paritu Road**	**5.70**	**206**	P	Pn	20 44 59.2	+1.1
PRGZ				S	Sn	20 46 01.7	-1.8
OUZ	**Omahuta**	**6.30**	**255**	P	Pn	20 45 08.4	+2.2

*NEIC **07** 20:47:55.2±0.8, 19°.332N±0°.010×155°.379W±0°.006, h10km±1km, Error ellipse: s-maj=1.5km s-min=0.8km az=171.0*

HVO 07 20:47:55.2±0.9, 19°.29N±0°.01×155°.38W±0°.01, h2km±8km, ML2.9/5, ML2.1/16(NEIC), Error ellipse: s-maj=2.3km s-min=0.8km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.05**	**194**		Pg	20 47 57.2	+0.9
HLP	**Hilina Pali**	**0.07**	**85**		Pg	20 47 57.5	+0.9
SDHHI	**Sand Hill**	**0.13**	**40**	Pg	Pg	20 47 57.5	-0.2
PUH	**Pauahi**	**0.18**	**62**	Pg	Pg	20 47 59.0	+0.3
PUH				IAML		20 48 04.3	
	comp=N,643nm,0.6s						
PUH				IAML		20 48 04.8	
	comp=E,544nm,0.5s						
MLH	**Mauna Loa**	**0.20**	**359**	Pg	Pg	20 47 58.5	-0.7
MLH				IAML		20 48 05.2	
	comp=E,293nm,1.2s						
MLH				IAML		20 48 05.6	
	comp=N,336nm,0.6s						
KHU	**Kahuku**	**0.22**	**259**		Pg	20 48 00.1	+0.6
KHU	**Kahuku**	**0.22**	**259**	IAML		20 48 04.5	
	comp=E,162nm,1.4s						
KHU				IAML		20 48 07.0	
	comp=N,149nm,0.5s						
MWH	**Moku'aweowe**	**0.28**	**314**	Pg	Pg	20 47 59.6	-1.0
MWH				IAML		20 48 09.3	
	comp=E,424nm,1.3s						
MWH				IAML		20 48 10.0	
	comp=N,387nm,0.6s						
HMH	**Humu'ula Sheep**	**0.33**	**343**		Pg	20 48 00.5	-1.0
HMH				IAML		20 48 07.4	
	comp=E,196nm,1.2s						
HMH				IAML		20 48 11.3	

MCDR				IAML		20 53 36.5	
	comp=N,95nm,2.4s						
JIDR	**Jimani**	**1.52**	**126**⇓	*e*Pg	**Pb**	**20 53 08.2**	**-0.3**
JIDR			⇑	*e*Sg	**Sn**	**20 53 27.0**	**+0.3**
JIDR				IAML		20 53 27.8	
	comp=N,132nm,0.3s						
JIDR				IAML		20 53 28.7	
	comp=N,131nm,0.3s						
REDR	**Restauracion**	**1.66**	**98**⇑	*e*Pg	**Pn**	**20 53 05.4**	**-3.8**
REDR				IAML		20 53 23.7	
	comp=E,311nm,0.1s						
REDR				IAML		20 53 25.0	
	comp=N,127nm,0.1s						
QMBU	**Quimbuelo**	**1.77**	**297**	*e*P	**Pb**	**20 53 12.3**	**-0.4**
QMBU				*e*S	**Sn**	**20 53 33.1**	**+0.1**
QMBU				IAML		20 53 34.6	
	comp=E,35nm,0.3s						
QMBU				IAML		20 53 35.0	
	comp=N,41nm,0.3s						
SDDR	**Presa de Saban**	**1.79**	**103**	*e*Pg	**Pn**	**20 53 12.1**	**+1.0**
SDDR			⇑	*e*Sg	**Sb**	**20 53 35.2**	**-0.5**
SDDR				IAML		20 53 35.7	
	comp=E,49nm,0.3s						
SDDR				IAML		20 53 38.7	
	comp=N,44nm,0.5s						
SDDR	**Presa de Saban**	**1.79**	**103**	*e*P	**Pn**	**20 53 11.8**	**+0.7**
SDDR				*e*S	**Sn**	**20 53 35.0**	**+1.2**
SDDR	**Presa de Saban**	**1.79**	**103**	*i* P	**Pn**	**20 53 12.1**	**+1.0**
SDDR				*e*S	**Sb**	**20 53 35.2**	**-0.5**
SDDR				IAML		20 53 37.9	
	comp=Z,33nm,0.5s						
GTBY	**Guantanamo Bay**	**1.93**	**286**⇑	*e*Pg	**Pn**	**20 53 12.4**	**-0.5**
GTBY			⇑	*e*Sg	**Sb**	**20 53 39.8**	**+0.2**
GTBY				IAML		20 53 42.6	
	comp=N,33nm,1.5s						
GTBY				IAML		20 53 51.2	
	comp=E,47nm,3.1s						
GTBY	**Guantanamo Bay**	**1.93**	**286**	*e*P	**Pb**	**20 53 15.0**	**-0.6**
GTBY				*e*S	**Sn**	**20 53 38.2**	**+1.2**
GTBY	**Guantanamo Bay**	**1.93**	**286**	*i* P	**Pb**	**20 53 15.7**	**+0.1**
PODR	**Polo**	**2.14**	**125**⇓	*e*Pg	**Pb**	**20 53 19.1**	**-0.2**
PODR				IAML		20 53 56.1	
	comp=N,57nm,3.8s						
SABCS	**La Quijada**	**2.26**	**295**	*e*P	**Pb**	**20 53 20.1**	**-1.1**
SABCS				*e*S	**Sn**	**20 53 46.3**	**+1.0**
RCC	**Rio Carpintero**	**2.48**	**284**	*e*P	**Pb**	**20 53 22.6**	**-2.3**

*IDC **07** 21:23:54.3±1.9, 43°.42S×40°.73E, h0km, mb3.8/6, mbtmp3.8/6, MS3.5/10, Error ellipse: s-maj=87.4km s-min=31.0km az=45.0*

ISC 07 21:23:55.9±1.8, 43°.4S±0°.4×40°.7E±0°.4, h10km, n17, σ0s81/6, mb3.9/6, MS3.6/8, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUR	**Sutherland**	**19.14**	**299**	LR	LR	21 33 46.8	
	comp=Z,84nm,20.2s,baz=154,slow=31						
BOSA	**Boshof**	**19.32**	**315**	LR	LR	21 34 24.9	
	comp=Z,152nm,18.1s,baz=187,slow=33						
LBTB	**Lobatse**	**22.16**	**321**	LR	LR	21 36 02.4	
	comp=Z,100nm,21.4s,baz=140,slow=33						
OPO	**Ambohidratompo**	**25.38**	**14**	LR	LR	21 37 41.0	
	comp=Z,92nm,22.0s,baz=351,slow=33						
TSUM	**Tsumeb**	**31.01**	**314**	LR	LR	21 41 56.0	
	comp=Z,62nm,18.1s,baz=146,slow=35						
H01W2	**Cape Leeuwin H**	**55.87**	**108**	T	T	22 33 51.4	
	baz=238,slow=75,SNR=11						
H01W3	**Cape Leeuwin H**	**55.88**	**108**	T	T	22 33 51.4	
	baz=238,slow=75,SNR=11						
H01W1	**Cape Leeuwin H**	**55.89**	**108**	T	T	22 33 52.7	
	baz=238,slow=75,SNR=12						
TORD	**Torodi Ar. Bea**	**66.64**	**318**	P	**P**	**21 34 46.3**	**-0.4**
	0.6nm,0.7s,baz=144,slow=6.9,SNR=3.6						
	0.6nm,0.7s						
STKA	**Stephens Creek**	**75.93**	**121**	P	**P**	**21 35 43.7**	**+0.7**
	1.6nm,0.6s,baz=170,slow=6.5,SNR=6.1						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**76.33**	**110**	P	**P**	**21 35 44.8**	**-0.6**
	0.3nm,0.8s,baz=216,slow=5.8,SNR=4.2						
ASAR				LR	LR	22 04 23.5	
	comp=Z,37nm,18.9s,baz=306,slow=32						
	0.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**81.46**	**55**	P	**P**	**21 36 12.8**	**-0.6**
	0.5nm,0.3s,baz=252,slow=6.0,SNR=1.6						
CMAR				LR	LR	22 08 37.3	
	comp=Z,45nm,18.1s,baz=185,slow=33						
	0.5nm,0.3s						
GEYT	**Alibeck**	**82.51**	**14**	P	**P**	**21 36 19.1**	**+0.6**
	0.8nm,0.8s,baz=174,slow=5.5,SNR=2.0						
	0.8nm,0.8s						
BRTR	**Keskin Array B**	**83.03**	**355**	P	**P**	**21 36 21.6**	**+0.3**
	0.3nm,0.7s,baz=174,slow=4.3,SNR=2.2						
	0.3nm,0.7s						
MDT	**Midelt**	**86.45**	**323**	LR	LR	22 13 43.7	
	comp=Z,37nm,19.3s,baz=166,slow=35						
LVC	**Limon Verde**	**87.95**	**241**	LR	LR	22 11 08.6	
	comp=Z,22nm,20.4s,baz=178,slow=32						
LPAZ	**La Paz**	**92.01**	**245**	LR	LR	22 13 10.9	
	comp=Z,25nm,18.5s,baz=140,slow=32						

SCB 07 21:26:52.8±1.1, 19°.77S×66°.12W, h284km±9km, ML3.4/5, MW3.8, Error ellipse: s-maj=4.6km s-min=3.2km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOCB	**Mochara**	**1.55**	**163**	Pg	Pn	21 27 36.2	+0.9
MOCB				Sg	S	21 28 08.0	-1.0
MOCB				IAML		21 28 14.5	
	43nm,0.7s						
SOET	**ToroToro**	**1.67**	**10**	Pg	Pn	21 27 36.0	-0.1
AOEA	**Aiquile**	**1.79**	**28**	Pg	Pn	21 27 37.3	+0.3
SOEO	**Opoqueri**	**2.05**	**305**	Pg	Pn	21 27 40.3	+1.0
SOTI	**Planta Incahua**	**2.32**	**92**	Pg	Pn	21 27 41.2	+0.1
PB08	**IPOC Station P**	**2.88**	**262**	Pg	Pn	21 27 47.5	+0.8
PB08				Sg	S	21 28 28.8	-0.7
PB08				IAML		21 28 37.6	
	18nm,0.6s						
GO01	**Chusmiza**	**2.90**	**271**	Pg	Pn	21 27 47.7	+0.7
PB11	**IPOC Station P**	**3.33**	**269**	Pg	Pn	21 27 51.5	+0.4
PB11				Sg	S	21 28 36.3	-1.3
PB11				IAML		21 28 40.5	
	48nm,0.1s						
SOEJ	**Jacaque**	**3.40**	**324**	Pg	Pn	21 27 53.7	+1.4
PB01	**IPOC Station P**	**3.40**	**247**	Pg	Pn	21 27 52.8	+1.0
PB01				Sg	S	21 28 37.5	-1.3
PB01				IAML		21 28 38.9	
	51nm,0.2s						
BBOE	**La Paz, Chanca**	**3.43**	**329**	Pg	Pn	21 27 53.6	+1.0
PB09	**IPOC Station P**	**3.55**	**235**	Pg	Pn	21 27 54.8	+1.3
PB02	**IPOC Station P**	**3.86**	**246**	Pg	Pn	21 27 57.7	+0.9
PB02				Sg	S	21 28 45.6	-2.3
PB02				IAML		21 28 46.5	
	133nm,0.5s						
LPAZ	**La Paz**	**3.95**	**331**	Pg	Pn	21 27 58.8	+0.4
LPAZ	**La Paz**	**3.95**	**331**	Pg	Pn	21 27 59.1	+0.7
PB15	**IPOC Station P**	**4.63**	**222**	Pg	Pn	21 28 07.0	+1.3

*IDC **07** 21:28:26.9±0.6, 9°.52N×40°.60W, h0km, mb4.0/20, mbtmp4.0/21, ML4.2/1, MS3.4/30, Error ellipse: s-maj=20.9km s-min=13.8km az=130.0*

*NEIC **07** 21:28:29.0±1.1, 9°.48N±0°.07×40°.6W±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=23.0km s-min=5.8km az=117.0*

ISC 07 21:28:28.5±0.5, 9°.52N±0°.10×40°.56W±0°.09, h10km, n67, σ0s65/42, mb4.1/29, MS3.4/29, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MDP	**Montagnes des**	**12.76**	**251**	Pn	**Pn**	**21 31 29.9**	**-0.2**
	1.2nm,0.3s,baz=58,slow=13,SNR=8.7						
MDP				Sn	Sn	21 33 37.4	-15
	0.2nm,0.3s,baz=71,slow=10.0,SNR=1.3						
MDP				LR	LR	21 35 29.9	
	comp=Z,177nm,21.3s,baz=103,slow=33						
	16nm,0.9s						
BOAV	**Boa Vista**	**21.06**	**252**	P	**P**	**21 33 14.2**	**+1.2**
BOAV				IAmb	IAmb	21 33 21.1	
	comp=Z,14nm,1.1s						
PCRV	**Puerto La Cruz**	**23.73**	**274**	LR	LR	21 43 22.8	
	comp=Z,77nm,19.9s,slow=38						

BDFB	**Brasilia**	**26.06**	**197**	P	**P**	**21 34 02.1**	**-0.4**
	comp=Z,2.6nm,0.7s,baz=10,slow=15,SNR=4.2						
BDFB				LR	LR	21 43 15.3	
	comp=Z,48nm,21.8s,baz=125,slow=34						
	comp=Z,2.6nm,0.7s						
SDV	**Santo Domingo**	**29.69**	**271**	LR	LR	21 47 25.3	
	comp=Z,39nm,18.3s,baz=84,slow=38						
H10N3	**ASCENSION HYDR**	**31.16**	**123**	T	T	22 07 27.2	
	baz=303,slow=75,SNR=7.4						
H10N2	**ASCENSION HYDR**	**31.17**	**123**	T	T	22 07 26.9	
	baz=303,slow=75,SNR=10						
H10N1	**ASCENSION HYDR**	**31.18**	**123**	T	T	22 07 28.1	
	baz=303,slow=75,SNR=11						
SIV	**San Ignacio**	**32.48**	**219**	LR	LR	21 47 55.8	
	comp=Z,65nm,18.5s,baz=96,slow=36						
ROSC	**El Rosal**	**33.80**	**264**	LR	LR	21 49 15.4	
	comp=Z,179nm,18.5s,baz=86,slow=37						
DBIC	**Dimobro**	**35.45**	**92**	P	**P**	**21 35 24.9**	**-0.5**
	comp=Z,5.6nm,0.8s,baz=266,slow=9.7,SNR=5.4						
DBIC				LR	LR	21 47 18.6	
	comp=Z,77nm,18.1s,baz=226,slow=32						
	comp=Z,5.6nm,0.8s						
LPAZ	**La Paz**	**37.44**	**227**	P	**P**	**21 35 42.9**	**-0.1**
LPAZ	**La Paz**	**37.44**	**227**	P	**P**	**21 35 43.2**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=37,slow=5.2,SNR=9.5						
LPAZ				LR	LR	21 52 04.9	
	comp=Z,59nm,18.1s,baz=50,slow=38						
	comp=Z,2.3nm,0.8s						
CPUP	**Villa Florida**	**39.18**	**204**	P	**P**	**21 35 56.7**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=122,slow=9.5,SNR=3.0						
CPUP				LR	LR	21 51 13.3	
	comp=Z,49nm,19.1s,baz=44,slow=35						
	comp=Z,1.2nm,0.8s						
MDT	**Midelt**	**40.45**	**50**	LR	LR	21 49 04.2	
	comp=Z,53nm,20.4s,baz=202,slow=31						
ATAH	**Atahualpa**	**41.16**	**248**	LR	LR	21 52 29.0	
	comp=Z,51nm,22.0s,baz=73,slow=35						
TOA0	**Torodi Ar. Sit**	**41.55**	**81**	P	**P**	**21 36 16.5**	**-0.2**
TOA0				IAmb	IAmb	21 36 23.2	
	comp=Z,6.3nm,1.3s						
TORD	**Torodi Ar. Bea**	**41.55**	**81**	P	**P**	**21 36 16.1**	**-0.7**
TORD				IAmb	IAmb	21 36 24.1	
	comp=Z,6.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**41.55**	**81**	P	**P**	**21 36 16.4**	**-0.3**
	comp=Z,1.9nm,0.8s,baz=285,slow=7.9,SNR=10.0						
TORD				PP	**PnPn**	**21 37 56.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=257,slow=5.1,SNR=6.9						
	comp=Z,1.9nm,0.8s						
LMN	**Caledonia Moun**	**41.74**	**334**	P	**P**	**21 36 18.0**	**+0.1**
NNA	**Nana**	**41.91**	**240**	LR	LR	21 54 02.7	
	comp=Z,65nm,19.1s,baz=32,slow=37						
LVC	**Limon Verde**	**42.32**	**221**	LR	LR	21 53 28.1	
	comp=Z,44nm,18.8s,baz=53,slow=36						
JTS	**Las Juntas de**	**43.71**	**275**	LR	LR	21 55 43.4	
	comp=Z,26nm,20.6s,baz=102,slow=38						
ESDC	**Sonseca Array**	**44.30**	**41**	P	**P**	**21 36 39.0**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=232,slow=9.4,SNR=5.3						
ESDC				LR	LR	21 54 24.6	
	comp=Z,56nm,18.2s,baz=206,slow=35						
	comp=Z,0.6nm,0.9s						
TKL	**Tuckaleechee C**	**47.09**	**310**	LR	LR	21 53 02.9	
	comp=Z,65nm,20.9s,baz=132,slow=31						
KEST	**Kesra**	**52.24**	**52**	LR	LR	21 56 51.9	
	comp=Z,44nm,21.6s,baz=154,slow=33						
EKA	**Eskdalemuir Ar**	**54.37**	**25**	P	**P**	**21 37 55.1**	**-0.2**
	comp=Z,1.0nm,0.8s,baz=236,slow=3.9,SNR=4.1						
	comp=Z,1.0nm,0.8s						
DAVOX	**Davos/Dischmat**	**56.56**	**39**	LR	LR	22 00 23.5	
	comp=Z,27nm,18.5s,baz=256,slow=34						
PLCA	**Paso Flores**	**57.15**	**207**	P	**P**	**21 38 15.3**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=19,slow=6.7,SNR=5.5						
	comp=Z,1.6nm,0.9s						
GERES	**GERESS Array B**	**59.74**	**38**	LR	LR	22 02 20.2	
	comp=Z,26nm,19.2s,baz=96,slow=34						
ULM	**Lac du Bonnet**	**60.90**	**323**	P	**P**	**21 38 40.1**	**-1.4**
	comp=Z,2.6nm,0.8s,baz=148,slow=9.3,SNR=3.4						
	comp=Z,2.6nm,0.8s						
VRAC	**Vranov**	**61.68**	**39**	LR	LR	22 03 13.4	
	comp=Z,11nm,18.0s,baz=276,slow=34						
TXAR	**Lajitas Array**	**61.98**	**298**	P	**P**	**21 38 49.3**	**0.0**
	comp=Z,0.4nm,0.8s,baz=126,slow=6.0,SNR=5.4						
	comp=Z,0.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**61.99**	**298**	P	**P**	**21 38 49.8**	**+0.5**
NOA	**NORSAR Array B**	**63.86**	**25**	P	**P**	**21 39 01.3**	**+0.1**
	comp=Z,1.1nm,0.8s,baz=241,slow=6.7,SNR=3.6						
NOA				LR	LR	22 01 20.5	
	comp=Z,17nm,21.4s,baz=215,slow=31						
	comp=Z,1.1nm,0.8s						
TSUM	**Tsumeb**	**64.01**	**117**	LR	LR	22 01 35.1	
	comp=Z,41nm,19.5s,baz=332,slow=31						
HFS	**Hagfors**	**64.49**	**27**	P	**P**	**21 39 06.4**	**+1.2**
	comp=Z,5.1nm,0.9s,baz=259,slow=6.9,SNR=9.3						
	comp=Z,5.1nm,0.9s						
ANMO	**Albuquerque**	**64.87**	**304**	LR	LR	22 03 34.8	
	comp=Z,30nm,21.6s,baz=164,slow=32						
PDAR	**Pinedale Array**	**66.19**	**312**	LR	LR	22 06 25.6	
	comp=Z,29nm,21.2s,baz=82,slow=33						
SPUT	**South Promonto**	**70.18**	**310**	P	**P**	**21 39 41.0**	**-0.8**
BGU	**Big Grassy Mou**	**70.59**	**310**	P	**P**	**21 39 44.1**	**-0.3**
BGU				IAmb	IAmb	21 39 45.7	
	comp=Z,2.9nm,0.8s						
FINES	**FINESS Array B**	**70.61**	**28**	P	**P**	**21 39 44.2**	**+0.4**
FINES	**FINESS Array B**	**70.61**	**28**	P	**P**	**21 39 44.5**	**+0.7**
	comp=Z,1.0nm,0.7s,baz=272,slow=3.9,SNR=2.0						
	comp=Z,1.0nm,0.7s						
OVMT	**Ovando**	**71.13**	**316**	P	**P**	**21 39 46.3**	**-1.2**
MBAR	**Mbarara**	**71.67**	**94**	LR	LR	22 10 27.5	
	comp=Z,39nm,18.4s,baz=217,slow=35						
HLID	**Hailey**	**71.81**	**313**	P	**P**	**21 39 51.3**	**-0.4**
BRTR	**Keskin Array B**	**71.84**	**51**	P	**P**	**21 39 52.1**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=284,slow=5.0,SNR=4.3						
	comp=Z,0.8nm,0.9s						
ELK	**Elko**	**72.25**	**310**	P	**P**	**21 39 54.8**	**+0.3**
ARCES	**ARCESS Array B**	**72.87**	**20**	P	**P**	**21 39 57.8**	**+0.4**
	comp=Z,3.6nm,1.0s,baz=265,slow=9.9,SNR=2.3						
	comp=Z,3.6nm,1.0s						
LBTB	**Lobatse**	**72.98**	**120**	LR	LR	22 05 35.7	
	comp=Z,66nm,19.3s,baz=250,slow=30						
BOSA	**Boshof**	**73.92**	**123**	LR	LR	22 05 40.1	
	comp=Z,47nm,21.1s,baz=192,slow=30						
NEW	**Newport**	**74.01**	**317**	LR	LR	22 08 40.3	
	comp=Z,37nm,21.7s,baz=30,slow=33						
YKA	**Yellowknife Ar**	**74.25**	**332**	P	**P**	**21 40 04.5**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=95,slow=5.4,SNR=9.1						
	comp=Z,0.5nm,0.7s						
YBH	**Yreka Blue Hor**	**77.89**	**311**	LR	LR	22 13 13.6	
	comp=Z,16nm,19.1s,baz=6.5,slow=34						
KSXB	**Camp Six Broad**	**78.76**	**311**	P	**P**	**21 40 32.7**	**+1.0**
KSXB				IAmb	IAmb	21 40 33.8	
	comp=Z,5.3nm,0.9s						
KBZ	**Khabaz**	**78.78**	**47**	P	**P**	**21 40 32.8**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=272,slow=3.7,SNR=2.6						
	comp=Z,1.2nm,0.9s						
KRMB	**Red Mountain**	**78.80**	**311**	P	**P**	**21 40 32.5**	**+0.6**
KRMB				IAmb	IAmb	21 41 13.5	
	comp=Z,5.8nm,1.4s						
A36M	**Sachs Harbour**	**79.36**	**342**	P	**P**	**21 40 34.0**	**-0.2**
A36M				IAmb	IAmb	21 40 36.0	
	comp=Z,5.0nm,0.8s						
GNI	**Garni**	**80.36**	**51**	LR	LR	22 17 18.4	
	comp=Z,13nm,20.0s,baz=240,slow=36						
INK	**Inuvik**	**82.33**	**338**	P	**P**	**21 40 50.4**	**+0.3**
INK				IAmb	IAmb	21 40 57.4	
	comp=Z,4.2nm,1.2s						
G31M	**Satah River**	**82.77**	**337**	P	**P**	**21 40 52.7**	**+0.3**
M31M	**Drury Creek, Y**	**83.44**	**332**	P	**P**	**21 40 56.9**	**+0.8**
M31M				IAmb	IAmb	21 41 03.9	
	comp=Z,3.8nm,1.1s						
E29M	**Blow River**	**83.92**	**338**	P	**P**	**21 40 58.6**	**+0.2**
E28M	**Babbage River**	**84.47**	**339**	P	**P**	**21 41 01.3**	**+0.1**
E28M				IAmb	IAmb	21 41 05.6	
	comp=Z,3.6nm,1.4s						
SNAA	**Sanae**	**84.78**	**169**	P	**P**	**21 41 03.0**	**+0.3**
	comp=Z,1.9nm,0.7s,baz=315,slow=8.6,SNR=2.5						
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**88.30**	**336**	P	**P**	**21 41 20.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=56,slow=3.4,SNR=6.8						
	comp=Z,0.6nm,0.8s						
GEYT	**Alibeck**	**90.98**	**51**	P	**P**	**21 41 34.1**	**+0.8**
	comp=Z,0.4nm,0.4s,baz=298,slow=3.1,SNR=2.0						
	comp=Z,0.4nm,0.4s						

*NEIC **07** 21:32:32.8±1.8, 19°.38N±0°.02×154°.95W±0°.04, h5km±1km, Error ellipse: s-maj=6.4km s-min=2.9km az=300.0*

HVO 07 21:32:32.9±2.1, 19°.45N±0°.02×154°.94W±0°.04, h4km±4km, ML2.6/6, ML2.4/20(NEIC), Error ellipse: s-maj=5.6km s-min=1.2km az=114.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.06**	**49**		Pg	21 32 36.1	+1.9
JOKA	**Jonika Flow**	**0.07**	**260**		Pg	21 32 36.0	+1.6
JCUZ	**Jacuzzi**	**0.17**	**249**	Pg	Pg	21 32 35.4	-0.9
NPOC	**North of Pu'u**	**0.17**	**253**	Pg	Pg	21 32 35.9	-0.4
NPOC				IAML		21 32 42.0	
	comp=E,336nm,0.4s						
STCH	**Steam Cracks**	**0.19**	**252**	Pg	Pg	21 32 35.1	-1.5
HLP	**Hilina Pali**	**0.38**	**247**	Pg	Pg	21 32 37.6	-2.7
HLP				IAML		21 32 42.3	
	comp=E,664nm,2.9s						
HLP					Sg	21 32 46.6	+1.3
HLP				IAML		21 32 48.5	
	comp=N,606nm,0.9s						
MLH	**Mauna Loa**	**0.43**	**277**	Pg	Pg	21 32 40.8	-0.4
MLH				IAML		21 32 54.4	
	comp=N,381nm,1.2s						
MLH				IAML		21 32 55.5	
	comp=E,235nm,1.2s						
HTC	**Hot Caves**	**0.48**	**245**		Pg	21 32 42.6	+0.4
HMH	**Humu'ula Sheep**	**0.54**	**287**	Pg	Pg	21 32 43.3	0.0
HMH				Sg	Sb	21 32 52.1	-1.3
HMH				IAML		21 32 58.3	
	comp=N,363nm,0.9s						
HMH				IAML		21 33 00.8	
	comp=E,323nm,0.5s						
MWH	**Moku'aweowe**	**0.63**	**274**	Pg	Pg	21 32 44.6	-0.4
KHU	**Kahuku**	**0.67**	**253**	Pg	Pg	21 32 43.7	-2.2
KHU				IAML		21 32 51.2	
	comp=N,298nm,3.6s						
ALEP	**Alea Permanent**	**0.68**	**278**		Pg	21 32 45.4	-0.6
ALEP					Sg	21 32 55.3	+0.5
HUH	**Hualalai**	**0.88**	**286**	Pg	Pg	21 32 49.6	-0.3

*IDC **07** 21:45:39.9±7.0, 56°.56S×26°.66W, h87km±64km, mb4.1/8, mbtmp4.4/9, ML4.1/1, MS3.1/4, Error ellipse: s-maj=28.6km s-min=17.1km az=70.0*

*NEIC **07** 21:45:39.1±1.5, 56°.6S±0°.1×26°.7W±0°.2, h79km±2km, mb4.6/17, Error ellipse: s-maj=19.1km s-min=14.6km az=215.0*

ISC 07 21:45:40.4±0.5, 56°.68S±0°.08×26°.88W±0°.10, h100km, n71, σ1s38/61, mb4.5/13, 4C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.97**	**290**	Pn	**Pn**	**21 47 05.5**	**-0.5**
VNA1	**Neumayer--Stat**	**16.15**	**158**	⇑P	**P**	**21 49 21.1**	**-1.3**
	comp=Z,6.5nm,0.7s						
VNA3	**Neumayer Olymp**	**16.34**	**160**	⇑P	**P**	**21 49 23.7**	**-0.8**
	comp=Z,3.7nm,0.5s						
VNA2	**Neumayer--Watz**	**16.54**	**157**	⇑P	**P**	**21 49 28.0**	**+1.3**
	comp=Z,2.3nm,0.5s,baz=320,slow=13						
SNAA	**Sanae**	**18.10**	**155**	P	**Pn**	**21 49 43.8**	**-1.1**
SNAA	**Sanae**	**18.10**	**155**	⇑P	**Pn**	**21 49 44.6**	**-0.2**
	comp=Z,29nm,0.4s						
SNAA	**Sanae**	**18.10**	**155**	P	**Pn**	**21 49 45.0**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=309,slow=12,SNR=13						
SNAA				S	**S**	**21 52 58.9**	**-6.8**
	comp=Z,2.0nm,1.0s,baz=286,slow=20,SNR=1.5						
SNAA				LR	LR	21 55 04.2	
	comp=Z,76nm,21.2s,baz=69,slow=31						
	comp=Z,3.3nm,0.6s						
EFI	**East Falkland**	**18.82**	**272**	P	**Pn**	**21 49 52.8**	**-0.7**
EFI				IAmb	IAmb	21 50 08.3	
	comp=Z,77nm,1.4s						
BELA	**Belgrano 2**	**21.46**	**184**	P	**P**	**21 50 20.6**	**+0.4**
BELA				IAmb	IAmb	21 50 23.7	
	comp=Z,27nm,0.7s						
PLTB	**Pedras Altas**	**31.05**	**312**	P	**P**	**21 51 49.3**	**+0.7**
PLTB				IAmb	IAmb	21 52 04.3	
	comp=Z,12nm,1.2s						
QSPA	**South Pole Qui**	**33.57**	**180**	P	**P**	**21 52 12.3**	**+1.8**
QSPA	**South Pole Qui**	**33.57**	**180**	P	**P**	**21 52 12.2**	**+1.7**
	comp=Z,9.9nm,0.5s,baz=191,slow=2.1,SNR=132						
	comp=Z,9.9nm,0.5s						
CPUP	**Villa Florida**	**37.36**	**311**	P	**P**	**21 52 42.6**	**-0.5**
CPUP	**Villa Florida**	**37.36**	**311**	P	**P**	**21 52 43.1**	**+0.1**
	comp=Z,1.1nm,0.5s,baz=155,slow=4.7,SNR=4.1						
	comp=Z,1.1nm,0.5s						
MT02	**Curacav**	**38.15**	**289**	P	**P**	**21 52 47.9**	**-1.8**
MAW	**Mawson**	**39.54**	**143**	P	**P**	**21 53 01.5**	**+0.7**
	comp=Z,1.9nm,0.6s,baz=261,slow=17,SNR=1.9						
	comp=Z,1.9nm,0.6s						
SUR	**Sutherland**	**40.64**	**74**	P	**P**	**21 53 10.6**	**0.0**
BDFB	**Brasilia**	**43.99**	**330**	LR	LR	22 07 48.4	
	comp=Z,28nm,22.0s,baz=134,slow=30						
SBA	**Scott Base**	**45.46**	**184**	P	**P**	**21 53 50.9**	**+2.2**
VNDA	**Vanda**	**45.95**	**183**	P	**P**	**21 53 54.7**	**+2.2**
	comp=Z,2.4nm,0.6s,baz=195,slow=6.6,SNR=9.2						
	comp=Z,2.4nm,0.6s						
BOSA	**Boshof**	**45.96**	**75**	P	**P**	**21 53 54.8**	**+1.5**
BOSA				IAmb	IAmb	21 54 11.4	
	comp=Z,14nm,1.4s						
PB09	**IPOC Station P**	**46.62**	**301**	P	**P**	**21 54 00.3**	**+1.7**
H04S2	**CRO

comp=Z,0.2nm,0.6s,baz=90,slow=1.8,SNR=2.2

ILAR				PKPbc	**PKiKP**	**22 05 19.6**	**-0.1**

comp=Z,1.4nm,0.8s,baz=138,slow=2.1,SNR=10

E25K	**Arctic Village**	**150.74**	**318**	PKPbc	**PKiKP**	**22 05 20.3**	**+0.5**
GHO	**Glory Hole Cre**	**150.79**	**304**	PKPbc	**PKiKP**	**22 05 21.5**	**+1.3**
D25K	**Kavik River**	**151.17**	**320**	PKPbc	**PKiKP**	**22 05 20.4**	**-0.3**
RND	**Reindeer**	**151.19**	**308**	PKPbc	**PKiKP**	**22 05 21.0**	**+0.1**
SUA	**Susitna One**	**151.54**	**303**	PKPbc	**PKiKP**	**22 05 22.5**	**+0.7**
TRF	**Thorofare Moun**	**151.83**	**307**	PKPbc	**PKiKP**	**22 05 23.5**	**+1.1**
SKT	**Skwentna**	**152.04**	**304**	PKPbc	**PKiKP**	**22 05 23.4**	**+0.7**
KTH	**Kantishna Hill**	**152.13**	**307**	PKPbc	**PKiKP**	**22 05 23.5**	**+0.6**
BPAW	**Bear Paw Mtn.**	**152.26**	**309**	PKPbc	**PKiKP**	**22 05 23.2**	**+0.1**
TOLK	**Toolik Lake Re**	**152.27**	**319**	PKPbc	**PKiKP**	**22 05 23.6**	**+0.6**
IMAR	**Indian Mountai**	**153.69**	**312**	PKPbc	**PKiKP**	**22 05 26.4**	**+0.4**

*ISK **07** 21:52:01.5, 41.99N×42.13E, h13km, ML3.2/13*
*MOS **07** 21:52:01.5, 41.81N×42.09E, h1km, MPVA4.0*
*TIF **07** 21:52:02.4, 41.88N×42.23E, h18km*
*NORS **07** 21:52:03.4, 41.98N×42.45E, h1km, MPVA3.7*
*AFAD **07** 21:52:05.0±0.0, 41.73N×42.13E, h8km±2km, ML2.9*
*DRS **07** 21:52:14.3, 41.77N×41.97E, h26km*

ISC 07 21:52:02.5±1.0, 41.91N±0.01×42.19E±0.01, h13km±8km, n130, σ1§54/217, 6C-6D, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BATM	**Batumi**	**0.48**	**230**	Pg		**Pg**	**21 52 11.8**	**-0.3**
BATM				Sg		**Sg**	**21 52 19.7**	**+1.2**
BATM	**Batumi**	**0.48**	**230**	P		**Pg**	**21 52 12.2**	**+0.2**
BATM				S		**Sb**	**21 52 20.1**	**+0.1**
BATM	**Batumi**	**0.48**	**230**	PG		**Pg**	**21 52 12.3**	**+0.2**
BATM				S		**Sb**	**21 52 20.1**	**+0.1**
ABS	**Abastumani**	**0.49**	**109**	P		**Pg**	**21 52 12.1**	**-0.2**
ABS				S		**Sg**	**21 52 19.1**	**+0.3**
ABS	**Abastumani**	**0.49**	**109**	*e*Pg		**Pg**	**21 52 12.1**	**-0.2**
ABS				*e*Sg		**Sg**	**21 52 19.1**	**+0.3**
ABS	**Abastumani**	**0.49**	**109**	*e*PG		**Pg**	**21 52 12.1**	**-0.2**
EPOS	**Posof**	**0.57**	**135**	P		**Pb**	**21 52 13.1**	**-1.4**
BCA	**Borcka**	**0.63**	**223**	Pg		**Pb**	**21 52 14.8**	**-0.7**
BCA				Sg		**Sg**	**21 52 24.6**	**+1.4**
TKB	**Tkibuli**	**0.74**	**54**	P		**Pb**	**21 52 17.0**	**-0.3**
TKB				S		**Sg**	**21 52 27.1**	**+0.5**
TKB	**Tkibuli**	**0.74**	**54**	PG		**Pb**	**21 52 17.0**	**-0.3**
HOPA	**Hopa-Artvin**	**0.77**	**227**	Pg		**Pb**	**21 52 17.1**	**-0.7**
DRNR	**Artvin, Merkez**	**0.78**	**198**	P		**Pb**	**21 52 17.2**	**-0.8**
DRNR				S		**Sb**	**21 52 27.0**	**-1.4**
DRNR				*i* AML		AML	21 52 28.0	

comp=E,617nm,0.2s

AHAN	**Ardahan-Merkez**	**0.82**	**156**	P		**Pb**	**21 52 18.6**	**-0.2**
AHAN				S		**Sb**	**21 52 28.2**	**-1.5**
AHAN				*i* AML		AML	21 52 30.0	

comp=E,1μm,0.6s

DAGI	**Agillar**	**0.86**	**194**	P		**Pb**	**21 52 18.3**	**-1.2**
DAGI				S		**Sb**	**21 52 28.8**	**-2.1**
DBAD	**Bademkaya**	**0.97**	**203**	P		**Pb**	**21 52 20.4**	**-0.9**
DBAD				S		**Sb**	**21 52 31.9**	**-2.2**
DBAD				*i* AML		AML	21 52 35.0	

comp=E,408nm,0.3s

DDEM	**Demirkent**	**1.07**	**198**	P		**Pb**	**21 52 21.8**	**-1.3**
DDEM				S		**Sb**	**21 52 35.0**	**-2.0**
DDEM				*i* AML		AML	21 52 38.0	

comp=N,1μm,0.3s

DDEM				*i* AML		AML	21 52 40.0	

comp=E,1μm,0.3s

AKH	**Akhalkalaki**	**1.10**	**117**	Pn		**Pn**	**21 52 23.8**	**0.0**
AKH	**Akhalkalaki**	**1.10**	**117**	P		**Pb**	**21 52 23.0**	**-0.5**
AKH				S		**Sb**	**21 52 36.5**	**-1.3**
AKH	**Akhalkalaki**	**1.10**	**117**	*e*Pg		**Pb**	**21 52 23.0**	**-0.5**
AKH				*e*Sg		**Sb**	**21 52 36.5**	**-1.3**
AKH	**Akhalkalaki**	**1.10**	**117**	*e*PG		**Pb**	**21 52 23.0**	**-0.5**
ALIG	**Mtskhetisjvari**	**1.10**	**80**	P		**Pb**	**21 52 22.8**	**-0.8**
ALIG				S		**Sb**	**21 52 37.3**	**-0.5**
ALIG	**Mtskhetisjvari**	**1.10**	**80**	PG		**Pb**	**21 52 22.8**	**-0.8**
GOLE	**Ardahan-G¶le**	**1.12**	**164**	P		**Pn**	**21 52 23.4**	**-0.8**
GOLE				S		**Sb**	**21 52 37.6**	**-0.8**
GOLE				*i* AML		AML	21 52 40.0	

comp=E,276nm,0.3s

ONI	**Oni**	**1.16**	**54**	Pn		**Pb**	**21 52 24.3**	**-0.1**
ONI				Sn		**Sg**	**21 52 39.8**	**0.0**
ONI	**Oni**	**1.16**	**54**	P		**Pb**	**21 52 24.3**	**-0.1**
ONI				S		**Sg**	**21 52 40.3**	**+0.5**
ONI	**Oni**	**1.16**	**54**	*i* Pg		**Pb**	**21 52 24.3**	**-0.1**
ONI				*e*Sg		**Sg**	**21 52 40.0**	**+0.2**
ONI	**Oni**	**1.16**	**54**	⇓*i*PG		**Pb**	**21 52 24.3**	**-0.1**
BGD	**Bogdanovka**	**1.24**	**121**	P		**Pn**	**21 52 25.4**	**-0.4**
BGD				S		**Sb**	**21 52 41.4**	**-0.5**
BGD	**Bogdanovka**	**1.24**	**121**	*e*Pg		**Pn**	**21 52 25.4**	**-0.4**
BGD				*e*Sg		**Sb**	**21 52 41.4**	**-0.5**
BGD	**Bogdanovka**	**1.24**	**121**	*e*PG		**Pn**	**21 52 25.4**	**-0.4**
SENK	**Senkaya-Erzuru**	**1.36**	**175**	Pn		**Pn**	**21 52 27.9**	**0.0**
CHAY	**Cayeli-Rize**	**1.38**	**234**	Pn		**Pn**	**21 52 27.5**	**0.0**
CHAY				Sn		**Sb**	**21 52 45.7**	**0.0**
DIGR	**Digorskoe uzhe**	**1.42**	**46**	*e*Pg		**Pb**	**21 52 29.3**	**+0.2**
DIGR				*e*Sg		**Sg**	**21 52 48.5**	**+0.1**
DIGR	**Digorskoe uzhe**	**1.42**	**46**	*e*PG		**Pb**	**21 52 29.3**	**+0.2**
DIGR				pmax	pmax			

comp=Z,27nm,0.2s

DOMR	**Dombai**	**1.44**	**343**	*i* Pg		**Pg**	**21 52 30.6**	**+0.3**
DOMR				*i* Sg		**Sg**	**21 52 49.7**	**+0.8**
DOMR	**Dombai**	**1.44**	**343**	*de*PG		**Pg**	**21 52 30.8**	**+0.6**
DOMR				*i* S		**Sg**	**21 52 50.6**	**+1.6**
DOMR				pmax	pmax			

comp=Z,51nm,0.1s

BOZK	**Kars-Merkez-Bo**	**1.45**	**156**	P		**Pg**	**21 52 30.5**	**+0.1**
KARS	**Kars**	**1.45**	**152**	Pn		**Pb**	**21 52 29.9**	**+0.4**
KARS	**Kars**	**1.45**	**152**	PG		**Pg**	**21 52 30.9**	**+0.5**
TRLG	**Trialeti**	**1.48**	**104**	P		**Pb**	**21 52 29.5**	**-0.5**
TRLG				S		**Sb**	**21 52 49.2**	**+0.5**
TRLG	**Trialeti**	**1.48**	**104**	PG		**Pb**	**21 52 29.5**	**-0.5**
DMNI	**Dmanisi**	**1.61**	**111**	P		**Pb**	**21 52 31.5**	**-0.7**
DMNI				S		**Sb**	**21 52 52.2**	**-0.2**
DMNI	**Dmanisi**	**1.61**	**111**	*e*Pg		**Pb**	**21 52 31.5**	**-0.7**
DMNI				*e*Sg		**Sb**	**21 52 52.2**	**-0.2**
DMNI	**Dmanisi**	**1.61**	**111**	*e*PN		**Pb**	**21 52 31.5**	**-0.7**
IZDR	**Rize**	**1.67**	**228**	P		**Pn**	**21 52 31.6**	**0.0**
IZDR				S		**Sn**	**21 52 50.3**	**-2.5**
IZDR				*i* AML		AML	21 52 56.0	

comp=Z,211nm,0.4s

ARXR	**Arkhyz**	**1.78**	**338**	*e*Pg		**Pg**	**21 52 36.5**	**-0.2**
ARXR				*e*Sg		**Sg**	**21 52 59.9**	**+0.1**
ARXR	**Arkhyz**	**1.78**	**338**	⇑*e*PN		**Pg**	**21 52 37.2**	**+0.5**
ARXR				*i* S		**Sg**	**21 53 00.7**	**+0.8**
ARXR				pmax	pmax			

comp=Z,50nm,0.3s

GUDG	**Gudauri**	**1.79**	**71**	*e*Pg		**Pb**	**21 52 35.0**	**-0.3**
GUDG				*e*Sg		**Sg**	**21 52 59.2**	**-0.8**
GUDG	**Gudauri**	**1.79**	**71**	*e*PN		**Pb**	**21 52 35.2**	**-0.1**
LACR	**Lac**	**1.81**	**59**	*i* Pg		**Pb**	**21 52 36.1**	**+0.5**
LACR				*e*Sg		**Sg**	**21 53 00.1**	**-0.6**
LACR	**Lac**	**1.81**	**59**	⇑*i*PN		**Pb**	**21 52 36.1**	**+0.5**
KORR	**Kora**	**1.82**	**49**	*i* Pg		**Pg**	**21 52 36.7**	**-0.7**
KORR				*e*Sg		**Sg**	**21 53 02.6**	**+1.7**
KORR	**Kora**	**1.82**	**49**	*i* PN		**Pg**	**21 52 36.7**	**-0.7**
KORR				pmax	pmax			

comp=Z,32nm,0.4s

LSNR	**Lesken**	**1.82**	**41**	*e*Pg		**Pg**	**21 52 37.1**	**-0.4**
LSNR				*e*Sg		**Sg**	**21 53 02.1**	**+0.9**
LSNR	**Lesken**	**1.82**	**41**	*e*PN		**Pg**	**21 52 37.1**	**-0.4**
LSNR				pmax	pmax			

comp=Z,10.0nm,0.4s

KRIK	**Erzurum-spir**	**1.84**	**212**	P		**Pb**	**21 52 36.8**	**+0.5**
KRIK				S		**Sg**	**21 53 02.1**	**+0.3**
SHA1	**Shidzhatmaz**	**1.85**	**10**	*e*Pg		**Pg**	**21 52 38.4**	**+0.2**
SHA1				*e*Sg		**Sg**	**21 53 04.1**	**+1.8**
SHA1	**Shidzhatmaz**	**1.85**	**10**	*de*PN		**Pb**	**21 52 36.3**	**-0.2**
KBZ	**Khabaz**	**1.89**	**16**	*i* Pg		**Pg**	**21 52 38.7**	**0.0**
KBZ				*i* Sg		**Sg**	**21 53 03.5**	**+0.3**
KBZ	**Khabaz**	**1.89**	**16**	*de*PN		**Pb**	**21 52 36.5**	**-0.4**
NCK	**Nalchik**	**1.89**	**33**	*e*Pg		**Pg**	**21 52 37.4**	**+0.4**
NCK				*e*Sg		**Sg**	**21 53 05.0**	**+1.7**
NCK	**Nalchik**	**1.89**	**33**	*e*PN		**Pg**	**21 52 38.0**	**-0.8**
MTEO	**Meteo**	**1.90**	**65**	P		**Pn**	**21 52 30.6**	**-4.5**
MTEO				S		**Sb**	**21 53 01.0**	**-0.1**
MTEO	**Meteo**	**1.90**	**65**	PN		**Pn**	**21 52 30.6**	**-4.5**
KOPR	**Koprukoy-ERZUR**	**1.94**	**188**	Pn		**Pn**	**21 52 36.3**	**+0.9**
ARNR	**Ardon**	**2.00**	**50**	*e*Pg		**Pg**	**21 52 40.7**	**-0.1**
ARNR				*e*Sg		**Sg**	**21 53 06.6**	**-0.1**
ARNR	**Ardon**	**2.00**	**50**	*e*PN		**Pg**	**21 52 40.0**	**-0.9**
ARNR				*e*S		**Sg**	**21 53 08.7**	**+1.9**
STDR	**Stavd-Durt**	**2.01**	**43**	*e*Pg		**Pg**	**21 52 41.0**	**0.0**
STDR				*e*Sg		**Sg**	**21 53 09.9**	**+2.9**
STDR	**Stavd-Durt**	**2.01**	**43**	*e*PN		**Pg**	**21 52 41.0**	**0.0**
STDR				*e*S		**Sg**	**21 53 09.2**	**+2.2**
KTUT	**Trabzon**	**2.04**	**244**	Pn		**Pn**	**21 52 36.4**	**-0.3**
KIV	**Kislovodsk**	**2.07**	**10**	*e*Pg		**Pg**	**21 52 41.0**	**-1.3**
KIV				*e*Sg		**Sg**	**21 53 09.4**	**+0.2**
KIV	**Kislovodsk**	**2.07**	**10**	*e*PN		**Pb**	**21 52 40.8**	**+0.7**
KIV				*e*S		**Sg**	**21 53 08.1**	**-1.1**
KIV				pmax	pmax			

comp=Z,24nm,1.1s

CHRG	**Chargali**	**2.08**	**78**	P		**Pb**	**21 52 39.6**	**-0.5**
CHRG				S		**Sb**	**21 53 07.1**	**+1.1**
KBTC	**Kuba-Taba**	**2.10**	**25**	*e*Pg		**Pg**	**21 52 42.6**	**-0.2**
KBTC				*e*Sg		**Sg**	**21 53 12.1**	**+2.0**
KBTC	**Kuba-Taba**	**2.10**	**25**	*e*PN		**Pg**	**21 52 42.7**	**-0.2**
KBTC				*e*S		**Sg**	**21 53 12.1**	**+2.0**
BEYR	**Belyy Ugol+**	**2.15**	**12**	*e*Pn		**Pg**	**21 52 42.6**	**-1.0**
BEYR				*e*Sn		**Sg**	**21 53 10.6**	**-1.0**
BEYR	**Belyy Ugol+**	**2.15**	**12**	*e*PN		**Pg**	**21 52 42.7**	**-1.0**
BEYR				*e*S		**Sg**	**21 53 10.6**	**-1.0**
VLKR	**Vladikavkaz**	**2.16**	**58**	*i* Pn		**Pb**	**21 52 40.5**	**-1.0**
VLKR				*e*Sn		**Sg**	**21 53 10.1**	**-1.9**
VLKR	**Vladikavkaz**	**2.16**	**58**	*i* PN		**Pb**	**21 52 40.5**	**-1.0**
VLKR				*e*S		**Sg**	**21 53 10.1**	**-1.9**
BAYT	**Aydıntepe-Bayb**	**2.17**	**226**	Pn		**Pn**	**21 52 38.7**	**+0.1**
BAYB	**BAYBURT**	**2.21**	**222**	P		**Pb**	**21 52 40.9**	**-1.6**
BAYB				S		**Sb**	**21 53 07.9**	**-1.9**
BAYB				*i* AML		AML	21 53 17.0	

comp=Z,76nm,0.4s

VSLR	**Vesyoloye**	**2.22**	**315**	*e*Pg		**Pb**	**21 52 40.6**	**-2.0**
VSLR				*e*Sg		**Sb**	**21 53 08.5**	**-1.4**
VSLR	**Vesyoloye**	**2.22**	**315**	*ce*PN		**Pb**	**21 52 40.4**	**-2.1**
PYA1	**Pyatigorsk**	**2.25**	**17**	*e*Pn		**Pg**	**21 52 45.3**	**-0.3**
PYA1				*e*Sn		**Sg**	**21 53 13.4**	**-1.4**
PYA1	**Pyatigorsk**	**2.25**	**17**	*de*PN		**Pg**	**21 52 46.0**	**+0.4**
BTKR	**Batakoyurt**	**2.27**	**49**	*e*Pn		**Pg**	**21 52 45.2**	**-0.8**
BTKR				*e*Sn		**Sb**	**21 53 12.7**	**+1.4**
BTKR	**Batakoyurt**	**2.27**	**49**	*e*PN		**Pg**	**21 52 45.2**	**-0.8**
BTKR				*e*S		**Sb**	**21 53 12.7**	**+1.4**
RPOR	**Krasnaya Polya**	**2.28**	**322**	*e*Pn		**Pb**	**21 52 41.5**	**-2.1**
RPOR				*e*Sn		**Sb**	**21 53 09.7**	**-2.0**
RPOR	**Krasnaya Polya**	**2.28**	**322**	⇓*e*PN		**Pb**	**21 52 42.0**	**-1.6**
KMGR	**Komgaron**	**2.28**	**59**	*e*Pn		**Pg**	**21 52 46.2**	**-0.1**
KMGR				*e*Sn		**Sg**	**21 53 15.4**	**-0.6**
KMGR	**Komgaron**	**2.28**	**59**	*e*PN		**Pg**	**21 52 46.2**	**-0.1**
KMGR				*e*S		**Sg**	**21 53 15.4**	**-0.6**
SHTL	**Shatili**	**2.32**	**70**	P		**Pb**	**21 52 43.4**	**-0.9**
SHTL				S		**Sg**	**21 53 14.7**	**-2.4**
SHTL	**Shatili**	**2.32**	**70**	*e*Pn		**Pb**	**21 52 43.4**	**-0.9**
SHTL				*e*Sn		**Sg**	**21 53 14.7**	**-2.4**
SHTL	**Shatili**	**2.32**	**70**	*e*PN		**Pb**	**21 52 43.4**	**-0.9**
SHTL				*e*S		**Sg**	**21 53 14.7**	**-2.4**
GRYR	**Gornoye**	**2.34**	**340**	*e*Pn		**Pb**	**21 52 44.4**	**-0.3**
GRYR				*e*Sn		**Sb**	**21 53 13.2**	**-0.4**
PRTR	**Priterechnaya**	**2.40**	**39**	*i* Pn		**Pb**	**21 52 45.7**	**+0.2**
PRTR				*e*Sn		**Sb**	**21 53 14.4**	**-0.6**
PRTR	**Priterechnaya**	**2.40**	**39**	*i* PN		**Pb**	**21 52 45.7**	**+0.2**
PRTR				*e*S		**Sb**	**21 53 14.4**	**-0.6**
DGRG	**David-gareji**	**2.43**	**100**	P		**Pb**	**21 52 45.4**	**-0.8**
DGRG	**David-gareji**	**2.43**	**100**	PN		**Pb**	**21 52 46.5**	**+0.4**
SOC	**Sochi**	**2.47**	**313**	*e*Pn		**Pn**	**21 52 43.6**	**+1.1**
SOC				*e*Sn		**Sn**	**21 53 13.8**	**+1.2**
SOC	**Sochi**	**2.47**	**313**	*e*PN		**Pn**	**21 52 43.2**	**+0.7**
SOC				*e*PPP		PPP	21 52 50.1	
SOC				*e*			21 53 14.3	
SOC				MLR		MLR		

comp=Z,26nm,15.0s

GUZR	**Guzeripl'**	**2.58**	**325**	*e*Pn		**Pb**	**21 52 46.1**	**-2.6**
GUZR				*e*Sn		**Sb**	**21 53 17.9**	**-2.4**
GUZR	**Guzeripl'**	**2.58**	**325**	*ce*PN		**Pb**	**21 52 46.3**	**-2.4**
GNI	**Garni**	**2.61**	**132**	*e*PN		**Pb**	**21 52 49.6**	**+0.3**
YEDI	**Yedisu-Bingol**	**2.77**	**207**	Pn		**Pn**	**21 52 47.8**	**+1.0**
ESPY	**Espiye-Giresun**	**2.79**	**250**	Pn		**Pn**	**21 52 46.9**	**0.0**
MRNR	**Maryino**	**2.84**	**316**	*e*Pn		**Pn**	**21 52 49.0**	**+1.4**
MRNR				*e*Sn		**Sb**	**21 53 24.3**	**-3.5**
MRNR	**Maryino**	**2.84**	**316**	*e*PN		**Pn**	**21 52 49.0**	**+1.4**
MRNR				*e*S		**Sb**	**21 53 24.3**	**-3.5**
LABN	**Labinsk**	**2.93**	**339**	*e*PN		**Pn**	**21 52 49.7**	**+0.8**
LABN				*e*			21 53 24.6	
LABN				pmax	pmax			

comp=Z,17nm,0.3s

LABN				smax	smax			

comp=E,31nm,0.4s

GROC	**Groznyy**	**2.96**	**63**	*e*Pn		**Pb**	**21 52 51.9**	**-3.2**
GROC				*e*Sn		**Sb**	**21 53 28.1**	**-3.1**
GROC	**Groznyy**	**2.96**	**63**	*e*PN		**Pb**	**21 52 55.8**	**+0.7**
GROC				*e*			21 53 37.1	
GROC				pmax	pmax			

comp=Z,8.0nm,0.4s

GROC				smax	smax			

comp=E,12nm,0.4s

GROC				smax	smax			

comp=N,31nm,0.5s

GROC				smax	smax			

comp=N,31nm,0.6s

LGD	**Lagodekhi**	**3.03**	**90**	P		**Pb**	**21 52 54.9**	**-1.4**
LGD				S		**Sb**	**21 53 35.8**	**+2.6**
LGD	**Lagodekhi**	**3.03**	**90**	PN		**Pb**	**21 52 54.9**	**-1.4**
LGD				S		**Sb**	**21 53 35.8**	**+2.6**
BTLR	**Botlikh**	**3.08**	**75**	*e*Pn		**Pb**	**21 52 56.0**	**-1.3**
BTLR				*e*Sn		**Sb**	**21 53 31.6**	**-3.3**
BTLR	**Botlikh**	**3.08**	**75**	*e*PN		**Pb**	**21 52 56.0**	**-1.3**
BTLR				*e*S		**Sb**	**21 53 31.6**	**-3.3**
GOF	**Gofitskoye**	**3.20**	**11**	*ce*PN		**Pn**	**21 52 50.3**	**-2.3**
GOF				*e*S		**Sg**	**21 53 49.4**	**+4.0**
VSHL	**Vashlovani**	**3.23**	**101**	P		**Pb**	**21 53 00.9**	**+1.1**
XNZR	**Khunzakh**	**3.41**	**78**	*e*Pn		**Pb**	**21 52 59.8**	**-3.1**
XNZR				*e*Sn		**Sb**	**21 53 40.8**	**-3.6**
HNZR	**Khunzah**	**3.42**	**78**	*e*PN		**Pb**	**21 52 59.8**	**-3.3**
HNZR				*e*S		**Sb**	**21 53 40.8**	**-3.9**
DLMR	**Dylym**	**3.48**	**69**	*i* Pn		**Pb**	**21 53 03.3**	**-0.7**
DLMR				*e*Sn		**Sb**	**21 53 41.4**	**-4.8**
DLMR	**Dylym**	**3.48**	**69**	*i* PN		**Pb**	**21 53 03.3**	**-0.7**
DLMR				*e*S		**Sb**	**21 53 41.4**	**-4.8**
UNCR	**Uncukul**	**3.51**	**75**	*i* Pn		**Pn**	**21 53 00.1**	**+3.3**
UNCR				*e*Sn		**Sn**	**21 53 41.7**	**+3.5**
UNCR	**Uncukul**	**3.51**	**75**	*i* PN		**Pn**	**21 53 00.1**	**+3.3**
UNCR				*e*S		**Sn**	**21 53 41.7**	**+3.5**
GNBR	**Gunib**	**3.58**	**81**	*e*PN		**Pb**	**21 53 06.1**	**+0.3**
GNBR				*e*S		**Sb**	**21 53 47.7**	**-1.4**
GNBR				pmax	pmax			

comp=Z,5.0nm,0.4s

GNBR				smax	smax			

comp=N,9.0nm,0.6s

GNBR				smax	smax			

comp=E,16nm,0.3s

GNBR				smax	smax			

comp=E,10.0nm,1.1s

KRNR	**Karanay**	**3.61**	**74**	*e*PN		**Pb**	**21 53 07.2**	**+0.9**
KRNR				*e*S		**Sb**	**21 53 49.5**	**-0.6**
KRNR				pmax	pmax			

comp=Z,3.0nm,1.2s

KRNR				smax	smax			

comp=N,3.0nm,0.4s

KRNR				smax	smax			

comp=E,4.0nm,0.5s

KRNR				smax	smax			

comp=E,4.0nm,1.6s

ARKR	**Arakani**	**3.63**	**77**	*e*PN		**Pb**	**21 53 07.5**	**+0.9**
ARKR				*e*S		**Sb**	**21 53 50.3**	**-0.3**
ARKR				pmax	pmax			

comp=Z,3.0nm,0.4s

ARKR				smax	smax			

comp=E,6.0nm,0.6s

ARKR				smax	smax			

comp=N,8.0nm,0.4s

ARKR				smax	smax			

comp=N,7.0nm,1.0s

KMKR	**Kumukh**	**3.66**	**85**	*e*PN		**Pb**	**21 53 07.5**	**+0.2**
KMKR				*e*S		**Sb**	**21 53 49.8**	**-1.9**
KMKR				pmax	pmax			

comp=Z,5.0nm,0.5s

KMKR				smax	smax			

comp=N,10.0nm,0.4s

KMKR				smax	smax			

comp=E,16nm,0.6s

KMKR				smax	smax			

comp=E,16nm,0.7s

ERBR	**Yeremizino-Bor**	**4.00**	**343**	*e*PN		**Pb**	**21 53 11.9**	**-0.9**
ERBR				*e*			21 54 01.0	
ERBR				*e*			21 54 04.5	
ERBR				pmax	pmax			

comp=Z,4.0nm,0.4s

ERBR				smax	smax			

comp=E,5.0nm,0.4s

ERBR				smax	smax			

comp=E,15nm,0.6s

ANN	**Anapa**	**4.51**	**311**	*e*PN		**Pn**	**21 53 13.5**	**+2.9**
ANN				*e*			21 54 08.8	
ANN				pmax	pmax			

comp=Z,7.0nm,0.5s

ANN				smax	smax			

comp=N,13nm,1.8s

OBN	**Obninsk**	**13.72**	**346**	*e*P		**Pn**	**21 55 17.7**	**+1.1**
OBN				pmax	pmax			

comp=Z,8.0nm,0.4s

OBN				MLR	MLR			

comp=Z,46nm,10.0s

*SOME **07** 22:20:39.1, 41.63N×77.00E, h10km*
*NNC **07** 22:20:41.0±1.4, 41.69N×76.81E, h0km, mb2.5, mpv2.6, Error ellipse: s-maj=10.7km s-min=8.0km az=46.0*

ISC 07 22:20:40.5±3.3, 41.7N±0.1×76.90E±0.06, h6km±14km, n19, σ0§42/37, 2C-1D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TNSS	**Tian-Shan**	**1.36**	**1**	P		**Pn**	**22 21 05.7**	**-0.8**
TNSS	2.4nm,0.1s			S		**Sn**	**22 21 24.9**	**-0.2**
TNSS	**Tian-Shan**	**1.36**	**1**	*e*P		**Pn**	**22 21 05.7**	**-0.8**
TNSS	2.4nm,0.1s			*e*S		**Sn**	**22 21 24.9**	**-0.2**
IZV	**Izvestkoviy**	**1.38**	**351**	P		**Pn**	**22 21 06.0**	**-0.5**
IZV	0.4nm,0.1s			S		**Sn**	**22 21 25.4**	**+0.2**
IZV	**Izvestkoviy**	**1.38**	**351**	*e*P		**Pn**	**22 21 06.0**	**-0.5**
IZV	0.4nm,0.1s			*e*S		**Sn**	**22 21 25.4**	**+0.2**
MDOK	**Medeo**	**1.49**	**4**	Pg		**Pn**	**22 21 07.8**	**-0.3**
MDOK	1.8nm,0.3s			Pn		**Pb**	**22 21 08.0**	**-0.7**
MDOK	1.2nm,0.5s			⇓Sn		**Sg**	**22 21

MDOK	**Medeo**	**1.05**	**352**	⇑P	**Pb**	**22 24 05.2**	**-0.8**
	90nm,0.6s							
MDOK				Pg	**Pb**	**22 24 05.3**	**-0.8**
	139nm,0.2s							
MDOK				Lg	Lg	22 24 19.5	
	151nm,0.5s							
MDOK				⇑S	**Sg**	**22 24 19.6**	**-0.5**
	99nm,0.5s							
MDOK	**Medeo**	**1.05**	**352**	*e*P	**Pb**	**22 24 05.3**	**-0.8**
	139nm,0.2s							
MDOK				*e*S	**Sg**	**22 24 19.5**	**-0.6**
	151nm,0.5s							
AAA	**Alma-Ata**	**1.12**	**347**	P	**Pb**	**22 24 06.9**	**-0.2**
	252nm,0.1s							
AAA				S	**Sn**	**22 24 22.7**	**+0.2**
	111nm,0.1s							
AAA	**Alma-Ata**	**1.12**	**347**	*e*P	**Pb**	**22 24 06.9**	**-0.2**
	252nm,0.1s							
AAA				*e*S	**Sn**	**22 24 22.7**	**+0.2**
	111nm,0.1s							
KNDC	**Almaty**	**1.12**	**349**	⇑P	**Pb**	**22 24 06.7**	**-0.4**
	129nm,0.4s							
KNDC				⇓S	**Sn**	**22 24 22.4**	**-0.1**
	185nm,0.5s							
KOTS	**Kotyrbulak**	**1.12**	**355**	P	**Pb**	**22 24 06.6**	**-0.6**
	211nm,0.2s							
KOTS				S	**Sn**	**22 24 22.1**	**-0.6**
	274nm,0.3s							
KOTS	**Kotyrbulak**	**1.12**	**355**	*e*P	**Pb**	**22 24 06.6**	**-0.6**
	211nm,0.2s							
KOTS				*e*S	**Sn**	**22 24 22.1**	**-0.6**
	274nm,0.3s							
KOTS	**Kotyrbulak**	**1.12**	**355**	*e*P	**Pb**	**22 24 06.6**	**-0.6**
	baz=54							
KOTS				*e*S	**Sn**	**22 24 22.1**	**-0.6**
	baz=54							
MTBS	**Maitube**	**1.18**	**329**	P	**Pb**	**22 24 07.4**	**-0.7**
	43nm,0.1s							
MTBS				S	**Sg**	**22 24 23.3**	**-0.8**
	153nm,0.2s							
MTBS	**Maitube**	**1.18**	**329**	*e*P	**Pb**	**22 24 07.4**	**-0.7**
	43nm,0.1s							
MTBS				*e*S	**Sg**	**22 24 23.3**	**-0.8**
	153nm,0.2s							
MTBS	**Maitube**	**1.18**	**329**	*e*P	**Pb**	**22 24 07.4**	**-0.7**
	baz=29							
MTBS				*e*S	**Sg**	**22 24 23.3**	**-0.8**
	baz=29							
KASK	**Kaskelen**	**1.19**	**338**	⇑P	**Pb**	**22 24 08.1**	**-0.2**
KASK				⇑S	**Sb**	**22 24 22.5**	**-1.1**
SATY	**Saty**	**1.27**	**42**	P	**Pn**	**22 24 08.4**	**-1.0**
	21nm,0.2s							
SATY				S	**Sb**	**22 24 25.2**	**-0.7**
	403nm,0.1s							
SATY	**Saty**	**1.27**	**42**	*e*P	**Pn**	**22 24 08.4**	**-1.0**
	21nm,0.2s							
SATY				*e*S	**Sb**	**22 24 25.2**	**-0.7**
	403nm,0.1s							
KST	**Kastek**	**1.33**	**314**	P	**Pn**	**22 24 10.1**	**-0.1**
	21nm,0.1s							
KST				S	**Sg**	**22 24 28.3**	**-0.5**
	250nm,0.3s							
KST	**Kastek**	**1.33**	**314**	*e*P	**Pn**	**22 24 10.1**	**-0.1**
	21nm,0.1s							
KST				*e*S	**Sg**	**22 24 28.3**	**-0.5**
	250nm,0.3s							
ZHN	**Zhinishke**	**1.36**	**39**	P	**Pn**	**22 24 10.2**	**-0.4**
	15nm,0.1s							
ZHN				S	**Sb**	**22 24 28.0**	**-0.6**
	490nm,0.3s							
ZHN	**Zhinishke**	**1.36**	**39**	*e*P	**Pn**	**22 24 10.2**	**-0.4**
	15nm,0.1s							
ZHN				*e*S	**Sb**	**22 24 28.0**	**-0.6**
	490nm,0.3s							
ZHN	**Zhinishke**	**1.36**	**39**	*e*P	**Pn**	**22 24 10.2**	**-0.4**
	baz=38							
ZHN				*e*S	**Sb**	**22 24 28.0**	**-0.6**
	baz=38							
TKM2	**Tokmak 2**	**1.47**	**304**	⇑P	**Pb**	**22 24 12.8**	**-0.3**
	21nm,0.2s,SNR=14							
TKM2				⇑S	**Sg**	**22 24 32.8**	**-0.4**
	288nm,0.1s							
TKM2	**Tokmak 2**	**1.47**	**304**	⇑P	**Pn**	**22 24 12.6**	**+0.5**
	4.6nm,0.3s							
TKM2				⇑S	**Sg**	**22 24 32.8**	**-0.4**
	91nm,0.3s							
TKM2	**Tokmak 2**	**1.47**	**304**	⇓*i*P	**Pn**	**22 24 12.6**	**+0.5**
	baz=4.0							
TKM2				⇓*i*S	**Sg**	**22 24 32.5**	**-0.7**
	baz=4.0							
KURS	**Kuram**	**1.52**	**26**	P	**Pn**	**22 24 13.2**	**+0.4**
	15nm,0.2s							
KURS				S	**Sb**	**22 24 33.4**	**+0.1**
	95nm,0.6s							
KURS	**Kuram**	**1.52**	**26**	*e*P	**Pn**	**22 24 13.2**	**+0.4**
	15nm,0.2s							
KURS				*e*S	**Sb**	**22 24 33.4**	**+0.1**
	95nm,0.6s							
KURS	**Kuram**	**1.52**	**26**	*e*P	**Pn**	**22 24 13.2**	**+0.4**
	baz=25							
KURS				*e*S	**Sb**	**22 24 33.4**	**+0.1**
	baz=25							
DGS	**Degeres**	**1.57**	**316**	P	**Pb**	**22 24 14.3**	**-0.5**
	7.2nm,0.1s							
DGS				S	**Sb**	**22 24 34.9**	**+0.4**
	215nm,0.5s							
DGS	**Degeres**	**1.57**	**316**	*e*P	**Pb**	**22 24 14.3**	**-0.5**
	7.2nm,0.1s							
DGS				*e*S	**Sb**	**22 24 34.9**	**+0.4**
	212nm,0.2s							
DGS	**Degeres**	**1.57**	**316**	*e*P	**Pb**	**22 24 14.3**	**-0.5**
	baz=17							
DGS				*e*S	**Sb**	**22 24 34.9**	**+0.4**
	baz=17							
KTBS	**Karatobe**	**1.65**	**345**	P	**Pb**	**22 24 15.6**	**-0.5**
	40nm,0.2s							
KTBS				S	**Sg**	**22 24 37.9**	**-1.0**
	206nm,0.3s							
KTBS	**Karatobe**	**1.65**	**345**	*e*P	**Pb**	**22 24 15.6**	**-0.5**
	40nm,0.2s							
KTBS				*e*S	**Sg**	**22 24 37.9**	**-1.0**
	206nm,0.3s							
KTBS	**Karatobe**	**1.65**	**345**	*e*P	**Pb**	**22 24 15.6**	**-0.5**
	baz=45							
KTBS				*e*S	**Sg**	**22 24 37.9**	**-1.0**
	baz=45							
CHKK	**Chushkaly**	**1.75**	**354**	P	**Pb**	**22 24 17.4**	**-0.4**
	54nm,0.1s							
CHKK				S	**Sg**	**22 24 40.8**	**-1.3**
	166nm,0.2s							
CHKK	**Chushkaly**	**1.75**	**354**	*e*P	**Pb**	**22 24 17.4**	**-0.4**
	54nm,0.1s							
CHKK				*e*S	**Sg**	**22 24 40.8**	**-1.3**
	166nm,0.2s							
KBK	**Karagaybulak**	**1.79**	**288**	⇑P	**Pb**	**22 24 18.5**	**-0.1**
	20nm,0.2s,SNR=40							
KBK				⇓S	**Sg**	**22 24 43.4**	**-0.2**
	206nm,0.3s							
KBK	**Karagaybulak**	**1.79**	**288**	⇑*i*P	**Pb**	**22 24 17.8**	**-0.8**
	baz=89							
KBK				⇑*i*S	**Sb**	**22 24 41.5**	**+0.5**
	baz=89							
SHLS	**Shalkode**	**1.93**	**57**	Pg	**Pg**	**22 24 24.7**	**+1.7**
	11nm,0.2s							
SHLS				Lg	Lg	22 24 53.6	
	249nm,0.5s							
SHLS	**Shalkode**	**1.93**	**57**	*e*P	**Pg**	**22 24 24.7**	**+1.7**
	11nm,0.2s							
SHLS				*e*S	**Sg**	**22 24 53.6**	**+5.5**
	249nm,0.5s							
KRBS	**Karabastau**	**1.96**	**324**	P	**Pb**	**22 24 21.1**	**-0.3**
	23nm,0.2s							
KRBS				S	**Sg**	**22 24 46.9**	**-2.0**
	107nm,0.3s							
KRBS	**Karabastau**	**1.96**	**324**	*e*P	**Pb**	**22 24 21.1**	**-0.3**
	23nm,0.2s							
KRBS				*e*S	**Sg**	**22 24 46.9**	**-2.0**
	107nm,0.3s							
UCH	**Uchtor**	**2.04**	**274**	⇑P	**Pb**	**22 24 22.7**	**-0.3**
	22nm,0.4s,SNR=45							
UCH				⇑S	**Sg**	**22 24 50.6**	**-1.0**
	83nm,0.7s							
UCH	**Uchtor**	**2.04**	**274**	⇓*i*P	**Pn**	**22 24 21.2**	**+0.9**
	baz=75							
UCH				⇓*i*S	**Sn**	**22 24 47.2**	**+1.4**
	baz=75							
PDGK	**Podgornoye**	**2.04**	**53**	Pg	**Pn**	**22 24 21.3**	**+1.3**
	9.1nm,0.4s							
PDGK				Lg	Lg	22 24 47.7	
	48nm,0.2s							
PDGK	**Podgornoye**	**2.04**	**53**	⇓Pn	**Pn**	**22 24 21.1**	**+1.1**
	13nm,0.6s							
PDGK				⇑Sn	**Sb**	**22 24 48.3**	**+0.1**
	92nm,0.5s							
CHMS	**Chumysh**	**2.05**	**296**	⇑P	**Pb**	**22 24 22.4**	**-0.5**
	7.8nm,0.2s,SNR=5.2							
CHMS				⇑S	**Sg**	**22 24 49.9**	**-1.9**
	184nm,0.5s							
CHMS	**Chumysh**	**2.05**	**296**	⇓Pn	**Pb**	**22 24 22.0**	**-0.9**
	3.5nm,0.3s							
CHMS				⇓Sn	**Sb**	**22 24 49.6**	**+1.3**
	132nm,0.6s							
CHMS	**Chumysh**	**2.05**	**296**	⇓*i*P	**Pn**	**22 24 21.4**	**+1.4**
	baz=97							
CHMS				⇓*i*S	**Sb**	**22 24 47.6**	**-0.7**
	baz=97							
FRU1	**Bishkek**	**2.06**	**290**	⇑*i*P	**Pn**	**22 24 21.6**	**+1.4**
	baz=91							
FRU1				⇑*i*S	**Sb**	**22 24 48.2**	**-0.5**
	baz=91							
AAK	**Ala-Archa**	**2.11**	**285**	⇑P	**Pb**	**22 24 23.6**	**-0.4**
	12nm,0.2s,SNR=23							
AAK				⇑S	**Sg**	**22 24 52.0**	**-1.8**
	88nm,0.3s							
AAK	**Ala-Archa**	**2.11**	**285**	⇑Pn	**Pb**	**22 24 23.5**	**-0.5**
	3.6nm,0.2s							
AAK				⇓Sn	**Sg**	**22 24 52.3**	**-1.5**
	97nm,0.6s							
AAK	**Ala-Archa**	**2.11**	**285**	⇓*i*P	**Pn**	**22 24 22.3**	**+1.3**
	baz=86							
AAK				⇓*i*S	**Sb**	**22 24 49.1**	**-1.1**
	baz=86							
ARXS	**Arharly**	**2.13**	**11**	Pg	**Pb**	**22 24 22.9**	**-1.6**
	11nm,0.4s							
ARXS				Lg	Lg	22 24 51.0	
	75nm,0.2s							
ARXS	**Arharly**	**2.13**	**11**	*e*P	**Pb**	**22 24 24.0**	**-0.4**
	10nm,0.2s							
ARXS				*e*S	**Sb**	**22 24 51.9**	**+1.1**
	75nm,0.2s							
BLB	**Baldybastay**	**2.17**	**24**	Pg	**Pb**	**22 24 23.5**	**-1.6**
	76nm,0.3s							
BLB				Lg	Lg	22 24 52.1	
	160nm,0.4s							
ARLS	**Aral**	**2.20**	**264**	⇓*i*P	**Pn**	**22 24 22.9**	**+0.7**
	baz=65							
ARLS				⇓*i*S	**Sn**	**22 24 50.4**	**+1.1**
	baz=65							
USP	**Ospenovka**	**2.33**	**300**	⇓P	**Pb**	**22 24 26.3**	**-1.5**
	7.3nm,0.2s,SNR=8.0							
USP				⇑S	**Sb**	**22 24 57.2**	**+0.7**
	91nm,0.4s							
USP	**Ospenovka**	**2.33**	**300**	⇓*i*P	**Pn**	**22 24 25.4**	**+1.5**
	baz=1.0							
USP				⇓*i*S	**Sb**	**22 24 54.7**	**-1.8**
	baz=1.0							
SGDS	**Sogindy**	**2.35**	**305**	Pg	**Pb**	**22 24 27.5**	**-0.5**
	2.0nm,0.1s							
SGDS				Lg	Lg	22 24 57.8	
	40nm,0.3s							
EKS2	**Erkin-Say**	**2.63**	**283**	⇑*i*P	**Pn**	**22 24 29.3**	**+1.2**
	baz=84							
EKS2				⇑*i*S	**Sn**	**22 25 01.5**	**+1.6**
	baz=84							
KTMS	**Ketmen**	**2.64**	**59**	Pg	**Pb**	**22 24 31.9**	**-1.1**
	1.5nm,0.1s							
KTMS				Lg	Lg	22 25 05.2	
	30nm,0.3s							
KTMS	**Ketmen**	**2.64**	**59**	*e*P	**Pb**	**22 24 31.9**	**-1.1**
	1.5nm,0.1s							
KTMS				*e*S	**Sb**	**22 25 05.2**	**-0.1**
	30nm,0.3s							
KNOS	**Konyrlen**	**2.64**	**31**	Pg	**Pb**	**22 24 32.7**	**-0.5**
	4.4nm,0.1s							
KNOS				Lg	Lg	22 25 06.5	
	34nm,0.6s							
DJR	**Jarkent**	**2.88**	**39**	Pg	**Pb**	**22 24 36.3**	**-0.9**
	1.5nm,0.1s							
DJR				Lg	Lg	22 25 12.8	
	31nm,0.2s							
DJR	**Jarkent**	**2.88**	**39**	*e*P	**Pb**	**22 24 36.3**	**-0.9**
	1.5nm,0.1s							
DJR				*e*S	**Sb**	**22 25 12.8**	**+0.4**
	31nm,0.2s							
MRKS	**Merke**	**3.05**	**283**	Pg	**Pb**	**22 24 40.6**	**+0.7**
	2.1nm,0.3s							
MRKS				Lg	Lg	22 25 20.6	
	40nm,0.3s							
MRKS	**Merke**	**3.05**	**283**	*e*P	**Pb**	**22 24 40.6**	**+0.7**
	2.1nm,0.3s							
MRKS				*e*S	**Sg**	**22 25 20.6**	**-3.2**
	40nm,0.3s							
ARSB	**Arslanbob**	**3.30**	**257**	⇓*i*P	**Pn**	**22 24 37.9**	**+0.7**
	baz=58							
ARSB				⇓*i*S	**Sn**	**22 25 16.8**	**+0.5**
	baz=58							
KAPS	**Kapalarasan**	**3.51**	**25**	Pg	**Pb**	**22 24 47.8**	**-0.1**
	2.0nm,0.2s							
KAPS				Lg	Lg	22 25 32.5	
	53nm,0.7s							
KAPS	**Kapalarasan**	**3.51**	**25**	*e*P	**Pb**	**22 24 47.8**	**-0.1**
	2.0nm,0.2s							
KAPS				*e*S	**Sb**	**22 25 32.5**	**+2.1**
	53nm,0.7s							
SFK	**Sufi-Kurgan**	**3.53**	**235**	⇓*i*P	**Pn**	**22 24 41.1**	**+0.5**
	baz=35							
SFK				⇓*i*S	**Sn**	**22 25 22.2**	**-0.1**
	baz=35							
MNAS	**Manas**	**3.54**	**278**	⇓*i*P	**Pn**	**22 24 41.9**	**+1.2**
	baz=78							
MNAS				⇓*i*S	**Sn**	**22 25 23.2**	**+0.8**
	baz=78							
OHH	**Osh**	**3.72**	**246**	⇓*i*P	**Pn**	**22 24 43.7**	**+0.6**
	baz=47							
OHH				⇓*i*S	**Sn**	**22 25 26.4**	**-0.4**
	baz=47							
BTLS	**Baital**	**3.74**	**322**	Pg	**Pb**	**22 24 51.6**	**-0.1**
	1.9nm,0.3s							
BTLS				Lg	Lg	22 25 39.4	
	7.2nm,0.5s							
BTLS	**Baital**	**3.74**	**322**	*e*P	**Pb**	**22 24 51.6**	**-0.1**
	1.9nm,0.2s							
BTLS				*e*S	**Sb**	**22 25 39.4**	**+2.6**
	7.2nm,0.3s							
ARK	**Arkit**	**3.96**	**267**	⇓*i*P	**Pn**	**22 24 47.4**	**+1.1**
	baz=68							
ARK				⇓*i*S	**Sn**	**22 25 32.6**	**-0.1**
	baz=68							
DRK	**Karamyk**	**4.91**	**239**	⇑*e*P	**Pn**	**22 25 00.2**	**+0.7**
	baz=40							
DRK				⇑*i*S	**Sn**	**22 25 54.8**	**-1.5**
	baz=40							
KK31	**Karatay Array**	**5.07**	**283**	Pg	**Pb**	**22 25 18.3**	**+3.9**
	0.3nm,0.3s,baz=105,slow=13,SNR=12							
KK31				⇑Lg	Lg	22 26 27.6	
	2.0nm,0.4s,baz=96,slow=27,SNR=8.9							
KKAR	**Karatay Array**	**5.07**	**283**	⇑*i*P	**Pn**	**22 25 02.9**	**+1.3**
	baz=84							
KKAR				⇑*i*S	**Sn**	**22 25 59.8**	**-0.2**
	baz=84							
BTK	**Batken**	**5.28**	**249**	⇑*i*P	**Pn**	**22 25 05.3**	**+0.8**
	baz=50							
BTK				⇑*i*S	**Sn**	**22 26 04.3**	**-0.9**
	baz=50							
MK31	**Makanchi Array**	**5.90**	**36**	⇑Pn	**Pn**	**22 25 15.0**	**+2.1**
	0.1nm,0.2s,baz=212,slow=15,SNR=3.1							
MK31				⇓Lg	Lg	22 26 47.2	
	1.3nm,0.5s,baz=220,slow=28,SNR=4.1							
OTUK	**Ortayu**	**7.04**	**332**	⇓Lg	Lg	22 27 23.9	
	3.7nm,0.6s							

IDC 07 22:37:09.9±2.4, 10°58N×91°57E, h0km, mb3.6/4, mbtmp3.7/5, ML4.0/1, MS2.7/1, Error ellipse: s-maj=72.6km s-min=25.3km az=69.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**10.60**	**41**	Pn	Pn	22 39 42.9	-0.2
	0.3nm,0.3s,baz=231,slow=18,SNR=1.3						
CMAR				LR	LR	22 44 25.1	
	comp=Z,37nm,18.5s,baz=255,slow=41						
	1.8nm,0.3s						
H08S3	**Diego Garcia H**	**26.23**	**227**	T	T	23 10 02.7	
	baz=46,slow=75,SNR=51						
H08S2	**Diego Garcia H**	**26.24**	**227**	T	T	23 10 02.0	
	baz=46,slow=75,SNR=49						
H08S1	**Diego Garcia D**	**26.25**	**227**	T	T	23 10 03.4	
	baz=46,slow=75,SNR=36						
MKAR	**Makanchi Array**	**36.95**	**349**	P	P	22 44 20.6	-0.1
	0.3nm,0.5s,baz=165,slow=8.2,SNR=5.0						
	0.3nm,0.5s						
SONM	**Songino Array**	**39.18**	**16**	P	P	22 44 39.7	0.0
	0.8nm,0.7s,baz=190,slow=7.4,SNR=4.6						
	0.8nm,0.7s						
WRA	**Warramunga Arr**	**51.89**	**126**	P	P	22 46 20.4	-0.2
	0.6nm,0.8s,baz=303,slow=8.9,SNR=2.7						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**53.58**	**130**	P	P	22 46 33.1	0.0
	0.8nm,0.7s,baz=319,slow=8.2,SNR=7.5						
	0.8nm,0.7s						
H04N2	**CROZET ISLANDS**	**66.79**	**209**	T	T	00 01 06.9	
	baz=43,slow=75,SNR=9.8						
H04N1	**CROZET ISLANDS**	**66.80**	**209**	T	T	00 01 11.5	
	baz=43,slow=75,SNR=9.4						
H04N3	**CROZET ISLANDS**	**66.81**	**209**	T	T	00 01 07.0	
	baz=43,slow=75,SNR=9.9						

VIE ***07*** *22:44:35.1±0.5, 50°.29N×18°.98E, h0km, mb2.3/3, ml2.4/2, Error ellipse: s-maj=8.3km s-min=2.1km az=169.0, Suspected Mining induced.*

IPEC ***07*** *22:44:35.4±0.1, 50°.24N×18°.99E, h1km, ML2.5/4, Error ellipse: s-maj=2.4km s-min=0.7km az=170.0*

PRU ***07*** *22:44:36.0, 50°.22N×18°.94E, h0km*

ISC 07 22:44:35.6±0.8, 50°20N±0°.04×18°96E±0°.02, h0km, n40, σ0s81/68, 13C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OJC	**Ojcow**	**0.54**	**87**	*e*Pg	**Pg**	**22 44 45.4**	**-0.5**
OJC				*e*Sg	**Sg**	**22 44 52.5**	**-0.3**
OKC	**Ostrava-Krasne**	**0.64**	**236**	*e*PG	**Pb**	**22 44 48.8**	**-0.8**
MORC	**Moravsky Berou**	**1.01**	**246**	⇓P	**Pg**	**22 44 55.3**	**+0.4**
MORC				⇑S	**Sb**	**22 45 10.0**	**+0.3**
MORC	**Moravsky Berou**	**1.01**	**246**	*e*Pg	**Pg**	**22 44 55.3**	**+0.4**
	baz=63						
MORC				*e*Sg	**Sg**	**22 45 08.1**	**+0.2**
	74nm,0.6s,baz=63						
LANS	**Liptovska Anna**	**1.10**	**162**	*e*PG	**Pb**	**22 44 57.4**	**0.0**
LANS				*e*SG	**Sb**	**22 45 12.6**	**+0.3**
LANS				*e*LG	Lg	22 45 16.4	
NIE	**Niedzica**	**1.16**	**131**	*e*Pg	**Pg**	**22 44 57.8**	**-0.1**
NIE				*e*Sg	**Sb**	**22 45 14.5**	**+0.3**
KRLC	**Kraliky**	**1.41**	**266**	*e*PG	**Pn**	**22 45 01.6**	**-0.9**
KRLC				*e*SG	**Sb**	**22 45 21.0**	**-0.3**
JAVC	**Velka Javorina**	**1.58**	**213**	*e*PN	**Pn**	**22 45 05.4**	**+0.5**
JAVC	**Velka Javorina**	**1.58**	**213**	*e*Pn	**Pn**	**22 45 05.3**	**+0.4**
	baz=31						
DPC	**Dobruska-Polom**	**1.70**	**276**	*e*PG	**Pn**	**22 45 06.3**	**-0.3**
DPC				*e*SG	**Sb**	**22 45 29.3**	**-0.4**
	comp=Z,32nm,0.4s						
VYHS	**Vyhne**	**1.71**	**183**	*e*PN	**Pn**	**22 45 06.3**	**-0.3**
VYHS				*e*SN	**Sb**	**22 45 30.5**	**+0.7**
VRAC	**Vranov**	**1.77**	**241**	⇑P	**Pb**	**22 45 08.7**	**-0.3**
VRAC				⇑S	**Sn**	**22 45 31.1**	**+0.3**
VRAC	**Vranov**	**1.77**	**241**	*e*PN	**Pn**	**22 45 07.6**	**0.0**
VRAC				*e*SG	**Sb**	**22 45 32.0**	**+0.1**
VRAC	**Vranov**	**1.77**	**241**	*e*Pn	**Pn**	**22 45 07.5**	**0.0**
	baz=58						
VRAC				*e*Sg	**Sb**	**22 45 31.9**	**+0.1**
	28nm,0.4s,baz=58						
OSTC	**Ostas**	**1.80**	**283**	*e*PG	**Pn**	**22 45 08.1**	**+0.3**
OSTC				*e*SG	**Sg**	**22 45 32.6**	**-0.7**
	comp=Z,27nm,0.6s						
CHVC	**Chvalec**	**1.90**	**283**	*e*PG	**Pn**	**22 45 08.9**	**-0.4**
CHVC				*e*SG	**Sg**	**22 45 35.9**	**-0.8**
UPC	**Upice**	**1.92**	**281**	*e*PG	**Pn**	**22 45 09.7**	**+0.2**
UPC				*e*SG	**Sg**	**22 45 36.7**	**-0.4**
	comp=Z,21nm,0.4s						
KECS	**Kecovo**	**1.98**	**149**	*e*PG	**Pn**	**22 45 11.4**	**+1.0**
KECS				*e*SN	**Sn**	**22 45 34.4**	**-1.5**
KECS				*e*LG	Lg	22 45 44.5	
KRUC	**Moravsky**	**2.02**	**237**	*e*Pn	**Pn**	**22 45 11.0**	**+0.1**
	baz=54						
KRUC				*e*Sg	**Sb**	**22 45 39.7**	**+0.9**
	28nm,0.7s,baz=54						
CRVS	**Cervenica-Dubn**	**2.08**	**128**	*e*PG	**Pb**	**22 45 14.1**	**-0.1**
CRVS				*e*LG	Lg	22 45 49.9	
PSZ	**Piszkesteto**	**2.36**	**165**	⇑P	**Pn**	**22 45 15.7**	**0.0**
PSZ				⇑S	**Sn**	**22 45 44.3**	**-1.1**
KOLS	**Kolonicke sedl**	**2.50**	**119**	*e*PG	**Pb**	**22 45 22.2**	**+0.9**
KOLS				*e*SN	**Sn**	**22 45 48.6**	**0.0**
KOLS				*e*LG	Lg	22 46 01.3	
GOPC	**GO Pecny, Ondr**	**2.71**	**266**	*e*PG	**Pb**	**22 45 24.2**	**-0.7**
GOPC				*e*SG	**Sb**	**22 46 00.4**	**+1.8**
	comp=Z,9.3nm,0.5s						
PRU	**Pruhonice**	**2.85**	**268**	*e*PG	**Pb**	**22 45 26.9**	**-0.5**
PRU				*e*SG	**Sg**	**22 46 06.0**	**-1.3**
	comp=Z,18nm,0.8s						
PRA	**Prague**	**2.92**	**269**	*e*SG	**Sg**	**22 46 08.9**	**-0.4**
	comp=Z,13nm,0.8s						
CONA	**Conrad Observa**	**3.05**	**223**	*i* Pn	**Pn**	**22 45 24.9**	**-0.3**
	1.0nm,0.4s						
CONA				*i* Sn	**Sn**	**22 46 03.0**	**+0.6**
	2.9nm,0.3s						
RONA	**Rosalia, Austr**	**3.06**	**216**	*e*Pn	**Pn**	**22 45 25.7**	**+0.5**
	1.9nm,0.4s						
ZVC	**Zvikov**	**3.18**	**258**	*e*PG	**Pb**	**22 45 34.1**	**+1.1**
BRG	**Berggiesshubel**	**3.27**	**284**	Pg	**Pg**	**22 45 37.5**	**-0.8**
BRG				Sg	**Sg**	**22 46 20.9**	**+0.2**
BRG				Amp		22 46 24.1	
	comp=Z,12nm,0.4s						
CKRC	**Cesky Krumlov**	**3.33**	**247**	*e*PG	**Pb**	**22 45 36.2**	**+0.7**
CKRC				*e*SG	**Sg**	**22 46 20.2**	**-2.3**
	comp=Z,13nm,0.7s						
KHC	**Kasperske Hory**	**3.66**	**255**	*e*PG	**Pb**	**22 45 39.9**	**-1.2**
KHC				*e*SG	**Sb**	**22 46 28.9**	**+2.9**
	comp=Z,11nm,0.5s						
CLL	**Collm**	**3.95**	**289**	*e*Pn	**Pn**	**22 45 39.0**	**+1.7**
CLL				*ex*	x	22 45 50.0	
CLL				*e*Pg	**Pg**	**22 45 52.0**	**+0.8**
CLL				*e*Sg	**Sg**	**22 46 41.0**	**-1.3**
	comp=Z,10.0nm,0.6s						
MORH	**Mrgy, Hungar**	**3.99**	**183**	⇑P	**Pn**	**22 45 38.1**	**+0.2**
DRGR		**4.22**	**142**	⇓P	**Pn**	**22 45 41.4**	**+0.2**
DRGR				⇓S	**Sn**	**22 46 30.4**	**-0.8**
MARR	**Marisel-Cluj**	**4.48**	**140**	⇑P	**Pn**	**22 45 44.7**	**-0.1**
MARR				⇑S	**Sn**	**22 46 37.8**	**+0.2**
BURAR	**Bucovina Array**	**4.87**	**120**	⇑P	**Pn**	**22 45 50

29nm,0.8s,baz=52,slow=2.4,SNR=5.7
PMG LR LR 23 09 02.4
comp=Z,113nm,20.1s,baz=78,slow=38
OUENC **Ouen Island, N 13.62 156** Pn **Pn 23 03 29.3 +0.8**
MANU **Manus Island 15.62 299** **PcP 23 08 49.3 +1.6**
PATS **Pohnpei 16.88 351** Pn **P 23 04 11.4 +2.1**
CTAO **Charters Tower 17.40 233** **Pn 23 04 16.2 +0.6**
COEN **Coen 17.84 255** P **P 23 04 19.0 -1.0**
COEN **Coen 17.84 255** **Pn 23 04 21.8 +0.8**
EIDS **Eidsvold 17.98 210** P **Pn 23 04 23.4 +1.0**
EIDS **Eidsvold 17.98 210** P **Pn 23 04 23.1 +0.6**
EIDS IAmb IAmb 23 04 24.6
comp=Z,40nm,1.1s
MSVF **Nonsavu 18.30 117** P **Pn 23 04 30.5 +4.1**
ARMA **Armidale 22.14 202** P **P 23 05 06.6 +0.3**
ARMA **Armidale 22.14 202** P **P 23 05 06.5 +0.3**
ARMA IAmb IAmb 23 05 08.3
comp=Z,22nm,0.8s
QIS **Mount Isa 23.11 240** P **P 23 05 16.8 +1.0**
CMSA **Cobar Meteorol 25.73 211** P **P 23 05 39.9 +0.5**
WR0 **Warramunga Arr 27.35 246** P **P 23 05 53.7 -0.4**
WB0 **Warramunga Arr 27.43 246** P **P 23 05 54.5 -0.3**
CAN **Canberra 27.51 202** P **P 23 05 56.0 +0.6**
STKA **Stephens Creek 28.24 217** P **P 23 06 02.5 +0.6**
STKA **Stephens Creek 28.24 217** P **P 23 06 02.5 +0.6**
STKA **Stephens Creek 28.24 217** P **P 23 06 02.1 +0.2**
comp=Z,5.7nm,0.6s,baz=24,slow=10,SNR=14
comp=Z,5.7nm,0.6s
AS31 **Alice Springs 29.19 239** P **P 23 06 09.6 -0.9**
ASAR **Alice Springs 29.20 239** P **P 23 06 10.0 -0.5**
ASAR **Alice Springs 29.20 239** P **P 23 06 09.4 -1.1**
comp=Z,5.4nm,0.8s,baz=68,slow=9.4,SNR=37
ASAR pP **pP 23 06 38.2 +2.6**
comp=Z,2.3nm,0.8s,baz=67,slow=9.0,SNR=4.5
ASAR LR LR 23 16 40.4
comp=Z,70nm,19.5s,baz=68,slow=34
comp=Z,5.4nm,0.8s
TOO **Toolangi 30.83 204** P **P 23 06 26.0 +1.2**
TOO **Toolangi 30.83 204** P **P 23 06 25.8 +1.0**
KNRA **Kununurra 31.88 256** P **P 23 06 33.8 -0.4**
RTZ **Ruatahuna 31.95 156** P **P 23 06 34.3 -0.4**
BKZ **Black Stump Fm 32.24 157** P **P 23 06 39.6 +2.5**
BKZ **Black Stump Fm 32.24 157** P **P 23 06 37.0 -0.1**
BKZ IAmb IAmb 23 06 39.6
comp=Z,5.5nm,0.7s
BBOO **Buckleboo 32.32 222** P **P 23 06 37.7 -0.1**
BBOO **Buckleboo 32.32 222** P **P 23 06 37.8 0.0**
MRZ **Mangatainoka R 33.22 159** P **P 23 06 45.3 -0.2**
TUWZ **Tuamarina 33.38 162** P **P 23 06 46.9 0.0**
LTZ **Lake Taylor 34.17 165** P **P 23 06 53.3 -0.6**
WRKA **Warakurna 34.45 240** P **P 23 06 55.8 -0.7**
GVZ **Greta Valley S 34.54 164** P **P 23 06 57.0 0.0**
RPZ **Rata Peaks 34.77 167** P **P 23 06 58.9 0.0**
FORT **Forrest 36.94 231** P **P 23 07 18.2 +0.6**
LUWI **Luwuk 38.98 281** P **P 23 07 33.4 -1.6**
BKSI **Bulukumba 40.71 273** P **P 23 07 53.0 +3.7**
comp=Z,13nm,1.1s
MBWA **Marble Bar 41.13 249** P **P 23 07 52.4 -0.3**
PLAI **Plampang 42.59 268** P **P 23 08 03.4 -1.3**
MEEK **Meekatharra 43.26 242** P **P 23 08 10.1 +0.2**
KLBR **Kellerberrin 45.39 235** P **P 23 08 27.3 +0.5**
BLDU **Balliduu 45.94 237** P **P 23 08 31.3 +0.1**
MORW **Morawa 46.08 239** P **P 23 08 32.3 +0.1**
MJAR **Matsushiro Arr 50.96 336** P **P 23 09 08.2 -1.2**
comp=Z,3.1nm,0.7s,baz=171,slow=8.6,SNR=9.6
comp=Z,3.1nm,0.7s
KSRS **Korea Array 56.41 329** P **P 23 09 49.5 +0.4**
comp=Z,2.8nm,0.6s,baz=142,slow=7.3,SNR=9.7
KSRS LR LR 23 32 52.5
comp=Z,8.8nm,19.3s,baz=165,slow=35
comp=Z,2.8nm,0.6s
USRK **Ussuriysk Ar. 59.95 336** P **P 23 10 14.7 +1.1**
USRK **Ussuriysk Ar. 59.95 336** P **P 23 10 14.2 +0.5**
comp=Z,6.3nm,0.8s,baz=162,slow=6.0,SNR=13
USRK pP **pP 23 10 42.4 0.0**
comp=Z,3.3nm,0.8s,baz=156,slow=7.9,SNR=3.3
comp=Z,6.3nm,0.8s
USA0B **Ussuriysk Arra 59.96 336** P **P 23 10 14.3 +0.7**
PETK **Petropavlovsk- 62.87 358** P **P 23 10 33.2 +0.1**
comp=Z,2.5nm,0.9s,baz=168,slow=7.6,SNR=3.8
PETK pP **pP 23 11 02.4 +0.1**
comp=Z,3.6nm,1.0s,baz=73,slow=5.0,SNR=3.7
comp=Z,2.5nm,0.9s
KLR **Kul'dur 64.27 339** LR LR 23 37 13.9
comp=Z,9.9nm,20.5s,baz=52,slow=34
CASY **Casey 65.74 200** P **P 23 10 51.2 -0.5**
CMAR **Chiang Mai Arr 67.37 295** P **P 23 11 03.8 +0.9**
comp=Z,0.8nm,0.3s,baz=134,slow=5.0,SNR=4.7
CMAR pP **pP 23 11 31.7 -1.3**
comp=Z,0.7nm,0.3s,baz=121,slow=4.6,SNR=1.7
CMAR LR LR 23 42 30.2
comp=Z,17nm,18.1s,baz=195,slow=38
comp=Z,0.8nm,0.3s
VNDA **Vanda 67.55 180** P **P 23 11 02.8 -0.2**
VNDA IAmb IAmb 23 11 03.6
comp=Z,5.5nm,0.8s
VNDA **Vanda 67.55 180** P **P 23 11 02.6 -0.4**
comp=Z,3.9nm,0.8s,baz=337,slow=6.1,SNR=21
comp=Z,3.9nm,0.8s
SBA **Scott Base 67.95 179** P **P 23 11 06.2 +0.7**
SBA IAmb IAmb 23 11 06.7
comp=Z,9.4nm,1.2s
ULN **Ulaanbaatar 74.70 326** P **P 23 11 47.2 +0.5**
SONM **Songino Array 75.05 325** P **P 23 11 49.3 +0.6**
SONM IAmb IAmb 23 11 49.9
comp=Z,9.3nm,0.7s
SONM **Songino Array 75.05 325** P **P 23 11 49.0 +0.3**
comp=Z,9.2nm,0.6s,baz=139,slow=5.5,SNR=53
SONM pP **pP 23 12 18.3 -0.7**
comp=Z,5.0nm,0.7s,baz=138,slow=5.3,SNR=7.6
SONM LR LR 23 46 21.9
comp=Z,31nm,18.3s,baz=260,slow=37
comp=Z,9.2nm,0.6s
OHAK **Old Harbor 76.71 24** P **P 23 11 57.4 -0.3**
baz=226
KDAK **Kodiak Island 77.37 23** P **P 23 12 01.5 0.0**
KDAK **Kodiak Island 77.37 23** P **P 23 12 01.8 +0.3**
baz=227
M16K **Timber Creek 77.46 19** P **P 23 12 02.0 +0.1**
M16K IAmb IAmb 23 12 11.4
comp=Z,13nm,1.3s
J14K **Nanvaranak Lak 77.47 16** P **P 23 12 01.9 0.0**
baz=216
TNA **Tin City 78.77 13** P **P 23 12 08.9 -0.1**
baz=211
M18K **Stony River 78.82 20** P **P 23 12 09.6 +0.3**
baz=223
K17K **Iditarod 78.95 18** P **P 23 12 10.7 +0.6**
K17K IAmb IAmb 23 12 11.5
comp=Z,14nm,1.1s
K17K **Iditarod 78.95 18** P **P 23 12 10.5 +0.5**
baz=221
L18K **Granite Mounta 79.08 19** P **P 23 12 10.9 +0.2**
baz=222
J17K **VABM Dome 79.24 17** P **P 23 12 12.5 +0.9**
J17K IAmb IAmb 23 12 15.6
comp=Z,8.5nm,1.2s
M19K **Big River Lodg 79.60 20** P **P 23 12 14.4 +0.8**
M19K IAmb IAmb 23 12 15.2
comp=Z,8.9nm,0.8s
M19K **Big River Lodg 79.60 20** P **P 23 12 14.2 +0.6**
baz=225
L19K **White Mountain 79.64 19** P **P 23 12 14.7 +0.8**
baz=224
G16K **Koyuk River 79.93 15** P **P 23 12 15.2 -0.1**
baz=217
M20K **Styx River 80.00 20** P **P 23 12 16.1 +0.2**
M20K **Styx River 80.00 20** P **P 23 12 15.9 0.0**
baz=226
QSPA **South Pole Qui 80.05 180** P **P 23 12 15.3 -0.9**
QSPA IAmb IAmb 23 12 16.8
comp=Z,8.0nm,0.8s
QSPA **South Pole Qui 80.05 180** P **P 23 12 15.0 -1.2**
comp=Z,7.1nm,0.7s,baz=60,slow=0.6,SNR=43
comp=Z,7.1nm,0.7s
L20K **Farewell, AK 80.17 20** P **P 23 12 17.1 +0.4**
baz=225
SUA **Susitna One 80.55 21** IAmb IAmb 23 12 19.0
comp=Z,11nm,1.1s
SUA **Susitna One 80.55 21** P **P 23 12 18.3 -0.6**
baz=228
SKT **Skwentna 80.62 21** P **P 23 12 18.5 -0.7**
baz=227
RC01 **Rabbit Creek A 80.67 22** P **P 23 12 18.5 -0.9**
baz=229
J19K **Poorman 80.71 18** P **P 23 12 20.0 +0.4**
baz=223
J19K **Poorman 80.71 18** P **P 23 12 18.6 -0.9**
baz=223
K20K **Telida 80.73 19** P **P 23 12 19.9 +0.2**
K20K IAmb IAmb 23 12 20.6
comp=Z,16nm,1.4s
K20K **Telida 80.73 19** P **P 23 12 19.0 -0.7**
baz=225
H18K **Honhosa River 80.79 16** P **P 23 12 18.7 -1.3**
H18K IAmb IAmb 23 12 38.3
comp=Z,15nm,1.4s
F17K **Baldwin Pennin 81.04 14** P **P 23 12 21.4 +0.2**
baz=218
J20K **Nowinta River 81.30 18** P **P 23 12 23.0 +0.3**
J20K **Nowinta River 81.30 18** P **P 23 12 21.2 -1.4**
baz=225
E17K **Hotham Inlet 81.41 14** P **P 23 12 23.8 +0.6**
baz=217,SNR=7.4
CAST **Castle Rocks 81.42 19** IAmb IAmb 23 12 23.3
comp=Z,7.7nm,0.9s
CAST **Castle Rocks 81.42 19** P **P 23 12 22.5 -0.8**
baz=227
HIN **Hinchinbrook I 81.46 23** P **P 23 12 22.6 -1.0**
HIN IAmb IAmb 23 12 30.2
comp=Z,11nm,1.1s
GLI **Glacier Island 81.53 23** P **P 23 12 23.9 0.0**
GLI **Glacier Island 81.53 23** P **P 23 12 23.5 -0.4**
baz=232
F18K **Selawik 81.56 15** P **P 23 12 23.3 -0.6**
baz=2
H19K **Roundabout Mou 81.60 17** P **P 23 12 24.0 -0.1**
baz=222
C16K **Lisburne Hills 81.61 12** P **P 23 12 24.0 -0.1**
C16K IAmb IAmb 23 12 36.5
comp=Z,14nm,1.3s
D17K **Noatak River 81.62 13** P **P 23 12 24.7 +0.5**
baz=216
SML **Sawmill 81.65 22** P **P 23 12 24.8 +0.1**
baz=230
CHUM **Lake Minchumin 81.67 19** P **P 23 12 24.7 +0.1**
baz=226
EYAK **Cordova Ski Ar 81.85 24** P **P 23 12 25.8 +0.2**
baz=233
M23K **Glacier View 81.86 22** P **P 23 12 25.4 -0.3**
baz=231
G19K **Purcell Mounta 81.89 16** IAmb IAmb 23 12 26.8
comp=Z,7.3nm,1.0s
G19K **Purcell Mounta 81.89 16** P **P 23 12 25.3 -0.4**
baz=230
KTH **Kantishna Hill 81.89 20** IAmb IAmb 23 12 26.1
comp=Z,9.1nm,0.9s
E18K **Tukpahlearik C 81.97 14** IAmb IAmb 23 12 27.1
comp=Z,6.2nm,0.9s
E18K **Tukpahlearik C 81.97 14** P **P 23 12 26.1 0.0**
baz=218
H20K **Anotleneega Mo 82.02 17** P **P 23 12 26.5 +0.1**
baz=224
SCM **Sheep Creek Mo 82.04 22** P **P 23 12 26.8 +0.1**
SCM IAmb IAmb 23 12 32.9
comp=Z,15nm,1.4s
SCM **Sheep Creek Mo 82.04 22** P **P 23 12 26.2 -0.5**
baz=231
TRF **Thorofare Moun 82.04 20** IAmb IAmb 23 12 26.9
comp=Z,7.5nm,1.0s
TRF **Thorofare Moun 82.04 20** P **P 23 12 26.8 +0.1**
baz=228
F19K **Shaleruckik Mo 82.22 15** P **P 23 12 26.6 -0.9**
F19K **Shaleruckik Mo 82.22 15** P **P 23 12 26.9 -0.6**
baz=221
WAT1 **Susitna Watana 82.23 21** P **P 23 12 27.2 -0.4**
baz=230
C17K **DeLong Mountai 82.24 13** P **P 23 12 27.1 -0.4**
baz=216
BPAW **Bear Paw Mtn. 82.24 19** P **P 23 12 27.2 -0.4**
baz=228
HMT **Hamilton 82.32 24** P **P 23 12 28.4 +0.3**
HMT IAmb IAmb 23 12 32.0
comp=Z,7.8nm,1.0s
KLU **Klutina 82.36 23** P **P 23 12 28.6 +0.2**
KLU **Klutina 82.36 23** P **P 23 12 28.3 0.0**
baz=233
WAT6 **Susitna Watana 82.36 21** P **P 23 12 28.4 -0.1**
baz=231
RND **Reindeer 82.50 20** IAmb IAmb 23 12 29.2
comp=Z,12nm,1.0s
BMRM **Bremner River 82.55 24** P **P 23 12 29.3 0.0**
baz=234
BGLC **Bering Glacier 82.59 25** P **P 23 12 28.6 -0.8**
baz=235
M24K **Tolsona, Glenn 82.64 22** P **P 23 12 30.0 +0.3**
baz=232,SNR=5.1
I21K **Tanana 82.67 18** IAmb IAmb 23 12 35.5
comp=Z,6.0nm,1.0s
I21K **Tanana 82.67 18** P **P 23 12 30.1 +0.3**
baz=227
MCK **McKinley 82.68 20** P **P 23 12 29.0 -0.9**
baz=230,SNR=10
IMAR **Indian Mountai 82.70 17** P **P 23 12 30.0 0.0**
H21K **Melozitna Rive 82.75 18** P **P 23 12 30.4 +0.1**
H21K IAmb IAmb 23 12 31.3
comp=Z,7.5nm,1.1s
H21K **Melozitna Rive 82.75 18** P **P 23 12 29.8 -0.4**
baz=226,SNR=5.5
DHY **Denali Highway 82.80 21** P **P 23 12 30.2 -0.5**
DHY **Denali Highway 82.80 21** P **P 23 12 30.8 +0.1**
baz=231
C18K **Utukok River 82.81 13** P **P 23 12 30.1 -0.4**
C18K **Utukok River 82.81 13** P **P 23 12 30.9 +0.4**
baz=218
E19K **Redstone River 82.83 15** IAmb IAmb 23 12 31.8
comp=Z,7.8nm,0.8s
E19K **Redstone River 82.83 15** P **P 23 12 31.0 +0.4**
baz=221,SNR=7.5
F20K **Avaraart Lake 82.92 16** P **P 23 12 31.2 +0.1**
baz=223
N25K **Chitina, Valde 82.93 23** IAmb IAmb 23 12 32.3
comp=Z,5.4nm,0.9s
N25K **Chitina, Valde 82.93 23** P **P 23 12 31.6 +0.3**
baz=234
MLY **Manley 82.95 19** IAmb IAmb 23 12 31.8
comp=Z,6.9nm,1.0s
MLY **Manley 82.95 19** P **P 23 12 31.1 -0.2**
baz=228
GLB **Gilahina Butte 83.14 23** IAmb IAmb 23 12 33.1
comp=Z,6.6nm,0.8s
G21K **Allakaket 83.15 17** P **P 23 12 32.2 0.0**
G21K **Allakaket 83.15 17** P **P 23 12 32.6 +0.4**
baz=225
MESA **MESA 83.17 25** P **P 23 12 33.3 +0.6**
baz=236
HARP **HAARP 83.19 22** P **P 23 12 32.9 +0.3**
baz=233
NEA2 **Nenana 83.20 19** IAmb IAmb 23 12 32.4
comp=Z,8.2nm,0.9s
NEA2 **Nenana 83.20 19** P **P 23 12 31.8 -0.7**
baz=229,SNR=5.4
H22K **Ishtalitna Cre 83.34 18** P **P 23 12 33.7 +0.4**
baz=227
D19K **Kuna River 83.40 14** IAmb IAmb 23 12 34.3
comp=Z,5.8nm,1.0s
D19K **Kuna River 83.40 14** P **P 23 12 33.5 -0.1**
baz=220
MCARA **McCarthy VSAT 83.42 24** IAmb IAmb 23 12 35.7
comp=Z,7.2nm,0.9s
MCARA **McCarthy VSAT 83.42 24** P **P 23 12 33.9 +0.2**
baz=235
PAX **Paxson 83.42 22** P **P 23 12 33.6 -0.2**
baz=233
WRH **Wood River Hil 83.44 20** P **P 23 12 32.9 -0.9**
WRH IAmb IAmb 23 12 33.7
comp=Z,6.0nm,0.9s
I23K **Minto, Yukon-K 83.47 19** P **P 23 12 33.5 -0.4**
baz=229
C19K **Lookout Ridge 83.53 13** P **P 23 12 34.7 +0.5**
baz=219
F21K **Alatna River 83.66 16** P **P 23 12 35.1 +0.2**
baz=225
E20K **Nigu River 83.70 15** P **P 23 12 35.4 +0.3**
baz=222,SNR=6.0
MDM **Murphy Dome 83.71 19** IAmb IAmb 23 12 34.9
comp=Z,6.7nm,1.0s
COLA **College 83.78 20** P **P 23 12 34.8 -0.6**
baz=230
BARN **Barnard Glacie 83.78 24** IAmb IAmb 23 12 37.6
comp=Z,7.7nm,0.8s
HDA **Harding Lake 83.79 20** P **P 23 12 35.2 -0.3**
baz=231,SNR=8.0
K24K **Donnelly Dome 83.82 21** P **P 23 12 35.8 0.0**
baz=232
H23K **Yukon River 83.85 18** P **P 23 12 35.9 0.0**
H23K IAmb IAmb 23 12 36.7
comp=Z,5.5nm,0.8s
H23K pP **pP 23 13 06.9 +0.4**
H23K **Yukon River 83.85 18** P **P 23 12 35.6 -0.2**
baz=229,SNR=5.2
CTG **Chitna Glacier 83.86 25** P **P 23 12 35.7 -0.4**
baz=237,SNR=7.6
CTGM **Chitina Glacie 83.86 25** pP pP 23 13 07.6 +0.8
LOGN **Logan Glacier 83.92 25** P **P 23 12 36.5 0.0**
LOGN pP **pP 23 13 07.7 +0.6**
D20K **Etivluk River 83.93 14** P **P 23 12 36.0 -0.3**
baz=222
PNL **Peninsula 83.99 26** P **P 23 12 35.9 -0.8**
baz=239
G22K **Bettles 84.00 17** P **P 23 12 37.0 +0.4**
baz=227
M26K **Nabesna, AK 84.01 23** IAmb IAmb 23 12 37.8
comp=Z,5.9nm,0.8s
M26K **Nabesna, AK 84.01 23** P **P 23 12 36.9 +0.1**
baz=235,SNR=8.0
IL31 **84.03 20** P **P 23 12 35.4 -1.3**
ILAR **Eielson Array 84.03 20** P **P 23 12 36.2 -0.6**
ILAR **Eielson Array 84.03 20** P **P 23 12 35.6 -1.2**
comp=Z,1.5nm,0.7s,baz=260,slow=3.7,SNR=13
ILAR pP **pP 23 13 08.4 +1.1**
comp=Z,0.8nm,0.6s,baz=252,slow=5.6,SNR=3.3
comp=Z,1.5nm,0.7s
F22K **John River 84.22 16** P **P 23 12 37.7 0.0**
baz=226
O28M **Mount Upton 84.23 25** P **P 23 12 38.4 +0.2**
baz=238,SNR=6.0
G23K **Bananza Creek 84.30 18** P **P 23 12 38.4 +0.2**
G23K **Bananza Creek 84.30 18** P **P 23 12 37.5 -0.6**
baz=228
H24K **Noodor Dome 84.38 19** P **P 23 12 38.6 0.0**
baz=230
E21K **Killik River 84.40 15** P **P 23 12 38.7 +0.1**
baz=224
M27K **Edge Creek, AK 84.42 23** P **P 23 12 39.6 +0.6**
M27K IAmb IAmb 23 12 40.1
comp=Z,6.5nm,0.8s
M27K **Edge Creek, AK 84.42 23** P **P 23 12 38.6 -0.4**
baz=236,SNR=8.3
J25K **Salcha River, 84.45 20** P **P 23 12 39.0 0.0**
baz=233,SNR=5.3
SCRK **Sand Creek 84.56 21** IAmb IAmb 23 12 40.5
comp=Z,4.7nm,0.8s
SCRK **Sand Creek 84.56 21** P **P 23 12 39.4 -0.2**
baz=234,SNR=6.4
YUK3 **Moose Creek 84.66 24** P **P 23 12 40.6 +0.3**
baz=238,SNR=6.0
YUK8 **Steele Glacier 84.68 25** P **P 23 12 40.9 +0.4**
baz=238,SNR=9.8
P29M **Windy Craggy 84.69 27** P **P 23 12 40.6 +0.3**
baz=240
C21K **Knifeblade Rid 84.71 15** P **P 23 12 40.8 +0.6**
baz=224,SNR=9.6
E22K **Anaktuvuk Pass 84.75 16** P **P 23 12 40.5 +0.1**
baz=226
B20K **Meade River 84.78 13** IAmb IAmb 23 12 41.3
comp=Z,9.1nm,0.9s
B20K pP pP 23 13 11.9 +1.0
B20K **Meade River 84.78 13** P **P 23 12 41.0 +0.6**
baz=221
L27K **Beaver Creek, 84.83 23** IAmb IAmb 23 12 42.3
comp=Z,8.4nm,1.2s
L27K **Beaver Creek, 84.83 23** P **P 23 12 41.3 +0.5**
baz=236
BCAR **Beaver Creek A 84.85 23** P **P 23 12 41.6 +0.6**
BCAR pP **pP 23 13 12.8 +1.1**
J26L **Joseph Creek 85.01 21** P **P 23 12 42.5 +0.7**
J26L pP **pP 23 13 13.7 +1.2**
J26L **Joseph Creek 85.01 21** P **P 23 12 42.0 +0.1**
baz=234
D22K **Ayikyak River 85.04 15** IAmb IAmb 23 12 43.3
comp=Z,6.2nm,0.8s
D22K **Ayikyak River 85.04 15** P **P 23 12 42.0 +0.2**
baz=226,SNR=7.1
G24K **Hadweenzic Riv 85.06 18** P **P 23 12 42.2 +0.2**
baz=231
YUK6 **Outpost Mounta 85.08 25** P **P 23 12 41.9 -0.5**
baz=240
B21K **Ikpikpuk River 85.09 14** P **P 23 12 41.7 -0.3**
baz=224,SNR=8.6
S32K **Killisnoo 85.12 29** P **P 23 12 42.9 +0.5**
baz=243
YUK4 **Talbot Arm 85.17 25** P **P 23 12 43.7 +0.9**
baz=239,SNR=11
K27K **Chicken 85.28 22** IAmb IAmb 23 12 45.1
comp=Z,10nm,1.3s
K27K **Chicken 85.28 22** P **P 23 12 43.5 +0.5**
baz=236
P30M **Million Dollar 85.28 26** P **P 23 12 43.6 +0.4**
baz=241
HYT **Haines Junctio 85.39 26** P **P 23 12 44.2 +0.4**
HYT **Haines Junctio 85.39 26** P **P 23 12 44.0 +0.2**
baz=240
F24K **Squaw Lake 85.46 17** P **P 23 12 44.5 +0.5**
F24K **Squaw Lake 85.46 17** P **P 23 12 44.4 +0.5**
baz=230
G25K **Bearman Lake 85.53 19** P **P 23 12 44.8 +0.6**
baz=232
I26K **Coal Creek Min 85.62 20** P **P 23 12 45.5 +0.7**
I26K **Coal Creek Min 85.62 20** P **P 23 12 45.0 +0.3**
baz=235
D23K **Nanushuk River 85.63 16** P **P 23 12 45.3 +0.6**
baz=228
E24K **Your Creek 85.64 17** P **P 23 12 45.1 +0.2**
baz=230
TOLK **Toolik Lake Re 85.71 16** P **P 23 12 45.2 0.0**
baz=229
M29M **Somme Creek 85.81 24** P **P 23 12 46.6 +0.7**
M29M **Somme Creek 85.81 24** P **P 23 12 46.2 +0.3**
baz=239
N30M **Aishikik Lake 85.88 25** P **P 23 12 46.3 +0.1**
N30M **Aishikik Lake 85.88 25** P **P 23 12 46.0 -0.2**
baz=241
B22K **Teshekpuk Lake 85.89 14** IAmb IAmb 23 12 46.3
comp=Z,9.0nm,1.1s
B22K **Teshekpuk Lake 85.89 14** P **P 23 12 47.0 +1.1**
baz=225
O30N **Mendenhall 85.97 26** P **P 23 12 46.9 +0.3**
O30N **Mendenhall 85.97 26** P **P 23 12 46.8 +0.3**
baz=242
A22K **Sinclair Lake 86.01 13** P **P 23 12 46.2 -0.3**
baz=223
EGAK **Eagle 86.03 21** P **P 23 12 46.8 +0.1**
EGAK **Eagle 86.03 21** P **P 23 12 47.5 +0.7**
baz=237,SNR=7.0
K02D **Willamette Mer 86.14 46** P **P 23 12 48.1 +0.2**
F25K **Christian Rive 86.18 18** P **P 23 12 48.0 +0.5**
baz=232
C23K **Itkillik River 86.23 15** P **P 23 12 48.2 +0.5**
C23K IAmb IAmb 23 12 49.9
comp=Z,3.7nm,0.8s
C23K **Itkillik River 86.23 15** P **P 23 12 49.0 +1.4**
baz=228
D24K **Happy Valley 86.25 16** P **P 23 12 48.8 +1.0**
baz=229
L29M **L29M 86.28 23** P **P 23 12 48.3 +0.2**
L29M **L29M 86.28 23** P **P 23 12 48.4 +0.4**
baz=240,SNR=8.6
DAWY **Dawson 86.29 22** P **P 23 12 48.7 +0.6**
DAWY IAmb IAmb 23 12 49.1
comp=Z,4.4nm,0.9s
DAWY **Dawson 86.29 22** P **P 23 12 49.1 +1.0**
baz=238
I27K **Kandik River 86.32 21** P **P 23 12 49.1 +0.8**
baz=236,SNR=5.7
G26K **Porcupine Rive 86.37 19** P **P 23 12 48.4 +0.1**
baz=234,SNR=7.9
BMAR **Burnt Mountain 86.41 18** P **P 23 12 49.4 +0.8**
E25K **Arctic Village 86.52 18** P **P 23 12 50.5 +1.3**
baz=232
HUMO **Hull Mountain 86.61 46** P **P 23 12 50.6 +0.4**
HUMO IAmb IAmb 23 12 51.7
comp=Z,4.3nm,0.8s
C24K **Franklin Bluff 86.66 16** P **P 23 12 50.9 +1.2**
baz=229
F26K **Sheenjek River 86.70 18** P **P 23 12 50.2 +0.1**
baz=234
H27K **Steamboat Moun 86.70 20** P **P 23 12 50.1 0.0**
baz=236
I28M **Miner Creek 86.83 21** P **P 23 12 51.5 +0.8**
baz=238,SNR=5.8
K29M **Barlow Dome 86.89 23** IAmb IAmb 23 12 52.6

comp=Z,7.8nm,1.1s
K29M Barlow Dome 86.89 23 P P 23 12 51.1 0.0
baz=240,SNR=5.0
G27K Doyon Strip 86.98 20 P P 23 12 52.2 +0.8
G27K Doyon Strip 86.98 20 P P 23 12 51.5 +0.1
baz=236
D25K Kavik River 87.03 16 P P 23 12 51.1 -0.5
D25K IAmb IAmb 23 12 52.5
comp=Z,4.9nm,0.8s
D25K Kavik River 87.03 16 P P 23 12 52.0 +0.3
baz=232,SNR=6.0
M31M Drury Creek, Y 87.36 25 P P 23 12 53.6 +0.3
baz=243
R33M Jennings River 87.67 28 P P 23 12 55.7 +0.8
baz=246
J30M Hart River 87.70 23 P P 23 12 55.2 +0.1
baz=241
DLBC Dease Lake 87.73 29 P P 23 12 55.9 +0.7
baz=247
E27K Coleen River 87.77 18 P P 23 12 55.8 +0.6
E27K IAmb IAmb 23 12 57.0
comp=Z,6.0nm,0.9s
E27K Coleen River 87.77 18 P P 23 12 55.9 +0.7
baz=236
H29M Whitestone 87.78 21 P P 23 12 56.5 +1.3
baz=239
C26K Camden Bay 87.81 16 P P 23 12 56.2 +1.0
baz=233
C27K Jago River 87.97 17 P P 23 12 56.8 +0.8
baz=234
I30M Mount Dempster 88.00 22 P P 23 12 56.4 0.0
I30M IAmb IAmb 23 12 57.5
comp=Z,3.6nm,0.7s
I30M Mount Dempster 88.00 22 P P 23 12 56.1 -0.3
baz=241
F28M Old Crow 88.00 19 P P 23 12 56.8 +0.5
baz=238
J05D Fort Rock, OR 88.01 46 P P 23 12 57.1 +0.1
J05D IAmb IAmb 23 12 58.5
comp=Z,6.4nm,0.9s
G29M Pine Creek 88.25 20 P P 23 12 57.9 +0.4
G29M IAmb IAmb 23 12 59.9
comp=Z,4.2nm,0.9s
G29M Pine Creek 88.25 20 P P 23 12 57.4 0.0
baz=240
EPYK Eagle Plains 88.43 21 P P 23 12 58.9 +0.6
baz=241
D27M Malcolm River 88.55 18 P P 23 12 59.4 +0.6
baz=237
E28M Babbage River 88.64 18 P P 23 12 59.7 +0.5
E28M Babbage River 88.64 18 P P 23 12 59.9 +0.7
baz=238
CWC Cottonwood Cre 88.67 53 P P 23 13 00.8 +0.5
baz=257
LRMC Laurel Mtn Rad 88.76 54 P P 23 13 01.3 +0.5
baz=257
G30M tAoh Zraii Nji 88.90 20 P P 23 13 00.9 +0.4
baz=241
NVAR Mina Array Bea 88.95 51 P P 23 13 01.4 -0.2
NVAR Mina Array Bea 88.95 51 P P 23 13 01.6 0.0
comp=Z,2.4nm,0.8s,baz=237,slow=6.6,SNR=15
comp=Z,2.4nm,0.8s
DSP Deep Springs 88.97 52 P P 23 13 01.4 0.0
DSP IAmb IAmb 23 13 03.0
comp=Z,4.5nm,1.2s
H31M Peel River 89.02 22 P P 23 13 00.9 -0.2
H31M Peel River 89.02 22 P P 23 13 01.3 +0.2
baz=243
MPMC Manual Prospec 89.05 53 P P 23 13 02.5 +0.4
baz=257
MONP2 Monument Peak 89.22 57 P P 23 13 03.3 +0.3
baz=258
KVN Kaiserville 89.25 50 P P 23 13 03.2 +0.2
KVN IAmb IAmb 23 13 04.2
comp=Z,3.0nm,0.8s
D28M Stokes Point 89.27 18 P P 23 13 02.9 +0.9
baz=239
PFO Pinyon Flats O 89.34 56 P P 23 13 03.5 0.0
baz=258
TPFO Pinon Flats 89.34 56 P P 23 13 03.8 +0.3
baz=258
F30M Barrier River 89.35 20 P P 23 13 03.1 +0.5
baz=242
I07A Izee 89.43 45 P P 23 13 03.8 +0.1
MK31 Makanchi Array 89.52 318 P P 23 13 03.3 -0.6
MKAR Makanchi Array 89.52 318 P P 23 13 03.4 -0.5
MKAR Makanchi Array 89.52 318 P P 23 13 03.0 -0.9
comp=Z,0.9nm,0.5s,baz=90,slow=6.6,SNR=11
MKAR pP **pP 23 13 34.3 -1.0**
comp=Z,1.5nm,0.8s,baz=98,slow=6.3,SNR=5.4
comp=Z,0.9nm,0.5s
G31M Satah River 89.56 21 P P 23 13 03.8 +0.4
G31M Satah River 89.56 21 P P 23 13 03.4 -0.1
baz=243
FURC Furnace Creek, 89.63 53 P P 23 13 05.0 +0.5
baz=257
WVOR Wild Horse Val 89.65 47 P P 23 13 05.2 +0.5
HEC Hector,Ludlow 89.70 55 P P 23 13 05.1 +0.1
baz=258
GWY Greenwater Val 89.72 53 P P 23 13 04.6 -0.6
GWY IAmb IAmb 23 13 06.7
comp=Z,4.6nm,1.2s
SWSC Sam W. Stewart 89.74 57 P P 23 13 05.9 +0.7
baz=258
BELC Belle Mtn. Jos 89.80 56 P P 23 13 05.6 0.0
baz=258
WCT Wildcat Mounta 89.89 53 P P 23 13 05.8 -0.1
WCT IAmb IAmb 23 13 07.0
comp=Z,6.5nm,1.0s
ZALV Zalesovo Beam 89.94 325 P P 23 13 03.4 -2.1
comp=Z,0.5nm,0.5s,baz=94,slow=5.8,SNR=1.7
comp=Z,0.5nm,0.5s
J08A Circle Bar Ran 89.98 46 P P 23 13 06.5 +0.2
J08A IAmb IAmb 23 13 07.4
comp=Z,3.4nm,0.5s
TUQ Turquoise Moun 90.16 54 P P 23 13 07.7 +0.5
baz=258
BC3 Big Chuckawall 90.17 56 P P 23 13 07.1 -0.2
baz=258
BMN Battle Mountai 90.22 49 P P 23 13 07.3 -0.2
BMN IAmb IAmb 23 13 08.8
comp=Z,5.0nm,0.8s
GMRC Granite Mounta 90.23 55 P P 23 13 07.4 -0.2
baz=258
IRM Iron Mountain 90.52 56 P P 23 13 08.9 +0.1
baz=258
SHPR Sheep Range 90.98 53 P P 23 13 10.9 -0.2
SHPR IAmb IAmb 23 13 12.5
comp=Z,2.9nm,1.0s
R11B Troy Canyon, C 91.02 51 P P 23 13 11.1 -0.2
R11B IAmb IAmb 23 13 12.4
comp=Z,3.0nm,1.1s
R11B Troy Canyon, C 91.02 51 P P 23 13 11.0 -0.2
baz=258
BMO Blue Mountains 91.14 45 P P 23 13 10.8 -0.7
BMO IAmb IAmb 23 13 12.6
comp=Z,3.8nm,1.1s
F10A Beach Ranch, E 91.44 44 P P 23 13 12.5 -0.4
W13A Hualapai Mount 91.72 55 P P 23 13 13.7 -1.0
Q12A Willow Creek R 91.74 51 P P 23 13 13.9 -0.7
ELK Elko 91.77 49 P P 23 13 14.3 -0.4
ELK IAmb IAmb 23 13 15.9
comp=Z,2.6nm,0.9s
PLID Pearl Lake 92.10 45 P P 23 13 15.6 -0.5
PLID IAmb IAmb 23 13 16.6
comp=Z,3.2nm,0.8s
SPR3 Spring Creek 3 92.11 51 P P 23 13 16.1 -0.4
KURBB Kurchatov Arra 92.84 321 P P 23 13 17.4 -1.7
comp=Z,0.3nm,0.3s,baz=101,slow=3.8,SNR=4.8
KURBB pP **pP 23 13 48.4 -2.0**
comp=Z,0.2nm,0.3s,baz=100,slow=3.7,SNR=2.3
comp=Z,0.3nm,0.3s
HLID Hailey 92.92 46 P P 23 13 19.3 -0.6
HLID IAmb IAmb 23 13 21.9
comp=Z,3.3nm,1.0s
HLID Hailey 92.92 46 P P 23 13 19.8 -0.1
baz=259
C36M Paulatuk 94.01 20 P P 23 13 23.8 -0.2
baz=252
A36M Sachs Harbour 94.45 17 P P 23 13 25.4 -0.6
A36M Sachs Harbour 94.45 17 P P 23 13 25.8 -0.2
baz=252
BOZ Bozeman (W) 95.22 45 P P 23 13 30.6 +0.2
baz=261
YKA Yellowknife Ar 96.18 28 P P 23 13 32.8 -1.3
comp=Z,1.3nm,0.7s,baz=266,slow=4.7,SNR=26
YKA pP **pP 23 14 04.2 -0.9**

comp=Z,0.8nm,0.6s,baz=270,slow=5.0,SNR=6.8
comp=Z,1.3nm,0.7s
PDAR Pinedale Array 96.29 48 P P 23 13 35.0 -0.4
comp=Z,0.7nm,0.7s,baz=221,slow=3.4,SNR=5.9
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 98.20 322 P P 23 13 41.2 -2.3
comp=Z,1.0nm,0.9s,baz=107,slow=5.1,SNR=4.7
BVAR pP **pP 23 14 12.2 -2.6**
comp=Z,0.7nm,0.7s,baz=96,slow=9.1,SNR=4.0
comp=Z,1.0nm,0.9s
ARCES ARCESS Array B 114.05 344 PKP PKPdf 23 18 42.5 -2.0
comp=Z,1.7nm,0.9s,baz=65,slow=1.0,SNR=11
MVO Moncorvo 147.15 343 *eP* pPKPbc 23 20 20.4 -1.3
POLO Lamas de Olo 147.16 344 *eP* pPKPbc 23 20 20.6 -1.2
ESDC Sonseca Array 147.49 338 PKPbc **PKPbc 23 19 49.4 -1.1**
comp=Z,0.3nm,0.6s,baz=9.8,slow=2.4,SNR=2.9
ESDC pPKPbc **pPKPdf 23 20 20.4 -0.2**
comp=Z,1.3nm,0.9s,baz=26,slow=2.5,SNR=5.2
PVIS Viseu 147.81 344 *eP* pPKPbc 23 20 22.1 -1.4
MTE Manteigas 148.00 343 *eP* pPKPbc 23 20 22.9 -1.4
PMRV Marv??o 148.86 342 *eP* pPKPbc 23 20 24.6 -1.9
PMTG Montargil 149.43 343 *eP* pPKPbc 23 20 26.0 -2.0
EVO Evora 149.87 343 *eP* pPKPbc 23 20 27.2 -1.9
PCVE Castro Verde 150.71 342 *eP* pPKPbc 23 20 29.6 -1.5
PBDV Barranco-do-Ve 151.03 341 *eP* pPKPbc 23 20 30.6 -1.3

NEIC ***07*** *23:51:00.9±2.0, 40.76N±0.03×125.39W±0.05, h10km±2km, Error ellipse: s-maj=6.5km s-min=4.7km az=251.0*
IDC ***07*** *23:51:04.1±0.6, 40.80N×124.93W, h0km, mb3.9/20, mbtmp3.9/26, ML4.1/6, MS3.4/30, Error ellipse: s-maj=9.3km s-min=7.7km az=23.0*
NCEDC ***07*** *23:51:04.1±1.9, 40.68N±0.03×125.33W±0.09, h16km±7km, Mwr4.5/6, mb4.6/117(NEIC), ML4.1/94(NEIC), Error ellipse: s-maj=10.1km s-min=4.2km az=79.0*
NEIC ***07*** *23:51:04.1, 40.68N×125.33W, h24km, Moment Tensor Solution. Moment tensor: Scale 10^15 Nm; Mrr 1.30; Mθθ 5.96; Mϕϕ 4.66; Mrθ 0.79; Mrϕ -2.97; Mθϕ -0.78; Fault plane solution: M0 6.29000×10^15 NP1 ϕs 119.63000°, δ 84.09000°, λ 168.25000°. NP2 ϕs 210.86000°, δ 78.32000°, λ 6.04000°. Principal axes: T 5.6470, Plg 12.0000°, Azm 75.0000°; N 1.1252, Plg 77.0000°, Azm 273.0000°; P -6.7722, Plg 4.0000°, Azm 166.0000°;*
NEIC ***07*** *23:51:04.1, 40.68N×125.33W, h16km*
ISC 07 23:51:03.3±2.6, 40.72N±0.04×125.23W±0.05, h9km±17km, n466, σ1§97/392, mb4.5/65, MS3.4/24, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**0.72**	**109**			**Pb**	**23 51 18.8**	**+0.7**
KCTM						**Sn**	**23 51 29.9**	**-1.0**
FER	**Ferndale**	**0.75**	**100**			**Pb**	**23 51 19.2**	**+0.7**
FER						**Sn**	**23 51 30.7**	**-0.9**
KMPM	**Mount Pierce**	**0.90**	**109**			**Pb**	**23 51 21.0**	**-0.1**
KMPM				Sg		**Sb**	**23 51 33.3**	**+0.1**
JCC	**Jacoby Creek,**	**0.92**	**83**			**Pb**	**23 51 20.9**	**-0.5**
JCC				Sg		**Sb**	**23 51 33.5**	**-0.2**
JCC				IAML			23 51 34.5	
	comp=E,6μm,0.4s							
KSMM	**Slide Mountain**	**0.96**	**123**			**Pb**	**23 51 21.3**	**-1.0**
KRPM	**Rodgers**	**1.01**	**64**			**Pb**	**23 51 22.6**	**-0.6**
KRPM				Sg		**Sb**	**23 51 36.2**	**-0.4**
KRPM				IAML			23 51 37.4	
	comp=N,6μm,0.5s							
KRPM				IAML			23 51 50.5	
	comp=E,5μm,1.0s							
KCRM	**Chalk Rock**	**1.11**	**105**			**Pb**	**23 51 24.4**	**-0.4**
KHMM	**Horse Mountain**	**1.15**	**82**	Pn		**Pb**	**23 51 24.7**	**-0.8**
KHMM				Sn		**Sb**	**23 51 39.8**	**-0.7**
KHMM				IAML			23 51 49.4	
	comp=E,4μm,0.7s							
KHMM				IAML			23 51 49.8	
	comp=N,4μm,0.7s							
KMRM	**Mail Ridge**	**1.26**	**113**			**Pn**	**23 51 26.2**	**-1.0**
KMRM				Sn		**Sb**	**23 51 43.3**	**-0.4**
KRMB	**Red Mountain**	**1.28**	**51**			**Pn**	**23 51 26.1**	**-1.5**
KRMB	**Red Mountain**	**1.28**	**51**	Sn		**Sb**	**23 51 42.3**	**-2.2**
KRMB				IAML			23 51 43.3	
	comp=N,3μm,0.5s							
KOMM	**Orleans Mounta**	**1.46**	**67**			**Pn**	**23 51 29.0**	**-1.0**
KPPM	**Pickett Peak**	**1.47**	**104**			**Pn**	**23 51 29.8**	**-0.5**
KSXB	**Camp Six Broad**	**1.51**	**42**			**Pn**	**23 51 29.4**	**-1.3**
KSXB	**Camp Six Broad**	**1.51**	**42**			**Sn**	**23 51 47.6**	**-2.9**
KSXB				IAML			23 51 48.2	
	comp=E,3μm,1.0s							
KSXB				IAML			23 51 51.5	
	comp=N,3μm,0.5s							
KHBM	**Hayfork Bally**	**1.53**	**91**			**Pn**	**23 51 30.1**	**-1.0**
KIPM	**Iron Peak**	**1.61**	**124**			**Pn**	**23 51 31.0**	**-1.2**
KCPM	**Cahto Peak**	**1.63**	**129**			**Pn**	**23 51 31.0**	**-1.3**
KCPM	**Cahto Peak**	**1.63**	**129**	Sn		**Sn**	**23 51 50.1**	**-3.4**
KBO	**Bosley Butte**	**1.67**	**26**	Pn		**Pn**	**23 51 32.0**	**-1.0**
KBO				Sn		**Sn**	**23 51 51.0**	**-3.6**
KFPM	**Farley Peak**	**1.75**	**127**			**Pn**	**23 51 32.8**	**-1.2**
KBNM	**Bluenose Ridge**	**1.76**	**117**			**Pn**	**23 51 33.5**	**-0.6**
LGPM	**Granite Peak**	**1.83**	**83**			**Pn**	**23 51 34.2**	**-0.9**
LBPM	**Beegum Peak**	**1.83**	**102**			**Pn**	**23 51 34.4**	**-0.7**
KTRM	**Thompson Ridge**	**1.83**	**49**			**Pn**	**23 51 34.3**	**-0.9**
GTC	**Three Chop Rid**	**1.84**	**135**			**Pn**	**23 51 33.3**	**-1.9**
L02F	**Cave Junction**	**1.88**	**41**	IAML			23 52 02.9	
	comp=N,2μm,0.6s							
DCMP	**DeCamp, Califo**	**1.91**	**130**			**Pn**	**23 51 34.7**	**-1.4**
N02D	**Trinity Center**	**1.93**	**82**			**Pn**	**23 51 35.5**	**-1.0**
O02D	**Mt. Diablo Mer**	**1.94**	**105**			**Pn**	**23 51 35.9**	**-0.7**
LBKM	**Bonanza King**	**1.98**	**78**			**Pn**	**23 51 36.2**	**-1.0**
GWRM	**Wonder Ranch**	**2.11**	**135**			**Pn**	**23 51 37.1**	**-1.8**
GHOM	**Hamilton Openi**	**2.12**	**142**			**Pb**	**23 51 41.1**	**-0.8**
GHMM	**Hull Mountain**	**2.14**	**124**			**Pn**	**23 51 38.1**	**-1.3**
YBH	**Yreka Blue Hor**	**2.15**	**61**			**Pn**	**23 51 39.2**	**-0.4**
YBH	**Yreka Blue Hor**	**2.15**	**61**	Sn		**Sn**	**23 52 05.8**	**-0.7**
YBH				IAML			23 52 07.7	
	comp=E,813nm,0.5s							
YBH				IAML			23 52 08.9	
	comp=N,1μm,0.5s							
YBH	**Yreka Blue Hor**	**2.15**	**61**	Pg		**Pn**	**23 51 38.9**	**-0.6**
	comp=N,39nm,0.3s,baz=256,slow=16,SNR=413							
YBH				Lg		Lg	23 52 04.3	
	comp=N,158nm,0.3s,baz=160,slow=20,SNR=12							
YBH				LR		LR	23 52 26.3	
	comp=N,423nm,20.3s,baz=232,slow=43							
LAMM	**Antelope Mount**	**2.16**	**65**			**Pn**	**23 51 39.1**	**-0.7**
GVV	**Valley View**	**2.17**	**115**			**Pn**	**23 51 39.1**	**-0.7**
LCSM	**College of the**	**2.25**	**71**			**Pn**	**23 51 40.9**	**0.0**
GGUM	**Gualala**	**2.29**	**144**			**Pn**	**23 51 38.3**	**-3.1**
K02D	**Willamette Mer**	**2.30**	**30**	IAML			23 52 07.6	
	comp=N,1μm,0.3s							
K02D				IAML			23 52 10.2	
	comp=E,1μm,0.4s							
LGBM	**Gray Butte**	**2.38**	**74**			**Pn**	**23 51 43.1**	**+0.3**
GHLM	**Highland Sprin**	**2.38**	**134**			**Pn**	**23 51 41.0**	**-1.8**
HOPS	**Hopland Field**	**2.39**	**135**			**Pn**	**23 51 40.9**	**-1.8**
HOPS	**Hopland Field**	**2.39**	**135**	Sn		**Sn**	**23 52 06.8**	**-5.4**
B040	**Montague**	**2.39**	**61**			**Pn**	**23 51 42.9**	**+0.2**
M03C	**McCloud**	**2.42**	**76**			**Pn**	**23 51 43.3**	**+0.2**
LTCM	**Tuscan Springs**	**2.42**	**101**			**Pn**	**23 51 42.8**	**-0.3**
LSHM	**Sage Hen Hill**	**2.42**	**87**			**Pn**	**23 51 42.9**	**-0.4**
GCK	**Clark Valley**	**2.44**	**118**			**Pn**	**23 51 43.6**	**+0.2**
LMPM	**Military Pass**	**2.44**	**71**			**Pn**	**23 51 44.2**	**+0.6**
LHEM	**Herd Peak**	**2.45**	**67**			**Pn**	**23 51 43.9**	**+0.2**
GTSM	**Trough Springs**	**2.46**	**124**			**Pn**	**23 51 42.7**	**-1.0**
HUMO	**Hull Mountain**	**2.54**	**41**			**Pn**	**23 51 44.5**	**-0.4**
HUMO	**Hull Mountain**	**2.54**	**41**	Sn		**Sn**	**23 52 14.0**	**-2.0**
HUMO				IAML			23 52 15.4	
	comp=E,525nm,0.5s							
HUMO				IAML			23 52 22.0	
	comp=N,524nm,0.6s							
GPMM	**Pine Mountain**	**2.56**	**136**			**Pn**	**23 51 44.6**	**-0.6**
LBFM	**Black Fox Moun**	**2.60**	**75**			**Pn**	**23 51 46.2**	**+0.4**
GBMM	**Baldy Mountain**	**2.62**	**126**			**Pn**	**23 51 45.3**	**-0.8**
GHCM	**House Creek**	**2.63**	**143**			**Pn**	**23 51 44.4**	**-1.6**
J01E	**Myrtle Point**	**2.63**	**21**			**Pn**	**23 51 45.6**	**-0.3**
J01E				Sn		**Sn**	**23 52 15.9**	**-2.1**
J01E				IAML			23 52 21.3	
	comp=E,1μm,0.3s							
J01E				IAML			23 52 21.3	
	comp=N,927nm,0.4s							
LDBM	**Digger Butte**	**2.64**	**95**			**Pn**	**23 51 45.4**	**-0.8**
O03E	**Paynes Creek**	**2.65**	**98**			**Pn**	**23 51 45.4**	**-0.9**
GFC	**Funks Creek**	**2.65**	**121**			**Pn**	**23 51 46.2**	**0.0**
GRTM	**Round Top Moun**	**2.65**	**131**			**Pn**	**23 51 45.6**	**-0.7**

L04D Klamath Falls 2.66 55 Pn Pn 23 51 47.4 +0.8
L04D Sn **Sn 23 52 20.5 +1.4**
GDXM Geysers 2.67 135 Pn 23 51 45.8 -0.9
GGPM Geyser Peak 2.68 136 Pn 23 51 45.4 -1.4
GSGM Seigler Mounta 2.68 133 Pn 23 51 46.6 -0.1
DBO Dodson Butte 2.82 31 Pn 23 51 48.4 -0.4
DBO Sn **Sn 23 52 21.6 -1.3**
DBO IAML 23 52 23.6
comp=N,395nm,1.0s
DBO IAML 23 52 26.4
comp=E,645nm,1.0s
LMHM Little Mount H 2.83 71 Pn 23 51 49.5 +0.4
HATC Hat Creek Radi 2.86 87 Pn 23 51 49.3 0.0
ORV Oroville 3.08 111 Pn 23 51 51.0 -1.3
ORV IAML 23 52 30.3
comp=E,342nm,0.3s
ORV IAML 23 52 32.3
comp=N,414nm,0.4s
MCCM Marconi Confer 3.15 144 Pn Pn 23 51 51.4 -1.7
MCCM IAML 23 52 29.5
comp=E,309nm,0.7s
MCCM IAML 23 52 29.5
comp=N,368nm,0.7s
I03D Drain, OR 3.29 24 Pn 23 51 55.6 +0.5
I03D IAML 23 52 34.8
comp=N,303nm,0.5s
I03D IAML 23 52 40.8
comp=E,267nm,0.6s
I04A Tendick Farm, 3.72 33 IAML 23 52 47.6
comp=N,331nm,0.3s
I04A IAML 23 52 48.4
comp=E,337nm,0.2s
AFDM Forest Hills D 3.72 117 Pn Pn 23 52 00.2 -0.8
K05A Summer Lake 3.82 57 IAML 23 53 02.4
comp=N,360nm,1.1s
BUCK Buck Mountain 3.85 25 IAML 23 52 49.5
comp=N,435nm,0.8s
BUCK IAML 23 52 50.5
comp=E,371nm,0.7s
COR Corvallis 4.12 20 Pn 23 52 07.3 +0.9
COR IAML 23 52 59.2
comp=E,223nm,0.5s
COR IAML 23 52 59.9
comp=E,230nm,0.7s
H04D Lebanon 4.23 25 IAML 23 52 58.6
comp=N,318nm,0.6s
EMB Emerald Bay 4.31 112 IAML 23 53 05.2
comp=N,248nm,0.9s
EMB IAML 23 53 05.2
comp=E,303nm,1.0s
PAHR Pah Rah Range 4.59 101 IAML 23 53 14.6
comp=N,132nm,0.6s
I05D Terrebonne, OR 4.62 37 Pn 23 52 15.1 +1.6
HEBO Mount Hebo 4.62 13 Pn 23 52 13.7 +0.2
HEBO IAML 23 53 08.1
comp=N,118nm,0.6s
HEBO IAML 23 53 09.5
comp=E,118nm,0.6s
PNTR Pine Nut 4.62 109 Pn Pn 23 52 14.4 +0.8
PNTR IAML 23 53 44.9
comp=N,192nm,1.1s
G03D McMinnville, O 4.72 17 Pn 23 52 16.0 +1.3
G03D IAML 23 53 11.9
comp=E,132nm,0.3s
G03D IAML 23 53 16.1
comp=N,148nm,0.4s
YERR Yerington 4.92 109 IAML 23 53 29.2
comp=N,89nm,0.7s
YERR IAML 23 53 29.8
comp=E,173nm,0.9s
SAO San Andreas Ge 4.93 142 Pn 23 52 15.6 -2.0
HOOD Mount Hood Mea 5.30 28 Pn 23 52 23.9 +1.1
HOOD IAML 23 53 31.4
comp=N,75nm,1.1s
HOOD IAML 23 53 46.6
comp=E,73nm,1.9s
F04D Rainier, OR 5.60 16 Pn 23 52 27.4 +0.6
MDPB Devils Postpil 5.68 121 Pn 23 52 28.1 -0.2
NVAR Mina Array Bea 5.82 111 Pn **Pn 23 52 30.1 +0.1**
comp=E,5.5nm,0.3s,baz=291,slow=14,SNR=103
NVAR Sn **Sn 23 53 35.0 -2.0**
baz=299,slow=20
NVAR Lg Lg 23 53 55.8
comp=E,1.6nm,0.3s,baz=292,slow=34,SNR=1.7
NVAR LR LR 23 54 43.6
comp=E,299nm,21.8s,baz=46,slow=38
comp=E,8.0nm,0.4s
MLAC Mammoth, Mammo 5.84 120 P **Pn 23 52 32.8 +2.4**
baz=303
E03A Lebam 5.95 11 Pn 23 52 30.1 -1.5
VOG Valley Oaks Go 6.34 132 P **Pn 23 52 37.3 +0.3**
baz=314
DSP Deep Springs 6.56 118 Pn 23 52 43.3 +3.3
TPH Tonopah 6.74 110 Pn 23 52 42.9 +0.2
SMMC Simmler 6.79 141 P **Pn 23 52 42.0 -1.3**
baz=323
VES Vestal, Richgr 6.86 133 P **Pn 23 52 44.5 +0.4**
baz=316,SNR=17
MXC Moxie City 6.87 30 Pn 23 52 45.5 +1.3
D05A Enumclaw 6.88 19 Pn 23 52 45.4 +1.0
HAWA Hanford 7.02 34 Pn 23 52 47.4 +1.1
CWC Cottonwood Cre 7.04 125 P **Pn 23 52 47.6 +0.8**
baz=309
GMN Gold Mountain 7.08 116 Pn Pn 23 52 46.7 -0.7
GRAC Grapevine Rang 7.17 119 Pn Pn 23 52 54.5 +6.0
PKM Mcpherson Peak 7.22 142 P **Pn 23 52 48.7 -0.6**
baz=324
C03A Quillayute Air 7.25 4 Pn Pn 23 52 46.7 -2.7
E08A Dider Farm, El 7.30 36 Pn Pn 23 52 50.0 -0.2
LTY Liberty 7.32 25 Pn 23 52 51.6 +1.1
BCW Bitter Crk WRg 7.38 140 Pn 23 52 52.4 +1.0
ARVC Arvin 7.53 136 P **Pn 23 52 54.5 +1.2**
baz=319,SNR=8.5
ELK Elko 7.59 87 Pn Pn 23 52 55.4 +1.1
comp=E,4.2nm,0.9s
ELK LR LR 23 56 15.3
comp=E,369nm,18.5s,slow=42
MPMC Manual Prospec 7.65 125 P **Pn 23 52 56.5 +1.3**
baz=309,SNR=21
WCT Wildcat Mounta 7.78 117 Pn 23 52 56.7 -0.1
D08A Wollman Farm, 7.80 34 Pn Pn 23 52 56.1 -1.0
R11B Troy Canyon, C 7.82 104 P **Pn 23 52 58.2 +0.7**
baz=290,SNR=15
F10A Beach Ranch, E 7.85 45 Pn 23 52 59.7 +1.9
LRMC Laurel Mtn Rad 7.92 129 P **Pn 23 52 59.2 +0.4**
baz=313,SNR=18
GWY Greenwater Val 8.10 121 Pn Pn 23 53 02.3 +1.0
CLRS Cowichan Lake 8.14 5 Pn 23 53 02.8 +1.1
EDW2 Edwards Air Fo 8.17 133 P **Pn 23 53 02.6 +0.5**
baz=317,SNR=8.4
OZB Mount Ozzard 8.25 359 Pn Pn 23 53 03.9 +0.7
HLID Hailey 8.52 67 P **Pn 23 53 09.9 +2.8**
baz=254,SNR=113
GSC Goldstone, Bar 8.56 126 P **Pn 23 53 09.2 +1.6**
baz=311,SNR=34
RRX Edison Barstow 8.74 129 P **Pn 23 53 11.4 +1.4**
baz=314
BFSC Mount Baldy Ra 8.83 135 P **Pn 23 53 12.6 +1.3**
baz=318
TUQ Turquoise Moun 9.03 123 P **Pn 23 53 15.6 +1.6**
baz=308
HEC Hector,Ludlow 9.17 127 P **Pn 23 53 16.9 +1.0**
baz=312,SNR=23
DUG Dugway, Tooele 9.48 89 P **Pn 23 53 22.6 +2.3**
baz=277,SNR=24
NEW Newport 9.51 35 P **Pn 23 53 21.8 +1.3**
baz=221
NEW Newport 9.51 35 Pn **Pn 23 53 21.7 +1.3**
comp=E,0.6nm,0.3s,baz=193,slow=9.1,SNR=2.7
NEW Lg Lg 23 55 54.1
comp=E,0.1nm,0.3s,baz=270,slow=20,SNR=3.3
NEW LR LR 23 57 08.1
comp=E,224nm,19.7s,baz=232,slow=39
comp=E,2.4nm,0.5s
GMRC Granite Mounta 9.61 125 P **Pn 23 53 22.9 +0.9**
baz=310
BELC Belle Mtn. Jos 9.94 129 P **Pn 23 53 26.8 +0.3**
baz=314,SNR=14
PFO Pinyon Flats O 9.96 133 P **Pn 23 53 26.8 0.0**
baz=317,SNR=8.0
PFO Pinyon Flats O 9.96 133 Pn **Pn 23 53 28.0 +1.3**
comp=E,1.8nm,0.3s,baz=319,slow=13,SNR=10
PFO Sn **Sn 23 55 17.4 -1.3**
comp=E,0.2nm,0.3s,baz=331,slow=19,SNR=1.1
PFO LR LR 23 57 34.6
comp=E,167nm,19.0s,baz=23,slow=40

	comp=E,5.7nm,0.6s									
TPFO	**Pinon Flats**	9.96	133	P		Pn		23 53 27.3	+0.5	
	baz=317,SNR=6.5									
MSO	**Missoula**	10.19	49	P		Pn		23 53 32.1	+2.2	
	baz=237,SNR=23									
IRM	**Iron Mountain**	10.35	126	P		Pn		23 53 32.8	+0.8	
	baz=312,SNR=9.2									
BC3	**Big Chuckawall**	10.51	129	P		Pn		23 53 34.7	+0.5	
	baz=314,SNR=6.9									
MONP2	**Monument Peak**	10.52	135	P		Pn		23 53 35.5	+0.9	
	baz=320									
IKP	**In-Ko-Pah, Jac**	10.88	135	P		Pn		23 53 40.1	+0.8	
	baz=320									
PDMCI	**Parker Dam,Lak**	10.88	123	P		Pn		23 53 41.1	+1.8	
	baz=309									
BOZ	**Bozeman (W)**	11.06	59	P		Pn		23 53 43.8	+1.9	
	baz=249,SNR=19									
GLA	**Glamis**	11.30	129	P		Pn		23 53 45.5	+0.4	
	baz=315									
H17A	**Grant Village**	11.41	66	P		Pn		23 53 50.6	+3.8	
	baz=256,SNR=12									
BBB	**Bella Bella**	11.64	351	Pn		Pn		23 53 51.3	+1.8	
	comp=E,0.2nm,0.3s,baz=164,slow=7.1,SNR=3.9									
BBB				LR		LR		23 57 12.3		
	comp=E,98nm,21.6s,baz=160,slow=32									
	comp=E,22nm,1.1s									
BW06	**Boulder Array**	11.89	75	P		Pn		23 53 54.7	+1.5	
	baz=265									
PDAR	**Pinedale Array**	11.89	75	Pn		Pn		23 53 55.5	+2.3	
	comp=E,0.6nm,0.3s,baz=264,slow=13,SNR=16									
WUAZ	**Wupatki**	12.08	111	P		Pn		23 53 57.8	+1.9	
	baz=299									
RLMT	**Red Lodge**	12.50	64	P		Pn		23 54 04.2	+2.6	
	baz=255									
O20A	**White River Ci**	12.96	87	P		Pn		23 54 09.9	+2.0	
	baz=278									
EGMT	**Eagleton**	13.25	51	P		Pn		23 54 12.1	+0.5	
	baz=242,SNR=8.0									
MVCO	**Mesa Verde**	13.48	100	P		Pn		23 54 16.0	+0.9	
	baz=290,SNR=5.9									
K22A	**Casper**	14.11	76	P		Pn		23 54 24.0	+0.4	
	baz=268									
TUC	**Tucson**	14.31	121	P		Pn		23 54 26.4	+0.1	
	baz=310									
N23A	**Red Feather La**	14.61	83	P		Pn		23 54 30.9	+0.4	
	baz=276,SNR=6.0									
LAO	**LASA Array**	14.97	60	P		Pn		23 54 35.7	+0.5	
	baz=253									
ISCO	**Idaho Springs**	15.01	87	P		Pn		23 54 36.3	+0.4	
	baz=280									
V35K	**Ketchikan**	15.22	346	P		Pn		23 54 38.0	-0.3	
	baz=162									
Q24A	**Divide**	15.53	90	P		Pn		23 54 44.3	+1.6	
	baz=283									
SDCO	**Great Sand Dun**	15.57	95	IAmb		IAmb		23 54 47.0		
	comp=Z,33nm,1.1s									
SDCO	**Great Sand Dun**	15.57	95	P		Pn		23 54 45.3	+2.0	
	baz=287,SNR=40									
CRAG	**Craig**	15.66	343	P		Pn		23 54 44.9	+0.8	
	baz=158									
BRIGG	**Briggsdale**	15.87	84	IAmb		IAmb		23 54 49.4		
	comp=Z,21nm,0.7s									
ANMO	**Albuquerque**	15.90	105	P		Pn		23 54 49.2	+1.7	
	baz=296									
ANMO	**Albuquerque**	15.90	105	Pn		Pn		23 54 46.6	-0.9	
	comp=Z,0.1nm,0.3s,baz=48,slow=12,SNR=7.6									
ANMO				LR		LR		00 02 04.4		
	comp=Z,133nm,18.2s,baz=29,slow=42									
	comp=Z,3.7nm,0.9s									
Y22D	**IRIS PASSCAL I**	15.98	109	P		Pn		23 54 48.8	+0.3	
	baz=300									
Y22F	**Passcal Instru**	15.98	109	P		Pn		23 54 48.7	+0.2	
	baz=300									
RSSD	**Black Hills**	16.01	71	P		Pn		23 54 48.6	-0.3	
	baz=265									
121A	**Cookes Peak, D**	16.19	115	P		Pn		23 54 52.2	+0.9	
	baz=305									
U33K	**Whale Pass**	16.26	344	P		Pn		23 54 51.8	+0.1	
	baz=159									
T25A	**Trinidad**	16.58	96	P		Pn		23 54 57.3	+1.0	
	baz=289,SNR=17									
DGMT	**Dagmar**	16.83	56	P		Pn		23 54 59.2	0.0	
	baz=250									
KSCO	**Kaye Shedlock'**	17.43	88	IAmb		IAmb		23 55 11.0		
	comp=Z,44nm,0.8s									
KSCO	**Kaye Shedlock'**	17.43	88	P		Pn		23 55 07.3	+0.5	
	baz=283,SNR=8.1									
OGNE	**Ogallala**	17.55	82	IAmb		IAmb		23 55 08.9		
	comp=Z,22nm,0.7s									
OGNE	**Ogallala**	17.55	82	P		Pn		23 55 08.1	-0.2	
	baz=277,SNR=6.4									
SIT	**Sitka**	17.62	342	P		Pn		23 55 08.9	0.0	
	baz=154									
S32K	**Killisnoo**	17.82	343	P		Pn		23 55 10.7	-0.6	
	baz=157									
MNTX	**Cornudas Mount**	18.34	113	P		P		23 55 18.6	+0.5	
	baz=305									
CBKS	**Cedar Bluff**	19.67	87	P		P		23 55 33.5	+0.8	
	baz=284,SNR=7.4									
PLBC	**Pleasant Camp**	20.02	343	P		P		23 55 37.0	+0.7	
	baz=155									
P33M	**Teslin, Yukon**	20.08	349	P		P		23 55 37.7	+0.7	
	baz=163									
P29M	**Windy Craggy**	20.49	342	P		P		23 55 41.4	0.0	
	baz=152									
ELIS	**Ellis County**	20.73	95	IAmb		IAmb		23 55 48.0		
	comp=Z,25nm,0.9s									
LPIG	**La Paz**	20.76	138	LR		LR		00 03 46.3		
	comp=Z,128nm,19.1s,baz=292,slow=37									
SN07	**Snyder 07**	20.85	104	IAmb		IAmb		23 55 48.4		
	comp=Z,15nm,0.7s									
FFC	**Flin Flon**	20.87	40	IAmb		IAmb		23 55 47.5		
	comp=Z,21nm,1.1s									
TXAR	**Lajitas Array**	20.94	116	P		P		23 55 47.4	+0.9	
	comp=Z,4.1nm,0.8s,baz=301,slow=9.1,SNR=37									
	comp=Z,4.1nm,0.9s									
PNL	**Peninsula**	20.95	340	P		P		23 55 46.2	-0.1	
	baz=149									
SN05	**Snyder 5**	20.96	104	IAmb		IAmb		23 55 49.7		
	comp=Z,12nm,0.7s									
N32M	**Quiet Lake**	21.02	349	P		P		23 55 46.4	-0.7	
	baz=164									
O30N	**Mendenhall**	21.17	345	P		P		23 55 47.4	-1.4	
	baz=157									
SGCY	**Sterling City**	21.26	107	IAmb		IAmb		23 55 52.9		
	comp=Z,21nm,1.1s									
ECSD	**EROS Data Cent**	21.36	72	IAmb		IAmb		23 55 55.8		
	comp=Z,16nm,0.8s									
ECSD	**EROS Data Cent**	21.36	72	P		P		23 55 50.4	-0.5	
	baz=272,SNR=9.6									
HYT	**Haines Junctio**	21.51	343	P		P		23 55 51.5	-1.0	
	baz=154									
WMOK	**Wichita Mounta**	21.71	97	P		P		23 55 54.7	0.0	
	baz=294,SNR=9.3									
OZNA	**Ozona**	21.79	109	IAmb		IAmb		23 55 58.8		
	comp=Z,26nm,0.8s									
KSU1	**Kansas State U**	21.98	85	P		P		23 55 58.9	+1.4	
	baz=283,SNR=10									
N30M	**Aishikik Lake**	22.00	345	P		P		23 55 57.7	0.0	
	baz=156									
ABTX	**Abilene, Hawle**	22.00	103	IAmb		IAmb		23 56 01.4		
	comp=Z,25nm,1.2s									
ABTX	**Abilene, Hawle**	22.00	103	P		P		23 55 59.2	+1.3	
	baz=299,SNR=5.8									
FARO	**Faro, Yukon**	22.09	350	P		P		23 55 60.0	+1.3	
	baz=164									
O28M	**Mount Upton**	22.10	340	P		P		23 55 58.8	-0.2	
	baz=149									
BLOK	**Blackwell**	22.16	91	IAmb		IAmb		23 56 05.5		
	comp=Z,21nm,1.0s									
AGMN	**Agassiz Nation**	22.18	60	IAmb		IAmb		23 56 02.8		
	comp=Z,23nm,0.7s									
AGMN	**Agassiz Nation**	22.18	60	P		P		23 56 00.9	+1.3	
	baz=261,SNR=9.5									
M31M	**Drury Creek, Y**	22.22	349	P		P		23 56 00.4	+0.5	
	baz=162,SNR=6.9									
YUK4	**Talbot Arm**	22.22	343	P		P		23 56 01.8	+1.5	
	baz=153									
MMPY	**Sheldon Lake,**	22.23	353	P		P		23 56 00.9	+0.8	
	baz=168,SNR=6.8									
YUK8	**Steele Glacier**	22.43	341	P		P		23 56 02.4	-0.1	
	baz=150									
OK048	**Pawnee Station**	22.48	92	IAmb		IAmb		23 56 03.1		
	comp=Z,21nm,0.6s									
OK051	**E0350 and S346**	22.54	92	IAmb		IAmb		23 56 08.5		
	comp=Z,20nm,0.8s									
ULM	**Lac du Bonnet**	22.55	55	IAmb		IAmb		23 56 05.1		
	comp=Z,30nm,0.8s									
ULM	**Lac du Bonnet**	22.55	55	P		P		23 56 03.6	0.0	
	comp=Z,26nm,0.7s,baz=259,slow=10.0,SNR=40									
ULM				LR		LR		00 05 04.9		
	comp=Z,183nm,18.9s,baz=248,slow=38									
	comp=Z,26nm,0.7s									
CTG	**Chitna Glacier**	22.56	339	P		P		23 56 04.4	+0.6	
	baz=147									
WRGLY	**Wrigley**	22.57	2	P		P		23 56 04.8	+1.1	
	baz=184									
KAIM	**Kayak Island**	22.64	335	P		P		23 56 04.9	+0.4	
	baz=140									
T35A	**Sooner Cattle**	22.65	90	IAmb		IAmb		23 56 07.6		
	comp=Z,28nm,0.9s									
YKA	**Yellowknife Ar**	22.72	13	P		P		23 56 06.1	+0.8	
	comp=Z,2.9nm,0.9s,baz=202,slow=9.2,SNR=15									
YKA				LR		LR		00 05 32.4		
	comp=Z,108nm,19.0s,baz=91,slow=38									
	comp=Z,2.9nm,0.9s									
OK052	**Battle Ridge R**	22.74	93	IAmb		IAmb		23 56 09.9		
	comp=Z,31nm,1.2s									
PLPT	**Palo Pinto**	22.90	102	IAmb		IAmb		23 56 09.6		
	comp=Z,21nm,1.2s									
Q23K	**Middleton Isla**	22.94	332	P		P		23 56 07.2	-0.4	
	baz=136									
FW03	**Perrin-Whitt E**	22.98	101	IAmb		IAmb		23 56 11.0		
	comp=Z,14nm,1.0s									
JCT	**Junction City**	22.99	108	IAmb		IAmb		23 56 13.0		
	comp=Z,8.8nm,0.7s									
JCT	**Junction City**	22.99	108	P		P		23 56 09.4	+1.0	
	baz=303									
W35A	**Tecumseh**	22.99	95	IAmb		IAmb		23 56 11.7		
	comp=Z,36nm,1.5s									
YUK3	**Moose Creek**	23.03	341	P		P		23 56 08.5	-0.2	
	baz=150									
M29M	**Somme Creek**	23.17	344	P		P		23 56 10.3	+0.3	
	baz=154									
MCARA	**McCarthy VSAT**	23.37	338	P		P		23 56 12.6	+0.6	
	baz=145									
BMRM	**Bremner River**	23.51	336	P		P		23 56 12.1	-1.3	
	baz=141									
TUL3	**Leonard**	23.53	92	IAmb		IAmb		23 56 15.6		
	comp=Z,12nm,1.0s									
TUL3	**Leonard**	23.53	92	P		P		23 56 14.3	+0.4	
	baz=291									
EYAK	**Cordova Ski Ar**	23.55	334	P		P		23 56 12.8	-1.0	
	baz=139									
B35A	**Bob, Littlefor**	23.59	61	IAmb		IAmb		23 56 16.1		
	comp=Z,27nm,1.3s									
L29M	**L29M**	23.70	345	P		P		23 56 15.8	+0.5	
	baz=155,SNR=5.1									
M27K	**Edge Creek, AK**	23.87	341	P		P		23 56 17.1	0.0	
	baz=148									
WHTX	**Lake Whitney,**	23.93	102	P		P		23 56 17.5	-0.2	
	baz=299									
N25K	**Chitina, Valde**	24.00	337	P		P		23 56 17.8	-0.5	
	baz=142									
SPMN	**Marine on St.**	24.05	68	IAmb		IAmb		23 56 22.2		
	comp=Z,16nm,0.7s									
SPMN	**Marine on St.**	24.05	68	P		P		23 56 19.7	+0.9	
	baz=271									
P38A	**Dawn**	24.18	82	IAmb		IAmb		23 56 24.4		
	comp=Z,17nm,0.9s									
M26K	**Naknek, AK**	24.20	340	P		P		23 56 19.8	-0.2	
	baz=146									
GLI	**Glacier Island**	24.24	334	P		P		23 56 18.4	-2.0	
	baz=137									
K29M	**Barlow Dome**	24.27	347	P		P		23 56 19.5	-1.2	
	baz=157,SNR=5.5									
KLU	**Klutina**	24.32	336	P		P		23 56 20.2	-1.0	
	baz=140									
X37A	**Clayton**	24.35	95	IAmb		IAmb		23 56 31.2		
	comp=Z,15nm,1.1s									
KDAK	**Kodiak Island**	24.45	324	LR		LR		00 03 29.6		
	comp=Z,105nm,20.8s,baz=144,slow=30									
L27K	**Beaver Creek,**	24.46	342	P		P		23 56 21.6	-0.8	
	baz=149									
OHAK	**Old Harbor**	24.48	322	P		P		23 56 19.5	-3.0	
	baz=121									
SEW	**Seward**	24.55	330	P		P		23 56 21.5	-1.6	
	baz=132									
J30M	**Hart River**	24.75	349	P		P		23 56 23.3	-1.8	
	baz=160,SNR=5.9									
HARP	**HAARP**	24.79	338	P		P		23 56 23.2	-2.1	
	baz=142									
BRSE	**Bradley Lake S**	24.81	329	P		P		23 56 24.0	-1.5	
	baz=129									
HHAR	**Hobbs**	24.81	90	IAmb		IAmb		23 56 28.5		
	comp=Z,23nm,1.0s									
Q20K	**Shuyak Island**	24.82	325	P		P		23 56 23.5	-2.1	
	baz=125									
S39A	**Bolivar**	24.84	87	IAmb		IAmb		23 57 00.5		
	comp=Z,23nm,1.5s									
E38A	**The Farm, Brul**	24.93	65	IAmb		IAmb		23 56 39.8		
	comp=Z,13nm,1.1s									
J29N	**Klondike Camp**	24.95	347	P		P		23 56 26.3	-0.5	
	baz=156									
SCM	**Sheep Creek Mo**	25.02	335	P		P		23 56 26.8	-0.7	
	baz=138									
EYMN	**Ely**	25.04	62	IAmb		IAmb		23 56 31.4		
	comp=Z,8.0nm,0.8s									
EYMN	**Ely**	25.04	62	P		P		23 56 27.3	-0.5	
	baz=266,SNR=5.8									
KNK	**Knik Glacier**	25.09	333	P		P		23 56 27.2	-0.8	
	baz=135									
M23K	**Glacier View**	25.12	335	P		P		23 56 26.8	-1.5	
	baz=137									
SML	**Sawmill**	25.33	334	P		P		23 56 30.2	0.0	
	baz=136									
PAX	**Paxson**	25.33	338	P		P		23 56 28.7	-1.7	
	baz=142									
K27K	**Chicken**	25.35	343	P		P		23 56 29.2	-1.1	
	baz=149									
I30M	**Mount Dempster**	25.37	349	P		P		23 56 29.6	-1.1	
	baz=160									
PMR	**Palmer**	25.45	333	P		P		23 56 29.9	-1.3	
	baz=135									
L40A	**Anamosa**	25.45	76	IAmb		IAmb		23 56 37.1		
	comp=Z,10nm,0.7s									
Q19K	**Cape Douglas,**	25.54	325	P		P		23 56 31.1	-1.0	
	baz=123									
H31M	**Peel River**	25.66	351	P		P		23 56 32.8	-0.4	
	baz=164									
WAT6	**Susitna Watana**	25.70	336	P		P		23 56 33.1	-0.7	
	baz=138									
MIAR	**Mount Ida**	25.72	94	IAmb		IAmb		23 56 37.6		
	comp=Z,10.0nm,0.9s									
MIAR	**Mount Ida**	25.72	94	P		P		23 56 33.7	-0.3	
	baz=293,SNR=6.6									
SCRK	**Sand Creek**	25.76	341	P		P		23 56 32.1	-2.2	
	baz=146									
P19K	**Oil Pt**	25.77	327	P		P		23 56 31.5	-2.7	
	baz=125									
O20K	**Slope Mountain**	25.77	328	P		P		23 56 31.3	-3.0	
	baz=127									
EGAK	**Eagle**	25.80	344	P		P		23 56 33.9	-0.6	
	baz=152									
SUA	**Susitna One**	25.93	332	P		P		23 56 34.4	-1.3	
	baz=132									
N41A	**Harden Midland**	25.96	79	IAmb		IAmb		23 56 38.5		
	comp=Z,20nm,0.9s									
DHY	**Denali Highway**	25.97	337	P		P		23 56 34.8	-1.3	
	baz=140									
JFWS	**Jewell Farm**	26.05	74	P		P		23 56 36.5	-0.5	
	baz=277,SNR=6.2									
J26L	**Joseph Creek**	26.09	342	P		P		23 56 36.8	-0.5	
	baz=147									
I28M	**Miner Creek**	26.16	346	P		P		23 56 36.6	-1.2	
	baz=154									
Q17K	**Contact Creek**	26.21	322	P		P		23 56 36.5	-1.9	
	baz=119									
CCM	**Cathedral Cave**	26.31	85	IAmb		IAmb		23 56 41.2		
	comp=Z,12nm,1.1s									
CCM	**Cathedral Cave**	26.31	85	P		P		23 56 40.0	+0.7	
	baz=286									
WHAR	**Woody Hollow**	26.42	91	IAmb		IAmb		23 56 45.1		
	comp=Z,22nm,1.3s									
P18K	**Big Mountain,**	26.48	325	P		P		23 56 38.8	-1.8	
	baz=122									
EPYK	**Eagle Plains**	26.50	350	P		P		23 56 39.8	-1.1	
	baz=160									
SKT	**Skwentna**	26.55	332	P		P		23 56 40.9	-0.4	
	baz=132									
H29M	**Whitestone**	26.60	348	P		P		23 56 40.9	-0.8	
	baz=158,SNR=5.6									
I27K	**Kandik River**	26.62	345	P		P		23 56 40.4	-1.5	
	baz=152									
J25K	**Salcha River,**	26.63	341	P		P		23 56 40.5	-1.5	
	baz=145									
I26K	**Coal Creek Min**	26.68	343	P		P		23 56 40.6	-1.9	
	baz=149									
O18K	**Koktuh Hills**	26.71	326	P		P		23 56 41.3	-1.5	
	baz=123									
T42A	**Van Buren**	26.73	87	IAmb		IAmb		23 56 45.0		
	comp=Z,8.7nm,0.9s									
G31M	**Satah River**	26.74	352	P		P		23 56 40.7	-2.1	
	baz=165									
HDA	**Harding Lake**	26.88	339	P		P		23 56 42.3	-1.9	
	baz=142									
I42A	**Draeger Farm,**	26.91	71	IAmb		IAmb		23 56 47.5		
	comp=Z,12nm,0.7s									
P17K	**Kvichak River**	26.91	324	P		P		23 56 41.1	-3.4	
	baz=120									
FVM	**French Village**	26.95	84	IAmb		IAmb		23 56 46.7		
	comp=Z,6.8nm,0.7s									
G30M	**tAoh Zraii Nji**	27.02	350	P		P		23 56 41.7	-3.8	
	baz=162									
ILAR	**Eielson Array**	27.14	340	P		P		23 56 48.4	+1.8	
	comp=Z,0.9nm,0.8s,baz=157,slow=8.6,SNR=9.4									
ILAR				LR		LR		00 05 40.1		
	comp=Z,89nm,18.8s,baz=116,slow=32									
	comp=Z,0.9nm,0.8s									
H27K	**Steamboat Moun**	27.16	346	P		P		23 56 44.6	-2.2	
	baz=152									
F31M	**Tsiigehtchic**	27.19	353	P		P		23 56 45.7	-1.2	
	baz=166									
G29M	**Pine Creek**	27.20	349	P		P		23 56 45.3	-1.8	
	baz=159									
PBMO	**Poplar Bluff**	27.31	87	IAmb		IAmb		23 56 50.3		
	comp=Z,8.7nm,0.9s									
POKR	**Poker Plat Res**	27.56	340	P		P		23 56 47.0	-3.3	
	baz=142									
F30M	**Barrier River**	27.57	351	P		P		23 56 47.4	-3.0	
	baz=163									
NEA2	**Nenana**	27.61	338	P		P		23 56 47.1	-3.6	
	baz=139									
G27K	**Doyon Strip**	27.70	346	P		P		23 56 48.2	-3.4	
	baz=153									
CAST	**Castle Rocks**	27.70	334	P		P		23 56 48.1	-3.5	
	baz=133									
L20K	**Farewell, AK**	27.71	331	P		P		23 56 48.7	-3.1	
	baz=129									
CGM3	**Cape Girardeau**	27.73	85	IAmb		IAmb		23 56 53.7		
	comp=Z,7.2nm,0.9s									
BPAW	**Bear Paw Mtn.**	27.82	336	P		P		23 56 46.7	-6.0	
	baz=135									
O16K	**Kokwok River B**	27.85	324	P		P		23 56 47.8	-5.1	
	baz=118									
M18K	**Stony River**	27.87	329	P		P		23 56 46.9	-6.2	
	baz=124									
L44A	**Lake County Fo**	27.87	75	P		P		23 56 50.3	-3.0	
	baz=280									
L19K	**White Mountain**	27.89	330	P		P		23 56 46.7	-6.7	
	baz=127									
N17K	**Nushagak Hills**	27.91	326	P		P		23 56 46.4	-7.1	
	baz=121									
M44A	**Midewin, Midew**	27.91	76	IAmb		IAmb		23 56 56.0		
	comp=Z,15nm,0.9s									
S44A	**Carbondale**	27.92	84	IAmb		IAmb		23 56 55.6		
	comp=Z,14nm,1.1s									
SIUC	**Southern Illin**	27.94	84	IAmb		IAmb		23 56 56.1		
	comp=Z,14nm,0.8s									
INK	**Inuvik**	28.01	353	P		P		23 56 49.9	-4.4	
	baz=167									
INK	**Inuvik**	28.01	353	P		P		23 56 55.9	+1.6	
	comp=Z,1.1nm,0.8s,baz=162,slow=11,SNR=4.7									
INK				LR		LR		00 07 38.8		
	comp=Z,44nm,21.0s,baz=344,slow=36									
	comp=Z,1.1nm,0.8s									
CHUM	**Lake Minchumin**	28.09	335	P		P		23 56 49.8	-5.2	
	baz=133									
I23K	**Minto, Yukon-K**	28.11	338	P		P		23 56 50.6	-4.6	
	baz=139									
F28M	**Old Crow**	28.12	348	P		P		23 56 51.2	-4.1	
	baz=156									
H24K	**Noodor Dome**	28.24	340	P		P		23 56 52.1	-4.4	
	baz=142									
MLY	**Manley**	28.41	337	P		P		23 56 54.8	-3.2	
	baz=137									
M17K	**Holitna River**	28.47	327	P		P		23 56 53.2	-5.2	
	baz=122									
E29M	**Blow River**	28.56	350	P		P		23 56 56.5	-2.8	
	baz=160									
G25K	**Bearman Lake**	28.57	343	P		P		23 56 57.3	-1.9	
	baz=146									
H23K	**Yukon River**	28.67	339	P		P		23 56 56.6	-3.6	
	baz=140									
SFIN	**Lafayette**	28.83	78	P		P		23 57 01.4	-0.5	
	baz=283									
G24K	**Hadweenzic Riv**	28.83	342	P		P		23 56 59.1	-2.5	
	baz=144									
I21K	**Tanana**	28.89	337	P		P		23 56 58.5	-3.7	
	baz=135									
J20K	**Nowinta River**	28.89	334	P		P		23 56 59.9	-2.2	
	baz=131									
M16K	**Timber Creek**	28.91	326	P		P		23 56 59.9	-2.5	
	baz=120									
E27K	**Coleen River**	28.92	347	P		P		23 56 59.3	-3.2	
	baz=154,SNR=6.1									
F26K	**Sheenjek River**	28.95	345	P		P		23 56 57.9	-4.7	
	baz=150									
E28M	**Babbage River**	28.99	349	P		P		23 56 59.2	-3.8	
	baz=158									
N15K	**Kwethluk River**	29.01	324	P		P		23 56 59.7	-3.6	
	baz=117									
F25K	**Christian Rive**	29.16	344	P		P		23 57 00.3	-4.3	
	baz=147									
H22K	**Ishtalitna Cre**	29.23	338	P		P		23 57 00.5	-4.7	
	baz=137	

baz=115
J16K Anvik River 30.71 329 P P 23 57 15.8 -2.4
baz=121
D25K Kavik River 30.77 345 P P 23 57 16.8 -2.0
baz=148
F21K Alatna River 30.77 339 P P 23 57 16.9 -1.9
baz=136
P49A Miami Univ. Ec 30.81 79 P P 23 57 17.9 -1.6
baz=285
TOLK Toolik Lake Re 30.87 343 P P 23 57 17.9 -1.8
baz=143
E22K Anaktuvuk Pass 31.01 341 P P 23 57 18.3 -2.7
baz=139
C26K Camden Bay 31.02 347 P P 23 57 19.5 -1.4
baz=150
G19K Purcell Mounta 31.11 335 P P 23 57 18.2 -3.5
baz=129
F20K Avaraart Lake 31.29 337 P P 23 57 20.6 -2.7
baz=132
A36M Sachs Harbour 31.35 360 P P 23 57 19.9 -3.9
baz=180
D23K Nanushuk River 31.38 343 P P 23 57 21.3 -2.8
baz=141
G18K Tagagawik 31.46 334 P P 23 57 21.8 -3.1
baz=127
C24K Franklin Bluff 31.56 345 P P 23 57 23.2 -2.5
baz=145
W50A Signal Mountai 31.75 87 IAmb IAmb 23 57 29.9
comp=Z,8.7nm,0.9s
F19K Shaleruckik Mo 31.76 336 P P 23 57 24.7 -2.8
baz=129
M11K Mekoryuk 31.89 322 P P 23 57 25.5 -3.2
baz=110
ACSO Alum Creek Sta 31.92 77 P P 23 57 26.3 -2.9
baz=285
E19K Redstone River 32.00 337 P P 23 57 26.3 -3.3
baz=131
C23K Itkillik River 32.05 344 P P 23 57 24.9 -5.1
baz=142
F18K Selawik 32.21 335 P P 23 57 28.1 -3.3
baz=127
E20K Nigu River 32.24 339 P P 23 57 29.4 -2.3
baz=133
G16K Koyuk River 32.45 332 P P 23 57 29.9 -3.7
baz=122
C21K Knifeblade Rid 32.50 341 P P 23 57 32.8 -1.2
baz=136
F17K Baldwin Pennin 32.64 334 P P 23 57 33.3 -1.8
baz=124
D20K Etivluk River 32.66 339 P P 23 57 33.9 -1.5
baz=133
P52A Corning 32.70 78 P P 23 57 36.5 +0.4
baz=286
TKL Tuckaleechee C 32.75 85 LR LR 00 11 21.1
comp=Z,107nm,20.7s,baz=289,slow=37
B21K Ikpikpuk River 32.79 341 P P 23 57 35.9 -0.6
baz=137
D19K Kuna River 32.93 338 P P 23 57 36.0 -1.8
baz=131
B22K Teshekpuk Lake 33.05 343 P P 23 57 38.7 0.0
baz=139
O53A New Philadelph 33.22 76 P P 23 57 41.0 +0.4
baz=285
M53A WI Miller and 33.31 74 P P 23 57 41.0 -0.4
baz=284
V53A Saluda 33.47 85 IAmb IAmb 23 57 45.5
comp=Z,11nm,0.9s
ERPA Erie 33.66 72 P P 23 57 42.7 -1.7
baz=283
B20K Meade River 33.69 341 P P 23 57 42.7 -1.7
baz=134
GOGA Godfrey 33.86 89 P P 23 57 43.8 -2.4
baz=295
C18K Utukok River 33.91 337 P P 23 57 43.9 -2.4
baz=127
C17K DeLong Mountai 34.40 336 P P 23 57 49.6 -0.9
baz=124
TNA Tin City 34.58 330 P P 23 57 50.8 -1.3
baz=115
M55A Ridgway 34.70 73 IAmb IAmb 23 57 55.5
comp=Z,7.6nm,0.8s
BLA Blacksburg 34.73 81 P P 23 57 51.8 -2.0
baz=290
KMSC Kings Mountain 34.79 85 P P 23 57 51.3 -3.0
baz=292
DELO Deloro Mine 34.85 68 IAmb IAmb 23 57 57.8
comp=Z,12nm,0.9s
C16K Lisburne Hills 34.97 335 P P 23 57 50.9 -4.5
baz=122
CMIG Matias Romero 35.20 123 LR LR 00 14 30.4
comp=Z,39nm,20.8s,baz=318,slow=40
SSPA Standing Stone 35.56 74 P P 23 57 59.6 -1.3
baz=286
BINY Binghamton 36.52 71 P P 23 58 06.8 -2.4
baz=285,SNR=5.4
TRQ Mont Tremblant 36.67 64 IAmb IAmb 23 58 13.4
comp=Z,9.6nm,0.9s
CBN Corbin Frederi 36.68 78 P P 23 58 08.6 -1.8
baz=289
RES Resolute Bay 36.80 13 P P 23 58 11.8 +0.8
comp=Z,1.1nm,0.7s,baz=238,slow=11,SNR=6.4
comp=Z,1.1nm,0.7s
LONY Lake Ozonia 36.96 67 P P 23 58 12.7 -0.1
baz=282
L61B Northampton 38.83 70 P P 23 58 27.4 -1.1
baz=286
LBNH Lisbon 38.90 67 P P 23 58 28.5 -0.6
baz=284
HRV Adam Dziewonsk 39.61 69 P P 23 58 32.9 -2.2
baz=286
FRB Frobisher Bay 39.85 35 LR LR 00 15 23.4
comp=Z,64nm,18.5s,baz=360,slow=37
PKME Peaks-Kenny Pk 40.47 64 P P 23 58 40.3 -1.9
baz=284
SCHQ Schefferville 40.49 49 P P 23 58 42.6 +0.3
comp=Z,4.0nm,0.9s,baz=332,slow=6.1,SNR=3.9
SCHQ LR LR 00 16 13.2
comp=Z,57nm,21.5s,baz=250,slow=38
comp=Z,4.0nm,0.9s
M65A Busby, Falmout 40.53 70 P P 23 58 40.8 -1.9
baz=288
JTS Las Juntas de 46.68 119 LR LR 00 20 25.0
comp=Z,28nm,18.2s,baz=308,slow=38
PETK Petropavlovsk- 51.62 311 P P 00 00 11.4 +1.5
comp=Z,0.8nm,0.5s,baz=80,slow=11,SNR=2.2
comp=Z,0.8nm,0.5s
SDV Santo Domingo 57.66 108 LR LR 00 28 17.1
comp=Z,19nm,18.4s,baz=302,slow=39
ROSC El Rosal 57.85 114 LR LR 00 28 02.7
comp=Z,15nm,21.7s,baz=52,slow=38
BORG Borgarnes 59.43 29 LR LR 00 24 55.9
comp=Z,64nm,19.3s,baz=320,slow=34
JMIC Jan Mayen 59.88 20 LR LR 00 25 40.5
comp=Z,40nm,19.0s,baz=8.0,slow=35
PCRV Puerto La Cruz 61.22 102 LR LR 00 30 41.3
comp=Z,34nm,19.9s,slow=39
KLR Kul'dur 67.76 316 LR LR 00 29 33.7
comp=Z,10.0nm,21.2s,baz=36,slow=34
ARCES ARCESS Array B 67.97 11 LR LR 00 32 13.1
comp=Z,24nm,19.0s,baz=326,slow=36
USRK Ussuriysk Ar. 70.70 312 P P 00 02 22.5 +3.0
comp=Z,0.8nm,0.7s,baz=96,slow=10,SNR=1.9
comp=Z,0.8nm,0.7s
NOA NORSAR Array B 72.57 21 P P 00 02 31.9 +1.3
comp=Z,0.1nm,0.3s,baz=332,slow=5.8,SNR=2.0
NOA LR LR 00 33 56.9
comp=Z,24nm,18.0s,baz=340,slow=36
comp=Z,0.1nm,0.3s
MDP Montagnes des 73.50 98 LR LR 00 41 07.4
comp=Z,14nm,18.4s,baz=200,slow=41
HFS Hagfors 73.99 20 P P 00 02 41.2 +2.3
comp=Z,1.0nm,0.7s,baz=266,slow=3.8,SNR=2.6
HFS LR LR 00 34 54.4
comp=Z,44nm,18.6s,baz=326,slow=36
comp=Z,1.0nm,0.7s
FINES FINESS Array B 75.55 14 P P 00 02 50.3 +2.4
comp=Z,1.0nm,0.8s,baz=348,slow=3.3,SNR=1.7
comp=Z,1.0nm,0.8s
LPAZ La Paz 77.56 124 P P 00 03 02.0 +1.4
comp=Z,1.3nm,0.8s,baz=356,slow=9.9,SNR=5.4
comp=Z,1.3nm,0.8s
XLT XiLinHaoTe 79.33 320 *e*P P 00 03 09.6 +0.1
XLT pP pP 00 03 14.0 +2.6
XLT sP pwP 00 03 16.6 +1.5
XLT pmax pmax
comp=Z,6.0nm,0.8s
XLT pmax pmax
comp=Z,94nm,3.8s
SONM Songino Array 80.66 328 P P 00 03 19.0 +2.3
comp=Z,0.4nm,0.5s,baz=29,slow=3.3,SNR=2.2
comp=Z,0.4nm,0.5s
SIV San Ignacio 81.91 119 P P 00 03 24.5 +1.0
comp=Z,1.2nm,1.0s,baz=265,slow=2.1,SNR=4.4
comp=Z,1.2nm,1.0s
ZALV Zalesovo Beam 82.23 343 P P 00 03 27.9 +3.2
comp=Z,0.3nm,0.3s,baz=27,slow=6.8,SNR=1.6
comp=Z,0.3nm,0.3s
ESDC Sonseca Array 83.76 42 P P 00 03 34.2 +1.2
comp=Z,0.3nm,0.8s,baz=316,slow=8.2,SNR=1.9
ESDC LR LR 00 37 12.6
comp=Z,21nm,18.1s,baz=336,slow=33
comp=Z,0.3nm,0.8s
HHC Hu-ho-hao-te 83.83 320 *e*P P 00 03 29.4 -4.0
HHC sP sP 00 03 39.5 +3.5
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,54nm,4.4s
BVAR Borovoye Array 85.66 351 P P 00 03 43.5 +1.2
comp=Z,0.8nm,0.7s,baz=47,slow=3.0,SNR=4.0
comp=Z,0.8nm,0.7s
AKASG Malin Array Be 86.25 16 P P 00 03 47.4 +2.2
comp=Z,0.1nm,0.3s,baz=338,slow=4.3,SNR=1.5
comp=Z,0.1nm,0.3s
KURBB Kurchatov Arra 86.69 345 P P 00 03 48.1 +0.8
comp=Z,0.9nm,0.7s,baz=18,slow=4.8,SNR=5.8
comp=Z,0.9nm,0.7s
DZM Mont Dzumac 88.99 240 LR LR 00 34 27.7
comp=Z,24nm,21.8s,baz=50,slow=29
KEST Kesra 93.22 35 LR LR 00 45 05.1
comp=Z,36nm,18.8s,baz=279,slow=35
PZH PanZhiHua 100.16 318 P Pdif 00 04 49.3 -0.7
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.6s
QSPA South Pole Qui 130.53 180 PKP PKiKP 00 10 16.7 +2.4
comp=Z,2.1nm,1.0s,baz=63,slow=2.3,SNR=3.8

*OSPL **07** 23:59:09.2±2.6, 18°.72N×69°.43W, h104km±14km, ML3.4*
*SDD **07** 23:59:09.3±2.7, 18°.71N×69°.47W, h104km±11km, MD3.6, ML3.6, MW3.7*
ISC 07 23:59:08.2±1.5, **18°.77N**±0°.05×**69°.42W**±0°.03, **h93**km±12km, **n33**, σ1°**62**/51, **26C-3D**, **Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SDD	**Santo Domingo**	**0.57**	**236**	↑*e*P	g	**Pn**		**23 59 23.4**	**-0.4**
SDD				↑*e*Sg	g	**Sn**		**23 59 34.5**	**-0.9**
SDD				IAML				23 59 35.0	
	comp=N,331nm,0.4s								
SDD				IAML				23 59 35.2	
	comp=E,426nm,0.1s								
SDD	**Santo Domingo**	**0.57**	**236**	*i* P		**Pn**		**23 59 23.3**	**-0.4**
SDD				*e*S		**Sn**		**23 59 34.6**	**-0.7**
HIDR	**Higuey Centro**	**0.69**	**105**	↑*e*Pg		**Pn**		**23 59 25.0**	**+0.2**
HIDR				↑*e*Sg		**Sn**		**23 59 38.6**	**+1.3**
HIDR				IAML				23 59 39.3	
	comp=N,3μm,0.3s								
HIDR				IAML				23 59 40.0	
	comp=E,2μm,0.3s								
NADR	**Nagua**	**0.71**	**324**	↑*e*Pg		**Pn**		**23 59 25.4**	**+0.3**
NADR				↑*e*Sg		**Sn**		**23 59 40.1**	**+2.5**
NADR				IAML				23 59 44.3	
	comp=N,5μm,0.2s								
NADR				IAML				23 59 45.4	
	comp=E,3μm,0.2s								
LONA1	**Toro Cenizo, N**	**0.74**	**325**	*i* P		**Pn**		**23 59 25.7**	**+0.4**
LONA1				*e*S		**Sn**		**23 59 40.3**	**+2.2**
LONA1				IAML				23 59 43.7	
	comp=Z,1μm,2.0s								
SADR	**Isla Saona**	**0.84**	**134**	↑*e*Pg		**Pn**		**23 59 26.6**	**+0.3**
SADR				↑*e*Sg		**Sn**		**23 59 40.4**	**+0.6**
BANI	**BANI**	**0.97**	**247**	↑*e*Pg		**Pn**		**23 59 27.9**	**+0.1**
BANI				↑*e*Sg		**Sn**		**23 59 42.6**	**0.0**
BANI				IAML				23 59 43.8	
	comp=E,3μm,0.2s								
BANI				IAML				23 59 45.6	
	comp=N,3μm,0.2s								
PCDR	**Punta Cana, DR**	**1.01**	**105**	↑*e*Pg		**Pn**		**23 59 28.7**	**+0.5**
PCDR				↑*e*Sg		**Sn**		**23 59 46.1**	**+2.9**
PCDR				IAML				23 59 50.2	
	comp=N,826nm,0.6s								
PCDR				IAML				23 59 51.2	
	comp=E,475nm,0.2s								
PCDR	**Punta Cana, DR**	**1.01**	**105**	*i* P		**Pn**		**23 59 28.8**	**+0.6**
PCDR				*e*S		**Sn**		**23 59 44.6**	**+1.3**
PCDR				IAML				23 59 48.2	
	comp=Z,514nm,0.3s								
SC01	**Santiago de lo**	**1.40**	**298**	↑*e*Pg		**Pn**		**23 59 33.4**	**+0.6**
SC01				↑*e*Sg		**Sn**		**23 59 52.6**	**+1.2**
SC01				IAML				23 59 57.2	
	comp=N,613nm,0.2s								
SC01				IAML				23 59 59.0	
	comp=E,524nm,0.2s								
SC01	**Santiago de lo**	**1.40**	**298**	*i* P		**Pn**		**23 59 33.4**	**+0.6**
SC01				*e*S		**Sn**		**23 59 53.2**	**+1.7**
SC01				IAML				23 59 56.5	
	comp=Z,444nm,0.6s								
SODR	**Sosua Marina B**	**1.47**	**312**	↑*e*Sg		**Sn**		**23 59 54.7**	**+1.8**
SODR				IAML				00 00 06.9	
	comp=E,615nm,0.3s								
SODR				IAML				00 00 09.1	
	comp=N,628nm,0.7s								
SDDR	**Presa de Saban**	**1.79**	**277**	↑*e*Pg		**Pn**		**23 59 38.5**	**+0.8**
SDDR				IAML				00 00 04.8	
	comp=E,299nm,0.6s								
SDDR				IAML				00 00 07.1	
	comp=N,296nm,0.8s								
SDDR	**Presa de Saban**	**1.79**	**277**	*i* P		**Pn**		**23 59 37.9**	**+0.2**
SDDR				*e*S		**Sn**		**23 59 60.0**	**-0.3**
SDDR				IAML				00 00 07.3	
	comp=Z,190nm,0.4s								
LUDR	**Luperon**	**1.83**	**308**	↑*e*Pg		**Pn**		**23 59 37.9**	**-0.3**
LUDR				IAML				00 00 12.7	
	comp=N,2μm,0.3s								
LUDR				IAML				00 00 16.5	
	comp=E,1μm,0.3s								
PODR	**Polo**	**1.87**	**251**	*e*Pg		**Pn**		**23 59 38.3**	**-0.7**
PODR				IAML				00 00 04.1	
	comp=N,393nm,0.5s								
PODR				IAML				00 00 04.8	
	comp=Z,262nm,0.4s								
PODR	**Polo**	**1.87**	**251**	*i* P		**Pn**		**23 59 38.3**	**-0.7**
PODR				*e*S		**Sn**		**00 00 01.4**	**-1.1**
REDR	**Restauracion**	**1.91**	**282**	↓*e*Pg		**Pn**		**23 59 42.5**	**+3.1**
REDR				IAML				00 00 13.0	
	comp=N,242nm,0.1s								
REDR				IAML				00 00 14.6	
	comp=E,349nm,0.1s								
NEDR	**Neiba UASD**	**1.92**	**262**	↑*e*Pg		**Pn**		**23 59 38.4**	**-1.0**
NEDR				↑*e*Sg		**Sn**		**00 00 03.7**	**+0.5**
NEDR				IAML				00 00 07.5	
	comp=N,161nm,0.3s								
NEDR				IAML				00 00 10.3	
	comp=E,151nm,0.6s								
AGPR	**Aguadilla, PR**	**2.21**	**98**	↑*e*Pg		**Pn**		**23 59 43.7**	**+0.5**
AGPR				IAML				00 00 20.2	
	comp=E,426nm,0.5s								
AGPR				IAML				00 00 23.4	
	comp=N,433nm,0.2s								
AGPR	**Aguadilla, PR**	**2.21**	**98**	*i* P		**Pn**		**23 59 43.8**	**+0.6**
AGPR				IAML				00 00 22.1	
	comp=Z,266nm,0.3s								
PRSN	**Puerto Rico Se**	**2.23**	**104**	↑*e*Pg		**Pn**		**23 59 44.9**	**+1.4**
PRSN				IAML				00 00 19.3	
	comp=N,565nm,0.2s								
PRSN				IAML				00 00 21.4	
	comp=E,538nm,0.2s								
CRPR	**Cabo Rojo, PR**	**2.32**	**109**	↑*e*Pg		**Pn**		**23 59 45.5**	**+0.8**
CRPR				IAML				00 00 25.6	
	comp=E,122nm,0.3s								
CRPR				IAML				00 00 25.8	
	comp=N,84nm,0.5s								
CRPR	**Cabo Rojo, PR**	**2.32**	**109**	*i* P		**Pn**		**23 59 45.5**	**+0.8**
CRPR				IAML				00 00 27.1	
	comp=Z,169nm,0.5s								
JIDR	**Jimani**	**2.33**	**263**	↓*e*Pg		**Pn**		**23 59 44.5**	**-0.2**
JIDR				IAML				00 00 15.2	
	comp=N,130nm,0.7s								
JIDR				IAML				00 00 15.2	
	comp=N,114nm,0.7s								
MLPR	**Magueyes Islan**	**2.39**	**109**	↑*e*Pg		**Pn**		**23 59 46.1**	**+0.5**
MLPR				IAML				00 00 24.6	
	comp=E,111nm,0.2s								
MLPR				IAML				00 00 25.6	
	comp=N,84nm,0.6s								
MCDR	**Montecristi**	**2.39**	**298**	IAML				00 00 25.7	
	comp=N,232nm,0.2s								
MCDR				IAML				00 00 25.8	
	comp=N,306nm,0.4s								
AOPR	**Arecibo Observ**	**2.56**	**99**	↑*e*Pg		**Pn**		**23 59 49.0**	**+1.1**
AOPR				↓*e*Sg		**Sn**		**00 00 17.7**	**-0.7**
AOPR				IAML				00 00 27.4	
	comp=N,1μm,0.3s								
AOPR				IAML				00 00 31.0	
	comp=E,1μm,0.3s								
AOPR	**Arecibo Observ**	**2.56**	**99**	*e*P		**Pn**		**23 59 47.7**	**-0.2**
AOPR				*e*S		**Sn**		**00 00 18.9**	**+0.4**
CELP	**Cerrillos**	**2.78**	**104**	↑*e*Pg		**Pn**		**23 59 51.9**	**+1.0**
CELP				IAML				00 00 33.3	
	comp=N,195nm,0.2s								
GRTK	**Grand Turk**	**3.17**	**330**	*e*Pg		**Pn**		**23 59 54.4**	**-1.6**
GRTK				↑*e*Sg		**Sn**		**00 00 29.4**	**-3.5**
GRTK				IAML				00 00 30.2	
	comp=N,80nm,0.8s								
GRTK				IAML				00 00 32.2	
	comp=E,94nm,0.5s								
GRTK	**Grand Turk**	**3.17**	**330**	*i* P		**Pn**		**23 59 54.4**	**-1.6**
GRTK				*e*S		**Sn**		**00 00 30.4**	**-2.5**
GRTK				IAML				00 00 38.9	
	comp=Z,99nm,1.8s								
ANBD	**Bethesda, Anti**	**7.48**	**102**	*e*P		**Pn**		**00 00 52.2**	**-2.5**
ANBD				*e*S		**Sn**		**00 02 11.8**	**-6.2**

*NEIC **08** 00:30:07.3±0.7, 19°.44N±0°.03×154°.979W±0°.008, h5km±1km, Error ellipse: s-maj=5.3km s-min=2.6km az=169.0*
HVO 08 00:30:06.0±1.0, **19°.42N**±0°.03×**154°.91W**±0°.03, **h4**km±9km, **ML2.6**/4, **ML2.4**/20(NEIC), **Error ellipse: s-maj=4.7km s-min=3.5km az=111.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**21**			Pg		00 30 09.4	+2.0
JOKA	**Jonika Flow**	**0.09**	**277**			Pg		00 30 08.2	+0.4
JOKA						Sg		00 30 10.3	+1.3
JCUZ	**Jacuzzi**	**0.18**	**257**			Pg		00 30 09.9	+0.3
NPOC	**North of Pu'u**	**0.19**	**261**			Pg		00 30 09.9	+0.2
STCH	**Steam Cracks**	**0.20**	**259**			Pg		00 30 10.3	+0.3
STCH						IAML		00 30 12.8	
	comp=E,296nm,0.8s								
KNHH	**Kane Nui o Ham**	**0.24**	**260**			Pg		00 30 12.5	+1.7
PUH	**Pauahi**	**0.29**	**260**			Pg		00 30 11.8	+0.1
PUH						IAML		00 30 17.2	
	comp=E,366nm,1.7s								
PUH						IAML		00 30 19.4	
	comp=N,679nm,0.8s								
HLP	**Hilina Pali**	**0.39**	**251**			Pg		00 30 14.4	+0.8
HLP	**Hilina Pali**	**0.39**	**251**			IAML		00 30 15.5	
	comp=N,660nm,1.1s								
HLP						IAML		00 30 18.1	
	comp=E,761nm,2.5s								
MLH	**Mauna Loa**	**0.45**	**279**			Pg		00 30 15.2	+0.5
MLH	**Mauna Loa**	**0.45**	**279**			IAML		00 30 19.8	
	comp=N,342nm,1.2s								
MLH						IAML		00 30 30.5	
	comp=E,264nm,0.8s								
HTC	**Hot Caves**	**0.49**	**248**			Pg		00 30 15.9	+0.4
HMH	**Humu'ula Sheep**	**0.57**	**288**			Pg		00 30 17.3	+0.4
HMH	**Humu'ula Sheep**	**0.57**	**288**			IAML		00 30 31.2	
	comp=N,397nm,0.4s								
HMH						IAML		00 30 36.9	
	comp=E,274nm,0.8s								
MWH	**Moku'aweowe**	**0.65**	**276**			Pg		00 30 18.1	-0.4
MWH	**Moku'aweowe**	**0.65**	**276**			IAML		00 30 21.8	
	comp=N,291nm,1.5s								
MWH						IAML		00 30 26.9	
	comp=E,436nm,1.5s								
KHU	**Kahuku**	**0.69**	**255**			Pg		00 30 18.8	-0.4
KHU	**Kahuku**	**0.69**	**255**			IAML		00 30 35.1	
	comp=N,306nm,3.6s								
ALEP	**Alea Permanent**	**0.70**	**280**			Pg		00 30 18.7	-0.8
HUH	**Hualalai**	**0.91**	**287**			Pg		00 30 23.6	+0.1
MHA	**Mahukona**	**1.20**	**309**			Pg		00 30 27.6	-1.5

*IDC **08** 00:44:06.7±0.8, 39°.69N×75°.79E, h0km, mb4.1/23, mbtmp4.2/29, ML3.5/6, MS3.9/65, Error ellipse: s-maj=16.2km s-min=12.6km az=167.0*
*SOME **08** 00:44:08.0, 39°.95N×75°.98E, h10km, MS4.4*
*MOS **08** 00:44:08.7±1.4, 39°.80N×75°.85E, h10km, mb4.5/25, Error ellipse: s-maj=5.3km s-min=3.4km az=96.8*
*BJI **08** 00:44:09.2±0.0, 40°.11N×75°.74E, h11km, mb4.2/20, mB4.8/10, ML4.5/9, Ms4.2/21, Ms7 3.8/21*
*NEIC **08** 00:44:10.2±2.4, 39°.95N±0°.07×75°.99E±0°.08, h10km±1km, mb4.6/24, Mwr4.4/34, Error ellipse: s-maj=12.5km s-min=9.2km az=200.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr-0.62; Mθθ-0.94; Mφφ1.56; Mrθ4.54; Mrφ-1.54; Mθr-0.70; Fault plane solution: M₀5.03000×10¹⁵ NP1:φs189.30000°, δ23.53000°, λ-6.49000°. NP2:φs285.26000°, δ87.41000°, λ-113.40000°. Principal axes: T 4.5837, Plg38.0000°, Azm36.0000°; N 0.7952, Plg23.0000°, Azm286.0000°; P -5.3790, Plg43.0000°, Azm173.0000°;*
*KRNET **08** 00:44:10.3±0.1, 39°.91N×75°.85E, mb4.8*
*NNC **08** 00:44:12.8±1.2, 40°.13N×75°.89E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=9.0km s-min=6.1km az=161.0*
*NEIC **08** 00:44:13.6, 39°.88N×75°.95E, h38km*
ISC 08 00:44:10.2±0.7, **39°.99N**±0°.02×**75°.72E**±0°.02, **h9**km±4km, **n339**, σ2°**25**/386, **mb4.4**/52, **MS4.0**/68, **47C-33D**, **Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.51**	**157**			Pg	**Pn**	**00 44 28.3**	**+4.6**
KSH						Sg	**Sn**	**00 44 41.5**	**+8.9**
KSH						smax	smax		
	comp=N,11μm,0.7s								
KSH						smax	smax		
	comp=E,9μm,0.8s								
SFK	**Sufi-Kurgan**	**1.70**	**272**	↓*i*P			**Pg**	**00 44 43.8**	**+0.9**
	baz=74								
SFK				↓*i*S			**Sg**	**00 45 08.2**	**+3.3**
	baz=74								
SFK	**Sufi-Kurgan**	**1.70**	**272**	↓*i*PN			**Pg**	**00 44 43.8**	**+0.9**
SFK				*i* S			**Sg**	**00 45 08.2**	**+3.3**
ARLS	**Aral**	**2.15**	**331**	↓*i*P			**Pb**	**00 44 50.1**	**+0.7**
	baz=30								
ARLS				↓*i*S			**Sg**	**00 45 19.3**	**0.0**
	baz=30								
ARLS	**Aral**	**2.15**	**331**	*i* PN			**Pb**	**00 44 49.5**	**+0.1**
ARLS				*i* S			**Sg**	**00 45 19.3**	**0.0**
ULHL	**Ulahol**	**2.29**	**10**	P			**Pb**	**00 44 51.8**	**-0.1**
	SNR=983								
ULHL	**Ulahol**	**2.29**	**10**	↑*e*P			**Pb**	**00 44 51.7**	**-0.1**
	baz=7.0								
ULHL				↑*i*S			**Sg**	**00 45 21.8**	**-2.0**
	baz=7.0								
ULHL	**Ulahol**	**2.29**	**10**	*e*PN			**Pb**	**00 44 51.7**	**-0.1**
ULHL				*i* S			**Sg**	**00 45 21.8**	**-2.0**
OHH	**Osh**	**2.31**	**284**	↓*i*P			**Pb**	**00 44 52.4**	**+0.4**
	baz=86								
OHH				↓*i*S			**Sg**	**00 45 23.4**	**-1.0**
	baz=86								
OHH	**Osh**	**2.31**	**284**	↓*i*PN			**Pb**	**00 44 52.4**	**+0.4**
OHH				*i* S			**Sg**	**00 45 23.4**	**-1.0**
TARG	**Taragay, Kyrgy**	**2.35**	**42**				**Pn**	**00 44 50.6**	**+1.3**
TARG	**Taragay, Kyrgy**	**2.35**	**42**	PN			**Pn**	**00 44 50.6**	**+1.3**
KDJ	**Kajisay**	**2.41**	**27**	↑*e*P			**Pb**	**00 44 52.6**	**-1.2**
	baz=24								
KDJ				↑*e*S			**Sb**	**00 45 23.9**	**+0.2**
	baz=24								
UCH	**Uchtor**	**2.42**	**338**	P			**Pb**	**00 44 54.1**	**0.0**
	SNR=3379								
UCH	**Uchtor**	**2.42**	**338**	↑*i*P			**Pb**	**00 44 54.5**	**+0.4**
	baz=37								
UCH				↑*i*S			**Sg**	**00 45 26.1**	**-1.8**
	baz=37								
UCH	**Uchtor**	**2.42**	**338**	*i* PN			**Pb**	**00 44 54.5**	**+0.4**
UCH				*i* S			**Sg**	**00 45 26.1**	**-1.8**
ARSB	**Arslanbob**	**2.47**	**304**				**Pb**	**00 44 54.7**	**-0.2**
ARSB	**Arslanbob**	**2.47**	**304**	↑*e*P			**Pb**	**00 44 54.9**	**0.0**
	baz=4.0								
ARSB				↑*i*S			**Sg**	**00 45 27.7**	**-2.0**

baz=4.0
ARSB Arslanbob 2.47 304 *e*PN **Pb 00 44 54.9 0.0**
ARSB *i* S **Sg 00 45 27.7 -2.0**
BOOM Boomskoye usch 2.51 4 Pn **Pb 00 44 54.2 -1.2**
BOOM Boomskoye usch 2.51 4⇑*i*P **Pb 00 44 54.9 -0.6**
baz=1.0
BOOM ⇑*i*S **Sb 00 45 27.2 +0.7**
baz=1.0
BOOM Boomskoye usch 2.51 4 *i* PN **Pb 00 44 54.9 -0.6**
BOOM *i* S **Sb 00 45 27.2 +0.7**
KBK Karagaybulak 2.73 348 P **Pb 00 44 58.6 -0.6**
SNR=562
KBK Karagaybulak 2.73 348⇑*i*P **Pb 00 44 58.3 -1.0**
baz=46
KBK ⇑*i*S **Sb 00 45 33.1 +0.2**
baz=46
KBK Karagaybulak 2.73 348 *i* PN **Pb 00 44 58.3 -1.0**
KBK *i* S **Sb 00 45 33.1 +0.2**
AAK Ala-Archa 2.80 341 P **Pb 00 44 59.8 -0.7**
SNR=96
AAK Ala-Archa 2.80 341 ⇓Pn **Pb 00 45 00.0 -0.5**
640nm,0.7s
AAK ⇓Lg Lg 00 45 37.5
6μm,0.9s
AAK Ala-Archa 2.80 341 Pn **Pb 00 44 59.5 -1.1**
AAK Ala-Archa 2.80 341 Pn **Pb 00 44 59.8 -0.7**
36nm,0.3s,baz=165,slow=7.9,SNR=325
AAK Lg Lg 00 45 37.5
101nm,0.3s,baz=283,slow=20,SNR=17
AAK LR LR 00 45 41.1
comp=Z,418nm,18.1s,baz=227,slow=30
997nm,0.8s
AAK Ala-Archa 2.80 341 ⇓*i*P **Pb 00 44 59.3 -1.2**
baz=40
AAK ⇓*i*S **Sb 00 45 35.0 0.0**
baz=40
AAK Ala-Archa 2.80 341*c i*PN **Pb 00 44 59.7 -0.8**
AAK pmax pmax
comp=Z,1μm,0.8s
TKM2 Tokmak 2 2.93 358 P **Pb 00 45 01.4 -1.3**
SNR=270
TKM2 Tokmak 2 2.93 358 ⇑Pn **Pb 00 45 01.1 -1.6**
comp=Z,409nm,0.6s
TKM2 ⇑Lg Lg 00 45 42.6
comp=Z,2μm,0.6s
TKM2 Tokmak 2 2.93 358 ⇓*i*P **Pb 00 45 00.8 -1.9**
baz=56
TKM2 ⇓*i*S **Sb 00 45 37.7 -1.1**
baz=56
TKM2 Tokmak 2 2.93 358 PN **Pb 00 45 01.0 -1.7**
FRU1 Bishkek 2.94 344 P **Pb 00 45 01.4 -1.3**
FRU1 Bishkek 2.94 344⇑*i*P **Pb 00 45 01.7 -1.0**
baz=43
FRU1 ⇑*i*S **Sb 00 45 38.6 -0.1**
baz=43
FRU1 Bishkek 2.94 344 PN **Pb 00 45 01.5 -1.3**
EKS2 Erkin-Say 3.05 332 P **Pb 00 45 03.5 -1.2**
SNR=188
EKS2 Erkin-Say 3.05 332 ⇓*i*P **Pb 00 45 03.0 -1.6**
baz=31
EKS2 ⇓*i*S **Sb 00 45 41.3 -0.6**
baz=31
EKS2 Erkin-Say 3.05 332 ⇓*i*PN **Pb 00 45 03.0 -1.6**
EKS2 *i* S **Sb 00 45 41.3 -0.6**
KST Kastek 3.06 3 Pg **Pb 00 45 04.0 -0.8**
comp=Z,583nm,0.7s
KST Lg Lg 00 45 44.1
comp=Z,857nm,0.9s
KST Kastek 3.06 3 *e*P **Pb 00 45 03.2 -1.7**
comp=Z,569nm,0.5s
KST *e*S **Sb 00 45 43.2 +0.9**
comp=Z,857nm,0.9s
DRK Karamyk 3.06 262 **Pb 00 45 02.5 -2.5**
DRK Karamyk 3.06 262 ⇓*i*P **Pb 00 45 03.0 -2.0**
baz=64
DRK ⇓*i*S **Sb 00 45 41.2 -1.4**
baz=64
DRK Karamyk 3.06 262 PN **Pb 00 45 02.5 -2.5**
CHMS Chumysh 3.10 347 P **Pb 00 45 03.6 -1.9**
SNR=35
CHMS Chumysh 3.10 347 ⇓Pn **Pb 00 45 03.6 -1.9**
comp=Z,132nm,0.5s
CHMS ⇑Lg Lg 00 45 49.1
comp=Z,691nm,0.7s
CHMS Pg **Sg 00 45 52.4 +2.8**
comp=Z,82nm,0.8s
CHMS Lg Lg 00 47 07.5
comp=Z,383nm,1.3s
CHMS Chumysh 3.10 347 ⇓*i*P **Pb 00 45 03.0 -2.4**
baz=45
CHMS ⇓*i*S **Sb 00 45 41.6 -1.7**
baz=45
CHMS Chumysh 3.10 347 ⇓*i*PN **Pb 00 45 03.0 -2.4**
CHMS *i* S **Sb 00 45 41.6 -1.7**
IZV Izvestkoviy 3.12 12 Pg **Pb 00 45 07.2 +1.3**
comp=Z,311nm,0.7s
IZV Lg Lg 00 45 49.8
comp=Z,2μm,0.7s
IZV Izvestkoviy 3.12 12 *e*P **Pb 00 45 07.2 +1.3**
comp=Z,311nm,0.7s
IZV *e*S **Sg 00 45 49.8 -0.6**
comp=Z,2μm,0.7s
ANVS Anan'yevo 3.15 27⇑*e*P **Pn 00 45 03.2 +3.0**
baz=25
ANVS ⇑*e*S **Sb 00 45 41.5 -3.6**
baz=25
TNSS Tian-Shan 3.18 16 Pg **Pb 00 45 05.3 -1.9**
comp=Z,624nm,0.7s
TNSS Lg Lg 00 45 47.0
comp=Z,674nm,0.8s
TNSS Tian-Shan 3.18 16 *e*Pn **Pn 00 45 03.9 +3.1**
baz=14
TNSS *e*Pg **Pg 00 45 11.6 +0.4**
baz=14
TNSS Tian-Shan 3.18 16 *e*P **Pb 00 45 05.4 -1.7**
comp=Z,624nm,0.7s
TNSS *e*S **Sb 00 45 47.0 +0.8**
comp=Z,674nm,0.8s
TNSS Tian-Shan 3.18 16 *e*PN **Pn 00 45 03.9 +3.1**
TNSS *e* 00 45 11.5
MTBS Maitube 3.19 9 Pg **Pb 00 45 07.7 +0.7**
comp=Z,433nm,0.7s
MTBS Lg Lg 00 45 51.2
comp=Z,883nm,0.6s
MTBS Maitube 3.19 9 *e*P **Pb 00 45 07.7 +0.7**
comp=Z,433nm,0.7s
MTBS *e*S **Sg 00 45 51.2 -1.3**
comp=Z,883nm,0.6s
PRZ Przheval'sk 3.21 38⇑*e*P **Pn 00 45 03.6 +2.7**
baz=36
PRZ ⇑*e*S **Sn 00 45 42.7 +3.3**
baz=36
DGS Degeres 3.25 1 Pg **Pb 00 45 08.9 +0.8**
comp=Z,251nm,0.6s
DGS Lg Lg 00 45 53.1
comp=Z,567nm,0.6s
DGS Degeres 3.25 1 *e*P **Pb 00 45 08.9 +0.8**
comp=Z,251nm,0.6s
DGS *e*S **Sg 00 45 53.1 -1.5**
comp=Z,567nm,0.6s
MDOK Medeo 3.33 17 ⇑Pn **Pb 00 45 06.2 -3.2**
comp=Z,216nm,0.5s
MDOK Pg **Pb 00 45 09.4 0.0**
comp=Z,84nm,1.2s
MDOK ⇑Lg Lg 00 45 53.9
comp=Z,2μm,0.7s
MDOK Lg Lg 00 45 54.1
comp=Z,849nm,1.1s
MDOK Medeo 3.33 17 *e*Pn **Pn 00 45 05.9 +3.4**
baz=15
MDOK *e*Pg **Pg 00 45 13.5 -0.5**
baz=15
MDOK Medeo 3.33 17 *e*P **Pb 00 45 09.4 0.0**
comp=Z,84nm,1.2s
MDOK *e*S **Sg 00 45 54.1 -2.9**
comp=Z,849nm,1.1s
MDOK Medeo 3.33 17 *e*PN **Pn 00 45 05.9 +3.4**
MDOK *e* 00 45 13.4
MRKS Merke 3.33 327 Pg **Pb 00 45 11.4 +1.9**
comp=Z,147nm,0.7s
MRKS Lg Lg 00 45 57.5
comp=Z,571nm,0.6s
MRKS Merke 3.33 327 *e*P **Pb 00 45 11.4 +1.9**
comp=Z,147nm,0.7s
MRKS *e*S **Sg 00 45 57.5 +0.3**
comp=Z,571nm,0.6s
AAA Alma-Ata 3.34 15 *e*Pn **Pn 00 45 05.4 +2.8**
baz=13
AAA *e*Pg **Pg 00 45 14.4 +0.2**
baz=13
AAA Alma-Ata 3.34 15 *e*PN **Pb 00 45 06.7 -2.9**
KNDC Almaty 3.36 16 PN **Pb 00 45 07.0 -2.9**
ARK Arkit 3.37 304⇑*i*P **Pb 00 45 07.3 -2.9**
baz=4.0
ARK ⇑*i*S **Sb 00 45 48.9 -2.4**
baz=4.0
ARK Arkit 3.37 304 *i* PN **Pb 00 45 07.3 -2.9**
ARK *i* S **Sb 00 45 48.9 -2.4**
USP Ospenovka 3.40 345 P **Pb 00 45 07.7 -3.0**
SNR=115
USP Ospenovka 3.40 345⇑*i*P **Pb 00 45 07.4 -3.2**
baz=44
USP ⇑*i*S **Sb 00 45 49.0 -3.1**
baz=44
USP Ospenovka 3.40 345 *i* PN **Pb 00 45 07.4 -3.2**
USP *i* S **Sb 00 45 49.0 -3.1**
KOTS Kotyrbulak 3.41 17 Pg **Pb 00 45 11.8 +0.9**
comp=Z,132nm,0.8s
KOTS Lg Lg 00 45 58.0
comp=Z,3μm,0.8s
KOTS Kotyrbulak 3.41 17 *e*P **Pb 00 45 11.8 +0.9**
comp=Z,132nm,0.8s
KOTS *e*S **Sg 00 45 58.0 -1.6**
comp=Z,3μm,0.8s
MNAS Manas 3.48 317⇑*i*P **Pb 00 45 08.5 -3.5**
baz=17
MNAS ⇑*i*S **Sb 00 45 51.8 -2.7**
baz=17
MNAS Manas 3.48 317 *i* PN **Pb 00 45 08.3 -3.7**
MNAS *i* S **Sb 00 45 51.8 -2.7**
SGDS Sogindy 3.56 347 Pg **Pb 00 45 15.1 +1.8**
comp=Z,169nm,0.8s
SGDS Lg Lg 00 46 03.5
comp=Z,565nm,1.2s
SGDS Sogindy 3.56 347 *e*Pn **Pn 00 45 09.1 +3.4**
baz=346
SGDS *e*Pg **Pg 00 45 18.5 +0.1**
baz=346
SGDS Sogindy 3.56 347 *e*PN **Pn 00 45 09.0 +3.4**
SGDS *e* 00 45 18.4
SATY Saty 3.67 32 Pg **Pb 00 45 15.6 +0.3**
comp=Z,129nm,1.2s
SATY Lg Lg 00 46 05.0
comp=Z,985nm,1.3s
SATY Saty 3.67 32 *e*Pn **Pn 00 45 10.1 +2.9**
baz=30
SATY *e*Pg **Pg 00 45 19.2 -1.4**
baz=30
SATY Saty 3.67 32 *e*P **Pb 00 45 15.6 +0.3**
comp=Z,129nm,1.2s
SATY *e*S **Sg 00 46 05.0 -3.2**
comp=Z,985nm,1.3s
SATY Saty 3.67 32 *e*PN **Pn 00 45 10.1 +2.9**
SATY *e* 00 45 19.1
KRBS Karabastau 3.71 360 Pg **Pb 00 45 16.8 +1.0**
comp=Z,223nm,1.1s
KRBS Lg Lg 00 46 06.8
comp=Z,159nm,0.7s
KRBS Karabastau 3.71 360 *e*P **Pb 00 45 16.8 +1.0**
comp=Z,223nm,1.1s
KRBS *e*S **Sg 00 46 06.8 -2.4**
comp=Z,159nm,0.7s
BTK Batken 3.76 273 **Pn 00 45 12.5 +4.1**
BTK Batken 3.76 273⇑*i*P **Pn 00 45 12.6 +4.1**
baz=74
BTK ⇑*i*S **Sb 00 45 58.1 -4.5**
baz=74
BTK Batken 3.76 273 *i* PN **Pn 00 45 12.6 +4.1**
BTK *i* S **Sb 00 45 58.1 -4.5**
ZHN Zhinishke 3.77 32 Pg **Pb 00 45 18.1 +1.0**
comp=Z,53nm,0.8s
ZHN Lg Lg 00 46 08.3
comp=Z,979nm,0.6s
ZHN Zhinishke 3.77 32 *e*Pn **Pn 00 45 11.4 +2.8**
baz=29
ZHN *e*Pg **Pg 00 45 20.8 -1.7**
baz=29
ZHN Zhinishke 3.77 32 *e*P **Pb 00 45 18.1 +1.0**
comp=Z,53nm,0.8s
ZHN *e*S **Sg 00 46 08.3 -3.1**
comp=Z,979nm,0.6s
ZHN Zhinishke 3.77 32 *e*PN **Pn 00 45 11.4 +2.8**
ZHN *e* 00 45 20.7
KTBS Karatobe 3.79 11 Pg **Pb 00 45 18.2 +1.0**
comp=Z,384nm,1.0s
KTBS Lg Lg 00 46 09.4
comp=Z,2μm,0.3s
KTBS Karatobe 3.79 11 *e*P **Pb 00 45 18.2 +1.0**
comp=Z,384nm,1.0s
KTBS *e*S **Sg 00 46 09.4 -2.5**
comp=Z,2μm,0.3s
TRKS Terek-Say 3.80 295⇑*e*P **Pn 00 45 12.5 +3.4**
baz=95
TRKS ⇑*e*S **Sb 00 45 58.6 -5.2**
baz=95
KURS Kuram 3.95 27 Pg **Pb 00 45 20.0 0.0**
comp=Z,190nm,0.8s
KURS Lg Lg 00 46 12.2
comp=Z,1μm,0.9s
KURS Kuram 3.95 27 *e*P **Pb 00 45 20.0 0.0**
comp=Z,190nm,0.8s
KURS *e*S **Sb 00 46 12.2 +4.3**
comp=Z,1μm,0.9s
CHKK Chushkaly 3.98 13 Pg **Pb 00 45 22.2 +1.7**
comp=Z,81nm,0.9s
CHKK Lg Lg 00 46 15.7
comp=Z,734nm,0.4s
CHKK Chushkaly 3.98 13 *e*Pn **Pn 00 45 14.9 +3.5**
baz=12
CHKK *e*Pg **Pg 00 45 25.5 -0.9**
baz=12
CHKK Chushkaly 3.98 13 *e*P **Pb 00 45 22.2 +1.7**
comp=Z,81nm,0.9s
CHKK *e*S **Sg 00 46 15.7 -2.2**
comp=Z,734nm,0.4s
CHKK Chushkaly 3.98 13 *e*PN **Pn 00 45 14.8 +3.5**
CHKK *e* 00 45 25.4
SHLS Shalkode 4.23 40 Pg **Pg 00 45 30.6 -0.7**
comp=Z,276nm,0.8s
SHLS Lg Lg 00 46 29.8
comp=Z,1μm,0.7s
SHLS Shalkode 4.23 40 *e*Pn Pn 00 45 19.9 +5.0
baz=41
SHLS *e*Pg **Pg 00 45 32.9 +1.6**
baz=41
SHLS Shalkode 4.23 40 *e*P **Pg 00 45 30.6 -0.7**
comp=Z,276nm,0.8s
SHLS *e*S **Sg 00 46 29.8 +3.7**
comp=Z,1μm,0.7s
SHLS Shalkode 4.23 40 *e*PN Pn 00 45 19.9 +5.0
SHLS *e* 00 45 32.8
GAR Garm 4.29 258 **Pn 00 45 19.2 +3.4**
GAR Garm 4.29 258⇑*i*P **Pn 00 45 19.0 +3.2**
baz=60
GAR ⇑*i*S **Sn 00 46 10.3 +4.2**
baz=60
GAR Garm 4.29 258 *i* PN **Pn 00 45 19.0 +3.2**
GAR *i* S **Sn 00 46 10.3 +4.2**
PDGK Podgornoye 4.37 39 Pg **Pb 00 45 27.8 +0.6**
comp=Z,36nm,1.3s
PDGK Lg Lg 00 46 25.8
comp=Z,284nm,1.0s
PDGK Podgornoye 4.37 39 PN **Pn 00 45 19.6 +2.7**
PDGK 00 45 29.8
DZA Taraz 4.39 313 Pg **Pg 00 45 36.3 +2.0**
comp=Z,162nm,0.7s
DZA Lg Lg 00 46 39.8
comp=Z,695nm,1.4s
DZA Taraz 4.39 313 *e*P **Pg 00 45 36.3 +2.0**
comp=Z,162nm,0.7s
DZA *e*S Sg 00 46 39.8 +8.5
comp=Z,695nm,1.4s
ARXS Arharly 4.50 20 Pg **Pb 00 45 30.2 +0.8**
comp=Z,118nm,0.6s
ARXS Lg Lg 00 46 29.9
comp=Z,536nm,1.3s
ARXS Arharly 4.50 20 *e*P **Pb 00 45 30.2 +0.8**
comp=Z,118nm,0.6s
ARXS *e*S **Sg 00 46 29.9 -4.9**
comp=Z,536nm,1.3s
ARXS Arharly 4.50 20 *e*PN **Pn 00 45 21.7 +3.1**
BLB Baldybastay 4.59 26 Pg **Pb 00 45 31.9 +1.0**
comp=Z,211nm,1.0s
BLB Lg Lg 00 46 32.9
comp=Z,585nm,1.1s
IUG luzhnay 4.81 298 Pg **Pg 00 45 42.0 -0.4**
comp=Z,109nm,0.4s
IUG Lg Lg 00 46 49.9
comp=Z,729nm,1.6s
IUG luzhnay 4.81 298 *e*Pn **Pn 00 45 26.8 +3.9**
baz=300
IUG *e*Pg **Pg 00 45 41.4 -0.9**
baz=300
IUG luzhnay 4.81 298 *e*P **Pg 00 45 42.0 -0.4**
comp=Z,109nm,0.4s
IUG *e*S **Sg 00 46 49.9 +5.2**
comp=Z,729nm,1.6s
IUG luzhnay 4.81 298 *e*PN **Pn 00 45 26.7 +3.9**
IUG *e* 00 45 41.4
KTMS Ketmen 4.89 44 Pg **Pb 00 45 38.1 +1.9**
comp=Z,24nm,1.0s
KTMS Lg Lg 00 46 42.3
comp=Z,291nm,0.9s
KTMS Ketmen 4.89 44 *e*P **Pb 00 45 38.1 +1.9**
comp=Z,24nm,1.0s
KTMS *e*S **Sg 00 46 42.3 -5.0**
comp=Z,291nm,0.9s
KK31 Karatay Array 5.00 310 *i* PN **Pn 00 45 28.6 +3.3**
KK31 00 45 42.7
KNOS Konyrlen 5.07 29 Pg **Pb 00 45 41.3 +2.2**
comp=Z,168nm,1.2s
KNOS Lg Lg 00 46 48.7
comp=Z,181nm,1.0s
CHM Chimkent 5.17 299 *e*P **Pg 00 45 52.4 +3.2**
comp=Z,82nm,0.8s
CHM *e*S Sg 00 47 07.5 +11
comp=Z,383nm,1.3s
BTLS Baital 5.20 347 Pg **Pb 00 45 43.4 +2.1**
comp=Z,35nm,0.8s
BTLS Lg Lg 00 46 52.2
comp=Z,32nm,1.1s
BTLS Baital 5.20 347 *e*Pn **Pn 00 45 32.0 +3.8**
baz=346
BTLS *e*Pg **Pg 00 45 49.0 -0.7**
baz=346
BTLS Baital 5.20 347 *e*P **Pb 00 45 43.4 +2.1**
comp=Z,35nm,0.8s
BTLS *e*S **Sg 00 46 52.2 -4.9**
comp=Z,32nm,1.1s
BTLS Baital 5.20 347 *e*PN **Pn 00 45 31.9 +3.8**
BTLS *e* 00 45 49.0
CHGR Chuyangaron 5.26 257 Pn **Pn 00 45 31.7 +2.7**
CHGR Chuyangaron 5.26 257 PN **Pn 00 45 31.7 +2.7**
DJR Jarkent 5.29 34 Pg **Pb 00 45 44.7 +1.9**
comp=Z,17nm,0.8s
DJR Lg Lg 00 46 54.7
comp=Z,166nm,0.5s
DJR Jarkent 5.29 34 *e*P **Pb 00 45 44.7 +1.9**
comp=Z,17nm,0.8s
DJR *e*S **Sg 00 46 54.7 -5.3**
comp=Z,166nm,0.5s
BRLS Boroldoy 5.36 306 Pg **Pg 00 45 49.1 -3.8**
comp=Z,58nm,0.9s
BRLS Lg Lg 00 47 02.2
comp=Z,165nm,1.5s
BRLS Boroldoy 5.36 306 *e*Pn **Pn 00 45 34.2 +3.9**
baz=304
BRLS *e*Pg **Pg 00 45 50.8 -2.0**
baz=304
BRLS Boroldoy 5.36 306 *e*P **Pg 00 45 49.1 -3.8**
comp=Z,58nm,0.9s
BRLS *e*S **Sg 00 47 02.2 -0.1**
comp=Z,3μm,12.7s
BRLS Boroldoy 5.36 306 *e*PN **Pn 00 45 34.2 +3.9**
BRLS *e* 00 45 50.8
SIMJ Simiganj 5.37 258 Pn **Pn 00 45 33.0 +2.4**
TDK Taldyqorghan 5.39 21 Pg **Pb 00 45 46.6 +2.2**
comp=Z,292nm,0.7s
TDK Lg Lg 00 46 57.8
comp=Z,310nm,0.6s
TDK Taldyqorghan 5.39 21 *e*Pn **Pn 00 45 34.4 +3.6**
baz=19
TDK *e*Pg **Pg 00 45 51.2 -2.2**
baz=19
TDK Taldyqorghan 5.39 21 *e*P **Pb 00 45 46.6 +2.2**
comp=Z,292nm,0.7s
TDK *e*S **Sg 00 46 57.8 -5.4**
comp=Z,310nm,0.6s
TDK Taldyqorghan 5.39 21 *e*PN **Pn 00 45 34.3 +3.6**
TDK *e* 00 45 51.2
KAPS Kapalarasan 5.94 26 Pg **Pb 00 45 55.3 +1.5**
comp=Z,27nm,0.8s
KAPS Lg Lg 00 47 12.5
comp=Z,140nm,1.0s
KAPS Kapalarasan 5.94 26 *e*P **Pb 00 45 55.2 +1.5**
comp=Z,27nm,0.8s
KAPS *e*S **Sb 00 47 12.5 +7.5**
comp=Z,140nm,1.0s
NIL Nilore 6.63 198 **Pn 00 45 50.6 +2.8**
NIL Nilore 6.63 198 PN **Pn 00 45 50.6 +2.8**
KBL Kabul 7.61 226 Pn **Pn 00 46 04.2 +2.8**
KBL Kabul 7.61 226 P **Pn 00 46 04.2 +2.8**
DHRM DHARAMSHALA 7.74 176 *e*P **Pn 00 46 04.8 +1.7**
DHRM *e*S **Sn 00 47 23.8 -7.2**
DHRM IAML 00 47 33.2
comp=E,157nm,0.7s
DHRM IAML 00 47 35.5
comp=N,226nm,0.6s
MAKZ Makanchi 8.20 32 ⇑Pn **Pn 00 46 11.9 +2.6**
comp=N,2.1nm,0.6s
MAKZ ⇑Lg Lg 00 48 29.3
comp=N,38nm,0.9s
MAKZ Makanchi 8.20 32 **Pn 00 46 09.2 -0.1**
MAKZ Makanchi 8.20 32 P **Pn 00 46 11.8 +2.6**
MK31 Makanchi Array 8.31 33 **Pn 00 46 10.3 -0.6**
MK31 Makanchi Array 8.31 33*c i*P **Pn 00 46 13.3 +2.4**
MKAR Makanchi Array 8.31 33 Pn Pn 00 46 04.8 -6.0
MKAR Makanchi Array 8.31 33 Pn **Pn 00 46 12.6 +1.7**
comp=N,2.9nm,0.3s,baz=200,slow=14,SNR=101
MKAR Lg Lg 00 48 26.9
comp=N,1.9nm,0.3s,baz=219,slow=27,SNR=2.0
MKAR LR LR 00 49 10.5
comp=N,166nm,18.2s,baz=225,slow=36
comp=N,13nm,0.6s
MKAR Makanchi Array 8.31 33 *i* P **Pn 00 46 13.1 +2.2**
MKAR pmax pmax
comp=Z,12nm,0.6s
OTUK Ortayu 8.61 345 P **Pn 00 46 18.4 +3.6**
SMLA Simla 8.92 172 *e*P **Pn 00 46 20.3 +1.2**
SMLA *ex* x 00 46 45.0
SMLA IAML 00 46 45.9
comp=N,29nm,0.3s
WMQ Urumqi 9.71 63 *e*P **Pn 00 46 31.9 +1.8**
WMQ smax smax
comp=N,66nm,1.5s
WMQ smax smax
comp=N,72nm,1.5s
DDI Dehra Dun 9.83 168 *ex* x 00 46 46.5
DDI *ex* x 00 48 21.9
DDI IAML 00 48 28.0
comp=E,151nm,0.3s
DDI IAML 00 48 33.8
comp=N,172nm,0.3s
BRZS Berezniki 10.22 349 *e*Pn **Pn 00 46 40.6 +3.6**
baz=349
BRZS Berezniki 10.22 349 *e*P **Pn 00 46 40.6 +3.6**
KURBB Kurchatov Arra 10.82 10 Pn **Pn 00 46 47.0 +1.9**
comp=N,0.1nm,0.3s,baz=193,slow=12,SNR=15
KURBB Lg Lg 00 49 49.4
comp=N,0.3nm,0.3s,baz=3.4,slow=16,SNR=5.2
KURBB LR LR 00 51 09.4
comp=N,1μm,19.4s,baz=180,slow=38
comp=N,1.9nm,0.7s
KURBB Kurchatov Arra 10.82 10 P **Pn 00 46 46.4 +1.3**
KURK Kurchatov 10.92 10⇑Pn **Pn 00 46 46.9 +0.4**
comp=N,1.9nm,0.6s
KURK ⇑Lg Lg 00 49 55.4
comp=N,298nm,1.2s
KURK Kurchatov 10.92 10 **Pn 00 46 47.7 +1.3**
KURK Kurchatov 10.92 10*de*P **Pn 00 46 47.8 +1.3**
HRA Herat 12.11 247 Pn **Pn 00 47 02.7 -0.4**
BVA0 Borovoye Array 13.54 346 P **Pn 00 47 22.3 0.0**
BVAR Borovoye Array 13.54 346 Pn **Pn 00 47 22.6 +0.3**
comp=N,0.1nm,0.3s,baz=154,slow=11,SNR=32
BVAR Lg Lg 00 51 15.6
comp=N,0.1nm,0.3s,baz=151,slow=30,SNR=6.6
BVAR LR LR 00 52 46.7
comp=N,947nm,20.1s,baz=158,slow=38
comp=N,6.5nm,0.7s
BRVK Borovoye 13.59 346⇑Pn **Pn 00 47 23.1 +0.1**
comp=N,4.4nm,0.5s

BRVK ⇑Lg Lg 00 51 22.5
comp=N,99nm,1.4s
BRVK Borovoye 13.59 346 Pn **Pn** **00 47 23.8 +0.8**
BRVK Borovoye 13.59 346 *de*P **Pn** **00 47 23.5 +0.5**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
GEYT Alibeck 13.85 267 Pn **Pn** **00 47 25.1 -1.6**
GEYT Alibeck 13.85 267 Pn **Pn** **00 47 24.3 -2.4**
comp=Z,0.4nm,0.3s,baz=86,slow=9.5,SNR=10.0
GEYT Sn **Sn** **00 49 54.6 -6.0**
comp=Z,2.3nm,0.3s,baz=91,slow=19,SNR=9.2
GEYT LR LR 00 53 30.3
comp=Z,228nm,18.0s,baz=66,slow=41
comp=Z,3.0nm,0.7s
GEYT Alibeck 13.85 267 P **Pn** **00 47 25.1 -1.6**
GYA0 ALIBECK ARRAY 13.85 267 P **Pn** **00 47 30.5 +3.8**
GYA0B ALIBECK ARRAY 13.85 267 Pn **Pn** **00 47 25.8 -0.8**
AB31 Akbulak array 14.54 315 P **Pn** **00 47 35.5 -0.4**
ABKAR Akbulak array 14.54 315 Pn **Pn** **00 47 36.4 +0.5**
ABKAR Akbulak array 14.54 315 Pn **Pn** **00 47 36.2 +0.2**
ZAA0 Zalesovo Array 15.27 21 Pn **Pn** **00 47 46.1 +0.4**
ZALV Zalesovo Beam 15.27 21 Pn **Pn** **00 47 45.4 -0.3**
ZALV Zalesovo Beam 15.27 21 Pn **Pn** **00 47 45.1 -0.6**
comp=Z,0.3nm,0.3s,baz=208,slow=11,SNR=18
ZALV Lg Lg 00 52 09.0
comp=Z,0.1nm,0.3s,baz=215,slow=25,SNR=2.2
ZALV LR LR 00 54 02.2
comp=Z,542nm,19.8s,baz=211,slow=38
comp=Z,4.8nm,0.8s
ZALV Zalesovo Beam 15.27 21 *i*P **Pn** **00 47 46.4 +0.7**
ZALV pmax pmax
comp=Z,5.0nm,0.8s
GOMU GeErMu 15.50 98 P **Pn** **00 47 47.0 -2.3**
GOMU pP P 00 47 51.4 -2.4
GOMU pmax pmax
comp=Z,10.0nm,0.6s
GOMU LR LR
comp=Z,240nm,9.7s
GOMU LR LR
comp=Z,300nm,13.4s
GOMU LR LR
comp=Z,530nm,9.5s
AKTO Aktyubinsk 16.23 316 Pn **P** **00 47 59.9 -1.4**
comp=Z,0.3nm,0.3s,baz=119,slow=9.3,SNR=22
AKTO Lg Lg 00 52 44.0
comp=Z,0.1nm,0.3s,baz=339,slow=20,SNR=2.4
AKTO LR LR 00 54 56.0
comp=Z,556nm,21.2s,baz=73,slow=39
BHPL Bhopal 16.76 175 *e*P **Pn** **00 48 06.8 +1.7**
BHPL *e*S **Sn** **00 51 07.6 -3.9**
GTA Gaotai 18.54 84 *e*P **Pn** **00 48 28.4 +1.1**
GTA pP sP 00 48 34.4 +2.5
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA LR LR
comp=Z,160nm,11.2s
GTA LR LR
comp=Z,230nm,12.3s
GTA LR LR
comp=Z,250nm,13.1s
ZIRO ZIRO 19.49 124 *e*P **Pn** **00 48 40.5 +1.6**
SVE Sverdlovsk 19.52 335 *e*P **Pn** **00 48 40.1 +1.2**
SVE pmax pmax
comp=Z,20nm,1.1s
SVE MLR MLR
comp=Z,566nm,11.0s
ARU Arti 19.94 331 P **Pn** **00 48 43.7 -0.1**
ARU Arti 19.94 331 P **Pn** **00 48 43.3 -0.5**
comp=Z,14nm,0.9s,baz=126,slow=5.2,SNR=14
ARU Lg Lg 00 54 43.4
baz=180,slow=23,SNR=3.6
ARU LR LR 00 56 48.2
comp=Z,503nm,20.4s,baz=124,slow=38
comp=Z,14nm,0.9s
ARU Arti 19.94 331 *c i*P **Pn** **00 48 44.1 +0.3**
ARU 00 48 59.1
ARU S **Sn** **00 52 31.5 +3.6**
ARU SS **SnSn** **00 52 48.1 +5.9**
ARU pmax pmax
comp=Z,24nm,1.0s
ARU MLR MLR
comp=Z,475nm,16.0s
MOKO MOKOCHONG 20.76 125 *e*P **P** **00 48 52.2 +0.7**
LKRN Lenkeran, Azer 20.85 275 P **P** **00 48 52.5 +0.3**
KOHI KOHIMA 20.94 127 *e*P **P** **00 48 53.9 +0.4**
MOY Mondy 21.02 48 *e*P **P** **00 48 55.0 +1.0**
MOY pmax pmax
comp=Z,36nm,3.4s
MAK Makhachkala 21.31 287 *e*P **P** **00 48 54.1 -2.9**
MAK *e*S **S** **00 52 48.7 -5.0**
MAK pmax pmax
comp=Z,201nm,1.5s
MAK MLR MLR
comp=Z,213nm,16.0s
IMP Imphal 21.50 129 *e*P **P** **00 49 02.8 +3.4**
SEKA Sheki 21.66 283 P **P** **00 49 00.4 -0.5**
MNGR Mingechevir, A 21.79 281 P **P** **00 49 02.6 +0.3**
ZAK Zakamensk 21.91 53 *e*P **P** **00 49 03.8 +0.2**
ZAK pmax pmax
comp=Z,8.0nm,1.5s
ZKTA Zakatala 22.04 284 P **P** **00 49 05.2 +0.2**
GANJ Ganja 22.38 281 P **P** **00 49 08.8 +0.1**
LZH Lanzhou 22.45 91 *e*P **P** **00 49 09.2 -0.4**
LZH sP sP 00 49 19.0 +4.6
LZH sS sS 00 53 21.5 -0.2
LZH pmax pmax
comp=Z,14nm,1.3s
LZH LR LR
comp=Z,470nm,13.7s
LZH LR LR
comp=Z,330nm,13.7s
LZH LR LR
comp=Z,380nm,13.1s
GROC Groznyy 22.55 288 *e*P **P** **00 49 10.6 +0.2**
GROC *e* 00 49 35.0
GROC pmax pmax
comp=Z,21nm,0.9s
GROC MLR MLR
comp=Z,426nm,12.0s
BELG Belogornoye 22.90 312 P **P** **00 49 14.6 +0.6**
comp=Z,15nm,0.8s,baz=66,slow=7.7,SNR=3.8
BELG LR LR 00 59 12.7
comp=Z,407nm,20.8s,baz=87,slow=39
comp=Z,15nm,0.8s
BELG Belogornoye 22.90 312 *d i*P **P** **00 49 15.1 +1.1**
BELG pmax pmax
comp=Z,9.0nm,1.1s
NAX Nakhchivan 23.26 278 P **P** **00 49 17.8 -0.1**
SONM Songino Array 23.34 60 P **P** **00 49 17.4 -1.3**
SONM Songino Array 23.34 60 P **P** **00 49 18.4 -0.2**
comp=Z,3.1nm,0.9s,baz=260,slow=9.7,SNR=13
SONM LR LR 00 59 24.9
comp=Z,361nm,19.0s,baz=270,slow=39
comp=Z,3.1nm,0.9s
GNI Garni 23.65 280 P **P** **00 49 25.1 +3.2**
GNI IAmb IAmb 00 49 46.6
comp=Z,18nm,1.1s
GNI Garni 23.65 280 P **P** **00 49 20.9 -1.1**
comp=Z,3.2nm,0.8s,baz=90,slow=4.0,SNR=1.7
GNI LR LR 01 00 33.7
comp=Z,100nm,18.3s,baz=74,slow=42
comp=Z,3.2nm,0.8s
GNI Garni 23.65 280 *de*P **P** **00 49 25.8 +3.9**
GNI pmax pmax
comp=Z,18nm,1.2s
ULN Ulaanbaatar 23.78 60 *i*P **P** **00 49 23.3 +0.2**
ULN pmax pmax
comp=Z,13nm,1.7s
NCK Nalchik 24.14 289⇓ *e*P **P** **00 49 29.1 +2.7**
NCK pmax pmax
comp=Z,5.0nm,0.5s
TNCH TengChong 24.24 121 *e*P **P** **00 49 28.3 +0.7**
TNCH S **S** **00 53 49.1 +2.8**
TNCH LR LR
comp=Z,290nm,12.5s
TNCH LR LR
comp=Z,260nm,10.3s
TNCH LR LR
comp=Z,380nm,15.6s
KBZ Khabaz 24.64 290 P **P** **00 49 30.9 0.0**
comp=Z,1.7nm,1.0s,baz=171,slow=17,SNR=2.5
KBZ LR LR 01 01 24.1
comp=Z,233nm,19.1s,baz=86,slow=42
comp=Z,1.7nm,1.0s
KBZ Khabaz 24.64 290⇑ *e*P **P** **00 49 29.5 -1.4**
KBZ pmax pmax
comp=Z,4.0nm,1.6s
KVAR Kislovodsk Arr 24.77 290 LR LR 01 01 32.3
comp=Z,187nm,18.7s,baz=268,slow=42
KIV Kislovodsk 24.78 290 *e*P **P** **00 49 33.2 +0.9**
KIV *e*S **S** **00 53 56.5 +1.8**
KIV pmax pmax
comp=Z,4.0nm,1.0s
KIV MLR MLR
comp=Z,35nm,15.0s
KIRV Kirov 25.04 327 P **P** **00 49 34.6 +0.3**
comp=Z,11nm,0.8s,baz=127,slow=21,SNR=6.8
KIRV LR LR 01 00 10.1
comp=Z,751nm,19.9s,baz=124,slow=38
comp=Z,11nm,0.8s
KIRV Kirov 25.04 327 *d i*P **P** **00 49 35.8 +1.5**
PZH PanZhiHua 25.47 114 P **P** **00 49 37.7 -1.0**
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.4s
VRH Novokhopyorsk 26.07 307 *e*P **P** **00 49 44.2 +0.5**
VRH pmax pmax
comp=Z,10.0nm,0.7s
HHC Hu-ho-hao-te 27.19 76 *e*P **P** **00 49 54.0 -0.1**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,100nm,4.6s
HHC LR LR
comp=Z,250nm,12.6s
HHC LR LR
comp=Z,160nm,8.0s
HHC LR LR
comp=Z,160nm,12.4s
VSR Storozhevoye 27.65 306 *e*P **P** **00 49 57.8 -0.2**
VSR pmax pmax
comp=Z,2.0nm,0.5s
LPSR Galich'ya Gora 28.05 309 *e*P **P** **00 50 03.7 +2.1**
LPSR pmax pmax
comp=Z,9.0nm,0.8s
ANN Anapa 28.50 292 *e*P **P** **00 50 03.7 -1.9**
ANN pmax pmax
comp=Z,13nm,0.8s
ANN MLR MLR
comp=E,209nm,15.0s
ANN MLR MLR
comp=N,295nm,14.0s
ANN MLR MLR
comp=Z,226nm,14.0s
CMAR Chiang Mai Arr 29.35 130 LR LR 01 04 42.0
comp=Z,93nm,18.1s,baz=345,slow=42
MOS Moscow 29.56 315 *e*P **P** **00 50 13.7 -1.2**
MOS *e* 00 51 11.7
MOS MLR MLR
comp=E,700nm,13.0s
MOS MLR MLR
comp=Z,900nm,13.0s
OBN Obninsk 29.98 313 LR LR 01 03 30.8
comp=Z,139nm,21.6s,baz=172,slow=38
HNS HongShan 30.38 82 *e*P **P** **00 50 23.5 +1.1**
HNS *e*S **S** **00 55 24.9 +2.0**
HNS LR LR
comp=Z,220nm,11.9s
HNS LR LR
comp=Z,150nm,11.2s
KLMR Klimovskoe 30.50 325 *e*P **P** **00 50 23.1 -0.1**
KLMR *e**PP **sP** **00 50 29.4 +1.0**
KLMR pmax pmax
comp=Z,26nm,1.5s
BR131 Keskin Array S 32.09 283 P **P** **00 50 38.0 +0.4**
BR131 IAmb IAmb 00 50 40.0
comp=Z,3.6nm,0.7s
BR131 Keskin Array S 32.09 283 *de*P **P** **00 50 38.3 +0.7**
BRTR Keskin Array B 32.09 283 P **P** **00 50 38.1 +0.4**
BRTR Keskin Array B 32.09 283 P **P** **00 50 36.9 -0.8**
comp=Z,2.6nm,0.7s,baz=92,slow=7.8,SNR=22
comp=Z,2.6nm,0.7s
BRTR Keskin Array B 32.09 283 *i*P **P** **00 50 38.4 +0.8**
BRTR pmax pmax
comp=Z,3.0nm,0.6s
PALK Pallekele 32.88 171 LR LR 01 05 01.3
comp=Z,316nm,18.1s,baz=89,slow=38
AKASG Malin Array Be 33.87 304 P **P** **00 50 52.1 -0.7**
comp=Z,0.2nm,0.2s,baz=78,slow=7.7,SNR=5.2
AKASG LR LR 01 06 33.5
comp=Z,182nm,21.4s,baz=79,slow=40
comp=Z,0.2nm,0.2s
AKASG Malin Array Be 33.87 304 *i*P **P** **00 50 53.0 +0.2**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 33.87 304⇑ *e*P **P** **00 50 53.0 +0.2**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
EIL Elat 34.75 266 LR LR 01 08 26.5
comp=Z,86nm,19.4s,baz=70,slow=42
MNK Minsk 34.84 311 *i*P **P** **00 51 00.3 -1.0**
comp=E,6.0nm,1.1s,baz=95
MNK *i*P **P** **00 51 00.3 -1.0**
comp=N,7.0nm,1.1s,baz=95
MNK *i*P **P** **00 51 00.3 -1.0**
comp=Z,5.0nm,1.1s,baz=95
MNK *i* PP **PnPn** **00 52 17.8 +0.4**
baz=95
MNK *i* PPP PPP 00 52 30.7
baz=95
MNK *i* S **S** **00 56 31.8 -0.2**
baz=95
MNK *i* SS **SnSn** **00 58 49.6 +4.1**
baz=95
MNK *i* SSS SSS 00 59 06.0
baz=95
MNK *i* LQ LQ 01 02 57.9
baz=95
MNK *i* LR LR 01 04 22.9
baz=95
MNK *i* LRM MLR 01 06 12.8
comp=Z,261nm,15.9s,baz=95
MNK *i* LRM MLR 01 06 15.9
comp=E,123nm,16.1s,baz=95
MNK *i* LRM MLR 01 06 26.2
comp=N,89nm,18.3s,baz=95
MNK Minsk 34.84 311 *i*P **P** **00 51 00.2 -1.0**
MNK *i* 00 52 17.7
MNK *i* 00 53 31.7
MNK *i*S **S** **00 56 31.7 -0.2**
MNK *i* SS **SnSn** **00 58 49.6 +4.1**
MNK *i* 01 01 16.0
MNK pmax pmax
comp=Z,5.0nm,1.1s
MNK pmax pmax
comp=N,7.0nm,1.1s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK MLR MLR
comp=Z,261nm,16.0s
MNK MLR MLR
comp=E,123nm,16.0s
MNK MLR MLR
comp=N,89nm,18.0s
JOF Joensuu 34.88 326 *e*P **P** **00 51 03.0 +1.5**
NACGM Naroch 35.51 311 *e*P **P** **00 51 07.7 +0.7**
comp=E,617nm,1.2s
UBPT Khong Chiam 35.77 125 P **P** **00 51 07.5 -2.1**
UBPT IAmb IAmb 00 51 14.1
comp=Z,8.7nm,1.2s
VSU Vasula 35.95 318⇓ *e*P **P** **00 51 11.0 +0.3**
VSU pmax pmax
comp=Z,11nm,1.3s
QIZ Qiongzhong 35.99 115 P **P** **00 51 11.8 +0.3**
QIZ S **S** **00 56 46.0 -4.2**
QIZ LR LR
comp=Z,170nm,14.1s
QIZ LR LR
comp=Z,200nm,15.9s
QIZ LR LR
comp=Z,190nm,14.1s
MLR Muntele Rosu 36.49 295 P **P** **00 51 16.6 +0.9**
MLR Muntele Rosu 36.49 295 LR LR 01 08 50.2
comp=Z,440nm,20.4s,baz=96,slow=40
MLR Muntele Rosu 36.49 295 P **P** **00 51 16.6 +0.9**
MLR pmax pmax
comp=Z,6.0nm,0.9s
FINES FINESS Array B 36.83 322 P **P** **00 51 18.2 0.0**
FINES FINESS Array B 36.83 322 P **P** **00 51 17.9 -0.3**
comp=Z,3.4nm,0.7s,baz=106,slow=10,SNR=12
FINES LR LR 01 07 17.8
comp=Z,462nm,19.9s,baz=86,slow=38
comp=Z,3.4nm,0.7s
FINES FINESS Array B 36.83 322 *i*P **P** **00 51 18.3 +0.1**
FINES pmax pmax
comp=Z,3.0nm,0.7s
ZEA Zeya 36.98 51 *e*P P 00 51 06.5 -13
ZEA *e* 00 51 15.2
ZEA pmax pmax
comp=Z,10.0nm,0.6s
MEF Metsahovi 37.41 320 *e*P **P** **00 51 24.2 +1.1**
MTSE Matsula 37.50 318 *e*P **P** **00 51 25.5 +1.7**
KEF Keuruu 37.55 323 *e*P **P** **00 51 25.8 +1.6**
VAF Ylistaro 38.72 324 *e*P **P** **00 51 35.4 +1.3**
YAK Yakutsk 38.96 37 LR LR 01 08 26.9
comp=Z,480nm,19.0s,baz=254,slow=37
ARCES ARCESS Array B 39.46 335 P **P** **00 51 39.8 -0.5**
comp=Z,1.1nm,0.6s,baz=99,slow=7.5,SNR=6.7
ARCES LR LR 01 08 44.2
comp=Z,287nm,18.5s,baz=124,slow=37
comp=Z,1.1nm,0.6s
NIE Niedzica 39.69 303 *e*P **P** **00 51 44.8 +2.3**
NIE pmax pmax
comp=Z,3.0nm,0.9s
KLR Kul'dur 40.11 58 P **P** **00 51 44.7 -1.3**
comp=Z,1.4nm,0.7s,baz=264,slow=5.7,SNR=4.9
KLR LR LR 01 09 34.7
comp=Z,196nm,19.3s,baz=267,slow=38
comp=Z,1.4nm,0.7s
KLR Kul'dur 40.11 58⇑ *e*P **P** **00 51 45.1 -0.9**
KLR pmax pmax
comp=Z,2.0nm,0.8s
KSRS Korea Array 40.33 76 LR LR 01 11 20.5
comp=Z,88nm,18.3s,baz=275,slow=40
TIXI Tiksi 41.14 23 P **P** **00 51 53.4 -0.7**
TIXI IAmb IAmb 00 51 55.0
comp=Z,7.0nm,0.8s
TIXI Tiksi 41.14 23 LR LR 01 10 03.4
comp=Z,370nm,20.3s,baz=266,slow=38
TIXI Tiksi 41.14 23⇓ *i*P **P** **00 51 53.7 -0.4**
TIXI pmax pmax
comp=Z,8.0nm,0.8s
VIKU Vikbolandet 41.20 317 *e*P **P** **00 51 55.5 +0.8**
USRK Ussuriysk Ar. 41.27 65 P **P** **00 51 54.8 -0.8**
comp=Z,1.5nm,0.7s,baz=216,slow=30,SNR=2.6
comp=Z,1.5nm,0.7s
VRAC Vranov 42.10 303 LR LR 01 12 39.4
comp=Z,164nm,19.6s,baz=79,slow=40
KRUC Moravsky 42.27 303 P **P** **00 52 05.2 +1.5**
KRUC pmax pmax
comp=Z,5.0nm,1.1s
HFS Hagfors 42.73 319 P **P** **00 52 07.2 -0.1**
comp=Z,4.7nm,0.7s,baz=103,slow=11,SNR=14
HFS LR LR 01 10 53.6
comp=Z,269nm,19.0s,baz=87,slow=37
comp=Z,4.7nm,0.7s
NC405 NORSAR Array S 43.69 321 P **P** **00 52 15.9 +0.8**
NC405 IAmb IAmb 00 52 17.2
comp=Z,16nm,1.1s
NC602 NORSAR Array S 43.79 320 P **P** **00 52 15.1 -0.7**
NC602 IAmb IAmb 00 52 16.7
comp=Z,13nm,1.2s
NC303 NORSAR Array S 43.86 321 P **P** **00 52 16.7 +0.3**
NC303 IAmb IAmb 00 52 18.6
comp=Z,10nm,0.9s
NB2 NORSAR Subarra 43.94 321 P **P** **00 52 16.4 -0.7**
comp=Z,8.3nm,1.0s,baz=89,slow=7.9
NB2 NORSAR Subarra 43.94 321 P **P** **00 52 17.2 +0.1**
NOA NORSAR Array B 43.94 321 P **P** **00 52 16.1 -0.9**
comp=Z,3.4nm,0.8s,baz=89,slow=8.0,SNR=10
NOA LR LR 01 11 40.0
comp=Z,234nm,19.8s,baz=95,slow=37
comp=Z,3.4nm,0.8s
CLL Collm 44.00 307 *e*S **S** **00 58 54.0 +4.5**
CLL *ex* x 00 59 42.0
GEC2 GERESS Array S 44.05 303 P **P** **00 52 19.2 +1.0**
GERES GERESS Array B 44.05 303 P **P** **00 52 17.6 -0.7**
GERES GERESS Array B 44.05 303 P **P** **00 52 18.8 +0.5**
comp=Z,1.6nm,0.8s,baz=93,slow=2.0,SNR=3.3
GERES LR LR 01 13 38.6
comp=Z,176nm,19.8s,baz=77,slow=40
comp=Z,1.6nm,0.8s
KHC Kasperske Hory 44.07 303 P **P** **00 52 18.8 +0.5**
KHC Kasperske Hory 44.07 303⇓ *e*P **P** **00 52 19.9 +1.6**
KHC pmax pmax
comp=Z,11nm,1.7s
JNU Nakatsue 44.24 81 LR LR 01 12 44.8
comp=Z,56nm,18.6s,baz=316,slow=39
SPB2 Spitsbergen Ar 45.00 345 P **P** **00 52 25.9 +0.6**
SPITS Spitsbergen Ar 45.00 345 LR LR 01 14 07.1
comp=Z,296nm,19.9s,baz=92,slow=40
VAE Valguarnera 47.06 288 LR LR 01 17 15.3
comp=Z,106nm,19.2s,baz=1.5,slow=42
DAVOX Davos/Dischmat 47.07 301 LR LR 01 14 55.6
comp=Z,102nm,19.4s,baz=62,slow=39
MJAR Matsushiro Arr 48.30 73 LR LR 01 15 01.4
comp=Z,37nm,18.6s,baz=313,slow=38
ASAJ Asahikawa 48.60 62 LR LR 01 15 25.2
comp=Z,146nm,18.3s,baz=297,slow=39
MA2 Magadan 49.32 40 LR LR 01 14 35.7
comp=Z,196nm,19.0s,baz=281,slow=37
SEY Seymchan 49.44 36 LR LR 01 15 01.5
comp=Z,219nm,19.6s,baz=308,slow=37
JMIC Jan Mayen 50.95 335 LR LR 01 14 17.1
comp=Z,43nm,18.2s,baz=16,slow=35
KEST Kesra 51.49 288 P **P** **00 53 16.1 0.0**
comp=Z,2.3nm,0.8s,baz=62,slow=7.8,SNR=4.5
comp=Z,2.3nm,0.8s
EKA Eskdalemuir Ar 52.41 315 P **P** **00 53 22.4 -0.2**
comp=Z,1.9nm,0.8s,baz=79,slow=8.8,SNR=7.7
comp=Z,1.9nm,0.8s
PETK Petropavlovsk- 54.88 47 LR LR 01 18 32.6
comp=Z,50nm,18.1s,baz=14,slow=38
LEM Lembang 55.10 140 LR LR 01 20 59.1
comp=Z,86nm,18.1s,baz=16,slow=40
BORG Borgarnes 57.47 330 LR LR 01 18 28.2
comp=Z,131nm,18.2s,baz=21,slow=36
MBAR Mbarara 57.54 237 LR LR 01 19 44.7
comp=Z,58nm,19.0s,baz=26,slow=37
ESDC Sonseca Array 59.12 298 P **P** **00 54 10.1 -0.9**
comp=Z,0.7nm,0.7s,baz=55,slow=6.8,SNR=8.5
ESDC LR LR 01 23 30.1
comp=Z,99nm,18.4s,baz=46,slow=40
comp=Z,0.7nm,0.7s
KAPI Kappang 60.35 127 LR LR 01 23 35.0
comp=Z,71nm,19.8s,baz=300,slow=39
MDT Midelt 63.00 291 LR LR 01 25 22.1
comp=Z,38nm,21.4s,baz=125,slow=39
RES Resolute Bay 65.44 357 LR LR 01 26 30.7
comp=Z,107nm,19.6s,baz=5.0,slow=39
E21K Killik River 65.73 18 IAmb IAmb 00 54 55.1
comp=Z,4.1nm,0.9s
SFJD Kangerlussuaq 65.82 340 LR LR 01 23 59.1
comp=Z,68nm,21.7s,baz=36,slow=36
D25K Kavik River 66.68 15 P **P** **00 55 01.2** **+0.4**
D25K IAmb IAmb 00 55 01.9
comp=Z,6.2nm,1.1s
E27K Coleen River 68.57 14 P **P** **00 55 12.4 -0.4**
E27K IAmb IAmb 00 55 13.7
comp=Z,5.3nm,1.2s
E29M Blow River 69.05 13 P **P** **00 55 15.9 +0.2**
E29M IAmb IAmb 00 55 16.9
comp=Z,4.1nm,1.1s
TORD Torodi Ar. Bea 69.47 270 P **P** **00 55 17.7 -1.4**
comp=Z,3.3nm,0.7s,baz=42,slow=6.7,SNR=22
comp=Z,3.3nm,0.7s
INK Inuvik 69.82 11 LR LR 01 29 05.1
comp=Z,24nm,19.0s,baz=24,slow=38
ILAR Eielson Array 70.37 18 P **P** **00 55 21.8 -2.1**
comp=Z,2.0nm,1.0s,baz=322,slow=4.7,SNR=12
ILAR LR LR 01 28 43.2
comp=Z,66nm,18.5s,baz=338,slow=38
comp=Z,2.0nm,1.0s
LSZ Lusaka 70.55 229 LR LR 01 29 31.7
comp=Z,50nm,18.6s,baz=21,slow=39
FRB Frobisher Bay 72.79 344 LR LR 01 32 04.1
comp=Z,83nm,18.4s,baz=14,slow=39
KDAK Kodiak Island 74.53 25 LR LR 01 31 29.9
comp=Z,110nm,21.6s,baz=25,slow=38
YKA Yellowknife Ar 77.53 5 P **P** **00 56 04.5 -1.3**
comp=Z,2.4nm,0.6s,baz=347,slow=6.4,SNR=42
YKA LR LR 01 35 49.6
comp=Z,72nm,18.1s,baz=308,slow=40
comp=Z,2.4nm,0.6s
YKA Yellowknife Ar 77.53 5 *i*P **P** **00 56 04.5 -1.3**
YKA pmax pmax
comp=Z,3.0nm,0.6s
TSUM Tsumeb 79.98 235 LR LR 01 35 59.2
comp=Z,69nm,18.3s,baz=58,slow=39
SCHQ Schefferville 80.26 339 LR LR 01 31 37.4

comp=Z,81nm,22.0s,baz=24,slow=35
NWAO Narrogin (SRO) 82.09 146 LR LR 01 37 17.7
comp=Z,23nm,18.1s,baz=360,slow=39
BOSA Boshof 82.82 223 LR LR 01 34 25.5
comp=Z,39nm,19.3s,baz=13,slow=36
ASAR Alice Springs 83.35 128 P **P 00 56 35.4 -2.2**
comp=Z,1.2nm,0.7s,baz=320,slow=5.4,SNR=11
comp=Z,1.2nm,0.7s
BBB Bella Bella 85.89 14 LR LR 01 41 54.3
comp=Z,20nm,19.6s,baz=286,slow=40
ULM Lac du Bonnet 89.84 355 P **P 00 57 06.8 -2.2**
comp=Z,2.3nm,0.8s,baz=315,slow=10.0,SNR=2.5
ULM LR LR 01 40 43.7
comp=Z,111nm,19.4s,baz=7.0,slow=38
comp=Z,2.3nm,0.8s
NEW Newport 91.39 9 LR LR 01 42 53.9
comp=Z,70nm,19.3s,baz=358,slow=38
SADO Sadowa 92.65 342 LR LR 01 43 12.9
comp=Z,49nm,20.5s,baz=58,slow=38
STKA Stephens Creek 93.97 129 LR LR 01 45 58.4
comp=Z,41nm,18.1s,baz=265,slow=40
YBH Yreka Blue Hor 96.95 14 LR LR 01 45 16.3
comp=Z,47nm,21.4s,baz=360,slow=38
PDAR Pinedale Array 97.49 4 LR LR 01 47 45.0
comp=Z,71nm,18.0s,baz=6.0,slow=39

*NEIC **08** 01:01:40.4±1.5, 19°.40N±0°.02×155°.06W±0°.03, h5km±1km, Error ellipse: s-maj=5.5km s-min=3.0km az=294.0*
HVO 08 01:01:39.9±1.3, 19°.37N±0°.02×155°.035W±0°.008, h6km±5km, ML3.2/27, ML3.5/36(NEIC), Error ellipse: s-maj=2.7km s-min=0.9km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.07**	**287**		Pg	01 01 41.8	+0.2
JOKA	**Jonika Flow**	**0.07**	**23**		Pg	01 01 41.9	+0.2
NPOC	**North of Pu'u**	**0.08**	**291**		Pg	01 01 42.0	+0.2
NPOC				IAML		01 01 44.2	
	comp=E,25µm,0.3s						
STCH	**Steam Cracks**	**0.09**	**283**		Pg	01 01 42.1	+0.2
STCH				IAML		01 01 44.0	
	comp=E,20µm,0.3s						
STCH				IAML		01 01 44.0	
	comp=N,16µm,0.3s						
KNHH	**Kane Nui o Ham**	**0.13**	**276**		Pg	01 01 42.8	+0.2
PUH	**Pauahi**	**0.17**	**273**		Pg	01 01 43.0	-0.4
HATHI	**Halema'uma'u T**	**0.22**	**285**		Pg	01 01 45.0	+0.7
HATHI	**Halema'uma'u T**	**0.22**	**285**	IAML		01 01 50.0	
	comp=E,5µm,0.3s						
HATHI				IAML		01 01 51.0	
	comp=N,10µm,0.6s						
KKO	**Keanakako'i**	**0.22**	**279**	Pg	Pg	01 01 44.3	0.0
KKO				IAML		01 01 51.1	
	comp=N,10µm,0.6s						
RIM	**Rim**	**0.23**	**278**		Sg	01 01 47.9	+0.3
SBLHI	**Steaming Bluff**	**0.23**	**286**		Pg	01 01 45.0	+0.6
SBLHI	**Steaming Bluff**	**0.23**	**286**	IAML		01 01 49.9	
	comp=N,7µm,0.2s						
SBLHI				IAML		01 01 50.0	
	comp=E,6µm,0.2s						
SDHHI	**Sand Hill**	**0.25**	**276**		Pg	01 01 46.4	+1.6
SDHHI					Sg	01 01 49.7	+1.6
SDHHI	**Sand Hill**	**0.25**	**276**	IAML		01 01 50.7	
	comp=E,9µm,0.3s						
SDHHI				IAML		01 01 51.9	
	comp=N,8µm,0.4s						
RSD	**Rainshed**	**0.25**	**293**		Pg	01 01 44.9	0.0
RSD				IAML		01 01 50.7	
	comp=N,9µm,0.2s						
RSD				IAML		01 01 51.0	
	comp=E,8µm,0.2s						
UWE	**Uwekahuna**	**0.25**	**283**		Pg	01 01 45.7	+0.8
UWE	**Uwekahuna**	**0.25**	**283**	IAML		01 01 50.8	
	comp=N,10µm,0.2s						
UWE				IAML		01 01 51.4	
	comp=E,15µm,0.2s						
HLP	**Hilina Pali**	**0.27**	**255**		Pg	01 01 45.2	0.0
MLH	**Mauna Loa**	**0.36**	**291**		Pg	01 01 47.1	+0.2
MLH	**Mauna Loa**	**0.36**	**291**		Sg	01 01 52.4	+0.8
MLH	**Mauna Loa**	**0.36**	**291**	IAML		01 01 55.6	
	comp=N,8µm,0.2s						
MLH				IAML		01 01 56.2	
	comp=E,7µm,0.2s						
HTC	**Hot Caves**	**0.37**	**250**		Pg	01 01 47.2	+0.2
HMH	**Humu'ula Sheep**	**0.48**	**299**		Pg	01 01 49.4	+0.1
MWH	**Moku'aweowe**	**0.54**	**283**		Pg	01 01 50.1	-0.4
MWH				IAML		01 02 04.2	
	comp=N,4µm,0.7s						
MWH				IAML		01 02 08.4	
	comp=E,4µm,0.9s						
KHU	**Kahuku**	**0.56**	**258**		Pg	01 01 50.3	-0.4
KHU				IAML		01 01 59.8	
	comp=N,2µm,0.3s						
KHU				IAML		01 02 07.5	
	comp=E,3µm,0.5s						
KHU	**Kahuku**	**0.56**	**258**		Sg	01 01 57.8	-0.3
ALEP	**Alea Permanent**	**0.60**	**287**		Pg	01 01 50.6	-0.9
POHA	**Pohakuloa**	**0.61**	**310**		Pg	01 01 50.6	-1.1
POHA	**Pohakuloa**	**0.61**	**310**		Sg	01 01 59.1	-0.6
POHA	**Pohakuloa**	**0.61**	**310**	IAML		01 02 08.1	
	comp=E,4µm,0.5s						
HUH	**Hualalai**	**0.82**	**293**		Pg	01 01 54.1	-1.6
CPH	**Captain Cook**	**0.84**	**279**		Pg	01 01 55.5	-0.6
HPAH	**Hawaii Prepara**	**0.91**	**317**		Pg	01 01 54.8	-2.7
HPAH	**Hawaii Prepara**	**0.91**	**317**		Sg	01 02 08.9	-0.4
HPAH	**Hawaii Prepara**	**0.91**	**317**	IAML		01 02 17.9	
	comp=E,1µm,0.5s						
HPAH				IAML		01 02 26.0	
	comp=N,840nm,0.7s						
MHA	**Mahukona**	**1.16**	**315**	Pg	Pg	01 01 58.6	-3.5

*NEIC **08** 01:20:33.4±0.7, 19°.57N±0°.01×155°.180W±0°.008, h5km±2km, Error ellipse: s-maj=3.1km s-min=1.8km az=148.0*
HVO 08 01:20:32.7±1.1, 19°.58N±0°.01×155°.168W±0°.008, h2km±9km, ML2.5/12, ML2.5/22(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	**Rainshed**	**0.16**	**221**		Pg	01 20 36.8	+0.9
RSD					Sg	01 20 39.7	+1.8
RSD	**Rainshed**	**0.16**	**221**	IAML		01 20 40.8	
	comp=E,1µm,0.3s						
RSD				IAML		01 20 41.1	
	comp=N,1µm,0.5s						
HATHI	**Halema'uma'u T**	**0.18**	**209**		Pg	01 20 36.6	+0.3
HATHI	**Halema'uma'u T**	**0.18**	**209**		Sg	01 20 40.0	+1.3
HATHI	**Halema'uma'u T**	**0.18**	**209**	IAML		01 20 37.6	
	comp=E,3µm,1.0s						
NPOC	**North of Pu'u**	**0.20**	**164**		Pg	01 20 37.1	+0.6
NPOC	**North of Pu'u**	**0.20**	**164**	IAML		01 20 41.0	
	comp=N,1µm,0.2s						
NPOC				IAML		01 20 42.4	
	comp=E,1µm,0.1s						
STCH	**Steam Cracks**	**0.20**	**168**		Pg	01 20 37.2	+0.5
STCH	**Steam Cracks**	**0.20**	**168**	IAML		01 20 41.0	
	comp=N,1µm,0.1s						
STCH				IAML		01 20 41.5	
	comp=E,2µm,0.1s						
KNHH	**Kane Nui o Ham**	**0.20**	**180**		Pg	01 20 37.2	+0.5
JCUZ	**Jacuzzi**	**0.21**	**162**		Pg	01 20 37.3	+0.5
JCUZ					Sg	01 20 40.8	+1.3
JCUZ	**Jacuzzi**	**0.21**	**162**	IAML		01 20 41.2	
	comp=N,1µm,0.2s						
JCUZ				IAML		01 20 41.3	
	comp=E,725nm,0.2s						
PUH	**Pauahi**	**0.21**	**192**		Pg	01 20 37.4	+0.5
PUH					Sg	01 20 40.8	+1.2
PUH	**Pauahi**	**0.21**	**192**	IAML		01 20 41.1	
	comp=E,950nm,0.1s						
PUH				IAML		01 20 43.1	
	comp=N,987nm,0.6s						
JOKA	**Jonika Flow**	**0.21**	**134**		Pg	01 20 37.5	+0.7
MLH	**Mauna Loa**	**0.22**	**247**		Pg	01 20 37.8	+0.7
MLH	**Mauna Loa**	**0.22**	**247**	IAML		01 20 41.9	
	comp=N,818nm,0.3s						
MLH				IAML		01 20 42.1	
	comp=E,1µm,0.2s						
PHO	**Puu Honuaula**	**0.28**	**111**		Pg	01 20 39.1	+0.9
HMH	**Humu'ula Sheep**	**0.30**	**274**		Pg	01 20 39.2	+0.7
HMH					Sb	01 20 44.5	-2.0
HMH	**Humu'ula Sheep**	**0.30**	**274**	IAML		01 20 44.8	
	comp=E,635nm,0.3s						
HMH				IAML		01 20 48.8	
	comp=N,629nm,0.3s						
HLP	**Hilina Pali**	**0.31**	**205**		Sg	01 20 44.0	+1.1
MWH	**Moku'aweowe**	**0.42**	**257**		Pg	01 20 41.1	+0.3
MWH	**Moku'aweowe**	**0.42**	**257**	IAML		01 20 53.4	
	comp=N,455nm,1.0s						
MWH				IAML		01 20 55.5	
	comp=E,481nm,1.1s						
ALEP	**Alea Permanent**	**0.45**	**265**		Pg	01 20 41.4	0.0
KHU	**Kahuku**	**0.54**	**232**		Pg	01 20 42.4	-0.7
KHU	**Kahuku**	**0.54**	**232**	IAML		01 20 54.6	
	comp=E,350nm,3.2s						
KHU				IAML		01 20 57.6	
	comp=N,306nm,2.9s						
HUH	**Hualalai**	**0.64**	**279**		Pg	01 20 45.9	+0.9

*DJA **08** 01:21:19.8±0.4, 7°.S2°×13°.0E±°, h193km±8km, M4.6/11, mb4.3/6, mB5.1/6, MLv4.9/11, Mw(mB)4.4/6*
*NEIC **08** 01:21:20.4±1.6, 6°.72S±0°.07×129°.74E±0°.09, h168km±9km, mb4.3/26, Error ellipse: s-maj=13.4km s-min=9.7km az=92.0*
*IDC **08** 01:21:21.9±4.8, 6°.80S×129°.61E, h184km±42km, mb3.9/9, mbtmp4.5/11, Error ellipse: s-maj=54.0km s-min=12.7km az=63.0*
ISC 08 01:21:21.6±0.4, 6°.78S±0°.05×129°.91E±0°.06, h200km, n84, σ2s10/87, mb4.4/26, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.83**	**131**		**Pn**	**01 21 57.2**	**-1.3**
SAUI				Sn	**Sn**	**01 22 22.6**	**-4.5**
SAUI	**Saumlaki**	**1.83**	**131**	P	**Pn**	**01 21 57.9**	**-0.6**
SAUI				S	**Sn**	**01 22 24.5**	**-2.6**
FAKI	**Fak Fak**	**4.49**	**31**	P	**Pn**	**01 22 27.4**	**-2.2**
FAKI	**Fak Fak**	**4.49**	**31**	Pn	**Pn**	**01 22 27.1**	**-2.5**
FAKI				Sn	**Sn**	**01 23 18.1**	**-5.0**
FAKI	**Fak Fak**	**4.49**	**31**	P	**Pn**	**01 22 26.8**	**-2.8**
KMPI	**Kaimana, Papua**	**4.89**	**51**	P	**Pn**	**01 22 33.2**	**-1.5**
DRS	**Darwin Rock St**	**5.70**	**170**	P	**Pn**	**01 22 43.5**	**-1.6**
	582nm,0.5s						
SWI	**Sorong**	**6.03**	**13**	P	**Pn**	**01 22 47.3**	**-2.0**
SANI	**Sanana**	**6.11**	**320**	P	**Pn**	**01 22 50.3**	**-0.1**
	45nm,0.7s,3µm0.2nm						
MTN	**Manton Dam**	**6.15**	**169**	P	**Pn**	**01 22 48.6**	**-2.3**
MTN	**Manton Dam**	**6.15**	**169**	Pn	**Pn**	**01 22 49.0**	**-1.9**
SOEI	**Soe**	**6.32**	**242**	P	**Pn**	**01 22 49.2**	**-3.9**
	59nm,0.7s						
SOEI	**Soe**	**6.32**	**242**	Pn	**Pn**	**01 22 49.6**	**-3.6**
SOEI	**Soe**	**6.32**	**242**	P	**Pn**	**01 22 49.3**	**-3.9**
	60nm,0.7s,0.9nm						
KDU	**Kakadu**	**6.39**	**157**	P	**Pn**	**01 22 52.3**	**-1.7**
LBMI	**Labuha**	**6.55**	**338**	P	**Pn**	**01 22 55.6**	**-0.6**
	227nm,0.8s,2µm0.8nm						
BATI	**Baumata**	**7.05**	**241**	P	**Pn**	**01 22 59.8**	**-2.8**
	33nm,0.3s,baz=300,slow=4.6,SNR=9.9						
BATI				S	Sn	01 24 10.9	-12
	103nm,0.5s,baz=232,slow=7.5,SNR=3.7						
BATI	**Baumata**	**7.05**	**241**	P	**Pn**	**01 22 59.3**	**-3.3**
	58nm,0.7s,0.6nm						
EDFI	**Ende, Flores**	**8.37**	**256**	P	**Pn**	**01 23 17.5**	**-2.4**
	13nm,0.7s						
KNRA	**Kununurra**	**8.91**	**187**	P	**Pn**	**01 23 23.6**	**-3.2**
KNRA	**Kununurra**	**8.91**	**187**	Pn	**Pn**	**01 23 23.8**	**-3.0**
PLAI	**Plampang**	**12.19**	**260**	P	**Pn**	**01 24 06.0**	**-3.0**
	16nm,0.7s						
WB0	**Warramunga Arr**	**13.63**	**162**	Pn	**Pn**	**01 24 23.7**	**-3.4**
WRA	**Warramunga Arr**	**13.78**	**162**	P	**Pn**	**01 24 26.1**	**-2.8**
	5.5nm,0.5s,baz=347,slow=13,SNR=35						
WRA				S	S	01 26 50.2	-12
	7.4nm,0.5s,baz=342,slow=21,SNR=1.2						
WB2	**Warramunga Arr**	**13.78**	**162**	Pn	**Pn**	**01 24 26.0**	**-3.0**
WR0	**Warramunga Arr**	**13.85**	**161**	Pn	**Pn**	**01 24 26.3**	**-3.6**
COEN	**Coen**	**14.87**	**120**	P	**P**	**01 24 44.6**	**+1.4**
	24nm,1.0s						
COEN	**Coen**	**14.87**	**120**	Pn	**Pn**	**01 24 42.4**	**0.0**
COEN				IAmb	IAmb	01 24 47.3	
	comp=Z,15nm,0.8s						
QIS	**Mount Isa**	**16.61**	**146**	P	**Pn**	**01 25 04.2**	**+0.7**
	comp=Z,10nm,0.6s						
AS31	**Alice Springs**	**17.23**	**168**		**Pn**	**01 25 11.0**	**+0.3**
AS31				IAmb	IAmb	01 25 12.6	
	comp=Z,8.2nm,0.6s						
ASAR	**Alice Springs**	**17.23**	**168**		**Pn**	**01 25 10.8**	**+0.1**
ASAR	**Alice Springs**	**17.23**	**168**	P	**Pn**	**01 25 10.9**	**+0.2**
	comp=Z,14nm,0.5s,baz=346,slow=10.0,SNR=133						
ASAR				S	**S**	**01 28 14.6**	**-3.7**
	comp=Z,1.5nm,0.5s,baz=339,slow=37,SNR=1.8						
MBWA	**Marble Bar**	**17.36**	**214**	P	**Pn**	**01 25 11.1**	**-1.1**
	comp=Z,6.5nm,3.0s						
MBWA	**Marble Bar**	**17.36**	**214**		**Pn**	**01 25 10.8**	**-1.4**
PSA00	**Pilbara Seismi**	**17.63**	**212**	P	**Pn**	**01 25 14.1**	**-1.3**
	comp=Z,14nm,2.2s						
PSA00	**Pilbara Seismi**	**17.63**	**212**		**Pn**	**01 25 13.4**	**-2.1**
PSA00				IAmb	IAmb	01 25 14.5	
	comp=Z,5.8nm,0.6s						
WRKA	**Warakurna**	**18.22**	**185**	P	**Pn**	**01 25 21.2**	**-1.2**
	comp=Z,20nm,1.8s						
CTAO	**Charters Tower**	**20.66**	**131**	P	**P**	**01 25 49.1**	**+2.9**
CTAO				IAmb	IAmb	01 25 58.3	
	comp=Z,19nm,1.2s						
OOD	**Oodnadatta**	**21.61**	**166**	P	**P**	**01 25 57.1**	**+1.1**
	comp=Z,22nm,0.6s						
BBJI	**Bungbulang**	**22.09**	**267**	P	**P**	**01 26 01.5**	**+0.5**
	comp=Z,22nm,1.6s						
MULG	**Mulgathing**	**23.70**	**171**	P	**P**	**01 26 17.4**	**+2.0**
	comp=Z,35nm,1.0s						
FORT	**Forrest**	**23.94**	**184**	P	**P**	**01 26 18.7**	**+1.1**
	comp=Z,30nm,0.8s						
FORT	**Forrest**	**23.94**	**184**	P	**P**	**01 26 18.3**	**+0.7**
QLP	**Quilpie**	**23.96**	**147**	P	**P**	**01 26 20.5**	**+2.7**
	comp=Z,15nm,0.4s						
LCRK	**Leigh Creek**	**24.81**	**163**	P	**P**	**01 26 28.2**	**+2.8**
	comp=Z,22nm,0.7s						
MORW	**Morawa**	**25.75**	**209**	P	**P**	**01 26 34.5**	**+0.5**
MORW				IAmb	IAmb	01 26 45.8	
	comp=Z,12nm,1.2s						
BBOO	**Buckleboo**	**26.53**	**168**	P	**P**	**01 26 41.9**	**+1.0**
	comp=Z,19nm,2.0s						
BBOO	**Buckleboo**	**26.53**	**168**	P	**P**	**01 26 42.1**	**+1.2**
STKA	**Stephens Creek**	**27.25**	**158**	P	**P**	**01 26 49.3**	**+2.0**
STKA	**Stephens Creek**	**27.25**	**158**	P	**P**	**01 26 49.4**	**+2.0**
	comp=Z,3.6nm,0.5s,baz=355,slow=12,SNR=12						
	comp=Z,3.6nm,0.5s						
HTT	**Hallett**	**27.81**	**164**	P	**P**	**01 26 54.7**	**+2.3**
CMSA	**Cobar Meteorol**	**28.72**	**151**	P	**P**	**01 27 03.2**	**+2.8**
	comp=Z,12nm,2.2s						
ARMA	**Armidale**	**31.13**	**142**	P	**P**	**01 27 25.3**	**+3.5**
UBPT	**Khong Chiam**	**32.66**	**312**	P	**P**	**01 27 34.4**	**-0.7**
UBPT				IAmb	IAmb	01 27 47.7	
	comp=Z,6.0nm,1.1s						
CM31	**Chiang Mai Arr**	**39.52**	**310**	P	**P**	**01 28 32.4**	**-0.9**
CMAR	**Chiang Mai Arr**	**39.52**	**310**	P	**P**	**01 28 33.2**	**0.0**
	comp=Z,1.1nm,0.3s,baz=138,slow=7.6,SNR=7.7						
	comp=Z,1.1nm,0.3s						
PZH	**PanZhiHua**	**42.90**	**322**	P	P	01 29 04.1	+3.2
PZH				pmax	pmax		
	comp=Z,5.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
HHC	**Hu-ho-hao-te**	**50.30**	**342**	*e*P	**P**	**01 29 58.8**	**+0.7**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,63nm,6.3s						
ULN	**Ulaanbaatar**	**58.03**	**342**	P	**P**	**01 30 55.5**	**+1.8**
ULN				IAmb	IAmb	01 30 56.4	
	comp=Z,4.6nm,0.6s						
SONM	**Songino Array**	**58.20**	**342**	P	**P**	**01 30 56.7**	**+1.7**
SONM				IAmb	IAmb	01 30 57.8	
	comp=Z,4.0nm,1.3s						
SONM	**Songino Array**	**58.20**	**342**	P	**P**	**01 30 56.7**	**+1.7**
	comp=Z,1.6nm,0.6s,baz=160,slow=7.0,SNR=8.1						
	comp=Z,1.6nm,0.6s						
MK31	**Makanchi Array**	**67.99**	**327**	P	**P**	**01 32 00.9**	**+1.6**
MK31				IAmb	IAmb	01 32 01.5	
	comp=Z,5.1nm,0.7s						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**01 32 00.8**	**+1.6**
	comp=Z,6.7nm,0.4s,baz=120,slow=8.0,SNR=78						
	comp=Z,6.7nm,0.4s						
MAKZ	**Makanchi**	**68.17**	**327**	P	**P**	**01 32 01.7**	**+1.3**
AAK	**Ala-Archa**	**70.31**	**320**	P	**P**	**01 32 15.7**	**+1.9**
AAK				IAmb	IAmb	01 32 16.6	
	comp=Z,2.8nm,0.7s						
ZALV	**Zalesovo Beam**	**71.34**	**334**	P	**P**	**01 32 20.3**	**+0.8**
ZALV	**Zalesovo Beam**	**71.34**	**334**	P	**P**	**01 32 19.9**	**+0.4**
	comp=Z,2.0nm,0.5s,baz=135,slow=5.1,SNR=10						
	comp=Z,2.0nm,0.5s						
GAR	**Garm**	**71.44**	**315**	P	**P**	**01 32 21.6**	**+1.0**
KURBB	**Kurchatov Arra**	**72.27**	**329**	P	**P**	**01 32 26.5**	**+1.4**
	comp=Z,3.5nm,0.4s,baz=130,slow=5.0,SNR=30						
	comp=Z,3.5nm,0.4s						
KURK	**Kurchatov**	**72.28**	**329**	P	**P**	**01 32 26.4**	**+1.2**
KURK				IAmb	IAmb	01 32 27.2	
	comp=Z,5.0nm,0.8s						
KK31	**Karatay Array**	**73.11**	**319**	P	**P**	**01 32 30.0**	**-0.2**
KKAR	**Karatay Array**	**73.11**	**319**	P	**P**	**01 32 30.0**	**-0.2**
BVAR	**Borovoye Array**	**77.83**	**328**	P	**P**	**01 32 57.7**	**+0.9**
	comp=Z,2.7nm,0.8s,baz=134,slow=6.4,SNR=11						
	comp=Z,2.7nm,0.8s						
GEYT	**Alibeck**	**80.00**	**310**	P	**P**	**01 33 09.3**	**+0.3**
GEYT				IAmb	IAmb	01 33 11.3	
	comp=Z,2.6nm,0.7s						
GEYT	**Alibeck**	**80.00**	**310**	P	**P**	**01 33 09.4**	**+0.3**
	comp=Z,2.2nm,0.7s,baz=219,slow=3.8,SNR=4.5						
	comp=Z,2.2nm,0.7s						
ABPO	**Ambohimpanom**	**80.92**	**252**	P	**P**	**01 33 15.2**	**+0.7**
ABPO				IAmb	IAmb	01 33 51.2	
	comp=Z,9.7nm,1.3s						
VOI	**Vohitsoka**	**81.14**	**249**	P	**P**	**01 33 16.6**	**+1.0**
ABKAR	**Akbulak array**	**82.28**	**322**	P	**P**	**01 33 21.5**	**+0.8**
ABKAR	**Akbulak array**	**82.28**	**322**	P	**P**	**01 33 22.1**	**+1.4**
ABKAR				IAmb	IAmb	01 33 22.3	
	comp=Z,1.5nm,0.8s						
QSPA	**South Pole Qui**	**83.20**	**180**	P	**P**	**01 33 26.6**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=305,slow=2.6,SNR=5.8						
	comp=Z,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**128.67**	**281**	PKP	**PKiKP**	**01 40 07.6**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=84,slow=3.6,SNR=3.2						
PLCA	**Paso Flores**	**129.12**	**160**	PKP	**PKiKP**	**01 40 08.9**	**+1.8**
	comp=Z,1.5nm,1.0s,baz=230,slow=2.7,SNR=3.3						
CPUP	**Villa Florida**	**146.35**	**168**	PKPbc	**PKiKP**	**01 40 41.7**	**-0.8**
	comp=Z,2.4nm,0.8s,baz=30,slow=4.6,SNR=5.3						
LPAZ	**La Paz**	**150.95**	**142**	PKPbc	**PKiKP**	**01 40 55.5**	**+2.5**
	comp=Z,0.9nm,0.4s,baz=30,slow=4.4,SNR=9.6						

*CATAC **08** 01:31:47.5±0.6, 13°.93N×89°.69W, h6km±4km, ML2.7*
*SNET **08** 01:31:47.0±0.5, 13°.92N×89°.70W, h6km±4km, ML2.7*
ISC 08 01:31:47.5±1.1, 13°.92N±0°.03×89°.69W±0°.04, h10km±7km, n19, σ0s42/31, 1C-5D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTR	**El Retiro**	**0.05**	**119**	⇓*i*P	**Pg**	**01 31 49.4**	**-0.3**
NUBE	**Las Nubes**	**0.09**	**256**	⇑*i*P	**Pg**	**01 31 50.1**	**0.0**
NUBE				*e*S	**Sg**	**01 31 51.7**	**-0.2**
NUBE	**Las Nubes**	**0.09**	**256**	*i*P	**Pg**	**01 31 50.0**	**0.0**
NUBE				*i*S	**Sg**	**01 31 51.7**	**-0.2**
NUBE				IAML		01 31 52.0	
	comp=Z,8µm,1.0s						
SNJE	**San Jose**	**0.10**	**123**	⇓*i*P	**Pg**	**01 31 50.4**	**+0.1**
SNJE				*e*S	**Sg**	**01 31 52.5**	**+0.2**
SBLS	**San Blas**	**0.11**	**141**	⇓*e*P	**Pg**	**01 31 50.3**	**-0.1**
LOAL	**Lomas de Alarc**	**0.11**	**311**	⇓*i*P	**Pg**	**01 31 50.6**	**+0.3**
LOAL	**Lomas de Alarc**	**0.11**	**311**	*i*P	**Pg**	**01 31 50.6**	**+0.3**
LOAL				IAML		01 31 56.9	
	comp=Z,9µm,1.0s						
CEVE	**Cerro Verde**	**0.12**	**145**	*e*P	**Pg**	**01 31 50.5**	**0.0**
CEVE	**Cerro Verde**	**0.12**	**145**	*i*P	**Pg**	**01 31 50.6**	**0.0**
CEVE				*i*S	**Sg**	**01 31 53.6**	**+0.9**
CEVE				IAML		01 31 58.3	
	comp=Z,4µm,1.0s						
SLOZ	**Alcaldia de Sa**	**0.13**	**319**	⇓*i*P	**Pg**	**01 31 50.9**	**+0.3**
SLOZ				*e*S	**Sg**	**01 31 53.6**	**+0.8**
UNIC	**Universidad Ca**	**0.15**	**68**	*i*P	**Pg**	**01 31 50.8**	**-0.1**
UNIC				IAML		01 31 53.7	
	comp=Z,2µm,1.0s						
JAYA	**Jayaque - finc**	**0.36**	**138**	*i*P	**Pg**	**01 31 54.9**	**+0.2**
JAYA				IAML		01 31 55.1	
	comp=Z,1µm,1.0s						
JAYA				*i*S	**Sg**	**01 32 00.2**	**+0.8**
QUEZ	**Alcaldia de Qu**	**0.42**	**102**	*i*P	**Pg**	**01 31 56.3**	**+0.6**
QUEZ				*i*S	**Sb**	**01 32 02.7**	**-0.7**
QUEZ				IAML		01 32 41.0	
	comp=Z,3µm,1.0s						
PMON	**Piamonte**	**0.42**	**120**	*i*P	**Pb**	**01 31 56.6**	**-0.5**
PMON				IAML		01 32 11.5	
	comp=Z,500nm,1.0s						
LALI	**Alcalda de L**	**0.56**	**140**	*i*P	**Pg**	**01 31 58.7**	**+0.2**
LALI				IAML		01 31 59.0	
	comp=Z,140nm,1.0s						
LALI				*i*S	**Sb**	**01 32 07.1**	**-0.5**
MTO3	**Montecristo**	**0.57**	**34**	*i*P	**Pg**	**01 31 58.6**	**-0.1**
MTO3				*i*S	**Sg**	**01 32 06.7**	**+0.4**
MTO3				IAML		01 32 07.6	
	comp=Z,280nm,1.0s						
ESQI	**Esquipulas**	**0.72**	**28**	*i*P	**Pg**	**01 32 01.5**	**+0.1**
ESQI				*i*S	**Sb**	**01 32 11.6**	**-0.5**
ESQI				IAML		01 32 17.7	
	comp=Z,280nm,1.0s						
PAVA	**Las Pavas**	**0.76**	**106**	*i*P	**Pb**	**01 32 03.2**	**+0.3**
PAVA				*i*S	**Sb**	**01 32 13.5**	**+0.1**
PAVA				IAML		01 32 20.3	
	comp=Z,330nm,1.0s						
LLGN	**La Laguna**	**0.77**	**72**	*i*P	**Pg**	**01 32 02.0**	**-0.3**
LLGN				*i*S	**Sg**	**01 32 12.6**	**+0.3**
LLGN				IAML		01 32 13.6	
	comp=Z,270nm,1.0s						

*IDC **08** 01:56:48.5±7.3, 18°.54S×177°.37W, h398km±68km, mb3.2/4, mbtmp4.0

SPA0	**Spitsbergen Ar**	**6.38**	**26**	Pn	**Pn**	**02 19 42.5**	**-0.7**
	baz=199,slow=14							
KBS	**Kingsbay**	**6.54**	**16**	Pn	**Pn**	**02 19 47.2**	**+1.7**
KBS	**Kingsbay**	**6.54**	**16**	*e*P	**Pn**	**02 19 47.3**	**+1.7**
KBS				IAML		02 19 49.5		
	comp=Z,2.5nm,0.7s							
DBG	**Daneborg**	**6.65**	**294**	Pn	**Pn**	**02 19 46.4**	**-0.6**
DBG	**Daneborg**	**6.65**	**294**	Pn	**Pn**	**02 19 46.4**	**-0.6**
ARA0	**ARCESS Array S**	**8.04**	**103**	Pn	**Pn**	**02 20 06.5**	**+0.3**
	baz=309,slow=14							
ARA0	**ARCESS Array S**	**8.04**	**103**	Pn	**Pn**	**02 20 06.5**	**+0.3**
	baz=309,slow=14							

*SOME **08** 02:19:47.3,38˚.18N×73˚.13E,h0km*
*IDC **08** 02:19:50.4±2.6,38˚.25N×73˚.33E,h106km±22km,mb3.7/16, mbtmp4.1/22,Error ellipse: s-maj=17.4km s-min=13.9km az=5.0*
*MOS **08** 02:19:50.4±0.9,38˚.31N×73˚.33E,h114km,mb4.0/16,Error ellipse: s-maj=8.1km s-min=4.4km az=95.6*
*NEIC **08** 02:19:52.3±1.2,38˚.38N±0˚.06×73˚.28E±0˚.08,h114km±8km, mb4.2/89,Error ellipse: s-maj=9.4km s-min=8.3km az=103.0*
*NNC **08** 02:19:55.2±1.7,39˚.12N×73˚.18E,h287km±29km,mb2.7, mpv4.1,Error ellipse: s-maj=25.9km s-min=12.9km az=5.0*

ISC 08 02:19:51.2±0.6,38˚.36N±0˚.05×73˚.31E±0˚.04,h112km±4km, h113km:pP-P,n217,σ1s58/254,mb4.2/75,10C-13D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**1.63**	**314**		**Pn**	**02 20 20.7**	**+0.7**
DRK				Sn	**Sn**	**02 20 42.6**	**+0.8**
OHH	**Osh**	**2.20**	**349**	PN	**Pn**	**02 20 28.0**	**+1.0**
KSH	**Kashi**	**2.38**	**60**	P	**Pn**	**02 20 26.0**	**-3.2**
KSH				S	**Sn**	**02 20 50.9**	**-7.5**
KSH				pmax	pmax		
	comp=Z,320nm,0.5s						
KSH				smax	smax		
	comp=N,1μm,0.5s						
KSH				smax	smax		
	comp=E,690nm,0.4s						
GAR	**Garm**	**2.43**	**286**		**Pn**	**02 20 29.5**	**-0.4**
BTK	**Batken**	**2.58**	**312**		**Pn**	**02 20 32.5**	**+0.7**
BTK	**Batken**	**2.58**	**312**	PN	**Pn**	**02 20 32.5**	**+0.7**
ARSB	**Arslanbob**	**2.98**	**355**	Pn	**Pn**	**02 20 37.6**	**+0.5**
ARSB	**Arslanbob**	**2.98**	**355**	PN	**Pn**	**02 20 37.6**	**+0.5**
CHGR	**Chuyangaron**	**3.27**	**277**		**Pn**	**02 20 40.3**	**-0.7**
CHGR	**Chuyangaron**	**3.27**	**277**	PN	**Pn**	**02 20 40.3**	**-0.7**
SIMJ	**Simiganj**	**3.39**	**276**	Pn	**Pn**	**02 20 42.0**	**-0.6**
ARLS	**Aral**	**3.59**	**12**	PN	**Pn**	**02 20 46.0**	**+0.8**
ARK	**Arkit**	**3.59**	**344**	PN	**Pn**	**02 20 45.4**	**+0.2**
UCH	**Uchtor**	**3.98**	**13**	P	**Pn**	**02 20 52.1**	**+1.4**
	SNR=331						
EKS2	**Erkin-Say**	**4.32**	**5**	P	**Pn**	**02 20 56.5**	**+1.5**
	SNR=118						
AAK	**Ala-Archa**	**4.37**	**12**	P	**Pn**	**02 20 57.4**	**+1.6**
	SNR=156						
AAK	**Ala-Archa**	**4.37**	**12**	⇑P	**Pn**	**02 20 56.6**	**+0.9**
	comp=E,51nm,0.4s						
AAK				⇑S	**Sn**	**02 21 46.8**	**+1.1**
	comp=E,150nm,0.8s						
AAK	**Ala-Archa**	**4.37**	**12**	Pn	**Pn**	**02 20 57.0**	**+1.3**
AAK	**Ala-Archa**	**4.37**	**12**	P	**Pn**	**02 20 57.5**	**+1.8**
	comp=E,118nm,0.5s,baz=183,slow=8.1,SNR=285						
AAK				S	**Sn**	**02 21 46.8**	**+1.1**
	comp=E,51nm,0.3s,baz=196,slow=12,SNR=15						
AAK	**Ala-Archa**	**4.37**	**12**	*d* iPN	**Pn**	**02 20 57.3**	**+1.6**
AAK				pmax	pmax		
	comp=Z,68nm,0.6s						
MRKS	**Merke**	**4.38**	**359**	*e*P	**Pn**	**02 20 56.9**	**+1.1**
	comp=Z,197nm,0.4s						
MRKS				*e*S	**Sn**	**02 21 45.6**	**-0.4**
	comp=Z,265nm,0.6s						
KBK	**Karagaybulak**	**4.47**	**16**	P	**Pn**	**02 20 58.8**	**+1.7**
	SNR=48						
ULHL	**Ulahol**	**4.48**	**29**	P	**Pn**	**02 20 58.8**	**+1.5**
	SNR=31						
IUG	**Iuzhnay**	**4.54**	**327**	*e*P	**Pn**	**02 20 58.3**	**+0.3**
	comp=Z,148nm,0.4s						
IUG				*e*S	**Sn**	**02 21 48.0**	**-1.9**
	comp=Z,818nm,0.5s						
FRU1	**Bishkek**	**4.56**	**12**		**Pn**	**02 20 58.0**	**-0.2**
FRU1	**Bishkek**	**4.56**	**12**	PN	**Pn**	**02 20 58.0**	**-0.2**
BOOM	**Boomskoye usch**	**4.59**	**25**	Pn	**Pn**	**02 21 00.2**	**+1.5**
BOOM	**Boomskoye usch**	**4.59**	**25**	PN	**Pn**	**02 21 00.2**	**+1.5**
NIL	**Nilore**	**4.70**	**181**		**Pn**	**02 21 00.5**	**+0.5**
NIL	**Nilore**	**4.70**	**181**	PN	**Pn**	**02 21 00.5**	**+0.5**
CHMS	**Chumysh**	**4.76**	**13**	P	**Pn**	**02 21 02.6**	**+1.7**
	SNR=14						
CHMS	**Chumysh**	**4.76**	**13**	⇓P	**Pn**	**02 21 02.1**	**+1.2**
	comp=Z,12nm,0.4s						
CHMS				⇑S	**Sn**	**02 21 54.8**	**-0.3**
	comp=Z,44nm,0.8s						
CHMS	**Chumysh**	**4.76**	**13**	PN	**Pn**	**02 21 02.1**	**+1.2**
DZA	**Taraz**	**4.78**	**342**	*e*P	**Pn**	**02 21 01.9**	**+0.8**
	comp=Z,398nm,0.5s						
DZA				*e*S	**Sn**	**02 21 54.2**	**-1.1**
	comp=Z,747nm,0.5s						
TARG	**Taragay, Kyrgy**	**4.82**	**44**		**Pn**	**02 21 03.0**	**+1.0**
TARG	**Taragay, Kyrgy**	**4.82**	**44**	PN	**Pn**	**02 21 03.0**	**+1.0**
CHM	**Chimkent**	**4.87**	**326**	*e*P	**Pn**	**02 21 04.8**	**+2.6**
	comp=Z,191nm,0.2s						
CHM				*e*S	**Sn**	**02 21 58.6**	**+1.1**
	comp=Z,454nm,0.6s						
TKM2	**Tokmak 2**	**4.88**	**20**	P	**Pn**	**02 21 04.0**	**+1.4**
	SNR=29						
TKM2	**Tokmak 2**	**4.88**	**20**	⇓P	**Pn**	**02 21 03.5**	**+0.9**
	comp=Z,9.4nm,0.5s						
TKM2				⇓S	**Sn**	**02 21 57.5**	**-0.6**
	comp=Z,44nm,0.6s						
TKM2	**Tokmak 2**	**4.88**	**20**	PN	**Pn**	**02 21 03.5**	**+0.9**
USP	**Ospenovka**	**4.99**	**10**	P	**Pn**	**02 21 05.2**	**+1.3**
	SNR=28						
KST	**Kastek**	**5.10**	**22**	*e*P	**Pn**	**02 21 07.1**	**+1.7**
	comp=Z,19nm,0.6s						
KST				*e*S	**Sn**	**02 22 03.1**	**-0.2**
	comp=Z,135nm,1.0s						
KBL	**Kabul**	**5.13**	**223**	Pn	**Pn**	**02 21 05.5**	**-0.6**
KBL	**Kabul**	**5.13**	**223**	PN	**Pn**	**02 21 05.5**	**-0.6**
KK31	**Karatay Array**	**5.20**	**337**	⇓P	**Pn**	**02 21 06.9**	**+0.2**
	comp=Z,17nm,0.3s						
KK31				⇑S	**Sn**	**02 22 02.6**	**-2.9**
	comp=Z,102nm,0.5s						
KK31	**Karatay Array**	**5.20**	**337**	Pn	**Pn**	**02 21 07.2**	**+0.5**
KK31	**Karatay Array**	**5.20**	**337**	PN	**Pn**	**02 21 07.2**	**+0.5**
KKAR	**Karatay Array**	**5.20**	**337**	Pn	**Pn**	**02 21 07.3**	**+0.6**
KKAR	**Karatay Array**	**5.20**	**337**	PN	**Pn**	**02 21 07.3**	**+0.6**
DGS	**Degeres**	**5.23**	**20**	*e*P	**Pn**	**02 21 08.8**	**+1.6**
	comp=Z,21nm,0.7s						
DGS				*e*S	**Sn**	**02 22 05.3**	**-1.0**
	comp=Z,64nm,0.7s						
IZV	**Izvestkoviy**	**5.30**	**27**	*e*P	**Pn**	**02 21 10.5**	**+2.2**
	comp=Z,14nm,0.6s						
IZV				*e*S	**Sn**	**02 22 08.9**	**+0.6**
	comp=Z,53nm,0.8s						
BRLS	**Boroldaу**	**5.37**	**332**	*e*P	**Pn**	**02 21 06.4**	**-2.5**
	comp=Z,108nm,0.2s						
BRLS				*e*S	**Sn**	**02 22 01.4**	**-8.2**
	comp=Z,142nm,0.5s						
MDOK	**Medeo**	**5.58**	**29**	PN	**Pn**	**02 21 13.7**	**+1.7**
KRBS	**Karabastau**	**5.63**	**18**	*e*P	**Pn**	**02 21 13.3**	**+0.8**
	comp=Z,4.5nm,1.0s						
KRBS				*e*S	**Sn**	**02 22 13.1**	**-2.8**
	comp=Z,9.0nm,0.7s						
KOTS	**Kotyrbulak**	**5.66**	**29**	*e*P	**Pn**	**02 21 15.9**	**+2.8**
	comp=Z,12nm,0.3s						
KOTS				*e*S	**Sn**	**02 22 17.8**	**+0.8**
	comp=Z,53nm,1.1s						
BTLS	**Baital**	**6.70**	**4**	*e*P	**Pn**	**02 21 27.6**	**+0.6**
	comp=Z,8.9nm,0.5s						
BTLS				*e*S	**Sn**	**02 22 37.6**	**-4.3**
	comp=Z,24nm,0.3s						
MK31	**Makanchi Array**	**10.71**	**35**	Pn	**Pn**	**02 22 22.7**	**+1.3**
MK31	**Makanchi Array**	**10.71**	**35**	*ce*P	**Pn**	**02 22 22.7**	**+1.3**
MKAR	**Makanchi Array**	**10.71**	**35**	Pn	**Pn**	**02 22 22.6**	**+1.3**
MKAR	**Makanchi Array**	**10.71**	**35**	P	**Pn**	**02 22 22.2**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=210,slow=15,SNR=9.3						
MKAR	**Makanchi Array**	**10.71**	**35**	*e*P	**Pn**	**02 22 22.7**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GEYT	**Alibeck**	**11.98**	**273**	P	**Pn**	**02 22 34.3**	**-4.0**
	comp=Z,2.3nm,0.3s,baz=104,slow=10,SNR=9.6						
GEYT				S	Sn	02 24 38.0	-12
	comp=Z,1.2nm,0.5s,baz=36,slow=28,SNR=1.7						
GYA0	**ALIBECK ARRAY**	**11.98**	**273**	P	**Pn**	**02 22 35.2**	**-3.1**
GYA0				S	**Sn**	**02 24 48.8**	**-1.2**
GYA0B	**ALIBECK ARRAY**	**11.98**	**273**	⇑P	**Pn**	**02 22 35.2**	**-3.1**
GYA0B				⇓S	**Sn**	**02 24 48.9**	**-1.1**
KURBB	**Kurchatov Arra**	**12.81**	**15**	P	**Pn**	**02 22 47.3**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=205,slow=12,SNR=4.9						
KURK	**Kurchatov**	**12.92**	**15**		**P**	**02 22 57.2**	**+0.4**
KURK	**Kurchatov**	**12.92**	**15**	⇓*i*P	**P**	**02 22 56.0**	**-0.8**
AB31	**Akbulak array**	**14.53**	**323**	⇓P	Pn	02 22 57.5	-14
	comp=Z,1.7nm,0.4s,baz=130,slow=13,SNR=110						
AB31				⇓S	Sn	02 25 36.4	-15
	comp=Z,9.4nm,0.7s,baz=128,slow=24,SNR=15						
AB31	**Akbulak array**	**14.53**	**323**	*e*P	**Pn**	**02 23 08.9**	**-2.4**
ABKAR	**Akbulak array**	**14.53**	**323**	Pn	**Pn**	**02 23 08.4**	**-2.9**
ABKAR	**Akbulak array**	**14.53**	**323**	Pn	**Pn**	**02 23 08.8**	**-2.5**
BVA0	**Borovoye Array**	**14.81**	**353**	P	**Pn**	**02 23 13.9**	**-0.9**
BVAR	**Borovoye Array**	**14.81**	**353**	P	**Pn**	**02 23 14.2**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=158,slow=12,SNR=28						
BVAR				S	**Sn**	**02 25 51.5**	**-6.8**
	comp=Z,2.6nm,0.6s,baz=163,slow=22,SNR=5.4						
BRVK	**Borovoye**	**14.85**	**353**	Pn	**Pn**	**02 23 16.1**	**+0.8**
BRVK	**Borovoye**	**14.85**	**353**	*ce*P	**Pn**	**02 23 16.2**	**+0.8**
AKTO	**Aktyubinsk**	**16.25**	**323**	P	**Pn**	**02 23 32.7**	**-0.1**
	comp=Z,4.6nm,0.3s,baz=120,slow=12,SNR=22						
AKTO				S	Sn	02 26 20.7	-12
	comp=Z,5.3nm,0.5s,baz=354,slow=21,SNR=12						
ZAA0	**Zalesovo Array**	**17.48**	**23**		**P**	**02 23 47.2**	**0.0**
ZALV	**Zalesovo Beam**	**17.48**	**23**	P	**P**	**02 23 47.2**	**0.0**
	comp=Z,26nm,0.5s,baz=215,slow=11,SNR=101						
WSAR	**Wadi Sarin**	**19.61**	**224**	P	**P**	**02 24 10.3**	**-0.5**
	comp=Z,2.6nm,0.6s,baz=26,slow=5.6,SNR=4.7						
SHL	**Shillong**	**20.22**	**124**	P	**P**	**02 24 17.2**	**-0.4**
SHL				pmax	pmax		
	comp=Z,8.0nm,0.7s						
ARU	**Arti**	**20.58**	**336**	P	**P**	**02 24 21.5**	**+0.6**
ARU				IAmb	IAmb	02 24 25.3	
	comp=Z,5.9nm,0.7s						
ARU	**Arti**	**20.58**	**336**	P	**P**	**02 24 21.6**	**+0.6**
	comp=Z,5.3nm,0.6s,baz=123,slow=1.9,SNR=7.9						
	comp=Z,5.3nm,0.6s						
ARU	**Arti**	**20.58**	**336**	*d* iP	**P**	**02 24 21.9**	**+1.0**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.8s						
GROC	**Groznyy**	**21.35**	**292**	*e*P	**P**	**02 24 29.9**	**+0.6**
GROC				*e**PP	**pP**	**02 24 54.7**	**+3.1**
GROC				*e**SP	**sP**	**02 25 10.4**	**+4.2**
GROC				*e*S	**S**	**02 28 19.3**	**-0.5**
GROC				*e*		02 28 26.7	
GROC				*e**SS	**sS**	**02 29 00.4**	**+3.1**
GROC				pmax	pmax		
	comp=Z,14nm,1.0s						
BELG	**Belogornoye**	**22.70**	**317**	*d* iP	**P**	**02 24 43.1**	**-0.1**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NCK	**Nalchik**	**22.97**	**292**	⇑*e*P	**P**	**02 24 47.3**	**+1.3**
NCK				pmax	pmax		
	comp=Z,4.0nm,0.3s						
KIV	**Kislovodsk**	**23.65**	**293**	*e*P	**P**	**02 24 53.3**	**+1.0**
KIV				*e*S	**S**	**02 29 00.3**	**+1.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.0s						
SONM	**Songino Array**	**25.78**	**58**	P	**P**	**02 25 13.2**	**+1.6**
SONM	**Songino Array**	**25.78**	**58**	P	**P**	**02 25 13.0**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=258,slow=11,SNR=12						
	comp=Z,1.9nm,0.7s						
SONM	**Songino Array**	**25.78**	**58**	P	**P**	**02 25 13.2**	**+1.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**26.22**	**58**	⇓*e*P	**P**	**02 25 17.5**	**+1.9**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BR131	**Keskin Array S**	**30.68**	**285**	⇑*i*P	**P**	**02 25 57.2**	**+1.9**
BRTR	**Keskin Array B**	**30.68**	**285**	P	**P**	**02 25 56.1**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=92,slow=8.5,SNR=8.3						
	comp=Z,1.1nm,0.8s						
BRTR	**Keskin Array B**	**30.68**	**285**	*e*P	**P**	**02 25 56.7**	**+1.4**
BRTR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
AKASG	**Malin Array Be**	**33.28**	**306**	P	**P**	**02 26 17.6**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=80,slow=7.9,SNR=4.5						
	comp=Z,0.3nm,0.3s						
AKASG	**Malin Array Be**	**33.28**	**306**	*e*P	**P**	**02 26 20.8**	**+3.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKBB	**Malin Array Si**	**33.28**	**306**	P	**P**	**02 26 18.4**	**+0.6**
AKBB				IAmb	IAmb	02 26 48.6	
	comp=Z,3.5nm,1.1s						
AKBB	**Malin Array Si**	**33.28**	**306**	P	**P**	**02 26 18.4**	**+0.6**
AKBB				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIEV	**Kiev**	**33.29**	**306**	P	**P**	**02 26 18.1**	**+0.3**
KIEV				IAmb	IAmb	02 26 48.6	
	comp=Z,3.3nm,1.1s						
KIEV	**Kiev**	**33.29**	**306**	P	**P**	**02 26 18.1**	**+0.3**
KIEV				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MNK	**Minsk**	**34.53**	**313**	*i* P	**P**	**02 26 27.3**	**-1.3**
	comp=E,7.0nm,0.8s,baz=98						
MNK				*i* P	**P**	**02 26 27.3**	**-1.3**
	comp=N,6.0nm,0.8s,baz=98						
MNK				*i* P	**P**	**02 26 27.3**	**-1.3**
	comp=Z,3.0nm,0.7s,baz=98						
MNK				*i* pP	**pP**	**02 26 53.8**	**-1.2**
	baz=98						
MNK				*i* PP	**PnPn**	**02 27 45.9**	**-1.8**
	baz=98						
MNK				*i* S	**S**	**02 31 46.0**	**-3.0**
	baz=98						
MNK				*i* sS	**sS**	**02 32 32.8**	**-2.0**
	baz=98						
MNK				*i* SS	**SnSn**	**02 34 09.5**	**-2.9**
	baz=98						
MNK				*i* SS	**SnSn**	**02 34 09.5**	**-2.9**
	baz=98						
MNK				*i* LR	LR	02 39 12.7	
	baz=98						
MNK	**Minsk**	**34.53**	**313**	*i* P	**P**	**02 26 27.2**	**-1.3**
MNK				*i* *PP	**pP**	**02 26 53.7**	**-1.2**
MNK				*i*		02 27 45.8	
MNK				*i*		02 29 00.8	
MNK				*i* S	**S**	**02 31 45.9**	**-3.0**
MNK				*i* *SS	**sS**	**02 32 32.7**	**-2.0**
MNK				*i* SS	**SnSn**	**02 34 09.5**	**-2.9**
MNK				*i*		02 36 37.3	
MNK				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MNK				pmax	pmax		
	comp=N,6.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,7.0nm,0.9s						
PABE	**Paberze**	**36.91**	**314**	P	**P**	**02 26 47.7**	**-1.1**
FIA1	**FINESS Array S**	**37.02**	**324**	P	**P**	**02 26 50.3**	**+0.7**
FINES	**FINESS Array B**	**37.02**	**324**	P	**P**	**02 26 50.4**	**+0.7**
FINES	**FINESS Array B**	**37.02**	**324**	P	**P**	**02 26 49.9**	**+0.2**
	comp=E,0.8nm,0.3s,baz=118,slow=9.3,SNR=17						
	comp=E,0.8nm,0.3s						
FINES	**FINESS Array B**	**37.02**	**324**	*e*P	**P**	**02 26 50.4**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MSF	**Maaselka**	**37.38**	**332**	P	**P**	**02 26 53.3**	**+0.6**
MSF				pmax	pmax		
	comp=Z,10.0nm,2.8s						
KWP	**Kalwaria Pacla**	**37.45**	**304**	P	**P**	**02 26 55.1**	**+1.6**
KWP	**Kalwaria Pacla**	**37.45**	**304**	P	**P**	**02 26 55.1**	**+1.6**
KWP				pmax	pmax		
	comp=Z,12nm,1.5s						
DRGR		**37.64**	**300**	P	**P**	**02 26 56.9**	**+1.7**
DRGR				pmax	pmax		
	comp=Z,2.0nm,1.6s						
BZS	**Buzias**	**38.54**	**298**	P	**P**	**02 27 04.5**	**+1.8**
BZS				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BEL	**Belsk**	**38.61**	**308**	P	**P**	**02 27 05.5**	**+2.3**
BEL				pmax	pmax		
	comp=Z,58nm,0.6s						
ARCES	**ARCESS Array B**	**40.16**	**336**	P	**P**	**02 27 16.7**	**+0.8**
ARCES	**ARCESS Array B**	**40.16**	**336**	P	**P**	**02 27 16.7**	**+0.8**
	comp=Z,3.2nm,0.5s,baz=108,slow=8.6,SNR=34						
	comp=Z,3.2nm,0.5s						
PUK	**Puka**	**40.42**	**293**	P	**P**	**02 27 18.9**	**+0.4**
PUK				IAmb	IAmb	02 27 55.9	
	comp=Z,8.2nm,1.2s						
KRLC	**Kraliky**	**41.24**	**305**	P	**P**	**02 27 26.1**	**+1.1**
KRLC				pmax	pmax		
	comp=Z,1.0nm,1.7s						
DPC	**Dobruska-Polom**	**41.51**	**306**	P	**P**	**02 27 28.8**	**+1.6**
DPC				pmax	pmax		
	comp=Z,3.0nm,1.6s						
KLR	**Kul'dur**	**42.57**	**56**	⇓*e*P	**P**	**02 27 36.2**	**+0.4**
KLR				pmax	pmax		
	comp=Z,4.0nm,1.4s						
HFS	**Hagfors**	**42.78**	**321**	P	**P**	**02 27 37.7**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=98,slow=11,SNR=19						
	comp=Z,1.4nm,0.4s						
TIXI	**Tiksi**	**43.36**	**22**	⇑*e*P	**P**	**02 27 41.3**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.6s						
KHC	**Kasperske Hory**	**43.43**	**304**	P	**P**	**02 27 44.4**	**+1.6**
KHC	**Kasperske Hory**	**43.43**	**304**	P	**P**	**02 27 44.4**	**+1.6**
KHC				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NB2	**NORSAR Subarra**	**44.04**	**322**	P	**P**	**02 27 47.8**	**+0.4**
	comp=Z,0.8nm,0.7s,baz=92,slow=7.9						
NB2	**NORSAR Subarra**	**44.04**	**322**	P	**P**	**02 27 48.5**	**+1.0**
NOA	**NORSAR Array B**	**44.04**	**322**	P	**P**	**02 27 47.9**	**+0.4**
	comp=Z,0.8nm,0.6s,baz=92,slow=7.8,SNR=4.9						
	comp=Z,0.8nm,0.6s						
SPITS	**Spitsbergen Ar**	**46.12**	**346**	P	**P**	**02 28 05.0**	**+1.3**
	comp=Z,6.1nm,0.8s,baz=125,slow=14,SNR=2.0						
	comp=Z,6.1nm,0.8s						
SPITS	**Spitsbergen Ar**	**46.12**	**346**	P	**P**	**02 28 05.6**	**+1.9**
SPITS				pmax	pmax		
	comp=Z,37nm,1.4s						
EKA	**Eskdalemuir Ar**	**52.25**	**315**	P	**P**	**02 28 50.8**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=89,slow=7.6,SNR=5.8						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**58.22**	**298**	P	**P**	**02 29 34.2**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=54,slow=7.2,SNR=10						
	comp=Z,0.4nm,0.5s						
C16K	**Lisburne Hills**	**65.08**	**21**	P	**P**	**02 30 19.9**	**+0.7**
B20K	**Meade River**	**65.91**	**17**	P	**P**	**02 30 25.3**	**+0.8**
C18K	**Utukok River**	**65.93**	**19**	P	**P**	**02 30 25.8**	**+1.0**
C18K				IAmb	IAmb	02 30 26.4	
	comp=Z,3.0nm,0.8s						
C19K	**Lookout Ridge**	**66.00**	**18**	P	**P**	**02 30 26.4**	**+1.2**
C19K				IAmb	IAmb	02 31 08.5	
	comp=Z,3.8nm,1.1s						
B22K	**Teshekpuk Lake**	**66.48**	**16**	P	**P**	**02 30 28.8**	**+0.6**
B22K				IAmb	IAmb	02 30 34.4	
	comp=Z,5.8nm,1.4s						
B21K	**Ikpikpuk River**	**66.78**	**16**	P	**P**	**02 30 31.3**	**+1.2**
B21K				IAmb	IAmb	02 30 31.8	
	comp=Z,2.8nm,0.7s						
D19K	**Kuna River**	**66.82**	**18**	P	**P**	**02 30 31.3**	**+0.9**
D19K				IAmb	IAmb	02 30 31.6	
	comp=Z,3.5nm,0.6s						
E18K	**Tukpahlearik C**	**66.97**	**20**	P	**P**	**02 30 32.1**	**+0.7**
E18K				IAmb	IAmb	02 30 50.3	
	comp=Z,5.6nm,1.2s						
C23K	**Itkillik River**	**67.46**	**15**	P	**P**	**02 30 35.3**	**+0.9**
C23K				IAmb	IAmb	02 30 36.7	
	comp=Z,3.3nm,0.8s						
F17K	**Baldwin Pennin**	**67.50**	**21**	P	**P**	**02 30 36.0**	**+1.3**
TOA0	**Torodi Ar. Sit**	**67.59**	**269**	P	**P**	**02 30 35.2**	**-0.8**
TOA0				IAmb	IAmb	02 30 36.2	
	comp=Z,1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**67.59**	**269**	P	**P**	**02 30 35.6**	**-0.5**
	comp=Z,1.7nm,0.5s,baz=47,slow=6.0,SNR=11						
	comp=Z,1.7nm,0.5s						
E19K	**Redstone River**	**67.82**	**19**	P	**P**	**02 30 37.2**	**+0.5**
E21K	**Killik River**	**67.84**	**17**	P	**P**	**02 30 37.5**	**+0.6**
E21K				IAmb	IAmb	02 30 38.3	
	comp=Z,2.3nm,0.6s						
F19K	**Shaleruckik Mo**	**68.15**	**19**	P	**P**	**02 30 38.7**	**0.0**
F19K				IAmb	IAmb	02 31 18.0	
	comp=Z,6.2nm,1.5s						
E22K	**Anaktuvuk Pass**	**68.58**	**17**	P	**P**	**02 30 42.1**	**+0.6**
E22K				IAmb	IAmb	02 31 12.6	
	comp=Z,5.3nm,1.4s						
TOLK	**Toolik Lake Re**	**68.66**	**16**	P	**P**	**02 30 43.0**	**+1.0**
D25K	**Kavik River**	**68.73**	**14**	P	**P**	**02 30 43.9**	**+1.5**
G19K	**Purcell Mounta**	**68.86**	**20**	P	**P**	**02 30 43.6**	**+0.5**
F21K	**Alatna River**	**68.92**	**18**	P	**P**	**02 30 44.3**	**+0.7**
A36M	**Sachs Harbour**	**69.18**	**6**	P	**P**	**02 30 46.1**	**+1.1**
A36M				IAmb	IAmb	02 30 47.4	
	comp=Z,6.0nm,0.8s						
H18K	**Honhosa River**	**69.26**	**21**	P	**P**	**02 30 45.9**	**+0.2**
E24K	**Your Creek**	**69.35**	**16**	P	**P**	**02 30 47.1**	**+0.8**
E24K				IAmb	IAmb	02 30 48.2	
	comp=Z,2.3nm,0.7s						
G21K	**Allakaket**	**69.48**	**18**	P	**P**	**02 30 47.2**	**+0.2**
H19K	**Roundabout Mou**	**69.50**	**20**	P	**P**	**02 30 47.5**	**+0.4**
H19K				IAmb	IAmb	02 31 20.4	
	comp=Z,6.6nm,1.5s						
IMAR	**Indian Mountai**	**69.84**	**19**	P	**P**	**02 30 49.

comp=Z,2.6nm,0.6s
SCRK Sand Creek 73.82 16 P P 02 31 13.5 +0.3
K27K Chicken 74.18 15 P P 02 31 16.0 +0.8
I30M Mount Dempster 74.18 13 P P 02 31 15.8 +0.5
SUA Susitna One 74.29 20 P P 02 31 16.1 +0.1
SUA IAmb IAmb 02 31 25.8
comp=Z,9.4nm,1.5s
GHO Glory Hole Cre 74.52 19 P P 02 31 17.8 +0.6
GHO IAmb IAmb 02 31 47.6
comp=Z,10nm,1.5s
SML Sawmill 74.64 19 P P 02 31 18.4 +0.5
DAWY Dawson 74.69 14 P P 02 31 18.5 +0.4
J30M Hart River 74.78 13 P P 02 31 19.2 +0.4
RC01 Rabbit Creek A 74.88 20 P P 02 31 19.4 +0.1
RC01 IAmb IAmb 02 31 32.0
comp=Z,7.5nm,1.1s
SCM Sheep Creek Mo 74.88 19 P P 02 31 19.5 +0.2
SCM Sheep Creek Mo 74.88 19 P P 02 31 19.5 +0.2
SCM pmax pmax
comp=Z,6.0nm,0.6s
M24K Tolsona, Glenn 74.93 18 P P 02 31 20.7 +1.1
L27K Beaver Creek, 75.09 16 P P 02 31 21.2 +0.8
BCAR Beaver Creek A 75.09 16 P P 02 31 21.7 +1.2
K29M Barlow Dome 75.24 14 P P 02 31 22.2 +0.8
K29M IAmb IAmb 02 31 22.9
comp=Z,2.3nm,0.6s
KLU Klutina 75.52 18 P P 02 31 23.8 +0.8
KLU IAmb IAmb 02 31 54.2
comp=Z,3.7nm,1.1s
M27K Edge Creek, AK 75.70 16 P P 02 31 25.5 +1.4
M27K IAmb IAmb 02 31 26.3
comp=Z,5.6nm,1.2s
N25K Chitina, Valde 75.74 18 P P 02 31 26.4 +2.2
N25K IAmb IAmb 02 32 04.4
comp=Z,8.1nm,1.4s
FID Port Fidalgo 76.02 19 P P 02 31 26.5 +0.7
MCARA McCarthy VSAT 76.31 17 P P 02 31 28.7 +1.3
MCARA IAmb IAmb 02 31 48.7
comp=Z,11nm,1.5s
M29M Somme Creek 76.33 15 P P 02 31 28.9 +1.2
VRDI Verde Repeater 76.34 17 P P 02 31 28.4 +0.6
YKA Yellowknife Ar 79.29 4 P P 02 31 44.7 +0.8
comp=Z,1.8nm,0.7s,baz=349,slow=6.2,SNR=32
comp=Z,1.8nm,0.7s
WRA Warramunga Arr 81.44 124 P P 02 31 55.0 -1.0
comp=Z,1.5nm,0.7s,baz=324,slow=5.1,SNR=15
comp=Z,1.5nm,0.7s
ASAR Alice Springs 83.84 127 P P 02 32 07.1 -1.3
comp=Z,0.3nm,0.5s,baz=324,slow=5.4,SNR=4.4
comp=Z,0.3nm,0.5s

NEIC ***08*** *02:22:40.5±0.9, 59˚.78N±0˚.02×136˚.53W±0˚.04, h2km±7km, ML3.2/95, ML2.8(AEIC), Error ellipse: s-maj=3.5km s-min=2.4km az=205.0*

ANF ***08*** *02:22:40.3±0.2, 59˚.78N×136˚.54W, h4km±2km, ML3.5/29, Error ellipse: s-maj=1.5km s-min=1.2km az=35.0*

AEIC ***08*** *02:22:40.4±0.9, 59˚.788N±0˚.006×136˚.51W±0˚.04, h2km±6km, Error ellipse: s-maj=2.8km s-min=0.9km az=84.0*

PGC ***08*** *02:22:41.2, 59˚.78N×136˚.54W, h5km, ML3.0, ML3.2/29, 105km Wnw of Haines, Ak Southeastern Alaska*

ISC 08 02:22:40.3±1.1, 59˚.79N±0˚.01×136˚.52W±0˚.01, h3km±10km, n188, σ1§11/225, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**0.34**	**166**	P	**Pg**	**02 22 47.5**	**+0.6**
	baz=348,SNR=1000						
PLBC				S	**Sg**	**02 22 52.0**	**+0.7**
	baz=348						
PLBC	**Pleasant Camp**	**0.34**	**166**	P	**Pg**	**02 22 47.6**	**+0.6**
PLBC				S	**Sg**	**02 22 52.0**	**+0.7**
P30M	**Million Dollar**	**0.40**	**327**		**Pg**	**02 22 48.3**	**+0.3**
P30M					**Sg**	**02 22 53.8**	**+0.5**
P30M	**Million Dollar**	**0.40**	**327**	IAML		02 22 55.8	
	comp=N,577nm,0.2s						
P30M				IAML		02 22 59.8	
	comp=E,588nm,0.5s						
P30M	**Million Dollar**	**0.40**	**327**	P	**Pg**	**02 22 48.3**	**+0.3**
	baz=146						
P30M				S	**Sg**	**02 22 53.7**	**+0.5**
	baz=146						
P30M	**Million Dollar**	**0.40**	**327**	P	**Pg**	**02 22 48.4**	**+0.3**
P29M	**Windy Craggy**	**0.64**	**256**		**Pg**	**02 22 52.4**	**-0.1**
P29M					**Sg**	**02 23 01.0**	**+0.3**
P29M	**Windy Craggy**	**0.64**	**256**	IAML		02 23 01.5	
	comp=N,2µm,0.5s						
P29M				IAML		02 23 02.1	
	comp=E,2µm,0.3s						
P29M	**Windy Craggy**	**0.64**	**256**	P	**Pg**	**02 22 52.5**	**-0.1**
	baz=75,SNR=1000						
P29M				S	**Sg**	**02 23 00.9**	**+0.1**
	baz=75						
P29M	**Windy Craggy**	**0.64**	**256**	P	**Pg**	**02 22 52.5**	**-0.1**
P29M				S	**Sg**	**02 23 00.7**	**-0.1**
SKAG	**Skagway**	**0.69**	**118**		**Pg**	**02 22 53.4**	**-0.1**
SKAG	**Skagway**	**0.69**	**118**		**Sg**	**02 23 02.6**	**+0.1**
SKAG	**Skagway**	**0.69**	**118**	P	**Pg**	**02 22 53.9**	**+0.3**
	baz=299,SNR=114						
SKAG				S	**Sg**	**02 23 02.9**	**+0.5**
	baz=299						
O30N	**Mendenhall**	**1.01**	**12**		**Pg**	**02 22 59.6**	**0.0**
O30N				IAML		02 23 14.8	
	comp=E,931nm,0.3s						
O30N				IAML		02 23 14.9	
	comp=N,439nm,0.2s						
O30N	**Mendenhall**	**1.01**	**12**		**Sg**	**02 23 13.0**	**+0.3**
O30N	**Mendenhall**	**1.01**	**12**	P	**Pg**	**02 22 59.7**	**0.0**
	baz=192,SNR=1000						
O30N				S	**Sg**	**02 23 12.9**	**+0.3**
	baz=192						
YUK7	**Dusty Glacier**	**1.10**	**313**		**Pg**	**02 23 01.2**	**-0.2**
YUK7					**Sg**	**02 23 15.7**	**0.0**
YUK7	**Dusty Glacier**	**1.10**	**313**	P	**Pg**	**02 23 00.7**	**-0.7**
HYT	**Haines Junctio**	**1.15**	**335**		**Pg**	**02 23 01.4**	**-1.0**
HYT				IAML		02 23 22.0	
	comp=N,246nm,0.6s						
HYT	**Haines Junctio**	**1.15**	**335**	S	**Sg**	**02 23 17.9**	**+0.7**
	baz=154						
HYT	**Haines Junctio**	**1.15**	**335**	P	**Pg**	**02 23 00.9**	**-1.4**
WHY	**Whitehorse**	**1.20**	**42**		**Pg**	**02 23 03.0**	**-0.2**
WHY					**Sg**	**02 23 19.2**	**+0.4**
WHY	**Whitehorse**	**1.20**	**42**	P	**Pg**	**02 23 02.8**	**-0.4**
	baz=224,SNR=1000						
WHY				S	**Sg**	**02 23 19.5**	**+0.7**
	baz=224						
WHY	**Whitehorse**	**1.20**	**42**	P	**Pg**	**02 23 02.9**	**-0.4**
WHY				S	**Sg**	**02 23 19.2**	**+0.4**
P32M	**Atlin**	**1.44**	**97**	Pn	**Pn**	**02 23 07.0**	**-0.2**
P32M				IAML		02 23 29.4	
	comp=E,271nm,0.1s						
P32M				IAML		02 23 29.4	
	comp=N,458nm,0.3s						
P32M	**Atlin**	**1.44**	**97**	P	**Pn**	**02 23 07.0**	**-0.2**
	baz=279,SNR=1000						
P32M				S	**Sb**	**02 23 26.5**	**+0.1**
	baz=279						
P32M	**Atlin**	**1.44**	**97**	Pn	**Pn**	**02 23 07.3**	**0.0**
P32M				Sn	**Sb**	**02 23 26.3**	**-0.1**
R31K	**City Hall, Gus**	**1.44**	**163**		**Pn**	**02 23 07.2**	**0.0**
R31K					**Sb**	**02 23 26.0**	**-0.3**
R31K	**City Hall, Gus**	**1.44**	**163**	S	**Sb**	**02 23 25.7**	**-0.6**
	baz=344						
R31K	**City Hall, Gus**	**1.44**	**163**	Pn	**Pn**	**02 23 06.7**	**-0.4**
R31K				Sn	**Sb**	**02 23 25.6**	**-0.7**
PNL	**Peninsula**	**1.46**	**266**		**Pn**	**02 23 07.0**	**-0.6**
PNL	**Peninsula**	**1.46**	**266**	P	**Pn**	**02 23 07.0**	**-0.6**
	baz=84,SNR=1000						
PNL				S	**Sb**	**02 23 26.7**	**-0.4**
	baz=84						
PNL	**Peninsula**	**1.46**	**266**	Pn	**Pn**	**02 23 07.1**	**-0.4**
YUK6	**Outpost Mounta**	**1.48**	**322**		**Pn**	**02 23 07.4**	**-0.6**
YUK6	**Outpost Mounta**	**1.48**	**322**	P	**Pn**	**02 23 06.8**	**-1.1**
	baz=141,SNR=271						
YUK6				S	**Sb**	**02 23 27.5**	**-0.2**
	baz=141						
YUK6	**Outpost Mounta**	**1.48**	**322**	Pn	**Pn**	**02 23 07.4**	**-0.6**
BESE	**Bessie Mountai**	**1.49**	**144**		**Pn**	**02 23 07.1**	**-0.8**
BESE	**Bessie Mountai**	**1.49**	**144**	Pn	**Pn**	**02 23 07.1**	**-0.8**
BCPM	**Bancas Point**	**1.58**	**277**		**Pn**	**02 23 09.4**	**+0.3**
BCPM					**Sn**	**02 23 30.3**	**+0.2**
N30M	**Aishikik Lake**	**1.70**	**351**		**Pn**	**02 23 11.0**	**+0.1**
N30M	**Aishikik Lake**	**1.70**	**351**	IAML		02 23 38.0	
	comp=N,255nm,0.2s						
N30M	**Aishikik Lake**	**1.70**	**351**	P	**Pn**	**02 23 10.9**	**+0.1**
	baz=170,SNR=602						
N30M				S	**Sb**	**02 23 34.0**	**0.0**
	baz=170						
N30M	**Aishikik Lake**	**1.70**	**351**	Pn	**Pn**	**02 23 11.5**	**+0.6**
N30M				Sg	**Sb**	**02 23 34.0**	**0.0**
R32K	**Eaglecrest**	**1.84**	**145**		**Pn**	**02 23 12.8**	**+0.1**
R32K				IAML		02 23 43.2	
	comp=N,128nm,0.3s						
R32K				IAML		02 23 44.5	
	comp=E,119nm,0.4s						
R32K	**Eaglecrest**	**1.84**	**145**	Sb	**Sg**	**02 23 39.1**	**-0.2**
	baz=327						
R32K	**Eaglecrest**	**1.84**	**145**	Pn	**Pn**	**02 23 12.9**	**+0.1**
S31K	**Pelican**	**1.84**	**175**		**Pn**	**02 23 12.1**	**-0.5**
S31K	**Pelican**	**1.84**	**175**	IAML		02 23 39.5	
	comp=E,156nm,0.8s						
S31K				IAML		02 23 39.9	
	comp=N,296nm,0.8s						
S31K	**Pelican**	**1.84**	**175**	P	**Pn**	**02 23 12.5**	**-0.2**
	baz=356,SNR=130						
S31K				S	**Sn**	**02 23 36.1**	**-0.3**
	baz=356						
S31K	**Pelican**	**1.84**	**175**	Pn	**Pn**	**02 23 12.5**	**-0.2**
S31K				Sg	**Sn**	**02 23 36.1**	**-0.3**
JIS	**Juneau Island**	**1.88**	**143**		**Pn**	**02 23 12.3**	**-0.9**
JIS	**Juneau Island**	**1.88**	**143**	IAML		02 23 44.2	
	comp=N,183nm,0.4s						
JIS				IAML		02 23 46.1	
	comp=E,159nm,0.6s						
YUK4	**Talbot Arm**	**1.88**	**327**	P	**Pn**	**02 23 14.2**	**+0.7**
	baz=148,SNR=164						
YUK4				Sb	**Sg**	**02 23 42.1**	**+1.4**
	baz=148						
YUK4	**Talbot Arm**	**1.88**	**327**	Pn	**Pn**	**02 23 14.5**	**+1.0**
P33M	**Teslin, Yukon**	**1.91**	**76**	Pn	**Pn**	**02 23 13.4**	**-0.4**
P33M				IAML		02 23 41.9	
	comp=E,318nm,0.7s						
P33M	**Teslin, Yukon**	**1.91**	**76**		**Sg**	**02 23 41.1**	**-0.5**
P33M	**Teslin, Yukon**	**1.91**	**76**	P	**Pn**	**02 23 13.4**	**-0.4**
	baz=259,SNR=393						
P33M				Sb	**Sb**	**02 23 41.0**	**+1.0**
	baz=259						
P33M	**Teslin, Yukon**	**1.91**	**76**	Pn	**Pn**	**02 23 13.6**	**-0.2**
P33M				Pg	**Pb**	**02 23 15.7**	**-0.1**
P33M				Sg	**Sb**	**02 23 40.8**	**+0.8**
O28M	**Mount Upton**	**2.08**	**300**		**Pn**	**02 23 16.8**	**+0.5**
O28M	**Mount Upton**	**2.08**	**300**	P	**Pn**	**02 23 16.2**	**-0.1**
	baz=117,SNR=148						
O28M				Sb	**Sb**	**02 23 45.8**	**+0.8**
	baz=117						
O28M	**Mount Upton**	**2.08**	**300**	Pn	**Pn**	**02 23 16.3**	**0.0**
O28M				Sg	**Sb**	**02 23 45.1**	**+0.1**
SAMH	**Samovar Hills**	**2.17**	**281**		**Pn**	**02 23 18.1**	**+0.7**
SAMH	**Samovar Hills**	**2.17**	**281**	Pn	**Pn**	**02 23 18.0**	**+0.7**
SAMH				Sg	**Sg**	**02 23 49.3**	**-0.7**
N32M	**Quiet Lake**	**2.18**	**50**		**Pn**	**02 23 17.9**	**+0.4**
N32M	**Quiet Lake**	**2.18**	**50**	P	**Pn**	**02 23 17.9**	**+0.4**
	baz=233						
N32M				Sb	**Sg**	**02 23 49.7**	**-0.7**
	baz=233						
N32M	**Quiet Lake**	**2.18**	**50**	Pn	**Pn**	**02 23 17.9**	**+0.4**
N32M				Sg	**Sb**	**02 23 49.3**	**+1.5**
N32M	**Quiet Lake**	**2.18**	**50**	Pg	**Pb**	**02 23 20.5**	**+0.1**
YUK8	**Steele Glacier**	**2.19**	**315**	Pb	**Pb**	**02 23 20.5**	**-0.3**
	baz=132						
YUK8				Sb	**Sg**	**02 23 50.0**	**-0.8**
	baz=132						
YUK8	**Steele Glacier**	**2.19**	**315**	Pg	**Pb**	**02 23 20.6**	**-0.1**
LOGN	**Logan Glacier**	**2.46**	**297**		**Pn**	**02 23 22.1**	**+0.7**
LOGN	**Logan Glacier**	**2.46**	**297**	Pn	**Pn**	**02 23 22.4**	**+1.0**
S32K	**Killisnoo**	**2.54**	**156**		**Pn**	**02 23 21.0**	**-1.3**
S32K	**Killisnoo**	**2.54**	**156**	Pb	**Pb**	**02 23 26.3**	**-0.2**
	baz=337						
S32K				Sb	**Sb**	**02 23 59.2**	**+1.2**
	baz=337						
S32K	**Killisnoo**	**2.54**	**156**	Pn	**Pn**	**02 23 21.0**	**-1.3**
S32K				Pg	**Pb**	**02 23 26.2**	**-0.2**
M31M	**Drury Creek, Y**	**2.63**	**22**		**Pn**	**02 23 24.5**	**+0.8**
M31M	**Drury Creek, Y**	**2.63**	**22**	IAML		02 24 08.0	
	comp=N,148nm,0.2s						
M31M	**Drury Creek, Y**	**2.63**	**22**	P	**Pn**	**02 23 24.5**	**+0.8**
	baz=204,SNR=27						
M31M				Sb	**Sb**	**02 24 02.7**	**+1.8**
	baz=204						
M31M	**Drury Creek, Y**	**2.63**	**22**	Pn	**Pn**	**02 23 24.6**	**+0.8**
M31M	**Drury Creek, Y**	**2.63**	**22**	Sg	**Sb**	**02 24 02.4**	**+1.6**
CTGM	**Chitina Glacie**	**2.67**	**298**		**Pn**	**02 23 25.1**	**+0.9**
CTGM	**Chitina Glacie**	**2.67**	**298**	Pn	**Pn**	**02 23 24.8**	**+0.6**
CTGM	**Chitina Glacie**	**2.67**	**298**	Sg	**Sb**	**02 24 03.3**	**+1.5**
CTG	**Chitna Glacier**	**2.67**	**298**	P	**Pn**	**02 23 24.7**	**+0.5**
	baz=114						
CTG				Sb	**Sb**	**02 24 03.0**	**+1.2**
	baz=114						
MESA	**MESA**	**2.76**	**280**		**Pn**	**02 23 25.2**	**-0.3**
MESA				IAML		02 24 08.7	
	comp=E,65nm,0.5s						
MESA				IAML		02 24 08.7	
	comp=N,94nm,0.5s						
MESA	**MESA**	**2.76**	**280**	P	**Pn**	**02 23 24.2**	**-1.3**
	baz=96						
MESA				Sb	**Sb**	**02 24 05.5**	**+1.1**
	baz=96						
MESA	**MESA**	**2.76**	**280**	Pn	**Pn**	**02 23 23.8**	**-1.7**
YUK3	**Moose Creek**	**2.77**	**318**	P	**Pn**	**02 23 25.1**	**-0.6**
	baz=134						
YUK3	**Moose Creek**	**2.77**	**318**	Pn	**Pn**	**02 23 25.6**	**-0.2**
SIT	**Sitka**	**2.81**	**167**	Pn	**Pn**	**02 23 26.2**	**+0.2**
SIT				IAML		02 24 13.5	
	comp=E,42nm,0.7s						
SIT				IAML		02 24 15.1	
	comp=N,43nm,1.1s						
SIT	**Sitka**	**2.81**	**167**	Pb	**Pb**	**02 23 30.6**	**-0.5**
	baz=348						
SIT				Sb	**Sb**	**02 24 06.6**	**+0.8**
	baz=348						
M29M	**Somme Creek**	**2.83**	**341**	Pn	**Pn**	**02 23 26.8**	**+0.4**
M29M				IAML		02 24 18.7	
	comp=N,70nm,0.6s						
M29M				IAML		02 24 19.1	
	comp=E,96nm,0.6s						
M29M	**Somme Creek**	**2.83**	**341**	P	**Pn**	**02 23 26.8**	**+0.4**
	baz=160,SNR=20						
M29M				Sb	**Sg**	**02 24 09.2**	**-1.7**
	baz=160						
M29M	**Somme Creek**	**2.83**	**341**	Pn	**Pn**	**02 23 26.9**	**+0.6**
M29M				Pg	**Pb**	**02 23 33.1**	**+1.7**
M29M	**Somme Creek**	**2.83**	**341**	Sg	**Sg**	**02 24 09.3**	**-1.7**
BARN	**Barnard Glacie**	**2.85**	**299**		**Pn**	**02 23 27.7**	**+0.9**
R33M	**Jennings River**	**2.85**	**96**		**Pn**	**02 23 26.6**	**-0.2**
R33M				IAML		02 24 18.0	
	comp=E,125nm,0.5s						
R33M	**Jennings River**	**2.85**	**96**	P	**Pn**	**02 23 26.4**	**-0.3**
	baz=280,SNR=48						
R33M				Sb	**Sg**	**02 24 09.9**	**-2.0**
	baz=280						
R33M	**Jennings River**	**2.85**	**96**	Pn	**Pn**	**02 23 26.8**	**0.0**
R33M	**Jennings River**	**2.85**	**96**	Sg	**Sb**	**02 24 09.7**	**+2.6**
FARO	**Faro, Yukon**	**2.90**	**31**		**Pn**	**02 23 27.8**	**+0.5**
FARO	**Faro, Yukon**	**2.90**	**31**	P	**Pn**	**02 23 28.2**	**+0.9**
	baz=214,SNR=6.4						
FARO				Sb	**Sb**	**02 24 11.0**	**+2.7**
	baz=214						
FARO	**Faro, Yukon**	**2.90**	**31**	Pn	**Pn**	**02 23 28.2**	**+0.9**
FARO	**Faro, Yukon**	**2.90**	**31**	Sg	**Sb**	**02 24 10.9**	**+2.6**
YUK2	**White River**	**2.92**	**315**	Pn	**Pn**	**02 23 27.5**	**-0.2**
ISLE	**Juniper Island**	**3.02**	**288**		**Pn**	**02 23 29.7**	**+0.6**
ISLE	**Juniper Island**	**3.02**	**288**	IAML		02 24 19.4	
	comp=N,34nm,0.8s						
ISLE				IAML		02 24 23.3	
	comp=E,35nm,0.7s						
BARK	**Barkley Ridge**	**3.05**	**284**		**Pn**	**02 23 30.0**	**+0.5**
KIAG	**Kiagna River**	**3.12**	**294**		**Pn**	**02 23 30.9**	**+0.5**
KIAG	**Kiagna River**	**3.12**	**294**	Pn	**Pn**	**02 23 30.5**	**+0.1**
SNH	**Sunshine Point**	**3.20**	**280**		**Pn**	**02 23 32.7**	**+1.3**
SNH	**Sunshine Point**	**3.20**	**280**	IAML		02 24 21.3	
	comp=N,32nm,0.7s						
WAX	**Waxell Ridge**	**3.24**	**285**		**Pn**	**02 23 32.5**	**+0.6**
WAX				IAML		02 24 29.8	
	comp=E,43nm,0.7s						
PTPK	**Patty Peak**	**3.26**	**298**	Pn	**Pn**	**02 23 33.1**	**+0.7**
S34M	**Telegraph Cree**	**3.37**	**122**	Pn	**Pn**	**02 23 34.4**	**+0.6**
S34M				IAML		02 24 31.8	
	comp=N,73nm,0.2s						
S34M	**Telegraph Cree**	**3.37**	**122**	P	**Pn**	**02 23 34.4**	**+0.6**
	baz=306						
S34M	**Telegraph Cree**	**3.37**	**122**	Pn	**Pn**	**02 23 34.4**	**+0.6**
S34M	**Telegraph Cree**	**3.37**	**122**	Sg	**Sg**	**02 24 28.3**	**-0.3**
L29M	**L29M**	**3.42**	**348**		**Pn**	**02 23 35.1**	**+0.6**
L29M	**L29M**	**3.42**	**348**	P	**Pn**	**02 23 34.9**	**+0.4**
	baz=166,SNR=22						
L29M	**L29M**	**3.42**	**348**	Pn	**Pn**	**02 23 35.1**	**+0.6**
L29M	**L29M**	**3.42**	**348**	Sg	**Sg**	**02 24 28.1**	**-2.0**
KHIT	**Khitrov Hills**	**3.43**	**284**		**Pn**	**02 23 35.5**	**+0.9**
GRIN	**Grindle Hills**	**3.45**	**281**		**Pn**	**02 23 35.9**	**+1.1**
MCARA	**McCarthy VSAT**	**3.58**	**299**		**Pn**	**02 23 37.7**	**+1.0**
MCARA				IAML		02 24 39.5	
	comp=E,26nm,1.0s						
MCARA				IAML		02 24 43.5	
	comp=N,27nm,0.9s						
MCARA	**McCarthy VSAT**	**3.58**	**299**	P	**Pn**	**02 23 36.8**	**+0.1**
	baz=114						
DLBC	**Dease Lake**	**3.61**	**109**	Pn	**Pn**	**02 23 37.1**	**0.0**
DLBC				IAML		02 24 38.5	
	comp=N,55nm,0.7s						
DLBC				IAML		02 24 47.9	
	comp=E,49nm,0.5s						
DLBC	**Dease Lake**	**3.61**	**109**	P	**Pn**	**02 23 37.2**	**0.0**
	baz=295						
DLBC	**Dease Lake**	**3.61**	**109**	Pn	**Pn**	**02 23 37.3**	**+0.1**
BERG	**Berg Lake**	**3.65**	**283**		**Pn**	**02 23 38.2**	**+0.7**
BERG				IAML		02 24 31.5	
	comp=E,59nm,0.7s						
BERG				IAML		02 24 32.2	
	comp=N,48nm,0.6s						
M27K	**Edge Creek, AK**	**3.66**	**317**	Pn	**Pn**	**02 23 38.8**	**+0.9**
M27K				IAML		02 24 47.7	
	comp=E,20nm,0.7s						
M27K				IAML		02 25 00.4	
	comp=N,24nm,0.7s						
M27K	**Edge Creek, AK**	**3.66**	**317**	Pn	**Pn**	**02 23 39.3**	**+1.4**
VRDI	**Verde Repeater**	**3.72**	**296**		**Pn**	**02 23 39.6**	**+0.9**
MMPY	**Sheldon Lake,**	**3.81**	**40**	Pn	**Pn**	**02 23 40.7**	**+0.9**
MMPY	**Sheldon Lake,**	**3.81**	**40**	P	**Pn**	**02 23 40.8**	**+0.9**
	baz=224,SNR=11						
MMPY	**Sheldon Lake,**	**3.81**	**40**	Pn	**Pn**	**02 23 40.7**	**+0.9**
MMPY				Pg	**Pg**	**02 23 51.3**	**-2.0**
MMPY	**Sheldon Lake,**	**3.81**	**40**	Sg	**Sg**	**02 24 40.0**	**-2.6**
MAYO	**Mayo, Yukon**	**3.83**	**4**		**Pn**	**02 23 40.5**	**+0.4**
MAYO	**Mayo, Yukon**	**3.83**	**4**	Sg	**Sg**	**02 24 39.6**	**-3.7**
HMT	**Hamilton**	**3.92**	**281**	Pn	**Pn**	**02 23 41.8**	**+0.5**
HMT				IAML		02 24 41.4	
	comp=N,35nm,0.6s						
GLB	**Gilahina Butte**	**3.96**	**298**	Pn	**Pn**	**02 23 42.2**	**+0.3**
WRAK	**Wrangell Islan**	**4.04**	**145**	Pn	**Pn**	**02 23 43.5**	**+0.6**
WRAK				IAML		02 24 55.8	
	comp=N,32nm,0.8s						
WRAK				IAML		02 24 58.7	
	comp=N,29nm,0.4s						
M26K	**Nabesna, AK**	**4.09**	**313**		**Pn**	**02 23 45.4**	**+1.7**
M26K	**Nabesna, AK**	**4.09**	**313**	P	**Pn**	**02 23 45.0**	**+1.3**
	baz=127,SNR=8.0						
K29M	**Barlow Dome**	**4.10**	**354**		**Pn**	**02 23 44.6**	**+0.7**
K29M				IAML		02 24 53.6	
	comp=N,30nm,0.6s						
K29M				IAML		02 24 54.9	
	comp=E,47nm,0.8s						
K29M	**Barlow Dome**	**4.10**	**354**	P	**Pn**	**02 23 44.9**	**+1.1**
	baz=173,SNR=51						
K29M	**Barlow Dome**	**4.10**	**354**	Pn	**Pn**	**02 23 44.5**	**+0.7**
K29M	**Barlow Dome**	**4.10**	**354**	Sg	**Sg**	**02 24 47.9**	**-3.9**
U33K	**Whale Pass**	**4.11**	**152**	P	**Pn**	**02 23 43.3**	**-0.5**
	baz=335						
U33K	**Whale Pass**	**4.11**	**152**	Pn	**Pn**	**02 23 42.9**	**-0.9**
BCAR	**Beaver Creek A**	**4.15**	**325**	Pn	**Pn**	**02 23 45.2**	**+0.7**
L27K	**Beaver Creek,**	**4.16**	**324**	Pn	**Pn**	**02 23 45.9**	**+1.3**
L27K	**Beaver Creek,**	**4.16**	**324**	Pn	**Pn**	**02 23 45.4**	**+0.8**
BMRM	**Bremner River**	**4.18**	**290**		**Pn**	**02 23 45.5**	**+0.5**
BMRM	**Bremner River**	**4.18**	**290**	P	**Pn**	**02 23 45.1**	**+0.1**
	baz=103						
T35M	**Bob Quinn**	**4.34**	**128**	Pn	**Pn**	**02 23 47.4**	**+0.3**
T35M				IAML		02 25 04.4	
	comp=N,28nm,0.5s						
T35M				IAML		02 25 05.8	
	comp=E,24nm,0.8s						
T35M	**Bob Quinn**	**4.34**	**128**	Pn	**Pn**	**02 23 47.8**	**+0.7**
TGTN	**Hyland Airport**	**4.42**	**63**	Sg	**Sg**	**02 24 58.8**	**-3.2**
DAWY	**Dawson**	**4.50**	**344**		**Pn**	**02 23 50.1**	**+0.8**
DAWY				IAML		02 25 06.1	
	comp=N,36nm,0.3s						
DAWY	**Dawson**	**4.50**	**344**	P	**Pn**	**02 23 49.9**	**+0.6**
	baz=161						
DAWY	**Dawson**	**4.50**	**344**	Pn	**Pn**	**02 23 49.9**	**+0.6**
DAWY	**Dawson**	**4.50**	**344**	Sg	**Sg**	**02 25 02.1**	**-2.6**
MENT	**Mentasta**	**4.69**	**315**	Pn	**Pn**	**02 23 52.5**	**+0.7**
MENT				IAML		02 24 34.7	
	comp=E,22nm,0.2s						
MENT				IAML		02 24 34.8	
	comp=N,18nm,0.2s						
J29N	**Klondike Camp**	**4.75**	**351**	Pn	**Pn**	**02 23 53.9**	**+1.1**
J30M	**Hart River**	**4.80**	**1**		**Pn**	**02 23 53.9**	**+0.4**
J30M				IAML		02 25 12.9	
	comp=N,22nm,1.1s						
J30M				IAML		02 25 19.5	
	comp=E,29nm,0.7s						
J30M	**Hart River**	**4.80**	**1**	P	**Pn**	**02 23 54.6**	**+1.1**
	baz=181,SNR=18						
J30M	**Hart River**	**4.80**	**1**	Pn	**Pn**	**02 23 54.6**	**+1.1**
J30M	**Hart River**	**4.80**	**1**	Sg	**Sb**	**02 25 08.8**	**+5.5**
KLU	**Klutina**	**4.93**	**294**	Pn	**Pn**	**02 23 55.8**	**+0.5**
KLU				IAML		02 25 15.6	
	comp=N,8.7nm,0.8s						
KLU	**Klutina**	**4.93**	**294**	P	**Pn**	**02 23 55.8**	**+0.5**
	baz=106						
K27K	**Chicken**	**5.00**	**331**	Pn	**Pn**	**02 23 55.8**	**-0.3**
EGAK	**Eagle**	**5.45**	**339**		**Pn**	**02 24 02.7**	**+0.4**
EGAK	**Eagle**	**5.45**	**339**	P	**Pn**	**02 24 03.1**	**+0.7**
	baz=154						
EGAK	**Eagle**	**5.45**	**339**	Sg	**Sg**	**02 25 30.9**	**-4.4**

comp=Z,65nm,21.8s,baz=189,slow=43
5.8nm,0.3s

MAJO	**Matsushiro**	**3.08**	**275**	P	**Pn**	**02 39 54.9**	**+1.9**
JSD	**Sado**	**3.45**	**301**	P	**Pn**	**02 39 59.5**	**+1.4**
JHJ	**Hachijo jima 2**	**3.69**	**211**	Pn	**Pn**	**02 40 03.3**	**+1.8**
	24nm,0.3s,baz=69,slow=19,SNR=1.9						
JHJ				Sn	**Sn**	**02 40 41.0**	**-3.5**
	32nm,0.3s,baz=330,slow=23,SNR=7.1						
JGF	**Kuroka**	**3.85**	**261**	P	**Pn**	**02 40 06.7**	**+3.1**
ERM	**Erimo**	**5.75**	**9**	P	**Pn**	**02 40 31.3**	**+1.7**
SONM	**Songino Array**	**28.58**	**305**	P	**P**	**02 44 58.8**	**-1.5**
	0.8nm,0.4s,baz=108,slow=8.6,SNR=2.9						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**44.91**	**303**	P	**P**	**02 47 19.2**	**+0.5**
	0.4nm,0.7s,baz=82,slow=11,SNR=3.6						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.82**	**309**	P	**P**	**02 47 34.0**	**+0.3**
	0.6nm,0.6s,baz=83,slow=8.2,SNR=4.8						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**56.43**	**189**	P	P	02 48 52.9	+7.0
	0.1nm,0.4s,baz=2.8,slow=7.5,SNR=1.4						
	0.1nm,0.4s						

NEIC ***08*** *02:51:47.4±0.9,54˚50N±0˙03×161˚63W±0˙04, h27km±10km, ML3.7/12, ML3.2(AEIC), Error ellipse: s-maj=4.8km s-min=1.9km az=216.0*

AEIC ***08*** *02:51:47.4±1.0,54˚49N±0˙04×161˚64W±0˙05, h33km±7km, Error ellipse: s-maj=6.1km s-min=2.3km az=146.0*

ISC 08 02:51:47.8±2.6, 54˚52N±0˙09×161˚65W±0˙06, h30km±20km, n44, σ0˚81/49, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PVV	**Pavlof Volcano**	**0.86**	**355**			**Pn**	**02 52 03.4**	**-0.4**
PVV						**Sb**	**02 52 15.9**	**+0.5**
PS1A	**Pavlof South-1**	**0.91**	**357**			**Pn**	**02 52 04.3**	**-0.2**
PS1A						**Sb**	**02 52 17.2**	**+0.6**
SDPT	**Sand Point**	**1.07**	**39**			**Pn**	**02 52 06.3**	**-0.4**
SDPT					IAML		02 52 21.3	
	comp=E,2μm,0.4s							
SDPT	**Sand Point**	**1.07**	**39**			**Sn**	**02 52 20.6**	**0.0**
SDPT	**Sand Point**	**1.07**	**39**	P		**Pn**	**02 52 06.3**	**-0.4**
	baz=218							
FALS	**False Pass**	**1.08**	**289**			**Pn**	**02 52 06.0**	**-0.9**
FALS	**False Pass**	**1.08**	**289**	P		**Pn**	**02 52 06.2**	**-0.6**
	baz=109							
S12K	**Black Hills**	**1.21**	**349**			**Pn**	**02 52 08.9**	**+0.2**
S12K					IAML		02 52 26.1	
	comp=E,2μm,0.5s							
S12K					IAML		02 52 27.8	
	comp=N,1μm,0.5s							
S12K	**Black Hills**	**1.21**	**349**			**Sb**	**02 52 25.3**	**0.0**
S12K	**Black Hills**	**1.21**	**349**	P		**Pn**	**02 52 08.9**	**+0.2**
	baz=168							
S12K				S		**Sb**	**02 52 25.7**	**+0.4**
	baz=168							
ISLZ	**Isanotski Laza**	**1.22**	**281**			**Pn**	**02 52 08.2**	**-0.6**
ISLZ						**Sb**	**02 52 24.9**	**-0.7**
ISNN	**Isanotski Nort**	**1.28**	**285**			**Pn**	**02 52 09.5**	**-0.1**
SSLN	**Shishaldin Nor**	**1.40**	**283**			**Pn**	**02 52 11.8**	**+0.5**
WESE	**West Dahl East**	**1.72**	**270**			**Pn**	**02 52 16.3**	**+0.6**
WECS	**Westdahl Cape**	**1.82**	**272**			**Pn**	**02 52 17.8**	**+0.7**
WECS						**Sb**	**02 52 42.9**	**-0.1**
VNSS	**Veniaminof 8**	**2.12**	**35**			**Pn**	**02 52 22.2**	**+0.9**
S14K	**Fog Glacier**	**2.13**	**33**	P		**Pn**	**02 52 22.3**	**+0.9**
	baz=214							
VNFG	**Fog Glacier, M**	**2.14**	**33**			**Pn**	**02 52 21.5**	**+0.1**
VNFG					IAML		02 53 10.0	
	comp=N,410nm,0.8s							
AKSA	**Akutan Strait**	**2.40**	**262**			**Pn**	**02 52 25.6**	**+0.6**
AKSA						**Sn**	**02 52 54.5**	**+1.2**
CHGN	**Chignik**	**2.57**	**45**			**Pn**	**02 52 27.7**	**+0.5**
CHGN	**Chignik**	**2.57**	**45**		IAML		02 53 05.0	
	comp=E,249nm,0.6s							
CHGN					IAML		02 54 08.6	
	comp=N,234nm,0.6s							
CHGN	**Chignik**	**2.57**	**45**	P		**Pn**	**02 52 27.7**	**+0.5**
	baz=226							
UNV	**Unalaska Valle**	**2.93**	**259**			**Pn**	**02 52 32.2**	**0.0**
UNV	**Unalaska Valle**	**2.93**	**259**	P		**Pn**	**02 52 32.2**	**0.0**
	baz=75							
MNAT	**Makushin Natee**	**3.03**	**260**			**Pn**	**02 52 33.6**	**0.0**
MSW	**Makushin Switc**	**3.08**	**261**			**Pn**	**02 52 33.9**	**-0.4**
R16K	**Pilot Point**	**3.81**	**35**			**Pn**	**02 52 44.8**	**+0.4**
O14K	**Tigyukauivet M**	**4.75**	**2**			**Pn**	**02 52 57.2**	**0.0**
O15K	**Ungalikthiuk R**	**4.78**	**11**			**Pn**	**02 52 57.3**	**-0.3**
O16K	**Kokwok River B**	**5.45**	**19**	Pn		**Pn**	**02 53 06.3**	**-0.4**
N15K	**Kwethluk River**	**5.73**	**8**	Pn		**Pn**	**02 53 10.6**	**0.0**
N17K	**Nushagak Hills**	**6.49**	**20**	Pn		**Pn**	**02 53 21.3**	**+0.2**
M16K	**Timber Creek**	**6.68**	**11**	Pn		**Pn**	**02 53 23.7**	**0.0**
L14K	**Kuka Creek**	**6.87**	**356**	Pn		**Pn**	**02 53 26.0**	**-0.2**
N18K	**Kilae Creek**	**6.91**	**24**	Pn		**Pn**	**02 53 23.1**	**-3.7**
M17K	**Holitna River**	**7.25**	**16**	Pn		**Pn**	**02 53 31.3**	**-0.3**
L16K	**Owhat River**	**7.30**	**8**	Pn		**Pn**	**02 53 31.9**	**-0.3**
K13K	**Kusilvak Mount**	**7.60**	**349**	Pn		**Pn**	**02 53 36.6**	**+0.2**
K15K	**Wolf Creek Mou**	**7.80**	**0**	Pn		**Pn**	**02 53 39.0**	**-0.1**
L18K	**Granite Mounta**	**8.15**	**17**	Pn		**Pn**	**02 53 42.8**	**-1.0**
J14K	**Nanvaranak Lak**	**8.31**	**354**	Pn		**Pn**	**02 53 45.5**	**-0.6**
K17K	**Iditarod**	**8.40**	**11**	Pn		**Pn**	**02 53 45.7**	**-1.6**
J16K	**Anvik River**	**8.81**	**3**	Pn		**Pn**	**02 53 52.9**	**0.0**
J17K	**VABM Dome**	**9.00**	**7**	Pn		**Pn**	**02 53 54.1**	**-1.5**

IDC ***08*** *02:51:57.6±0.7,56˚12N×149˚80W, h0km, mb4.0/17, mbtmp4.0/20, ML4.0/3, MS3.2/21, Error ellipse: s-maj=22.9km s-min=13.4km az=28.0*

NEIC ***08*** *02:52:00.3±1.1,56˚17N±0˙06×149˚73W±0˙09, h10km±1km, mb4.2/44, ML4.3/62, ML4.1(AEIC), Error ellipse: s-maj=10.8km s-min=8.8km az=167.0*

AEIC ***08*** *02:52:04.9±1.6,56˚13N±0˙07×149˚67W±0˙10, h12km±5km, Error ellipse: s-maj=9.7km s-min=7.8km az=171.0*

ISC 08 02:51:59.6±0.5, 56˚17N±0˙06×149˚71W±0˙05, h10km, n262, σ1˚13/246, mb4.2/37, MS3.1/16, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.24**	**300**	P		**Pn**	**02 52 37.7**	**+1.1**
OHAK	**Old Harbor**	**2.24**	**300**	Pn		**Pn**	**02 52 37.5**	**+0.9**
OHAK					IAML		02 53 03.5	
	comp=E,1μm,0.6s							
OHAK					IAML		02 53 03.6	
	comp=N,2μm,0.7s							
OHAK	**Old Harbor**	**2.24**	**300**			**Sn**	**02 53 02.9**	**-1.4**
OHAK	**Old Harbor**	**2.24**	**300**	P		**Pn**	**02 52 37.5**	**+0.9**
	baz=117							
OHAK				S		**Sn**	**02 53 02.9**	**-1.4**
	baz=117							
KDAK	**Kodiak Island**	**2.25**	**317**	Pn		**Pn**	**02 52 38.1**	**+1.2**
KDAK	**Kodiak Island**	**2.25**	**317**			**Sn**	**02 53 03.8**	**-0.9**
KDAK	**Kodiak Island**	**2.25**	**317**	Pn		**Pn**	**02 52 38.0**	**+1.2**
	comp=N,18nm,0.3s,baz=139,slow=8.4,SNR=1191							
KDAK						**Sn**	**02 53 03.6**	**-1.1**
	comp=N,149nm,0.3s,baz=330,slow=21,SNR=23							
SII	**Sitkinak Islan**	**2.52**	**281**	P		**Pn**	**02 52 41.7**	**+1.1**
SII	**Sitkinak Islan**	**2.52**	**281**			**Pn**	**02 52 41.2**	**+0.6**
SII						**Sn**	**02 53 10.3**	**-1.0**
SII	**Sitkinak Islan**	**2.52**	**281**		IAML		02 53 11.1	
	comp=E,2μm,0.6s							
SII					IAML		02 53 15.1	
	comp=N,2μm,0.6s							
SII	**Sitkinak Islan**	**2.52**	**281**	P		**Pn**	**02 52 41.5**	**+1.0**
	baz=98							
SII				S		**Sn**	**02 53 10.0**	**-1.4**
	baz=98							
Q20K	**Shuyak Island**	**2.84**	**330**	P		**Pn**	**02 52 46.1**	**+1.2**
	baz=148							
Q20K				S		**Sn**	**02 53 19.1**	**-0.2**
	baz=148							
SYI	**Shuyak Island**	**2.84**	**330**			**Pn**	**02 52 45.9**	**+1.0**
SYI						**Sn**	**02 53 18.7**	**-0.5**
SYI	**Shuyak Island**	**2.84**	**330**		IAML		02 53 20.6	
	comp=E,1μm,0.5s							
SYI					IAML		02 53 22.0	
	comp=N,658nm,0.5s							
CHIR	**Chirikof Islan**	**3.34**	**266**			**Pn**	**02 52 52.2**	**+0.4**
CHIR						**Sn**	**02 53 28.8**	**-2.7**
CHIR	**Chirikof Islan**	**3.34**	**266**		IAML		02 53 29.5	
	comp=E,544nm,0.7s							
CHIR					IAML		02 53 29.7	
	comp=N,659nm,0.4s							
CHIR	**Chirikof Islan**	**3.34**	**266**	P		**Pn**	**02 52 52.1**	**+0.2**
	baz=82							
CHIR					S	**Sn**	**02 53 28.6**	**-2.9**
	baz=82							
CNPM	**China Poot**	**3.46**	**347**			**Pn**	**02 52 54.0**	**+0.6**
CNPM						**Sn**	**02 53 33.4**	**-1.1**
CNPM	**China Poot**	**3.46**	**347**		IAML		02 53 35.6	
	comp=N,474nm,0.5s							
CNPM					IAML		02 53 36.5	
	comp=E,462nm,0.6s							
Q19K	**Cape Douglas,**	**3.48**	**324**			**Pn**	**02 52 55.6**	**+1.8**
Q19K						**Sn**	**02 52 55.3**	**+0.2**
Q19K	**Cape Douglas,**	**3.48**	**324**	P		**Pn**	**02 52 55.3**	**+1.5**
	baz=141							
BRSE	**Bradley Lake S**	**3.62**	**352**			**Pn**	**02 52 55.9**	**+0.2**
BRSE	**Bradley Lake S**	**3.62**	**352**	P		**Pn**	**02 52 55.9**	**+0.2**
	baz=171							
KCE	**Katmai Mt Cerb**	**3.63**	**307**			**Pn**	**02 52 57.9**	**+2.1**
HOM	**Homer**	**3.64**	**344**			**Pn**	**02 52 57.1**	**+1.2**
HOM	**Homer**	**3.64**	**344**		IAML		02 53 42.0	
	comp=N,779nm,0.5s							
HOM					IAML		02 53 43.1	
	comp=E,621nm,0.7s							
HOM	**Homer**	**3.64**	**344**	P		**Pn**	**02 52 57.1**	**+1.2**
	baz=162							
BRLK	**Bradley Lake**	**3.66**	**351**	Pn		**Pn**	**02 52 56.2**	**0.0**
Q23K	**Middleton Isla**	**3.73**	**27**	Pn		**Pn**	**02 52 57.2**	**+0.2**
Q23K	**Middleton Isla**	**3.73**	**27**	P		**Pn**	**02 52 57.2**	**+0.2**
	baz=210							
MID	**Middleton Isla**	**3.73**	**28**	P		**Pn**	**02 52 57.1**	**0.0**
MID	**Middleton Isla**	**3.73**	**28**			**Pn**	**02 52 57.3**	**+0.2**
ANCK	**Angle Creek**	**3.75**	**305**			**Pn**	**02 52 59.5**	**+2.1**
KVTA	**Katmai Vly 10**	**3.75**	**308**			**Pn**	**02 53 00.0**	**+2.5**
AUCH	**Augustine Cone**	**3.77**	**330**			**Pn**	**02 52 59.6**	**+1.8**
AUL	**Augustine Lava**	**3.79**	**330**			**Pn**	**02 52 59.8**	**+1.8**
KAHC	**Katmai Hardscr**	**3.79**	**313**	P		**Pn**	**02 53 00.3**	**+2.2**
	baz=129							
PLK3	**Peulik 3**	**3.90**	**296**			**Pn**	**02 53 01.6**	**+2.1**
SEW	**Seward**	**3.94**	**2**			**Pn**	**02 53 00.0**	**-0.1**
SEW	**Seward**	**3.94**	**2**	P		**Pn**	**02 52 59.9**	**-0.1**
	baz=182							
CNTC	**Contact Creek**	**3.96**	**305**			**Pn**	**02 53 02.4**	**+2.0**
Q17K	**Contact Creek**	**3.96**	**305**	P		**Pn**	**02 53 02.2**	**+1.8**
	baz=120							
P19K	**Oil Pt**	**3.96**	**333**			**Pn**	**02 53 01.9**	**+1.5**
P19K					IAML		02 53 50.0	
	comp=E,873nm,0.6s							
P19K	**Oil Pt**	**3.96**	**333**	P		**Pn**	**02 53 01.8**	**+1.4**
	baz=150							
P23K	**Montague Islan**	**4.03**	**17**	P		**Pn**	**02 53 01.6**	**+0.4**
	baz=198							
O20K	**Slope Mountain**	**4.21**	**340**			**Pn**	**02 53 04.7**	**+0.8**
O20K	**Slope Mountain**	**4.21**	**340**	P		**Pn**	**02 53 05.5**	**+1.7**
	baz=157							
ILSW	**Iliamna Southw**	**4.23**	**336**			**Pn**	**02 53 04.7**	**+0.5**
ILSW					IAML		02 53 55.4	
	comp=E,347nm,0.5s							
ILSW					IAML		02 53 55.5	
	comp=N,371nm,0.5s							
O22K	**Cooper Landing**	**4.32**	**360**			**Pn**	**02 53 05.5**	**+0.3**
O22K	**Cooper Landing**	**4.32**	**360**	P		**Pn**	**02 53 05.7**	**+0.4**
	baz=180							
P18K	**Big Mountain,**	**4.38**	**320**			**Pn**	**02 53 07.0**	**+0.9**
P18K	**Big Mountain,**	**4.38**	**320**	P		**Pn**	**02 53 07.3**	**+1.2**
	baz=135							
RED	**Redoubt Volcan**	**4.55**	**340**			**Pn**	**02 53 08.4**	**-0.1**
HIN	**Hinchinbrook I**	**4.56**	**20**			**Pn**	**02 53 09.3**	**+0.7**
HIN					IAML		02 54 00.9	
	comp=E,250nm,0.6s							
HIN					IAML		02 54 01.3	
	comp=N,291nm,0.6s							
RDSO	**Redoubt South**	**4.58**	**341**			**Pn**	**02 53 08.8**	**-0.2**
RSO	**Redoubt South**	**4.59**	**341**			**Pn**	**02 53 09.4**	**+0.2**
RDWB	**Redoubt West**	**4.63**	**340**			**Pn**	**02 53 09.6**	**0.0**
RDT	**Redoubt**	**4.64**	**343**			**Pn**	**02 53 09.5**	**-0.2**
CAPN	**Captain Cook N**	**4.67**	**351**			**Pn**	**02 53 10.4**	**+0.4**
KAIM	**Kayak Island**	**4.70**	**35**	Pn		**Pn**	**02 53 11.0**	**+0.6**
KAIM					IAML		02 54 06.1	
	comp=E,262nm,0.7s							
KAIM					IAML		02 54 10.6	
	comp=N,332nm,0.6s							
O18K	**Koktuh Hills**	**4.71**	**324**			**Pn**	**02 53 11.6**	**+1.0**
O18K	**Koktuh Hills**	**4.71**	**324**		IAML		02 54 06.1	
	comp=N,276nm,0.7s							
O18K					IAML		02 54 07.7	
	comp=E,215nm,0.7s							
O19K	**Port Alsworth**	**4.71**	**331**			**Pn**	**02 53 11.3**	**+0.7**
P17K	**Kvichak River**	**4.71**	**313**			**Pn**	**02 53 12.5**	**+1.9**
NCT	**North Crescent**	**4.72**	**340**			**Pn**	**02 53 10.7**	**-0.1**
RDJH	**Redoubt Jeurge**	**4.72**	**341**			**Pn**	**02 53 11.1**	**+0.2**
EYAK	**Cordova Ski Ar**	**4.86**	**24**	P		**Pn**	**02 53 13.3**	**+0.7**
FID	**Port Fidalgo**	**4.89**	**19**			**Pn**	**02 53 13.4**	**+0.3**
FID	**Port Fidalgo**	**4.89**	**19**		IAML		02 54 08.5	
	comp=E,174nm,0.6s							
GLI	**Glacier Island**	**4.91**	**15**			**Pn**	**02 53 13.7**	**+0.3**
GLI					IAML		02 54 14.4	
	comp=E,127nm,0.5s							
RC01	**Rabbit Creek A**	**4.93**	**360**	Pn		**Pn**	**02 53 13.8**	**+0.1**
RC01					IAML		02 54 11.8	
	comp=E,241nm,0.6s							
RC01					IAML		02 54 14.3	
	comp=N,195nm,0.5s							
RAGM	**Ragged Mountai**	**4.99**	**30**			**Pn**	**02 53 15.5**	**+1.0**
RAGM	**Ragged Mountai**	**4.99**	**30**	IAML			02 54 15.0	
	comp=E,375nm,0.6s							
FIS	**Fire Island**	**4.99**	**357**			**Pn**	**02 53 15.6**	**+1.1**
FIS	**Fire Island**	**4.99**	**357**		IAML		02 54 15.1	
	comp=N,395nm,0.7s							
SUCK	**Suckling Hills**	**5.01**	**36**			**Pn**	**02 53 15.7**	**+0.9**
SUCK					IAML		02 54 13.5	
	comp=N,264nm,0.5s							
SUCK					IAML		02 54 15.7	
	comp=E,166nm,0.9s							
HMT	**Hamilton**	**5.07**	**32**			**Pn**	**02 53 16.7**	**+1.1**
SPCR	**Spurr Chakacha**	**5.21**	**347**			**Pn**	**02 53 17.2**	**-0.3**
BGLC	**Bering Glacier**	**5.22**	**38**			**Pn**	**02 53 18.9**	**+1.3**
SPCN	**Chakachatna No**	**5.23**	**347**			**Pn**	**02 53 18.6**	**+0.8**
SPCP	**Crater Peak Br**	**5.26**	**347**			**Pn**	**02 53 19.0**	**+0.6**
SPCG	**Spurr Capps Gl**	**5.27**	**348**			**Pn**	**02 53 18.6**	**+0.1**
N19K	**Bonanza Creek**	**5.28**	**334**	Pn		**Pn**	**02 53 18.9**	**+0.3**
BERG	**Berg Lake**	**5.29**	**34**			**Pn**	**02 53 19.2**	**+0.7**
SPBG	**Spurr Blockage**	**5.29**	**346**			**Pn**	**02 53 19.2**	**+0.5**
KNK	**Knik Glacier**	**5.30**	**7**			**Pn**	**02 53 18.9**	**+0.2**
KNK					IAML		02 54 18.6	
	comp=E,123nm,0.6s							
KNK					IAML		02 54 27.4	
	comp=N,104nm,0.6s							
SUA	**Susitna One**	**5.33**	**355**			**Pn**	**02 53 19.2**	**-0.1**
SUA	**Susitna One**	**5.33**	**355**	IAML			02 54 22.6	
	comp=N,107nm,0.8s							
SNH	**Sunshine Point**	**5.42**	**39**			**Pn**	**02 53 21.3**	**+1.0**
SPNN	**North Nagishla**	**5.44**	**345**			**Pn**	**02 53 21.5**	**+0.8**
PMR	**Palmer**	**5.44**	**3**	P		**Pn**	**02 53 21.6**	**+1.0**
PMR	**Palmer**	**5.44**	**3**			**Pn**	**02 53 21.4**	**+0.8**
STLK	**Strandline Lak**	**5.45**	**349**			**Pn**	**02 53 21.4**	**+0.5**
CYK	**Cape Yakataga**	**5.48**	**41**			**Pn**	**02 53 22.0**	**+0.9**
BMRM	**Bremner River**	**5.50**	**27**			**Pn**	**02 53 22.5**	**+1.0**
WAX	**Waxell Ridge**	**5.61**	**37**			**Pn**	**02 53 23.7**	**+0.7**
GHO	**Glory Hole Cre**	**5.63**	**4**			**Pn**	**02 53 23.9**	**+0.6**
O16K	**Kokwok River B**	**5.64**	**311**	Pn		**Pn**	**02 53 24.3**	**+1.0**
KLU	**Klutina**	**5.69**	**19**			**Pn**	**02 53 24.9**	**+0.8**
SML	**Sawmill**	**5.70**	**7**	Pn		**Pn**	**02 53 24.9**	**+0.7**
MESA	**MESA**	**5.74**	**42**			**Pn**	**02 53 25.5**	**+0.6**
SCM	**Sheep Creek Mo**	**5.81**	**11**			**Pn**	**02 53 26.8**	**+1.1**
SVW2	**Sparrevohn**	**5.81**	**331**	P		**Pn**	**02 53 26.7**	**+1.0**
N17K	**Nushagak Hills**	**5.88**	**321**	Pn		**Pn**	**02 53 27.1**	**+0.5**
ISLE	**Juniper Island**	**5.89**	**38**			**Pn**	**02 53 27.6**	**+0.7**
SKT	**Skwentna**	**5.90**	**352**			**Pn**	**02 53 27.4**	**+0.5**
M20K	**Styx River**	**5.99**	**344**	Pn		**Pn**	**02 53 28.7**	**+0.4**
VRDI	**Verde Repeater**	**6.03**	**30**	Pn		**Pn**	**02 53 29.6**	**+0.8**
N25K	**Chitina, Valde**	**6.06**	**24**	Pn		**Pn**	**02 53 30.4**	**+1.2**
GLB	**Gilahina Butte**	**6.11**	**28**	Pn		**Pn**	**02 53 30.8**	**+1.0**
M24K	**Tolsona, Glenn**	**6.22**	**16**			**Pn**	**02 53 32.9**	**+1.4**
M19K	**Big River Lodg**	**6.23**	**339**			**Pn**	**02 53 31.8**	**+0.3**
WACK	**Wrangell Chich**	**6.45**	**23**			**Pn**	**02 53 36.0**	**+1.2**
CTGM	**Chitina Glacie**	**6.50**	**39**	Pn		**Pn**	**02 53 36.5**	**+1.2**
PNL	**Peninsula**	**6.51**	**53**	P		**Pn**	**02 53 36.6**	**+1.2**
L19K	**White Mountain**	**6.58**	**338**			**Pn**	**02 53 36.4**	**+0.1**
WAT7	**Susitna Watana**	**6.70**	**3**			**Pn**	**02 53 39.2**	**+1.3**
WAT1	**Susitna Watana**	**6.70**	**5**			**Pn**	**02 53 39.1**	**+1.1**
PPLA	**Purkeypile**	**6.86**	**350**			**Pn**	**02 53 41.5**	**+1.2**
M26K	**Nabesna, AK**	**7.13**	**26**			**Pn**	**02 53 44.9**	**+1.1**
YUK2	**White River**	**7.25**	**35**			**Pn**	**02 53 47.2**	**+1.6**
YUK8	**Steele Glacier**	**7.28**	**41**			**Pn**	**02 53 48.2**	**+2.2**
TRF	**Thorofare Moun**	**7.31**	**358**			**Pn**	**02 53 47.1**	**+0.7**
CAST	**Castle Rocks**	**7.37**	**352**			**Pn**	**02 53 47.3**	**+0.2**
YUK3	**Moose Creek**	**7.37**	**37**			**Pn**	**02 53 49.4**	**+2.0**
M27K	**Edge Creek, AK**	**7.38**	**30**			**Pn**	**02 53 48.8**	**+1.4**
YUK7	**Dusty Glacier**	**7.49**	**50**			**Pn**	**02 53 50.9**	**+2.0**
S31K	**Pelican**	**7.56**	**71**	Pn		**Pn**	**02 53 49.0**	**-0.6**
L26K	**Log Cabin Wild**	**7.59**	**22**			**Pn**	**02 53 52.2**	**+2.0**
MCK	**McKinley**	**7.59**	**3**			**Pn**	**02 53 52.0**	**+1.8**
YUK6	**Outpost Mounta**	**7.61**	**46**			**Pn**	**02 53 52.8**	**+2.1**
P30M	**Million Dollar**	**7.81**	**54**			**Pn**	**02 53 55.0**	**+1.7**
K24K	**Donnelly Dome**	**7.90**	**13**			**Pn**	**02 53 56.1**	**+1.7**
HYT	**Haines Junctio**	**7.91**	**49**			**Pn**	**02 53 56.2**	**+1.6**
L27K	**Beaver Creek,**	**7.97**	**27**			**Pn**	**02 53 56.7**	**+1.2**
BPAW	**Bear Paw Mtn.**	**7.98**	**356**			**Pn**	**02 53 55.2**	**-0.2**
SIT	**Sitka**	**7.99**	**78**	P		**Pn**	**02 53 53.5**	**-2.0**
BCAR	**Beaver Creek A**	**7.99**	**27**			**Pn**	**02 53 56.7**	**+1.1**
ISLZ	**Isanotski Laza**	**8.10**	**266**			**Pn**	**02 53 58.2**	**+1.1**
J18K	**Innoko River**	**8.12**	**337**			**Pn**	**02 53 57.5**	**+0.2**
J20K	**Nowinta River**	**8.33**	**346**			**Pn**	**02 54 00.7**	**+0.5**
SCRK	**Sand Creek**	**8.33**	**18**			**Pn**	**02 54 01.7**	**+1.3**
SKAG	**Skagway**	**8.35**	**61**	P		**Pn**	**02 54 01.7**	**+1.2**
SKAG	**Skagway**	**8.35**	**61**			**Pn**	**02 54 01.7**	**+1.2**
WRH	**Wood River Hil**	**8.36**	**5**			**Pn**	**02 54 02.2**	**+1.5**
HDA	**Harding Lake**	**8.38**	**8**			**Pn**	**02 54 02.2**	**+1.4**
BESE	**Bessie Mountai**	**8.38**	**67**			**Pn**	**02 54 01.3**	**+0.3**
J19K	**Poorman**	**8.38**	**342**			**Pn**	**02 54 00.7**	**-0.2**
S32K	**Killisnoo**	**8.40**	**75**			**Pn**	**02 53 60.0**	**-1.2**
CCB	**Clear Creek Bu**	**8.55**	**6**			**Pn**	**02 54 04.3**	**+1.0**
JIS	**Juneau Island**	**8.58**	**69**	P		**Pn**	**02 54 04.1**	**+0.5**
WESE	**West Dahl East**	**8.66**	**265**			**Pn**	**02 54 06.4**	**+1.6**
IL31		**8.74**	**8**			**Pn**	**02 54 06.6**	**+0.8**
ILAR	**Eielson Array**	**8.74**	**8**	Pn		**Pn**	**02 54 06.8**	**+1.0**
	comp=N,1.5nm,0.3s,baz=188,slow=13,SNR=58							
ILAR					Sn	**Sn**	**02 55 40.2**	**-4.0**
	comp=N,1.3nm,0.3s,baz=192,slow=23,SNR=7.1							
ILAR					LR	LR	02 57 30.1	
	comp=N,144nm,19.1s,baz=181,slow=38							
K27K	**Chicken**	**8.75**	**23**			**Pn**	**02 54 07.2**	**+1.3**
COLA	**College**	**8.78**	**5**	P		**Pn**	**02 54 08.6**	**+2.3**
COLA	**College**	**8.78**	**5**			**Pn**	**02 54 07.8**	**+1.4**
MDM	**Murphy Dome**	**8.85**	**4**			**Pn**	**02 54 08.1**	**+0.7**
MLY	**Manley**	**8.90**	**357**			**Pn**	**02 54 08.1**	**-0.1**
I23K	**Minto, Yukon-K**	**9.01**	**1**			**Pn**	**02 54 10.9**	**+1.4**
POKR	**Poker Plat Res**	**9.04**	**6**			**Pn**	**02 54 11.2**	**+1.2**
P32M	**Atlin**	**9.18**	**62**	Pn		**Pn**	**02 54 12.7**	**+0.8**
CRAG	**Craig**	**9.36**	**87**	P		**Pn**	**02 54 13.4**	**-1.0**
PRP	**Porcupine Dome**	**9.59**	**11**			**Pn**	**02 54 18.6**	**+0.9**
I26K	**Coal Creek Min**	**9.70**	**17**			**Pn**	**02 54 20.6**	**+1.5**
P33M	**Teslin, Yukon**	**9.78**	**59**	Pn		**Pn**	**02 54 21.2**	**+1.0**
H22K	**Ishtalitna Cre**	**9.79**	**356**			**Pn**	**02 54 21.4**	**+1.2**
M31M	**Drury Creek, Y**	**9.90**	**46**			**Pn**	**02 54 23.8**	**+2.1**
H19K	**Roundabout Mou**	**9.94**	**344**			**Pn**	**02 54 24.4**	**+2.1**
N32M	**Quiet Lake**	**9.98**	**53**			**Pn**	**02 54 24.2**	**+1.3**
IMAR	**Indian

HMU	**Henry Mountain**	**31.64**	**109**	P	**P**	**02 58 23.9**	**+1.0**
HMU				lAmb	lAmb	02 58 24.8	
	comp=Z,4.9nm,1.3s						
ULM	**Lac du Bonnet**	**32.06**	**78**	P	**P**	**02 58 26.2**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=278,slow=12,SNR=3.9						
ULM				LR	LR	03 11 11.7	
	comp=Z,64nm,18.3s,baz=302,slow=36						
	comp=Z,2.1nm,0.9s						
X16A	**Lo Mia Camp, P**	**33.96**	**114**	P	**P**	**02 58 43.0**	**-0.2**
X16A				lAmb	lAmb	02 58 45.7	
	comp=Z,2.7nm,0.9s						
TIXI	**Tiksi**	**35.64**	**327**	LR	LR	03 14 31.6	
	comp=Z,40nm,19.5s,baz=46,slow=38						
EYMN	**Ely**	**35.73**	**78**	P	**P**	**02 58 58.8**	**+0.7**
E38A	**The Farm, Brul**	**36.49**	**80**	P	**P**	**02 59 05.1**	**+0.5**
FRB	**Frobisher Bay**	**38.67**	**45**	LR	LR	03 15 31.6	
	comp=Z,85nm,18.9s,baz=332,slow=36						
P38A	**Dawn**	**39.91**	**90**	P	**P**	**02 59 34.0**	**+0.5**
TXAR	**Lajitas Array**	**42.01**	**110**	P	**P**	**02 59 50.9**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=317,slow=6.4,SNR=18						
TXAR				PcP	**PcP**	**03 01 44.3**	**-1.6**
	comp=Z,0.3nm,0.8s,baz=249,slow=1.6,SNR=3.7						
	comp=Z,1.7nm,0.9s						
ASAJ	**Asahikawa**	**43.29**	**284**	LR	LR	03 18 30.5	
	comp=Z,18nm,20.7s,baz=160,slow=37						
SFJD	**Kangerlussuaq**	**43.32**	**34**	LR	LR	03 18 45.9	
	comp=Z,36nm,18.9s,baz=308,slow=37						
KLR	**Kul'dur**	**45.67**	**296**	LR	LR	03 22 07.8	
	comp=Z,27nm,18.2s,baz=76,slow=40						
TKL	**Tuckaleechee C**	**48.18**	**86**	LR	LR	03 20 43.0	
	comp=Z,73nm,18.9s,baz=332,slow=36						
MJAR	**Matsushiro Arr**	**50.95**	**279**	LR	LR	03 27 13.3	
	comp=Z,7.6nm,18.0s,baz=360,slow=42						
KSRS	**Korea Array**	**55.87**	**288**	LR	LR	03 24 26.4	
	comp=Z,11nm,22.0s,baz=10.0,slow=35						
SONM	**Songino Array**	**58.53**	**310**	P	**P**	**03 01 56.3**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=57,slow=5.5,SNR=5.9						
	comp=Z,1.3nm,0.8s						
ZALV	**Zalesovo Beam**	**61.52**	**327**	P	**P**	**03 02 16.7**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=35,slow=9.0,SNR=6.7						
	comp=Z,1.8nm,0.7s						
HHC	**Hu-ho-hao-te**	**61.59**	**302**	*e*P	**P**	**03 02 21.4**	**+4.4**
HHC				pmax	pmax		
	comp=Z,16nm,0.5s						
HHC				pmax	pmax		
	comp=Z,56nm,5.9s						
NB2	**NORSAR Subarra**	**62.16**	**10**	P	**P**	**03 02 19.6**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=347,slow=6.9						
NOA	**NORSAR Array B**	**62.16**	**10**	P	**P**	**03 02 20.4**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=348,slow=6.8,SNR=4.5						
	comp=Z,0.8nm,0.7s						
FINES	**FINESS Array B**	**62.68**	**2**	P	**P**	**03 02 23.5**	**-0.3**
FINES	**FINESS Array B**	**62.68**	**2**	P	**P**	**03 02 23.7**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=0.0,slow=7.8,SNR=4.9						
	comp=Z,1.0nm,0.6s						
EKA	**Eskdalemuir Ar**	**65.56**	**20**	P	**P**	**03 02 42.7**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=324,slow=8.2,SNR=3.6						
	comp=Z,1.8nm,0.9s						
KURK	**Kurchatov**	**66.20**	**329**	P	**P**	**03 02 47.1**	**+0.1**
KURK				lAmb	lAmb	03 02 47.4	
	comp=Z,1.6nm,0.7s						
BVAR	**Borovoye Array**	**66.28**	**335**	P	**P**	**03 02 47.5**	**0.0**
	comp=Z,1.6nm,0.7s,baz=50,slow=8.0,SNR=8.5						
	comp=Z,1.6nm,0.7s						
KURBB	**Kurchatov Arra**	**66.31**	**329**	P	**P**	**03 02 47.9**	**+0.2**
	comp=Z,1.2nm,0.6s,baz=30,slow=6.4,SNR=9.1						
	comp=Z,1.2nm,0.6s						
MKAR	**Makanchi Array**	**68.55**	**324**	P	**P**	**03 03 01.7**	**-0.3**
MKAR	**Makanchi Array**	**68.55**	**324**	P	**P**	**03 03 01.9**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=53,slow=8.1,SNR=6.5						
	comp=Z,0.7nm,0.6s						
MAKZ	**Makanchi**	**68.64**	**325**	P	**P**	**03 03 03.8**	**+1.3**
ABKAR	**Akbulak array**	**72.07**	**340**	P	**P**	**03 03 23.1**	**-0.3**
ABKAR	**Akbulak array**	**72.07**	**340**	P	**P**	**03 03 22.9**	**-0.6**
ABKAR				lAmb	lAmb	03 03 39.2	
	comp=Z,2.2nm,0.9s						
AKASG	**Malin Array Be**	**73.49**	**1**	P	**P**	**03 03 31.4**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=1.3,slow=6.0,SNR=4.6						
	comp=Z,1.2nm,0.6s						
PZH	**PanZhiHua**	**77.97**	**300**	P	P	03 04 04.7	+6.7
PZH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.6s						
ESDC	**Sonseca Array**	**80.19**	**26**	P	**P**	**03 04 09.7**	**-0.3**
	comp=Z,1.2nm,0.8s,baz=332,slow=4.5,SNR=8.0						
	comp=Z,1.2nm,0.8s						
BRTR	**Keskin Array B**	**84.43**	**357**	P	**P**	**03 04 31.7**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=309,slow=0.8,SNR=5.4						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**86.12**	**298**	P	**P**	**03 04 40.0**	**-0.8**
	comp=Z,1.1nm,0.3s,baz=10,slow=5.5,SNR=1.7						
	comp=Z,1.1nm,0.3s						
MDP	**Montagnes des**	**89.73**	**81**	LR	LR	03 45 32.5	
	comp=Z,15nm,19.9s,baz=69,slow=36						
QSPA	**South Pole Qui**	**145.97**	**180**	PKPbc	**PKPdf**	**03 11 36.3**	**-0.8**
	comp=Z,3.5nm,0.7s,baz=118,slow=0.7,SNR=24						
BOSA	**Boshof**	**152.22**	**10**	PKPbc	**PKPbc**	**03 11 54.1**	**-1.1**
	comp=Z,2.9nm,1.0s,baz=183,slow=3.1,SNR=5.1						

*IDC **08** 03:01:40.2±1.6,30°.59S×177°.42W,h0km,mb4.1/2, mbtmp4.0/3,ML3.2/1,MS3.2/1,Error ellipse: s-maj=45.8km s-min=26.5km az=114.0*

ISC 08 03:01:44.7±1.8,30°.57S±0°.09×177°.6W±0°.3,h33km,n20, σ1²91/10,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**348**	Pn	**Pn**	**03 02 06.3**	**-0.7**
	99nm,0.3s,baz=215,slow=23,SNR=10						
RAO				Sn	**Sn**	**03 02 21.2**	**-2.5**
	564nm,0.3s,baz=145,slow=22,SNR=16						
URZ	**Urewera**	**8.82**	**208**	Pn	**Pn**	**03 03 47.7**	**-2.2**
	0.3nm,0.3s,baz=191,slow=19,SNR=1.5						
URZ				Sn	**Sn**	**03 05 26.5**	**-1.6**
	2.0nm,0.3s,baz=159,slow=22,SNR=6.7						
	1.9nm,0.4s						
DZM	**Mont Dzumac**	**16.61**	**297**	LR	LR	03 10 22.8	
	comp=Z,76nm,19.0s,baz=114,slow=31						
STKA	**Stephens Creek**	**34.77**	**257**	P	**P**	**03 08 34.9**	**+2.8**
	2.4nm,0.4s,baz=92,slow=9.8,SNR=7.6						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**43.44**	**267**	P	**P**	**03 09 45.9**	**+1.1**
	0.5nm,0.3s,baz=106,slow=7.3,SNR=9.7						
	0.5nm,0.3s						
H03S2	**Juan Fernandez**	**80.08**	**123**	T	T	04 43 05.3	
	baz=238,slow=74,SNR=5.4						
H03S1	**Juan Fernandez**	**80.10**	**123**	T	T	04 43 02.5	
	baz=238,slow=74,SNR=4.7						
H03S3	**Juan Fernandez**	**80.10**	**123**	T	T	04 43 06.3	
	baz=238,slow=74,SNR=5.9						
H03N3	**Juan Fernandez**	**80.28**	**123**	T	T	04 43 19.5	
	baz=241						
H03N2	**Juan Fernandez**	**80.28**	**123**	T	T	04 43 16.8	
	baz=241						
H03N1	**Juan Fernandez**	**80.29**	**123**	T	T	04 43 17.2	
	baz=241						
H10S2	**ASCENSION HYDR**	**37.43**	**155**	T	T	05 55 30.6	
	baz=16						
H10S3	**ASCENSION HYDR**	**37.43**	**155**	T	T	05 55 34.5	
	baz=204						
H10N3	**ASCENSION HYDR**	**38.51**	**154**	T	T	05 56 51.8	
	baz=205						
H10N1	**ASCENSION HYDR**	**38.51**	**154**	T	T	05 57 04.6	
	baz=205						
H10N2	**ASCENSION HYDR**	**38.53**	**154**	T	T	05 56 58.2	
	baz=205						
FINES	**FINESS Array B**	**145.42**	**340**	PKPbc	**PKPbc**	**03 21 19.1**	**+0.6**
	2.8nm,0.5s,baz=54,slow=3.8,SNR=32						
NOA	**NORSAR Array B**	**148.97**	**352**	PKPbc	**PKPbc**	**03 21 29.5**	**+0.9**
	0.4nm,0.8s,baz=17,slow=4.2,SNR=3.4						
HFS	**Hagfors**	**149.48**	**349**	PKPbc	**PKPbc**	**03 21 30.5**	**+0.7**
	0.8nm,0.7s,baz=46,slow=4.2,SNR=2.2						
AKASG	**Malin Array Be**	**151.64**	**323**	PKPbc	**PKPbc**	**03 21 35.9**	**+0.7**
	1.6nm,0.6s,baz=53,slow=2.4,SNR=7.0						

*IDC **08** 03:25:54.7±2.2,1°.17N×98°.82E,h0km,mb4.0/8, mbtmp4.0/8,Error ellipse: s-maj=130.6km s-min=19.1km az=52.0*

*DJA **08** 03:26:15.1±0.5,2°N±3°×97°9E±°,h151km±10km,M4.1/10, MLv4.1/10*

ISC 08 03:26:13.7±0.9,1°.61N±0°.07×99°.58E±0°.10,h150km,n19, σ1²15/17,mb3.7/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSI	**Gunungsitoli**	**2.02**	**261**	P	**Pn**	**03 26 51.0**	**+1.9**
PBSI	**Pulau Batu**	**2.10**	**218**	P	**Pn**	**03 26 51.7**	**+1.7**
PBSI				S	**Sn**	**03 27 16.7**	**-1.2**
KCSI	**Kotacane, Aceh**	**2.62**	**317**	P	**Pn**	**03 26 57.5**	**+1.2**
PDSI	**Padang**	**2.66**	**160**	P	**Pn**	**03 26 59.1**	**+2.3**
SISI	**Saibi**	**2.96**	**189**	P	**Pn**	**03 27 00.5**	**0.0**
SNSI	**Sinabang, Aceh**	**3.34**	**284**	P	**Pn**	**03 27 06.3**	**+0.8**
MLSI	**Meulaboh, Aceh**	**4.12**	**310**	P	**Pn**	**03 27 15.5**	**-0.1**
PPSI	**Pulau Pagai**	**4.36**	**174**	P	**Pn**	**03 27 17.8**	**-1.0**
H08S2	**Diego Garcia H**	**28.54**	**251**	T	T	03 59 17.8	
	baz=70,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**28.54**	**251**	T	T	03 59 21.4	
	baz=70,slow=76,SNR=18						
H08S1	**Diego Garcia H**	**28.55**	**251**	T	T	03 59 21.7	
	baz=70,slow=76,SNR=14						
WRA	**Warramunga Arr**	**40.26**	**124**	P	**P**	**03 33 36.3**	**0.0**
	2.9nm,0.4s,baz=303,slow=9.2,SNR=23						
	2.9nm,0.4s						
ASAR	**Alice Springs**	**41.78**	**129**	P	**P**	**03 33 49.5**	**+0.9**
	0.5nm,0.5s,baz=300,slow=7.7,SNR=7.4						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**47.47**	**344**	P	**P**	**03 34 33.6**	**+0.3**
	1.7nm,0.3s,baz=155,slow=8.5,SNR=35						
	1.7nm,0.3s						
KURBB	**Kurchatov Arra**	**51.99**	**343**	P	**P**	**03 35 07.3**	**-0.1**
	0.3nm,0.3s,baz=170,slow=6.6,SNR=4.8						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**53.57**	**349**	P	**P**	**03 35 19.1**	**+0.1**
	1.2nm,0.4s,baz=155,slow=6.8,SNR=5.2						
	1.2nm,0.4s						
BVAR	**Borovoye Array**	**56.68**	**339**	P	**P**	**03 35 40.5**	**-0.8**
	0.5nm,0.4s,baz=125,slow=9.0,SNR=2.5						
	0.5nm,0.4s						
FINES	**FINESS Array B**	**80.74**	**332**	P	**P**	**03 38 09.3**	**-0.8**
	1.3nm,0.9s,baz=124,slow=2.5,SNR=1.7						
	1.3nm,0.9s						
HFS	**Hagfors**	**86.56**	**330**	P	**P**	**03 38 39.3**	**-0.4**
	0.2nm,0.3s,baz=64,slow=9.9,SNR=0.9						
	0.2nm,0.3s						

*VAO **08** 03:32:20.5±1.3,7°.60S×79°.83W,h12km±1km,mb4.3*
*IDC **08** 03:32:36.7±1.2,7°.97S×78°.58W,h109km±15km,mb3.0/4, mbtmp3.5/6,MS2.6/1,Error ellipse: s-maj=62.2km s-min=10.4km az=71.0*

ISC 08 03:32:36.8±0.8,7°.96S±0°.07×78°.7W±0°.1,h100km,n20, σ2²14/20,mb3.5/4,Northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**0.88**	**20**	P	**Pn**	**03 32 56.8**	**+0.5**
	290nm,0.3s,baz=188,slow=2.5,SNR=944						
ATAH				S	**Sn**	**03 33 12.7**	**+1.7**
	2µm,0.3s,baz=295,slow=22,SNR=34						
ATAH				LR	LR	03 33 21.5	
	comp=Z,154nm,18.2s,baz=217,slow=53						
NNA	**Nana**	**4.40**	**156**	P	**Pn**	**03 33 40.5**	**-0.9**
	54nm,0.3s,baz=338,slow=14,SNR=17						
NNA				S	**Sn**	**03 34 30.6**	**-1.0**
	97nm,0.3s,baz=236,slow=15,SNR=4.9						
NNA				LR	LR	03 35 32.9	
	comp=Z,66nm,18.5s,baz=354,slow=40						
CZSB	**Cruzeiro do Su**	**5.94**	**88**	*e*P	**Pn**	**03 34 04.1**	**+1.8**
TBTG	**Tabatinga, AM**	**9.51**	**67**	*e*P	**Pn**	**03 34 50.5**	**-0.4**
TBTG				*e*pP		03 34 52.8	
TBTG				*e*S	Sn	03 36 48.3	+12
LPAZ	**La Paz**	**13.23**	**130**	P	**Pn**	**03 35 39.4**	**-2.0**
	0.4nm,0.6s,baz=63,slow=11,SNR=2.1						
LPAZ				S	**Sn**	**03 38 06.0**	**-1.2**
	1.3nm,0.7s,baz=97,slow=13,SNR=1.7						
LPAZ	**La Paz**	**13.23**	**130**	*e*P	**P**	**03 35 43.6**	**-4.0**
TEFE	**Tefe**	**14.67**	**73**	*e*P	**P**	**03 36 01.4**	**-1.6**
LVC	**Limon Verde**	**17.34**	**148**	*e*P	**Pn**	**03 36 33.9**	**+0.9**
LVC				*e*pP	**P**	**03 36 36.7**	**+3.8**
BBSD	**Serra de San D**	**19.88**	**119**	*e*P	**Pn**	**03 37 03.1**	**+0.3**
PTLB	**Pontes e Lacer**	**20.54**	**113**	*e*P	Pn	03 37 11.6	+1.2
PTLB				*e*pP	P	03 37 14.9	+7.5
ITTB	**Itaituba**	**23.10**	**82**	*e*P	**P**	**03 37 36.6**	**+2.3**
H03N2	**Juan Fernandez**	**25.35**	**180**	T	T	04 03 15.4	
	baz=360						
H03N1	**Juan Fernandez**	**25.36**	**180**	T	T	04 03 17.0	
	baz=360,slow=74						
H03N3	**Juan Fernandez**	**25.37**	**180**	T	T	04 03 12.5	
	baz=360,slow=74						
PTGB	**Pitanga**	**30.41**	**126**	*e*P	**P**	**03 38 43.7**	**+3.8**
ALGR	**Alto Alegre (B**	**31.84**	**134**	*e*P	**P**	**03 38 55.1**	**+2.7**
PLCA	**Paso Flores**	**33.43**	**169**	P	**P**	**03 39 06.2**	**+0.1**
	1.3nm,1.0s,baz=349,slow=13,SNR=3.1						
	1.3nm,1.0s						
TXAR	**Lajitas Array**	**44.20**	**328**	P	**P**	**03 40 36.1**	**0.0**
	0.5nm,1.1s,baz=146,slow=5.3,SNR=1.5						
	0.5nm,1.1s						
NVAR	**Mina Array Bea**	**59.06**	**324**	P	**P**	**03 42 25.4**	**-1.4**
	0.4nm,0.7s,baz=133,slow=8.7,SNR=3.6						
	0.4nm,0.7s						
YKA	**Yellowknife Ar**	**75.49**	**344**	P	**P**	**03 44 08.6**	**-1.1**
	0.1nm,0.4s,baz=128,slow=4.8,SNR=3.6						
	0.1nm,0.4s						

*IDC **08** 03:33:48.9±2.4,55°.81N×114°.98E,h0km,mb3.4/5, mbtmp3.4/7,ML3.8/2,MS2.8/2,Error ellipse: s-maj=52.0km s-min=21.5km az=137.0*

*MOS **08** 03:33:51.9±1.1,56°.00N×114°.01E,h4km,mb3.7/1,Error ellipse: s-maj=12.6km s-min=7.8km az=69.0*

*BYKL **08** 03:33:53.6±0.2,56°.08N×113°.93E,h5km±3km*

ISC 08 03:33:52.8±0.6,55°.96N±0°.02×113°.93E±0°.02,h12km,n59, σ2²97/107,mb3.4/5,4C-09D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.26**	**306**	⇓*i*Pg	**Pg**	**03 33 57.3**	**-0.9**
SVKR				*e*Sg	**Sg**	**03 34 00.9**	**-1.0**
SVKR				Pmax			
	7µm,0.2s						
SVKR				Smax			
	28µm,0.7s						
SVKR	**Severomuysk**	**0.26**	**306**	⇓*i*PG	**Pg**	**03 33 57.3**	**-0.9**
SVKR				*e*		03 34 00.7	
SVKR				pmax	pmax		
	comp=Z,5µm,0.2s						
SVKR				smax	smax		
	comp=N,28µm,0.6s						
UKT	**Uakit**	**0.51**	**200**	⇑*i*Pg	**Pb**	**03 34 04.2**	**+0.5**
UKT				*e*Sg	**Sn**	**03 34 12.8**	**-1.8**
UKT				Pmax			
	comp=N,479nm,0.3s						
UKT				Smax			
	comp=N,2µm,0.5s						
UKT	**Uakit**	**0.51**	**200**	⇑*i*PG	**Pb**	**03 34 04.2**	**+0.5**
UKT				*e*		03 34 12.6	
UKT				pmax	pmax		
	comp=Z,461nm,0.3s						
UKT				smax	smax		
	comp=E,2µm,0.6s						
NLYR	**Nelyaty**	**1.12**	**61**	⇓*i*Pg	**Pb**	**03 34 12.8**	**-1.3**
NLYR				*e*Pb	**Pn**	**03 34 15.2**	**+0.9**
NLYR				*e*Sg	**Sb**	**03 34 27.4**	**-1.2**
NLYR				*e*Sb	**Sn**	**03 34 31.5**	**+1.8**
NLYR				max			
	comp=E,557nm,0.2s						
NLYR				max			
	comp=E,2µm,0.6s						
NLYR	**Nelyaty**	**1.12**	**61**	⇓*i*PG	**Pb**	**03 34 12.8**	**-1.3**
NLYR				*e*		03 34 27.3	
NLYR				pmax	pmax		
	comp=Z,557nm,0.3s						
NLYR				smax	smax		
	comp=N,2µm,0.8s						
YOA	**Uoyan**	**1.25**	**279**	*e*Pg	**Pb**	**03 34 15.7**	**-0.6**
YOA				*e*Sg	**Sb**	**03 34 32.1**	**-0.3**
YOA				Pmax			
	comp=N,1µm,0.2s						
YOA				Smax			
	comp=N,8µm,0.6s						
YOA	**Uoyan**	**1.25**	**279**	*e*PG	**Pb**	**03 34 15.8**	**-0.6**
YOA				*e*		03 34 33.1	
YOA				pmax	pmax		
	comp=Z,584nm,0.2s						
YOA				smax	smax		
	comp=E,8µm,0.4s						
KMO	**Kumora**	**1.54**	**268**	⇓*i*Pg	**Pb**	**03 34 21.0**	**-0.2**
KMO				*e*Pb	**Pg**	**03 34 22.4**	**+0.1**
KMO				*e*Sg	**Sg**	**03 34 42.5**	**+0.2**
KMO				max			
	comp=E,523nm,0.3s						
KMO				Smax			
	comp=E,3µm,1.2s						
KMO	**Kumora**	**1.54**	**268**	⇓*i*PG	**Pb**	**03 34 20.8**	**-0.4**
KMO				*e*		03 34 39.0	
KMO				pmax	pmax		
	comp=Z,236nm,0.3s						
KMO				smax	smax		
	comp=N,3µm,1.2s						
BOD	**Bodaibo**	**1.86**	**1**	⇑*i*Pg	**Pn**	**03 34 24.5**	**0.0**
BOD				*e*Sg	**Sb**	**03 34 48.5**	**-1.4**
BOD				Pmax			
	comp=N,626nm,0.3s						
BOD				Smax			
	comp=N,884nm,0.2s						
BOD	**Bodaibo**	**1.86**	**1**	⇑*i*PN	**Pn**	**03 34 24.4**	**0.0**
BOD				*e*		03 34 48.4	
BOD				pmax	pmax		
	comp=Z,622nm,0.3s						
BOD				smax	smax		
	comp=E,879nm,0.2s						
YLYR	**Ulyunkhan**	**1.92**	**237**	*e*Pn	**Pg**	**03 34 28.4**	**-1.2**
YLYR				*e*Pg	**Pb**	**03 34 28.7**	**+1.0**
YLYR				*e*Sg	**Sg**	**03 34 55.7**	**+1.3**
YLYR				Pmax			
	comp=E,168nm,0.2s						
YLYR				Smax			
	comp=E,694nm,0.2s						
YLYR	**Ulyunkhan**	**1.92**	**237**	*e*PN	**Pg**	**03 34 28.4**	**-1.2**
YLYR				*e*		03 34 29.8	
YLYR				*e*S	**Sg**	**03 34 52.9**	**-1.5**
YLYR				*e*		03 34 54.4	
YLYR				pmax	pmax		
	comp=Z,169nm,0.2s						
YLYR				smax	smax		
	comp=E,697nm,0.2s						
NIZB	**Nizh Angarsk**	**2.48**	**267**	*e*Pn	**Pb**	**03 34 35.5**	**-1.8**
NIZB				*e*Pg	**Pg**	**03 34 38.1**	**-2.2**
NIZB				*e*Sg	**Sg**	**03 35 10.7**	**-1.7**
NIZB				Pmax			
	comp=E,74nm,0.4s						
NIZB				Smax			
	comp=E,568nm,0.4s						
CRS	**Chara**	**2.58**	**67**	*e*Pn	**Pn**	**03 34 35.7**	**+1.3**
CRS				*e*Pg	**Pg**	**03 34 39.9**	**-2.4**
CRS				*e*Sg	**Sg**	**03 35 13.1**	**-2.6**
CRS				Pmax			
	comp=E,569nm,0.7s						
CRS				Smax			
	comp=E,1µm,1.3s						
CRS	**Chara**	**2.58**	**67**	⇓*i*PN	**Pn**	**03 34 35.6**	**+1.2**
CRS				*e*		03 34 39.8	
CRS				*e*		03 35 13.0	
CRS				pmax	pmax		
	comp=Z,569nm,0.8s						
CRS				smax	smax		
	comp=N,1µm,1.2s						
SYVR	**Suvo**	**3.24**	**226**	*e*Pn	**Pn**	**03 34 46.1**	**+2.6**
SYVR				*e*Pg	**Pg**	**03 34 53.1**	**-1.8**
SYVR				*e*Sg	**Sg**	**03 35 36.3**	**-0.6**
SYVR				Pmax			
	comp=N,41nm,0.8s						
SYVR				Smax			
	comp=N,468nm,1.0s						
SYVR	**Suvo**	**3.24**	**226**	*e*PN	**Pn**	**03 34 46.2**	**+2.7**
SYVR				*e*		03 34 51.9	
SYVR				*e*		03 35 36.3	
SYVR				pmax	pmax		
	comp=Z,44nm,0.5s						
SYVR				smax	smax		
	comp=N,482nm,1.0s						
KHNR	**Khani**	**3.49**	**72**	*e*Pn	**Pn**	**03 34 48.9**	**+2.0**
KHNR				*e*Pg	**Pb**	**03 34 55.3**	**+0.8**
KHNR				*e*Sn	**Sn**	**03 35 29.4**	**+1.3**
KHNR				*e*Sg	**Sg**	**03 35 40.7**	**-4.1**
KHNR				*e*SgSg	**SbSb**	**03 35 42.2**	**+0.3**
VTMR	**Vitim**	**3.56**	**349**	*e*Pn	**Pn**	**03 34 47.6**	**-0.2**
VTMR				*e*Pg	**Pb**	**03 34 55.3**	**-0.4**
VTMR				*e*Sn	**Sn**	**03 35 28.1**	**-1.7**
VTMR				*e*Sg	**Sb**	**03 35 39.3**	**+0.5**
TUP	**Tupik**	**3.78**	**112**	⇓*i*Pn	**Pn**	**03 34 52.7**	**+1.9**
TUP				*e*Pg	**Pg**	**03 35 02.2**	**-2.9**
TUP				*e*		03 35 42.1	
TUP				*e*Sg	**Sg**	**03 35 51.6**	**-2.4**
TUP				*e*SgSg	**SbSb**	**03 35 57.4**	**+7.2**
TUP				Pmax			
	comp=N,110nm,0.5s						
TUP				max			
	comp=N,380nm,0.9s						
TUP	**Tupik**	**3.78**	**112**	⇓*i*PN	**Pn**	**03 34 52.8**	**+1.9**
TUP				*e*		03 35 01.4	
TUP				*e*S	**Sn**	**03 35 36.9**	**+1.7**
TUP				*e*		03 35 52.0	
TUP				pmax	pmax		
	comp=Z,110nm,0.3s						
TUP				smax	smax		
	comp=E,322nm,0.7s						
CIT	**Chita**	**3.96**	**183**	*e*Pn	**Pb**	**03 34 58.1**	**-4.3**
CIT				*e*Pg	**Pg**	**03 35 07.2**	**-1.3**
CIT				*e*Sg	**Sg**	**03 35 59.7**	**0.0**
CIT				Pmax			
	comp=E,79nm,0.3s						
CIT				Smax			
	comp=E,447nm,0.2s						
CIT	**Chita**	**3.96**	**183**	*e*PN	**Pn**	**03 34 55.1**	**+1.8**
CIT				*e*		03 35 05.8	
CIT				*e*S	**Sn**	**03 35 42.9**	**+3.3**
CIT				*e*		03 35 58.4	
CIT				pmax	pmax		
	comp=Z,80nm,0.5s						
CIT				smax	smax		
	comp=E,446nm,0.2s						
MXMB	**Maximikha**	**4.05**	**230**	*e*Pn	**Pn**	**03 34 58.5**	**+3.9**
MXMB				*e*Pg	**Pg**	**03 35 08.4**	**-1.9**
MXMB				*e*Sg	**Sg**	**03 36 02.1**	**-0.7**
MXMB				*e*		03 36 08.3	
OGRR	**Ongureny**	**4.34**	**240**	*e*Pn	**Pn**	**03 35 01.4**	**+2.9**
OGRR				*e*Pg	**Pg**	**03 35 12.5**	**-3.4**
OGRR				*e*Sn	**Sn**	**03 35 50.4**	**+1.4**
OGRR				*e*		03 36 07.6	
OGRR				*e*Sg	**Sg**	**03 36 09.9**	**-2.2**
OGRR				Pmax			
	comp=E,32nm,0.5s						
OGRR				Smax			
	comp=E,136nm,0.9s						
OGRR	**Ong

UUDB				Pmax				
	comp=N,19nm,0.4s							
UUDB				Smax				
	comp=N,159nm,1.1s							
FFNB	**Fofonovo**	**5.77**	**230**	*e*Sg	**Sg**	**03 36 55.1**	**-2.6**	
HRMR	**Khuramsha**	**6.00**	**226**	*e*Pn	**Pn**	**03 35 24.6**	**+3.3**	
HRMR				*e*Pg	Pg	03 35 42.3	-5.2	
HRMR				*e*Sg	**Sg**	**03 37 02.6**	**-2.5**	
HRMR				Pmax				
	comp=N,41nm,0.8s							
HRMR				Smax				
	comp=N,93nm,0.9s							
KPC	**Khapcheranga**	**6.34**	**189**	*e*Pn	**Pn**	**03 35 28.2**	**+2.1**	
KPC				*e*Pg	**Pg**	**03 35 50.7**	**-3.4**	
KPC				*e*Sg	**Sg**	**03 37 14.1**	**-2.1**	
KPC				Pmax				
	comp=N,25nm,1.2s							
KPC				Smax				
	comp=N,91nm,1.1s							
KPC	**Khapcheranga**	**6.34**	**189**	*e*PN	**Pn**	**03 35 27.9**	**+1.8**	
KPC				*e*		03 35 48.3		
KPC				*e*		03 37 12.4		
KPC				pmax	pmax			
	comp=Z,7.0nm,0.4s							
KPC				smax	smax			
	comp=E,90nm,1.1s							
BGT	**Bolshoye Golou**	**6.38**	**236**	*e*		03 37 10.5		
BGT				*e*Sg	**Sg**	**03 37 13.0**	**-4.2**	
BGT				Smax				
	comp=E,26nm,0.1s							
LSTR	**Listvyanka**	**6.76**	**236**	*e*		03 37 16.2		
LSTR				*e*Sg	**Sg**	**03 37 25.2**	**-4.4**	
LSTR				Smax				
	comp=E,17nm,0.3s							
IVK	**Ivanovka**	**7.00**	**237**	*e*		03 37 29.6		
IVK				*e*Sg	**Sg**	**03 37 32.8**	**-4.5**	
IVK				Smax				
	comp=E,49nm,1.7s							
TLY	**Talaya**	**7.45**	**239**	*e*Sg	**Sg**	**03 37 44.9**	**-6.6**	
TLY				Smax				
	comp=E,38nm,1.0s							
ARS	**Arshan**	**7.91**	**244**	*e*Pg	Pg	03 36 17.1	-6.9	
ARS				*e*		03 37 56.3		
ARS				*e*Sg	**Sg**	**03 37 59.2**	**-7.0**	
ARS				Pmax				
	comp=E,16nm,0.4s							
ARS				Smax				
	comp=E,177nm,1.0s							
ZAK	**Zakamensk**	**8.49**	**233**	*e*Sg	**Sg**	**03 38 19.0**	**-6.0**	
ZAK				Smax				
	comp=E,43nm,1.3s							
MOY	**Mondy**	**8.78**	**246**	*e*Pn	**Pn**	**03 36 03.8**	**+4.3**	
MOY				*e*Pg	Pg	03 36 33.0	-7.7	
MOY				*e*Sg	**Sg**	**03 38 25.5**	**-8.7**	
MOY				Pmax				
	comp=E,15nm,0.8s							
MOY				Smax				
	comp=E,56nm,1.1s							
ORL	**Orlik**	**8.95**	**253**	*e*Pn	**Pn**	**03 36 04.5**	**+2.6**	
ORL				*e*Pg	Pg	03 36 36.9	-7.0	
ORL				*e*Sg	**Sg**	**03 38 32.3**	**-7.4**	
ORL				Pmax				
	comp=E,13nm,1.8s							
ORL				Smax				
	comp=E,45nm,1.5s							
ORL	**Orlik**	**8.95**	**253**	*e*P	Pn	03 36 07.5	+5.6	
ORL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
SONM	**Songino Array**	**9.37**	**213**	Pn	**Pn**	**03 36 09.1**	**+1.4**	
	comp=Z,0.2nm,0.3s,baz=29,slow=12,SNR=2.0							
SONM				Lg	Lg	03 38 49.1		
	comp=Z,1.0nm,0.3s,baz=8.9,slow=24,SNR=12							
	comp=Z,0.2nm,0.3s							
YAK	**Yakutsk**	**10.13**	**47**	Sn	Sn	03 37 54.7	-16	
	comp=Z,6.3nm,0.3s,baz=104,slow=1.4,SNR=1.4							
YAK				Lg	Lg	03 38 59.7		
	comp=Z,7.3nm,0.3s,baz=326,slow=22,SNR=16							
USRK	**Ussuriysk Ar.**	**16.46**	**128**	Lg	Lg	03 42 11.4		
	comp=Z,0.1nm,0.3s,baz=190,slow=34,SNR=1.5							
TIXI	**Tiksi**	**16.97**	**16**	Pn	Pn	03 37 40.3	-9.3	
	comp=Z,0.8nm,0.3s,baz=238,slow=1.5,SNR=2.9							
TIXI				Sn	Sn	03 40 38.3	-20	
	comp=Z,0.8nm,0.3s,baz=278,slow=0.9,SNR=2.8							
TIXI				Lg	Lg	03 42 43.7		
	comp=Z,0.6nm,0.3s,baz=288,slow=14,SNR=2.2							
	comp=Z,1.0nm,0.3s							
KSRS	**Korea Array**	**20.78**	**147**	LR	LR	03 47 26.3		
	comp=Z,15nm,20.5s,baz=225,slow=40							
KURK	**Kurchatov**	**21.56**	**271**	P	**P**	**03 38 46.6**	**+4.8**	
MKAR	**Makanchi Array**	**21.60**	**258**	P	**P**	**03 38 45.4**	**+3.1**	
	comp=Z,0.6nm,0.6s,baz=62,slow=9.0,SNR=2.6							
	comp=Z,0.6nm,0.6s							
KURBB	**Kurchatov Arra**	**21.66**	**271**	P	**P**	**03 38 46.5**	**+3.7**	
	comp=Z,0.8nm,0.5s,baz=65,slow=11,SNR=5.6							
	comp=Z,0.8nm,0.5s							
BVAR	**Borovoye Array**	**25.15**	**282**	P	**P**	**03 39 21.9**	**+4.5**	
	comp=Z,1.2nm,0.7s,baz=57,slow=10,SNR=6.8							
	comp=Z,1.2nm,0.7s							
ARU	**Arti**	**30.11**	**294**	LR	LR	03 52 56.5		
	comp=Z,35nm,20.6s,baz=312,slow=37							
FINES	**FINESS Array B**	**42.66**	**315**	P	**P**	**03 41 50.1**	**+1.4**	
	comp=Z,0.6nm,0.6s,baz=60,slow=8.2,SNR=2.2							
	comp=Z,0.6nm,0.6s							
ILAR	**Eielson Array**	**44.87**	**37**	P	**P**	**03 42 01.9**	**-4.6**	
	comp=Z,0.1nm,0.5s,baz=307,slow=5.7,SNR=1.3							
	comp=Z,0.1nm,0.5s							

NIED ***08*** *03:46:34.0, 45.°02N× 149.°85E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.17; Mθθ-0.22; Mφφ0.05; Mrθ0.57; Mθφ-0.32; Mφr0.78; Fault plane solution: M₀1.02000×10¹⁵ NP1:φs35.00000°, δ83.00000°, λ77.00000°. NP2:φs277.00000°, δ15.00000°, λ152.00000°.*

MOS ***08*** *03:46:34.7±0.9, 44.°89N× 149.°85E, h76km, mb4.6/21 Error ellipse: s-maj=8.4km s-min=7.4km az=127.6*

JMA ***08*** *03:46:34.0±0.5, 45.°N×2.°5×15.°0E±.°, h30km, MV4.6/14, KURILE ISLANDS REGION*

SKHL ***08*** *03:46:34.2±0.7, 44.°80N× 150.°00E, h75km±8km, mb5.0/3*

NEIC ***08*** *03:46:36.9±1.4, 44.°88N±0.°10×149.°9E±0.°1, h78km±8km, mb4.4/40, Error ellipse: s-maj=16.7km s-min=12.0km az=130.0*

IDC ***08*** *03:46:37.0±3.2, 45.°17N× 149.°82E, h74km±23km, mb3.7/18, mbtmp4.0/21, MS2.8/5, Error ellipse: s-maj=51.6km s-min=15.1km az=165.0*

ISC 08 03:46:33.5±0.6, 44.°78N±0.°06×149.°97E±0.°06, h51km, n152, σ1§61/169, mb4.3/48, 11C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.56**	**288**	*e*P	**Pn**	**03 47 00.0**	**+1.2**
KUR				AMB	AMB	03 47 01.1	
	400nm,0.2s						
KUR				*e*S	**Sn**	**03 47 18.7**	**+0.9**
KUR				A	A	03 47 22.1	
	6μm,0.5s						
KUR				A	A	03 47 22.1	
	3μm,0.5s						
KUR	**Kuril'sk**	**1.56**	**288**	*e*PN	**Pn**	**03 46 59.9**	**+1.2**
KUR				*e*S	**Sn**	**03 47 19.8**	**+2.0**
KUR				pmax	pmax		
	comp=Z,800nm,0.1s						
KUR				smax	smax		
	comp=N,5μm,0.4s						
KUR				smax	smax		
	comp=E,2μm,0.3s						
SHO	**Shikotan**	**2.43**	**249**	*i* P	**Pn**	**03 47 11.0**	**+0.3**
SHO				AMB	AMB	03 47 13.3	
	comp=E,50nm,0.2s						
SHO				*e*S	**Sn**	**03 47 38.1**	**-1.1**
SHO				A	A	03 47 41.8	
	comp=E,350nm,0.4s						
SHO				A	A	03 47 41.8	
	comp=E,420nm,0.4s						
SHO	**Shikotan**	**2.43**	**249**	⇑*i*PN	**Pn**	**03 47 11.0**	**+0.3**
SHO				*e*S	**Sn**	**03 47 37.4**	**-1.8**
SHO				pmax	pmax		
	comp=Z,57nm,0.4s						
SHO				pmax	pmax		
	comp=N,12nm,0.2s						
SHO				pmax	pmax		
	comp=E,44nm,0.2s						
SHO				smax	smax		
	comp=N,260nm,0.3s						
SHO				smax	smax		
	comp=E,389nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**3.04**	**257**	*e*P	**Pn**	**03 47 20.3**	**+1.3**
YUK				AMB	AMB	03 47 22.8	
	comp=E,220nm,0.2s						
YUK				*e*S	**Sn**	**03 47 54.5**	**+0.4**
YUK				A	A	03 47 59.0	
	comp=E,500nm,0.5s						
YUK				A	A	03 47 59.0	
	comp=E,1μm,0.5s						
YUK	**Yuzh-Kuril'sk**	**3.04**	**257**	*e*PN	**Pn**	**03 47 21.2**	**+2.2**
YUK				*e*S	**Sn**	**03 47 52.7**	**-1.4**
YUK				pmax	pmax		
	comp=N,98nm,0.2s						
YUK				pmax	pmax		
	comp=E,93nm,0.2s						
YUK				pmax	pmax		
	comp=Z,223nm,0.2s						
YUK				smax	smax		
	comp=N,499nm,0.3s						
YUK				smax	smax		
	comp=E,1μm,0.5s						
NEM2	**Nemuro 2**	**3.36**	**247**	P	**Pn**	**03 47 23.8**	**+0.3**
NEM2				*e*S	**Sn**	**03 48 01.1**	**-1.0**
NMR	**Nemuro--Hokkai**	**3.37**	**247**	*e*P	**Pn**	**03 47 23.8**	**+0.2**
NMR				*e*S	**Sn**	**03 48 00.0**	**-2.2**
NMR	**Nemuro--Hokkai**	**3.37**	**247**	*e*PN	**Pn**	**03 47 23.7**	**+0.2**
NMR				*e*S	**Sn**	**03 48 00.0**	**-2.2**
RUSJ	**Misakicho**	**3.45**	**260**	⇑*i*PN	**Pn**	**03 47 27.6**	**+2.9**
RUSJ				*e*S	**Sn**	**03 48 07.9**	**+3.6**
JRA	**Rausu**	**3.58**	**258**	P	**Pn**	**03 47 29.0**	**+2.6**
JRA				S	**Sn**	**03 48 09.8**	**+2.4**
JNK	**Nakash**	**3.96**	**254**	P	**Pn**	**03 47 33.5**	**+1.8**
JNK				*e*S	**Sn**	**03 48 17.1**	**+0.2**
AKK	**Akkeshi**	**4.11**	**246**	*e*P	**Pn**	**03 47 34.1**	**+0.5**
JAK	**Akkeshi**	**4.21**	**247**	P	**Pn**	**03 47 35.4**	**+0.3**
JAK				*e*S	**Sn**	**03 48 20.9**	**-2.1**
JTKR	**Abashiri--Toko**	**4.42**	**262**	P	**Pn**	**03 47 40.4**	**+2.5**
JAR	**Ashorobuto**	**4.71**	**254**	P	**Pn**	**03 47 44.1**	**+2.1**
JAR				*e*S	**Sn**	**03 48 36.7**	**+1.4**
JOB	**Onbets**	**4.82**	**249**	P	**Pn**	**03 47 44.7**	**+1.2**
JOB				*e*S	**Sn**	**03 48 37.3**	**-0.6**
JCH	**Churui**	**5.26**	**248**	P	**Pn**	**03 47 50.0**	**+0.6**
JKK2	**Kamakawa 2**	**5.26**	**263**	P	**Pn**	**03 47 52.7**	**+3.2**
JKA	**Kamikawa-asahi**	**5.32**	**265**	Pn	**Pn**	**03 47 53.8**	**+3.5**
JKA	**Kamikawa-asahi**	**5.32**	**265**	*e*P	**Pn**	**03 47 53.8**	**+3.5**
ASAJ	**Asahikawa**	**5.32**	**265**	P	**Pn**	**03 47 53.6**	**+3.3**
	comp=E,9.4nm,0.4s,baz=75,slow=20,SNR=14						
ASAJ				S	**Sn**	**03 48 46.2**	**-4.1**
	comp=E,3.6nm,0.4s,baz=126,slow=25,SNR=1.0						
ASAJ				LR	LR	03 50 08.5	
	comp=E,92nm,19.2s,baz=360,slow=40						
ASAJ	**Asahikawa**	**5.32**	**265**	PN	**Pn**	**03 47 53.8**	**+3.5**
YSS	**Yuzh-Sakhalins**	**5.49**	**296**	*e*P	**Pn**	**03 47 53.3**	**+0.7**
YSS				*e*S	**Sn**	**03 48 52.5**	**-1.8**
YSS	**Yuzh-Sakhalins**	**5.49**	**296**	*e*PN	**Pn**	**03 47 53.3**	**+0.7**
YSS				*e*S	**Sn**	**03 48 52.5**	**-1.8**
YSS				smax	smax		
	comp=E,40nm,0.7s						
YSS				MLR	MLR		
	comp=Z,200nm,16.0s						
ERM	**Erimo**	**5.68**	**243**		**Pn**	**03 47 58.1**	**+2.8**
ERM	**Erimo**	**5.68**	**243**	*c*e PN	**Pn**	**03 47 57.8**	**+2.5**
JNBK	**Urakawa-nobuka**	**5.81**	**247**	P	**Pn**	**03 47 57.4**	**+0.4**
UGL	**Uglegorsk**	**6.91**	**311**	*e*PN	**Pn**	**03 48 07.9**	**-4.1**
UGL				pmax	pmax		
	comp=Z,300nm,4.5s						
UGL				pmax	pmax		
	comp=Z,38nm,0.4s						
SKR	**Severo-Kuril's**	**7.21**	**33**	*e*P	**Pn**	**03 48 17.7**	**+1.5**
JANG	**Nango**	**7.64**	**238**	*e*S	**Sn**	**03 49 41.1**	**-6.1**
JTM	**Tenmabayashi**	**7.67**	**242**	Pn	**Pn**	**03 48 22.8**	**+0.3**
TYY	**Tymovskoe**	**7.82**	**324**	*e*P	**Pn**	**03 48 27.2**	**+2.6**
PEA0B	**Petropavlovsk-**	**9.76**	**29**	Pn	**Pn**	**03 48 54.7**	**+3.7**
PEA0B	**Petropavlovsk-**	**9.76**	**29**	PN	**Pn**	**03 48 54.7**	**+3.7**
PETK	**Petropavlovsk-**	**9.76**	**29**	Pn	**Pn**	**03 48 53.2**	**+2.2**
PETK	**Petropavlovsk-**	**9.76**	**29**	P	**Pn**	**03 48 49.7**	**-1.3**
	comp=Z,0.8nm,0.6s,baz=202,slow=12,SNR=1.8						
PETK	**Petropavlovsk-**	**9.76**	**29**	PN	**Pn**	**03 48 53.2**	**+2.2**
USA0B	**Ussuriysk Arra**	**12.86**	**274**	⇑*i*PN	**Pn**	**03 49 35.1**	**+1.7**
USRK	**Ussuriysk Ar.**	**12.86**	**274**	Pn	**Pn**	**03 49 35.3**	**+1.9**
USRK	**Ussuriysk Ar.**	**12.86**	**274**	P	**Pn**	**03 49 34.2**	**+0.8**
	comp=Z,5.7nm,0.7s,baz=82,slow=14,SNR=6.9						
USRK	**Ussuriysk Ar.**	**12.86**	**274**	PN	**Pn**	**03 49 35.3**	**+1.9**
KLR	**Kul'dur**	**13.20**	**296**	LR	LR	03 54 24.3	
	comp=Z,62nm,21.1s,baz=72,slow=36						
HEH	**HeiHe**	**16.17**	**298**	*e*P	**P**	**03 50 20.3**	**+0.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.7s						
ZEA	**Zeya**	**17.26**	**309**	*e*P	P	03 50 41.8	+10
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KSRS	**Korea Array**	**18.12**	**254**	LR	LR	03 57 17.8	
	comp=Z,5.1nm,20.3s,baz=220,slow=35						
YAK	**Yakutsk**	**20.93**	**333**	LR	LR	03 59 15.1	
	comp=Z,56nm,21.6s,baz=16,slow=37						
YAK	**Yakutsk**	**20.93**	**333**	*e*P	**P**	**03 51 10.2**	**-1.3**
YAK	**Yakutsk**	**20.93**	**333**	⇑*e*P	**P**	**03 51 10.2**	**-1.3**
YAK				pmax	pmax		
	comp=Z,29nm,0.6s						
XLT	**XiLinHaoTe**	**24.16**	**280**	*e*P	**P**	**03 51 45.2**	**+0.4**
XLT				pmax	pmax		
	comp=Z,11nm,0.7s						
XLT				pmax	pmax		
	comp=Z,99nm,4.0s						
HHC	**Hu-ho-hao-te**	**28.27**	**276**	*e*P	**P**	**03 52 22.4**	**+0.5**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,110nm,5.5s						
ULN	**Ulaanbaatar**	**29.52**	**291**	*e*P	**P**	**03 52 33.2**	**+0.2**
ULN	**Ulaanbaatar**	**29.52**	**291**	⇓*e*P	**P**	**03 52 33.2**	**+0.2**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**29.96**	**292**	P	**P**	**03 52 36.7**	**-0.2**
	comp=Z,1.0nm,0.6s,baz=72,slow=8.9,SNR=5.2						
	comp=Z,1.0nm,0.6s						
B21K	**Ikpikpuk River**	**36.95**	**29**	P	**P**	**03 53 37.6**	**+0.4**
B21K				IAmb	IAmb	03 53 40.7	
	comp=Z,6.2nm,0.8s						
E22K	**Anaktuvuk Pass**	**37.68**	**31**	P	**P**	**03 53 43.9**	**+0.5**
E22K				IAmb	IAmb	03 53 44.5	
	comp=Z,3.8nm,0.7s						
E24K	**Your Creek**	**38.91**	**32**	P	**P**	**03 53 54.3**	**+0.5**
E24K				IAmb	IAmb	03 53 54.8	
	comp=Z,2.1nm,0.6s						
ILAR	**Eielson Array**	**39.45**	**37**	P	**P**	**03 53 57.9**	**-0.4**
	comp=Z,0.6nm,0.7s,baz=260,slow=8.1,SNR=11						
	comp=Z,0.6nm,0.7s						
D25K	**Kavik River**	**39.78**	**30**	P	**P**	**03 54 01.3**	**+0.3**
D25K				IAmb	IAmb	03 54 01.7	
	comp=Z,2.1nm,0.6s						
ZALV	**Zalesovo Beam**	**42.00**	**307**	P	**P**	**03 54 17.6**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=93,slow=6.2,SNR=2.6						
	comp=Z,0.5nm,0.3s						
GOMU	**GeErMu**	**42.11**	**278**	P	**P**	**03 54 21.5**	**+0.6**
GOMU				pP	pP	03 54 26.0	-7.6
GOMU				sP	sP	03 54 27.4	-12
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
I28M	**Miner Creek**	**42.34**	**36**	P	**P**	**03 54 22.8**	**+0.7**
I28M				IAmb	IAmb	03 54 24.0	
	comp=Z,7.0nm,1.4s						
G30M	**tAoh Zraii Nji**	**43.65**	**33**	P	**P**	**03 54 32.1**	**-0.6**
I30M	**Mount Dempster**	**43.85**	**36**	P	**P**	**03 54 34.8**	**+0.4**
I30M				IAmb	IAmb	03 54 35.5	
	comp=Z,3.1nm,0.7s						
G31M	**Satah River**	**44.42**	**33**	P	**P**	**03 54 39.2**	**+0.5**
INK	**Inuvik**	**44.48**	**31**	P	**P**	**03 54 39.6**	**+0.4**
INK	**Inuvik**	**44.48**	**31**	P	**P**	**03 54 38.4**	**-0.8**
	comp=Z,1.0nm,0.6s,baz=265,slow=14,SNR=12						
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**44.48**	**31**	P	**P**	**03 54 39.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,5.0nm,1.5s						
F31M	**Tsiigehtchic**	**44.54**	**32**	P	**P**	**03 54 39.9**	**+0.2**
H31M	**Peel River**	**44.59**	**35**	P	**P**	**03 54 40.5**	**+0.4**
MK31	**Makanchi Array**	**45.90**	**298**	P	**P**	**03 54 50.0**	**-0.8**
MK31	**Makanchi Array**	**45.90**	**298**	*d* P	**P**	**03 54 50.0**	**-0.8**
MKAR	**Makanchi Array**	**45.90**	**298**	P	**P**	**03 54 49.4**	**-1.3**
MKAR	**Makanchi Array**	**45.90**	**298**	P	**P**	**03 54 50.0**	**-0.7**
	comp=Z,1.3nm,0.6s,baz=72,slow=8.6,SNR=13						
	comp=Z,1.3nm,0.6s						
A36M	**Sachs Harbour**	**46.58**	**25**	P	**P**	**03 54 55.0**	**-0.7**
KURK	**Kurchatov**	**46.63**	**304**	P	**P**	**03 54 54.8**	**-1.6**
KURK				IAmb	IAmb	03 54 56.8	
	comp=Z,8.8nm,1.4s						
KURK	**Kurchatov**	**46.63**	**304**	*e*P	**P**	**03 54 55.6**	**-0.8**
KURK	**Kurchatov**	**46.63**	**304**	*c*e P	**P**	**03 54 55.6**	**-0.8**
KURK				pmax	pmax		
	comp=Z,6.0nm,1.5s						
KURBB	**Kurchatov Arra**	**46.72**	**304**	P	**P**	**03 54 55.0**	**-2.1**
	comp=Z,1.9nm,0.7s,baz=72,slow=8.7,SNR=15						
	comp=Z,1.9nm,0.7s						
C36M	**Paulatuk**	**47.61**	**29**	P	**P**	**03 55 03.5**	**-0.2**
C36M				IAmb	IAmb	03 55 04.1	
	comp=Z,3.4nm,0.5s						
BVAR	**Borovoye Array**	**50.41**	**310**	P	**P**	**03 55 23.7**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=39,slow=9.3,SNR=6.1						
BVAR				PcP	**PcP**	**03 56 41.5**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=105,slow=1.4,SNR=2.5						
	comp=Z,0.7nm,0.4s						
BRVK	**Borovoye**	**50.46**	**310**	*e*P	**P**	**03 55 26.2**	**+0.4**
BRVK	**Borovoye**	**50.46**	**310**	⇑*e*P	**P**	**03 55 26.2**	**+0.4**
BRVK				pmax	pmax		
	comp=Z,5.0nm,1.8s						
BOOM	**Boomskoye usch**	**51.88**	**295**	P	**P**	**03 55 37.4**	**+0.6**
BOOM	**Boomskoye usch**	**51.88**	**295**	P	**P**	**03 55 37.4**	**+0.6**
BOOM				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AAK	**Ala-Archa**	**52.73**	**296**	P	**P**	**03 55 43.0**	**-0.1**
AAK				IAmb	IAmb	03 55 44.1	
	comp=Z,3.6nm,1.0s						
AAK	**Ala-Archa**	**52.73**	**296**	*e*P	**P**	**03 55 43.5**	**+0.4**
AAK	**Ala-Archa**	**52.73**	**296**	*de*P	**P**	**03 55 43.5**	**+0.4**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
RES	**Resolute Bay**	**53.39**	**17**	P	**P**	**03 55 47.8**	**+0.6**
RES	**Resolute Bay**	**53.39**	**17**	P	**P**	**03 55 47.8**	**+0.6**
RES				pmax	pmax		
	comp=Z,6.0nm,0.9s						
YKA	**Yellowknife Ar**	**53.81**	**35**	P	**P**	**03 55 49.5**	**-0.9**
YKA	**Yellowknife Ar**	**53.81**	**35**	P	**P**	**03 55 49.9**	**-0.6**
	comp=Z,0.2nm,0.6s,baz=298,slow=7.3,SNR=4.3						
	comp=Z,0.2nm,0.6s						
YKA	**Yellowknife Ar**	**53.81**	**35**	*i* P	**P**	**03 55 51.0**	**+0.5**
SPITS	**Spitsbergen Ar**	**54.15**	**349**	P	**P**	**03 55 52.4**	**-0.4**
SPITS				pmax	pmax		
	comp=Z,60nm,1.5s						
ARSB	**Arslanbob**	**54.37**	**295**	P	**P**	**03 55 55.6**	**+0.5**
ARSB	**Arslanbob**	**54.37**	**295**	P	**P**	**03 55 55.6**	**+0.5**
ARSB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARU	**Arti**	**54.97**	**317**	*e*P	**P**	**03 55 57.6**	**-1.4**
ARU	**Arti**	**54.97**	**317**	⇑*i*P	**P**	**03 55 57.6**	**-1.4**
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						
KK31	**Karatay Array**	**55.01**	**298**	P	**P**	**03 55 59.8**	**+0.2**
KK31				IAmb	IAmb	03 56 00.2	
	comp=Z,3.2nm,0.8s						
KK31	**Karatay Array**	**55.01**	**298**	P	**P**	**03 55 59.8**	**+0.2**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KKAR	**Karatay Array**	**55.01**	**298**	P	**P**	**03 55 60.0**	**+0.4**
KKAR				IAmb	IAmb	03 56 00.2	
	comp=Z,3.2nm,0.8s						
KKAR	**Karatay Array**	**55.01**	**298**	P	**P**	**03 56 00.0**	**+0.4**
KKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GAR	**Garm**	**57.34**	**294**	P	**P**	**03 56 16.8**	**+0.4**
ABKAR	**Akbulak array**	**57.99**	**309**	P	**P**	**03 56 19.8**	**-0.8**
ABKAR	**Akbulak array**	**57.99**	**309**	P	**P**	**03 56 19.9**	**-0.8**
ABKAR				IAmb	IAmb	03 56 21.1	
	comp=Z,4.1nm,0.7s						
CHGR	**Chuyangaron**	**58.28**	**295**	P	**P**	**03 56 22.8**	**-0.1**
CHGR	**Chuyangaron**	**58.28**	**295**	P	**P**	**03 56 22.8**	**-0.1**
CHGR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
SIMJ	**Simiganj**	**58.38**	**295**	P	**P**	**03 56 23.8**	**+0.1**
BELG	**Belogornoye**	**62.52**	**318**	⇓*e*P	**P**	**03 56 50.1**	**-1.4**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SUMG	**Summit**	**62.80**	**3**	P	**P**	**03 56 53.1**	**-0.4**
SUMG				IAmb	IAmb	03 56 55.0	
	comp=Z,8.2nm,1.3s						
SUMG	**Summit**	**62.80**	**3**	P	**P**	**03 56 53.1**	**-0.4**
SUMG				pmax	pmax		
	comp=Z,8.0nm,1.3s						
FIA1	**FINESS Array S**	**64.86**	**334**	P	**P**	**03 57 05.2**	**-1.6**
FINES	**FINESS Array B**	**64.86**	**334**	P	**P**	**03 57 04.8**	**-1.9**
	comp=Z,3.9nm,0.5s,baz=30,slow=8.1,SNR=16						
	comp=Z,2.3nm,0.5s						
GEYT	**Alibeck**	**65.70**	**300**	P	**P**	**03 57 12.5**	**-0.2**
GEYT				IAmb	IAmb	03 57 13.5	
	comp=Z,2.3nm,0.7s						
GEYT	**Alibeck**	**65.70**	**300**	P	**P**	**03 57 11.8**	**-0.9**
	comp=Z,1.7nm,0.5s,baz=316,slow=4.1,SNR=4.1						
	comp=Z,1.7nm,0.5s						
GEYT	**Alibeck**	**65.70**	**300**	P	**P**	**03 57 12.5**	**-0.2**
GEYT				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NC303	**NORSAR Array S**	**69.15**	**340**	P	**P**	**03 57 33.3**	**-0.7**
NC303				IAmb	IAmb	03 57 50.6	
	comp=Z,7.2nm,1.2s						
NC405	**NORSAR Array S**	**69.16**	**340**	P	**P**	**03 57 32.9**	**-1.2**
NB201	**NORSAR Array S**	**69.32**	**340**	P	**P**	**03 57 34.0**	**-1.1**
NB2	**NORSAR Subarra**	**69.35**	**340**	P	**P**	**03 57 34.1**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=28,slow=6.5						
NB2	**NORSAR Subarra**	**69.35**	**340**	P	**P**	**03 57 34.0**	**-1.2**
NOA	**NORSAR Array B**	**69.35**	**340**	P	**P**	**03 57

comp=Z,0.8nm,0.5s,baz=9.9,slow=6.3,SNR=2.6
comp=Z,0.8nm,0.5s

TX31	**Lajitas Ar. Si**	**80.39**	**58**	P		**P**	**03 58 39.3**	**-0.4**
TXAR	**Lajitas Array**	**80.39**	**58**	P		**P**	**03 58 39.3**	**-0.3**
	comp=Z,0.2nm,0.4s,baz=299,slow=4.0,SNR=5.2							
	comp=Z,0.2nm,0.4s							
MMAI	**Mount Meron Ar**	**82.42**	**310**	P		**P**	**03 58 50.3**	**0.0**
	comp=Z,2.0nm,0.5s,baz=32,slow=8.5,SNR=2.2							
	comp=Z,2.0nm,0.5s							
CASP	**Castiglione de**	**85.47**	**331**	P		**P**	**03 59 03.8**	**-1.8**
CASP				IAmb		IAmb	03 59 25.5	
	comp=Z,4.3nm,0.9s							

*NEIC **08** 03:48:32.9±1.0, 10°.13S±0°.10×161°.4E±0°.1, h40km±6km, mb4.7/109, Error ellipse: s-maj=15.2km s-min=13.3km az=129.0*

*IDC **08** 03:48:38.6±9.6, 10°.23S×161°.26E, h104km±84km, mb4.1/20, mbtmp4.4/20, MS3.6/14, Error ellipse: s-maj=30.2km s-min=14.3km az=90.0*

ISC 08 03:48:31.5±0.5, 10°.12S±0°.08×161°.43E±0°.09, h35km, n151, σ1s07/142, mb4.7/74, MS3.6/12, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.61**	**295**	P	**Pn**	**03 48 58.3**	**+0.8**
HNR	**Honiara**	**1.61**	**295**		**Pn**	**03 48 56.9**	**-0.6**
DZM	**Mont Dzumac**	**12.82**	**159**	LR	LR	03 55 25.2	
	comp=Z,106nm,20.0s,baz=64,slow=32						
PMG	**Port Moresby**	**14.08**	**272**	LR	LR	03 56 45.2	
	comp=Z,505nm,21.0s,baz=102,slow=35						
PATS	**Pohnpei**	**17.13**	**349**	Pn	**Pn**	**03 52 28.6**	**+0.2**
CTAO	**Charters Tower**	**17.67**	**234**	P	**P**	**03 52 39.5**	**+3.8**
EIDS	**Eidsvold**	**18.07**	**212**	P	**P**	**03 52 41.5**	**+1.5**
EIDS	**Eidsvold**	**18.07**	**212**		**Pn**	**03 52 40.3**	**+0.4**
COEN	**Coen**	**18.25**	**256**	P	**Pn**	**03 52 44.6**	**+2.4**
COEN	**Coen**	**18.25**	**256**	Pn	**Pn**	**03 52 44.4**	**+2.1**
MTSU	**Mount Surprise**	**18.39**	**242**	P	**Pn**	**03 52 46.7**	**+2.7**
ARMA	**Armidale**	**22.16**	**203**	P	**P**	**03 53 24.3**	**-0.3**
QLP	**Quilpie**	**23.07**	**223**	P	**P**	**03 53 35.3**	**+1.2**
QIS	**Mount Isa**	**23.43**	**241**	P	**P**	**03 53 39.1**	**+1.3**
INKA	**Innaminka**	**26.19**	**225**	P	**P**	**03 54 03.4**	**+0.4**
WR0	**Warramunga Arr**	**27.71**	**246**	P	**P**	**03 54 16.6**	**-0.2**
WB0	**Warramunga Arr**	**27.79**	**247**	P	**P**	**03 54 17.2**	**-0.3**
WB0				IAmb	IAmb	03 54 17.9	
	comp=Z,13nm,0.9s						
WB2	**Warramunga Arr**	**27.87**	**246**	P	**P**	**03 54 17.8**	**-0.4**
WB2				IAmb	IAmb	03 54 19.2	
	comp=Z,17nm,1.1s						
WRA	**Warramunga Arr**	**27.88**	**246**	P	**P**	**03 54 18.1**	**-0.2**
WRA	**Warramunga Arr**	**27.88**	**246**	P	**P**	**03 54 17.4**	**-1.0**
	comp=Z,11nm,1.0s,baz=74,slow=9.3,SNR=29						
WRA				PcP	**PcP**	**03 57 29.6**	**-4.2**
	comp=Z,0.5nm,0.7s,baz=81,slow=2.1,SNR=2.5						
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**28.38**	**217**	P	**P**	**03 54 22.0**	**-0.7**
	comp=Z,3.2nm,0.8s,baz=46,slow=8.4,SNR=4.3						
STKA				LR	LR	04 04 57.1	
	comp=Z,162nm,18.6s,baz=31,slow=35						
	comp=Z,3.2nm,0.8s						
GUMO	**Guam**	**28.72**	**325**	LR	LR	04 05 23.3	
	comp=Z,68nm,19.8s,baz=84,slow=35						
AS31	**Alice Springs**	**29.50**	**239**	P	**P**	**03 54 32.0**	**-0.8**
ASAR	**Alice Springs**	**29.50**	**239**	P	**P**	**03 54 31.4**	**-1.4**
	comp=Z,4.7nm,0.9s,baz=70,slow=9.4,SNR=32						
ASAR				LR	LR	04 06 13.6	
	comp=Z,271nm,18.9s,baz=68,slow=36						
	comp=Z,4.7nm,0.9s						
TOO	**Toolangi**	**30.87**	**205**	P	**P**	**03 54 44.3**	**-0.4**
TOO				IAmb	IAmb	03 55 04.4	
	comp=Z,14nm,1.2s						
KNRA	**Kununurra**	**32.29**	**257**	P	**P**	**03 54 57.6**	**+0.2**
KNRA				IAmb	IAmb	03 55 17.2	
	comp=Z,19nm,1.1s						
BBOO	**Buckleboo**	**32.50**	**222**	P	**P**	**03 54 59.0**	**0.0**
RAR	**Rarotonga**	**38.85**	**111**	LR	LR	04 08 25.4	
	comp=Z,101nm,20.2s,baz=284,slow=30						
MBWA	**Marble Bar**	**41.51**	**250**	P	**P**	**03 56 16.2**	**+0.6**
MBWA				IAmb	IAmb	03 56 19.7	
	comp=Z,25nm,1.4s						
KAPI	**Kappang**	**41.60**	**274**	LR	LR	04 15 49.0	
	comp=Z,42nm,18.0s,baz=92,slow=39						
MORW	**Morawa**	**46.39**	**239**	P	**P**	**03 56 53.9**	**-0.9**
MORW				IAmb	IAmb	03 56 57.6	
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**46.51**	**234**	LR	LR	04 16 14.8	
	comp=Z,125nm,19.0s,baz=199,slow=36						
JAGI	**Jajag, Banyuwa**	**46.65**	**268**	P	**P**	**03 56 55.3**	**-1.8**
PPT	**Papeete**	**48.04**	**104**	LR	LR	04 13 49.5	
	comp=Z,49nm,19.1s,baz=280,slow=31						
MJAR	**Matsushiro Arr**	**51.30**	**336**	P	**P**	**03 57 31.3**	**-1.0**
	comp=Z,2.0nm,0.6s,baz=175,slow=8.8,SNR=5.1						
MJAR				LR	LR	04 18 16.1	
	comp=Z,22nm,21.6s,baz=225,slow=35						
	comp=Z,2.0nm,0.6s						
HMH	**Humu'ula Sheep**	**51.71**	**55**	P	**P**	**03 57 38.8**	**+2.8**
NPH	**North Pit**	**51.77**	**55**	P	**P**	**03 57 36.6**	**+0.3**
JTM	**Tenmabayashi**	**54.03**	**341**	P	**P**	**03 57 52.8**	**+0.4**
JKA	**Kamikawa-asahi**	**56.63**	**344**	P	**P**	**03 58 11.8**	**+0.8**
KSRS	**Korea Array**	**56.80**	**328**	P	**P**	**03 58 11.6**	**-0.7**
	comp=Z,3.9nm,1.0s,baz=141,slow=8.0,SNR=7.0						
	comp=Z,3.9nm,1.0s						
USA0B	**Ussuriysk Arra**	**60.30**	**336**	P	**P**	**03 58 37.0**	**+0.4**
USRK	**Ussuriysk Ar.**	**60.30**	**336**	P	**P**	**03 58 36.9**	**+0.2**
	comp=Z,11nm,0.9s,baz=143,slow=6.7,SNR=14						
	comp=Z,11nm,0.9s						
PEA0B	**Petropavlovsk-**	**63.06**	**357**	P	**P**	**03 58 55.9**	**+0.8**
PETK	**Petropavlovsk-**	**63.06**	**357**	P	**P**	**03 58 55.5**	**+0.4**
	comp=Z,4.8nm,1.0s,baz=139,slow=7.3,SNR=5.6						
	comp=Z,4.8nm,1.0s						
KLR	**Kul'dur**	**64.60**	**339**	P	**P**	**03 59 05.3**	**0.0**
	comp=Z,6.6nm,1.0s,baz=130,slow=8.7,SNR=13						
	comp=Z,6.6nm,1.0s						
CASY	**Casey**	**65.73**	**200**	P	**P**	**03 59 12.0**	**-0.4**
CASY				IAmb	IAmb	03 59 12.5	
	comp=Z,9.7nm,1.1s						
VNDA	**Vanda**	**67.38**	**180**	P	**P**	**03 59 22.9**	**+0.1**
VNDA	**Vanda**	**67.38**	**180**	P	**P**	**03 59 21.8**	**-1.1**
	comp=Z,1.7nm,0.9s,baz=354,slow=7.0,SNR=8.0						
	comp=Z,1.7nm,0.9s						
CMAR	**Chiang Mai Arr**	**67.86**	**295**	P	**P**	**03 59 25.6**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=120,slow=5.5,SNR=4.8						
	comp=Z,1.4nm,0.3s						
MA2	**Magadan**	**69.99**	**354**	LR	LR	04 27 09.5	
	comp=Z,28nm,21.3s,baz=20,slow=33						
SEY	**Seymchan**	**73.17**	**356**	P	**P**	**03 59 58.4**	**+0.1**
	comp=Z,1.2nm,0.3s,baz=183,slow=12,SNR=4.2						
	comp=Z,1.2nm,0.3s						
ULN	**Ulaanbaatar**	**75.10**	**326**	P	**P**	**04 00 10.3**	**+0.1**
ULN				IAmb	IAmb	04 00 11.8	
	comp=Z,9.7nm,0.9s						
SONM	**Songino Array**	**75.45**	**325**	P	**P**	**04 00 12.7**	**+0.5**
SONM				IAmb	IAmb	04 00 13.5	
	comp=Z,7.3nm,0.8s						
SONM	**Songino Array**	**75.45**	**325**	P	**P**	**04 00 12.3**	**+0.2**
	comp=Z,7.2nm,0.7s,baz=144,slow=5.7,SNR=31						
	comp=Z,7.2nm,0.7s						
YAK	**Yakutsk**	**76.07**	**345**	P	**P**	**04 00 14.9**	**-0.2**
	comp=Z,17nm,0.4s,baz=34,slow=1.0,SNR=1.4						
M16K	**Timber Creek**	**77.48**	**19**	P	**P**	**04 00 23.9**	**+0.8**
Q19K	**Cape Douglas,**	**77.75**	**22**	P	**P**	**04 00 25.0**	**+0.3**
BILL	**Bilibino**	**78.04**	**2**	P	**P**	**04 00 25.9**	**-0.2**
BILL				IAmb	IAmb	04 00 28.1	
	comp=Z,11nm,1.0s						
J16K	**Anvik River**	**78.75**	**16**	P	**P**	**04 00 31.4**	**+1.3**
L18K	**Granite Mounta**	**79.09**	**19**	P	**P**	**04 00 33.2**	**+1.1**
L18K				IAmb	IAmb	04 00 40.0	
	comp=Z,14nm,1.1s						
J17K	**VABM Dome**	**79.27**	**17**	P	**P**	**04 00 33.7**	**+0.7**
M19K	**Big River Lodg**	**79.60**	**20**	P	**P**	**04 00 36.2**	**+1.3**
M19K				IAmb	IAmb	04 00 37.0	
	comp=Z,7.8nm,0.7s						
L19K	**White Mountain**	**79.65**	**19**	P	**P**	**04 00 35.9**	**+0.8**
L19K				IAmb	IAmb	04 00 37.6	
	comp=Z,7.5nm,0.8s						
QSPA	**South Pole Qui**	**79.87**	**180**	P	**P**	**04 00 36.0**	**-0.5**
QSPA	**South Pole Qui**	**79.87**	**180**	P	**P**	**04 00 35.1**	**-1.4**
	comp=Z,5.0nm,0.9s,baz=351,slow=2.2,SNR=8.7						
	comp=Z,5.0nm,0.9s						
M20K	**Styx River**	**80.01**	**20**	P	**P**	**04 00 37.7**	**+0.6**
SUA	**Susitna One**	**80.55**	**21**	P	**P**	**04 00 40.4**	**+0.3**
J19K	**Poorman**	**80.74**	**18**	P	**P**	**04 00 41.9**	**+1.0**
K20K	**Telida**	**80.75**	**19**	P	**P**	**04 00 41.7**	**+0.7**
F17K	**Baldwin Pennin**	**81.09**	**14**	P	**P**	**04 00 43.4**	**+0.7**
GHO	**Glory Hole Cre**	**81.40**	**21**	P	**P**	**04 00 45.4**	**+0.8**
CAST	**Castle Rocks**	**81.43**	**19**	P	**P**	**04 00 44.9**	**+0.2**
CAST				IAmb	IAmb	04 00 45.2	
	comp=Z,9.0nm,0.8s						
SML	**Sawmill**	**81.64**	**22**	P	**P**	**04 00 46.7**	**+0.9**
KTH	**Kantishna Hill**	**81.90**	**20**	P	**P**	**04 00 46.9**	**-0.3**
KTH				IAmb	IAmb	04 00 47.9	
	comp=Z,9.5nm,1.0s						
G19K	**Purcell Mounta**	**81.92**	**16**	P	**P**	**04 00 48.0**	**+0.9**
SCM	**Sheep Creek Mo**	**82.02**	**22**	P	**P**	**04 00 48.7**	**+0.8**
SCM				IAmb	IAmb	04 00 51.6	
	comp=Z,14nm,1.2s						
TRF	**Thorofare Moun**	**82.04**	**20**	P	**P**	**04 00 47.9**	**-0.1**
TRF				IAmb	IAmb	04 00 50.1	
	comp=Z,5.2nm,0.9s						
RND	**Reindeer**	**82.50**	**20**	P	**P**	**04 00 50.6**	**+0.3**
RND				IAmb	IAmb	04 00 51.2	
	comp=Z,11nm,1.2s						
M24K	**Tolsona, Glenn**	**82.62**	**22**	P	**P**	**04 00 52.1**	**+1.1**
I21K	**Tanana**	**82.69**	**18**	P	**P**	**04 00 52.4**	**+1.3**
I21K				IAmb	IAmb	04 00 53.5	
	comp=Z,11nm,1.0s						
IMAR	**Indian Mountai**	**82.73**	**17**	P	**P**	**04 00 52.0**	**+0.6**
SNH	**Sunshine Point**	**82.77**	**25**	P	**P**	**04 00 52.4**	**+0.7**
H21K	**Melozitna Rive**	**82.77**	**17**	P	**P**	**04 00 52.3**	**+0.7**
H21K				IAmb	IAmb	04 00 53.4	
	comp=Z,7.0nm,1.1s						
C18K	**Utukok River**	**82.87**	**13**	P	**P**	**04 00 52.5**	**+0.4**
E19K	**Redstone River**	**82.88**	**15**	P	**P**	**04 00 52.7**	**+0.6**
E19K				IAmb	IAmb	04 00 54.0	
	comp=Z,8.6nm,1.1s						
N25K	**Chitina, Valde**	**82.91**	**23**	P	**P**	**04 00 53.4**	**+0.9**
F20K	**Avaraart Lake**	**82.97**	**16**	P	**P**	**04 00 53.5**	**+1.0**
MLY	**Manley**	**82.97**	**18**	P	**P**	**04 00 53.2**	**+0.5**
MLY				IAmb	IAmb	04 00 53.8	
	comp=Z,6.9nm,0.9s						
GLB	**Gilahina Butte**	**83.12**	**23**	P	**P**	**04 00 54.2**	**+0.7**
GLB				IAmb	IAmb	04 00 58.9	
	comp=Z,12nm,1.5s						
VRDI	**Verde Repeater**	**83.13**	**24**	P	**P**	**04 00 53.9**	**+0.1**
G21K	**Allakaket**	**83.18**	**17**	P	**P**	**04 00 54.2**	**+0.5**
G21K				IAmb	IAmb	04 00 55.3	
	comp=Z,11nm,1.2s						
NEA2	**Nenana**	**83.20**	**19**	P	**P**	**04 00 53.7**	**-0.2**
NEA2				IAmb	IAmb	04 00 54.9	
	comp=Z,10nm,1.0s						
WRH	**Wood River Hil**	**83.45**	**20**	P	**P**	**04 00 54.5**	**-0.6**
WRH				IAmb	IAmb	04 00 56.1	
	comp=Z,4.8nm,0.9s						
D19K	**Kuna River**	**83.46**	**14**	P	**P**	**04 00 55.5**	**+0.3**
D19K				IAmb	IAmb	04 00 56.5	
	comp=Z,7.7nm,1.1s						
C19K	**Lookout Ridge**	**83.59**	**13**	P	**P**	**04 00 55.4**	**-0.4**
C19K				IAmb	IAmb	04 00 57.7	
	comp=Z,6.1nm,1.1s						
F21K	**Alatna River**	**83.69**	**16**	P	**P**	**04 00 56.6**	**+0.2**
F21K				IAmb	IAmb	04 00 58.3	
	comp=Z,9.9nm,1.3s						
MDM	**Murphy Dome**	**83.72**	**19**	P	**P**	**04 00 56.2**	**-0.3**
MDM				IAmb	IAmb	04 00 57.4	
	comp=Z,8.4nm,1.0s						
COLA	**College**	**83.79**	**19**	P	**P**	**04 00 56.6**	**-0.2**
HDA	**Harding Lake**	**83.79**	**20**	P	**P**	**04 00 57.5**	**+0.7**
H23K	**Yukon River**	**83.87**	**18**	P	**P**	**04 00 58.1**	**+0.8**
H23K				IAmb	IAmb	04 00 58.8	
	comp=Z,6.6nm,0.8s						
M26K	**Nabesna, AK**	**83.99**	**23**	P	**P**	**04 00 59.0**	**+0.9**
M26K				IAmb	IAmb	04 01 00.5	
	comp=Z,5.1nm,0.9s						
MENT	**Mentasta**	**84.03**	**22**	P	**P**	**04 00 59.2**	**+1.0**
MENT				IAmb	IAmb	04 01 04.5	
	comp=Z,4.4nm,0.8s						
IL31		**84.04**	**20**	P	**P**	**04 00 57.8**	**-0.3**
ILAR	**Eielson Array**	**84.04**	**20**	P	**P**	**04 00 57.6**	**-0.5**
ILAR	**Eielson Array**	**84.04**	**20**	P	**P**	**04 00 57.4**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=253,slow=4.9,SNR=20						
	comp=Z,2.2nm,0.7s						
L26K	**Log Cabin Wild**	**84.22**	**22**	P	**P**	**04 01 00.2**	**+1.0**
G23K	**Bananza Creek**	**84.32**	**17**	P	**P**	**04 01 00.4**	**+0.8**
G23K				IAmb	IAmb	04 01 01.3	
	comp=Z,5.7nm,0.9s						
M27K	**Edge Creek, AK**	**84.39**	**23**	P	**P**	**04 01 01.4**	**+1.3**
M27K				IAmb	IAmb	04 01 02.3	
	comp=Z,4.6nm,0.9s						
E21K	**Killik River**	**84.44**	**15**	P	**P**	**04 01 01.0**	**+0.9**
E21K				IAmb	IAmb	04 01 02.3	
	comp=Z,9.1nm,1.2s						
J25K	**Salcha River,**	**84.45**	**20**	P	**P**	**04 01 00.8**	**+0.5**
J25K				IAmb	IAmb	04 01 01.5	
	comp=Z,4.6nm,0.8s						
SCRK	**Sand Creek**	**84.55**	**21**	P	**P**	**04 01 01.7**	**+0.8**
SCRK				IAmb	IAmb	04 01 02.4	
	comp=Z,4.6nm,0.8s						
L27K	**Beaver Creek,**	**84.81**	**22**	P	**P**	**04 01 03.1**	**+1.0**
L27K				IAmb	IAmb	04 01 11.8	
	comp=Z,7.8nm,1.4s						
BCAR	**Beaver Creek A**	**84.83**	**22**	P	**P**	**04 01 03.0**	**+0.8**
B20K	**Meade River**	**84.84**	**13**	P	**P**	**04 01 02.6**	**+0.5**
J26L	**Joseph Creek**	**85.01**	**21**	P	**P**	**04 01 03.8**	**+0.6**
G24K	**Hadweenzic Riv**	**85.08**	**18**	P	**P**	**04 01 03.8**	**+0.4**
G24K				IAmb	IAmb	04 01 05.0	
	comp=Z,6.0nm,0.9s						
B21K	**Ikpikpuk River**	**85.14**	**14**	P	**P**	**04 01 04.7**	**+1.1**
K27K	**Chicken**	**85.27**	**22**	P	**P**	**04 01 05.8**	**+1.5**
K27K				IAmb	IAmb	04 01 38.6	
	comp=Z,6.0nm,1.3s						
I26K	**Coal Creek Min**	**85.62**	**20**	P	**P**	**04 01 06.9**	**+0.8**
I26K				IAmb	IAmb	04 01 07.9	
	comp=Z,4.7nm,1.1s						
EGAK	**Eagle**	**86.02**	**21**	P	**P**	**04 01 09.1**	**+1.1**
L29M	**L29M**	**86.25**	**23**	P	**P**	**04 01 10.5**	**+1.1**
DAWY	**Dawson**	**86.27**	**22**	P	**P**	**04 01 10.4**	**+1.0**
D24K	**Happy Valley**	**86.29**	**16**	P	**P**	**04 01 10.5**	**+1.2**
D24K				IAmb	IAmb	04 01 14.7	
	comp=Z,7.7nm,1.2s						
E25K	**Arctic Village**	**86.55**	**17**	P	**P**	**04 01 11.7**	**+1.0**
I28M	**Miner Creek**	**86.82**	**21**	P	**P**	**04 01 12.8**	**+0.7**
I28M				IAmb	IAmb	04 01 13.3	
	comp=Z,3.8nm,1.0s						
K29M	**Barlow Dome**	**86.86**	**23**	P	**P**	**04 01 13.6**	**+1.2**
K29M				IAmb	IAmb	04 01 15.1	
	comp=Z,8.9nm,1.3s						
J29N	**Klondike Camp**	**86.92**	**22**	P	**P**	**04 01 13.5**	**+0.9**
D25K	**Kavik River**	**87.07**	**16**	P	**P**	**04 01 14.2**	**+1.0**
D25K				IAmb	IAmb	04 01 14.7	
	comp=Z,4.5nm,0.9s						
E27K	**Coleen River**	**87.79**	**18**	P	**P**	**04 01 17.3**	**+0.6**
E27K				IAmb	IAmb	04 01 19.1	
	comp=Z,5.1nm,0.9s						
J05D	**Fort Rock, OR**	**87.80**	**45**	P	**P**	**04 01 18.4**	**+0.9**
I30M	**Mount Dempster**	**87.98**	**22**	P	**P**	**04 01 18.2**	**+0.4**
I30M				IAmb	IAmb	04 01 19.5	
	comp=Z,4.4nm,0.9s						
EPYK	**Eagle Plains**	**88.43**	**21**	P	**P**	**04 01 21.1**	**+1.4**
E28M	**Babbage River**	**88.66**	**18**	P	**P**	**04 01 22.4**	**+1.7**
E28M				IAmb	IAmb	04 01 22.5	
	comp=Z,4.6nm,1.3s						
NVAR	**Mina Array Bea**	**88.70**	**51**	P	**P**	**04 01 22.4**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=225,slow=7.3,SNR=7.2						
	comp=Z,0.9nm,0.8s						
G30M	**tAoh Zraii Nji**	**88.90**	**20**	P	**P**	**04 01 22.7**	**+0.8**
KVN	**Kaiserville**	**89.01**	**50**	P	**P**	**04 01 24.5**	**+1.2**
PFO	**Pinyon Flats O**	**89.05**	**56**	LR	LR	04 34 01.7	
	comp=Z,57nm,20.0s,baz=314,slow=30						
WCT	**Wildcat Mounta**	**89.62**	**53**	P	**P**	**04 01 26.8**	**+0.7**
WCT				IAmb	IAmb	04 01 30.6	
	comp=Z,3.8nm,1.1s						
MKAR	**Makanchi Array**	**89.97**	**318**	P	**P**	**04 01 26.0**	**-1.4**
	comp=Z,0.8nm,0.6s,baz=104,slow=4.8,SNR=8.0						
	comp=Z,0.8nm,0.6s						
INK	**Inuvik**	**90.44**	**20**	P	**P**	**04 01 28.9**	**-0.1**
	comp=Z,1.5nm,1.0s,baz=248,slow=12,SNR=3.0						
INK				LR	LR	04 37 12.4	
	comp=Z,40nm,21.7s,baz=119,slow=32						
	comp=Z,1.5nm,1.0s						
SHPR	**Sheep Range**	**90.71**	**53**	P	**P**	**04 01 31.8**	**+0.5**
ELK	**Elko**	**91.53**	**49**	P	**P**	**04 01 35.0**	**0.0**
ELK				IAmb	IAmb	04 01 38.5	
	comp=Z,3.1nm,1.1s						
HLID	**Hailey**	**92.70**	**46**	P	**P**	**04 01 41.5**	**+1.2**
HLID				IAmb	IAmb	04 01 45.2	
	comp=Z,3.5nm,1.1s						
KURBB	**Kurchatov Arra**	**93.27**	**321**	P	**P**	**04 01 41.0**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=108,slow=3.1,SNR=2.7						
	comp=Z,0.4nm,0.6s						
C36M	**Paulatuk**	**94.01**	**20**	P	**P**	**04 01 45.6**	**+0.1**
C36M				IAmb	IAmb	04 01 46.3	
	comp=Z,3.1nm,0.8s						
A36M	**Sachs Harbour**	**94.48**	**17**	P	**P**	**04 01 48.5**	**+0.8**
A36M				IAmb	IAmb	04 01 50.9	
	comp=Z,4.1nm,0.9s						
YKA	**Yellowknife Ar**	**96.12**	**28**	P	**P**	**04 01 54.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=263,slow=4.6,SNR=10.0						
	comp=Z,0.5nm,0.7s						
BVAR	**Borovoye Array**	**98.62**	**322**	P	**P**	**04 02 04.2**	**-2.7**
	comp=Z,0.4nm,0.4s,baz=237,slow=44,SNR=3.0						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**99.13**	**62**	LR	LR	04 43 00.9	
	comp=Z,20nm,18.1s,baz=341,slow=33						
KEST	**Kesra**	**144.04**	**320**	PKP	**PKPab**	**04 08 01.5**	**0.0**
	comp=Z,1.6nm,0.9s,baz=105,slow=5.5,SNR=3.8						
ESDC	**Sonseca Array**	**147.82**	**339**	PKPbc	**PKPdf**	**04 08 13.0**	**+2.6**
	comp=Z,0.9nm,0.9s,baz=26,slow=3.1,SNR=4.7						

*IDC **08** 04:17:12.6±1.3, 44°.33S×41°.07E, h0km, mb3.8/4, mbtmp3.8/4, MS3.7/29, Error ellipse: s-maj=86.6km s-min=31.2km az=36.0*

ISC 08 04:17:12.9±1.3, 44°.8S±0°.4×40°.6E±0°.4, h10km, n39, σ1s59/6, mb3.9/4, MS3.8/29, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUR	**Sutherland**	**19.72**	**302**	LR	LR	04 27 49.2	
	comp=Z,102nm,18.8s,baz=152,slow=32						
BOSA	**Boshof**	**20.20**	**318**	LR	LR	04 27 54.0	
	comp=Z,196nm,18.9s,baz=183,slow=32						
LBTB	**Lobatse**	**23.15**	**323**	LR	LR	04 29 40.9	
	comp=Z,161nm,18.4s,baz=156,slow=32						
MAW	**Mawson**	**25.73**	**160**	LR	LR	04 30 29.6	
	comp=Z,79nm,21.4s,baz=330,slow=31						
OPO	**Ambohidratompo**	**26.71**	**14**	LR	LR	04 31 09.9	
	comp=Z,320nm,18.5s,baz=8.0,slow=32						
TSUM	**Tsumeb**	**31.87**	**316**	LR	LR	04 35 16.4	
	comp=Z,98nm,18.5s,baz=155,slow=34						
SNAA	**Sanae**	**33.94**	**203**	LR	LR	04 36 00.7	
	comp=Z,95nm,18.7s,baz=22,slow=33						
QSPA	**South Pole Qui**	**45.44**	**180**	LR	LR	04 42 52.0	
	comp=Z,67nm,19.5s,baz=260,slow=34						
H01W2	**Cape Leeuwin H**	**55.58**	**107**	T	T	05 27 12.2	
	baz=238,slow=75,SNR=5.3						
H01W3	**Cape Leeuwin H**	**55.59**	**107**	T	T	05 27 15.8	
	baz=238,slow=75,SNR=4.9						
H01W1	**Cape Leeuwin H**	**55.60**	**107**	T	T	05 27 14.0	
	baz=238,slow=75,SNR=5.2						
ATD	**Arta Tunnel**	**56.08**	**3**	LR	LR	04 48 23.6	
	comp=Z,4.7nm,20.0s,baz=162,slow=34						
PALK	**Pallekele**	**63.14**	**46**	LR	LR	04 47 48.8	
	comp=Z,79nm,21.1s,baz=332,slow=29						
DBIC	**Dimbokro**	**65.43**	**309**	LR	LR	04 53 57.6	
	comp=Z,30nm,18.3s,baz=120,slow=34						
TORD	**Torodi Ar. Bea**	**67.56**	**319**	P	**P**	**04 28 08.5**	**-1.1**
	0.8nm,0.9s,baz=147,slow=6.3,SNR=4.8						
	0.8nm,0.9s						
WSAR	**Wadi Sarin**	**69.67**	**18**	LR	LR	04 54 27.0	
	comp=Z,43nm,18.2s,baz=208,slow=32						
EIL	**Elat**	**74.26**	**355**	LR	LR	05 00 57.4	
	comp=Z,26nm,18.1s,baz=45,slow=36						
PLCA	**Paso Flores**	**74.84**	**227**	LR	LR	04 54 42.6	
	comp=Z,76nm,19.7s,baz=150,slow=30						
ASAR	**Alice Springs**	**76.00**	**109**	P	**P**	**04 28 58.9**	**-1.5**
	0.4nm,0.8s,baz=220,slow=6.7,SNR=4.1						
	0.4nm,0.8s						
CPUP	**Villa Florida**	**77.17**	**246**	LR	LR	04 59 26.5	
	comp=Z,58nm,19.5s,baz=159,slow=33						
MMAI	**Mount Meron Ar**	**77.56**	**356**	LR	LR	05 02 37.1	
	comp=Z,43nm,18.2s,baz=120,slow=35						
BDFB	**Brasilia**	**78.15**	**260**	LR	LR	04 56 32.4	
	comp=Z,39nm,19.9s,baz=141,slow=30						
KAPI	**Kappang**	**78.82**	**86**	LR	LR	05 03 51.3	
	comp=Z,48nm,18.1s,baz=155,slow=36						
WRA	**Warramunga Arr**	**78.83**	**107**	P	**P**	**04 29 17.5**	**+1.2**
	0.8nm,0.9s,baz=222,slow=5.4,SNR=3.6						
	0.8nm,0.9s					

COEB				*i* S		**Sg**	**04 24 08.1**	**-0.1**
COEB				IAML			04 24 08.7	
	comp=Z,1μm,1.0s							
TECO	**Alcaldia de Te**	**0.76**	**290**⇑	*e*P		**Pg**	**04 24 04.7**	**-1.0**
TECO	**Alcaldia de Te**	**0.76**	**290**	*i* P		**Pg**	**04 24 04.4**	**-1.2**
TECO				*i* S		**Sg**	**04 24 15.5**	**-0.2**
TECO				IAML			04 24 18.4	
	comp=Z,560nm,1.0s							
SCLA	**Alcaldia de Sa**	**0.79**	**303**	*i* P		**Pg**	**04 24 05.8**	**-0.3**
SCLA				*i* S		**Sb**	**04 24 17.7**	**+1.1**
SCLA				IAML			04 24 19.3	
	comp=Z,290nm,1.0s							
UESV	**Universidad de**	**0.81**	**297**	*e*P		**Pg**	**04 24 05.8**	**-0.7**
UESV	**Universidad de**	**0.81**	**297**	*i* P		**Pg**	**04 24 05.6**	**-0.9**
UESV				*i* S		**Sb**	**04 24 17.4**	**+0.3**
UESV				IAML			04 24 31.2	
	comp=Z,600nm,1.0s							
COEG	**Centro de Oper**	**0.88**	**293**	*i* P		**Pg**	**04 24 07.1**	**-0.8**
COEG				*i* S		**Sb**	**04 24 19.7**	**+0.3**
COEG				IAML			04 24 22.3	
	comp=Z,850nm,1.0s							
PAVA	**Las Pavas**	**0.97**	**297**	*i* P		**Pg**	**04 24 08.7**	**-0.9**
PAVA				*i* S		**Sb**	**04 24 23.0**	**+1.0**
PAVA				IAML			04 24 24.9	
	comp=Z,1μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.08**	**44**⇑	*e*P		**Pg**	**04 24 10.5**	**-1.2**
TGUH	**Tegucigalpa,Un**	**1.08**	**44**	*i* P		**Pg**	**04 24 10.5**	**-1.2**
TGUH				*i* S		**Sg**	**04 24 24.3**	**-1.6**
TGUH				IAML			04 24 32.6	
	comp=Z,1μm,1.0s							
CRIN	**San Cristobal**	**1.13**	**120**⇓	*e*P		**Pg**	**04 24 11.8**	**-0.8**
CRIN	**San Cristobal**	**1.13**	**120**	*i* P		**Pg**	**04 24 11.8**	**-0.8**
CRIN				IAML			04 24 14.3	
	comp=Z,3μm,1.0s							
CRIN				*i* S		**Sb**	**04 24 27.6**	**+1.1**
PANCS	**Alcalda de**	**1.15**	**287**	*i* P		**Pg**	**04 24 11.3**	**-1.7**
PANCS				*i* S		**Sg**	**04 24 27.0**	**-1.1**
PANCS				IAML			04 24 28.1	
	comp=Z,2μm,1.0s							
LOMA	**Loma Larga**	**1.15**	**289**	*i* P		**Pg**	**04 24 11.5**	**-1.6**
LOMA				*i* S		**Sb**	**04 24 27.8**	**+0.5**
LOMA				IAML			04 24 30.0	
	comp=Z,820nm,1.0s							
UEES	**Universidad Ev**	**1.24**	**291**	*i* P		**Pg**	**04 24 13.3**	**-1.4**
UEES				*i* S		**Sb**	**04 24 30.7**	**+1.0**
UEES				IAML			04 24 34.8	
	comp=Z,310nm,1.0s							
LLGN	**La Laguna**	**1.24**	**315**	*i* P		**Pg**	**04 24 12.8**	**-1.9**
LLGN				*i* S		**Sg**	**04 24 29.8**	**-1.2**
LLGN				IAML			04 24 37.9	
	comp=Z,1μm,1.0s							
PMON	**Piamonte**	**1.31**	**290**	*i* P		**Pn**	**04 24 14.6**	**+0.1**
PMON				*i* S		**Sg**	**04 24 32.1**	**-1.0**
PMON				IAML			04 24 39.2	
	comp=Z,710nm,1.0s							
QUEN	**Al S del Volca**	**1.35**	**120**	*i* P		**Pn**	**04 24 14.9**	**-0.1**
QUEN				*i* S		**Sg**	**04 24 33.1**	**-1.3**
QUEN				IAML			04 24 34.8	
	comp=Z,540nm,1.0s							
JAYA	**Jayaque - finc**	**1.42**	**286**	*i* P		**Pn**	**04 24 15.9**	**-0.2**
JAYA				*i* S		**Sb**	**04 24 35.2**	**+0.4**
JAYA				IAML			04 24 36.3	
	comp=Z,990nm,1.0s							
PLRN	**Geotermica Pol**	**1.42**	**119**	*i* P		**Pn**	**04 24 15.3**	**-0.7**
PLRN				IAML			04 24 19.4	
	comp=Z,290nm,1.0s							
PLRN				*i* S		**Sb**	**04 24 35.5**	**+0.6**
PACN	**Al O del Volca**	**1.45**	**122**	*i* P		**Pn**	**04 24 16.3**	**0.0**
PACN				IAML			04 24 18.2	
	comp=Z,880nm,1.0s							
PACN				*i* S		**Sb**	**04 24 36.2**	**+0.6**
ROCN	**Rota Cerro Neg**	**1.48**	**120**	*i* P		**Pn**	**04 24 13.4**	**-3.4**
ROCN				IAML			04 24 15.5	
	comp=Z,240nm,1.0s							
ROCN				*i* S		**Sn**	**04 24 33.9**	**-1.9**
CNGA	**Al SSO del Vol**	**1.52**	**120**	*i* P		**Pn**	**04 24 15.8**	**-1.7**
CNGA				IAML			04 24 49.7	
	comp=Z,400nm,1.0s							
CNGN	**Cerro Negro**	**1.52**	**120**	*e*P		**Pn**	**04 24 16.8**	**-0.7**
CNGN	**Cerro Negro**	**1.52**	**120**	*i* P		**Pn**	**04 24 16.9**	**-0.6**
CNGN				IAML			04 24 53.0	
	comp=Z,370nm,1.0s							
MACN	**El Madrono**	**1.56**	**121**	*i* P		**Pn**	**04 24 17.5**	**-0.5**
MACN				IAML			04 24 22.3	
	comp=Z,340nm,1.0s							
MACN				*i* S		**Sg**	**04 24 40.1**	**-1.1**
LEVN	**Ruinas Leon Vi**	**1.64**	**122**	*i* P		**Pn**	**04 24 19.0**	**0.0**
LEVN				IAML			04 24 36.8	
	comp=Z,610nm,1.0s							
LEVN				*i* S		**Sn**	**04 24 41.5**	**+1.6**
MTO3	**Montecristo**	**1.70**	**311**	*i* P		**Pn**	**04 24 20.8**	**+0.8**
MTO3				*i* S		**Sb**	**04 24 43.7**	**+0.7**
MTO3				IAML			04 24 44.6	
	comp=Z,150nm,1.0s							
MOMN	**Momotombo**	**1.70**	**120**	*i* P		**Pn**	**04 24 19.7**	**-0.2**
MOMN				IAML			04 24 21.2	
	comp=Z,16nm,1.0s							
MOMN				*i* S		**Sn**	**04 24 43.2**	**+1.7**
MOM2	**El Cardon**	**1.74**	**118**	*i* P		**Pn**	**04 24 20.1**	**-0.2**
MOM2				*i* S		**Sb**	**04 24 45.1**	**+1.2**
MOM2				IAML			04 24 49.1	
	comp=Z,210nm,1.0s							
COPN	**Copaltepe**	**1.79**	**127**	*i* P		**Pn**	**04 24 21.1**	**0.0**
COPN				IAML			04 25 00.4	
	comp=Z,150nm,1.0s							
ESQI	**Esquipulas**	**1.79**	**316**	*i* P		**Pn**	**04 24 22.0**	**+0.8**
ESQI				*i* S		**Sb**	**04 24 47.1**	**+1.4**
ESQI				IAML			04 24 58.9	
	comp=Z,210nm,1.0s							
NUBE	**Las Nubes**	**1.80**	**291**	*i* P		**Pn**	**04 24 21.8**	**+0.5**
NUBE				*i* S		**Sb**	**04 24 46.8**	**+1.0**
NUBE				IAML			04 24 50.0	
	comp=Z,270nm,1.0s							
SAPS	**Ciudad Sandino**	**1.94**	**124**	*i* P		**Pn**	**04 24 24.3**	**+1.1**
SAPS				IAML			04 25 03.0	
	comp=Z,260nm,1.0s							
APYN	**Apoyeque**	**1.95**	**122**	*i* P		**Pn**	**04 24 23.5**	**+0.2**
APYN				IAML			04 24 25.8	
	comp=Z,380nm,1.0s							
APYN				*i* S		**Sn**	**04 24 49.7**	**+2.1**
TISN	**Laguna Tiscapa**	**2.07**	**123**	*i* P		**Pn**	**04 24 24.5**	**-0.4**
TISN				IAML			04 26 06.3	
	comp=Z,26nm,1.0s							
HZTE	**Horizontes, Gu**	**3.50**	**136**	*i* P		**Pn**	**04 24 45.7**	**+1.1**
HZTE				IAML			04 26 45.8	
	comp=Z,100nm,1.0s							
ORTG	**Ortega, Santa**	**3.85**	**139**	*i* P		**Pn**	**04 24 50.2**	**+0.7**
ORTG				*i* S		**Sn**	**04 25 35.8**	**+1.4**
ORTG				IAML			04 25 45.9	
	comp=Z,36nm,1.0s							

*IDC **08** 04:29:39.4±0.9,21°.77S×168°.95E,h0km,mb4.1/9, mbtmp4.1/10,ML3.4/1,MS3.6/10,Error ellipse: s-maj=25.2km s-min=21.5km az=165.0*

*NEIC **08** 04:29:44.7±1.5,21°.70S±0°.08×168°.89E±0°.04,h35km±1km, mb4.8/11,Error ellipse: s-maj=13.1km s-min=6.3km az=13.0*

*NOU **08** 04:29:47.5,21°.90S×168°.46E,h3km,MLv4.2/8,Loyalty Islands*

ISC 08 04:29:43.5±0.6,21°.69S±0°.07×168°.93E±0°.08,h29km,n64, σ0s77/65,mb4.6/16,MS3.6/10,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.86**	**284**	P	**Pn**	**04 29 58.7**	**-0.9**
MARNC	**Mare, Loyalty**	**0.86**	**284**		**Pn**	**04 29 58.7**	**-0.9**
MARNC				Sn	**Sn**	**04 30 11.2**	**-0.1**
PINNC	**Pines Island,**	**1.65**	**236**	P	**Pn**	**04 30 09.3**	**-1.2**
PINNC	**Pines Island,**	**1.65**	**236**		**Pn**	**04 30 09.4**	**-1.2**
LIFNC	**LIFOU**	**1.82**	**300**	P	**Pb**	**04 30 16.5**	**+0.4**
LIFNC	**LIFOU**	**1.82**	**300**		**Pn**	**04 30 12.0**	**-0.8**
OUENC	**Ouen Island, N**	**2.07**	**249**	P	**Pn**	**04 30 16.6**	**+0.4**
OUENC	**Ouen Island, N**	**2.07**	**249**		**Pn**	**04 30 16.6**	**+0.4**
DZM	**Mont Dzumac**	**2.34**	**260**	P	**Pn**	**04 30 20.4**	**+0.3**
DZM	**Mont Dzumac**	**2.34**	**260**		**Pn**	**04 30 20.1**	**0.0**
DZM	**Mont Dzumac**	**2.34**	**260**	Pn	**Pn**	**04 30 19.6**	**-0.5**
	9.1nm,0.3s,baz=78,slow=19,SNR=112						
DZM				LR	LR	04 30 47.7	
	comp=Z,477nm,18.1s,baz=230,slow=29						
DZM				Sn	**Sn**	**04 30 49.2**	**+1.4**
	80nm,0.3s,baz=119,slow=19,SNR=8.2						
	76nm,0.5s						

ONTNC	**Ouen Toro**	**2.38**	**255**	P		**Pn**	**04 30 20.9**	**+0.4**
ONTNC	**Ouen Toro**	**2.38**	**255**			**Pn**	**04 30 19.8**	**-0.7**
NOUC	**Port Laguerre**	**2.47**	**260**	P		**Pn**	**04 30 22.0**	**+0.2**
KOUNC	**Koumac, New Ca**	**4.48**	**284**	P		**Pn**	**04 30 50.7**	**+1.3**
KOUNC	**Koumac, New Ca**	**4.48**	**284**	Pn		**Pn**	**04 30 49.2**	**-0.2**
COEN	**Coen**	**25.67**	**283**	P		**P**	**04 35 10.9**	**-0.2**
COEN				IAmb		IAmb	04 35 16.7	
	comp=Z,50nm,1.9s							
STKA	**Stephens Creek**	**26.36**	**242**	P		**P**	**04 35 17.8**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=91,slow=11,SNR=3.9							
STKA				LR		LR	04 44 53.5	
	comp=Z,153nm,18.9s,baz=31,slow=35							
	comp=Z,2.0nm,0.7s							
WB0	**Warramunga Arr**	**32.32**	**267**	P		**P**	**04 36 09.5**	**-0.8**
ASAR	**Alice Springs**	**32.33**	**260**	P		**P**	**04 36 09.8**	**-0.6**
ASAR	**Alice Springs**	**32.33**	**260**	P		**P**	**04 36 10.7**	**+0.3**
	comp=Z,2.8nm,0.7s,baz=84,slow=9.1,SNR=28							
ASAR				LR		LR	04 48 34.9	
	comp=Z,86nm,18.9s,baz=126,slow=35							
	comp=Z,2.8nm,0.7s							
WRA	**Warramunga Arr**	**32.34**	**267**	P		**P**	**04 36 10.1**	**-0.4**
	comp=Z,1.2nm,0.7s,baz=97,slow=8.4,SNR=13							
	comp=Z,1.2nm,0.7s							
FAKI	**Fak Fak**	**40.22**	**293**	P		**P**	**04 37 16.7**	**-1.2**
FAKI				IAmb		IAmb	04 37 20.8	
	comp=Z,20nm,1.3s							
PSA00	**Pilbara Seismi**	**45.47**	**261**	P		**P**	**04 37 59.0**	**-1.4**
MBWA	**Marble Bar**	**45.64**	**261**	P		**P**	**04 38 01.6**	**-0.1**
MBWA				IAmb		IAmb	04 38 03.1	
	comp=Z,9.2nm,0.8s							
MBWA	**Marble Bar**	**45.64**	**261**	P		**P**	**04 38 02.3**	**+0.6**
MBWA				pP		**pP**	**04 38 10.8**	**+1.0**
NWAO	**Narrogin (SRO)**	**46.87**	**245**	LR		LR	04 56 52.0	
	comp=Z,163nm,20.0s,baz=222,slow=35							
MORW	**Morawa**	**48.02**	**250**	P		**P**	**04 38 19.9**	**-0.4**
DRV	**Dumont d'Urvil**	**48.60**	**195**	P		**P**	**04 38 23.7**	**-0.4**
DRV				pP		**pP**	**04 38 32.0**	**-0.2**
TOLI2	**Tolitoli**	**52.17**	**289**	P		**P**	**04 38 51.3**	**-0.6**
TOLI2				IAmb		IAmb	04 38 53.1	
	comp=Z,9.9nm,0.9s							
VNDA	**Vanda**	**55.98**	**182**	P		**P**	**04 39 18.8**	**0.0**
	comp=Z,0.7nm,0.8s,baz=14,slow=7.8,SNR=2.5							
VNDA				LR		LR	04 59 13.3	
	comp=Z,55nm,19.7s,baz=326,slow=32							
	comp=Z,0.7nm,0.8s							
SBA	**Scott Base**	**56.22**	**181**	P		**P**	**04 39 21.6**	**+1.1**
SBA				IAmb		IAmb	04 39 22.1	
	comp=Z,8.6nm,1.1s							
SBA	**Scott Base**	**56.22**	**181**	P		**P**	**04 39 21.6**	**+1.1**
SBA				pP		**pP**	**04 39 29.8**	**+1.3**
CCD	**Concordia, Ant**	**58.45**	**193**	P		**P**	**04 39 35.8**	**-0.9**
CCD				pP		**pP**	**04 39 44.3**	**-0.7**
MAJO	**Matsushiro**	**64.78**	**333**	P		**P**	**04 40 17.1**	**-2.3**
MAJO				IAmb		IAmb	04 40 25.5	
	comp=Z,10nm,1.2s							
MJB9	**Matsu-Tunnel**	**64.79**	**333**	P		**P**	**04 40 18.2**	**-1.2**
MJB9				IAmb		IAmb	04 40 26.5	
	comp=Z,10nm,1.3s							
QSPA	**South Pole Qui**	**68.38**	**180**	P		**P**	**04 40 42.0**	**-0.2**
QSPA	**South Pole Qui**	**68.38**	**180**	P		**P**	**04 40 42.3**	**+0.1**
	comp=Z,3.0nm,0.8s,baz=11,slow=6.6,SNR=9.8							
	comp=Z,3.0nm,0.8s							
QSPA	**South Pole Qui**	**68.38**	**180**	P		**P**	**04 40 42.1**	**-0.2**
QSPA				pP		**pP**	**04 40 50.6**	**+0.2**
USRK	**Ussuriysk Ar.**	**73.78**	**333**	P		**P**	**04 41 16.2**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=131,slow=6.5,SNR=2.8							
	comp=Z,1.8nm,0.8s							
SNAA	**Sanae**	**86.71**	**183**	P		**P**	**04 42 24.0**	**-0.4**
	comp=Z,5.4nm,1.1s,baz=195,slow=12,SNR=2.4							
	comp=Z,5.4nm,1.1s							
SONM	**Songino Array**	**89.00**	**323**	P		**P**	**04 42 36.4**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=141,slow=3.1,SNR=6.8							
SONM				LR		LR	05 23 58.2	
	comp=Z,24nm,18.1s,baz=241,slow=37							
	comp=Z,1.4nm,0.9s							
YBH	**Yreka Blue Hor**	**89.25**	**44**	LR		LR	05 15 09.9	
	comp=Z,36nm,20.9s,baz=334,slow=31							
USHA	**Ushuaia**	**89.46**	**151**	LR		LR	05 14 36.2	
	comp=Z,2μm,21.3s,baz=278,slow=30							
NVAR	**Mina Array Bea**	**90.63**	**49**	P		**P**	**04 42 44.3**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=224,slow=6.3,SNR=2.4							
	comp=Z,0.2nm,0.5s							
LPIG	**La Paz**	**90.73**	**64**	LR		LR	05 18 41.3	
	comp=Z,21nm,18.1s,baz=248,slow=32							
BBB	**Bella Bella**	**91.67**	**33**	LR		LR	05 16 11.5	
	comp=Z,22nm,20.2s,baz=4.5,slow=30							
DLBC	**Dease Lake**	**94.34**	**27**	LR		LR	05 17 01.1	
	comp=Z,39nm,20.0s,baz=292,slow=30							
ARCES	**ARCESS Array B**	**127.35**	**345**	PKP		**PKiKP**	**04 48 45.1**	**-0.1**
	comp=Z,2.6nm,1.0s,baz=45,slow=2.0,SNR=5.0							
EKA	**Eskdalemuir Ar**	**145.88**	**352**	PKPbc		**PKPdf**	**04 49 19.5**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=11,slow=4.0,SNR=2.0							
RONA	**Rosalia, Austr**	**145.98**	**326**	*i* PKP		**PKPab**	**04 49 22.2**	**+1.3**
	comp=Z,7.2nm,1.3s							
CONA	**Conrad Observa**	**146.06**	**327**	*e*PKP		**PKPab**	**04 49 21.8**	**+0.6**
	comp=Z,12nm,1.6s							
GERES	**GERESS Array B**	**146.48**	**330**	PKPbc		**PKPab**	**04 49 22.9**	**0.0**
	comp=Z,2.6nm,0.7s,baz=28,slow=3.2,SNR=6.1							
SOKA	**Soboth**	**147.30**	**326**	*i* PKP		**PKPbc**	**04 49 24.9**	**+0.6**
	comp=Z,3.1nm,0.9s							
KBA	**Koelnbreinsper**	**147.89**	**328**	*i* PKP		**PKPbc**	**04 49 26.3**	**+0.3**
	comp=Z,6.2nm,1.1s							
LESA	**Schwarzleotal**	**147.97**	**329**	*i* PKP		**PKPbc**	**04 49 26.8**	**+0.7**
	comp=Z,4.6nm,0.8s							
MYKA	**Terra Mystica**	**148.05**	**327**	*i* PKP		**PKPbc**	**04 49 26.7**	**+0.4**
	comp=Z,4.7nm,1.3s							
ABTA	**Abfaltersbach**	**148.53**	**328**	*i* PKP		**PKPbc**	**04 49 28.0**	**+0.4**
	comp=Z,5.3nm,1.0s							
WATA	**Walderalm**	**148.56**	**330**	*e*PKP		**PKPbc**	**04 49 28.5**	**+0.8**
	comp=Z,2.7nm,0.4s							
WTTA	**Wattenberg**	**148.58**	**330**	*e*PKP		**PKPbc**	**04 49 27.8**	**0.0**
	comp=Z,4.2nm,0.7s							
MOTA	**Moosalm**	**148.77**	**330**	*i* PKP		**PKPbc**	**04 49 29.0**	**+0.8**
	comp=Z,6.0nm,1.2s							
SQTA	**Sankt Quirin**	**148.81**	**330**	*i* PKP		**PKiKP**	**04 49 29.4**	**-0.3**
	comp=Z,3.9nm,0.6s							
FETA	**Feichten**	**149.18**	**330**	*i* PKP		**PKiKP**	**04 49 30.4**	**-0.1**
	comp=Z,6.0nm,1.0s							
DAVA	**Damuels**	**149.37**	**331**	*i* PKP		**PKPbc**	**04 49 29.8**	**+0.1**
	comp=Z,5.0nm,1.2s							

*CATAC **08** 04:34:25.6±1.0,8°.49N×82°.87W,h11km±8km,ML2.1*
*UPA **08** 04:34:26.0±0.7,8°.47N×82°.78W,h25km±6km,MD3.5*

ISC 08 04:34:25.4±1.2,8°.47N±0°.04×82°.80W±0°.03,h34km±2km, n14,σ0s52/22,1C-2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CDITO	**Canoas**	**0.12**	**325**	*e*P	**Pb**	**04 34 32.1**	**+0.7**
PTPM	**Petroterminale**	**0.28**	**196**	*e*P	**Pn**	**04 34 32.9**	**+0.2**
PTPM				*e*S	**Sb**	**04 34 37.9**	**-0.1**
BRU2	**Volcan**	**0.34**	**19**⇓	*i*P	**Pn**	**04 34 34.0**	**0.0**
BRU2			⇑	*e*S	**Sb**	**04 34 40.4**	**+0.8**
BRU2	**Volcan**	**0.34**	**19**	*i* P	**Pb**	**04 34 33.3**	**-0.6**
BRU2				*i* S	**Sb**	**04 34 39.7**	**0.0**
BRU2				IAML		04 34 42.7	
	comp=Z,310nm,1.0s						
DVD	**David**	**0.35**	**96**	*e*P	**Pb**	**04 34 33.5**	**-0.3**
DVD				*e*S	**Sb**	**04 34 39.4**	**-0.2**
BCO2	**Palmira**	**0.36**	**47**⇓	*i*P	**Pb**	**04 34 34.3**	**+0.1**
BCO2				*e*S	**Sn**	**04 34 40.2**	**+0.1**
LOCO3	**Loma Colorada,**	**0.38**	**99**	*e*P	**Pb**	**04 34 33.7**	**-0.6**
LOMA3	**Las Lomas, Chi**	**0.41**	**95**	*e*P	**Pn**	**04 34 35.2**	**+0.2**
CHGR2	**Aguacate**	**0.80**	**54**	*e*P	**Pn**	**04 34 40.4**	**+0.1**
PLAN	**Los Planes de**	**0.89**	**283**	*i* P	**Pb**	**04 34 42.4**	**-0.1**
PLAN				IAML		04 34 58.1	
	comp=Z,150nm,1.0s						
SRBA	**San Rafael, Bu**	**0.94**	**324**	*i* P	**Pn**	**04 34 42.3**	**+0.1**
SRBA				*i* S	**Sn**	**04 34 54.4**	**-0.1**
SRBA				IAML		04 34 56.9	
	comp=Z,41nm,1.0s						
OCHAL	**Ojochal**	**1.04**	**307**	*i* P	**Pn**	**04 34 43.4**	**-0.2**
OCHAL				*i* S	**Sb**	**04 34 57.7**	**-0.7**
OCHAL				IAML		04 35 04.8	
	comp=Z,57nm,1.0s						
PEZE	**Perez Zeledon,**	**1.25**	**316**	*i* P	**Pb**	**04 34 47.5**	**-1.1**
PEZE				*i* S	**Sb**	**04 35 05.3**	**+0.8**
PEZE				IAML		04 35 14.7	
	comp=Z,35nm,1.0s						
CDM	**Cerro de Muert**	**1.44**	**319**	*i* P	**Pn**	**04 34 50.1**	**+0.7**
CDM				IAML		04 35 17.5	
	comp=Z,22nm,1.0s						

HEL 08 04:36:55.2±0.3,67°.80N×20°.25E,h0km,ML0.9, Suspected explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.70**	**69**	SG	Sg	04 37 17.3	-0.4
KIF	**Kilpisjarvi**	**1.23**	**9**	PG	Pg	04 37 18.1	-0.6
KIF				MSG		04 37 33.6	
	comp=Z,1.2nm,0.2s						
KIF				SG	Sg	04 37 33.9	-0.7
PAJU	**Pajala**	**1.35**	**124**	PG	Pg	04 37 19.3	-1.7
PAJU				SN	Sg	04 37 37.8	-0.8
HEF	**Hetta**	**1.42**	**63**	PG	Pn	04 37 20.5	-1.7
HEF				MSG		04 37 37.7	
	comp=Z,0.6nm,0.2s						
HEF				SN	Sg	04 37 40.5	-0.1
KLF	**Kolari**	**1.54**	**110**	PG	Pn	04 37 23.0	-0.8
KLF				MSG		04 37 41.3	
	comp=Z,0.5nm,0.2s						
KLF				SN	Sn	04 37 44.3	-0.1
KTK1	**Kautokeino**	**1.64**	**41**	PN	Pn	04 37 25.4	+0.1
KTK1				SN	Sb	04 37 47.5	-0.1
RNF	**Rovaniemi**	**2.54**	**115**	SG	Sb	04 38 13.4	0.0
ARA0	**ARCESS Array S**	**2.59**	**45**	PB	Pn	04 37 38.7	+0.4
	baz=226						
ARA0				SG	Sb	04 38 14.6	-0.3
KEV	**Kevo**	**3.14**	**48**	MSG		04 38 27.4	
	comp=Z,0.4nm,0.2s						
KEV				SG	Sb	04 38 30.8	+0.1

IDC 08 04:38:27.3±7.3,10°.48S×161°.34E,h0km,mb3.7/3, mbtmp3.7/3,MS3.4/1,Error ellipse: s-maj=195.1km s-min=43.9km az=116.0,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.66**	**247**	P	P	04 44 17.5	+0.3
	0.5nm,0.5s,baz=76,slow=8.9,SNR=8.0						
	0.5nm,0.5s						
STKA	**Stephens Creek**	**28.05**	**218**	LR	LR	04 54 49.1	
	comp=Z,77nm,19.1s,baz=99,slow=35						
ASAR	**Alice Springs**	**29.25**	**240**	P	P	04 44 30.8	-0.5
	0.2nm,0.4s,baz=67,slow=9.9,SNR=4.1						
	0.2nm,0.4s						
SONM	**Songino Array**	**75.69**	**325**	P	P	04 50 14.9	+0.1
	0.4nm,0.6s,baz=134,slow=6.2,SNR=3.6						
	0.4nm,0.6s						

WEL 08 04:43:28.5±1.1,34°S±11°×17°9E±3°1,h33km,M4.0/12, mB4.6/6,ML4.6/13,MLv4.2/12,Mw(mB)3.8/6,Error ellipse: s-maj=0.0km s-min=0.0km az=105.5,confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**3.90**	**194**	P	Pn	04 44 26.7	+0.7
MXZ				S	Sn	04 45 11.9	+1.2
WMGZ	**Waiomatatini S**	**4.13**	**192**	P	Pn	04 44 28.6	-0.7
WMGZ				S	Sn	04 45 18.4	+2.1
HAZ	**Te Kaha**	**4.21**	**198**	P	Pn	04 44 30.9	+0.6
HAZ				S	Sn	04 45 21.4	+3.2
PUZ	**Puketiti**	**4.40**	**192**	P	Pn	04 44 32.7	-0.3
PUZ				S	Sn	04 45 23.2	+0.1
RUGZ	**Raukumara Rang**	**4.43**	**199**	P	Pn	04 44 33.6	+0.1
RUGZ				S	Sn	04 45 24.0	0.0
TWGZ	**Tauwhareparae**	**4.56**	**195**	P	Pn	04 44 36.8	+1.6
TWGZ				S	Sn	04 45 27.8	+0.8
CNGZ	**Carnagh Statio**	**4.81**	**192**	P	Pn	04 44 37.7	-0.9
MWZ	**Matawai**	**4.82**	**198**	P	Pn	04 44 37.4	-1.3
MWZ				S	Sn	04 45 33.4	0.0
URZ	**Urewera**	**4.87**	**202**	P	Pn	04 44 39.7	+0.3
URZ				S	Sn	04 45 35.0	+0.4
RAGZ	**Rawiri**	**5.00**	**199**	P	Pn	04 44 40.6	-0.6
RAGZ				S	Sn	04 45 39.0	+1.1
GLKZ	**Green Lake**	**5.02**	**27**	S	Sn	04 45 20.8	-17
RIGZ	**Rimuhau**	**5.12**	**195**	P	Pn	04 44 43.1	+0.3
RIGZ				S	Sn	04 45 40.0	-0.7
MUGZ	**Murupara**	**5.18**	**204**	P	Pn	04 44 44.3	+0.7
SNGZ	**Shannon Statio**	**5.29**	**198**	P	Pn	04 44 45.5	+0.3
SNGZ				S	Sn	04 45 45.0	+0.1
RAHZ	**Arahi**	**5.48**	**200**	P	Pn	04 44 47.6	-0.2
MTHZ	**Maungataniwha**	**5.50**	**202**	P	Pn	04 44 47.7	-0.3
NMHZ	**Naumai**	**5.73**	**201**	P	Pn	04 44 51.2	-0.1
**ARHZ

	comp=E,47nm,0.7s							
BEY	**Berane**	**2.06**	**259**	*i* Pg		**Pn**	**04 44 30.0**	**+0.7**
IVA	**Berane**	**2.06**	**259**	*e*Pn		**Pn**	**04 44 29.3**	**0.0**
IVA				*i* Sn		**Sn**	**04 44 55.2**	**+0.1**
DIVS	**Divibare**	**2.09**	**294**	*e*Pn		**Pn**	**04 44 29.6**	**-0.1**
PVY	**Plav**	**2.09**	**252**	⇓*i* Pn		**Pn**	**04 44 29.9**	**+0.1**
PVY				*i* Sn		**Sn**	**04 44 56.3**	**+0.4**
KNT	**Kendrikon**	**2.13**	**175**	*i* Pg		**Pn**	**04 44 31.2**	**+1.0**
KNT				*i* Sg		**Sb**	**04 45 01.4**	**+1.6**
RZN	**Rozhen**	**2.22**	**135**	P		**Pn**	**04 44 32.3**	**+0.7**
SRS	**Serrai**	**2.28**	**162**	*i* Sg		**Sn**	**04 45 01.2**	**+0.8**
KOME	**Kolasin**	**2.33**	**260**	*e*Pn		**Pn**	**04 44 33.1**	**0.0**
KOME				*i* Sn		**Sn**	**04 45 01.8**	**-0.1**
GRG	**Griva**	**2.34**	**185**	*i* Pn		**Pn**	**04 44 37.2**	**+0.4**
ELND	**Elena**	**2.39**	**98**	⇓P		**Pb**	**04 44 36.9**	**-0.8**
BBLS	**Lazi&#263i**	**2.42**	**285**	*e*Pn		**Pn**	**04 44 33.8**	**-0.5**
BZS	**Buzias**	**2.44**	**343**	⇑P		**Pn**	**04 44 34.8**	**+0.3**
SURR	**Surduc**	**2.49**	**352**	⇑P		**Pn**	**04 44 35.5**	**+0.3**
SOH	**Sokhos**	**2.52**	**168**	*i* Pn		**Pn**	**04 44 36.2**	**+0.6**
SOH				*i* Sn		**Sn**	**04 45 05.4**	**-1.0**
TEKS	**Tekeris**	**2.58**	**300**	*e*Pn		**Pn**	**04 44 35.8**	**-0.6**
PDG	**Podgorica**	**2.63**	**252**	⇑P		**Pn**	**04 44 38.6**	**+1.5**
PDG	**Podgorica**	**2.63**	**252**	*e*Pn		**Pn**	**04 44 37.5**	**+0.4**
PDG				*i* Sn		**Sn**	**04 45 09.4**	**+0.3**
UPM	**Unac-Piva**	**2.73**	**270**	*e*Pn		**Pn**	**04 44 38.5**	**-0.2**
UPM				*i* Sn		**Sn**	**04 45 11.1**	**-0.8**
VOIR		**2.76**	**38**	⇑P		**Pn**	**04 44 39.7**	**+0.9**
DRME	**Dracevica, Mon**	**2.78**	**248**	⇑*i* Pn		**Pn**	**04 44 39.6**	**+0.5**
DRME				*i* Sn		**Sn**	**04 45 13.0**	**+0.3**
RAZG	**Razgrad**	**2.83**	**83**	⇓P		**Pb**	**04 44 43.2**	**-1.9**
CEME	**Cevo**	**2.84**	**256**	⇑*i* Pn		**Pn**	**04 44 40.3**	**+0.3**
CEME				*i* Sn		**Sn**	**04 45 14.2**	**0.0**
ULC	**Ulcinj**	**2.84**	**243**	⇑*i* Pn		**Pn**	**04 44 40.6**	**+0.7**
ULC				*i* Sn		**Sn**	**04 45 14.8**	**+0.6**
BUM	**Brajici-Budva**	**2.93**	**252**	⇑*i* Pn		**Pn**	**04 44 41.6**	**+0.3**
BUM				*i* Sn		**Sn**	**04 45 16.6**	**0.0**
BRY	**Bratogost**	**3.03**	**264**	⇓*i* Pn		**Pn**	**04 44 42.8**	**+0.1**
BRY				*i* Sn		**Sn**	**04 45 18.5**	**-0.7**
MLR	**Muntele Rosu**	**3.23**	**46**	⇑P		**Pn**	**04 44 47.7**	**+2.2**
DOPR	**Dopca**	**3.32**	**35**	⇑P		**Pn**	**04 44 47.4**	**+0.9**
MARR	**Marisel-Cluj**	**3.41**	**6**	⇑P		**Pn**	**04 44 48.4**	**+0.6**
DRGR		**3.50**	**1**	⇑P		**Pn**	**04 44 50.6**	**+1.4**
VRI	**Vrincioaia**	**3.89**	**47**	⇓P		**Pn**	**04 44 55.8**	**+1.3**
MORH	**Mrgy, Hungar**	**4.08**	**317**	⇓P		**Pn**	**04 44 56.5**	**-0.5**

IDC 08 04:46:13.8±3.3, 53°.77N×88°.17E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=27.0km s-min=19.1km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**276**	I	I	04 59 24.5	
	0.1nm,0.7s,baz=91,slow=333,SNR=7.4						
ZALV	**Zalesovo Beam**	**1.99**	**276**	Pg	Pn	04 46 49.5	+0.8
	0.9nm,0.3s,baz=92,slow=14,SNR=23						
ZALV				Lg	Lg	04 47 17.2	
	2.0nm,0.3s,baz=98,slow=22,SNR=23						
KURBB	**Kurchatov Arra**	**6.71**	**246**	Pn	Pn	04 47 54.0	+0.5
	baz=61,slow=13,SNR=4.0						
KURBB				Sn	Sn	04 49 10.1	-0.5
	baz=63,slow=25,SNR=2.1						
KURBB				Lg	Lg	04 49 46.7	
	baz=61,slow=29,SNR=4.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.93**	**211**	Pn	Pn	04 48 11.8	+1.5
	0.1nm,0.3s,baz=24,slow=11,SNR=1.5						
MKAR				Lg	Lg	04 50 23.0	
	0.1nm,0.3s,baz=31,slow=28,SNR=2.0						
	0.1nm,0.4s						

*CATAC **08** 04:54:24.0±0.6, 13°.85N×91°.64W, h33km±11km, MB4.0, mb3.9, ML3.6*
*GCG **08** 04:54:29.1±0.3, 14°.27N×91°.44W, h48km±5km, MD3.4*
ISC 08 04:54:23.5±2.4, 13°.82N±0°.09×91°.63W±0°.09, h26km±15km, n21, σ0s89/33, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.48**	**8**	*e*P	**Pn**	**04 54 36.8**	**+2.0**
SULM				*e*S	**Sn**	**04 54 42.8**	**+0.3**
RTAL	**Retalhuleu**	**0.70**	**355**	*i* P	**Pb**	**04 54 37.5**	**+0.3**
RTAL				IAML		04 54 47.5	
	comp=Z,550nm,1.0s						
RTAL				*i* S	**Sn**	**04 54 47.7**	**-0.1**
STG3	**Santiaguito 3,**	**0.89**	**4**	*e*P	**Pb**	**04 54 40.4**	**0.0**
FUG	**Fuego 3**	**0.99**	**51**	*e*P	**Pb**	**04 54 42.1**	**0.0**
PCG	**Pacaya**	**1.14**	**60**	*e*P	**Pb**	**04 54 45.1**	**+0.3**
SMSP	**San Marcos**	**1.15**	**353**	*i* P	**Pn**	**04 54 43.5**	**-0.8**
SMSP				*i* S	**Sn**	**04 54 57.7**	**-1.7**
SMSP				IAML		04 54 59.3	
	comp=Z,3μm,1.0s						
GUMI	**Mixco**	**1.27**	**51**	*i* P	**Pn**	**04 54 45.7**	**-0.2**
GUMI				IAML		04 54 46.1	
	comp=Z,4μm,1.0s						
GUMI				*i* S	**Sb**	**04 55 02.4**	**-0.6**
NBG	**Las Nubes**	**1.46**	**58**	*e*P	**Pb**	**04 54 50.4**	**+0.2**
GUNB	**GUNB**	**1.46**	**58**	*i* P	**Pn**	**04 54 48.9**	**+0.3**
GUNB				*i* S	**Sn**	**04 55 07.6**	**+0.5**
GUNB				IAML		04 55 09.4	
	comp=Z,370nm,1.0s						
NUBE	**Las Nubes**	**1.80**	**87**	*i* P	**Pn**	**04 54 52.5**	**-0.5**
NUBE				IAML		04 54 53.9	
	comp=Z,420nm,1.0s						
NUBE				*i* S	**Sn**	**04 55 13.5**	**-1.6**
LOAL	**Lomas de Alarc**	**1.80**	**84**	*i* P	**Pn**	**04 54 53.0**	**0.0**
LOAL				*i* S	**Sn**	**04 55 14.6**	**-0.5**
LOAL				IAML		04 55 54.9	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.95**	**90**	*i* P	**Pn**	**04 54 54.1**	**-1.1**
CEVE				IAML		04 55 26.1	
	comp=Z,470nm,1.0s						
UNIC	**Universidad Ca**	**2.03**	**85**	*i* P	**Pn**	**04 54 56.3**	**+0.2**
UNIC				IAML		04 54 58.4	
	comp=Z,220nm,1.0s						
UNIC				*i* S	**Sn**	**04 55 20.0**	**-0.7**
JAYA	**Jayaque - finc**	**2.13**	**94**	*i* P	**Pn**	**04 54 56.8**	**-0.7**
JAYA				*i* S	**Sn**	**04 55 22.1**	**-1.1**
JAYA				IAML		04 55 25.0	
	comp=Z,860nm,1.0s						
PMON	**Piamonte**	**2.25**	**93**	*i* P	**Pn**	**04 54 59.3**	**+0.1**
PMON				*i* S	**Sn**	**04 55 26.3**	**0.0**
PMON				IAML		04 55 29.7	
	comp=Z,320nm,1.0s						
MTO3	**Montecristo**	**2.27**	**75**	*i* P	**Pn**	**04 54 59.2**	**-0.5**
MTO3				IAML		04 56 04.3	
	comp=Z,56nm,1.0s						
ITCA	**Escuela Especi**	**2.29**	**93**	IAML		04 55 07.7	
	comp=Z,2μm,1.0s						
ITCA				*i* S	**Sn**	**04 55 27.1**	**-0.1**
ESQI	**Esquipulas**	**2.34**	**71**	*i* P	**Pn**	**04 54 00.3**	**-0.1**
COEG	**Centro de Oper**	**2.68**	**94**	*i* P	**Pn**	**04 55 05.7**	**+0.6**
COEG				IAML		04 55 07.2	
	comp=Z,110nm,1.0s						
COEG				*i* S	**Sn**	**04 55 38.7**	**+1.9**
SCLA	**Alcaldia de Sa**	**2.82**	**92**	*i* P	**Pn**	**04 55 07.6**	**+0.6**
SCLA				*i* S	**Sn**	**04 55 42.0**	**+1.7**
SCLA				IAML		04 55 52.4	
	comp=Z,27nm,1.0s						
MACN	**El Madrono**	**5.01**	**105**	*i* P	**Pn**	**04 55 37.5**	**+0.4**
MACN				IAML		04 55 45.7	
	comp=Z,14nm,1.0s						
MACN				IVmB_BB		04 55 45.7	
	comp=Z,180nm,1.0s						
MACN				IAmb	IAmb	04 55 45.7	
	comp=Z,6.8nm,0.4s						

*NEIC **08** 05:01:13.1±1.1, 19°.39N±0°.02×154°.99W±0°.03, h6km±4km, ML2.9/20, ML2.8/26(NEIC), Error ellipse: s-maj=5.1km s-min=1.8km az=123.0, Hawaiian Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**347**		Pg	05 01 13.5	+0.2
JCUZ	**Jacuzzi**	**0.10**	**269**		Pg	05 01 14.1	0.0
JCUZ				IAML		05 01 17.3	
	comp=E,3μm,0.8s						
NPOC	**North of Pu'u**	**0.11**	**274**		Pg	05 01 14.7	+0.4
NPOC	**North of Pu'u**	**0.11**	**274**	IAML		05 01 17.4	
	comp=N,2μm,0.3s						
NPOC				IAML		05 01 17.5	
	comp=E,5μm,0.6s						
STCH	**Steam Cracks**	**0.12**	**270**		Pg	05 01 14.8	+0.3
STCH	**Steam Cracks**	**0.12**	**270**	IAML		05 01 17.6	
	comp=N,1μm,0.3s						
STCH				IAML		05 01 17.6	
	comp=E,4μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.17**	**268**		Pg	05 01 15.8	+0.5
PUH	**Pauahi**	**0.21**	**267**		Pg	05 01 17.1	+1.1
PUH	**Pauahi**	**0.21**	**267**	IAML		05 01 19.5	
	comp=N,594nm,0.8s						
PUH				IAML		05 01 23.0	
	comp=E,805nm,0.6s						
RSD	**Rainshed**	**0.28**	**286**		Pb	05 01 18.4	-0.9
RSD	**Rainshed**	**0.28**	**286**	IAML		05 01 24.2	
	comp=N,1μm,0.3s						
RSD				IAML		05 01 24.3	
	comp=E,1μm,0.1s						
HLP	**Hilina Pali**	**0.31**	**253**		Pg	05 01 18.8	+0.9
HLP	**Hilina Pali**	**0.31**	**253**	IAML		05 01 24.6	
	comp=E,2μm,0.3s						
HLP				IAML		05 01 24.8	
	comp=N,2μm,0.2s						
MLH	**Mauna Loa**	**0.39**	**286**		Pg	05 01 19.8	+0.4
MLH					Sb	05 01 26.3	-1.3
MLH	**Mauna Loa**	**0.39**	**286**	IAML		05 01 26.8	
	comp=N,2μm,0.7s						
MLH				IAML		05 01 29.6	
	comp=E,1μm,0.3s						
HTC	**Hot Caves**	**0.41**	**249**		Pg	05 01 20.4	+0.6
HMH	**Humu'ula Sheep**	**0.51**	**295**		Pg	05 01 22.1	+0.3
MLOA	**Mauna Loa Obse**	**0.57**	**285**		Pg	05 01 22.8	-0.1
MLOA				IAML		05 01 31.6	
	comp=N,771nm,0.7s						
MLOA				IAML		05 01 31.6	
	comp=E,1μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.57**	**285**		Sg	05 01 31.4	+1.0
MWH	**Moku'aweowe**	**0.58**	**280**		Pg	05 01 23.1	0.0
MWH				IAML		05 01 35.8	
	comp=N,754nm,1.2s						
MWH	**Moku'aweowe**	**0.58**	**280**		Sg	05 01 31.4	+0.7
KHU	**Kahuku**	**0.60**	**257**	Pg	Pg	05 01 23.1	-0.4
KHU				IAML		05 01 34.4	
	comp=E,429nm,1.5s						
KHU				IAML		05 01 36.4	
	comp=N,454nm,1.3s						
POHA	**Pohakuloa**	**0.63**	**306**		Sg	05 01 31.9	-0.3
ALEP	**Alea Permanent**	**0.63**	**284**		Pg	05 01 23.5	-0.6
HUH	**Hualalai**	**0.85**	**291**		Pg	05 01 27.9	-0.3
HPAH	**Hawaii Prepara**	**0.92**	**314**	Pg	Pb	05 01 30.1	-0.2
HPAH				IAML		05 01 55.2	
	comp=E,215nm,0.8s						
MHA	**Mahukona**	**1.17**	**313**	Pg	Pg	05 01 32.6	-1.8

*NEIC **08** 05:09:11.9±0.9, 19°.23N±0°.04×155°.48W±0°.06, h34km±12km, Error ellipse: s-maj=9.5km s-min=4.0km az=118.0*
HVO 08 05:09:12.5±0.9, 19°.20N±0°.10×155°.4W±0°.1, h34km±8km, ML2.5/2, ML2.4/22(NEIC), Error ellipse: s-maj=19.3km s-min=5.3km az=135.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.04**	**15**		Pb	05 09 17.9	-0.3
HLP	**Hilina Pali**	**0.14**	**44**		Pb	05 09 18.2	-0.6
HLP	**Hilina Pali**	**0.14**	**44**	IAML		05 09 24.1	
	comp=E,882nm,1.2s						
HLP				IAML		05 09 29.0	
	comp=N,805nm,1.1s						
KHU	**Kahuku**	**0.20**	**284**		Pn	05 09 18.5	+0.2
KHU					Sb	05 09 22.9	-1.3
KHU	**Kahuku**	**0.20**	**284**	IAML		05 09 23.1	
	comp=E,677nm,1.0s						
KHU				IAML		05 09 23.1	
	comp=N,520nm,0.1s						
PUH	**Pauahi**	**0.25**	**46**		Pn	05 09 18.7	-0.9
PUH	**Pauahi**	**0.25**	**46**	IAML		05 09 22.9	
	comp=N,1μm,0.8s						
PUH				IAML		05 09 32.9	
	comp=E,456nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.29**	**51**		Pn	05 09 19.2	-1.1
MLH	**Mauna Loa**	**0.30**	**4**		Pn	05 09 19.5	-0.9
MLH	**Mauna Loa**	**0.30**	**4**	IAML		05 09 30.4	
	comp=E,368nm,0.9s						
STCH	**Steam Cracks**	**0.33**	**55**		Pb	05 09 19.5	-1.2
STCH	**Steam Cracks**	**0.33**	**55**	IAML		05 09 26.8	
	comp=N,250nm,1.1s						
STCH				IAML		05 09 32.1	
	comp=E,228nm,1.1s						
MWH	**Moku'aweowe**	**0.34**	**328**		Pb	05 09 19.9	-1.4
MWH	**Moku'aweowe**	**0.34**	**328**	IAML		05 09 26.2	
	comp=E,456nm,1.0s						
MWH				IAML		05 09 34.8	
	comp=N,332nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.37**	**335**		Pb	05 09 20.3	-1.4
MLOA	**Mauna Loa Obse**	**0.37**	**335**	IAML		05 09 24.8	
	comp=E,209nm,2.9s						
MLOA				IAML		05 09 31.1	
	comp=N,239nm,1.6s						
ALEP	**Alea Permanent**	**0.41**	**327**		Pb	05 09 20.4	-1.7
HMH	**Humu'ula Sheep**	**0.41**	**350**		Pb	05 09 21.0	-1.1
HMH	**Humu'ula Sheep**	**0.41**	**350**	IAML		05 09 27.4	
	comp=N,211nm,1.1s						
HMH				IAML		05 09 27.6	
	comp=E,290nm,1.4s						
POHA	**Pohakuloa**	**0.57**	**348**	Pn	Pn	05 09 23.9	-0.5
POHA	**Pohakuloa**	**0.57**	**348**	IAML		05 09 31.2	
	comp=E,166nm,0.8s						
POHA				IAML		05 09 33.4	
	comp=E,161nm,0.7s						
HUH	**Hualalai**	**0.63**	**320**		Pn	05 09 23.6	-1.6
HUH	**Hualalai**	**0.63**	**320**	IAML		05 09 39.2	
	comp=E,222nm,1.4s						
HUH				IAML		05 09 46.7	
	comp=N,225nm,2.9s						
HPAH	**Hawaii Prepara**	**0.87**	**342**	Pn	Pn	05 09 26.5	-2.0
HPAH				IAML		05 09 40.9	
	comp=E,132nm,4.1s						
HPAH				IAML		05 09 46.8	
	comp=N,126nm,2.2s						

RSNC 08 05:20:16.2±0.0, 2°.N±1°×7°.6W±°, h1km±4km, M2.8, mB5.0, ML2.8, Mw(mB)4.4, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GARC	**Garzon, Huila**	**0.47**	**88**	P	Pg	05 20 24.7	-0.5
GARC				S	Sg	05 20 31.5	+0.2
FLOC	**Florencia**	**0.66**	**152**	P	Pg	05 20 28.0	-0.9
FLOC				S	Sg	05 20 37.1	-0.3
BETC	**Betania**	**0.73**	**46**	P	Pg	05 20 29.9	-0.2
BETC				S	Sb	05 20 40.9	-1.3
POPC	**Popayan, Colom**	**0.80**	**297**	P	Pg	05 20 30.6	-1.1
POPC				S	Sg	05 20 41.4	-0.7
CRUC	**La Cruz**	**1.16**	**239**	P	Pg	05 20 37.1	-1.3
CRUC				S	Sg	05 20 53.2	-0.3
JAMC	**Jamundi, Valle**	**1.26**	**326**	P	Pg	05 20 38.6	-1.8
JAMC				S	Sg	05 20 56.1	-0.6
GCUF	**Volcan Galeras**	**1.67**	**236**	P	Pn	05 20 46.5	-0.6
GCUF				S	Sn	05 21 09.1	-0.3
ORTC	**Ortega, Tolima**	**1.87**	**22**	P	Pn	05 20 48.0	-1.4
ORTC				S	Sn	05 21 14.1	+0.4
PRAC	**Prado**	**1.87**	**35**	P	Pn	05 20 47.8	-1.6
PRAC				S	Sn	05 21 14.0	+0.3
PRAC				S	Sn	05 21 14.0	+0.3
URMC	**La Uribe, Meta**	**1.91**	**56**	P	Pn	05 20 48.3	-1.7
URMC				S	Sn	05 21 14.2	-0.5
MACC	**Macarena, Meta**	**2.11**	**91**	P	Pn	05 20 51.7	-1.0
MACC				S	Sn	05 21 19.6	0.0
MACC				S	Sb	05 21 19.7	-2.4
CMBC	**Cumbal**	**2.23**	**237**	P	Pb	05 20 56.9	-0.7
CMBC				S	Sg	05 21 28.0	+0.1
MALC	**Bahia Malaga**	**2.29**	**323**	P	Pn	05 20 56.0	+0.9
MALC				S	Sg	05 21 29.3	-0.5
PTLC	**Puerto Leguiza**	**2.30**	**150**	P	Pb	05 20 58.0	-0.6
PTLC				S	Sg	05 21 29.8	-0.4
TULM	**Tulcn-Chalpat**	**2.33**	**232**	P	Pn	05 20 57.6	+1.5
TULM				S	Sb	05 21 28.9	+0.1
GR1C	**Gorgona, Isla**	**2.35**	**291**	P	Pn	05 20 54.9	-1.1
PLMC	**San Jos del P**	**2.74**	**353**	P	Pn	05 21 02.1	+0.7
PLMC				P	Pb	05 21 02.4	-3.6
VILC	**Villavicencio,**	**2.97**	**49**	P	Pn	05 21 05.6	+0.9
VILC				S	Sn	05 21 43.3	+2.2
CUSE	**Cuicocha Este**	**3.06**	**233**	P	Pb	05 21 11.8	0.0
ROSC	**El Rosal**	**3.12**	**32**	P	Pn	05 21 05.6	-1.3
ROSC				S	Sb	05 21 53.0	+1.6
CHIC	**Chingaza**	**3.30**	**42**	P	Pn	05 21 10.2	+0.7
CHIC				P	Pb	05 21 10.7	-5.2
CHIC				S	Sb	05 21 55.6	-1.2
GUVC	**San Jose del G**	**3.35**	**84**	P	Pb	05 21 13.9	-2.6
GUVC				S	Sn	05 21 52.8	+2.6
NORC	**Norcasia**	**3.54**	**18**	P	Pn	05 21 11.3	-1.1
NORC				S	Sb	05 22 02.7	-0.6
PTGC	**Puerto Gaitan,**	**4.32**	**62**	P	Pn	05 21 21.8	-1.3
PTGC				S	Sb	05 22 20.0	-5.7
RUSC	**La Rusia**	**4.68**	**38**	P	Pn	05 21 28.2	-0.3
PAMC	**Pamplona, Colo**	**6.08**	**32**	P	Pn	05 21 46.5	-1.2

*NEIC **08** 05:32:22.3±0.7, 19°.4N±0°.2×155°.34W±0°.09, h4km±18km, Error ellipse: s-maj=36.6km s-min=1.8km az=198.0*
HVO 08 05:32:21.5±1.3, 19°.42N±0°.01×155°.312W±0°.009, h3km±1km, ML2.7/6, ML2.1/30(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=204.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**140**	IAML		05 32 22.4	
	comp=N,3μm,0.4s						
WRMHI				IAML		05 32 22.8	
	comp=E,5μm,0.4s						
WRMHI	**West Rim**	**0.02**	**140**		Pg	05 32 23.7	+1.3
UWE	**Uwekahuna**	**0.02**	**84**	IAML		05 32 22.3	
	comp=N,3μm,0.6s						
UWE	**Uwekahuna**	**0.02**	**84**		Pg	05 32 23.9	+1.5
OBL	**Observatory Le**	**0.03**	**94**		Pg	05 32 24.2	+1.8
NPH	**North Pit**	**0.03**	**104**		Pg	05 32 23.9	+1.5
UWB	**Uwekahuna B**	**0.03**	**80**		Pg	05 32 24.1	+1.7
SDHHI	**Sand Hill**	**0.03**	**151**	IAML		05 32 22.8	
	comp=E,2μm,0.7s						
SDHHI				IAML		05 32 22.9	
	comp=N,2μm,0.5s						
SDHHI	**Sand Hill**	**0.03**	**151**		Pg	05 32 23.8	+1.4
SBLHI	**Steaming Bluff**	**0.04**	**79**		Pg	05 32 23.1	+0.5
SBLHI	**Steaming Bluff**	**0.04**	**79**	IAML		05 32 23.3	
	comp=E,2μm,0.7s						
SBLHI				IAML		05 32 23.8	
	comp=N,2μm,0.5s						
HATHI	**Halema'uma'u T**	**0.05**	**86**	IAML		05 32 23.9	
	comp=E,3μm,0.7s						
HATHI				IAML		05 32 24.2	
	comp=N,2μm,0.5s						
HATHI	**Halema'uma'u T**	**0.05**	**86**		Pg	05 32 24.6	+1.9
RSD	**Rainshed**	**0.05**	**36**		Pg	05 32 22.0	-0.8
RSD				IAML		05 32 24.7	
	comp=N,2μm,0.1s						
MLH	**Mauna Loa**	**0.10**	**317**		Pg	05 32 24.2	+0.6
MLH					Sg	05 32 26.4	+1.3
HLP	**Hilina Pali**	**0.12**	**178**		Pg	05 32 24.6	+0.7
HLP	**Hilina Pali**	**0.12**	**178**		Sg	05 32 27.1	+1.5
HLP	**Hilina Pali**	**0.12**	**178**	IAML		05 32 26.0	
	comp=E,733nm,0.9s						
KNHH	**Kane Nui o Ham**	**0.14**	**106**		Pg	05 32 24.9	+0.6
HMH	**Humu'ula Sheep**	**0.24**	**318**		Pg	05 32 26.8	+0.5
HMH					Sg	05 32 30.8	+1.3
HMH	**Humu'ula Sheep**	**0.24**	**318**	IAML		05 32 31.0	
	comp=N,241nm,0.1s						
HMH				IAML		05 32 32.1	
	comp=E,300nm,2.0s						
MLOA	**Mauna Loa Obse**	**0.28**	**295**	Pg	Pg	05 32 26.8	-0.1
MLOA				IAML		05 32 34.7	
	comp=E,263nm,2.3s						
MLOA				IAML		05 32 36.2	
	comp=N,210nm,1.0s						
MWH	**Moku'aweowe**	**0.28**	**284**		Pg	05 32 27.3	+0.3
MWH	**Moku'aweowe**	**0.28**	**284**	IAML		05 32 31.7	
	comp=N,364nm,1.9s						
MWH				IAML		05 32 32.2	
	comp=E,485nm,1.3s						
JOKA	**Jonika Flow**	**0.29**	**87**		Pg	05 32 27.4	+0.3
JOKA					Sg	05 32 31.3	+0.4
KHU	**Kahuku**	**0.33**	**239**		Pg	05 32 28.2	+0.1
KHU					Sg	05 32 33.2	+0.8
KHU	**Kahuku**	**0.33**	**239**	IAML		05 32 33.3	
	comp=E,208nm,1.2s						
KHU				IAML		05 32 33.8	
	comp=N,392nm,3.0s						
ALEP	**Alea Permanent**	**0.34**	**291**		Pg	05 32 28.2	+0.1
HUH	**Hualalai**	**0.56**	**298**	Pg	Pg	05 32 32.8	+0.5

*IDC **08** 05:32:58.9±0.9, 37°.45N×141°.76E, h0km, mb3.7/11, mbtmp3.7/13, ML2.4/2, MS2.7/2, Error ellipse: s-maj=22.4km s-min=19.1km az=136.0*
*JMA **08** 05:33:04.2±0.1, 37°.5N±0°.4×141°.8E±0°.8, h38km±2km, MD3.9/40, MV4.0/40, E OFF FUKUSHIMA PREF*
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
*NIED **08** 05:33:04.2, 37°.51N×141°.76E, h38km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10^14Nm; Mrr=0.46; Mθθ=0.25; Mφφ=0.71; Mrθ=5.59; Mθφ=-1.10; Mrφ=0.68; Fault plane solution: M0=5.72000×10^14 NP1: φs=266.00000°, δ=90.00000°, λ=-100.00000°. NP2: φs=174.00000°, δ=10.00000°, λ=-1.00000°.*
ISC 08 05:33:03.9±1.4, 37°.46N±0°.04×141°.70E±0°.06, h33km±5km, n35, σ0s90/42, mb3.7/11, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.66**	**263**	*i* P	**Pn**	**05 33 17.9**	**+0.9**
JFK				S	**Sb**	**05 33 27.1**	**+0.9**
JFK	**Kawauchi**	**0.66**	**263**	A	A	05 33 17.9	
	comp=E,3.0nm,1.1s,comp=N,5.0nm,0.3s						
JMST	**Minamisoumatoc**	**0.70**	**293**	⇓*i* P	**Pn**	**05 33 17.9**	**+0.5**
JMST				⇓*e*S	**Sb**	**05 33 27.3**	**+0.3**
ONAJ	**Iwakimizuishiy**	**0.80**	**244**	*i* P	**Pb**	**05 33 19

	comp=N,0.5nm,0.7s								
WRA	**Warramunga Arr**	**57.51**	**188**	P		**P**	**05 42 49.9**	**0.0**	
	comp=N,0.6nm,0.6s,baz=5.6,slow=7.0,SNR=3.5								
	comp=N,0.6nm,0.6s								
YKA	**Yellowknife Ar**	**63.33**	**30**	P		**P**	**05 43 29.1**	**-0.2**	
	comp=N,0.2nm,0.7s,baz=301,slow=6.3,SNR=3.6								
	comp=N,0.2nm,0.7s								
FINES	**FINESS Array B**	**68.55**	**332**	P		**P**	**05 44 02.6**	**-0.1**	
	comp=N,1.1nm,0.7s,baz=57,slow=10,SNR=5.5								
	comp=N,1.1nm,0.7s								
HFS	**Hagfors**	**73.80**	**336**	P		**P**	**05 44 34.9**	**+0.3**	
	comp=N,0.8nm,0.5s,baz=40,slow=4.8,SNR=6.9								
	comp=N,0.8nm,0.5s								
NOA	**NORSAR Array B**	**73.89**	**337**	LR		LR	06 21 07.7		
	comp=N,10nm,19.3s,baz=315,slow=39								
NVAR	**Mina Array Bea**	**74.55**	**53**	P		**P**	**05 44 39.6**	**-0.1**	
	comp=N,0.2nm,0.5s,baz=308,slow=4.4,SNR=2.9								
	comp=N,0.2nm,0.5s								
PDAR	**Pinedale Array**	**77.21**	**46**	P		**P**	**05 44 55.0**	**+0.2**	
	comp=N,0.3nm,0.6s,baz=298,slow=1.9,SNR=2.7								
	comp=N,0.3nm,0.6s								
TXAR	**Lajitas Array**	**89.68**	**53**	P		**P**	**05 45 59.0**	**+0.1**	
	comp=N,0.3nm,0.5s,baz=298,slow=3.8,SNR=5.3								
	comp=N,0.3nm,0.5s								

IDC 08 05:42:51.0±25.0, 22°.03S×176°.41W, h170km±202km, mb3.5/4, mbtmp4.0/4, Error ellipse: s-maj=185.1km s-min=58.0km az=135.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.63**	**258**	P	P	05 50 55.4	+0.7
	1.3nm,0.6s,baz=94,slow=7.9,SNR=16						
ASAR				PcP	PcP	05 52 29.9	-0.2
	0.6nm,0.5s,baz=107,slow=3.7,SNR=4.6						
	1.3nm,0.6s						
WRA	**Warramunga Arr**	**45.87**	**263**	P	P	05 50 56.0	-0.6
	0.2nm,0.3s,baz=104,slow=7.9,SNR=10						
	0.2nm,0.3s						
ILAR	**Eielson Array**	**89.48**	**12**	P	P	05 55 29.7	+1.5
	0.2nm,0.4s,baz=205,slow=6.0,SNR=2.0						
	0.2nm,0.4s						
CMAR	**Chiang Mai Arr**	**92.02**	**289**	P	P	05 55 40.5	-0.6
	1.1nm,0.3s,baz=100,slow=2.4,SNR=4.2						
	1.1nm,0.3s						
HFS	**Hagfors**	**141.27**	**352**	PKhKP	PKPpre	06 01 55.4	
	0.3nm,0.5s,baz=25,slow=2.9,SNR=1.2						
AKASG	**Malin Array Be**	**145.06**	**331**	PKPbc	PKPbc	06 02 05.7	-2.0
	1.5nm,0.5s,baz=44,slow=4.1,SNR=13						

*NNC **08** 05:49:20.9±3.8, 43°.31N×84°.12E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=27.7km s-min=17.5km az=135.0*
*SOME **08** 05:49:21.0, 43°.23N×84°.22E, h15km*
ISC 08 05:49:18.3±2.6, 43°.2N±0°.1×84°.26E±0°.10, h10km, n14, σ1s61/20, 2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**2.86**	**276**	Pg	**Pb**	**05 50 11.0**	**+1.5**
	0.4nm,0.3s						
KTMS				Lg	Lg	05 50 50.0	
	6.3nm,0.6s						
KTMS	**Ketmen**	**2.86**	**276**	*e*P	**Pg**	**05 50 13.2**	**+0.1**
	0.5nm,0.1s						
KTMS				*e*S	**Sg**	**05 50 52.4**	**+2.3**
	4.3nm,0.1s						
DJR	**Jarkent**	**3.42**	**291**	Pg	**Pb**	**05 50 19.8**	**+0.7**
	0.5nm,0.5s						
DJR				Lg	Lg	05 51 05.6	
	3.9nm,0.6s						
DJR	**Jarkent**	**3.42**	**291**	*e*P	**Pg**	**05 50 23.2**	**-0.7**
	0.5nm,0.1s						
DJR				*e*S	**Sg**	**05 51 08.4**	**+0.1**
	3.0nm,0.2s						
PDGK	**Podgornoye**	**3.48**	**274**	Pg	**Pb**	**05 50 22.8**	**+2.7**
	0.3nm,0.3s						
PDGK				Lg	Lg	05 51 10.6	
	2.9nm,0.5s						
SHLS	**Shalkode**	**3.51**	**271**	Pg	**Pb**	**05 50 18.5**	**-2.0**
	4.8nm,0.4s						
SHLS				Lg	Lg	05 51 03.0	
	14nm,0.9s						
SHLS	**Shalkode**	**3.51**	**271**	*e*P	**Pb**	**05 50 20.5**	**0.0**
	10nm,0.3s						
SHLS				*e*S	**Sb**	**05 51 04.4**	**+1.2**
	12nm,0.1s						
KNOS	**Konyrlen**	**3.85**	**289**	Pg	**Pb**	**05 50 26.3**	**-0.1**
	2.1nm,0.3s						
KNOS				Lg	Lg	05 51 16.7	
	4.7nm,0.6s						
MAKZ	**Makanchi**	**3.95**	**337**	⇓Pg	**Pg**	**05 50 33.2**	**-0.7**
	1.9nm,0.5s						
MAKZ				⇓Lg	Lg	05 51 20.0	
	3.5nm,0.6s						
KAPS	**Kapalarasan**	**4.09**	**302**	Pg	**Pb**	**05 50 32.2**	**+1.8**
	1.6nm,0.1s						
KAPS				Lg	Lg	05 51 26.2	
	4.9nm,0.4s						
KAPS	**Kapalarasan**	**4.09**	**302**	*e*P	**Pg**	**05 50 34.6**	**-1.9**
	1.4nm,0.1s						
KAPS				*e*S	**Sg**	**05 51 27.9**	**-1.6**
	4.9nm,0.4s						
ZSN	**Zaisan**	**4.26**	**6**	*e*P	**Pg**	**05 50 39.1**	**-0.8**
	1.9nm,0.2s						
ZSN				*e*S	**Sg**	**05 51 35.0**	**-0.2**
	6.4nm,0.3s						
SATY	**Saty**	**4.29**	**270**	Pg	**Pb**	**05 50 35.5**	**+1.8**
	2.5nm,0.5s						
SATY				Lg	Lg	05 51 32.1	
	8.3nm,0.4s						
SATY	**Saty**	**4.29**	**270**	*e*P	**Pg**	**05 50 37.8**	**-2.5**
	3.9nm,0.2s						
SATY				*e*S	**Sg**	**05 51 34.2**	**-1.7**
	4.8nm,0.1s						

*IDC **08** 05:49:30.6±2.6, 2°.15N×96°.16E, h0km, mb3.7/6, mbtmp3.7/7, ML4.2/1, Error ellipse: s-maj=98.2km s-min=29.8km az=56.0*
ISC 08 05:49:34.1±2.1, 2°.1N±0°.3×96°.1E±0°.4, h27km, n19, σ0s46/7, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**16.52**	**10**	Pn	**Pn**	**05 53 24.4**	**+0.3**
	0.4nm,0.3s,baz=198,slow=11,SNR=1.2						
	0.6nm,0.3s						
H08S2	**Diego Garcia H**	**25.42**	**247**	T	T	06 21 35.1	
	baz=68,slow=76,SNR=56						
H08S3	**Diego Garcia H**	**25.42**	**247**	T	T	06 21 37.2	
	baz=68,slow=76,SNR=47						
H08S1	**Diego Garcia H**	**25.43**	**247**	T	T	06 21 38.4	
	baz=68,slow=76,SNR=51						
H01W3	**Cape Leeuwin H**	**40.49**	**157**	T	T	06 40 05.8	
	baz=333,slow=76,SNR=23						
H01W2	**Cape Leeuwin H**	**40.50**	**157**	T	T	06 40 06.7	
	baz=333,slow=76,SNR=29						
H01W1	**Cape Leeuwin H**	**40.51**	**157**	T	T	06 40 06.9	
	baz=333,slow=76,SNR=21						
WRA	**Warramunga Arr**	**43.47**	**122**	P	**P**	**05 57 35.4**	**+0.1**
	0.3nm,0.7s,baz=302,slow=9.0,SNR=1.4						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**46.12**	**347**	P	**P**	**05 57 56.5**	**+0.4**
	1.3nm,0.8s,baz=159,slow=7.8,SNR=7.5						
	1.3nm,0.8s						
SONM	**Songino Array**	**46.45**	**10**	P	**P**	**05 57 58.1**	**-0.7**
	0.5nm,0.4s,baz=183,slow=10.0,SNR=3.3						
	0.5nm,0.4s						
KURBB	**Kurchatov Array**	**50.60**	**346**	P	**P**	**05 58 30.6**	**+0.2**
	0.3nm,0.4s,baz=170,slow=6.0,SNR=4.7						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**52.52**	**352**	P	**P**	**05 58 45.1**	**+0.3**
	2.3nm,0.5s,baz=161,slow=6.2,SNR=6.8						
	2.3nm,0.5s						
BVAR	**Borovoye Array**	**55.05**	**341**	P	**P**	**05 59 03.3**	**-0.1**
	0.8nm,0.7s,baz=134,slow=8.3,SNR=4.1						
	0.8nm,0.7s						
H04N2	**CROZET ISLANDS**	**61.87**	**213**	T	T	07 07 06.9	
	baz=53,slow=75,SNR=106						
H04N1	**CROZET ISLANDS**	**61.88**	**213**	T	T	07 07 03.9	
	baz=53,slow=75,SNR=97						
H04N3	**CROZET ISLANDS**	**61.88**	**213**	T	T	07 07 06.2	
	baz=53,slow=75,SNR=102						
H04S1	**CROZET ISLANDS**	**62.22**	**213**	T	T	07 07 27.2	
	baz=52,slow=76,SNR=23						
H04S3	**CROZET ISLANDS**	**62.23**	**213**	T	T	07 07 29.4	
	baz=52,slow=76,SNR=34						
H04S2	**CROZET ISLANDS**	**62.24**	**213**	T	T	07 07 27.9	
	baz=52,slow=76,SNR=23						

*UPP **08** 05:50:23.3±2.8, 59°.77N×24°.46E, h0km, ML2.9*
*DNK **08** 05:50:23.4±1.9, 59°.71N×24°.41E, h0km, ML2.5, ML2.9(UPP), Suspected explosion*
*HEL **08** 05:50:24.7±0.0, 59°.73N×24°.22E, h0km, ML2.6, Explosion*
*EST **08** 05:50:24.7, 59°.73N×24°.22E, h0km, ML2.6(HEL), Explosion*
*IDC **08** 05:50:25.2±2.0, 59°.76N×24°.34E, h0km, mbtmp3.3/3, ML2.7/3, Error ellipse: s-maj=24.5km s-min=8.3km az=153.0*
ISC 08 05:50:22.9±0.7, 59°.72N±0°.02×24°.25E±0°.02, h0km, n52, σ1s94/75, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.50**	**9**	*e*P	**Pg**	**05 50 33.8**	**+1.2**
MEF	**Metsahovi**	**0.50**	**9**	*e*P	**Pg**	**05 50 33.7**	**+1.2**
MEF				*e*S	**Sg**	**05 50 39.9**	**+0.9**
HEL1	**Helsinki**	**0.56**	**35**	*e*P	**Pg**	**05 50 34.7**	**+1.2**
HEL1				*e*S	**Sg**	**05 50 41.6**	**+0.8**
EE02	**Kiisa, Saku**	**0.58**	**156**	*e*P	**Pg**	**05 50 35.4**	**+1.4**
EE02				*e*S	**Sg**	**05 50 43.0**	**+1.5**
EE01	**Perakula, Nova**	**0.61**	**212**	*e*P	**Pg**	**05 50 35.5**	**+1.0**
EE01				*e*S	**Sg**	**05 50 43.4**	**+1.1**
NUR	**Nurmijrvi**	**0.81**	**14**	*e*P	**Pg**	**05 50 39.3**	**+0.8**
NUR				*e*S	**Sg**	**05 50 48.7**	**-0.3**
ARBE	**Arbavere**	**0.93**	**107**	*e*P	**Pg**	**05 50 41.9**	**+1.2**
ARBE	**Arbavere**	**0.93**	**107**	*e*P	**Pg**	**05 50 41.8**	**+1.0**
ARBE				*e*S	**Sg**	**05 50 53.1**	**+0.4**
MTSE	**Matsula**	**1.04**	**193**	*e*P	**Pg**	**05 50 44.0**	**+1.3**
MTSE	**Matsula**	**1.04**	**193**	*e*P	**Pg**	**05 50 43.6**	**+0.9**
MTSE				*e*S	**Sg**	**05 50 57.5**	**+1.4**
PVF	**Pernaja**	**1.16**	**44**	*e*P	**Pg**	**05 50 45.5**	**+0.5**
PVF				*e*S	**Sg**	**05 51 00.2**	**+0.3**
EE08	**Sarghaua, Vand**	**1.19**	**154**	*e*P	**Pg**	**05 50 46.3**	**+0.7**
EE08				*e*S	**Sg**	**05 51 01.4**	**+0.5**
RAF	**Rauma**	**1.79**	**318**	*e*P	**Pn**	**05 50 57.0**	**+1.9**
RAF				IAML		05 51 24.4	
	comp=Z,59nm,0.2s						
RAF	**Rauma**	**1.79**	**318**	*e*Pg	**Pn**	**05 50 56.7**	**+1.6**
RAF				MSG		05 51 24.3	
	comp=Z,55nm,0.2s						
VSU	**Vasula**	**1.80**	**133**	*e*Pg	**Pb**	**05 50 57.2**	**+0.5**
VSU				*e*Sn	**Sb**	**05 51 20.8**	**+0.9**
VJF	**Virojoki**	**1.85**	**62**	*e*P	**Pn**	**05 50 57.3**	**+1.5**
VJF				*e*Sn	**Sb**	**05 51 21.5**	**+0.4**
VJF				MSG		05 51 25.2	
	comp=Z,49nm,0.1s						
FIA0	**FINESS Array S**	**1.95**	**27**	MSG		05 51 27.5	
	comp=Z,56nm,0.2s						
FINES	**FINESS Array B**	**1.95**	**27**	Pn	**Pb**	**05 50 59.4**	**+0.1**
	comp=Z,17nm,0.3s,baz=205,slow=14,SNR=556						
FINES				Sn	**Sb**	**05 51 25.2**	**+1.2**
	comp=Z,14nm,0.3s,baz=212,slow=23,SNR=37						
FIA1	**FINESS Array S**	**1.95**	**27**	MSG		05 51 27.4	
	comp=Z,51nm,0.2s						
AAL	**Aland**	**2.19**	**284**	*e*P	**Pn**	**05 51 02.6**	**+2.1**
AAL				IAML		05 51 34.7	
	comp=Z,11nm,0.2s						
AAL	**Aland**	**2.19**	**284**	P	**Pn**	**05 51 02.5**	**+2.0**
AAL				S	**Sb**	**05 51 31.6**	**+0.7**
AAL	**Aland**	**2.19**	**284**	P	**Pn**	**05 51 02.5**	**+2.0**
AAL				S	**Sb**	**05 51 31.6**	**+0.7**
SLIT	**Slitere, Latvi**	**2.34**	**207**	*e*P	**Pb**	**05 51 05.8**	**0.0**
KEF	**Keuruu**	**2.47**	**7**	*e*P	**Pb**	**05 51 08.1**	**0.0**
KEF				IAML		05 51 41.5	
	comp=Z,1μm,0.2s						
NRTU	**Norrtaelje**	**2.85**	**271**	P	**Pn**	**05 51 11.6**	**+2.1**
NRTU	**Norrtaelje**	**2.85**	**271**	P	**Pn**	**05 51 11.6**	**+2.1**
GRAU	**Graesoe**	**2.93**	**285**	P	**Pn**	**05 51 11.7**	**+1.0**
GRAU	**Graesoe**	**2.93**	**285**	P	**Pn**	**05 51 11.7**	**+1.0**
FORU	**Forsmark**	**3.11**	**285**	P	**Pn**	**05 51 15.7**	**+2.5**
FORU	**Forsmark**	**3.11**	**285**	P	**Pn**	**05 51 15.7**	**+2.5**
FLYU	**Flymyra**	**3.23**	**280**	P	**Pn**	**05 51 16.2**	**+1.5**
FLYU	**Flymyra**	**3.23**	**280**	P	**Pn**	**05 51 16.2**	**+1.5**
UPP	**Uppsala**	**3.35**	**275**	P	**Pn**	**05 51 18.1**	**+1.6**
UPP	**Uppsala**	**3.35**	**275**	P	**Pn**	**05 51 18.1**	**+1.6**
VAF	**Ylistaro**	**3.42**	**348**	*e*P	**Pn**	**05 51 21.4**	**+4.1**
FIBU	**Brunna**	**3.49**	**276**	P	**Pn**	**05 51 20.1**	**+1.8**
FIBU	**Brunna**	**3.49**	**276**	P	**Pn**	**05 51 20.1**	**+1.8**
VIKU	**Vikbolandet**	**4.08**	**256**	*e*P	**Pn**	**05 51 28.1**	**+1.7**
PABE	**Paberze**	**4.23**	**182**	*e*P	**Pn**	**05 51 26.1**	**-2.5**
JOF	**Joensuu**	**4.68**	**44**	*e*P	**Pn**	**05 51 35.4**	**+0.7**
HFS	**Hagfors**	**5.32**	**279**	Pn	**Pn**	**05 51 45.1**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=106,slow=13,SNR=38						
HFS				Pg	**Pb**	**05 51 57.9**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=106,slow=14,SNR=7.2						
HFS				Sn	**Sn**	**05 52 43.9**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=90,slow=33,SNR=6.4						
HFS				Lg	Lg	05 53 06.2	
	comp=Z,1.6nm,0.3s,baz=94,slow=33,SNR=8.1						
	comp=Z,1.6nm,0.2s						
BLEU	**Blekinge**	**5.64**	**236**	*i* S	**Sn**	**05 52 52.8**	**-0.5**
BORU	**Boraas**	**6.34**	**256**	*i* P	**Pn**	**05 51 59.0**	**+1.5**
BORU				*i* S	**Sn**	**05 53 09.4**	**-1.1**
DEL	**Delary**	**6.39**	**244**	*e*P	**Pn**	**05 51 59.9**	**+1.7**
DEL	**Delary**	**6.39**	**244**	*i* P	**Pn**	**05 52 00.0**	**+1.8**
DEL				*i* S	**Sn**	**05 53 08.7**	**-3.2**
NOA	**NORSAR Array B**	**6.59**	**287**	Pn	**Pn**	**05 52 01.3**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=95,slow=14,SNR=11						
NOA				Sn	**Sn**	**05 53 15.5**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=114,slow=20,SNR=2.0						
NOA				Lg	Lg	05 53 53.0	
	comp=Z,0.1nm,0.3s,baz=137,slow=12,SNR=2.7						
	comp=Z,0.2nm,0.3s						
FABU	**Falkenberg**	**6.65**	**251**	*i* P	**Pn**	**05 52 01.6**	**-0.2**
FABU				*i* S	**Sn**	**05 53 15.0**	**-3.1**
STRU	**Stroemstad**	**6.71**	**270**	*i* P	**Pn**	**05 52 03.3**	**+0.8**
STRU				*i* S	**Sn**	**05 53 16.5**	**-3.1**
TJOU	**Tjoern**	**6.76**	**261**	*i* P	**Pn**	**05 52 03.3**	**+0.1**
TJOU				*i* S	**Sn**	**05 53 18.0**	**-2.8**
BSD	**Bornholm Skovb**	**6.83**	**232**	*i* P	**Pn**	**05 52 06.7**	**+2.4**
BSD				*i* S	**Sn**	**05 53 18.6**	**-4.1**
BSD				IAML		05 53 21.6	
	comp=Z,1.7nm,0.2s						
ONAU	**Onsala**	**6.86**	**255**	*i* P	**Pn**	**05 52 05.1**	**+0.5**
ONAU				*i* S	**Sn**	**05 53 16.9**	**-6.4**
ARCES	**ARCESS Array B**	**9.87**	**3**	Pn	**Pn**	**05 52 46.2**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=177,slow=13,SNR=55						
ARCES				Sn	**Sn**	**05 54 30.9**	**-6.3**
	comp=Z,0.2nm,0.3s,baz=182,slow=23,SNR=1.7						
ARCES				Lg	Lg	05 55 27.3	
	comp=Z,0.2nm,0.3s,baz=176,slow=30,SNR=1.8						
	comp=Z,0.8nm,0.2s						

*IDC **08** 06:01:21.2±1.8, 6°.11S×143°.36E, h0km, mb3.8/4, mbtmp3.8/6, ML4.0/2, MS3.1/2, Error ellipse: s-maj=66.9km s-min=23.2km az=110.0*
ISC 08 06:01:26.0±1.7, 6°.4S±0°.2×143°.0E±0°.5, h35km, n8, σ2s68/8, mb3.8/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.86**	**211**	Pn	**P**	**06 05 09.6**	**-0.6**
	0.5nm,0.3s,baz=31,slow=13,SNR=17						
WRA				Sn	**Sn**	**06 07 59.4**	**-2.2**
	0.3nm,0.3s,baz=27,slow=21,SNR=2.1						
WRA				Lg	Lg	06 09 57.2	
	baz=38,slow=23						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**19.25**	**206**	P	**Pn**	**06 05 53.4**	**+4.6**
	0.5nm,0.3s,baz=32,slow=10,SNR=53						
ASAR				S	**S**	**06 09 22.1**	**-1.9**
	0.6nm,0.4s,baz=20,slow=28,SNR=2.9						
ASAR				Lg	Lg	06 11 46.9	
	baz=27,slow=29,SNR=2.4						
	6.2nm,0.8s						
DAV	**Davao City (W)**	**21.93**	**307**	LR	LR	06 15 37.5	
	comp=Z,32nm,20.1s,baz=348,slow=39						
KAPI	**Kappang**	**23.16**	**272**	LR	LR	06 17 58.8	
	comp=Z,57nm,18.4s,baz=117,slow=42						
MKAR	**Makanchi Array**	**75.31**	**322**	P	**P**	**06 13 06.0**	**+0.3**
	0.5nm,0.7s,baz=129,slow=8.2,SNR=3.7						
	0.5nm,0.7s						
KURBB	**Kurchatov Array**	**79.19**	**324**	P	**P**	**06 13 29.2**	**+1.8**
	0.2nm,0.6s,baz=120,slow=4.2,SNR=2.7						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**84.77**	**325**	P	**P**	**06 13 56.7**	**+0.1**
	1.1nm,0.7s,baz=103,slow=6.5,SNR=6.5						
	1.1nm,0.7s						
ILAR	**Eielson Array**	**87.44**	**24**	P	**P**	**06 14 07.9**	**-1.6**
	0.6nm,0.7s,baz=260,slow=4.5,SNR=8.3						
	0.6nm,0.7s						

*IDC **08** 06:18:40.0±1.2, 12°.95S×76°.13W, h92km±16km, mb3.5/2, mbtmp3.7/5, Error ellipse: s-maj=36.5km s-min=18.8km az=56.0*
ISC 08 06:18:40.1±1.1, 13°.0S±0°.1×76°.2W±0°.2, h100km, n7, σ0s69/9, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**1.17**	**328**	P	**Pn**	**06 19 02.1**	**-0.5**
	110nm,0.3s,baz=152,slow=13,SNR=145						
NNA				S	**Sn**	**06 19 18.8**	**-0.7**
	2μm,0.4s,baz=90,slow=19,SNR=165						
ATAH	**Atahualpa**	**6.20**	**339**	P	**Pn**	**06 20 10.2**	**+0.6**
	1.9nm,0.5s,baz=154,slow=10.0,SNR=1.4						
ATAH				S	**Sn**	**06 21 19.3**	**0.0**
	6.6nm,0.4s,baz=225,slow=1.4,SNR=1.7						
LPAZ	**La Paz**	**8.47**	**114**	P	**Pn**	**06 20 39.5**	**-1.1**
	1.7nm,0.4s,baz=306,slow=8.2,SNR=26						
SIV	**San Ignacio**	**14.95**	**103**	P	**Pn**	**06 22 06.8**	**+0.4**
	1.1nm,0.8s,baz=282,slow=12,SNR=3.7						
PLCA	**Paso Flores**	**28.08**	**171**	P	**P**	**06 24 22.9**	**+0.6**
	1.1nm,0.9s,baz=330,slow=8.5,SNR=5.0						
	1.1nm,0.9s						
TORD	**Torodi Ar. Bea**	**81.45**	**74**	P	**P**	**06 30 47.0**	**+0.1**
	0.8nm,0.8s,baz=245,slow=3.8,SNR=4.3						
	0.8nm,0.8s						
WRA	**Warramunga Arr**	**135.57**	**223**	PKP	**PKiKP**	**06 37 51.2**	**0.0**
	0.6nm,1.1s,baz=127,slow=2.2,SNR=1.8						

*NEIC **08** 06:22:44.5±0.4, 19°.22N±0°.03×155°.49W±0°.05, h32km±15km, Error ellipse: s-maj=7.5km s-min=3.3km az=64.0*
HVO 08 06:22:45.0±1.0, 19°.17N±0°.06×155°.46W±0°.05, h33km±7km, Md1.8/14, ML2.4/12(NEIC), Error ellipse: s-maj=8.2km s-min=6.2km az=165.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.09**	**42**		Pb	06 22 50.5	-0.4
KHU	**Kahuku**	**0.16**	**299**		Pb	06 22 50.9	-0.7
KHU					Sb	06 22 54.8	-1.3
KHU	**Kahuku**	**0.16**	**299**	IAML		06 22 56.4	
	comp=N,287nm,1.7s						
KHU				IAML		06 23 01.7	
	comp=E,448nm,3.2s						
HLP	**Hilina Pali**	**0.20**	**49**		Pn	06 22 51.0	+0.2
HLP	**Hilina Pali**	**0.20**	**49**	IAML		06 22 56.8	
	comp=N,665nm,0.8s						
HLP				IAML		06 22 57.9	
	comp=E,856nm,1.6s						
MLH	**Mauna Loa**	**0.33**	**13**		Pb	06 22 52.2	-1.2
MLH	**Mauna Loa**	**0.33**	**13**	IAML		06 22 56.5	
	comp=N,401nm,1.6s						
MLH				IAML		06 23 03.6	
	comp=E,400nm,1.8s						
MWH	**Moku'aweowe**	**0.34**	**338**	IAML		06 22 59.5	
	comp=N,405nm,1.7s						
MWH	**Moku'aweowe**	**0.34**	**338**		Pb	06 22 52.4	-1.4
MWH					Sn	06 22 58.1	-1.1
MLOA	**Mauna Loa Obse**	**0.38**	**344**	Pg	Pb	06 22 52.8	-1.5
MLOA				IAML		06 23 02.5	
	comp=N,276nm,2.9s						
MLOA				IAML		06 23 10.3	
	comp=E,242nm,1.5s						
ALEP	**Alea Permanent**	**0.41**	**335**		Pb	06 22 53.0	-1.6
ALEP					Sb	06 22 58.6	-2.5
HMH	**Humu'ula Sheep**	**0.43**	**358**		Pb	06 22 53.6	-1.2
HMH	**Humu'ula Sheep**	**0.43**	**358**	IAML		06 22 58.6	
	comp=E,190nm,4.1s						
HMH				IAML		06 23 04.8	
	comp=N,199nm,2.7s						

*NEIC **08** 06:28:38.5±1.6, 62°.03N±0°.01×149°.56W±0°.04, h35km±18km, Error ellipse: s-maj=2.9km s-min=1.8km az=108.0*
*AEIC **08** 06:28:39.0±1.2, 62°.01N±0°.02×149°.59W±0°.02, h34km±7km, ML3.4, ML3.6/206(NEIC), Error ellipse: s-maj=3.3km s-min=1.5km az=180.0*
ISC 08 06:28:38.5±1.0, 62°.01N±0°.02×149°.58W±0°.02, h33km±4km, n286, σ0s71/257, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
M22K	**Willow**	**0.36**	**225**		**Pb**	**06 28 46.6**	**-0.4**
M22K				IAML		06 28 54.4	
	comp=E,5μm,0.4s						
M22K				IAML		06 28 54.9	
	comp=N,6μm,0.6s						
M22K	**Willow**	**0.36**	**225**		**Sb**	**06 28 54.1**	**+1.2**
M22K	**Willow**	**0.36**	**225**	P	**Pb**	**06 28 46.6**	**-0.4**
	baz=43						
M22K				S	**Sb**	**06 28 53.9**	**+1.0**
	baz=43						
GHO	**Glory Hole Cre**	**0.39**	**127**		**Pb**	**06 28 47.4**	**-0.1**
GHO					**Sb**	**06 28 54.8**	**+1.1**
GHO	**Glory Hole Cre**	**0.39**	**127**	IAML		06 28 55.3	
	comp=E,9μm,0.4s						
GHO				IAML		06 28 55.7	
	comp=N,9μm,0.5s						
PMR	**Palmer**	**0.47**	**153**		**Pb**	**06 28 47.8**	**-0.8**
PMR				IAML		06 28 55.9	
	comp=E,3μm,0.5s						
PMR	**Palmer**	**0.47**	**153**		**Sb**	**06 28 55.6**	**+0.1**
PMR	**Palmer**	**0.47**	**153**	P	**Pb**	**06 28 47.7**	**-0.8**
	baz=333						
PMR			

RC01 IAML 06 29 10.1
comp=E,3µm,0.3s
RC01 Rabbit Creek A 0.93 185 Sn 06 29 07.3 0.0
RC01 Rabbit Creek A 0.93 185 P Pn 06 28 54.0 -1.1
baz=4.3
RC01 S Sn **06 29 07.1 -0.2**
baz=4.3
WAT1 Susitna Watana 0.95 30 Sn 06 29 07.6 -0.4
WAT1 Susitna Watana 0.95 30 P Pn 06 28 54.7 -0.9
baz=211
WAT1 S Sn **06 29 07.6 -0.4**
baz=211
WAT6 Susitna Watana 1.03 56 Pn 06 28 55.8 -1.0
WAT6 Susitna Watana 1.03 56 P Pn 06 28 55.7 -1.0
baz=238
SCM Sheep Creek Mo 1.08 98 Pn 06 28 56.8 -0.6
SCM Sheep Creek Mo 1.08 98 IAML 06 29 13.9
comp=E,2µm,0.7s
SCM Sheep Creek Mo 1.08 98 P Pn 06 28 56.6 -0.8
baz=281
STLK Strandline Lak 1.19 245 Sn 06 29 13.9 +0.1
SPCG Spurr Capps Gl 1.37 239 Sn 06 29 19.4 +1.0
SPCP Crater Peak Br 1.44 240 Pn 06 29 01.8 -0.5
SPCP Sn **06 29 21.0 +0.9**
CRP Crater Peak 1.44 240 Pn 06 29 01.9 -0.4
CRP Sn **06 29 21.4 +1.3**
RND Reindeer 1.44 13 Pn Pn 06 29 02.0 -0.3
RND IAML 06 29 26.0
comp=E,512nm,0.5s
CAPN Captain Cook N 1.46 212 Pn 06 29 03.6 +1.1
DHY Denali Highway 1.48 43 Pn 06 29 02.4 -0.5
DHY IAML 06 29 26.3
comp=E,554nm,0.3s
DHY Denali Highway 1.48 43 Sb 06 29 22.7 -1.3
DHY Denali Highway 1.48 43 P Pn 06 29 02.2 -0.7
baz=225
TRF Thorofare Moun 1.48 348 Pn Pn 06 29 02.7 -0.3
TRF Thorofare Moun 1.48 348 P Pn 06 29 02.6 -0.3
baz=167
PPLA Purkeypile 1.50 307 Pn 06 29 03.0 -0.2
PPLA Purkeypile 1.50 307 P Pn 06 29 03.0 -0.2
baz=125
O22K Cooper Landing 1.54 183 Pn 06 29 03.1 -0.4
O22K Cooper Landing 1.54 183 P Pn 06 29 03.0 -0.5
baz=2.3
SLKM Skilak Lake 1.54 192 Pn 06 29 02.7 -0.9
SLKM Sn **06 29 22.9 +0.4**
M24K Tolsona, Glenn 1.61 85 Pn 06 29 05.2 +0.7
M24K IAML 06 29 28.2
comp=N,1µm,0.9s
M24K Tolsona, Glenn 1.61 85 P Pn 06 29 05.0 +0.5
baz=268
SPNN North Nagishla 1.62 248 Pn 06 29 04.3 -0.6
GLI Glacier Island 1.65 132 Pn 06 29 05.0 -0.1
GLI Glacier Island 1.65 132 P Pn 06 29 04.8 -0.3
baz=315
KTH Kantishna Hill 1.67 339 Pn Pn 06 29 05.2 -0.2
KTH IAML 06 29 27.0
comp=N,641nm,0.4s
KTH IAML 06 29 27.2
comp=E,528nm,0.6s
KTH Kantishna Hill 1.67 339 Sn 06 29 26.0 +0.4
M20K Styx River 1.68 267 Pn 06 29 05.5 -0.2
M20K Styx River 1.68 267 IAML 06 29 28.3
comp=E,348nm,0.4s
MCK McKinley 1.75 9 Pn 06 29 06.7 +0.1
MCK McKinley 1.75 9 P Pn 06 29 06.6 +0.1
baz=190
KLU Klutina 1.82 105 Pn 06 29 07.3 -0.2
KLU IAML 06 29 36.2
comp=N,591nm,0.5s
KLU IAML 06 29 37.4
comp=E,552nm,0.5s
KLU Klutina 1.82 105 P Pn 06 29 07.3 -0.2
baz=288
CAST Castle Rocks 1.82 322 Pn Pn 06 29 07.2 -0.4
CAST Castle Rocks 1.82 322 P Pn 06 29 07.2 -0.4
baz=140
SEW Seward 1.91 178 Pn 06 29 07.2 -1.5
SEW Seward 1.91 178 P Pn 06 29 08.6 -0.1
baz=358
FID Port Fidalgo 1.96 129 Pn 06 29 08.7 -0.6
FID Sn **06 29 34.5 +1.8**
DIV Divide 2.02 114 Pn 06 29 09.9 -0.4
DIV Sn **06 29 36.0 +1.5**
L20K Farewell, AK 2.07 285 Pn 06 29 10.3 -0.5
RDJH Redoubt Jeurge 2.11 229 Pn 06 29 11.4 -0.1
HARP HAARP 2.11 77 P Pn 06 29 12.3 +0.9
baz=262
PAX Paxson 2.14 61 Pn 06 29 12.4 +0.5
PAX Paxson 2.14 61 P Pn 06 29 12.4 +0.5
baz=245
BWN Browne 2.17 1 Pn 06 29 12.5 +0.3
BWN Browne 2.17 1 IAML 06 29 51.6
comp=E,449nm,0.8s
BWN IAML 06 29 60.0
comp=N,471nm,1.1s
NCT North Crescent 2.17 230 Pn 06 29 12.2 -0.2
RSO Redoubt South 2.18 226 Pn 06 29 12.4 -0.2
BPAW Bear Paw Mtn. 2.19 344 Pn Pn 06 29 12.1 -0.6
BPAW IAML 06 29 41.3
comp=N,226nm,0.4s
BPAW Bear Paw Mtn. 2.19 344 P Pn 06 29 12.0 -0.6
baz=162
RDWB Redoubt West 2.19 227 Sn 06 29 41.3 +2.5
HIN Hinchinbrook I 2.20 136 Pn 06 29 12.9 +0.2
CHUM Lake Minchumin 2.26 328 Pn 06 29 13.3 -0.2
M19K Big River Lodg 2.28 269 Pn 06 29 13.2 -0.5
M19K Big River Lodg 2.28 269 IAML 06 29 58.8
comp=N,224nm,0.8s
M19K IAML 06 29 59.3
comp=E,225nm,0.6s
P23K Montague Islan 2.28 151 Pn 06 29 12.7 -1.1
P23K Montague Islan 2.28 151 P Pn 06 29 12.6 -1.2
baz=333
BRLK Bradley Lake 2.34 196 Pn 06 29 15.7 +1.0
BRLK Bradley Lake 2.34 196 IAML 06 29 50.3
comp=N,303nm,0.6s
BRLK IAML 06 29 52.1
comp=E,372nm,0.5s
BRSE Bradley Lake S 2.35 195 Pn 06 29 13.4 -1.3
BRSE Bradley Lake S 2.35 195 P Pn 06 29 15.5 +0.8
baz=13
EYAK Cordova Ski Ar 2.36 127 Pn 06 29 14.4 -0.4
EYAK Cordova Ski Ar 2.36 127 P Pn 06 29 15.5 +0.7
baz=310
N25K Chitina, Valde 2.40 98 IAML 06 29 50.5
comp=E,272nm,0.6s
N25K IAML 06 29 50.8
comp=N,511nm,0.4s
N25K Chitina, Valde 2.40 98 P Pn 06 29 15.5 0.0
baz=282
O20K Slope Mountain 2.44 219 P Pn 06 29 15.5 -0.5
baz=36
K20K Telida 2.47 305 Pn 06 29 16.3 -0.1
L19K White Mountain 2.49 276 Pn Pn 06 29 16.4 -0.3
L19K IAML 06 29 48.8
comp=E,221nm,0.4s
L19K IAML 06 29 48.8
comp=N,196nm,0.4s
L19K White Mountain 2.49 276 P Pn 06 29 16.2 -0.4
baz=92
K24K Donnelly Dome 2.50 42 Pn 06 29 19.1 +2.2
WASW Wrangell South 2.56 89 Pn 06 29 18.3 +0.5
WRH Wood River Hil 2.56 15 Pn Pn 06 29 17.3 -0.3
WRH IAML 06 30 07.1
comp=N,143nm,0.6s
NEA2 Nenana 2.60 5 P Pn 06 29 17.6 -0.6
baz=185
BMRM Bremner River 2.61 111 Pn 06 29 17.5 -0.7
BMRM Bremner River 2.61 111 P Pn 06 29 18.5 +0.2
baz=296
IVE Iliamna Volcan 2.61 221 Pn 06 29 17.8 -0.5
CNPM China Poot 2.62 199 Pn 06 29 17.4 -1.1
CNPM China Poot 2.62 199 IAML 06 29 57.8
comp=E,331nm,0.6s
CNPM IAML 06 29 57.9
comp=N,372nm,0.6s
N19K Bonanza Creek 2.65 245 Pn 06 29 18.5 -0.4
N19K Bonanza Creek 2.65 245 P Pn 06 29 18.9 0.0
baz=61
ILSW Iliamna Southw 2.67 222 Pn 06 29 19.2 0.0
ILSW IAML 06 29 58.0
comp=E,202nm,0.7s
HDA Harding Lake 2.69 25 Pn 06 29 19.3 -0.1
comp=N,367nm,0.3s
HDA Harding Lake 2.69 25 IAML 06 29 55.7
HDA IAML 06 29 59.0
comp=E,232nm,0.3s
HDA Harding Lake 2.69 25 P Pn 06 29 19.4 0.0
baz=208
GOAT Goat Mountain 2.75 119 Pn 06 29 19.9 -0.4
CCB Clear Creek Bu 2.77 16 IAML 06 30 01.6
comp=N,260nm,2.6s
GLB Gilahina Butte 2.81 99 Pn 06 29 20.8 -0.3
GLB Gilahina Butte 2.81 99 IAML 06 30 05.3
comp=N,228nm,0.6s
GLB IAML 06 30 05.9
comp=E,164nm,0.7s
MENT Mentasta 2.88 69 Pn 06 29 23.3 +1.3
RAGM Ragged Mountai 2.88 122 Pn 06 29 25.8 +3.8
O19K Port Alsworth 2.93 234 IAML 06 30 07.3
comp=E,314nm,0.4s
O19K Port Alsworth 2.93 234 P Pn 06 29 22.4 -0.3
baz=49
P19K Oil Pt 2.96 219 Pn 06 29 23.2 0.0
COLA College 2.98 14 Pn 06 29 23.4 +0.1
J20K Nowinta River 3.01 318 IAML 06 30 00.5
comp=N,236nm,0.5s
J20K IAML 06 30 00.5
comp=E,266nm,0.5s
J20K Nowinta River 3.01 318 P Pn 06 29 23.4 -0.3
baz=134
SVW2 Sparrevohn 3.01 255 Pn 06 29 23.3 -0.6
M18K Stony River 3.02 263 P Pn 06 29 23.6 -0.2
baz=77
MDM Murphy Dome 3.02 11 Pn Pn 06 29 23.8 -0.1
MDM IAML 06 29 59.1
comp=E,102nm,0.6s
MDM IAML 06 30 00.5
comp=N,141nm,0.3s
IL31 3.02 22 Pn 06 29 23.8 -0.2
ILAR Eielson Array 3.02 22 Pn 06 29 23.2 -0.8
VRDI Verde Repeater 3.03 102 Pn 06 29 24.1 -0.1
VRDI Verde Repeater 3.03 102 IAML 06 30 10.0
comp=N,194nm,0.7s
Q23K Middleton Isla 3.04 147 Pn 06 29 24.7 +0.6
Q23K Middleton Isla 3.04 147 IAML 06 30 16.8
comp=E,127nm,0.6s
Q23K IAML 06 30 19.6
comp=N,115nm,0.8s
L26K Log Cabin Wild 3.06 68 IAML 06 30 10.5
comp=N,267nm,0.5s
L26K IAML 06 30 16.4
comp=E,247nm,0.4s
HMT Hamilton 3.08 121 Pn 06 29 24.5 -0.2
MLY Manley 3.08 351 P Pn 06 29 24.3 -0.4
baz=170
M26K Nabesna, AK 3.11 80 Pn 06 29 25.4 +0.2
M26K Nabesna, AK 3.11 80 IAML 06 30 19.7
comp=E,148nm,0.4s
M26K IAML 06 30 20.0
comp=N,192nm,0.6s
M26K Nabesna, AK 3.11 80 P Pn 06 29 25.6 +0.4
baz=266
MCARA McCarthy VSAT 3.19 98 Pn 06 29 26.3 +0.1
MCARA McCarthy VSAT 3.19 98 P Pn 06 29 26.5 +0.3
baz=284
SCRK Sand Creek 3.23 50 Pn Pn 06 29 27.1 +0.2
SCRK IAML 06 30 09.9
comp=N,131nm,0.7s
SCRK IAML 06 30 21.1
comp=E,150nm,0.6s
SCRK Sand Creek 3.23 50 P Pn 06 29 26.7 -0.2
baz=235
J25K Salcha River, 3.23 34 P Pn 06 29 27.1 +0.2
baz=218
NICHA Nichawak Mount 3.25 121 Pn 06 29 26.7 -0.5
POKR Poker Plat Res 3.26 16 IAML 06 30 11.5
comp=N,114nm,0.9s
POKR Poker Plat Res 3.26 16 P Pn 06 29 27.2 -0.1
baz=198
AUCH Augustine Cone 3.27 217 Pn 06 29 28.4 +1.0
BERG Berg Lake 3.27 117 Pn 06 29 28.9 +1.5
N18K Kilae Creek 3.32 249 Pn 06 29 27.3 -0.7
N18K Kilae Creek 3.32 249 P Pn 06 29 27.4 -0.7
baz=63
L18K Granite Mounta 3.35 277 P Pn 06 29 27.7 -0.7
baz=90
I21K Tanana 3.36 342 Pn 06 29 28.3 -0.3
J19K Poorman 3.40 309 Pn Pn 06 29 28.9 -0.2
J19K IAML 06 30 10.1
comp=N,112nm,0.5s
J19K IAML 06 30 10.1
comp=E,98nm,0.8s
J19K Poorman 3.40 309 P Pn 06 29 28.9 -0.3
baz=123
KHIT Khitrov Hills 3.44 114 Pn 06 29 29.6 -0.2
GRIN Grindle Hills 3.50 117 Pn 06 29 30.6 +0.1
O18K Koktuh Hills 3.50 234 Pn 06 29 29.9 -0.5
O18K Koktuh Hills 3.50 234 IAML 06 30 44.8
comp=N,66nm,1.0s
O18K Koktuh Hills 3.50 234 P Pn 06 29 30.1 -0.4
baz=49
I20K Naaghedeneel 3.56 324 Pn 06 29 31.4 +0.1
I20K Naaghedeneel 3.56 324 P Pn 06 29 31.5 +0.2
baz=140
J18K Innoko River 3.59 297 Pn Pn 06 29 31.5 -0.3
J18K IAML 06 30 14.4
comp=E,95nm,0.6s
J18K Innoko River 3.59 297 P Pn 06 29 31.5 -0.3
baz=111
M27K Edge Creek, AK 3.63 81 Pn 06 29 33.1 +0.7
M27K Edge Creek, AK 3.63 81 IAML 06 30 36.3
comp=N,62nm,0.8s
M27K Edge Creek, AK 3.63 81 P Pn 06 29 33.1 +0.7
baz=268
SYI Shuyak Island 3.69 204 IAML 06 30 28.1
comp=N,74nm,0.9s
SYI IAML 06 30 29.5
comp=E,70nm,0.6s
Q19K Cape Douglas, 3.69 215 Pn 06 29 33.2 +0.1
Q19K Cape Douglas, 3.69 215 P Pn 06 29 33.4 +0.2
baz=31
Q20K Shuyak Island 3.69 204 P Pn 06 29 32.9 -0.2
baz=21
J26L Joseph Creek 3.69 45 P Pn 06 29 33.4 +0.1
baz=60
L27K Beaver Creek, 3.74 70 Pn 06 29 34.1 +0.2
L27K Beaver Creek, 3.74 70 IAML 06 30 33.4
comp=N,89nm,1.8s
L27K Beaver Creek, 3.74 70 P Pn 06 29 34.1 +0.2
baz=257
SNH Sunshine Point 3.75 116 Pn 06 29 34.5 +0.5
SNH Sunshine Point 3.75 116 IAML 06 30 34.6
comp=N,89nm,0.8s
SNH IAML 06 30 37.5
comp=E,74nm,0.7s
BCAR Beaver Creek A 3.76 70 Pn 06 29 35.2 +1.0
ISLE Juniper Island 3.77 109 Pn 06 29 33.8 -0.5
ISLE Juniper Island 3.77 109 IAML 06 30 34.4
comp=E,140nm,0.7s
ISLE IAML 06 30 38.8
comp=N,154nm,0.7s
BARK Barkley Ridge 3.79 112 Pn 06 29 34.7 +0.1
M17K Holitna River 3.79 264 IAML 06 30 44.8
comp=N,130nm,0.9s
M17K IAML 06 30 47.8
comp=E,150nm,1.1s
M17K Holitna River 3.79 264 P Pn 06 29 34.0 -0.6
baz=77
H23K Yukon River 3.83 0 P Pn 06 29 34.9 -0.2
baz=180
BARN Barnard Glacie 3.91 101 IAML 06 30 38.4
comp=E,71nm,0.7s
BARN IAML 06 30 41.0
comp=N,78nm,0.7s
H24K Noodor Dome 3.92 10 P Pn 06 29 36.3 +0.1
baz=192
H21K Melozitna Rive 3.93 340 Pn Pn 06 29 36.3 -0.1
H21K Melozitna Rive 3.93 340 P Pn 06 29 36.0 -0.4
baz=157
PRP Porcupine Dome 3.95 25 Pn 06 29 36.7 -0.1
PRP Porcupine Dome 3.95 25 IAML 06 30 27.2
comp=E,131nm,0.8s
PRP IAML 06 30 28.7
comp=N,133nm,0.6s
PRP Porcupine Dome 3.95 25 P Pn 06 29 37.1 +0.3
baz=209
N17K Nushagak Hills 3.96 251 IAML 06 30 49.6
comp=N,48nm,1.0s
N17K IAML 06 30 51.4
comp=E,50nm,1.2s
K27K Chicken 3.97 56 IAML 06 30 41.5
comp=E,54nm,0.8s
K27K IAML 06 30 42.1
comp=N,83nm,0.8s
H22K Ishtalitna Cre 3.98 349 P Pn 06 29 37.1 0.0
baz=168
CTGM Chitina Glacie 4.09 101 Pn 06 29 38.7 -0.1
CTGM Chitina Glacie 4.09 101 IAML 06 30 43.8
comp=N,74nm,0.5s
CTGM IAML 06 30 48.9
comp=E,44nm,0.7s
L17K Donlin 4.10 276 Pn 06 29 38.1 -0.7
L17K Donlin 4.10 276 P Pn 06 29 38.3 -0.5
baz=88
K17K Iditarod 4.12 284 IAML 06 30 52.6
comp=E,42nm,0.9s
K17K IAML 06 31 00.9
comp=N,46nm,1.5s
K17K Iditarod 4.12 284 P Pn 06 29 38.6 -0.4
baz=96
MESA MESA 4.13 113 Pn 06 29 39.9 +0.5
YUK2 White River 4.14 89 Pn 06 29 39.6 +0.2
H20K Anotleneega Mo 4.21 328 Pn 06 29 40.2 -0.1
GCSA Galena City Sc 4.28 313 Pn 06 29 41.3 +0.2
LOGN Logan Glacier 4.29 102 Pn 06 29 41.2 -0.4
LOGN Logan Glacier 4.29 102 IAML 06 30 48.6
comp=E,51nm,0.7s
LOGN IAML 06 30 52.4
comp=N,64nm,0.6s
O17K Koliganek Bris 4.30 242 Pn 06 29 41.3 -0.2
KAHC Katmai Hardscr 4.32 221 Pn 06 29 41.5 -0.4
YUK3 Moose Creek 4.32 89 Pn 06 29 42.0 0.0
I26K Coal Creek Min 4.37 38 Pn 06 29 42.7 +0.2
IMAR Indian Mountai 4.39 337 Pn 06 29 42.9 +0.2
KDAK Kodiak Island 4.50 201 Pn 06 29 42.4 -1.9
KDAK Kodiak Island 4.50 201 IAML 06 30 53.6
comp=N,58nm,1.5s
KDAK IAML 06 30 56.0
comp=N,54nm,0.8s
J17K VABM Dome 4.59 292 Pn 06 29 44.7 -0.8
J17K VABM Dome 4.59 292 IAML 06 30 37.4
comp=E,30nm,0.4s
M16K Timber Creek 4.60 262 Pn 06 29 45.2 -0.4
M16K Timber Creek 4.60 262 IAML 06 30 40.2
comp=N,34nm,0.8s
M16K IAML 06 31 16.3
comp=E,41nm,2.0s
SAMH Samovar Hills 4.67 110 Pn 06 29 46.7 0.0
O28M Mount Upton 4.68 101 Pn 06 29 47.4 +0.4
L16K Owhat River 4.70 271 Pn 06 29 46.1 -0.8
L16K Owhat River 4.70 271 IAML 06 31 21.4
comp=N,31nm,2.8s
L16K IAML 06 31 39.8
comp=E,28nm,2.3s
ACHA Angle Creek He 4.77 220 Pn 06 29 48.0 -0.1
G24K Hadweenzic Riv 4.80 10 Pn 06 29 48.8 +0.5
G24K Hadweenzic Riv 4.80 10 IAML 06 31 20.3
comp=N,25nm,0.9s
O16K Kokwok River B 4.82 244 IAML 06 31 24.3
comp=N,33nm,1.8s
O16K IAML 06 31 32.3
comp=E,25nm,1.5s
ANCK Angle Creek 4.83 220 Pn 06 29 48.4 -0.5
G21K Allakaket 4.84 341 IAML 06 30 44.1
comp=N,30nm,0.4s
G21K IAML 06 30 44.4
comp=E,25nm,0.4s
FYU Fort Yukon 4.95 21 Pn 06 29 51.0 +0.6
FYU Fort Yukon 4.95 21 IAML 06 30 51.9
comp=E,65nm,0.9s
FYU IAML 06 31 33.8
comp=N,62nm,2.0s
G25K Bearman Lake 5.01 16 Pn 06 29 51.4 +0.3
H18K Honhosa River 5.03 313 Pn 06 29 51.9 +0.3
H18K Honhosa River 5.03 313 IAML 06 30 50.6
comp=E,28nm,0.7s
I27K Kandik River 5.04 41 Pn 06 29 51.9 +0.1
DAWY Dawson 5.08 62 Pn 06 29 52.0 -0.1
DAWY Dawson 5.08 62 IAML 06 31 19.8
comp=N,50nm,1.1s
DAWY IAML 06 31 31.6
comp=E,37nm,0.6s
OHAK Old Harbor 5.16 203 Pn 06 29 50.9 -2.4
OHAK Old Harbor 5.16 203 IAML 06 31 17.0
comp=E,42nm,0.9s
OHAK IAML 06 31 23.6
comp=N,38nm,2.1s
M29M Somme Creek 5.22 80 Pn 06 29 54.8 +0.5
J16K Anvik River 5.24 289 Pn 06 29 53.7 -0.8
J16K Anvik River 5.24 289 IAML 06 31 26.8
comp=E,20nm,2.5s
COLD Coldfoot 5.25 357 Pn 06 29 54.4 -0.1
I17K Unalakleet 5.41 295 Pn 06 29 56.8 +0.1
H17K Granite Mounta 5.48 307 Pn 06 29 58.2 +0.5
YUK6 Outpost Mounta 5.48 96 Pn 06 29 58.6 +0.6
M15K Kasigluk River 5.51 261 Pn 06 29 57.2 -0.9
H27K Steamboat Moun 5.51 36 Pn 06 29 58.0 -0.2
F24K Squaw Lake 5.58 7 Pn 06 29 59.7 +0.6
K15K Wolf Creek Mou 5.61 278 Pn 06 29 58.8 -0.7
F22K John River 5.63 350 Pn 06 30 00.1 +0.3
L15K Ungalak Mounta 5.65 272 Pn 06 29 59.0 -1.0
F20K Avaraart Lake 5.71 335 Pn 06 30 01.4 +0.6
O15K Ungalikthiuk R 5.79 245 Pn 06 30 02.0 0.0
BMAR Burnt Mountain 5.85 19 Pn Pn 06 30 03.0 +0.3
F25K Christian Rive 5.85 15 Pn 06 30 03.2 +0.4
G17K Kiwalik Mounta 6.03 310 Pn 06 30 05.4 +0.2
E23K Chandalar 6.07 360 Pn 06 30 06.6 +0.7
M14K Bethel 6.08 264 Pn 06 30 05.7 -0.2
E24K Your Creek 6.11 4 Pn 06 30 06.4 +0.1
F26K Sheenjek River 6.16 20 Pn 06 30 07.1 +0.1
E22K Anaktuvuk Pass 6.22 352 Pn 06 30 08.2 +0.3
P29M Windy Craggy 6.26 107 Pn 06 30 09.6 +1.1
L14K Kuka Creek 6.27 270 Pn 06 30 08.9 +0.4
H16K Elim 6.28 300 Pn 06 30 08.5 -0.1
F18K Selawik 6.35 321 Pn 06 30 09.9 +0.4
E19K Redstone River 6.37 332 Pn 06 30 10.6 +0.8
H29M Whitestone 6.47 44 Pn 06 30 11.8 +0.5
J30M Hart River 6.50 61 Pn Pn 06 30 12.3 +0.4
J14K Nanvaranak Lak 6.54 283 Pn 06 30 12.0 -0.2
O30N Mendenhall 6.60 95 Pn 06 30 13.3 +0.2
G16K Koyuk River 6.61 306 Pn 06 30 13.3 +0.2
TOLK Toolik Lake Re 6.66 0 Pn 06 30 15.0 +1.1
F17K Baldwin Pennin 6.75 316 Pn 06 30 15.6 +0.5
G29M Pine Creek 7.00 40 Pn 06 30 19.4 +0.8
D22K Ayikyak River 7.02 351 Pn 06 30 20.0 +1.2
E27K Coleen River 7.05 25 Pn 06 30 19.4 +0.2
E18K Tukpahlearik C 7.19 324 Pn 06 30 21.2 +0.2
E17K Hotham Inlet 7.32 319 Pn 06 30 23.2 +0.4
D19K Kuna River 7.42 335 Pn 06 30 24.7 +0.3
FARO Faro, Yukon 7.61 81 Pn 06 30 27.1 +0.1
G31M Satah River 8.23 47 Pn Pn 06 30 36.0 +0.6
B20K Meade River 8.60 342 Pn Pn 06 30 40.4 +0.1
INK Inuvik 9.22 40 Pn Pn 06 30 50.7 +1.8

AFAD 08 06:31:05.8±0.0, 37.12N×28.91E, h7km±3km, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNZT	**Denizli-Tavas-**	**0.18**	**29**	P	Pg	06 31 10.0	+0.5
DNZT				S	Sg	06 31 13.1	+1.0
DNZT				*i* AML	AML	06 31 14.0	
	comp=E,47nm,0.6s						
DNZT				*i* AML	AML	06 31 16.0	
	comp=N,22nm,0.5s						
SABU	**Mula-Dalaman**	**0.30**	**171**	P	Pb	06 31 12.7	-0.8
SABU				S	Sg	06 31 16.6	+1.0
SABU				*i* AML	AML	06 31 17.0	
	comp=E,55nm,0.4s						
SABU				*i* AML	AML	06 31 19.0	
	comp=N,40nm,0.5s						
CAEL	**Denizli, Camel**	**0.33**	**89**	P	Pg	06 31 10.9	-1.3
CAEL				S	Sg	06 31 17.7	+1.1
TAVA	**DENIZLI_Tavas**	**0.35**	**0**	P	Pg	06 31 13.1	+0.5
TAVA				S	Sg	06 31 17.5	+0.3
TAVA				*i* AML	AML	06 31 19.0	
	comp=E,33nm,0.4s						
TAVA				*i* AML	AML	06 31 21.0	
	comp=N,31nm,0.4s						
FETY	**Fethiye**	**0.50**	**164**	P	Pb	06 31 17.7	+0.7
FETY				S	Sb	06 31 24.6	+0.2

DNIZ	**Denizli-Tavas-**	**0.52**	**11**	P	Pg	06 31 13.9	-1.9		
DNIZ				S	Sg	06 31 22.7	+0.1		
GOLH	**Golhisar**	**0.53**	**77**	P	Pg	06 31 15.8	-0.3		
GOLH				S	Sg	06 31 23.9	+0.9		
GOLH				*i* AML	AML	06 31 25.0			
	comp=E,30nm,0.5s								
IZZE	**Mula-Seydike**	**0.72**	**160**	P	Pg	06 31 19.0	-0.7		
IZZE				S	Sb	06 31 30.3	-0.6		
INCE	**Denizli-Bozkur**	**0.79**	**42**	P	Pg	06 31 20.6	-0.4		
INCE				S	Sg	06 31 30.5	-0.9		
INCE				*i* AML	AML	06 31 34.0			
	comp=N,6.4nm,0.3s								
INCE				*i* AML	AML	06 31 38.0			
	comp=E,14nm,0.3s								

NEIC ***08*** *06:31:16.5±1.5, 19°.431N±0°.006×155°.322W±0°.009, h3km±4km, Error ellipse: s-maj=1.2km s-min=1.2km az=89.0*

HVO 08 06:31:16.0±1.3, 19°.421N±0°.006×155°.316W±0°.009, h2km±4km, ML2.9/11, ML2.4/42(NEIC), **Error ellipse: s-maj=1.4km s-min=0.9km az=103.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.02**	**132**		Pg	06 31 17.0	+0.3
WRMHI				IAML		06 31 17.3	
	comp=E,6μm,0.3s						
UWE	**Uwekahuna**	**0.02**	**88**		Pg	06 31 17.0	+0.3
UWE				IAML		06 31 17.4	
	comp=N,5μm,0.5s						
OBL	**Observatory Le**	**0.03**	**96**		Pg	06 31 17.0	+0.3
OBL				IAML		06 31 17.5	
	comp=N,7μm,0.5s						
OBL				IAML		06 31 17.6	
	comp=E,3μm,0.2s						
NPH	**North Pit**	**0.03**	**104**		Pg	06 31 16.5	-0.3
UWB	**Uwekahuna B**	**0.04**	**83**		Pg	06 31 17.0	+0.2
SDHHI	**Sand Hill**	**0.04**	**146**		Pg	06 31 18.8	+2.0
SBLHI	**Steaming Bluff**	**0.05**	**82**		Pg	06 31 17.3	+0.3
SBLHI				IAML		06 31 18.3	
	comp=N,5μm,0.2s						
SBLHI				IAML		06 31 18.4	
	comp=E,4μm,0.2s						
RIM	**Rim**	**0.05**	**122**		Pg	06 31 17.3	+0.3
RIM				IAML		06 31 18.4	
	comp=N,3μm,0.6s						
HATHI	**Halema'uma'u T**	**0.05**	**87**		Pg	06 31 17.2	0.0
HATHI				IAML		06 31 18.8	
	comp=N,6μm,0.2s						
HATHI				IAML		06 31 18.9	
	comp=E,5μm,0.4s						
KKO	**Keanakako`i**	**0.05**	**115**	IAML		06 31 17.5	
	comp=N,4μm,1.3s						
KKO				IAML		06 31 18.2	
	comp=E,3μm,1.1s						
KKO	**Keanakako`i**	**0.05**	**115**		Pg	06 31 19.5	+2.4
BYL	**Byron's Ledge**	**0.05**	**99**	IAML		06 31 18.2	
	comp=E,3μm,0.8s						
BYL				IAML		06 31 19.0	
	comp=N,4μm,0.4s						
BYL	**Byron's Ledge**	**0.05**	**99**		Pg	06 31 18.9	+1.8
RSD	**Rainshed**	**0.06**	**41**		Pg	06 31 17.5	+0.3
MLH	**Mauna Loa**	**0.10**	**318**		Pg	06 31 18.4	+0.4
PUH	**Pauahi**	**0.10**	**116**	Pg	Pg	06 31 18.5	+0.4
PUH				IAML		06 31 21.4	
	comp=N,927nm,0.7s						
HLP	**Hilina Pali**	**0.12**	**176**		Pg	06 31 18.8	+0.3
HLP				IAML		06 31 22.2	
	comp=N,1μm,0.4s						
HLP				IAML		06 31 22.5	
	comp=E,1μm,0.4s						
HTC	**Hot Caves**	**0.20**	**203**		Pg	06 31 21.5	+1.7
HMH	**Humu'ula Sheep**	**0.24**	**319**		Pg	06 31 21.1	+0.5
HMH				IAML		06 31 29.1	
	comp=E,1μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.27**	**295**	Pg	Pg	06 31 21.6	+0.4
MLOA				IAML		06 31 29.5	
	comp=N,1μm,0.3s						
MWH	**Moku'aweowe**	**0.27**	**284**		Pg	06 31 22.0	+0.7
MWH	**Moku'aweowe**	**0.27**	**284**	IAML		06 31 30.3	
	comp=E,1μm,0.9s						
MWH				IAML		06 31 30.4	
	comp=N,757nm,0.7s						
KHU	**Kahuku**	**0.33**	**238**	Pg	Pg	06 31 22.3	-0.1
KHU				IAML		06 31 26.3	
	comp=E,420nm,3.9s						
KHU				IAML		06 31 27.7	
	comp=N,378nm,1.9s						
ALEP	**Alea Permanent**	**0.33**	**291**		Pb	06 31 24.5	-0.4
POHA	**Pohakuloa**	**0.39**	**329**	Pg	Pg	06 31 24.5	+1.0
HUH	**Hualalai**	**0.56**	**298**		Pb	06 31 27.7	-0.9
HPAH	**Hawaii Prepara**	**0.70**	**329**	Pg	Pb	06 31 30.7	-0.4

ISK 08 06:31:58.1, 36°.98N×27°.75E, h8km, ML1.7/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.28**	**208**	Pg	Pg	06 32 04.2	+0.4
DAT				Sg	Sg	06 32 08.7	+1.1
MLSB	**Milas**	**0.32**	**4**	Pg	Pg	06 32 04.8	+0.4
BODT	**Bodrum**	**0.36**	**283**	Pg	Pg	06 32 05.6	+0.5
TURN	**Turunc**	**0.45**	**117**	Pg	Pg	06 32 07.2	+0.4
DALY	**Dalyan (Mula)**	**0.75**	**102**	Pg	Pb	06 32 13.1	-0.2
ARG	**Arkhangelos**	**0.82**	**158**	Pg	Pb	06 32 14.3	-0.3
FETY	**Fethiye**	**1.13**	**107**	Pn	Pn	06 32 20.1	-0.1
CAME	**Cameli-Denizli**	**1.25**	**91**	Pn	Pg	06 32 22.7	+0.6

HVO ***08*** *06:48:12.8±1.7, 19°.34N±0°.03×155°.28W±0°.02, h-0km±9km, ML3.4/18, ML2.5/46(NEIC), Error ellipse: s-maj=4.6km s-min=1.9km az=152.0*

NEIC 08 06:48:13.7±1.6, 19°.33N±0°.02×155°.29W±0°.02, h5km±1km, Error ellipse: s-maj=4.7km s-min=2.1km az=151.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.04**	**205**	Pg	Pg	06 48 14.9	0.0
RIM	**Rim**	**0.07**	**14**		Pg	06 48 16.3	+0.8
KKO	**Keanakako`i**	**0.07**	**20**	Pg	Pg	06 48 14.6	-0.9
WRMHI	**West Rim**	**0.08**	**354**	Pg	Pg	06 48 14.6	-1.0
WRMHI				IAML		06 48 16.1	
	comp=E,6μm,0.4s						
NPH	**North Pit**	**0.08**	**7**		Pg	06 48 15.1	-0.6
NPH				IAML		06 48 15.6	
	comp=N,3μm,0.5s						
PUH	**Pauahi**	**0.08**	**58**	Pg	Pg	06 48 15.2	-0.4
PUH				IAML		06 48 16.0	
	comp=N,3μm,0.1s						
PUH				IAML		06 48 16.3	
	comp=E,3μm,0.1s						
BYL	**Byron's Ledge**	**0.09**	**20**		Pg	06 48 15.4	-0.3
BYL				IAML		06 48 16.2	
	comp=E,3μm,0.4s						
OBL	**Observatory Le**	**0.09**	**5**	IAML		06 48 15.5	
	comp=N,3μm,0.4s						
OBL					Pg	06 48 15.8	0.0
OBL				IAML		06 48 16.5	
	comp=E,5μm,0.6s						
UWE	**Uwekahuna**	**0.09**	**359**	IAML		06 48 15.8	
	comp=E,3μm,0.5s						
UWE				IAML		06 48 15.8	
	comp=N,3μm,0.5s						
UWE	**Uwekahuna**	**0.09**	**359**		Pg	06 48 17.6	+1.8
UWB	**Uwekahuna B**	**0.10**	**8**	IAML		06 48 16.6	
	comp=N,2μm,0.4s						
UWB	**Uwekahuna B**	**0.10**	**8**		Pg	06 48 16.7	+0.8
HATHI	**Halema'uma'u T**	**0.10**	**17**		Pg	06 48 14.9	-1.0
HATHI				IAML		06 48 16.8	
	comp=N,4μm,0.5s						
HATHI				IAML		06 48 16.9	
	comp=E,4μm,0.4s						
SBLHI	**Steaming Bluff**	**0.10**	**13**		Pg	06 48 16.8	+0.9
SBLHI	**Steaming Bluff**	**0.10**	**13**	IAML		06 48 16.9	
	comp=N,5μm,0.5s						
SBLHI				IAML		06 48 17.2	
	comp=E,5μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.13**	**67**		Pg	06 48 16.0	-0.3
RSD	**Rainshed**	**0.13**	**6**		Pg	06 48 18.0	+1.4
RSD	**Rainshed**	**0.13**	**6**	IAML		06 48 18.7	
	comp=E,2μm,0.9s						
RSD				IAML		06 48 18.8	
	comp=N,2μm,0.6s						
HTC	**Hot Caves**	**0.14**	**227**		Pg	06 48 17.0	+0.5
STCH	**Steam Cracks**	**0.17**	**71**		Pg	06 48 16.7	-0.4
STCH					Sg	06 48 19.2	-0.1
STCH	**Steam Cracks**	**0.17**	**71**	IAML		06 48 19.5	
	comp=E,1μm,1.0s						
STCH				IAML		06 48 20.4	
	comp=N,1μm,0.7s						
NPOC	**North of Pu'u**	**0.18**	**70**		Pg	06 48 17.3	-0.1
NPOC	**North of Pu'u**	**0.18**	**70**	IAML		06 48 21.2	
	comp=N,782nm,0.3s						
NPOC				IAML		06 48 21.2	
	comp=E,2μm,0.8s						
MLH	**Mauna Loa**	**0.19**	**331**		Pg	06 48 17.7	+0.2
MLH					Sg	06 48 20.2	+0.2
MLH	**Mauna Loa**	**0.19**	**331**	IAML		06 48 22.2	
	comp=N,5μm,0.6s						
MLH				IAML		06 48 22.5	
	comp=E,1μm,0.4s						
JCUZ	**Jacuzzi**	**0.19**	**73**		Pg	06 48 16.9	-0.6
JCUZ				IAML		06 48 21.1	
	comp=N,1μm,0.7s						
JCUZ				IAML		06 48 21.4	
	comp=E,2μm,0.9s						
KHU	**Kahuku**	**0.32**	**255**		Pg	06 48 19.9	-0.1
KHU					Sg	06 48 24.9	+0.7
KHU	**Kahuku**	**0.32**	**255**	IAML		06 48 30.0	
	comp=E,883nm,0.8s						
KHU				IAML		06 48 30.3	
	comp=N,765nm,0.8s						
HMH	**Humu'ula Sheep**	**0.33**	**326**		Pg	06 48 20.0	-0.2
HMH					Sg	06 48 25.7	+1.1
HMH	**Humu'ula Sheep**	**0.33**	**326**	IAML		06 48 26.1	
	comp=E,945nm,0.5s						
HMH				IAML		06 48 26.2	
	comp=N,1μm,0.6s						
MWH	**Moku'aweowe**	**0.33**	**298**		Pg	06 48 20.3	0.0
MWH					Sg	06 48 25.9	+1.2
MLOA	**Mauna Loa Obse**	**0.34**	**307**		Pg	06 48 19.9	-0.6
POHA	**Pohakuloa**	**0.48**	**332**		Pg	06 48 22.1	-0.9
POHA	**Pohakuloa**	**0.48**	**332**		Sg	06 48 22.7	-6.7
HUH	**Hualalai**	**0.62**	**305**		Pg	06 48 25.6	-0.2
HPAH	**Hawaii Prepara**	**0.80**	**331**	Pg	Pg	06 48 27.9	-1.1

IDC 08 07:12:34.4±5.2, 5°.42S×132°.82E, h0km, mb3.5/1, mbtmp3.4/3, ML3.2/2, Error ellipse: s-maj=317.5km s-min=34.3km az=76.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.51**	**174**	Pn	Pn	07 15 59.8	-1.4
	0.1nm,0.3s,baz=352,slow=14,SNR=2.0						
WRA				Sn	Sn	07 18 35.5	-7.5
	0.1nm,0.3s,baz=2.6,slow=23,SNR=2.5						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**18.17**	**177**	P	P	07 16 49.1	+0.4
	0.1nm,0.3s,baz=360,slow=12,SNR=4.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**68.49**	**325**	P	P	07 23 38.6	0.0
	0.2nm,0.4s,baz=117,slow=7.5,SNR=2.4						
	0.2nm,0.4s						

IDC 08 07:30:19.7±3.5, 54°.26N×87°.25E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=33.2km s-min=20.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**259**	I	I	07 40 00.0	
	baz=78,slow=333,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.46**	**259**	Pg	Pn	07 30 45.6	-1.8
	1.2nm,0.3s,baz=77,slow=12,SNR=5.5						
ZALV				Lg	Lg	07 31 06.7	
	1.3nm,0.3s,baz=78,slow=28,SNR=2.2						
KURBB	**Kurchatov Arra**	**6.45**	**239**	Pn	Pn	07 31 56.0	+0.1
	0.1nm,0.3s,baz=54,slow=14,SNR=4.2						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**8.11**	**205**	Pn	Pn	07 32 20.4	+1.7
	0.1nm,0.3s,baz=27,slow=14,SNR=5.2						
	0.1nm,0.3s						

NNC 08 07:36:01.1±5.1, 37°.17N×71°.17E, h0km, mb4.0, mpv3.6, 2C-4D, Error ellipse: s-maj=39.8km s-min=37.4km az=146.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.95**	**355**	⇑P	Pn	07 37 30.6	+0.2
	5.6nm,0.3s,baz=180,slow=13,SNR=62						
KK31				⇓S	Sn	07 38 40.2	+0.8
	1.3nm,0.5s,baz=184,slow=21,SNR=5.9						
AAK	**Ala-Archa**	**6.03**	**24**	⇓P	Pn	07 37 32.5	+0.8
	0.7nm,0.3s						
AAK				⇑S	Sn	07 38 44.4	+2.9
	2.7nm,0.8s						
TKM2	**Tokmak 2**	**6.67**	**29**	⇓P	Pn	07 37 39.7	-0.9
	1.8nm,0.5s						
TKM2				⇓S	Sn	07 38 56.8	-0.6
	0.9nm,0.8s						

ASRS ***08*** *07:48:52.2±0.2, 51°.N±1°×8°.7E±°, h10km, MLh3.6/13, Error ellipse: s-maj=3.3km s-min=2.2km az=69.7, confirmed*
SOME ***08*** *07:48:54.9, 50°.72N×86°.77E, h5km*
NNC ***08*** *07:48:55.6±1.8, 50°.98N×86°.47E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=22.2km s-min=9.9km az=101.0*

ISC 08 07:48:51.9±1.1, 50°.93N±0°.02×86°.81E±0°.02, h4km±11km, n23, σ1°58/42, 7C-9D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.76**	**144**	⇓Pg	Pb	07 49 07.1	-0.6
CHBI				Sg	Sg	07 49 17.0	+0.8
ULGR	**Ulagan, Altay**	**0.79**	**112**	⇓Pg	Pn	07 49 10.6	+0.7
ULGR				Sg	Sn	07 49 21.0	-1.3
ARTR	**Artybash**	**0.92**	**19**	Pg	Pn	07 49 11.7	+0.1
ARTR				Sg	Sn	07 49 23.8	-1.5
YALR	**Yailyu, Altay**	**0.98**	**30**	⇓Pg	Pn	07 49 12.8	+0.3
YALR				Sg	Sn	07 49 26.2	-0.6
GALT	**Gorno-Altaysk,**	**1.17**	**333**	Pg	Pn	07 49 15.0	0.0
GALT				Sg	Sn	07 49 31.2	-0.2
CUR	**Chagan-Uzun**	**1.29**	**129**	⇓Pg	Pg	07 49 17.0	+0.5
CUR				Sg	Sn	07 49 35.1	+0.6
UKR	**Ust'-Kan**	**1.29**	**271**	⇓Pg	Pg	07 49 16.3	-0.3
UKR				Sg	Sn	07 49 33.8	-0.7
DGZ	**Jazzator, Alta**	**1.29**	**162**	⇓Pg	Pb	07 49 16.4	-0.5
DGZ				Sg	Sg	07 49 33.6	+0.2
TASR	**Tashtagol**	**1.95**	**19**	Pg	Pg	07 49 29.8	+0.5
TASR				Sg	Sg	07 49 56.4	+1.7
TEL	**Teeli**	**2.15**	**86**	Pg	Pg	07 49 32.2	-0.8
TEL				Sg	Sg	07 50 02.5	+1.7
ELT	**Eltsovka**	**2.37**	**352**	Pg	Pb	07 49 34.7	-0.3
ELT				Sg	Sg	07 50 07.2	-0.6
MALIN	**Malinovka, Kuz**	**2.52**	**6**	Pg	Pg	07 49 40.3	+0.2
MALIN				Sg	Sg	07 50 12.8	+0.1
TAIL	**Tailep, Kuzbas**	**2.54**	**5**	Pg	Pg	07 49 42.8	+2.3
TAIL				Sg	Sg	07 50 14.1	+0.8
VEH	**Verkhnyaya Baz**	**3.18**	**42**	P	Pb	07 49 46.9	-2.1
VEH				Pg	Pg	07 49 53.1	+0.3
VEH				Sg	Sg	07 50 32.3	-1.7
ZAA0	**Zalesovo Array**	**3.26**	**339**	⇓Pn	Pn	07 49 45.4	+1.6
	1.6nm,0.5s						
ZAA0				⇓Lg	Lg	07 50 37.3	
	14nm,0.8s						
KOTO	**Kotino, Kuzbas**	**3.27**	**1**	Sg	Sg	07 50 39.1	+2.4
DJO	**Djoy, Khakassi**	**3.31**	**54**	Pn	Pb	07 49 48.6	-2.4
DJO				Pg	Pg	07 49 54.4	-0.8
DJO				Sg	Sg	07 50 39.3	+1.3
ZSN	**Zaisan**	**3.71**	**201**	*e*P	Pg	07 50 02.1	-0.7
	4.6nm,0.9s						
ZSN				*e*S	Sg	07 50 47.3	-3.5
	17nm,0.5s						
SEM	**Semipalatinsk**	**4.20**	**265**	*e*P	Pg	07 50 12.4	0.0
	7.9nm,0.4s						
SEM				*e*S	Sg	07 51 04.7	-2.2
	40nm,0.6s						
MK31	**Makanchi Array**	**5.10**	**218**	⇑Pn	Pn	07 50 13.0	+4.0
	1.1nm,0.5s,baz=35,slow=9.6,SNR=40						
MK31				⇑Lg	Lg	07 51 33.9	
	20nm,0.8s,baz=43,slow=28,SNR=4.0						
KURK	**Kurchatov**	**5.20**	**271**	⇑Pn	Pn	07 50 11.5	+1.2
	0.6nm,0.3s						
KURK				⇑Lg	Lg	07 51 33.2	
	22nm,0.7s						
MAKZ	**Makanchi**	**5.21**	**220**	⇑Pn	Pn	07 50 14.4	+3.9
	0.5nm,0.3s						
MAKZ				⇑Lg	Lg	07 51 33.5	
	17nm,0.9s						
KURBB	**Kurchatov Arra**	**5.26**	**270**	⇓Pn	Pn	07 50 12.2	+1.0
	1.3nm,0.3s						
KURBB				⇑Lg	Lg	07 51 36.8	
	46nm,0.8s						

IDC 08 07:54:35.1±3.3, 53°.73N×88°.18E, h0km, mbtmp2.6/3, ML1.9/2, Error ellipse: s-maj=28.8km s-min=19.7km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**278**	I	I	08 07 42.6	
	0.1nm,0.6s,baz=90,slow=338,SNR=4.0						
ZALV	**Zalesovo Beam**	**2.00**	**278**	Pn	Pb	07 55 11.6	-0.7
	0.7nm,0.3s,baz=93,slow=12,SNR=7.8						
ZALV				Lg	Lg	07 55 38.8	
	3.5nm,0.3s,baz=92,slow=25,SNR=13						
	3.0nm,0.5s						
KURBB	**Kurchatov Arra**	**6.70**	**246**	Pn	Pn	07 56 14.8	+0.1
	0.1nm,0.3s,baz=61,slow=14,SNR=4.4						
KURBB				Lg	Lg	07 58 06.1	
	baz=65,slow=33,SNR=4.9						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.90**	**211**	Pn	Pn	07 56 32.4	+1.2
	0.3nm,0.7s,baz=28,slow=16,SNR=1.4						
MKAR				Lg	Lg	07 58 42.4	
	baz=26,slow=31,SNR=1.6						

IDC ***08*** *07:55:57.5±1.2, 15°.20N×94°.71W, h0km, mb3.7/5, mbtmp3.7/7, ML3.3/3, MS3.2/3, Error ellipse: s-maj=42.9km s-min=18.1km az=58.0*
MEX ***08*** *07:56:02.7±0.8, 15°.21N×94°.57W, h25km±19km, MD4.4*
CATAC ***08*** *07:56:03.7±0.5, 15°.22N×94°.49W, h20km, MB4.9, mb4.8, ML4.5*
NEIC ***08*** *07:56:03.8±2.5, 15°.36N±0°.06×94°.53W±0°.04, h31km±10km, mb4.1/28, Md4.4/96(MEX), Error ellipse: s-maj=9.2km s-min=5.7km az=196.0*

ISC 08 07:56:02.1±0.6, 15°.20N±0°.04×94°.57W±0°.03, h28km, n148, σ2°.45/212, mb4.0/8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.22**	**31**	*e*P	Pn	07 56 20.1	-3.2
CARR				*e*S	Sn	07 56 33.5	-5.5
PCIG		**1.40**	**69**		Pn	07 56 23.8	-2.0
PCIG					Sn	07 56 39.9	-3.4
PCIG		**1.40**	**69**	*i* P	Pn	07 56 23.8	-2.0
PCIG				*e*S	Sn	07 56 39.9	-3.4
HUIG	**Huatulco**	**1.58**	**291**		Pn	07 56 26.5	-1.8
HUIG					Sn	07 56 43.7	-4.2
HUIG	**Huatulco**	**1.58**	**291**	*e*P	Pn	07 56 26.5	-1.8
HUIG				*e*S	Sn	07 56 43.7	-4.2
CMIG	**Matias Romero**	**1.90**	**351**	Pn	Pn	07 56 30.7	-2.0
	254nm,0.3s,baz=177,slow=14,SNR=4825						
CMIG				Sn	Sn	07 56 52.2	-3.5
	174nm,0.3s,baz=104,slow=19,SNR=25						
CMIG				LR	LR	07 57 27.9	
	comp=Z,324nm,18.8s,baz=126,slow=48						
CMIG	**Matias Romero**	**1.90**	**351**	*e*P	Pn	07 56 30.7	-2.0
CMIG				*e*S	Sn	07 56 52.3	-3.5
TGIG		**2.10**	**41**		Pn	07 56 34.5	-1.0
TGIG					Sn	07 56 58.5	-2.2
TGIG		**2.10**	**41**	*e*P	Pn	07 56 34.5	-1.0
TGIG				*e*S	Sn	07 56 58.5	-2.2
TGBT	**Tuxtla Gutierr**	**2.12**	**42**		Pn	07 56 34.5	-1.2
TGBT					Sn	07 56 59.9	-1.2
TGBT	**Tuxtla Gutierr**	**2.12**	**42**	*e*P	Pn	07 56 34.5	-1.2
TGBT				*e*S	Sn	07 56 59.9	-1.2
UXUV	**UXUV**	**2.14**	**11**	*e*P	Pn	07 56 35.0	-1.1
UXUV				*e*S	Sn	07 56 59.9	-1.9
THIG		**2.25**	**97**		Pn	07 56 36.4	-1.1
THIG					Sn	07 57 02.6	-1.7
THIG		**2.25**	**97**	*e*P	Pn	07 56 36.4	-1.1
THIG				*e*S	Sn	07 57 02.6	-1.7
PATR	**El Naranjo**	**2.26**	**92**	*e*P	Pn	07 56 36.4	-1.4
PATR				*e*S	Sn	07 57 02.6	-2.3
PAVE	**Pavencul**	**2.31**	**90**	*e*P	Pn	07 56 37.5	-1.1
PAVE				*e*S	Sn	07 57 04.2	-2.1
CHUJ	**Union Juarez**	**2.38**	**92**	*e*P	Pn	07 56 38.3	-1.3
CHUJ				*e*S	Sn	07 57 05.4	-2.6
CCIG	**Comitan**	**2.58**	**65**		Pn	07 56 41.8	-0.4
CCIG	**Comitan**	**2.58**	**65**	*e*P	Pn	07 56 42.0	-0.3
CCIG				*e*S	Sn	07 57 10.8	-2.0
CCIG	**Comitan**	**2.58**	**65**	*i* P	Pn	07 56 42.8	+0.6
CCIG				*i* S	Sn	07 57 14.5	+1.7
CCIG				IAML		07 57 19.5	
	comp=Z,2μm,1.0s						
PEIG	**Puerto Escondi**	**2.60**	**288**		Pn	07 56 41.0	-1.4
PEIG					Sn	07 57 08.0	-5.2
PEIG	**Puerto Escondi**	**2.60**	**288**	*e*P	Pn	07 56 41.0	-1.4
PEIG				*e*S	Sn	07 57 08.0	-5.2
SMSP	**San Marcos**	**2.71**	**94**	*i* P	Pn	07 56 43.4	-0.7
SMSP				*i* S	Sn	07 57 15.5	-0.6
SMSP				IAML		07 57 18.4	
	comp=Z,3μm,1.0s						
NEUV	**Arroyo Zacate**	**2.76**	**335**	*e*P	Pn	07 56 42.6	-2.0
OXLC	**Oaxaca**	**2.76**	**312**	*e*P	Pn	07 56 39.1	-5.7
OXLC				*e*S	Sn	07 57 17.6	+0.3
OXIG	**Oaxaca**	**2.79**	**312**		Pn	07 56 45.8	+0.7
OXIG					Sn	07 57 16.6	-1.3
VHO	**Vista Hermosa**	**2.79**	**312**	*e*P	Pn	07 56 45.8	+0.7
VHO				*e*S	Sn	07 57 16.6	-1.3
TUIG	**Tuzandepetl**	**2.82**	**3**	*i* P	Pn	07 56 44.3	-1.0
TUIG				*e*S	Sn	07 57 15.3	-3.2
RTAL	**Retalhuleu**	**2.86**	**103**		Pn	07 56 45.2	-0.8
RTAL	**Retalhuleu**	**2.86**	**103**	*i* P	Pn	07 56 45.9	-0.1
RTAL				*i* S	Sn	07 57 18.6	-0.9
RTAL				IAML		07 57 36.5	
	comp=Z,580nm,1.0s						
HUEH	**Huehuetenango**	**2.97**	**87**		Pn	07 56 48.6	+1.1
HUEH	**Huehuetenango**	**2.97**	**87**	*i* P	Pn	07 56 49.1	+1.5
HUEH				*i* S	Sn	07 57 24.9	+2.5
YOIG	**Yosondua**	**3.30**	**300**		Pn	07 56 53.6	+1.4
YOIG					Sn	07 57 28.8	-1.8
YOIG	**Yosondua**	**3.30**	**300**	*e*P	Pn	07 56 53.6	+1.4
YOIG				*e*S	Sn	07 57 28.8	-1.8
PMUV	**Sontecomapan**	**3.37**	**351**	*e*P	Pn	07 56 50.5	-2.5
PMUV				*e*S	Sn	07 57 29.3	-2.7
PNIG	**Pinotepa**	**3.62**	**290**		Pn	07 56 55.4	-1.1
PNIG					Sn	07 57 33.7	-4.5
PNIG	**Pinotepa**	**3.62**	**290**	*e*P

CRIG					Sn		07 57 56.4	-7.1
CRIG	**Cruz Grande**	**4.64**	**290**	*eP*	**Pn**		**07 57 10.4**	**0.0**
CRIG				*eS*	Sn		07 57 56.4	-7.1
JAUV	**Jalcomulco**	**4.66**	**333**	*i* P	**Pn**		**07 57 08.2**	**-2.5**
JAUV				*eS*	**Sn**		**07 58 00.2**	**-3.7**
NUBE	**Las Nubes**	**4.82**	**105**	*i* P	**Pn**		**07 57 14.1**	**+1.1**
NUBE				IAML			07 58 28.1	
	comp=Z,120nm,1.0s							
LVIG	**Laguna Verde**	**4.83**	**339**	*eP*	Pn		07 57 09.3	-3.7
LVIG				*eS*	**Sn**		**07 58 00.9**	**-7.1**
PETF	**Flores**	**4.83**	**69**		**Pn**		**07 57 13.2**	**+0.1**
PETF	**Flores**	**4.83**	**69**	*i* P	**Pn**		**07 57 13.3**	**+0.2**
PETF				IAML			07 58 11.5	
	comp=Z,720nm,1.0s							
SCIG	**Sabancuy**	**4.95**	**40**	*eP*	**Pn**		**07 57 12.8**	**-1.8**
SCIG				*eS*	**Sn**		**07 58 07.1**	**-3.9**
CEVE	**Cerro Verde**	**4.98**	**105**	*i* P	**Pn**		**07 57 17.4**	**+2.0**
CEVE				IAML			07 58 33.8	
	comp=Z,250nm,1.0s							
ESQI	**Esquipulas**	**5.10**	**97**		**Pn**		**07 57 17.7**	**+0.9**
ESQI	**Esquipulas**	**5.10**	**97**	*i* P	**Pn**		**07 57 19.6**	**+2.8**
ESQI				IAmb	IAmb		07 57 40.9	
	comp=Z,48nm,0.8s							
MTO3	**Montecristo**	**5.10**	**98**	Pn	**Pn**		**07 57 17.1**	**+0.1**
DAIG	**Los Arroyos**	**5.21**	**291**		**Pn**		**07 57 18.6**	**+0.5**
DAIG					**Sn**		**07 58 12.7**	**-4.6**
DAIG	**Los Arroyos**	**5.21**	**291**	*eP*	**Pn**		**07 57 18.6**	**+0.5**
DAIG				*eS*	**Sn**		**07 58 12.7**	**-4.6**
PMON	**Piamonte**	**5.30**	**106**	*i* P	**Pn**		**07 57 22.4**	**+2.7**
PMON				IAmb	IAmb		07 57 29.4	
	comp=Z,85nm,0.5s							
PMON				IVmB_BB			07 57 34.6	
	comp=Z,1μm,1.0s							
PMON				IAML			07 58 45.9	
	comp=Z,170nm,1.0s							
PPM	**Popocatepetl**	**5.46**	**315**	*eP*	**Pn**		**07 57 25.4**	**+3.3**
PPM				*eS*	**Sn**		**07 58 23.7**	**-0.6**
PPIG	**Popocatepetl**	**5.46**	**315**		**Pn**		**07 57 25.4**	**+3.3**
PPIG					**Sn**		**07 58 23.7**	**-0.6**
MEIG	**Mezcala**	**5.55**	**300**		**Pn**		**07 57 25.1**	**+2.1**
MEIG					**Sn**		**07 58 23.7**	**-2.2**
MEIG	**Mezcala**	**5.55**	**300**	*eP*	**Pn**		**07 57 25.1**	**+2.1**
MEIG				*eS*	**Sn**		**07 58 23.7**	**-2.2**
YAIG	**Yautepec**	**5.63**	**311**		**Pn**		**07 57 26.9**	**+2.7**
YAIG					**Sn**		**07 58 25.1**	**-3.0**
YAIG	**Yautepec**	**5.63**	**311**	*eP*	**Pn**		**07 57 26.9**	**+2.7**
YAIG				*eS*	**Sn**		**07 58 25.1**	**-3.0**
PLIG	**Platanillo**	**5.69**	**305**		**Pn**		**07 57 27.1**	**+2.2**
PLIG					**Sn**		**07 58 25.1**	**-4.3**
PLIG	**Platanillo**	**5.69**	**305**	*eP*	**Pn**		**07 57 27.1**	**+2.2**
PLIG				*eS*	**Sn**		**07 58 25.1**	**-4.3**
COEG	**Centro de Oper**	**5.74**	**105**	*i* P	**Pn**		**07 57 28.2**	**+2.6**
COEG				IVmB_BB			07 57 34.8	
	comp=Z,920nm,1.0s							
COEG				IAML			07 57 34.9	
	comp=Z,99nm,1.0s							
COEG				IAmb	IAmb		07 57 35.0	
	comp=Z,66nm,0.5s							
CAIG	**El Cayaco**	**5.77**	**289**		**Pn**		**07 57 27.1**	**+1.1**
CAIG					**Sn**		**07 58 25.6**	**-5.7**
CAIG	**El Cayaco**	**5.77**	**289**	*eP*	**Pn**		**07 57 27.1**	**+1.1**
CAIG				*eS*	**Sn**		**07 58 25.6**	**-5.7**
MAVM	**Malinalco, Edo**	**6.01**	**309**		**Pn**		**07 57 29.1**	**-0.3**
MAVM					**Sn**		**07 58 31.4**	**-6.1**
MAVM	**Malinalco, Edo**	**6.01**	**309**	*eP*	**Pn**		**07 57 29.1**	**-0.3**
MAVM				*eS*	**Sn**		**07 58 31.4**	**-6.1**
UNM	**Universidad Na**	**6.02**	**314**	*eP*	**Pn**		**07 57 32.8**	**+3.2**
AOVM	**Tlapan**	**6.08**	**312**	*eP*	**Pn**		**07 57 29.7**	**-0.9**
AOVM				*eS*	**Sn**		**07 58 34.4**	**-5.1**
ARIG	**Puente Sto Nin**	**6.32**	**300**		**Pn**		**07 57 36.5**	**+3.0**
ARIG					**Sn**		**07 58 39.0**	**-6.0**
ARIG	**Puente Sto Nin**	**6.32**	**300**	*eP*	**Pn**		**07 57 36.5**	**+3.0**
ARIG				*eS*	**Sn**		**07 58 39.0**	**-6.0**
DEIG	**Demacu**	**6.62**	**321**	*eP*	**Pn**		**07 57 36.3**	**-1.5**
DHIG	**Demacu**	**6.62**	**321**		**Pn**		**07 57 36.3**	**-1.5**
ZIIG	**Zihuatanejo**	**7.03**	**291**		**Pn**		**07 57 44.3**	**+1.0**
ZIIG					**Sn**		**07 59 04.5**	**+2.1**
ZIIG	**Zihuatanejo**	**7.03**	**291**	*eP*	**Pn**		**07 57 44.3**	**+1.0**
ZIIG				*eS*	**Sn**		**07 59 04.5**	**+2.1**
TGUH	**Tegucigalpa,Un**	**7.16**	**98**	Pn	**Pn**		**07 57 44.9**	**-0.3**
CTUV	**Llano Grande**	**7.20**	**331**	*eP*	Pn		07 57 41.9	-3.6
CTUV				*eS*	**Sn**		**07 59 06.1**	**-0.3**
MYIG	**Mrida**	**7.34**	**38**	*eP*	**Pn**		**07 57 51.6**	**+4.1**
MYIG				*eS*	**Sn**		**07 59 05.5**	**-4.5**
TEIG	**Tepich**	**7.81**	**49**	Pn	**Pn**		**07 57 51.6**	**-2.3**
TEIG	**Tepich**	**7.81**	**49**	LR	LR		08 01 20.3	
	comp=Z,624nm,20.5s,slow=41							
RPIG	**Rio Verde**	**8.40**	**323**		**Pn**		**07 58 05.2**	**+3.0**
RPIG					**Sn**		**07 59 39.3**	**+3.2**
RPIG	**Rio Verde**	**8.40**	**323**	*eP*	**Pn**		**07 58 05.2**	**+3.0**
RPIG				*eS*	**Sn**		**07 59 39.3**	**+3.2**
MMIG	**Aquila**	**8.95**	**291**		**Pn**		**07 58 11.1**	**+1.5**
MMIG	**Aquila**	**8.95**	**291**	*eP*	**Pn**		**07 58 11.1**	**+1.5**
GTIG	**Gomez Farias**	**8.95**	**332**		Pn		07 58 06.2	-3.4
GTIG	**Gomez Farias**	**8.95**	**332**	*eP*	Pn		07 58 06.2	-3.4
COIG	**Colima**	**9.57**	**296**	*eP*	**Pn**		**07 58 22.9**	**+4.8**
JUBC	**Volcan de Coli**	**9.60**	**298**	*eP*	**Pn**		**07 58 23.2**	**+4.4**
MNGA	**Volcan de Coli**	**9.62**	**297**	*eP*	**Pn**		**07 58 21.8**	**+2.7**
INCO	**Volcan de Coli**	**9.63**	**298**	*eP*	**Pn**		**07 58 23.7**	**+4.3**
SCMAC	**Volcano de Col**	**9.66**	**298**	*eP*	**Pn**		**07 58 23.7**	**+4.3**
CEGR	**Campo Tres**	**9.80**	**296**	*eP*	**Pn**		**07 58 25.3**	**+3.9**
R15V		**9.82**	**295**		**Pn**		**07 58 24.3**	**+2.7**
R15V		**9.82**	**295**	*eP*	**Pn**		**07 58 24.3**	**+2.7**
HZTE	**Horizontes, Gu**	**9.82**	**116**	Pn	**Pn**		**07 58 23.8**	**+2.2**
ORTG	**Ortega, Santa**	**10.11**	**117**		**Pn**		**07 58 27.6**	**+2.0**
DUNO	**Dulce Nombre,**	**10.22**	**119**		**Pn**		**07 58 29.6**	**+2.6**
JTS	**Las Juntas de**	**10.58**	**116**	Pn	**Pn**		**07 58 33.4**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=356,slow=19,SNR=2.3							
JTS				LR	LR		08 02 22.4	
	comp=Z,54nm,19.3s,baz=299,slow=36							
	comp=Z,1.7nm,0.4s							
LCR2	**La Lucha 2**	**11.66**	**117**		**Pn**		**07 58 47.5**	**+0.5**
RIMA	**Rio Macho**	**11.77**	**116**		**Pn**		**07 58 49.4**	**+1.0**
SRBA	**San Rafael, Bu**	**12.46**	**117**	Pn	**Pn**		**07 58 57.6**	**-0.2**
SOR	**Soroa**	**13.29**	**54**	Pn	**Pn**		**07 59 09.5**	**+0.5**
833A	**Chaparral WMA,**	**13.80**	**342**	Pn	**Pn**		**07 59 16.4**	**+0.4**
HNDO	**Hondo**	**14.91**	**344**		**Pn**		**07 59 30.5**	**-0.6**
435B	**Jarrell**	**15.75**	**350**	Pn	**Pn**		**07 59 42.7**	**+0.6**
JCT	**Junction City**	**15.95**	**343**		**Pn**		**07 59 43.8**	**-0.9**
JCT				IAmb	IAmb		07 59 52.4	
	comp=Z,8.1nm,0.6s							
TX31	**Lajitas Ar. Si**	**16.38**	**331**		**Pn**		**07 59 47.0**	**-3.2**
TXAR	**Lajitas Array**	**16.38**	**331**		**Pn**		**07 59 51.3**	**+1.1**
TXAR	**Lajitas Array**	**16.38**	**331**	Pn	**Pn**		**07 59 51.0**	**+0.8**
	baz=157,slow=12,SNR=9.6							
	comp=Z,1.7nm,0.9s							
BRDY	**Brady**	**16.52**	**347**		**Pn**		**07 59 50.0**	**-1.9**
OZNA	**Ozona**	**16.76**	**340**	Pn	**Pn**		**07 59 54.6**	**-0.4**
OZNA				IAmb	IAmb		08 00 03.2	
	comp=Z,13nm,0.8s							
ALPN	**Alpine**	**17.25**	**333**		**Pn**		**08 00 01.7**	**+0.5**
FW07	**Weatherford**	**17.67**	**351**	P	**Pn**		**08 00 06.0**	**-0.2**
FW07				IAmb	IAmb		08 00 22.6	
	comp=Z,13nm,0.5s							
SGCY	**Sterling City**	**17.68**	**341**		**Pn**		**08 00 06.0**	**-0.4**
SGCY				IAmb	IAmb		08 00 11.2	
	comp=Z,14nm,0.6s							
MNHN	**Monahans**	**17.73**	**336**	P	**Pn**		**08 00 06.2**	**-0.8**
MNHN				IAmb	IAmb		08 00 13.1	
	comp=Z,10.0nm,0.9s							
PLPT	**Palo Pinto**	**17.86**	**350**	P	**Pn**		**08 00 08.2**	**-0.5**
PLPT				IAmb	IAmb		08 00 19.9	
	comp=Z,8.0nm,0.6s							
ABTX	**Abilene, Hawle**	**17.95**	**346**		**Pn**		**08 00 08.6**	**-1.1**
ABTX				IAmb	IAmb		08 00 20.8	
	comp=Z,16nm,1.1s							
VHRN	**Van Horn**	**18.21**	**330**	P	**Pn**		**08 00 12.7**	**-0.4**
ODSA	**Odessa**	**18.34**	**338**		**P**		**08 00 13.9**	**-0.7**
ODSA				IAmb	IAmb		08 00 20.1	
	comp=Z,14nm,1.0s							
APMT	**Aspermont**	**18.73**	**345**	P	**P**		**08 00 18.3**	**-0.5**
APMT				IAmb	IAmb		08 00 20.3	
	comp=Z,7.0nm,0.7s							
LOOK	**Love County**	**18.86**	**353**	P	**P**		**08 00 18.9**	**-1.2**
DKNS	**Dickens**	**19.26**	**344**	P	**P**		**08 00 24.5**	**-0.1**
DKNS				IAmb	IAmb		08 00 26.4	
	comp=Z,14nm,1.0s							
SMWD	**Samnorwood**	**20.46**	**347**	P	**P**		**08 00 37.5**	**-0.2**
121A	**Cookes Peak, D**	**21.03**	**327**	P	**P**		**08 00 44.8**	**+0.9**
121A				IAmb	IAmb		08 00 50.2	
	comp=Z,8.8nm,0.9s							
T35A	**Sooner Cattle**	**21.70**	**356**	P	**P**		**08 00 50.4**	**-0.5**
T35A				IAmb	IAmb		08 00 53.0	
	comp=Z,6.3nm,0.8s							
PULU	**Pululahua**	**21.90**	**132**	P	**P**		**08 00 56.0**	**+2.3**
RTBA	**Rita Blanca**	**22.37**	**342**	P	**P**		**08 00 58.2**	**-0.1**
ANMO	**Albuquerque**	**22.38**	**334**	P	**P**		**08 00 59.3**	**+0.9**
T25A	**Trinidad**	**23.53**	**340**	P	**P**		**08 01 11.4**	**+1.1**
T25A				IAmb	IAmb		08 01 21.9	
	comp=Z,5.8nm,0.9s							
SDV	**Santo Domingo**	**24.23**	**102**	LR	LR		08 11 17.6	
	comp=Z,38nm,19.8s,baz=305,slow=38							
SDCO	**Great Sand Dun**	**24.45**	**339**	P	**P**		**08 01 20.7**	**+1.7**
NVAR	**Mina Array Bea**	**31.19**	**322**	P	**P**		**08 02 19.2**	**0.0**
	comp=Z,0.5nm,0.7s,baz=136,slow=8.6,SNR=4.8							
	comp=Z,0.5nm,0.7s							
LPAZ	**La Paz**	**40.75**	**139**	P	**P**		**08 03 41.4**	**-0.3**
	comp=Z,0.5nm,0.5s,baz=317,slow=12,SNR=2.2							
	comp=Z,0.5nm,0.5s							
YKA	**Yellowknife Ar**	**49.31**	**348**	P	**P**		**08 04 47.0**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=150,slow=6.5,SNR=6.8							
	comp=Z,0.4nm,0.7s							
PLCA	**Paso Flores**	**59.95**	**159**	P	**P**		**08 06 05.9**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=334,slow=8.8,SNR=4.8							
	comp=Z,1.7nm,0.9s							
NOA	**NORSAR Array B**	**84.27**	**28**	P	**P**		**08 08 30.9**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=303,slow=8.1,SNR=2.1							
	comp=Z,0.7nm,0.8s							

IDC 08 08:00:47.7±3.2, 54°40N×87°01E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=28.0km s-min=20.1km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.36**	**252**	I	I		08 09 30.0	
	baz=71,slow=334,SNR=5.3							
ZALV	**Zalesovo Beam**	**1.36**	**252**	Pg	Pg		08 01 11.4	-2.3
	1.4nm,0.3s,baz=72,slow=17,SNR=11							
ZALV				Lg	Lg		08 01 31.3	
	2.7nm,0.3s,baz=69,slow=29,SNR=6.9							
KURBB	**Kurchatov Arra**	**6.41**	**237**	Pn	Pn		08 02 23.9	+0.7
	0.2nm,0.3s,baz=54,slow=14,SNR=8.8							
KURBB				Lg	Lg		08 04 11.6	
	baz=55,slow=32,SNR=1.9							
	0.9nm,0.4s							
MKAR	**Makanchi Array**	**8.18**	**203**	Pn	Pn		08 02 49.3	+1.7
	0.1nm,0.3s,baz=22,slow=14,SNR=3.1							
	0.2nm,0.4s							

SJA ***08*** *08:10:02.2±0.8, 19°.16S×70°.42W, h40km±4km, ML3.3, MW3.5*

GUC ***08*** *08:10:04.3±0.7, 19°.18S×70°.38W, h18km±5km, ML3.3*

ISC 08 08:10:00.4±1.4, 19°.20S±0°.02×70°.47W±0°.05, h7km±11km, n35, σ1°.25/59, 5D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PX02	**IPOC Station P**	**0.35**	**48**	*eP*	**Pb**		**08 10 09.9**	**+0.9**
PX02				*eS*	**Sb**		**08 10 14.7**	**-0.1**
PB12	**IPOC Station P**	**0.60**	**13**	*eP*	**Pn**		**08 10 14.6**	**-0.8**
PB12	**IPOC Station P**	**0.60**	**13**	*i*/*P*	**Pn**		**08 10 14.7**	**-0.7**
PB12				*eS*	**Sb**		**08 10 22.5**	**+0.6**
PB12				IAML			08 10 23.1	
	comp=N,2μm,0.4s							
AP01	**Chacalluta**	**0.83**	**9**	*eP*	**Pb**		**08 10 17.8**	**+0.6**
AP01				*eS*	**Sb**		**08 10 29.2**	**+0.6**
AP01				IAML			08 10 34.0	
	comp=Z,948nm,0.8s							
AP01	**Chacalluta**	**0.83**	**9**	*eP*	**Pn**		**08 10 18.1**	**-0.4**
AP01				*eS*	**Sb**		**08 10 28.9**	**+0.3**
PB11	**IPOC Station P**	**0.95**	**126**	*eP*	**Pb**		**08 10 20.0**	**+0.7**
PB11				*eS*	**Sb**		**08 10 31.8**	**-0.4**
PB11				IAML			08 10 32.3	
	comp=Z,2μm,0.1s							
PB11	**IPOC Station P**	**0.95**	**126**	*i*/*P*	**Pb**		**08 10 20.1**	**+0.7**
PB11				*eS*	**Sb**		**08 10 31.8**	**-0.4**
PB11				IAML			08 10 32.5	
	comp=E,4μm,0.2s							
TA02	**Huaiquique**	**1.11**	**163**	*eP*	**Pn**		**08 10 23.1**	**+0.7**
TA02				IAML			08 10 41.1	
	comp=Z,600nm,0.2s							
TA02	**Huaiquique**	**1.11**	**163**	*eP*	**Pn**		**08 10 22.9**	**+0.5**
TA02				*eS*	**Sg**		**08 10 36.9**	**+0.6**
HMBC	**Humberstone**	**1.21**	**153**	*eP*	**Pb**		**08 10 24.0**	**+0.3**
HMBC				*eS*	**Sb**		**08 10 39.6**	**0.0**
HMBC				IAML			08 10 43.4	
	comp=Z,742nm,0.4s							
HMBC	**Humberstone**	**1.21**	**153**	*i*/*P*	**Pb**		**08 10 24.1**	**+0.3**
HMBC				*eS*	**Sb**		**08 10 39.5**	**0.0**
HMBC				IAML			08 10 44.8	
	comp=E,672nm,0.2s							
GO01	**Chusmiza**	**1.30**	**111**	*eP*	**Pg**		**08 10 25.7**	**+0.4**
GO01				*eS*	**Sg**		**08 10 42.2**	**+0.1**
GO01				IAML			08 10 42.6	
	comp=Z,636nm,0.2s							
GO01	**Chusmiza**	**1.30**	**111**	*i* P	**Pg**		**08 10 25.8**	**+0.4**
GO01				*eS*	**Sb**		**08 10 42.0**	**-0.4**
GO01				IAML			08 10 42.5	
	comp=N,2μm,0.1s							
TA01	**Diego Aracena**	**1.39**	**169**	*eP*	**Pb**		**08 10 27.2**	**+0.6**
TA01				*eS*	**Sn**		**08 10 45.2**	**+0.4**
TA01				IAML			08 10 46.2	
	comp=Z,404nm,0.3s							
TA01	**Diego Aracena**	**1.39**	**169**	*i*/*P*	**Pb**		**08 10 27.3**	**+0.6**
TA01				*eS*	**Sn**		**08 10 44.9**	**+0.1**
TA01				IAML			08 10 45.8	
	comp=E,745nm,0.3s							
PB08	**IPOC Station P**	**1.56**	**127**	*eP*	**Pb**		**08 10 29.6**	**-0.2**
PB08				*eS*	**Sn**		**08 10 49.6**	**0.0**
PB08				IAML			08 10 49.9	
	comp=Z,441nm,0.2s							
PB08	**IPOC Station P**	**1.56**	**127**	*eP*	**Pb**		**08 10 29.7**	**-0.1**
PB08				*eS*	**Sn**		**08 10 49.5**	**0.0**
PB08				IAML			08 10 51.4	
	comp=E,557nm,0.3s							
PATCX	**Punta Patache**	**1.64**	**169**	*eP*	**Pb**		**08 10 31.2**	**+0.1**
PATCX				*eS*	**Sb**		**08 10 51.9**	**-0.1**
PATCX				IAML			08 10 57.8	
	comp=Z,226nm,0.3s							
PATCX	**Punta Patache**	**1.64**	**169**	*eP*	**Pb**		**08 10 31.2**	**+0.1**
PB18	**Visviri**	**1.86**	**31**	*i*/*P*	**Pg**		**08 10 36.4**	**+0.4**
PB18				*eS*	**Sg**		**08 11 00.7**	**+0.5**
PB18				IAML			08 11 02.3	
	comp=N,399nm,0.3s							
PB01	**IPOC Station P**	**2.06**	**153**	*eP*	**Pn**		**08 10 36.4**	**+0.9**
PB01				*eS*	**Sb**		**08 11 02.9**	**-1.0**
PB01				IAML			08 11 10.1	
	comp=Z,131nm,0.2s							
PB01	**IPOC Station P**	**2.06**	**153**	*eP*	**Pn**		**08 10 36.9**	**+1.5**
PB01				IAML			08 11 05.4	
	comp=N,177nm,0.2s							
PB02	**IPOC Station P**	**2.18**	**166**	*eP*	**Pb**		**08 10 39.1**	**-1.1**
PB02				*eS*	**Sb**		**08 11 09.2**	**+1.7**
PB02				IAML			08 11 11.1	
	comp=Z,260nm,0.3s							
PB02	**IPOC Station P**	**2.18**	**166**	*eP*	**Pb**		**08 10 39.3**	**-0.9**
PB02				IAML			08 11 10.5	
	comp=Z,345nm,0.3s							
PB07	**IPOC Station P**	**2.58**	**168**	*eP*	Pn		08 10 36.7	-6.0
PB07				*eS*	**Sn**		**08 11 12.2**	**-2.2**
PB07				IAML			08 11 22.3	
	comp=Z,87nm,0.6s							
PB07	**IPOC Station P**	**2.58**	**168**	*eP*	**Pn**		**08 10 45.0**	**+2.3**
PB07				IAML			08 11 25.9	
	comp=E,128nm,0.4s							
PB09	**IPOC Station P**	**2.83**	**156**	*eP*	**Pn**		**08 10 47.6**	**+1.4**
PB09				*eS*	**Sn**		**08 11 20.4**	**-0.3**
PB09				IAML			08 11 39.9	
	comp=Z,86nm,0.6s							
PB09	**IPOC Station P**	**2.83**	**156**	*eP*	**Pb**		**08 10 50.3**	**-1.1**
PB04	**IPOC Station P**	**3.13**	**174**	*eP*	**Pn**		**08 10 50.4**	**0.0**
PB04				*eS*	**Sb**		**08 11 32.4**	**-2.7**
PB04				IAML			08 11 46.2	
	comp=Z,67nm,0.5s							
PB04	**IPOC Station P**	**3.13**	**174**	*eP*	**Pn**		**08 10 52.9**	**+2.5**
PB04				IAML			08 11 44.2	
	comp=N,112nm,0.6s							
PB06	**IPOC Station P**	**3.59**	**167**	*eP*	**Pn**		**08 10 58.7**	**+2.1**
PB06				*eS*	**Sg**		**08 11 55.3**	**-0.5**
PB06				IAML			08 11 56.2	
	comp=Z,51nm,0.6s							
PB06	**IPOC Station P**	**3.59**	**167**	*eP*	**Pn**		**08 10 58.6**	**+2.0**
PB05	**IPOC Station P**	**3.65**	**176**	*eP*	**Pn**		**08 10 58.4**	**+1.1**
PB05				IAML			08 11 58.7	
	comp=Z,28nm,0.7s							
LPAZ	**La Paz**	**3.66**	**38**	*eP*	**Pn**		**08 10 56.4**	**-1.6**
LVC	**Limon Verde**	**3.70**	**157**	*eP*	**Pn**		**08 11 00.6**	**+2.3**
LVC				*eS*	**Sb**		**08 11 51.9**	**+0.5**
LVC				*eS*	**Sg**		**08 11 54.1**	**-5.1**
LVC				IAML			08 12 02.5	
	comp=Z,31nm,0.4s							

NEIC ***08*** *08:14:11.8, 56°.22N×148°.47W, h24km, Moment Tensor Solution. Duration: 3s0 Moment tensor: Scale 10^17 Nm; Mrr0.82; Mθθ-1.42; Mφφ0.60; Mrθ-1.01; Mθφ1.81; Mrφ-0.68; Fault plane solution: M0 2.50000×10^17 NP1: φs260.99000°, δ73.27000°, λ33.20000°. NP2: φs160.32000°, δ58.38000°, λ160.24000°. Principal axes: T 2.4327, Plg35.0000°, Azm125.0000°; N 0.1371, Plg53.0000°, Azm285.0000°; P -2.5698, Plg10.0000°, Azm28.0000°;*

IDC ***08*** *08:14:11.1±0.5, 56°.35N×148°.28W, h0km, mb5.0/36, mbtmp5.0/42, ML4.8/6, MS4.8/90 Error ellipse: s-maj=13.4km s-min=9.6km az=25.0*

BJI ***08*** *08:14:11.3±0.0, 56°.48N×148°.22W, h10km, mb5.2/74, mB5.7/70, Ms5.6/81, Ms7 5.3/79*

NEIC ***08*** *08:14:11.3±1.5, 56°.30N±0°.06×148°.43W±0°.08, h6km±1km, mb5.4/210, ML5.6/70, Ms_20 5.1/653, Mwb5.5/52, Mww5.5/56, ML5.3(AEIC), Error ellipse: s-maj=9.7km s-min=7.4km az=177.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr0.54; Mθθ-0.97; Mφφ0.43; Mrθ-0.62; Mθφ1.41; Mφr-0.77; Fault plane solution: M0 1.91000×10^17 NP1: φs161.25000°, δ63.77000°, λ156.52000°. NP2: φs262.11000°, δ69.06000°, λ28.24000°. Principal axes: T 1.9707, Plg34.0000°, Azm123.0000°; N -0.1236, Plg55.0000°, Azm296.0000°; P -1.8471, Plg3.0000°, Azm31.0000°;*

MOS ***08*** *08:14:11.2±0.9, 56°.39N×148°.36W, h10km, mb5.4/107, MS4.9/46 Error ellipse: s-maj=8.3km s-min=3.4km az=94.3*

NEIC ***08*** *08:14:11.8, 56°.32N×148°.47W, h8km*

NEIC ***08*** *08:14:11.8, 56°.32N×148°.47W, h24km*

IPGP ***08*** *08:14:12.0, 56°.36N×148°.46W, h11km, Mw5.6, Fault plane solution: NP1: φs158.00000°, δ58.00000°, λ162.00000°. NP2: φs258.00000°, δ75.00000°, λ33.00000°.*

GCMT ***08*** *08:14:16.3±0.1, 56°.39N±0°.01×148°.37W±0°.01, h29km, MW5.6/156, Moment Tension Solution. s121,c218; s156,c337; Duration: 1s5 Moment tensor: Scale 10^17 Nm; Mrr1.09±.04; Mθθ-1.76±.03; Mφφ0.67±.03; Mrθ-0.75±.06; Mθφ2.17±.02; Mφr-0.71±.06; Best double couple: M0 2.82700×10^17 NP1: φs261.00000°, δ70.00000°, λ28.00000°. NP2: φs161.00000°, δ64.00000°, λ158.00000°. Principal axes: T 2.6030, Plg34.0000°, Azm122.0000°; N 0.4530, Plg56.0000°, Azm293.0000°; P -3.0520, Plg4.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

AEIC ***08*** *08:14:16.6±1.4, 56°.35N±0°.06×148°.50W±0°.08, h11km±3km Error ellipse: s-maj=8.9km s-min=6.6km az=172.0*

ISC 08 08:14:13.0±0.3, 56°.37N±0°.04×148°.28W±0°.03, h10km±1km, h9km:pP-P, n1742, σ1s83/1633, mb5.3/274, MS5.0/441, 57C-27D, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.75**	**303**		**Pn**		**08 14 54.2**	**-2.9**
KDAK					**Sn**		**08 15 23.3**	**-6.9**
KDAK	**Kodiak Island**	**2.75**	**303**	P	**Pn**		**08 14 54.2**	**-2.9**
	baz=122							
KDAK	**Kodiak Island**	**2.75**	**303**	Pn	**Pn**		**08 14 54.4**	**-2.6**
	151nm,0.3s,baz=113,slow=5.3,SNR=5119							
KDAK				Sn	**Sn**		**08 15 23.4**	**-6.9**
	410nm,0.3s,baz=143,slow=20,SNR=5.4							
KDAK				LR	LR		08 16 08.6	
	comp=Z,41μm,19.8s,baz=213,slow=43							
	482nm,0.2s							
KDAK	**Kodiak Island**	**2.75**	**303**	*c i*P	**Pn**		**08 14 54.2**	**-2.9**
OHAK	**Old Harbor**	**2.88**	**289**	P	**Pn**		**08 14 55.6**	**-3.4**
OHAK	**Old Harbor**	**2.88**	**289**		**Pn**		**08 14 55.5**	**-3.4**
OHAK				Sn	**Sn**		**08 15 25.8**	**-7.9**
OHAK	**Old Harbor**	**2.88**	**289**	P	**Pn**		**08 14 55.5**	**-3.4**
	baz=107,SNR

P19K	Oil Pt	4.22	323	P		Pn	08 15 15.8	-1.5	
	baz=141,SNR=74								
ACHA	Angle Creek He	4.25	299			Pn	08 15 16.4	-1.4	
SLKM	Skilak Lake	4.28	347			Pn	08 15 16.4	-1.7	
KAHC	Katmai Hardscr	4.29	305			Pn	08 15 16.5	-1.9	
KVTA	Katmai Vly 10	4.30	301			Pn	08 15 17.1	-1.4	
ANCK	Angle Creek	4.32	298			Pn	08 15 17.1	-1.7	
O20K	Slope Mountain	4.38	330			Pn	08 15 17.8	-1.8	
O20K	Slope Mountain	4.38	330	P		Pn	08 15 17.8	-1.8	
	baz=148,SNR=97								
EYAK	Cordova Ski Ar	4.40	17	P		Pn	08 15 19.5	-0.3	
EYAK	Cordova Ski Ar	4.40	17			Pn	08 15 19.5	-0.3	
EYAK	Cordova Ski Ar	4.40	17	P		Pn	08 15 19.6	-0.3	
	baz=199,SNR=1000								
EYAK				S		Sn	08 16 08.2	-2.9	
	baz=199								
SUCK	Suckling Hills	4.41	31			Pn	08 15 20.2	+0.1	
SUCK				IAML			08 16 13.0		
	comp=E,5µm,1.3s								
SUCK				IAML			08 16 24.3		
	comp=N,6µm,1.3s								
IVE	Iliamna Volcan	4.44	328			Pn	08 15 18.4	-1.9	
ILSW	Iliamna Southw	4.45	327	Pn		Pn	08 15 18.5	-2.1	
ILSW				IAML			08 16 15.4		
	comp=E,6µm,0.8s								
ILSW				IAML			08 16 15.5		
	comp=N,6µm,0.6s								
RAGM	Ragged Mountai	4.46	24			Pn	08 15 20.4	-0.2	
RAGM	Ragged Mountai	4.46	24	IAML			08 16 23.5		
	comp=E,8µm,0.9s								
FID	Port Fidalgo	4.50	11			Pn	08 15 20.1	-1.1	
FID	Port Fidalgo	4.50	11	IAML			08 16 11.5		
	comp=E,5µm,0.6s								
FID				IAML			08 16 17.2		
	comp=N,3µm,0.6s								
NICHA	Nichawak Mount	4.50	29			Pn	08 15 21.2	0.0	
HMT	Hamilton	4.51	26			Pn	08 15 21.3	0.0	
KELA	Mount Kelaz	4.54	300			Pn	08 15 20.2	-1.6	
CNTC	Contact Creek	4.54	298			Pn	08 15 20.2	-1.6	
Q17K	Contact Creek	4.54	298	P		Pn	08 15 20.1	-1.7	
	baz=113,SNR=194								
Q17K				S		Sn	08 16 08.8	-5.9	
	baz=113								
PLK3	Peulik 3	4.56	290			Pn	08 15 19.7	-2.3	
GLI	Glacier Island	4.57	7			Pn	08 15 21.0	-1.2	
GLI				IAML			08 16 14.5		
	comp=E,5µm,0.6s								
GLI	Glacier Island	4.57	7	P		Pn	08 15 21.1	-1.0	
	baz=189,SNR=903								
GLI				S		Sn	08 16 11.4	-3.8	
	baz=189								
BGLC	Bering Glacier	4.60	33	P		Pn	08 15 22.8	+0.4	
	baz=218,SNR=92								
BGLC				S		Sn	08 16 14.0	-1.9	
	baz=218								
GOAT	Goat Mountain	4.62	22			Pn	08 15 22.8	-0.1	
CAPN	Captain Cook N	4.66	342			Pn	08 15 23.5	+0.1	
CAPN	Captain Cook N	4.66	342	P		Pn	08 15 22.8	-0.6	
	baz=161,SNR=24								
RED	Redoubt Volcan	4.70	332			Pn	08 15 21.7	-2.3	
BERG	Berg Lake	4.70	29			Pn	08 15 23.9	-0.1	
BERG				IAML			08 16 21.3		
	comp=N,6µm,0.6s								
BERG				IAML			08 16 21.9		
	comp=E,6µm,0.7s								
GRIN	Grindle Hills	4.72	32			Pn	08 15 24.4	+0.3	
RDSO	Redoubt South	4.72	332			Pn	08 15 22.1	-2.3	
RDT	Redoubt	4.74	335			Pn	08 15 22.1	-2.5	
PLK1	Peulik 1	4.76	291			Pn	08 15 22.5	-2.3	
RDWB	Redoubt West	4.78	332			Pn	08 15 22.7	-2.4	
SNH	Sunshine Point	4.78	35			Pn	08 15 25.3	+0.2	
SNH				IAML			08 16 36.3		
	comp=E,3µm,0.9s								
SNH				IAML			08 16 47.6		
	comp=N,3µm,1.6s								
P18K	Big Mountain,	4.79	312	Pn		Pn	08 15 22.6	-2.6	
P18K	Big Mountain,	4.79	312	P		Pn	08 15 22.7	-2.6	
	baz=128,SNR=99								
P18K				S		Sn	08 16 14.4	-6.4	
	baz=128								
RC01	Rabbit Creek A	4.80	352			Pn	08 15 24.0	-1.2	
RC01	Rabbit Creek A	4.80	352	IAML			08 16 19.3		
	comp=N,6µm,0.5s								
RC01				IAML			08 16 20.5		
	comp=E,4µm,0.9s								
RC01	Rabbit Creek A	4.80	352	P		Pn	08 15 24.1	-1.2	
	baz=171,SNR=151								
RC01				S		Sn	08 16 17.4	-3.5	
	baz=171								
CYK	Cape Yakataga	4.82	37			Pn	08 15 25.8	+0.2	
KHIT	Khitrov Hills	4.87	31			Pn	08 15 26.1	-0.3	
FIS	Fire Island	4.90	349			Pn	08 15 26.3	-0.3	
DIV	Divide	4.95	14			Pn	08 15 27.1	-0.4	
O19K	Port Alsworth	4.99	323			Pn	08 15 25.6	-2.2	
O19K	Port Alsworth	4.99	323	P		Pn	08 15 25.8	-2.1	
	baz=139,SNR=190								
WAX	Waxell Ridge	4.99	33			Pn	08 15 27.4	-0.6	
WAX				IAML			08 16 25.4		
	comp=E,5µm,0.3s								
BMRM	Bremner River	5.00	21			Pn	08 15 27.8	-0.3	
BMRM	Bremner River	5.00	21	P		Pn	08 15 27.8	-0.3	
	baz=205,SNR=1000								
KNK	Knik Glacier	5.06	359			Pn	08 15 27.7	-1.2	
KNK				IAML			08 16 31.7		
	comp=N,2µm,0.6s								
KNK				IAML			08 16 34.4		
	comp=E,3µm,0.8s								
KNK	Knik Glacier	5.06	359	P		Pn	08 15 27.8	-1.2	
	baz=180,SNR=209								
BARK	Barkley Ridge	5.07	35			Pn	08 15 29.1	+0.1	
O18K	Koktuh Hills	5.07	316	Pn		Pn	08 15 25.8	-3.2	
O18K				IAML			08 16 40.0		
	comp=N,2µm,0.8s								
O18K	Koktuh Hills	5.07	316	P		Pn	08 15 26.7	-2.4	
	baz=132,SNR=134								
Q16K	King Salmon	5.07	301			Pn	08 15 27.3	-1.8	
Q16K	King Salmon	5.07	301	P		Pn	08 15 27.2	-1.8	
	baz=115,SNR=314								
MESA	MESA	5.08	39	P		Pn	08 15 29.3	0.0	
	baz=224,SNR=583								
P17K	Kvichak River	5.21	306			Pn	08 15 28.9	-2.0	
P17K	Kvichak River	5.21	306	P		Pn	08 15 29.0	-1.8	
	baz=121,SNR=391								
R16K	Pilot Point	5.23	287			Pn	08 15 28.5	-2.6	
R16K				IAML			08 17 09.1		
	comp=N,2µm,1.4s								
R16K	Pilot Point	5.23	287	P		Pn	08 15 29.1	-2.0	
	baz=100								
PMR	Palmer	5.26	356	P		Pn	08 15 30.7	-0.9	
PMR	Palmer	5.26	356			Pn	08 15 30.3	-1.3	
PMR				IAML			08 16 30.1		
	comp=E,3µm,0.6s								
PMR				IAML			08 16 32.0		
	comp=N,2µm,0.6s								
PMR	Palmer	5.26	356	P		Pn	08 15 30.4	-1.2	
	baz=176,SNR=884								
PMR	Palmer	5.26	356	P		Pn	08 15 30.3	-1.3	
ISLE	Juniper Island	5.27	34			Pn	08 15 31.7	-0.2	
ISLE				IAML			08 16 32.0		
	comp=N,2µm,1.4s								
ISLE				IAML			08 16 36.2		
	comp=E,2µm,1.0s								
SUA	Susitna One	5.27	347			Pn	08 15 30.0	-1.8	
SUA				IAML			08 16 32.9		
	comp=E,2µm,0.8s								
SUA	Susitna One	5.27	347	P		Pn	08 15 30.2	-1.6	
	baz=166,SNR=61								
CKN	Chakachatna No	5.28	339			Pn	08 15 30.7	-1.2	
SPCN	Chakachatna No	5.28	339			Pn	08 15 30.0	-1.9	
KLU	Klutina	5.29	12			Pn	08 15 31.8	-0.3	
KLU				IAML			08 16 33.2		
	comp=N,2µm,0.5s								
KLU				IAML			08 16 33.9		
	comp=E,3µm,0.6s								
KLU	Klutina	5.29	12	P		Pn	08 15 31.7	-0.3	
	baz=195,SNR=1000								
SPCG	Spurr Capps Gl	5.31	340			Pn	08 15 30.8	-1.6	
SPCP	Crater Peak Br	5.31	339			Pn	08 15 30.7	-1.8	
SPBG	Spurr Blockage	5.35	338			Pn	08 15 31.1	-1.8	
ANNE	Aniakchak Nort	5.42	280			Pn	08 15 31.1	-2.8	
GHO	Glory Hole Cre	5.43	357			Pn	08 15 33.4	-0.7	
M23K	Glacier View	5.45	3			Pn	08 15 34.0	-0.3	
M23K	Glacier View	5.45	3	P		Pn	08 15 34.0	-0.3	
	baz=184,SNR=1000								
SML	Sawmill	5.46	360	Pn		Pn	08 15 33.6	-0.7	
	baz=181,SNR=689								
SML	Sawmill	5.46	360	P		Pn	08 15 33.6	-0.7	
STLK	Strandline Lak	5.47	342			Pn	08 15 32.8	-1.7	
SAMH	Samovar Hills	5.47	43			Pn	08 15 35.2	+0.6	
VRDI	Verde Repeater	5.48	25	Pn		Pn	08 15 34.5	-0.3	
M22K	Willow	5.49	351			Pn	08 15 33.9	-0.8	
M22K	Willow	5.49	351	P		Pn	08 15 33.4	-1.2	
	baz=170,SNR=73								
SCM	Sheep Creek Mo	5.51	5			Pn	08 15 34.9	-0.1	
SCM	Sheep Creek Mo	5.51	5	P		Pn	08 15 34.9	-0.1	
	baz=196,SNR=946								
SCM	Sheep Creek Mo	5.51	5	P		Pn	08 15 34.9	-0.1	
N19K	Bonanza Creek	5.51	327	Pn		Pn	08 15 33.1	-2.1	
N19K	Bonanza Creek	5.51	327	P		Pn	08 15 33.0	-2.1	
	baz=142,SNR=66								
SPNN	North Nagishla	5.51	337			Pn	08 15 33.8	-1.5	
KIAG	Kiagna River	5.52	32			Pn	08 15 35.0	-0.3	
YKU2	Yakutat	5.56	52	P		Pn	08 15 37.3	+1.5	
YKU2	Yakutat	5.56	52			Pn	08 15 36.5	+0.7	
N25K	Chitina, Valde	5.59	18			Pn	08 15 36.1	-0.1	
N25K	Chitina, Valde	5.59	18	P		Pn	08 15 36.2	-0.1	
	baz=202,SNR=1000								
GLB	Gilahina Butte	5.59	23	Pn		Pn	08 15 36.1	-0.1	
CHGN	Chignik	5.64	274			Pn	08 15 33.8	-3.0	
CHGN	Chignik	5.64	274	P		Pn	08 15 34.2	-2.6	
	baz=86,SNR=38								
PTPK	Patty Peak	5.70	30			Pn	08 15 37.9	+0.1	
MCARA	McCarthy VSAT	5.72	26			Pn	08 15 37.8	-0.1	
MCARA	McCarthy VSAT	5.72	26	P		Pn	08 15 37.9	-0.1	
	baz=211,SNR=986								
PNL	Peninsula	5.77	51	P		Pn	08 15 40.0	+1.4	
PNL	Peninsula	5.77	51			Pn	08 15 38.5	-0.1	
PNL	Peninsula	5.77	51	P		Pn	08 15 38.6	0.0	
	baz=239,SNR=1000								
O17K	Koliganek Bris	5.79	310			Pn	08 15 36.5	-2.3	
O17K	Koliganek Bris	5.79	310	P		Pn	08 15 36.4	-2.5	
	baz=123								
BCPM	Bancas Point	5.82	48	Pn		Pn	08 15 40.2	+0.9	
BARN	Barnard Glacie	5.83	33	Pn		Pn	08 15 39.9	+0.2	
P16K	Nushagak River	5.85	301			Pn	08 15 38.0	-1.7	
P16K	Nushagak River	5.85	301	P		Pn	08 15 38.1	-1.5	
	baz=114,SNR=98								
M24K	Tolsona, Glenn	5.86	10			Pn	08 15 40.3	+0.4	
M24K	Tolsona, Glenn	5.86	10	P		Pn	08 15 40.2	+0.3	
	baz=192,SNR=1000								
CTG	Chitna Glacier	5.86	35	P		Pn	08 15 40.2	+0.2	
	baz=221,SNR=593								
CTGM	Chitina Glacie	5.86	35	Pn		Pn	08 15 40.0	0.0	
LOGN	Logan Glacier	5.87	37			Pn	08 15 40.3	+0.1	
SKT	Skwentna	5.87	345			Pn	08 15 38.6	-1.5	
SKT	Skwentna	5.87	345	P		Pn	08 15 38.4	-1.6	
	baz=163,SNR=162								
N18K	Kilae Creek	5.88	320	Pn		Pn	08 15 37.5	-2.6	
N18K	Kilae Creek	5.88	320	P		Pn	08 15 37.6	-2.5	
	baz=135,SNR=78								
WASW	Wrangell South	5.96	19			Pn	08 15 41.7	+0.2	
WACK	Wrangell Chich	5.99	18			Pn	08 15 41.7	-0.1	
VNHG	Veniaminof 1	6.06	273			Pn	08 15 40.5	-2.2	
M20K	Styx River	6.07	338			Pn	08 15 40.6	-2.2	
M20K	Styx River	6.07	338	P		Pn	08 15 41.0	-1.8	
	baz=155								
SVW2	Sparrevohn	6.08	324	P		Pn	08 15 40.5	-2.3	
SVW2	Sparrevohn	6.08	324			Pn	08 15 40.6	-2.3	
O28M	Mount Upton	6.12	40			Pn	08 15 44.0	+0.4	
O28M	Mount Upton	6.12	40	P		Pn	08 15 44.0	+0.4	
	baz=227,SNR=928								
O16K	Kokwok River B	6.14	306			Pn	08 15 41.9	-1.8	
O16K	Kokwok River B	6.14	306	P		Pn	08 15 41.5	-2.2	
	baz=119,SNR=96								
CUT	Chulitna	6.14	351			Pn	08 15 43.0	-0.7	
CUT	Chulitna	6.14	351	P		Pn	08 15 42.5	-1.2	
	baz=170,SNR=145								
VNSS	Veniaminof 8	6.22	273			Pn	08 15 42.9	-2.1	
WAT6	Susitna Watana	6.24	2			Pn	08 15 44.6	-0.6	
WAT6	Susitna Watana	6.24	2	P		Pn	08 15 44.6	-0.6	
	baz=184,SNR=593								
HARP	HAARP	6.26	13			Pn	08 15 45.8	+0.5	
HARP	HAARP	6.26	13	P		Pn	08 15 45.8	+0.5	
	baz=197,SNR=698								
N17K	Nushagak Hills	6.26	315	Pn		Pn	08 15 43.1	-2.3	
N17K	Nushagak Hills	6.26	315	P		Pn	08 15 43.1	-2.3	
	baz=129,SNR=89								
S14K	Fog Glacier	6.27	274	P		Pn	08 15 43.4	-2.2	
	baz=85,SNR=11								
VNFG	Fog Glacier, M	6.27	274			Pn	08 15 43.1	-2.5	
VNWF	Veniaminof 8	6.29	273			Pn	08 15 43.9	-2.0	
M19K	Big River Lodg	6.38	333			Pn	08 15 44.0	-3.0	
M19K	Big River Lodg	6.38	333	P		Pn	08 15 44.7	-2.3	
	baz=149								
M18K	Stony River	6.45	326			Pn	08 15 45.4	-2.5	
M18K	Stony River	6.45	326	P		Pn	08 15 45.6	-2.4	
	baz=140,SNR=176								
WAT1	Susitna Watana	6.49	359			Pn	08 15 48.0	-0.5	
WAT1	Susitna Watana	6.49	359	P		Pn	08 15 48.0	-0.5	
	baz=179								
P29M	Windy Craggy	6.49	55			Pn	08 15 48.7	+0.2	
P29M	Windy Craggy	6.49	55	P		Pn	08 15 48.2	-0.3	
	baz=244,SNR=1000								
WAT7	Susitna Watana	6.49	358			Pn	08 15 48.1	-0.5	
YUK8	Steele Glacier	6.62	38			Pn	08 15 51.8	+1.3	
YUK8	Steele Glacier	6.62	38	P		Pn	08 15 51.9	+1.3	
	baz=226,SNR=1000								
M26K	Nabesna, AK	6.63	22			Pn	08 15 50.4	0.0	
M26K	Nabesna, AK	6.63	22	P		Pn	08 15 50.5	0.0	
	baz=207,SNR=402								
L19K	White Mountain	6.73	333	Pn		Pn	08 15 49.5	-2.3	
L19K	White Mountain	6.73	333	P		Pn	08 15 49.5	-2.3	
	baz=148,SNR=91								
DHY	Denali Highway	6.75	4			Pn	08 15 51.9	-0.3	
DHY	Denali Highway	6.75	4	P		Pn	08 15 51.9	-0.3	
	baz=185,SNR=696								
S31K	Pelican	6.75	71			Pn	08 15 50.3	-1.6	
S31K	Pelican	6.75	71	P		Pn	08 15 50.5	-1.5	
	baz=261,SNR=309								
YUK3	Moose Creek	6.76	33	P		Pn	08 15 53.4	+1.1	
	baz=290,SNR=1000								
L20K	Farewell, AK	6.76	337			Pn	08 15 50.1	-2.1	
L20K	Farewell, AK	6.76	337	P		Pn	08 15 49.9	-2.3	
	baz=154,SNR=37								
PAX	Paxson	6.78	11			Pn	08 15 52.0	-0.5	
PAX	Paxson	6.78	11	P		Pn	08 15 52.1	-0.4	
	baz=194,SNR=430								
PAX	Paxson	6.78	11	P		Pn	08 15 52.0	-0.5	
O15K	Ungalikthiuk R	6.79	299			Pn	08 15 50.8	-1.7	
O15K	Ungalikthiuk R	6.79	299	P		Pn	08 15 51.1	-1.4	
	baz=110,SNR=162								
M27K	Edge Creek, AK	6.84	26	Pn		Pn	08 15 53.1	-0.3	
M27K	Edge Creek, AK	6.84	26	P		Pn	08 15 53.8	+0.3	
	baz=212,SNR=318								
PPLA	Purkeypile	6.84	345			Pn	08 15 52.2	-1.2	
PPLA	Purkeypile	6.84	345	P		Pn	08 15 53.0	-0.4	
	baz=162,SNR=55								
N16K	Nishlik Lake	6.87	311			Pn	08 15 51.8	-2.1	
N16K	Nishlik Lake	6.87	311	P		Pn	08 15 51.7	-2.1	
	baz=123,SNR=149								
YUK6	Outpost Mounta	6.91	44	P		Pn	08 15 56.0	+1.5	
	baz=233,SNR=1000								
M17K	Holitna River	6.92	321	Pn		Pn	08 15 52.2	-2.2	
M17K	Holitna River	6.92	321	P		Pn	08 15 52.4	-2.1	
	baz=134,SNR=198								
SDPT	Sand Point	6.94	267	P		Pn	08 15 51.7	-3.0	
SDPT	Sand Point	6.94	267	Pn		Pn	08 15 52.0	-2.7	
SDPT	Sand Point	6.94	267	P		Pn	08 15 51.9	-2.7	
	baz=77,SNR=30								
MENT	Mentasta	6.98	17	P		Pn	08 15 56.1	+0.8	
MENT	Mentasta	6.98	17			Pn	08 15 55.8	+0.5	
YUK4	Talbot Arm	7.06	41	P		Pn	08 15 59.3	+2.8	
	baz=229,SNR=1000								
P30M	Million Dollar	7.06	53			Pn	08 15 57.5	+1.1	
P30M	Million Dollar	7.06	53	P		Pn	08 15 57.4	+1.0	
	baz=243,SNR=790								
PLBC	Pleasant Camp	7.06	59	P		Pn	08 15 57.0	+0.7	
	baz=249,SNR=1000								
RND	Reindeer	7.07	358	Pn		Pn	08 15 55.9	-0.6	
RND	Reindeer	7.07	358	P		Pn	08 15 55.9	-0.6	
R31K	City Hall, Gus	7.08	68			Pn	08 15 56.6	0.0	
R31K	City Hall, Gus	7.08	68	P		Pn	08 15 56.8	+0.2	
	baz=258,SNR=46								
L26K	Log Cabin Wild	7.13	18			Pn	08 15 57.6	+0.4	
L26K	Log Cabin Wild	7.13	18	P		Pn	08 15 57.7	+0.4	
	baz=203,SNR=367								
SIT	Sitka	7.17	79	P		Pn	08 15 55.4	-2.4	
SIT	Sitka	7.17	79			Pn	08 15 54.4	-3.4	
	baz=270,SNR=68								
SIT	Sitka	7.17	79	P		Pn	08 15 55.0	-2.8	
TRF	Thorofare Moun	7.18	353			Pn	08 15 57.5	-0.6	
TRF	Thorofare Moun	7.18	353	P		Pn	08 15 57.3	-0.8	
	baz=172,SNR=208								
HYT	Haines Junctio	7.19	47	Pn		Pn	08 15 58.9	+0.7	
HYT	Haines Junctio	7.19	47	P		Pn	08 15 58.9	+0.7	
	baz=236,SNR=618								
M16K	Timber Creek	7.26	314	Pn		Pn	08 15 57.2	-1.8	
M16K	Timber Creek	7.26	314	P		Pn	08 15 57.2	-1.8	
	baz=126,SNR=100								
L18K	Granite Mounta	7.27	327	Pn		Pn	08 15 57.3	-1.9	
L18K	Granite Mounta	7.27	327	P		Pn	08 15 57.1	-2.1	
	baz=141,SNR=30								
N15K	Kwethluk River	7.30	306			Pn	08 15 58.3	-1.3	
N15K	Kwethluk River	7.30	306	P		Pn	08 15 58.1	-1.5	
	baz=117,SNR=87								
N15K				S		Sn	08 17 16.0	-6.4	
	baz=117								
CAST	Castle Rocks	7.33	346			Pn	08 15 58.7	-1.3	
CAST	Castle Rocks	7.33	346	P		Pn	08 15 58.8	-1.1	
	baz=164,SNR=163								
KTH	Kantishna Hill	7.33	351	Pn		Pn	08 15 59.4	-0.7	
MCK	McKinley	7.40	358			Pn	08 16 00.8	-0.2	
MCK	McKinley	7.40	358	P		Pn	08 16 00.8	-0.2	
	baz=178,SNR=206								
MCK	McKinley	7.40	358	P		Pn	08 16 00.8	-0.2	
L27K	Beaver Creek,	7.46	23	Pn		Pn	08 16 01.8	-0.1	
L27K	Beaver Creek,	7.46	23	P		Pn	08 16 01.9	-0.1	
	baz=209,SNR=270								
BCAR	Beaver Creek A	7.48	23			Pn	08 16 01.9	-0.2	
O14K	Tigyukauivet M	7.51	298			Pn	08 16 00.9	-1.6	
O14K	Tigyukauivet M	7.51	298	P		Pn	08 15 59.7	-2.8	
	baz=108,SNR=36								
SKAG	Skagway	7.56	60	P		Pn	08 16 04.1	+0.9	
SKAG	Skagway	7.56	60			Pn	08 16 03.7	+0.6	
SKAG	Skagway	7.56	60	P		Pn	08 16 03.8	+0.6	
	baz=251,SNR=409								
K24K	Donnelly Dome	7.57	8			Pn	08 16 03.5	+0.3	
K24K	Donnelly Dome	7.57	8	P		Pn	08 16 03.7	+0.4	
	baz=191,SNR=168								
BESE	Bessie Mountai	7.57	67			Pn	08 16 03.5	+0.1	
S32K	Killisnoo	7.58	76			Pn	08 16 02.0	-1.5	
S32K	Killisnoo	7.58	76	P		Pn	08 16 02.2	-1.2	
	baz=267,SNR=36								
K20K	Telida	7.59	340	Pn		Pn	08 16 01.6	-1.9	
K20K	Telida	7.59	340	P		Pn	08 16 01.7	-1.9	
	baz=156								
PS1A	Pavlof South-1	7.63	268			Pn	08 16 01.3	-2.8	
PVV	Pavlof Volcano	7.67	268			Pn	08 16 01.3	-3.3	
R32K	Eaglecrest	7.69	70			Pn	08 16 04.9	-0.1	
R32K	Eaglecrest	7.69	70	P		Pn	08 16 05.2	+0.2	
	baz=261,SNR=147								
N30M	Aishikik Lake	7.72	44			Pn	08 16 06.2	+0.9	
N30M	Aishikik Lake	7.72	44	P		Pn	08 16 06.3	+0.9	
	baz=234,SNR=1000								
L17K	Donlin	7.73	323			Pn	08 16 03.1	-2.3	
L17K	Donlin	7.73	323	P		Pn	08 16 03.2	-2.2	
	baz=135,SNR=40								
O30N	Mendenhall	7.75	50			Pn	08 16 06.5	+0.7	
O30N	Mendenhall	7.75	50	P		Pn	08 16 06.5	+0.7	
	baz=241,SNR=370								
S12K	Black Hills	7.75	271			Pn	08 16 03.1	-2.7	
S12K	Black Hills	7.75	271	P		Pn	08 16 03.0	-2.7	
	baz=80,SNR=18								
JIS	Juneau Island	7.76	70	P		Pn	08 16 06.5	+0.6	
JIS	Juneau Island	7.76	70			Pn	08 16 05.5	-0.4	
CHUM	Lake Minchumin	7.80	347	P		Pn	08 16 05.1	-1.3	
	baz=164,SNR=355								
CHUM				S		Sn	08 17 29.0	-5.8	
	baz=164								
M15K	Kasigluk River	7.80	309			Pn	08 16 04.4	-2.2	
M15K	Kasigluk River	7.80	309	P		Pn	08 16 04.3	-2.2	
	baz=119,SNR=39								
L16K	Owhat River	7.87	318	Pn		Pn	08 16 05.3	-2.0	
L16K	Owhat River	7.87	318	P		Pn	08 16 05.5	-1.9	
	baz=129,SNR=76								
BPAW	Bear Paw Mtn.	7.88	351			Pn	08 16 05.9	-1.6	
BPAW	Bear Paw Mtn.	7.88	351	P		Pn	08 16 05.8	-1.6	
	baz=170,SNR=146								
BPAW				S		Sn	08 17 31.3	-5.3	
	baz=170								
M29M	Somme Creek	7.88	35	Pn		Pn	08 16 08.4	+0.8	
M29M	Somme Creek	7.88	35	P		Pn	08

CRAG Craig 8.56 90 Pn 08 16 13.1 -3.8
CRAG Craig 8.56 90 P Pn 08 16 13.9 -2.9
baz=282,SNR=14
CRAG S Sn 08 17 47.2 -6.3
baz=282
MDM Murphy Dome 8.62 0 Pn Pn 08 16 16.7 -1.1
L15K Ungalak Mounta 8.64 313 Pn 08 16 15.9 -2.0
L15K Ungalak Mounta 8.64 313 P Pn 08 16 16.0 -2.0
baz=123,SNR=29
FALS False Pass 8.70 266 P Pn 08 16 15.9 -2.9
FALS False Pass 8.70 266 Pn 08 16 15.8 -3.0
FALS False Pass 8.70 266 P Pn 08 16 15.7 -3.0
baz=74,SNR=44
MLY Manley 8.78 353 Pn Pn 08 16 18.2 -1.7
MLY Manley 8.78 353 P Pn 08 16 18.2 -1.7
baz=172,SNR=114
POKR Poker Plat Res 8.79 2 Pn 08 16 19.5 -0.6
POKR Poker Plat Res 8.79 2 P Pn 08 16 19.0 -1.1
baz=184,SNR=83
POKR S Sn 08 17 54.6 -4.5
baz=184
I23K Minto, Yukon-K 8.83 357 Pn 08 16 19.6 -0.9
I23K Minto, Yukon-K 8.83 357 P Pn 08 16 19.3 -1.2
baz=177,SNR=193
WRAK Wrangell Islan 8.84 83 Pn 08 16 19.2 -1.5
WRAK Wrangell Islan 8.84 83 P Pn 08 16 18.9 -1.7
baz=276,SNR=38
J17K VABM Dome 8.89 327 Pn Pn 08 16 18.6 -2.8
J17K VABM Dome 8.89 327 P Pn 08 16 19.0 -2.3
baz=138
M13K Dall Lake 8.89 303 Pn 08 16 19.7 -1.6
M13K Dall Lake 8.89 303 P Pn 08 16 20.4 -0.9
baz=111,SNR=16
DAWY Dawson 8.89 26 Pn 08 16 21.6 +0.2
DAWY Dawson 8.89 26 P Pn 08 16 21.5 +0.1
baz=214
ISNN Isanotski Nort 8.91 267 Pn 08 16 19.2 -2.5
L14K Kuka Creek 8.97 310 Pn 08 16 20.9 -1.5
L14K Kuka Creek 8.97 310 P Pn 08 16 21.0 -1.3
baz=118,SNR=40
L14K S Sn 08 17 57.5 -5.8
baz=118
I20K Naaghedeneel 8.98 343 Pn 08 16 21.3 -1.3
I20K Naaghedeneel 8.98 343 P Pn 08 16 21.1 -1.6
baz=158,SNR=81
K15K Wolf Creek Mou 9.00 317 Pn Pn 08 16 21.2 -1.7
K15K Wolf Creek Mou 9.00 317 P Pn 08 16 20.9 -1.9
baz=126,SNR=20
P33M Teslin, Yukon 9.00 58 Pn Pn 08 16 23.3 +0.3
P33M Teslin, Yukon 9.00 58 P Pn 08 16 23.4 +0.3
baz=251,SNR=1000
I21K Tanana 9.03 350 Pn 08 16 22.1 -1.1
I21K Tanana 9.03 350 P Pn 08 16 21.9 -1.3
baz=167
EGAK Eagle 9.13 20 Pn 08 16 24.9 +0.3
EGAK Eagle 9.13 20 P Pn 08 16 24.8 +0.2
baz=206,SNR=194
M31M Drury Creek, Y 9.19 45 Pn 08 16 27.3 +1.7
M31M Drury Creek, Y 9.19 45 P Pn 08 16 27.1 +1.5
baz=237,SNR=1000
K29M Barlow Dome 9.21 31 Pn Pn 08 16 26.4 +0.5
K29M Barlow Dome 9.21 31 P Pn 08 16 26.6 +0.7
baz=221,SNR=466
N32M Quiet Lake 9.23 52 Pn 08 16 26.8 +0.7
N32M Quiet Lake 9.23 52 P Pn 08 16 27.0 +0.9
baz=245
PRP Porcupine Dome 9.28 7 Pn 08 16 26.2 -0.6
PRP Porcupine Dome 9.28 7 P Pn 08 16 26.2 -0.6
baz=190,SNR=84
J16K Anvik River 9.29 323 Pn 08 16 24.4 -2.5
J16K Anvik River 9.29 323 P Pn 08 16 24.7 -2.1
baz=133,SNR=41
I26K Coal Creek Min 9.31 13 Pn 08 16 26.7 -0.4
I26K Coal Creek Min 9.31 13 P Pn 08 16 26.7 -0.4
baz=198
GCSA Galena City Sc 9.40 337 Pn 08 16 26.9 -1.4
GCSA Galena City Sc 9.40 337 P Pn 08 16 26.1 -2.2
baz=150,SNR=26
V35K Ketchikan 9.43 89 Pn 08 16 26.1 -2.7
V35K Ketchikan 9.43 89 P Pn 08 16 27.1 -1.7
baz=283,SNR=28
V35K S Sn 08 18 10.6 -4.2
baz=283
S34M Telegraph Cree 9.45 73 Pn Pn 08 16 29.5 +0.4
S34M Telegraph Cree 9.45 73 P Pn 08 16 29.4 +0.3
baz=268,SNR=86
WESE West Dahl East 9.46 265 Pn 08 16 26.4 -3.0
J29N Klondike Camp 9.50 27 Pn 08 16 30.2 +0.4
J29N Klondike Camp 9.50 27 P Pn 08 16 30.4 +0.6
baz=216,SNR=227
H24K Noodor Dome 9.51 1 Pn Pn 08 16 29.3 -0.6
H24K Noodor Dome 9.51 1 P Pn 08 16 29.2 -0.6
baz=182,SNR=113
H23K Yukon River 9.51 357 Pn 08 16 29.4 -0.6
H23K Yukon River 9.51 357 P Pn 08 16 28.7 -1.2
baz=176,SNR=101
H23K S Sn 08 18 11.0 -5.7
baz=176
MAYO Mayo, Yukon 9.53 35 Pn 08 16 31.2 +1.1
MAYO Mayo, Yukon 9.53 35 P Pn 08 16 30.9 +0.8
baz=226,SNR=95
WECS Westdahl Cape 9.55 266 Pn 08 16 27.4 -3.1
H21K Melozitna Rive 9.57 349 Pn 08 16 28.9 -1.9
H21K Melozitna Rive 9.57 349 P Pn 08 16 28.9 -1.9
baz=165,SNR=229
H21K S Sn 08 18 12.2 -6.1
baz=165
FARO Faro, Yukon 9.62 46 Pn 08 16 32.9 +1.4
FARO Faro, Yukon 9.62 46 P Pn 08 16 33.0 +1.6
baz=239,SNR=309
DIB Dawson Inlet, 9.66 103 Pn Pn 08 16 30.6 -1.4
H02S1 DAWSON INLET T 9.66 103 Pn Pn 08 16 25.4 -6.5
H02S1 Sn Sn 08 18 11.8 -8.6
H22K Ishtalitna Cre 9.68 352 Pn 08 16 30.6 -1.6
H22K Ishtalitna Cre 9.68 352 P Pn 08 16 30.4 -1.8
baz=170
H22K S Sn 08 18 14.7 -6.1
baz=170
H20K Anotleneega Mo 9.70 343 Pn 08 16 30.9 -1.5
H20K Anotleneega Mo 9.70 343 P Pn 08 16 30.7 -1.7
baz=158,SNR=54
R33M Jennings River 9.70 65 Pn Pn 08 16 33.1 +0.5
R33M Jennings River 9.70 65 P Pn 08 16 33.3 +0.6
baz=259,SNR=308
I17K Unalakleet 9.74 326 Pn 08 16 30.7 -2.2
I17K Unalakleet 9.74 326 P Pn 08 16 31.4 -1.6
baz=136,SNR=9.4
I27K Kandik River 9.81 16 Pn 08 16 34.1 +0.1
I27K Kandik River 9.81 16 P Pn 08 16 34.1 +0.1
baz=203,SNR=143
T35M Bob Quinn 9.94 79 Pn Pn 08 16 36.7 +0.8
T35M Bob Quinn 9.94 79 P Pn 08 16 36.7 +0.8
baz=274,SNR=50
I28M Miner Creek 9.96 21 Pn Pn 08 16 36.0 -0.2
I28M Miner Creek 9.96 21 P Pn 08 16 36.1 -0.1
baz=208,SNR=150
IMAR Indian Mountai 10.00 347 Pn 08 16 34.3 -2.3
H19K Roundabout Mou 10.00 340 Pn 08 16 34.5 -2.1
H19K Roundabout Mou 10.00 340 P Pn 08 16 36.0 -0.5
baz=154,SNR=37
H25L Birch Creek 10.01 6 Pn 08 16 36.2 -0.4
H25L Birch Creek 10.01 6 P Pn 08 16 36.7 +0.1
baz=188,SNR=66
J14K Nanvaranak Lak 10.03 316 Pn 08 16 35.0 -1.9
J14K Nanvaranak Lak 10.03 316 P Pn 08 16 35.6 -1.4
baz=123,SNR=14
DLBC Dease Lake 10.06 71 Pn Pn 08 16 38.4 +0.9
DLBC Dease Lake 10.06 71 P Pn 08 16 38.2 +0.7
baz=266,SNR=134
DLBC Dease Lake 10.06 71 Pn Pn 08 16 37.9 +0.4
comp=Z,12nm,0.3s,baz=266,slow=9.5,SNR=171
DLBC Sn Sn 08 18 23.7 -6.7
baz=180,slow=20
DLBC LR LR 08 20 09.0
comp=Z,6µm,19.7s,baz=270,slow=36
comp=Z,64nm,0.5s
K13K Kusilvak Mount 10.07 310 Pn 08 16 36.3 -1.3
K13K Kusilvak Mount 10.07 310 P Pn 08 16 36.4 -1.1
baz=117,SNR=11
H18K Honhosa River 10.08 335 Pn Pn 08 16 35.4 -2.4
H18K Honhosa River 10.08 335 P Pn 08 16 36.0 -1.7
baz=147
J30M Hart River 10.11 31 Pn Pn 08 16 38.7 +0.5
J30M Hart River 10.11 31 P Pn 08 16 38.6 +0.5
baz=221,SNR=155

U35K Hyder 10.20 85 Pn 08 16 38.8 -0.5
U35K Hyder 10.20 85 P Pn 08 16 39.9 +0.6
baz=280
M11K Mekoryuk 10.22 301 P Pn 08 16 37.3 -2.3
baz=106
H17K Granite Mounta 10.30 331 Pn Pn 08 16 38.4 -2.3
H17K Granite Mounta 10.30 331 P Pn 08 16 38.7 -2.0
baz=142,SNR=28
FYU Fort Yukon 10.34 7 Pn Pn 08 16 40.8 -0.3
G24K Hadweenzic Riv 10.38 2 Pn Pn 08 16 41.0 -0.7
G24K Hadweenzic Riv 10.38 2 P Pn 08 16 40.7 -1.1
baz=183,SNR=69
H27K Steamboat Moun 10.41 15 P Pn 08 16 41.7 -0.5
baz=202,SNR=132
G23K Bananza Creek 10.41 356 Pn 08 16 41.3 -1.0
G23K Bananza Creek 10.41 356 P Pn 08 16 41.1 -1.2
baz=175,SNR=228
RUBB Prince Rupert 10.47 94 Pn 08 16 41.7 -1.2
G21K Allakaket 10.48 348 Pn 08 16 41.6 -1.5
G21K Allakaket 10.48 348 P Pn 08 16 41.6 -1.5
baz=164,SNR=88
G25K Bearman Lake 10.49 5 P Pn 08 16 42.0 -1.1
baz=187,SNR=52
I30M Mount Dempster 10.60 28 Pn Pn 08 16 45.5 +0.6
I30M Mount Dempster 10.60 28 P Pn 08 16 45.9 +1.1
baz=219,SNR=354
G19K Purcell Mounta 10.67 340 Pn Pn 08 16 44.7 -1.0
G19K Purcell Mounta 10.67 340 P Pn 08 16 44.5 -1.3
baz=153,SNR=18
G22K Bettles 10.70 353 P Pn 08 16 45.3 -0.8
baz=171
UNV Unalaska Valle 10.74 264 P Pn 08 16 43.0 -3.7
UNV Unalaska Valle 10.74 264 P Pn 08 16 42.6 -4.1
baz=69,SNR=6.0
H16K Elim 10.75 326 P Pn 08 16 45.6 -1.2
baz=135,SNR=6.4
G18K Tagagawik 10.78 337 Pn Pn 08 16 46.3 -0.8
G18K Tagagawik 10.78 337 P Pn 08 16 46.0 -1.1
baz=148,SNR=23
G26K Porcupine Rive 10.83 9 P Pn 08 16 47.4 -0.4
baz=194,SNR=57
WTLY Watson Lake, Y 10.92 62 Pn 08 16 50.5 +1.3
WTLY Watson Lake, Y 10.92 62 P Pn 08 16 50.6 +1.3
baz=258,SNR=68
G27K Doyon Strip 10.94 14 Pn Pn 08 16 49.2 -0.2
G27K Doyon Strip 10.94 14 P Pn 08 16 48.4 -0.9
baz=200,SNR=74
G17K Kiwalik Mounta 10.94 332 P Pn 08 16 47.4 -1.9
baz=142
COLD Coldfoot 10.94 356 P Pn 08 16 47.7 -1.6
baz=175,SNR=78
H29M Whitestone 10.96 22 Pn Pn 08 16 50.0 +0.4
H29M Whitestone 10.96 22 P Pn 08 16 49.9 +0.3
baz=210,SNR=50
F21K Alatna River 11.16 349 Pn Pn 08 16 50.9 -1.6
F21K Alatna River 11.16 349 P Pn 08 16 51.5 -1.0
baz=165,SNR=84
F24K Squaw Lake 11.20 1 Pn 08 16 52.1 -0.8
F24K Squaw Lake 11.20 1 P Pn 08 16 52.1 -0.8
baz=182,SNR=125
F24K S Sn 08 18 49.8 -8.2
baz=182
BMAR Burnt Mountain 11.24 7 Pn Pn 08 16 52.2 -1.3
F20K Avaraart Lake 11.27 345 Pn 08 16 52.1 -1.8
F20K Avaraart Lake 11.27 345 P Pn 08 16 52.4 -1.6
baz=159
F20K S Sn 08 18 52.9 -6.9
baz=159
G16K Koyuk River 11.32 329 Pn 08 16 53.1 -1.6
G16K Koyuk River 11.32 329 P Pn 08 16 52.3 -2.3
baz=137
F22K John River 11.33 352 P Pn 08 16 53.0 -1.8
baz=169
F25K Christian Rive 11.34 5 P Pn 08 16 53.0 -1.8
baz=188,SNR=69
F19K Shaleruckik Mo 11.41 341 Pn Pn 08 16 55.1 -0.7
F19K Shaleruckik Mo 11.41 341 P Pn 08 16 54.5 -1.4
baz=153,SNR=59
EPYK Eagle Plains 11.44 24 Pn 08 16 56.5 +0.3
EPYK Eagle Plains 11.44 24 P Pn 08 16 57.2 +0.9
baz=214,SNR=65
TGTN Hyland Airport 11.53 55 P Pn 08 16 57.8 +0.2
baz=252,SNR=291
F26K Sheenjek River 11.53 8 P Pn 08 16 57.0 -0.5
baz=192,SNR=87
G15K Niukluk 11.56 325 P Pn 08 16 56.7 -1.1
baz=132,SNR=11
F18K Selawik 11.59 337 P Pn 08 16 57.3 -0.9
baz=147,SNR=10
H31M Peel River 11.59 30 Pn Pn 08 16 58.3 0.0
H31M Peel River 11.59 30 P Pn 08 16 59.5 +1.1
baz=222,SNR=146
G29M Pine Creek 11.63 20 Pn Pn 08 16 59.7 +0.9
G29M Pine Creek 11.63 20 P Pn 08 17 00.2 +1.4
baz=210,SNR=230
ANM Nome 11.74 321 Pn 08 16 59.1 -1.2
ANM Nome 11.74 321 P Pn 08 16 57.8 -2.5
baz=127,SNR=7.7
ANM Nome 11.74 321 P Pn 08 16 59.1 -1.2
E23K Chandalar 11.75 358 P Pn 08 16 59.3 -1.3
baz=177
E24K Your Creek 11.75 360 Pn 08 16 59.9 -0.7
E24K Your Creek 11.75 360 P Pn 08 16 59.5 -1.1
baz=180
F17K Baldwin Pennin 11.83 334 Pn 08 16 59.5 -2.0
F17K Baldwin Pennin 11.83 334 P Pn 08 17 00.1 -1.4
baz=143,SNR=22
E25K Arctic Village 11.86 5 Pn Pn 08 17 00.3 -1.8
E25K Arctic Village 11.86 5 P Pn 08 17 00.2 -1.8
baz=188,SNR=89
E19K Redstone River 11.88 343 Pn Pn 08 17 01.1 -1.2
E19K Redstone River 11.88 343 P Pn 08 17 01.2 -1.1
baz=156,SNR=74
E22K Anaktuvuk Pass 11.92 354 Pn 08 17 02.1 -0.8
E22K Anaktuvuk Pass 11.92 354 P Pn 08 17 02.5 -0.4
baz=171
F28M Old Crow 11.94 16 Pn Pn 08 17 03.1 0.0
F28M Old Crow 11.94 16 P Pn 08 17 03.2 +0.1
baz=203,SNR=107
G30M tAoh Zraii Nji 12.06 23 Pn Pn 08 17 05.6 +0.9
G30M tAoh Zraii Nji 12.06 23 P Pn 08 17 06.4 +1.6
baz=214,SNR=118
SPIA Saint Paul Isl 12.07 283 P Pn 08 17 02.8 -2.0
SPIA Saint Paul Isl 12.07 283 P Pn 08 17 02.1 -2.7
baz=85
LIRD Liard River Hi 12.17 66 P Pn 08 17 06.3 0.0
baz=265
F15K North Star Dit 12.23 327 Pn 08 17 06.0 -1.0
F15K North Star Dit 12.23 327 P Pn 08 17 05.3 -1.7
baz=133,SNR=5.5
E27K Coleen River 12.25 12 Pn Pn 08 17 07.5 +0.1
E27K Coleen River 12.25 12 P Pn 08 17 06.9 -0.5
baz=198,SNR=113
TOLK Toolik Lake Re 12.34 358 Pn Pn 08 17 07.9 -0.6
TOLK Toolik Lake Re 12.34 358 P Pn 08 17 08.2 -0.3
baz=177,SNR=104
TOLK S Sn 08 19 23.7 -2.2
baz=177
NIKH Nikolski High 12.37 263 P Pn 08 17 06.0 -3.1
baz=66
E21K Killik River 12.39 350 Pn 08 17 08.0 -1.3
E21K Killik River 12.39 350 P Pn 08 17 08.6 -0.7
baz=166
E21K S Sn 08 19 25.6 -1.7
baz=166
G31M Satah River 12.47 26 Pn Pn 08 17 10.2 0.0
G31M Satah River 12.47 26 P Pn 08 17 11.0 +0.8
baz=219,SNR=167
E20K Nigu River 12.47 346 P Pn 08 17 09.8 -0.6
baz=160,SNR=99
E17K Hotham Inlet 12.48 335 P Pn 08 17 09.5 -0.9
baz=143,SNR=27
E18K Tukpahlearik C 12.48 338 Pn Pn 08 17 09.7 -0.7
E18K Tukpahlearik C 12.48 338 P Pn 08 17 09.6 -0.9
baz=147,SNR=20
BBB Bella Bella 12.49 101 Pn 08 17 10.3 -0.3
BBB Bella Bella 12.49 101 Pn Pn 08 17 09.2 -1.4
comp=Z,1.0nm,0.3s,baz=299,slow=13,SNR=22
BBB Sn Sn 08 19 21.8 -8.0
comp=Z,2.8nm,0.3s,baz=23,slow=23,SNR=11
BBB LR LR 08 21 00.8
comp=Z,10µm,19.4s,baz=302,slow=33
comp=Z,29nm,0.8s
TOAD Toad River Com 12.59 69 P Pn 08 17 13.2 +1.3
baz=268,SNR=82
F30M Barrier River 12.68 22 P Pn 08 17 14.3 +1.1
baz=214,SNR=116
D23K Nanushuk River 12.69 356 P Pn 08 17 13.9 +0.5
baz=174
D22K Ayikyak River 12.72 353 Pn Pn 08 17 12.7 -1.0
D22K Ayikyak River 12.72 353 P Pn 08 17 13.4 -0.3
baz=169,SNR=68
D24K Happy Valley 12.84 359 Pn 08 17 15.3 0.0
D24K Happy Valley 12.84 359 P Pn 08 17 15.2 -0.1
baz=179
E28M Babbage River 12.91 14 Pn Pn 08 17 16.8 +0.5
E28M Babbage River 12.91 14 P Pn 08 17 17.9 +1.6
baz=202,SNR=177
D20K Etivluk River 12.95 346 P Pn 08 17 15.2 -1.8
baz=159,SNR=27
E29M Blow River 12.96 17 Pn Pn 08 17 17.8 +0.8
E29M Blow River 12.96 17 P Pn 08 17 18.2 +1.2
baz=207,SNR=122
D19K Kuna River 12.97 344 Pn Pn 08 17 15.2 -1.9
D19K Kuna River 12.97 344 P Pn 08 17 15.6 -1.5
baz=155,SNR=58
F31M Tsiigehtchic 13.00 26 Pn Pn 08 17 17.1 -0.4
F31M Tsiigehtchic 13.00 26 P Pn 08 17 16.8 -0.7
baz=219,SNR=89
D25K Kavik River 13.03 3 Pn 08 17 18.0 -0.1
D25K Kavik River 13.03 3 P Pn 08 17 17.3 -0.7
baz=185
C21K Knifeblade Rid 13.17 350 P Pn 08 17 19.0 -0.8
baz=164,SNR=122
D17K Noatak River 13.27 335 P Pn 08 17 21.5 +0.3
baz=142,SNR=13
HOLB Holberg 13.27 107 Pn 08 17 22.6 +1.3
KOTAN Kotaneelee Air 13.27 63 P Pn 08 17 23.2 +1.9
baz=264,SNR=31
D27M Malcolm River 13.33 11 Pn 08 17 24.1 +1.9
D27M Malcolm River 13.33 11 P Pn 08 17 24.3 +2.2
baz=198
C24K Franklin Bluff 13.41 359 P Pn 08 17 22.8 -0.2
baz=179
C27K Jago River 13.46 7 P Pn 08 17 23.7 -0.2
baz=191,SNR=144
RDOG Red Dog Mine 13.51 336 Pn 08 17 23.1 -1.4
RDOG Red Dog Mine 13.51 336 P Pn 08 17 22.5 -1.9
baz=144
C23K Itkillik River 13.56 357 Pn 08 17 24.4 -0.8
C23K Itkillik River 13.56 357 P Pn 08 17 24.6 -0.5
baz=175
B21K Ikpikpuk River 13.60 351 Pn 08 17 24.0 -1.7
B21K Ikpikpuk River 13.60 351 P Pn 08 17 23.7 -1.9
baz=165
B21K S Sn 08 19 49.7 -7.0
baz=165
C18K Utukok River 13.64 340 Pn Pn 08 17 25.8 -0.5
C18K Utukok River 13.64 340 P Pn 08 17 26.6 +0.3
baz=149,SNR=14
C18K S Sn 08 19 55.5 -2.3
baz=149
C26K Camden Bay 13.69 5 P Pn 08 17 28.6 +1.7
baz=188,SNR=100
D28M Stokes Point 13.69 14 P Pn 08 17 29.2 +2.3
baz=203,SNR=260
INK Inuvik 13.74 23 Pn Pn 08 17 27.3 -0.3
INK Inuvik 13.74 23 P Pn 08 17 28.2 +0.7
baz=217,SNR=233
INK Inuvik 13.74 23 Pn Pn 08 17 27.1 -0.5
comp=Z,3.9nm,0.3s,baz=206,slow=15,SNR=228
INK LR LR 08 23 05.7
comp=Z,5µm,18.1s,baz=212,slow=39
comp=Z,180nm,1.1s
INK Inuvik 13.74 23 P Pn 08 17 27.3 -0.3
C19K Lookout Ridge 13.76 343 Pn Pn 08 17 26.3 -1.6
C19K Lookout Ridge 13.76 343 P Pn 08 17 26.6 -1.3
baz=153,SNR=13
GAMB Gambell 13.78 312 P Pn 08 17 28.3 +0.2
baz=112
C17K DeLong Mountai 13.91 337 P Pn 08 17 28.8 -1.2
baz=144,SNR=11
WRGLY Wrigley 14.19 51 Pn Pn 08 17 35.7 +2.0
WRGLY Wrigley 14.19 51 P Pn 08 17 34.7 +1.0
baz=252,SNR=100
B22K Teshekpuk Lake 14.21 353 Pn Pn 08 17 33.0 -1.0
B22K Teshekpuk Lake 14.21 353 P Pn 08 17 32.2 -1.8
baz=169,SNR=156
B20K Meade River 14.24 348 Pn 08 17 31.8 -2.6
B20K Meade River 14.24 348 P Pn 08 17 32.0 -2.4
baz=160
C16K Lisburne Hills 14.26 334 Pn Pn 08 17 33.2 -1.4
C16K Lisburne Hills 14.26 334 P Pn 08 17 32.9 -1.8
baz=139,SNR=20
B18K Kokolik River 14.37 340 P Pn 08 17 36.9 +0.7
baz=149,SNR=32
A19K Wainwright 14.97 343 P Pn 08 17 42.8 -1.5
baz=152,SNR=13
A22K Sinclair Lake 14.97 352 P Pn 08 17 40.8 -3.6
baz=166
CBB Campbell River 15.08 105 Pn Pn 08 17 46.2 +0.2
A21K Barrow 15.43 350 P Pn 08 17 46.5 -3.9
baz=163,SNR=12
OZB Mount Ozzard 15.63 109 P Pn 08 17 54.2 +0.9
ATKA Atka Island 15.65 265 P Pn 08 17 50.3 -3.1
ATKA Atka Island 15.65 265 Pn 08 17 48.6 -4.8
CLRS Cowichan Lake 16.44 107 P Pn 08 18 04.7 +1.1
C03A Quillayute Air 16.75 110 P Pn 08 18 08.2 +0.8
C03A IAmb IAmb 08 18 14.6
comp=Z,857nm,1.8s
HILA High Level 16.88 70 P P 08 18 10.7 -0.5
C36M Paulatuk 16.89 30 Pn 08 18 07.3 -1.8
C36M Paulatuk 16.89 30 P Pn 08 18 07.2 -1.8
baz=232,SNR=209
C36M S S 08 21 22.7 -4.3
baz=232
PGC Sidney 16.90 107 Pn 08 18 09.8 +0.4
B04A Port Angeles 17.23 108 P P 08 18 14.5 -0.6
B04A IAmb IAmb 08 18 19.7
comp=Z,771nm,1.9s
NLWA Neilton Lookou 17.46 111 P Pn 08 18 16.6 +0.1
BRLDA Berland Lookou 17.68 84 P Pn 08 18 19.4 +0.1
BRLDA IAmb IAmb 08 18 23.7
comp=Z,369nm,1.8s
WISH Wishkah 17.69 111 P P 08 18 20.0 -0.2
WISH IAmb IAmb 08 18 23.6
comp=Z,651nm,1.9s
GNW Green Mountain 17.90 109 P P 08 18 22.1 -0.3
YKA Yellowknife Ar 18.03 56 P Pn 08 18 23.3 -0.1
YKA Yellowknife Ar 18.03 56 P P 08 18 24.2 +0.4
comp=Z,1.8nm,0.3s,baz=266,slow=12,SNR=156
YKA PcP PcP 08 22 56.1 -1.3
comp=Z,2.8nm,0.8s,baz=281,slow=2.4,SNR=4.3
YKA LR LR 08 25 06.6
comp=Z,2µm,21.6s,baz=265,slow=36
YKA ScP ScP 08 26 30.9 -1.6
comp=Z,2.3nm,0.9s,baz=281,slow=2.2,SNR=5.6
YKA P3KPbc 08 53 07.0
comp=Z,0.4nm,1.0s,baz=76,slow=5.0,SNR=2.9
comp=Z,39nm,0.7s
RADR Rader Ridge 18.14 113 P Pn 08 18 24.5 -0.3
E03A Lebam 18.17 112 Pn 08 18 25.1 -0.1
A36M Sachs Harbour 18.39 23 Pn 08 18 26.9 -0.7
A36M Sachs Harbour 18.39 23 P Pn 08 18 26.9 -0.7
baz=224,SNR=963
D05A Enumclaw 18.58 109 P Pn 08 18 31.7 +1.6
D05A IAmb IAmb 08 18 35.7
comp=Z,522nm,1.5s
F03A Seaside 18.59 114 P Pn 08 18 31.2 +0.8
F03A IAmb IAmb 08 18 34.1
comp=Z,848nm,2.0s
F04D Rainier, OR 18.77 113 P Pn 08 18 34.0 +1.5
F04D IAmb IAmb 08 18 40.6
comp=Z,285nm,1.2s
LON Longmire 18.95 109 P Pn 08 18 35.4 +0.6
LON Longmire 18.95 109 P Pn 08 18 35.4 +0.6
LON pmax pmax
comp=Z,9.0nm,1.1s
HEBO Mount Hebo 18.99 116 P Pn 08 18 36.2 +0.9
HEBO IAmb IAmb 08 18 44.5
comp=Z,250nm,1.4s
F04A Amboy 19.18 112 P Pn 08 18 37.8 +0.4
F04A IAmb IAmb 08 18 41.6
comp=Z,136nm,0.9s
LTY Liberty 19.23 107 P P 08 18 37.7 +0.4
LTY IAmb IAmb 08 18 43.3
comp=Z,369nm,1.6s
G03D McMinnville, O 19.24 115 P P 08 18 37.6 +0.4
B08A Colville Reser 19.29 102 P P 08 18 38.3 +0.5
AMKA Amchitka 19.64 269 P 08 18 39.4 -2.0
COR Corvallis 19.66 116 P P 08 18 42.3 +0.5
COR Corvallis 19.66 116 P P 08 18 42.3 +0.5

COR pmax pmax
comp=Z,785nm,1.9s
MXC Moxie City 19.86 108 P **P** **08 18 44.3 +0.2**
MXC IAmb IAmb 08 18 50.7
comp=Z,256nm,1.1s
HOOD Mount Hood Mea 19.98 112 P **P** **08 18 45.6 +0.1**
HOOD IAmb IAmb 08 18 54.5
comp=Z,125nm,0.8s
H04D Lebanon 19.99 116 P **Pn** **08 18 46.3 -0.9**
H04D IAmb IAmb 08 18 51.3
comp=Z,413nm,1.7s
H04D IAMs_20 IAMs_20 08 24 17.4
comp=Z,6µm,19.0s
BUCK Buck Mountain 20.10 117 P Pn 08 18 47.9 -0.6
BUCK IAmb IAmb 08 18 52.9
comp=Z,185nm,1.4s
E07A Sunnyside 20.11 107 P **P** **08 18 46.5 -0.2**
E07A IAmb IAmb 08 18 53.5
comp=Z,407nm,1.6s
E07A IAMs_20 IAMs_20 08 25 01.6
comp=Z,7µm,18.0s
H04A Detroit Lake 20.15 114 **P** **08 18 48.1 +0.8**
H04A IAmb IAmb 08 18 54.5
comp=Z,493nm,1.8s
C09A Chrisman Ranch 20.20 102 P **P** **08 18 48.1 +0.5**
C09A IAmb IAmb 08 18 53.8
comp=Z,211nm,1.7s
G05A Wamic 20.21 112 **P** **08 18 48.3 +0.4**
G05A IAmb IAmb 08 18 57.3
comp=Z,187nm,1.1s
EDM Edmonton 20.25 84 P **P** **08 18 48.3 +0.1**
EDM IAmb IAmb 08 18 57.0
comp=Z,388nm,1.6s
EDM Edmonton 20.25 84 P **P** **08 18 48.3 +0.1**
EDM pmax pmax
comp=Z,388nm,1.6s
EDM MLR MLR
comp=Z,4µm,18.0s
I03D Drain, OR 20.29 118 P **P** **08 18 49.0 +0.4**
D08A Wollman Farm, 20.30 105 P **P** **08 18 48.6 -0.2**
D08A IAmb IAmb 08 18 54.5
comp=Z,172nm,1.2s
HAWA Hanford 20.39 107 IAMs_20 IAMs_20 08 25 10.7
comp=Z,6µm,19.0s
J01E Myrtle Point 20.40 120 P Pn 08 18 51.2 -0.7
J01E IAmb IAmb 08 19 03.3
comp=Z,337nm,1.2s
F07A Phinny Hill Vi 20.50 109 P **P** **08 18 50.8 -0.2**
F07A IAmb IAmb 08 18 57.7
comp=Z,94nm,0.8s
NEW Newport 20.55 100 P **P** **08 18 51.8 +0.2**
NEW IAmb IAmb 08 19 03.0
comp=Z,203nm,1.5s
NEW Newport 20.55 100 P **P** **08 18 51.9 +0.4**
baz=305,SNR=54
NEW S Sn 08 22 46.4 +1.0
baz=305
NEW Newport 20.55 100 P Pn 08 18 52.7 -1.1
comp=Z,49nm,1.0s,baz=301,slow=8.2,SNR=19
NEW LR LR 08 25 44.0
comp=Z,4µm,20.3s,baz=299,slow=34
comp=Z,49nm,1.0s
G06A Carlson Farm, 20.57 111 P **P** **08 18 51.6 -0.2**
G06A IAmb IAmb 08 18 57.9
comp=Z,320nm,2.0s
E08A Dider Farm, El 20.57 106 P **P** **08 18 51.8 +0.1**
I04A Tendick Farm, 20.68 117 P **P** **08 18 53.5 +0.5**
I04A IAmb IAmb 08 18 57.3
comp=Z,286nm,1.5s
KBO Bosley Butte 20.98 122 **P** **08 18 57.0 +0.7**
HUMO Hull Mountain 21.29 120 P **P** **08 19 00.5 +1.0**
HUMO IAmb IAmb 08 19 04.4
comp=Z,216nm,1.1s
HUMO IAMs_20 IAMs_20 08 25 06.0
comp=Z,6µm,18.0s
SHEM Shemya Is, Ala 21.93 276 P **P** **08 19 07.6 +1.3**
comp=Z,156nm,1.0s,baz=90,slow=20,SNR=3.1
SHEM LR LR 08 28 19.2
comp=Z,2µm,18.2s,baz=62,slow=39
comp=Z,156nm,1.0s
YBH Yreka Blue Hor 22.07 121 IAMs_20 IAMs_20 08 25 19.8
comp=Z,4µm,21.0s
YBH Yreka Blue Hor 22.07 121 LR LR 08 25 40.3
comp=Z,7µm,19.7s,baz=320,slow=31
JCC Jacoby Creek, 22.17 124 IAMs_20 IAMs_20 08 25 16.2
comp=Z,11µm,19.0s
BMO Blue Mountains 22.57 108 IAMs_20 IAMs_20 08 26 19.7
comp=Z,6µm,21.0s
J08A Circle Bar Ran 22.99 112 P **P** **08 19 17.8 0.0**
J08A IAmb IAmb 08 19 22.8
comp=Z,367nm,1.9s
PLID Pearl Lake 23.12 105 P **P** **08 19 18.6 -0.6**
MSO Missoula 23.14 100 P **P** **08 19 18.4 -0.9**
MSO IAmb IAmb 08 19 23.4
comp=Z,127nm,1.5s
MSO IAMs_20 IAMs_20 08 27 04.7
comp=Z,6µm,20.0s
MSO Missoula 23.14 100 P **P** **08 19 18.3 -1.0**
baz=307,SNR=40
MSO S **S** **08 23 35.6 +4.9**
baz=307
OVMT Ovando 23.52 98 P **P** **08 19 23.0 -0.1**
BILL Bilibino 23.55 318 P **P** **08 19 21.3 -1.8**
BILL IAMs_20 IAMs_20 08 29 18.9
comp=Z,6µm,19.0s
BILL Bilibino 23.55 318 *ce*P **P** **08 19 21.9 -1.2**
BILL pmax pmax
comp=Z,317nm,1.3s
BILL MLR MLR
comp=Z,9µm,14.0s
WVOR Wild Horse Val 23.57 114 P **P** **08 19 24.2 +0.6**
WVOR IAmb IAmb 08 19 27.3
comp=Z,100nm,0.9s
WVOR IAMs_20 IAMs_20 08 26 56.0
comp=Z,5µm,19.0s
WVOR Wild Horse Val 23.57 114 P **P** **08 19 24.2 +0.6**
WVOR pmax pmax
comp=Z,100nm,1.0s
WVOR MLR MLR
comp=Z,5µm,19.0s
BPMT Black Pine Rid 23.65 100 P **P** **08 19 24.2 -0.4**
HOPS Hopland Field 24.07 126 P **P** **08 19 27.7 -0.6**
HOPS IAmb IAmb 08 19 36.2
comp=Z,150nm,1.4s
HOPS IAMs_20 IAMs_20 08 26 13.5
comp=Z,8µm,21.0s
MFID Camas Ranch 24.33 108 IAMs_20 IAMs_20 08 27 45.0
comp=Z,5µm,18.0s
ORV Oroville 24.35 122 IAMs_20 IAMs_20 08 26 41.3
comp=Z,5µm,20.0s
EGMT Eagleton 24.76 93 P **P** **08 19 34.2 -0.5**
EGMT IAmb IAmb 08 19 54.5
comp=Z,56nm,0.8s
EGMT Eagleton 24.76 93 P **P** **08 19 32.5 -2.1**
baz=304,SNR=43
MCCM Marconi Confer 24.85 126 IAMs_20 IAMs_20 08 26 33.1
comp=Z,6µm,20.0s
HLID Hailey 24.98 106 IAMs_20 IAMs_20 08 28 15.3
comp=Z,4µm,18.0s
HLID Hailey 24.98 106 P **P** **08 19 35.9 -0.9**
baz=313,SNR=80
BOZ Bozeman (W) 25.16 100 P **P** **08 19 38.0 -0.4**
BOZ Bozeman (W) 25.16 100 P **P** **08 19 36.3 -2.2**
baz=308,SNR=17
BOZ S **S** **08 24 12.7 +9.3**
baz=308
BOZ Bozeman (W) 25.16 100 P **P** **08 19 38.0 -0.4**
BOZ pmax pmax
comp=Z,61nm,1.7s
BOZ MLR MLR
comp=Z,4µm,21.0s
EMB Emerald Bay 25.47 121 P **P** **08 19 40.9 -0.4**
EMB IAmb IAmb 08 19 45.1
comp=Z,92nm,0.9s
FFC Flin Flon 25.87 74 P **P** **08 19 44.2 -0.3**
FFC IAmb IAmb 08 19 54.5
comp=Z,80nm,1.2s
FFC Flin Flon 25.87 74 P **P** **08 19 44.2 -0.3**
FFC pmax pmax
comp=Z,80nm,1.2s
FFC MLR MLR
comp=Z,3µm,22.0s
CMB Columbia Colle 26.08 123 IAMs_20 IAMs_20 08 27 52.3
comp=Z,7µm,18.0s
YNM Yellowstone No 26.22 100 IAMs_20 IAMs_20 08 30 07.2
comp=Z,4µm,19.0s

LKWY Lake 26.49 100 IAMs_20 IAMs_20 08 29 19.9
comp=Z,4µm,20.0s
H17A Grant Village 26.50 101 IAMs_20 IAMs_20 08 29 20.7
comp=Z,4µm,18.0s
H17A Grant Village 26.50 101 P **P** **08 19 51.7 +1.0**
baz=310,SNR=35
ELK Elko 26.54 112 LR LR 08 28 46.4
comp=Z,2µm,20.8s,slow=33
ELK Elko 26.54 112 P **P** **08 19 51.7 +0.7**
SAO San Andreas Ge 26.63 126 IAMs_20 IAMs_20 08 27 52.3
comp=Z,5µm,18.0s
RLMT Red Lodge 26.76 98 IAMs_20 IAMs_20 08 29 22.1
comp=Z,5µm,20.0s
RLMT Red Lodge 26.76 98 P **P** **08 19 52.6 -0.4**
baz=309,SNR=31
NVAR Mina Array Bea 26.76 119 P **P** **08 19 53.2 +0.2**
NVAR Mina Array Bea 26.76 119 P **P** **08 19 53.6 +0.6**
comp=Z,24nm,0.8s,baz=305,slow=8.8,SNR=146
NVAR PcP **PcP** **08 23 15.0 -0.8**
comp=Z,3.7nm,0.7s,baz=284,slow=2.4,SNR=7.1
NVAR LR LR 08 28 47.9
comp=Z,5µm,18.3s,baz=323,slow=33
comp=Z,24nm,0.8s
NV11 Mina Array Sit 26.83 119 P **P** **08 19 53.6 +0.1**
HVU Hansel Valley 27.09 107 P **P** **08 19 55.9 +0.1**
HVU Hansel Valley 27.09 107 P **P** **08 19 55.9 +0.1**
HVU pmax pmax
comp=Z,46nm,1.3s
MLAC Mammoth, Mammo 27.14 121 P **P** **08 19 56.6 +0.2**
baz=323,SNR=16
RES Resolute Bay 27.23 28 P **P** **08 19 56.3 -0.3**
RES Resolute Bay 27.23 28 LR LR 08 31 37.2
comp=Z,2µm,18.2s,baz=222,slow=38
RES Resolute Bay 27.23 28 P **P** **08 19 56.3 -0.3**
RES pmax pmax
comp=Z,42nm,1.0s
LAO LASA Array 27.49 93 P **P** **08 19 59.7 +0.4**
LAO LASA Array 27.49 93 P **P** **08 19 58.4 -0.9**
baz=306
TPH Tonopah 27.57 118 P **P** **08 20 00.5 +0.3**
TPH Tonopah 27.57 118 P **P** **08 20 00.5 +0.3**
TPH pmax pmax
comp=Z,173nm,1.1s
DGMT Dagmar 27.61 88 P **P** **08 19 59.7 -0.6**
DGMT Dagmar 27.61 88 IAMs_20 IAMs_20 08 30 27.2
comp=Z,5µm,20.0s
DGMT Dagmar 27.61 88 P **P** **08 19 59.8 -0.6**
baz=303
DGMT S **S** **08 24 44.9 +3.3**
baz=303
TIN Tinemaha, Big 27.89 121 P **P** **08 20 02.9 -0.1**
baz=323
VOG Valley Oaks Go 27.94 124 P **P** **08 20 03.1 -0.2**
baz=325
BW06 Boulder Array 28.14 102 P **P** **08 20 04.8 -0.5**
baz=312,SNR=20
PD31 Pinedale Array 28.14 102 P **P** **08 20 05.3 -0.1**
PDAR Pinedale Array 28.14 102 P **P** **08 20 04.7 -0.6**
PDAR Pinedale Array 28.14 102 P **P** **08 20 05.2 -0.1**
comp=Z,9.2nm,0.8s,baz=314,slow=5.3,SNR=57
PDAR PcP **PcP** **08 23 18.8 -0.3**
comp=Z,0.8nm,0.7s,baz=270,slow=2.7,SNR=1.9
PDAR P3KPbc 08 52 25.8
comp=Z,0.3nm,0.5s,baz=132,slow=6.6,SNR=4.9
comp=Z,9.2nm,0.8s
R11B Troy Canyon, C 28.17 116 P **P** **08 20 05.7 +0.2**
R11B IAmb IAmb 08 20 08.6
comp=Z,177nm,1.9s
R11B IAMs_20 IAMs_20 08 29 44.2
comp=Z,4µm,19.0s
R11B Troy Canyon, C 28.17 116 P **P** **08 20 05.2 -0.4**
baz=320,SNR=76
R11B S **S** **08 24 50.7 -0.2**
baz=320
DUG Dugway, Tooele 28.20 110 P **P** **08 20 05.5 -0.4**
baz=317,SNR=18
DUG S **S** **08 24 55.1 +3.7**
baz=317
DUG Dugway, Tooele 28.20 110 P **P** **08 20 06.3 +0.5**
DUG pmax pmax
comp=Z,29nm,1.5s
GRAC Grapevine Rang 28.35 120 P **P** **08 20 07.4 +0.4**
baz=323,SNR=41
CWC Cottonwood Cre 28.45 122 P **P** **08 20 07.7 -0.4**
baz=324
VES Vestal, Richgr 28.47 124 P **P** **08 20 07.4 -0.6**
baz=325,SNR=18
SMMC Simmler 28.49 126 P **P** **08 20 08.5 +0.2**
baz=326,SNR=13
SMMC S **S** **08 24 58.7 +3.0**
baz=326
FCC Fort Churchill 28.50 62 P **P** **08 20 08.4 +0.3**
FCC IAmb IAmb 08 20 16.0
comp=Z,108nm,1.4s
FCC IAMs_20 IAMs_20 08 31 29.5
comp=Z,4µm,18.0s
FCC Fort Churchill 28.50 62 P **P** **08 20 08.4 +0.3**
FCC pmax pmax
comp=Z,108nm,1.5s
FCC MLR MLR
comp=Z,4µm,18.0s
PKM Mcpherson Peak 28.93 126 P **P** **08 20 11.4 -1.0**
baz=327,SNR=21
FURC Furnace Creek, 29.02 120 P **P** **08 20 12.9 +0.1**
baz=323,SNR=37
MPMC Manual Prospec 29.05 121 P **P** **08 20 13.8 +0.4**
baz=324,SNR=44
MPMC S **S** **08 25 09.2 +4.4**
baz=324
ARVC Arvin 29.18 124 P **P** **08 20 13.9 -0.5**
baz=326,SNR=9.1
ARVC S **S** **08 25 09.3 +2.8**
baz=326
SBC Santa Barbara 29.35 126 P **P** **08 20 16.5 +0.7**
baz=327
LRMC Laurel Mtn Rad 29.42 122 P **P** **08 20 17.3 +0.6**
baz=325,SNR=62
OSI Osito Audit: C 29.65 125 P **P** **08 20 18.9 +0.3**
baz=326
SEY Seymchan 29.70 307 LR LR 08 33 19.6
comp=Z,6µm,19.1s,baz=85,slow=39
SEY Seymchan 29.70 307 *e*P **P** **08 20 17.9 -0.8**
SEY pmax pmax
comp=Z,38nm,1.1s
SHOC Shoshone, Teco 29.75 120 P **P** **08 20 20.0 +0.6**
baz=323,SNR=33
EDW2 Edwards Air Fo 29.77 123 P **P** **08 20 19.1 -0.6**
baz=326,SNR=14
EDW2 S **S** **08 25 18.7 +2.8**
baz=326
P17A Butcher Ranch, 29.82 108 IAMs_20 IAMs_20 08 31 10.7
comp=Z,3µm,19.0s
K22A Casper 29.87 99 IAMs_20 IAMs_20 08 31 13.1
comp=Z,3µm,20.0s
K22A Casper 29.87 99 P **P** **08 20 20.3 -0.4**
baz=312,SNR=11
K22A S **S** **08 25 20.7 +3.0**
baz=312
GSC Goldstone, Bar 29.98 121 P **P** **08 20 21.8 +0.2**
baz=324,SNR=26
Q16A Castle Valley 30.00 110 P **P** **08 20 22.3 +0.4**
Q16A IAmb IAmb 08 20 25.4
comp=Z,43nm,1.0s
DECC Green Verdugo 30.13 125 P **P** **08 20 23.0 +0.2**
baz=326
SRU San Rafael Swe 30.20 109 IAMs_20 IAMs_20 08 31 22.7
comp=Z,3µm,19.0s
PET Petropavlovsk 30.21 286 *e*P **P** **08 20 27.1 +3.8**
PET *e*S **S** **08 25 19.0 -3.4**
PET pmax pmax
comp=Z,600nm,5.9s
PET pmax pmax
comp=Z,107nm,1.2s
PET pmax pmax
comp=Z,300nm,17.7s
PET MLR MLR
comp=Z,1µm,17.0s
RRX Edison Barstow 30.24 122 P **P** **08 20 24.1 +0.3**
baz=325
PASC Pasadena Art C 30.27 124 IAMs_20 IAMs_20 08 29 40.5
comp=Z,3µm,21.0s
RSSD Black Hills 30.29 95 IAMs_20 IAMs_20 08 31 57.1
comp=Z,7µm,19.0s
RSSD Black Hills 30.29 95 P **P** **08 20 24.7 +0.4**
baz=310
RSSD S **S** **08 25 26.7 +2.5**
baz=310

RSSD Black Hills 30.29 95 P **P** **08 20 25.2 +0.8**
RSSD pmax pmax
comp=Z,41nm,0.8s
TUQ Turquoise Moun 30.30 120 P **P** **08 20 25.4 +1.0**
baz=324,SNR=18
LCMT Little Creek M 30.38 115 IAMs_20 IAMs_20 08 31 24.4
comp=Z,4µm,18.0s
SNCC San Nicolas Is 30.44 127 IAMs_20 IAMs_20 08 29 17.8
comp=Z,3µm,19.0s
SNCC San Nicolas Is 30.44 127 P **P** **08 20 25.3 -0.2**
baz=328
BFSC Mount Baldy Ra 30.45 124 P **P** **08 20 26.7 +1.0**
baz=326,SNR=51
MDND Maddock 30.50 85 P **P** **08 20 25.6 -0.3**
MDND IAmb IAmb 08 20 28.1
comp=Z,42nm,0.9s
MDND Maddock 30.50 85 P **P** **08 20 26.8 +0.8**
baz=304,SNR=6.6
MDND S **S** **08 25 30.1 +2.9**
baz=304
V12A Nelson 30.59 118 IAMs_20 IAMs_20 08 30 52.8
comp=Z,6µm,20.0s
HEC Hector,Ludlow 30.59 121 P **P** **08 20 27.7 +0.8**
baz=325,SNR=24
FMP Fort Macarthur 30.60 125 P **P** **08 20 25.3 -1.6**
baz=327
E28A Huff 30.64 88 IAMs_20 IAMs_20 08 32 12.4
comp=Z,5µm,19.0s
O20A White River Ci 30.67 105 P **P** **08 20 28.0 +0.2**
baz=315,SNR=48
PEA0B Petropavlovsk- 30.68 287 *i* P **P** **08 20 25.9 -1.6**
PETK Petropavlovsk- 30.68 287 P **P** **08 20 27.0 -0.5**
PETK Petropavlovsk- 30.68 287 P **P** **08 20 26.9 -0.7**
comp=Z,20nm,0.8s,baz=68,slow=15,SNR=28
PETK LR LR 08 32 19.2
comp=Z,1µm,21.7s,baz=82,slow=36
comp=Z,20nm,0.8s
PETK Petropavlovsk- 30.68 287 P **P** **08 20 27.0 -0.5**
BBRC Big Bear Solar 30.78 123 P **P** **08 20 29.0 +0.2**
baz=325,SNR=6.4
CIS Catalina Islan 30.80 126 P **P** **08 20 29.0 +0.2**
baz=327
GMRC Granite Mounta 30.95 120 P **P** **08 20 30.5 +0.3**
baz=324,SNR=35
ELS Elsinore Mount 31.05 124 IAMs_20 IAMs_20 08 30 06.1
comp=Z,4µm,21.0s
SCI2 San Clemente I 31.10 126 P **P** **08 20 32.0 +0.7**
baz=328,SNR=7.3
MURC Murrieta 31.20 124 P **P** **08 20 31.7 -0.5**
baz=326
ULM Lac du Bonnet 31.24 79 P **P** **08 20 32.2 -0.3**
ULM IAMs_20 IAMs_20 08 32 46.3
comp=Z,4µm,21.0s
ULM Lac du Bonnet 31.24 79 P **P** **08 20 32.1 -0.3**
comp=Z,18nm,1.0s,baz=298,slow=9.9,SNR=16
ULM LR LR 08 33 05.1
comp=Z,5µm,18.1s,baz=303,slow=36
comp=Z,18nm,1.0s
ULM Lac du Bonnet 31.24 79 *i* P **P** **08 20 32.5 0.0**
U15A North Rim 31.31 114 P **P** **08 20 34.0 +0.5**
U15A IAMs_20 IAMs_20 08 31 54.1
comp=Z,3µm,18.0s
N23A Red Feather La 31.39 101 IAMs_20 IAMs_20 08 32 40.2
comp=Z,3µm,19.0s
N23A Red Feather La 31.39 101 P **P** **08 20 34.5 +0.3**
baz=314,SNR=14
N23A S **S** **08 25 43.6 +2.0**
baz=314
BELC Belle Mtn. Jos 31.43 122 P **P** **08 20 34.9 +0.5**
baz=325,SNR=32
NEE2 Needles Airpor 31.47 119 P **P** **08 20 35.3 +0.7**
baz=324,SNR=16
MA2 Magadan 31.49 302 IAMs_20 IAMs_20 08 33 53.8
comp=Z,4µm,20.0s
MA2 Magadan 31.49 302 LR LR 08 34 05.6
comp=Z,3µm,20.3s,baz=84,slow=38
MA2 Magadan 31.49 302 *i* P **P** **08 20 34.5 0.0**
MA2 pmax pmax
comp=Z,38nm,1.0s
MA2 MLR MLR
comp=Z,3µm,14.0s
PFO Pinyon Flats O 31.53 123 P **P** **08 20 35.3 +0.1**
PFO IAmb IAmb 08 20 37.9
comp=Z,59nm,1.4s
PFO Pinyon Flats O 31.53 123 IAMs_20 IAMs_20 08 30 44.9
comp=Z,5µm,20.0s
PFO Pinyon Flats O 31.53 123 P **P** **08 20 34.9 -0.3**
baz=326,SNR=19
PFO Pinyon Flats O 31.53 123 LR LR 08 30 58.2
comp=Z,5µm,20.4s,baz=324,slow=32
PFO Pinyon Flats O 31.53 123 *i* P **P** **08 20 35.0 -0.3**
PFO pmax pmax
comp=Z,42nm,1.4s
TPFO Pinon Flats 31.54 123 P **P** **08 20 35.4 0.0**
baz=326,SNR=28
W13A Hualapai Mount 31.56 118 P **P** **08 20 35.9 +0.3**
W13A IAmb IAmb 08 20 38.2
comp=Z,32nm,1.0s
IRM Iron Mountain 31.70 120 P **P** **08 20 37.8 +1.1**
baz=325,SNR=85
109C Camp Elliot, M 31.83 124 P **P** **08 20 38.0 +0.2**
109C IAmb IAmb 08 20 40.3
comp=Z,52nm,0.9s
109C Camp Elliot, M 31.83 124 P **P** **08 20 38.7 +1.0**
baz=327,SNR=12
BC3 Big Chuckawall 31.97 121 P **P** **08 20 39.5 +0.3**
baz=325,SNR=36
PDMCI Parker Dam,Lak 32.07 119 P **P** **08 20 40.6 +0.7**
baz=324,SNR=21
MONP2 Monument Peak 32.14 123 P **P** **08 20 41.7 +1.0**
baz=326,SNR=41
AGMN Agassiz Nation 32.32 82 P **P** **08 20 41.6 -0.4**
AGMN IAmb IAmb 08 20 44.6
comp=Z,81nm,1.7s
AGMN IAMs_20 IAMs_20 08 33 29.8
comp=Z,5µm,18.0s
AGMN Agassiz Nation 32.32 82 P **P** **08 20 41.7 -0.3**
baz=304,SNR=19
AGMN S **S** **08 25 57.4 +2.0**
baz=304
ISCO Idaho Springs 32.33 103 P **P** **08 20 43.1 +0.6**
baz=315,SNR=12
ISCO S **S** **08 25 59.9 +3.4**
baz=315
ISCO Idaho Springs 32.33 103 P **P** **08 20 43.1 +0.6**
ISCO pmax pmax
comp=Z,12nm,1.1s
BLYC Blythe 32.34 120 P **P** **08 20 42.8 +0.6**
D32A Dogwood Acres, 32.35 84 P **P** **08 20 41.4 -0.8**
D32A IAMs_20 IAMs_20 08 32 24.6
comp=Z,3µm,19.0s
SWSC Sam W. Stewart 32.39 123 P **P** **08 20 43.2 +0.5**
baz=326,SNR=17
WUAZ Wupatki 32.49 114 P **P** **08 20 44.1 +0.3**
WUAZ Wupatki 32.49 114 P **P** **08 20 44.8 +1.1**
baz=322,SNR=47
IKP In-Ko-Pah, Jac 32.49 123 P **P** **08 20 44.3 +0.6**
baz=326,SNR=22
RMX La Rumorosa 32.54 123 IAMs_20 IAMs_20 08 30 52.3
comp=Z,3µm,22.0s
YUH Yuha Desert 32.58 123 P **P** **08 20 44.5 +0.1**
YUH IAmb IAmb 08 20 46.7
comp=Z,30nm,0.8s
YUH IAMs_20 IAMs_20 08 30 53.6
comp=Z,3µm,21.0s
MVCO Mesa Verde 32.68 109 P **P** **08 20 45.5 +0.1**
baz=319,SNR=27
SKR Severo-Kuril's 32.75 284 *i* P **P** **08 20 44.0 -1.6**
GLA Glamis 32.76 121 P **P** **08 20 46.6 +0.6**
GLA IAMs_20 IAMs_20 08 31 48.4
comp=Z,4µm,19.0s
GLA Glamis 32.76 121 P **P** **08 20 46.7 +0.6**
baz=325,SNR=17
GLA Glamis 32.76 121 P **P** **08 20 46.6 +0.6**
GLA pmax pmax
comp=Z,217nm,1.8s
UABX UABC, Campus M 32.82 122 IAMs_20 IAMs_20 08 31 13.9
comp=Z,3µm,21.0s
SUSD Miller 32.91 90 P **P** **08 20 47.1 0.0**
SUSD Miller 32.91 90 P **P** **08 20 46.9 -0.2**
baz=309,SNR=8.0
SUSD S **S** **08 26 05.4 +0.6**
baz=309
Q24A Divide 33.18 103 P **P** **08 20 50.7 +0.7**
baz=316,SNR=14
X16A Lo Mia Camp, P 33.32 116 IAMs_20 IAMs_20 08 33 17.2
comp=Z,3µm,18.0s

B35A Bob, Littlefor 33.45 80 IAMs_20 IAMs_20 08 34 03.9
comp=Z,4µm,21.0s
OGNE Ogallala 33.50 97 IAMs_20 IAMs_20 08 33 40.1
comp=Z,4µm,21.0s
OGNE Ogallala 33.50 97 P P **08 20 52.6 +0.2**
baz=313,SNR=11
113A Mohawk Valley, 33.50 120 P P **08 20 52.7 +0.3**
113A IAMs_20 IAMs_20 08 32 34.0
comp=Z,3µm,18.0s
F33A 5 Mile Ranch, 33.52 86 IAMs_20 IAMs_20 08 34 12.7
comp=Z,5µm,21.0s
W18A Petrified Fore 33.63 113 P P **08 20 54.3 +0.5**
baz=321,SNR=25
K30B Basset 33.68 93 IAMs_20 IAMs_20 08 34 04.9
comp=Z,4µm,19.0s
SDCO Great Sand Dun 33.88 105 IAMs_20 IAMs_20 08 33 33.1
comp=Z,2µm,20.0s
SDCO Great Sand Dun 33.88 105 P P **08 20 56.6 +0.6**
baz=317,SNR=31
SDCO S S **08 26 20.2 -0.2**
baz=317
KSCO Kaye Shedlock' 34.52 101 P P **08 21 02.4 +1.0**
baz=315,SNR=27
214A Organ Pipe Nat 34.63 120 IAMs_20 IAMs_20 08 33 08.9
comp=Z,3µm,19.0s
214A Organ Pipe Nat 34.63 120 P P **08 21 03.2 +1.0**
baz=325,SNR=39
214A S S **08 26 35.1 +3.6**
baz=325
PIX Pinacate 34.64 121 P P **08 21 02.6 +0.3**
PIX IAmb IAmb 08 21 06.2
comp=Z,58nm,1.1s
ECSD EROS Data Cent 34.66 89 P P **08 21 02.1 -0.3**
baz=310,SNR=20
ECSD S S **08 26 32.9 +1.1**
baz=310
T25A Trinidad 34.91 105 IAMs_20 IAMs_20 08 34 26.4
comp=Z,2µm,19.0s
T25A Trinidad 34.91 105 P P **08 21 05.6 +0.7**
baz=318,SNR=37
EYMN Ely 34.92 79 IAMs_20 IAMs_20 08 34 35.5
comp=Z,3µm,21.0s
EYMN Ely 34.92 79 P P **08 21 05.0 +0.5**
baz=306,SNR=52
EYMN S S **08 26 35.9 +0.2**
baz=306
F36A Milaca 35.04 84 IAMs_20 IAMs_20 08 35 14.9
comp=Z,3µm,19.0s
TUC Tucson 35.33 117 IAMs_20 IAMs_20 08 33 26.6
comp=Z,3µm,21.0s
TUC Tucson 35.33 117 P P **08 21 09.3 +1.0**
baz=324
BGNE Belgrade 35.33 93 IAMs_20 IAMs_20 08 34 58.7
comp=Z,5µm,20.0s
BGNE Belgrade 35.33 93 P P **08 21 08.8 +0.6**
baz=312,SNR=7.5
ANMO Albuquerque 35.47 109 P P **08 21 10.2 +0.6**
baz=320
ANMO Albuquerque 35.47 109 LR LR 08 34 44.5
comp=Z,1µm,19.2s,baz=48,slow=35
ANMO Albuquerque 35.47 109 *ce* P P **08 21 08.9 -0.8**
ANMO pmax pmax
comp=Z,24nm,1.3s
SPMN Marine on St. 35.83 84 IAMs_20 IAMs_20 08 34 20.9
comp=Z,3µm,21.0s
SPMN Marine on St. 35.83 84 P P **08 21 12.8 +0.3**
baz=308,SNR=7.4
SPMN S S **08 26 50.9 +1.1**
baz=308
Y22D IRIS PASSCAL I 35.90 111 IAMs_20 IAMs_20 08 34 29.6
comp=Z,3µm,19.0s
Y22D IRIS PASSCAL I 35.90 111 P P **08 21 14.1 +0.8**
baz=321,SNR=6.2
Y22F Passcal Instru 35.90 111 P P **08 21 14.4 +1.1**
baz=321
TIXI Tiksi 35.90 328 P P **08 21 11.6 -1.2**
TIXI IAmb IAmb 08 21 19.3
comp=Z,84nm,1.6s
TIXI Tiksi 35.90 328 LR LR 08 39 03.0
comp=Z,2µm,18.5s,baz=76,slow=42
TIXI Tiksi 35.90 328 *ce* P P **08 21 11.3 -1.4**
TIXI pmax pmax
comp=Z,61nm,2.5s
TIXI MLR MLR
comp=Z,2µm,14.0s
DUN6 Lazy B Ranch 35.98 115 P P **08 21 14.9 +0.9**
CBKS Cedar Bluff 36.25 98 P P **08 21 16.7 +0.6**
CBKS IAmb IAmb 08 21 18.5
comp=Z,75nm,1.0s
CBKS IAMs_20 IAMs_20 08 35 26.9
comp=Z,3µm,20.0s
CBKS Cedar Bluff 36.25 98 P P **08 21 16.9 +0.7**
baz=315,SNR=15
CBKS S S **08 27 00.0 +3.6**
baz=315
CBKS Cedar Bluff 36.25 98 P P **08 21 16.7 +0.6**
CBKS pmax pmax
comp=Z,75nm,1.0s
CBKS MLR MLR
comp=Z,3µm,20.0s
121A Cookes Peak, D 36.66 113 IAMs_20 IAMs_20 08 35 33.9
comp=Z,3µm,18.0s
121A Cookes Peak, D 36.66 113 P P **08 21 21.2 +1.3**
baz=323,SNR=29
319A Douglas 36.84 116 P P **08 21 21.7 +0.4**
319A IAMs_20 IAMs_20 08 35 09.4
comp=Z,4µm,19.0s
KULLO Kullorsuaq 37.08 26 *i* P P **08 21 23.9 +1.2**
KULLO IAmb IAmb 08 21 25.5
comp=Z,47nm,0.7s
R32A Long Quarter, 37.09 98 IAMs_20 IAMs_20 08 35 53.2
comp=Z,3µm,19.0s
N35A Tabor 37.10 92 IAMs_20 IAMs_20 08 36 12.4
comp=Z,5µm,18.0s
NEEM North Greenlan 37.30 21 *i* P P **08 21 26.0 +1.0**
NEEM IAmb IAmb 08 21 27.9
comp=Z,48nm,0.7s
COWI Conover 37.31 80 IAMs_20 IAMs_20 08 36 24.0
comp=Z,3µm,22.0s
SCIA State Center 37.74 89 P P **08 21 28.7 -0.1**
baz=312
SCIA S S **08 27 19.2 +0.2**
baz=312
KSU1 Kansas State U 37.77 95 P P **08 21 29.3 +0.3**
baz=314,SNR=11
I40A Norwalk 37.89 84 IAMs_20 IAMs_20 08 36 48.2
comp=Z,3µm,19.0s
EPT El Paso 37.92 113 P P **08 21 31.0 +0.5**
HSIG 37.95 120 P P **08 21 30.4 -0.3**
HSIG IAmb IAmb 08 21 33.9
comp=Z,174nm,2.0s
FRB Frobisher Bay 37.98 45 LR LR 08 38 59.8
comp=Z,2µm,18.2s,baz=292,slow=39
FRB Frobisher Bay 37.98 45 P P **08 21 31.9 +1.5**
FRB pmax pmax
comp=Z,24nm,1.4s
AMTX Amarillo 38.06 104 IAMs_20 IAMs_20 08 35 58.9
comp=Z,3µm,21.0s
AMTX Amarillo 38.06 104 P P **08 21 31.5 -0.1**
baz=319
F42A Maple Grove Fa 38.07 80 IAMs_20 IAMs_20 08 36 21.1
comp=Z,3µm,21.0s
UPNV Upernavik 38.10 29 *i* P P **08 21 32.0 +0.6**
UPNV IAmb IAmb 08 21 34.1
comp=Z,35nm,0.7s
MSTX Muleshoe 38.17 106 P P **08 21 32.2 -0.4**
baz=320
E43A Lone Tree Farm 38.31 78 IAMs_20 IAMs_20 08 36 17.4
comp=Z,2µm,22.0s
OK035 E0210 Rd and N 38.33 99 IAMs_20 IAMs_20 08 36 30.9
comp=Z,2µm,19.0s
OK038 West end E0370 38.48 100 IAMs_20 IAMs_20 08 37 35.9
comp=Z,2µm,20.0s
OK032 Salt Plains WL 38.53 99 IAMs_20 IAMs_20 08 36 36.3
comp=Z,2µm,19.0s
MNTX Cornudas Mount 38.56 111 P P **08 21 36.7 +1.0**
baz=323,SNR=41
JFWS Jewell Farm 38.73 85 P P **08 21 36.3 -0.7**
baz=311,SNR=13
JFWS S S **08 27 33.8 -0.1**
baz=311
SRIG Santa Rosalia 38.77 123 IAMs_20 IAMs_20 08 35 14.6
comp=Z,2µm,19.0s
CROK Carrier 38.87 99 IAMs_20 IAMs_20 08 36 47.4
comp=Z,2µm,19.0s
H43A Windswept, Lux 39.09 81 IAMs_20 IAMs_20 08 37 28.9
comp=Z,4µm,19.0s
BLOK Blackwell 39.11 98 P P **08 21 40.5 +0.2**

CSTR Hydro, Custer 39.12 101 P P **08 21 40.7 +0.3**
T35A Sooner Cattle 39.38 97 IAMs_20 IAMs_20 08 37 23.9
comp=Z,4µm,18.0s
NUUG Nuugaatsiaq 39.48 30 *i* P P **08 21 43.8 +0.8**
NUUG IAmb IAmb 08 21 45.6
comp=Z,12nm,0.7s
OK051 E0350 and S346 39.51 98 IAMs_20 IAMs_20 08 37 36.1
comp=Z,3µm,20.0s
OK048 Pawnee Station 39.51 98 IAMs_20 IAMs_20 08 37 28.3
comp=Z,3µm,20.0s
OK029 Liberty Lake 39.68 99 IAMs_20 IAMs_20 08 37 12.8
comp=Z,2µm,20.0s
YAK Yakutsk 39.73 313 LR LR 08 38 59.4
comp=Z,1µm,20.4s,baz=58,slow=37
YAK Yakutsk 39.73 313 *eP* P **08 21 45.4 +0.3**
YAK *e**PP **sP** **08 21 47.8 +0.3**
YAK *e* 08 23 24.8
YAK *eS* S **08 27 42.1 -6.3**
YAK *e**SS **pS** **08 27 48.1 -2.0**
YAK *eSS* SS **08 30 33.3 -10**
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=Z,616nm,3.5s
YAK pmax pmax
comp=E,290nm,2.7s
YAK pmax pmax
comp=N,187nm,2.9s
YAK smax smax
comp=E,83nm,3.0s
YAK smax smax
comp=N,130nm,2.3s
YAK MLR MLR
comp=Z,2µm,13.0s
YAK MLR MLR
comp=N,1µm,15.0s
YAK MLR MLR
comp=E,919nm,14.0s
WMOK Wichita Mounta 39.74 102 P P **08 21 46.0 +0.3**
baz=319,SNR=52
WMOK S S **08 27 51.3 +1.9**
baz=319
WMOK Wichita Mounta 39.74 102 P P **08 21 45.7 +0.1**
TYV Tymovskoe 39.76 292 *eP* P **08 21 48.6 +3.1**
TYV *eS* S **08 27 57.4 +8.3**
TYV pmax pmax
comp=Z,15nm,1.3s
TYV pmax pmax
comp=Z,400nm,4.7s
TYV smax smax
comp=N,400nm,6.5s
TYV smax smax
comp=E,200nm,6.5s
E46A Sault Ste Mari 39.78 77 IAMs_20 IAMs_20 08 37 35.2
comp=Z,3µm,18.0s
NOR Nord 39.87 10 *i* P P **08 21 47.2 +1.1**
NOR IAmb IAmb 08 21 49.2
comp=Z,13nm,0.8s
G45A Suttons Bay 39.88 79 IAMs_20 IAMs_20 08 37 14.9
comp=Z,2µm,22.0s
OK052 Battle Ridge R 39.90 98 IAMs_20 IAMs_20 08 37 50.5
comp=Z,2µm,18.0s
OK031 S. Brethren Rd 39.91 99 IAMs_20 IAMs_20 08 37 19.7
comp=Z,2µm,20.0s
K43A Burlington 39.93 84 P P **08 21 46.2 -0.8**
K43A IAMs_20 IAMs_20 08 38 00.2
comp=Z,3µm,20.0s
OKCSW OKLAHOMA CITY 39.98 100 P **08 21 47.2 -0.3**
FNO Franklin 40.11 100 IAMs_20 IAMs_20 08 37 39.1
comp=Z,2µm,18.0s
UMMG Uummannaq 40.22 31 *i* P P **08 21 49.9 +0.8**
UMMG IAmb IAmb 08 21 51.6
comp=Z,10nm,0.7s
L44A Lake County Fo 40.51 84 P P **08 21 51.5 -0.3**
baz=312
L44A S S **08 28 00.1 -0.4**
baz=312
TUL3 Leonard 40.52 98 IAMs_20 IAMs_20 08 38 08.8
comp=Z,4µm,19.0s
TUL3 Leonard 40.52 98 P P **08 21 51.8 -0.2**
baz=317,SNR=12
GLMI Grayling 40.59 79 IAMs_20 IAMs_20 08 37 37.6
comp=Z,2µm,19.0s
GLMI Grayling 40.59 79 P P **08 21 52.4 -0.1**
baz=310
RLO Rose Lookout 40.75 97 IAMs_20 IAMs_20 08 37 48.0
comp=Z,3µm,20.0s
HDIL Hopedale 40.84 87 P P **08 21 54.3 -0.3**
baz=313,SNR=29
ABTX Abilene, Hawle 40.88 105 IAMs_20 IAMs_20 08 37 37.5
comp=Z,4µm,22.0s
ABTX Abilene, Hawle 40.88 105 P P **08 21 54.9 -0.2**
baz=320,SNR=11
ABTX S S **08 28 08.5 +2.2**
baz=320
U38A Gravette 40.91 96 P P **08 21 54.3 -1.0**
M44A Midewin, Midew 40.97 85 P P **08 21 54.8 -0.8**
M44A IAmb IAmb 08 21 57.0
comp=Z,50nm,1.1s
UGL Uglegorsk 41.13 290 *eP* P **08 21 59.9 +3.0**
UGL *eS* S **08 28 16.7 +7.1**
UGL pmax pmax
comp=Z,1µm,6.0s
UGL smax smax
comp=E,430nm,5.0s
UGL smax smax
comp=N,680nm,6.5s
ILULI Ilulissat 41.30 32 *i* P P **08 21 59.2 +1.2**
ILULI IAmb IAmb 08 22 00.6
comp=Z,13nm,0.7s
TXAR Lajitas Array 41.34 112 P P **08 21 59.5 +0.6**
comp=Z,12nm,0.9s,baz=325,slow=6.1,SNR=100
TXAR PcP **PcP** **08 23 56.3 -0.9**
comp=Z,2.8nm,0.6s,baz=146,slow=0.4,SNR=8.2
TXAR LR LR 08 38 26.7
comp=Z,1µm,18.8s,baz=314,slow=35
comp=Z,12nm,0.9s
CCM Cathedral Cave 41.49 91 P P **08 21 59.0 -1.0**
baz=315
CCM S S **08 28 14.6 -0.7**
baz=315
L46A Eue Claire 41.51 83 IAMs_20 IAMs_20 08 37 56.1
comp=Z,3µm,18.0s
X37A Clayton 41.72 99 IAMs_20 IAMs_20 08 38 26.8
comp=Z,2µm,21.0s
FW06 Azle 41.74 102 IAMs_20 IAMs_20 08 39 00.3
comp=Z,2µm,19.0s
FW07 Weatherford 41.82 103 IAMs_20 IAMs_20 08 38 41.5
comp=Z,2µm,20.0s
FVM French Village 42.00 91 P P **08 22 03.3 -0.9**
FVM IAmb IAmb 08 22 05.8
comp=Z,90nm,1.5s
FVM French Village 42.00 91 P P **08 22 03.3 -0.9**
FVM pmax pmax
comp=Z,90nm,1.5s
FVM MLR MLR
comp=Z,5µm,18.0s
YSS Yuzh-Sakhalins 42.09 287 *eP* P **08 22 05.1 +0.4**
YSS *e**SP **sP** **08 22 08.3 +1.2**
YSS *e* 08 24 02.7
YSS *eS* S **08 28 26.0 +2.2**
YSS *eSSS* SSS 08 32 02.6
YSS pmax pmax
comp=Z,300nm,3.1s
YSS smax smax
comp=N,500nm,11.1s
YSS smax smax
comp=E,400nm,9.8s
Q44A Meyer Farm, Va 42.13 89 P P **08 22 04.4 -0.9**
I49A Point Hope 42.14 78 IAMs_20 IAMs_20 08 38 35.7
comp=Z,2µm,20.0s
SFIN Lafayette 42.18 85 P P **08 22 05.1 -0.4**
baz=313,SNR=9.0
SFIN S S **08 28 24.7 -0.6**
baz=313
HPIG 42.27 116 IAMs_20 IAMs_20 08 38 56.4
comp=Z,3µm,19.0s
LPIG La Paz 42.42 124 LR LR 08 37 35.3
comp=Z,2µm,19.0s,baz=330,slow=33
JCT Junction City 42.46 107 P P **08 22 08.2 +0.1**
baz=322,SNR=50
JCT S S **08 28 31.7 +1.9**
baz=322
WHTX Lake Whitney, 42.55 103 IAMs_20 IAMs_20 08 39 13.6
comp=Z,3µm,18.0s

WHTX Lake Whitney, 42.55 103 P P **08 22 08.8 +0.1**
baz=320
WHTX S S **08 28 30.3 -0.6**
baz=320
N47A Urbana 42.61 84 IAMs_20 IAMs_20 08 39 41.2
comp=Z,4µm,20.0s
SUMG Summit 42.66 25 P P **08 22 10.4 +0.8**
SUMG pmax pmax
comp=Z,123nm,0.8s
SUMG Summit 42.66 25 *i* P P **08 22 10.0 +0.4**
SUMG IAmb IAmb 08 22 12.5
comp=Z,82nm,0.8s
SFJD Kangerlussuaq 42.70 35 IAMs_20 IAMs_20 08 40 01.5
comp=Z,2µm,18.0s
SFJD Kangerlussuaq 42.70 35 LR LR 08 40 22.4
comp=Z,2µm,19.0s,baz=313,slow=37
SFJD Kangerlussuaq 42.70 35 *i* P P **08 22 10.1 +0.6**
SFJD IAmb IAmb 08 22 12.2
comp=Z,23nm,0.7s
MIAR Mount Ida 42.74 97 P P **08 22 10.0 -0.3**
baz=318,SNR=24
MIAR S S **08 28 33.3 -0.5**
baz=318
AAM Ann Arbor 42.77 81 P P **08 22 10.3 -0.1**
baz=312
AAM S S **08 28 36.5 +2.5**
baz=312
WHAR Wooly Hollow 42.91 95 P P **08 22 10.2 -1.4**
CGM3 Cape Girardeau 42.91 91 P P **08 22 10.3 -1.3**
Z38A Mt. Pleasant 42.93 99 P P **08 22 11.4 -0.3**
Z38A IAMs_20 IAMs_20 08 39 25.8
comp=Z,2µm,18.0s
SLBS Sierra La Lagu 42.94 123 P P **08 22 12.2 +0.1**
SLBS IAmb IAmb 08 22 16.3
comp=Z,116nm,1.6s
SLBS IAMs_20 IAMs_20 08 37 41.1
comp=Z,2µm,18.0s
LCAR Lake Charles 42.97 93 P P **08 22 10.0 -2.0**
GRNR Gornyy 42.98 296 ⇓ *i* P P **08 22 14.5 +2.5**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,720nm,16.0s
X40A Basin Creek Fa 43.20 96 IAMs_20 IAMs_20 08 39 43.8
comp=Z,3µm,19.0s
BLO Bloomington 43.33 86 IAMs_20 IAMs_20 08 40 16.4
comp=Z,2µm,19.0s
O48B Farmland 43.34 84 IAMs_20 IAMs_20 08 40 04.5
comp=Z,3µm,21.0s
O48B Farmland 43.34 84 P P **08 22 13.5 -1.5**
baz=314
O48B S S **08 28 41.0 -1.5**
baz=314
DAG Danmarks Havn 43.38 15 P P **08 22 14.5 -0.4**
DAG pmax pmax
comp=Z,109nm,1.0s
DAG Danmarks Havn 43.38 15 *i* P P **08 22 14.0 -0.9**
DAG IAmb IAmb 08 22 16.6
comp=Z,40nm,0.6s
435B Jarrell 43.41 104 IAMs_20 IAMs_20 08 39 27.5
comp=Z,3µm,20.0s
435B Jarrell 43.41 104 P P **08 22 15.8 +0.2**
baz=321
435B S S **08 28 44.0 +0.3**
baz=321
N49A Columbus Grove 43.42 83 IAMs_20 IAMs_20 08 40 18.6
comp=Z,3µm,20.0s
SCHQ Schefferville 43.48 56 P P **08 22 16.6 +0.6**
comp=Z,20nm,0.8s,baz=328,slow=7.9,SNR=26
SCHQ LR LR 08 39 46.0
comp=Z,945nm,19.6s,baz=308,slow=35
comp=Z,20nm,0.8s
SADO Sadowa 43.59 75 LR LR 08 38 22.6
comp=Z,1µm,18.2s,baz=318,slow=33
WLAR White Oak Lake 43.64 97 IAMs_20 IAMs_20 08 40 16.5
comp=Z,3µm,20.0s
O49A Covington 43.84 84 IAMs_20 IAMs_20 08 40 28.7
comp=Z,3µm,20.0s
ASAJ Asahikawa 44.01 284 LR LR 08 41 58.4
comp=Z,1µm,18.4s,baz=8.0,slow=38
UTMT University of 44.04 91 P P **08 22 20.3 -0.4**
P49A Miami Univ. Ec 44.08 84 S S **08 28 51.6 -1.7**
baz=314
WCI Wyandotte Cave 44.12 87 P P **08 22 20.4 -0.9**
WCI Wyandotte Cave 44.12 87 IAMs_20 IAMs_20 08 39 34.3
comp=Z,2µm,18.0s
WCI Wyandotte Cave 44.12 87 P P **08 22 20.5 -0.9**
baz=315
WCI S S **08 28 54.4 +0.5**
baz=315
WCI Wyandotte Cave 44.12 87 P P **08 22 20.5 -0.9**
WCI pmax pmax
comp=Z,49nm,1.7s
Z41A Richland Creek 44.13 97 P P **08 22 19.8 -1.6**
CCAR Cane Creek 44.21 96 P P **08 22 21.7 -0.3**
CCAR IAmb IAmb 08 22 24.8
comp=Z,42nm,0.9s
NATX Nacogdoches 44.24 101 P P **08 22 22.2 -0.2**
NATX IAMs_20 IAMs_20 08 42 25.6
comp=Z,2µm,18.0s
NATX Nacogdoches 44.24 101 P P **08 22 22.5 +0.1**
baz=320
EF01 Eagle Ford 01 44.28 107 IAMs_20 IAMs_20 08 41 27.5
comp=Z,2µm,19.0s
833A Chaparral WMA, 44.38 108 P P **08 22 24.0 +0.5**
baz=323,SNR=10
833A S S **08 28 59.0 +1.1**
baz=323
DY2G Dye2 44.40 34 *i* P P **08 22 23.5 0.0**
DY2G IAmb IAmb 08 22 25.5
comp=Z,20nm,0.7s
KBS Kingsbay 44.44 5 *eP* P **08 22 25.5 +2.1**
M52A Chesterland 44.55 80 IAMs_20 IAMs_20 08 40 22.5
comp=Z,2µm,20.0s
ACSO Alum Creek Sta 44.56 82 IAMs_20 IAMs_20 08 40 55.9
comp=Z,2µm,19.0s
ACSO Alum Creek Sta 44.56 82 P P **08 22 24.5 -0.2**
baz=314
DELO Deloro Mine 44.57 74 IAMs_20 IAMs_20 08 40 14.9
comp=Z,2µm,18.0s
ICESG Greenland Ices 44.63 29 *i* P P **08 22 25.3 -0.1**
ICESG IAmb IAmb 08 22 29.4
comp=Z,57nm,0.8s
R49A Shelbyville 44.70 86 IAMs_20 IAMs_20 08 41 08.6
comp=Z,3µm,20.0s
WVT Waverly 44.77 90 P P **08 22 25.8 -0.8**
baz=317
WVT S S **08 29 03.7 +0.3**
baz=317
WVT Waverly 44.77 90 P P **08 22 26.2 -0.3**
WVT pmax pmax
comp=Z,59nm,0.9s
735A Kenedy 44.80 106 IAMs_20 IAMs_20 08 41 56.3
comp=Z,2µm,18.0s
J54A Appleton 44.85 76 IAMs_20 IAMs_20 08 41 38.5
comp=Z,3µm,18.0s
ERPA Erie 44.90 78 IAMs_20 IAMs_20 08 41 06.4
comp=Z,3µm,22.0s
ERPA Erie 44.90 78 P P **08 22 27.1 -0.5**
baz=313
M53A WI Miller and 44.99 79 P P **08 22 27.2 -1.1**
M53A IAmb IAmb 08 22 35.3
comp=Z,40nm,1.1s
M53A IAMs_20 IAMs_20 08 39 36.2
comp=Z,2µm,22.0s
M53A WI Miller and 44.99 79 P P **08 22 27.4 -0.9**
baz=313,SNR=9.7
M53A S S **08 29 06.1 -0.4**
baz=313
HKT Hockley 45.00 103 P P **08 22 29.0 +0.6**
HKT Hockley 45.00 103 *i* P P **08 22 28.1 -0.3**
HKT pmax pmax
comp=Z,90nm,1.7s
HKT MLR MLR
comp=Z,4µm,20.0s
P51A Williamsport 45.03 83 IAMs_20 IAMs_20 08 39 55.4
comp=Z,2µm,20.0s
TRQ Mont Tremblant 45.07 70 P P **08 22 28.5 -0.4**
TRQ IAmb IAmb 08 22 35.9
comp=Z,47nm,1.2s
TRQ IAMs_20 IAMs_20 08 40 40.2
comp=Z,3µm,22.0s
OXF Oxford 45.08 93 P P **08 22 28.4 -0.6**
OXF Oxford 45.08 93 P P **08 22 28.6 -0.4**
baz=318,SNR=15
OXF Oxford 45.08 93 P P **08 22 28.4 -0.6**
OXF pmax pmax

comp=Z,90nm,1.0s
OXF MLR MLR
comp=Z,5µm,19.0s
DBG Daneborg 45.08 18 *i* P **P** 08 22 28.3 -0.2
DBG IAmb IAmb 08 22 30.5
comp=Z,26nm,0.7s
ERM Erimo 45.12 282 P **P** 08 22 27.3 -1.9
ERM IAmb IAmb 08 22 40.5
comp=Z,55nm,0.9s
ERM Erimo 45.12 282 IAMs_20 IAMs_20 08 41 40.3
comp=Z,1µm,18.0s
ERM Erimo 45.12 282 *i* P **P** 08 22 28.3 -0.9
ERM pmax pmax
comp=Z,12nm,0.5s
ALLY Alegheny Colle 45.14 79 IAMs_20 IAMs_20 08 40 44.0
comp=Z,3µm,20.0s
Q51A Peebles 45.20 84 IAMs_20 IAMs_20 08 39 58.7
comp=Z,3µm,20.0s
O52A Adamsville 45.27 82 IAMs_20 IAMs_20 08 41 17.5
comp=Z,3µm,20.0s
J55A Hilton 45.30 76 IAMs_20 IAMs_20 08 40 42.3
comp=Z,2µm,18.0s
N53A Lisbon 45.34 80 IAMs_20 IAMs_20 08 40 25.3
comp=Z,2µm,20.0s
SPA0 Spitsbergen Ar 45.38 4 *e*P **P** 08 22 30.8 -0.1
SPITS Spitsbergen Ar 45.38 4 P **P** 08 22 31.2 +0.3
comp=Z,14nm,0.7s,baz=48,slow=6.8,SNR=11
SPITS LR LR 08 40 20.2
comp=Z,1µm,20.6s,baz=321,slow=35
comp=Z,14nm,0.7s
P52A Corning 45.44 82 IAMs_20 IAMs_20 08 41 25.1
comp=Z,3µm,19.0s
P52A Corning 45.44 82 P **P** 08 22 31.0 -0.8
baz=314,SNR=14
P52A S **S** 08 29 12.6 -0.5
baz=314
WVNY West Valley, N 45.46 77 IAMs_20 IAMs_20 08 40 35.5
comp=Z,3µm,22.0s
WBO Williamsburg 45.50 72 IAMs_20 IAMs_20 08 40 54.4
comp=Z,2µm,18.0s
O53A New Philadelph 45.52 81 P **P** 08 22 32.0 -0.4
baz=314,SNR=5.8
O53A S **S** 08 29 13.4 -0.8
baz=314
ZEA Zeya 45.55 304 *e*P **P** 08 22 35.1 +2.6
ZEA *e* 08 24 25.2
ZEA *e*S **S** 08 29 16.9 +2.6
ZEA pmax pmax
comp=Z,30nm,1.8s
ZEA pmax pmax
comp=E,200nm,4.6s
ZEA pmax pmax
comp=Z,400nm,5.0s
ZEA pmax pmax
comp=E,200nm,6.6s
ZEA pmax pmax
comp=Z,300nm,7.6s
ZEA smax smax
comp=E,200nm,15.3s
ZEA smax smax
comp=N,400nm,14.1s
ZEA MLR MLR
comp=N,900nm,13.0s
ZEA MLR MLR
comp=Z,2µm,15.0s
LDAQ Lac Daran 45.64 66 IAMs_20 IAMs_20 08 39 47.1
comp=Z,2µm,20.0s
KVTX Kingsville 45.79 107 IAMs_20 IAMs_20 08 42 41.3
comp=Z,2µm,18.0s
T50A Nancy 45.79 87 IAMs_20 IAMs_20 08 40 37.2
comp=Z,2µm,20.0s
441A DeRidder 45.82 100 IAMs_20 IAMs_20 08 40 10.1
comp=Z,1µm,20.0s
Q52A Bidwell 45.84 83 IAMs_20 IAMs_20 08 41 40.3
comp=Z,2µm,21.0s
P53A Whipple 45.95 82 P **P** 08 22 34.6 -1.3
P53A IAmb IAmb 08 22 42.0
comp=Z,27nm,0.8s
M55A Ridgway 46.02 78 P **P** 08 22 35.7 -0.7
M55A IAmb IAmb 08 22 37.5
comp=Z,59nm,1.3s
M55A IAMs_20 IAMs_20 08 41 18.8
comp=Z,3µm,19.0s
O54A Avella 46.02 81 P **P** 08 22 35.6 -0.9
O54A IAmb IAmb 08 22 43.0
comp=Z,31nm,0.8s
MNTQ Montreal, Queb 46.04 70 IAMs_20 IAMs_20 08 41 10.6
comp=Z,2µm,22.0s
LONY Lake Ozonia 46.12 72 IAMs_20 IAMs_20 08 41 12.5
comp=Z,2µm,20.0s
LONY Lake Ozonia 46.12 72 P **P** 08 22 36.3 -0.9
baz=312
VBMS Vicksburg 46.18 96 IAMs_20 IAMs_20 08 41 37.4
comp=Z,3µm,20.0s
VBMS Vicksburg 46.18 96 P **P** 08 22 36.9 -0.8
baz=319
L56A Greenwood 46.21 77 IAMs_20 IAMs_20 08 41 11.0
comp=Z,3µm,20.0s
KLR Kul'dur 46.29 297 LR LR 08 44 26.0
comp=Z,2µm,18.1s,baz=51,slow=39
KLR Kul'dur 46.29 297 *e*P **P** 08 22 36.2 -2.2
KLR pmax pmax
comp=Z,50nm,1.1s
FRNY Flat Rock 46.50 71 IAMs_20 IAMs_20 08 41 23.5
comp=Z,2µm,20.0s
TEY Ternei 46.59 289 *e*P **P** 08 22 39.0 -1.8
Q54A Coxs Mills 46.61 82 IAMs_20 IAMs_20 08 42 10.8
comp=Z,4µm,21.0s
MCWV Mont Chateau 46.68 81 P **P** 08 22 41.3 -0.3
baz=315,SNR=6.9
MCWV S **S** 08 29 31.2 +0.3
baz=315
NCB Newcomb 46.75 72 IAMs_20 IAMs_20 08 41 32.1
comp=Z,2µm,22.0s
TZTN Tazewell 46.85 87 P **P** 08 22 42.7 -0.3
baz=316
TZTN S **S** 08 29 33.6 +0.1
baz=316
M57A Sunshine Farm, 46.99 77 P **P** 08 22 43.2 -0.9
M57A IAmb IAmb 08 22 51.1
comp=Z,31nm,0.9s
M57A IAMs_20 IAMs_20 08 41 24.8
comp=Z,3µm,21.0s
BINY Binghamton 47.02 75 P **P** 08 22 43.9 -0.3
BINY IAMs_20 IAMs_20 08 41 01.3
comp=Z,2µm,19.0s
BINY Binghamton 47.02 75 P **P** 08 22 44.5 +0.3
baz=314,SNR=13
BINY S **S** 08 29 33.7 -2.0
baz=314
SSPA Standing Stone 47.07 78 P **P** 08 22 44.0 -0.6
SSPA IAmb IAmb 08 22 51.6
comp=Z,52nm,1.4s
SSPA Standing Stone 47.07 78 IAMs_20 IAMs_20 08 41 52.8
comp=Z,3µm,22.0s
SSPA Standing Stone 47.07 78 P **P** 08 22 43.9 -0.8
baz=314
CPCT Cooper Cave 47.11 88 P **P** 08 22 44.5 -0.5
CPCT IAmb IAmb 08 22 47.2
comp=Z,36nm,1.2s
FPAL Fort Paine 47.17 90 P **P** 08 22 44.9 -0.6
FPAL IAmb IAmb 08 22 46.6
comp=Z,54nm,1.1s
IVI Ivigtut 47.18 41 IAMs_20 IAMs_20 08 42 38.0
comp=Z,3µm,18.0s
ISOG Isortoq, Green 47.24 32 *i* P **P** 08 22 45.7 +0.1
ISOG IAmb IAmb 08 22 47.6
comp=Z,40nm,0.6s
VT1 Waterbury 47.28 71 IAMs_20 IAMs_20 08 41 57.4
comp=Z,2µm,18.0s
D62A Allapoint, All 47.34 66 IAMs_20 IAMs_20 08 42 07.6
comp=Z,2µm,18.0s
TKL Tuckaleechee C 47.37 88 IAMs_20 IAMs_20 08 42 04.0
comp=Z,3µm,18.0s
TKL Tuckaleechee C 47.37 88 LR LR 08 42 25.2
comp=Z,3µm,21.0s,baz=324,slow=36
E62A Clayton Lake 47.41 67 IAMs_20 IAMs_20 08 41 51.0
comp=Z,2µm,22.0s
SOEG Soedalen 47.41 27 *i* P **P** 08 22 47.7 +0.7
SOEG IAmb IAmb 08 22 53.4
comp=Z,34nm,0.7s
R55A Marlinton 47.51 82 IAMs_20 IAMs_20 08 42 40.3
comp=Z,3µm,21.0s
LRAL Lakeview Retre 47.52 93 P **P** 08 22 47.5 -0.6
baz=319,SNR=6.7
LRAL S **S** 08 29 42.4 -0.5
baz=319

L59A Walton 47.53 75 IAMs_20 IAMs_20 08 41 23.9
comp=Z,2µm,19.0s
N58A Sunbury 47.56 77 IAMs_20 IAMs_20 08 40 49.8
comp=Z,2µm,22.0s
KSPA Keystone Colle 47.58 76 IAMs_20 IAMs_20 08 41 29.2
comp=Z,2µm,21.0s
ANGG Ammassalik, Gr 47.59 32 IAMs_20 IAMs_20 08 43 30.7
comp=Z,2µm,18.0s
F62A Pittston Farm, 47.67 68 IAMs_20 IAMs_20 08 42 20.4
comp=Z,1µm,20.0s
HEH HeiHe 47.74 300 *e*P **P** 08 22 48.9 -0.8
HEH PP **PP** 08 24 37.8 -3.3
HEH S **S** 08 29 41.9 -3.7
HEH ScS **ScS** 08 32 41.1 -1.8
HEH pmax pmax
comp=Z,41nm,0.8s
HEH pmax pmax
comp=Z,650nm,6.4s
HEH LR LR
comp=Z,2µm,15.8s
HEH LR LR
comp=Z,2µm,15.2s
HEH LR LR
comp=Z,2µm,18.7s
LBNH Lisbon 47.78 71 P **P** 08 22 49.8 -0.3
baz=313
SCO Scoresbysund 47.80 21 *i* P **P** 08 22 50.0 +0.2
SCO IAmb IAmb 08 22 53.7
comp=Z,39nm,1.4s
G62A West of Eustis 47.84 69 IAMs_20 IAMs_20 08 40 35.8
comp=Z,2µm,19.0s
V53A Saluda 47.90 87 P **P** 08 22 50.6 -0.5
H62A Milan 47.95 70 IAMs_20 IAMs_20 08 41 56.9
comp=Z,2µm,20.0s
HNH Hanover 47.95 71 P **P** 08 22 51.3 -0.2
HNH IAmb IAmb 08 22 53.1
comp=Z,42nm,1.6s
HNH IAMs_20 IAMs_20 08 42 18.0
comp=Z,2µm,18.0s
J61A Chester 48.06 72 IAMs_20 IAMs_20 08 42 43.8
comp=Z,3µm,21.0s
BLA Blacksburg 48.11 83 IAMs_20 IAMs_20 08 43 01.9
comp=Z,3µm,20.0s
BLA Blacksburg 48.11 83 P **P** 08 22 51.9 -0.9
baz=316
PQI Presque Isle 48.14 66 IAMs_20 IAMs_20 08 42 40.8
comp=Z,2µm,20.0s
NRS Narsarsuaq 48.19 39 *i* P **P** 08 22 54.2 +1.2
NRS IAmb IAmb 08 22 56.9
comp=Z,14nm,0.7s
I62A Tamworth 48.34 71 IAMs_20 IAMs_20 08 41 55.1
comp=Z,2µm,21.0s
MVL Millersville 48.35 78 IAMs_20 IAMs_20 08 42 32.7
comp=Z,3µm,22.0s
PKME Peaks-Kenny Pk 48.45 68 IAMs_20 IAMs_20 08 42 46.9
comp=Z,2µm,18.0s
PKME Peaks-Kenny Pk 48.45 68 P **P** 08 22 52.9 -2.3
baz=313
LUPA Lehigh Univers 48.46 76 IAMs_20 IAMs_20 08 42 41.6
comp=Z,3µm,18.0s
SDMD Soldier's Deli 48.50 79 IAMs_20 IAMs_20 08 42 56.7
comp=Z,1µm,18.0s
F64A Sherman 48.52 67 IAMs_20 IAMs_20 08 41 27.9
comp=Z,2µm,18.0s
ODNJ Ogdensburg 48.54 75 IAMs_20 IAMs_20 08 41 57.5
comp=Z,2µm,18.0s
BOD Bodaibo 48.55 315 *e*P **P** 08 22 56.1 +0.2
BOD pmax pmax
comp=Z,92nm,1.1s
L61B Northampton 48.61 73 IAMs_20 IAMs_20 08 42 39.4
comp=Z,2µm,18.0s
L61B Northampton 48.61 73 P **P** 08 22 54.7 -1.8
baz=314
L61B S **S** 08 30 00.4 +2.2
baz=314
TRNY Table Rock, Ra 48.70 75 IAMs_20 IAMs_20 08 42 44.8
comp=Z,2µm,18.0s
K62A Royalston 48.70 72 IAMs_20 IAMs_20 08 42 40.7
comp=Z,3µm,18.0s
BATG Bathurst New B 48.72 64 IAMs_20 IAMs_20 08 43 26.9
comp=Z,2µm,19.0s
WVL Waterville 48.74 69 IAMs_20 IAMs_20 08 42 42.6
comp=Z,1µm,20.0s
WUPA West Chester U 48.80 77 IAMs_20 IAMs_20 08 42 54.7
comp=Z,2µm,19.0s
BRNJ Basking Ridge 48.84 76 IAMs_20 IAMs_20 08 42 06.5
comp=Z,3µm,20.0s
BRAL Brewton 48.89 94 P **P** 08 22 59.1 +0.3
baz=320,SNR=11
BRAL S **S** 08 30 04.4 +2.1
baz=320
T57A Hurt 48.90 83 IAMs_20 IAMs_20 08 43 34.4
comp=Z,3µm,20.0s
QUA2 Belchertown 48.91 73 P **P** 08 22 58.4 -0.4
QUA2 IAmb IAmb 08 23 06.4
comp=Z,29nm,1.0s
QUA2 IAMs_20 IAMs_20 08 42 47.2
comp=Z,2µm,21.0s
PAL Palisades 48.97 75 IAMs_20 IAMs_20 08 44 11.9
comp=Z,2µm,19.0s
PAL Palisades 48.97 75 P **P** 08 22 58.9 -0.4
baz=315
R58B Mineral 48.97 81 P **P** 08 22 58.5 -0.8
R58B IAMs_20 IAMs_20 08 41 07.0
comp=Z,1µm,18.0s
152A Waverly Hall 49.06 91 P **P** 08 22 58.7 -1.4
152A IAmb IAmb 08 23 02.0
comp=Z,30nm,0.9s
CBN Corbin Frederi 49.07 80 P **P** 08 22 59.8 -0.3
baz=316
PAULI Pauline 49.07 87 IAMs_20 IAMs_20 08 42 39.0
comp=Z,2µm,18.0s
KMSC Kings Mountain 49.10 86 IAMs_20 IAMs_20 08 42 38.8
comp=Z,2µm,20.0s
KMSC Kings Mountain 49.10 86 P **P** 08 23 00.4 0.0
baz=317,SNR=13
WSPT Westport, CT 49.16 75 IAMs_20 IAMs_20 08 40 49.0
comp=Z,1µm,21.0s
HRV Adam Dziewonsk 49.17 72 IAMs_20 IAMs_20 08 43 27.1
comp=Z,2µm,21.0s
HRV Adam Dziewonsk 49.17 72 P **P** 08 23 00.1 -0.7
baz=314
GOGA Godfrey 49.20 89 P **P** 08 23 00.8 -0.4
baz=318,SNR=12
GOGA S **S** 08 30 06.9 +0.3
baz=318
GOGA Godfrey 49.20 89 P **P** 08 23 00.7 -0.4
N62A Caumsett State 49.25 75 IAMs_20 IAMs_20 08 44 45.5
comp=Z,2µm,18.0s
YLE Yale 49.27 74 IAMs_20 IAMs_20 08 40 51.0
comp=Z,1µm,20.0s
UCCT U. Connecticut 49.31 73 IAMs_20 IAMs_20 08 43 01.0
comp=Z,2µm,20.0s
WES Weston 49.38 72 IAMs_20 IAMs_20 08 43 32.7
comp=Z,3µm,22.0s
G65A Princeton 49.38 67 IAMs_20 IAMs_20 08 42 04.5
comp=Z,2µm,19.0s
P61A Hammonton 49.43 77 IAMs_20 IAMs_20 08 41 57.2
comp=Z,3µm,22.0s
BCX Boston College 49.49 72 IAMs_20 IAMs_20 08 43 13.7
comp=Z,2µm,18.0s
USA0B Ussuriysk Arra 49.56 292 IAMs_20 IAMs_20 08 43 32.0
comp=Z,2µm,21.0s
USRK Ussuriysk Ar. 49.56 292 P **P** 08 23 04.7 +0.9
comp=Z,6.7nm,0.8s,baz=51,slow=6.6,SNR=7.0
USRK PcP **PcP** 08 24 25.5 +0.1
comp=Z,4.0nm,0.9s,baz=47,slow=2.2,SNR=1.7
USRK LR LR 08 43 53.6
comp=Z,2µm,21.3s,baz=58,slow=36
comp=Z,6.7nm,0.8s
M63A Gales Ferry 49.68 73 IAMs_20 IAMs_20 08 43 43.8
comp=Z,3µm,22.0s
EMMW East Machias 49.77 67 IAMs_20 IAMs_20 08 44 08.0
comp=Z,2µm,21.0s
JMIC Jan Mayen 49.78 16 LR LR 08 45 36.6
comp=Z,444nm,21.2s,baz=312,slow=38
GGN Saint George 49.80 66 IAMs_20 IAMs_20 08 42 25.8
comp=Z,2µm,18.0s
V58A Windy Hill, Pi 49.86 84 IAMs_20 IAMs_20 08 43 32.7
comp=Z,2µm,22.0s
T59A Double "B" Far 49.86 81 IAMs_20 IAMs_20 08 44 01.3
comp=Z,2µm,21.0s
L64A Middleborough 49.95 72 IAMs_20 IAMs_20 08 43 36.8
comp=Z,2µm,18.0s
BIRD Birdtown, Kers 49.95 86 P **P** 08 23 06.2 -0.7
BIRD IAMs_20 IAMs_20 08 44 09.3
comp=Z,2µm,19.0s
154A Montrose 49.99 90 P **P** 08 23 05.6 -1.6

451A Vernon 50.04 94 P **P** 08 23 07.0 -0.6
M65A Busby, Falmout 50.31 72 IAMs_20 IAMs_20 08 43 39.5
comp=Z,2µm,18.0s
VLA Vladivostok 50.37 291 *i* P **P** 08 23 07.8 -2.1
VLA pmax pmax
comp=Z,36nm,1.6s
VLA MLR MLR
comp=Z,1µm,18.0s
Y57A Sumter 50.46 86 IAMs_20 IAMs_20 08 43 31.6
comp=Z,2µm,20.0s
MDJ Mudanjiang 50.50 294 P **P** 08 23 12.9 +2.0
MDJ pP pwP 08 23 16.1 -2.0
MDJ sP sP 08 23 17.4 +4.1
MDJ PcP **PcP** 08 24 30.2 +1.4
MDJ PP **PP** 08 25 09.2 +2.9
MDJ ScP **ScP** 08 28 26.4 +1.8
MDJ PcS **PcS** 08 28 27.7 +1.7
MDJ S **S** 08 30 28.3 +3.7
MDJ ScS **ScS** 08 33 02.2 +0.5
MDJ pmax pmax
comp=Z,17nm,1.5s
MDJ pmax pmax
comp=Z,540nm,6.2s
MDJ LR LR
comp=Z,2µm,22.9s
MDJ LR LR
comp=Z,1µm,20.7s
MDJ LR LR
comp=Z,2µm,18.7s
MDJ Mudanjiang 50.50 294 IAMs_20 IAMs_20 08 47 23.5
comp=Z,2µm,18.0s
MOIG Morelia 50.57 117 IAMs_20 IAMs_20 08 44 20.7
comp=Z,2µm,18.0s
TIGA Tifton 50.61 91 P **P** 08 23 11.8 -0.1
baz=319
BNX BinXian 50.82 296 ⇓P **P** 08 23 15.8 +2.5
BNX S **S** 08 30 33.4 +4.4
BNX pmax pmax
comp=Z,28nm,2.0s
BNX pmax pmax
comp=Z,660nm,4.0s
BNX LR LR
comp=Z,1µm,15.5s
BNX LR LR
comp=Z,1µm,15.4s
BNX LR LR
comp=Z,1µm,19.4s
CNNC Cliffs of the 50.94 83 IAMs_20 IAMs_20 08 44 40.0
comp=Z,2µm,21.0s
Y58A Scranton 50.94 86 P **P** 08 23 13.3 -1.1
Y58A IAMs_20 IAMs_20 08 44 29.1
comp=Z,2µm,22.0s
553A Crawfordville 51.09 93 P **P** 08 23 14.8 -0.7
DRLN Deer Lake 51.48 57 P **P** 08 23 17.6 -0.7
DRLN IAmb IAmb 08 23 31.4
comp=Z,62nm,0.9s
MJAR Matsushiro Arr 51.70 280 P **P** 08 23 21.4 +1.3
comp=Z,12nm,1.0s,baz=33,slow=6.6,SNR=10
MJAR LR LR 08 44 16.3
comp=Z,650nm,21.9s,baz=46,slow=35
comp=Z,12nm,1.0s
UNM Universidad Na 51.87 115 IAMs_20 IAMs_20 08 44 48.0
comp=Z,2µm,20.0s
HIA Hailar 52.03 304 IAMs_20 IAMs_20 08 47 08.8
comp=Z,1µm,21.0s
BORG Borgarnes 52.62 26 LR LR 08 46 36.9
comp=Z,2µm,20.1s,baz=333,slow=37
CIT Chita 52.81 310 *e*P **P** 08 23 31.0 +2.8
CIT pmax pmax
comp=Z,320nm,3.3s
JHJ Hachijo jima 2 53.37 276 LR LR 08 43 34.5
comp=Z,220nm,21.8s,baz=86,slow=33
TLIG Tlapa 53.67 115 IAMs_20 IAMs_20 08 46 19.6
comp=Z,1µm,19.0s
VADS Vadso 53.80 1 *e*P **P** 08 23 35.9 +0.8
JETT Jettan, Norway 54.11 5 *e*P **P** 08 23 37.3 -0.2
ARA0 ARCESS Array S 54.32 3 *e*P **P** 08 23 38.0 -0.9
ARCES ARCESS Array B 54.32 3 P **P** 08 23 37.7 -1.2
ARCES ARCESS Array B 54.32 3 P **P** 08 23 37.8 -1.2
comp=Z,7.0nm,0.6s,baz=359,slow=6.4,SNR=30
ARCES LR LR 08 48 29.6
comp=Z,368nm,18.1s,baz=354,slow=38
comp=Z,7.0nm,0.6s
KTK1 Kautokeino 54.77 4 *e*P **P** 08 23 41.9 -0.3
STEI Steigen 55.42 7 *e*P **P** 08 23 47.2 +0.4
SNY Shenyang 55.56 295 ⇓P **P** 08 23 51.5 +3.3
SNY S **S** 08 31 41.9 +8.4
SNY pmax pmax
comp=Z,48nm,0.7s
SNY pmax pmax
comp=Z,530nm,3.9s
SNY LR LR
comp=Z,1µm,17.5s
SNY LR LR
comp=Z,2µm,14.3s
SNY LR LR
comp=Z,2µm,19.0s
CMIG Matias Romero 55.94 112 LR LR 08 47 09.8
comp=Z,1µm,20.2s,baz=313,slow=35
LVZ Lovozero 56.03 359 P **P** 08 23 51.3 0.0
LVZ IAmb IAmb 08 24 04.9
comp=Z,56nm,1.1s
LVZ Lovozero 56.03 359 *ce*P **P** 08 23 51.6 +0.3
LVZ pmax pmax
comp=Z,41nm,1.3s
LVZ MLR MLR
comp=Z,874nm,19.0s
APA Apatity 56.37 359 *i* P **P** 08 23 51.4 -2.3
APA *i* 08 24 51.6
APA *i* 08 26 03.5
APA *i* S **S** 08 31 39.0 -4.7
APA *i* PS **PnS** 08 31 50.0 -3.3
APA *i* 08 33 44.0
APA *i* SS **SS** 08 35 33.0 +3.4
SGF Sodankyl 56.45 2 P **P** 08 23 54.9 +0.7
SGF pmax pmax
comp=Z,31nm,0.8s
IRK Irkutsk 56.45 315 *e*P **P** 08 23 57.2 +2.7
IRK pmax pmax
comp=Z,178nm,3.1s
KSRS Korea Array 56.56 289 P **P** 08 23 56.0 +0.6
comp=Z,1.9nm,0.6s,baz=44,slow=6.2,SNR=3.2
KSRS LR LR 08 46 44.8
comp=Z,567nm,21.8s,baz=50,slow=34
comp=Z,1.9nm,0.6s
JCJ Chichijima 56.64 270 LR LR 08 45 26.8
comp=Z,396nm,21.6s,baz=64,slow=33
TEIG Tepich 56.85 104 P **P** 08 23 56.8 -0.9
TEIG IAmb IAmb 08 23 58.1
comp=Z,40nm,1.2s
TEIG Tepich 56.85 104 LR LR 08 49 52.4
comp=Z,5µm,21.5s,slow=38
MOR8 Moi Rana 57.09 8 *e*P **P** 08 23 58.5 -0.4
SOR Soroa 57.67 97 IAMs_20 IAMs_20 08 50 52.3
comp=Z,1µm,18.0s
TJN Tanjon 57.67 288 *i* P **P** 08 24 01.7 -1.6
XLT XiLinHaoTe 57.68 302 *e*P **P** 08 24 06.6 +3.1
XLT sP pwP 08 24 14.0 +3.4
XLT S **S** 08 32 03.7 +1.9
XLT sS sS 08 32 07.7 +3.1
XLT ScS **ScS** 08 33 54.7 +1.9
XLT pmax pmax
comp=Z,30nm,0.9s
XLT pmax pmax
comp=Z,490nm,3.7s
XLT LR LR
comp=Z,2µm,16.1s
XLT LR LR
comp=Z,2µm,16.0s
CCIG Comitan 58.05 110 P **P** 08 24 06.0 -0.4
CCIG IAmb IAmb 08 24 14.2
comp=Z,30nm,1.1s
CCIG IAMs_20 IAMs_20 08 49 45.5
comp=Z,988nm,18.0s
MOY Mondy 58.17 317 *e*P **P** 08 24 09.9 +3.1
MOY pmax pmax
comp=Z,113nm,3.2s
JNU Nakatsue 58.25 283 LR LR 08 48 09.3
comp=Z,475nm,21.6s,baz=54,slow=35
ZAK Zakamensk 58.29 314 *e*P **P** 08 24 08.4 +0.8
ZAK pmax pmax
comp=Z,18nm,1.2s
CAMR Camarioca 58.36 96 IAMs_20 IAMs_20 08 50 14.6
comp=Z,5µm,18.0s
ULN Ulaanbaatar 58.71 310 P **P** 08 24 10.8 +0.2
ULN Ulaanbaatar 58.71 310 IAMs_20 IAMs_20 08 51 59.3

comp=Z,1μm,20.0s
ULN Ulaanbaatar 58.71 310 *ce* P **P** **08 24 10.6 0.0**
ULN pmax pmax
comp=Z,37nm,0.8s
PETF Flores 58.72 107 P **P** **08 24 10.8 0.0**
PETF IAmb IAmb 08 24 14.0
comp=Z,64nm,1.4s
DL2 Dalian 58.73 294 P **P** **08 24 09.4 -1.3**
DL2 S **S** **08 32 16.8 +1.4**
DL2 pmax pmax
comp=Z,40nm,0.9s
DL2 pmax pmax
comp=Z,410nm,6.4s
DL2 LR LR
comp=Z,1μm,21.1s
DL2 LR LR
comp=Z,1μm,22.9s
DL2 LR LR
comp=Z,2μm,20.6s
OUL Oulu 58.79 3 P **P** **08 24 11.2 +0.5**
OUL pmax pmax
comp=Z,66nm,1.2s
SONM Songino Array 59.01 311 P **P** **08 24 12.5 -0.2**
SONM Songino Array 59.01 311 P **P** **08 24 13.8 +1.1**
comp=Z,46nm,0.9s,baz=45,slow=5.4,SNR=35
SONM LR LR 08 50 19.0
comp=Z,938nm,19.2s,baz=30,slow=37
comp=Z,46nm,0.9s
SONM Songino Array 59.01 311 P **P** **08 24 12.5 -0.2**
SONM pmax pmax
comp=Z,103nm,1.1s
ADZR Andozero 59.93 357 *e*P **P** **08 24 16.4 -2.2**
ADZR pmax pmax
comp=Z,106nm,1.3s
APG El Apazote 59.99 109 LR LR 08 49 33.1
comp=Z,69nm,21.9s,baz=234,slow=35
AKN Aaknes 60.23 13 *e*P **P** **08 24 20.8 0.0**
BJI Beijing 60.58 299 P **P** **08 24 25.6 +2.2**
BJI S **S** **08 32 39.4 +0.2**
BJI ScS SKKSac 08 34 11.6 -2.4
BJI pmax pmax
comp=Z,13nm,0.8s
BJI pmax pmax
comp=Z,220nm,6.6s
BJI LR LR
comp=Z,560nm,21.4s
BJI LR LR
comp=Z,490nm,20.0s
BJT Baijiatuan 60.60 299 IAMs_20 IAMs_20 08 54 16.7
comp=Z,834nm,18.0s
DOMB Dombas 60.61 12 *e*P **P** **08 24 23.1 -0.2**
VAF Ylistaro 60.72 5 *e*P **P** **08 24 24.0 0.0**
ESQI Esquipulas 60.95 108 P **P** **08 24 25.5 -0.9**
ESQI IAmb IAmb 08 24 50.2
comp=Z,42nm,1.0s
ESQI IAMs_20 IAMs_20 08 48 36.5
comp=Z,1μm,21.0s
JOF Joensuu 61.05 0 *e*P **P** **08 24 27.2 +0.9**
MTO3 Montecristo 61.08 109 P **P** **08 24 26.2 -1.2**
MTO3 IAmb IAmb 08 24 30.1
comp=Z,30nm,1.2s
MTO3 IAMs_20 IAMs_20 08 50 17.8
comp=Z,1μm,20.0s
NC204 NORSAR Array S 61.55 11 P **P** **08 24 29.6 -0.1**
NC204 IAmb IAmb 08 24 31.7
comp=Z,21nm,0.8s
ASK Askoy 61.62 15 *e*P **P** **08 24 31.2 +1.1**
NC303 NORSAR Array S 61.66 11 P **P** **08 24 30.5 0.0**
NC303 IAmb IAmb 08 24 42.0
comp=Z,17nm,0.9s
KEF Keuruu 61.68 4 *e*P **P** **08 24 29.9 -0.7**
BER Bergen 61.74 15 *e*P P 08 24 36.7 +5.8
NBO00 NORSAR Array S 61.79 11 P **P** **08 24 30.5 -0.8**
NBO00 IAmb IAmb 08 24 42.8
comp=Z,21nm,1.1s
ZAA0 Zalesovo Array 61.79 328 P **P** **08 24 31.2 -0.2**
ZAA0 IAmb IAmb 08 24 43.3
comp=Z,34nm,0.8s
ZALV Zalesovo Beam 61.79 328 P **P** **08 24 31.1 -0.4**
ZALV Zalesovo Beam 61.79 328 P **P** **08 24 31.3 -0.1**
comp=Z,27nm,0.7s,baz=30,slow=7.2,SNR=30
ZALV LR LR 08 54 47.1
comp=Z,2μm,18.1s,baz=25,slow=39
comp=Z,27nm,0.7s
ZALV Zalesovo Beam 61.79 328 *i* P **P** **08 24 32.0 +0.6**
ZALV pmax pmax
comp=Z,27nm,0.7s
NC405 NORSAR Array S 61.81 11 P **P** **08 24 31.0 -0.4**
NC405 IAmb IAmb 08 24 33.0
comp=Z,18nm,0.7s
NB2 NORSAR Subarra 61.83 11 P **P** **08 24 30.9 -0.8**
comp=Z,11nm,0.7s,baz=348,slow=6.9
NB2 NORSAR Subarra 61.83 11 P **P** **08 24 30.9 -0.8**
baz=348,slow=6.9
NOA NORSAR Array B 61.83 11 P **P** **08 24 30.8 -0.8**
comp=Z,9.2nm,0.7s,baz=348,slow=6.7,SNR=44
NOA LR LR 08 52 19.6
comp=Z,414nm,20.4s,baz=340,slow=37
comp=Z,9.2nm,0.7s
SKAR Skarslia 61.84 13 *e*P **P** **08 24 31.1 -0.7**
NC602 NORSAR Array S 62.16 11 *e*P **P** **08 24 33.8 0.0**
NORES NORESS Array B 62.16 11 P **P** **08 24 33.9 +0.1**
HHC Hu-ho-hao-te 62.16 302 ⇑P **P** **08 24 37.1 +2.8**
HHC sP pwP 08 24 44.2 +2.7
HHC S **S** **08 33 00.8 +1.2**
HHC ScS **SKKSac** **08 34 25.8 -0.5**
HHC pmax pmax
comp=Z,59nm,0.8s
HHC pmax pmax
comp=Z,540nm,4.2s
HHC LR LR
comp=Z,950nm,17.5s
HHC LR LR
comp=Z,1μm,15.2s
HHC LR LR
comp=Z,2μm,14.6s
FIA1 FINESS Array S 62.45 3 P **P** **08 24 35.6 0.0**
FINES FINESS Array B 62.45 3 P **P** **08 24 35.0 -0.7**
comp=Z,21nm,0.8s,baz=7.1,slow=7.7,SNR=60
FINES PKPPKP P'P'df 08 53 40.1 -8.8
comp=Z,2.0nm,0.8s,baz=355,slow=1.5,SNR=4.1
comp=Z,21nm,0.8s
TGUH Tegucigalpa,Un 62.47 107 P **P** **08 24 36.6 0.0**
TGUH IAMs_20 IAMs_20 08 53 51.7
comp=Z,1μm,19.0s
RAF Rauma 62.69 5 *e*P **P** **08 24 37.1 -0.2**
BLS5 Blasjo 62.82 14 *e*P **P** **08 24 39.0 +0.7**
KLMR Klimovskoe 62.96 356 *e*P **P** **08 24 39.0 -0.1**
KLMR pmax pmax
comp=Z,93nm,1.3s
KLMR MLR MLR
comp=Z,1μm,21.0s
HFS Hagfors 62.97 10 P **P** **08 24 38.0 -1.2**
comp=Z,6.1nm,0.6s,baz=352,slow=3.3,SNR=19
HFS LR LR 08 52 19.8
comp=Z,388nm,20.6s,baz=353,slow=36
comp=Z,6.1nm,0.6s
KONO Kongsberg 63.00 12 P **P** **08 24 38.9 -0.6**
KONO IAmb IAmb 08 24 41.6
comp=Z,16nm,0.9s
KONO Kongsberg 63.00 12 *e*P **P** **08 24 40.6 +1.2**
KONO Kongsberg 63.00 12 *ce*P **P** **08 24 39.8 +0.4**
KONO pmax pmax
comp=Z,41nm,1.7s
BTO Baotou 63.08 303 *e*P **P** **08 24 39.7 -0.7**
BTO pP **sP** **08 24 44.4 +1.6**
BTO sP **pwP** **08 24 46.7 -0.9**
BTO PP **PP** **08 26 59.2 +0.6**
BTO S **S** **08 33 12.0 +1.0**
BTO sS **sS** **08 33 16.3 +2.4**
BTO SS **SS** **08 37 14.2 -1.7**
BTO pmax pmax
comp=Z,14nm,1.4s
BTO pmax pmax
comp=Z,1μm,6.4s
BTO LR LR
comp=Z,4μm,12.5s
BTO LR LR
comp=Z,4μm,16.9s
BTO LR LR
comp=Z,6μm,15.0s
TIA Tai'an 63.09 295 ⇓P **P** **08 24 39.6 -0.8**
TIA S **S** **08 33 08.9 -2.1**
TIA pmax pmax
comp=Z,7.0nm,1.7s
TIA pmax pmax
comp=Z,240nm,10.3s
TIA LR LR
comp=Z,500nm,24.5s
TIA LR LR
comp=Z,460nm,21.6s
TIA LR LR
comp=Z,600nm,21.1s
HNS HongShan 63.36 298 ⇑P **P** **08 24 42.5 +0.4**
HNS S **S** **08 33 15.5 +1.2**
HNS SKS **SKKSac** **08 34 34.2 -0.9**
HNS pmax pmax
comp=Z,69nm,0.9s
HNS pmax pmax
comp=Z,610nm,6.6s
HNS LR LR
comp=Z,650nm,18.3s
HNS LR LR
comp=Z,2μm,20.7s
HNS LR LR
comp=Z,1μm,15.7s
AAL Aland 63.43 7 *e*P **P** **08 24 42.4 +0.2**
MEF Metsahovi 63.62 4 *e*P **P** **08 24 43.3 -0.2**
SNART Snartemo 63.97 14 *e*P **P** **08 24 46.2 +0.4**
TIY Taiyuan 64.22 300 P **P** **08 24 50.2 +2.3**
TIY PP PP 08 27 16.5 +7.8
TIY S **S** **08 33 29.0 +3.7**
TIY ScS **SKKSac** **08 34 41.1 -0.8**
TIY pmax pmax
comp=Z,390nm,3.9s
TIY LR LR
comp=Z,2μm,16.5s
TIY LR LR
comp=Z,2μm,16.5s
TIY LR LR
comp=Z,2μm,14.4s
ARBE Arbavere 64.45 3 *e*P **P** **08 24 50.1 +1.2**
KIRV Kirov 64.53 350 LR LR 08 56 59.8
comp=Z,1μm,19.3s,baz=21,slow=40
KIRV Kirov 64.53 350 *ce*P **P** **08 24 49.9 +0.4**
JOW Kunigami 64.55 281 LR LR 08 52 10.2
comp=Z,309nm,22.0s,baz=336,slow=35
VIKU Vikbolandet 64.85 9 *e*P **P** **08 24 50.8 -0.8**
MTSE Matsula 65.09 5 *e*P **P** **08 24 52.6 -0.5**
EKA Eskdalemuir Ar 65.10 21 P **P** **08 24 53.0 -0.2**
comp=Z,14nm,0.8s,baz=319,slow=5.1,SNR=32
EKA PKPPKP P'P'df 08 53 33.8 -10
comp=Z,1.4nm,0.7s,baz=145,slow=2.0,SNR=4.4
comp=Z,14nm,0.8s
ESK Eskdalemuir 65.11 21 IAMs_20 IAMs_20 08 53 59.1
comp=Z,1μm,21.0s
ACON Acoyapa 65.32 106 IAMs_20 IAMs_20 08 54 01.4
comp=Z,913nm,22.0s
VSU Vasula 65.45 3 *ce*P **P** **08 24 55.3 -0.2**
VSU pmax pmax
comp=Z,34nm,0.7s
NJ2 Nanjing 65.47 291 ⇓P **P** **08 24 58.7 +2.7**
NJ2 pP **pwP** **08 25 05.1 +1.9**
NJ2 S **S** **08 33 43.2 +2.6**
NJ2 pmax pmax
comp=Z,43nm,1.0s
NJ2 pmax pmax
comp=Z,520nm,4.3s
NJ2 LR LR
comp=Z,1μm,18.0s
NJ2 LR LR
comp=Z,830nm,16.1s
NJ2 LR LR
comp=Z,2μm,15.2s
ARU Arti 65.48 344 P **P** **08 24 55.1 -0.7**
ARU IAMs_20 IAMs_20 08 54 35.6
comp=Z,2μm,21.0s
ARU Arti 65.48 344 LR LR 08 54 48.5
comp=Z,1μm,21.2s,baz=14,slow=37
ARU Arti 65.48 344 *ce*P **P** **08 24 55.0 -0.7**
ARU pmax pmax
comp=Z,125nm,1.7s
ARU MLR MLR
comp=Z,2μm,22.0s
ESPN Las Esperanzas 65.60 105 P **P** **08 24 56.4 -0.7**
ESPN IAmb IAmb 08 24 58.6
comp=Z,32nm,0.9s
GUMO Guam 66.00 258 LR LR 08 50 20.6
comp=Z,218nm,19.8s,baz=42,slow=33
SLIT Slitere, Latvi 66.10 6 *e*P **P** **08 24 59.2 -0.5**
SEM Semipalatinsk 66.25 328 *e*P **P** **08 25 01.2 +0.1**
baz=328
SEM LR LR 08 56 23.5
comp=Z,627nm,15.0s,baz=328
SEM Semipalatinsk 66.25 328 *e*P **P** **08 25 01.2 +0.1**
SEM MLR MLR
comp=Z,627nm,15.0s
BRVK Borovoye 66.43 336 P **P** **08 25 01.1 -0.8**
BRVK Borovoye 66.43 336 *ce*P **P** **08 25 00.9 -1.0**
BRVK pmax pmax
comp=Z,54nm,1.7s
BRVK MLR MLR
comp=Z,2μm,19.0s
BVA0 Borovoye Array 66.44 336 *i* P **P** **08 25 01.2 -0.8**
BVAR Borovoye Array 66.44 336 P **P** **08 25 01.8 -0.2**
comp=Z,21nm,0.7s,baz=28,slow=5.8,SNR=65
BVAR PKPPKP P'P'df 08 53 29.5 -12
comp=Z,1.7nm,0.8s,baz=204,slow=3.3,SNR=6.7
BVAR LR LR 08 57 26.7
comp=Z,2μm,20.7s,baz=22,slow=39
comp=Z,21nm,0.7s
KURK Kurchatov 66.44 330 P **P** **08 25 01.5 -0.4**
KURK IAmb IAmb 08 25 13.2
comp=Z,22nm,0.8s
KURK Kurchatov 66.44 330 *ce*P **P** **08 25 01.6 -0.4**
KURK pmax pmax
comp=Z,37nm,1.7s
KURK MLR MLR
comp=Z,2μm,18.0s
ORTG Ortega, Santa 66.51 107 IAMs_20 IAMs_20 08 57 25.9
comp=Z,818nm,18.0s
KURBB Kurchatov Arra 66.55 330 P **P** **08 25 02.1 -0.6**
comp=Z,5.3nm,0.5s,baz=29,slow=6.4,SNR=32
KURBB PP **PP** **08 27 25.8 -2.8**
comp=Z,3.6nm,1.1s,baz=39,slow=11,SNR=5.0
KURBB PKPPKP P'P'df 08 53 31.8 -9.4
comp=Z,0.3nm,0.3s,baz=214,slow=3.4,SNR=4.7
KURBB LR LR 08 57 05.6
comp=Z,2μm,18.4s,baz=12,slow=39
comp=Z,5.3nm,0.5s
KURBB Kurchatov Arra 66.55 330 P **P** **08 24 59.8 -2.9**
DEL Delary 66.59 11 *e*P **P** **08 25 02.4 -0.5**
LYN LuoYang 66.72 298 *e*P **P** **08 25 07.2 +3.2**
LYN sP pwP 08 25 13.9 +2.6
LYN S **S** **08 33 57.1 +1.3**
LYN sS sS 08 34 03.3 +4.7
LYN ScS **ScS** **08 35 02.4 +1.3**
LYN pmax pmax
comp=Z,110nm,0.8s
LYN pmax pmax
comp=Z,930nm,3.5s
LYN LR LR
comp=Z,2μm,18.9s
LYN LR LR
comp=Z,1μm,20.3s
LYN LR LR
comp=Z,2μm,19.2s
DUNO Dulce Nombre, 66.73 108 IAMs_20 IAMs_20 08 57 51.7
comp=Z,840nm,19.0s
COVE Coope Vega, Sa 66.78 106 P **P** **08 25 03.5 -1.1**
JTS Las Juntas de 66.84 107 LR LR 08 57 32.2
comp=Z,622nm,19.1s,baz=309,slow=39
SDDR Presa de Saban 67.22 90 P **P** **08 25 06.2 -1.2**
SDDR IAMs_20 IAMs_20 08 56 08.4
comp=Z,1μm,19.0s
ZSN Zaisan 67.44 324 *e*P **P** **08 25 08.3 -0.1**
comp=Z,38nm,0.8s,baz=324
ZSN Zaisan 67.44 324 *e*P **P** **08 25 08.3 -0.1**
ZSN pmax pmax
comp=Z,38nm,0.8s
JACO JACO, Garabito 67.52 107 IAMs_20 IAMs_20 08 56 51.7
comp=Z,786nm,18.0s
LCR2 La Lucha 2 67.81 106 P **P** **08 25 10.4 -0.9**
BSD Bornholm Skovb 68.04 10 *e*P **P** **08 25 13.0 +1.0**
MOS Moscow 68.15 356 *e*P **P** **08 25 11.5 -1.2**
MOS *e* 08 25 36.1
MOS *e*S **S** **08 34 13.1 +0.8**
MOS *e* 08 35 10.0
MOS pmax pmax
comp=Z,100nm,0.7s
MOS pmax pmax
comp=Z,78nm,0.7s
MOS MLR MLR
comp=Z,800nm,21.0s
PEZE Perez Zeledon, 68.28 106 IAMs_20 IAMs_20 08 56 44.8
comp=Z,775nm,18.0s
PABE Paberze 68.31 5 P **P** **08 25 13.9 +0.2**
PABE IAMs_20 IAMs_20 08 52 40.0
comp=Z,933nm,21.0s
SRBA San Rafael, Bu 68.58 106 IAMs_20 IAMs_20 08 58 20.6
comp=Z,774nm,20.0s
GTA Gaotai 68.62 309 *e*P **P** **08 25 17.7 +1.6**
GTA sP pwP 08 25 25.5 +2.1
GTA S **S** **08 34 16.0 -2.7**
GTA pmax pmax
comp=Z,25nm,1.9s
GTA pmax pmax
comp=Z,510nm,7.2s
GTA LR LR
comp=Z,2μm,17.5s
GTA LR LR
comp=Z,2μm,18.3s
GTA LR LR
comp=Z,3μm,17.1s
BRZS Berezniki 68.70 333 *e*P **P** **08 25 15.1 -1.2**
comp=Z,16nm,1.0s,baz=333
BRZS Berezniki 68.70 333 *e*P **P** **08 25 15.9 -0.4**
BRZS pmax pmax
comp=Z,16nm,1.0s
OBN Obninsk 68.81 357 IAMs_20 IAMs_20 08 57 16.0
comp=Z,871nm,21.0s
OBN Obninsk 68.81 357 P **P** **08 25 16.3 -0.5**
comp=Z,50nm,0.6s,baz=48,slow=8.2,SNR=9.5
OBN LR LR 09 00 13.5
comp=Z,566nm,19.2s,baz=6.5,slow=40
comp=Z,50nm,0.6s
OBN Obninsk 68.81 357 *d* *i* P **P** **08 25 17.5 +0.7**
OBN *e*S **S** **08 34 22.5 +2.4**
OBN *e*SS **SS** **08 38 47.1 +3.4**
OBN pmax pmax
comp=Z,57nm,0.7s
OBN MLR MLR
comp=Z,863nm,21.0s
MK31 Makanchi Array 68.84 325 P **P** **08 25 16.2 -1.1**
MK31 IAmb IAmb 08 25 29.4
comp=Z,16nm,0.8s
MK31 Makanchi Array 68.84 325 *ce*P **P** **08 25 17.1 -0.2**
MKAR Makanchi Array 68.84 325 P **P** **08 25 16.8 -0.6**
MKAR Makanchi Array 68.84 325 P **P** **08 25 16.5 -0.8**
comp=Z,5.8nm,0.6s,baz=32,slow=6.0,SNR=24
MKAR PP **PP** **08 27 46.8 -1.9**
comp=Z,2.6nm,0.7s,baz=48,slow=7.9,SNR=3.3
MKAR PKPPKP **P'P'df** **08 53 32.5 -4.7**
comp=Z,2.9nm,1.0s,baz=221,slow=4.6,SNR=5.4
MKAR LR LR 08 59 21.8
comp=Z,2μm,18.0s,baz=22,slow=39
comp=Z,5.8nm,0.6s
MKAR Makanchi Array 68.84 325 *i* P **P** **08 25 16.1 -1.2**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
XAN Xi'an 68.86 300 ⇓P **P** **08 25 20.2 +2.6**
XAN sP pwP 08 25 27.5 +2.6
XAN PcP **PcP** **08 25 44.5 +2.4**
XAN S **S** **08 34 24.1 +2.5**
XAN ScS **ScS** **08 35 18.7 +0.7**
XAN pmax pmax
comp=Z,71nm,1.6s
XAN pmax pmax
comp=Z,780nm,6.1s
XAN LR LR
comp=Z,1μm,19.6s
XAN LR LR
comp=Z,2μm,17.7s
XAN LR LR
comp=Z,760nm,17.2s
MAKZ Makanchi 68.93 326 P **P** **08 25 17.1 -0.7**
MAKZ Makanchi 68.93 326 P **P** **08 25 18.0 +0.2**
WHN Wuhan 68.99 294 ⇑P **P** **08 25 21.5 +3.1**
WHN sP **pwP** **08 25 28.3 +2.7**
WHN S **S** **08 34 23.5 +0.5**
WHN pmax pmax
comp=Z,210nm,1.4s
WHN LR LR
comp=Z,5μm,24.1s
WHN LR LR
comp=Z,3μm,16.9s
WHN LR LR
comp=Z,3μm,18.9s
PCDR Punta Cana, DR 69.22 88 IAMs_20 IAMs_20 08 57 16.1
comp=Z,2μm,18.0s
BRU2 Volcan 69.30 106 P **P** **08 25 20.2 -0.5**
BRU2 IAmb IAmb 08 25 22.4
comp=Z,51nm,1.2s
BRU2 IAMs_20 IAMs_20 08 55 09.8
comp=Z,865nm,22.0s
MNK Minsk 69.45 2 *i* P **P** **08 25 18.8 -2.0**
MNK *i* 08 25 41.8
MNK *i* 08 27 52.1
MNK *i* PPP PPP 08 29 32.8
MNK *i* S **S** **08 34 26.9 -0.8**
MNK *i* 08 35 20.1
MNK *i* SS **SS** **08 38 55.3 +1.7**
MNK pmax pmax
comp=E,10.0nm,0.7s
MNK pmax pmax
comp=N,23nm,0.8s
MNK pmax pmax
comp=Z,40nm,0.8s
MNK MLR MLR
comp=E,178nm,18.0s
LZH Lanzhou 69.58 305 *e*P **P** **08 25 24.5 +2.3**
LZH sP pwP 08 25 32.2 +2.8
LZH S **S** **08 34 26.5 -3.7**
LZH SS **SS** **08 39 00.1 +3.1**
LZH pmax pmax
comp=E,34nm,1.3s
LZH pmax pmax
comp=E,470nm,4.1s
LZH LR LR
comp=E,3μm,16.1s
LZH LR LR
comp=E,2μm,16.8s
LZH LR LR
comp=E,5μm,16.2s
WMQ Urumqi 69.64 320 *e*P **P** **08 25 24.7 +2.4**
WMQ sP pwP 08 25 34.0 +4.4
WMQ PP **PP** **08 28 00.4 +4.8**
WMQ S **S** **08 34 32.3 +1.8**
WMQ pmax pmax
comp=E,32nm,1.5s
WMQ pmax pmax
comp=E,540nm,6.7s
WMQ LR LR
comp=E,2μm,18.7s
WMQ LR LR
comp=E,2μm,19.9s
WMQ LR LR
comp=E,1μm,22.3s
SUW Suwalki 69.76 5 *e*P **P** **08 25 23.3 +0.5**
SUW Suwalki 69.76 5 IAMs_20 IAMs_20 08 54 30.4
comp=Z,909nm,21.0s
GKP Gorka Klasztor 70.08 9 *e*P **P** **08 25 26.1 +1.3**
UUPR Utuado, UPR, P 70.35 87 IAMs_20 IAMs_20 09 00 10.1
comp=Z,648nm,18.0s
MLPR Magueyes Islan 70.40 87 IAMs_20 IAMs_20 09 01 32.5
comp=Z,811nm,19.0s
BCIP Isla Barro Col 70.53 103 IAMs_20 IAMs_20 08 57 32.2
comp=Z,826nm,18.0s
OBIP Obispado Ponce 70.58 87 IAMs_20 IAMs_20 09 00 14.3
comp=Z,705nm,18.0s
BELG Belogornoye 70.81 350 LR LR 09 00 12.2
comp=Z,1μm,19.9s,baz=21,slow=39
BELG Belogornoye 70.81 350 *i* P **P** **08 25 28.6 -0.6**
BELG pmax pmax
comp=Z,23nm,1.3s
BELG MLR MLR
comp=Z,181nm,23.0s
IGPR InterUniversit 70.92 86 IAMs_20 IAMs_20 09 00 11.3
comp=Z,954nm,19.0s
LPSR Galich'ya Gora 71.23 355 *e*P **P** **08 25 30.2 -1.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
MEM Membach 71.28 17 *d*P **P** **08 25 29.8 -2.3**
MEM *dp*P **pP** **08 25 33.1 -0.8**
MEM *dx* x 08 25 44.7
QZH Quanzhou 71.28 287 ⇓*i*P **P** **08 25 35.1 +2.6**
QZH S **S** **08 34 54.2 +4.2**
QZH LR LR

comp=Z,530nm,14.1s
QZH LR LR
comp=Z,1µm,16.5s
QZH LR LR
comp=Z,780nm,14.1s
BTNL Ternell 71.32 17 *d*P **P 08 25 32.8 +0.3**
BTNL *d*PcP **PcP 08 25 50.4 -1.8**
BGES Gesves 71.34 18 *d*P **P 08 25 31.3 -1.2**
BCLA Clavier 71.35 17 *d*P **P 08 25 32.0 -0.6**
BCLA *d*PcP **PcP 08 25 49.4 -2.9**
AKTO Aktyubinsk 71.35 343 LR LR 08 59 22.7
comp=Z,668nm,20.4s,baz=39,slow=38
BMRD Maredsous 71.37 18 *d*P **P 08 25 32.3 -0.4**
BAIF Baives 71.51 18 *e*P **P 08 25 33.4 -0.1**
BAIF pmax pmax
comp=Z,24nm,1.4s
GIVF Givet 71.57 18 *e*P **P 08 25 34.8 +0.9**
GIVF pmax pmax
comp=Z,10.0nm,0.8s
CLL Collm 71.58 12 P **P 08 25 34.0 +0.1**
CLL IAmb IAmb 08 25 46.5
comp=Z,25nm,1.3s
CLL Collm 71.58 12 *e*P **P 08 25 34.0 +0.1**
CLL *i* 08 25 38.1
CLL *e*S **S 08 34 54.0 +1.3**
CLL pmax pmax
comp=Z,19nm,1.1s
CLL MLR MLR
comp=Z,500nm,21.8s
RCHB Rochefort 71.59 18 *d*P **P 08 25 33.7 -0.3**
CNSH ChangSha 71.62 293 ⇓P **P 08 25 37.3 +2.8**
CNSH S **S 08 34 57.7 +3.9**
CNSH pmax pmax
comp=Z,37nm,0.7s
CNSH LR LR
comp=Z,580nm,13.9s
CNSH LR LR
comp=Z,960nm,19.2s
CNSH LR LR
comp=Z,870nm,19.1s
ENH Enshi 71.65 297 IAMs_20 IAMs_20 08 57 49.1
comp=Z,832nm,20.0s
TDK Taldyqorghan 71.65 327 *e*P **P 08 25 34.4 -0.1**
comp=Z,19nm,0.7s,baz=327
TDK LR LR 08 59 29.9
comp=Z,996nm,15.1s,baz=327
TDK Taldyqorghan 71.65 327 *e*P **P 08 25 34.4 -0.1**
TDK pmax pmax
comp=Z,19nm,0.7s
TDK MLR MLR
comp=Z,996nm,15.0s
BEL Belsk 71.79 7 *e*P **P 08 25 35.9 +0.7**
FLN La Foliniere 71.86 22 *e*P **P 08 25 36.2 +0.6**
FLN pmax pmax
comp=Z,20nm,1.0s
QUIF Quistinic 72.08 24 *e*P **P 08 25 37.0 0.0**
QUIF pmax pmax
comp=Z,9.0nm,0.8s
LDF La Druitiere 72.09 22 *e*P **P 08 25 36.7 -0.3**
LDF pmax pmax
comp=Z,11nm,1.0s
BRG Berggiesshubel 72.12 12 *e*P **P 08 25 37.6 +0.4**
BRG Amp 08 25 39.0
comp=Z,8.6nm,0.8s
BRG Berggiesshubel 72.12 12 P **P 08 25 41.9 +4.7**
BRG Amp 08 25 42.7
comp=Z,11nm,0.9s
BRG Berggiesshubel 72.12 12 SS SS 08 39 40.0 +5.3
BRG Amp 09 00 27.0
comp=N,0.5nm,19.9s
BRG Amp 09 00 32.0
comp=Z,0.6nm,15.4s
BRG Amp 09 00 59.0
comp=E,0.2nm,20.0s
BRG Berggiesshubel 72.12 12 *e*P **P 08 25 37.6 +0.4**
BRG 08 25 41.8
BRG 08 25 56.4
BRG S **S 08 35 03.0 +4.1**
BRG SS **SS 08 39 40.0 +5.3**
BRG pmax pmax
comp=Z,9.0nm,0.8s
BRG MLR MLR
comp=Z,606nm,15.4s
BRG MLR MLR
comp=E,239nm,20.0s
GRR Gorron 72.13 22 *e*P **P 08 25 37.3 0.0**
GRR pmax pmax
comp=Z,9.0nm,0.7s
VORR Voronezh 72.15 355 *e*P **P 08 25 38.0 +0.7**
VORR *e* 08 25 45.9
VORR pmax pmax
comp=Z,30nm,1.0s
AB31 Akbulak array 72.16 341 *i*P **P 08 25 36.3 -1.1**
ABKAR Akbulak array 72.16 341 P **P 08 25 36.7 -0.7**
ABKAR Akbulak array 72.16 341 P **P 08 25 37.0 -0.4**
ABKAR IAmb IAmb 08 25 49.2
comp=Z,125nm,1.4s
WLF Walferdange 72.22 17 IAMs_20 IAMs_20 08 57 23.0
comp=Z,719nm,18.0s
HSKC Hora Svate Kat 72.32 12 *e*S **S 08 35 01.1 -0.2**
RICC Richard 72.46 12 *e*P **P 08 25 40.2 +1.0**
VRH Novokhopyorsk 72.48 353 *e*P **P 08 25 40.3 +1.0**
VRH pmax pmax
comp=Z,55nm,1.5s
PVCC Panska Ves 72.53 11 AMS AMS 09 00 20.0
comp=Z,500nm,16.9s
SMRT St. Maarten 72.53 84 IAMs_20 IAMs_20 08 56 40.9
comp=Z,1µm,20.0s
ARXS Arharly 72.54 327 *i*P **P 08 25 38.9 -1.0**
NKC Novy Kostel 72.57 13 *e*P **P 08 25 40.2 +0.3**
NKC AMS AMS 09 01 00.0
comp=Z,600nm,16.8s
NKC Novy Kostel 72.57 13 *e*P **P 08 25 40.2 +0.3**
NKC MLR MLR
comp=Z,600nm,16.8s
VSR Storozhevoye 72.61 355 *e*P **P 08 25 38.4 -1.7**
VSR pmax pmax
comp=Z,20nm,0.8s
CHVC Chvalec 72.62 10 *e*P **P 08 25 40.7 +0.5**
CHVC Chvalec 72.62 10 *e*P **P 08 25 40.7 +0.5**
OSTC Ostas 72.67 10 *e*P **P 08 25 41.5 +1.0**
OSTC AMS AMS 09 02 00.0
comp=Z,400nm,18.5s
OSTC Ostas 72.67 10 *e*P **P 08 25 41.5 +1.0**
OSTC MLR MLR
comp=Z,400nm,18.5s
UPC Upice 72.70 10 *e*S **S 08 35 08.0 +2.4**
UPC AMS AMS 09 02 00.0
comp=Z,500nm,17.0s
PDGK Podgornoye 72.83 326 P **P 08 25 42.1 +0.4**
VORD Divnogorie 72.85 355 *e*P **P 08 25 39.8 -1.7**
VORD pmax pmax
comp=Z,20nm,0.9s
BTLS Baital 72.89 330 *e*P **P 08 25 42.1 +0.2**
baz=330
BTLS Baital 72.89 330 *e*P **P 08 25 42.0 +0.2**
DPC Dobruska-Polom 72.89 10 *e*P **P 08 25 42.9 +1.1**
DPC AMS AMS 09 02 10.0
comp=Z,400nm,15.5s
DPC Dobruska-Polom 72.89 10 *e*P **P 08 25 42.9 +1.1**
DPC MLR MLR
comp=Z,400nm,15.5s
PRA Prague 72.96 12 AMS AMS 09 00 20.0
comp=Z,500nm,20.3s
SHLS Shalkode 73.00 326 *e*P **P 08 25 42.1 -0.6**
comp=Z,24nm,0.9s,baz=325
SHLS Shalkode 73.00 326 *e*P **P 08 25 42.1 -0.6**
SHLS pmax pmax
comp=Z,24nm,0.9s
PRU Pruhonice 73.06 11 *e*P **P 08 25 43.6 +0.8**
PRU *e*S **S 08 35 10.3 +0.6**
PRU AMS AMS 08 53 30.0
comp=Z,600nm,23.9s
PRU Pruhonice 73.06 11 *e*P **P 08 25 43.6 +0.8**
PRU *e*S **S 08 35 10.3 +0.6**
PRU MLR MLR
comp=Z,600nm,23.9s
CLF Chambon-Foret 73.11 20 P **P 08 25 42.5 -0.6**
CLF IAmb IAmb 08 25 50.4
comp=Z,46nm,1.2s
CHKK Chushkaly 73.12 328 *e*P **P 08 25 43.0 -0.3**
baz=327
CHKK Chushkaly 73.12 328 *e*P **P 08 25 43.0 -0.3**
GOPC GO Pecny, Ondr 73.16 11 *e*P **P 08 25 44.5 +1.1**
GOPC *e*S **SKiKP 08 35 17.5 +2.5**
GOPC AMS AMS 09 00 40.0
comp=Z,500nm,19.6s
GOPC GO Pecny, Ondr 73.16 11 *e*P **P 08 25 44.5 +1.1**
GOPC *e*S **SKiKP 08 35 17.5 +2.5**
GOPC MLR MLR
comp=Z,500nm,19.6s
KRLC Kraliky 73.20 10 *e*P **P 08 25 43.9 +0.2**
KRLC Kraliky 73.20 10 *e*P **P 08 25 43.9 +0.2**
AKASG Malin Array Be 73.28 2 P **P 08 25 44.0 0.0**
AKASG Malin Array Be 73.28 2 P **P 08 25 42.9 -1.2**
comp=Z,23nm,0.6s,baz=358,slow=6.0,SNR=5.3
AKASG LR LR 09 02 10.3
comp=Z,311nm,18.2s,baz=20,slow=39
comp=Z,23nm,0.6s
AKASG Malin Array Be 73.28 2 *i*P **P 08 25 42.0 -2.0**
AKASG pmax pmax
comp=Z,23nm,0.6s
AKBB Malin Array Si 73.28 2 IAMs_20 IAMs_20 09 02 00.4
comp=Z,868nm,20.0s
KIEV Kiev 73.29 2 ⇑P **P 08 25 43.9 -0.2**
KIEV Kiev 73.29 2 IAMs_20 IAMs_20 09 02 01.4
comp=Z,753nm,19.0s
KIEV Kiev 73.29 2 P **P 08 25 43.9 -0.2**
ZHN Zhinishke 73.31 326 *e*P **P 08 25 44.1 -0.5**
baz=326
ZHN Zhinishke 73.31 326 *e*P **P 08 25 44.0 -0.5**
OJC Ojcow 73.32 8 *e*P **P 08 25 45.6 +1.2**
OJC Ojcow 73.32 8 P **P 08 25 44.6 +0.3**
OJC Ojcow 73.32 8 P **P 08 25 44.6 +0.3**
OJC pmax pmax
comp=Z,15nm,1.1s
PAYG Puerto Ayora 73.43 118 IAMs_20 IAMs_20 08 57 35.3
comp=Z,808nm,19.0s
GOMU GeErMu 73.45 311 P **P 08 25 49.2 +3.4**
GOMU pP pwP 08 25 54.2 +1.2
GOMU sP PcP 08 25 56.3 -5.6
GOMU S S 08 35 06.2 -9.1
GOMU ScS **SKSac 08 35 52.4 0.0**
GOMU pmax pmax
comp=Z,41nm,0.8s
GOMU LR LR
comp=Z,3µm,18.0s
GOMU LR LR
comp=Z,2µm,16.3s
GOMU LR LR
comp=Z,4µm,16.9s
ZVC Zvikov 73.56 12 *e*P **P 08 25 46.2 +0.5**
OKC Ostrava-Krasne 73.56 9 AMS AMS 09 04 10.0
comp=Z,500nm,16.8s
MORC Moravsky Berou 73.57 10 ⇓P **P 08 25 46.2 +0.4**
MORC Moravsky Berou 73.57 10 P **P 08 25 45.9 +0.1**
MORC Moravsky Berou 73.57 10 *e*P **P 08 25 46.3 +0.4**
MORC Moravsky Berou 73.57 10 P **P 08 25 46.2 +0.4**
CDF Champ du Feu 73.62 17 *e*P **P 08 25 46.3 +0.1**
CDF pmax pmax
comp=Z,15nm,1.1s
PPT Papeete 73.65 181 LR LR 08 51 49.3
comp=Z,964nm,19.6s,baz=356,slow=31
AAA Alma-Ata 73.73 327 *e*P **P 08 25 47.4 +0.4**
comp=Z,22nm,0.6s,baz=327
AAA Alma-Ata 73.73 327 *e*P **P 08 25 47.3 +0.4**
AAA pmax pmax
comp=Z,22nm,0.6s
MDOK Medeo 73.73 327 *e*P **P 08 25 47.4 +0.2**
baz=327
MDOK LR LR 09 00 45.2
comp=Z,541nm,14.5s,baz=327
MDOK Medeo 73.73 327 *e*P **P 08 25 47.3 +0.2**
MDOK MLR MLR
comp=Z,541nm,14.0s
ECH Echery 73.79 17 P **P 08 25 46.8 -0.4**
ECH IAMs_20 IAMs_20 09 01 19.5
comp=Z,773nm,18.0s
ECH Echery 73.79 17 P **P 08 25 46.8 -0.4**
ECH pmax pmax
comp=Z,15nm,1.0s
ECH MLR MLR
comp=Z,800nm,18.0s
KHC Kasperske Hory 73.79 12 P **P 08 25 46.8 -0.4**
KHC IAmb IAmb 08 25 59.9
comp=Z,68nm,1.7s
KHC Kasperske Hory 73.79 12 *e*P **P 08 25 47.8 +0.6**
KHC *e*S **S 08 35 19.7 +1.6**
KHC AMS AMS 08 57 30.0
comp=Z,500nm,19.4s
KHC Kasperske Hory 73.79 12 *ce*P **P 08 25 47.5 +0.3**
KHC pmax pmax
comp=Z,51nm,1.7s
TREC Trest 73.84 11 AMS AMS 09 01 20.0
comp=Z,400nm,16.1s
TNSS Tian-Shan 73.88 327 *e*P **P 08 25 47.8 -0.4**
baz=327
TNSS Tian-Shan 73.88 327 *e*P **P 08 25 47.8 -0.4**
CD2 Chengdu 73.91 302 P **P 08 25 50.7 +2.6**
CD2 PP **PP 08 28 36.7 +4.2**
CD2 S **S 08 35 20.4 +0.4**
CD2 ScS **SKSac 08 35 51.8 -3.5**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 pmax pmax
comp=Z,220nm,3.5s
CD2 LR LR
comp=Z,460nm,12.3s
CD2 LR LR
comp=Z,480nm,12.8s
CD2 LR LR
comp=Z,970nm,15.2s
VRAC Vranov 73.94 10 ⇓P **P 08 25 48.6 +0.5**
VRAC Vranov 73.94 10 *e*P **P 08 25 48.1 +0.1**
VRAC Vranov 73.94 10 P **P 08 25 47.9 -0.2**
comp=Z,14nm,0.7s,baz=3.5,slow=4.9,SNR=19
VRAC LR LR 09 01 54.4
comp=Z,468nm,18.1s,baz=1.5,slow=39
comp=Z,14nm,0.7s
VRAC Vranov 73.94 10 P **P 08 25 48.5 +0.5**
MFF Saint Martin d 73.98 22 *e*P **P 08 25 48.3 0.0**
MFF pmax pmax
comp=Z,17nm,0.8s
LVV L'vov 73.99 5 *e*P **P 08 25 50.0 +1.7**
GEC2 GERESS Array S 74.09 12 P **P 08 25 48.3 -0.7**
GERES GERESS Array B 74.09 12 P **P 08 25 48.7 -0.3**
comp=Z,7.0nm,0.7s,baz=352,slow=5.4,SNR=14
GERES LR LR 09 01 08.8
comp=Z,288nm,19.9s,baz=1.0,slow=38
comp=Z,7.0nm,0.7s
KWP Kalwaria Pacla 74.10 6 *e*P **P 08 25 50.9 +2.0**
KWP Kalwaria Pacla 74.10 6 IAMs_20 IAMs_20 09 03 53.4
comp=Z,788nm,20.0s
HINF Hinteralfeld 74.13 17 *e*P **P 08 25 48.9 -0.3**
HINF pmax pmax
comp=Z,13nm,1.1s
LOR Lormes 74.14 19 *e*P **P 08 25 49.0 -0.2**
LOR pmax pmax
comp=Z,12nm,0.8s
NIE Niedzica 74.16 8 *e*P **P 08 25 51.1 +1.8**
KRUC Moravsky 74.17 10 *e*P **P 08 25 49.0 -0.3**
SGDS Sogindy 74.18 329 *e*P **P 08 25 49.8 +0.2**
baz=329
SGDS Sogindy 74.18 329 *e*P **P 08 25 49.8 +0.2**
CKRC Cesky Krumlov 74.18 12 *e*P **P 08 25 49.4 0.0**
CKRC *e*S **S 08 35 24.3 +1.8**
CKRC AMS AMS 09 02 00.0
comp=Z,500nm,16.5s
CKRC Cesky Krumlov 74.18 12 *e*P **P 08 25 49.4 0.0**
CKRC *e*S **S 08 35 24.3 +1.8**
CKRC MLR MLR
comp=Z,500nm,16.5s
STHS Stebnicka Huta 74.22 7 *e*P **P 08 25 49.7 0.0**
STHS Stebnicka Huta 74.22 7 *e*P **P 08 25 49.7 0.0**
STHS pmax pmax
comp=Z,26nm,0.7s
SSF Saint Saulge 74.27 20 *e*P **P 08 25 49.9 0.0**
SSF pmax pmax
comp=Z,13nm,0.7s
LANS Liptovska Anna 74.36 8 *e*P **P 08 25 51.6 +1.1**
LANS Liptovska Anna 74.36 8 *e*P **P 08 25 51.7 +1.2**
LANS pmax pmax
comp=Z,30nm,1.4s
TKM2 Tokmak 2 74.39 328 P **P 08 25 51.1 +0.1**
JAVC Velka Javorina 74.49 10 *e*P **P 08 25 51.9 +0.6**
AVF Avril sur Loir 74.50 20 *e*P **P 08 25 50.9 -0.4**
AVF pmax pmax
comp=Z,10.0nm,0.7s
BGF Bois d'Agland 74.63 20 *e*P **P 08 25 51.7 -0.4**
BGF pmax pmax
comp=Z,7.0nm,0.7s
SMF Signal de Mont 74.73 20 *e*P **P 08 25 52.2 -0.5**
SMF pmax pmax
comp=Z,10.0nm,0.8s
CRVS Cervenica-Dubn 74.75 7 *e*P **P 08 25 55.1 +2.4**
CRVS Cervenica-Dubn 74.75 7 *e*P **P 08 25 55.1 +2.4**
CRVS pmax pmax
comp=Z,272nm,2.8s
TCF Toulx Ste Croi 74.76 21 *e*P **P 08 25 52.5 -0.4**
TCF pmax pmax
comp=Z,13nm,1.2s
KOLS Kolonicke sedl 74.77 6 *e*P **P 08 25 56.1 +3.2**
SMOL Smolenice 74.81 10 *e*P **P 08 25 54.8 +1.7**
SMOL pmax pmax
comp=Z,9.0nm,1.0s
MODS Modra-Piesok 74.94 10 *e*P **P 08 25 54.6 +0.8**
MODS Modra-Piesok 74.94 10 *e*P **P 08 25 54.6 +0.8**
MODS pmax pmax
comp=Z,81nm,1.4s
VYHS Vyhne 74.96 9 *e*P **P 08 25 54.3 +0.4**
VYHS Vyhne 74.96 9 *e*P **P 08 25 54.3 +0.4**
VYHS pmax pmax
comp=Z,34nm,1.2s
AAK Ala-Archa 74.97 329 P **P 08 25 54.1 -0.2**
AAK IAmb IAmb 08 26 06.2
comp=Z,48nm,1.4s
AAK Ala-Archa 74.97 329 LR LR 09 02 30.4
comp=Z,2µm,18.2s,baz=22,slow=39
AAK Ala-Archa 74.97 329 *ce*P **P 08 25 54.1 -0.2**
AAK pmax pmax
comp=Z,38nm,1.7s
RETA Reutte 75.04 15 *i*P **P 08 25 55.4 +0.9**
comp=Z,0.4nm,0.3s
ZST Bratislava 75.09 10 *e*P **P 08 25 56.7 +2.0**
ZST Bratislava 75.09 10 *e*P **P 08 25 56.7 +2.0**
ZST pmax pmax
comp=Z,68nm,1.2s
KECS Kecovo 75.10 8 *e*P **P 08 25 56.2 +1.5**
KECS Kecovo 75.10 8 *e*P **P 08 25 56.3 +1.5**
KECS pmax pmax
comp=Z,26nm,0.8s
DAVA Damuels 75.11 15 *i*P **P 08 25 57.0 +1.9**
comp=Z,15nm,1.2s
MOA Molln 75.13 12 *i*P **P 08 25 56.8 +1.9**
comp=Z,12nm,1.5s
CABF La Chapelle 75.17 18 *e*P **P 08 25 55.4 +0.1**
CABF pmax pmax
comp=Z,13nm,0.6s
BIOA Bad Ischl, Aus 75.22 13 *i*P **P 08 25 57.0 +1.5**
comp=Z,8.4nm,0.8s
MOTA Moosalm 75.23 14 *i*P **P 08 25 56.4 +0.7**
comp=Z,22nm,1.3s
CONA Conrad Observa 75.23 11 *e*pP **P 08 25 55.9 +0.2**
comp=Z,20nm,1.0s,SNR=9.5
WATA Walderalm 75.30 14 *i*P **P 08 25 57.6 +1.5**
comp=Z,28nm,1.1s
LESA Schwarzleotal 75.36 13 *e*pP **P 08 25 56.9 +0.5**
comp=Z,3.9nm,0.6s
SQTA Sankt Quirin 75.36 14 *i*P **P 08 25 56.8 +0.4**
comp=Z,7.3nm,0.5s
WTTA Wattenberg 75.38 14 *i*P **P 08 25 57.1 +0.5**
comp=Z,13nm,0.6s
FETA Feichten 75.49 15 *i*P **P 08 25 58.0 +0.8**
comp=Z,5.4nm,0.7s
RONA Rosalia, Austr 75.50 11 *i*P **P 08 25 57.6 +0.5**
comp=Z,3.9nm,0.6s
RJF Les Rejaudoux 75.57 22 *e*P **P 08 25 57.0 -0.5**
RJF pmax pmax
comp=Z,7.0nm,0.9s
DAVOX Davos/Dischmat 75.61 15 P **P 08 25 58.3 +0.4**
comp=Z,5.4nm,0.6s,baz=324,slow=7.2,SNR=7.0
DAVOX LR LR 09 00 57.8
comp=Z,320nm,20.8s,baz=15,slow=37
comp=Z,5.4nm,0.6s
PSZ Piszkesteto 75.61 8 ⇑P **P 08 25 58.0 +0.1**
PSZ Piszkesteto 75.61 8 P **P 08 25 57.5 -0.3**
PSZ IAmb IAmb 08 26 11.2
comp=Z,43nm,1.2s
PSZ Piszkesteto 75.61 8 P **P 08 25 57.9 +0.1**
DZA Taraz 75.62 331 *e*P **P 08 25 58.2 +0.3**
baz=331
DZA Taraz 75.62 331 *e*P **P 08 25 58.1 +0.2**
KK31 Karatay Array 75.64 332 P **P 08 25 57.1 -0.9**
KK31 IAmb IAmb 08 26 10.0
comp=Z,32nm,1.0s
KK31 Karatay Array 75.64 332 *i*P **P 08 25 57.6 -0.4**
KKAR Karatay Array 75.64 332 P **P 08 25 58.2 +0.3**
KKAR IAmb IAmb 08 26 10.0
comp=Z,32nm,1.0s
KKAR Karatay Array 75.64 332 P **P 08 25 58.2 +0.3**
KKAR pmax pmax
comp=Z,32nm,1.0s
LFF La Frestale 75.75 22 *e*P **P 08 25 59.3 +0.8**
LFF pmax pmax
comp=Z,20nm,1.1s
KBA Koelnbreinsper 75.78 13 *e*pP **P 08 25 59.4 +0.5**
comp=Z,15nm,0.6s,SNR=9.5
HKPS Hong Kong Po S 75.81 289 IAMs_20 IAMs_20 09 03 17.4
comp=Z,973nm,20.0s
SDV Santo Domingo 75.81 95 P **P 08 25 58.1 -1.4**
SDV IAmb IAmb 08 26 01.5
comp=Z,21nm,0.9s
SDV Santo Domingo 75.81 95 LR LR 09 02 26.1
comp=Z,331nm,18.2s,baz=347,slow=38
SDV Santo Domingo 75.81 95 *e*P **P 08 25 58.7 -0.8**
TUE Stuetta 75.83 16 P **P 08 25 59.2 0.0**
SORM Soroca 75.83 2 ⇑P **P 08 25 58.6 -0.3**
SORM Soroca 75.83 2 P **P 08 25 58.5 -0.3**
ARSA Arzberg 75.87 11 *e*pP **P 08 25 59.8 +0.6**
comp=Z,7.1nm,0.9s
BRLS Borolday 75.88 332 *e*P **P 08 26 00.9 +1.5**
baz=332
BRLS Borolday 75.88 332 *e*P **P 08 26 00.8 +1.5**
ABTA Abfaltersbach 76.00 13 *i*pP **P 08 26 02.8 +2.7**
comp=Z,5.6nm,0.9s
CAF Calviac 76.04 21 *e*P **P 08 26 00.8 +0.6**
CAF pmax pmax
comp=Z,22nm,1.4s
SSB Saint Sauveur 76.18 19 P **P 08 25 60.0 -1.0**
SSB Saint Sauveur 76.18 19 IAMs_20 IAMs_20 08 59 13.9
comp=Z,791nm,21.0s
SSB Saint Sauveur 76.18 19 P **P 08 26 00.0 -1.0**
SSB pmax pmax
comp=Z,11nm,1.0s
SSB MLR MLR
comp=Z,800nm,21.0s
GYA Guiyang 76.19 297 ⇑*i*P **P 08 26 01.9 +0.4**
GYA pP PcP 08 26 11.1 -2.5
GYA PP **PP 08 28 53.8 +1.7**
GYA S **S 08 35 41.7 -4.0**
GYA pmax pmax
comp=Z,13nm,1.0s
GYA LR LR
comp=Z,1µm,16.5s
GYA LR LR
comp=Z,1µm,18.3s
GYA LR LR
comp=Z,890nm,25.0s
BUR08 Bucovina Ar. S 76.22 5 P **P 08 26 01.3 0.0**
BUR08 IAmb IAmb 08 26 14.8
comp=Z,16nm,0.8s
BURAR Bucovina Array 76.25 5 ⇑P **P 08 26 01.1 -0.3**
BURAR Bucovina Array 76.25 5 P **P 08 26 01.1 -0.3**
BURAR IAmb IAmb 08 26 14.1
comp=Z,12nm,0.6s
BURAR Bucovina Array 76.25 5 P **P 08 26 01.3 -0.1**
MYKA Terra Mystica 76.26 13 *i*pP **P 08 26 03.2 +1.7**
comp=Z,3.4nm,0.6s
FDF Fort de France 76.30 84 IAMs_20 IAMs_20 09 04 42.6
comp=Z,1µm,18.0s
LPL La Plagne 76.34 18 *e*P **P 08 26 03.0 +0.8**
LPL pmax pmax
comp=Z,10.0nm,0.8s
LPG La Plagne 76.36 18 *e*P **P 08 26 04.1 +1.7**
LPG pmax pmax
comp=Z,20nm,1.1s
PGAV Gavieira, Arco 76.38 30 *e*P **P 08 26 02.8 +0.5**
comp=Z,37nm,1.7s
PGAV *e*pP **sP 08 26 06.0 +1.3**
PGAV Gavieira, Arco 76.38 30 *e*PcP **PcP 08 26 14.3 +0.2**
PGAV *e*S **S 08 35 55.9 +8.7**
PGAV Gavieira, Arco 76.38 30 *e*LR LR 08 51 05.0
comp=Z,845nm,18.0s
SOKA Soboth 76.38 12 *i*pP **P 08 26 02.4 +0.3**
comp=Z,6.0nm,0.6s,SNR=16
ILAM Ilet Lapin Mar 76.41 84 IAMs_20 IAMs_20 09 04 58.7

comp=Z,1µm,19.0s
OBKA Obir 76.49 12 *i* pP **P 08 26 02.7 -0.2**
comp=Z,30nm,0.7s,SNR=13
BIM Bigot 76.52 84 IAMs_20 IAMs_20 08 58 06.5
comp=Z,1µm,21.0s
MESR Meseseni 76.59 6 ⇑P **P 08 26 03.6 +0.4**
CHM Chimkent 76.61 332 LR LR 09 02 24.3
baz=332
VIVF Saint-Julien-l 76.61 19 *e*P **P 08 26 03.5 0.0**
VIVF pmax pmax
comp=Z,9.0nm,0.7s
IUG luzhnay 76.66 332 *e*P **P 08 26 03.8 -0.1**
comp=Z,30nm,0.8s,baz=332
IUG luzhnay 76.66 332 *e*P **P 08 26 03.8 -0.1**
IUG pmax pmax
comp=Z,29nm,0.8s
MPOM Morne Pois Mar 76.69 84 IAMs_20 IAMs_20 08 58 23.0
comp=Z,1µm,19.0s
ORIF Oris-en-Rattie 76.77 19 *e*P **P 08 26 05.3 +0.8**
ORIF pmax pmax
comp=Z,4.0nm,0.6s
BNI Bardonecchia 76.78 18 P **P 08 26 05.1 +0.5**
BNI IAmb IAmb 08 26 18.3
comp=Z,28nm,1.2s
BNI IAMs_20 IAMs_20 09 02 43.7
comp=Z,765nm,18.0s
BNI Bardonecchia 76.78 18 P **P 08 26 05.1 +0.5**
BNI pmax pmax
comp=Z,28nm,1.3s
BNI MLR MLR
comp=Z,800nm,18.0s
SALO Salr 76.84 15 IAMs_20 IAMs_20 09 02 36.0
comp=Z,578nm,18.0s
SABO M.te Sabotino 76.89 13 IAMs_20 IAMs_20 08 59 52.4
comp=Z,428nm,22.0s
DRGR 76.94 6 ⇑P **P 08 26 04.8 -0.5**
DRGR 76.94 6 P **P 08 26 04.8 -0.5**
PBRG Braganca 76.94 29 *e*P **P 08 26 06.9 +1.5**
comp=Z,21nm,1.4s
KIS Kishinev 76.98 2 *e*P **P 08 26 06.0 +0.6**
comp=Z,90nm,2.3s
KIS Kishinev 76.98 2 *e*P **P 08 26 06.0 +0.6**
KIS pmax pmax
comp=Z,90nm,2.3s
MILM Milestii Mici 77.06 2 *e*P **P 08 26 05.0 -0.9**
comp=Z,370nm,5.8s
MILM *e*S **S 08 35 52.0 -2.2**
comp=Z,400nm,9.0s
MILM *e*L L 08 40 07.0
comp=Z,700nm,57.0s
MILM LRM MLR 09 05 17.0
comp=Z,400nm,20.0s
MILM Milestii Mici 77.06 2 *e*P **P 08 26 05.0 -0.9**
MILM *e*S **S 08 35 52.0 -2.2**
MILM pmax pmax
comp=Z,370nm,5.8s
MILM smax smax
comp=E,400nm,9.0s
POLO Lamas de Olo 77.06 29 *e*P **P 08 26 06.6 +0.5**
comp=E,21nm,1.2s
POLO *e*pP **pwP 08 26 10.8 -2.6**
POLO Lamas de Olo 77.06 29 *e*PcP **PcP 08 26 19.0 +2.0**
MARR Marisel-Cluj 77.08 6 ⇑P **P 08 26 05.7 -0.5**
ROSC El Rosal 77.12 101 P **P 08 26 05.5 -1.7**
ROSC IAmb IAmb 08 26 08.2
comp=Z,24nm,1.0s
ROSC El Rosal 77.12 101 P **P 08 26 06.2 -0.9**
comp=Z,18nm,0.9s,baz=23,slow=18,SNR=9.2
ROSC LR LR 09 01 36.8
comp=Z,566nm,21.7s,baz=10,slow=37
comp=Z,18nm,0.9s
MORH Mrgy, Hungar 77.20 9 ⇑P **P 08 26 07.2 +0.5**
BAUV El Baul 77.20 93 P **P 08 26 05.6 -1.5**
SIRR Siria 77.39 7 ⇑P **P 08 26 08.3 +0.5**
KSH Kashi 77.39 326 P **P 08 26 10.6 +2.5**
KSH pP PcP 08 26 16.9 -1.7
KSH PcP **pwP 08 26 22.0 +6.7**
KSH PP **PP 08 29 06.8 +5.1**
KSH S **S 08 36 06.5 +8.1**
KSH pmax pmax
comp=Z,19nm,1.0s
KSH pmax pmax
comp=Z,380nm,4.8s
KSH LR LR
comp=Z,2µm,18.0s
KSH LR LR
comp=Z,980nm,16.8s
KSH LR LR
comp=Z,2µm,17.7s
TESR Tescani 77.40 4 ⇓P **P 08 26 07.5 -0.4**
MVO Moncorvo 77.46 29 *e*P **P 08 26 08.4 0.0**
comp=Z,27nm,1.3s
MVO *e*S **S 08 36 07.2 +8.2**
MVO Moncorvo 77.46 29 *e*LR LR 08 51 48.3
comp=Z,688nm,18.0s
PRMA PARMA 77.64 15 IAMs_20 IAMs_20 09 01 31.4
comp=Z,699nm,19.0s
PVIS Viseu 77.64 30 *e*P **P 08 26 09.6 +0.2**
OZUR 77.79 4 ⇑P **P 08 26 11.0 +0.9**
RAR Rarotonga 77.88 191 LR LR 08 59 13.5
comp=Z,662nm,18.2s,baz=351,slow=35
SURR Surduc 77.93 7 ⇑P **P 08 26 10.1 -0.7**
MSSA Maissana 77.96 16 IAMs_20 IAMs_20 09 02 01.8
comp=Z,603nm,18.0s
COI Coimbra 77.97 30 IAMs_20 IAMs_20 09 00 22.8
comp=Z,1µm,19.0s
ERBR Yeremizino-Bor 78.02 354 *e*P **P 08 26 14.0 +2.7**
ERBR pmax pmax
comp=Z,140nm,1.2s
MTE Manteigas 78.03 30 *e*P **P 08 26 11.9 +0.3**
comp=Z,44nm,1.2s
MTE *e*pP **sP 08 26 16.1 +2.1**
MTE Manteigas 78.03 30 *e*PcP **PcP 08 26 24.9 +3.7**
MTE *e*S **S 08 36 09.8 +4.6**
MTE Manteigas 78.03 30 *e*LR LR 08 51 39.2
comp=Z,712nm,20.0s
MTE Manteigas 78.03 30 P **P 08 26 10.6 -0.9**
MTE IAmb IAmb 08 26 30.7
comp=Z,36nm,1.1s
MTE IAMs_20 IAMs_20 09 01 05.5
comp=Z,1µm,19.0s
BZS Buzias 78.03 7 ⇑P **P 08 26 11.7 +0.3**
BZS Buzias 78.03 7 P **P 08 26 11.7 +0.3**
VRI Vrincioaia 78.05 4 ⇑P **P 08 26 11.0 -0.6**
VRI Vrincioaia 78.05 4 P **P 08 26 10.9 -0.6**
COVR Voineasa-Covas 78.05 4 ⇑P **P 08 26 12.6 +1.1**
SBF Sospel 78.06 18 *e*P **P 08 26 11.8 +0.1**
SBF pmax pmax
comp=Z,34nm,1.0s
PLOR Plostina 78.06 4 ⇑P **P 08 26 12.4 +0.8**
PLOR Plostina 78.06 4 P **P 08 26 12.4 +0.8**
PCRV Puerto La Cruz 78.08 90 LR LR 09 01 59.2
comp=Z,552nm,19.2s,slow=37
PCAS Casmilo, Conde 78.09 30 *e*P **P 08 26 11.5 -0.3**
comp=Z,40nm,1.2s
PCAS Casmilo, Conde 78.09 30 *e*PcP **PcP 08 26 23.8 +2.4**
CEST Esterri de Car 78.10 22 P **P 08 26 11.9 -0.1**
CEST IAmb IAmb 08 26 28.4
comp=Z,20nm,1.1s
CEST IAMs_20 IAMs_20 09 01 17.9
comp=Z,1µm,22.0s
GZR Gura Zlata 78.33 6 ⇓P **P 08 26 12.8 -0.4**
GZR Gura Zlata 78.33 6 P **P 08 26 12.7 -0.4**
LOT Lotru 78.34 6 ⇑P **P 08 26 12.9 -0.3**
FRGS Fruska Gora 78.35 9 ⇑P **P 08 26 13.4 +0.3**
BTK Batken 78.39 330 P **P 08 26 13.1 -0.5**
BTK Batken 78.39 330 P **P 08 26 13.1 -0.5**
BTK pmax pmax
comp=Z,133nm,1.5s
MLR Muntele Rosu 78.40 4 ⇑P **P 08 26 13.4 -0.2**
MLR Muntele Rosu 78.40 4 P **P 08 26 13.1 -0.5**
MLR IAmb IAmb 08 26 27.1
comp=Z,71nm,1.4s
MLR IAMs_20 IAMs_20 09 06 59.9
comp=Z,822nm,18.0s
MLR Muntele Rosu 78.40 4 P **P 08 26 13.3 -0.2**
VOIR 78.41 5 ⇑P **P 08 26 14.3 +0.6**
VOIR 78.41 5 P **P 08 26 14.2 +0.6**
NEHR Nehoiu 78.47 4 ⇓P **P 08 26 13.1 -0.7**
PZH PanZhiHua 78.56 301 P **P 08 26 13.7 -1.0**
PZH pP **sP 08 26 17.1 -0.1**
PZH PcP **PcP 08 26 25.6 +1.8**
PZH PP **PP 08 29 14.9 +3.0**
PZH S **S 08 36 09.4 -1.9**
PZH pmax pmax
comp=Z,40nm,1.4s
PZH pmax pmax
comp=Z,430nm,4.3s
PZH LR LR
comp=Z,750nm,18.0s
PZH LR LR
comp=Z,1µm,18.3s
PZH LR LR
comp=Z,820nm,17.4s
PCBR Castelo Branco 78.57 30 *e*P **P 08 26 14.5 +0.1**
comp=Z,25nm,1.8s
PCBR *e*pP **pP 08 26 15.9 -0.3**
TULM Tulcn-Chalpat 78.69 106 P **P 08 26 15.3 -0.7**
TULM IAmb IAmb 08 26 17.5
comp=Z,56nm,1.1s
CFR Carcaliu 78.78 3 ⇑P **P 08 26 15.9 +0.4**
CFR Carcaliu 78.78 3 P **P 08 26 15.9 +0.4**
TLCR 78.79 2 ⇑P **P 08 26 14.8 -0.7**
TLCR 78.79 2 P **P 08 26 14.8 -0.7**
HERR Herculane 78.82 7 ⇑P **P 08 26 15.9 +0.1**
TGY Tagaytay City 78.83 279 LR LR 08 58 53.2
comp=Z,102nm,20.7s,baz=34,slow=34
IMBA Imbabura, San 78.84 107 P **P 08 26 16.3 -0.5**
IMBA IAMs_20 IAMs_20 08 59 48.0
comp=Z,588nm,18.0s
MDVR Moldovita 78.87 7 ⇓P **P 08 26 16.9 +0.8**
PMAFR Mafra 78.88 31 *e*P **P 08 26 16.8 +0.6**
comp=Z,96nm,1.1s
PULU Pululahua 78.89 107 IAMs_20 IAMs_20 08 59 51.4
comp=Z,1µm,21.0s
PMRV Marv??o 78.98 30 *e*S **S 08 36 15.1 -0.2**
PMRV Marv??o 78.98 30 *e*LR LR 08 52 06.7
comp=Z,727nm,18.0s
SIM Simferopol' 79.03 358 P **P 08 26 21.0 +4.1**
SIM pmax pmax
comp=Z,61nm,1.1s
LABN Labinsk 79.08 353 *e*P **P 08 26 19.9 +2.7**
LABN *e**PP **pwP 08 26 23.7 -0.7**
LABN *e*S **S 08 36 23.9 +7.8**
LABN pmax pmax
comp=Z,24nm,0.4s
PMTG Montargil 79.08 31 *e*P **P 08 26 17.8 +0.5**
comp=Z,37nm,1.5s
PMTG *e*pP **sP 08 26 21.3 +1.6**
PMTG Montargil 79.08 31 *e*PcP **PcP 08 26 25.4 -0.3**
ANN Anapa 79.09 356 *e*P **P 08 26 18.5 +1.3**
ANN *e**PP **pwP 08 26 22.4 -2.0**
ANN *e*S **S 08 36 19.7 +3.6**
ANN pmax pmax
comp=Z,42nm,1.1s
TPGR Topolog 79.11 2 ⇑P **P 08 26 17.7 +0.4**
KMI Kunming 79.23 299 ⇑P **P 08 26 20.4 +1.8**
KMI PP **PP 08 29 14.9 -2.8**
KMI S **S 08 36 16.5 -2.3**
KMI pmax pmax
comp=Z,30nm,0.9s
KMI pmax pmax
comp=Z,340nm,4.1s
KMI LR LR
comp=Z,920nm,18.6s
KMI LR LR
comp=Z,1µm,17.0s
KMI LR LR
comp=Z,760nm,19.0s
HARR Harsova 79.26 3 ⇑P **P 08 26 16.1 -2.0**
HARR Harsova 79.26 3 P **P 08 26 16.1 -2.0**
GAR Garm 79.52 330 P **P 08 26 19.0 -0.8**
PGF Pioggiola 79.60 17 *e*P **P 08 26 20.9 +0.7**
PGF pmax pmax
comp=Z,28nm,1.2s
KVAR Kislovodsk Arr 79.62 352 LR LR 09 06 28.4
comp=Z,466nm,18.1s,baz=270,slow=39
KIV Kislovodsk 79.62 352 ⇑P **P 08 26 20.0 -0.3**
KIV Kislovodsk 79.62 352 P **P 08 26 19.9 -0.3**
KIV IAMs_20 IAMs_20 09 02 52.9
comp=Z,907nm,22.0s
KIV Kislovodsk 79.62 352 *e*P **P 08 26 20.1 -0.2**
KIV *e* 08 29 20.7
KIV *e*S **S 08 36 22.8 +0.7**
KIV *e*SS **SS 08 41 29.5 +0.8**
KIV pmax pmax
comp=Z,28nm,1.1s
KIV MLR MLR
comp=Z,562nm,19.0s
ESBB Sonseca Array 79.66 27 P **P 08 26 20.2 -0.3**
ESBB IAMs_20 IAMs_20 08 59 36.4
comp=Z,803nm,20.0s
ESDC Sonseca Array 79.66 27 P **P 08 26 20.2 -0.3**
ESDC Sonseca Array 79.66 27 P **P 08 26 20.7 +0.2**
comp=Z,10nm,0.7s,baz=337,slow=5.4,SNR=46
ESDC PKKPbc **PKKPbc 08 45 05.3 +0.3**
comp=Z,0.3nm,0.4s,baz=131,slow=5.3,SNR=2.2
ESDC LR LR 09 02 05.5
comp=Z,602nm,19.0s,baz=336,slow=36
comp=Z,10nm,0.7s
ES01 SONSECA Array 79.67 27 IAMs_20 IAMs_20 08 55 38.6
comp=Z,630nm,20.0s
PAB San Pablo 79.68 28 P **P 08 26 18.6 -2.0**
PAB San Pablo 79.68 28 IAMs_20 IAMs_20 09 02 47.1
comp=Z,861nm,19.0s
PAB San Pablo 79.68 28 P **P 08 26 20.4 -0.3**
FDMO Fiordimonte 79.72 14 P **P 08 26 19.4 -1.3**
GUMA Gualdo di Mace 79.73 14 P **P 08 26 20.5 -0.3**
GUMA IAmb IAmb 08 26 30.7
comp=Z,37nm,0.8s
GUMA IAMs_20 IAMs_20 09 03 36.6
comp=Z,478nm,20.0s
KBZ Khabaz 79.83 352 P **P 08 26 21.5 +0.3**
comp=Z,13nm,0.7s,baz=358,slow=4.9,SNR=24
KBZ LR LR 09 06 40.7
comp=Z,519nm,18.1s,baz=12,slow=39
comp=Z,13nm,0.7s
KBZ Khabaz 79.83 352 *ce*P **P 08 26 21.9 +0.7**
KBZ pmax pmax
comp=Z,16nm,0.8s
SHA1 Shidzhatmaz 79.84 352 *ce*P **P 08 26 23.6 +2.0**
PNCL Nicolau / Gran 79.88 31 *e*P **P 08 26 21.5 -0.1**
comp=Z,42nm,1.3s
PNCL *e*pP **pP 08 26 23.4 0.0**
CHSH Refugio Sur-Vo 79.97 108 P **P 08 26 22.5 -0.7**
CHSH IAmb IAmb 08 26 24.9
comp=Z,47nm,1.0s
BOVS Bovan 80.01 7 ⇑P **P 08 26 21.8 -0.4**
BLKB Belogradchik 80.09 7 ⇑P **P 08 26 22.5 -0.3**
GROC Groznyy 80.09 350 *e*P **P 08 26 20.9 -1.8**
GROC *e* 08 26 28.3
GROC *e* 08 29 23.5
GROC pmax pmax
comp=Z,17nm,0.5s
MAK Makhachkala 80.15 348 *e*P P 08 26 17.8 -5.2
MAK *e* 08 29 23.2
MAK *e*S **S 08 36 20.2 -7.2**
MAK *e*SS **SS 08 41 37.6 +1.3**
MAK *e*SSS SSS 08 45 06.3
MAK MLR MLR
comp=Z,585nm,19.0s
CHGR Chuyangaron 80.16 331 P **P 08 26 23.3 0.0**
CHGR Chuyangaron 80.16 331 P **P 08 26 23.3 0.0**
SOC Sochi 80.19 354 *e*P **P 08 26 19.3 -3.9**
SOC *e* 08 29 22.8
SOC *e*PPP PPP 08 31 12.9
SOC *e*S **S 08 36 22.8 -5.1**
SOC *e*SS **SS 08 41 37.0 0.0**
SOC MLR MLR
comp=Z,646nm,16.0s
SIMJ Simiganj 80.19 331 P **P 08 26 23.0 -0.5**
MESJ Messejana 80.23 31 IAMs_20 IAMs_20 09 01 06.6
comp=Z,1µm,19.0s
MESJ Messejana 80.23 31 *e*P **P 08 26 23.4 -0.1**
MESJ *e*S **S 08 36 29.1 +0.6**
MESJ IAMs_20 IAMs_20 09 01 01.8
comp=Z,1µm,21.7s
MESJ Messejana 80.23 31 *e*P **P 08 26 23.4 -0.1**
MESJ *e*S **S 08 36 29.1 +0.6**
PBAR Barrancos 80.25 30 *e*P **P 08 26 23.9 +0.3**
comp=Z,26nm,1.2s
PBAR *e*pP **pP 08 26 25.3 -0.1**
PBAR Barrancos 80.25 30 *e*PcP **PcP 08 26 30.4 -0.4**
MPEP Malo Peshtene 80.42 6 P **P 08 26 23.7 -0.8**
LSA Lhasa 80.60 311 IAMs_20 IAMs_20 09 04 25.0
comp=Z,1µm,21.0s
MORF Marmelete 80.60 32 *e*S **S 08 36 33.2 +0.7**
MORF IAMs_20 IAMs_20 09 01 50.2
comp=Z,956nm,21.2s
PFVI Vila Bisbo 80.71 32 *e*pP pP 08 26 29.7 +1.8
PFVI Vila Bisbo 80.71 32 IAMs_20 IAMs_20 09 02 19.4
comp=Z,932nm,19.0s
QIZ Qiongzhong 80.74 290 P **P 08 26 24.2 -2.3**
QIZ PP **PP 08 29 34.7 +4.6**
QIZ S **S 08 36 30.8 -3.5**
QIZ pmax pmax
comp=Z,290nm,5.8s
QIZ LR LR
comp=Z,520nm,17.2s
QIZ LR LR
comp=Z,710nm,19.3s
QIZ LR LR
comp=Z,660nm,16.5s
PVAQ Vaqueiros 80.78 31 *e*P **P 08 26 26.7 +0.2**
comp=Z,49nm,1.6s
PVAQ *e*pP **sP 08 26 28.4 -0.5**
PVAQ Vaqueiros 80.78 31 *e*S **S 08 36 34.5 +0.3**
PVAQ Vaqueiros 80.78 31 *e*LR LR 08 52 31.5
comp=Z,1µm,18.0s
PVAQ Vaqueiros 80.78 31 IAMs_20 IAMs_20 09 01 34.2
comp=Z,943nm,19.0s
PRD Provadia 80.78 3 P **P 08 26 25.8 -0.6**
PBDV Barranco-do-Ve 80.86 31 *e*P **P 08 26 27.5 +0.5**
comp=Z,56nm,1.9s
PBDV Barranco-do-Ve 80.86 31 *e*PcP **PcP 08 26 34.3 +0.7**
ONI Oni 80.92 351 IAMs_20 IAMs_20 09 04 03.1
comp=Z,928nm,22.0s
ONI Oni 80.92 351 P **P 08 26 25.8 -1.4**
PDG Podgorica 81.01 9 ⇑P **P 08 26 26.8 -0.8**
PDG Podgorica 81.01 9 P **P 08 26 27.1 -0.5**
PDG IAmb IAmb 08 26 39.7
comp=Z,30nm,1.0s
VTS Vitosha 81.12 6 P **P 08 26 26.7 -1.7**
PLNA Plana 81.28 6 P **P 08 26 28.8 -0.4**
TNCH TengChong 81.33 302 P **P 08 26 33.4 +3.6**
TNCH pP pwP 08 26 40.7 +3.6
TNCH PP **PP 08 29 39.7 +4.7**
TNCH S **S 08 36 41.3 +0.5**
TNCH pmax pmax
comp=Z,320nm,3.7s
TNCH LR LR
comp=Z,660nm,18.1s
TNCH LR LR
comp=Z,920nm,19.1s
TNCH LR LR
comp=Z,1µm,16.7s
SKO Skopje 81.64 8 *i* P **P 08 26 31.4 +0.4**
SLVN Son La 81.85 296 IAMs_20 IAMs_20 09 06 06.4
comp=Z,975nm,20.0s
PAOL Paolisi 81.89 13 IAMs_20 IAMs_20 09 06 33.7
comp=Z,567nm,18.0s
PMOZ Porto Moniz, M 81.93 40 *e*LR LR 08 58 37.6
comp=Z,504nm,20.0s
DAV Davao City (W) 82.02 271 LR LR 08 59 11.2
comp=Z,195nm,20.9s,baz=40,slow=33
BATM Batumi 82.03 352 P **P 08 26 32.8 -0.3**
SFS San Fernando 82.08 30 IAMs_20 IAMs_20 09 01 13.6
comp=Z,1µm,19.0s
RZN Rozhen 82.13 5 P **P 08 26 33.6 -0.2**
BCA Borcka 82.20 353 ⇑P **P 08 26 33.5 -0.4**
MMB Musomishta 82.22 6 P **P 08 26 34.0 -0.1**
DIKM Dikmen 82.31 357 ⇓P **P 08 26 34.9 +0.4**
VAY Valandovo 82.37 7 *i* P **P 08 26 36.4 +1.6**
OHR Ohrid 82.45 8 *i* P **P 08 26 36.0 +0.7**
MATE Matera 82.52 11 ⇑P **P 08 26 35.8 +0.2**
RDO Rodhopi 82.72 5 IAMs_20 IAMs_20 09 02 38.3
comp=Z,788nm,22.0s
VLO Vlora 82.98 9 IAMs_20 IAMs_20 09 07 48.4
comp=Z,642nm,20.0s
GNI Garni 83.22 350 IAMs_20 IAMs_20 09 08 47.1
comp=Z,670nm,20.0s
GNI Garni 83.22 350 LR LR 09 08 59.5
comp=Z,611nm,19.2s,baz=26,slow=40
GEYT Alibeck 83.43 339 P **P 08 26 40.0 -0.5**
GEYT Alibeck 83.43 339 P **P 08 26 40.9 +0.4**
comp=Z,16nm,1.0s,baz=336,slow=3.3,SNR=14
GEYT LR LR 09 10 48.0
comp=Z,654nm,18.3s,baz=28,slow=41
comp=Z,16nm,1.0s
GEYT Alibeck 83.43 339 P **P 08 26 40.0 -0.5**
GEYT pmax pmax
comp=Z,152nm,1.4s
GYA0 ALIBECK ARRAY 83.43 339 P **P 08 26 40.4 0.0**
GYA0B ALIBECK ARRAY 83.43 339 P **P 08 26 39.8 -0.7**
GYA0B IAMs_20 IAMs_20 09 10 28.3
comp=Z,890nm,19.0s
TIP Timpagrande 83.98 12 ⇑P **P 08 26 42.6 -0.7**
TIP Timpagrande 83.98 12 P **P 08 26 41.8 -1.5**
KBL Kabul 84.05 330 P **P 08 26 44.4 +0.5**
KBL IAmb IAmb 08 26 55.1
comp=Z,19nm,0.8s
KBL IAMs_20 IAMs_20 09 08 51.7
comp=Z,1µm,21.0s
KBL Kabul 84.05 330 P **P 08 26 44.4 +0.5**
KBL pmax pmax
comp=Z,19nm,0.9s
PMG Port Moresby 84.20 244 LR LR 08 59 34.7
comp=Z,204nm,20.0s,baz=38,slow=32
BR131 Keskin Array S 84.26 359 P **P 08 26 43.8 -1.0**
BR131 IAmb IAmb 08 26 57.4
comp=Z,35nm,0.9s
BR131 Keskin Array S 84.26 359 P **P 08 26 43.8 -1.0**
BR131 pmax pmax
comp=Z,35nm,0.9s
BRTR Keskin Array B 84.26 359 P **P 08 26 44.2 -0.6**
BRTR Keskin Array B 84.26 359 P **P 08 26 44.5 -0.3**
comp=Z,5.2nm,0.8s,baz=354,slow=2.5,SNR=14
BRTR PKKPbc **PKKPbc 08 44 54.1 -0.7**
comp=Z,1.6nm,0.7s,baz=169,slow=5.3,SNR=5.9
BRTR LR LR 09 04 54.8
comp=Z,412nm,21.3s,baz=12,slow=36
comp=Z,5.2nm,0.8s
BRTR Keskin Array B 84.26 359 *i* P **P 08 26 45.0 +0.2**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
AGG Agios Georgios 84.64 7 P **P 08 26 46.2 -0.4**
AGG IAmb IAmb 08 26 58.5
comp=Z,24nm,0.9s
AGG Agios Georgios 84.64 7 P **P 08 26 46.2 -0.4**
AGG pmax pmax
comp=Z,24nm,0.9s
AVE Averroes 84.69 32 IAMs_20 IAMs_20 09 04 24.2
comp=Z,798nm,19.0s
ATAH Atahualpa 84.99 111 LR LR 09 03 34.3
comp=Z,490nm,21.7s,baz=341,slow=35
BNN Bunyan 85.08 357 P **P 08 26 49.9 +1.0**
VAE Valguarnera 85.37 14 LR LR 09 10 33.1
comp=Z,585nm,18.1s,baz=0.5,slow=40
MDT Midelt 85.95 30 P **P 08 26 53.5 +0.1**
comp=Z,10.0nm,0.8s,baz=351,slow=6.0,SNR=15
MDT LR LR 09 05 30.1
comp=Z,335nm,18.7s,baz=13,slow=36
comp=Z,10.0nm,0.8s
UBPT Khong Chiam 86.14 292 IAMs_20 IAMs_20 09 07 21.7
comp=Z,542nm,21.0s
KEST Kesra 86.31 18 P **P 08 26 54.3 -0.7**
KEST IAmb IAmb 08 27 07.2
comp=Z,23nm,1.1s
KEST Kesra 86.31 18 P **P 08 26 55.0 0.0**
comp=Z,3.5nm,0.6s,baz=314,slow=4.9,SNR=5.0
KEST LR LR 09 10 49.4
comp=Z,226nm,18.7s,baz=338,slow=39
comp=Z,3.5nm,0.6s
CHTO Chiang Mai 86.43 299 IAMs_20 IAMs_20 09 11 06.6
comp=Z,735nm,18.0s
CMAR Chiang Mai Arr 86.73 299 P **P 08 26 55.7 -1.6**
CMAR Chiang Mai Arr 86.73 299 P **P 08 26 56.6 -0.6**
comp=Z,13nm,0.7s,baz=18,slow=5.1,SNR=17
CMAR LR LR 09 09 52.1
comp=Z,702nm,18.1s,baz=10.0,slow=38
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 86.73 299 *i* P **P 08 26 56.4 -0.8**
CMAR pmax pmax
comp=Z,15nm,0.8s
BOAV Boa Vista 86.78 91 P **P 08 26 56.0 -1.5**
BOAV IAmb IAmb 08 27 04.4
comp=Z,21nm,1.4s
DZM Mont Dzumac 86.97 221 LR LR 09 06 16.4
comp=Z,221nm,18.1s,baz=24,slow=36
TBTG Tabatinga, AM 87.04 102 P **P 08 26 56.8 -1.9**
TBTG IAMs_20 IAMs_20 09 09 38.3
comp=Z,537nm,19.0s
DLV T Lat 87.35 288 IAMs_20 IAMs_20 09 12 25.7
comp=Z,947nm,18.0s
CZSB Cruzeiro do Su 88.49 106 P **P 08 27 04.1 -1.6**
IDI Anoyia 88.52 6 P **P 08 27 05.2 -0.4**

	comp=Z,0.2nm,0.9s,baz=319,slow=11,SNR=1.9						
MDP	**Montagnes des**	**88.92**	**83**	LR	LR	09 05 16.9	
	comp=Z,750nm,21.0s,baz=336,slow=34						
RAO	**Raoul Island**	**88.93**	**206**	LR	LR	09 02 03.0	
	comp=Z,278nm,18.1s,baz=116,slow=32						
RPN	**Rapa Nui**	**89.49**	**146**	LR	LR	08 59 22.2	
	comp=Z,714nm,18.2s,baz=339,slow=30						
NNA	**Nana**	**89.89**	**112**	LR	LR	09 05 29.2	
	comp=Z,233nm,21.3s,baz=343,slow=34						
MMAI	**Mount Meron Ar**	**90.92**	**357**	P	**P**	**08 27 16.1**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=15,slow=6.0,SNR=1.5						
MMAI				LR	LR	09 14 56.4	
	comp=Z,201nm,19.1s,baz=312,slow=40						
	comp=Z,0.5nm,0.3s						
SAML	**Samuel**	**94.67**	**99**	P	**P**	**08 27 31.9**	**-2.4**
KAPI	**Kappang**	**95.23**	**269**	LR	LR	09 05 55.9	
	comp=Z,142nm,21.7s,baz=26,slow=33						
UOSS	**Minazif**	**96.39**	**338**	IAMs_20	IAMs_20	09 17 27.6	
	comp=Z,530nm,22.0s						
HYB	**Hyderabad**	**96.68**	**315**	*e*P	**P**	**08 27 42.2**	**-1.4**
HYB				IVMs_BB	IVMs_BB	09 15 47.1	
	comp=Z,371nm,17.4s						
WSAR	**Wadi Sarin**	**97.50**	**335**	LR	LR	09 19 34.0	
	comp=Z,453nm,18.2s,baz=32,slow=40						
LPAZ	**La Paz**	**98.06**	**107**	LR	LR	09 15 17.8	
	comp=Z,295nm,20.4s,baz=338,slow=37						
TAM	**Tamanrasset**	**98.09**	**24**	IAMs_20	IAMs_20	09 14 37.4	
	comp=Z,460nm,19.0s						
MYKOM	**Kota Tinggi**	**98.33**	**286**	IAMs_20	IAMs_20	09 18 09.5	
	comp=Z,696nm,20.0s						
URZ	**Urewera**	**98.73**	**207**	LR	LR	09 04 10.4	
	comp=Z,360nm,21.8s,baz=213,slow=30						
RAYN	**Ar Rayn**	**99.57**	**347**	IAMs_20	IAMs_20	09 20 18.1	
	comp=Z,447nm,20.0s						
RAYN	**Ar Rayn**	**99.57**	**347**	P	**Pdif**	**08 27 58.9**	**+2.4**
ASAR	**Alice Springs**	**102.94**	**247**	PP	**PKiKP**	**08 32 31.1**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=38,slow=4.1,SNR=4.2						
PALK	**Pallekele**	**104.94**	**309**	IAMs_20	IAMs_20	09 20 38.8	
	comp=Z,965nm,21.0s						
STKA	**Stephens Creek**	**106.00**	**236**	PKiKP	**PKiKP**	**08 32 35.3**	**-1.4**
	comp=Z,2.4nm,0.9s,baz=92,slow=4.3,SNR=3.7						
TOB1	**Torodi Ar. Sit**	**106.34**	**31**	IAMs_20	IAMs_20	09 17 52.2	
	comp=Z,791nm,18.0s						
TOB5	**Torodi Ar. Sit**	**106.34**	**31**	IAMs_20	IAMs_20	09 17 43.3	
	comp=Z,715nm,18.0s						
TOC6	**Torodi Ar. Sit**	**106.34**	**31**	IAMs_20	IAMs_20	09 15 51.4	
	comp=Z,654nm,20.0s						
TOA0	**Torodi Ar. Sit**	**106.35**	**31**	IAMs_20	IAMs_20	09 17 52.6	
	comp=Z,680nm,18.0s						
TORD	**Torodi Ar. Bea**	**106.35**	**31**	IAMs_20	IAMs_20	09 15 51.6	
	comp=Z,550nm,19.0s						
TORD	**Torodi Ar. Bea**	**106.35**	**31**	PP	**PKiKP**	**08 32 42.5**	**+4.6**
	comp=Z,0.4nm,0.8s,baz=322,slow=9.1,SNR=2.1						
TOA3	**Torodi Ar. Sit**	**106.36**	**31**	IAMs_20	IAMs_20	09 15 51.7	
	comp=Z,598nm,19.0s						
TOB4	**Torodi Ar. Sit**	**106.36**	**31**	IAMs_20	IAMs_20	09 17 44.7	
	comp=Z,678nm,18.0s						
TOB3	**Torodi Ar. Sit**	**106.36**	**31**	IAMs_20	IAMs_20	09 15 51.9	
	comp=Z,620nm,19.0s						
TOC3	**Torodi Ar. Sit**	**106.37**	**31**	IAMs_20	IAMs_20	09 17 45.1	
	comp=Z,732nm,18.0s						
TOC4	**Torodi Ar. Sit**	**106.38**	**31**	IAMs_20	IAMs_20	09 15 52.3	
	comp=Z,695nm,18.0s						
AC05	**El Transito**	**107.29**	**116**	IAMs_20	IAMs_20	09 17 30.5	
	comp=Z,750nm,21.0s						
BDFB	**Brasilia**	**108.55**	**90**	IAMs_20	IAMs_20	09 20 56.7	
	comp=Z,555nm,20.0s						
DBIC	**Dimbokro**	**110.37**	**39**	IAMs_20	IAMs_20	09 15 26.6	
	comp=Z,671nm,20.0s						
ATD	**Arta Tunnel**	**111.72**	**348**	IAMs_20	IAMs_20	09 26 47.0	
	comp=Z,355nm,20.0s						
CPUP	**Villa Florida**	**112.02**	**105**	IAMs_20	IAMs_20	09 22 54.6	
	comp=Z,861nm,21.0s						
PLCA	**Paso Flores**	**116.76**	**124**	PKP	**PKPdf**	**08 32 55.0**	**-1.8**
	comp=Z,0.5nm,0.8s,baz=270,slow=16,SNR=3.1						
NWAO	**Narrogin (SRO)**	**119.08**	**254**	PKP	**PKPdf**	**08 32 59.3**	**-2.2**
	comp=Z,4.1nm,0.6s,baz=104,slow=12,SNR=2.1						
MSEY	**Mahe Island**	**125.09**	**331**	IAMs_20	IAMs_20	09 29 26.4	
	comp=Z,582nm,22.0s						
VNDA	**Vanda**	**137.13**	**194**	PKP	**PKPdf**	**08 33 33.1**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=17,slow=1.7,SNR=2.9						
VOI	**Vohitsoka**	**143.82**	**336**	PKP	**PKiKP**	**08 33 55.8**	**+3.9**
VOI	**Vohitsoka**	**143.82**	**336**	PKPdf	PKPbc	08 33 46.5	+0.5
WIN	**Windhoek**	**144.56**	**24**		**PKPab**	**08 33 46.6**	**-1.6**
WIN	**Windhoek**	**144.56**	**24**	PKIKP	**PKPab**	**08 33 46.6**	**-1.6**
QSPA	**South Pole Qui**	**146.16**	**180**	PKPbc	**PKPdf**	**08 33 50.4**	**-0.5**
	comp=Z,61nm,0.7s,baz=51,slow=0.6,SNR=108						
LBTB	**Lobatse**	**148.36**	**11**		**PKPbc**	**08 33 58.9**	**-0.5**
LBTB	**Lobatse**	**148.36**	**11**	PKP2	**PKPbc**	**08 33 58.9**	**-0.5**
BOSA	**Boshof**	**151.88**	**12**	PKPbc	**PKPbc**	**08 34 06.4**	**-1.5**
	comp=Z,12nm,0.8s,baz=13,slow=2.5,SNR=16						
BOSA				PKPab	**PKPab**	**08 34 17.2**	**+0.3**
	comp=Z,42nm,0.5s,baz=3.9,slow=2.2,SNR=45						
VNA3	**Neumayer Olymp**	**157.11**	**147**	⇑PKPab	**PKPab**	**08 34 33.6**	**-4.4**
	comp=Z,25nm,0.7s						
VNA2	**Neumayer--Watz**	**157.92**	**147**	⇑PKPab	**PKPab**	**08 34 41.3**	**-0.2**
	comp=Z,5.4nm,0.4s,baz=258,slow=3.6						
SNAA	**Sanae**	**158.94**	**150**	⇑PKPab	**PKPab**	**08 34 42.7**	**-3.3**
	comp=Z,91nm,0.5s						
SNAA	**Sanae**	**158.94**	**150**	PKPab	**PKPab**	**08 34 44.3**	**-1.7**
	comp=Z,3.8nm,0.6s,baz=234,slow=7.6,SNR=8.5						
TROLL	**Troll, Antarti**	**160.17**	**153**	⇑PKPab	**PKPab**	**08 34 50.0**	**-1.4**
	comp=Z,1μm,0.6s						
NVL	**N'lazarevskaya**	**163.20**	**157**	*e*PKP2	PKPab	08 34 52.2	-12
NVL				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ELIB	**Princess Elisa**	**163.97**	**171**	*d*PKP	**PKPab**	**08 35 06.0**	**-2.1**

IDC 08 08:44:18.1±4.0, 53.66N×87.93E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=39.9km s-min=19.9km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.87**	**280**	Pg	Pn	08 44 51.6	+0.2
	0.8nm,0.3s,baz=98,slow=18,SNR=5.2						
ZALV				Lg	Lg	08 45 17.4	
	1.3nm,0.3s,baz=95,slow=16,SNR=2.3						
I46RU	**ZALESOVO INFRA**	**1.87**	**280**	I	I	08 56 30.6	
	0.1nm,0.7s,baz=98,slow=334,SNR=2.8						
KURBB	**Kurchatov Arra**	**6.54**	**246**	Pn	Pn	08 45 56.2	+0.7
	0.1nm,0.3s,baz=63,slow=14,SNR=10.0						
	1.3nm,0.6s						
MKAR	**Makanchi Array**	**7.76**	**210**	Pn	Pn	08 46 13.4	+1.0
	0.1nm,0.3s,baz=26,slow=13,SNR=1.9						
	0.1nm,0.3s						

*IDC **08** 08:53:53.5±2.2, 23.87S×179.98E, h491km±22km, mb3.5/10, mbtmp4.3/11, Error ellipse: s-maj=20.5km s-min=17.3km az=175.0*
*NOU **08** 08:53:55.5, 23.80S×179.65W, h551km, mb4.3/15, South of Fiji Islands*
*NEIC **08** 08:53:56.5±2.0, 24.0S±0.1×180.0W±0.2, h535km±14km, mb4.6/30, Error ellipse: s-maj=23.1km s-min=17.2km az=219.0*

ISC 08 08:53:56.2±0.5, 23.94S±0.09×179.98E±0.09, h526km, n90, σ1$47/90, mb4.4/23, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.43**	**343**	P	**P**	**08 55 37.3**	**-0.7**
MSVF	**Nonsavu**	**6.43**	**343**	P	**P**	**08 55 37.1**	**-0.9**
TAVE	**Taveuni**	**7.20**	**1**	P	**P**	**08 55 45.3**	**-0.1**
DGTI	**Dogotuki**	**7.60**	**358**	P	**P**	**08 55 48.0**	**-1.4**
NIUE	**Niue**	**10.57**	**65**	P	**P**	**08 56 21.0**	**+1.2**
PINNC	**Pines Island,**	**11.59**	**274**	P	**P**	**08 56 32.3**	**+1.8**
OUZ	**Omahuta**	**12.53**	**205**	P	**P**	**08 56 41.9**	**+1.8**
ABAZ	**Army Bay**	**13.37**	**198**	P	P	08 56 54.9	+6.0
WMGZ	**Waiomatatini S**	**13.90**	**185**	P	**P**	**08 56 54.5**	**+0.1**
HAZ	**Te Kaha**	**13.90**	**187**	P	**P**	**08 56 52.6**	**-1.8**
PUZ	**Puketiti**	**14.16**	**186**	P	**P**	**08 56 58.7**	**+1.5**
TOZ	**Tahuroa Road**	**14.27**	**195**	P	**P**	**08 56 54.1**	**-4.2**
URZ	**Urewera**	**14.48**	**189**	P	**P**	**08 57 01.3**	**+0.9**
URZ	**Urewera**	**14.48**	**189**	P	**P**	**08 56 58.8**	**-1.7**
	5.6nm,0.3s,baz=330,slow=3.8,SNR=21						
URZ	**Urewera**	**14.48**	**189**	P	**P**	**08 56 59.2**	**-1.2**
MWZ	**Matawai**	**14.50**	**188**	P	**P**	**08 56 59.3**	**-1.4**
RTZ	**Ruatahuna**	**14.85**	**189**	P	**P**	**08 57 04.0**	**-0.4**
HIZ	**Hauiti**	**15.17**	**196**	P	**P**	**08 57 09.3**	**+1.7**
HIZ	**Hauiti**	**15.17**	**196**	P	**P**	**08 57 11.2**	**+3.5**
NMHZ	**Naumai**	**15.35**	**189**	P	**P**	**08 57 09.1**	**-0.5**
BKZ	**Black Stump Fm**	**15.46**	**190**	P	**P**	**08 57 09.2**	**-1.6**
BKZ				IAmb	IAmb	08 57 17.3	
	comp=Z,12nm,1.2s						
BKZ	**Black Stump Fm**	**15.46**	**190**	P	**P**	**08 57 09.1**	**-1.6**
TMVZ	**Te Maari**	**15.56**	**192**	P	**P**	**08 57 10.8**	**-1.0**
ETVZ	**East Tongariro**	**15.58**	**192**	P	**P**	**08 57 10.1**	**-1.9**
LREZ	**Lake Rotokare**	**16.18**	**196**	P	**P**	**08 57 20.2**	**+2.2**
DVHZ	**Dannevirke**	**16.62**	**190**	P	P	08 57 33.8	+12
OGWZ	**Otaki Gorge**	**17.30**	**192**	P	**P**	**08 57 25.1**	**-3.6**
DUWZ	**D'Urville Isla**	**17.57**	**195**	P	**P**	**08 57 27.9**	**-3.2**
TCW	**Tory Channel**	**17.87**	**194**	P	**P**	**08 57 32.3**	**-1.6**
TCW	**Tory Channel**	**17.87**	**194**	P	**P**	**08 57 33.0**	**-0.9**
QRZ	**Quartz Range**	**17.96**	**199**	P	**P**	**08 57 34.5**	**-0.2**
QRZ	**Quartz Range**	**17.96**	**199**	P	**P**	**08 57 34.7**	**0.0**
QRZ	**Quartz Range**	**17.96**	**199**	P	**P**	**08 57 34.1**	**-0.6**
TKNZ	**Takaka Hill**	**18.03**	**197**	P	**P**	**08 57 33.6**	**-1.8**
TKNZ	**Takaka Hill**	**18.03**	**197**	P	**P**	**08 57 31.5**	**-3.8**
NNZ	**Nelson**	**18.09**	**196**	P	**P**	**08 57 34.9**	**-1.0**
TUWZ	**Tuamarina**	**18.16**	**195**	P	**P**	**08 57 35.1**	**-1.3**
MRNZ	**Matariki Terra**	**18.43**	**197**	P	**P**	**08 57 38.0**	**-0.9**
THZ	**Tophouse**	**18.73**	**197**	P	**P**	**08 57 40.8**	**-1.0**
THZ				IAmb	IAmb	08 58 14.7	
	comp=Z,31nm,1.3s						
THZ	**Tophouse**	**18.73**	**197**	P	**P**	**08 57 40.6**	**-1.1**
DSZ	**Denniston Nort**	**19.02**	**199**	P	**P**	**08 57 43.3**	**-1.1**
DSZ	**Denniston Nort**	**19.02**	**199**	P	**P**	**08 57 44.0**	**-0.4**
KHZ	**Kahutara**	**19.19**	**195**	P	**P**	**08 57 45.1**	**-0.7**
KHZ	**Kahutara**	**19.19**	**195**	P	**P**	**08 57 44.2**	**-1.6**
GVZ	**Greta Valley S**	**19.83**	**195**	P	**P**	**08 57 50.4**	**-1.4**
INZ	**Inchbonnie**	**20.02**	**199**	P	**P**	**08 57 51.5**	**-1.9**
MLZ	**Mavora Lakes**	**23.45**	**201**	P	**P**	**08 58 24.8**	**+0.5**
MLZ				IAmb	IAmb	08 58 55.3	
	comp=Z,32nm,1.1s						
ARMA	**Armidale**	**25.99**	**249**	P	**P**	**08 58 48.1**	**+1.0**
ARMA	**Armidale**	**25.99**	**249**	P	**P**	**08 58 48.8**	**+1.6**
ARMA				IAmb	IAmb	08 58 49.9	
	comp=Z,6.8nm,0.7s						
EIDS	**Eidsvold**	**26.28**	**261**	P	**P**	**08 58 50.7**	**+1.0**
EIDS	**Eidsvold**	**26.28**	**261**	P	**P**	**08 58 50.6**	**+1.0**
EIDS				IAmb	IAmb	08 58 51.3	
	comp=Z,9.4nm,0.6s						
CNB	**Canberra Magne**	**28.81**	**240**	P	**P**	**08 59 13.2**	**+1.4**
CAN	**Canberra**	**29.10**	**240**	P	**P**	**08 59 15.3**	**+1.0**
CAN	**Canberra**	**29.10**	**240**	P	**P**	**08 59 14.6**	**+0.3**
CAN				IAmb	IAmb	08 59 16.3	
	comp=Z,9.1nm,0.7s						
YNG	**Young**	**29.35**	**242**	P	**P**	**08 59 17.5**	**+1.1**
MILA	**Mila**	**29.46**	**236**	P	**P**	**08 59 18.3**	**+0.9**
CMSA	**Cobar Meteorol**	**31.18**	**248**	P	**P**	**08 59 32.5**	**+0.3**
CTAO	**Charters Tower**	**31.45**	**270**	P	**P**	**08 59 35.6**	**+0.9**
TOO	**Toolangi**	**32.41**	**237**	P	**P**	**08 59 43.0**	**+0.3**
TOO				IAmb	IAmb	08 59 44.2	
	comp=Z,9.6nm,0.7s						
TAU	**Tasmania Unive**	**32.89**	**227**	P	**P**	**08 59 46.8**	**+0.2**
STKA	**Stephens Creek**	**34.69**	**248**	P	**P**	**09 00 01.4**	**-0.5**
STKA	**Stephens Creek**	**34.69**	**248**	P	**P**	**09 00 01.6**	**-0.3**
	comp=Z,2.0nm,0.3s,baz=90,slow=9.4,SNR=5.6						
	comp=Z,2.0nm,0.3s						
COEN	**Coen**	**36.10**	**279**	P	**P**	**09 00 14.4**	**+0.6**
COEN				IAmb	IAmb	09 00 46.0	
	comp=Z,15nm,1.2s						
BBOO	**Buckleboo**	**39.41**	**247**	P	**P**	**09 00 39.9**	**-0.8**
BBOO				IAmb	IAmb	09 00 41.1	
	comp=Z,26nm,1.2s						
AS31	**Alice Springs**	**42.01**	**261**	P	**P**	**09 01 00.9**	**-0.6**
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**09 01 00.9**	**-0.7**
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**09 01 01.8**	**+0.2**
	comp=Z,9.3nm,0.7s,baz=98,slow=7.2,SNR=57						
ASAR				ScP	**ScP**	**09 05 48.6**	**+3.7**
	comp=Z,2.1nm,0.8s,baz=114,slow=4.6,SNR=11						
	comp=Z,9.3nm,0.7s						
WR0	**Warramunga Arr**	**42.19**	**266**	P	**P**	**09 01 02.3**	**-0.7**
WR0				IAmb	IAmb	09 01 04.6	
	comp=Z,12nm,1.1s						
WB2	**Warramunga Arr**	**42.37**	**266**	P	**P**	**09 01 03.9**	**-0.5**
WB2				IAmb	IAmb	09 01 04.9	
	comp=Z,13nm,0.7s						
WRAB	**Tennant Creek**	**42.37**	**266**	P	**P**	**09 01 04.3**	**-0.1**
WRAB				IAmb	IAmb	09 01 04.5	
	comp=Z,14nm,0.5s						
WB0	**Warramunga Arr**	**42.38**	**266**	P	**P**	**09 01 03.7**	**-0.7**
WB0				IAmb	IAmb	09 01 04.9	
	comp=Z,21nm,0.7s						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**09 01 04.2**	**-0.3**
	comp=Z,19nm,0.6s,baz=103,slow=8.2,SNR=32						
WRA				ScP	**ScP**	**09 05 50.0**	**+3.5**
	comp=Z,2.2nm,0.9s,baz=99,slow=3.9,SNR=1.4						
	comp=Z,19nm,0.6s						
FORT	**Forrest**	**46.28**	**250**	P	**P**	**09 01 33.9**	**-0.6**
FAKI	**Fak Fak**	**50.57**	**287**	P	**P**	**09 02 05.2**	**-1.4**
FAKI				IAmb	IAmb	09 02 11.3	
	comp=Z,38nm,1.3s						
VNDA	**Vanda**	**54.34**	**185**	P	**P**	**09 02 32.6**	**0.0**
VNDA	**Vanda**	**54.34**	**185**	P	**P**	**09 02 33.5**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=1.6,slow=6.9,SNR=5.4						
	comp=Z,0.6nm,0.7s						
PSA00	**Pilbara Seismi**	**55.13**	**260**	P	**P**	**09 02 37.5**	**-1.6**
NWAO	**Narrogin (SRO)**	**55.20**	**246**	P	**P**	**09 02 38.1**	**-1.3**
	comp=Z,3.3nm,0.5s,baz=154,slow=2.9,SNR=1.8						
	comp=Z,3.3nm,0.5s						
MORW	**Morawa**	**56.84**	**250**	P	**P**	**09 02 49.6**	**-1.2**
CASY	**Casey**	**60.06**	**206**	P	**P**	**09 03 11.2**	**-0.7**
TOLI2	**Tolitoli**	**62.57**	**285**	P	**P**	**09 03 29.1**	**-0.1**
TOLI2				IAmb	IAmb	09 03 29.8	
	comp=Z,14nm,1.0s						
QSPA	**South Pole Qui**	**66.14**	**180**	P	**P**	**09 03 50.6**	**-0.6**
QSPA				IAmb	IAmb	09 03 54.9	
	comp=Z,11nm,1.4s						
QSPA	**South Pole Qui**	**66.14**	**180**	P	**P**	**09 03 51.8**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=72,slow=2.1,SNR=22						
	comp=Z,2.6nm,0.7s						
BELA	**Belgrano 2**	**76.40**	**173**	P	**P**	**09 04 50.1**	**-0.8**
MAW	**Mawson**	**77.70**	**200**	P	**P**	**09 04 58.8**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=116,slow=4.2,SNR=10						
	comp=Z,2.0nm,0.6s						
NVAR	**Mina Array Bea**	**84.80**	**44**	P	**P**	**09 05 35.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=225,slow=8.4,SNR=5.3						
	comp=Z,0.7nm,0.8s						
TXAR	**Lajitas Array**	**90.47**	**58**	P	**P**	**09 06 03.0**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=214,slow=6.2,SNR=17						
	comp=Z,1.0nm,0.7s						
PDAR	**Pinedale Array**	**92.73**	**44**	P	**P**	**09 06 11.9**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=216,slow=4.5,SNR=2.5						
	comp=Z,0.4nm,0.6s						
ARCES	**ARCESS Array B**	**131.92**	**348**	PKP	**PKPdf**	**09 12 07.7**	**-1.2**
	comp=Z,2.2nm,1.0s,baz=18,slow=4.3,SNR=3.7						
MMAI	**Mount Meron Ar**	**147.70**	**294**	PKPbc	**PKPbc**	**09 12 42.1**	**0.0**
	comp=Z,1.5nm,0.4s,baz=69,slow=8.2,SNR=2.4						

*IDC **08** 08:56:16.2±1.1, 5.50S×116.97E, h0km, mb3.9/5, mbtmp3.9/6, ML3.7/1, Error ellipse: s-maj=37.7km s-min=19.8km az=44.0*
*DJA **08** 08:56:19.0±0.3, 2°S±3°×12°1E±°, h10km, M4.2/11, MLv4.2/11*

ISC 08 08:56:18.3±0.8, 2°37S±0.05×120.85E±0.07, h10km, n13, σ2$20/16, mb4.0/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTSI	**Tana Toraja**	**1.22**	**237**	P	**Pn**	**08 56 40.9**	**-0.6**
LUWI	**Luwuk**	**2.33**	**56**	P	**Pn**	**08 56 56.5**	**-0.3**
LUWI				S	**Sn**	**08 57 24.4**	**-1.2**
KAPI	**Kappang**	**2.84**	**203**	Pn	**Pn**	**08 57 03.0**	**-0.7**
	12nm,0.3s,baz=256,slow=19,SNR=22						
KAPI				Sn	**Sn**	**08 57 40.1**	**+2.0**
	33nm,0.3s,baz=180,slow=20,SNR=11						
	23nm,0.4s						
MPSI	**Mapaga**	**2.85**	**341**	P	**Pn**	**08 57 04.6**	**+0.7**
BKSI	**Bulukumba**	**3.02**	**194**	P	**Pn**	**08 57 07.4**	**+1.2**
BBSI	**Bau Bau**	**3.54**	**151**	P	**Pn**	**08 57 15.9**	**+2.5**
GTOI	**Gorontalo**	**3.69**	**36**	P	**Pn**	**08 57 15.6**	**+0.2**
KMSI	**Cibinong**	**4.29**	**47**	P	**Pn**	**08 57 25.6**	**+1.9**
WRA	**Warramunga Arr**	**21.88**	**144**	P	**P**	**09 01 12.7**	**+1.1**
	1.6nm,0.7s,baz=320,slow=11,SNR=3.7						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**24.66**	**150**	P	**P**	**09 01 35.7**	**-3.7**
	1.9nm,0.8s,baz=325,slow=7.9,SNR=9.5						
ASAR				PcP	**PcP**	**09 05 16.4**	**-0.6**
	0.5nm,0.5s,baz=337,slow=1.8,SNR=5.8						
	1.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**29.89**	**315**	P	**P**	**09 02 25.6**	**-0.9**
	0.9nm,0.4s,baz=142,slow=9.7,SNR=1.5						
	0.9nm,0.4s						
STKA	**Stephens Creek**	**35.26**	**149**	P	**P**	**09 03 10.2**	**-3.2**
	3.2nm,0.6s,baz=315,slow=10,SNR=8.2						
	3.2nm,0.6s						
MKAR	**Makanchi Array**	**59.54**	**330**	P	**P**	**09 06 26.3**	**+4.3**
	0.9nm,0.7s,baz=132,slow=8.3,SNR=4.7						
	0.9nm,0.7s						

*HVO **08** 08:56:57.5±1.8, 19.41N±0.02×154.91W±0.03, h-0km±10km, Md2.8/3, ML2.5/22(NEIC), Error ellipse: s-maj=5.0km s-min=2.1km az=114.0*

NEIC 08 08:56:59.1±1.3, 19.45N±0.02×155.00W±0.05, h5km±2km, Error ellipse: s-maj=8.8km s-min=3.1km az=278.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.02**	**202**		Pg	08 56 59.9	-0.3
PHO	**Puu Honuaula**	**0.10**	**73**		Pg	08 57 00.3	-1.0
JCUZ	**Jacuzzi**	**0.12**	**236**	Pg	Pg	08 57 02.0	+0.4
NPOC	**North of Pu'u**	**0.12**	**241**	Pg	Pg	08 57 01.7	+0.1
STCH	**Steam Cracks**	**0.14**	**241**		Pg	08 57 02.1	+0.2
STCH	**Steam Cracks**	**0.14**	**241**	IAML		08 57 06.3	
	comp=E,314nm,1.1s						
STCH				IAML		08 57 07.5	
	comp=N,263nm,1.5s						
PUH	**Pauahi**	**0.22**	**250**	Pg	Pg	08 57 02.9	-0.5
PUH				IAML		08 57 04.0	
	comp=E,596nm,0.8s						
PUH				IAML		08 57 11.2	
	comp=N,812nm,1.2s						
RSD	**Rainshed**	**0.27**	**272**	Pg	Pg	08 57 03.2	-1.1
RSD				IAML		08 57 10.4	
	comp=E,648nm,2.3s						
UWE	**Uwekahuna**	**0.28**	**264**	Pg	Pg	08 57 04.2	-0.4
HTC	**Hot Caves**	**0.43**	**241**		Pg	08 57 07.8	+0.4
HMH	**Humu'ula Sheep**	**0.48**	**288**		Pg	08 57 08.9	+0.5
HMH	**Humu'ula Sheep**	**0.48**	**288**	IAML		08 57 19.7	
	comp=N,269nm,3.1s						
HMH				IAML		08 57 27.1	
	comp=E,339nm,3.8s						
MLOA	**Mauna Loa Obse**	**0.55**	**279**	Pg	Pg	08 57 09.2	-0.6
MLOA				IAML		08 57 12.9	
	comp=E,298nm,3.2s						
MLOA				IAML		08 57 22.5	
	comp=N,364nm,2.9s						
MWH	**Moku'aweowe**	**0.57**	**273**		Pg	08 57 10.2	+0.1
POHA	**Pohakuloa**	**0.59**	**301**	Pg	Pg	08 57 09.5	-1.0
POHA				IAML		08 57 14.5	
	comp=N,188nm,2.5s						
POHA				IAML		08 57 27.7	
	comp=N,174nm,4.0s						
ALEP	**Alea Permanent**	**0.62**	**278**		Pg	08 57 10.9	-0.1
KHU	**Kahuku**	**0.62**	**251**	Pg	Pg	08 57 09.6	-1.4
KHU				IAML		08 57 20.5	
	comp=N,256nm,3.2s						
KHU				IAML		08 57 21.9	
	comp=E,339nm,3.7s						

*NNC **08** 09:00:24.1±5.1, 55.0N×62.89E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=53.4km s-min=20.8km az=151.0, Suspected Mining explosion.*

MIRAS 08 08:59:56.6, 56.88N×59.97E, h0km, ML2.5/6, 7C, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVE	**Sverdlovsk**	**0.37**	**98**	*i* P	Pg	09 00 02.6	-1.2
	baz=98						
SVE				*i* S	Sg	09 00 07.0	-1.6
	baz=98						
SVE				*i* AML	AML	09 00 11.2	
	375nm,0.7s						
ARU	**Arti**	**0.90**	**240**	*i* P	Pg	09 00 14.0	+0.2
	baz=240						
ARU				*i* S	Sb	09 00 26.5	-1.1
ARU				*i* AML	AML	09 00 34.0	
	32nm,0.8s						
KAUR	**Kamensk Uralsk**	**0.96**	**117**	*i* P	Pg	09

comp=Z,190nm,1.0s
MTO3 Montecristo 1.18 62 *e*P **Pn 09 03 29.0 -1.3**
MTO3 Montecristo 1.18 62 *i* P **Pn 09 03 29.0 -1.3**
MTO3 IAML 09 03 29.4
comp=Z,78nm,1.0s
SULM Suchitepequez, 1.18 293 *e*P **Pn 09 03 29.6 -0.5**
PANCS Alcalda de 1.25 101 *i* P **Pn 09 03 29.5 -1.4**
PANCS IAML 09 03 31.5
comp=Z,1μm,1.0s
PANCS *i* S **Sn 09 03 47.0 -0.3**
LOMA Loma Larga 1.25 99 *e*P **Pn 09 03 30.7 -0.3**
LOMA Loma Larga 1.25 99 *i* P **Pn 09 03 30.7 -0.3**
LOMA *i* S **Sn 09 03 49.2 +1.7**
LOMA IAML 09 03 52.6
comp=Z,210nm,1.0s
ESQI Esquipulas 1.28 56 *i* P **Pn 09 03 30.5 -0.9**
ESQI IAML 09 03 30.8
comp=Z,78nm,1.0s
ESQI *i* S **Sn 09 03 49.0 +0.9**
STG3 Santiaguito 3, 1.39 308 *e*P **Pn 09 03 32.4 -0.6**
STG3 *e*S **Sn 09 03 50.4 -0.5**
PAVA Las Pavas 1.47 95 *e*P **Pn 09 03 32.4 -1.4**
PAVA Las Pavas 1.47 95 *i* P **Pn 09 03 32.5 -1.4**
PAVA IAML 09 03 36.5
comp=Z,120nm,1.0s
LLGN La Laguna 1.48 78 *i* P **Pn 09 03 32.3 -1.8**
LLGN *i* S **Sn 09 03 51.2 -1.7**
LLGN IAML 09 04 40.0
comp=Z,370nm,1.0s
COEG Centro de Oper 1.53 98 *e*P **Pn 09 03 33.5 -1.1**
COEG IAML 09 03 35.9
comp=Z,137nm,0.3s
COEG Centro de Oper 1.53 98 *i* P **Pn 09 03 33.3 -1.4**
COEG IAML 09 03 35.6
comp=Z,110nm,1.0s
COEG *i* S **Sn 09 03 55.1 +1.2**
UESV Universidad de 1.62 97 *i* P **Pn 09 03 34.8 -1.0**
UESV IAML 09 03 45.6
comp=Z,140nm,1.0s
UESV *i* S **Sn 09 03 59.7 +3.7**
SCLA Alcaldia de Sa 1.67 95 *e*P **Pn 09 03 35.2 -1.2**
SCLA Alcaldia de Sa 1.67 95 *i* P **Pn 09 03 35.1 -1.4**
SCLA *i* S **Sn 09 03 59.3 +2.1**
SCLA IAML 09 04 06.8
comp=Z,23nm,1.0s
COEB Comit de Eme 1.89 100 *e*P **Pn 09 03 38.1 -1.4**
COEB Comit de Eme 1.89 100 *i* P **Pn 09 03 38.0 -1.4**
COEB *i* S **Sn 09 04 04.0 +1.5**
COEB IAML 09 04 08.9
comp=Z,54nm,1.0s
PACA Pacayal 2.09 100 *e*P **Pn 09 03 41.9 -0.3**
PACA IAML 09 04 16.3
comp=Z,347nm,0.2s
PACA Pacayal 2.09 100 *i* P **Pn 09 03 43.6 +1.4**
PACA IAML 09 04 20.5
comp=Z,420nm,1.0s
RANC El Ranchito 2.13 101 *e*P **Pn 09 03 42.1 -0.6**
RANC IAML 09 04 14.3
comp=Z,90nm,0.2s

*IDC **08** 09:03:30.5±1.3,28°.88N×84°.54E, h0km, mb3.8/8, mbtmp3.8/9, ML3.9/1, Error ellipse: s-maj=50.4km s-min=25.2km az=62.0*
ISC 08 09:03:35.9±1.3, 29°.0N±0°.2×84°.7E±0°.3, h35km, n9, σ0s 90/9, mb3.7/8, Nepal

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**17.87**	**355**	P		**P**	**09 07 41.8**	**-0.3**
	0.4nm,0.3s,baz=176,slow=9.7,SNR=8.4							
	0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**22.10**	**350**	P		**P**	**09 08 27.7**	**-0.3**
	1.2nm,0.7s,baz=164,slow=10,SNR=1.9							
	1.2nm,0.7s							
BVAR	**Borovoye Array**	**26.22**	**340**	P		**P**	**09 09 08.5**	**+1.2**
	0.5nm,0.4s,baz=138,slow=8.9,SNR=3.1							
	0.5nm,0.4s							
AKASG	**Malin Array Be**	**46.52**	**314**	P		**P**	**09 12 00.8**	**+1.1**
	0.4nm,0.4s,baz=80,slow=7.7,SNR=2.2							
	0.4nm,0.4s							
FINES	**FINESS Array B**	**50.04**	**328**	P		**P**	**09 12 26.9**	**+0.2**
	1.7nm,0.4s,baz=108,slow=8.3,SNR=23							
	1.7nm,0.4s							
ARCES	**ARCESS Array B**	**52.46**	**338**	P		**P**	**09 12 43.7**	**-1.1**
	1.7nm,0.9s,baz=100,slow=8.3,SNR=1.9							
	1.7nm,0.9s							
HFS	**Hagfors**	**55.92**	**325**	P		**P**	**09 13 09.7**	**-0.4**
	1.3nm,0.3s,baz=92,slow=8.9,SNR=12							
	1.3nm,0.3s							
ASAR	**Alice Springs**	**70.61**	**133**	P		**P**	**09 14 48.2**	**+0.3**
	0.2nm,0.7s,baz=329,slow=5.8,SNR=4.6							
	0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**77.68**	**278**	P		**P**	**09 15 28.6**	**-0.8**
	0.3nm,0.5s,baz=63,slow=5.1,SNR=5.0							
	0.3nm,0.5s							

*NNC **08** 09:03:36.6±3.4,53°.72N×90°.75E, h0km±16km, mb3.4, mpv3.1, Error ellipse: s-maj=28.7km s-min=20.5km az=28.0, Suspected Mining explosion.*
IDC 08 09:03:39.8±3.7, 53°.64N×90°.45E, h0km, mbtmp3.2/2, ML2.9/2, 9C-5D, Error ellipse: s-maj=34.5km s-min=24.3km az=34.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.35**	**277**	I		I	09 25 10.0	
	0.1nm,1.2s,baz=90,slow=326,SNR=5.3							
ZAA0	**Zalesovo Array**	**3.35**	**277**	⇑Pg		Pb	09 04 39.2	-0.8
	0.7nm,0.6s							
ZAA0				⇑Lg		Lg	09 05 30.3	
	5.2nm,0.8s							
ZALV	**Zalesovo Beam**	**3.35**	**277**	Pg		Pb	09 04 39.3	-0.7
	1.5nm,0.3s,baz=94,slow=17,SNR=10							
ZALV				Lg		Lg	09 05 26.1	
	0.6nm,0.3s,baz=93,slow=30,SNR=1.7							
KURK	**Kurchatov**	**7.84**	**253**	⇓Pn		Pn	09 05 34.9	0.0
	0.4nm,0.4s							
KURK				⇑Sn		Sn	09 07 07.1	+2.7
	5.9nm,0.8s							
KURK				⇓Lg		Lg	09 07 53.7	
	9.0nm,1.0s							
KURBB	**Kurchatov Arra**	**7.93**	**252**	⇓Pn		Pn	09 05 37.0	+0.8
	1.0nm,0.3s							
KURBB				⇑Sn		Sn	09 07 08.6	+2.0
	13nm,0.8s							
KURBB				⇑Lg		Lg	09 07 59.4	
	56nm,1.3s							
KURBB	**Kurchatov Arra**	**7.93**	**252**	Pn		Pn	09 05 36.7	+0.4
	0.1nm,0.3s,baz=67,slow=15,SNR=6.9							
KURBB				Sn		Sn	09 07 05.1	-1.5
	0.1nm,0.3s,baz=67,slow=24,SNR=4.3							
KURBB				Lg		Lg	09 07 53.1	
	baz=64,slow=34,SNR=3.9							
	1.1nm,0.5s							
MK31	**Makanchi Array**	**8.62**	**221**	⇑Pn		Pn	09 05 46.5	+0.8
	0.4nm,0.5s,baz=38,slow=14,SNR=11							
MK31				⇑Sn		Sn	09 07 27.3	+3.7
	0.8nm,0.6s,baz=173,slow=11,SNR=12							
MK31				⇑Lg		Lg	09 08 15.6	
	4.1nm,0.9s,baz=35,slow=28							
MKAR	**Makanchi Array**	**8.62**	**221**	Pn		Pn	09 05 46.3	+0.6
	0.2nm,0.3s,baz=41,slow=14,SNR=4.9							
MKAR				Lg		Lg	09 08 11.4	
	baz=34,slow=32							
	0.5nm,0.4s							
MAKZ	**Makanchi**	**8.73**	**222**	⇓Pn		Pn	09 05 46.5	-0.8
	0.4nm,0.3s							
MAKZ				⇑Sn		Sn	09 07 26.2	-0.1
	1.0nm,0.5s							
MAKZ				⇓Lg		Lg	09 08 20.8	
	5.5nm,1.1s							

*NEIC **08** 09:05:13.8±1.7, 19°.22N±0°.02×155°.475W±0°.006, h5km±1km, Error ellipse: s-maj=3.4km s-min=2.9km az=174.0*
HVO 08 09:05:12.7±1.6, 19°.13N±0°.03×155°.462W±0°.009, h4km±7km, ML3.6/8, ML2.5/18(NEIC), Error ellipse: s-maj=4.6km s-min=1.2km az=173.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.13**	**29**			Pg	09 05 15.3	+0.1
KHU	**Kahuku**	**0.19**	**310**			Pg	09 05 16.9	+0.5
KHU						Sg	09 05 20.0	+1.1
HLP	**Hilina Pali**	**0.22**	**41**			Pg	09 05 17.6	+0.6
HLP				IAML			09 05 23.4	
	comp=N,1μm,0.6s							
SDHHI	**Sand Hill**	**0.31**	**31**	Pg		Pg	09 05 18.0	-0.6
PUH	**Pauahi**	**0.34**	**43**			Pg	09 05 18.1	-1.2
PUH						Sg	09 05 24.6	+0.9
PUH				IAML			09 05 27.3	
	comp=E,508nm,0.9s							
PUH				IAML			09 05 29.4	
	comp=N,838nm,0.9s							
MLH	**Mauna Loa**	**0.37**	**11**			Pg	09 05 18.0	-2.0
MLH				IAML		Sg	09 05 25.8	+0.9
	comp=N,621nm,1.5s							
MLH						Sg	09 05 25.8	+0.9
MWH	**Moku'aweowe**	**0.38**	**340**			Pg	09 05 19.2	-0.9
MWH				IAML			09 05 23.5	
	comp=N,402nm,1.6s							
MWH				IAML			09 05 26.9	
	comp=E,434nm,1.5s							
MLOA	**Mauna Loa Obse**	**0.42**	**345**	Pg		Pg	09 05 19.1	-1.8
MLOA				IAML			09 05 34.2	
	comp=N,305nm,2.2s							
CPH	**Captain Cook**	**0.56**	**310**			Pg	09 05 22.9	-0.6
POHA	**Pohakuloa**	**0.63**	**354**			Sg	09 05 33.3	+0.2
POHA	**Pohakuloa**	**0.63**	**354**	Pg		Pg	09 05 22.9	-1.9
POHA				IAML			09 05 37.0	
	comp=N,252nm,1.1s							
POHA				IAML			09 05 38.1	
	comp=N,241nm,0.5s							
HUH	**Hualalai**	**0.66**	**328**	Pg		Pg	09 05 24.3	-1.1
HUH				IAML			09 05 41.2	
	comp=N,267nm,0.4s							

*IDC **08** 09:10:28.6±1.7, 1°.19S×127°.13E, h0km, mb3.9/4, mbtmp3.9/5, ML3.7/1, MS4.2/2, Error ellipse: s-maj=149.1km s-min=22.3km az=67.0*
*DJA **08** 09:10:32.8±0.5, 2°.5S×2°×12°.6E±°, h13km±5km, M4.0/10, mb4.2/2, MLv3.9/10*
ISC 08 09:10:31.9±0.8, 1°.55S±0°.05×126°.48E±0°.07, h10km, n13, σ1s 42/15, mb4.0/4, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SANI	**Sanana**	**0.70**	**225**	P		**Pb**	**09 10 46.6**	**+0.4**
SANI				S		**Sb**	**09 10 56.5**	**+0.6**
LBMI	**Labuha**	**1.36**	**48**	P		**Pn**	**09 10 57.2**	**+0.2**
LBMI				S		**Sb**	**09 11 15.2**	**+0.2**
NLAI	**Namlea**	**1.79**	**160**	P		**Pn**	**09 11 04.2**	**+1.4**
NLAI				S		**Sn**	**09 11 26.8**	**+1.2**
TNTI	**Ternate**	**2.47**	**21**	P		**Pn**	**09 11 15.1**	**+2.8**
TNTI				S		**Sn**	**09 11 43.6**	**+1.1**
LUWI	**Luwuk**	**3.75**	**278**	P		**Pn**	**09 11 27.7**	**-2.1**
FAKI	**Fak Fak**	**5.92**	**103**	P		**Pn**	**09 11 58.4**	**-1.3**
WRA	**Warramunga Arr**	**19.83**	**158**	P		**P**	**09 15 02.3**	**-0.7**
	0.3nm,0.3s,baz=339,slow=12,SNR=6.9							
	1.6nm,0.6s							
ASAR	**Alice Springs**	**23.13**	**162**	P		**P**	**09 15 38.2**	**-0.3**
	3.2nm,0.6s,baz=337,slow=10,SNR=49							
	3.2nm,0.6s							
KRVT	**Keravat (AS076**	**25.65**	**97**	LR		LR	09 26 52.2	
	comp=Z,530nm,20.9s,baz=103,slow=39							
MKAR	**Makanchi Array**	**61.78**	**327**	P		**P**	**09 20 50.2**	**-0.6**
	0.5nm,0.5s,baz=114,slow=6.7,SNR=4.3							
	0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**66.06**	**329**	P		**P**	**09 21 17.0**	**-2.0**
	0.4nm,0.5s,baz=133,slow=6.6,SNR=4.3							
	0.4nm,0.5s							
QSPA	**South Pole Qui**	**88.39**	**180**	P		**P**	**09 23 24.0**	**-0.1**
	1.7nm,1.1s,baz=328,slow=7.5,SNR=2.1							
	1.7nm,1.1s							
LSZ	**Lusaka**	**97.59**	**254**	LR		LR	10 07 31.2	
	comp=Z,112nm,19.7s,baz=157,slow=35							

MIRAS 08 09:12:40.3, 58°.50N×57°.72E, h0km, ML2.1/4, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PR0R	**Verkhnechusovs**	**0.43**	**226**	*i* P		Pg	09 12 48.0	-0.4
	3.4nm,0.5s,baz=217							
PR0R				*i* S		Sg	09 12 54.0	+0.1
	12nm,0.3s,baz=217							
PR0R				*i* AML	AML		09 13 10.9	
	22nm,1.0s							
PR0R	**Verkhnechusovs**	**0.43**	**226**	*e*P		Pg	09 12 49.2	+0.9
	35nm,0.5s,baz=226							
PR0R				*e*S		Sg	09 12 55.6	+1.7
	122nm,0.3s,baz=226							
PR0R				*i* AML	AML		09 13 10.9	
	207nm,1.0s,baz=226							
PR7R	**Sarany**	**0.55**	**84**	*i* P		Pg	09 12 51.8	+1.0
	26nm,0.7s,baz=89							
PR7R				*i* S		Sg	09 12 58.5	+0.6
	93nm,0.6s,baz=89							
PR7R				*i* AML	AML		09 13 01.3	
	133nm,0.8s							
PR7R	**Sarany**	**0.55**	**84**	*e*P		Pg	09 12 51.3	+0.5
	25nm,0.6s,baz=84							
PR7R				*e*S		Sg	09 12 58.8	+0.9
	baz=84							
PR7R				*i* AML	AML		09 13 01.3	
	133nm,0.8s,baz=84							
PR6R	**Ekimyata**	**0.92**	**250**	*i* P		Pg	09 12 55.8	-2.0
	6.0nm,0.1s,baz=246							
PR6R				*i* S		Sg	09 13 09.4	-0.4
	baz=246							
PR6R				*i* AML	AML		09 13 11.1	
	30nm,0.5s							
PR6R	**Ekimyata**	**0.92**	**250**	*e*S		Sg	09 13 10.2	+0.4
	baz=250							
PR6R				*i* AML	AML		09 13 23.0	
	40nm,1.4s							
PR3R	**Kungur**	**1.12**	**200**	*i* P		Pb	09 13 02.4	-0.1
	13nm,0.3s,baz=197							
PR3R				*i* S		Sg	09 13 16.6	+0.4
	baz=197							
PR3R				*i* AML	AML		09 13 33.7	
	46nm,1.1s							
PR3R	**Kungur**	**1.12**	**200**	*e*P		Pg	09 13 01.1	-0.6
	13nm,0.2s,baz=200							
PR3R				*e*S		Sg	09 13 16.4	+0.2
	11nm,0.3s,baz=200							
PR3R				*i* AML	AML		09 13 33.7	
	38nm,0.7s,baz=200							

*CATAC **08** 09:20:48.0±1.2, 8°.91N×82°.97W, h8km±11km, ML2.0*
*UPA **08** 09:20:48.9±0.3, 8°.85N×82°.93W, h33km±4km, ML3.2*
ISC 08 09:20:47.6±1.8, 8°.90N±0°.06×82°.99W±0°.04, h4km±20km, n8, σ0s 46/15, 3C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BRU2	**Volcan**	**0.32**	**110**	⇑*i*P		**Pb**	**09 20 56.3**	**+0.4**
BRU2				*e*S		**Sb**	**09 21 02.0**	**+0.5**
CDITO	**Canoas**	**0.35**	**160**	⇑*i*P		**Pb**	**09 20 56.3**	**-0.1**
CDITO				AMP			09 20 56.6	
	comp=Z,3μm,0.1s							
BCO2	**Palmira**	**0.49**	**112**	⇑*i*P		**Pb**	**09 20 58.6**	**-0.4**
BCO2				AMP			09 20 58.7	
	comp=Z,2μm,0.1s							
BCO2				*e*S		**Sb**	**09 21 05.8**	**-0.8**
OCHAL	**Ojochal**	**0.67**	**287**	*i* P		**Pb**	**09 21 01.6**	**-0.3**
OCHAL				*i* S		**Sb**	**09 21 11.4**	**-0.3**
OCHAL				IAML			09 21 17.9	
	comp=Z,50nm,1.0s							
PLAN	**Los Planes de**	**0.72**	**252**	*i* P		**Pb**	**09 21 02.5**	**-0.2**
PLAN				*i* S		**Sb**	**09 21 13.4**	**+0.5**
PLAN				IAML			09 21 17.0	
	comp=Z,130nm,1.0s							
PEZE	**Perez Zeledon,**	**0.83**	**305**	*i* P		**Pb**	**09 21 04.5**	**-0.1**
PEZE				*i* S		**Sb**	**09 21 16.6**	**+0.4**
PEZE				IAML			09 21 17.9	
	comp=Z,51nm,1.0s							
CDM	**Cerro de Muert**	**1.00**	**310**	*i* P		**Pb**	**09 21 07.5**	**-0.3**
CDM				*i* S		**Sb**	**09 21 21.7**	**+0.2**
CDM				IAML			09 21 24.9	
	comp=Z,22nm,1.0s							
RIMA	**Rio Macho**	**1.22**	**315**	*i* P		**Pg**	**09 21 10.7**	**-0.2**
RIMA				IAML			09 21 12.1	
	comp=Z,24nm,1.0s							
RIMA				*i* S		**Sg**	**09 21 27.3**	**+0.6**

IDC 08 09:22:07.8±4.1, 54°.28N×87°.12E, h0km, mbtmp2.9/2, ML2.7/2, Error ellipse: s-maj=44.0km s-min=23.5km az=70.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**257**	I		I	09 31 00.0	
	baz=75,slow=327,SNR=2.8							
ZALV	**Zalesovo Beam**	**1.40**	**257**	Pg		Pn	09 22 33.2	-1.3
	1.0nm,0.3s,baz=76,slow=16,SNR=6.9							
KURBB	**Kurchatov Arra**	**6.40**	**239**	Pn		Pn	09 23 43.9	+0.7
	0.1nm,0.3s,baz=55,slow=13,SNR=6.3							
KURBB				Lg		Lg	09 25 30.2	
	baz=54,slow=33							
	0.7nm,0.3s							
MKAR	**Makanchi Array**	**8.10**	**204**	Pn		Pn	09 24 07.7	+1.1
	0.1nm,0.3s,baz=27,slow=14,SNR=4.5							
	0.2nm,0.4s							

IDC 08 09:22:09.4±3.6, 54°.94N×88°.27E, h0km, mbtmp2.9/3, ML2.2/3, Error ellipse: s-maj=31.7km s-min=26.6km az=17.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.25**	**245**	I		I	09 37 25.0	
	0.1nm,1.1s,baz=61,slow=338,SNR=11							
ZALV	**Zalesovo Beam**	**2.25**	**245**	Pn		Pn	09 22 47.6	-0.2
	1.2nm,0.3s,baz=63,slow=17,SNR=8.1							
ZALV				Lg		Lg	09 23 20.7	
	2.0nm,0.3s,baz=64,slow=27,SNR=8.5							
	3.0nm,0.4s							
KURBB	**Kurchatov Arra**	**7.32**	**238**	Pn		Pn	09 23 57.3	-0.1
	baz=54,slow=14,SNR=2.9							
KURBB				Lg		Lg	09 26 01.0	
	baz=56,slow=31,SNR=2.1							
	0.5nm,0.5s							
MKAR	**Makanchi Array**	**8.99**	**207**	Pn		Pn	09 24 21.1	+0.7
	0.1nm,0.3s,baz=24,slow=12,SNR=3.6							
MKAR				Lg		Lg	09 26 55.4	
	baz=26,slow=31,SNR=1.9							
	0.5nm,0.8s							

IDC 08 09:45:45.3±3.3, 53°.63N×87°.91E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=28.5km s-min=17.4km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**281**	I		I	09 58 10.0	
	0.1nm,0.9s,baz=96,slow=332,SNR=8.5							
ZALV	**Zalesovo Beam**	**1.86**	**281**	Pg		Pn	09 46 19.2	+0.8
	1.0nm,0.3s,baz=98,slow=15,SNR=11							
ZALV				Lg		Lg	09 46 44.3	
	2.6nm,0.3s,baz=100,slow=26,SNR=12							
KURBB	**Kurchatov Arra**	**6.51**	**246**	Pn		Pn	09 47 23.2	+1.0
	baz=60,slow=14,SNR=2.5							
KURBB				Lg		Lg	09 49 10.0	
	baz=62,slow=32,SNR=2.4							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**7.73**	**210**	Pn		Pn	09 47 40.1	+1.1
	0.1nm,0.3s,baz=27,slow=13,SNR=4.2							
MKAR				Lg		Lg	09 49 50.3	
	baz=32,slow=25							
	0.2nm,0.3s							

*SOME **08** 09:52:00.8, 44°.18N×82°.72E, h20km*
*NNC **08** 09:52:01.3±1.8, 44°.21N×82°.67E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.4km s-min=7.4km az=124.0*
ISC 08 09:51:59.5±1.4, 44°.13N±0°.06×82°.75E±0°.06, h10km, n42, σ2s 32/62, 6C-5D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**1.87**	**249**	P		**Pb**	**09 52 35.5**	**+1.7**
	3.5nm,0.2s							
KTMS				S		**Sg**	**09 53 01.0**	**+1.5**
	190nm,0.4s							
KTMS	**Ketmen**	**1.87**	**249**	*e*P		**Pb**	**09 52 35.5**	**+1.7**
	3.5nm,0.2s							
KTMS				*e*S		**Sg**	**09 53 01.0**	**+1.5**
	190nm,0.4s							
DJR	**Jarkent**	**2.14**	**276**	Pg		**Pb**	**09 52 39.9**	**+1.6**
	11nm,0.4s							
DJR				Lg		Lg	09 53 08.9	
	105nm,0.4s							
DJR	**Jarkent**	**2.14**	**276**	*e*P		**Pb**	**09 52 39.9**	**+1.6**
	11nm,0.4s							
DJR				*e*S		**Sg**	**09 53 08.9**	**+0.7**
	105nm,0.4s							
PDGK	**Podgornoye**	**2.50**	**252**	Pg		**Pb**	**09 52 44.1**	**-0.4**
	1.2nm,0.2s							
PDGK				Lg		Lg	09 53 15.7	
	24nm,0.5s							
KNOS	**Konyrlen**	**2.58**	**276**	Pg		**Pb**	**09 52 47.8**	**+1.9**
	12nm,0.3s							
KNOS				Lg		Lg	09 53 22.0	
	62nm,0.3s							
SHLS	**Shalkode**	**2.58**	**249**	Pg		**Pn**	**09 52 41.4**	**0.0**
	11nm,0.2s							
SHLS				Lg		Lg	09 53 11.0	
	278nm,0.6s							
SHLS	**Shalkode**	**2.58**	**249**	*e*P		**Pn**	**09 52 41.4**	**0.0**
	11nm,0.2s							
SHLS				*e*S		**Sn**	**09 53 11.0**	**-1.9**
	278nm,0.6s							
KAPS	**Kapalarasan**	**2.68**	**297**	Pg		**Pg**	**09 52 50.3**	**-0.6**
	8.3nm,0.2s							
KAPS				Lg		Lg	09 53 26.5	
	41nm,0.3s							
KAPS	**Kapalarasan**	**2.68**	**297**	*e*P		**Pg**	**09 52 50.2**	**-0.6**
	8.3nm,0.2s							
KAPS				*e*S		**Sg**	**09 53 26.5**	**+0.9**
	41nm,0.3s							
MAKZ	**Makanchi**	**2.73**	**349**	⇑Pg		**Pg**	**09 52 51.2**	**-0.6**
	3.8nm,0.5s							
MAKZ				⇑Lg		Lg	09 53 26.0	
	4.8nm,0.3s							
BLB	**Baldybastay**	**3.08**	**271**	Pg		**Pb**	**09 52 55.6**	**+1.2**
	14nm,0.1s							
BLB				Lg		Lg	09 53 35.6	
	53nm,0.4s							
ZHN	**Zhinishke**	**3.28**	**254**	Pg		**Pb**	**09 53 00.2**	**+2.4**
	2.8nm,0.3s							
ZHN				Lg		Lg	09 53 43.0	
	60nm,0.3s							
ZHN	**Zhinishke**	**3.28**	**254**	*e*P		**Pb**	**09 53 00.2**	**+2.4**
	2.8nm,0.3s							
ZHN				*e*S		**Sg**	**09 53 43.0**	**-1.7**
	60nm,0.3s							
SATY	**Saty**	**3.33**	**253**	Pg		**Pb**	**09 53 01.3**	**+2.6**
	3.9nm,0.3s							
SATY				Lg		Lg	09 53 45.0	
	24nm,0.4s							
SATY	**Saty**	**3.33**	**253**	*e*P		**Pb**	**09 53 01.3**	**+2.6**
	3.9nm,0.3s							
SATY				*e*S		**Sg**	**09 53 45.0**	**-1.6**
	24nm,0.4s							
KURS	**Kuram**	**3.38**	**261**	Pg		**Pb**	**09 53 00.7**	**+1.2**
	2.1nm,0.8s							
KURS				Lg		Lg	09 53 44.0	
	8.2nm,0.7s							
KURS	**Kuram**	**3.38**	**261**	*e*P		**Pb**	**09 53 00.7**	**+1.2**
	2.1nm,0.8s							
KURS				*e*S		**Sb**	**09 53 44.0**	**+3.4**
	8.2nm,0.7s							
ARXS	**Arharly**	**3.54**	**273**	Pg		**Pg**	**09 53 06.7**	**-0.6**
	6.7nm,0.2s							
ARXS				Lg		Lg	09 53 54.8	
	23nm,0.3s							
ARXS	**Arharly**	**3.54**	**273**	*e*P		**Pg**	**09 53 06.7**	**-0.6**
	6.7nm,0.2s							
ARXS				*e*S		**Sg**	**09 53 54.8**	**+1.5**
	23nm,0.3s							
ZSN	**Zaisan**	**3.63**	**23**	*e*P		**Pb**	**09 53 06.7**	**+3.0**
	11nm,0.2s							
ZSN				*e*S		**Sg**	**09 53 54.6**	**-1.5**
	18nm,0.5s							
KOTS	**Kotyrbulak**	**4.19**	**260**	Pg		**Pg**	**09 53 17.9**	**-1.8**
	8.3nm,0.7s							
KOTS				Lg		Lg	09 54 13.5	
	42nm,0.7s							
**

	42nm,0.7s								
MDOK	**Medeo**	**4.25**	**259**		Pg		**Pg**	09 53 18.9	**-1.9**
	3.0nm,0.5s								
MDOK					⇓Pg		Pb	09 53 21.2	+6.8
	1.8nm,0.4s								
MDOK					⇓Lg		Lg	09 54 14.4	
	10nm,0.5s								
MDOK					Lg		Lg	09 54 15.2	
	7.8nm,0.5s								
MDOK	**Medeo**	**4.25**	**259**	*eP*			**Pg**	**09 53 18.9**	**-1.9**
	3.0nm,0.5s								
MDOK				*eS*			**Sg**	**09 54 15.2**	**-0.8**
	7.8nm,0.5s								
TNSS	**Tian-Shan**	**4.36**	**257**		Pg		**Pg**	**09 53 21.3**	**-1.6**
	1.8nm,0.6s								
TNSS					Lg		Lg	09 54 19.2	
	10nm,0.6s								
TNSS	**Tian-Shan**	**4.36**	**257**	*eP*			**Pg**	**09 53 21.3**	**-1.6**
	1.8nm,0.6s								
TNSS				*eS*			**Sg**	**09 54 19.2**	**-0.2**
	10nm,0.6s								
KTBS	**Karatobe**	**4.41**	**267**		Pg		**Pg**	**09 53 21.4**	**-2.5**
	1.3nm,0.3s								
KTBS					Lg		Lg	09 54 19.9	
	14nm,0.7s								
KTBS	**Karatobe**	**4.41**	**267**	*eP*			**Pg**	**09 53 21.4**	**-2.5**
	1.3nm,0.3s								
KTBS				*eS*			**Sg**	**09 54 19.9**	**-1.0**
	14nm,0.7s								
IZV	**Izvestkoviy**	**4.59**	**258**		Pg		**Pg**	**09 53 26.4**	**-1.0**
	1.0nm,0.9s								
IZV					Lg		Lg	09 54 28.1	
	14nm,0.6s								
IZV	**Izvestkoviy**	**4.59**	**258**	*eP*			**Pg**	**09 53 26.4**	**-1.0**
	1.0nm,0.9s								
IZV				*eS*			**Sg**	**09 54 28.1**	**+1.2**
	14nm,0.6s								
MTBS	**Maitube**	**4.70**	**260**		Pg		**Pb**	**09 53 25.7**	**+3.7**
	2.9nm,0.5s								
MTBS					Lg		Lg	09 54 26.8	
	13nm,0.3s								
MTBS	**Maitube**	**4.70**	**260**	*eP*			**Pb**	**09 53 25.7**	**+3.7**
	2.9nm,0.5s								
MTBS				*eS*			**Sg**	**09 54 26.8**	**-3.5**
	13nm,0.3s								
KST	**Kastek**	**5.05**	**260**		Pg		**Pb**	**09 53 31.8**	**+3.8**
	1.9nm,1.0s								
KST					Lg		Lg	09 54 38.0	
	11nm,1.9s								
KST	**Kastek**	**5.05**	**260**	*eP*			**Pb**	**09 53 31.8**	**+3.8**
	1.9nm,1.0s								
KST				*eS*			**Sg**	**09 54 38.0**	**-3.6**
	11nm,1.9s								
KRBS	**Karabastau**	**5.13**	**268**		Pg		**Pb**	**09 53 33.3**	**+4.0**
	1.0nm,0.4s								
KRBS					Lg		Lg	09 54 40.0	
	3.8nm,0.5s								
KRBS	**Karabastau**	**5.13**	**268**	*eP*			**Pb**	**09 53 33.3**	**+4.0**
	1.0nm,0.4s								
KRBS				*eS*			**Sg**	**09 54 40.0**	**-4.2**
	3.8nm,0.5s								
DGS	**Degeres**	**5.14**	**262**		Pg		**Pb**	**09 53 33.5**	**+4.0**
	3.8nm,0.6s								
DGS					Lg		Lg	09 54 40.6	
	9.7nm,0.7s								
DGS	**Degeres**	**5.14**	**262**	*eP*			**Pb**	**09 53 33.5**	**+4.0**
	3.8nm,0.4s								
DGS				*eS*			**Sg**	**09 54 40.6**	**-3.8**
	9.7nm,0.3s								
TKM2	**Tokmak 2**	**5.34**	**259**	⇓	Pg		**Pg**	**09 53 39.3**	**-2.4**
	2.1nm,0.6s								
TKM2				⇓	Lg		Lg	09 54 49.7	
	3.2nm,0.4s								
AAK	**Ala-Archa**	**6.20**	**259**	⇑	Pg		**Pg**	**09 53 57.4**	**-0.7**
	0.8nm,0.5s								
AAK				⇓	Lg		Lg	09 55 16.7	
	4.8nm,0.8s								
KURK	**Kurchatov**	**7.16**	**338**	⇑	Pn		**Pn**	**09 53 41.3**	**-2.8**
	0.5nm,0.4s								
KURK				⇑	Sn		**Sn**	**09 55 04.3**	**-1.1**
	1.3nm,0.7s								
KURK				⇑	Lg		Lg	09 55 44.0	
	8.2nm,0.9s								

*NEIC **08** 09:56:25.1±2.2,41°.89N±0°.06×126°.2W±0°.1,h10^{km}±2^{km}, ML2.8/80,Error ellipse: s-maj=16.1km s-min=10.3km az=261.0*
*IDC **08** 09:56:25.7±2.8,41°.88N×126°.08W,h0^{km},mb2.7/2, mbtmp2.9/4,ML2.9/2,Error ellipse: s-maj=36.6km s-min=24.4km az=38.0*
ISC 08 09:56:26.3±1.7,41°.90N±0°.06×126°.2W±0°.1,h11^{km},n62, σ1§19/63,Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**1.48**	**77**		**Pn**	**09 56 51.2**	**-1.7**
KBO				IAML		09 57 11.9	
	comp=N,69nm,1.2s						
KSXB	**Camp Six Broad**	**1.71**	**92**		**Pn**	**09 56 54.7**	**-1.5**
KRMB	**Red Mountain**	**1.73**	**102**		**Pn**	**09 56 55.1**	**-1.3**
KRPM	**Rodgers**	**1.77**	**114**		**Pn**	**09 56 55.7**	**-1.2**
KRPM				IAML		09 57 19.2	
	comp=E,49nm,0.6s						
JCC	**Jacoby Creek,**	**1.94**	**123**		**Pn**	**09 56 57.7**	**-1.5**
L02F	**Cave Junction**	**1.95**	**83**		**Pn**	**09 56 57.8**	**-1.5**
K02D	**Willamette Mer**	**2.02**	**66**		**Pn**	**09 56 58.6**	**-1.8**
J01E	**Myrtle Point**	**2.08**	**52**		**Pn**	**09 56 58.8**	**-2.3**
J01E				IAML		09 57 24.5	
	comp=N,75nm,0.6s						
J01E				IAML		09 57 26.5	
	comp=E,64nm,0.7s						
KHMM	**Horse Mountain**	**2.10**	**118**		**Pn**	**09 57 00.5**	**-1.1**
KMPM	**Mount Pierce**	**2.14**	**133**		**Pn**	**09 57 00.7**	**-1.4**
KMPM				IAML		09 57 32.8	
	comp=E,72nm,0.5s						
KMPM				IAML		09 57 33.8	
	comp=N,44nm,0.6s						
DBO	**Dodson Butte**	**2.48**	**60**		**Pn**	**09 57 05.5**	**-1.3**
DBO				IAML		09 57 37.1	
	comp=N,24nm,1.0s						
HUMO	**Hull Mountain**	**2.49**	**72**		**Pn**	**09 57 05.5**	**-1.2**
HUMO				IAML		09 57 38.0	
	comp=N,28nm,0.6s						
KMRM	**Mail Ridge**	**2.50**	**131**		**Pn**	**09 57 06.2**	**-0.8**
KMRM				IAML		09 57 40.2	
	comp=N,30nm,1.1s						
KMRM				IAML		09 57 40.7	
	comp=E,38nm,1.6s						
YBH	**Yreka Blue Hor**	**2.59**	**93**		**Pn**	**09 57 08.2**	**0.0**
YBH	**Yreka Blue Hor**	**2.59**	**93**	Pn	**Pn**	**09 57 08.1**	**0.0**
	comp=E,1.9nm,0.3s,baz=281,slow=15,SNR=46						
YBH				Sn	**Sn**	**09 57 40.0**	**+0.3**
	comp=E,1.0nm,0.3s,baz=345,slow=10,SNR=6.1 comp=E,4.0nm,0.3s						
I03D	**Drain, OR**	**2.74**	**48**		**Pn**	**09 57 08.3**	**-1.9**
L04D	**Klamath Falls**	**2.89**	**82**		**Pn**	**09 57 12.5**	**0.0**
L04D				IAML		09 57 55.0	
	comp=E,24nm,0.9s						
L04D				IAML		09 57 57.3	
	comp=N,19nm,3.6s						
KCPM	**Cahto Peak**	**2.96**	**138**	Pn	**Pn**	**09 57 12.1**	**-1.2**
KCPM				IAML		09 57 54.6	
	comp=N,25nm,0.6s						
KCPM				IAML		09 58 03.9	
	comp=E,35nm,2.3s						
BUCK	**Buck Mountain**	**3.27**	**44**	Pn	**Pn**	**09 57 16.3**	**-1.3**
BUCK				IAML		09 58 04.3	
	comp=E,22nm,2.5s						
BUCK				IAML		09 58 05.2	
	comp=N,30nm,1.4s						
I04A	**Tendick Farm,**	**3.35**	**54**		**Pn**	**09 57 17.8**	**-0.8**
I04A				IAML		09 58 00.2	
	comp=N,19nm,0.7s						
I04A				IAML		09 58 01.9	
	comp=E,22nm,0.9s						
COR	**Corvallis**	**3.40**	**37**		**Pn**	**09 57 18.3**	**-1.0**
H04D	**Lebanon**	**3.63**	**43**		**Pn**	**09 57 21.6**	**-0.8**
H04D				IAML		09 58 06.5	
	comp=N,21nm,0.8s						
HOPS	**Hopland Field**	**3.74**	**140**		**Pn**	**09 57 22.9**	**-1.1**
HOPS				IAML		09 57 52.3	
	comp=N,24nm,2.3s						
HOPS				IAML		09 58 27.9	
	comp=E,21nm,2.6s						
HEBO	**Mount Hebo**	**3.75**	**27**	Pn	**Pn**	**09 57 23.2**	**-0.9**
J05D	**Fort Rock, OR**	**3.90**	**68**	Pn	**Pn**	**09 57 26.7**	**+0.5**
J05D				IAML		09 59 01.7	
	comp=N,11nm,4.9s						
J05D				IAML		09 59 25.7	
	comp=E,11nm,4.8s						
G03D	**McMinnville, O**	**3.92**	**32**		**Pn**	**09 57 25.7**	**-0.8**
G03D				IAML		09 58 22.6	
	comp=E,13nm,0.7s						
G03D				IAML		09 58 40.0	
	comp=N,17nm,2.6s						
H04A	**Detroit Lake**	**4.02**	**45**		**Pn**	**09 57 26.6**	**-1.3**
H04A				IAML		09 58 16.6	
	comp=N,19nm,0.4s						
ORV	**Oroville**	**4.25**	**122**		**Pn**	**09 57 29.5**	**-1.5**
ORV				IAML		09 58 24.7	
	comp=E,6.7nm,0.6s						
ORV				IAML		09 58 25.6	
	comp=N,7.9nm,0.4s						
PINE	**Pine Mountain**	**4.28**	**62**		**Pn**	**09 57 30.8**	**-0.8**
PINE				IAML		09 58 25.4	
	comp=E,11nm,4.8s						
PINE				IAML		09 59 37.4	
	comp=N,9.5nm,4.7s						
I05D	**Terrebonne, OR**	**4.29**	**54**		**Pn**	**09 57 30.1**	**-1.5**
I05D				IAML		09 58 01.0	
	comp=E,12nm,4.8s						
I05D				IAML		09 58 22.4	
	comp=N,11nm,4.7s						
F03A	**Seaside**	**4.45**	**24**	Pn	**Pn**	**09 57 33.2**	**-0.4**
F04D	**Rainier, OR**	**4.76**	**28**	Pn	**Pn**	**09 57 38.4**	**+0.4**
RADR	**Rader Ridge**	**4.83**	**20**	Pn	**Pn**	**09 57 38.5**	**-0.5**
F04A	**Amboy**	**4.86**	**33**	Pn	**Pn**	**09 57 38.9**	**-0.3**
F04A				IAML		09 59 24.4	
	comp=N,9.7nm,4.8s						
G05A	**Wamic**	**4.86**	**45**	Pn	**Pn**	**09 57 39.1**	**-0.2**
AFDM	**Forest Hills D**	**4.94**	**125**	Pn	**Pn**	**09 57 40.4**	**-0.1**
AFDM				IAML		09 58 40.0	
	comp=N,4.2nm,4.0s						
AFDM				IAML		09 59 36.7	
	comp=E,4.3nm,4.8s						
E03A	**Lebam**	**5.01**	**21**	Pn	**Pn**	**09 57 40.1**	**-1.2**
G06A	**Carlson Farm,**	**5.22**	**48**	Pn	**Pn**	**09 57 44.5**	**+0.2**
G06A				IAML		10 00 04.9	
	comp=E,7.2nm,4.0s						
MPK	**Martis Peak**	**5.35**	**117**		**Pn**	**09 57 46.8**	**+0.5**
MPK				IAML		09 59 44.1	
	comp=N,7.3nm,2.5s						
I07A	**Izee**	**5.35**	**64**	Pn	**Pn**	**09 57 46.5**	**+0.3**
EMB	**Emerald Bay**	**5.47**	**120**	Pn	**Pn**	**09 57 49.6**	**+1.6**
PAHR	**Pah Rah Range**	**5.59**	**111**	Pn	**Pn**	**09 57 51.3**	**+1.7**
WVOR	**Wild Horse Val**	**5.62**	**82**	Pn	**Pn**	**09 57 48.4**	**-1.5**
NLWA	**Neilton Lookou**	**5.73**	**16**	Pn	**Pn**	**09 57 51.2**	**-0.1**
PNTR	**Pine Nut**	**5.74**	**117**		**Pn**	**09 57 53.1**	**+1.4**
LON	**Longmire**	**5.77**	**31**	Pn	**Pn**	**09 57 51.9**	**0.0**
YERR	**Yerington**	**6.03**	**117**		**Pn**	**09 57 56.7**	**+1.1**
D05A	**Emmaline**	**6.07**	**28**		**Pn**	**09 57 57.1**	**+1.1**
GNW	**Green Mountain**	**6.14**	**22**		**Pn**	**09 57 56.4**	**-0.5**
G08A	**Pilot Rock**	**6.23**	**55**	Pn	**Pn**	**09 57 58.2**	**-0.1**
HAWA	**Hanford**	**6.55**	**44**	Pn	**Pn**	**09 58 02.5**	**-0.1**
LTY	**Liberty**	**6.64**	**34**	Pn	**Pn**	**09 58 02.1**	**-1.8**
RYN	**Ryan**	**6.70**	**117**	Pn	**Pn**	**09 58 04.1**	**-0.7**
KVN	**Kaiserville**	**6.78**	**112**	Pn	**Pn**	**09 58 07.1**	**+1.2**
NVAR	**Mina Array Bea**	**6.95**	**117**	Pn	**Pn**	**09 58 06.2**	**-2.0**
NVAR	**Mina Array Bea**	**6.95**	**117**	Pn	**Pn**	**09 58 09.0**	**+0.8**
	comp=N,0.3nm,0.3s,baz=298,slow=14,SNR=7.5 comp=N,0.5nm,0.6s						
NV11	**Mina Array Sit**	**7.04**	**117**	Pn	**Pn**	**09 58 09.9**	**+0.4**
CLRS	**Cowichan Lake**	**7.07**	**11**	Pn	**Pn**	**09 58 09.8**	**+0.2**
BMO	**Blue Mountains**	**7.10**	**62**	Pn	**Pn**	**09 58 10.0**	**-0.2**
F10A	**Beach Ranch, E**	**7.63**	**55**	Pn	**Pn**	**09 58 14.0**	**-3.4**
YKA	**Yellowknife Ar**	**21.74**	**15**	P	**P**	**10 01 18.6**	**+1.2**
	comp=N,0.5nm,0.8s,baz=208,slow=11,SNR=6.8 comp=N,0.5nm,0.8s						
TXAR	**Lajitas Array**	**22.10**	**117**	P	**P**	**10 01 21.9**	**+0.2**
	comp=N,0.2nm,0.8s,baz=294,slow=9.7,SNR=2.2 comp=N,0.2nm,0.8s						

*DNK **08** 09:59:28.8±0.5,58°.20N×13°.62E,h0^{km},ML1.5(UPP), Explosion*
UPP 08 09:59:28.4±0.1,58°.20N×13°.64E,h0^{km},ML1.5,Unknown, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FKPU	**Falk**	**0.06**	**134**	P	Pg	09 59 29.9	+0.3
FKPU				S	Sg	09 59 30.9	+0.5
FKPU	**Falk**	**0.06**	**134**	P	Pg	09 59 29.9	+0.3
FKPU				S	Sg	09 59 30.9	+0.5
BORU	**Boraas**	**0.73**	**220**	P	Pg	09 59 42.3	-0.2
BORU	**Boraas**	**0.73**	**220**	P	Pg	09 59 42.3	-0.2
NASU	**Vaermlandsnaes**	**0.77**	**342**	P	Pg	09 59 42.8	-0.3
NASU	**Vaermlandsnaes**	**0.77**	**342**	P	Pg	09 59 42.8	-0.3
VANU	**Vaenersborg**	**0.88**	**290**	P	Pg	09 59 44.8	-0.4
VANU	**Vaenersborg**	**0.88**	**290**	P	Pg	09 59 44.8	-0.4
GNOU	**Gnosjoe**	**0.92**	**176**	P	Pg	09 59 45.4	-0.5
GNOU	**Gnosjoe**	**0.92**	**176**	P	Pg	09 59 45.4	-0.5
LNKU	**Linkoeping**	**0.99**	**88**	P	Pg	09 59 46.8	-0.5
LNKU	**Linkoeping**	**0.99**	**88**	P	Pg	09 59 46.8	-0.5
TJOU	**Tjoern**	**1.08**	**262**	P	Pg	09 59 48.3	-0.8
TJOU	**Tjoern**	**1.08**	**262**	P	Pg	09 59 48.3	-0.8
EKSU	**Eksjoe**	**1.09**	**125**	P	Pg	09 59 49.0	-0.2
EKSU	**Eksjoe**	**1.09**	**125**	P	Pg	09 59 49.0	-0.2
VSTU	**Vaestervik**	**1.64**	**108**	P	Pn	09 59 58.2	-0.1
VSTU				S	Sb	10 00 20.4	-0.2
VSTU	**Vaestervik**	**1.64**	**108**	P	Pn	09 59 58.2	-0.1
VSTU				S	Sb	10 00 20.4	-0.2

*HEL **08** 09:59:29.9±0.1,64°.68N×30°.74E,h0^{km},ML2.0,Suspected explosion*
*IDC **08** 09:59:31.5±2.4,64°.61N×30°.74E,h0^{km},mbtmp2.8/4, ML2.0/4,Error ellipse: s-maj=35.7km s-min=8.7km az=102.0*
ISC 08 09:59:29.5±1.1,64°.71N±0°.03×30°.92E±0°.06,h0^{km},n32, σ1§42/50,Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.66**	**221**	PG	**Pg**	**09 59 40.3**	**-1.8**
	baz=37						
RMF				MSG		09 59 48.6	
	comp=Z,21nm,0.2s						
KU6	**Riekki**	**1.39**	**342**	PG	**Pn**	**09 59 55.0**	**-1.1**
	baz=165						
KU6				MSG		10 00 11.9	
	comp=Z,11nm,0.2s						
KU6				SN	**Sg**	**10 00 14.1**	**0.0**
MSF	**Maaselka**	**1.44**	**328**	PG	**Pn**	**09 59 55.7**	**-1.1**
	baz=147						
MSF				SG	**Sg**	**10 00 14.8**	**-1.0**
OLKF	**Oulanka, Finla**	**1.74**	**339**	PG	**Pn**	**10 00 01.2**	**+0.3**
OLKF				MSG		10 00 21.7	
	comp=Z,9.8nm,0.2s						
OLKF				SN	**Sb**	**10 00 24.8**	**+0.2**
JOF	**Joensuu**	**1.81**	**174**	PG	**Pn**	**10 00 01.9**	**0.0**
JOF				SN	**Sg**	**10 00 27.1**	**-0.4**
NIF	**Nilsia**	**1.91**	**227**	PG	**Pn**	**10 00 02.9**	**-0.3**
	baz=39						
RANF	**Ranua**	**2.17**	**309**	PG	**Pn**	**10 00 08.0**	**+1.1**
RANF				SG	**Sn**	**10 00 35.7**	**+1.3**
OUL	**Oulu**	**2.17**	**282**	PG	**Pn**	**10 00 07.8**	**+0.9**
OUL				SG	**Sn**	**10 00 34.4**	**0.0**
OBF4	**Vikkela, Lumij**	**2.50**	**275**	PG	**Pn**	**10 00 12.4**	**+1.1**
	baz=89						
OBF4				MSG		10 00 41.4	
	comp=Z,14nm,0.2s						
OBF4				SG	**Sn**	**10 00 44.2**	**+1.8**
OUF	**Merijarvi**	**2.70**	**265**	PB	**Pn**	**10 00 14.1**	**0.0**
OUF				MSG		10 00 47.1	
	comp=Z,16nm,0.2s						
OUF				SG	**Sn**	**10 00 49.5**	**+2.2**
RNF	**Rovaniemi**	**2.79**	**315**	PB	**Pn**	**10 00 17.2**	**+1.9**
RNF				SG	**Sb**	**10 00 54.5**	**-0.2**
OBF0	**Syolatti, Pyha**	**2.89**	**269**	PN	**Pn**	**10 00 16.9**	**+0.2**
	baz=88						
OBF0				MSG		10 00 52.6	
	comp=Z,8.6nm,0.2s						
OBF0				SG	**Sb**	**10 00 56.1**	**-1.5**
SUF	**Sumiainen**	**2.92**	**229**	PB	**Pn**	**10 00 18.6**	**+1.5**
SUF				MSG		10 00 53.3	
	comp=Z,2.8nm,0.2s						
TOF	**Tornio**	**3.08**	**299**	PB	**Pn**	**10 00 20.6**	**+1.2**
TOF				MSG		10 00 59.0	
	comp=Z,2.2nm,0.2s						
TOF				SG	**Sb**	**10 01 02.3**	**-0.9**
VRF	**Varrio**	**3.10**	**351**	PN	**Pn**	**10 00 21.4**	**+1.9**
VRF				SN	**Sn**	**10 00 57.6**	**+0.3**
VRF				MSG		10 01 01.4	
	comp=Z,3.8nm,0.2s						
SGF	**Sodankyl**	**3.27**	**329**	PG	**Pb**	**10 00 28.8**	**+0.4**
SGF				SB	**Sb**	**10 01 07.4**	**-1.3**
KAF	**Kangasniemi**	**3.33**	**221**	PB	**Pn**	**10 00 24.4**	**+1.6**
	baz=36						
KALU	**Kalix**	**3.38**	**293**	PB	**Pn**	**10 00 24.9**	**+1.4**
	baz=106						
KALU				SG	**Sb**	**10 01 12.0**	**+0.3**
RUF	**Ruokolahti**	**3.42**	**196**	PN	**Pn**	**10 00 24.9**	**+0.9**
	baz=11						
KEF	**Keuruu**	**3.73**	**230**	PB	**Pn**	**10 00 29.7**	**+1.4**
KLF	**Kolari**	**3.81**	**315**	PN	**Pn**	**10 00 30.9**	**+1.5**
FIA0	**FINESS Array S**	**3.95**	**216**	PN	**Pn**	**10 00 31.4**	**+0.1**
FIA0				SG	**Sb**	**10 01 31.9**	**+3.7**
FINES	**FINESS Array B**	**3.95**	**216**	Pn	**Pn**	**10 00 31.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=8.4						
FINES				Pg	**Pb**	**10 00 39.0**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=36,slow=17,SNR=11						
FINES				Lg	Lg	10 01 28.9	
	comp=Z,0.6nm,0.3s,baz=33,slow=28,SNR=8.4						
FINES				Rg	Rg	10 01 51.5	
	comp=Z,5.1nm,0.8s,baz=43,slow=37,SNR=7.9 comp=Z,0.4nm,0.2s						
PAJU	**Pajala**	**3.96**	**309**	PG	**Pb**	**10 00 40.1**	**+0.1**
PAJU				SG	**Sb**	**10 01 30.3**	**+1.8**
VAF	**Ylistaro**	**4.01**	**249**	PN	**Pn**	**10 00 32.9**	**+0.7**
BURU	**Burvik**	**4.11**	**273**	PN	**Pn**	**10 00 32.7**	**-0.8**
UMAU	**Umeaa**	**4.54**	**264**	PN	**Pn**	**10 00 38.0**	**-1.3**
UMAU				SG	**Sb**	**10 01 48.0**	**+3.0**
HEF	**Hetta**	**4.71**	**325**	PN	**Pn**	**10 00 43.4**	**+1.7**
ARCES	**ARCESS Array B**	**5.28**	**339**	Pn	**Pn**	**10 00 49.7**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=156,slow=13,SNR=32						
ARCES				Sn	**Sn**	**10 01 49.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=158,slow=22,SNR=1.6 comp=Z,0.5nm,0.2s						
I37NO	**I37NO**	**6.52**	**318**	I	I	10 37 40.0	
	baz=126,slow=322,SNR=3.3						
HFS	**Hagfors**	**9.20**	**248**	Pn	**Pn**	**10 01 40.5**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=58,slow=12,SNR=1.7						
HFS				Lg	Lg	10 04 07.3	
	comp=Z,0.2nm,0.3s,baz=53,slow=30,SNR=2.2 comp=Z,0.4nm,0.3s						
NOA	**NORSAR Array B**	**9.70**	**257**	Pn	**Pn**	**10 01 47.7**	**-2.6**
	baz=52,slow=12,SNR=1.2 comp=Z,0.1nm,0.4s						

*CATAC **08** 10:01:16.4±0.3,9°.42N×84°.18W,h26^{km}±2^{km},ML3.2*
*UCR **08** 10:01:17.6±0.9,9°.47N×84°.17W,h43^{km}±6^{km},MW3.5*
ISC 08 10:01:18.5±1.7,9°.42N±0°.03×84°.17W±0°.03,h36^{km}±1^{km}, n50,σ1§23/68,Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LLNJ	**Naranjito**	**0.09**	**51**	*eP*	**Pn**	**10 01 24.3**	**-0.3**
RITA	**Parrita**	**0.19**	**302**	*eP*	**Pn**	**10 01 25.6**	**-1.3**
ABE2	**San Pablo**	**0.30**	**22**	*eP*	**Pn**	**10 01 25.6**	**-1.3**
LCR2	**La Lucha 2**	**0.36**	**27**	*eP*	**Pn**	**10 01 26.1**	**-1.2**
CDM	**Cerro de Muert**	**0.42**	**72**	*i P*	**Pn**	**10 01 27.0**	**-1.3**
CDM				IAML		10 01 27.4	
	comp=Z,2μm,1.0s						
CDM				*i S*	**Sn**	**10 01 34.6**	**-0.8**
BUS1	**Rivas**	**0.44**	**72**	*eP*	**Pn**	**10 01 27.3**	**-1.3**
RIMA	**Rio Macho**	**0.46**	**41**	*i P*	**Pn**	**10 01 27.2**	**-1.5**
RIMA				*i S*	**Sn**	**10 01 34.5**	**-1.3**
RIMA				IAML		10 01 34.9	
	comp=Z,3μm,1.0s						
RIMA	**Rio Macho**	**0.46**	**41**	*eP*	**Pn**	**10 01 27.1**	**-1.6**
AMPA	**Desamparados**	**0.48**	**12**	*eP*	**Pn**	**10 01 27.4**	**-1.6**
PEZE	**Perez Zeledon,**	**0.48**	**94**	*i P*	**Pn**	**10 01 27.9**	**-1.1**
PEZE				IAML		10 01 28.3	
	comp=Z,2μm,1.0s						
PEZE				*i S*	**Sn**	**10 01 36.5**	**+0.2**
PEZE	**Perez Zeledon,**	**0.48**	**94**	*eP*	**Pn**	**10 01 27.9**	**-1.1**
REPA	**Paraso**	**0.50**	**36**	*eP*	**Pn**	**10 01 28.8**	**-0.6**
SANTA	**Santa Ana**	**0.51**	**358**	*eP*	**Pn**	**10 01 27.8**	**-1.6**
OCM	**Ochomogo**	**0.51**	**23**	*i P*	**Pn**	**10 01 27.8**	**-1.8**
OCM				*i S*	**Sn**	**10 01 35.8**	**-1.4**
OCM				IAML		10 01 36.8	
	comp=Z,2μm,1.0s						
SJS3	**Mercedes San J**	**0.53**	**12**	*eP*	**Pn**	**10 01 28.4**	**-1.4**
JACO	**JACO, Garabito**	**0.54**	**296**	*i P*	**Pn**	**10 01 28.4**	**-1.4**
JACO				*i S*	**Sn**	**10 01 37.3**	**-0.3**
JACO				IAML		10 01 37.8	
	comp=Z,1μm,1.0s						
CORON	**Coronado**	**0.57**	**16**	*eP*	**Pn**	**10 01 29.2**	**-1.3**
HDC	**Heredia**	**0.58**	**5**	*eP*	**Pn**	**10 01 28.6**	**-1.9**
HDC3	**Heredia 3**	**0.58**	**5**	*i P*	**Pn**	**10 01 29.0**	**-1.5**
HDC3				IAML		10 01 29.3	
	comp=Z,2μm,1.0s						
HDC3				*i S*	**Sn**	**10 01 38.1**	**-0.7**
OCHAL	**Ojochal**	**0.61**	**122**	*i P*	**Pn**	**10 01 29.3**	**-1.4**
OCHAL				*i S*	**Sn**	**10 01 38.8**	**-0.5**
OCHAL				IAML		10 01 41.1	
	comp=Z,660nm,1.0s						
RAFA	**San Farael, Vo**	**0.64**	**33**	*eP*	**Pn**	**10 01 29.9**	**-1.6**
VICA	**Volcano Irazu**	**0.65**	**30**	*eP*	**Pn**	**10 01 30.0**	**-1.7**
VERB	**Verbena**	**0.70**	**42**	*eP*	**Pn**	**10 01 30.4**	**-1.6**
VTCV	**VTCV, Calle Va**	**0.71**	**38**	*i P*	**Pn**	**10 01 30.8**	**-1.4**
VTCV				*i S*	**Sn**	**10 01 40.7**	**-1.3**
VTCV				IAML		10 01 42.3	
	comp=Z,3μm,1.0s						
VTR0	**Volcan Turrial**	**0.72**	**34**	*eP*	**Pn**	**10 01 31.2**	**-1.3**

HZTE				*i* S	**Sn**	**10 02 10.9**	**-0.4**
HZTE				IAML		10 02 34.4	
	comp=Z,98nm,1.0s						
HZTE	**Horizontes, Gu**	**1.91**	**313**	*e*P	**Pn**	**10 01 48.3**	**-0.2**

*VIE **08** 10:01:23.4±0.3,48°.21N×16°.84E,h0km,mb1.4/2,ml1.6/3, Error ellipse: s-maj=3.4km s-min=1.2km az=159.0, Suspected Mining explosion.*

KRSZO 08 10:01:23.5±0.9,48°.14N×16°.92E,h0km,M1.7/6,Error ellipse: s-maj=5.1km s-min=3.0km az=145.0,Suspected Explosion. locality : Hainburg Austria description : suspected quarry blast,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZST	**Bratislava**	**0.14**	**64**	*e*PG	Pg	10 01 26.9	+0.7
ZST				*e*SG	Sg	10 01 29.2	+1.2
MODS	**Modra-Piesok**	**0.34**	**45**	Pg	Pg	10 01 30.7	+0.6
MODS				Lg	Lg	10 01 35.3	
MODS	**Modra-Piesok**	**0.34**	**45**	*e*PG	Pg	10 01 30.6	+0.6
MODS				*e*SG	Sg	10 01 35.0	+0.6
A004A	**Ebreichsdorf**	**0.39**	**244**	Pg	Pg	10 01 31.8	+0.8
A339A	**Balon**	**0.58**	**121**	Pg	Pg	10 01 34.9	+0.2
RONA	**Rosalia, Austr** 0.6nm,0.1s	**0.60**	**224**	*i* Pg	Pg	10 01 35.9	+0.9
RONA	9.6nm,0.4s			*e*Sg	Sg	10 01 44.0	+1.2
RONA	**Rosalia, Austr** 0.6nm,0.1s	**0.60**	**224**	Pg	Pg	10 01 35.9	+0.9
RONA	9.6nm,0.4s			Lg	Lg	10 01 44.0	
CONA	**Conrad Observa** 0.5nm,0.2s	**0.74**	**254**	*e*Pg	Pg	10 01 36.9	-0.8
CONA	2.1nm,0.3s			*e*Sg	Sg	10 01 47.4	+0.2
CONA	**Conrad Observa** 0.5nm,0.2s	**0.74**	**254**	Pg	Pg	10 01 36.9	-0.8
CONA				Pg	Pn	10 01 40.6	-0.7
CONA	2.1nm,0.3s			Lg	Lg	10 01 47.4	
CONA				Lg	Lg	10 01 49.5	
JAVC	**Velka Javorina**	**0.88**	**34**	*e*PG	Pn	10 01 44.0	+0.7
JAVC	**Velka Javorina**	**0.88**	**34**	Pn	Pn	10 01 44.0	+0.7
KRUC	**Moravsky**	**0.99**	**340**	*e*PG	Pb	10 01 43.6	0.0
KRUC				*e*SG	Sg	10 01 55.6	+0.3
KRUC	**Moravsky**	**0.99**	**340**	Pn	Pb	10 01 43.6	0.0
KRUC				Pn	Pn	10 01 43.8	-0.9
KRUC				Lg	Lg	10 01 55.6	
KRUC				Lg	Lg	10 01 56.2	
A335A	**Lovce**	**1.00**	**71**	Lg	Lg	10 01 58.0	
A012A	**Langenwang**	**1.04**	**240**	Lg	Lg	10 01 59.5	
VRAC	**Vranov**	**1.19**	**350**	*e*PG	Pb	10 01 47.2	+0.2
VRAC	**Vranov**	**1.19**	**350**	Pn	Pb	10 01 47.2	+0.1
VRAC				Sn	Sb	10 02 03.4	+0.3
A332A	**Rudnianska**	**1.23**	**56**	Lg	Lg	10 02 06.0	
ARSA	**Arzberg** 2.7nm,0.3s	**1.29**	**227**	*e*Pg	Pg	10 01 48.0	-0.3
ARSA	2.2nm,0.3s			*e*Sg	Sn	10 02 06.6	-0.2
ARSA	**Arzberg** 2.7nm,0.3s	**1.29**	**227**	Pn	Pg	10 01 48.0	-0.3
ARSA				Pg	Pn	10 01 50.0	+1.1
ARSA	2.2nm,0.3s			Sn	Sn	10 02 06.6	-0.2
ARSA				Lg	Lg	10 02 07.4	
VYHS	**Vyhne**	**1.33**	**74**	Pg	Pn	10 01 51.6	+2.2
VYHS				Sn	Sg	10 02 06.3	0.0
VYHS	**Vyhne**	**1.33**	**74**	*e*PG	Pn	10 01 51.5	+2.1
VYHS				*e*SG	Sg	10 02 06.2	-0.1

IDC 08 10:04:24.7±2.4,6°.56S×129°.30E,h0km,mb3.5/1, mbtmp3.4/3,ML3.6/2,Error ellipse: s-maj=143.0km s-min=33.1km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.3nm,0.3s,baz=342,slow=13,SNR=12	**14.18**	**160**	Pn	Pn	10 07 46.5	-0.4
WRA	0.2nm,0.3s,baz=334,slow=23,SNR=2.9 0.6nm,0.4s			Sn	Sn	10 10 10.8	-14
ASAR	**Alice Springs** 0.1nm,0.3s,baz=344,slow=11,SNR=8.5	**17.58**	**166**	P	Pn	10 08 31.6	+0.2
ASAR	0.1nm,0.3s,baz=349,slow=24,SNR=1.6 0.3nm,0.4s			S	Sn	10 11 35.1	-13
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=119,slow=8.0,SNR=2.8 0.2nm,0.4s	**67.48**	**327**	P	P	10 15 22.6	0.0

*IDC **08** 10:30:04.6±2.1,56°.53S×25°.36W,h0km,mb4.3/5, mbtmp4.2/6,ML3.5/1,Error ellipse: s-maj=90.7km s-min=20.2km az=63.0*
*NEIC **08** 10:30:19.8±1.8,57°.02S±0°.10×26°.7W±0°.2,h102km±8km, mb4.6/32,Error ellipse: s-maj=15.3km s-min=14.3km az=73.0*

ISC 08 10:30:18.8±0.7,56°.96S±0°.09×26°.7W±0°.1,h100km,n42, σ1§12/42,mb4.6/18,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**6.17**	**292**	Pn	**Pn**	**10 31 47.0**	**-0.3**
ORCD	**Orcadas**	**10.08**	**240**	Pn	**Pn**	**10 32 41.3**	**+1.0**
ESPZ	**Base Esperanza**	**16.27**	**234**	Pn	**Pn**	**10 34 00.3**	**-0.8**
SNAA	**Sanae**	**17.79**	**155**	P	**P**	**10 34 18.5**	**-0.5**
SNAA	**Sanae** 0.2nm,0.3s,baz=317,slow=17,SNR=3.1 5.0nm,1.0s	**17.79**	**155**	P	**P**	**10 34 15.0**	**-4.0**
BELA	**Belgrano 2**	**21.18**	**185**	P	**P**	**10 34 55.6**	**-0.1**
SMAI	**San Martin Ant**	**21.26**	**222**	P	**P**	**10 34 55.6**	**-1.0**
SMAI	comp=Z,53nm,1.1s			IAmb	IAmb	10 35 31.4	
QSPA	**South Pole Qui**	**33.28**	**180**	P	**P**	**10 36 47.8**	**+1.3**
QSPA	comp=Z,14nm,1.5s			IAmb	IAmb	10 36 51.9	
QSPA	**South Pole Qui** comp=Z,3.0nm,0.6s,baz=206,slow=5.2,SNR=36 comp=Z,3.0nm,0.6s	**33.28**	**180**	P	**P**	**10 36 46.8**	**+0.4**
LR05	**Currie**	**33.59**	**280**	P	**P**	**10 36 48.8**	**-0.4**
LR05	comp=Z,15nm,1.5s			IAmb	IAmb	10 37 03.4	
CPUP	**Villa Florida** comp=Z,1.9nm,0.7s,baz=128,slow=7.8,SNR=4.3 comp=Z,1.9nm,0.7s	**37.63**	**311**	P	**P**	**10 37 22.6**	**-1.2**
MT09	**Talagante**	**37.87**	**289**	P	**P**	**10 37 26.2**	**+0.3**
VA05	**Santo Domingo**	**38.29**	**288**	P	**P**	**10 37 29.5**	**+0.2**
MT02	**Curacav**	**38.35**	**289**	P	**P**	**10 37 29.1**	**-0.7**
MT02	comp=Z,11nm,1.2s			IAmb	IAmb	10 37 50.6	
ZON	**Zonda**	**38.45**	**293**	P	**P**	**10 37 30.4**	**-0.3**
CO01	**Juntas del Tor**	**40.44**	**293**	P	**P**	**10 37 48.9**	**+1.4**
AC05	**El Transito**	**41.46**	**294**	P	**P**	**10 37 56.5**	**+0.8**
AC05	comp=Z,11nm,1.4s			IAmb	IAmb	10 38 22.0	
AC04	**Llanos de Chal**	**42.37**	**294**	P	**P**	**10 38 04.1**	**+1.1**
AC04	comp=Z,18nm,1.4s			IAmb	IAmb	10 38 14.8	
GO02	**Mina Guanaco**	**44.17**	**298**	P	**P**	**10 38 18.4**	**+0.6**
GO02	comp=Z,7.9nm,1.0s			IAmb	IAmb	10 38 26.5	
VNDA	**Vanda**	**45.67**	**183**	P	**P**	**10 38 29.7**	**+0.9**
VNDA	**Vanda** comp=Z,0.6nm,0.7s,baz=180,slow=6.9,SNR=3.7 comp=Z,0.6nm,0.7s	**45.67**	**183**	P	**P**	**10 38 30.3**	**+1.5**
BOSA	**Boshof**	**45.93**	**74**	P	**P**	**10 38 31.4**	**-0.2**
BOSA	comp=Z,8.2nm,1.0s			IAmb	IAmb	10 38 54.5	
LVC	**Limon Verde**	**46.01**	**300**	P	**P**	**10 38 33.7**	**+1.3**
LVC	comp=Z,12nm,1.0s			IAmb	IAmb	10 38 36.0	
LVC	**Limon Verde** comp=Z,6.2nm,0.6s,baz=140,slow=4.5,SNR=6.8 comp=Z,6.2nm,0.6s	**46.01**	**300**	P	**P**	**10 38 33.1**	**+0.6**
PB10	**IPOC Station P**	**46.03**	**298**	P	**P**	**10 38 32.2**	**0.0**
PB10	comp=Z,16nm,1.0s			IAmb	IAmb	10 39 04.4	
PB05	**IPOC Station P**	**46.42**	**299**	P	**P**	**10 38 37.1**	**+1.7**
PB09	**IPOC Station P**	**46.86**	**301**	P	**P**	**10 38 40.7**	**+1.8**
PB07	**IPOC Station P**	**47.23**	**300**	P	**P**	**10 38 42.9**	**+1.1**
PB01	**IPOC Station P**	**47.62**	**301**	P	**P**	**10 38 45.7**	**+1.0**
PB01	comp=Z,12nm,0.9s			IAmb	IAmb	10 38 46.2	
PTLB	**Pontes e Lacer**	**48.15**	**316**	P	**P**	**10 38 49.2**	**+0.5**
PTLB	comp=Z,9.1nm,1.4s			IAmb	IAmb	10 38 49.7	
PB08	**IPOC Station P**	**48.24**	**302**	P	**P**	**10 38 51.3**	**+1.4**
PB08	comp=Z,7.8nm,0.9s			IAmb	IAmb	10 38 51.8	
HMBC	**Humberstone**	**48.47**	**301**	P	**P**	**10 38 52.0**	**+0.7**
GO01	**Chusmiza**	**48.67**	**302**	P	**P**	**10 38 54.2**	**+0.9**
GO01	comp=Z,9.4nm,0.8s			IAmb	IAmb	10 38 54.8	
PB11	**IPOC Station P**	**48.81**	**301**	P	**P**	**10 38 54.4**	**+0.5**
PB11	comp=Z,16nm,1.3s			IAmb	IAmb	10 39 35.3	
LPAZ	**La Paz**	**51.14**	**305**		**P**	**10 39 13.2**	**+1.1**
LPAZ	comp=Z,5.6nm,0.8s			IAmb	IAmb	10 39 14.2	
LPAZ	**La Paz** comp=Z,3.4nm,0.4s,baz=154,slow=6.0,SNR=17 comp=Z,3.4nm,0.4s	**51.14**	**305**	P	**P**	**10 39 12.8**	**+0.7**
CASY	**Casey**	**52.95**	**160**	P	**P**	**10 39 24.6**	**+0.4**
SAML	**Samuel**	**55.65**	**315**	P	**P**	**10 39 44.6**	**+0.3**
TOA0	**Torodi Ar. Sit**	**73.72**	**29**	P	**P**	**10 41 42.2**	**+0.5**
PTCN	**Pitcairn Islan**	**76.27**	**245**	P	**P**	**10 41 55.6**	**-0.8**
INK	**Inuvik** comp=Z,0.7nm,0.6s,baz=90,slow=5.1,SNR=5.9	**146.69**	**320**	PKPbc	**PKPdf**	**10 49 46.2**	**+0.9**
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=130,slow=2.2,SNR=4.1	**150.93**	**310**	PKPbc	**PKPbc**	**10 49 57.8**	**-0.4**

*HEL **08** 10:36:09.6±0.1,63°.15N×27°.75E,h0km,ML1.8,Suspected explosion*
*IDC **08** 10:36:10.1±1.7,63°.09N×27°.87E,h0km,mbtmp2.9/2, ML2.1/1,Error ellipse: s-maj=27.5km s-min=6.1km az=104.0*

ISC 08 10:36:09.3±0.8,63°.10N±0°.02×27°.78E±0°.03,h0km,n32, σ1§63/48,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia** baz=183	**0.29**	**3**	PG	**Pg**	**10 36 14.4**	**-0.5**
NIF				SG	**Sg**	**10 36 18.5**	**-0.2**
SUF	**Sumiainen**	**0.84**	**244**	PG	**Pg**	**10 36 25.0**	**-0.3**
SUF	comp=Z,4.3nm,0.2s			MSG		10 36 35.8	
SUF				SG	**Sg**	**10 36 35.9**	**-0.2**
KAF	**Kangasniemi**	**1.20**	**215**	PG	**Pg**	**10 36 31.9**	**-0.3**
KAF	comp=Z,7.4nm,0.2s			MSG		10 36 46.9	
KAF				SB	**Sb**	**10 36 48.3**	**-0.6**
RMF	**Romuvaara** baz=221	**1.48**	**40**	PN	**Pn**	**10 36 36.5**	**-0.6**
RMF	comp=Z,6.6nm,0.2s			MSG		10 36 53.1	
JOF	**Joensuu**	**1.62**	**95**	PG	**Pn**	**10 36 39.4**	**+0.3**
JOF				SN	**Sn**	**10 37 00.6**	**0.0**
KEF	**Keuruu**	**1.64**	**237**	PN	**Pn**	**10 36 39.7**	**+0.4**
KEF	comp=Z,6.3nm,0.2s			MSG		10 36 59.1	
KEF				SN	**Sb**	**10 37 01.6**	**+0.2**
RUF	**Ruokolahti**	**1.77**	**161**	PG	**Pb**	**10 36 42.1**	**-0.4**
RUF	comp=Z,7.2nm,0.2s			MSG		10 37 03.8	
RUF				SN	**Sg**	**10 37 06.1**	**+0.2**
FIA0	**FINESS Array S** baz=22	**1.84**	**206**	PG	**Pb**	**10 36 43.4**	**-0.3**
FIA0	comp=Z,7.6nm,0.2s			MSG		10 37 05.6	
FIA0				SG	**Sg**	**10 37 07.7**	**-0.6**
FINES	**FINESS Array B** comp=Z,0.2nm,0.3s,baz=25,slow=17,SNR=12	**1.84**	**206**	Pg	**Pb**	**10 36 43.7**	**0.0**
FINES	comp=Z,1.0nm,0.3s,baz=25,slow=28,SNR=21			Lg	Lg	10 37 08.1	
FINES				Rg	Rg	10 37 16.8	
	comp=Z,1.9nm,0.3s,baz=21,slow=33,SNR=9.9						
OUF	**Merijarvi**	**1.86**	**315**	PG	**Pn**	**10 36 42.4**	**+0.1**
OUF	comp=Z,9.7nm,0.2s			MSG		10 37 03.8	
OUF				SG	**Sn**	**10 37 07.6**	**+1.1**
OBF4	**Vikkela, Lumij**	**2.09**	**327**	PG	**Pn**	**10 36 46.6**	**+1.1**
OBF4	comp=Z,7.3nm,0.2s			MSG		10 37 10.2	
OBF0	**Syolatti, Pyha**	**2.11**	**313**	PG	**Pn**	**10 36 46.5**	**+0.8**
OBF0	comp=Z,5.8nm,0.2s			MSG		10 37 11.0	
OUL	**Oulu** baz=153	**2.16**	**338**	PG	**Pn**	**10 36 47.4**	**+1.0**
VAF	**Ylistaro**	**2.33**	**271**	PG	**Pn**	**10 36 50.6**	**+1.9**
VAF	comp=Z,6.7nm,0.2s			MSG		10 37 18.0	
VAF				SG	**Sb**	**10 37 20.8**	**-0.4**
VJF	**Virojoki** comp=Z,4.0nm,0.2s	**2.57**	**182**	MSG		10 37 26.8	
VJF				SB	**Sb**	**10 37 27.8**	**-0.5**
PVF	**Pernaja** comp=Z,2.4nm,0.2s	**2.72**	**200**	MSG		10 37 31.0	
PVF				SG	**Sg**	**10 37 36.4**	**-0.1**
MSF	**Maaselka** baz=191	**2.88**	**10**	PB	**Pn**	**10 36 57.6**	**+1.2**
MSF				SG	**Sn**	**10 37 35.4**	**+3.8**
KPF	**Kankaanpaa**	**2.94**	**247**	PB	**Pb**	**10 37 00.7**	**-1.8**
KPF				SB	**Sb**	**10 37 36.7**	**-2.2**
RANF	**Ranua**	**2.96**	**352**	PB	**Pn**	**10 36 59.1**	**+1.6**
RANF				SG	**Sn**	**10 37 37.2**	**+3.6**
KU6	**Riekki** baz=203	**3.08**	**16**	PB	**Pn**	**10 37 00.5**	**+1.4**
KU6	comp=Z,1.7nm,0.2s			MSG		10 37 38.7	
KU6				SB	**Sn**	**10 37 40.2**	**+3.7**
BURU	**Burvik**	**3.21**	**301**	PG	**Pb**	**10 37 04.9**	**-2.1**
UMAU	**Umeaa** baz=99	**3.28**	**287**	PN	**Pn**	**10 37 02.6**	**+0.8**
UMAU				SB	**Sn**	**10 37 44.2**	**+2.7**
OLKF	**Oulanka, Finla**	**3.31**	**11**	PB	**Pn**	**10 37 04.0**	**+1.7**
OLKF				SG	**Sb**	**10 37 47.8**	**-1.7**
TOF	**Tornio**	**3.34**	**335**	PB	**Pn**	**10 37 04.8**	**+2.1**
KALU	**Kalix**	**3.37**	**327**	PG	**Pb**	**10 37 08.9**	**-0.9**
RNF	**Rovaniemi**	**3.61**	**349**	PB	**Pn**	**10 37 08.0**	**+1.7**
PAJU	**Pajala**	**4.41**	**335**	PN	**Pn**	**10 37 18.6**	**+1.2**
KLF	**Kolari**	**4.46**	**341**	PN	**Pn**	**10 37 19.2**	**+1.2**
HEMU	**Hemsoen**	**4.48**	**269**	PN	**Pn**	**10 37 19.3**	**+1.1**
HEMU				SN	**Sn**	**10 38 11.7**	**+0.7**
ARCES	**ARCESS Array B** baz=167,slow=14,SNR=6.0	**6.53**	**353**	Pn	**Pn**	**10 37 46.1**	**-0.3**
ARCES	baz=172,slow=24,SNR=1.5 comp=Z,1.2nm,0.9s			Sn	**Sn**	**10 38 56.9**	**-4.7**
I37NO	**I37NO** baz=143,slow=324,SNR=1.5	**7.06**	**332**	I	I	11 19 30.0	
HFS	**Hagfors** comp=Z,0.6nm,0.7s,baz=56,slow=13,SNR=1.3	**7.34**	**252**	Pn	**Pn**	**10 37 58.7**	**+1.1**

*IDC **08** 10:40:54.6±1.8,32°.89S×71°.84W,h0km,mb3.3/1, mbtmp3.6/5,ML3.8/4,Error ellipse: s-maj=42.0km s-min=26.1km az=95.0*
*GUC **08** 10:40:57.0±0.8,32°.95S×72°.14W,h25km±5km,ML3.6*

ISC 08 10:40:55.6±1.9,32°.89S±0°.06×72°.11W±0°.07,h13km±11km, n21,σ1§14/30,5C-4D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.41**	**109**	⇓*i* P	**Pn**	**10 41 06.4**	**-0.8**
VA01				*e*S	**Sn**	**10 41 13.6**	**-1.1**
MT02	**Curacav**	**0.89**	**115**	⇓*i* P	**Pn**	**10 41 14.1**	**+0.2**
MT02				*e*S	**Sn**	**10 41 26.8**	**0.0**
MT02	comp=E,795nm,0.3s			IAML		10 41 30.4	
ROCH	**El Roble**	**0.92**	**95**	⇓*i* P	**Pn**	**10 41 15.2**	**+0.6**
ROCH				*i* P	**Pn**	**10 41 15.2**	**+0.6**
ROCH				*e*S	**Sn**	**10 41 28.8**	**+0.9**
ROCH				*e*S	**Sn**	**10 41 28.8**	**+0.9**
ROCH	comp=E,4μm,0.5s			IAML		10 41 31.4	
ROCH	comp=E,2μm,0.6s			IAML		10 41 31.4	
MT09	**Talagante**	**1.29**	**134**	⇑*i* P	**Pg**	**10 41 20.2**	**-0.2**
MT09				*e*S	**Sn**	**10 41 38.5**	**+1.8**
MT09	comp=E,2μm,0.4s			IAML		10 41 49.4	
MT10	**Hacienda Santa**	**1.37**	**107**	*i* P	**Pg**	**10 41 22.7**	**+0.7**
MT10				*e*S	**Sg**	**10 41 42.2**	**+2.4**
MT10				IAML		10 41 47.7	
	comp=N,3μm,0.3s						
MT14	**Cerro Cal¡n**	**1.41**	**111**	⇓*i* P	**Pg**	**10 41 23.2**	**+0.4**
MT14				*e*S	**Sg**	**10 41 42.8**	**+1.7**
MT15	**Las Vizcachas**	**1.52**	**118**	*e*P	**Pg**	**10 41 24.6**	**-0.2**
MT12	**Pirque**	**1.55**	**123**	*e*P	**Pg**	**10 41 25.1**	**-0.4**
MT12				*e*S	**Sg**	**10 41 46.5**	**+0.9**
MT12	comp=E,3μm,0.6s			IAML		10 41 52.7	
FCH	**Farellones**	**1.58**	**106**	⇑*i* P	**Pg**	**10 41 26.1**	**0.0**
BO04	**La Punta**	**1.66**	**132**	⇑*i* P	**Pb**	**10 41 25.4**	**-0.8**
MT04	**Ro Olivares**	**1.73**	**108**	⇑*i* P	**Pg**	**10 41 27.9**	**-1.0**
MT04				*e*S	**Sg**	**10 41 51.6**	**+0.2**
MT04	comp=E,1μm,0.4s			IAML		10 41 59.3	
LMEL	**Las Melosas**	**1.86**	**121**	⇑*i* P	**Pg**	**10 41 29.6**	**-1.7**
H03S1	**Juan Fernandez** baz=84,slow=74,SNR=67	**5.77**	**259**	T	T	10 48 37.5	
H03S3	**Juan Fernandez** baz=84,slow=74,SNR=71	**5.77**	**259**	T	T	10 48 38.8	
H03S2	**Juan Fernandez** baz=84,slow=74,SNR=110	**5.78**	**259**	T	T	10 48 46.4	
PLCA	**Paso Flores** comp=E,0.3nm,0.3s,baz=331,slow=11,SNR=8.3	**7.92**	**171**	Pn	**Pn**	**10 42 51.0**	**+0.3**
PLCA	comp=E,0.1nm,0.3s,baz=218,slow=20,SNR=1.3 comp=E,0.8nm,0.5s			Sn	**Sn**	**10 44 20.6**	**+0.3**
LVC	**Limon Verde** comp=E,0.3nm,0.3s,baz=186,slow=7.6,SNR=1.4	**10.62**	**16**	Sn	**Sn**	**10 45 28.2**	**+1.1**
CPUP	**Villa Florida** comp=E,0.1nm,0.3s,baz=253,slow=11,SNR=1.6	**14.41**	**67**	Pn	**Pn**	**10 44 17.4**	**-2.1**
CPUP	comp=E,0.1nm,0.3s,baz=243,slow=17,SNR=1.1 comp=E,0.5nm,0.3s			Sn	**Sn**	**10 46 58.9**	**-0.3**
LPAZ	**La Paz** comp=E,0.1nm,0.3s,baz=203,slow=5.6,SNR=8.3 comp=E,1.6nm,0.7s	**16.92**	**13**	Pn	**Pn**	**10 44 52.1**	**-0.8**
SIV	**San Ignacio** baz=213,slow=12,SNR=7.3 comp=E,0.8nm,0.3s	**19.57**	**33**	P	**P**	**10 45 22.5**	**-1.0**
TXAR	**Lajitas Array** comp=E,0.2nm,0.6s,baz=152,slow=7.9,SNR=3.8 comp=E,0.2nm,0.6s	**68.74**	**331**	P	**P**	**10 52 01.4**	**+2.0**

*NEIC **08** 10:42:51.0±2.4,35°.85N±0°.09×69°.9E±0°.1,h144km±10km, mb4.1/10,Error ellipse: s-maj=15.0km s-min=9.9km az=215.0*
*NNC **08** 10:42:59.0±5.3,36°.68N×69°.88E,h188km±100km,mb2.9, mpv3.8,Error ellipse: s-maj=48.2km s-min=28.9km az=22.0*

ISC 08 10:42:51.6±0.8,36°.04N±0°.08×69°.99E±0°.07,h150km,n35, σ1§85/37,mb4.1/4,5C-5D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGR	**Chuyangaron**	**2.70**	**346**		**Pn**	**10 43 35.6**	**+0.3**
SIMJ	**Simiganj**	**2.73**	**344**	Pn	**Pn**	**10 43 36.2**	**+0.5**
GAR	**Garm**	**2.97**	**5**		**Pn**	**10 43 39.2**	**+0.5**
BTK	**Batken**	**4.07**	**9**	Pn	**Pn**	**10 43 54.4**	**+1.6**
ARSB	**Arslanbob**	**5.77**	**23**	Pn	**Pn**	**10 44 16.6**	**+1.2**
KSH	**Kashi**	**5.88**	**52**	P	**Pn**	**10 44 15.5**	**-1.2**
KSH				S	Sn	10 45 14.0	-9.3
KSH	comp=Z,14nm,0.6s			pmax	pmax		
KSH	comp=N,45nm,0.9s			smax	smax		
KSH	comp=E,37nm,0.5s			smax	smax		
DHRM	**DHARAMSHALA**	**6.45**	**124**	*e*S	**Sn**	**10 45 39.9**	**+2.5**
KK31	**Karatay Array** comp=E,4.1nm,0.3s,baz=190,slow=12,SNR=39	**7.07**	**3**	⇓P	**Pn**	**10 44 32.7**	**+0.2**
KK31	comp=E,3.7nm,0.6s,baz=188,slow=23,SNR=7.1			⇑S	Sn	10 45 46.6	-5.1
KK31	**Karatay Array**	**7.07**	**3**	Pn	**Pn**	**10 44 32.9**	**+0.4**
KKAR	**Karatay Array**	**7.07**	**3**	Pn	**Pn**	**10 44 32.9**	**+0.4**
AAK	**Ala-Archa** comp=E,1.8nm,0.3s	**7.46**	**27**	⇓P	**Pn**	**10 44 38.0**	**+0.1**
AAK	comp=E,12nm,0.9s			⇓S	**Sn**	**10 45 57.2**	**-4.0**
AAK	**Ala-Archa**	**7.46**	**27**		**Pn**	**10 44 38.7**	**+0.8**
CHMS	**Chumysh** comp=E,4.8nm,0.6s	**7.87**	**26**	⇑P	**Pn**	**10 44 43.2**	**0.0**
CHMS	comp=E,5.4nm,0.7s			⇑S	Sn	10 46 05.5	-5.3
BOOM	**Boomskoye usch**	**7.92**	**34**	Pn	**Pn**	**10 44 44.5**	**+0.4**
TKM2	**Tokmak 2** comp=E,1.5nm,0.5s	**8.12**	**31**	⇑P	**Pn**	**10 44 46.3**	**-0.5**
TKM2	comp=E,2.4nm,0.8s			⇓S	**Sn**	**10 46 14.3**	**-3.1**
TARG	**Taragay, Kyrgy**	**8.33**	**45**	Pn	**Pn**	**10 44 50.8**	**+1.0**
GEYT	**Alibeck**	**9.69**	**285**	Pn	**Pn**	**10 45 05.5**	**-1.9**
MAKZ	**Makanchi**	**14.01**	**36**		**P**	**10 46 09.2**	**+2.6**
MK31	**Makanchi Array**	**14.15**	**37**		**P**	**10 46 11.7**	**+3.5**
MKAR	**Makanchi Array**	**14.15**	**37**		**P**	**10 46 11.6**	**+3.3**
AB31	**Akbulak array** comp=E,1.7nm,0.3s,baz=153,slow=12,SNR=90	**15.12**	**334**	⇓P	**Pn**	**10 46 18.2**	**+0.9**
AB31	comp=E,1.2nm,0.6s,baz=152,slow=24,SNR=6.3			⇑S	Sn	10 48 54.7	-10
ABKAR	**Akbulak array**	**15.12**	**334**	P	**P**	**10 46 19.3**	**+0.3**
ABKAR	comp=Z,5.0nm,0.4s			IAmb	IAmb	10 46 22.3	
WMQ	**Urumqi**	**15.63**	**55**	*e*P	**P**	**10 46 27.8**	**+3.0**
LSA	**Lhasa**	**18.85**	**104**	P	**P**	**10 47 00.4**	**-0.3**
LSA	comp=Z,5.1nm,0.5s			IAmb	IAmb	10 47 27.6	
ZAA0	**Zalesovo Array**	**20.68**	**25**	P	**P**	**10 47 22.9**	**+3.3**
ZALV	**Zalesovo Beam**	**20.68**	**25**	P	**P**	**10 47 22.8**	**+3.2**
SHL	**Shillong**	**21.46**	**113**	P	**P**	**10 47 27.9**	**-0.6**
SHL	comp=Z,7.3nm,0.8s			IAmb	IAmb	10 47 33.5	
ONI	**Oni**	**21.50**	**296**	P	**P**	**10 47 28.4**	**-0.1**
ONI	comp=Z,8.7nm,1.3s			IAmb	IAmb	10 47 28.7	
HHC	**Hu-ho-hao-te**	**32.69**	**69**	*e*P	**P**	**10 49 08.1**	**-1.7**
HHC	comp=Z,11nm,0.6s			pmax	pmax		
HHC	comp=Z,91nm,4.1s			pmax	pmax		
IPM	**Ipoh**	**42.45**	**130**	P	**P**	**10 50 31.1**	**-0.8**
GEC2	**GERESS Array S**	**42.53**	**306**	P	**P**	**10 50 32.3**	**0.0**
GEC2	comp=Z,6.2nm,1.2s			IAmb	IAmb	10 50 47.1	
GERES	**GERESS Array B**	**42.53**	**306**	P	**P**	**10 50 32.8**	**+0.5**
KHC	**Kasperske Hory**	**42.59**	**306**	P	**P**	**10 50 33.0**	**+0.3**
RPSI	**Rantau Prapat**	**42.62**	**134**	P	**P**	**10 50 30.9**	**-2.3**
CLL	**Collm**	**42.85**	**309**	*e*pP	**pP**	**10 51 07.0**	**-1.0**
CLL				*e*sP	sP	10 51 24.0	-1.0

*NEIC **08** 10:46:40.5±1.3,19°.440N±0°.006×155°.258W±0°.009, h1km±2km,Error ellipse: s-maj=1.2km s-min=0.8km az=71.0*

HVO 08 10:46:39.7±1.2,19°.423N±0°.004×155°.264W±0°.009, h0km±2km,ML3.2/14,ML2.2/39(NEIC),Error ellipse: s-maj=1.1km s-min=0.6km az=81.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.00**	**94**	Sg	Sg	10 46 40.4	+0.4
SBLHI	**Steaming Bluff**	**0.01**	**313**	Pg	Pg	10 46 40.2	+0.2
SBLHI				Sg	Sg	10 46 40.5	+0.4
BYL	**Byron's Ledge**	**0.01**	**163**	Pg	Pg	10 46 40.4	+0.4
BYL				Sg	Sg	10 46 40.9	+0

comp=E,5μm,0.5s

WRMHI				Pg	Pg	10 46 41.2	+0.7
WRMHI				IAML		10 46 41.3	
	comp=N,3μm,0.5s						
WRMHI				Sg	Sg	10 46 42.6	+1.6
RSD	**Rainshed**	**0.04**	**341**	Pg	Pg	10 46 41.4	+0.8
RSD				IAML		10 46 41.7	
	comp=E,2μm,0.2s						
RSD				IAML		10 46 41.7	
	comp=N,4μm,0.3s						
RSD				Sg	Sg	10 46 42.4	+1.2
SDHHI	**Sand Hill**	**0.04**	**220**		Pg	10 46 41.3	+0.7
SDHHI				IAML		10 46 41.7	
	comp=E,5μm,0.7s						
PUH	**Pauahi**	**0.07**	**137**	Pg	Pg	10 46 42.1	+1.1
PUH				IAML		10 46 42.5	
	comp=N,3μm,0.6s						
PUH				IAML		10 46 42.9	
	comp=E,2μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.10**	**116**		Pg	10 46 42.7	+1.1
HLP	**Hilina Pali**	**0.13**	**198**		Pg	10 46 43.5	+1.2
MLH	**Mauna Loa**	**0.14**	**301**		Pg	10 46 43.6	+1.3
MLH				IAML		10 46 46.8	
	comp=N,914nm,0.5s						
MLH				IAML		10 46 47.0	
	comp=E,1μm,0.4s						
STCH	**Steam Cracks**	**0.14**	**106**		Pg	10 46 43.2	+0.9
STCH				IAML		10 46 46.6	
	comp=E,774nm,0.3s						
STCH				IAML		10 46 47.2	
	comp=N,1μm,0.4s						
NPOC	**North of Pu'u**	**0.15**	**102**		Pg	10 46 43.4	+0.8
NPOC				IAML		10 46 47.0	
	comp=E,1μm,0.6s						
JCUZ	**Jacuzzi**	**0.16**	**104**		Pg	10 46 43.6	+0.9
JCUZ				IAML		10 46 46.8	
	comp=E,970nm,0.6s						
JCUZ				IAML		10 46 47.2	
	comp=N,844nm,0.7s						
HTC	**Hot Caves**	**0.22**	**214**		Pg	10 46 45.1	+1.1
JOKA	**Jonika Flow**	**0.24**	**88**		Pg	10 46 44.9	+0.5
HMH	**Humu'ula Sheep**	**0.27**	**311**		Pg	10 46 46.0	+1.0
HMH				IAML		10 46 54.0	
	comp=N,577nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.32**	**291**	Pg	Pg	10 46 47.6	+0.9
MLOA				IAML		10 46 54.8	
	comp=N,443nm,0.6s						
MLOA				IAML		10 46 57.0	
	comp=E,414nm,0.4s						
MWH	**Moku'aweowe**	**0.32**	**281**	Pg	Pg	10 46 47.0	+1.2
KHU	**Kahuku**	**0.38**	**242**	Pg	Pg	10 46 48.0	+1.1
ALEP	**Alea Permanent**	**0.38**	**288**		Pb	10 46 48.3	-1.2
POHA	**Pohakuloa**	**0.42**	**323**	Pg	Pg	10 46 48.0	+0.3
HUH	**Hualalai**	**0.60**	**296**		Pb	10 46 52.7	-0.5
CPH	**Captain Cook**	**0.62**	**276**		Pg	10 46 51.8	+0.1
HPAH	**Hawaii Prepara**	**0.73**	**326**	Pg	Pg	10 46 52.9	-0.8

IDC 08 10:52:40.4±2.5, 15°.14S×174°.79W, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=140.8km s-min=26.8km az=143.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.01**	**239**	P	P	11 00 41.5	-0.3
	0.6nm,0.4s,baz=85,slow=11,SNR=1.5 0.6nm,0.4s						
WRA	**Warramunga Arr**	**48.60**	**257**	P	P	11 01 26.1	-0.1
	0.5nm,0.3s,baz=91,slow=6.9,SNR=4.8 0.5nm,0.3s						
ASAR	**Alice Springs**	**48.92**	**252**	P	P	11 01 28.6	-0.1
	2.1nm,0.4s,baz=87,slow=7.8,SNR=72 2.1nm,0.4s						
ILAR	**Eielson Array**	**82.46**	**12**	P	P	11 05 04.5	+0.2
	0.2nm,0.3s,baz=207,slow=5.1,SNR=5.8 0.2nm,0.3s						
PDAR	**Pinedale Array**	**82.97**	**42**	P	P	11 05 07.7	-0.1
	0.4nm,0.4s,baz=198,slow=3.0,SNR=3.8 0.4nm,0.4s						

*NEIC **08** 11:13:07.1±1.3, 19°.40N±0°.04×155°.26W±0°.02, h6km±8km, Error ellipse: s-maj=6.8km s-min=1.4km az=206.0*

HVO 08 11:13:07.1±0.8, 19°.41N±0°.02×155°.278W±0°.008, h0km±6km, ML2.9/12, ML1.8/35(NEIC), Error ellipse: s-maj=3.0km s-min=1.1km az=185.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**330**	Pg	Pg	11 13 07.5	+0.1
OBL	**Observatory Le**	**0.01**	**331**	IAML		11 13 07.5	
	comp=N,5μm,0.4s						
OBL				IAML		11 13 07.6	
	comp=E,4μm,0.3s						
OBL				Pg	Pg	11 13 07.9	+0.4
OBL				Sg	Sg	11 13 08.3	+0.5
RIM	**Rim**	**0.01**	**163**	Pg	Pg	11 13 08.0	+0.5
RIM				Sg	Sg	11 13 08.7	+1.0
KKO	**Keanakako`i**	**0.01**	**128**	IAML		11 13 07.4	
	comp=N,2μm,0.4s						
KKO				Pg	Pg	11 13 08.0	+0.5
KKO				Sg	Sg	11 13 08.5	+0.7
BYL	**Byron's Ledge**	**0.02**	**72**	IAML		11 13 07.8	
	comp=E,2μm,0.5s						
BYL				Pg	Pg	11 13 08.0	+0.4
BYL				Sg	Sg	11 13 08.7	+0.8
UWB	**Uwekahuna B**	**0.02**	**359**	Pg	Pg	11 13 08.0	+0.4
UWB				Sg	Sg	11 13 08.7	+0.8
UWE	**Uwekahuna**	**0.02**	**315**	IAML		11 13 07.8	
	comp=E,2μm,0.5s						
UWE				IAML		11 13 08.0	
	comp=N,3μm,0.7s						
UWE				Pg	Pg	11 13 08.2	+0.5
UWE				Sg	Sg	11 13 08.9	+1.0
WRMHI	**West Rim**	**0.02**	**270**	Pg	Pg	11 13 08.1	+0.4
WRMHI				IAML		11 13 08.0	
	comp=N,3μm,0.7s						
WRMHI				Sg	Sg	11 13 09.0	+1.1
SBLHI	**Steaming Bluff**	**0.02**	**24**	IAML		11 13 07.8	
	comp=N,2μm,0.6s						
SBLHI				IAML		11 13 07.8	
	comp=E,2μm,0.5s						
SBLHI				Sg	Sg	11 13 08.9	+1.0
SBLHI				Pg	Pg	11 13 08.0	+0.4
HATHI	**Halema'uma'u T**	**0.02**	**44**	Pg	Pg	11 13 08.0	+0.4
HATHI				IAML		11 13 08.0	
	comp=N,2μm,0.5s						
HATHI				Sg	Sg	11 13 09.3	+1.3
SDHHI	**Sand Hill**	**0.02**	**222**		Pg	11 13 07.9	+0.3
SDHHI				IAML		11 13 08.1	
	comp=N,2μm,0.5s						
SDHHI				IAML		11 13 08.4	
	comp=E,4μm,0.2s						
RSD	**Rainshed**	**0.06**	**360**	Pg	Pg	11 13 08.0	-0.3
PUH	**Pauahi**	**0.07**	**119**	Sg	Sg	11 13 09.5	+0.2
KNHH	**Kane Nui o Ham**	**0.11**	**105**		Pg	11 13 11.6	+2.4
HLP	**Hilina Pali**	**0.11**	**195**	Pg	Pg	11 13 09.2	-0.1
HLP				IAML		11 13 12.9	
	comp=N,602nm,0.8s						
MLH	**Mauna Loa**	**0.13**	**310**	Sg	Sg	11 13 11.2	-0.3
STCH	**Steam Cracks**	**0.15**	**98**	Pg	Pg	11 13 09.8	-0.1
STCH				Sg	Sg	11 13 11.2	-0.6
STCH				IAML		11 13 13.5	
	comp=E,402nm,0.5s						
STCH				IAML		11 13 13.7	
	comp=N,400nm,0.2s						
NPOC	**North of Pu'u**	**0.16**	**95**	Pg	Pg	11 13 10.2	0.0
NPOC				IAML		11 13 15.5	
	comp=N,413nm,0.5s						
JCUZ	**Jacuzzi**	**0.17**	**98**	Pg	Pg	11 13 10.7	+0.4
JCUZ				Sg	Sg	11 13 12.8	+0.3
JCUZ				IAML		11 13 15.0	
	comp=E,299nm,0.4s						
HTC	**Hot Caves**	**0.20**	**214**		Pg	11 13 12.1	+1.1
HMH	**Humu'ula Sheep**	**0.28**	**315**	Pg	Pg	11 13 13.2	+0.8
HMH				IAML		11 13 16.2	
	comp=E,215nm,2.9s						
HMH				IAML		11 13 16.5	
	comp=N,191nm,2.4s						
MWH	**Moku'aweowe**	**0.31**	**285**	Pg	Pb	11 13 14.5	-1.4
KHU	**Kahuku**	**0.36**	**243**	Pg	Pg	11 13 14.5	+0.6
HUH	**Hualalai**	**0.59**	**298**	Pg	Pg	11 13 19.1	+0.5

*NEIC **08** 11:25:30.4±1.4, 7°.9N±0°.1×121°.40E±0°.08, h35km±6km, mb4.4/12, Error ellipse: s-maj=20.4km s-min=11.1km az=192.0*

*IDC **08** 11:26:00.3±1.9, 4°.50N×124°.10E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=268.2km s-min=20.5km az=64.0*

ISC 08 11:25:28.7±1.0, 8°.0N±0°.1×121°.4E±0°.1, h28km, n19, σ2s51/19, mb4.3/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBUM	**Sibu**	**10.63**	**239**	Pn	**Pn**	**11 28 00.0**	**+0.7**
KULM	**Kulim**	**20.75**	**264**	P	**P**	**11 30 07.0**	**-0.6**
KULM				IAmb	IAmb	11 30 24.4	
	comp=Z,17nm,1.3s						
MTN	**Manton Dam**	**22.84**	**155**	P	**P**	**11 30 30.6**	**+0.7**
MTN				IAmb	IAmb	11 30 43.7	
	comp=Z,17nm,1.2s						
WB0	**Warramunga Arr**	**30.40**	**155**	P	**P**	**11 31 37.4**	**-1.4**
WB0				IAmb	IAmb	11 32 10.8	
	comp=E,6.1nm,1.2s						
WRAB	**Tennant Creek**	**30.53**	**155**	P	**P**	**11 31 38.7**	**-1.2**
WRAB				IAmb	IAmb	11 31 39.5	
	comp=Z,4.2nm,0.8s						
WRA	**Warramunga Arr**	**30.53**	**155**	P	**P**	**11 31 38.5**	**-1.5**
	comp=Z,1.9nm,0.3s,baz=337,slow=9.5,SNR=60 comp=Z,1.9nm,0.3s						
WB2	**Warramunga Arr**	**30.54**	**155**	P	**P**	**11 31 38.6**	**-1.4**
WB2				IAmb	IAmb	11 31 47.2	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**30.63**	**155**	P	**P**	**11 31 39.5**	**-1.3**
AS31	**Alice Springs**	**33.74**	**159**	P	**P**	**11 32 07.2**	**-0.9**
ASAR	**Alice Springs**	**33.74**	**159**	P	**P**	**11 32 07.3**	**-0.8**
ASAR	**Alice Springs**	**33.74**	**159**	P	**P**	**11 32 07.0**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=341,slow=7.7,SNR=48 comp=Z,0.9nm,0.5s						
FORT	**Forrest**	**39.06**	**171**	P	**P**	**11 32 53.0**	**-0.4**
JKA	**Kamikawa-asahi**	**40.49**	**24**	P	**P**	**11 33 05.7**	**+0.5**
JKA				IAmb	IAmb	11 33 16.9	
	comp=Z,18nm,1.3s						
BBOO	**Buckleboo**	**42.90**	**162**	P	**P**	**11 33 24.4**	**-0.6**
STKA	**Stephens Creek**	**44.08**	**155**	P	**P**	**11 33 34.9**	**+0.3**
STKA	**Stephens Creek**	**44.08**	**155**	P	**P**	**11 33 34.8**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=329,slow=11,SNR=4.9 comp=Z,2.7nm,0.7s						
CAN	**Canberra**	**50.33**	**150**	P	**P**	**11 34 25.2**	**+1.9**
MKAR	**Makanchi Array**	**51.07**	**326**	P	**PcP**	**11 35 37.2**	**-7.1**
	comp=Z,0.4nm,0.5s,baz=125,slow=8.5,SNR=4.4 comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**55.34**	**328**	P	**PcP**	**11 36 06.0**	**+5.7**
	comp=Z,0.1nm,0.3s,baz=139,slow=6.6,SNR=3.6 comp=Z,0.1nm,0.3s						

*HEL **08** 11:28:23.4±0.1, 63°.97N×28°.12E, h0km, ML1.4, Suspected explosion*

*IDC **08** 11:28:24.4±2.3, 63°.91N×28°.38E, h0km, mbtmp2.5/2, ML1.2/1, Error ellipse: s-maj=51.4km s-min=14.2km az=100.0*

ISC 08 11:28:22.3±0.8, 63°.97N±0°.02×28°.20E±0°.03, h0km, n25, σ1s24/37, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.61**	**197**	PG	**Pg**	**11 28 34.4**	**+0.4**
NIF				SG	**Sg**	**11 28 41.5**	**-0.4**
RMF	**Romuvaara**	**0.80**	**71**	PG	**Pb**	**11 28 38.9**	**-0.2**
RMF				MSG		11 28 49.1	
	comp=Z,2.7nm,0.2s						
RMF				SG	**Sb**	**11 28 49.3**	**-1.1**
OUL	**Oulu**	**1.50**	**319**	PG	**Pb**	**11 28 50.4**	**-0.6**
SUF	**Sumiainen**	**1.56**	**217**	PG	**Pb**	**11 28 51.3**	**-0.8**
SUF				MSG		11 29 09.5	
	comp=Z,1.6nm,0.2s						
OUF	**Merijarvi**	**1.57**	**286**	PG	**Pn**	**11 28 51.0**	**-0.4**
OUF				MSG		11 29 09.5	
	comp=Z,3.7nm,0.2s						
OBF4	**Vikkela, Lumij**	**1.59**	**304**	PG	**Pb**	**11 28 51.7**	**-0.9**
OBF4				MSG		11 29 10.1	
	comp=Z,2.1nm,0.2s						
OBF4				SN	**Sg**	**11 29 15.3**	**+2.0**
JOF	**Joensuu**	**1.75**	**126**	PG	**Pg**	**11 28 55.5**	**-0.4**
JOF				SN	**Sg**	**11 29 18.8**	**+0.2**
OBF0	**Syolatti, Pyha**	**1.81**	**289**	PG	**Pb**	**11 28 55.4**	**-0.9**
OBF0				MSG		11 29 16.3	
	comp=Z,3.4nm,0.2s						
OBF0				SG	**Sb**	**11 29 18.5**	**-1.0**
MSF	**Maaselka**	**1.98**	**10**	PG	**Pb**	**11 28 58.3**	**-0.9**
KAF	**Kangasniemi**	**2.06**	**206**	PG	**Pb**	**11 28 60.0**	**-0.5**
	baz=27						
KAF				MSG		11 29 24.0	
	comp=Z,3.0nm,0.2s						
KAF				SG	**Sb**	**11 29 26.6**	**0.0**
RANF	**Ranua**	**2.14**	**344**	PG	**Pb**	**11 29 01.0**	**-0.8**
	baz=168						
RANF				SG	**Sb**	**11 29 28.8**	**-0.1**
KU6	**Riekki**	**2.18**	**18**	PG	**Pb**	**11 29 02.6**	**0.0**
	baz=201						
KU6				MSG		11 29 28.4	
	comp=Z,0.9nm,0.2s						
KU6				SG	**Sg**	**11 29 31.8**	**-0.6**
KEF	**Keuruu**	**2.36**	**221**	PG	**Pb**	**11 29 05.2**	**-0.5**
KEF				MSG		11 29 32.6	
	comp=Z,2.6nm,0.2s						
KEF				SG	**Sb**	**11 29 34.9**	**-0.4**
OLKF	**Oulanka, Finla**	**2.41**	**12**	PB	**Pb**	**11 29 06.0**	**-0.5**
OLKF				MSG		11 29 34.9	
	comp=Z,0.9nm,0.2s						
RUF	**Ruokolahti**	**2.58**	**172**	PG	**Pb**	**11 29 08.9**	**-0.5**
RUF				MSG		11 29 39.8	
	comp=Z,1.7nm,0.2s						
RUF				SG	**Sb**	**11 29 42.7**	**+1.1**
VAF	**Ylistaro**	**2.65**	**252**	PG	**Pb**	**11 29 08.8**	**-1.8**
	baz=70						
VAF				MSG		11 29 40.6	
	comp=Z,1.6nm,0.2s						
VAF				SG	**Sb**	**11 29 43.2**	**-0.4**
FIA0	**FINESS Array S**	**2.72**	**202**	PG	**Pb**	**11 29 11.2**	**-0.6**
	baz=15						
FIA0				MSG		11 29 43.2	
	comp=Z,0.9nm,0.2s						
FIA0				SG	**Sb**	**11 29 46.0**	**+0.4**
FINES	**FINESS Array B**	**2.72**	**202**	Pn	**Pb**	**11 29 10.6**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=22,slow=15,SNR=3.3						
FINES				Sn	**Sb**	**11 29 44.9**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=22,slow=28,SNR=6.2 comp=Z,0.8nm,0.6s						
UMAU	**Umeaa**	**3.33**	**272**	PN	**Pn**	**11 29 15.9**	**+0.4**
	baz=89						
VJF	**Virojoki**	**3.46**	**185**	SN	**Sn**	**11 30 00.9**	**+1.9**
HEL1	**Helsinki**	**4.12**	**204**	SB	**Sb**	**11 30 21.5**	**-4.2**
RAJF	**Raja-Jooseppi**	**4.52**	**1**	SB	**Sb**	**11 30 35.2**	**-2.3**
HEMU	**Hemsoen**	**4.76**	**259**	SG	**Sb**	**11 30 46.1**	**+1.8**
ARCES	**ARCESS Array B**	**5.69**	**350**	Pn	**Pn**	**11 29 49.7**	**+1.7**
	comp=Z,1.0nm,0.9s,baz=171,slow=12,SNR=1.5						
I37NO	**I37NO**	**6.39**	**327**	I	I	12 08 20.0	
	baz=138,slow=324,SNR=1.2						

*NEIC **08** 11:30:42.2±1.3, 19°.44N±0°.02×154°.77W±0°.04, h8km±8km, Md2.2/5, ML2.9/24(NEIC), Error ellipse: s-maj=5.5km s-min=2.3km az=100.0, Hawaiian Islands*

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.12**	**290**		Pg	11 30 45.3	+0.4
JOKA	**Jonika Flow**	**0.22**	**268**		Pg	11 30 45.5	-1.2
JOKA					Sg	11 30 50.4	+0.7
JCUZ	**Jacuzzi**	**0.32**	**260**	Pg	Pg	11 30 47.4	-1.1
NPOC	**North of Pu'u**	**0.32**	**262**	Pg	Pg	11 30 47.7	-0.9
STCH	**Steam Cracks**	**0.34**	**261**	Pg	Pg	11 30 47.8	-1.1
PUH	**Pauahi**	**0.42**	**261**		Pg	11 30 49.2	-1.3
PUH				IAML		11 30 55.9	
	comp=N,1μm,0.9s						
PUH				IAML		11 30 58.0	
	comp=E,670nm,0.6s						
RIM	**Rim**	**0.48**	**265**	Pg	Pg	11 30 51.9	+0.4
RSD	**Rainshed**	**0.48**	**273**	Pg	Pg	11 30 50.9	-0.6
RSD					Sg	11 30 57.1	-0.7
RSD				IAML		11 30 58.7	
	comp=E,1μm,4.8s						
RSD				IAML		11 31 04.8	
	comp=N,971nm,0.5s						
OBL	**Observatory Le**	**0.48**	**267**	Pg	Pg	11 30 50.7	-0.9
HLP	**Hilina Pali**	**0.53**	**254**	Pg	Pg	11 30 51.9	-0.5
HLP				IAML		11 31 04.0	
	comp=N,1μm,1.3s						
MLH	**Mauna Loa**	**0.58**	**275**	Pg	Pg	11 30 52.5	-1.1
MLH				Sg	Sg	11 30 59.6	-1.6
MLH				IAML		11 30 60.0	
	comp=E,611nm,0.9s						
MLH				IAML		11 31 01.1	
	comp=N,724nm,0.7s						
HTC	**Hot Caves**	**0.62**	**251**		Pg	11 30 53.2	-1.1
HMH	**Humu'ula Sheep**	**0.69**	**284**	Pg	Pg	11 30 54.1	-1.5
HMH				Sg	Sg	11 31 03.2	-1.4
HMH				IAML		11 31 14.1	
	comp=E,438nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.76**	**277**	Pg	Pg	11 30 55.0	-2.0
MLOA				IAML		11 31 14.5	
	comp=E,227nm,2.2s						
MLOA				IAML		11 31 16.5	
	comp=N,302nm,1.9s						
MWH	**Moku'aweowe**	**0.78**	**273**		Pg	11 30 55.6	-1.7
MWH				IAML		11 31 01.4	
	comp=E,620nm,1.2s						
MWH				IAML		11 31 08.0	
	comp=N,495nm,1.8s						

*ANF **08** 11:49:32.5±0.1, 34°.00N×116°.78W, h0km, ML5.0/45, Error ellipse: s-maj=1.6km s-min=1.5km az=45.0*

*IDC **08** 11:49:33.1±0.6, 34°.04N×116°.68W, h0km, mb3.8/4, mbtmp3.8/12, ML3.7/7, MS3.8/43, Error ellipse: s-maj=14.0km s-min=4.5km az=73.0*

*NEIC **08** 11:49:33.5±1.2, 34°.013N±0°.009×116°.782W±0°.005, h14km±2km, Error ellipse: s-maj=1.4km s-min=0.7km az=192.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.92; $M_{\theta\theta}$-5.06; $M_{\phi\phi}$2.14; $M_{r\theta}$-1.08; $M_{\theta\phi}$-3.05; $M_{\phi r}$2.87; Fault plane solution: M6.17000×10^{15} NP1:ϕ_s285.88000°, δ61.09000°, λ146.06000°. NP2: ϕ_s33.90000°, δ60.74000°, λ33.66000°. Principal axes: T 6.1638, Plg43.0000°, Azm250.0000°; N 0.0154, Plg47.0000°, Azm70.0000°; P -6.1792, Plg0.0000°, Azm340.0000°;*

*PAS **08** 11:49:34.0±1.2, 34°.016N±0°.009×116°.78W±0°.01, h13km±3km, Mwr4.5/6, mb4.5/52(NEIC), ML4.6/86(NEIC), Mwr4.5/119(NEIC), Mww4.5/34(NEIC) Error ellipse: s-maj=1.4km s-min=1.3km az=204.0*

*NEIC **08** 11:49:34, 34°.02N×116°.78W, h20km*

*NEIC **08** 11:49:34, 34°.02N×116°.90W, h20km, Moment Tensor Solution. Duration: 0 Moment tensor: Scale 10^{15}Nm; M_{rr}3.54; $M_{\theta\theta}$-6.89; $M_{\phi\phi}$3.34; $M_{r\theta}$-3.08; $M_{\theta\phi}$-3.76; $M_{\phi r}$3.11; Fault plane solution: M0.8.29000×10^{15} NP1: ϕ_s288.56000°, δ69.70000°, λ140.40000°. NP2: ϕ_s34.57000°, δ53.29000°, λ25.65000°. Principal axes: T 8.1138, Plg42.0000°, Azm246.0000°; N 0.3576, Plg46.0000°, Azm86.0000°; P -8.4713, Plg10.0000°, Azm345.0000°;*

*NEIC **08** 11:49:34, 34°.02N×116°.78W, h13km*

ISC 08 11:49:34.2±0.7, 34°.01N±0°.01×116°.78W±0°.01, h16km±5km, n552, σ1s39/604, mb4.5/29, MS3.9/37, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEVC	**Devers**	**0.18**	**115**		**Pg**	**11 49 38.3**	**-0.4**
DEVC					**Sb**	**11 49 41.9**	**-0.7**
BBSC	**Beaumont Base**	**0.19**	**241**		**Pb**	**11 49 41.9**	**+2.5**
BBRC	**Big Bear Solar**	**0.28**	**335**		**Pg**	**11 49 39.5**	**-0.8**
BBRC					**Sg**	**11 49 43.6**	**-0.8**
BBRC	**Big Bear Solar**	**0.28**	**335**	P	**Pg**	**11 49 39.5**	**-0.8**
	baz=155,SNR=1000						
BBRC				S	**Sg**	**11 49 43.7**	**-0.8**
	baz=155						
CFT	**Crafton Hills**	**0.28**	**275**		**Pg**	**11 49 39.6**	**-0.6**
CFT					**Sg**	**11 49 44.1**	**-0.3**
SVD	**Seven Oaks Dam**	**0.28**	**289**		**Pg**	**11 49 39.5**	**-0.8**
SVD					**Sg**	**11 49 43.7**	**-0.7**
EW2	**E Wide Canyon**	**0.32**	**103**		**Pg**	**11 49 40.3**	**-0.6**
EW2					**Sg**	**11 49 45.2**	**-0.2**
BLAC	**Blackrock camp**	**0.33**	**80**		**Pg**	**11 49 40.5**	**-0.7**
BLAC					**Sg**	**11 49 45.4**	**-0.5**
PEC	**Perris**	**0.34**	**249**		**Pg**	**11 49 40.7**	**-0.6**
PEC					**Sg**	**11 49 45.6**	**-0.6**
POB	**Polly Butte**	**0.35**	**200**		**Pg**	**11 49 41.0**	**-0.5**
POB					**Sg**	**11 49 46.1**	**-0.2**
GVDA	**Garner Valley**	**0.35**	**166**		**Pg**	**11 49 40.9**	**-0.7**
GVDA					**Sg**	**11 49 46.4**	**-0.2**
HMTC	**Hemet**	**0.36**	**212**		**Pg**	**11 49 41.0**	**-0.5**
HMTC					**Sg**	**11 49 46.1**	**-0.5**
HLNC	**Highland**	**0.38**	**287**		**Pg**	**11 49 41.4**	**-0.7**
HLNC					**Sg**	**11 49 47.1**	**-0.2**
DGR	**Domenigoni Val**	**0.41**	**208**		**Pg**	**11 49 41.9**	**-0.6**
DGR					**Sg**	**11 49 47.5**	**-0.7**
CFSC	**Central Fire S**	**0.43**	**283**		**Pg**	**11 49 42.2**	**-0.6**
CFSC					**Sb**	**11 49 48.9**	**-0.8**
CFSC	**Central Fire S**	**0.43**	**283**		**Pg**	**11 49 42.3**	**-0.6**
CRY	**Cary Ranch**	**0.45**	**176**		**Pg**	**11 49 42.7**	**-0.6**
CRY					**Sg**	**11 49 48.6**	**-0.7**
GTM	**Goat Mountain**	**0.45**	**51**		**Pg**	**11 49 42.1**	**-1.1**
GTM					**Sg**	**11 49 48.3**	**-1.1**
CLTC	**Calectric**	**0.45**	**280**		**Pg**	**11 49 42.9**	**-0.4**
CLTC					**Sb**	**11 49 49.8**	**-0.6**
BACC	**Bachelor Mtn.**	**0.46**	**209**		**Pg**	**11 49 42.6**	**-0.7**
BACC					**Sg**	**11 49 48.8**	**-0.8**
RSBC	**Riverside Bore**	**0.46**	**265**		**Pg**	**11 49 42.5**	**-0.8**
RSBC					**Sg**	**11 49 48.5**	**-1.1**
RSBC	**Riverside Bore**	**0.46**	**265**		**Pg**	**11 49 42.6**	**-0.8**
RSBC					**Sg**	**11 49 48.7**	**-0.9**
DNR	**Dunn Ranch,Anz**	**0.46**	**165**		**Pg**	**11 49 43.0**	**-0.6**
DNR					**Sg**	**11 49 49.3**	**-0.5**
SNDA	**J Saunders Pla**	**0.48**	**163**		**Pg**	**11 49 43.2**	**-0.6**
SNDA					**Sb**	**11 49 50.9**	**-0.4**
PFO	**Pinyon Flats O**	**0.48**	**146**		**Pg**	**11 49 42.8**	**-1.1**
PFO				Sg	**Sg**	**11 49 50.2**	**-0.2**
PFO				IAML		11 49 50.6	
	37μm,0.5s						
PFO				IAML		11 49 51.3	
	31μm,0.4s						
PFO	**Pinyon Flats O**	**0.48**	**146**		**Pg**	**11 49 43.1**	**-0.8**
PFO					**Sg**	**11 49 49.6**	**-0.7**
PFO	**Pinyon Flats O**	**0.48**	**146**	P	**Pg**	**11 49 42.8**	**-1.1**
	baz=327,SNR=1000						
PFO				S	**Sg**	**11 49 50.1**	**-0.2**
	baz=327						
PFO	**Pinyon Flats O**	**0.48**	**146**	Pg	**Pg**	**11 49 42.7**	**-1.1**
	3μm,0.3s,baz=322,slow=14						
PFO				Lg	Lg	11 49 49.6	
	10μm,0.3s,baz=317,slow=16,SNR=53						
PFO				LR	LR	11 50 00.5	
	comp=Z,2μm,21.6s,baz=175,slow=59						
XPFO	**Pion Flat**	**0.48**	**146**		**Pg**	**11 49 43.1**	**-0.8**
XPFO					**Sg**	**11 49 49.9**	**-0.6**
I57US	**PINON FLAT INF**	**0.49**	**146**	Pg	**Pg**	**11 49 42.0**	**-2.0**

BELC S Sg 11 49 55.3 -0.3
baz=272,SNR=1000
ELS Elsinore Mount 0.65 236 Pg Pg 11 49 45.6 -1.4
ELS Sg Sg 11 49 54.6 -1.1
ELS IAML 11 49 55.4
comp=N,27µm,0.5s
MLSC Mira Loma 0.65 269 Pg 11 49 45.8 -1.2
MLSC Sg 11 49 54.1 -1.5
PLM Palomar 0.66 186 Pg 11 49 46.4 -0.9
PLM Sg 11 49 55.4 -0.6
CRNC Corona 0.67 258 Pg 11 49 46.1 -1.1
CRNC Sg 11 49 54.8 -1.3
VTV Victorville 0.71 320 Pg 11 49 47.0 -1.2
VTV Sg 11 49 56.3 -1.3
CTCC Cactus City 0.75 118 Pg 11 49 47.9 -0.9
CTCC Sb 11 49 58.5 -0.3
CHNC Chino 0.75 269 Pg 11 49 47.7 -1.1
CHNC Sg 11 49 57.9 -0.8
ADO Adelanto Recei 0.76 315 Pg 11 49 48.2 -0.9
ADO Sb 11 49 58.8 -0.5
BFSC Mount Baldy Ra 0.76 287 Pg 11 49 47.8 -1.3
BFSC Sg 11 49 58.5 -0.8
BFSC Mount Baldy Ra 0.76 287 P Pg 11 49 47.8 -1.3
baz=107,SNR=1000
BFSC S Sg 11 49 58.1 -1.2
baz=107
SSK Sunset Peak 0.78 285 Pg 11 49 48.4 -1.2
BORC Borrego Spring 0.80 158 Pg 11 49 48.8 -1.0
BORC Sg 11 49 59.4 -1.0
MATG Mataguay Scout 0.82 172 Pg 11 49 49.3 -0.8
MATG Sg 11 50 00.2 -0.8
CTW Cottonwood Mou 0.82 114 Pg 11 49 49.2 -1.0
CTW Sb 11 50 00.7 -0.4
PSRC Puddingstone R 0.86 276 Pg 11 49 49.5 -1.4
PSRC Sg 11 50 01.0 -1.2
RRX Edison Barstow 0.88 348 Pg 11 49 50.2 -1.1
RRX Sb 11 50 02.5 -0.2
RRX Edison Barstow 0.88 348 P Pg 11 49 50.2 -1.1
baz=168,SNR=1000
RRX S Sb 11 50 02.4 -0.2
baz=168
HEC Hector,Ludlow 0.89 24 Pg 11 49 50.4 -1.2
HEC Sg 11 50 02.5 -0.8
HEC Hector,Ludlow 0.89 24 P Pg 11 49 50.4 -1.2
baz=204,SNR=1000
HEC S Sb 11 50 02.7 -0.4
baz=204
PEM Pine Mountain 0.92 280 Pg 11 49 50.6 -1.4
SLH Sleepy Hollow 0.93 152 Pg 11 49 51.4 -0.8
SLH Sb 11 50 04.0 0.0
GORC Green Oak Ranc 0.94 204 Pg 11 49 50.5 -1.8
GORC Sg 11 50 02.8 -1.8
JUEM Julian Eagle M 0.94 171 Pg 11 49 51.3 -1.2
JUEM Sg 11 50 03.8 -1.1
XTL Crystal Lake, 0.94 288 Pg 11 49 50.9 -1.6
HAY Hayfield 0.96 108 Pb 11 49 52.1 -0.4
HAY Sn 11 50 06.1 -0.4
FULC Fullerton 0.96 262 Pg 11 49 52.3 -0.5
FULC Sn 11 50 05.9 -0.5
SANC Santa Ana 0.97 252 Pb 11 49 52.1 -0.6
SANC Sg 11 50 05.6 -0.2
SALN Salton City 0.99 138 Pb 11 49 52.4 -0.5
SALN Sn 11 50 06.4 -0.6
BREC Barre Substati 1.02 259 Pg 11 49 53.4 -0.6
BREC Sb 11 50 05.4 -1.3
DPP Dos Picos Cty 1.02 188 Pb 11 49 52.0 -1.5
DPP Sb 11 50 05.2 -1.5
RHC Rose Hills Cem 1.03 270 Pb 11 49 52.7 -0.9
RHC Sg 11 50 06.7 -0.8
JNH Juniper Hills 1.07 294 Pb 11 49 53.2 -1.1
JNH Sb 11 50 07.6 -0.6
109C Camp Elliot, M 1.15 194 Pb 11 49 54.2 -1.5
109C Camp Elliot, M 1.15 194 P Pb 11 49 54.3 -1.5
baz=13,SNR=596
109C S Sb 11 50 09.4 -1.1
baz=13
MONP2 Monument Peak 1.16 165 P Pb 11 49 55.0 -0.9
baz=345,SNR=1000
MONP2 S Sb 11 50 10.8 -0.1
baz=345
BC3 Big Chuckawall 1.16 108 P Pb 11 49 54.3 -1.6
baz=288,SNR=1000
BC3 S Sn 11 50 11.5 0.0
baz=288
PASC Pasadena Art C 1.18 278 Pg Pn 11 49 54.9 -1.2
GMRC Granite Mounta 1.20 50 P Pn 11 49 55.3 -1.2
baz=231,SNR=1000
GMRC S Sb 11 50 11.8 -0.3
baz=231
GSC Goldstone, Bar 1.29 359 Pn Pn 11 49 56.8 -0.9
GSC IAML 11 50 25.4
comp=N,9µm,0.7s
GSC IAML 11 50 25.5
comp=E,10µm,0.9s
GSC Goldstone, Bar 1.29 359 P Pn 11 49 56.7 -0.9
baz=179,SNR=1000
GSC S Sb 11 50 14.1 -0.4
baz=179
FMP Fort Macarthur 1.30 257 P Pn 11 49 56.6 -1.1
baz=76,SNR=651
FMP S Sb 11 50 13.7 -0.9
baz=76
DECC Green Verdugo 1.31 281 P Pn 11 49 57.0 -0.9
baz=100,SNR=581
DECC S Sn 11 50 15.0 -0.2
baz=100
EDW2 Edwards Air Fo 1.33 311 P Pn 11 49 57.4 -0.8
baz=130,SNR=1000
EDW2 S Sb 11 50 15.2 -0.4
baz=130
BAR Barrett 1.33 176 Pn 11 49 57.4 -0.8
SWSC Sam W. Stewart 1.34 142 P Pn 11 49 56.6 -1.7
baz=323,SNR=1000
SWSC S Sg 11 50 16.5 -1.1
baz=323
IRM Iron Mountain 1.36 83 P Pn 11 49 57.0 -1.6
baz=264,SNR=1000
IRM S Sg 11 50 17.4 -0.8
baz=264
TKX Tecate 1.45 174 Pn 11 49 59.1 -0.7
TKX IAML 11 50 19.4
comp=E,15µm,0.3s
TKX IAML 11 50 20.5
comp=N,8µm,0.2s
IKP In-Ko-Pah, Jac 1.47 157 P Pn 11 49 59.0 -1.2
baz=338,SNR=1000
IKP S Sg 11 50 20.3 -1.3
baz=338
CIS Catalina Islan 1.49 246 P Pn 11 49 59.2 -1.2
baz=65,SNR=1000
CIS S Sb 11 50 19.8 -0.5
baz=65
TJX Tijuana 1.52 189 Pn 11 50 00.5 -0.2
RMX La Rumorosa 1.52 157 Pn 11 50 00.8 -0.1
RMX IAML 11 50 24.8
comp=E,4µm,0.5s
CCAC Calif City Air 1.53 318 Pn 11 50 00.1 -0.8
YUH Yuha Desert 1.54 152 Pn 11 49 59.6 -1.4
TUQ Turquoise Moun 1.58 26 P Pn 11 50 00.8 -1.0
baz=207,SNR=1000
LRMC Laurel Mtn Rad 1.64 333 P Pn 11 50 01.7 -0.8
baz=153,SNR=1000
CBX Cerro Bola 1.70 177 Pn 11 50 03.1 -0.2
OSI Osito Audit: C 1.72 291 P Pn 11 50 02.9 -0.7
baz=110,SNR=599
UABX UABC, Campus M 1.77 141 Pn 11 50 03.6 -0.6
UABX IAML 11 50 57.6
comp=E,10µm,1.1s
SCI2 San Clemente I 1.80 236 P Pn 11 50 04.0 -0.7
baz=54,SNR=252
GLA Glamis 1.89 120 Pn 11 50 04.1 -1.8
GLA IAML 11 50 39.0
comp=E,7µm,0.8s
GLA IAML 11 50 39.6
comp=N,3µm,0.7s
GLA Glamis 1.89 120 P Pn 11 50 04.1 -1.8
baz=301,SNR=86
GLA Sb Sg 11 50 33.8 -1.3
baz=301
BLYC Blythe 1.89 97 Pn 11 50 04.6 -1.3
BLYC IAML 11 50 38.6
comp=N,5µm,1.0s
BLYC IAML 11 50 51.1
comp=E,3µm,0.8s

SHOC Shoshone, Teco 1.93 12 P Pn 11 50 05.7 -0.7
baz=192,SNR=1000
SHOC Sb Sg 11 50 35.0 -1.3
baz=192
NEE2 Needles Airpor 1.94 67 P Pn 11 50 05.3 -1.2
baz=248,SNR=829
NEE2 Sb Sg 11 50 34.8 -1.8
baz=248
QSM Queen of Sheba 1.95 358 Pn 11 50 06.0 -0.6
QSM IAML 11 50 37.7
comp=N,4µm,0.7s
QSM IAML 11 50 38.5
comp=E,6µm,1.1s
CPBX Cerro Prieto 2.01 142 Pn 11 50 06.3 -1.2
CPBX IAML 11 50 51.1
comp=E,7µm,0.7s
CPBX IAML 11 51 09.6
comp=N,7µm,0.5s
ARVC Arvin 2.02 304 P Pn 11 50 07.2 -0.5
baz=123,SNR=834
ARVC Sb Sb 11 50 36.9 +1.2
baz=123
ESJX Sierra Juarez 2.12 161 Pn 11 50 08.8 -0.4
ESJX IAML 11 50 45.7
comp=E,3µm,0.7s
MPMC Manual Prospec 2.12 344 P Pn 11 50 08.5 -0.8
baz=164,SNR=1000
MPMC Sb Sg 11 50 41.1 -1.4
baz=164
CCX Cicese 2.14 177 Pn 11 50 09.7 +0.4
CCX IAML 11 50 42.2
comp=N,7µm,0.5s
CCX IAML 11 50 42.4
comp=E,6µm,0.6s
GWY Greenwater Val 2.17 2 Pn 11 50 09.3 -0.6
GWY IAML 11 50 48.6
comp=E,6µm,0.8s
GWY IAML 11 50 48.0
comp=N,6µm,0.7s
PDMCI Parker Dam,Lak 2.21 82 P Pn 11 50 09.1 -1.0
baz=263,SNR=302
PDMCI Sb Sg 11 50 42.7 -2.4
baz=263
GUVIX Guadalupe Vict 2.22 140 Pn Pn 11 50 09.4 -1.0
GUVIX IAML 11 51 31.8
comp=N,5µm,0.7s
V12A Nelson 2.33 42 Pn 11 50 11.7 -0.3
V12A IAML 11 50 51.6
comp=E,3µm,1.2s
V12A IAML 11 50 56.9
comp=N,3µm,1.0s
BCW Bitter Crk WRg 2.37 294 Pn 11 50 12.1 -0.4
SNCC San Nicolas Is 2.42 252 Pn 11 50 12.1 -1.0
SNCC IAML 11 50 49.5
comp=N,5µm,0.9s
SNCC IAML 11 50 50.3
comp=E,4µm,0.8s
SNCC San Nicolas Is 2.42 252 P Pn 11 50 12.1 -1.0
baz=71,SNR=43
SNCC S Sn 11 50 43.8 +1.5
baz=71
FURC Furnace Creek, 2.45 358 P Pn 11 50 13.0 -0.5
baz=178,SNR=140
FURC Sb Sg 11 50 50.3 -2.6
baz=178
SBC Santa Barbara 2.47 281 P Pn 11 50 13.4 -0.4
baz=99,SNR=30
SBC S Sn 11 50 44.8 +1.1
baz=99
WTNK Soaring Height 2.61 33 Pn 11 50 15.2 -0.6
W13A Hualapai Mount 2.62 65 Pn 11 50 15.3 -0.8
VES Vestal, Richgr 2.63 315 P Pn 11 50 15.8 -0.2
baz=133,SNR=155
VES Sb Sg 11 50 56.0 -2.7
baz=133
CWC Cottonwood Cre 2.65 337 P Pn 11 50 16.2 -0.2
baz=156
CWC Sb Sg 11 50 57.0 -2.3
baz=156
PKM Mcpherson Peak 2.66 290 P Pn 11 50 16.4 -0.1
baz=108,SNR=106
PKM Sb Sg 11 50 56.6 -3.0
baz=108
VTX Valle De La Tr 2.75 162 Pn 11 50 17.6 -0.1
VTX IAML 11 51 04.5
comp=E,2µm,1.2s
VTX IAML 11 51 05.4
comp=N,1µm,0.9s
WCT Wildcat Mounta 2.78 3 Pn 11 50 17.9 -0.2
WCT IAML 11 51 02.9
comp=E,2µm,0.7s
WCT IAML 11 51 08.0
comp=N,1µm,1.2s
113A Mohawk Valley, 2.81 115 Pn 11 50 16.6 -1.9
SHPR Sheep Range 2.82 28 Pn 11 50 18.6 -0.1
SMMC Simmler 2.95 297 P Pn 11 50 20.0 -0.5
baz=115,SNR=56
SMMC Sb Sb 11 51 05.1 +2.8
baz=115
GRAC Grapevine Rang 3.02 351 Pn 11 50 21.8 +0.4
GRAC IAML 11 51 23.2
comp=E,3µm,1.0s
GRAC Grapevine Rang 3.02 351 P Pn 11 50 21.8 +0.4
baz=171,SNR=85
GRAC Sb Sg 11 51 08.0 -3.1
baz=171
VOG Valley Oaks Go 3.14 318 P Pn 11 50 23.0 0.0
baz=136
VOG Sb Sg 11 51 11.4 -3.6
baz=136
TIN Tinemaha, Big 3.26 339 P Pn 11 50 24.7 0.0
baz=158,SNR=19
LCH Last Change Ra 3.29 348 Pn 11 50 25.5 +0.2
GMN Gold Mountain 3.30 353 Pn 11 50 25.9 +0.4
SFX San Felipe 3.38 151 Pn 11 50 25.8 -0.6
DSP Deep Springs 3.49 344 Pn 11 50 28.2 +0.5
MZP Montezuma Peak 3.71 353 Pn 11 50 31.6 +0.4
PIX Pinacate 3.71 130 Pn 11 50 29.3 -1.6
S11A Rachel 3.72 13 Pn 11 50 31.6 +0.4
214A Organ Pipe Nat 3.91 121 Pn 11 50 33.0 -0.7
214A Organ Pipe Nat 3.91 121 P Pn 11 50 33.0 -0.7
baz=303
PMPB Monarch Peak 3.96 305 Pn 11 50 34.3 -0.1
MLAC Mammoth, Mammo 3.98 336 P Pn 11 50 35.6 +0.9
baz=155
MDPB Devils Postpil 4.07 333 Pn Pn 11 50 38.1 +2.0
TPH Tonopah 4.07 355 Pn 11 50 36.6 +0.6
LCMT Little Creek M 4.16 43 Pn 11 50 37.6 +0.5
BBGB Big Mountain B 4.32 308 Pn 11 50 39.2 -0.2
U15A North Rim 4.39 55 Pn Pn 11 50 41.0 +0.5
KNB Kanab 4.40 46 Pn Pn 11 50 41.5 +0.9
R11B Troy Canyon, C 4.43 12 Pn Pn 11 50 41.9 +0.9
R11B IAML 11 51 58.9
comp=E,341nm,1.8s
R11B Troy Canyon, C 4.43 12 P Pn 11 50 41.0 0.0
baz=193,SNR=22
R11B Sb Sb 11 51 49.6 +4.5
baz=193
X16A Lo Mia Camp, P 4.44 83 Pn Pn 11 50 41.1 0.0
LHV Little Huntoon 4.45 342 Pn 11 50 42.3 +1.2
CCUT Cedar City 4.49 37 Pn Pn 11 50 43.0 +1.2
NV11 Mina Array Sit 4.55 346 Pn 11 50 43.4 +0.8
NVAR Mina Array Bea 4.58 345 Pn Pn 11 50 43.8 +0.8
comp=E,5.7nm,0.3s,baz=168,slow=15,SNR=195
NVAR Lg Lg 11 52 00.2
baz=148,slow=29
comp=E,13nm,0.5s
SZCU Shurtz Canyon 4.67 39 Pn 11 50 44.8 +0.6
WUAZ Wupatki 4.70 70 Pn 11 50 45.4 +0.8
WUAZ IAML 11 52 18.7
comp=E,477nm,1.2s
WUAZ IAML 11 52 19.7
comp=E,511nm,1.6s
WUAZ Wupatki 4.70 70 P Pn 11 50 44.3 -0.3
baz=253,SNR=103
SAO San Andreas Ge 4.70 307 Pn Pn 11 50 44.3 -0.2
RYN Ryan 4.82 343 Pn 11 50 47.0 +0.8
Q09A Carvers 4.82 356 Pn 11 50 47.9 +1.6
CMB Columbia Colle 4.96 325 Pn 11 50 48.9 +0.7
CMB IAML 11 52 17.3
comp=E,527nm,0.9s
CMB IAML 11 52 18.0
comp=N,413nm,0.9s
WAKR Walker 4.97 335 Pn 11 50 49.8 +1.4
PKCU Pink Cliffs 4.99 45 Pn 11 50 50.5 +1.7
PSUT Pine Spring 5.09 27 Pn 11 50 51.0 +1.0

KVN Kaiserville 5.14 348 Pn 11 50 51.7 +1.0
Q12A Willow Creek R 5.26 17 Pn Pn 11 50 53.6 +1.4
TUC Tucson 5.31 107 Pn 11 50 51.3 -1.6
TUC IAML 11 52 26.5
comp=N,233nm,2.1s
TUC IAML 11 52 38.5
comp=N,193nm,1.2s
TUC Tucson 5.31 107 P Pn 11 50 51.5 -1.4
baz=290
YERR Yerington 5.34 339 Pn 11 50 55.0 +1.5
SPR3 Spring Creek 3 5.35 21 Pn 11 50 53.1 -0.6
MTPU Mount Pierson 5.48 41 Pn Pn 11 50 56.8 +1.3
PNTR Pine Nut 5.55 337 Pn Pn 11 50 58.2 +1.8
EMB Emerald Bay 5.63 333 Pn 11 50 57.2 -0.2
X18A Snowflake 5.68 83 Pn 11 50 58.6 +0.5
TCRU Three Creeks R 5.77 36 Pn 11 51 01.6 +2.3
MVU Marysvale 5.80 38 Pn 11 51 01.5 +1.7
W18A Petrified Fore 5.91 77 Pn 11 51 02.7 +1.3
W18A Petrified Fore 5.91 77 P Pn 11 51 02.3 +0.9
baz=261,SNR=36
AFDM Forest Hills D 5.97 327 Pn Pn 11 51 03.3 +1.3
PAHR Pah Rah Range 6.05 341 Pn 11 51 04.9 +1.7
HMU Henry Mountain 6.27 50 Pn Pn 11 51 05.7 -0.6
BMN Battle Mountai 6.42 357 Pn Pn 11 51 09.5 +1.3
MCCM Marconi Confer 6.43 312 Pn Pn 11 51 07.5 -0.8
DUN6 Lazy B Ranch 6.60 101 Pn 11 51 10.5 -0.2
ORV Oroville 6.70 327 Pn 11 51 12.9 +0.9
GDXM Geysers 6.81 316 Pn 11 51 13.3 -0.2
ELK Elko 6.83 10 Pn Pn 11 51 15.5 +1.6
comp=N,6.8nm,0.5s
ELK Lg Lg 11 53 07.1
319A Douglas 6.84 111 Pn 11 51 13.5 -0.6
TMUT Trail Mountain 6.92 39 Pn 11 51 14.6 -0.6
DUG Dugway, Tooele 6.94 26 P Pn 11 51 18.5 +3.2
baz=208
NLU North Lily Min 7.02 31 Pn Pn 11 51 15.8 -0.8
HSIG 7.04 133 Pn Pn 11 51 16.5 -0.1
HOPS Hopland Field 7.10 316 Pn 11 51 16.1 -1.3
SRU San Rafael Swe 7.16 43 Pn Pn 11 51 18.2 -0.2
MVCO Mesa Verde 7.46 62 Pn Pn 11 51 20.9 -1.7
MVCO Mesa Verde 7.46 62 P Pn 11 51 25.7 +3.1
baz=247
BGU Big Grassy Mou 7.51 22 Pn Pn 11 51 24.4 +1.1
121A Cookes Peak, D 7.67 99 Pn 11 51 25.9 +0.4
121A Cookes Peak, D 7.67 99 P Pn 11 51 25.4 -0.1
baz=284,SNR=63
SRIG Santa Rosalia 7.73 148 Pn Pn 11 51 25.7 -0.4
CTU Camp Tracy 7.78 30 Pn Pn 11 51 27.0 +0.1
JLU Jordanelle 7.83 31 Pn 11 51 28.3 +0.7
KCPM Cahto Peak 7.86 318 Pn 11 51 30.6 +2.6
BSUT Blindstream Ca 8.09 35 Pn Pn 11 51 31.9 +0.6
Y22D IRIS PASSCAL I 8.18 87 P Pn 11 51 36.5 +4.1
baz=272
Y22F Passcal Instru 8.18 87 P Pn 11 51 36.3 +3.8
baz=272
TCUT Toone Canyon 8.27 29 Pn Pn 11 51 34.6 +0.8
KMRM Mail Ridge 8.31 320 Pn 11 51 35.5 +1.5
HVU Hansel Valley 8.37 21 Pn 11 51 37.1 +2.0
ANMO Albuquerque 8.57 81 P Pn 11 51 37.6 -0.2
baz=267
ANMO Albuquerque 8.57 81 Pn Pn 11 51 39.1 +1.3
comp=N,0.2nm,0.3s,baz=3.3,slow=13,SNR=12
ANMO Lg Lg 11 54 02.3
comp=N,0.4nm,0.3s,baz=211,slow=18,SNR=2.2
ANMO LR LR 11 55 16.7
comp=N,782nm,18.2s,baz=360,slow=40
comp=N,3.2nm,0.7s
RDMU Red Mountain 8.71 39 Pn 11 51 41.8 +2.1
KHMM Horse Mountain 8.80 323 Pn Pn 11 51 42.6 +1.8
JCC Jacoby Creek, 8.91 322 Pn Pn 11 51 43.3 +1.1
EPT El Paso 8.92 102 Pn Pn 11 51 42.5 -0.1
YBH Yreka Blue Hor 9.02 330 Pn Pn 11 51 44.4 +0.6
YBH Yreka Blue Hor 9.02 330 Pn Pn 11 51 47.9 +4.1
comp=N,0.1nm,0.3s,baz=140,slow=7.2,SNR=8.0
YBH Lg Lg 11 54 11.6
comp=N,0.1nm,0.3s,baz=259,slow=20,SNR=2.9
comp=N,1.6nm,0.7s
O20A White River Ci 9.15 46 Pn Pn 11 51 45.6 -0.2
O20A White River Ci 9.15 46 P Pn 11 51 46.3 +0.5
baz=231,SNR=8.2
L04D Klamath Falls 9.27 334 Pn Pn 11 51 48.7 +1.3
K05A Summer Lake 9.28 341 Pn Pn 11 51 47.4 -0.1
SMCO Snowmass 9.42 54 Pn Pn 11 51 52.8 +3.2
MFID Camas Ranch 9.42 4 Pn Pn 11 51 51.8 +2.5
J08A Circle Bar Ran 9.42 352 Pn Pn 11 51 52.3 +2.9
K04D Chiloquin, OR 9.44 337 Pn 11 51 52.3 +2.6
KSXB Camp Six Broad 9.61 326 Pn Pn 11 51 53.8 +1.9
L02F Cave Junction 9.70 329 Pn Pn 11 51 52.5 -0.6
HLID Hailey 9.71 10 P Pn 11 51 53.9 +0.5
baz=192,SNR=15
AHID Auburn Hatcher 9.81 25 Pn Pn 11 51 58.5 +3.7
HUMO Hull Mountain 9.86 332 Pn Pn 11 51 58.2 +3.0
MNTX Cornudas Mount 9.86 100 Pn Pn 11 51 55.9 +0.5
MNTX Cornudas Mount 9.86 100 P Pn 11 51 55.5 +0.2
baz=287,SNR=11
SDCO Great Sand Dun 9.88 65 Pn Pn 11 51 55.1 -0.7
SDCO Great Sand Dun 9.88 65 P Pn 11 51 56.9 +1.1
baz=251
K02D Willamette Mer 10.21 330 Pn Pn 11 52 02.4 +2.2
I07A Izee 10.28 349 Pn Pn 11 52 00.9 -0.2
PINE Pine Mountain 10.29 343 Pn Pn 11 52 03.0 +1.7
BW06 Boulder Array 10.41 31 P Pn 11 52 05.4 +2.3
baz=215
PD31 Pinedale Array 10.41 31 Pn Pn 11 52 04.0 +1.0
PDAR Pinedale Array 10.41 31 Pn Pn 11 52 05.0 +1.9
PDAR Pinedale Array 10.41 31 Pn Pn 11 52 06.2 +3.2
comp=N,0.1nm,0.3s,baz=224,slow=10,SNR=10
PDAR Lg Lg 11 54 56.0
baz=216,slow=37
PDAR LR LR 11 56 42.4
comp=N,406nm,19.5s,baz=226,slow=42
comp=N,3.2nm,1.0s
REDW Red Top Meadow 10.42 25 Pn Pn 11 52 03.6 +0.4
VHRN Van Horn 10.47 105 Pn Pn 11 52 06.3 +2.5
T25A Trinidad 10.54 69 Pn Pn 11 52 05.8 +0.9
T25A Trinidad 10.54 69 P Pn 11 52 07.9 +3.0
baz=256
GDL2 Guadalupe Moun 10.57 96 Pn Pn 11 52 07.1 +1.9
Q24A Divide 10.58 59 Pn Pn 11 52 07.0 +1.5
Q24A Divide 10.58 59 P Pn 11 52 06.7 +1.2
baz=246
FXWY Fox Creek 10.60 23 Pn Pn 11 52 06.9 +1.3
ISCO Idaho Springs 10.64 54 Pn Pn 11 52 08.9 +2.7
ISCO Idaho Springs 10.64 54 P Pn 11 52 09.0 +2.7
baz=240
I04A Tendick Farm, 10.70 337 Pn Pn 11 52 11.0 +4.2
J01E Myrtle Point 10.71 331 Pn Pn 11 52 09.2 +2.3
LOHW Long Hollow 10.72 25 Pn 11 52 05.8 -1.5
RWWY Rawlins 10.76 42 Pn Pn 11 52 06.1 -1.8
MOOW Moose Ponds 10.79 24 Pn Pn 11 52 07.9 -0.4
IMW Indian Meadow 10.86 23 Pn Pn 11 52 13.6 +4.3
I05D Terrebonne, OR 10.90 342 Pn Pn 11 52 09.7 +0.2
N23A Red Feather La 11.01 48 Pn Pn 11 52 10.7 -0.5
N23A Red Feather La 11.01 48 P Pn 11 52 14.4 +3.1
baz=235
PLID Pearl Lake 11.08 3 Pn Pn 11 52 15.7 +3.6
FLWY Flagg Ranch 11.11 23 Pn Pn 11 52 16.3 +3.7
BUCK Buck Mountain 11.25 337 Pn Pn 11 52 16.1 +1.7
LPIG La Paz 11.38 149 Lg Lg 11 55 34.9
comp=N,4.5nm,0.3s,baz=210,slow=2.4,SNR=2.0
LPIG LR LR 11 56 42.4
comp=N,443nm,19.6s,baz=351,slow=38
H04D Lebanon 11.46 338 Pn Pn 11 52 19.6 +2.5
G06A Carlson Farm, 11.59 346 Pn Pn 11 52 20.5 +1.4
ALPN Alpine 11.71 104 Pn Pn 11 52 20.9 +0.1
RTBA Rita Blanca 11.74 74 Pn Pn 11 52 20.7 -0.4
K22A Casper 11.79 40 Pn Pn 11 52 22.4 +0.5
K22A Casper 11.79 40 P Pn 11 52 24.4 +2.5
baz=226
F10A Beach Ranch, E 11.95 358 Pn Pn 11 52 24.7 +0.7
TX31 Lajitas Ar. Si 12.10 109 Pn 11 52 27.3 +1.2
TXAR Lajitas Array 12.10 109 Pn Pn 11 52 25.4 -0.7
TXAR Lajitas Array 12.10 109 Pn Pn 11 52 25.6 -0.5
comp=N,0.3nm,0.3s,baz=285,slow=12,SNR=22
TXAR Lg Lg 11 55 55.7
baz=282,slow=27,SNR=4.3
TXAR LR LR 11 57 53.2
comp=N,317nm,19.0s,baz=290,slow=42
comp=N,0.2nm,0.3s
BOZ Bozeman (W) 12.22 17 Pn Pn 11 52 30.3 +2.6
BOZ Bozeman (W) 12.22 17 P Pn 11 52 30.8 +3.0
baz=201
G03D McMinnville, O 12.24 338 Pn Pn 11 52 29.6 +1.8

RLMT **Red Lodge** 12.51 25 Pn Pn 11 52 35.3 +3.6
RLMT **Red Lodge** 12.51 25 P Pn 11 52 35.1 +3.4
baz=210
SAND **Sanderson** 13.08 104 Pn Pn 11 52 42.9 +3.5
OGNE **Ogallala** 13.59 55 P Pn 11 52 46.9 +0.5
baz=244
RSSD **Black Hills** 14.12 41 Pn Pn 11 52 50.7 -3.0
RSSD **Black Hills** 14.12 41 P Pn 11 52 56.2 +2.5
baz=229
NEW **Newport** 14.24 359 Pn Pn 11 52 55.0 -0.2
NEW **Newport** 14.24 359 P Pn 11 52 55.5 +0.3
baz=179
NEW **Newport** 14.24 359 Pn Pn 11 52 56.6 +1.4
comp=N,0.2nm,0.3s,baz=188,slow=14,SNR=4.5
NEW Lg Lg 11 57 03.3
comp=N,0.2nm,0.3s,baz=76,slow=18,SNR=1.3
NEW LR LR 11 59 15.1
comp=N,221nm,18.9s,baz=177,slow=41
comp=N,5.6nm,1.2s
NLWA **Neilton Lookou** 14.40 340 Pn Pn 11 52 57.3 0.0
DRIO **Del Rio** 14.49 104 Pn Pn 11 52 58.3 -0.4
CBKS **Cedar Bluff** 14.53 66 Pn Pn 11 52 57.6 -1.6
CBKS **Cedar Bluff** 14.53 66 P Pn 11 52 57.8 -1.4
baz=256
WMOK **Wichita Mounta** 14.88 82 P Pn 11 53 04.4 +0.4
baz=272
EGMT **Eagleton** 14.96 19 Pn Pn 11 53 04.5 -0.5
EGMT **Eagleton** 14.96 19 P Pn 11 53 05.7 +0.7
baz=203
LAO **LASA Array** 14.98 29 Pn Pn 11 53 04.2 -1.1
LAO **LASA Array** 14.98 29 P Pn 11 53 05.6 +0.3
baz=216
WHTX **Lake Whitney,** 16.34 92 P Pn 11 53 22.8 -0.1
baz=282
T35A **Sooner Cattle** 16.76 74 Pn P 11 53 29.2 -1.3
KSU1 **Kansas State U** 16.97 67 Pn Pn 11 53 29.6 -1.3
DGMT **Dagmar** 17.23 29 Pn Pn 11 53 33.0 -1.2
DGMT **Dagmar** 17.23 29 P Pn 11 53 34.2 0.0
baz=218
SUSD **Miller** 17.26 48 P Pn 11 53 33.7 -0.8
baz=239
TUL3 **Leonard** 17.31 78 P P 11 53 36.0 -0.5
baz=270,SNR=5.8
ECSD **EROS Data Cent** 18.42 52 P Pn 11 53 50.8 +2.0
baz=245
MIAR **Mount Ida** 19.18 82 P P 11 53 56.8 -0.4
baz=275
EDM **Edmonton** 19.36 6 P P 11 53 57.4 -1.6
EDM IAmb IAmb 11 54 11.6
comp=Z,28nm,1.1s
BBB **Bella Bella** 19.91 339 P Pn 11 54 08.1 +1.4
BBB comp=Z,0.2nm,0.3s,baz=142,slow=10,SNR=5.4 LR LR 12 02 46.9
comp=Z,253nm,19.1s,baz=173,slow=40
comp=Z,12nm,0.9s
CCM **Cathedral Cave** 21.02 72 P P 11 54 16.9 -0.2
baz=267
AGMN **Agassiz Nation** 21.16 41 P P 11 54 19.1 +0.6
AGMN **Agassiz Nation** 21.16 41 P P 11 54 18.1 -0.5
baz=235,SNR=11
ULM **Lac du Bonnet** 22.32 37 P P 11 54 29.9 -1.1
ULM IAmb IAmb 11 54 38.2
comp=Z,23nm,0.9s
ULM **Lac du Bonnet** 22.32 37 P P 11 54 32.5 +1.5
comp=Z,12nm,0.9s,baz=234,slow=9.0,SNR=15
ULM LR LR 12 03 46.8
comp=Z,750nm,18.6s,baz=259,slow=38
comp=Z,12nm,0.9s
JFWS **Jewell Farm** 22.52 59 P P 11 54 33.2 -0.1
baz=256
OXF **Oxford** 22.60 81 P P 11 54 33.8 -0.4
baz=277,SNR=5.1
HDIL **Hopedale** 22.77 65 P P 11 54 38.2 +2.3
baz=262
FFC **Flin Flon** 23.16 22 P P 11 54 39.1 -0.7
G40A **Rib Lake** 23.24 53 P P 11 54 41.1 +0.3
WVT **Waverly** 23.75 77 P P 11 54 46.2 +0.4
baz=273
COWI **Conover** 24.23 52 P P 11 54 50.8 +0.5
P46A **Rosedale** 24.26 68 P P 11 54 49.0 -1.6
SFIN **Lafayette** 24.41 66 P P 11 54 52.6 +0.7
baz=264
T35M **Bob Quinn** 24.74 342 P P 11 54 55.4 +0.6
baz=152,SNR=6.1
TOAD **Toad River Com** 25.48 350 P P 11 55 02.9 +1.5
baz=164
CMIG **Matias Romero** 25.87 125 LR LR 12 06 02.8
comp=Z,264nm,18.9s,baz=279,slow=38
O48B **Farmland** 25.88 67 P P 11 55 06.3 +1.0
baz=266
DLBC **Dease Lake** 25.99 344 P P 11 55 07.0 +0.9
baz=154
P49A **Miami Univ. Ec** 26.18 68 P P 11 55 08.5 +0.5
baz=268
R33M **Jennings River** 27.07 344 P P 11 55 17.0 +1.1
baz=154
TKL **Tuckaleechee C** 27.07 77 LR LR 12 06 30.6
comp=Z,312nm,19.5s,baz=278,slow=38
WTLY **Watson Lake, Y** 27.27 347 P P 11 55 19.1 +1.4
baz=158
S31K **Pelican** 27.30 337 P P 11 55 18.1 +0.3
baz=143
P32M **Atlin** 27.92 342 P P 11 55 24.1 +0.6
baz=149
P33M **Teslin, Yukon** 28.23 343 P P 11 55 26.0 -0.3
baz=151
YKAB2 **New Yellowknif** 28.46 2 P P 11 55 28.5 +0.4
YKA **Yellowknife Ar** 28.53 2 P P 11 55 29.5 +0.7
comp=Z,0.5nm,0.9s,baz=183,slow=6.7,SNR=8.2
YKA LR LR 12 07 38.7
comp=Z,323nm,18.0s,baz=142,slow=38
comp=Z,0.5nm,0.9s
TEIG **Tepich** 28.73 111 LR LR 12 08 28.4
comp=Z,815nm,19.0s,slow=40
KMSC **Kings Mountain** 29.11 78 P P 11 55 33.2 -1.1
baz=278
N32M **Quiet Lake** 29.12 344 P P 11 55 35.7 +1.6
N32M IAmb IAmb 11 55 41.8
comp=Z,8.9nm,1.0s
N32M **Quiet Lake** 29.12 344 P P 11 55 33.6 -0.6
baz=151
O30N **Mendenhall** 29.56 341 P P 11 55 38.1 +0.1
baz=146
BLA **Blacksburg** 29.62 73 P P 11 55 38.2 -0.6
baz=275
FARO **Faro, Yukon** 30.13 345 P P 11 55 44.7 +1.6
FARO **Faro, Yukon** 30.13 345 P P 11 55 43.2 +0.2
baz=152
M31M **Drury Creek, Y** 30.35 344 P P 11 55 46.0 +1.1
baz=150
N30M **Aishikik Lake** 30.40 341 P P 11 55 46.9 +1.5
baz=145
YUK4 **Talbot Arm** 30.75 339 P P 11 55 50.1 +1.4
baz=143
SADO **Sadowa** 30.76 58 LR LR 12 08 55.1
comp=Z,307nm,20.4s,baz=246,slow=38
O28M **Mount Upton** 30.77 338 P P 11 55 49.9 +0.9
baz=140
YUK8 **Steele Glacier** 31.03 339 P P 11 55 52.3 +1.0
baz=141
M29M **Somme Creek** 31.58 341 P P 11 55 56.4 +0.4
baz=144
MAYO **Mayo, Yukon** 31.90 344 P P 11 55 59.4 +0.8
baz=149
RAGM **Ragged Mountai** 32.02 334 P P 11 55 57.8 -1.9
L29M **L29M** 32.04 342 P P 11 56 02.2 +2.3
L29M IAmb IAmb 11 56 08.1
comp=Z,9.0nm,1.2s
L29M **L29M** 32.04 342 P P 11 56 00.5 +0.7
baz=145
MCARA **McCarthy VSAT** 32.15 336 P P 11 56 01.1 +0.4
baz=136
BMRM **Bremner River** 32.39 335 P P 11 56 05.3 +2.3
baz=134
GLB **Gilahina Butte** 32.45 336 P P 11 56 04.6 +1.1
GLB IAmb IAmb 11 56 16.0
comp=Z,6.4nm,1.2s
K29M **Barlow Dome** 32.50 343 P P 11 56 04.4 +0.5
K29M IAmb IAmb 11 56 17.8
comp=Z,6.5nm,0.9s
K29M **Barlow Dome** 32.50 343 P P 11 56 06.0 +2.1
baz=147
M27K **Edge Creek, AK** 32.50 338 P P 11 56 05.8 +1.8
baz=139
EYAK **Cordova Ski Ar** 32.52 334 P P 11 56 03.6 -0.5
baz=132
J30M **Hart River** 32.84 345 P P 11 56 07.1 +0.1
baz=149,SNR=7.0
KLU **Klutina** 33.22 335 P P 11 56 10.8 +0.6
baz=132
GLI **Glacier Island** 33.24 333 P P 11 56 10.2 -0.2
baz=130
I30M **Mount Dempster** 33.41 345 P P 11 56 13.7 +1.7
I30M **Mount Dempster** 33.41 345 P P 11 56 11.9 0.0
baz=150
L26K **Log Cabin Wild** 33.45 338 P P 11 56 11.3 -0.9
baz=138
H31M **Peel River** 33.52 347 P P 11 56 13.6 +0.9
H31M IAmb IAmb 11 56 21.2
comp=Z,10nm,1.2s
H31M **Peel River** 33.52 347 P P 11 56 12.5 -0.2
baz=153
HARP **HAARP** 33.58 336 P P 11 56 14.4 +1.1
baz=134
KDAK **Kodiak Island** 33.79 326 LR LR 12 07 54.6
comp=Z,124nm,18.6s,baz=115,slow=33
K27K **Chicken** 33.84 340 P P 11 56 17.8 +2.3
K27K IAmb IAmb 11 56 31.8
comp=Z,6.7nm,1.2s
K27K **Chicken** 33.84 340 P P 11 56 16.2 +0.6
baz=140
I29M **Ogilvie Camp,** 33.96 344 P P 11 56 15.0 -1.6
baz=147
PAX **Paxson** 34.09 337 P P 11 56 17.4 -0.4
baz=135
KNK **Knik Glacier** 34.09 333 P P 11 56 18.2 +0.4
KNK IAmb IAmb 11 56 25.8
comp=Z,7.6nm,0.8s
KNK **Knik Glacier** 34.09 333 P P 11 56 16.4 -1.3
baz=129
EGAK **Eagle** 34.18 342 P P 11 56 18.8 +0.4
baz=142
SML **Sawmill** 34.29 334 P P 11 56 19.4 -0.2
baz=130
SCRK **Sand Creek** 34.35 339 P P 11 56 21.4 +1.2
baz=138
I28M **Miner Creek** 34.41 343 P P 11 56 22.0 +1.4
I28M **Miner Creek** 34.41 343 P P 11 56 22.2 +1.5
baz=145,SNR=7.7
PMR **Palmer** 34.45 333 P P 11 56 22.4 +1.6
PMR IAmb IAmb 11 56 35.6
comp=Z,14nm,1.3s
PMR **Palmer** 34.45 333 P P 11 56 20.5 -0.3
baz=128
EPYK **Eagle Plains** 34.48 346 P P 11 56 21.0 -0.1
EPYK IAmb IAmb 11 56 28.6
comp=Z,8.9nm,1.1s
EPYK **Eagle Plains** 34.48 346 P P 11 56 22.0 +0.9
baz=150
G31M **Satah River** 34.51 348 P P 11 56 20.1 -1.2
G31M **Satah River** 34.51 348 P P 11 56 21.1 -0.2
baz=154
WAT6 **Susitna Watana** 34.59 335 P P 11 56 22.0 -0.2
baz=131
J26L **Joseph Creek** 34.62 340 P P 11 56 23.9 +1.5
baz=139
H29M **Whitestone** 34.70 345 P P 11 56 23.9 +0.9
baz=148
F31M **Tsiigehtchic** 34.89 349 P P 11 56 25.0 +0.5
baz=155,SNR=5.5
I27K **Kandik River** 34.95 342 P P 11 56 28.0 +2.8
baz=142
SUA **Susitna One** 34.99 332 P P 11 56 27.4 +1.7
SUA **Susitna One** 34.99 332 P P 11 56 24.5 -1.2
baz=126
I26K **Coal Creek Min** 35.12 341 P P 11 56 28.0 +1.4
I26K **Coal Creek Min** 35.12 341 P P 11 56 28.2 +1.6
baz=140
G29M **Pine Creek** 35.21 346 P P 11 56 28.9 +1.4
G29M IAmb IAmb 11 56 34.7
comp=Z,14nm,1.3s
G29M **Pine Creek** 35.21 346 P P 11 56 28.8 +1.4
baz=149
J25K **Salcha River,** 35.23 339 P P 11 56 29.4 +1.7
baz=136
F30M **Barrier River** 35.39 348 P P 11 56 31.3 +2.4
baz=152,SNR=8.0
H27K **Steamboat Moun** 35.44 343 P P 11 56 31.4 +2.0
baz=143
Q17K **Contact Creek** 35.58 325 P P 11 56 32.5 +1.8
baz=116
SKT **Skwentna** 35.60 332 P P 11 56 32.7 +2.0
baz=126
C36M **Paulatuk** 35.62 356 P P 11 56 32.8 +2.0
baz=170
INK **Inuvik** 35.65 349 P P 11 56 30.7 -0.3
baz=156,SNR=7.1
INK **Inuvik** 35.65 349 LR LR 12 13 05.4
comp=Z,82nm,20.6s,baz=180,slow=40
MCK **McKinley** 35.75 336 P P 11 56 33.1 +1.0
baz=131
IL03 **Eielson Array** 35.79 338 P P 11 56 34.0 +1.6
IL31 35.80 338 P P 11 56 33.7 +1.3
ILAR **Eielson Array** 35.80 338 P P 11 56 34.2 +1.8
ILAR **Eielson Array** 35.80 338 P P 11 56 34.4 +1.9
comp=Z,1.8nm,0.8s,baz=154,slow=8.1,SNR=23
ILAR LR LR 12 11 11.2
comp=Z,98nm,20.1s,baz=162,slow=36
comp=Z,1.8nm,0.8s
LBNH **Lisbon** 35.87 60 P P 11 56 35.1 +1.8
baz=269
G27K **Doyon Strip** 35.93 344 P P 11 56 34.8 +1.2
G27K IAmb IAmb 11 56 41.2
comp=Z,8.3nm,1.3s
G27K **Doyon Strip** 35.93 344 P P 11 56 35.6 +2.0
baz=144
TRF **Thorofare Moun** 36.04 335 P P 11 56 33.8 -0.8
baz=129
HRV **Adam Dziewonsk** 36.15 63 P P 11 56 36.8 +1.1
baz=272
N19K **Bonanza Creek** 36.15 329 P P 11 56 36.0 +0.4
baz=121
M20K **Styx River** 36.17 332 P P 11 56 37.1 +1.4
baz=124
F28M **Old Crow** 36.20 345 P P 11 56 37.4 +1.6
baz=146
PPLA **Purkeypile** 36.38 333 P P 11 56 38.7 +1.1
baz=126
E29M **Blow River** 36.46 347 P P 11 56 38.8 +0.7
E29M IAmb IAmb 11 56 46.0
comp=Z,8.0nm,1.1s
E29M **Blow River** 36.46 347 P P 11 56 38.6 +0.5
baz=150,SNR=5.8
G26K **Porcupine Rive** 36.56 343 P P 11 56 40.0 +1.1
baz=141,SNR=16
H25L **Birch Creek** 36.57 341 P P 11 56 39.4 +0.4
baz=137
FYU **Fort Yukon** 36.64 341 P P 11 56 39.9 +0.4
CAST **Castle Rocks** 36.66 334 P P 11 56 40.5 +0.7
baz=126
BPAW **Bear Paw Mtn.** 36.69 336 IAmb IAmb 11 56 55.8
comp=Z,8.0nm,1.0s
BPAW **Bear Paw Mtn.** 36.69 336 P P 11 56 41.8 +1.7
baz=129
L20K **Farewell, AK** 36.79 332 P P 11 56 42.4 +1.4
baz=123
I23K **Minto, Yukon-K** 36.83 338 P P 11 56 45.4 +4.2
baz=132
H24K **Noodor Dome** 36.85 339 P P 11 56 42.4 +1.0
baz=134
E28M **Babbage River** 36.96 346 P P 11 56 43.8 +1.5
E28M IAmb IAmb 11 56 49.9
comp=Z,12nm,1.4s
E28M **Babbage River** 36.96 346 P P 11 56 43.7 +1.3
baz=148
L19K **White Mountain** 37.02 331 P P 11 56 44.3 +1.4
baz=122
CHUM **Lake Minchumin** 37.02 335 P P 11 56 44.1 +1.3
baz=127
G25K **Bearman Lake** 37.02 341 P P 11 56 45.1 +2.3
baz=138,SNR=8.3
E27K **Coleen River** 37.04 345 P P 11 56 43.8 +0.8
baz=145
O16K **Kokwok River B** 37.18 326 P P 11 56 45.6 +1.4
baz=115
MLY **Manley** 37.19 337 P P 11 56 46.1 +1.7
baz=130
F26K **Sheenjek River** 37.23 343 P P 11 56 47.1 +2.5
baz=141,SNR=16
H23K **Yukon River** 37.34 338 P P 11 56 47.8 +2.2
baz=132
G24K **Hadweenzic Riv** 37.35 340 P P 11 56 46.4 +0.8
baz=136
K20K **Telida** 37.35 333 P P 11 56 46.6 +0.9
baz=124,SNR=7.3
D28M **Stokes Point** 37.43 347 P P 11 56 48.4 +2.1
baz=149
JTS **Las Juntas de** 37.50 122 LR LR 12 13 06.2
comp=Z,107nm,20.4s,baz=305,slow=38
F25K **Christian River** 37.52 342 P P 11 56 49.1 +1.9
baz=139,SNR=9.7
M17K **Holitna River** 37.69 329 P P 11 56 50.0 +1.4
baz=118
D27M **Malcolm River** 37.78 346 P P 11 56 51.8 +2.4
baz=146
J20K **Nowinta River** 37.84 334 IAmb IAmb 11 56 56.9
comp=Z,7.9nm,0.8s
J20K **Nowinta River** 37.84 334 P P 11 56 51.0 +1.2
baz=125
E25K **Arctic Village** 37.90 343 P P 11 56 53.2 +2.9
baz=139
H22K **Ishtalitna Cre** 37.95 338 P P 11 56 51.9 +1.1
baz=130
F24K **Squaw Lake** 38.05 341 P P 11 56 54.5 +2.9
baz=136
G23K **Bananza Creek** 38.08 339 P P 11 56 53.1 +1.2
baz=132
M16K **Timber Creek** 38.18 328 P P 11 56 54.8 +2.1
baz=116
H21K **Melozitna Rive** 38.26 337 P P 11 56 54.5 +1.1
H21K IAmb IAmb 11 57 06.3
comp=Z,10.0nm,1.1s
H21K **Melozitna Rive** 38.26 337 P P 11 56 54.5 +1.1
baz=128,SNR=7.4
J19K **Poorman** 38.28 333 IAmb IAmb 11 57 09.5
comp=Z,9.5nm,1.0s
J19K **Poorman** 38.28 333 P P 11 56 54.7 +1.2
baz=123
A36M **Sachs Harbour** 38.30 356 P P 11 56 53.5 0.0
A36M IAmb IAmb 11 57 01.5
comp=Z,9.7nm,1.1s
A36M **Sachs Harbour** 38.30 356 P P 11 56 55.7 +2.1
baz=169
I20K **Naaghedeneel** 38.32 335 P P 11 56 53.5 -0.2
I20K **Naaghedeneel** 38.32 335 P P 11 56 55.3 +1.5
baz=125
J18K **Innoko River** 38.41 332 P P 11 56 56.0 +1.4
baz=121
COLD **Coldfoot** 38.48 340 P P 11 56 57.2 +2.0
baz=133
E24K **Your Creek** 38.61 342 P P 11 56 58.9 +2.6
baz=136
C27K **Jago River** 38.66 345 P P 11 56 59.1 +2.5
baz=143
IMAR **Indian Mountai** 38.77 337 P P 11 56 58.5 +0.9
H20K **Anotleneega Mo** 38.86 336 P P 11 56 59.8 +1.4
baz=125
E23K **Chandalar** 38.90 341 P P 11 57 00.4 +1.6
baz=134
D25K **Kavik River** 39.01 344 P P 11 57 01.6 +1.9
baz=139
G21K **Allakaket** 39.02 338 P P 11 57 00.9 +1.2
G21K **Allakaket** 39.02 338 P P 11 57 00.2 +0.5
baz=128
C26K **Camden Bay** 39.15 345 P P 11 57 03.4 +2.7
baz=142
F22K **John River** 39.24 339 P P 11 57 04.0 +2.4
baz=130
TOLK **Toolik Lake Re** 39.30 342 P P 11 57 03.6 +1.6
TOLK **Toolik Lake Re** 39.30 342 P P 11 57 04.6 +2.6
baz=135
H19K **Roundabout Mou** 39.42 335 P P 11 57 04.4 +1.5
baz=123
F21K **Alatna River** 39.45 339 P P 11 57 05.9 +2.6
baz=129
D24K **Happy Valley** 39.47 343 P P 11 57 05.9 +2.5
baz=136
E22K **Anaktuvuk Pass** 39.55 340 P P 11 57 05.6 +1.4
baz=132
D23K **Nanushuk River** 39.81 342 P P 11 57 08.4 +2.2
baz=134
C24K **Franklin Bluff** 39.85 343 P P 11 57 07.9 +1.3
baz=137
G19K **Purcell Mounta** 39.98 336 P P 11 57 07.4 -0.3
baz=123
SCHQ **Schefferville** 40.23 43 LR LR 12 14 06.4
comp=Z,128nm,20.6s,baz=254,slow=37
D22K **Ayikyak River** 40.29 341 P P 11 57 11.2 +0.9
baz=131
E21K **Killik River** 40.37 340 IAmb IAmb 11 57 24.2
comp=Z,15nm,1.4s
E21K **Killik River** 40.37 340 P P 11 57 12.0 +1.1
baz=129
C23K **Itkillik River** 40.40 343 P P 11 57 12.4 +1.2
baz=134
F19K **Shaleruckik Mo** 40.59 336 P P 11 57 13.1 +0.5
baz=123
E19K **Redstone River** 40.76 337 IAmb IAmb 11 57 25.9
comp=Z,10nm,1.0s
E19K **Redstone River** 40.76 337 P P 11 57 15.8 +1.6
baz=124
E20K **Nigu River** 40.90 339 P P 11 57 17.4 +2.0
baz=126
G17K **Kiwalik Mounta** 40.91 334 P P 11 57 17.2 +1.8
baz=118
C21K **Knifeblade Rid** 41.05 340 P P 11 57 18.4 +1.9
baz=129
B21K **Ikpikpuk River** 41.30 341 P P 11 57 19.7 +1.2
baz=130
B22K **Teshekpuk Lake** 41.45 342 IAmb IAmb 11 57 32.0
comp=Z,13nm,0.9s
B22K **Teshekpuk Lake** 41.45 342 P P 11 57 20.2 +0.5
baz=132,SNR=10
F17K **Baldwin Pennin** 41.58 335 P P 11 57 21.0 +0.2
baz=119
D19K **Kuna River** 41.62 338 P P 11 57 21.8 +0.5
D19K IAmb IAmb 11 57 29.4
comp=Z,15nm,1.4s
D19K **Kuna River** 41.62 338 P P 11 57 22.1 +0.9
baz=124
E18K **Tukpahlearik C** 41.84 336 P P 11 57 23.1 +0.2
E18K IAmb IAmb 11 57 31.4
comp=Z,14nm,1.4s
E18K **Tukpahlearik C** 41.84 336 P P 11 57 24.1 +1.1
baz=120
FRB **Frobisher Bay** 41.86 30 LR LR 12 14 50.2
comp=Z,152nm,20.1s,baz=224,slow=36
G15K **Niuklk** 41.96 332 P P 11 57 23.1 -0.9
baz=114
RES **Resolute Bay** 42.13 8 P P 11 57 26.1 +0.8
B20K **Meade River** 42.23 341 P P 11 57 28.0 +1.9
baz=127
A22K **Sinclair Lake** 42.28 342 P P 11 57 29.6 +3.1
baz=130
C19K **Lookout Ridge** 42.41 339 P P 11 57 28.4 +0.8
C18K **Utukok River** 42.66 338 P P 11 57 30.8 +1.0
baz=121
D17K **Noatak River** 42.81 336 P P 11 57 31.5 +0.6
baz=118
C17K **DeLong Mountai** 43.21 337 P P 11 57 34.7 +0.6
baz=118
A19K **Wainwright** 43.44 340 P P 11 57 35.9 0.0
baz=122
C16K **Lisburne Hills** 43.83 336 P P 11 57 39.9 +0.9
baz=116
EUNU **Eureka** 47.71 7 P P 11 58 10.7 +1.0
EUNU IAmb IAmb 11 58 33.2
comp=Z,5.9nm,1.2s
TULEG **Thule** 47.81 14 P P 11 58 10.2 -0.2
ROSC **El Rosal** 48.90 117 LR LR 12 20 52.1
comp=Z,51nm,20.6s,baz=52,slow=38
SDV **Santo Domingo** 49.15 110 LR LR 12 20 21.6
comp=Z,85nm,22.0s,baz=322,slow=38
SFJD **Kangerlussuaq** 49.91 28 LR LR 12 18 55.8
comp=Z,102nm,18.2s,baz=264,slow=35
BAUV **El Baul** 51.15 108 P P 11 58 35.5 -1.2
PCRV **Puerto La Cruz** 53.16 104 LR LR 12 24 29.3
comp=Z,34nm,18.3s,slow=40
ATAH **Atahualpa** 54.73 131 LR LR 12 19 03.9
comp=Z,34nm,19.6s,baz=295,slow=32
NNA **Nana** 59.45 133 LR LR 12 22 01.3
comp=Z,28nm,19.0s,baz=281,slow=33
PPT **Papeete** 60.06 217 LR LR 12 19 58.7
comp=Z,47nm,21.2s,baz=224,slow=30
BORG **Borgarnes** 62.02 29 LR LR 12 27 07.6
comp=Z,195nm,18.8s,baz=309,slow=36
TIXI **Tiksi** 65.19 341 LR LR 12 31 13.0
comp=Z,79nm,20.4s,baz=28,slow=38
LPAZ **La Paz** 68.17 129 LR LR 12 30 03.3
comp=Z,23nm,19.0s,baz=10,slow=36
RAR **Rarotonga** 68.50 223 LR LR 12 21 35.2
comp=Z,59nm,21.4s,baz=244,slow=28
YAK **Yakutsk** 70.45 333 LR LR 12 31 52.1

comp=Z,81nm,18.5s,baz=5.5,slow=36
ARCES ARCESS Array B 73.13 13 LR LR 12 35 02.7
comp=Z,82nm,18.6s,baz=326,slow=37
NOA NORSAR Array B 76.26 23 P **P 12 01 22.2 +0.4**
comp=Z,0.2nm,0.5s,baz=301,slow=11,SNR=2.4
NOA LR LR 12 34 45.1
comp=Z,40nm,18.6s,baz=330,slow=36
comp=Z,0.2nm,0.5s
HFS Hagfors 77.75 23 LR LR 12 34 38.6
comp=Z,67nm,19.6s,baz=322,slow=35
FINES FINESS Array B 80.20 17 LR LR 12 36 11.8
comp=Z,53nm,19.7s,baz=18,slow=35
JHJ Hachijo jima 2 81.91 304 LR LR 12 29 11.3
comp=Z,63nm,21.5s,baz=344,slow=29
GERES GERESS Array B 86.46 30 LR LR 12 40 36.0
comp=Z,113nm,20.5s,baz=298,slow=36
KIRV Kirov 87.03 7 LR LR 12 45 16.9
comp=Z,44nm,18.1s,baz=347,slow=38
VRAC Vranov 87.27 28 LR LR 12 44 04.2
comp=Z,53nm,19.7s,baz=274,slow=38
ARU Arti 89.83 3 LR LR 12 47 42.3
comp=Z,36nm,18.6s,baz=323,slow=39
ZALV Zalesovo Beam 90.42 347 LR LR 12 48 39.9
comp=Z,28nm,19.3s,baz=63,slow=39
AKASG Malin Array Be 90.47 21 LR LR 12 44 15.4
comp=Z,49nm,19.1s,baz=34,slow=36
BVAR Borovoye Array 93.10 356 LR LR 12 49 58.6
comp=Z,36nm,19.1s,baz=0.2,slow=39
HHC Hu-ho-hao-te 93.21 325 *e*P **P 12 02 47.7 -0.4**
HHC pmax pmax
comp=Z,7.0nm,0.5s
HHC pmax pmax
comp=Z,150nm,5.6s
MKAR Makanchi Array 97.75 347 LR LR 12 51 50.2
comp=Z,22nm,20.0s,baz=33,slow=38
WRA Warramunga Arr 116.21 263 PKP **PKPdf 12 08 17.0 -0.2**
comp=Z,0.6nm,0.9s,baz=63,slow=2.1,SNR=4.9
ASAR Alice Springs 118.31 259 PKP **PKPdf 12 08 20.6 -0.5**
comp=Z,0.6nm,0.7s,baz=82,slow=1.7,SNR=8.0
MAW Mawson 146.37 180 PKPbc **PKPab 12 09 13.7 -0.4**
comp=Z,6.3nm,0.9s,baz=153,slow=4.5,SNR=4.9

*NEIC **08** 11:49:58.1±1.2, 19°.4N±0°.1×155°.3W±0°.2, h5km±1km, Error ellipse: s-maj=34.2km s-min=4.0km az=46.0*
HVO 08 11:49:57.6±1.1, 19°.39N±0°.01×155°.27W±0°.02, h0km±1km, ML2.7/7, ML1.9/30(NEIC), Error ellipse: s-maj=2.5km s-min=1.2km az=129.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.01**	**357**	Pg	Pg	11 49 58.3	+0.4
KKO				Sg	Sg	11 49 58.7	+0.6
RIM	**Rim**	**0.01**	**294**	Pg	Pg	11 49 58.4	+0.4
RIM				Sg	Sg	11 49 58.6	+0.4
BYL	**Byron's Ledge**	**0.02**	**15**	Pg	Pg	11 49 58.7	+0.6
BYL				Sg	Sg	11 49 59.5	+1.0
NPH	**North Pit**	**0.03**	**324**	Pg	Pg	11 49 59.0	+0.8
NPH				IAML		11 49 59.1	
	comp=N,2μm,0.4s						
SDHHI	**Sand Hill**	**0.03**	**265**	Pg	Pg	11 49 58.8	+0.6
SDHHI				Sg	Sg	11 49 59.4	+0.8
HATHI	**Halema'uma'u T**	**0.03**	**8**	IAML		11 49 58.7	
	comp=E,2μm,0.7s						
HATHI				Pg	Pg	11 49 59.0	+0.7
HATHI				IAML		11 49 59.0	
	comp=N,3μm,0.6s						
HATHI				Sg	Sg	11 50 00.3	+1.6
OBL	**Observatory Le**	**0.03**	**326**	Pg	Pg	11 49 59.1	+0.8
OBL				Sg	Sg	11 49 59.9	+1.2
SBLHI	**Steaming Bluff**	**0.04**	**356**	Pg	Pg	11 49 58.9	+0.6
SBLHI				IAML		11 49 59.2	
	comp=N,3μm,0.5s						
SBLHI				IAML		11 49 59.5	
	comp=E,2μm,0.3s						
UWB	**Uwekahuna B**	**0.04**	**340**	IAML		11 49 58.6	
	comp=N,1μm,0.5s						
UWB				IAML		11 49 59.1	
	comp=E,1μm,0.8s						
UWB				Pg	Pg	11 49 59.1	+0.7
WRMHI	**West Rim**	**0.04**	**294**	Pg	Pg	11 49 59.1	+0.7
UWE	**Uwekahuna**	**0.04**	**319**	IAML		11 49 58.7	
	comp=E,3μm,0.5s						
UWE				Pg	Pg	11 49 59.7	+1.2
UWE				Sg	Sg	11 50 00.7	+1.7
PUH	**Pauahi**	**0.05**	**111**	Pg	Pg	11 49 59.5	+0.8
PUH				IAML		11 50 00.0	
	comp=N,836nm,0.4s						
PUH				Sg	Sg	11 50 00.8	+1.5
RSD	**Rainshed**	**0.07**	**351**	Pg	Pg	11 50 00.1	+1.0
RSD				IAML		11 50 00.9	
	comp=N,700nm,1.1s						
RSD				Sg	Sg	11 50 01.7	+1.6
KNHH	**Kane Nui o Ham**	**0.09**	**98**		Pg	11 50 00.6	+1.2
HLP	**Hilina Pali**	**0.10**	**203**		Pg	11 50 00.9	+1.2
HLP				IAML		11 50 01.4	
	comp=N,591nm,1.2s						
HLP				IAML		11 50 02.6	
	comp=E,904nm,0.9s						
HLP					Sg	11 50 03.1	+2.1
STCH	**Steam Cracks**	**0.13**	**93**		Pg	11 50 01.6	+1.4
STCH				IAML		11 50 03.5	
	comp=N,388nm,0.8s						
STCH				IAML		11 50 04.1	
	comp=E,392nm,0.4s						
NPOC	**North of Pu'u**	**0.15**	**90**	Sg	Sg	11 50 02.9	+0.5
MLH	**Mauna Loa**	**0.15**	**312**	IAML		11 50 01.8	
	comp=E,491nm,1.1s						
MLH					Pg	11 50 02.0	+1.4
MLH				IAML		11 50 02.1	
	comp=N,608nm,0.9s						
JCUZ	**Jacuzzi**	**0.15**	**93**	Sg	Sg	11 50 03.0	+0.3
HTC	**Hot Caves**	**0.20**	**219**		Pg	11 50 03.2	+1.8
KHU	**Kahuku**	**0.36**	**246**		Pg	11 50 04.9	+0.3

*NEIC **08** 11:51:52.8±0.6, 34°.015N±0°.004×116°.799W±0°.010, h18km±3km, Error ellipse: s-maj=1.2km s-min=0.3km az=116.0*
*ANF **08** 11:51:52.6±0.2, 34°.01N×116°.80W, h16km±1km, Error ellipse: s-maj=1.5km s-min=1.2km az=64.0*
PAS 08 11:51:53.4±0.5, 34°.018N±0°.009×116°.800W±0°.010, h13km±3km, ML3.2/67, ML3.2/28(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=212.0, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSC	**Beaumont Base**	**0.18**	**237**		Pg	11 51 57.6	+0.1
BBSC					Sg	11 52 01.0	+0.6
DEVC	**Devers**	**0.20**	**114**		Pg	11 51 57.9	0.0
DEVC					Sg	11 52 01.6	+0.6
CFT	**Crafton Hills**	**0.26**	**274**		Pn	11 52 02.9	-0.2
SVD	**Seven Oaks Dam**	**0.26**	**290**		Pg	11 51 58.7	-0.3
SVD					Sg	11 52 02.5	-0.2
BBRC	**Big Bear Solar**	**0.26**	**338**		Pg	11 51 58.8	-0.3
BBRC					Sg	11 52 03.0	+0.1
BBRC	**Big Bear Solar**	**0.26**	**338**	P	Pg	11 51 58.8	-0.3
	baz=158						
BBRC				S	Sg	11 52 03.0	0.0
	baz=158						
PEC	**Perris**	**0.33**	**247**		Pn	11 52 04.4	+0.4
EW2	**E Wide Canyon**	**0.34**	**103**		Pg	11 52 00.0	-0.3
EW2					Sg	11 52 05.1	+0.3
POB	**Polly Butte**	**0.35**	**197**		Pg	11 52 00.3	-0.2
POB					Sg	11 52 05.5	+0.3
HMTC	**Hemet**	**0.35**	**209**		Pg	11 52 00.3	-0.3
HMTC					Sg	11 52 05.2	-0.1
GVDA	**Garner Valley**	**0.36**	**163**		Pg	11 52 00.3	-0.5
GVDA					Sg	11 52 05.4	-0.4
HLNC	**Highland**	**0.36**	**287**		Pg	11 52 00.5	-0.3
HLNC					Sg	11 52 06.0	+0.3
DGR	**Domenigoni Val**	**0.41**	**205**		Pg	11 52 01.2	-0.3
DGR					Sg	11 52 06.8	-0.2
CFSC	**Central Fire S**	**0.41**	**282**		Pg	11 52 01.4	-0.2
CFSC					Sg	11 52 07.8	+0.7
CLTC	**Calectric**	**0.43**	**280**		Sb	11 52 09.0	-0.5
RSBC	**Riverside Bore**	**0.44**	**264**		Pg	11 52 01.6	-0.6
RSBC					Sg	11 52 07.7	-0.4
RSBC	**Riverside Bore**	**0.44**	**264**		Pg	11 52 01.7	-0.4
RSBC					Sg	11 52 07.7	-0.4
BACC	**Bachelor Mtn.**	**0.45**	**206**		Pg	11 52 01.9	-0.5
BACC					Sg	11 52 08.0	-0.5
CRY	**Cary Ranch**	**0.45**	**173**		Pg	11 52 02.1	-0.3
CRY					Sg	11 52 08.4	-0.2
GTM	**Goat Mountain**	**0.46**	**53**		Pg	11 52 01.8	-0.8
GTM					Sg	11 52 07.9	-0.9
DNR	**Dunn Ranch,Anz**	**0.47**	**163**		Pg	11 52 02.5	-0.3
DNR					Sg	11 52 09.7	+0.6
RVR	**Riverside**	**0.48**	**267**		Pg	11 52 02.3	-0.6
RVR					Sg	11 52 08.8	-0.4
SNDA	**J Saunders Pla**	**0.49**	**161**		Pg	11 52 02.8	-0.3
SNDA					Sg	11 52 09.4	-0.3
PFO	**Pinyon Flats O**	**0.49**	**145**		Pg	11 52 02.7	-0.5
PFO					Sg	11 52 09.5	-0.3
PFO	**Pinyon Flats O**	**0.49**	**145**	Pg	Pg	11 52 02.8	-0.4
PFO				IAML		11 52 10.0	
	2μm,0.5s						
PFO				IAML		11 52 10.0	
	2μm,0.2s						
PFO	**Pinyon Flats O**	**0.49**	**145**	P	Pg	11 52 02.7	-0.5
	baz=325						
PFO				S	Sg	11 52 09.6	-0.2
	baz=325						
XPFO	**Pion Flat**	**0.50**	**145**		Pg	11 52 02.7	-0.6
XPFO					Sg	11 52 09.2	-0.7
TPFO	**Pinon Flats**	**0.50**	**145**	P	Pg	11 52 02.8	-0.5
	baz=325						
TPFO				S	Sg	11 52 09.8	-0.3
	baz=325						
MURC	**Murrieta**	**0.53**	**218**		Pg	11 52 03.3	-0.6
MURC					Sg	11 52 10.5	-0.5
MURC	**Murrieta**	**0.53**	**218**	P	Pg	11 52 03.3	-0.6
	baz=38						
MURC				S	Sg	11 52 10.6	-0.4
	baz=38						
BZNA	**Buzz No.'s Pla**	**0.54**	**168**		Pg	11 52 03.6	-0.4
BZNA					Sg	11 52 10.9	-0.2
FON	**Fontana**	**0.54**	**279**		Pg	11 52 10.9	-0.2
CSP	**Cedar Springs**	**0.54**	**301**		Pg	11 52 03.6	-0.5
FRD	**Ford Ranch, An**	**0.55**	**162**		Pg	11 52 03.8	-0.4
FRD					Sg	11 52 11.2	-0.3
FRD	**Ford Ranch, An**	**0.55**	**162**		Pg	11 52 03.7	-0.5
FRD					Sg	11 52 11.2	-0.3
SS2	**San Sevaine**	**0.61**	**288**		Pg	11 52 05.0	-0.3
TPC	**Twentynine Pal**	**0.63**	**82**		Pg	11 52 05.1	-0.7
MLSC	**Mira Loma**	**0.63**	**269**		Pg	11 52 05.1	-0.7
MLSC					Sg	11 52 13.4	-0.7
ELS	**Elsinore Mount**	**0.64**	**235**	Pg	Pg	11 52 05.0	-1.0
ELS				Sg	Sg	11 52 13.7	-0.7
CRNC	**Corona**	**0.65**	**258**		Pg	11 52 05.3	-0.7
PLM	**Palomar**	**0.67**	**184**		Pg	11 52 05.9	-0.6
PLM					Sg	11 52 14.9	-0.3
BELC	**Belle Mtn. Jos**	**0.67**	**91**		Pg	11 52 05.8	-0.6
BELC	**Belle Mtn. Jos**	**0.67**	**91**	P	Pg	11 52 05.8	-0.6
	baz=272						
BELC				S	Sg	11 52 15.2	-0.1
	baz=272						
VTV	**Victorville**	**0.70**	**321**		Pg	11 52 06.2	-0.8
VTV					Sg	11 52 15.3	-0.9
CHNC	**Chino**	**0.73**	**269**		Pg	11 52 06.8	-0.8
CHNC					Sg	11 52 17.0	-0.3
BFSC	**Mount Baldy Ra**	**0.74**	**287**		Pg	11 52 07.1	-0.9
BFSC					Sg	11 52 17.1	-0.7
BFSC	**Mount Baldy Ra**	**0.74**	**287**	P	Pg	11 52 07.2	-0.8
	baz=107						
BFSC				S	Sg	11 52 17.4	-0.4
	baz=107						
ADO	**Adelanto Recei**	**0.75**	**316**		Pg	11 52 07.4	-0.5
ADO					Sb	11 52 18.2	-0.3
CTCC	**Cactus City**	**0.77**	**118**		Pg	11 52 07.7	-0.5
CTCC					Sg	11 52 17.5	-0.8
SSK	**Sunset Peak**	**0.77**	**285**		Pg	11 52 07.8	-0.6
BORC	**Borrego Spring**	**0.81**	**157**		Pg	11 52 08.4	-0.8
BORC					Sg	11 52 19.4	-0.4
MATG	**Mataguay Scout**	**0.83**	**171**		Pg	11 52 08.8	-0.7
MATG					Sg	11 52 19.6	-0.7
PSRC	**Puddingstone R**	**0.84**	**275**		Pg	11 52 08.6	-1.1
PSRC					Sg	11 52 19.9	-0.8
CTW	**Cottonwood Mou**	**0.84**	**113**		Pg	11 52 09.1	-0.7
CTW					Sg	11 52 20.7	-0.1
RRX	**Edison Barstow**	**0.87**	**349**		Pg	11 52 09.6	-0.7
RRX					Sg	11 52 21.5	-0.2
RRX	**Edison Barstow**	**0.87**	**349**	P	Pg	11 52 09.6	-0.7
	baz=169						
HEC	**Hector,Ludlow**	**0.90**	**25**		Pg	11 52 09.8	-1.0
HEC					Sg	11 52 22.1	-0.5
HEC	**Hector,Ludlow**	**0.90**	**25**	P	Pg	11 52 09.9	-0.9
	baz=205						
HEC				S	Sg	11 52 22.2	-0.3
	baz=205						
GORC	**Green Oak Ranc**	**0.93**	**203**		Pg	11 52 10.0	-1.5
GORC					Sg	11 52 21.9	-1.8
JUEM	**Julian Eagle M**	**0.95**	**170**		Pg	11 52 11.0	-0.8
DPP	**Dos Picos Cty**	**1.02**	**187**		Pb	11 52 11.6	-1.5
HYS	**Haystack Butte**	**1.06**	**323**		Pb	11 52 12.8	-0.9
MWC	**Mount Wilson**	**1.06**	**281**		Pb	11 52 12.7	-1.1
SBB	**Saddle Back Bu**	**1.08**	**309**		Pb	11 52 13.2	-0.9
109C	**Camp Elliot, M**	**1.15**	**193**	Pg	Pb	11 52 13.8	-1.5
109C				Sg	Sb	11 52 28.9	-1.3
109C				IAML		11 52 29.6	
	comp=N,774nm,0.2s						
109C	**Camp Elliot, M**	**1.15**	**193**	P	Pb	11 52 13.6	-1.6
	baz=13						
109C				S	Sb	11 52 28.4	-1.7
	baz=13						
CPE	**Camp Elliot**	**1.15**	**193**		Pb	11 52 13.9	-1.4
PASC	**Pasadena Art C**	**1.16**	**278**	Pg	Pb	11 52 13.9	-1.5
PASC				Sg	Sb	11 52 29.6	-0.8
PASC				IAML		11 52 31.3	
	comp=E,387nm,0.5s						
MONP2	**Monument Peak**	**1.17**	**164**	P	Pb	11 52 14.8	-0.8
	baz=344						
GMRC	**Granite Mounta**	**1.21**	**51**	S	Sb	11 52 31.6	-0.5
	baz=231						
GSC	**Goldstone, Bar**	**1.28**	**360**	Pn	Pn	11 52 15.7	-1.5
GSC				IAML		11 52 27.9	
	comp=N,317nm,1.6s						
GSC				IAML		11 52 34.2	
	comp=E,359nm,1.3s						
SDRC	**San Diego Road**	**1.28**	**185**		Pn	11 52 15.7	-1.5
DECC	**Green Verdugo**	**1.29**	**281**	P	Pn	11 52 16.8	-0.5
	baz=100						
EDW2	**Edwards Air Fo**	**1.31**	**311**	P	Pn	11 52 17.2	-0.4
	baz=131						
EDW2				S	Sb	11 52 34.4	-0.3
	baz=131						
BAR	**Barrett**	**1.34**	**175**	Pn	Pn	11 52 17.1	-0.8
BAR				IAML		11 52 35.6	
	comp=N,539nm,0.2s						
BAR				IAML		11 52 35.8	
	comp=E,368nm,0.2s						
SWSC	**Sam W. Stewart**	**1.36**	**142**	P	Pn	11 52 16.3	-1.8
	baz=322						
SWSC				S	Sg	11 52 36.8	-0.4
	baz=322						
TKX	**Tecate**	**1.45**	**174**	Pn	Pn	11 52 19.1	-0.4
TKX				IAML		11 52 38.0	
	comp=E,411nm,0.3s						
TKX				IAML		11 52 38.6	
	comp=N,322nm,0.1s						
CIS	**Catalina Islan**	**1.48**	**246**	S	Sn	11 52 38.9	-0.2
	baz=65						
IKP	**In-Ko-Pah, Jac**	**1.48**	**157**	P	Pn	11 52 18.7	-1.3
	baz=337						
CCAC	**Calif City Air**	**1.51**	**319**	Pn	Pn	11 52 19.8	-0.6
CCAC				IAML		11 52 37.3	
	comp=E,468nm,1.6s						
TJX	**Tijuana**	**1.52**	**188**	Pn	Pn	11 52 19.8	-0.5
RMX	**La Rumorosa**	**1.54**	**157**	Pn	Pn	11 52 21.2	+0.5
YUH	**Yuha Desert**	**1.55**	**151**	Pn	Pn	11 52 20.0	-0.8
TUQ	**Turquoise Moun**	**1.59**	**27**	Sb	Sb	11 52 43.6	+0.8
	baz=207						
CBX	**Cerro Bola**	**1.70**	**176**	Pn	Pn	11 52 21.6	-1.4
BLYC	**Blythe**	**1.91**	**97**	Pn	Pn	11 52 25.3	-0.4
BLYC				IAML		11 52 37.1	
	comp=E,240nm,1.0s						

*NEIC **08** 12:20:46.4±1.1, 19°.12N±0°.02×155°.29W±0°.01, h10km±2km, Error ellipse: s-maj=4.4km s-min=3.0km az=155.0*
HVO 08 12:20:45.2±1.2, 19°.03N±0°.03×155°.25W±0°.02, h11km±7km, ML3.2/23, ML3.5/44(NEIC), Error ellipse: s-maj=4.2km s-min=1.6km az=154.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.26**	**325**		Pg	12 20 50.6	+0.1
HLP	**Hilina Pali**	**0.27**	**347**		Pg	12 20 51.0	+0.1
HLP				Sg	Sb	12 20 57.6	+0.6
PUH	**Pauahi**	**0.35**	**5**		Pg	12 20 51.9	-0.4
PUH				Sg	Sb	12 20 58.8	-0.3
PUH				IAML		12 20 59.5	
	comp=E,6μm,0.7s						
PUH				IAML		12 20 59.7	
	comp=N,6μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.36**	**11**		Pg	12 20 52.1	-0.3
SDHHI	**Sand Hill**	**0.36**	**353**		Pg	12 20 52.2	-0.4
RIM	**Rim**	**0.37**	**356**	Pg	Pg	12 20 52.1	-0.5
RIM				Sg	Sb	12 20 59.3	-0.4
RIM				IAML		12 20 59.8	
	comp=E,6μm,0.6s						
KKO	**Keanakako`i**	**0.37**	**357**		Pg	12 20 51.9	-0.7
KKO				Sg	Sg	12 20 57.3	-0.4
KKO				IAML		12 21 04.2	
	comp=E,7μm,0.6s						
STCH	**Steam Cracks**	**0.37**	**18**		Pg	12 20 52.5	-0.2
STCH				IAML		12 21 03.5	
	comp=E,3μm,0.6s						
JCUZ	**Jacuzzi**	**0.38**	**21**		Pg	12 20 52.7	-0.2
JCUZ					Sg	12 20 58.2	+0.3
WRMHI	**West Rim**	**0.38**	**352**	Pg	Pg	12 20 52.1	-0.8
WRMHI				Sg	Sb	12 21 00.3	+0.2
BYL	**Byron's Ledge**	**0.38**	**358**	Pg	Pg	12 20 52.2	-0.7
BYL				IAML		12 21 04.2	
	comp=E,8μm,0.6s						
BYL				IAML		12 21 06.3	
	comp=N,6μm,0.6s						
NPOC	**North of Pu'u**	**0.39**	**19**		Pg	12 20 52.7	-0.2
NPOC					Sg	12 20 58.5	+0.4
NPOC				IAML		12 20 58.8	
	comp=N,3μm,0.4s						
HATHI	**Halema'uma'u T**	**0.39**	**358**	Pg	Pg	12 20 52.5	-0.6
HATHI				IAML		12 21 06.9	
	comp=E,6μm,0.6s						
UWE	**Uwekahuna**	**0.40**	**353**	Pg	Pg	12 20 52.9	-0.3
UWE				IAML		12 21 04.7	
	comp=N,7μm,0.8s						
UWB	**Uwekahuna B**	**0.40**	**355**	Pg	Pg	12 20 52.7	-0.5
SBLHI	**Steaming Bluff**	**0.40**	**357**	Pg	Pg	12 20 52.5	-0.7
SBLHI				IAML		12 21 04.7	
	comp=N,8μm,0.5s						
KHU	**Kahuku**	**0.41**	**302**		Pg	12 20 53.1	-0.3
KHU				Sg	Sg	12 20 59.1	+0.1
KHU				IAML		12 21 06.3	
	comp=E,3μm,0.4s						
RSD	**Rainshed**	**0.43**	**356**	Pg	Pg	12 20 53.2	-0.6
JOKA	**Jonika Flow**	**0.46**	**29**		Pg	12 20 53.8	-0.6
MLH	**Mauna Loa**	**0.48**	**344**		Pg	12 20 54.4	-0.4
MLH				IAML		12 21 04.8	
	comp=E,4μm,0.5s						
MLH				IAML		12 21 05.2	
	comp=N,5μm,0.6s						
MWH	**Moku'aweowe**	**0.56**	**324**		Pg	12 20 55.5	-0.9
MWH				IAML		12 21 10.3	
	comp=N,3μm,0.5s						
MWH				IAML		12 21 13.4	
	comp=E,4μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.59**	**328**		Pg	12 20 56.0	-0.9
MLOA				IAML		12 21 04.0	
	comp=E,2μm,0.5s						
MLOA				IAML		12 21 15.2	
	comp=N,2μm,0.6s						
HMH	**Humu'ula Sheep**	**0.61**	**339**		Pg	12 20 56.2	-1.1
HMH				IAML		12 21 09.9	
	comp=N,2μm,0.3s						
HMH				IAML		12 21 10.1	
	comp=E,2μm,0.4s						
ALEP	**Alea Permanent**	**0.64**	**324**		Pg	12 20 56.1	-1.6
POHA	**Pohakuloa**	**0.78**	**340**		Pg	12 20 58.0	-2.3
POHA				IAML		12 21 13.2	
	comp=E,3μm,0.4s						
POHA				IAML		12 21 13.9	
	comp=E,2μm,0.3s						
CPH	**Captain Cook**	**0.78**	**306**		Pg	12 20 58.8	-1.7

IDC 08 12:29:07.1±1.7, 14°.42N×124°.05E, h0km, mb3.6/5, mbtmp3.6/5, MS3.0/1, Error ellipse: s-maj=83.0km s-min=21.8km az=60.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**7.45**	**168**	LR	LR	12 34 31.5	
	comp=Z,99nm,18.9s,baz=315,slow=44						
CMAR	**Chiang Mai Arr**	**24.40**	**283**	P	P	12 34 27.5	0.0
	1.0nm,0.5s,baz=92,slow=7.7,SNR=3.0						
	1.0nm,0.5s						
WRA	**Warramunga Arr**	**35.61**	**163**	P	P	12 36 06.3	-0.4
	0.9nm,0.9s,baz=344,slow=9.2,SNR=3.2						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**39.06**	**166**	P	P	12 36 36.1	+0.1
	0.6nm,0.8s,baz=348,slow=7.9,SNR=8.3						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**47.44**	**322**	P	P	12 37 43.5	-0.1
	0.5nm,0.7s,baz=125,slow=9.0,SNR=4.6						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**51.45**	**324**	P	P	12 38 13.9	-0.2
	1.0nm,0.7s,baz=126,slow=7.5,SNR=6.3						
	1.0nm,0.7s						

*NEIC **08** 12:35:34.0±0.8, 19°.46N±0°.02×154°.960W±0°.008, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.4km az=352.0*
HVO 08 12:35:33.3±1.2, 19°.43N±0°.01×154°.93W±0°.02, h4km±5km, ML2.8/8, ML2.7/30(NEIC), Error ellipse: s-maj=3.4km s-min=1.5km az=117.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**37**		Pg	12 35 35.2	+0.6
JOKA	**Jonika Flow**	**0.07**	**269**		Pg	12 35 35.3	+0.4
JCUZ	**Jacuzzi**	**0.17**	**253**		Pg	12 35 37.1	+0.4
NPOC	**North of Pu'u**	**0.18**	**257**		Pg	12 35 37.2	+0.4
STCH	**Steam Cracks**	**0.19**	**255**		Pg	12 35 37.5	+0.4
STCH				IAML		12 35 41.2	
	comp=E,730nm,0.6s						
KNHH	**Kane Nui o Ham**	**0.23**	**257**		Pg	12 35 39.4	+1.5
PUH	**Pauahi**	**0.28**	**258**	Pg	Pg	12 35 38.9	+0.1
PUH				IAML		12 35 43.5	
	comp=E,861nm,0.7s						
PUH				IAML		12 35 45.6	
	comp=N,1μm,0.7s						
BYL	**Byron's Ledge**	**0.32**	**266**	Pg	Pg	12 35 39.4	0.0
HATHI	**Halema'uma'u T**	**0.32**	**268**	Pg	Pg	12 35 39.4	0.0
SDHHI	**Sand Hill**	**0.35**	**263**	Pg	Pg	12 35 40.1	0.0
HLP	**Hilina Pali**	**0.39**	**249**		Pg	12 35 41.5	+0.8
HLP				IAML		12 35 45.3	
	comp=E,1μm,1.2s						
HLP				IAML		12 35 54.2	
	comp=N,1μm,0.7s						
MLH	**Mauna Loa**	**0.44**	**278**		Pg	12 35 42.2	+0.4
MLH				IAML		12 35 49.4	
	comp=E,586nm,0.8s						
MLH				IAML		12 35 51.3	
	comp=N,618nm,0.8s						
HTC	**Hot Caves**	**0.49**	**246**		Pg	12 35 43.1	+0.4
HMH	**Humu'ula Sheep**	**0.55**	**288**	Pg	Pg	12 35 43.8	-0.1
HMH					Sg	12 35 52.5	+1.4
HMH				IAML		12 35 58.9	
	comp=E,674nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.62**	**279**	Pg	Pg	12 35 45.1	-0.2
MLOA

KHU			IAML		12 36 02.6	
	comp=E,300nm,2.6s					
ALEP	**Alea Permanent**	**0.69 279**		Pg	12 35 46.0	-0.5

*IDC **08** 12:51:58.4±5.8,6.81S×130.24E,h90km±51km,mb3.7/6, mbtmp4.1/9,ML4.5/3,MS3.4/1,Error ellipse: s-maj=65.8km s-min=21.5km az=61.0*
*NEIC **08** 12:52:02.0±2.5,6.86S±0.07×129.88E±0.07,h121km±9km, mb4.1/12,Error ellipse: s-maj=10.4km s-min=9.5km az=104.0*
*DJA **08** 12:52:02.9±0.2,7.3S×13.0E±°,h112km±5km,M4.5/12, mB5.0/1,mb4.2/12,MLv4.6/10,Mw(mB)4.3/1*

ISC 08 12:52:00.9±0.5,6.855±0.05×129.87E±0.05,h104km,n59, σ1♀96/62,mb4.0/10,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.81**	**128**	P	**Pn**	**12 52 34.4**	**+3.1**
SAUI	**Saumlaki**	**1.81**	**128**		**Pn**	**12 52 34.7**	**+3.3**
SAUI				Sn	**Sn**	**12 52 56.2**	**+1.8**
SAUI	**Saumlaki**	**1.81**	**128**	P	**Pn**	**12 52 34.5**	**+3.1**
SAUI				S	**Sn**	**12 52 56.1**	**+1.6**
BNDI	**Bandanaira**	**2.31**	**1**	P	**Pn**	**12 52 41.2**	**+3.4**
FAKI	**Fak Fak**	**4.57**	**31**	P	**Pn**	**12 53 09.5**	**+1.6**
FAKI	**Fak Fak**	**4.57**	**31**		**Pn**	**12 53 09.3**	**+1.4**
FAKI				Sn	**Sn**	**12 54 00.2**	**+0.2**
FAKI	**Fak Fak**	**4.57**	**31**	P	**Pn**	**12 53 09.3**	**+1.4**
KMPI	**Kaimana, Papua**	**4.96**	**51**	P	**Pn**	**12 53 14.9**	**+1.7**
DRS	**Darwin Rock St**	**5.64**	**170**	P	**Pn**	**12 53 22.4**	**0.0**
MTN	**Manton Dam**	**6.09**	**168**	P	**Pn**	**12 53 28.7**	**+0.2**
MTN	**Manton Dam**	**6.09**	**168**	Pn	**Pn**	**12 53 28.6**	**+0.1**
SWI	**Sorong**	**6.11**	**13**	P	**Pn**	**12 53 30.8**	**+2.0**
SOEI	**Soe**	**6.25**	**242**	P	**Pn**	**12 53 33.8**	**+3.0**
SOEI	**Soe**	**6.25**	**242**	Pn	**Pn**	**12 53 33.7**	**+3.0**
SOEI	**Soe**	**6.25**	**242**	P	**Pn**	**12 53 32.4**	**+1.6**
	118nm,0.8s,0.4nm						
KDU	**Kakadu**	**6.34**	**156**	P	**Pn**	**12 53 31.4**	**-0.6**
BATI	**Baumata**	**6.98**	**241**	P	**Pn**	**12 53 42.8**	**+2.1**
	27nm,0.3s,baz=130,slow=3.0,SNR=17						
BATI				S	**Sn**	**12 54 56.6**	**-2.0**
	52nm,0.6s,baz=71,slow=18,SNR=2.4						
	65nm,0.4s						
BATI	**Baumata**	**6.98**	**241**	P	**Pn**	**12 53 42.5**	**+1.8**
	79nm,1.0s,1µm0.4nm						
EDFI	**Ende, Flores**	**8.32**	**256**	P	**Pn**	**12 54 01.4**	**+2.5**
	9.3nm,1.1s						
PLAI	**Plampang**	**12.14**	**260**	P	**Pn**	**12 54 53.5**	**+3.0**
WB0	**Warramunga Arr**	**13.57**	**162**	Pn	**Pn**	**12 55 05.4**	**-3.9**
WRAB	**Tennant Creek**	**13.71**	**162**	Pn	**Pn**	**12 55 06.5**	**-4.6**
WRA	**Warramunga Arr**	**13.72**	**162**		**Pn**	**12 55 08.7**	**-2.6**
WRA	**Warramunga Arr**	**13.72**	**162**	P	**Pn**	**12 55 07.0**	**-4.2**
	1.6nm,0.3s,baz=343,slow=10.0,SNR=31						
WRA				S	Sn	12 57 29.9	-12
	15nm,0.7s,baz=330,slow=23,SNR=16						
	2.3nm,0.4s						
WB2	**Warramunga Arr**	**13.72**	**162**	Pn	**Pn**	**12 55 08.4**	**-2.8**
WR0	**Warramunga Arr**	**13.80**	**161**	Pn	**Pn**	**12 55 09.8**	**-2.4**
COEN	**Coen**	**14.87**	**119**	P	**Pn**	**12 55 26.3**	**+0.4**
COEN	**Coen**	**14.87**	**119**	Pn	**Pn**	**12 55 25.1**	**-0.9**
QIS	**Mount Isa**	**16.58**	**146**	P	**P**	**12 55 47.5**	**-0.5**
AS31	**Alice Springs**	**17.16**	**167**		**Pn**	**12 55 53.5**	**-0.9**
ASAR	**Alice Springs**	**17.17**	**167**		**P**	**12 55 54.6**	**+0.1**
ASAR	**Alice Springs**	**17.17**	**167**	P	**Pn**	**12 55 53.7**	**-0.8**
	0.9nm,0.3s,baz=337,slow=9.1,SNR=84						
ASAR				S	Sn	12 58 54.2	-11
	2.5nm,0.6s,baz=328,slow=17,SNR=8.8						
	2.5nm,0.6s						
AS01	**Alice Springs**	**17.17**	**167**	P	**Pn**	**12 55 53.9**	**-0.7**
MBWA	**Marble Bar**	**17.28**	**214**	P	**Pn**	**12 55 58.9**	**+3.1**
MBWA	**Marble Bar**	**17.28**	**214**		**P**	**12 55 55.0**	**-0.8**
MBWA				IAmb	IAmb	12 56 00.1	
	comp=Z,9.8nm,1.1s						
PMG	**Port Moresby**	**17.30**	**100**	P	**P**	**12 55 54.2**	**-1.8**
PSA00	**Pilbara Seismi**	**17.55**	**212**	P	**Pn**	**12 56 00.8**	**+1.7**
PSA00	**Pilbara Seismi**	**17.55**	**212**	P	**P**	**12 55 57.1**	**-1.6**
MTSU	**Mount Surprise**	**18.00**	**130**	P	**Pn**	**12 56 05.1**	**+0.5**
WRKA	**Warakurna**	**18.15**	**185**	P	**P**	**12 56 04.8**	**-0.5**
OOD	**Oodnadatta**	**21.55**	**166**	P	**P**	**12 56 42.5**	**+0.5**
LEM	**Lembang**	**22.09**	**269**	LR	LR	13 07 04.6	
	comp=Z,89nm,18.2s,baz=226,slow=40						
MEEK	**Meekatharra**	**22.41**	**207**	P	**P**	**12 56 52.7**	**+1.6**
MULG	**Mulgathing**	**23.64**	**171**	P	**P**	**12 57 03.5**	**+0.7**
CM31	**Chiang Mai Arr**	**39.53**	**310**	P	**P**	**12 59 19.8**	**-2.2**
CMAR	**Chiang Mai Arr**	**39.53**	**310**	P	**P**	**12 59 22.6**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=137,slow=6.9,SNR=4.3						
	comp=Z,0.8nm,0.3s						
MXZ	**Matakaoa Point**	**53.46**	**132**	P	**P**	**13 01 10.6**	**0.0**
MK31	**Makanchi Array**	**68.03**	**327**	P	**P**	**13 02 50.2**	**+1.0**
MK31				IAmb	IAmb	13 02 50.9	
	comp=Z,2.5nm,0.9s						
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**13 02 49.9**	**+0.7**
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**13 02 50.0**	**+0.8**
	comp=Z,2.6nm,0.6s,baz=129,slow=7.9,SNR=30						
	comp=Z,2.6nm,0.6s						
MAKZ	**Makanchi**	**68.21**	**327**	P	**P**	**13 02 51.3**	**+1.0**
MAKZ				IAmb	IAmb	13 02 51.5	
	comp=Z,3.0nm,0.8s						
ZAA0	**Zalesovo Array**	**71.39**	**334**	P	**P**	**13 03 08.0**	**-1.6**
ZALV	**Zalesovo Beam**	**71.39**	**334**	P	**P**	**13 03 08.0**	**-1.6**
ZALV	**Zalesovo Beam**	**71.39**	**334**	P	**P**	**13 03 08.9**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=116,slow=3.4,SNR=3.8						
	comp=Z,0.4nm,0.3s						
SIMJ	**Simiganj**	**72.25**	**314**	P	**P**	**13 03 14.0**	**-1.3**
SIMJ				IAmb	IAmb	13 03 16.0	
	comp=Z,3.9nm,1.0s						
KURBB	**Kurchatov Arra**	**72.31**	**329**	P	**P**	**13 03 15.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=132,slow=4.9,SNR=9.1						
	comp=Z,1.0nm,0.5s						
KURK	**Kurchatov**	**72.32**	**329**	P	**P**	**13 03 14.0**	**-1.3**
KURK				IAmb	IAmb	13 03 16.3	
	comp=Z,2.8nm,1.1s						
BVAR	**Borovoye Array**	**77.87**	**328**	P	**P**	**13 03 46.8**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=117,slow=8.4,SNR=5.2						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**83.13**	**180**	P	**P**	**13 04 14.3**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=5.2,slow=0.6,SNR=10.0						
	comp=Z,0.6nm,0.5s						

*NEIC **08** 13:05:05.5±1.5,19.09N±0.03×155.28W±0.02,h10km±2km, Error ellipse: s-maj=5.6km s-min=3.0km az=324.0*

HVO 08 13:05:04.9±1.5,19.05N±0.03×155.25W±0.02,h12km±6km, ML2.6/8,ML2.8/32(NEIC),Error ellipse: s-maj=5.1km s-min=0.6km az=143.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.23**	**323**		Pg	13 05 10.0	+0.2
HLP	**Hilina Pali**	**0.25**	**347**		Pg	13 05 10.3	+0.1
HLP					Sb	13 05 15.0	-0.9
HLP	**Hilina Pali**	**0.25**	**347**	IAML		13 05 19.1	
	comp=E,3µm,0.5s						
HLP				IAML		13 05 19.7	
	comp=N,3µm,0.7s						
PUH	**Pauahi**	**0.33**	**6**		Pg	13 05 11.3	-0.2
PUH	**Pauahi**	**0.33**	**6**	IAML		13 05 19.0	
	comp=E,1µm,0.8s						
PUH				IAML		13 05 19.2	
	comp=N,1µm,0.8s						
KNHH	**Kane Nui o Ham**	**0.34**	**13**		Pg	13 05 11.5	-0.2
SDHHI	**Sand Hill**	**0.34**	**353**		Pg	13 05 11.5	-0.3
SDHHI	**Sand Hill**	**0.34**	**353**	IAML		13 05 19.7	
	comp=E,6µm,0.6s						
SDHHI				IAML		13 05 21.1	
	comp=N,5µm,0.5s						
STCH	**Steam Cracks**	**0.35**	**19**		Pg	13 05 11.8	-0.3
STCH					Sg	13 05 17.5	+0.7
STCH	**Steam Cracks**	**0.35**	**19**	IAML		13 05 17.6	
	comp=E,526nm,0.2s						
STCH				IAML		13 05 20.7	
	comp=N,599nm,0.7s						
JCUZ	**Jacuzzi**	**0.36**	**23**		Pg	13 05 12.0	-0.2
NPOC	**North of Pu'u**	**0.37**	**21**		Pg	13 05 11.9	-0.3
NPOC					Sg	13 05 17.9	+0.7
HATHI	**Halema'uma'u T**	**0.37**	**358**	Pg	Pg	13 05 11.9	-0.4
KHU	**Kahuku**	**0.40**	**300**		Pg	13 05 12.5	-0.3
KHU					Sg	13 05 18.7	+0.5
KHU	**Kahuku**	**0.40**	**300**	IAML		13 05 24.3	
	comp=E,683nm,0.6s						
KHU				IAML		13 05 26.3	
	comp=N,562nm,0.9s						
RSD	**Rainshed**	**0.41**	**356**		Pg	13 05 12.8	-0.4
RSD	**Rainshed**	**0.41**	**356**	IAML		13 05 24.3	
	comp=N,1µm,1.1s						
RSD				IAML		13 05 24.5	
	comp=E,854nm,0.7s						
JOKA	**Jonika Flow**	**0.45**	**31**		Pg	13 05 13.1	-0.6
MLH	**Mauna Loa**	**0.46**	**344**		Pg	13 05 13.6	-0.5
MLH					Sg	13 05 20.6	+0.4
MLH	**Mauna Loa**	**0.46**	**344**	IAML		13 05 21.1	
	comp=N,2µm,0.2s						
MLH				IAML		13 05 21.4	
	comp=E,963nm,0.4s						
MWH	**Moku'aweowe**	**0.54**	**323**		Pg	13 05 14.5	-1.1
MWH	**Moku'aweowe**	**0.54**	**323**	IAML		13 05 28.3	
	comp=E,759nm,1.6s						
MWH				IAML		13 05 32.8	
	comp=N,628nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.57**	**328**		Pg	13 05 15.2	-1.0
MLOA					Sg	13 05 23.2	-0.7
MLOA	**Mauna Loa Obse**	**0.57**	**328**	IAML		13 05 23.4	
	comp=N,734nm,0.2s						
MLOA				IAML		13 05 23.5	
	comp=E,540nm,0.3s						
HMH	**Humu'ula Sheep**	**0.59**	**338**	IAML		13 05 30.0	
	comp=N,450nm,0.8s						
HMH	**Humu'ula Sheep**	**0.59**	**338**		Pg	13 05 15.5	-1.0
HMH					Sg	13 05 24.7	+0.2
ALEP	**Alea Permanent**	**0.61**	**323**		Pg	13 05 15.4	-1.5
POHA	**Pohakuloa**	**0.75**	**339**	Pg	Pg	13 05 17.4	-2.2
POHA				IAML		13 05 32.5	
	comp=N,465nm,0.4s						
POHA				IAML		13 05 32.7	
	comp=N,525nm,0.6s						
CPH	**Captain Cook**	**0.77**	**305**		Pg	13 05 18.0	-1.8
HUH	**Hualalai**	**0.84**	**319**		Pg	13 05 19.0	-2.2
HUH	**Hualalai**	**0.84**	**319**	IAML		13 05 42.6	
	comp=E,445nm,0.4s						
HPAH	**Hawaii Prepara**	**1.06**	**337**		Sb	13 05 34.1	-5.1
HPAH	**Hawaii Prepara**	**1.06**	**337**	Pg	Pb	13 05 21.4	-3.9
HPAH	**Hawaii Prepara**	**1.06**	**337**	IAML		13 05 49.1	
	comp=N,166nm,2.9s						
MHA	**Mahukona**	**1.29**	**332**	Pn	Pn	13 05 24.8	-4.0

*IDC **08** 13:07:34.0±1.2,27.67N×86.78E,h0km,mb3.8/6, mbtmp3.7/7,ML3.4/1,MS2.8/1,Error ellipse: s-maj=53.1km s-min=22.3km az=65.0*
*DMN **08** 13:07:35.8±0.3,27.84N×88.35E,h30km,Ml4.6/6,Error ellipse: s-maj=7.0km s-min=4.6km az=34.0*
*NEIC **08** 13:07:40.0±1.3,28.1N±0.1×87.43E±0.05,h33km±9km, mb4.0/7,Error ellipse: s-maj=15.8km s-min=6.2km az=180.0*
*NDI **08** 13:07:39.0±3.0,27.95N×87.77E,h10km,ML3.6,MW4.0, mb4.0(NEIC)*

ISC 08 13:07:37.9±1.5,27.97N±0.05×87.73E±0.03,h17km±10km, n34,σ2♀81/46,mb3.8/10,Nepal

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TAPN	**Taplejung**	**0.62**	**182**	*e*Pg	**Pb**	**13 07 49.4**	**-1.0**
TAPN				*e*Sg	**Sg**	**13 07 59.6**	**+1.0**
	3µm,0.3s						
GTK	**Tadong**	**1.01**	**130**	*e*P	**Pb**	**13 07 56.2**	**-0.8**
GTK				*e*S	**Sb**	**13 08 09.7**	**-0.4**
GTK				IAML		13 08 09.9	
	comp=N,2µm,0.4s						
GTK				IAML		13 08 10.0	
	comp=E,3µm,0.3s						
JIRN	**Jiri**	**1.40**	**258**	*e*Sg	**Sg**	**13 08 27.3**	**+4.1**
	comp=E,1µm,0.3s						
RAMN	**Ramite**	**1.43**	**225**	*e*Pg	**Pn**	**13 08 04.1**	**+0.8**
RAMN				*e*Sg	**Sg**	**13 08 24.5**	**+0.4**
	comp=E,2µm,0.5s						
PKI	**Pulchoki**	**2.09**	**260**	*e*Pg	**Pn**	**13 08 14.9**	**+2.4**
	comp=E,383nm,0.3s						
PKI				*e*Sg	**Sb**	**13 08 44.0**	**+2.5**
PKIN	**Phulchoki**	**2.10**	**260**	*e*Pg	**Pn**	**13 08 15.1**	**+2.5**
	comp=E,462nm,0.3s						
PKIN				*e*Sg	**Sb**	**13 08 44.2**	**+2.5**
DMN	**Daman**	**2.35**	**262**	*e*Pg	**Pb**	**13 08 19.0**	**-1.0**
DMN				*e*Sg	**Sb**	**13 08 50.8**	**+2.0**
GKN	**Gorkha**	**2.73**	**271**	*e*Pg	**Pn**	**13 08 24.6**	**+3.5**
GKN				*e*Sg	**Sb**	**13 08 59.8**	**+0.1**
	comp=E,419nm,0.3s						
LSA	**Lhasa**	**3.46**	**59**		**Pn**	**13 08 34.7**	**+3.2**
DANN	**Dangsing**	**3.52**	**277**	*e*Sg	**Sn**	**13 09 19.1**	**+5.5**
	comp=E,94nm,0.3s						
PYUN	**Piuthan**	**4.19**	**273**	*e*Pg	**Pn**	**13 08 43.1**	**+1.9**
PYUN				*e*Sg	**Sn**	**13 09 34.3**	**+4.4**
SHL	**Shillong**	**4.42**	**122**	Pn	**Pn**	**13 08 48.1**	**+3.7**
BOK	**Bokaro**	**4.48**	**202**	*e*P	**Pn**	**13 08 47.0**	**+2.0**
BOK				*e*S	**Sn**	**13 09 38.6**	**+1.9**
BOK				IAML		13 09 42.2	
	comp=N,34nm,0.3s						
BOK				IAML		13 09 42.5	
	comp=E,39nm,0.1s						
ITAN	**ITANAGAR**	**5.38**	**97**	*e*S	**Sn**	**13 09 58.2**	**-0.8**
ITAN				IAML		13 10 29.7	
	comp=N,164nm,0.5s						
ITAN				IAML		13 10 30.4	
	comp=E,262nm,0.8s						
ZIRO	**ZIRO**	**5.44**	**93**	*e*P	**Pn**	**13 08 59.3**	**+0.9**
ZIRO				*e*S	**Sn**	**13 09 57.9**	**-2.9**
ZIRO				IAML		13 10 10.5	
	comp=N,281nm,0.6s						
ZIRO				IAML		13 10 13.7	
	comp=E,282nm,0.5s						
ALBI	**Allahabad**	**5.92**	**245**	*ex*	**Pg**	**13 09 28.1**	**-3.2**
ALBI				*e*S	**Sn**	**13 10 11.9**	**-0.4**
KOHI	**KOHIMA**	**6.12**	**110**	*e*P	**Pn**	**13 09 10.2**	**+2.4**
KOHI				*e*S	**Sn**	**13 10 15.9**	**-1.6**
KOHI				IAML		13 10 30.0	
	comp=E,68nm,0.5s						
KOHI				IAML		13 10 32.1	
	comp=N,56nm,0.6s						
SMLA	**Simla**	**9.72**	**291**	*e*S	**Sn**	**13 11 41.1**	**-4.6**
BHPL	**Bhopal**	**10.42**	**245**	*e*P	**Pn**	**13 10 06.2**	**-0.5**
BHPL				*e*S	**Sn**	**13 11 56.2**	**-6.9**
CMAR	**Chiang Mai Arr**	**13.99**	**130**	Pn	**Pn**	**13 10 58.5**	**+3.1**
ARSB	**Arslanbob**	**17.98**	**322**	Pn	**Pn**	**13 11 41.6**	**-5.6**
SIMJ	**Simiganj**	**18.90**	**309**	P	**P**	**13 11 54.1**	**-3.6**
SIMJ				IAmb	IAmb	13 12 02.6	
	comp=Z,3.4nm,0.6s						
MKAR	**Makanchi Array**	**19.27**	**349**	P	**P**	**13 12 02.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=175,slow=9.9,SNR=4.1						
MKAR				LR	LR	13 20 57.7	
	comp=Z,29nm,21.9s,baz=158,slow=41						
	comp=Z,0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**23.68**	**345**	P	**P**	**13 12 47.9**	**-0.5**
	comp=Z,3.8nm,0.2s,baz=164,slow=8.7,SNR=1.7						
	comp=Z,3.8nm,0.2s						
HKPS	**Hong Kong Po S**	**24.55**	**97**	P	**P**	**13 12 58.2**	**+1.4**
ZALV	**Zalesovo Beam**	**26.04**	**356**	P	**P**	**13 13 10.2**	**+0.1**
	comp=Z,0.8nm,0.4s,baz=191,slow=9.3,SNR=6.0						
	comp=Z,0.8nm,0.4s						
ABKAR	**Akbulak array**	**30.10**	**322**	P	**P**	**13 13 43.9**	**-2.5**
ABKAR				IAmb	IAmb	13 13 47.8	
	comp=Z,1.0nm,0.7s						
SSLB	**Suanglung**	**30.13**	**90**	P	**P**	**13 13 49.9**	**+2.9**
SSLB				IAmb	IAmb	13 14 14.1	
	comp=Z,18nm,1.2s						
WRA	**Warramunga Arr**	**65.58**	**131**	P	**P**	**13 18 22.6**	**+1.6**
	comp=Z,0.7nm,0.9s,baz=327,slow=6.3,SNR=2.6						
	comp=Z,0.7nm,0.9s						
ASAR	**Alice Springs**	**67.96**	**134**	P	**P**	**13 18 37.5**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=316,slow=6.1,SNR=7.5						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**78.34**	**21**	P	**P**	**13 19 39.6**	**+2.7**
	comp=Z,0.4nm,0.8s,baz=305,slow=6.8,SNR=2.8						
	comp=Z,0.4nm,0.8s						
G31M	**Satah River**	**80.23**	**16**	P	**P**	**13 19 48.1**	**+1.0**
G31M				IAmb	IAmb	13 19 50.4	
	comp=Z,1.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.50**	**280**	P	P	13 19 44.3	-5.2
	comp=Z,0.4nm,1.0s,baz=44,slow=4.7,SNR=2.1						
	comp=Z,0.4nm,1.0s						
H31M	**Peel River**	**81.11**	**16**	P	**P**	**13 19 51.5**	**-0.5**
H31M				IAmb	IAmb	13 19 54.9	
	comp=Z,4.1nm,1.1s						

*IDC **08** 13:35:23.2±2.1,4.81S×153.46E,h0km,mb3.8/7, mbtmp3.8/7,Error ellipse: s-maj=89.8km s-min=23.1km az=118.0*
*NEIC **08** 13:35:33.5±1.2,4.8S±0.2×153.2E±0.1,h67km±8km, mb4.2/11,Error ellipse: s-maj=22.4km s-min=17.3km az=169.0*

ISC 08 13:35:30.5±0.9,5.0S±0.1×153.3E±0.1,h50km,n22, σ1♀17/22,mb4.0/13,New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.33**	**305**	Pn	**Pn**	**13 35 52.1**	**-0.6**
MANU	**Manus Island**	**6.55**	**296**	Pn	**Pn**	**13 37 05.6**	**+1.2**
PATS	**Pohnpei**	**12.75**	**23**	Pn	**Pn**	**13 38 30.1**	**+0.9**
EIDS	**Eidsvold**	**20.41**	**186**	P	**P**	**13 40 02.2**	**-1.2**
EIDS				IAmb	IAmb	13 40 23.5	
	comp=Z,22nm,1.5s						
MTN	**Manton Dam**	**23.20**	**249**	P	**P**	**13 40 32.8**	**-0.5**
MTN				IAmb	IAmb	13 41 04.7	
	comp=Z,19nm,1.3s						
WB0	**Warramunga Arr**	**23.54**	**230**	P	**P**	**13 40 37.0**	**+0.4**
WB0				IAmb	IAmb	13 41 01.9	
	comp=Z,9.2nm,1.4s						
WR0	**Warramunga Arr**	**23.54**	**229**	P	**P**	**13 40 37.8**	**+1.2**
WB2	**Warramunga Arr**	**23.68**	**229**	P	**P**	**13 40 38.9**	**+1.1**
WB2				IAmb	IAmb	13 40 59.6	
	comp=Z,5.3nm,0.9s						
WRA	**Warramunga Arr**	**23.69**	**229**	P	**P**	**13 40 39.1**	**+1.2**
WRA	**Warramunga Arr**	**23.69**	**229**	P	**P**	**13 40 39.5**	**+1.6**
	comp=Z,2.1nm,0.6s,baz=51,slow=10.0,SNR=22						
	comp=Z,2.1nm,0.6s						
ASAR	**Alice Springs**	**26.35**	**223**	P	**P**	**13 41 03.6**	**+1.6**
	comp=Z,0.1nm,0.4s,baz=56,slow=8.8,SNR=9.3						
	comp=Z,0.1nm,0.4s						
SSLB	**Suanglung**	**42.52**	**314**	P	**P**	**13 43 20.1**	**-1.3**
PETK	**Petropavlovsk-**	**57.97**	**3**	P	**P**	**13 45 18.1**	**+0.3**
	comp=Z,1.8nm,0.9s,baz=140,slow=6.0,SNR=4.1						
	comp=Z,1.8nm,0.9s						
F15K	**North Star Dit**	**76.84**	**17**	P	**P**	**13 47 14.9**	**-1.8**
L19K	**White Mountain**	**77.72**	**22**	P	**P**	**13 47 23.0**	**+1.2**
L19K				IAmb	IAmb	13 47 23.9	
	comp=Z,5.8nm,1.3s						
SUA	**Susitna One**	**78.91**	**24**	P	**P**	**13 47 28.8**	**+0.2**
SUA				IAmb	IAmb	13 48 04.3	
	comp=Z,9.3nm,1.1s						
MKAR	**Makanchi Array**	**80.74**	**319**	P	**P**	**13 47 38.4**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=116,slow=6.6,SNR=4.7						
	comp=Z,0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**81.53**	**326**	P	**P**	**13 47 42.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=91,slow=8.0,SNR=2.2						
	comp=Z,0.4nm,0.4s						
B20K	**Meade River**	**81.86**	**15**	P	**P**	**13 47 44.7**	**+0.7**
B20K				IAmb	IAmb	13 48 21.0	
	comp=Z,2.0nm,1.2s						
ILAR	**Eielson Array**	**82.13**	**22**	P	**P**	**13 47 43.6**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=258,slow=6.0,SNR=4.4						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**89.64**	**323**	P	**P**	**13 48 22.1**	**-0.8**
	comp=Z,2.1nm,0.6s,baz=104,slow=6.6,SNR=8.6						
	comp=Z,2.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.79**	**288**	PKPbc	**PKPbc**	**13 55 18.8**	**+0.3**
	comp=Z,1.8nm,0.7s,baz=63,slow=2.9,SNR=11						

IDC 08 13:35:48.1±2.1,1.68N×125.94E,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=206.0km s-min=25.5km az=65.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.01**	**159**	P	P	13 40 54.2	-0.7
	0.6nm,0.4s,baz=338,slow=11,SNR=10						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.36**	**163**	P	P	13 41 26.9	+0.6
	0.2nm,0.4s,baz=346,slow=12,SNR=5.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**58.80**	**326**	P	P	13 45 48.3	0.0
	0.2nm,0.4s,baz=122,slow=7.8,SNR=6.3						
	0.2nm,0.4s						

*NEIC **08** 13:58:22.6±0.8,19.46N±0.02×154.941W±0.008, h5km±1km,Error ellipse: s-maj=3.3km s-min=2.7km az=182.0*

HVO 08 13:58:22.3±1.0,19.44N±0.02×154.93W±0.03,h4km±4km, ML2.5/4,ML2.5/24(NEIC),Error ellipse: s-maj=4.1km s-min=1.7km az=115.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.06**	**46**		Pg	13 58 24.2	+0.6
JOKA	**Jonika Flow**	**0.07**	**264**		Pg	13 58 24.2	+0.4
STCH	**Steam Cracks**	**0.19**	**253**		Pg	13 58 26.3	+0.3
PUH	**Pauahi**	**0.28**	**256**		Pg	13 58 27.9	+0.2
PUH				IAML		13 58 31.2	
	comp=N,916nm,1.1s						
PUH				IAML		13 58 34.3	
	comp=E,797nm,1.1s						
HLP	**Hilina Pali**	**0.38**	**248**		Pg	13 58 30.3	+0.6
MLH	**Mauna Loa**	**0.43**	**277**		Pg	13 58 31.2	+0.6
MLH				IAML		13 58 39.5	
	comp=N,549nm,1.3s						
MLH				IAML		13 58 42.6	
	comp=E,332nm,0.6s						
HMH	**Humu'ula Sheep**	**0.54**	**287**		Pg	13 58 33.0	+0.2
HMH				IAML		13 58 46.9	
	comp=E,428nm,0.9s						
MLOA	**Mauna Loa Obse**	**0

BLLM	**Bellamira**	**0.24**	**311**	⇑	*i* P	**Pb**	**14 10 05.0**	**-0.5**
RANC	**El Ranchito**	**0.27**	**303**	⇑	*i* P	**Pb**	**14 10 05.6**	**-0.5**
RANC					*i* S	**Sb**	**14 10 10.3**	**-0.3**
RANC					IAML		14 10 17.2	
	comp=Z,24μm,1.0s							
PACA	**Pacayal**	**0.32**	**305**	⇑	*i* P	**Pb**	**14 10 06.4**	**-0.5**
PACA					*i* S	**Sb**	**14 10 11.6**	**-0.4**
PACA					IAML		14 10 17.6	
	comp=Z,120μm,1.0s							
AMPH	**Amapala**	**0.38**	**90**	*e*P	P	**Pb**	**14 10 07.5**	**-0.3**
AMPH				*e*S	S	**Sb**	**14 10 13.9**	**+0.3**
AMPH	**Amapala**	**0.38**	**90**	*e*P	P	**Pb**	**14 10 07.5**	**-0.3**
AMPH				*e*S	S	**Sb**	**14 10 13.6**	**0.0**
COEB	**Comit de Eme**	**0.51**	**295**	*e*P	P	**Pn**	**14 10 11.8**	**-0.5**
COEB				*e*S	S	**Sb**	**14 10 17.2**	**-0.2**
COEB	**Comit de Eme**	**0.51**	**295**	⇓	*i* P	**Pb**	**14 10 09.7**	**-0.4**
COEB					*i* S	**Sb**	**14 10 17.2**	**-0.2**
COEB					IAML		14 10 19.5	
	comp=Z,8μm,1.0s							
PQSS	**Presa 15 de Se**	**0.60**	**304**		*i* P	**Pb**	**14 10 11.4**	**-0.1**
PQSS					IAML		14 10 12.0	
	comp=Z,2μm,1.0s							
TECO	**Alcaldia de Te**	**0.75**	**290**		*i* P	**Pg**	**14 10 13.6**	**-0.3**
TECO					*i* S	**Sb**	**14 10 24.1**	**-0.2**
TECO					IAML		14 10 29.6	
	comp=Z,4μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.78**	**302**		*e*P	**Pb**	**14 10 14.4**	**-0.2**
SCLA					*e*S	**Sn**	**14 10 27.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.78**	**302**	⇓	*i* P	**Pb**	**14 10 14.5**	**-0.2**
SCLA					*i* S	**Sn**	**14 10 26.8**	**-0.6**
SCLA					IAML		14 10 32.9	
	comp=Z,3μm,1.0s							
UESV	**Universidad de**	**0.80**	**296**		*i* P	**Pb**	**14 10 14.8**	**-0.1**
UESV					IAML		14 10 15.4	
	comp=Z,4μm,1.0s							
UESV					*i* S	**Sn**	**14 10 26.5**	**-1.3**
COEG	**Centro de Oper**	**0.87**	**293**		*i* P	**Pb**	**14 10 16.0**	**-0.2**
COEG					*i* S	**Sg**	**14 10 28.1**	**+0.5**
COEG					IAML		14 10 31.3	
	comp=Z,5μm,1.0s							
PAVA	**Las Pavas**	**0.96**	**296**	*e*P		**Pg**	**14 10 17.8**	**-0.1**
PAVA				*e*S		**Sn**	**14 10 31.8**	**-0.2**
PAVA	**Las Pavas**	**0.96**	**296**	⇓	*i* P	**Pg**	**14 10 17.7**	**-0.1**
PAVA					*i* S	**Sn**	**14 10 31.3**	**-0.7**
PAVA					IAML		14 10 35.4	
	comp=Z,10μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.08**	**45**			**Pb**	**14 10 19.5**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.08**	**45**	⇑	*e*P	**Pb**	**14 10 19.6**	**-0.2**
TGUH					*e*S	**Sn**	**14 10 34.5**	**-0.5**
CRIN	**San Cristobal**	**1.14**	**121**		Pn	**Pg**	**14 10 21.1**	**-0.1**
CRIN	**San Cristobal**	**1.14**	**121**	⇓	*i* P	**Pg**	**14 10 21.2**	**0.0**
CRIN					*i* S	**Sn**	**14 10 38.7**	**+2.4**
CRIN					IAML		14 10 49.9	
	comp=Z,19μm,1.0s							
PANCS	**Alcalda de**	**1.14**	**287**	*e*P		**Pb**	**14 10 20.4**	**-0.5**
LOMA	**Loma Larga**	**1.15**	**288**	*e*P		**Pb**	**14 10 20.8**	**-0.2**
LOMA	**Loma Larga**	**1.15**	**288**	⇑	*i* P	**Pn**	**14 10 20.9**	**-0.1**
LOMA					*i* S	**Sn**	**14 10 36.5**	**-0.1**
LOMA					IAML		14 10 38.8	
	comp=Z,5μm,1.0s							
SNET	**Serv Nac Est T**	**1.22**	**289**		Pn	**Pb**	**14 10 21.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.22**	**289**	*e*P		**Pb**	**14 10 21.9**	**-0.1**
SNET					IAML		14 10 40.9	
	comp=Z,3μm,0.3s							
SNET	**Serv Nac Est T**	**1.22**	**289**		*i* P	**Pb**	**14 10 22.0**	**-0.1**
SNET					*i* S	**Sg**	**14 10 38.4**	**-0.1**
SNET					IAML		14 10 40.5	
	comp=Z,7μm,1.0s							
LLGN	**La Laguna**	**1.23**	**315**	*e*P		**Pn**	**14 10 21.8**	**-0.4**
LLGN	**La Laguna**	**1.23**	**315**	⇓	*i* P	**Pn**	**14 10 21.8**	**-0.4**
LLGN					IAML		14 10 22.7	
	comp=Z,4μm,1.0s							
LLGN					*i* S	**Sg**	**14 10 39.1**	**0.0**
UEES	**Universidad Ev**	**1.23**	**291**	*e*P		**Pb**	**14 10 22.3**	**-0.1**
UEES					IAML		14 10 44.1	
	comp=Z,3μm,0.4s							
LALI	**Alcalda de L**	**1.25**	**279**		*i* P	**Pb**	**14 10 22.5**	**-0.1**
LALI					*i* S	**Sg**	**14 10 39.7**	**0.0**
LALI					IAML		14 10 46.6	
	comp=Z,2μm,1.0s							
PIC2	**El Picacho**	**1.26**	**291**	*e*P		**Pg**	**14 10 23.1**	**-0.4**
PIC2					IAML		14 10 41.9	
	comp=Z,1μm,0.4s							
BOQS	**Boqueron**	**1.27**	**291**	*e*P		**Pb**	**14 10 23.3**	**+0.1**
BOQS				*e*S		**Sg**	**14 10 41.4**	**+0.8**
PMON	**Piamonte**	**1.30**	**289**	*e*P		**Pb**	**14 10 23.5**	**0.0**
PMON	**Piamonte**	**1.30**	**289**	*i* P		**Pb**	**14 10 23.5**	**0.0**
PMON					*i* S	**Sg**	**14 10 41.5**	**+0.3**
PMON					IAML		14 10 45.9	
	comp=Z,6μm,1.0s							
QUEN	**Al S del Volca**	**1.36**	**120**	⇑	*i* P	**Pb**	**14 10 24.0**	**-0.5**
QUEN					*i* S	**Sg**	**14 10 43.4**	**+0.3**
QUEN					IAML		14 10 48.2	
	comp=Z,2μm,1.0s							
CEDA	**San Andres**	**1.40**	**292**	*e*P		**Pn**	**14 10 24.0**	**-0.5**
CEDA					IAML		14 10 50.0	
	comp=Z,3μm,0.5s							
PACN	**Al O del Volca**	**1.46**	**122**	*i* P		**Pb**	**14 10 25.7**	**-0.4**
PACN					*i* S	**Sg**	**14 10 46.1**	**-0.1**
PACN					IAML		14 10 50.5	
	comp=Z,2μm,1.0s							
CNGN	**Cerro Negro**	**1.53**	**120**		Pn	**Pn**	**14 10 26.0**	**-0.3**
CNGN	**Cerro Negro**	**1.53**	**120**	⇓	*i* P	**Pn**	**14 10 26.0**	**-0.3**
CNGN					*i* S	**Sg**	**14 10 48.5**	**-0.2**
CNGN					IAML		14 11 02.5	
	comp=Z,2μm,1.0s							
CNGA	**Al SSO del Vol**	**1.53**	**121**	*i* P		**Pn**	**14 10 25.1**	**-1.2**
CNGA					*i* S	**Sb**	**14 10 46.8**	**0.0**
CNGA					IAML		14 10 54.9	
	comp=Z,1μm,1.0s							
MACN	**El Madrono**	**1.57**	**121**	*i* P		**Pb**	**14 10 28.2**	**+0.1**
MACN					IAML		14 10 31.5	
	comp=Z,690nm,1.0s							
MACN					*i* S	**Sg**	**14 10 48.8**	**-1.1**
SNJE	**San Jose**	**1.62**	**291**	*e*P		**Pb**	**14 10 28.6**	**-0.4**
CEVE	**Cerro Verde**	**1.62**	**290**	*e*P		**Pb**	**14 10 29.1**	**-0.1**
CEVE					IAML		14 10 55.8	
	comp=Z,6μm,0.3s							
CEVE	**Cerro Verde**	**1.62**	**290**	*i* P		**Pb**	**14 10 28.7**	**-0.4**
CEVE					*i* S	**Sg**	**14 10 51.0**	**-0.6**
CEVE					IAML		14 10 55.5	
	comp=Z,6μm,1.0s							
SBLS	**San Blas**	**1.62**	**290**	*e*P		**Pb**	**14 10 28.9**	**-0.3**
SBLS				*e*S		**Sg**	**14 10 51.5**	**-0.1**
RTR	**El Retiro**	**1.67**	**292**	*e*P		**Pb**	**14 10 29.6**	**-0.2**
RTR				*e*S		**Sg**	**14 10 52.5**	**-0.4**
MTO3	**Montecristo**	**1.69**	**311**	Pn		**Pn**	**14 10 28.9**	**+0.4**
MTO3	**Montecristo**	**1.69**	**311**	*e*P		**Pb**	**14 10 29.3**	**-0.9**
MTO3	**Montecristo**	**1.69**	**311**	⇓	*i* P	**Pn**	**14 10 29.0**	**+0.4**
MTO3					IAML		14 10 30.5	
	comp=Z,2μm,1.0s							
MTO3					*i* S	**Sg**	**14 10 53.0**	**-0.6**
MOMN	**Momotombo**	**1.71**	**120**	*i* P		**Pn**	**14 10 28.8**	**+0.1**
MOMN					*i* S	**Sb**	**14 10 52.6**	**+0.6**
MOMN					IAML		14 11 02.6	
	comp=Z,53nm,1.0s							
MOM2	**El Cardon**	**1.75**	**119**	*i* P		**Pn**	**14 10 29.3**	**+0.2**
MOM2					*i* S	**Sg**	**14 10 54.4**	**-1.1**
MOM2					IAML		14 11 07.4	
	comp=Z,2μm,1.0s							
ESQI	**Esquipulas**	**1.78**	**316**		Pn	**Pn**	**14 10 30.6**	**+0.8**
ESQI	**Esquipulas**	**1.78**	**316**	⇓	*i* P	**Pb**	**14 10 31.6**	**-0.2**
ESQI					IAML		14 11 04.3	
	comp=Z,2μm,1.0s							
NUBE	**Las Nubes**	**1.79**	**290**	*e*P		**Pb**	**14 10 30.8**	**-1.1**
NUBE					IAML		14 10 59.6	
	comp=Z,945nm,0.4s							
NUBE	**Las Nubes**	**1.79**	**290**	⇓	*i* P	**Pn**	**14 10 30.7**	**+0.8**
NUBE					*i* S	**Sg**	**14 10 55.7**	**-1.2**
NUBE					IAML		14 10 59.1	
	comp=Z,3μm,1.0s							
COPN	**Copaltepe**	**1.80**	**127**	⇓	*i* P	**Pn**	**14 10 30.3**	**+0.4**
COPN					IAML		14 10 57.2	
	comp=Z,1μm,1.0s							
LOAL	**Lomas de Alarc**	**1.82**	**293**	*e*P		**Pn**	**14 10 30.8**	**+0.6**
SLOZ	**Alcaldia de Sa**	**1.84**	**294**	*e*P		**Pb**	**14 10 31.4**	**-1.3**
SLOZ					IAML		14 11 02.9	
	comp=Z,918nm,0.6s							
SAPS	**Ciudad Sandino**	**1.95**	**124**	*i* P		**Pb**	**14 10 33.6**	**-1.0**
SAPS					IAML		14 11 11.1	
	comp=Z,1μm,1.0s							
APYN	**Apoyeque**	**1.96**	**122**	*i* P		**Pb**	**14 10 34.1**	**-0.7**
APYN					IAML		14 10 35.3	
	comp=Z,24μm,1.0s							
TISN	**Laguna Tiscapa**	**2.08**	**123**	*i* P		**Pb**	**14 10 35.9**	**-0.9**
TISN					IAML		14 10 38.3	
	comp=Z,97nm,1.0s							
ACON	**Acoyapa**	**3.10**	**115**			**Pn**	**14 10 46.7**	**-1.1**
HZTE	**Horizontes, Gu**	**3.51**	**136**	Pn		**Pn**	**14 10 53.3**	**-0.1**
ESPN	**Las Esperanzas**	**3.82**	**106**	Pn		**Pn**	**14 10 57.8**	**+0.1**
ORTG	**Ortega, Santa**	**3.86**	**139**			**Pn**	**14 10 59.2**	**+0.9**
PETF	**Flores**	**4.01**	**334**			**Pn**	**14 11 02.6**	**+2.3**
DUNO	**Dulce Nombre,**	**4.05**	**142**			**Pn**	**14 10 59.3**	**-1.6**
JTS	**Las Juntas de**	**4.25**	**134**	Pn		**Pn**	**14 11 04.1**	**+0.5**
LCR2	**La Lucha 2**	**5.30**	**131**			**Pn**	**14 11 19.6**	**+1.4**
SRBA	**San Rafael, Bu**	**6.12**	**131**			**Pn**	**14 11 30.5**	**+1.1**
HBVL	**Hebbronville**	**16.93**	**326**			**P**	**14 13 57.8**	**0.0**
HBVL					IAmb	IAmb	14 14 03.7	
	comp=Z,22nm,1.2s							
BAUV	**El Baul**	**20.10**	**100**	P		**P**	**14 14 32.7**	**0.0**
BAUV				IAmb		IAmb	14 14 49.0	
	comp=Z,11nm,0.8s							
TXAR	**Lajitas Array**	**21.56**	**320**	P		**P**	**14 14 49.9**	**+1.4**
TX31	**Lajitas Ar. Si**	**21.56**	**320**	P		**P**	**14 14 50.7**	**+2.2**
TX31				IAmb		IAmb	14 14 56.8	
	comp=Z,5.0nm,1.1s							

NEIC ***08*** *14:15:10.6±2.1, 14°.59S×0°.09×167°.6E±0°.1, h115km±5km, mb4.3/18, Error ellipse: s-maj=20.3km s-min=13.3km az=78.0*
IDC ***08*** *14:15:14.3±4.9, 14°.94S×167°.37E, h126km±40km, mb3.7/6, mbtmp4.1/7, Error ellipse: s-maj=33.5km s-min=28.8km az=32.0*
NOU ***08*** *14:15:14.3, 14°.87S×167°.36E, h110km, mb3.8/11, Vanuatu Islands*
ISC 08 14:15:13.9±0.9, 14°.83S±0°.08×167°.4E±0°.1, h129km, n40, σ1°.28/40, mb4.2/13, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.92**	**181**	P		**Pn**	**14 16 37.7**	**-1.5**
LIFNC	**LIFOU**	**5.92**	**181**	Pn		**Pn**	**14 16 36.6**	**-2.6**
KOUNC	**Koumac, New Ca**	**6.40**	**207**	P		**Pn**	**14 16 45.6**	**-0.1**
KOUNC	**Koumac, New Ca**	**6.40**	**207**	Pn		**Pn**	**14 16 45.8**	**+0.1**
MARNC	**Mare, Loyalty**	**6.65**	**175**	P		**Pn**	**14 16 49.8**	**+0.7**
DZM	**Mont Dzumac**	**7.25**	**187**			**Pn**	**14 16 57.1**	**-0.3**
DZM	**Mont Dzumac**	**7.25**	**187**	P		**Pn**	**14 16 56.6**	**-0.8**
	16nm,0.3s,baz=321,slow=14,SNR=95							
DZM				S		**Sn**	**14 18 16.3**	**-2.1**
	13nm,0.4s,baz=312,slow=23,SNR=3.0							
NOUC	**Port Laguerre**	**7.30**	**188**	P		**Pn**	**14 16 58.5**	**+0.6**
ONTNC	**Ouen Toro**	**7.49**	**186**	P		**Pn**	**14 17 00.8**	**+0.4**
ONTNC	**Ouen Toro**	**7.49**	**186**			**Pn**	**14 17 00.5**	**+0.1**
OUENC	**Ouen Island, N**	**7.56**	**184**	Pn		**Pn**	**14 17 02.8**	**+1.4**
PINNC	**Pines Island,**	**7.74**	**179**	P		**Pn**	**14 17 03.6**	**-0.2**
PINNC	**Pines Island,**	**7.74**	**179**	Pn		**Pn**	**14 17 03.8**	**-0.1**
HNR	**Honiara**	**9.01**	**306**	Pn		**Pn**	**14 17 19.3**	**-1.7**
EIDS	**Eidsvold**	**18.52**	**233**	P		**P**	**14 19 22.7**	**+2.4**
EIDS				IAmb		IAmb	14 19 23.9	
	comp=Z,11nm,0.7s							
CTAO	**Charters Tower**	**20.79**	**252**	P		**P**	**14 19 45.1**	**+0.1**
CTAO				IAmb		IAmb	14 19 48.5	
	comp=Z,9.2nm,1.0s							
ARMA	**Armidale**	**21.21**	**220**	P		**P**	**14 19 50.4**	**+1.0**
ARMA				IAmb		IAmb	14 19 52.3	
	comp=Z,7.5nm,1.1s							
PATS	**Pohnpei**	**23.32**	**337**	P		**P**	**14 20 07.0**	**-3.6**
COEN	**Coen**	**23.44**	**269**	P		**P**	**14 20 13.4**	**+1.7**
COEN				IAmb		IAmb	14 20 15.6	
	comp=Z,23nm,1.3s							
TOZ	**Tahuroa Road**	**23.93**	**164**	P		**P**	**14 20 16.0**	**+0.1**
TOZ				IAmb		IAmb	14 20 39.0	
	comp=Z,15nm,1.2s							
BFZ	**Birch Farm**	**26.90**	**165**	P		**P**	**14 20 43.3**	**+0.6**
TCW	**Tory Channel**	**26.96**	**168**	P		**P**	**14 20 43.1**	**-0.2**
STKA	**Stephens Creek**	**28.99**	**230**	P		**P**	**14 21 03.1**	**+1.6**
STKA	**Stephens Creek**	**28.99**	**230**	P		**P**	**14 21 02.8**	**+1.3**
	comp=Z,8.6nm,0.7s,baz=43,slow=8.2,SNR=20							
	comp=Z,8.6nm,0.7s							
WB0	**Warramunga Arr**	**31.82**	**256**	P		**P**	**14 21 25.5**	**-1.1**
WB0				IAmb		IAmb	14 22 01.1	
	comp=Z,6.6nm,1.2s							
WRA	**Warramunga Arr**	**31.88**	**256**	P		**P**	**14 21 26.3**	**-0.8**
WRA	**Warramunga Arr**	**31.88**	**256**	P		**P**	**14 21 26.9**	**-0.2**
	comp=Z,0.6nm,0.6s,baz=85,slow=8.8,SNR=5.0							
	comp=Z,0.6nm,0.6s							
AS31	**Alice Springs**	**32.72**	**249**	P		**P**	**14 21 33.9**	**-0.5**
ASAR	**Alice Springs**	**32.72**	**249**	P		**P**	**14 21 33.4**	**-1.0**
ASAR	**Alice Springs**	**32.72**	**249**	P		**P**	**14 21 34.4**	**0.0**
	comp=Z,3.2nm,0.7s,baz=78,slow=9.3,SNR=81							
ASAR				PcP		**PcP**	**14 24 18.3**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=90,slow=3.3,SNR=1.7							
	comp=Z,3.2nm,0.7s							
BBOO	**Buckleboo**	**33.58**	**232**	P		**P**	**14 21 43.0**	**+1.2**
BBOO				IAmb		IAmb	14 21 43.8	
	comp=Z,9.1nm,0.7s							
FORT	**Forrest**	**39.32**	**239**	P		**P**	**14 22 31.2**	**+0.7**
FORT				IAmb		IAmb	14 22 32.0	
	comp=Z,10.0nm,0.7s							
VNDA	**Vanda**	**62.76**	**181**	P		**P**	**14 25 23.4**	**-1.5**
CASY	**Casey**	**63.47**	**202**	P		**P**	**14 25 29.9**	**+0.2**
CLES	**Cleveland East**	**70.18**	**14**	P		P	14 26 08.3	-4.0
QSPA	**South Pole Qui**	**75.20**	**180**	P		**P**	**14 26 42.0**	**-0.2**
QSPA				IAmb		IAmb	14 26 44.9	
	comp=Z,2.5nm,0.9s							
QSPA	**South Pole Qui**	**75.20**	**180**	P		**P**	**14 26 41.9**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=324,slow=1.4,SNR=16							
	comp=Z,1.5nm,0.7s							
GLB	**Gilahina Butte**	**85.25**	**21**	P		P	14 27 32.0	-3.7
GLB				IAmb		IAmb	14 28 02.0	
	comp=Z,5.0nm,1.4s							
ILAR	**Eielson Array**	**86.59**	**18**	P		**P**	**14 27 43.8**	**+1.5**
	comp=Z,0.3nm,0.9s,baz=218,slow=5.7,SNR=2.1							
	comp=Z,0.3nm,0.9s							
MKAR	**Makanchi Array**	**97.33**	**316**	P		**P**	**14 28 33.9**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=117,slow=5.0,SNR=3.1							
	comp=Z,0.3nm,0.6s							

SNET ***08*** *14:22:30.5±1.0, 13°.29N×88°.07W, h2km, ML3.7*
CATAC ***08*** *14:22:31.1±0.2, 13°.28N×88°.06W, h5km±1km, ML3.6*
IDC ***08*** *14:22:32.2±4.7, 14°.02N×87°.50W, h0km, mb3.5/3, mbtmp3.5/3, ML2.4/1, MS2.6/1, Error ellipse: s-maj=109.5km s-min=34.4km az=5.0*
ISC 08 14:22:30.8±0.7, 13°.33N±0°.05×88°.04W±0°.02, h13km±4km, n37, σ0°.65/59, mb3.2/3, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.15**	**98**	*i* P		**Pb**	**14 22 35.1**	**-0.3**
LCND				*i* P		**Pb**	**14 22 35.2**	**-0.2**
LCND				*i* S		**Sb**	**14 22 38.0**	**-0.4**
LCND				*i* S		**Sb**	**14 22 38.1**	**-0.4**
LCND				IAML			14 22 39.4	
	comp=Z,48μm,1.0s							
LCND				IAML			14 22 39.4	
	comp=Z,40μm,1.0s							
CNRM	**Centro Naciona**	**0.19**	**319**	*i* P		**Pb**	**14 22 36.1**	**-0.1**
CNRM				*i* S		**Sb**	**14 22 40.0**	**+0.2**
CNRM				IAML			14 22 42.2	
	comp=Z,89μm,1.0s							
CNCH	**Conchagua**	**0.21**	**105**	*i* P		**Pb**	**14 22 36.3**	**-0.2**
CNCH				*e*S		**Sb**	**14 22 40.2**	**-0.1**
CNCH	**Conchagua**	**0.21**	**105**	*i* P		**Pb**	**14 22 36.2**	**-0.2**
CNCH				*i* S		**Sb**	**14 22 39.9**	**-0.4**
CNCH				IAML			14 22 46.8	
	comp=Z,42μm,1.0s							
JUCU	**Jucuarįn**	**0.22**	**250**	*e*P		**Pg**	**14 22 35.4**	**-0.1**
JUCU				*e*S		**Sg**	**14 22 38.5**	**-0.3**
JUCU	**Jucuarįn**	**0.22**	**250**	*i* P		**Pg**	**14 22 35.5**	**-0.1**
JUCU				*i* S		**Sg**	**14 22 38.3**	**-0.5**
JUCU				IAML			14 22 40.2	
	comp=Z,20μm,1.0s							
BLLM	**Bellamira**	**0.22**	**300**	⇑	*i* P	**Pb**	**14 22 36.6**	**-0.2**
RANC	**El Ranchito**	**0.27**	**293**		*i* P	**Pb**	**14 22 37.1**	**-0.4**
RANC					IAML		14 22 48.6	
	comp=Z,7μm,1.0s							
PACA	**Pacayal**	**0.31**	**297**		*i* P	**Pb**	**14 22 38.0**	**-0.2**
PACA					IAML		14 22 50.2	
	comp=Z,32μm,1.0s							
AMPH	**Amapala**	**0.37**	**97**	*e*P		**Pb**	**14 22 39.2**	**0.0**
AMPH				*e*S		**Sb**	**14 22 45.5**	**+0.6**
COEB	**Comit de Eme**	**0.51**	**289**	*e*P		**Pb**	**14 22 41.4**	**-0.2**
COEB				*e*S		**Sb**	**14 22 48.9**	**0.0**
COEB	**Comit de Eme**	**0.51**	**289**	*i* P		**Pb**	**14 22 41.4**	**-0.2**
COEB				*i* S		**Sb**	**14 22 48.6**	**-0.3**
COEB				IAML			14 22 50.5	
	comp=Z,2μm,1.0s							
TECO	**Alcaldia de Te**	**0.75**	**286**	*i* P		**Pg**	**14 22 45.4**	**0.0**
TECO				*i* S		**Sb**	**14 22 55.9**	**0.0**
TECO				IAML			14 23 01.1	
	comp=Z,1μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.77**	**299**	*i* P		**Pb**	**14 22 46.2**	**+0.2**
SCLA				IAML			14 22 46.9	
	comp=Z,540nm,1.0s							
UESV	**Universidad de**	**0.79**	**293**	*i* P		**Pb**	**14 22 46.6**	**+0.2**
UESV				IAML			14 22 47.0	
	comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**0.87**	**290**	*i* P		**Pb**	**14 22 47.9**	**+0.2**
COEG				*i* S		**Sb**	**14 23 00.1**	**+0.8**
COEG				IAML			14 23 02.2	
	comp=Z,2μm,1.0s							
PAVA	**Las Pavas**	**0.95**	**294**	*i* P		**Pb**	**14 22 49.4**	**+0.2**
PAVA				*i* S		**Sn**	**14 23 03.2**	**-0.3**
PAVA				IAML			14 23 05.5	
	comp=Z,3μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.04**	**46**	*i* P		**Pn**	**14 22 51.1**	**0.0**
TGUH				IAML			14 22 54.4	
	comp=Z,2μm,1.0s							
TGUH				*i* S		**Sn**	**14 23 05.7**	**+0.1**
LOMA	**Loma Larga**	**1.15**	**286**	*i* P		**Pb**	**14 22 52.4**	**-0.1**
LOMA				*i* S		**Sn**	**14 23 08.4**	**+0.2**
LOMA				IAML			14 23 09.2	
	comp=Z,1μm,1.0s							
CRIN	**San Cristobal**	**1.15**	**123**	*i* P		**Pg**	**14 22 53.0**	**+0.1**
CRIN				IAML			14 23 15.3	
	comp=Z,3μm,1.0s							
LLGN	**La Laguna**	**1.21**	**313**	*i* P		**Pn**	**14 22 53.3**	**-0.2**
LLGN				IAML			14 22 54.3	
	comp=Z,1μm,1.0s							
LALI	**Alcalda de L**	**1.26**	**277**	*i* P		**Pn**	**14 22 54.2**	**+0.2**
LALI				*i* S		**Sg**	**14 23 11.5**	**+0.1**
LALI				IAML			14 23 13.4	
	comp=Z,280nm,1.0s							
PMON	**Piamonte**	**1.30**	**287**	*i* P		**Pb**	**14 22 55.1**	**0.0**
PMON				*i* S		**Sg**	**14 23 12.7**	**0.0**
PMON				IAML			14 23 18.2	
	comp=Z,2μm,1.0s							
QUEN	**Al S del Volca**	**1.37**	**122**	*i* P		**Pn**	**14 22 55.8**	**+0.2**
QUEN				IAML			14 23 17.9	
	comp=Z,580nm,1.0s							
PACN	**Al O del Volca**	**1.47**	**124**	*i* P		**Pb**	**14 22 57.4**	**-0.5**
PACN				IAML			14 23 05.2	
	comp=Z,760nm,1.0s							
PACN				*i* S		**Sb**	**14 23 17.1**	**+0.6**
CNGA	**Al SSO del Vol**	**1.54**	**122**	*i* P		**Pn**	**14 22 57.1**	**-0.9**
CNGA				IAML			14 23 25.7	
	comp=Z,380nm,1.0s							
CNGN	**Cerro Negro**	**1.54**	**122**	*i* P		**Pn**	**14 22 58.0**	**0.0**
CNGN				IAML			14 23 27.0	
	comp=Z,570nm,1.0s							
MACN	**El Madrono**	**1.58**	**123**	*i* P		**Pb**	**14 22 59.2**	**-0.7**
MACN				IAML			14 23 03.6	
	comp=Z,320nm,1.0s							
MTO3	**Montecristo**	**1.67**	**310**	*i* P		**Pn**	**14 23 00.6**	**+0.7**
MTO3				IAML			14 23 02.1	
	comp=Z,500nm,1.0s							
MTO3				*i* S		**Sg**	**14 23 24.5**	**0.0**
MOMN	**Momotombo**	**1.73**	**122**	*i* P		**Pb**	**14 23 01.4**	**-0.9**
MOMN				IAML			14 23 04.3	
	comp=Z,15nm,1.0s							
MOMN				*i* S		**Sb**	**14 23 24.9**	**+0.9**
NUBE	**Las Nubes**	**1.79**	**289**	*i* P		**Pb**	**14 23 02.6**	**-0.9**
NUBE				*i* S		**Sg**	**14 23 27.2**	**-1.1**
NUBE				IAML			14 23 30.6	
	comp=Z,830nm,1.0s							
COPN	**Copaltepe**	**1.82**	**129**	*i* P		**Pn**	**14 23 02.4**	**+0.7**
COPN				IAML			14 23 28.9	
	comp=Z,300nm,1.0s							
APG	**El Apazote**	**2.88**	**306**	Pn		**Pb**	**14 23 20.8**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=109,slow=12,SNR=12							
APG				Sn		**Sg**	**14 24 01.3**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=66,slow=19,SNR=6.5	

DIVS				*e*Sg		**Sn**	**14 24 53.2**	**-0.5**
STON	**Ston**	**1.61**	**280**	*e*Pn		**Pb**	**14 24 35.9**	**-0.6**
STON				Sn		**Sg**	**14 25 01.5**	**+3.4**
STON	**Ston**	**1.61**	**280**	⇑*i*Pn		**Pn**	**14 24 35.1**	**-0.2**
STON				*e*Sn		**Sg**	**14 24 58.7**	**+0.6**
HAPS	**Han Pijesak,BI**	**1.62**	**336**	*e*Pn		**Pn**	**14 24 34.9**	**-0.6**
HAPS				*e*Sn		**Sb**	**14 24 57.7**	**+0.2**
PRVS	**Prvonek**	**1.64**	**93**	*e*Pn		**Pn**	**14 24 35.5**	**-0.2**
PRVS				*e*Sg		**Sg**	**14 24 59.8**	**+0.9**
OHR	**Ohrid**	**1.65**	**155**	*i* Pn		**Pg**	**14 24 37.5**	**-0.4**
OHR				*i* Sn		**Sg**	**14 25 00.4**	**+1.2**
TRUS	**Trudelj**	**1.67**	**14**	*e*Pg		**Pb**	**14 24 37.8**	**+0.4**
BOVS	**Bovan**	**1.70**	**52**	*e*Pn		**Pn**	**14 24 37.0**	**+0.5**
BOVS				*e*Sg		**Sb**	**14 25 00.2**	**+0.7**
TEKS	**Tekeris**	**1.96**	**353**	*e*Pn		**Pn**	**14 24 39.8**	**-0.3**
TEKS				*e*Sg		**Sg**	**14 25 08.7**	**-0.5**
TEKS	**Tekeris**	**1.96**	**353**	*e*Pn		**Pn**	**14 24 39.8**	**-0.3**
TEKS				*e*Sn		**Sn**	**14 25 05.6**	**+0.6**
ZAGS	**Zajecar**	**2.11**	**54**	*e*Pn		**Pn**	**14 24 42.7**	**+0.6**
ZAGS				*e*Sg		**Sg**	**14 25 13.1**	**-1.0**
MAKA	**Makarska**	**2.19**	**289**	*i* Pn		**Pb**	**14 24 45.7**	**-0.6**
LSTV	**Lastovo**	**2.19**	**275**	*i* Pn		**Pb**	**14 24 45.2**	**-1.2**
KUBS	**Kucevo**	**2.24**	**36**	*e*Pn		**Pn**	**14 24 44.1**	**+0.2**
KUBS				*e*Sg		**Sg**	**14 25 17.8**	**-0.3**
SRKY	**Kupres RS**	**2.45**	**308**	*e*Pn		**Pn**	**14 24 46.7**	**-0.2**
SRKY				*e*Sn		**Sn**	**14 25 18.9**	**+1.7**
HVAR	**Hvar**	**2.57**	**284**	*e*Pn		**Pn**	**14 24 50.2**	**+1.8**
HVAR				Sn		**Sb**	**14 25 23.8**	**-0.9**
KIJV	**Kijevo**	**2.88**	**300**	*e*Pn		**Pb**	**14 24 57.1**	**-1.0**
BLY	**Banja Luka**	**2.89**	**319**	*e*Pn		**Pn**	**14 24 53.5**	**+0.6**
A050A	**Klekovaca**	**3.06**	**309**	*e*Pn		**Pn**	**14 24 55.0**	**-0.3**
A050A				*e*Sn		**Sn**	**14 25 33.2**	**+0.9**
A05IA	**Mrakovica**	**3.22**	**319**	*e*Pn		**Pn**	**14 24 57.3**	**-0.1**
ZIRJ	**Zirje**	**3.26**	**290**	*e*Pn		**Pn**	**14 25 00.3**	**+2.4**
MORI	**Morici**	**3.29**	**294**	*e*Pn		**Pb**	**14 25 01.6**	**-3.4**
DUGI	**Dugi Otok**	**3.77**	**293**	*e*Pn		**Pn**	**14 25 06.8**	**+1.9**
VIRC	**Vir**	**3.88**	**297**	*e*Pn		**Pn**	**14 25 08.9**	**+2.4**
VIRC				Sn		**Sn**	**14 25 56.0**	**+3.6**

*HEL **08** 14:30:30.9±0.1,68°.14N×33°.20E, h0km, ML1.7, Explosion*
*KOLA **08** 14:30:31.6,68°.11N×33°.20E, h0km, ML2.1, Error ellipse: s-maj=2.5km s-min=1.3km az=100.0, Olenegorsk City, Mines*
*IDC **08** 14:30:34.4±3.0,68°.12N×32°.54E, h0km, mbtmp2.5/2, ML2.0/2, Error ellipse: s-maj=40.0km s-min=13.2km az=57.0*

ISC 08 14:30:30.8±0.9, **68°.13N**±0°.03×**33°.20E**±0°.03, **h0**km, **n31,** σ1**s37**/52, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
APA0	**Apatity Array**	**0.53**	**189**	P		**Pg**	**14 30 40.5**	**-0.4**
APA0				S		**Sg**	**14 30 46.9**	**-0.9**
APA	**Apatity**	**0.57**	**172**	P		**Pg**	**14 30 41.5**	**-0.2**
APA				S		**Sg**	**14 30 49.0**	**0.0**
LVZ	**Lovozero**	**0.59**	**112**	P		**Pg**	**14 30 41.9**	**-0.3**
LVZ				S		**Sg**	**14 30 49.6**	**-0.2**
LVZ	**Lovozero**	**0.59**	**112**	PG		**Pg**	**14 30 42.0**	**-0.1**
LVZ				SG		**Sg**	**14 30 49.0**	**-0.8**
TERR	**Teriberka**	**1.29**	**32**	P		**Pg**	**14 30 54.4**	**-1.1**
TERR				S		**Sg**	**14 31 12.1**	**0.0**
VRF	**Varrio** baz=72	**1.41**	**256**	PG		**Pn**	**14 30 56.6**	**-1.1**
VRF				MSG			14 31 13.4	
	comp=Z,9.6nm,0.2s							
VRF				SG		**Sg**	**14 31 14.5**	**-1.5**
RAJF	**Raja-Jooseppi**	**1.85**	**283**	PG		**Pn**	**14 31 03.9**	**+0.1**
RAJF				SN		**Sn**	**14 31 27.6**	**-0.2**
OLKF	**Oulanka, Finla**	**2.34**	**221**	PB		**Pn**	**14 31 11.4**	**+0.9**
OLKF				MSG			14 31 40.4	
	comp=Z,3.0nm,0.2s							
OLKF				SG		**Sb**	**14 31 42.7**	**-0.5**
VADS	**Vadso**	**2.43**	**327**	P		**Pn**	**14 31 12.2**	**+0.4**
VADS				S		**Sn**	**14 31 42.0**	**-0.1**
KU6	**Riekki**	**2.48**	**213**	PB		**Pn**	**14 31 13.4**	**+1.0**
KU6				MSG			14 31 44.2	
	comp=Z,1.8nm,0.2s							
KU6				SG		**Sb**	**14 31 46.8**	**-0.3**
KMNF	**Kaamanen**	**2.49**	**297**	PB		**Pn**	**14 31 13.5**	**+0.9**
KMNF				SG		**Sb**	**14 31 46.2**	**-1.4**
SGF	**Sodankyl**	**2.63**	**258**	PN		**Pn**	**14 31 14.6**	**+0.1**
SGF				SN		**Sn**	**14 31 46.8**	**-0.2**
MSF	**Maaselka**	**2.76**	**218**	PB		**Pn**	**14 31 18.0**	**+1.7**
MSF				SG		**Sb**	**14 31 56.6**	**+1.3**
KEV	**Kevo**	**2.77**	**309**	*e*P		**Pn**	**14 31 16.9**	**+0.5**
KEV	**Kevo**	**2.77**	**309**	PN		**Pn**	**14 31 17.1**	**+0.7**
KEV				MSG			14 31 52.3	
	comp=Z,3.6nm,0.2s							
KEV				SB		**Sn**	**14 31 52.5**	**+2.0**
ARA0	**ARCESS Array S**	**3.13**	**300**	SN		**Sn**	**14 32 00.1**	**+0.7**
ARCES	**ARCESS Array B**	**3.13**	**300**	Pn		**Pn**	**14 31 21.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=114,slow=15,SNR=17							
ARCES				Sn		**Sn**	**14 31 58.8**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=120,slow=24,SNR=7.0							
ARCES				Lg		Lg	14 32 05.9	
	comp=Z,1.2nm,0.3s,baz=108,slow=35,SNR=16							
	comp=Z,0.6nm,0.4s							
RNF	**Rovaniemi**	**3.17**	**245**	PN		**Pn**	**14 31 21.9**	**0.0**
RNF				SN		**Sn**	**14 32 00.4**	**+0.1**
HEF	**Hetta**	**3.56**	**279**	*e*P		**Pn**	**14 31 27.0**	**-0.3**
HEF	**Hetta**	**3.56**	**279**	PN		**Pn**	**14 31 26.7**	**-0.5**
HEF				SN		**Sn**	**14 32 08.2**	**-1.8**
KTK1	**Kautokeino**	**3.76**	**288**	PN		**Pn**	**14 31 29.9**	**-0.2**
KTK1				SG		**Sb**	**14 32 27.1**	**+3.0**
PAJU	**Pajala**	**4.02**	**259**	PN		**Pn**	**14 31 33.5**	**-0.1**
PAJU				SN		**Sn**	**14 32 21.5**	**+0.2**
TOF	**Tornio**	**4.03**	**244**	PN		**Pn**	**14 31 35.3**	**+1.6**
TOF				SN		**Sn**	**14 32 19.8**	**-1.7**
RMF	**Romuvaara**	**4.14**	**200**	PN		**Pn**	**14 31 34.8**	**-0.5**
LANU	**Lannavaara**	**4.20**	**274**	PN		**Pn**	**14 31 35.3**	**-0.8**
LANU				SG		**Sb**	**14 32 40.5**	**+3.7**
KALU	**Kalix**	**4.48**	**244**	SG		**Sb**	**14 32 49.3**	**+4.6**
KIF	**Kilpisjarvi**	**4.63**	**287**	PN		**Pn**	**14 31 41.7**	**-0.3**
KIF				SN		**Sn**	**14 32 33.6**	**-2.7**
OBF4	**Vikkela, Lumij** baz=42	**4.65**	**228**	PN		**Pn**	**14 31 42.1**	**0.0**
I37NO	**I37NO**	**5.43**	**287**	I		I	15 03 20.0	
	baz=94,slow=323,SNR=8.9							
FAUS	**Fauske**	**6.84**	**272**	S		**Sn**	**14 33 27.8**	**-2.8**
FINES	**FINESS Array B**	**7.36**	**208**	Pn		**Pn**	**14 32 19.5**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=22,slow=15,SNR=1.3							
FINES				Lg		Lg	14 34 15.8	
	comp=Z,0.2nm,0.3s,baz=18,slow=26,SNR=5.1							
	comp=Z,0.2nm,0.3s							

IDC 08 14:30:31.2±3.1, **0°.85S**×**134°.49E, h0**km, **mb3.3**/2, **mbtmp3.3**/3, **ML3.4**/1, **Error ellipse: s-maj=140.8km s-min=29.7km az=77.0, Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.97**	**180**	P		Pn	14 34 55.6	+0.6
	0.1nm,0.3s,baz=359,slow=11,SNR=2.1							
	0.3nm,0.4s							
ASAR	**Alice Springs**	**22.68**	**181**	P		P	14 35 34.0	-0.6
	0.4nm,0.4s,baz=12,slow=11,SNR=29							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**65.77**	**323**	P		P	14 41 18.2	0.0
	0.2nm,0.5s,baz=112,slow=7.7,SNR=2.6							
	0.2nm,0.5s							

*IDC **08** 14:52:23.0±1.2,30°.05S×178°.46W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=35.0km s-min=16.8km az=129.0*

ISC 08 14:52:26.4±1.1, **30°.3S**±0°.1×**178°.3W**±0°.2, **h35**km, **n7,** σ3**s31**/8, **mb3.9**/4, **Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RAO	**Raoul Island**	**1.10**	**18**	Pn		**Pn**	**14 52 43.9**	**-1.5**
	79nm,0.3s,baz=233,slow=20,SNR=6.1							
RAO				Sn		**Sn**	**14 52 57.7**	**-1.6**
	122nm,0.3s,baz=198,slow=23,SNR=5.5							
URZ	**Urewera**	**8.79**	**204**	Pn		Pn	14 54 26.4	-4.6
	0.1nm,0.3s,baz=142,slow=22,SNR=1.1							
URZ				Sn		**Sn**	**14 56 03.0**	**-5.8**
	0.6nm,0.3s,baz=308,slow=20,SNR=1.9							
STKA	**Stephens Creek**	**34.23**	**257**	P		**P**	**14 59 10.4**	**+1.4**
	1.4nm,0.6s,baz=108,slow=10,SNR=3.6							
	1.4nm,0.6s							
ASAR	**Alice Springs**	**42.84**	**267**	P		**P**	**15 00 22.1**	**+0.7**
	0.4nm,0.5s,baz=102,slow=7.3,SNR=8.6							
	0.4nm,0.5s							
WRA	**Warramunga Arr**	**43.82**	**272**	P		**P**	**15 00 29.7**	**+0.4**
	0.6nm,0.4s,baz=112,slow=7.8,SNR=4.3							
	0.6nm,0.4s							
QSPA	**South Pole Qui**	**59.81**	**180**	P		**P**	**15 02 31.7**	**+3.7**
	0.9nm,0.7s,baz=12,slow=4.0,SNR=10							
	0.9nm,0.7s							
FINES	**FINESS Array B**	**144.96**	**340**	PKP		**PKPdf**	**15 11 58.6**	**-0.5**
	1.1nm,0.8s,baz=56,slow=2.5,SNR=4.0							

*DRS **08** 14:59:22.9, 42°.93N×46°.23E, h14km*
*NORS **08** 14:59:23.6, 42°.93N×46°.29E, h1km, MPVA3.7*
MOS 08 14:59:23.4, 42°.89N×46°.39E, h11km, **MPVA3.8, 1C, Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
DVE	**Vedeno**	**0.20**	**290**	*e*Pg		Pg	14 59 27.5	-0.3
DVE				*e*Sg		Sg	14 59 30.7	-0.1
DVE	**Vedeno**	**0.20**	**290**	*e*PG		Pg	14 59 27.5	-0.3
DVE				pmax		pmax		
	comp=Z,453nm,0.1s							
BTLR	**Botlikh**	**0.25**	**209**	*e*Pg		Pg	14 59 29.0	+0.3
BTLR				*e*Sg		Sb	14 59 33.4	-1.0
BTLR	**Botlikh**	**0.25**	**209**	*e*PG		Pg	14 59 29.0	+0.3
DLMR	**Dylym**	**0.26**	**44**	*e*Pg		Pg	14 59 29.0	+0.3
DLMR				*e*Sg		Sb	14 59 33.8	-0.7
DLMR	**Dylym**	**0.26**	**44**	*e*PG		Pg	14 59 29.0	+0.3
DLMR				*e*S		Sb	14 59 33.8	-0.7
UNCR	**Uncukul**	**0.35**	**120**	*e*Pg		Pb	14 59 31.6	0.0
UNCR				*e*Sg		Sb	14 59 38.9	+1.8
UNCR	**Uncukul**	**0.35**	**120**	*e*PG		Pb	14 59 31.6	0.0
UNCR				*e*S		Sb	14 59 38.8	+1.7
DBC	**Dubki**	**0.35**	**68**	*i* Pg		Pb	14 59 31.6	-0.1
DBC				*e*Sg		Sb	14 59 38.1	+0.8
DBC	**Dubki**	**0.35**	**68**	*i* PG		Pb	14 59 31.6	-0.1
DBC				*e*S		Sb	14 59 38.1	+0.8
KRNR	**Karanay**	**0.39**	**99**	*e*Pg		Pb	14 59 32.5	+0.2
KRNR				*e*Sg		Sb	14 59 39.6	+1.2
KRNR	**Karanay**	**0.39**	**99**	*e*PG		Pb	14 59 32.5	+0.2
KRNR				*e*S		Sb	14 59 39.6	+1.3
HNZR	**Khunzah**	**0.41**	**143**	*e*PG		Pb	14 59 33.0	+0.3
HNZR				*e*S		Sb	14 59 40.3	+1.3
XNZR	**Khunzakh**	**0.42**	**146**	*e*Pg		Pb	14 59 33.0	+0.1
XNZR				*e*Sg		Sb	14 59 40.4	+1.1
ARKR	**Arakani**	**0.53**	**122**	*e*Pg		Pb	14 59 35.3	+0.6
ARKR				*e*Sg		Sn	14 59 44.6	-1.3
ARKR	**Arakani**	**0.53**	**122**	*e*PG		Pb	14 59 35.3	+0.6
ARKR				*e*S		Sn	14 59 44.6	-1.3
BUJR	**Buynaksk**	**0.53**	**96**	*e*Pg		Pb	14 59 35.4	+0.6
BUJR				*e*Sg		Sn	14 59 45.3	-0.7
BUJR	**Buynaksk**	**0.53**	**96**	*e*PG		Pb	14 59 35.4	+0.6
BUJR				*e*S		Sn	14 59 45.3	-0.7
GROC	**Groznyy**	**0.54**	**306**	*e*Pg		Pb	14 59 35.0	+0.2
GROC				*e*Sg		Sb	14 59 42.5	-0.1
GROC	**Groznyy**	**0.54**	**306**	*e i*PG		Pb	14 59 35.0	+0.2
GNBR	**Gunib**	**0.66**	**139**	*e*Pg		Pb	14 59 37.7	+0.9
GNBR				*e*Sg		Sn	14 59 48.7	-0.3
GNBR	**Gunib**	**0.66**	**139**	*e*PG		Pb	14 59 37.7	+0.8
GNBR				*e*S		Sn	14 59 48.7	-0.3
MAK	**Makhachkala**	**0.82**	**84**	*e*Pg		Pn	14 59 42.0	+1.1
MAK				*e*Sg		Sn	14 59 55.3	+2.2
MAK	**Makhachkala**	**0.82**	**84**	*e*PG		Pn	14 59 43.3	+2.4
MAK				*e*			14 59 56.4	
MAK				pmax		pmax		
	comp=Z,116nm,0.4s							
MAK				smax		smax		
	comp=E,968nm,0.4s							
MAK				smax		smax		
	comp=E,863nm,0.5s							
KMKR	**Kumukh**	**0.92**	**145**	*e*Pg		Pn	14 59 42.8	+0.4
KMKR				*e*Sg		Sn	14 59 57.5	+1.8
KMKR	**Kumukh**	**0.92**	**145**	*e*PG		Pn	14 59 42.8	+0.3
KMKR				*e*S		Sn	14 59 57.5	+1.7
SGKR	**Sergokala**	**1.03**	**114**	*e*Pg		Pn	14 59 44.1	+0.3
SGKR				*e*Sg		Sn	15 00 00.0	+1.8
SGKR	**Sergokala**	**1.03**	**114**	*e*PG		Pn	14 59 44.1	+0.3
SGKR				*e*S		Sn	15 00 00.0	+1.8
KMGR	**Komgaron**	**1.13**	**279**	*e*Pg		Pn	14 59 46.9	+1.7
KMGR				*e*Sg		Sn	15 00 06.2	+5.5
KMGR	**Komgaron**	**1.13**	**279**	*e*PG		Pn	14 59 46.9	+1.7
KMGR				*e*S		Sn	15 00 06.2	+5.5
URKR	**Urkarakh**	**1.17**	**128**	*e*Pg		Pg	14 59 47.4	+1.5
URKR				*e*Sg		Sn	15 00 05.8	+4.0
URKR	**Urkarakh**	**1.17**	**128**	*e*PG		Pg	14 59 47.4	+1.5
URKR				*e*S		Sn	15 00 05.8	+4.0
VLKR	**Vladikavkaz**	**1.27**	**278**	*e*Pg		Pg	14 59 52.2	+4.5
VLKR				*i* Sg		Sg	15 00 09.2	+5.0
VLKR	**Vladikavkaz**	**1.27**	**278**	*e*PG		Pg	14 59 52.2	+4.4
VLKR				*i* S		Sg	15 00 09.2	+5.1
BTKR	**Batakoyurt**	**1.44**	**290**	*e*Pg		Pg	14 59 52.1	+1.1
BTKR				*e*Sg		Sg	15 00 13.4	+3.8
BTKR	**Batakoyurt**	**1.44**	**290**	*e*PG		Pg	14 59 52.1	+1.2
BTKR				*e*S		Sg	15 00 13.7	+4.1
TRKR	**Terskaya**	**1.47**	**305**	*e*Pg		Pg	14 59 52.4	+0.8
TRKR				*e*Sg		Sg	15 00 14.7	+4.0
TRKR	**Terskaya**	**1.47**	**305**	*e*PG		Pg	14 59 52.4	+0.8
TRKR				*e*S		Sg	15 00 14.7	+4.0
GUDG	**Gudauri**	**1.47**	**254**	*e*Pg		Pg	14 59 53.0	+1.3
GUDG				*e*Sg		Sg	15 00 14.6	+3.9
GUDG	**Gudauri**	**1.47**	**254**	*e*PG		Pg	14 59 52.8	+1.2
GUDG				*e*S		Sg	15 00 14.6	+3.9
LACR	**Lac**	**1.54**	**268**	*e*Pg		Pg	14 59 52.8	-0.2
LACR				*e*Sg		Sg	15 00 14.1	+1.2
LACR	**Lac**	**1.54**	**268**	*e*PG		Pg	14 59 53.1	+0.2
LACR				*e*S		Sg	15 00 14.1	+1.2
ARNR	**Ardon**	**1.57**	**281**	*e*Pg		Pg	14 59 55.2	+1.7
ARNR				*i* Sg		Sg	15 00 15.9	+2.1
ARNR	**Ardon**	**1.57**	**281**	*e*PG		Pg	14 59 54.9	+1.4
ARNR				*e*S		Sg	15 00 17.2	+3.3
KORR	**Kora**	**1.71**	**277**	*e*Pg		Pg	14 59 57.8	+1.6
KORR				*e*Sg		Sg	15 00 21.1	+2.6
KORR	**Kora**	**1.71**	**277**	*e*PN		Pg	14 59 57.8	+1.5
KORR				*e*S		Sg	15 00 21.1	+2.6
AKT	**Akhty**	**1.72**	**144**	*e*Pg		Pg	14 59 56.6	+0.1
AKT				*e*Sg		Sg	15 00 20.1	+1.3
AKT	**Akhty**	**1.72**	**144**	*e*PN		Pg	14 59 56.6	+0.1
AKT				*e*S		Sg	15 00 20.1	+1.3
PRTR	**Priterechnaya**	**1.76**	**300**	*e*Pg		Pg	14 59 56.7	-0.5
PRTR				*i* Sg		Sg	15 00 20.0	0.0
PRTR	**Priterechnaya**	**1.76**	**300**	*e*PN		Pg	14 59 56.7	-0.5
PRTR				*i* S		Sg	15 00 20.0	-0.1
STDR	**Stavd-Durt**	**1.77**	**287**	*e*Pg		Pg	14 59 56.7	-0.6
STDR				*e*Sg		Sg	15 00 22.1	+1.9
STDR	**Stavd-Durt**	**1.77**	**287**	*e*PN		Pg	14 59 56.7	-0.6
STDR				*e*S		Sg	15 00 22.1	+1.9
LSNR	**Lesken**	**1.92**	**283**	*e*Pg		Pg	15 00 00.2	+0.1
LSNR				*e*Sg		Sg	15 00 26.2	+1.2
LSNR	**Lesken**	**1.92**	**283**	*e*PN		Pg	15 00 00.2	+0.1
LSNR				*e*S		Sg	15 00 26.2	+1.2
ONI	**Oni**	**2.18**	**263**	*e*Pg		Pb	15 00 03.1	+0.2
ONI				*e*Sg		Sb	15 00 31.4	+1.4
ONI	**Oni**	**2.18**	**263**	*e*PN		Pb	15 00 03.1	+0.2
ONI				*e*S		Sb	15 00 31.4	+1.4
KBTC	**Kuba-Taba**	**2.36**	**294**	*e*Pn		Pb	15 00 05.1	-0.9
KBTC				*e*Sn		Sb	15 00 34.1	-1.1
KBTC	**Kuba-Taba**	**2.36**	**294**	*e*PN		Pb	15 00 05.1	-0.9
KBTC				*e*S		Sb	15 00 34.1	-1.1
PYA1	**Pyatigorsk**	**2.67**	**297**	*e*PN		Pn	15 00 06.1	-0.2
PYA1				*e*S		Sn	15 00 39.0	+0.3
KBZ	**Khabaz**	**2.68**	**289**	*i* PN		Pn	15 00 07.2	+0.8
BEYR	**Belyy Ugol+**	**2.83**	**295**	*e*PN		Pn	15 00 10.4	+1.8
BEYR				*e*S		Sn	15 00 43.5	+0.8
SHA1	**Shidzhatmaz**	**2.85**	**289**	*e*PN		Pn	15 00 10.1	+1.1
SHA1				*e*S		Sb	15 00 47.0	-2.4
KIV	**Kislovodsk**	**2.90**	**293**	*e*PN		Pn	15 00 10.4	+0.8
KIV				*e*S		Sn	15 00 45.2	+0.8
GNI	**Garni**	**3.00**	**205**	*e*Pn		Pb	15 00 14.7	-2.2
GNI				*i* Sn		Sb	15 00 53.8	+0.1
GNI	**Garni**	**3.00**	**205**	*e*PN		Pb	15 00 14.7	-2.2
GNI				*i* S		Sb	15 00 53.8	+0.2
ALER	**Alexandrovskoy**	**3.14**	**308**	*e*PN		Pn	15 00 14.2	+1.5
ALER				*e*S		Sn	15 00 52.6	+2.4
ANN	**Anapa**	**6.75**	**290**	*i* P		Pn	15 01 03.7	+1.4
OBN	**Obninsk**	**13.81**	**336**	*e*P		P	15 02 43.3	-4.1
OBN				pmax		pmax		
	comp=Z,4.0nm,0.8s							
ARU	**Arti**	**15.64**	**26**	*i* P		P	15 03 07.7	0.0
ARU				pmax		pmax		
	comp=Z,10.0nm,2.5s							

*BJI **08** 15:11:33.1±0.0,28°.10N×103°.47E, h7km, mb4.4/46, mB4.7/21, ML4.4/23, Ms4.0/44, Ms7 3.9/43*
*NEIC **08** 15:11:34.5±1.2,28°.21N±0°.07×103°.56E±0°.09, h10km±1km, mb4.7/85, Error ellipse: s-maj=13.7km s-min=11.2km az=113.0*
*MOS **08** 15:11:36.1±0.9,28°.16N×103°.62E, h19km, mb4.8/30, Error ellipse: s-maj=9.1km s-min=5.7km az=108.7*
*IDC **08** 15:11:38.2±2.0,28°.22N×103°.59E, h45km±19km, mb3.9/21, mbtmp4.2/22, ML3.6/1, MS3.4/26, Error ellipse: s-maj=18.0km s-min=11.9km az=49.0*

ISC 08 15:11:34.1±0.3, **28°.15N**±0°.03×**103°.49E**±0°.03, **h10**km, **n229,** σ1**s56**/241, **mb4.6**/86, **MS3.4**/27, **10C-5D, Sichuan**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PZH	**PanZhiHua**	**2.26**	**224**	Pg		**Pn**	**15 12 14.3**	**+2.6**
PZH				Sg		**Sb**	**15 12 44.8**	**+1.6**
PZH				smax		smax		
	comp=N,1μm,1.1s							
PZH				smax		smax		
	comp=E,2μm,1.1s							
CD2	**Chengdu**	**2.76**	**5**	Pn		**Pb**	**15 12 20.8**	**-2.8**
CD2				Pg		**Pg**	**15 12 25.0**	**-2.0**
CD2				Sg		**Sg**	**15 13 00.7**	**-2.1**
CD2				smax		smax		
	comp=N,6μm,0.3s							
CD2				smax		smax		
	comp=E,5μm,0.4s							
KMI	**Kunming**	**3.09**	**193**	⇑Pg		**Pn**	**15 12 26.7**	**+3.6**
KMI				Sg		**Sb**	**15 13 07.1**	**0.0**
KMI				smax		smax		
	comp=N,180nm,1.1s							
KMI				smax		smax		
	comp=E,210nm,0.9s							
KMI				LR		LR		
	comp=N,2μm,9.2s							
KMI				LR		LR		
	comp=Z,1μm,9.7s							
GYA	**Guiyang**	**3.29**	**120**	⇑Pn		**Pn**	**15 12 28.0**	**+2.2**
GYA				Sn		**Sb**	**15 13 10.0**	**-2.8**
GYA				Sg		**Sg**	**15 13 22.0**	**+2.2**
GYA				smax		smax		
	comp=N,1μm,0.9s							
GYA				smax		smax		
	comp=E,2μm,0.7s							
GYA				LR		LR		
	comp=Z,2μm,3.8s							
TNCH	**TengChong**	**5.43**	**236**	*e*Pn		**Pn**	**15 12 54.5**	**-0.8**
TNCH				Sg		**Sg**	**15 14 27.3**	**-1.2**
TNCH				smax		smax		
	comp=N,420nm,1.2s							
TNCH				smax		smax		
	comp=E,290nm,1.3s							
TNCH				LR		LR		
	comp=Z,280nm,5.6s							
ENH	**Enshi**	**5.65**	**67**	Pn		**Pn**	**15 12 58.9**	**+0.7**
SLVN	**Son La**	**6.80**	**177**	Pn		**Pn**	**15 13 14.8**	**+0.8**
XAN	**Xi'an**	**7.49**	**37**	Pn		**Pn**	**15 13 23.2**	**-0.3**
XAN				Sn		**Sn**	**15 14 48.5**	**0.0**
XAN				Sg		**Sg**	**15 15 37.6**	**+3.0**
XAN				smax		smax		
	comp=N,660nm,0.9s							
XAN				smax		smax		
	comp=E,610nm,1.0s							
XAN				LR		LR		
	comp=N,2μm,4.5s							
XAN				LR		LR		
	comp=E,2μm,4.2s							
XAN				LR		LR		
	comp=Z,960nm,4.8s							
LZH	**Lanzhou**	**7.92**	**2**	*e*P		**Pn**	**15 13 32.9**	**+3.5**
LZH				smax		smax		
	comp=N,110nm,0.9s							
LZH				smax		smax		
	comp=E,150nm,1.1s							
LZH				LR		LR		
	comp=E,680nm,6.2s							
LZH				LR		LR		
	comp=Z,400nm,8.9s							
CNSH	**ChangSha**	**8.33**	**88**	⇓P		**Pn

comp=Z,930nm,13.1s
NJ2 Nanjing 13.86 70 *e*P Pn **15 14 50.8 +0.3**
NJ2 pmax pmax
comp=Z,11nm,0.7s
NJ2 LR LR
comp=N,920nm,9.9s
NJ2 LR LR
comp=E,650nm,10.9s
NJ2 LR LR
comp=Z,720nm,10.4s
TIA Tai'an 14.06 52 *e*P Pn 15 14 42.8 -11
TIA LR LR
comp=N,140nm,10.8s
TIA LR LR
comp=E,310nm,7.8s
TIA LR LR
comp=Z,300nm,15.7s
HHC Hu-ho-hao-te 14.30 26 *e*P **Pn 15 14 54.5 -2.2**
HHC sP P 15 15 03.0 -1.0
HHC *e*S **Sn 15 17 38.3 +2.9**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,78nm,4.0s
HHC LR LR
comp=Z,450nm,10.8s
HHC LR LR
comp=Z,200nm,8.4s
HHC LR LR
comp=Z,440nm,10.8s
BJI Beijing 15.82 38 P **Pn 15 15 18.1 +1.2**
BJI sP **pP 15 15 22.2 -1.7**
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI LR LR
comp=Z,130nm,12.3s
BJI LR LR
comp=Z,150nm,13.7s
BJI LR LR
comp=Z,220nm,12.3s
SSLB Suanglung 16.29 102 Pn **Pn 15 15 22.5 -0.6**
TATO Taipei 16.41 97 Pn **Pn 15 15 24.6 +0.1**
DL2 Dalian 18.51 50 P **Pn 15 15 51.1 +0.5**
DL2 S **S 15 19 23.9 +2.3**
DL2 pmax pmax
comp=Z,37nm,1.0s
DL2 pmax pmax
comp=Z,170nm,6.1s
DL2 LR LR
comp=Z,320nm,14.7s
DL2 LR LR
comp=Z,280nm,14.1s
DL2 LR LR
comp=Z,340nm,15.2s
XLT XiLinHaoTe 18.69 29 *e*P **P 15 15 51.6 -1.0**
XLT pmax pmax
comp=Z,14nm,0.9s
XLT pmax pmax
comp=Z,65nm,4.8s
XLT LR LR
comp=Z,250nm,12.9s
SONM Songino Array 19.78 6 Pn **Pn 15 16 06.0 0.0**
SONM Songino Array 19.78 6 P **Pn 15 16 06.0 0.0**
comp=Z,4.5nm,0.9s,baz=192,slow=14,SNR=12
SONM LR LR 15 23 58.1
comp=Z,72nm,20.6s,baz=234,slow=38
SONM Songino Array 19.78 6 P **Pn 15 16 06.0 0.0**
SONM pmax pmax
comp=Z,9.0nm,1.4s
ULN Ulaanbaatar 19.88 7 Pn **Pn 15 16 06.8 -0.4**
ULN Ulaanbaatar 19.88 7*ce*P **Pn 15 16 07.1 -0.1**
ULN pmax pmax
comp=Z,9.0nm,0.8s
WMQ Urumqi 20.14 325 *e*P Pn 15 16 10.5 +0.2
TGY Tagaytay City 21.41 127 LR LR 15 24 15.8
comp=Z,80nm,21.6s,baz=27,slow=35
JOW Kunigami 22.02 88 P **P 15 16 28.8 +0.1**
JOW Kunigami 22.02 88 P **P 15 16 27.4 -1.3**
comp=Z,29nm,0.9s,baz=330,slow=20,SNR=7.4
comp=Z,29nm,0.9s
ZAK Zakamensk 22.20 360 *e*P **P 15 16 30.8 +0.2**
KSAR Wonju Array Be 22.45 59 P **P 15 16 32.3 -1.0**
KSAR Wonju Array Be 22.45 59 P **P 15 16 32.3 -1.0**
KS19 Wonju Array Si 22.45 59 P **P 15 16 32.8 -0.6**
KS19 IAmb IAmb 15 17 14.2
comp=Z,38nm,1.4s
KSRS Korea Array 22.48 59 P **P 15 16 32.8 -0.8**
comp=Z,6.7nm,0.5s,baz=246,slow=9.6,SNR=42
KSRS LR LR 15 24 53.7
comp=Z,67nm,19.2s,baz=240,slow=36
comp=Z,6.7nm,0.5s
JNU Nakatsue 24.05 71 LR LR 15 26 03.1
comp=Z,109nm,21.9s,baz=202,slow=36
HIA Hailar 24.50 26 P **P 15 16 53.1 -0.5**
HIA IAmb IAmb 15 16 55.1
comp=Z,29nm,1.2s
HIA Hailar 24.50 26 P **P 15 16 53.1 -0.5**
HIA pmax pmax
comp=Z,29nm,1.2s
PDGK Podgornoye 24.56 314 P **P 15 16 54.5 +0.3**
MK31 Makanchi Array 24.95 324 P **P 15 16 57.4 -0.2**
MK31 Makanchi Array 24.95 324*ce*P **P 15 16 59.2 +1.6**
MKAR Makanchi Array 24.95 324 P **P 15 16 57.7 +0.1**
MKAR Makanchi Array 24.95 324 P **P 15 16 57.9 +0.3**
comp=Z,5.6nm,0.6s,baz=123,slow=12,SNR=44
MKAR PcP **PcP 15 20 32.5 -0.3**
comp=Z,0.4nm,0.7s,baz=123,slow=5.3,SNR=1.6
MKAR ScP **ScP 15 24 06.7 -5.3**
comp=Z,0.4nm,0.9s,baz=120,slow=5.2,SNR=2.8
MKAR LR LR 15 28 15.6
comp=Z,72nm,20.5s,baz=136,slow=40
comp=Z,5.6nm,0.6s
MKAR Makanchi Array 24.95 324 P **P 15 16 57.7 +0.1**
MAKZ Makanchi 25.13 324 P **P 15 16 59.6 +0.4**
MAKZ IAmb IAmb 15 17 03.4
comp=Z,15nm,1.1s
MAKZ Makanchi 25.13 324 P **P 15 16 59.6 +0.4**
MAKZ pmax pmax
comp=Z,15nm,1.2s
KSH Kashi 25.42 304 P **P 15 17 05.4 +3.4**
KSH pP sP 15 17 08.2 +1.2
KSH sP pP 15 17 12.2 +6.7
KSH PP **PnPn 15 17 42.0 +5.0**
KSH pmax pmax
comp=Z,3.0nm,0.6s
BNX BinXian 25.80 41 ||P **P 15 17 05.4 +0.2**
BNX pmax pmax
comp=Z,11nm,0.8s
BNX pmax pmax
comp=Z,110nm,5.7s
MDOK Medeo 26.05 312 P **P 15 17 08.6 +0.8**
BOOM Boomskoye usch 26.50 310 P **P 15 17 12.9 +1.0**
BOOM IAmb IAmb 15 17 16.8
comp=Z,9.0nm,0.6s
BOOM Boomskoye usch 26.50 310 P **P 15 17 12.9 +1.0**
BOOM pmax pmax
comp=Z,9.0nm,0.6s
MSHR Mys Shultsa 26.62 50 *i*P **P 15 17 11.3 -1.4**
MSHR pmax pmax
comp=Z,14nm,1.3s
SBUM Sibu 26.88 160 P **P 15 17 15.7 +0.5**
GSI Gunungsitoli 27.29 193 P **P 15 17 18.3 -0.6**
GSI IAmb IAmb 15 17 20.8
comp=Z,16nm,1.1s
AAK Ala-Archa 27.54 309 P **P 15 17 21.6 +0.4**
AAK Ala-Archa 27.54 309 LR LR 15 29 39.4
comp=Z,67nm,21.7s,baz=60,slow=39
AAK Ala-Archa 27.54 309*ce*P **P 15 17 21.7 +0.4**
AAK pmax pmax
comp=Z,8.0nm,1.3s
USA0B Ussuriysk Arra 27.84 47 P **P 15 17 21.9 -1.7**
USA0B IAmb IAmb 15 17 24.7
comp=Z,13nm,1.1s
USA0B Ussuriysk Arra 27.84 47 *i*P **P 15 17 22.5 -1.2**
USRK Ussuriysk Ar. 27.84 47 P **P 15 17 22.7 -1.0**
USRK Ussuriysk Ar. 27.84 47 P **P 15 17 22.9 -0.7**
comp=Z,7.0nm,0.8s,baz=254,slow=8.7,SNR=10
USRK LR LR 15 29 17.5
comp=Z,59nm,18.2s,baz=198,slow=38
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 27.84 47 P **P 15 17 23.0 -0.7**
HEH HeiHe 28.60 33 *e*P **P 15 17 30.3 0.0**
HEH pP **sP 15 17 36.0 +0.8**
HEH PP **PnPn 15 18 24.6 +4.5**
HEH PcP **PcP 15 20 40.6 -0.7**
HEH S **S 15 22 22.4 +3.9**
HEH pmax pmax
comp=Z,12nm,0.9s
HEH pmax pmax
comp=Z,150nm,5.6s
HEH LR LR
comp=Z,140nm,9.5s
HEH LR LR
comp=Z,170nm,8.7s
ZAA0 Zalesovo Array 29.19 337 P **P 15 17 35.0 -0.6**
ZALV Zalesovo Beam 29.19 337 P **P 15 17 34.6 -0.9**
ZALV Zalesovo Beam 29.19 337 P **P 15 17 35.2 -0.3**
comp=Z,0.8nm,0.3s,baz=128,slow=11,SNR=8.6
ZALV LR LR 15 29 43.3
comp=Z,49nm,20.6s,baz=44,slow=37
comp=Z,0.8nm,0.3s
ZALV Zalesovo Beam 29.19 337 *i*P **P 15 17 35.7 +0.2**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
KURBB Kurchatov Arra 29.34 327 P **P 15 17 36.6 -0.3**
comp=Z,1.7nm,0.7s,baz=130,slow=10,SNR=18
KURBB PcP **PcP 15 20 41.4 -1.7**
comp=Z,0.3nm,0.5s,baz=119,slow=2.2,SNR=3.4
comp=Z,1.7nm,0.7s
KURBB Kurchatov Arra 29.34 327 P **P 15 17 37.4 +0.5**
KURK Kurchatov 29.36 327 P **P 15 17 37.1 0.0**
KURK Kurchatov 29.36 327*ce*P **P 15 17 39.3 +2.2**
KURK pmax pmax
comp=Z,3.0nm,1.0s
GAR Garm 29.53 300 P **P 15 17 38.9 0.0**
GAR IAmb IAmb 15 17 40.4
comp=Z,7.9nm,0.6s
PALK Pallekele 29.93 230 LR LR 15 31 35.5
comp=Z,64nm,19.0s,baz=189,slow=40
KLR Kul'dur 30.20 38 LR LR 15 30 40.2
comp=Z,47nm,20.4s,baz=219,slow=38
KLR Kul'dur 30.20 38*ce*P **P 15 17 42.8 -1.8**
KLR pmax pmax
comp=Z,7.0nm,2.5s
MJAR Matsushiro Arr 30.37 65 LR LR 15 30 53.3
comp=Z,58nm,20.4s,baz=207,slow=38
KK31 Karatay Array 30.45 308 P **P 15 17 47.4 +0.5**
KK31 Karatay Array 30.45 308 *i*P **P 15 17 47.0 +0.1**
KKAR Karatay Array 30.45 308 P **P 15 17 47.4 +0.5**
KKAR Karatay Array 30.45 308 P **P 15 17 47.4 +0.5**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
ZEA Zeya 30.95 28 *e*P **P 15 17 51.9 +0.8**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
ZEA MLR MLR
comp=Z,100nm,11.0s
BVAR Borovoye Array 34.83 325 P **P 15 18 23.8 -1.2**
comp=Z,0.5nm,0.4s,baz=116,slow=8.6,SNR=3.9
BVAR PcP **PcP 15 20 56.6 -1.5**
comp=Z,0.9nm,0.5s,baz=149,slow=4.0,SNR=5.8
BVAR ScP **ScP 15 24 39.1 -4.6**
comp=Z,0.4nm,0.6s,baz=114,slow=3.5,SNR=2.4
BVAR LR LR 15 33 17.3
comp=Z,44nm,21.2s,baz=106,slow=37
comp=Z,0.5nm,0.4s
BRVK Borovoye 34.90 325 *i*P **P 15 18 26.1 +0.4**
BRVK pmax pmax
comp=Z,2.0nm,1.0s
ERM Erimo 34.97 56 P **P 15 18 26.1 -0.3**
ERM Erimo 34.97 56 P **P 15 18 26.1 -0.3**
ERM pmax pmax
comp=Z,20nm,1.2s
ASAJ Asahikawa 35.01 52 LR LR 15 33 30.4
comp=Z,46nm,18.1s,baz=198,slow=38
YAK Yakutsk 38.05 20 LR LR 15 35 37.2
comp=Z,86nm,19.6s,baz=282,slow=38
YAK Yakutsk 38.05 20*ce*P **P 15 18 52.0 -0.4**
YAK pmax pmax
comp=Z,4.0nm,0.6s
GEYT Alibeck 38.94 296 P **P 15 19 01.8 +1.5**
GEYT IAmb IAmb 15 19 02.8
comp=Z,8.9nm,0.7s
GEYT Alibeck 38.94 296 P **P 15 19 02.1 +1.8**
comp=Z,5.1nm,0.6s,baz=72,slow=4.7,SNR=16
GEYT LR LR 15 37 43.6
comp=Z,83nm,19.8s,baz=104,slow=40
GEYT Alibeck 38.94 296 P **P 15 19 01.8 +1.5**
GEYT pmax pmax
comp=Z,9.0nm,0.7s
GYA0 ALIBECK ARRAY 38.94 296 P **P 15 19 01.5 +1.2**
GYA0 pmax pmax
comp=Z,8.0nm,0.6s
GYA0B ALIBECK ARRAY 38.94 296 P **P 15 19 01.5 +1.2**
GYA0B IAmb IAmb 15 19 02.8
comp=Z,7.9nm,0.7s
AB31 Akbulak array 39.30 315 *i*P **P 15 19 03.3 +0.3**
ABKAR Akbulak array 39.30 315 P **P 15 19 03.3 +0.3**
GUMO Guam 41.08 102 LR LR 15 36 26.8
comp=Z,41nm,19.2s,baz=64,slow=36
ARU Arti 42.48 324 LR LR 15 36 39.8
comp=Z,45nm,20.6s,baz=104,slow=35
ARU Arti 42.48 324*d*/P **P 15 19 30.5 +1.3**
ARU 15 21 05.1
ARU 15 21 23.8
ARU S **S 15 25 54.2 +3.2**
ARU pmax pmax
comp=Z,2.0nm,0.7s
TIXI Tiksi 45.74 11 P **P 15 19 53.9 -1.3**
TIXI IAmb IAmb 15 19 55.1
comp=Z,7.7nm,1.4s
TIXI Tiksi 45.74 11 LR LR 15 40 45.8
comp=Z,71nm,20.2s,baz=15,slow=38
TIXI Tiksi 45.74 11*ce*P **P 15 19 54.2 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,1.3s
PETK Petropavlovsk- 46.70 42 P **P 15 20 02.1 -0.9**
PETK Petropavlovsk- 46.70 42 P **P 15 20 01.2 -1.7**
comp=Z,1.8nm,0.8s,baz=270,slow=11,SNR=4.4
comp=Z,1.8nm,0.8s
PETK Petropavlovsk- 46.70 42 P **P 15 20 02.1 -0.9**
SEY Seymchan 46.93 28 LR LR 15 41 15.2
comp=Z,99nm,18.0s,baz=321,slow=38
KBZ Khabaz 50.39 305 LR LR 15 45 25.0
comp=Z,37nm,19.8s,baz=62,slow=40
KIV Kislovodsk 50.53 305 P **P 15 20 34.0 +1.3**
KIV IAmb IAmb 15 20 51.7
comp=Z,8.2nm,0.6s
KIV Kislovodsk 50.53 305 *e*P **P 15 20 34.1 +1.4**
KIV pmax pmax
comp=Z,6.0nm,1.0s
KIV MLR MLR
comp=Z,27nm,16.0s
SHA1 Shidzhatmaz 50.56 305 *i*P **P 15 20 34.1 +1.0**
VORR Voronezh 52.71 315 *e*P **P 15 20 48.1 -0.6**
VORR pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 52.73 315 *e*P **P 15 20 48.0 -0.9**
VSR pmax pmax
comp=Z,5.0nm,0.9s
LPSR Galich'ya Gora 52.90 316 *e*P **P 15 20 47.6 -2.5**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
KLMR Klimovskoe 53.21 327 *e*P **P 15 20 51.7 -0.6**
KLMR pmax pmax
comp=Z,17nm,1.0s
BILL Bilibino 54.07 24 P **P 15 20 57.9 -0.6**
BILL IAmb IAmb 15 21 00.3
comp=Z,14nm,1.5s
BILL Bilibino 54.07 24 *i*P **P 15 20 57.9 -0.6**
BILL pmax pmax
comp=Z,11nm,1.5s
OBN Obninsk 54.34 319 ||*e*P **P 15 21 02.1 +1.5**
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,76nm,23.0s
LVZ Lovozero 56.29 335 P **P 15 21 14.3 -0.2**
LVZ IAmb IAmb 15 21 54.0
comp=Z,11nm,1.0s
LVZ Lovozero 56.29 335 P **P 15 21 14.3 -0.2**
LVZ pmax pmax
comp=Z,11nm,1.0s
WRAB Tennant Creek 56.35 145 P **P 15 21 15.3 -0.3**
WRAB IAmb IAmb 15 21 18.8
comp=Z,5.5nm,0.7s
WRAB Tennant Creek 56.35 145 P **P 15 21 15.3 -0.3**
WRAB pmax pmax
comp=Z,6.0nm,0.7s
WRA Warramunga Arr 56.35 145 P **P 15 21 14.9 -0.7**
comp=Z,3.6nm,0.6s,baz=332,slow=8.3,SNR=11
comp=Z,3.6nm,0.6s
JOF Joensuu 57.25 329 *e*P **P 15 21 21.4 0.0**
BRTR Keskin Array B 57.77 301 P **P 15 21 25.1 -0.5**
comp=Z,1.4nm,0.9s,baz=108,slow=12,SNR=4.4
comp=Z,1.4nm,0.9s
MMAI Mount Meron Ar 57.90 293 P **P 15 21 25.5 -1.1**
comp=Z,0.4nm,0.4s,baz=66,slow=18,SNR=1.1
comp=Z,0.4nm,0.4s
AKBB Malin Array Si 59.04 314 P **P 15 21 34.1 0.0**
KIEV Kiev 59.05 314 P **P 15 21 33.9 -0.3**
KIEV IAmb IAmb 15 21 35.8
comp=Z,3.8nm,0.7s
KIEV Kiev 59.05 314 P **P 15 21 33.9 -0.3**
KIEV pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 59.05 314 P **P 15 21 34.1 -0.1**
AK07 Malin Array Si 59.07 314 P **P 15 21 34.3 0.0**
EIL Elat 59.18 289 LR LR 15 48 26.1
comp=Z,58nm,19.1s,baz=67,slow=37
KEV Kevo 59.22 337 P **P 15 21 34.9 -0.1**
KEV Kevo 59.22 337 P **P 15 21 34.9 -0.1**
KEV pmax pmax
comp=Z,12nm,1.1s
AS31 Alice Springs 59.28 147 P **P 15 21 35.8 -0.3**
ASAR Alice Springs 59.28 147 P **P 15 21 35.9 -0.2**
ASAR Alice Springs 59.28 147 P **P 15 21 35.1 -1.0**
comp=Z,2.2nm,0.4s,baz=327,slow=6.8,SNR=71
comp=Z,2.2nm,0.4s
ASAR Alice Springs 59.28 147 P **P 15 21 35.9 -0.2**
VSU Vasula 59.63 324*ce*P **P 15 21 39.1 +1.0**
VSU pmax pmax
comp=Z,11nm,0.8s
FIA1 FINESS Array S 59.73 327 P **P 15 21 38.3 -0.4**
FINES FINESS Array B 59.73 327 P **P 15 21 38.2 -0.5**
FINES FINESS Array B 59.73 327 P **P 15 21 37.9 -0.9**
comp=Z,1.4nm,0.3s,baz=93,slow=7.0,SNR=23
comp=Z,1.4nm,0.3s
FINES FINESS Array B 59.73 327 *i*P **P 15 21 38.4 -0.3**
FINES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 59.74 337 P **P 15 21 38.4 -0.3**
ARCES ARCESS Array B 59.74 337 P **P 15 21 37.4 -1.3**
comp=Z,0.5nm,0.4s,baz=91,slow=7.7,SNR=16
comp=Z,0.5nm,0.4s
ARCES ARCESS Array B 59.74 337 P **P 15 21 38.4 -0.3**
ARCES pmax pmax
comp=Z,17nm,1.4s
KEF Keuruu 60.25 328 *e*P **P 15 21 41.6 -0.7**
MTSE Matsula 61.12 324 *e*P **P 15 21 48.0 -0.2**
SPITS Spitsbergen Ar 62.07 347 P **P 15 21 53.7 -0.7**
comp=Z,8.6nm,1.0s,baz=58,slow=8.0,SNR=1.4
comp=Z,8.6nm,1.0s
MLR Muntele Rosu 62.12 309 P **P 15 21 56.1 +0.6**
MLR Muntele Rosu 62.12 309 LR LR 15 52 08.1
comp=Z,63nm,20.2s,baz=67,slow=39
MLR Muntele Rosu 62.12 309 P **P 15 21 56.1 +0.6**
MLR pmax pmax
comp=Z,13nm,1.5s
BURAR Bucovina Array 62.16 311 P **P 15 21 56.7 +1.1**
BURAR Bucovina Array 62.16 311 P **P 15 21 56.7 +1.1**
BURAR pmax pmax
comp=Z,1.0nm,0.9s
C16K Lisburne Hills 64.60 24 P **P 15 22 10.1 -1.2**
VIKU Vikbolandet 64.83 325 *e*P **P 15 22 12.3 -0.6**
HFS Hagfors 65.93 327 P **P 15 22 19.0 -1.0**
comp=Z,3.2nm,0.6s,baz=84,slow=7.4,SNR=13
comp=Z,3.2nm,0.6s
HFS Hagfors 65.93 327 P **P 15 22 19.0 -1.0**
C18K Utukok River 66.00 24 P **P 15 22 19.8 -0.6**
C18K IAmb IAmb 15 22 27.6
comp=Z,3.4nm,0.8s
VYHS Vyhne 66.10 314 *e*P **P 15 22 22.7 +1.3**
VYHS Vyhne 66.10 314 *e*P **P 15 22 22.7 +1.3**
C19K Lookout Ridge 66.43 23 P **P 15 22 22.3 -0.9**
C19K IAmb IAmb 15 22 59.9
comp=Z,4.8nm,1.1s
F17K Baldwin Pennin 66.60 26 P **P 15 22 23.6 -0.6**
NC405 NORSAR Array S 66.61 328 P **P 15 22 23.8 -0.6**
J14K Nanvaranak Lak 66.69 30 P **P 15 22 25.1 +0.2**
NC602 NORSAR Array S 66.80 328 P **P 15 22 24.7 -0.9**
NORES NORESS Array B 66.80 328 P **P 15 22 25.2 -0.4**
NB201 NORSAR Array S 66.82 328 P **P 15 22 25.1 -0.8**
NB201 IAmb IAmb 15 22 48.5
comp=Z,7.0nm,1.0s
NB2 NORSAR Subarra 66.86 328 P **P 15 22 25.5 -0.6**
comp=Z,0.9nm,0.5s,baz=72,slow=6.9
NOA NORSAR Array B 66.86 328 P **P 15 22 24.7 -1.4**
comp=Z,0.9nm,0.5s,baz=74,slow=6.5,SNR=7.1
NOA LR LR 15 53 29.1
comp=Z,29nm,18.2s,baz=260,slow=38
comp=Z,0.9nm,0.5s
B20K Meade River 66.96 22 P **P 15 22 26.2 -0.3**
B20K IAmb IAmb 15 22 46.3
comp=Z,6.6nm,1.0s
NC204 NORSAR Array S 67.01 328 P **P 15 22 26.4 -0.6**
B21K Ikpikpuk River 67.92 22 P **P 15 22 32.5 -0.1**
B21K IAmb IAmb 15 22 42.8
comp=Z,3.2nm,0.7s
B22K Teshekpuk Lake 68.04 21 P **P 15 22 33.0 -0.3**
B22K IAmb IAmb 15 22 47.9
comp=Z,4.8nm,0.8s
J17K VABM Dome 68.43 29 P **P 15 22 35.8 0.0**
F20K Avaraart Lake 68.47 24 P **P 15 22 35.8 -0.3**
H19K Roundabout Mou 68.75 26 P **P 15 22 37.9 +0.1**
D22K Ayikyak River 68.84 22 P **P 15 22 38.3 -0.1**
D22K IAmb IAmb 15 23 09.2
comp=Z,10nm,1.4s
K17K Iditarod 69.00 29 P **P 15 22 39.5 +0.1**
C23K Itkillik River 69.12 21 P **P 15 22 39.9 -0.2**
C23K IAmb IAmb 15 22 44.7
comp=Z,10nm,1.4s
F21K Alatna River 69.22 24 P **P 15 22 40.4 -0.4**
F21K IAmb IAmb 15 23 06.2
comp=Z,3.2nm,1.1s
IMAR Indian Mountai 69.61 25 P **P 15 22 42.4 -0.8**
J19K Poorman 69.65 27 P **P 15 22 42.9 -0.5**
J19K IAmb IAmb 15 23 05.7
comp=Z,12nm,1.4s
STKA Stephens Creek 69.85 146 P **P 15 22 44.5 -0.5**
comp=Z,1.4nm,0.6s,baz=330,slow=8.0,SNR=5.6
comp=Z,1.4nm,0.6s
L18K Granite Mounta 69.88 29 P **P 15 22 44.7 -0.2**
L18K IAmb IAmb 15 23 08.3
comp=Z,10nm,1.2s
TOLK Toolik Lake Re 69.97 22 P **P 15 22 45.1 -0.4**
TOLK IAmb IAmb 15 23 17.3
comp=Z,6.6nm,1.5s
H21K Melozitna Rive 70.10 25 P **P 15 22 46.0 -0.2**
H21K IAmb IAmb 15 22 58.0
comp=Z,5.8nm,1.4s
J20K Nowinta River 70.18 27 P **P 15 22 46.5 -0.2**
J20K IAmb IAmb 15 23 02.1
comp=Z,3.7nm,1.0s
E24K Your Creek 70.59 22 P **P 15 22 49.1 -0.1**
E24K IAmb IAmb 15 23 01.0
comp=Z,5.2nm,1.2s
L19K White Mountain 70.68 29 P **P 15 22 49.5 -0.3**
L19K IAmb IAmb 15 22 50.8
comp=Z,7.0nm,1.1s
CAST Castle Rocks 71.33 27 P **P 15 22 53.2 -0.6**
BPAW Bear Paw Mtn. 71.47 27 P **P 15 22 53.9 -0.7**
I23K Minto, Yukon-K 71.62 25 P **P 15 22 55.1 -0.3**
I23K IAmb IAmb 15 23 16.0
comp=Z,9.3nm,1.5s
H24K Noodor Dome 71.84 24 P **P 15 22 56.7 -0.2**
H24K IAmb IAmb 15 23 15.4
comp=Z,6.9nm,1.4s
NEA2 Nenana 71.99 26 P **P 15 22 57.5 -0.2**
NEA2 IAmb IAmb 15 23 02.2
comp=Z,9.8nm,1.4s
SKT Skwentna 72.19 29 P **P 15 22 58.0 -0.9**
SKT IAmb IAmb 15 23 01.4
comp=Z,13nm,1.5s
FUORN Ofenpass-Fuorn 72.20 314 P **P 15 22 59.1 -0.5**
BMAR Burnt Mountain 72.20 22 P **P 15 22 59.3 +0.4**
D27M Malcolm River 72.38 20 P **P 15 22 59.5 -0.5**
ILAR Eielson Array 72.73 25 P **P 15 22 59.1 -2.9**
comp=Z,0.2nm,0.5s,baz=281,slow=4.1,SNR=5.3
comp=Z,0.2nm,0.5s
SUA Susitna One 72.75 29 P **P 15 23 01.1 -1.3**
SUA IAmb IAmb 15 23 26.0
comp=Z,13nm,1.4s
TUE Stuetta 72.84 314 P **P 15 23 03.3 0.0**
TUE IAmb IAmb 15 23 15.7

comp=Z,2.8nm,0.6s
E28M Babbage River 73.17 20 P P 15 23 04.2 -0.4
KDAK Kodiak Island 73.59 33 LR LR 15 57 25.4
comp=Z,56nm,19.9s,baz=218,slow=37
SML Sawmill 73.61 28 P P 15 23 06.8 -0.6
SML IAmb IAmb 15 23 22.0
comp=Z,10nm,1.0s
SML Sawmill 73.61 28 P P 15 23 06.8 -0.6
SML pmax pmax
comp=Z,10.0nm,1.0s
E29M Blow River 73.78 20 P P 15 23 08.0 -0.3
J26L Joseph Creek 74.09 24 P P 15 23 09.2 -1.0
J26L IAmb IAmb 15 23 26.1
comp=Z,9.9nm,1.4s
M24K Tolsona, Glenn 74.34 27 P P 15 23 12.0 +0.3
A36M Sachs Harbour 74.64 14 P P 15 23 12.7 -0.4
A36M IAmb IAmb 15 23 13.8
comp=Z,4.8nm,0.9s
KLU Klutina 74.76 28 P P 15 23 13.6 -0.6
KLU IAmb IAmb 15 23 25.6
comp=Z,7.9nm,1.2s
INK Inuvik 75.11 19 P P 15 23 15.1 -0.8
INK Inuvik 75.11 19 P P 15 23 15.1 -0.8
INK pmax pmax
comp=Z,3.0nm,0.9s
G30M tAoh Zraii Nji 75.14 21 P P 15 23 15.5 -0.7
G30M IAmb IAmb 15 23 16.5
comp=Z,4.5nm,1.1s
M27K Edge Creek, AK 75.91 26 P P 15 23 20.9 0.0
M27K IAmb IAmb 15 23 36.8
comp=Z,4.2nm,1.1s
EKA Eskdalemuir Ar 76.08 326 P P 15 23 21.0 -0.7
comp=Z,1.3nm,0.8s,baz=56,slow=9.6,SNR=2.6
comp=Z,1.3nm,0.8s
EKA Eskdalemuir Ar 76.08 326 P P 15 23 21.0 -0.7
BERG Berg Lake 76.27 28 P P 15 23 22.7 0.0
YKA Yellowknife Ar 84.66 17 P P 15 24 06.4 -1.3
comp=Z,0.8nm,0.8s,baz=328,slow=5.2,SNR=9.9
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 84.66 17 *i* P P 15 24 07.4 -0.3
YKA pmax pmax
comp=Z,1.0nm,0.8s
MDT Midelt 88.73 307 LR LR 16 09 36.5
comp=Z,32nm,18.1s,baz=144,slow=39
TXAR Lajitas Array 117.21 27 PKP PKPdf 15 30 19.5 -0.8
comp=Z,0.2nm,0.5s,baz=308,slow=4.4,SNR=3.4
QSPA South Pole Qui 117.94 180 PKP PKPdf 15 30 18.7 -1.6
comp=Z,1.8nm,1.0s,baz=317,slow=4.6,SNR=2.9

IDC 08 15:45:15.9±6.3, 33°.03S×179°.60W, h0km, mb3.4/2, mbtmp3.4/2, MS3.8/1, Error ellipse: s-maj=276.3km s-min=61.5km az=161.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.69**	**271**	P	P	15 53 06.3	-0.3
	0.4nm,0.6s,baz=115,slow=7.4,SNR=11						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**42.92**	**276**	P	P	15 53 16.6	0.0
	0.2nm,0.4s,baz=116,slow=7.7,SNR=2.3						
	0.2nm,0.4s						
VNDA	**Vanda**	**45.36**	**186**	LR	LR	16 09 34.5	
	comp=Z,108nm,19.5s,baz=358,slow=32						
H03S2	**Juan Fernandez**	**80.15**	**124**	T	T	17 25 36.6	
	baz=234						
H03S1	**Juan Fernandez**	**80.16**	**124**	T	T	17 25 39.8	
	baz=234						
H03S3	**Juan Fernandez**	**80.16**	**124**	T	T	17 25 43.5	
	baz=234						
H03N3	**Juan Fernandez**	**80.36**	**124**	T	T	17 25 48.8	
	baz=238,slow=72,SNR=8.3						
H03N2	**Juan Fernandez**	**80.36**	**124**	T	T	17 25 57.7	
	baz=238,slow=72,SNR=5.8						
H03N1	**Juan Fernandez**	**80.37**	**124**	T	T	17 25 56.4	
	baz=238,slow=72,SNR=9.6						
FINES	**FINESS Array B**	**147.09**	**337**	PKPbc	PKPbc	16 04 59.3	-0.8
	0.4nm,0.5s,baz=47,slow=2.5,SNR=4.3						

DJA 08 15:48:57.7±0.3, 1°S.3°×12°3E.°, h10km, M3.9/13, mb4.2/3, MLv3.7/13, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.73**	**240**	P	Pg	15 49 11.6	-0.2
GTOI	**Gorontalo**	**1.35**	**343**	P	Pg	15 49 23.8	+0.1
KMSI	**Cibinong**	**1.37**	**25**	P	Pn	15 49 22.3	-0.5
SANI	**Sanana**	**2.93**	**118**	P	Pn	15 49 43.9	-0.4
MPSI	**Mapaga**	**3.64**	**286**	P	Pn	15 49 55.0	+0.8
LBMI	**Labuha**	**4.10**	**90**	P	Pn	15 50 00.3	-0.2
TTSI	**Tana Toraja**	**4.29**	**237**	P	Pn	15 50 02.6	-0.4
BBSI	**Bau Bau**	**4.86**	**190**	P	Pn	15 50 10.2	-0.7
BKSI	**Bulukumba**	**5.66**	**215**	P	Pn	15 50 23.0	+1.0
	8.0nm,0.9s,0.1nm						
BKB	**Balikpapan**	**6.53**	**265**	P	Pn	15 50 34.5	+0.6

*IDC **08** 16:04:14.2±1.9, 22°.67N×121°.95E, h0km, mb3.5/6, mbtmp3.5/6, MS2.9/4, Error ellipse: s-maj=166.1km s-min=21.4km az=65.0*
*TAP **08** 16:04:22.1, 22°.68N×121°.31E, h37km, ML4.2, B*
*JMA **08** 16:04:22.4±0.1, 22°.8N±0°.4×12°1E±°, h35km±3km, MV4.0/18, TAIWAN REGION*
*ASIES **08** 16:04:22.1, 22°.68N×121°.31E, h37km, ML4.2, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-0.93; $M_{\theta\theta}$5.72; $M_{\phi\phi}$-4.79; $M_{r\theta}$0.34; $M_{\theta\phi}$0.60; $M_{\phi r}$1.33; Fault plane solution: $M_0$5.52210×10^{21} NP1: ϕ_s223.08000°, δ80.61000°, λ-165.20000°. NP2: ϕ_s130.61000°, δ75.40000°, λ-9.71000°. Principal axes: T Plg3.6020°, Azm356.3150°; N Plg72.5250°, Azm254.7800°; P Plg17.0770°, Azm87.4230°;*
*NIED **08** 16:04:22.4, 22°.76N×121°.36E, h35km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}1.05; $M_{\theta\theta}$3.78; $M_{\phi\phi}$-4.83; $M_{r\theta}$-2.76; $M_{\theta\phi}$2.86; $M_{\phi r}$-0.19; Fault plane solution: $M_0$5.92000×10^{14} NP1: ϕ_s302.00000°, δ75.00000°, λ25.00000°. NP2: ϕ_s205.00000°, δ66.00000°, λ163.00000°.*

ISC 08 16:04:21.9±1.0, 22°.62N±0°.02×121°.39E±0°.02, h35km±1km, n196, σ1^{9}38/369, mb3.3/6, MS2.9/3, 49C-20D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**0.09**	**56**	⇓P	**Pn**	**16 04 28.8**	**+0.8**
	baz=84						
LDUT				S	**Sn**	**16 04 33.5**	**+1.4**
	baz=84						
TTN	**Taitung**	**0.26**	**301**	*i* P	**Pn**	**16 04 29.7**	**0.0**
	baz=295						
TTN				*i* S	**Sn**	**16 04 35.6**	**-0.4**
	baz=295						
TWGBT	**Beinan**	**0.34**	**305**	P	**Pn**	**16 04 29.6**	**-0.7**
TWGBT	**Beinan**	**0.34**	**305**	⇓P	**Pn**	**16 04 29.6**	**-0.7**
	baz=302						
TWGBT				S	**Sn**	**16 04 34.6**	**-2.0**
	baz=302						
TWG	**Pinlang**	**0.35**	**305**	⇓*i*P	**Pn**	**16 04 29.6**	**-0.8**
	baz=302						
TWG				*i* S	**Sn**	**16 04 34.8**	**-2.0**
	baz=302						
EDH	**Donghe**	**0.36**	**348**	⇑P	**Pn**	**16 04 30.3**	**-0.2**
	baz=352						
EDH				S	**Sn**	**16 04 36.4**	**-0.4**
	baz=352						
LONT	**Longtian**	**0.37**	**320**	P	**Pn**	**16 04 30.0**	**-0.6**
	baz=313						
LONT				S	**Sn**	**16 04 35.5**	**-1.6**
	baz=313						
ECL	**Taimali**	**0.40**	**267**	⇓P	**Pn**	**16 04 30.1**	**-0.8**
	baz=258						
ECL				S	**Sn**	**16 04 35.8**	**-1.7**
	baz=258						
CHKT	**Chengkung**	**0.48**	**358**	⇑*i*P	**Pn**	**16 04 31.8**	**-0.4**
	baz=16						
CHKT				*i* S	**Sn**	**16 04 38.8**	**-0.5**
	baz=16						
ECS	**Chishang**	**0.50**	**342**	⇑P	**Pn**	**16 04 31.9**	**-0.6**
	baz=341						
ECS				S	**Sn**	**16 04 39.5**	**-0.4**
	baz=341						
TAW	**Tawu**	**0.52**	**240**	⇓*i*P	**Pn**	**16 04 32.3**	**-0.5**
	baz=229						
TAW				S	**Sn**	**16 04 39.5**	**-1.0**
	baz=229						
TAWH	**Dawu Township**	**0.54**	**239**	⇓P	**Pn**	**16 04 32.6**	**-0.5**
	baz=228						
TAWH				S	**Sn**	**16 04 39.9**	**-1.0**
	baz=228						
EAST	**Anshuo**	**0.55**	**245**	⇓*i*P	**Pn**	**16 04 32.7**	**-0.7**
	baz=234						
EAST				*i* S	**Sn**	**16 04 40.0**	**-1.3**
	baz=234						
EHD	**Haiduan**	**0.55**	**343**	⇑P	**Pn**	**16 04 31.9**	**-1.4**
	baz=341						
EHD				S	**Sn**	**16 04 38.7**	**-2.7**
	baz=341						
CHKH	**Chenggong**	**0.57**	**1**	⇑P	**Pn**	**16 04 33.0**	**-0.6**
	baz=17						
CHKH				S	**Sn**	**16 04 40.8**	**-0.9**
	baz=17						
FULB	**Fuli**	**0.58**	**352**	⇑P	**Pn**	**16 04 33.0**	**-0.8**
	baz=349						
FULB				S	**Sn**	**16 04 41.7**	**-0.4**
	baz=349						
LAY	**Lan-yu**	**0.60**	**165**	⇑*i*P	**Pn**	**16 04 34.5**	**+0.5**
	baz=160						
LAY				*i* S	**Sn**	**16 04 44.9**	**+2.4**
	baz=160						
LYUB	**Lan-yu**	**0.64**	**163**	⇑P	**Pn**	**16 04 34.1**	**-0.5**
	baz=159						
LYUB				S	**Sn**	**16 04 43.9**	**+0.4**
	baz=159						
ELDTW	**Lidau**	**0.66**	**329**	⇑*i*P	**Pn**	**16 04 33.4**	**-1.6**
	baz=336						
ELDTW				S	**Sn**	**16 04 41.1**	**-3.0**
	baz=336						
SLIU	**Shizi**	**0.68**	**234**	⇓P	**Pn**	**16 04 34.5**	**-0.6**
	baz=216						
SLIU				S	**Sn**	**16 04 43.3**	**-1.1**
	baz=216						
ECBN	**Changbin**	**0.70**	**5**	P	**Pn**	**16 04 34.9**	**-0.4**
	baz=21						
ECBN				S	**Sn**	**16 04 44.8**	**0.0**
	baz=21						
MASBT	**Mashibuluo**	**0.70**	**269**	⇓P	**Pn**	**16 04 34.8**	**-0.4**
	baz=263						
MASBT				*e*S	**Sn**	**16 04 43.9**	**-0.9**
	baz=263						
SSD	**Sandimen**	**0.71**	**280**	⇓*i*P	**Pn**	**16 04 34.7**	**-0.7**
	baz=275						
SSD				*e*S	**Sn**	**16 04 43.8**	**-1.3**
	baz=275						
EYUL	**Yuli**	**0.73**	**355**	⇑P	**Pn**	**16 04 34.4**	**-1.3**
	baz=350						
EYUL				S	**Sn**	**16 04 46.9**	**+1.3**
	baz=350						
TWF1	**Yuli**	**0.73**	**354**	⇑*i*P	**Pn**	**16 04 34.3**	**-1.4**
	baz=351						
TWF1				*e*S	**Sn**	**16 04 43.1**	**-2.6**
	baz=351						
SCZT	**Fangliau**	**0.75**	**251**	⇓*i*P	**Pn**	**16 04 35.8**	**-0.1**
	baz=243						
SCZT				*i* S	**Sn**	**16 04 45.6**	**-0.5**
	baz=243						
YULB	**Yu-li**	**0.77**	**354**	P	**Pn**	**16 04 35.0**	**-1.3**
YULB	**Yu-li**	**0.77**	**354**	⇑P	**Pn**	**16 04 34.8**	**-1.6**
	baz=351						
YULB				*e*S	**Sn**	**16 04 44.0**	**-2.8**
	baz=351						
SLGT	**Liugui**	**0.78**	**299**	⇓P	**Pn**	**16 04 36.0**	**-0.3**
	baz=296						
SLGT				S	**Sn**	**16 04 45.6**	**-1.2**
	baz=296						
SMST	**Manzhou Townsh**	**0.78**	**221**	⇑P	**Pn**	**16 04 36.4**	**-0.1**
	baz=202						
SMST				S	**Sn**	**16 04 46.4**	**-0.6**
	baz=202						
STYH	**Taoyuan**	**0.79**	**314**	⇑P	**Pn**	**16 04 36.0**	**-0.5**
	baz=315						
STYH				S	**Sn**	**16 04 45.7**	**-1.3**
	baz=315						
STYT	**Tauyuan**	**0.79**	**313**	⇑*i*P	**Pn**	**16 04 36.1**	**-0.6**
	baz=318						
STYT				*i* S	**Sn**	**16 04 45.9**	**-1.4**
	baz=318						
TSPT	**Pingtung City**	**0.82**	**274**	P	**Pn**	**16 04 37.9**	**+0.9**
	baz=263						
TSPT				*e*S	**Sn**	**16 04 49.4**	**+1.4**
	baz=263						
SGLT	**Jiouru**	**0.83**	**277**	⇓*i*P	**Pn**	**16 04 38.1**	**+1.0**
	baz=266						
SGLT				*e*S	**Sn**	**16 04 49.4**	**+1.2**
	baz=266						
TSEB	**Hengchuen, Pin**	**0.85**	**212**	⇑*i*P	**Pn**	**16 04 37.9**	**+0.6**
	baz=207						
TSEB				*i* S	**Sn**	**16 04 50.0**	**+1.5**
	baz=207						
HEN	**Hengchun**	**0.86**	**225**	*i* P	**Pn**	**16 04 37.9**	**+0.5**
	baz=207						
HEN				*i* S	**Sn**	**16 04 49.5**	**+0.8**
	baz=207						
TWKBT	**Hengchun**	**0.86**	**218**	⇑P	**Pn**	**16 04 37.5**	**+0.1**
	baz=211						
TWKBT				S	**Sn**	**16 04 49.0**	**+0.1**
	baz=211						
TWK1	**Hengchun**	**0.86**	**219**	⇑*i*P	**Pn**	**16 04 37.6**	**+0.1**
	baz=211						
TWK1				*i* S	**Sn**	**16 04 49.1**	**+0.2**
	baz=211						
SCST	**Cishan**	**0.86**	**288**	⇓P	**Pn**	**16 04 38.4**	**+0.9**
	baz=284						
SCST				S	**Sn**	**16 04 51.2**	**+2.3**
	baz=284						
HGSD	**Ruisui**	**0.87**	**2**	⇑P	**Pn**	**16 04 36.9**	**-0.7**
	baz=19						
HGSD				*e*S	**Sn**	**16 04 51.5**	**+2.4**
	baz=19						
EHYH	**Wanrong**	**0.87**	**358**	P	**Pn**	**16 04 36.4**	**-1.3**
	baz=353						
EHYH				S	**Sn**	**16 04 46.9**	**-2.2**
	baz=353						
SGST	**Jiashian**	**0.87**	**302**	⇓*i*P	**Pn**	**16 04 37.2**	**-0.5**
	baz=304						
SGST				*i* S	**Sn**	**16 04 49.2**	**0.0**
	baz=304						
SNW	**Nanwan**	**0.88**	**222**	*i* P	**Pn**	**16 04 38.7**	**+0.9**
	baz=215						
SNW				S	**Sn**	**16 04 50.2**	**+0.8**
	baz=215						
EHY	**Hungye**	**0.88**	**356**	⇑*i*P	**Pn**	**16 04 36.4**	**-1.4**
	baz=354						
EHY				*e*S	**Sn**	**16 04 47.7**	**-1.8**
	baz=354						
WTP	**Ta-pu**	**0.95**	**311**	⇑*i*P	**Pn**	**16 04 39.2**	**+0.5**
	baz=311						
WTP				*i* S	**Sn**	**16 04 51.9**	**+0.9**
	baz=311						
CHN1	**Nanshi**	**0.97**	**306**	⇑*i*P	**Pn**	**16 04 40.1**	**+1.1**
	baz=305						
CHN1				*i* S	**Sn**	**16 04 52.8**	**+1.2**
	baz=305						
TPUB	**Ta-pu**	**0.97**	**314**	P	**Pn**	**16 04 39.8**	**+0.7**
TPUB	**Ta-pu**	**0.97**	**314**	⇑P	**Pn**	**16 04 39.6**	**+0.5**
	baz=323						
TPUB				S	**Sn**	**16 04 52.4**	**+0.7**
	baz=323						
SNJT	**Kaohsiung City**	**0.98**	**278**	P	**Pn**	**16 04 41.0**	**+1.9**
	baz=273						
SNJT				S	**Sn**	**16 04 56.6**	**+4.8**
	baz=273						
TWP	**Hsiaoliuchiu**	**0.98**	**254**	*i* P	**Pn**	**16 04 41.8**	**+2.6**
	baz=235						
TWP				*e*S	**Sn**	**16 04 55.2**	**+3.3**
	baz=235						
KAU	**Kaohsiung**	**1.00**	**267**	*e*P	**Pn**	**16 04 41.2**	**+1.8**
	baz=261						
KAU				*e*S	**Sn**	**16 04 54.9**	**+2.7**
	baz=261						
SNST	**Tainan City**	**1.01**	**306**	⇑P	**Pn**	**16 04 40.5**	**+0.9**
	baz=305						
SNST				S	**Sn**	**16 04 53.7**	**+1.1**
	baz=305						
CHN4	**Tsaushan**	**1.03**	**315**	⇑*i*P	**Pn**	**16 04 40.6**	**+0.8**
	baz=315						
CHN4				*i* S	**Sn**	**16 04 54.6**	**+1.6**
	baz=315						
ALS	**Alishan**	**1.03**	**329**	⇑*i*P	**Pn**	**16 04 40.3**	**+0.2**
	baz=338						
ALS				*i* S	**Sn**	**16 04 53.3**	**-0.2**
	baz=338						
SHHT	**Tainan City**	**1.04**	**293**	*i* P	**Pn**	**16 04 42.0**	**+2.1**
	baz=289						
SHHT				*i* S	**Sn**	**16 04 55.6**	**+2.4**
	baz=289						
CHN3	**Shinhua**	**1.04**	**296**	⇑*i*P	**Pn**	**16 04 42.3**	**+2.3**
	baz=293						
CHN3				*i* S	**Sn**	**16 04 57.2**	**+3.9**
	baz=293						
EGFH	**Guangfu**	**1.04**	**2**	P	**Pn**	**16 04 39.9**	**-0.2**
	baz=8.0						
EGFH				*e*S	**Sn**	**16 04 53.0**	**-0.3**
	baz=8.0						
TWK	**Hsinying**	**1.05**	**308**	⇑*i*P	**Pn**	**16 04 41.1**	**+0.9**
	baz=308						
TWK				*i* S	**Sn**	**16 04 54.4**	**+0.8**
	baz=308						
WCKO	**Fanlu**	**1.09**	**319**	P	**Pn**	**16 04 41.6**	**+1.0**
	baz=320						
WCKO				S	**Sn**	**16 04 55.8**	**+1.4**
	baz=320						
WARBT	**Fenglin Townsh**	**1.09**	**0**	⇑P	**Pn**	**16 04 39.0**	**-1.7**
	baz=6.0						
WARBT				*e*S	**Sn**	**16 04 53.2**	**-1.4**
	baz=6.0						
SSHA	**Shanhua**	**1.14**	**297**	P	**Pn**	**16 04 42.9**	**+1.6**
	baz=295						
SSHA				S	**Sn**	**16 04 58.1**	**+2.5**
	baz=295						
TAI1	**Yung-k'ang**	**1.15**	**292**	*e*P	**Pn**	**16 04 41.4**	**0.0**
	baz=288						
TAI1				*e*S	**Sn**	**16 04 56.6**	**+0.8**
	baz=288						
VWDT	**VWDT**	**1.15**	**349**	⇑P	**Pn**	**16 04 41.2**	**-0.3**
	baz=4.0						
VWDT				*e*S	**Sn**	**16 04 56.3**	**+0.3**
	baz=4.0						
TAI	**Tainan**	**1.16**	**289**	*e*P	**Pn**	**16 04 43.1**	**+1.5**
	baz=285						
TAI				S	**Sn**	**16 04 57.4**	**+1.2**
	baz=285						
CHN5	**Tsauling**	**1.17**	**326**	*i* P	**Pn**	**16 04 42.7**	**+0.8**
	baz=313						
CHN5				*i* S	**Sn**	**16 04 58.6**	**+1.9**
	baz=313						
SHUL	**Shoufeng**	**1.17**	**8**	⇑P	**Pn**	**16 04 41.7**	**-0.1**
	baz=3.0						
SHUL				S	**Sn**	**16 04 57.3**	**+0.7**
	baz=3.0						
WHYT	**Xinyi Township**	**1.18**	**336**	P	**Pn**	**16 04 42.8**	**+0.9**
	baz=343						
WHYT				S	**Sn**	**16 04 57.1**	**+0.4**
	baz=343						
ESL	**Shilin**	**1.19**	**2**	⇑*i*P	**Pn**	**16 04 40.5**	**-1.5**
	baz=8.0						
ESL				*e*S	**Sn**	**16 04 54.7**	**-2.3**
	baz=8.0						
SSLB	**Suanglung**	**1.23**	**341**	P	**Pn**	**16 04 42.9**	**+0.3**
SSLB	**Suanglung**	**1.23**	**341**	⇑P	**Pn**	**16 04 42.7**	**+0.1**
	baz=350						
SSLB				*e*S	**Sn**	**16 04 59.0**	**+1.0**
	baz=350						
SCLT	**Jiali**	**1.23**	**297**	*i* P	**Pn**	**16 04 43.4**	**+0.9**
	baz=294						
SCLT				*i* S	**Sn**	**16 04 58.4**	**+0.5**
	baz=294						
CHN2	**Minshiung**	**1.24**	**317**	*i* P	**Pn**	**16 04 43.9**	**+1.2**
	baz=318						
CHN2				*i* S	**Sn**	**16 05 00.6**	**+2.5**
	baz=318						
CHY	**Chiayi**	**1.24**	**315**	P	**Pn**	**16 04 44.2**	**+1.5**
	baz=315						
CHY				S	**Sn**	**16 05 00.4**	**+2.1**
	baz=315						
TEYL	**Yanliau Villag**	**1.26**	**9**	P	**Pn**	**16 04 43.2**	**+0.3**
	baz=5.0						
TEYL				S	**Sn**	**16 05 00.3**	**+1.6**
	baz=5.0						
ICHU	**Yijhu**	**1.26**	**306**	P	**Pn**	**16 04 44.0**	**+1.0**
	baz=305						
ICHU				S	**Sn**	**16 04 59.8**	**+1.2**
	baz=305						
CHN8	**Yiju**	**1.30**	**304**	*i* P	**Pn**	**16 04 44.3**	**+0.8**
	baz=302						
CHN8				*i* S	**Sn**	**16 05 01.4**	**+1.7**
	baz=302						
WGK	**Gukeng**	**1.30**	**325**	*i* P	**Pn**	**16 04 44.7**	**+1.1**
	baz=327						
WGK				*i* S	**Sn**	**16 05 01.9**	**+2.2**
	baz=327						
TSCK	**Chigu Township**	**1.31**	**294**	P	**Pn**	**16 04 44.2**	**+0.6**
	baz=290						
TSCK				S	**Sn**	**16 05 00.4**	**+0.6**
	baz=290						
WDLH	**Douliu**	**1.32**	**324**	P	**Pn**	**16 04 44.8**	**+1.0**
	baz=325						
WDLH				S	**Sn**	**16 05 01.4**	**+1.3**
	baz=325						
SMLT	**Sun Moon Lake**	**1.33**	**341**	⇑*i*P	**Pn**	**16 04 45.0**	**+0.8**
	baz=345						
SMLT				S	**Sn**	**16 05 02.5**	**+1.9**
	baz=345						
WJS	**Zhushan**	**1.34**	**333**	P	**Pn**	**16 04 45.6**	**+1.5**
	baz=319						
WJS				S	**Sn**	**16 05 02.6**	**+1.9**
	baz=319						
OWD	**Renai**	**1.34**	**352**	⇓P	**Pn**	**16 04 43.8**	**-0.5**
	baz=5.0						
OWD				S	**Sn**	**16 04 60.0**	**-1.0**
	baz=5.0						
ETM	**Tongmen**	**1.34**	**4**	P	**Pn**	**16 04 42.9**	**-1.3**
	baz=10.0						
ETM				S	**Sn**	**16 04 58.8**	**-1.9**
	baz=10.0						
HWA	**Hwalien**	**1.37**	**8**	*i* P	**Pn**	**16 04 44.1**	**-0.3**
	baz=5.0						
HWA				S	**Sn**	**16 05 01.4**	**+0.2**
	baz=5.0						
TYC	**Yuchr**	**1.37**	**339**	⇑*i*P	**Pn**	**16 04 45.6**	**+1.2**
	baz=343						
TYC				*i* S	**Sn**	**16 05 03.9**	**+2.5**
	baz=343						
WUSB	**Renai**	**1.39**	**350**	⇑P	**Pn**	**16 04 44.7**	**-0.1**
	baz=2.0						
WUSB				S	**Sn**	**16 05 00.9**	**-1.2**
	baz=2.0						
WSL	**Shuilin Townsh**	**1.39**	**310**	P	**Pn**	**16 04 45.7**	**+0.8**
	baz=293						
WSL				S	**Sn**	**16 05 02.4**	**+0.4**
	baz=293						
LXIB	**Xiulin Townshi**	**1.40**	**1**	⇑P	**Pn**	**16 04 43.7**	**-1.3**
	baz=14						
LXIB				*e*S	**Sn**	**16 05 00.6**	**-1.6**
	baz=14						
WTK	**Tuku**	**1.40**	**319**	⇑P	**Pn**	**16 04 45.5**	**+0.5**
	baz=320						
WTK				S	**Sn**	**16 05 03.0**	**+0.7**
	baz=320						
WNT	**Mingjian**	**1.41**	**333**	⇓*i*P	**Pn**	**16 04 46.7**	**+1.7**
	baz=321						
WNT				*i* S	**Sn**	**16 05 04.0**	**+1.6**
	baz=321						
WNT1	**Nantou City**	**1.44**	**333**	⇑P	**Pn**	**16 04 46.9**	**+1.5**
	baz=321						
WNT1				S	**Sn**	**16 05 05.0**	**+1.9**
	baz=321						
WPL	**Puli Township**	**1.44**	**344**	⇑P	**Pn**	**16 04 46.5**	**+1.0**
	baz=348						
WPL				S	**Sn**	**16 05 04.8**	**+1.6**
	baz=348						
CHGB	**Renai**	**1.45**	**352**	⇑P	**Pn**	**16 04 45.6**	**-0.1**
	baz=5.0						
CHGB				*e*S	**Sn**	**16 05 03.3**	**-0.4**
	baz=5.0						
TWD	**Chiawan**	**1.47**	**8**	⇓*i*P	**Pn**	**16 04 45.0**	**-0.8**
	baz=6.0						
TWD				*e*S	**Sn**	**16 05 04.8**	**+1.1**
	baz=6.0						
DPDB	**Guoxing**	**1.47**	**343**	⇑P	**Pn**	**16 04 47.0**	**+1.1**
	baz=347						
DPDB				S	**Sn**	**16 05 06.1**	**+2.2**
	baz=347						
WSF	**Szhu**	**1.48**	**314**	*i* P	**Pn**	**16 04 46.3**	**+0.4**
	baz=314						
WSF				*i* S	**Sn**	**16 05 04.9**	**+0.9**
	baz=314						
WCS	**Beigang Elemen**	**1.50**	**343**	⇑P	**Pn**	**16 04 47.5**	**+1.3**
	baz=347						
WCS				S	**Sn**	**16 05 06.8**	**+2.3**
	baz=347						

WHF	**Hehuan Shan**	**1.52**	**356**	*i* P		**Pn**	**16 04 46.5**	**-0.5**
	baz=11							
WHF				S		**Sn**	**16 05 05.9**	**+0.1**
	baz=11							
WYL	**Yuanlin Townsh**	**1.53**	**331**	P		**Pn**	**16 04 48.3**	**+1.7**
	baz=333							
WYL				S		**Sn**	**16 05 06.6**	**+1.3**
	baz=333							
ETL	**Fush Village**	**1.55**	**8**	P		**Pn**	**16 04 46.0**	**-1.0**
	baz=14							
ETL				*e*S		**Sn**	**16 05 07.1**	**+1.3**
	baz=14							
WWF	**Wufeng**	**1.55**	**336**	⇑P		**Pn**	**16 04 48.5**	**+1.5**
	baz=326							
WWF				S		**Sn**	**16 05 08.4**	**+2.5**
	baz=326							
NACB	**Ninganchiao**	**1.56**	**7**	P		**Pn**	**16 04 46.0**	**-1.1**
NACB	**Ninganchiao**	**1.56**	**7**	⇑P		**Pn**	**16 04 45.8**	**-1.3**
	baz=13							
NACB				*e*S		**Sn**	**16 05 04.7**	**-1.4**
	baz=13							
WRL	**Guolierlin Hig**	**1.58**	**324**	P		**Pn**	**16 04 48.0**	**+0.7**
	baz=326							
WRL				S		**Sn**	**16 05 07.8**	**+1.3**
	baz=326							
ETLH	**Xiulin Townshi**	**1.58**	**3**	P		**Pn**	**16 04 46.4**	**-1.2**
	baz=9.0							
ETLH				*e*S		**Sn**	**16 05 07.8**	**+1.1**
	baz=9.0							
WTCT	**Ta-ch'eng**	**1.60**	**321**	P		**Pn**	**16 04 48.0**	**+0.4**
	baz=322							
WTCT				*i* S		**Sn**	**16 05 08.0**	**+0.9**
	baz=322							
FUSS	**Fushou**	**1.62**	**355**	⇑P		**Pn**	**16 04 48.3**	**+0.1**
	baz=10.0							
FUSS				*e*S		**Sn**	**16 05 08.4**	**+0.3**
	baz=10.0							
TWT	**Tachien**	**1.64**	**353**	⇑*i*P		**Pn**	**16 04 48.8**	**+0.5**
	baz=6.0							
TWT				*e*S		**Sn**	**16 05 08.3**	**0.0**
	baz=6.0							
TDCB	**Techi**	**1.64**	**353**	P		**Pn**	**16 04 48.9**	**+0.6**
	baz=5.0							
TDCB				*e*S		**Sn**	**16 05 09.2**	**+1.0**
	baz=5.0							
WCHH	**Zhanghua**	**1.64**	**333**	P		**Pn**	**16 04 49.5**	**+1.3**
	baz=322							
WCHH				S		**Sn**	**16 05 10.8**	**+2.7**
	baz=322							
TCU	**Taichung**	**1.65**	**337**	P		**Pn**	**16 04 49.8**	**+1.4**
	baz=340							
TCU				*e*S		**Sn**	**16 05 11.3**	**+2.9**
	baz=340							
WHP	**Taichung City**	**1.70**	**346**	⇑P		**Pn**	**16 04 50.7**	**+1.6**
	baz=350							
WHP				S		**Sn**	**16 05 13.0**	**+3.4**
	baz=350							
WDGT	**Dungji**	**1.71**	**292**	⇓*i*P		**Pn**	**16 04 49.0**	**-0.2**
	baz=288							
WDGT				*i* S		**Sn**	**16 05 08.5**	**-1.4**
	baz=288							
EOS4	**EOS4**	**1.72**	**30**	⇓P		**Pn**	**16 04 49.6**	**+0.6**
	baz=36							
EOS4				S		**Sn**	**16 05 09.7**	**+0.1**
	baz=36							
EAHA	**Aohua**	**1.73**	**11**	P		**Pn**	**16 04 49.2**	**-0.3**
	baz=7.0							
EAHA				S		**Sn**	**16 05 11.1**	**+0.8**
	baz=7.0							
NNSB	**Datong**	**1.80**	**360**	⇑P		**Pn**	**16 04 50.2**	**-0.3**
	baz=13							
NNSB				*e*S		**Sn**	**16 05 13.4**	**+1.2**
	baz=13							
TWQ1	**Liyutan**	**1.81**	**342**	*i* P		**Pn**	**16 04 51.9**	**+1.4**
	baz=346							
TWQ1				*i* S		**Sn**	**16 05 15.4**	**+3.1**
	baz=346							
NNS	**Nan Shan**	**1.81**	**360**	*i* P		**Pn**	**16 04 50.6**	**-0.1**
	baz=13							
NNS				S		**Sn**	**16 05 12.2**	**-0.3**
	baz=13							
ENA	**Nanau**	**1.83**	**10**	*i* P		**Pn**	**16 04 50.1**	**-0.7**
	baz=6.0							
ENA				*i* S		**Sn**	**16 05 14.1**	**+1.3**
	baz=6.0							
WDJ	**Dajia District**	**1.85**	**338**	P		**Pn**	**16 04 52.8**	**+1.7**
	baz=341							
WDJ				S		**Sn**	**16 05 17.3**	**+4.0**
	baz=341							
EWUT	**Wuta**	**1.85**	**11**	P		**Pn**	**16 04 50.8**	**-0.3**
	baz=7.0							
EWUT				S		**Sn**	**16 05 14.2**	**+0.9**
	baz=7.0							
EOS3	**EOS3**	**1.87**	**27**	P		**Pn**	**16 04 51.9**	**+0.7**
	baz=32							
EOS3				S		**Sn**	**16 05 14.1**	**+0.7**
	baz=32							
NSY	**Sanyi**	**1.88**	**342**	*i* P		**Pn**	**16 04 53.3**	**+1.8**
	baz=346							
NSY				*i* S		**Sn**	**16 05 17.5**	**+3.5**
	baz=346							
PHUB	**P'eng-hu**	**1.89**	**298**	P		**Pn**	**16 04 51.3**	**-0.4**
	baz=295							
PHUB				S		**Sn**	**16 05 12.2**	**-2.0**
	baz=295							
VCHM	**Qimei**	**1.90**	**288**	P		**Pn**	**16 04 51.5**	**-0.3**
	baz=284							
VCHM				S		**Sn**	**16 05 13.1**	**-1.3**
	baz=284							
LATG	**Datong**	**1.91**	**4**	P		**Pn**	**16 04 51.6**	**-0.5**
	baz=20							
LATG				*e*S		**Sn**	**16 05 14.2**	**-0.8**
	baz=20							
PNG	**Penghu**	**1.93**	**300**	*i* P		**Pn**	**16 04 52.1**	**-0.1**
	baz=296							
PNG				S		**Sn**	**16 05 12.6**	**-2.6**
	baz=296							
EOS2	**EOS2**	**1.95**	**23**	*e*P		**Pn**	**16 04 53.7**	**+1.3**
	baz=27							
EOS2				*e*S		**Sn**	**16 05 18.3**	**+2.7**
	baz=27							
NDT	**Datong Townshi**	**1.98**	**3**	P		**Pn**	**16 04 52.8**	**-0.1**
	baz=19							
NDT				S		**Sn**	**16 05 16.4**	**0.0**
	baz=19							
NMLH	**Miaoli**	**1.98**	**344**	P		**Pn**	**16 04 54.0**	**+1.0**
	baz=348							
NMLH				S		**Sn**	**16 05 19.7**	**+3.1**
	baz=348							
ESAO	**Su ao**	**1.99**	**12**	P		**Pn**	**16 04 53.4**	**+0.4**
	baz=9.0							
ESAO				S		**Sn**	**16 05 18.5**	**+1.8**
	baz=9.0							
ENTT	**Nioudou**	**2.02**	**5**	*i* P		**Pn**	**16 04 53.2**	**-0.3**
	baz=19							
ENTT				*i* S		**Sn**	**16 05 17.4**	**0.0**
	baz=19							
NFF	**Wufeng Townshi**	**2.02**	**353**	P		**Pn**	**16 04 54.7**	**+1.2**
	baz=342							
NFF				S		**Sn**	**16 05 21.2**	**+3.7**
	baz=342							
TWC	**Suao**	**2.02**	**12**	*i* P		**Pn**	**16 04 53.8**	**+0.2**
	baz=9.0							
TWC				*i* S		**Sn**	**16 05 18.4**	**+0.9**
	baz=9.0							
NDS	**Dongshan**	**2.03**	**9**	P		**Pn**	**16 04 53.7**	**+0.1**
	baz=15							
NDS				S		**Sn**	**16 05 16.8**	**-0.8**
	baz=15							
NSTT	**Nanjuang**	**2.03**	**350**	*i* P		**Pn**	**16 04 54.8**	**+1.1**
	baz=355							
NSTT				*i* S		**Sn**	**16 05 20.2**	**+2.4**
	baz=355							
YHNB	**Yeheng**	**2.04**	**360**	P		**Pn**	**16 04 54.9**	**+1.1**
YHNB	**Yeheng**	**2.04**	**360**	P		**Pn**	**16 04 54.4**	**+0.6**
	baz=18							
YHNB				S		**Sn**	**16 05 19.1**	**+1.0**
	baz=18							
LIOB	**Emei**	**2.04**	**351**	P		**Pn**	**16 04 55.0**	**+1.2**
	baz=355							
LIOB				S		**Sn**	**16 05 20.3**	**+2.2**
	baz=355							
NSK	**Sanguang**	**2.05**	**359**	*i* P		**Pn**	**16 04 54.4**	**+0.5**
	baz=17							
NSK				*i* S		**Sn**	**16 05 17.7**	**-0.5**
	baz=17							
TWE	**Neicheng**	**2.11**	**7**	*i* P		**Pn**	**16 04 54.4**	**-0.2**
	baz=13							
TWE				S		**Sn**	**16 05 20.8**	**+1.2**
	baz=13							
NJN	**Zhunan**	**2.11**	**347**	P		**Pn**	**16 04 56.7**	**+2.1**
	baz=352							
NJN				*e*S		**Sn**	**16 05 21.6**	**+2.0**
	baz=352							
NJD	**Zhudong**	**2.12**	**353**	*e*P		**Pn**	**16 04 56.9**	**+2.0**
	baz=343							
NJD				*e*S		**Sn**	**16 05 23.5**	**+3.5**
	baz=343							
FUSB	**Fushanzhiwuyua**	**2.14**	**5**	P		**Pn**	**16 04 55.1**	**-0.1**
	baz=20							
FUSB				*e*S		**Sn**	**16 05 20.6**	**+0.1**
	baz=20							
NWLT	**Wulai**	**2.15**	**3**	P		**Pn**	**16 04 55.5**	**+0.3**
	baz=17							
NWLT				*e*S		**Sn**	**16 05 21.5**	**+0.8**
	baz=17							
ILA	**Ilan**	**2.16**	**9**	P		**Pn**	**16 04 56.2**	**+0.8**
	baz=15							
ILA				S		**Sn**	**16 05 21.1**	**+0.1**
	baz=15							
SBCB	**Hsinchu**	**2.19**	**350**	P		**Pn**	**16 04 57.4**	**+1.6**
	baz=355							
SBCB				*e*S		**Sn**	**16 05 23.9**	**+2.2**
	baz=355							
EGS		**2.27**	**13**	*i* P		**Pn**	**16 04 57.5**	**+0.6**
	baz=30							
EGS				S		**Sn**	**16 05 27.0**	**+3.4**
	baz=30							
JYNG	**Yonagunijimaku**	**2.32**	**38**	P		**Pn**	**16 04 58.6**	**+1.1**
JYNG				*e*S		**Sn**	**16 05 25.4**	**+0.6**
NCUH	**Zhongli**	**2.34**	**356**	P		**Pn**	**16 04 58.8**	**+0.9**
	baz=343							
NCUH				*e*S		**Sn**	**16 05 27.7**	**+2.2**
	baz=343							
TATO	**Taipei**	**2.35**	**2**	P		**Pn**	**16 04 58.8**	**+0.9**
TATO	**Taipei**	**2.35**	**2**	P		**Pn**	**16 04 58.7**	**+0.8**
	baz=19							
TATO				*e*S		**Sn**	**16 05 26.2**	**+0.7**
	baz=19							
TWA	**Mucha**	**2.36**	**4**	*i* P		**Pn**	**16 04 58.7**	**+0.6**
	baz=21							
TWA				S		**Sn**	**16 05 27.2**	**+1.4**
	baz=21							
YOJ	**Yonaguni jima**	**2.36**	**39**	*e*P		**Pn**	**16 04 59.3**	**+1.1**
YOJ				*e*S		**Sn**	**16 05 26.1**	**+0.1**
YOJ	**Yonaguni jima**	**2.36**	**39**	P		**Pn**	**16 04 59.6**	**+1.4**
	baz=52							
YOJ				S		**Sn**	**16 05 26.7**	**+0.8**
	baz=52							
TIPB	**Shuangxi**	**2.38**	**10**	P		**Pn**	**16 04 58.9**	**+0.5**
	baz=16							
TIPB				S		**Sn**	**16 05 26.9**	**+0.6**
	baz=16							
TAP	**Taipei**	**2.41**	**3**	*e*P		**Pn**	**16 04 59.6**	**+0.8**
	baz=19							
TAP				*e*S		**Sn**	**16 05 29.2**	**+2.1**
	baz=19							
NHY	**Taipei**	**2.41**	**4**	P		**Pn**	**16 04 59.1**	**+0.3**
	baz=20							
NHY				*e*S		**Sn**	**16 05 27.5**	**+0.4**
	baz=20							
TWB1	**Santiao Chiao**	**2.44**	**13**	*i* P		**Pn**	**16 05 00.3**	**+1.1**
	baz=33							
TWB1				*e*S		**Sn**	**16 05 29.2**	**+1.4**
	baz=33							
WFSB	**Wu-fen Shan**	**2.47**	**8**	P		**Pn**	**16 05 00.2**	**+0.7**
	baz=14							
WFSB				S		**Sn**	**16 05 27.6**	**-0.8**
	baz=14							
TWS1	**Kuangyinshan**	**2.47**	**1**	*i* P		**Pn**	**16 05 00.5**	**+0.9**
	baz=20							
TWS1				S		**Sn**	**16 05 30.4**	**+1.8**
	baz=20							
SXI1	**Grass Mountain**	**2.50**	**10**	P		**Pn**	**16 05 00.4**	**+0.3**
	baz=17							
SXI1				*e*S		**Sn**	**16 05 32.5**	**+3.0**
	baz=17							
YM01	**YM01**	**2.52**	**4**	P		**Pn**	**16 05 00.7**	**+0.3**
	baz=21							
YM01				*e*S		**Sn**	**16 05 31.2**	**+1.3**
	baz=21							
NTST	**Danshui**	**2.53**	**1**	P		**Pn**	**16 05 01.2**	**+0.7**
	baz=20							
NTST				S		**Sn**	**16 05 32.1**	**+2.0**
	baz=20							
TNOU	**National Taiwa**	**2.54**	**8**	P		**Pn**	**16 05 00.9**	**+0.3**
	baz=14							
TNOU				*e*S		**Sn**	**16 05 31.1**	**+0.8**
	baz=14							
ANP	**Anpu**	**2.56**	**3**	*i* P		**Pn**	**16 05 00.8**	**-0.1**
	baz=20							
ANP				*e*S		**Sn**	**16 05 30.7**	**-0.2**
	baz=20							
YM08	**YM08**	**2.56**	**4**	P		**Pn**	**16 05 00.7**	**-0.2**
	baz=21							
YM08				*e*S		**Sn**	**16 05 30.9**	**0.0**
	baz=21							
HATJ	**Hateruma jima**	**2.64**	**57**	*e*P		**Pn**	**16 05 02.9**	**+0.9**
HATJ				*e*S		**Sn**	**16 05 32.5**	**-0.3**
TWY	**Chenhua**	**2.65**	**4**	P		**Pn**	**16 05 02.0**	**-0.1**
	baz=11							
TWY				*e*S		**Sn**	**16 05 34.5**	**+1.5**
	baz=11							
IRIF	**Iriomote-Funau**	**2.75**	**51**	*e*P		**Pn**	**16 05 04.6**	**+1.2**
IRIF				*e*S		**Sn**	**16 05 37.1**	**+1.7**
JKRS	**Kuro-shima**	**2.90**	**56**	P		**Pn**	**16 05 06.8**	**+1.3**
JKRS				S		**Sn**	**16 05 39.4**	**+0.3**
VWUC	**VWUC**	**2.95**	**323**	P		**Pn**	**16 05 05.8**	**-0.5**
	baz=323							
VWUC				S		**Sn**	**16 05 37.4**	**-3.1**
	baz=323							
JIJ	**Ishigaki jima**	**3.07**	**55**	P		**Pn**	**16 05 08.8**	**+0.9**
JIJ				*e*S		**Sn**	**16 05 42.9**	**-0.5**
PTMZ	**Houxiangcun**	**3.18**	**320**	P		**Pn**	**16 05 09.2**	**-0.2**
	baz=319							
PTMZ				S		**Sn**	**16 05 43.4**	**-2.7**
	baz=319							
KNM	**Kinmen**	**3.25**	**304**	*i* P		**Pn**	**16 05 11.5**	**+1.2**
	baz=299							
KNM				S		**Sn**	**16 05 48.0**	**+0.3**
	baz=299							
KNMB	**Chin-men Tao**	**3.31**	**304**	P		**Pn**	**16 05 11.1**	**0.0**
	baz=300							
KNMB				*e*S		**Sn**	**16 05 48.6**	**-0.6**
	baz=300							
JISG	**Ishigakijimahi**	**3.32**	**53**	P		**Pn**	**16 05 11.9**	**+0.6**
JISG				S		**Sn**	**16 05 49.4**	**-0.2**
ZPLA	**Ao Xicun**	**3.59**	**292**	P		**Pn**	**16 05 14.7**	**-0.3**
	baz=287							
ZPLA				S		**Sn**	**16 05 55.2**	**-1.0**
	baz=287							
JTJ	**Tarama**	**3.65**	**56**	P		**Pn**	**16 05 16.3**	**+0.5**
JTJ				*e*S		**Sn**	**16 05 57.4**	**-0.2**
MATB	**Ma-tsu**	**3.75**	**340**	P		**Pn**	**16 05 16.8**	**-0.5**
	baz=340							
MATB				*e*S		**Sn**	**16 05 58.3**	**-1.9**
	baz=340							
DSXP	**Dongshan**	**3.80**	**287**	P		**Pn**	**16 05 17.9**	**0.0**
	baz=282							
DSXP				S		**Sn**	**16 05 59.0**	**-2.5**
	baz=282							
MHZQ	**Yeshan**	**4.08**	**329**	P		**Pn**	**16 05 21.2**	**-0.5**
	baz=327							
MHZQ				S		**Sn**	**16 06 06.0**	**-2.2**
	baz=327							
JIRB	**Irabujima**	**4.11**	**57**	*e*P		**Pn**	**16 05 23.1**	**+1.0**
JIRB				S		**Sn**	**16 06 08.4**	**-0.5**
LYJJ	**Jianjiangzhen**	**4.18**	**340**	P		**Pn**	**16 05 22.5**	**-0.7**
	baz=351							
LYJJ				*e*S		**Sn**	**16 06 09.5**	**-1.3**
	baz=351							
JMJ2	**Miyako jima3**	**4.18**	**59**	P		**Pn**	**16 05 24.4**	**+1.1**
JMJ2				*e*S		**Sn**	**16 06 12.2**	**+1.4**
JOGS	**Gusukube**	**4.26**	**59**	P		**Pn**	**16 05 25.3**	**+1.1**
TGY	**Tagaytay City**	**8.48**	**183**	LR		LR	16 10 08.6	
	comp=Z,46nm,19.2s,baz=50,slow=41							
CMAR	**Chiang Mai Arr**	**21.41**	**263**	LR		LR	16 18 30.7	
	comp=Z,30nm,19.2s,baz=115,slow=39							
KLR	**Kul'dur**	**27.80**	**15**	LR		LR	16 21 16.2	
	comp=Z,28nm,18.7s,baz=160,slow=37							
SONM	**Songino Array**	**27.88**	**338**	P		**P**	**16 10 07.5**	**-0.9**
	0.6nm,0.7s,baz=161,slow=9.2,SNR=1.6							
	0.6nm,0.7s							
MKAR	**Makanchi Array**	**39.59**	**317**	P		**P**	**16 11 50.8**	**+0.9**
	0.6nm,0.7s,baz=103,slow=10,SNR=6.1							
	0.6nm,0.7s							
ZALV	**Zalesovo Beam**	**41.66**	**328**	P		**P**	**16 12 05.9**	**-0.8**
	0.8nm,0.5s,baz=111,slow=8.3,SNR=5.4							
	0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**43.43**	**321**	P		**P**	**16 12 19.3**	**-1.8**
	0.3nm,0.6s,baz=115,slow=8.7,SNR=2.4							
	0.3nm,0.6s							
WRA	**Warramunga Arr**	**44.15**	**162**	P		P	16 12 23.7	-3.5
	0.3nm,0.7s,baz=345,slow=8.6,SNR=1.5							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**47.59**	**164**	P		**P**	**16 12 51.2**	**-3.2**
	0.1nm,0.3s,baz=340,slow=7.3,SNR=1.4							
	0.1nm,0.3s							
NOA	**NORSAR Array B**	**79.69**	**332**	LR		LR	16 54 54.9	
	comp=Z,10nm,18.3s,baz=265,slow=38							

*NEIC **08** 16:12:14.7±1.1, 19°.30N±0°.02×155°.21W±0°.02, h5km±1km, Error ellipse: s-maj=4.4km s-min=2.7km az=315.0*

HVO 08 16:12:14.1±0.8,**19°.32N**±0°.02×**155°.18W**±0°.02,**h1**km±8km, **ML2.6**/7,**ML2.8**/40(NEIC),**Error ellipse: s-maj=3.5km s-min=1.5km az=130.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KNHH	**Kane Nui o Ham**	**0.06**	**8**			Pg	16 12 16.3	+1.0
PUH	**Pauahi**	**0.06**	**326**			Pg	16 12 16.3	+0.9
STCH	**Steam Cracks**	**0.08**	**38**			Pg	16 12 16.6	+0.9
STCH					IAML		16 12 18.4	
	comp=E,5μm,0.1s							
STCH					IAML		16 12 18.4	
	comp=N,4μm,0.3s							
JCUZ	**Jacuzzi**	**0.10**	**49**			Pg	16 12 16.9	+0.9
JCUZ					IAML		16 12 18.9	
	comp=E,3μm,0.2s							
JCUZ					IAML		16 12 19.1	
	comp=N,3μm,0.4s							
NPOC	**North of Pu'u**	**0.10**	**42**			Pg	16 12 16.8	+0.8
NPOC					IAML		16 12 19.2	
	comp=E,3μm,0.1s							
NPOC					IAML		16 12 19.2	
	comp=N,6μm,0.5s							
KKO	**Keanakako`i**	**0.11**	**313**			Pg	16 12 16.9	+0.6
KKO					IAML		16 12 19.4	
	comp=E,3μm,0.7s							
KKO					IAML		16 12 20.2	
	comp=N,5μm,0.5s							
RIM	**Rim**	**0.12**	**309**			Pg	16 12 17.1	+0.7
RIM					IAML		16 12 18.0	
	comp=E,3μm,0.5s							
RIM					IAML		16 12 18.0	
	comp=N,5μm,0.6s							
HLP	**Hilina Pali**	**0.13**	**259**			Pg	16 12 17.4	+0.9
HATHI	**Halema'uma'u T**	**0.13**	**322**			Pg	16 12 17.1	+0.5
HATHI					IAML		16 12 17.4	
	comp=N,4μm,0.7s							
HATHI					IAML		16 12 19.9	
	comp=E,6μm,0.7s							
SDHHI	**Sand Hill**	**0.13**	**302**		Pg	Pg	16 12 17.3	+0.6
SDHHI					IAML		16 12 20.2	
	comp=N,6μm,0.4s							
SDHHI					IAML		16 12 20.4	
	comp=E,5μm,0.4s							
SBLHI	**Steaming Bluff**	**0.14**	**321**			Pg	16 12 17.3	+0.5
SBLHI					IAML		16 12 21.2	
	comp=E,4μm,0.4s							
SBLHI					IAML		16 12 21.2	
	comp=N,4μm,0.4s							
UWB	**Uwekahuna B**	**0.14**	**317**		Pg	Pg	16 12 17.3	+0.4
WRMHI	**West Rim**	**0.14**	**306**		Pg	Pg	16 12 17.5	+0.6
RSD	**Rainshed**	**0.17**	**326**			Sg	16 12 21.4	+1.7
RSD	**Rainshed**	**0.17**	**326**		Pg	Pg	16 12 17.8	+0.3
RSD					IAML		16 12 21.3	
	comp=N,1μm,1.0s							
RSD	**Rainshed**	**0.17**	**326**		IAML		16 12 21.9	
	comp=E,915nm,0.7s							
HTC	**Hot Caves**	**0.22**	**248**			Pg	16 12 19.2	+0.8
MLH	**Mauna Loa**	**0.26**	**311**			Pg	16 12 19.3	+0.2
HMH	**Humu'ula Sheep**	**0.40**	**314**			Pg	16 12 21.9	+0.1
HMH	**Humu'ula Sheep**	**0.40**	**314**			Sg	16 12 28.6	+1.5
KHU	**Kahuku**	**0.42**	**260**			Pg	16 12 22.3	+0.1
KHU	**Kahuku**	**0.42**	**260**		IAML		16 12 33.8	
	comp=E,846nm,0.4s							
KHU					IAML		16 12 34.1	
	comp=N,650nm,0.6s							
MWH	**Moku'aweowe**	**0.43**	**292**			Pg	16 12 22.4	+0.1
MWH					IAML		16 12 30.2	
	comp=N,2μm,0.8s							
MLOA	**Mauna Loa Obse**	**0.43**	**300**			Pg	16 12 22.8	+0.4
MLOA					IAML		16 12 31.0	
	comp=E,794nm,0.3s							
MLOA	**Mauna Loa Obse**	**0.43**	**300**			Sg	16 12 29.6	+1.5
ALEP	**Alea Permanent**	**0.49**	**297**			Pg	16 12 23.5	0.0
POHA	**Pohakuloa**	**0.55**	**322**			Pg	16 12 24.3	-0.4
POHA	**Pohakuloa**	**0.55**	**322**		IAML		16 12 32.6	
	comp=E,2μm,0.5s							
POHA					IAML		16 12 33.0	
	comp=E,2μm,0.6s							
CPH	**Captain Cook**	**0.72**	**284**			Pg	16 12 27.8	-0.1
HUH	**Hualalai**	**0.72**	**300**			Pg	16 12 27.1	-0.8
MHA	**Mahukona**	**1.10**	**322**		Pg	Pg	16 12 32.0	-3.2

*NEIC **08** 16:13:48.1±0.6, 19°.21N±0°.03×155°.43W±0°.01, h39km±4km, Error ellipse: s-maj=4.7km s-min=1.1km az=158.0*

HVO 08 16:13:49.6±1.0,**19°.20N**±0°.06×**155°.41W**±0°.07,**h33**km±3km, **ML3.0**/14,**ML3.0**/28(NEIC),**Error ellipse: s-maj=11.2km s-min=5.8km az=134.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.04**	**14**			Pb	16 13 54.8	-0.3
HLP	**Hilina Pali**	**0.13**	**44**			Pn	16 13 55.2	0.0
HLP						Sb	16 13 59.4	-0.4
HLP	**Hilina Pali**	**0.13**	**44**		IAML		16 14 03.6	
	comp=N,2μm,0.5s							
HLP					IAML		16 14 06.0	
	comp=E,3μm,0.9s							
KHU	**Kahuku**	**0.20**	**283**			Pn	16 13 55.5	-0.9
KHU	**Kahuku**	**0.20**	**283**		IAML		16 14 00.3	
	comp=N,3μm,0.5s							
KHU					IAML		16 14 00.5	
	comp=E,1μm,0.2s							
PUH	**Pauahi**	**0.25**	**46**		Pg	Pb	16 13 56.0	-0.9
PUH					IAML		16 14 00.7	
	comp=E,1μm,1.1s							
PUH					IAML		16 14 09.2	
	comp=N,2μm,0.6s							
RSD	**Rainshed**	**0.29**	**25**			Sb	16 14 01.0	-1.6
RSD	**Rainshed**	**0.29**	**25**		Pg	Pb	16 13 56.5	-0.9
RSD	**Rainshed**	**0.29**	**25**		IAML		16 14 04.8	
	comp=E,1μm,1.4s							
RSD					IAML		16 14 08.0	
	comp=N,1μm,0.9s							
MLH	**Mauna Loa**	**0.29**	**4**			Pb	16 13 56.5	-1.0
MLH	**Mauna Loa**	**0.29**	**4**		IAML		16 14 01.9	
	comp=E,2μm,0.2s							
MLH					IAML		16 14 07.9	
	comp=N,2μm,0.6s							
STCH	**Steam Cracks**	**0.32**	**55**			Pb	16 13 56.6	-1.1
STCH	**Steam Cracks**	**0.32**	**55**		IAML		16 14 02.3	
	comp=N,551nm,0.4s							
STCH					IAML		16 14 03.3	
	comp=E,672nm,0.5s							
MWH	**Moku'aweowe**	**0.34**	**328**			Pb	16 13 57.0	-1.4
MWH

HMH	**Humu'ula Sheep**	**0.41**	**350**	IAML		16 14 04.5		
	comp=N,2µm,0.2s							
HMH				IAML		16 14 04.9		
	comp=E,1µm,0.2s							
JOKA	**Jonika Flow**	**0.45**	**58**		Pn	16 14 04.3	+4.5	
POHA	**Pohakuloa**	**0.57**	**348**	Pn	Pb	16 13 59.5	-1.9	
POHA				IAML		16 14 12.9		
	comp=E,861nm,0.3s							
POHA				IAML		16 14 15.2		
	comp=E,696nm,0.3s							
HUH	**Hualalai**	**0.63**	**320**	Pn	Pb	16 14 00.7	-1.8	
HUH				IAML		16 14 15.5		
	comp=N,822nm,0.4s							
HPAH	**Hawaii Prepara**	**0.87**	**342**		Pn	16 14 03.3	-2.4	
HPAH	**Hawaii Prepara**	**0.87**	**342**	IAML		16 14 14.2		
	comp=E,603nm,0.2s							
HPAH				IAML		16 14 14.2		
	comp=N,336nm,0.1s							
MHA	**Mahukona**	**1.09**	**335**	Pn	Pn	16 14 06.3	-2.3	
HLK	**Haleakala**	**1.74**	**333**	Pn	Pn	16 14 15.1	-2.8	
KHLH	**Kahului Airpor**	**1.94**	**331**	Pn	Pn	16 14 18.4	-1.9	
HON	**Honolulu**	**3.22**	**311**	Pn	Pn	16 14 35.0	-3.0	
KEKH	**Kekaha**	**4.89**	**305**	Pn	Pn	16 14 57.6	-3.3	

*NEIC **08** 16:24:39.4±0.7, 19°.15N±0°.05×155°.24W±0°.02, h10km±1km, Error ellipse: s-maj=8.1km s-min=2.9km az=341.0*
HVO 08 16:24:38.3±1.4, 19°.07N±0°.03×155°.19W±0°.03, h7km±8km, Md2.3/10, ML2.7/26(NEIC), Error ellipse: s-maj=5.9km s-min=2.0km az=140.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.25**	**334**		Pg	16 24 43.1	-0.3
HLP				IAML		16 24 49.2	
	comp=N,2µm,0.9s						
HTC	**Hot Caves**	**0.26**	**311**		Pg	16 24 44.3	+0.8
PUH	**Pauahi**	**0.31**	**356**	Pg	Pg	16 24 44.3	-0.1
PUH				IAML		16 24 46.0	
	comp=N,1µm,0.7s						
PUH				IAML		16 24 51.1	
	comp=E,785nm,0.8s						
STCH	**Steam Cracks**	**0.32**	**11**		Pg	16 24 44.8	+0.1
STCH	**Steam Cracks**	**0.32**	**11**	IAML		16 24 51.4	
	comp=N,390nm,1.1s						
STCH				IAML		16 24 51.8	
	comp=E,446nm,1.0s						
JCUZ	**Jacuzzi**	**0.33**	**15**	Pg	Pg	16 24 44.9	+0.1
JCUZ				IAML		16 24 50.7	
	comp=E,558nm,0.7s						
NPOC	**North of Pu'u**	**0.33**	**13**	Pg	Pg	16 24 44.9	0.0
SDHHI	**Sand Hill**	**0.34**	**343**	Pg	Pg	16 24 44.9	-0.1
KHU	**Kahuku**	**0.44**	**294**		Pg	16 24 46.4	-0.5
KHU	**Kahuku**	**0.44**	**294**	IAML		16 25 01.8	
	comp=N,363nm,1.6s						
MLH	**Mauna Loa**	**0.46**	**337**		Pg	16 24 47.0	-0.4
MLH	**Mauna Loa**	**0.46**	**337**	IAML		16 24 56.9	
	comp=N,835nm,0.7s						
MLH				IAML		16 24 59.1	
	comp=E,525nm,1.0s						
MWH	**Moku'aweowe**	**0.56**	**318**	Pg	Pg	16 24 48.3	-1.1
MWH				IAML		16 25 00.7	
	comp=E,630nm,0.9s						
MWH				IAML		16 25 04.1	
	comp=N,517nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.59**	**322**	Pg	Pg	16 24 48.7	-1.1
MLOA				IAML		16 25 02.3	
	comp=E,270nm,1.1s						
HMH	**Humu'ula Sheep**	**0.60**	**333**		Pg	16 24 49.1	-0.9
HMH	**Humu'ula Sheep**	**0.60**	**333**	IAML		16 25 00.2	
	comp=E,555nm,0.3s						
HMH				IAML		16 25 00.3	
	comp=N,385nm,0.3s						
POHA	**Pohakuloa**	**0.76**	**335**	Pg	Pg	16 24 52.3	-0.7
POHA				IAML		16 25 09.0	
	comp=N,340nm,0.3s						
POHA				IAML		16 25 12.3	
	comp=N,339nm,1.3s						
HUH	**Hualalai**	**0.86**	**315**	Pg	Pg	16 24 53.9	-1.1

*NEIC **08** 16:35:46.2±1.2, 19°.08N±0°.02×155°.23W±0°.02, h10km±2km, Error ellipse: s-maj=4.0km s-min=3.0km az=318.0*
HVO 08 16:35:45.9±1.3, 19°.05N±0°.03×155°.20W±0°.02, h10km±6km, ML2.3/3, ML2.6/22(NEIC), Error ellipse: s-maj=4.1km s-min=1.6km az=156.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.26**	**316**		Pg	16 35 51.5	+0.2
HLP	**Hilina Pali**	**0.27**	**338**		Pg	16 35 51.2	-0.2
HLP					Sg	16 35 56.0	+1.0
PUH	**Pauahi**	**0.33**	**358**	Pg	Pg	16 35 52.1	-0.3
PUH				IAML		16 35 57.8	
	comp=E,694nm,0.8s						
PUH				IAML		16 35 58.1	
	comp=N,973nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.33**	**5**		Pg	16 35 52.5	-0.1
STCH	**Steam Cracks**	**0.34**	**12**		Pg	16 35 52.6	-0.1
STCH					Sg	16 35 58.1	+0.8
STCH	**Steam Cracks**	**0.34**	**12**	IAML		16 35 59.0	
	comp=N,504nm,1.0s						
STCH				IAML		16 36 03.1	
	comp=E,500nm,0.5s						
JCUZ	**Jacuzzi**	**0.35**	**16**	Pg	Pg	16 35 52.6	-0.3
NPOC	**North of Pu'u**	**0.35**	**14**		Pg	16 35 52.9	-0.1
NPOC	**North of Pu'u**	**0.35**	**14**	IAML		16 35 57.0	
	comp=E,507nm,0.3s						
NPOC				IAML		16 36 01.1	
	comp=N,566nm,0.8s						
JOKA	**Jonika Flow**	**0.43**	**26**		Pg	16 35 54.0	-0.3
KHU	**Kahuku**	**0.44**	**297**		Pg	16 35 54.3	-0.2
KHU					Sg	16 36 00.9	+0.6
KHU	**Kahuku**	**0.44**	**297**	Pg	Pg	16 35 54.1	-0.4
KHU	**Kahuku**	**0.44**	**297**	IAML		16 36 03.2	
	comp=E,260nm,1.4s						
KHU				IAML		16 36 03.9	
	comp=N,270nm,0.9s						
MLH	**Mauna Loa**	**0.48**	**339**	IAML		16 36 04.2	
	comp=E,554nm,0.5s						
MLH	**Mauna Loa**	**0.48**	**339**		Pg	16 35 54.7	-0.5
MLH	**Mauna Loa**	**0.48**	**339**		Sg	16 36 01.9	+0.2
MWH	**Moku'aweowe**	**0.57**	**319**		Pg	16 35 56.1	-1.1
MWH				IAML		16 36 15.7	
	comp=N,461nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.60**	**324**	IAML		16 36 01.4	
	comp=E,289nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.60**	**324**		Pg	16 35 56.6	-1.1
MLOA	**Mauna Loa Obse**	**0.60**	**324**		Sg	16 36 04.8	-0.8
HMH	**Humu'ula Sheep**	**0.61**	**334**		Pg	16 35 56.8	-1.1
HMH					Sg	16 36 05.2	-0.8
HMH	**Humu'ula Sheep**	**0.61**	**334**	IAML		16 36 07.1	
	comp=N,380nm,1.2s						
HMH				IAML		16 36 08.2	
	comp=E,387nm,0.5s						
ALEP	**Alea Permanent**	**0.64**	**320**		Pg	16 35 57.1	-1.3
HUH	**Hualalai**	**0.87**	**317**	Pg	Pg	16 36 01.7	-1.0
HUH				IAML		16 36 22.2	
	comp=N,272nm,1.5s						
HUH				IAML		16 36 31.4	
	comp=E,186nm,0.8s						

*NEIC **08** 16:38:54.4±1.1, 19°.31N±0°.01×155°.24W±0°.01, h5km±1km, Error ellipse: s-maj=3.2km s-min=2.3km az=124.0*
HVO 08 16:38:53.8±1.3, 19°.31N±0°.02×155°.22W±0°.01, h1km±7km, Md2.3/27, ML2.6/42(NEIC), Error ellipse: s-maj=3.8km s-min=0.9km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.07**	**0**		Pg	16 38 56.2	+1.0
PUH	**Pauahi**	**0.07**	**0**	IAML		16 38 57.0	
	comp=N,871nm,0.7s						
PUH				IAML		16 38 57.1	
	comp=E,558nm,0.6s						
HLP	**Hilina Pali**	**0.09**	**262**	Pg	Pg	16 38 56.7	+1.2
KKO	**Keanakako`i**	**0.10**	**332**		Pg	16 38 56.0	+0.2
KKO				IAML		16 38 56.3	
	comp=E,3µm,0.7s						
RIM	**Rim**	**0.10**	**328**		Pg	16 38 55.8	0.0
RIM				IAML		16 38 57.2	
	comp=E,3µm,0.4s						
SDHHI	**Sand Hill**	**0.11**	**318**		Pg	16 38 56.3	+0.4
SDHHI				IAML		16 38 56.5	
	comp=E,3µm,0.5s						
SDHHI				IAML		16 38 57.9	
	comp=N,3µm,0.3s						
BYL	**Byron's Ledge**	**0.11**	**338**	Pg	Pg	16 38 55.9	-0.1
BYL				IAML		16 38 56.9	
	comp=E,3µm,0.5s						
BYL				IAML		16 38 59.3	
	comp=N,3µm,0.9s						
STCH	**Steam Cracks**	**0.12**	**49**		Pg	16 38 56.8	+0.7
STCH					Sg	16 38 59.0	+1.4
STCH	**Steam Cracks**	**0.12**	**49**	IAML		16 38 59.3	
	comp=E,1µm,0.2s						
STCH				IAML		16 38 59.8	
	comp=N,455nm,0.3s						
HATHI	**Halema'uma'u T**	**0.12**	**340**	Pg	Pg	16 38 55.9	-0.3
HATHI				IAML		16 39 00.1	
	comp=N,4µm,0.6s						
SBLHI	**Steaming Bluff**	**0.13**	**337**	Pg	Pg	16 38 56.5	+0.1
SBLHI				IAML		16 38 58.4	
	comp=E,3µm,0.5s						
UWB	**Uwekahuna B**	**0.13**	**333**		Pg	16 38 56.2	-0.1
UWB	**Uwekahuna B**	**0.13**	**333**	IAML		16 39 00.2	
	comp=N,2µm,0.7s						
UWB				IAML		16 39 00.6	
	comp=E,2µm,0.9s						
NPOC	**North of Pu'u**	**0.13**	**50**		Pg	16 38 57.2	+0.9
NPOC					Sg	16 38 59.6	+1.5
NPOC	**North of Pu'u**	**0.13**	**50**	IAML		16 38 59.8	
	comp=E,444nm,0.3s						
NPOC				IAML		16 38 59.9	
	comp=N,809nm,0.4s						
JCUZ	**Jacuzzi**	**0.13**	**55**		Pg	16 38 57.3	+0.9
JCUZ					Sg	16 38 59.9	+1.8
JCUZ	**Jacuzzi**	**0.13**	**55**	IAML		16 39 00.2	
	comp=N,372nm,0.8s						
JCUZ				IAML		16 39 00.6	
	comp=E,549nm,0.5s						
RSD	**Rainshed**	**0.16**	**339**	Pg	Pg	16 38 57.3	+0.3
RSD				IAML		16 38 57.4	
	comp=E,787nm,0.9s						
RSD				IAML		16 38 59.5	
	comp=N,937nm,2.4s						
HTC	**Hot Caves**	**0.19**	**248**		Pg	16 38 58.5	+1.1
MLH	**Mauna Loa**	**0.24**	**319**	Pg	Pg	16 38 59.1	+0.5
MLH				IAML		16 39 04.9	
	comp=E,449nm,0.9s						
MLH				IAML		16 39 06.9	
	comp=N,737nm,0.7s						
KHU	**Kahuku**	**0.38**	**261**	IAML		16 39 02.9	
	comp=E,524nm,3.2s						
KHU	**Kahuku**	**0.38**	**261**		Pg	16 39 01.5	+0.3
KHU				IAML		16 39 08.0	
	comp=N,327nm,0.8s						
KHU	**Kahuku**	**0.38**	**261**		Sg	16 39 07.7	+1.6
HMH	**Humu'ula Sheep**	**0.39**	**319**		Pg	16 39 02.0	+0.7
HMH					Sg	16 39 08.3	+2.0
HMH	**Humu'ula Sheep**	**0.39**	**319**	IAML		16 39 08.6	
	comp=N,2µm,0.3s						
HMH				IAML		16 39 08.7	
	comp=E,1µm,0.3s						
MWH	**Moku'aweowe**	**0.40**	**296**		Pg	16 39 01.9	+0.4
MWH				IAML		16 39 14.6	
	comp=N,676nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.41**	**304**		Pg	16 39 02.0	+0.3
MLOA				IAML		16 39 09.9	
	comp=N,809nm,0.2s						
ALEP	**Alea Permanent**	**0.47**	**300**		Pg	16 39 02.8	0.0
ALEP					Sg	16 39 10.1	+1.2
POHA	**Pohakuloa**	**0.54**	**326**		Sg	16 39 12.0	+0.8
POHA	**Pohakuloa**	**0.54**	**326**		Pg	16 39 04.2	0.0
POHA	**Pohakuloa**	**0.54**	**326**	IAML		16 39 12.3	
	comp=N,606nm,0.3s						
POHA				IAML		16 39 12.6	
	comp=N,512nm,0.2s						
CPH	**Captain Cook**	**0.69**	**285**		Pg	16 39 06.6	-0.4
HUH	**Hualalai**	**0.69**	**303**		Pg	16 39 06.7	-0.5
HPAH	**Hawaii Prepara**	**0.85**	**328**		Sg	16 39 21.4	+0.3
HPAH	**Hawaii Prepara**	**0.85**	**328**	Pg	Pg	16 39 09.8	-0.3
HPAH				IAML		16 39 13.4	
	comp=N,142nm,3.9s						
HPAH	**Hawaii Prepara**	**0.85**	**328**	IAML		16 39 34.1	
	comp=E,200nm,4.3s						

NNC 08 16:39:24.1±7.2, 36°.55N×70°.38E, h97km±209km, mb3.0, mpv3.5, 6C-4D, Error ellipse: s-maj=57.4km s-min=48.7km az=154.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.54**	**1**	⇑P	Pn	16 41 00.3	+2.6
	0.5nm,0.3s,baz=185,slow=13,SNR=20						
KK31				⇑S	Sn	16 42 13.6	+2.8
	5.0nm,0.6s,baz=189,slow=25,SNR=10						
AAK	**Ala-Archa**	**6.86**	**26**	⇓P	Pn	16 41 01.8	-0.3
	1.9nm,0.3s						
AAK				⇓S	Sn	16 42 18.7	+0.1
	6.0nm,0.8s						
CHMS	**Chumysh**	**7.26**	**26**	⇑P	Pn	16 41 06.3	-1.2
	2.4nm,0.3s						
CHMS				⇓S	Sn	16 42 27.5	-0.8
	2.3nm,0.8s						
TKM2	**Tokmak 2**	**7.52**	**31**	⇓P	Pn	16 41 10.4	-0.8
	0.6nm,0.3s						
TKM2				⇑S	Sn	16 42 33.8	-1.2
	2.2nm,0.8s						
AB31	**Akbulak array**	**14.80**	**332**	⇑P	Pn	16 42 49.8	+1.6
	0.2nm,0.3s,baz=157,slow=12,SNR=14						
AB31				⇑S	Sn	16 45 30.8	-0.5
	0.4nm,0.5s,baz=153,slow=24,SNR=3.6						

*JMA **08** 16:50:00.7±0.2, 28°.4N±0°.8×12°.9E±°, h64km±2km, MV3.6/27, NEAR AMAMI-OSHIMA ISLAND*
*IDC **08** 16:50:01.8±1.0, 28°.27N×128°.87E, h87km±10km, mb3.1/6, mbtmp3.5/8, Error ellipse: s-maj=27.9km s-min=9.4km az=101.0*
ISC 08 16:50:00.4±0.8, 28°.27N±0°.04×128°.99E±0°.05, h70km±6km, n36, σ1°55/51, mb3.4/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAMN	**Amaminishikomi**	**0.16**	**99**	*i* P	Pn	16 50 11.1	+0.3
JAMN				S	Sn	16 50 18.9	+0.4
JTK	**Tokunoshima**	**0.48**	**185**	*i* P	Pn	16 50 13.7	+0.7
JTK				S	Sn	16 50 23.3	+0.9
JAM	**Amami Oshima**	**0.56**	**75**	*i* P	Pn	16 50 14.1	+0.4
JAM				*eS*	Sn	16 50 24.1	+0.6
JZK	**Kikaishima**	**0.86**	**87**	P	Pn	16 50 19.8	+2.6
JTAJ	**Takarajima**	**0.90**	**12**	P	Pn	16 50 17.0	-0.7
JTAJ				S	Sn	16 50 29.2	-1.2
JOKE	**Okinoerabujima**	**0.98**	**203**	*i* P	Pn	16 50 19.4	+0.8
JYRO	**Yoronjima**	**1.33**	**201**	P	Pn	16 50 24.0	+0.9
JYRO				*eS*	Sn	16 50 41.0	+0.8
JIH	**Iheya**	**1.53**	**217**	P	Pn	16 50 26.3	+0.6
JIH				S	Sn	16 50 46.4	+1.6
JOW	**Kunigami**	**1.57**	**204**	P	Pn	16 50 26.5	+0.2
JOW	**Kunigami**	**1.57**	**204**	P	Pn	16 50 27.0	+0.7
	69nm,0.4s,baz=92,slow=22,SNR=91						
JOW				S	Sn	16 50 47.2	+1.4
	230nm,0.3s,baz=100,slow=27,SNR=11						
JOW	**Kunigami**	**1.57**	**204**	P	Pn	16 50 27.0	+0.7
JOW				S	Sn	16 50 46.6	+0.8
JNN	**Nakanoshima**	**1.75**	**26**	*eP*	Pn	16 50 28.7	+0.1
JNTH	**Nagotoyohara**	**1.95**	**207**	*eP*	Pn	16 50 33.2	+1.9
JNTH				*eS*	Sn	16 50 57.0	+2.2
JAGN	**Aguni-jima**	**2.29**	**223**	*eP*	Pn	16 50 37.0	+1.1
JAGN				*eS*	Sn	16 51 04.4	+1.3
JYAK	**Yakushimahirau**	**2.37**	**34**	P	Pn	16 50 37.5	+0.6
JYAK				*eS*	Sn	16 51 06.2	+1.2
JJT3	**Tamagusuku3**	**2.38**	**207**	*eP*	Pn	16 50 39.6	+2.5
JKC	**Kuchinoerabu**	**2.42**	**25**	P	Pn	16 50 38.7	+1.0
JMTN	**Minamitane**	**2.70**	**38**	*eP*	Pn	16 50 42.2	+0.8
JKE	**Kume jima 2**	**2.76**	**226**	P	Pn	16 50 43.2	+0.9
JKE				S	Sn	16 51 15.8	+1.3
JTN	**Tanegashima 3**	**2.94**	**36**	*eP*	Pn	16 50 46.2	+1.4
JKDJ	**Kitadaitoujima**	**3.09**	**138**	P	Pn	16 50 47.9	+1.1
JKDJ				S	Sn	16 51 21.9	-0.7
JMZ	**Minamidaito 2**	**3.15**	**140**	P	Pn	16 50 49.8	+2.2
JMZ	**Minamidaito 2**	**3.15**	**140**	P	Pn	16 50 48.2	+0.6
JMZ				*eS*	Sn	16 51 23.1	-0.9
JNU	**Nakatsue**	**5.10**	**18**	P	Pn	16 51 17.0	+2.7
JNU	**Nakatsue**	**5.10**	**18**	P	Pn	16 51 16.8	+2.5
JNU				S	Sn	16 52 14.7	+2.8
	3.3nm,0.4s,baz=189,slow=19,SNR=0.7						
JMN	**Monobe**	**6.87**	**36**	P	Pn	16 51 39.7	+1.2
YULB	**Yu-li**	**8.46**	**237**	P	Pn	16 51 56.7	-3.6
SSLB	**Suanglung**	**8.50**	**240**	P	Pn	16 51 59.1	-1.7
KSRS	**Korea Array**	**9.20**	**355**	P	Pn	16 52 12.8	+2.5
	1.9nm,0.8s,baz=178,slow=15,SNR=4.5						
JGF	**Kuroka**	**10.19**	**42**	P	Pn	16 52 27.1	+3.3
MKAR	**Makanchi Array**	**40.72**	**310**	P	P	16 57 33.2	-0.9
	0.3nm,0.6s,baz=101,slow=9.0,SNR=2.1						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**43.88**	**315**	P	P	16 57 58.3	-1.4
	0.1nm,0.4s,baz=96,slow=8.9,SNR=1.7						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**48.21**	**173**	P	P	16 58 33.6	-0.4
	0.9nm,0.6s,baz=353,slow=8.2,SNR=8.4						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**49.23**	**317**	P	P	16 58 40.5	-1.1
	0.3nm,0.6s,baz=115,slow=7.6,SNR=2.6						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**51.85**	**174**	P	P	16 59 01.7	+0.1
	0.3nm,0.4s,baz=3.8,slow=6.7,SNR=21						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**76.40**	**25**	P	P	17 01 40.8	-1.1
	0.1nm,0.4s,baz=304,slow=6.4,SNR=2.8						
	0.1nm,0.4s						

*HVO **08** 17:12:58.5±1.5, 19°.43N±0°.02×154°.87W±0°.01, h-0km±9km, Error ellipse: s-maj=3.4km s-min=1.1km az=154.0*
NEIC 08 17:12:59.3±1.4, 19°.38N±0°.03×154°.89W±0°.02, h5km±2km, ML2.9/30, ML2.8/6(HVO), Error ellipse: s-maj=5.7km s-min=3.0km az=332.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.11**	**359**		Pg	17 13 00.8	-0.8
JOKA	**Jonika Flow**	**0.12**	**298**		Pg	17 13 02.4	+0.5
JCUZ	**Jacuzzi**	**0.20**	**273**		Pg	17 13 03.1	-0.2
NPOC	**North of Pu'u**	**0.21**	**275**		Pg	17 13 03.6	+0.1
STCH	**Steam Cracks**	**0.22**	**273**		Pg	17 13 03.5	-0.2
PUH	**Pauahi**	**0.31**	**270**		Sg	17 13 11.0	+1.6
PUH	**Pauahi**	**0.31**	**270**		Pg	17 13 05.5	+0.1
PUH				IAML		17 13 13.0	
	comp=E,1µm,0.7s						
PUH				IAML		17 13 13.1	
	comp=N,1µm,0.8s						
RSD	**Rainshed**	**0.38**	**283**		Pg	17 13 06.7	0.0
RSD				IAML		17 13 13.4	
	comp=N,1µm,0.6s						
RSD				IAML		17 13 13.5	
	comp=E,1µm,0.3s						
HLP	**Hilina Pali**	**0.40**	**259**		Pg	17 13 07.6	+0.4
HLP	**Hilina Pali**	**0.40**	**259**	IAML		17 13 14.7	
	comp=N,2µm,0.6s						
HLP				IAML		17 13 17.5	
	comp=E,1µm,0.7s						
MLH	**Mauna Loa**	**0.48**	**284**		Pg	17 13 08.4	-0.2
MLH	**Mauna Loa**	**0.48**	**284**	IAML		17 13 16.5	
	comp=E,684nm,0.6s						
MLH				IAML		17 13 17.2	
	comp=N,1µm,0.7s						
HTC	**Hot Caves**	**0.50**	**254**		Pg	17 13 09.1	+0.1
HMH	**Humu'ula Sheep**	**0.60**	**292**		Pg	17 13 10.3	-0.7
MLOA	**Mauna Loa Obse**	**0.67**	**284**		Pg	17 13 11.1	-1.2
MLOA				IAML		17 13 21.2	
	comp=E,435nm,1.0s						
MLOA				IAML		17 13 21.6	
	comp=N,496nm,0.5s						
MWH	**Moku'aweowe**	**0.68**	**279**		Pg	17 13 11.3	-1.1
MWH				IAML		17 13 35.3	
	comp=N,803nm,0.7s						
KHU	**Kahuku**	**0.70**	**260**		Pg	17 13 11.3	-1.4
KHU				IAML		17 13 22.1	
	comp=E,621nm,2.8s						
KHU				IAML		17 13 33.0	
	comp=N,438nm,1.3s						
POHA	**Pohakuloa**	**0.72**	**302**		Pg	17 13 11.4	-1.7
POHA				IAML		17 13 31.5	
	comp=N,678nm,0.6s						
POHA				IAML		17 13 39.1	
	comp=N,603nm,0.8s						
HUH	**Hualalai**	**0.94**	**289**		Pg	17 13 15.1	-2.4
HPAH	**Hawaii Prepara**	**1.00**	**311**		Pg	17 13 15.7	-2.9
HPAH				IAML		17 13 39.3	
	comp=N,233nm,1.0s						
HPAH				IAML		17 13 45.9	
	comp=E,286nm,1.4s						
MHA	**Mahukona**	**1.25**	**310**		Pg	17 13 19.8	-3.5

*IDC **08** 17:14:07.9±0.8, 2°.19N×96°.70E, h0km, mb4.4/15, mbtmp4.4/16, ML4.5/1, MS3.4/6, Error ellipse: s-maj=28.7km s-min=14.8km az=55.0*
*NEIC **08** 17:14:12.2±1.4, 2°.16N±0°.06×96°.70E±0°.09, h30km±5km, mb4.6/68, Error ellipse: s-maj=13.6km s-min=6.6km az=63.0*
*DJA **08** 17:14:12.2±0.4, 2°.N±3°×97°.7E±°, h27km±6km, M4.5/11, mb4.6/7, mB5.1/2, MLv4.5/11, Mw(mB)4.5/2*
*BJI **08** 17:14:12.3±0.0, 2°.23N×96°.77E, h43km, mb4.7/47, mB5.0/21, Ms4.3/5, Ms7 4.0/6*
ISC 08 17:14:11.5±0.4, 2°.15N±0°.05×96°.70E±0°.05, h28km, n141, σ1°05/129, mb4.7/54, MS3.5/7, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.46**	**305**	P	Pn	17 14 22.7	+0.6
SNSI				S	Sn	17 14 30.7	+1.3
GSI	**Gunungsitoli**	**1.21**	**134**	P	Pb	17 14 34.3	+0.5
GSI	**Gunungsitoli**	**1.21**	**134**	Pn	Pn	17 14 33.9	+1.3
GSI				Sn	Sn	17 14 47.1	-1.0
GSI	**Gunungsitoli**	**1.21**	**134**	P	Pn	17 14 33.8	+1.3
KCSI	**Kotacane, Aceh**	**1.73**	**38**	P	Pn	17 14 40.7	+0.9
MLSI	**Meulaboh, Aceh**	**2.12**	**352**	P	Pn	17 14 45.3	+0.1
PBSI	**Pulau Batu**	**2.70**	**144**	P	Pn	17 14 54.3	+1.3
LHMI	**Lhok Sumawe**	**3.07**	**5**	P	Pn	17 15 00.0	+1.9
LHMI	**Lhok Sumawe**	**3.07**	**5**		Pn	17 14 59.1	+1.0
LHMI	**Lhok Sumawe**	**3.07**	**5**	P	Pn	17 14 59.0	+0.9
SISI	**Saibi**	**4.20**	**145**	P	Pn	17 15 14.9	+1.2
BKNI	**Bangkinang**	**4.70**	**113**	Pn	Pn	17 15 22.7	+2.2
PDSI	**Padang**	**4.83**	**129**	P	Pn	17 15 23.8	+1.3
KULM	**Kulim**	**5.03**	**52**		Pn	17 15 26.0	+0.9
SRIT	**Nakonsritamara**	**7.03**	**24**	P	Pn	17 15 53.5	+1.0
SRIT	**Nakonsritamara**	**7.03**	**24**		Pn	17 15 53.4	+0.8
MYKOM	**Kota Tinggi**	**7.15**	**93**		Pn	17 15 56.2	+1.9
MNAI	**Manna**	**8.99**	**136**		Pn	17 16 19.9	+0.3
MNAI	**Manna**	**8.99**	**136**	P	Pn	17 16 20.9

KMI pmax pmax
comp=Z,14nm,0.8s
KMI LR LR
comp=N,150nm,16.1s
KMI LR LR
comp=E,95nm,17.7s
KMI LR LR
comp=Z,160nm,20.4s
SHL Shillong 23.74 349 P **P** **17 19 19.2 -2.5**
SHL IAmb IAmb 17 19 22.6
comp=Z,24nm,1.0s
KAAM Kaadhehdhoo 23.76 266 P **P** **17 19 20.4 -1.4**
TOLI2 Tolitoli 24.09 92 P **P** **17 19 25.9 +0.9**
TOLI2 Tolitoli 24.09 92 P **P** **17 19 23.3 -1.7**
H08S2 Diego Garcia H 26.04 248 T T 17 46 35.9
baz=68,slow=76,SNR=4879
H08S3 Diego Garcia H 26.04 248 T T 17 46 36.0
baz=68,slow=76,SNR=2263
H08S1 Diego Garcia H 26.05 248 T T 17 46 39.6
baz=68,slow=76,SNR=2140
LSA Lhasa 27.90 350 P **P** **17 19 58.7 -1.0**
LSA IAmb IAmb 17 20 01.9
comp=Z,7.2nm,0.7s
DAV Davao City (W) 29.19 79 LR LR 17 32 53.9
comp=Z,26nm,20.2s,baz=13,slow=39
XAN Xi'an 33.72 18 ⇓P **P** **17 20 49.6 -1.0**
XAN pmax pmax
comp=Z,13nm,0.6s
GOMU GeErMu 33.93 357 P **P** **17 20 52.8 +0.1**
GOMU pmax pmax
comp=Z,11nm,0.9s
LZH Lanzhou 34.41 10 *e*P P 17 21 02.5 +5.8
LZH pP sP 17 21 11.0 +2.7
LZH pmax pmax
comp=Z,16nm,1.2s
LZH LR LR
comp=Z,170nm,10.2s
LZH LR LR
comp=Z,170nm,12.0s
LZH LR LR
comp=Z,250nm,12.4s
LYN LuoYang 35.43 23 *e*P **P** **17 21 07.4 +2.1**
LYN pmax pmax
comp=Z,18nm,0.5s
LYN pmax pmax
comp=Z,160nm,4.1s
NJ2 Nanjing 36.33 33 *e*P **P** **17 21 14.5 +1.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
GTA Gaotai 37.20 4 ⇑P **P** **17 21 20.4 -0.1**
GTA pP pP 17 21 29.7 +1.0
GTA sP sP 17 21 35.0 +2.8
GTA pmax pmax
comp=Z,22nm,0.6s
MTN Manton Dam 37.28 114 P **P** **17 21 20.4 -0.9**
MTN IAmb IAmb 17 21 30.1
comp=Z,26nm,1.4s
NIL Nilore 38.26 328 P **P** **17 21 28.7 -0.7**
NIL IAmb IAmb 17 21 30.4
comp=Z,11nm,0.7s
HNS HongShan 38.80 23 *e*P **P** **17 21 35.1 +1.3**
JOW Kunigami 38.97 48 P **P** **17 21 34.4 -1.1**
H01W3 Cape Leeuwin H 40.31 158 T T 18 04 50.9
baz=334,slow=76,SNR=25
H01W2 Cape Leeuwin H 40.32 158 T T 18 04 45.3
baz=334,slow=76,SNR=20
H01W1 Cape Leeuwin H 40.32 158 T T 18 04 39.4
baz=334,slow=76,SNR=24
HHC Hu-ho-hao-te 40.80 17 *e*P **P** **17 21 55.0 +4.4**
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,85nm,4.9s
KSH Kashi 41.71 336 P **P** **17 21 57.6 -0.5**
MSEY Mahe Island 41.74 261 P **P** **17 21 59.9 +1.2**
MSEY IAmb IAmb 17 22 07.5
comp=Z,18nm,0.9s
TARG Taragay, Kyrgy 42.91 339 P **P** **17 22 08.8 +0.5**
TARG IAmb IAmb 17 22 11.6
comp=Z,13nm,0.8s
WB0 Warramunga Arr 42.93 122 P **P** **17 22 07.8 -0.4**
WB0 IAmb IAmb 17 22 09.4
comp=Z,13nm,1.3s
WRA Warramunga Arr 42.96 123 P **P** **17 22 09.0 +0.6**
comp=Z,3.8nm,0.9s,baz=301,slow=9.2,SNR=20
comp=Z,3.8nm,0.9s
WRAB Tennant Creek 42.96 123 P **P** **17 22 07.8 -0.7**
WB2 Warramunga Arr 42.97 123 P **P** **17 22 08.3 -0.3**
WR0 Warramunga Arr 43.14 122 P **P** **17 22 09.4 -0.5**
WR0 IAmb IAmb 17 22 11.4
comp=Z,6.8nm,0.8s
DRK Karamyk 43.52 332 P **P** **17 22 13.5 +0.4**
GAR Garm 43.87 330 P **P** **17 22 15.1 -0.6**
GAR IAmb IAmb 17 22 17.5
comp=Z,13nm,0.9s
ULHL Ulahol 43.93 338 P **P** **17 22 17.7 +1.4**
SNR=5.4
CHGR Chuyangaron 44.20 329 P **P** **17 22 17.4 -0.9**
BOOM Boomskoye usch 44.26 338 P **P** **17 22 18.5 -0.3**
BOOM IAmb IAmb 17 22 22.4
comp=Z,7.0nm,1.0s
SIMJ Simiganj 44.28 329 P **P** **17 22 18.3 -0.7**
SIMJ IAmb IAmb 17 22 20.0
comp=Z,11nm,0.6s
TJN Taejon 44.30 36 P **P** **17 22 18.1 -0.9**
FORT Forrest 44.32 140 P **P** **17 22 19.1 -0.1**
FORT IAmb IAmb 17 22 35.2
comp=Z,12nm,0.8s
AS31 Alice Springs 44.36 128 P **P** **17 22 19.3 -0.5**
ASAR Alice Springs 44.36 128 P **P** **17 22 19.8 0.0**
ASAR Alice Springs 44.36 128 P **P** **17 22 20.4 +0.7**
comp=Z,2.4nm,0.8s,baz=300,slow=8.0,SNR=45
ASAR PcP **PP** **17 24 04.4 +0.9**
comp=Z,0.4nm,0.8s,baz=310,slow=4.3,SNR=4.2
comp=Z,2.4nm,0.8s
JNU Nakatsue 44.44 42 P **P** **17 22 18.8 -1.4**
BTK Batken 44.45 331 P **P** **17 22 20.9 +0.6**
BTK IAmb IAmb 17 22 25.0
comp=Z,7.4nm,0.6s
UCH Uchtor 44.59 336 P **P** **17 22 23.1 +1.4**
SNR=9.2
TKM2 Tokmak 2 44.76 338 P **P** **17 22 24.1 +1.2**
SNR=9.6
KBK Karagaybulak 44.78 337 P **P** **17 22 24.8 +1.9**
SNR=8.5
AAK Ala-Archa 44.94 337 P **P** **17 22 24.9 +0.6**
KSAR Wonju Array Be 45.33 35 P **P** **17 22 27.0 -0.2**
KS19 Wonju Array Si 45.36 35 P **P** **17 22 27.2 -0.2**
KSRS Korea Array 45.36 35 P **P** **17 22 27.4 0.0**
comp=Z,3.3nm,0.8s,baz=230,slow=7.9,SNR=9.3
comp=Z,3.3nm,0.8s
USP Ospenovka 45.47 337 P **P** **17 22 29.5 +1.2**
SNR=15
MK31 Makanchi Array 46.21 346 P **P** **17 22 34.1 0.0**
MK31 IAmb IAmb 17 22 35.3
comp=Z,7.9nm,0.7s
MKAR Makanchi Array 46.21 346 P **P** **17 22 34.1 0.0**
MKAR Makanchi Array 46.21 346 P **P** **17 22 34.5 +0.5**
comp=Z,12nm,0.7s,baz=162,slow=7.8,SNR=116
MKAR LR LR 17 45 18.3
comp=Z,38nm,19.7s,baz=220,slow=40
comp=Z,12nm,0.7s
SONM Songino Array 46.28 9 P **P** **17 22 34.6 -0.1**
SONM IAmb IAmb 17 22 36.2
comp=Z,5.9nm,0.8s
SONM PcP **PcP** **17 24 11.0 +1.2**
SONM Songino Array 46.28 9 P **P** **17 22 35.1 +0.4**
comp=Z,3.3nm,0.3s,baz=187,slow=8.9,SNR=41
SONM PcP **PcP** **17 24 10.9 +1.1**
comp=Z,1.0nm,0.6s,baz=183,slow=4.2,SNR=4.5
comp=Z,3.3nm,0.3s
MAKZ Makanchi 46.30 346 P **P** **17 22 34.3 -0.4**
MAKZ IAmb IAmb 17 22 36.2
comp=Z,11nm,0.8s
ULN Ulaanbaatar 46.41 10 P **P** **17 22 35.4 -0.3**
ULN IAmb IAmb 17 22 37.1
comp=Z,4.1nm,0.8s
KK31 Karatay Array 46.99 334 P **P** **17 22 39.9 -0.3**
KK31 IAmb IAmb 17 22 42.1
comp=Z,4.4nm,1.1s
KKAR Karatay Array 46.99 334 P **P** **17 22 40.1 -0.1**
COEN Coen 48.76 111 P **P** **17 22 53.5 -0.9**
GEYT Alibeck 50.17 320 P **P** **17 23 05.1 +0.3**
GEYT IAmb IAmb 17 23 11.7
comp=Z,3.4nm,0.8s
GEYT Alibeck 50.17 320 P **P** **17 23 05.9 +1.1**
comp=Z,2.0nm,0.6s,baz=123,slow=11,SNR=7.3
comp=Z,2.0nm,0.6s
GYA0B ALIBECK ARRAY 50.17 320 P **P** **17 23 05.2 +0.4**
GYA0B IAmb IAmb 17 23 14.7
comp=Z,4.4nm,0.7s
JGF Kuroka 50.25 44 P **P** **17 23 04.4 -1.1**
JGF IAmb IAmb 17 23 06.5
comp=Z,7.1nm,0.8s
KURBB Kurchatov Arra 50.69 345 P **P** **17 23 09.2 +0.7**
comp=Z,7.0nm,0.6s,baz=165,slow=6.9,SNR=62
KURBB PcP **PcP** **17 24 25.6 +0.2**
comp=Z,0.4nm,0.6s,baz=145,slow=3.6,SNR=1.4
comp=Z,7.0nm,0.6s
KURK Kurchatov 50.75 345 P **P** **17 23 09.1 +0.2**
KURK IAmb IAmb 17 23 10.5
comp=Z,6.6nm,0.8s
BNX BinXian 51.07 27 ⇓P **P** **17 23 11.3 -0.1**
BNX pmax pmax
comp=Z,11nm,0.7s
BNX pmax pmax
comp=Z,140nm,3.7s
MDJ Mudanjiang 51.29 30 P **P** **17 23 14.3 +1.2**
MDJ pmax pmax
comp=Z,7.0nm,0.8s
MDJ pmax pmax
comp=Z,64nm,3.7s
MJAR Matsushiro Arr 51.34 43 P **P** **17 23 14.6 +1.0**
comp=Z,2.1nm,0.8s,baz=260,slow=5.4,SNR=3.5
comp=Z,2.1nm,0.8s
USA0B Ussuriysk Arra 52.23 32 P **P** **17 23 19.6 -0.4**
USA0B IAmb IAmb 17 23 21.5
comp=Z,11nm,1.2s
USRK Ussuriysk Ar. 52.23 32 P **P** **17 23 20.5 +0.5**
USRK Ussuriysk Ar. 52.23 32 P **P** **17 23 20.3 +0.3**
comp=Z,3.0nm,0.8s,baz=245,slow=6.6,SNR=9.8
comp=Z,3.0nm,0.8s
ZAA0 Zalesovo Array 52.55 351 P **P** **17 23 22.4 +0.2**
ZALV Zalesovo Beam 52.55 351 P **P** **17 23 22.2 -0.1**
ZALV Zalesovo Beam 52.55 351 P **P** **17 23 22.8 +0.6**
comp=Z,15nm,0.6s,baz=179,slow=6.6,SNR=78
comp=Z,15nm,0.6s
CTAO Charters Tower 53.37 117 P **P** **17 23 29.6 +0.6**
CTAO IAmb IAmb 17 23 43.0
comp=Z,7.3nm,0.7s
STKA Stephens Creek 54.36 132 P **P** **17 23 35.8 -0.2**
STKA Stephens Creek 54.36 132 P **P** **17 23 36.6 +0.7**
comp=Z,1.9nm,0.8s,baz=294,slow=8.4,SNR=3.0
comp=Z,1.9nm,0.8s
HEH HeiHe 54.55 24 *e*P **P** **17 23 36.1 -0.9**
HEH pmax pmax
comp=Z,5.0nm,1.2s
BVAR Borovoye Array 55.20 341 P **P** **17 23 41.8 +0.1**
comp=Z,4.7nm,0.6s,baz=147,slow=9.1,SNR=26
comp=Z,4.7nm,0.6s
BRVK Borovoye 55.26 341 P **P** **17 23 41.8 -0.3**
BRVK IAmb IAmb 17 23 45.1
comp=Z,4.3nm,0.8s
ABKAR Akbulak array 56.45 332 P **P** **17 23 50.5 -0.2**
ABKAR IAmb IAmb 17 23 52.1
comp=Z,5.6nm,0.8s
ABKAR Akbulak array 56.45 332 P **P** **17 23 50.7 0.0**
JKA Kamikawa-asahi 58.22 37 P **P** **17 24 03.2 0.0**
ARU Arti 62.12 337 P **P** **17 24 29.0 -0.7**
ARU IAmb IAmb 17 24 34.2
comp=Z,5.0nm,0.8s
H04N2 CROZET ISLANDS 62.28 214 T T 18 32 17.0
baz=54,slow=75,SNR=1702
H04N1 CROZET ISLANDS 62.29 214 T T 18 32 17.6
baz=54,slow=75,SNR=1644
H04N3 CROZET ISLANDS 62.30 214 T T 18 32 16.2
baz=54,slow=75,SNR=1577
H04S1 CROZET ISLANDS 62.63 213 T T 18 32 41.3
baz=53,slow=75,SNR=421
H04S3 CROZET ISLANDS 62.64 213 T T 18 32 41.1
baz=53,slow=75,SNR=598
H04S2 CROZET ISLANDS 62.65 213 T T 18 32 41.9
baz=53,slow=75,SNR=303
YAK Yakutsk 64.66 16 P **P** **17 24 45.5 -1.0**
MMAI Mount Meron Ar 64.95 306 LR LR 17 55 09.8
comp=Z,25nm,18.4s,baz=106,slow=38
BRTR Keskin Array B 68.11 312 P **P** **17 25 08.4 -0.9**
comp=Z,0.5nm,0.5s,baz=140,slow=4.0,SNR=1.9
comp=Z,0.5nm,0.5s
LSZ Lusaka 69.91 253 LR LR 17 51 57.0
comp=Z,59nm,18.5s,baz=140,slow=32
TIXI Tiksi 72.35 10 P **P** **17 25 33.5 -0.8**
TIXI IAmb IAmb 17 25 34.7
comp=Z,3.3nm,0.8s
FINES FINESS Array B 78.93 332 P **P** **17 26 12.8 +0.6**
comp=Z,1.2nm,0.5s,baz=117,slow=6.6,SNR=7.2
comp=Z,1.2nm,0.5s
ARCES ARCESS Array B 81.48 340 P **P** **17 26 26.0 +0.1**
comp=Z,1.2nm,0.6s,baz=98,slow=6.2,SNR=12
comp=Z,1.2nm,0.6s
F20K Avaraart Lake 94.82 22 P **P** **17 27 30.5 +0.1**
F20K IAmb IAmb 17 27 33.0
comp=Z,2.2nm,0.8s
TXAR Lajitas Array 143.12 30 PKP PKPbc 17 33 41.9 +1.3
comp=Z,0.2nm,0.6s,baz=290,slow=1.1,SNR=2.2
CPUP Villa Florida 145.35 224 PKPbc **PKPab** **17 33 49.7 +2.2**
comp=Z,0.9nm,0.5s,baz=140,slow=7.9,SNR=3.4

*IDC **08** 17:34:13.1±6.2, 15°.20N×99°.00W, h0km, mb3.4/4, mbtmp3.4/6, ML3.1/2, MS3.2/4, Error ellipse: s-maj=114.6km s-min=33.4km az=1.0*
*MEX **08** 17:34:22.1±1.0, 16°.09N×99°.23W, h16km±15km, MD4.4*
ISC 08 17:34:19.1±1.9, 16°.09N±0°.07×99°.18W±0°.04, h7km±11km, n29, σ2°34/43, mb3.4/4, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CRIG	**Cruz Grande**	**0.64**	**4**	*i* P		**Pg**		**17 34 31.8**	**+0.2**
CRIG				*i* S		**Sg**		**17 34 40.4**	**+0.4**
DAIG	**Los Arroyos**	**1.03**	**334**	*i* P		**Pb**		**17 34 37.3**	**-2.0**
DAIG				*e*S		**Sb**		**17 34 49.5**	**-3.5**
PNIG	**Pinotepa**	**1.06**	**73**	*i* P		**Pb**		**17 34 38.8**	**-1.0**
PNIG				*e*S		**Sb**		**17 34 51.6**	**-2.2**
CAIG	**El Cayaco**	**1.41**	**313**	*i* P		**Pn**		**17 34 43.0**	**-2.2**
CAIG				*e*S		**Sn**		**17 34 57.5**	**-6.5**
TLIG	**Tlapa**	**1.58**	**22**	*i* P		**Pn**		**17 34 46.5**	**-1.2**
TLIG				*e*S		**Sn**		**17 35 05.7**	**-2.7**
YOIG	**Yosondua**	**1.75**	**64**	*i* P		**Pn**		**17 34 49.2**	**-0.8**
YOIG				*e*S		**Sn**		**17 35 10.9**	**-1.8**
TXIG	**Tlaxiaco**	**1.78**	**49**	*i* P		**Pn**		**17 34 49.6**	**-0.9**
TXIG				*e*S		**Sn**		**17 35 12.3**	**-1.2**
MEIG	**Mezcala**	**1.87**	**347**	*e*P		**Pn**		**17 34 50.6**	**-1.0**
MEIG				*e*S		**Sn**		**17 35 11.7**	**-3.9**
PEIG	**Puerto Escondi**	**1.96**	**92**	*e*P		**Pn**		**17 34 51.1**	**-1.7**
PEIG				*e*S		**Sn**		**17 35 14.2**	**-3.4**
FTIG	**Fresnillo de T**	**2.07**	**29**	*i* P		**Pn**		**17 34 53.4**	**-0.9**
FTIG				*e*S		**Sn**		**17 35 17.1**	**-3.3**
PLIG	**Platanillo**	**2.31**	**352**	*i* P		**Pn**		**17 34 57.1**	**-0.5**
PLIG				*e*S		**Sn**		**17 35 23.4**	**-3.0**
ARIG	**Puente Sto Nin**	**2.44**	**333**	*e*P		**Pn**		**17 35 00.0**	**+0.6**
ARIG				*e*S		**Sn**		**17 35 26.8**	**-2.9**
VHO	**Vista Hermosa**	**2.54**	**67**	*i* P		**Pn**		**17 35 00.9**	**0.0**
VHO				*e*S		**Sn**		**17 35 30.3**	**-2.0**
ZIIG	**Zihuatanejo**	**2.65**	**305**	*e*P		**Pn**		**17 35 03.9**	**+1.6**
ZIIG				*e*S		**Sn**		**17 35 32.6**	**-2.1**
YAIG	**Yautepec**	**2.76**	**2**	*e*P		**Pn**		**17 35 08.2**	**+4.3**
YAIG				*e*S		**Sn**		**17 35 35.9**	**-1.6**
TOIG	**Toxpalan**	**2.84**	**45**	*i* P		**Pn**		**17 35 04.5**	**-0.5**
TOIG				*e*S		**Sn**		**17 35 38.6**	**-0.9**
TPIG	**Tehuac#an**	**2.90**	**37**	*e*P		**Pn**		**17 35 07.3**	**+1.5**
TPIG				*e*S		**Sn**		**17 35 39.9**	**-1.1**
PPM	**Popocatepetl**	**3.01**	**10**	*e*P		**Pn**		**17 35 08.5**	**+0.9**
PPM				*e*S		**Sn**		**17 35 43.4**	**-0.8**
CMIG	**Matias Romero**	**4.24**	**76**	Pn		**Pn**		**17 35 22.3**	**-1.8**
	0.6nm,0.3s,baz=269,slow=12,SNR=5.6								
CMIG				Sn		**Sn**		**17 36 12.3**	**-1.6**
	2.4nm,0.3s,baz=286,slow=15,SNR=4.0								
	3.0nm,0.6s								
TXAR	**Lajitas Array**	**13.81**	**343**	Pn		**P**		**17 37 46.0**	**+1.9**
	baz=164,slow=14,SNR=6.2								
TXAR				LR		LR		17 44 18.1	
	comp=Z,36nm,19.6s,baz=144,slow=41								
	0.7nm,0.9s								
ANMO	**Albuquerque**	**19.88**	**342**	LR		LR		17 46 06.8	
	comp=Z,73nm,20.0s,baz=317,slow=34								
NVAR	**Mina Array Bea**	**27.89**	**327**	P		**P**		**17 40 13.4**	**+3.5**
	0.4nm,0.7s,baz=134,slow=11,SNR=2.6								
	0.4nm,0.7s								
PDAR	**Pinedale Array**	**28.03**	**344**	P		**P**		**17 40 13.7**	**+2.6**
	0.5nm,0.8s,baz=136,slow=9.6,SNR=4.1								
PDAR				LR		LR		17 51 04.8	
	comp=Z,43nm,20.1s,baz=168,slow=35								
	0.5nm,0.8s								
ELK	**Elko**	**28.24**	**334**	LR		LR		17 53 28.7	
	comp=Z,71nm,18.1s,slow=40								
YKA	**Yellowknife Ar**	**47.60**	**350**	P		**P**		**17 42 56.9**	**+1.5**
	0.1nm,0.3s,baz=162,slow=6.8,SNR=4.1								
	0.1nm,0.3s								
H03N2	**Juan Fernandez**	**52.91**	**159**	T		T		18 41 15.0	
	baz=338,slow=77,SNR=5.0								
H03N1	**Juan Fernandez**	**52.92**	**159**	T		T		18 40 51.8	
	baz=338,slow=77,SNR=6.3								
H03N3	**Juan Fernandez**	**52.93**	**159**	T		T		18 40 50.1	
	baz=338,slow=77,SNR=7.9								
ILAR	**Eielson Array**	**58.26**	**338**	P		**P**		**17 44 15.2**	**+1.2**
	0.6nm,0.9s,baz=156,slow=5.1,SNR=4.3								
	0.6nm,0.9s								

*IDC **08** 17:39:09.8±0.9, 24°.72N×122°.14E, h0km, mb3.5/9, mbtmp3.5/10, ML3.2/1, MS3.2/6, Error ellipse: s-maj=33.8km s-min=16.6km az=69.0*
*ASIES **08** 17:39:10.4, 24°.95N×122°.32E, h17km, ML3.8, Mw4.0, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-1.07; $M_{\theta\theta}$1.21; $M_{\phi\phi}$-0.14; $M_{r\theta}$0.19; $M_{\theta\phi}$-0.03; $M_{r\phi}$0.39; Fault plane solution: $M_0$1.23025×10^{22} NP1: ϕ_s252.66000°, δ52.76000°, λ-114.95000°. NP2: ϕ_s110.21000°, δ43.80000°, λ-60.98000°. Principal axes: T Plg4.7260°, Azm0.0770°; N Plg19.6190°, Azm268.3880°; P Plg69.7740°, Azm103.0430°;*
*TAP **08** 17:39:10.4, 24°.95N×122°.32E, h17km, ML3.8, C*
*NIED **08** 17:39:13.4, 24°.85N×122°.32E, h9km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^{15}Nm; M_{rr}-1.03; $M_{\theta\theta}$1.30; $M_{\phi\phi}$-0.26; $M_{r\theta}$0.41; $M_{\theta\phi}$0.24; $M_{r\phi}$0.30; Fault plane solution: $M_0$1.30000×10^{15} NP1: ϕ_s248.00000°, δ57.00000°, λ-107.00000°. NP2: ϕ_s98.00000°, δ37.00000°, λ-65.00000°.*
*JMA **08** 17:39:13.4±0.2, 25°N±1°×122°.3E±0°.3, h9km, MV3.6/7, TAIWAN REGION*
ISC 08 17:39:10.6±1.0, 24°.94N±0°.02×122°.33E±0°.02, h15km±7km, n176, σ0°96/206, mb3.5/8, MS3.2/4, 9C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.32**	**283**	*i* P		**Pg**		**17 39 17.2**	**0.0**
	baz=281								
TWB1				*i* S		**Sb**		**17 39 22.1**	**-0.9**
	baz=281								
EGS		**0.37**	**256**	P		**Pg**		**17 39 18.0**	**-0.2**
EGS	baz=247			S		**Sb**		**17 39 23.9**	**-0.6**
	baz=247								
SXI1	**Grass Mountain**	**0.44**	**291**	⇑*i* P		**Pb**		**17 39 19.9**	**-0.3**
	baz=289								
SXI1				*i* S		**Sb**		**17 39 25.9**	**-0.7**
	baz=289								
TIPB	**Shuangxi**	**0.46**	**275**	*i* P		**Pb**		**17 39 20.1**	**-0.3**
	baz=273								
TIPB				S		**Sb**		**17 39 26.7**	**-0.4**
	baz=273								
NWF	**Wu-fen Shan**	**0.51**	**285**	⇑P		**Pb**		**17 39 21.4**	**-0.1**
	baz=284								
NWF				*i* S		**Sb**		**17 39 28.9**	**+0.2**
	baz=284								
WFSB	**Wu-fen Shan**	**0.51**	**285**	⇑*i* P		**Pb**		**17 39 21.4**	**0.0**
	baz=284								
WFSB				S		**Sb**		**17 39 28.5**	**-0.2**
	baz=284								
EOS2	**EOS2**	**0.52**	**190**	P		**Pb**		**17 39 21.7**	**+0.2**
	baz=210								
TWC	**Suao**	**0.54**	**233**	*e*P		**Pg**		**17 39 20.9**	**-0.5**
	baz=226								
TNOU	**National Taiwa**	**0.55**	**293**	⇑*i* P		**Pb**		**17 39 21.9**	**-0.1**
	baz=292								
ESAO	**Su ao**	**0.57**	**231**	P		**Pg**		**17 39 21.8**	**0.0**
	baz=231								
ESAO				S		**Sb**		**17 39 30.2**	**0.0**
	baz=231								
NDS	**Dongshan**	**0.63**	**242**	*e*P		**Pb**		**17 39 23.2**	**-0.2**
	baz=235								
NDS				*e*S		**Sb**		**17 39 32.7**	**+0.6**
	baz=235								
TWE	**Neicheng**	**0.64**	**251**	P		**Pg**		**17 39 22.9**	**-0.2**
	baz=241								
TWE				*e*S		**Sb**		**17 39 32.7**	**+0.5**
	baz=241								
EOS3	**EOS3**	**0.65**	**181**	P		**Pb**		**17 39 23.7**	**+0.2**
	baz=187								
NWRT	**Kuosheng**	**0.66**	**294**	*e*P		**Pb**		**17 39 24.0**	**+0.1**
	baz=292								
NWRT				*e*S		**Sn**		**17 39 35.0**	**-0.6**
	baz=292								
TWA	**Mucha**	**0.68**	**274**	⇑*i* P		**Pb**		**17 39 24.2**	**+0.1**
	baz=273								
FUSB	**Fushanzhiwuyua**	**0.69**	**256**	P		**Pb**		**17 39 24.2**	**-0.3**
	baz=255								
NHY	**Taipei**	**0.69**	**279**	*e*P		**Pn**		**17 39 24.9**	**-1.0**
	baz=278								
NHY				*e*S		**Sb**		**17 39 33.9**	**0.0**
	baz=278								
EWUT	**Wuta**	**0.70**	**226**	*e*P		**Pg**		**17 39 24.1**	**-0.2**
	baz=220								
EWUT				*e*S		**Sb**		**17 39 33.9**	**-0.1**
	baz=220								
YM08	**YM08**	**0.71**	**291**	⇑P		**Pb**		**17 39 24.6**	**-0.3**
	baz=289								
YM08				*e*S		**Sb**		**17 39 34.9**	**+0.4**
	baz=289								
YM01	**YM01**	**0.72**	**287**	⇑*i* P		**Pb**		**17 39 24.9**	**0.0**
	baz=286								
YM01				*e*S		**Sb**		**17 39 35.0**	**+0.4**
	baz=286								
PCYT	**Pengchaiyu**	**0.73**	**342**	*e*P		**Pg**		**17 39 24.9**	**0.0**
	baz=340								
ENA	**Nanau**	**0.73**	**227**	*e*P		**Pb**		**17 39 24.3**	**-0.9**
	baz=221								
ENA				*e*S		**Sg**		**17 39 35.8**	**+1.1**
	baz=221								
JYNG	**Yonagunijimaku**	**0.74**	**130**	*e*S		**Sg**		**17 39 36.1**	**+1.3**
TWY	**Chenhua**	**0.74**	**297**	⇑P		**Pg**		**17 39 25.2**	**+0.1**
	baz=284								
TWY				S		**Sn**		**17 39 35.9**	**-1.7**
	baz=284								
ENTT	**Nioudou**	**0.75**	**247**	*e*P		**Pb**		**17 39 25.0**	**-0.4**
	baz=247								
TAP	**Taipei**	**0.75**	**278**	*e*P		**Pn**		**17 39 25.8**	**-0.9**
	baz=277								
TAP				*e*S		**Sg**		**17 39 35.8**	**+0.6**
	baz=277								
NSM	**Shimen**	**0.76**	**298**	*e*P		**Pn**		**17 39 27.2**	**+0.4**
	baz=297								
TATO	**Taipei**	**0.76**	**273**	P		**Pn**		**17 39 25.9**	**-0.9**
TATO	**Taipei**	**0.76**	**273**	P		**Pn**		**17 39 26.0**	**-0.9**
TATO	**Taipei**	**0.76**	**273**	*e*P		**Pg**		**17 39 25.7**	**+0.2**
	baz=272								
NWLT	**Wulai**	**0.77**	**258**	*e*P		**Pg**		**17 39 25.8**	**+0.2**
	baz=258								
ANP	**Anpu**	**0.77**	**289**	*e*P		**Pg**		**17 39 25.8**	**+0.1**
	baz=288								
YOJ	**Yonaguni jima**	**0.78**	**127**	P		**Pb**		**17 39 24.9**	**-1.1**
YOJ	**Yonaguni jima**	**0.78**	**127**	P		**Pb**		**17 39 25.2**	**-0.8**
YOJ	**Yonaguni jima**	**0.78**	**127**	*e*P		**Pn**		**17 39 27.6**	**+0.5**
YOJ				*e*S		**Sg**		**17 39 37.3**	**+1.1**
YOJ	**Yonaguni jima**	**0.78**	**127**	⇓P		**Pb**		**17 39 24.6**	**-1.3**
	baz=117								
YOJ				S		**Sb**		**17 39 36.1**	**-0.3**
	baz=117								
BACT	**New Taipei Cit**	**0.81**	**275**	*e*P		**Pn**		**17 39 27.1**	**-0.4**
	baz=274								
EAHA	**Aohua**	**0.81**	**222**	*e*P		**Pb**		**17 39 26.0**	**-0.4**
	baz=228								
EOS4	**EOS4**	**0.81**	**181**	*e*P		**Pb**		**17 39 26.1**	**-0.1**
	baz=180								
NDT	**Datong Townshi**	**0.81**	**246**	*e*P		**Pg**		**17 39 26.2**	**-0.2**
	baz=241								
NTST	**Danshui**	**0.83**	**286**	*e*P		**Pn**		**17 39 27.6**	**-0.2**
	baz=285								
TWS1	**Kuangyinshan**	**0.84**	**281**	*e*P		**Pn**		**17 39 27.5**	**-0.5**
	baz=281								
YHNB	**Yeheng**	**0.90**	**253**	P		**Pg**		**17 39 28.1**	**-0.1**
YHNB	**Yeheng**	**0.90**	**253**	P		**Pb**		**17 39 27.8**	**-0.3**
YHNB	**Yeheng**	**0.90**	**253**	*e*P		**Pb**		**17 39 27.7**	**-0.3**
	baz=261								
YHNB				*e*S		**Sg**		**17 39 40.1**	**0.0**
	baz=261								

NSK	Sanguang baz=262	0.92 254	eP	Pb	17 39 28.1	-0.3
NTY	Taoyuan baz=273	0.94 274	eP	Pn	17 39 29.5	+0.2
NNSH	Datong baz=225	1.00 240	eP	Pb	17 39 29.4	-0.4
NNS	Nan Shan baz=224	1.00 241	P	Pn	17 39 29.6	-0.7
ETL	Fush Village baz=221	1.00 220	eP	Pb	17 39 29.5	-0.3
NACB	Ninganchiao	1.01 221	P	Pb	17 39 29.6	-0.3
NACB	Ninganchiao baz=223	1.01 221	eP	Pb	17 39 29.1	-0.8
NACB	baz=223		eS	Sg	17 39 43.3	-0.1
NCU	National Centr baz=272	1.03 272	eP	Pg	17 39 30.5	-0.2
NCUH	Zhongli baz=271	1.04 272	eP	Pg	17 39 31.3	+0.6
ETLH	Xiulin Townshi baz=228	1.06 227	eP	Pg	17 39 30.9	-0.3
TWD	Chiawan baz=219	1.08 218	P	Pb	17 39 30.6	-0.4
NFF	Wufeng Townshi baz=266	1.14 255	eP	Pb	17 39 31.8	-0.3
NJD	Zhudong baz=272	1.14 260	eP	Pg	17 39 32.6	-0.1
HWA	Hwalien baz=216	1.16 215	eP	Pg	17 39 32.9	-0.1
NHW	Xinwu Township baz=273	1.16 274	eP	Pg	17 39 33.6	+0.5
HSN1	Hsinchu baz=274	1.20 263	eP	Pg	17 39 33.2	-0.6
FUSS	Fushou baz=236	1.20 235	eP	Pn	17 39 32.8	-0.4
LIOB	Emei baz=257	1.23 257	eP	Pn	17 39 32.9	-0.4
SBCB	Hsinchu baz=280	1.23 264	eP	Pg	17 39 33.8	-0.5
ETM	Tongmen baz=220	1.23 218	eP	Pb	17 39 33.6	0.0
ETM	baz=220		eS	Sg	17 39 51.1	+0.7
LXIB	Xiulin Townshi baz=225	1.23 223	P	Pb	17 39 33.3	-0.5
LXIB	baz=225		eS	Sg	17 39 51.8	+1.2
HSN	Hsinchu baz=265	1.24 264	eP	Pn	17 39 32.5	-0.9
NSTT	Nanjuang baz=256	1.24 256	eP	Pn	17 39 33.1	-0.4
WHF	Hehuan Shan baz=232	1.25 231	eP	Pb	17 39 33.9	-0.3
WHF	baz=232		eS	Sg	17 39 51.7	+0.6
TWT	Tachien baz=231	1.25 237	eP	Pb	17 39 33.9	-0.1
TEYL	Yanliau Villag baz=214	1.25 212	eP	Pg	17 39 34.5	-0.4
TDCB	Techi baz=233	1.26 238	eP	Pb	17 39 33.8	-0.5
TDCB	baz=233		eS	Sg	17 39 51.4	-0.1
SHUL	Shoufeng baz=192	1.34 212	eP	Pb	17 39 35.6	+0.1
CHGB	Renai baz=232	1.36 231⇑	iP	Pg	17 39 36.4	-0.6
CHGB	baz=232		eS	Sg	17 39 55.2	+0.4
ESL	Shilin baz=217	1.38 216	eP	Pb	17 39 35.7	-0.5
IRIF	Iriomote-Funau	1.41 115	eP	Pg	17 39 38.0	+0.2
IRIF			eS	Sg	17 39 56.4	+0.3
WHP	Taichung City baz=257	1.42 243	eP	Pg	17 39 37.5	-0.5
OWD	Renai baz=229	1.43 227	eP	Pb	17 39 36.9	-0.2
WUSB	Renai baz=232	1.45 230	P	Pb	17 39 37.5	+0.1
WUSB	baz=232		eS	Sg	17 39 57.0	-0.4
NMLH	Miaoli baz=255	1.45 254	eP	Pg	17 39 37.8	-0.8
WARBT	Fenglin Townsh baz=233	1.48 215	P	Pn	17 39 36.4	-0.5
EGFH	Guangfu baz=231	1.50 213	eP	Pn	17 39 36.9	-0.2
NSY	Sanyi baz=265	1.52 250	eP	Pg	17 39 38.9	-0.9
TWQ1	Liyutan baz=262	1.53 248	eP	Pg	17 39 39.2	-0.9
WPL	Puli Township baz=235	1.55 234	eP	Pb	17 39 38.9	-0.2
WCS	Beigang Elemen baz=225	1.56 236	eP	Pb	17 39 39.3	+0.1
DPDB	Guoxing baz=223	1.56 235	eP	Pb	17 39 39.5	+0.3
VWDT	VWDT baz=225	1.60 223	⇓P	Pb	17 39 39.3	-0.6
VWDT	baz=225		eS	Sb	17 40 00.2	+0.3
HATJ	Hateruma jima	1.61 123	eP	Pg	17 39 42.8	+1.3
HATJ			eS	Sg	17 40 02.5	+0.1
HGSD	Ruisui baz=194	1.66 210	eP	Pb	17 39 40.0	-0.9
HGSD	baz=194		eS	Sg	17 40 03.5	-0.5
SMLT	Sun Moon Lake baz=217	1.67 231	eP	Pb	17 39 41.2	0.0
TYC	Yuchr baz=234	1.69 233	eP	Pb	17 39 41.4	0.0
EHYH	Wanrong baz=214	1.69 212	eP	Pb	17 39 40.8	-0.7
EHY	Hungye baz=214	1.69 213	eP	Pn	17 39 39.1	-0.7
SSLB	Suanglung	1.69 228	P	Pb	17 39 41.3	-0.3
SSLB	Suanglung	1.69 228	P	Pb	17 39 41.4	-0.2
SSLB	Suanglung baz=229	1.69 228	eP	Pb	17 39 41.1	-0.4
WWF	Wufeng baz=240	1.73 239	eP	Pb	17 39 42.2	+0.1
ECBN	Changbin baz=190	1.80 207	eP	Pn	17 39 41.4	+0.2
YULB	Yu-li	1.80 212	P	Pb	17 39 42.3	-1.1
YULB	Yu-li	1.80 212	P	Pn	17 39 40.5	-0.7
YULB	Yu-li baz=213	1.80 212	eP	Pn	17 39 40.2	-1.0
WNT1	Nantou City baz=237	1.82 236	eP	Pb	17 39 43.6	-0.1
WHYT	Xinyi Township baz=216	1.82 228	eP	Pb	17 39 43.4	-0.4
EYUL	Yuli baz=227	1.83 210	eP	Pn	17 39 41.7	+0.1
WNT	Mingjian baz=236	1.83 235	eP	Pg	17 39 44.9	-0.9
TWF1	Yuli baz=212	1.84 211	eP	Pn	17 39 40.8	-0.9
WYL	Yuanlin Townsh baz=239	1.86 239	eP	Pb	17 39 43.6	-0.9
FULB	Fuli baz=192	1.97 209	eP	Pn	17 39 43.5	-0.1
ALS	Alishan baz=213	1.99 225	eP	Pb	17 39 45.8	-0.9
CHKT	Chengkung baz=189	2.03 206	eP	Pn	17 39 43.6	-0.7
WGK	Gukeng baz=233	2.04 233	eP	Pb	17 39 47.0	-0.4
WDLH	Douliu baz=234	2.05 233	eP	Pb	17 39 46.2	-1.4
EHD	Haiduan baz=212	2.05 210	eP	Pn	17 39 43.5	-1.2
RLNB	Erlin baz=241	2.07 240	eP	Pb	17 39 46.3	-1.6
ECS	Chishang baz=211	2.09 209	eP	Pb	17 39 46.5	-1.8
ELDTW	Lidau baz=200	2.11 215	eP	Pn	17 39 45.2	-0.3
EDH	Donghe baz=191	2.17 206	eP	Pn	17 39 44.2	-2.1
WCKO	Fanlu baz=228	2.17 227	eP	Pb	17 39 48.5	-1.1
CHN4	Tsaushan baz=226	2.23 225	eP	Pb	17 39 49.4	-1.4
TPUB	Ta-pu	2.25 224	P	Pb	17 39 49.8	-1.2
TPUB	Ta-pu	2.25 224	P	Pb	17 39 49.5	-1.5
TPUB	Ta-pu baz=210	2.25 224	eP	Pb	17 39 49.5	-1.5
TPUB			eS	Sb	17 40 19.0	+0.3
STYH	Taoyuan baz=206	2.26 219	eP	Pn	17 39 48.7	+1.2
STYT	Tauyuan baz=206	2.27 219	eP	Pn	17 39 49.0	+1.3
LONT	Longtian baz=210	2.30 209	eP	Pn	17 39 46.9	-1.1
WTP	Ta-pu baz=209	2.30 223	eP	Pb	17 39 49.8	-2.1
WSF	Szhu baz=237	2.31 237	eP	Pb	17 39 50.0	-2.1
TWK	Hsinying baz=226	2.36 226	eP	Pb	17 39 51.2	-1.8
LDUT	Ludao baz=199	2.38 199	eP	Pn	17 39 48.6	-0.7
SNST	Tainan City baz=226	2.39 225	eP	Pb	17 39 52.7	-0.7
CHN1	Nanshi baz=225	2.40 224	eP	Pb	17 39 52.2	-1.3
TWG	Pinlang baz=210	2.40 209	eP	Pn	17 39 48.2	-1.2
TWGBT	Beinan	2.40 209	P	Pn	17 39 50.9	+1.5
TWGBT	Beinan	2.40 209	P	Pn	17 39 49.1	-0.3
TWGBT	Beinan baz=210	2.40 209	eP	Pn	17 39 48.9	-0.5
SGST	Jiashian baz=222	2.44 221	eP	Pn	17 39 51.0	+1.1
ICHU	Yihu baz=231	2.44 230	eP	Pb	17 39 52.6	-1.6
MATB	Ma-tsu baz=297	2.47 300	eP	Pn	17 39 48.5	-1.9
SLGT	Liugui baz=220	2.47 219	eP	Pb	17 39 52.7	-2.1
VWUC	VWUC baz=271	2.61 272	eP	Pn	17 39 52.9	+0.5
SCST	Cishan baz=221	2.64 220	eP	Pb	17 39 55.7	-2.0
ECL	Taimali baz=210	2.65 209	eP	Pn	17 39 53.4	+0.6
SSD	Sandimen baz=200	2.68 216	eP	Pb	17 39 56.2	-2.1
JMJ	Miyako jima 2 baz=95	2.70 92	eP	Pb	17 39 56.2	-2.5
XPSS	Dashiqiu baz=312	2.77 316	eP	Pn	17 39 54.8	+0.3
MASBT	Mashibuluo baz=200	2.79 214	eP	Pn	17 39 56.4	+1.7
LYJJ	Jianjiangzhen baz=302	2.82 305	eP	Pn	17 39 54.3	-0.9
EAST	Anshuo baz=195	2.88 208	eP	Pn	17 39 57.0	+0.9
TAW	Tawu baz=195	2.88 207	eP	Pn	17 39 57.6	+1.6
PHUB	P'eng-hu baz=242	2.89 241	eP	Pn	17 39 57.0	+0.9
PTMZ	Houxiangcun baz=272	2.91 273	eP	Pn	17 39 55.5	-1.0
WDGT	Dungji baz=237	2.95 236	eP	Pn	17 39 57.0	0.0
SCZT	Fangliau baz=197	2.99 212	eP	Pn	17 39 59.9	+2.3
LYUB	Lan-yu baz=193	3.00 193	eP	Pn	17 39 57.1	-0.5
SLIU	Shizi baz=196	3.05 208	eP	Pn	17 40 00.1	+1.7
VCHM	Qimei baz=238	3.16 238	eP	Pn	17 40 01.9	+2.1
MHZQ	Yeshan baz=290	3.20 292	eP	Pn	17 40 01.2	+0.8
TWKBT	Hengchun baz=194	3.29 205	eP	Pn	17 40 03.1	+1.5
KNM	Kinmen baz=263	3.58 263	eP	Pn	17 40 08.3	+2.7
KNMB	Chin-men Tao baz=263	3.61 263	eP	Pn	17 40 05.3	-0.8
SXFK	Yanhouchang baz=288	4.47 290	eP	Pn	17 40 18.6	+0.7
DSXP	Dongshan baz=256	4.63 256	eP	Pn	17 40 20.1	-0.1
KSRS	Korea Array 0.1nm,0.3s,baz=204,slow=14,SNR=2.1	13.36 20	Pn	P	17 42 26.0	-3.3
KSRS	comp=Z,73nm,20.0s,baz=200,slow=40 0.5nm,0.5s		LR	LR	17 48 09.7	
DAV	Davao City (W) comp=Z,54nm,18.9s,baz=20,slow=36	18.04 170	LR	LR	17 49 56.9	
USRK	Ussuriysk Ar. 0.9nm,0.7s,baz=199,slow=11,SNR=2.1 0.9nm,0.7s	20.77 20	P	Pn	17 43 55.2	+1.7
CMAR	Chiang Mai Arr 0.2nm,0.6s,baz=66,slow=9.0,SNR=1.2	22.65 258	P	P	17 44 11.0	-0.5
CMAR	comp=Z,39nm,20.6s,baz=180,slow=38 0.2nm,0.6s		LR	LR	17 53 24.3	
SONM	Songino Array 0.7nm,0.8s,baz=161,slow=6.3,SNR=3.5	26.10 335	P	P	17 44 46.6	+2.6
SONM	comp=Z,44nm,20.5s,baz=146,slow=35 0.7nm,0.8s		LR	LR	17 54 23.7	
MKAR	Makanchi Array 0.7nm,0.8s,baz=96,slow=11,SNR=5.8 0.7nm,0.8s	38.54 315	P	P	17 46 34.4	+1.8
ZALV	Zalesovo Beam 0.5nm,0.5s,baz=114,slow=9.8,SNR=2.2 0.5nm,0.5s	40.19 326	P	P	17 46 48.9	+2.6
KURBB	Kurchatov Arra 0.3nm,0.8s,baz=110,slow=7.3,SNR=2.4 0.3nm,0.8s	42.22 319	P	P	17 47 04.7	+1.7
AAK	Ala-Archa comp=Z,49nm,20.4s,baz=58,slow=36	42.89 307	LR	LR	18 04 31.3	
WRA	Warramunga Arr 2.8nm,0.8s,baz=346,slow=8.5,SNR=10	46.11 164	P	P	17 47 35.2	+0.7
WRA	0.9nm,0.8s,baz=350,slow=3.8,SNR=3.9 2.8nm,0.8s		PcP	PcP	17 49 09.1	-1.5
TIXI	Tiksi comp=Z,50nm,19.2s,baz=3.0,slow=38	46.89 3	LR	LR	18 08 54.0	
BVAR	Borovoye Array 0.4nm,0.6s,baz=76,slow=6.1,SNR=1.9 0.4nm,0.6s	47.76 320	P	P	17 47 48.3	+1.2
ASAR	Alice Springs 1.0nm,0.8s,baz=341,slow=7.3,SNR=13	49.60 166	P	P	17 48 02.4	+0.9
ASAR	0.7nm,0.8s,baz=343,slow=2.1,SNR=6.8 1.0nm,0.8s		PcP	PcP	17 49 23.3	+0.3

*JMA **08** 17:41:43.8±0.1,24.9N±1.0×122.4E±0.4,h0km,MV2.8/6, TAIWAN REGION*
*TAP **08** 17:41:44.2,24.96N×122.33E,h15km,ML3.3,C*
ISC 08 17:41:44.2±1.1,24.94N±0.03×122.34E±0.03,h15km±10km, n56,σ0.43/72,1D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	Santiao Chiao baz=279	0.33 282		iP	Pg	17 41 51.2	+0.2
TWB1	baz=279			iS	Sg	17 41 56.0	+0.3
EGS	baz=247	0.39 256		iP	Pb	17 41 52.3	-0.4
SXI1	Grass Mountain baz=288	0.45 290	⇓	iP	Pb	17 41 53.9	-0.1
SXI1	baz=288			iS	Sb	17 41 60.0	-0.5
TIPB	Shuangxi baz=271	0.47 274		iP	Pb	17 41 54.0	-0.2
TIPB	baz=271			iS	Sb	17 42 00.5	-0.5
EOS2	EOS2 baz=209	0.53 191		iP	Pb	17 41 55.7	+0.6
NWF	Wu-fen Shan baz=282	0.53 285		iP	Pb	17 41 55.3	+0.1
NWF	baz=282			iS	Sb	17 42 02.5	-0.2
WFSB	Wu-fen Shan baz=282	0.53 285		P	Pb	17 41 55.3	+0.2
WFSB	baz=282			S	Sb	17 42 02.3	-0.3
TWC	Suao baz=232	0.56 234		P	Pg	17 41 55.0	-0.2
TWC	baz=232			eS	Sg	17 42 02.5	-0.1
TNOU	National Taiwa baz=290	0.56 292		P	Pb	17 41 55.8	+0.1
TNOU	baz=290			eS	Sg	17 42 02.9	+0.1
ESAO	Su ao baz=229	0.58 232		P	Pb	17 41 55.8	-0.2
ESAO	baz=229			S	Sg	17 42 03.1	-0.3
NDS	Dongshan baz=240	0.65 242		eP	Pb	17 41 57.4	+0.3
EOS3	EOS3 baz=187	0.65 182		P	Pb	17 41 57.7	+0.6
TWE	Neicheng baz=239	0.65 251		P	Pg	17 41 57.0	0.0
TWE	baz=239			eS	Sg	17 42 05.5	-0.2
FUSB	Fushanzhiwuyua baz=254	0.71 256		eP	Pb	17 41 58.1	-0.1
NHY	Taipei baz=277	0.71 278		eP	Pb	17 41 59.1	+0.9
EWUT	Wuta baz=217	0.71 226		eP	Pg	17 41 57.7	-0.4
EWUT	baz=217			eS	Sg	17 42 07.2	-0.3
YM08	YM08 baz=288	0.73 290		P	Pg	17 41 58.5	0.0
YM08	baz=288			eS	Sg	17 42 07.9	-0.1
JYNG	Yonagunijimaku	0.73 131		P	Pg	17 41 58.0	-0.5
JYNG				eS	Sg	17 42 08.4	+0.3
PCYT	Pengchaiyu baz=341	0.73 340		eP	Pg	17 41 58.1	-0.4
YM01	YM01 baz=285	0.73 287		P	Pb	17 41 59.0	+0.4
YM01	baz=285			eS	Sb	17 42 09.1	+0.6
ENA	Nanau baz=217	0.75 227		eP	Pg	17 41 58.8	0.0
ENA	baz=217			eS	Sg	17 42 08.7	+0.1
TWY	Chenhua baz=295	0.75 297		P	Pb	17 41 59.1	+0.1
TWY	baz=295			S	Sb	17 42 09.8	+0.7
ENTT	Nioudou baz=237	0.77 247		eP	Pb	17 41 59.5	+0.3
TAP	Taipei baz=276	0.77 278		eP	Pb	17 41 60.0	+0.8
YOJ	Yonaguni jima	0.77 128		eP	Pg	17 41 58.6	-0.6
YOJ				eS	Sg	17 42 09.2	-0.1
NWLT	Wulai baz=257	0.78 258		eP	Pb	17 41 59.9	+0.4
ANP	Anpu baz=287	0.79 289		eP	Pb	17 41 59.6	0.0
EOS4	EOS4 baz=180	0.81 182		eP	Pb	17 42 00.7	+0.9
EAHA	Aohua baz=221	0.82 222		eP	Pg	17 41 59.8	-0.3
NDT	Datong Townshi baz=237	0.83 246		eP	Pb	17 42 01.0	+0.8
NTST	Danshui baz=284	0.84 286		eP	Pb	17 42 01.1	+0.6
TWS1	Kuangyinshan baz=260	0.86 281		eP	Pn	17 42 01.8	+0.2
YHNB	Yeheng baz=262	0.92 253		eP	Pg	17 42 01.8	-0.2
NSK	Sanguang baz=252	0.93 254		eP	Pb	17 42 02.5	+0.4
NNS	Nan Shan baz=232	1.01 241		eP	Pb	17 42 03.9	+0.4
ETL	Fush Village baz=215	1.02 220		eP	Pg	17 42 03.5	-0.4
NACB	Ninganchiao baz=212	1.02 222		eP	Pg	17 42 03.5	-0.4
ETLH	Xiulin Townshi baz=217	1.07 227		eP	Pg	17 42 04.2	-0.7
TWD	Chiawan baz=217	1.09 219		eP	Pg	17 42 04.8	-0.6
NFF	Wufeng Townshi baz=267	1.16 255		eP	Pg	17 42 06.0	-0.6
FUSS	Fushou baz=235	1.22 236		eP	Pg	17 42 07.2	-0.4
ETM	Tongmen baz=220	1.24 219		eP	Pb	17 42 07.5	+0.2
LIOB	Emei baz=257	1.24 257		eP	Pb	17 42 07.2	-0.2
LXIB	Xiulin Townshi baz=223	1.25 223		eP	Pb	17 42 07.6	+0.1
NSTT	Nanjuang baz=256	1.26 256		eP	Pn	17 42 06.7	-0.6
WHF	Hehuan Shan baz=231	1.26 231		eP	Pn	17 42 08.5	+0.9
TDCB	Techi baz=229	1.28 238		eP	Pg	17 42 09.5	+0.7
CHGB	Renai baz=231	1.38 231		eP	Pg	17 42 10.6	-0.1
ESL	Shilin baz=218	1.39 217		eP	Pb	17 42 10.1	+0.2
OWD	Renai baz=228	1.45 228		eP	Pb	17 42 11.3	+0.4
WUSB	Renai baz=222	1.46 230		eP	Pb	17 42 11.3	+0.1
WARBT	Fenglin Townsh baz=234	1.50 216		eP	Pn	17 42 10.1	-0.4
WCS	Beigang Elemen baz=229	1.57 236		eP	Pg	17 42 14.0	-0.5
VWDT	VWDT baz=224	1.61 223		eP	Pb	17 42 13.5	-0.1
TYC	Yuchr baz=234	1.70 233		eP	Pb	17 42 15.7	+0.5
SSLB	Suanglung baz=236	1.71 228		eP	Pb	17 42 16.0	+0.7

*NEIC **08** 17:48:49.9±0.6,19.286N±0.009×155.224W±0.009, h5km±1km,Error ellipse: s-maj=2.9km s-min=1.7km az=44.0*
HVO 08 17:48:49.6±0.7,19.29N±0.02×155.20W±0.01,h8km±2km, Md2.3/18,ML2.6/34(NEIC),Error ellipse: s-maj=2.3km s-min=1.5km az=164.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	Pauahi	0.08 351			Pg	17 48 51.9	+0.1
KNHH	Kane Nui o Ham	0.09 19			Pg	17 48 52.1	+0.2
HLP	Hilina Pali	0.10 273			Pg	17 48 52.4	+0.4
HLP	Hilina Pali comp=N,10μm,0.2s	0.10 273		IAML		17 48 54.9	
HLP	comp=E,9μm,0.2s			IAML		17 48 54.9	
STCH	Steam Cracks	0.12 38			Pg	17 48 52.6	+0.3
KKO	Keanakako'i	0.12 331			Pg	17 48 52.5	+0.1
KKO	Keanakako'i comp=N,8μm,1.1s	0.12 331		IAML		17 48 54.9	
KKO	comp=E,5μm,1.2s			IAML		17 48 55.4	
RIM	Rim	0.12 327			Pg	17 48 52.5	+0.1
RIM	comp=E,5μm,0.5s			IAML		17 48 56.6	
SDHHI	Sand Hill	0.13 319		Pg	Pg	17 48 52.6	+0.1
JCUZ	Jacuzzi	0.13 46		Pg	Pg	17 48 53.0	+0.4
NPOC	North of Pu'u	0.14 41			Pg	17 48 52.9	+0.4
NPOC	North of Pu'u comp=N,282nm,0.9s	0.14 41		IAML		17 48 55.8	
NPOC	comp=E,374nm,0.8s			IAML		17 48 56.9	
HATHI	Halema'uma'u T	0.14 337			Pg	17 48 52.8	0.0
HATHI	Halema'uma'u T comp=E,6μm,0.7s	0.14 337		IAML		17 48 54.1	
HATHI	comp=N,6μm,0.7s			IAML		17 48 54.4	
HTC	Hot Caves	0.19 254			Pg	17 48 54.2	+0.7
MLH	Mauna Loa	0.27 320			Pg	17 48 54.9	-0.1
MLH	Mauna Loa comp=N,647nm,0.9s	0.27 320		IAML		17 48 57.3	
MLH	comp=E,504nm,1.3s			IAML		17 49 00.5	
PHO	Puu Honuaula	0.35 57			Pg	17 48 56.5	0.0
KHU	Kahuku	0.39 264			Pg	17 48 57.1	-0.3
KHU	Kahuku comp=E,364nm,3.1s	0.39 264		IAML		17 49 00.0	
KHU	comp=N,387nm,2.9s			IAML		17 49 10.7	
HMH	Humu'ula Sheep	0.41 320			Pg	17 48 57.6	-0.1
HMH	Humu'ula Sheep comp=N,908nm,0.2s	0.41 320		IAML		17 49 04.9	
HMH	comp=E,555nm,0.2s			IAML		17 49 05.0	
MWH	Moku'aweowe	0.42 298			Pg	17 48 57.6	-0.4
MWH	Moku'aweowe comp=E,632nm,1.0s	0.42 298		IAML		17 49 03.3	
MWH	comp=N,456nm,0.8s			IAML		17 49 05.7	

MLOA	**Mauna Loa Obse**	**0.43**	**305**		Pg	17 48 57.7	-0.4
MLOA				IAML		17 49 03.1	
	comp=E,498nm,3.5s						
MLOA				IAML		17 49 05.0	
	comp=N,415nm,0.6s						
ALEP	**Alea Permanent**	**0.49**	**301**		Pg	17 48 58.4	-0.7
ALEP					Sg	17 49 05.9	+0.4
POHA	**Pohakuloa**	**0.56**	**326**		Sg	17 49 07.8	-0.1
POHA	**Pohakuloa**	**0.56**	**326**	Pg	Pg	17 48 59.7	-0.8
POHA				IAML		17 49 08.0	
	comp=N,520nm,0.6s						
POHA				IAML		17 49 08.5	
	comp=N,444nm,0.2s						
HUH	**Hualalai**	**0.71**	**303**		Pg	17 49 01.8	-1.6
HUH				IAML		17 49 18.4	
	comp=N,447nm,0.7s						
HUH				IAML		17 49 18.8	
	comp=E,545nm,0.5s						

IDC 08 17:53:04.3±2.6, 31°.65N×139°.28E, h0km, mb3.6/6, mbtmp3.6/6, MS4.4/1, Error ellipse: s-maj=117.3km s-min=22.3km az=71.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**25.25**	**27**	LR	LR	18 08 47.4	
	comp=Z,33nm,20.1s,baz=51,slow=37						
MKAR	**Makanchi Array**	**45.68**	**306**	P	P	18 01 27.2	+0.4
	0.3nm,0.5s,baz=99,slow=7.6,SNR=4.6						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**48.09**	**312**	P	P	18 01 45.4	-0.1
	0.5nm,0.3s,baz=92,slow=9.5,SNR=11						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**51.51**	**186**	P	P	18 02 11.2	-0.7
	0.3nm,0.5s,baz=0.2,slow=7.7,SNR=5.5						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**53.01**	**315**	P	P	18 02 22.9	+0.2
	0.8nm,0.5s,baz=81,slow=6.8,SNR=4.7						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**55.24**	**186**	P	P	18 02 39.6	+0.4
	0.4nm,0.8s,baz=12,slow=11,SNR=7.6						
	0.4nm,0.8s						
FINES	**FINESS Array B**	**72.76**	**332**	P	P	18 04 33.4	-0.6
	0.5nm,0.7s,baz=49,slow=6.4,SNR=5.3						
	0.5nm,0.7s						
BRTR	**Keskin Array B**	**81.08**	**311**	LR	LR	18 43 26.9	
	comp=Z,200nm,20.1s,baz=100,slow=37						

*NORS **08** 18:12:56.4, 43°.03N×46°.45E, h1km, MPVA3.7*
*DRS **08** 18:12:57.2, 43°.27N×46°.49E, h18km*
MOS 08 18:12:57.1, 43°.09N×46°.51E, h5km, MPVA3.6, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMR	**Dylym**	**0.09**	**104**	*e*Pg	Pg	18 13 00.4	+1.3
DLMR				*e*Sg	Sg	18 13 03.4	+2.9
DBC	**Dubki**	**0.25**	**107**	*e*Pg	Pg	18 13 03.8	+1.8
DBC				*e*Sg	Sg	18 13 09.0	+3.8
DVE	**Vedeno**	**0.31**	**244**	*e*Pg	Pb	18 13 04.7	-0.5
DVE				*e*Sg	Sb	18 13 10.3	-0.3
KRNR	**Karanay**	**0.40**	**132**	*i* Pg	Pb	18 13 06.5	-0.2
KRNR				*e*Sg	Sb	18 13 13.8	+0.7
UNCR	**Uncukul**	**0.43**	**151**	*e*Pg	Pb	18 13 07.5	+0.2
UNCR				*e*Sg	Sb	18 13 15.6	+1.5
BTLR	**Botlikh**	**0.48**	**206**	*e*Pg	Pb	18 13 08.3	+0.3
BTLR				*e*Sg	Sb	18 13 16.4	+1.1
BUJR	**Buynaksk**	**0.52**	**121**	*e*Pg	Pb	18 13 09.3	+0.6
BUJR				*e*Sg	Sb	18 13 18.1	+1.6
GROC	**Groznyy**	**0.53**	**282**	*e*Pg	Pb	18 13 09.1	+0.1
GROC				*i* Sg	Sb	18 13 16.1	-0.7
XNZR	**Khunzakh**	**0.57**	**165**	*i* Pg	Pb	18 13 10.5	+0.8
XNZR				*e*Sg	Sn	18 13 20.5	-1.4
ARKR	**Arakani**	**0.61**	**144**	*e*Pg	Pb	18 13 11.0	+0.8
ARKR				*e*Sg	Sn	18 13 21.0	-1.6
MAK	**Makhachkala**	**0.74**	**100**	*e*Pg	Pn	18 13 13.7	-0.5
MAK				*i* Sg	Sn	18 13 24.7	-1.2
KMKR	**Kumukh**	**1.06**	**155**	*e*Pg	Pn	18 13 19.5	+0.8
KMKR				*e*Sg	Sn	18 13 36.1	+2.2
SGKR	**Sergokala**	**1.06**	**126**	*i* Pg	Pb	18 13 18.2	+0.3
SGKR				*e*Sg	Sn	18 13 34.8	+1.1
KMGR	**Komgaron**	**1.20**	**269**	*e*Pg	Pn	18 13 21.6	+1.0
KMGR				*e*Sg	Sn	18 13 38.0	+0.7
VLKR	**Vladikavkaz**	**1.34**	**269**	*e*Pg	Pg	18 13 24.8	+2.0
VLKR				*e*Sg	Sn	18 13 44.8	+4.1
BTKR	**Batakoyurt**	**1.46**	**282**	*e*Pg	Pg	18 13 26.0	+0.9
BTKR				*e*Sg	Sg	18 13 48.5	+4.4
GUDG	**Gudauri**	**1.62**	**248**	*e*Pg	Sg	18 13 28.2	0.0
GUDG				*e*Sg	Sg	18 13 50.4	+1.2
ARNR	**Ardon**	**1.63**	**274**	*e*Pg	Pg	18 13 28.8	+0.5
ARNR				*e*Sg	Sg	18 13 52.0	+2.6
LACR	**Lac**	**1.64**	**261**	*e*Pg	Pb	18 13 27.9	0.0
LACR				*e*Sg	Sg	18 13 50.8	+0.9
KORR	**Kora**	**1.79**	**271**	*i* Pg	Pb	18 13 30.5	+0.1
KORR				*e*Sg	Sg	18 13 56.1	+1.6
STDR	**Stavd-Durt**	**1.81**	**280**	*e*Pg	Pg	18 13 32.3	+0.6
STDR				*e*Sg	Sg	18 13 58.2	+3.1
AKT	**Akhty**	**1.85**	**150**	*e*Pg	Pb	18 13 31.5	0.0
AKT				*e*Sg	Sg	18 13 58.2	+1.7
LSNR	**Lesken**	**1.97**	**276**	*e*Pg	Pb	18 13 34.1	+0.7
LSNR				*e*Sg	Sg	18 14 02.0	+1.6
DIGR	**Digorskoe uzhe**	**2.15**	**266**	*e*Pg	Pb	18 13 36.2	-0.5
DIGR				*e*Sg	Sg	18 14 05.4	-0.9
ONI	**Oni**	**2.30**	**258**	*e*Pn	Pb	18 13 39.1	0.0
ONI				*i* Sn	Sb	18 14 08.7	+0.8
KBTC	**Kuba-Taba**	**2.37**	**289**	*e*Pn	Pb	18 13 40.6	+0.3
KBTC				*e*Sn	Sb	18 14 10.5	+0.7
PYA1	**Pyatigorsk**	**2.66**	**293**	*e*Pn	Pb	18 13 43.3	-2.0
PYA1				*i* Sn	Sb	18 14 16.8	-1.4

IDC 08 18:14:10.5±2.3, 8°.45S×127°.69E, h0km, mb3.8/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=268.3km s-min=33.7km az=63.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.11**	**151**	Pn	Pn	18 17 16.6	-1.6
	0.1nm,0.3s,baz=327,slow=12,SNR=9.8						
WRA				Sn	Sn	18 19 34.1	-11
	0.3nm,0.3s,baz=348,slow=20,SNR=2.8						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**16.26**	**159**	Pn	P	18 18 02.1	-1.5
	0.1nm,0.3s,baz=338,slow=12,SNR=7.3						
ASAR				Sn	Sn	18 20 55.6	-6.0
	0.1nm,0.3s,baz=350,slow=26,SNR=5.0						
	0.1nm,0.5s						
MKAR	**Makanchi Array**	**68.21**	**328**	P	P	18 25 12.9	0.0
	0.5nm,0.5s,baz=132,slow=6.7,SNR=1.7						
	0.5nm,0.5s						

*IDC **08** 18:17:49.7±0.5, 32°.93N×68°.53E, h0km, mb4.5/25, mbtmp4.5/30, ML4.2/5, MS3.8/38, Error ellipse: s-maj=12.4km s-min=11.5km az=87.0*
*MOS **08** 18:17:54.2±1.3, 33°.02N×68°.68E, h39km, mb5.0/73, MS4.0/14, Error ellipse: s-maj=5.2km s-min=3.3km az=114.9*
*GCMT **08** 18:17:54.7±0.4, 32°.92N±0°.02×68°.67E±0°.03, h25km±1km, MW4.8/68, Moment Tensor Solution. s17,c18; s68,c91; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.25±.13; $M_{\theta\theta}$-1.75±.08; $M_{\phi\phi}$0.50±.09; $M_{r\theta}$0.33±.13; $M_{\theta\phi}$0.08±.05; $M_{\phi r}$1.05±.22; Best double couple: M_o1.90100×10^{16} NP1:$\phi_1$61.00000°, δ60.00000°, λ49.00000°. NP2: $\phi_2$301.00000°, δ49.00000°, λ139.00000°. Principal axes: T 2.0160, Plg55.0000°, Azm278.0000°; N -0.2300, Plg34.0000°, Azm84.0000°; P -1.7860, Plg7.0000°, Azm179.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **08** 18:17:55.1±0.0, 33°.08N×68°.54E, h48km, mb4.7/59, mB4.9/31, ML4.7/1, Ms4.3/40, Ms7 4.2/39*
*NEIC **08** 18:17:55.7±1.4, 32°.98N±0°.07×68°.58E±0°.08, h40km±6km, mb4.8/205, Error ellipse: s-maj=11.1km s-min=9.4km az=141.0*
ISC 08 18:17:55.9±0.4, 32°.83N±0°.03×68°.59E±0°.03, h45km±3km, h45km:pP-P,n758,σ1s42/721, mb4.8/227, MS3.9/61, 35C-14D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.74**	**12**		**Pn**	**18 18 21.1**	**-2.8**
KBL				Sn	**Sn**	**18 18 41.4**	**-3.7**
KBL	**Kabul**	**1.74**	**12**	P	**Pn**	**18 18 22.0**	**-1.9**
	SNR=1080						
KBL				S	**Sn**	**18 18 45.7**	**+0.7**
KBL	**Kabul**	**1.74**	**12**	P	**Pn**	**18 18 21.1**	**-2.8**
KBL						18 18 41.4	
HRA	**Herat**	**5.52**	**288**		**Pn**	**18 19 16.4**	**+0.7**
SIMJ	**Simiganj**	**5.82**	**3**		**Pn**	**18 19 18.8**	**-1.0**
CHGR	**Chuyangaron**	**5.83**	**4**		**Pn**	**18 19 18.9**	**-1.0**
CHGR	**Chuyangaron**	**5.83**	**4**	P	**Pn**	**18 19 18.9**	**-1.0**
GAR	**Garm**	**6.31**	**12**		**Pn**	**18 19 26.0**	**-0.5**
DHRM	**DHARAMSHALA**	**6.53**	**93**	*e*P	**Pn**	**18 19 30.8**	**+1.1**
DHRM				⇑*e*S	Sn	18 20 55.3	+12
DHRM				IAML		18 20 58.8	
	comp=E,839nm,0.9s						
DHRM				IAML		18 21 09.8	
	comp=N,484nm,0.9s						
DRK	**Karamyk**	**7.12**	**20**		**Pn**	**18 19 36.2**	**-1.6**
DRK	**Karamyk**	**7.12**	**20**	P	**Pn**	**18 19 36.2**	**-1.6**
BTK	**Batken**	**7.43**	**13**	Pn	**Pn**	**18 19 41.6**	**-0.2**
BTK	**Batken**	**7.43**	**13**	P	**Pn**	**18 19 41.6**	**-0.2**
SMLA	**Simla**	**7.48**	**101**	*e*P	**Pn**	**18 19 43.2**	**+0.8**
SMLA				⇑*e*S	Sn	18 21 19.3	+13
DDI	**Dehra Dun**	**8.45**	**105**	*e*P	**Pn**	**18 19 59.8**	**+4.0**
DDI				*e*S	Sn	18 21 41.9	+12
DDI				IAML		18 21 55.5	
	comp=E,169nm,0.3s						
DDI				IAML		18 21 55.5	
	comp=N,128nm,0.3s						
KSH	**Kashi**	**8.94**	**40**	P	**Pn**	**18 19 58.2**	**-4.4**
KSH				S	Sn	18 21 31.1	-11
KSH				pmax	pmax		
	comp=N,130nm,0.8s						
KSH				smax	smax		
	comp=N,170nm,0.9s						
KSH				smax	smax		
	comp=N,170nm,0.9s						
IUG	**luzhnay**	**9.37**	**7**	*e*P	Pn	18 20 00.6	-7.8
BHUJ	**Bhuj**	**9.59**	**174**	*e*P	**Pn**	**18 20 10.5**	**-0.9**
BHUJ				⇑*e*S	**Sn**	**18 21 56.3**	**-1.5**
NGCH	**Negor - Chabah**	**9.90**	**223**	P	**Pn**	**18 20 16.5**	**+0.9**
NGCH				S	**Sn**	**18 22 05.2**	**-0.1**
GEYT	**Alibeck**	**9.95**	**304**	Pn	**Pn**	**18 20 15.3**	**-1.0**
GEYT	**Alibeck**	**9.95**	**304**	Pn	**Pn**	**18 20 15.6**	**-0.7**
	comp=N,0.6nm,0.3s,baz=114,slow=13,SNR=15						
GEYT				Sn	**Sn**	**18 22 03.7**	**-2.9**
	comp=N,0.3nm,0.3s,baz=96,slow=29,SNR=1.4						
GEYT				Lg	Lg	18 23 06.6	
	comp=N,0.1nm,0.3s,baz=286,slow=42,SNR=1.1						
GEYT				LR	LR	18 24 40.9	
	comp=N,550nm,20.1s,baz=132,slow=42						
GEYT	**Alibeck**	**9.95**	**304**	P	**Pn**	**18 20 15.3**	**-1.0**
GYA0	**ALIBECK ARRAY**	**9.95**	**304**	P	**Pn**	**18 20 15.6**	**-0.7**
GYA0B	**ALIBECK ARRAY**	**9.95**	**304**		**Pn**	**18 20 14.7**	**-1.6**
BRLS	**Borolday**	**10.23**	**5**	*e*P	Pn	18 20 13.7	-6.4
KK31	**Karatay Array**	**10.36**	**8**	Pn	**Pn**	**18 20 19.1**	**-2.9**
KK31	**Karatay Array**	**10.36**	**8**	P	**Pn**	**18 20 19.1**	**-2.9**
KKAR	**Karatay Array**	**10.36**	**8**	Pn	**Pn**	**18 20 19.3**	**-2.6**
KKAR	**Karatay Array**	**10.36**	**8**	P	**Pn**	**18 20 19.3**	**-2.6**
UCH	**Uchtor**	**10.48**	**25**	P	**Pn**	**18 20 22.0**	**-2.0**
	SNR=50						
EKS2	**Erkin-Say**	**10.63**	**21**	P	**Pn**	**18 20 25.3**	**-0.4**
	SNR=27						
AAK	**Ala-Archa**	**10.84**	**24**	P	**Pn**	**18 20 26.0**	**-2.6**
	SNR=54						
AAK	**Ala-Archa**	**10.84**	**24**	Pn	**Pn**	**18 20 25.7**	**-2.9**
AAK	**Ala-Archa**	**10.84**	**24**	Pn	**Pn**	**18 20 26.6**	**-2.0**
	comp=N,5.0nm,0.3s,baz=211,slow=8.2,SNR=37						
AAK				Sn	**Sn**	**18 22 29.7**	**+1.1**
	comp=N,0.9nm,0.3s,baz=127,slow=20,SNR=4.2						
AAK				Lg	Lg	18 23 38.7	
	baz=116,slow=18						
	comp=N,33nm,0.6s						
AAK	**Ala-Archa**	**10.84**	**24**	P	**Pn**	**18 20 27.2**	**-1.4**
AAK				S	**Sn**	**18 22 27.7**	**-0.9**
AAK	**Ala-Archa**	**10.84**	**24**	*i* P	**Pn**	**18 20 26.8**	**-1.8**
KBK	**Karagaybulak**	**11.02**	**25**	P	**Pn**	**18 20 29.5**	**-1.5**
	SNR=28						
FRU1	**Bishkek**	**11.04**	**24**		**Pn**	**18 20 28.0**	**-3.2**
FRU1	**Bishkek**	**11.04**	**24**	P	**Pn**	**18 20 28.0**	**-3.2**
ULHL	**Ulahol**	**11.18**	**31**	P	**Pn**	**18 20 35.0**	**+1.7**
	SNR=8.2						
CHMS	**Chumysh**	**11.25**	**24**	P	**Pn**	**18 20 31.7**	**-2.3**
	SNR=37						
BOOM	**Boomskoye usch**	**11.26**	**29**	Pn	**Pn**	**18 20 30.5**	**-3.8**
BOOM	**Boomskoye usch**	**11.26**	**29**	P	**Pn**	**18 20 30.5**	**-3.8**
USP	**Ospenovka**	**11.40**	**22**	P	**Pn**	**18 20 33.7**	**-2.4**
	SNR=35						
TKM2	**Tokmak 2**	**11.48**	**27**	P	**Pn**	**18 20 35.0**	**-2.5**
	SNR=36						
TARG	**Taragay, Kyrgy**	**11.51**	**37**		**Pn**	**18 20 33.5**	**-4.5**
TARG	**Taragay, Kyrgy**	**11.51**	**37**	P	**Pn**	**18 20 33.5**	**-4.5**
SGDS	**Sogindy**	**11.61**	**22**	*e*P	**Pn**	**18 20 36.1**	**-2.9**
JASK	**Jask - Hormozg**	**11.65**	**236**	P	**Pn**	**18 20 41.1**	**+1.6**
JASK				S	**Sn**	**18 22 45.7**	**-2.5**
BHPL	**Bhopal**	**12.33**	**139**	*ex*	**Pn**	**18 20 47.5**	**-1.4**
BHPL				*e*S	**Sn**	**18 23 01.9**	**-3.1**
BHPL				IAML		18 23 12.8	
	comp=N,53nm,0.8s						
BHPL				IAML		18 23 14.0	
	comp=E,43nm,1.3s						
WSAR	**Wadi Sarin**	**12.98**	**225**	Pn	**Pn**	**18 20 55.3**	**-2.5**
	comp=E,0.6nm,0.3s,baz=107,slow=7.8,SNR=14						
WSAR				Sn	Sn	18 23 10.2	-11
	comp=E,0.2nm,0.3s,baz=18,slow=9.1,SNR=1.7						
	comp=E,3.9nm,0.4s						
WSAR	**Wadi Sarin**	**12.98**	**225**	P	**Pn**	**18 20 57.3**	**-0.5**
BIDO	**Bidbid**	**13.08**	**227**	P	**Pn**	**18 20 57.6**	**-1.5**
WBK	**Wadi Bani Khal**	**13.27**	**222**	P	**Pn**	**18 20 59.0**	**-2.8**
UOSS	**Minazif**	**13.39**	**237**	Pn	**Pn**	**18 21 02.4**	**-1.0**
JLN	**Jalan Bani Buh**	**13.39**	**220**	P	**Pn**	**18 21 01.0**	**-2.4**
ARXS	**Arharly**	**13.45**	**30**	*e*P	**Pn**	**18 21 00.2**	**-4.0**
SMDO	**Samad**	**13.47**	**226**	P	**Pn**	**18 21 02.7**	**-1.9**
	SNR=6.2						
SMDO				P	**Pn**	**18 21 02.7**	**-1.9**
	SNR=6.2						
HOQ	**Hoqain**	**13.55**	**230**	P	**Pn**	**18 21 05.3**	**-0.3**
HOQ				P	**Pn**	**18 21 05.3**	**-0.3**
SOHO	**SOHO**	**13.69**	**234**	P	**Pn**	**18 21 08.9**	**+1.5**
JMDO	**Jabal Madar**	**13.96**	**224**	P	**Pn**	**18 21 11.6**	**+0.5**
BSY	**Bisya**	**14.23**	**228**	P	**Pn**	**18 21 14.9**	**+0.2**
ARQ	**Araqi**	**14.24**	**231**	P	**Pn**	**18 21 16.6**	**+1.7**
	SNR=5.6						
ARQ				P	**Pn**	**18 21 16.6**	**+1.7**
	SNR=5.6						
MHTO	**MHTO**	**15.12**	**221**	P	**Pn**	**18 21 26.4**	**-0.2**
JRN	**Qarnain Island**	**15.86**	**244**	P	**P**	**18 21 41.4**	**+2.2**
GHWR	**Ruwais**	**16.40**	**241**	P	**P**	**18 21 46.9**	**+1.7**
MZR	**Muzera**	**16.55**	**238**	P	**P**	**18 21 48.5**	**+1.6**
SHMA	**Al-Shehemyia**	**16.86**	**250**	P	**P**	**18 21 50.7**	**+0.5**
	SNR=5.5						
SAKB	**Bahrain**	**17.14**	**251**	P	**P**	**18 21 57.3**	**+3.9**
SLWR	**Sila**	**17.22**	**244**	P	**P**	**18 21 56.1**	**+1.9**
TRNA	**Turayna**	**17.23**	**247**	P	**P**	**18 21 56.4**	**+2.0**
	SNR=5.1						
MAKZ	**Makanchi**	**17.30**	**32**	Pn	**Pn**	**18 21 49.6**	**-4.4**
MAKZ	**Makanchi**	**17.30**	**32**	P	**Pn**	**18 21 49.7**	**-4.4**
MAKZ				pmax	pmax		
	comp=Z,23nm,0.9s						
BRZS	**Berezniki**	**17.40**	**9**	*e*P	**Pn**	**18 21 51.4**	**-3.9**
MK31	**Makanchi Array**	**17.43**	**33**	Pn	**Pn**	**18 21 52.0**	**-3.6**
MK31	**Makanchi Array**	**17.43**	**33**	*de*P	**Pn**	**18 21 54.9**	**-0.8**
MKAR	**Makanchi Array**	**17.43**	**33**	Pn	**Pn**	**18 21 51.8**	**-3.9**
MKAR	**Makanchi Array**	**17.43**	**33**	P	**Pn**	**18 21 53.1**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=211,slow=12,SNR=26						
MKAR				LR	LR	18 29 30.1	
	comp=Z,466nm,20.6s,baz=227,slow=40						
	comp=Z,2.8nm,0.5s						
SMRA	**Abu-Samra**	**17.52**	**247**	P	**P**	**18 21 59.8**	**+2.2**
	SNR=7.7						
ABKAR	**Akbulak array**	**17.64**	**341**		**Pn**	**18 21 55.0**	**-3.2**
ABKAR	**Akbulak array**	**17.64**	**341**		**Pn**	**18 21 55.1**	**-3.1**
GTK	**Tadong**	**18.16**	**102**	*ex*	**Pn**	**18 22 02.0**	**-2.9**
KBD	**Kabd**	**18.28**	**264**	P	**Pn**	**18 22 08.8**	**+2.6**
WMQ	**Urumqi**	**18.53**	**48**	*e*P	**Pn**	**18 22 12.0**	**+2.8**
WMQ				pP	pP	18 22 18.6	-1.3
WMQ				sP	sP	18 22 25.0	-0.9
WMQ				S	**S**	**18 25 37.1**	**-0.5**
WMQ				sS	Sn	18 25 41.4	+6.1
WMQ				pmax	pmax		
	comp=Z,25nm,1.3s						
WMQ				pmax	pmax		
	comp=Z,170nm,3.9s						
WMQ				LR	LR		
	comp=Z,1μm,15.1s						
WMQ				LR	LR		
	comp=Z,770nm,13.7s						
WMQ				LR	LR		
	comp=Z,230nm,18.1s						
DOK	**Doka**	**19.21**	**226**	P	**Pn**	**18 22 20.4**	**+2.9**
KURBB	**Kurchatov Arra**	**19.23**	**19**	P	**P**	**18 22 14.0**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=213,slow=10,SNR=66						
	comp=Z,10.0nm,0.9s						
AKTO	**Aktyubinsk**	**19.25**	**339**	P	**P**	**18 22 15.5**	**-0.9**
	comp=Z,0.8nm,0.3s,baz=171,slow=7.9,SNR=53						
	comp=Z,20nm,0.8s						
KURK	**Kurchatov**	**19.34**	**20**	P	**P**	**18 22 15.3**	**-2.1**
KURK				IAmb	IAmb	18 22 23.2	
	comp=Z,59nm,1.4s						
KURK	**Kurchatov**	**19.34**	**20**	P	**P**	**18 22 15.6**	**-1.7**
KURK				S	**Sn**	**18 25 58.1**	**+3.6**
KURK	**Kurchatov**	**19.34**	**20**	*ce*P	**P**	**18 22 15.2**	**-2.1**
KURK				pmax	pmax		
	comp=Z,17nm,1.0s						
MAK	**Makhachkala**	**19.43**	**307**	*e*P	**P**	**18 22 17.3**	**-1.1**
MAK				*e*S	**S**	**18 25 55.4**	**-0.1**
MAK				pmax	pmax		
	comp=Z,255nm,1.0s						
MAK				MLR	MLR		
	comp=Z,413nm,10.0s						
LSA	**Lhasa**	**19.53**	**93**		**P**	**18 22 20.0**	**-0.1**
LSA	**Lhasa**	**19.53**	**93**	P	**P**	**18 22 20.0**	**-0.1**
LSA				pmax	pmax		
	comp=Z,18nm,0.8s						
WHFO	**Wadi Hawf**	**19.96**	**226**	P	**Pn**	**18 22 25.4**	**-1.1**
WHFO				P	**Pn**	**18 22 25.4**	**-1.1**
BVAR	**Borovoye Array**	**20.22**	**3**	P	**P**	**18 22 25.5**	**-1.5**
	comp=Z,17nm,0.5s,baz=164,slow=7.8,SNR=74						
BVAR				S	**S**	**18 26 09.9**	**-1.4**
	comp=Z,4.9nm,1.0s,baz=175,slow=23,SNR=3.1						
BVAR				LR	LR	18 30 26.2	
	comp=Z,194nm,18.2s,baz=187,slow=38						
	comp=Z,17nm,0.5s						
BRVK	**Borovoye**	**20.25**	**3**	P	**P**	**18 22 25.5**	**-1.8**
BRVK				IAmb	IAmb	18 22 35.8	
	comp=Z,65nm,1.1s						
BRVK	**Borovoye**	**20.25**	**3**	P	**P**	**18 22 26.2**	**-1.1**
BRVK	**Borovoye**	**20.25**	**3**	*ce*P	**P**	**18 22 26.0**	**-1.3**
BRVK				pmax	pmax		
	comp=Z,36nm,1.0s						
GNI	**Garni**	**20.48**	**298**		**P**	**18 22 29.9**	**-0.2**
GNI				IAmb	IAmb	18 22 39.1	
	comp=Z,55nm,0.9s						
GNI	**Garni**	**20.48**	**298**	P	Pn	18 22 32.2	-0.4
	comp=Z,24nm,0.9s,baz=13,slow=6.1,SNR=12						
GNI	**Garni**	**20.48**	**298**	P	Pn	18 22 33.3	+0.7
GNI	**Garni**	**20.48**	**298**	*i* P	**P**	**18 22 31.1**	**+1.0**
GNI				pmax	pmax		
	comp=Z,52nm,1.0s						
GROC	**Groznyy**	**20.67**	**307**	*e*P	**P**	**18 22 32.8**	**+0.9**
GROC				*e**PP	**pP**	**18 22 43.1**	**-0.2**
GROC				*e*S	**S**	**18 26 21.7**	**+1.4**
GROC				pmax	pmax		
	comp=Z,126nm,1.9s						
ABTO	**Aybut**	**20.68**	**226**	P	**P**	**18 22 31.7**	**-0.6**
TRLG	**Trialeti**	**21.31**	**301**	P	**P**	**18 22 42.6**	**+3.6**
GEVA	**Gevas**	**21.45**	**292**	P	**P**	**18 22 38.8**	**-1.7**
SHL	**Shillong**	**21.55**	**104**	P	**P**	**18 22 41.1**	**-0.7**
SHL	**Shillong**	**21.55**	**104**	P	**P**	**18 22 42.7**	**+0.9**
	SNR=25						
SHL	**Shillong**	**21.55**	**104**	P	**P**	**18 22 41.1**	**-0.7**
KARS	**Kars**	**21.83**	**298**	P	**P**	**18 22 43.8**	**-0.8**
KARS	**Kars**	**21.83**	**298**	P	**P**	**18 22 43.8**	**-0.8**
KARS				pmax	pmax		
	comp=Z,179nm,1.3s						
GOMU	**GeErMu**	**21.84**	**74**	P	**P**	**18 22 45.9**	**+0.9**
GOMU				pmax	pmax		
	comp=Z,36nm,0.9s						
GOMU				LR	LR		
	comp=Z,930nm,16.1s						
GOMU				LR	LR		
	comp=Z,300nm,12.4s						
GOMU				LR	LR		
	comp=Z,560nm,13.1s						
ONI	**Oni**	**22.08**	**303**	P	**P**	**18 22 46.7**	**-0.4**
ONI	**Oni**	**22.08**	**303**	P	**P**	**18 22 46.7**	**-0.4**
ONI				pmax	pmax		
	comp=Z,25nm,1.0s						
GURO	**Guroymak-BITLI**	**22.28**	**292**	P	**P**	**18 22 48.8**	**-0.6**
RAYN	**Ar Rayn**	**22.33**	**251**	P	**P**	**18 22 49.7**	**-0.3**
RAYN				IAmb	IAmb	18 22 54.5	
	comp=Z,44nm,0.9s						
RAYN	**Ar Rayn**	**22.33**	**251**	P	**P**	**18 22 50.3**	**+0.3**
RAYN	**Ar Rayn**	**22.33**	**251**	P	**P**	**18 22 49.7**	**-0.3**
RAYN				pmax	pmax		
	comp=Z,44nm,1.0s						
ZIRO	**ZIRO**	**22.44**	**97**	*e*P	**P**	**18 22 53.2**	**+1.9**
KBZ	**Khabaz**	**22.83**	**306**	P	**P**	**18 22 55.2**	**+0.3**
	comp=Z,6.8nm,0.9s,baz=153,slow=7.4,SNR=12						
KBZ				LR	LR	18 34 07.2	
	comp=Z,219nm,19.3s,baz=102,slow=43						

SOC *e* 18 23 48.3
SOC *eS* **S** **18 27 29.9 -6.1**
SOC *eSS* **SnSn** **18 28 27.4 0.0**
SOC MLR MLR
comp=Z,108nm,14.0s
ERBR Yeremizino-Bor 25.13 309 *eP* **P** **18 23 17.3 +0.7**
ERBR pmax pmax
comp=Z,122nm,1.0s
ARPR Arapgir-MALATY 25.20 293 P **P** **18 23 16.4 -1.1**
ARPR lAmb lAmb 18 23 25.6
comp=Z,30nm,1.2s
GTA Gaotai 25.97 66 ⇑P **P** **18 23 26.3 +1.8**
GTA pP pP 18 23 32.2 -4.8
GTA pmax pmax
comp=Z,17nm,1.1s
GTA LR LR
comp=Z,300nm,14.3s
GTA LR LR
comp=Z,190nm,11.6s
GTA LR LR
comp=Z,160nm,11.2s
GAZ Gaziantep 26.00 288 P **P** **18 23 23.4 -1.3**
GAZ lAmb lAmb 18 23 30.6
comp=Z,56nm,1.5s
VRH Novokhopyorsk 26.88 321 *eP* **P** **18 23 34.5 +2.1**
VRH pmax pmax
comp=Z,12nm,1.5s
ANN Anapa 26.89 305 *eP* **P** **18 23 35.5 +3.0**
ANN *e*PP **sP** **18 23 49.7 -1.0**
ANN *eS* **S** **18 28 12.1 +6.0**
ANN pmax pmax
comp=Z,39nm,1.0s
ANN MLR MLR
comp=Z,170nm,11.0s
ANN MLR MLR
comp=N,151nm,13.0s
BNN Bunyan 27.12 292 P **P** **18 23 32.9 -2.0**
TNCH TengChong 27.25 99⇑ *eP* **P** **18 23 38.0 +1.8**
TNCH S **S** **18 28 12.0 -0.6**
TNCH SS **SnSn** **18 29 30.0 +6.5**
TNCH pmax pmax
comp=N,25nm,0.9s
TNCH pmax pmax
comp=N,87nm,4.5s
TNCH LR LR
comp=N,190nm,14.4s
TNCH LR LR
comp=N,150nm,11.1s
TNCH LR LR
comp=N,170nm,13.3s
BALJ Balqa 27.76 277 P **P** **18 23 40.2 -0.2**
PALK Pallekele 27.81 154 P **P** **18 23 42.4 +1.3**
PALK lAmb lAmb 18 23 45.2
comp=Z,19nm,0.9s
PALK Pallekele 27.81 154 LR LR 18 34 43.1
comp=Z,163nm,20.3s,baz=71,slow=36
PALK Pallekele 27.81 154 P **P** **18 23 42.4 +1.3**
PALK pmax pmax
comp=Z,19nm,0.9s
GHAJ Ghor Haditha 27.97 276 P **P** **18 23 41.1 -1.2**
GHAJ lAmb lAmb 18 24 18.0
comp=Z,32nm,1.2s
VSR Storozhevoye 28.27 319 *eP* **P** **18 23 44.0 -0.8**
VSR pmax pmax
comp=Z,10.0nm,1.4s
VORR Voronezh 28.47 320 *eP* **P** **18 23 46.2 -0.4**
VORR pmax pmax
comp=Z,40nm,0.4s
KIRV Kirov 28.81 339 LR LR 18 36 22.8
comp=Z,109nm,18.7s,baz=152,slow=39
KIRV Kirov 28.81 339 *i* P **P** **18 23 50.1 +0.6**
EIL Elat 28.86 273 LR LR 18 37 09.2
comp=Z,174nm,19.8s,baz=67,slow=40
BR131 Keskin Array S 28.88 294 P **P** **18 23 49.6 -0.8**
BR131 Keskin Array S 28.88 294 P **P** **18 23 49.7 -0.8**
BR131 pmax pmax
comp=Z,10.0nm,1.1s
BRTR Keskin Array B 28.88 294 P **P** **18 23 49.6 -0.8**
BRTR Keskin Array B 28.88 294 P **P** **18 23 50.4 -0.2**
comp=Z,5.2nm,1.0s,baz=117,slow=8.2,SNR=12
comp=Z,5.2nm,1.0s
BRTR Keskin Array B 28.88 294 *i* P **P** **18 23 54.0 +3.5**
BRTR pmax pmax
comp=Z,7.0nm,1.1s
ILGA Ilgaz 28.91 297 P **P** **18 23 50.6 -0.3**
LPSR Galich'ya Gora 29.09 322 *eP* **P** **18 23 52.8 +0.7**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
LZH Lanzhou 29.15 74 *eP* **P** **18 23 54.2 +1.2**
LZH sP sP 18 24 09.8 -1.6
LZH pmax pmax
comp=Z,22nm,1.3s
LZH LR LR
comp=Z,320nm,14.4s
LZH LR LR
comp=Z,260nm,14.1s
LZH LR LR
comp=Z,290nm,14.4s
CSS Mathiatis 29.26 284 P **P** **18 23 54.5 +0.7**
CSS lAmb lAmb 18 24 04.1
comp=Z,41nm,1.5s
PZH PanZhiHua 29.41 94 P **P** **18 23 56.7 +1.4**
PZH S **S** **18 28 42.0 -4.3**
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,70nm,6.1s
PZH LR LR
comp=Z,160nm,17.8s
PZH LR LR
comp=Z,140nm,17.1s
PZH LR LR
comp=Z,130nm,16.2s
BR231 Keskin MP Arra 29.55 294 P **P** **18 23 54.8 -1.6**
MOY Mondy 30.13 42 *eP* **P** **18 24 02.5 +1.1**
KMI Kunming 30.74 96 ⇑P **P** **18 24 08.6 +1.3**
KMI pmax pmax
comp=Z,24nm,1.1s
KMI LR LR
comp=Z,160nm,18.1s
KMI LR LR
comp=Z,150nm,14.2s
KMI LR LR
comp=Z,180nm,10.9s
CM31 Chiang Mai Arr 30.75 110 P **P** **18 24 06.6 -0.4**
CM31 lAmb lAmb 18 24 09.8
comp=Z,18nm,1.1s
CMAR Chiang Mai Arr 30.75 110 P **P** **18 24 07.1 0.0**
CMAR Chiang Mai Arr 30.75 110 P **P** **18 24 08.3 +1.2**
comp=Z,8.5nm,0.9s,baz=297,slow=8.9,SNR=50
CMAR PcP **PcP** **18 27 05.2 +1.3**
comp=Z,0.6nm,0.4s,baz=291,slow=5.3,SNR=1.9
CMAR LR LR 18 38 35.6
comp=Z,49nm,19.3s,baz=290,slow=40
comp=Z,8.5nm,0.9s
CMAR Chiang Mai Arr 30.75 110 *i* P **P** **18 24 08.6 +1.5**
CMAR pmax pmax
comp=Z,7.0nm,0.8s
MDUB Mudurnu 30.78 295 P **P** **18 24 06.6 -0.7**
ZAK Zakamensk 30.93 45 *eP* **P** **18 24 08.8 +0.2**
ZAK pmax pmax
comp=Z,4.0nm,1.2s
CRAI Chiangrai 30.96 106 P **P** **18 24 08.9 -0.1**
BORA Eskisehir 31.33 294 P **P** **18 24 12.0 -0.2**
BORA lAmb lAmb 18 24 37.9
comp=Z,22nm,1.8s
OBN Obninsk 31.60 324 P **P** **18 24 13.1 -1.1**
OBN Obninsk 31.60 324 LR LR 18 39 55.0
comp=Z,242nm,19.5s,baz=162,slow=42
OBN Obninsk 31.60 324 *eP* **P** **18 24 15.8 +1.7**
OBN *e* 18 25 18.1
OBN pmax pmax
comp=Z,7.0nm,1.0s
OBN MLR MLR
comp=Z,299nm,16.0s
PHRA Phrae 31.74 109 P **P** **18 24 16.4 +0.6**
SONM Songino Array 32.12 51 P **P** **18 24 18.3 -0.7**
SONM Songino Array 32.12 51 P **P** **18 24 19.8 +0.7**
comp=Z,3.1nm,0.9s,baz=256,slow=10,SNR=22
SONM PcP **PcP** **18 27 09.4 +2.0**
comp=Z,0.4nm,0.6s,baz=243,slow=4.7,SNR=1.9
SONM LR LR 18 37 57.0
comp=Z,261nm,21.6s,baz=246,slow=38
comp=Z,3.1nm,0.9s
ULN Ulaanbaatar 32.55 51 *ce* P **P** **18 24 23.1 +0.2**
ULN pmax pmax
comp=Z,7.0nm,1.7s
SLVN Son La 33.31 101 P **P** **18 24 29.2 -0.5**
SLVN lAmb lAmb 18 24 32.8
comp=Z,20nm,1.0s
CFR Carcaliu 33.43 304 ⇑P **P** **18 24 29.9 -0.5**
CFR Carcaliu 33.43 304 P **P** **18 24 29.8 -0.5**
XAN Xi'an 33.52 77 ⇓P **P** **18 24 32.1 +0.7**
XAN pmax pmax
comp=Z,13nm,0.9s
XAN LR LR
comp=Z,250nm,13.1s
XAN LR LR
comp=Z,470nm,14.4s
XAN LR LR
comp=Z,360nm,15.1s
GYA Guiyang 33.56 91⇓ *i* P **P** **18 24 33.0 +1.2**
GYA pmax pmax
comp=Z,27nm,0.7s
GYA LR LR
comp=Z,320nm,14.0s
SORM Soroca 33.78 309 ⇓P **P** **18 24 33.0 -0.4**
SORM Soroca 33.78 309 P **P** **18 24 33.0 -0.4**
KLMR Klimovskoe 33.82 335 *eP* **P** **18 24 31.7 -1.8**
KLMR *e* 18 25 44.0
KLMR pmax pmax
comp=Z,12nm,1.5s
BTO Baotou 33.85 65 *eP* **P** **18 24 33.9 -0.3**
BTO pmax pmax
comp=Z,41nm,1.3s
BTO pmax pmax
comp=Z,270nm,4.4s
BTO LR LR
comp=Z,470nm,12.6s
BTO LR LR
comp=Z,410nm,15.1s
BTO LR LR
comp=Z,400nm,11.6s
KIEV Kiev 33.87 314 ⇑P **P** **18 24 34.4 +0.2**
KIEV Kiev 33.87 314 P **P** **18 24 33.2 -0.9**
KIEV Kiev 33.87 314 P **P** **18 24 34.3 +0.2**
KIEV Kiev 33.87 314 P **P** **18 24 34.0 -0.1**
KIEV pP **pP** **18 24 47.3 +0.6**
VRI Vrincioaia 34.50 305 ⇑P **P** **18 24 40.4 +0.7**
VRI Vrincioaia 34.50 305 P **P** **18 24 40.4 +0.7**
PLOR Plostina 34.55 305 ⇑P **P** **18 24 41.7 +1.5**
PLOR Plostina 34.55 305 P **P** **18 24 41.6 +1.5**
TESR Tescani 34.64 306 ⇑P **P** **18 24 40.7 -0.1**
COVR Voineasa-Covas 34.86 304 ⇑P **P** **18 24 44.3 +1.5**
ELND Elena 34.86 299 ⇑P **P** **18 24 43.4 +0.5**
MLR Muntele Rosu 35.00 304 ⇑P **P** **18 24 45.6 +1.5**
MLR Muntele Rosu 35.00 304 P **P** **18 24 43.6 -0.6**
MLR Muntele Rosu 35.00 304 P **P** **18 24 45.6 +1.5**
TURR Turia 35.02 305 ⇑P **P** **18 24 45.5 +1.4**
HHC Hu-ho-hao-te 35.02 64 *eP* **P** **18 24 44.5 +0.2**
HHC PP **PP** **18 26 04.5 +0.2**
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,120nm,4.9s
HHC LR LR
comp=Z,130nm,10.0s
HHC LR LR
comp=Z,180nm,12.2s
HHC LR LR
comp=Z,150nm,12.7s
RDO Rodhopi 35.09 296 P **P** **18 24 44.5 -0.3**
RDO lAmb lAmb 18 24 49.1
comp=Z,17nm,1.2s
HORU Horodok 35.25 310 P **P** **18 24 45.7 -0.4**
DOPR Dopca 35.44 305 ⇑P **P** **18 24 48.8 +1.1**
BURAR Bucovina Array 35.77 307 ⇓P **P** **18 24 50.9 +0.3**
BURAR Bucovina Array 35.77 307 P **P** **18 24 50.0 -0.7**
BURAR lAmb lAmb 18 24 56.0
comp=Z,6.7nm,0.8s
BURAR Bucovina Array 35.77 307 P **P** **18 24 50.9 +0.3**
BUR08 Bucovina Ar. S 35.78 307 P **P** **18 24 49.7 -1.1**
MNK Minsk 35.85 319 *i* P **P** **18 24 52.4 +1.3**
comp=E,8.0nm,0.9s,baz=110
MNK *i* P **P** **18 24 52.4 +1.3**
comp=N,14nm,0.8s,baz=110
MNK *i* P **P** **18 24 52.4 +1.3**
comp=Z,11nm,0.8s,baz=110
MNK *i* pP **pP** **18 25 05.5 +1.6**
baz=110
MNK *i* PP **PP** **18 26 13.7 +0.7**
baz=110
MNK *i* S **S** **18 30 26.9 +1.3**
baz=110
MNK *i* sS **sS** **18 30 49.5 +2.7**
baz=110
MNK *i* SS **SS** **18 33 05.6 +2.8**
baz=110
MNK *i* LQ LQ 18 37 28.9
baz=110
MNK *i* LR LR 18 39 38.8
baz=110
MNK *i* LRM MLR 18 41 26.1
comp=E,44nm,14.6s,baz=110
MNK *i* LRM MLR 18 41 26.7
comp=N,214nm,15.6s,baz=110
MNK *i* LRM MLR 18 42 09.9
comp=Z,184nm,16.6s,baz=110
MNK Minsk 35.85 319 *i* P **P** **18 24 52.4 +1.3**
MNK *i* *PP **pP** **18 25 05.4 +1.6**
MNK *i* 18 26 13.6
MNK *i* 18 27 24.9
MNK *i* S **S** **18 30 26.8 +1.3**
MNK *i* *SS **sS** **18 30 49.5 +2.7**
MNK *i* 18 35 05.9
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=N,14nm,0.9s
MNK pmax pmax
comp=Z,11nm,0.8s
MNK MLR MLR
comp=E,44nm,15.0s
MNK MLR MLR
comp=N,214nm,16.0s
MNK MLR MLR
comp=Z,184nm,17.0s
KSV Kosov 35.98 309 P **P** **18 24 50.5 -1.8**
LYN LuoYang 36.33 75 *eP* **P** **18 24 57.4 +1.9**
LYN pmax pmax
comp=Z,17nm,0.5s
LYN pmax pmax
comp=Z,160nm,4.3s
MORS Morshin 36.87 310 P **P** **18 25 00.6 +0.7**
LVV L'vov 36.90 311 *eP* **P** **18 24 59.9 -0.3**
MARR Marisel-Cluj 37.08 305 ⇑P **P** **18 25 03.1 +1.2**
BLKB Belogradchik 37.22 300 ⇑P **P** **18 25 02.7 -0.3**
TRSU Trosnyk 37.34 308 P **P** **18 25 04.9 +1.0**
UBPT Khong Chiam 37.69 109 P **P** **18 25 07.4 +0.2**
UBPT lAmb lAmb 18 25 09.0
comp=Z,15nm,0.8s
SURR Surduc 37.70 304 ⇓P **P** **18 25 07.7 +0.7**
HNS HongShan 37.71 70 ⇑P **P** **18 25 09.3 +2.2**
HNS sP **sP** **18 25 27.7 +2.0**
HNS pmax pmax
comp=Z,8.0nm,1.2s
HNS LR LR
comp=Z,210nm,15.1s
HNS LR LR
comp=Z,190nm,17.5s
KWP Kalwaria Pacla 37.72 310 *eP* **P** **18 25 08.6 +1.4**
KWP Kalwaria Pacla 37.72 310 P **P** **18 25 06.7 -0.4**
KWP Kalwaria Pacla 37.72 310 P **P** **18 25 06.7 -0.4**
KWP pmax pmax
comp=Z,42nm,0.9s
KOLS Kolonicke sedl 37.90 309 *eP* **P** **18 25 09.8 +1.2**
KOLS *e* 18 25 13.0
KOLS Kolonicke sedl 37.90 309 *eP* **P** **18 25 09.9 +1.3**
KOLS pmax pmax
comp=Z,21nm,0.9s
VSU Vasula 37.94 325 *ce* P **P** **18 25 08.1 -0.7**
VSU pmax pmax
comp=Z,10.0nm,0.6s
BZS Buzias 38.04 304 ⇑P **P** **18 25 10.9 +1.0**
BZS Buzias 38.04 304 P **P** **18 25 10.8 +1.0**
JOF Joensuu 38.15 333 *eP* **P** **18 25 08.8 -1.7**
XLT XiLinHaoTe 38.36 59 *eP* **P** **18 25 13.6 +0.9**
XLT pP pP 18 25 21.2 -4.3
XLT pmax pmax
comp=Z,8.0nm,0.6s
XLT pmax pmax
comp=Z,160nm,4.6s
XLT LR LR
comp=Z,22nm,12.4s
XLT LR LR
comp=Z,140nm,12.3s
XLT LR LR
comp=Z,250nm,15.5s
CRVS Cervenica-Dubn 38.43 309 *eP* **P** **18 25 13.6 +0.5**
CRVS *e* 18 25 17.6
CRVS Cervenica-Dubn 38.43 309 *eP* **P** **18 25 13.6 +0.5**
CRVS pmax pmax
comp=Z,33nm,0.9s
STHS Stebnicka Huta 38.63 310 *eP* **P** **18 25 17.1 +2.3**
STHS *e* 18 25 23.8
STHS Stebnicka Huta 38.63 310 *eP* **P** **18 25 17.1 +2.3**
STHS *e* 18 25 23.8
NIE Niedzica 39.24 310 *eP* **P** **18 25 21.8 +1.8**
PSZ Piszkesteto 39.37 307 ⇑P **P** **18 25 22.3 +1.2**
PSZ Piszkesteto 39.37 307 P **P** **18 25 20.1 -0.9**
PSZ lAmb lAmb 18 25 26.9
comp=Z,16nm,0.9s
PSZ Piszkesteto 39.37 307 P **P** **18 25 22.2 +1.2**
MTSE Matsula 39.45 325 *eP* **P** **18 25 21.7 +0.3**
BOD Bodaibo 39.45 37 *eP* **P** **18 25 20.9 -0.6**
BOD pmax pmax
comp=Z,8.0nm,2.0s
FINES FINESS Array B 39.52 329 P **P** **18 25 21.6 -0.3**
comp=Z,0.7nm,0.4s,baz=115,slow=13,SNR=8.2
FINES PcP **PcP** **18 27 27.4 -1.4**
comp=Z,1.4nm,0.7s,baz=131,slow=5.7,SNR=2.4
FINES LR LR 18 43 14.9
comp=Z,150nm,18.7s,baz=122,slow=39
comp=Z,0.7nm,0.4s
FINES FINESS Array B 39.52 329 *i* P **P** **18 25 21.8 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.4s
OJC Ojcow 39.66 311 *eP* **P** **18 25 23.6 +0.3**
OJC Ojcow 39.66 311 P **P** **18 25 22.6 -0.8**
OJC lAmb lAmb 18 25 28.2
comp=Z,16nm,1.1s
OJC Ojcow 39.66 311 P **P** **18 25 22.6 -0.8**
OJC pmax pmax
comp=Z,16nm,1.1s
MEF Metsahovi 39.74 327 *eP* **P** **18 25 24.1 +0.3**
LANS Liptovska Anna 39.76 309 *eP* **P** **18 25 25.5 +1.3**
LANS Liptovska Anna 39.76 309 *eP* **P** **18 25 25.5 +1.3**
LANS pmax pmax
comp=Z,4.0nm,0.8s
TIA Tai'an 39.80 71 ⇓P **P** **18 25 26.1 +1.4**
TIA pmax pmax
comp=Z,8.0nm,1.3s
VYHS Vyhne 40.12 308 *eP* **P** **18 25 27.9 +0.7**
VYHS Vyhne 40.12 308 *eP* **P** **18 25 27.9 +0.7**
VYHS pmax pmax
comp=Z,11nm,1.5s
MORH Mrgy, Hungar 40.14 304 ⇑P **P** **18 25 28.1 +0.7**
APA Apatity 40.33 340⇓ *i* P **P** **18 25 31.1 +2.5**
APA pmax pmax
comp=Z,3.0nm,0.8s
APA MLR MLR
comp=Z,400nm,13.0s
KEF Keuruu 40.35 330 *eP* **P** **18 25 28.0 -0.9**
KULM Kulim 40.54 126 P **P** **18 25 31.1 +0.1**
JAVC Velka Javorina 40.91 308 *eP* **P** **18 25 33.3 -0.5**
MORC Moravsky Berou 41.06 310 ⇑P **P** **18 25 34.9 -0.2**
MORC Moravsky Berou 41.06 310 lAmb lAmb 18 25 40.1
comp=Z,16nm,0.8s
MORC Moravsky Berou 41.06 310 *eP* **P** **18 25 34.9 -0.2**
MORC Moravsky Berou 41.06 310 P **P** **18 25 34.8 -0.2**
MODS Modra-Piesok 41.15 308 *eP* **P** **18 25 35.9 +0.2**
MODS Modra-Piesok 41.15 308 *eP* **P** **18 25 35.9 +0.2**
MODS pmax pmax
comp=Z,25nm,1.2s
RAF Rauma 41.25 327 *eP* **P** **18 25 36.8 +0.5**
ZST Bratislava 41.26 307 *eP* **P** **18 25 37.1 +0.5**
ZST Bratislava 41.26 307 *eP* **P** **18 25 37.1 +0.5**
ZST pmax pmax
comp=Z,42nm,1.1s
GSI Gunungsitoli 41.54 133 P **P** **18 25 40.4 +1.2**
comp=Z,18nm,1.0s
VAF Ylistaro 41.65 330 *eP* **P** **18 25 40.0 +0.5**
VRAC Vranov 41.65 309 *eP* **P** **18 25 39.6 -0.2**
KRUC Moravsky 41.77 309 *eP* **P** **18 25 40.1 -0.6**
RONA Rosalia, Austr 41.78 307 *i* P **P** **18 25 40.6 -0.3**
comp=Z,4.8nm,1.1s
KOGS Kog 41.80 305 *eP* **P** **18 25 41.1 +0.1**
DPC Dobruska-Polom 41.89 311 *eP* **P** **18 25 42.3 +0.5**
DPC *ex* x 18 25 46.3
DPC Dobruska-Polom 41.89 311 *eP* **P** **18 25 42.3 +0.5**
TIP Timpagrande 41.94 294 P **P** **18 25 43.0 +0.6**
CONA Conrad Observa 42.08 307 *i* P **P** **18 25 43.2 -0.3**
comp=Z,4.9nm,1.4s
CHVC Chvalec 42.08 311 *eP* **P** **18 25 43.9 +0.6**
CHVC AMS AMS 18 46 00.0
comp=Z,200nm,18.5s
CHVC Chvalec 42.08 311 *eP* **P** **18 25 43.9 +0.6**
CHVC MLR MLR
comp=Z,200nm,18.5s
NJ2 Nanjing 42.09 77 *eP* **P** **18 25 43.2 -0.4**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
UPC Upice 42.10 311 *eP* **P** **18 25 44.4 +0.9**
UPC *ex* x 18 25 48.2
UPC Upice 42.10 311 *eP* **P** **18 25 44.4 +0.9**
ARSA Arzberg 42.30 306 *i* P **P** **18 25 45.5 +0.4**
comp=Z,7.0nm,1.0s
GROS Grobnik 42.32 305 *i* P **P** **18 25 45.2 -0.2**
CRES Cresnjev 42.36 304 *eP* **P** **18 25 45.7 +0.1**
CUC Castrocucco 42.55 295 P **P** **18 25 46.9 -0.4**
CUC lAmb lAmb 18 25 52.4
comp=Z,27nm,0.9s
SOKA Soboth 42.64 305 *i* P **P** **18 25 48.3 +0.3**
comp=Z,9.0nm,1.1s,SNR=9.6
LODK Lodwar 42.70 234 P **P** **18 25 49.4 +0.7**
UPP Uppsala 42.83 325 *eP* **P** **18 25 48.7 -0.4**
OBKA Obir 42.98 305 *i* P **P** **18 25 51.4 +0.7**
comp=Z,7.8nm,1.1s
PRU Pruhonice 43.02 310 *eP* **P** **18 25 51.8 +0.9**
PRU *ex* x 18 25 55.3
PRU Pruhonice 43.02 310 *eP* **P** **18 25 51.8 +0.9**
CKRC Cesky Krumlov 43.13 308 *eP* **P** **18 25 52.0 +0.1**
CKRC Cesky Krumlov 43.13 308 *eP* **P** **18 25 52.0 +0.1**
MOA Molln 43.15 307 *i* P **P** **18 25 51.8 -0.2**
comp=Z,23nm,1.1s,SNR=9.6
ZVC Zvikov 43.22 309 *eP* **P** **18 25 52.5 -0.1**
BRG Berggiesshubel 43.44 311 *i* P **P** **18 25 54.9 +0.6**
BRG Amp 18 25 55.7
comp=Z,6.2nm,0.8s
BRG Berggiesshubel 43.44 311 P **P** **18 25 58.8 +4.5**
BRG Amp 18 25 59.6
comp=Z,17nm,0.9s
BRG Berggiesshubel 43.44 311 *i* P **P** **18 25 54.9 +0.6**
BRG 18 27 43.1
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG MLR MLR
comp=E,125nm,19.6s
BRG MLR MLR
comp=Z,202nm,20.3s
BRG MLR MLR
comp=N,94nm,20.6s
KEV Kevo 43.52 340 P **P** **18 25 54.1 -0.6**
KEV pP **pP** **18 26 07.8 +0.2**
GEC2 GERESS Array S 43.53 308 lAmb lAmb 18 25 59.7
comp=Z,15nm,1.0s
GERES GERESS Array B 43.53 308 P **P** **18 25 53.8 -1.4**
GERES GERESS Array B 43.53 308 P **P** **18 25 54.4 -0.8**
comp=Z,12nm,1.0s,baz=77,slow=9.2,SNR=16
comp=Z,12nm,1.0s
CADS Cadrg 43.55 305 *eP* **P** **18 25 55.0 -0.3**
MYKA Terra Mystica 43.60 305 *i* P **P** **18 25 56.0 +0.3**
comp=Z,3.7nm,0.8s
KHC Kasperske Hory 43.62 309 *eP* **P** **18 25 55.3 -0.5**
KHC *ex* x 18 25 59.6
KHC Kasperske Hory 43.62 309 *ce* P **P** **18 25 55.6 -0.2**
KHC pmax pmax
comp=Z,18nm,1.0s
SABO M.te Sabotino 43.65 304 lAmb lAmb 18 26 00.8
comp=Z,41nm,1.3s
PRED Cave del Predi 43.66 305 P **P** **18 25 54.0 -2.2**
INTR Introdacqua 43.74 298 P **P** **18 25 55.8 -1.2**
KBA Koelnbreinsper 43.79 306 *i* P **P** **18 25 57.4 +0.1**
comp=Z,16nm,1.2s
ARCES ARCESS Array B 43.83 340 P **P** **18 25 55.4 -1.8**

comp=Z,3.9nm,0.7s,baz=126,slow=7.0,SNR=23
ARCES LR LR 18 43 43.0
comp=Z,92nm,18.5s,baz=127,slow=36
comp=Z,3.9nm,0.7s
VAE Valguarnera 44.03 292 LR LR 18 48 11.6
comp=Z,112nm,18.4s,baz=134,slow=41
DEL Delary 44.05 319 *eP* **P 18 25 59.8 +0.7**
CLL Collm 44.05 312 *i* P **P 18 25 59.0 -0.2**
comp=Z,6.0nm,0.8s
CLL *i* x x 18 26 03.2
comp=Z,11nm,1.1s
CLL *i* x x 18 26 05.1
CLL *e*PP **PP 18 27 43.0 +0.8**
CLL *ex* x 18 27 47.0
CLL *ep*PP 18 27 51.0
CLL *e*SS SS 18 35 36.0 -10
CLL Collm 44.05 312 *i* P **P 18 25 59.0 -0.2**
CLL pmax pmax
comp=Z,6.0nm,0.8s
FDMO Fiordimonte 44.23 300 IAmb IAmb 18 26 10.1
comp=Z,10nm,0.8s
LESA Schwarzleotal 44.23 306 *i* P **P 18 26 00.7 -0.1**
comp=Z,9.2nm,1.1s
ABTA Abfaltersbach 44.37 305 *i* P **P 18 26 01.6 -0.3**
comp=Z,8.1nm,1.3s
HFS Hagfors 44.81 324 P **P 18 26 04.0 -1.1**
comp=Z,2.9nm,0.6s,baz=120,slow=8.5,SNR=13
HFS LR LR 18 47 42.4
comp=Z,270nm,19.0s,baz=102,slow=40
comp=Z,2.9nm,0.6s
WTTA Wattenberg 44.95 306 *i* P **P 18 26 05.7 -0.9**
comp=Z,9.6nm,1.3s
WATA Walderalm 44.98 306 *i* P **P 18 26 06.7 -0.1**
comp=Z,10nm,1.1s
CTI Castel Tesino 45.00 304 P **P 18 26 05.8 -1.2**
CTI IAmb IAmb 18 26 11.6
comp=Z,15nm,0.9s
CTI Castel Tesino 45.00 304 P **P 18 26 05.8 -1.2**
CTI pmax pmax
comp=Z,15nm,0.9s
PDSI Padang 45.06 132 P **P 18 26 07.6 0.0**
comp=Z,22nm,0.8s
GRFO Grafenberg 45.16 310 P **P 18 26 07.2 -0.9**
GRFO Grafenberg 45.16 310 P **P 18 26 07.2 -0.9**
GRFO pmax pmax
comp=Z,34nm,0.9s
SQTA Sankt Quirin 45.24 306 *i* P **P 18 26 07.9 -1.0**
comp=Z,11nm,1.6s
MYKOM Kota Tinggi 45.26 126 P **P 18 26 09.7 +0.5**
MYKOM IAmb IAmb 18 26 11.3
comp=Z,15nm,0.9s
MOTA Moosalm 45.30 306 *i* P **P 18 26 08.4 -1.0**
comp=Z,9.0nm,1.0s
KIBK Kibwezi 45.37 226 P **P 18 26 11.0 +0.9**
RETA Reutte 45.53 306 *eP* **P 18 26 10.6 -0.5**
comp=Z,3.5nm,0.7s
FETA Feichten 45.58 306 *i* P **P 18 26 10.6 -1.0**
comp=Z,8.1nm,1.3s
NC405 NORSAR Array S 45.96 326 P **P 18 26 12.9 -1.3**
NORES NORESS Array B 45.98 325 P **P 18 26 13.4 -0.9**
ZEA Zeya 46.03 45 *eP* **P 18 26 16.0 +1.1**
ZEA MLR MLR
comp=Z,100nm,13.0s
HEH HeiHe 46.09 50 *eP* **P 18 26 15.8 +0.5**
HEH pmax pmax
comp=Z,6.0nm,1.2s
HEH LR LR
comp=Z,210nm,12.2s
HEH LR LR
comp=Z,270nm,13.3s
HEH LR LR
comp=Z,310nm,13.1s
DAVA Damuels 46.14 306 *i* P **P 18 26 15.2 -0.8**
comp=Z,15nm,1.0s,SNR=6.7
NC303 NORSAR Array S 46.15 326 P **P 18 26 14.4 -1.3**
NC303 IAmb IAmb 18 26 39.3
comp=Z,18nm,1.4s
NB2 NORSAR Subarra 46.19 325 P **P 18 26 14.7 -1.4**
comp=Z,5.2nm,0.8s,baz=104,slow=7.9
NOA NORSAR Array B 46.19 325 P **P 18 26 15.0 -1.1**
comp=Z,1.8nm,0.7s,baz=103,slow=7.7,SNR=9.5
NOA LR LR 18 48 35.6
comp=Z,289nm,18.4s,baz=105,slow=40
comp=Z,1.8nm,0.7s
NOA NORSAR Array B 46.19 325 P **P 18 26 15.0 -1.1**
BFO Black Forest 47.11 308 P **P 18 26 22.1 -1.4**
BFO IAmb IAmb 18 26 27.2
comp=Z,9.4nm,1.0s
BFO Black Forest 47.11 308 P **P 18 26 22.1 -1.4**
BFO pmax pmax
comp=Z,9.0nm,1.0s
BFO Black Forest 47.11 308 P **P 18 26 22.9 -0.6**
BFO PcP **PcP 18 27 53.5 -1.2**
ECH Echery 47.90 308 IAmb IAmb 18 26 34.3
comp=Z,24nm,1.8s
MDJ Mudanjiang 47.99 57 P **P 18 26 30.2 -0.1**
MDJ pmax pmax
comp=Z,3.0nm,1.5s
MDJ pmax pmax
comp=Z,80nm,3.5s
KSRS Korea Array 48.05 67 P **P 18 26 30.9 +0.2**
comp=Z,3.1nm,1.0s,baz=283,slow=8.7,SNR=5.3
KSRS LR LR 18 48 59.0
comp=Z,51nm,19.4s,baz=270,slow=39
comp=Z,3.1nm,1.0s
KSRS Korea Array 48.05 67 P **P 18 26 31.0 +0.2**
YAK Yakutsk 48.10 34 P **P 18 26 29.4 -1.5**
YAK Yakutsk 48.10 34 LR LR 18 49 24.9
comp=Z,54nm,18.1s,baz=254,slow=39
YAK Yakutsk 48.10 34 *eP* **P 18 26 29.6 -1.3**
YAK pmax pmax
comp=Z,13nm,0.9s
YAK pmax pmax
comp=N,3.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK MLR MLR
comp=Z,254nm,17.0s
YAK MLR MLR
comp=N,95nm,15.0s
YAK MLR MLR
comp=E,97nm,11.0s
KEST Kesra 48.40 291 IAmb IAmb 18 26 40.4
comp=Z,11nm,0.8s
KEST Kesra 48.40 291 P **P 18 26 33.6 0.0**
comp=Z,8.0nm,0.7s,baz=34,slow=3.6,SNR=8.6
comp=Z,8.0nm,0.7s
BTNL Ternell 48.40 311 *dP* **P 18 26 33.4 -0.1**
WLF Walferdange 48.45 310 *dP* **P 18 26 35.4 +1.7**
HAU Haudompre 48.46 307 *eP* **P 18 26 32.7 -1.2**
HAU pmax pmax
comp=Z,18nm,1.0s
LPG La Plagne 48.47 304 *eP* **P 18 26 33.0 -1.3**
LPG pmax pmax
comp=Z,14nm,0.9s
LPL La Plagne 48.48 304 *eP* **P 18 26 33.0 -1.3**
LPL pmax pmax
comp=Z,12nm,0.8s
MBDF Montbardon 48.56 303 *eP* **P 18 26 33.0 -1.9**
MBDF pmax pmax
comp=Z,10.0nm,0.9s
BNI Bardonecchia 48.58 303 P **P 18 26 35.3 +0.3**
BNI pmax pmax
comp=Z,27nm,1.0s
MBAR Mbarara 48.77 235 P **P 18 26 38.4 +1.6**
CABF La Chapelle 48.79 306 *eP* **P 18 26 35.8 -0.7**
CABF pmax pmax
comp=Z,31nm,1.1s
KLR Kul'dur 48.95 51 *ceP* **P 18 26 37.9 +0.3**
KLR pmax pmax
comp=Z,13nm,1.7s
GIVF Givet 49.27 310 *eP* **P 18 26 40.1 0.0**
GIVF pmax pmax
comp=Z,38nm,1.3s
BMRD Maredsous 49.29 311 *dP* **P 18 26 40.4 +0.2**
DOU Dourbes 49.42 310 *dP* **P 18 26 41.4 +0.2**
comp=Z,13nm,1.1s
BAIF Baives 49.67 310 *eP* **P 18 26 43.1 0.0**
BAIF pmax pmax
comp=Z,30nm,1.0s
TIXI Tiksi 49.90 21 P **P 18 26 43.2 -1.3**
TIXI IAmb IAmb 18 26 54.1
comp=Z,8.0nm,0.8s
TIXI PcP **PcP 18 28 04.4 +0.2**
TIXI Tiksi 49.90 21 *ceP* **P 18 26 43.7 -0.8**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 49.90 21 P **P 18 26 44.0 -0.6**
TIXI PcP **PcP 18 28 03.8 -0.4**
VIVF Saint-Julien-l 50.02 304 *eP* **P 18 26 44.6 -1.3**
VIVF pmax pmax
comp=Z,18nm,1.0s
SSB Saint Sauveur 50.04 304 IAmb IAmb 18 26 50.0
comp=Z,10nm,0.9s
SSB Saint Sauveur 50.04 304 P **P 18 26 45.1 -0.9**
SSB pP **pP 18 26 57.9 -1.3**
KSM Kuching 50.06 120 P **P 18 26 46.1 -0.3**
KSM IAmb IAmb 18 26 48.2
comp=Z,6.0nm,0.7s
LOR Lormes 50.22 307 *eP* **P 18 26 46.0 -1.3**
LOR pmax pmax
comp=Z,16nm,1.1s
SMF Signal de Mont 50.32 306 *eP* **P 18 26 47.0 -1.1**
SMF pmax pmax
comp=Z,32nm,0.9s
SSF Saint Saulge 50.49 307 *eP* **P 18 26 48.2 -1.1**
SSF pmax pmax
comp=Z,31nm,1.1s
SPITS Spitsbergen Ar 50.63 348 P **P 18 26 50.1 +0.1**
comp=Z,8.0nm,0.8s,baz=134,slow=8.3,SNR=6.4
comp=Z,8.0nm,0.8s
AVF Avril sur Loir 50.63 306 *eP* **P 18 26 49.3 -1.1**
AVF pmax pmax
comp=Z,18nm,1.0s
SBUM Sibu 50.82 117 P **P 18 26 51.3 -0.9**
CLF Chambon-Foret 51.18 308 P **P 18 26 58.1 +3.6**
TCF Toulx Ste Croi 51.49 306 *eP* **P 18 26 56.1 -0.8**
TCF pmax pmax
comp=Z,23nm,1.1s
JNU Nakatsue 51.53 72 LR LR 18 53 03.5
comp=Z,60nm,18.4s,baz=310,slow=41
JOW Kunigami 51.53 80 LR LR 18 51 07.9
comp=Z,110nm,18.1s,baz=32,slow=39
GRNR Gornyy 51.78 48 *i* P **P 18 27 00.0 +1.0**
GRNR pmax pmax
comp=Z,3.0nm,1.0s
GRNR MLR MLR
comp=E,100nm,16.0s
GRNR MLR MLR
comp=Z,170nm,15.0s
CAF Calviac 51.83 304 *eP* **P 18 26 58.6 -0.9**
CAF pmax pmax
comp=Z,24nm,1.0s
MTLF Montolieu 52.03 302 *eP* **P 18 27 02.9 +1.9**
MTLF pmax pmax
comp=Z,14nm,1.2s
RJF Les Rejaudoux 52.14 305 *eP* **P 18 27 04.4 +2.6**
RJF pmax pmax
comp=Z,31nm,1.5s
LDF La Druitiere 52.67 309 *eP* **P 18 27 08.7 +3.1**
LDF pmax pmax
comp=Z,14nm,1.0s
LFF La Frestale 52.75 304 *eP* **P 18 27 08.7 +2.5**
LFF pmax pmax
comp=Z,37nm,1.5s
MFF Saint Martin d 53.03 306 *eP* **P 18 27 10.2 +1.9**
MFF pmax pmax
comp=Z,15nm,1.1s
GRR Gorron 53.19 309 *eP* **P 18 27 11.4 +2.0**
GRR pmax pmax
comp=Z,29nm,1.2s
EPF Esparros 53.44 302 *eP* **P 18 27 12.8 +1.3**
EPF pmax pmax
comp=Z,4.0nm,0.7s
EKA Eskdalemuir Ar 53.59 318 P **P 18 27 11.3 -1.0**
comp=Z,3.8nm,0.8s,baz=94,slow=7.7,SNR=9.7
comp=Z,3.8nm,0.8s
SGMF Saint Gilles 54.32 309 *eP* **P 18 27 20.2 +2.5**
SGMF pmax pmax
comp=Z,39nm,1.3s
ROSF Rostrenen 54.78 309 *eP* **P 18 27 23.3 +2.3**
ROSF pmax pmax
comp=Z,20nm,0.9s
JMIC Jan Mayen 55.15 337 LR LR 18 53 51.2
comp=Z,78nm,18.4s,baz=84,slow=39
TAM Tamanrasset 55.96 277 P **P 18 27 29.0 -1.1**
TAM Tamanrasset 55.96 277 P **P 18 27 29.0 -1.1**
TAM pmax pmax
comp=Z,8.0nm,1.2s
MJAR Matsushiro Arr 56.22 65 LR LR 18 53 46.8
comp=Z,56nm,19.2s,baz=250,slow=38
YSS Yuzh-Sakhalins 56.60 52 P **P 18 27 33.6 -0.5**
YSS Yuzh-Sakhalins 56.60 52 *eP* **P 18 27 33.6 -0.5**
YSS *e* 18 27 48.4
YSS pmax pmax
comp=Z,10.0nm,1.0s
YSS MLR MLR
comp=E,100nm,16.0s
YSS MLR MLR
comp=Z,200nm,16.0s
YSS Yuzh-Sakhalins 56.60 52 P **P 18 27 34.3 +0.2**
ASAJ Asahikawa 57.22 55 LR LR 18 53 25.8
comp=Z,92nm,20.4s,baz=293,slow=37
ESBB Sonseca Array 57.46 299 IAmb IAmb 18 27 43.6
comp=Z,6.7nm,0.8s
ESDC Sonseca Array 57.46 299 P **P 18 27 38.4 -2.0**
ESDC Sonseca Array 57.46 299 P **P 18 27 38.8 -1.6**
comp=Z,5.6nm,0.9s,baz=62,slow=6.6,SNR=14
comp=Z,5.6nm,0.9s
DAG Danmarks Havn 57.70 344 P **P 18 27 41.9 +0.5**
DAG pmax pmax
comp=Z,8.0nm,1.8s
DAG Danmarks Havn 57.70 344 *i* P **P 18 27 40.0 -1.4**
MA2 Magadan 58.48 36 LR LR 18 54 09.6
comp=Z,109nm,19.2s,baz=280,slow=37
SEY Seymchan 58.56 32 *i* P **P 18 27 47.7 0.0**
SEY pmax pmax
comp=Z,3.0nm,1.0s
POLO Lamas de Olo 59.70 302 *eP* **P 18 27 59.4 +3.3**
comp=Z,2.1nm,0.7s
PGAV Gavieira, Arco 59.85 303 *eP* **P 18 27 56.9 -0.2**
comp=Z,32nm,1.9s
PCBR Castelo Branco 59.98 300 *eP* **P 18 28 01.3 +3.5**
comp=Z,26nm,1.7s
PVIS Viseu 59.99 301 *eP* **P 18 28 01.6 +3.6**
comp=Z,36nm,1.6s
PMRV Marv??o 60.05 300 *eP* **P 18 27 57.4 -0.9**
comp=Z,19nm,1.6s
PBAR Barrancos 60.21 298 *eP* **P 18 28 02.1 +2.6**
comp=Z,16nm,1.3s
MDT Midelt 60.27 292 LR LR 18 56 49.4
comp=Z,69nm,19.5s,baz=127,slow=39
PESTR Estremoz 60.38 299 *eP* **P 18 28 04.5 +3.9**
BORG Borgarnes 60.79 331 LR LR 18 57 06.8
comp=Z,84nm,20.6s,baz=87,slow=39
EVO Evora 60.81 299 *eP* **P 18 28 06.2 +2.7**
comp=Z,21nm,1.7s
PBEJ Beja 60.88 298 *eP* **P 18 28 06.6 +2.6**
PVAQ Vaqueiros 60.98 298 *eP* **P 18 28 07.5 +2.8**
comp=Z,24nm,1.8s
PNCL Nicolau / Gran 61.34 299 *eP* **P 18 28 10.9 +3.8**
comp=Z,3.0nm,0.8s
KAPI Kappang 61.37 118 LR LR 18 56 46.8
comp=Z,43nm,21.5s,baz=154,slow=38
BILL Bilibino 62.76 25 P **P 18 28 15.4 -0.8**
BILL Bilibino 62.76 25 *ceP* **P 18 28 16.7 +0.5**
BILL pmax pmax
comp=Z,5.0nm,1.3s
BILL Bilibino 62.76 25 P **P 18 28 17.0 +0.8**
TOA0 Torodi Ar. Sit 63.66 269 P **P 18 28 20.5 -2.4**
TORD Torodi Ar. Bea 63.66 269 P **P 18 28 20.9 -2.0**
SUMG Summit 63.88 341 P **P 18 28 22.5 -1.5**
SUMG Summit 63.88 341 P **P 18 28 22.5 -1.5**
SUMG pmax pmax
comp=Z,55nm,2.0s
SUMG Summit 63.88 341 *i* P **P 18 28 23.0 -1.0**
PETK Petropavlovsk- 63.99 42 LR LR 18 57 35.0
comp=Z,72nm,18.7s,baz=289,slow=37
LBMI Labuha 64.61 109 P **P 18 28 31.6 +2.5**
SFJD Kangerlussuaq 70.45 339 LR LR 19 01 24.0
comp=Z,53nm,19.0s,baz=58,slow=37
SFJD Kangerlussuaq 70.45 339 P **P 18 29 03.9 -1.3**
LBTB Lobatse 70.63 221 P **P 18 29 07.9 +1.0**
C16K Lisburne Hills 71.56 18 P **P 18 29 11.3 -0.6**
baz=314
B18K Kokolik River 71.68 17 P **P 18 29 12.5 -0.1**
baz=317,SNR=5.1
A22K Sinclair Lake 71.93 14 P **P 18 29 13.2 -0.9**
baz=322,SNR=7.1
C17K DeLong Mountai 71.98 18 P **P 18 29 13.7 -0.8**
baz=316,SNR=6.6
B20K Meade River 72.26 15 P **P 18 29 15.8 -0.3**
B20K IAmb IAmb 18 29 17.9
comp=Z,11nm,0.8s
B20K Meade River 72.26 15 P **P 18 29 15.7 -0.3**
baz=321,SNR=6.2
C18K Utukok River 72.36 17 P **P 18 29 16.6 -0.2**
C18K IAmb IAmb 18 29 17.9
comp=Z,9.7nm,0.8s
C18K Utukok River 72.36 17 P **P 18 29 16.5 -0.2**
baz=318,SNR=8.5
RDOG Red Dog Mine 72.36 18 P **P 18 29 16.4 -0.3**
baz=316
C19K Lookout Ridge 72.40 16 P **P 18 29 17.2 +0.2**
C19K IAmb IAmb 18 29 18.6
comp=Z,8.5nm,0.8s
C19K Lookout Ridge 72.40 16 P **P 18 29 17.2 +0.2**
baz=319,SNR=6.2
DBIC Dimbokro 72.51 267 P **P 18 29 17.0 -1.5**
comp=Z,9.8nm,0.9s,baz=87,slow=2.9,SNR=4.2
DBIC LR LR 19 04 54.3
comp=Z,56nm,18.3s,baz=109,slow=39
comp=Z,9.8nm,0.9s
D17K Noatak River 72.57 18 P **P 18 29 18.3 +0.4**
baz=316
GAMB Gambell 72.66 24 P **P 18 29 18.8 +0.3**
baz=310
TNA Tin City 72.69 21 P **P 18 29 19.0 +0.3**
baz=313
B22K Teshekpuk Lake 72.78 14 P **P 18 29 18.9 -0.2**
B22K IAmb IAmb 18 29 20.6
comp=Z,16nm,0.9s
B22K Teshekpuk Lake 72.78 14 P **P 18 29 19.5 +0.4**
baz=324
B21K Ikpikpuk River 73.11 15 IAmb IAmb 18 29 22.7
comp=Z,9.7nm,0.8s
B21K Ikpikpuk River 73.11 15 P **P 18 29 22.0 +0.9**
baz=323,SNR=9.0
D19K Kuna River 73.22 16 P **P 18 29 22.0 +0.2**
baz=320
F14K Arctic Creek 73.24 21 P **P 18 29 22.3 +0.4**
baz=314
E17K Hotham Inlet 73.36 18 P **P 18 29 22.8 +0.2**
baz=318
D20K Etivluk River 73.39 16 P **P 18 29 23.1 +0.2**
baz=322
E18K Tukpahlearik C 73.42 18 IAmb IAmb 18 29 24.3
comp=Z,14nm,0.8s
E18K Tukpahlearik C 73.42 18 P **P 18 29 23.3 +0.3**
baz=318
C21K Knifeblade Rid 73.45 15 P **P 18 29 23.5 +0.4**
baz=323
F15K North Star Dit 73.57 20 P **P 18 29 24.9 +1.0**
baz=315
BOSA Boshof 73.66 219 P **P 18 29 25.6 +0.6**
comp=Z,5.2nm,0.7s,baz=52,slow=7.8,SNR=4.3
comp=Z,5.2nm,0.7s
C23K Itkillik River 73.74 13 P **P 18 29 25.6 +0.7**
baz=326,SNR=15
E20K Nigu River 73.85 16 P **P 18 29 26.0 +0.4**
baz=322
F17K Baldwin Pennin 73.98 19 P **P 18 29 26.7 +0.4**
baz=318,SNR=5.8
D22K Ayikyak River 74.12 14 P **P 18 29 27.7 +0.6**
baz=325,SNR=6.9
ANM Nome 74.17 21 P **P 18 29 27.9 +0.5**
baz=315
C24K Franklin Bluff 74.20 13 P **P 18 29 27.9 +0.4**
baz=328
E21K Killik River 74.20 15 IAmb IAmb 18 29 28.6
comp=Z,10nm,0.8s
E21K Killik River 74.20 15 P **P 18 29 27.6 0.0**
baz=324
E19K Redstone River 74.23 17 IAmb IAmb 18 29 32.9
comp=Z,10nm,0.9s
E19K Redstone River 74.23 17 P **P 18 29 27.6 -0.2**
baz=321
G15K Niukluk 74.26 21 P **P 18 29 28.0 0.0**
baz=316
F18K Selawik 74.29 18 P **P 18 29 28.0 0.0**
baz=319
G16K Koyuk River 74.46 20 P **P 18 29 29.2 +0.2**
baz=317
D23K Nanushuk River 74.46 14 P **P 18 29 29.3 +0.3**
baz=326
F19K Shaleruckik Mo 74.59 17 IAmb IAmb 18 29 30.3
comp=Z,16nm,1.4s
F19K Shaleruckik Mo 74.59 17 P **P 18 29 29.9 +0.1**
baz=321
D24K Happy Valley 74.66 13 P **P 18 29 29.7 -0.5**
D24K Happy Valley 74.66 13 P **P 18 29 30.5 +0.3**
baz=328
C26K Camden Bay 74.70 11 P **P 18 29 31.0 +0.6**
baz=331
G17K Kiwalik Mounta 74.85 19 P **P 18 29 31.4 0.0**
baz=319,SNR=6.3
E22K Anaktuvuk Pass 74.92 15 IAmb IAmb 18 29 33.0
comp=Z,8.4nm,0.9s
E22K Anaktuvuk Pass 74.92 15 P **P 18 29 31.7 0.0**
baz=326
F20K Avaraart Lake 74.92 16 P **P 18 29 31.4 -0.3**
baz=323,SNR=7.7
TOLK Toolik Lake Re 74.95 14 IAmb IAmb 18 29 33.5
comp=Z,15nm,0.8s
TOLK Toolik Lake Re 74.95 14 P **P 18 29 32.2 +0.2**
baz=328
D25K Kavik River 74.97 12 IAmb IAmb 18 29 38.2
comp=Z,15nm,1.0s
D25K Kavik River 74.97 12 P **P 18 29 32.6 +0.5**
baz=330,SNR=16
A36M Sachs Harbour 75.02 4 IAmb IAmb 18 29 33.6
comp=Z,6.8nm,0.8s
A36M Sachs Harbour 75.02 4 P **P 18 29 32.1 -0.1**
baz=348,SNR=10.0
H16K Elim 75.05 20 P **P 18 29 32.7 +0.2**
baz=318
G18K Tagagawik 75.09 18 P **P 18 29 32.9 +0.1**
baz=320
C27K Jago River 75.15 11 P **P 18 29 33.4 +0.4**
baz=332,SNR=9.8
G19K Purcell Mounta 75.30 18 IAmb IAmb 18 29 35.5
comp=Z,13nm,0.9s
G19K Purcell Mounta 75.30 18 P **P 18 29 34.1 +0.2**
baz=322,SNR=10
F21K Alatna River 75.30 16 IAmb IAmb 18 29 35.2
comp=Z,6.9nm,0.8s
F21K Alatna River 75.30 16 P **P 18 29 34.1 +0.1**
baz=324,SNR=11
F22K John River 75.36 15 P **P 18 29 34.6 +0.3**
baz=325
E23K Chandalar 75.44 14 P **P 18 29 35.2 +0.4**
baz=328
H17K Granite Mounta 75.48 19 IAmb IAmb 18 29 37.0
comp=Z,13nm,0.9s
H17K Granite Mounta 75.48 19 P **P 18 29 35.4 +0.4**
baz=319
E24K Your Creek 75.65 14 IAmb IAmb 18 29 37.6
comp=Z,8.9nm,0.9s
E24K Your Creek 75.65 14 P **P 18 29 36.4 +0.4**
baz=328,SNR=8.7
H18K Honhosa River 75.74 19 P **P 18 29 36.9 +0.3**
baz=321
G21K Allakaket 75.87 16 IAmb IAmb 18 29 37.9
comp=Z,12nm,0.9s
G21K Allakaket 75.87 16 P **P 18 29 37.2 0.0**
baz=324
D27M Malcolm River 75.93 10 P **P 18 29 38.4 +0.9**
baz=335
H19K Roundabout Mou 75.95 18 IAmb IAmb 18 29 39.0
comp=Z,14nm,1.0s
H19K Roundabout Mou 75.95 18 P **P 18 29 37.9 +0.3**
baz=322,SNR=6.7
G22K Bettles 75.99 15 P **P 18 29 38.4 +0.5**
baz=326
COLD Coldfoot 76.02 15 P **P 18 29 38.5 +0.5**
baz=327
J14K Nanvaranak Lak 76.04 22 P **P 18 29 38.8 +0.6**
baz=317
I17K Unalakleet 76.06 20 P **P 18 29 38.9 +0.6**
baz=319
E25K Arctic Village 76.16 13 P **P 18 29 39.5 +0.7**
baz=331
D28M Stokes Point 76.18 10 P **P 18 29 39.7 +0.9**
baz=337,SNR=9.7
F24K Squaw Lake 76.24 14 P **P 18 29 40.1 +0.8**
baz=329
IMAR Indian Mountai 76.25 16 P **P 18 29 39.1 -0.2**
K13K Kusilvak Mount 76.28 23 P **P 18 29 40.1 +0.5**
baz=316
H20K Anotleneega Mo 76.37 17 P **P 18 29 40.2 +0.1**

baz=324,SNR=9.6
GCSA Galena City Sc 76.46 18 P **P** **18 29 40.9 +0.4**
baz=322
G23K Bananza Creek 76.49 15 IAmb IAmb 18 29 42.3
comp=Z,11nm,0.9s
G23K Bananza Creek 76.49 15 P **P** **18 29 41.2 +0.4**
baz=327,SNR=9.1
J16K Anvik River 76.54 21 P **P** **18 29 41.7 +0.6**
baz=319
F25K Christian Rive 76.61 13 P **P** **18 29 42.1 +0.6**
baz=331,SNR=10
E28M Babbage River 76.73 10 IAmb IAmb 18 29 44.2
comp=Z,10nm,1.1s
E28M Babbage River 76.73 10 P **P** **18 29 42.9 +0.8**
baz=336,SNR=11
H21K Melozitna Rive 76.74 16 IAmb IAmb 18 29 43.5
comp=Z,16nm,1.0s
H21K Melozitna Rive 76.74 16 P **P** **18 29 42.5 +0.3**
baz=325,SNR=11
E27K Coleen River 76.79 11 IAmb IAmb 18 29 44.4
comp=Z,7.9nm,1.0s
E27K Coleen River 76.79 11 P **P** **18 29 43.1 +0.7**
baz=334,SNR=11
F26K Sheenjek River 76.80 12 P **P** **18 29 43.1 +0.7**
baz=332,SNR=6.6
M11K Mekoryuk 76.86 25 P **P** **18 29 44.0 +1.1**
baz=315
H22K Ishtalitna Cre 76.88 16 P **P** **18 29 43.7 +0.8**
baz=326
J17K VABM Dome 76.90 20 P **P** **18 29 43.3 +0.3**
baz=320
BMAR Burnt Mountain 76.95 13 P **P** **18 29 43.0 -0.4**
K15K Wolf Creek Mou 77.01 22 P **P** **18 29 44.2 +0.5**
baz=319
G24K Hadweenzic Riv 77.03 14 IAmb IAmb 18 29 45.8
comp=Z,13nm,0.9s
G24K Hadweenzic Riv 77.03 14 P **P** **18 29 44.6 +0.8**
baz=330,SNR=7.7
I20K Naaghedeneel 77.04 17 P **P** **18 29 44.2 +0.4**
baz=324,SNR=5.5
E29M Blow River 77.17 10 IAmb IAmb 18 29 46.5
comp=Z,8.9nm,1.0s
E29M Blow River 77.17 10 P **P** **18 29 45.2 +0.7**
baz=337,SNR=9.8
G25K Bearman Lake 77.25 13 P **P** **18 29 46.1 +1.2**
baz=331,SNR=6.2
H23K Yukon River 77.35 15 IAmb IAmb 18 29 47.6
comp=Z,12nm,0.8s
H23K Yukon River 77.35 15 P **P** **18 29 46.2 +0.7**
baz=328
L14K Kuka Creek 77.36 23 P **P** **18 29 46.3 +0.6**
baz=318
J19K Poorman 77.39 18 P **P** **18 29 46.5 +0.7**
baz=323,SNR=14
L15K Ungalak Mounta 77.49 22 P **P** **18 29 47.7 +1.3**
baz=319
J18K Innoko River 77.51 19 P **P** **18 29 46.6 +0.1**
J18K IAmb IAmb 18 29 48.0
comp=Z,13nm,0.9s
J18K Innoko River 77.51 19 P **P** **18 29 47.4 +0.9**
baz=322
G26K Porcupine Rive 77.52 12 P **P** **18 29 47.8 +1.3**
baz=333
F28M Old Crow 77.59 11 IAmb IAmb 18 29 53.8
comp=Z,16nm,1.6s
F28M Old Crow 77.59 11 P **P** **18 29 47.7 +0.8**
baz=336,SNR=8.1
J20K Nowinta River 77.62 18 P **P** **18 29 48.1 +1.0**
baz=324,SNR=9.4
K17K Iditarod 77.66 20 P **P** **18 29 47.6 +0.2**
baz=321
H24K Noodor Dome 77.69 15 IAmb IAmb 18 29 49.5
comp=Z,11nm,0.9s
H24K Noodor Dome 77.69 15 P **P** **18 29 48.1 +0.5**
baz=329,SNR=10.0
C36M Paulatuk 77.70 5 IAmb IAmb 18 29 48.5
comp=Z,6.3nm,0.8s
C36M Paulatuk 77.70 5 P **P** **18 29 46.8 -0.6**
baz=349,SNR=12
H25L Birch Creek 77.74 14 P **P** **18 29 48.3 +0.6**
baz=331
MLY Manley 77.75 16 IAmb IAmb 18 29 49.7
comp=Z,10nm,0.9s
MLY Manley 77.75 16 P **P** **18 29 48.2 +0.3**
baz=327,SNR=9.5
INK Inuvik 77.82 8 P **P** **18 29 47.2 -0.9**
INK IAmb IAmb 18 29 54.6
comp=Z,8.9nm,1.1s
INK Inuvik 77.82 8 P **P** **18 29 48.4 +0.3**
baz=341,SNR=9.1
INK Inuvik 77.82 8 LR LR 19 06 44.8
comp=Z,56nm,20.5s,baz=357,slow=38
INK Inuvik 77.82 8 P **P** **18 29 47.2 -0.9**
INK pmax pmax
comp=Z,9.0nm,1.1s
FRB Frobisher Bay 77.94 342 LR LR 19 03 49.5
comp=Z,36nm,21.9s,baz=284,slow=36
I23K Minto, Yukon-K 77.96 15 IAmb IAmb 18 29 50.7
comp=Z,12nm,0.9s
I23K Minto, Yukon-K 77.96 15 P **P** **18 29 49.4 +0.4**
baz=328,SNR=14
G27K Doyon Strip 78.03 12 P **P** **18 29 50.4 +1.0**
baz=334,SNR=11
M14K Bethel 78.03 23 P **P** **18 29 50.6 +1.2**
baz=318
L16K Owhat River 78.09 21 P **P** **18 29 50.5 +0.8**
baz=320,SNR=5.1
L17K Donlin 78.11 21 P **P** **18 29 50.8 +0.9**
baz=321
F30M Barrier River 78.19 9 P **P** **18 29 50.8 +0.6**
baz=339,SNR=5.4
K20K Telida 78.31 18 P **P** **18 29 51.5 +0.5**
baz=324
CHUM Lake Minchumin 78.33 17 P **P** **18 29 51.4 +0.4**
baz=326
MDM Murphy Dome 78.38 15 P **P** **18 29 51.2 -0.1**
POKR Poker Plat Res 78.41 15 P **P** **18 29 52.2 +0.7**
baz=330,SNR=6.6
PRP Porcupine Dome 78.46 14 P **P** **18 29 52.5 +0.6**
baz=331
BPAW Bear Paw Mtn. 78.47 17 IAmb IAmb 18 29 52.8
comp=Z,9.4nm,0.8s
BPAW Bear Paw Mtn. 78.47 17 P **P** **18 29 52.5 +0.6**
baz=327,SNR=11
M15K Kasigluk River 78.48 22 P **P** **18 29 52.9 +0.9**
baz=320
NEA2 Nenana 78.50 16 P **P** **18 29 52.0 0.0**
baz=328,SNR=17
L18K Granite Mounta 78.51 20 IAmb IAmb 18 29 54.2
comp=Z,11nm,1.1s
L18K Granite Mounta 78.51 20 P **P** **18 29 52.6 +0.6**
baz=322
G29M Pine Creek 78.52 10 P **P** **18 29 53.0 +0.9**
baz=337
COLA College 78.53 15 P **P** **18 29 51.7 -0.4**
COLA College 78.53 15 P **P** **18 29 52.3 +0.2**
baz=329
COLA College 78.53 15 P **P** **18 29 51.7 -0.4**
COLA pmax pmax
comp=Z,16nm,0.6s
H27K Steamboat Moun 78.57 12 P **P** **18 29 53.1 +0.7**
baz=334,SNR=11
F31M Tsiigehtchic 78.62 9 IAmb IAmb 18 29 59.0
comp=Z,14nm,1.1s
F31M Tsiigehtchic 78.62 9 P **P** **18 29 53.2 +0.7**
baz=341,SNR=11
G30M tAoh Zraii Nji 78.72 10 IAmb IAmb 18 29 54.5
comp=Z,21nm,1.4s
G30M tAoh Zraii Nji 78.72 10 P **P** **18 29 53.8 +0.6**
baz=339,SNR=7.9
CAST Castle Rocks 78.77 17 P **P** **18 29 53.9 +0.4**
baz=326,SNR=29
IL31 78.83 15 IAmb IAmb 18 29 55.4
comp=Z,11nm,1.1s
ILAR Eielson Array 78.83 15 P **P** **18 29 52.5 -1.3**
ILAR Eielson Array 78.83 15 P **P** **18 29 53.4 -0.4**
comp=Z,7.0nm,1.0s,baz=314,slow=4.1,SNR=33
comp=Z,7.0nm,1.0s
M17K Holitna River 78.94 21 P **P** **18 29 55.1 +0.7**
baz=322
KTH Kantishna Hill 78.95 17 IAmb IAmb 18 29 56.1
comp=Z,15nm,0.9s
G31M Satah River 79.04 9 IAmb IAmb 18 30 01.2
comp=Z,25nm,1.6s
G31M Satah River 79.04 9 P **P** **18 29 55.6 +0.7**
baz=341
L19K White Mountain 79.06 19 P **P** **18 29 56.0 +0.9**
baz=324
N15K Kwethluk River 79.08 22 P **P** **18 29 56.1 +0.9**
baz=320
L20K Farewell, AK 79.08 19 P **P** **18 29 56.2 +1.0**
baz=325
H29M Whitestone 79.11 11 IAmb IAmb 18 29 57.0
comp=Z,14nm,1.1s
H29M Whitestone 79.11 11 P **P** **18 29 56.1 +0.8**
baz=337,SNR=7.5
I26K Coal Creek Min 79.11 13 P **P** **18 29 56.7 +1.4**
baz=333
I27K Kandik River 79.12 12 P **P** **18 29 56.4 +0.9**
baz=334,SNR=6.0
HDA Harding Lake 79.13 15 IAmb IAmb 18 29 55.5
comp=Z,8.4nm,1.0s
HDA Harding Lake 79.13 15 P **P** **18 29 55.1 -0.3**
baz=330
PPLA Purkeypile 79.18 18 P **P** **18 29 56.2 +0.3**
baz=326
TRF Thorofare Moun 79.19 17 IAmb IAmb 18 31 45.8
comp=Z,8.5nm,0.6s
TRF Thorofare Moun 79.19 17 P **P** **18 29 56.5 +0.5**
baz=328
EPYK Eagle Plains 79.22 10 P **P** **18 29 54.9 -1.0**
EPYK IAmb IAmb 18 31 41.4
comp=Z,23nm,1.7s
EPYK Eagle Plains 79.22 10 P **P** **18 29 56.6 +0.6**
baz=329
N16K Nishlik Lake 79.26 22 P **P** **18 29 57.1 +0.9**
baz=321
MCK McKinley 79.27 16 P **P** **18 29 56.8 +0.5**
baz=329
J25K Salcha River, 79.29 14 P **P** **18 29 56.1 -0.3**
baz=332,SNR=6.2
M18K Stony River 79.34 20 P **P** **18 29 57.1 +0.5**
baz=323
O14K Tigyukauivet M 79.39 24 P **P** **18 29 57.6 +0.7**
baz=319
M19K Big River Lodg 79.41 19 P **P** **18 29 57.8 +0.8**
baz=324
I28M Miner Creek 79.56 12 P **P** **18 29 57.9 0.0**
baz=336,SNR=6.6
N17K Nushagak Hills 79.71 21 P **P** **18 29 59.4 +0.8**
baz=322
J26L Joseph Creek 79.75 14 IAmb IAmb 18 30 00.6
comp=Z,11nm,0.8s
J26L Joseph Creek 79.75 14 P **P** **18 29 59.5 +0.6**
baz=333,SNR=13
NWAO Narrogin (SRO) 79.87 140 LR LR 19 06 12.6
comp=Z,46nm,19.1s,baz=138,slow=36
I29M Ogilvie Camp, 79.91 11 P **P** **18 30 00.0 +0.3**
baz=337,SNR=6.6
K24K Donnelly Dome 79.91 15 P **P** **18 29 59.8 +0.1**
baz=331
EGAK Eagle 79.96 12 P **P** **18 30 00.6 +0.7**
baz=335
CUT Chulitna 80.08 17 P **P** **18 30 00.4 -0.2**
baz=328
H31M Peel River 80.09 9 IAmb IAmb 18 30 06.7
comp=Z,14nm,1.1s
H31M Peel River 80.09 9 P **P** **18 30 01.0 +0.3**
baz=341
SKT Skwentna 80.11 18 P **P** **18 30 00.7 -0.1**
baz=327,SNR=9.0
SCRK Sand Creek 80.13 14 IAmb IAmb 18 30 02.4
comp=Z,11nm,0.9s
SCRK Sand Creek 80.13 14 P **P** **18 30 01.4 +0.4**
baz=333,SNR=8.3
WAT1 Susitna Watana 80.14 16 P **P** **18 30 00.8 -0.2**
baz=329
DHY Denali Highway 80.20 16 IAmb IAmb 18 30 02.8
comp=Z,15nm,0.8s
DHY Denali Highway 80.20 16 P **P** **18 30 01.6 +0.1**
baz=330,SNR=5.0
N19K Bonanza Creek 80.27 20 P **P** **18 30 02.4 +0.5**
baz=324,SNR=5.8
O17K Koliganek Bris 80.33 22 P **P** **18 30 03.2 +1.2**
baz=322
I30M Mount Dempster 80.34 10 P **P** **18 30 02.2 0.0**
I30M IAmb IAmb 18 30 03.4
comp=Z,20nm,1.4s
I30M Mount Dempster 80.34 10 P **P** **18 30 02.5 +0.4**
baz=339,SNR=12
K27K Chicken 80.46 13 IAmb IAmb 18 30 04.5
comp=Z,14nm,1.0s
K27K Chicken 80.46 13 P **P** **18 30 03.0 +0.3**
baz=334
WAT6 Susitna Watana 80.54 16 P **P** **18 30 03.2 -0.1**
baz=330,SNR=7.7
M22K Willow 80.67 18 P **P** **18 30 03.5 -0.3**
baz=328
PAX Paxson 80.71 15 P **P** **18 30 04.2 +0.1**
baz=332,SNR=9.0
SUA Susitna One 80.75 18 P **P** **18 30 04.6 +0.2**
baz=327
J29N Klondike Camp 80.77 11 P **P** **18 30 04.0 -0.4**
J29N IAmb IAmb 18 30 06.2
comp=Z,14nm,1.2s
J29N Klondike Camp 80.77 11 P **P** **18 30 05.3 +0.9**
baz=337
O19K Port Alsworth 80.83 20 P **P** **18 30 05.6 +0.9**
baz=325
O18K Koktuh Hills 80.84 21 P **P** **18 30 05.5 +0.8**
baz=324
DAWY Dawson 80.92 12 IAmb IAmb 18 30 06.5
comp=Z,13nm,1.1s
DAWY Dawson 80.92 12 P **P** **18 30 05.8 +0.6**
baz=336
J30M Hart River 80.96 11 P **P** **18 30 05.8 +0.4**
baz=339,SNR=9.7
P17K Kvichak River 81.00 22 P **P** **18 30 05.5 -0.1**
baz=333
PMR Palmer 81.06 17 P **P** **18 30 06.0 +0.1**
baz=329
SML Sawmill 81.07 17 P **P** **18 30 06.3 +0.3**
baz=329,SNR=11
L26K Log Cabin Wild 81.11 14 IAmb IAmb 18 30 07.9
comp=Z,7.8nm,0.9s
L26K Log Cabin Wild 81.11 14 P **P** **18 30 06.4 +0.2**
baz=333,SNR=5.2
M23K Glacier View 81.23 17 P **P** **18 30 07.0 +0.2**
baz=330,SNR=8.4
CAPN Captain Cook N 81.23 19 P **P** **18 30 07.3 +0.5**
baz=327
SCM Sheep Creek Mo 81.29 16 P **P** **18 30 07.3 +0.1**
baz=330,SNR=5.5
HARP HAARP 81.29 15 P **18 30 07.2 +0.1**
HARP HAARP 81.29 15 P **P** **18 30 07.6 +0.5**
baz=332,SNR=8.4
M24K Tolsona, Glenn 81.32 16 P **P** **18 30 07.8 +0.5**
baz=333,SNR=5.6
RC01 Rabbit Creek A 81.33 18 P **P** **18 30 07.7 +0.3**
baz=328
Q16K King Salmon 81.34 22 P **P** **18 30 08.3 +1.0**
baz=323
KNK Knik Glacier 81.38 17 P **P** **18 30 08.5 +0.9**
baz=329,SNR=7.3
L27K Beaver Creek, 81.39 13 IAmb IAmb 18 30 09.6
comp=Z,10nm,1.0s
L27K Beaver Creek, 81.39 13 P **P** **18 30 08.5 +0.8**
baz=334,SNR=10
BCAR Beaver Creek A 81.39 13 P **P** **18 30 07.6 -0.1**
K29M Barlow Dome 81.45 11 IAmb IAmb 18 30 09.8
comp=Z,14nm,1.2s
K29M Barlow Dome 81.45 11 P **P** **18 30 08.8 +0.7**
baz=338,SNR=13
WB0 Warramunga Arr 81.74 120 P **P** **18 30 10.2 0.0**
WB0 IAmb IAmb 18 30 11.6
comp=Z,9.1nm,0.8s
M26K Nabesna, AK 81.75 14 P **P** **18 30 09.8 +0.2**
baz=334,SNR=6.0
WRA Warramunga Arr 81.81 120 P **P** **18 30 10.9 +0.4**
WRA Warramunga Arr 81.81 120 P **P** **18 30 10.8 +0.3**
comp=Z,11nm,0.9s,baz=323,slow=4.8,SNR=62
comp=Z,11nm,0.9s
WRA Warramunga Arr 81.81 120 *i* P **P** **18 30 11.1 +0.6**
WRA pmax pmax
comp=Z,11nm,0.8s
WRAB Tennant Creek 81.81 120 P **P** **18 30 10.4 0.0**
WRAB Tennant Creek 81.81 120 P **P** **18 30 10.5 0.0**
WRAB pmax pmax
comp=Z,19nm,1.0s
KLU Klutina 81.91 16 P **P** **18 30 11.2 +0.7**
baz=331
Q17K Contact Creek 81.92 22 P **P** **18 30 10.7 +0.1**
baz=324
WR0 Warramunga Arr 81.97 120 IAmb IAmb 18 30 12.7
comp=Z,14nm,1.1s
M27K Edge Creek, AK 82.02 14 P **P** **18 30 12.4 +1.3**
baz=334,SNR=17
L29M L29M 82.03 12 IAmb IAmb 18 30 12.9
comp=Z,18nm,1.2s
L29M L29M 82.03 12 P **P** **18 30 12.1 +1.0**
baz=338,SNR=11
BRLK Bradley Lake 82.15 19 P **P** **18 30 09.9 -1.8**
GLI Glacier Island 82.17 17 P **P** **18 30 12.7 +0.9**
baz=330
M29M Somme Creek 82.59 12 IAmb IAmb 18 30 16.1
comp=Z,13nm,1.1s
M29M Somme Creek 82.59 12 P **P** **18 30 15.4 +1.3**
baz=337,SNR=13
VRDI Verde Repeater 82.70 15 IAmb IAmb 18 30 16.2
comp=Z,12nm,1.1s
YUK3 Moose Creek 82.83 13 P **P** **18 30 16.6 +1.1**
baz=336,SNR=14
P23K Montague Islan 82.86 17 P **P** **18 30 16.0 +0.7**
baz=330
KDAK Kodiak Island 83.33 21 P **P** **18 30 18.8 +1.0**
baz=326
KDAK Kodiak Island 83.33 21 LR LR 19 12 19.3
comp=Z,84nm,20.4s,baz=349,slow=39
CTG Chitna Glacier 83.39 14 P **P** **18 30 19.1 +0.8**
baz=335
M31M Drury Creek, Y 83.49 11 P **P** **18 30 19.4 +0.7**
baz=341
MMPY Sheldon Lake, 83.55 9 P **P** **18 30 19.2 +0.2**
baz=343
OHAK Old Harbor 83.58 21 P **P** **18 30 19.8 +0.7**
baz=326
N30M Aishikik Lake 83.75 12 IAmb IAmb 18 30 21.8
comp=Z,9.7nm,1.1s
N30M Aishikik Lake 83.75 12 P **P** **18 30 20.7 +0.7**
baz=338,SNR=8.2
WRGLY Wrigley 83.78 5 P **P** **18 30 21.1 +1.0**
baz=350
O28M Mount Upton 83.80 14 P **P** **18 30 20.6 0.0**
baz=336
AS31 Alice Springs 83.86 123 P **P** **18 30 20.8 -0.2**
ASAR Alice Springs 83.86 123 P **P** **18 30 20.9 -0.1**
ASAR Alice Springs 83.86 123 P **P** **18 30 21.4 +0.3**
comp=Z,4.8nm,0.9s,baz=311,slow=4.9,SNR=46
comp=Z,4.8nm,0.9s
MESA MESA 83.97 15 P **P** **18 30 21.8 +0.5**
baz=335
CHIR Chirikof Islan 83.97 23 P **P** **18 30 22.0 +0.8**
baz=324
HYT Haines Junctio 84.26 13 P **P** **18 30 23.6 +0.9**
baz=338
O30N Mendenhall 84.57 12 P **P** **18 30 24.9 +0.8**
baz=339
SCHQ Schefferville 84.66 336 P **P** **18 30 25.4 +0.8**
comp=Z,5.2nm,0.8s,baz=100,slow=5.0,SNR=4.2
SCHQ LR LR 19 08 14.9
comp=Z,48nm,20.8s,baz=230,slow=36
comp=Z,5.2nm,0.8s
WHY Whitehorse 84.88 11 P **P** **18 30 26.3 +0.5**
baz=340
YKA Yellowknife Ar 84.97 1 P **P** **18 30 25.8 -0.3**
comp=Z,2.2nm,0.7s,baz=349,slow=5.8,SNR=29
comp=Z,2.2nm,0.7s
YKA Yellowknife Ar 84.97 1 *i* P **P** **18 30 26.0 -0.1**
YKA pmax pmax
comp=Z,3.0nm,0.7s
TGTN Hyland Airport 84.98 8 P **P** **18 30 27.4 +1.1**
baz=346
P30M Million Dollar 85.02 13 P **P** **18 30 27.8 +1.3**
baz=339
P33M Teslin, Yukon 85.63 11 IAmb IAmb 18 30 30.4
comp=Z,6.3nm,0.8s
P33M Teslin, Yukon 85.63 11 P **P** **18 30 29.7 +0.2**
baz=342
PLBC Pleasant Camp 85.75 12 P **P** **18 30 31.0 +1.0**
baz=339
SKAG Skagway 85.93 12 P **P** **18 30 31.6 +0.7**
baz=340
P32M Atlin 86.08 11 P **P** **18 30 32.1 +0.3**
baz=341,SNR=11
WTLY Watson Lake, Y 86.29 9 P **P** **18 30 32.9 +0.1**
baz=345
R33M Jennings River 86.69 10 IAmb IAmb 18 30 36.2
comp=Z,5.4nm,1.1s
R33M Jennings River 86.69 10 P **P** **18 30 35.2 +0.3**
baz=344
FCC Fort Churchill 87.61 351 P **P** **18 30 38.8 -0.3**
FCC Fort Churchill 87.61 351 P **P** **18 30 38.8 -0.3**
FCC pmax pmax
comp=Z,12nm,1.0s
DLBC Dease Lake 87.75 10 P **P** **18 30 40.0 +0.1**
baz=344
TOAD Toad River Com 87.94 7 P **P** **18 30 41.1 +0.4**
baz=348
S32K Killisnoo 87.94 12 P **P** **18 30 40.8 +0.1**
baz=341
S34M Telegraph Cree 88.09 10 IAmb IAmb 18 30 43.5
comp=Z,7.9nm,0.9s
S34M Telegraph Cree 88.09 10 P **P** **18 30 42.1 +0.6**
baz=344
T35M Bob Quinn 89.12 10 P **P** **18 30 46.9 +0.6**
baz=344
WRAK Wrangell Islan 89.33 11 P **P** **18 30 47.8 +0.5**
baz=343
FFC Flin Flon 92.42 355 P **P** **18 31 01.0 -0.7**
FFC IAmb IAmb 18 31 02.6
comp=Z,5.5nm,1.0s
FFC Flin Flon 92.42 355 P **P** **18 31 01.0 -0.7**
FFC pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 94.25 125 LR LR 19 17 00.9
comp=Z,87nm,19.9s,baz=190,slow=38
ULM Lac du Bonnet 96.14 350 P **P** **18 31 18.1 -0.7**
comp=Z,3.0nm,0.7s,baz=24,slow=5.1,SNR=4.0
ULM LR LR 19 19 56.2
comp=Z,36nm,18.5s,baz=83,slow=39
comp=Z,3.0nm,0.7s
ELIB Princess Elisa 109.14 194 *d*PKiKP **PKiKP 18 36 21.6 +1.7**
QSPA South Pole Qui 122.64 180 PKP **PKPdf 18 36 45.3 -0.5**
comp=Z,1.9nm,0.9s,baz=299,slow=2.9,SNR=5.1
PLCA Paso Flores 146.58 245 PKPbc **PKPbc 18 37 32.4 -0.1**
comp=Z,6.3nm,1.1s,baz=121,slow=3.3,SNR=9.8

NEIC ***08*** *18:27:31.9±1.7, 27.88N±0.06×57.70E±0.07, h10km±1km, mb4.5/92, Error ellipse: s-maj=13.0km s-min=6.1km az=138.0*
MOS ***08*** *18:27:32.9±1.2, 28.09N×57.74E, h17km, mb4.7/21, Error ellipse: s-maj=7.5km s-min=5.3km az=98.4*
TEH ***08*** *18:27:33.1, 27.95N×57.86E, h11km±13km, ML4.5*
OMAN ***08*** *18:27:34.8±0.8, 27.80N×57.67E, h10km, mb5.5/10, ml4.3/22, ms3.3/1, Error ellipse: s-maj=5.9km s-min=3.3km az=35.0*
THR ***08*** *18:27:35.2±0.8, 28.06N×57.80E, h15km±8km, ML4.6*
DSN ***08*** *18:27:36.4±3.0, 27.97N×57.43E, h15km, ML4.3/14, Error ellipse: s-maj=34.1km s-min=15.3km az=3.0*
IDC ***08*** *18:27:38.0±2.2, 28.05N×57.70E, h39km±19km, mb3.9/25, mbtmp4.2/30, ML4.3/6, MS3.7/15, Error ellipse: s-maj=12.7km s-min=10.3km az=4.0*
ISC 08 18:27:33.4±0.6, 27.97N±0.03×57.80E±0.03, h15km±3km, n335, σ1s76/361, mb4.4/92, MS3.6/12, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	**Kahnooj**	**0.09**	**258**	Pg	**Pg**	**18 27 37.0**	**+0.4**
KHNJ				Sg	**Sg**	**18 27 39.5**	**+0.8**
IBND	**Bandar-abas**	**1.23**	**246**	Pg	**Pg**	**18 27 57.3**	**+0.1**
KBAM	**BAM**	**1.30**	**26**	Pg	**Pn**	**18 27 57.2**	**0.0**
GENO	**Geno**	**1.55**	**249**	Pg	**Pg**	**18 28 03.2**	**-0.1**
BNDS	**Bandar-Abbas**	**1.55**	**249**	*e*Pg	**Pg**	**18 28 04.1**	**+0.8**
BNDS				*e*Sg	**Sg**	**18 28 26.1**	**+2.6**
BNDS				IAML		18 28 28.8	
	comp=E,13μm,0.4s						
BNDS				IAML		18 28 29.7	
	comp=N,9μm,0.5s						
CHMN	**Cheshme madani**	**1.90**	**353**	Pn	**Pb**	**18 28 07.7**	**-0.4**
JASK	**Jask - Hormozg**	**2.09**	**178**	Pn	**Pb**	**18 28 09.9**	**-1.2**
JASK	**Jask - Hormozg**	**2.09**	**178**	Pg	**Pb**	**18 28 10.2**	**-0.9**
	SNR=27						
JASK				Sg	**Sb**	**18 28 38.1**	**+1.1**
KRBR	**Kerman**	**2.21**	**336**	*e*Pn	**Pb**	**18 28 12.1**	**-1.1**
KRBR				*e*Sg	**Sb**	**18 28 42.4**	**+1.8**
KRBR				IAML		18 28 54.4	
	comp=E,2μm,0.5s						
KRBR				IAML		18 29 00.8	
	comp=N,3μm,0.8s						
TVBK	**TV Kerman**	**2.21**	**336**	Pn	**Pb**	**18 28 12.2**	**-1.1**

SHME Shamm 2.42 218 *e*P Pn 18 28 14.6 +2.1
SNR=343
SHME Shamm 2.42 218 Pg Pb 18 28 15.2 -1.5
SNR=344
SHME Sg Sb 18 28 47.1 +0.9
BANOM Banah 2.44 214 *e*P Pn 18 28 14.9 +2.1
SNR=24
BANOM Banah 2.44 214 Pg Pb 18 28 15.3 -1.7
BANOM Sg Sb 18 28 48.2 +1.3
KHGB Koh Gabri 2.67 335 Pn Pn 18 28 18.7 +2.6
MASF Masafi 2.97 210 Pn Pn 18 28 21.7 +1.5
SNR=24
MDH Madha 2.98 207 *e*P Pn 18 28 20.3 +0.1
SNR=34
MDH Madha 2.98 207 Pn Pn 18 28 20.3 +0.1
SNR=34
MSFE Esma-Masafi 2.98 210 *e*P Pn 18 28 20.8 +0.5
SNR=22
ZHDN Zahedan 3.00 61 Pn Pn 18 28 22.9 +2.2
LAR1 LAR 3.05 265 Pn Pn 18 28 23.7 +2.5
ZHSF Zahedan 3.08 57 *e*Pn Pb 18 28 25.1 -3.0
UMQ Umm Al-Quwin 3.09 219 Pn Pn 18 28 24.6 +2.8
SNR=12
UOSS Minazif 3.33 206 Pn Pn 18 28 23.3 -1.8
UOSS Sn Sn 18 28 59.5 -5.0
UOSS Minazif 3.33 206 *i* P Pn 18 28 24.7 -0.4
SNR=17
UOSS Minazif 3.33 206 Pn Pn 18 28 24.9 -0.1
HATD Hatta, Dubai 3.47 206 *i* P Pn 18 28 26.7 -0.3
SNR=29
HATD Hatta, Dubai 3.47 206 Pn Pn 18 28 27.2 +0.2
SNR=29
NAZ Nazwa, Dubai 3.53 213 P Pn 18 28 30.6 +2.8
NAZ Nazwa, Dubai 3.53 213 Pn Pn 18 28 31.1 +3.3
SNR=26
ASHO Ashiyiah 3.62 206 *i* P Pn 18 28 29.6 +0.5
SNR=97
ASHO Ashiyiah 3.62 206 Pn Pn 18 28 31.1 +1.9
SNR=23
JHRM Jahrom 3.77 279 Pn Pn 18 28 33.7 +2.6
FAQ Al Faqa, Dubai 3.77 212 *i* P Pn 18 28 33.6 +2.5
SNR=37
FAQ Al Faqa, Dubai 3.77 212 Pn Pn 18 28 33.6 +2.5
SNR=37
NGCH Negor - Chabah 3.96 130 Pn Pn 18 28 35.3 +1.7
NGCH Negor - Chabah 3.96 130 Pn Pn 18 28 35.6 +1.9
SNR=25
NGCH Sn Sn 18 29 22.6 +2.8
SOHO SOHO 3.98 197 *i* P Pn 18 28 33.7 -0.3
SNR=56
SOHO SOHO 3.98 197 Pn Pn 18 28 33.6 -0.3
ASUD Al Ashush, Dub 4.00 214 *i* P Pn 18 28 35.8 +1.5
SNR=68
ASUD Al Ashush, Dub 4.00 214 Pn Pn 18 28 37.3 +3.1
SNR=68
SRVN Saravan 4.12 97 Pn Pn 18 28 38.7 +2.8
BSRN Basiran 4.15 16 *e*Pn Pn 18 28 38.6 +2.2
LMD1 Lamerd 4.16 262 Pn Pn 18 28 39.5 +3.0
AJN Ajban 4.23 217 *i* P Pn 18 28 39.4 +2.0
SNR=26
AJN Ajban 4.23 217 Pn Pn 18 28 40.2 +2.8
SNR=26
AJN Sn Sn 18 29 28.1 +1.6
QIR1 Qir 4.23 278 Pn Pn 18 28 40.6 +3.1
ALNE Al Ain 4.31 206 *i* P Pn 18 28 40.9 +2.3
SNR=44
ALNE Al Ain 4.31 206 Pn Pn 18 28 41.2 +2.7
SNR=44
HOQ Hoqain 4.39 186 Pn Pn 18 28 39.5 -0.1
HOQ Hoqain 4.39 186 Pn Pn 18 28 39.5 -0.1
SNR=170
HOQ Sn Sn 18 29 30.2 -0.3
IMEH Mehriz 4.40 322 Pn Pn 18 28 43.2 +3.2
BIDO Bidbid 4.44 176 Pn Pn 18 28 40.2 0.0
SNR=17
BIDO Sn Sn 18 29 31.3 -0.4
IKOO Kooshah 4.56 13 Pn Pn 18 28 44.6 +2.4
ARQ Araqi 4.75 194 Pn Pn 18 28 47.2 +2.5
SNR=52
ARQ Sn Sn 18 29 41.4 +1.9
WSAR Wadi Sarin 4.77 171 Pn Pn 18 28 46.4 +1.6
comp=N,28nm,0.3s,baz=329,slow=6.3,SNR=518
WSAR Sn Sn 18 29 39.7 -0.2
comp=N,64nm,0.3s,baz=227,slow=19,SNR=16
WSAR LR LR 18 31 25.2
comp=N,492nm,18.2s,baz=5.5,slow=47
WSAR Wadi Sarin 4.77 171 Pn Pn 18 28 46.0 +1.2
SNR=696
WSAR Sn Sn 18 29 39.6 -0.3
SMDO Samad 4.89 177 Pn Pn 18 28 47.6 +1.0
SNR=35
SMDO Sn Sn 18 29 43.2 +0.2
ITEG Tejag 4.98 9 Pn Pn 18 28 50.4 +2.5
IDAH Dahanechah 5.08 20 Pn Pn 18 28 51.8 +2.4
TPRV Parvadeh(Tabas 5.14 349 Pn Pn 18 28 52.9 +2.9
ICHK Chekchek 5.18 326 Pn Pn 18 28 53.4 +2.8
YZKH Yazd 5.21 329 *e*Pn Pn 18 28 55.6 +4.6
BSY Bisya 5.23 186 Pn Pn 18 28 52.9 +1.8
SNR=11
BSY Sn Sn 18 29 53.7 +2.4
ISAD Sadrabad 5.31 319 Pn Pn 18 28 55.6 +3.0
JRN Qarnain Island 5.36 237 Pn Pn 18 28 54.6 +1.6
SNR=7.7
WBK Wadi Bani Khal 5.44 169 Pn Pn 18 28 55.2 +1.2
WBK Wadi Bani Khal 5.44 169 Pn Pn 18 28 55.1 +1.0
SNR=58
WBK Sn Sn 18 29 56.2 -0.2
JMDO Jabal Madar 5.58 177 Pn Pn 18 28 57.8 +1.8
SNR=11
KAZ2 Kazeron-Fars-I 5.63 288 Pn Pn 18 28 58.4 +1.6
TKDS Koohdasht(Taba 5.66 354 Pn Pn 18 28 59.7 +2.6
TABS Tabas 5.70 354 *e*Pn Pn 18 29 03.4 +5.8
TABS IAML 18 30 57.3
comp=N,94nm,0.7s
DSBU Dashti - Bushe 5.79 275 Pn Pn 18 29 01.1 +2.2
JLN Jalan Bani Buh 5.97 166 Pn Pn 18 29 02.0 +0.7
SNR=89
JLN Sn Sn 18 30 07.5 -2.0
SNR=6.6
SHRT Shahrakht 6.05 20 *e*Pn Pn 18 29 05.6 +3.1
IRAM Ramesheh 6.07 310 Pn Pn 18 29 05.4 +2.5
KLNJ Kolanjah 6.20 301 Pn Pn 18 29 07.3 +2.5
MZR Muzera 6.30 219 *i* P Pn 18 29 06.8 +0.9
SNR=7.1
MZR Muzera 6.30 219 Pn Pn 18 29 06.9 +1.0
SNR=21
MZR Sn Sn 18 30 18.0 +0.3
SHMA Al-Shehemyia 6.46 253 Pn Pn 18 29 09.4 +1.4
SNR=90
SHMA Sn Sn 18 30 21.1 -0.3
NASN Na'in 6.46 319 *e*Pn Pn 18 29 11.6 +3.1
IGAR Gharneh 6.66 313 Pn Pn 18 29 13.8 +2.8
SLWR Sila 6.73 236 Pn Pn 18 29 12.1 +0.4
SLWR Sn Sn 18 30 26.0 -2.1
TRNA Turayna 6.73 243 Pn Pn 18 29 12.2 +0.4
SNR=115
TRNA Sn Sn 18 30 26.6 -1.6
SAKB Bahrain 6.78 255 Pn Pn 18 29 13.7 +1.3
SAKB Sn Sn 18 30 28.5 -0.9
IZEF Zefreh 6.81 317 Pn Pn 18 29 15.6 +2.4
IBRJ Brojen 6.90 306 Pn Pn 18 29 17.4 +3.0
MHTO MHTO 6.95 179 Pn Pn 18 29 16.0 +1.2
SNR=15
MHTO Sn Sn 18 30 32.0 -1.7
SMRA Abu-Samra 7.03 244 Pn Pn 18 29 17.3 +1.4
SNR=104
SMRA Sn Sn 18 30 34.7 -0.9
ZNGN Zangian 7.30 306 Pn Pn 18 29 22.5 +2.5
HRA Herat 7.45 30 Pn 18 29 23.5 +1.7
JHBN Jahan bin 7.50 306 Pn Pn 18 29 25.2 +2.6
TBJM Torbat-e-JAM 7.59 16 Pn Pn 18 29 26.9 +3.1
IPIR Pirpir 7.60 310 Pn Pn 18 29 26.8 +2.8
QAMS Qamsar 7.96 318 Pn Pn 18 29 31.7 +2.8
SHRO Shahrood 8.14 350 *e*Pn Pn 18 29 37.8 +6.5
SBZV Sabzevar 8.40 359 Pn Pn 18 29 37.9 +3.0
GHVR GHOM 8.55 321 *e*Pn Pn 18 29 41.6 +4.7
KHMZ Khomeyn 8.86 312 *e*Pn Pn 18 29 44.1 +2.9
KBD Kabd 8.97 280 Pn Pn 18 29 43.3 +0.8
KBD Sn Sn 18 31 23.3 0.0
MRVT Maraveh tapeh 9.77 352 *e*Pn Pn 18 29 56.9 +3.3
GEYT Alibeck 9.94 1 Pn 18 29 57.2 +1.4
GEYT Alibeck 9.94 1 Pn Pn 18 30 00.5 +4.7
comp=N,0.5nm,0.3s,baz=210,slow=17,SNR=6.1
GEYT Lg Lg 18 32 51.8
comp=N,0.1nm,0.3s,baz=140,slow=12,SNR=1.4
GEYT LR LR 18 34 04.3
comp=N,432nm,21.2s,baz=188,slow=39
GEYT Alibeck 9.94 1 P Pn 18 29 57.2 +1.4
GYA0B ALIBECK ARRAY 9.94 1 Pn Pn 18 29 56.5 +0.7
SHAO Shalim 10.10 192 *i* P Pn 18 29 59.4 +1.4
SNR=18
DMTO DMTO 10.54 195 Pn Pn 18 30 03.4 -0.6
SNR=34
RBK Rabkut 10.93 198 Pn Pn 18 30 08.7 -0.8
ABTO Aybut 11.35 202 Pn Pn 18 30 14.6 -0.6
SNR=36
KBL Kabul 11.63 53 Pn Pn 18 30 21.6 +2.5
KBL Kabul 11.63 53 P Pn 18 30 21.7 +2.5
RAYN Ar Rayn 11.93 251 Pn 18 30 20.4 -2.8
RAYN Ar Rayn 11.93 251 *i* P Pn 18 30 20.2 -3.0
SNR=44
RAYN Ar Rayn 11.93 251 Pn Pn 18 30 20.9 -2.3
RAYN Ar Rayn 11.93 251 P Pn 18 30 20.8 -2.4
RAYN pmax pmax
comp=Z,28nm,0.5s
SIMJ Simiganj 14.18 38 Pn Pn 18 30 54.5 +0.5
CHGR Chuyangaron 14.26 39 Pn Pn 18 30 56.9 +1.9
CHGR Chuyangaron 14.26 39 P Pn 18 30 56.9 +1.9
GAR Garm 15.15 40 Pn 18 31 06.8 -0.3
GAR IAmb IAmb 18 31 15.6
comp=Z,15nm,0.8s
GEVA Gevas 16.07 314 Pn Pn 18 31 16.2 -2.9
BTK Batken 16.16 38 Pn Pn 18 31 18.9 -1.2
BTK Batken 16.16 38 P Pn 18 31 18.9 -1.2
GNI Garni 16.25 322 Pn 18 31 18.8 -2.6
GNI IAmb IAmb 18 31 36.1
comp=Z,25nm,1.0s
GNI Garni 16.25 322 Pn P 18 31 24.5 +0.1
comp=Z,1.9nm,0.3s,baz=284,slow=4.2,SNR=6.7
comp=Z,7.7nm,0.5s
GNI Garni 16.25 322 P Pn 18 31 18.8 -2.6
GNI pmax pmax
comp=Z,25nm,1.0s
DRK Karamyk 16.33 42 Pn 18 31 22.6 0.0
DRK Karamyk 16.33 42 P Pn 18 31 22.6 0.0
DRK pmax pmax
comp=Z,23nm,1.2s
GURO Guroymak-BITLI 16.87 313 Pn 18 31 27.7 -1.5
GURO IAmb IAmb 18 31 36.4
comp=Z,58nm,1.3s
MARD Mardin 17.08 307 Pn Pn 18 31 30.1 -1.7
MARD IAmb IAmb 18 31 36.2
comp=Z,45nm,0.8s
KARS Kars 17.50 320 Pn Pn 18 31 35.0 -2.1
KARS IAmb IAmb 18 31 48.4
comp=Z,84nm,1.4s
KARS Kars 17.50 320 P Pn 18 31 35.0 -2.1
KARS pmax pmax
comp=Z,84nm,1.4s
GROC Groznyy 18.04 331 *e*P P 18 31 44.5 +0.5
KK31 Karatay Array 18.27 31 Pn 18 31 45.2 -1.2
KK31 Karatay Array 18.27 31 P Pn 18 31 45.3 -1.2
KK31 pmax pmax
comp=Z,9.0nm,0.9s
KKAR Karatay Array 18.27 31 Pn 18 31 46.0 -0.5
KKAR Karatay Array 18.27 31 P Pn 18 31 46.0 -0.5
KKAR pmax pmax
comp=Z,9.0nm,0.9s
KOPT Kop Dagi 18.68 315 P P 18 31 50.1 -1.2
KOPT IAmb IAmb 18 32 00.2
comp=Z,22nm,0.9s
KSH Kashi 18.96 48 P P 18 31 51.3 -3.0
KSH pP Pn 18 31 55.1 +0.1
KSH sP pP 18 31 57.5 -1.1
KSH pmax pmax
comp=Z,4.0nm,1.0s
GAZ Gaziantep 19.60 303 P 18 31 59.5 -1.7
GAZ IAmb IAmb 18 32 04.7
comp=Z,16nm,0.6s
GHAJ Ghor Haditha 19.61 285 P 18 31 59.3 -1.9
GHAJ IAmb IAmb 18 32 35.1
comp=Z,26nm,0.8s
BALJ Balqa 19.62 287 P P 18 31 59.9 -1.5
BALJ IAmb IAmb 18 32 19.0
comp=Z,19nm,0.8s
ARPR Arapgir-MALATY 19.62 309 P 18 32 00.7 -0.9
ARPR IAmb IAmb 18 32 08.3
comp=Z,49nm,1.2s
KBZ Khabaz 19.78 327 P Pn 18 32 04.7 +0.1
comp=Z,0.1nm,0.3s,baz=142,slow=10,SNR=9.4
comp=Z,3.1nm,0.9s
MMAI Mount Meron Ar 19.93 290 P Pn 18 32 06.7 0.0
comp=Z,1.2nm,0.3s,baz=102,slow=15,SNR=9.1
MMAI S S 18 35 46.4 -2.6
comp=Z,2.2nm,0.5s,baz=30,slow=15,SNR=5.8
comp=Z,2.0nm,0.5s
AAK Ala-Archa 19.94 38 P P 18 32 04.3 -0.8
AAK Ala-Archa 19.94 38 P Pn 18 32 07.6 +0.9
comp=Z,0.7nm,0.3s,baz=216,slow=9.0,SNR=12
AAK LR LR 18 41 00.1
comp=Z,142nm,19.1s,baz=252,slow=40
comp=Z,5.6nm,0.6s
KIV Kislovodsk 20.05 327 P 18 32 05.1 -1.1
KIV IAmb IAmb 18 32 18.1
comp=Z,25nm,0.9s
KIV Kislovodsk 20.05 327 *e*P Pn 18 32 08.5 +0.5
KIV pmax pmax
comp=Z,25nm,1.0s
KIV Kislovodsk 20.05 327 P Pn 18 32 09.3 +1.3
comp=Z,26nm,1.0s
EIL Elat 20.09 280 P P 18 32 07.8 +1.2
comp=Z,0.7nm,0.3s,baz=74,slow=7.6,SNR=9.0
EIL S Sn 18 36 01.1 +6.8
comp=Z,6.0nm,0.8s,baz=290,slow=19,SNR=2.3
comp=Z,21nm,1.0s
FRU1 Bishkek 20.13 38 P P 18 32 05.0 -2.0
FRU1 Bishkek 20.13 38 P P 18 32 05.0 -2.0
FRU1 pmax pmax
comp=Z,9.0nm,0.8s
BOOM Boomskoye usch 20.66 41 P 18 32 11.9 -1.0
BOOM IAmb IAmb 18 32 20.7
comp=Z,28nm,1.3s
BOOM Boomskoye usch 20.66 41 P P 18 32 11.9 -1.0
BOOM pmax pmax
comp=Z,28nm,1.3s
BNN Bunyan 21.25 306 P P 18 32 17.2 -2.0
ABKAR Akbulak array 21.32 4 P P 18 32 19.3 -0.4
ABKAR Akbulak array 21.32 4 P P 18 32 19.4 -0.3
ABKAR IAmb IAmb 18 32 26.4
comp=Z,11nm,0.8s
TOKA Tokat 21.46 311 P P 18 32 21.3 -0.1
TOKA IAmb IAmb 18 32 27.3
comp=Z,15nm,1.2s
ATD Arta Tunnel 21.54 224 P P 18 32 19.4 -2.9
ATD Arta Tunnel 21.54 224 P P 18 32 24.1 +1.8
comp=Z,1.5nm,0.9s,baz=4.0,slow=5.9,SNR=5.5
comp=Z,1.5nm,0.9s
CSS Mathiatis 21.98 295 P P 18 32 26.3 -0.6
CSS IAmb IAmb 18 32 38.9
comp=Z,22nm,0.9s
AKTO Aktyubinsk 22.44 0 P P 18 32 33.5 +1.8
comp=Z,8.4nm,0.6s,baz=192,slow=7.5,SNR=17
AKTO LR LR 18 42 52.8
comp=Z,237nm,19.1s,baz=212,slow=41
comp=Z,8.4nm,0.6s
BR131 Keskin Array S 23.17 307 P P 18 32 38.3 -1.3
BR131 IAmb IAmb 18 32 42.1
comp=Z,19nm,0.8s
BR131 Keskin Array S 23.17 307 P P 18 32 38.3 -1.3
BR131 pmax pmax
comp=Z,19nm,0.9s
BRTR Keskin Array B 23.17 307 P P 18 32 38.9 -0.8
BRTR Keskin Array B 23.17 307 P P 18 32 40.2 +0.6
comp=Z,15nm,0.9s,baz=118,slow=9.9,SNR=54
comp=Z,15nm,0.9s
BRTR Keskin Array B 23.17 307 P P 18 32 38.9 -0.8
ILGA Ilgaz 23.66 310 P P 18 32 43.3 -1.4
ILGA IAmb IAmb 18 33 25.4
comp=Z,17nm,0.9s
ANTO Ankara 23.82 306 P P 18 32 46.2 +0.2
ANTO IAmb IAmb 18 32 48.9
comp=Z,15nm,0.8s
ANTO Ankara 23.82 306 P P 18 32 46.2 +0.2
ANTO pmax pmax
comp=Z,15nm,0.8s
ANTO Ankara 23.82 306 P P 18 32 47.3 +1.3
comp=Z,11nm,0.7s
BR231 Keskin MP Arra 23.83 306 P P 18 32 46.2 +0.1
BR231 IAmb IAmb 18 32 49.1
comp=Z,14nm,0.7s
ISP Isparta 24.85 300 P P 18 32 55.8 +0.3
ISP Isparta 24.85 300 P P 18 32 55.8 +0.3
ISP pmax pmax
comp=Z,41nm,0.7s
ELL Elmali 25.07 298 P P 18 32 56.8 -0.7
ELL Elmali 25.07 298 P P 18 32 56.8 -0.7
ELL pmax pmax
comp=Z,134nm,1.2s
MDUB Mudurnu 25.18 307 P P 18 32 58.2 -0.3
AKAS Kas 25.20 296 P P 18 32 57.9 -0.9
BORA Eskisehir 25.51 305 P P 18 32 59.6 -1.9
VRH Novokhopyorsk 26.19 337 P P 18 33 13.5 +6.1
VRH pmax pmax
comp=Z,18nm,1.5s
ARG Arkhangelos 26.38 296 P P 18 33 08.1 -1.1
ARG Arkhangelos 26.38 296 P P 18 33 08.1 -1.1
ARG pmax pmax
comp=Z,88nm,1.4s
MANT Manisa 26.52 301 P P 18 33 07.6 -3.1
MANT IAmb IAmb 18 33 44.0
comp=Z,8.5nm,0.8s
MAKZ Makanchi 26.71 39 P P 18 33 10.6 -1.5
MAKZ Makanchi 26.71 39 P P 18 33 10.6 -1.5
MAKZ pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 26.72 17 P P 18 33 13.4 +1.3
comp=Z,12nm,0.7s,baz=198,slow=8.7,SNR=61
BVAR PcP PcP 18 36 35.9 +0.6
comp=Z,2.0nm,0.5s,baz=241,slow=2.9,SNR=10
BVAR ScP ScP 18 40 13.8 -1.1
comp=Z,0.5nm,0.5s,baz=224,slow=4.0,SNR=4.0
BVAR LR LR 18 45 16.0
comp=Z,350nm,18.3s,baz=210,slow=40
comp=Z,12nm,0.7s
BRVK Borovoye 26.72 17 P P 18 33 11.0 -1.1
BRVK IAmb IAmb 18 33 14.3
comp=Z,6.3nm,0.8s
BRVK Borovoye 26.72 17 P P 18 33 11.0 -1.1
BRVK pmax pmax
comp=Z,6.0nm,0.8s
MKAR Makanchi Array 26.87 39 PcP PcP 18 36 36.0 +0.2
comp=Z,0.4nm,0.6s,baz=223,slow=3.6,SNR=1.9
MKAR LR LR 18 45 03.0
comp=Z,103nm,18.8s,baz=250,slow=39
VORR Voronezh 27.49 335 P P 18 33 26.6 +7.5
VORR pmax pmax
comp=Z,6.0nm,1.3s
KURBB Kurchatov Arra 27.56 29 P P 18 33 20.8 +1.1
comp=Z,2.9nm,0.8s,baz=228,slow=8.4,SNR=31
KURBB LR LR 18 45 44.8
comp=Z,85nm,20.3s,baz=164,slow=40
comp=Z,2.9nm,0.8s
KURK Kurchatov 27.66 29 P P 18 33 18.9 -1.7
KURK Kurchatov 27.66 29 P P 18 33 20.8 +0.2
ARU Arti 28.45 1 LR LR 18 46 09.5
comp=Z,88nm,18.1s,baz=126,slow=39
IDI Anoyia 28.86 293 P P 18 33 29.1 -2.5
IDI IAmb IAmb 18 33 54.0
comp=Z,14nm,1.2s
RDO Rodhopi 29.47 305 P P 18 33 34.5 -2.3
RDO IAmb IAmb 18 33 45.2
comp=Z,9.6nm,1.4s
MLR Muntele Rosu 30.68 313 P P 18 33 46.3 -1.3
MLR IAmb IAmb 18 33 58.4
comp=Z,9.9nm,1.3s
MLR Muntele Rosu 30.68 313 P P 18 33 46.3 -1.3
MLR pmax pmax
comp=Z,10.0nm,1.3s
KIRV Kirov 31.16 352 LR LR 18 48 45.8
comp=Z,166nm,19.0s,baz=165,slow=41
KIEV Kiev 31.36 324 P P 18 33 52.1 -1.3
KIEV IAmb IAmb 18 34 03.2
comp=Z,5.0nm,1.1s
KIEV Kiev 31.36 324 P P 18 33 52.1 -1.3
KIEV pmax pmax
comp=Z,5.0nm,1.1s
AGG Agios Georgios 31.39 300 P P 18 33 51.3 -2.6
AGG IAmb IAmb 18 34 04.0
comp=Z,5.5nm,1.3s
AGG Agios Georgios 31.39 300 P P 18 33 51.3 -2.6
AGG pmax pmax
comp=Z,6.0nm,1.3s
BURAR Bucovina Array 32.03 317 P P 18 33 57.1 -2.4
BUR08 Bucovina Ar. S 32.05 317 P P 18 33 56.6 -3.1
GOMU GeErMu 32.27 66 P P 18 34 05.3 +3.3
GOMU pP sP 18 34 09.0 +0.4
GOMU sP pP 18 34 10.4 +3.7
GOMU pmax pmax
comp=Z,3.0nm,0.8s
LODK Lodwar 32.46 225 P P 18 33 59.6 -3.9
ZAA0 Zalesovo Array 32.64 30 P P 18 34 04.0 -0.6
ZALV Zalesovo Beam 32.64 30 P P 18 34 04.5 -0.2
ZALV Zalesovo Beam 32.64 30 P P 18 34 05.6 +1.0
comp=Z,7.5nm,0.7s,baz=243,slow=9.7,SNR=40
ZALV PcP PcP 18 36 49.7 -0.7
comp=Z,1.2nm,0.5s,baz=234,slow=3.2,SNR=3.7
ZALV LR LR 18 49 06.6
comp=Z,76nm,18.1s,baz=237,slow=40
comp=Z,7.5nm,0.7s
PUK Puka 33.79 305 P P 18 34 12.6 -2.4
PUK IAmb IAmb 18 34 52.7
comp=Z,8.8nm,1.3s
KOLS Kolonicke sedl 34.37 317 *e*P P 18 34 21.2 +1.4
KOLS Kolonicke sedl 34.37 317 *e*P P 18 34 21.2 +1.4
KWP Kalwaria Pacla 34.41 319 P P 18 34 18.3 -1.8
KWP Kalwaria Pacla 34.41 319 P P 18 34 18.3 -1.8
KWP pmax pmax
comp=Z,14nm,1.2s
TIP Timpagrande 35.70 299 P P 18 34 29.5 -2.0
TIP IAmb IAmb 18 34 43.0
comp=Z,8.2nm,1.1s
VYHS Vyhne 36.31 315 *e*P P 18 34 39.5 +3.0
VYHS Vyhne 36.31 315 *e*P P 18 34 39.5 +3.0
OJC Ojcow 36.37 318 P P 18 34 35.9 -1.0
OJC Ojcow 36.37 318 P P 18 34 35.9 -1.0
OJC pmax pmax
comp=Z,17nm,1.4s
OJC Ojcow 36.37 318 P P 18 34 36.8 -0.1
comp=Z,8.8nm,1.0s
GTA Gaotai 36.48 61 *e*P P 18 34 40.8 +2.6
GTA pP sP 18 34 44.7 -0.1
GTA pmax pmax
comp=Z,4.0nm,1.0s
CUC Castrocucco 36.51 300 P P 18 34 36.4 -2.0
CUC IAmb IAmb 18 34 52.0
comp=Z,8.1nm,0.8s
MORC Moravsky Berou 37.55 317 P P 18 34 46.3 -0.8
MORC Moravsky Berou 37.55 317 *e*P P 18 34 46.2 -0.8
MORC *e*pP pP 18 34 51.9 +0.1
MORC Moravsky Berou 37.55 317 P P 18 34 46.3 -0.8
MORC pmax pmax
comp=Z,7.0nm,1.5s
PAOL Paolisi 37.57 302 P P 18 34 45.8 -1.6
PAOL IAmb IAmb 18 34 50.1
comp=Z,16nm,1.3s
RONA Rosalia, Austr 37.68 313 *e*pP P 18 34 49.5 +1.3
comp=Z,3.5nm,0.9s
VRAC Vranov 37.98 316 *e*P P 18 34 51.2 +0.5
VRAC *e*pP pP 18 34 55.2 -0.2
KRUC Moravsky 38.02 315 *e*P P 18 34 51.7 +0.7
CONA Conrad Observa 38.03 313 *e*pP P 18 34 51.5 +0.4
comp=Z,4.7nm,1.4s
INTR Introdacqua 38.18 303 P P 18 34 51.7 -0.8
INTR IAmb IAmb 18 35 03.8
comp=Z,5.8nm,0.7s
MBAR Mbarara 38.49 227 LR LR 18 52 57.0
comp=Z,198nm,18.7s,baz=36,slow=40
CAMP Campotosto 38.61 304 P P 18 34 54.6 -1.6
CMAR Chiang Mai Arr 38.82 95 P P 18 35 00.2 +2.1
comp=Z,0.4nm,0.3s,baz=288,slow=9.6,SNR=1.6
CMAR PcP PcP 18 37 11.5 +2.1
comp=Z,0.6nm,0.4s,baz=289,slow=5.4,SNR=1.5
comp=Z,0.4nm,0.3s
NRCA Norcia 38.87 304 P P 18 34 56.6 -1.7
FDMO Fiordimonte 38.91 305 P P 18 34 57.4 -1.3
PZH PanZhiHua 38.94 82 P P 18 34 58.6 -0.6
PZH pmax pmax
comp=Z,6.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.2s
CKRC Cesky Krumlov 39.27 314 *e*P P 18 35 06.2 +4.7
CKRC Cesky Krumlov 39.27 314 *e*P P 18 35 06.2 +4.7
BIOA Bad Ischl, Aus 39.41 312 *e*P P 18 35 02.5 -0.2
comp=Z,4.7nm,0.9s
KBA Koelnbreinsper 39.46 311 *e*pP P 18 35 05.3 +1.9

comp=Z,1.3nm,0.5s
ZVC Zvikov 39.51 315 *e*P P **18 35 04.8 +1.3**
FIA1 FINESS Array S 39.59 337 P P **18 35 03.2 -0.7**
FIA1 IAmb IAmb 18 35 32.6
comp=Z,13nm,1.1s
FINES FINESS Array B 39.59 337 P P **18 35 03.1 -0.8**
FINES FINESS Array B 39.59 337 P P **18 35 04.0 +0.1**
comp=Z,1.5nm,0.5s,baz=133,slow=9.6,SNR=22
comp=Z,1.5nm,0.5s
FINES FINESS Array B 39.59 337 P P **18 35 04.0 +0.1**
GEC2 GERESS Array S 39.66 314 P P **18 35 04.1 -0.8**
GERES GERESS Array B 39.66 314 P P **18 35 03.5 -1.4**
GERES GERESS Array B 39.66 314 P P **18 35 04.9 0.0**
comp=Z,0.8nm,0.7s,baz=85,slow=11,SNR=4.5
comp=Z,0.8nm,0.7s
KHC Kasperske Hory 39.82 314 P P **18 35 04.8 -1.3**
KHC Kasperske Hory 39.82 314 *e*P P **18 35 07.7 +1.6**
KHC Kasperske Hory 39.82 314 *e*P P **18 35 07.7 +1.6**
KHC Kasperske Hory 39.82 314 P P **18 35 06.1 0.0**
comp=Z,6.4nm,1.4s
PHRA Phrae 39.94 94 P P **18 35 05.3 -2.2**
ABTA Abfaltersbach 39.95 310 *e*P P **18 35 05.4 -1.9**
comp=Z,0.8nm,0.4s
MOY Mondy 39.95 42 *e*P P **18 35 09.6 +2.3**
LESA Schwarzleotal 39.98 312 *e*pP P **18 35 08.9 +1.3**
comp=Z,3.0nm,0.7s
WTTA Wattenberg 40.64 311 *e*P P **18 35 12.7 -0.5**
comp=Z,5.5nm,0.9s
WATA Walderalm 40.70 311 *e*pP P **18 35 15.6 +2.0**
comp=Z,0.3nm,0.3s
CLL Collm 40.79 317 P P **18 35 12.0 -2.0**
CLL Collm 40.79 317 *e*P P **18 35 14.0 -0.1**
CLL *i* *PP **pP** **18 35 18.1 -0.7**
CLL *i* sP **sP** **18 35 19.7 -1.0**
comp=Z,8.0nm,1.1s
CLL *e*PP **PP** **18 36 48.0 0.0**
CLL Collm 40.79 317 *e*P P **18 35 14.0 -0.1**
CLL *i* *PP **pP** **18 35 18.1 -0.7**
SQTA Sankt Quirin 40.92 311 *e*P P **18 35 13.8 -1.6**
comp=Z,5.2nm,0.7s
MOTA Moosalm 41.01 311 *e*P P **18 35 15.7 -0.5**
comp=Z,2.4nm,0.6s
FETA Feichten 41.20 310 *e*pP P **18 35 19.0 +1.2**
comp=Z,3.4nm,0.9s
FUORN Ofenpass-Fuorn 41.45 310 P P **18 35 18.0 -1.9**
MSSA Maissana 41.64 306 P P **18 35 19.2 -2.1**
MSSA IAmb IAmb 18 35 26.5
comp=Z,12nm,1.1s
DAVA Damuels 41.82 311 *e*pP P **18 35 24.3 +1.5**
comp=Z,5.2nm,0.7s
TUE Stuetta 42.05 309 P P **18 35 22.9 -1.8**
LVZ Lovozero 42.30 347 P P **18 35 26.1 -0.2**
LVZ IAmb IAmb 18 35 45.2
comp=Z,21nm,1.5s
LVZ Lovozero 42.30 347 P P **18 35 26.1 -0.2**
LVZ pmax pmax
comp=Z,21nm,1.5s
SONM Songino Array 42.36 49 P P **18 35 26.7 -0.5**
SONM Songino Array 42.36 49 P P **18 35 27.8 +0.6**
comp=Z,1.0nm,0.7s,baz=248,slow=7.8,SNR=6.1
SONM LR LR 18 55 21.5
comp=Z,143nm,19.4s,baz=260,slow=39
comp=Z,1.0nm,0.7s
BNI Bardonecchia 43.73 307 P P **18 35 36.7 -1.6**
BNI IAmb IAmb 18 35 49.3
comp=Z,5.6nm,0.8s
BNI Bardonecchia 43.73 307 P P **18 35 36.7 -1.6**
BNI pmax pmax
comp=Z,6.0nm,0.8s
ECH Echery 43.78 312 P P **18 35 38.1 -0.5**
ECH Echery 43.78 312 P P **18 35 38.1 -0.5**
ECH pmax pmax
comp=Z,7.0nm,1.4s
HFS Hagfors 43.80 330 P P **18 35 39.1 +0.6**
comp=Z,1.5nm,0.5s,baz=116,slow=6.7,SNR=12
comp=Z,1.5nm,0.5s
WLF Walferdange 44.67 314 P P **18 35 45.3 -0.3**
WLF IAmb IAmb 18 35 51.5
comp=Z,5.5nm,0.8s
WLF Walferdange 44.67 314 P P **18 35 45.3 -0.3**
WLF pmax pmax
comp=Z,6.0nm,0.8s
NORES NORESS Array B 45.03 330 P P **18 35 51.4 +3.1**
NC405 NORESS Array S 45.11 330 P P **18 35 47.9 -1.1**
NB2 NORSAR Subarra 45.30 330 P P **18 35 49.8 -0.7**
comp=Z,1.3nm,0.6s,baz=113,slow=7.9
NOA NORSAR Array B 45.30 330 P P **18 35 52.4 +1.8**
comp=Z,0.3nm,0.4s,baz=101,slow=7.2,SNR=3.4
comp=Z,0.3nm,0.4s
HHC Hu-ho-hao-te 45.52 59 *e*P P **18 35 54.8 +2.1**
HHC pmax pmax
comp=Z,14nm,0.6s
HHC pmax pmax
comp=Z,44nm,4.4s
ARCES ARCESS Array B 45.60 345 P P **18 35 52.9 +0.2**
comp=Z,3.4nm,0.7s,baz=135,slow=9.0,SNR=14
comp=Z,3.4nm,0.7s
BOD Bodaibo 48.90 36 *e*P P **18 36 19.0 +0.4**
BOD pmax pmax
comp=Z,20nm,1.0s
EKA Eskdalemuir Ar 51.09 320 P P **18 36 35.2 0.0**
comp=Z,0.3nm,0.4s,baz=100,slow=6.6,SNR=3.6
comp=Z,0.3nm,0.4s
ESDC Sonseca Array 51.71 300 P P **18 36 40.5 +0.3**
comp=Z,0.8nm,0.6s,baz=66,slow=7.6,SNR=9.9
comp=Z,0.8nm,0.6s
NJ2 Nanjing 52.42 70 *e*P P **18 36 44.3 -1.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
SPITS Spitsbergen Ar 53.62 350 P P **18 36 53.4 -0.3**
comp=Z,8.3nm,0.8s,baz=134,slow=4.2,SNR=12
comp=Z,8.3nm,0.8s
TOA0 Torodi Ar. Sit 54.13 266 P P **18 36 56.6 -1.7**
TORD Torodi Ar. Bea 54.13 266 P P **18 36 57.1 -1.2**
TORD Torodi Ar. Bea 54.13 266 P P **18 36 59.2 +0.8**
comp=Z,8.2nm,0.5s,baz=62,slow=7.8,SNR=40
comp=Z,8.2nm,0.5s
ZEA Zeya 55.96 42 *e*P P **18 37 12.5 +1.5**
HEH HeiHe 56.26 46 *e*P P **18 37 14.2 +1.0**
TIXI Tiksi 57.77 21 P P **18 37 22.9 -0.6**
TIXI IAmb IAmb 18 37 37.6
comp=Z,3.1nm,0.7s
TIXI Tiksi 57.77 21 LR LR 19 04 19.7
comp=Z,44nm,18.1s,baz=282,slow=38
TIXI Tiksi 57.77 21 P P **18 37 22.9 -0.6**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
MDJ Mudanjiang 58.40 53 P P **18 37 25.7 -2.7**
MDJ pmax pmax
comp=Z,5.0nm,1.1s
MDJ pmax pmax
comp=Z,180nm,3.5s
KSRS Korea Array 58.55 61 P P **18 37 29.3 -0.2**
comp=Z,1.1nm,0.5s,baz=271,slow=6.8,SNR=7.2
comp=Z,1.1nm,0.5s
KLR Kul'dur 59.16 47 LR LR 19 05 11.6
comp=Z,66nm,18.1s,baz=230,slow=38
DAG Danmarks Havn 59.89 345 P P **18 37 38.4 +0.2**
DAG Danmarks Havn 59.89 345 *i* P P **18 37 38.0 -0.2**
DAG IAmb IAmb 18 37 42.5
comp=Z,2.7nm,0.7s
DBG Daneborg 60.08 342 *i* P P **18 37 40.7 +1.2**
DBG IAmb IAmb 18 37 44.4
comp=Z,3.0nm,0.9s
NOR Nord 60.25 351 *i* P P **18 37 39.5 -1.1**
NOR IAmb IAmb 18 37 41.9
comp=Z,1.6nm,0.8s
LBTB Lobatse 61.13 214 LR LR 19 04 50.3
comp=Z,42nm,18.6s,baz=52,slow=36
DBIC Dimbokro 62.78 263 P P **18 37 59.5 +0.8**
comp=Z,3.6nm,0.8s,baz=63,slow=9.3,SNR=1.8
comp=Z,3.6nm,0.8s
BOSA Boshof 64.32 212 P P **18 38 09.3 +0.6**
comp=Z,4.0nm,0.7s,baz=32,slow=6.3,SNR=7.5
comp=Z,4.0nm,0.7s
SUMG Summit 65.43 341 P P **18 38 15.6 -0.1**
SUMG Summit 65.43 341 P P **18 38 15.6 -0.1**
SUMG pmax pmax
comp=Z,12nm,1.1s
SUMG Summit 65.43 341 *i* P P **18 38 16.0 +0.3**
SUMG IAmb IAmb 18 38 20.6
comp=Z,5.0nm,0.8s
YSS Yuzh-Sakhalins 66.85 48 *e*P P **18 38 24.5 -0.3**
YSS pmax pmax
comp=Z,10.0nm,1.2s
NEEM North Greenlan 66.88 347 *i* P P **18 38 24.6 -0.3**
NEEM IAmb IAmb 18 38 26.5
comp=Z,3.9nm,0.8s
FRB Frobisher Bay 79.36 339 P P **18 39 38.3 -0.1**
comp=Z,5.3nm,0.8s,baz=34,slow=6.2,SNR=5.9
comp=Z,5.3nm,0.8s
B22K Teshekpuk Lake 79.46 10 P P **18 39 38.3 -0.5**
A36M Sachs Harbour 80.30 1 P P **18 39 42.4 -0.9**
A36M IAmb IAmb 18 39 44.2
comp=Z,4.9nm,0.7s
D25K Kavik River 81.41 8 P P **18 39 49.1 -0.3**
D25K IAmb IAmb 18 39 58.7
comp=Z,4.2nm,1.1s
TOLK Toolik Lake Re 81.59 10 P P **18 39 50.0 -0.4**
E24K Your Creek 82.27 10 P P **18 39 53.9 -0.1**
E24K IAmb IAmb 18 39 56.1
comp=Z,6.9nm,1.4s
E25K Arctic Village 82.64 9 P P **18 39 55.5 -0.4**
E25K IAmb IAmb 18 39 57.1
comp=Z,2.3nm,0.7s
C36M Paulatuk 82.96 1 P P **18 39 56.0 -1.5**
C36M IAmb IAmb 18 39 58.2
comp=Z,2.4nm,0.5s
BMAR Burnt Mountain 83.42 9 P P **18 39 59.3 -0.7**
F31M Tsiigehtchic 84.49 4 P P **18 40 04.9 -0.5**
ILAR Eielson Array 85.58 10 P P **18 40 10.0 -0.9**
comp=Z,0.4nm,0.6s,baz=327,slow=4.1,SNR=5.6
comp=Z,0.4nm,0.6s
CAST Castle Rocks 85.89 13 P P **18 40 12.3 -0.2**
J26L Joseph Creek 86.33 9 P P **18 40 14.3 -0.5**
J26L IAmb IAmb 18 40 15.4
comp=Z,3.3nm,0.7s
I30M Mount Dempster 86.47 6 P P **18 40 15.2 -0.3**
I30M IAmb IAmb 18 40 16.1
comp=Z,2.3nm,0.7s
SCRK Sand Creek 86.77 9 P P **18 40 16.2 -0.8**
WRA Warramunga Arr 87.96 114 P P **18 40 26.2 +3.0**
comp=Z,0.9nm,0.8s,baz=315,slow=4.0,SNR=7.8
comp=Z,0.9nm,0.8s
ASAR Alice Springs 89.51 117 P P **18 40 33.0 +2.5**
comp=Z,0.4nm,0.5s,baz=304,slow=4.9,SNR=12
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 89.65 356 P P **18 40 30.0 -0.5**
comp=Z,0.5nm,0.7s,baz=359,slow=5.8,SNR=7.8
comp=Z,0.5nm,0.7s
QSPA South Pole Qui 117.80 180 PKP **PKiKP** **18 46 19.1 +0.5**
comp=Z,1.5nm,0.9s,baz=288,slow=5.6,SNR=2.2
TXAR Lajitas Array 120.33 341 PKP **PKiKP** **18 46 25.2 +0.4**
comp=Z,0.3nm,0.5s,baz=41,slow=2.9,SNR=4.3

*NEIC **08** 18:28:32.2±1.4,56.29N±0.08×148.49W±0.08,h10km±2km,*
ML3.5/58,ML3.2(AEIC),Error ellipse: s-maj=13.0km
s-min=6.9km az=170.0
*AEIC **08** 18:28:37.2±1.2,56.31N±0.08×148.5W±0.1,h12km±7km,*
Error ellipse: s-maj=12.4km s-min=8.2km az=155.0
ISC 08 18:28:31.7±1.5,56.34N±0.08×148.52W±0.05,h10km,
n193,σ1§36/196,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.65**	**305**			**Pn**	**18 29 15.3**	**+0.9**
KDAK						**Sn**	**18 29 45.0**	**-1.6**
KDAK	**Kodiak Island** baz=122	**2.65**	**305**	P		**Pn**	**18 29 15.3**	**+0.9**
KDAK	baz=122			S		**Sn**	**18 29 45.3**	**-1.3**
OHAK	**Old Harbor**	**2.77**	**291**	P		**Pn**	**18 29 16.5**	**+0.5**
OHAK	**Old Harbor**	**2.77**	**291**			**Pn**	**18 29 16.5**	**+0.5**
OHAK						**Sn**	**18 29 47.1**	**-2.4**
OHAK	**Old Harbor** baz=108	**2.77**	**291**	P		**Pn**	**18 29 16.5**	**+0.5**
OHAK	baz=108			S		**Sn**	**18 29 47.1**	**-2.4**
SYI	**Shuyak Island**	**3.09**	**319**			**Pn**	**18 29 21.9**	**+1.4**
SYI						**Sn**	**18 29 56.1**	**-1.4**
Q20K	**Shuyak Island** baz=136	**3.09**	**319**	P		**Pn**	**18 29 21.9**	**+1.4**
Q20K	baz=136			S		**Sn**	**18 29 56.1**	**-1.4**
SII	**Sitkinak Islan**	**3.15**	**276**	P		**Pn**	**18 29 22.4**	**+1.0**
SII	**Sitkinak Islan**	**3.15**	**276**			**Pn**	**18 29 21.8**	**+0.5**
SII	comp=E,92nm,1.1s			IAML			18 29 58.2	
SII	**Sitkinak Islan**	**3.15**	**276**			**Sn**	**18 29 57.3**	**-1.7**
SII	**Sitkinak Islan** comp=N,72nm,1.4s	**3.15**	**276**	IAML			18 29 51.8	
SII	**Sitkinak Islan** baz=93	**3.15**	**276**	P		**Pn**	**18 29 22.2**	**+0.9**
SII	baz=93			S		**Sn**	**18 29 57.3**	**-1.7**
Q23K	**Middleton Isla**	**3.31**	**20**			**Sn**	**18 30 00.6**	**-2.2**
Q23K	**Middleton Isla**	**3.31**	**20**	Pn		**Pn**	**18 29 24.0**	**+0.5**
Q23K	**Middleton Isla** comp=E,121nm,1.4s	**3.31**	**20**	IAML			18 31 09.1	
Q23K	comp=N,107nm,1.5s			IAML			18 31 20.0	
Q23K	**Middleton Isla** baz=201	**3.31**	**20**	S		**Sn**	**18 30 00.6**	**-2.2**
CNPM	**China Poot**	**3.51**	**337**			**Sn**	**18 30 06.5**	**-1.3**
CNPM	**China Poot**	**3.51**	**337**			**Pn**	**18 29 27.1**	**+0.8**
CNPM	comp=E,53nm,0.4s			IAML			18 30 12.3	
BRSE	**Bradley Lake S**	**3.61**	**342**			**Pn**	**18 29 28.4**	**+0.7**
BRSE						**Sn**	**18 30 08.3**	**-2.1**
BRSE	**Bradley Lake S** baz=160	**3.61**	**342**	P		**Pn**	**18 29 28.4**	**+0.7**
BRSE	baz=160			S		**Sn**	**18 30 08.3**	**-2.1**
BRLK	**Bradley Lake**	**3.66**	**341**			**Pn**	**18 29 29.1**	**+0.7**
BRLK	**Bradley Lake** comp=E,62nm,0.3s	**3.66**	**341**	IAML			18 30 14.1	
BRLK	comp=N,56nm,0.2s			IAML			18 30 14.4	
P23K	**Montague Islan**	**3.72**	**9**			**Pn**	**18 29 29.8**	**+0.6**
P23K	**Montague Islan** baz=189	**3.72**	**9**	P		**Pn**	**18 29 29.8**	**+0.6**
HOM	**Homer**	**3.72**	**335**			**Pn**	**18 29 30.9**	**+1.7**
HOM	**Homer** baz=152	**3.72**	**335**	P		**Pn**	**18 29 30.9**	**+1.7**
Q19K	**Cape Douglas,**	**3.79**	**315**			**Pn**	**18 29 31.4**	**+1.3**
Q19K	**Cape Douglas,** baz=132	**3.79**	**315**	P		**Pn**	**18 29 31.9**	**+1.8**
SEW	**Seward**	**3.81**	**353**			**Pn**	**18 29 30.8**	**+0.4**
SEW	**Seward** baz=172	**3.81**	**353**	P		**Pn**	**18 29 30.8**	**+0.4**
CHIR	**Chirikof Islan**	**4.01**	**266**			**Pn**	**18 29 33.5**	**+0.3**
CHIR	**Chirikof Islan** comp=E,71nm,1.4s	**4.01**	**266**	IAML			18 30 17.0	
CHIR	comp=N,62nm,1.5s			IAML			18 31 00.3	
CHIR	**Chirikof Islan** baz=80	**4.01**	**266**	P		**Pn**	**18 29 34.0**	**+0.8**
KCG	**Knife Ck. Glac**	**4.08**	**302**			**Pn**	**18 29 36.7**	**+2.6**
ACHA	**Angle Creek He**	**4.14**	**300**			**Pn**	**18 29 37.5**	**+2.4**
P19K	**Oil Pt**	**4.16**	**325**			**Pn**	**18 29 36.5**	**+1.2**
P19K	comp=E,97nm,0.5s			IAML			18 30 27.3	
P19K	comp=N,96nm,1.5s			IAML			18 30 29.3	
P19K	**Oil Pt** baz=141	**4.16**	**325**	P		**Pn**	**18 29 37.4**	**+2.1**
O22K	**Cooper Landing**	**4.20**	**352**	Pn		**Pn**	**18 29 37.2**	**+1.5**
KAIM	**Kayak Island**	**4.20**	**29**			**Pn**	**18 29 36.5**	**+0.7**
KAIM	**Kayak Island** comp=N,54nm,0.6s	**4.20**	**29**	IAML			18 30 27.2	
KAIM	comp=E,42nm,0.5s			IAML			18 30 28.3	
KAIM	**Kayak Island** baz=212	**4.20**	**29**	P		**Pn**	**18 29 36.5**	**+0.7**
HIN	**Hinchinbrook I**	**4.21**	**14**			**Pn**	**18 29 36.8**	**+0.9**
HIN	**Hinchinbrook I** comp=N,103nm,0.5s	**4.21**	**14**	IAML			18 30 23.4	
HIN	comp=E,55nm,0.4s			IAML			18 30 24.6	
ANCK	**Angle Creek**	**4.22**	**299**			**Pn**	**18 29 38.3**	**+2.2**
SLKM	**Skilak Lake**	**4.28**	**349**			**Pn**	**18 29 37.7**	**+0.8**
O20K	**Slope Mountain**	**4.33**	**332**			**Pn**	**18 29 38.9**	**+1.2**
O20K	**Slope Mountain** baz=148	**4.33**	**332**	P		**Pn**	**18 29 38.9**	**+1.2**
IVE	**Iliamna Volcan**	**4.39**	**329**			**Pn**	**18 29 39.3**	**+0.8**
CNTC	**Contact Creek**	**4.43**	**299**			**Pn**	**18 29 41.0**	**+2.0**
Q17K	**Contact Creek** baz=113	**4.44**	**299**	P		**Pn**	**18 29 41.1**	**+2.0**
EYAK	**Cordova Ski Ar**	**4.47**	**18**	P		**Pn**	**18 29 40.6**	**+1.2**
EYAK	**Cordova Ski Ar**	**4.47**	**18**			**Pn**	**18 29 40.1**	**+0.7**
EYAK	**Cordova Ski Ar** baz=200	**4.47**	**18**	P		**Pn**	**18 29 40.5**	**+1.1**
SUCK	**Suckling Hills**	**4.51**	**32**			**Pn**	**18 29 40.8**	**+0.8**
SUCK	comp=N,28nm,0.4s			IAML			18 30 32.5	
RAGM	**Ragged Mountai**	**4.54**	**25**			**Pn**	**18 29 41.4**	**+1.0**
RAGM	comp=E,49nm,0.4s			IAML			18 30 40.5	
FID	**Port Fidalgo**	**4.55**	**13**			**Pn**	**18 29 41.0**	**+0.4**
FID	comp=N,26nm,0.3s			IAML			18 30 33.1	
FID	comp=E,29nm,0.4s			IAML			18 30 37.4	
NICHA	**Nichawak Mount**	**4.59**	**30**			**Pn**	**18 29 42.1**	**+1.0**
HMT	**Hamilton**	**4.59**	**27**			**Pn**	**18 29 42.2**	**+1.0**
GLI	**Glacier Island**	**4.62**	**9**			**Pn**	**18 29 42.0**	**+0.6**
GLI	**Glacier Island** comp=E,35nm,0.7s	**4.62**	**9**	IAML			18 30 33.9	
GLI	**Glacier Island** baz=190	**4.62**	**9**	P		**Pn**	**18 29 42.0**	**+0.6**
RED	**Redoubt Volcan**	**4.66**	**333**			**Pn**	**18 29 42.7**	**+0.5**
BGLC	**Bering Glacier**	**4.69**	**34**			**Pn**	**18 29 43.8**	**+1.3**
BGLC	**Bering Glacier** baz=218	**4.69**	**34**	P		**Pn**	**18 29 43.8**	**+1.3**
RSO	**Redoubt South**	**4.70**	**333**	Pn		**Pn**	**18 29 43.3**	**+0.6**
GOAT	**Goat Mountain**	**4.70**	**24**			**Pn**	**18 29 43.7**	**+1.0**
RDT	**Redoubt**	**4.71**	**336**			**Pn**	**18 29 43.4**	**+0.6**
RDWB	**Redoubt West**	**4.74**	**333**			**Pn**	**18 29 44.1**	**+0.8**
BERG	**Berg Lake**	**4.79**	**30**			**Pn**	**18 29 44.6**	**+0.7**
BERG	comp=N,42nm,0.2s			IAML			18 30 38.7	
BERG	comp=E,43nm,0.4s			IAML			18 30 40.2	
DFR	**Drift River**	**4.79**	**335**			**Pn**	**18 29 44.5**	**+0.5**
RC01	**Rabbit Creek A**	**4.81**	**353**			**Sn**	**18 30 38.2**	**-1.6**
RC01	comp=N,46nm,0.4s			IAML			18 30 38.9	
RC01	comp=E,31nm,0.7s			IAML			18 30 40.1	
RC01	**Rabbit Creek A**	**4.81**	**353**			**Pn**	**18 29 45.0**	**+0.9**
RC01	**Rabbit Creek A** baz=172	**4.81**	**353**	P		**Pn**	**18 29 45.0**	**+0.9**
GRIN	**Grindle Hills**	**4.81**	**33**			**Pn**	**18 29 45.3**	**+1.1**
NCT	**North Crescent**	**4.83**	**333**			**Pn**	**18 29 45.1**	**+0.6**
SNH	**Sunshine Point**	**4.88**	**36**			**Pn**	**18 29 46.0**	**+0.9**
O19K	**Port Alsworth**	**4.93**	**324**	Pn		**Pn**	**18 29 47.0**	**+1.3**
O19K						**Sn**	**18 30 41.8**	**-1.0**
KHIT	**Khitrov Hills**	**4.96**	**32**			**Pn**	**18 29 46.9**	**+0.6**
O18K	**Koktuh Hills**	**5.00**	**318**			**Pn**	**18 29 47.8**	**+1.1**
O18K	**Koktuh Hills** comp=N,21nm,1.4s	**5.00**	**318**	IAML			18 30 44.7	
O18K	**Koktuh Hills** baz=132	**5.00**	**318**	P		**Pn**	**18 29 47.8**	**+1.1**
BMRM	**Bremner River**	**5.07**	**22**			**Pn**	**18 29 48.7**	**+1.0**
BMRM	**Bremner River** baz=205	**5.07**	**22**	P		**Pn**	**18 29 48.7**	**+1.0**
WAX	**Waxell Ridge**	**5.09**	**34**			**Pn**	**18 29 48.7**	**+0.7**
WAX	**Waxell Ridge** comp=N,37nm,0.3s	**5.09**	**34**	IAML			18 30 44.5	
KNK	**Knik Glacier**	**5.09**	**0**			**Pn**	**18 29 49.3**	**+1.3**
KNK	**Knik Glacier** comp=E,18nm,1.1s	**5.09**	**0**	IAML			18 30 53.7	
KNK	**Knik Glacier** baz=180	**5.09**	**0**	P		**Pn**	**18 29 49.3**	**+1.3**
BARK	**Barkley Ridge**	**5.17**	**35**			**Pn**	**18 29 50.0**	**+0.9**
MESA	**MESA**	**5.18**	**39**			**Pn**	**18 29 50.4**	**+0.9**
MESA	**MESA** baz=224	**5.18**	**39**	P		**Pn**	**18 29 50.3**	**+0.9**
SUA	**Susitna One**	**5.27**	**348**	Pn		**Pn**	**18 29 51.3**	**+0.8**
SUA	comp=N,14nm,1.4s			IAML			18 30 52.7	
SPCP	**Crater Peak Br**	**5.29**	**341**			**Pn**	**18 29 52.6**	**+1.8**
ANNE	**Aniakchak Nort**	**5.30**	**280**			**Pn**	**18 29 53.0**	**+2.1**
KLU	**Klutina**	**5.34**	**14**			**Pn**	**18 29 52.7**	**+1.2**
KLU	comp=E,20nm,0.4s			IAML			18 30 52.1	
KLU	comp=N,25nm,0.4s			IAML			18 30 52.0	
KLU	**Klutina** baz=195	**5.34**	**14**	P		**Pn**	**18 29 52.9**	**+1.4**
ISLE	**Juniper Island**	**5.37**	**35**			**Pn**	**18 29 52.9**	**+1.0**
STLK	**Strandline Lak**	**5.45**	**343**			**Pn**	**18 29 54.3**	**+1.3**
GHO	**Glory Hole Cre**	**5.46**	**358**			**Pn**	**18 29 54.5**	**+1.4**
N19K	**Bonanza Creek**	**5.46**	**328**			**Pn**	**18 29 53.9**	**+0.7**
N19K	**Bonanza Creek** baz=143	**5.46**	**328**	P		**Pn**	**18 29 53.9**	**+0.7**
SML	**Sawmill**	**5.49**	**1**	Pn		**Pn**	**18 29 55.0**	**+1.5**
SPNN	**North Nagishla**	**5.49**	**338**			**Pn**	**18 29 55.2**	**+1.6**
CHGN	**Chignik**	**5.51**	**274**	Pn		**Pn**	**18 29 55.1**	**+1.4**
SCM	**Sheep Creek Mo**	**5.55**	**6**			**Pn**	**18 29 55.9**	**+1.6**
SCM	**Sheep Creek Mo** baz=187	**5.55**	**6**	P		**Pn**	**18 29 56.5**	**+2.2**
VRDI	**Verde Repeater**	**5.57**	**26**			**Pn**	**18 29 55.5**	**+0.8**
SAMH	**Samovar Hills**	**5.58**	**44**			**Pn**	**18 29 56.4**	**+1.6**
KIAG	**Kiagna River**	**5.61**	**32**			**Pn**	**18 29 56.1**	**+0.8**
N25K	**Chitina, Valde**	**5.66**	**19**			**Pn**	**18 29 57.3**	**+1.4**
N25K	**Chitina, Valde** baz=202	**5.66**	**19**	P		**Pn**	**18 29 57.3**	**+1.4**
GLB	**Gilahina Butte**	**5.67**	**24**			**Pn**	**18 29 57.1**	**+1.1**
YKU2	**Yakutat**	**5.69**	**52**	Pn		**Pn**	**18 29 57.6**	**+1.5**
PTPK	**Patty Peak**	**5.79**	**30**			**Pn**	**18 29 58.9**	**+1.1**
MCARA	**McCarthy VSAT**	**5.81**	**27**	Pn		**Pn**	**18 29 58.5**	**+0.7**
N18K	**Kilae Creek**	**5.82**	**321**			**Pn**	**18 29 58.6**	**+0.6**
N18K	**Kilae Creek** baz=135	**5.82**	**321**	P		**Pn**	**18 29 58.9**	**+1.0**
SKT	**Skwentna**	**5.87**	**346**			**Pn**	**18 29 59.5**	**+0.9**
SKT						**Sn**	**18 31 04.6**	**-1.3**
SKT	**Skwentna**	**5.87**	**346**	P		**Pn**	**18 29 59.9**	**+1.3**
PNL	**Peninsula**	**5.89**	**52**	P		**Pn**	**18 30 00.2**	**+1.2**
PNL	**Peninsula**	**5.89**	**52**			**Pn**	**18 30 00.2**	**+1.2**
M24K	**Tolsona, Glenn**	**5.91**	**11**			**Pn**	**18 30 00.3**	**+1.0**
M24K						**Sn**	**18 31 05.6**	**-1.4**
M24K	**Tolsona, Glenn** baz=192	**5.91**	**11**	P		**Pn**	**18 30 01.1**	**+1.8**
BARN	**Barnard Glacie**	**5.93**	**34**			**Pn**	**18 30 00.7**	**+0.9**
BCPM	**Bancas Point**	**5.94**	**49**			**Pn**	**18 29 58.8**	**-0.8**
CTG	**Chitna Glacier** baz=222	**5.96**	**36**	P		**Pn**	**18 30 00.9**	**+0.9**
CTGM	**Chitina Glacie**	**5.96**	**36**			**Pn**	**18 30 00.9**	**+0.8**
LOGN	**Logan Glacier**	**5.97**	**38**			**Pn**	**18 30 01.2**	**+1.0**
WASW	**Wrangell South**	**6.04**	**20**			**Pn**	**18 30 02.5**	**+1.4**
M20K	**Styx River**	**6.04**	**339**	Pn		**Pn**	**18 30 02.0**	**+0.8**
O16K	**Kokwok River B**	**6.05**	**307**			**Pn**	**18 30 02.6**	**+1.5**
O16K	**Kokwok River B** baz=119	**6.05**	**307**	P		**Pn**	**18 30 02.6**	**+1.5**
WACK	**Wrangell Chich**	**6.06**	**19**			**Pn**	**18 30 03.1**	**+1.6**
N17K	**Nushagak Hills**	**6.19**	**316**			**Pn**	**18 30 04.1**	**+1.1**
N17K	**Nushagak Hills** baz=129	**6.19**	**316**	P		**Pn**	**18 30 04.3**	**+1.2**
O28M	**Mount Upton**	**6.22**	**41**			**Pn**	**18 30 05.2**	**+1.4**
O28M	**Mount Upton** baz=228	**6.22**	**41**	P		**Pn**	**18 30 05.2**	**+1.4**
M18K	**Stony River**	**6.40**	**327**			**Pn**	**18 30 06.7**	**+0.8**
M18K	**Stony River** baz=141	**6.40**	**327**	P		**Pn**	**18 30 06.7**	**+0.8**
P29M	**Windy Craggy**	**6.61**	**56**			**Pn**	**18 30 09.4**	**+0.5**
P29M	**Windy Craggy** baz=244	**6.61**	**56**	P		**Pn**	**18 30 09.4**	**+0.5**
L19K	**White Mountain**	**6.70**	**334**			**Pn**	**18 30 10.3**	**+0.3**
L19K	**White Mountain** baz=148	**6.70**	**334**	P		**Pn**	**18 30 10.3**	**+0.3**
M26K	**Nabesna, AK**	**6.70**	**23**			**Pn**	**18 30 10.3**	**+0.2**
YUK8	**Steele Glacier**	**6.72**	**39**			**Pn**	**18 30 12.9**	**+2.2**
YUK8	**Steele Glacier** baz=226	**6.72**	**39**	P		**Pn**	**18 30 12.9**	**+2.2**
YUK2	**White River**	**6.74**	**33**			**Pn**	**18 30 12.9**	**+2.2**
N16K	**Nishlik Lake**	**6.79**	**312**			**Pn**	**18 30 13.2**	**+1.9**
N16K	**Nishlik Lake** baz=123	**6.79**	**312**	P		**Pn**	**18 30 13.2**	**+1.9**
SDPT	**Sand Point**	**6.81**	**267**	P		**Pn**	**18 30 13.3**	**+1.8**
SDPT	**Sand Point**	**6.81**	**267**	Pn		**Pn**	**18 30 12.4**	**+0.9**
YUK3	**Moose Creek**	**6.85**	**34**			**Pn**	**18 30 14.2**	**+1.9**
YUK3	**Moose Creek** baz=220	**6.85**	**34**	P		**Pn**	**18 30 14.3**	**+1.9**
M17K	**Holitna River**	**6.86**	**321**	Pn		**Pn**	**18 30 13.5**	**+1.2**
YUK7	**Dusty Glacier**	**6.88**	**48**			**Pn**	**18 30 14.5**	**+1.8**
S31K	**Pelican**	**6.88**	**71**	Pn

P30M	**Million Dollar**	**7.18**	**53**	P	**Pn**	**18 30 18.4**	**+1.7**
	baz=243						
N15K	**Kwethluk River**	**7.21**	**307**	Pn	**Pn**	**18 30 18.5**	**+1.5**
L18K	**Granite Mounta**	**7.23**	**328**	Pn	**Pn**	**18 30 18.2**	**+0.9**
HYT	**Haines Junctio**	**7.30**	**47**		**Pn**	**18 30 19.6**	**+1.1**
KTH	**Kantishna Hill**	**7.34**	**352**	Pn	**Pn**	**18 30 20.4**	**+1.6**
KTH					**Sn**	**18 31 42.4**	**+0.3**
L27K	**Beaver Creek,**	**7.54**	**24**	Pn	**Pn**	**18 30 23.3**	**+1.6**
S12K	**Black Hills**	**7.62**	**271**	Pn	**Pn**	**18 30 23.6**	**+0.9**
S32K	**Killisnoo**	**7.72**	**76**	Pn	**Pn**	**18 30 23.4**	**-0.6**
L16K	**Owhat River**	**7.80**	**318**	Pn	**Pn**	**18 30 26.5**	**+1.4**
R32K	**Eaglecrest**	**7.83**	**70**	Pn	**Pn**	**18 30 25.2**	**-0.4**
N30M	**Aishikik Lake**	**7.83**	**44**	Pn	**Pn**	**18 30 27.0**	**+1.4**
JIS	**Juneau Island**	**7.90**	**70**	Pn	**Pn**	**18 30 26.7**	**+0.3**
M29M	**Somme Creek**	**7.98**	**36**	Pn	**Pn**	**18 30 29.3**	**+1.6**
K17K	**Iditarod**	**8.09**	**326**	Pn	**Pn**	**18 30 29.3**	**+0.2**
HDA	**Harding Lake**	**8.13**	**5**	Pn	**Pn**	**18 30 30.6**	**+0.9**
WHY	**Whitehorse**	**8.35**	**53**	Pn	**Pn**	**18 30 34.1**	**+1.4**
K27K	**Chicken**	**8.35**	**20**	Pn	**Pn**	**18 30 34.2**	**+1.5**
IL31		**8.50**	**5**	Pn	**Pn**	**18 30 35.4**	**+0.7**
P32M	**Atlin**	**8.52**	**61**	Pn	**Pn**	**18 30 35.4**	**+0.4**
J26L	**Joseph Creek**	**8.55**	**15**	Pn	**Pn**	**18 30 37.1**	**+1.7**
L29M	**L29M**	**8.57**	**33**	Pn	**Pn**	**18 30 37.4**	**+1.6**
U33K	**Whale Pass**	**8.59**	**85**	Pn	**Pn**	**18 30 33.4**	**-2.5**
MDM	**Murphy Dome**	**8.65**	**1**	Pn	**Pn**	**18 30 39.3**	**+2.5**
J17K	**VABM Dome**	**8.84**	**328**	Pn	**Pn**	**18 30 40.6**	**+1.3**
I23K	**Minto, Yukon-K**	**8.85**	**358**	Pn	**Pn**	**18 30 41.2**	**+1.7**
K29M	**Barlow Dome**	**9.30**	**32**	Pn	**Pn**	**18 30 47.6**	**+1.8**
M31M	**Drury Creek, Y**	**9.31**	**45**	Pn	**Pn**	**18 30 48.1**	**+2.3**
H23K	**Yukon River**	**9.53**	**357**	Pn	**Pn**	**18 30 50.8**	**+2.0**
H24K	**Noodor Dome**	**9.54**	**2**	Pn	**Pn**	**18 30 51.6**	**+2.6**
H21K	**Melozitna Rive**	**9.58**	**349**	Pn	**Pn**	**18 30 50.1**	**+0.6**
IMAR	**Indian Mountai**	**10.00**	**348**	Pn	**Pn**	**18 30 55.9**	**+0.7**
MMPY	**Sheldon Lake,**	**10.78**	**47**	Pn	**Pn**	**18 31 07.9**	**+1.9**

*NEIC **08** 18:31:04.4±1.5, 19.°11N±0.°02×155.°24W±0.°02, h5km±2km, Error ellipse: s-maj=4.2km s-min=3.0km az=321.0*
HVO 08 18:31:03.7±1.4, 19.°06N±0.°02×155.°21W±0.°02, h10km±6km, ML3.0/21, ML3.2/30(NEIC), Error ellipse: s-maj=4.0km s-min=1.5km az=141.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.25**	**315**			Pg	18 31 09.2	+0.4
HLP	**Hilina Pali**	**0.25**	**338**			Pg	18 31 08.7	-0.2
PUH	**Pauahi**	**0.31**	**359**			Sg	18 31 11.4	-2.8
PUH				IAML			18 31 21.2	
	comp=N,2μm,0.7s							
PUH	**Pauahi**	**0.31**	**359**			Pg	18 31 09.8	-0.2
KNHH	**Kane Nui o Ham**	**0.32**	**7**			Pg	18 31 10.1	-0.1
STCH	**Steam Cracks**	**0.33**	**14**			Pg	18 31 10.2	-0.2
STCH				IAML			18 31 15.9	
	comp=E,2μm,0.3s							
JCUZ	**Jacuzzi**	**0.34**	**17**			Pg	18 31 10.3	-0.2
JCUZ	**Jacuzzi**	**0.34**	**17**			Sg	18 31 15.9	+0.9
JCUZ	**Jacuzzi**	**0.34**	**17**	IAML			18 31 16.5	
	comp=N,1μm,0.3s							
JCUZ				IAML			18 31 17.5	
	comp=E,2μm,0.3s							
SDHHI	**Sand Hill**	**0.34**	**346**	Pg		Pg	18 31 10.2	-0.3
KKO	**Keanakako`i**	**0.34**	**351**	Pg		Pg	18 31 10.1	-0.4
KKO				IAML			18 31 22.7	
	comp=E,4μm,0.7s							
NPOC	**North of Pu'u**	**0.34**	**16**			Pg	18 31 10.4	-0.1
NPOC				IAML			18 31 16.7	
	comp=N,2μm,0.3s							
RSD	**Rainshed**	**0.41**	**351**	Pg		Pg	18 31 11.2	-0.5
RSD				IAML			18 31 22.7	
	comp=N,1μm,0.6s							
JOKA	**Jonika Flow**	**0.42**	**27**			Pg	18 31 11.7	-0.2
JOKA						Sg	18 31 17.9	+0.4
KHU	**Kahuku**	**0.43**	**296**			Pg	18 31 11.8	-0.3
KHU						Sg	18 31 17.8	0.0
MLH	**Mauna Loa**	**0.46**	**339**			Pg	18 31 12.4	-0.4
MLH				IAML			18 31 22.2	
	comp=E,3μm,0.6s							
MLH				IAML			18 31 22.7	
	comp=N,4μm,0.7s							
MLH	**Mauna Loa**	**0.46**	**339**			Sg	18 31 19.4	+0.4
MWH	**Moku'aweowe**	**0.56**	**319**			Pg	18 31 13.8	-1.0
MWH				IAML			18 31 32.4	
	comp=N,2μm,0.5s							
MWH				IAML			18 31 33.7	
	comp=E,3μm,0.8s							
MLOA	**Mauna Loa Obse**	**0.59**	**324**			Pg	18 31 14.0	-1.2
MLOA						Sg	18 31 22.4	-0.7
MLOA				IAML			18 31 25.9	
	comp=E,1μm,0.4s							
HMH	**Humu'ula Sheep**	**0.60**	**334**			Pg	18 31 14.5	-0.9
HMH				IAML			18 31 26.0	
	comp=N,2μm,0.3s							
HMH	**Humu'ula Sheep**	**0.60**	**334**			Sg	18 31 22.9	-0.5
ALEP	**Alea Permanent**	**0.63**	**319**			Pg	18 31 14.7	-1.3
POHA	**Pohakuloa**	**0.76**	**336**			Pg	18 31 16.9	-1.5
POHA	**Pohakuloa**	**0.76**	**336**	IAML			18 31 34.6	
	comp=N,2μm,0.6s							
POHA				IAML			18 31 35.0	
	comp=N,1μm,0.5s							
HUH	**Hualalai**	**0.86**	**317**			Pg	18 31 18.4	-1.9
HUH				IAML			18 31 42.9	
	comp=E,958nm,0.4s							
HUH				IAML			18 31 48.9	
	comp=N,1μm,0.4s							

*TAP **08** 18:47:18.9, 24.°95N×122.°30E, h17km, ML3.9, C*
*JMA **08** 18:47:18.8±0.1, 25.°0N±0.°8×122.°4E±0.°3, h41km±2km, MV3.4/13, TAIWAN REGION*
*ASIES **08** 18:47:18.9, 24.°95N×122.°30E, h17km, ML3.9, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}-6.21; $M_{\theta\theta}$6.33; $M_{\phi\phi}$-0.12; $M_{r\theta}$3.20; $M_{r\phi}$1.19; $M_{\theta\phi}$0.43; Fault plane solution: M_o7.15085×10^{21} NP1: ϕ_s261.05000°, δ58.42000°, λ-88.70000°. NP2: ϕ_s78.57000°, δ31.60000°, λ-92.11000°. Principal axes: T Plg13.4150°, Azm350.1040°; N Plg1.1050°, Azm80.3670°; P Plg76.5380°, Azm174.9910°;*
*IDC **08** 18:47:28.1±6.0, 24.°85N×122.°25E, h95km±58km, mb3.3/9, mbtmp3.6/10, ML3.4/1 Error ellipse: s-maj=37.7km s-min=15.4km az=63.0*
ISC 08 18:47:17.5±1.1, 24.°97N±0.°02×122.°33E±0.°02, h10km±7km, n157, σ0°89/238, mb3.5/9, 12C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.32**	**278**	⇑*i*P		**Pb**	**18 47 25.4**	**+0.1**
	baz=282							
TWB1				S		**Sb**	**18 47 29.8**	**-0.6**
	baz=282							
EGS		**0.38**	**252**	⇓*i*P		**Pb**	**18 47 26.6**	**+0.2**
	baz=246							
EGS				S		**Sb**	**18 47 32.3**	**-0.1**
	baz=246							
SXI1	**Grass Mountain**	**0.43**	**287**	⇑*i*P		**Pn**	**18 47 28.1**	**-1.8**
	baz=291							
SXI1				*i* S		**Sb**	**18 47 34.1**	**+0.2**
	baz=291							
TIPB	**Shuangxi**	**0.46**	**271**	⇑*i*P		**Pb**	**18 47 28.2**	**+0.5**
	baz=274							
TIPB				S		**Sb**	**18 47 35.1**	**+0.5**
	baz=274							
NTC	**Toucheng**	**0.47**	**256**	*e*P		**Pn**	**18 47 28.6**	**-1.7**
	baz=268							
NTC				*e*S		**Sb**	**18 47 35.5**	**+0.6**
	baz=268							
NWF	**Wu-fen Shan**	**0.51**	**282**	⇑*i*P		**Pn**	**18 47 29.5**	**-1.5**
	baz=285							
NWF				*i* S		**Sb**	**18 47 36.5**	**+0.4**
	baz=285							
WFSB	**Wu-fen Shan**	**0.51**	**282**	⇑*i*P		**Pn**	**18 47 29.4**	**-1.5**
	baz=285							
WFSB				*e*S		**Sb**	**18 47 36.2**	**+0.2**
	baz=285							
TNOU	**National Taiwa**	**0.54**	**290**	⇑*i*P		**Pn**	**18 47 30.0**	**-1.2**
	baz=292							
TNOU				*e*S		**Sb**	**18 47 36.8**	**0.0**
	baz=292							
EOS2	**EOS2**	**0.55**	**190**	⇑*i*P		**Pb**	**18 47 29.8**	**+0.6**
	baz=209							
EOS2				*i* S		**Sb**	**18 47 37.9**	**+0.8**
	baz=209							
TWC	**Suao**	**0.57**	**231**	*e*P		**Pb**	**18 47 29.1**	**-0.3**
	baz=225							
TWC				*e*S		**Sg**	**18 47 35.9**	**-0.1**
	baz=225							
ILA	**Ilan**	**0.57**	**249**	*e*P		**Pn**	**18 47 30.4**	**-1.2**
	baz=251							
ILA				*e*S		**Sn**	**18 47 38.7**	**-2.4**
	baz=251							
ESAO	**Su ao**	**0.59**	**229**	*e*P		**Pb**	**18 47 29.8**	**-0.1**
	baz=231							
ESAO				*e*S		**Sb**	**18 47 37.2**	**-1.1**
	baz=231							
NDS	**Dongshan**	**0.65**	**239**	P		**Pb**	**18 47 30.9**	**-0.1**
	baz=234							
NDS				*e*S		**Sb**	**18 47 39.6**	**-0.5**
	baz=234							
TWE	**Neicheng**	**0.65**	**248**	⇓*i*P		**Pb**	**18 47 31.1**	**+0.1**
	baz=240							
TWE				*e*S		**Sb**	**18 47 40.3**	**+0.2**
	baz=240							
EOS3	**EOS3**	**0.68**	**181**	⇑*i*P		**Pn**	**18 47 32.1**	**-0.9**
	baz=178							
EOS3				*e*S		**Sb**	**18 47 41.5**	**+0.8**
	baz=178							
TWA	**Mucha**	**0.68**	**271**	⇑*i*P		**Pn**	**18 47 32.5**	**-0.6**
	baz=273							
TWA				*e*S		**Sn**	**18 47 41.4**	**-2.4**
	baz=273							
NHY	**Taipei**	**0.70**	**276**	*e*P		**Pn**	**18 47 33.0**	**-0.4**
	baz=278							
NHY				S		**Sn**	**18 47 42.3**	**-1.9**
	baz=278							
PCYT	**Pengchaiyu**	**0.70**	**340**	*e*P		**Pn**	**18 47 32.9**	**-0.5**
	baz=341							
PCYT				*e*S		**Sn**	**18 47 43.7**	**-0.7**
	baz=341							
FUSB	**Fushanzhiwuyua**	**0.71**	**253**	P		**Pn**	**18 47 32.4**	**-1.2**
	baz=255							
FUSB				*e*S		**Sb**	**18 47 41.3**	**-0.5**
	baz=255							
YM08	**YM08**	**0.71**	**288**	⇑*i*P		**Pn**	**18 47 32.8**	**-0.8**
	baz=290							
YM08				S		**Sn**	**18 47 42.3**	**-2.3**
	baz=290							
YM01	**YM01**	**0.71**	**285**	⇑*i*P		**Pn**	**18 47 33.2**	**-0.5**
	baz=286							
YM01				S		**Sn**	**18 47 42.9**	**-1.8**
	baz=286							
EWUT	**Wuta**	**0.72**	**224**	*e*P		**Pb**	**18 47 32.2**	**0.0**
	baz=210							
EWUT				*e*S		**Sg**	**18 47 41.1**	**+0.2**
	baz=210							
TWY	**Chenhua**	**0.73**	**295**	P		**Pn**	**18 47 33.5**	**-0.4**
	baz=285							
TWY				*e*S		**Sn**	**18 47 44.4**	**-0.7**
	baz=285							
NHDH	**Xindian Distri**	**0.73**	**270**	*i* P		**Pn**	**18 47 33.6**	**-0.3**
	baz=272							
NHDH				*e*S		**Sn**	**18 47 43.2**	**-1.9**
	baz=272							
TAP	**Taipei**	**0.75**	**276**	*e*P		**Pn**	**18 47 33.7**	**-0.5**
	baz=277							
TAP				*e*S		**Sn**	**18 47 44.1**	**-1.5**
	baz=277							
JYNG	**Yonagunijimaku**	**0.76**	**133**	P		**Pg**	**18 47 32.5**	**+0.3**
JYNG				S		**Sg**	**18 47 42.6**	**+0.6**
ENA	**Nanau**	**0.76**	**225**	*e*P		**Pb**	**18 47 32.8**	**0.0**
	baz=211							
ENA				*e*S		**Sb**	**18 47 42.3**	**-0.9**
	baz=211							
TATO	**Taipei**	**0.77**	**271**	P		**Pn**	**18 47 34.4**	**0.0**
ANP	**Anpu**	**0.77**	**287**	*e*P		**Pn**	**18 47 33.9**	**-0.6**
	baz=277							
ANP				*e*S		**Sn**	**18 47 44.2**	**-1.9**
	baz=277							
ENTT	**Nioudou**	**0.77**	**245**	⇓*i*P		**Pb**	**18 47 33.2**	**+0.2**
	baz=258							
ENTT				*e*S		**Sn**	**18 47 44.0**	**-2.0**
	baz=258							
NWLT	**Wulai**	**0.78**	**256**	*e*P		**Pn**	**18 47 33.8**	**-0.8**
	baz=258							
NWLT				*e*S		**Sb**	**18 47 44.0**	**+0.2**
	baz=258							
YOJ	**Yonaguni jima**	**0.80**	**129**	P		**Pg**	**18 47 33.2**	**+0.3**
YOJ	**Yonaguni jima**	**0.80**	**129**	P		**Pg**	**18 47 33.0**	**+0.1**
YOJ				*e*S		**Sg**	**18 47 43.3**	**0.0**
YOJ	**Yonaguni jima**	**0.80**	**129**	⇓*i*P		**Pg**	**18 47 32.9**	**0.0**
	baz=116							
YOJ				*i* S		**Sg**	**18 47 44.0**	**+0.7**
	baz=116							
NTST	**Danshui**	**0.82**	**284**	*e*P		**Pn**	**18 47 35.2**	**+0.1**
	baz=285							
NTST				*e*S		**Sn**	**18 47 46.5**	**-0.9**
	baz=285							
NDT	**Datong Townshi**	**0.83**	**244**	*e*P		**Pn**	**18 47 34.3**	**-0.9**
	baz=255							
NDT				*e*S		**Sn**	**18 47 46.2**	**-1.3**
	baz=255							
EAHA	**Aohua**	**0.83**	**220**	⇓P		**Pb**	**18 47 34.1**	**+0.1**
	baz=222							
EAHA				S		**Sg**	**18 47 44.4**	**0.0**
	baz=222							
TWS1	**Kuangyinshan**	**0.84**	**279**	⇑P		**Pn**	**18 47 35.2**	**-0.1**
	baz=281							
TWS1				*e*S		**Sn**	**18 47 46.9**	**-0.9**
	baz=281							
EOS4	**EOS4**	**0.84**	**181**	*e*P		**Pb**	**18 47 34.2**	**+0.2**
	baz=179							
LATG	**Datong**	**0.85**	**240**	*i* P		**Pb**	**18 47 34.5**	**+0.1**
	baz=231							
LATG				S		**Sb**	**18 47 45.9**	**0.0**
	baz=231							
YHNB	**Yeheng**	**0.92**	**251**	P		**Pn**	**18 47 36.2**	**-0.3**
YHNB	**Yeheng**	**0.92**	**251**	*e*P		**Pn**	**18 47 35.9**	**-0.6**
	baz=253							
YHNB				*e*S		**Sb**	**18 47 47.6**	**-0.2**
	baz=253							
NSK	**Sanguang**	**0.93**	**252**	*e*P		**Pn**	**18 47 36.2**	**-0.5**
	baz=267							
NSK				*e*S		**Sb**	**18 47 48.2**	**0.0**
	baz=267							
NNSB	**Datong**	**1.02**	**238**	⇓P		**Pb**	**18 47 37.6**	**-0.3**
	baz=225							
NNSB				S		**Sb**	**18 47 50.6**	**-0.2**
	baz=225							
NNS	**Nan Shan**	**1.02**	**239**	*e*P		**Pn**	**18 47 37.7**	**-0.2**
	baz=226							
NNS				*e*S		**Sb**	**18 47 50.5**	**-0.2**
	baz=226							
ETL	**Fush Village**	**1.03**	**219**	*e*P		**Pn**	**18 47 37.7**	**-0.3**
	baz=221							
ETL				*e*S		**Sg**	**18 47 50.7**	**-0.1**
	baz=221							
NACB	**Ninganchiao**	**1.04**	**221**	P		**Pn**	**18 47 37.8**	**-0.3**
NACB	**Ninganchiao**	**1.04**	**221**	*e*P		**Pg**	**18 47 37.3**	**-0.1**
	baz=222							
NACB				*e*S		**Sb**	**18 47 50.6**	**-0.6**
	baz=222							
NCUH	**Zhongli**	**1.04**	**270**	*e*P		**Pn**	**18 47 39.7**	**+1.6**
	baz=272							
NCUH				*e*S		**Sn**	**18 47 52.3**	**-0.5**
	baz=272							
ETLH	**Xiulin Townshi**	**1.08**	**226**	*e*P		**Pn**	**18 47 38.5**	**-0.4**
	baz=219							
ETLH				*e*S		**Sn**	**18 47 53.0**	**-1.0**
	baz=219							
TWD	**Chiawan**	**1.11**	**217**	*e*P		**Pg**	**18 47 39.1**	**+0.3**
	baz=219							
TWD				S		**Sg**	**18 47 53.0**	**-0.2**
	baz=219							
NFF	**Wufeng Townshi**	**1.15**	**253**	*e*P		**Pg**	**18 47 40.0**	**+0.3**
	baz=266							
NFF				*e*S		**Sn**	**18 47 54.6**	**-1.0**
	baz=266							
HWA	**Hwalien**	**1.19**	**214**	*e*P		**Pg**	**18 47 41.7**	**+1.4**
	baz=215							
SBCB	**Hsinchu**	**1.24**	**262**	*e*P		**Pg**	**18 47 41.1**	**-0.2**
	baz=279							
SBCB				*e*S		**Sg**	**18 47 57.6**	**+0.3**
	baz=279							
LIOB	**Emei**	**1.24**	**255**	*i* P		**Pg**	**18 47 41.3**	**0.0**
	baz=257							
LIOB				*e*S		**Sg**	**18 47 57.5**	**+0.1**
	baz=257							
HSN	**Hsinchu**	**1.25**	**263**	*e*P		**Pg**	**18 47 40.9**	**-0.6**
	baz=265							
HSN				*e*S		**Sb**	**18 47 56.3**	**-1.0**
	baz=265							
NSTT	**Nanjuang**	**1.25**	**255**	*i* P		**Pg**	**18 47 41.3**	**-0.3**
	baz=256							
NSTT				S		**Sg**	**18 47 57.6**	**-0.3**
	baz=256							
ETM	**Tongmen**	**1.26**	**218**	*e*P		**Pg**	**18 47 41.4**	**-0.3**
	baz=220							
ETM				*e*S		**Sg**	**18 47 57.8**	**-0.2**
	baz=220							
LXIB	**Xiulin Townshi**	**1.26**	**222**	*e*P		**Pg**	**18 47 41.6**	**-0.2**
	baz=224							
LXIB				*e*S		**Sg**	**18 47 58.9**	**+0.8**
	baz=224							
TWT	**Tachien**	**1.27**	**236**	*i* P		**Pg**	**18 47 42.4**	**+0.5**
	baz=225							
TWT				*e*S		**Sg**	**18 47 58.7**	**+0.3**
	baz=225							
WHF	**Hehuan Shan**	**1.27**	**230**	*e*P		**Pg**	**18 47 42.0**	**0.0**
	baz=232							
WHF				*i* S		**Sn**	**18 47 59.1**	**+0.1**
	baz=232							
TDCB	**Techi**	**1.28**	**237**	*i* P		**Pg**	**18 47 42.2**	**+0.1**
	baz=225							
TDCB				*e*S		**Sg**	**18 47 58.5**	**-0.4**
	baz=225							
TEYL	**Yanliau Villag**	**1.28**	**212**	*e*P		**Pb**	**18 47 41.7**	**0.0**
	baz=214							
SHUL	**Shoufeng**	**1.37**	**211**	*e*P		**Pb**	**18 47 43.2**	**+0.1**
	baz=212							
CHGB	**Renai**	**1.39**	**230**	P		**Pg**	**18 47 44.0**	**-0.2**
	baz=232							
CHGB				*i* S		**Sg**	**18 48 02.1**	**-0.2**
	baz=232							
ESL	**Shilin**	**1.41**	**216**	*i* P		**Pb**	**18 47 43.4**	**-0.5**
	baz=232							
ESL				*e*S		**Sn**	**18 48 01.1**	**-0.8**
	baz=232							
IRIF	**Iriomote-Funau**	**1.42**	**116**	P		**Pn**	**18 47 41.7**	**-1.6**
WHP	**Taichung City**	**1.44**	**242**	*e*P		**Pg**	**18 47 45.4**	**+0.3**
	baz=232							
WHP				S		**Sg**	**18 48 03.7**	**-0.1**
	baz=232							
OWD	**Renai**	**1.46**	**226**	*e*P		**Pb**	**18 47 44.8**	**0.0**
	baz=229							
OWD				*e*S		**Sb**	**18 48 03.2**	**-0.3**
	baz=229							
NMLH	**Miaoli**	**1.47**	**253**	*e*P		**Pg**	**18 47 46.6**	**+1.0**
	baz=255							
WUSB	**Renai**	**1.47**	**229**	⇓*i*P		**Pg**	**18 47 45.6**	**-0.2**
	baz=231							
WUSB				S		**Sg**	**18 48 04.4**	**-0.5**
	baz=231							
WARBT	**Fenglin Townsh**	**1.51**	**215**	⇓*i*P		**Pn**	**18 47 44.6**	**-0.1**
	baz=217							
WARBT				S		**Sb**	**18 48 04.8**	**-0.2**
	baz=217							
NSY	**Sanyi**	**1.53**	**249**	*e*P		**Pg**	**18 47 46.5**	**-0.4**
	baz=265							
EGFH	**Guangfu**	**1.53**	**213**	*e*P		**Pn**	**18 47 44.8**	**-0.1**
	baz=197							
TWQ1	**Liyutan**	**1.55**	**247**	*e*P		**Pb**	**18 47 46.1**	**-0.2**
	baz=263							
WCS	**Beigang Elemen**	**1.58**	**235**	*e*P		**Pg**	**18 47 47.5**	**-0.3**
	baz=225							
WCS				*e*S		**Sb**	**18 48 06.1**	**-0.7**
	baz=225							
HATJ	**Hateruma jima**	**1.62**	**124**	*e*P		**Pn**	**18 47 45.1**	**-1.0**
VWDT	**VWDT**	**1.62**	**222**	P		**Pb**	**18 47 47.5**	**-0.1**
	baz=225							
VWDT				*e*S		**Sb**	**18 48 07.6**	**-0.5**
	baz=225							
HGSD	**Ruisui**	**1.69**	**210**	*i* P		**Pn**	**18 47 46.9**	**-0.1**
	baz=195							
JKRS	**Kuro-shima**	**1.69**	**115**	P		**Pn**	**18 47 46.1**	**-1.0**
SMLT	**Sun Moon Lake**	**1.69**	**231**	*e*P		**Pg**	**18 47 49.2**	**-0.8**
	baz=233							
SMLT				*e*S		**Sn**	**18 48 08.9**	**-0.1**
	baz=233							
TYC	**Yuchr**	**1.71**	**232**	*e*P		**Pg**	**18 47 49.5**	**-0.8**
	baz=234							
TYC				*e*S		**Sb**	**18 48 10.2**	**-0.4**
	baz=234							
SSLB	**Suanglung**	**1.72**	**227**	P		**Pb**	**18 47 49.4**	**+0.2**
SSLB	**Suanglung**	**1.72**	**227**	*e*P		**Pb**	**18 47 48.7**	**-0.5**
	baz=230							
SSLB				*e*S		**Sb**	**18 48 10.4**	**-0.5**
	baz=230							
EHY	**Hungye**	**1.72**	**213**	P		**Pn**	**18 47 47.2**	**-0.4**
	baz=215							
EHY				*e*S		**Sn**	**18 48 08.6**	**-1.0**
	baz=215							
EHYH	**Wanrong**	**1.72**	**212**	*e*P		**Pn**	**18 47 46.9**	**-0.6**
	baz=213							
JIJ	**Ishigaki jima**	**1.75**	**110**	P		**Pn**	**18 47 46.6**	**-1.3**
YULB	**Yu-li**	**1.83**	**211**	P		**Pn**	**18 47 48.9**	**-0.1**
YULB	**Yu-li**	**1.83**	**211**	P		**Pn**	**18 47 48.5**	**-0.5**
	baz=213							
JISG	**Ishigakijimahi**	**1.84**	**101**	P		**Pn**	**18 47 48.5**	**-0.6**
WHYT	**Xinyi Township**	**1.85**	**227**	*e*P		**Pb**	**18 47 51.5**	**+0.1**
	baz=215							
WNT	**Mingjian**	**1.85**	**235**	*e*P		**Pb**	**18 47 51.0**	**-0.5**
	baz=254							
WNT				*e*S		**Sg**	**18 48 18.3**	**+1.2**
	baz=254							
EYUL	**Yuli**	**1.86**	**210**	*e*P		**Pn**	**18 47 49.2**	**-0.2**
	baz=227							
TWF1	**Yuli**	**1.86**	**211**	P		**Pn**	**18 47 49.0**	**-0.5**
	baz=212							
CHKH	**Chenggong**	**1.96**	**206**	*e*P		**Pn**	**18 47 50.9**	**0.0**
	baz=193							
CHKH				*e*S		**Sn**	**18 48 15.3**	**-0.2**
	baz=193							
FULB	**Fuli**	**2.00**	**209**	*e*P		**Pn**	**18 47 51.5**	**+0.1**
	baz=194							
ALS	**Alishan**	**2.01**	**224**	*e*P		**Pb**	**18 47 54.0**	**-0.4**
	baz=214							
ALS				*e*S		**Sb**	**18 48 19.0**	**-0.5**
	baz=214							
WGK	**Gukeng**	**2.06**	**232**	*e*P		**Pb**	**18 47 53.8**	**-1.2**
	baz=234							
CHKT	**Chengkung**	**2.06**	**206**	*e*P		**Pn**	**18 47 51.0**	**-1.2**
	baz=191							
WDLH	**Douliu**	**2.07**	**232**	*e*P		**Pb**	**18 47 54.7**	**-0.5**
	baz=234							
WRL	**Guolierlin Hig**	**2.07**	**240**	*e*P		**Pb**	**18 47 53.3**	**-1.9**
	baz=242							
EHD	**Haiduan**	**2.08**	**210**	*e*P		**Pn**	**18 47 51.7**	**-0.8**
	baz=211							
ECS	**Chishang**	**2.12**	**209**	*e*P		**Pn**	**18 47 53.3**	**+0.3**
	baz=210							
ELDTW	**Lidau**	**2.14**	**214**	*e*P

TWGBT	**Beinan** baz=211	2.43	208	*eP*	**Pn**	18 47 56.0	-1.2
TWGBT	baz=211			*eS*	**Sn**	18 48 27.1	+0.1
MATB	**Ma-tsu** baz=298	2.46	299	*eP*	**Pn**	18 47 57.5	-0.1
ICHU	**Yijhu** baz=232	2.46	230	*eP*	**Pb**	18 47 59.7	-2.2
SGST	**Jiashian** baz=222	2.47	221	*eP*	**Pn**	18 47 59.5	+1.7
SLGT	**Liugui** baz=221	2.50	218	*eP*	**Pb**	18 48 00.8	-1.7
SLGT	baz=221			*eS*	**Sb**	18 48 32.8	-0.5
CHN8	**Yiju** baz=232	2.52	231	*eP*	**Pn**	18 47 58.9	+0.4
VWUC	**VWUC** baz=271	2.62	271	*eP*	**Pn**	18 47 59.2	-0.7
SHHT	**Tainan City** baz=225	2.65	224	*eP*	**Pb**	18 48 03.7	-1.4
SCST	**Cishan** baz=221	2.67	219	*eP*	**Pb**	18 48 04.0	-1.3
ECL	**Taimali** baz=210	2.68	208	*eP*	**Pn**	18 48 00.6	-0.1
JMJ	**Miyako jima 2**	2.69	93	P	**Pb**	18 48 04.5	-1.3
SSD	**Sandimen** baz=202	2.70	215	*eP*	**Pn**	18 48 02.8	+1.7
TSCK	**Chigu Township** baz=229	2.74	229	*eP*	**Pn**	18 48 02.9	+1.4
TSCK	baz=229			*eS*	**Sb**	18 48 37.9	-2.3
XPSS	**Dashiqiu** baz=314	2.75	316	*eP*	**Pn**	18 48 01.5	-0.1
LYJJ	**Jianjiangzhen** baz=303	2.80	305	*eP*	**Pn**	18 48 01.7	-0.7
MASBT	**Mashibuluo** baz=202	2.81	214	*eP*	**Pn**	18 48 03.3	+0.8
PHUB	**P'eng-hu** baz=243	2.91	241	*eP*	**Pn**	18 48 03.8	0.0
EAST	**Anshuo** baz=197	2.91	208	*eP*	**Pn**	18 48 03.7	-0.2
PTMZ	**Houxiangcun** baz=272	2.92	272	*eP*	**Pn**	18 48 03.1	-0.8
WDGT	**Dungji** baz=298	2.98	236	*eP*	**Pn**	18 48 05.6	+0.8
SCZT	**Fangliau** baz=199	3.02	212	*eP*	**Pn**	18 48 06.9	+1.5
LYUB	**Lan-yu** baz=195	3.03	193	*eP*	**Pn**	18 48 02.9	-2.6
VCHM	**Qimei** baz=240	3.18	237	*eP*	**Pn**	18 48 07.8	+0.3
MHZQ	**Yeshan** baz=290	3.19	291	*eP*	**Pn**	18 48 07.8	+0.2
TWKBT	**Hengchun** baz=197	3.32	205	*eP*	**Pn**	18 48 09.2	-0.3
KNMB	**Chin-men Tao** baz=264	3.62	263	*eP*	**Pn**	18 48 13.1	-0.6
SXFK	**Yanhouchang** baz=288	4.46	290	*eP*	**Pn**	18 48 24.6	-0.6
DSXP	**Dongshan** baz=257	4.65	255	*eP*	**Pn**	18 48 27.9	+0.1
KSRS	**Korea Array** 0.2nm,0.3s,baz=206,slow=14,SNR=2.1 0.6nm,0.5s	13.33	20	P	**P**	18 50 35.8	-0.7
CMAR	**Chiang Mai Arr** 0.2nm,0.4s,baz=62,slow=6.2,SNR=1.9 0.2nm,0.4s	22.66	258	P	**P**	18 52 21.1	+2.0
SONM	**Songino Array** 0.5nm,0.5s,baz=150,slow=8.0,SNR=3.6 0.5nm,0.5s	26.08	335	P	**P**	18 52 53.7	+2.3
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=101,slow=9.5,SNR=7.0 0.4nm,0.5s	38.52	315	P	**P**	18 54 41.1	+1.1
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=116,slow=6.6,SNR=2.3 0.6nm,0.5s	40.17	326	P	**P**	18 54 54.3	+0.7
KURBB	**Kurchatov Arra** 0.3nm,0.8s,baz=107,slow=9.7,SNR=4.8 0.3nm,0.8s	42.20	319	P	**P**	18 55 11.5	+1.1
WRA	**Warramunga Arr** 2.5nm,0.7s,baz=346,slow=8.6,SNR=11	46.14	164	P	**P**	18 55 41.9	-0.5
WRA	0.4nm,0.5s,baz=347,slow=3.4,SNR=5.3 2.5nm,0.7s			PcP	**PcP**	18 57 17.4	-1.0
BVAR	**Borovoye Array** 0.5nm,0.6s,baz=108,slow=7.7,SNR=5.2 0.5nm,0.6s	47.74	320	P	**P**	18 55 56.0	+1.5
ASAR	**Alice Springs** 1.0nm,0.7s,baz=345,slow=11,SNR=12	49.63	166	P	**P**	18 56 09.5	+0.2
ASAR	0.5nm,0.6s,baz=347,slow=3.7,SNR=7.7 1.0nm,0.7s			PcP	**PcP**	18 57 30.1	-0.7
FINES	**FINESS Array B** 0.8nm,0.8s,baz=77,slow=7.3,SNR=2.4 0.8nm,0.8s	71.30	330	P	**P**	18 58 37.7	+0.7

WEL ***08*** *18:47:19.7±0.4, 45˚S±3˚×16˚8E±˚, h5km, M3.5/13, ML3.7/14, MLv3.5/13, Error ellipse: s-maj=0.0km s-min=0.0km az=141.0, confirmed*
NOU ***08*** *18:47:21.9, 44.47S×168.47E, h0km, MLv4.0/4, South Island, New Zealand*

ISC 08 18:47:20.1±1.0, 44.65S±0.03×168.38E±0.03, h13km±9km, n32, σ1°01/53, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	0.33	265	P	**Pg**	18 47 26.6	-0.2
MSZ				S	**Sg**	18 47 31.0	-0.2
WKZ	**Wanaka**	0.49	112	P	**Pb**	18 47 30.8	+0.2
WKZ				S	**Sb**	18 47 37.9	+0.2
MLZ	**Mavora Lakes**	0.75	194	P	**Pb**	18 47 35.3	+0.3
MLZ				S	**Sn**	18 47 46.2	-1.4
EAZ	**Earnscleugh**	0.88	132	P	**Pn**	18 47 37.8	-0.4
EAZ				S	**Sn**	18 47 52.7	+1.9
DCZ	**Deep Cove**	1.20	226	P	**Pn**	18 47 42.2	-0.3
DCZ				S	**Sg**	18 47 59.0	+0.2
WHZ	**Wether Hill Ro**	1.28	194	P	**Pg**	18 47 44.6	-0.2
WHZ				S	**Sg**	18 48 02.7	+1.1
LBZ	**Lake Benmore**	1.31	79	P	**Pg**	18 47 45.4	-0.1
LBZ				S	**Sg**	18 48 02.1	-0.4
FOZ	**Fox Glacier**	1.52	43	P	**Pn**	18 47 46.8	-0.1
FOZ				S	**Sb**	18 48 08.1	+0.8
TUZ	**Tuapeka**	1.58	146	P	**Pg**	18 47 50.2	-0.2
TUZ				S	**Sg**	18 48 11.7	+0.8
RRKS	**Rarakau**	1.63	203	P	**Pb**	18 47 50.6	+0.5
RRKS				S	**Sg**	18 48 15.1	+2.4
ODZ	**Otahua Downs**	1.66	105	P	**Pg**	18 47 51.6	-0.3
ODZ	**Otahua Downs**	1.66	105	P	**Pb**	18 47 50.8	+0.3
ODZ				S	**Sg**	18 48 13.4	0.0
TMZ	**Timaru**	1.90	83	P	**Pb**	18 47 53.8	-0.7
TMZ				S	**Sb**	18 48 18.0	-0.1
GCSZ	**Gaunt Creek Bo**	1.93	47	P	**Pn**	18 47 52.7	+0.1
GCSZ				S	**Sn**	18 48 16.8	0.0
SYZ	**Scrubby Hill**	1.96	165	P	**Pb**	18 47 54.7	-1.0
SYZ				S	**Sg**	18 48 20.8	-2.5
ARCZ	**Arundel**	2.12	72	P	**Pn**	18 47 56.1	+0.8
RPZ	**Rata Peaks**	2.13	65	P	**Pn**	18 47 56.4	+1.0
RPZ	**Rata Peaks**	2.13	65	P	**Pn**	18 47 56.5	+1.0
APZ	**The Paps**	2.21	187	P	**Pb**	18 47 59.0	-0.8
APZ				S	**Sb**	18 48 27.5	+0.5
WVZ	**Waitaha Valley**	2.32	48	P	**Pn**	18 47 58.3	+0.4
MHCZ	**Mount Hutt**	2.55	65	P	**Pn**	18 48 01.3	+0.1
MHCZ				S	**Sn**	18 48 32.0	-0.1
WACZ	**Wakanui South**	2.58	75	S	**Sn**	18 48 32.1	-0.6
INZ	**Inchbonnie**	2.94	50	P	**Pn**	18 48 06.2	-0.3
AKCZ	**Akaroa Harbour**	3.34	78	P	**Pn**	18 48 12.6	+0.6
AKCZ				S	**Sn**	18 48 49.6	-2.0
LTZ	**Lake Taylor**	3.38	58	P	**Pn**	18 48 12.3	-0.3
LTZ				S	**Sn**	18 48 54.3	+1.8
DSZ	**Denniston Nort**	3.83	42	P	**Pn**	18 48 19.0	+0.3
KHZ	**Kahutara**	4.36	61	P	**Pn**	18 48 27.9	+1.9
THZ	**Tophouse**	4.38	50	P	**Pn**	18 48 26.4	-0.1
THZ				S	**Sn**	18 49 17.3	-0.1
MRNZ	**Matariki Terra**	4.56	46	P	**Pn**	18 48 30.0	+1.2
MRNZ				S	**Sn**	18 49 20.9	-0.7
QRZ	**Quartz Range**	4.89	40	P	**Pn**	18 48 34.0	+0.7
QRZ	**Quartz Range**	4.89	40	P	**Pn**	18 48 33.8	+0.6
QRZ				S	**Sn**	18 49 26.8	-2.8
TKNZ	**Takaka Hill**	4.94	45	P	**Pn**	18 48 35.1	+1.1

NEIC ***08*** *19:18:33.0±1.5, 19˚.39N±0˚.03×155˚.02W±0˚.02, h5km±1km, Error ellipse: s-maj=5.7km s-min=2.7km az=153.0*

HVO 08 19:18:32.5±1.2, 19˚.37N±0˚.03×154˚.98W±0˚.02, h7km±2km, ML2.8/5, ML2.8/40(NEIC), Error ellipse: s-maj=4.6km s-min=1.6km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	0.07	343		Pg	19 18 34.6	+0.2
JCUZ	**Jacuzzi**	0.11	278		Pg	19 18 34.7	-0.4
JCUZ				Sg	Sg	19 18 36.7	-0.1
JCUZ				IAML		19 18 36.8	
	comp=E,3μm,0.6s						
NPOC	**North of Pu'u**	0.12	282		Pg	19 18 34.9	-0.3
NPOC				Sg	Sg	19 18 36.8	-0.2
NPOC				IAML		19 18 37.5	
	comp=N,4μm,0.4s						
NPOC				IAML		19 18 37.5	
	comp=E,4μm,0.5s						
STCH	**Steam Cracks**	0.14	277		Pg	19 18 35.0	-0.3
STCH				Sg	Sg	19 18 37.1	-0.3
PUH	**Pauahi**	0.22	272	Pg	Pg	19 18 36.3	-0.6
PUH				Sg	Sg	19 18 39.2	-0.8
BYL	**Byron's Ledge**	0.27	280	Pg	Pg	19 18 37.7	0.0
BYL				Sg	Sg	19 18 41.5	+0.1
BYL				IAML		19 18 45.6	
	comp=E,3μm,0.8s						
HATHI	**Halema'uma'u T**	0.27	282	Pg	Pg	19 18 38.3	+0.5
HATHI				Sg	Sg	19 18 41.0	-0.4
KKO	**Keanakako`i**	0.27	276	Pg	Pg	19 18 37.7	-0.2
KKO				Sg	Sg	19 18 42.1	+0.7
RIM	**Rim**	0.28	276		Sg	19 18 41.5	-0.2
SBLHI	**Steaming Bluff**	0.28	282	Pg	Pg	19 18 38.1	+0.1
SBLHI				Sg	Sg	19 18 42.2	+0.5
SBLHI				IAML		19 18 44.3	
	comp=N,3μm,0.6s						
UWB	**Uwekahuna B**	0.28	282	Pg	Pg	19 18 38.2	+0.1
UWB				Sg	Sg	19 18 41.8	-0.1
UWB				IAML		19 18 45.1	
	comp=E,1μm,0.9s						
UWB				IAML		19 18 46.0	
	comp=N,2μm,1.2s						
RSD	**Rainshed**	0.29	289	Pg	Pg	19 18 37.9	-0.4
RSD				Sg	Sg	19 18 41.1	-1.1
RSD				IAML		19 18 45.0	
	comp=N,1μm,0.5s						
RSD				IAML		19 18 45.4	
	comp=E,1μm,0.9s						
HLP	**Hilina Pali**	0.32	257		Pg	19 18 38.7	0.0
HLP				IAML		19 18 46.0	
	comp=E,1μm,0.8s						
HLP				IAML		19 18 47.9	
	comp=N,1μm,1.1s						
MLH	**Mauna Loa**	0.40	288		Pg	19 18 40.1	-0.3
MLH				IAML		19 18 48.4	
	comp=N,868nm,0.8s						
HTC	**Hot Caves**	0.41	252		Pg	19 18 40.6	+0.1
HMH	**Humu'ula Sheep**	0.53	296		Pg	19 18 42.3	-0.4
HMH	**Humu'ula Sheep**	0.53	296		Sg	19 18 49.7	0.0
MLOA	**Mauna Loa Obse**	0.58	287		Sg	19 18 50.7	-0.9
MLOA	**Mauna Loa Obse**	0.58	287		Pg	19 18 42.9	-0.9
MLOA				IAML		19 18 51.4	
	comp=N,889nm,0.8s						
MLOA				IAML		19 18 51.0	
	comp=E,683nm,0.6s						
MWH	**Moku'aweowe**	0.59	281		Pg	19 18 43.0	-1.0
MWH				IAML		19 18 51.7	
	comp=E,816nm,1.1s						
MWH				IAML		19 19 02.4	
	comp=N,548nm,0.7s						
KHU	**Kahuku**	0.61	259		Pg	19 18 43.3	-1.0
KHU				IAML		19 18 56.0	
	comp=E,443nm,3.3s						
ALEP	**Alea Permanent**	0.65	286		Pg	19 18 43.8	-1.2
ALEP					Sg	19 18 53.1	-0.4
POHA	**Pohakuloa**	0.65	307		Sg	19 18 52.2	-1.3
POHA	**Pohakuloa**	0.65	307	Pg	Pg	19 18 44.0	-1.0
POHA				IAML		19 18 52.7	
	comp=E,574nm,0.6s						
POHA				IAML		19 19 02.1	
	comp=E,545nm,0.6s						
HUH	**Hualalai**	0.86	292	Pg	Pg	19 18 47.7	-1.4
HPAH	**Hawaii Prepara**	0.94	315	Pg	Pg	19 18 47.3	-3.3
HPAH				IAML		19 18 58.1	
	comp=N,220nm,3.1s						

WEL 08 19:28:10.2±0.5, 45˚S±4˚×16˚8E±˚, h5km, M3.5/9, ML3.6/10, MLv3.5/9, Error ellipse: s-maj=0.0km s-min=0.0km az=150.8, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	0.30	255	P	Pg	19 28 16.5	+0.6
MSZ				S	Sg	19 28 21.0	+1.1
WKZ	**Wanaka**	0.54	115	P	Pg	19 28 20.8	+0.2
WKZ				S	Sg	19 28 27.9	+0.2
MLZ	**Mavora Lakes**	0.79	191	P	Pg	19 28 25.2	0.0
MLZ				S	Sg	19 28 36.1	+0.7
EAZ	**Earnscleugh**	0.94	133	P	Pg	19 28 27.8	-0.4
DCZ	**Deep Cove**	1.20	223	P	Pg	19 28 32.2	-1.1
DCZ				S	Sb	19 28 49.4	0.0
WHZ	**Wether Hill Ro**	1.32	192	P	Pn	19 28 34.6	-0.8
WHZ				S	Sg	19 28 52.7	0.0
LBZ	**Lake Benmore**	1.34	82	P	Pn	19 28 35.4	-0.3
FOZ	**Fox Glacier**	1.51	46	P	Pn	19 28 36.8	-1.0
FOZ				S	Sb	19 28 58.1	0.0
TUZ	**Tuapeka**	1.64	146	P	Pn	19 28 40.2	+0.6
TUZ				S	Sb	19 29 01.8	0.0
ODZ	**Otahua Downs**	1.71	106	P	Pn	19 28 41.0	+0.4
ODZ				S	Sn	19 29 03.0	+0.2
TMZ	**Timaru**	1.93	85	P	Pn	19 28 43.9	+0.3
GCSZ	**Gaunt Creek Bo**	1.93	49	P	Pn	19 28 42.8	-0.8
SYZ	**Scrubby Hill**	2.02	164	P	Pb	19 28 46.5	-0.9
HHSZ	**Highcliff Hill**	2.06	130	P	Pb	19 28 48.1	+0.1
ARCZ	**Arundel**	2.15	73	P	Pn	19 28 46.2	-0.5
RPZ	**Rata Peaks**	2.15	67	P	Pn	19 28 46.5	-0.2
APZ	**The Paps**	2.25	186	P	Pn	19 28 49.2	+1.1
WVZ	**Waitaha Valley**	2.31	50	P	Pn	19 28 48.3	-0.6
MHCZ	**Mount Hutt**	2.56	67	P	Pg	19 28 58.6	-0.8
WACZ	**Wakanui South**	2.60	77	P	Pb	19 28 58.6	+1.3
INZ	**Inchbonnie**	2.93	51	P	Pn	19 28 57.3	-0.1
AKCZ	**Akaroa Harbour**	3.37	79	P	Pn	19 29 01.9	-1.6
LTZ	**Lake Taylor**	3.38	59	P	Pn	19 29 02.2	-1.5
DSZ	**Denniston Nort**	3.82	43	P	Pn	19 29 09.1	-0.6
THZ	**Tophouse**	4.38	51	P	Pn	19 29 16.2	-1.3
MRNZ	**Matariki Terra**	4.55	47	P	Pn	19 29 20.0	+0.3
QRZ	**Quartz Range**	4.88	41	P	Pn	19 29 23.9	-0.3
TKNZ	**Takaka Hill**	4.93	45	P	Pn	19 29 25.1	+0.2
DUWZ	**D'Urville Isla**	5.60	49	P	Pn	19 29 34.8	+0.7

IDC ***08*** *19:41:02.7±2.3, 36˚.69N×141˚.70E, h41km±21km, mb3.3/6, mbtmp3.5/10, ML3.2/4, Error ellipse: s-maj=19.3km s-min=12.2km az=93.0*
JMA ***08*** *19:41:03.9±0.1, 36˚.8N±0˚.4×141˚.3E±0˚.9, h49km±1km, MV3.6/38, E OFF IBARAKI PREF*
NIED ***08*** *19:41:03.9, 36˚.75N×141˚.30E, h49km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.06; $M_{\theta\theta}$=1.94; $M_{\phi\phi}$=0.12; $M_{r\theta}$=1.16; $M_{r\phi}$=0.51; $M_{\theta\phi}$=1.47; Fault plane solution: M_0=2.77000×10^{14} NP1: ϕ_s=233.00000°, δ=66.00000°, λ=-108.00000°. NP2: ϕ_s=92.00000°, δ=29.00000°, λ=-55.00000°.*

ISC 08 19:41:02.9±1.9, 36.74N±0.05×141.38E±0.08, h30km±12km, n21, σ0.80/33, mb3.5/6, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	0.59	308	P	**Pn**	19 41 15.2	-0.1
ONAJ				S	**Sn**	19 41 23.4	-0.4
JHO	**Hitachi**	0.66	259	⇓P	**Pn**	19 41 16.1	-0.1
JHO				⇓*e*S	**Sn**	19 41 25.2	-0.4
JFFD	**Fukushimafurud**	0.74	298	*i* P	**Pn**	19 41 17.3	0.0
JFFD				*e*S	**Sb**	19 41 26.8	-0.4
JFK	**Kawauchi**	0.74	327	P	**Pb**	19 41 17.5	+0.1
JFK				S	**Sb**	19 41 27.1	-0.2
JHYU	**Hitachinakayam**	0.75	238	⇓*i* P	**Pn**	19 41 17.6	+0.2
JHYU				⇓*e*S	**Sn**	19 41 27.7	0.0
JOTO	**OTAMA OYAMA**	1.17	315	*i* P	**Pb**	19 41 24.4	-0.1
JOTO				*e*S	**Sb**	19 41 39.1	-0.3
JMM	**Marumori**	1.22	338	*i* P	**Pn**	19 41 24.1	+0.3
JMM				*e*S	**Sn**	19 41 39.4	+0.1
JFY	**Yanaizu**	1.49	297	*e*P	**Pn**	19 41 28.7	+1.0
JFY				*e*S	**Sb**	19 41 48.1	-0.5
JAG	**Ashikaga**	1.58	259	*i* P	**Pn**	19 41 29.6	+0.7
JIO	**Ouri**	1.71	359	*i* P	**Pn**	19 41 31.0	+0.4
JIO				*e*S	**Sn**	19 41 50.7	-0.8
JOU	**Okura**	1.72	341	P	**Pn**	19 41 31.5	+0.7
MJAR	**Matsushiro Arr** 0.6nm,0.3s,baz=115,slow=11,SNR=30	2.56	267	P	**Pn**	19 41 44.0	+1.7
MJAR	6.2nm,0.3s,baz=103,slow=26,SNR=5.2 2.8nm,0.3s			S	**Sb**	19 42 17.8	-1.3
JHJ	**Hachijo jima 2** 7.9nm,0.3s,baz=49,slow=9.8,SNR=1.5	3.84	200	P	**Pn**	19 42 00.8	+0.9
JHJ	66nm,0.3s,baz=301,slow=21,SNR=1.7 70nm,0.5s			S	**Sn**	19 42 44.4	+0.4
ASAJ	**Asahikawa** 0.7nm,0.3s,baz=216,slow=20,SNR=6.9	7.43	7	P	**Pn**	19 42 49.6	+0.5
ASAJ	4.2nm,0.7s,baz=270,slow=20,SNR=2.0 3.1nm,0.5s			S	**Sn**	19 44 12.5	+0.2
USRK	**Ussuriysk Ar.** 0.1nm,0.3s,baz=127,slow=15,SNR=2.4 1.3nm,0.7s	10.32	319	P	**Pn**	19 43 29.8	+1.0
SONM	**Songino Array** 0.4nm,0.5s,baz=102,slow=10,SNR=3.6 0.4nm,0.5s	27.93	304	P	**P**	19 46 51.9	+1.4
ZALV	**Zalesovo Beam** 0.6nm,0.5s,baz=104,slow=6.1,SNR=2.5 0.6nm,0.5s	42.09	313	P	**P**	19 48 52.3	+0.4
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=85,slow=10.0,SNR=2.0 0.1nm,0.5s	44.25	302	P	**P**	19 49 10.1	+0.6
KURBB	**Kurchatov Arra** 0.5nm,0.5s,baz=82,slow=8.0,SNR=4.7 0.5nm,0.5s	46.16	308	P	**P**	19 49 24.1	-0.4
WRA	**Warramunga Arr** 0.4nm,0.5s,baz=4.0,slow=7.4,SNR=2.9 0.4nm,0.5s	56.77	188	P	**P**	19 50 42.8	-1.2
ASAR	**Alice Springs** 0.3nm,0.8s,baz=19,slow=13,SNR=4.9 0.3nm,0.8s	60.49	188	P	**P**	19 51 08.0	-2.0

WEL 08 19:48:05.4±0.5, 45˚S±4˚×16˚8E±˚, h5km, M3.4/8, ML3.6/9, MLv3.4/8, Error ellipse: s-maj=0.0km s-min=0.0km az=157.7, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	0.28	255	P	Pg	19 48 11.8	+0.8
MSZ				S	Sg	19 48 16.2	+1.6
WKZ	**Wanaka**	0.55	114	P	Pg	19 48 16.1	0.0
WKZ				S	Sg	19 48 23.4	0.0
MECS	**Makarora Emerg**	0.76	61	P	Pg	19 48 19.0	-1.0
MECS				S	Sg	19 48 28.4	-1.4
MLZ	**Mavora Lakes**	0.78	190	P	Pg	19 48 20.5	+0.1
MLZ				S	Sg	19 48 31.2	+0.7
EAZ	**Earnscleugh**	0.95	132	P	Pg	19 48 23.1	-0.6
EAZ				S	Sn	19 48 38.7	-0.8
DCZ	**Deep Cove**	1.19	223	P	Pg	19 48 27.4	-0.9
DCZ				S	Sg	19 48 43.5	-0.2
WHZ	**Wether Hill Ro**	1.32	191	P	Pn	19 48 30.0	-0.5
WHZ				S	Sg	19 48 47.0	-0.8
LBZ	**Lake Benmore**	1.36	82	P	Pn	19 48 30.6	-0.5
FOZ	**Fox Glacier**	1.52	46	P	Pn	19 48 32.4	-0.9
FOZ				S	Sn	19 48 53.3	-0.2
TUZ	**Tuapeka**	1.65	146	P	Pb	19 48 35.7	-0.5
TUZ				S	Sb	19 48 57.0	-0.2
ODZ	**Otahua Downs**	1.72	106	P	Pn	19 48 36.1	+0.1
ODZ				S	Sn	19 48 58.2	-0.2
GCSZ	**Gaunt Creek Bo**	1.94	49	P	Pn	19 48 37.9	-1.1
TMZ	**Timaru**	1.94	85	P	Pn	19 48 39.1	0.0
SYZ	**Scrubby Hill**	2.02	164	P	Pb	19 48 41.7	-1.0
ARCZ	**Arundel**	2.16	73	P	Pn	19 48 41.4	-0.7
RPZ	**Rata Peaks**	2.17	67	P	Pn	19 48 41.7	-0.4
APZ	**The Paps**	2.24	186	P	Pn	19 48 44.4	+1.2
WVZ	**Waitaha Valley**	2.33	50	P	Pn	19 48 44.5	+0.1
INZ	**Inchbonnie**	2.95	52	P	Pn	19 48 52.6	-0.3
AKCZ	**Akaroa Harbour**	3.39	79	P	Pn	19 48 58.4	-0.6
LTZ	**Lake Taylor**	3.40	59	P	Pn	19 48 58.8	-0.4
DSZ	**Denniston Nort**	3.83	43	P	Pn	19 49 04.3	-0.8
MRNZ	**Matariki Terra**	4.57	47	P	Pn	19 49 15.5	+0.3
QRZ	**Quartz Range**	4.89	41	P	Pn	19 49 19.2	-0.4
TKNZ	**Takaka Hill**	4.94	45	P	Pn	19 49 20.4	+0.1

IDC 08 20:05:56.4±8.8, 17˚.41S×171˚.43W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=383.5km s-min=41.8km az=140.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.4nm,0.8s,baz=97,slow=6.6,SNR=6.6 0.4nm,0.8s	51.25	258	P	P	20 15 01.9	-0.5
ASAR	**Alice Springs** 1.3nm,0.6s,baz=88,slow=8.3,SNR=23 1.3nm,0.6s	51.32	253	P	P	20 15 03.1	+0.2
ILAR	**Eielson Array** 0.5nm,0.8s,baz=187,slow=6.4,SNR=3.0 0.5nm,0.8s	84.06	10	P	P	20 18 28.6	+0.1

JMA ***08*** *20:16:54.8±0.1, 25˚N±1˚×122˚.3E±0˚.4, h2km, MV2.7/12, TAIWAN REGION*
TAP ***08*** *20:16:55.0, 24˚.95N×122˚.29E, h15km, ML3.2, C*

ISC 08 20:16:55.0±1.0, 24˚.91N±0˚.03×122˚.31E±0˚.02, h10km±9km, n72, σ0°53/98, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao** baz=283	0.31	289	P	**Pg**	20 17 01.5	+0.3
TWB1	baz=283			S	**Sg**	20 17 05.9	+0.7
SXI1	**Grass Mountain** baz=291	0.43	295	P	**Pb**	20 17 04.1	-0.6
SXI1	baz=291			S	**Sb**	20 17 10.2	-1.2
TIPB	**Shuangxi** baz=274	0.44	278	*e*P	**Pb**	20 17 04.2	-0.7
TIPB	baz=274			*e*S	**Sb**	20 17 10.7	-0.9
EOS2	**EOS2** baz=208	0.49	188	P	**Pb**	20 17 06.0	+0.3
EOS2	baz=208			*e*S	**Sb**	20 17 13.7	+0.8
NWF	**Wu-fen Shan** baz=285	0.51	289	P	**Pb**	20 17 05.7	-0.3

YM08	**YM08**	**0.71 293**	P	**Pb**	**20 17 09.1**	**-0.3**
	baz=290					
YM08			*eS*	**Sg**	**20 17 18.3**	**+0.3**
	baz=290					
YM01	**YM01**	**0.71 289**	P	**Pb**	**20 17 09.1**	**-0.3**
	baz=287					
YM01			*eS*	**Sb**	**20 17 18.9**	**-0.4**
	baz=287					
ENTT	**Nioudou**	**0.73 248**	P	**Pb**	**20 17 09.4**	**-0.4**
	baz=237					
JYNG	**Yonagunijimaku**	**0.74 128**	P	**Pg**	**20 17 08.8**	**-0.4**
JYNG			*eS*	**Sg**	**20 17 18.7**	**-0.2**
TWY	**Chenhua**	**0.74 300**	P	**Pb**	**20 17 09.5**	**-0.4**
	baz=285					
TWY			S	**Sb**	**20 17 20.1**	**+0.1**
	baz=285					
TAP	**Taipei**	**0.74 280**	P	**Pb**	**20 17 10.2**	**+0.3**
	baz=277					
TAP			*eS*	**Sb**	**20 17 19.8**	**-0.3**
	baz=277					
NWLT	**Wulai**	**0.74 260**	P	**Pb**	**20 17 09.8**	**-0.2**
	baz=258					
NWLT			*eS*	**Sg**	**20 17 19.4**	**+0.3**
	baz=258					
PCYT	**Pengchaiyu**	**0.75 343**	*eP*	**Pg**	**20 17 08.9**	**-0.5**
	baz=343					
TATO	**Taipei**	**0.75 275**	P	**Pb**	**20 17 10.1**	**0.0**
ANP	**Anpu**	**0.77 291**	P	**Pb**	**20 17 10.1**	**-0.4**
	baz=289					
EAHA	**Aohua**	**0.78 222**	*eP*	**Pb**	**20 17 10.3**	**-0.2**
	baz=220					
YOJ	**Yonaguni jima**	**0.78 125**	P	**Pg**	**20 17 10.0**	**0.0**
YOJ	**Yonaguni jima**	**0.78 125**	P	**Pg**	**20 17 09.9**	**-0.2**
YOJ			S	**Sg**	**20 17 19.8**	**-0.4**
EOS4	**EOS4**	**0.79 179**	P	**Pg**	**20 17 10.1**	**0.0**
	baz=178					
NDT	**Datong Townshi**	**0.79 247**	*eP*	**Pb**	**20 17 10.8**	**+0.1**
	baz=239					
LATG	**Datong**	**0.80 242**	P	**Pb**	**20 17 10.9**	**-0.2**
	baz=240					
NTST	**Danshui**	**0.82 288**	*eP*	**Pb**	**20 17 11.9**	**+0.6**
	baz=286					
NTST			*eS*	**Sb**	**20 17 22.6**	**+0.3**
	baz=286					
TWS1	**Kuangyinshan**	**0.83 283**	P	**Pb**	**20 17 12.0**	**+0.6**
	baz=281					
TWS1			S	**Sb**	**20 17 23.1**	**+0.4**
	baz=281					
YHNB	**Yeheng**	**0.88 254**	P	**Pg**	**20 17 11.8**	**-0.2**
YHNB	**Yeheng**	**0.88 254**	P	**Pg**	**20 17 12.0**	**0.0**
	baz=261					
NSK	**Sanguang**	**0.90 255**	*eP*	**Pb**	**20 17 12.4**	**-0.2**
	baz=261					
NNSB	**Datong**	**0.97 241**	P	**Pg**	**20 17 13.7**	**0.0**
	baz=230					
NNSB			*eS*	**Sb**	**20 17 26.5**	**-0.3**
	baz=230					
NNS	**Nan Shan**	**0.97 241**	*eP*	**Pb**	**20 17 13.8**	**-0.2**
	baz=231					
NNS			*eS*	**Sb**	**20 17 26.6**	**-0.3**
	baz=231					
ETL	**Fush Village**	**0.97 220**	P	**Pg**	**20 17 13.8**	**0.0**
	baz=219					
NACB	**Ninganchiao**	**0.98 222**	P	**Pg**	**20 17 13.4**	**-0.5**
NACB	**Ninganchiao**	**0.98 222**	P	**Pb**	**20 17 13.9**	**-0.2**
	baz=221					
NACB			S	**Sg**	**20 17 26.7**	**+0.1**
	baz=221					
ETLH	**Xiulin Townshi**	**1.03 227**	P	**Pg**	**20 17 14.6**	**-0.2**
	baz=218					
ETLH			*eS*	**Sg**	**20 17 27.1**	**-1.1**
	baz=218					
TWD	**Chiawan**	**1.05 218**	P	**Pg**	**20 17 15.1**	**-0.2**
	baz=217					
NFF	**Wufeng Townshi**	**1.12 256**	P	**Pg**	**20 17 15.6**	**-0.9**
	baz=267					
ETM	**Tongmen**	**1.20 218**	*eP*	**Pg**	**20 17 17.9**	**-0.2**
	baz=219					
LIOB	**Emei**	**1.20 258**	P	**Pb**	**20 17 16.8**	**-1.0**
	baz=257					
LXIB	**Xiulin Townshi**	**1.20 223**	*eP*	**Pb**	**20 17 17.5**	**-0.4**
	baz=224					
WHF	**Hehuan Shan**	**1.22 231**	*eP*	**Pn**	**20 17 18.7**	**+0.3**
	baz=231					
NSTT	**Nanjuang**	**1.22 257**	*eP*	**Pb**	**20 17 16.8**	**-1.3**
	baz=257					
TWT	**Tachien**	**1.22 238**	*eP*	**Pb**	**20 17 18.1**	**-0.2**
	baz=229					
TDCB	**Techi**	**1.23 238**	*eP*	**Pb**	**20 17 18.2**	**-0.3**
	baz=229					
CHGB	**Renai**	**1.34 231**	*eP*	**Pg**	**20 17 20.6**	**0.0**
	baz=232					
CHGB			*eS*	**Sn**	**20 17 39.4**	**+1.6**
	baz=232					
ESL	**Shilin**	**1.35 216**	*eP*	**Pn**	**20 17 19.7**	**-0.2**
	baz=217					
WHP	**Taichung City**	**1.39 243**	*eP*	**Pg**	**20 17 22.1**	**+0.4**
	baz=258					
IRIF	**Iriomote-Funau**	**1.42 114**	*eP*	**Pb**	**20 17 21.3**	**-0.1**
WUSB	**Renai**	**1.42 230**	*eP*	**Pb**	**20 17 21.6**	**0.0**
	baz=231					
WARBT	**Fenglin Townsh**	**1.46 216**	*eP*	**Pn**	**20 17 20.7**	**-0.6**
	baz=217					
WCS	**Beigang Elemen**	**1.53 237**	*eP*	**Pb**	**20 17 23.7**	**+0.3**
	baz=224					
VWDT	**VWDT**	**1.57 223**	*eP*	**Pb**	**20 17 23.6**	**-0.4**
	baz=225					
HGSD	**Ruisui**	**1.63 210**	*eP*	**Pn**	**20 17 24.0**	**+0.3**
	baz=198					
SMLT	**Sun Moon Lake**	**1.64 232**	*eP*	**Pb**	**20 17 25.6**	**+0.2**
	baz=233					
TYC	**Yuchr**	**1.66 233**	*eP*	**Pb**	**20 17 25.8**	**+0.2**
	baz=234					
SSLB	**Suanglung**	**1.67 228**	P	**Pb**	**20 17 25.3**	**-0.5**
SSLB	**Suanglung**	**1.67 228**	*eP*	**Pn**	**20 17 25.0**	**+0.8**
	baz=230					
JKRS	**Kuro-shima**	**1.69 113**	*eP*	**Pb**	**20 17 26.8**	**+0.7**
JIJ	**Ishigaki jima**	**1.76 108**	*eP*	**Pg**	**20 17 28.5**	**-0.2**
YULB	**Yu-li**	**1.77 212**	*eP*	**Pn**	**20 17 24.4**	**-1.2**
	baz=214					
WHYT	**Xinyi Township**	**1.80 228**	*eP*	**Pb**	**20 17 27.8**	**-0.1**
	baz=215					
JISG	**Ishigakijimahi**	**1.85 100**	*eP*	**Pg**	**20 17 30.4**	**-0.1**
ALS	**Alishan**	**1.96 225**	*eP*	**Pb**	**20 17 29.9**	**-0.9**
	baz=209					
TPUB	**Ta-pu**	**2.22 224**	P	**Pb**	**20 17 33.8**	**-1.4**

*NNC **08** 20:17:21.8±1.7, 47.°05N×93.°51E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=16.5km s-min=11.3km az=128.0*
*IDC **08** 20:17:22.2±0.7, 46.°84N×93.°40E, h0km, mb3.9/13, mbtmp3.8/19, ML3.1/6, MS3.3/5, Error ellipse: s-maj=20.9km s-min=12.8km az=27.0*
*MOS **08** 20:17:23.9±2.0, 46.°67N×93.°10E, h10km, mb4.2/8, Error ellipse: s-maj=10.5km s-min=6.8km az=122.0*
*ASRS **08** 20:17:38.6±0.4, 48.°N±2.°×9.°3E±.°, h10km, MLh4.7/12, Error ellipse: s-maj=5.4km s-min=4.6km az=26.6, confirmed*
ISC 08 20:17:27.4±0.5, 46.°99N±0.°03×93.°13E±0.°03, h10km, n81, σ2.°57/86, mb4.0/21, MS3.4/5, 15C-6D, Mongolia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CUR	**Chagan-Uzun**	**4.44**	**316**	Pn		Pn	Pn	20 18 39.5	+4.5
CUR				Pg		**Pg**	**Pg**	**20 18 51.5**	**-0.9**
CUR				Sg		**Sg**	**Sg**	**20 19 47.2**	**-2.8**
CUR	**Chagan-Uzun**	**4.44**	**316**	P		Pn	Pn	20 18 39.4	+4.5
TEL	**Teeli**	**4.47**	**336**	Pn		**Pn**	**Pn**	**20 18 36.1**	**+0.9**
TEL				Pg		**Pb**	**Pb**	**20 18 48.1**	**+2.1**
TEL				Sg		**Sb**	**Sb**	**20 19 43.4**	**+3.6**
TEL	**Teeli**	**4.47**	**336**	P		**Pn**	**Pn**	**20 18 36.1**	**+0.9**
TEL								20 19 43.4	
DGZ	**Jazzator, Alta**	**4.67**	**308**	Pn		Pn	Pn	20 18 43.1	+5.1
DGZ				Sg		**Sg**	**Sg**	**20 19 57.5**	**+0.3**
DGZ	**Jazzator, Alta**	**4.67**	**308**	P		Pn	Pn	20 18 43.1	+5.1
KZLR	**Kyzyl**	**4.79**	**10**	Pn		**Pn**	**Pn**	**20 18 42.3**	**+2.6**
KZLR				Pg		**Pb**	**Pb**	**20 18 53.2**	**+1.7**
KZLR				Sg		**Sb**	**Sb**	**20 19 52.0**	**+2.8**
KZLR	**Kyzyl**	**4.79**	**10**	P		**Pn**	**Pn**	**20 18 42.3**	**+2.6**
KZLR								20 19 51.9	
WMQ	**Urumqi**	**4.97**	**232**	Pn		**Pn**	**Pn**	**20 18 42.1**	**0.0**
WMQ				Sn		**Sn**	**Sn**	**20 19 40.4**	**+0.7**
WMQ				smax		smax	smax		
	comp=N,510nm,1.3s								
WMQ				smax		smax	smax		
	comp=E,330nm,1.3s								

ULGR	**Ulagan, Altay**	**4.98 319**	Pn		Pn	20 18 49.1 +6.8
ULGR			Pg		**Pg**	**20 19 02.0 -0.9**
ULGR			Sg		**Sg**	**20 20 06.1 -1.3**
ULGR	**Ulagan, Altay**	**4.98 319**	P		Pn	20 18 49.1 +6.8
CHBI	**Chibit, Altay**	**4.99 314**	Pn		Pn	20 18 47.0 +4.5
CHBI			Pg		Pb	20 19 01.2 +6.3
CHBI			Sg		**Sg**	**20 20 05.2 -2.4**
CHBI	**Chibit, Altay**	**4.99 314**	P		Pn	20 18 46.9 +4.5
DJO	**Djoy, Khakassi**	**5.92 349**	Pn		**Pn**	**20 18 56.2 +1.1**
DJO			Pg		**Pb**	**20 19 12.3 +1.6**
DJO			Sg		**Sb**	**20 20 26.9 +5.3**
CERR	**Cheremushki**	**5.97 350**	Pn		**Pn**	**20 18 57.3 +1.5**
CERR			Pg		**Pb**	**20 19 13.9 +2.4**
CERR			Sg		**Sb**	**20 20 27.0 +4.0**
YALR	**Yailyu, Altay**	**5.98 325**	Pn		Pn	20 19 01.8 +5.8
YALR			Pg		**Pg**	**20 19 19.7 -2.3**
YALR			Sg		**Sg**	**20 20 33.9 -5.5**
ARTR	**Artybash**	**6.14 324**	Pn		Pn	20 19 02.5 +4.4
ARTR			Pg		**Pg**	**20 19 28.3 +3.4**
ARTR			Sg		**Sg**	**20 20 40.2 -4.1**
VEH	**Verkhnyaya Baz**	**6.52 345**	Pn		**Pn**	**20 19 03.7 +0.2**
VEH			Pg		Pb	20 19 26.1 +5.2
VEH			Sg		**Sb**	**20 20 46.2 +7.3**
TASR	**Tashtagol**	**6.69 332**	Pn		**Pn**	**20 19 08.5 +2.8**
TASR			Pg		Pg	20 19 32.5 -3.0
TASR			Sg		**Sg**	**20 20 55.3 -6.8**
UKR	**Ust'-Kan**	**6.77 309**	Pn		Pn	20 19 12.0 +5.2
UKR			Pg		Pg	20 19 33.5 -3.4
UKR			Sg		**Sg**	**20 21 04.6 +0.1**
GALT	**Gorno-Altaysk,**	**6.82 319**	Pn		Pn	20 19 12.6 +5.1
GALT			Pg		Pg	20 19 35.5 -2.5
GALT			Sg		**Sg**	**20 21 02.2 -4.1**
MK31	**Makanchi Array**	**7.43 272**	⇑Pn		**Pn**	**20 19 15.3 -0.6**
	comp=E,1.9nm,0.4s,baz=92,slow=15,SNR=41					
MK31			⇑Lg		Lg	20 21 24.6
	comp=E,54nm,0.7s,baz=86,slow=32,SNR=8.3					
MK31	**Makanchi Array**	**7.43 272**	*ce*P		**Pn**	**20 19 15.6 -0.3**
MKAR	**Makanchi Array**	**7.43 272**	Pn		**Pn**	**20 19 15.7 -0.1**
	comp=E,0.8nm,0.3s,baz=92,slow=14,SNR=41					
MKAR			Lg		Lg	20 21 17.5
	comp=E,3.1nm,0.3s,baz=84,slow=35,SNR=6.7					
	comp=E,1.2nm,0.3s					
MKAR	**Makanchi Array**	**7.43 272**	*i* P		**Pn**	**20 19 15.6 -0.3**
MKAR			pmax		pmax	
	comp=Z,1.0nm,0.3s					
MAKZ	**Makanchi**	**7.64 273**	⇑Pn		**Pn**	**20 19 18.1 -0.7**
	comp=Z,1.4nm,0.4s					
MAKZ			⇓Lg		Lg	20 21 34.8
	comp=Z,32nm,0.8s					
ELT	**Eltsovka**	**7.68 327**	Pn		Pn	20 19 24.6 +5.5
ELT			Pg		**Pg**	**20 19 52.6 -1.7**
ELT			Sg		**Sg**	**20 21 29.3 -4.2**
ZAA0	**Zalesovo Array**	**8.74 326**	⇑Pg		Pg	20 20 03.7 -11
	comp=Z,0.2nm,0.5s					
ZAA0			⇑Lg		Lg	20 21 56.3
	comp=Z,5.7nm,0.9s					
ZALV	**Zalesovo Beam**	**8.74 326**	Pn		**Pn**	**20 19 33.2 -0.6**
	comp=Z,0.5nm,0.3s,baz=144,slow=12,SNR=8.5					
ZALV			Lg		Lg	20 21 59.3
	comp=Z,0.5nm,0.3s,baz=140,slow=23,SNR=4.2					
	comp=Z,0.6nm,0.3s					
SONM	**Songino Array**	**9.04 80**	Pn		Pn	20 19 33.0 -5.0
	comp=Z,0.3nm,0.3s,baz=266,slow=13,SNR=7.0					
SONM			Pg			20 20 03.4
	comp=Z,0.8nm,0.3s,baz=272,slow=15,SNR=9.3					
SONM			Lg		Lg	20 22 01.7
	comp=Z,3.7nm,0.3s,baz=207,slow=44,SNR=16					
	comp=Z,0.4nm,0.3s					
SONM	**Songino Array**	**9.04 80**	*eP*		**Pn**	**20 19 36.9 -1.1**
ULN	**Ulaanbaatar**	**9.48 80**	*ce*P		**Pn**	**20 19 44.0 -0.1**
ULN			pmax		pmax	
	comp=Z,7.0nm,1.7s					
KURK	**Kurchatov**	**10.26 297**	⇑Pn		**Pn**	**20 19 52.8 -1.7**
	comp=Z,1.7nm,0.5s					
KURK			⇓Lg		Lg	20 22 57.3
	comp=Z,53nm,0.9s					
KURK	**Kurchatov**	**10.26 297**	*ce*P		**Pn**	**20 19 52.5 -2.1**
KURK			pmax		pmax	
	comp=Z,6.0nm,1.0s					
KURBB	**Kurchatov Arra**	**10.29 296**	⇑Pn		**Pn**	**20 19 54.3 -0.7**
	comp=Z,2.6nm,0.5s					
KURBB			⇓Lg		Lg	20 22 54.6
	comp=Z,111nm,0.9s					
KURBB	**Kurchatov Arra**	**10.29 296**	Pn		**Pn**	**20 19 53.8 -1.2**
	comp=Z,0.2nm,0.3s,baz=102,slow=15,SNR=21					
KURBB			Lg		Lg	20 22 50.9
	comp=Z,0.3nm,0.3s,baz=104,slow=32,SNR=9.0					
	comp=Z,2.0nm,0.5s					
PDGK	**Podgornoye**	**10.30 254**	⇑Pn		**Pn**	**20 19 53.8 -1.6**
	comp=Z,2.4nm,0.4s					
PDGK			⇓Sn		**Sn**	**20 21 54.6 +3.6**
	comp=Z,30nm,0.9s					
PDGK			⇑Lg		Lg	20 22 59.6
	comp=Z,40nm,1.0s					
GOMU	**GeErMu**	**10.86 173**	P		Pn	20 19 57.0 -6.2
GOMU			pP			20 20 00.9
GOMU			sP			20 20 03.1
GOMU			S		**Sn**	**20 22 08.5 +3.6**
GOMU			pmax		pmax	
	comp=Z,4.0nm,0.6s					
GOMU			LR		LR	
	comp=N,190nm,8.9s					
GOMU			LR		LR	
	comp=E,86nm,9.0s					
GOMU			LR		LR	
	comp=Z,200nm,6.3s					
MDOK	**Medeo**	**11.99 257**	Pn		**Pn**	**20 20 17.1 -1.4**
	comp=Z,2.1nm,0.6s					
MDOK			Sn		**Sn**	**20 22 37.3 +4.9**
	comp=Z,11nm,0.8s					
MDOK			Lg		Lg	20 23 49.9
	comp=Z,31nm,1.1s					
TKM2	**Tokmak 2**	**13.06 258**	⇓Pn		**Pn**	**20 20 32.6 -0.6**
	comp=Z,0.9nm,0.5s					
TKM2			⇓Sn		**Sn**	**20 23 03.3 +4.7**
	comp=Z,4.6nm,0.7s					
TKM2			⇑Lg		Lg	20 24 23.3
	comp=Z,12nm,1.0s					
AAK	**Ala-Archa**	**13.92 259**	Pn		Pn	20 20 41.3 -3.5
	comp=Z,0.1nm,0.3s,baz=104,slow=9.0,SNR=1.7					
AAK			Lg		Lg	20 24 45.9
	comp=Z,0.1nm,0.3s,baz=113,slow=17,SNR=1.7					
	comp=Z,0.4nm,0.3s					
AAK	**Ala-Archa**	**13.92 259**	*i* P		**Pn**	**20 20 43.9 -0.9**
BVAR	**Borovoye Array**	**15.78 301**	Pn		Pn	20 21 03.9 -5.7
	baz=94,slow=9.0,SNR=2.3					
BVAR			Lg		Lg	20 25 46.4
	comp=Z,0.1nm,0.3s,baz=88,slow=23,SNR=2.9					
BVAR			LR		LR	20 27 25.2
	comp=Z,64nm,20.4s,baz=82,slow=38					
	comp=Z,0.6nm,0.6s					
BRVK	**Borovoye**	**15.85 301**	*i* P		**Pn**	**20 21 10.2 -0.2**
BRVK			pmax		pmax	
	comp=Z,2.0nm,0.9s					
BOD	**Bodaibo**	**16.64 42**	*eP*		**Pn**	**20 21 21.5 +0.9**
BOD			pmax		pmax	
	comp=Z,8.0nm,0.8s					
HIA	**Hailar**	**17.88 73**	*i* P		**Pn**	**20 21 36.7 +0.6**
HIA			pmax		pmax	
	comp=Z,5.0nm,0.9s					
SVE	**Sverdlovsk**	**22.12 308**	*eP*		**P**	**20 22 23.3 +0.5**
SVE			pmax		pmax	
	comp=Z,8.0nm,0.9s					
TNCH	**TengChong**	**22.34 167**	*eP*		**P**	**20 22 24.9 -0.6**
TNCH			pP		pP	20 22 27.7 -1.2
TNCH			pmax		pmax	
	comp=Z,6.0nm,1.1s					
ARU	**Arti**	**23.18 307**	*i* P		**P**	**20 22 33.1 -0.8**
ARU			pmax		pmax	
	comp=Z,7.0nm,1.2s					
YAK	**Yakutsk**	**25.56 41**	*eP*		**P**	**20 22 58.4 +2.3**
YAK			pmax		pmax	
	comp=Z,11nm,0.8s					
YAK			pmax		pmax	
	comp=N,3.0nm,1.4s					
YAK			pmax		pmax	
	comp=E,5.0nm,1.4s					
KLR	**Kul'dur**	**25.70 71**	*ce*P		**P**	**20 22 59.8 +2.3**
KLR			pmax		pmax	
	comp=Z,8.0nm,2.5s					
USRK	**Ussuriysk Ar.**	**27.15 82**	LR		LR	20 34 52.0
	comp=Z,28nm,19.1s,baz=209,slow=39					
GEYT	**Alibeck**	**27.18 263**	P		**P**	**20 23 08.8 -2.3**
	comp=Z,0.5nm,0.5s,baz=69,slow=13,SNR=1.6					
GEYT			LR		LR	20 34 58.7
	comp=Z,38nm,18.4s,baz=156,slow=39					
	comp=Z,0.5nm,0.5s					
CMAR	**Chiang Mai Arr**	**28.86 169**	P		P	20 23 20.9 -5.2
	comp=Z,0.2nm,0.4s,baz=356,slow=12,SNR=1.9					
	comp=Z,0.2nm,0.4s					
MJAR	**Matsushiro Arr**	**34.77 91**	P		P	20 24 11.7 -6.3
	comp=Z,1.2nm,0.7s,baz=298,slow=10,SNR=2.0					
	comp=Z,1.2nm,0.7s					
KIV	**Kislovodsk**	**35.01 284**	*eP*		**P**	**20 24 19.6 -0.4**
KIV			pmax		pmax	
	comp=Z,4.0nm,1.0s					
OBN	**Obninsk**	**35.57 304**	*eP*		**P**	**20 24 23.1 -1.4**
OBN			pmax		pmax	
	comp=Z,3.0nm,0.9s					
ARCES	**ARCESS Array B**	**39.28 329**	P		**P**	**20 24 53.9 -1.9**
	comp=Z,1.3nm,0.7s,baz=72,slow=9.0,SNR=6.1					
ARCES			PcP		**PcP**	**20 27 01.2 -3.1**
	comp=Z,1.3nm,0.6s,baz=74,slow=3.2,SNR=14					
	comp=Z,1.3nm,0.7s					
ARCES	**ARCESS Array B**	**39.28 329**	*eP*		**P**	**20 24 53.4 -2.4**
ARCES			pmax		pmax	
	comp=Z,1.0nm,0.7s					
FINES	**FINESS Array B**	**39.86 316**	P		**P**	**20 24 59.1 -1.6**
	comp=Z,2.5nm,0.8s,baz=87,slow=7.8,SNR=10					
	comp=Z,2.5nm,0.8s					
FINES	**FINESS Array B**	**39.86 316**	*eP*		**P**	**20 24 59.8 -0.9**
FINES			pmax		pmax	
	comp=Z,2.0nm,0.7s					
MNK	**Minsk**	**40.59 306**	*i* P		P	20 25 02.1 -4.8
	comp=E,5.0nm,0.8s,baz=73					
MNK			*i* P		P	20 25 02.1 -4.8
	comp=N,6.0nm,0.8s,baz=73					
MNK			*i* P		P	20 25 02.1 -4.8
	comp=Z,7.0nm,0.7s,baz=73					
MNK			*i* PP		**PP**	**20 26 35.7 -4.5**
	baz=73					
MNK			*i* PPP		PPP	20 27 00.8
	baz=73					
MNK			*i* S		**S**	**20 31 12.3 -3.8**
	baz=73					
MNK			*i* SS		**SS**	**20 34 13.5 -2.1**
	baz=73					
MNK			*i* SSS		SSS	20 34 37.0
	baz=73					
MNK			*i* LR		LR	20 41 57.1
	baz=73					
MNK			*i* LRM		MLR	20 43 44.7
	comp=N,19nm,13.2s,baz=73					
MNK			*i* LRM		MLR	20 44 41.5
	comp=E,18nm,17.1s,baz=73					
MNK			*i* LRM		MLR	20 45 02.1
	comp=Z,78nm,16.8s,baz=73					
MNK	**Minsk**	**40.59 306**	*i* P		P	20 25 02.1 -4.8
MNK			*i* S		**S**	**20 31 12.3 -3.8**
MNK			*i* SS		**SS**	**20 34 13.5 -2.1**
MNK			*i*			20 35 07.9
MNK			pmax		pmax	
	comp=N,6.0nm,0.8s					
MNK			pmax		pmax	
	comp=Z,7.0nm,0.7s					
MNK			pmax		pmax	
	comp=E,5.0nm,0.9s					
MNK			MLR		MLR	
	comp=N,19nm,13.0s					
MNK			MLR		MLR	
	comp=E,18nm,17.0s					
MNK			MLR		MLR	
	comp=Z,78nm,17.0s					
SPITS	**Spitsbergen Ar**	**41.78 342**	P		**P**	**20 25 15.7 -0.8**
	comp=Z,9.5nm,0.9s,baz=107,slow=9.2,SNR=12					
	comp=Z,9.5nm,0.9s					
BRTR	**Keskin Array B**	**42.94 283**	P		**P**	**20 25 25.6 -0.9**
	comp=Z,1.3nm,0.7s,baz=86,slow=6.9,SNR=6.3					
	comp=Z,1.3nm,0.7s					
BRTR	**Keskin Array B**	**42.94 283**	*eP*		**P**	**20 25 26.3 -0.2**
BRTR			pmax		pmax	
	comp=Z,1.0nm,0.7s					
HFS	**Hagfors**	**46.06 317**	P		**P**	**20 25 49.4 -1.6**
	comp=Z,5.6nm,0.7s,baz=64,slow=6.6,SNR=17					
	comp=Z,5.6nm,0.7s					
NORES	**NORESS Array B**	**46.83 318**	P		**P**	**20 25 59.1 +2.1**
NB2	**NORSAR Subarra**	**46.87 319**	P		**P**	**20 25 55.5 -1.8**
	comp=Z,1.2nm,0.6s,baz=65,slow=7.4					
NOA	**NORSAR Array B**	**46.87 319**	P		**P**	**20 25 55.4 -2.0**
	comp=Z,0.9nm,0.6s,baz=65,slow=7.4,SNR=6.8					
	comp=Z,0.9nm,0.6s					
NOA	**NORSAR Array B**	**46.87 319**	*eP*		**P**	**20 25 55.9 -1.4**
NOA			pmax		pmax	
	comp=Z,1.0nm,0.6s					
CLL	**Collm**	**50.12 306**	*e*PP		PP	20 28 18.0 +0.7
GERES	**GERESS Array B**	**50.93 303**	LR		LR	20 48 16.3
	comp=Z,46nm,19.6s,baz=310,slow=36					
YKA	**Yellowknife Ar**	**68.63 13**	P		P	20 28 26.6 -3.6
	comp=Z,0.5nm,0.9s,baz=337,slow=6.4,SNR=3.6					
	comp=Z,0.5nm,0.9s					
MBAR	**Mbarara**	**71.96 249**	LR		LR	21 03 46.1
	comp=Z,43nm,18.5s,baz=241,slow=39					
WRA	**Warramunga Arr**	**76.27 140**	P		P	20 29 11.8 -4.5
	comp=Z,1.3nm,1.0s,baz=339,slow=6.1,SNR=4.6					
	comp=Z,1.3nm,1.0s					
WRA	**Warramunga Arr**	**76.27 140**	*ce*P		**P**	**20 29 16.3 +0.1**
WRA			pmax		pmax	
	comp=Z,1.0nm,0.8s					
ASAR	**Alice Springs**	**79.38 142**	P		P	20 29 28.9 -4.6
	comp=Z,0.5nm,0.7s,baz=334,slow=5.6,SNR=6.4					
	comp=Z,0.5nm,0.7s					
TORD	**Torodi Ar. Bea**	**81.48 280**	P		P	20 29 42.5 -2.6
	comp=Z,0.7nm,1.0s,baz=23,slow=4.7,SNR=3.3					
	comp=Z,0.7nm,1.0s					
LPAZ	**La Paz**	**145.66 327**	PKPbc		**PKPdf**	**20 37 03.3 -3.7**
	comp=Z,0.9nm,0.7s,baz=26,slow=8.2,SNR=4.0					
CPUP	**Villa Florida**	**148.88 301**	PKPbc		**PKPdf**	**20 37 10.8 -0.5**
	comp=Z,1.1nm,0.3s,baz=96,slow=1.7,SNR=4.5					

*NEIC **08** 20:21:36.6±0.8, 19.°39N±0.°01×155.°08W±0.°03, h5km±1km, Error ellipse: s-maj=4.5km s-min=2.9km az=284.0*
HVO 08 20:21:35.6±1.0, 19.°36N±0.°02×155.°03W±0.°03, h6km±6km, ML2.7/7, ML2.9/40(NEIC), Error ellipse: s-maj=4.7km s-min=2.0km az=103.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.07**	**287**			Pg		20 21 38.0	+0.6
NPOC	**North of Pu'u**	**0.09**	**292**			Pg		20 21 38.2	+0.6
NPOC						IAML		20 21 40.2	
	comp=N,6μm,0.4s								
STCH	**Steam Cracks**	**0.10**	**284**			Pg		20 21 38.1	+0.3
STCH						IAML		20 21 40.0	
	comp=E,6μm,0.1s								
STCH						IAML		20 21 40.1	
	comp=N,7μm,0.4s								
KNHH	**Kane Nui o Ham**	**0.14**	**277**

MLOA	**Mauna Loa Obse**	**0.55 289**		Sg	20 21 53.2	-0.3	
MLOA	**Mauna Loa Obse**	**0.55 289**		Pg	20 21 45.8	-0.5	
MLOA	**Mauna Loa Obse**	**0.55 289**	IAML		20 21 53.9		
	comp=N,989nm,0.2s						
MLOA			IAML		20 21 54.0		
	comp=E,1μm,0.2s						
MWH	**Moku'aweowe**	**0.55 283**		Pg	20 21 45.9	-0.5	
MWH				Sg	20 21 54.0	+0.4	
MWH	**Moku'aweowe**	**0.55 283**	IAML		20 21 54.3		
	comp=N,873nm,0.6s						
MWH			IAML		20 22 02.5		
	comp=E,781nm,1.0s						
KHU	**Kahuku**	**0.57 258**	IAML		20 22 01.7		
	comp=E,492nm,2.3s						
KHU	**Kahuku**	**0.57 258**		Pg	20 21 45.8	-0.8	
KHU				Sg	20 21 53.7	-0.3	
ALEP	**Alea Permanent**	**0.61 287**		Pg	20 21 46.7	-0.8	
ALEP				Sg	20 21 54.9	-0.5	
POHA	**Pohakuloa**	**0.62 310**		Pg	20 21 47.0	-0.6	
POHA			IAML		20 21 56.5		
	comp=E,834nm,0.3s						
POHA			IAML		20 21 56.5		
	comp=E,803nm,0.2s						
HUH	**Hualalai**	**0.83 293**		Pg	20 21 49.9	-1.7	
HPAH	**Hawaii Prepara**	**0.92 317**	Pg	Pg	20 21 51.6	-1.7	
MHA	**Mahukona**	**1.17 315**	Pg	Pg	20 21 54.5	-3.5	

*SOME **08** 20:42:59.7, 44°.57N×81°.40E, h10km*
*NNC **08** 20:43:00.1±1.1, 44°.55N×81°.44E, h0km, mb3.5, mpv3.4,*
Error ellipse: s-maj=8.2km s-min=5.3km az=120.0
ISC 08 20:42:59.6±1.1, 44°.56N±0°.04×81°.46E±0°.04, h10km, n40, σ1s90/61, 5C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.22**	**260**	P		**Pg**	**20 43 23.1**	**+0.2**
	40nm,0.2s							
DJR				S		**Sn**	**20 43 40.2**	**+0.8**
	32nm,0.1s							
DJR	**Jarkent**	**1.22**	**260**	*e*P		**Pg**	**20 43 23.1**	**+0.2**
	40nm,0.2s							
DJR				*e*S		**Sn**	**20 43 40.1**	**+0.8**
	32nm,0.1s							
KTMS	**Ketmen**	**1.37**	**216**	P		**Pg**	**20 43 25.2**	**-0.6**
	5.6nm,0.1s							
KTMS				S		**Sg**	**20 43 43.5**	**-0.1**
	85nm,0.2s							
KTMS	**Ketmen**	**1.37**	**216**	*e*P		**Pg**	**20 43 25.2**	**-0.6**
	5.6nm,0.1s							
KTMS				*e*S		**Sg**	**20 43 43.5**	**-0.1**
	85nm,0.2s							
KNOS	**Konyrlen**	**1.65**	**264**	P		**Pg**	**20 43 30.4**	**-0.7**
	70nm,0.1s							
KNOS				S		**Sg**	**20 43 52.5**	**0.0**
	40nm,0.3s							
KAPS	**Kapalarasan**	**1.66**	**297**	P		**Pb**	**20 43 30.3**	**0.0**
	5.6nm,0.2s							
KAPS				S		**Sg**	**20 43 53.1**	**+0.1**
	26nm,0.2s							
KAPS	**Kapalarasan**	**1.66**	**297**	*e*P		**Pb**	**20 43 30.3**	**0.0**
	5.6nm,0.2s							
KAPS				*e*S		**Sg**	**20 43 52.9**	**-0.1**
	26nm,0.2s							
BLB	**Baldybastay**	**2.19**	**259**	Pg		**Pg**	**20 43 40.0**	**-1.5**
	36nm,0.3s							
BLB				Lg		Lg	20 44 09.6	
	77nm,0.3s							
TDK	**Taldyqorghan**	**2.22**	**283**	Pg		**Pg**	**20 43 41.0**	**-1.1**
	20nm,0.1s							
TDK				Lg		Lg	20 44 10.5	
	56nm,0.3s							
TDK	**Taldyqorghan**	**2.22**	**283**	*e*P		**Pg**	**20 43 41.0**	**-1.1**
	20nm,0.1s							
TDK				*e*S		**Sg**	**20 44 10.5**	**-0.4**
	56nm,0.3s							
MAKZ	**Makanchi**	**2.28**	**9**	⇑Pg		**Pg**	**20 43 41.6**	**-1.6**
	4.0nm,0.3s							
MAKZ				⇑Lg		Lg	20 44 11.1	
	9.6nm,0.6s							
ZHN	**Zhinishke**	**2.59**	**239**	Pg		**Pb**	**20 43 46.6**	**+0.4**
	2.1nm,0.1s							
ZHN				Lg		Lg	20 44 20.0	
	79nm,0.3s							
ZHN	**Zhinishke**	**2.59**	**239**	*e*P		**Pb**	**20 43 46.6**	**+0.4**
	2.1nm,0.1s							
ZHN				*e*S		**Sg**	**20 44 20.0**	**-2.8**
	79nm,0.3s							
KURS	**Kuram**	**2.60**	**247**	Pg		**Pb**	**20 43 47.1**	**+0.8**
	4.7nm,0.5s							
KURS				Lg		Lg	20 44 21.0	
	9.5nm,0.2s							
KURS	**Kuram**	**2.60**	**247**	*e*P		**Pb**	**20 43 47.1**	**+0.8**
	4.7nm,0.5s							
KURS				*e*S		**Sg**	**20 44 21.0**	**-2.2**
	9.5nm,0.2s							
ARXS	**Arharly**	**2.63**	**264**	Pg		**Pb**	**20 43 47.6**	**+0.8**
	3.5nm,0.2s							
ARXS				Lg		Lg	20 44 22.2	
	19nm,0.4s							
ARXS	**Arharly**	**2.63**	**264**	*e*P		**Pb**	**20 43 47.6**	**+0.8**
	3.5nm,0.2s							
ARXS				*e*S		**Sg**	**20 44 22.2**	**-1.8**
	19nm,0.4s							
SATY	**Saty**	**2.67**	**237**	Pg		**Pb**	**20 43 48.0**	**+0.5**
	4.6nm,0.1s							
SATY				Lg		Lg	20 44 23.0	
	33nm,0.2s							
SATY	**Saty**	**2.67**	**237**	*e*P		**Pb**	**20 43 48.0**	**+0.5**
	4.6nm,0.1s							
SATY				*e*S		**Sg**	**20 44 23.0**	**-2.3**
	33nm,0.2s							
CHKK	**Chushkaly**	**3.29**	**259**	Pg		**Pb**	**20 43 58.7**	**+0.6**
	0.6nm,0.0s							
CHKK				Lg		Lg	20 44 41.2	
	10nm,0.3s							
CHKK	**Chushkaly**	**3.29**	**259**	*e*P		**Pb**	**20 43 58.7**	**+0.6**
	0.6nm,0.0s							
CHKK				*e*S		**Sb**	**20 44 41.2**	**+3.0**
	10nm,0.3s							
KOTS	**Kotyrbulak**	**3.41**	**249**	Pg		**Pb**	**20 44 01.4**	**+1.2**
	8.0nm,0.5s							
KOTS				Lg		Lg	20 44 45.6	
	20nm,0.5s							
KOTS	**Kotyrbulak**	**3.41**	**249**	*e*P		**Pb**	**20 44 01.2**	**+1.1**
	8.0nm,0.5s							
KOTS				*e*S		**Sg**	**20 44 45.2**	**-3.9**
	20nm,0.5s							
MDOK	**Medeo**	**3.48**	**248**	Pg		**Pg**	**20 44 04.2**	**-2.1**
	4.7nm,0.4s							
MDOK				Pg		Pb	20 44 07.9	+6.5
	2.6nm,0.4s							
MDOK				Lg		Lg	20 44 52.3	
	20nm,1.1s							
MDOK				Lg		Lg	20 44 56.5	
	13nm,0.4s							
MDOK	**Medeo**	**3.48**	**248**	*e*P		**Pb**	**20 44 02.4**	**+1.0**
	2.6nm,0.4s							
MDOK				*e*S		**Sg**	**20 44 47.3**	**-4.1**
	13nm,0.4s							
KTBS	**Karatobe**	**3.54**	**258**	Pg		**Pb**	**20 44 03.4**	**+1.1**
	2.1nm,0.3s							
KTBS				Lg		Lg	20 44 48.9	
	19nm,0.7s							
KTBS	**Karatobe**	**3.54**	**258**	*e*P		**Pb**	**20 44 02.9**	**+0.5**
	2.1nm,0.3s							
KTBS				*e*S		**Sb**	**20 44 48.2**	**+2.8**
	19nm,0.7s							
TNSS	**Tian-Shan**	**3.60**	**247**	Pg		**Pb**	**20 44 04.8**	**+1.2**
	4.4nm,0.9s							
TNSS				Lg		Lg	20 44 51.3	
	4.3nm,0.3s							
TNSS	**Tian-Shan**	**3.60**	**247**	*e*P		**Pb**	**20 44 04.8**	**+1.2**
	4.4nm,0.9s							
TNSS				*e*S		**Sg**	**20 44 51.4**	**-4.0**
	4.3nm,0.3s							
ZSN	**Zaisan**	**3.74**	**38**	*e*P		**Pb**	**20 44 06.0**	**+0.2**
ZSN				*e*S		**Sb**	**20 44 53.2**	**+2.1**
IZV	**Izvestkoviy**	**3.83**	**248**	Pg		**Pg**	**20 44 13.2**	**+0.4**
	1.7nm,0.2s							
IZV				Lg		Lg	20 45 06.0	
	13nm,0.6s							
KRBS	**Karabastau**	**4.25**	**260**	Pg		**Pb**	**20 44 16.4**	**+1.9**
	1.3nm,0.3s							
KRBS				Lg		Lg	20 45 11.2	
	3.5nm,0.3s							
KRBS	**Karabastau**	**4.25**	**260**	*e*P		**Pb**	**20 44 16.1**	**+1.6**
	1.3nm,0.3s							
KRBS				*e*S		**Sg**	**20 45 10.6**	**-5.5**
	3.5nm,0.3s							
KST	**Kastek**	**4.26**	**251**	Pg		**Pg**	**20 44 18.6**	**-2.5**
	1.5nm,0.4s							
KST				Lg		Lg	20 45 15.0	
	11nm,0.6s							
KST	**Kastek**	**4.26**	**251**	*e*P		**Pg**	**20 44 17.9**	**-3.2**
	1.5nm,0.4s							
KST				*e*S		**Sg**	**20 45 14.2**	**-2.1**
	11nm,0.6s							
DGS	**Degeres**	**4.32**	**254**	Pg		**Pb**	**20 44 16.6**	**+1.0**
	1.3nm,0.4s							
DGS				Lg		Lg	20 45 11.8	
	2.9nm,0.4s							
DGS	**Degeres**	**4.32**	**254**	*e*P		**Pb**	**20 44 16.1**	**+0.6**
	1.3nm,0.4s							
DGS				*e*S		**Sb**	**20 45 11.1**	**+3.3**
	2.9nm,0.4s							
TKM2	**Tokmak 2**	**4.55**	**251**	⇓Pg		**Pb**	**20 44 22.6**	**+2.9**
	2.0nm,0.6s							
TKM2				⇑Lg		Lg	20 45 22.5	
	5.3nm,0.8s							
CHMS	**Chumysh**	**5.10**	**255**	⇓Pg		**Pg**	**20 44 34.3**	**-3.0**
	0.9nm,0.5s							
CHMS				⇓Lg		Lg	20 45 38.0	
	2.2nm,0.6s							
AAK	**Ala-Archa**	**5.41**	**252**	⇑Pg		**Pb**	**20 44 36.4**	**+2.2**
	1.2nm,0.6s							
AAK				⇑Lg		Lg	20 45 48.4	
	2.6nm,0.8s							

*IDC **08** 20:45:12.2±2.0, 25°.60N×88°.95E, h0km, mb3.4/6,*
mbtmp3.4/7, ML3.4/1, Error ellipse: s-maj=69.5km
s-min=22.1km az=59.0
ISC 08 20:45:17.7±1.9, 25°.7N±0°.3×89°.0E±0°.4, h35km, n7, σ0s92/7, mb3.4/5, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**11.67**	**126**	Pn		**Pn**	**20 48 02.2**	**+0.4**
	0.1nm,0.3s,baz=288,slow=16,SNR=4.6							
	0.2nm,0.4s							
AAK	**Ala-Archa**	**20.71**	**328**	P		**P**	**20 49 56.3**	**+1.2**
	0.8nm,0.6s,baz=150,slow=13,SNR=2.1							
	0.8nm,0.6s							
MKAR	**Makanchi Array**	**21.76**	**347**	P		**P**	**20 50 05.9**	**-0.4**
	0.2nm,0.5s,baz=159,slow=12,SNR=3.9							
	0.2nm,0.5s							
SONM	**Songino Array**	**26.04**	**27**	P		**P**	**20 50 48.2**	**+0.5**
	0.9nm,0.8s,baz=218,slow=9.1,SNR=4.1							
	0.9nm,0.8s							
KURBB	**Kurchatov Arra**	**26.20**	**345**	P		**P**	**20 50 48.4**	**-0.6**
	0.4nm,0.7s,baz=167,slow=8.6,SNR=4.1							
	0.4nm,0.7s							
ZALV	**Zalesovo Beam**	**28.43**	**355**	P		**P**	**20 51 08.0**	**-0.9**
	0.6nm,0.6s,baz=177,slow=7.9,SNR=3.5							
	0.6nm,0.6s							
ASAR	**Alice Springs**	**65.52**	**135**	P		**P**	**20 55 57.2**	**-0.6**
	0.3nm,0.6s,baz=327,slow=6.6,SNR=4.4							
	0.3nm,0.6s							

*JMA **08** 21:00:18.9±0.2, 24°.5N±0°.7×122°.2E±0°.3, h68km±2km,*
MV2.4/13, TAIWAN REGION
*TAP **08** 21:00:20.1, 24°.53N×122°.12E, h66km, ML3.3, C*
ISC 08 21:00:18.7±1.2, 24°.51N±0°.03×122°.24E±0°.02, h70km±5km, n146, σ1s11/236, 4C-13D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.09**	**187**	⇑P		**Pn**	**21 00 29.6**	**+0.7**
	baz=177							
EOS2				*e*S		**Sn**	**21 00 37.4**	**+1.2**
	baz=177							
EOS3	**EOS3**	**0.23**	**163**	⇑*i*P		**Pn**	**21 00 30.2**	**+0.8**
	baz=162							
EOS3				S		**Sn**	**21 00 38.3**	**+1.2**
	baz=162							
ESAO	**Su ao**	**0.37**	**280**	*e*P		**Pn**	**21 00 30.9**	**+0.4**
	baz=280							
TWC	**Suao**	**0.37**	**285**	P		**Pn**	**21 00 30.4**	**0.0**
	baz=288							
TWC				*i* S		**Sn**	**21 00 38.1**	**-0.9**
	baz=288							
EOS4	**EOS4**	**0.40**	**170**	*e*P		**Pn**	**21 00 30.4**	**+0.1**
	baz=164							
EOS4				*e*S		**Sn**	**21 00 39.1**	**+0.5**
	baz=164							
EWUT	**Wuta**	**0.43**	**261**	*e*P		**Pn**	**21 00 30.9**	**0.0**
	baz=250							
EWUT				*e*S		**Sn**	**21 00 39.9**	**+0.1**
	baz=250							
EGS		**0.44**	**319**	*e*P		**Pn**	**21 00 30.8**	**-0.2**
	baz=339							
ENA	**Nanau**	**0.47**	**260**	*e*P		**Pn**	**21 00 31.3**	**0.0**
	baz=249							
ENA				*e*S		**Sn**	**21 00 40.3**	**-0.1**
	baz=249							
EAHA	**Aohua**	**0.49**	**248**	*e*P		**Pn**	**21 00 31.6**	**+0.1**
	baz=240							
EAHA				*e*S		**Sn**	**21 00 40.9**	**0.0**
	baz=240							
NDS	**Dongshan**	**0.49**	**284**	*e*P		**Pn**	**21 00 31.9**	**+0.4**
	baz=289							
NDS				*e*S		**Sn**	**21 00 40.5**	**-0.4**
	baz=289							
ILA	**Ilan**	**0.52**	**299**	*e*P		**Pn**	**21 00 32.4**	**+0.6**
	baz=305							
ILA				*e*S		**Sn**	**21 00 41.3**	**+0.1**
	baz=305							
TWB1	**Santiao Chiao**	**0.55**	**335**	P		**Pn**	**21 00 31.9**	**-0.2**
	baz=346							
TWB1				S		**Sn**	**21 00 41.0**	**-0.8**
	baz=346							
TWE	**Neicheng**	**0.56**	**292**	P		**Pn**	**21 00 32.5**	**+0.3**
	baz=295							
TWE				S		**Sn**	**21 00 41.9**	**-0.2**
	baz=295							
TIPB	**Shuangxi**	**0.59**	**320**	P		**Pn**	**21 00 32.6**	**0.0**
	baz=336							
TIPB				*e*S		**Sn**	**21 00 41.7**	**-1.0**
	baz=336							
ENTT	**Nioudou**	**0.63**	**282**	⇓*i*P		**Pn**	**21 00 33.6**	**+0.7**
	baz=282							
JYNG	**Yonagunijimaku**	**0.64**	**95**	P		**Pn**	**21 00 33.5**	**+0.5**
JYNG				*e*S		**Sn**	**21 00 43.6**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.65**	**293**	⇓*i*P		**Pn**	**21 00 33.7**	**+0.5**
	baz=300							
FUSB				S		**Sn**	**21 00 44.1**	**+0.4**
	baz=300							
LATG	**Datong**	**0.65**	**272**	⇓*i*P		**Pn**	**21 00 33.6**	**+0.3**
	baz=265							
LATG				*i* S		**Sn**	**21 00 43.9**	**-0.1**
	baz=265							
ETL	**Fush Village**	**0.67**	**238**	*e*P		**Pn**	**21 00 33.0**	**-0.3**
	baz=224							
SXI1	**Grass Mountain**	**0.67**	**330**	⇓P		**Pn**	**21 00 33.5**	**+0.1**
	baz=338							
SXI1				S		**Sn**	**21 00 43.7**	**-0.6**
	baz=338							
NDT	**Datong Townshi**	**0.67**	**278**	⇓*i*P		**Pn**	**21 00 34.0**	**+0.7**
	baz=277							
NDT				*e*S		**Sn**	**21 00 44.0**	**-0.1**
	baz=277							
NACB	**Ninganchiao**	**0.68**	**240**	*e*P		**Pn**	**21 00 32.9**	**-0.5**
	baz=227							
NACB				*e*S		**Sn**	**21 00 42.9**	**-1.4**
	baz=227							
WFSB	**Wu-fen Shan**	**0.70**	**323**	P		**Pn**	**21 00 33.9**	**+0.3**
	baz=330							
WFSB				*e*S		**Sn**	**21 00 44.3**	**-0.3**
	baz=330							
YOJ	**Yonaguni jima**	**0.70**	**94**	P		**Pn**	**21 00 34.1**	**+0.4**
YOJ				S		**Sn**	**21 00 44.8**	**+0.1**
YOJ	**Yonaguni jima**	**0.70**	**94**	⇓*e*P		**Pn**	**21 00 34.0**	**+0.4**
	baz=88							
YOJ				*e*S		**Sn**	**21 00 44.7**	**+0.1**
	baz=88							
NWLT	**Wulai**	**0.72**	**291**	*e*P		**Pn**	**21 00 34.8**	**+0.8**
	baz=298							
NWLT				*e*S		**Sn**	**21 00 46.0**	**+0.8**
	baz=298							
TWD	**Chiawan**	**0.73**	**234**	*e*P		**Pn**	**21 00 33.8**	**-0.2**
	baz=226							
TWD				*e*S		**Sn**	**21 00 43.9**	**-1.4**
	baz=226							
ETLH	**Xiulin Townshi**	**0.76**	**247**	*e*P		**Pn**	**21 00 34.4**	**-0.1**
	baz=233							
ETLH				*e*S		**Sn**	**21 00 45.2**	**-0.8**
	baz=233							
TWA	**Mucha**	**0.76**	**308**	⇓*i*P		**Pn**	**21 00 34.7**	**+0.3**
	baz=322							
TWA				S		**Sn**	**21 00 45.4**	**-0.5**
	baz=322							
TNOU	**National Taiwa**	**0.77**	**326**	P		**Pn**	**21 00 34.5**	**+0.1**
	baz=333							
TNOU				S		**Sn**	**21 00 45.4**	**-0.6**
	baz=333							
NNSB	**Datong**	**0.79**	**264**	*e*P		**Pn**	**21 00 35.0**	**+0.2**
	baz=254							
NNSB				*e*S		**Sn**	**21 00 46.1**	**-0.6**
	baz=254							
NNSH	**Datong**	**0.79**	**264**	*e*P		**Pn**	**21 00 35.1**	**+0.3**
	baz=256							
HWA	**Hwalien**	**0.79**	**228**	*e*P		**Pn**	**21 00 34.7**	**0.0**
	baz=213							
NNS	**Nan Shan**	**0.80**	**265**	P		**Pn**	**21 00 35.2**	**+0.3**
	baz=256							
NNS				*e*S		**Sn**	**21 00 46.4**	**-0.5**
	baz=256							
YHNB	**Yeheng**	**0.81**	**281**	⇓*i*P		**Pn**	**21 00 35.6**	**+0.6**
	baz=281							
YHNB				*e*S		**Sn**	**21 00 46.9**	**-0.1**
	baz=281							
NHY	**Taipei**	**0.81**	**311**	*e*P		**Pn**	**21 00 35.3**	**+0.4**
	baz=324							
NSK	**Sanguang**	**0.82**	**282**	⇓*i*P		**Pn**	**21 00 35.6**	**+0.5**
	baz=282							
NSK				*i* S		**Sn**	**21 00 47.5**	**+0.1**
	baz=282							
TATO	**Taipei**	**0.83**	**304**	⇓P		**Pn**	**21 00 35.2**	**+0.1**
	baz=317							
TATO				S		**Sn**	**21 00 46.9**	**-0.4**
	baz=317							
TAP	**Taipei**	**0.85**	**308**	*e*P		**Pn**	**21 00 35.5**	**0.0**
	baz=322							
TEYL	**Yanliau Villag**	**0.87**	**223**	*e*P		**Pn**	**21 00 35.1**	**-0.6**
	baz=217							
TEYL				*e*S		**Sn**	**21 00 46.9**	**-1.3**
	baz=217							
ETM	**Tongmen**	**0.88**	**232**	P		**Pn**	**21 00 35.4**	**-0.4**
	baz=217							
YM01	**YM01**	**0.88**	**316**	*e*P		**Pn**	**21 00 35.9**	**+0.1**
	baz=320							
YM01				S		**Sn**	**21 00 48.0**	**-0.5**
	baz=320							
YM08	**YM08**	**0.90**	**319**	*e*P		**Pn**	**21 00 35.9**	**-0.1**
	baz=323							
YM08				*e*S		**Sn**	**21 00 47.7**	**-1.1**
	baz=323							
LXIB	**Xiulin Townshi**	**0.90**	**237**	⇓P		**Pn**	**21 00 35.9**	**-0.3**
	baz=232							
LXIB				S		**Sn**	**21 00 48.1**	**-1.0**
	baz=232							
ANP	**Anpu**	**0.94**	**316**	*e*P		**Pn**	**21 00 36.5**	**-0.1**
	baz=320							
FUSS	**Fushou**	**0.95**	**254**	*e*P		**Pn**	**21 00 37.2**	**+0.3**
	baz=245							
TWS1	**Kuangyinshan**	**0.95**	**308**	⇓*i*P		**Pn**	**21 00 37.1**	**+0.5**
	baz=319							
TWS1				S		**Sn**	**21 00 50.1**	**+0.2**
	baz=319							
SHUL	**Shoufeng**	**0.95**	**221**	*e*P		**Pn**	**21 00 36.5**	**-0.2**
	baz=205							
SHUL				*e*S		**Sn**	**21 00 49.5**	**-0.5**
	baz=205							
TWY	**Chenhua**	**0.96**	**323**	*e*P		**Pn**	**21 00 37.1**	**+0.4**
	baz=327							
TWY				*e*S		**Sn**	**21 00 50.3**	**+0.2**
	baz=327							
WHF	**Hehuan Shan**	**0.96**	**248**	*e*P		**Pn**	**21 00 37.7**	**+0.5**
	baz=237							
WHF				S		**Sn**	**21 00 50.4**	**-0.6**
	baz=237							
NTST	**Danshui**	**0.97**	**312**	*e*P		**Pn**	**21 00 37.4**	**+0.5**
	baz=323							
NTST				*e*S		**Sn**	**21 00 50.8**	**+0.5**
	baz=323							
NTY	**Taoyuan**	**0.99**	**300**	*e*P		**Pn**	**21 00 37.9**	**+0.8**
	baz=308							
NTY				*e*S		**Sn**	**21 00 52.1**	**+1.4**
	baz=308							
TWT	**Tachien**	**1.01**	**255**	*e*P		**Pn**	**21 00 38.4**	**+0.9**
	baz=245							
TWT				S		**Sn**	**21 00 51.8**	**+0.3**
	baz=245							
ESL	**Shilin**	**1.02**	**227**	*e*P		**Pn**	**21 00 36.9**	**-0.5**
	baz=230							
ESL				*e*S		**Sn**	**21 00 49.8**	**-1.6**
	baz=230							
TDCB	**Techi**	**1.02**	**256**	*e*P		**Pn**	**21 00 38.3**	**+0.6**
	baz=245							
TDCB				S		**Sn**	**21 00 51.5**	**-0.3**
	baz=245							
NFF	**Wufeng Townshi**	**1.03**	**277**	*e*P		**Pn**	**21 00 38.6**	**+0.9**
	baz=285							
NFF				*e*S		**Sn**	**21 00 52.4**	**+0.5**
	baz=285							
NCU	**National Centr**	**1.06**	**296**	P		**Pn**	**21 00 37.7**	**-0.3**
	baz=297							
NCU				S		**Sn**	**21 00 52.1**	**-0.3**
	baz=297							
NCUH	**Zhongli**	**1.06**	**295**	*e*P		**Pn**	**21 00 39.0**	**+0.9**
	baz=297							
CHGB	**Renai**	**1.07**	**245**	*e*P		**Pn**	**21 00 38.9**	**+0.5**
	baz=234							
CHGB				S		**Sn**	**21 00 52.6**	**-0.5**
	baz=234							
NJD	**Zhudong**	**1.07**	**282**	*e*P		**Pn**	**21 00 39.4**	**+1.2**
	baz=282							
NJD				*e*S		**Sn**	**21 00 55.0**	**+2.3**
	baz=282							
WARBT	**Fenglin Townsh**	**1.11**	**225**	⇑*e*P		**Pn**	**21 00 37.9**	**-0.8**
	baz=227							
WARBT				*e*S		**Sn**	**21 00 51.2**	**-2.4**
	baz=227							
OWD	**Renai**	**1.12**	**241**	*e*P		**Pn**	**21 00 39.1**	**+0.2**
	baz=230							
EGFH	**Guangfu**	**1.12**	**222**	*e*P		**Pn**	**21 00 38.2**	**-0.6**
	baz=226							
LIOB	**Emei**	**1.13**	**277**	*e*P		**Pn**	**21 00 39.7**	**+0.9**
	baz=276							
LIOB				*e*S		**Sn**	**21 00 54.8**	**+0.9**
	baz=276							
NSTT	**Nanjuang**	**1.14**	**276**	*e*P		**Pn**	**21 00 39.6**	**+0.6**
	baz=286							
NSTT				*e*S		**Sn**	**21 00 55.0**	**+0.8**
	baz=286							
WUSB	**Renai**	**1.15**	**243**	⇓*i*P		**Pn**	**21 00 39.8**	**+0.5**
	baz=233							
WUSB				*i* S		**Sn**	**21 00 53.9**	**-0.8**
	baz=233							
NHW	**Xinwu Township**	**1.19**	**295**	*e*P		**Pn**	**21 00 40.5**	**+0.8**
	baz=296							
WHP	**Taichung City**	**1.21**	**259**	*e*P		**Pn**	**21 00 41.3**	**+1.4**
	baz=254							
WHP				S		**Sn**	**21 00 56.5**	**+0.6**
	baz=254							
VWDT	**VWDT**	**1.26**	**233**	⇑P		**Pn**	**21 00 40.9**	**+0.4**
	baz=222							
VWDT				S		**Sn**	**21 00 55.7**	**-1.2**
	baz=222							
HGSD	**Ruisui**	**1.26**	**217**	*e*P		**Pn**	**21 00 40.2**	**-0.4**
	baz=203							
HGSD				*e*S		**Sn**	**21 00 57.2**	**+0.2**
	baz=203							
WPL	**Puli Township**	**1.28**	**247**	*e*P		**Pn**	**21 00 41.5**	**+0.7**
	baz=240							
DPDB	**Guoxing**	**1.29**	**249**	*e*P		**Pn**	**21 00 42.2**	**+1.1**
	baz=245

TWQ1 eS Sn 21 01 00.5 +1.4
baz=261
IRIF Iriomote-Funau 1.37 97 P Pn 21 00 42.4 +0.4
IRIF S Sn 21 00 59.7 +0.3
SMLT Sun Moon Lake 1.38 243 eP Pn 21 00 43.7 +1.5
baz=233
SMLT eS Sn 21 01 00.1 +0.2
baz=233
SSLB Suanglung 1.38 239 eP Pn 21 00 43.6 +1.4
baz=230
SSLB eS Sn 21 00 59.5 -0.3
baz=230
ECBN Changbin 1.39 212 eP Pn 21 00 41.6 -0.7
baz=199
ECBN eS Sn 21 00 58.4 -1.6
baz=199
TYC Yuchr 1.40 245 eP Pn 21 00 43.6 +1.2
baz=235
TYC eS Sn 21 01 01.1 +0.9
baz=235
YULB Yu-li 1.41 218 eP Pn 21 00 41.7 -0.9
baz=222
YULB eS Sn 21 00 58.0 -2.5
baz=222
EYUL Yuli 1.44 216 eP Pn 21 00 43.4 +0.5
baz=222
TWF1 Yuli 1.44 217 eP Pn 21 00 42.4 -0.6
baz=222
TWF1 eS Sn 21 00 59.0 -2.3
baz=222
TCU Taichung 1.48 256 eP Pn 21 00 44.2 +0.9
baz=254
WWF Wufeng 1.49 252 eP Pn 21 00 45.1 +1.6
baz=261
WHYT Xinyi Township 1.51 238 eP Pn 21 00 45.4 +1.5
baz=232
WHYT eS Sn 21 01 04.0 +1.2
baz=232
CHKH Chenggong 1.53 211 eP Pn 21 00 43.8 -0.3
baz=197
WJS Zhushan 1.55 244 eP Pn 21 00 46.1 +1.8
baz=252
WNT1 Nantou City 1.55 247 eP Pn 21 00 46.6 +2.2
baz=257
WNT Mingjian 1.56 246 eP Pn 21 00 45.9 +1.4
baz=255
WNT eS Sn 21 01 05.9 +2.0
baz=255
FULB Fuli 1.57 214 eP Pn 21 00 44.7 0.0
baz=220
WCHH Zhanghua 1.60 255 eP Pn 21 00 45.8 +0.8
baz=252
WYL Yuanlin Townsh 1.61 250 eP Pn 21 00 46.2 +1.0
baz=258
WYL eS Sn 21 01 07.5 +2.2
baz=258
CHKT Chengkung 1.62 210 eP Pn 21 00 44.2 -1.1
baz=197
JKRS Kuro-shima 1.63 99 eP Pn 21 00 46.4 +0.9
JKRS eS Sn 21 01 06.8 +1.1
ALS Alishan 1.65 233 eP Pn 21 00 47.4 +1.4
baz=221
ALS eS Sn 21 01 07.5 +0.9
baz=221
EHD Haiduan 1.66 215 eP Pn 21 00 44.8 -1.0
baz=219
ECS Chishang 1.69 214 eP Pn 21 00 46.8 +0.5
baz=210
CHN5 Tsauling 1.70 238 eP Pn 21 00 47.7 +1.3
baz=246
ELDTW Lidau 1.73 221 eP Pn 21 00 46.4 -0.5
baz=211
JIJ Ishigaki jima 1.74 95 P Pn 21 00 47.3 +0.5
JIJ eS Sn 21 01 08.2 0.0
WGK Gukeng 1.74 242 eP Pn 21 00 48.6 +1.7
baz=249
WGK eS Sn 21 01 10.7 +2.3
baz=249
EDH Donghe 1.76 210 eP Pn 21 00 45.5 -1.6
baz=198
WDLH Douliu 1.76 243 eP Pn 21 00 48.1 +1.0
baz=251
WDLH eS Sn 21 01 11.7 +2.9
baz=251
WRL Guolierlin Hig 1.81 251 eP Pn 21 00 48.8 +0.9
baz=257
RLNB Erlin 1.83 251 eP Pn 21 00 49.0 +1.0
baz=259
RLNB eS Sn 21 01 11.7 +1.4
baz=259
WCKO Fanlu 1.84 235 eP Pn 21 00 49.6 +1.3
baz=224
WCKO eS Sn 21 01 12.7 +2.0
baz=224
JISG Ishigakijimahi 1.88 87 P Pn 21 00 49.4 +0.6
WTK Tuku 1.88 245 eP Pn 21 00 49.8 +1.0
baz=241
WTK eS Sn 21 01 13.5 +1.8
baz=241
CHN2 Minshiung 1.89 239 eP Pn 21 00 50.3 +1.4
baz=248
CHN2 eS Sn 21 01 15.2 +3.4
baz=248
STYH Taoyuan 1.90 225 eP Pn 21 00 50.1 +1.1
baz=222
LONT Longtian 1.90 213 eP Pn 21 00 48.0 -1.0
baz=209
CHN4 Tsaushan 1.90 233 eP Pn 21 00 51.0 +1.9
baz=230
CHN4 eS Sn 21 01 14.3 +2.1
baz=230
TPUB Ta-pu 1.91 231 eP Pn 21 00 50.8 +1.6
baz=228
TPUB eS Sn 21 01 13.5 +1.2
baz=228
STYT Tauyuan 1.91 226 eP Pn 21 00 50.7 +1.4
baz=222
WTP Ta-pu 1.95 230 eP Pn 21 00 51.6 +1.8
baz=227
WTP eS Sn 21 01 14.8 +1.4
baz=227
LDUT Ludao 1.96 201 eP Pn 21 00 48.5 -1.4
baz=198
TWGBT Beinan 2.00 213 eP Pn 21 00 49.1 -1.2
baz=209
TWGBT eS Sn 21 01 11.1 -3.3
baz=209
TWG Pinlang 2.00 213 eP Pn 21 00 49.2 -1.1
baz=209
TWG eS Sn 21 01 11.7 -2.8
baz=209
TWK Hsinying 2.03 233 eP Pn 21 00 52.2 +1.4
baz=229
TWK eS Sn 21 01 17.1 +1.8
baz=229
WSF Szhu 2.04 245 eP Pn 21 00 51.9 +0.9
baz=252
WSF eS Sn 21 01 16.5 +1.0
baz=252
SNST Tainan City 2.05 232 eP Pn 21 00 52.8 +1.7
baz=229
CHN1 Nanshi 2.05 230 eP Pn 21 00 52.9 +1.7
baz=227
SGST Jiashian 2.08 227 eP Pn 21 00 52.7 +1.2
baz=224
SLGT Liugui 2.10 224 eP Pn 21 00 53.9 +2.1
baz=221
ECL Taimali 2.24 212 eP Pn 21 00 54.7 +1.0
baz=209
SCST Cishan 2.28 225 eP Pn 21 00 56.4 +2.2
baz=222
SSD Sandimen 2.30 220 eP Pn 21 00 55.2 +0.8
baz=228
SSD eS Sn 21 01 23.1 +1.4
baz=228
MASBT Mashibuluo 2.40 218 eP Pn 21 00 56.6 +0.8
baz=216
EAST Anshuo 2.48 211 eP Pn 21 00 57.6 +0.7
baz=202
LYUB Lan-yu 2.57 194 eP Pn 21 00 57.1 -1.0
baz=191
VWUC VWUC 2.58 281 eP Pn 21 00 58.1 -0.2
baz=281
VWUC eS Sn 21 01 25.9 -2.8
baz=281
SCZT Fangliau 2.60 215 eP Pn 21 01 00.2 +1.7
baz=213
PHUB P'eng-hu 2.64 248 eP Pn 21 00 59.0 -0.1
baz=246
SLIU Shizi 2.64 210 eP Pn 21 00 58.9 -0.3
baz=208
MATB Ma-tsu 2.64 309 eP Pn 21 00 59.2 +0.1
baz=309
MATB eS Sn 21 01 28.7 -1.4
baz=309
VCHM Qimei 2.88 244 eP Pn 21 01 02.0 -0.3
baz=241
PTMZ Houxiangcun 2.89 281 P Pn 21 01 02.3 -0.1
baz=281
PTMZ eS Sn 21 01 33.3 -2.7
baz=281
LYJJ Jianjiangzhen 3.02 313 eP Pn 21 01 04.7 +0.4
baz=314
XPSS Dashiqiu 3.04 323 eP Pn 21 01 04.1 -0.3
baz=321
XPSS eS Sn 21 01 38.3 -1.4
baz=321
MHZQ Yeshan 3.31 299 eP Pn 21 01 08.2 0.0
baz=300
KNM Kinmen 3.47 269 eP Pn 21 01 11.7 +1.3
baz=268
KNMB Chin-men Tao 3.51 270 eP Pn 21 01 10.3 -0.6
baz=269
KNMB eS Sn 21 01 47.6 -3.7
baz=269
SXFK Yanhouchang 4.56 295 eP Pn 21 01 24.6 -0.7
baz=296

CATAC 08 21:05:56.9±0.5, 15°13'N×83°84'W, h15km, mb4.6, MB5.7, ML4.5, Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPN	**Las Esperanzas**	**2.95**	**189**	*i* S	Sn	21 07 20.3	+1.8
PRVC	**Isla de Provid**	**2.97**	**126**	*i* P	Pn	21 06 45.1	+1.6
PRVC				IAML		21 08 03.3	
	comp=Z,49nm,1.0s						
LIMN	**Finca el Limon**	**3.20**	**230**	*i* P	Pn	21 06 41.9	-4.9
ACON	**Acoyapa**	**3.40**	**203**	*i* P	Pn	21 06 49.9	+0.4
ACON				*i* S	Sn	21 07 32.1	+2.5
ACON				IAML		21 07 43.2	
	comp=Z,460nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.49**	**253**	*i* P	Pn	21 06 46.0	-4.8
TGUH				*i* S	Sn	21 07 21.6	-10
MOM2	**El Cardon**	**3.71**	**224**	*i* P	Pn	21 06 53.1	-0.6
MOM2				*i* S	Sn	21 07 37.3	+0.1
MOM2				IAML		21 07 57.8	
	comp=Z,400nm,1.0s						
WILN	**Americas 2**	**3.73**	**218**	*i* P	Pn	21 06 53.5	-0.5
WILN				*i* S	Sn	21 07 40.4	+2.7
WILN				IAML		21 07 58.7	
	comp=Z,340nm,1.0s						
MOMN	**Momotombo**	**3.77**	**224**	*i* P	Pn	21 06 51.8	-2.8
MOMN				*i* S	Sn	21 07 37.3	-1.4
MOMN				IAML		21 07 52.9	
	comp=Z,19nm,1.0s						
APYN	**Apoyeque**	**3.77**	**221**	*i* P	Pn	21 06 54.9	+0.3
APYN				*i* S	Sn	21 07 40.2	+1.4
APYN				IAML		21 07 54.9	
	comp=Z,360nm,1.0s						
PLRN	**Geotermica Pol**	**3.81**	**229**	*i* P	Pn	21 06 52.1	-3.0
PLRN				*i* S	Sn	21 07 37.7	-1.9
CNGN	**Cerro Negro**	**3.81**	**227**	*i* P	Pn	21 06 53.2	-2.0
CNGN				*i* S	Sn	21 07 40.0	+0.2
CNGN				IAML		21 07 47.9	
	comp=Z,710nm,1.0s						
CNGA	**Al SSO del Vol**	**3.82**	**227**	*i* P	Pn	21 06 54.1	-1.2
CNGA				*i* S	Sn	21 07 40.4	+0.4
CNGA				IAML		21 07 48.3	
	comp=Z,350nm,1.0s						
MACN	**El Madrono**	**3.82**	**226**	*i* P	Pn	21 06 53.5	-1.8
MACN				*i* S	Sn	21 07 40.1	+0.1
MACN				IAML		21 07 54.2	
	comp=Z,110nm,1.0s						
LEVN	**Ruinas Leon Vi**	**3.83**	**225**	*i* S	Sn	21 07 40.2	+0.2
ROCN	**Rota Cerro Neg**	**3.83**	**228**	*i* P	Pn	21 06 53.8	-1.6
ROCN				*i* S	Sn	21 07 42.3	+2.1
ROCN				IAML		21 07 49.6	
	comp=Z,310nm,1.0s						
SAPS	**Ciudad Sandino**	**3.86**	**221**	*i* S	Sn	21 07 45.2	+4.4
PACN	**Al O del Volca**	**3.88**	**228**	*i* S	Sn	21 07 41.7	+0.3
CRIN	**San Cristobal**	**3.94**	**233**	*i* P	Pn	21 06 55.2	-1.8
CRIN				*i* S	Sn	21 07 44.0	+1.0
CRIN				IAML		21 07 55.5	
	comp=Z,1μm,1.0s						
COPN	**Copaltepe**	**3.97**	**223**	*i* P	Pn	21 06 57.0	-0.3
COPN				IAML		21 07 53.9	
	comp=Z,350nm,1.0s						
INTHN	**La Esperanza I**	**4.20**	**259**	*i* P	Pn	21 06 58.6	-2.1
INTHN				*i* S	Sn	21 07 47.0	-2.7
CNCH	**Conchagua**	**4.29**	**245**	*i* P	Pn	21 07 01.7	-0.1
CNCH				*i* S	Sn	21 07 54.5	+2.9
CNCH				IAML		21 07 59.3	
	comp=Z,420nm,1.0s						
RANC	**El Ranchito**	**4.63**	**249**	*i* P	Pn	21 07 07.6	+1.1
RANC				*i* S	Sn	21 08 01.1	+1.0
RANC				IAML		21 08 24.3	
	comp=Z,110nm,1.0s						
PACA	**Pacayal**	**4.65**	**250**	*i* P	Pn	21 07 08.6	+1.9
PACA				*i* S	Sn	21 08 02.5	+2.0
PACA				IAML		21 08 20.9	
	comp=Z,1μm,1.0s						
CPMI	**Catarata Coope**	**4.85**	**186**	*i* P	Pb	21 07 21.4	-0.3
CPMI				*i* S	Sb	21 08 23.8	+3.8
SCLA	**Alcaldia de Sa**	**4.94**	**254**	*i* S	Sn	21 08 09.2	+1.5
LLGN	**La Laguna**	**5.03**	**260**	*i* S	Sn	21 08 09.3	-0.6
TECO	**Alcaldia de Te**	**5.04**	**252**	*i* S	Sn	21 08 14.1	+4.0
ESQI	**Esquipulas**	**5.35**	**265**	*i* P	Pn	21 07 17.7	+1.4
ESQI				IAmb	IAmb	21 07 23.0	
	comp=Z,95nm,0.7s						
ESQI				IVmB_BB		21 07 54.8	
	comp=Z,8μm,1.0s						
ESQI				*i* S	Sn	21 08 20.9	+3.1
ESQI				IAML		21 08 50.1	
	comp=Z,280nm,1.0s						
MTO3	**Montecristo**	**5.39**	**263**	*i* P	Pn	21 07 16.5	-0.5
MTO3				IAmb	IAmb	21 07 28.1	
	comp=Z,28nm,0.7s						
MTO3				*i* S	Sn	21 08 18.6	-0.3
MTO3				IAML		21 08 26.5	
	comp=Z,89nm,1.0s						
NUBE	**Las Nubes**	**5.88**	**259**	*i* P	Pn	21 07 25.1	+1.4
NUBE				*i* S	Sn	21 08 30.6	-0.3

*NEIC **08** 21:09:01.2±1.3, 43°.83N±0°.05×105°.29W±0°.08, h0km±1km, ML3.5/72, Error ellipse: s-maj=10.2km s-min=8.8km az=82.0*
*IDC **08** 21:09:03.5±0.7, 43°.99N×105°.70W, h0km, mb4.0/5, mbtmp3.8/12, ML3.3/5, MS2.4/1, Error ellipse: s-maj=16.8km s-min=7.1km az=142.0*

ISC 08 21:09:02.6±0.7, 43°.83N±0°.05×105°.22W±0°.06, h0km, n61, σ0s90/62, mb4.2/5, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**70**	Pg	**Pn**	**21 09 22.0**	**-0.8**
K22A	**Casper**	**1.51**	**220**		**Pn**	**21 09 29.2**	**-1.9**
K22A				IAML		21 09 53.0	
	comp=E,752nm,0.8s						
K22A				IAML		21 09 54.4	
	comp=N,668nm,0.6s						
PHWY	**Pilot Hill**	**2.53**	**184**	Pn	**Pn**	**21 09 45.4**	**+0.2**
PHWY				IAML		21 10 24.6	
	comp=N,216nm,0.7s						
RWWY	**Rawlins**	**2.59**	**215**	Pn	**Pn**	**21 09 45.7**	**-0.3**
LAO	**LASA Array**	**2.95**	**346**	Pn	**Pn**	**21 09 51.8**	**+1.0**
N23A	**Red Feather La**	**2.98**	**191**	Pn	**Pn**	**21 09 52.1**	**+0.8**
N23A				IAML		21 10 36.6	
	comp=E,175nm,0.7s						
RLMT	**Red Lodge**	**3.18**	**295**	Pn	**Pn**	**21 09 54.5**	**+0.5**
RLMT				IAML		21 10 47.6	
	comp=E,114nm,0.9s						
RLMT				IAML		21 10 59.2	
	comp=E,118nm,0.9s						
BRIGG	**Briggsdale**	**3.31**	**168**	Pn	**Pn**	**21 09 55.7**	**0.0**
PD31	**Pinedale Array**	**3.34**	**253**	Pn	**Pn**	**21 09 56.5**	**+0.2**
PDAR	**Pinedale Array**	**3.34**	**253**	Pn	**Pn**	**21 09 56.2**	**-0.1**
	comp=E,4.7nm,0.3s,baz=73,slow=16,SNR=63						
PDAR				Lg	Lg	21 10 39.0	
	comp=E,3.4nm,0.3s,baz=78,slow=33,SNR=3.9						
PDAR				LR	LR	21 11 15.9	
	comp=E,54nm,18.3s,baz=311,slow=43						
	comp=E,9.1nm,0.4s						
YMP	**Mirror Lake Pl**	**3.66**	**286**		**Pn**	**21 10 00.8**	**+0.1**
OGNE	**Ogallala**	**3.72**	**140**	Pn	**Pn**	**21 10 02.6**	**+1.2**
LKWY	**Lake**	**3.80**	**283**		**Pn**	**21 10 03.5**	**+0.8**
LKWY				IAML		21 11 11.8	
	comp=E,83nm,0.8s						
LKWY				IAML		21 11 41.6	
	comp=E,61nm,1.1s						
H17A	**Grant Village**	**3.90**	**280**		**Pn**	**21 10 04.6**	**+0.6**
H17A				IAML		21 11 07.7	
	comp=N,73nm,0.7s						
LOHW	**Long Hollow**	**3.91**	**269**		**Pn**	**21 10 04.8**	**+0.6**
LOHW				IAML		21 11 08.1	
	comp=N,51nm,0.8s						
FLWY	**Flagg Ranch**	**3.97**	**276**	Pn	**Pn**	**21 10 05.1**	**+0.2**
FLWY				IAML		21 11 20.7	
	comp=N,94nm,1.2s						
FLWY				IAML		21 11 21.0	
	comp=N,83nm,1.4s						
MOOW	**Moose Ponds**	**4.00**	**271**	Pn	**Pn**	**21 10 06.6**	**+1.2**
ISCO	**Idaho Springs**	**4.03**	**184**	Pn	**Pn**	**21 10 06.1**	**+0.2**
YFT	**Old Faithful**	**4.09**	**281**		**Pn**	**21 10 05.6**	**-1.1**
YFT				IAML		21 10 36.2	
	comp=E,44nm,0.9s						
REDW	**Red Top Meadow**	**4.12**	**265**		**Pn**	**21 10 04.9**	**-2.1**
IMW	**Indian Meadow**	**4.14**	**273**	Pn	**Pn**	**21 10 06.5**	**-0.8**
IMW				IAML		21 11 15.7	
	comp=E,52nm,0.8s						
IMW				IAML		21 11 17.2	
	comp=E,85nm,0.7s						
YHH	**Holmes Hill**	**4.16**	**285**	Pn	**Pn**	**21 10 06.7**	**-0.9**
TPAW	**Teton Pass**	**4.17**	**267**		**Pn**	**21 10 07.8**	**0.0**
TPAW				IAML		21 11 28.9	
	comp=E,59nm,1.1s						
TPAW				IAML		21 11 32.4	
	comp=E,94nm,0.8s						
FXWY	**Fox Creek**	**4.21**	**269**		**Pn**	**21 10 08.2**	**-0.1**
E28A	**Huff**	**4.22**	**48**	Pn	**Pn**	**21 10 09.3**	**+1.2**
K30B	**Basset**	**4.25**	**104**		**Pn**	**21 10 09.2**	**+0.6**
O20A	**White River Ci**	**4.32**	**212**	Pn	**Pn**	**21 10 09.3**	**-0.5**
O20A				IAML		21 11 21.4	
	comp=E,84nm,0.9s						
O20A				IAML		21 11 27.1	
	comp=N,76nm,0.8s						
AHID	**Auburn Hatcher**	**4.42**	**258**		**Pn**	**21 10 10.4**	**-0.7**
AHID				IAML		21 11 27.9	
	comp=N,66nm,0.8s						
AHID				IAML		21 11 30.9	
	comp=N,77nm,0.9s						
ECR	**Eagle Creek**	**4.55**	**262**		**Pn**	**21 10 12.0**	**-0.9**
RDMU	**Red Mountain**	**4.58**	**226**		**Pn**	**21 10 13.1**	**-0.3**
RDMU				IAML		21 11 34.8	
	comp=N,68nm,0.8s						
DGMT	**Dagmar**	**4.70**	**8**	Pn	**Pn**	**21 10 15.9**	**+1.1**
Q24A	**Divide**	**4.86**	**179**	Pn	**Pn**	**21 10 15.4**	**-1.8**
BOZ	**Bozeman (W)**	**4.90**	**293**		**Pn**	**21 10 17.3**	**-0.4**
BOZ				IAML		21 11 47.1	
	comp=N,40nm,0.8s						
BOZ				IAML		21 11 47.2	
	comp=N,35nm,0.8s						
HWUT	**Hardware Ranch**	**5.18**	**247**	Pn	**Pn**	**21 10 20.1**	**-1.4**
KSCO	**Kaye Shedlock'**	**5.19**	**157**		**Pn**	**21 10 21.2**	**-0.4**
EGMT	**Eagleton**	**5.26**	**325**	Pn	**Pn**	**21 10 22.2**	**-2.3**
BSUT	**Blindstream Ca**	**5.27**	**233**	Pn	**Pn**	**21 10 22.4**	**-0.5**
BSUT				IAML		21 11 58.5	
	comp=N,27nm,0.9s						
BSUT				IAML		21 12 07.8	
	comp=E,23nm,1.2s						
P18A	**Preston Nutter**	**5.63**	**224**		**Pn**	**21 10 27.5**	**-0.4**
LYMT	**Lyon Mountain**	**5.89**	**305**		**Pn**	**21 10 30.8**	**-0.5**
SPUT	**South Promonto**	**5.90**	**247**		**Pn**	**21 10 31.5**	**+0.1**
HVU	**Hansel Valley**	**5.92**	**252**		**Pn**	**21 10 31.5**	**-0.2**
SDCO	**Great Sand Dun**	**6.08**	**182**		**Pn**	**21 10 34.5**	**+0.5**
SRU	**San Rafael Swe**	**6.17**	**222**	Pn	**Pn**	**21 10 33.8**	**-1.3**
ECSD	**EROS Data Cent**	**6.23**	**88**	Pn	**Pn**	**21 10 36.8**	**+1.0**
QVMT	**Ovando**	**6.36**	**303**		**Pn**	**21 10 37.6**	**0.0**
BPMT	**Black Pine Rid**	**6.38**	**297**	Pn	**Pn**	**21 10 38.3**	**+0.2**
HLJD	**Hailey**	**6.57**	**271**	Pn	**Pn**	**21 10 42.2**	**+0.2**
DUG	**Dugway, Tooele**	**6.72**	**240**	Pn	**Pn**	**21 10 41.9**	**-0.7**
MSO	**Missoula**	**6.84**	**299**		**Pn**	**21 10 43.9**	**-0.4**
ELK	**Elko**	**8.04**	**251**	Pn	**Pn**	**21 10 59.5**	**-1.3**
	comp=E,0.7nm,0.3s						
ULM	**Lac du Bonnet**	**9.05**	**41**	Pn	**Pn**	**21 11 14.7**	**+0.3**
	comp=E,0.9nm,0.3s,baz=235,slow=13,SNR=8.0						
ULM				Sn	**Sn**	**21 12 56.0**	**-1.0**
	comp=E,0.1nm,0.3s,baz=178,slow=18,SNR=2.1						
ULM				Lg	Lg	21 13 43.8	
	comp=E,0.3nm,0.3s,baz=210,slow=17,SNR=2.1						
	comp=E,2.7nm,0.4s						
I56US	**NEWPORT INFRAS**	**9.39**	**302**	I	I	22 04 00.0	
	baz=116,slow=323,SNR=1.5						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**21 11 45.8**	**+1.1**
	comp=E,0.1nm,0.3s,baz=51,slow=12,SNR=8.2						
	comp=E,1.3nm,0.7s						
YBH	**Yreka Blue Hor**	**13.02**	**267**	Pn	**Pn**	**21 12 10.5**	**+1.6**
	comp=E,0.2nm,0.3s,baz=56,slow=6.6,SNR=8.8						
	comp=E,2.3nm,0.8s						
TXAR	**Lajitas Array**	**14.52**	**175**	Pn	**P**	**21 12 36.0**	**-0.2**
	comp=E,0.4nm,0.5s,baz=6.0,slow=11,SNR=1.1						
TXAR				Pg		21 13 31.4	
	baz=8.9,slow=13						
TXAR				Sn	**Sn**	**21 15 12.8**	**+1.7**
	baz=327,slow=31,SNR=2.4						
TXAR				Lg	Lg	21 16 39.6	
	baz=15,slow=35,SNR=1.8						
YKA	**Yellowknife Ar**	**19.49**	**347**	P	**P**	**21 13 30.3**	**-0.6**
	comp=E,0.1nm,0.3s,baz=156,slow=11,SNR=8.8						
	comp=E,0.7nm,0.6s						
ARCES	**ARCESS Array B**	**61.32**	**18**	P	**P**	**21 19 18.8**	**-0.6**
	comp=E,1.3nm,0.7s,baz=332,slow=7.5,SNR=4.5						
	comp=E,1.3nm,0.7s						
FINES	**FINESS Array B**	**67.94**	**23**	P	**P**	**21 20 02.5**	**-0.2**
	comp=E,0.6nm,0.7s,baz=311,slow=7.2,SNR=2.1						
	comp=E,0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**82.22**	**354**	P	**P**	**21 21 24.9**	**-0.4**
	comp=E,1.3nm,0.7s,baz=353,slow=3.2,SNR=6.8						
	comp=E,1.3nm,0.7s						
SONM	**Songino Array**	**84.57**	**339**	P	**P**	**21 21 38.1**	**+0.4**
	comp=E,0.7nm,0.7s,baz=19,slow=4.9,SNR=3.9						
	comp=E,0.7nm,0.7s						
MKAR	**Makanchi Array**	**89.52**	**355**	P	**P**	**21 22 01.7**	**+0.1**
	comp=E,1.2nm,0.7s,baz=10.0,slow=4.3,SNR=13						
	comp=E,1.2nm,0.7s						

*NEIC **08** 21:52:26.5±1.1, 19°.396N±0°.008×155°.259W±0°.007, h5km±1km, Error ellipse: s-maj=1.7km s-min=1.3km az=170.0*

HVO 08 21:52:26.1±0.6, 19°.40N±0°.02×155°.261W±0°.007, h2km±3km, ML2.9/18, ML2.2/41(NEIC), Error ellipse: s-maj=2.4km s-min=0.9km az=170.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.01**	**255**		Pg	21 52 26.9	+0.3
KKO					Sg	21 52 27.5	+0.5
BYL	**Byron's Ledge**	**0.01**	**5**		Pg	21 52 26.9	+0.3
RIM	**Rim**	**0.01**	**253**	IAML		21 52 26.7	
	comp=N,5μm,0.5s						
RIM					Pg	21 52 27.0	+0.4
NPH	**North Pit**	**0.02**	**305**		Pg	21 52 26.8	+0.1
NPH				IAML		21 52 27.5	
	comp=E,3μm,0.2s						
HATHI	**Halema'uma'u T**	**0.02**	**0**		Pg	21 52 27.2	+0.5
OBL	**Observatory Le**	**0.03**	**311**	IAML		21 52 26.8	
	comp=N,5μm,0.7s						
OBL					Pg	21 52 27.1	+0.3
SBLHI	**Steaming Bluff**	**0.03**	**347**		Pg	21 52 27.2	+0.4
SBLHI				IAML		21 52 27.5	
	comp=N,3μm,0.2s						
SBLHI				IAML		21 52 27.7	
	comp=E,3μm,0.3s						
UWB	**Uwekahuna B**	**0.03**	**328**		Pg	21 52 27.3	+0.5
UWB				IAML		21 52 27.6	
	comp=E,3μm,0.1s						
UWB				IAML		21 52 27.9	
	comp=N,3μm,0.2s						
SDHHI	**Sand Hill**	**0.03**	**253**		Pg	21 52 27.2	+0.4
UWE	**Uwekahuna**	**0.04**	**306**	IAML		21 52 27.0	
	comp=N,4μm,0.8s						
UWE				IAML		21 52 27.3	
	comp=E,6μm,0.5s						
UWE					Pg	21 52 27.4	+0.6
WRMHI	**West Rim**	**0.04**	**282**	IAML		21 52 27.1	

	comp=N,4μm,0.8s							
WRMHI					Pg		21 52 27.4	+0.6
PUH	**Pauahi**	**0.05**	**120**		Pg		21 52 27.7	+0.6
RSD	**Rainshed**	**0.07**	**346**		Pg		21 52 28.0	+0.5
RSD				IAML			21 52 29.3	
	comp=N,1μm,0.8s							
KNHH	**Kane Nui o Ham**	**0.09**	**103**		Pg		21 52 28.8	+0.9
HLP	**Hilina Pali**	**0.11**	**203**		Pg		21 52 29.1	+0.9
STCH	**Steam Cracks**	**0.13**	**96**		Pg		21 52 29.1	+0.5
STCH				IAML			21 52 31.2	
	comp=E,1μm,0.2s							
NPOC	**North of Pu'u**	**0.14**	**92**		Pg		21 52 29.5	+0.6
NPOC				IAML			21 52 32.6	
	comp=E,1μm,0.4s							
NPOC				IAML			21 52 33.2	
	comp=N,1μm,0.6s							
JCUZ	**Jacuzzi**	**0.15**	**96**		Pg		21 52 29.6	+0.6
JCUZ					Sg		21 52 32.2	+1.2
JCUZ				IAML			21 52 32.7	
	comp=N,972nm,0.7s							
JCUZ				IAML			21 52 32.8	
	comp=E,1μm,0.4s							
MLH	**Mauna Loa**	**0.15**	**309**		Pg		21 52 30.1	+1.0
MLH				IAML			21 52 31.8	
	comp=N,607nm,1.7s							
MLH					Sg		21 52 31.9	+0.9
MLH				IAML			21 52 33.5	
	comp=E,641nm,0.4s							
HTC	**Hot Caves**	**0.21**	**219**		Pg		21 52 30.8	+0.7
HMH	**Humu'ula Sheep**	**0.29**	**314**		Pg		21 52 32.2	+0.5
HMH				IAML			21 52 36.3	
	comp=N,294nm,2.3s							
HMH				IAML			21 52 36.5	
	comp=E,295nm,2.0s							
MWH	**Moku'aweowe**	**0.33**	**285**		Pg		21 52 33.0	+0.6
KHU	**Kahuku**	**0.37**	**246**		Pg		21 52 33.3	+0.2
KHU				IAML			21 52 38.4	
	comp=N,386nm,1.9s							
HUH	**Hualalai**	**0.61**	**298**	Pg	Pg		21 52 38.5	+0.6

*UCR **08** 21:56:53.2±1.1, 10°.20N×84°.56W, h79km±3km, MW3.8*
*CATAC **08** 21:56:53.9±0.3, 10°.16N×84°.57W, h62km±3km, ML3.4*
*UPA **08** 21:56:53.8±1.9, 10°.11N×84°.41W, h0km±8km, MW4.7*

ISC 08 21:56:53.9±1.3, 10°.17N±0°.03×84°.58W±0°.03, h75km±6km, n70, σ0s93/101, 1C-1D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRA1	**San Ramn**	**0.12**	**130**	*eP*	**Pn**	**21 57 04.6**	**-0.4**
SRA1				*eS*	**Sn**	**21 57 13.5**	**+0.4**
ARZA	**Esparza**	**0.20**	**208**	*eP*	**Pn**	**21 57 04.8**	**-0.3**
ARZA				*eS*	**Sn**	**21 57 15.1**	**+1.8**
SOCE	**Pocosol**	**0.22**	**349**	*i* P	**Pn**	**21 57 05.0**	**-0.3**
SOCE				*i* S	**Sn**	**21 57 14.4**	**+0.8**
SOCE						21 57 14.8	
	80nm,1.0s						
SOCE				IAML		21 57 15.1	
	comp=Z,7μm,1.0s						
SOCE	**Pocosol**	**0.22**	**349**	*eP*	**Pn**	**21 57 05.2**	**-0.1**
SOCE				*eS*	**Sn**	**21 57 14.5**	**+0.8**
CPMI	**Catarata Coope**	**0.22**	**59**	*i* P	**Pn**	**21 57 04.9**	**-0.6**
CPMI				*i* S	**Sn**	**21 57 14.3**	**+0.3**
CPMI				IAML		21 57 15.8	
	comp=Z,4μm,1.0s						
CPMI						21 57 17.3	
	comp=Z,21nm,1.0s						
JTS	**Las Juntas de**	**0.39**	**289**	⇓*i* P	**Pn**	**21 57 06.1**	**-0.2**
JTS				*i* S	**Sn**	**21 57 15.7**	**+0.2**
JTS	**Las Juntas de**	**0.39**	**289**	*eP*	**Pn**	**21 57 05.9**	**-0.4**
JTS				*eS*	**Sn**	**21 57 15.9**	**+0.4**
ITAL	**Pital**	**0.41**	**46**	*eP*	**Pn**	**21 57 06.0**	**-0.4**
ITAL				*eS*	**Sn**	**21 57 15.6**	**-0.1**
SANTA	**Santa Ana**	**0.45**	**121**	*eP*	**Pn**	**21 57 06.2**	**-0.7**
SANTA				*eS*	**Sn**	**21 57 16.6**	**+0.2**
HDC	**Heredia**	**0.48**	**110**	*eP*	**Pn**	**21 57 06.9**	**-0.3**
LAFE	**Finca La Fe, P**	**0.48**	**223**	*i* P	**Pn**	**21 57 07.2**	**+0.2**
LAFE				*i* S	**Sn**	**21 57 17.6**	**+0.9**
LAFE						21 57 19.5	
	comp=Z,0.8nm,1.0s						
LAFE				IAML		21 57 20.0	
	comp=Z,5.5nm,1.0s						
LAFE	**Finca La Fe, P**	**0.48**	**223**	*eP*	**Pn**	**21 57 07.1**	**0.0**
HDC3	**Heredia 3**	**0.48**	**109**	*i* P	**Pn**	**21 57 06.5**	**-0.7**
HDC3				*i* S	**Sn**	**21 57 16.9**	**-0.1**
HDC3						21 57 18.1	
	comp=Z,9.1nm,1.0s						
HDC3				IAML		21 57 22.3	
	comp=Z,2μm,1.0s						
JACO	**JACO, Garabito**	**0.51**	**189**	*i* P	**Pn**	**21 57 06.8**	**-0.5**
JACO				*i* S	**Sn**	**21 57 17.5**	**+0.4**
JACO						21 57 19.7	
	comp=Z,2.7nm,1.0s						
JACO				IAML		21 57 22.9	
	comp=Z,820nm,1.0s						
SJS3	**Mercedes San J**	**0.56**	**114**	*eP*	**Pn**	**21 57 07.8**	**-0.2**
AMPA	**Desamparados**	**0.57**	**118**	*eP*	**Pn**	**21 57 07.6**	**-0.5**
COVE	**Coope Vega, Sa**	**0.58**	**17**	*i* P	**Pn**	**21 57 07.3**	**-0.6**
COVE				*i* S	**Sn**	**21 57 17.8**	**-0.5**
COVE						21 57 20.7	
	comp=Z,9.2nm,1.0s						
COVE				IAML		21 57 21.6	
	comp=Z,1μm,1.0s						
COVE	**Coope Vega, Sa**	**0.58**	**17**	*eP*	**Pn**	**21 57 07.3**	**-0.6**
CORON	**Coronado**	**0.60**	**109**	*eP*	**Pn**	**21 57 08.1**	**-0.1**
RIFO	**Rio Frio, Sara**	**0.66**	**77**	*i* P	**Pn**	**21 57 08.1**	**-0.7**
RIFO				*i* S	**Sn**	**21 57 19.2**	**-0.6**
RIFO						21 57 20.1	
	comp=Z,9.8nm,1.0s						
RIFO				IAML		21 57 20.4	
	comp=Z,1μm,1.0s						
ABE2	**San Pablo**	**0.69**	**132**	*eP*	**Pn**	**21 57 09.0**	**-0.4**
LCR2	**La Lucha 2**	**0.70**	**127**	*eP*	**Pn**	**21 57 09.0**	**-0.5**
VICA	**Volcano Irazu**	**0.74**	**104**	*eP*	**Pn**	**21 57 09.5**	**-0.6**
REPA	**Paraso**	**0.77**	**116**	*eP*	**Pn**	**21 57 10.9**	**+0.7**
RAFA	**San Farael, Vo**	**0.78**	**105**	*eP*	**Pn**	**21 57 10.3**	**-0.1**
VTUN	**Crater Central**	**0.81**	**100**	*i* P	**Pn**	**21 57 10.3**	**-0.6**
VTUN						21 57 28.5	
	comp=Z,3.8nm,1.0s						
VTUN				IAML		21 57 30.5	
	comp=Z,790nm,1.0s						
VTR0	**Volcan Turrial**	**0.82**	**100**	*eP*	**Pn**	**21 57 10.6**	**-0.3**
LLNJ	**Naranjito**	**0.83**	**146**	*eP*	**Pn**	**21 57 10.7**	**0.0**
VMAR	**Armenia, Volca**	**0.83**	**321**	*eP*	**Pn**	**21 57 10.6**	**-0.1**
CARI	**Cariari**	**0.85**	**76**	*eP*	**Pn**	**21 57 11.2**	**+0.4**
VTCV	**VTCV, Calle Va**	**0.85**	**102**	*i* P	**Pn**	**21 57 10.7**	**-0.4**
VTCV				IAML		21 57 14.7	
	comp=Z,1μm,1.0s						
VTCV						21 57 28.9	
	comp=Z,7.8nm,1.0s						
ORTG	**Ortega, Santa**	**0.89**	**283**	*i* P	**Pn**	**21 57 11.7**	**+0.2**
ORTG				IAML		21 57 12.0	
	comp=Z,550nm,1.0s						
ORTG				*i* S	**Sn**	**21 57 25.5**	**+1.0**
ORTG						21 57 26.5	
	comp=Z,2.7nm,1.0s						
ORTG	**Ortega, Santa**	**0.89**	**283**	*eP*	**Pn**	**21 57 11.7**	**+0.2**
VERB	**Verbena**	**0.90**	**104**	*eP*	**Pn**	**21 57 11.4**	**-0.1**
DUNO	**Dulce Nombre,**	**0.91**	**265**	*i* P	**Pn**	**21 57 11.1**	**-0.5**
DUNO				*i* S	**Sn**	**21 57 24.9**	**+0.2**
DUNO						21 57 27.0	
	comp=Z,12nm,1.0s						
DUNO				IAML		21 57 28.2	
	comp=Z,1μm,1.0s						
DUNO	**Dulce Nombre,**	**0.91**	**265**	*eP*	**Pn**	**21 57 11.3**	**-0.3**
INDI	**Punta indio, G**	**0.96**	**252**	*i* P	**Pn**	**21 57 11.3**	**-0.9**
INDI				*i* S	**Sn**	**21 57 24.7**	**-1.1**
INDI						21 57 29.0	
	comp=Z,1.3nm,1.0s						
INDI				IAML		21 57 30.6	
	comp=Z,360nm,1.0s						
INDI	**Punta indio, G**	**0.96**	**252**	*eP*	**Pn**	**21 57 11.3**	**-0.9**
CDM	**Cerro de Muert**	**1.00**	**127**	*i* P	**Pn**	**21 57 12.4**	**-0.8**
CDM				*i* S	**Sn**	**21 57 27.1**	**-0.4**
CDM						21 57 28.8	
	comp=Z,13nm,1.0s						
CDM				IAML		21 57 30.7	
	comp=Z,1μm,1.0s						
LCOCO	**El Coco**	**1.01**	**94**	*eP*	**Pn**	**21 57 12.3**	**-0.4**
BUS1	**Rivas**	**1.02**	**127**	*eP*	**Pn**	**21 57 12.4**	**-0.9**
SAJU	**San Juanillo,**	**1.12**	**265**	*i* P	**Pn**	**21 57 13.3**	**-0.9**
SAJU				IAML		21 57 13.6	
	comp=Z,540nm,1.0s						
SAJU				*i* S	**Sn**	**21 57 27.8**	**-1.5**
SAJU						21 57 29.1	
	comp=Z,2.8nm,1.0s						
HZTE	**Horizontes, Gu**	**1.14**	**299**	*i* P	**Pn**	**21 57 14.4**	**0.0**
HZTE				*i* S	**Sn**	**21 57 30.6**	**+0.8**
HZTE				IAML		21 57 32.0	
	comp=Z,750nm,1.0s						
HZTE						21 57 33.1	
	comp=Z,2.9nm,1.0s						
HZTE	**Horizontes, Gu**	**1.14**	**299**	*eP*	**Pn**	**21 57 14.5**	**+0.1**
PEZE	**Perez Zeledon,**	**1.18**	**131**	*i* P	**Pn**	**21 57 14.5**	**-0.5**
PEZE				*i* S	**Sn**	**21 57 31.1**	**+0.3**
PEZE						21 57 33.0	
	comp=Z,12nm,1.0s						
PEZE				IAML		21 57 35.4	
	comp=Z,1μm,1.0s						
PEZE	**Perez Zeledon,**	**1.18**	**131**	*eP*	**Pn**	**21 57 14.6**	**-0.5**
BATAN	**Batan**	**1.18**	**93**	⇑*i* P	**Pn**	**21 57 14.6**	**-0.3**
BATAN				*i* S	**Sn**	**21 57 33.7**	**+2.9**
LCRUZ	**La Cruz**	**1.38**	**311**	*eP*	**Pn**	**21 57 18.7**	**+1.2**
OCHAL	**Ojochal**	**1.40**	**139**	*i* P	**Pn**	**21 57 17.2**	**-0.6**
OCHAL				*i* S	**Sn**	**21 57 35.9**	**+0.1**
OCHAL				IAML		21 57 37.3	
	comp=Z,1μm,1.0s						
OCHAL						21 57 39.4	
	comp=Z,7.4nm,1.0s						
SRBA	**San Rafael, Bu**	**1.52**	**128**	*i* P	**Pn**	**21 57 18.5**	**-0.8**
SRBA				*i* S	**Sn**	**21 57 37.7**	**-0.8**
SRBA						21 57 38.7	
	comp=Z,6.6nm,1.0s						
SRBA				IAML		21 57 39.5	
	comp=Z,660nm,1.0s						
SRBA	**San Rafael, Bu**	**1.52**	**128**	*eP*	**Pn**	**21 57 18.5**	**-0.8**
EDPN	**Palmar Norte**	**1.63**	**137**	*eP*	**Pn**	**21 57 17.1**	**-3.6**
OMEN	**Al SSO del Vol**	**1.69**	**322**	*i* P	**Pn**	**21 57 21.1**	**-0.4**
OMEN				IAML		21 57 21.7	
	comp=Z,300nm,1.0s						
OMEN						21 57 54.3	
	comp=Z,2.0nm,1.0s						
PLAN	**Los Planes de**	**1.73**	**149**	*i* P	**Pn**	**21 57 22.4**	**+0.3**
PLAN				*i* S	**Sn**	**21 57 41.7**	**-1.7**
PLAN				IAML		21 57 49.3	
	comp=Z,2μm,1.0s						
PLAN						21 57 51.6	
	comp=Z,19nm,1.0s						
MORN	**Al O del Volca**	**1.73**	**323**	*i* P	**Pn**	**21 57 21.3**	**-0.8**
MORN				IAML		21 57 22.1	
	comp=Z,350nm,1.0s						
MORN						21 58 05.1	
	comp=Z,2.1nm,1.0s						
JAPN	**Al SSO del Vol**	**1.73**	**321**	*i* P	**Pn**	**21 57 22.1**	**0.0**
JAPN				IAML		21 57 22.5	
	comp=Z,310nm,1.0s						
JAPN						21 57 34.1	
	comp=Z,1.4nm,1.0s						
ACON	**Acoyapa**	**1.89**	**342**	*i* P	**Pn**	**21 57 23.8**	**-0.4**
ACON				IAML		21 57 24.3	
	comp=Z,410nm,1.0s						
ACON						21 57 47.8	
	comp=Z,0.6nm,1.0s						
ESPN	**Las Esperanzas**	**2.04**	**8**	*i* P	**Pn**	**21 57 25.7**	**-0.5**
ESPN				IAML		21 57 26.1	
	comp=Z,360nm,1.0s						
ESPN						21 57 46.5	
	comp=Z,0.0nm,0.1s						
ESPN						21 57 53.1	
	comp=Z,0.7nm,1.0s						
PIRO	**Carate, Puerto**	**2.13**	**145**	*i* P	**Pn**	**21 57 28.1**	**+0.6**
PIRO						21 57 57.3	
	comp=Z,0.0nm,0.4s						
PIRO				IAML		21 57 57.4	
	comp=Z,520nm,1.0s						
PIRO						21 58 01.0	
	comp=Z,2.9nm,1.0s						
CNI2	**El Empalme, Bo**	**2.20**	**109**	*eP*	**Pn**	**21 57 27.6**	**-0.8**
CNI2				*eS*	**Sn**	**21 57 54.8**	**+0.1**
MLIR3	**Monte Lirio, C**	**2.20**	**128**	*eP*	**Pn**	**21 57 30.1**	**+1.6**
MLIR3				*eS*	**Sn**	**21 57 54.9**	**0.0**
BRU2	**Volcan**	**2.31**	**126**	*eP*	**Pn**	**21 57 29.6**	**-0.4**
BRU2				*eS*	**Sn**	**21 57 59.3**	**+1.8**
BRU2	**Volcan**	**2.31**	**126**	*i* P	**Pn**	**21 57 29.9**	**0.0**
BRU2				*i* SA		21 57 57.4	
BRU2						21 57 59.3	
	comp=Z,1.4nm,1.0s						
BRU2						21 58 01.6	
	comp=Z,0.0nm,0.1s						
BRU2				IAML		21 58 03.8	
	comp=Z,270nm,1.0s						
CDITO	**Canoas**	**2.31**	**133**	*eP*	**Pn**	**21 57 30.8**	**+0.9**
CDITO				*i* S	**Sn**	**21 57 58.7**	**+1.4**
BCO2	**Palmira**	**2.48**	**125**	*eP*	**Pn**	**21 57 31.9**	**-0.4**
PTPM	**Petroterminale**	**2.57**	**139**	*i* P	**Pn**	**21 57 34.2**	**+0.9**
PTPM				*eS*	**Sn**	**21 58 05.8**	**+2.2**
LIMO3	**Limones**	**2.66**	**140**	*eP*	**Pn**	**21 57 36.8**	**+2.3**
CHGR2	**Aguacate**	**2.69**	**117**	*eP*	**Pn**	**21 57 35.1**	**+0.1**
CHGR2				*eS*	**Sn**	**21 58 07.2**	**+0.6**
MACN	**El Madrono**	**3.08**	**318**	*i* P	**Pn**	**21 57 40.2**	**-0.1**
MACN				IAML		21 58 24.2	
	comp=Z,50nm,1.0s						
MACN						21 58 26.5	
	comp=Z,0.2nm,1.0s						
MACN						21 58 27.5	
	comp=Z,0.0nm,0.2s						
GMAL	**Guarumal, Vera**	**4.07**	**126**	*eP*	**Pn**	**21 57 50.8**	**-3.0**

*IDC **08** 21:58:41.6±0.7, 26°.85S×176°.21W, h0km, mb4.2/10, mbtmp4.1/10, ML5.1/1, MS3.6/17, Error ellipse: s-maj=38.2km s-min=18.1km az=101.0*
*NEIC **08** 21:58:47.7±1.1, 27°.0S±0°.1×176°.3W±0°.2, h35km±1km, mb4.5/11, Error ellipse: s-maj=25.3km s-min=16.8km az=114.0*

ISC 08 21:58:47.0±0.6, 26°.82S±0°.09×176°.3W±0°.1, h35km, n53, σ0s98/37, mb4.3/13, MS3.7/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.79**	**210**		**Pn**	**21 59 28.7**	**-0.5**
RAO	**Raoul Island**	**2.79**	**210**	Pn	**Pn**	**21 59 29.3**	**+0.1**
	274nm,0.3s,baz=87,slow=19,SNR=30						
RAO				LR	LR	22 00 00.8	
	comp=Z,210nm,18.2s,baz=112,slow=28						
RAO				Sn	**Sn**	**22 00 03.3**	**+1.5**
	448nm,0.3s,baz=90,slow=20,SNR=11						
URZ	**Urewera**	**12.67**	**204**	Pn	Pn	22 01 37.9	-6.7
	0.4nm,0.3s,baz=301,slow=19,SNR=1.0						
URZ				Sn	Sn	22 03 53.0	-11
	1.7nm,0.3s,baz=323,slow=20,SNR=2.3						
OUENC	**Ouen Island, N**	**15.91**	**282**	Pn	**Pn**	**22 02 29.7**	**+1.4**
OUENC				IAmb	IAmb	22 02 41.6	
	comp=Z,27nm,1.1s						
RAR	**Rarotonga**	**16.12**	**73**	Pn	Pn	22 02 22.2	-8.8
RAR				IAmb	IAmb	22 02 50.3	
	comp=Z,43nm,1.4s						
RAR	**Rarotonga**	**16.12**	**73**	Pn	Pn	22 02 22.3	-8.7
	comp=Z,1.5nm,0.3s,baz=229,slow=12,SNR=2.7						
RAR				Sn	Sn	22 05 05.0	-24
	comp=Z,0.4nm,0.3s,baz=109,slow=23,SNR=2.2						
RAR				LR	LR	22 07 07.5	
	comp=Z,131nm,19.5s,baz=272,slow=32						
DZM	**Mont Dzumac**	**16.38**	**283**	Pn	**Pn**	**22 02 35.8**	**+1.5**
DZM	**Mont Dzumac**	**16.38**	**283**	Pn	**Pn**	**22 02 30.9**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=83,slow=18,SNR=2.0						
DZM				LR	LR	22 07 48.2	
	comp=Z,455nm,19.2s,baz=84,slow=33						
PPT	**Papeete**	**26.39**	**75**	LR	LR	22 12 00.8	
	comp=Z,94nm,20.3s,baz=250,slow=30						
EIDS	**Eidsvold**	**29.26**	**265**	P	**P**	**22 04 45.0**	**-0.9**
EIDS				IAmb	IAmb	22 04 56.7	
	comp=Z,13nm,1.4s						
TAU	**Tasmania Unive**	**33.56**	**232**	P	**P**	**22 05 23.6**	**+0.1**
CTAO	**Charters Tower**	**34.88**	**273**	P	**P**	**22 05 34.5**	**-0.7**
CTAO				IAmb	IAmb	22 05 54.7	
	comp=Z,17nm,1.4s						
STKA	**Stephens Creek**	**36.85**	**252**	P	**P**	**22 05 51.3**	**-0.7**
STKA	**Stephens Creek**	**36.85**	**252**	LR	LR	22 19 41.4	
	comp=Z,230nm,18.1s,baz=47,slow=34						
PMG	**Port Moresby**	**38.59**	**290**	LR	LR	22 19 46.1	
	comp=Z,135nm,19.2s,baz=154,slow=33						
WRA	**Warramunga Arr**	**45.56**	**268**	LR	LR	22 25 43.0	
	comp=Z,2μm,20.7s,baz=30,slow=36						
VNDA	**Vanda**	**51.79**	**186**	P	**P**	**22 07 51.3**	**+0.5**
VNDA				IAmb	IAmb	22 07 58.0	
	comp=Z,3.7nm,1.3s						
VNDA	**Vanda**	**51.79**	**186**	P	**P**	**22 07 50.5**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=23,slow=4.0,SNR=3.8						
	comp=Z,0.5nm,0.6s						
GUMO	**Guam**	**55.08**	**312**	LR	LR	22 29 29.4	
	comp=Z,46nm,21.4s,baz=112,slow=34						
BATI	**Baumata**	**58.75**	**274**	LR	LR	22 33 22.5	
	comp=Z,139nm,18.4s,baz=154,slow=35						
CASY	**Casey**	**58.98**	**207**	P	**P**	**22 08 42.3**	**-0.3**
RPN	**Rapa Nui**	**59.02**	**107**	LR	LR	22 28 12.6	
	comp=Z,47nm,21.8s,baz=312,slow=30						
QSPA	**South Pole Qui**	**63.27**	**180**	P	**P**	**22 09 11.4**	**-0.5**
QSPA				IAmb	IAmb	22 09 15.3	
	comp=Z,6.7nm,0.9s						
QSPA	**South Pole Qui**	**63.27**	**180**	P	**P**	**22 09 12.0**	**0.0**
	comp=Z,5.7nm,0.9s,baz=21,slow=2.5,SNR=9.9						
QSPA				LR	LR	22 34 04.6	
	comp=Z,65nm,19.0s,baz=35,slow=34						
	comp=Z,5.7nm,0.9s						
KAPI	**Kappang**	**64.50**	**278**	LR	LR	22 38 19.3	
	comp=Z,36nm,18.3s,baz=126,slow=37						
MAW	**Mawson**	**76.16**	**200**	P	**P**	**22 10 30.6**	**-0.5**
	comp=Z,2.8nm,0.8s,baz=138,slow=10,SNR=3.1						
	comp=Z,2.8nm,0.8s						
MJAR	**Matsushiro Arr**	**76.19**	**324**	P	**P**	**22 10 31.8**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=160,slow=6.4,SNR=4.9						
MJAR				LR	LR	22 37 11.1	
	comp=Z,29nm,20.9s,baz=142,slow=30						
	comp=Z,2.5nm,0.9s						
H03S2	**Juan Fernandez**	**81.21**	**123**	T	T	23 40 22.3	
	baz=242,slow=74,SNR=4.2						
H03S1	**Juan Fernandez**	**81.22**	**123**	T	T	23 40 20.6	
	baz=242,slow=74,SNR=3.8						
H03S3	**Juan Fernandez**	**81.22**	**123**	T	T	23 40 22.2	
	baz=242,slow=74,SNR=3.9						
LPIG	**La Paz**	**81.40**	**58**	LR	LR	22 41 28.3	
	comp=Z,48nm,18.2s,baz=232,slow=32						
KSRS	**Korea Array**	**82.61**	**318**	P	**P**	**22 11 07.5**	**+1.0**
	comp=Z,1.3nm,0.5s,baz=131,slow=5.9,SNR=3.3						
KSRS				LR	LR	22 46 01.8	
	comp=Z,14nm,18.7s,baz=70,slow=34						
	comp=Z,1.3nm,0.5s						
PETK	**Petropavlovsk-**	**82.75**	**345**	P	**P**	**22 11 07.9**	**+1.0**
	comp=Z,2.6nm,0.9s,baz=133,slow=6.1,SNR=3.4						
PETK				LR	LR	22 42 00.5	
	comp=Z,40nm,19.9s,baz=64,slow=31						
	comp=Z,2.6nm,0.9s						
PLCA	**Paso Flores**	**83.86**	**133**	LR	LR	22 41 15.2	
	comp=Z,34nm,20.8s,baz=206,slow=30						
NVAR	**Mina Array Bea**	**84.62**	**42**	P	**P**	**22 11 17.8**	**+0.7**
	comp=Z,0.8nm,0.8s,baz=214,slow=9.5,SNR=4.8						
	comp=Z,0.8nm,0.8s						
KLR	**Kul'dur**	**88.72**	**329**	LR	LR	22 45 06.3	
	comp=Z,26nm,21.1s,baz=132,slow=31						
P29M	**Windy Craggy**	**91.82**	**18**	P	**P**	**22 11 50.0**	**-0.8**
P29M				IAmb	IAmb	22 11 53.5	
	comp=Z,7.4nm,1.4s						
PDAR	**Pinedale Array**	**92.53**	**43**	P	**P**	**22 11 54.1**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=250,slow=4.7,SNR=2.9						
	comp=Z,0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**93.62**	**289**	P	**P**	**22 12 01.0**	**+0.9**
	comp=Z,0.8nm,0.3s,baz=134,slow=3.9,SNR=5.7						
	comp=Z,0.8nm,0.3s						
ILAR	**Eielson Array**	**94.13**	**12**	P	**P**	**22 12 01.9**	**+0.5**
	comp=Z,0.3nm,0.8s,baz=210,slow=5.2,SNR=2.1						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**116.56**	**311**	PKP	**PKPdf**	**22 17 25.9**	**-1.2**
	comp=Z,0.2nm,0.5s,baz=72,slow=0.9,SNR=4.6						
KURBB	**Kurchatov Arra**	**119.64**	**315**	PKP	**PKPdf**	**22 17 32.0**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=112,slow=1.8,SNR=2.9						
BVAR	**Borovoye Array**	**124.82**	**317**	PKP	**PKPdf**	**22 17 42.4**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=106,slow=2.1,SNR=4.1						
ARCES	**ARCESS Array B**	**135.39**	**349**	PKP	**PKPdf**	**22 18 02.8**	**+0.5**
	comp=Z,1.4nm,0.7s,baz=38,slow=1.6,SNR=6.6						
FINES	**FINESS Array B**	**142.24**	**343**	PKP	**PKPdf**	**22 18 16.5**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=62,slow=3.3,SNR=4.7						
NB2	**NORSAR Subarra**	**145.41**	**354**	PKP	**PKPdf**	**22 18 20.4**	**-0.3**
	comp=Z,2.7nm,0.8s,baz=18,slow=5.1						
NOA	**NORSAR Array B**	**145.41**	**354**	PKPbc	**PKPdf**	**22 18 20.2**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=18,slow=2.5,SNR=4.9						
HFS	**Hagfors**	**145.99**	**351**	PKPbc	**PKPdf**	**22 18 22.0**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=5.7,slow=2.9,SNR=11						
PABE	**Paberze**	**147.77**	**338**	PKPbc	**PKPbc**	**22 18 27.4**	**-0.2**
EKA	**Eskdalemuir Ar**	**151.08**	**8**	PKPbc	**PKPbc**	**22 18 35.5**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=336,slow=1.6,SNR=5.3						
MMAI	**Mount Meron Ar**	**151.88**	**290**	PKPbc	**PKPbc**	**22 18 39.4**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=90,slow=5.8,SNR=2.3						
BRTR	**Keskin Array B**	**151.97**	**305**	PKPab	**PKPab**	**22 18 48.7**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=105,slow=3.4,SNR=3.0						
BUR08	**Bucovina Ar. S**	**153.22**	**327**	PKPbc	**PKPbc**	**22 18 41.2**	**0.0**

*IDC **08** 21:59:49.9±11.0, 7°.16S×129°.56E, h83km±108km, mb3.4/5, mbtmp3.9/6, ML5.0/3, MS2.9/1, Error ellipse: s-maj=129.9km s-min=21.3km az=50.0*
*NEIC **08** 21:59:56.4±1.4, 7°.34S±0°.04×129°.12E±0°.07, h137km±9km, mb4.3/19, Error ellipse: s-maj=10.5km s-min=6.0km az=108.0*
*DJA **08** 21:59:57.1±0.2, 7°.3S×129°.09E±°, h138km±4km, M4.7/25, mB5.2/10, mb4.6/25, MLv4.9/15, Mw(mB)4.6/10*

**ISC 08 21:59:55.5±0.5, 7°.44S±0°

comp=Z,16nm,0.9s
AS31 Alice Springs 16.78 165 P P 22 03 42.1 -0.8
AS31 IAmb IAmb 22 04 08.3
comp=Z,5.9nm,0.6s
ASAR Alice Springs 16.78 165 P P 22 03 41.7 -1.2
ASAR Alice Springs 16.78 165 P P 22 03 41.9 -1.0
comp=Z,3.9nm,0.3s,baz=337,slow=9.5,SNR=130
ASAR S Sn 22 06 40.4 -10
comp=Z,5.1nm,0.6s,baz=337,slow=24,SNR=7.4
comp=Z,12nm,0.5s
AS01 Alice Springs 16.79 164 P P 22 03 44.0 +1.0
PWJI Pagerwojo 17.14 267 P P 22 03 46.6 -0.3
comp=Z,25nm,1.2s
WRKA Warakurna 17.51 182 P P 22 03 51.6 +0.7
UGM Wanagama 18.41 267 P P 22 03 59.3 -1.5
SBUM Sibu 19.49 300 P P 22 04 12.1 -0.4
KSM Kuching 20.73 295 P P 22 04 24.5 -1.4
KSM IAmb IAmb 22 04 31.1
comp=Z,8.2nm,0.8s
CTAO Charters Tower 20.85 129 P P 22 04 27.6 +0.4
CTAO IAmb IAmb 22 04 51.0
comp=Z,8.1nm,1.0s
OOD Oodnadatta 21.18 164 P P 22 04 31.5 +0.8
BBJI Bungbulang 21.26 269 P P 22 04 31.3 -0.4
MEEK Meekatharra 21.53 206 P P 22 04 35.9 +1.4
INKA Innaminka 23.01 153 P P 22 04 49.9 +0.7
FORT Forrest 23.24 182 P P 22 04 52.5 +1.3
FORT Forrest 23.24 182 P P 22 04 51.1 -0.1
FORT IAmb IAmb 22 04 54.1
comp=Z,25nm,0.8s
QLP Quilpie 23.87 145 P P 22 04 59.2 +2.2
LCRK Leigh Creek 24.43 161 P P 22 05 03.8 +1.7
MORW Morawa 24.78 208 P P 22 05 06.6 +1.3
MORW IAmb IAmb 22 05 11.6
comp=Z,22nm,1.3s
BBOO Buckleboo 26.06 167 P P 22 05 17.4 +0.6
BBOO Buckleboo 26.06 167 P P 22 05 17.2 +0.3
BBOO IAmb IAmb 22 05 17.8
comp=Z,6.9nm,0.8s
STKA Stephens Creek 26.96 156 P P 22 05 25.4 +0.4
STKA Stephens Creek 26.96 156 P P 22 05 25.4 +0.4
STKA Stephens Creek 26.96 156 P P 22 05 24.5 -0.5
comp=Z,2.6nm,0.5s,baz=337,slow=9.1,SNR=7.8
comp=Z,2.6nm,0.5s
CMSA Cobar Meteorol 28.55 149 P P 22 05 39.3 +0.3
ARPS Mount Arapiles 31.42 160 P P 22 06 06.2 +1.9
CAN Canberra 33.22 149 P P 22 06 21.1 +0.9
TOO Toolangi 33.48 156 P P 22 06 23.2 +0.8
TOO IAmb IAmb 22 06 34.4
comp=Z,8.1nm,0.9s
CMAR Chiang Mai Arr 39.33 311 P P 22 07 11.7 -0.5
comp=Z,0.3nm,0.3s,baz=135,slow=8.4,SNR=1.6
comp=Z,0.3nm,0.3s
PZH PanZhiHua 42.93 323 P P 22 07 43.5 +1.8
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.6s
MLZ Mavora Lakes 50.63 145 P P 22 08 41.1 -0.2
HHC Hu-ho-hao-te 50.69 343 eP P 22 08 40.1 -1.7
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,58nm,5.4s
WHZ Wether Hill Ro 50.84 146 P P 22 08 43.1 +0.3
MK31 Makanchi Array 68.10 327 P P 22 10 41.0 -0.3
MKAR Makanchi Array 68.10 327 P P 22 10 41.5 +0.2
MKAR Makanchi Array 68.10 327 P P 22 10 41.0 -0.3
comp=Z,0.3nm,0.5s,baz=121,slow=8.1,SNR=5.8
comp=Z,0.3nm,0.5s
ZALV Zalesovo Beam 71.58 334 P P 22 11 02.6 +0.2
comp=Z,0.3nm,0.3s,baz=142,slow=7.3,SNR=1.7
comp=Z,0.3nm,0.3s
KURBB Kurchatov Arra 72.42 329 P P 22 11 07.0 -0.4
comp=Z,0.3nm,0.6s,baz=123,slow=4.7,SNR=4.5
comp=Z,0.3nm,0.6s
KURK Kurchatov 72.43 329 P P 22 11 07.6 +0.2
KURK IAmb IAmb 22 11 17.6
comp=Z,4.4nm,1.5s
TIXI Tiksi 78.93 360 P P 22 11 43.9 -0.1

SCB 08 22:04:37.7±0.8, 17°.25S×69°.60W, h154km±13km, ML3.2/2, MW3.5, Error ellipse: s-maj=11.3km s-min=4.5km az=2.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBOD	**La Paz, Gloria**	**1.14**	**58**	Pg	Pn	22 05 05.3	+0.6
SOEJ	**Jacaque**	**1.38**	**79**	Pg	Pn	22 05 07.8	+0.9
PB12	**IPOC Station P**	**1.52**	**207**	Pg	Pn	22 05 08.6	+0.7
BBOE	**La Paz, Chanca**	**1.61**	**74**	Pg	Pn	22 05 10.2	+0.8
LPAZ	**La Paz**	**1.71**	**56**	Pg	Pn	22 05 10.5	0.0
GO01	**Chusmiza**	**2.43**	**171**	Pg	Pn	22 05 19.6	+0.9
PB11	**IPOC Station P**	**2.49**	**181**	Pg	Pn	22 05 19.9	+0.8
PB11				Sg	Sn	22 05 51.7	+0.5
PB11				IAML		22 05 55.6	
	66nm,0.1s						
PB08	**IPOC Station P**	**2.90**	**172**	Pg	Pn	22 05 25.1	+0.7
PB01	**IPOC Station P**	**3.77**	**178**	Pg	Pn	22 05 35.6	+0.4
PB02	**IPOC Station P**	**4.05**	**184**	Pg	Pn	22 05 39.5	+0.6
PB02				Sg	Sn	22 06 24.9	-1.6
PB02				IAML		22 06 27.4	
	37nm,0.2s						
PB09	**IPOC Station P**	**4.53**	**176**	Pg	Pn	22 05 45.9	+0.7

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*NEIC **08** 22:19:46.7±0.5, 19°.08N±0°.02×155°.21W±0°.01, h5km±2km, Error ellipse: s-maj=3.9km s-min=3.0km az=330.0*

HVO 08 22:19:47.0±0.6, 19°.10N±0°.02×155°.21W±0°.01, h9km±6km, ML2.8/12, ML2.9/26(NEIC), Error ellipse: s-maj=3.4km s-min=1.1km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.21**	**335**		Pg	22 19 51.5	0.0
HLP				Sg	Sg	22 19 54.0	-0.5
HTC	**Hot Caves**	**0.22**	**307**		Pg	22 19 52.1	+0.5
PUH	**Pauahi**	**0.27**	**359**		Pg	22 19 52.4	-0.1
PUH				IAML		22 19 58.5	
	comp=N,1μm,1.1s						
PUH				IAML		22 20 02.3	
	comp=E,1μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.28**	**8**		Pg	22 19 52.9	+0.2
STCH	**Steam Cracks**	**0.29**	**16**		Pg	22 19 52.8	-0.1
JCUZ	**Jacuzzi**	**0.30**	**20**		Pg	22 19 52.9	-0.1
JCUZ				IAML		22 20 01.6	
	comp=E,1μm,0.4s						
NPOC	**North of Pu'u**	**0.30**	**18**		Pg	22 19 53.2	+0.1
NPOC				IAML		22 20 02.3	
	comp=N,1μm,0.4s						
RSD	**Rainshed**	**0.36**	**350**	Pg	Pg	22 19 54.2	-0.1
RSD				IAML		22 20 05.8	
	comp=E,953nm,0.5s						
JOKA	**Jonika Flow**	**0.38**	**30**		Pg	22 19 54.3	-0.2
JOKA					Sg	22 20 00.8	+1.2
KHU	**Kahuku**	**0.41**	**291**		Pg	22 19 54.9	-0.2
KHU					Sg	22 20 01.0	+0.5
KHU				IAML		22 20 09.6	
	comp=E,785nm,0.4s						
MLH	**Mauna Loa**	**0.42**	**337**		Pg	22 19 55.3	-0.1
MLH					Sg	22 20 01.8	+0.7
MLH				IAML		22 20 05.5	
	comp=E,1μm,0.4s						
MWH	**Moku'aweowe**	**0.53**	**316**		Pg	22 19 56.7	-0.7
MWH				IAML		22 20 14.8	
	comp=N,1μm,0.4s						
MWH				IAML		22 20 15.2	
	comp=E,969nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.55**	**321**		Pg	22 19 57.2	-0.6
MLOA					Sg	22 20 05.2	0.0
MLOA				IAML		22 20 16.8	
	comp=E,684nm,0.7s						
HMH	**Humu'ula Sheep**	**0.56**	**333**	Pg	Pg	22 19 57.4	-0.5
HMH				IAML		22 20 06.1	
	comp=N,773nm,0.4s						
HMH				IAML		22 20 11.5	
	comp=E,822nm,0.5s						
POHA	**Pohakuloa**	**0.72**	**335**		Pg	22 19 59.2	-1.7
POHA				IAML		22 20 19.2	
	comp=E,729nm,0.8s						
POHA				IAML		22 20 22.2	
	comp=E,502nm,0.5s						
HUH	**Hualalai**	**0.83**	**315**		Pg	22 20 01.3	-1.7

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*NEIC **08** 22:27:37.4±0.9, 18°.0N±0°.1×146°.0E±0°.2, h129km±11km, mb4.4/10, Error ellipse: s-maj=29.0km s-min=13.8km az=103.0*

*IDC **08** 22:27:40.8±11.0, 17°.98N×145°.89E, h170km±115km, mb3.3/9, mbtmp3.8/9, MS3.2/1, Error ellipse: s-maj=30.1km s-min=18.6km az=100.0*

ISC 08 22:27:37.5±0.7, 17°.99N±0°.09×146°.0E±0°.2, h135km, n25, σ0s83/24, mb4.0/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.50**	**194**	Pn	**Pn**	**22 28 45.0**	**+1.0**
PATS	**Pohnpei**	**16.36**	**131**	P	**Pn**	**22 31 18.6**	**-0.9**
FAKI	**Fak Fak**	**24.79**	**214**	P	**P**	**22 32 47.0**	**-0.1**
FAKI				IAmb	IAmb	22 32 48.8	
	comp=Z,22nm,1.1s						
PEA0B	**Petropavlovsk-**	**36.22**	**12**	P	**P**	**22 34 27.6**	**+0.4**
PETK	**Petropavlovsk-**	**36.22**	**12**	P	**P**	**22 34 27.6**	**+0.4**
PETK	**Petropavlovsk-**	**36.22**	**12**	P	**P**	**22 34 28.1**	**+1.0**
	comp=Z,2.3nm,0.7s,baz=177,slow=8.7,SNR=5.7						
	comp=Z,2.3nm,0.7s						
WB2	**Warramunga Arr**	**39.38**	**197**	P	**P**	**22 34 54.4**	**+0.3**
WB2				IAmb	IAmb	22 34 57.6	
	comp=Z,7.2nm,1.3s						
WRA	**Warramunga Arr**	**39.39**	**197**	P	**P**	**22 34 53.6**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=22,slow=8.8,SNR=5.3						
	comp=Z,1.4nm,0.5s						
AS31	**Alice Springs**	**43.05**	**196**	P	**P**	**22 35 23.6**	**-0.4**
ASAR	**Alice Springs**	**43.05**	**196**	P	**P**	**22 35 23.6**	**-0.4**
ASAR	**Alice Springs**	**43.05**	**196**	P	**P**	**22 35 23.4**	**-0.6**
	comp=Z,0.4nm,0.4s,baz=19,slow=6.8,SNR=5.6						
	comp=Z,0.4nm,0.4s						
SONM	**Songino Array**	**43.86**	**322**	LR	LR	22 54 36.3	
	comp=Z,27nm,18.7s,baz=90,slow=37						
MKAR	**Makanchi Array**	**59.14**	**314**	P	**P**	**22 37 24.6**	**+0.7**
MKAR	**Makanchi Array**	**59.14**	**314**	P	**P**	**22 37 24.5**	**+0.5**
	comp=Z,0.2nm,0.5s,baz=97,slow=6.0,SNR=2.1						
	comp=Z,0.2nm,0.5s						
CAST	**Castle Rocks**	**61.60**	**27**	P	**P**	**22 37 41.0**	**+0.6**
CAST				IAmb	IAmb	22 37 41.9	
	comp=Z,4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**62.02**	**318**	P	**P**	**22 37 41.6**	**-1.7**
	comp=Z,0.2nm,0.4s,baz=92,slow=8.1,SNR=6.0						
	comp=Z,0.2nm,0.4s						
I23K	**Minto, Yukon-K**	**63.24**	**25**	P	**P**	**22 37 51.7**	**+0.5**
I23K				IAmb	IAmb	22 37 52.3	
	comp=Z,6.6nm,1.4s						
ILAR	**Eielson Array**	**64.16**	**26**	P	**P**	**22 37 55.8**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=250,slow=4.7,SNR=6.2						
	comp=Z,0.8nm,0.7s						
D24K	**Happy Valley**	**64.56**	**21**	P	**P**	**22 38 00.8**	**+1.0**
D24K				IAmb	IAmb	22 38 01.8	
	comp=Z,3.7nm,0.6s						
BVAR	**Borovoye Array**	**67.18**	**321**	P	**P**	**22 38 16.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=76,slow=6.1,SNR=2.1						
	comp=Z,0.7nm,0.5s						
F28M	**Old Crow**	**67.47**	**24**	P	**P**	**22 38 18.7**	**+0.3**
F28M				IAmb	IAmb	22 38 24.6	
	comp=Z,3.0nm,1.2s						
ABKAR	**Akbulak array**	**74.03**	**317**	P	**P**	**22 38 57.4**	**-1.1**
ABKAR	**Akbulak array**	**74.03**	**317**	P	**P**	**22 38 57.4**	**-1.1**
ABKAR				IAmb	IAmb	22 39 03.2	
	comp=Z,0.8nm,1.0s						
YKA	**Yellowknife Ar**	**78.49**	**28**	P	**P**	**22 39 23.1**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=291,slow=5.7,SNR=6.3						
	comp=Z,0.4nm,0.6s						
NVAR	**Mina Array Bea**	**83.37**	**52**	P	**P**	**22 39 50.7**	**+0.6**
	comp=Z,0.5nm,0.4s,baz=266,slow=6.2,SNR=6.7						
	comp=Z,0.5nm,0.4s						

DJA 08 22:27:45.2±0.5, 8°S±6°×12°3E±°, h247km±7km, M3.7/10, mb4.1/4, MLv3.5/10, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**1.01**	**211**	P	Pn	22 28 20.1	+0.1
EDFI	**Ende, Flores**	**1.45**	**227**	P	Pn	22 28 23.8	+0.8
SOEI	**Soe**	**2.48**	**143**	P	Pn	22 28 32.8	+0.6
SOEI				S	S	22 29 08.8	-0.5
BATI	**Baumata**	**2.59**	**160**	P	Pn	22 28 34.3	+1.1
BASI	**Baing, Sumba**	**3.26**	**221**	P	Pn	22 28 39.3	-1.1
PLAI	**Plampang**	**5.04**	**258**	P	Pn	22 29 01.5	0.0
	35nm,0.7s,0.2nm						
FAKI	**Fak Fak**	**10.60**	**64**	P	Pn	22 30 11.3	-0.2
	12nm,1.4s						
PWJI	**Pagerwojo**	**10.86**	**268**	P	Pn	22 30 15.3	+0.6
	30nm,2.4s						
UGM	**Wanagama**	**12.12**	**268**	P	Pn	22 30 30.2	-0.4

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*NEIC **08** 22:29:21.4±1.1, 19°.15N±0°.04×155°.33W±0°.01, h5km±2km, Error ellipse: s-maj=6.8km s-min=3.0km az=343.0*

HVO 08 22:29:19.4±1.1, 19°.04N±0°.03×155°.31W±0°.02, h9km±7km, ML2.1/1, ML2.7/22(NEIC), Error ellipse: s-maj=5.0km s-min=1.6km az=152.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.22**	**338**		Pg	22 29 23.9	0.0
HLP	**Hilina Pali**	**0.26**	**1**	Pg	Pg	22 29 24.7	0.0
PUH	**Pauahi**	**0.35**	**15**	Pg	Pg	22 29 25.9	-0.5
PUH				IAML		22 29 32.7	
	comp=E,686nm,1.0s						
KHU	**Kahuku**	**0.35**	**306**		Pg	22 29 26.9	+0.3
KHU				Sg	Sg	22 29 32.0	+0.7
STCH	**Steam Cracks**	**0.39**	**27**		Pg	22 29 26.8	-0.4
STCH					Sg	22 29 32.3	0.0
STCH				IAML		22 29 33.4	
	comp=E,684nm,0.3s						
JCUZ	**Jacuzzi**	**0.40**	**30**	Pg	Pg	22 29 27.3	-0.1
JCUZ				IAML		22 29 31.0	
	comp=N,799nm,0.3s						
JCUZ				IAML		22 29 33.8	
	comp=E,870nm,0.3s						
NPOC	**North of Pu'u**	**0.40**	**28**	Pg	Pg	22 29 27.5	+0.1
MLH	**Mauna Loa**	**0.46**	**351**		Pg	22 29 28.1	-0.4
MLH				Sg	Sg	22 29 35.2	+0.6
MLH				IAML		22 29 35.9	
	comp=N,717nm,1.0s						
MLH				IAML		22 29 35.9	
	comp=E,560nm,0.8s						
MWH	**Moku'aweowe**	**0.52**	**329**		Pg	22 29 29.1	-0.6
MWH				IAML		22 29 45.9	
	comp=N,417nm,1.4s						
MWH				IAML		22 29 46.6	
	comp=E,567nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.56**	**333**		Pg	22 29 29.5	-0.8
MLOA					Sg	22 29 37.4	-0.4
MLOA				IAML		22 29 38.4	
	comp=N,397nm,0.6s						
MLOA				IAML		22 29 45.1	
	comp=E,418nm,0.9s						
HMH	**Humu'ula Sheep**	**0.59**	**344**		Pg	22 29 30.1	-0.8
HUH	**Hualalai**	**0.81**	**323**	Pg	Pg	22 29 33.7	-1.5
HUH				IAML		22 29 58.5	
	comp=E,315nm,0.4s						
HUH				IAML		22 30 01.9	
	comp=N,346nm,0.5s						

IDC 08 22:37:24.0±1.6, 6°.12N×121°.53E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=256.8km s-min=22.4km az=63.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**28.81**	**154**	P	P	22 43 22.9	-1.2
	0.2nm,0.4s,baz=331,slow=10,SNR=1.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**31.98**	**158**	P	P	22 43 53.0	+0.9
	0.4nm,0.4s,baz=334,slow=6.6,SNR=9.1						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**52.69**	**327**	P	P	22 46 41.4	+1.0
	0.3nm,0.4s,baz=119,slow=7.8,SNR=6.3						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**56.98**	**329**	P	P	22 47 10.1	-1.2
	0.7nm,0.7s,baz=131,slow=5.8,SNR=6.0						
	0.7nm,0.7s						

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*IDC **08** 22:38:00.8±7.1, 36°.52N×71°.59E, h88km±71km, mbtmp3.3/5, ML3.1/5, Error ellipse: s-maj=97.9km s-min=28.0km az=140.0*

*NNC **08** 22:38:03.5±3.8, 37°.27N×70°.90E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=30.4km s-min=25.7km az=153.0*

ISC 08 22:38:01.1±3.4, 36°.8N±0°.2×70°.9E±0°.2, h88km, n9, σ0s99/13, 6C-2D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.26**	**358**	⇑P	**Pn**	**22 39 32.2**	**+1.3**
	0.4nm,0.2s,baz=173,slow=12,SNR=46						
KK31				⇓S	**Sn**	**22 40 39.8**	**-1.2**
	3.5nm,0.6s,baz=180,slow=23,SNR=6.9						
AAK	**Ala-Archa**	**6.43**	**25**	⇑P	**Pn**	**22 39 33.6**	**+0.3**
	1.6nm,0.4s						
AAK				⇑S	**Sn**	**22 40 46.1**	**+0.8**
	4.6nm,0.9s						
AAK	**Ala-Archa**	**6.43**	**25**	P	**Pn**	**22 39 34.7**	**+1.4**
	1.1nm,0.3s,baz=223,slow=7.0,SNR=15						
AAK				S	**Sn**	**22 40 46.1**	**+0.8**
	1.6nm,0.4s,baz=346,slow=21,SNR=6.0						
	2.4nm,0.3s						
CHMS	**Chumysh**	**6.84**	**25**	⇓P	**Pn**	**22 39 39.3**	**+0.5**
	4.1nm,0.6s						
CHMS				⇑S	**Sn**	**22 40 54.9**	**-0.2**
	1.9nm,0.6s						
TKM2	**Tokmak 2**	**7.08**	**29**	⇑P	**Pn**	**22 39 43.0**	**+0.8**
	1.7nm,0.5s						
TKM2				⇑S	**Sn**	**22 41 00.1**	**-1.2**
	1.3nm,0.7s						
GEYT	**Alibeck**	**10.21**	**280**	P	Pn	22 40 33.0	+8.3
	0.2nm,0.3s,baz=105,slow=11,SNR=2.6						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**13.08**	**37**	P	**Pn**	**22 41 03.0**	**-0.4**
	0.1nm,0.3s,baz=228,slow=15,SNR=6.7						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**14.84**	**19**	P	**P**	**22 41 29.1**	**-0.6**
	baz=201,slow=10,SNR=3.4						
	0.1nm,0.5s						
ZALV	**Zalesovo Beam**	**19.66**	**25**	P	**P**	**22 42 22.0**	**-0.7**
	0.2nm,0.3s,baz=223,slow=11,SNR=2.8						
	0.5nm,0.4s						

DJA 08 22:49:02.9±0.6, 9°S±7°×114°4E±°, h10km, M3.8/9, mb3.9/3, MLv3.7/9, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.03**	**10**	P	Pg	22 49 21.9	-0.8
ABJI	**Asem Bagus**	**1.70**	**9**	P	Pb	22 49 33.9	-0.4
BLJI	**Banyuglugur**	**1.77**	**348**	P	Pn	22 49 33.4	-0.2
SRBI	**Singaraja**	**1.86**	**41**	P	Pn	22 49 34.8	0.0
PWJI	**Pagerwojo**	**2.59**	**304**	P	Pn	22 49 43.6	-1.3
UGM	**Wanagama**	**3.75**	**294**	P	Pn	22 49 59.8	-1.1
PLAI	**Plampang**	**3.82**	**80**	P	Pn	22 50 01.5	-0.3
KPJI	**Karang Pucung**	**5.43**	**293**	P	Pn	22 50 24.8	+0.9
	17nm,1.5s,0.1nm						
EDFI	**Ende, Flores**	**7.66**	**85**	P	Pn	22 50 54.6	-0.1

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*IDC **08** 23:07:30.6±0.8, 13°.28N×87°.98W, h0km, mb4.1/14, mbtmp4.1/17, ML3.5/4, MS3.8/44, Error ellipse: s-maj=27.7km s-min=13.0km az=45.0*

*SNET **08** 23:07:32.0±0.9, 13°.27N×88°.04W, h4km±6km, ML4.8*

*CATAC **08** 23:07:32.1±0.1, 13°.23N×88°.05W, h3km±1km, ML4.7*

*NEIC **08** 23:07:32.8±2.4, 13°.31N±0°.05×87°.97W±0°.04, h10km±1km, mb4.7/202, Error ellipse: s-maj=8.3km s-min=6.9km az=195.0*

*GCG **08** 23:07:33.6±0.5, 13°.54N×87°.72W, h155km±49km, MD4.7*

*GCMT **08** 23:07:35.8±0.5, 13°.31N±0°.02×88°.13W±0°.03, h30km±1km, MW4.8/72, Moment Tensor Solution. s13,c17; s72,c95; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.95±.17; $M_{\theta\theta}$-1.62±.11; $M_{\phi\phi}$2.57±.13; $M_{r\theta}$-0.10±.14; $M_{\theta\phi}$-0.93±.08; $M_{\phi r}$0.06±.15; Best double couple: M_o2.29700×10^{16} NP1:ϕ_s123.00000°, δ87.00000°, λ-175.00000°. NP2: ϕ_s33.00000°, δ85.00000°, λ-3.00000°. Principal axes: T 2.7680, Plg1.0000°, Azm258.0000°; N -0.9400, Plg84.0000°, Azm156.0000°; P -1.8250, Plg6.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 08 23:07:32.0±0.8, 13°.26N±0°.02×88°.04W±0°.01, h9km±5km, n555, σ1s10/530, mb4.7/105, MS3.9/41, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.15**	**70**	*i* P	**Pg**	**23 07 36.1**	**+0.8**
CNCH	**Conchagua**	**0.20**	**84**	*eP*	**Pg**	**23 07 37.1**	**+0.8**
CNCH	**Conchagua**	**0.20**	**84**	*eP*	**Pg**	**23 07 37.0**	**+0.8**
CNCH	**Conchagua**	**0.20**	**84**	*i* P	**Pg**	**23 07 37.0**	**+0.8**
CNCH				IAML		23 07 46.4	
	comp=Z,320μm,1.0s						
JUCU	**Jucuran**	**0.20**	**269**	*i* P	**Pg**	**23 07 36.7**	**+0.4**
JUCU				IAML		23 07 43.5	
	comp=Z,230μm,0.4s						
JUCU	**Jucuran**	**0.20**	**269**	*i*P *e*P	**Pg**	**23 07 36.7**	**+0.4**
JUCU				IAML		23 07 43.8	
	comp=Z,229μm,0.5s						
JUCU	**Jucuran**	**0.20**	**269**	*i* P	**Pg**	**23 07 36.6**	**+0.4**
JUCU				*i* S	**Sg**	**23 07 40.2**	**+1.0**
JUCU				IAML		23 07 43.2	
	comp=Z,210μm,1.0s						
CNRM	**Centro Naciona**	**0.25**	**329**	*eP*	**Pg**	**23 07 37.6**	**+0.4**
CNRM				*eS*	**Sg**	**23 07 41.6**	**+1.1**
CNRM	**Centro Naciona**	**0.25**	**329**	*i* P	**Pg**	**23 07 37.5**	**+0.4**
CNRM				*i* S	**Sg**	**23 07 42.0**	**+1.4**
CNRM				IAML		23 07 46.6	
	comp=Z,810μm,1.0s						
BLLM	**Bellamira**	**0.27**	**314**	*i* P	**Pg**	**23 07 38.0**	**+0.5**
BLLM	**Bellamira**	**0.27**	**314**	*eP*	**Pg**	**23 07 38.0**	**+0.5**
LCY	**Lacayo**	**0.30**	**304**	*i* P	**Pg**	**23 07 38.7**	**+0.6**
RANC	**El Ranchito**	**0.30**	**306**	*eP*	**Pg**	**23 07 38.7**	**+0.6**
RANC				*eS*	**Sg**	**23 07 43.3**	**+1.1**
RANC	**El Ranchito**	**0.30**	**306**	*i* P	**Pg**	**23 07 38.7**	**+0.6**
RANC				*i* S	**Sg**	**23 07 43.3**	**+1.1**
RANC				IAML		23 07 49.1	
	comp=Z,87μm,1.0s						
PACA	**Pacayal**	**0.35**	**307**	*eP*	**Pg**	**23 07 39.6**	**+0.6**
PACA	**Pacayal**	**0.35**	**307**	*i* P	**Pg**	**23 07 39.5**	**+0.6**
PACA				*i* S	**Sg**	**23 07 44.7**	**+1.1**
PACA				IAML		23 07 49.8	
	comp=Z,580μm,1.0s						
AMPH	**Amapala**	**0.37**	**85**	*i* P	**Pg**	**23 07 39.9**	**+0.6**
AMPH				*eS*	**Sb**	**23 07 45.9**	**-0.7**
AMPH	**Amapala**	**0.37**	**85**	*eP*	**Pg**	**23 07 39.9**	**+0.6**
AMPH	**Amapala**	**0.37**	**85**	*i* P	**Pg**	**23 07 39.8**	**+0.5**
AMPH				*i* S	**Sg**	**23 07 44.8**	**+0.6**
ALJI	**Alcalda de J**	**0.52**	**278**	*i* P	Pg	23 07 33.6	-8.6
ALJI				*eS*	**Sg**	**23 07 41.6**	**-7.5**
COEB	**Comit de Eme**	**0.54**	**297**	*i* P	**Pg**	**23 07 42.7**	**+0.3**
COEB				*eS*	**Sg**	**23 07 50.2**	**+0.7**
COEB	**Comit de Eme**	**0.54**	**297**	*eP*	**Pg**	**23 07 42.7**	**+0.3**
COEB	**Comit de Eme**	**0.54**	**297**	*i* P	**Pg**	**23 07 42.7**	**+0.3**
COEB				*i* S	**Sg**	**23 07 50.2**	**+0.7**
COEB				IAML		23 07 52.8	
	comp=Z,61μm,1.0s						
PQSS	**Presa 15 de Se**	**0.63**	**306**	*eP*	**Pg**	**23 07 44.5**	**+0.4**
PQSS	**Presa 15 de Se**	**0.63**	**306**	*i* P	**Pg**	**23 07 44.3**	**+0.2**
PQSS				IAML		23 07 46.0	
	comp=Z,11μm,1.0s						
PQSS				*i* S	**Sb**	**23 07 53.3**	**-0.7**
TECO	**Alcaldia de Te**	**0.78**	**291**	*eP*	**Pg**	**23 07 46.6**	**-0.4**
TECO

COEG IAML 23 08 02.7
comp=Z,25µm,1.0s
PAVA Las Pavas 0.99 298 eP Pg 23 07 50.6 -0.4
PAVA Las Pavas 0.99 298 i P Pg 23 07 50.6 -0.4
PAVA i S Sb 23 08 04.7 +0.3
PAVA IAML 23 08 06.5
comp=Z,34µm,1.0s
TGUH Tegucigalpa,Un 1.09 43 Pg 23 07 52.1 -0.9
TGUH Sg 23 08 05.8 -1.3
TGUH Tegucigalpa,Un 1.09 43 eP Pg 23 07 52.2 -0.7
TGUH Tegucigalpa,Un 1.09 43 i P Pg 23 07 52.0 -0.9
TGUH i S Sg 23 08 07.0 -0.1
TGUH IAML 23 08 14.6
comp=Z,46µm,1.0s
CRIN San Cristobal 1.11 120 Pg Pg 23 07 53.2 -0.1
CRIN San Cristobal 1.11 120 eP Pb 23 07 53.5 +0.1
CRIN San Cristobal 1.11 120 i P Pg 23 07 53.4 +0.1
CRIN IAML 23 07 54.6
comp=Z,81µm,1.0s
CRIN i S Sn 23 08 09.7 +0.5
LFU La Fuente 1.16 295 eP Pb 23 07 53.5 -0.7
PANCS Alcalda de 1.17 288 i P Pb 23 07 53.3 -1.0
PANCS i S Sb 23 08 08.9 -0.7
PANCS IAML 23 08 10.1
comp=Z,36µm,1.0s
LOMA Loma Larga 1.17 289 eP Pb 23 07 53.4 -1.0
LOMA Loma Larga 1.17 289 i P Pb 23 07 53.4 -1.0
LOMA i S Sg 23 08 09.6 -0.1
LOMA IAML 23 08 11.4
comp=Z,14µm,1.0s
UDBS Universidad Do 1.18 293 i P Pb 23 07 54.1 -0.5
UDBS i S Sg 23 08 10.3 +0.3
UDBS IAML 23 08 15.3
comp=Z,12µm,1.0s
IGN Direccin Gen 1.19 293 eP Pb 23 07 54.2 -0.6
IGN Direccin Gen 1.19 293 i P Pb 23 07 54.2 -0.6
IGN i S Sn 23 08 11.0 -0.2
IGN IAML 23 08 16.4
comp=Z,25µm,1.0s
UTEC Universidad Te 1.22 291 i P Pb 23 07 54.6 -0.6
UTEC i S Sg 23 08 11.2 0.0
UTEC IAML 23 08 16.6
comp=Z,11µm,1.0s
SNET Serv Nac Est T 1.24 290 Pn Pn 23 07 54.7 -0.8
SNET Serv Nac Est T 1.24 290 i P Pn 23 07 54.9 -0.6
SNET IAML 23 07 56.1
comp=Z,16µm,1.0s
SNET i S Sb 23 08 11.7 0.0
UEES Universidad Ev 1.25 292 eP Pn 23 07 55.0 -0.7
UEES eS Sg 23 08 12.4 0.0
UEES Universidad Ev 1.25 292 i P Pn 23 07 55.2 -0.6
UEES i S Sn 23 08 12.7 -0.1
UEES IAML 23 08 16.8
comp=Z,8µm,1.0s
LLGN La Laguna 1.26 316 i P Pn 23 07 54.8 -1.0
LLGN i S Sb 23 08 12.0 -0.3
LLGN IAML 23 08 18.1
comp=Z,9µm,1.0s
LALI Alcalda de L 1.27 281 eP Pn 23 07 54.8 -1.0
LALI Alcalda de L 1.27 281 i P Pn 23 07 54.9 -1.0
LALI i S Sn 23 08 13.2 +0.2
LALI IAML 23 08 17.1
comp=Z,2µm,1.0s
ITCA Escuela Especi 1.28 289 i P Pn 23 07 56.1 0.0
ITCA i S Sb 23 08 12.7 -0.1
ITCA IAML 23 08 16.2
comp=Z,33µm,1.0s
PIC2 El Picacho 1.28 292 eP Pn 23 07 55.9 -0.4
BOQS Boqueron 1.30 292 eP Pn 23 07 55.9 -0.6
BOQS Boqueron 1.30 292 eP Pn 23 07 55.8 -0.7
BOQS eS Sb 23 08 13.7 +0.1
PMON Piamonte 1.32 290 eP Pn 23 07 56.0 -0.7
PMON eS Sg 23 08 14.8 +0.2
PMON Piamonte 1.32 290 i P Pn 23 07 56.3 -0.4
PMON i S Sn 23 08 14.5 0.0
PMON IAML 23 08 18.6
comp=Z,19µm,1.0s
QUEZ Alcaldia de Qu 1.33 296 i P Pn 23 07 56.7 -0.1
QUEZ i S Sg 23 08 15.6 +0.7
QUEZ IAML 23 08 27.4
comp=Z,24µm,1.0s
QUEN Al S del Volca 1.33 120 i P Pn 23 07 56.4 -0.4
QUEN i S Sg 23 08 15.1 +0.2
QUEN IAML 23 08 16.7
comp=Z,10µm,1.0s
PLRN Geotermica Pol 1.41 118 i P Pn 23 07 57.4 -0.4
PLRN i S Sg 23 08 17.7 +0.4
PLRN IAML 23 08 24.0
comp=Z,5µm,1.0s
CEDA San Andres 1.43 293 eP Pn 23 07 57.4 -0.7
CEDA San Andres 1.43 293 i P Pn 23 07 57.9 -0.2
CEDA IAML 23 08 34.3
comp=Z,18µm,1.0s
PACN Al O del Volca 1.43 122 i P Pn 23 07 57.7 -0.4
PACN i S Sb 23 08 17.4 +0.3
PACN IAML 23 08 18.1
comp=Z,12µm,1.0s
ROCN Rota Cerro Neg 1.46 120 i P Pn 23 07 57.1 -1.4
ROCN i S Sn 23 08 17.4 -0.3
ROCN IAML 23 08 26.7
comp=Z,5µm,1.0s
CNGA Al SSO del Vol 1.51 120 i P Pn 23 07 57.5 -1.7
CNGA i S Sn 23 08 18.2 -0.8
CNGA IAML 23 08 21.9
comp=Z,8µm,1.0s
CNGN Cerro Negro 1.51 120 Pn Pn 23 07 58.4 -0.9
CNGN Cerro Negro 1.51 120 eP Pn 23 07 58.3 -0.9
CNGN Cerro Negro 1.51 120 i P Pn 23 07 58.2 -1.0
CNGN i S Sb 23 08 19.7 +0.3
CNGN IAML 23 08 30.2
comp=Z,11µm,1.0s
MACN El Madrono 1.54 120 i P Pn 23 07 59.2 -0.5
MACN i S Sb 23 08 21.1 +0.7
MACN IAML 23 08 35.2
comp=Z,3µm,1.0s
LEVN Ruinas Leon Vi 1.63 121 i P Pn 23 08 00.7 -0.1
LEVN i S Sg 23 08 23.8 -0.5
LEVN IAML 23 08 29.0
comp=Z,9µm,1.0s
UNIC Universidad Ca 1.64 296 i P Pn 23 08 01.3 +0.3
UNIC IAML 23 08 27.7
comp=Z,3µm,1.0s
LIMN Finca el Limon 1.64 97 i P Pn 23 08 01.7 +0.6
SNJE San Jose 1.64 292 eP Pn 23 08 01.3 +0.1
CEVE Cerro Verde 1.64 290 eP Pn 23 08 01.9 +0.6
CEVE Cerro Verde 1.64 290 eP Pn 23 08 01.8 +0.5
CEVE IAML 23 08 32.3
comp=Z,8µm,1.0s
MOMN Momotombo 1.69 120 i P Pn 23 08 01.1 -0.6
MOMN i S Sb 23 08 24.6 0.0
MOMN IAML 23 08 29.2
comp=Z,280nm,1.0s
RTR El Retiro 1.69 292 eP Pn 23 08 02.1 +0.3
MTO3 Montecristo 1.71 312 Pn Pn 23 08 01.8 -0.4
MTO3 Montecristo 1.71 312 i P Pn 23 08 01.7 -0.5
MTO3 i S Sb 23 08 26.0 +0.4
MTO3 IAML 23 08 26.6
comp=Z,6µm,1.0s
MOM2 El Cardon 1.72 118 i P Pn 23 08 01.6 -0.5
MOM2 i S Sg 23 08 27.0 -0.3
MOM2 IAML 23 08 37.4
comp=Z,9µm,1.0s
ESQI Esquipulas 1.81 316 Pn Pn 23 08 03.7 +0.3
ESQI Esquipulas 1.81 316 eP Pn 23 08 03.7 +0.3
ESQI eS Sb 23 08 29.2 +0.9
ESQI Esquipulas 1.81 316 eP Pn 23 08 03.2 -0.2
ESQI Esquipulas 1.81 316 i P Pn 23 08 03.2 -0.2
ESQI i S Sb 23 08 28.5 +0.3
ESQI IAML 23 08 31.7
comp=Z,12µm,1.0s
NUBE Las Nubes 1.81 291 i P Pn 23 08 03.6 +0.1
NUBE i S Sb 23 08 28.7 +0.4
NUBE IAML 23 08 32.6
comp=Z,6µm,1.0s
LOAL Lomas de Alarc 1.85 294 i P Pn 23 08 04.7 +0.8
LOAL i S Sg 23 08 31.4 -0.1
LOAL IAML 23 08 36.5
comp=Z,13µm,1.0s
SLOZ Alcaldia de Sa 1.86 294 eP Pn 23 08 05.0 +1.0
APQ3 Volcan Apoyequ 1.90 121 i P Pn 23 08 05.5 +1.0
APQ3 i S Sb 23 08 30.7 +0.1
APQ3 IAML 23 08 34.3
comp=Z,5µm,1.0s
SAPS Ciudad Sandino 1.93 124 i P Pn 23 08 04.8 -0.1
SAPS i S Sb 23 08 30.7 -0.7
SAPS IAML 23 08 40.0
comp=Z,6µm,1.0s
APYN Apoyeque 1.94 121 i P Pn 23 08 05.0 -0.1
APYN IAML 23 08 30.7
comp=Z,36000µm,1.0s
JUAM Asuncion Mita 1.94 304 i P Pn 23 08 06.3 +1.1
JUAM i S Sb 23 08 33.0 +1.0
JUAM IAML 23 08 37.3
comp=Z,4µm,1.0s
APQN BB Volcan Apoy 1.98 121 i P Pn 23 08 05.8 +0.1
APQN i S Sb 23 08 33.6 +0.5
WILN Americas 2 2.11 121 i P Pn 23 08 07.0 -0.4
WILN i S Sb 23 08 36.9 +0.2
WILN IAML 23 08 53.6
comp=Z,4µm,1.0s
MAS3 Al N del Volca 2.19 124 i P Pn 23 08 09.9 +1.3
MAS3 i S Sb 23 08 38.2 -0.9
MAS3 IAML 23 08 43.0
comp=Z,4µm,1.0s
MASN Masaya 2.23 124 i P Pn 23 08 10.6 +1.4
MASN i S Sb 23 08 38.7 -1.6
MASN IAML 23 08 43.3
comp=Z,950nm,1.0s
MRL Marmol 2.42 319 i P Pb 23 08 15.5 -0.3
MRL i S Sg 23 08 48.4 -1.4
IZABA Izabal, Puerto 2.52 348 i P Pb 23 08 16.7 -0.6
IZABA i S Sb 23 08 47.7 -0.7
IZABA IAML 23 09 10.8
comp=Z,48nm,1.0s
NBG Las Nubes 2.60 301 i P Pb 23 08 19.4 +0.4
NBG i S Sg 23 08 55.4 -0.3
GUNB GUNB 2.61 301 i P Pb 23 08 17.4 -1.7
GUNB i S Sn 23 08 48.6 +2.1
GUNB IAML 23 08 55.3
comp=Z,4µm,1.0s
JAPN Al SSO del Vol 2.88 126 i P Pn 23 08 19.5 +1.5
JAPN IAML 23 09 05.1
comp=Z,700nm,1.0s
MORN Al O del Volca 2.89 126 i P Pn 23 08 18.2 0.0
MORN IAML 23 08 48.7
comp=Z,2µm,1.0s
CONN Concepcion 2.90 125 i P Pn 23 08 18.2 -0.1
CONN IAML 23 09 04.5
comp=Z,10µm,1.0s
APG El Apazote 2.93 307 Pn Pn 23 08 20.2 +1.4
comp=Z,1.7nm,0.3s,baz=128,slow=12,SNR=31
APG Sn Sn 23 08 56.4 +2.1
comp=Z,2.0nm,0.3s,baz=94,slow=14,SNR=4.5
APG LR LR 23 09 37.6
comp=Z,300nm,20.4s,baz=307,slow=43
OMEN Al SSO del Vol 2.93 126 i P Pn 23 08 18.9 +0.2
OMEN IAML 23 09 05.4
comp=Z,910nm,1.0s
FUG Fuego 3 2.97 294 i P Pb 23 08 24.9 -0.3
ACON Acoyapa 3.08 114 Pn Pn 23 08 19.4 -1.4
ACON Acoyapa 3.08 114 i P Pn 23 08 20.0 -0.7
ACON IAML 23 09 18.6
comp=Z,2µm,1.0s
HZTE Horizontes, Gu 3.48 136 Pn Pn 23 08 25.8 -0.5
HZTE Horizontes, Gu 3.48 136 i P Pn 23 08 27.4 +1.1
HZTE i S Sn 23 09 10.3 +2.7
HZTE IAML 23 09 25.5
comp=Z,850nm,1.0s
STG3 Santiaguito 3, 3.72 293 i P Pb 23 08 34.4 -3.7
RTAL Retalhuleu 3.77 290 Pn Pn 23 08 31.1 +0.8
ESPN Las Esperanzas 3.80 106 Pn Pn 23 08 29.6 -1.0
ORTG Ortega, Santa 3.83 138 Pn Pn 23 08 31.4 +0.2
SAJU San Juanillo, 3.90 144 i P Pn 23 08 32.6 +0.5
SAJU IAML 23 09 38.6
comp=Z,380nm,1.0s
DUNO Dulce Nombre, 4.02 141 Pn Pn 23 08 34.8 +1.1
PETF Flores 4.04 334 Pn Pn 23 08 33.7 -0.4
PETF Flores 4.04 334 i P Pn 23 08 35.4 +1.3
PETF i S Sn 23 09 25.5 +3.9
JTS Las Juntas de 4.22 134 Pn Pn 23 08 36.3 -0.2
JTS Las Juntas de 4.22 134 Pn Pn 23 08 37.6 +1.1
comp=Z,14nm,0.3s,baz=323,slow=15,SNR=20
JTS Sn Sn 23 09 26.6 +0.6
comp=Z,8.3nm,0.3s,baz=326,slow=23,SNR=4.5
comp=Z,25nm,0.3s
SOCE Pocosol 4.40 130 Pn Pn 23 08 39.2 +0.2
LAFE Finca La Fe, P 4.60 138 i S Sn 23 09 35.3 +0.1
JACO JACO, Garabito 4.87 137 Pn Pn 23 08 45.8 +0.4
CCIG Comitan 4.98 308 Pn Pn 23 08 47.6 +0.6
LCR2 La Lucha 2 5.27 131 Pn Pn 23 08 50.5 -0.7
BATAN Batan 5.54 124 Pn Pn 23 08 53.2 -1.5
PEZE Perez Zeledon, 5.75 132 Pn Pn 23 08 59.3 +1.6
SRBA San Rafael, Bu 6.09 131 Pn Pn 23 09 04.0 +1.8
BRU2 Volcan 6.87 130 Pn Pn 23 09 14.4 +1.3
CDITO Canoas 6.88 132 Pn Pn 23 09 14.2 +1.1
TEIG Tepich 6.94 358 Pn Pn 23 09 13.6 -0.2
TEIG Tepich 6.94 358 LR LR 23 12 33.8
comp=Z,5µm,21.4s,slow=44
CMIG Matas Romero 7.63 301 Pn Pn 23 09 25.5 +2.1
comp=Z,2.2nm,0.3s,baz=102,slow=12,SNR=16
CMIG Sn Sn 23 10 53.1 +3.1
comp=Z,0.5nm,0.3s,baz=84,slow=7.5,SNR=1.5
CMIG Lg Lg 23 11 26.6
comp=Z,1.5nm,0.3s,baz=164,slow=11,SNR=3.8
comp=Z,36nm,1.0s
ROSC El Rosal 15.91 120 Pn P 23 11 19.7 -0.6
comp=Z,1.4nm,0.3s,baz=312,slow=16,SNR=7.5
ROSC LR LR 23 17 58.1
comp=Z,649nm,20.3s,baz=333,slow=40
TULM Tulcn-Chalpat 16.07 140 Pn Pn 23 11 17.2 -1.6
IMBA Imbabura, San 16.17 142 Pn Pn 23 11 19.3 -0.7
IMBA IAmb IAmb 23 11 28.6
comp=Z,38nm,0.5s
PULU Pululahua 16.19 144 Pn Pn 23 11 18.6 -1.7
SLOR San Lorenzo - 16.81 145 Pn Pn 23 11 28.6 +0.4
HBVL Hebbronville 16.96 326 P 23 11 31.2 -0.3
HBVL IAmb IAmb 23 11 34.5
comp=Z,114nm,1.4s
CHSH Refugio Sur-Vo 17.25 148 Pn 23 11 34.3 +0.5
SDV Santo Domingo 17.62 102 Pn 23 11 37.5 -0.6
SDV Santo Domingo 17.62 102 P Pn 23 11 38.4 +0.3
comp=Z,0.4nm,0.3s,baz=281,slow=13,SNR=5.9
comp=Z,11nm,0.9s
BRAL Brewton 17.85 3 Pn Pn 23 11 38.9 -1.7
BRAL IAmb IAmb 23 11 44.6
comp=Z,72nm,1.0s
BRAL Brewton 17.85 3 P P 23 11 42.3 +1.0
baz=183
735A Kenedy 17.98 331 P 23 11 44.3 +1.5
735A IAmb IAmb 23 11 46.1
comp=Z,79nm,1.2s
441A DeRidder 18.05 346 P 23 11 43.7 +0.2
441A IAmb IAmb 23 11 56.4
comp=Z,67nm,1.1s
833A Chaparral WMA, 18.35 327 P P 23 11 48.1 +1.3
baz=142
TIGA Tifton 18.55 12 P P 23 11 47.7 -1.4
TIGA IAmb IAmb 23 11 52.5
comp=Z,94nm,1.4s
TIGA Tifton 18.55 12 P Pn 23 11 50.1 +0.9
baz=194
NATX Nacogdoches 19.40 343 P Pn 23 11 59.3 -0.1
NATX IAmb IAmb 23 12 02.8
comp=Z,37nm,0.9s
NATX Nacogdoches 19.40 343 P Pn 23 11 59.8 +0.4
baz=160
435B Jarrell 19.54 335 P Pn 23 12 01.9 +0.7
baz=151
LRAL Lakeview Retre 19.71 3 P P 23 12 01.4 -0.3
LRAL Lakeview Retre 19.71 3 P Pn 23 12 04.2 +1.0
baz=183
DRIO Del Rio 19.87 326 P P 23 12 03.9 +0.3
DRIO IAmb IAmb 23 12 07.1
comp=Z,26nm,1.1s
BAUV El Baul 20.08 100 P P 23 12 05.1 -0.8
BAUV IAmb IAmb 23 12 14.5
comp=Z,25nm,0.7s
JCT Junction City 20.29 330 P P 23 12 08.7 +0.5
JCT Junction City 20.29 330 P Pn 23 12 09.5 -0.6
baz=145
GOGA Godfrey 20.49 11 P P 23 12 11.3 +1.0
baz=193
WHTX Lake Whitney, 20.55 337 P Pn 23 12 12.0 -1.1
baz=153
Y49A Blount Mountai 20.56 4 IAmb IAmb 23 12 17.3
comp=Z,57nm,1.2s
Y52A Lilburn 20.83 9 IAmb IAmb 23 12 25.7
comp=Z,32nm,1.4s
WLAR White Oak Lake 20.86 348 P P 23 12 15.3 +1.2
WLAR IAmb IAmb 23 12 21.0
comp=Z,81nm,1.3s
SAND Sanderson 21.12 324 P P 23 12 16.9 -0.2
OXF Oxford 21.20 357 P P 23 12 17.1 -0.7
OXF Oxford 21.20 357 P P 23 12 18.1 +0.2
baz=176
OZNA Ozona 21.32 328 P P 23 12 18.9 -0.5
OZNA IAmb IAmb 23 12 38.3
comp=Z,19nm,1.1s
X40A Basin Creek Fa 21.58 349 P P 23 12 22.3 +0.3
X40A IAmb IAmb 23 12 26.3
comp=Z,27nm,1.4s
TXAR Lajitas Array 21.59 320 P P 23 12 23.6 +1.3
comp=Z,5.3nm,0.9s,baz=135,slow=9.0,SNR=52
TXAR LR LR 23 22 01.2
comp=Z,103nm,18.7s,baz=136,slow=40
comp=Z,5.3nm,0.9s
FW03 Perrin-Whitt E 21.72 337 P P 23 12 22.6 -0.9
FW03 IAmb IAmb 23 12 28.5
comp=Z,39nm,1.0s
MIAR Mount Ida 21.78 348 P P 23 12 25.5 +1.3
baz=165,SNR=38
ABTX Abilene, Hawle 22.01 333 P P 23 12 26.1 -0.6
ABTX Abilene, Hawle 22.01 333 P P 23 12 27.7 +1.1
baz=148
SGCY Sterling City 22.12 329 P P 23 12 26.8 -1.1
SGCY IAmb IAmb 23 12 47.6
comp=Z,19nm,1.0s
LOOK Love County 22.25 340 P P 23 12 30.2 +0.9
WHAR Wooly Hollow 22.27 351 IAmb IAmb 23 12 47.6
comp=Z,30nm,1.3s
ATAH Atahualpa 22.41 154 LR LR 23 20 57.5
comp=Z,236nm,19.6s,baz=344,slow=36
MNHN Monahans 22.53 325 P P 23 12 31.4 -0.9
MNHN IAmb IAmb 23 12 35.4
comp=Z,23nm,0.9s
KMSC Kings Mountain 22.62 14 P P 23 12 34.4 +1.3
baz=197
TKL Tuckaleechee C 22.63 9 IAmb IAmb 23 12 37.2
comp=Z,31nm,0.8s
WVT Waverly 22.78 0 P P 23 12 35.5 +0.8
baz=180
CLTN Cedars of Leba 22.79 4 IAmb IAmb 23 12 37.8
comp=Z,22nm,1.1s
V53A Saluda 22.81 11 IAmb IAmb 23 12 40.2
comp=Z,35nm,1.4s
APMT Aspermont 22.82 333 P P 23 12 34.9 -0.3
APMT IAmb IAmb 23 12 53.8
comp=Z,20nm,0.9s
V52A Sevierville 22.84 9 IAmb IAmb 23 12 39.1
comp=Z,38nm,1.2s
ODSA Odessa 23.01 327 P P 23 12 35.9 -1.5
ODSA IAmb IAmb 23 12 37.6
comp=Z,24nm,1.2s
PCRV Puerto La Cruz 23.11 95 LR LR 23 23 41.0
comp=Z,283nm,18.5s,slow=42
W35A Tecumseh 23.22 341 IAmb IAmb 23 12 49.8
comp=Z,47nm,1.4s
POST Post 23.24 330 IAmb IAmb 23 12 40.5
comp=Z,27nm,1.0s
U49A Red Boiling Sp 23.25 5 IAmb IAmb 23 12 42.0
comp=Z,29nm,1.2s
FNO Franklin 23.48 340 P P 23 12 42.5 +0.4
WMOK Wichita Mounta 23.50 337 IAmb IAmb 23 12 59.9
comp=Z,18nm,1.1s
WMOK Wichita Mounta 23.50 337 P P 23 12 43.2 +1.0
baz=153,SNR=11
PBMO Poplar Bluff 23.52 355 IAmb IAmb 23 12 44.0
comp=Z,16nm,0.8s
HHAR Hobbs 23.53 348 IAmb IAmb 23 12 44.7
comp=Z,17nm,1.0s
TZTN Tazewell 23.54 9 IAmb IAmb 23 13 07.8
comp=Z,33nm,1.4s
TZTN Tazewell 23.54 9 P P 23 12 43.1 +0.5
baz=191,SNR=6.1
TUL3 Leonard 23.61 344 P P 23 12 42.2 -1.1
TUL3 IAmb IAmb 23 13 05.9
comp=Z,22nm,0.8s
TUL3 Leonard 23.61 344 P P 23 12 43.9 +0.6
baz=161
T47A Sharon Grove 23.65 2 IAmb IAmb 23 12 45.4
comp=Z,22nm,1.1s
LPIG La Paz 23.66 300 LR LR 23 21 55.9
comp=Z,820nm,19.0s,baz=99,slow=36
U38A Gravette 23.78 347 IAmb IAmb 23 12 46.9
comp=Z,17nm,0.9s
OK031 S. Brethren Rd 23.95 342 IAmb IAmb 23 12 47.9
comp=Z,28nm,1.1s
OK052 Battle Ridge R 23.98 342 P P 23 12 46.5 -0.3
OK052 IAmb IAmb 23 12 48.1
comp=Z,22nm,1.0s
CGM3 Cape Girardeau 23.99 357 IAmb IAmb 23 13 16.8
comp=Z,19nm,1.4s
MGMO Mountain Grove 24.10 352 IAmb IAmb 23 13 19.4
comp=Z,39nm,1.5s
QUOK Quay 24.11 343 IAmb IAmb 23 13 09.8
comp=Z,24nm,1.0s
CSTR Hydro, Custer 24.27 339 P P 23 12 50.1 +0.5
MNTX Cornudas Mount 24.30 322 P P 23 12 50.5 +0.6
baz=135,SNR=15
S44A Carbondale 24.36 358 IAmb IAmb 23 13 07.5
comp=Z,22nm,1.1s
SIUC Southern Illin 24.38 358 IAmb IAmb 23 13 07.7
comp=Z,18nm,0.9s
SMWD Samnorwood 24.39 335 P P 23 12 50.9 +0.2
SMWD IAmb IAmb 23 12 53.3
comp=Z,21nm,1.1s
S51A Beattyville 24.60 8 IAmb IAmb 23 12 56.1
comp=Z,22nm,1.1s
T35A Sooner Cattle 24.75 344 IAmb IAmb 23 13 30.9
comp=Z,13nm,0.8s
S39A Bolivar 24.79 350 IAmb IAmb 23 12 56.3
comp=Z,20nm,1.0s
BLA Blacksburg 24.81 15 P P 23 12 55.2 +0.7
baz=198,SNR=5.3
CROK Carrier 24.81 341 IAmb IAmb 23 13 10.8
comp=Z,27nm,1.2s
AMTX Amarillo 24.82 332 IAmb IAmb 23 12 57.1
comp=Z,18nm,0.9s
AMTX Amarillo 24.82 332 P P 23 12 55.4 +0.7
baz=147
CCM Cathedral Cave 24.86 354 P P 23 12 54.5 -0.4
CCM IAmb IAmb 23 12 56.1
comp=Z,17nm,1.0s
CCM Cathedral Cave 24.86 354 P P 23 12 54.9 0.0
baz=172
ELIS Ellis County 24.91 338 IAmb IAmb 23 12 57.7
comp=Z,32nm,1.1s
WCI Wyandotte Cave 24.92 3 P P 23 12 54.9 -0.4
WCI IAmb IAmb 23 13 11.6
comp=Z,16nm,0.9s
WCI Wyandotte Cave 24.92 3 P P 23 12 56.7 +1.3
baz=184
OK038 West end E0370 25.04 339 IAmb IAmb 23 12 59.2
comp=Z,22nm,0.9s
R49A Shelbyville 25.06 5 IAmb IAmb 23 12 58.3
comp=Z,13nm,1.1s
OK032 Salt Plains WL 25.16 341 P P 23 12 57.5 -0.1
OK032 IAmb IAmb 23 12 59.4
comp=Z,23nm,1.0s
R40A Maddies Statio 25.21 352 IAmb IAmb 23 12 59.3
comp=Z,10nm,0.9s
KAN08 Anthony NE Sta 25.47 341 P P 23 13 01.0 +0.6
Q52A Bidwell 26.11 10 P P 23 13 06.8 +0.7
P49A Miami Univ. Ec 26.34 6 P P 23 13 09.2 +1.0
baz=187
121A Cookes Peak, D 26.35 320 P P 23 13 09.8 +1.1
121A IAmb IAmb 23 13 12.1
comp=Z,10nm,0.9s
121A Cookes Peak, D 26.35 320 P P 23 13 09.4 +0.7
baz=132,SNR=8.1
P40A Paris 26.41 353 IAmb IAmb 23 13 14.6
comp=Z,7.4nm,0.7s
RTBA Rita Blanca 26.59 333 IAmb IAmb 23 13 14.8
comp=Z,10nm,0.9s
P38A Dawn 26.71 351 P P 23 13 10.4 -1.1
P38A IAmb IAmb 23 13 12.8
comp=Z,17nm,0.7s
P52A Corning 26.79 10 P P 23 13 13.8 +1.5
baz=193,SNR=7.4
KSU1 Kansas State U 26.84 345 P P 23 13 12.6 -0.2
KSU1 IAmb IAmb 23 13 34.4
comp=Z,14nm,1.1s
KSU1 Kansas State U 26.84 345 P P 23 13 14.2 +1.5
baz=161

Q56A	Snyder Ridge,	26.85	15	IAmb	IAmb	23 13 16.4			
	comp=Z,18nm,0.9s								
O48B	Farmland	27.02	5	P	P	23 13 15.3	+0.9		
	baz=186								
SFIN	Lafayette	27.03	2	P	P	23 13 14.8	+0.3		
	baz=182								
DUN6	Lazy B Ranch	27.20	318	IAmb	IAmb	23 13 21.6			
	comp=Z,21nm,1.2s								
HDIL	Hopedale	27.22	358	P	P	23 13 16.7	+0.5		
	baz=177								
ACSO	Alum Creek Sta	27.24	8	IAmb	IAmb	23 13 18.5			
	comp=Z,23nm,1.2s								
ACSO	Alum Creek Sta	27.24	8	P	P	23 13 17.0	+0.6		
	baz=191								
ANMO	Albuquerque	27.27	325	P	P	23 13 17.9	+0.9		
ANMO	Albuquerque	27.27	325	P	P	23 13 17.7	+0.7		
	baz=138								
ANMO	Albuquerque	27.27	325	LR	LR	23 26 30.8			
	comp=Z,98nm,19.6s,baz=223,slow=42								
O52A	Adamsville	27.31	10	P	P	23 13 17.5	+0.5		
NNA	Nana	27.43	156	LR	LR	23 23 43.1			
	comp=Z,49nm,18.8s,baz=346,slow=36								
CBKS	Cedar Bluff	27.49	340	P	P	23 13 19.3	+0.6		
	baz=155								
O53A	New Philadelph	27.55	11	P	P	23 13 20.0	+0.8		
	baz=194,SNR=6.9								
T25A	Trinidad	27.93	331	P	P	23 13 23.3	+0.5		
	baz=144								
N53A	Lisbon	28.16	12	P	P	23 13 25.1	+0.5		
TUC	Tucson	28.17	316	P	P	23 13 25.7	+0.8		
	baz=127								
N35A	Tabor	28.30	348	P	P	23 13 26.4	+0.6		
SSPA	Standing Stone	28.69	16	P	P	23 13 30.3	+1.0		
SSPA				IAmb	IAmb	23 13 32.0			
	comp=Z,10nm,0.8s								
SSPA	Standing Stone	28.69	16	P	P	23 13 30.2	+0.8		
	baz=201								
M53A	WI Miller and	28.80	12	P	P	23 13 31.4	+1.1		
M53A				IAmb	IAmb	23 13 32.5			
	comp=Z,22nm,1.0s								
M53A	WI Miller and	28.80	12	P	P	23 13 30.6	+0.2		
	baz=195								
L44A	Lake County Fo	28.82	0	P	P	23 13 31.7	+1.2		
	baz=180								
SDCO	Great Sand Dun	28.93	331	P	P	23 13 32.4	+0.5		
	baz=143,SNR=7.7								
N58A	Sunbury	29.21	18	IAmb	IAmb	23 13 36.6			
	comp=Z,12nm,1.0s								
ERPA	Erie	29.59	12	P	P	23 13 37.1	-0.2		
	baz=196								
JFWS	Jewell Farm	29.61	357	P	P	23 13 37.0	-0.5		
	baz=176								
Q24A	Divide	29.75	332	P	P	23 13 38.9	-0.3		
	baz=145								
X16A	Lo Mia Camp, P	29.90	319	P	P	23 13 41.4	+1.1		
MVCO	Mesa Verde	30.06	326	IAmb	IAmb	23 13 44.0			
	comp=Z,6.3nm,0.9s								
MVCO	Mesa Verde	30.06	326	P	P	23 13 41.6	-0.2		
	baz=137								
WVNY	West Valley, N	30.18	14	P	P	23 13 42.7	+0.2		
PAL	Palisades	30.28	21	P	P	23 13 43.8	+0.4		
	baz=208								
I42A	Draeger Farm,	30.54	359	IAmb	IAmb	23 13 49.5			
	comp=Z,7.0nm,0.8s								
WUAZ	Wupatki	30.56	321	P	P	23 13 47.6	+1.5		
WUAZ	Wupatki	30.56	321	P	P	23 13 45.8	-0.3		
	baz=131								
ISCO	Idaho Springs	30.64	333	P	P	23 13 47.4	+0.4		
	baz=145								
BINY	Binghamton	30.68	18	P	P	23 13 46.4	-0.6		
	baz=203,SNR=5.8								
L59A	Walton	30.96	19	P	P	23 13 50.1	+0.7		
J54A	Appleton	30.99	13	P	P	23 13 50.0	+0.4		
ECSD	EROS Data Cent	31.25	348	P	P	23 13 51.4	-0.6		
	baz=164,SNR=9.9								
J56A	Wolcott	31.43	16	P	P	23 13 53.7	+0.2		
ETMB	Extrema	31.54	136	P	P	23 13 56.3	+1.5		
GLMI	Grayling	31.60	5	P	P	23 13 54.8	-0.2		
	baz=186								
HMU	Henry Mountain	31.82	325	IAmb	IAmb	23 14 00.6			
	comp=Z,12nm,1.0s								
J58A	Remsen	31.95	18	P	P	23 13 57.9	-0.3		
J58A				IAmb	IAmb	23 14 00.3			
	comp=Z,9.6nm,0.9s								
L61B	Northampton	31.99	22	P	P	23 13 58.3	-0.2		
	baz=209								
SPMN	Marine on St.	32.12	354	IAmb	IAmb	23 14 00.0			
	comp=Z,13nm,0.8s								
SPMN	Marine on St.	32.12	354	P	P	23 13 59.2	-0.3		
	baz=171								
O20A	White River Ci	32.13	330	IAmb	IAmb	23 14 03.3			
	comp=Z,12nm,0.8s								
O20A	White River Ci	32.13	330	P	P	23 13 59.8	-0.2		
	baz=141,SNR=8.6								
SADO	Sadowa	32.31	12	IAmb	IAmb	23 14 02.8			
	comp=Z,12nm,0.8s								
PKCU	Pink Cliffs	32.39	322	IAmb	IAmb	23 14 05.8			
	comp=Z,17nm,1.3s								
DELO	Deloro Mine	32.40	14	IAmb	IAmb	23 14 03.8			
	comp=Z,19nm,1.2s								
HRV	Adam Dziewonsk	32.45	23	P	P	23 14 01.9	-0.7		
	baz=211								
SRU	San Rafael Swe	32.53	326	IAmb	IAmb	23 14 05.7			
	comp=Z,8.4nm,1.0s								
BELC	Belle Mtn. Jos	32.72	314	P	P	23 14 05.1	-0.1		
	baz=122								
COWI	Conover	32.75	359	IAmb	IAmb	23 14 05.4			
	comp=Z,10nm,0.9s								
P18A	Preston Nutter	32.76	327	IAmb	IAmb	23 14 07.9			
	comp=Z,6.1nm,1.0s								
F36A	Milaca	32.83	353	IAmb	IAmb	23 14 10.6			
	comp=Z,5.9nm,0.8s								
TPFO	Pinon Flats	32.84	313	P	P	23 14 05.5	-0.6		
	baz=121								
PFO	Pinyon Flats O	32.84	313	LR	LR	23 27 52.9			
	comp=Z,269nm,18.5s,baz=152,slow=37								
P17A	Butcher Ranch,	32.91	327	IAmb	IAmb	23 14 09.6			
	comp=Z,9.9nm,0.9s								
V12A	Nelson	32.91	318	P	P	23 14 07.3	+0.5		
LONY	Lake Ozonia	33.30	18	P	P	23 14 09.7	-0.2		
	baz=204,SNR=9.4								
K22A	Casper	33.37	335	P	P	23 14 09.8	-1.1		
	baz=146								
MPU	Maple Canyon	33.78	326	IAmb	IAmb	23 14 17.3			
	comp=Z,8.7nm,1.0s								
FRNY	Flat Rock	33.80	19	IAmb	IAmb	23 14 16.3			
	comp=Z,17nm,1.2s								
SHOC	Shoshone, Teco	33.95	317	P	P	23 14 15.5	-0.3		
	baz=124								
DUG	Dugway, Tooele	34.55	326	P	P	23 14 21.2	+0.2		
	baz=134								
D32A	Dogwood Acres,	34.60	349	P	P	23 14 19.9	-1.3		
EYMN	Ely	34.70	356	P	P	23 14 22.3	+0.2		
	baz=174								
BW06	Boulder Array	34.80	332	P	P	23 14 23.6	+0.4		
	baz=141								
PDAR	Pinedale Array	34.80	332	P	P	23 14 23.4	+0.1		
	comp=Z,1.1nm,0.9s,baz=135,slow=9.0,SNR=7.5								
PDAR				LR	LR	23 33 07.4			
	comp=Z,82nm,18.7s,baz=137,slow=44								
	comp=Z,1.1nm,0.9s								
HWUT	Hardware Ranch	34.89	328	IAmb	IAmb	23 14 26.1			
	comp=Z,7.2nm,1.1s								
R11B	Troy Canyon, C	34.96	321	P	P	23 14 24.6	0.0		
	baz=128								
LPAZ	La Paz	35.34	146	P	P	23 14 28.9	+0.3		
	comp=Z,1.1nm,0.6s,baz=345,slow=7.6,SNR=5.1								
LPAZ				LR	LR	23 30 40.5			
	comp=Z,207nm,19.1s,baz=322,slow=39								
	comp=Z,1.1nm,0.6s								
AHID	Auburn Hatcher	35.52	330	P	P	23 14 29.7	+0.2		
AHID				IAmb	IAmb	23 14 34.3			
	comp=Z,9.8nm,1.1s								
AGMN	Agassiz Nation	35.54	351	IAmb	IAmb	23 14 30.1			
	comp=Z,14nm,1.1s								
AGMN	Agassiz Nation	35.54	351	P	P	23 14 29.2	0.0		
	baz=167,SNR=6.5								
PKME	Peaks-Kenny Pk	35.66	23	P	P	23 14 30.1	-0.2		
	baz=212								
MDND	Maddock	35.81	347	P	P	23 14 31.8	+0.2		
	baz=160								
MDP	Montagnes des	35.83	100	LR	LR	23 31 48.9			
	comp=Z,264nm,18.7s,baz=277,slow=41								
LOHW	Long Hollow	35.93	332	P	P	23 14 32.8	-0.3		
LOHW				IAmb	IAmb	23 14 35.3			
	comp=Z,8.4nm,1.1s								
TPAW	Teton Pass	36.00	331	IAmb	IAmb	23 14 39.5			
	comp=Z,6.8nm,0.9s								
ELK	Elko	36.28	324	LR	LR	23 30 45.3			
	comp=Z,176nm,21.4s,slow=38								
FLWY	Flagg Ranch	36.34	332	P	P	23 14 37.3	+0.8		
FLWY				IAmb	IAmb	23 15 00.8			
	comp=Z,11nm,1.2s								
H17A	Grant Village	36.53	333	P	P	23 14 38.1	0.0		
NVAR	Mina Array Bea	36.72	319	P	P	23 14 41.3	+1.5		
NVAR	Mina Array Bea	36.72	319	P	P	23 14 41.9	+2.1		
	comp=Z,1.2nm,0.8s,baz=130,slow=8.3,SNR=7.9								
NVAR				LR	LR	23 32 18.5			
	comp=Z,303nm,19.3s,baz=119,slow=41								
	comp=Z,1.2nm,0.8s								
ULM	Lac du Bonnet	37.44	352	P	P	23 14 43.6	-1.8		
	comp=Z,4.2nm,0.9s,baz=162,slow=5.9,SNR=4.6								
	comp=Z,4.2nm,0.9s								
DGMT	Dagmar	37.58	342	P	P	23 14 47.5	+0.8		
	baz=154								
HLID	Hailey	37.76	328	P	P	23 14 49.3	+0.8		
	baz=135								
BOZ	Bozeman (W)	37.93	333	P	P	23 14 50.6	+0.7		
	baz=141								
EGMT	Eagleton	39.09	337	P	P	23 14 59.8	+0.2		
	baz=145								
BPMT	Black Pine Rid	39.39	332	P	P	23 15 03.1	+0.8		
SIV	San Ignacio	39.44	137	LR	LR	23 31 25.0			
	comp=Z,121nm,20.9s,baz=334,slow=36								
J08A	Circle Bar Ran	39.81	325	P	P	23 15 06.2	+0.6		
MSO	Missoula	39.91	332	P	P	23 15 06.3	-0.1		
MSO	Missoula	39.91	332	P	P	23 15 06.3	-0.1		
	baz=138								
LVC	Limon Verde	40.27	152	LR	LR	23 32 17.5			
	comp=Z,71nm,21.4s,baz=322,slow=37								
YBH	Yreka Blue Hor	41.37	320	LR	LR	23 35 06.0			
	comp=Z,261nm,19.2s,baz=157,slow=40								
NEW	Newport	42.43	331	LR	LR	23 36 21.7			
	comp=Z,156nm,19.2s,baz=170,slow=41								
H04A	Detroit Lake	42.73	324	P	P	23 15 30.1	+0.5		
FFC	Flin Flon	42.80	348	P	P	23 15 29.4	-0.5		
SCHQ	Schoolville	44.68	17	P	P	23 15 45.3	+0.2		
	comp=Z,3.7nm,0.7s,baz=212,slow=15,SNR=4.0								
SCHQ				LR	LR	23 35 05.1			
	comp=Z,128nm,18.4s,baz=280,slow=37								
	comp=Z,3.7nm,0.7s								
FCC	Fort Churchill	45.65	356	P	P	23 15 51.6	-1.0		
FCC				IAmb	IAmb	23 15 53.1			
	comp=Z,6.5nm,0.9s								
BRLDA	Berland Lookou	46.84	337	P	P	23 16 01.9	-0.4		
BRLDA				IAmb	IAmb	23 16 03.7			
	comp=Z,7.0nm,0.8s								
CO03	El Pedregal	46.91	159	P	P	23 16 05.9	+2.9		
CO03				IAmb	IAmb	23 16 09.3			
	comp=Z,9.2nm,1.1s								
VA03	San Esteban	48.72	160	P	P	23 16 18.5	+1.5		
BDFB	Brasilia	48.90	125	LR	LR	23 38 35.5			
	comp=Z,148nm,21.2s,baz=316,slow=38								
CPUP	Villa Florida	49.40	143	LR	LR	23 39 00.1			
	comp=Z,115nm,19.8s,baz=324,slow=38								
MT08	Bocatoma Ro	49.52	160	P	P	23 16 25.6	+2.3		
MT08				IAmb	IAmb	23 16 29.1			
	comp=Z,11nm,0.8s								
BBB	Bella Bella	50.34	329	LR	LR	23 39 20.3			
	comp=Z,78nm,18.3s,baz=155,slow=38								
FRB	Frobisher Bay	52.24	11	LR	LR	23 38 11.7			
	comp=Z,101nm,18.8s,baz=192,slow=35								
YKA	Yellowknife Ar	52.69	345	P	P	23 16 45.7	-0.8		
YKA	Yellowknife Ar	52.69	345	P	P	23 16 46.1	-0.4		
	comp=Z,3.2nm,0.8s,baz=137,slow=7.2,SNR=36								
	comp=Z,3.2nm,0.8s								
T35M	Bob Quinn	54.16	333	P	P	23 16 57.7	+0.3		
	baz=126								
DLBC	Dease Lake	54.94	335	LR	LR	23 46 07.9			
	comp=Z,97nm,18.5s,baz=113,slow=42								
WRGLY	Wrigley	55.77	341	P	P	23 17 09.1	+0.2		
	baz=137								
PLCA	Paso Flores	56.11	164	P	P	23 17 10.6	-1.2		
	comp=Z,1.9nm,0.8s,baz=353,slow=11,SNR=4.6								
PLCA				LR	LR	23 36 07.4			
	comp=Z,34nm,20.1s,baz=338,slow=31								
	comp=Z,1.9nm,0.8s								
P33M	Teslin, Yukon	57.15	335	P	P	23 17 18.9	0.0		
	baz=125								
P32M	Atlin	57.16	334	P	P	23 17 19.3	+0.3		
	baz=124								
S31K	Pelican	57.40	332	P	P	23 17 20.8	+0.2		
	baz=120								
N32M	Quiet Lake	57.80	336	P	P	23 17 23.1	-0.4		
	baz=125								
MMPY	Sheldon Lake,	57.99	338	P	P	23 17 24.0	-0.8		
	baz=128								
WHY	Whitehorse	58.24	335	P	P	23 17 25.4	-1.3		
	baz=123								
O30N	Mendenhall	58.80	335	P	P	23 17 28.9	-1.6		
	baz=122								
P30M	Million Dollar	58.83	334	P	P	23 17 29.7	-1.0		
	baz=121								
M31M	Drury Creek, Y	58.91	337	P	P	23 17 30.3	-0.9		
	baz=125								
P29M	Windy Craggy	58.92	333	P	P	23 17 30.5	-0.8		
	baz=120								
SFJD	Kangerlussuaq	59.10	16	LR	LR	23 44 31.8			
	comp=Z,76nm,18.2s,baz=218,slow=38								
HYT	Haines Junctio	59.42	334	P	P	23 17 33.6	-1.3		
	baz=121								
N30M	Aishikik Lake	59.58	335	P	P	23 17 34.6	-1.3		
	baz=121								
PNL	Peninsula	59.67	333	P	P	23 17 35.5	-1.0		
	baz=118								
YUK4	Talbot Arm	60.17	335	P	P	23 17 39.3	-0.8		
	baz=120								
YUK8	Steele Glacier	60.61	334	P	P	23 17 42.4	-0.8		
	baz=119								
M29M	Somme Creek	60.65	336	P	P	23 17 42.2	-1.0		
	baz=120								
L29M	L29M	60.86	336	P	P	23 17 43.5	-1.1		
	baz=121								
J30M	Hart River	60.98	338	P	P	23 17 44.5	-1.0		
	baz=124								
YUK3	Moose Creek	61.13	335	P	P	23 17 46.0	-0.7		
	baz=118								
I30M	Mount Dempster	61.35	339	P	P	23 17 47.2	-0.8		
	baz=124								
RES	Resolute Bay	61.54	358	P	P	23 17 49.1	+0.2		
RES				IAmb	IAmb	23 17 52.9			
	comp=Z,4.1nm,0.8s								
RES	Resolute Bay	61.54	358	LR	LR	23 44 56.7			
	comp=Z,94nm,19.1s,baz=184,slow=36								
G31M	Satah River	61.65	341	P	P	23 17 49.3	-0.5		
	baz=127								
F31M	Tsiigehtchic	61.80	342	P	P	23 17 50.0	-0.8		
	baz=128								
DAWY	Dawson	61.83	337	P	P	23 17 50.1	-1.1		
	baz=120								
M27K	Edge Creek, AK	62.00	335	P	P	23 17 51.2	-1.2		
	baz=117								
MCARA	McCarthy VSAT	62.05	333	P	P	23 17 51.8	-0.8		
	baz=115								
KAIM	Kayak Island	62.07	332	P	P	23 17 51.7	-1.0		
	baz=113								
EPYK	Eagle Plains	62.12	340	P	P	23 17 53.1	+0.1		
	baz=124								
INK	Inuvik	62.27	343	P	P	23 17 53.5	-0.5		
INK				IAmb	IAmb	23 18 05.2			
	comp=Z,3.9nm,1.1s								
INK	Inuvik	62.27	343	P	P	23 17 53.5	-0.5		
	baz=128								
INK	Inuvik	62.27	343	LR	LR	23 50 13.2			
	comp=Z,152nm,18.4s,baz=164,slow=41								
BCAR	Beaver Creek A	62.28	335	P	P	23 17 53.8	-0.4		
L27K	Beaver Creek,	62.30	335	P	P	23 17 53.5	-0.9		
	baz=117								
G30M	tAoh Zraii Nji	62.30	341	P	P	23 17 53.9	-0.4		
	baz=125								
F30M	Barrier River	62.53	341	P	P	23 17 55.2	-0.5		
	baz=126								
BMRM	Bremner River	62.58	333	P	P	23 17 55.8	-0.4		
	baz=114								
H29M	Whitestone	62.59	339	P	P	23 17 55.6	-0.6		
	baz=122								
I28M	Miner Creek	62.74	338	P	P	23 17 56.5	-0.7		
	baz=120								
A36M	Sachs Harbour	62.75	348	P	P	23 17 56.6	-0.5		
A36M				IAmb	IAmb	23 17 57.4			
	comp=Z,4.0nm,1.0s								
A36M	Sachs Harbour	62.75	348	P	P	23 17 56.3	-0.8		
	baz=138								
Q23K	Middleton Isla	62.79	331	P	P	23 17 56.4	-1.2		
	baz=111								
N25K	Chitina, Valde	62.83	333	P	P	23 17 56.7	-1.3		
	baz=114								
K27K	Chicken	62.85	336	P	P	23 17 56.5	-1.5		
	baz=118								
G29M	Pine Creek	62.85	340	P	P	23 17 56.2	-1.7		
	baz=123								
L26K	Log Cabin Wild	62.90	335	P	P	23 17 56.8	-1.5		
	baz=116								
EYAK	Cordova Ski Ar	62.93	332	P	P	23 17 57.5	-1.0		
	baz=112								
KLU	Klutina	63.37	333	P	P	23 18 00.2	-1.3		
	baz=113								
HARP	HAARP	63.40	334	P	P	23 18 00.5	-1.1		
	baz=114								
I27K	Kandik River	63.42	338	P	P	23 18 00.7	-1.1		
	baz=119								
SCRK	Sand Creek	63.58	336	P	P	23 18 01.8	-1.1		
	baz=116								
ICESG	Greenland Ices	63.59	17	*i* P	P	23 18 02.3	-0.9		
ICESG				IAmb	IAmb	23 18 07.6			
	comp=Z,7.0nm,0.8s								
E29M	Blow River	63.63	342	P	P	23 18 03.2	+0.2		
E29M				IAmb	IAmb	23 18 23.9			
	comp=Z,6.2nm,1.2s								
E29M	Blow River	63.63	342	P	P	23 18 01.8	-1.2		
	baz=124								
J26L	Joseph Creek	63.64	337	P	P	23 18 01.8	-1.5		
	baz=116								
H27K	Steamboat Moun	63.70	339	P	P	23 18 01.6	-2.0		
	baz=119								
M24K	Tolsona, Glenn	63.72	334	P	P	23 18 01.9	-1.9		
	baz=113								
F28M	Old Crow	63.84	340	P	P	23 18 04.3	-0.1		
F28M	Old Crow	63.84	340	P	P	23 18 03.1	-1.4		
	baz=121,SNR=12								
I26K	Coal Creek Min	63.85	337	P	P	23 18 03.5	-1.0		
	baz=117								
G27K	Doyon Strip	64.03	339	P	P	23 18 04.5	-1.2		
	baz=119								
TULEG	Thule	64.09	5	*i* P	P	23 18 05.6	-0.3		
TULEG				IAmb	IAmb	23 18 09.1			
	comp=Z,17nm,0.9s								
K24K	Donnelly Dome	64.22	335	P	P	23 18 05.9	-1.2		
	baz=114								
E28M	Babbage River	64.25	341	P	P	23 18 07.1	-0.1		
E28M				IAmb	IAmb	23 18 28.0			
	comp=Z,11nm,1.5s								
E28M	Babbage River	64.25	341	P	P	23 18 06.4	-0.8		
	baz=122								
J25K	Salcha River,	64.39	336	P	P	23 18 07.2	-1.0		
	baz=115								
D28M	Stokes Point	64.41	342	P	P	23 18 07.5	-0.6		
	baz=123								
SEW	Seward	64.50	331	P	P	23 18 07.6	-1.2		
	baz=109								
SML	Sawmill	64.55	333	P	P	23 18 08.0	-1.3		
	baz=110								
E27K	Coleen River	64.69	341	P	P	23 18 08.6	-1.4		
	baz=120								
O22K	Cooper Landing	64.75	331	P	P	23 18 08.8	-1.6		
	baz=108								
PRP	Porcupine Dome	64.83	337	P	P	23 18 09.4	-1.8		
	baz=115								
PMR	Palmer	64.84	332	P	P	23 18 09.5	-1.5		
	baz=110								
HDA	Harding Lake	64.94	336	P	P	23 18 10.2	-1.5		
	baz=113								
RC01	Rabbit Creek A	64.95	332	P	P	23 18 10.7	-1.1		
	baz=109								
BRSE	Bradley Lake S	65.00	330	P	P	23 18 10.4	-1.8		
	baz=107								
WAT1	Susitna Watana	65.01	334	P	P	23 18 11.0	-1.2		
	baz=111								
D27M	Malcolm River	65.03	342	P	P	23 18 10.8	-1.4		
	baz=121								
ILAR	Eielson Array	65.06	336	P	P	23 18 12.0	-0.5		
ILAR	Eielson Array	65.06	336	P	P	23 18 11.2	-1.2		
	comp=Z,1.5nm,1.0s,baz=106,slow=5.4,SNR=9.4								
ILAR				LR	LR	23 54 07.0			
	comp=Z,65nm,18.3s,baz=110,slow=43								
	comp=Z,1.5nm,1.0s								
H25L	Birch Creek	65.26	338	P	P	23 18 12.2	-1.5		
	baz=115								
F26K	Sheenjek River	65.30	340	P	P	23 18 12.3	-1.8		
	baz=117								
BMAR	Burnt Mountain	65.33	339	P	P	23 18 14.2	0.0		
KDAK	Kodiak Island	65.38	328	P	P	23 18 13.2	-1.5		
	baz=105								
KDAK	Kodiak Island	65.38	328	LR	LR	23 47 27.1			
	comp=Z,79nm,18.1s,baz=165,slow=37								
POKR	Poker Plat Res	65.41	336	P	P	23 18 13.1	-1.6		
	baz=113								
MCK	McKinley	65.50	335	P	P	23 18 13.4	-1.9		
	baz=111								
CAPN	Captain Cook N	65.50	331	P	P	23 18 14.1	-1.3		
	baz=107								
SUA	Susitna One	65.53	332	P	P	23 18 13.9	-1.8		
	baz=108								
G25K	Bearman Lake	65.58	338	P	P	23 18 14.2	-1.6		
	baz=115								
F25K	Christian Rive	65.77	339	P	P	23 18 14.8	-2.3		
	baz=116								
H24K	Noodoo Dome	65.86	337	P	P	23 18 15.5	-2.2		
	baz=113								
NEA2	Nenana	65.86	336	P	P	23 18 15.8	-1.9		
	baz=111								
SUMG	Summit	65.95	15	P	P	23 18 17.6	-1.0		
SUMG	Summit	65.95	15	*i* P	P	23 18 17.3	-1.3		
SUMG				IAmb	IAmb	23 18 19.2			
	comp=Z,12nm,1.2s								
TRF	Thorofare Moun	65.97	334	P	P	23 18 16.2	-2.3		
	baz=109								
E25K	Arctic Village	65.97	340	P	P	23 18 16.2	-2.1		
	baz=116								
SKT	Skwentna	66.04	332	P	P	23 18 16.6	-2.3		
	baz=108								
C27K	Jago River	66.06	342	P	P	23 18 17.3	-1.6		
	baz=118								
I23K	Minto, Yukon-K	66.17	336	P	P	23 18 19.0	-0.6		
	baz=111								
P19K	Oil Pt	66.19	330	P	P	23 18 18.0	-1.9		
	baz=105								
Q19K	Cape Douglas,	66.21	329	P	P	23 18 18.2	-1.9		
	baz=104								
BPAW	Bear Paw Mtn.	66.47	335	P	P	23 18 19.7	-1.9		
	baz=109								

	baz=106							
L19K	**White Mountain**	**67.60**	**332**	P		**P**	**23 18 27.3**	**-1.5**
	baz=104							
C24K	**Franklin Bluff**	**67.67**	**341**	P		**P**	**23 18 27.9**	**-1.1**
	baz=113							
N18K	**Kilae Creek**	**67.73**	**330**	P		**P**	**23 18 28.6**	**-1.1**
	baz=103							
J20K	**Nowinta River**	**67.82**	**334**	P		**P**	**23 18 29.5**	**-0.7**
	baz=106							
M18K	**Stony River**	**67.88**	**331**	P		**P**	**23 18 29.6**	**-0.9**
	baz=103							
PPT	**Papeete**	**68.02**	**245**	LR		LR	23 41 48.4	
	comp=Z,76nm,19.5s,baz=99,slow=30							
PPT2	**Papeete2**	**68.03**	**245**	*e*S		**S**	**23 27 39.5**	**+7.3**
	comp=Z,58nm,23.0s							
PPT2	**Papeete2**	**68.03**	**245**	*e*LR		LR	23 38 56.8	
PPT2				*e*LR		LR	23 38 58.4	
	comp=Z,190nm,27.2s							
D23K	**Nanushuk River**	**68.04**	**340**	P		**P**	**23 18 31.4**	**-0.1**
	baz=111							
F22K	**John River**	**68.06**	**338**	P		**P**	**23 18 30.8**	**-0.8**
	baz=109							
E22K	**Anaktuvuk Pass**	**68.13**	**339**	P		**P**	**23 18 30.8**	**-1.3**
	baz=110							
G21K	**Allakaket**	**68.24**	**337**	P		**P**	**23 18 32.2**	**-0.6**
	baz=107							
C23K	**Itkillik River**	**68.33**	**341**	P		**P**	**23 18 32.5**	**-0.7**
	baz=112							
F21K	**Alatna River**	**68.44**	**338**	P		**P**	**23 18 33.3**	**-0.8**
F21K				IAmb		IAmb	23 18 54.6	
	comp=Z,5.8nm,1.1s							
F21K	**Alatna River**	**68.44**	**338**	P		**P**	**23 18 33.5**	**-0.6**
	baz=108							
D22K	**Ayikyak River**	**68.69**	**339**	P		**P**	**23 18 35.2**	**-0.3**
	baz=109							
J18K	**Innoko River**	**68.74**	**333**	P		**P**	**23 18 35.3**	**-0.6**
	baz=103							
S14K	**Fog Glacier**	**68.82**	**325**	P		**P**	**23 18 35.6**	**-1.1**
	baz=98							
H19K	**Roundabout Mou**	**69.12**	**336**	P		**P**	**23 18 37.1**	**-1.1**
	baz=104							
L17K	**Donlin**	**69.17**	**332**	P		**P**	**23 18 38.1**	**-0.5**
	baz=101							
SDPT	**Sand Point**	**69.22**	**324**	P		**P**	**23 18 38.7**	**-0.3**
	baz=97							
F20K	**Avaraart Lake**	**69.23**	**337**	P		**P**	**23 18 37.9**	**-1.0**
	baz=106							
K17K	**Iditarod**	**69.28**	**332**	P		**P**	**23 18 37.9**	**-1.4**
	baz=102							
B22K	**Teshekpuk Lake**	**69.41**	**341**	P		**P**	**23 18 38.5**	**-1.4**
	baz=109							
C21K	**Knifeblade Rid**	**69.49**	**339**	P		**P**	**23 18 39.2**	**-1.3**
	baz=107							
G19K	**Purcell Mounta**	**69.53**	**336**	P		**P**	**23 18 39.6**	**-1.1**
	baz=104							
B21K	**Ikpikpuk River**	**69.57**	**340**	P		**P**	**23 18 40.1**	**-0.8**
	baz=108							
L16K	**Owhat River**	**69.64**	**331**	P		**P**	**23 18 40.1**	**-1.4**
	baz=100							
E20K	**Nigu River**	**69.73**	**338**	P		**P**	**23 18 40.7**	**-1.3**
	baz=106							
H18K	**Honhosa River**	**69.82**	**335**	P		**P**	**23 18 41.4**	**-1.2**
	baz=102							
E19K	**Redstone River**	**69.90**	**337**	P		**P**	**23 18 42.2**	**-0.9**
	baz=104							
F19K	**Shaleruckik Mo**	**69.96**	**337**	P		**P**	**23 18 42.1**	**-1.3**
	baz=103							
D20K	**Etivluk River**	**70.00**	**339**	P		**P**	**23 18 42.6**	**-1.0**
	baz=105							
G18K	**Tagagawik**	**70.09**	**336**	P		**P**	**23 18 42.9**	**-1.4**
	baz=102							
A22K	**Sinclair Lake**	**70.11**	**341**	P		**P**	**23 18 42.9**	**-1.3**
	baz=108							
O14K	**Tigyukauivet M**	**70.13**	**328**	P		**P**	**23 18 43.9**	**-0.7**
	baz=98							
TBI	**Tubuai**	**70.23**	**239**	*e*LR		LR	23 40 05.0	
	comp=Z,765nm,28.8s							
J16K	**Anvik River**	**70.42**	**333**	P		**P**	**23 18 46.0**	**-0.3**
	baz=100							
N14K	**Kuskokwak Cree**	**70.43**	**329**	P		**P**	**23 18 45.6**	**-0.8**
	baz=97							
B20K	**Meade River**	**70.53**	**340**	P		**P**	**23 18 45.8**	**-1.0**
	baz=105							
I17K	**Unalakleet**	**70.56**	**333**	P		**P**	**23 18 46.0**	**-1.1**
	baz=100							
E17K	**Hotham Inlet**	**71.57**	**337**	P		**P**	**23 18 51.1**	**-2.1**
	baz=100							
DAG	**Danmarks Havn**	**72.50**	**13**	*i* P		**P**	**23 18 57.0**	**-1.6**
DAG				IAmb		IAmb	23 18 58.2	
	comp=Z,3.2nm,1.0s							
ANM	**Nome**	**72.68**	**334**	P		**P**	**23 18 58.1**	**-1.8**
	baz=96							
JMIC	**Jan Mayen**	**74.14**	**20**	LR		LR	23 52 23.9	
	comp=Z,24nm,18.2s,baz=259,slow=36							
GAMB	**Gambell**	**75.41**	**333**	P		**P**	**23 19 13.4**	**-2.4**
	baz=90							
EKA	**Eskdalemuir Ar**	**76.31**	**36**	P		**P**	**23 19 22.2**	**+1.0**
	comp=Z,2.2nm,0.7s,baz=266,slow=4.3,SNR=8.7							
	comp=Z,2.2nm,0.7s							
ESDC	**Sonseca Array**	**77.15**	**52**	P		**P**	**23 19 27.1**	**+0.8**
ESDC	**Sonseca Array**	**77.15**	**52**	P		**P**	**23 19 27.3**	**+1.0**
	comp=Z,2.7nm,1.0s,baz=282,slow=4.3,SNR=10							
ESDC				LR		LR	23 49 55.8	
	comp=Z,42nm,21.2s,baz=270,slow=33							
	comp=Z,2.7nm,1.0s							
MDT	**Midelt**	**77.48**	**59**	LR		LR	23 49 30.9	
	comp=Z,72nm,19.4s,baz=312,slow=33							
RAR	**Rarotonga**	**78.30**	**245**	LR		LR	23 46 01.8	
	comp=Z,54nm,19.9s,baz=218,slow=30							
DBIC	**Dimbokro**	**81.89**	**85**	LR		LR	23 50 07.1	
	comp=Z,64nm,21.4s,baz=260,slow=31							
NOA	**NORSAR Array B**	**82.94**	**29**	P		**P**	**23 19 57.0**	**-0.2**
	comp=Z,1.3nm,1.1s,baz=283,slow=5.4,SNR=2.5							
NOA				LR		LR	23 55 16.0	
	comp=Z,45nm,18.9s,baz=245,slow=35							
	comp=Z,1.3nm,1.1s							
HFS	**Hagfors**	**84.37**	**30**	LR		LR	23 54 22.0	
	comp=Z,60nm,20.8s,baz=274,slow=33							
ARCES	**ARCESS Array B**	**85.61**	**19**	P		**P**	**23 20 09.5**	**-1.0**
	comp=Z,1.7nm,1.0s,baz=295,slow=4.9,SNR=1.9							
	comp=Z,1.7nm,1.0s							
DAVOX	**Davos/Dischmat**	**85.79**	**43**	LR		LR	23 58 09.3	
	comp=Z,61nm,18.8s,baz=262,slow=35							
CLL	**Collm**	**86.54**	**38**	*e*P		**P**	**23 20 15.0**	**-0.5**
VRAC	**Vranov**	**89.35**	**39**	LR		LR	23 56 07.5	
	comp=Z,105nm,20.8s,baz=280,slow=33							
FINES	**FINESS Array B**	**89.50**	**26**	P		**P**	**23 20 27.6**	**-1.8**
	comp=Z,1.2nm,1.0s,baz=300,slow=13,SNR=2.3							
	comp=Z,1.2nm,1.0s							
SEY	**Seymchan**	**90.99**	**337**	LR		LR	00 06 35.3	
	comp=Z,44nm,19.7s,baz=347,slow=39							
MA2	**Magadan**	**93.47**	**334**	LR		LR	00 06 55.7	
	comp=Z,41nm,20.6s,baz=50,slow=38							
YAK	**Yakutsk**	**99.33**	**343**	LR		LR	00 14 50.6	
	comp=Z,34nm,18.1s,baz=14,slow=41							
WRA	**Warramunga Arr**	**138.93**	**255**	PKP		**PKPdf**	**23 26 57.8**	**-2.0**
	comp=Z,1.7nm,0.8s,baz=89,slow=2.2,SNR=7.7							
ASAR	**Alice Springs**	**139.03**	**249**	PKhKP		PKPpre	23 26 53.5	
	comp=Z,0.3nm,0.6s,baz=123,slow=3.4,SNR=1.6							

*IDC **08** 23:14:41.9±1.0, 10°.95S×163°.40E, h0km, mb3.9/7, mbtmp3.9/8, ML4.2/1, Error ellipse: s-maj=34.1km s-min=25.6km az=122.0*

ISC 08 23:14:46.8±0.8, 11°.05S±0°.1×163°.4E±0°.2, h31km, n8, σ0s98/9, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.41**	**165**	Pn	**Pn**	**23 17 27.9**	**+0.2**
	1.6nm,0.3s,baz=3.2,slow=18,SNR=36						
	4.4nm,0.3s						
WRA	**Warramunga Arr**	**29.32**	**249**	P	**P**	**23 20 47.5**	**+0.6**
	1.1nm,0.5s,baz=79,slow=9.2,SNR=9.9						
WRA				PcP	**PcP**	**23 23 51.0**	**-2.2**
	0.5nm,0.7s,baz=87,slow=2.0,SNR=1.9						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**30.75**	**242**	P	**P**	**23 20 59.5**	**-0.1**
	0.6nm,0.6s,baz=68,slow=10.0,SNR=7.5						
	0.6nm,0.6s						
SONM	**Songino Array**	**77.25**	**325**	P	**P**	**23 26 38.4**	**+0.3**
	0.4nm,0.7s,baz=127,slow=6.2,SNR=2.4						
	0.4nm,0.7s						
QSPA	**South Pole Qui**	**79.02**	**180**	P	**P**	**23 26 47.8**	**+0.1**
	2.3nm,0.9s,baz=269,slow=4.3,SNR=4.7						
	2.3nm,0.9s						
ILAR	**Eielson Array**	**84.21**	**19**	P	**P**	**23 27 14.4**	**-0.4**
	0.6nm,0.9s,baz=238,slow=5.2,SNR=4.2						
	0.6nm,0.9s						
NVAR	**Mina Array Bea**	**87.77**	**50**	P	**P**	**23 27 33.9**	**+0.5**
	1.0nm,0.9s,baz=238,slow=5.2,SNR=4.7						
	1.0nm,0.9s						
MKAR	**Makanchi Array**	**91.89**	**317**	P	**P**	**23 27 52.6**	**+0.4**
	0.3nm,0.7s,baz=77,slow=6.2,SNR=2.6						
	0.3nm,0.7s						

*IDC **08** 23:17:06.6±1.0, 10°.94S×163°.45E, h0km, mb4.0/7, mbtmp4.0/8, ML4.1/1, Error ellipse: s-maj=34.9km s-min=25.6km az=122.0*

*NEIC **08** 23:17:08.6±2.2, 11°.05S±0°.1×163°.7E±0°.1, h10km±1km, mb4.5/16, Error ellipse: s-maj=25.7km s-min=17.7km az=45.0*

ISC 08 23:17:08.3±0.8, 11°.05S±0°.1×163°.5E±0°.1, h10km, n29, σ1s03/28, mb4.4/16, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**3.86**	**293**		**Pn**	**23 18 09.6**	**+1.8**
DZM	**Mont Dzumac**	**11.36**	**166**	Pn	**Pn**	**23 19 51.8**	**+0.9**
DZM	**Mont Dzumac**	**11.36**	**166**	Pn	**Pn**	**23 19 51.4**	**+0.5**
	1.4nm,0.3s,baz=324,slow=16,SNR=8.8						
	3.4nm,0.4s						
WR0	**Warramunga Arr**	**29.30**	**249**	P	**P**	**23 23 10.3**	**-0.9**
WB0	**Warramunga Arr**	**29.39**	**249**	P	**P**	**23 23 10.4**	**-1.6**
WB0				IAmb	IAmb	23 23 52.4	
	comp=Z,9.0nm,1.4s						
WB2	**Warramunga Arr**	**29.47**	**249**	P	**P**	**23 23 12.2**	**-0.5**
WB2				IAmb	IAmb	23 23 24.2	
	comp=Z,12nm,1.3s						
WRA	**Warramunga Arr**	**29.48**	**249**	P	**P**	**23 23 11.1**	**-1.8**
WRA	**Warramunga Arr**	**29.48**	**249**	P	**P**	**23 23 12.0**	**-0.8**
	comp=Z,1.1nm,0.5s,baz=80,slow=9.1,SNR=6.6						
	comp=Z,1.1nm,0.5s						
ASAR	**Alice Springs**	**30.90**	**242**	P	**P**	**23 23 24.1**	**-1.3**
	comp=Z,1.1nm,0.8s,baz=62,slow=10,SNR=5.3						
	comp=Z,1.1nm,0.8s						
PSA00	**Pilbara Seismi**	**43.11**	**250**	P	**P**	**23 25 08.8**	**-0.4**
PSA00				IAmb	IAmb	23 25 12.5	
	comp=Z,6.0nm,0.8s						
MBWA	**Marble Bar**	**43.17**	**251**	P	**P**	**23 25 09.2**	**-0.5**
MBWA				IAmb	IAmb	23 25 15.8	
	comp=Z,10nm,1.2s						
SONM	**Songino Array**	**77.36**	**325**	P	**P**	**23 29 03.9**	**+0.3**
	comp=Z,0.6nm,0.6s,baz=128,slow=3.9,SNR=3.1						
	comp=Z,0.6nm,0.6s						
GTA	**Gaotai**	**77.47**	**315**	*e*P	P	23 29 10.2	+5.8
GTA				pP	PcP	23 29 15.8	+1.0
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
QSPA	**South Pole Qui**	**79.01**	**180**	P	**P**	**23 29 13.0**	**+0.5**
QSPA	**South Pole Qui**	**79.01**	**180**	P	**P**	**23 29 13.0**	**+0.5**
	comp=Z,0.0nm,1.0s,baz=11,slow=2.2,SNR=3.6						
	comp=Z,3.0nm,1.0s						
L18K	**Granite Mounta**	**79.27**	**18**	P	**P**	**23 29 10.9**	**-2.7**
J17K	**VABM Dome**	**79.50**	**16**	P	**P**	**23 29 16.0**	**+1.1**
J18K	**Innoko River**	**80.22**	**17**	P	**P**	**23 29 18.6**	**-0.2**
G19K	**Purcell Mounta**	**82.20**	**15**	P	**P**	**23 29 30.0**	**+0.7**
G19K				IAmb	IAmb	23 29 30.5	
	comp=Z,4.0nm,1.1s						
IMAR	**Indian Mountai**	**82.97**	**16**	P	**P**	**23 29 33.0**	**-0.2**
E19K	**Redstone River**	**83.19**	**14**	P	**P**	**23 29 35.0**	**+0.6**
E19K				IAmb	IAmb	23 29 53.3	
	comp=Z,6.7nm,1.5s						
G21K	**Allakaket**	**83.43**	**16**	P	**P**	**23 29 35.5**	**-0.1**
F21K	**Alatna River**	**83.96**	**15**	P	**P**	**23 29 38.6**	**+0.3**
ILAR	**Eielson Array**	**84.16**	**19**	P	**P**	**23 29 38.5**	**-0.9**
	comp=Z,1.5nm,1.1s,baz=236,slow=6.9,SNR=6.4						
	comp=Z,1.5nm,1.1s						
J25K	**Salcha River,**	**84.55**	**20**	P	**P**	**23 29 41.1**	**-0.4**
J25K				IAmb	IAmb	23 29 43.6	
	comp=Z,5.6nm,1.4s						
SCRK	**Sand Creek**	**84.61**	**21**	P	**P**	**23 29 41.0**	**-0.9**
SCRK				IAmb	IAmb	23 29 54.5	
	comp=Z,5.1nm,1.4s						
NVAR	**Mina Array Bea**	**87.65**	**50**	P	**P**	**23 29 57.9**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=220,slow=5.4,SNR=5.7						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**92.01**	**317**	P	**P**	**23 30 16.7**	**-0.9**
	comp=Z,0.3nm,0.7s,baz=90,slow=5.8,SNR=2.6						
	comp=Z,0.3nm,0.7s						
BR231	**Keskin MP Arra**	**127.92**	**312**	PKPdf	**PKPdf**	**23 36 15.0**	**0.0**

*IDC **08** 23:18:30.7±5.2, 37°.48N×71°.61E, h78km±30km, mb3.5/3, mbtmp3.6/10, MS3.6/2, Error ellipse: s-maj=68.0km s-min=23.3km az=145.0*

*NNC **08** 23:18:39.2±2.6, 38°.16N×71°.83E, h254km±41km, mb2.0, mpv3.3, Error ellipse: s-maj=29.9km s-min=16.3km az=10.0*

ISC 08 23:18:31.7±2.0, 37°.5N±0°.2×71°.6E±0°.1, h100km, n17, σ1s26/20, mb3.8/3, 7C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**5.58**	**23**	⇑P	**Pn**	**23 19 53.8**	**+1.4**
	1.9nm,0.4s						
AAK				⇑S	**Sn**	**23 20 54.9**	**-0.4**
	13nm,0.8s						
AAK	**Ala-Archa**	**5.58**	**23**	P	**Pn**	**23 19 53.3**	**+0.9**
	3.0nm,0.3s,baz=184,slow=6.4,SNR=12						
AAK				S	**Sn**	**23 20 55.0**	**-0.2**
	6.1nm,0.5s,baz=330,slow=22,SNR=16						
KK31	**Karatay Array**	**5.64**	**352**	⇑P	**Pn**	**23 19 55.0**	**+1.8**
	2.0nm,0.3s,baz=165,slow=12						
KK31				⇓S	**Sn**	**23 20 56.4**	**-0.2**
	7.5nm,0.4s,baz=166,slow=20						
CHMS	**Chumysh**	**5.99**	**23**	⇑P	**Pn**	**23 19 58.2**	**+0.4**
	2.5nm,0.5s						
CHMS				⇑S	**Sn**	**23 21 03.2**	**-1.8**
	4.3nm,0.6s						
TKM2	**Tokmak 2**	**6.21**	**28**	⇑P	**Pn**	**23 20 02.2**	**+1.2**
	0.8nm,0.4s						
TKM2				⇓S	**Sn**	**23 21 08.9**	**-1.7**
	3.2nm,0.8s						
GEYT	**Alibeck**	**10.69**	**276**	P	**Pn**	**23 21 00.1**	**-1.6**
	1.3nm,0.3s,baz=110,slow=10.0,SNR=5.7						
MKAR	**Makanchi Array**	**12.19**	**37**	P	**Pn**	**23 21 20.9**	**-1.0**
	0.1nm,0.4s,baz=239,slow=16,SNR=1.7						
KURBB	**Kurchatov Arra**	**14.01**	**19**	P	**Pn**	**23 21 45.6**	**+0.1**
	0.3nm,0.5s,baz=203,slow=12,SNR=1.7						
AB31	**Akbulak array**	**14.45**	**328**	⇓P	**Pn**	**23 21 49.5**	**-1.7**
	0.1nm,0.3s,baz=134,slow=13,SNR=7.4						
AB31				⇑S	Sn	23 24 20.7	-10
	0.6nm,0.7s,baz=158,slow=19,SNR=5.5						
BVAR	**Borovoye Array**	**15.54**	**357**	P	**Pn**	**23 22 05.1**	**+0.1**
	0.6nm,0.4s,baz=154,slow=13,SNR=3.5						
AKTO	**Aktyubinsk**	**16.16**	**327**	P	**P**	**23 22 14.1**	**0.0**
	0.7nm,0.3s,baz=140,slow=10,SNR=6.2						
ZALV	**Zalesovo Beam**	**18.80**	**25**	P	**P**	**23 22 43.0**	**0.0**
	0.7nm,0.4s,baz=228,slow=10,SNR=4.8						
MLR	**Muntele Rosu**	**34.72**	**298**	LR	LR	23 45 29.6	
	comp=Z,54nm,18.9s,baz=306,slow=47						
FINES	**FINESS Array B**	**36.92**	**325**	P	**P**	**23 25 32.2**	**+1.7**
	1.3nm,1.0s,baz=114,slow=9.5,SNR=3.5						
	1.3nm,1.0s						
ARCES	**ARCESS Array B**	**40.40**	**337**	P	**P**	**23 26 00.8**	**+1.4**
	3.3nm,1.1s,baz=113,slow=9.2,SNR=1.9						
	3.3nm,1.1s						
HFS	**Hagfors**	**42.57**	**321**	P	**P**	**23 26 18.6**	**+1.3**
	0.5nm,0.5s,baz=109,slow=7.8,SNR=5.1						
	0.5nm,0.5s						
TSUM	**Tsumeb**	**75.92**	**232**	LR	LR	00 08 01.8	
	comp=Z,68nm,19.6s,baz=290,slow=39						

*GUC **08** 23:32:30.8±0.6, 21°.85S×68°.52W, h115km±3km, ML3.2*
*SJA **08** 23:32:30.7±1.9, 21°.85S×68°.53W, h100km, ML3.3, MW3.5*

ISC 08 23:32:30.6±1.4, 21°.84S±0°.03×68°.64W±0°.05, h127km±9km, n35, σ0s88/69, 6C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.56**	**274**	*e*P	**Pn**	**23 32 49.7**	**-0.3**
PB09				*e*S	**Sn**	**23 33 05.9**	**+1.3**
PB09				IAML		23 33 06.1	
	comp=Z,450nm,0.7s						
PB09	**IPOC Station P**	**0.56**	**274**	⇑*i*P	**Pn**	**23 32 49.7**	**-0.3**
PB09				*e*S	**Sn**	**23 33 04.1**	**-0.5**
PB09				IAML		23 33 07.7	
	comp=E,496nm,0.4s						
LVC	**Limon Verde**	**0.81**	**198**	*e*P	**Pn**	**23 32 51.0**	**-0.9**
LVC				*e*S	**Sn**	**23 33 09.0**	**+0.8**
LVC	**Limon Verde**	**0.81**	**198**	*e*P	**Pn**	**23 32 50.8**	**-1.2**
LVC				*e*S	**Sn**	**23 33 06.7**	**-1.4**
LVC				IAML		23 33 07.9	
	comp=E,1μm,0.4s						
PB01	**IPOC Station P**	**1.12**	**315**	*e*P	**Pn**	**23 32 54.3**	**-0.3**
PB01				*e*S	**Sn**	**23 33 13.8**	**+1.1**
PB01				IAML		23 33 15.4	
	comp=Z,243nm,0.4s						
PB01	**IPOC Station P**	**1.12**	**315**	⇑*i*P	**Pn**	**23 32 54.1**	**-0.5**
PB01				*e*S	**Sn**	**23 33 12.3**	**-0.4**
PB01				IAML		23 33 14.8	
	comp=E,558nm,0.1s						
PB07	**IPOC Station P**	**1.17**	**275**	*e*P	**Pn**	**23 32 55.1**	**0.0**
PB07				*e*S	**Sn**	**23 33 14.8**	**+1.1**
PB07				IAML		23 33 15.3	
	comp=Z,326nm,0.2s						
PB07	**IPOC Station P**	**1.17**	**275**	⇑*i*P	**Pn**	**23 32 55.0**	**-0.1**
PB07				*e*S	**Sn**	**23 33 13.5**	**-0.2**
PB07				IAML		23 33 15.4	
	comp=N,631nm,0.2s						
PB06	**IPOC Station P**	**1.22**	**225**	*e*P	**Pn**	**23 32 55.6**	**-0.1**
PB06				*e*S	**Sn**	**23 33 15.3**	**+0.6**
PB06				IAML		23 33 16.2	
	comp=Z,237nm,0.5s						
PB06	**IPOC Station P**	**1.22**	**225**	⇓*i*P	**Pn**	**23 32 55.6**	**-0.1**
PB06				*e*S	**Sn**	**23 33 14.6**	**-0.1**
PB06				IAML		23 33 16.8	
	comp=E,255nm,0.3s						
PB02	**IPOC Station P**	**1.28**	**294**	*e*P	**Pn**	**23 32 56.1**	**-0.1**
PB02				*e*S	**Sn**	**23 33 16.4**	**+0.7**
PB02				IAML		23 33 17.1	
	comp=Z,773nm,0.4s						
PB02	**IPOC Station P**	**1.28**	**294**	⇑*i*P	**Pn**	**23 32 56.0**	**-0.1**
PB02				*e*S	**Sn**	**23 33 15.5**	**-0.1**
PB02				IAML		23 33 16.4	
	comp=E,798nm,0.4s						
PB04	**IPOC Station P**	**1.49**	**250**	*e*P	**Pn**	**23 32 58.7**	**+0.1**
PB04				*e*S	**Sn**	**23 33 20.7**	**+0.9**
PB04				IAML		23 33 21.9	
	comp=Z,154nm,0.1s						
PB04	**IPOC Station P**	**1.49**	**250**	*e*P	**Pn**	**23 32 58.5**	**0.0**
PB04				*e*S	**Sn**	**23 33 19.6**	**-0.1**
PB04				IAML		23 33 23.4	
	comp=N,245nm,0.2s						
PB15	**IPOC Station P**	**1.57**	**209**	*e*P	**Pn**	**23 32 59.7**	**+0.2**
PB15				*e*S	**Sn**	**23 33 22.4**	**+0.9**
PB15				IAML		23 33 34.4	
	comp=Z,645nm,0.2s						
PB15	**IPOC Station P**	**1.57**	**209**	*e*P	**Pn**	**23 32 59.4**	**-0.1**
PB15				*e*S	**Sn**	**23 33 21.5**	**0.0**
PATCX	**Punta Patache**	**1.74**	**305**	*e*P	**Pn**	**23 33 01.6**	**+0.2**
PATCX				*e*S	**Sn**	**23 33 27.0**	**+2.1**
PATCX				IAML		23 33 27.6	
	comp=Z,382nm,0.6s						
PATCX	**Punta Patache**	**1.74**	**305**	*e*P	**Pn**	**23 33 01.4**	**0.0**
PATCX				*e*S	**Sn**	**23 33 25.0**	**+0.2**
PATCX				IAML		23 33 26.5	
	comp=E,438nm,0.3s						
PB08	**IPOC Station P**	**1.76**	**344**	*e*P	**Pn**	**23 33 02.3**	**+0.3**
PB08				*e*S	**Sn**	**23 33 27.3**	**+1.5**
PB08	**IPOC Station P**	**1.76**	**344**	⇑*i*P	**Pn**	**23 33 02.2**	**+0.3**
PB08				*e*S	**Sn**	**23 33 25.5**	**-0.3**
PB08				IAML		23 33 27.4	
	comp=E,152nm,0.6s						
PB05	**IPOC Station P**	**1.77**	**235**	*e*P	**Pn**	**23 33 01.7**	**0.0**
PB05				*e*S	**Sn**	**23 33 25.3**	**-0.2**
PB05	**IPOC Station P**	**1.77**	**235**	*e*P	**Pn**	**23 33 01.6**	**-0.1**
PB05				*e*S	**Sn**	**23 33 25.2**	**-0.2**
PB05				IAML		23 33 36.5	
	comp=E,106nm,0.4s						
TA01	**Diego Aracena**	**1.92**	**311**	*e*P	**Pn**	**23 33 03.3**	**-0.2**
TA01				*e*S	**Sn**	**23 33 29.3**	**+0.8**
TA01				IAML		23 33 29.6	
	comp=Z,92nm,0.5s						
TA01	**Diego Aracena**	**1.92**	**311**	*e*P	**Pn**	**23 33 03.0**	**-0.5**
TA01				*e*S	**Sn**	**23 33 28.3**	**-0.2**
TA01				IAML		23 33 31.9	
	comp=E,301nm,0.5s						
HMBC	**Humberstone**	**1.94**	**323**	*e*P	**Pn**	**23 33 03.1**	**-0.8**
HMBC				*e*S	**Sn**	**23 33 29.9**	**+0.6**
HMBC				IAML		23 33 32.5	
	comp=Z,372nm,0.4s						
TA02	**Huaiquique**	**2.10**	**318**	*e*P	**Pn**	**23 33 06.3**	**+0.7**
TA02				*e*S	**Sn**	**23 33 32.8**	**+0.4**
TA02				IAML		23 33 37.0	
	comp=Z,211nm,0.1s						
GO01	**Chusmiza**	**2.22**	**346**	*e*P	**Pn**	**23 33 07.7**	**0.0**
GO01				*e*S	**Sn**	**23 33 38.4**	**+2.4**
GO01				IAML		23 33 40.5	
	comp=Z,66nm,0.1s						
GO01	**Chusmiza**	**2.22**	**346**	*e*P	**Pn**	**23 33 07.5**	**-0.2**
GO01				*e*S	**Sn**	**23 33 35.7**	**-0.4**
GO01				IAML		23 33 39.8	
	comp=N,183nm,0.2s						
PB11	**IPOC Station P**	**2.28**	**335**	*e*P	**Pn**	**23 33 07.3**	**-0.7**
PB11				*e*S	**Sn**	**23 33 36.9**	**+0.1**
PB11				IAML		23 33 37.2	
	comp=Z,164nm,1.1s						
PB11	**IPOC Station P**	**2.28**	**335**	⇑*i*P	**Pn**	**23 33 07.4**	**-0.6**
PB11				*e*S	**Sn**	**23 33 36.3**	**-0.5**
YJA	**Yavi**	**2.92**	**97**	*e*P	**Pn**	**23 33 16.8**	**+0.3**
YJA				*e*S	**Sn**	**23 33 51.4**	**-0.3**
PB14	**IPOC Station P**	**3.21**	**210**	*e*S	**Sn**	**23 33 56.9**	**-1.6**
PB14				IAML		23 34 10.0	
	comp=Z,58nm,0.4s						
GO02	**Mina Guanaco**	**3.42**	**195**	*e*P	**Pn**	**23 33 22.6**	**-0.3**
GO02				*e*S	**Sn**	**23 34 02

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.12**	**12**	P	Pg	23 49 30.1	+0.3
KUA				S	Sg	23 49 31.9	+0.6
KOVU	**Salmi**	**0.39**	**354**	P	Pg	23 49 35.0	+0.1

*AEIC **08** 23:50:16.6±2.5, 52.4°N±0.1°×167.6°W±0.1°, h41km±9km, Error ellipse: s-maj=18.4km s-min=10.9km az=156.0*
*NEIC **08** 23:50:17.8±2.2, 52.5°N±0.1°×167.66°W±0.08°, h26km±10km, mb3.6/33, ML3.5/6, ML3.1(AEIC), Error ellipse: s-maj=16.0km s-min=6.7km az=194.0*
*IDC **08** 23:50:22.6±5.2, 54.08°N×167.85°W, h0km, mb3.7/7, mbtmp3.8/8, ML3.1/1, MS3.1/1, Error ellipse: s-maj=125.6km s-min=23.6km az=169.0*

ISC 08 23:50:17.4±1.6, **52.5°N**±0.2°×**167.6°W**±0.1°, **h28km**, **n58**, **σ1§24/56**, **mb3.6/8**, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKH	**Nikolski High**	**0.91**	**304**		**Pn**	**23 50 33.5**	**-0.8**
CLES	**Cleveland East**	**1.44**	**285**		**Pn**	**23 50 41.4**	**-0.2**
CLES				IAML		23 50 56.8	
	comp=E,593nm,1.0s						
CLES				IAML		23 51 11.8	
	comp=N,626nm,0.7s						
UNV	**Unalaska Valle**	**1.54**	**25**	Pn	**Pn**	**23 50 41.5**	**-1.4**
ATKA	**Atka Island**	**4.05**	**269**	Pn	**Pn**	**23 51 18.8**	**+1.4**
ATKA				IAML		23 52 26.7	
	comp=N,42nm,1.4s						
SPIA	**Saint Paul Isl**	**4.96**	**343**	Pn	**Pn**	**23 51 30.0**	**+0.1**
SDPT	**Sand Point**	**5.11**	**53**	Pn	**Pn**	**23 51 32.6**	**+0.7**
SDPT				IAML		23 53 51.1	
	comp=N,52nm,1.4s						
CHGN	**Chignik**	**6.60**	**51**	Pn	**Pn**	**23 51 53.5**	**+1.1**
O16K	**Kokwok River B**	**8.90**	**33**	Pn	**Pn**	**23 52 24.9**	**+1.0**
KDAK	**Kodiak Island**	**10.11**	**52**	Pn	**Pn**	**23 52 39.3**	**-1.2**
	comp=N,0.2nm,0.3s,baz=270,slow=9.1,SNR=1.7						
	comp=N,12nm,1.0s						
K15K	**Wolf Creek Mou**	**10.38**	**16**	Pn	**Pn**	**23 52 44.8**	**+0.7**
L19K	**White Mountain**	**11.90**	**30**	Pn	**Pn**	**23 53 05.6**	**+0.6**
SUA	**Susitna One**	**12.84**	**39**	Pn	**Pn**	**23 53 18.1**	**+0.2**
SCM	**Sheep Creek Mo**	**14.40**	**41**	Pn	**Pn**	**23 53 37.2**	**-1.9**
BPAW	**Bear Paw Mtn.**	**14.51**	**30**	P	**P**	**23 53 45.1**	**-1.8**
KLU	**Klutina**	**14.81**	**44**	Pn	**Pn**	**23 53 42.2**	**-2.5**
H21K	**Melozitna Rive**	**15.20**	**24**	P	**P**	**23 53 55.9**	**+1.3**
IMAR	**Indian Mountai**	**15.24**	**22**	P	**P**	**23 53 56.1**	**+1.1**
MLY	**Manley**	**15.26**	**28**	P	**P**	**23 53 54.1**	**-1.2**
G21K	**Allakaket**	**15.74**	**21**	P	**P**	**23 54 00.8**	**+0.3**
G21K				IAmb	IAmb	23 54 04.0	
	comp=Z,6.4nm,1.4s						
WAX	**Waxell Ridge**	**15.77**	**50**	P	**P**	**23 54 02.5**	**+1.6**
VRDI	**Verde Repeater**	**15.77**	**47**		**Pn**	**23 53 56.8**	**-0.6**
VRDI				IAmb	IAmb	23 54 17.5	
	comp=Z,6.1nm,1.3s						
E19K	**Redstone River**	**15.87**	**15**	Pn	**Pn**	**23 53 59.2**	**+0.7**
E19K				IAmb	IAmb	23 54 33.9	
	comp=Z,5.0nm,1.5s						
ISLE	**Juniper Island**	**16.06**	**50**	Pn	**Pn**	**23 54 01.1**	**+0.1**
H23K	**Yukon River**	**16.19**	**27**	P	**P**	**23 54 05.0**	**-0.5**
F21K	**Alatna River**	**16.34**	**20**	P	**P**	**23 54 08.1**	**+0.9**
BARN	**Barnard Glacie**	**16.52**	**48**	Pn	**Pn**	**23 54 05.6**	**-1.4**
BARN				IAmb	IAmb	23 54 16.3	
	comp=Z,2.8nm,0.7s						
C18K	**Utukok River**	**16.52**	**8**	P	**P**	**23 54 10.7**	**+1.4**
CTGM	**Chitina Glacie**	**16.64**	**49**	Pn	**Pn**	**23 54 07.0**	**-1.4**
CTGM				IAmb	IAmb	23 54 13.5	
	comp=Z,3.5nm,0.9s						
H24K	**Noodor Dome**	**16.68**	**29**	Pn	**Pn**	**23 54 09.3**	**+0.5**
D22K	**Ayikyak River**	**17.92**	**18**		**Pn**	**23 54 23.8**	**-0.4**
D22K				IAmb	IAmb	23 54 42.8	
	comp=Z,5.2nm,1.2s						
E24K	**Your Creek**	**18.16**	**23**		**P**	**23 54 27.9**	**+0.6**
B21K	**Ikpikpuk River**	**18.25**	**15**		**Pn**	**23 54 27.3**	**-0.9**
B21K				IAmb	IAmb	23 55 03.8	
	comp=Z,4.5nm,1.4s						
M29M	**Somme Creek**	**18.42**	**46**		**P**	**23 54 30.2**	**0.0**
BMAR	**Burnt Mountain**	**18.73**	**28**	P	**P**	**23 54 33.7**	**+0.2**
N30M	**Aishikik Lake**	**18.75**	**49**	P	**Pn**	**23 54 35.5**	**+1.1**
N30M				IAmb	IAmb	23 54 38.5	
	comp=Z,4.9nm,1.1s						
E25K	**Arctic Village**	**18.93**	**26**	P	**P**	**23 54 35.8**	**0.0**
B22K	**Teshekpuk Lake**	**19.08**	**15**	P	**P**	**23 54 37.6**	**+0.4**
B22K				IAmb	IAmb	23 54 49.3	
	comp=Z,5.8nm,1.2s						
I28M	**Miner Creek**	**19.09**	**36**	P	**P**	**23 54 37.9**	**+0.4**
I28M				IAmb	IAmb	23 54 53.1	
	comp=Z,3.2nm,1.1s						
C23K	**Itkillik River**	**19.13**	**18**	P	**P**	**23 54 38.1**	**+0.4**
C23K				IAmb	IAmb	23 55 03.0	
	comp=Z,4.8nm,1.4s						
G27K	**Doyon Strip**	**19.23**	**32**	P	**P**	**23 54 37.9**	**-1.1**
D25K	**Kavik River**	**19.61**	**23**	P	**P**	**23 54 43.5**	**+0.3**
D25K				IAmb	IAmb	23 54 49.6	
	comp=Z,3.5nm,0.9s						
H29M	**Whitestone**	**20.03**	**35**	P	**P**	**23 54 46.3**	**-1.4**
H29M				IAmb	IAmb	23 55 01.9	
	comp=Z,2.6nm,0.7s						
M31M	**Drury Creek, Y**	**20.18**	**48**	P	**P**	**23 54 50.9**	**+1.6**
F28M	**Old Crow**	**20.27**	**31**	P	**P**	**23 54 49.7**	**-0.6**
PETK	**Petropavlovsk-**	**20.88**	**286**	P	Pn	23 55 01.3	+1.7
	comp=Z,1.8nm,0.5s,baz=73,slow=13,SNR=7.3						
	comp=Z,1.8nm,0.5s						
E28M	**Babbage River**	**20.95**	**29**	P	**P**	**23 54 57.1**	**-0.5**
E28M				IAmb	IAmb	23 55 00.5	
	comp=Z,4.4nm,1.5s						
E29M	**Blow River**	**21.32**	**30**	P	**P**	**23 54 59.9**	**-1.7**
E29M				IAmb	IAmb	23 55 03.9	
	comp=Z,2.1nm,1.1s						
MMPY	**Sheldon Lake,**	**21.69**	**48**	P	**P**	**23 55 06.5**	**+0.9**
G31M	**Satah River**	**21.81**	**36**	P	**P**	**23 55 04.2**	**-2.6**
G31M				IAmb	IAmb	23 55 16.4	
	comp=Z,2.7nm,1.0s						
INK	**Inuvik**	**22.68**	**33**	P	**P**	**23 55 13.5**	**-2.6**
INK				IAmb	IAmb	23 55 30.0	
	comp=Z,1.2nm,0.7s						
INK	**Inuvik**	**22.68**	**33**	P	**P**	**23 55 12.6**	**-3.5**
	comp=Z,1.3nm,0.8s,baz=243,slow=7.4,SNR=3.8						
	comp=Z,1.3nm,0.8s						
A36M	**Sachs Harbour**	**26.82**	**28**	P	**P**	**23 55 54.0**	**-0.8**
YKA	**Yellowknife Ar**	**29.36**	**49**	P	**P**	**23 56 19.3**	**+1.8**
	comp=Z,0.2nm,0.7s,baz=283,slow=9.0,SNR=2.3						
	comp=Z,0.2nm,0.7s						
YBH	**Yreka Blue Hor**	**31.90**	**91**	LR	LR	00 05 35.2	
	comp=Z,39nm,21.9s,baz=316,slow=28						
BVAR	**Borovoye Array**	**64.25**	**325**	P	**P**	**00 00 49.5**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=52,slow=8.1,SNR=6.0						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array**	**64.52**	**314**	P	**P**	**00 00 51.5**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=51,slow=5.2,SNR=1.6						
	comp=Z,0.1nm,0.4s						
FINES	**FINESS Array B**	**65.92**	**353**	P	**P**	**00 00 59.5**	**-0.6**
	comp=Z,1.4nm,0.6s,baz=23,slow=9.2,SNR=13						
	comp=Z,1.4nm,0.6s						
HFS	**Hagfors**	**67.75**	**359**	P	**P**	**00 01 11.2**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=29,slow=3.3,SNR=16						
	comp=Z,1.3nm,0.3s						

*NEIC **09** 00:03:18.6±1.7, 19.45°N±0.06°×65.18°W±0.09, h35km±2km, ML2.6/22, Md3.3/3(RSPR), Error ellipse: s-maj=15.8km s-min=8.7km az=67.0*
*RSPR **09** 00:03:21.2, 19.41°N×65.26°W, h70km±10km, MD3.3/3*

ISC 09 00:03:18.9±3.7, **19.4°N**±0.2°×**65.2°W**±0.2°, **h26km**±24km, **n28**, **σ1§27/36**, **3C-5D**, **Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.36**	**218**		**Pn**	**00 03 41.8**	**-0.5**
HUMP	**Col San Antoni**	**1.39**	**207**	‖eP	**Pb**	**00 03 44.1**	**0.0**
HUMP	**Col San Antoni**	**1.39**	**207**	eS	**Sn**	**00 04 01.2**	**+1.2**
HUMP	**Col San Antoni**	**1.39**	**207**		**Pn**	**00 03 43.4**	**+0.9**
HUMP					**Sn**	**00 03 55.6**	**-4.4**
EMPR	**Esperanza - Ma**	**1.56**	**235**	Pn	**Pn**	**00 03 43.5**	**-1.4**
EMPR				IAML		00 04 10.6	
	comp=N,131nm,1.4s						
EMPR				IAML		00 04 14.6	
	comp=E,158nm,2.2s						
IGPR	**InterUniversit**	**1.66**	**212**	‖eP	**Pn**	**00 03 47.6**	**+1.3**
IGPR	**InterUniversit**	**1.66**	**212**	eS	**Sn**	**00 04 08.0**	**+1.2**
IGPR	**InterUniversit**	**1.66**	**212**	Pn	**Pn**	**00 03 45.6**	**-0.7**
IGPR				Sn	**Sn**	**00 04 06.6**	**-0.1**
IGPR				IAML		00 04 11.5	
	comp=N,42nm,0.3s						
IGPR				IAML		00 04 11.7	
	comp=E,56nm,0.3s						
AOPR	**Arecibo Observ**	**1.81**	**235**	‖eP	**Pn**	**00 03 49.0**	**+0.7**
AOPR	**Arecibo Observ**	**1.81**	**235**	eS	**Sn**	**00 04 11.1**	**+0.7**
AOPR	**Arecibo Observ**	**1.81**	**235**	Pn	**Pn**	**00 03 47.4**	**-1.0**
AOPR				Sn	**Sn**	**00 04 10.7**	**+0.3**
AOPR				IAML		00 04 13.3	
	comp=N,88nm,0.4s						
UUPR	**Utuado, UPR, P**	**1.83**	**232**	‖eP	**Pn**	**00 03 49.4**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.83**	**232**	eS	**Sn**	**00 04 11.3**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.83**	**232**	Pn	**Pn**	**00 03 47.4**	**-1.4**
UUPR				Sn	**Sn**	**00 04 09.3**	**-1.8**
CELP	**Cerrillos**	**1.85**	**225**	‖eP	**Pn**	**00 03 49.7**	**+0.7**
CELP	**Cerrillos**	**1.85**	**225**	eS	**Sn**	**00 04 10.8**	**-0.8**
CELP	**Cerrillos**	**1.85**	**225**	Pn	**Pn**	**00 03 49.1**	**+0.1**
CELP				Sn	**Sn**	**00 04 09.8**	**-1.7**
CELP				IAML		00 04 22.6	
	comp=N,24nm,3.0s						
OBIP	**Obispado Ponce**	**1.89**	**225**	‖eP	**Pn**	**00 03 50.3**	**+0.8**
OBIP	**Obispado Ponce**	**1.89**	**225**	eS	**Sn**	**00 04 14.2**	**+1.7**
OBIP	**Obispado Ponce**	**1.89**	**225**	Pn	**Pn**	**00 03 48.9**	**-0.6**
OBIP				Sn	**Sn**	**00 04 13.1**	**+0.5**
OBIP				IAML		00 04 24.5	
	comp=N,25nm,2.9s						
OBIP				IAML		00 04 35.3	
	comp=E,20nm,2.9s						
AGPR	**Aguadilla, PR**	**2.03**	**244**	Pn	**Pn**	**00 03 51.3**	**-0.2**
MLPR	**Magueyes Islan**	**2.25**	**231**	‖eP	**Pn**	**00 03 55.3**	**+0.9**
MLPR	**Magueyes Islan**	**2.25**	**231**	eS	**Sn**	**00 04 21.9**	**+0.5**
MLPR	**Magueyes Islan**	**2.25**	**231**	Pn	**Pn**	**00 03 54.3**	**-0.1**
MLPR				Sn	**Sn**	**00 04 20.6**	**-0.8**
MLPR				IAML		00 04 24.1	
	comp=E,31nm,2.6s						
MLPR				IAML		00 04 59.9	
	comp=N,30nm,2.5s						
CRPR	**Cabo Rojo, PR**	**2.28**	**233**	‖eP	**Pn**	**00 03 55.5**	**+0.8**
CRPR	**Cabo Rojo, PR**	**2.28**	**233**	eS	**Sn**	**00 04 24.4**	**+2.4**
CRPR	**Cabo Rojo, PR**	**2.28**	**233**	Pn	**Pn**	**00 03 54.5**	**-0.3**
CRPR				IAML		00 04 11.7	
	comp=E,40nm,1.9s						
CRPR				Sn	**Sn**	**00 04 22.5**	**+0.5**
CRPR				IAML		00 05 08.9	
	comp=N,35nm,2.8s						
SDDR	**Presa de Saban**	**5.77**	**267**	Pn	**Pn**	**00 04 43.0**	**0.0**

*NEIC **09** 00:11:04.3±0.9, 19.31°N±0.02°×155.218°W±0.009, h10km±1km, Error ellipse: s-maj=2.6km s-min=2.1km az=4.0*

HVO 09 00:11:04.4±1.0, **19.29N**±0.02°×**155.22W**±0.01, **h8km**±2km, **ML2.9**/18, **ML3.1**/44(NEIC), **Error ellipse: s-maj=2.7km s-min=1.3km az=157.0**, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.08**	**2**	Pg	Pg	00 11 06.6	-0.1
PUH				Sg	Sg	00 11 08.2	-0.1
PUH				IAML		00 11 08.5	
	comp=E,12μm,0.3s						
PUH				IAML		00 11 08.5	
	comp=N,8μm,0.2s						
HLP	**Hilina Pali**	**0.08**	**271**	Pg	Pg	00 11 07.0	+0.4
HLP				Sg	Sg	00 11 09.2	+0.9
KNHH	**Kane Nui o Ham**	**0.10**	**29**		Pg	00 11 06.8	-0.1
KKO	**Keanakako`i**	**0.11**	**337**	Pg	Pg	00 11 06.8	-0.3
KKO				Sg	Sg	00 11 09.3	+0.3
KKO				IAML		00 11 09.6	
	comp=E,8μm,0.3s						
RIM	**Rim**	**0.11**	**333**	Pg	Pg	00 11 07.0	-0.1
RIM				Sg	Sg	00 11 09.2	+0.2
SDHHI	**Sand Hill**	**0.12**	**323**	Pg	Pg	00 11 06.8	-0.4
SDHHI				Sg	Sg	00 11 08.9	-0.3
SDHHI				IAML		00 11 10.5	
	comp=E,7μm,0.5s						
SDHHI				IAML		00 11 11.3	
	comp=N,12μm,0.5s						
BYL	**Byron's Ledge**	**0.12**	**342**	Pg	Pg	00 11 06.8	-0.6
BYL				IAML		00 11 09.9	
	comp=N,5μm,0.8s						
BYL				IAML		00 11 11.4	
	comp=E,8μm,0.6s						
STCH	**Steam Cracks**	**0.13**	**45**	Pg	Pg	00 11 06.9	-0.4
STCH				Sg	Sg	00 11 09.6	+0.2
NPH	**North Pit**	**0.13**	**334**	Pg	Pg	00 11 07.4	-0.1
NPH				IAML		00 11 10.1	
	comp=N,3μm,0.4s						
HATHI	**Halema`uma`u T**	**0.13**	**343**	Pg	Pg	00 11 07.0	-0.5
HATHI				Sg	Sg	00 11 09.4	-0.1
HATHI				IAML		00 11 09.9	
	comp=E,8μm,0.5s						
HATHI				IAML		00 11 10.8	
	comp=N,5μm,1.0s						
WRMHI	**West Rim**	**0.14**	**326**	Pg	Pg	00 11 06.9	-0.6
WRMHI				Sg	Sg	00 11 10.0	+0.3
WRMHI				IAML		00 11 12.4	
	comp=N,6μm,0.6s						
SBLHI	**Steaming Bluff**	**0.14**	**341**	Pg	Pg	00 11 07.2	-0.4
SBLHI				Sg	Sg	00 11 09.5	-0.3
SBLHI				IAML		00 11 11.9	
	comp=E,5μm,0.5s						
SBLHI				IAML		00 11 11.9	
	comp=N,5μm,0.5s						
UWB	**Uwekahuna B**	**0.14**	**337**	Pg	Pg	00 11 06.9	-0.6
JCUZ	**Jacuzzi**	**0.14**	**51**	Pg	Pg	00 11 07.4	-0.2
JCUZ				Sg	Sg	00 11 09.7	-0.1
NPOC	**North of Pu`u**	**0.14**	**47**	Pg	Pg	00 11 07.3	-0.3
NPOC				Sg	Sg	00 11 09.8	+0.1
UWE	**Uwekahuna**	**0.14**	**331**	Pg	Pg	00 11 07.4	-0.2
UWE				Sg	Sg	00 11 10.3	+0.4
UWE				IAML		00 11 11.5	
	comp=E,7μm,0.5s						
UWE				IAML		00 11 12.3	
	comp=N,6μm,0.5s						
RSD	**Rainshed**	**0.18**	**342**	Pg	Pg	00 11 07.7	-0.5
RSD				Sg	Sg	00 11 10.8	0.0
HTC	**Hot Caves**	**0.18**	**251**		Pg	00 11 08.8	+0.7
JOKA	**Jonika Flow**	**0.25**	**56**		Pg	00 11 09.6	+0.2
JOKA					Sg	00 11 13.8	+1.0
MLH	**Mauna Loa**	**0.25**	**322**	Pg	Pg	00 11 09.5	-0.1
MLH				Sg	Sg	00 11 13.5	+0.4
MLH				IAML		00 11 15.4	
	comp=N,2μm,0.2s						
MLH				IAML		00 11 15.7	
	comp=E,2μm,0.2s						
KHU	**Kahuku**	**0.38**	**263**	Pg	Pg	00 11 11.8	-0.1
KHU				Sg	Sg	00 11 17.7	+0.8
KHU				IAML		00 11 18.1	
	comp=E,1μm,0.6s						
KHU				IAML		00 11 20.9	
	comp=N,889nm,0.4s						
HMH	**Humu`ula Sheep**	**0.40**	**321**	Pg	Pg	00 11 11.9	-0.4
HMH				Sg	Sg	00 11 18.2	+0.7
MWH	**Moku`aweowe**	**0.40**	**298**	Pg	Pg	00 11 12.1	-0.4
MWH				Sg	Sg	00 11 18.9	+1.0
MWH				IAML		00 11 19.6	
	comp=E,3μm,0.7s						
MWH				IAML		00 11 21.1	
	comp=N,2μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.41**	**306**	Pg	Pg	00 11 12.1	-0.6
MLOA				Sg	Sg	00 11 18.7	+0.6
MLOA				IAML		00 11 19.3	
	comp=E,3μm,0.5s						
ALEP	**Alea Permanent**	**0.47**	**302**		Pg	00 11 13.0	-0.7
POHA	**Pohakuloa**	**0.55**	**327**	Pg	Pg	00 11 14.3	-0.8
POHA				Sg	Sg	00 11 21.9	-0.4
HUH	**Hualalai**	**0.70**	**304**	Pg	Pg	00 11 16.8	-1.2
HUH				Sg	Sg	00 11 27.7	+0.6
HPAH	**Hawaii Prepara**	**0.86**	**328**	Pg	Pg	00 11 18.2	-2.7
HPAH				Sg	Sg	00 11 28.4	-3.8
MHA	**Mahukona**	**1.10**	**324**	Pg	Pg	00 11 21.9	-3.6

KRSC 09 00:17:35.7±1.8, **49.74N**×**159.03E**, **h39km**±42km, **MI3.7**, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDTR	**Khodutka, Kamc**	**2.16**	**344**	eP	Pn	00 18 11.7	+2.7
RUS	**Russkaya**	**2.72**	**353**	eP	Pn	00 18 19.6	+2.9
RUS				eS	Sn	00 18 51.5	+3.2
ASAK	**Asacha**	**2.74**	**345**	eP	Pn	00 18 19.7	+2.5
MTVR	**Mutnovka**	**2.80**	**349**	eP	Pn	00 18 21.4	+3.4
MTVR				eS	Sn	00 18 54.8	+4.2
KRMR	**Karymshinskiy**	**3.15**	**350**	eP	Pn	00 18 26.1	+3.5
UGLR	**Uglovaya**	**3.48**	**358**	eP	Pn	00 18 30.7	+3.4
SMAR	**Somma**	**3.53**	**358**	eP	Pn	00 18 33.2	+5.1
AVH	**Avacha**	**3.53**	**357**	eP	Pn	00 18 32.9	+4.8
KOK	**Koryaka**	**3.56**	**356**	eP	Pn	00 18 32.4	+3.9
KRER	**Koryakskii**	**3.57**	**357**	eP	Pn	00 18 33.4	+4.8
KRX	**Arik**	**3.63**	**356**	eP	Pn	00 18 32.5	+3.0
GNL	**Ganaly**	**4.02**	**351**	eP	Pn	00 18 39.7	+5.0
TUMD	**Tumrok D**	**5.53**	**8**	eP	Pn	00 18 59.2	+3.7

*IDC **09** 00:17:59.6±1.7, 49.51°N×158.91°E, h0km, mb3.4/3, mbtmp3.4/4, ML2.7/1, MS2.7/2, Error ellipse: s-maj=45.1km s-min=29.3km az=96.0*
*KRSC **09** 00:18:02.9±1.6, 49.68°N×159.00°E, h60km±39km, Ml4.1*
*MOS **09** 00:18:04.0±0.8, 49.63°N×158.89°E, h48km, mb3.8/1, Error ellipse: s-maj=30.5km s-min=5.4km az=92.5*

ISC 09 00:18:04.6±1.3, **49.59N**±0.09°×**159.01E**±0.08°, **h35km**, **n39**, **σ0§91/50**, **mb3.5/3**, **East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.16**	**301**	eP	**Pn**	**00 18 37.2**	**-0.7**
SKR				eS	**Sn**	**00 19 03.3**	**-0.2**
SKR	**Severo-Kuril's**	**2.16**	**301**	ePN	**Pn**	**00 18 37.3**	**-0.7**
SKR				eS	**Sn**	**00 19 03.6**	**+0.1**
SKR				pmax	pmax		
	comp=Z,119nm,0.4s						
SKR				smax	smax		
	comp=N,678nm,0.7s						
SKR				smax	smax		
	comp=E,456nm,0.5s						
SKR				MLR	MLR		
	comp=Z,300nm,11.0s						
KDTR	**Khodutka, Kamc**	**2.30**	**345**	eP	**Pn**	**00 18 39.3**	**-0.6**
KDTR				eS	**Sn**	**00 19 06.8**	**-0.1**
KDTR	**Khodutka, Kamc**	**2.30**	**345**	PN	**Pn**	**00 18 39.3**	**-0.6**
KDTR				S	**Sn**	**00 19 06.8**	**-0.1**
RUS	**Russkaya**	**2.86**	**354**	eP	**Pn**	**00 18 46.9**	**-0.8**
RUS				eS	**Sn**	**00 19 19.7**	**-1.1**
RUS	**Russkaya**	**2.86**	**354**	PN	**Pn**	**00 18 46.9**	**-0.8**
RUS				S	**Sn**	**00 19 19.7**	**-1.1**
ASAK	**Asacha**	**2.88**	**346**	eP	**Pn**	**00 18 48.1**	**+0.1**
ASAK	**Asacha**	**2.88**	**346**	PN	**Pn**	**00 18 48.2**	**+0.1**
MTVR	**Mutnovka**	**2.94**	**350**	eP	**Pn**	**00 18 48.6**	**-0.3**
MTVR				eS	**Sn**	**00 19 22.4**	**-0.6**
MTVR	**Mutnovka**	**2.94**	**350**	PN	**Pn**	**00 18 48.6**	**-0.3**
MTVR				S	**Sn**	**00 19 22.4**	**-0.6**
KRMR	**Karymshinskiy**	**3.29**	**351**	eP	**Pn**	**00 18 53.7**	**+0.1**
KRMR				eS	**Sn**	**00 19 32.1**	**+0.7**
KRMR	**Karymshinskiy**	**3.29**	**351**	PN	**Pn**	**00 18 53.7**	**+0.1**
KRMR				S	**Sn**	**00 19 32.1**	**+0.7**
DALK	**Dalny**	**3.45**	**357**	eP	**Pn**	**00 18 55.5**	**-0.2**
DALK				eS	**Sn**	**00 19 34.2**	**-1.0**
DALK	**Dalny**	**3.45**	**357**	PN	**Pn**	**00 18 55.5**	**-0.2**
DALK				S	**Sn**	**00 19 34.2**	**-1.0**
SPN	**Mys Shipunski**	**3.57**	**10**	eP	**Pn**	**00 18 57.0**	**-0.4**
SPN				eS	**Sn**	**00 19 37.6**	**-0.6**
SPN	**Mys Shipunski**	**3.57**	**10**	PN	**Pn**	**00 18 57.0**	**-0.4**
SPN				S	**Sn**	**00 19 37.7**	**-0.6**
PETK	**Petropavlovsk-**	**3.61**	**347**	Pn	**Pn**	**00 18 58.1**	**+0.1**
	comp=Z,3.4nm,0.3s,baz=136,slow=15,SNR=28						
PETK				Sn	**Sn**	**00 19 42.6**	**+3.1**
	comp=Z,1.2nm,0.3s,baz=145,slow=26,SNR=1.2						
PETK				LR	LR	00 20 33.1	
	comp=Z,66nm,19.2s,baz=188,slow=42						
	comp=Z,5.8nm,0.4s						
SMAR	**Somma**	**3.68**	**358**	eP	**Pn**	**00 19 00.4**	**+1.3**
SMAR	**Somma**	**3.68**	**358**	PN	**Pn**	**00 19 00.4**	**+1.3**
AVH	**Avacha**	**3.68**	**357**	eP	Pn	**00 19 00.7**	**+1.7**
AVH	**Avacha**	**3.68**	**357**	PN	Pn	**00 19 00.7**	**+1.7**
KOK	**Koryaka**	**3.71**	**357**	eP	**Pn**	**00 19 00.5**	**+1.0**
KOK	**Koryaka**	**3.71**	**357**	PN	**Pn**	**00 19 00.5**	**+1.0**
KRER	**Koryakskii**	**3.72**	**358**	eP	**Pn**	**00 19 01.0**	**+1.3**
KRER	**Koryakskii**	**3.72**	**358**	PN	**Pn**	**00 19 01.0**	**+1.3**
KRX	**Arik**	**3.78**	**357**	eP	**Pn**	**00 19 01.5**	**+1.1**
KRX	**Arik**	**3.78**	**357**	PN	**Pn**	**00 19 01.5**	**+1.1**
GNL	**Ganaly**	**4.16**	**351**	eP	**Pn**	**00 19 06.2**	**+0.6**
GNL	**Ganaly**	**4.16**	**351**	PN	**Pn**	**00 19 06.2**	**+0.6**
KII	**Karymskiy**	**4.46**	**3**	eP	**Pn**	**00 19 09.9**	**+0.2**
KII	**Karymskiy**	**4.46**	**3**	PN	**Pn**	**00 19 09.9**	**+0.2**
TUMD	**Tumrok D**	**5.68**	**8**	eP	**Pn**	**00 19 26.7**	**+0.2**
TUMD				eS	**Sn**	**00 20 28.3**	**-2.1**
TUMR	**Tumrok**	**5.74**	**7**	PN	**Pn**	**00 19 26.7**	**-0.6**
KMNR	**Kamenistaya**	**6.22**	**6**	eP	Pn	00 19 35.6	+1.7
KMNR	**Kamenistaya**	**6.22**	**6**	PN	Pn	00 19 35.6	+1.7
YAK	**Yakutsk**	**20.43**	**319**	LR	LR	00 32 46.8	
	comp=Z,30nm,18.3s,baz=73,slow=43						
YKA	**Yellowknife Ar**	**46.25**	**40**	P	**P**	**00 26 26.7**	**+0.8**
	comp=Z,0.3nm,0.8s,baz=300,slow=9.2,SNR=2.5						
	comp=Z,0.3nm,0.8s						
MKAR	**Makanchi Array**	**49.

RPZ	**Rata Peaks**	**2.41**	**229**	P		**Pn**	**00 19 47.8**	**-0.4**
RPZ	**Rata Peaks**	**2.41**	**229**	P		**Pn**	**00 19 47.8**	**-0.4**
RPZ				S		**Sn**	**00 20 15.7**	**-1.1**
BFZ	**Birch Farm**	**2.50**	**55**	P		**Pn**	**00 19 48.2**	**-1.1**
ARCZ	**Arundel**	**2.50**	**224**	P		**Pn**	**00 19 48.8**	**-0.7**
ARCZ				S		**Sn**	**00 20 17.9**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.65**	**243**	P		**Pn**	**00 19 53.0**	**+1.5**
TMZ	**Timaru**	**2.91**	**219**	P		**Pn**	**00 19 54.3**	**-0.6**
FOZ	**Fox Glacier**	**3.08**	**242**	P		**Pn**	**00 19 57.8**	**+0.5**
WNVZ	**Wahianoa**	**3.22**	**29**	P		**Pn**	**00 20 00.2**	**+0.8**
TRVZ	**Turoa**	**3.23**	**28**	P		**Pn**	**00 20 02.6**	**+3.0**
LBZ	**Lake Benmore**	**3.33**	**227**	P		**Pn**	**00 20 00.6**	**-0.1**
OTVZ	**Oturere**	**3.39**	**29**	P		**Pn**	**00 20 02.2**	**+0.4**
ODZ	**Otahua Downs**	**3.58**	**215**	P		**Pn**	**00 20 03.2**	**-1.0**
ODZ	**Otahua Downs**	**3.58**	**215**	P		**Pn**	**00 20 03.3**	**-1.0**
JCZ	**Jackson Bay**	**3.99**	**240**	P		**Pn**	**00 20 10.3**	**+0.4**
JCZ	**Jackson Bay**	**3.99**	**240**	P		**Pn**	**00 20 10.4**	**+0.4**
MUGZ	**Murupara**	**4.42**	**35**	P		**Pn**	**00 20 17.3**	**+1.5**

IDC ***09*** *00:46:21.7±1.0,6˚90N×76˚52W, h0km, mb3.7/4, mbtmp3.9/7, ML3.1/3, MS2.9/3, Error ellipse: s-maj=32.5km s-min=20.0km az=47.0*

RSNC ***09*** *00:46:26.1±0.0,7˚N±2˚×7˚6W±˚, h-2km±3km, M3.4, ML3.4*

ISC 09 00:46:24.7±1.1, 6.81N±0.04×76.14W±0.04, h12km±7km, n24, σ1ᵗ56/32, mb3.7/4, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DBBC	**Dabeiba**	**0.22**	**342**	P		P	**Pg**	**00 46 29.5**	**0.0**
DBBC				S		S	**Sg**	**00 46 33.1**	**+0.4**
UREC	**San Jos de Ur**	**1.12**	**33**	P		P	**Pg**	**00 46 45.7**	**-0.6**
UREC				S		S	**Sg**	**00 47 01.7**	**+0.9**
APAC	**Apartado, Choc**	**1.17**	**338**	P		P	**Pb**	**00 46 47.2**	**+0.3**
APAC				S		Sn	**Sn**	**00 47 03.7**	**+0.8**
SOLC	**Bahia Solano**	**1.38**	**245**	P		Pg	00 46 56.3	+4.9	
SOLC				S		Sn	**Sn**	**00 47 08.7**	**+0.5**
ZARC	**Zaragoza, Cauc**	**1.45**	**62**	P		P	**Pn**	**00 46 51.1**	**+0.3**
ZARC				S		S	**Sn**	**00 47 10.0**	**+0.3**
PTBC	**PUERTO BERRIO,**	**1.70**	**99**	P		P	**Pn**	**00 46 55.4**	**+1.2**
PTBC				S		S	**Sb**	**00 47 18.6**	**+1.4**
NORC	**Norcasia**	**1.77**	**134**	P		P	**Pb**	**00 46 56.6**	**-0.6**
NORC				S		S	**Sb**	**00 47 20.1**	**+0.7**
SPBC	**San Pablo de B**	**2.36**	**119**	P		P	**Pb**	**00 47 06.6**	**-0.6**
ROSC	**El Rosal**	**2.67**	**137**	Pn		P	**Pb**	**00 47 12.8**	**+0.1**
	31nm,0.3s,baz=312,slow=19,SNR=18								
ROSC				Sn		S	**Sg**	**00 47 49.5**	**-1.1**
	22nm,0.3s,baz=0.0,slow=20,SNR=6.8								
	95nm,0.4s								
BARC	**Barichara**	**2.95**	**94**	P		P	**Pb**	**00 47 15.5**	**-1.9**
OCAC	**Ocana**	**3.14**	**63**	P		P	**Pn**	**00 47 15.2**	**+1.0**
OCAC				S		S	**Sn**	**00 47 54.5**	**+2.7**
SJCC	**San Jacinto, C**	**3.21**	**17**	P		P	**Pn**	**00 47 16.1**	**+0.9**
SJCC				S		S	**Sn**	**00 47 51.5**	**-2.0**
PAMC	**Pamplona, Colo**	**3.46**	**81**	P		P	**Pn**	**00 47 22.0**	**+3.1**
PAMC				P		P	**Pb**	**00 47 22.6**	**-3.6**
VILC	**Villavicencio,**	**3.62**	**138**	P		P	**Pb**	**00 47 27.7**	**-1.1**
SDV	**Santo Domingo**	**5.83**	**69**	Pn		P	**Pn**	**00 47 53.0**	**+1.7**
	2.7nm,0.3s,baz=290,slow=8.9,SNR=5.5								
SDV				Sn		S	**Sn**	**00 49 01.0**	**+2.7**
	3.9nm,0.3s,baz=233,slow=20,SNR=2.1								
SDV				LR		LR		00 50 23.9	
	comp=Z,82nm,19.4s,baz=229,slow=39								
	10.0nm,0.5s								
PCRV	**Puerto La Cruz**	**11.86**	**73**	Pn		P	**Pn**	**00 49 15.9**	**+1.9**
	0.5nm,0.3s,baz=288,slow=6.4,SNR=1.5								
	6.3nm,0.7s								
NNA	**Nana**	**18.68**	**182**	LR		LR		00 59 01.6	
	comp=Z,61nm,18.7s,baz=4.0,slow=40								
CMIG	**Matias Romero**	**20.97**	**301**	LR		LR		00 58 53.1	
	comp=Z,32nm,20.3s,baz=170,slow=36								
LPAZ	**La Paz**	**24.28**	**161**	P		P	**Pn**	**00 51 42.3**	**-0.5**
	0.5nm,0.6s,baz=331,slow=10,SNR=1.9								
	0.5nm,0.6s								
TXAR	**Lajitas Array**	**34.27**	**314**	P		P		00 53 05.5	-5.7
	0.2nm,0.8s,baz=123,slow=7.6,SNR=2.1								
	0.2nm,0.8s								
YKA	**Yellowknife Ar**	**62.27**	**341**	P		P	**Pn**	**00 56 44.9**	**-1.6**
	0.8nm,0.7s,baz=129,slow=6.6,SNR=13								
	0.8nm,0.7s								
ARCES	**ARCESS Array B**	**87.72**	**20**	P		P	**Pn**	**00 59 12.5**	**-0.8**
	4.2nm,1.1s,baz=302,slow=5.1,SNR=4.3								
	4.2nm,1.1s								
ASAR	**Alice Springs**	**146.63**	**237**	PKPbc		**PKPdf**	**01 06 04.5**	**-1.3**	
	0.6nm,0.7s,baz=104,slow=3.9,SNR=2.3								
WRA	**Warramunga Arr**	**147.68**	**243**	PKPbc		**PKPdf**	**01 06 08.2**	**+0.6**	
	0.9nm,0.8s,baz=108,slow=2.8,SNR=2.2								

IDC ***09*** *00:54:45.3±1.1,36˚46N×27˚82E, h77km±15km, mb3.2/10, mbtmp3.5/15, Error ellipse: s-maj=20.4km s-min=9.5km az=160.0*

ATH ***09*** *00:54:47.0,36˚53N×27˚83E, h70km±2km, ML3.3/17, Error ellipse: s-maj=2.2km s-min=0.8km az=106.0*

THE ***09*** *00:54:47.3,36˚54N×27˚86E, h73km±1km, ML3.4/12, Error ellipse: s-maj=1.5km s-min=0.6km az=85.0*

HLW ***09*** *00:54:47.1,36˚25N×27˚92E, h29km±18km, Md4.5, Ml4.6*

GII ***09*** *00:54:48.0±0.9,36˚201N±0˚005×28˚079E±0˚002, h40km, Md3.7/3, Mws3.7/3, confirmed*

AFAD ***09*** *00:54:50.8±0.0,36˚66N×28˚01E, h7km±2km, MW3.5*

ISC 09 00:54:45.2±0.7, 36.45N±0.03×27.85E±0.03, h77km±5km, n169, σ1ᵗ93/225, mb3.3/10, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.33**	**136**	P		P	**Pn**	**00 54 59.0**	**+1.7**
ARG				S		Sn	**Sn**	**00 55 07.8**	**+1.6**
	22μm,0.2s								
ARG	**Arkhangelos**	**0.33**	**136**	P		P	**Pn**	**00 54 59.2**	**+1.9**
ARG				S		Sn	**Sn**	**00 55 08.0**	**+1.8**
ARG				AML		AML		00 55 09.3	
	comp=E,51440μm,0.2s								
ARG				AML		AML		00 55 09.5	
	comp=N,37352μm,0.2s								
DAT	**Datca**	**0.35**	**322**	P		P	**Pn**	**00 54 58.0**	**+0.4**
DAT				S		Sn	**Sn**	**00 55 06.0**	**-0.8**
DAT	**Datca**	**0.35**	**322**	P		P	**Pn**	**00 54 58.2**	**+0.6**
DAT				*i* AML		AML		00 55 06.0	
	comp=N,2μm,0.6s								
DAT				S		Sn	**Sn**	**00 55 06.6**	**-0.2**
DAT				*i* AML		AML		00 55 08.0	
	comp=N,2μm,0.3s								
YAZI	**Mula-Dat§a-**	**0.39**	**306**	P		P	**Pn**	**00 54 58.4**	**+0.7**
YAZI				S		Sn	**Sn**	**00 55 06.8**	**-0.3**
TURN	**Turunc**	**0.46**	**45**	P		P	**Pn**	**00 54 59.1**	**+0.9**
TURN				S		Sn	**Sn**	**00 55 08.1**	**+0.3**
NISR	**Nisiros**	**0.60**	**286**	P		P	**Pn**	**00 55 00.1**	**+0.6**
NISR				S		Sn	**Sn**	**00 55 11.0**	**+0.8**
	comp=N,982nm,0.3s								
NISR	**Nisiros**	**0.60**	**286**	P		P	**Pn**	**00 55 00.4**	**+0.9**
NISR				S		Sn	**Sn**	**00 55 09.3**	**-0.9**
NISR				AML		AML		00 55 13.9	
	comp=E,2328μm,0.4s								
NISR				AML		AML		00 55 19.4	
	comp=N,1569μm,0.3s								
BDRM	**Kayabasi**	**0.69**	**332**	P		P	**Pn**	**00 55 01.1**	**+0.5**
BDRM				S		Sn	**Sn**	**00 55 11.3**	**-0.6**
BODT	**Bodrum**	**0.74**	**325**	P		P	**Pn**	**00 55 01.6**	**+0.5**
BODT				S		Sn	**Sn**	**00 55 12.3**	**-0.6**
KLNA	**Kalymnos**	**0.86**	**306**	P		P	**Pn**	**00 55 02.8**	**+0.4**
KLNA				S		Sn	**Sn**	**00 55 14.3**	**-0.9**
KLNA				AML		AML		00 55 15.2	
	comp=E,4573μm,0.3s								
KLNA				AML		AML		00 55 16.5	
	comp=N,3758μm,0.3s								
MULA	**Mugla, Merkez-**	**0.89**	**25**	P		P	**Pn**	**00 55 03.8**	**+0.9**
MULA				S		Sn	**Sn**	**00 55 16.5**	**+0.5**
MULA				*i* AML		AML		00 55 21.0	
	comp=N,765nm,0.2s								
MULA				*i* AML		AML		00 55 21.0	
	comp=N,1μm,0.3s								
SABU	**Mula-Dalaman**	**0.98**	**67**	P		P	**Pn**	**00 55 05.9**	**+2.1**
SABU				S		Sn	**Sn**	**00 55 19.2**	**+1.6**
SABU				*i* AML		AML		00 55 20.0	
	comp=N,2μm,0.4s								
SABU				*i* AML		AML		00 55 21.0	
	comp=N,1μm,0.2s								
FETY	**Fethiye**	**1.01**	**79**	P		P	**Pn**	**00 55 07.5**	**+3.3**
FETY				S		Sn	**Sn**	**00 55 19.9**	**+1.4**
KARP	**Karpathos**	**1.06**	**212**	P		P	**Pn**	**00 55 06.9**	**+2.1**
KARP				S		Sn	**Sn**	**00 55 21.5**	**+2.0**
	comp=N,7μm,0.3s								
KARP	**Karpathos**	**1.06**	**212**	P		P	**Pn**	**00 55 06.9**	**+2.1**
KARP				S		Sn	**Sn**	**00 55 21.3**	**+1.8**
KARP				AML		AML		00 55 22.3	
	comp=N,14851μm,0.3s								
KARP				AML		AML		00 55 23.0	
	comp=E,13190μm,0.3s								
KARP	**Karpathos**	**1.06**	**212**	P		P	**Pn**	**00 55 06.4**	**+1.6**
DDIM	**Aydin, Didim**	**1.11**	**334**	P		P	**Pn**	**00 55 06.3**	**+0.9**
DDIM				S		Sn	**Sn**	**00 55 20.9**	**+0.3**
IZZE	**Mula-Seydike**	**1.11**	**90**	P		P	**Pn**	**00 55 06.7**	**+1.3**
IZZE				S		Sn	**Sn**	**00 55 21.6**	**+1.0**
DNZT	**Denizli-Tavas-**	**1.25**	**49**	P		P	**Pn**	**00 55 09.1**	**+1.8**
DNZT				S		Sn	**Sn**	**00 55 25.5**	**+1.6**
TAVA	**DENIZLI_Tavas**	**1.32**	**40**	P		P	**Pn**	**00 55 09.6**	**+1.4**
TAVA				S		Sn	**Sn**	**00 55 27.1**	**+1.6**
GCAM	**G?zelcaml?**	**1.34**	**339**	P		P	**Pn**	**00 55 09.0**	**+0.7**
GCAM				S		Sn	**Sn**	**00 55 25.2**	**-0.4**
CAEL	**Denizli, Camel**	**1.36**	**60**	P		P	**Pn**	**00 55 10.6**	**+1.9**
CAEL				S		Sn	**Sn**	**00 55 28.7**	**+2.3**
ESEN	**Aydn-Nazilli**	**1.40**	**17**	P		P	**Pn**	**00 55 10.2**	**+1.1**
ESEN				S		Sn	**Sn**	**00 55 26.5**	**-0.6**
KSL	**Kastellorizon**	**1.44**	**102**	P		P	**Pn**	**00 55 11.0**	**+1.5**
KSL				S		Sn	**Sn**	**00 55 28.9**	**+1.0**
	comp=E,1μm,0.4s								
KSL	**Kastellorizon**	**1.44**	**102**	P		P	**Pn**	**00 55 11.2**	**+1.7**
KSL				S		Sn	**Sn**	**00 55 28.6**	**+0.7**
KSL				AML		AML		00 55 29.0	
	comp=N,1776μm,1.1s								
KSL				AML		AML		00 55 29.2	
	comp=E,3284μm,0.4s								
AKAS	**Kas**	**1.44**	**98**	P		P	**Pn**	**00 55 11.4**	**+1.7**
AKAS				S		Sn	**Sn**	**00 55 29.1**	**+0.9**
KNIK	**Mula-Seydike**	**1.44**	**74**	P		P	**Pn**	**00 55 11.8**	**+2.1**
KNIK				S		Sn	**Sn**	**00 55 31.0**	**+2.7**
SMG	**Samos**	**1.49**	**328**	P		P	**Pn**	**00 55 10.6**	**+0.4**
SMG				S		Sn	**Sn**	**00 55 28.6**	**-0.6**
	comp=E,1μm,0.4s								
SMG	**Samos**	**1.49**	**328**	P		P	**Pn**	**00 55 10.7**	**+0.4**
SMG				S		Sn	**Sn**	**00 55 28.5**	**-0.6**
SMG				AML		AML		00 55 31.6	
	comp=E,2209μm,0.3s								
SMG				AML		AML		00 55 33.0	
	comp=N,2026μm,0.5s								
DNIZ	**Denizli-Tavas-**	**1.51**	**39**	P		P	**Pn**	**00 55 11.9**	**+1.3**
DNIZ				S		Sn	**Sn**	**00 55 32.8**	**+3.0**
GOLH	**Golhisar**	**1.58**	**60**	P		P	**Pn**	**00 55 13.8**	**+2.2**
GOLH				S		Sn	**Sn**	**00 55 33.9**	**+2.4**
ZKR	**Zakros**	**1.88**	**225**	P		P	**Pn**	**00 55 17.8**	**+2.4**
ZKR				S		Sn	**Sn**	**00 55 41.7**	**+3.3**
	comp=N,490nm,0.4s								
ZKR	**Zakros**	**1.88**	**225**	P		P	**Pn**	**00 55 17.9**	**+2.4**
ZKR				S		Sn	**Sn**	**00 55 39.4**	**+1.0**
ZKR				AML		AML		00 55 46.4	
	comp=E,1517μm,0.6s								
ZKR				AML		AML		00 55 46.9	
	comp=N,456μm,0.4s								
THR8	**Santorini-Mono**	**1.91**	**269**	P		P	**Pn**	**00 55 17.6**	**+1.8**
THR2	**Thira island,**	**1.94**	**271**	P		P	**Pn**	**00 55 18.2**	**+2.0**
APE	**Apeiranthos**	**1.96**	**289**	P		P	**Pn**	**00 55 18.1**	**+1.7**
APE				S		Sn	**Sn**	**00 55 40.7**	**+0.4**
APE	**Apeiranthos**	**1.96**	**289**	P		P	**Pn**	**00 55 18.1**	**+1.7**
APE	**Apeiranthos**	**1.96**	**289**	P		P	**Pn**	**00 55 18.2**	**+1.7**
APE				S		Sn	**Sn**	**00 55 40.5**	**+0.2**
APE				AML		AML		00 55 41.3	
	comp=N,388μm,0.6s								
APE				AML		AML		00 55 42.3	
	comp=E,734μm,0.7s								
CMBO	**Columbo, Santo**	**1.97**	**271**	P		P	**Pn**	**00 55 18.0**	**+1.5**
THR3	**Thira Island,**	**1.97**	**269**	P		P	**Pn**	**00 55 18.6**	**+2.1**
SNT5	**Nea Kammeni, S**	**1.98**	**269**	P		P	**Pn**	**00 55 18.6**	**+2.0**
THR6	**Thira Island,**	**1.98**	**268**	P		P	**Pn**	**00 55 18.8**	**+2.2**
THR9	**Santorini-Faro**	**2.01**	**268**	P		P	**Pn**	**00 55 19.2**	**+2.2**
THR9	**Santorini-Faro**	**2.01**	**268**	P		P	**Pn**	**00 55 19.3**	**+2.2**
THR5	**Thira Island,**	**2.01**	**270**	P		P	**Pn**	**00 55 19.4**	**+2.3**
BLCB	**Balcova**	**2.03**	**342**	P		P	**Pn**	**00 55 17.7**	**+0.3**
BLCB				S		Sn	**Sn**	**00 55 40.6**	**-1.4**
KULA	**Kula-Manisa**	**2.16**	**17**	P		P	**Pn**	**00 55 20.0**	**+0.8**
KULA				S		Sn	**Sn**	**00 55 43.8**	**-1.3**
FRMA	**Ierapetra Chan**	**2.24**	**231**	P		P	**Pn**	**00 55 22.0**	**+1.8**
FRMA				S		Sn	**Sn**	**00 55 47.8**	**+0.9**
	comp=E,165nm,0.3s								
FRMA	**Ierapetra Chan**	**2.24**	**231**	P		P	**Pn**	**00 55 21.8**	**+1.6**
FRMA				S		Sn	**Sn**	**00 55 45.9**	**-1.0**
FRMA				AML		AML		00 55 53.2	
	comp=E,1034μm,0.3s								
FRMA				AML		AML		00 55 57.8	
	comp=N,924μm,0.4s								
CHOS	**Chios island**	**2.40**	**324**	P		P	**Pn**	**00 55 23.1**	**+0.7**
CHOS				S		Sn	**Sn**	**00 55 49.8**	**-1.1**
	comp=N,145nm,0.7s								
CHOS	**Chios island**	**2.40**	**324**	P		P	**Pn**	**00 55 23.1**	**+0.7**
CHOS				S		Sn	**Sn**	**00 55 50.3**	**-0.6**
CHOS				AML		AML		00 56 00.2	
	comp=E,280μm,0.7s								
CHOS				AML		AML		00 56 02.6	
	comp=N,253μm,0.7s								
IACM	**Heraklion**	**2.53**	**244**	P		P	**Pn**	**00 55 26.1**	**+2.0**
KSTL	**Kastelli Herak**	**2.53**	**244**	P		P	**Pn**	**00 55 24.3**	**+0.2**
KSTL				S		Sn	**Sn**	**00 55 52.5**	**-1.4**
	comp=N,68nm,0.5s								
KSTL	**Kastelli Herak**	**2.53**	**244**	P		P	**Pn**	**00 55 24.0**	**-0.1**
KSTL				AML		AML		00 55 55.8	
	comp=N,539μm,0.3s								
KSTL				AML		AML		00 56 05.3	
	comp=E,261μm,0.6s								
ISP	**Isparta**	**2.54**	**57**	P		P	**Pn**	**00 55 25.4**	**+1.1**
IDI	**Anoyia**	**2.67**	**245**	P		P	**Pn**	**00 55 27.4**	**+1.4**
IDI	**Anoyia**	**2.67**	**245**	P		P	**Pn**	**00 55 27.5**	**+1.4**
	comp=E,1.0nm,0.3s,baz=71,slow=18,SNR=174								
IDI				S		Sn	**Sn**	**00 55 57.2**	**-0.2**
	comp=E,1.3nm,0.4s,baz=127,slow=20,SNR=7.9								
IDI	**Anoyia**	**2.67**	**245**	P		P	**Pn**	**00 55 27.4**	**+1.4**
IDI				S		Sn	**Sn**	**00 55 57.7**	**+0.4**
IDI				AML		AML		00 56 01.6	
	comp=N,365μm,0.4s								
IDI				AML		AML		00 56 03.7	
	comp=E,346μm,0.6s								
PSRA	**Psara**	**2.76**	**320**	P		P	**Pn**	**00 55 27.5**	**+0.2**
TMBK	**Timbaki Herakl**	**2.86**	**242**	P		P	**Pn**	**00 55 31.0**	**+2.5**
PRK	**Paraskevi**	**3.05**	**336**	P		P	**Pn**	**00 55 31.5**	**+0.3**
PRK				S		Sn	**Sn**	**00 56 05.5**	**-1.1**
	comp=E,235nm,0.6s								
PRK	**Paraskevi**	**3.05**	**336**	P		P	**Pn**	**00 55 31.9**	**+0.8**
PRK				S		Sn	**Sn**	**00 56 05.1**	**-1.5**
PRK				AML		AML		00 56 11.6	
	comp=E,492μm,0.8s								
PRK				AML		AML		00 56 13.6	
	comp=N,351μm,0.8s								
SIGR	**SIGRI**	**3.17**	**331**	P		P	**Pn**	**00 55 33.6**	**+0.8**
SIGR				S		Sn	**Sn**	**00 56 08.4**	**-1.1**
	comp=N,70nm,0.6s								
SIGR	**SIGRI**	**3.17**	**331**	P		P	**Pn**	**00 55 33.7**	**+0.9**
SIGR				S		Sn	**Sn**	**00 56 08.2**	**-1.3**
SIGR				AML		AML		00 56 10.2	
	comp=N,134μm,0.5s								
SIGR				AML		AML		00 56 10.9	
	comp=E,149μm,0.7s								
CHAN	**Chania**	**3.22**	**254**	P		P	**Pn**	**00 55 35.1**	**+1.7**
CHAN				S		Sn	**Sn**	**00 56 11.0**	**+0.3**
CHAN				AML		AML		00 56 15.5	
	comp=E,442μm,0.6s								
CHAN				AML		AML		00 56 17.6	
	comp=N,368μm,0.4s								
IMMV	**Iera Moni Meta**	**3.29**	**254**	P		P	**Pn**	**00 55 36.1**	**+1.8**
IMMV				AML		AML		00 56 19.1	
	comp=E,417μm,0.6s								
IMMV				AML		AML		00 56 23.2	
	comp=N,440μm,0.4s								
GVD	**Gavdhos**	**3.46**	**243**	P		P	**Pn**	**00 55 39.7**	**+3.0**
KNDR	**Palaiochora Ch**	**3.59**	**251**	P		P	**Pn**	**00 55 42.6**	**+4.1**
KNDR				S		Sn	**Sn**	**00 56 20.7**	**+1.0**
KNDR				AML		AML		00 56 25.8	
	comp=N,371μm,0.6s								
KNDR				AML		AML		00 56 35.7	
	comp=E,424μm,1.0s								
ATH	**Athens Observa**	**3.63**	**296**	P		P	**Pn**	**00 55 41.9**	**+3.0**
ANKY	**Antikythira Is**	**3.72**	**262**	P		P	**Pn**	**00 55 42.7**	**+2.4**
VLI	**Veliai**	**3.96**	**275**	P		P	**Pn**	**00 55 46.3**	**+2.8**
LIA	**Limnos Island**	**4.03**	**329**	P		P	**Pn**	**00 55 45.8**	**+1.4**
LTK	**Loutraki**	**4.20**	**293**	P		P	**Pn**	**00 55 49.6**	**+2.9**
SMTH	**Samothraki Isl**	**4.40**	**336**	P		P	**Pn**	**00 55 50.4**	**+0.8**
NEO	**Neokhori**	**4.63**	**309**	P		P	**Pn**	**00 55 55.2**	**+2.5**
GUR	**Goura**	**4.64**	**290**	P		P	**Pn**	**00 55 55.9**	**+3.1**
CSS	**Mathiatis**	**4.71**	**107**	P		P	**Pn**	**00 55 54.1**	**+0.4**
KLV	**Kalavryta, Ach**	**4.81**	**291**	P		P	**Pn**	**00 55 58.5**	**+3.4**
PYL	**PYLOS**	**4.93**	**277**	P		P	**Pn**	**00 55 59.4**	**+2.7**
RDO	**Rodhopi**	**5.02**	**340**	P		P	**Pn**	**00 55 59.3**	**+1.4**
AGG	**Agios Georgios**	**5.07**	**302**	P		P	**Pn**	**00 56 01.9**	**+3.2**
EFP	**Efpalio**	**5.12**	**294**	P		P	**Pn**	**00 56 02.6**	**+3.3**
MATC	**Matruh**	**5.12**	**186**	P		P	**Pn**	**00 56 00.6**	**+1.3**
	baz=187								
RLS	**Riolos of Patr**	**5.33**	**289**	P		P	**Pn**	**00 56 04.9**	**+2.7**
SLUM	**Salum**	**5.41**	**205**	P		P	**Pn**	**00 56 04.4**	**+1.1**
	baz=207								
SLUM				S		Sn	**Sn**	**00 56 59.5**	**-4.7**
	baz=207								
DB3	**El Dabaa**	**5.43**	**174**	P		P	**Pn**	**00 56 04.8**	**+1.1**
	baz=174								
PVO	**Paravola**	**5.47**	**295**	P		P	**Pn**	**00 56 06.0**	**+1.9**
THL	**Klokotos Trika**	**5.55**	**306**	P		P	**Pn**	**00 56 08.4**	**+3.2**
BRTR	**Keskin Array B**	**5.62**	**53**	P		P	**Pn**	**00 56 08.0**	**+1.8**
	comp=E,5.5nm,0.7s,baz=173,slow=20,SNR=30								
BRTR				S		Sn	**Sn**	**00 57 08.8**	**-0.6**
	comp=E,0.9nm,0.4s,baz=219,slow=20,SNR=1.1								
LTHK	**Lithakia**	**5.74**	**285**	P		P	**Pn**	**00 56 11.6**	**+3.8**
NVR	**Nevrokopi**	**5.79**	**329**	P		P	**Pn**	**00 56 11.3**	**+2.8**
VLS	**Valsamata**	**6.03**	**289**	P		P	**Pn**	**00 56 15.1**	**+3.3**
BHL	**Bhannes**	**6.88**	**109**	*e*P		P	**Pn**	**00 56 22.6**	**-0.9**
DQRL	**Deir Qamar**	**6.90**	**111**	*e*P		P	**Pn**	**00 56 22.8**	**-0.9**
HNTI	**Hanita**	**6.90**	**117**	P		P	**Pn**	**00 56 23.6**	**-0.1**
HNTI	**Hanita**	**6.90**	**117**	S		Sn	**Sn**	**00 57 37.2**	**-3.6**
HWQ	**Hawqa**	**6.96**	**106**	*e*P		P	**Pn**	**00 56 24.7**	**+0.1**
QRWL	**Qaraoun**	**7.05**	**112**	*e*P		P	**Pn**	**00 56 25.9**	**+0.1**
BEIL	**Beino**	**7.06**	**103**	*e*P		P	**Pn**	**00 56 25.6**	**-0.3**
ZAHL	**Zahle**	**7.08**	**109**	*e*P		P	**Pn**	**00 56 25.3**	**-0.9**
HMYD	**Mayadein**	**7.09**	**159**	P		P	**Pn**	**00 56 27.2**	**+0.9**
	baz=158								
MMA0B	**Mount Meron ar**	**7.10**	**117**	S		Sn	**Sn**	**00 57 42.2**	**-3.6**
MMA0B	**Mount Meron ar**	**7.10**	**117**	P		P	**Pn**	**00 56 26.4**	**-0.1**
MMAI	**Mount Meron Ar**	**7.10**	**117**	P		P	**Pn**	**00 56 26.1**	**-0.4**
	comp=E,18nm,0.2s,baz=299,slow=12,SNR=104								
MMAI				S		Sn	**Sn**	**00 57 41.2**	**-4.5**
	comp=E,13nm,0.3s,baz=312,slow=26,SNR=21								
HNAT	**Natroun**	**7.19**	**160**	P		P	**Pn**	**00 56 28.4**	**+0.8**
	baz=160								
SHBL	**Chebaa**	**7.19**	**113**	*e*P		P	**Pn**	**00 56 28.0**	**+0.3**
RCY	**Rachaya**	**7.19**	**112**	*e*P		P	**Pn**	**00 56 27.8**	**0.0**
GEM	**Giv'at Ha'Em**	**7.20**	**114**	S		Sn	**Sn**	**00 57 44.4**	**-3.5**
GEM	**Giv'at Ha'Em**	**7.20**	**114**	P		P	**Pn**	**00 56 27.8**	**+0.1**
OHR	**Ohrid**	**7.20**	**312**	*i* P		P	Pn	00 56 33.4	+5.6
SLTI	**Sal'it**	**7.28**	**123**	P		P	**Pn**	**00 56 28.6**	**-0.3**
KOT	**Kottamia**	**7.31**	**152**	P		P	**Pn**	**00 56 29.5**	**+0.2**
	baz=151								
KOT				S		Sn	**Sn**	**00 57 44.7**	**-6.1**
	baz=151								
HHAG	**Hagoal**	**7.40**	**150**	P		P	**Pn**	**00 56 31.2**	**+0.7**
	baz=149								
KSHT	**Keshet**	**7.42**	**116**	P		P	**Pn**	**00 56 31.3**	**+0.5**
KSHT	**Keshet**	**7.42**	**116**	S		Sn	**Sn**	**00 57 50.2**	**-3.2**
SWA2		**7.46**	**196**	P		P	**Pn**	**00 56 32.1**	**+0.

FEMA				S	Sg	00 58 05.2	+0.3		
T1219	**Muccia, Frazio**	**0.06**	**332**	P	Pg	00 58 03.6	+0.3		
T1219				S	Sg	00 58 05.3	+0.3		
CESI	**CESI - Serrava**	**0.10**	**269**	P	Pg	00 58 04.2	+0.5		
CESI				S	Sg	00 58 06.5	+0.7		
CESI				AML	AML				
	comp=N,5775µm,0.3s								
CESI				AML	AML				
	comp=E,2930µm,0.3s								
CESI				AML	AML				
	comp=E,2930µm,1.7s								
T1220	**Camerino, Fraz**	**0.11**	**18**	P	Pg	00 58 04.2	+0.4		
T1220				S	Sg	00 58 06.6	+0.6		
T1220				AML	AML				
	comp=E,3800µm,0.4s								
T1220				AML	AML				
	comp=N,4415µm,0.2s								
T1220				AML	AML				
	comp=N,4415µm,0.3s								
T1220				AML	AML				
	comp=E,3805µm,0.4s								
T1220				AML	AML				
	comp=N,4420µm,0.3s								
T1220				AML	AML				
	comp=N,2210µm,0.2s								
T1220				AML	AML				
	comp=E,7710µm,0.4s								
MML1	**Montelago di S**	**0.12**	**334**	P	Pg	00 58 04.4	+0.4		
MML1				S	Sg	00 58 06.8	+0.6		
MML1				AML	AML				
	comp=E,1280µm,0.5s								
MML1				AML	AML				
	comp=N,1330µm,0.7s								
MML1				AML	AML				
	comp=E,1285µm,0.5s								
MML1				AML	AML				
	comp=N,1325µm,0.7s								
MML1				AML	AML				
	comp=N,1340µm,0.7s								
MC2	**Monte Cornacci**	**0.14**	**131**	P	Pg	00 58 04.7	+0.3		
MC2				S	Sg	00 58 07.5	+0.5		
CSP1	**Cessapalombo**	**0.15**	**54**	P	Pg	00 58 04.7	+0.3		
CSP1				S	Sg	00 58 07.6	+0.6		
CSP1				AML	AML				
	comp=N,372µm,1.4s								
CSP1				AML	AML				
	comp=E,1230µm,0.5s								
SEF1	**Sefro**	**0.16**	**333**	P	Pg	00 58 05.0	+0.4		
SEF1				S	Sg	00 58 07.8	+0.8		
PF6	**Pievefavera**	**0.18**	**38**	P	Pg	00 58 05.1	+0.2		
PF6				S	Sg	00 58 08.1	+0.4		
PF6				AML	AML				
	comp=E,1235µm,1.5s								
PF6				AML	AML				
	comp=N,916µm,0.1s								
NRCA	**Norcia**	**0.18**	**163**	P	Pg	00 58 05.2	+0.3		
NRCA				S	Sg	00 58 08.3	+0.6		
NRCA				AML	AML				
	comp=E,752µm,0.8s								
NRCA				AML	AML				
	comp=N,830µm,0.7s								
NRCA				AML	AML				
	comp=N,832µm,0.6s								
NRCA				AML	AML				
	comp=E,752µm,0.8s								
NRCA				AML	AML				
	comp=N,830µm,0.7s								
NRCA				AML	AML				
	comp=E,754µm,0.6s								
GUMA	**Gualdo di Mace**	**0.22**	**75**	P	Pg	00 58 06.2	+0.6		
GUMA				S	Sg	00 58 10.3	+1.5		
GUMA				AML	AML				
	comp=E,1144µm,0.2s								
GUMA				AML	AML				
	comp=N,914µm,1.5s								
GUMA				AML	AML				
	comp=N,914µm,0.5s								
MMO1	**Montemonaco**	**0.23**	**117**	P	Pg	00 58 06.1	+0.2		
MMO1				S	Sg	00 58 09.9	+0.7		
SNTG	**Esanatoglia**	**0.26**	**343**	P	Pg	00 58 06.5	+0.2		
SNTG				S	Sb	00 58 11.1	-1.1		
SNTG				AML	AML				
	comp=E,368µm,1.6s								
SNTG				AML	AML				
	comp=N,341µm,1.1s								
SNTG				AML	AML				
	comp=E,368µm,1.6s								
SNTG				AML	AML				
	comp=N,342µm,1.1s								
SNTG				AML	AML				
	comp=N,326µm,0.7s								
SNTG				AML	AML				
	comp=N,342µm,0.9s								
SNTG				AML	AML				
	comp=E,286µm,0.6s								
SNTG				AML	AML				
	comp=E,368µm,0.4s								
ASSB	**Assisi San Ben**	**0.28**	**277**	⇑P	Pg	00 58 07.0	+0.3		
ASSB				AML	AML				
	comp=E,975µm,0.4s								
ASSB				AML	AML				
	comp=N,849µm,0.2s								
MF5	**Montefalcone A**	**0.31**	**93**	⇑P	Pb	00 58 07.8	-0.6		
MF5				AML	AML				
	comp=E,321µm,0.7s								
MF5				AML	AML				
	comp=N,446µm,0.3s								
MF5				AML	AML				
	comp=E,321µm,1.3s								
EL6	**Elcito**	**0.33**	**8**	⇑P	Pg	00 58 07.8	+0.3		
EL6				AML	AML				
	comp=E,564µm,1.1s								
EL6				AML	AML				
	comp=N,630µm,1.1s								
EL6				AML	AML				
	comp=N,630µm,0.9s								
EL6				AML	AML				
	comp=E,564µm,0.9s								
GAVE	**Gavelli**	**0.33**	**199**	P	Pg	00 58 07.9	+0.3		
GAVE				AML	AML				
	comp=E,498µm,1.6s								
GAVE				AML	AML				
	comp=N,266µm,0.2s								
ATCC	**AVT- Casa Cast**	**0.34**	**301**	⇑P	Pg	00 58 08.2	+0.4		
FOSV	**Fossato di Vic**	**0.35**	**324**	⇑P	Pg	00 58 08.4	+0.3		
FOSV				AML	AML				
	comp=E,434µm,0.3s								
FOSV				AML	AML				
	comp=N,483µm,0.3s								
MTRA	**Matera**	**0.36**	**134**	⇑P	Pg	00 58 08.4	+0.3		
MTRA				AML	AML				
	comp=N,282µm,1.6s								
MTRA				AML	AML				
	comp=E,468µm,0.3s								
MTRA				AML	AML				
	comp=N,282µm,0.4s								
CING	**Cingoli**	**0.39**	**17**	⇑P	Pg	00 58 08.9	+0.3		
CING				AML	AML				
	comp=E,280µm,1.1s								
CING				AML	AML				
	comp=N,288µm,0.1s								
CING				AML	AML				
	comp=E,280µm,0.9s								
MOMA	**Monte Martano**	**0.40**	**240**	⇑P	Pg	00 58 09.1	+0.2		
MOMA				AML	AML				
	comp=N,178µm,0.2s								
MOMA				AML	AML				
	comp=E,187µm,0.2s								
SMA1	**SAN MARTINO**	**0.43**	**150**	⇓P	Pg	00 58 09.6	+0.1		
SMA1				AML	AML				
	comp=E,116µm,0.7s								
SMA1				AML	AML				
	comp=N,114µm,0.4s								
SMA1				AML	AML				
	comp=N,114µm,1.6s								
SMA1				AML	AML				
	comp=E,116µm,1.3s								
MURB	**Monte Urbino**	**0.46**	**304**	⇑P	Pg	00 58 10.2	+0.3		
MURB				AML	AML				
	comp=E,350µm,1.6s								
MURB				AML	AML				
	comp=N,504µm,0.7s								
MURB				AML	AML				
	comp=E,350µm,1.6s								
MURB				AML	AML				
	comp=N,504µm,0.7s								
MURB				AML	AML				
	comp=N,504µm,0.2s								
MURB				AML	AML				
	comp=E,350µm,0.4s								
MURB				AML	AML				
	comp=E,355µm,0.3s								
SSFR	**Montelago di S**	**0.47**	**336**	⇓P	Pg	00 58 10.5	+0.3		
SSFR				AML	AML				
	comp=E,406µm,0.1s								
SSFR				AML	AML				
	comp=N,448µm,0.7s								
SSFR				AML	AML				
	comp=N,499µm,0.3s								
SSFR				AML	AML				
	comp=E,290µm,0.8s								
ARRO	**Arrone**	**0.47**	**206**	⇑P	Pb	00 58 10.8	-0.4		
ARRO				AML	AML				
	comp=E,106µm,0.9s								
ARRO				AML	AML				
	comp=N,75µm,0.2s								
OFFI	**Offida**	**0.48**	**98**	⇓P	Pb	00 58 11.5	+0.1		
OFFI				AML	AML				
	comp=E,273µm,0.7s								
OFFI				AML	AML				
	comp=N,292µm,0.5s								
ARVD	**Arcevia**	**0.50**	**351**	⇓P	Pg	00 58 10.9	+0.2		
ARVD				S	Sb	00 58 18.9	0.0		
ARVD				AML	AML				
	comp=N,77µm,0.9s								
ARVD				AML	AML				
	comp=E,113µm,0.7s								
ARVD				AML	AML				
	comp=N,77µm,1.1s								
ATFO	**Monte Foce - G**	**0.50**	**316**	⇓P	Pg	00 58 10.9	+0.3		
ATFO				AML	AML				
	comp=E,68µm,1.1s								
ATFO				AML	AML				
	comp=N,66µm,0.9s								
RM33	**Pellescritta (**	**0.51**	**166**	⇓P	Pg	00 58 11.3	+0.3		
RM33				AML	AML				
	comp=E,95µm,0.2s								
RM33				AML	AML				
	comp=N,81µm,0.6s								
CESX	**Cesi**	**0.52**	**221**	⇑P	Pg	00 58 11.0	-0.1		
CESX				AML	AML				
	comp=E,112µm,0.8s								
CESX				AML	AML				
	comp=N,151µm,0.7s								
ATTE	**AVT- Monte Tez**	**0.54**	**291**	AML	AML				
	comp=E,73µm,0.5s								
ATTE				AML	AML				
	comp=N,56µm,1.5s								
ATTE				AML	AML				
	comp=N,56µm,0.5s								
CAMP	**Campotosto**	**0.54**	**150**	⇑P	Pg	00 58 11.6	+0.1		
CAMP				AML	AML				
	comp=E,58µm,0.2s								
CAMP				AML	AML				
	comp=N,62µm,0.2s								
FRON	**Frontone**	**0.56**	**336**	⇑P	Pg	00 58 11.9	+0.1		
FRON				AML	AML				
	comp=E,65µm,0.2s								
FRON				AML	AML				
	comp=N,112µm,0.6s								
TERO	**Teramo**	**0.56**	**133**	P	Pg	00 58 12.2	+0.3		
TERO				S	Sb	00 58 20.6	-0.3		
TERO				AML	AML				
	comp=E,94µm,1.5s								
TERO				AML	AML				
	comp=N,107µm,0.5s								
TERO				AML	AML				
	comp=E,94µm,0.5s								
TERO				AML	AML				
	comp=N,107µm,1.5s								
ATVO	**AVT- Monte Val**	**0.60**	**309**	⇓P	Pg	00 58 12.6	0.0		
ATVO				AML	AML				
	comp=N,48µm,0.5s								
ATVO				AML	AML				
	comp=E,54µm,0.3s								
ATPI	**Pietralunga -**	**0.65**	**314**	⇓P	Pb	00 58 13.9	-0.3		
PIEI	**Pieia**	**0.65**	**325**	P	Pg	00 58 13.6	+0.1		
PIEI				AML	AML				
	comp=E,75µm,0.9s								
PIEI				AML	AML				
	comp=E,75µm,1.1s								
PIEI				AML	AML				
	comp=N,44µm,1.1s								
NARO	**Abbazia di Nar**	**0.69**	**331**	P	Pg	00 58 14.1	-0.2		
NARO				AML	AML				
	comp=N,35µm,0.9s								
NARO				AML	AML				
	comp=E,38µm,0.6s								
FIAM	**Fiamignano**	**0.74**	**176**	AML	AML				
	comp=N,44µm,0.4s								
FIAM				AML	AML				
	comp=N,44µm,1.6s								
FIAM				AML	AML				
	comp=E,38µm,0.3s								
VCEL	**Villa Celiera**	**0.85**	**136**	P	Pg	00 58 17.1	-0.2		
VCEL				AML	AML				
	comp=E,84µm,0.4s								
VCEL				AML	AML				
	comp=N,63µm,0.6s								

*IDC **09** 00:58:09.8±4.9, 13°.88S×167°.04E, h232km±43km, mb3.2/5, mbtmp3.8/6, Error ellipse: s-maj=33.8km s-min=27.3km az=10.0*

ISC 09 00:58:06.5±1.2, 13°.7S±0°.1×167°.0E±0°.2, h200km, n8, σ1§26/9, mb3.4/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.35**	**184**	P	**Pn**	**01 00 06.3**	**+1.9**
	4.0nm,0.7s,baz=299,slow=13,SNR=1.1						
DZM				S	**Sn**	**01 01 36.9**	**-1.5**
	6.7nm,1.0s,baz=278,slow=19,SNR=1.2						
STKA	**Stephens Creek**	**29.50**	**228**	P	**P**	**01 03 52.9**	**+0.8**
	2.3nm,0.5s,baz=69,slow=10,SNR=6.6						
	2.3nm,0.5s						
WRA	**Warramunga Arr**	**31.87**	**254**	P	**P**	**01 04 12.5**	**-0.5**
	0.4nm,0.6s,baz=82,slow=6.8,SNR=4.8						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**32.84**	**248**	P	**P**	**01 04 21.0**	**-0.5**
	1.0nm,0.6s,baz=73,slow=9.5,SNR=12						
	1.0nm,0.6s						
QSPA	**South Pole Qui**	**76.33**	**180**	P	**P**	**01 09 31.8**	**-1.4**
	0.5nm,0.6s,baz=37,slow=18,SNR=9.7						
	0.5nm,0.6s						
ILAR	**Eielson Array**	**85.62**	**18**	P	**P**	**01 10 22.0**	**0.0**
	0.2nm,0.7s,baz=238,slow=5.1,SNR=2.4						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**119.20**	**345**	PKP	**PKPdf**	**01 16 30.9**	**-0.2**
	1.4nm,0.9s,baz=81,slow=1.6,SNR=6.9						
FINES	**FINESS Array B**	**124.68**	**338**	PKP	**PKPdf**	**01 16 42.4**	**+0.6**
	0.5nm,0.6s,baz=72,slow=6.2,SNR=4.3						

ROM 09 00:58:54.5±0.1, 43°.037N±0°.003×13°.049E±0°.004, h9km, ML1.2/22, 4C-1D, Error ellipse: s-maj=0.3km s-min=0.1km az=269.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**90**	P	Pg	00 58 56.4	+0.1
FDMO				S	Sg	00 58 57.2	-0.2
T1219	**Muccia, Frazio**	**0.04**	**302**	P	Pg	00 58 56.5	+0.2
T1219				S	Sg	00 58 57.6	0.0
FEMA	**Monte Fema**	**0.07**	**179**	P	Pg	00 58 57.1	+0.3
FEMA				S	Sg	00 58 58.7	+0.3
T1220	**Camerino, Fraz**	**0.08**	**22**	P	Pg	00 58 57.2	+0.4
T1220				S	Sg	00 58 59.0	+0.6
T1220				AML	AML		
	comp=E,318µm,0.3s						
T1220				AML	AML		
	comp=N,174µm,0.4s						
T1220				AML	AML		
	comp=N,346µm,0.4s						
T1220				AML	AML		
	comp=N,346µm,0.4s						
T1220				AML	AML		
	comp=E,606µm,1.3s						
T1220				AML	AML		
	comp=E,317µm,0.3s						
MML1	**Montelago di S**	**0.10**	**324**	P	Pg	00 58 57.5	+0.5
MML1				S	Sg	00 58 59.4	+0.5
CESI	**CESI - Serrava**	**0.11**	**253**	P	Pg	00 58 57.8	+0.6
CESI				S	Sg	00 59 00.0	+0.9
CESI				AML	AML		
	comp=N,262µm,0.3s						
CESI				AML	AML		
	comp=E,206µm,0.8s						
CSP1	**Cessapalombo**	**0.13**	**64**	P	Pg	00 58 58.0	+0.5
CSP1				S	Sg	00 59 00.3	+0.7
CSP1				AML	AML		
	comp=N,70µm,0.5s						
CSP1				AML	AML		
	comp=E,141µm,0.4s						
PF6	**Pievefavera**	**0.15**	**43**	P	Pg	00 58 58.2	+0.4
PF6				S	Sg	00 59 00.9	+0.7
MC2	**Monte Cornacci**	**0.16**	**140**	P	Pg	00 58 58.6	+0.5
MC2				S	Sg	00 59 01.8	+1.3
NRCA	**Norcia**	**0.21**	**167**	P	Pg	00 58 59.3	+0.5
NRCA				S	Sg	00 59 03.0	+1.2
NRCA				AML	AML		
	comp=E,216µm,1.2s						
NRCA				AML	AML		
	comp=N,264µm,0.1s						
NRCA				AML	AML		
	comp=E,216µm,0.8s						
GUMA	**Gualdo di Mace**	**0.21**	**83**	P	Pg	00 58 59.7	+0.8
GUMA				S	Sg	00 59 03.8	+1.9
GUMA				AML	AML		
	comp=E,348µm,0.3s						
GUMA				AML	AML		
	comp=N,162µm,0.3s						
GUMA				AML	AML		
	comp=E,348µm,1.7s						
GUMA				AML	AML		
	comp=N,162µm,1.7s						
T1221	**Campello sul C**	**0.23**	**220**	P	Pg	00 58 59.9	+0.7
T1221				S	Sg	00 59 04.1	+1.8
SNTG	**Esanatoglia**	**0.23**	**340**	P	Pg	00 58 59.8	+0.5
SNTG				S	Sg	00 59 03.9	+1.5
SNTG				AML	AML		
	comp=E,38µm,1.2s						
SNTG				AML	AML		
	comp=N,61µm,0.2s						
MMO1	**Montemonaco**	**0.25**	**124**	P	Pg	00 59 00.1	+0.6
MMO1				S	Sg	00 59 04.1	+1.3
ASSB	**Assisi San Ben**	**0.29**	**271**	⇑P	Pg	00 59 00.9	+0.6
ASSB				AML	AML		
	comp=E,51µm,0.2s						
ASSB				AML	AML		
	comp=N,95µm,0.2s						
EL6	**Elcito**	**0.29**	**8**	⇑P	Pg	00 59 01.1	+0.6
EL6				AML	AML		
	comp=E,84µm,1.2s						
EL6				AML	AML		
	comp=N,134µm,1.1s						
EL6				AML	AML		
	comp=E,84µm,0.8s						
MF5	**Montefalcone A**	**0.31**	**99**	P	Pb	00 59 01.9	-0.3
CING	**Cingoli**	**0.35**	**17**	⇑P	Pg	00 59 02.1	+0.6
CING				AML	AML		
	comp=E,25µm,0.9s						
CING				AML	AML		
	comp=N,31µm,1.6s						
CING				AML	AML		
	comp=N,31µm,0.4s						
CING				AML	AML		
	comp=E,25µm,1.1s						
GAVE	**Gavelli**	**0.36**	**198**	⇑P	Pg	00 59 02.3	+0.6
GAVE				AML	AML		
	comp=N,44µm,0.2s						
GAVE				AML	AML		
	comp=E,58µm,0.2s						
GAVE				AML	AML		
	comp=N,44µm,1.8s						
GAVE				AML	AML		
	comp=E,58µm,1.8s						
ARVD	**Arcevia**	**0.47**	**350**	⇓P	Pg	00 59 04.2	+0.5
ARVD				S	Sb	00 59 11.6	-0.4

ROM 09 00:59:39.0±0.1, 43°.036N±0°.003×13°.048E±0°.004, h9km, ML1.0/14, Error ellipse: s-maj=0.3km s-min=0.3km az=249.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**89**	P	Pg	00 59 40.8	+0.1
FDMO				S	Sg	00 59 41.6	-0.3
FDMO				AML	AML		
	comp=E,604µm,0.2s						
FDMO				AML	AML		
	comp=N,426µm,0.6s						
FDMO				AML	AML		
	comp=N,426µm,1.4s						
T1219	**Muccia, Frazio**	**0.04**	**304**	P	Pg	00 59 41.0	+0.2
T1219				S	Sg	00 59 42.0	-0.1
T1219				AML	AML		
	comp=N,787µm,0.2s						
T1219				AML	AML		
	comp=E,904µm,0.1s						
FEMA	**Monte Fema**	**0.07**	**179**	P	Pg	00 59 41.6	+0.3
FEMA				S	Sg	00 59 43.1	+0.3
T1220	**Camerino, Fraz**	**0.08**	**22**	P	Pg	00 59 41.7	+0.5
T1220				S	Sg	00 59 43.4	+0.6
T1220				AML	AML		
	comp=E,228µm,1.2s						
T1220				AML	AML		
	comp=N,224µm,0.5s						
T1220				AML	AML		
	comp=E,405µm,1.3s						
T1220				AML	AML		
	comp=N,446µm,0.1s						
T1220				AML	AML		
	comp=E,228µm,0.8s						
T1220				AML	AML		
	comp=E,405µm,0.7s						
MML1	**Montelago di S**	**0.10**	**324**	P	Pg	00 59 41.9	+0.4
MML1				S	Sg	00 59 43.8	+0.5
MML1				AML	AML		
	comp=E,61µm,0.3s						
MML1				AML	AML		
	comp=N,68µm,0.3s						
MML1				AML	AML		
	comp=N,68µm,0.3s						
CESI	**CESI - Serrava**	**0.11**	**254**	P	Pg	00 59 42.2	+0.6
CESI				S	Sg	00 59 44.4	+0.8
CESI				AML	AML		
	comp=E,51µm,0.6s						
CESI				AML	AML		
	comp=N,48µm,0.9s						
CESI				AML	AML		
	comp=N,48µm,1.1s						
CSP1	**Cessapalombo**	**0.13**	**64**	P	Pg	00 59 42.5	+0.5
CSP1				S	Sg	00 59 45.0	+1.0
CSP1				AML	AML		
	comp=E,2605µm,1.6s						
CSP1				AML	AML		
	comp=N,1145µm,1.6s						
CSP1				AML	AML		
	comp=E,2920µm,1.6s						
CSP1				AML	AML		
	comp=N,1377µm,1.6s						
CSP1				AML	AML		
	comp=N,1377µm,0.4s						
CSP1				AML	AML		
	comp=E,2920µm,0.4s						
MC2	**Monte Cornacci**	**0.16**	**140**	P	Pg	00 59 43.1	+0.6
MC2				S	Sg	00 59 46.3	+1.3
NRCA	**Norcia**	**0.21**	**166**	P	Pg	00 59 43.8	+0.5
NRCA				S	Sg	00 59 47.3	+1.1
NRCA				AML	AML		
	comp=E,42µm,0.2s						
NRCA				AML	AML		
	comp=N,60µm,0.2s						
NRCA				AML	AML		
	comp=E,42µm,1.8s						
T1221	**Campello sul C**	**0.23**	**220**	P	Pg	00 59 44.4	+0.7
T1221				S	Sg	00 59 48.1	+1.3
SNTG	**Esanatoglia**	**0.23**	**340**	P	Pg	00 59 44.5	+0.7
SNTG				S	Sg	00 59 48.4	+1.4
EL6	**Elcito**	**0.30**	**8**	P	Pg	00 59 45.6	+0.6
EL6				S	Sb	00 59 50.6	-1.1
ATCC	**AVT- Casa Cast**	**0.33**	**297**	P	Pb	00 59 46.8	-0.4
ATCC				S	Sb	00 59 52.1	-0.6
CING	**Cingoli**	**0.36**	**18**	P	Pg	00 59 46.6	+0.6
CING				S	Sb	00 59 52.5	-0.8
CING				AML	AML		

comp=E,18µm,1.3s
CING AML AML
comp=N,20µm,0.2s
CING AML AML
comp=E,18µm,0.7s

*IDC **09** 00:59:53.7±10.0, 1°.47N×127°.32E, h117km±98km, mb3.7/8, mbtmp4.1/9, ML4.1/1, Error ellipse: s-maj=74.4km s-min=15.6km az=57.0*
*NEIC **09** 00:59:53.5±0.9, 1°.5N±0°.1×127°.3E±0°.2, h110km±9km, mb4.1/15, Error ellipse: s-maj=23.5km s-min=15.3km az=67.0*
*DJA **09** 00:59:54.5±0.6,2°N±5°×127°7E±°, h84km±7km, M4.3/10, mb4.5/6, mB5.1/2, MLv4.2/10, Mw(mB)4.4/2*
ISC 09 00:59:54.1±0.8,**1°.42N**±0°.08×**127°.29E**±0°.09,**h128**km,**n37,** σ1**s41**/40,**mb4.0**/16,**Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.65**	**173**			**Pn**	**01 00 11.6**	**-2.4**
TNTI	**Ternate**	**0.65**	**173**	P		**Pn**	**01 00 13.0**	**-1.0**
TNTI				S		**Sn**	**01 00 26.2**	**-2.8**
LBMI	**Labuha**	**2.06**	**174**	P		**Pn**	**01 00 30.4**	**+1.7**
KMSI	**Cibinong**	**3.41**	**256**	P		**Pn**	**01 00 46.8**	**+0.7**
SANI	**Sanana**	**3.68**	**201**	P		**Pn**	**01 00 49.3**	**-0.4**
GTOI	**Gorontalo**	**4.35**	**260**	P		**Pn**	**01 01 00.1**	**+1.6**
LUWI	**Luwuk**	**5.14**	**242**	Pn		**Pn**	**01 01 07.8**	**-1.3**
TOLI2	**Tolitoli**	**6.51**	**267**	Pn		**Pn**	**01 01 27.2**	**-0.4**
TTSI	**Tana Toraja** 40nm,0.7s	**8.69**	**239**	P		**Pn**	**01 01 57.5**	**+0.6**
KAPI	**Kappang**	**9.88**	**230**	Pn		**Pn**	**01 02 14.5**	**+1.5**
KAPI	**Kappang** 1.6nm,0.3s,baz=72,slow=3.2,SNR=2.7	**9.88**	**230**	P		**Pn**	**01 02 15.3**	**+2.4**
KAPI	4.8nm,0.3s,baz=7.0,slow=22,SNR=3.3 2.6nm,0.3s			S		**Sn**	**01 04 00.8**	**-1.3**
EDFI	**Ende, Flores**	**11.54**	**209**	P		**Pn**	**01 02 39.8**	**+4.5**
SBUM	**Sibu**	**15.10**	**274**	Pn		**Pn**	**01 03 19.3**	**-1.6**
WB0	**Warramunga Arr**	**22.18**	**162**	P		**P**	**01 04 40.5**	**+0.5**
WRAB	**Tennant Creek**	**22.32**	**162**	P		**P**	**01 04 42.0**	**+0.6**
WRAB	comp=Z,13nm,0.9s			IAmb		IAmb	01 04 57.4	
WRA	**Warramunga Arr**	**22.33**	**162**	P		**P**	**01 04 40.7**	**-0.9**
WRA	**Warramunga Arr** comp=Z,4.8nm,0.3s,baz=340,slow=11,SNR=54	**22.33**	**162**	P		**P**	**01 04 42.0**	**+0.4**
WRA	comp=Z,0.6nm,1.0s,baz=327,slow=19,SNR=2.1 comp=Z,4.8nm,0.3s			S		**S**	**01 08 36.2**	**-1.9**
WB2	**Warramunga Arr**	**22.33**	**162**	P		**P**	**01 04 41.8**	**+0.3**
WB2	comp=Z,9.3nm,0.8s			IAmb		IAmb	01 04 44.1	
WR0	**Warramunga Arr**	**22.41**	**162**	P		**P**	**01 04 42.5**	**+0.2**
WR0	comp=Z,5.6nm,0.8s			IAmb		IAmb	01 04 44.0	
MBWA	**Marble Bar**	**23.63**	**198**	P		**P**	**01 04 52.0**	**-1.7**
MBWA	comp=Z,16nm,1.5s			IAmb		IAmb	01 05 05.5	
ASAR	**Alice Springs**	**25.75**	**166**	P		**P**	**01 05 13.8**	**+0.8**
ASAR	**Alice Springs** comp=Z,1.2nm,0.3s,baz=349,slow=7.3,SNR=18 comp=Z,1.2nm,0.3s	**25.75**	**166**	P		**P**	**01 05 14.2**	**+1.1**
FORT	**Forrest**	**32.03**	**179**	P		**P**	**01 06 08.1**	**-0.6**
BBOO	**Buckleboo**	**35.04**	**167**	P		**P**	**01 06 35.3**	**+0.6**
STKA	**Stephens Creek**	**35.79**	**159**	P		**P**	**01 06 41.9**	**+0.8**
STKA	comp=Z,0.8nm,0.8s			IAmb		IAmb	01 06 42.8	
STKA	**Stephens Creek** comp=Z,1.7nm,0.3s,baz=338,slow=11,SNR=5.5 comp=Z,1.7nm,0.3s	**35.79**	**159**	P		**P**	**01 06 42.1**	**+1.0**
SONM	**Songino Array** comp=Z,0.3nm,0.4s,baz=145,slow=5.3,SNR=1.8 comp=Z,0.3nm,0.4s	**49.65**	**342**	P		**P**	**01 08 32.0**	**-0.9**
MK31	**Makanchi Array**	**59.76**	**326**	P		**P**	**01 09 46.4**	**+0.7**
MK31	comp=Z,1.2nm,0.5s			IAmb		IAmb	01 09 47.4	
MKAR	**Makanchi Array**	**59.76**	**326**	P		**P**	**01 09 46.5**	**+0.8**
MKAR	**Makanchi Array** comp=Z,1.3nm,0.4s,baz=117,slow=7.8,SNR=22 comp=Z,1.3nm,0.4s	**59.76**	**326**	P		**P**	**01 09 47.1**	**+1.4**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.3s,baz=112,slow=11,SNR=2.0 comp=Z,0.4nm,0.3s	**62.89**	**333**	P		**P**	**01 10 06.6**	**+0.1**
KURBB	**Kurchatov Arra** comp=Z,1.2nm,0.6s,baz=126,slow=6.2,SNR=17 comp=Z,1.2nm,0.6s	**63.98**	**328**	P		**P**	**01 10 14.5**	**+0.8**
KURK	**Kurchatov**	**63.98**	**328**	P		**P**	**01 10 13.9**	**+0.1**
KURK	comp=Z,2.0nm,0.8s			IAmb		IAmb	01 10 15.4	
KK31	**Karatay Array**	**65.30**	**318**	P		**P**	**01 10 23.4**	**+0.9**
KK31	comp=Z,1.5nm,0.9s			IAmb		IAmb	01 10 27.6	
KKAR	**Karatay Array**	**65.30**	**318**	P		**P**	**01 10 23.1**	**+0.6**
KKAR	comp=Z,1.4nm,0.9s			IAmb		IAmb	01 10 27.6	
BVAR	**Borovoye Array** comp=Z,0.4nm,0.5s,baz=120,slow=5.7,SNR=3.2 comp=Z,0.4nm,0.5s	**69.55**	**327**	P		**P**	**01 10 48.8**	**-0.3**
ABKAR	**Akbulak array**	**74.28**	**321**	P		**P**	**01 11 17.6**	**+0.2**

*CATAC **09** 01:09:50.0±0.2, 13°.24N×88°.07W, h6km±2km, ML3.4*
*SNET **09** 01:09:50.0±0.7, 13°.29N×88°.05W, h1km±2km, ML3.5*
ISC 09 01:09:50.3±0.9,**13°.25N**±0°.05×**88°.06W**±0°.02,**h15**km±6km,
n36, σ0**s66**/48,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**69**	*eP*		**Pg**	**01 09 54.3**	**-0.4**
LCND				*eP*			01 09 54.4	
LCND	comp=Z,35µm,0.4s			IAML			01 09 59.3	
LCND	**La Caada**	**0.17**	**69**	*i* P		**Pg**	**01 09 54.2**	**-0.4**
LCND	comp=Z,34µm,1.0s			IAML			01 09 59.2	
JUCU	**Jucuarįn**	**0.18**	**272**	*eP*		**Pg**	**01 09 54.5**	**-0.3**
JUCU				*eS*		**Sg**	**01 09 57.8**	**0.0**
JUCU	comp=Z,9µm,0.4s			IAML			01 09 59.5	
JUCU	**Jucuarįn**	**0.18**	**272**	*i* P		**Pg**	**01 09 54.4**	**-0.4**
JUCU				*i* S		**Sg**	**01 09 57.4**	**-0.4**
JUCU	comp=Z,10µm,1.0s			IAML			01 10 01.5	
CNCH	**Conchagua**	**0.22**	**82**	*eP*		**Pg**	**01 09 55.2**	**-0.2**
CNCH				*eP*			01 09 55.8	
CNCH	comp=Z,20µm,0.1s			IAML			01 09 60.0	
CNCH	**Conchagua**	**0.22**	**82**	*i* P		**Pg**	**01 09 55.2**	**-0.2**
CNCH				*i* S		**Sg**	**01 09 59.3**	**+0.5**
CNCH	comp=Z,21µm,1.0s			IAML			01 10 00.0	
CNRM	**Centro Naciona**	**0.25**	**334**	*i* P		**Pg**	**01 09 55.3**	**-0.5**
CNRM				*i* S		**Sg**	**01 09 59.7**	**+0.1**
CNRM	comp=Z,71µm,1.0s			IAML			01 10 06.9	
BLLM	**Bellamira**	**0.26**	**318**	*i* P		**Pg**	**01 09 55.7**	**-0.3**
LCY	**Lacayo**	**0.29**	**307**	*eP*		**Pg**	**01 09 56.4**	**-0.2**
RANC	**El Ranchito**	**0.29**	**310**	*eP*		**Pg**	**01 09 56.4**	**-0.2**
RANC	**El Ranchito**	**0.29**	**310**	*i* P		**Pg**	**01 09 56.4**	**-0.2**
RANC	comp=Z,5µm,1.0s			IAML			01 10 08.4	
PACA	**Pacayal**	**0.34**	**311**	*eP*		**Pg**	**01 09 57.2**	**-0.2**
PACA	**Pacayal**	**0.34**	**311**	*i* P		**Pg**	**01 09 57.2**	**-0.2**
PACA	comp=Z,22µm,1.0s			IAML			01 10 08.5	
AMPH	**Amapala**	**0.39**	**84**	*eP*		**Pg**	**01 09 58.1**	**-0.1**
TECA	**Tecapa**	**0.50**	**300**	*eP*		**Pg**	**01 10 00.1**	**-0.2**
COEB	**Comit de Eme**	**0.52**	**299**	*i* P		**Pg**	**01 10 00.5**	**-0.2**
COEB	comp=Z,1µm,1.0s			IAML			01 10 10.1	
TECO	**Alcaldia de Te**	**0.76**	**292**	*eP*		**Pg**	**01 10 04.4**	**-0.8**
TECO	**Alcaldia de Te**	**0.76**	**292**	*i* P		**Pg**	**01 10 04.4**	**-0.8**
TECO	comp=Z,580nm,1.0s			IAML			01 10 17.6	
SCLA	**Alcaldia de Sa**	**0.79**	**305**	*eP*		**Pg**	**01 10 05.4**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.79**	**305**	*i* P		**Pg**	**01 10 05.4**	**-0.4**
SCLA	comp=Z,390nm,1.0s			IAML			01 10 26.0	
UESV	**Universidad de**	**0.81**	**299**	*i* P		**Pg**	**01 10 05.5**	**-0.6**
UESV	comp=Z,670nm,1.0s			IAML			01 10 06.3	
COEG	**Centro de Oper**	**0.88**	**295**	*eP*		**Pg**	**01 10 06.7**	**-0.8**
COEG	**Centro de Oper**	**0.88**	**295**	*i* P		**Pg**	**01 10 06.7**	**-0.8**
COEG				*i* S		**Sg**	**01 10 18.8**	**-0.3**
COEG	comp=Z,900nm,1.0s			IAML			01 10 23.9	
PAVA	**Las Pavas**	**0.97**	**299**	*i* P		**Pg**	**01 10 08.6**	**-0.6**
PAVA				*i* S		**Sb**	**01 10 22.4**	**+0.7**
PAVA	comp=Z,1µm,1.0s			IAML			01 10 24.9	
TGUH	**Tegucigalpa,Un**	**1.11**	**43**	*eP*		**Pg**	**01 10 10.3**	**-1.5**
CRIN	**San Cristobal**	**1.12**	**119**	*eP*		**Pg**	**01 10 11.7**	**-0.3**
CRIN	**San Cristobal**	**1.12**	**119**	*i* P		**Pg**	**01 10 11.8**	**-0.3**
CRIN	comp=Z,3µm,1.0s			IAML			01 10 13.0	
LOMA	**Loma Larga**	**1.15**	**290**	*eP*		**Pg**	**01 10 11.6**	**-1.0**
LOMA	**Loma Larga**	**1.15**	**290**	*i* P		**Pg**	**01 10 11.7**	**-1.0**
LOMA				*i* S		**Sb**	**01 10 27.8**	**+0.9**
LOMA	comp=Z,860nm,1.0s			IAML			01 10 29.9	
PIC2	**El Picacho**	**1.27**	**293**	*eP*		**Pg**	**01 10 14.2**	**-0.6**
PMON	**Piamonte**	**1.31**	**291**	*i* P		**Pg**	**01 10 14.2**	**-1.3**
PMON				*i* S		**Sb**	**01 10 32.5**	**+1.2**
PMON	comp=Z,810nm,1.0s			IAML			01 10 39.5	
PACN	**Al O del Volca**	**1.44**	**121**	*i* P		**Pn**	**01 10 15.8**	**-0.1**
PACN	comp=Z,390nm,1.0s			IAML			01 10 20.3	
PACN				*i* S		**Sg**	**01 10 36.7**	**-0.1**
ROCN	**Rota Cerro Neg**	**1.47**	**119**	*i* P		**Pn**	**01 10 15.4**	**-1.0**
ROCN				*i* S		**Sb**	**01 10 36.5**	**+0.5**
ROCN	comp=Z,160nm,1.0s			IAML			01 10 55.2	
CNGN	**Cerro Negro**	**1.52**	**119**	*i* P		**Pn**	**01 10 16.9**	**-0.1**
CNGN				*i* S		**Sg**	**01 10 39.1**	**-0.3**
CNGN	comp=Z,450nm,1.0s			IAML			01 10 56.2	
CNGA	**Al SSO del Vol**	**1.52**	**119**	*i* P		**Pn**	**01 10 15.7**	**-1.3**
CNGA				*i* S		**Sn**	**01 10 37.8**	**+1.2**
CNGA	comp=Z,260nm,1.0s			IAML			01 10 43.1	
MTO3	**Montecristo**	**1.71**	**312**	*i* P		**Pn**	**01 10 20.2**	**+0.4**
MTO3	comp=Z,270nm,1.0s			IAML			01 10 21.4	

*IDC **09** 01:18:56.9±1.8, 0°.47N×125°.05E, h0km, mb3.2/4, mbtmp3.3/4, Error ellipse: s-maj=227.3km s-min=23.2km az=64.0*
*DJA **09** 01:19:03.1±0.4, 0°N±6°×12°6E±°, h10km, M3.1/7, MLv3.1/7*
ISC 09 01:19:04.3±1.1,**0°.5N**±0°.1×**125°.72E**±0°.06,**h50**km,**n9,** σ2**s32**/10,**mb3.2**/4,**Northern Moluccа Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.67**	**82**	P		**Pn**	**01 19 33.2**	**+2.0**
KMSI	**Cibinong**	**1.73**	**272**	P		**Pn**	**01 19 32.2**	**+0.2**
KMSI				S		**Sn**	**01 19 54.3**	**+1.3**
LBMI	**Labuha**	**2.13**	**123**	P		**Pn**	**01 19 39.0**	**+1.6**
SANI	**Sanana**	**2.57**	**174**	P		**Pn**	**01 19 43.9**	**+0.4**
GTOI	**Gorontalo**	**2.71**	**272**	P		**Pn**	**01 19 48.6**	**+3.2**
WRA	**Warramunga Arr** 0.5nm,0.6s,baz=334,slow=11,SNR=6.5 0.5nm,0.6s	**22.03**	**158**	P		**P**	**01 23 54.2**	**-0.6**
ASAR	**Alice Springs** 0.6nm,0.7s,baz=340,slow=9.0,SNR=5.0 0.6nm,0.7s	**25.33**	**162**	P		**P**	**01 24 28.1**	**+1.4**
MKAR	**Makanchi Array** 0.2nm,0.4s,baz=134,slow=5.2,SNR=4.3 0.2nm,0.4s	**59.63**	**327**	P		**P**	**01 29 01.7**	**-1.6**
KURBB	**Kurchatov Arra** 0.1nm,0.7s,baz=139,slow=6.2,SNR=1.8 0.1nm,0.7s	**63.90**	**329**	P		**P**	**01 29 28.3**	**-3.7**

*NEIC **09** 01:32:30.6±1.7, 56°.25N±0°.07×149°.49W±0°.02, h21km±8km, mb3.7/1, ML3.6/54, ML3.4(AEIC), Error ellipse: s-maj=10.7km s-min=0.6km az=190.0*
*AEIC **09** 01:32:34.8±1.7, 56°.28N±0°.08×149°.47W±0°.10, h12km±7km, Error ellipse: s-maj=11.6km s-min=7.6km az=164.0*
ISC 09 01:32:29.2±1.2,**56°.29N**±0°.09×**149°.47W**±0°.06,**h10**km,
n175, σ1**s22**/186,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.26**	**313**	Pn		**Pn**	**01 33 06.6**	**0.0**
KDAK						**Sn**	**01 33 33.0**	**-1.5**
KDAK	**Kodiak Island** baz=131	**2.26**	**313**	P		**Pn**	**01 33 07.6**	**+1.0**
KDAK	baz=131			S		**Sn**	**01 33 33.5**	**-1.0**
OHAK	**Old Harbor**	**2.30**	**295**	P		**Pn**	**01 33 07.4**	**+0.3**
OHAK	**Old Harbor**	**2.30**	**295**	Pn		**Pn**	**01 33 06.3**	**-0.7**
OHAK						**Sn**	**01 33 33.4**	**-2.0**
OHAK	**Old Harbor** baz=114	**2.30**	**295**	P		**Pn**	**01 33 07.2**	**+0.1**
OHAK	baz=114			S		**Sn**	**01 33 33.8**	**-1.6**
SII	**Sitkinak Islan**	**2.63**	**278**	P		**Pn**	**01 33 12.9**	**+1.2**
SII	**Sitkinak Islan**	**2.63**	**278**	Pn		**Pn**	**01 33 11.0**	**-0.7**
SII						**Sn**	**01 33 41.5**	**-2.1**
SII	comp=N,188nm,1.3s			IAML			01 33 49.0	
SII	comp=E,200nm,2.1s			IAML			01 33 58.2	
SII	**Sitkinak Islan** baz=95	**2.63**	**278**	P		**Pn**	**01 33 12.1**	**+0.4**
SII	baz=95			S		**Sn**	**01 33 42.2**	**-1.4**
Q20K	**Shuyak Island** baz=145	**2.81**	**327**	P		**Pn**	**01 33 15.2**	**+1.1**
SYI	**Shuyak Island**	**2.81**	**327**	Pn		**Pn**	**01 33 14.6**	**+0.6**
CNPM	**China Poot**	**3.38**	**345**	Pn		**Pn**	**01 33 22.8**	**+0.8**
CNPM						**Sn**	**01 34 01.3**	**-0.7**
Q19K	**Cape Douglas,**	**3.47**	**321**	Pn		**Pn**	**01 33 24.1**	**+1.0**
CHIR	**Chirikof Islan**	**3.48**	**265**	Pn		**Pn**	**01 33 24.4**	**+1.1**
CHIR	comp=N,202nm,3.0s			IAML			01 34 05.4	
CHIR	comp=E,174nm,3.0s			IAML			01 35 24.6	
BRSE	**Bradley Lake S**	**3.52**	**349**			**Pn**	**01 33 24.3**	**+0.4**
BRSE						**Sn**	**01 34 04.7**	**-0.9**
BRSE	**Bradley Lake S** baz=169	**3.52**	**349**	P		**Pn**	**01 33 24.5**	**+0.6**
Q23K	**Middleton Isla**	**3.56**	**27**	Pn		**Pn**	**01 33 24.4**	**0.0**
Q23K	comp=E,142nm,1.1s			IAML			01 34 04.7	
Q23K	comp=N,107nm,1.4s			IAML			01 34 24.9	
BRLK	**Bradley Lake**	**3.56**	**348**	Pn		**Pn**	**01 33 24.6**	**+0.2**
SEW	**Seward**	**3.82**	**0**	Pn		**Pn**	**01 33 28.1**	**+0.1**
P23K	**Montague Islan**	**3.87**	**16**			**Pn**	**01 33 29.4**	**+0.7**
P23K						**Sn**	**01 34 11.8**	**-2.3**
P19K	**Oil Pt**	**3.92**	**331**	Pn		**Pn**	**01 33 29.8**	**+0.4**
P19K	comp=N,125nm,0.6s			IAML			01 34 27.1	
P19K	comp=E,116nm,0.6s			IAML			01 34 35.6	
CNTC	**Contact Creek**	**4.00**	**302**			**Pn**	**01 33 32.4**	**+1.9**
O20K	**Slope Mountain**	**4.15**	**338**			**Pn**	**01 33 33.8**	**+1.2**
IVE	**Iliamna Volcan**	**4.18**	**335**			**Pn**	**01 33 33.8**	**+0.8**
O22K	**Cooper Landing**	**4.20**	**358**	Pn		**Pn**	**01 33 32.8**	**-0.5**
SLKM	**Skilak Lake**	**4.25**	**355**			**Pn**	**01 33 34.5**	**+0.6**
SLKM						**Sn**	**01 34 22.3**	**-1.1**
HIN	**Hinchinbrook I**	**4.40**	**20**	Pn		**Pn**	**01 33 36.4**	**+0.4**
HIN						**Sn**	**01 34 24.4**	**-2.8**
HIN	comp=N,90nm,0.9s			IAML			01 34 26.9	
HIN	comp=E,73nm,0.9s			IAML			01 34 27.7	
KAIM	**Kayak Island**	**4.52**	**34**	Pn		**Pn**	**01 33 38.0**	**+0.4**
KAIM	comp=E,103nm,1.1s			IAML			01 34 30.6	
RSO	**Redoubt South**	**4.52**	**339**	Pn		**Pn**	**01 33 37.8**	**-0.1**
O18K	**Koktuh Hills**	**4.69**	**322**	Pn		**Pn**	**01 33 40.8**	**+0.8**
O18K	comp=N,42nm,0.9s			IAML			01 34 49.6	
O18K	comp=E,37nm,0.7s			IAML			01 34 50.3	
EYAK	**Cordova Ski Ar**	**4.69**	**23**	P		**Pn**	**01 33 41.2**	**+1.3**
EYAK	**Cordova Ski Ar**	**4.69**	**23**	Pn		**Pn**	**01 33 40.8**	**+0.8**
EYAK	**Cordova Ski Ar** baz=206	**4.69**	**23**	P		**Pn**	**01 33 41.5**	**+1.5**
FID	**Port Fidalgo**	**4.74**	**18**	Pn		**Pn**	**01 33 40.8**	**+0.3**
FID	comp=N,40nm,0.5s			IAML			01 34 37.5	
FID	comp=E,40nm,0.6s			IAML			01 34 43.4	
GLI	**Glacier Island**	**4.76**	**14**	Pn		**Pn**	**01 33 41.0**	**+0.1**
GLI	comp=E,41nm,1.0s			IAML			01 34 41.9	
RC01	**Rabbit Creek A**	**4.81**	**358**	Pn		**Pn**	**01 33 42.1**	**+0.5**
RC01	comp=N,31nm,0.5s			IAML			01 34 39.9	
RAGM	**Ragged Mountai**	**4.82**	**30**	Pn		**Pn**	**01 33 41.3**	**-0.5**
SUCK	**Suckling Hills**	**4.84**	**36**	Pn		**Pn**	**01 33 42.8**	**+0.8**
SUCK	comp=E,56nm,0.9s			IAML			01 34 46.8	
HMT	**Hamilton**	**4.90**	**32**	Pn		**Pn**	**01 33 43.7**	**+1.0**
NICHA	**Nichawak Mount**	**4.91**	**34**			**Pn**	**01 33 44.0**	**+1.1**
CHGN	**Chignik**	**4.98**	**274**	Pn		**Pn**	**01 33 45.5**	**+1.6**
CHGN	comp=N,44nm,2.3s			IAML			01 34 36.0	
CHGN	comp=E,70nm,0.7s			IAML			01 34 40.3	
BERG	**Berg Lake**	**5.11**	**34**	Pn		**Pn**	**01 33 46.4**	**+0.7**
BERG	comp=N,66nm,1.0s			IAML			01 34 56.1	
GRIN	**Grindle Hills**	**5.15**	**37**			**Pn**	**01 33 47.7**	**+1.5**
KNK	**Knik Glacier**	**5.16**	**5**	Pn		**Pn**	**01 33 46.6**	**+0.2**
KNK	comp=E,26nm,1.0s			IAML			01 34 51.6	
SUA	**Susitna One**	**5.23**	**353**	Pn		**Pn**	**01 33 48.2**	**+0.8**
SUA	comp=N,36nm,2.8s			IAML			01 34 53.4	
SUA	comp=E,41nm,3.1s			IAML			01 34 57.4	
N19K	**Bonanza Creek**	**5.24**	**332**	Pn		**Pn**	**01 33 46.9**	**-0.6**
N19K	comp=E,24nm,3.3s			IAML			01 34 54.7	
N19K	comp=N,25nm,4.2s			IAML			01 35 23.2	
SNH	**Sunshine Point**	**5.24**	**39**	Pn		**Pn**	**01 33 48.2**	**+0.7**
SNH	comp=E,37nm,1.3s			IAML			01 34 52.8	
SNH	comp=N,34nm,1.1s			IAML			01 35 23.5	
PMR	**Palmer**	**5.32**	**2**	Pn		**Pn**	**01 33 48.4**	**-0.1**
BMRM	**Bremner River**	**5.33**	**26**	Pn		**Pn**	**01 33 49.6**	**+0.9**
BMRM	**Bremner River** baz=210	**5.33**	**26**	P		**Pn**	**01 33 50.5**	**+1.7**
STLK	**Strandline Lak**	**5.36**	**348**			**Pn**	**01 33 49.8**	**+0.6**
WAX	**Waxell Ridge**	**5.43**	**37**	Pn		**Pn**	**01 33 50.9**	**+0.7**
M22K	**Willow**	**5.49**	**357**	Pn		**Pn**	**01 33 51.2**	**+0.4**
GHO	**Glory Hole Cre**	**5.50**	**3**	Pn		**Pn**	**01 33 51.3**	**+0.1**
BARK	**Barkley Ridge**	**5.52**	**39**			**Pn**	**01 33 52.3**	**+0.9**
KLU	**Klutina**	**5.53**	**18**	Pn		**Pn**	**01 33 51.3**	**-0.2**
KLU	**Klutina** baz=201	**5.53**	**18**	P		**Pn**	**01 33 52.5**	**+1.0**
N18K	**Kilae Creek**	**5.54**	**325**	Pn		**Pn**	**01 33 51.9**	**+0.3**
MESA	**MESA**	**5.56**	**42**	Pn		**Pn**	**01 33 52.8**	**+0.7**
SML	**Sawmill**	**5.56**	**6**	Pn		**Pn**	**01 33 52.4**	**+0.4**
SML	**Sawmill** baz=187	**5.56**	**6**	P		**Pn**	**01 33 53.6**	**+1.7**
Q16K	**Kokwok River B**	**5.66**	**309**	Pn		**Pn**	**01 33 53.5**	**+0.3**
SCM	**Sheep Creek Mo**	**5.67**	**10**	Pn		**Pn**	**01 33 54.6**	**+1.3**
ISLE	**Juniper Island**	**5.72**	**38**	Pn		**Pn**	**01 33 54.4**	**+0.3**
SKT	**Skwentna**	**5.80**	**350**	Pn		**Pn**	**01 33 55.9**	**+0.7**
VRDI	**Verde Repeater**	**5.86**	**30**	Pn		**Pn**	**01 33 56.6**	**+0.6**
N25K	**Chitina, Valde**	**5.89**	**23**	Pn		**Pn**	**01 33 56.7**	**+0.2**
N25K	**Chitina, Valde** baz=207	**5.89**	**23**	P		**Pn**	**01 33 58.0**	**+1.5**
GLB	**Gilahina Butte**	**5.94**	**27**	Pn		**Pn**	**01 33 57.3**	**+0.2**
KIAG	**Kiagna River**	**5.95**	**36**			**Pn**	**01 33 58.5**	**+1.2**
SAMH	**Samovar Hills**	**5.99**	**46**			**Pn**	**01 33 59.2**	**+1.4**
M24K	**Tolsona, Glenn**	**6.07**	**15**	Pn		**Pn**	**01 34 00.2**	**+1.3**
MCARA	**McCarthy VSAT**	**6.10**	**31**	Pn		**Pn**	**01 33 59.9**	**+0.6**
PTPK	**Patty Peak**	**6.11**	**34**			**Pn**	**01 34 00.9**	**+1.3**
M18K	**Stony River**	**6.16**	**330**			**Pn**	**01 34 00.4**	**+0.3**
M19K	**Big River Lodg**	**6.17**	**338**	Pn		**Pn**	**01 34 00.3**	**+0.1**
BARN	**Barnard Glacie**	**6.28**	**37**	Pn		**Pn**	**01 34 02.2**	**+0.4**
SDPT	**Sand Point**	**6.28**	**266**	P		**Pn**	**01 34 03.4**	**+1.7**
SDPT	**Sand Point**	**6.28**	**266**	Pn		**Pn**	**01 34 01.6**	**-0.1**
CTG	**Chitna Glacier** baz=226	**6.32**	**39**	P		**Pn**	**01 34 03.6**	**+1.2**
CTGM	**Chitina Glacie**	**6.32**	**39**	Pn		**Pn**	**01 34 03.1**	**+0.6**
PNL	**Peninsula**	**6.33**	**54**	P		**Pn**	**01 34 03.9**	**+1.4**
PNL	**Peninsula**	**6.33**	**54**			**Pn**	**01 34 03.4**	**+0.9**
LOGN	**Logan Glacier**	**6.34**	**41**	Pn		**Pn**	**01 34 03.7**	**+0.9**
WAT6	**Susitna Watana**	**6.37**	**7**			**Pn**	**01 34 03.9**	**+0.8**
WAT6	**Susitna Watana** baz=189	**6.37**	**7**	P		**Pn**	**01 34 04.8**	**+1.7**
BCPM	**Bancas Point**	**6.37**	**51**	Pn		**Pn**	**01 34 03.4**	**+0.4**
L19K	**White Mountain**	**6.52**	**337**	Pn		**Pn**	**01 34 06.2**	**+1.2**
M17K	**Holitna River**	**6.58**	**324**	Pn		**Pn**	**01 34 06.1**	**+0.2**
O28M	**Mount Upton**	**6.61**	**43**			**Pn**	**01 34 07.5**	**+1.0**
O28M	**Mount Upton** baz=231	**6.61**	**43**	P		**Pn**	**01 34 08.9**	**+2.3**
N15K	**Kwethluk River**	**6.82**	**309**	Pn		**Pn**	**01 34 10.9**	**+1.8**
DHY	**Denali Highway**	**6.89**	**8**	Pn		**Pn**	**01 34 11.7**	**+1.5**
M26K	**Nabesna, AK**	**6.96**	**26**	Pn		**Pn**	**01 34 11.0**	**-0.1**
L18K	**Granite Mounta**	**7.00**	**331**	Pn		**Pn**	**01 34 11.3**	**-0.3**
YUK2	**White River**	**7.08**	**35**				**01 34 14.1**	**+1.3**
P29M	**Windy Craggy**	**7.08**	**57**	Pn		**Pn**	**01 34 12.7**	**0.0**
P29M	**Windy Craggy** baz=247	**7.08**	**57**	P		**Pn**	**01 34 13.7**	**+1.0**
S12K	**Black Hills**	**7.09**	**270**	Pn		**Pn**	**01 34 13.3**	**+0.5**
YUK8	**Steele Glacier**	**7.10**	**41**			**Pn**	**01 34 15.3**	**+2.1**
YUK8	**Steele Glacier** baz=229	**7.10**	**41**	P		**Pn**	**01 34 15.3**	**+2.1**
RND	**Reindeer**	**7.14**	**2**	Pn		**Pn**	**01 34 14.6**	**+0.9**
TRF	**Thorofare Moun**	**7.19**	**357**	Pn		**Pn**	**01 34 15.3**	**+0.9**
YUK3	**Moose Creek**	**7.20**	**36**				**01 34 16.7**	**+2.2**
YUK3	**Moose Creek** baz=224	**7.20**	**36**	P		**Pn**	**01 34 16.7**	**+2.2**
M27K	**Edge Creek, AK**	**7.21**	**29**	Pn		**Pn**	**01 34 16.6**	**+2.0**
M27K	**Edge Creek, AK** baz=216	**7.21**	**29**	P		**Pn**	**01 34 17.4**	**+2.8**
**C

M31M	**Drury Creek, Y**	**9.72**	**46**	Pn		**Pn**	01 34 50.5	**+1.6**
IMAR	**Indian Mountai**	**9.94**	**350**	Pn		**Pn**	01 34 52.4	**+0.6**
R33M	**Jennings River**	**10.33**	**65**	Pn		**Pn**	01 34 57.7	**+0.3**
G21K	**Allakaket**	**10.44**	**351**	Pn		**Pn**	01 34 59.5	**+0.9**
G23K	**Bananza Creek**	**10.46**	**359**	Pn		**Pn**	01 34 59.5	**+0.5**
FYU	**Fort Yukon**	**10.50**	**9**	Pn		**Pn**	01 35 01.4	**+1.9**
J30M	**Hart River**	**10.52**	**33**	Pn		**Pn**	01 35 01.1	**+1.2**
F21K	**Alatna River**	**11.13**	**352**	Pn		**Pn**	01 35 09.4	**+1.2**
MMPY	**Sheldon Lake,**	**11.20**	**48**	Pn		**Pn**	01 35 10.8	**+1.7**
BMAR	**Burnt Mountain**	**11.41**	**10**	Pn		**Pn**	01 35 12.5	**+0.6**
E19K	**Redstone River**	**11.77**	**345**	Pn		**Pn**	01 35 18.5	**+1.6**
E24K	**Your Creek**	**11.84**	**2**	Pn		**Pn**	01 35 18.1	**+0.3**
E25K	**Arctic Village**	**12.01**	**7**	Pn		**Pn**	01 35 22.4	**+2.3**
C23K	**Itkillik River**	**13.61**	**358**	Pn		**Pn**	01 35 44.6	**+2.8**
INK	**Inuvik**	**14.08**	**25**	Pn		**Pn**	01 35 48.5	**+0.2**
B20K	**Meade River**	**14.18**	**349**	Pn		**Pn**	01 35 47.4	**-2.3**
B22K	**Teshekpuk Lake**	**14.21**	**355**	Pn		**Pn**	01 35 49.1	**-1.0**
YKA	**Yellowknife Ar**	**18.62**	**56**			**P**	01 36 47.0	**+0.6**
A36M	**Sachs Harbour**	**18.71**	**23**	P		**P**	01 36 48.7	**+1.4**
A36M				IAmb		IAmb	01 37 03.0	
	comp=Z,5.0nm,0.9s							

*NEIC **09** 01:34:27.6±1.6, 19°.37N±0°.02×155°.02W±0°.03, h9km±2km, Error ellipse: s-maj=5.3km s-min=0.9km az=126.0*

HVO 09 01:34:26.7±1.4, **19°.36N**±0°.01×**154°.956W**±0°.008, **h6**km±4km, **ML2.9**/16, **ML2.9**/20(NEIC), **Error ellipse: s-maj=2.1km s-min=1.0km az=182.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.09**	**328**		Pg	01 34 30.6	+1.9
PHO	**Puu Honuaula**	**0.14**	**28**		Pg	01 34 29.9	+0.3
JCUZ	**Jacuzzi**	**0.14**	**280**		Pg	01 34 29.6	-0.1
JCUZ				Sg	Sg	01 34 31.5	-0.2
NPOC	**North of Pu'u**	**0.15**	**282**	Pg	Pg	01 34 29.9	+0.1
NPOC				Sg	Sg	01 34 31.9	0.0
NPOC				IAML		01 34 32.5	
	comp=E,5μm,0.6s						
STCH	**Steam Cracks**	**0.16**	**279**	Pg	Pg	01 34 29.8	-0.2
STCH				Sg	Sg	01 34 32.2	0.0
STCH				IAML		01 34 32.8	
	comp=E,3μm,0.1s						
PUH	**Pauahi**	**0.25**	**273**	Pg	Pg	01 34 31.5	-0.1
PUH				Sg	Sg	01 34 35.3	+0.5
PUH				IAML		01 34 39.8	
	comp=N,2μm,0.9s						
HATHI	**Halema'uma'u T**	**0.29**	**282**	Pg	Pg	01 34 32.1	-0.4
HATHI				Sg	Sg	01 34 36.2	-0.3
RSD	**Rainshed**	**0.32**	**289**	Sg	Sg	01 34 37.1	-0.2
HLP	**Hilina Pali**	**0.34**	**259**	Sg	Sg	01 34 39.0	+1.2
MLH	**Mauna Loa**	**0.43**	**288**	Sg	Sg	01 34 40.9	+0.2
HTC	**Hot Caves**	**0.43**	**254**		Pg	01 34 35.5	+0.3
HMH	**Humu'ula Sheep**	**0.55**	**296**	Pg	Pg	01 34 37.1	-0.4
HMH				Sg	Sg	01 34 44.5	-0.1
MLOA	**Mauna Loa Obse**	**0.61**	**287**	Pg	Pg	01 34 37.8	-0.8
MLOA				Sg	Sg	01 34 45.6	-0.9
MLOA				IAML		01 34 46.9	
	comp=E,1μm,0.2s						
MLOA				IAML		01 34 55.4	
	comp=N,544nm,0.8s						
KHU	**Kahuku**	**0.63**	**260**	Pg	Pg	01 34 37.7	-1.3
KHU				Sg	Sg	01 34 46.5	-0.7
KHU				IAML		01 34 48.4	
	comp=E,485nm,0.6s						
KHU				IAML		01 34 55.4	
	comp=N,517nm,1.2s						
POHA	**Pohakuloa**	**0.67**	**306**	Pg	Pg	01 34 37.6	-2.1
POHA				IAML		01 34 56.6	
	comp=N,676nm,0.3s						
POHA				IAML		01 34 59.3	
	comp=N,716nm,0.5s						
ALEP	**Alea Permanent**	**0.67**	**286**		Pg	01 34 38.5	-1.2
ALEP					Sg	01 34 48.0	-0.5
HUH	**Hualalai**	**0.89**	**291**	Pg	Pg	01 34 42.4	-1.4
HUH				IAML		01 35 08.8	
	comp=E,1μm,0.5s						

IDC 09 01:35:16.5±2.1, **6°.68S**×**129°.03E**, **h0**km, **mb3.5**/1, **mbtmp3.3**/3, **ML3.2**/2, **Error ellipse: s-maj=116.2km s-min=32.5km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.15**	**159**	Pn	Pn	01 38 38.5	+0.1
	0.2nm,0.3s,baz=338,slow=13,SNR=8.0						
WRA				Sn	Sn	01 41 04.9	-11
	0.3nm,0.3s,baz=333,slow=23,SNR=5.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**17.53**	**165**	P	Pn	01 39 22.4	0.0
	baz=349,slow=8.5,SNR=2.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	01 46 14.0	0.0
	0.2nm,0.3s,baz=122,slow=7.7,SNR=5.6						
	0.2nm,0.3s						

*CATAC **09** 01:44:08.8±0.9, 6°.61N×82°.65W, h10km, ML3.4*
*UPA **09** 01:44:09.9±1.8, 6°.64N×82°.24W, h21km±51km, MD4.2, MW4.5*

ISC 09 01:44:09.9±2.3, **6°.89N**±0°.10×**82°.20W**±0°.05, **h19**km±4km, **n22**, σ**1°30**/37, **1C, South of Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMAL	**Guarumal, Vera**	**1.29**	**48**	*i* P	**Pg**	01 44 35.7	**+0.7**
GMAL				*i* S	**Sg**	01 44 54.4	**+2.5**
CACAO	**El Cacao, Vera**	**1.40**	**71**	*i* P	**Pb**	01 44 35.4	**-0.1**
CACAO				*i* S	**Sg**	01 44 53.4	**-1.9**
MARI3	**Mariato, Verag**	**1.42**	**58**	*eP*	**Pb**	01 44 35.6	**-0.2**
MARI3				*eS*	**Sg**	01 44 56.1	**+0.2**
PTPM	**Petroterminale**	**1.47**	**333**	*eP*	**Pb**	01 44 36.6	**-0.1**
PTPM				*eS*	**Sg**	01 44 57.1	**-0.5**
PEDE3	**Pedregal, Chir**	**1.50**	**352**	*eP*	**Pg**	01 44 40.5	**+1.5**
DVD	**David**	**1.56**	**351**	*eP*	**Pn**	01 44 32.9	**-3.8**
MESA3	**La Mesa, Verag**	**1.61**	**39**	*eP*	**Pn**	01 44 36.5	**-0.8**
TOSI3	**Tonosi**	**1.82**	**73**	*eP*	**Pn**	01 44 40.7	**+0.5**
BCO2	**Palmira**	**1.85**	**350**	*i* P	**Pb**	01 44 43.5	**+0.3**
BCO2				*i* S	**Sg**	01 45 08.9	**-0.8**
BRU2	**Volcan**	**1.96**	**346**	*i* P	**Pb**	01 44 45.1	**0.0**
BRU2				*eS*	**Sg**	01 45 12.1	**-1.0**
BRU2	**Volcan**	**1.96**	**346**	*i* P	**Pb**	01 44 44.7	**-0.4**
BRU2				*i* S	**Sg**	01 45 12.1	**-1.0**
BRU2				IAML		01 45 25.5	
	comp=Z,160nm,1.0s						
MLIR3	**Monte Lirio, C**	**1.99**	**342**	*eP*	**Pb**	01 44 46.4	**+0.7**
MLIR3				*i* S	**Sg**	01 45 12.4	**-1.9**
CHGR2	**Aguacate**	**2.04**	**1**	*eP*	**Pb**	01 44 45.8	**-0.5**
CHGR2				*eS*	**Sg**	01 45 14.3	**-1.4**
CHIT3	**Chitre**	**2.06**	**59**	*eP*	Pn	01 44 37.3	-6.2
CHIT3				*eS*	**Sn**	01 45 07.8	**-0.9**
AZU	**Azuero**	**2.11**	**65**	*eP*	**Pb**	01 44 46.5	**-1.0**
PLAN	**Los Planes de**	**2.30**	**320**	*i* P	**Pn**	01 44 45.7	**-1.2**
PLAN				IAML		01 44 58.9	
	comp=Z,160nm,1.0s						
PLAN				*i* S	**Sn**	01 45 15.9	**+1.2**
SRBA	**San Rafael, Bu**	**2.60**	**334**	*i* P	**Pn**	01 44 52.0	**+1.0**
SRBA				*i* S	**Sb**	01 45 28.3	**+0.7**
SRBA				IAML		01 45 31.2	
	comp=Z,46nm,1.0s						
OCHAL	**Ojochal**	**2.62**	**327**	*i* P	**Pn**	01 44 51.6	**+0.3**
OCHAL				IAML		01 44 57.0	
	comp=Z,56nm,1.0s						
OCHAL				*i* S	**Sn**	01 45 23.8	**+1.2**
CDM	**Cerro de Muert**	**3.07**	**330**	*i* P	**Pn**	01 44 58.6	**+0.8**
CDM				*i* S	**Sn**	01 45 36.4	**+2.1**
CDM				IAML		01 45 47.8	
	comp=Z,47nm,1.0s						
JACO	**JACO, Garabito**	**3.68**	**319**	*i* P	**Pn**	01 45 05.0	**-0.8**
JACO				*i* S	**Sn**	01 45 48.4	**-0.3**
JACO				IAML		01 46 25.3	
	comp=Z,56nm,1.0s						
SAJU	**San Juanillo,**	**4.70**	**313**	*i* P	**Pn**	01 45 18.4	**-1.4**
SAJU				*i* S	**Sn**	01 46 12.1	**-1.7**
SAJU				IAML		01 47 05.8	
	comp=Z,36nm,1.0s						
ORTG	**Ortega, Santa**	**4.72**	**317**	*i* P	**Pn**	01 45 20.2	**-0.1**
ORTG				IAML		01 46 27.5	
	comp=Z,47nm,1.0s						

IDC 09 02:06:16.3±8.8, **6°.67S**×**155°.06E**, **h0**km, **mb4.0**/3, **mbtmp4.0**/3, **Error ellipse: s-maj=143.2km s-min=93.6km az=28.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.06**	**235**	P	P	02 11 34.5	+1.0
	4.0nm,0.6s,baz=58,slow=9.7,SNR=42						
	4.0nm,0.6s						
ASAR	**Alice Springs**	**26.44**	**228**	P	P	02 11 55.5	+0.4
	0.5nm,0.3s,baz=56,slow=9.2,SNR=7.1						
	0.5nm,0.3s						
STKA	**Stephens Creek**	**28.05**	**205**	P	P	02 12 07.7	-1.8
	1.4nm,0.7s,baz=35,slow=6.6,SNR=3.3						
	1.4nm,0.7s						

*IDC **09** 02:10:16.8±1.5, 18°.87N×105°.51W, h0km, mb3.5/7, mbtmp3.6/11, ML3.3/3, MS3.3/14, Error ellipse: s-maj=42.5km s-min=18.8km az=53.0*
*MEX **09** 02:10:16.8±0.8, 18°.63N×105°.62W, h16km±30km, MD4.5*
*NEIC **09** 02:10:17.0±1.4, 18°.68N±0°.06×105°.38W±0°.06, h10km±2km, mb4.4/82, Md4.5/99(MEX), Error ellipse: s-maj=11.4km s-min=8.8km az=210.0*

ISC 09 02:10:16.9±1.6, **18°.73N**±0°.05×**105°.44W**±0°.05, **h12**km±9km, **n196**, σ**2°12**/249, **mb4.3**/26, **MS3.4**/10, **Off coast of Jalisco**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.85**	**26**	*i* P	**Pg**	02 10 32.1	**-1.3**
CJM				*eS*	**Sg**	02 10 44.5	**-0.1**
CIHU	**Emiliano Zapat**	**0.85**	**51**	*i* P	**Pg**	02 10 32.5	**-0.9**
CIHU				*i* S	**Sg**	02 10 45.3	**+0.7**
CDAR	**Ciudad de Arme**	**1.37**	**81**	*eP*	**Pn**	02 10 40.2	**-1.6**
CDAR				*eS*	**Sb**	02 10 58.4	**-1.6**
R15V		**1.45**	**72**		**Pn**	02 10 41.5	**-1.4**
R15V		**1.45**	**72**	*eP*	**Pn**	02 10 41.5	**-1.4**
R15V				*eS*	**Sn**	02 11 00.9	**-1.0**
CEGR	**Campo Tres**	**1.63**	**66**	*eP*	**Pn**	02 10 44.7	**-0.9**
CEGR				*eS*	**Sn**	02 11 06.1	**-0.7**
COMA	**Comala**	**1.69**	**69**	*eP*	**Pn**	02 10 46.3	**-0.1**
COMA				*eS*	**Sn**	02 11 08.1	**+0.1**
COIG	**Colima**	**1.71**	**75**	*eP*	**Pn**	02 10 45.6	**-1.1**
COIG				*eS*	**Sn**	02 11 07.7	**-0.9**
ESTA	**Talpa de Allen**	**1.75**	**19**	*i* P	**Pn**	02 10 45.7	**-1.5**
ESTA				*i* S	**Sn**	02 11 08.3	**-1.1**
MNGA	**Volcan de Coli**	**1.87**	**67**	*eP*	**Pn**	02 10 48.9	**-0.1**
MNGA				*eS*	**Sn**	02 11 12.5	**-0.1**
SOMAC	**Volcano de Col**	**1.88**	**65**	*eP*	**Pn**	02 10 49.2	**-0.1**
SOMAC				*eS*	**Sn**	02 11 14.2	**+1.0**
EZ5V		**1.89**	**66**		**Pn**	02 10 49.4	**+0.1**
EZ5V					**Sb**	02 11 15.5	**+0.3**
EZ5V		**1.89**	**66**	*eP*	**Pn**	02 10 49.4	**+0.1**
INCO	**Volcan de Coli**	**1.91**	**65**	*eP*	**Pn**	02 10 49.5	**-0.2**
INCO				*eS*	**Sn**	02 11 14.3	**+0.5**
JUBC	**Volcan de Coli**	**1.93**	**66**	*eP*	**Pn**	02 10 50.1	**+0.3**
JUBC				*eS*	**Sn**	02 11 14.7	**+0.5**
MMIG	**Aquila**	**2.03**	**102**		**Pn**	02 10 49.2	**-1.8**
MMIG					**Sn**	02 11 13.6	**-2.7**
MMIG	**Aquila**	**2.03**	**102**	*eP*	**Pn**	02 10 49.2	**-1.8**
MMIG				*eS*	**Sn**	02 11 13.6	**-2.7**
ANIG	**Ahuacatlan**	**2.47**	**20**		**Pn**	02 10 56.5	**-0.6**
ANIG					**Sn**	02 11 28.9	**+1.7**
ANIG	**Ahuacatlan**	**2.47**	**20**	*eP*	**Pn**	02 10 56.5	**-0.6**
ANIG				*eS*	**Sn**	02 11 28.9	**+1.7**
ZIIG	**Zihuatanejo**	**3.94**	**106**		**Pn**	02 11 16.2	**-1.1**
ZIIG					**Sn**	02 12 00.8	**-2.6**
ZIIG	**Zihuatanejo**	**3.94**	**106**	*eP*	**Pn**	02 11 16.3	**-0.9**
ZIIG				*eS*	**Sn**	02 12 00.8	**-2.6**
MOIG	**Morelia**	**4.12**	**76**	Pn	**Pn**	02 11 17.9	**-2.2**
MOIG	**Morelia**	**4.12**	**76**	*eP*	**Pn**	02 11 22.6	**+2.5**
MOIG				*eS*	**Sn**	02 12 07.9	**-0.5**
AAIG	**Aguscalientes**	**4.31**	**41**		**Pn**	02 11 23.4	**+0.8**
AAIG					**Sb**	02 12 20.4	**-4.6**
AAIG	**Aguscalientes**	**4.31**	**41**	*eP*	**Pn**	02 11 23.4	**+0.8**
AAIG				*eS*	**Sn**	02 12 14.0	**+1.0**
MAIG	**Mazatlaan**	**4.53**	**348**		**Pn**	02 11 22.5	**-2.8**
MAIG	**Mazatlaan**	**4.53**	**348**	*eP*	**Pn**	02 11 22.5	**-2.8**
MAIG				*eS*	**Sn**	02 12 13.7	**-4.3**
ZAIG	**Zacatecas**	**4.83**	**33**	Pn	**Pn**	02 11 29.2	**-0.6**
ZAIG	**Zacatecas**	**4.83**	**33**	*eP*	**Pn**	02 11 29.5	**-0.3**
ZAIG				*eS*	**Sn**	02 12 22.7	**-3.2**
ARIG	**Puente Sto Nin**	**4.85**	**94**		**Pn**	02 11 30.9	**+1.1**
ARIG					**Sn**	02 12 25.7	**-0.3**
ARIG	**Puente Sto Nin**	**4.85**	**94**	*eP*	**Pn**	02 11 30.9	**+1.1**
ARIG				*eS*	**Sn**	02 12 25.7	**-0.3**
JRQG	**Juriquilla Cam**	**5.09**	**67**	Pn	**Pn**	02 11 33.3	**0.0**
JRQG	**Juriquilla Cam**	**5.09**	**67**	*eS*	**Sn**	02 12 38.5	**+6.2**
H06E1	**SOCORRO T-PHAS**	**5.20**	**271**	T	T	02 16 32.4	
	SNR=201						
H06N	**Isla Socorro**	**5.26**	**272**		**Pn**	02 11 33.6	**-1.7**
MEIG	**Mezcala**	**5.58**	**97**		**Pn**	02 11 41.5	**+1.5**
MEIG					**Sn**	02 12 42.1	**-2.0**
MEIG	**Mezcala**	**5.58**	**97**	*eP*	**Pn**	02 11 40.8	**+0.9**
MEIG				*eS*	**Sn**	02 12 42.1	**-2.0**
MAVM	**Malinalco, Edo**	**5.63**	**87**		**Pn**	02 11 41.9	**+1.1**
MAVM					**Sn**	02 12 45.6	**0.0**
MAVM	**Malinalco, Edo**	**5.63**	**87**	*eP*	**Pn**	02 11 40.0	**-0.8**
MAVM				*eS*	**Sn**	02 12 45.6	**0.0**
PLIG	**Platanillo**	**5.64**	**92**		**Pn**	02 12 46.2	**+0.6**
PLIG					**Sn**	02 12 46.2	**+0.6**
PLIG	**Platanillo**	**5.64**	**92**	*eP*	**Pn**	02 11 41.0	**+0.2**
PLIG				*eS*	**Sn**	02 12 46.2	**+0.6**
DAIG	**Los Arroyos**	**5.77**	**106**		**Pn**	02 11 43.3	**+0.9**
DAIG					**Sn**	02 12 44.1	**-4.5**
DAIG	**Los Arroyos**	**5.77**	**106**	*eP*	**Pn**	02 11 43.3	**+0.9**
DAIG				*eS*	**Sn**	02 12 44.1	**-4.5**
YAIG	**Yautepec**	**6.04**	**88**		**Pn**	02 11 48.9	**+2.7**
YAIG					**Sn**	02 12 55.3	**-0.1**
YAIG	**Yautepec**	**6.04**	**88**	*eP*	**Pn**	02 11 48.9	**+2.7**
YAIG				*eS*	**Sn**	02 12 55.3	**-0.1**
SSIG	**Sanalona**	**6.26**	**346**		**Pn**	02 11 45.1	**-4.1**
SSIG	**Sanalona**	**6.26**	**346**	*eP*	**Pn**	02 11 46.4	**-2.8**
SSIG				*eS*	Sn	02 12 51.8	-8.9
CRIG	**Cruz Grande**	**6.33**	**107**		**Pn**	02 11 51.3	**+1.2**
CRIG					**Sn**	02 12 58.1	**-4.2**
CRIG	**Cruz Grande**	**6.33**	**107**	*eP*	**Pn**	02 11 51.3	**+1.2**
CRIG				*eS*	**Sn**	02 12 58.1	**-4.2**
PPIG	**Popocatepetl**	**6.46**	**86**		**Sn**	02 13 07.8	**+1.6**
PPIM	**Popocatepetl**	**6.46**	**86**	*eP*	**Pn**	02 11 55.6	**+3.3**
PPIM				*eS*	**Sn**	02 13 07.8	**+1.6**
SLBS	**Sierra La Lagu**	**6.48**	**320**	Pn	**Pn**	02 11 51.0	**-1.2**
TLIG	**Tlapa**	**6.64**	**99**	Pn	**Pn**	02 11 55.7	**+1.3**
TLIG	**Tlapa**	**6.64**	**99**	*eP*	**Pn**	02 11 56.5	**+2.1**
TLIG				*eS*	**Sn**	02 13 07.5	**-2.6**
MGIG	**Malinaltepec**	**6.64**	**102**		**Pn**	02 11 56.4	**+1.8**
MGIG					**Sn**	02 13 07.8	**-2.6**
MGIG	**Malinaltepec**	**6.64**	**102**	*eP*	**Pn**	02 11 56.4	**+1.8**
MGIG				*eS*	**Sn**	02 13 07.8	**-2.6**
FTIG	**Fresnillo de T**	**6.99**	**96**		**Pn**	02 12 01.4	**+2.1**
FTIG					**Sn**	02 13 13.6	**-5.1**
FTIG	**Fresnillo de T**	**6.99**	**96**	*eP*	**Pn**	02 12 01.4	**+2.1**
FTIG				*eS*	**Sn**	02 13 13.6	**-5.1**
LPIG	**La Paz**	**7.01**	**321**	LR	LR	02 14 04.2	
	comp=Z,259nm,21.1s,baz=152,slow=33						
PNIG	**Pinotepa**	**7.35**	**107**		**Pn**	02 12 05.7	**+1.5**
PNIG					**Sn**	02 13 23.2	**-4.4**
PNIG	**Pinotepa**	**7.35**	**107**	*eP*	**Pn**	02 12 05.7	**+1.5**
PNIG				*eS*	**Sn**	02 13 23.2	**-4.4**
TXIG	**Tlaxiaco**	**7.45**	**100**		**Pn**	02 12 08.1	**+2.4**
TXIG					**Sn**	02 13 26.1	**-4.2**
TXIG	**Tlaxiaco**	**7.45**	**100**	*eP*	**Pn**	02 12 08.1	**+2.4**
TXIG				*eS*	**Sn**	02 13 26.1	**-4.2**
TPIG	**Tehuac#an**	**7.67**	**91**		**Pn**	02 12 10.5	**+1.8**
TPIG					**Sn**	02 13 34.5	**-1.1**
TPIG	**Tehuac#an**	**7.67**	**91**	*eP*	**Pn**	02 12 10.1	**+1.5**
TPIG				*eS*	**Sn**	02 13 34.5	**-1.1**
YOIG	**Yosondua**	**7.75**	**103**		**Pn**	02 12 12.1	**+2.3**
YOIG					**Sn**	02 13 32.9	**-4.8**
YOIG	**Yosondua**	**7.75**	**103**	*eP*	**Pn**	02 12 12.1	**+2.3**
YOIG				*eS*	**Sn**	02 13 32.9	**-4.8**
TOIG	**Toxpalan**	**7.97**	**93**		**Pn**	02 12 15.1	**+2.3**
TOIG					**Sn**	02 13 38.4	**-4.7**
TOIG	**Toxpalan**	**7.97**	**93**	*eP*	**Pn**	02 12 15.1	**+2.3**
TOIG				*eS*	**Sn**	02 13 38.4	**-4.7**
JAUV	**Jalcomulco**	**8.19**	**84**	*eP*	**Pn**	02 12 16.9	**+1.1**
PEIG	**Puerto Escondi**	**8.37**	**108**		**Pn**	02 12 20.2	**+2.0**
PEIG					**Sn**	02 13 47.4	**-5.3**
PEIG	**Puerto Escondi**	**8.37**	**108**	*eP*	**Pn**	02 12 20.2	**+2.0**
PEIG				*eS*	**Sn**	02 13 47.4	**-5.3**

OXIG	**Oaxaca**	**8.45**	**100**			**Pn**	02 12 22.1	**+2.7**
OXIG						**Sn**	02 13 48.7	**-6.2**
VHO	**Vista Hermosa**	**8.45**	**100**	*eP*		**Pn**	02 12 22.1	**+2.7**
VHO				*eS*		**Sn**	02 13 48.7	**-6.2**
CSIG	**Choix**	**8.50**	**342**			**Pn**	02 12 20.1	**+0.1**
CSIG						**Sn**	02 13 51.1	**-4.7**
CSIG	**Choix**	**8.50**	**342**	*eP*		**Pn**	02 12 20.1	**+0.1**
CSIG				*eS*		**Sn**	02 13 51.1	**-4.7**
NEUV	**Arroyo Zacate**	**9.21**	**95**	*eP*		**Pn**	02 12 30.9	**+1.2**
HUIG	**Huatulco**	**9.39**	**107**			**Pn**	02 12 35.0	**+2.8**
HUIG	**Huatulco**	**9.39**	**107**	*eP*		**Pn**	02 12 35.0	**+2.8**
HUIG				*eS*		**Sn**	02 14 25.2	**+7.5**
PMUV	**Sontecomapan**	**9.78**	**89**	*eP*		**Pn**	02 12 38.2	**+0.6**
PMUV				*eS*		**Sn**	02 14 26.4	**-1.1**
CMIG	**Matias Romero**	**10.18**	**98**			**Pn**	02 12 45.2	**+2.3**
CMIG						**Sn**	02 14 32.7	**-4.4**
CMIG	**Matias Romero**	**10.18**	**98**	Pn		**Pn**	02 12 45.3	**+2.3**
	10.0nm,0.3s,baz=268,slow=11,SNR=71							
CMIG				Sn		**Sn**	02 14 35.5	**-1.6**
	0.1nm,0.3s,baz=280,slow=16,SNR=0.8							
CMIG				LR		LR	02 16 41.8	
	comp=Z,183nm,18.9s,baz=321,slow=38							
CMIG	**Matias Romero**	**10.18**	**98**	*eP*		**Pn**	02 12 45.2	**+2.3**
CMIG				*eS*		**Sn**	02 14 32.7	**-4.4**
TX31	**Lajitas Ar. Si**	**10.68**	**8**	Pn		**Pn**	02 12 50.5	**+0.6**
TXAR	**Lajitas Array**	**10.68**	**8**	Pn		**Pn**	02 12 50.2	**+0.4**
TXAR	**Lajitas Array**	**10.68**	**8**	Pn		**Pn**	02 12 51.3	**+1.4**
	0.1nm,0.3s,baz=194,slow=15,SNR=20							
	1.4nm,0.7s							
UXUV	**UXUV**	**10.84**	**96**	*eP*		**Pn**	02 12 53.5	**+1.6**
UXUV				*eS*		**Sn**	02 14 54.0	**+0.8**
DRIO	**Del Rio**	**11.52**	**22**	Pn		**Pn**	02 13 02.0	**+0.8**
VHRN	**Van Horn**	**12.01**	**2**	Pn		**Pn**	02 13 08.0	**-0.2**
PCIG		**12.06**	**103**			**Sn**	02 15 21.9	**-1.3**
PCIG		**12.06**	**103**	*eP*		**Pn**	02 13 12.2	**+3.5**
PCIG				*eS*		**Sn**	02 15 21.9	**-1.3**
HNDO	**Hondo**	**12.13**	**26**	Pn		**Pn**	02 13 10.1	**+0.4**
CCIG	**Comitan**	**12.92**	**99**	Pn		**Pn**	02 13 21.9	**+1.3**
CCIG	**Comitan**	**12.92**	**99**	*eP*		**Pn**	02 13 23.1	**+2.4**
SGCY	**Sterling City**	**13.69**	**16**	Pn		**Pn**	02 13 31.5	**+0.5**
121A	**Cookes Peak, D**	**13.91**	**352**	Pn		**Pn**	02 13 34.2	**+0.2**
435B	**Jarrell**	**13.95**	**29**	Pn		**Pn**	02 13 36.6	**+2.0**
TUC	**Tucson**	**14.35**	**341**	Pn		**Pn**	02 13 39.8	**-0.3**
SN05	**Snyder 5**	**14.67**	**15**	Pn		**Pn**	02 13 46.7	**+2.3**
POST	**Post**	**14.71**	**13**	Pn		**Pn**	02 13 45.0	**0.0**
ABTX	**Abilene, Hawle**	**14.78**	**20**	Pn		**Pn**	02 13 47.3	**+1.4**
APG	**El Apazote**	**14.80**	**102**	Pn		**Pn**	02 13 48.1	**+1.7**
	baz=237,slow=23,SNR=1.6							
	0.1nm,0.4s							
SN07	**Snyder 07**	**14.87**	**15**	Pn		**Pn**	02 13 47.2	**+0.1**
WHTX	**Lake Whitney,**	**15.04**	**27**	P		**P**	02 13 55.4	**+0.7**
APMT	**Aspermont**	**15.29**	**17**	Pn		**Pn**	02 13 53.4	**+0.6**
APMT				IAmb		IAmb	02 13 59.8	
	comp=Z,8.0nm,0.6s							
FW13	**Cleburne**	**15.36**	**26**	P		**P**	02 13 58.8	**+0.5**
PLPT	**Palo Pinto**	**15.41**	**23**	Pn		**Pn**	02 13 55.2	**+0.9**
PLPT				IAmb		IAmb	02 14 00.6	
	comp=Z,20nm,0.8s							
DKNS	**Dickens**	**15.41**	**14**	Pn		**Pn**	02 13 54.5	**+0.1**
FW14	**Alvarado**	**15.50**	**27**	P		**P**	02 13 59.0	**-0.8**
FW07	**Weatherford**	**

SNOW					IAmb	IAmb	02 15 51.4	
	comp=Z,6.1nm,0.8s							
N41A	**Harden Midland**	**25.23**	**27**	P	**P**	**P**	**02 15 41.6**	**-1.1**
TKL	**Tuckaleechee C**	**25.51**	**44**	P	**P**	**P**	**02 15 45.3**	**-0.1**
TKL					IAmb	IAmb	02 15 46.1	
	comp=Z,5.5nm,0.9s							
TKL	**Tuckaleechee C**	**25.51**	**44**	LR	LR		02 26 26.3	
	comp=Z,49nm,20.5s,baz=285,slow=38							
BG3	**Lake Jocassee**	**25.71**	**46**	P	**P**		**02 15 47.0**	**-0.2**
V52A	**Sevierville**	**25.74**	**44**	P	**P**		**02 15 47.0**	**-0.4**
V52A					IAmb	IAmb	02 15 48.4	
	comp=Z,3.6nm,0.7s							
HODGE	**Hodges**	**25.77**	**49**	P	**P**		**02 15 47.8**	**+0.1**
HODGE					IAmb	IAmb	02 15 49.8	
	comp=Z,6.0nm,0.8s							
L40A	**Anamosa**	**26.22**	**24**	P	**P**		**02 15 48.4**	**-3.2**
L40A					IAmb	IAmb	02 15 54.2	
	comp=Z,8.4nm,0.8s							
JSC	**Jenkinsville**	**26.51**	**49**	P	**P**		**02 15 53.1**	**-1.3**
JSC					IAmb	IAmb	02 15 55.5	
	comp=Z,13nm,1.2s							
KMSC	**Kings Mountain**	**26.89**	**48**	P	**P**		**02 15 57.9**	**0.0**
KMSC					IAmb	IAmb	02 15 59.8	
	comp=Z,9.1nm,1.1s							
U54A	**Nelsons Funny**	**27.30**	**45**	P	**P**		**02 16 01.5**	**-0.1**
S57A	**Dark Hollow, R**	**29.90**	**45**	P	**P**		**02 16 25.1**	**+0.5**
S57A					IAmb	IAmb	02 16 36.8	
	comp=Z,5.7nm,0.9s							
EYMN	**Ely**	**31.28**	**18**	P	**P**		**02 16 36.3**	**-0.4**
ULM	**Lac du Bonnet**	**32.36**	**11**	P	**P**		**02 16 46.7**	**+0.5**
ULM					IAmb	IAmb	02 16 47.5	
	comp=Z,2.3nm,0.7s							
ULM	**Lac du Bonnet**	**32.36**	**11**	P	**P**		**02 16 46.7**	**+0.5**
	comp=Z,1.9nm,0.5s,baz=201,slow=8.2,SNR=4.5							
ULM					LR	LR	02 30 42.3	
	comp=Z,126nm,18.0s,baz=189,slow=38							
	comp=Z,1.9nm,0.5s							
SDV	**Santo Domingo**	**35.12**	**101**	LR	LR		02 31 10.7	
	comp=Z,26nm,20.8s,baz=261,slow=36							
FCC	**Fort Churchill**	**40.83**	**9**	P	**P**		**02 17 58.9**	**+0.7**
NNA	**Nana**	**41.56**	**135**	LR	LR		02 30 16.5	
	comp=Z,9.4nm,19.2s,baz=282,slow=29							
YKA	**Yellowknife Ar**	**44.19**	**354**	P	**P**		**02 18 24.0**	**-1.5**
	comp=Z,0.2nm,0.7s,baz=166,slow=6.9,SNR=3.8							
	comp=Z,0.2nm,0.7s							
RPN	**Rapa Nui**	**45.74**	**185**	LR	LR		02 33 04.5	
	comp=Z,67nm,20.4s,baz=248,slow=30							
K29M	**Barlow Dome**	**50.06**	**342**	P	**P**		**02 19 12.0**	**+0.6**
K29M					IAmb	IAmb	02 19 15.6	
	comp=Z,3.6nm,1.4s							
LPAZ	**La Paz**	**50.58**	**131**	P	**P**		**02 19 19.1**	**+2.5**
	comp=Z,0.8nm,0.7s,baz=344,slow=3.5,SNR=2.7							
	comp=Z,0.8nm,0.7s							
FRB	**Frobisher Bay**	**51.47**	**20**	LR	LR		02 41 45.5	
	comp=Z,100nm,19.1s,baz=324,slow=37							
K27K	**Chicken**	**51.58**	**340**	P	**P**		**02 19 24.1**	**+1.4**
K27K					IAmb	IAmb	02 19 34.4	
	comp=Z,4.5nm,1.4s							
MDP	**Montagnes des**	**53.20**	**98**	LR	LR		02 43 09.9	
	comp=Z,26nm,20.3s,baz=194,slow=37							
G27K	**Doyon Strip**	**53.42**	**343**	P	**P**		**02 19 37.9**	**+1.5**
F28M	**Old Crow**	**53.54**	**344**	P	**P**		**02 19 38.2**	**+1.0**
F28M					IAmb	IAmb	02 19 51.2	
	comp=Z,5.1nm,1.3s							
ILAR	**Eielson Array**	**53.64**	**339**	P	**P**		**02 19 37.2**	**-0.8**
	comp=Z,0.2nm,0.6s,baz=159,slow=7.7,SNR=2.9							
	comp=Z,0.2nm,0.6s							
E28M	**Babbage River**	**54.21**	**345**	P	**P**		**02 19 42.7**	**+0.6**
E28M					IAmb	IAmb	02 19 46.3	
	comp=Z,3.4nm,1.4s							
CAST	**Castle Rocks**	**54.71**	**336**	P	**P**		**02 19 47.3**	**+1.5**
CAST					IAmb	IAmb	02 19 54.0	
	comp=Z,3.9nm,1.3s							
H03N2	**Juan Fernandez**	**57.72**	**154**	T	T		03 22 36.2	
	baz=331,slow=78,SNR=14							
H03N1	**Juan Fernandez**	**57.73**	**154**	T	T		03 22 34.9	
	baz=331,slow=78,SNR=21							
H03N3	**Juan Fernandez**	**57.74**	**154**	T	T		03 22 36.5	
	baz=331,slow=78,SNR=20							
SFJD	**Kangerlussuaq**	**59.46**	**22**	LR	LR		02 46 41.5	
	comp=Z,55nm,20.6s,baz=328,slow=37							
JMIC	**Jan Mayen**	**74.69**	**20**	LR	LR		02 55 16.9	
	comp=Z,59nm,18.3s,baz=212,slow=36							
WRA	**Warramunga Arr**	**123.85**	**258**	PKP		**PKiKP**	**02 29 17.7**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=76,slow=2.7,SNR=1.6							

IDC 09 02:16:47.2±2.2, 4.16S×151.39E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=166.2km s-min=31.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.85**	**225**	P	P	02 21 53.8	+1.5
	0.3nm,0.4s,baz=50,slow=10.0,SNR=2.3						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.71**	**219**	P	P	02 22 18.0	-1.4
	0.5nm,0.7s,baz=57,slow=9.3,SNR=3.5						
	0.5nm,0.7s						
ILAR	**Eielson Array**	**82.11**	**22**	P	P	02 29 09.7	+0.2
	0.5nm,0.7s,baz=250,slow=4.7,SNR=3.9						
	0.5nm,0.7s						

NNC 09 02:25:01.7±3.9, 37.09N×70.89E, h0km, mb4.0, mpv3.6, 4C-1D, Error ellipse: s-maj=35.0km s-min=30.3km az=66.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.02**	**357**	⇑Pn	Pn	02 26 31.6	-0.4
	1.1nm,0.2s,baz=174,slow=12,SNR=59						
KK31				⇑Sn	Sn	02 27 42.7	+1.1
	3.8nm,0.5s,baz=188,slow=23,SNR=4.3						
AAK	**Ala-Archa**	**6.20**	**25**	⇑Pn	Pn	02 26 34.9	+0.2
	1.5nm,0.3s						
AAK				⇑Sn	Sn	02 27 47.6	+1.3
	2.3nm,0.6s						
TKM2	**Tokmak 2**	**6.86**	**30**	⇓Pn	Pn	02 26 43.7	0.0
	4.9nm,0.5s						

*NEIC **09** 02:43:41.0±1.5, 19.39N±0.02×154.89W±0.03, h5km±2km, Error ellipse: s-maj=5.1km s-min=2.9km az=294.0*
HVO 09 02:43:40.6±1.3, 19.42N±0.02×154.88W±0.03, h3km±8km, ML3.2/7, ML3.4/36(NEIC), **Error ellipse: s-maj=4.8km s-min=1.6km az=111.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**349**		Pg	02 43 44.0	+2.1
JOKA	**Jonika Flow**	**0.12**	**274**		Pg	02 43 43.5	+0.6
JOKA					Sg	02 43 45.6	+1.0
JCUZ	**Jacuzzi**	**0.21**	**259**	Pg	Pg	02 43 45.1	+0.3
JCUZ					Sg	02 43 48.0	+0.4
NPOC	**North of Pu'u**	**0.22**	**262**	Pg	Pg	02 43 44.8	-0.1
NPOC					Sg	02 43 47.9	+0.1
STCH	**Steam Cracks**	**0.24**	**261**	Pg	Pg	02 43 45.3	+0.1
STCH					Sg	02 43 49.0	+0.8
KNHH	**Kane Nui o Ham**	**0.28**	**261**		Pg	02 43 46.9	+0.9
PUH	**Pauahi**	**0.32**	**261**	Pg	Pg	02 43 47.3	+0.5
PUH					Sg	02 43 52.0	+1.0
PUH				IAML		02 43 52.7	
	comp=E,5μm,0.2s						
PUH				IAML		02 43 55.3	
	comp=N,3μm,0.3s						
HATHI	**Halema'uma'u T**	**0.36**	**270**	Pg	Pg	02 43 47.6	0.0
HATHI					Sg	02 43 52.4	+0.1
HATHI				IAML		02 43 53.4	
	comp=N,5μm,0.6s						
KKO	**Keanakako'i**	**0.37**	**266**	Pg	Pg	02 43 48.0	+0.3
KKO					Sg	02 43 52.6	+0.1
KKO				IAML		02 43 56.1	
	comp=E,5μm,1.2s						
SBLHI	**Steaming Bluff**	**0.37**	**270**	Pg	Pg	02 43 47.8	+0.1
SBLHI					Sg	02 43 53.3	+0.8
SBLHI				IAML		02 43 57.2	
	comp=E,5μm,0.6s						
SBLHI				IAML		02 43 57.4	
	comp=N,4μm,0.3s						
RIM	**Rim**	**0.37**	**266**	Pg	Pg	02 43 48.0	+0.1
RIM				IAML		02 43 59.9	
	comp=E,5μm,0.6s						
RSD	**Rainshed**	**0.38**	**276**	Pg	Pg	02 43 48.5	+0.5
RSD					Sg	02 43 53.4	+0.5
HLP	**Hilina Pali**	**0.42**	**253**	Pg	Pg	02 43 49.1	+0.3
HLP					Sg	02 43 55.4	+1.1
HLP				IAML		02 43 56.1	
	comp=N,4μm,0.5s						
HLP				IAML		02 44 01.2	
	comp=E,4μm,0.8s						
MLH	**Mauna Loa**	**0.48**	**278**	Pg	Pg	02 43 49.8	-0.1
MLH					Sg	02 43 56.7	+0.5
MLH				IAML		02 43 58.0	
	comp=N,3μm,0.8s						
MLH				IAML		02 44 03.6	
	comp=E,2μm,0.3s						
HMH	**Humu'ula Sheep**	**0.60**	**287**	Pg	Pg	02 43 51.6	-0.5
HMH					Sg	02 44 00.9	+1.0
MLOA	**Mauna Loa Obse**	**0.67**	**280**	Pg	Pg	02 43 52.6	-0.9
MLOA					Sg	02 44 01.7	-0.4
MLOA				IAML		02 44 04.1	
	comp=E,3μm,0.4s						
MLOA				IAML		02 44 14.0	
	comp=N,1μm,0.6s						
MWH	**Moku'aweowe**	**0.68**	**275**	Pg	Pg	02 43 52.7	-1.0
MWH					Sg	02 44 02.2	-0.4
MWH				IAML		02 44 10.8	
	comp=E,2μm,0.6s						
MWH				IAML		02 44 13.0	
	comp=N,2μm,0.7s						
POHA	**Pohakuloa**	**0.70**	**298**	Pg	Pg	02 43 54.0	0.0
POHA				IAML		02 44 16.8	
	comp=N,3μm,0.4s						
POHA				IAML		02 44 19.0	
	comp=N,2μm,0.6s						
KHU	**Kahuku**	**0.72**	**256**	Pg	Pg	02 43 53.0	-1.5
KHU					Sg	02 44 03.5	-0.3
HUH	**Hualalai**	**0.94**	**286**	Pg	Pg	02 43 56.7	-1.9
HUH					Sg	02 44 11.5	+0.6
HPAH	**Hawaii Prepara**	**0.98**	**308**	Pg	Pg	02 43 59.7	+0.3
HPAH				IAML		02 44 33.0	
	comp=E,841nm,0.8s						
MHA	**Mahukona**	**1.23**	**308**	Pg	Pg	02 44 03.9	-0.2

IDC 09 02:47:35.8±1.5, 13.73N×121.20E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=70.9km s-min=22.2km az=57.0, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**21.89**	**285**	P	P	02 52 32.0	+1.4
	1.2nm,0.3s,baz=93,slow=8.7,SNR=5.2						
	1.2nm,0.3s						
WRA	**Warramunga Arr**	**35.87**	**159**	P	P	02 54 36.7	-1.0
	0.3nm,0.7s,baz=326,slow=11,SNR=5.0						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**39.19**	**161**	P	P	02 55 06.7	+0.9
	0.2nm,0.3s,baz=336,slow=6.9,SNR=1.6						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**46.30**	**323**	P	P	02 56 02.9	-0.5
	0.2nm,0.3s,baz=115,slow=8.4,SNR=5.4						
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**49.26**	**332**	P	P	02 56 25.4	-0.7
	0.5nm,0.4s,baz=120,slow=6.3,SNR=2.6						
	0.5nm,0.4s						

*ISK **09** 02:58:45.7, 37.09N×36.00E, h17km, ML3.1/16*
*AFAD **09** 02:58:46.2±0.0, 37.12N×36.00E, h7km±3km, ML3.0*
ISC 09 02:58:46.3±1.0, 37.10N±0.03×36.00E±0.03, h14km±8km, n25, σ0.44/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.22**	**246**	Pg	**Pg**	**02 58 51.2**	**0.0**
CEYT				Sg	**Sg**	**02 58 55.1**	**+0.6**
HASA	**Hatay-Hassa-Ha**	**0.52**	**132**	P	**Pb**	**02 58 56.8**	**-0.5**
HASA				S	**Sb**	**02 59 04.6**	**0.0**
HASA				*i* AML	AML	02 59 05.0	
	comp=N,1μm,0.4s						
HASA				*i* AML	AML	02 59 06.0	
	comp=E,1μm,0.3s						
KAMA	**Osmaniye**	**0.54**	**81**	P	**Pg**	**02 58 56.5**	**-0.4**
KAMA				S	**Sb**	**02 59 04.5**	**-0.6**
KAMA				*i* AML	AML	02 59 07.0	
	comp=E,605nm,0.4s						
KAMA				*i* AML	AML	02 59 08.0	
	comp=N,375nm,0.2s						
ANDN	**Andirin**	**0.55**	**30**	P	**Pg**	**02 58 56.2**	**-0.9**
ANDN				S	**Sb**	**02 59 05.8**	**+0.3**
ANDN				*i* AML	AML	02 59 06.0	
	comp=N,512nm,0.3s						
ANDN				*i* AML	AML	02 59 06.0	
	comp=E,446nm,0.3s						
TAHT	**Tahtakopru-Hat**	**0.74**	**169**	Pg	**Pg**	**02 59 00.4**	**-0.2**
TAHT				Sg	**Sb**	**02 59 10.7**	**-0.1**
HCB	**Kahramanmara**	**0.76**	**71**	P	**Pb**	**02 59 01.2**	**-0.1**
HCB				S	**Sb**	**02 59 12.1**	**+0.6**
HCB				*i* AML	AML	02 59 13.0	
	comp=N,2μm,0.5s						
HCB				*i* AML	AML	02 59 14.0	
	comp=E,726nm,0.3s						
KHMR	**Kahramanmara**	**0.76**	**71**	P	**Pb**	**02 59 01.2**	**0.0**
KHMR				S	**Sb**	**02 59 12.7**	**+1.2**
KHMR				*i* AML	AML	02 59 13.0	
	comp=N,1μm,0.5s						
KHMR				*i* AML	AML	02 59 14.0	
	comp=E,514nm,0.4s						
KMRS	**Kahramanmaras**	**0.82**	**60**	Pg	**Pb**	**02 59 02.1**	**-0.2**
KAHM	**Kahramanmaras,**	**0.89**	**62**	P	**Pg**	**02 59 02.8**	**-0.7**
KAHM				S	**Sb**	**02 59 15.2**	**+0.1**
KAHM				*i* AML	AML	02 59 16.0	
	comp=N,446nm,0.3s						
KAHM				*i* AML	AML	02 59 17.0	
	comp=E,314nm,0.2s						
KUZU	**Kuzuini**	**0.92**	**111**	P	**Pn**	**02 59 04.5**	**-0.2**
KUZU				S	**Sn**	**02 59 18.4**	**+0.6**
KUZU				*i* AML	AML	02 59 19.0	
	comp=N,1μm,0.3s						
KUZU				*i* AML	AML	02 59 19.0	
	comp=E,1μm,0.3s						
GAZ	**Gaziantep**	**0.97**	**85**	Pg	**Pn**	**02 59 05.2**	**-0.3**
GAZ				Sg	**Sn**	**02 59 18.9**	**-0.1**
CMRD	**Camardi-Nigde**	**0.98**	**305**	Pg	**Pg**	**02 59 04.8**	**-0.5**
GZT	**Gaziantep**	**1.27**	**78**	P	**Pn**	**02 59 09.7**	**0.0**
GZT				*i* AML	AML	02 59 28.0	
	comp=N,513nm,0.4s						
GZT				*i* AML	AML	02 59 28.0	
	comp=E,731nm,0.4s						
GZT				S	**Sg**	**02 59 28.0**	**+0.7**
NZIP	**Nizip/Gaziante**	**1.34**	**92**	P	**Pn**	**02 59 10.5**	**-0.1**
NZIP				S	**Sn**	**02 59 28.8**	**+0.6**
SARI	**SarD1z-Kayseri**	**1.34**	**14**	Pn	**Pn**	**02 59 10.6**	**-0.1**
SARI				Sn	**Sn**	**02 59 28.8**	**+0.3**
KIZK	**Mersin**	**1.62**	**248**	Pn	**Pn**	**02 59 13.9**	**-0.4**
BNN	**Bunyan**	**1.75**	**356**	Pn	**Pn**	**02 59 16.2**	**-0.1**
DARE	**Darende-Malaty**	**1.88**	**38**	Pn	**Pn**	**02 59 18.1**	**+0.1**
YESY	**Yesilyurt**	**1.92**	**291**	Pn	**Pn**	**02 59 18.6**	**0.0**
KEBE	**Keben-Mersin**	**1.95**	**251**	Pn	**Pn**	**02 59 18.7**	**-0.3**
IKL	**Isikli**	**2.05**	**246**	Pn	**Pn**	**02 59 19.8**	**-0.5**
KRMN	**Karaman**	**2.19**	**273**	Pn	**Pn**	**02 59 22.4**	**+0.1**
SULT	**Sultanhani-AKS**	**2.26**	**300**	Pn	**Pn**	**02 59 23.3**	**+0.1**
URFA	**Urfa**	**2.27**	**81**	Pn	**Pn**	**02 59 23.7**	**+0.3**
HDMB	**Hadim**	**2.82**	**268**	Pn	**Pn**	**02 59 31.1**	**+0.1**

KRSC 09 03:11:52.7±1.6, 53.09N×171.03E, h42km±46km, MI4.0, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMD	**Tumrok D**	**6.60**	**293**	*e*P	Pn	03 13 31.4	+4.4
TUMD				*e*S	Sn	03 14 44.0	+3.2
SPN	**Mys Shipunski**	**6.63**	**274**	*e*S	Sn	03 14 48.1	+6.4
BZGR	**Bezymyannyi-Gr**	**6.66**	**300**	*e*P	Pn	03 13 32.9	+4.9
TUMR	**Tumrok**	**6.76**	**293**	*e*P	Pn	03 13 34.5	+5.2
BZMR	**Bezymyannaya**	**6.77**	**299**	*e*P	Pn	03 13 34.4	+4.9
BZWR	**Bezymyannyi-We**	**6.77**	**299**	*e*P	Pn	03 13 34.3	+4.7
KRSR	**Krestovskiy**	**6.83**	**301**	*e*P	Pn	03 13 34.9	+4.6
KMNR	**Kamenistaya**	**6.84**	**297**	*e*P	Pn	03 13 35.8	+5.3
UGLR	**Uglovaya**	**7.34**	**276**	*e*P	Pn	03 13 42.4	+5.0
SMAR	**Somma**	**7.35**	**276**	*e*P	Pn	03 13 42.3	+4.7
KRER	**Koryakskii**	**7.38**	**277**	*e*P	Pn	03 13 42.6	+4.7
AVH	**Avacha**	**7.39**	**276**	*e*P	Pn	03 13 42.6	+4.6
KRX	**Arik**	**7.44**	**277**	*e*P	Pn	03 13 42.9	+4.2
KOK	**Koryaka**	**7.45**	**277**	*e*P	Pn	03 13 43.2	+4.4
RUS	**Russkaya**	**7.62**	**270**	*e*P	Pn	03 13 46.7	+5.6
RUS				*e*S	Sn	03 15 10.9	+4.8
MTVR	**Mutnovka**	**7.82**	**271**	*e*P	Pn	03 13 48.6	+4.8
GNL	**Ganaly**	**7.85**	**280**	*e*P	Pn	03 13 49.6	+5.3
ASAK	**Asacha**	**8.00**	**270**	*e*P	Pn	03 13 51.6	+5.2
KDTR	**Khodutka, Kamc**	**8.02**	**266**	*e*P	Pn	03 13 50.1	+3.6

*IDC **09** 03:21:56.6±2.3, 24.33N×109.21W, h0km, mb3.0/1, mbtmp3.2/5, ML3.7/4, MS3.1/3, Error ellipse: s-maj=41.2km s-min=12.5km az=154.0*
*MEX **09** 03:21:57.2±0.5, 24.16N×109.00W, h10km, MD4.0*
ISC 09 03:21:54.3±1.8, 24.17N±0.08×109.03W±0.04, h8km±16km, n21, σ1.72/24, 2C, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLBS	**Sierra La Lagu**	**0.97**	**240**	*e*P	**Pg**	**03 22 13.1**	**+0.2**
SLBS				*i* S	**Sb**	**03 22 25.8**	**-0.6**
SLBS	**Sierra La Lagu**	**0.97**	**240**	⇑*e*P	**Pg**	**03 22 13.1**	**+0.2**
SLBS				*e*S	**Sg**	**03 22 25.4**	**-0.1**
SLBS				*e*		03 22 30.0	
SLBS				IAML		03 22 30.0	
	comp=Z,1μm,1.4s						
SLBS				⇑*e*		03 22 30.2	
SLBS				IAML		03 22 30.2	
	comp=N,2μm,0.5s						
LPIG	**La Paz**	**1.17**	**267**	Pg	**Pb**	**03 22 16.2**	**-0.6**
	comp=N,67nm,0.3s,baz=88,slow=6.6,SNR=15						
LPIG				Lg	Lg	03 22 30.3	
	comp=N,168nm,0.3s,baz=52,slow=11,SNR=8.2						
LPIG	**La Paz**	**1.17**	**267**	*e*P	**Pb**	**03 22 16.0**	**-0.8**
LPIG				*i* S	**Sb**	**03 22 30.6**	**-1.6**
LPIG	**La Paz**	**1.17**	**267**	*e*P	**Pb**	**03 22 15.7**	**-1.1**
TSIG	**Topolobambo**	**1.42**	**360**	*e*P	**Pn**	**03 22 20.2**	**-0.4**
TSIG				*i* S	**Sn**	**03 22 36.9**	**-2.6**
TSIG	**Topolobambo**	**1.42**	**360**	*e*P	**Pn**	**03 22 19.6**	**-0.9**
TSIG				*e*S	**Sn**	**03 22 36.9**	**-2.6**
EVAR0	**San Evaristo**	**1.70**	**296**	*e*P	**Pn**	**03 22 23.5**	**-0.9**
SSIG	**Sanalona**	**1.84**	**69**	*e*P	**Pn**	**03 22 24.9**	**-1.4**
SSIG				*i* S	**Sn**	**03 22 46.2**	**-3.6**
UAGRB	**Rancho Ultima**	**2.45**	**305**	*e*P	**Pn**	**03 22 34.4**	**-0.4**
MAIG	**Mazatlaan**	**2.58**	**112**	*e*P	**Pb**	**03 22 39.5**	**-1.4**
NE80	**Navojoa**	**2.74**	**356**	*e*P	**Pn**	**03 22 38.9**	**+0.3**
TXAR	**Lajitas Array**	**7.03**	**42**	Pn	**Pn**	**03 23 39.8**	**+2.1**
	comp=N,0.2nm,0.3s,baz=214,slow=14,SNR=14						
TXAR				Sn	**Sn**	**03 24 56.1**	**-1.8**
	comp=N,0.5nm,0.3s,baz=204,slow=28,SNR=9.7						
TXAR				Lg	Lg	03 25 32.8	
	baz=222,slow=39						
	comp=N,0.3nm,0.3s						
ANMO	**Albuquerque**	**10.97**	**11**	LR	LR	03 29 02.0	
	comp=N,120nm,20.2s,baz=47,slow=39						
CMIG	**Matias Romero**	**14.99**	**115**	Pn	**P**	**03 25 33.8**	**+1.6**
	comp=N,0.5nm,0.3s,baz=329,slow=18,SNR=2.4						
CMIG				LR	LR	03 31 08.0	
	comp=N,77nm,19.7s,baz=342,slow=36						
	comp=N,0.8nm,0.4s						
NVAR	**Mina Array Bea**	**16.26**	**333**	Pn	**P**	**03 25 46.5**	**0.0**
	baz=143,slow=12,SNR=1.4						
	comp=N,0.2nm,0.5s						
PDAR	**Pinedale Array**	**18.55**	**359**	P	**Pn**	**03 26 13.1**	**+1.2**
	comp=N,0.1nm,0.3s,baz=184,slow=12,SNR=1.7						
PDAR				LR	LR	03 33 21.5	
	comp=N,41nm,18.4s,baz=298,slow=37						
	comp=N,0.8nm,0.8s						
ILAR	**Eielson Array**	**47.40**	**339**	P	**P**	**03 30 32.0**	**+3.1**
	comp=N,0.2nm,0.9s,baz=145,slow=7.6,SNR=2.1						
	comp=N,0.2nm,0.9s						
H03N2	**Juan Fernandez**	**64.06**	**152**	T	T	04 42 12.9	
	baz=331,slow=77,SNR=6.8						
H03N1	**Juan Fernandez**	**64.07**	**152**	T	T	04 42 07.3	
	baz=331,slow=77,SNR=6.2						
H03N3	**Juan Fernandez**	**64.08**	**152**	T	T	04 42 10.8	
	baz=331,slow=77,SNR=7.0						

*IDC **09** 03:23:22.9±0.4, 33.11N×70.45E, h0km, mb5.0/34, mbtmp5.0/39, ML4.9/7, MS5.0/75, Error ellipse: s-maj=13.0km s-min=9.4km az=14.0*
*NDI **09** 03:23:23.8±3.6, 33.25N×69.97E, h35km±42km, mb5.6, ML5.3, mb5.4(NEIC)*
*MOS **09** 03:23:24.1±1.0, 33.24N×70.51E, h16km, mb5.5/71, MS5.2/39, Error ellipse: s-maj=4.0km s-min=2.7km az=101.3*
*NNC **09** 03:23:25.5±2.0, 33.43N×70.16E, h0km, mb5.9, Error ellipse: s-maj=19.3km s-min=14.7km az=151.0*
*GCMT **09** 03:23:25.7±0.2, 33.02N±0.02×70.58E±0.02, h20km, MW5.4/96, Moment Tensor Solution. s96,c148; s73,c86; Duration: 154 Moment tensor: Scale 10^17 Nm; Mrr 0.59±.02; Mθθ -0.33±.02; Mφφ -0.26±.02; Mrθ 1.37±.03; Mθφ -0.09±.01; Mrφ 0.69±.04; Best double couple: Mo 1.61300×10^17 NP1 φs 63.00000°, δ 81.00000°, λ 91.00000°. NP2 φs 237.00000°, δ 9.00000°, λ 84.00000°. Principal axes: T 1.7130, Plg54.0000°, Azm334.0000°; N -0.2010, Plg1.0000°, Azm243.0000°; P -1.5130, Plg36.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **09** 03:23:26.7±1.3, 33.14N±0.07×70.52E±0.07, h19km±3km, mb5.4/342, Ms_20 5.2/345 Error ellipse: s-maj=10.5km s-min=8.7km az=176.0*
ISC 09 03:23:28.3±0.2, 33.13N±0.03×70.45E±0.02, h35km±2km, h36km:pP-P, n1553, σ1.52/1423, mb5.3/365, MS5.2/311, 87C-44D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBU	**Kabul Universi**	**1.76**	**322**	P	**Pn**	**03 23 59.4**	**+2.8**
KBL	**Kabul**	**1.83**	**321**		**Pn**	**03 23 58.9**	**+1.4**
KBL					Sn	**03 24 25.6**	**+6.1**
KBL	**Kabul**	**1.83**	**321**	P	**Pn**	**03 23 59.4**	**+1.9**
	SNR=2126						
KBL				S	**Sn**	**03 24 25.8**	**+6.3**
NIL	**Nilore**	**2.41**	**77**		**Pn**	**03 24 06.2**	**+1.0**
NIL	**Nilore**	**2.41**	**77**	P	**Pn**	**03 24 06.2**	**+1.0**
DHRM	**DHARAMSHALA**	**5.01**	**98**	*e*P	**Pn**	**03 24 42.0**	**+0.8**
DHRM				*e*S	**Sn**	**03 25 40.9**	**+2.8**

CHM eS Sn 03 27 19.2 -1.6
UCH Uchtor 9.64 18 P Pn 03 25 45.0 +0.1
SNR=1604
DZA Taraz 9.78 4 *e*P Pn 03 25 45.1 -1.3
baz=3.4
DZA eS Sn 03 27 32.6 -2.3
baz=3.4
DZA Taraz 9.78 4 *e*P Pn 03 25 45.1 -1.3
DZA eS Sn 03 27 32.6 -2.3
BHUJ Bhuj 9.86 184 *e*P Pn 03 25 45.4 -2.1
BHUJ eS Sn 03 27 22.9 -14
BHUJ IAML 03 29 07.5
comp=N,2μm,1.6s
EKS2 Erkin-Say 9.88 14 P Pn 03 25 49.3 +1.4
SNR=48
BRLS Borolday 9.90 357 *e*P Pn 03 25 43.8 -4.4
baz=356
BRLS eS Sn 03 27 30.1 -7.9
baz=356
BRLS Borolday 9.90 357 *e*P Pn 03 25 43.7 -4.4
BRLS eS Sn 03 27 30.0 -7.9
KK31 Karatay Array 9.96 0 P Pn 03 25 47.8 -1.1
comp=N,239nm,0.6s,baz=189,slow=15,SNR=2043
KK31 ⇓S Sn 03 27 38.2 -1.3
comp=N,279nm,0.7s,baz=184,slow=22,SNR=6.1
KK31 Karatay Array 9.96 0 Pn Pn 03 25 47.9 -1.0
KK31 Karatay Array 9.96 0 P Pn 03 25 47.9 -1.0
KKAR Karatay Array 9.96 0 Pn Pn 03 25 47.8 -1.1
KKAR Karatay Array 9.96 0 P Pn 03 25 47.8 -1.1
AAK Ala-Archa 10.02 17 P Pn 03 25 50.0 +0.1
SNR=814
AAK Ala-Archa 10.02 17 ⇑P Pn 03 25 49.9 +0.1
comp=N,464nm,0.7s
AAK ⇑S Sn 03 27 40.7 -0.4
comp=N,598nm,0.9s
AAK Ala-Archa 10.02 17 Pn Pn 03 25 49.9 +0.1
AAK Ala-Archa 10.02 17 Pn Pn 03 25 50.2 +0.3
comp=N,76nm,0.3s,baz=198,slow=7.2,SNR=715
AAK Sn Sn 03 27 40.3 -0.7
baz=347,slow=23
AAK LR LR 03 30 06.7
comp=N,22μm,19.3s,baz=208,slow=40
AAK Ala-Archa 10.02 17 P Pn 03 25 50.4 +0.6
AAK S Sn 03 27 42.2 +1.2
AAK Ala-Archa 10.02 17 *i*P Pn 03 25 48.3 -1.5
KBK Karagaybulak 10.15 19 P Pn 03 25 52.7 +0.9
SNR=190
ULHL Ulahol 10.19 25 P Pn 03 25 52.1 -0.2
SNR=140
FRU1 Bishkek 10.21 18 Pn Pn 03 25 52.8 +0.4
FRU1 Bishkek 10.21 18 P Pn 03 25 52.8 +0.4
BOOM Boomskoye usch 10.30 23 Pn Pn 03 25 53.5 -0.3
BOOM Boomskoye usch 10.30 23 P Pn 03 25 53.5 -0.3
TARG Taragay, Kyrgy 10.39 32 Pn Pn 03 25 54.2 -0.8
TARG Taragay, Kyrgy 10.39 32 P Pn 03 25 54.3 -0.8
CHMS Chumysh 10.42 18 P Pn 03 25 55.4 +0.1
SNR=80
CHMS Chumysh 10.42 18 ⇑P Pn 03 25 54.2 -1.1
comp=N,437nm,0.5s
CHMS ⇑S Sn 03 27 47.9 -2.9
comp=N,423nm,0.9s
CHMS Chumysh 10.42 18 P Pn 03 25 54.2 -1.1
CHMS S Sn 03 27 47.9 -2.9
TKM2 Tokmak 2 10.59 21 P Pn 03 25 57.2 -0.5
SNR=424
TKM2 Tokmak 2 10.59 21 ⇑P Pn 03 25 57.2 -0.5
comp=N,277nm,0.8s
TKM2 ⇓S Sn 03 27 55.6 +0.6
comp=N,305nm,1.1s
TKM2 Tokmak 2 10.59 21 P Pn 03 25 57.1 -0.5
TKM2 S Sn 03 27 55.6 +0.6
USP Ospenovka 10.61 16 P Pn 03 25 58.9 +1.0
SNR=62
SGDS Sogindy 10.82 16 *e*P Pn 03 25 59.6 -1.1
baz=16
SGDS Sogindy 10.82 16 *e*P Pn 03 25 59.6 -1.1
GEYT Alibeck 11.13 299 Pn Pn 03 26 04.0 -0.9
GEYT Alibeck 11.13 299 Pn Pn 03 26 04.4 -0.5
comp=N,2.4nm,0.3s,baz=122,slow=11,SNR=31
GEYT LR LR 03 31 27.0
comp=N,10μm,21.9s,baz=128,slow=44
comp=N,23nm,0.6s
GYA0 ALIBECK ARRAY 11.13 299 P Pn 03 26 04.5 -0.4
GYA0B ALIBECK ARRAY 11.13 299 ⇓P Pn 03 26 04.1 -0.9
GYA0B ALIBECK ARRAY 11.13 299 Pn Pn 03 26 04.0 -0.9
TNSS Tian-Shan 11.14 25 *e*P Pn 03 26 03.9 -1.5
baz=25
TNSS Tian-Shan 11.14 25 *e*P Pn 03 26 03.8 -1.5
KASK Kaskelen 11.19 24 ⇓P Pn 03 26 05.1 -0.7
KASK ⇑S Sn 03 28 10.6 +1.0
NGCH Negor - Chabah 11.22 229 P Pn 03 26 06.4 +0.2
AAA Alma-Ata 11.28 25 *e*P Pn 03 26 05.8 -1.2
baz=25
AAA LR LR 03 30 09.1
comp=N,15μm,9.8s,baz=25
AAA Alma-Ata 11.28 25 *e*P Pn 03 26 05.7 -1.2
AAA MLR MLR
comp=Z,15μm,10.0s
MDOK Medeo 11.28 25 P Pn 03 26 06.3 -0.8
comp=Z,127nm,0.7s
MDOK S Sn 03 28 14.1 +2.1
comp=Z,449nm,1.1s
MDOK Medeo 11.28 25 *e*P Pn 03 26 05.4 -1.8
baz=25
MDOK LR LR 03 30 09.1
comp=Z,13μm,11.5s,baz=25
MDOK Medeo 11.28 25 *e*P Pn 03 26 05.3 -1.8
MDOK MLR MLR
comp=Z,13μm,11.0s
KNDC Almaty 11.30 25 ⇑P Pn 03 26 07.3 0.0
comp=Z,606nm,0.7s
KNDC ⇓S Sn 03 28 13.7 +1.4
comp=Z,700nm,0.8s
KNDC Almaty 11.30 25 P Pn 03 26 07.3 0.0
KNDC S Sn 03 28 13.7 +1.4
BHPL Bhopal 11.61 146 *e*P Pn 03 26 10.8 -0.8
BHPL *e*S Sn 03 28 13.8 -6.1
BHPL IAML 03 28 19.4
comp=N,317nm,0.7s
BHPL IAML 03 28 20.0
comp=E,380nm,0.9s
SATY Saty 11.72 30 *e*P Pn 03 26 11.4 -1.8
baz=30
SATY Saty 11.72 30 *e*P Pn 03 26 11.4 -1.8
ZHN Zhinishke 11.83 30 *e*P Pn 03 26 12.7 -1.9
comp=E,15nm,0.8s,baz=30
ZHN Zhinishke 11.83 30 *e*P Pn 03 26 12.6 -1.9
ZHN pmax pmax
comp=Z,15nm,0.8s
CHKK Chushkaly 11.87 24 *e*P Pn 03 26 13.1 -2.0
baz=24
CHKK Chushkaly 11.87 24 *e*P Pn 03 26 13.0 -2.0
BTLS Baital 12.22 12 *e*P Pn 03 26 17.7 -2.1
comp=Z,21nm,0.8s,baz=12
BTLS Baital 12.22 12 *e*P Pn 03 26 17.7 -2.1
BTLS pmax pmax
comp=Z,21nm,0.8s
SHLS Shalkode 12.27 33 *e*P Pn 03 26 21.3 +0.8
baz=34
SHLS Shalkode 12.27 33 *e*P Pn 03 26 21.3 +0.8
PDGK Podgornoye 12.41 32 ⇓P Pn 03 26 20.3 -2.3
comp=Z,104nm,0.6s
PDGK ⇑S Sn 03 28 38.8 -0.8
comp=Z,307nm,0.9s
PDGK Podgornoye 12.41 32 P Pn 03 26 20.3 -2.3
PDGK S Sn 03 28 38.8 -0.8
ARXS Arharly 12.47 25 *e*P Pn 03 26 20.6 -2.8
JASK Jask - Hormozg 13.12 240 P Pn 03 26 31.5 -0.7
TDK Taldyqorghan 13.37 25 *e*P Pn 03 26 33.6 -1.8
baz=25
TDK LR LR 03 31 24.5
comp=Z,16μm,11.2s,baz=25
TDK Taldyqorghan 13.37 25 *e*P Pn 03 26 33.6 -1.8
TDK MLR MLR
comp=Z,16μm,11.0s
SHME Shamm 14.30 244 Pn Pn 03 26 40.9 -7.3
SHME Shamm 14.30 244 P Pn 03 26 48.5 +0.3
WSAR Wadi Sarin 14.33 230 Pn Pn 03 26 46.8 -1.9
comp=Z,1.3nm,0.3s,baz=282,slow=5.2,SNR=14
WSAR Sn Sn 03 29 13.6 -13
comp=Z,5.8nm,0.3s,baz=293,slow=18,SNR=8.0
comp=Z,6.7nm,0.6s
WSAR Wadi Sarin 14.33 230 P Pn 03 26 47.8 -0.9
BIDO Bidbid 14.45 232 P Pn 03 26 50.6 +0.2
BIDO P Pn 03 26 50.6 +0.2

WBK Wadi Bani Khal 14.57 227 P Pn 03 26 51.0 -1.1
WBK P Pn 03 26 51.0 -1.1
MDH Madha 14.60 241 Pn Pn 03 26 49.8 -2.6
MDH Madha 14.60 241 P Pn 03 26 51.6 -0.8
MDH P Pn 03 26 51.6 -0.8
JLN Jalan Bani Buh 14.66 225 P Pn 03 26 54.9 +1.7
MSFE Esma-Masafi 14.67 242 Pn Pn 03 26 50.5 -2.8
SMDO Samad 14.83 231 P Pn 03 26 54.6 -0.9
SMDO P Pn 03 26 54.6 -0.9
POO Poona 14.85 167 *e*P Pn 03 26 52.8 -3.1
POO IAmb IAmb 03 27 01.0
comp=Z,39nm,0.8s
UOSS Minazif 14.88 240 Pn 03 26 54.1 -2.0
UOSS Minazif 14.88 240 Pn Pn 03 26 53.2 -2.9
UOSS Minazif 14.88 240 P Pn 03 26 54.1 -2.0
UOSS P Pn 03 26 54.1 -2.0
HOQ Hoqain 14.96 234 P Pn 03 26 54.8 -2.4
HOQ P Pn 03 26 54.8 -2.4
HATD Hatta, Dubai 15.00 240 Pn Pn 03 26 55.6 -2.1
HATD Hatta, Dubai 15.00 240 P Pn 03 26 57.1 -0.7
SOHO SOHO 15.14 237 P Pn 03 26 56.8 -2.7
SOHO P Pn 03 26 56.8 -2.7
ASHO Ashiyiah 15.14 240 Pn Pn 03 26 58.2 -1.4
ASHO Ashiyiah 15.14 240 P Pn 03 26 59.3 -0.3
OTUK Ortayu 15.17 5 ⇑P Pn 03 26 55.5 -4.4
comp=Z,89nm,0.7s
OTUK ⇑S Sn 03 29 44.7 -2.0
comp=Z,223nm,0.8s
OTUK Ortayu 15.17 5 P Pn 03 26 55.5 -4.4
OTUK S Sn 03 29 44.7 -2.0
NAZ Nazwa, Dubai 15.25 242 Pn Pn 03 26 57.5 -3.5
JMDO Jabal Madar 15.29 229 P Pn 03 27 01.9 +0.3
SNR=16
JMDO P Pn 03 27 01.9 +0.3
SNR=16
BSY Bisya 15.61 232 P Pn 03 27 06.1 +0.4
SNR=23
BSY P Pn 03 27 06.1 +0.4
SNR=23
ARQ Araqi 15.66 235 P Pn 03 27 08.1 +1.7
SNR=22
ARQ P Pn 03 27 08.1 +1.7
SNR=22
ALNE Al Ain 15.74 239 P P 03 27 10.6 -0.4
SNR=5.7
ALNE P P 03 27 10.6 -0.4
SNR=5.7
MAKZ Makanchi 16.25 29 ⇓P Pn 03 27 10.7 -3.1
comp=Z,332nm,0.8s
MAKZ Makanchi 16.25 29 Pn Pn 03 27 10.9 -2.9
MAKZ IAmb IAmb 03 27 18.1
comp=Z,304nm,0.8s
MAKZ Makanchi 16.25 29 P Pn 03 27 10.9 -2.9
MAKZ pmax pmax
comp=Z,304nm,0.8s
MK31 Makanchi Array 16.37 30 ⇓P Pn 03 27 11.8 -3.5
comp=Z,221nm,0.8s,baz=207,slow=12,SNR=908
MK31 Makanchi Array 16.37 30 Pn Pn 03 27 12.2 -3.1
MK31 Makanchi Array 16.37 30 *ce*P Pn 03 27 12.4 -2.9
MKAR Makanchi Array 16.37 30 Pn Pn 03 27 12.1 -3.2
MKAR Makanchi Array 16.37 30 Pn Pn 03 27 13.0 -2.3
comp=Z,2.2nm,0.3s,baz=212,slow=12,SNR=112
MKAR LR LR 03 34 11.6
comp=Z,16μm,19.3s,baz=226,slow=40
comp=Z,110nm,0.8s
MKAR Makanchi Array 16.37 30 *i*P Pn 03 27 12.1 -3.2
MKAR pmax pmax
comp=Z,98nm,1.0s
MHTO MHTO 16.41 226 P P 03 27 18.0 -0.4
SNR=9.1
BOK Bokaro 16.44 120 *e*P Pn 03 27 15.8 -0.6
BOK IAmb IAmb 03 27 24.8
comp=Z,162nm,0.7s
BOK *e*S Sn 03 30 23.0 +5.3
GTK Tadong 16.72 105 *e*P Pn 03 27 19.5 -0.5
GTK IAmb IAmb 03 27 29.9
comp=Z,202nm,0.7s
WMQ Urumqi 17.18 47 *e*P Pn 03 27 23.8 -1.8
WMQ pP pP 03 27 32.4 -4.0
WMQ pmax pmax
comp=Z,180nm,1.9s
WMQ pmax pmax
comp=Z,1μm,3.7s
WMQ LR LR
comp=Z,8μm,14.9s
WMQ LR LR
comp=Z,7μm,10.9s
WMQ LR LR
comp=Z,6μm,21.5s
HYB Hyderabad 17.26 153 *e*P Pn 03 27 22.6 -4.1
HYB *e*S Sn 03 30 34.8 -3.0
HYB IVMs_BB IVMs_BB 03 34 28.8
comp=Z,12μm,12.2s
HYB Hyderabad 17.26 153 *e*P P 03 27 27.6 -0.3
AB31 Akbulak array 17.92 337 ⇑P Pn 03 27 31.3 -3.3
comp=Z,127nm,0.6s,baz=147,slow=12,SNR=1593
AB31 ⇑S Sn 03 30 46.9 -6.4
comp=Z,56nm,0.9s,baz=151,slow=24,SNR=5.2
AB31 Akbulak array 17.92 337 P Pn 03 27 31.3 -3.3
AB31 S Sn 03 30 46.8 -6.4
ABKAR Akbulak array 17.92 337 Pn Pn 03 27 32.4 -2.2
ABKAR Akbulak array 17.92 337 Pn Pn 03 27 31.2 -3.3
ABKAR IAmb IAmb 03 27 33.6
comp=Z,196nm,0.7s
LSA Lhasa 18.00 95 P Pn 03 27 34.5 -1.7
LSA LR LR
comp=Z,10μm,17.2s
LSA LR LR
comp=Z,14μm,11.5s
LSA LR LR
comp=Z,20μm,15.8s
LSA Lhasa 18.00 95 P Pn 03 27 34.4 -1.7
LSA Lhasa 18.00 95 P Pn 03 27 34.4 -1.7
LSA pmax pmax
comp=Z,29nm,0.7s
ZSN Zaisan 18.00 33 *e*P Pn 03 27 33.8 -1.9
baz=33
ZSN Zaisan 18.00 33 *e*P Pn 03 27 33.8 -1.9
SHMA Al-Shehemyia 18.43 252 P Pn 03 27 42.0 +1.0
SNR=12
KURBB Kurchatov Arra 18.47 16 ⇓P P 03 27 36.9 -4.1
comp=Z,117nm,0.6s
KURBB Kurchatov Arra 18.47 16 P P 03 27 38.5 -2.5
comp=Z,2.5nm,0.3s,baz=208,slow=11,SNR=200
KURBB LR LR 03 35 18.6
comp=Z,8μm,19.4s,baz=193,slow=39
comp=Z,62nm,0.7s
KURK Kurchatov 18.58 16 ⇑P P 03 27 40.0 -2.1
comp=Z,112nm,0.8s
KURK Kurchatov 18.58 16 P 03 27 38.4 -3.8
KURK Kurchatov 18.58 16 P P 03 27 39.0 -3.1
KURK Kurchatov 18.58 16 *ce*P P 03 27 38.3 -3.8
KURK pmax pmax
comp=Z,111nm,1.0s
SAKB Bahrain 18.71 253 P Pn 03 27 45.2 +0.7
TRNA Turayna 18.78 249 P Pn 03 27 45.8 +0.6
SNR=7.8
SMRA Abu-Samra 19.08 249 P Pn 03 27 48.6 -0.2
SNR=17
VIS Vishakhapatnam 19.22 140 *e*P P 03 27 47.3 -2.1
AKTO Aktyubinsk 19.57 336 P P 03 27 52.6 -0.5
comp=Z,32nm,0.3s,baz=157,slow=8.7,SNR=237
AKTO LR LR 03 35 32.7
comp=Z,2μm,19.7s,baz=104,slow=37
comp=Z,310nm,0.7s
KBD Kabd 19.86 265 P P 03 27 56.4 +0.1
BVA0 Borovoye Array 19.89 360 ⇑P P 03 27 54.6 -1.9
comp=Z,381nm,0.8s,baz=334,slow=8.2,SNR=42
BVA0 Borovoye Array 19.89 360 P P 03 27 54.6 -1.9
BVAR Borovoye Array 19.89 360 P P 03 27 55.1 -1.4
comp=Z,4.8nm,0.3s,baz=146,slow=9.9,SNR=218
BVAR LR LR 03 36 19.4
comp=Z,9μm,19.4s,baz=185,slow=39
BRVK Borovoye 19.92 360 ⇓P P 03 27 55.2 -1.7
comp=Z,491nm,0.6s
BRVK Borovoye 19.92 360 P P 03 27 56.0 -0.9
BRVK Borovoye 19.92 360 P P 03 27 56.2 -0.7
BRVK Borovoye 19.92 360 *ce*P P 03 27 55.4 -1.5
BRVK pmax pmax
comp=Z,375nm,0.8s
SHAO Shalim 20.09 225 P Pn 03 28 00.6 -0.3
SNR=9.0
SHL Shillong 20.13 106 *e*P P 03 27 58.8 -0.7
SHL IAmb IAmb 03 28 05.1
comp=Z,152nm,0.8s

GOMU GeErMu 20.27 74 P P 03 28 01.5 +0.3
GOMU S S 03 31 36.5 -10
GOMU pmax pmax
comp=Z,56nm,0.7s
GOMU LR LR
comp=Z,19μm,19.0s
GOMU LR LR
comp=Z,10μm,18.0s
GOMU LR LR
comp=Z,14μm,17.5s
MAK Makhachkala 20.51 305 *e*P Pn 03 28 05.3 -0.3
MAK *e*S Sn 03 31 54.0 -1.7
MAK pmax pmax
comp=Z,378nm,1.1s
MAK MLR MLR
comp=Z,11μm,12.0s
DOK Doka 20.56 229 P P 03 28 04.6 +0.6
SNR=10
DMTO DMTO 20.73 226 P P 03 28 06.9 +1.1
SNR=11
BELO BELONIA 20.93 113 *e*P P 03 28 08.3 +0.3
ZIRO ZIRO 20.94 99 *e*P P 03 28 07.2 -1.1
ZIRO IAmb IAmb 03 28 10.1
comp=Z,512nm,0.4s
SILR SILCHAR 21.23 107 *e*P P 03 28 12.1 +0.9
SILR IAmb IAmb 03 28 19.1
comp=Z,486nm,0.9s
WHFO Wadi Hawf 21.30 229 P P 03 28 12.0 -0.1
SNR=22
RBK Rabkut 21.34 227 P P 03 28 13.6 +1.0
JORH JORHAT 21.57 101 *e*P P 03 28 13.7 -1.2
AZL Aizawl 21.65 110 *e*P P 03 28 15.6 -0.3
AZL IAmb IAmb 03 28 23.4
comp=Z,228nm,1.0s
GNI Garni 21.74 296 P P 03 28 17.5 +0.7
GNI Garni 21.74 296 P P 03 28 17.6 +0.9
comp=Z,160nm,0.8s,baz=142,slow=1.9,SNR=88
GNI LR LR 03 38 06.7
comp=Z,2μm,19.8s,baz=118,slow=41
comp=Z,160nm,0.8s
GNI Garni 21.74 296 *ce*P P 03 28 14.8 -2.0
GNI pmax pmax
comp=Z,548nm,1.7s
GROC Groznyy 21.77 305 *e*P P 03 28 17.8 +1.0
GROC *e* 03 28 38.6
GROC *e*S S 03 32 19.6 +4.0
GROC pmax pmax
comp=Z,330nm,1.5s
DIBR DIBRUGARH 21.84 98 *e*P P 03 28 18.1 +0.3
DIBR IAmb IAmb 03 28 25.8
comp=Z,636nm,0.7s
KOHI KOHIMA 21.86 104 *e*P P 03 28 18.3 +0.1
KOHI IAmb IAmb 03 28 26.4
comp=Z,245nm,0.7s
MDRS Chennai 21.88 154 *e*P P 03 28 19.6 +1.4
MDRS IAmb IAmb 03 28 23.6
comp=Z,464nm,1.4s
MOKO MOKOCHONG 21.95 102 *e*P P 03 28 18.9 -0.2
MOKO IAmb IAmb 03 28 29.6
comp=Z,215nm,0.7s
ABTO Aybut 22.02 229 P P 03 28 19.8 0.0
SNR=7.9
ABTO P P 03 28 20.4 +0.5
TASB TASBURUN-IGDIR 22.09 296 *e*P P 03 28 22.1 +1.6
IMP Imphal 22.12 106 *e*P P 03 28 21.2 +0.3
IMP IAmb IAmb 03 28 26.7
comp=Z,172nm,0.7s
CLDR Caldiran 22.21 293 *e*P P 03 28 23.6 +1.7
CUKT Cukurca 22.29 288 *e*P P 03 28 22.6 -0.1
TRLG Trialeti 22.50 299 P P 03 28 25.8 +0.8
VANB Van 22.56 292 *e*P P 03 28 25.5 0.0
LKP Lekhapani 22.67 98 *e*P P 03 28 26.5 -0.2
AKDM Akdamar-Van 22.85 291 *e*P P 03 28 31.3 +2.6
AKH Akhalkalaki 22.92 299 *e*P P 03 28 31.6 +2.2
KARS Kars 23.07 297 *e*P P 03 28 33.1 +2.2
KARS Kars 23.07 297 P P 03 28 31.2 +0.3
KARS Kars 23.07 297 P P 03 28 31.2 +0.3
KARS pmax pmax
comp=Z,3μm,1.8s
ZAA0 Zalesovo Array 23.19 22 P P 03 28 29.4 -2.3
ZALV Zalesovo Beam 23.19 22 P P 03 28 29.5 -2.2
ZALV Zalesovo Beam 23.19 22 P P 03 28 30.5 -1.2
comp=Z,270nm,0.6s,baz=220,slow=10.0,SNR=713
ZALV LR LR 03 38 20.4
comp=Z,7μm,19.6s,baz=212,slow=39
comp=Z,270nm,0.6s
ZALV Zalesovo Beam 23.19 22 *i*P P 03 28 29.5 -2.2
ZALV pmax pmax
comp=Z,268nm,0.6s
ONI Oni 23.23 302 *i*P P 03 28 34.4 +2.0
ONI Oni 23.23 302 P P 03 28 32.9 +0.5
ONI IAmb IAmb 03 28 53.2
comp=Z,124nm,1.1s
ONI Oni 23.23 302 P P 03 28 32.9 +0.5
ONI pmax pmax
comp=Z,124nm,1.1s
MLAZ Malazgirt-MUS 23.27 293 *e*P P 03 28 34.7 +1.8
NCK Nalchik 23.38 304 *c*P P 03 28 33.5 -0.3
NCK pmax pmax
comp=Z,17nm,0.9s
SENK Senkaya-Erzuru 23.61 296 *e*P P 03 28 38.7 +2.4
GURO Guroymak-BITLI 23.61 291 *e*P P 03 28 37.4 +1.2
GURO Guroymak-BITLI 23.61 291 P P 03 28 36.6 +0.4
RAYN Ar Rayn 23.90 253 P P 03 28 37.8 -1.2
RAYN Ar Rayn 23.90 253 P P 03 28 38.2 -0.7
RAYN Ar Rayn 23.90 253 P P 03 28 38.0 -1.0
KOPR Koprukoy-ERZUR 23.90 295 *e*P P 03 28 40.8 +1.8
KBZ Khabaz 23.93 304 P P 03 28 39.9 +0.9
comp=Z,8.5nm,0.6s,baz=116,slow=10,SNR=30
comp=Z,8.5nm,0.6s
KBZ Khabaz 23.93 304 *ce*P P 03 28 38.8 -0.2
KBZ pmax pmax
comp=Z,9.0nm,1.0s
SHA1 Shidzhatmaz 24.11 304 *ce*P P 03 28 42.1 +1.2
VRTB Varto-Mus 24.11 293 *e*P P 03 28 43.3 +2.4
KIV Kislovodsk 24.15 305 ⇑P P 03 28 41.7 +0.5
KIV Kislovodsk 24.15 305 P P 03 28 41.0 -0.1
KIV IAmb IAmb 03 28 49.4
comp=Z,89nm,0.8s
KIV Kislovodsk 24.15 305 P P 03 28 44.3 +3.2
KIV Kislovodsk 24.15 305 *e*P P 03 28 41.1 -0.1
KIV *e*S S 03 32 57.5 +0.7
KIV pmax pmax
comp=Z,93nm,1.1s
KIV MLR MLR
comp=Z,2μm,15.0s
KIV Kislovodsk 24.15 305 P P 03 28 41.6 +0.5
comp=Z,91nm,0.8s,comp=Z,2μm
SVAN Silvan-Diyarba 24.24 290 *e*P P 03 28 42.9 +0.9
GOF Gofitskoye 24.26 307 *c*i P P 03 28 42.9 +0.9
BATM Batumi 24.28 299 P P 03 28 43.9 +1.6
BCA Borcka 24.31 298 ⇓P P 03 28 43.8 +1.3
BCA Borcka 24.31 298 P P 03 28 43.5 +1.0
GTA Gaotai 24.43 67 P P 03 28 44.8 +1.0
GTA sP sP 03 29 01.6 +3.0
GTA S S 03 33 04.3 +2.8
GTA SS SnSn 03 33 52.1 +5.2
GTA pmax pmax
comp=Z,41nm,1.6s
GTA pmax pmax
comp=Z,990nm,5.2s
GTA LR LR
comp=Z,6μm,18.7s
GTA LR LR
comp=Z,3μm,14.3s
GTA LR LR
comp=Z,3μm,13.9s
KARO Karliova-Bingo 24.44 293 P P 03 28 45.9 +1.9
SVE Sverdlovsk 24.64 347 *d*i P P 03 28 45.0 -0.4
SVE *e*S S 03 33 01.4 -2.9
SVE pmax pmax
comp=Z,135nm,0.9s
SVE MLR MLR
comp=E,6μm,14.0s
SVE MLR MLR
comp=Z,26μm,15.0s
SVE MLR MLR
comp=N,16μm,15.0s
BNGB Bingl 24.70 292 *e*P P 03 28 47.9 +1.7
ARU Arti 24.71 344 P P 03 28 45.5 -0.4
ARU Arti 24.71 344 LR LR 03 39 48.5
comp=N,12μm,19.5s,baz=149,slow=40
ARU Arti 24.71 344 *c*i P P 03 28 45.6 -0.4
ARU 03 29 16.3

ARU S **S** **03 33 07.5 +2.2**
ARU SS **SnSn** **03 33 57.1 +3.9**
ARU pmax pmax
comp=Z,203nm,1.3s
ARU MLR MLR
comp=Z,15μm,13.0s
ARU Arti 24.71 344 P **P** **03 28 45.6 -0.4**
comp=Z,228nm,0.8s,comp=Z,3μm
MAZI Mazidag 24.81 289 P **P** **03 28 48.1 +0.8**
BELG Belogornoye 25.34 326 LR LR 03 40 54.0
comp=Z,6μm,18.6s,baz=142,slow=42
BELG Belogornoye 25.34 326*c iP* **P** **03 28 51.1 -0.6**
BELG pmax pmax
comp=Z,121nm,1.0s
KTUT Trabzon 25.61 297 ⇑P **P** **03 28 55.0 +0.7**
KTUT Trabzon 25.61 297 *e*P **P** **03 28 54.8 +0.5**
LABN Labinsk 25.70 305 *e*P **P** **03 28 55.0 0.0**
LABN *e* 03 29 28.4
LABN *e*S **S** **03 33 22.9 +1.6**
LABN *e*SS **SnSn** **03 34 21.0 +3.5**
LABN pmax pmax
comp=Z,89nm,1.9s
PTK Pertek 25.70 292 *e*P **P** **03 28 56.3 +0.9**
TNCH TengChong 25.77 101 P **P** **03 28 59.0 +2.9**
TNCH pP pP 03 29 08.4 +2.0
TNCH sP sP 03 29 13.1 +2.4
TNCH S **S** **03 33 22.9 -0.3**
TNCH PcS **PcS** **03 36 10.2 +3.8**
TNCH pmax pmax
comp=Z,140nm,0.9s
TNCH pmax pmax
comp=Z,440nm,6.2s
TNCH LR LR
comp=Z,3μm,15.4s
TNCH LR LR
comp=Z,4μm,14.8s
TNCH LR LR
comp=Z,8μm,14.4s
VSLR Vesyoloye 25.88 302 *i* P **P** **03 28 56.2 -0.5**
URFA Urfa 26.11 288 *e*P **P** **03 28 59.5 +0.6**
SOC Sochi 26.13 303 *e*P **P** **03 28 56.9 -2.1**
SOC *e*PPP PPP 03 29 42.1
SOC *e*S **S** **03 33 27.8 -0.3**
SOC *e*SS **SnSn** **03 34 29.6 +1.5**
SOC pmax pmax
comp=Z,38nm,0.8s
ERBR Yeremizino-Bor 26.18 308 *e*P **P** **03 28 59.5 +0.1**
ERBR *e* 03 29 38.9
ERBR *e*S **S** **03 33 30.6 +1.7**
ERBR pmax pmax
comp=Z,176nm,2.3s
ERBR MLR MLR
comp=Z,14μm,15.0s
MALK Mahakanadarawa 26.32 157 P **P** **03 29 01.1 +0.2**
ILIC ilic-Erzincan 26.37 293 *e*P **P** **03 29 02.8 +1.4**
ESPY Espiye-Giresun 26.39 296 P **P** **03 29 01.6 +0.2**
ARPR Arapgir-MALATY 26.53 292 *e*P **P** **03 29 04.3 +1.5**
ARPR Arapgir-MALATY 26.53 292 P **P** **03 29 03.3 +0.5**
ARPR IAmb IAmb 03 29 26.3
comp=Z,107nm,1.1s
DARE Darende-Malaty 27.18 291 *e*P **P** **03 29 09.9 +1.3**
GAZ Gaziantep 27.39 288 *e*P **P** **03 29 10.8 +0.3**
GAZ Gaziantep 27.39 288 P **P** **03 29 10.9 +0.3**
GAZ IAmb IAmb 03 29 26.7
comp=Z,69nm,1.0s
RSDY Resadiye-TOKAT 27.39 295 *e*P **P** **03 29 11.8 +1.3**
PALK Pallekele 27.43 157 P **P** **03 29 10.9 0.0**
PALK IAmb IAmb 03 29 14.3
comp=Z,126nm,1.6s
PALK Pallekele 27.43 157 LR LR 03 40 25.8
comp=Z,8μm,18.0s,baz=90,slow=37
PALK Pallekele 27.43 157 P **P** **03 29 13.2 +2.2**
PALK Pallekele 27.43 157 *i* P **P** **03 29 11.3 +0.4**
PALK pmax pmax
comp=Z,26nm,1.3s
LZH Lanzhou 27.57 74 *e*P **P** **03 29 13.1 +0.8**
LZH pP pP 03 29 22.5 -0.1
LZH sP sP 03 29 28.6 +1.7
LZH S **S** **03 33 47.6 -3.8**
LZH pmax pmax
comp=Z,27nm,1.4s
LZH pmax pmax
comp=Z,320nm,5.5s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,3μm,14.1s
LZH LR LR
comp=Z,3μm,14.4s
SVSK Karacayir 27.61 294 *e*P **P** **03 29 13.8 +1.5**
KMRS Kahramanmaras 27.63 289 *e*P **P** **03 29 13.0 +0.4**
VRH Novokhopyorsk 27.66 319 *e*P **P** **03 29 12.1 -0.5**
VRH *e*S **S** **03 33 49.0 -3.1**
VRH pmax pmax
comp=Z,32nm,0.8s
VRH smax smax
comp=E,1μm,11.2s
VRH MLR MLR
comp=Z,6μm,15.0s
PZH PanZhiHua 27.88 95 P **P** **03 29 15.1 +0.1**
PZH S **S** **03 33 56.5 +0.2**
PZH pmax pmax
comp=Z,50nm,1.0s
PZH pmax pmax
comp=Z,320nm,4.7s
PZH LR LR
comp=Z,3μm,15.5s
PZH LR LR
comp=Z,2μm,16.3s
PZH LR LR
comp=Z,4μm,12.4s
TOKT Tokat 27.98 295 *e*P **P** **03 29 17.0 +1.2**
ANN Anapa 28.00 304*c iP* **P** **03 29 14.7 -1.1**
ANN *e*S **S** **03 33 57.6 -0.1**
ANN *e*SS **SnSn** **03 35 15.2 +1.4**
ANN pmax pmax
comp=Z,36nm,0.6s
SARI SarD1z-Kayseri 28.01 291 P **P** **03 29 16.9 +0.8**
TAHT Tahtakopru-Hat 28.25 286 *e*P **P** **03 29 17.9 -0.2**
CD2 Chengdu 28.27 85 P **P** **03 29 18.6 +0.2**
CD2 S **S** **03 34 01.9 -0.3**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,180nm,3.2s
CD2 LR LR
comp=Z,6μm,12.0s
CD2 LR LR
comp=Z,4μm,12.6s
CD2 LR LR
comp=Z,10μm,16.5s
KVT Kavak 28.42 296 *e*P **P** **03 29 20.8 +1.2**
BNN Bunyan 28.46 292 *e*P **P** **03 29 20.5 +0.4**
BNN Bunyan 28.46 292 P **P** **03 29 20.5 +0.4**
BNN IAmb IAmb 03 29 56.9
comp=Z,70nm,0.9s
DGPR DIGLIPUR 28.55 129 *e*P **P** **03 29 21.4 +0.5**
DGPR IAmb IAmb 03 29 24.0
comp=Z,43nm,0.5s
MOY Mondy 28.88 41 *e*P **P** **03 29 24.8 +1.1**
MOY pmax pmax
comp=Z,84nm,2.2s
VORD Divnogorie 28.90 317 *e*P **P** **03 29 22.0 -1.7**
VORD *e*S **S** **03 34 09.5 -2.1**
VORD pmax pmax
comp=Z,30nm,1.0s
VORD smax smax
comp=E,140nm,6.6s
VORD MLR MLR
comp=Z,2μm,11.0s
DIKM Dikmen 29.07 297 ⇑P **P** **03 29 25.3 0.0**
DIKM Dikmen 29.07 297 *e*P **P** **03 29 26.1 +0.8**
VSR Storozhevoye 29.08 318 *e*P **P** **03 29 22.0 -3.3**
VSR pmax pmax
comp=Z,20nm,0.6s
VSR MLR MLR
comp=Z,3μm,16.0s
KIRV Kirov 29.12 337 LR LR 03 42 23.3
comp=Z,4μm,19.9s,baz=160,slow=39
KIRV Kirov 29.12 337*ce*P **P** **03 29 24.9 -0.6**
CMRD Camardi-Nigde 29.14 289 *e*P **P** **03 29 26.8 +0.6**
KMI Kunming 29.23 97 ⇓P **P** **03 29 26.9 -0.3**
KMI PP **PnPn** **03 30 21.2 +0.3**
KMI S **S** **03 34 18.2 +0.4**

KMI pmax pmax
comp=Z,23nm,0.7s
KMI pmax pmax
comp=Z,260nm,3.7s
KMI LR LR
comp=Z,2μm,14.9s
KMI LR LR
comp=Z,4μm,14.0s
KMI LR LR
comp=Z,4μm,12.3s
VORR Voronezh 29.26 319 *e*P **P** **03 29 26.7 -0.2**
VORR pmax pmax
comp=Z,56nm,1.2s
VORR MLR MLR
comp=Z,4μm,12.0s
MMAI Mount Meron Ar 29.29 280 ScP **ScP** **03 36 14.9 +2.4**
comp=Z,8.2nm,0.7s,baz=66,slow=5.0,SNR=13
MMAI LR LR 03 42 32.3
comp=Z,710nm,18.1s,baz=27,slow=39
CM31 Chiang Mai Arr 29.41 113 P **P** **03 29 27.3 -1.2**
CM31 IAmb IAmb 03 30 29.1
comp=Z,74nm,1.2s
CM31 Chiang Mai Arr 29.41 113 P **P** **03 29 26.9 -1.6**
SNR=12
CMAR Chiang Mai Arr 29.41 113 P **P** **03 29 27.7 -0.8**
CMAR Chiang Mai Arr 29.41 113 P **P** **03 29 28.8 +0.2**
comp=Z,12nm,0.6s,baz=298,slow=9.3,SNR=34
CMAR LR LR 03 44 51.4
comp=Z,2μm,19.1s,baz=300,slow=44
comp=Z,12nm,0.6s
CMAR Chiang Mai Arr 29.41 113*ce*P **P** **03 29 28.7 +0.2**
CMAR pmax pmax
comp=Z,14nm,0.6s
CORM Corum 29.44 294 P **P** **03 29 29.7 +0.9**
GHAJ Ghor Haditha 29.49 276 IAMs_20 IAMs_20 03 43 14.0
comp=Z,4μm,18.0s
ZAK Zakamensk 29.63 45 *e*P **P** **03 29 32.2 +1.9**
ZAK pmax pmax
comp=Z,25nm,1.1s
LPSR Galich'ya Gora 29.85 320 *e*P **P** **03 29 30.8 -1.3**
LPSR *e*S **S** **03 34 20.0 -6.5**
LPSR pmax pmax
comp=Z,100nm,0.7s
LPSR smax smax
comp=E,670nm,12.8s
LPSR MLR MLR
comp=Z,5μm,14.0s
KAMT Kaman 30.12 293 *e*P **P** **03 29 34.4 -0.5**
BR131 Keskin Array S 30.19 293 P **P** **03 29 35.2 -0.3**
BR131 IAmb IAmb 03 29 41.8
comp=Z,87nm,0.9s
BR131 Keskin Array S 30.19 293 P **P** **03 29 36.1 +0.7**
SNR=50
BR131 Keskin Array S 30.19 293 *i* P **P** **03 29 34.9 -0.5**
BRTR Keskin Array B 30.19 293 P **P** **03 29 35.5 +0.1**
BRTR Keskin Array B 30.19 293 P **P** **03 29 36.3 +0.8**
comp=Z,22nm,0.8s,baz=112,slow=9.0,SNR=43
BRTR ScP **ScP** **03 36 16.7 +1.2**
comp=Z,2.5nm,1.0s,baz=142,slow=6.3,SNR=3.9
BRTR LR LR 03 43 44.4
comp=Z,2μm,19.6s,baz=92,slow=40
comp=Z,22nm,0.8s
BRTR Keskin Array B 30.19 293*ce*P **P** **03 29 35.5 +0.1**
BRTR pmax pmax
comp=Z,15nm,0.6s
SIM Simferopol' 30.34 304 *e*P **P** **03 29 37.6 +1.0**
SIM *e*S **S** **03 34 35.6 +1.1**
SIM pmax pmax
comp=Z,23nm,0.7s
PHRA Phrae 30.38 111 P **P** **03 29 37.0 -0.1**
EIL Elat 30.40 273 LR LR 03 43 35.9
comp=Z,2μm,18.0s,baz=82,slow=40
CSS Mathiatis 30.70 284 IAMs_20 IAMs_20 03 43 53.9
comp=Z,4μm,18.0s
SONM Songino Array 30.73 51 P **P** **03 29 40.7 +0.6**
SONM Songino Array 30.73 51 P **P** **03 29 41.4 +1.3**
comp=Z,8.2nm,0.7s,baz=249,slow=9.7,SNR=34
SONM LR LR 03 43 59.0
comp=Z,10μm,18.4s,baz=250,slow=40
comp=Z,8.2nm,0.7s
SONM Songino Array 30.73 51 P **P** **03 29 40.7 +0.6**
SONM pmax pmax
comp=Z,30nm,1.0s
ANTO Ankara 30.84 293 ⇓P **P** **03 29 41.3 +0.2**
ANTO Ankara 30.84 293 P **P** **03 29 41.0 -0.1**
ANTO Ankara 30.84 293 P **P** **03 29 41.3 +0.2**
ANTO Ankara 30.84 293 P **P** **03 29 41.8 +0.7**
comp=Z,14nm,1.4s,comp=Z,329nm
BR231 Keskin MP Arra 30.85 293 P **P** **03 29 41.1 -0.2**
BR231 IAmb IAmb 03 29 48.0
comp=Z,114nm,1.8s
IRK Irkutsk 30.95 42 *e*P **P** **03 29 42.5 +0.6**
IRK pmax pmax
comp=Z,93nm,1.7s
ULN Ulaanbaatar 31.16 51 P **P** **03 29 43.2 -0.8**
ULN Ulaanbaatar 31.16 51 *i* P **P** **03 29 43.1 -0.9**
ULN pmax pmax
comp=Z,35nm,2.2s
LADK Ladik-KONYA 31.20 290 *e*P **P** **03 29 44.6 +0.2**
KONT Konya--Tatoy 31.21 290 *e*P **P** **03 29 45.2 +0.8**
KIZT Kizilcal 31.56 292 *e*P **P** **03 29 46.4 -1.1**
YUVA Yuva-Kibriscik 31.69 294 P **P** **03 29 49.9 +1.2**
SVRH Sivrihisar-ESK 31.82 293 P **P** **03 29 49.6 -0.2**
SLVN Son La 31.85 103 P **P** **03 29 49.2 -0.9**
XAN Xi'an 31.94 78 ⇑P **P** **03 29 50.9 0.0**
XAN S **S** **03 35 00.1 +0.3**
XAN pmax pmax
comp=Z,20nm,1.4s
XAN pmax pmax
comp=Z,280nm,4.9s
XAN LR LR
comp=Z,3μm,12.0s
XAN LR LR
comp=Z,9μm,15.1s
XAN LR LR
comp=Z,10μm,14.5s
GYA Guiyang 32.01 92 ⇑*i*P **P** **03 29 51.2 -0.4**
GYA pP pP 03 30 03.7 +1.7
GYA S **S** **03 35 00.0 -1.2**
GYA ScS **ScS** **03 40 15.5 -5.1**
GYA pmax pmax
comp=Z,26nm,1.4s
GYA pmax pmax
comp=Z,220nm,3.8s
GYA LR LR
comp=Z,12μm,17.8s
GYA LR LR
comp=Z,5μm,18.8s
GYA LR LR
comp=Z,4μm,14.4s
SRDT SRDT 32.06 119 P **P** **03 29 52.5 +0.6**
MDUB Mudurnu 32.07 295 *e*P **P** **03 29 51.8 -0.2**
MDUB Mudurnu 32.07 295 P **P** **03 29 52.1 +0.2**
MOS Moscow 32.07 325 *e*P **P** **03 29 51.3 -0.3**
MOS *e* 03 30 56.8
MOS *e*PPP PPP 03 31 09.7
MOS *e*S **S** **03 35 02.1 +0.9**
MOS *e*SS **SnSn** **03 36 58.6 +6.1**
MOS pmax pmax
comp=Z,80nm,1.1s
MOS pmax pmax
comp=Z,200nm,1.6s
MOS MLR MLR
comp=N,1μm,11.0s
MOS MLR MLR
comp=E,2μm,11.0s
CIFT Cifteler, Eski 32.18 293 *e*P **P** **03 29 52.8 -0.1**
OBN Obninsk 32.28 323 ⇑P **P** **03 29 53.9 +0.5**
OBN Obninsk 32.28 323 P **P** **03 29 53.5 +0.1**
OBN Obninsk 32.28 323 LR LR 03 46 17.6
comp=E,7μm,18.1s,baz=130,slow=43
OBN Obninsk 32.28 323*c iP* **P** **03 29 53.7 +0.3**
OBN *i* 03 30 58.1
OBN *i* S **S** **03 34 55.7 -8.7**
OBN pmax pmax
comp=Z,105nm,0.8s
OBN MLR MLR
comp=Z,7μm,18.0s
OBN Obninsk 32.28 323 P **P** **03 29 53.8 +0.3**
comp=Z,292nm,0.9s,comp=Z,2μm
BTO Baotou 32.32 65 *e*P **P** **03 29 54.5 +0.3**
BTO pP **sP** **03 30 09.4 +0.4**
BTO sP pP 03 30 16.6 +12
BTO PP **PP** **03 31 02.6 -4.8**
BTO S **S** **03 35 05.2 -0.5**

BTO sS **sS** **03 35 26.5 +3.5**
BTO SS **SnSn** **03 36 54.0 -5.1**
BTO pmax pmax
comp=Z,45nm,1.5s
BTO pmax pmax
comp=Z,920nm,5.2s
BTO LR LR
comp=Z,3μm,14.5s
BTO LR LR
comp=Z,4μm,11.6s
BTO LR LR
comp=Z,3μm,12.2s
SRCK Saricakaya, Es 32.51 294 *e*P **P** **03 29 55.4 -0.3**
GULT Gulveren 32.59 295 *e*P **P** **03 29 56.7 +0.2**
SHUT Suhut-Afyon 32.61 291 *e*P **P** **03 29 56.1 -0.6**
ISP Isparta 32.67 290 *e*P **P** **03 29 56.9 -0.4**
ISP Isparta 32.67 290 *i* P **P** **03 29 57.3 0.0**
KORT Korkueli 32.88 288 *e*P **P** **03 29 56.4 -2.7**
CAVI Cavuskoy 33.10 294 *e*P **P** **03 29 59.3 -1.6**
ADVT Abdulvahap 33.18 295 *e*P **P** **03 30 01.7 +0.1**
ATD Arta Tunnel 33.19 236 LR LR 03 44 48.2
comp=Z,22nm,19.9s,baz=55,slow=39
ENH Enshi 33.21 84 IAMs_20 IAMs_20 03 45 48.3
comp=Z,4μm,20.0s
HRT Hereke 33.23 295 *e*P **P** **03 30 02.3 +0.2**
ELL Elmali 33.26 288 P **P** **03 30 01.9 -0.5**
ELL Elmali 33.26 288 P **P** **03 30 01.9 -0.5**
ELL pmax pmax
comp=Z,199nm,0.7s
HHC Hu-ho-hao-te 33.49 65 *e*P **P** **03 30 04.7 +0.3**
HHC S **S** **03 35 21.2 -2.7**
HHC sS sS 03 35 41.8 +0.5
HHC SS **SnSn** **03 37 25.7 -1.9**
HHC pmax pmax
comp=Z,22nm,0.6s
HHC pmax pmax
comp=Z,320nm,4.5s
HHC LR LR
comp=Z,2μm,13.0s
HHC LR LR
comp=Z,2μm,12.2s
HHC LR LR
comp=Z,3μm,13.8s
PURM Purcari 33.54 306 ⇑P **P** **03 30 04.7 +0.1**
PURM Purcari 33.54 306 P **P** **03 30 04.7 +0.1**
comp=Z,64nm,0.8s
GEMT Gemlik 33.60 295 *e*P **P** **03 30 04.9 -0.3**
KAVV Kandilli-Istan 33.70 296 *e*P **P** **03 30 06.3 +0.3**
ISK Istanbul-Kandi 33.70 296 *e*P **P** **03 30 05.6 -0.4**
ISK Istanbul-Kandi 33.70 296 P **P** **03 30 02.0 -4.0**
KLYT Kilyos 33.71 296 *e*P **P** **03 30 05.6 -0.5**
MDNY Mudanya-Bursa 33.84 294 *e*P **P** **03 30 06.6 -0.6**
ARMT Armutlu 33.85 295 *e*P **P** **03 30 06.8 -0.6**
BGKT Bogazkoy 33.91 296 *e*P **P** **03 30 08.0 +0.1**
KULA Kula-Manisa 34.09 291 *e*P **P** **03 30 09.2 -0.4**
TLCR 34.09 303 ⇓P **P** **03 30 09.2 -0.2**
TLCR 34.09 303 P **P** **03 30 09.2 -0.2**
CTKS Kestanelik-??a 34.11 296 *e*P **P** **03 30 08.9 -0.7**
KCTX Karacabey (Bur 34.24 294 *e*P **P** **03 30 10.7 -0.1**
KLMR Klimovskoe 34.24 333*c iP* **P** **03 30 10.0 -0.5**
KLMR *e**PP **pP** **03 30 14.5 -6.5**
KLMR *e* 03 31 26.3
KLMR pmax pmax
comp=Z,114nm,0.7s
KLMR MLR MLR
comp=Z,7μm,14.0s
CTYL Yalikoy Yolu 34.28 296 P **P** **03 30 11.2 +0.1**
comp=Z,92nm,1.0s,comp=Z,1μm
MFTR Murfatlar 34.28 301 ⇓P **P** **03 30 11.4 +0.3**
TIY Taiyuan 34.31 70 P P 03 30 19.1 +7.6
TIY S **S** **03 35 37.5 +0.9**
TIY LR LR
comp=N,5μm,19.9s
TIY LR LR
comp=E,1μm,14.4s
TIY LR LR
comp=Z,3μm,17.9s
MILM Milestii Mici 34.32 306 ⇓P **P** **03 30 11.0 -0.3**
MILM Milestii Mici 34.32 306 ⇑*i*P **P** **03 30 10.8 -0.5**
comp=Z,680nm,4.4s
MILM Milestii Mici 34.32 306 *e*PP PP 03 31 19.0 -10
MILM *i* S **S** **03 35 38.0 +1.8**
comp=Z,360nm,12.4s
MILM *e*SS **SnSn** **03 37 49.0 +1.8**
MILM *e*L L 03 44 20.0
MILM LRM MLR 03 47 15.0
comp=Z,2μm,16.0s
MILM Milestii Mici 34.32 306*c iP* **P** **03 30 10.8 -0.5**
MILM *i* S **S** **03 35 38.0 +1.8**
MILM *e*SS **SnSn** **03 37 49.0 +1.8**
MILM pmax pmax
comp=Z,680nm,4.4s
MILM smax smax
comp=N,360nm,12.4s
MILM smax smax
comp=E,550nm,8.6s
MILM MLR MLR
comp=Z,3μm,15.5s
MILM MLR MLR
comp=E,2μm,16.0s
KIS Kishinev 34.33 306 *e*P **P** **03 30 11.0 -0.4**
comp=E,150nm,4.6s
KIS Kishinev 34.33 306 *e*PP PP 03 31 19.0 -10
KIS *e*S **S** **03 35 39.0 +2.6**
KIS *e*L L 03 45 04.0
KIS LRM MLR 03 47 17.0
comp=E,1μm,16.0s
KIS Kishinev 34.33 306 *e*P **P** **03 30 11.0 -0.4**
KIS *e*S **S** **03 35 39.0 +2.6**
KIS pmax pmax
comp=Z,150nm,4.6s
KIS MLR MLR
comp=Z,1μm,16.0s
TPGR Topolog 34.34 302 ⇑P **P** **03 30 11.9 +0.3**
CFR Carcaliu 34.57 303 ⇓P **P** **03 30 13.7 +0.1**
CFR Carcaliu 34.57 303 P **P** **03 30 13.7 +0.1**
TLBR Topalu 34.58 302 ⇑P **P** **03 30 13.8 +0.1**
EDC Edincik 34.62 294 P **P** **03 30 14.3 +0.3**
BALB Balikesir 34.63 293 P **P** **03 30 14.1 0.0**
BALB IAmb IAmb 03 30 20.3
comp=Z,70nm,1.0s
CRLT Corlu 34.70 296 *e*P **P** **03 30 14.8 +0.1**
SCTR Scanteiesti 34.72 304 ⇓P **P** **03 30 15.8 +0.9**
AK09 Malin Array Si 34.74 313 P **P** **03 30 14.8 -0.2**
ARG Arkhangelos 34.74 287 P **P** **03 30 15.8 +0.6**
ARG IAmb IAmb 03 30 20.3
comp=Z,106nm,1.5s
ARG Arkhangelos 34.74 287 P **P** **03 30 15.8 +0.6**
ARG pmax pmax
comp=Z,106nm,1.5s
LYN LuoYang 34.75 76 *e*P **P** **03 30 15.6 +0.3**
LYN pP sP 03 30 28.9 -1.1
LYN sP pP 03 30 39.8 +14
LYN S **S** **03 35 46.6 +3.3**
LYN pmax pmax
comp=Z,39nm,1.2s
LYN pmax pmax
comp=Z,470nm,4.0s
LYN LR LR
comp=Z,3μm,13.9s
LYN LR LR
comp=Z,6μm,14.2s
LYN LR LR
comp=Z,9μm,13.6s
AK10 Malin Array Si 34.76 313 P **P** **03 30 15.1 0.0**
AK08 Malin Array Si 34.77 313 P **P** **03 30 15.2 0.0**
AK07 Malin Array Si 34.78 312 P **P** **03 30 15.4 +0.1**
AK05 Malin Array Si 34.79 313 P **P** **03 30 15.6 +0.2**
AKASG Malin Array Be 34.80 313 P **P** **03 30 15.1 -0.4**
comp=Z,8.0nm,0.6s,baz=101,slow=7.2,SNR=42
AKASG ScP **ScP** **03 36 32.4 +1.5**
comp=Z,4.1nm,0.7s,baz=83,slow=3.6,SNR=8.9
AKASG LR LR 03 46 51.5
comp=Z,3μm,20.0s,baz=106,slow=40
comp=Z,8.0nm,0.6s
AKBB Malin Array Si 34.80 313 P **P** **03 30 15.2 -0.3**
AK02 Malin Array Si 34.80 313 P **P** **03 30 15.4 -0.1**
AK01 Malin Array Si 34.80 313 P **P** **03 30 15.6 +0.1**
AK03 Malin Array Si 34.81 313 P **P** **03 30 15.5 0.0**
KIEV Kiev 34.81 313 ⇓P **P** **03 30 15.7 +0.1**
KIEV Kiev 34.81 313 P **P** **03 30 15.4 -0.2**
KIEV IAmb IAmb 03 30 23.0
comp=Z,40nm,1.1s
KIEV Kiev 34.81 313 P **P** **03 30 15.6 +0.1**

KIEV Kiev 34.81 313 P P 03 30 15.2 -0.3
comp=Z,163nm,1.0s,comp=Z,3µm
SORM Soroca 34.82 308 ⇓P P 03 30 15.6 -0.1
SORM Soroca 34.82 308 P P 03 30 15.5 -0.1
SORM Soroca 34.82 308 P P 03 30 15.6 -0.1
comp=Z,18nm,0.7s,comp=Z,601nm
AK11 Malin Array Si 34.83 313 P P 03 30 15.8 +0.1
AK12 Malin Array Si 34.83 313 P P 03 30 15.8 +0.1
AK04 Malin Array Si 34.84 313 P P 03 30 15.8 0.0
AK14 Malin Array Si 34.86 313 P P 03 30 15.9 0.0
AK15 Malin Array Si 34.86 313 P P 03 30 16.0 0.0
AK13 Malin Array Si 34.88 313 P P 03 30 16.2 0.0
AK18 Malin Array Si 34.90 313 P P 03 30 16.3 -0.1
AK22 Malin Array Si 34.91 313 P P 03 30 16.3 -0.1
AK21 Malin Array Si 34.93 313 P P 03 30 16.4 -0.2
AK19 Malin Array Si 34.94 313 P P 03 30 16.5 -0.2
AK20 Malin Array Si 34.94 313 P P 03 30 16.6 -0.1
KRBG Karabiga-Çanak 35.05 295 eP P 03 30 17.5 -0.2
DAT Datca 35.12 288 eP P 03 30 16.9 -1.6
GCAM G?zelcaml? 35.28 290 eP P 03 30 18.4 -1.4
BODT Bodrum 35.29 289 eP P 03 30 18.2 -1.7
LUBAR Lubar, Ukraine 35.54 311 P P 03 30 21.2 -0.7
NDNU Novodnistrovsk 35.55 309 P P 03 30 22.0 +0.1
KARP Karpathos 35.62 286 P P 03 30 22.9 +0.1
KARP Karpathos 35.62 286 P P 03 30 23.3 +0.6
comp=Z,294nm,0.9s,comp=Z,2µm
VRI Vrincioaia 35.62 304 ⇓P P 03 30 23.0 +0.3
VRI Vrincioaia 35.62 304 eP P 03 30 24.2 +1.5
VRI Vrincioaia 35.62 304 P P 03 30 23.0 +0.3
VRI Vrincioaia 35.62 304 P P 03 30 23.2 +0.5
comp=Z,33nm,1.2s,comp=Z,965nm
ERIK Erikli-Kesan 35.63 295 eP P 03 30 23.3 +0.5
PLOR5 Plostina Array 35.66 304 P P 03 30 24.0 +0.9
comp=Z,64nm,0.8s,comp=Z,1µm
GELI Tayfur-Gelibol 35.67 295 eP P 03 30 23.4 +0.3
PLOR Plostina 35.67 304 ⇑P P 03 30 24.4 +1.2
PLOR Plostina 35.67 304 P P 03 30 24.3 +1.2
PLOR3 Plostina Array 35.68 304 P P 03 30 24.1 +0.9
comp=Z,51nm,0.9s,comp=Z,1µm
COMU Canakkale 35.69 294 eP P 03 30 24.0 +0.7
URLA Izmir 35.72 291 eP P 03 30 22.5 -1.1
TESR Tescani 35.74 305 ⇑P P 03 30 24.7 +1.1
TESR Tescani 35.74 305 P P 03 30 24.3 +0.7
comp=Z,28nm,0.8s,comp=Z,798nm
MI28 Mi28,Pidlybu 35.81 313 P P 03 30 24.2 0.0
EZN Ezine 35.82 294 eP P 03 30 24.7 +0.3
EZN Ezine 35.82 294 P P 03 30 24.5 +0.1
EZN Ezine 35.82 294 P P 03 30 24.5 +0.1
comp=Z,145nm,1.1s,comp=Z,1µm
ENEZ Enez 35.91 295 eP P 03 30 25.7 +0.6
COVR Voineasa-Covas 35.98 304 ⇓P P 03 30 26.7 +0.9
SZH Strazhitsa 36.01 300 P P 03 30 31.4 +5.4
ELND Elena 36.08 299 ⇑P P 03 30 26.9 +0.3
GADA Gvkgeada 36.12 294 eP P 03 30 27.2 +0.2
KMPD K-Podol'skiy 36.13 309 P P 03 30 26.4 -0.6
TURR Turia 36.13 304 ⇑P P 03 30 28.0 +1.0
MLR Muntele Rosu 36.14 303 ⇑P P 03 30 28.4 +1.2
MLR Muntele Rosu 36.14 303 eP P 03 30 28.7 +1.5
MLR Muntele Rosu 36.14 303 P P 03 30 27.6 +0.4
MLR IAmb IAmb 03 30 46.4
comp=Z,47nm,0.7s
MLR Muntele Rosu 36.14 303 LR LR 03 48 45.2
comp=Z,5µm,18.6s,baz=59,slow=42
MLR Muntele Rosu 36.14 303 P P 03 30 28.4 +1.2
MLR Muntele Rosu 36.14 303 P P 03 30 28.6 +1.4
comp=Z,85nm,0.8s,comp=Z,1µm
CHOS Chios island 36.14 291 eP P 03 30 27.4 +0.2
HNS HongShan 36.14 70 ⇓P P 03 30 28.0 +0.8
HNS S S 03 36 03.2 -1.3
HNS pmax pmax
comp=Z,16nm,0.8s
HNS pmax pmax
comp=Z,330nm,4.7s
HNS LR LR
comp=Z,5µm,18.2s
HNS LR LR
comp=Z,740nm,15.7s
HNS LR LR
comp=Z,3µm,16.9s
SIGR SIGRI 36.22 293 eP P 03 30 27.5 -0.3
CIT Chita 36.27 46 eP P 03 30 30.6 +2.4
CIT e 03 30 40.2
CIT e 03 31 54.8
CIT e 03 32 57.4
CIT pmax pmax
comp=Z,187nm,2.4s
UBPT Khong Chiam 36.33 111 P P 03 30 28.5 -0.5
UBPT Khong Chiam 36.33 111 P P 03 30 28.4 -0.5
SRIT Nakonsritamara 36.34 126 P P 03 30 28.9 -0.2
RDO Rodhopi 36.36 296 P P 03 30 29.3 +0.4
RDO Rodhopi 36.36 296 P P 03 30 28.9 0.0
RDO IAmb IAmb 03 30 35.5
comp=Z,85nm,1.3s
KDZ Kurdzhali 36.49 297 eP P 03 30 30.5 +0.4
KDZ Kurdzhali 36.49 297 P P 03 30 30.1 0.0
DOPR Dopca 36.56 304 ⇓P P 03 30 31.6 +0.9
MNK Minsk 36.65 319 iP P 03 30 30.1 -1.2
comp=E,19nm,0.9s
MNK i P P 03 30 30.1 -1.2
comp=N,21nm,0.9s
MNK i P P 03 30 30.1 -1.2
comp=Z,53nm,0.8s,baz=107
MNK i PP PP 03 31 47.2 -7.7
MNK i PPP PPP 03 32 16.9
MNK i S S 03 36 11.4 -0.5
MNK i SS SnSn 03 38 39.7 -3.8
MNK i LQ LQ 03 44 07.1
MNK i LR LR 03 45 25.8
MNK i LRM MLR 03 47 59.2
comp=Z,4µm,16.6s
MNK i LRM MLR 03 48 02.1
comp=E,1µm,16.8s
MNK i LRM MLR 03 48 50.4
comp=N,1µm,15.7s
MNK Minsk 36.65 319 iP P 03 30 30.1 -1.2
MNK i PPP PPP 03 32 16.8
MNK i 03 32 49.0
MNK i S S 03 36 11.4 -0.5
MNK i SS SnSn 03 38 39.7 -3.8
MNK pmax pmax
comp=Z,53nm,0.8s
MNK pmax pmax
comp=E,19nm,0.9s
MNK pmax pmax
comp=N,21nm,0.9s
MNK MLR MLR
comp=Z,4µm,17.0s
MNK MLR MLR
comp=E,1µm,17.0s
MNK MLR MLR
comp=N,1µm,16.0s
CNSH ChangSha 36.70 86 eP P 03 30 31.6 -0.4
CNSH S S 03 36 12.3 -0.9
CNSH pmax pmax
comp=N,26nm,1.4s
CNSH LR LR
comp=N,6µm,18.0s
CNSH LR LR
comp=N,3µm,17.1s
CNSH LR LR
comp=N,6µm,15.9s
APE Apeiranthos 36.70 289 ⇑P P 03 30 32.4 +0.4
APE Apeiranthos 36.70 289 iP P 03 30 31.5 -0.5
APE pmax pmax
comp=Z,14nm,1.0s
VOIR 36.76 303 ⇓P P 03 30 33.0 +0.5
VOIR 36.76 303 P P 03 30 32.9 +0.5
VOIR 36.76 303 P P 03 30 33.4 +0.9
BURAR Bucovina Array 36.84 307 ⇓P P 03 30 33.8 +0.7
BURAR Bucovina Array 36.84 307 P P 03 30 33.4 +0.3
BURAR Bucovina Array 36.84 307 P P 03 30 33.8 +0.7
BUR08 Bucovina Ar. S 36.85 307 P P 03 30 33.5 +0.3
XLT XiLinHaoTe 36.87 59 eP P 03 30 34.8 +1.4
XLT sP sP 03 30 58.2 +10
XLT S S 03 36 18.5 +2.8
XLT pmax pmax
comp=Z,15nm,1.9s
XLT pmax pmax
comp=Z,400nm,3.7s
XLT LR LR
comp=Z,4µm,14.9s
XLT LR LR
comp=Z,5µm,15.8s

RZN Rozhen 36.94 297 P P 03 30 34.7 +0.6
RNPP5 Staryi Chortor 36.98 313 P P 03 30 34.4 +0.3
RNPP9 Sopachiv 37.01 313 P P 03 30 34.7 +0.3
RNPP8 Varash 37.02 313 P P 03 30 34.8 +0.4
BJT Baijiatuau 37.03 66 P P 03 30 34.0 -0.8
BJT Baijiatuau 37.03 66 P P 03 30 34.0 -0.8
BJT pmax pmax
comp=Z,21nm,0.7s
BJT MLR MLR
comp=Z,2µm,22.0s
BJI Beijing 37.04 66 P P 03 30 36.1 +1.3
BJI S S 03 36 20.4 +2.3
BJI ScS ScS 03 40 46.8 +0.1
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI LR LR
comp=Z,800nm,16.3s
BJI LR LR
comp=Z,1µm,13.5s
BJI LR LR
comp=Z,1µm,14.7s
WHN Wuhan 37.19 82 P P 03 30 37.0 +0.8
WHN pP sP 03 30 54.7 +3.7
WHN sP pP 03 31 01.9 +15
WHN S S 03 36 21.2 +0.6
WHN pmax pmax
comp=Z,60nm,0.9s
WHN LR LR
comp=Z,4µm,10.9s
WHN LR LR
comp=Z,8µm,12.5s
WHN LR LR
comp=Z,12µm,13.3s
PGB Panagyurishte 37.34 298 P P 03 30 38.3 +1.0
ARCR ARCALIA 37.37 306 ⇑P P 03 30 37.2 -0.3
NACGM Naroch 37.38 319 ⇑iP P 03 30 38.5 +1.1
comp=Z,143nm,0.9s,baz=107
IDI Anoyia 37.49 286 P P 03 30 38.4 -0.4
IDI IAmb IAmb 03 30 57.8
comp=Z,31nm,0.7s
IDI Anoyia 37.49 286 P P 03 30 38.2 -0.6
IDID Didziasalis 37.53 320 eP P 03 30 40.5 +1.7
MLSI Meulaboh, Aceh 37.57 134 P P 03 30 37.2 -2.3
comp=Z,61nm,0.7s
OUR Ouranopolis 37.58 295 eP P 03 30 39.3 0.0
OUR Ouranopolis 37.58 295 P P 03 30 39.1 -0.2
MPEP Malo Peshtene 37.65 300 P P 03 30 40.8 +0.9
LOT Lotru 37.66 303 ⇓P P 03 30 40.6 +0.5
LOT Lotru 37.66 303 eP P 03 30 39.9 -0.3
MMB Musomishta 37.69 297 P P 03 30 40.4 +0.1
QIZ Qiongzhong 37.84 102 P P 03 30 42.6 +0.8
QIZ S S 03 36 29.2 -1.5
QIZ ScS ScS 03 40 42.6 -9.3
QIZ pmax pmax
comp=Z,200nm,5.3s
QIZ LR LR
comp=Z,3µm,15.5s
QIZ LR LR
comp=Z,2µm,15.6s
QIZ LR LR
comp=Z,2µm,16.5s
PAIG Paliouri 37.84 294 eP P 03 30 41.7 +0.1
VALD Valchedram 37.87 300 P P 03 30 42.6 +0.9
LVV L'vov 37.90 310 eP P 03 30 42.5 +0.6
LVV e*PP pP 03 30 53.5 +1.0
LVV e 03 32 07.8
LVV eS S 03 36 27.8 -3.2
LVV eSS SnSn 03 39 10.7 -3.1
LVV eSSS SSS 03 39 43.3
LVV e 03 40 51.6
LVV pmax pmax
comp=Z,70nm,1.6s
LVV MLR MLR
comp=N,500nm,15.0s
LVV MLR MLR
comp=E,1µm,15.0s
LVV MLR MLR
comp=Z,1µm,15.0s
ISAL Salakas 37.94 320 eP P 03 30 44.4 +2.2
VTS Vitosha 38.03 298 P P 03 30 43.9 +0.6
SRE Strehaia 38.04 302 ⇑P P 03 30 43.5 +0.3
SRE Strehaia 38.04 302 P P 03 30 43.5 +0.3
MARR Marisel-Cluj 38.18 305 ⇑P P 03 30 45.3 +0.8
TIA Tai'an 38.23 72 P P 03 30 45.5 +0.6
TIA S S 03 36 39.2 +2.8
TIA pmax pmax
comp=Z,10.0nm,1.2s
TIA pmax pmax
comp=Z,190nm,3.3s
TIA LR LR
comp=Z,610nm,14.5s
TIA LR LR
comp=Z,1µm,14.1s
TIA LR LR
comp=Z,1µm,15.8s
BOD Bodaibo 38.29 37 eP P 03 30 44.9 -0.2
BOD pmax pmax
comp=Z,26nm,1.1s
DEV Deva 38.29 304 ⇑P P 03 30 46.2 +0.9
DEV Deva 38.29 304 P P 03 30 46.2 +0.9
GZR Gura Zlata 38.36 303 ⇓P P 03 30 45.9 -0.1
BLKB Belogradchik 38.42 300 ⇑P P 03 30 46.7 +0.3
DRGR 38.47 305 ⇑P P 03 30 47.4 +0.5
DRGR 38.47 305 P P 03 30 47.4 +0.5
VSU Vasula 38.60 324 eP P 03 30 46.7 -1.0
VSU pmax pmax
comp=Z,72nm,0.8s
JOF Joensuu 38.60 332 eP P 03 30 48.1 +0.5
HERR Herculane 38.60 302 ⇓P P 03 30 47.6 -0.3
KWP Kalwaria Pacla 38.72 310 eP P 03 30 50.0 +1.1
KWP eL L 03 51 09.6
comp=Z,2µm,16.3s
KWP Kalwaria Pacla 38.72 310 P P 03 30 49.6 +0.7
KWP Kalwaria Pacla 38.72 310 P P 03 30 49.6 +0.7
KWP pmax pmax
comp=Z,48nm,0.9s
KWP MLR MLR
comp=Z,1µm,20.0s
GRG Griva 38.73 296 eP P 03 30 48.5 -0.6
SURR Surduc 38.83 303 ⇑P P 03 30 49.9 +0.1
KOLS Kolonicke sedl 38.93 309 eP P 03 30 51.2 +0.6
KOLS ePP PnPn 03 32 30.5 +7.9
KOLS Kolonicke sedl 38.93 309 eP P 03 30 51.2 +0.6
KOLS pmax pmax
comp=Z,12nm,0.8s
AGG Agios Georgios 38.97 293 P P 03 30 49.9 -1.3
AGG Agios Georgios 38.97 293 P P 03 30 49.9 -1.3
AGG pmax pmax
comp=Z,63nm,1.2s
SNSI Sinabang, Aceh 39.01 136 P P 03 30 51.4 -0.2
comp=Z,212nm,0.7s
PABE Paberze 39.10 319 P P 03 30 52.0 +0.1
PABE IAmb IAmb 03 30 58.3
comp=Z,74nm,0.8s
PABE IAMs_20 IAMs_20 03 49 10.1
comp=Z,4µm,20.0s
PABE Paberze 39.10 319 eP P 03 30 52.5 +0.6
MDVR Moldovita 39.10 302 ⇑P P 03 30 52.1 -0.1
BOVS Bovan 39.12 300 ⇓P P 03 30 52.2 -0.1
SIRR Siria 39.17 304 ⇑P P 03 30 53.7 +1.0
SUW Suwalki 39.18 317 eP P 03 30 52.6 0.0
SUW eL L 03 50 03.0
comp=Z,5µm,15.3s
SUW Suwalki 39.18 317 P P 03 30 51.8 -0.8
SUW IAmb IAmb 03 30 59.9
comp=Z,72nm,1.0s
SUW Suwalki 39.18 317 eP P 03 30 52.9 +0.3
SUW Suwalki 39.18 317 P P 03 30 51.8 -0.8
SUW pmax pmax
comp=Z,73nm,1.0s
SUW MLR MLR
comp=Z,2µm,19.0s
BZS Buzias 39.18 303 ⇑P P 03 30 53.3 +0.5
BZS Buzias 39.18 303 P P 03 30 53.3 +0.5
ARBE Arbavere 39.32 326 eP P 03 30 54.1 +0.4
CRVS Cervenica-Dubn 39.46 308 eP P 03 30 55.1 0.0
CRVS ePP PnPn 03 32 30.9 +2.0
CRVS Cervenica-Dubn 39.46 308 eP P 03 30 55.1 0.0
CRVS pmax pmax
comp=Z,93nm,2.1s
KULM Kulim 39.47 128 P P 03 30 53.7 -1.7
STHS Stebnicka Huta 39.65 309 eP P 03 30 58.3 +1.6
STHS Stebnicka Huta 39.65 309 eP P 03 30 58.3 +1.6
HKPS Hong Kong Po S 39.92 94 IAMs_20 IAMs_20 03 49 04.9
comp=Z,3µm,19.0s
FINES FINESS Array B 40.07 329 P P 03 30 59.9 -0.1
FINES FINESS Array B 40.07 329 P P 03 31 00.2 +0.3
comp=Z,32nm,0.8s,baz=111,slow=11,SNR=76
FINES LR LR 03 51 25.5
comp=Z,2µm,18.1s,baz=110,slow=42
comp=Z,32nm,0.8s
MTSE Matsula 40.12 324 eP P 03 31 00.7 +0.4
BEL Belsk 40.22 313 eP P 03 30 59.3 -2.0
BEL eL L 03 51 12.2
comp=Z,21µm,16.5s
NIE Niedzica 40.26 309 eP P 03 31 00.9 -0.8
NIE eS S 03 37 10.5 +3.8
NIE eL L 03 49 19.6
comp=Z,1µm,21.0s
NIE eL L 03 51 08.6
comp=Z,1µm,18.2s
NIE Niedzica 40.26 309 P P 03 31 03.4 +1.6
IPM Ipoh 40.32 128 P P 03 31 01.7 -0.8
IPM Ipoh 40.32 128 P P 03 31 01.8 -0.7
PBUR Paburge 40.34 319 eP P 03 31 02.8 +0.5
MEF Metsahovi 40.36 326 eP P 03 31 02.6 +0.3
PSZ Piszkesteto 40.44 307 ⇑P P 03 31 04.4 +1.1
PSZ Piszkesteto 40.44 307 IAmb IAmb 03 31 11.0
comp=Z,118nm,1.8s
PSZ Piszkesteto 40.44 307 P P 03 31 04.3 +1.1
LVZ Lovozero 40.44 340 P P 03 31 02.6 -0.3
LVZ Lovozero 40.44 340 ceP P 03 31 02.7 -0.3
LVZ pmax pmax
comp=Z,57nm,0.6s
FRGS Fruska Gora 40.45 303 ⇑P P 03 31 03.8 +0.4
FRGS Fruska Gora 40.45 303 eP P 03 31 02.1 -1.3
IVA Berane 40.48 299 ⇑iP P 03 31 03.5 -0.2
NJ2 Nanjing 40.51 78 eP P 03 31 09.5 +5.5
NJ2 S S 03 37 13.1 +2.5
NJ2 pmax pmax
comp=Z,26nm,0.7s
NJ2 pmax pmax
comp=Z,200nm,3.8s
NJ2 LR LR
comp=Z,2µm,11.4s
NJ2 LR LR
comp=Z,3µm,13.3s
NJ2 LR LR
comp=Z,2µm,9.8s
SLIT Slitere, Latvi 40.57 322 eP P 03 31 03.9 -0.1
APA Apatity 40.60 339 ⇓iP P 03 31 02.4 -1.8
APA i 03 32 40.1
APA iS S 03 37 08.0 -3.1
APA pmax pmax
comp=Z,91nm,0.7s
APA MLR MLR
comp=Z,11µm,12.0s
TIR Tirane 40.61 297 ⇓P P 03 31 03.7 -1.0
TIR Tirane 40.61 297 P P 03 31 03.7 -1.0
GSI Gunungsitoli 40.63 136 P P 03 31 05.0 -0.1
GSI Gunungsitoli 40.63 136 P P 03 31 04.6 -0.5
GSI IAmb IAmb 03 31 12.5
comp=Z,74nm,0.7s
GSI Gunungsitoli 40.63 136 P P 03 31 04.5 -0.6
comp=Z,106nm,0.7s
OJC Ojcow 40.66 310 eP P 03 31 04.6 -0.3
OJC eS S 03 37 15.1 +2.7
OJC eL L 03 52 27.7
comp=Z,2µm,15.8s
TEKS Tekeris 40.67 302 eP P 03 31 05.3 +0.1
KOME Kolasin 40.76 299 ⇑iP P 03 31 05.5 -0.5
BBLS Lazi&#263i 40.78 301 eP P 03 31 06.6 +0.4
LANS Liptovska Anna 40.79 309 eP P 03 31 06.3 +0.2
LANS ePP PnPn 03 32 47.7 +3.1
LANS Liptovska Anna 40.79 309 eP P 03 31 06.3 +0.2
LANS e 03 32 47.7
RUDO Rudo 40.82 300 eP P 03 31 05.5 -0.9
PLE Pljevlja 40.82 300 ⇑iP P 03 31 06.8 +0.3
KEF Keuruu 40.89 329 eP P 03 31 07.0 +0.3
PDG Podgorica 40.98 298 eP P 03 31 04.7 -3.0
KLNR Kaliningrad 41.01 317 iP P 03 31 07.2 -0.5
KLNR pmax pmax
comp=Z,50nm,0.9s
ULC Ulcinj 41.02 298 ⇑iP P 03 31 08.0 -0.1
MSF Maaselka 41.03 336 P P 03 31 07.7 -0.2
DRME Dracevica, Mon 41.05 298 eP P 03 31 06.2 -2.1
VYHS Vyhne 41.17 308 eP P 03 31 09.7 +0.5
VYHS ePP PnPn 03 32 52.6 +3.5
VYHS Vyhne 41.17 308 eP P 03 31 09.7 +0.5
VYHS pmax pmax
comp=Z,24nm,1.9s
NKME Niksic 41.17 299 ⇑iP P 03 31 09.2 -0.2
UPM Unac-Piva 41.18 300 eP P 03 31 09.6 0.0
UPM Unac-Piva 41.18 300 ⇑iP P 03 31 09.1 -0.5
CEME Cevo 41.22 299 ⇑iP P 03 31 09.6 -0.2
BUM Brajici-Budva 41.25 298 ⇑iP P 03 31 09.6 -0.5
MORH Mrgy, Hungar 41.26 304 ⇑P P 03 31 10.9 +0.9
DL2 Dalian 41.35 67 P P 03 31 12.0 +1.2
DL2 S S 03 37 25.9 +2.9
DL2 pmax pmax
comp=Z,75nm,0.7s
DL2 pmax pmax
comp=Z,720nm,4.0s
DL2 LR LR
comp=Z,2µm,14.1s
DL2 LR LR
comp=Z,3µm,12.9s
DL2 LR LR
comp=Z,3µm,13.7s
TREB Trebinje 41.62 299 eP P 03 31 12.2 -0.8
OKC Ostrava-Krasne 41.69 310 eS S 03 37 30.7 +3.0
OKC AMS AMS 03 52 40.0
comp=Z,1µm,14.9s
OKC Ostrava-Krasne 41.69 310 P P 03 31 13.9 +0.5
OUL Oulu 41.75 333 P P 03 31 17.4 +3.7
RAF Rauma 41.85 327 eP P 03 31 14.5 -0.1
MAUC Maruska 41.87 309 eP P 03 31 15.8 +0.8
JAVC Velka Javorina 41.95 308 eP P 03 31 16.0 +0.3
JAVC ePP PnPn 03 32 58.4 +0.1
MORC Moravsky Berou 42.08 309 ⇑P P 03 31 17.5 +0.8
MORC Moravsky Berou 42.08 309 eP P 03 31 16.6 -0.1
MORC ePP PP 03 32 59.4 +5.1
MORC Moravsky Berou 42.08 309 P P 03 31 17.5 +0.8
STON Ston 42.09 299 eP P 03 31 17.7 +1.0
SMOL Smolenice 42.11 308 eP P 03 31 17.1 +0.2
VAF Ylistaro 42.17 330 eP P 03 31 17.6 +0.4
MODS Modra-Piesok 42.20 307 eP P 03 31 16.6 -1.1
MODS Modra-Piesok 42.20 307 eP P 03 31 16.6 -1.1
MODS pmax pmax
comp=Z,84nm,2.0s
ZST Bratislava 42.32 307 eP P 03 31 19.7 +1.1
ZST ePP PcP 03 33 06.2 -5.5
ZST Bratislava 42.32 307 eP P 03 31 19.7 +1.1
ZST e 03 33 06.2
BLY Banja Luka 42.33 302 eP P 03 31 15.6 -3.2
SRKY Kupres RS 42.38 301 eP P 03 31 19.0 -0.3
AAL Aland 42.43 325 eP P 03 31 18.9 -0.4
SNY Shenyang 42.47 62 ⇑P P 03 31 20.4 +0.5
SNY S S 03 37 40.0 +0.6
SNY pmax pmax
comp=Z,58nm,0.9s
SNY pmax pmax
comp=Z,300nm,5.0s
SNY LR LR
comp=Z,2µm,15.2s
SNY LR LR
comp=Z,5µm,14.6s
SNY LR LR
comp=Z,6µm,15.3s
A051A Mrakovica 42.51 302 eP P 03 31 19.4 -0.9
KRLC Kraliky 42.58 310 eP P 03 31 21.6 +0.8
KRLC AMS AMS 03 52 40.0
comp=Z,2µm,13.4s
KRLC Kraliky 42.58 310 eP P 03 31 21.6 +0.8
KRLC MLR MLR
comp=Z,2µm,13.4s
KNMB Chin-men Tao 42.59 89 IAMs_20 IAMs_20 03 50 47.6
comp=Z,4µm,22.0s
VRAC Vranov 42.68 309 eP P 03 31 21.6 +0.1
VRAC ePP PP 03 33 04.1 +3.4
VRAC Vranov 42.68 309 LR LR 03 54 00.6
comp=Z,2µm,18.6s,baz=90,slow=43
SSE Sheshan 42.69 78 P P 03 31 22.1 +0.3
SSE S S 03 37 41.9 -1.0
SSE pmax pmax
comp=Z,20nm,0.8s
SSE pmax pmax

comp=Z,300nm,4.1s
SSE LR LR
comp=Z,1μm,15.2s
SSE LR LR
comp=Z,710nm,15.2s
SGF Sodankyl 42.69 337 P **P** **03 31 20.7 -0.7**
KRUC Moravsky 42.80 308 *e*P **P** **03 31 22.3 -0.2**
KRUC *e*PP **PP** **03 33 04.0 +2.0**
A050A Klekovaca 42.81 302 *e*P **P** **03 31 22.1 -0.7**
RONA Rosalia, Austr 42.86 306 *i* P **P** **03 31 23.0 -0.1**
comp=Z,2.8nm,0.8s
DPC Dobruska-Polom 42.89 310 *e*P **P** **03 31 24.4 +1.1**
DPC *e*S **S** **03 37 50.1 +4.6**
DPC AMS AMS 03 53 20.0
comp=Z,2μm,13.1s
DPC Dobruska-Polom 42.89 310 *e*P **P** **03 31 24.4 +1.1**
DPC *e*S **S** **03 37 50.1 +4.6**
DPC MLR MLR
comp=Z,2μm,13.1s
OSTC Ostas 42.97 311 *e*P **P** **03 31 24.6 +0.7**
OSTC AMS AMS 03 53 20.0
comp=Z,2μm,12.3s
OSTC Ostas 42.97 311 *e*P **P** **03 31 24.6 +0.7**
OSTC MLR MLR
comp=Z,2μm,12.3s
MATE Matera 43.07 296 ⇓P **P** **03 31 24.0 -0.7**
CHVC Chvalec 43.07 311 *e*P **P** **03 31 25.7 +1.0**
CHVC AMS AMS 03 53 20.0
comp=Z,2μm,12.3s
CHVC Chvalec 43.07 311 *e*P **P** **03 31 25.7 +1.0**
CHVC MLR MLR
comp=Z,2μm,12.3s
UPC Upice 43.09 311 *e*P **P** **03 31 25.7 +0.8**
UPC AMS AMS 03 53 20.0
comp=Z,2μm,12.2s
UPC Upice 43.09 311 *e*P **P** **03 31 25.7 +0.8**
UPC MLR MLR
comp=Z,2μm,12.2s
CONA Conrad Observa 43.15 307 *e*P **P** **03 31 26.0 +0.5**
comp=Z,14nm,1.0s,SNR=15
TIP Timpagrande 43.24 294 ⇑P **P** **03 31 25.3 -1.0**
VADS Vadso 43.33 341 *e*P **P** **03 31 26.7 +0.3**
ARSA Arzberg 43.39 306 *e*P **P** **03 31 27.6 +0.2**
comp=Z,22nm,1.5s
TREC Trest 43.40 309 AMS AMS 03 54 10.0
comp=Z,3μm,15.1s
CRES Cresnjev 43.49 304 *e*P **P** **03 31 27.7 -0.5**
UPP Uppsala 43.49 324 *e*P **P** **03 31 28.1 +0.2**
BKNI Bangkinang 43.50 132 IAMs_20 IAMs_20 03 52 25.8
comp=Z,2μm,18.0s
BKNI Bangkinang 43.50 132 P **P** **03 31 26.2 -2.3**
CN2 Changchun 43.64 59 *e*P **P** **03 31 29.7 +0.3**
CN2 *e*S **S** **03 37 48.5 -8.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,1μm,15.0s
CN2 LR LR
comp=Z,3μm,15.0s
CN2 LR LR
comp=Z,4μm,14.1s
BOJS Bojanci 43.65 303 *i* P **P** **03 31 28.9 -0.5**
BOJS Bojanci 43.65 303 *e*P **P** **03 31 28.5 -0.9**
VIKU Vikbolandet 43.66 322 *e*P **P** **03 31 29.6 +0.3**
SOKA Soboth 43.74 305 *e*P **P** **03 31 31.0 +0.7**
comp=Z,17nm,1.7s,SNR=12
BLEU Blekinge 43.75 319 *i* P **P** **03 31 29.6 -0.4**
KEV Kevo 43.78 340 P **P** **03 31 30.4 +0.3**
KEV Kevo 43.78 340 P **P** **03 31 30.4 +0.3**
KEV pmax pmax
comp=Z,83nm,0.6s
KEV MLR MLR
comp=Z,6μm,18.0s
CUC Castrocucco 43.83 295 P **P** **03 31 31.1 +0.1**
GOPC GO Pecny, Ondr 43.86 310 *e*S **S** **03 38 03.2 +3.4**
GOPC AMS AMS 03 54 00.0
comp=Z,2μm,12.9s
PVCC Panska Ves 44.02 310 P **P** **03 31 33.5 +1.2**
PRU Pruhonice 44.02 310 *e*P **P** **03 31 32.6 +0.2**
PRU *e*S **S** **03 38 00.9 -1.1**
PRU AMS AMS 03 54 00.0
comp=Z,2μm,13.0s
PRU Pruhonice 44.02 310 *e*P **P** **03 31 32.6 +0.2**
PRU *e*S **S** **03 38 00.9 -1.1**
PRU MLR MLR
comp=Z,2μm,13.0s
OBKA Obir 44.09 305 *e*P **P** **03 31 35.4 +2.3**
comp=Z,4.4nm,0.6s
OBKA Obir 44.09 305 *e*P **P** **03 31 32.8 -0.2**
PRA Prague 44.09 310 *e*P **P** **03 31 33.8 +0.9**
PRA Prague 44.09 310 *e*P **P** **03 31 33.8 +0.9**
ARA0 ARCESS Array S 44.10 339 *e*P **P** **03 31 33.1 +0.4**
ARCES ARCESS Array B 44.10 339 P **P** **03 31 33.3 +0.6**
ARCES ARCESS Array B 44.10 339 P **P** **03 31 32.6 -0.2**
comp=Z,42nm,0.7s,baz=119,slow=6.8,SNR=120
ARCES LR LR 03 51 45.1
comp=Z,2μm,19.6s,baz=118,slow=39
comp=Z,42nm,0.7s
ARCES ARCESS Array B 44.10 339 P **P** **03 31 33.3 +0.6**
BSD Bornholm Skovb 44.11 317 *e*P **P** **03 31 33.3 +0.4**
BSD Bornholm Skovb 44.11 317 P **P** **03 31 32.6 -0.3**
BSD Bornholm Skovb 44.11 317 *i* P **P** **03 31 32.0 -0.9**
BSD IAmb IAmb 03 31 37.7
comp=Z,90nm,1.6s
PDSI Padang 44.12 134 P **P** **03 31 32.0 -1.5**
comp=Z,85nm,0.5s,comp=Z,6μm
LJU Ljubljana 44.13 304 *i* P **P** **03 31 33.5 +0.2**
LODK Lodwar 44.13 235 P **P** **03 31 33.2 -0.5**
LODK Lodwar 44.13 235 P **P** **03 31 36.0 +2.3**
CKRC Cesky Krumlov 44.17 308 *e*P **P** **03 31 34.4 +0.8**
CKRC *e*S **S** **03 38 06.7 +2.4**
CKRC AMS AMS 03 53 50.0
comp=Z,2μm,15.8s
CKRC Cesky Krumlov 44.17 308 *e*P **P** **03 31 34.4 +0.8**
CKRC *e*S **S** **03 38 06.7 +2.4**
CKRC MLR MLR
comp=Z,2μm,15.8s
MYKOM Kota Tinggi 44.19 128 P **P** **03 31 32.6 -1.4**
CEY Cerknica 44.22 304 *e*P **P** **03 31 33.3 -0.7**
MOA Molln 44.23 307 *e*P **P** **03 31 34.4 +0.4**
comp=Z,10nm,0.5s,SNR=13
ZVC Zvikov 44.25 309 *e*P **P** **03 31 33.6 -0.6**
RICC Richard 44.32 311 AMS AMS 03 53 50.0
comp=Z,2μm,12.9s
BRG Berggiesshubel 44.42 311 *i* P **P** **03 31 36.2 +0.7**
BRG Amp 03 31 38.5
comp=Z,9.0nm,0.7s
BRG Berggiesshubel 44.42 311 P P 03 31 41.7 +6.1
BRG Amp 03 31 44.5
comp=Z,14nm,0.7s
BRG Berggiesshubel 44.42 311 ⇑SS SS 03 41 16.0 -11
BRG Berggiesshubel 44.42 311 *i* P **P** **03 31 36.2 +0.7**
BRG 03 31 41.6
BRG S **S** **03 38 14.0 +6.2**
BRG 03 41 16.0
BRG pmax pmax
comp=Z,9.0nm,0.7s
BRG MLR MLR
comp=E,3μm,13.2s
BRG MLR MLR
comp=N,820nm,11.0s
KTK1 Kautokeino 44.54 338 *e*P **P** **03 31 36.3 +0.1**
GERES GERESS Array B 44.58 308 P **P** **03 31 36.5 -0.4**
GERES GERESS Array B 44.58 308 P **P** **03 31 36.8 -0.2**
comp=N,3.6nm,0.8s,baz=99,slow=6.1,SNR=12
GERES PcP **PcP** **03 33 20.0 +0.5**
comp=N,1.7nm,0.6s,baz=72,slow=4.2,SNR=1.6
GERES LR LR 03 54 07.5
comp=N,1μm,19.4s,baz=82,slow=41
comp=N,3.6nm,0.8s
PAOL Paolisi 44.62 297 IAmb IAmb 03 31 45.0
comp=Z,43nm,1.1s
KHC Kasperske Hory 44.65 308 *e*P **P** **03 31 38.3 +0.8**
KHC *e*pP **pP** **03 31 45.5 -2.7**
KHC AMS AMS 03 53 50.0
comp=Z,2μm,15.9s
KHC Kasperske Hory 44.65 308*ce*P **P** **03 31 38.1 +0.6**
KHC pmax pmax
comp=Z,23nm,1.7s
BIOA Bad Ischl, Aus 44.65 306 *e*P **P** **03 31 37.7 +0.2**
comp=Z,6.9nm,0.6s
CADS Cadrg 44.66 304 *i* P **P** **03 31 37.3 -0.3**
MYKA Terra Mystica 44.70 305 *e*P **P** **03 31 39.9 +2.0**
comp=Z,2.1nm,0.4s
HEH HeiHe 44.71 50 *e*P **P** **03 31 37.2 -0.6**
HEH pP **pP** **03 31 48.1 -0.4**
HEH S **S** **03 38 14.6 +2.6**
HEH pmax pmax
comp=Z,21nm,1.2s
HEH pmax pmax
comp=Z,510nm,3.6s
HEH LR LR
comp=Z,650nm,16.5s
HEH LR LR
comp=Z,6μm,14.9s
HEH LR LR
comp=Z,11μm,14.7s
ZEA Zeya 44.73 45 *e*P **P** **03 31 40.5 +2.6**
ZEA *e*S **S** **03 38 20.2 +8.1**
ZEA pmax pmax
comp=E,20nm,0.9s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA pmax pmax
comp=E,200nm,3.7s
ZEA pmax pmax
comp=Z,300nm,3.1s
ZEA MLR MLR
comp=E,1μm,15.0s
ZEA MLR MLR
comp=N,600nm,12.0s
ZEA MLR MLR
comp=Z,2μm,14.0s
HSKC Hora Svate Kat 44.74 311 *e*P **P** **03 31 39.1 +1.0**
HSKC AMS AMS 03 54 00.0
comp=Z,3μm,12.0s
DEL Delary 44.85 319 *i* P **P** **03 31 38.0 -0.8**
BNX BinXian 44.87 56 ⇑P **P** **03 31 40.0 +0.8**
BNX pP **sP** **03 31 55.7 +1.5**
BNX sP pP 03 32 01.9 +12
BNX PP **PP** **03 33 25.9 +1.7**
BNX S **S** **03 38 15.8 +1.3**
BNX sS **sS** **03 38 35.3 +3.0**
BNX pmax pmax
comp=Z,27nm,1.1s
BNX pmax pmax
comp=Z,410nm,3.9s
BNX LR LR
comp=Z,1μm,10.6s
BNX LR LR
comp=Z,2μm,16.0s
BNX LR LR
comp=Z,3μm,17.1s
KBA Koelnbreinsper 44.88 306 *e*P **P** **03 31 39.7 +0.2**
comp=Z,5.8nm,0.5s
TATO Taipei 44.99 87 IAMs_20 IAMs_20 03 52 09.4
comp=Z,3μm,19.0s
LUNU Lund 44.99 318 *i* P **P** **03 31 41.0 +1.0**
SSLB Suanglung 45.01 88 P **P** **03 31 40.6 0.0**
SSLB Suanglung 45.01 88 P **P** **03 31 39.7 -0.9**
SSLB IAmb IAmb 03 31 57.0
comp=Z,38nm,1.0s
SSLB IAMs_20 IAMs_20 03 52 25.7
comp=Z,4μm,21.0s
YHNB Yeheng 45.01 87 IAMs_20 IAMs_20 03 52 08.8
comp=Z,3μm,22.0s
CLL Collm 45.02 312 *i* P **P** **03 31 40.1 -0.2**
comp=Z,11nm,1.3s
CLL *i* x x 03 31 45.4
comp=Z,16nm,1.1s
CLL *e*x x 03 32 03.0
CLL *e*PP **PP** **03 33 26.0 +0.3**
CLL *e*PPP PPP 03 34 05.0
CLL *e*PcS PcS 03 37 24.0 +10
CLL *e*S **S** **03 38 16.0 -0.4**
CLL *e*SS **SS** **03 41 42.0 +3.3**
CLL *e*SSS SSS 03 42 27.0
CLL AMS AMS 03 54 00.0
CLL Collm 45.02 312 *i* P **P** **03 31 40.1 -0.2**
CLL *e*S **S** **03 38 16.0 -0.4**
CLL pmax pmax
comp=Z,11nm,1.3s
HAMF Hammerfest 45.21 340 *e*P **P** **03 31 42.1 +0.6**
LESA Schwarzleotal 45.32 306 *e*P **P** **03 31 42.4 -0.4**
comp=Z,11nm,1.2s
VAE Valguarnera 45.37 292 LR LR 03 56 27.3
comp=Z,558nm,19.9s,baz=127,slow=44
NKC Novy Kostel 45.37 310 AMS AMS 03 54 20.0
comp=Z,3μm,13.0s
NKC Novy Kostel 45.37 310 P **P** **03 31 43.1 0.0**
FDMO Fiordimonte 45.44 300 IAmb IAmb 03 32 02.4
comp=Z,25nm,0.7s
YULB Yu-li 45.45 89 P **P** **03 31 43.7 -0.4**
RAFF Raffo Rosso 45.46 292 IAmb IAmb 03 31 50.1
comp=Z,84nm,1.2s
ABTA Abfaltersbach 45.47 305 *e*P **P** **03 31 46.2 +2.1**
comp=Z,5.7nm,0.7s
HFS Hagfors 45.48 324 P **P** **03 31 43.9 +0.1**
comp=Z,34nm,0.5s,baz=99,slow=9.2,SNR=195
HFS LR LR 03 53 59.3
comp=Z,5μm,19.6s,baz=106,slow=40
comp=Z,34nm,0.5s
INCN Inchon 45.49 68 P **P** **03 31 44.7 +0.5**
INCN Inchon 45.49 68 P **P** **03 31 43.7 -0.5**
INCN IAmb IAmb 03 31 51.0
comp=Z,50nm,0.9s
INCN Inchon 45.49 68 P **P** **03 31 43.7 -0.5**
INCN pmax pmax
comp=Z,50nm,1.0s
INCN MLR MLR
comp=Z,2μm,21.0s
TWGBT Beinan 45.51 90 P **P** **03 31 44.6 +0.1**
FABU Falkenberg 45.54 320 *i* P **P** **03 31 43.0 -1.2**
LLD Lille Linde 45.67 317 *i* P **P** **03 31 48.9 +3.6**
LLD IAmb IAmb 03 31 52.0
comp=Z,213nm,1.3s
JETT Jettan, Norway 45.69 338 *e*P **P** **03 31 46.0 +0.6**
WTTA Wattenberg 46.03 306 *e*P **P** **03 31 47.8 -0.8**
comp=Z,19nm,1.8s
WATA Walderalm 46.07 306 *e*P **P** **03 31 49.0 +0.2**
comp=Z,6.2nm,0.8s
GRFO Grafenberg 46.18 309 P **P** **03 31 50.3 +0.8**
GRFO Grafenberg 46.18 309 P **P** **03 31 50.3 +0.8**
GRFO pmax pmax
comp=Z,21nm,0.9s
TRO Tromso 46.19 338 *e*P **P** **03 31 49.4 +0.2**
KMBO Kilima Mbogo 46.26 229 *i* P **P** **03 31 53.2 +2.5**
TJN Taejon 46.30 69 P **P** **03 31 50.3 -0.3**
TJN Taejon 46.30 69 P **P** **03 31 50.3 -0.3**
TJN Taejon 46.30 69*ce*P **P** **03 31 49.5 -1.1**
SQTA Sankt Quirin 46.33 306 *e*P **P** **03 31 51.3 +0.5**
comp=Z,16nm,1.3s
MOTA Moosalm 46.39 306 *i* P **P** **03 31 52.6 +1.3**
comp=Z,18nm,0.8s
KS19 Wonju Array Si 46.44 68 P **P** **03 31 51.6 -0.1**
KS19 IAmb IAmb 03 31 58.4
comp=Z,48nm,0.9s
KSAR Wonju Array Be 46.47 68 P **P** **03 31 51.1 -0.8**
KSAR Wonju Array Be 46.47 68 P **P** **03 31 51.1 -0.8**
KSRS Korea Array 46.50 68 P **P** **03 31 52.2 +0.1**
comp=Z,19nm,0.9s,baz=273,slow=6.7,SNR=36
KSRS LR LR 03 52 53.7
comp=Z,815nm,20.3s,baz=255,slow=38
comp=Z,19nm,0.9s
MDJ Mudanjiang 46.52 58 P **P** **03 31 52.6 +0.4**
MDJ sP sP 03 32 09.0 +1.7
MDJ S **S** **03 38 37.1 -1.2**
MDJ sS sS 03 38 55.7 -0.4
MDJ ScS **ScS** **03 41 42.8 -1.6**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
MDJ pmax pmax
comp=Z,220nm,4.6s
MDJ LR LR
comp=Z,3μm,15.8s
MDJ LR LR
comp=Z,4μm,14.4s
MDJ LR LR
comp=Z,5μm,15.8s
MDJ Mudanjiang 46.52 58 IAMs_20 IAMs_20 03 53 09.3
comp=Z,3μm,18.0s
MORB Moi Rana 46.56 332 *e*P **P** **03 31 51.6 -0.6**
STRU Stroemstad 46.58 322 *i* P **P** **03 31 50.9 -1.5**
FAUS Fauske 46.61 334 *e*P **P** **03 31 52.1 -0.5**
RETA Reutte 46.61 306 *e*P **P** **03 31 53.4 +0.4**
comp=Z,5.1nm,0.7s
NC602 NORSAR Array S 46.63 325 IAmb IAmb 03 31 58.4
comp=Z,45nm,0.8s
NC602 NORSAR Array S 46.63 325 *e*P **P** **03 31 52.5 -0.4**
NORES NORESS Array B 46.63 325 P **P** **03 31 52.2 -0.7**
NORES pmax pmax
comp=Z,1.0nm,0.3s
FETA Feichten 46.67 306 *e*P **P** **03 31 54.2 +0.6**
comp=Z,14nm,1.3s
KIBK Kibwezi 46.70 227 P **P** **03 31 53.1 -0.9**
ZCCA Zocca 46.78 302 IAmb IAmb 03 32 30.0
comp=Z,34nm,0.9s
NB201 NORSAR Array S 46.80 325 IAmb IAmb 03 31 59.8
comp=Z,46nm,0.8s
STEI Steigen 46.80 335 *e*P **P** **03 31 54.1 +0.1**
NB2 NORSAR Subarra 46.84 325 P **P** **03 31 54.3 -0.2**
comp=Z,20nm,0.6s,baz=99,slow=7.9
NB2 NORSAR Subarra 46.84 325 P **P** **03 31 54.3 -0.2**
baz=99,slow=7.9
NB2 NORSAR Subarra 46.84 325 P **P** **03 31 50.0 -4.5**
NB2 pmax pmax
comp=Z,6.0nm,0.6s
NOA NORSAR Array B 46.84 325 P **P** **03 31 54.4 -0.2**
comp=Z,17nm,0.6s,baz=99,slow=7.8,SNR=129
NOA LR LR 03 54 52.8
comp=Z,4μm,18.6s,baz=105,slow=40
comp=Z,17nm,0.6s
OSL Oslo 46.92 323 *e*P **P** **03 31 55.4 +0.3**
NAO01 NORSAR Array S 46.97 325 IAmb IAmb 03 32 01.8
comp=Z,26nm,0.9s
YAK Yakutsk 47.00 34 P **P** **03 31 55.4 -0.3**
YAK Yakutsk 47.00 34 LR LR 03 52 51.7
comp=Z,5μm,18.6s,baz=255,slow=38
YAK Yakutsk 47.00 34 *e*P **P** **03 31 55.2 -0.5**
YAK *e* 03 33 26.9
YAK *e* 03 33 46.1
YAK *e*S **S** **03 38 44.5 0.0**
YAK *e**SS **sS** **03 39 04.5 +2.3**
YAK *e* 03 41 42.0
YAK *e*SSS SSS 03 43 18.8
YAK pmax pmax
comp=Z,16nm,0.6s
YAK pmax pmax
comp=N,4.0nm,1.4s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK pmax pmax
comp=Z,543nm,6.2s
YAK pmax pmax
comp=N,173nm,5.9s
YAK pmax pmax
comp=E,207nm,5.8s
YAK smax smax
comp=N,166nm,4.8s
YAK smax smax
comp=E,149nm,4.7s
YAK MLR MLR
comp=Z,1μm,25.0s
YAK MLR MLR
comp=N,1μm,21.0s
YAK MLR MLR
comp=E,1μm,10.0s
NSS Namsos 47.15 330 *e*P **P** **03 31 56.8 0.0**
KONS Konsvik 47.16 333 *e*P **P** **03 31 57.2 +0.3**
DAVA Damuels 47.22 306 *e*P **P** **03 31 57.3 -0.6**
comp=E,34nm,1.2s
DAVOX Davos/Dischmat 47.27 305 LR LR 03 55 14.2
comp=E,1μm,20.2s,baz=65,slow=40
MUD Monsted U'grnd 47.45 319 P **P** **03 32 00.1 +0.9**
MUD Monsted U'grnd 47.45 319 *i* P **P** **03 32 03.0 +3.8**
MUD IAmb IAmb 03 32 05.2
comp=Z,44nm,1.2s
KONO Kongsberg 47.46 323 P **P** **03 31 59.0 -0.3**
KONO Kongsberg 47.46 323 *e*P **P** **03 31 59.2 -0.1**
KONO Kongsberg 47.46 323*ce*P **P** **03 31 58.6 -0.7**
KONO pmax pmax
comp=Z,69nm,1.3s
LOF Lofoten 47.47 335 *e*P **P** **03 31 59.3 0.0**
KLR Kul'dur 47.56 51 P **P** **03 32 00.9 +0.7**
comp=Z,19nm,0.9s,baz=276,slow=8.1,SNR=26
KLR LR LR 03 54 23.6
comp=Z,4μm,18.6s,baz=268,slow=39
comp=Z,19nm,0.9s
KLR Kul'dur 47.56 51 *e*P **P** **03 31 59.1 -1.1**
KLR pmax pmax
comp=Z,25nm,0.9s
TBLU Trondheim 47.64 328 *e*P **P** **03 32 00.4 -0.3**
MSHR Mys Shultsa 47.94 60 *i* P **P** **03 32 03.2 -0.1**
MSHR pmax pmax
comp=Z,7.0nm,0.9s
DOMB Dombas 48.00 326 *e*P **P** **03 32 04.0 +0.4**
BFO Black Forest 48.17 308 P **P** **03 32 04.8 -0.2**
BFO Black Forest 48.17 308 P **P** **03 32 04.8 -0.2**
BFO pmax pmax
comp=Z,10.0nm,0.9s
HOPEN Hopen 48.17 347 *e*P **P** **03 32 06.1 +1.5**
SKAR Skarsla 48.20 324 *e*P **P** **03 32 06.2 +1.0**
USA0B Ussuriysk Arra 48.28 58 P **P** **03 32 05.5 -0.4**
USA0B Ussuriysk Arra 48.28 58 *i* P **P** **03 32 05.3 -0.6**
USRK Ussuriysk Ar. 48.28 58 P **P** **03 32 05.7 -0.3**
USRK Ussuriysk Ar. 48.28 58 P **P** **03 32 06.5 +0.6**
comp=Z,12nm,0.8s,baz=276,slow=5.9,SNR=12
USRK LR LR 03 54 24.2
comp=Z,2μm,18.9s,baz=279,slow=38
comp=Z,12nm,0.8s
BJO1 Bjornoya 48.36 344 *e*P **P** **03 32 06.2 +0.2**
VLA Vladivostok 48.38 59 *i* P **P** **03 32 06.1 -0.6**
VLA pmax pmax
comp=Z,52nm,0.9s
SNART Snartemo 48.59 321 *e*P **P** **03 32 09.3 +1.2**
SNART Snartemo 48.59 321 *i* P **P** **03 32 08.0 -0.1**
MOL Molde 48.77 327 *e*P **P** **03 32 10.1 +0.7**
VSL Villasalto 48.80 296 IAmb IAmb 03 32 16.9
comp=Z,31nm,1.1s
KSM Kuching 48.87 122 P **P** **03 32 10.8 0.0**
KSM Kuching 48.87 122 IAmb IAmb 03 32 12.1
comp=Z,37nm,0.6s
ECH Echery 48.96 308 P **P** **03 32 14.9 +3.8**
ODD1 Odda 48.98 323 *e*P **P** **03 32 12.2 +1.1**
AKN Aaknes 48.98 326 *e*P **P** **03 32 14.5 +3.4**
BLS5 Blasjo 49.04 323 *e*P **P** **03 32 12.7 +1.2**
TIXI Tiksi 49.07 21 LR LR 03 54 10.2
comp=Z,5μm,18.5s,baz=272,slow=38
TIXI Tiksi 49.07 21*ce*P **P** **03 32 09.6 -2.0**
TIXI pmax pmax
comp=Z,62nm,0.9s
HYA Hoyanger 49.28 325 *e*P **P** **03 32 14.1 +0.8**
BTNL Terneli 49.39 311 *d*P **P** **03 32 13.8 -0.5**
WLF Walferdange 49.46 310 IAmb IAmb 03 32 46.8
comp=Z,27nm,0.9s
WLF Walferdange 49.46 310 *d*P **P** **03 32 15.6 +0.7**
WLF Walferdange 49.46 310 P **P** **03 32 15.1 +0.3**
WLF Walferdange 49.46 310 P **P** **03 32 15.2 +0.3**
MEM Membach 49.47 311 *d*P **P** **03 32 15.4 +0.5**
TGY Tagaytay City 49.48 100 LR LR 03 54 05.0
comp=Z,643nm,20.2s,baz=21,slow=37
BHOU Houvegnez 49.49 311 *d*P **P** **03 32 18.8 +3.7**
LWLI Liwa 49.54 134 P **P** **03 32 12.9 -3.1**
SBUM Sibu 49.58 119 P **P** **03 32 16.0 -0.2**
BER Bergen 49.65 324 *e*P **P** **03 32 16.8 +0.7**
TATN Tataouine 49.71 287 IAmb IAmb 03 33 11.7
comp=Z,28nm,0.6s
BNI Bardonecchia 49.72 304 P **P** **03 32 16.7 -0.4**
BNI Bardonecchia 49.72 304 P **P** **03 32 16.7 -0.4**
BNI pmax pmax
comp=Z,21nm,1.0s
ASK Askoy 49.72 324 *e*P **P** **03 32 16.7 0.0**
KEST Kesra 49.74 291 IAmb IAmb 03 32 23.3
comp=Z,52nm,0.9s
KEST Kesra 49.74 291 P **P** **03 32 17.7 +0.3**
comp=Z,25nm,0.6s,baz=64,slow=2.5,SNR=34
KEST LR LR 03 59 11.7
comp=Z,494nm,18.2s,baz=3.5,slow=43
comp=Z,25nm,0.6s
KEST Kesra 49.74 291 P **P** **03 32 18.0 +0.7**
SNR=23
BSTI Sart Tilman 49.75 311 *d*P **P** **03 32 16.9 -0.2**
FOO Floro 49.86 325 *e*P **P** **03 32 17.8 +0.1**
BCLA Clavier 49.93 311 *d*P **P** **03 32 15.8 -2.7**
JOW Kunigami 49.95 81 P **P** **03 32 19.5 +0.5**
comp=Z,15nm,0.6s,baz=307,slow=6.9,SNR=5.4
JOW LR LR 03 55 35.3
comp=Z,3μm,18.1s,baz=280,slow=39
comp=Z,15nm,0.6s
JNU Nakatsue 49.96 72 P **P** **03 32 19.2 +0.2**
JNU Nakatsue 49.96 72 P **P** **03 32 19.3 +0.2**
comp=Z,16nm,1.0s,baz=353,slow=2.0,SNR=4.0
JNU LR LR 03 58 17.9

comp=Z,1µm,18.3s,baz=288,slow=42
comp=Z,16nm,1.0s
RCHB Rochefort 50.01 310 *d*P **P 03 32 19.6 +0.5**
BGES Gesves 50.07 311 *d*P **P 03 32 20.1 +0.5**
MBAR Mbarara 50.22 236 P **P 03 32 20.7 -0.6**
MBAR IAmb IAmb 03 32 28.6
comp=Z,82nm,1.8s
MBAR Mbarara 50.22 236 LR LR 03 57 41.0
comp=Z,739nm,18.4s,baz=32,slow=41
MBAR Mbarara 50.22 236 P **P 03 32 22.4 +1.1**
MBAR Mbarara 50.22 236*ce*P **P 03 32 22.4 +1.1**
MBAR pmax pmax
comp=Z,13nm,1.0s
BMRD Maredsous 50.28 311 *d*P **P 03 32 21.4 +0.3**
DOU Dourbes 50.42 310 *d*P **P 03 32 22.4 +0.2**
GRNR Gornyy 50.42 49⍐ *i*P **P 03 32 23.4 +1.2**
GRNR pmax pmax
comp=Z,20nm,0.7s
GRNR MLR MLR
comp=E,3µm,14.0s
GRNR MLR MLR
comp=N,770nm,13.0s
GRNR MLR MLR
comp=Z,4µm,14.0s
SPA0 Spitsbergen Ar 50.67 348 *e*P **P 03 32 24.5 +0.8**
SPITS Spitsbergen Ar 50.67 348 P **P 03 32 23.9 +0.2**
comp=Z,18nm,0.6s,baz=109,slow=10,SNR=61
SPITS LR LR 03 57 55.3
comp=Z,4µm,18.2s,baz=80,slow=41
comp=Z,18nm,0.6s
SPITS Spitsbergen Ar 50.67 348 P **P 03 32 24.4 +0.7**
SPITS pmax pmax
comp=Z,83nm,0.8s
STKI Sintang 50.68 122 P **P 03 32 24.9 +0.3**
comp=Z,101nm,1.2s
CMAH Djebel Manchou 51.00 293 P **P 03 32 26.5 -0.4**
TEY Ternei 51.39 56 *e*P **P 03 32 27.6 -1.9**
CAEH 'Ain El Ouahch 51.40 293 P **P 03 32 29.0 -0.8**
KBS Kingsbay 51.80 348 P **P 03 32 32.8 +0.6**
KBS Kingsbay 51.80 348 *e*P **P 03 32 32.6 +0.5**
KBS Kingsbay 51.80 348*ce*P **P 03 32 31.3 -0.8**
KBS pmax pmax
comp=Z,74nm,1.3s
KBS Kingsbay 51.80 348 *i*P **P 03 32 32.0 -0.1**
JMN Monobe 52.17 71 P **P 03 32 36.8 +1.2**
LEM Lembang 53.15 131 LR LR 03 56 18.9
comp=Z,1µm,20.2s,baz=338,slow=37
HPK Haverah Park 53.74 316 *e*P **P 03 32 46.5 -0.3**
HPK IAmb IAmb 03 32 52.7
comp=Z,39nm,0.7s
EDMD Edmundbyers 53.82 317 *e*P **P 03 32 47.1 -0.3**
LBWR Ladybower, Pea 53.88 315 *e*P **P 03 32 47.8 0.0**
LBWR IAmb IAmb 03 32 53.2
comp=Z,22nm,0.9s
WOL Wolverton 53.91 312 *e*P **P 03 32 47.6 -0.4**
WOL IAmb IAmb 03 32 53.4
comp=Z,65nm,0.9s
CEST Esterri de Car 54.06 302 IAmb IAmb 03 33 03.5
comp=Z,21nm,1.0s
MCD Coleburn Disti 54.19 320 *e*P **P 03 32 50.2 +0.2**
MCD IAmb IAmb 03 32 55.6
comp=Z,41nm,0.7s
SWN1 Swindon 54.23 313 *e*P **P 03 32 50.3 -0.1**
SWN1 IAmb IAmb 03 32 56.2
comp=Z,113nm,1.0s
UGL Uglegorsk 54.28 50 *e*P **P 03 32 52.2 +1.4**
UGL *i*S **S 03 40 28.7 +2.8**
UGL pmax pmax
comp=Z,530nm,3.0s
UGL pmax pmax
comp=Z,100nm,0.8s
UGL smax smax
comp=E,570nm,8.5s
UGL smax smax
comp=N,940nm,6.0s
UGL MLR MLR
comp=N,1µm,16.0s
UGL MLR MLR
comp=E,3µm,16.0s
UGL MLR MLR
comp=Z,3µm,15.0s
JGF Kuroka 54.31 67 P **P 03 32 51.9 +0.6**
JGF Kuroka 54.31 67 IAmb IAmb 03 32 57.1
comp=Z,27nm,0.9s
TYV Tymovskoe 54.32 48 *e*P **P 03 32 52.6 +1.5**
TYV *e*S **S 03 40 30.7 +4.3**
TYV pmax pmax
comp=Z,18nm,1.1s
TYV pmax pmax
comp=Z,300nm,3.5s
TYV smax smax
comp=N,400nm,7.0s
TYV smax smax
comp=E,200nm,7.0s
TYV MLR MLR
comp=Z,4µm,16.0s
TYV MLR MLR
comp=N,1µm,14.0s
TYV MLR MLR
comp=E,3µm,14.0s
KPJI Karang Pucung 54.37 131 P **P 03 32 49.4 -2.4**
STRD Stroud 54.41 313 *e*P **P 03 32 51.2 -0.5**
STRD IAmb IAmb 03 32 52.8
comp=Z,19nm,0.9s
EKA Eskdalemuir Ar 54.43 318 P **P 03 32 51.2 -0.6**
comp=Z,1.6nm,0.4s,baz=90,slow=6.3,SNR=22
EKA ScP **ScP 03 37 53.1 +2.5**
comp=Z,2.1nm,0.7s,baz=98,slow=4.6,SNR=4.6
comp=Z,1.6nm,0.4s
ESK Eskdalemuir 54.46 318 *e*P **P 03 32 51.4 -0.6**
KESW Keswick, Cumbr 54.51 317 *e*P **P 03 32 52.6 +0.2**
KESW IAmb IAmb 03 32 58.1
comp=Z,24nm,0.7s
MAJO Matsushiro 54.67 66 P **P 03 32 53.7 -0.2**
MAJO Matsushiro 54.67 66 P **P 03 32 53.5 -0.4**
MAJO Matsushiro 54.67 66 P **P 03 32 53.8 -0.2**
MJAR Matsushiro Arr 54.68 66 P **P 03 32 54.1 +0.2**
comp=Z,12nm,0.8s,baz=297,slow=11,SNR=21
MJAR LR LR 03 59 07.0
comp=Z,1µm,18.0s,baz=295,slow=39
comp=Z,12nm,0.8s
INVG Invergeldie, C 54.77 319 *e*P **P 03 32 54.5 +0.3**
MONM Monmouth 54.79 313 *e*P **P 03 32 55.2 +0.7**
MONM IAmb IAmb 03 33 02.4
comp=Z,35nm,1.1s
MCH1 Michaelchurch 54.88 314 *e*P **P 03 32 54.9 -0.2**
MCH1 IAmb IAmb 03 33 02.3
comp=Z,66nm,0.8s
EIBI Ibiza 54.95 297 P **P 03 32 55.9 0.0**
NEWG New Galloway 55.07 317 *e*P **P 03 32 55.7 -0.7**
NEWG IAmb IAmb 03 33 02.2
comp=Z,39nm,0.7s
PGBU Glenifferbraes 55.10 318 *e*P **P 03 32 56.9 +0.3**
PGBU IAmb IAmb 03 33 04.2
comp=Z,25nm,0.8s
LLW Llanuwchllyn 55.12 315 *e*P **P 03 32 57.6 +0.7**
YSS Yuzh-Sakhalins 55.19 53 P **P 03 32 57.6 +0.2**
YSS Yuzh-Sakhalins 55.19 53 P **P 03 32 57.4 0.0**
YSS IAmb IAmb 03 33 24.0
comp=Z,34nm,0.7s
YSS IAMs_20 IAMs_20 03 59 24.4
comp=Z,2µm,18.0s
YSS Yuzh-Sakhalins 55.19 53 *e*P **P 03 32 58.0 +0.6**
YSS *e*S **S 03 40 38.2 +0.1**
YSS *e*PS **PnS 03 40 51.0 0.0**
YSS *e*SS **SS 03 44 25.4 +3.3**
YSS pmax pmax
comp=Z,300nm,5.2s
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=N,1µm,13.0s
YSS MLR MLR
comp=E,3µm,13.0s
YSS MLR MLR
comp=Z,2µm,13.0s
IOMK Kirk Michael 55.40 316 *e*P **P 03 32 58.1 -0.7**
IOMK IAmb IAmb 03 33 04.2
comp=Z,72nm,1.0s
JMIC Jan Mayen 55.49 337 LR LR 03 57 18.6
comp=Z,1µm,19.0s,baz=90,slow=37
KPL Plockton 55.51 320 *e*P **P 03 32 59.3 -0.2**
BKB Balikpapan 55.52 118 IAMs_20 IAMs_20 03 59 14.5
comp=Z,2µm,19.0s
WPS Cemaes, Angles 55.52 315 *e*P **P 03 32 59.1 -0.5**
LAWE Loch Awe, Argy 55.54 319 *e*P **P 03 32 60.0 +0.2**
LAWE IAmb IAmb 03 33 07.4
comp=Z,45nm,1.0s
ASAJ Asahikawa 55.77 56 P **P 03 33 01.1 -0.5**
comp=Z,3.3nm,0.6s,baz=256,slow=13,SNR=1.7
ASAJ LR LR 03 59 36.7
comp=Z,2µm,18.3s,baz=304,slow=39
comp=Z,3.3nm,0.6s
RSBS Rosebush, Pemb 55.95 314 *e*P **P 03 33 02.2 -0.6**
RSBS IAmb IAmb 03 33 07.7
comp=Z,26nm,0.9s
OPO Ambohidratompo 56.01 207 LR LR 03 55 21.8
comp=Z,1µm,20.3s,baz=186,slow=34
ABPO Ambohimpanom 56.40 207 P **P 03 33 06.6 +0.1**
ABPO Ambohimpanom 56.40 207 P **P 03 33 06.6 +0.1**
ABPO pmax pmax
comp=Z,15nm,0.9s
ECHE Chera 56.50 299 P P 03 33 11.8 +4.8
MPSI Mapaga 56.72 115 P **P 03 33 08.8 0.0**
comp=Z,67nm,1.1s,comp=Z,745nm
TOLI2 Tolitoli 56.91 113 P **P 03 33 09.6 -0.5**
TOLI2 Tolitoli 56.91 113 P **P 03 33 09.3 -0.9**
JHJ Hachijo jima 2 57.02 69 LR LR 03 59 01.6
comp=Z,1µm,18.3s,baz=239,slow=38
NOR Nord 57.03 350 *i*P **P 03 33 09.5 -0.6**
NOR IAmb IAmb 03 33 16.5
comp=Z,13nm,0.8s
DAV Davao City (W) 57.14 104 LR LR 04 01 41.6
comp=Z,866nm,18.3s,baz=326,slow=40
ETOB Tobarra 57.22 298 P **P 03 33 11.5 -0.7**
ODJA Bouhanifia 57.24 294 P **P 03 33 17.0 +4.6**
EMUR La Murta 57.25 297 P **P 03 33 11.2 -1.1**
MA2 Magadan 57.32 37 P **P 03 33 12.4 0.0**
MA2 Magadan 57.32 37 P **P 03 33 12.2 -0.2**
MA2 IAmb IAmb 03 33 20.4
comp=Z,36nm,0.8s
MA2 Magadan 57.32 37 LR LR 03 59 12.6
comp=Z,3µm,19.4s,baz=279,slow=38
MA2 Magadan 57.32 37 *i*P **P 03 33 11.5 -0.9**
MA2 pmax pmax
comp=Z,7.0nm,0.8s
TAM Tamanrasset 57.47 278 P **P 03 33 14.6 +0.3**
TAM IAMs_20 IAMs_20 04 01 46.0
comp=Z,2µm,18.0s
TAM Tamanrasset 57.47 278 P **P 03 33 14.6 +0.3**
TAM pmax pmax
comp=Z,7.0nm,1.0s
TAM MLR MLR
comp=Z,2µm,18.0s
SEY Seymchan 57.49 32 LR LR 03 59 17.1
comp=Z,2µm,19.1s,baz=278,slow=38
SEY Seymchan 57.49 32 *e*P **P 03 33 12.7 -0.8**
SEY pmax pmax
comp=Z,26nm,0.9s
BLJI Banyuglugur 57.73 127 P **P 03 33 14.1 -1.8**
comp=Z,71nm,0.7s
DAG Danmarks Havn 57.84 344 P **P 03 33 12.9 -2.9**
DAG Danmarks Havn 57.84 344 P **P 03 33 15.4 -0.4**
DAG Danmarks Havn 57.84 344 *i*P **P 03 33 15.3 -0.4**
DAG IAmb IAmb 03 33 23.8
comp=Z,22nm,0.7s
UCM Universidad Co 57.95 300 P **P 03 33 16.9 -0.3**
ENIJ Nijar 58.26 296 P **P 03 33 16.9 -2.5**
GUD Guadarrama 58.50 301 P **P 03 33 19.3 -1.9**
DBG Daneborg 58.62 341 *i*P **P 03 33 20.3 -1.0**
JAGI Jajag, Banyuwa 58.63 127 IAmb IAmb 03 33 20.4
comp=Z,29nm,0.6s
ESDC Sonseca Array 58.67 300 P **P 03 33 21.5 -0.8**
ESDC Sonseca Array 58.67 300 P **P 03 33 21.6 -0.7**
comp=Z,12nm,0.8s,baz=64,slow=7.3,SNR=67
comp=Z,12nm,0.8s
PAB San Pablo 59.00 299 P **P 03 33 24.1 -0.5**
PAB IAmb IAmb 03 33 30.0
comp=Z,24nm,1.1s
PAB San Pablo 59.00 299 P **P 03 33 24.1 -0.5**
PAB pmax pmax
comp=Z,24nm,1.1s
VOI Vohitsoka 59.20 206 P **P 03 33 27.4 +1.3**
VOI Vohitsoka 59.20 206 P **P 03 33 27.1 +1.1**
SNR=9.4
KAPI Kappang 60.14 119 LR LR 04 03 57.8
comp=Z,440nm,18.5s,baz=312,slow=40
MVO Moncorvo 60.39 302 *e*P **P 03 33 34.0 -0.2**
comp=Z,53nm,1.8s
MVO Moncorvo 60.39 302 *e*LQ LQ 03 58 05.5
MVO *e*LR LR 04 01 37.3
comp=Z,647nm,20.0s
PVRL Vila Real 60.84 302 *e*P **P 03 33 37.1 -0.1**
comp=Z,47nm,1.9s
POLO Lamas de Olo 60.87 302 *e*P **P 03 33 37.2 -0.2**
comp=Z,22nm,1.4s
PGAV Gavieira, Arco 61.00 303 *e*P **P 03 33 38.6 +0.3**
comp=Z,84nm,1.4s
PGAV Gavieira, Arco 61.00 303 *e*LQ LQ 03 59 26.4
PGAV *e*LR LR 04 03 49.8
comp=Z,789nm,18.0s
MTE Manteigas 61.02 301 *e*P **P 03 33 41.9 +3.4**
comp=Z,63nm,1.5s
MTE Manteigas 61.02 301 *e*LQ LQ 04 00 09.8
MTE *e*LR LR 04 03 28.4
comp=Z,758nm,18.0s
MTE Manteigas 61.02 301 P **P 03 33 39.0 +0.5**
MTE IAmb IAmb 03 33 44.8
comp=Z,42nm,1.0s
PVIS Viseu 61.16 302 *e*P **P 03 33 39.3 -0.1**
PCBR Castelo Branco 61.17 301 *e*P **P 03 33 39.8 +0.4**
comp=Z,40nm,1.7s
PMRV Marv??o 61.25 300 *e*P **P 03 33 39.3 -0.7**
comp=Z,35nm,1.4s
JCJ Chichijima 61.26 75 P **P 03 33 40.7 +0.5**
comp=Z,56nm,0.6s,baz=306,slow=18,SNR=4.1
comp=Z,56nm,0.6s
BORG Borgarnes 61.30 331 LR LR 04 02 44.3
comp=Z,1µm,18.3s,baz=76,slow=38
PBAR Barrancos 61.44 299 *e*P **P 03 33 40.1 -1.1**
comp=Z,59nm,1.3s
PESTR Estremoz 61.59 300 *e*P **P 03 33 41.5 -0.8**
comp=Z,32nm,1.4s
PESTR Estremoz 61.59 300 P **P 03 33 42.2 -0.1**
PESTR IAmb IAmb 03 33 47.9
comp=Z,37nm,1.3s
MDT Midelt 61.60 292 LR LR 04 05 34.9
comp=Z,334nm,18.4s,baz=84,slow=41
BILL Bilibino 61.84 25 P **P 03 33 44.2 +0.8**
BILL IAmb IAmb 03 33 49.3
comp=Z,25nm,0.9s
BILL Bilibino 61.84 25⍐ *e*P **P 03 33 43.0 -0.4**
BILL pmax pmax
comp=Z,29nm,0.8s
EVO Evora 62.02 300 *e*P **P 03 33 44.7 -0.5**
comp=Z,50nm,1.1s
PBEJ Beja 62.10 299 *e*P **P 03 33 45.5 -0.2**
PVAQ Vaqueiros 62.22 298 *e*P **P 03 33 45.4 -1.1**
PVAQ Vaqueiros 62.22 298 *e*LQ LQ 04 00 29.1
PVAQ *e*LR LR 04 05 01.0
comp=Z,530nm,18.0s
PSBE So Bento 62.23 301 *e*P **P 03 33 47.8 +1.2**
MESJ Messejana 62.43 299 *e*P **P 03 33 47.9 0.0**
PNCL Nicolau / Gran 62.56 299 *e*P **P 03 33 48.9 +0.2**
comp=Z,52nm,2.0s
PETK Petropavlovsk- 62.73 43 P **P 03 33 48.9 -0.8**
comp=Z,7.7nm,0.8s,baz=299,slow=3.5,SNR=17
PETK LR LR 04 03 04.8
comp=Z,2µm,19.8s,baz=289,slow=38
comp=Z,7.7nm,0.8s
LSZ Lusaka 62.81 227 P **P 03 33 51.1 +0.4**
LSZ IAmb IAmb 03 34 02.2
comp=Z,37nm,1.3s
LSZ Lusaka 62.81 227 LR LR 04 02 23.9
comp=Z,605nm,19.7s,baz=40,slow=37
LSZ Lusaka 62.81 227 P **P 03 33 51.9 +1.1**
LSZ P **P 03 33 51.9 +1.1**
LSZ Lusaka 62.81 227 P **P 03 33 51.1 +0.4**
LSZ pmax pmax
comp=Z,37nm,1.3s
LSZ MLR MLR
comp=Z,1µm,20.0s
PTEO Sao Teotonio 62.91 299 *e*P **P 03 33 50.7 -0.4**
SANI Sanana 62.92 112 P **P 03 33 51.2 -0.2**
PET Petropavlovsk 63.30 43 IAMs_20 IAMs_20 04 03 10.7
comp=Z,2µm,20.0s
AVE Averroes 63.58 294 P **P 03 33 55.4 -0.2**
SUMG Summit 64.10 342 P **P 03 34 00.0 +1.1**
SUMG Summit 64.10 342 P **P 03 34 00.0 +1.1**
SUMG pmax pmax
comp=Z,52nm,1.0s
SUMG Summit 64.10 342 *i*P **P 03 33 59.0 +0.1**
SUMG IAmb IAmb 03 34 09.9
comp=Z,31nm,0.8s
NEEM North Greenlan 64.23 348 *i*P **P 03 33 59.1 -0.4**
NEEM IAmb IAmb 03 34 07.0
comp=Z,52nm,0.8s
ICESG Greenland Ices 66.16 338 *i*P **P 03 34 12.6 +0.3**
ICESG IAmb IAmb 03 34 14.5
comp=Z,24nm,0.7s
EUNU Eureka 66.33 356 P **P 03 34 13.9 +1.0**
SWI Sorong 66.36 108 P **P 03 34 12.6 -1.3**
comp=Z,24nm,0.9s,comp=Z,3µm
BATI Baumata 66.49 121 LR LR 04 08 00.2
comp=Z,827nm,18.1s,baz=274,slow=40
SOEI Soe 66.63 120 P **P 03 34 15.7 0.0**
SOEI Soe 66.63 120 P **P 03 34 13.8 -1.9**
SOEI Soe 66.63 120 P **P 03 34 13.2 -2.5**
comp=Z,101nm,1.3s,comp=Z,2µm
KULLO Kullorsuaq 67.24 347 *i*P **P 03 34 18.1 -0.4**
KULLO IAmb IAmb 03 34 20.1
comp=Z,26nm,0.6s
TULEG Thule 67.68 350 IAMs_20 IAMs_20 04 08 24.9
comp=Z,2µm,18.0s
UPNV Upernavik 68.27 345 *i*P **P 03 34 25.1 +0.1**
UPNV IAmb IAmb 03 34 31.9
comp=Z,40nm,0.8s
FAKI Fak Fak 68.38 109 P **P 03 34 26.8 +0.1**
FAKI Fak Fak 68.38 109 P **P 03 34 26.5 -0.1**
FAKI IAmb IAmb 03 34 27.5
comp=Z,27nm,0.8s
FAKI Fak Fak 68.38 109 P **P 03 34 25.7 -1.0**
comp=Z,41nm,1.0s,comp=Z,833nm
UMMG Uummannaq 68.74 342 *i*P **P 03 34 27.4 -0.7**
ILULI Ilulissat 69.43 341 IAmb IAmb 03 34 39.1
comp=Z,84nm,0.7s
ILULI Ilulissat 69.43 341 *i*P **P 03 34 32.6 +0.2**
ILULI IAmb IAmb 03 34 39.3
comp=Z,63nm,0.7s
DY2G Dye2 69.71 338 *i*P **P 03 34 34.9 +0.5**
DY2G IAmb IAmb 03 34 41.9
comp=Z,138nm,0.7s
POGA Pongola 70.51 216 IAmb IAmb 03 34 49.9
comp=Z,9nm,1.4s
A19K Wainwright 70.52 16 P **P 03 34 39.1 +0.1**
baz=316
A21K Barrow 70.69 14 P **P 03 34 39.7 -0.3**
baz=319
SFJD Kangerlussuaq 70.73 339 P **P 03 34 40.4 +0.1**
SFJD Kangerlussuaq 70.73 339 LR LR 04 06 21.7
comp=Z,863nm,19.0s,baz=51,slow=36
SFJD Kangerlussuaq 70.73 339 P **P 03 34 40.4 +0.1**
SFJD pmax pmax
comp=Z,66nm,1.0s
SFJD Kangerlussuaq 70.73 339 *i*P **P 03 34 40.8 +0.5**
SFJD IAmb IAmb 03 34 47.5
comp=Z,44nm,0.8s
C16K Lisburne Hills 70.78 19 IAmb IAmb 03 34 46.4
comp=Z,44nm,0.8s
C16K Lisburne Hills 70.78 19 P **P 03 34 40.5 -0.1**
baz=313,SNR=13
B18K Kokolik River 70.95 17 P **P 03 34 42.1 +0.5**
baz=316,SNR=28
C17K DeLong Mountai 71.22 18 P **P 03 34 43.2 -0.2**
baz=314,SNR=27
A22K Sinclair Lake 71.27 14 P **P 03 34 43.7 +0.1**
baz=321,SNR=37
B20K Meade River 71.57 16 IAmb IAmb 03 34 54.1
comp=Z,41nm,0.8s
B20K IAMs_20 IAMs_20 04 10 11.1
comp=Z,1µm,20.0s
B20K Meade River 71.57 16 P **P 03 34 45.2 -0.1**
baz=319,SNR=15
RDOG Red Dog Mine 71.59 19 IAmb IAmb 03 34 50.8
comp=Z,48nm,1.3s
RDOG IAMs_20 IAMs_20 04 10 18.7
comp=Z,2µm,18.0s
RDOG Red Dog Mine 71.59 19 P **P 03 34 44.8 -0.8**
baz=315
MBWA Marble Bar 71.59 132 P **P 03 34 45.2 -1.0**
MBWA Marble Bar 71.59 132 P **P 03 34 46.1 -0.1**
MBWA IAmb IAmb 03 34 52.9
comp=Z,79nm,1.9s
MBWA Marble Bar 71.59 132 P **P 03 34 45.5 -0.6**
MBWA P **P 03 34 45.5 -0.6**
C18K Utukok River 71.61 18 IAmb IAmb 03 34 51.2
comp=Z,42nm,0.8s
C18K IAMs_20 IAMs_20 04 10 09.3
comp=Z,2µm,20.0s
C18K Utukok River 71.61 18 P **P 03 34 45.3 -0.5**
baz=316,SNR=28
C19K Lookout Ridge 71.68 17 IAMs_20 IAMs_20 04 06 13.0
comp=Z,1µm,18.0s
C19K Lookout Ridge 71.68 17 P **P 03 34 46.2 0.0**
baz=317,SNR=50
D17K Noatak River 71.80 19 P **P 03 34 46.5 -0.3**
baz=315,SNR=45
TNA Tin City 71.85 22 P **P 03 34 46.8 -0.3**
baz=311
SHEM Shemya Is, Ala 71.86 38 LR LR 04 09 18.7
comp=Z,814nm,19.6s,baz=286,slow=38
LBTB Lobatse 71.88 222 IAmb IAmb 03 35 04.3
comp=Z,26nm,0.8s
LBTB Lobatse 71.88 222 LR LR 04 05 52.8
comp=Z,525nm,21.5s,baz=38,slow=36
PSA00 Pilbara Seismi 71.97 132 P **P 03 34 47.5 -1.0**
PSA00 Pilbara Seismi 71.97 132 P **P 03 34 47.9 -0.6**
PSA00 Pilbara Seismi 71.97 132 P **P 03 34 47.9 -0.6**
PSA00 IAmb IAmb 03 34 56.1
comp=Z,36nm,1.3s
RES Resolute Bay 72.03 356 LR LR 04 11 36.0
comp=Z,1µm,18.3s,baz=12,slow=40
RES Resolute Bay 72.03 356 P **P 03 34 48.0 0.0**
B22K Teshekpuk Lake 72.12 14 IAMs_20 IAMs_20 04 10 35.6
comp=Z,2µm,20.0s
B22K Teshekpuk Lake 72.12 14 P **P 03 34 48.5 -0.1**
baz=322,SNR=30
F14K Arctic Creek 72.40 21 P **P 03 34 50.8 +0.3**
baz=313,SNR=5.6
B21K Ikpikpuk River 72.43 15 IAmb IAmb 03 34 56.4
comp=Z,52nm,0.9s
B21K IAMs_20 IAMs_20 04 10 26.9
comp=Z,2µm,18.0s
B21K Ikpikpuk River 72.43 15 P **P 03 34 50.3 -0.2**
baz=322,SNR=50
TSUM Tsumeb 72.48 232 P **P 03 34 52.5 +0.8**
TSUM IAmb IAmb 03 34 59.2
comp=Z,77nm,1.7s
TSUM Tsumeb 72.48 232 LR LR 04 10 51.4
comp=Z,742nm,18.8s,baz=46,slow=39
D19K Kuna River 72.49 17 P **P 03 34 50.6 -0.4**
baz=319,SNR=76
E17K Hotham Inlet 72.58 19 P **P 03 34 51.2 -0.3**
baz=316,SNR=28
E18K Tukpahlearik C 72.66 18 IAMs_20 IAMs_20 04 08 57.9
comp=Z,997nm,19.0s
E18K Tukpahlearik C 72.66 18 P **P 03 34 51.8 -0.2**
baz=317,SNR=50
D20K Etivluk River 72.69 16 P **P 03 34 51.7 -0.4**
baz=320,SNR=44
F15K North Star Dit 72.75 21 IAMs_20 IAMs_20 04 09 36.3
comp=Z,1µm,22.0s
F15K North Star Dit 72.75 21 P **P 03 34 52.7 +0.2**
baz=314,SNR=24
C21K Knifeblade Rid 72.76 15 P **P 03 34 52.5 -0.1**
baz=321,SNR=41
NUUK Nuuk 72.94 337 *i*P **P 03 34 52.5 -1.2**
C23K Itkillik River 73.10 14 IAMs_20 IAMs_20 04 11 44.4
comp=Z,934nm,19.0s
C23K Itkillik River 73.10 14 P **P 03 34 54.8 +0.2**
baz=325,SNR=75
E20K Nigu River 73.14 16 P **P 03 34 54.4 -0.5**
baz=320,SNR=47
F17K Baldwin Pennin 73.20 19 IAMs_20 IAMs_20 04 13 03.2
comp=Z,971nm,20.0s
F17K Baldwin Pennin 73.20 19 P **P 03 34 55.0 -0.2**
baz=317,SNR=42
DRS Darwin Rock St 73.27 117 P **P 03 34 57.3 +1.0**
ANM Nome 73.32 22 P **P 03 34 57.2 +1.2**
ANM IAmb IAmb 03 35 02.7
comp=Z,48nm,0.8s
ANM IAMs_20 IAMs_20 04 10 59.4
comp=Z,1µm,19.0s
ANM Nome 73.32 22 P **P 03 34 56.4 +0.4**
baz=314
ANM Nome 73.32 22 P **P 03 34 57.2 +1.2**
ANM pmax pmax
comp=Z,48nm,0.8s
ANM MLR MLR

comp=Z,1µm,19.0s
G15K Niukluk 73.43 21 P P 03 34 56.3 -0.3
baz=315
D22K Ayikyak River 73.44 15 IAmb IAmb 03 35 05.5
comp=Z,33nm,0.7s
D22K IAMs_20 IAMs_20 04 09 59.6
comp=Z,1µm,20.0s
D22K Ayikyak River 73.44 15 P P 03 34 56.6 0.0
baz=323,SNR=23
E19K Redstone River 73.50 17 IAmb IAmb 03 35 02.2
comp=Z,34nm,0.8s
E19K IAMs_20 IAMs_20 04 06 56.1
comp=Z,979nm,20.0s
E19K Redstone River 73.50 17 P P 03 34 56.3 -0.7
baz=320,SNR=40
E21K Killik River 73.51 16 IAMs_20 IAMs_20 04 11 24.3
comp=Z,1µm,18.0s
E21K Killik River 73.51 16 P P 03 34 56.4 -0.6
baz=322
F18K Selawik 73.52 19 P P 03 34 56.8 -0.3
baz=318,SNR=43
C24K Franklin Bluff 73.57 13 P P 03 34 57.3 +0.1
baz=326
G16K Koyuk River 73.65 20 IAmb IAmb 03 35 03.9
comp=Z,40nm,0.9s
G16K IAMs_20 IAMs_20 04 11 45.0
comp=Z,1µm,18.0s
G16K Koyuk River 73.65 20 P P 03 34 58.0 +0.2
baz=316
IVI Ivigtut 73.66 334 *i* P P 03 35 01.6 +3.6
D23K Nanushuk River 73.80 14 P P 03 34 58.8 +0.1
baz=325,SNR=26
F19K Shaleruckik Mo 73.84 18 IAmb IAmb 03 35 03.6
comp=Z,102nm,1.8s
F19K Shaleruckik Mo 73.84 18 P P 03 34 57.9 -1.0
baz=319,SNR=24
D24K Happy Valley 74.02 14 IAmb IAmb 03 35 09.0
comp=Z,30nm,0.7s
D24K Happy Valley 74.02 14 P P 03 34 59.7 -0.2
baz=326,SNR=23
G17K Kiwalik Mounta 74.06 20 P P 03 34 60.0 -0.3
baz=317,SNR=19
DBIC Dimbokro 74.08 268 P P 03 35 00.4 -0.8
comp=Z,4.7nm,0.6s,baz=19,slow=6.5,SNR=2.0
DBIC LR LR 04 10 48.9
comp=Z,1µm,18.2s,baz=44,slow=38
comp=Z,4.7nm,0.6s
C26K Camden Bay 74.09 12 P P 03 35 01.0 +0.6
baz=330,SNR=29
F20K Avaraart Lake 74.19 17 IAMs_20 IAMs_20 04 11 54.3
comp=Z,1µm,19.0s
F20K Avaraart Lake 74.19 17 P P 03 35 00.1 -0.8
baz=321,SNR=21
H16K Elim 74.23 21 P P 03 35 01.3 +0.1
baz=316,SNR=8.3
E22K Anaktuvuk Pass 74.24 15 IAmb IAmb 03 35 06.7
comp=Z,37nm,0.9s
E22K IAMs_20 IAMs_20 04 11 33.6
comp=Z,1µm,19.0s
E22K Anaktuvuk Pass 74.24 15 P P 03 35 00.6 -0.7
baz=324
TOLK Toolik Lake Re 74.30 14 IAMs_20 IAMs_20 04 12 03.1
comp=Z,1µm,20.0s
TOLK Toolik Lake Re 74.30 14 P P 03 35 01.5 -0.1
baz=326,SNR=77
G18K Tagagawik 74.32 19 IAMs_20 IAMs_20 04 14 03.8
comp=Z,1µm,19.0s
G18K Tagagawik 74.32 19 P P 03 35 01.1 -0.6
baz=319
D25K Kavik River 74.34 13 IAmb IAmb 03 35 08.5
comp=Z,55nm,0.8s
D25K IAMs_20 IAMs_20 04 12 21.4
comp=Z,1µm,18.0s
D25K Kavik River 74.34 13 P P 03 35 02.0 +0.1
baz=329,SNR=75
G19K Purcell Mounta 74.55 18 IAMs_20 IAMs_20 04 10 07.8
comp=Z,1µm,20.0s
G19K Purcell Mounta 74.55 18 P P 03 35 02.7 -0.4
baz=320,SNR=40
C27K Jago River 74.56 12 P P 03 35 03.6 +0.5
baz=331,SNR=80
GENI Genyem 74.57 104 P P 03 35 04.9 +0.9
GENI Genyem 74.57 104 P P 03 35 02.9 -1.1
comp=Z,115nm,1.0s,comp=Z,5µm
F21K Alatna River 74.59 16 IAmb IAmb 03 35 13.1
comp=Z,42nm,0.7s
F21K Alatna River 74.59 16 P P 03 35 02.9 -0.4
baz=323,SNR=54
A36M Sachs Harbour 74.60 5 P P 03 35 03.3 +0.1
baz=346,SNR=114
KDU Kakadu 74.61 117 P P 03 35 04.1 0.0
F22K John River 74.66 16 P P 03 35 03.9 +0.1
baz=324
H17K Granite Mounta 74.69 20 IAmb IAmb 03 35 10.2
comp=Z,42nm,0.8s
H17K IAMs_20 IAMs_20 04 11 33.5
comp=Z,1µm,19.0s
H17K Granite Mounta 74.69 20 P P 03 35 03.9 -0.1
baz=318,SNR=12
E23K Chandalar 74.77 15 P P 03 35 04.2 -0.2
baz=326
BOSA Boshof 74.88 220 P P 03 35 06.1 +0.5
BOSA IAmb IAmb 03 35 18.0
comp=Z,27nm,0.8s
BOSA Boshof 74.88 220 P P 03 35 05.0 -0.6
comp=Z,13nm,0.6s,baz=41,slow=4.8,SNR=49
BOSA LR LR 04 08 54.1
comp=Z,671nm,19.4s,baz=46,slow=36
comp=Z,13nm,0.6s
BOSA Boshof 74.88 220 P P 03 35 06.1 +0.5
BOSA pmax pmax
comp=Z,27nm,0.9s
H18K Honhosa River 74.96 19 IAMs_20 IAMs_20 04 12 06.7
comp=Z,2µm,18.0s
H18K Honhosa River 74.96 19 P P 03 35 05.2 -0.3
baz=319,SNR=16
E24K Your Creek 74.99 14 IAmb IAmb 03 35 14.6
comp=Z,36nm,0.8s
E24K IAMs_20 IAMs_20 04 11 05.5
comp=Z,1µm,21.0s
E24K Your Creek 74.99 14 P P 03 35 05.5 -0.2
baz=327,SNR=45
MEEK Meekatharra 75.03 136 P P 03 35 06.1 -0.3
G21K Allakaket 75.15 17 IAmb IAmb 03 35 15.8
comp=Z,31nm,0.8s
G21K IAMs_20 IAMs_20 04 13 30.8
comp=Z,1µm,19.0s
G21K Allakaket 75.15 17 P P 03 35 05.6 -1.0
baz=323,SNR=22
J14K Nanvaranak Lak 75.18 23 P P 03 35 06.9 +0.2
baz=316,SNR=15
H19K Roundabout Mou 75.19 18 IAmb IAmb 03 35 16.3
comp=Z,38nm,0.8s
H19K IAMs_20 IAMs_20 04 10 25.8
comp=Z,1µm,22.0s
H19K Roundabout Mou 75.19 18 P P 03 35 06.6 -0.2
baz=321,SNR=24
I17K Unalakleet 75.24 21 IAmb IAmb 03 35 13.8
comp=Z,43nm,0.8s
I17K IAMs_20 IAMs_20 04 11 10.1
comp=Z,1µm,20.0s
I17K Unalakleet 75.24 21 P P 03 35 07.4 +0.3
baz=318
G22K Bettles 75.30 16 P P 03 35 07.0 -0.4
baz=325
COLD Coldfoot 75.34 15 P P 03 35 07.6 -0.1
baz=326,SNR=44
D27M Malcolm River 75.35 11 IAmb IAmb 03 35 14.1
comp=Z,26nm,0.8s
D27M IAMs_20 IAMs_20 04 14 35.1
comp=Z,901nm,19.0s
D27M Malcolm River 75.35 11 P P 03 35 08.0 +0.3
baz=333,SNR=23
K13K Kusilvak Mount 75.39 24 P P 03 35 07.5 -0.5
baz=315,SNR=5.9
IMAR Indian Mountai 75.52 17 P P 03 35 08.8 +0.1
E25K Arctic Village 75.53 13 IAmb IAmb 03 35 17.0
comp=Z,34nm,0.8s
E25K IAMs_20 IAMs_20 04 11 31.8
comp=Z,922nm,19.0s
E25K Arctic Village 75.53 13 P P 03 35 08.6 -0.2
baz=329,SNR=35
F24K Squaw Lake 75.59 14 IAMs_20 IAMs_20 04 12 45.2
comp=Z,1µm,21.0s
F24K Squaw Lake 75.59 14 P P 03 35 08.8 -0.3
baz=328,SNR=20
D28M Stokes Point 75.62 10 P P 03 35 09.8 +0.6
baz=335,SNR=88

H20K Anotleneega Mo 75.63 18 P P 03 35 08.8 -0.5
baz=322,SNR=40
GCSA Galena City Sc 75.68 19 P P 03 35 09.3 -0.2
baz=320,SNR=10
J16K Anvik River 75.72 21 IAmb IAmb 03 35 16.5
comp=Z,50nm,0.8s
J16K IAMs_20 IAMs_20 04 11 58.7
comp=Z,1µm,18.0s
J16K Anvik River 75.72 21 P P 03 35 09.8 -0.1
baz=318,SNR=16
G23K Bananza Creek 75.80 15 IAmb IAmb 03 35 20.5
comp=Z,34nm,1.0s
G23K IAMs_20 IAMs_20 04 12 44.0
comp=Z,1µm,19.0s
G23K Bananza Creek 75.80 15 P P 03 35 10.2 -0.2
baz=326,SNR=29
M11K Mekoryuk 75.94 25 P P 03 35 10.6 -0.5
baz=314
F25K Christian Rive 75.97 13 P P 03 35 11.6 +0.3
baz=329,SNR=31
H21K Melozitna Rive 76.02 17 IAmb IAmb 03 35 17.7
comp=Z,52nm,1.1s
H21K Melozitna Rive 76.02 17 P P 03 35 11.1 -0.5
baz=324,SNR=28
J17K VABM Dome 76.09 21 IAMs_20 IAMs_20 04 11 58.5
comp=Z,1µm,21.0s
J17K VABM Dome 76.09 21 P P 03 35 12.1 +0.1
baz=319
E28M Babbage River 76.16 11 IAmb IAmb 03 35 18.6
comp=Z,37nm,0.9s
E28M Babbage River 76.16 11 P P 03 35 12.6 +0.3
baz=334,SNR=55
K15K Wolf Creek Mou 76.16 22 IAmb IAmb 03 35 19.0
comp=Z,61nm,1.1s
K15K IAMs_20 IAMs_20 04 14 17.4
comp=Z,968nm,19.0s
K15K Wolf Creek Mou 76.16 22 P P 03 35 12.7 +0.3
baz=317,SNR=5.1
H22K Ishtalitna Cre 76.17 16 P P 03 35 12.4 0.0
baz=325,SNR=14
F26K Sheenjek River 76.17 13 P P 03 35 12.5 +0.1
baz=331,SNR=46
E27K Coleen River 76.19 12 IAmb IAmb 03 35 23.1
comp=Z,36nm,0.9s
E27K Coleen River 76.19 12 P P 03 35 12.7 +0.2
baz=333,SNR=42
I20K Naaghedeneel 76.28 18 IAMs_20 IAMs_20 04 14 25.7
comp=Z,1µm,18.0s
I20K Naaghedeneel 76.28 18 P P 03 35 13.0 0.0
baz=322,SNR=12
BMAR Burnt Mountain 76.32 13 P P 03 35 14.3 +1.0
G24K Hadweenzic Riv 76.37 15 IAmb IAmb 03 35 19.6
comp=Z,45nm,0.9s
G24K Hadweenzic Riv 76.37 15 P P 03 35 13.8 +0.3
baz=325,SNR=35
L14K Kuka Creek 76.48 23 P P 03 35 14.7 +0.5
baz=316,SNR=17
SPIA Saint Paul Isl 76.56 29 P P 03 35 14.7 0.0
baz=311
G25K Bearman Lake 76.60 14 P P 03 35 15.1 +0.4
baz=329,SNR=16
I21K Tanana 76.61 17 IAmb IAmb 03 35 23.3
comp=Z,30nm,0.9s
I21K Tanana 76.61 17 P P 03 35 14.9 0.0
baz=324
E29M Blow River 76.61 10 IAmb IAmb 03 35 25.9
comp=Z,36nm,0.8s
E29M Blow River 76.61 10 P P 03 35 15.1 +0.3
baz=336,SNR=64
J19K Poorman 76.61 19 IAMs_20 IAMs_20 04 12 58.4
comp=Z,1µm,20.0s
J19K Poorman 76.61 19 P P 03 35 15.1 +0.2
baz=322,SNR=32
L15K Ungalak Mounta 76.62 23 P P 03 35 15.3 +0.3
baz=317
H23K Yukon River 76.65 16 IAmb IAmb 03 35 24.0
comp=Z,40nm,0.8s
H23K Yukon River 76.65 16 P P 03 35 15.6 +0.5
baz=326,SNR=45
J18K Innoko River 76.72 20 IAmb IAmb 03 35 23.9
comp=Z,26nm,0.8s
J18K IAMs_20 IAMs_20 04 13 50.2
comp=Z,1µm,18.0s
J18K Innoko River 76.72 20 P P 03 35 15.4 -0.2
baz=321,SNR=16
K17K Iditarod 76.84 21 IAmb IAmb 03 35 24.9
comp=Z,53nm,0.8s
K17K IAMs_20 IAMs_20 04 12 30.3
comp=Z,981nm,18.0s
K17K Iditarod 76.84 21 P P 03 35 16.3 0.0
baz=320,SNR=16
J20K Nowinta River 76.86 18 IAmb IAmb 03 35 24.9
comp=Z,46nm,0.9s
J20K Nowinta River 76.86 18 P P 03 35 16.4 0.0
baz=323,SNR=18
G26K Porcupine Rive 76.89 13 P P 03 35 16.6 +0.2
baz=331,SNR=19
M13K Dall Lake 76.92 24 P P 03 35 17.4 +0.7
baz=316
FYU Fort Yukon 76.94 14 IAMs_20 IAMs_20 04 14 03.1
comp=Z,1µm,20.0s
TABU Tabubil 76.97 105 P P 03 35 18.9 +1.1
F28M Old Crow 77.00 11 IAmb IAmb 03 35 25.7
comp=Z,24nm,0.9s
F28M Old Crow 77.00 11 P P 03 35 17.2 +0.1
baz=334,SNR=36
H24K Noodor Dome 77.01 15 IAmb IAmb 03 35 23.2
comp=Z,33nm,0.9s
H24K IAMs_20 IAMs_20 04 10 38.0
comp=Z,1µm,20.0s
H24K Noodor Dome 77.01 15 P P 03 35 17.4 +0.1
baz=328,SNR=31
MLY Manley 77.03 17 IAmb IAmb 03 35 25.1
comp=Z,26nm,0.7s
MLY IAMs_20 IAMs_20 04 14 13.4
comp=Z,2µm,19.0s
MLY Manley 77.03 17 P P 03 35 17.0 -0.4
baz=326,SNR=25
H25L Birch Creek 77.08 14 P P 03 35 17.5 0.0
baz=329
M14K Bethel 77.15 24 IAMs_20 IAMs_20 04 09 40.6
comp=Z,826nm,18.0s
M14K Bethel 77.15 24 P P 03 35 18.3 +0.3
baz=317,SNR=15
L16K Owhat River 77.24 22 IAmb IAmb 03 35 25.5
comp=Z,44nm,0.8s
L16K IAMs_20 IAMs_20 04 11 56.0
comp=Z,2µm,21.0s
L16K Owhat River 77.24 22 P P 03 35 18.7 +0.2
baz=319,SNR=18
I23K Minto, Yukon-K 77.26 16 IAmb IAmb 03 35 24.4
comp=Z,34nm,0.9s
I23K Minto, Yukon-K 77.26 16 P P 03 35 18.3 -0.2
baz=327,SNR=21
C36M Paulatuk 77.27 5 IAMs_20 IAMs_20 04 12 49.9
comp=Z,2µm,20.0s
C36M Paulatuk 77.27 5 P P 03 35 17.7 -0.8
baz=318,SNR=123
L17K Donlin 77.28 21 P P 03 35 18.7 -0.1
baz=320,SNR=7.0
INK Inuvik 77.30 9 P P 03 35 18.7 0.0
baz=340,SNR=44
INK Inuvik 77.30 9 LR LR 04 12 49.0
comp=Z,772nm,21.9s,baz=2.5,slow=38
INK Inuvik 77.30 9 P P 03 35 18.7 0.0
G27K Doyon Strip 77.41 12 IAmb IAmb 03 35 28.2
comp=Z,40nm,1.1s
G27K IAMs_20 IAMs_20 04 15 41.5
comp=Z,995nm,18.0s
G27K Doyon Strip 77.41 12 P P 03 35 19.7 +0.3
baz=333,SNR=43
K20K Telida 77.54 19 IAmb IAmb 03 35 28.7
comp=Z,55nm,0.9s
K20K IAMs_20 IAMs_20 04 11 23.9
comp=Z,921nm,18.0s
K20K Telida 77.54 19 P P 03 35 20.1 -0.1
baz=323
CHUM Lake Minchumin 77.58 18 P P 03 35 20.1 -0.2
baz=324,SNR=16
M15K Kasigluk River 77.61 23 P P 03 35 20.8 +0.2
baz=318
F30M Barrier River 77.64 10 P P 03 35 20.7 0.0
baz=338,SNR=37
L18K Granite Mounta 77.70 21 IAmb IAmb 03 35 28.6
comp=Z,22nm,0.8s
L18K IAMs_20 IAMs_20 04 13 17.1
comp=Z,1µm,18.0s
L18K Granite Mounta 77.70 21 P P 03 35 21.1 +0.1
baz=321

POKR Poker Plat Res 77.72 15 IAmb IAmb 03 35 29.7
comp=Z,54nm,0.8s
POKR IAMs_20 IAMs_20 04 15 10.8
comp=Z,1µm,18.0s
POKR Poker Plat Res 77.72 15 P P 03 35 21.0 -0.2
baz=328,SNR=16
BPAW Bear Paw Mtn. 77.74 17 IAmb IAmb 03 35 29.5
comp=Z,35nm,0.9s
BPAW IAMs_20 IAMs_20 04 16 33.2
comp=Z,900nm,19.0s
BPAW Bear Paw Mtn. 77.74 17 P P 03 35 20.6 -0.7
baz=325,SNR=18
NEA2 Nenana 77.79 16 P P 03 35 21.0 -0.6
baz=327,SNR=55
PRP Porcupine Dome 77.80 15 IAmb IAmb 03 35 31.1
comp=Z,18nm,0.8s
PRP Porcupine Dome 77.80 15 P P 03 35 21.5 -0.2
baz=330,SNR=20
COLA College 77.84 16 P P 03 35 21.4 -0.3
COLA College 77.84 16 P P 03 35 22.7 +1.0
COLA IAmb IAmb 03 35 29.8
comp=Z,72nm,0.8s
COLA College 77.84 16 IAMs_20 IAMs_20 04 14 07.7
comp=Z,1µm,18.0s
COLA College 77.84 16 P P 03 35 21.5 -0.3
baz=328
COLA College 77.84 16 P P 03 35 22.7 +1.0
COLA pmax pmax
comp=Z,72nm,0.9s
COLA MLR MLR
comp=Z,1µm,18.0s
N14K Kuskokwak Cree 77.85 24 P P 03 35 22.0 +0.1
baz=317
G29M Pine Creek 77.94 11 P P 03 35 22.2 -0.2
baz=336,SNR=18
H27K Steamboat Moun 77.95 13 P P 03 35 22.4 -0.1
baz=333,SNR=33
CAST Castle Rocks 78.02 18 IAMs_20 IAMs_20 04 15 02.6
comp=Z,921nm,21.0s
CAST Castle Rocks 78.02 18 P P 03 35 22.5 -0.4
baz=325,SNR=60
BWN Browne 78.05 17 IAMs_20 IAMs_20 04 13 28.5
comp=Z,827nm,19.0s
F31M Tsiigehtchic 78.09 9 IAmb IAmb 03 35 28.8
comp=Z,49nm,0.8s
F31M Tsiigehtchic 78.09 9 P P 03 35 22.8 -0.2
baz=339,SNR=55
M17K Holitna River 78.11 21 P P 03 35 23.8 +0.4
baz=321
WRH Wood River Hil 78.13 16 IAmb IAmb 03 35 30.3
comp=Z,27nm,0.8s
WRH IAMs_20 IAMs_20 04 15 04.3
comp=Z,1µm,18.0s
FRB Frobisher Bay 78.14 343 LR LR 04 10 52.0
comp=Z,556nm,20.0s,baz=18,slow=36
FRB Frobisher Bay 78.14 343 P P 03 35 22.8 -0.6
IL31 78.14 15 IAmb IAmb 03 35 28.7
comp=Z,32nm,1.1s
ILAR Eielson Array 78.14 15 P P 03 35 23.0 -0.5
ILAR Eielson Array 78.14 15 P P 03 35 22.6 -0.8
comp=Z,11nm,1.0s,baz=322,slow=4.1,SNR=53
ILAR PP PP 03 38 17.4 -2.2
comp=Z,3.2nm,0.8s,baz=326,slow=6.5,SNR=2.8
ILAR LR LR 04 16 02.0
comp=Z,808nm,18.4s,baz=307,slow=40
comp=Z,11nm,1.0s
ILAR Eielson Array 78.14 15 P P 03 35 23.0 -0.5
G30M tAoh Zraii Nji 78.16 10 IAmb IAmb 03 35 29.6
comp=Z,37nm,0.8s
G30M IAMs_20 IAMs_20 04 13 03.3
comp=Z,898nm,20.0s
G30M tAoh Zraii Nji 78.16 10 P P 03 35 23.1 -0.5
baz=337,SNR=30
N15K Kwethluk River 78.20 23 IAmb IAmb 03 35 31.0
comp=Z,25nm,0.8s
N15K Kwethluk River 78.20 23 P P 03 35 23.8 -0.1
baz=319
KTH Kantishna Hill 78.21 18 IAmb IAmb 03 35 34.1
comp=Z,43nm,1.0s
KTH IAMs_20 IAMs_20 04 15 17.5
comp=Z,1µm,19.0s
L19K White Mountain 78.26 20 IAmb IAmb 03 35 32.3
comp=Z,29nm,1.1s
L19K IAMs_20 IAMs_20 04 13 19.0
comp=Z,1µm,18.0s
L19K White Mountain 78.26 20 P P 03 35 24.5 +0.3
baz=322
L20K Farewell, AK 78.30 19 P P 03 35 24.0 -0.4
baz=323,SNR=5.8
N16K Nishlik Lake 78.41 23 P P 03 35 24.9 -0.2
baz=320
PPLA Purkeypile 78.42 18 P P 03 35 24.4 -0.8
baz=325
HDA Harding Lake 78.44 16 P P 03 35 25.1 0.0
baz=329,SNR=10
TRF Thorofare Moun 78.45 17 P P 03 35 24.5 -0.9
baz=326,SNR=8.8
I26K Coal Creek Min 78.46 14 IAmb IAmb 03 35 33.6
comp=Z,26nm,0.8s
I26K IAMs_20 IAMs_20 04 14 58.3
comp=Z,1µm,19.0s
I26K Coal Creek Min 78.46 14 P P 03 35 25.2 -0.1
baz=332
O14K Tigyukauivet M 78.49 24 IAmb IAmb 03 35 36.7
comp=Z,60nm,1.0s
O14K Tigyukauivet M 78.49 24 P P 03 35 25.3 -0.2
baz=318
I27K Kandik River 78.50 13 P P 03 35 25.4 -0.1
baz=333,SNR=23
G31M Satah River 78.50 10 IAmb IAmb 03 35 30.8
comp=Z,39nm,0.8s
G31M Satah River 78.50 10 P P 03 35 24.9 -0.5
baz=339,SNR=44
H29M Whitestone 78.52 12 IAmb IAmb 03 35 36.5
comp=Z,44nm,0.8s
H29M Whitestone 78.52 12 P P 03 35 25.4 -0.2
baz=336,SNR=33
M18K Stony River 78.53 21 P P 03 35 25.4 -0.2
baz=322
MCK McKinley 78.55 17 P P 03 35 25.2 -0.6
baz=327,SNR=13
J25K Salcha River, 78.61 15 IAmb IAmb 03 35 33.6
comp=Z,30nm,0.7s
J25K Salcha River, 78.61 15 P P 03 35 25.1 -1.1
baz=330,SNR=25
M19K Big River Lodg 78.62 20 IAMs_20 IAMs_20 04 14 02.3
comp=Z,1µm,20.0s
M19K Big River Lodg 78.62 20 P P 03 35 25.5 -0.6
baz=323
EPYK Eagle Plains 78.65 11 P P 03 35 25.7 -0.6
baz=337,SNR=19
RND Reindeer 78.85 17 IAmb IAmb 03 35 34.6
comp=Z,29nm,0.8s
RND IAMs_20 IAMs_20 04 14 59.4
comp=Z,1µm,19.0s
N17K Nushagak Hills 78.87 22 IAmb IAmb 03 35 34.2
comp=Z,32nm,0.9s
N17K IAMs_20 IAMs_20 04 15 49.0
comp=Z,1µm,21.0s
N17K Nushagak Hills 78.87 22 P P 03 35 27.9 +0.4
baz=321
SVW2 Sparrevohn 78.91 21 P P 03 35 28.1 +0.3
I28M Miner Creek 78.95 12 IAmb IAmb 03 35 35.9
comp=Z,38nm,0.8s
I28M Miner Creek 78.95 12 P P 03 35 27.2 -0.8
baz=334,SNR=24
M20K Styx River 78.99 19 IAMs_20 IAMs_20 04 14 25.2
comp=Z,1µm,19.0s
M20K Styx River 78.99 19 P P 03 35 28.0 -0.4
baz=324
O15K Ungalikthiuk R 79.04 24 P P 03 35 27.7 -0.8
baz=319
J26L Joseph Creek 79.09 14 IAmb IAmb 03 35 36.4
comp=Z,39nm,0.8s
J26L Joseph Creek 79.09 14 P P 03 35 28.0 -0.9
baz=332,SNR=39
NWAO Narrogin (SRO) 79.11 141 LR LR 04 08 48.4
comp=Z,827nm,19.9s,baz=344,slow=34
N18K Kilae Creek 79.15 21 P P 03 35 28.5 -0.6
baz=322
K24K Donnelly Dome 79.22 15 P P 03 35 28.5 -1.0
baz=330,SNR=24
O16K Kokwok River B 79.30 23 IAmb IAmb 03 35 36.5
comp=Z,38nm,0.9s
O16K IAMs_20 IAMs_20 04 14 29.4
comp=Z,1µm,18.0s
O16K Kokwok River B 79.30 23 P P 03 35 30.4 +0.5

baz=320,SNR=11
I29M Ogilvie Camp, 79.32 12 P P 03 35 29.2 -0.8
baz=336,SNR=26
EGAK Eagle 79.33 13 IAMs_20 IAMs_20 04 13 59.1
comp=Z,1µm,20.0s
EGAK Eagle 79.33 13 P P 03 35 29.5 -0.5
baz=334,SNR=6.8
CUT Chulitna 79.33 18 IAMs_20 IAMs_20 04 16 02.2
comp=Z,1µm,19.0s
CUT Chulitna 79.33 18 P P 03 35 29.5 -0.5
baz=326
SKT Skwentna 79.35 19 IAmb IAmb 03 35 39.4
SKT IAMs_20 IAMs_20 04 14 57.7
comp=Z,1µm,19.0s
SKT Skwentna 79.35 19 P P 03 35 29.2 -1.0
baz=325,SNR=22
WAT1 Susitna Watana 79.41 17 P P 03 35 29.1 -1.4
baz=328
N19K Bonanza Creek 79.46 21 IAmb IAmb 03 35 39.1
comp=Z,38nm,0.8s
N19K IAMs_20 IAMs_20 04 14 02.7
comp=Z,1µm,18.0s
N19K Bonanza Creek 79.46 21 P P 03 35 30.7 -0.2
baz=323
SCRK Sand Creek 79.47 15 IAmb IAmb 03 35 38.6
comp=Z,30nm,0.8s
SCRK Sand Creek 79.47 15 P P 03 35 30.5 -0.4
baz=331,SNR=33
O17K Koliganek Bris 79.48 22 P P 03 35 30.5 -0.4
baz=321
DHY Denali Highway 79.48 16 IAmb IAmb 03 35 39.1
comp=Z,46nm,0.8s
DHY Denali Highway 79.48 16 P P 03 35 30.3 -0.8
baz=328,SNR=32
H31M Peel River 79.54 10 IAmb IAmb 03 35 38.5
comp=Z,45nm,0.8s
H31M Peel River 79.54 10 P P 03 35 30.5 -0.7
baz=339,SNR=42
I30M Mount Dempster 79.77 11 IAmb IAmb 03 35 40.5
comp=Z,41nm,0.7s
I30M Mount Dempster 79.77 11 P P 03 35 31.9 -0.6
baz=337,SNR=85
P16K Nushagak River 79.77 23 P P 03 35 31.9 -0.6
baz=320
N20K Mount Spurr 79.80 19 P P 03 35 31.7 -1.0
baz=325
K27K Chicken 79.81 14 IAmb IAmb 03 35 38.6
comp=Z,30nm,0.9s
K27K IAMs_20 IAMs_20 04 15 54.0
comp=Z,1µm,19.0s
K27K Chicken 79.81 14 P P 03 35 32.7 +0.1
baz=333
WAT6 Susitna Watana 79.82 17 P P 03 35 31.6 -1.3
baz=328,SNR=16
WRKA Warakurna 79.86 129 P P 03 35 33.6 +0.2
M22K Willow 79.91 18 P P 03 35 32.4 -0.8
baz=326
SUA Susitna One 79.99 19 IAmb IAmb 03 35 41.7
comp=Z,40nm,0.8s
SUA IAMs_20 IAMs_20 04 15 27.6
comp=Z,1µm,21.0s
SUA Susitna One 79.99 19 P P 03 35 33.2 -0.6
baz=326
O19K Port Alsworth 80.01 21 IAmb IAmb 03 35 43.5
comp=Z,38nm,0.8s
O19K IAMs_20 IAMs_20 04 15 05.1
comp=Z,1µm,18.0s
O19K Port Alsworth 80.01 21 P P 03 35 33.5 -0.2
baz=323
O18K Koktuh Hills 80.01 22 IAMs_20 IAMs_20 04 17 51.2
comp=Z,815nm,19.0s
O18K Koktuh Hills 80.01 22 P P 03 35 33.7 -0.1
baz=322
PAX Paxson 80.02 16 P P 03 35 33.2 -0.8
baz=330,SNR=24
P17K Kvichak River 80.14 22 P P 03 35 34.3 -0.2
baz=322,SNR=11
J29N Klondike Camp 80.16 12 IAmb IAmb 03 35 42.7
comp=Z,33nm,0.9s
J29N IAMs_20 IAMs_20 04 17 53.2
comp=Z,925nm,20.0s
J29N Klondike Camp 80.16 12 P P 03 35 34.4 -0.2
baz=336,SNR=15
GHO Glory Hole Cre 80.21 18 IAmb IAmb 03 35 41.7
comp=Z,30nm,0.7s
SUR Sutherland 80.21 221 P P 03 35 36.8 +1.4
SUR Sutherland 80.21 221 LR LR 04 12 28.8
comp=Z,529nm,19.1s,baz=42,slow=37
SUR Sutherland 80.21 221 P P 03 35 37.0 +1.6
DAWY Dawson 80.30 13 IAmb IAmb 03 35 42.9
comp=Z,26nm,0.8s
DAWY Dawson 80.30 13 P P 03 35 34.7 -0.6
baz=335,SNR=15
PMR Palmer 80.31 18 P P 03 35 35.0 -0.3
PMR Palmer 80.31 18 IAmb IAmb 03 35 50.7
comp=Z,24nm,0.8s
PMR Palmer 80.31 18 P P 03 35 34.5 -0.8
baz=327
PMR Palmer 80.31 18 P P 03 35 34.0 -1.3
SML Sawmill 80.33 18 P P 03 35 34.6 -0.9
baz=328,SNR=31
P18K Big Mountain, 80.37 22 P P 03 35 34.7 -1.1
baz=323
J30M Hart River 80.37 11 IAmb IAmb 03 35 46.0
comp=Z,22nm,0.8s
J30M Hart River 80.37 11 P P 03 35 35.5 -0.3
baz=338,SNR=25
UNV Unalaska Valle 80.39 30 P P 03 35 34.7 -1.2
baz=315
MENT Mentasta 80.44 15 P P 03 35 37.7 +1.6
L26K Log Cabin Wild 80.44 15 IAMs_20 IAMs_20 04 15 52.6
comp=Z,1µm,18.0s
CAPN Captain Cook N 80.45 19 P P 03 35 35.4 -0.7
baz=326
Q16K King Salmon 80.48 23 P P 03 35 36.0 -0.3
baz=322
M23K Glacier View 80.49 17 P P 03 35 35.5 -0.9
baz=328,SNR=28
SCM Sheep Creek Mo 80.56 17 IAmb IAmb 03 35 45.6
comp=Z,38nm,0.7s
SCM IAMs_20 IAMs_20 04 16 37.7
comp=Z,868nm,18.0s
SCM Sheep Creek Mo 80.56 17 P P 03 35 36.1 -0.7
baz=329
RC01 Rabbit Creek A 80.57 19 IAmb IAmb 03 36 20.9
comp=Z,28nm,0.9s
RC01 IAMs_20 IAMs_20 04 16 26.0
comp=Z,1µm,18.0s
RC01 Rabbit Creek A 80.57 19 P P 03 35 35.8 -0.9
baz=327
HARP HAARP 80.59 16 P P 03 35 36.8 -0.1
baz=330,SNR=9.6
O20K Slope Mountain 80.60 20 P P 03 35 35.9 -1.1
baz=325
M24K Tolsona, Glenn 80.60 17 IAMs_20 IAMs_20 04 16 07.8
comp=Z,926nm,18.0s
M24K Tolsona, Glenn 80.60 17 P P 03 35 37.2 +0.2
baz=330,SNR=22
WRA Warramunga Arr 80.62 121 P P 03 35 37.6 0.0
WRA Warramunga Arr 80.62 121 P P 03 35 37.3 -0.3
comp=Z,24nm,0.8s,baz=320,slow=5.1,SNR=89
WRA PKKPbc **PKKPbc 03 54 18.3 +0.8**
comp=Z,0.4nm,0.7s,baz=120,slow=2.0,SNR=6.1
comp=Z,24nm,0.8s
WRA Warramunga Arr 80.62 121 P P 03 35 37.6 0.0
WRA pmax pmax
comp=Z,10.0nm,1.9s
WRAB Tennant Creek 80.62 121 P P 03 35 37.7 +0.1
WRAB IAmb IAmb 03 35 46.8
comp=Z,50nm,0.9s
WRAB Tennant Creek 80.62 121 P P 03 35 37.7 +0.1
WRAB pmax pmax
comp=Z,50nm,0.9s
WB2 Warramunga Arr 80.63 121 IAmb IAmb 03 35 46.8
comp=Z,59nm,1.0s
KNK Knik Glacier 80.63 18 IAmb IAmb 03 35 47.1
comp=Z,54nm,0.9s
KNK IAMs_20 IAMs_20 04 16 00.6
comp=Z,1µm,19.0s
KNK Knik Glacier 80.63 18 P P 03 35 36.6 -0.5
baz=328,SNR=14
L27K Beaver Creek, 80.73 14 P P 03 35 37.4 -0.3
baz=333,SNR=28
BCAR Beaver Creek A 80.74 14 P P 03 35 38.3 +0.6
P19K Oil Pt 80.77 21 P P 03 35 37.2 -0.8
baz=324
WR0 Warramunga Arr 80.78 121 IAmb IAmb 03 36 41.5
comp=Z,31nm,0.6s
S12K Black Hills 80.84 27 P P 03 35 37.7 -0.6
baz=318
K29M Barlow Dome 80.85 12 IAmb IAmb 03 35 46.8
comp=Z,44nm,0.7s
K29M IAMs_20 IAMs_20 04 17 50.3
comp=Z,976nm,18.0s
K29M Barlow Dome 80.85 12 P P 03 35 38.1 -0.3
baz=337,SNR=52
Q17K Contact Creek 81.06 23 P P 03 35 39.4 -0.2
baz=322
M26K Nabesna, AK 81.07 15 IAMs_20 IAMs_20 04 13 38.2
comp=Z,954nm,22.0s
M26K Nabesna, AK 81.07 15 P P 03 35 39.4 -0.1
baz=332
O22K Cooper Landing 81.08 19 IAMs_20 IAMs_20 04 15 00.6
comp=Z,1µm,20.0s
O22K Cooper Landing 81.08 19 P P 03 35 39.0 -0.5
baz=327
KLU Klutina 81.20 17 IAmb IAmb 03 35 50.4
comp=Z,34nm,0.8s
KLU Klutina 81.20 17 P P 03 35 39.5 -0.7
baz=330,SNR=16
S14K Fog Glacier 81.33 26 P P 03 35 40.5 -0.5
baz=320
M27K Edge Creek, AK 81.35 15 IAmb IAmb 03 35 54.0
comp=Z,33nm,0.9s
M27K IAMs_20 IAMs_20 04 18 23.6
comp=Z,1µm,18.0s
M27K Edge Creek, AK 81.35 15 P P 03 35 41.3 +0.2
baz=333,SNR=23
MAYO Mayo, Yukon 81.36 12 IAmb IAmb 03 35 52.4
comp=Z,48nm,0.7s
MAYO Mayo, Yukon 81.36 12 P P 03 35 40.8 -0.1
baz=338
BRLK Bradley Lake 81.36 20 IAMs_20 IAMs_20 04 18 23.0
comp=Z,1µm,21.0s
N25K Chitina, Valde 81.41 16 IAmb IAmb 03 35 48.1
comp=Z,56nm,1.5s
N25K Chitina, Valde 81.41 16 P P 03 35 41.4 0.0
baz=331,SNR=6.2
L29M L29M 81.41 13 IAMs_20 IAMs_20 04 17 46.2
comp=Z,1µm,18.0s
L29M L29M 81.41 13 P P 03 35 41.1 -0.2
baz=336,SNR=19
BRSE Bradley Lake S 81.42 20 P P 03 35 40.9 -0.4
baz=326
GLI Glacier Island 81.44 18 IAmb IAmb 03 35 47.0
comp=Z,44nm,0.8s
GLI Glacier Island 81.44 18 P P 03 35 40.6 -0.8
baz=329,SNR=6.0
CNPM China Poot 81.46 20 IAMs_20 IAMs_20 04 15 20.5
comp=Z,1µm,21.0s
SEW Seward 81.47 19 P P 03 35 41.3 -0.2
baz=327
FID Port Fidalgo 81.70 17 IAmb IAmb 03 35 49.4
comp=Z,40nm,0.9s
FID IAMs_20 IAMs_20 04 16 51.6
comp=Z,1µm,18.0s
CHGN Chignik 81.73 25 P P 03 35 42.5 -0.4
baz=320
Q20K Shuyak Island 81.87 21 P P 03 35 43.1 -0.6
baz=325
M29M Somme Creek 81.96 13 IAMs_20 IAMs_20 04 14 01.7
comp=Z,1µm,20.0s
M29M Somme Creek 81.96 13 P P 03 35 43.9 -0.4
baz=336,SNR=21
MCARA McCarthy VSAT 81.97 16 P P 03 35 43.5 -0.7
baz=332
BMRM Bremner River 81.97 16 P P 03 35 43.8 -0.5
baz=331
HIN Hinchinbrook I 82.00 18 P P 03 35 44.4 0.0
HIN IAmb IAmb 03 35 58.0
comp=Z,44nm,1.1s
VRDI Verde Repeater 82.01 16 IAmb IAmb 03 35 53.4
comp=Z,26nm,0.8s
EYAK Cordova Ski Ar 82.06 17 P P 03 35 45.0 +0.4
EYAK Cordova Ski Ar 82.06 17 P P 03 35 44.5 -0.2
baz=330,SNR=14
P23K Montague Islan 82.11 18 P P 03 35 44.3 -0.6
baz=329
YUK3 Moose Creek 82.17 14 P P 03 35 45.2 -0.3
baz=334,SNR=16
RAGM Ragged Mountai 82.46 17 IAMs_20 IAMs_20 04 18 33.0
comp=Z,1µm,19.0s
KDAK Kodiak Island 82.49 22 P P 03 35 47.3 +0.3
KDAK Kodiak Island 82.49 22 P P 03 35 46.6 -0.3
baz=325
KDAK Kodiak Island 82.49 22 LR LR 04 14 14.7
comp=Z,508nm,19.3s,baz=329,slow=37
KDAK Kodiak Island 82.49 22 P P 03 35 47.3 +0.3
KDAK pmax pmax
comp=Z,69nm,0.7s
BARN Barnard Glacie 82.56 15 IAmb IAmb 03 35 56.5
comp=Z,20nm,0.7s
BARN IAMs_20 IAMs_20 04 13 37.5
comp=Z,1µm,21.0s
HMT Hamilton 82.61 17 IAmb IAmb 03 35 54.6
comp=Z,24nm,0.8s
BERG Berg Lake 82.69 16 IAMs_20 IAMs_20 04 18 60.0
comp=Z,1µm,18.0s
CTG Chitna Glacier 82.71 15 P P 03 35 48.2 -0.1
baz=334,SNR=6.8
CTGM Chitina Glacie 82.72 15 IAmb IAmb 03 35 54.2
comp=Z,26nm,1.0s
CTGM IAMs_20 IAMs_20 04 13 52.6
comp=Z,1µm,20.0s
ASAR Alice Springs 82.72 124 P P 03 35 48.6 -0.1
ASAR Alice Springs 82.72 124 P P 03 35 48.4 -0.3
comp=Z,13nm,0.6s,baz=309,slow=5.2,SNR=174
ASAR PKKPbc **PKKPbc 03 54 13.7 +0.8**
comp=Z,0.6nm,0.6s,baz=128,slow=2.7,SNR=5.1
ASAR LR LR 04 20 28.2
comp=Z,216nm,18.4s,baz=298,slow=41
comp=Z,13nm,0.6s
ASAR Alice Springs 82.72 124 P P 03 35 48.6 -0.1
OHAK Old Harbor 82.73 22 P P 03 35 49.0 +0.8
OHAK Old Harbor 82.73 22 P P 03 35 48.5 +0.3
baz=324
YUK8 Steele Glacier 82.76 14 P P 03 35 48.4 -0.2
baz=335,SNR=6.4
ISLE Juniper Island 82.82 16 IAMs_20 IAMs_20 04 14 48.4
comp=Z,946nm,22.0s
WAX Waxell Ridge 82.84 16 IAMs_20 IAMs_20 04 13 59.9
comp=Z,875nm,19.0s
Q23K Middleton Isla 82.88 18 IAMs_20 IAMs_20 04 11 03.0
comp=Z,740nm,19.0s
M31M Drury Creek, Y 82.91 11 IAmb IAmb 03 35 59.2
comp=Z,20nm,0.8s
M31M Drury Creek, Y 82.91 11 P P 03 35 48.4 -0.7
baz=339,SNR=23
LOGN Logan Glacier 82.91 15 IAmb IAmb 03 35 58.3
comp=Z,29nm,1.0s
LOGN IAMs_20 IAMs_20 04 18 18.9
comp=Z,941nm,19.0s
KAIM Kayak Island 82.93 17 IAMs_20 IAMs_20 04 17 48.3
comp=Z,1µm,18.0s
KAIM Kayak Island 82.93 17 P P 03 35 48.6 -0.6
baz=331
YUK4 Talbot Arm 82.93 14 P P 03 35 48.7 -0.7
baz=336,SNR=26
MMPY Sheldon Lake, 83.00 10 P P 03 35 49.7 0.0
baz=342,SNR=20
FARO Faro, Yukon 83.05 11 P P 03 35 49.6 -0.3
baz=340,SNR=20
SNH Sunshine Point 83.08 16 IAmb IAmb 03 35 56.7
comp=Z,29nm,0.9s
N30M Aishikik Lake 83.12 13 IAMs_20 IAMs_20 04 16 26.5
comp=Z,776nm,20.0s
N30M Aishikik Lake 83.12 13 P P 03 35 49.9 -0.5
baz=337,SNR=18
O28M Mount Upton 83.13 15 P P 03 35 50.1 -0.6
baz=334,SNR=6.0
MESA MESA 83.28 16 IAMs_20 IAMs_20 04 15 00.7
comp=Z,1µm,21.0s
YUK6 Outpost Mounta 83.35 14 P P 03 35 51.4 -0.3
baz=336
HYT Haines Junctio 83.63 13 P P 03 35 52.5 -0.5
baz=337,SNR=22
FORT Forrest 83.69 133 P P 03 35 54.1 +0.6
O30N Mendenhall 83.95 13 IAmb IAmb 03 36 05.7
comp=Z,19nm,0.8s
O30N IAMs_20 IAMs_20 04 19 36.3
comp=Z,771nm,19.0s
O30N Mendenhall 83.95 13 P P 03 35 54.2 -0.3
baz=338,SNR=21
N32M Quiet Lake 84.12 11 IAmb IAmb 03 36 38.9
comp=Z,20nm,0.9s
N32M IAMs_20 IAMs_20 04 19 08.7
comp=Z,1µm,18.0s
N32M Quiet Lake 84.12 11 P P 03 35 54.3 -1.1
baz=340
WHY Whitehorse 84.27 12 IAmb IAmb 03 36 02.7
comp=Z,12nm,0.6s
WHY Whitehorse 84.27 12 P P 03 35 55.4 -0.8
baz=339,SNR=14
PNL Peninsula 84.31 15 P P 03 35 57.1 +0.8
PNL Peninsula 84.31 15 P P 03 35 56.2 -0.1
baz=335
P30M Million Dollar 84.39 13 P P 03 35 56.8 +0.1
baz=337
TGTN Hyland Airport 84.46 9 P P 03 35 57.4 +0.3
baz=344
YKA Yellowknife Ar 84.63 2 P P 03 35 57.9 0.0
comp=Z,8.1nm,0.7s,baz=349,slow=5.8,SNR=88
YKA PKKPbc **PKKPbc 03 54 06.8 -1.4**
comp=Z,0.1nm,0.7s,baz=161,slow=2.4,SNR=3.9
YKA LR LR 04 19 54.5
comp=Z,1µm,18.2s,baz=344,slow=40
comp=Z,8.1nm,0.7s
P29M Windy Craggy 84.68 14 P P 03 35 58.3 0.0
baz=337
QIS Mount Isa 84.84 118 P P 03 35 59.5 -0.1
SCHQ Schefferville 85.01 337 IAmb IAmb 03 36 06.8
comp=Z,33nm,0.8s
SCHQ Schefferville 85.01 337 P P 03 36 00.4 +0.4
comp=Z,17nm,0.7s,baz=30,slow=4.6,SNR=23
SCHQ LR LR 04 15 59.7
comp=Z,483nm,18.2s,baz=64,slow=37
comp=Z,17nm,0.7s
P33M Teslin, Yukon 85.05 11 IAmb IAmb 03 36 06.0
comp=Z,29nm,0.9s
P33M Teslin, Yukon 85.05 11 P P 03 35 59.3 -0.9
baz=341,SNR=41
PLBC Pleasant Camp 85.12 13 P P 03 35 59.5 -0.8
baz=338,SNR=10
SKAG Skagway 85.31 13 P P 03 36 01.9 +0.6
SKAG Skagway 85.31 13 P P 03 36 00.8 -0.5
baz=339
P32M Atlin 85.48 12 P P 03 36 02.1 -0.2
baz=340
WTLY Watson Lake, Y 85.75 10 IAmb IAmb 03 36 14.6
comp=Z,13nm,0.7s
WTLY Watson Lake, Y 85.75 10 P P 03 36 03.1 -0.5
baz=344,SNR=6.4
R33M Jennings River 86.12 11 P P 03 36 05.1 -0.4
baz=342,SNR=6.6
R32K Eaglecrest 86.57 13 IAMs_20 IAMs_20 04 19 53.6
comp=Z,824nm,19.0s
JIS Juneau Island 86.60 13 P P 03 36 08.1 +0.4
JIS Juneau Island 86.60 13 IAMs_20 IAMs_20 04 19 55.3
comp=Z,921nm,19.0s
OOD Oodnadatta 86.61 126 P P 03 36 07.9 -0.3
MTSU Mount Surprise 86.94 114 P P 03 36 10.5 +0.5
MULG Mulgathing 87.15 129 P P 03 36 10.7 0.0
DLBC Dease Lake 87.19 11 P P 03 36 10.9 +0.2
baz=343,SNR=7.5
DLBC Dease Lake 87.19 11 LR LR 04 21 24.5
comp=Z,405nm,18.0s,baz=332,slow=40
S32K Killisnoo 87.32 13 P P 03 36 12.0 +0.8
S32K Killisnoo 87.32 13 P P 03 36 11.4 +0.2
baz=339
TOAD Toad River Com 87.44 8 P P 03 36 11.9 +0.1
baz=347
S34M Telegraph Cree 87.51 11 IAmb IAmb 03 36 19.8
comp=Z,26nm,0.8s
S34M IAMs_20 IAMs_20 04 21 58.5
comp=Z,764nm,18.0s
S34M Telegraph Cree 87.51 11 P P 03 36 12.4 +0.2
baz=342,SNR=28
T35M Bob Quinn 88.55 11 IAMs_20 IAMs_20 04 20 52.8
comp=Z,746nm,19.0s
T35M Bob Quinn 88.55 11 P P 03 36 16.9 -0.2
baz=343,SNR=6.3
WRAK Wrangell Islan 88.72 12 IAMs_20 IAMs_20 04 22 04.5
comp=Z,1µm,18.0s
WRAK Wrangell Islan 88.72 12 P P 03 36 18.1 +0.2
baz=341
U33K Whale Pass 88.87 13 IAMs_20 IAMs_20 04 22 03.3
comp=Z,755nm,18.0s
CTAO Charters Tower 89.56 114 P P 03 36 21.8 -0.6
CTAO IAmb IAmb 03 36 39.6
comp=Z,15nm,0.8s
CTAO Charters Tower 89.56 114 P P 03 36 21.8 -0.6
CTAO pmax pmax
comp=Z,15nm,0.8s
U35K Hyder 89.60 11 IAMs_20 IAMs_20 04 21 23.8
comp=Z,820nm,20.0s
V35K Ketchikan 89.89 12 IAMs_20 IAMs_20 04 23 10.4
comp=Z,992nm,18.0s
LCRK Leigh Creek 90.00 127 P P 03 36 24.5 +0.3
BBOO Buckleboo 90.09 130 IAmb IAmb 03 36 33.4
comp=Z,38nm,1.2s
PQI Presque Isle 92.19 333 P P 03 36 34.7 +0.4
PQI IAmb IAmb 03 36 41.8
comp=Z,19nm,0.9s
PQI IAMs_20 IAMs_20 04 18 50.0
comp=Z,915nm,18.0s
D62A Allapoint, All 92.23 334 IAmb IAmb 03 36 41.4
comp=Z,18nm,1.2s
FFC Flin Flon 92.26 356 P P 03 36 34.8 +0.3
FFC Flin Flon 92.26 356 P P 03 36 34.8 +0.3
FFC pmax pmax
comp=Z,7.0nm,0.7s
F64A Sherman 92.99 333 IAmb IAmb 03 36 45.7
comp=Z,14nm,0.8s
STKA Stephens Creek 93.16 126 P P 03 36 38.5 -0.3
comp=Z,2.6nm,0.5s,baz=301,slow=1.7,SNR=9.2
STKA LR LR 04 23 51.2
comp=Z,689nm,18.3s,baz=276,slow=39
comp=Z,2.6nm,0.5s
BBB Bella Bella 93.51 11 LR LR 04 24 13.6
comp=Z,379nm,18.4s,baz=350,slow=39
EMMW East Machias 93.59 331 IAMs_20 IAMs_20 04 23 04.3
comp=Z,652nm,19.0s
PKME Peaks-Kenny Pk 93.85 333 IAMs_20 IAMs_20 04 20 06.0
comp=Z,956nm,18.0s
PKME Peaks-Kenny Pk 93.85 333 P P 03 36 41.3 -0.6
baz=33
VLDQ Val d'Or 94.17 339 IAmb IAmb 03 36 50.7
comp=Z,17nm,0.9s
WVL Waterville 94.58 333 IAMs_20 IAMs_20 04 19 28.3
comp=Z,1µm,20.0s
LBNH Lisbon 95.71 334 IAMs_20 IAMs_20 04 20 13.2
comp=Z,640nm,21.0s
LBNH Lisbon 95.71 334 P P 03 36 50.0 -0.6
baz=31
VT1 Waterbury 95.94 334 IAMs_20 IAMs_20 04 22 32.3
comp=Z,864nm,18.0s
ULM Lac du Bonnet 96.11 351 P P 03 36 51.5 -0.6
comp=Z,1.6nm,0.5s,baz=254,slow=8.7,SNR=4.7
ULM LR LR 04 25 26.1
comp=Z,533nm,18.0s,baz=7.0,slow=39
comp=Z,1.6nm,0.5s
HNH Hanover 96.30 334 IAMs_20 IAMs_20 04 22 32.8
comp=Z,712nm,19.0s
LONY Lake Ozonia 96.33 336 IAmb IAmb 03 37 01.2
comp=Z,9.7nm,0.8s
LONY IAMs_20 IAMs_20 04 21 18.5
comp=Z,735nm,18.0s
LONY Lake Ozonia 96.33 336 P P 03 36 53.2 -0.2
baz=29
J61A Chester 96.71 334 IAmb IAmb 03 37 03.2
comp=Z,14nm,0.8s
HRV Adam Dziewonsk 97.06 333 IAMs_20 IAMs_20 04 20 59.8
comp=Z,596nm,20.0s
HRV Adam Dziewonsk 97.06 333 P P 03 36 56.2 -0.4
baz=31
WES Weston 97.07 332 IAMs_20 IAMs_20 04 22 08.2
comp=Z,1µm,18.0s
DELO Deloro Mine 97.44 338 IAmb IAmb 03 37 05.9
comp=Z,9.1nm,0.7s
M65A Busby, Falmout 97.50 332 IAMs_20 IAMs_20 04 22 24.7
comp=Z,1µm,19.0s
L61B Northampton 97.53 333 IAMs_20 IAMs_20 04 23 40.3
comp=Z,852nm,18.0s
E46A Sault Ste Mari 97.65 343 IAmb IAmb 03 37 08.2
comp=Z,12nm,0.9s
YLE Yale 98.61 333 IAMs_20 IAMs_20 04 27 39.5
comp=Z,749nm,18.0s
DGMT Dagmar 98.63 356 IAMs_20 IAMs_20 04 25 55.8
comp=Z,755nm,19.0s
NEW Newport 98.69 5 IAMs_20 IAMs_20 04 28 39.3
comp=Z,892nm,19.0s
NEW Newport 98.69 5 LR LR 04 25 36.6
comp=Z,772nm,21.3s,baz=350,slow=38

WSPT	**Westport, CT**	**98.88**	**333**	IAMs_20	IAMs_20	04 23 06.0		
	comp=Z,877nm,18.0s							
BINY	**Binghamton**	**98.95**	**335**	IAMs_20	IAMs_20	04 28 26.7		
	comp=Z,764nm,20.0s							
ERPA	**Erie**	**100.35**	**338**	IAMs_20	IAMs_20	04 28 14.5		
	comp=Z,937nm,19.0s							
LAO	**LASA Array**	**100.50**	**358**	IAMs_20	IAMs_20	04 27 27.2		
	comp=Z,850nm,20.0s							
SSPA	**Standing Stone**	**100.99**	**336**	IAMs_20	IAMs_20	04 24 01.7		
	comp=Z,884nm,18.0s							
M53A	**WI Miller and**	**101.18**	**338**	IAMs_20	IAMs_20	04 28 57.4		
	comp=Z,999nm,20.0s							
AAM	**Ann Arbor**	**101.26**	**341**	IAMs_20	IAMs_20	04 28 44.4		
	comp=Z,582nm,19.0s							
COR	**Corvallis**	**101.65**	**10**	IAMs_20	IAMs_20	04 31 02.6		
	comp=Z,802nm,19.0s							
BMO	**Blue Mountains**	**102.07**	**6**	IAMs_20	IAMs_20	04 27 20.6		
	comp=Z,991nm,21.0s							
O53A	**New Philadelph**	**102.43**	**338**	IAMs_20	IAMs_20	04 23 56.5		
	comp=Z,914nm,22.0s							
RSSD	**Black Hills**	**102.96**	**356**	IAMs_20	IAMs_20	04 30 02.3		
	comp=Z,870nm,18.0s							
CBN	**Corbin Frederi**	**102.98**	**334**	IAMs_20	IAMs_20	04 30 59.3		
	comp=Z,649nm,19.0s							
ACSO	**Alum Creek Sta**	**102.98**	**339**	IAMs_20	IAMs_20	04 28 22.1		
	comp=Z,703nm,20.0s							
P52A	**Corning**	**103.28**	**339**	IAMs_20	IAMs_20	04 24 23.9		
	comp=Z,792nm,21.0s							
MFID	**Camas Ranch**	**103.61**	**5**	IAMs_20	IAMs_20	04 29 30.4		
	comp=Z,908nm,20.0s							
WVOR	**Wild Horse Val**	**104.35**	**7**	IAMs_20	IAMs_20	04 30 13.8		
	comp=Z,837nm,21.0s							
YBH	**Yreka Blue Hor**	**104.53**	**10**	IAMs_20	IAMs_20	04 29 38.7		
	comp=Z,714nm,18.0s							
BLA	**Blacksburg**	**104.93**	**336**	IAMs_20	IAMs_20	04 25 32.9		
	comp=Z,918nm,20.0s							
RWWY	**Rawlins**	**105.52**	**358**	IAMs_20	IAMs_20	04 29 28.1		
	comp=Z,981nm,20.0s							
WCI	**Wyandotte Cave**	**105.78**	**341**	IAMs_20	IAMs_20	04 32 00.0		
	comp=Z,830nm,19.0s							
CNNC	**Cliffs of the**	**105.80**	**333**	IAMs_20	IAMs_20	04 28 21.1		
	comp=Z,730nm,21.0s							
OGNE	**Ogallala**	**105.97**	**354**	IAMs_20	IAMs_20	04 30 51.1		
	comp=Z,1µm,20.0s							
DZM	**Mont Dzumac**	**106.53**	**106**	*e*LR	LR	04 12 43.8		
	comp=Z,297nm,22.9s							
ORV	**Oroville**	**106.84**	**10**	IAMs_20	IAMs_20	04 31 14.8		
	comp=Z,776nm,20.0s							
DUG	**Dugway, Tooele**	**106.98**	**3**	IAMs_20	IAMs_20	04 32 04.7		
	comp=Z,882nm,19.0s							
NVAR	**Mina Array Bea**	**108.34**	**7**	PKiKP	**PKiKP**	**03 41 54.2 +0.9**		
	comp=Z,0.6nm,0.7s,baz=356,slow=2.7,SNR=2.7							
CMB	**Columbia Colle**	**108.49**	**9**	IAMs_20	IAMs_20	04 35 39.4		
	comp=Z,787nm,18.0s							
R11B	**Troy Canyon, C**	**108.67**	**5**	IAMs_20	IAMs_20	04 32 52.2		
	comp=Z,899nm,19.0s							
OK029	**Liberty Lake**	**110.51**	**350**	IAMs_20	IAMs_20	04 32 59.5		
	comp=Z,913nm,19.0s							
WUAZ	**Wupatki**	**111.69**	**2**	IAMs_20	IAMs_20	04 35 46.4		
	comp=Z,658nm,19.0s							
AMTX	**Amarillo**	**111.94**	**353**	IAMs_20	IAMs_20	04 34 09.4		
	comp=Z,916nm,20.0s							
ROSB	**Rosrio**	**112.07**	**281**	*e*P	**Pdif**	**03 38 04.5 +0.5**		
NBPN	**Ponto Novo - B**	**113.10**	**272**	*e*P	**Pdif**	**03 38 09.2 +0.7**		
SNAA	**Sanae**	**116.08**	**200**	⇑PKPdf	**PKiKP**	**03 42 10.2 +3.6**		
	comp=Z,122nm,1.0s							
SNAA	**Sanae**	**116.08**	**200**	PKP	**PKiKP**	**03 42 08.5 +1.8**		
	comp=Z,4.2nm,1.0s,baz=225,slow=2.9,SNR=2.7							
SDDR	**Presa de Saban**	**116.59**	**319**	IAMs_20	IAMs_20	04 30 30.6		
	comp=Z,489nm,20.0s							
ALPN	**Alpine**	**116.59**	**354**	PKPdf	**PKiKP**	**03 42 09.5 +0.3**		
VNA2	**Neumayer--Watz**	**117.10**	**201**	⇑PKPdf	**PKiKP**	**03 42 09.3 +0.8**		
	comp=Z,12nm,0.6s,baz=37,slow=3.1							
TXAR	**Lajitas Array**	**117.63**	**354**	PKP	**PKiKP**	**03 42 11.7 +0.5**		
	comp=Z,0.2nm,0.5s,baz=81,slow=1.7,SNR=4.5							
TXAR				PKKPbc	**PKKPbc**	**03 52 32.6 0.0**		
	comp=Z,0.7nm,0.7s,baz=188,slow=5.6,SNR=5.1							
VNA3	**Neumayer Olymp**	**117.91**	**201**	⇑PKPdf	**PKPdf**	**03 42 08.6 -1.5**		
	comp=Z,11nm,0.8s							
CAM01	**Campos-RJ**	**119.63**	**262**	*e*P	**PKiKP**	**03 42 15.9 +1.0**		
VNDA	**Vanda**	**122.37**	**165**	PKP	**PKPdf**	**03 42 17.7 -0.8**		
	comp=Z,0.9nm,1.0s,baz=310,slow=5.5,SNR=2.6							
QSPA	**South Pole Qui**	**122.93**	**180**	PKP	**PKPdf**	**03 42 19.5 -0.5**		
	comp=Z,2.2nm,0.6s,baz=243,slow=1.6,SNR=11							
TEIG	**Tepich**	**123.19**	**336**	IAMs_20	IAMs_20	04 41 15.4		
	comp=Z,521nm,21.0s							
NPGB	**Novo Progresso**	**123.61**	**285**	*e*P	**PKPdf**	**03 42 21.8 -1.0**		
UNM	**Universidad Na**	**126.91**	**348**	IAMs_20	IAMs_20	04 46 41.0		
	comp=Z,574nm,21.0s							
TGUH	**Tegucigalpa,Un**	**128.48**	**332**	IAMs_20	IAMs_20	04 41 15.2		
	comp=Z,439nm,20.0s							
SALV	**Santo Antonio**	**128.63**	**276**	*e*P	**PKiKP**	**03 42 33.6 +0.7**		
RVDE	**Rio Verde (Bra**	**129.49**	**272**	*e*P	**PKiKP**	**03 42 35.9 +1.3**		
SNET	**Serv Nac Est T**	**129.57**	**334**	IAMs_20	IAMs_20	04 39 08.7		
	comp=Z,496nm,21.0s							
ROSC	**El Rosal**	**129.60**	**312**	PKP	**PKiKP**	**03 42 35.6 +0.1**		
	comp=Z,4.2nm,0.5s,baz=29,slow=19,SNR=1.7							
AQDB	**Aquidauana**	**130.78**	**271**	*e*P	**PKiKP**	**03 42 38.1 +0.9**		
SAML	**Samuel**	**131.00**	**289**	IAMs_20	IAMs_20	04 42 00.0		
	comp=Z,384nm,21.0s							
SAML	**Samuel**	**131.00**	**289**	*e*P	**PKiKP**	**03 42 38.9 +1.2**		
PTLB	**Pontes e Lacer**	**131.27**	**279**	*e*P	**PKiKP**	**03 42 39.1 +1.0**		
BDQN	**Bodoquena, MS**	**131.65**	**271**	*e*P	**PKiKP**	**03 42 40.2 +1.4**		
MURT	**Porto Murtinho**	**132.90**	**270**	*e*P	**PKiKP**	**03 42 42.0 +0.6**		
BBSD	**Serra de San D**	**133.36**	**276**	*e*P	**PKiKP**	**03 42 42.6 +0.2**		
CPUP	**Villa Florida**	**134.53**	**264**	PKP	**PKPdf**	**03 42 43.2 +0.1**		
	comp=Z,3.6nm,0.6s,baz=54,slow=2.2,SNR=13							
LPAZ	**La Paz**	**139.10**	**284**	SKPbc	**SKiKP**	**03 46 26.8 -1.6**		
	comp=Z,2.0nm,0.9s,baz=28,slow=6.8,SNR=4.4							
PPT2	**Papeete2**	**140.92**	**77**	*e*LR	LR	04 28 40.8		
	comp=Z,275nm,21.5s							
PPT2				*e*LR	LR	04 28 40.9		
	comp=Z,273nm,28.2s							
TRQA	**Tornquist**	**141.33**	**249**	PKPdf	**PKiKP**	**03 42 56.9 -1.2**		
TRQA				IAMs_20	IAMs_20	04 41 36.3		
	comp=Z,679nm,22.0s							
TRQA	**Tornquist**	**141.33**	**249**	PKIKP	**PKiKP**	**03 42 56.9 -1.2**		
NNA	**Nana**	**143.43**	**297**	PKP	PKPbc	03 42 57.4 +0.4		
	comp=Z,5.6nm,0.6s,baz=237,slow=5.6,SNR=3.7							
TBI	**Tubuai**	**143.70**	**85**	*e*LR	LR	04 29 57.2		
	comp=Z,846nm,23.2s							
LCO	**Las Campanas**	**146.60**	**266**	PKPbc	**PKPbc**	**03 43 06.8 +0.1**		
LCO	**Las Campanas**	**146.60**	**266**	PKP2	**PKPbc**	**03 43 06.8 +0.1**		
PLCA	**Paso Flores**	**148.11**	**245**	PKPbc	**PKPbc**	**03 43 10.9 +0.7**		
	comp=Z,5.6nm,0.7s,baz=346,slow=5.6,SNR=40							
PLCA	**Paso Flores**	**148.11**	**245**	PKP2	**PKPbc**	**03 43 11.0 +0.7**		
PLCA	**Paso Flores**	**148.11**	**245**	*e*P	**PKPbc**	**03 43 08.7 -1.6**		
COYC	**Coyhaique**	**148.75**	**235**	PKPdf	**PKPdf**	**03 43 09.2 +1.4**		

*OSPL **09** 03:33:30.3±2.2, 19°.77N×71°.12W, h11km±6km, ML1.9*
*SDD **09** 03:33:30.5±2.1, 19°.77N×71°.05W, h22km±24km, MD3.2, ML2.2, MW2.7*

ISC 09 03:33:28.5±1.0, 19°.77N±0°.04×71°.10W±0°.04, h14km±8km, n12, σ0°59/25, 12C-5D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LOPP1	**Punta Rusia, P**	**0.13**	**311**	*i*	P		**Pb**	**03 33 33.2**	**+0.6**
LOPP1				*e*	S		**Sg**	**03 33 35.1**	**+0.8**
LOPP1					IAML			03 33 35.5	
	comp=Z,748nm,1.4s								
SC01	**Santiago de lo**	**0.49**	**134**	⇑*e*			**Pb**	**03 33 38.9**	**+0.1**
SC01				⇑*e*	Pg		**Pb**	**03 33 38.9**	**+0.1**
SC01				⇑*e*	Sg		**Sb**	**03 33 46.3**	**+0.5**
SC01					IAML			03 33 48.7	
	comp=N,57nm,0.5s								
SC01					IAML			03 33 55.8	
	comp=E,57nm,0.9s								
SC01	**Santiago de lo**	**0.49**	**134**	*i*	P		**Pb**	**03 33 38.6**	**-0.2**
SC01				*e*	S		**Sb**	**03 33 47.1**	**+1.3**
SC01					IAML			03 33 47.4	
	comp=Z,36nm,1.6s								
MCDR	**Montecristi**	**0.54**	**283**	⇑*e*	Pg		**Pn**	**03 33 41.2**	**-0.5**
MCDR				⇑*e*	Sg		**Sn**	**03 33 50.0**	**-0.6**
MCDR					IAML			03 33 52.2	
	comp=E,70nm,0.6s								
MCDR					IAML			03 33 55.0	
	comp=N,79nm,0.6s								
SDDR	**Presa de Saban**	**0.80**	**193**	⇓*e*	Pg		**Pg**	**03 33 43.7**	**-0.4**
SDDR				⇓*e*	Sg		**Sb**	**03 33 55.6**	**+0.6**
SDDR					IAML			03 33 56.4	
	comp=E,36nm,0.5s								
SDDR					IAML			03 33 58.0	
	comp=N,46nm,0.3s								
SDDR	**Presa de Saban**	**0.80**	**193**	*i*	P		**Pg**	**03 33 43.7**	**-0.4**
SDDR				*e*	S		**Sg**	**03 33 54.4**	**-0.3**
SDDR					IAML			03 33 56.5	
	comp=Z,30nm,0.3s								
ABDR	**Alto Bandera**	**1.05**	**155**	⇑*e*	Pg		**Pg**	**03 33 48.0**	**-0.9**
ABDR				⇑*e*	Sg		**Sg**	**03 34 02.3**	**-0.4**
ABDR					IAML			03 34 02.8	
	comp=E,40nm,0.3s								
ABDR					IAML			03 34 09.8	
	comp=N,38nm,1.4s								
NADR	**Nagua**	**1.24**	**109**	⇓*e*	Pg		**Pn**	**03 33 51.5**	**+0.2**
NADR				⇑*e*	Sg		**Sn**	**03 34 08.5**	**+0.6**
NADR					IAML			03 34 13.4	
	comp=E,131nm,3.0s								
NADR					IAML			03 34 18.7	
	comp=N,122nm,1.4s								
JIDR	**Jimani**	**1.46**	**209**	⇑*e*	Pg		**Pb**	**03 33 55.8**	**+0.4**
JIDR				⇑*e*	Sg		**Sg**	**03 34 16.0**	**+0.5**
JIDR					IAML			03 34 17.7	
	comp=N,44nm,0.3s								
JIDR					IAML			03 34 27.5	
	comp=E,36nm,3.0s								
BANI	**BANI**	**1.54**	**153**	⇓*e*	Pg		**Pb**	**03 33 56.8**	**-0.1**
BANI				⇓*e*	Sg		**Sb**	**03 34 16.6**	**+0.4**
BANI					IAML			03 34 22.8	
	comp=E,88nm,2.5s								
BANI					IAML			03 34 40.4	
	comp=N,45nm,1.8s								
GRTK	**Grand Turk**	**1.73**	**359**	*i*	P		**Pn**	**03 33 57.6**	**-0.6**
GRTK				*e*	S		**Sn**	**03 34 20.1**	**0.0**
GRTK					IAML			03 34 24.8	
	comp=Z,82nm,1.1s								
HATOM	**Hato Mayor del**	**1.89**	**121**	⇑*e*	Pg		**Pn**	**03 34 01.0**	**+0.6**
HATOM				⇑*e*	Sg		**Sb**	**03 34 25.7**	**-0.7**
HATOM					IAML			03 34 33.9	
	comp=E,21nm,1.9s								
HATOM					IAML			03 35 02.4	
	comp=N,31nm,3.1s								

*CATAC **09** 04:01:26.4±0.3, 12°.78N×88°.62W, h40km±16km, ML3.9*
*IDC **09** 04:01:27.1±2.5, 13°.28N×88°.14W, h51km±47km, mb3.4/4, mbtmp3.6/6, ML2.7/3, Error ellipse: s-maj=119.5km s-min=17.7km az=40.0*

ISC 09 04:01:25.4±1.2, 12°.74N±0°.07×88°.67W±0°.04, h55km±12km, n91, σ0°93/114, mb3.6/4, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarın**	**0.66**	**38**	*e*	P		**Pn**	**04 01 38.9**	**0.0**
COEB	**Comit de Eme**	**0.77**	**10**	*e*	P		**Pn**	**04 01 40.6**	**+0.3**
COEB	**Comit de Eme**	**0.77**	**10**	*i*	P		**Pn**	**04 01 40.5**	**+0.1**
COEB				*i*	S		**Sn**	**04 01 51.9**	**+0.6**
COEB					IAML			04 01 52.4	
	comp=Z,3µm,1.0s								
TECA	**Tecapa**	**0.77**	**12**	*i*	P		**Pn**	**04 01 41.0**	**+0.5**
LCY	**Lacayo**	**0.77**	**28**	*e*	P		**Pn**	**04 01 40.9**	**+0.5**
RANC	**El Ranchito**	**0.79**	**28**	*e*	P		**Pn**	**04 01 41.1**	**+0.5**
RANC	**El Ranchito**	**0.79**	**28**	*i*	P		**Pn**	**04 01 40.9**	**+0.3**
RANC					IAML			04 01 55.7	
	comp=Z,4µm,1.0s								
VSM	**San Miguel**	**0.79**	**29**	*i*	P		**Pn**	**04 01 41.3**	**+0.6**
PACA	**Pacayal**	**0.80**	**25**	*e*	P		**Pn**	**04 01 41.4**	**+0.6**
PACA	**Pacayal**	**0.80**	**25**	*i*	P		**Pn**	**04 01 41.3**	**+0.5**
PACA					IAML			04 01 54.9	
	comp=Z,38µm,1.0s								
TECO	**Alcaldia de Te**	**0.81**	**352**	*e*	P		**Pn**	**04 01 40.6**	**0.0**
TECO				*e*	S		**Sn**	**04 01 51.6**	**-0.3**
TECO	**Alcaldia de Te**	**0.81**	**352**	*i*	P		**Pn**	**04 01 40.7**	**0.0**
TECO					IAML			04 01 54.3	
	comp=Z,3µm,1.0s								
BLLM	**Bellamira**	**0.82**	**31**	*e*	P		**Pn**	**04 01 41.4**	**+0.5**
CNRM	**Centro Naciona**	**0.88**	**33**	*e*	P		**Pn**	**04 01 42.3**	**+0.7**
CNRM				*e*	S		**Sn**	**04 01 54.8**	**+1.2**
CNRM	**Centro Naciona**	**0.88**	**33**	*i*	P		**Pn**	**04 01 42.3**	**+0.7**
CNRM					IAML			04 01 58.2	
	comp=Z,26µm,1.0s								
PQSS	**Presa 15 de Se**	**0.89**	**7**	*i*	P		**Pn**	**04 01 42.8**	**+1.0**
PQSS					IAML			04 01 55.8	
	comp=Z,11µm,1.0s								
UESV	**Universidad de**	**0.90**	**352**	*e*	P		**Pn**	**04 01 42.4**	**+0.3**
UESV	**Universidad de**	**0.90**	**352**	*i*	P		**Pn**	**04 01 42.3**	**+0.3**
UESV					IAML			04 01 43.4	
	comp=Z,4µm,1.0s								
COEG	**Centro de Oper**	**0.90**	**347**	*e*	P		**Pn**	**04 01 42.2**	**+0.2**
COEG				*e*	S		**Sn**	**04 01 54.8**	**+0.5**
COEG	**Centro de Oper**	**0.90**	**347**	*i*	P		**Pn**	**04 01 42.1**	**0.0**
COEG					IAML			04 02 00.2	
	comp=Z,3µm,1.0s								
LCND	**La Caada**	**0.95**	**53**	*e*	P		**Pn**	**04 01 42.5**	**0.0**
LCND	**La Caada**	**0.95**	**53**	*i*	P		**Pn**	**04 01 42.5**	**0.0**
LCND				*i*	P			04 01 42.6	
LCND					IAML			04 01 57.5	
	comp=Z,3µm,1.0s								
LCND					IAML			04 01 57.9	
	comp=Z,17µm,1.0s								
SCLA	**Alcaldia de Sa**	**0.96**	**356**	*e*	P		**Pn**	**04 01 43.5**	**+0.7**
SCLA	**Alcaldia de Sa**	**0.96**	**356**	*i*	P		**Pn**	**04 01 43.5**	**+0.7**
SCLA					IAML			04 01 58.0	
	comp=Z,2µm,1.0s								
CNCH	**Conchagua**	**0.97**	**56**	*e*	P		**Pn**	**04 01 42.8**	**-0.2**
CNCH	**Conchagua**	**0.97**	**56**	*i*	P		**Pn**	**04 01 42.8**	**-0.2**
CNCH					IAML			04 02 04.7	
	comp=Z,6µm,1.0s								
LALI	**Alcalda de L**	**0.98**	**320**	*i*	P		**Pn**	**04 01 42.8**	**-0.2**
LALI					IAML			04 01 55.6	
	comp=Z,2µm,1.0s								
PANCS	**Alcalda de**	**1.00**	**330**	*i*	P		**Pn**	**04 01 43.5**	**+0.1**
PANCS					IAML			04 01 59.2	
	comp=Z,6µm,1.0s								
PAVA	**Las Pavas**	**1.01**	**345**	*e*	P		**Pn**	**04 01 43.9**	**+0.4**
PAVA				*e*	S		**Sn**	**04 01 57.9**	**+1.1**
PAVA	**Las Pavas**	**1.01**	**345**	*i*	P		**Pn**	**04 01 43.9**	**+0.4**
PAVA					IAML			04 02 01.2	
	comp=Z,6µm,1.0s								
LOMA	**Loma Larga**	**1.03**	**331**	*e*	P		**Pn**	**04 01 43.7**	**-0.1**
LOMA	**Loma Larga**	**1.03**	**331**	*i*	P		**Pn**	**04 01 43.7**	**-0.1**
LOMA				*i*	S		**Sn**	**04 01 57.9**	**+0.6**
LOMA					IAML			04 01 58.8	
	comp=Z,4µm,1.0s								
AEIL	**Aeropuerto Ilo**	**1.05**	**335**	*e*	P		**Pn**	**04 01 44.8**	**+0.8**
UDBS	**Universidad Do**	**1.08**	**334**	*i*	P		**Pn**	**04 01 44.8**	**+0.4**
UDBS				*i*	S		**Sn**	**04 01 59.2**	**+0.7**
UDBS					IAML			04 02 03.6	
	comp=Z,4µm,1.0s								
IGN	**Direccin Gen**	**1.09**	**333**	*i*	P		**Pn**	**04 01 45.0**	**+0.5**
IGN				*i*	S		**Sn**	**04 01 59.4**	**+0.7**
IGN					IAML			04 02 01.6	
	comp=Z,14µm,1.0s								
UTEC	**Universidad Te**	**1.09**	**332**	*i*	P		**Pn**	**04 01 45.5**	**+1.0**
UTEC				*i*	S		**Sn**	**04 01 59.6**	**+0.9**
UTEC					IAML			04 02 04.5	
	comp=Z,2µm,1.0s								
SNET	**Serv Nac Est T**	**1.09**	**330**	*i*	P		**Pn**	**04 01 44.6**	**0.0**
SNET				*i*	S		**Sn**	**04 01 58.6**	**-0.2**
SNET					IAML			04 01 59.9	
	comp=Z,5µm,1.0s								
LFU	**La Fuente**	**1.10**	**337**	*e*	P		**Pn**	**04 01 45.1**	**+0.5**
ITCA	**Escuela Especi**	**1.11**	**327**	*i*	P		**Pn**	**04 01 44.7**	**-0.1**
ITCA				*i*	S		**Sn**	**04 01 59.2**	**+0.1**
ITCA					IAML			04 02 00.2	
	comp=Z,6µm,1.0s								
UEES	**Universidad Ev**	**1.12**	**330**	*i*	P		**Pn**	**04 01 45.2**	**+0.2**
UEES				*i*	S		**Sn**	**04 01 59.5**	**0.0**
UEES					IAML			04 02 07.2	
	comp=Z,1µm,1.0s								
AMPH	**Amapala**	**1.12**	**61**	*e*	P		**Pn**	**04 01 45.1**	**+0.3**
AMPH				*e*	S		**Sn**	**04 02 01.1**	**+1.7**
PIC2	**El Picacho**	**1.16**	**330**	*e*	P		**Pn**	**04 01 46.2**	**+0.6**
PMON	**Piamonte**	**1.16**	**327**	*e*	P		**Pn**	**04 01 45.6**	**+0.1**
PMON	**Piamonte**	**1.16**	**327**	*i*	P		**Pn**	**04 01 45.5**	**+0.1**
PMON				*i*	S		**Sn**	**04 02 00.7**	**+0.3**
PMON					IAML			04 02 05.4	
	comp=Z,4µm,1.0s								
BOQS	**Boqueron**	**1.16**	**329**	*e*	P		**Pn**	**04 01 45.9**	**+0.3**
JAYA	**Jayaque - finc**	**1.19**	**320**	*e*	P		**Pn**	**04 01 45.7**	**-0.2**
JAYA	**Jayaque - finc**	**1.19**	**320**	*i*	S		**Sn**	**04 02 00.8**	**-0.4**
QUEZ	**Alcaldia de Qu**	**1.24**	**332**	*i*	P		**Pn**	**04 01 47.3**	**+0.8**
QUEZ				*i*	S		**Sn**	**04 02 03.7**	**+1.4**
QUEZ					IAML			04 02 08.6	
	comp=Z,6µm,1.0s								
CEDA	**San Andres**	**1.28**	**326**	*i*	P		**Pn**	**04 01 47.3**	**+0.3**
CEDA				*i*	S		**Sn**	**04 02 03.9**	**+0.8**
CEDA					IAML			04 02 06.2	
	comp=Z,7µm,1.0s								
CEVE	**Cerro Verde**	**1.43**	**319**	*e*	P		**Pn**	**04 01 50.1**	**+0.8**
CEVE	**Cerro Verde**	**1.43**	**319**	*i*	P		**Pn**	**04 01 50.2**	**+0.9**
CEVE				*i*	S		**Sn**	**04 02 08.6**	**+1.4**
CEVE					IAML			04 02 16.1	
	comp=Z,4µm,1.0s								
LLGN	**La Laguna**	**1.44**	**349**	*e*	P		**Pn**	**04 01 50.2**	**+0.9**
LLGN	**La Laguna**	**1.44**	**349**	*i*	P		**Pn**	**04 01 50.1**	**+0.8**
LLGN					IAML			04 02 12.2	
	comp=Z,1µm,1.0s								
SNJE	**San Jose**	**1.45**	**321**	*e*	P		**Pn**	**04 01 50.1**	**+0.6**
SNJE				*e*	S		**Sn**	**04 02 08.6**	**+1.0**
RTR	**El Retiro**	**1.50**	**321**	*e*	P		**Pn**	**04 01 51.1**	**+1.0**
UNIC	**Universidad Ca**	**1.51**	**325**	*e*	P		**Pn**	**04 01 50.9**	**+0.7**
UNIC	**Universidad Ca**	**1.51**	**325**	*i*	P		**Pn**	**04 01 50.9**	**+0.7**
UNIC					IAML			04 02 11.3	
	comp=Z,890nm,1.0s								
CRIN	**San Cristobal**	**1.58**	**91**	*e*	P		**Pn**	**04 01 51.6**	**+0.5**
CRIN	**San Cristobal**	**1.58**	**91**	*i*	P		**Pn**	**04 01 51.6**	**+0.5**
CRIN					IAML			04 02 17.1	
	comp=Z,2µm,1.0s								
NUBE	**Las Nubes**	**1.59**	**317**	*e*	P		**Pn**	**04 01 51.6**	**+0.3**
NUBE	**Las Nubes**	**1.59**	**317**	*i*	P		**Pn**	**04 01 51.6**	**+0.3**
NUBE					IAML			04 02 12.4	
	comp=Z,4µm,1.0s								
LOAL	**Lomas de Alarc**	**1.66**	**319**	*i*	P		**Pn**	**04 01 53.4**	**+1.2**
LOAL					IAML			04 02 20.4	
	comp=Z,2µm,1.0s								
SLOZ	**Alcaldia de Sa**	**1.68**	**320**	*e*	P		**Pn**	**04 01 53.2**	**+0.8**
QUEN	**Al S del Volca**	**1.78**	**94**	*i*	P		**Pn**	**04 01 54.0**	**+0.2**
QUEN					IAML			04 02 18.2	
	comp=Z,1µm,1.0s								
MTO3	**Montecristo**	**1.79**	**338**	*e*	P		**Pn**	**04 01 55.0**	**+0.8**
MTO3	**Montecristo**	**1.79**	**338**	*i*	P		**Pn**	**04 01 54.9**	**+0.8**
MTO3					IAML			04 02 20.3	
	comp=Z,560nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.89**	**46**	*i*	P		**Pn**	**04 01 56.4**	**+1.0**
TGUH	**Tegucigalpa,Un**	**1.89**	**46**	*i*	P		**Pn**	**04 01 56.4**	**+1.0**
TGUH					IAML			04 02 14.1	
	comp=Z,560nm,1.0s								
ROCN	**Rota Cerro Neg**	**1.89**	**96**	*i*	P		**Pn**	**04 01 54.0**	**-1.3**
ROCN				*i*	S		**Sn**	**04 02 17.5**	**-0.5**
ROCN					IAML			04 02 28.9	
	comp=Z,330nm,1.0s								
ESQI	**Esquipulas**	**1.93**	**340**	*e*	P		**Pn**	**04 01 57.4**	**+1.4**
ESQI	**Esquipulas**	**1.93**	**340**	*i*	P		**Pn**	**04 01 57.3**	**+1.4**
CNGA	**Al SSO del Vol**	**1.93**	**97**	*i*	P		**Pn**	**04 01 54.4**	**-1.5**
CNGA					IAML			04 02 27.0	
	comp=Z,620nm,1.0s								
CNGN	**Cerro Negro**	**1.94**	**97**	*i*	P		**Pn**	**04 01 55.6**	**-0.3**
CNGN					IAML			04 02 24.7	
	comp=Z,460nm,1.0s								
MACN	**El Madrono**	**1.96**	**98**	*i*	P		**Pn**	**04 01 56.2**	**-0.1**
MACN					IAML			04 02 24.0	
	comp=Z,390nm,1.0s								
LEVN	**Ruinas Leon Vi**	**2.03**	**99**	*i*	P		**Pn**	**04 01 57.7**	**+0.6**
LEVN					IAML			04 02 29.3	
	comp=Z,500nm,1.0s								
COPN	**Copaltepe**	**2.10**	**105**	*i*	P		**Pn**	**04 01 57.6**	**-0.5**
COPN					IAML			04 02 26.5	
	comp=Z,210nm,1.0s								
MOMN	**Momotombo**	**2.10**	**99**	*i*	P		**Pn**	**04 01 58.0**	**-0.2**
MOMN					IAML			04 02 25.0	
	comp=Z,20nm,1.0s								
MOM2	**El Cardon**	**2.15**	**98**	*i*	P		**Pn**	**04 01 59.3**	**+0.5**
MOM2				*i*	S		**Sn**	**04 02 24.2**	**-0.1**

comp=Z,4.1nm,0.5s
SOEI Soe 19.56 254 Pn Pn 04 55 30.3 -0.1
LUWI Luwuk 20.77 279 P P 04 55 41.9 +0.7
AS31 Alice Springs 21.05 205 P P 04 55 44.7 +0.6
ASAR Alice Springs 21.06 205 P P 04 55 45.0 +0.8
ASAR Alice Springs 21.06 205 P P 04 55 43.6 -0.5
comp=Z,0.9nm,0.5s,baz=32,slow=12,SNR=12
comp=Z,0.9nm,0.5s
TOLI2 Tolitoli 23.17 284 P P 04 56 06.2 +0.2
OOD Oodnadatta 24.23 197 P P 04 56 17.0 +1.5
WRKA Warakurna 24.95 214 P P 04 56 22.1 -0.1
MBWA Marble Bar 28.21 232 P P 04 56 52.1 +0.6
MBWA IAmb IAmb 04 57 15.1
comp=Z,9.6nm,1.2s
PSA00 Pilbara Seismi 28.34 231 P P 04 56 53.6 +1.0
PSA00 IAmb IAmb 04 57 28.9
comp=Z,12nm,1.1s
BBOO Buckleboo 28.92 193 P P 04 56 55.5 -2.2
BBOO IAmb IAmb 04 57 19.3
comp=Z,16nm,1.2s
FORT Forrest 29.78 207 P P 04 57 07.4 +2.2
MEEK Meekatharra 32.23 224 P P 04 57 27.3 +0.4
MORW Morawa 35.52 224 P P 04 57 55.6 +0.3
CMAR Chiang Mai Arr 49.30 299 P P 04 59 47.9 +0.7
comp=Z,0.7nm,0.3s,baz=104,slow=6.6,SNR=1.8
comp=Z,0.7nm,0.3s
SONM Songino Array 61.37 333 P P 05 01 13.1 -0.4
comp=Z,0.4nm,0.5s,baz=160,slow=4.6,SNR=2.9
comp=Z,0.4nm,0.5s
DGAR Diego Garcia 70.44 264 P P 05 02 10.7 -1.4
MK31 Makanchi Array 74.04 321 P P 05 02 34.0 +1.1
MKAR Makanchi Array 74.04 321 P P 05 02 33.3 +0.4
MKAR Makanchi Array 74.04 321 P P 05 02 33.7 +0.8
comp=Z,0.7nm,0.3s,baz=99,slow=7.9,SNR=15
comp=Z,0.7nm,0.3s
MAKZ Makanchi 74.24 321 P P 05 02 35.1 +1.1
MAKZ IAmb IAmb 05 02 35.4
comp=Z,2.5nm,0.9s
ZALV Zalesovo Beam 75.83 329 P P 05 02 42.6 -0.4
comp=Z,0.8nm,0.6s,baz=108,slow=4.8,SNR=4.3
comp=Z,0.8nm,0.6s
BOOM Boomskoye usch 76.64 315 P P 05 02 49.6 +1.5
BOOM IAmb IAmb 05 02 49.9
comp=Z,1.6nm,0.6s
KURBB Kurchatov Arra 77.86 324 P P 05 02 54.4 -0.1
comp=Z,0.4nm,0.6s,baz=101,slow=4.0,SNR=2.4
comp=Z,0.4nm,0.6s
E19K Redstone River 82.96 20 P P 05 03 21.9 +0.5
E19K IAmb IAmb 05 03 31.3
comp=Z,7.2nm,1.5s
BVAR Borovoye Array 83.43 324 P P 05 03 24.3 +0.1
comp=Z,1.7nm,0.7s,baz=112,slow=7.0,SNR=7.3
comp=Z,1.7nm,0.7s
QSPA South Pole Qui 85.42 180 P P 05 03 34.8 +0.7
QSPA IAmb IAmb 05 04 10.4
comp=Z,4.8nm,1.3s
ILAR Eielson Array 85.63 24 P P 05 03 33.0 -2.0
comp=Z,0.4nm,0.7s,baz=251,slow=5.6,SNR=4.7
comp=Z,0.4nm,0.7s
EKA Eskdalemuir Ar 122.63 338 PKP PKiKP 05 09 52.2 +0.3
comp=Z,0.6nm,0.5s,baz=28,slow=2.6,SNR=5.9

*VAO **09** 05:03:46.1±0.3,21°.44S×68°.25W,h102km±4km,mb4.6*
*IDC **09** 05:03:47.2±0.9,21°.59S×68°.21W,h108km±8km,mb3.8/11, mbtmp4.1/14,Error ellipse: s-maj=16.5km s-min=13.0km az=120.0*
*SJA **09** 05:03:47.1±1.7,21°.65S×68°.30W,h100km,ML4.2,MW4.0*
*NEIC **09** 05:03:48.3±1.6,21°.68S±0°.05×68°.42W±0°.07,h119km±6km, mb4.3/22,Error ellipse: s-maj=9.7km s-min=7.2km az=88.0*
*GUC **09** 05:03:48.9±0.8,21°.69S×68°.45W,h122km±5km,ML4.3*
ISC 09 05:03:46.8±0.6,**21°.65S**±0°.03×**68°.30W**±0°.04,**h111**km±6km, **n140,σ1§80**/188,**mb4.3**/19,**14C-1D,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
PB09	IPOC Station P	0.89	260			Pn	05 04 08.4	+1.3
PB09	IPOC Station P	0.89	260	eP		Pn	05 04 08.6	+1.4
PB09				IAML			05 04 27.9	
comp=Z,3µm,1.0s								
PB09	IPOC Station P	0.89	260	⇑P		Pn	05 04 08.8	+1.7
PB09				eS		Sn	05 04 24.1	+1.6
PB09				IAML			05 04 26.7	
comp=E,4µm,0.2s								
LVC	Limon Verde	1.11	210	Pn		Pn	05 04 10.9	+1.2
LVC	Limon Verde	1.11	210	eP		Pn	05 04 10.9	+1.2
LVC				eS		Sn	05 04 29.3	+2.3
LVC				IAML			05 04 29.9	
comp=Z,1µm,0.5s								
LVC	Limon Verde	1.11	210	P		Pn	05 04 11.3	+1.6
comp=Z,1µm,0.4s,baz=28,slow=6.7,SNR=3682								
LVC				S		Sn	05 04 28.6	+1.6
comp=Z,720nm,0.3s,baz=179,slow=18,SNR=8.2								
LVC	Limon Verde	1.11	210	⇑P		Pn	05 04 11.3	+1.6
LVC				*i* S		Sn	05 04 28.5	+1.5
LVC				IAML			05 04 29.4	
comp=Z,11µm,0.4s								
LVC	Limon Verde	1.11	210	eP		Pn	05 04 11.2	+1.4
LVC				eS		Sn	05 04 28.2	+1.2
PB01	IPOC Station P	1.25	298			Pn	05 04 11.9	+0.9
PB01	IPOC Station P	1.25	298	eP		Pn	05 04 12.0	+1.0
PB01				eS		Sn	05 04 30.6	+1.4
PB01				IAML			05 04 32.9	
comp=Z,3µm,0.2s								
PB01	IPOC Station P	1.25	298	⇑P		Pn	05 04 12.0	+1.0
PB01				*i* S		Sn	05 04 30.3	+1.0
PB01				IAML			05 04 32.3	
comp=E,5µm,0.2s								
AF01	San Pedro de A	1.31	175			Pn	05 04 14.3	+2.5
PB07	IPOC Station P	1.47	267			Pn	05 04 14.0	+0.5
PB07	IPOC Station P	1.47	267	eP		Pn	05 04 13.8	+0.3
PB07				eS		Sn	05 04 34.6	+0.7
PB07				IAML			05 04 35.9	
comp=Z,4µm,0.8s								
PB07	IPOC Station P	1.47	267	⇑*i*P		Pn	05 04 14.1	+0.5
PB07				*i* S		Sn	05 04 33.9	0.0
PB07				IAML			05 04 35.0	
comp=E,8µm,0.4s								
PB02	IPOC Station P	1.52	282			Pn	05 04 14.5	+0.5
PB02	IPOC Station P	1.52	282	eP		Pn	05 04 14.5	+0.5
PB02				eS		Sn	05 04 35.5	+0.8
PB02				IAML			05 04 36.0	
comp=Z,6µm,0.4s								
PB02	IPOC Station P	1.52	282	⇑*i*P		Pn	05 04 14.6	+0.6
PB02				*i* S		Sn	05 04 34.8	+0.1
PB02				IAML			05 04 36.3	
comp=E,8µm,0.5s								
PB06	IPOC Station P	1.58	228			Pn	05 04 15.7	+0.9
PB06	IPOC Station P	1.58	228	eP		Pn	05 04 15.7	+0.9
PB06				eS		Sn	05 04 37.6	+1.4
PB06				IAML			05 04 39.3	
comp=Z,2µm,0.2s								
PB06	IPOC Station P	1.58	228	⇑*i*P		Pn	05 04 15.8	+0.9
PB06				*i* S		Sn	05 04 36.8	+0.7
PB06				IAML			05 04 38.0	
comp=E,3µm,0.3s								
PB08	IPOC Station P	1.69	332			Pn	05 04 18.6	+2.1
PB08	IPOC Station P	1.69	332	eP		Pn	05 04 19.2	+2.7
PB08				eS		Sn	05 04 43.0	+4.0
PB08				IAML			05 04 43.6	
comp=Z,730nm,0.5s								
PB08	IPOC Station P	1.69	332	⇓*i*P		Pn	05 04 19.1	+2.7
PB08				*i* S		Sn	05 04 41.9	+2.9
PB08				IAML			05 04 43.6	
comp=E,2µm,0.4s								
PB04	IPOC Station P	1.84	248	Pn		Pn	05 04 18.3	+0.1
PB04	IPOC Station P	1.84	248	eP		Pn	05 04 17.5	-0.6
PB04				eS		Sn	05 04 41.6	-0.3
PB04				IAML			05 04 44.3	
comp=Z,2µm,0.1s								
PB04	IPOC Station P	1.84	248	⇑*i*P		Pn	05 04 18.2	+0.1
PB04				eS		Sn	05 04 41.1	-0.8
PB04				IAML			05 04 48.2	
comp=N,3µm,0.2s								
PB15	IPOC Station P	1.89	215			Pn	05 04 19.4	+0.6
PB15	IPOC Station P	1.89	215	eP		Pn	05 04 19.8	+1.0
PB15				eS		Sn	05 04 44.4	+1.3
PB15				IAML			05 04 47.1	
comp=Z,4µm,0.4s								
PB15	IPOC Station P	1.89	215	⇑*i*P		Pn	05 04 19.8	+1.0
PB15				*i* S		Sn	05 04 44.2	+1.1
PATCX	Punta Patache	1.91	295	Pn		Pn	05 04 19.6	+0.7
PATCX	Punta Patache	1.91	295	eP		Pn	05 04 19.6	+0.7
PATCX				eS		Sn	05 04 44.0	+0.7
PATCX				IAML			05 04 45.0	
comp=Z,3µm,0.5s								
PATCX	Punta Patache	1.91	295	⇑*i*P		Pn	05 04 19.6	+0.7
PATCX				*i* S		Sn	05 04 43.0	-0.3
PATCX				IAML			05 04 50.0	
comp=E,6µm,0.2s								
HMBC	Humberstone	2.01	312	eP		Pn	05 04 20.8	+0.7
HMBC				eS		Sn	05 04 46.3	+0.7
HMBC				IAML			05 04 47.9	
comp=Z,4µm,0.3s								
HMBC	Humberstone	2.01	312	⇑*i*P		Pn	05 04 20.8	+0.7
HMBC				*i* S		Sn	05 04 45.9	+0.3
HMBC				IAML			05 04 49.4	
comp=E,6µm,0.4s								
TA01	Diego Aracena	2.06	301			Pn	05 04 20.9	+0.4
TA01	Diego Aracena	2.06	301	eP		Pn	05 04 20.3	-0.3
TA01				eS		Sn	05 04 47.0	+0.6
TA01				IAML			05 04 47.6	
comp=Z,1µm,0.2s								
TA01	Diego Aracena	2.06	301	⇑*i*P		Pn	05 04 21.0	+0.4
TA01				*i* S		Sn	05 04 45.8	-0.6
TA01				IAML			05 04 48.2	
comp=E,3µm,0.2s								
PB05	IPOC Station P	2.13	235			Pn	05 04 21.6	0.0
PB05	IPOC Station P	2.13	235	eP		Pn	05 04 21.6	0.0
PB05				eS		Sn	05 04 48.2	-0.1
PB05				IAML			05 04 56.0	
comp=Z,685nm,0.4s								
PB05	IPOC Station P	2.13	235	⇑*i*P		Pn	05 04 21.6	0.0
PB05				*i* S		Sn	05 04 47.0	-1.4
PB05				IAML			05 04 55.6	
comp=N,1µm,0.5s								
GO01	Chusmiza	2.14	337	Pn		Pn	05 04 24.4	+2.3
GO01	Chusmiza	2.14	337	eP		Pn	05 04 24.8	+2.7
GO01				eS		Sn	05 04 53.8	+4.8
GO01				IAML			05 04 54.8	
comp=Z,458nm,0.2s								
GO01	Chusmiza	2.14	337	⇑*i*P		Pn	05 04 24.4	+2.3
GO01				eS		Sn	05 04 51.8	+2.8
GO01				IAML			05 04 54.7	
comp=E,4µm,0.1s								
TA02	Huaiquique	2.19	308			Pn	05 04 22.5	+0.2
TA02	Huaiquique	2.19	308	eP		Pn	05 04 22.1	-0.2
TA02				eS		Sn	05 04 50.5	+1.0
TA02				IAML			05 04 54.1	
comp=Z,2µm,0.1s								
TA02	Huaiquique	2.19	308	eP		Pn	05 04 22.6	+0.4
TA02				*i* S		Sn	05 04 49.1	-0.3
TA02				IAML			05 04 56.9	
comp=N,3µm,0.2s								
PB11	IPOC Station P	2.26	326	Pn		Pn	05 04 24.7	+1.2
PB11	IPOC Station P	2.26	326	eP		Pn	05 04 24.5	+1.1
PB11				eS		Sn	05 04 52.2	+0.9
PB11				IAML			05 04 57.6	
comp=Z,1µm,0.4s								
PB11	IPOC Station P	2.26	326	⇑*i*P		Pn	05 04 24.4	+1.1
PB11				*i* S		Sn	05 04 52.1	+0.7
PB11				IAML			05 04 53.9	
comp=E,3µm,0.5s								
YJA	Yavi	2.64	102	eP		Pn	05 04 33.5	+4.9
YJA				eS		Sn	05 05 09.5	+8.8
PB10	IPOC Station P	2.79	228			Pn	05 04 30.4	+0.3
PB10	IPOC Station P	2.79	228	eP		Pn	05 04 29.6	-0.5
PB10				eS		Sn	05 04 59.1	-4.3
PB14	IPOC Station P	3.54	213	Pn		Pn	05 04 40.8	+0.4
PB14	IPOC Station P	3.54	213	eP		Pn	05 04 40.5	+0.1
PB14				eS		Sn	05 05 21.6	-0.1
PB14				eS			05 05 30.6	
PB14				IAML			05 05 32.7	
comp=Z,415nm,0.8s								
PB12	IPOC Station P	3.56	327	Pn		Pn	05 04 40.4	-0.2
PB12	IPOC Station P	3.56	327	eP		Pn	05 04 40.1	-0.4
PB12				eS		Sn	05 05 10.9	-11
PB12				IAML			05 05 48.8	
comp=Z,262nm,0.8s								
GO02	Mina Guanaco	3.69	198	Pn		Pn	05 04 42.8	+0.4
GO02	Mina Guanaco	3.69	198	eP		Pn	05 04 43.4	+0.9
GO02				eS		Sn	05 05 25.8	+0.4
GO02				IAML			05 05 53.7	
comp=Z,305nm,0.2s								
AC01	Pan de Azucar	4.95	205	Pn		Pn	05 04 57.6	-1.4
AC01	Pan de Azucar	4.95	205	eP		Pn	05 04 57.5	-1.6
AC01				eS		Sn	05 05 50.5	-4.6
AC01				IAML			05 06 09.3	
comp=Z,109nm,0.9s								
AC02	Maricunga	5.22	188	Pn		Pn	05 05 03.3	+0.1
AC02	Maricunga	5.22	188	eP		Pn	05 05 04.0	+0.9
AC02				eS		Sn	05 05 53.6	-8.8
AC02				IAML			05 05 59.1	
comp=Z,281nm,0.8s								
LPAZ	La Paz	5.33	2			Pn	05 05 08.4	+3.6
LPAZ	La Paz	5.33	2	P		Pn	05 05 07.4	+2.6
comp=Z,4.1nm,0.3s,baz=168,slow=3.7,SNR=45								
LPAZ				S		Sn	05 06 02.2	-3.1
comp=Z,7.2nm,0.7s,baz=215,slow=10.0,SNR=4.6								
LPAZ	La Paz	5.33	2	eP		Pn	05 04 59.9	-4.9
LPAZ				eS		Sn	05 05 59.5	-5.8
AC06	Mina Casimiro	5.99	198	Pn		Pn	05 05 10.8	-2.3
LCO	Las Campanas	7.65	196	Pn		Pn	05 05 32.0	-3.8
FDPY	Filadelfia	7.79	96	eP		Pn	05 05 36.3	-1.1
FDPY				eS		Sn	05 07 03.7	-0.3
BBSD	Serra de San D	8.51	60	eP		Pn	05 05 43.7	-3.5
BBSD				eS		Sn	05 07 16.1	-5.5
TICA	Tres Isletas	8.64	125	eP		Pn	05 05 49.7	+0.7
BBRB	Robore, Bolivi	8.66	69	eP		Pn	05 05 46.5	-2.8
SIV	San Ignacio	8.86	52	P		Pn	05 05 51.7	-0.4
comp=Z,25nm,0.6s,baz=236,slow=11,SNR=157								
SIV				S		Sn	05 07 25.9	-4.3
comp=Z,2.5nm,0.8s,baz=329,slow=22,SNR=1.1								
PAPY	Pozo Azul	9.60	107	eP		Pn	05 06 01.8	-0.3
MURT	Porto Murtinho	9.95	92	eP		Pn	05 06 06.5	-0.2
PTLB	Pontes e Lacer	10.65	56			Pn	05 06 16.1	-0.2
PTLB	Pontes e Lacer	10.65	56	eP		Pn	05 06 13.1	-3.3
PTLB				eS		Sn	05 08 09.7	-4.0
BDQN	Bodoquena, MS	10.86	86	eP		Pn	05 06 17.8	-1.3
BDQN				eS		Sn	05 08 16.9	-1.6
CPUP	Villa Florida	11.06	117	Pn		Pn	05 06 22.0	+0.2
CPUP	Villa Florida	11.06	117	P		Pn	05 06 22.2	+0.4
comp=Z,2.1nm,0.7s,baz=312,slow=12,SNR=8.8								
CPUP	Villa Florida	11.06	117	eP		Pn	05 06 22.2	+0.4
VILB	Vilhena	11.60	43			Pn	05 06 30.1	+1.1
VILB	Vilhena	11.60	43	eP		Pn	05 06 25.8	-3.3
VILB				eS		Sn	05 08 33.2	-3.5
AQDB	Aquidauana	11.83	87			Pn	05 06 31.9	-0.1
AQDB	Aquidauana	11.83	87	eP		Pn	05 06 30.4	-1.6
AMBA	Amambai (Brazi	12.39	98	eP		Pn	05 06 39.5	+0.1
RVDE	Rio Verde (Bra	12.80	81	eP		Pn	05 06 42.8	-2.1
SALV	Santo Antonio	13.23	67	eP		Pn	05 06 49.4	-1.1
SAML	Samuel	13.55	22	eP		Pn	05 06 52.9	-1.7
CRSM	Crissiumal (Br	14.22	117	eP		Pn	05 07 04.8	+1.7
CZSB	Cruzeiro do Su	14.47	342			Pn	05 07 08.2	+1.8
CZSB	Cruzeiro do Su	14.47	342	eP		Pn	05 07 04.3	-2.1
TRCB	Terra Rica	14.56	97	eP		Pn	05 07 06.8	-0.8
TRCB				eS		Sn	05 09 48.4	+0.1
RODS	Rosario do Sul	14.62	129	eP		Pn	05 07 07.2	-1.0
RODS				eS		Sn	05 09 51.2	+1.6
ITAB	Concordia	15.74	114			P	05 07 24.7	+0.8
ITAB				IAmb		IAmb	05 07 41.8	
comp=Z,21nm,1.1s								
PCMB	Pacaembu	15.85	93	eP		Pn	05 07 23.8	+0.1
PCMB				eS		Sn	05 10 19.2	-0.3
LDASE	Londrina, Braz	15.98	99	eP		Pn	05 07 25.3	0.0
LDASE				eS		Sn	05 10 22.8	+0.2
ARAG	Araguaiana, MT	16.70	72	eP		Pn	05 07 31.3	-2.9
ARAG				eS		Sn	05 10 37.2	-2.7
GO06	Curarrehue	18.09	188			P	05 07 50.3	+0.4
SNDB	Serra Nova Dou	18.89	62	eP		P	05 07 57.0	-1.8
PLCA	Paso Flores	19.12	185	P		P	05 08 01.0	-0.1
PLCA	Paso Flores	19.12	185	P		P	05 08 01.9	+0.8
comp=Z,2.4nm,0.9s,baz=4.0,slow=9.3,SNR=12								
NPGB	Novo Progresso	19.16	43	eP		P	05 08 02.0	+0.3
IPMB	Ipameri, GO	19.25	83	eP		P	05 08 01.6	-1.1
BDFB	Brasilia	20.12	76	P		P	05 08 11.7	-0.6
comp=Z,1.2nm,0.5s,baz=204,slow=11,SNR=3.3								
comp=Z,1.2nm,0.5s								
LL01	San Ignacio de	20.96	189	P		P	05 08 20.4	-0.4
LL06	Loncomilla	20.99	191	P		P	05 08 20.9	-0.3
ITTB	Itaituba	21.07	37	eP		P	05 08 19.3	-2.9
GO07	Milladeo Hill,	21.87	191	P		P	05 08 29.4	-1.2
GO07				IAmb		IAmb	05 08 42.7	
comp=Z,28nm,1.2s								
SMTB	Santa Maria do	23.64	61	eP		P	05 08 45.7	-2.5
BOAV	Boa Vista	25.08	19	P		P	05 09 02.4	+1.3
BOAV				IAmb		IAmb	05 09 12.0	
comp=Z,12nm,1.5s								
SWET	Sewanee	58.97	343	P		P	05 13 34.8	+0.1
TXAR	Lajitas Array	61.07	325	P		P	05 13 50.1	+0.8
comp=Z,0.3nm,0.7s,baz=149,slow=9.7,SNR=5.5								
comp=Z,0.3nm,0.7s								
SNAA Sanae	61.96	161	P		P	05 13 54.8	+0.2
SNAA Sanae	61.96	161	P		P	05 13 55.0	+0.4
comp=Z,4.4nm,1.1s,baz=249,slow=8.6,SNR=5.7								
comp=Z,4.4nm,1.1s								
S39A Bolivar	63.54	338			P	05 14 05.7	+0.2
DBIC Dimbokro	68.24	73	P		P	05 14 36.5	+0.5
DBIC Dimbokro	68.24	73	P		P	05 14 36.3	+0.3
comp=Z,6.2nm,1.0s,baz=247,slow=4.1,SNR=4.5								
comp=Z,6.2nm,1.0s								
QSPA South Pole Qui	68.55	180	P		P	05 14 38.9	+1.6
QSPA				IAmb	IAmb	05 14 40.0		
comp=Z,11nm,1.2s								
QSPA South Pole Qui	68.55	180	P		P	05 14 38.9	+1.6
comp=Z,3.2nm,0.5s,baz=156,slow=4.6,SNR=45								
comp=Z,3.2nm,0.5s								
SDCO Great Sand Dun	68.66	329	P		P	05 14 39.7	+1.2
SMCO Snowmass	70.50	329	P		P	05 14 50.9	+1.0
SMCO				IAmb	IAmb	05 14 52.2		
comp=Z,2.0nm,0.7s								
SRU San Rafael Swe	72.20	327	P		P	05 15 01.6	+1.7
SRU				IAmb	IAmb	05 15 02.4		
comp=Z,5.3nm,0.7s								
P18A Preston Nutter	72.45	327	P		P	05 15 03.1	+1.6
P18A				IAmb	IAmb	05 15 04.4		
comp=Z,4.3nm,0.7s								
CCUT Cedar City	72.56	324	P		P	05 15 04.5	+2.3
CCUT				IAmb	IAmb	05 15 05.8		
comp=Z,4.1nm,0.8s								
B35A Bob, Littlefor	73.31	343	P		P	05 15 06.5	+0.5
B35A				IAmb	IAmb	05 15 06.8		
comp=Z,4.2nm,0.6s								
BSUT Blindstream Ca	73.40	328	P		P	05 15 09.3	+2.1
BSUT				IAmb	IAmb	05 15 10.0		
comp=Z,3.3nm,0.9s								
PDAR Pinedale Array	74.52	330	P		P	05 15 14.5	+1.0
comp=Z,0.3nm,0.5s,baz=118,slow=5.6,SNR=2.8								
comp=Z,0.3nm,0.5s								
ULM Lac du Bonnet	75.62	342	P		P	05 15 19.4	0.0
ULM Lac du Bonnet	75.62	342	P		P	05 15 19.3	0.0
comp=Z,1.6nm,0.5s,baz=164,slow=7.6,SNR=7.4								
comp=Z,1.6nm,0.5s								
NVAR Mina Array Bea	75.95	322	P		P	05 15 22.5	+0.7
comp=Z,1.2nm,1.0s,baz=153,slow=6.6,SNR=4.4								
comp=Z,1.2nm,1.0s								
HLID Hailey	77.47	328	P		P	05 15 30.7	+0.6
HLID				IAmb	IAmb	05 15 33.3		
comp=Z,2.8nm,0.8s								
BOSA Boshof	82.88	118	P		P	05 16 00.5	+0.9
comp=Z,4.6nm,1.1s,baz=248,slow=5.4,SNR=3.1								
comp=Z,4.6nm,1.1s								
MAW Mawson	84.03	163	P		P	05 16 05.2	+0.7
comp=Z,1.0nm,0.3s,baz=288,slow=9.6,SNR=2.1								
comp=Z,1.0nm,0.3s								
YKA Yellowknife Ar	91.51	340	P		P	05 16 41.3	+1.0
comp=Z,1.7nm,0.7s,baz=129,slow=4.0,SNR=46								
comp=Z,1.7nm,0.7s								
ASAR Alice Springs	130.04	207	PKP		PKPdf	05 22 42.9	-1.4
comp=Z,0.7nm,0.7s,baz=158,slow=3.7,SNR=5.6								
WRA Warramunga Arr	133.11	210	PKP		PKPdf	05 22 51.1	+0.9
comp=Z,0.4nm,0.8s,baz=153,slow=2.1,SNR=6.0								
KURBB Kurchatov Arra	141.15	34	PKhKP	PKPpre		05 23 00.8		
comp=Z,0.2nm,0.3s,baz=270,slow=1.9,SNR=1.5								
ZALV Zalesovo Beam	141.84	26	PKP		PKPdf	05 23 05.2	0.0	
comp=Z,0.7nm,0.4s,baz=278,slow=4.3,SNR=4.3								
MKAR Makanchi Array	145.42	36	PKPbc		PKPab	05 23 13.0	+0.8	
comp=Z,0.9nm,0.6s,baz=342,slow=3.5,SNR=7.8								

*OSPL **09** 05:21:22.9±0.5,19°.80N×75°.24W,h54km±8km,ML1.9*
*SSNC **09** 05:21:23.0±1.1,19°.80N×75°.26W,h51km±5km,MD2.5, ML2.0,MW2.3*
ISC 09 05:21:21.3±1.4,**19°.75N**±0°.06×**75°.25W**±0°.04,**h55**km±10km, **n16,σ1§04**/29,**1D,Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
GTBY	Guantanamo Bay	0.22	37	eP		Pn	05 21 31.1	+0.9
GTBY				eS		Sn	05 21 36.8	+0.1
GTBY				IAML			05 21 37.0	
303nm,0.2s								
GTBY				IAML			05 21 37.2	
comp=Z,350nm,0.1s								
GTBY	Guantanamo Bay	0.22	37	*i* P		Pn	05 21 31.1	+0.9
GTBY				eS		Sn	05 21 36.8	+0.1
GTBY				IAML			05 21 37.3	
comp=Z,76nm,0.2s								
RCC	Rio Carpintero	0.48	300	eP		Pn	05 21 33.0	+0.4
RCC				eS		Sn	05 21 40.3	-0.6
RCC				IAML			05 21 40.5	
comp=N,163nm,0.2s								
RCC				IAML			05 21 40.9	
comp=E,100nm,0.1s								
QMBU	Quimbuelo	0.60	43	⇓eP		Pn	05 21 34.0	-0.1
QMBU				eS		Sn	05 21 41.4	-2.0
QMBU				IAML			05 21 42.0	
comp=N,79nm,0.2s								
QMBU				IAML			05 21 42.4	
comp=E,46nm,0.1s								
SABCS	La Quijada	0.61	354	eP		Pn	05 21 34.1	-0.1
SABCS				eS		Sn	05 21 41.9	-1.7
SABCS				IAML			05 21 42.5	
comp=N,57nm,0.2s								
SABCS				IAML			05 21 43.2	
comp=E,44nm,0.3s								
MARVS	Santiago de Cu	0.66	292	eP		Pn	05 21 35.3	+0.5
MARVS				eS		Sn	05 21 44.2	-0.3
MARVS				IAML			05 21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.79**	**237**	P	Pn	05 25 49.6	-0.5
LIFNC	**LIFOU**	**2.25**	**263**	P	Pn	05 25 55.5	-1.1
PINNC	**Pines Island,**	**2.92**	**224**	P	Pn	05 26 05.3	-0.5
OUENC	**Ouen Island, N**	**3.22**	**233**	P	Pn	05 26 10.0	+0.1
DZM	**Mont Dzumac**	**3.36**	**242**	P	Pn	05 26 11.7	-0.1
ONTNC	**Ouen Toro**	**3.46**	**238**	P	Pn	05 26 13.3	+0.1
NOUC	**Port Laguerre**	**3.49**	**242**	P	Pn	05 26 13.7	+0.2
KOUNC	**Koumac, New Ca**	**5.01**	**268**	P	Pn	05 26 34.9	+0.4

CATAC 09 05:32:46.8±0.9, 11°.95N×87°.87W, h15km±6km, ML2.7, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.09**	**47**	*i* P	Pb	05 33 07.1	-0.4
CRIN				*i* S	Sg	05 33 22.2	-0.1
CRIN				IAML		05 33 26.2	
	comp=Z,550nm,1.0s						
ROCN	**Rota Cerro Neg**	**1.24**	**63**	*i* P	Pn	05 33 08.4	-1.2
ROCN				IAML		05 33 33.0	
	comp=Z,71nm,1.0s						
CNGA	**Al SSO del Vol**	**1.27**	**65**	*i* P	Pn	05 33 08.0	-2.0
CNGA				IAML		05 33 30.6	
	comp=Z,190nm,1.0s						
CNGN	**Cerro Negro**	**1.27**	**65**	*i* P	Pn	05 33 10.3	+0.2
CNGN				*i* S	Sg	05 33 29.0	+1.1
CNGN				IAML		05 33 30.4	
	comp=Z,170nm,1.0s						
COPN	**Copaltepe**	**1.27**	**80**	*i* P	Pn	05 33 09.8	-0.3
COPN				IAML		05 33 30.0	
	comp=Z,88nm,1.0s						
MACN	**El Madrono**	**1.28**	**66**	*i* P	Pn	05 33 09.8	-0.4
MACN				IAML		05 33 33.7	
	comp=Z,90nm,1.0s						
CNCH	**Conchagua**	**1.32**	**2**	*i* P	Pn	05 33 10.5	-0.3
CNCH				*i* S	Sn	05 33 28.3	+0.1
CNCH				IAML		05 33 31.4	
	comp=Z,360nm,1.0s						
MOMN	**Momotombo**	**1.38**	**71**	*i* P	Pn	05 33 11.2	-0.4
MOMN				IAML		05 33 31.8	
	comp=Z,4.9nm,1.0s						
APYN	**Apoyeque**	**1.52**	**79**	*i* P	Pn	05 33 13.6	+0.2
APYN				*i* S	Sn	05 33 31.9	-1.1
APYN				IAML		05 33 37.1	
	comp=Z,130nm,1.0s						
TECO	**Alcaldia de Te**	**1.81**	**331**	*i* P	Pn	05 33 18.0	+0.6
TECO				*i* S	Sn	05 33 39.3	-0.8
SCLA	**Alcaldia de Sa**	**1.93**	**334**	*i* P	Pn	05 33 20.2	+1.1
SCLA				*i* S	Sn	05 33 44.2	+1.0
SCLA				IAML		05 34 45.1	
	comp=Z,31nm,1.0s						
ORTG	**Ortega, Santa**	**2.85**	**123**	*i* S	Sn	05 34 07.1	+1.1

*CATAC **09** 05:33:47.2±1.2, 13°.00N×90°.31W, h23km±14km, mb4.8, MB5.6, ML3.1*
*SNET **09** 05:33:49.3±0.6, 13°.04N×90°.20W, h29km±3km, ML3.0*
ISC 09 05:33:47.3±2.7, 13°.00N±0°.09×90°.3W±0°.1, h22km±14km, n23, σ0°.79/32, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**1.03**	**29**	*i* P	**Pn**	**05 34 06.2**	**-0.4**
NUBE				*i* S	**Sn**	**05 34 19.8**	**-0.7**
NUBE				IAML		05 34 20.3	
	comp=Z,390nm,1.0s						
CEVE	**Cerro Verde**	**1.06**	**38**	*i* P	**Pn**	**05 34 06.9**	**-0.1**
CEVE				*i* S	**Sn**	**05 34 22.2**	**+1.0**
CEVE				IAML		05 34 27.3	
	comp=Z,350nm,1.0s						
JAYA	**Jayaque - finc**	**1.06**	**52**	*e*P	**Pn**	**05 34 06.8**	**-0.1**
JAYA				IAML		05 34 21.2	
	comp=Z,376nm,0.2s						
JAYA	**Jayaque - finc**	**1.06**	**52**	*i* P	**Pn**	**05 34 06.6**	**-0.3**
JAYA				*i* S	**Sb**	**05 34 19.8**	**-0.7**
JAYA				IAML		05 34 21.0	
	comp=Z,900nm,1.0s						
RTR	**El Retiro**	**1.10**	**35**	*e*P	**Pb**	**05 34 07.9**	**+0.1**
SNJE	**San Jose**	**1.10**	**38**	*e*P	**Pn**	**05 34 07.6**	**0.0**
LOAL	**Lomas de Alarc**	**1.12**	**27**	*i* P	**Pb**	**05 34 08.1**	**+0.1**
LOAL				*i* S	**Sb**	**05 34 22.9**	**+0.7**
LOAL				IAML		05 35 13.3	
	comp=Z,2μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.14**	**26**	*e*P	**Pb**	**05 34 08.4**	**0.0**
SLOZ				*e*S	**Sb**	**05 34 23.2**	**+0.3**
PMON	**Piamonte**	**1.20**	**53**	*e*P	**Pn**	**05 34 08.8**	**-0.1**
PMON	**Piamonte**	**1.20**	**53**	*i* P	**Pn**	**05 34 08.7**	**-0.1**
PMON				*i* S	**Sb**	**05 34 24.0**	**-0.5**
PMON				IAML		05 34 27.6	
	comp=Z,400nm,1.0s						
UNIC	**Universidad Ca**	**1.22**	**37**	*i* P	**Pn**	**05 34 09.3**	**+0.2**
UNIC				IAML		05 34 19.3	
	comp=Z,170nm,1.0s						
UNIC				*i* S	**Sb**	**05 34 25.1**	**-0.1**
PANCS	**Alcalda de**	**1.25**	**61**	*i* P	**Pn**	**05 34 08.9**	**-0.6**
PANCS				IAML		05 34 09.6	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**1.28**	**59**	*i* P	**Pn**	**05 34 09.4**	**-0.5**
LOMA				*i* S	**Sb**	**05 34 26.9**	**+0.1**
LOMA				IAML		05 34 29.5	
	comp=Z,150nm,1.0s						
PAVA	**Las Pavas**	**1.51**	**62**	*i* P	**Pn**	**05 34 13.3**	**+0.2**
PAVA				IAML		05 34 15.5	
	comp=Z,130nm,1.0s						
COEG	**Centro de Oper**	**1.52**	**66**	*i* P	**Pn**	**05 34 12.7**	**-0.5**
COEG				IAML		05 34 36.4	
	comp=Z,73nm,1.0s						
TECO	**Alcaldia de Te**	**1.58**	**70**	*i* P	**Pn**	**05 34 12.9**	**-1.0**
TECO				IAML		05 34 39.7	
	comp=Z,44nm,1.0s						
GUNB	**GUNB**	**1.59**	**358**	*i* P	**Pn**	**05 34 11.3**	**-3.1**
GUNB				*i* S	**Sn**	**05 34 34.6**	**+0.1**
GUNB				IAML		05 34 37.3	
	comp=Z,140nm,1.0s						
MTO3	**Montecristo**	**1.67**	**33**	*e*P	**Pn**	**05 34 16.2**	**+0.8**
MTO3	**Montecristo**	**1.67**	**33**	*i* P	**Pn**	**05 34 16.0**	**+0.6**
MTO3				IAML		05 34 17.3	
	comp=Z,97nm,1.0s						
PQSS	**Presa 15 de Se**	**1.81**	**70**	*i* P	**Pn**	**05 34 17.0**	**-0.1**
PQSS				IAML		05 34 43.8	
	comp=Z,48nm,1.0s						
ESQI	**Esquipulas**	**1.81**	**31**	*i* P	**Pn**	**05 34 18.1**	**+0.8**
ESQI				IAML		05 34 45.2	
	comp=Z,120nm,1.0s						
COVE	**Coope Vega, Sa**	**6.20**	**111**	*i* P	**Pn**	**05 35 17.3**	**-0.3**
COVE				IAmb	IAmb	05 35 22.0	
	comp=Z,42nm,0.5s						
COVE				IVmB_BB		05 36 05.9	
	comp=Z,9μm,1.0s						
COVE				IAML		05 36 43.6	
	comp=Z,230nm,1.0s						
BRU2	**Volcan**	**8.56**	**118**	*i* P	**Pn**	**05 35 51.0**	**+0.9**
BRU2				IAML		05 35 51.5	
	comp=Z,120nm,1.0s						
BRU2				IVmB_BB		05 35 51.6	
	comp=Z,2μm,1.0s						
BRU2				IAmb	IAmb	05 35 53.0	
	comp=Z,41nm,0.6s						

*IDC **09** 05:37:03.9±3.6, 30°.35N×89°.68E, h0km, mb3.4/4, mbtmp3.5/6, ML3.6/2, Error ellipse: s-maj=228.5km s-min=21.4km az=64.0*
ISC 09 05:37:07.6±4.0, 30°.1N±0°.8×8°.9E±°, h35km, n6, σ0s.22/6, mb3.5/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**14.69**	**140**	Pn	**Pn**	**05 40 32.8**	**-0.1**
	0.2nm,0.3s,baz=319,slow=13,SNR=4.1						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**17.47**	**344**	P	**P**	**05 41 09.4**	**+0.1**
	0.1nm,0.3s,baz=154,slow=12,SNR=4.9						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**21.96**	**342**	P	**P**	**05 41 58.0**	**-0.1**
	0.4nm,0.5s,baz=156,slow=10,SNR=3.9						
	0.4nm,0.5s						
ZALV	**Zalesovo Beam**	**24.02**	**354**	P	**P**	**05 42 18.9**	**-0.1**
	0.4nm,0.3s,baz=182,slow=8.7,SNR=2.7						
	0.4nm,0.3s						
WRA	**Warramunga Arr**	**66.16**	**133**	P	**P**	**05 47 52.0**	**+0.3**
	0.4nm,0.5s,baz=326,slow=6.6,SNR=6.4						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**68.66**	**136**	P	**P**	**05 48 07.4**	**-0.1**
	0.4nm,0.8s,baz=318,slow=5.3,SNR=4.4						
	0.4nm,0.8s						

*LDG **09** 06:02:00.4±0.1, 43°.68N×5°.62E, h2km, Md2.7/1, Ml2.8/19, Error ellipse: s-maj=1.5km s-min=1.1km az=7.0*
*STR **09** 06:02:01.0±0.5, 44°.N±2°×±°, h5km, MLv2.6/10, Error ellipse: s-maj=0.0km s-min=0.0km az=62.2, preliminary*
*ROM **09** 06:02:00.9±0.2, 43°.59N±0°.01×5°.69E±0°.02, h11km±2km, ML2.5/26, Error ellipse: s-maj=1.6km s-min=0.8km az=227.0*
ISC 09 06:02:00.7±0.8, 43°.70N±0°.02×5°.66E±0°.02, h11km±6km, n74, σ1s.28/119, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARTF	**Artigues**	**0.15**	**138**	Pg	**Pg**	**06 02 04.0**	**-0.3**
ARTF				Sg	**Sg**	**06 02 06.6**	**-0.2**
BSTF	**la Bastide-des**	**0.18**	**356**	Pg	**Pg**	**06 02 02.8**	**-1.9**
BSTF				Sg	**Sg**	**06 02 04.6**	**-2.8**
LEPF	**PUYLOUBIER**	**0.18**	**171**	Pg	**Pg**	**06 02 04.9**	**+0.2**
LEPF				Sg	**Sg**	**06 02 07.6**	**+0.2**
RUSF	**Rustrel**	**0.27**	**331**	Pg	**Pg**	**06 02 06.4**	**+0.1**
RUSF				Sg	**Sg**	**06 02 10.6**	**+0.6**
SMRF	**Simiane la Rot**	**0.28**	**347**	*e*Pg	**Pg**	**06 02 06.7**	**+0.2**
SMRF				*e*Sg	**Sg**	**06 02 11.3**	**+0.9**
	186nm,0.2s						
MLYF	**Mely**	**0.29**	**15**	Pg	**Pg**	**06 02 06.9**	**+0.1**
MLYF				Sg	**Sg**	**06 02 11.4**	**+0.6**
BLAF	**les Blancs**	**0.37**	**48**	Pg	**Pg**	**06 02 07.5**	**-0.7**
BLAF				Sg	**Sg**	**06 02 12.8**	**-0.3**
FLAF	**Flassans-sur-I**	**0.54**	**126**	Pg	**Pg**	**06 02 10.9**	**-0.3**
FLAF				Sg	**Sg**	**06 02 18.6**	**+0.4**
LMR	**La Mourre**	**0.72**	**121**	*e*Pg	**Pg**	**06 02 13.7**	**-0.9**
LMR				*e*Sg	**Sg**	**06 02 23.3**	**-0.7**
LMR				*e*Sn	**Sb**	**06 02 26.6**	**+1.5**
	61nm,0.2s						
SALSA	**La sagne**	**0.76**	**76**	Pg	**Pg**	**06 02 15.3**	**-0.2**
SALSA				Sg	**Sb**	**06 02 25.9**	**-0.7**
ENAUX	**Enaux**	**0.90**	**63**	Pg	**Pg**	**06 02 17.8**	**-0.4**
ENAUX				Sg	**Sb**	**06 02 30.3**	**-0.3**
JAUF	**Jausiers**	**1.07**	**47**	Pg	**Pb**	**06 02 21.4**	**+0.1**
JAUF				Sg	**Sb**	**06 02 36.2**	**+0.8**
EILF	**Villa Eilenroc**	**1.08**	**98**	Pg	**Pb**	**06 02 21.3**	**0.0**
EILF				Sg	**Sb**	**06 02 36.0**	**+0.6**
CREF	**Crivoux**	**1.09**	**39**	Pg	**Pb**	**06 02 21.9**	**+0.1**
CREF				Sg	**Sb**	**06 02 36.7**	**+0.6**
MVIF	**Mont Vial**	**1.09**	**79**	Pg	**Pb**	**06 02 21.8**	**0.0**
MVIF				Sg	**Sb**	**06 02 36.8**	**+0.7**
ISO	**Isola**	**1.11**	**64**	P	**Pb**	**06 02 22.1**	**+0.1**
ISO	**Isola**	**1.11**	**64**	Pg	**Pg**	**06 02 21.6**	**-0.5**
ISO				Sg	**Sb**	**06 02 37.2**	**+0.7**
SURF	**Saint Ours**	**1.14**	**46**	P	**Pb**	**06 02 22.8**	**+0.3**
SURF	**Saint Ours**	**1.14**	**46**	Pg	**Pb**	**06 02 22.9**	**+0.3**
SURF				Sg	**Sb**	**06 02 38.2**	**+0.8**
SPIF	**crte de Spivo**	**1.19**	**72**	Pg	**Pg**	**06 02 23.4**	**-0.3**
SPIF				Sg	**Sn**	**06 02 39.6**	**-0.1**
ORIF	**Oris-en-Rattie**	**1.23**	**7**	*e*P	**Pn**	**06 02 24.8**	**+0.9**
ORIF				*e*Sg	**Sg**	**06 02 39.8**	**-0.5**
	18nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.23**	**7**	P	**Pn**	**06 02 25.4**	**+1.4**
ORIF				S	**Sn**	**06 02 42.7**	**+2.1**
ESCA	**l'Escarene**	**1.25**	**83**	P	**Pn**	**06 02 24.6**	**+0.5**
ESCA	**l'Escarene**	**1.25**	**83**	Pg	**Pg**	**06 02 24.1**	**-0.6**
ESCA				Sg	**Sn**	**06 02 41.6**	**+0.7**
TURF	**col de Turini**	**1.28**	**77**	P	**Pn**	**06 02 25.2**	**+0.5**
TURF	**col de Turini**	**1.28**	**77**	Pg	**Pg**	**06 02 24.9**	**-0.4**
TURF				Sg	**Sn**	**06 02 42.5**	**+0.5**
SBF	**Sospel**	**1.29**	**82**	*e*Pg	**Pn**	**06 02 24.8**	**0.0**
SBF				*e*Sg	**Sb**	**06 02 42.1**	**+0.4**
	164nm,0.4s						
MBDF	**Montbardon**	**1.30**	**37**	*e*Pg	**Pg**	**06 02 25.5**	**-0.2**
MBDF				*e*Sg	**Sb**	**06 02 42.4**	**+0.4**
	15nm,0.3s						
STV	**Sant Anna di V**	**1.32**	**65**	P	**Pb**	**06 02 25.7**	**+0.1**
STV				S	**Sn**	**06 02 43.2**	**+0.4**
STV				AML	AML		
	comp=E,176μm,0.2s						
STV				AML	AML		
	comp=N,234μm,1.1s						
STV				AML	AML		
	comp=E,177μm,0.2s						
STV				AML	AML		
	comp=N,209μm,0.2s						
STV	**Sant Anna di V**	**1.32**	**65**	P	**Pn**	**06 02 25.4**	**+0.3**
PZZ	**Stroppo**	**1.32**	**52**	P	**Pb**	**06 02 25.8**	**+0.2**
PZZ				S	**Sn**	**06 02 43.6**	**+0.7**
PZZ				AML	AML		
	comp=E,252μm,0.3s						
PZZ				AML	AML		
	comp=N,276μm,0.9s						
PZZ				AML	AML		
	comp=E,252μm,0.3s						
PZZ				AML	AML		
	comp=N,246μm,0.4s						
PZZ	**Stroppo**	**1.32**	**52**	P	**Pb**	**06 02 25.8**	**+0.2**
PZZ	**Stroppo**	**1.32**	**52**	Pn	**Pb**	**06 02 25.8**	**+0.2**
PZZ	**Stroppo**	**1.32**	**52**	Sn	**Sn**	**06 02 44.1**	**+1.2**
VIVF	**Saint-Julien-l**	**1.36**	**329**	*e*Pg	**Pn**	**06 02 24.9**	**-0.8**
VIVF				*e*Sg	**Sb**	**06 02 42.8**	**-0.7**
	comp=N,33nm,0.4s						
LASF	**Ste Croix**	**1.36**	**287**	*e*Pg	**Pn**	**06 02 25.1**	**-0.6**
LASF				*e*Sg	**Sb**	**06 02 42.4**	**-1.2**
	comp=N,47nm,0.5s						
ENR	**Entracque**	**1.37**	**67**	P	**Pn**	**06 02 26.4**	**+0.4**
ENR				S	**Sn**	**06 02 45.0**	**+0.9**
ENR				AML	AML		
	comp=E,282μm,1.2s						
ENR				AML	AML		
	comp=N,450μm,0.8s						
ENR				AML	AML		
	comp=E,282μm,0.8s						
ENR				AML	AML		
	comp=N,450μm,1.2s						
ENR				AML	AML		
	comp=E,266μm,0.2s						
ENR				AML	AML		
	comp=N,414μm,0.3s						
ENR	**Entracque**	**1.37**	**67**	P	**Pn**	**06 02 26.4**	**+0.4**
ENR	**Entracque**	**1.37**	**67**	Sn	**Sn**	**06 02 45.1**	**+0.9**
ENR	**Entracque**	**1.37**	**67**	Pn	**Pb**	**06 02 26.5**	**0.0**
BURY	**Giardini Botan**	**1.37**	**86**	P	**Pn**	**06 02 25.6**	**-0.3**
BURY				S	**Sb**	**06 02 44.0**	**0.0**
BURY				AML	AML		
	comp=N,193μm,0.5s						
BURY				AML	AML		
	comp=E,168μm,0.8s						
BURY				AML	AML		
	comp=N,149μm,0.3s						
BURY				AML	AML		
	comp=E,139μm,0.3s						
BURY	**Giardini Botan**	**1.37**	**86**	P	**Pn**	**06 02 25.9**	**0.0**
SAOF	**Saorge**	**1.40**	**78**	P	**Pn**	**06 02 26.4**	**+0.1**
SAOF				S	**Sg**	**06 02 45.1**	**-0.6**
SAOF				AML	AML		
	comp=N,144μm,0.2s						
SAOF				AML	AML		
	comp=E,175μm,0.9s						
SAOF				AML	AML		
	comp=N,144μm,0.2s						
SAOF				AML	AML		
	comp=E,148μm,0.2s						
SAOF	**Saorge**	**1.40**	**78**	P	**Pn**	**06 02 26.3**	**+0.1**
RRL	**Rocca Remolon**	**1.46**	**33**	P	**Pb**	**06 02 28.3**	**+0.2**
RRL				AML	AML		
	comp=N,59μm,0.7s						
RRL				AML	AML		
	comp=N,59μm,1.3s						
RRL				AML	AML		
	comp=E,82μm,1.0s						
RRL				AML	AML		
	comp=N,58μm,0.6s						
RRL				AML	AML		
	comp=E,71μm,0.4s						
RRL	**Rocca Remolon**	**1.46**	**33**	P	**Pb**	**06 02 28.3**	**+0.2**
BNI	**Bardonecchia**	**1.53**	**28**	P	**Pg**	**06 02 30.4**	**+0.2**
BHB	**Bricherasio**	**1.62**	**45**	P	**Pb**	**06 02 30.7**	**+0.1**
BHB				S	**Sg**	**06 02 52.7**	**-0.1**
BHB				AML	AML		
	comp=E,73μm,0.9s						
BHB				AML	AML		
	comp=N,69μm,1.1s						
BHB				AML	AML		
	comp=N,69μm,0.9s						
BHB				AML	AML		
	comp=E,67μm,0.5s						
BHB				AML	AML		
	comp=N,65μm,0.6s						
BHB	**Bricherasio**	**1.62**	**45**	P	**Pb**	**06 02 30.9**	**+0.3**
IMI	**Imperia**	**1.63**	**82**	P	**Pn**	**06 02 29.4**	**0.0**
IMI	**Imperia**	**1.63**	**82**	P	**Pn**	**06 02 29.5**	**0.0**
GBOS	**Grotte di Boss**	**1.66**	**70**	P	**Pn**	**06 02 30.7**	**+0.8**
GBOS				S	**Sb**	**06 02 52.8**	**+0.4**
GBOS				AML	AML		
	comp=N,138μm,0.4s						
GBOS				AML	AML		
	comp=E,194μm,0.5s						
GBOS				AML	AML		
	comp=N,138μm,0.4s						
GBOS				AML	AML		
	comp=E,193μm,0.4s						
GBOS	**Grotte di Boss**	**1.66**	**70**	P	**Pb**	**06 02 31.0**	**-0.4**
RORO	**Rocca Rossa**	**1.78**	**76**	P	**Pn**	**06 02 31.9**	**+0.5**
RORO				AML	AML		
	comp=N,146μm,1.1s						
RORO				AML	AML		
	comp=N,146μm,0.9s						
RORO				AML	AML		
	comp=E,85μm,0.6s						
RORO				AML	AML		
	comp=N,127μm,0.2s						
RORO				AML	AML		
	comp=E,76μm,0.2s						
CANO	**Canova, Maglio**	**1.93**	**74**	P	**Pn**	**06 02 34.6**	**+1.1**
CANO				AML	AML		
	comp=E,336μm,0.8s						
CANO				AML	AML		
	comp=N,164μm,1.4s						
CANO				AML	AML		
	comp=N,164μm,0.6s						
CANO				AML	AML		
	comp=E,336μm,1.2s						
CANO				AML	AML		
	comp=N,156μm,0.3s						
CANO				AML	AML		
	comp=E,336μm,0.8s						
LPG	**La Plagne**	**1.96**	**23**	*e*P	**Pb**	**06 02 35.8**	**-0.8**
LPG				*e*Sn	**Sn**	**06 02 57.5**	**-1.3**
LPG				*e*Sg	**Sg**	**06 03 03.0**	**-0.7**
	comp=E,17nm,0.4s						
LPL	**La Plagne**	**1.97**	**22**	*e*Pg	**Pg**	**06 02 37.8**	**-0.7**
LPL				*e*Sg	**Sg**	**06 03 03.4**	**-0.6**
	comp=E,14nm,0.5s						
PCP	**Piancastagn**	**2.24**	**67**	P	**Pn**	**06 02 38.9**	**+1.1**
PCP				AML	AML		
	comp=E,63μm,1.5s						
PCP				AML	AML		
	comp=N,54μm,0.4s						
PCP				AML	AML		
	comp=E,50μm,0.4s						
PCP				AML	AML		
	comp=N,54μm,0.4s						
MTLF	**Montolieu**	**2.53**	**263**	*e*P	**Pn**	**06 02 42.1**	**+0.3**
MTLF	**Montolieu**	**2.53**	**263**	*e*Pg	**Pb**	**06 02 46.9**	**+0.7**
MTLF				*e*Sn	**Sn**	**06 03 09.3**	**-3.3**
MTLF				*e*Sg	**Sg**	**06 03 20.6**	**-1.5**
	comp=N,6.1nm,0.4s						
PGF	**Pioggiola**	**2.70**	**114**	*e*Pn	**Pn**	**06 02 43.2**	**-1.0**
PGF				*e*Sn	**Sn**	**06 03 14.3**	**-2.6**
	comp=N,12nm,0.4s						
PGF	**Pioggiola**	**2.70**	**114**	P	**Pn**	**06 02 43.6**	**-0.6**
PGF				AML	AML		
	comp=N,20μm,0.6s						
PGF				AML	AML		
	comp=E,24μm,1.6s						
CAF	**Calviac**	**2.86**	**297**	*e*P	**Pn**	**06 02 47.5**	**+1.2**
CAF				*e*Sn	**Sn**	**06 03 17.8**	**-2.9**
	comp=E,5.6nm,0.2s						
CABF	**La Chapelle**	**2.92**	**6**	*e*P	**Pn**	**06 02 48.8**	**+1.5**
CABF				*e*Sn	**Sn**	**06 03 20.3**	**-2.1**
CABF				*e*Sg	**Sg**	**06 03 33.0**	**-1.7**
	comp=E,3.2nm,0.3s						
SMF	**Signal de Mont**	**3.21**	**337**	*e*Pn	**Pn**	**06 02 50.1**	**-1.1**
SMF				*e*Sn	**Sn**	**06 03 27.1**	**-2.3**
	comp=E,5.1nm,0.3s						
RJF	**Les Rejaudoux**	**3.37**	**300**	*e*P	**Pn**	**06 02 54.5**	**+1.2**
RJF				*e*Sn	**Sn**	**06 03 30.3**	**-3.0**
RJF				*e*Sg	**Sb**	**06 03 45.8**	**+4.3**
	comp=E,3.4nm,0.3s						
BGF	**Bois d'Agland**	**3.48**	**326**	*e*P	**Pn**	**06 02 56.8**	**+1.9**
BGF				*e*Sg	**Sg**	**06 03 49.6**	**-2.9**
	comp=E,11nm,0.4s						
AGLI	**Aglientu**	**3.66**	**134**	AML	AML		
	comp=N,23μm,0.9s						
AGLI				AML	AML		
	comp=E,34μm,1.0s						
LFF	**La Frestale**	**3.74**	**291**	*e*Pg	**Pb**	**06 03 09.2**	**+2.4**
LFF				*e*Sg	**Sb**	**06 03 57.1**	**+4.9**
	comp=E,4.4nm,0.3s						
EPF	**Esparros**	**3.94**	**262**	*e*P	**Pn**	**06 03 02.9**	**+1.7**
EPF	**Esparros**	**3.94**	**262**	*e*Pg	**Pb**	**06 03 12.5**	**+2.3**
EPF				*e*Sg	**Sg**	**06 04 03.5**	**-3.7**
	comp=E,6.8nm,0.5s						
SBPO	**S.Benedetto Po**	**4.00**	**68**	AML	AML		
	comp=N,1843μm,1.6s						
SBPO				AML	AML		
	comp=E,1942μm,0.1s						
BOSI	**Bolzano**	**4.88**	**53**	AML	AML		
	comp=E,482μm,0.4s						
BOSI				AML	AML		
	comp=N,445μm,0.3s						
T1221	**Campello sul C**	**5.31**	**97**	AML	AML		
	comp=E,26μm,0.1s						
T1221				AML	AML		
	comp=E,91μm,0.5s						
T1221				AML	AML		
	comp=N,143μm,0.9s						
T1221				AML	AML		
	comp=N,216μm,5.4s						

*NEIC **09** 06:22:31.9±0.6, 24°.24S±0°.09×176°.9W±0°.1, h43km±10km, mb4.5/11, Error ellipse: s-maj=22.9km s-min=4.1km az=124.0*
*IDC **09** 06:22:39.2±0.7, 24°.03S×177°.08W, h109km±5km, mb3.7/10, mbtmp4.1/11, Error ellipse: s-maj=19.9km s-min=17.1km az=121.0*
ISC 09 06:22:39.9±0.5, 24°.18S±0°.08×177°.0W±0°.1, h120km, n40, σ1s52/38, mb4.0/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.12**	**189**	Pn	Pn	06 23 45.0	-9.4
RAO	**Raoul Island**	**5.12**	**189**	P	**Pn**	**06 23 57.2**	**+2.8**
	162nm,0.4s,baz=97,slow=20,SNR=2.0						
RAO				S	**Sn**	**06 24 52.2**	**-0.2**
	212nm,0.3s,baz=322,slow=23,SNR=1.4						
NIUE	**Niue**	**8.31**	**54**		Pn	06 24 29.0	-8.6
URZ	**Urewera**	**14.90**	**198**	P	**Pn**	**06 26 02.5**	**-1.9**
	3.2nm,0.3s,baz=321,slow=13,SNR=11						
URZ				S	Sn	06 28 37.8	-11
	2.5nm,0.3s,baz=298,slow=19,SNR=1.9						
RAR	**Rarotonga**	**16.17**	**83**	P	**Pn**	**06 26 17.3**	**-3.0**
RAR				IAmb	IAmb	06 26 20.7	
	comp=Z,27nm,0.9s						
RAR	**Rarotonga**	**16.17**	**83**	P	**Pn**	**06 26 18.2**	**-2.1**
	comp=Z,22nm,0.9s,baz=234,slow=9.2,SNR=4.9						
RAR				S	Sn	06 28 59.8	-20
	comp=Z,12nm,0.9s,baz=145,slow=15,SNR=2.2						
BFZ	**Birch Farm**	**17.40**	**197**	P	**P**	**06 26 30.4**	**-4.3**
BFZ				IAmb	IAmb	06 27 09.6	
	comp=Z,49nm,1.3s						
CTAO	**Charters Tower**	**34.22**	**269**	P	**P**	**06 29 15.1**	**+0.8**
ASAR	**Alice Springs**	**44.69**	**260**	P	**P**	**06 30 40.3**	**-0.9**
ASAR	**Alice Springs**	**44.69**	**260**	P	**P**	**06 30 41.6**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=98,slow=6.9,SNR=9.2						
ASAR				p

WRA	**Warramunga Arr**	**45.12**	**265**	P	**P**	**06 30 44.2**	**-0.4**
WRA	**Warramunga Arr**	**45.12**	**265**	P	**P**	**06 30 44.0**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=98,slow=8.1,SNR=13						
WRA				pP	**pP**	**06 31 09.9**	**-1.6**
	comp=Z,1.9nm,0.7s,baz=103,slow=8.0,SNR=4.8						
WRA				PcP	**PcP**	**06 32 23.0**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=100,slow=3.1,SNR=2.4						
	comp=Z,1.1nm,0.6s						
FORT	**Forrest**	**48.78**	**249**	P	**P**	**06 31 13.5**	**+0.5**
QSPA	**South Pole Qui**	**65.90**	**180**	P	**P**	**06 33 14.4**	**+1.7**
QSPA	**South Pole Qui**	**65.90**	**180**	P	**P**	**06 33 14.4**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=310,slow=1.1,SNR=14						
QSPA				pP	**pP**	**06 33 40.8**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=66,slow=0.6,SNR=3.7						
	comp=Z,1.7nm,0.7s						
BELA	**Belgrano 2**	**75.80**	**172**	P	**P**	**06 34 12.7**	**+0.5**
MAW	**Mawson**	**78.43**	**200**	P	**P**	**06 34 28.3**	**+1.3**
	comp=Z,4.0nm,0.6s,baz=120,slow=9.4,SNR=6.6						
	comp=Z,4.0nm,0.6s						
NVAR	**Mina Array Bea**	**83.08**	**43**	P	**P**	**06 34 53.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=223,slow=8.8,SNR=6.3						
	comp=Z,0.7nm,0.6s						
H03S2	**Juan Fernandez**	**83.17**	**124**	T	T	08 06 27.9	
	baz=244,slow=74,SNR=52						
H03S1	**Juan Fernandez**	**83.18**	**124**	T	T	08 06 30.6	
	baz=244,slow=74,SNR=51						
H03S3	**Juan Fernandez**	**83.18**	**124**	T	T	08 06 52.5	
	baz=244,slow=74,SNR=42						
H03N2	**Juan Fernandez**	**83.32**	**124**	T	T	08 06 33.9	
	baz=250,slow=72,SNR=27						
H03N3	**Juan Fernandez**	**83.32**	**124**	T	T	08 06 28.3	
	baz=250,slow=72,SNR=48						
H03N1	**Juan Fernandez**	**83.34**	**124**	T	T	08 06 59.6	
	baz=250,slow=72,SNR=22						
SNAA	**Sanae**	**84.32**	**178**	P	**P**	**06 34 58.4**	**+0.3**
	comp=Z,4.1nm,1.0s,baz=172,slow=7.1,SNR=3.8						
	comp=Z,4.1nm,1.0s						
PLCA	**Paso Flores**	**86.09**	**133**	P	**P**	**06 35 08.7**	**+1.1**
	comp=Z,1.8nm,0.9s,baz=240,slow=6.0,SNR=5.3						
	comp=Z,1.8nm,0.9s						
TMUT	**Trail Mountain**	**88.07**	**45**	P	**P**	**06 35 17.7**	**+0.4**
TMUT				IAmb	IAmb	06 35 19.0	
	comp=Z,2.1nm,0.7s						
TXAR	**Lajitas Array**	**88.27**	**57**	P	**P**	**06 35 19.2**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=204,slow=5.5,SNR=8.6						
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**91.01**	**43**	P	**P**	**06 35 31.6**	**+0.7**
	comp=Z,0.3nm,0.6s,baz=132,slow=4.0,SNR=2.4						
	comp=Z,0.3nm,0.6s						
ILAR	**Eielson Array**	**91.69**	**12**	P	**P**	**06 35 33.6**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=222,slow=5.3,SNR=7.7						
	comp=Z,0.4nm,0.7s						
J26L	**Joseph Creek**	**92.14**	**14**	P	**P**	**06 35 36.6**	**+1.3**
MKAR	**Makanchi Array**	**114.37**	**312**	PKP	PKPdf	06 41 04.2	-1.2
	comp=Z,0.3nm,0.6s,baz=129,slow=2.0,SNR=2.5						
BVAR	**Borovoye Array**	**122.46**	**319**	PKP	**PKPdf**	**06 41 20.9**	**+0.1**
	comp=Z,0.7nm,0.5s,baz=66,slow=1.8,SNR=4.2						
ARCES	**ARCESS Array B**	**132.69**	**349**	PKP	**PKPdf**	**06 41 37.4**	**-2.4**
	comp=Z,3.2nm,0.9s,baz=45,slow=1.9,SNR=4.4						
HFS	**Hagfors**	**143.30**	**351**	PKhKP	PKPpre	06 41 56.1	
	comp=Z,0.6nm,0.5s,baz=197,slow=4.5,SNR=1.5						
AKASG	**Malin Array Be**	**146.55**	**329**	PKPbc	**PKPbc**	**06 42 07.3**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=41,slow=4.1,SNR=17						
AKASG				pPKPbc	**pPKPdf**	**06 42 35.6**	**-1.8**
	comp=Z,1.4nm,0.5s,baz=39,slow=3.5,SNR=3.5						
EKA	**Eskdalemuir Ar**	**148.55**	**7**	PKPbc	**PKPbc**	**06 42 12.0**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=298,slow=1.5,SNR=5.1						
BRTR	**Keskin Array B**	**149.92**	**308**	PKPbc	**PKPbc**	**06 42 15.2**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=130,slow=5.8,SNR=2.7						
BRTR				pPKPbc	**pPKPdf**	**06 42 45.4**	**+2.2**
	comp=Z,0.9nm,0.7s,baz=117,slow=4.3,SNR=2.7						

DJA 09 06:46:28.3±1.9,0°N±4°×97°E±°,h25km±22km,M3.5/6,
MLv3.5/6,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**1.40**	**93**	P	Pn	06 46 52.8	+0.5
PBSI				S	Sn	06 47 10.0	0.0
GSI	**Gunungsitoli**	**1.44**	**29**	P	Pn	06 46 52.8	-0.1
GSI				S	Sb	06 47 12.2	-0.3
SNSI	**Sinabang, Aceh**	**2.43**	**347**	P	Pn	06 47 05.9	-0.5
SNSI				S	Sn	06 47 32.4	-2.9
SISI	**Saibi**	**2.59**	**121**	P	Pn	06 47 08.7	+0.1
KCSI	**Kotacane, Aceh**	**3.58**	**14**	P	Pn	06 47 22.2	-0.1
PPSI	**Pulau Pagai**	**4.18**	**132**	P	Pn	06 47 30.5	0.0

CATAC 09 06:48:09.8±0.6,13°.86N×90°.04W,h25km±3km,ML3.1,
Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.26**	**80**	*i* P	Pb	06 48 15.4	-1.0
NUBE				*i* S	Sn	06 48 24.4	+0.9
NUBE				IAML		06 48 26.1	
	comp=Z,190nm,1.0s						
LOAL	**Lomas de Alarc**	**0.29**	**61**	*i* P	Pb	06 48 15.9	-0.8
LOAL				IAML		06 48 16.7	
	comp=Z,2μm,1.0s						
LOAL				*i* S	Sn	06 48 27.1	+3.0
CEVE	**Cerro Verde**	**0.41**	**94**	*i* P	Pb	06 48 16.4	-2.3
CEVE				*i* S	Sn	06 48 26.8	-0.4
CEVE				IAML		06 48 28.1	
	comp=Z,1μm,1.0s						
UNIC	**Universidad Ca**	**0.49**	**75**	*i* P	Pb	06 48 17.6	-2.4
UNIC				IAML		06 48 56.4	
	comp=Z,190nm,1.0s						
JUAM	**Asuncion Mita**	**0.58**	**34**	*i* P	Pb	06 48 20.1	-1.3
JUAM				*i* S	Sn	06 48 33.3	+2.1
JUAM				IAML		06 48 35.3	
	comp=Z,230nm,1.0s						
GUNB	**GUNB**	**0.79**	**338**	*i* P	Pb	06 48 22.3	-2.9
GUNB				*i* S	Sn	06 48 36.5	-0.4
GUNB				IAML		06 48 40.1	
	comp=Z,69nm,1.0s						
MTO3	**Montecristo**	**0.85**	**51**	*i* P	Pb	06 48 22.8	-3.3
MTO3				IAML		06 49 09.7	
	comp=Z,54nm,1.0s						
ESQI	**Esquipulas**	**0.97**	**44**	*i* P	Pn	06 48 25.0	-3.0
ESQI				*i* S	Sn	06 48 42.7	+1.6
ESQI				IAML		06 49 18.6	
	comp=Z,59nm,1.0s						
RANC	**El Ranchito**	**1.75**	**104**	*i* P	Pb	06 48 44.9	+3.5
RANC				IAML		06 48 56.2	
	comp=Z,1μm,1.0s						
JUCU	**Jucuarįn**	**1.84**	**109**	*e*P	Pb	06 48 43.1	+0.2
JUCU	**Jucuarįn**	**1.84**	**109**	*i* P	Pb	06 48 43.1	+0.2
JUCU				IAML		06 48 48.4	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**1.86**	**102**	*i* P	Pb	06 48 43.7	+0.6
CNRM				IAML		06 48 43.9	
	comp=Z,8μm,1.0s						
CRIN	**San Cristobal**	**3.13**	**111**	*i* P	Pn	06 49 00.5	+2.8
CRIN				IAML		06 49 25.6	
	comp=Z,470nm,1.0s						
ROCN	**Rota Cerro Neg**	**3.48**	**112**	*i* P	Pn	06 49 04.4	+2.1
ROCN				IAML		06 49 31.4	
	comp=Z,41nm,1.0s						
CNGA	**Al SSO del Vol**	**3.52**	**112**	*i* P	Pn	06 49 04.6	+1.6
CNGA				IAML		06 49 29.2	
	comp=Z,85nm,1.0s						
CNGN	**Cerro Negro**	**3.52**	**112**	*i* P	Pn	06 49 04.9	+1.9
CNGN				IAML		06 49 44.9	
	comp=Z,86nm,1.0s						
MACN	**El Madrono**	**3.56**	**112**	*i* P	Pn	06 49 07.1	+3.6
MACN				IAML		06 49 39.3	
	comp=Z,43nm,1.0s						
COPN	**Copaltepe**	**3.75**	**116**	*i* P	Pn	06 49 09.9	+3.8
COPN				IAML		06 49 10.0	
	comp=Z,47nm,1.0s						
APYN	**Apoyeque**	**3.94**	**114**	*i* S	Sn	06 49 39.8	-14

*NEIC **09** 07:02:18.8±0.6, 19°.09N±0°.02×155°.31W±0°.02, h5km±2km,*
Error ellipse: s-maj=4.0km s-min=3.0km az=135.0
HVO 09 07:02:18.7±0.7,19°.09N±0°.02×155°.31W±0°.02,h5km±7km,
Md2.4/16,ML2.5/16(NEIC),Error ellipse: s-maj=4.3km
s-min=0.8km az=141.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.17**	**330**		Pg	07 02 22.3	+0.2
HLP	**Hilina Pali**	**0.20**	**0**	IAML		07 02 28.5	
	comp=N,1μm,0.9s						
HLP	**Hilina Pali**	**0.20**	**0**		Pg	07 02 23.6	+0.8
KHU	**Kahuku**	**0.33**	**298**		Pg	07 02 25.2	0.0
KHU	**Kahuku**	**0.33**	**298**	IAML		07 02 28.8	
	comp=N,346nm,2.6s						
KHU				IAML		07 02 34.1	
	comp=E,389nm,1.4s						
STCH	**Steam Cracks**	**0.34**	**31**		Pg	07 02 25.1	-0.2
STCH	**Steam Cracks**	**0.34**	**31**	IAML		07 02 31.6	
	comp=E,521nm,0.6s						
STCH				IAML		07 02 33.5	
	comp=N,503nm,0.9s						
MLOA	**Mauna Loa Obse**	**0.51**	**330**	Pg	Pg	07 02 28.0	-0.5
MLOA				IAML		07 02 38.5	
	comp=N,337nm,0.5s						
MLOA				IAML		07 02 38.6	
	comp=E,432nm,1.7s						
HMH	**Humu'ula Sheep**	**0.53**	**342**	IAML		07 02 39.4	
	comp=E,280nm,0.9s						
HMH				IAML		07 02 40.0	
	comp=N,303nm,1.1s						
POHA	**Pohakuloa**	**0.69**	**342**	Pg	Pg	07 02 32.1	0.0
POHA				IAML		07 02 51.8	
	comp=N,282nm,1.2s						
POHA				IAML		07 02 56.3	
	comp=N,274nm,0.8s						
HUH	**Hualalai**	**0.77**	**320**	Pg	Pg	07 02 33.4	-0.1

*NEIC **09** 07:13:09.8±0.9, 31°.96N±0°.01×116°.28W±0°.02, h19km±5km,*
Error ellipse: s-maj=2.4km s-min=1.7km az=54.0
*ECX **09** 07:13:10.6±0.6, 31°.94N×116°.28W, h16km±2km, MD3.1,*
ML3.3, Fault plane solution: NP1:ϕs121.00000°,
δ78.00000°, λ158.00000°.
*PAS **09** 07:13:10.3±1.5, 31°.95N±0°.02×116°.29W±0°.02, h20km±7km,*
ML3.2/201, ML3.3/38(NEIC), Error ellipse: s-maj=3.1km
s-min=2.3km az=225.0
*ANF **09** 07:13:11.4±0.9, 32°.04N×116°.27W, h28km±5km, ML2.9/18,*
Error ellipse: s-maj=5.7km s-min=3.1km az=174.0
ISC 09 07:13:10.0±1.0,31°.93N±0°.02×116°.29W±0°.02,h22km±3km,
n93,σ0.87/133,15C-13D,Baja California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RACA	**Rancho agua Ca**	**0.09**	**354**	⇓*i* P	Pb	**07 13 13.9**	**-0.4**
RACA				*e*S	Sb	**07 13 16.2**	**-0.9**
ESJX	**Sierra Juarez**	**0.30**	**76**		Pb	**07 13 16.6**	**-0.4**
ESJX					Sb	**07 13 20.7**	**-1.0**
ESJX	**Sierra Juarez**	**0.30**	**76**	IAML		07 13 20.9	
	comp=E,12μm,0.1s						
ESJX				IAML		07 13 21.9	
	comp=N,5μm,0.1s						
CCX	**Cicese**	**0.33**	**259**		Pb	**07 13 17.5**	**+0.4**
CCX					Sb	**07 13 22.8**	**+0.8**
CCX	**Cicese**	**0.33**	**259**	IAML		07 13 23.0	
	comp=E,7μm,0.4s						
CCX				IAML		07 13 23.1	
	comp=N,5μm,0.3s						
CCX	**Cicese**	**0.33**	**259**	⇑*i* P	Pb	**07 13 17.5**	**+0.4**
CCX				*e*S	Sb	**07 13 21.7**	**-0.2**
CCX				⇑*e*		07 13 23.0	
CCX				IAML		07 13 23.0	
	comp=E,10μm,0.3s						
CCX				*e*		07 13 23.2	
CCX				IAML		07 13 23.2	
	comp=N,6μm,0.3s						
SJX	**San Joaquin**	**0.33**	**121**	⇑*i* P	Pb	**07 13 16.6**	**-0.6**
SJX				*i* S	Sb	**07 13 20.7**	**-1.3**
SIVMX	**Santa Isabel v**	**0.41**	**98**	⇑*i* P	Pb	**07 13 18.4**	**-0.2**
SIVMX				*e*S	Sb	**07 13 23.9**	**-0.6**
PBX	**Punta Banda**	**0.42**	**243**	⇑*i* P	Pb	**07 13 19.0**	**+0.3**
PBX				*e*S	Sb	**07 13 24.8**	**+0.3**
PBX				*e*		07 13 25.6	
PBX				IAML		07 13 25.6	
	comp=N,1μm,0.2s						
RSLU	**Rancho San Lui**	**0.42**	**64**	⇑*i* P	Pb	**07 13 18.5**	**-0.3**
RSLU				*e*S	Sb	**07 13 24.2**	**-0.7**
CBX	**Cerro Bola**	**0.49**	**320**		Pb	**07 13 19.8**	**-0.4**
CBX					Sb	**07 13 26.6**	**-0.4**
CBX	**Cerro Bola**	**0.49**	**320**	IAML		07 13 27.5	
	comp=N,2μm,0.3s						
CBX				IAML		07 13 28.0	
	comp=E,1μm,0.2s						
CBX	**Cerro Bola**	**0.49**	**320**	*e*P	Pb	**07 13 19.8**	**-0.4**
CBX				*e*S	Sb	**07 13 26.5**	**-0.4**
CBX				IAML		07 13 27.6	
	comp=N,1μm,0.4s						
CBX				IAML		07 13 28.3	
	comp=E,1μm,0.2s						
CBX				*e*		07 13 28.3	
ALAMX	**Rancho Alamar**	**0.50**	**81**	⇑*i* P	Pb	**07 13 19.8**	**-0.3**
ALAMX				*e*S	Sb	**07 13 26.4**	**-0.6**
ALAMX				⇑*e*		07 13 27.9	
ALAMX				IAML		07 13 27.9	
	comp=N,2μm,0.2s						
ALAMX				*e*		07 13 28.3	
ALAMX				IAML		07 13 28.3	
	comp=E,2μm,0.2s						
SV2X	**San Vicente**	**0.59**	**176**	⇓*e*P	Pb	**07 13 21.3**	**-0.5**
TJIG	**Tijuana**	**0.60**	**327**	⇓*e*P	Pb	**07 13 21.2**	**-0.6**
TJIG				*e*S	Sb	**07 13 29.3**	**-0.6**
TJIG				*e*		07 13 29.4	
TJIG				IAML		07 13 29.4	
	comp=E,1μm,0.1s						
TJIG				⇑*e*		07 13 29.6	
TJIG				IAML		07 13 29.6	
	comp=N,1μm,0.1s						
TKX	**Tecate**	**0.69**	**337**		Pb	**07 13 22.6**	**-0.8**
TKX					Sb	**07 13 31.5**	**-1.1**
TKX	**Tecate**	**0.69**	**337**	IAML		07 13 31.8	
	comp=E,3μm,0.1s						
TKX				IAML		07 13 31.9	
	comp=N,2μm,0.1s						
VTX	**Valle De La Tr**	**0.69**	**141**	Pg	Pb	**07 13 22.9**	**-0.5**
VTX				IAML		07 13 32.7	
	comp=N,1μm,0.1s						
VTX	**Valle De La Tr**	**0.69**	**141**		Sb	**07 13 32.1**	**-0.4**
VTX	**Valle De La Tr**	**0.69**	**141**	⇓*e*P	Pb	**07 13 22.8**	**-0.6**
VTX				*e*S	Sb	**07 13 32.0**	**-0.6**
VTX				IAML		07 13 32.7	
	comp=N,2μm,0.1s						
RMX	**La Rumorosa**	**0.69**	**15**		Pb	**07 13 22.4**	**-1.1**
RMX					Sb	**07 13 31.0**	**-1.7**
RMX	**La Rumorosa**	**0.69**	**15**	IAML		07 13 31.4	
	comp=E,4μm,0.2s						
RMX				IAML		07 13 31.5	
	comp=N,4μm,0.2s						
RMX	**La Rumorosa**	**0.69**	**15**	*e*P	Pb	**07 13 22.4**	**-1.1**
RMX				*e*S	Sb	**07 13 31.1**	**-1.7**
IKP	**In-Ko-Pah, Jac**	**0.73**	**12**		Pb	**07 13 23.5**	**-0.7**
IKP					Sb	**07 13 33.0**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**0.73**	**12**	P	Pb	**07 13 23.4**	**-0.7**
	baz=192,SNR=48						
IKP				S	Sb	**07 13 32.8**	**-1.0**
	baz=192						
IKP	**In-Ko-Pah, Jac**	**0.73**	**12**	*e*P	Pb	**07 13 23.5**	**-0.7**
YUH	**Yuha Desert**	**0.78**	**23**	Pg	Pb	**07 13 24.4**	**-0.4**
YUH				IAML		07 13 34.8	
	comp=E,2μm,0.2s						
YUH				IAML		07 13 34.9	
	comp=N,2μm,0.1s						
YUH2	**Yuha Desert**	**0.78**	**24**	⇓*e*P	Pb	**07 13 24.4**	**-0.5**
DUZA	**Dulzura**	**0.79**	**329**		Pb	**07 13 24.3**	**-0.8**
BAR	**Barrett**	**0.81**	**337**	Pg	Pb	**07 13 24.5**	**-1.0**
BAR				IAML		07 13 35.2	
	comp=N,940nm,0.2s						
BAR				IAML		07 13 37.4	
	comp=E,549nm,0.2s						
BAR	**Barrett**	**0.81**	**337**	⇓*e*P	Pb	**07 13 24.5**	**-1.0**
BAR				IAML		07 13 35.1	
	comp=N,929nm,0.2s						
BAR				⇑*e*		07 13 35.1	
JARAX	**Ej. Heriberto**	**0.85**	**45**	*e*P	Pb	**07 13 25.4**	**-0.7**
JARAX				*e*S	Sb	**07 13 36.9**	**-0.2**
JARAX				⇓*e*		07 13 39.6	
JARAX				IAML		07 13 39.6	
	comp=N,2μm,0.7s						
JARAX				IAML		07 13 42.2	
	comp=E,2μm,0.4s						
JARAX				⇑*e*		07 13 42.2	
SGL	**Mount Signal**	**0.86**	**34**		Pb	**07 13 26.0**	**-0.2**
OLP	**Otay Lakes Par**	**0.86**	**321**		Pb	**07 13 25.8**	**-0.6**
OLP					Sb	**07 13 37.0**	**-0.5**
OLP	**Otay Lakes Par**	**0.86**	**321**	*e*P	Pb	**07 13 25.7**	**-0.6**
TJX	**Tijuana**	**0.87**	**312**		Pb	**07 13 26.2**	**-0.1**
TJX					Sn	**07 13 38.7**	**-0.2**
TJX	**Tijuana**	**0.87**	**312**	IAML		07 13 40.2	
	comp=N,879nm,0.6s						
TJX				IAML		07 13 42.6	
	comp=E,873nm,0.4s						
TJX	**Tijuana**	**0.87**	**312**	*e*P	Pb	**07 13 26.0**	**-0.4**
RHX	**Rio Hardy**	**0.88**	**76**	⇑*i* P	Pb	**07 13 26.2**	**-0.3**
RHX				*e*S	Sb	**07 13 37.5**	**-0.4**
WESC	**Westside Schoo**	**0.95**	**30**		Pn	**07 13 28.0**	**0.0**
WESC					Sn	**07 13 40.8**	**-0.1**
MONP2	**Monument Peak**	**0.96**	**353**		Sb	**07 13 39.7**	**-0.9**
MONP2	**Monument Peak**	**0.96**	**353**	P	Pb	**07 13 27.4**	**-0.8**
	baz=173,SNR=36						
MONP2				S	Sb	**07 13 39.7**	**-0.9**
	baz=173						
MONP2	**Monument Peak**	**0.96**	**353**	⇓*e*P	Pb	**07 13 27.4**	**-0.8**
CPBX	**Cerro Prieto**	**0.97**	**60**		Pn	**07 13 28.3**	**0.0**
CPBX					Sn	**07 13 41.8**	**+0.5**
SDRC	**San Diego Road**	**0.97**	**326**		Sb	**07 13 39.7**	**-0.9**
SDRC	**San Diego Road**	**0.97**	**326**	⇓*e*P	Pb	**07 13 27.4**	**-0.8**
CRR	**Carrizo Plain**	**0.99**	**16**		Pb	**07 13 28.2**	**-0.3**
CRR					Sn	**07 13 41.5**	**-0.4**
5053	**Calexico**	**1.00**	**42**		Pn	**07 13 29.5**	**+0.8**
5053					Sn	**07 13 43.0**	**+0.9**
UABX	**UABC, Campus M**	**1.00**	**46**		Pn	**07 13 29.4**	**+0.6**
UABX					Sn	**07 13 43.5**	**+1.3**
AGSX	**Ej. Aguas Cali**	**1.01**	**71**	⇑*e*P	Pb	**07 13 28.5**	**-0.3**
COK2	**Cook Ranch 2**	**1.03**	**27**		Pb	**07 13 29.4**	**+0.2**
COK2					Sn	**07 13 43.6**	**+0.7**
EML	**El Monte Cty P**	**1.06**	**334**		Sb	**07 13 42.0**	**-1.2**
EML	**El Monte Cty P**	**1.06**	**334**	⇓*e*P	Pn	**07 13 28.6**	**-1.0**
SWSC	**Sam W. Stewart**	**1.09**	**22**		Sb	**07 13 44.0**	**0.0**
SWSC	**Sam W. Stewart**	**1.09**	**22**	P	Pn	**07 13 29.8**	**-0.2**
	baz=203,SNR=59						
SWSC				S	Sb	**07 13 43.7**	**-0.3**
	baz=203						
SWSC	**Sam W. Stewart**	**1.09**	**22**	⇓*e*P	Pn	**07 13 29.8**	**-0.2**
SUP	**Superstition M**	**1.09**	**21**		Pn	**07 13 29.9**	**-0.1**
SUP					Sn	**07 13 44.6**	**+0.1**
GUVIX	**Guadalupe Vict**	**1.09**	**70**		Pn	**07 13 30.0**	**0.0**
GUVIX					Sn	**07 13 46.5**	**+2.0**
GUVIX	**Guadalupe Vict**	**1.09**	**70**	IAML		07 13 46.7	
	comp=N,1μm,0.6s						
GUVIX				IAML		07 13 52.5	
	comp=E,1μm,0.7s						
MTRP	**Mission Trails**	**1.10**	**324**		Pn	**07 13 29.6**	**-0.5**
MTRP					Sb	**07 13 43.6**	**-0.6**
SDMC	**San Diego Miss**	**1.11**	**320**		Pn	**07 13 30.4**	**+0.1**
SDMC					Sb	**07 13 44.6**	**0.0**
SPIG	**San Pedro Mart**	**1.13**	**141**	⇓*e*P	Pn	**07 13 30.4**	**-0.4**
ECBX	**El Chinero**	**1.15**	**113**	⇓*e*P	Pn	**07 13 30.2**	**-0.5**
ECBX				*e*S	Sn	**07 13 46.0**	**+0.1**
ECBX				⇓*e*		07 13 47.0	
ECBX				IAML		07 13 47.0	
	comp=E,512nm,0.2s						
109C	**Camp Elliot, M**	**1.18**	**324**		Pn	**07 13 30.7**	**-0.5**
109C				IAML		07 13 47.1	
	comp=E,598nm,0.2s						
109C	**Camp Elliot, M**	**1.18**	**324**	P	Pn	**07 13 30.6**	**-0.6**
	baz=144,SNR=31						
109C				S	Sb	**07 13 45.7**	**-0.8**
	baz=144						
SQX	**San Quintin**	**1.40**	**165**	*e*P	Pn	**07 13 34.4**	**+0.2**
SQX				IAML		07 13 53.2	
	comp=E,690nm,0.4s						
SQX				⇑*e*		07 13 53.3	
SQX				IAML		07 13 53.3	
	comp=N,585nm,0.2s						
SFX	**San Felipe**	**1.52**	**126**	Pn	Pb	**07 13 37.2**	**-0.2**
SFX				IAML		07 14 03.6	
	comp=E,158nm,0.6s						
GLA	**Glamis**	**1.67**	**48**		Pn	**07 13 37.9**	**-0.1**
GLA				IAML		07 13 59.1	
	comp=N,132nm,0.4s						
GLA	**Glamis**	**1.67**	**48**	P	Pn	**07 13 37.9**	**-0.1**
	baz=229,SNR=6.3						
GLA				S	Sn	**07 13 57.1**	**-1.6**
	baz=229						
PFO	**Pinyon Flats O**	**1.68**	**355**	Pn	Pn	**07 13 38.2**	**-0.1**
PFO				IAML		07 14 02.8	
	comp=N,199nm,0.6s						
PFO	**Pinyon Flats O**	**1.68**	**355**	P	Pn	**07 13 38.4**	**+0.1**
	baz=175,SNR=31						
PFO				Sb	Sb	**07 14 01.2**	**+0.1**
	baz=175						
MURC	**Murrieta**	**1.83**	**336**	P	Pn	**07 13 41.0**	**+0.8**
	baz=155						
MURC				Sb	Sb	**07 14 04.9**	**-0.4**
	baz=155						
BC3	**Big Chuckawall**	**1.86**	**22**	P	Pn	**07 13 40.9**	**+0.2**
	baz=203,SNR=18						
BC3				S	Sn	**07 14 01.9**	**-1.6**
	baz=203						
ELS	**Elsinore Mount**	**1.96**	**331**	Pn	Pn	**07 13 42.8**	**+0.8**
BELC	**Belle Mtn. Jos**	**2.08**	**7**	P	Pn	**07 13 44.0**	**+0.3**
	baz=187,SNR=16						
BELC				Sb	Sb	**07 14 13.5**	**+1.0**
	baz=187						
SCI2	**San Clemente I**	**2.17**	**299**	P	Pn	**07 13 44.4**	**-0.5**
	baz=118						
SCI2				Sb	Sb	**07 14 16.5**	**+1.3**
	baz=118						
113A	**Mohawk Valley,**	**2.29**	**68**	Pn	Pn	**07 13 46.9**	**+0.4**
CIS	**Catalina Islan**	**2.31**	**310**	P	Pn	**07 13 45.6**	**-1.3**
	baz=129						
CIS				S	Sn	**07 14 13.7**	**-1.0**
	baz=129						
BBRC	**Big Bear Solar**	**2.38**	**347**	P	Pn	**07 13 47.1**	**-0.9**
	baz=167						
BBRC				Sb	Sb	**07 14 21.8**	**+0.3**
	baz=167						
IRM	**Iron Mountain**	**2.42**	**23**	P	Pn	**07 13 48.2**	**-0.1**
	baz=204						
PIX	**Pinacate**	**2.44**	**98**	Pn	Pn	**07 13 47.6**	**-1.0**
BFSC	**Mount Baldy Ra**	**2.57**	**334**	P	Pn	**07 13 50.3**	**-0.1**
	baz=153,SNR=6.7						

PACA	**Pacayal**	**0.34**	**307**	*e*P		**Pg**	**07 23 01.6**	**0.0**
PACA				*e*S		**Sg**	**07 23 05.9**	**-0.5**
PACA	**Pacayal**	**0.34**	**307**	*i* P		**Pg**	**07 23 01.2**	**-0.4**
PACA				*i* S		**Sb**	**07 23 07.1**	**-0.1**
PACA				IAML			07 23 07.5	
	comp=Z,2μm,1.0s							
COEB	**Comit de Eme**	**0.53**	**296**	*i* P		**Pg**	**07 23 04.4**	**-0.5**
COEB				*i* S		**Sg**	**07 23 11.5**	**-0.5**
COEB				IAML			07 23 12.4	
	comp=Z,150nm,1.0s							
PQSS	**Presa 15 de Se**	**0.61**	**305**	*i* P		**Pg**	**07 23 06.3**	**-0.2**
PQSS				IAML			07 23 07.4	
	comp=Z,110nm,1.0s							
SCLA	**Alcaldia de Sa**	**0.79**	**303**	*i* P		**Pg**	**07 23 09.2**	**-0.7**
SCLA				*i* S		**Sb**	**07 23 21.6**	**+1.4**
SCLA				IAML			07 23 35.0	
	comp=Z,31nm,1.0s							
UESV	**Universidad de**	**0.81**	**297**	*i* P		**Pg**	**07 23 09.5**	**-0.7**
UESV				*i* S		**Sb**	**07 23 21.3**	**+0.6**
UESV				IAML			07 23 52.9	
	comp=Z,170nm,1.0s							
COEG	**Centro de Oper**	**0.89**	**293**	*i* P		**Pg**	**07 23 10.6**	**-1.0**
COEG				IAML			07 23 27.7	
	comp=Z,77nm,1.0s							
PAVA	**Las Pavas**	**0.97**	**297**	*i* P		**Pg**	**07 23 12.4**	**-0.9**
PAVA				IAML			07 23 28.2	
	comp=Z,250nm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.09**	**44**	*e*P		**Pg**	**07 23 14.3**	**-1.2**
TGUH	**Tegucigalpa,Un**	**1.09**	**44**	*i* P		**Pg**	**07 23 14.1**	**-1.4**
TGUH				IAML			07 23 14.6	
	comp=Z,130nm,1.0s							
CRIN	**San Cristobal**	**1.12**	**120**	*i* P		**Pb**	**07 23 15.8**	**+0.4**
CRIN				IAML			07 23 38.3	
	comp=Z,480nm,1.0s							
ROCN	**Rota Cerro Neg**	**1.47**	**120**	*i* P		**Pn**	**07 23 19.6**	**-0.5**
ROCN				IAML			07 23 43.8	
	comp=Z,36nm,1.0s							
CNGA	**Al SSO del Vol**	**1.52**	**120**	*i* P		**Pn**	**07 23 19.7**	**-1.1**
CNGA				IAML			07 23 44.5	
	comp=Z,67nm,1.0s							
MACN	**El Madrono**	**1.56**	**121**	*i* P		**Pn**	**07 23 21.9**	**+0.6**
MACN				IAML			07 23 48.7	
	comp=Z,32nm,1.0s							
MTO3	**Montecristo**	**1.70**	**312**	*i* P		**Pn**	**07 23 24.7**	**+1.2**
MTO3				IAML			07 23 50.7	
	comp=Z,19nm,1.0s							
COPN	**Copaltepe**	**1.78**	**127**	*i* P		**Pn**	**07 23 25.1**	**+0.7**
COPN				IAML			07 23 33.1	
	comp=Z,39nm,1.0s							
NUBE	**Las Nubes**	**1.80**	**291**	*i* P		**Pb**	**07 23 26.7**	**-0.3**
NUBE				IAML			07 23 32.7	
	comp=Z,100nm,1.0s							

*SJA **09** 07:31:28.0±0.6,23°.06S×66°.75W,h224km±4km, ML3.4, MW3.6*
*GUC **09** 07:31:29.6±0.5,23°.10S×67°.05W,h244km±7km, ML3.4*
ISC 09 07:31:26.4±1.9,**23°.18S**±0°.04×**66°.77W**±0°.05,
h234km±14km,**n32**,σ1°55/63,**1C**,**Jujuy Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YJA	**Yavi**	**1.53**	**49**	*e*P	**Pn**	**07 32 04.8**	**+0.8**
YJA				*e*S	**S**	**07 32 31.8**	**-1.5**
SLA	**San Lorenzo**	**1.92**	**143**	*e*P	**Pn**	**07 32 03.5**	**-3.5**
SLA				*e*P	**Pn**	**07 32 09.2**	**+2.1**
SLA				*e*S	**S**	**07 32 40.7**	**+1.8**
LVC	**Limon Verde**	**2.06**	**286**	*e*P	**Pn**	**07 32 09.8**	**+1.2**
LVC				*e*S	**S**	**07 32 41.4**	**0.0**
LVC	**Limon Verde**	**2.06**	**286**	*e*P	**Pn**	**07 32 09.5**	**+1.0**
LVC				*e*S	**S**	**07 32 39.9**	**-1.6**
LVC				IAML		07 32 42.4	
	90nm,0.2s						
PB15	**IPOC Station P**	**2.49**	**269**	*e*P	**Pn**	**07 32 14.5**	**+1.8**
PB15				*e*S	**S**	**07 32 48.7**	**-0.1**
PB15				IAML		07 32 49.2	
	comp=Z,381nm,0.2s						
PB15	**IPOC Station P**	**2.49**	**269**	*e*P	**Pn**	**07 32 14.0**	**+1.3**
PB15				*e*S	**S**	**07 32 48.0**	**-0.8**
PB06	**IPOC Station P**	**2.63**	**280**	*e*P	**Pn**	**07 32 15.4**	**+1.3**
PB06				*e*S	**S**	**07 32 50.6**	**-0.8**
PB06				IAML		07 32 52.4	
	comp=Z,73nm,0.6s						
PB06	**IPOC Station P**	**2.63**	**280**	*e*P	**Pn**	**07 32 15.2**	**+1.1**
PB06				*i* S	**S**	**07 32 50.0**	**-1.5**
PB06				IAML		07 32 52.5	
	comp=E,120nm,0.1s						
PB09	**IPOC Station P**	**2.67**	**301**	*e*P	**Pn**	**07 32 16.4**	**+1.9**
PB09				*e*S	**S**	**07 32 52.3**	**0.0**
PB09				IAML		07 32 55.1	
	comp=Z,50nm,0.2s						
PB09	**IPOC Station P**	**2.67**	**301**	*e*P	**Pn**	**07 32 16.1**	**+1.5**
PB09				*e*S	**S**	**07 32 50.8**	**-1.5**
PB09				IAML		07 32 55.0	
	comp=E,48nm,0.2s						
FSA	**Cafayete**	**3.01**	**166**	*e*P	**Pn**	**07 32 18.1**	**-0.1**
PB07	**IPOC Station P**	**3.23**	**296**	*e*P	**Pn**	**07 32 21.2**	**+0.5**
PB07				*e*S	**S**	**07 33 01.5**	**-1.9**
PB07				IAML		07 33 02.6	
	comp=Z,112nm,0.2s						
PB07	**IPOC Station P**	**3.23**	**296**	*e*P	**Pn**	**07 32 21.6**	**+0.9**
PB07				*i* S	**S**	**07 33 00.7**	**-2.7**
PB04	**IPOC Station P**	**3.23**	**284**	*e*P	**Pn**	**07 32 21.9**	**+1.1**
PB04				*e*S	**S**	**07 33 02.3**	**-1.2**
PB04				IAML		07 33 06.5	
	comp=Z,62nm,0.1s						
PB04	**IPOC Station P**	**3.23**	**284**	*e*P	**Pn**	**07 32 21.7**	**+0.9**
PB04				*e*S	**S**	**07 33 01.4**	**-2.0**
GO02	**Mina Guanaco**	**3.25**	**232**	*e*P	**Pn**	**07 32 22.8**	**+1.8**
GO02				*e*S	**S**	**07 33 05.0**	**+0.9**
GO02	**Mina Guanaco**	**3.25**	**232**	*e*P	**Pn**	**07 32 22.6**	**+1.6**
GO02				*i* S	**S**	**07 33 04.5**	**+0.4**
PB01	**IPOC Station P**	**3.30**	**310**	*e*P	**Pn**	**07 32 22.4**	**+0.9**
PB01				*e*S	**S**	**07 33 03.5**	**-1.2**
PB01				IAML		07 33 05.6	
	comp=Z,55nm,0.1s						
PB01	**IPOC Station P**	**3.30**	**310**	*e*P	**Pn**	**07 32 22.3**	**+0.9**
PB01				*e*S	**S**	**07 33 02.5**	**-2.2**
PB02	**IPOC Station P**	**3.44**	**302**	*e*P	**Pn**	**07 32 24.5**	**+1.4**
PB02				*e*S	**S**	**07 33 05.4**	**-2.3**
PB02				IAML		07 33 08.9	
	comp=Z,92nm,0.4s						
PB02	**IPOC Station P**	**3.44**	**302**	*e*P	**Pn**	**07 32 23.8**	**+0.8**
PB02				*e*S	**S**	**07 33 05.0**	**-2.6**
PB10	**IPOC Station P**	**3.50**	**264**	⇑*e*P	**Pn**	**07 32 24.8**	**+1.2**
PB10				*e*S	**S**	**07 33 06.1**	**-2.5**
PB14	**IPOC Station P**	**3.63**	**246**	*e*P	**Pn**	**07 32 26.9**	**+1.5**
PB14				*e*S	**S**	**07 33 11.1**	**-0.8**
PB14				IAML		07 33 13.6	
	comp=Z,23nm,0.2s						
PB08	**IPOC Station P**	**3.75**	**323**	*e*P	**Pn**	**07 32 28.8**	**+1.8**
PB08				*e*S	**S**	**07 33 14.9**	**+0.2**
PB08	**IPOC Station P**	**3.75**	**323**	*e*P	**Pn**	**07 32 29.0**	**+2.0**
PB08				*i* S	**S**	**07 33 14.1**	**-0.6**
PATCX	**Punta Patache**	**3.92**	**306**	*e*P	**Pn**	**07 32 30.0**	**+1.3**
PATCX				*e*S	**S**	**07 33 16.8**	**-1.1**
PATCX				IAML		07 33 20.6	
	comp=Z,17nm,2.4s						
TA01	**Diego Aracena**	**4.10**	**309**	*e*P	**Pn**	**07 32 32.2**	**+1.4**
TA01				*e*S	**S**	**07 33 20.3**	**-1.2**
TA01				IAML		07 33 21.9	
	comp=Z,16nm,0.2s						
GO01	**Chusmiza**	**4.16**	**327**	*e*P	**Pn**	**07 32 33.5**	**+1.6**
GO01				*e*S	**S**	**07 33 24.8**	**+1.0**
AC02	**Maricunga**	**4.22**	**210**	*e*P	**Pn**	**07 32 35.3**	**+2.6**
AC02				IAML		07 33 50.5	
	comp=Z,17nm,3.5s						
PB11	**IPOC Station P**	**4.33**	**321**	*e*P	**Pn**	**07 32 34.0**	**+0.2**
PB11				*e*S	**S**	**07 33 25.1**	**-1.9**
PB11				IAML		07 33 25.9	
	comp=Z,28nm,0.2s						
AC01	**Pan de Azucar**	**4.57**	**229**	*e*P	**Pn**	**07 32 34.9**	**-1.5**
AC01				*e*S	**S**	**07 33 30.4**	**-1.4**
AC01				IAML		07 33 38.8	
	comp=Z,24nm,3.0s						
GO03	**Copiap**	**5.40**	**215**	*e*P	**Pn**	**07 32 47.3**	**+0.6**
GO03				*e*S	**S**	**07 33 49.0**	**-1.6**

*SOME **09** 07:31:27.9,39°.92N×75°.82E,h5km*
*KRNET **09** 07:31:34.2±0.1,40°.06N×75°.82E,mb3.1*
*NNC **09** 07:31:36.0±2.4,40°.19N×75°.79E,h0km,mb3.8,mpv3.4,*

Error ellipse: s-maj=17.8km s-min=14.9km az=159.0
ISC 09 07:31:33.0±1.5,**40°.09N**±0°.04×**75°.71E**±0°.03,**h5**km±14km,
n64,σ1°62/101,**40C-17D**,**Kyrgyzstan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.36**	**9**	⇑*e*P	**Pg**	**07 32 00.1**	**+1.0**
	baz=5.0						
NRN				⇑*e*S	**Sg**	**07 32 18.4**	**+1.7**
	baz=5.0						
SFK	**Sufi-Kurgan**	**1.69**	**268**	⇑*e*P	**Pg**	**07 32 07.4**	**+1.9**
	baz=69						
SFK				⇑*e*S	**Sg**	**07 32 31.9**	**+4.5**
	baz=69						
ARLS	**Aral**	**2.06**	**330**	⇓*e*P	**Pg**	**07 32 13.1**	**+0.7**
	baz=28						
ARLS				⇓*e*S	**Sg**	**07 32 40.7**	**+1.6**
	baz=28						
ULHL	**Ulahol**	**2.19**	**10**	P	**Pg**	**07 32 15.5**	**+0.5**
	SNR=9.9						
ULHL	**Ulahol**	**2.19**	**10**	⇑*e*P	**Pg**	**07 32 14.1**	**-0.9**
	baz=8.0						
ULHL				⇑*e*S	**Sg**	**07 32 43.6**	**+0.2**
	baz=8.0						
OHH	**Osh**	**2.28**	**282**	⇑*e*P	**Pg**	**07 32 16.1**	**-0.5**
	baz=82						
OHH				⇑*e*S	**Sg**	**07 32 47.0**	**+0.9**
	baz=82						
TARG	**Taragay, Kyrgy**	**2.28**	**43**	⇑*e*P	**Pb**	**07 32 14.6**	**-0.3**
	baz=41						
TARG				⇑*e*S	**Sb**	**07 32 44.3**	**+0.7**
	baz=41						
UCH	**Uchtor**	**2.32**	**337**	P	**Pg**	**07 32 17.2**	**-0.2**
	SNR=30						
UCH	**Uchtor**	**2.32**	**337**	⇑*e*P	**Pg**	**07 32 16.7**	**-0.7**
	baz=36						
UCH				⇑*e*S	**Sg**	**07 32 48.0**	**+0.5**
	baz=36						
KDJ	**Kajisay**	**2.32**	**28**	⇓*e*P	**Pb**	**07 32 15.9**	**+0.4**
	baz=26						
KDJ				⇓*e*S	**Sb**	**07 32 45.7**	**+1.2**
	baz=26						
BOOM	**Boomskoye usch**	**2.40**	**4**	⇓*e*P	**Pb**	**07 32 17.1**	**+0.2**
	baz=2.0						
BOOM				⇓*e*S	**Sb**	**07 32 48.3**	**+1.4**
	baz=2.0						
KBK	**Karagaybulak**	**2.63**	**348**	P	**Pg**	**07 32 22.7**	**-0.6**
	SNR=20						
KBK	**Karagaybulak**	**2.63**	**348**	⇑*e*P	**Pb**	**07 32 20.6**	**-0.1**
	baz=46						
KBK				⇑*e*S	**Sb**	**07 32 54.8**	**+1.5**
	baz=46						
AAK	**Ala-Archa**	**2.70**	**341**	P	**Pg**	**07 32 23.1**	**-1.7**
	SNR=22						
AAK	**Ala-Archa**	**2.70**	**341**	⇑Pn	**Pg**	**07 32 23.0**	**-1.8**
	19nm,0.7s						
AAK				⇑Lg	Lg	07 33 00.2	
	184nm,1.1s						
AAK	**Ala-Archa**	**2.70**	**341**	⇑*e*P	**Pb**	**07 32 21.9**	**-0.1**
	baz=39						
AAK				⇑*e*S	**Sb**	**07 32 56.8**	**+1.3**
	baz=39						
TKM2	**Tokmak 2**	**2.83**	**358**	P	**Pb**	**07 32 24.3**	**+0.2**
	SNR=14						
TKM2	**Tokmak 2**	**2.83**	**358**	⇓Pn	**Pb**	**07 32 24.1**	**0.0**
	17nm,0.8s						
TKM2				⇑Lg	Lg	07 33 05.4	
	71nm,0.7s						
TKM2	**Tokmak 2**	**2.83**	**358**	⇑*e*P	**Pb**	**07 32 23.2**	**-0.9**
	baz=57						
TKM2				⇑*e*S	**Sb**	**07 32 59.4**	**+0.2**
	baz=57						
FRU1	**Bishkek**	**2.83**	**344**	⇑*e*P	**Pb**	**07 32 23.8**	**-0.3**
	baz=42						
FRU1				⇑*e*S	**Sb**	**07 33 00.1**	**+0.9**
	baz=42						
EKS2	**Erkin-Say**	**2.95**	**331**	P	**Sg**	**07 33 11.2**	**+3.4**
	SNR=5.1						
EKS2	**Erkin-Say**	**2.95**	**331**	⇑*e*P	**Pb**	**07 32 25.4**	**-0.8**
	baz=30						
EKS2				⇑*e*S	**Sb**	**07 33 03.1**	**+0.5**
	baz=30						
KST	**Kastek**	**2.96**	**4**	Pg	**Pb**	**07 32 26.4**	**+0.1**
	21nm,0.5s						
KST				Lg	Lg	07 33 08.6	
	33nm,0.7s						
KST	**Kastek**	**2.96**	**4**	*e*P	**Pb**	**07 32 25.8**	**-0.5**
	20nm,0.6s						
KST				*e*S	**Sg**	**07 33 07.8**	**-0.1**
	37nm,0.5s						
CHMS	**Chumysh**	**2.99**	**346**	P	**Sg**	**07 33 11.4**	**+2.3**
	SNR=6.8						
CHMS	**Chumysh**	**2.99**	**346**	⇓Pg	**Pg**	**07 32 30.0**	**-0.4**
	6.8nm,0.6s						
CHMS				⇑Lg	Lg	07 33 11.4	
	18nm,0.5s						
CHMS	**Chumysh**	**2.99**	**346**	⇓*e*P	**Pb**	**07 32 25.7**	**-1.1**
	baz=45						
CHMS				⇓*e*S	**Sb**	**07 33 03.4**	**-0.3**
	baz=45						
IZV	**Izvestkoviy**	**3.02**	**13**	Pg	**Pb**	**07 32 26.8**	**-0.6**
	9.4nm,0.6s						
IZV				Lg	Lg	07 33 10.8	
	31nm,0.6s						
IZV	**Izvestkoviy**	**3.02**	**13**	*e*P	**Pb**	**07 32 26.5**	**-0.9**
	2.2nm,0.4s						
IZV				*e*S	**Sg**	**07 33 09.1**	**-0.9**
	41nm,0.6s						
ANVS	**Anan'yevo**	**3.07**	**28**	⇑*e*P	**Pb**	**07 32 26.0**	**-2.2**
	baz=26						
ANVS				⇑*e*S	**Sb**	**07 33 03.3**	**-2.7**
	baz=26						
DRK	**Karamyk**	**3.07**	**260**	⇑*e*P	**Pb**	**07 32 27.1**	**-1.2**
	baz=61						
DRK				⇑*e*S	**Sb**	**07 33 05.9**	**-0.3**
	baz=61						
MTBS	**Maitube**	**3.08**	**10**	Pg	**Pb**	**07 32 27.7**	**-0.7**
	14nm,0.4s						
MTBS				Lg	Lg	07 33 13.1	
	29nm,0.5s						
MTBS	**Maitube**	**3.08**	**10**	*e*P	**Pb**	**07 32 27.7**	**-0.7**
	16nm,0.5s						
MTBS				*e*S	**Sg**	**07 33 11.2**	**-0.9**
	30nm,0.6s						
TNSS	**Tian-Shan**	**3.09**	**17**	Pg	**Pb**	**07 32 27.5**	**-1.1**
	12nm,0.4s						
TNSS				Lg	Lg	07 33 10.9	
	14nm,0.5s						
TNSS	**Tian-Shan**	**3.09**	**17**	*e*P	**Pb**	**07 32 27.5**	**-1.1**
	12nm,0.4s						
TNSS				*e*S	**Sg**	**07 33 10.9**	**-1.2**
	14nm,0.5s						
PRZ	**Przheval'sk**	**3.13**	**39**	⇑*e*P	**Pb**	**07 32 27.1**	**-2.2**
	baz=38						
PRZ				⇑*e*S	**Sb**	**07 33 05.1**	**-2.8**
	baz=38						
DGS	**Degeres**	**3.15**	**1**	Pg	**Pb**	**07 32 29.1**	**-0.5**
	26nm,0.5s						
DGS				Lg	Lg	07 33 14.8	
	28nm,0.8s						
DGS	**Degeres**	**3.15**	**1**	*e*P	**Pb**	**07 32 29.1**	**-0.5**
	28nm,0.6s						
DGS				*e*S	**Sg**	**07 33 13.3**	**-0.9**
	30nm,0.6s						
MDOK	**Medeo**	**3.23**	**18**	Pn	**Pb**	**07 32 28.7**	**-2.2**
	15nm,1.1s						
MDOK				Pg	Pn	07 32 29.0	+4.5
	4.6nm,0.5s						
MDOK				Lg	Lg	07 33 14.8	
	34nm,0.7s						
MDOK				Lg	Lg	07 33 16.4	
	42nm,0.8s						
MDOK	**Medeo**	**3.23**	**18**	*e*P	**Pb**	**07 32 29.9**	**-1.1**
	4.7nm,0.6s						
MDOK				*e*S	**Sg**	**07 33 14.7**	**-2.0**
	34nm,0.7s						
MRKS	**Merke**	**3.24**	**326**	Pg	**Pb**	**07 32 30.2**	**-1.0**
	3.9nm,0.4s						
MRKS				Lg	Lg	07 33 16.5	
	33nm,0.5s						
MRKS	**Merke**	**3.24**	**326**	*e*P	**Pb**	**07 32 30.9**	**-0.2**
	5.0nm,0.5s						
MRKS				*e*S	**Sg**	**07 33 16.3**	**-0.9**
	33nm,0.5s						
USP	**Ospenovka**	**3.30**	**344**	P	**Pb**	**07 32 30.7**	**-1.4**
	SNR=10						
USP	**Ospenovka**	**3.30**	**344**	⇑*e*P	**Pb**	**07 32 29.9**	**-2.2**
	baz=43						
USP				⇑*e*S	**Sb**	**07 33 10.9**	**-1.6**
	baz=43						
ARK	**Arkit**	**3.31**	**302**	⇑*e*P	**Pb**	**07 32 30.7**	**-1.6**
	baz=2.0						
ARK				⇑*e*S	**Sb**	**07 33 11.6**	**-1.3**
	baz=2.0						
KOTS	**Kotyrbulak**	**3.31**	**18**	Pg	**Pb**	**07 32 30.7**	**-1.7**
	7.8nm,0.6s						
KOTS				Lg	Lg	07 33 17.2	
	67nm,0.5s						
KOTS	**Kotyrbulak**	**3.31**	**18**	*e*P	**Pb**	**07 32 31.5**	**-0.8**
	8.5nm,0.7s						
KOTS				*e*S	**Sg**	**07 33 17.2**	**-2.2**
	67nm,0.5s						
MNAS	**Manas**	**3.40**	**316**	⇓*e*P	**Pb**	**07 32 31.7**	**-2.1**
	baz=15						
MNAS				⇓*e*S	**Sb**	**07 33 13.8**	**-1.7**
	baz=15						
KRBS	**Karabastau**	**3.60**	**360**	Pg	**Pb**	**07 32 37.1**	**-0.2**
	10nm,0.7s						
KRBS				Lg	Lg	07 33 27.1	
	26nm,0.5s						
KRBS	**Karabastau**	**3.60**	**360**	*e*P	**Pb**	**07 32 37.0**	**-0.2**
	10nm,0.7s						
KRBS				*e*S	**Sg**	**07 33 27.1**	**-1.5**
	26nm,0.5s						
KTBS	**Karatobe**	**3.69**	**11**	Pg	**Pb**	**07 32 40.1**	**+1.3**
	13nm,0.4s						
KTBS				Lg	Lg	07 33 31.8	
	33nm,0.8s						
KTBS	**Karatobe**	**3.69**	**11**	*e*P	**Pb**	**07 32 38.6**	**-0.1**
	1.1nm,0.4s						
KTBS				*e*S	**Sg**	**07 33 29.6**	**-1.9**
	68nm,0.8s						
BTK	**Batken**	**3.75**	**271**	⇓*e*P	**Pb**	**07 32 36.8**	**-3.0**
	baz=72						
BTK				⇓*e*S	**Sb**	**07 33 22.0**	**-3.6**
	baz=72						
TRKS	**Terek-Say**	**3.75**	**294**	⇓*e*P	**Pb**	**07 32 36.4**	**-3.4**
	baz=93						
TRKS				⇓*e*S	**Sb**	**07 33 21.3**	**-4.4**
	baz=93						
CHKK	**Chushkaly**	**3.88**	**14**	Pg	**Pb**	**07 32 42.5**	**+0.5**
	3.7nm,0.6s						
CHKK				Lg	Lg	07 33 36.9	
	35nm,0.4s						
CHKK	**Chushkaly**	**3.88**	**14**	*e*P	**Pb**	**07 32 42.5**	**+0.5**
	1.6nm,0.4s						
CHKK				*e*S	**Sg**	**07 33 35.9**	**-1.7**
	35nm,0.4s						
PDGK	**Podgornoye**	**4.30**	**40**	Pg	**Pb**	**07 32 49.2**	**+0.1**
	1.1nm,0.6s						
PDGK				Lg	Lg	07 33 47.5	
	6.4nm,0.8s						
PDGK	**Podgornoye**	**4.30**	**40**	⇓Pn	**Pn**	**07 32 42.2**	**+3.0**
	2.6nm,0.7s						
PDGK				⇑Pg	**Pg**	**07 32 54.9**	**-0.5**
	4.8nm,0.7s						
PDGK				⇑Lg	Lg	07 33 48.6	
	32nm,1.1s						
ARXS	**Arharly**	**4.41**	**20**	Pg	**Pb**	**07 32 51.1**	**+0.1**
	4.3nm,0.5s						
ARXS				Lg	Lg	07 33 51.7	
	9.2nm,0.5s						
ARXS	**Arharly**	**4.41**	**20**	*e*P	**Pb**	**07 32 51.6**	**+0.6**
	1.4nm,0.6s						
ARXS				*e*S	**Sg**	**07 33 51.6**	**-3.0**
	9.8nm,0.6s						
KK31	**Karatay Array**	**4.92**	**309**	⇑Pg	**Pg**	**07 33 05.4**	**-1.9**
	1.2nm,0.5s,baz=129,slow=16,SNR=13						
KK31				⇑Lg	Lg	07 34 11.9	
	5.4nm,0.7s,baz=136,slow=27,SNR=7.0						
KNOS	**Konyrlen**	**4.98**	**30**	Pg	**Pb**	**07 33 02.8**	**+2.0**
	2.5nm,0.4s						
KNOS				Lg	Lg	07 34 10.5	
	7.9nm,1.1s						
BRLS	**Borolday**	**5.29**	**306**	Pg	**Pb**	**07 33 08.7**	**+2.7**
	1.7nm,0.6s						
BRLS				Lg	Lg	07 34 21.3	
	6.6nm,0.5s						
BRLS	**Borolday**	**5.29**	**306**	*e*P	**Pb**	**07 33 08.7**	**+2.7**
	1.7nm,0.6s						
BRLS				*e*S	**Sg**	**07 34 21.3**	**-1.6**
	6.6nm,0.5s						

IDC 09 07:36:36.4±2.6,**6°.25S×147°.44E**,**h230**km±39km,**mb3.1**/2,
mbtmp3.7/4,**Error ellipse: s-maj=112.1km**
s-min=29.2km az=107.0,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.15**	**185**	P	Pn	07 37 27.8	-1.6
	12nm,0.3s,baz=355,slow=12,SNR=6.1						
PMG				S	S	07 38 12.3	+1.2
	20nm,0.4s,baz=40,slow=21,SNR=7.9						
WRA	**Warramunga Arr**	**18.63**	**222**	P	P	07 40 36.5	-0.7
	0.8nm,0.4s,baz=48,slow=12,SNR=38						
ASAR	**Alice Springs**	**21.66**	**216**	P	P	07 41 09.3	+0.3
	1.5nm,0.5s,baz=49,slow=8.4,SNR=26						
	1.5nm,0.5s						
SONM	**Songino Array**	**64.83**	**331**	P	P	07 46 51.2	+0.3
	0.3nm,0.3s,baz=146,slow=8.0,SNR=1.8						
	0.3nm,0.3s						

*OSPL **09** 07:40:24.5±0.5,18°.74N×66°.77W,h56km±4km, ML2.0*
*RSPR **09** 07:40:25.3,18°.68N×66°.97W,h63km, MD3.2/7*
ISC 09 07:40:26.3±1.5,**18°.66N**±0°.08×**66°.94W**±0°.04,**h50**km,**n27**,
σ0°69/30,**7C-6D**,**Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGPR	**Aguadilla, PR**	**0.25**	**221**	⇓*e*P	**Pn**	**07 40 34.8**	**-0.2**
AGPR	**Aguadilla, PR**	**0.25**	**221**	*i* P	**Pn**	**07 40 34.7**	**-0.3**
AGPR				*e*S	**Sn**	**07 40 42.1**	**+0.9**
AGPR				IAML		07 40 42.7	
	comp=Z,51nm,0.1s						
AOPR	**Arecibo Observ**	**0.35**	**150**	⇓*e*P	**Pn**	**07 40 35.7**	**-0.3**
AOPR	**Arecibo Observ**	**0.35**	**150**	*e*S	**Sn**	**07 40 44.4**	**+1.5**
EMPR	**Esperanza - Ma**	**0.43**	**115**	⇑*e*P	**Pn**	**07 40 36.7**	**0.0**
EMPR	**Esperanza - Ma**	**0.43**	**115**	*e*S	**Sn**	**07 40 45.5**	**+1.4**
UUPR	**Utuado, UPR, P**	**0.45**	**153**	⇑*e*P	**Pn**	**07 40 36.6**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.45**	**153**	*e*S	**Sn**	**07 40 45.6**	**+1.0**
PRSN	**Puerto Rico Se**	**0.48**	**204**	⇑*e*P	**Pn**	**07 40 36.3**	**-1.0**
PRSN	**Puerto Rico Se**	**0.48**	**204**	*e*S	**Sn**	**07 40 45.6**	**+0.4**
LSP	**Las Mesas**	**0.50**	**196**	⇑*e*P	**Pn**	**07 40 37.3**	**-0.3**
LSP	**Las Mesas**	**0.50**	**196**	*e*S	**Sn**	**07 40 46.6**	**+0.9**
CRPR	**Cabo Rojo, PR**	**0.67**	**194**	⇑*e*P	**Pn**	**07 40

BYL	**Byron's Ledge**	**0.02**	**69**			**Pg**	07 40 36.0	+1.2
UWB	**Uwekahuna B**	**0.02**	**1**	IAML			07 40 35.0	
	comp=N,2µm,0.9s							
UWB	**Uwekahuna B**	**0.02**	**1**			**Pg**	07 40 35.2	+0.5
UWE	**Uwekahuna**	**0.02**	**318**	IAML			07 40 35.1	
	comp=E,3µm,0.7s							
UWE	**Uwekahuna**	**0.02**	**318**			**Pg**	07 40 35.4	+0.6
WRMHI	**West Rim**	**0.02**	**273**	IAML			07 40 35.0	
	comp=N,6µm,0.8s							
WRMHI				IAML			07 40 35.0	
	comp=E,6µm,0.5s							
WRMHI	**West Rim**	**0.02**	**273**			**Pg**	07 40 36.1	+1.3
SDHHI	**Sand Hill**	**0.02**	**223**	IAML			07 40 35.1	
	comp=N,5µm,0.4s							
SDHHI				IAML			07 40 35.3	
	comp=E,5µm,0.4s							
SDHHI	**Sand Hill**	**0.02**	**223**			**Pg**	07 40 35.3	+0.5
SBLHI	**Steaming Bluff**	**0.02**	**24**	IAML			07 40 35.1	
	comp=E,2µm,0.3s							
SBLHI	**Steaming Bluff**	**0.02**	**24**			**Pg**	07 40 36.7	+1.8
HATHI	**Halema'uma'u T**	**0.02**	**43**	IAML			07 40 35.0	
	comp=E,3µm,0.7s							
HATHI	**Halema'uma'u T**	**0.02**	**43**			**Pg**	07 40 36.6	+1.8
RSD	**Rainshed**	**0.06**	**0**			**Pg**	07 40 36.4	+0.9
RSD	**Rainshed**	**0.06**	**0**	IAML			07 40 37.1	
	comp=N,791nm,0.7s							
RSD				IAML			07 40 37.2	
	comp=E,658nm,0.3s							
PUH	**Pauahi**	**0.07**	**118**	Pg		Pg	07 40 36.3	+0.7
PUH				IAML			07 40 37.4	
	comp=E,917nm,0.2s							
PUH				IAML			07 40 37.8	
	comp=N,1µm,0.3s							
KNHH	**Kane Nui o Ham**	**0.11**	**104**			**Pg**	07 40 37.6	+1.2
HLP	**Hilina Pali**	**0.11**	**194**	Pg		Pg	07 40 36.9	+0.4
MLH	**Mauna Loa**	**0.14**	**311**			Pg	07 40 38.3	+1.3
MLH						Sg	07 40 41.4	+2.6
MLH	**Mauna Loa**	**0.14**	**311**	IAML			07 40 41.5	
	comp=E,1µm,0.7s							
MLH				IAML			07 40 41.8	
	comp=N,926nm,0.3s							
STCH	**Steam Cracks**	**0.15**	**98**			**Pg**	07 40 38.1	+1.0
STCH	**Steam Cracks**	**0.15**	**98**	IAML			07 40 40.3	
	comp=N,612nm,0.5s							
STCH				IAML			07 40 41.2	
	comp=E,837nm,0.6s							
NPOC	**North of Pu'u**	**0.16**	**94**			**Pg**	07 40 38.4	+1.0
NPOC	**North of Pu'u**	**0.16**	**94**	IAML			07 40 41.8	
	comp=E,592nm,0.5s							
NPOC				IAML			07 40 42.8	
	comp=N,676nm,0.5s							
JCUZ	**Jacuzzi**	**0.17**	**97**	Pg		Pg	07 40 37.4	-0.2
JCUZ				IAML			07 40 41.7	
	comp=N,365nm,0.4s							
JCUZ				IAML			07 40 41.9	
	comp=E,676nm,0.7s							
HTC	**Hot Caves**	**0.20**	**214**			**Pg**	07 40 39.2	+1.0
HMH	**Humu'ula Sheep**	**0.28**	**315**	Pg		Pg	07 40 40.1	+0.5
HMH				IAML			07 40 45.7	
	comp=N,272nm,1.6s							
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg		Pg	07 40 40.9	+0.7
MLOA				IAML			07 40 41.9	
	comp=N,278nm,2.4s							
MLOA				IAML			07 40 42.4	
	comp=E,235nm,2.1s							
MWH	**Moku'aweowe**	**0.31**	**285**	Pg		Pg	07 40 40.4	+0.1
KHU	**Kahuku**	**0.35**	**244**			Pb	07 40 42.5	-1.1
KHU	**Kahuku**	**0.35**	**244**	IAML			07 40 46.1	
	comp=N,238nm,2.1s							
KHU				IAML			07 40 50.5	
	comp=E,554nm,4.4s							
POHA	**Pohakuloa**	**0.42**	**326**	Pg		Pg	07 40 42.5	+0.1
POHA	**Pohakuloa**	**0.42**	**326**	IAML			07 40 50.3	
	comp=E,257nm,0.9s							
POHA				IAML			07 40 51.0	
	comp=E,287nm,0.5s							
HUH	**Hualalai**	**0.59**	**298**			Pb	07 40 47.4	-0.3
HPAH	**Hawaii Prepara**	**0.74**	**328**	Pg		Pg	07 40 46.8	-1.7

*UPA **09** 07:51:57.6±1.9,8°.81N×82°.44W, h8km±7km, MD3.7, MW3.4*
*CATAC **09** 07:51:57.1±0.9,8°.83N×82°.41W, h2km±4km, ML2.5*

ISC 09 07:51:56.7±0.9,**8°.79N**±0°.03×**82°.41W**±0°.02,**h12**km±6km,
n35,σ0°83/60, 6C-6D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BCO2	**Palmira**	**0.14**	**240**	*iP*	**Pg**	**07 52 00.4**		**+0.3**
BCO2				*i* S	**Sg**	**07 52 02.2**		**-0.4**
BRU2	**Volcan**	**0.28**	**271**	*i* P	**Pg**	**07 52 02.4**		**0.0**
BRU2				*i* S	**Sg**	**07 52 06.7**		**+0.4**
BRU2	**Volcan**	**0.28**	**271**	*i* P	**Pg**	**07 52 02.5**		**0.0**
BRU2				*i* S	**Sg**	**07 52 06.6**		**+0.2**
BRU2				IAML		07 52 07.7		
	comp=Z,570nm,1.0s							
CHGR2	**Aguacate**	**0.30**	**60**	*iP*	**Pg**	**07 52 02.4**		**-0.4**
CHGR2				*i* S	**Sg**	**07 52 06.8**		**-0.2**
DVD	**David**	**0.35**	**187**	*eP*	**Pb**	**07 52 05.1**		**+0.2**
DVD				*i* S	**Sb**	**07 52 10.8**		**+0.4**
LOMA3	**Las Lomas, Chi**	**0.35**	**177**	*iP*	**Pb**	**07 52 04.5**		**-0.5**
LOMA3				*i* S	**Sb**	**07 52 10.8**		**+0.3**
LOCO3	**Loma Colorada,**	**0.38**	**181**	*iP*	**Pb**	**07 52 05.3**		**0.0**
PEDE3	**Pedregal, Chir**	**0.40**	**182**	*eP*	**Pb**	**07 52 06.8**		**+1.1**
PEDE3				*i* S	**Sb**	**07 52 11.8**		**0.0**
MLIR3	**Monte Lirio, C**	**0.41**	**271**	*eP*	**Pb**	**07 52 05.6**		**-0.4**
MLIR3				*eS*	**Sb**	**07 52 11.9**		**-0.3**
CDITO	**Canoas**	**0.51**	**245**	*iP*	**Pb**	**07 52 07.5**		**0.0**
CDITO				*i* S	**Sb**	**07 52 15.0**		**+0.2**
CDITO	**Canoas**	**0.51**	**245**	*i* P	**Pb**	**07 52 07.5**		**0.0**
CDITO				IAML		07 52 07.6		
	comp=Z,160nm,1.0s							
CDITO				*i* S	**Sb**	**07 52 15.6**		**+0.8**
CNI2	**El Empalme, Bo**	**0.64**	**355**	*iP*	**Pg**	**07 52 08.8**		**-0.3**
CNI2				*i* S	**Sg**	**07 52 17.3**		**-0.2**
PTPM	**Petroterminale**	**0.74**	**219**	*eP*	**Pb**	**07 52 11.5**		**-0.1**
PTPM				*i* S	**Sb**	**07 52 21.8**		**+0.1**
LIMO3	**Limones**	**0.82**	**213**	*eP*	**Pb**	**07 52 12.9**		**0.0**
LIMO3				*i* S	**Sb**	**07 52 23.9**		**+0.1**
NANC3	**Nancito, Chiri**	**0.86**	**129**	*eP*	**Pb**	**07 52 13.5**		**-0.1**
NANC3				*i* S	**Sn**	**07 52 26.8**		**-0.4**
SRBA	**San Rafael, Bu**	**1.04**	**295**	*i* P	**Pg**	**07 52 14.9**		**-1.8**
SRBA				*i* S	**Sg**	**07 52 27.8**		**-2.4**
SRBA				IAML		07 52 29.5		
	comp=Z,130nm,1.0s							
OCHAL	**Ojochal**	**1.26**	**284**	*i* P	**Pg**	**07 52 19.8**		**-1.1**
OCHAL				IAML		07 52 20.6		
	comp=Z,71nm,1.0s							
OCHAL				*i* S	**Sb**	**07 52 37.2**		**+0.6**
PLAN	**Los Planes de**	**1.26**	**265**	*i* P	**Pg**	**07 52 20.3**		**-0.7**
PLAN				*i* S	**Sn**	**07 52 37.9**		**+0.8**
PLAN				IAML		07 52 42.7		
	comp=Z,80nm,1.0s							
MESA3	**La Mesa, Verag**	**1.37**	**118**	*eP*	**Pn**	**07 52 22.0**		**+0.4**
PEZE	**Perez Zeledon,**	**1.38**	**295**	*i* P	**Pn**	**07 52 21.7**		**-0.2**
PEZE				IAML		07 52 22.5		
	comp=Z,120nm,1.0s							
PEZE				*i* S	**Sg**	**07 52 41.0**		**-0.3**
RSUS3	**Rio de Jesus,**	**1.47**	**123**	*eP*	**Pn**	**07 52 23.6**		**+0.5**
RSUS3				*eS*	**Sb**	**07 52 42.4**		**-0.3**
CDM	**Cerro de Muert**	**1.54**	**300**	*i* P	**Pn**	**07 52 24.1**		**-0.3**
CDM				IAML		07 52 24.7		
	comp=Z,38nm,1.0s							
CDM				*i* S	**Sn**	**07 52 44.9**		**+0.4**
GMAL	**Guarumal, Vera**	**1.55**	**131**	*iP*	**Pn**	**07 52 23.2**		**-0.9**
GMAL				*i* S	**Sn**	**07 52 42.4**		**-1.8**
STIA3	**Santiago, Vera**	**1.58**	**116**	*eP*	**Pn**	**07 52 24.8**		**+0.3**
BATAN	**Batan**	**1.61**	**324**	*i* P	**Pn**	**07 52 25.6**		**+0.6**
BATAN				*i* S	**Sb**	**07 52 47.9**		**+1.1**
BATAN				IAML		07 53 31.8		
	comp=Z,190nm,1.0s							
CALO3	**Calobre, Verag**	**1.62**	**107**	*eP*	**Pb**	**07 52 26.8**		**+0.2**
RIMA	**Rio Macho**	**1.73**	**304**	*i* P	**Pn**	**07 52 27.3**		**+0.5**
RIMA				*i* S	**Sn**	**07 52 50.1**		**+1.1**
RIMA				IAML		07 52 54.3		
	comp=Z,32nm,1.0s							
VTCV	**VTCV, Calle Va**	**1.76**	**313**	*i* P	**Pb**	**07 52 29.1**		**0.0**
VTCV				*i* S	**Sb**	**07 52 52.8**		**+1.6**
VTCV				IAML		07 52 55.1		
	comp=Z,84nm,1.0s							
CRIS3	**El Cristo, Coc**	**1.85**	**107**	*eP*	**Pn**	**07 52 29.5**		**+1.2**
CRIS3				*eS*	**Sn**	**07 52 53.1**		**+1.5**
CACAO	**El Cacao, Vera**	**2.10**	**133**	*eP*	**Pn**	**07 52 33.0**		**+1.3**
CHIT3	**Chitre**	**2.14**	**113**	*eP*	**Pn**	**07 52 33.3**		**+1.1**
AZU	**Azuero**	**2.33**	**115**	*eP*	**Pn**	**07 52 35.9**		**+0.9**
TOSI3	**Tonosi**	**2.38**	**125**	*eP*	**Pn**	**07 52 35.3**		**-0.3**
BCIP	**Isla Barro Col**	**2.57**	**81**	*eP*	**Pb**	**07 52 41.2**		**-1.6**
FRIJ	**El Hiral**	**2.69**	**81**	*eP*	**Pn**	**07 52 41.4**		**+1.7**

*NEIC **09** 07:52:43.5±1.4,56°.05N±0°.06×149°.99W±0°.10, h10km±2km, ML3.6/48, ML3.5(AEIC), Error ellipse: s-maj=12.0km s-min=8.1km az=145.0*
*AEIC **09** 07:52:47.7±1.6,56°.07N±0°.07×149°.9W±0°.1, h5km±7km, Error ellipse: s-maj=11.5km s-min=7.8km az=152.0*
*IDC **09** 07:52:50.0±2.2,56°.66N×149°.93W, h0km, mb3.2/1, mbtmp3.2/4, ML2.5/3, Error ellipse: s-maj=33.3km s-min=22.3km az=41.0*

ISC 09 07:52:43.5±1.2,**56°.10N**±0°.07×**149°.95W**±0°.05,**h10**km,
n193,σ1!05/195, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
OHAK	**Old Harbor**	**2.16**	**303**	P	**Pn**	**07 53 19.5**		**-0.1**
OHAK	**Old Harbor**	**2.16**	**303**		**Pn**	**07 53 19.5**		**-0.1**
OHAK	**Old Harbor**	**2.16**	**303**		**Sn**	**07 53 44.7**		**-1.7**
OHAK	**Old Harbor**	**2.16**	**303**	P	**Pn**	**07 53 20.0**		**+0.5**
	baz=120							
OHAK				S	**Sn**	**07 53 44.7**		**-1.7**
	baz=120							
KDAK	**Kodiak Island**	**2.22**	**321**	Pn	**Pn**	**07 53 20.5**		**+0.1**
KDAK	**Kodiak Island**	**2.22**	**321**	S	**Sn**	**07 53 45.9**		**-2.0**
	baz=139							
KDAK	**Kodiak Island**	**2.22**	**321**	Pn	**Pn**	**07 53 20.9**		**+0.4**
	11nm,0.3s,baz=117,slow=13,SNR=83							
KDAK				Sn	**Sn**	**07 53 45.8**		**-2.0**
	16nm,0.3s,baz=16,slow=19,SNR=10							
KDAK				LR	LR	07 54 01.5		
	comp=Z,86nm,21.4s,baz=204,slow=39							
SII	**Sitkinak Islan**	**2.41**	**283**	P	**Pn**	**07 53 22.5**		**-0.5**
SII	**Sitkinak Islan**	**2.41**	**283**		**Pn**	**07 53 22.8**		**-0.2**
SII				IAML		07 53 54.4		
	comp=N,457nm,0.8s							
SII	**Sitkinak Islan**	**2.41**	**283**		**Sn**	**07 53 50.2**		**-2.3**
SII	**Sitkinak Islan**	**2.41**	**283**	P	**Pn**	**07 53 22.9**		**0.0**
	baz=100							
SII				S	**Sn**	**07 53 50.7**		**-1.7**
	baz=100							
Q20K	**Shuyak Island**	**2.85**	**333**	P	**Pn**	**07 53 29.6**		**+0.6**
	baz=152							
Q20K				S	**Sn**	**07 54 02.6**		**-0.7**
	baz=152							
SYI	**Shuyak Island**	**2.85**	**333**	Pn	**Pn**	**07 53 29.6**		**+0.7**
SYI	**Shuyak Island**	**2.85**	**333**		**Sn**	**07 54 02.1**		**-1.1**
CHIR	**Chirikof Islan**	**3.20**	**267**	Pn	**Pn**	**07 53 33.8**		**-0.1**
CHIR				IAML		07 54 09.9		
	comp=N,238nm,0.4s							
CHIR	**Chirikof Islan**	**3.20**	**267**		**Sn**	**07 54 09.2**		**-2.9**
CHIR	**Chirikof Islan**	**3.20**	**267**	P	**Pn**	**07 53 33.7**		**-0.1**
	baz=83							
CHIR				S	**Sn**	**07 54 09.2**		**-2.9**
	baz=83							
Q19K	**Cape Douglas,**	**3.47**	**326**	Pn	**Pn**	**07 53 38.9**		**+1.3**
Q19K	**Cape Douglas,**	**3.47**	**326**	P	**Pn**	**07 53 38.3**		**+0.7**
	baz=144							
CNPM	**China Poot**	**3.51**	**349**	Pn	**Pn**	**07 53 37.5**		**-0.6**
CNPM	**China Poot**	**3.51**	**349**		**Sn**	**07 54 18.1**		**-1.5**
ACHA	**Angle Creek He**	**3.62**	**308**		**Pn**	**07 53 41.0**		**+1.3**
BRSE	**Bradley Lake S**	**3.68**	**354**		**Pn**	**07 53 40.2**		**-0.3**
BRSE					**Sn**	**07 54 22.4**		**-1.5**
BRSE	**Bradley Lake S**	**3.68**	**354**	P	**Pn**	**07 53 40.2**		**-0.3**
	baz=174							
BRSE				S	**Sn**	**07 54 23.4**		**-0.5**
	baz=174							
ANCK	**Angle Creek**	**3.68**	**307**		**Pn**	**07 53 42.0**		**+1.4**
HOM	**Homer**	**3.69**	**346**	Pn	**Pn**	**07 53 40.5**		**0.0**
BRLK	**Bradley Lake**	**3.71**	**353**		**Pn**	**07 53 40.5**		**-0.4**
BRLK				IAML		07 54 29.3		
	comp=E,62nm,0.8s							
BRLK				IAML		07 54 33.0		
	comp=N,55nm,0.7s							
BRLK	**Bradley Lake**	**3.71**	**353**		**Sn**	**07 54 23.1**		**-1.6**
Q23K	**Middleton Isla**	**3.86**	**28**	Pn	**Pn**	**07 53 43.5**		**+0.7**
Q23K				IAML		07 54 41.4		
	comp=E,76nm,1.4s							
Q23K				IAML		07 55 01.7		
	comp=N,78nm,1.5s							
Q23K	**Middleton Isla**	**3.86**	**28**		**Sn**	**07 54 25.2**		**-2.9**
Q23K	**Middleton Isla**	**3.86**	**28**	P	**Pn**	**07 53 43.0**		**+0.2**
	baz=212							
Q23K				S	**Sn**	**07 54 25.2**		**-2.9**
	baz=212							
CNTC	**Contact Creek**	**3.89**	**306**		**Pn**	**07 53 44.6**		**+1.1**
P19K	**Oil Pt**	**3.97**	**335**	Pn	**Pn**	**07 53 44.4**		**-0.1**
P19K				IAML		07 54 35.1		
	comp=E,133nm,0.6s							
P19K				IAML		07 54 35.1		
	comp=N,146nm,0.7s							
SEW	**Seward**	**4.03**	**4**		**Pn**	**07 53 44.5**		**-0.6**
SEW	**Seward**	**4.03**	**4**	P	**Pn**	**07 53 44.7**		**-0.4**
	baz=184							
P23K	**Montague Islan**	**4.14**	**18**		**Pn**	**07 53 46.7**		**-0.1**
P23K					**Sn**	**07 54 32.7**		**-2.4**
P23K	**Montague Islan**	**4.14**	**18**	P	**Pn**	**07 53 46.7**		**-0.1**
	baz=200							
P23K				S	**Sn**	**07 54 32.7**		**-2.4**
	baz=200							
O20K	**Slope Mountain**	**4.24**	**342**		**Pn**	**07 53 48.5**		**+0.3**
O20K	**Slope Mountain**	**4.24**	**342**	P	**Pn**	**07 53 48.5**		**+0.3**
	baz=160							
IVE	**Iliamna Volcan**	**4.26**	**339**		**Pn**	**07 53 48.5**		**+0.1**
P18K	**Big Mountain,**	**4.35**	**322**		**Pn**	**07 53 49.9**		**+0.2**
P18K	**Big Mountain,**	**4.35**	**322**	P	**Pn**	**07 53 49.8**		**+0.2**
	baz=138							
O22K	**Cooper Landing**	**4.40**	**1**	Pn	**Pn**	**07 53 50.5**		**+0.2**
SLKM	**Skilak Lake**	**4.43**	**358**		**Pn**	**07 53 50.2**		**-0.5**
Q16K	**King Salmon**	**4.46**	**308**		**Pn**	**07 53 52.0**		**+0.9**
Q16K	**King Salmon**	**4.46**	**308**	P	**Pn**	**07 53 52.0**		**+0.9**
	baz=123							
RED	**Redoubt Volcan**	**4.58**	**342**		**Pn**	**07 53 52.4**		**-0.5**
RSO	**Redoubt South**	**4.62**	**342**		**Pn**	**07 53 53.5**		**-0.1**
RDWB	**Redoubt West**	**4.66**	**342**		**Pn**	**07 53 53.2**		**-0.8**
HIN	**Hinchinbrook I**	**4.68**	**21**		**Pn**	**07 53 54.6**		**+0.4**
HIN				IAML		07 54 51.7		
	comp=N,46nm,1.1s							
HIN				IAML		07 54 53.3		
	comp=E,56nm,1.0s							
O18K	**Koktuh Hills**	**4.69**	**326**		**Pn**	**07 53 54.6**		**+0.2**
O18K				IAML		07 54 50.2		
	comp=N,45nm,0.8s							
O18K				IAML		07 54 51.8		
	comp=E,31nm,0.8s							
O18K	**Koktuh Hills**	**4.69**	**326**	P	**Pn**	**07 53 54.8**		**+0.4**
	baz=141							
CHGN	**Chignik**	**4.74**	**276**	Pn	**Pn**	**07 53 56.5**		**+1.6**
CHGN				IAML		07 54 49.7		
	comp=N,62nm,0.6s							
CHGN				IAML		07 54 53.8		
	comp=E,58nm,0.6s							
KAIM	**Kayak Island**	**4.83**	**35**		**Pn**	**07 53 57.1**		**+0.8**
KAIM				IAML		07 54 58.0		
	comp=E,70nm,0.5s							
KAIM				IAML		07 55 01.6		
	comp=N,68nm,0.7s							
KAIM	**Kayak Island**	**4.83**	**35**	P	**Pn**	**07 53 56.7**		**+0.4**
	baz=220							
EYAK	**Cordova Ski Ar**	**4.98**	**25**	P	**Pn**	**07 53 58.6**		**+0.3**
EYAK	**Cordova Ski Ar**	**4.98**	**25**	P	**Pn**	**07 53 58.7**		**+0.5**
	baz=208							
FID	**Port Fidalgo**	**5.01**	**20**		**Pn**	**07 53 58.5**		**-0.1**
FID	**Port Fidalgo**	**5.01**	**20**	IAML		07 54 53.2		
	comp=E,48nm,0.4s							
FID				IAML		07 54 55.6		
	comp=N,32nm,0.5s							
RC01	**Rabbit Creek A**	**5.01**	**1**		**Pn**	**07 53 58.5**		**-0.1**
RC01				IAML		07 54 58.8		
	comp=E,40nm,0.5s							
RC01				IAML		07 54 59.0		
	comp=N,42nm,0.4s							
RC01	**Rabbit Creek A**	**5.01**	**1**	P	**Pn**	**07 53 58.8**		**+0.2**
	baz=182							
GLI	**Glacier Island**	**5.02**	**16**	Pn	**Pn**	**07 53 59.1**		**+0.2**
GLI				IAML		07 54 55.6		
	comp=N,35nm,0.8s							
GLI				IAML		07 55 01.3		
	comp=E,34nm,0.5s							
GLI	**Glacier Island**	**5.02**	**16**	P	**Pn**	**07 53 59.3**		**+0.4**
	baz=199							
SUCK	**Suckling Hills**	**5.16**	**37**		**Pn**	**07 54 01.5**		**+0.8**
SUCK				IAML		07 54 58.8		
	comp=N,54nm,0.3s							
SUCK				IAML		07 55 07.3		
	comp=E,33nm,0.9s							
HMT	**Hamilton**	**5.21**	**33**		**Pn**	**07 54 02.1**		**+0.8**
NICHA	**Nichawak Mount**	**5.22**	**35**		**Pn**	**07 54 02.0**		**+0.4**
P16K	**Nushagak River**	**5.24**	**308**		**Pn**	**07 54 03.1**		**+1.4**
N20K	**Mount Spurr**	**5.25**	**348**	P	**Pn**	**07 54 02.4**		**+0.3**
	baz=166							
SPCR	**Spurr Chakacha**	**5.25**	**348**		**Pn**	**07 54 01.5**		**-0.6**
GOAT	**Goat Mountain**	**5.27**	**29**		**Pn**	**07 54 02.7**		**+0.4**
N19K	**Bonanza Creek**	**5.29**	**335**	Pn	**Pn**	**07 54 02.3**		**-0.4**
SPCP	**Crater Peak Br**	**5.31**	**348**		**Pn**	**07 54 03.0**		**+0.1**
SPCG	**Spurr Capps Gl**	**5.32**	**349**		**Pn**	**07 54 03.4**		**+0.3**
KNK	**Knik Glacier**	**5.39**	**8**	Pn	**Pn**	**07 54 03.8**		**-0.1**
KNK	**Knik Glacier**	**5.39**	**8**	P	**Pn**	**07 54 04.4**		**+0.5**
	baz=189							
SUA	**Susitna One**	**5.40**	**356**		**Pn**	**07 54 03.6**		**-0.6**
BERG	**Berg Lake**	**5.42**	**35**		**Pn**	**07 54 04.5**		**+0.1**
GRIN	**Grindle Hills**	**5.46**	**37**		**Pn**	**07 54 05.7**		**+0.8**
STLK	**Strandline Lak**	**5.51**	**351**		**Pn**	**07 54 05.9**		**+0.4**
PMR	**Palmer**	**5.53**	**4**	P	**Pn**	**07 54 06.3**		**+0.5**
PMR	**Palmer**	**5.53**	**4**	P	**Pn**	**07 54 06.2**		**+0.5**
	baz=185							
N18K	**Kilae Creek**	**5.56**	**328**	Pn	**Pn**	**07 54 06.3**		**+0.1**
N18K	**Kilae Creek**	**5.56**	**328**	P	**Pn**	**07 54 06.5**		**+0.3**
	baz=144							
SNH	**Sunshine Point**	**5.56**	**40**		**Pn**	**07 54 06.7**		**+0.4**
O16K	**Kokwok River B**	**5.59**	**312**		**Pn**	**07 54 06.9**		**+0.4**
O16K	**Kokwok River B**	**5.59**	**312**	P	**Pn**	**07 54 07.0**		**+0.4**
	baz=126							
KHIT	**Khitrov Hills**	**5.61**	**36**		**Pn**	**07 54 07.4**		**+0.4**
BMRM	**Bremner River**	**5.63**	**28**	P	**Pn**	**07 54 07.7**		**+0.5**
	baz=212							
GHO	**Glory Hole Cre**	**5.72**	**5**		**Pn**	**07 54 09.2**		**+0.8**
WAX	**Waxell Ridge**	**5.75**	**38**		**Pn**	**07 54 09.7**		**+0.8**
SML	**Sawmill**	**5.79**	**8**		**Pn**	**07 54 10.1**		**+0.7**
SML	**Sawmill**	**5.79**	**8**	P	**Pn**	**07 54 09.8**		**+0.4**
	baz=189							
KLU	**Klutina**	**5.80**	**19**		**Pn**	**07 54 10.2**		**+0.6**
KLU	**Klutina**	**5.80**	**19**	P	**Pn**	**07 54 10.0**		**+0.4**
	baz=203							
BARK	**Barkley Ridge**	**5.84**	**39**		**Pn**	**07 54 10.4**		**+0.2**
N17K	**Nushagak Hills**	**5.85**	**322**		**Pn**	**07 54 10.3**		**0.0**
MESA	**MESA**	**5.89**	**43**		**Pn**	**07 54 11.4**		**+0.5**
MESA	**MESA**	**5.89**	**43**	P	**Pn**	**07 54 11.1**		**+0.2**
	baz=230							
SCM	**Sheep Creek Mo**	**5.91**	**12**		**Pn**	**07 54 12.1**		**+1.0**
SCM	**Sheep Creek Mo**	**5.91**	**12**	P	**Pn**	**07 54 11.8**		**+0.6**
	baz=195							
SKT	**Skwentna**	**5.96**	**353**		**Pn**	**07 54 12.1**		**+0.4**
SKT	**Skwentna**	**5.96**	**353**	P	**Pn**	**07 54 12.1**		**+0.4**
	baz=172							
SDPT	**Sand Point**	**6.00**	**267**	P	**Pn**	**07 54 13.0**		**+0.7**
M20K	**Styx River**	**6.03**	**345**		**Pn**	**07 54 12.5**		**-0.3**
ISLE	**Juniper Island**	**6.03**	**38**		**Pn**	**07 54 13.3**		**+0.5**
O15K	**Ungalikthiuk R**	**6.14**	**304**		**Pn**	**07 54 14.9**		**+0.8**
O15K	**Ungalikthiuk R**	**6.14**	**304**	P	**Pn**	**07 54 14.9**		**+0.8**
	baz=116							
VRDI	**Verde Repeater**	**6.16**	**31**	Pn	**Pn**	**07 54 14.7**		**+0.1**
N25K	**Chitina, Valde**	**6.18**	**24**		**Pn**	**07 54 16.1**		**+1.2**
N25K	**Chitina, Valde**	**6.18**	**24**	P	**Pn**	**07 54 15.6**		**+0.8**
	baz=209							
M18K	**Stony River**	**6.21**	**333**		**Pn**	**07 54 15.2**		**0.0**
M18K	**Stony River**	**6.21**	**333**	P	**Pn**	**07 54 15.2**		**0.0**
	baz=148							
GLB	**Gilahina Butte**	**6.24**	**28**	Pn	**Pn**	**07 54 15.9**		**+0.3**
M19K	**Big River Lodg**	**6.26**	**340**		**Pn**	**07 54 16.3**		**+0.4**
M19K	**Big River Lodg**	**6.26**	**340**	P	**Pn**	**07 54 16.3**		**+0.4**
	baz=157							
KIAG	**Kiagna River**	**6.26**	**36**		**Pn**	**07 54 16.2**		**+0.2**
SAMH	**Samovar Hills**	**6.32**	**46**		**Pn**	**07 54 17.4**		**+0.7**
M24K	**Tolsona, Glenn**	**6.33**	**16**		**Pn**	**07 54 17.5**		**+0.6**
N16K	**Nishlik Lake**	**6.39**	**317**		**Pn**	**07 54 19.1**		**+1.4**
MCARA	**McCarthy VSAT**	**6.41**	**31**		**Pn**	**07 54 18.9**		**+1.1**
MCARA	**McCarthy VSAT**	**6.41**	**31**	P	**Pn**	**07 54 18.7**		**+0.8**
	baz=217							
PTPK

baz=264,slow=11,SNR=5.4
comp=E,0.8nm,1.1s
TXAR Lajitas Array 42.11 110 P P 08 00 45.6 +10
comp=E,0.3nm,0.8s,baz=292,slow=4.8,SNR=3.8
comp=E,0.3nm,0.8s
H11N2 WAKE ISLAND Hy 48.47 239 T T 08 53 50.8
baz=31
H11N3 WAKE ISLAND Hy 48.47 239 T T 08 53 44.9
baz=31
H11N1 WAKE ISLAND Hy 48.49 239 T T 08 53 43.1
baz=31
H11S1 WAKE ISLAND Hy 49.61 239 T T 08 55 22.8
baz=29
H11S2 WAKE ISLAND Hy 49.62 239 T T 08 55 09.1
baz=29
H11S3 WAKE ISLAND Hy 49.63 239 T T 08 55 08.3
baz=29

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*BJI **09** 07:57:52.6±0.0,5.°95S×151.°77E,h10km,mb5.2/89, mB6.0/91,Ms6.0/99,Ms7 5.8/93*
*IDC **09** 07:57:53.1±0.4,5.°79S×151.°65E,h0km,mb5.3/25, mbtmp5.3/26,ML3.2/1,MS5.6/53,Error ellipse: s-maj=14.5km s-min=9.6km az=110.0*
*MOS **09** 07:57:53.8±1.2,5.°78S×151.°66E,h14km,mb5.6/39, MS5.7/21,Error ellipse: s-maj=7.7km s-min=5.2km az=104.7*
*NEIC **09** 07:57:55.0±1.7,5.°88S±0.°04×151.°78E±0.°06,h9km±1km, mb5.9/410,Ms_20 6.0/1065,Mwb6.0/53,Mww6.0/45,Error ellipse: s-maj=11.3km s-min=2.7km az=120.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁸Nm; Mrr0.55; Mθθ-0.55; Mφφ-0.00; Mrθ0.96; Mθφ-0.33; Mφr0.27; Fault plane solution: M₀1.19000×10¹⁸ NP1: φ232.38000°,δ16.85000°,λ69.76000°. NP2:φ73.44000°, δ74.21000°,λ95.98000°. Principal axes: T 1.1155, Plg60.0000°, Azm352.0000°; N 0.1344, Plg6.0000°, Azm252.0000°; P -1.2498, Plg29.0000°, Azm159.0000°;*
*NEIC **09** 07:57:55.4,5.°92S×151.°84E,h10km*
*IPGP **09** 07:57:55.0,5.°89S×151.°80E,h17km,Mw6.0,Fault plane solution: NP1:φ82.00000°,δ71.00000°,λ82.00000°. NP2:φ287.00000°,δ21.00000°,λ113.00000°.*
*NEIC **09** 07:57:55.3,5.°99S×151.°91E,h16km,Moment Tensor Solution. Duration: 4s9 Moment tensor: Scale 10¹⁸Nm; Mrr0.79; Mθθ-0.83; Mφφ0.04; Mrθ1.09; Mθφ-0.14; Mφr0.02; Fault plane solution: M₀1.37000×10¹⁸ NP1:φ87.32000°, δ71.69000°,λ94.43000°. NP2:φ253.47000°,δ18.82000°, λ76.86000°. Principal axes: T 1.3436, Plg63.0000°, Azm4.0000°; N 0.0481, Plg4.0000°, Azm266.0000°; P -1.3917, Plg27.0000°, Azm174.0000°;*
*NEIC **09** 07:57:55.3,5.°89S×151.°80E,h16km*
*DJA **09** 07:57:58.4±0.6,6.°S±2.°×15.°2E±.°,h33km±5km,M5.9/77, mb5.8/77,mB6.3/73,MLv6.5/2,Mw5.9/31,Mw(mB)6.0/73, MwMwp5.7/45,Mwp5.8/45*
*GCMT **09** 07:58:01.0±0.1,6.°04S×151.°78E,h14km,MW6.0/162, Moment Tensor Solution. s162,c366; s157,c542; Duration: 2s4 Moment tensor: Scale 10¹⁸Nm; Mrr0.81±.01; Mθθ-0.87±.01; Mφφ0.06±.01; Mrθ0.83±.02; Mθφ-0.18±.00; Mφr0.17±.01; Best double couple: M₀1.20500×10¹⁸ NP1:φ≤79.00000°,δ67.00000°, λ89.00000°. NP2:φ260.00000°,δ23.00000°,λ92.00000°. Principal axes: T 1.1560, Plg68.0000°, Azm347.0000°; N 0.0970, Plg1.0000°, Azm79.0000°; P -1.2530, Plg22.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*
ISC 09 07:57:56.2±0.4,5.°96S±0.°03×151.°76E±0.°03,h19km±1km, n1803,σ2s02/1573,mb5.8/328,MS6.0/608,74C-41D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BULU	**Kimbe**	**1.50**	**286**	P		**Pg**	**07 58 25.4**	**+0.3**
I40PG	**Keravat**	**1.67**	**9**	Pg		**Pn**	**07 58 24.1**	**-0.4**
	baz=183,slow=24							
I40PG				I		I	08 07 30.0	
	0.1nm,1.3s,baz=210,slow=302,SNR=2.2							
RABL	**Rabaul**	**1.81**	**13**	P		**Pg**	**07 58 30.6**	**-0.4**
RABL	**Rabaul**	**1.81**	**13**			**Pn**	**07 58 24.7**	**-1.7**
RABL	**Rabaul**	**1.81**	**13**	⇓P		**Pn**	**07 58 24.8**	**-1.7**
KAVG	**Kavieng**	**3.49**	**344**	P		**Pn**	**07 58 52.5**	**+2.9**
PMG	**Port Moresby**	**5.70**	**233**			**Pn**	**07 59 22.3**	**+2.4**
PMG	**Port Moresby**	**5.70**	**233**	Pn		**Pn**	**07 59 20.9**	**+1.0**
	46nm,0.3s,baz=48,slow=8.3,SNR=80							
PMG				Sn		**Sn**	**08 00 26.2**	**+1.3**
	52nm,0.3s,baz=161,slow=13,SNR=4.0							
	697nm,0.7s							
PMG	**Port Moresby**	**5.70**	**233**	P		**Pn**	**07 59 22.3**	**+2.4**
MANU	**Manus Island**	**5.86**	**311**	P		**Pn**	**07 59 26.1**	**+3.9**
MANU	**Manus Island**	**5.86**	**311**	Pn		Pn	07 59 26.8	+4.6
MANU	**Manus Island**	**5.86**	**311**	⇑P		**Pn**	**07 59 25.9**	**+3.7**
HNR	**Honiara**	**8.82**	**114**	P		Pn	08 00 08.0	+5.2
HNR	**Honiara**	**8.82**	**114**	Pn		**Pn**	**08 00 03.5**	**+0.7**
HNR	**Honiara**	**8.82**	**114**	⇓P		**Pn**	**08 00 02.8**	**0.0**
HNR	**Honiara**	**8.82**	**114**	P		**Pn**	**08 00 03.5**	**+0.7**
TABU	**Tabubil**	**10.51**	**273**	P		**Pn**	**08 00 28.5**	**+2.5**
JAY	**Jayapura**	**11.54**	**287**	P		**Pn**	**08 00 41.2**	**+1.0**
COEN	**Coen**	**11.60**	**226**	P		**Pn**	**08 00 42.6**	**+1.7**
	baz=12,SNR=10.0							
COEN	**Coen**	**11.60**	**226**	P		**Pn**	**08 00 43.6**	**+2.7**
COEN	**Coen**	**11.60**	**226**	Pn		**Pn**	**08 00 41.2**	**+0.3**
COEN	**Coen**	**11.60**	**226**	⇓P		**Pn**	**08 00 42.8**	**+1.9**
GENI	**Genyem**	**12.03**	**286**	P		Pn	08 00 51.9	+5.0
GENI	**Genyem**	**12.03**	**286**	P		**Pn**	**08 00 47.9**	**+1.1**
	620nm,1.9s,26μm43μm							
SMPI	**Sarmi**	**13.60**	**286**	P		**Pn**	**08 01 09.8**	**+1.5**
	528nm,1.3s,19μm41μm							
TV1H	**Townsville Har**	**14.07**	**200**	P		**Pn**	**08 01 18.4**	**+3.7**
MTSU	**Mount Surprise**	**14.11**	**210**	P		**Pn**	**08 01 18.6**	**+3.3**
	baz=14,SNR=11							
MTSU	**Mount Surprise**	**14.11**	**210**	P		**Pn**	**08 01 18.6**	**+3.3**
AUAYR	**Ayr State High**	**14.18**	**197**	P		**Pn**	**08 01 19.2**	**+3.0**
PATS	**Pohnpei**	**14.30**	**27**	P		**P**	**08 01 24.0**	**-0.9**
PATS	**Pohnpei**	**14.30**	**27**	Pn		**Pn**	**08 01 15.6**	**-2.3**
CTAO	**Charters Tower**	**15.02**	**200**	P		**P**	**08 01 30.6**	**-2.4**
CTAO	**Charters Tower**	**15.02**	**200**	Pn		**Pn**	**08 01 28.5**	**+0.8**
CTAO	**Charters Tower**	**15.02**	**200**	⇓P		**Pn**	**08 01 28.8**	**+1.1**
CTAO	**Charters Tower**	**15.02**	**200**	P		**Pn**	**08 01 28.5**	**+0.8**
CTAO				pmax		pmax		
	comp=Z,32nm,1.0s							
RK1H	**Rockhampton Ha**	**17.37**	**184**	P		**P**	**08 01 58.5**	**-0.4**
GD1S	**Gladstone Port**	**17.78**	**182**	P		**P**	**08 02 05.8**	**+2.3**
KMPI	**Kaimana, Papua**	**18.13**	**276**	P		**P**	**08 02 08.7**	**+1.2**
	comp=Z,213nm,1.1s,comp=Z,5μmcomp=Z,14μm							
QIS	**Mount Isa**	**18.70**	**218**	P		**Pn**	**08 02 15.1**	**+1.0**
	baz=19,SNR=181							
QIS	**Mount Isa**	**18.70**	**218**	P		**Pn**	**08 02 15.4**	**+1.3**
KOUNC	**Koumac, New Ca**	**18.92**	**141**	P		**Pn**	**08 02 21.2**	**+4.4**
KOUNC	**Koumac, New Ca**	**18.92**	**141**			**Pn**	**08 02 17.5**	**+0.7**
KOUNC	**Koumac, New Ca**	**18.92**	**141**	⇓P		**Pn**	**08 02 17.3**	**+0.6**
EIDS	**Eidsvold**	**19.31**	**182**	P		**Pn**	**08 02 21.4**	**0.0**
	baz=20,SNR=35							
EIDS	**Eidsvold**	**19.31**	**182**	P		**Pn**	**08 02 21.3**	**0.0**
EIDS	**Eidsvold**	**19.31**	**182**	P		**P**	**08 02 21.0**	**+0.7**
EIDS	**Eidsvold**	**19.31**	**182**	⇑P		**Pn**	**08 02 21.2**	**-0.2**
FAKI	**Fak Fak**	**19.68**	**278**	P		**P**	**08 02 24.6**	**+0.1**
FAKI	**Fak Fak**	**19.68**	**278**	P		**P**	**08 02 22.9**	**-1.6**
FAKI	**Fak Fak**	**19.68**	**278**	⇑P		**P**	**08 02 21.9**	**-2.6**
FAKI	**Fak Fak**	**19.68**	**278**	P		**Pn**	**08 02 25.7**	**-0.3**
	comp=Z,183nm,1.1s,comp=Z,7μmcomp=Z,19μm							
KDU	**Kakadu**	**20.16**	**249**	P		**P**	**08 02 29.6**	**-0.1**
	baz=20,SNR=103							
KDU	**Kakadu**	**20.16**	**249**	P		**P**	**08 02 29.9**	**+0.2**
SAUI	**Saumlaki**	**20.41**	**263**	P		Pn	08 02 34.7	+0.2
SAUI	**Saumlaki**	**20.41**	**263**	P		**P**	**08 02 32.1**	**-0.2**
SAUI	**Saumlaki**	**20.41**	**263**	P		Pn	08 02 33.8	-0.7
	comp=Z,2μm,0.7s,comp=Z,30μmcomp=Z,22μm							
GUMO	**Guam**	**20.60**	**341**	P		Pn	08 02 35.7	-1.0
GUMO	**Guam**	**20.60**	**341**	⇑P		**P**	**08 02 33.9**	**-0.5**
RMQ	**Roma**	**20.61**	**188**	P		Pn	08 02 36.9	+0.1
	baz=21,SNR=21							
RMQ	**Roma**	**20.61**	**188**	P		Pn	08 02 36.7	-0.1
LIFNC	**LIFOU**	**21.03**	**136**	P		**P**	**08 02 43.9**	**+4.8**
LIFNC	**LIFOU**	**21.03**	**136**	P		**P**	**08 02 38.5**	**-0.6**
LIFNC				IAmb		IAmb	08 02 58.1	
	comp=Z,870nm,1.2s							
SWI	**Sorong**	**21.07**	**283**	P		**P**	**08 02 41.0**	**+1.4**
	comp=Z,344nm,0.9s,comp=Z,5μmcomp=Z,19μm							
SWI	**Sorong**	**21.07**	**283**	P		**P**	**08 02 42.2**	**+2.6**
SWI				pmax		pmax		
	comp=Z,346nm,0.9s							
NOUC	**Port Laguerre**	**21.33**	**140**	P		**P**	**08 02 46.6**	**+4.3**
AUWSH	**Wavell State H**	**21.35**	**177**	P		**P**	**08 02 44.3**	**+1.8**
DZM	**Mont Dzumac**	**21.40**	**140**	P		**P**	**08 02 45.5**	**+2.4**
DZM	**Mont Dzumac**	**21.40**	**140**	*e*P		**P**	**08 02 44.1**	**+1.0**
	comp=Z,400nm,1.1s							
DZM				*e*S		**S**	**08 06 32.8**	**-7.3**
	comp=Z,7μm,23.4s							
DZM				*e*LR		LR	08 07 49.8	
	comp=Z,66μm,25.2s							
DZM	**Mont Dzumac**	**21.40**	**140**	P		**P**	**08 02 43.3**	**+0.2**
DZM	**Mont Dzumac**	**21.40**	**140**	⇑P		**P**	**08 02 43.1**	**0.0**
DZM	**Mont Dzumac**	**21.40**	**140**	P		**P**	**08 02 44.3**	**+1.1**
	comp=Z,20nm,0.5s,baz=316,slow=16,SNR=13							
DZM				LR		LR	08 09 46.7	
	comp=Z,36μm,21.8s,baz=318,slow=33							
	comp=Z,20nm,0.5s							
MTN	**Manton Dam**	**21.45**	**250**	P		**P**	**08 02 44.8**	**+1.1**
	baz=22,SNR=23							
MTN	**Manton Dam**	**21.45**	**250**	P		**P**	**08 02 44.4**	**+0.7**
MTN	**Manton Dam**	**21.45**	**250**	P		**P**	**08 02 43.7**	**0.0**
MTN				IAmb		IAmb	08 02 48.9	
	comp=Z,876nm,1.1s							
MTN	**Manton Dam**	**21.45**	**250**	⇑P		**P**	**08 02 44.4**	**+0.7**
DRS	**Darwin Rock St**	**21.56**	**251**	P		**P**	**08 02 45.7**	**+0.9**
ONTNC	**Ouen Toro**	**21.58**	**140**	P		**P**	**08 02 44.6**	**-0.3**
QLP	**Quilpie**	**21.72**	**198**	P		**P**	**08 02 47.8**	**+1.4**
	baz=22,SNR=82							
QLP	**Quilpie**	**21.72**	**198**	P		**P**	**08 02 47.6**	**+1.1**
QLP	**Quilpie**	**21.72**	**198**	⇓P		**P**	**08 02 47.0**	**+0.6**
BNDI	**Bandanaira**	**21.81**	**273**	P		**P**	**08 02 49.2**	**+1.7**
BNDI	**Bandanaira**	**21.81**	**273**	P		**P**	**08 02 48.9**	**+1.4**
	comp=Z,1μm,1.5s,comp=Z,21μmcomp=Z,17μm							
WRAB	**Tennant Creek**	**21.89**	**229**	P		**P**	**08 02 48.3**	**0.0**
WRAB				IAmb		IAmb	08 02 59.6	
	comp=Z,484nm,0.9s							
WRAB	**Tennant Creek**	**21.89**	**229**	*i* P		**P**	**08 02 47.6**	**-0.7**
WB2	**Warramunga Arr**	**21.89**	**229**	P		**P**	**08 02 48.9**	**+0.5**
	baz=22							
WRA	**Warramunga Arr**	**21.90**	**229**	P		**P**	**08 02 48.4**	**-0.1**
WRA	**Warramunga Arr**	**21.90**	**229**	P		**P**	**08 02 48.0**	**-0.5**
	comp=Z,205nm,0.9s,baz=54,slow=9.8,SNR=84							
WRA				S		**S**	**08 06 51.4**	**+1.5**
	comp=Z,68nm,1.2s,baz=54,slow=16,SNR=6.1							
WRA				ScP		**ScP**	**08 10 28.4**	**+4.2**
	comp=Z,10nm,0.8s,baz=37,slow=2.8,SNR=7.0							
WRA				LR		LR	08 12 53.0	
	comp=Z,27μm,18.1s,baz=42,slow=41							
	comp=Z,205nm,0.9s							
WRA	**Warramunga Arr**	**21.90**	**229**	*i* P		**P**	**08 02 48.0**	**-0.5**
WRA				pmax		pmax		
	comp=Z,220nm,0.9s							
OUENC	**Ouen Island, N**	**21.90**	**140**	P		**P**	**08 02 53.4**	**+4.9**
OUENC	**Ouen Island, N**	**21.90**	**140**	P		**P**	**08 02 48.7**	**+0.3**
MARNC	**Mare, Loyalty**	**22.05**	**136**	P		**P**	**08 02 53.8**	**+3.8**
MARNC	**Mare, Loyalty**	**22.05**	**136**	P		**P**	**08 02 50.0**	**0.0**
GC1S	**Gold Coast 1 S**	**22.14**	**176**	P		**P**	**08 02 52.6**	**+1.7**
TARA	**Tarawa**	**22.35**	**72**	P		**P**	**08 02 55.1**	**+1.8**
TARA	**Tarawa**	**22.35**	**72**	P		**P**	**08 02 52.0**	**-1.3**
TARA	**Tarawa**	**22.35**	**72**	⇑P		**P**	**08 02 57.2**	**+3.9**
AULRC	**Lightning Ridg**	**23.61**	**188**	P		**P**	**08 03 06.0**	**-0.2**
INKA	**Innaminka**	**24.05**	**205**	P		**P**	**08 03 11.0**	**+0.6**
ARMA	**Armidale**	**24.33**	**180**	P		**P**	**08 03 14.1**	**+1.1**
	baz=24,SNR=16							
ARMA	**Armidale**	**24.33**	**180**	P		**P**	**08 03 14.3**	**+1.3**
ARMA	**Armidale**	**24.33**	**180**	P		**P**	**08 03 12.6**	**-0.4**
ARMA				IAmb		IAmb	08 03 21.7	
	comp=Z,1μm,1.9s							
ARMA				IAMs_20		IAMs_20	08 12 51.4	
	comp=Z,31μm,18.0s							
AS31	**Alice Springs**	**24.59**	**222**	P		**P**	**08 03 15.9**	**+0.5**
ASAR	**Alice Springs**	**24.60**	**222**	P		**P**	**08 03 16.1**	**+0.6**
ASAR	**Alice Springs**	**24.60**	**222**	P		**P**	**08 03 15.3**	**-0.2**
	comp=Z,334nm,1.0s,baz=55,slow=8.2,SNR=411							
ASAR				S		**S**	**08 07 43.7**	**+7.8**
	comp=Z,25nm,1.2s,baz=41,slow=17,SNR=2.9							
ASAR				ScP		**ScP**	**08 10 34.6**	**+3.2**
	comp=Z,9.3nm,0.9s,baz=40,slow=3.3,SNR=6.2							
	comp=Z,334nm,1.0s							
ASAR	**Alice Springs**	**24.60**	**222**	P		**P**	**08 03 16.1**	**+0.6**
LBMI	**Labuha**	**24.78**	**281**	P		**P**	**08 03 18.1**	**+0.9**
	comp=Z,431nm,0.8s,comp=Z,14μm							
AUPHS	**Peel High Scho**	**25.02**	**182**	P		**P**	**08 03 20.5**	**+1.3**
TNTI	**Ternate**	**25.25**	**285**	P		**P**	**08 03 23.6**	**+2.1**
TNTI	**Ternate**	**25.25**	**285**	P		**P**	**08 03 22.8**	**+1.3**
	comp=Z,145nm,1.3s,comp=Z,5μmcomp=Z,9μm							
SANI	**Sanana**	**25.99**	**278**	P		**P**	**08 03 29.1**	**+0.9**
SANI	**Sanana**	**25.99**	**278**	P		**P**	**08 03 25.7**	**-2.6**
SANI	**Sanana**	**25.99**	**278**	⇑P		**P**	**08 03 26.6**	**-1.6**
SANI	**Sanana**	**25.99**	**278**	P		**P**	**08 03 29.6**	**+1.4**
	comp=Z,135nm,1.1s,comp=Z,4μmcomp=Z,11μm							
CMSA	**Cobar Meteorol**	**26.07**	**192**	P		**P**	**08 03 28.6**	**-0.1**
	baz=26,SNR=86							
CMSA	**Cobar Meteorol**	**26.07**	**192**	P		**P**	**08 03 28.2**	**-0.5**
AUDCS	**Dubbo College**	**26.30**	**186**	P		**P**	**08 03 33.8**	**+3.1**
OOD	**Oodnadatta**	**26.54**	**213**	P		**P**	**08 03 32.9**	**-0.1**
NTLH	**Newcastle Hard**	**26.80**	**180**	P		**P**	**08 03 37.5**	**+2.3**
FUNA	**Funafuti**	**27.34**	**97**	P		**P**	**08 03 43.0**	**+2.7**
YSA	**Yasawairara**	**27.43**	**115**	P		**P**	**08 03 45.1**	**+4.0**
STKA	**Stephens Creek**	**27.48**	**199**	P		**P**	**08 03 41.1**	**-0.2**
	baz=28,SNR=58							
STKA	**Stephens Creek**	**27.48**	**199**	P		**P**	**08 03 41.2**	**-0.2**
STKA	**Stephens Creek**	**27.48**	**199**	P		**P**	**08 03 41.5**	**+0.1**
STKA	**Stephens Creek**	**27.48**	**199**	P		**P**	**08 03 41.1**	**-0.2**
	comp=Z,115nm,1.0s,baz=7.4,slow=9.0,SNR=16							
STKA				LR		LR	08 14 03.4	
	comp=Z,18μm,20.6s,baz=19,slow=35							
	comp=Z,115nm,1.0s							
STKA	**Stephens Creek**	**27.48**	**199**	*i* P		**P**	**08 03 40.7**	**-0.7**
LCRK	**Leigh Creek**	**27.48**	**206**	P		**P**	**08 03 41.2**	**-0.3**
SOEI	**Soe**	**27.48**	**260**	P		**P**	**08 03 42.7**	**+0.9**
SOEI	**Soe**	**27.48**	**260**	P		**P**	**08 03 41.6**	**-0.2**
SOEI				IAMs_20		IAMs_20	08 16 30.8	
	comp=Z,37μm,22.0s							
SOEI	**Soe**	**27.48**	**260**	P		**P**	**08 03 42.3**	**+0.5**
SOEI	**Soe**	**27.48**	**260**	⇑P		**P**	**08 03 42.5**	**+0.7**
SOEI	**Soe**	**27.48**	**260**	P		**P**	**08 03 43.0**	**+1.2**
	comp=Z,650nm,1.0s,comp=Z,10μmcomp=Z,9μm							
SYDH	**Sydney Hard Ro**	**27.68**	**182**	P		**P**	**08 03 43.6**	**+0.5**
RIV	**Riverview**	**27.73**	**181**	P		**P**	**08 03 44.5**	**+0.9**
RIV	**Riverview**	**27.73**	**181**	P		**P**	**08 03 47.1**	**+3.5**
BATI	**Baumata**	**28.12**	**260**	LR		LR	08 17 45.6	
	comp=Z,33μm,18.3s,baz=109,slow=42							
BATI	**Baumata**	**28.12**	**260**	P		**P**	**08 03 48.7**	**+1.3**
	comp=Z,612nm,1.0s,comp=Z,8μmcomp=Z,8μm							
MSVF	**Nonsavu**	**28.22**	**117**	P		**P**	**08 03 49.6**	**+1.3**
MSVF	**Nonsavu**	**28.22**	**117**	P		**P**	**08 03 48.9**	**+0.6**
MSVF				IAmb		IAmb	08 04 12.8	
	comp=Z,312nm,1.4s							
MSVF	**Nonsavu**	**28.22**	**117**	⇑P		**P**	**08 03 50.0**	**+1.7**
MSVF	**Nonsavu**	**28.22**	**117**	P		**P**	**08 03 48.9**	**+0.6**
MSVF				pmax		pmax		
	comp=Z,312nm,1.4s							
YNG	**Young**	**28.37**	**186**	P		**P**	**08 03 50.7**	**+1.4**
	baz=29,SNR=6.7							
YNG	**Young**	**28.37**	**186**	P		**P**	**08 03 50.0**	**+0.7**
KMSI	**Cibinong**	**28.48**	**282**	P		**P**	**08 03 51.9**	**+1.3**
	comp=Z,540nm,0.5s,comp=Z,7μm							
BBSI	**Bau Bau**	**29.05**	**269**	P		**P**	**08 03 57.0**	**+1.4**
	comp=Z,461nm,1.1s,comp=Z,7μmcomp=Z,8μm							
DAV	**Davao City (W)**	**29.16**	**296**	LR		LR	08 12 44.0	
	comp=Z,10μm,21.7s,baz=104,slow=31							
DAV	**Davao City (W)**	**29.16**	**296**	*i* P		**P**	**08 04 00.0**	**+3.5**
DGTI	**Dogotuki**	**29.27**	**113**	P		**P**	**08 04 00.2**	**+2.7**
AUUHS	**Ulladulla High**	**29.28**	**182**	P		**P**	**08 03 59.0**	**+1.6**
CNB	**Canberra Magne**	**29.29**	**184**	P		**P**	**08 03 59.5**	**+1.9**
	baz=30,SNR=13							
CNB	**Canberra Magne**	**29.29**	**184**	P		**P**	**08 03 58.8**	**+1.2**
CAN	**Canberra**	**29.32**	**185**	P		**P**	**08 03 59.7**	**+1.8**
CAN	**Canberra**	**29.32**	**185**	P		**P**	**08 03 58.8**	**+0.9**
CAN	**Canberra**	**29.32**	**185**	⇓P		**P**	**08 04 00.1**	**+2.3**
CAN	**Canberra**	**29.32**	**185**	P		**P**	**08 03 58.8**	**+0.9**
CAN				pmax		pmax		
	comp=Z,111nm,1.5s							
CAN				MLR		MLR		
	comp=Z,9μm,21.0s							
LUWI	**Luwuk**	**29.33**	**278**	P		**P**	**08 03 59.8**	**+1.7**
LUWI	**Luwuk**	**29.33**	**278**	P		**P**	**08 03 59.2**	**+1.1**
LUWI				IAmb		IAmb	08 04 13.4	
	comp=Z,385nm,1.3s							
LUWI	**Luwuk**	**29.33**	**278**	P		**P**	**08 03 57.5**	**-0.7**
LUWI	**Luwuk**	**29.33**	**278**	P		**P**	**08 03 59.5**	**+1.4**
	comp=Z,200nm,1.2s,comp=Z,5μmcomp=Z,6μm							
MULG	**Mulgathing**	**29.37**	**212**	P		**P**	**08 03 57.8**	**-0.5**
MMRI	**Maumere**	**29.40**	**263**	P		**P**	**08 03 57.6**	**-1.1**
MMRI	**Maumere**	**29.40**	**263**	P		**P**	**08 03 58.1**	**-0.6**
MMRI	**Maumere**	**29.40**	**263**	⇑P		**P**	**08 03 56.4**	**-2.3**
MMRI	**Maumere**	**29.40**	**263**	P		**P**	**08 03 58.7**	**0.0**
	comp=Z,1μm,1.0s,comp=Z,10μmcomp=Z,6μm							
WRKA	**Warakurna**	**29.41**	**227**	P		**P**	**08 03 58.2**	**-0.6**
	baz=30,SNR=71							
WRKA	**Warakurna**	**29.41**	**227**	P		**P**	**08 03 58.2**	**-0.6**
WRKA	**Warakurna**	**29.41**	**227**	⇓P		**P**	**08 03 57.9**	**-0.9**
GTOI	**Gorontalo**	**29.44**	**282**	P		**P**	**08 04 00.3**	**+1.2**
	comp=Z,31nm,0.6s,comp=Z,867nmcomp=Z,3μm							
TAVE	**Taveuni**	**29.72**	**113**	P		**P**	**08 04 04.9**	**+3.4**
HTT	**Hallett**	**29.82**	**202**	P		**P**	**08 04 02.5**	**+0.2**
	baz=30,SNR=17							
HTT	**Hallett**	**29.82**	**202**	P		**P**	**08 04 02.6**	**+0.2**
HTT	**Hallett**	**29.82**	**202**	⇑P		**P**	**08 04 02.4**	**+0.2**
EDFI	**Ende, Flores**	**29.94**	**263**	P		**P**	**08 04 02.0**	**-1.7**
	comp=Z,478nm,1.1s,comp=Z,4μm							
WHYH	**Whyalla**	**30.00**	**204**	P		**P**	**08 04 03.1**	**-0.7**
BBOO	**Buckleboo**	**30.45**	**207**	P		**P**	**08 04 07.8**	**-0.1**
	baz=31,SNR=22							
BBOO	**Buckleboo**	**30.45**	**207**	P		**P**	**08 04 07.7**	**-0.1**
BBOO	**Buckleboo**	**30.45**	**207**	P		**P**	**08 04 07.5**	**-0.3**
BBOO				IAmb		IAmb	08 04 29.8	
	comp=Z,204nm,1.4s							
BBOO				IAMs_20		IAMs_20	08 17 47.4	
	comp=Z,24μm,18.0s							
BASI	**Baing, Sumba**	**31.15**	**260**	P		**P**	**08 04 15.6**	**+1.4**
	comp=Z,2μm,1.3s,comp=Z,18μmcomp=Z,7μm							
TOLI2	**Tolitoli**	**31.72**	**282**	P		**P**	**08 04 17.3**	**-1.9**
KAPI	**Kappang**	**31.87**	**270**	P		**P**	**08 04 21.5**	**+0.9**
KAPI	**Kappang**	**31.87**	**270**	P		**P**	**08 04 20.1**	**-0.5**
KAPI				IAmb		IAmb	08 04 49.9	
	comp=Z,156nm,1.4s							
KAPI	**Kappang**	**31.87**	**270**	LR		LR	08 20 42.1	
	comp=Z,8μm,18.5s,baz=91,slow=43							
KAPI	**Kappang**	**31.87**	**270**	*i* P		**P**	**08 04 21.0**	**+0.4**
TTSI	**Tana Toraja**	**31.97**	**274**	P		**P**	**08 04 22.5**	**+1.1**
	comp=Z,48nm,1.3s,comp=Z,2μm							
TOO	**Toolangi**	**31.98**	**189**	P		**P**	**08 04 21.5**	**+0.2**
	baz=32,SNR=3.7							
TOO	**Toolangi**	**31.98**	**189**	P		**P**	**08 04 22.7**	**+1.5**
TOO	**Toolangi**	**31.98**	**189**	IAMs_20		IAMs_20	08 17 55.0	
	comp=Z,19μm,18.0s							
TOO	**Toolangi**	**31.98**	**189**	P		**P**	**08 04 22.1**	**+0.9**
ARPS	**Mount Arapiles**	**31.98**	**195**	P		**P**	**08 04 21.6**	**+0.4**
	baz=32,SNR=11							
ARPS	**Mount Arapiles**	**31.98**	**195**	P		**P**	**08 04 21.7**	**+0.5**
BRAT	**Ballarat**	**32.24**	**192**	P		**P**	**08 04 24.0**	**+0.5**
FORT	**Forrest**	**33.24**	**219**	P		**P**	**08 04 32.2**	**-0.2**
	baz=33,SNR=50							
FORT	**Forrest**	**33.24**	**219**	P		**P**	**08 04 32.0**	**-0.3**
FORT	**Forrest**	**33.24**	**219**	P		**P**	**08 04 32.4**	**+0.1**
FORT				IAMs_20		IAMs_20	08 20 08.4	
	comp=Z,22μm,20.0s							
FORT	**Forrest**	**33.24**	**219**	⇑P		**P**	**08 04 31.5**	**-0.8**
PLAI	**Plampang**	**33.81**	**263**	P		**P**	**08 04 35.5**	**-2.1**
PLAI	**Plampang**	**33.81**	**263**	P		**P**	**08 04 35.8**	**-1.8**
	comp=Z,648nm,0.8s,comp=Z,5μm							
JCJ	**Chichijima**	**34.15**	**345**	LR		LR	08 17 25.6	
	comp=Z,6μm,21.2s

PLWZ	**Palliser**	**41.17 153**	P	**P**	**08 05 39.5**	**-0.1**		
YOGI	**Yogyakarta**	**41.19 265**	P	**P**	**08 05 41.0**	**+0.9**		
	comp=Z,352nm,1.9s,comp=Z,6µm							
YOJ	**Yonaguni jima**	**41.22 318**	P	**P**	**08 05 41.0**	**+0.9**		
YOJ	**Yonaguni jima**	**41.22 318**	P	**P**	**08 05 39.5**	**-0.6**		
YOJ			IAmb	IAmb	08 05 52.6			
	comp=Z,189nm,0.8s							
YOJ	**Yonaguni jima**	**41.22 318**	P	**P**	**08 05 39.5**	**-0.6**		
YOJ			pmax	pmax				
	comp=Z,189nm,0.8s							
RPZ	**Rata Peaks**	**41.25 159**	IAMs_20	IAMs_20	08 20 17.3			
	comp=Z,20µm,22.0s							
RPZ	**Rata Peaks**	**41.25 159**	LR	LR	08 20 40.2			
	comp=Z,20µm,21.7s,baz=317,slow=33							
GVZ	**Greta Valley S**	**41.37 156**	P	**P**	**08 05 41.6**	**+0.4**		
GVZ			IAmb	IAmb	08 06 22.9			
	comp=Z,484nm,1.8s							
GVZ			IAMs_20	IAMs_20	08 23 07.7			
	comp=Z,12µm,18.0s							
LBZ	**Lake Benmore**	**41.53 160**	IAMs_20	IAMs_20	08 24 52.8			
	comp=Z,15µm,18.0s							
WKZ	**Wanaka**	**41.54 161**	IAMs_20	IAMs_20	08 22 56.1			
	comp=Z,14µm,18.0s							
YULB	**Yu-li**	**41.67 316**	P	**P**	**08 05 45.4**	**+1.5**		
NWAO	**Narrogin (SRO)**	**41.84 226**	P	**P**	**08 05 45.6**	**+0.4**		
NWAO	**Narrogin (SRO)**	**41.84 226**	P	**P**	**08 05 45.1**	**0.0**		
NWAO	**Narrogin (SRO)**	**41.84 226**	IAMs_20	IAMs_20	08 25 52.2			
	comp=Z,14µm,19.0s							
NWAO	**Narrogin (SRO)**	**41.84 226**	LR	LR	08 24 18.5			
	comp=Z,11µm,18.1s,baz=36,slow=38							
NWAO	**Narrogin (SRO)**	**41.84 226**	P	**P**	**08 05 45.2**	**0.0**		
NWAO			pmax	pmax				
	comp=Z,168nm,1.6s							
NWAO			MLR	MLR				
	comp=Z,14µm,19.0s							
MQZ	**McQueen's Vall**	**41.84 157**	P	**P**	**08 05 44.6**	**-0.4**		
MQZ			IAmb	IAmb	08 06 04.8			
	comp=Z,361nm,1.8s							
NACB	**Ninganchiao**	**41.98 317**	P	**P**	**08 05 46.8**	**+0.4**		
KSM	**Kuching**	**42.04 279**	P	**P**	**08 05 47.1**	**0.0**		
TPUB	**Ta-pu**	**42.08 315**	P	**P**	**08 05 47.3**	**+0.1**		
MUN	**Mundaring**	**42.09 227**	P	**P**	**08 05 47.1**	**-0.1**		
	baz=42,SNR=10							
MUN	**Mundaring**	**42.09 227**	P	**P**	**08 05 46.9**	**-0.3**		
MUN	**Mundaring**	**42.09 227**	P	**P**	**08 05 46.4**	**-0.8**		
SSLB	**Suanglung**	**42.17 316**	P	**P**	**08 05 49.4**	**+1.4**		
SSLB	**Suanglung**	**42.17 316**	IAMs_20	IAMs_20	08 23 24.2			
	comp=Z,19µm,19.0s							
MTKN	**Mount Kenneth**	**42.38 228**	P	**P**	**08 05 49.1**	**-0.5**		
YHNB	**Yeheng**	**42.45 317**	P	**P**	**08 05 50.6**	**+0.2**		
YHNB	**Yeheng**	**42.45 317**	P	**P**	**08 05 49.8**	**-0.5**		
YHNB			IAmb	IAmb	08 06 09.9			
	comp=Z,305nm,1.0s							
KPJI	**Karang Pucung**	**42.55 266**	P	**P**	**08 05 51.8**	**+0.6**		
	comp=Z,543nm,0.9s,comp=Z,5µm							
TATO	**Taipei**	**42.58 317**	P	**P**	**08 05 52.6**	**+1.3**		
JMN	**Monobe**	**42.96 338**	P	**P**	**08 05 56.4**	**+2.2**		
JMN	**Monobe**	**42.96 338**	P	**P**	**08 05 54.2**	**-0.1**		
JMN	**Monobe**	**42.96 338**	⇑P	**P**	**08 05 52.6**	**-1.6**		
CMJI	**Cimerak**	**43.02 265**	P	**P**	**08 05 54.4**	**-0.7**		
	comp=Z,644nm,1.0s,comp=Z,6µmcomp=Z,3µm							
JCJI	**Jatiwangi**	**43.23 267**	P	**P**	**08 05 57.5**	**+0.8**		
	comp=Z,570nm,1.1s,comp=Z,9µm							
JGF	**Kuroka**	**43.51 343**	P	**P**	**08 06 00.6**	**+1.9**		
JNU	**Nakatsue**	**43.63 334**	P	**P**	**08 06 00.4**	**+0.7**		
JNU	**Nakatsue**	**43.63 334**	⇓P	**P**	**08 06 00.6**	**+0.8**		
JNU	**Nakatsue**	**43.63 334**	LR	LR	08 24 18.3			
	comp=Z,3µm,18.1s,baz=144,slow=36							
BBJI	**Bungbulang**	**43.82 265**	P	**P**	**08 06 00.2**	**-1.4**		
LEM	**Lembang**	**43.86 266**	LR	LR	08 28 45.6			
	comp=Z,8µm,19.4s,baz=88,slow=42							
MJAR	**Matsushiro Arr**	**44.15 344**	P	**P**	**08 06 00.9**	**-2.9**		
	comp=Z,9.2nm,0.9s,baz=167,slow=7.5,SNR=6.0							
MJAR			PcP	**PcP**	**08 07 48.1**	**-0.5**		
	comp=Z,16nm,0.7s,baz=155,slow=3.6,SNR=9.5							
MJAR			ScP	**ScP**	**08 11 39.7**	**-0.1**		
	comp=Z,18nm,1.0s,baz=170,slow=4.3,SNR=13							
MJAR			LR	LR	08 23 14.6			
	comp=Z,9µm,19.3s,baz=173,slow=35							
MAJO	**Matsushiro**	**44.15 344**	P	**P**	**08 06 06.3**	**+2.5**		
MAJO	**Matsushiro**	**44.15 344**	P	**P**	**08 06 04.3**	**+0.5**		
MAJO	**Matsushiro**	**44.15 344**	IAMs_20	IAMs_20	08 23 03.1			
	comp=Z,12µm,18.0s							
MAJO	**Matsushiro**	**44.15 344**	*i* P	**P**	**08 06 03.8**	**0.0**		
MAJO			pmax	pmax				
	comp=Z,33nm,1.1s							
MAJO			MLR	MLR				
	comp=Z,12µm,17.0s							
CNJI	**Cibinong**	**44.34 266**	P	**P**	**08 06 05.2**	**-0.4**		
	comp=Z,422nm,1.1s,comp=Z,4µmcomp=Z,1µm							
JOHN	**Johnston Islan**	**44.43 59**	IAMs_20	IAMs_20	08 24 09.0			
	comp=Z,13µm,19.0s							
QZH	**Quanzhou**	**44.56 315**	⇑*i* P	**P**	**08 06 07.1**	**-0.1**		
QZH			PP	**PP**	**08 07 56.4**	**+5.0**		
QZH			S	**S**	**08 12 42.3**	**+0.1**		
QZH			pmax	pmax				
	comp=Z,150nm,0.9s							
QZH			pmax	pmax				
	comp=Z,3µm,4.6s							
QZH			LR	LR				
	comp=Z,8µm,16.1s							
QZH			LR	LR				
	comp=Z,5µm,19.2s							
QZH			LR	LR				
	comp=Z,11µm,17.5s							
SKJI	**Sukabumi**	**44.91 266**	P	**P**	**08 06 11.8**	**+1.5**		
	comp=Z,822nm,0.9s,comp=Z,10µmcomp=Z,3µm							
MIDW	**Midway**	**45.18 40**	P	**P**	**08 06 14.1**	**+2.0**		
JSD	**Sado**	**45.54 345**	P	**P**	**08 06 17.4**	**+2.6**		
XMIS	**Christmas Isla**	**45.82 261**	P	**P**	**08 06 17.1**	**-0.4**		
XMIS	**Christmas Isla**	**45.82 261**	P	**P**	**08 06 17.5**	**+0.1**		
HKPS	**Hong Kong Po S**	**46.30 309**	P	**P**	**08 06 22.6**	**+1.5**		
DLV	**T Lat**	**46.56 293**	P	**P**	**08 06 23.2**	**-0.3**		
DLV	**T Lat**	**46.56 293**	P	**P**	**08 06 23.6**	**+0.1**		
DLV			IAmb	IAmb	08 06 36.9			
	comp=Z,84nm,1.1s							
CTZ	**Chatham Island**	**46.76 149**	P	**P**	**08 06 26.1**	**+1.7**		
KASI	**Kota Agung**	**47.02 268**	P	**P**	**08 06 25.9**	**-0.9**		
	comp=Z,213nm,1.2s,comp=Z,3µm							
SSE	**Sheshan**	**47.03 323**	P	**P**	**08 06 26.0**	**-0.6**		
SSE			S	**S**	**08 13 19.3**	**+1.6**		
SSE			pmax	pmax				
	comp=Z,17nm,1.1s							
SSE			pmax	pmax				
	comp=Z,630nm,5.7s							
SSE			LR	LR				
	comp=Z,3µm,16.3s							
SSE			LR	LR				
	comp=Z,3µm,16.3s							
GZH	**Guangzhou**	**47.36 309**	P	**P**	**08 06 30.4**	**+1.1**		
GZH			PP	**PP**	**08 08 22.3**	**+1.6**		
GZH			S	**S**	**08 13 24.3**	**+1.8**		
GZH			pmax	pmax				
	comp=Z,25nm,1.3s							
GZH			pmax	pmax				
	comp=Z,3µm,3.1s							
GZH			LR	LR				
	comp=Z,2µm,18.7s							
GZH			LR	LR				
	comp=Z,2µm,17.0s							
DSRI	**Dabo**	**47.40 275**	P	**P**	**08 06 30.6**	**+0.7**		
LWLI	**Liwa**	**47.48 269**	P	**P**	**08 06 31.1**	**+0.5**		
	comp=Z,391nm,0.8s							
TJN	**Taejon**	**47.92 333**	P	**P**	**08 06 33.7**	**+0.2**		
TJN	**Taejon**	**47.92 333**	*i* P	**P**	**08 06 32.0**	**-1.5**		
QIZ	**Qiongzhong**	**48.18 302**	P	**P**	**08 06 36.9**	**+1.1**		
QIZ	**Qiongzhong**	**48.18 302**	P	**P**	**08 06 36.1**	**+0.3**		
QIZ			PP	**PP**	**08 08 31.2**	**+2.9**		
QIZ			S	**S**	**08 13 37.6**	**+3.2**		
QIZ			pmax	pmax				
	comp=Z,37nm,1.5s							
QIZ			pmax	pmax				
	comp=Z,2µm,8.7s							
QIZ			LR	LR				
	comp=Z,3µm,20.5s							
QIZ			LR	LR				
	comp=Z,7µm,16.7s							
QIZ			LR	LR				
	comp=Z,7µm,17.9s							
QIZ	**Qiongzhong**	**48.18 302**	IAmb	IAmb	08 06 53.6			
	comp=Z,141nm,1.6s							
MYKOM	**Kota Tinggi**	**48.45 278**	⇑P	**P**	**08 06 37.9**	**-0.1**		
KSRS	**Korea Array**	**48.58 335**	P	**P**	**08 06 37.0**	**-1.6**		
	comp=Z,16nm,0.4s,baz=150,slow=7.9,SNR=10							
	comp=Z,16nm,0.4s							

NJ2	**Nanjing**	**49.11 322**	*e*P	**P**	**08 06 45.8**	**+3.1**		
NJ2			S	**S**	**08 13 46.8**	**-0.3**		
NJ2			pmax	pmax				
	comp=Z,40nm,1.2s							
NJ2			pmax	pmax				
	comp=Z,3µm,7.1s							
NJ2			LR	LR				
	comp=Z,7µm,15.6s							
NJ2			LR	LR				
	comp=Z,8µm,13.3s							
NJ2			LR	LR				
	comp=Z,11µm,15.2s							
INCN	**Inchon**	**49.17 333**	P	**P**	**08 06 42.8**	**-0.3**		
INCN	**Inchon**	**49.17 333**	P	**P**	**08 06 42.8**	**-0.3**		
INCN			IAmb	IAmb	08 07 22.6			
	comp=Z,339nm,1.5s							
INCN	**Inchon**	**49.17 333**	P	**P**	**08 06 42.8**	**-0.3**		
INCN			pmax	pmax				
	comp=Z,339nm,1.5s							
RAR	**Rarotonga**	**49.27 113**	P	**P**	**08 06 47.3**	**+3.1**		
RAR	**Rarotonga**	**49.27 113**	LR	LR	08 26 38.7			
	comp=Z,2µm,18.9s,baz=273,slow=35							
HJU	**Haeju**	**50.04 333**	P	**P**	**08 06 51.8**	**+2.1**		
HJU			S	**S**	**08 14 02.4**	**+2.6**		
HJU			AmB					
	comp=Z,1µm,2.5s							
HJU			AMS	AMS				
	comp=Z,4µm,17.3s							
UBPT	**Khong Chiam**	**50.48 295**	P	**P**	**08 06 54.5**	**+1.1**		
ASAJ	**Asahikawa**	**50.53 351**	LR	LR	08 26 34.2			
	comp=Z,4µm,20.8s,baz=193,slow=34							
CNSH	**ChangSha**	**50.54 314**	⇑P	**P**	**08 06 54.0**	**+0.3**		
CNSH			PP	**PP**	**08 08 51.2**	**+1.5**		
CNSH			PcS	**PcS**	**08 12 08.0**	**-0.9**		
CNSH			S	**S**	**08 14 06.7**	**-0.5**		
CNSH			pmax	pmax				
	comp=Z,2µm,7.8s							
CNSH			LR	LR				
	comp=Z,5µm,14.1s							
CNSH			LR	LR				
	comp=Z,7µm,16.3s							
CNSH			LR	LR				
	comp=Z,7µm,16.8s							
HHU	**Hamhung**	**50.84 336**	P	**P**	**08 06 57.6**	**+1.9**		
HHU			S	**S**	**08 14 13.5**	**+2.6**		
HHU			AmB					
	comp=Z,1µm,5.0s							
HHU			AMS	AMS				
	comp=Z,60nm,2.6s							
PYAG	**Pyongyang**	**50.85 334**	P	**P**	**08 06 58.0**	**+2.1**		
PYAG			S	**S**	**08 14 13.9**	**+2.7**		
PYAG			AmB					
	comp=Z,1µm,4.0s							
PYAG			AMS	AMS				
	comp=Z,206nm,4.2s							
WHN	**Wuhan**	**50.99 318**	P	**P**	**08 06 59.1**	**+2.1**		
WHN			S	**S**	**08 14 14.7**	**+1.3**		
WHN			pmax	pmax				
	comp=Z,190nm,1.3s							
WHN			pmax	pmax				
	comp=Z,6µm,9.1s							
WHN			LR	LR				
	comp=Z,9µm,13.2s							
WHN			LR	LR				
	comp=Z,9µm,14.6s							
WHN			LR	LR				
	comp=Z,22µm,17.0s							
BKNI	**Bangkinang**	**51.01 275**	P	**P**	**08 06 55.3**	**-2.2**		
KUR	**Kuril'sk**	**51.09 356**	*e*P	**P**	**08 06 56.9**	**-0.5**		
KUR			*e*		08 08 14.0			
KUR			*e*		08 08 56.7			
KUR			*e*PPP	PPP	08 09 50.6			
KUR			*e*S	**S**	**08 14 16.2**	**+2.0**		
KUR			pmax	pmax				
	comp=Z,2µm,8.6s							
KUR			MLR	MLR				
	comp=Z,7µm,17.0s							
KUR			MLR	MLR				
	comp=E,6µm,15.0s							
KUR			MLR	MLR				
	comp=N,3µm,17.0s							
XMAS	**Kiritimati**	**51.34 83**	IAMs_20	IAMs_20	08 26 43.0			
	comp=Z,10µm,19.0s							
PDSI	**Padang**	**51.43 274**	P	**P**	**08 06 59.0**	**-1.7**		
	comp=Z,53nm,0.7s,comp=Z,8µmcomp=Z,3µm							
IPM	**Ipoh**	**51.71 280**	P	**P**	**08 07 01.5**	**-1.3**		
IPM	**Ipoh**	**51.71 280**	⇑P	**P**	**08 07 02.1**	**-0.7**		
KULM	**Kulim**	**52.23 281**	⇑P	**P**	**08 07 05.8**	**-0.9**		
SUJ	**Sinuiju**	**52.27 334**	P	**P**	**08 07 08.5**	**+2.1**		
SUJ			S	**S**	**08 14 33.4**	**+2.8**		
SUJ			AmB					
	comp=Z,848nm,4.1s							
SUJ			AMS	AMS				
	comp=Z,2µm,9.0s							
TEY	**Ternei**	**52.56 346**	*e*P	P	08 07 03.0	-5.5		
DL2	**Dalian**	**52.65 330**	P	**P**	**08 07 08.0**	**-1.3**		
DL2			PcP	**PcP**	**08 08 20.6**	**+1.5**		
DL2			ScP	**ScP**	**08 12 14.8**	**-0.9**		
DL2			S	**S**	**08 14 32.4**	**-3.6**		
DL2			pmax	pmax				
	comp=Z,69nm,1.2s							
DL2			pmax	pmax				
	comp=Z,3µm,9.6s							
DL2			LR	LR				
	comp=Z,4µm,16.6s							
DL2			LR	LR				
	comp=Z,5µm,15.1s							
DL2			LR	LR				
	comp=Z,10µm,16.2s							
USRK	**Ussuriysk Ar.**	**53.02 342**	P	**P**	**08 07 09.8**	**-2.2**		
USRK	**Ussuriysk Ar.**	**53.02 342**	P	**P**	**08 07 10.8**	**-1.2**		
	comp=Z,9.6nm,0.7s,baz=175,slow=11,SNR=16							
USRK			ScP	**ScP**	**08 12 17.5**	**+0.3**		
	comp=Z,9.4nm,1.0s,baz=132,slow=2.8,SNR=7.3							
USRK			LR	LR	08 28 32.7			
	comp=Z,3µm,18.7s,baz=179,slow=35							
	comp=Z,9.6nm,0.7s							
USA0B	**Ussuriysk Arra**	**53.02 342**	IAmb	IAmb	08 08 17.8			
	comp=Z,213nm,2.0s							
USA0B	**Ussuriysk Arra**	**53.02 342**	*i* P	**P**	**08 07 10.2**	**-1.7**		
TIA	**Tai'an**	**53.05 325**	P	**P**	**08 07 10.8**	**-1.5**		
TIA			S	**S**	**08 14 39.6**	**-1.9**		
TIA			pmax	pmax				
	comp=Z,6.0nm,0.8s							
TIA			pmax	pmax				
	comp=Z,1µm,7.4s							
TIA			LR	LR				
	comp=Z,4µm,15.7s							
TIA			LR	LR				
	comp=Z,4µm,16.2s							
TIA			LR	LR				
	comp=Z,8µm,17.7s							
YSS	**Yuzh-Sakhalins**	**53.29 352**	P	**P**	**08 07 16.2**	**+2.4**		
YSS	**Yuzh-Sakhalins**	**53.29 352**	P	**P**	**08 07 14.6**	**+0.8**		
YSS	**Yuzh-Sakhalins**	**53.29 352**	*c i* P	**P**	**08 07 12.0**	**-1.8**		
YSS			*e*PPP	PPP	08 10 12.9			
YSS			*e*S	**S**	**08 14 39.8**	**-4.6**		
YSS			*e*PS	**PKiKP**	**08 15 02.0**	**+3.3**		
YSS			*e*SS	**SS**	**08 18 25.0**	**+0.5**		
YSS			pmax	pmax				
	comp=Z,20nm,0.9s							
YSS			pmax	pmax				
	comp=Z,300nm,6.9s							
YSS			MLR	MLR				
	comp=N,4µm,15.0s							
YSS			MLR	MLR				
	comp=Z,5µm,15.0s							
SRIT	**Nakonsritamara**	**53.97 285**	P	**P**	**08 07 19.3**	**-0.2**		
SNY	**Shenyang**	**54.08 334**	⇑P	**P**	**08 07 18.3**	**-1.4**		
SNY			S	**S**	**08 14 54.2**	**-1.0**		
SNY			pmax	pmax				
	comp=Z,9.0nm,1.0s							
SNY			pmax	pmax				
	comp=Z,2µm,8.8s							
SNY			LR	LR				
	comp=Z,3µm,14.2s							
SNY			LR	LR				
	comp=Z,5µm,16.9s							
SNY			LR	LR				
	comp=Z,6µm,17.5s							
MDJ	**Mudanjiang**	**54.15 341**	P	**P**	**08 07 22.1**	**+1.9**		
MDJ	**Mudanjiang**	**54.15 341**	P	**P**	**08 07 17.5**	**-2.7**		
MDJ			S	**S**	**08 15 02.6**	**+6.4**		
MDJ			ScS	**ScS**	**08 17 06.2**	**-2.5**		
MDJ			pmax	pmax				

	comp=Z,8.0nm,1.2s							
MDJ			pmax	pmax				
	comp=Z,2µm,9.1s							
MDJ			LR	LR				
	comp=Z,6µm,15.8s							
MDJ			LR	LR				
	comp=Z,3µm,16.1s							
MDJ			LR	LR				
	comp=Z,7µm,15.8s							
ENH	**Enshi**	**54.20 314**	P	**P**	**08 07 22.1**	**+1.2**		
ENH	**Enshi**	**54.20 314**	IAmb	IAmb	08 07 57.6			
	comp=Z,236nm,1.5s							
ENH			IAMs_20	IAMs_20	08 32 42.6			
	comp=Z,8µm,18.0s							
GYA	**Guiyang**	**54.29 309**	⇑*i* P	**P**	**08 07 24.4**	**+2.7**		
GYA			S	**S**	**08 15 00.5**	**+1.6**		
GYA			pmax	pmax				
	comp=Z,49nm,1.1s							
GYA			pmax	pmax				
	comp=Z,2µm,8.6s							
GYA			LR	LR				
	comp=Z,4µm,16.8s							
GYA			LR	LR				
	comp=Z,4µm,18.2s							
GYA			LR	LR				
	comp=Z,8µm,18.0s							
GSI	**Gunungsitoli**	**54.58 276**	P	**P**	**08 07 22.2**	**-1.7**		
GSI	**Gunungsitoli**	**54.58 276**	IAmb	IAmb	08 07 35.8			
	comp=Z,90nm,0.8s							
GSI	**Gunungsitoli**	**54.58 276**	⇑P	**P**	**08 07 22.4**	**-1.6**		
GSI	**Gunungsitoli**	**54.58 276**	P	**P**	**08 07 22.3**	**-1.7**		
	comp=Z,119nm,1.0s,comp=Z,2µm							
LYN	**LuoYang**	**54.75 320**	*e*P	**P**	**08 07 24.4**	**-0.4**		
LYN			PP	**PP**	**08 09 25.0**	**-2.7**		
LYN			S	**S**	**08 15 02.9**	**-1.7**		
LYN			SS	**SS**	**08 18 51.4**	**+3.3**		
LYN			pmax	pmax				
	comp=Z,36nm,1.2s							
LYN			pmax	pmax				
	comp=Z,3µm,9.0s							
LYN			LR	LR				
	comp=Z,9µm,19.6s							
LYN			LR	LR				
	comp=Z,5µm,20.8s							
LYN			LR	LR				
	comp=Z,15µm,17.1s							
CN2	**Changchun**	**54.94 337**	*e*P	**P**	**08 07 23.7**	**-2.3**		
CN2			*e*S	**S**	**08 15 10.2**	**+3.3**		
CN2			SS	**SS**	**08 18 49.1**	**-1.7**		
CN2			pmax	pmax				
	comp=Z,10.0nm,0.6s							
CN2			pmax	pmax				
	comp=Z,2µm,9.1s							
CN2			LR	LR				
	comp=Z,5µm,17.0s							
CN2			LR	LR				
	comp=Z,4µm,17.0s							
CN2			LR	LR				
	comp=Z,6µm,17.0s							
KEKH	**Kekaha**	**55.04 58**	IAMs_20	IAMs_20	08 33 42.7			
	comp=Z,13µm,18.0s							
HNS	**HongShan**	**55.27 324**	⇑P	**P**	**08 07 26.8**	**-1.6**		
HNS			S	**S**	**08 15 06.8**	**-4.6**		
HNS			pmax	pmax				
	comp=Z,50nm,1.6s							
HNS			pmax	pmax				
	comp=Z,2µm,10.0s							
HNS			LR	LR				
	comp=Z,9µm,16.9s							
HNS			LR	LR				
	comp=Z,3µm,16.7s							
HNS			LR	LR				
	comp=Z,9µm,18.3s							
UGL	**Uglegorsk**	**55.46 352**	*e*P	**P**	**08 07 28.2**	**-1.4**		
UGL			*e*		08 10 41.7			
UGL			*e*S	**S**	**08 15 15.5**	**+1.9**		
UGL			pmax	pmax				
	comp=Z,40nm,1.2s							
UGL			pmax	pmax				
	comp=Z,1µm,11.0s							
UGL			smax	smax				
	comp=E,2µm,16.0s							
UGL			smax	smax				
	comp=N,8µm,23.0s							
UGL			MLR	MLR				
	comp=E,3µm,15.0s							
UGL			MLR	MLR				
	comp=N,3µm,16.0s							
UGL			MLR	MLR				
	comp=Z,5µm,16.0s							
BNX	**BinXian**	**55.88 340**	⇓P	**P**	**08 07 30.5**	**-2.2**		
BNX			pP	**pP**	**08 07 35.2**	**-2.2**		
BNX			sP	**sP**	**08 07 37.7**	**-0.4**		
BNX			PP	**PP**	**08 09 38.0**	**+0.4**		
BNX			S	**S**	**08 15 21.2**	**+1.9**		
BNX			sS	**sS**	**08 15 27.7**	**+2.3**		
BNX			pmax	pmax				
	comp=Z,15nm,1.0s							
BNX			pmax	pmax				
	comp=Z,2µm,9.1s							
BNX			LR	LR				
	comp=Z,3µm,16.1s							
BNX			LR	LR				
	comp=Z,2µm,14.2s							
BNX			LR	LR				
	comp=Z,4µm,17.2s							
SRDT	**SRDT**	**55.97 292**	P	**P**	**08 07 35.4**	**+1.5**		
MLSI	**Meulaboh, Aceh**	**56.20 279**	P	**P**	**08 07 35.7**	**+0.1**		
	comp=Z,112nm,0.8s							
KIP	**Kipapa**	**56.26 59**	P	**P**	**08 07 38.0**	**+2.1**		
KIP	**Kipapa**	**56.26 59**	P	**P**	**08 07 37.9**	**+2.1**		
KIP	**Kipapa**	**56.26 59**	IAMs_20	IAMs_20	08 36 17.1			
	comp=Z,9µm,18.0s							
BJT	**Baijiatuau**	**56.28 327**	P	**P**	**08 07 37.6**	**+1.9**		
BJT	**Baijiatuau**	**56.28 327**	IAMs_20	IAMs_20	08 33 30.8			
	comp=Z,11µm,18.0s							
BJI	**Beijing**	**56.30 328**	P	**P**	**08 07 36.3**	**+0.5**		
BJI			S	**S**	**08 15 23.6**	**-1.4**		
BJI			pmax	pmax				
	comp=Z,9.0nm,2.1s							
BJI			pmax	pmax				
	comp=Z,1µm,8.9s							
BJI			LR	LR				
	comp=Z,4µm,17.2s							
BJI			LR	LR				
	comp=Z,2µm,17.0s							
BJI			LR	LR				
	comp=Z,6µm,17.0s							
OPA	**Opana**	**56.37 59**	IAMs_20	IAMs_20	08 34 34.9			
	comp=Z,9µm,18.0s							
XAN	**Xi'an**	**56.76 318**	⇓P	**P**	**08 07 38.1**	**-1.2**		
XAN			pP	pP	08 07 43.0	-1.0		
XAN			PP	**PP**	**08 09 46.3**	**+0.6**		
XAN			S	**S**	**08 15 29.2**	**-2.4**		
XAN			pmax	pmax				
	comp=Z,40nm,1.1s							
XAN			pmax	pmax				
	comp=Z,3µm,8.4s							
XAN			LR	LR				
	comp=Z,4µm,17.5s							
XAN			LR	LR				
	comp=Z,9µm,16.3s							
XAN			LR	LR				
	comp=Z,10µm,16.7s							
KMI	**Kunming**	**56.79 305**	⇑P	**P**	**08 07 39.8**	**-0.1**		
KMI			PP	**PP**	**08 09 46.7**	**+0.4**		
KMI			S	**S**	**08 15 31.7**	**-0.9**		
KMI			SS	**SS**	**08 19 24.1**	**+3.1**		
KMI			pmax	pmax				
	comp=Z,61nm,1.3s							
KMI			pmax	pmax				
	comp=Z,2µm,8.6s							
KMI			LR	LR				
	comp=Z,4µm,17.2s							
TIY	**Taiyuan**	**56.81 323**	P	**P**	**08 07 36.2**	**-3.4**		
TIY			S	**S**	**08 15 30.2**	**-2.0**		
TIY			pmax	pmax				
	comp=

TYV pmax pmax
comp=Z,10.0nm,0.9s
TYV pmax pmax
comp=Z,200nm,3.3s
TYV smax smax
comp=N,800nm,7.2s
TYV smax smax
comp=E,500nm,7.2s
KHLH Kahului Airpor 57.43 61 IAMs_20 IAMs_20 08 30 25.0
comp=Z,12µm,20.0s
CM31 Chiang Mai Arr 57.44 296 P **P** **08 07 43.5 -0.8**
CMAR Chiang Mai Arr 57.44 296 P **P** **08 07 43.2 -1.1**
CMAR Chiang Mai Arr 57.44 296 P **P** **08 07 43.5 -0.9**
comp=Z,8.4nm,0.6s,baz=116,slow=5.5,SNR=28
CMAR LR LR 08 32 43.8
comp=Z,2µm,18.4s,baz=105,slow=36
CMAR PKP2bc **P'P'bc** **08 37 45.1 +0.5**
comp=Z,2.3nm,0.3s,baz=295,slow=4.0,SNR=17
comp=Z,8.4nm,0.6s
HUH Hualalai 57.51 62 IAMs_20 IAMs_20 08 34 12.1
comp=Z,9µm,18.0s
HLK Haleakala 57.53 61 IAMs_20 IAMs_20 08 31 24.7
comp=Z,14µm,18.0s
KLR Kul'dur 57.67 345 LR LR 08 29 15.9
comp=Z,4µm,21.8s,baz=174,slow=33
KLR Kul'dur 57.67 345 *ce*P **P** **08 07 43.1 -2.3**
KLR pmax pmax
comp=Z,57nm,2.5s
KLR MLR MLR
comp=Z,5µm,18.0s
HPAH Hawaii Prepara 57.75 62 IAMs_20 IAMs_20 08 32 27.5
comp=Z,9µm,18.0s
GRNR Gornyy 58.04 349⇑ *i*P **P** **08 07 46.2 -1.7**
GRNR pmax pmax
comp=Z,2.0nm,1.0s
PZH PanZhiHua 58.20 306 P **P** **08 07 49.1 -0.6**
PZH PP **PP** **08 09 56.7 -2.1**
PZH S **S** **08 15 48.2 -2.7**
PZH ScS **ScS** **08 17 38.6 -0.5**
PZH pmax pmax
comp=Z,20nm,1.4s
PZH pmax pmax
comp=Z,2µm,10.4s
PZH LR LR
comp=Z,3µm,17.2s
PZH LR LR
comp=Z,4µm,17.6s
PZH LR LR
comp=Z,5µm,19.2s
PPT Papeete 58.37 107 P **P** **08 07 52.6 +1.6**
comp=Z,24nm,0.9s,baz=150,slow=7.5,SNR=3.9
PPT LR LR 08 30 47.3
comp=Z,1µm,18.1s,baz=272,slow=34
comp=Z,24nm,0.9s
PPT2 Papeete2 58.37 107 *e*PKIKP **P** **08 07 52.4 +1.4**
comp=Z,400nm,23.2s
PPT2 Papeete2 58.37 107 *e*P **P** **08 07 53.8 +2.8**
comp=Z,131nm,1.4s
PPT2 Papeete2 58.37 107 *e*PP **PP** **08 10 02.6 +2.3**
comp=Z,218nm,23.8s
PPT2 *e*S **S** **08 15 50.6 -2.8**
comp=Z,1µm,23.0s
PPT2 *e*SS **SS** **08 19 45.1 -0.7**
comp=Z,796nm,26.2s
PPT2 *e*LQ LQ 08 22 31.0
comp=Z,9µm,27.5s
PPT2 *e*LR LR 08 24 52.6
comp=Z,2µm,25.5s
PPT2 *e*LR LR 08 24 57.7
comp=Z,547nm,22.0s
PPT2 *e*LR LR 08 24 59.8
comp=Z,3µm,24.0s
PAE Paea 58.38 107 *e*PKIKP P 08 07 56.7 +5.8
comp=Z,86nm,1.4s
PAE *e*S **S** **08 15 54.1 +0.9**
comp=Z,285nm,21.6s
PAE *e*LR LR 08 24 53.2
comp=Z,366nm,22.5s
TVO Taravao 58.70 107 *e*PKIKP **P** **08 07 56.4 +3.2**
comp=Z,89nm,1.4s
CD2 Chengdu 58.72 312 P **P** **08 07 52.4 -0.7**
CD2 pP pP 08 07 55.6 -1.9
CD2 S **S** **08 15 55.3 -2.0**
CD2 SS **SS** **08 19 53.2 +2.4**
CD2 pmax pmax
comp=Z,20nm,0.6s
CD2 pmax pmax
comp=Z,2µm,9.2s
CD2 LR LR
comp=Z,2µm,12.1s
CD2 LR LR
comp=Z,2µm,15.9s
CD2 LR LR
comp=Z,6µm,19.0s
TBI Tubuai 59.04 114 *e*P **P** **08 07 52.2 -3.2**
comp=Z,1µm,25.5s
TBI Tubuai 59.04 114 *e*PP **PP** **08 10 07.5 +1.5**
comp=Z,1µm,24.8s
TBI *e*S **S** **08 15 59.7 -2.0**
comp=Z,9µm,29.0s
TBI *e*SS **SS** **08 19 56.4 +0.5**
comp=Z,4µm,24.8s
TBI *e*SS SS 08 19 59.1 +3.2
comp=Z,8µm,24.2s
TBI *e*LQ LQ 08 22 47.2
comp=Z,65µm,33.0s
TBI *e*LR LR 08 25 13.4
comp=Z,42µm,34.5s
TBI *e*LR LR 08 25 13.8
comp=Z,13µm,30.7s
TBI *e*LR LR 08 25 15.8
comp=Z,8µm,34.5s
PET Petropavlovsk 59.05 5 *c i*P **P** **08 07 54.6 -0.3**
PET *e*S **S** **08 16 00.4 -0.3**
PET *e*SS **SS** **08 19 57.3 +2.2**
PET pmax pmax
comp=Z,1µm,10.3s
PET pmax pmax
comp=Z,2µm,10.1s
PEA0B Petropavlovsk- 59.06 4 P **P** **08 07 53.4 -1.6**
PEA0B IAmb IAmb 08 08 41.7
comp=Z,110nm,1.3s
PEA0B IAMs_20 IAMs_20 08 37 32.1
comp=Z,7µm,18.0s
PEA0B Petropavlovsk- 59.06 4 *i*P **P** **08 07 54.0 -1.0**
PETK Petropavlovsk- 59.06 4 P **P** **08 07 53.8 -1.2**
PETK Petropavlovsk- 59.06 4 P **P** **08 07 54.7 -0.3**
comp=Z,8.4nm,0.5s,baz=179,slow=6.5,SNR=29
PETK LR LR 08 35 47.9
comp=Z,4µm,18.0s,baz=182,slow=39
comp=Z,8.4nm,0.5s
XLT XiLinHaoTe 59.15 331 *e*P **P** **08 07 54.1 -1.8**
XLT pP pP 08 07 58.9 -1.8
XLT S **S** **08 16 02.3 -0.3**
XLT sS sS 08 16 10.5 +1.7
XLT SS **SS** **08 19 59.3 +2.0**
XLT pmax pmax
comp=Z,53nm,1.5s
XLT pmax pmax
comp=Z,2µm,8.9s
XLT LR LR
comp=Z,410nm,19.8s
XLT LR LR
comp=Z,2µm,14.2s
XLT LR LR
comp=Z,5µm,18.6s
HHC Hu-ho-hao-te 59.40 325 *e*P **P** **08 07 57.6 -0.1**
HHC S **S** **08 16 05.2 -0.7**
HHC sS sS 08 16 13.0 +0.5
HHC ScS **ScS** **08 17 44.7 -2.5**
HHC SS **SS** **08 20 03.1 +1.9**
HHC pmax pmax
comp=Z,41nm,1.3s
HHC pmax pmax
comp=Z,2µm,6.7s
HHC LR LR
comp=Z,6µm,17.3s
HHC LR LR
comp=Z,6µm,18.2s
HHC LR LR
comp=Z,13µm,17.6s
HEH HeiHe 59.83 342 *e*P **P** **08 07 57.3 -3.0**
HEH sP **pwP** **08 08 09.6 -0.8**
HEH ScP **ScP** **08 12 46.9 -0.1**
HEH S **S** **08 16 03.7 -7.2**
HEH sS sS 08 16 26.3 +9.2
HEH pmax pmax
comp=Z,21nm,0.8s
HEH pmax pmax
comp=Z,2µm,9.2s
HEH LR LR
comp=Z,2µm,17.1s
HEH LR LR
comp=Z,3µm,16.3s
HEH LR LR
comp=Z,5µm,16.9s
PMOR Pomariorio Ree 59.86 104 *e*P **P** **08 08 02.6 +1.4**
comp=Z,768nm,1.3s
PMOR Pomariorio Ree 59.86 104 *e*LR LR 08 25 33.1
comp=Z,4µm,23.4s
BTO Baotou 60.12 324 *e*P **P** **08 08 05.5 +2.8**
BTO pP **pwP** **08 08 10.0 -2.8**
BTO sP **sP** **08 08 12.5 +4.4**
BTO PP **PP** **08 10 20.8 +5.3**
BTO S **S** **08 16 21.7 +6.4**
BTO sS **sS** **08 16 27.8 +6.0**
BTO SS **SS** **08 20 17.2 +4.6**
BTO pmax pmax
comp=Z,45nm,2.1s
BTO pmax pmax
comp=Z,5µm,9.1s
BTO LR LR
comp=Z,10µm,18.3s
BTO LR LR
comp=Z,6µm,19.6s
BTO LR LR
comp=Z,12µm,18.2s
VAH Vaihoa 60.13 104 *e*P **P** **08 08 04.8 +1.8**
comp=Z,246nm,1.2s
VAH Vaihoa 60.13 104 *e*LR LR 08 25 49.5
comp=Z,4µm,24.2s
TNCH TengChong 60.22 303⇑ P **P** **08 08 02.9 -0.9**
TNCH pP pP 08 08 06.1 -2.1
TNCH PP **PP** **08 10 16.2 -0.6**
TNCH ScP **ScP** **08 12 47.8 -1.9**
TNCH S **S** **08 16 15.7 -1.6**
TNCH SS **SS** **08 20 13.8 -1.1**
TNCH pmax pmax
comp=Z,85nm,0.6s
TNCH pmax pmax
comp=Z,1µm,8.7s
TNCH LR LR
comp=Z,2µm,16.5s
TNCH LR LR
comp=Z,1µm,17.1s
TNCH LR LR
comp=Z,3µm,17.6s
PBA Port Blair 61.26 287 *e*P **P** **08 08 10.3 -0.5**
PBA IAmb IAmb 08 09 03.1
comp=Z,80nm,1.0s
PBA IAMs_20 IAMs_20 08 46 47.2
comp=Z,4µm,18.1s
LZH Lanzhou 61.35 317 *e*P **P** **08 08 10.5 -0.7**
LZH sP pwP 08 08 19.6 -2.9
LZH S **S** **08 16 30.5 -0.8**
LZH SS **SS** **08 20 32.1 -0.1**
LZH pmax pmax
comp=Z,27nm,1.4s
LZH pmax pmax
comp=Z,2µm,4.5s
LZH LR LR
comp=Z,4µm,16.5s
LZH LR LR
comp=Z,6µm,15.8s
LZH LR LR
comp=Z,9µm,15.8s
SHEM Shemya Is, Ala 61.47 15 LR LR 08 35 37.3
comp=Z,5µm,18.1s,baz=200,slow=37
HIA Hailar 61.68 337 P **P** **08 08 12.0 -1.0**
ZEA Zeya 62.96 344 *e*P **P** **08 08 19.1 -2.3**
ZEA *e*S **S** **08 16 51.2 +0.6**
ZEA pmax pmax
comp=Z,800nm,10.7s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=Z,30nm,1.5s
ZEA smax smax
comp=E,900nm,12.4s
ZEA smax smax
comp=N,1µm,15.4s
ZEA MLR MLR
comp=E,1µm,14.0s
LKP Lekhapani 63.33 304 *e*P **P** **08 08 22.9 -1.6**
LKP IAmb IAmb 08 08 30.5
comp=Z,36nm,0.8s
LKP IAMs_20 IAMs_20 08 21 59.7
comp=Z,3µm,16.4s
IMP Imphal 64.00 301 *e*P **P** **08 08 26.8 -2.3**
IMP IAmb IAmb 08 08 30.9
comp=Z,52nm,1.1s
MOKO MOKOCHONG 64.06 303 *e*P **P** **08 08 28.0 -1.4**
MOKO IAmb IAmb 08 08 34.8
comp=Z,41nm,0.8s
DIBR DIBRUGARH 64.15 304 *e*P **P** **08 08 29.2 -0.7**
DIBR IAmb IAmb 08 08 47.7
comp=Z,194nm,1.1s
DIBR IAMs_20 IAMs_20 08 21 34.5
comp=Z,3µm,20.8s
KOHI KOHIMA 64.18 302 *e*P **P** **08 08 28.4 -1.9**
KOHI IAmb IAmb 08 08 36.0
comp=Z,92nm,0.6s
KOHI IAMs_20 IAMs_20 08 21 58.5
comp=Z,3µm,16.3s
JORH JORHAT 64.43 303 *e*P **P** **08 08 33.4 +1.7**
ITAN ITANAGAR 65.02 303 *e*P **P** **08 08 35.3 -0.2**
ITAN IAmb IAmb 08 08 48.2
comp=Z,92nm,1.0s
ZIRO ZIRO 65.05 304 *e*P **P** **08 08 35.4 -0.6**
ZIRO IAmb IAmb 08 08 53.8
comp=Z,84nm,0.8s
MA2 Magadan 65.34 359 P **P** **08 08 35.5 -1.4**
MA2 Magadan 65.34 359 P **P** **08 08 34.0 -2.9**
MA2 Magadan 65.34 359⇑ P **P** **08 08 34.9 -2.0**
MA2 Magadan 65.34 359 *ce*P **P** **08 08 35.3 -1.6**
MA2 pmax pmax
comp=Z,40nm,0.8s
MA2 Magadan 65.34 359 P **P** **08 08 37.5 +0.6**
comp=Z,51nm,0.8s,comp=Z,1µm
BELO BELONIA 65.63 299⇑ *e*P **P** **08 08 40.6 +1.0**
GTA Gaotai 65.81 318 *e*P **P** **08 08 40.4 -0.2**
GTA pP sP 08 08 45.6 -0.4
GTA S **S** **08 17 24.5 -2.2**
GTA SS **SS** **08 21 44.6 +2.9**
GTA pmax pmax
comp=Z,6.0nm,1.2s
GTA pmax pmax
comp=Z,2µm,8.8s
GTA LR LR
comp=Z,4µm,16.7s
GTA LR LR
comp=Z,3µm,17.5s
GTA LR LR
comp=Z,5µm,18.3s
SHL Shillong 66.01 301 P **P** **08 08 40.6 -1.6**
SHL Shillong 66.01 301 *e*P **P** **08 08 40.1 -2.2**
SHL IAmb IAmb 08 08 59.7
comp=Z,110nm,1.3s
SHL Shillong 66.01 301 P **P** **08 08 40.6 -1.6**
CIT Chita 66.31 335 *e*P P 08 08 37.4 -6.0
CIT *e* 08 09 08.8
CIT *e* 08 17 35.6
CIT pmax pmax
comp=Z,184nm,3.0s
ULN Ulaanbaatar 66.44 329 P **P** **08 08 43.8 -0.7**
ULN Ulaanbaatar 66.44 329 *ce*P **P** **08 08 43.9 -0.7**
ULN pmax pmax
comp=Z,48nm,1.1s
ULN MLR MLR
comp=Z,5µm,19.0s
CASY Casey 66.61 197 P **P** **08 08 44.7 -0.4**
CASY IAmb IAmb 08 10 27.3
comp=Z,36nm,0.7s
CASY Casey 66.61 197⇑ P **P** **08 08 44.6 -0.5**
SONM Songino Array 66.76 329 P **P** **08 08 45.4 -1.1**
SONM IAmb IAmb 08 09 11.9
comp=Z,207nm,1.8s
SONM Songino Array 66.76 329 P **P** **08 08 45.7 -0.8**
comp=Z,18nm,0.9s,baz=142,slow=5.4,SNR=44
SONM PKP2bc **P'P'ab** **08 37 20.5 -0.1**
comp=Z,2.5nm,1.0s,baz=311,slow=3.8,SNR=6.8
SONM LR LR 08 37 49.8
comp=Z,6µm,19.4s,baz=139,slow=36
comp=Z,18nm,0.9s
NIKH Nikolski High 67.50 25 P **P** **08 08 51.9 +1.0**
baz=223
NIKH S **S** **08 17 47.6 +1.4**
baz=223
GOMU GeErMu 67.78 313 P **P** **08 08 52.9 -0.6**
GOMU pP sP 08 08 58.0 -0.9
GOMU sP pwP 08 09 00.0 -4.8
GOMU S **S** **08 17 49.5 -1.6**
GOMU pmax pmax
comp=Z,24nm,0.9s
GOMU LR LR
comp=Z,4µm,18.9s
GOMU LR LR
comp=Z,6µm,18.9s
GOMU LR LR
comp=Z,9µm,18.0s
LSA Lhasa 68.05 305 P **P** **08 08 55.5 0.0**
LSA S **S** **08 17 48.5 -6.2**
LSA pmax pmax
comp=Z,1µm,8.6s
LSA LR LR
comp=Z,2µm,20.1s
LSA LR LR
comp=Z,990nm,18.0s
LSA LR LR
comp=Z,2µm,18.0s
LSA Lhasa 68.05 305 P **P** **08 08 54.2 -1.3**
SEY Seymchan 68.70 0 LR LR 08 37 23.7
comp=Z,2µm,20.1s,baz=166,slow=35
SEY Seymchan 68.70 0 *ce*P **P** **08 08 58.2 -0.1**
SEY pmax pmax
comp=Z,25nm,1.4s
UNV Unalaska Valle 69.11 25 P **P** **08 09 02.0 +1.1**
baz=225
UNV S **S** **08 18 08.2 +2.8**
baz=225
GTK Tadong 69.36 302 *e*P **P** **08 09 02.0 -1.3**
GTK IAmb IAmb 08 09 11.9
comp=Z,49nm,1.1s
GTK IAMs_20 IAMs_20 08 23 33.6
comp=Z,2µm,14.8s
YAK Yakutsk 69.91 349 P **P** **08 09 03.8 -2.0**
YAK IAmb IAmb 08 09 28.7
comp=Z,72nm,0.9s
YAK Yakutsk 69.91 349 *e*P **P** **08 09 03.6 -2.1**
YAK *e* 08 09 25.5
YAK *e* 08 11 35.7
YAK *e*PPP PPP 08 13 21.8
YAK *e*S **S** **08 18 12.3 -2.2**
YAK *e**SS sS 08 18 35.0 +14
YAK *e* 08 19 00.4
YAK *e*SS **SS** **08 22 40.8 -3.1**
YAK *e*SSS SSS 08 25 49.5
YAK pmax pmax
comp=Z,92nm,1.6s
YAK pmax pmax
comp=N,56nm,2.2s
YAK pmax pmax
comp=E,13nm,1.3s
YAK pmax pmax
comp=Z,581nm,6.6s
YAK pmax pmax
comp=N,335nm,6.9s
YAK pmax pmax
comp=E,193nm,5.6s
YAK smax smax
comp=N,2µm,10.1s
YAK smax smax
comp=E,332nm,6.7s
P08K Saint George I 69.92 22 P **P** **08 09 06.6 +0.7**
baz=221
ZAK Zakamensk 69.95 329 *e*P **P** **08 09 04.8 -1.6**
ZAK pmax pmax
comp=Z,71nm,1.3s
SPIA Saint Paul Isl 70.10 21 P **P** **08 09 08.0 +1.0**
baz=221
BOD Bodaibo 70.51 340 *e*P **P** **08 09 07.2 -2.3**
BOD pmax pmax
comp=Z,38nm,1.3s
IRK Irkutsk 70.62 331 *e*P **P** **08 09 07.1 -3.2**
IRK *e* 08 09 34.5
IRK pmax pmax
comp=Z,84nm,3.0s
BOK Bokaro 70.67 298 *e*P **P** **08 09 07.7 -3.5**
BOK IAMs_20 IAMs_20 08 40 52.8
comp=Z,4µm,14.6s
FALS False Pass 71.11 26 P **P** **08 09 13.7 +0.5**
baz=228
VIS Vishakhapatnam 71.50 291 *e*P **P** **08 09 15.3 -1.1**
VIS IAmb IAmb 08 09 21.3
comp=Z,142nm,1.7s
VIS IAMs_20 IAMs_20 08 45 34.8
comp=Z,3µm,17.3s
VNDA Vanda 71.71 178 P **P** **08 09 16.8 +0.2**
VNDA IAmb IAmb 08 09 25.1
comp=Z,122nm,1.4s
VNDA Vanda 71.71 178 P **P** **08 09 17.3 +0.7**
comp=Z,22nm,0.9s,baz=330,slow=6.7,SNR=60
VNDA PKPPKP **P'P'df** **08 37 08.6 +0.3**
comp=Z,0.9nm,1.0s,baz=338,slow=3.4,SNR=3.3
VNDA LR LR 08 39 14.3
comp=Z,2µm,18.1s,baz=352,slow=34
comp=Z,22nm,0.9s
MOY Mondy 71.88 329 *e*P **P** **08 09 17.3 -0.8**
MOY pmax pmax
comp=Z,117nm,1.9s
PALK Pallekele 72.10 280 LR LR 08 43 35.2
comp=Z,3µm,20.4s,baz=212,slow=38
S12K Black Hills 72.26 25 IAMs_20 IAMs_20 08 42 28.8
comp=Z,5µm,19.0s
S12K Black Hills 72.26 25 S **S** **08 18 44.0 +1.9**
baz=229
SBA Scott Base 72.28 177 P **P** **08 09 21.4 +1.5**
SBA IAmb IAmb 08 09 29.8
comp=Z,222nm,1.6s
SBA Scott Base 72.28 177 P **P** **08 09 21.5 +1.5**
SBA pmax pmax
comp=Z,222nm,1.7s
SBA MLR MLR
comp=Z,3µm,18.0s
MALK Mahakanadarawa 72.43 281 P **P** **08 09 19.3 -2.8**
MALK Mahakanadarawa 72.43 281⇑ P **P** **08 09 25.6 +3.5**
SDPT Sand Point 72.71 26 P **P** **08 09 22.7 -0.1**
SDPT Sand Point 72.71 26 P **P** **08 09 22.1 -0.8**
SDPT Sand Point 72.71 26 P **P** **08 09 23.6 +0.8**
baz=230
SDPT S **S** **08 18 49.3 +2.0**
baz=230
MDRS Chennai 73.49 285 *e*P **P** **08 09 29.7 +1.4**
MDRS IAmb IAmb 08 09 45.8
comp=Z,29nm,1.2s
S14K Fog Glacier 73.71 26 P **P** **08 09 29.4 +0.5**
baz=231
S14K S **S** **08 19 03.1 +4.3**
baz=231
M11K Mekoryuk 73.90 20 P **P** **08 09 30.5 +0.7**
baz=224
M11K S **S** **08 19 06.8 +6.3**
baz=224
CHGN Chignik 74.22 26 P **P** **08 09 31.4 -0.3**
CHGN IAmb IAmb 08 09 44.5
comp=Z,106nm,0.8s
CHGN Chignik 74.22 26 P **P** **08 09 32.6 +0.9**
baz=232
CHGN S **S** **08 19 06.3 +2.1**
baz=232
BILL Bilibino 74.54 6 P **P** **08 09 33.3 -0.1**
BILL IAmb IAmb 08 09 47.2
comp=Z,206nm,1.6s
BILL Bilibino 74.54 6⇑ *e*P **P** **08 09 33.2 -0.1**
BILL pmax pmax
comp=Z,47nm,1.0s
GAMB Gambell 74.78 16 P **P** **08 09 35.6 +0.8**
baz=218
GAMB S **S** **08 19 14.7 +4.5**
baz=218
O14K Tigyukauivet M 74.92 23 IAmb IAmb 08 09 58.8
comp=Z,102nm,1.0s
O14K IAMs_20 IAMs_20 08 38 03.3
comp=Z,6µm,21.0s
O14K Tigyukauivet M 74.92 23 P **P** **08 09 35.6 -0.2**
baz=229
O14K S **S** **08 19 16.1 +4.0**
baz=229
M13K Dall Lake 74.93 21 P **P** **08 09 35.0 -0.7**

M13K IAmb IAmb 08 10 08.6
comp=Z,221nm,1.4s
M13K IAMs_20 IAMs_20 08 39 46.4
comp=Z,7μm,19.0s
M13K Dall Lake 74.93 21 P **P** **08 09 36.3 +0.6**
baz=227
M13K S **S** **08 19 17.5 +5.5**
baz=227
CHIR Chirikof Islan 75.19 28 IAmb IAmb 08 09 50.9
comp=Z,222nm,1.0s
CHIR IAMs_20 IAMs_20 08 35 11.5
comp=Z,6μm,20.0s
CHIR Chirikof Islan 75.19 28 P **P** **08 09 37.2 -0.2**
baz=235
N14K Kuskokwak Cree 75.21 22 P **P** **08 09 37.9 +0.6**
baz=228
N14K S **S** **08 19 20.0 +4.8**
baz=228
R16K Pilot Point 75.36 26 P **P** **08 09 38.6 +0.3**
baz=233
R16K S **S** **08 19 20.8 +3.9**
baz=233
O15K Ungalikthiuk R 75.44 23 P **P** **08 09 39.5 +0.8**
baz=230,SNR=13
O15K S **S** **08 19 21.3 +3.5**
baz=230
K13K Kusilvak Mount 75.53 20 P **P** **08 09 39.8 +0.6**
baz=225,SNR=5.7
K13K S **S** **08 19 23.6 +4.8**
baz=225
M14K Bethel 75.66 21 IAmb IAmb 08 09 54.2
comp=Z,188nm,1.3s
M14K Bethel 75.66 21 P **P** **08 09 41.1 +1.2**
baz=228,SNR=14
M14K S **S** **08 19 23.4 +3.3**
baz=228
L14K Kuka Creek 75.80 21 IAmb IAmb 08 09 54.4
comp=Z,114nm,0.9s
L14K Kuka Creek 75.80 21 P **P** **08 09 40.6 -0.1**
baz=227,SNR=25
L14K S **S** **08 19 25.1 +3.4**
baz=227
HYB Hyderabad 75.90 290 *e*P **P** **08 09 41.3 -0.9**
HYB Hyderabad 75.90 290 *e*P **P** **08 09 43.9 +1.6**
WMQ Urumqi 75.90 318 *e*P **P** **08 09 40.5 -1.3**
WMQ S **S** **08 19 23.9 +0.2**
WMQ SS **SS** **08 24 22.1 +5.7**
WMQ pmax pmax
comp=Z,32nm,1.7s
WMQ pmax pmax
comp=Z,1μm,4.9s
WMQ LR LR
comp=Z,2μm,19.7s
WMQ LR LR
comp=Z,2μm,13.7s
WMQ LR LR
comp=Z,2μm,24.0s
TRD Trivandrum 75.95 280 *e*P **P** **08 09 42.5 -0.1**
TRD IAmb IAmb 08 09 46.9
comp=Z,95nm,1.5s
TRD IAMs_20 IAMs_20 08 42 10.7
comp=Z,3μm,22.1s
N15K Kwethluk River 75.97 23 IAmb IAmb 08 09 55.5
comp=Z,92nm,0.9s
N15K IAMs_20 IAMs_20 08 37 55.0
comp=Z,6μm,21.0s
N15K Kwethluk River 75.97 23 P **P** **08 09 41.7 -0.1**
baz=230,SNR=18
N15K S **S** **08 19 27.2 +3.5**
baz=230
P16K Nushagak River 76.08 24 P **P** **08 09 43.2 +0.8**
baz=232
M15K Kasigluk River 76.09 22 P **P** **08 09 42.8 +0.4**
baz=229
M15K S **S** **08 19 27.8 +2.9**
baz=229
SII Sitkinak Islan 76.27 27 P **P** **08 09 44.3 +0.7**
SII Sitkinak Islan 76.27 27 P **P** **08 09 44.0 +0.4**
baz=236,SNR=6.9
SII S **S** **08 19 30.0 +2.8**
baz=236
O16K Kokwok River B 76.39 24 IAmb IAmb 08 10 00.8
comp=Z,197nm,1.9s
O16K IAMs_20 IAMs_20 08 39 49.0
comp=Z,7μm,19.0s
O16K Kokwok River B 76.39 24 P **P** **08 09 44.6 +0.5**
baz=232
O16K S **S** **08 19 30.4 +2.1**
baz=232
Q16K King Salmon 76.42 25 P **P** **08 09 44.6 +0.4**
baz=233
Q16K S **S** **08 19 31.4 +2.8**
baz=233
L15K Ungalak Mounta 76.45 21 P **P** **08 09 45.3 +0.9**
baz=228,SNR=10
L15K S **S** **08 19 31.3 +2.5**
baz=228
J14K Nanvaranak Lak 76.47 19 IAmb IAmb 08 09 58.6
comp=Z,162nm,1.1s
J14K Nanvaranak Lak 76.47 19 P **P** **08 09 44.8 +0.3**
baz=226,SNR=15
J14K S **S** **08 19 33.2 +4.1**
baz=226
Q17K Contact Creek 76.50 25 P **P** **08 09 45.3 +0.4**
baz=234,SNR=20
Q17K S **S** **08 19 31.2 +1.5**
baz=234
N16K Nishlik Lake 76.67 23 P **P** **08 09 46.0 +0.2**
baz=231
N16K S **S** **08 19 33.7 +2.2**
baz=231
P17K Kvichak River 76.82 25 P **P** **08 09 46.3 -0.2**
baz=233
P17K S **S** **08 19 35.9 +3.0**
baz=233
K15K Wolf Creek Mou 76.85 20 IAmb IAmb 08 10 00.6
comp=Z,178nm,0.9s
K15K Wolf Creek Mou 76.85 20 P **P** **08 09 46.4 -0.3**
baz=228,SNR=39
K15K S **S** **08 19 35.8 +2.6**
baz=228
O17K Koliganek Bris 76.90 24 P **P** **08 09 47.0 0.0**
baz=233
O17K S **S** **08 19 36.1 +2.3**
baz=233
OHAK Old Harbor 77.05 27 P **P** **08 09 48.4 +0.5**
OHAK Old Harbor 77.05 27 IAmb IAmb 08 10 01.0
comp=Z,105nm,0.8s
OHAK Old Harbor 77.05 27 P **P** **08 09 48.2 +0.3**
baz=237
OHAK S **S** **08 19 37.5 +1.9**
baz=237
ANM Nome 77.19 18 IAmb IAmb 08 10 03.0
comp=Z,116nm,1.3s
ANM Nome 77.19 18 P **P** **08 09 48.5 -0.1**
baz=224
ANM S **S** **08 19 38.6 +1.7**
baz=224
TNA Tin City 77.19 16 P **P** **08 09 49.1 +0.5**
baz=221
TNA S **S** **08 19 40.0 +3.2**
baz=221
L16K Owhat River 77.20 22 IAmb IAmb 08 10 02.8
comp=Z,216nm,1.4s
L16K Owhat River 77.20 22 P **P** **08 09 48.1 -0.5**
baz=230,SNR=26
L16K S **S** **08 19 39.7 +2.7**
baz=230
N17K Nushagak Hills 77.32 23 IAmb IAmb 08 10 03.4
comp=Z,102nm,1.1s
N17K IAMs_20 IAMs_20 08 39 27.7
comp=Z,6μm,20.0s
N17K Nushagak Hills 77.32 23 P **P** **08 09 49.9 +0.6**
baz=232,SNR=17
N17K S **S** **08 19 42.1 +3.7**
baz=232
P18K Big Mountain, 77.44 25 IAmb IAmb 08 10 02.2
comp=Z,106nm,1.1s
P18K Big Mountain, 77.44 25 P **P** **08 09 50.0 -0.1**
baz=234,SNR=6.2
P18K S **S** **08 19 40.8 +0.9**
baz=234
F14K Arctic Creek 77.58 17 P **P** **08 09 51.3 +0.6**
baz=223
F14K S **S** **08 19 44.1 +3.2**
baz=223
KDAK Kodiak Island 77.68 27 P **P** **08 09 50.5 -0.9**
KDAK IAmb IAmb 08 10 05.3
comp=Z,211nm,1.2s
KDAK Kodiak Island 77.68 27 IAMs_20 IAMs_20 08 36 45.2
comp=Z,6μm,21.0s
KDAK Kodiak Island 77.68 27 P **P** **08 09 51.3 -0.1**
baz=237
KDAK S **S** **08 19 42.1 -0.3**
baz=237
KDAK Kodiak Island 77.68 27 ⇓P **P** **08 09 52.3 +0.9**
KDAK Kodiak Island 77.68 27 LR LR 08 42 18.2
comp=Z,2μm,18.9s,baz=252,slow=34
KDAK Kodiak Island 77.68 27 P **P** **08 09 50.5 -0.9**
KDAK pmax pmax
comp=Z,211nm,1.2s
O18K Koktuh Hills 77.72 24 P **P** **08 09 51.0 -0.7**
baz=234
O18K S **S** **08 19 44.9 +2.1**
baz=234
M17K Holitna River 77.76 22 IAmb IAmb 08 10 06.1
comp=Z,133nm,1.1s
M17K Holitna River 77.76 22 P **P** **08 09 51.6 -0.2**
baz=232,SNR=26
M17K S **S** **08 19 48.5 +5.4**
baz=232
J16K Anvik River 77.83 20 IAmb IAmb 08 10 06.4
comp=Z,270nm,1.4s
J16K IAMs_20 IAMs_20 08 39 59.1
comp=Z,5μm,20.0s
J16K Anvik River 77.83 20 P **P** **08 09 52.3 +0.2**
baz=229,SNR=22
J16K S **S** **08 19 49.5 +5.7**
baz=229
Q19K Cape Douglas, 77.84 26 IAMs_20 IAMs_20 08 46 14.5
comp=Z,6μm,19.0s
Q19K Cape Douglas, 77.84 26 P **P** **08 09 52.2 -0.1**
baz=236
Q19K S **S** **08 19 45.0 +0.8**
baz=236
G15K Niukluk 77.90 18 P **P** **08 09 53.0 +0.5**
baz=225
G15K S **S** **08 19 47.6 +3.1**
baz=225
L17K Donlin 77.90 22 P **P** **08 09 52.8 +0.2**
baz=231,SNR=21
L17K S **S** **08 19 49.9 +5.2**
baz=231
N18K Kilae Creek 77.93 23 IAmb IAmb 08 10 07.5
comp=Z,244nm,1.2s
N18K IAMs_20 IAMs_20 08 40 16.7
comp=Z,7μm,20.0s
N18K Kilae Creek 77.93 23 P **P** **08 09 53.1 +0.3**
baz=234,SNR=32
N18K S **S** **08 19 49.4 +4.4**
baz=234
BHPL Bhopal 78.08 295 *e*P **P** **08 09 52.4 -2.1**
BHPL IAmb IAmb 08 10 09.5
comp=Z,41nm,0.4s
BHPL IAMs_20 IAMs_20 08 41 05.0
comp=Z,2μm,20.2s
I17K Unalakleet 78.20 19 IAmb IAmb 08 09 59.5
comp=Z,131nm,1.1s
I17K Unalakleet 78.20 19 P **P** **08 09 54.3 +0.1**
baz=228,SNR=20
I17K S **S** **08 19 51.5 +3.8**
baz=228
H16K Elim 78.20 18 P **P** **08 09 53.9 -0.4**
baz=227
H16K S **S** **08 19 52.7 +4.9**
baz=227
Q20K Shuyak Island 78.21 26 P **P** **08 09 54.6 +0.3**
baz=237
Q20K S **S** **08 19 49.6 +1.5**
baz=237
SYI Shuyak Island 78.21 26 IAmb IAmb 08 10 08.8
comp=Z,206nm,1.1s
SYI IAMs_20 IAMs_20 08 38 26.2
comp=Z,6μm,20.0s
F15K North Star Dit 78.23 17 IAmb IAmb 08 10 07.9
comp=Z,131nm,1.2s
F15K North Star Dit 78.23 17 P **P** **08 09 54.3 0.0**
baz=224,SNR=11
F15K S **S** **08 19 50.6 +2.5**
baz=224
K17K Iditarod 78.27 21 P **P** **08 09 54.8 +0.2**
baz=231
K17K S **S** **08 19 52.5 +3.9**
baz=231
O19K Port Alsworth 78.28 24 P **P** **08 09 54.5 -0.1**
baz=235
O19K S **S** **08 19 49.4 +0.7**
baz=235
SVW2 Sparrevohn 78.30 23 P **P** **08 09 55.4 +0.6**
SVW2 Sparrevohn 78.30 23 IAmb IAmb 08 10 01.1
comp=Z,75nm,0.9s
P19K Oil Pt 78.42 25 P **P** **08 09 55.4 -0.1**
baz=236,SNR=11
P19K S **S** **08 19 50.2 -0.2**
baz=236
J17K VABM Dome 78.42 20 IAmb IAmb 08 10 09.6
comp=Z,202nm,1.1s
J17K VABM Dome 78.42 20 P **P** **08 09 55.5 0.0**
baz=230
J17K S **S** **08 19 55.0 +4.8**
baz=230
M18K Stony River 78.43 23 P **P** **08 09 55.8 +0.2**
baz=234,SNR=22
M18K S **S** **08 19 55.6 +5.3**
baz=234
L18K Granite Mounta 78.55 22 IAmb IAmb 08 10 10.9
comp=Z,213nm,1.1s
L18K IAMs_20 IAMs_20 08 40 10.1
comp=Z,5μm,20.0s
L18K Granite Mounta 78.55 22 P **P** **08 09 55.8 -0.3**
baz=233,SNR=31
L18K S **S** **08 19 56.0 +4.4**
baz=233
N19K Bonanza Creek 78.56 24 IAmb IAmb 08 10 00.2
comp=Z,57nm,0.7s
N19K IAMs_20 IAMs_20 08 41 05.6
comp=Z,6μm,20.0s
N19K Bonanza Creek 78.56 24 P **P** **08 09 56.0 -0.4**
baz=235,SNR=20
N19K S **S** **08 19 53.8 +1.8**
baz=235
G16K Koyuk River 78.69 18 IAmb IAmb 08 10 10.5
comp=Z,156nm,1.2s
G16K Koyuk River 78.69 18 P **P** **08 09 56.2 -0.7**
baz=227,SNR=28
G16K S **S** **08 19 57.1 +4.1**
baz=227
TIXI Tiksi 78.91 353 P **P** **08 09 56.4 -1.6**
TIXI Tiksi 78.91 353 IAMs_20 IAMs_20 08 49 06.9
comp=Z,6μm,18.0s
TIXI Tiksi 78.91 353 ⇑P **P** **08 09 54.9 -3.1**
TIXI Tiksi 78.91 353 LR LR 08 48 34.5
comp=Z,3μm,18.0s,baz=173,slow=39
TIXI Tiksi 78.91 353 *e*P **P** **08 09 56.9 -1.1**
TIXI pmax pmax
comp=Z,24nm,1.2s
TIXI MLR MLR
comp=Z,6μm,17.0s
O20K Slope Mountain 78.92 25 P **P** **08 09 57.7 -0.6**
baz=237
O20K S **S** **08 19 56.3 +0.5**
baz=237
DDI Dehra Dun 79.08 302 *e*P **P** **08 09 57.3 -2.5**
DDI IAmb IAmb 08 10 23.2
DDI IAMs_20 IAMs_20 08 45 16.3
comp=Z,2μm,22.4s
ZSN Zaisan 79.10 321 *e*P **P** **08 09 57.9 -1.6**
baz=320
ZSN *e*S **S** **08 19 58.0 -0.2**
baz=320
ZSN Zaisan 79.10 321 *e*P **P** **08 09 57.9 -1.6**
ZSN *e*S **S** **08 19 57.9 -0.2**
HOM Homer 79.10 26 P **P** **08 09 58.5 -0.8**
baz=238
HOM S **S** **08 20 00.1 +2.5**
baz=238
H17K Granite Mounta 79.15 19 IAmb IAmb 08 10 13.2
comp=Z,123nm,1.1s
H17K Granite Mounta 79.15 19 P **P** **08 09 59.1 -0.3**
baz=229,SNR=23
H17K S **S** **08 20 02.4 +4.5**
baz=229
CNPM China Poot 79.21 26 IAMs_20 IAMs_20 08 38 28.6
comp=Z,6μm,22.0s
L19K White Mountain 79.22 23 IAmb IAmb 08 10 14.2
comp=Z,175nm,1.0s
L19K IAMs_20 IAMs_20 08 40 38.7
comp=Z,6μm,20.0s
L19K White Mountain 79.22 23 P **P** **08 09 59.7 -0.2**
baz=234,SNR=57
L19K S **S** **08 20 03.6 +4.8**
baz=234
M19K Big River Lodg 79.23 23 IAmb IAmb 08 10 06.1
comp=Z,87nm,0.9s
M19K IAMs_20 IAMs_20 08 40 16.2
comp=Z,6μm,20.0s
M19K Big River Lodg 79.23 23 P **P** **08 09 60.0 0.0**
baz=235
M19K S **S** **08 20 02.3 +3.3**
baz=235
G17K Kiwalik Mounta 79.29 18 P **P** **08 09 60.0 -0.2**
baz=228,SNR=37
G17K S **S** **08 20 03.7 +4.4**
baz=228
J18K Innoko River 79.30 21 IAmb IAmb 08 10 04.7
comp=Z,88nm,0.9s
J18K Innoko River 79.30 21 P **P** **08 10 00.1 -0.1**
baz=232,SNR=54
J18K S **S** **08 20 02.1 +2.5**
baz=232
BRLK Bradley Lake 79.48 26 IAmb IAmb 08 10 14.3
comp=Z,176nm,1.0s
BRLK IAMs_20 IAMs_20 08 39 11.5
comp=Z,5μm,20.0s
BRSE Bradley Lake S 79.53 26 P **P** **08 10 00.6 -1.1**
baz=238,SNR=20
BRSE S **S** **08 20 04.4 +2.2**
baz=238
N20K Mount Spurr 79.70 24 P **P** **08 10 02.3 -0.3**
baz=237
M20K Styx River 79.71 23 IAmb IAmb 08 10 16.2
comp=Z,212nm,1.2s
M20K IAMs_20 IAMs_20 08 41 21.6
comp=Z,8μm,20.0s
M20K Styx River 79.71 23 P **P** **08 10 01.6 -1.1**
baz=236
M20K S **S** **08 20 08.5 +4.3**
baz=236
F17K Baldwin Pennin 79.74 17 IAmb IAmb 08 10 12.8
comp=Z,93nm,0.8s
F17K Baldwin Pennin 79.74 17 P **P** **08 10 02.3 -0.2**
baz=228,SNR=54
F17K S **S** **08 20 08.7 +4.7**
baz=228
L20K Farewell, AK 79.76 23 P **P** **08 10 02.5 -0.3**
baz=235,SNR=29
L20K S **S** **08 20 09.4 +4.8**
baz=235
H18K Honhosa River 79.79 19 P **P** **08 10 02.0 -0.9**
baz=231
H18K S **S** **08 20 08.4 +3.7**
baz=231
C16K Lisburne Hills 79.89 15 IAMs_20 IAMs_20 08 48 06.7
comp=Z,5μm,20.0s
C16K Lisburne Hills 79.89 15 P **P** **08 10 03.6 +0.3**
baz=223,SNR=5.9
C16K S **S** **08 20 08.4 +2.8**
baz=223
CAPN Captain Cook N 79.90 25 IAMs_20 IAMs_20 08 41 44.9
comp=Z,4μm,18.0s
CAPN Captain Cook N 79.90 25 P **P** **08 10 03.3 -0.3**
baz=238
E17K Hotham Inlet 80.00 17 P **P** **08 10 03.8 -0.3**
baz=227,SNR=91
E17K S **S** **08 20 11.0 +4.1**
baz=227
J19K Poorman 80.00 21 IAmb IAmb 08 10 17.8
comp=Z,147nm,1.2s
J19K Poorman 80.00 21 P **P** **08 10 04.2 +0.1**
baz=233,SNR=46
J19K S **S** **08 20 11.3 +4.2**
baz=233
GCSA Galena City Sc 80.03 20 P **P** **08 10 04.4 +0.3**
baz=232
GCSA S **S** **08 20 10.0 +2.8**
baz=232
GOA Goa 80.03 287 *e*P **P** **08 10 05.1 -0.1**
GOA IAMs_20 IAMs_20 08 49 13.5
comp=Z,1μm,18.5s
D17K Noatak River 80.08 16 P **P** **08 10 03.9 -0.5**
baz=226,SNR=33
D17K S **S** **08 20 11.1 +3.5**
baz=226
G18K Tagagawik 80.17 19 P **P** **08 10 03.8 -1.1**
baz=230,SNR=36
G18K S **S** **08 20 12.5 +3.7**
baz=230
K20K Telida 80.19 22 IAmb IAmb 08 10 18.9
comp=Z,225nm,1.3s
K20K IAMs_20 IAMs_20 08 40 49.6
comp=Z,5μm,20.0s
K20K Telida 80.19 22 P **P** **08 10 04.9 -0.2**
baz=235,SNR=61
K20K S **S** **08 20 12.8 +3.8**
baz=235
SEW Seward 80.28 26 P **P** **08 10 04.9 -0.7**
baz=240,SNR=31
SEW S **S** **08 20 11.6 +1.6**
baz=240
F18K Selawik 80.32 18 P **P** **08 10 05.1 -0.6**
baz=229,SNR=16
F18K S **S** **08 20 13.3 +3.1**
baz=229
O22K Cooper Landing 80.35 25 IAMs_20 IAMs_20 08 39 06.9
comp=Z,7μm,22.0s
O22K Cooper Landing 80.35 25 P **P** **08 10 05.0 -1.0**
baz=239,SNR=20
O22K S **S** **08 20 12.5 +1.8**
baz=239
RDOG Red Dog Mine 80.38 16 IAmb IAmb 08 10 20.1
comp=Z,138nm,1.1s
RDOG IAMs_20 IAMs_20 08 47 37.4
comp=Z,6μm,19.0s
RDOG Red Dog Mine 80.38 16 P **P** **08 10 05.4 -0.6**
baz=226,SNR=42
RDOG S **S** **08 20 13.3 +2.5**
baz=226
SKT Skwentna 80.40 24 IAMs_20 IAMs_20 08 42 53.0
comp=Z,6μm,20.0s
SKT Skwentna 80.40 24 P **P** **08 10 06.0 -0.2**
baz=237
SKT S **S** **08 20 11.4 +0.1**
baz=237
SUA Susitna One 80.44 24 IAmb IAmb 08 10 18.8
comp=Z,105nm,1.0s
SUA Susitna One 80.44 24 P **P** **08 10 05.1 -1.5**
baz=238
SUA S **S** **08 20 13.6 +1.6**
baz=238
POO Poona 80.50 290 *e*P **P** **08 10 08.7 +0.9**
POO IAmb IAmb 08 10 21.6
comp=Z,76nm,1.2s
POO IAMs_20 IAMs_20 08 48 19.7
comp=Z,2μm,20.4s
MK31 Makanchi Array 80.52 319 *i*P **P** **08 10 05.3 -2.0**
MK31 pmax pmax
comp=Z,19nm,1.0s
MKAR Makanchi Array 80.52 319 P **P** **08 10 05.1 -2.2**
MKAR Makanchi Array 80.52 319 P **P** **08 10 06.2 -1.2**
comp=Z,17nm,1.0s,baz=101,slow=6.3,SNR=29
MKAR PKPPKP **P'P'df** **08 36 56.5 +4.7**
comp=Z,1.0nm,0.9s,baz=300,slow=2.4,SNR=4.6
MKAR LR LR 08 47 15.6
comp=Z,3μm,18.6s,baz=112,slow=37
comp=Z,17nm,1.0s
E18K Tukpahlearik C 80.58 17 IAmb IAmb 08 10 21.2
comp=Z,86nm,1.0s
E18K IAMs_20 IAMs_20 08 47 22.9
comp=Z,5μm,19.0s
E18K Tukpahlearik C 80.58 17 P **P** **08 10 06.6 -0.5**
baz=228,SNR=44
E18K S **S** **08 20 16.4 +3.4**
baz=228
C17K DeLong Mountai 80.60 15 P **P** **08 10 06.4 -0.9**
baz=226,SNR=31
C17K S **S** **08 20 16.8 +3.6**
baz=226
J20K Nowinta River 80.64 21 IAmb IAmb 08 10 21.3
comp=Z,218nm,1.1s
J20K Nowinta River 80.64 21 P **P** **08 10 07.2 -0.3**
baz=235,SNR=88
J20K S **S** **08 20 17.5 +3.8**
baz=235
PPLA Purkeypile 80.64 23 P **P** **08 10 07.2 -0.5**

baz=237,SNR=10
PPLA S **S** **08 20 14.9 +0.9**
baz=237
H19K Roundabout Mou 80.65 19 IAmb IAmb 08 10 21.7
comp=Z,162nm,1.1s
H19K Roundabout Mou 80.65 19 P **P** **08 10 07.1 -0.4**
baz=232,SNR=67
H19K S **S** **08 20 18.1 +4.4**
baz=232
RC01 Rabbit Creek A 80.66 25 P **P** **08 10 06.7 -0.9**
baz=239,SNR=16
RC01 S **S** **08 20 15.6 +1.6**
baz=239
MAKZ Makanchi 80.73 319 P **P** **08 10 06.7 -1.7**
MAKZ IAMs_20 IAMs_20 08 47 21.1
comp=Z,5µm,18.0s
MAKZ Makanchi 80.73 319 P **P** **08 10 06.7 -1.7**
MAKZ pmax pmax
comp=Z,34nm,1.0s
MAKZ MLR MLR
comp=Z,5µm,18.0s
G19K Purcell Mounta 80.83 19 IAmb IAmb 08 10 22.1
comp=Z,158nm,1.1s
G19K Purcell Mounta 80.83 19 P **P** **08 10 07.5 -1.0**
baz=232,SNR=55
G19K S **S** **08 20 19.4 +3.8**
baz=232
M22K Willow 80.84 24 IAmb IAmb 08 10 21.5
comp=Z,266nm,1.1s
M22K Willow 80.84 24 P **P** **08 10 06.9 -1.7**
baz=239,SNR=26
M22K S **S** **08 20 16.6 +0.8**
baz=239
I20K Naaghedeneel 80.88 20 IAmb IAmb 08 10 23.3
comp=Z,259nm,1.1s
I20K Naaghedeneel 80.88 20 P **P** **08 10 07.8 -0.9**
baz=234,SNR=20
I20K S **S** **08 20 20.8 +4.7**
baz=234
CAST Castle Rocks 80.97 22 IAmb IAmb 08 10 14.0
comp=Z,84nm,0.8s
CAST IAMs_20 IAMs_20 08 41 03.0
comp=Z,6µm,20.0s
CAST Castle Rocks 80.97 22 P **P** **08 10 08.5 -0.8**
baz=237,SNR=53
CAST S **S** **08 20 18.7 +1.5**
baz=237
DHRM DHARAMSHALA 80.98 304 *eP* **P** **08 10 08.7 -1.6**
DHRM IAmb IAmb 08 10 23.1
comp=Z,77nm,1.2s
F19K Shaleruckik Mo 81.04 18 IAmb IAmb 08 10 13.8
comp=Z,71nm,0.8s
F19K Shaleruckik Mo 81.04 18 P **P** **08 10 09.0 -0.6**
baz=231,SNR=73
F19K S **S** **08 20 20.5 +2.8**
baz=231
P23K Montague Islan 81.12 26 P **P** **08 10 09.5 -0.6**
baz=242
P23K S **S** **08 20 21.4 +2.6**
baz=242
CUT Chulitna 81.12 24 IAmb IAmb 08 10 22.8
comp=Z,260nm,1.2s
CUT IAMs_20 IAMs_20 08 42 37.3
comp=Z,5µm,20.0s
CUT Chulitna 81.12 24 P **P** **08 10 08.9 -1.2**
baz=239
CUT S **S** **08 20 20.4 +1.6**
baz=239
CHUM Lake Minchumin 81.14 22 P **P** **08 10 09.4 -0.8**
baz=236,SNR=103
CHUM S **S** **08 20 21.8 +3.0**
baz=236
H20K Anotleneega Mo 81.15 20 P **P** **08 10 09.4 -0.8**
baz=234,SNR=32
H20K S **S** **08 20 23.3 +4.3**
baz=234
PMR Palmer 81.17 25 P **P** **08 10 09.9 -0.4**
PMR Palmer 81.17 25 IAmb IAmb 08 10 23.0
comp=Z,210nm,1.2s
PMR Palmer 81.17 25 P **P** **08 10 09.4 -0.9**
baz=240,SNR=28
PMR S **S** **08 20 21.4 +2.2**
baz=240
PMR Palmer 81.17 25 P **P** **08 10 11.7 +1.4**
C18K Utukok River 81.25 16 IAmb IAmb 08 10 23.8
comp=Z,156nm,1.5s
C18K IAMs_20 IAMs_20 08 48 25.5
comp=Z,6µm,19.0s
C18K Utukok River 81.25 16 P **P** **08 10 09.8 -0.9**
baz=227,SNR=27
C18K S **S** **08 20 22.7 +2.7**
baz=227
SHLS Shalkode 81.32 315 *eP* **P** **08 10 09.0 -2.8**
baz=315
SHLS Shalkode 81.32 315 *eP* **P** **08 10 09.0 -2.8**
Q23K Middleton Isla 81.33 27 P **P** **08 10 10.7 -0.5**
baz=242
Q23K S **S** **08 20 24.8 +3.9**
baz=242
GHO Glory Hole Cre 81.34 24 IAmb IAmb 08 10 28.7
comp=Z,190nm,1.0s
PDGK Podgornoye 81.34 315 P **P** **08 10 09.9 -2.0**
KNK Knik Glacier 81.36 25 IAMs_20 IAMs_20 08 39 40.4
comp=Z,6µm,22.0s
KNK Knik Glacier 81.36 25 P **P** **08 10 10.9 -0.5**
baz=240,SNR=25
KNK S **S** **08 20 23.3 +1.9**
baz=240
KTH Kantishna Hill 81.48 22 IAmb IAmb 08 10 24.8
comp=Z,165nm,1.2s
KTH IAMs_20 IAMs_20 08 41 49.6
comp=Z,6µm,20.0s
ZALV Zalesovo Beam 81.54 327 P **P** **08 10 09.7 -2.8**
ZALV Zalesovo Beam 81.54 327 P **P** **08 10 10.3 -2.2**
comp=Z,13nm,0.6s,baz=109,slow=5.7,SNR=48
ZALV LR LR 08 48 44.4
comp=Z,4µm,18.4s,baz=118,slow=38
comp=Z,13nm,0.6s
B18K Kokolik River 81.58 15 P **P** **08 10 11.7 -0.7**
baz=227,SNR=15
B18K S **S** **08 20 25.9 +2.7**
baz=227
E19K Redstone River 81.60 18 IAmb IAmb 08 10 26.7
comp=Z,202nm,1.0s
E19K IAMs_20 IAMs_20 08 41 03.8
comp=Z,5µm,20.0s
E19K Redstone River 81.60 18 P **P** **08 10 12.4 -0.2**
baz=231,SNR=145
E19K S **S** **08 20 26.3 +2.7**
baz=231
SML Sawmill 81.61 25 P **P** **08 10 12.4 -0.3**
baz=240,SNR=64
SML S **S** **08 20 26.0 +2.0**
baz=240
TRF Thorofare Moun 81.67 23 IAmb IAmb 08 10 24.3
comp=Z,355nm,1.9s
TRF IAMs_20 IAMs_20 08 43 07.5
comp=Z,8µm,20.0s
TRF Thorofare Moun 81.67 23 P **P** **08 10 12.3 -0.9**
baz=238,SNR=26
TRF S **S** **08 20 24.9 +0.1**
baz=238
GLI Glacier Island 81.68 26 IAMs_20 IAMs_20 08 39 16.9
comp=Z,5µm,22.0s
GLI Glacier Island 81.68 26 P **P** **08 10 12.0 -1.1**
baz=242,SNR=39
GLI S **S** **08 20 28.0 +3.4**
baz=242
HIN Hinchinbrook I 81.71 26 IAMs_20 IAMs_20 08 51 55.7
comp=Z,4µm,18.0s
BPAW Bear Paw Mtn. 81.75 22 IAmb IAmb 08 10 25.7
comp=Z,174nm,1.4s
BPAW IAMs_20 IAMs_20 08 41 36.7
comp=Z,5µm,21.0s
BPAW Bear Paw Mtn. 81.75 22 P **P** **08 10 12.2 -1.3**
baz=238,SNR=53
BPAW S **S** **08 20 26.2 +0.9**
baz=238
F20K Avaraart Lake 81.81 18 IAmb IAmb 08 10 27.3
comp=Z,111nm,1.2s
F20K Avaraart Lake 81.81 18 P **P** **08 10 13.2 -0.4**
baz=233
F20K S **SKSac** **08 20 29.9 -2.5**
baz=233
IMAR Indian Mountai 81.82 20 P **P** **08 10 13.2 -0.6**
M23K Glacier View 81.85 25 P **P** **08 10 13.8 -0.2**
baz=241,SNR=16
M23K S **S** **08 20 28.1 +1.7**
baz=241
H21K Melozitna Rive 81.95 20 P **P** **08 10 14.1 -0.4**
baz=236,SNR=46
H21K S **SKSac** **08 20 31.2 -2.4**
baz=236
I21K Tanana 81.97 21 IAmb IAmb 08 10 28.1
comp=Z,193nm,1.2s
I21K IAMs_20 IAMs_20 08 49 28.7
comp=Z,4µm,18.0s
I21K Tanana 81.97 21 P **P** **08 10 14.3 -0.3**
baz=237
I21K S **S** **08 20 30.8 +3.3**
baz=237
C19K Lookout Ridge 81.99 16 IAmb IAmb 08 10 28.2
comp=Z,140nm,1.1s
C19K IAMs_20 IAMs_20 08 49 00.0
comp=Z,7µm,18.0s
C19K Lookout Ridge 81.99 16 P **P** **08 10 14.2 -0.5**
baz=229,SNR=53
C19K S **S** **08 20 29.7 +2.1**
baz=229
D19K Kuna River 82.00 17 IAmb IAmb 08 10 20.1
comp=Z,66nm,0.8s
D19K IAMs_20 IAMs_20 08 43 07.3
comp=Z,5µm,19.0s
D19K Kuna River 82.00 17 P **P** **08 10 14.7 0.0**
baz=230,SNR=64
D19K S **S** **08 20 29.5 +1.8**
baz=230
WAT1 Susitna Watana 82.03 24 P **P** **08 10 13.3 -1.7**
baz=240
WAT1 S **S** **08 20 29.3 +1.1**
baz=240
SATY Saty 82.03 315 *eP* **P** **08 10 14.3 -1.2**
baz=315
SATY *eS* **S** **08 20 29.4 +0.1**
baz=315
SATY Saty 82.03 315 *eP* **P** **08 10 14.3 -1.2**
SATY *eS* **S** **08 20 29.4 +0.1**
SCM Sheep Creek Mo 82.03 25 IAMs_20 IAMs_20 08 40 35.3
comp=Z,5µm,22.0s
SCM Sheep Creek Mo 82.03 25 P **P** **08 10 14.6 -0.5**
baz=241,SNR=33
SCM S **S** **08 20 29.9 +1.5**
baz=241
EYAK Cordova Ski Ar 82.11 26 P **P** **08 10 15.7 +0.4**
EYAK Cordova Ski Ar 82.11 26 P **P** **08 10 13.9 -1.4**
baz=243,SNR=25
EYAK S **S** **08 20 32.0 +3.0**
baz=243
RND Reindeer 82.20 23 IAMs_20 IAMs_20 08 42 41.5
comp=Z,6µm,20.0s
RND Reindeer 82.20 23 P **P** **08 10 14.1 -1.8**
G21K Allakaket 82.21 19 IAmb IAmb 08 10 29.0
comp=Z,124nm,1.3s
G21K Allakaket 82.21 19 P **P** **08 10 15.3 -0.5**
baz=235,SNR=40
G21K S **S** **08 20 32.8 +3.0**
baz=235
WAT6 Susitna Watana 82.23 24 P **P** **08 10 15.5 -0.7**
baz=241,SNR=43
WAT6 S **S** **08 20 31.2 +0.7**
baz=241
MCK McKinley 82.33 23 P **P** **08 10 16.2 -0.3**
baz=240,SNR=62
MCK S **S** **08 20 31.8 +0.5**
baz=240
MCK McKinley 82.33 23 P **P** **08 10 15.7 -0.8**
MLY Manley 82.34 21 IAmb IAmb 08 10 20.0
comp=Z,98nm,0.6s
MLY Manley 82.34 21 P **P** **08 10 15.5 -1.0**
baz=238,SNR=113
MLY S **S** **08 20 32.9 +1.6**
baz=238
A19K Wainwright 82.34 15 P **P** **08 10 16.1 -0.2**
baz=227
A19K S **S** **08 20 33.0 +2.0**
baz=227
BWN Browne 82.35 22 IAMs_20 IAMs_20 08 42 59.4
comp=Z,6µm,19.0s
E20K Nigu River 82.41 17 P **P** **08 10 16.4 -0.4**
baz=232,SNR=115
E20K S **SKSac** **08 20 35.3 -1.3**
baz=232
KAIM Kayak Island 82.43 27 P **P** **08 10 16.9 -0.1**
baz=244,SNR=23
KAIM S **S** **08 20 34.2 +1.9**
baz=244
KLU Klutina 82.47 25 P **P** **08 10 16.6 -0.8**
baz=243,SNR=66
KLU S **S** **08 20 35.6 +2.7**
baz=243
RAGM Ragged Mountai 82.51 27 IAMs_20 IAMs_20 08 40 31.0
comp=Z,6µm,21.0s
TDK Taldyqorghan 82.56 317 *eP* **P** **08 10 17.2 -1.0**
TDK comp=Z,16nm,0.7s,baz=317 LR LR 08 48 10.1
comp=Z,1µm,16.4s,baz=317
TDK Taldyqorghan 82.56 317 *eP* **P** **08 10 17.1 -1.0**
TDK pmax pmax
comp=Z,16nm,0.7s
D20K Etivluk River 82.57 17 P **P** **08 10 17.5 -0.2**
baz=232,SNR=20
D20K S **S** **08 20 35.9 +2.3**
baz=232
H22K Ishtalitna Cre 82.58 20 P **P** **08 10 17.3 -0.4**
baz=237
H22K S **SKSac** **08 20 37.0 -0.7**
baz=237
DHY Denali Highway 82.61 24 IAmb IAmb 08 10 31.7
comp=Z,203nm,1.2s
DHY IAMs_20 IAMs_20 08 44 30.6
comp=Z,5µm,20.0s
DHY Denali Highway 82.61 24 P **P** **08 10 17.9 -0.2**
baz=241,SNR=62
DHY S **S** **08 20 36.6 +2.1**
baz=241
F21K Alatna River 82.62 19 IAMs_20 IAMs_20 08 50 40.8
comp=Z,4µm,19.0s
F21K Alatna River 82.62 19 P **P** **08 10 17.6 -0.4**
baz=235,SNR=30
F21K S **SKSac** **08 20 37.0 -1.0**
baz=235
M24K Tolsona, Glenn 82.64 25 P **P** **08 10 18.0 -0.3**
baz=242,SNR=36
M24K S **SKSac** **08 20 37.9 -0.5**
baz=242
HMT Hamilton 82.67 27 IAMs_20 IAMs_20 08 40 12.3
comp=Z,6µm,20.0s
NEA2 Nenana 82.72 22 IAmb IAmb 08 10 31.1
comp=Z,147nm,1.0s
NEA2 IAMs_20 IAMs_20 08 41 53.3
comp=Z,5µm,20.0s
NEA2 Nenana 82.72 22 P **P** **08 10 17.6 -0.9**
baz=239,SNR=74
NEA2 S **S** **08 20 34.9 -0.3**
baz=239
ARXS Arharly 82.75 316 *eP* **P** **08 10 17.5 -1.7**
BMRM Bremner River 82.80 26 P **P** **08 10 18.3 -0.8**
baz=244,SNR=57
BMRM S **S** **08 20 38.1 +1.9**
baz=244
I23K Minto, Yukon-K 82.89 21 P **P** **08 10 18.9 -0.5**
baz=239,SNR=47
I23K S **S** **08 20 38.1 +1.2**
baz=239
KSH Kashi 82.91 311 P **P** **08 10 21.4 +1.2**
KSH pP pwP 08 10 27.6 -3.8
KSH S **S** **08 20 46.7 +8.3**
KSH SS **SS** **08 26 08.6 +6.8**
KSH comp=Z,24nm,1.4s pmax pmax
KSH comp=Z,2µm,7.3s pmax pmax
KSH comp=Z,2µm,17.3s LR LR
KSH comp=Z,4µm,18.9s LR LR
KSH comp=Z,4µm,16.8s LR LR
BERG Berg Lake 82.95 27 IAMs_20 IAMs_20 08 40 20.6
comp=Z,5µm,21.0s
MDOK Medeo 83.02 315 *eP* **P** **08 10 19.7 -1.1**
MDOK baz=315 *eS* **S** **08 20 39.0 -0.5**
MDOK comp=Z,1µm,17.6s,baz=315 LR LR 08 48 13.6
MDOK Medeo 83.02 315 *eP* **P** **08 10 19.6 -1.1**
MDOK *eS* **S** **08 20 38.9 -0.5**
MDOK MLR MLR
comp=Z,1µm,18.0s
WRH Wood River Hil 83.02 22 IAMs_20 IAMs_20 08 42 16.4
comp=Z,5µm,21.0s
BGLC Bering Glacier 83.02 27 P **P** **08 10 20.0 -0.1**
baz=245
BGLC S **SKSac** **08 20 41.0 +0.2**
baz=245
TNSS Tian-Shan 83.06 315 *eP* **P** **08 10 19.9 -1.3**
baz=314
TNSS Tian-Shan 83.06 315 *eP* **P** **08 10 19.9 -1.3**
N25K Chitina, Valde 83.08 26 P **P** **08 10 20.0 -0.6**
baz=244,SNR=53
N25K S **SKSac** **08 20 41.3 -0.1**
baz=244
G22K Bettles 83.09 19 P **P** **08 10 20.0 -0.4**
baz=237
G22K S **SKSac** **08 20 42.0 +0.9**
baz=237
AAA Alma-Ata 83.12 315 *eP* **P** **08 10 20.2 -1.0**
comp=Z,27nm,1.0s,baz=315
AAA Alma-Ata 83.12 315 *eP* **P** **08 10 20.1 -1.0**
AAA pmax pmax
comp=Z,27nm,1.0s
E21K Killik River 83.18 18 IAmb IAmb 08 10 34.2
comp=Z,133nm,1.1s
E21K IAMs_20 IAMs_20 08 44 39.3
comp=Z,4µm,20.0s
E21K Killik River 83.18 18 P **P** **08 10 20.5 -0.3**
baz=234
E21K S **SKSac** **08 20 41.6 -0.1**
baz=234
H23K Yukon River 83.18 21 IAmb IAmb 08 10 34.2
comp=Z,144nm,1.2s
H23K Yukon River 83.18 21 P **P** **08 10 20.2 -0.7**
baz=239,SNR=54
H23K S **SKSac** **08 20 42.7 +0.9**
baz=239
F22K John River 83.20 19 P **P** **08 10 20.8 -0.2**
baz=236
F22K S **S** **08 20 41.7 +1.6**
baz=236
HARP HAARP 83.20 25 P **P** **08 10 20.6 -0.5**
baz=243,SNR=16
HARP S **SKSac** **08 20 42.5 +0.4**
baz=243
MDM Murphy Dome 83.21 22 IAmb IAmb 08 10 34.9
comp=Z,159nm,1.3s
B20K Meade River 83.22 16 IAmb IAmb 08 10 25.3
comp=Z,89nm,1.4s
B20K IAMs_20 IAMs_20 08 50 00.5
comp=Z,4µm,18.0s
B20K Meade River 83.22 16 P **P** **08 10 21.1 +0.2**
baz=231
B20K S **SKSac** **08 20 42.1 +0.3**
baz=231
CHKK Chushkaly 83.24 315 *eP* **P** **08 10 20.4 -1.3**
baz=315
CHKK Chushkaly 83.24 315 *eP* **P** **08 10 20.4 -1.3**
SNH Sunshine Point 83.25 27 IAMs_20 IAMs_20 08 47 22.5
comp=Z,4µm,18.0s
COLA College 83.31 22 P **P** **08 10 21.2 -0.3**
COLA College 83.31 22 P **P** **08 10 19.5 -2.0**
COLA College 83.31 22 IAMs_20 IAMs_20 08 54 15.9
comp=Z,4µm,18.0s
COLA College 83.31 22 P **P** **08 10 19.9 -1.6**
baz=240
COLA S **S** **08 20 40.8 -0.3**
baz=240
COLA College 83.31 22 ⇑P **P** **08 10 19.4 -2.1**
COLA College 83.31 22 *i* P **P** **08 10 19.4 -2.1**
COLA pmax pmax
comp=Z,184nm,0.9s
PAX Paxson 83.33 24 P **P** **08 10 21.2 -0.7**
baz=243,SNR=30
PAX S **S** **08 20 42.0 +0.3**
baz=243
WAX Waxell Ridge 83.36 27 IAMs_20 IAMs_20 08 40 08.3
comp=Z,5µm,22.0s
C21K Knifeblade Rid 83.36 17 P **P** **08 10 21.3 -0.5**
baz=234,SNR=42
C21K S **S** **08 20 42.8 +1.2**
baz=234
HDA Harding Lake 83.42 23 IAmb IAmb 08 10 36.5
comp=Z,91nm,0.9s
HDA IAMs_20 IAMs_20 08 43 51.0
comp=Z,7µm,20.0s
HDA Harding Lake 83.42 23 P **P** **08 10 21.2 -0.9**
baz=241,SNR=64
HDA S **SKSac** **08 20 43.6 +0.2**
baz=241
HDA S **SKSac** **08 20 43.6 +0.2**
baz=241
G23K Bananza Creek 83.48 20 IAmb IAmb 08 10 36.4
comp=Z,119nm,1.1s
G23K IAMs_20 IAMs_20 08 41 03.4
comp=Z,5µm,21.0s
G23K Bananza Creek 83.48 20 P **P** **08 10 21.9 -0.6**
baz=238,SNR=56
G23K S **S** **08 20 43.1 +0.2**
baz=238
POKR Poker Plat Res 83.58 22 IAmb IAmb 08 10 25.8
comp=Z,52nm,0.9s
POKR Poker Plat Res 83.58 22 P **P** **08 10 21.9 -1.0**
baz=241,SNR=21
POKR S **S** **08 20 43.3 -0.6**
baz=241
K24K Donnelly Dome 83.59 23 P **P** **08 10 22.6 -0.5**
baz=242,SNR=32
K24K S **S** **08 20 44.5 +0.3**
baz=242
IL31 83.62 22 P **P** **08 10 20.7 -2.4**
IL31 IAmb IAmb 08 10 25.8
comp=Z,104nm,0.8s
ILAR Eielson Array 83.62 22 P **P** **08 10 20.2 -2.9**
ILAR Eielson Array 83.62 22 P **P** **08 10 21.0 -2.1**
comp=Z,69nm,0.7s,baz=249,slow=4.8,SNR=147
ILAR PKKPbc **PKKPbc** **08 28 40.1 -3.8**
comp=Z,0.7nm,0.7s,baz=358,slow=0.9,SNR=6.1
ILAR PKPPKP **P'P'df** **08 36 50.9 +5.9**
comp=Z,0.9nm,1.0s,baz=250,slow=0.3,SNR=5.5
ILAR LR LR 08 43 57.8
comp=Z,5µm,20.5s,baz=234,slow=33
comp=Z,69nm,0.7s
BOOM Boomskoye usch 83.64 314 IAmb IAmb 08 10 44.8
comp=Z,60nm,1.1s
ISLE Juniper Island 83.65 27 P **P** **08 10 23.3 -0.2**
MESA MESA 83.66 27 P **P** **08 10 24.1 +0.4**
MESA MESA 83.66 27 P **P** **08 10 23.3 -0.4**
baz=246,SNR=22
MESA S **S** **08 20 45.3 +0.1**
baz=246
E22K Anaktuvuk Pass 83.67 18 IAMs_20 IAMs_20 08 45 33.2
comp=Z,4µm,19.0s
E22K Anaktuvuk Pass 83.67 18 P **P** **08 10 23.4 0.0**
baz=236
E22K S **SKSac** **08 20 47.4 +2.5**
baz=236
MCARA McCarthy VSAT 83.67 26 P **P** **08 10 23.2 -0.3**
baz=245,SNR=44
MCARA S **SKSac** **08 20 47.4 +2.3**
baz=245
B21K Ikpikpuk River 83.69 16 IAmb IAmb 08 10 36.6
comp=Z,75nm,1.1s
B21K IAMs_20 IAMs_20 08 42 04.6
comp=Z,5µm,22.0s
B21K Ikpikpuk River 83.69 16 P **P** **08 10 22.9 -0.4**
baz=234
B21K S **SKSac** **08 20 45.9 +1.0**
baz=234
COLD Coldfoot 83.69 19 P **P** **08 10 23.1 -0.4**
baz=238,SNR=69
COLD S **SKSac** **08 20 47.3 +2.3**
baz=238
NIL Nilore 83.78 305 P **P** **08 10 22.9 -1.8**
NIL IAmb IAmb 08 10 27.5
comp=Z,63nm,0.7s
NIL Nilore 83.78 305 P **P** **08 10 22.9 -1.8**
NIL pmax pmax
comp=Z,63nm,0.7s
H24K Noodor Dome 83.78 21 IAMs_20 IAMs_20 08 43 02.3
comp=Z,5µm,20.0s
H24K Noodor Dome 83.78 21 P **P** **08 10 23.1 -0.9**
baz=240,SNR=50
H24K S **S** **08 20 46.6 +0.6**
baz=240

D22K **Ayikyak River** **83.82 17** P **P** **08 10 24.0 -0.1**
baz=236,SNR=98
D22K S **SKSac** **08 20 47.6 +1.8**
baz=236
TKM2 **Tokmak 2** **83.99 314** P **P** **08 10 25.3 -0.5**
SNR=25
TKM2 **Tokmak 2** **83.99 314** *i* P **P** **08 10 24.1 -1.7**
TKM2 pmax pmax
comp=Z,45nm,1.3s
QSPA **South Pole Qui** **84.00 180** P **P** **08 10 24.7 -0.6**
QSPA **South Pole Qui** **84.00 180** ⇓P **P** **08 10 24.6 -0.6**
QSPA **South Pole Qui** **84.00 180** P **P** **08 10 25.0 -0.3**
comp=Z,182nm,0.9s,baz=355,slow=2.2,SNR=102
QSPA LR LR 08 46 17.2
comp=Z,1µm,19.2s,baz=5.0,slow=34
comp=Z,182nm,0.9s
MENT **Mentasta** **84.04 25** P **P** **08 10 26.0 +0.6**
MENT **Mentasta** **84.04 25** IAmb IAmb 08 10 47.1
comp=Z,62nm,0.8s
MENT IAMs_20 IAMs_20 08 42 20.2
comp=Z,6µm,20.0s
KURK **Kurchatov** **84.05 322** P **P** **08 10 23.6 -2.0**
KURK IAmb IAmb 08 10 41.9
comp=Z,58nm,1.1s
KURK **Kurchatov** **84.05 322** *ce* P **P** **08 10 23.6 -2.0**
KURK pmax pmax
comp=Z,52nm,1.3s
KURK MLR MLR
comp=Z,4µm,18.0s
KURBB **Kurchatov Arra** **84.07 322** P **P** **08 10 23.7 -2.0**
comp=Z,4.8nm,0.6s,baz=112,slow=3.8,SNR=39
KURBB LR LR 08 49 59.2
comp=Z,3µm,18.1s,baz=125,slow=37
comp=Z,4.8nm,0.6s
KURBB **Kurchatov Arra** **84.07 322** P **P** **08 10 23.2 -2.5**
MAW **Mawson** **84.10 203** P **P** **08 10 25.5 -0.1**
comp=Z,55nm,1.0s,baz=72,slow=5.8,SNR=22
MAW LR LR 08 44 56.0
comp=Z,4µm,21.5s,baz=90,slow=34
comp=Z,55nm,1.0s
M26K **Nabesna, AK** **84.11 25** IAmb IAmb 08 10 39.1
comp=Z,76nm,1.2s
M26K **Nabesna, AK** **84.11 25** P **P** **08 10 25.0 -0.8**
baz=245,SNR=31
M26K S **S** **08 20 51.3 +1.9**
baz=245
J25K **Salcha River,** **84.12 23** IAMs_20 IAMs_20 08 44 43.5
comp=Z,9µm,20.0s
J25K **Salcha River,** **84.12 23** P **P** **08 10 25.0 -0.8**
baz=243,SNR=249
J25K S **S** **08 20 50.0 +0.5**
baz=243
A21K **Barrow** **84.19 15** P **P** **08 10 25.2 -0.6**
baz=232
A21K S **S** **08 20 50.4 +0.7**
baz=232
L26K **Log Cabin Wild** **84.23 25** IAmb IAmb 08 10 31.8
comp=Z,77nm,0.8s
L26K IAMs_20 IAMs_20 08 42 25.3
comp=Z,7µm,20.0s
L26K **Log Cabin Wild** **84.23 25** P **P** **08 10 25.9 -0.4**
baz=245,SNR=96
L26K S **S** **08 20 52.2 +1.7**
baz=245
CTG **Chitna Glacier** **84.25 27** P **P** **08 10 26.3 -0.3**
baz=247,SNR=110
CTG S **S** **08 20 52.6 +1.6**
baz=247
E23K **Chandalar** **84.32 19** P **P** **08 10 26.1 -0.7**
baz=239
E23K S **S** **08 20 53.6 +2.2**
baz=239
LOGN **Logan Glacier** **84.34 27** IAmb IAmb 08 10 45.5
comp=Z,137nm,1.0s
G24K **Hadweenzic Riv** **84.35 20** IAmb IAmb 08 10 40.1
comp=Z,176nm,1.3s
G24K **Hadweenzic Riv** **84.35 20** P **P** **08 10 26.1 -0.7**
baz=241,SNR=42
G24K S **S** **08 20 53.7 +2.1**
baz=241
SCRK **Sand Creek** **84.38 24** IAmb IAmb 08 10 40.1
comp=Z,126nm,1.1s
SCRK IAMs_20 IAMs_20 08 52 01.2
comp=Z,4µm,18.0s
SCRK **Sand Creek** **84.38 24** P **P** **08 10 26.4 -0.8**
baz=244,SNR=57
SCRK S **S** **08 20 53.3 +1.0**
baz=244
KBK **Karagaybulak** **84.39 314** P **P** **08 10 29.6 +1.7**
SNR=12
A22K **Sinclair Lake** **84.42 15** P **P** **08 10 26.5 -0.5**
baz=233
A22K S **S** **08 20 51.8 -0.2**
baz=233
B22K **Teshekpuk Lake** **84.44 16** IAmb IAmb 08 10 40.2
comp=Z,80nm,1.1s
B22K IAMs_20 IAMs_20 08 50 50.9
comp=Z,6µm,19.0s
B22K **Teshekpuk Lake** **84.44 16** P **P** **08 10 26.5 -0.7**
baz=235,SNR=23
B22K S **S** **08 20 52.5 +0.1**
baz=235
YKU2 **Yakutat** **84.46 28** P **P** **08 10 29.6 +2.1**
D23K **Nanushuk River** **84.47 18** P **P** **08 10 27.0 -0.4**
baz=238
D23K S **S** **08 20 54.5 +1.8**
baz=238
PRP **Porcupine Dome** **84.48 22** P **P** **08 10 25.9 -1.8**
baz=243,SNR=24
PRP S **SKSac** **08 20 52.6 +2.1**
baz=243
M27K **Edge Creek, AK** **84.57 25** P **P** **08 10 27.9 -0.3**
baz=246,SNR=170
M27K S **S** **08 20 54.0 -0.2**
baz=246
UCH **Uchtor** **84.61 313** P **P** **08 10 29.3 +0.1**
SNR=37
CHMS **Chumysh** **84.61 314** P **P** **08 10 28.2 -0.5**
SNR=24
F24K **Squaw Lake** **84.61 20** P **P** **08 10 28.1 -0.1**
baz=240,SNR=166
F24K S **S** **08 20 54.7 +0.5**
baz=240
TOLK **Toolik Lake Re** **84.64 18** IAmb IAmb 08 10 41.6
comp=Z,153nm,1.3s
TOLK IAMs_20 IAMs_20 08 53 26.1
comp=Z,5µm,18.0s
TOLK **Toolik Lake Re** **84.64 18** P **P** **08 10 28.2 -0.2**
baz=238,SNR=71
TOLK S **SKSac** **08 20 52.9 +1.7**
baz=238
PNL **Peninsula** **84.65 28** P **P** **08 10 28.5 0.0**
PNL **Peninsula** **84.65 28** P **P** **08 10 28.5 0.0**
baz=249,SNR=91
PNL S **S** **08 20 54.4 -0.5**
baz=249
O28M **Mount Upton** **84.69 27** P **P** **08 10 28.6 -0.4**
baz=248,SNR=61
O28M S **S** **08 20 57.0 +1.2**
baz=248
E24K **Your Creek** **84.69 19** IAmb IAmb 08 10 41.8
comp=Z,74nm,1.1s
E24K IAMs_20 IAMs_20 08 41 57.3
comp=Z,5µm,22.0s
E24K **Your Creek** **84.69 19** P **P** **08 10 28.3 -0.3**
baz=240
E24K S **S** **08 20 56.1 +1.0**
baz=240
AAK **Ala-Archa** **84.71 314** P **P** **08 10 29.2 -0.2**
SNR=21
AAK **Ala-Archa** **84.71 314** P **P** **08 10 28.5 -0.9**
AAK IAmb IAmb 08 10 52.7
comp=Z,64nm,1.1s
AAK **Ala-Archa** **84.71 314** P **P** **08 10 27.1 -2.3**
AAK **Ala-Archa** **84.71 314** P **P** **08 10 28.4 -1.0**
comp=Z,17nm,0.6s,baz=135,slow=4.6,SNR=24
AAK LR LR 08 47 20.9
comp=Z,2µm,21.4s,baz=108,slow=35
comp=Z,17nm,0.6s
AAK **Ala-Archa** **84.71 314** *i* P **P** **08 10 28.9 -0.5**
AAK pmax pmax
comp=Z,34nm,0.9s
H25L **Birch Creek** **84.72 21** P **P** **08 10 27.1 -1.6**
baz=242,SNR=20
H25L S **S** **08 20 56.7 +1.5**
baz=242
J26L **Joseph Creek** **84.77 23** IAmb IAmb 08 10 32.8
comp=Z,39nm,0.7s
J26L IAMs_20 IAMs_20 08 44 42.7
comp=Z,6µm,20.0s
J26L **Joseph Creek** **84.77 23** P **P** **08 10 28.4 -0.8**
baz=244,SNR=70
J26L S **S** **08 20 57.4 +1.4**
baz=244
SGDS **Sogindy** **84.80 315** *e* P **P** **08 10 28.8 -1.0**
baz=314
SGDS **Sogindy** **84.80 315** *e* P **P** **08 10 28.7 -1.0**
USP **Ospenovka** **84.85 314** P **P** **08 10 29.5 -0.5**
SNR=47
G25K **Bearman Lake** **84.86 21** P **P** **08 10 29.0 -0.4**
baz=242,SNR=41
G25K S **S** **08 20 58.4 +1.8**
baz=242
L27K **Beaver Creek,** **84.87 25** IAmb IAmb 08 10 43.3
comp=Z,95nm,1.0s
L27K IAMs_20 IAMs_20 08 42 32.4
comp=Z,5µm,21.0s
L27K **Beaver Creek,** **84.87 25** P **P** **08 10 29.2 -0.3**
baz=246,SNR=84
L27K S **S** **08 20 58.9 +1.9**
baz=246
BCAR **Beaver Creek A** **84.89 25** P **P** **08 10 29.3 -0.4**
YUK3 **Moose Creek** **84.95 26** P **P** **08 10 29.9 -0.4**
baz=248,SNR=86
YUK3 S **S** **08 20 58.8 +0.6**
baz=248
C23K **Itkillik River** **84.96 17** IAMs_20 IAMs_20 08 45 50.6
comp=Z,5µm,19.0s
C23K **Itkillik River** **84.96 17** P **P** **08 10 29.5 -0.3**
baz=238,SNR=71
C23K S **S** **08 20 58.4 +0.9**
baz=238
BVCY **Beaver Creek** **85.03 26** S **S** **08 21 00.1 +1.6**
baz=247
YUK8 **Steele Glacier** **85.08 27** P **P** **08 10 30.4 -0.5**
baz=248,SNR=100
YUK8 S **S** **08 21 01.3 +1.8**
baz=248
BHUJ **Bhuj** **85.11 294** *e* P **P** **08 10 33.5 +1.9**
D24K **Happy Valley** **85.14 18** IAmb IAmb 08 10 45.1
comp=Z,134nm,1.1s
D24K IAMs_20 IAMs_20 08 44 02.3
comp=Z,4µm,19.0s
D24K **Happy Valley** **85.14 18** P **P** **08 10 30.6 -0.1**
baz=239
K27K **Chicken** **85.17 24** IAmb IAmb 08 10 45.1
comp=Z,119nm,1.1s
K27K **Chicken** **85.17 24** P **P** **08 10 31.0 0.0**
baz=246
EKS2 **Erkin-Say** **85.23 314** P **P** **08 10 32.0 0.0**
SNR=22
I26K **Coal Creek Min** **85.28 22** IAmb IAmb 08 10 46.8
comp=Z,64nm,0.8s
I26K IAMs_20 IAMs_20 08 45 28.1
comp=Z,7µm,20.0s
I26K **Coal Creek Min** **85.28 22** P **P** **08 10 30.3 -1.2**
baz=245
F25K **Christian Rive** **85.40 20** P **P** **08 10 32.1 -0.1**
baz=242,SNR=58
P29M **Windy Craggy** **85.42 29** IAmb IAmb 08 10 38.5
comp=Z,101nm,0.9s
P29M IAMs_20 IAMs_20 08 54 49.0
comp=Z,5µm,18.0s
P29M **Windy Craggy** **85.42 29** P **P** **08 10 32.5 +0.1**
baz=250,SNR=49
C24K **Franklin Bluff** **85.47 18** P **P** **08 10 32.2 -0.2**
baz=239
BTLS **Baital** **85.57 316** *e* P **P** **08 10 32.1 -1.3**
baz=316
BTLS *e* S **SKSac** **08 20 56.8 -1.2**
baz=316
BTLS **Baital** **85.57 316** *e* P **P** **08 10 32.1 -1.3**
BTLS *e* S **SKSac** **08 20 56.7 -1.2**
YUK6 **Outpost Mounta** **85.59 27** P **P** **08 10 33.5 0.0**
baz=250,SNR=45
YUK4 **Talbot Arm** **85.60 27** P **P** **08 10 33.8 +0.4**
baz=249,SNR=144
S31K **Pelican** **85.62 31** P **P** **08 10 33.4 +0.1**
baz=252,SNR=23
E25K **Arctic Village** **85.67 20** IAmb IAmb 08 10 48.3
comp=Z,59nm,1.0s
E25K **Arctic Village** **85.67 20** P **P** **08 10 33.6 +0.1**
baz=242,SNR=39
BMAR **Burnt Mountain** **85.69 20** P **P** **08 10 33.5 -0.1**
G26K **Porcupine Rive** **85.76 21** P **P** **08 10 33.6 -0.2**
baz=244,SNR=258
SIT **Sitka** **85.80 32** P **P** **08 10 35.5 +1.2**
SIT **Sitka** **85.80 32** IAMs_20 IAMs_20 08 41 05.1
comp=Z,8µm,21.0s
SIT **Sitka** **85.80 32** P **P** **08 10 34.2 0.0**
baz=252,SNR=21
SIT **Sitka** **85.80 32** P **P** **08 10 35.1 +0.8**
EGAK **Eagle** **85.83 23** IAMs_20 IAMs_20 08 43 40.7
comp=Z,6µm,22.0s
EGAK **Eagle** **85.83 23** P **P** **08 10 33.8 -0.5**
baz=247,SNR=116
EGAK **Eagle** **85.83 23** ⇑P **P** **08 10 33.6 -0.7**
HYT **Haines Junctio** **85.94 28** P **P** **08 10 34.8 -0.2**
baz=250,SNR=157
F26K **Sheenjek River** **85.96 20** P **P** **08 10 34.9 0.0**
baz=244,SNR=73
P30M **Million Dollar** **85.96 28** P **P** **08 10 35.2 +0.1**
baz=251
D25K **Kavik River** **85.98 18** IAmb IAmb 08 10 48.6
comp=Z,125nm,1.1s
D25K IAMs_20 IAMs_20 08 45 51.2
comp=Z,4µm,19.0s
D25K **Kavik River** **85.98 18** P **P** **08 10 34.5 -0.5**
baz=242
I27K **Kandik River** **85.99 22** P **P** **08 10 34.7 -0.4**
baz=246,SNR=169
R31K **City Hall, Gus** **86.01 30** P **P** **08 10 34.8 -0.5**
baz=252
PLBC **Pleasant Camp** **86.03 29** P **P** **08 10 35.0 -0.4**
baz=251,SNR=42
PLBC S **S** **08 21 10.9 +2.5**
baz=251
M29M **Somme Creek** **86.07 26** IAmb IAmb 08 10 49.4
comp=Z,227nm,1.4s
M29M **Somme Creek** **86.07 26** P **P** **08 10 35.5 -0.2**
baz=249,SNR=130
M29M S **S** **08 21 12.1 +3.1**
baz=249
DAWY **Dawson** **86.27 24** IAMs_20 IAMs_20 08 42 43.2
comp=Z,5µm,22.0s
DAWY **Dawson** **86.27 24** P **P** **08 10 36.2 -0.4**
baz=248,SNR=79
DAWY S **S** **08 21 12.5 +1.8**
baz=248
H27K **Steamboat Moun** **86.27 22** P **P** **08 10 36.4 -0.2**
baz=246,SNR=143
H27K S **S** **08 21 13.1 +2.4**
baz=246
DIB **Dawson Inlet,** **86.29 36** IAmb IAmb 08 10 50.6
comp=Z,186nm,1.3s
DIB IAMs_20 IAMs_20 08 41 26.2
comp=Z,5µm,20.0s
S32K **Killisnoo** **86.31 31** P **P** **08 10 36.8 +0.1**
baz=253,SNR=25
S32K S **S** **08 21 13.7 +2.5**
baz=253
N30M **Aishikik Lake** **86.34 27** IAmb IAmb 08 10 51.0
comp=Z,132nm,1.2s
N30M **Aishikik Lake** **86.34 27** P **P** **08 10 36.9 -0.1**
baz=251,SNR=71
N30M S **S** **08 21 12.4 +0.8**
baz=251
L29M **L29M** **86.45 25** IAmb IAmb 08 10 54.1
comp=Z,165nm,1.0s
L29M IAMs_20 IAMs_20 08 43 03.1
comp=Z,5µm,21.0s
L29M **L29M** **86.45 25** P **P** **08 10 37.3 -0.2**
baz=250,SNR=184
L29M S **S** **08 21 14.4 +1.9**
baz=250
G27K **Doyon Strip** **86.46 21** IAmb IAmb 08 10 43.3
comp=Z,44nm,0.8s
G27K **Doyon Strip** **86.46 21** P **P** **08 10 37.1 -0.3**
baz=246,SNR=79
G27K S **S** **08 21 14.0 +1.5**
baz=246
ROCAM **Rodrigues Isla** **86.50 251** IAMs_20 IAMs_20 08 54 05.7
comp=Z,4µm,18.0s
CRAG **Craig** **86.53 33** P **P** **08 10 39.2 +1.3**
CRAG **Craig** **86.53 33** IAmb IAmb 08 10 52.1
comp=Z,136nm,1.2s
CRAG IAMs_20 IAMs_20 08 41 26.3
comp=Z,6µm,20.0s
CRAG **Craig** **86.53 33** P **P** **08 10 38.1 +0.2**
baz=254,SNR=12
CRAG S **S** **08 21 14.7 +1.4**
baz=254
CRAG **Craig** **86.53 33** ⇓P **P** **08 10 39.9 +2.0**
SKAG **Skagway** **86.53 29** P **P** **08 10 38.4 +0.6**
SKAG **Skagway** **86.53 29** IAMs_20 IAMs_20 08 42 18.3
comp=Z,7µm,21.0s
SKAG **Skagway** **86.53 29** P **P** **08 10 37.9 +0.1**
baz=252,SNR=61
SKAG S **S** **08 21 15.8 +2.5**
baz=252
SKAG **Skagway** **86.53 29** ⇑P **P** **08 10 37.9 +0.1**
I28M **Miner Creek** **86.57 23** IAmb IAmb 08 10 43.5
comp=Z,109nm,0.9s
I28M IAMs_20 IAMs_20 08 45 28.2
comp=Z,8µm,20.0s
I28M **Miner Creek** **86.57 23** P **P** **08 10 37.4 -0.7**
baz=248,SNR=159
I28M S **S** **08 21 17.9 +4.2**
baz=248
O30N **Mendenhall** **86.58 28** P **P** **08 10 38.0 -0.1**
baz=252,SNR=105
O30N S **S** **08 21 17.4 +3.6**
baz=252
R32K **Eaglecrest** **86.58 31** IAmb IAmb 08 10 52.2
comp=Z,175nm,1.4s
R32K **Eaglecrest** **86.58 31** P **P** **08 10 38.1 0.0**
baz=253,SNR=28
R32K S **S** **08 21 16.0 +2.1**
baz=253
JIS **Juneau Island** **86.65 31** P **P** **08 10 38.6 +0.2**
U33K **Whale Pass** **86.70 33** IAMs_20 IAMs_20 08 43 32.9
comp=Z,7µm,19.0s
U33K **Whale Pass** **86.70 33** P **P** **08 10 38.7 0.0**
baz=254,SNR=28
U33K S **S** **08 21 17.0 +2.0**
baz=254
C26K **Camden Bay** **86.71 18** P **P** **08 10 38.8 +0.3**
baz=243,SNR=170
C26K S **S** **08 21 18.6 +3.9**
baz=243
J29N **Klondike Camp** **86.89 24** IAMs_20 IAMs_20 08 44 08.6
comp=Z,5µm,21.0s
J29N **Klondike Camp** **86.89 24** P **P** **08 10 39.9 +0.3**
baz=249,SNR=63
J29N S **S** **08 21 18.5 +1.7**
baz=249
BTK **Batken** **86.90 311** P **P** **08 10 39.8 -0.4**
C27K **Jago River** **86.96 18** P **P** **08 10 39.3 -0.4**
baz=244
C27K S **S** **08 21 20.8 +3.7**
baz=244
K29M **Barlow Dome** **86.96 25** P **P** **08 10 39.8 -0.3**
baz=250,SNR=228
K29M S **S** **08 21 20.3 +2.7**
baz=250
T33K **Petersburg** **86.98 32** P **P** **08 10 40.1 0.0**
baz=254,SNR=8.3
T33K S **S** **08 21 22.3 +4.6**
baz=254
E27K **Coleen River** **87.04 20** IAmb IAmb 08 10 46.2
comp=Z,94nm,0.9s
E27K **Coleen River** **87.04 20** P **P** **08 10 40.1 -0.1**
baz=246,SNR=126
E27K S **S** **08 21 22.1 +4.1**
baz=246
WHY **Whitehorse** **87.11 28** IAMs_20 IAMs_20 08 56 02.5
comp=Z,4µm,18.0s
WHY **Whitehorse** **87.11 28** P **P** **08 10 40.6 -0.2**
baz=253,SNR=94
WHY S **S** **08 21 22.4 +3.3**
baz=253
I29M **Ogilvie Camp,** **87.17 23** IAMs_20 IAMs_20 08 46 06.1
comp=Z,5µm,20.0s
I29M **Ogilvie Camp,** **87.17 23** P **P** **08 10 40.4 -0.5**
baz=249,SNR=178
I29M S **S** **08 21 21.8 +2.4**
baz=249
WRAK **Wrangell Islan** **87.20 33** IAMs_20 IAMs_20 08 43 28.8
comp=Z,7µm,20.0s
WRAK **Wrangell Islan** **87.20 33** P **P** **08 10 41.2 +0.1**
baz=255,SNR=46
WRAK S **S** **08 21 23.8 +4.0**
baz=255
WRAK **Wrangell Islan** **87.20 33** ⇑P **P** **08 10 41.4 +0.3**
KBU **Kabul Universi** **87.29 305** P **P** **08 10 42.6 +0.2**
V35K **Ketchikan** **87.32 34** IAMs_20 IAMs_20 08 43 02.3
comp=Z,6µm,20.0s
V35K **Ketchikan** **87.32 34** P **P** **08 10 41.7 0.0**
baz=256,SNR=44
V35K S **S** **08 21 22.9 +1.9**
baz=256
P32M **Atlin** **87.36 29** IAMs_20 IAMs_20 08 42 42.1
comp=Z,7µm,21.0s
P32M **Atlin** **87.36 29** P **P** **08 10 41.8 -0.2**
baz=254,SNR=49
P32M S **S** **08 21 25.5 +4.1**
baz=254
KBL **Kabul** **87.37 305** P **P** **08 10 43.0 +0.2**
KBL **Kabul** **87.37 305** P **P** **08 10 43.0 +0.2**
KBL pmax pmax
comp=Z,24nm,1.2s
OTUK **Ortayu** **87.40 319** P **P** **08 10 41.2 -1.2**
F28M **Old Crow** **87.42 21** IAmb IAmb 08 10 47.9
comp=Z,80nm,0.8s
F28M **Old Crow** **87.42 21** P **P** **08 10 41.7 -0.4**
baz=248,SNR=131
F28M S **S** **08 21 25.4 +3.7**
baz=248
H29M **Whitestone** **87.45 22** IAMs_20 IAMs_20 08 54 38.5
comp=Z,6µm,18.0s
H29M **Whitestone** **87.45 22** P **P** **08 10 41.9 -0.3**
baz=249,SNR=25
H29M S **S** **08 21 23.1 +1.1**
baz=249
BRZS **Berezniki** **87.55 321** *e* P **P** **08 10 42.2 -0.8**
baz=321
BRZS *e* S **SKSac** **08 21 08.3 -1.7**
baz=321
BRZS **Berezniki** **87.55 321** *e* P **P** **08 10 42.2 -0.8**
BRZS *e* S **SKSac** **08 21 08.3 -1.7**
MAYO **Mayo, Yukon** **87.56 25** P **P** **08 10 42.9 +0.1**
baz=252,SNR=106
MAYO S **S** **08 21 27.5 +4.3**
baz=252
KK31 **Karatay Array** **87.67 314** P **P** **08 10 41.4 -2.4**
KKAR **Karatay Array** **87.67 314** ⇑P **P** **08 10 42.1 -1.7**
D27M **Malcolm River** **87.68 19** IAMs_20 IAMs_20 08 53 59.2
comp=Z,5µm,19.0s
D27M **Malcolm River** **87.68 19** P **P** **08 10 42.6 -0.8**
baz=247
D27M S **S** **08 21 26.1 +1.9**
baz=247
J30M **Hart River** **87.70 24** IAMs_20 IAMs_20 08 44 34.0
comp=Z,5µm,21.0s
J30M **Hart River** **87.70 24** P **P** **08 10 43.4 -0.1**
baz=251,SNR=294
J30M S **S** **08 21 28.6 +4.0**
baz=251
M31M **Drury Creek, Y** **87.79 27** IAMs_20 IAMs_20 08 56 50.6
comp=Z,4µm,18.0s
M31M **Drury Creek, Y** **87.79 27** P **P** **08 10 43.4 -0.6**
baz=253,SNR=104
M31M S **S** **08 21 27.6 +2.2**
baz=253
G29M **Pine Creek** **87.83 22** IAMs_20 IAMs_20 08 47 20.4
comp=Z,5µm,19.0s
G29M **Pine Creek** **87.83 22** P **P** **08 10 44.1 +0.1**
baz=250,SNR=64
G29M S **S** **08 21 29.3 +3.6**
baz=250
IUG **Iuzhnay** **87.86 313** *e* P **P** **08 10 43.8 -1.1**
comp=Z,24nm,0.9s,baz=313
IUG *e* S **SKSac** **08 21 11.2 -1.3**
baz=313
IUG **Iuzhnay** **87.86 313** *e* P **P** **08 10 43.7 -1.1**
IUG *e* S **SKSac** **08 21 11.2 -1.3**
IUG pmax pmax
comp=Z,24nm,0.9s
I30M **Mount Dempster** **87.89 24** IAMs_20 IAMs_20 08 53 44.0
comp=Z,4µm,19.0s
I30M **Mount Dempster** **87.89 24** P **P** **08 10 43.8 -0.7**
baz=251,SNR=111
I30M S **S** **08 21 27.6 +1.1**
baz=251

E28M Babbage River 87.91 20 P P 08 10 44.1 -0.3
baz=248,SNR=141
E28M S S 08 21 28.2 +1.9
baz=248
CHGR Chuyangaron 87.93 309 P P 08 10 45.2 0.0
CHGR IAmb IAmb 08 11 27.4
comp=Z,61nm,1.0s
CHGR Chuyangaron 87.93 309 P P 08 10 45.2 0.0
CHGR pmax pmax
comp=Z,61nm,1.0s
P33M Teslin, Yukon 87.96 29 IAmb IAmb 08 10 49.6
comp=Z,168nm,1.4s
P33M IAMs_20 IAMs_20 08 43 14.2
comp=Z,6µm,21.0s
P33M Teslin, Yukon 87.96 29 P P 08 10 44.3 -0.6
baz=254,SNR=75
P33M S S 08 21 29.4 +2.1
baz=254
N32M Quiet Lake 88.09 28 IAMs_20 IAMs_20 08 45 32.3
comp=Z,4µm,19.0s
N32M Quiet Lake 88.09 28 P P 08 10 45.3 -0.2
baz=254
N32M S S 08 21 31.4 +3.0
baz=254
EPYK Eagle Plains 88.13 22 IAMs_20 IAMs_20 08 45 13.4
comp=Z,5µm,21.0s
EPYK Eagle Plains 88.13 22 P P 08 10 44.9 -0.7
baz=251,SNR=111
EPYK S S 08 21 30.2 +1.6
baz=251
BRLS Boroldayy 88.15 313 *e*P P 08 10 45.5 -0.7
baz=313
BRLS Boroldayy 88.15 313 *e*P P 08 10 45.4 -0.7
CHM Chimkent 88.20 313 *e*P P 08 10 45.3 -1.1
comp=Z,18nm,1.0s,baz=313
CHM Chimkent 88.20 313 *e*P P 08 10 45.2 -1.1
CHM pmax pmax
comp=Z,18nm,1.0s
S34M Telegraph Cree 88.22 31 IAMs_20 IAMs_20 08 42 40.9
comp=Z,9µm,21.0s
S34M Telegraph Cree 88.22 31 P P 08 10 46.1 +0.1
baz=256,SNR=50
S34M S S 08 21 33.0 +3.4
baz=256
FARO Faro, Yukon 88.27 27 P P 08 10 45.7 -0.5
baz=254,SNR=111
FARO S S 08 21 32.8 +2.7
baz=254
HOLB Holberg 88.33 39 P P 08 10 47.3 +0.6
HOLB IAmb IAmb 08 11 01.1
comp=Z,65nm,0.9s
HOLB IAMs_20 IAMs_20 08 49 48.2
comp=Z,5µm,18.0s
U35K Hyder 88.33 33 IAMs_20 IAMs_20 08 42 31.2
comp=Z,6µm,21.0s
U35K Hyder 88.33 33 P P 08 10 46.4 -0.2
baz=257
U35K S S 08 21 34.5 +3.8
baz=257
E29M Blow River 88.39 20 IAmb IAmb 08 10 59.8
comp=Z,118nm,1.2s
E29M Blow River 88.39 20 P P 08 10 46.5 -0.1
baz=250,SNR=68
E29M S S 08 21 32.4 +1.5
baz=250
D28M Stokes Point 88.44 19 P P 08 10 46.4 -0.4
baz=249,SNR=62
D28M S S 08 21 33.6 +2.4
baz=249
T35M Bob Quinn 88.46 32 IAmb IAmb 08 11 02.2
comp=Z,130nm,1.1s
T35M Bob Quinn 88.46 32 P P 08 10 47.4 +0.2
baz=257,SNR=34
T35M S S 08 21 35.6 +3.6
baz=257
G30M tAoh Zraii Nji 88.52 22 IAMs_20 IAMs_20 08 47 41.7
comp=Z,5µm,19.0s
G30M tAoh Zraii Nji 88.52 22 P P 08 10 47.0 -0.3
baz=251,SNR=44
G30M S S 08 21 34.9 +2.7
baz=251
BBB Bella Bella 88.64 37 IAMs_20 IAMs_20 08 45 18.5
comp=Z,5µm,20.0s
BBB Bella Bella 88.64 37 LR LR 08 45 19.3
comp=Z,4µm,19.4s,baz=258,slow=32
R33M Jennings River 88.66 30 IAMs_20 IAMs_20 08 43 19.6
comp=Z,9µm,21.0s
R33M Jennings River 88.66 30 P P 08 10 48.5 +0.2
baz=256,SNR=69
R33M S S 08 21 38.0 +3.9
baz=256
H31M Peel River 88.88 23 IAmb IAmb 08 11 02.9
comp=Z,100nm,0.9s
H31M IAMs_20 IAMs_20 08 47 09.1
comp=Z,4µm,20.0s
H31M Peel River 88.88 23 P P 08 10 48.3 -0.7
baz=253,SNR=47
H31M S S 08 21 38.0 +2.4
baz=253
F30M Barrier River 88.88 21 P P 08 10 48.1 -0.9
baz=252,SNR=120
F30M S S 08 21 37.1 +1.6
baz=252
DLBC Dease Lake 88.91 31 P P 08 10 49.4 +0.1
baz=257,SNR=65
DLBC S S 08 21 41.5 +5.3
baz=257
DLBC Dease Lake 88.91 31 LR LR 08 44 07.3
comp=Z,10µm,20.5s,baz=260,slow=31
G31M Satah River 89.23 22 IAMs_20 IAMs_20 08 47 51.5
comp=Z,5µm,20.0s
G31M Satah River 89.23 22 P P 08 10 49.8 -0.8
baz=253,SNR=106
G31M S S 08 21 40.2 +1.4
baz=253
KMPM Mount Pierce 89.36 49 P P 08 10 51.7 -0.3
KMPM IAmb IAmb 08 11 10.5
comp=Z,56nm,1.2s
KRPM Rodgers 89.54 49 IAMs_20 IAMs_20 08 46 01.9
comp=Z,9µm,20.0s
KBO Bosley Butte 89.55 48 IAMs_20 IAMs_20 08 53 33.9
comp=Z,7µm,18.0s
BVA0 Borovoye Array 89.55 323 *i* P P 08 10 50.5 -1.9
BVAR Borovoye Array 89.55 323 P P 08 10 50.3 -2.1
comp=Z,23nm,0.7s,baz=104,slow=5.5,SNR=38
BVAR LR LR 08 52 57.8
comp=Z,2µm,18.2s,baz=88,slow=37
comp=Z,23nm,0.7s
F31M Tsiigehtchic 89.58 22 IAMs_20 IAMs_20 08 46 31.7
comp=Z,5µm,20.0s
F31M Tsiigehtchic 89.58 22 P P 08 10 51.1 -1.1
baz=253,SNR=88
F31M S S 08 21 42.8 +0.8
baz=253
BRVK Borovoye 89.62 323 P P 08 10 51.5 -1.2
BRVK Borovoye 89.62 323 *i* P P 08 10 50.5 -2.2
BRVK pmax pmax
comp=Z,13nm,0.8s
WTLY Watson Lake, Y 89.89 29 IAMs_20 IAMs_20 08 44 31.2
comp=Z,7µm,20.0s
WTLY Watson Lake, Y 89.89 29 P P 08 10 53.9 0.0
baz=258,SNR=16
WTLY S S 08 21 48.5 +3.2
baz=258
INK Inuvik 89.91 21 IAmb IAmb 08 11 07.1
comp=Z,134nm,1.1s
INK IAMs_20 IAMs_20 08 59 09.3
comp=Z,4µm,18.0s
INK Inuvik 89.91 21 P P 08 10 52.4 -1.3
baz=254,SNR=73
INK S S 08 21 46.2 +1.2
baz=254
INK Inuvik 89.91 21 LR LR 08 48 50.2
comp=Z,2µm,19.7s,baz=224,slow=34
INK Inuvik 89.91 21 P P 08 10 52.6 -1.1
CBB Campbell River 89.96 40 P P 08 10 53.4 -1.0
CBB IAMs_20 IAMs_20 08 55 31.5
comp=Z,4µm,18.0s
L02F Cave Junction 90.01 48 IAMs_20 IAMs_20 08 44 20.3
comp=Z,8µm,20.0s
K02D Willamette Mer 90.03 47 IAMs_20 IAMs_20 08 53 50.5
comp=Z,8µm,18.0s
C03A Quillayute Air 90.16 42 IAMs_20 IAMs_20 08 46 13.8
comp=Z,7µm,20.0s
DBO Dodson Butte 90.39 47 P P 08 10 56.8 +0.1
DBO IAmb IAmb 08 11 13.9
comp=Z,92nm,1.5s
DBO IAMs_20 IAMs_20 08 45 41.2
comp=Z,9µm,20.0s
I03D Drain, OR 90.39 46 P P 08 10 57.6 +1.1
I03D IAmb IAmb 08 11 13.6
comp=Z,66nm,1.0s
I03D IAMs_20 IAMs_20 08 46 57.2
comp=Z,7µm,19.0s
TGTN Hyland Airport 90.43 28 P P 08 10 56.5 +0.1
baz=258,SNR=47
TGTN S S 08 21 52.0 +1.7
baz=258
RADR Rader Ridge 90.45 44 IAMs_20 IAMs_20 08 42 22.7
comp=Z,7µm,22.0s
HUMO Hull Mountain 90.53 47 IAmb IAmb 08 11 14.8
comp=Z,59nm,1.1s
HUMO IAMs_20 IAMs_20 08 45 26.0
comp=Z,6µm,20.0s
HUMO Hull Mountain 90.53 47 ⇑P P 08 10 58.5 +1.2
WISH Wishkah 90.57 43 IAMs_20 IAMs_20 08 43 21.7
comp=Z,7µm,20.0s
CLRS Cowichan Lake 90.57 41 IAMs_20 IAMs_20 08 49 11.7
comp=Z,5µm,18.0s
YBH Yreka Blue Hor 90.60 48 IAmb IAmb 08 11 15.3
comp=Z,67nm,1.3s
YBH Yreka Blue Hor 90.60 48 LR LR 08 47 17.6
comp=Z,10µm,18.8s,baz=263,slow=33
E03A Lebam 90.63 43 IAMs_20 IAMs_20 08 42 39.4
comp=Z,7µm,22.0s
BUCK Buck Mountain 90.72 46 P P 08 10 56.7 -1.4
BUCK IAmb IAmb 08 11 15.6
comp=Z,113nm,1.2s
BUCK IAMs_20 IAMs_20 08 45 32.8
comp=Z,7µm,20.0s
H04D Lebanon 90.94 45 IAmb IAmb 08 11 19.8
comp=Z,197nm,1.7s
F04D Rainier, OR 90.95 44 IAMs_20 IAMs_20 08 47 37.8
comp=Z,7µm,20.0s
L04D Klamath Falls 90.96 48 IAmb IAmb 08 11 15.9
comp=Z,76nm,1.1s
L04D IAMs_20 IAMs_20 08 47 10.3
comp=Z,7µm,20.0s
SAO San Andreas Ge 90.97 53 IAMs_20 IAMs_20 08 44 58.8
comp=Z,7µm,20.0s
PGC Sidney 91.00 41 IAMs_20 IAMs_20 08 49 58.9
comp=Z,6µm,18.0s
I04A Tendick Farm, 91.08 46 IAmb IAmb 08 11 15.9
comp=Z,76nm,1.1s
I04A IAMs_20 IAMs_20 08 46 14.4
comp=Z,6µm,19.0s
LIRD Liard River Hi 91.10 30 P P 08 10 59.5 0.0
baz=260,SNR=9.0
LIRD S S 08 21 57.0 +0.6
baz=260
ORV Oroville 91.25 51 IAMs_20 IAMs_20 08 47 01.1
comp=Z,7µm,20.0s
GNW Green Mountain 91.27 42 IAmb IAmb 08 11 16.7
comp=Z,61nm,1.4s
GNW IAMs_20 IAMs_20 08 43 55.2
comp=Z,6µm,20.0s
BBGB Big Mountain B 91.27 54 IAMs_20 IAMs_20 08 44 48.9
comp=Z,7µm,20.0s
F04A Amboy 91.34 44 IAMs_20 IAMs_20 08 47 50.1
comp=Z,7µm,19.0s
H04A Detroit Lake 91.35 45 IAmb IAmb 08 11 19.6
comp=Z,115nm,1.6s
H04A IAMs_20 IAMs_20 08 46 32.5
comp=Z,8µm,20.0s
K04D Chiloquin, OR 91.41 47 IAmb IAmb 08 11 18.1
comp=Z,99nm,1.1s
K04D IAMs_20 IAMs_20 08 54 45.3
comp=Z,5µm,18.0s
TOAD Toad River Com 91.45 31 P P 08 11 00.6 -0.6
baz=261,SNR=33
TOAD S S 08 22 00.1 +0.4
baz=261
AFDM Forest Hills D 91.59 51 P P 08 11 03.0 +0.7
AFDM IAmb IAmb 08 11 19.8
comp=Z,56nm,1.4s
D05A Enumclaw 91.78 43 IAMs_20 IAMs_20 08 43 38.9
comp=Z,5µm,21.0s
LON Longmire 91.86 43 IAMs_20 IAMs_20 08 43 06.8
comp=Z,6µm,22.0s
J05D Fort Rock, OR 91.87 47 IAmb IAmb 08 11 21.0
comp=Z,132nm,1.3s
J05D IAMs_20 IAMs_20 08 53 12.3
comp=Z,7µm,18.0s
I05D Terrebonne, OR 91.91 46 IAmb IAmb 08 11 20.0
comp=Z,90nm,1.2s
I05D IAMs_20 IAMs_20 08 46 51.4
comp=Z,6µm,20.0s
SMMC Simmler 91.98 55 P P 08 11 02.9 -1.3
baz=264
SMMC S S 08 22 08.3 +2.8
baz=264
K05A Summer Lake 92.06 47 IAMs_20 IAMs_20 08 47 16.3
comp=Z,6µm,20.0s
PKM Mcpherson Peak 92.08 55 P P 08 11 04.4 -0.4
baz=264
PKM S S 08 22 11.2 +4.4
baz=264
SBC Santa Barbara 92.12 56 P P 08 11 03.6 -1.2
baz=264
SBC S S 08 22 11.3 +4.7
baz=264
PINE Pine Mountain 92.14 46 IAmb IAmb 08 11 21.6
comp=Z,79nm,1.1s
SNCC San Nicolas Is 92.16 57 P P 08 11 03.2 -1.8
baz=264
KOTAN Kotaneelee Air 92.23 30 P P 08 11 04.8 +0.1
baz=262,SNR=9.7
KOTAN S S 08 22 09.5 +2.9
baz=262
MPK Martis Peak 92.35 51 P P 08 11 04.8 -1.4
MPK IAmb IAmb 08 11 23.8
comp=Z,70nm,1.1s
BCW Bitter Crk WRg 92.42 55 IAmb IAmb 08 11 26.0
comp=Z,138nm,1.5s
BCW IAMs_20 IAMs_20 08 46 08.3
comp=Z,5µm,20.0s
VOG Valley Oaks Go 92.57 54 P P 08 11 06.6 -0.3
baz=265
PNTR Pine Nut 92.66 51 IAmb IAmb 08 11 24.5
comp=Z,44nm,0.9s
LTY Liberty 92.69 43 IAmb IAmb 08 11 29.6
comp=Z,44nm,1.2s
LTY IAMs_20 IAMs_20 08 44 07.8
comp=Z,5µm,21.0s
VES Vestal, Richgr 92.77 54 P P 08 11 07.5 -0.3
baz=265
VES S S 08 22 15.3 +2.9
baz=265
PAHR Pah Rah Range 92.89 51 IAmb IAmb 08 11 27.1
comp=Z,37nm,1.0s
ARVC Arvin 92.91 55 P P 08 11 08.1 -0.3
baz=265
HRA Herat 92.93 304 P P 08 11 09.0 +0.2
WRGLY Wrigley 92.93 27 IAmb IAmb 08 11 21.9
comp=Z,68nm,1.1s
WRGLY IAMs_20 IAMs_20 08 47 17.3
comp=Z,4µm,21.0s
WRGLY Wrigley 92.93 27 P P 08 11 07.6 -0.3
baz=263,SNR=10
WRGLY S S 08 22 15.1 +2.5
baz=263
YERR Yerington 92.93 51 IAmb IAmb 08 11 25.5
comp=Z,40nm,1.1s
MDPB Devils Postpil 92.94 53 P P 08 11 08.0 -0.8
MDPB IAmb IAmb 08 11 26.4
comp=Z,39nm,1.2s
SCI2 San Clemente I 92.95 57 P P 08 11 07.5 -1.2
baz=265
OSI Osito Audit: C 92.95 56 P P 08 11 08.1 -0.6
baz=265
OSI S S 08 22 18.5 +4.3
baz=265
CIS Catalina Islan 93.10 57 P P 08 11 09.0 -0.4
baz=265
CIS S S 08 22 19.7 +4.2
baz=265
MLAC Mammoth, Mammo 93.13 53 P P 08 11 09.3 -0.4
baz=265
I07A Izee 93.20 46 IAmb IAmb 08 11 26.1
comp=Z,59nm,1.2s
FMP Fort Macarthur 93.23 57 P P 08 11 10.3 +0.4
baz=265
FMP S S 08 22 21.2 +4.7
baz=265
DECC Green Verdugo 93.24 56 P P 08 11 09.4 -0.6
baz=265
DECC S S 08 22 20.8 +4.1
baz=265
PASC Pasadena Art C 93.36 56 P P 08 11 09.0 -1.6
PASC IAmb IAmb 08 11 25.3
comp=Z,57nm,1.4s
LHV Little Huntoon 93.44 52 IAmb IAmb 08 11 30.2
comp=Z,76nm,1.1s
A36M Sachs Harbour 93.46 18 IAMs_20 IAMs_20 09 00 16.2
comp=Z,4µm,19.0s
A36M Sachs Harbour 93.46 18 P P 08 11 09.1 -1.0
baz=262
A36M S S 08 22 18.0 +1.0
baz=262
RYN Ryan 93.46 52 IAmb IAmb 08 11 30.0
comp=Z,43nm,1.1s
C36M Paulatuk 93.48 21 P P 08 11 09.4 -0.8
baz=262
C36M S S 08 22 17.6 +0.4
baz=262
TIN Tinemaha, Big 93.56 53 P P 08 11 11.1 -0.5
baz=265
EDW2 Edwards Air Fo 93.57 55 P P 08 11 11.7 +0.1
baz=265
EDW2 S S 08 22 21.9 +2.2
baz=265
CCAC Calif City Air 93.58 55 IAMs_20 IAMs_20 08 46 45.0
comp=Z,5µm,20.0s
NVAR Mina Array Bea 93.61 52 P P 08 11 11.5 -0.4
NVAR Mina Array Bea 93.61 52 P P 08 11 12.4 +0.5
comp=Z,17nm,1.1s,baz=256,slow=5.8,SNR=50
NVAR LR LR 08 48 27.7
comp=Z,11µm,19.3s,baz=268,slow=32
comp=Z,17nm,1.1s
CWC Cottonwood Cre 93.63 54 P P 08 11 11.4 -0.6
baz=265
CWC S S 08 22 22.6 +2.2
baz=265
G08A Pilot Rock 93.69 45 IAmb IAmb 08 11 30.9
comp=Z,71nm,1.3s
WVOR Wild Horse Val 93.69 48 IAmb IAmb 08 11 30.6
comp=Z,74nm,1.4s
WVOR Wild Horse Val 93.69 48 ⇓P P 08 11 12.2 +0.2
WVOR Wild Horse Val 93.69 48 P P 08 11 11.7 -0.3
E08A Dider Farm, El 93.72 44 IAMs_20 IAMs_20 08 49 16.0
comp=Z,8µm,20.0s
NV11 Mina Array Sit 93.73 52 IAmb IAmb 08 11 29.9
comp=Z,61nm,1.4s
DSP Deep Springs 93.79 53 IAmb IAmb 08 11 32.4
comp=Z,72nm,1.4s
DSP IAMs_20 IAMs_20 08 46 59.6
comp=Z,8µm,20.0s
BFSC Mount Baldy Ra 93.80 56 P P 08 11 13.1 +0.4
baz=265
KVN Kaiserville 93.82 51 IAmb IAmb 08 11 31.6
comp=Z,56nm,1.3s
KVN IAMs_20 IAMs_20 08 48 00.3
comp=Z,8µm,20.0s
D08A Wollman Farm, 93.86 43 IAMs_20 IAMs_20 08 49 04.7
comp=Z,6µm,19.0s
LRMC Laurel Mtn Rad 93.88 55 P P 08 11 12.7 -0.4
baz=266,SNR=11
LRMC S S 08 22 24.7 +2.2
baz=266
J08A Circle Bar Ran 93.88 47 IAmb IAmb 08 11 33.5
comp=Z,55nm,1.2s
J08A IAMs_20 IAMs_20 08 54 46.6
comp=Z,7µm,18.0s
ELS Elsinore Mount 93.94 57 IAMs_20 IAMs_20 08 49 39.8
comp=Z,4µm,18.0s
MPMC Manual Prospec 94.08 54 P P 08 11 13.4 -0.6
baz=266,SNR=16
MPMC S S 08 22 24.2 -0.2
baz=266
MURC Murrieta 94.13 57 P P 08 11 14.2 +0.1
baz=266
MURC S S 08 22 27.8 +3.2
baz=266
109C Camp Elliot, M 94.15 58 P P 08 11 13.8 -0.4
baz=266
109C S S 08 22 26.9 +2.2
baz=266
GRAC Grapevine Rang 94.25 53 IAmb IAmb 08 11 42.3
comp=Z,141nm,1.9s
GRAC IAMs_20 IAMs_20 08 47 12.6
comp=Z,6µm,20.0s
GRAC Grapevine Rang 94.25 53 P P 08 11 14.8 +0.2
baz=266,SNR=10
GRAC S S 08 22 28.3 +2.8
baz=266
MZP Montezuma Peak 94.28 53 IAMs_20 IAMs_20 08 47 17.6
comp=Z,5µm,20.0s
E09A Wood Farm, Sta 94.35 44 P P 08 11 14.1 -0.7
E09A IAmb IAmb 08 11 31.8
comp=Z,82nm,1.3s
E09A IAMs_20 IAMs_20 08 49 07.7
comp=Z,8µm,19.0s
C09A Chrisman Ranch 94.35 43 IAMs_20 IAMs_20 08 45 08.8
comp=Z,6µm,21.0s
GMN Gold Mountain 94.35 53 IAMs_20 IAMs_20 08 47 38.4
comp=Z,4µm,20.0s
RRX Edison Barstow 94.39 56 P P 08 11 15.2 0.0
baz=266
BBRC Big Bear Solar 94.41 56 P P 08 11 14.8 -0.9
baz=266
BBRC S S 08 22 28.1 +0.7
baz=266
TPH Tonopah 94.44 52 IAmb IAmb 08 11 29.9
comp=Z,95nm,1.0s
CCX Cicese 94.45 59 IAMs_20 IAMs_20 08 47 18.3
comp=Z,5µm,19.0s
QSM Queen of Sheba 94.57 54 IAMs_20 IAMs_20 08 52 21.3
comp=Z,5µm,18.0s
GSC Goldstone, Bar 94.58 55 IAMs_20 IAMs_20 08 47 36.5
comp=Z,4µm,20.0s
GSC Goldstone, Bar 94.58 55 P P 08 11 15.7 -0.5
baz=266
FURC Furnace Creek, 94.61 54 P P 08 11 16.4 +0.2
baz=266,SNR=13
MONP2 Monument Peak 94.72 58 P P 08 11 16.4 -0.7
baz=266
MONP2 S S 08 22 32.9 +2.7
baz=266
PFO Pinyon Flats O 94.74 57 P P 08 11 16.3 -0.8
PFO Pinyon Flats O 94.74 57 IAMs_20 IAMs_20 08 49 55.1
comp=Z,5µm,18.0s
PFO Pinyon Flats O 94.74 57 P P 08 11 16.7 -0.4
baz=266
PFO S S 08 22 33.5 +3.3
baz=266
PFO Pinyon Flats O 94.74 57 LR LR 08 50 07.9
comp=Z,4µm,18.1s,baz=268,slow=33
PFO Pinyon Flats O 94.74 57 *i* P P 08 11 12.6 -4.5
TPFO Pinon Flats 94.75 57 P P 08 11 16.9 -0.2
baz=266
TPFO S S 08 22 34.0 +3.8
baz=266
GWY Greenwater Val 94.75 54 IAmb IAmb 08 11 35.8
comp=Z,41nm,1.3s
GWY IAMs_20 IAMs_20 08 51 28.0
comp=Z,5µm,18.0s
WCT Wildcat Mounta 94.82 54 IAMs_20 IAMs_20 08 52 59.9
comp=Z,6µm,18.0s
BMO Blue Mountains 94.83 46 IAmb IAmb 08 11 33.2
comp=Z,57nm,1.3s
BMO Blue Mountains 94.83 46 ⇓P P 08 11 16.9 -0.2
HEC Hector,Ludlow 94.93 56 P P 08 11 18.1 +0.2
baz=266
HEC S S 08 22 33.8 +2.2
baz=266
F10A Beach Ranch, E 94.95 44 IAmb IAmb 08 11 40.3
comp=Z,47nm,1.1s
IKP In-Ko-Pah, Jac 94.97 58 P P 08 11 18.6 +0.6
baz=266
IKP S S 08 22 35.5 +3.4
baz=266
SHOC Shoshone, Teco 95.05 55 P P 08 11 18.4 +0.1
baz=266,SNR=14
SHOC S S 08 22 33.4 +0.9
baz=266
ESJX Sierra Juarez 95.06 58 IAMs_20 IAMs_20 08 47 38.6
comp=Z,7µm,20.0s
NEW Newport 95.15 42 IAmb IAmb 08 11 36.3
comp=Z,51nm,1.4s
NEW Newport 95.15 42 IAMs_20 IAMs_20 08 49 17.7
comp=Z,7µm,19.0s
NEW Newport 95.15 42 P P 08 11 18.0 -0.5
baz=267
NEW S S 08 22 33.9 +1.0

baz=267
NEW Newport 95.15 42 LR LR 08 49 10.2
comp=Z,7µm,19.4s,baz=263,slow=32
NEW Newport 95.15 42 P **P** **08 11 18.7 +0.2**
BELC Belle Mtn. Jos 95.15 56 P **P** **08 11 18.7 -0.3**
baz=266
BELC S **S** **08 22 35.3 +1.6**
baz=266
VTX Valle De La Tr 95.16 59 P **P** **08 11 18.7 -0.2**
VTX IAMs_20 IAMs_20 08 51 02.3
comp=Z,7µm,18.0s
WSAR Wadi Sarin 95.19 293 P **P** **08 11 19.6 +0.4**
comp=Z,7.8nm,0.8s,baz=54,slow=3.9,SNR=4.3
comp=Z,7.8nm,0.8s
RPN Rapa Nui 95.19 118 LR LR 08 46 18.0
comp=Z,1µm,21.9s,baz=266,slow=30
SWSC Sam W. Stewart 95.25 58 P **P** **08 11 19.0 -0.3**
baz=266
BRLDA Berland Lookou 95.28 36 P **P** **08 11 19.1 +0.1**
BRLDA IAMs_20 IAMs_20 08 56 21.9
comp=Z,4µm,18.0s
TUQ Turquoise Moun 95.30 55 P **P** **08 11 19.2 -0.4**
baz=266
TUQ S **S** **08 22 38.0 +3.0**
baz=266
ELIB Princess Elisa 95.43 194 *d*P **P** **08 11 19.3 -0.1**
comp=Z,31nm,1.0s
GMRC Granite Mounta 95.48 56 P **P** **08 11 19.8 -0.6**
baz=267
GMRC S **S** **08 22 37.3 +0.8**
baz=267
SVE Sverdlovsk 95.56 326 *e*P **P** **08 11 19.6 -0.5**
SVE *e* 08 15 11.5
SVE *e*S **SKSac** **08 21 55.7 +0.5**
SVE *e* 08 22 33.0
SVE *e*SS **SS** **08 29 05.8 +1.4**
SVE pmax pmax
comp=Z,46nm,2.5s
SVE MLR MLR
comp=E,3µm,20.0s
SVE MLR MLR
comp=Z,4µm,19.0s
S11A Rachel 95.58 53 IAmb IAmb 08 11 41.8
comp=Z,55nm,1.4s
S11A IAMs_20 IAMs_20 08 48 37.8
comp=Z,8µm,20.0s
BC3 Big Chuckawall 95.58 57 P **P** **08 11 20.9 -0.1**
baz=267
BC3 S **S** **08 22 38.3 +0.8**
baz=267
CPBX Cerro Prieto 95.64 58 IAMs_20 IAMs_20 08 50 11.7
comp=Z,6µm,19.0s
AB31 Akbulak array 95.66 319 *i* P **P** **08 11 16.4 -4.3**
ABKAR Akbulak array 95.66 319 P **P** **08 11 18.1 -2.7**
R11B Troy Canyon, C 95.74 52 P **P** **08 11 21.6 -0.1**
baz=267,SNR=16
R11B S **S** **08 22 39.9 +1.2**
baz=267
MFID Camas Ranch 95.81 47 P **P** **08 11 21.6 -0.1**
MFID IAmb IAmb 08 11 38.9
comp=Z,87nm,1.8s
MFID IAMs_20 IAMs_20 08 48 42.4
comp=Z,4µm,20.0s
GUVIX Guadalupe Vict 95.82 58 IAMs_20 IAMs_20 09 03 15.7
comp=Z,3µm,18.0s
IRM Iron Mountain 95.87 56 P **P** **08 11 22.0 -0.1**
baz=267,SNR=7.4
IRM S **S** **08 22 42.9 +3.2**
baz=267
SFX San Felipe 95.94 59 IAMs_20 IAMs_20 08 50 41.9
comp=Z,7µm,18.0s
SHPR Sheep Range 95.98 54 IAMs_20 IAMs_20 08 53 01.7
comp=Z,3µm,18.0s
GLA Glamis 96.07 57 IAMs_20 IAMs_20 08 50 38.1
comp=Z,7µm,18.0s
GLA Glamis 96.07 57 P **P** **08 11 23.4 +0.4**
baz=267
GLA S **S** **08 22 44.3 +2.8**
baz=267
ELK Elko 96.12 50 LR LR 08 50 57.2
comp=Z,10µm,18.8s,slow=33
ELK Elko 96.12 50 P **P** **08 11 23.3 -0.1**
V12A Nelson 96.19 55 IAMs_20 IAMs_20 08 56 55.1
comp=Z,5µm,18.0s
NEE2 Needles Airpor 96.33 56 P **P** **08 11 24.2 +0.1**
baz=267
NEE2 S **S** **08 22 46.0 +2.4**
baz=267
Q12A Willow Creek R 96.36 51 IAmb IAmb 08 11 43.4
comp=Z,44nm,1.1s
GEYT Alibeck 96.50 307 P **P** **08 11 25.8 +0.9**
comp=Z,1.3nm,0.4s,baz=101,slow=7.7,SNR=4.4
GEYT LR LR 08 58 43.3
comp=Z,2µm,18.2s,baz=87,slow=38
comp=Z,1.3nm,0.4s
ARU Arti 96.70 326 P **P** **08 11 22.5 -2.8**
ARU IAmb IAmb 08 11 46.7
comp=Z,47nm,1.7s
ARU Arti 96.70 326 P **P** **08 11 22.4 -2.9**
comp=Z,7.4nm,0.7s,baz=116,slow=3.8,SNR=8.9
ARU LR LR 08 55 45.0
comp=Z,4µm,19.7s,baz=96,slow=36
comp=Z,7.4nm,0.7s
ARU Arti 96.70 326 *c i*P **P** **08 11 21.6 -3.7**
ARU 08 15 16.4
ARU PPP PPP 08 17 25.0
ARU S **SKSac** **08 21 58.4 -2.8**
ARU SP **SP** **08 24 04.8 -1.0**
ARU pmax pmax
comp=Z,24nm,2.4s
ARU MLR MLR
comp=Z,4µm,18.0s
PDMCI Parker Dam,Lak 96.71 56 P **P** **08 11 26.1 +0.3**
baz=267
PDMCI S **S** **08 22 47.7 +0.8**
baz=267
SPR3 Spring Creek 3 96.75 52 IAmb IAmb 08 11 51.9
comp=Z,128nm,1.9s
HLID Hailey 96.84 47 IAMs_20 IAMs_20 08 55 14.8
comp=Z,6µm,18.0s
HLID Hailey 96.84 47 P **P** **08 11 26.5 0.0**
baz=268,SNR=6.1
HLID S **S** **08 22 50.2 +2.2**
baz=268
YKAW3 Yellowknife Wh 96.93 28 IAMs_20 IAMs_20 08 48 46.0
comp=Z,6µm,20.0s
YKA Yellowknife Ar 96.93 28 P **P** **08 11 25.8 -0.5**
comp=Z,7.0nm,0.8s,baz=280,slow=4.9,SNR=76
YKA PKKPbc **PKKPbc** **08 28 06.4 -3.6**
comp=Z,1.8nm,0.9s,baz=76,slow=3.0,SNR=16
YKA LR LR 08 48 58.6
comp=Z,4µm,21.9s,baz=276,slow=32
comp=Z,7.0nm,0.8s
YKA Yellowknife Ar 96.93 28 *i* P **P** **08 11 25.7 -0.5**
YKA pmax pmax
comp=Z,8.0nm,0.8s
AKTO Aktyubinsk 96.94 320 P **P** **08 11 24.3 -2.3**
comp=Z,2.2nm,1.0s,baz=82,slow=4.1,SNR=7.8
AKTO LR LR 08 57 29.6
comp=Z,4µm,18.0s,baz=73,slow=37
comp=Z,2.2nm,1.0s
W13A Hualapai Mount 96.95 55 IAMs_20 IAMs_20 08 56 05.2
comp=Z,4µm,18.0s
YKAW1 Yellowknife Wh 96.99 28 IAMs_20 IAMs_20 08 48 46.6
comp=Z,6µm,20.0s
PIX Pinacate 97.16 59 IAMs_20 IAMs_20 08 49 20.8
comp=Z,5µm,20.0s
SOHO SOHO 97.16 294 P **P** **08 11 24.7 -3.4**
MSO Missoula 97.25 44 IAMs_20 IAMs_20 08 50 49.4
comp=Z,7µm,19.0s
MSO Missoula 97.25 44 P Pdif 08 11 28.3 +0.1
baz=269
MSO S **S** **08 22 50.1 -1.2**
baz=269
MDH Madha 97.44 295 P **P** **08 11 25.8 -3.5**
CCUT Cedar City 97.46 53 IAmb IAmb 08 11 48.9
comp=Z,24nm,1.2s
UOSS Minazif 97.51 294 P P 08 11 23.0 -6.7
LCMT Little Creek M 97.54 54 IAmb IAmb 08 11 53.6
comp=Z,30nm,1.4s
LCMT IAMs_20 IAMs_20 08 53 09.7
comp=Z,4µm,18.0s
HATD Hatta, Dubai 97.57 294 P **P** **08 11 27.8 -2.2**
MSFE Esma-Masafi 97.57 295 P **P** **08 11 27.0 -3.0**
SHME Shamm 97.62 295 P P 08 11 23.6 -6.6
ASHO Ashiyiah 97.63 294 P **P** **08 11 26.7 -3.5**
EDM Edmonton 97.67 37 IAmb IAmb 08 11 52.6
comp=Z,55nm,1.1s
EDM IAMs_20 IAMs_20 08 50 46.1
comp=Z,5µm,19.0s
214A Organ Pipe Nat 97.72 59 IAMs_20 IAMs_20 08 50 52.9
comp=Z,7µm,19.0s
214A Organ Pipe Nat 97.72 59 P Pdif 08 11 30.8 +0.2
baz=268
214A S **S** **08 22 59.5 +3.7**
baz=268
BGU Big Grassy Mou 97.81 50 P **P** **08 11 28.9 -2.0**
KNB Kanab 97.88 54 IAMs_20 IAMs_20 08 54 39.6
comp=Z,4µm,18.0s
DUG Dugway, Tooele 97.96 50 IAmb IAmb 08 11 47.9
comp=Z,30nm,1.6s
DUG IAMs_20 IAMs_20 08 51 23.5
comp=Z,7µm,20.0s
DUG Dugway, Tooele 97.96 50 P **P** **08 11 31.3 -0.3**
baz=269
DUG S **S** **08 22 58.1 +0.4**
baz=269
DUG Dugway, Tooele 97.96 50 P **P** **08 11 31.5 -0.1**
NAZ Nazwa, Dubai 98.00 294 P **P** **08 11 27.6 -4.3**
HVU Hansel Valley 98.01 49 IAmb IAmb 08 11 46.0
comp=Z,21nm,1.0s
FAQ Al Faqa, Dubai 98.05 294 P **P** **08 11 27.9 -4.2**
SPUT South Promonto 98.25 49 IAMs_20 IAMs_20 08 52 24.2
comp=Z,7µm,19.0s
ASUD Al Ashush, Dub 98.29 294 Pdiff **P** **08 11 29.6 -3.6**
U15A North Rim 98.29 54 IAmb IAmb 08 12 06.3
comp=Z,85nm,1.9s
U15A IAMs_20 IAMs_20 08 54 49.6
comp=Z,4µm,18.0s
PKCU Pink Cliffs 98.30 53 P Pdif 08 11 33.7 +0.3
PKCU IAmb IAmb 08 11 55.8
comp=Z,53nm,1.3s
PKCU IAMs_20 IAMs_20 08 49 46.7
comp=Z,7µm,20.0s
MTPU Mount Pierson 98.41 53 IAmb IAmb 08 11 53.7
comp=Z,38nm,1.5s
MTPU IAMs_20 IAMs_20 08 50 10.6
comp=Z,8µm,20.0s
MSU Marysvale 98.42 52 P **P** **08 11 31.3 -2.5**
MSU Marysvale 98.42 52 P **P** **08 11 31.3 -2.5**
CTU Camp Tracy 98.78 50 IAMs_20 IAMs_20 08 53 34.1
comp=Z,6µm,19.0s
BOZ Bozeman (W) 98.85 45 IAMs_20 IAMs_20 08 52 17.9
comp=Z,6µm,19.0s
BOZ Bozeman (W) 98.85 45 Pdiff **P** **08 11 35.1 -0.4**
baz=271
BOZ S **S** **08 23 05.4 +0.4**
baz=271
NVL N'lazarevskaya 98.91 192 *e*P **P** **08 11 32.8 -2.2**
NVL *e* 08 15 34.1
NVL *e*S **SKSac** **08 22 09.5 -2.5**
NVL *e*PS **PS** **08 24 30.2 -1.7**
NVL *e*SS **SS** **08 29 51.7 +1.5**
NVL pmax pmax
comp=Z,25nm,1.3s
HWUT Hardware Ranch 98.92 49 IAMs_20 IAMs_20 08 52 55.8
comp=Z,6µm,19.0s
X16A Lo Mia Camp, P 98.94 56 IAMs_20 IAMs_20 08 49 23.0
comp=Z,3µm,20.0s
JLU Jordanelle 99.00 50 IAmb IAmb 08 11 53.2
comp=Z,39nm,1.8s
JLU IAMs_20 IAMs_20 08 51 58.2
comp=Z,7µm,19.0s
WUAZ Wupatki 99.02 55 IAMs_20 IAMs_20 08 52 56.9
comp=Z,3µm,19.0s
WUAZ Wupatki 99.02 55 Pdiff **Pdif** **08 11 35.9 -0.6**
baz=269
WUAZ S **S** **08 23 09.5 +2.7**
baz=269
TCUT Toone Canyon 99.03 49 IAMs_20 IAMs_20 08 52 28.0
comp=Z,7µm,19.0s
TMUT Trail Mountain 99.19 51 IAmb IAmb 08 12 03.1
comp=Z,16nm,0.8s
HSIG 99.23 62 IAMs_20 IAMs_20 08 52 60.0
comp=Z,7µm,19.0s
FXWY Fox Creek 99.30 47 IAMs_20 IAMs_20 08 51 43.9
comp=Z,7µm,20.0s
IMW Indian Meadow 99.36 47 IAMs_20 IAMs_20 08 51 06.4
comp=Z,4µm,20.0s
YHH Holmes Hill 99.42 46 P **Pdif** **08 11 36.7 -1.5**
TUC Tucson 99.45 58 Pdiff **Pdif** **08 11 37.8 -0.5**
baz=269
MOOW Moose Ponds 99.51 47 IAMs_20 IAMs_20 08 51 01.3
comp=Z,5µm,20.0s
BSUT Bluedstreet Ca 99.53 50 IAMs_20 IAMs_20 08 51 57.0
comp=Z,6µm,20.0s
FLWY Flagg Ranch 99.53 46 IAMs_20 IAMs_20 08 57 20.0
comp=Z,6µm,18.0s
HMU Henry Mountain 99.55 53 IAMs_20 IAMs_20 08 50 47.7
comp=Z,7µm,20.0s
P17A Butcher Ranch, 99.55 51 IAMs_20 IAMs_20 08 51 56.7
comp=Z,6µm,20.0s
LOHW Long Hollow 99.61 47 IAMs_20 IAMs_20 08 51 35.1
comp=Z,6µm,20.0s
H17A Grant Village 99.62 46 Pdiff **Pdif** **08 11 38.8 -0.3**
baz=271
LPIG La Paz 99.64 67 LR LR 08 51 49.5
comp=Z,3µm,19.0s,baz=266,slow=32
TROLL Troll, Antarti 99.64 189 ⇓Pdiff **Pdif** **08 11 40.0 +1.6**
comp=Z,182nm,0.2s
SRU San Rafael Swe 99.72 51 IAMs_20 IAMs_20 08 51 51.2
comp=Z,7µm,20.0s
MZR Muzera 99.91 292 Pdiff **Pdif** **08 11 35.4 -5.0**
SLBS Sierra La Lagu 99.95 67 IAMs_20 IAMs_20 08 58 15.5
comp=Z,5µm,18.0s
EGMT Eagleton 100.08 42 IAMs_20 IAMs_20 08 55 10.2
comp=Z,3µm,19.0s
EGMT Eagleton 100.08 42 Pdiff **Pdif** **08 11 40.5 -0.3**
baz=272
X18A Snowflake 100.18 56 IAMs_20 IAMs_20 08 50 00.6
comp=Z,3µm,20.0s
W18A Petrified Fore 100.35 56 IAMs_20 IAMs_20 08 53 37.3
comp=Z,3µm,18.0s
W18A Petrified Fore 100.35 56 Pdiff **Pdif** **08 11 42.0 -0.4**
baz=270
BW06 Boulder Array 100.39 48 Pdiff **Pdif** **08 11 41.7 -0.8**
baz=272
PDAR Pinedale Array 100.39 48 Pdif **Pdif** **08 11 41.7 -0.8**
PDAR Pinedale Array 100.39 48 P **Pdif** **08 11 42.1 -0.4**
comp=Z,4.1nm,0.7s,baz=267,slow=2.8,SNR=15
PDAR PP **PP** **08 15 48.9 -0.2**
comp=Z,1.9nm,1.0s,baz=262,slow=6.2,SNR=4.7
RDMU Red Mountain 100.44 50 IAMs_20 IAMs_20 08 52 47.1
comp=Z,6µm,20.0s
RLMT Red Lodge 100.53 45 IAMs_20 IAMs_20 08 51 58.2
comp=Z,5µm,20.0s
RLMT Red Lodge 100.53 45 Pdiff **Pdif** **08 11 42.4 -0.6**
baz=272
319A Douglas 100.72 59 IAMs_20 IAMs_20 08 51 32.3
comp=Z,7µm,20.0s
SNAA Sanae 100.74 188 IAMs_20 IAMs_20 08 58 03.8
comp=Z,4µm,20.0s
SNAA Sanae 100.74 188 ⇓Pdiff **Pdif** **08 11 40.9 -2.3**
comp=Z,98nm,0.8s
SNAA Sanae 100.74 188 P **Pdif** **08 11 45.2 +1.9**
comp=Z,3.0nm,0.9s,baz=144,slow=8.7,SNR=2.6
SNAA PP **PP** **08 15 47.2 -2.9**
comp=Z,4.8nm,1.0s,baz=138,slow=8.5,SNR=2.0
FOMA Nahampoana Res 100.77 243 IAMs_20 IAMs_20 08 55 47.6
comp=Z,4µm,20.0s
MVCO Mesa Verde 101.33 53 IAMs_20 IAMs_20 08 56 49.3
comp=Z,3µm,19.0s
MVCO Mesa Verde 101.33 53 Pdiff **Pdif** **08 11 45.5 -1.3**
baz=271
O20A White River Ci 101.46 50 Pdiff **Pdif** **08 11 45.8 -1.5**
baz=272
KIRV Kirov 101.50 329 P **Pdif** **08 11 46.5 -0.1**
comp=Z,10nm,0.5s,baz=148,slow=3.6,SNR=4.4
121A Cookes Peak, D 101.99 58 Pdiff **Pdif** **08 11 48.1 -1.6**
baz=271
VNA2 Neumayer--Watz 102.01 187 ⇓Pdiff **Pdif** **08 11 47.8 -1.0**
comp=Z,4.8nm,0.7s,baz=156,slow=2.9
SMCO Snowmass 102.47 51 IAMs_20 IAMs_20 08 53 06.1
comp=Z,6µm,20.0s
LAO LASA Array 102.56 44 Pdiff **Pdif** **08 11 51.2 -0.6**
baz=275
K22A Casper 102.63 48 Pdiff **Pdif** **08 11 51.2 -1.2**
baz=274
Y22D IRIS PASSCAL I 102.69 57 IAMs_20 IAMs_20 08 55 08.2
comp=Z,4µm,19.0s
Y22D IRIS PASSCAL I 102.69 57 Pdiff **Pdif** **08 11 52.1 -0.7**
baz=271
Y22F Passcal Instru 102.69 57 Pdiff **Pdif** **08 11 51.1 -1.7**
baz=271
ANMO Albuquerque 103.05 56 Pdiff **Pdif** **08 11 52.8 -1.6**
baz=272
EPT El Paso 103.08 59 IAMs_20 IAMs_20 08 55 16.9
comp=Z,7µm,19.0s
N23A Red Feather La 103.17 50 IAMs_20 IAMs_20 08 55 34.5
comp=Z,5µm,20.0s
N23A Red Feather La 103.17 50 Pdiff **Pdif** **08 11 52.7 -2.2**
baz=274
ISCO Idaho Springs 103.49 51 Pdiff **Pdif** **08 11 54.4 -2.0**
baz=274
PHWY Pilot Hill 103.52 49 IAMs_20 IAMs_20 09 01 15.5
comp=Z,3µm,18.0s
SDCO Great Sand Dun 103.70 53 IAMs_20 IAMs_20 08 53 24.7
comp=Z,7µm,20.0s
SDCO Great Sand Dun 103.70 53 Pdiff **Pdif** **08 11 56.0 -1.4**
baz=273
DGMT Dagmar 103.75 42 IAMs_20 IAMs_20 09 02 49.2
comp=Z,4µm,18.0s
DGMT Dagmar 103.75 42 Pdiff **Pdif** **08 11 56.4 -0.6**
baz=277
Q24A Divide 103.90 51 Pdiff **Pdif** **08 11 56.7 -1.6**
baz=274
MNTX Cornudas Mount 104.05 59 Pdiff **Pdif** **08 11 58.1 -0.6**
baz=272
FFC Flin Flon 104.22 35 IAMs_20 IAMs_20 09 03 30.2
comp=Z,6µm,18.0s
RSSD Black Hills 104.32 46 IAMs_20 IAMs_20 08 55 43.7
comp=Z,5µm,19.0s
RSSD Black Hills 104.32 46 Pdiff **Pdif** **08 11 59.6 -0.3**
baz=276
BRIGG Briggsdale 104.43 50 IAMs_20 IAMs_20 08 56 22.7
comp=Z,6µm,19.0s
MAK Makhachkala 104.47 313 *i* P **Pdif** **08 11 55.3 -5.0**
MAK *e* 08 16 16.7
MAK *e*PPP PPP 08 18 28.0
MAK *e* 08 22 38.9
MAK *e* 08 23 19.8
MAK *e*SS SS 08 31 06.3 -3.1
MAK *e*SSS SSS 08 35 05.6
MAK pmax pmax
comp=Z,483nm,1.8s
T25A Trinidad 104.60 53 IAMs_20 IAMs_20 08 55 17.6
comp=Z,6µm,20.0s
T25A Trinidad 104.60 53 Pdiff **Pdif** **08 12 01.5 +0.2**
baz=274
TXAR Lajitas Array 105.60 61 PKiKP **PKiKP** **08 16 20.2 +1.1**
comp=Z,0.5nm,0.8s,baz=191,slow=2.6,SNR=4.0
TXAR PKKPbc **PKKPbc** **08 27 44.1 +0.2**
comp=Z,0.6nm,0.8s,baz=138,slow=5.9,SNR=5.2
KLMR Klimovskoe 105.92 332 *e*P **Pdif** **08 12 04.6 -1.7**
KLMR 08 22 39.7
KLMR PS **PS** **08 25 41.0 -5.7**
KLMR SS SS 08 31 37.2 +9.2
KLMR pmax pmax
comp=Z,24nm,1.9s
APA Apatity 106.06 339 ⇓*i*P **Pdif** **08 11 58.5 -8.3**
APA pmax pmax
comp=Z,4.0nm,1.1s
OGNE Ogallala 106.12 49 IAMs_20 IAMs_20 09 00 31.6
comp=Z,4µm,18.0s
MSTX Muleshoe 106.13 56 IAMs_20 IAMs_20 08 47 10.4
comp=Z,3µm,21.0s
ZAIG Zacatecas 106.72 68 IAMs_20 IAMs_20 08 56 12.9
comp=Z,4µm,20.0s
MDND Maddock 106.88 42 IAMs_20 IAMs_20 08 58 06.1
comp=Z,4µm,19.0s
MDND Maddock 106.88 42 Pdiff **Pdif** **08 12 13.5 +2.6**
baz=280
AMTX Amarillo 106.97 55 IAMs_20 IAMs_20 08 56 46.4
comp=Z,6µm,19.0s
AMTX Amarillo 106.97 55 Pdiff **Pdif** **08 12 10.7 -1.0**
baz=275
FCC Fort Churchill 107.47 30 IAMs_20 IAMs_20 08 56 51.8
comp=Z,6µm,20.0s
ARCES ARCESS Array B 107.67 343 PKiKP **PKiKP** **08 16 22.5 +0.8**
comp=Z,1.2nm,0.7s,baz=34,slow=2.3,SNR=6.4
KIV Kislovodsk 107.83 314 *e*P **Pdif** **08 12 12.4 -2.9**
KIV *e* 08 16 40.7
KIV *e* 08 22 51.7
KIV *e*PS **PS** **08 26 04.6 -2.7**
KIV *e*SS SS 08 31 54.3 -0.9
KIV pmax pmax
comp=Z,5.0nm,1.0s
SUSD Miller 107.90 45 Pdiff **Pdif** **08 12 13.2 -2.4**
baz=279
MOIG Morelia 108.02 71 IAMs_20 IAMs_20 08 58 45.6
comp=Z,4µm,18.0s
CBKS Cedar Bluff 108.12 51 Pdiff **Pdif** **08 12 13.6 -3.1**
baz=277
MOS Moscow 108.37 327 *e*P **Pdif** **08 12 12.9 -4.4**
MOS *e* 08 16 45.2
MOS *e*PPP PPP 08 19 02.2
MOS *e* 08 22 52.7
MOS *e*SP SP 08 26 04.6 -4.3
MOS *e*SS **SS** **08 31 52.3 -9.2**
MOS *e*SSS SSS 08 36 08.7
MOS MLR MLR
comp=E,3µm,21.0s
MOS MLR MLR
comp=Z,4µm,21.0s
D32A Dogwood Acres, 108.74 42 IAMs_20 IAMs_20 08 59 00.2
comp=Z,5µm,19.0s
ULM Lac du Bonnet 108.79 39 IAMs_20 IAMs_20 09 07 11.3
comp=Z,6µm,18.0s
ULM Lac du Bonnet 108.79 39 PKiKP **PKiKP** **08 16 23.7 -0.6**
comp=Z,1.9nm,0.8s,baz=222,slow=3.2,SNR=3.1
ABTX Abilene, Hawle 108.85 58 IAMs_20 IAMs_20 08 59 58.4
comp=Z,4µm,19.0s
ABTX Abilene, Hawle 108.85 58 Pdiff **Pdif** **08 12 19.5 -0.6**
baz=275
JCT Junction City 108.89 60 Pdiff **Pdif** **08 12 21.8 +1.5**
baz=274
BGNE Belgrade 108.97 48 IAMs_20 IAMs_20 09 05 33.8
comp=Z,4µm,18.0s
BGNE Belgrade 108.97 48 Pdiff **Pdif** **08 12 21.2 +0.8**
baz=279
U32A Winter Ranch, 108.99 54 IAMs_20 IAMs_20 08 57 36.9
comp=Z,5µm,20.0s
OK035 E0210 Rd and N 109.19 53 IAMs_20 IAMs_20 08 57 43.0
comp=Z,4µm,20.0s
OK038 West end E0370 109.19 54 IAMs_20 IAMs_20 08 57 44.1
comp=Z,5µm,20.0s
AGMN Agassiz Nation 109.25 41 IAMs_20 IAMs_20 08 54 17.7
comp=Z,5µm,21.0s
AGMN Agassiz Nation 109.25 41 Pdiff **Pdif** **08 12 20.2 -1.3**
baz=283
WMOK Wichita Mounta 109.36 55 IAMs_20 IAMs_20 09 00 53.7
comp=Z,4µm,18.0s
WMOK Wichita Mounta 109.36 55 Pdiff **Pdif** **08 12 22.7 +0.4**
baz=276
833A Chaparral WMA, 109.39 62 IAMs_20 IAMs_20 08 59 12.1
comp=Z,6µm,18.0s
833A Chaparral WMA, 109.39 62 Pdiff **Pdif** **08 12 25.0 +2.5**
baz=274
F33A 5 Mile Ranch, 109.49 43 IAMs_20 IAMs_20 08 58 50.3
comp=Z,6µm,19.0s
OK032 Salt Plains WL 109.57 53 IAMs_20 IAMs_20 08 57 53.2
comp=Z,3µm,20.0s
ECSD EROS Data Cent 109.69 46 Pdiff **Pdif** **08 12 26.3 +2.8**
baz=281
CROK Carrier 109.79 53 IAMs_20 IAMs_20 08 58 11.1
comp=Z,4µm,20.0s
UNM Universidad Na 109.92 72 IAMs_20 IAMs_20 09 05 25.9
comp=Z,4µm,18.0s
SOC Sochi 110.01 314 *i* P **Pdif** **08 12 19.2 -5.7**
SOC *e* 08 16 55.6
SOC *e*PPP PPP 08 19 15.5
SOC *e*PS **PS** **08 26 21.9 -7.4**
FW03 Perrin-Whitt E 110.13 57 IAMs_20 IAMs_20 08 59 20.3
comp=Z,3µm,19.0s
EF01 Eagle Ford 01 110.22 61 IAMs_20 IAMs_20 09 02 05.0
comp=Z,5µm,18.0s
OK029 Liberty Lake 110.31 54 IAMs_20 IAMs_20 09 01 01.8
comp=Z,5µm,18.0s
FW07 Weatherford 110.40 57 IAMs_20 IAMs_20 09 00 56.5
comp=Z,3µm,19.0s
FNO Franklin 110.42 55 IAMs_20 IAMs_20 08 59 53.8
comp=Z,5µm,19.0s
KSU1 Kansas State U 110.50 51 Pdiff **Pdif** **08 12 26.3 -0.9**
baz=279
TLIG Tlapa 110.51 74 IAMs_20 IAMs_20 08 59 45.7
comp=Z,5µm,18.0s
FW06 Azle 110.56 57 IAMs_20 IAMs_20 08 59 46.8
comp=Z,4µm,19.0s
B35A Bob, Littlefor 110.62 40 IAMs_20 IAMs_20 08 55 50.8
comp=Z,4µm,20.0s
OK048 Pawnee Station 110.64 53 IAMs_20 IAMs_20 08 58 46.4
comp=Z,3µm,20.0s

MG03	**Isla Dawson**	**110.69**	**155**	IAMs_20	IAMs_20	09 02 12.4			
	comp=Z,4µm,18.0s								
OK051	**E0350 and S346**	**110.71**	**53**	IAMs_20	IAMs_20	08 59 26.3			
	comp=Z,4µm,19.0s								
WHTX	**Lake Whitney,**	**110.75**	**58**	IAMs_20	IAMs_20	08 59 59.9			
	comp=Z,5µm,19.0s								
WHTX	**Lake Whitney,**	**110.75**	**58**	Pdiff	**Pdif**	**08 12 29.8**	**+1.3**		
	baz=276								
LOOK	**Love County**	**110.76**	**56**	IAMs_20	IAMs_20	09 00 41.8			
	comp=Z,5µm,20.0s								
435B	**Jarrell**	**110.77**	**59**	Pdiff	**Pdif**	**08 12 29.8**	**+1.3**		
	baz=276								
KVTX	**Kingsville**	**110.77**	**63**	IAMs_20	IAMs_20	09 01 26.7			
	comp=Z,5µm,18.0s								
Z35A	**Perchaven, San**	**110.78**	**57**	IAMs_20	IAMs_20	09 00 47.4			
	comp=Z,5µm,18.0s								
OK031	**S. Brethren Rd**	**110.78**	**54**	IAMs_20	IAMs_20	08 58 22.3			
	comp=Z,4µm,20.0s								
OK052	**Battle Ridge R**	**110.81**	**54**	IAMs_20	IAMs_20	08 58 22.9			
	comp=Z,4µm,19.0s								
T35A	**Sooner Cattle**	**110.91**	**53**	IAMs_20	IAMs_20	08 59 42.5			
	comp=Z,3µm,18.0s								
N35A	**Tabor**	**110.93**	**49**	IAMs_20	IAMs_20	08 54 53.6			
	comp=Z,4µm,22.0s								
MG05	**Puerto Natales**	**111.27**	**152**	IAMs_20	IAMs_20	09 09 06.9			
	comp=Z,3µm,18.0s								
ANN	**Anapa**	**111.36**	**316**	*i* PKIKP	**PKiKP**	**08 16 26.0**	**-3.3**		
ANN				*i*		08 17 08.2			
ANN				*i* PS	**PS**	**08 26 38.8**	**-2.8**		
ANN				pmax	pmax				
	comp=Z,14nm,1.1s								
F36A	**Milaca**	**111.38**	**43**	IAMs_20	IAMs_20	08 59 59.0			
	comp=Z,6µm,20.0s								
TUL3	**Leonard**	**111.63**	**54**	IAMs_20	IAMs_20	09 04 49.7			
	comp=Z,4µm,18.0s								
TUL3	**Leonard**	**111.63**	**54**	Pdiff	**Pdif**	**08 12 31.5**	**-0.9**		
	baz=279								
FINES	**FINESS Array B**	**111.67**	**335**	Pdiff	**Pdif**	**08 12 29.1**	**-2.8**		
	comp=Z,2.9nm,0.7s,baz=62,slow=4.5,SNR=9.3								
SPMN	**Marine on St.**	**112.02**	**44**	Pdiff	**Pdif**	**08 12 33.7**	**-0.2**		
	baz=284								
237A	**Washetta, Mont**	**112.14**	**58**	IAMs_20	IAMs_20	09 02 03.7			
	comp=Z,6µm,19.0s								
EYMN	**Ely**	**112.17**	**40**	IAMs_20	IAMs_20	08 58 10.8			
	comp=Z,3µm,20.0s								
EYMN	**Ely**	**112.17**	**40**	Pdiff	**Pdif**	**08 12 33.9**	**-0.5**		
	baz=286								
SCIA	**State Center**	**112.51**	**47**	Pdiff	**Pdif**	**08 12 33.8**	**-2.2**		
	baz=283								
Z38A	**Mt. Pleasant**	**112.67**	**57**	IAMs_20	IAMs_20	09 03 40.5			
	comp=Z,4µm,18.0s								
U38A	**Gravette**	**112.67**	**53**	IAMs_20	IAMs_20	08 59 59.2			
	comp=Z,4µm,19.0s								
N38A	**Joes South For**	**112.73**	**48**	IAMs_20	IAMs_20	09 00 29.4			
	comp=Z,6µm,20.0s								
HHAR	**Hobbs**	**113.05**	**53**	IAMs_20	IAMs_20	09 00 02.3			
	comp=Z,3µm,20.0s								
NATX	**Nacogdoches**	**113.14**	**58**	IAMs_20	IAMs_20	09 03 00.6			
	comp=Z,4µm,18.0s								
NATX	**Nacogdoches**	**113.14**	**58**	Pdiff	**Pdif**	**08 12 38.1**	**-1.0**		
	baz=278								
POGA	**Pongola**	**113.32**	**237**	IAMs_20	IAMs_20	09 04 20.5			
	comp=Z,5µm,18.0s								
SIM	**Simferopol'**	**113.60**	**317**	*i* PKIKP	**PKiKP**	**08 16 31.5**	**-2.1**		
SIM				*e*		08 17 24.2			
MIAR	**Mount Ida**	**113.64**	**55**	Pdiff	**Pdif**	**08 12 37.5**	**-3.7**		
	baz=279								
L40A	**Anamosa**	**113.92**	**47**	IAMs_20	IAMs_20	09 00 45.5			
	comp=Z,5µm,20.0s								
R40A	**Maddies Statio**	**113.98**	**51**	IAMs_20	IAMs_20	09 00 01.7			
	comp=Z,5µm,19.0s								
MNK	**Minsk**	**114.03**	**328**	*i* PKIKP	**PKiKP**	**08 16 30.2**	**-3.9**		
MNK				*i*		08 19 55.3			
MNK				*i*		08 23 46.9			
MNK				*i* PS	**PS**	**08 27 04.2**	**-1.6**		
MNK				*i* SS	SS	08 33 35.8	+19		
MNK				pmax	pmax				
	comp=Z,5.0nm,0.8s								
MNK				pmax	pmax				
	comp=N,13nm,0.9s								
MNK				pmax	pmax				
	comp=E,6.0nm,0.9s								
MNK				MLR	MLR				
	comp=Z,3µm,18.0s								
MNK				MLR	MLR				
	comp=E,895nm,17.0s								
MNK				MLR	MLR				
	comp=N,1µm,17.0s								
WLAR	**White Oak Lake**	**114.15**	**56**	IAMs_20	IAMs_20	09 03 30.7			
	comp=Z,5µm,18.0s								
X40A	**Basin Creek Fa**	**114.25**	**55**	IAMs_20	IAMs_20	09 01 07.1			
	comp=Z,5µm,20.0s								
COWI	**Conover**	**114.25**	**42**	IAMs_20	IAMs_20	09 02 21.3			
	comp=Z,5µm,19.0s								
D41A	**Chassel**	**114.33**	**41**	IAMs_20	IAMs_20	08 57 23.0			
	comp=Z,4µm,22.0s								
JFWS	**Jewell Farm**	**114.39**	**45**	Pdiff	**Pdif**	**08 12 40.4**	**-4.0**		
	baz=285								
Z41A	**Richland Creek**	**114.48**	**56**	IAMs_20	IAMs_20	09 03 14.3			
	comp=Z,3µm,18.0s								
441A	**DeRidder**	**114.53**	**59**	IAMs_20	IAMs_20	09 03 40.9			
	comp=Z,5µm,18.0s								
WHAR	**Wooly Hollow**	**114.55**	**54**	IAMs_20	IAMs_20	09 00 29.0			
	comp=Z,4µm,20.0s								
FCAR	**Ozark Folk Cen**	**114.57**	**53**	IAMs_20	IAMs_20	09 01 34.5			
	comp=Z,4µm,19.0s								
CCM	**Cathedral Cave**	**114.82**	**51**	IAMs_20	IAMs_20	08 59 57.9			
	comp=Z,5µm,20.0s								
AKASG	**Malin Array Be**	**114.82**	**324**	PKP	PKPdf	08 16 35.9	+0.2		
	comp=Z,2.0nm,0.6s,baz=59,slow=2.0,SNR=8.4								
KIEV	**Kiev**	**114.84**	**324**	IAMs_20	IAMs_20	09 06 54.5			
	comp=Z,3µm,18.0s								
L42A	**Oliver, Polo**	**115.05**	**46**	IAMs_20	IAMs_20	09 03 53.5			
	comp=Z,5µm,19.0s								
CCAR	**Cane Creek**	**115.22**	**55**	IAMs_20	IAMs_20	09 01 25.7			
	comp=Z,4µm,20.0s								
BRTR	**Keskin Array B**	**115.29**	**311**	PKiKP	**PKiKP**	**08 16 35.2**	**-2.0**		
BRTR	**Keskin Array B**	**115.29**	**311**	PKP	**PKiKP**	**08 16 35.9**	**-1.3**		
	comp=Z,2.3nm,0.9s,baz=146,slow=0.9,SNR=7.1								
BRTR				PKKPbc	**PKKPbc**	**08 27 12.4**	**-0.4**		
	comp=Z,1.6nm,0.8s,baz=192,slow=3.4,SNR=4.4								
LCAR	**Lake Charles**	**115.31**	**53**	IAMs_20	IAMs_20	09 07 18.9			
	comp=Z,4µm,18.0s								
FVM	**French Village**	**115.47**	**51**	IAMs_20	IAMs_20	09 00 28.0			
	comp=Z,6µm,20.0s								
PABE	**Paberze**	**115.57**	**330**	IAMs_20	IAMs_20	09 08 45.5			
	comp=Z,4µm,20.0s								
E43A	**Lone Tree Farm**	**115.58**	**41**	IAMs_20	IAMs_20	09 05 02.0			
	comp=Z,4µm,19.0s								
P43A	**Skaggs, Pawnee**	**115.76**	**49**	IAMs_20	IAMs_20	09 02 40.7			
	comp=Z,4µm,19.0s								
HBAR	**Harrisburg**	**115.81**	**53**	IAMs_20	IAMs_20	09 05 42.2			
	comp=Z,4µm,18.0s								
GO07	**Milladeo Hill,**	**116.16**	**144**	IAMs_20	IAMs_20	09 03 52.7			
	comp=Z,3µm,18.0s								
CGM3	**Cape Girardeau**	**116.22**	**51**	IAMs_20	IAMs_20	09 01 27.9			
	comp=Z,4µm,20.0s								
GNAR	**Gosnell**	**116.23**	**53**	IAMs_20	IAMs_20	09 00 53.4			
	comp=Z,5µm,21.0s								
L44A	**Lake County Fo**	**116.26**	**46**	IAMs_20	IAMs_20	09 04 14.4			
	comp=Z,5µm,19.0s								
PEBM	**Pemiscott Bayo**	**116.32**	**53**	IAMs_20	IAMs_20	09 02 32.8			
	comp=Z,5µm,20.0s								
M44A	**Midewin, Midew**	**116.39**	**47**	IAMs_20	IAMs_20	09 02 21.0			
	comp=Z,5µm,20.0s								
HQIL	**Hanson Quary C**	**116.41**	**46**	IAMs_20	IAMs_20	09 03 38.5			
	comp=Z,5µm,18.0s								
S44A	**Carbondale**	**116.44**	**51**	IAMs_20	IAMs_20	09 00 48.7			
	comp=Z,6µm,20.0s								
MET	**Memphis--Engin**	**116.47**	**54**	IAMs_20	IAMs_20	09 02 51.9			
	comp=Z,5µm,19.0s								
MILM	**Milestii Mici**	**116.48**	**320**	*e*P	**Pdif**	**08 12 49.0**	**-4.6**		
MILM	**Milestii Mici**	**116.48**	**320**	*e*PKP	**PKPdf**	**08 16 33.0**	**-6.0**		
MILM	**Milestii Mici**	**116.48**	**320**	*e*PP	PP	08 17 40.0	-5.6		
	comp=Z,430nm,11.9s								
MILM	**Milestii Mici**	**116.48**	**320**	*e*P	**Pdif**	**08 12 49.0**	**-4.6**		
MILM				*e*		08 23 30.0			
MILM				*e*PS	**PS**	**08 27 22.0**	**-6.5**		
MILM				pmax	pmax				
	comp=Z,430nm,11.9s								
VBMS	**Vicksburg**	**116.55**	**57**	IAMs_20	IAMs_20	09 10 04.7			
	comp=Z,4µm,18.0s								
SUW	**Suwalki**	**116.70**	**329**	IAMs_20	IAMs_20	09 07 12.6			
	comp=Z,3µm,20.0s								
LL06	**Loncomilla**	**116.73**	**144**	IAMs_20	IAMs_20	09 04 01.9			
	comp=Z,3µm,18.0s								
HALT	**Halls**	**116.78**	**53**	IAMs_20	IAMs_20	09 02 57.9			
	comp=Z,6µm,20.0s								
I45A	**Fountain**	**116.86**	**43**	IAMs_20	IAMs_20	09 10 17.0			
	comp=Z,4µm,18.0s								
OXF	**Oxford**	**117.02**	**54**	IAMs_20	IAMs_20	09 05 08.9			
	comp=Z,5µm,18.0s								
Y45A	**Yeager Farm, C**	**117.05**	**55**	IAMs_20	IAMs_20	09 02 31.2			
	comp=Z,4µm,20.0s								
OLIL	**Olney**	**117.06**	**49**	IAMs_20	IAMs_20	09 05 04.1			
	comp=Z,5µm,19.0s								
T45A	**Paducah**	**117.07**	**51**	IAMs_20	IAMs_20	09 00 35.5			
	comp=Z,4µm,20.0s								
RTAL	**Retalhuleu**	**117.14**	**77**	IAMs_20	IAMs_20	08 57 26.6			
	comp=Z,3µm,20.0s								
SFJD	**Kangerlussuaq**	**117.16**	**10**	IAMs_20	IAMs_20	09 15 26.1			
	comp=Z,3µm,18.0s								
E46A	**Sault Ste Mari**	**117.32**	**40**	IAMs_20	IAMs_20	09 08 01.1			
	comp=Z,5µm,18.0s								
SFIN	**Lafayette**	**117.36**	**47**	IAMs_20	IAMs_20	09 02 42.1			
	comp=Z,5µm,20.0s								
HFS	**Hagfors**	**117.37**	**338**	PKP	**PKPdf**	**08 16 39.7**	**-0.6**		
	comp=Z,1.3nm,0.7s,baz=184,slow=40,SNR=3.3								
346A	**Big Creek Wild**	**117.58**	**58**	IAMs_20	IAMs_20	09 15 43.6			
	comp=Z,3µm,20.0s								
NB2	**NORSAR Subarra**	**117.64**	**340**	PKPdf	**PKPdf**	**08 16 40.8**	**-0.1**		
	comp=Z,2.5nm,0.9s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**117.64**	**340**	PKP	**PKPdf**	**08 16 40.2**	**-0.8**		
	comp=Z,1.7nm,0.7s,baz=47,slow=1.8,SNR=6.2								
PAYG	**Puerto Ayora**	**117.71**	**94**	IAMs_20	IAMs_20	09 08 44.2			
	comp=Z,3µm,18.0s								
HARR	**Harsova**	**117.86**	**318**	⇓P	**PKiKP**	**08 16 42.4**	**+0.6**		
HARR	**Harsova**	**117.86**	**318**	⇓PKIKP	**PKiKP**	**08 16 42.4**	**+0.6**		
PLAL	**Pickwick Lake**	**117.99**	**54**	IAMs_20	IAMs_20	09 04 39.5			
	comp=Z,5µm,19.0s								
VRI	**Vrincioaia**	**118.22**	**320**	⇓P	**PKiKP**	**08 16 48.1**	**+5.6**		
VRI	**Vrincioaia**	**118.22**	**320**	⇓PKIKP	**PKiKP**	**08 16 48.1**	**+5.6**		
LVV	**L'vov**	**118.22**	**324**	*e*PKIKP	**PKiKP**	**08 16 47.0**	**+4.7**		
LVV				*e*		08 18 06.8			
LVV				MLR	MLR				
	comp=E,1µm,22.0s								
LVV				MLR	MLR				
	comp=N,800nm,23.0s								
LVV				MLR	MLR				
	comp=Z,2µm,23.0s								
Z47A	**Carrollton**	**118.39**	**55**	IAMs_20	IAMs_20	09 03 36.1			
	comp=Z,4µm,20.0s								
NEHR	**Nehoiu**	**118.66**	**319**	⇑P	**PKiKP**	**08 16 46.0**	**+2.7**		
O48B	**Farmland**	**118.81**	**47**	IAMs_20	IAMs_20	09 03 54.6			
	comp=Z,5µm,20.0s								
MLR	**Muntele Rosu**	**118.87**	**319**	⇑P	**PKiKP**	**08 16 44.4**	**+0.5**		
MLR	**Muntele Rosu**	**118.87**	**319**	IAMs_20	IAMs_20	09 11 01.0			
	comp=Z,3µm,20.0s								
MLR	**Muntele Rosu**	**118.87**	**319**	⇑PKIKP	**PKiKP**	**08 16 44.4**	**+0.5**		
DOPR	**Dopca**	**119.04**	**320**	⇓P	**PKiKP**	**08 16 48.0**	**+4.0**		
KWP	**Kalwaria Pacla**	**119.07**	**325**	IAMs_20	IAMs_20	09 08 41.7			
	comp=Z,3µm,19.0s								
CLTN	**Cedars of Leba**	**119.10**	**52**	IAMs_20	IAMs_20	09 05 29.7			
	comp=Z,4µm,20.0s								
KONO	**Kongsberg**	**119.20**	**339**	IAMs_20	IAMs_20	09 15 55.2			
	comp=Z,3µm,19.0s								
LBTB	**Lobtse**	**119.28**	**237**	IAMs_20	IAMs_20	09 09 48.8			
	comp=Z,4µm,18.0s								
LRAL	**Lakeview Retre**	**119.30**	**55**	IAMs_20	IAMs_20	09 05 48.3			
	comp=Z,5µm,19.0s								
R49A	**Shelbyville**	**119.39**	**49**	IAMs_20	IAMs_20	09 02 06.1			
	comp=Z,4µm,20.0s								
U49A	**Red Boiling Sp**	**119.42**	**51**	IAMs_20	IAMs_20	09 01 59.1			
	comp=Z,5µm,20.0s								
O49A	**Covington**	**119.43**	**47**	IAMs_20	IAMs_20	09 06 06.9			
	comp=Z,4µm,19.0s								
PLCA	**Paso Flores**	**119.47**	**144**	PKP	**PKiKP**	**08 16 45.8**	**+0.6**		
	comp=Z,1.6nm,0.5s,baz=281,slow=2.6,SNR=11								
VOIR		**119.47**	**320**	⇑P	**PKiKP**	**08 16 45.7**	**+0.7**		
VOIR		**119.47**	**320**	⇑PKIKP	**PKiKP**	**08 16 45.7**	**+0.7**		
SNET	**Serv Nac Est T**	**119.55**	**78**	IAMs_20	IAMs_20	08 58 05.9			
	comp=Z,3µm,20.0s								
Y49A	**Blount Mountai**	**119.59**	**54**	IAMs_20	IAMs_20	09 07 28.9			
	comp=Z,3µm,18.0s								
KOLS	**Kolonicke sedl**	**119.65**	**324**	*e*PKP	**PKiKP**	**08 16 49.6**	**+4.4**		
KOLS	**Kolonicke sedl**	**119.65**	**324**	*e*PKIKP	**PKiKP**	**08 16 49.6**	**+4.4**		
BRAL	**Brewton**	**119.65**	**58**	IAMs_20	IAMs_20	09 12 19.9			
	comp=Z,3µm,19.0s								
ELND	**Elena**	**119.88**	**317**	⇑P	**PKPdf**	**08 16 45.1**	**-0.7**		
STHS	**Stebnicka Huta**	**120.01**	**325**	*e*PKP	**PKiKP**	**08 16 50.2**	**+4.3**		
STHS	**Stebnicka Huta**	**120.01**	**325**	*e*PKIKP	**PKiKP**	**08 16 50.2**	**+4.3**		
250A	**Grady**	**120.13**	**56**	IAMs_20	IAMs_20	09 08 11.5			
	comp=Z,4µm,18.0s								
LSZ	**Lusaka**	**120.25**	**249**	PKPdf	**PKPdf**	**08 16 46.0**	**-1.4**		
LSZ				IAMs_20	IAMs_20	09 03 07.4			
	comp=Z,3µm,22.0s								
LSZ	**Lusaka**	**120.25**	**249**	PKIKP	**PKPdf**	**08 16 46.0**	**-1.4**		
LOT	**Lotru**	**120.28**	**320**	⇑P	**PKiKP**	**08 16 49.3**	**+2.6**		
DRGR		**120.37**	**322**	⇑P	**PKPdf**	**08 16 46.3**	**-0.3**		
DRGR		**120.37**	**322**	⇑PKIKP	**PKPdf**	**08 16 46.3**	**-0.3**		
ACSO	**Alum Creek Sta**	**120.40**	**46**		**PKPdf**	**08 16 44.2**	**-2.6**		
ACSO				IAMs_20	IAMs_20	09 06 11.4			
	comp=Z,4µm,19.0s								
X51A	**Calhoun**	**120.66**	**53**	IAMs_20	IAMs_20	09 04 06.1			
	comp=Z,5µm,20.0s								
S51A	**Beattyville**	**120.78**	**49**	IAMs_20	IAMs_20	09 04 59.8			
	comp=Z,4µm,20.0s								
451A	**Vernon**	**120.86**	**58**	IAMs_20	IAMs_20	09 04 35.0			
	comp=Z,3µm,20.0s								
GZR	**Gura Zlata**	**120.94**	**320**	⇑P	**PKiKP**	**08 16 48.2**	**+0.3**		
GZR	**Gura Zlata**	**120.94**	**320**	⇑PKIKP	**PKiKP**	**08 16 48.2**	**+0.3**		
LANS	**Liptovska Anna**	**121.15**	**325**	*e*PKP	**PKiKP**	**08 16 52.3**	**+4.1**		
LANS	**Liptovska Anna**	**121.15**	**325**	*e*PKIKP	**PKiKP**	**08 16 52.3**	**+4.1**		
RGN	**Rugen**	**121.16**	**333**	IAMs_20	IAMs_20	09 13 19.9			
	comp=Z,4µm,19.0s								
P52A	**Corning**	**121.22**	**47**	IAMs_20	IAMs_20	09 17 39.1			
	comp=Z,4µm,18.0s								
TKL	**Tuckaleechee C**	**121.22**	**52**	IAMs_20	IAMs_20	09 02 54.8			
	comp=Z,4µm,20.0s								
152A	**Waverly Hall**	**121.25**	**55**	IAMs_20	IAMs_20	09 07 40.0			
	comp=Z,4µm,18.0s								
O52A	**Adamsville**	**121.26**	**46**	IAMs_20	IAMs_20	09 04 23.2			
	comp=Z,4µm,21.0s								
SADO	**Sadowa**	**121.28**	**40**	IAMs_20	IAMs_20	09 06 21.2			
	comp=Z,4µm,19.0s								
V52A	**Sevierville**	**121.31**	**51**	IAMs_20	IAMs_20	09 03 08.0			
	comp=Z,5µm,21.0s								
352A	**Blakely**	**121.36**	**57**	IAMs_20	IAMs_20	09 08 15.0			
	comp=Z,4µm,18.0s								
TGUH	**Tegucigalpa,Un**	**121.44**	**77**	IAMs_20	IAMs_20	09 02 53.1			
	comp=Z,3µm,19.0s								
PSZ	**Piszkesteto**	**121.53**	**324**	IAMs_20	IAMs_20	09 12 25.7			
	comp=Z,4µm,20.0s								
BZS	**Buzias**	**121.57**	**321**	⇑P	**PKiKP**	**08 16 49.5**	**+0.5**		
BZS	**Buzias**	**121.57**	**321**	⇑PKIKP	**PKiKP**	**08 16 49.5**	**+0.5**		
O53A	**New Philadelph**	**121.66**	**46**	IAMs_20	IAMs_20	09 07 54.8			
	comp=Z,5µm,19.0s								
P53A	**Whipple**	**121.81**	**47**	IAMs_20	IAMs_20	09 04 40.7			
	comp=Z,3µm,21.0s								
VYHS	**Vyhne**	**121.85**	**325**	*e*PKP	**PKiKP**	**08 16 52.5**	**+3.0**		
VYHS	**Vyhne**	**121.85**	**325**	*e*PKIKP	**PKiKP**	**08 16 52.5**	**+3.0**		
MDVR	**Moldovita**	**121.89**	**320**	⇑P	**PKiKP**	**08 16 50.0**	**+0.2**		
MORC	**Moravsky Berou**	**121.89**	**327**	⇑P	**PKiKP**	**08 16 49.7**	**+0.1**		
MORC	**Moravsky Berou**	**121.89**	**327**	IAMs_20	IAMs_20	09 12 09.9			
	comp=Z,3µm,18.0s								
MORC	**Moravsky Berou**	**121.89**	**327**	*e*PKP	**PKPdf**	**08 16 48.6**	**-0.8**		
MORC	**Moravsky Berou**	**121.89**	**327**	⇑PKIKP	**PKiKP**	**08 16 49.7**	**+0.1**		
553A	**Crawfordville**	**122.06**	**58**	IAMs_20	IAMs_20	09 08 12.8			
	comp=Z,4µm,19.0s								
KRLC	**Kraliky**	**122.14**	**327**	*e*PKPDF	**PKiKP**	**08 16 52.5**	**+2.4**		
KRLC	**Kraliky**	**122.14**	**327**	*e*PKIKP	**PKiKP**	**08 16 52.5**	**+2.4**		
O54A	**Avella**	**122.28**	**46**	IAMs_20	IAMs_20	09 06 18.1			
	comp=Z,5µm,19.0s								
JAVC	**Velka Javorina**	**122.31**	**326**	*e*PKP	**PKPdf**	**08 16 50.1**	**-0.2**		
Q54A	**Coxs Mills**	**122.39**	**47**	IAMs_20	IAMs_20	09 07 24.1			
	comp=Z,5µm,20.0s								
BOVS	**Bovan**	**122.39**	**319**	⇑P	**PKPdf**	**08 16 49.6**	**-0.9**		
MEDO	**Medina**	**122.42**	**42**	IAMs_20	IAMs_20	09 13 06.3			
	comp=Z,2µm,18.0s								
TIGA	**Tifton**	**122.48**	**56**	IAMs_20	IAMs_20	09 07 09.6			
	comp=Z,3µm,20.0s								
154A	**Montrose**	**122.58**	**55**	IAMs_20	IAMs_20	09 06 37.2			
	comp=Z,4µm,20.0s								
WVNY	**West Valley, N**	**122.64**	**43**	IAMs_20	IAMs_20	09 06 23.2			
	comp=Z,4µm,20.0s								
VRAC	**Vranov**	**122.66**	**327**	*e*PKP	**PKPdf**	**08 16 49.3**	**-1.6**		
VAY	**Valandovo**	**122.77**	**316**	*i* P	**PKPdf**	**08 16 50.1**	**-1.2**		
MODS	**Modra-Piesok**	**122.79**	**326**	*e*PKP	**PKiKP**	**08 16 54.9**	**+3.5**		
MODS	**Modra-Piesok**	**122.79**	**326**	*e*PKIKP	**PKiKP**	**08 16 54.9**	**+3.5**		
MCWV	**Mont Chateau**	**122.86**	**46**	IAMs_20	IAMs_20	09 08 51.4			
	comp=Z,4µm,18.0s								
IVI	**Ivigtut**	**122.89**	**11**	IAMs_20	IAMs_20	09 07 19.5			
	comp=Z,4µm,21.0s								
KRUC	**Moravsky**	**122.91**	**327**	*e*PKP	**PKPdf**	**08 16 50.3**	**-1.1**		
M55A	**Ridgway**	**122.91**	**44**	IAMs_20	IAMs_20	09 06 48.6			
	comp=Z,5µm,20.0s								
FRGS	**Fruska Gora**	**122.91**	**321**	⇑P	**PKiKP**	**08 16 54.6**	**+2.9**		
HZTE	**Horizontes, Gu**	**123.12**	**81**	IAMs_20	IAMs_20	09 03 52.8			
	comp=Z,3µm,20.0s								
BRG	**Berggiesshubel**	**123.15**	**329**	*e*PKP	**PKiKP**	**08 16 52.5**	**+0.5**		
BRG				Amp		08 16 56.7			
	comp=Z,10nm,1.0s								
BRG	**Berggiesshubel**	**123.15**	**329**	PP	PP	08 18 34.0	+2.9		
BRG	**Berggiesshubel**	**123.15**	**329**	SKS	**SKSdf**	**08 23 59.0**	**-3.8**		
BRG	**Berggiesshubel**	**123.15**	**329**	SS	SS	08 35 16.0	+1.1		
BRG				Amp		09 15 44.0			
	comp=N,2.0nm,19.0s								
BRG				Amp		09 15 48.0			
	comp=Z,3.6nm,19.0s								
BRG				Amp		09 15 53.0			
	comp=E,1.6nm,17.8s								
BRG	**Berggiesshubel**	**123.15**	**329**	*e*PKIKP	**PKiKP**	**08 16 52.4**	**+0.5**		
BRG						08 18 34.0			
BRG						08 23 59.0			
BRG				PS	**PS**	**08 28 26.0**	**-2.0**		
BRG				SS	SS	08 35 16.0	+1.1		
BRG				pmax	pmax				
	comp=Z,10.0nm,1.0s								
BRG				pmax	pmax				
	comp=N,2µm,19.0s								
IDI	**Anoyia**	**123.20**	**309**	PKP	**PKiKP**	**08 16 52.5**	**-0.1**		
DUNO	**Dulce Nombre,**	**123.22**	**82**	IAMs_20	IAMs_20	09 08 45.4			
	comp=Z,2µm,18.0s								
ORTG	**Ortega, Santa**	**123.25**	**82**	IAMs_20	IAMs_20	09 02 41.4			
	comp=Z,3µm,19.0s								
255A	**Hazlehurst**	**123.28**	**56**	IAMs_20	IAMs_20	09 09 17.6			
	comp=Z,4µm,18.0s								
SKO	**Skopje**	**123.28**	**317**	*i* P	**PKPdf**	**08 16 51.6**	**-0.7**		
CLL	**Collm**	**123.35**	**330**	IAMs_20	IAMs_20	09 12 16.1			
	comp=Z,3µm,20.0s								
CLL	**Collm**	**123.35**	**330**	*e*PKIKP	**PKPdf**	**08 16 52.0**	**-0.1**		
CLL				*i*		08 16 54.8			
CLL				MLR	MLR				
	comp=Z,3µm,20.4s								
NRS	**Narsarsuaq**	**123.44**	**10**	IAMs_20	IAMs_20	09 10 25.9			
	comp=Z,3µm,21.0s								
L56A	**Greenwood**	**123.45**	**43**	IAMs_20	IAMs_20	09 07 07.8			
	comp=Z,4µm,20.0s								
TRQ	**Mont Tremblant**	**123.45**	**37**	IAMs_20	IAMs_20	09 07 41.4			
	comp=Z,4µm,20.0s								
Q56A	**Snyder Ridge,**	**123.56**	**47**	IAMs_20	IAMs_20	09 09 05.1			
	comp=Z,4µm,19.0s								
RONA	**Rosalia, Austr**	**123.71**	**325**	*i* PKiKP	**PKPdf**

comp=Z,4µm,20.0s
SABO M.te Sabotino 126.21 325 IAMs_20 IAMs_20 09 11 26.8
comp=Z,3µm,21.0s
060A Indiantown 126.26 61 IAMs_20 IAMs_20 09 11 05.2
comp=Z,3µm,19.0s
F62A Pittston Farm, 126.32 35 IAMs_20 IAMs_20 09 11 28.9
comp=Z,4µm,19.0s
ABTA Abfaltersbach 126.38 326 *i* pPKP pPKPdf 08 17 00.5 -2.5
comp=Z,12nm,0.9s,SNR=5.3
G62A West of Eustis 126.38 36 IAMs_20 IAMs_20 09 08 53.4
comp=Z,3µm,19.0s
WATA Walderalm 126.53 327 *i* PKP **PKPdf 08 16 57.7 -0.8**
comp=Z,28nm,1.3s
WTTA Wattenberg 126.55 327 *e*PKiKP **PKPdf 08 16 58.5 -0.1**
comp=Z,42nm,1.2s,SNR=7.3
R61A Willards 126.61 46 IAMs_20 IAMs_20 09 09 20.6
comp=Z,4µm,19.0s
V61A Roper 126.70 49 IAMs_20 IAMs_20 09 07 57.6
comp=Z,4µm,20.0s
WSPT Westport, CT 126.72 42 IAMs_20 IAMs_20 09 16 54.1
comp=Z,3µm,18.0s
N62A Caumsett State 126.74 42 IAMs_20 IAMs_20 09 04 20.7
comp=Z,5µm,21.0s
MOTA Moosalm 126.78 327 *i* pPKP pPKPdf 08 17 01.8 -1.6
comp=Z,9.4nm,0.7s
SQTA Sankt Quirin 126.80 327 *i* PKiKP **PKiKP 08 17 00.6 +1.1**
comp=Z,35nm,1.6s,SNR=5.0
QUA2 Belchertown 126.81 40 IAMs_20 IAMs_20 09 09 15.4
comp=Z,5µm,20.0s
EKA Eskdalemuir Ar 126.83 342 PKP **PKiKP 08 16 59.3 +0.1**
comp=Z,1.6nm,0.4s,baz=12,slow=2.4,SNR=14
STU Stuttgart 126.86 330 IAMs_20 IAMs_20 09 19 31.0
comp=Z,2µm,18.0s
RETA Reutte 126.88 328 *i* pPKP pPKPdf 08 17 01.8 -1.7
comp=Z,10nm,1.4s
F63A Nahmakanta, Br 126.93 35 IAMs_20 IAMs_20 09 12 04.9
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 127.07 36 IAMs_20 IAMs_20 09 11 32.8
comp=Z,5µm,19.0s
BTNL Ternell 127.08 333 *d*PKP **PKiKP 08 17 02.2 +2.4**
MEM Membach 127.11 333 *d*PcP **PKiKP 08 17 02.1 +2.3**
SGRT San Giovanni R 127.15 319 *i* P **PKPdf 08 16 55.2 -4.6**
FETA Feichten 127.18 327 *i* PKP **PKPdf 08 16 59.6 -0.2**
comp=Z,11nm,1.1s
HRV Adam Dziewonsk 127.20 40 IAMs_20 IAMs_20 09 10 08.7
comp=Z,4µm,20.0s
WVL Waterville 127.26 36 IAMs_20 IAMs_20 09 09 20.7
comp=Z,3µm,19.0s
F64A Sherman 127.26 34 IAMs_20 IAMs_20 09 10 32.6
comp=Z,3µm,20.0s
CTI Castel Tesino 127.27 326 IAMs_20 IAMs_20 09 18 37.4
comp=Z,3µm,19.0s
BHOU Houvegnez 127.30 333 *d*PKP **PKiKP 08 17 02.7 +2.5**
WIN Windhoek 127.36 236 IAMs_20 IAMs_20 09 10 50.9
comp=Z,4µm,20.0s
ARNL Arenillas 127.39 99 IAMs_20 IAMs_20 09 08 11.5
comp=Z,2µm,18.0s
DAVA Damuels 127.47 328 *ep*PKP pPKPdf 08 17 03.1 -1.6
comp=Z,9.0nm,0.9s
BCLA Clavier 127.56 334 *d*PKP **PKiKP 08 17 03.1 +2.3**
FUORN Ofenpass-Fuorn 127.68 327 IAMs_20 IAMs_20 09 20 33.1
comp=Z,2µm,18.0s
BGES Gesves 127.69 334 *d*PKP **PKiKP 08 17 03.2 +2.2**
WLF Walferdange 127.72 332 IAMs_20 IAMs_20 09 20 21.3
comp=Z,4µm,18.0s
WLF Walferdange 127.72 332 *d*PKP **PKiKP 08 17 04.1 +3.0**
WLF Walferdange 127.72 332 PKP **PKiKP 08 17 02.5 +1.4**
RCHB Rochefort 127.79 333 *d*PKP **PKiKP 08 17 02.6 +1.4**
BMRD Maredsous 127.89 334 *d*PKP **PKiKP 08 17 02.0 +0.6**
CUC Castrocucco 127.97 317 PKPdf **PKPdf 08 16 59.2 -2.2**
G65A Princeton 128.10 35 IAMs_20 IAMs_20 09 20 26.9
comp=Z,3µm,18.0s
DOU Dourbes 128.11 334 *d*PKP **PKiKP 08 17 04.2 +2.3**
CAMP Campotosto 128.23 321 IAMs_20 IAMs_20 09 21 48.5
comp=Z,2µm,19.0s
TUE Stuetta 128.27 328 IAMs_20 IAMs_20 09 16 14.5
comp=Z,4µm,20.0s
PAOL Paolisi 128.28 319 IAMs_20 IAMs_20 09 17 58.2
comp=Z,2µm,20.0s
TSUM Tsumeb 128.41 240 IAMs_20 IAMs_20 09 17 16.9
comp=Z,3µm,18.0s
EMMW East Machias 128.45 35 IAMs_20 IAMs_20 09 13 08.3
comp=Z,3µm,19.0s
GGN Saint George 128.56 34 IAMs_20 IAMs_20 09 15 39.9
comp=Z,3µm,19.0s
ZCCA Zocca 128.66 324 IAMs_20 IAMs_20 09 13 32.5
comp=Z,3µm,20.0s
BCIP Isla Barro Col 128.79 83 IAMs_20 IAMs_20 09 10 29.1
comp=Z,2µm,19.0s
PRMA PARMA 128.80 325 IAMs_20 IAMs_20 09 10 44.8
comp=Z,3µm,21.0s
CHSH Refugio Sur-Vo 128.91 97 IAMs_20 IAMs_20 09 14 02.7
comp=Z,2µm,18.0s
IMBA Imbabura, San 129.82 95 IAMs_20 IAMs_20 09 07 27.9
comp=Z,2µm,18.0s
TULM Tulcn-Chilpat 130.29 94 IAMs_20 IAMs_20 09 15 49.2
comp=Z,2µm,18.0s
MTDJ Mount Denham 130.44 71 IAMs_20 IAMs_20 09 17 58.1
comp=Z,2µm,18.0s
HAL Halifax 130.65 33 IAMs_20 IAMs_20 09 13 11.3
comp=Z,4µm,19.0s
CLF Chambon-Foret 130.68 333 IAMs_20 IAMs_20 09 18 55.5
comp=Z,5µm,20.0s
PB07 IPOC Station P 130.78 125 IAMs_20 IAMs_20 09 05 01.9
comp=Z,2µm,20.0s
SSB Saint Sauveur 131.57 329 IAMs_20 IAMs_20 09 16 52.6
comp=Z,2µm,20.0s
ROSC El Rosal 134.12 89 PKP **PKPdf 08 17 14.8 +0.6**
comp=Z,29nm,0.7s,baz=96,slow=9.8,SNR=9.1
KEST Kesra 134.53 316 PKP **PKPdf 08 17 14.0 0.0**
comp=Z,17nm,1.1s,baz=194,slow=2.7,SNR=5.0
LPAZ La Paz 134.76 120 PKP **PKPdf 08 17 16.2 +0.6**
comp=Z,13nm,0.8s,baz=26,slow=1.1,SNR=15
CEST Esterri de Car 135.14 329 IAMs_20 IAMs_20 09 23 32.2
comp=Z,3µm,19.0s
TICA Tres Isletas 135.22 137 *e*P **PKPdf 08 17 13.1 -2.4**
MAHO Mahon 135.34 324 PKP **PKPdf 08 17 13.5 -1.7**
GRTK Grand Turk 135.74 65 IAMs_20 IAMs_20 09 20 07.9
comp=Z,2µm,18.0s
SDDR Presa de Saban 136.16 69 IAMs_20 IAMs_20 09 15 50.3
comp=Z,3µm,20.0s
BBSR BB Station 137.06 48 IAMs_20 IAMs_20 09 14 06.5
comp=Z,4µm,20.0s
TBTG Tabatinga, AM 137.19 103 *e*P **PKPdf 08 17 17.5 -2.0**
CPUP Villa Florida 137.27 140 PKPdf **PKPdf 08 17 19.5 +0.3**
CPUP Villa Florida 137.27 140 PKP **PKPdf 08 17 20.1 +0.9**
comp=Z,5.6nm,1.1s,baz=352,slow=2.5,SNR=4.4
CPUP Villa Florida 137.27 140 PKIKP **PKPdf 08 17 19.5 +0.3**
SDV Santo Domingo 137.88 83 PKPdf **PKPdf 08 17 16.6 -4.3**
ECHE Chera 138.47 328 PKP **PKPdf 08 17 20.4 -0.8**
PCDR Punta Cana, DR 138.95 69 IAMs_20 IAMs_20 09 17 54.2
comp=Z,2µm,21.0s
ETMB Extrema 139.05 112 *e*P **PKPdf 08 17 20.7 -2.1**
UCM Universidad Co 139.10 330 PKP **PKPdf 08 17 18.4 -3.9**
ECAL Calabor 139.39 335 PKP **PKPdf 08 17 18.9 -3.9**
ETOB Tobarra 139.47 327 PKP **PKPdf 08 17 20.1 -3.0**
ITAB Concordia 139.71 146 IAMs_20 IAMs_20 09 23 11.7
comp=Z,3µm,18.0s
ES17 SONSECA Array 139.93 330 IAMs_20 IAMs_20 09 22 27.7
comp=Z,2µm,20.0s
ES01 SONSECA Array 139.94 330 IAMs_20 IAMs_20 09 33 26.0
comp=Z,2µm,19.0s
ESDC Sonseca Array 139.94 330 PKPpre PKPpre 08 17 15.3
ESDC Sonseca Array 139.94 330 PKhKP PKPpre 08 17 16.9
comp=Z,2.7nm,0.9s,baz=18,slow=2.9,SNR=6.8
ESDC PP **PP 08 20 17.1 -2.4**
comp=Z,2.2nm,0.9s,baz=18,slow=6.5,SNR=4.7
ES16 SONSECA Array 139.95 330 IAMs_20 IAMs_20 09 22 16.2
comp=Z,2µm,20.0s
ES15 SONSECA Array 139.97 330 IAMs_20 IAMs_20 09 27 43.8
comp=Z,2µm,20.0s
ES14 SONSECA Array 139.97 330 IAMs_20 IAMs_20 09 21 28.9
comp=Z,2µm,20.0s
PGAV Gavieira, Arco 139.99 337 A A 09 27 10.3
comp=Z,2µm,20.0s
MVO Moncorvo 140.16 335 *e*LQ LQ 08 39 37.2
MVO Moncorvo 140.16 335 A A 09 28 21.1
comp=Z,2µm,18.0s
PAB San Pablo 140.23 331 PKPdf **PKPdf 08 17 19.9 -4.5**
PAB San Pablo 140.23 331 IAMs_20 IAMs_20 09 24 38.7
comp=Z,2µm,18.0s
PAB San Pablo 140.23 331 PKIKP **PKPdf 08 17 19.9 -4.5**
POLO Lamas de Olo 140.30 336 *e*PKPdf **PKPdf 08 17 22.4 -2.1**
BAUV El Baul 140.44 83 *e*P PKPdf 08 17 16.8 -8.6
AOPR Arecibo Observ 140.49 68 *e*P **PKPdf 08 17 26.3 +1.0**
OBIP Obispado Ponce 140.70 69 **PKPdf 08 17 24.1 -1.6**
SIV San Ignacio 140.86 124 PKhKP PKPpre 08 17 19.5
comp=Z,8.4nm,0.7s,baz=230,slow=4.6,SNR=19
MTE Manteigas 141.01 335 *e*LQ LQ 08 39 38.2
MTE Manteigas 141.01 335 A A 09 28 45.4
comp=Z,1µm,18.0s
PCBR Castelo Branco 141.44 334 *e*PKPdf **PKPdf 08 17 24.0 -2.4**
COI Coimbra 141.53 335 IAMs_20 IAMs_20 09 23 14.8
comp=Z,3µm,19.0s
PCAS Casmilo, Conde 141.70 335 *e*PKPdf **PKPdf 08 17 23.7 -3.2**
PMRV Marv??o 141.74 334 *e*PKPdf **PKPdf 08 17 22.3 -4.7**
PMRV Marv??o 141.74 334 A A 09 29 18.4
comp=Z,2µm,18.0s
SAML Samuel 142.15 113 PKPdf **PKPdf 08 17 23.5 -5.0**
SAML Samuel 142.15 113 PKHKP PKPpre 08 17 23.5
SAML MLR MLR
comp=Z,1µm,18.0s
PESTR Estremoz 142.29 333 *e*PKPdf **PKPdf 08 17 25.4 -2.6**
PESTR Estremoz 142.29 333 IAMs_20 IAMs_20 09 22 27.1
comp=Z,2µm,20.0s
AQDB Aquidauana 142.34 135 *e*P **PKPdf 08 17 26.8 -1.9**
EMAL Malaga-Limoner 142.40 328 PKP **PKPdf 08 17 22.9 -5.3**
PMTG Montargil 142.40 334 *e*PKPdf **PKPdf 08 17 23.8 -4.4**
PBAR Barrancos 142.60 332 *e*PKPdf **PKPdf 08 17 25.4 -3.2**
PBAR Barrancos 142.60 332 PKP **PKPdf 08 17 26.3 -2.2**
PTLB Pontes e Lacer 142.73 125 PKPpre 08 17 24.4
PTLB Pontes e Lacer 142.73 125 *e*P **PKPdf 08 17 26.6 -2.8**
EVO Evora 142.75 333 *e*PKPdf **PKPdf 08 17 24.3 -4.5**
EVO Evora 142.75 333 PKP **PKPdf 08 17 24.3 -4.5**
PBEJ Beja 143.10 333 *e*PKPdf PKPbc 08 17 27.8 +1.5
VILB Vilhena 143.10 121 *e*P PKPbc 08 17 28.3 +1.4
PNCL Nicolau / Gran 143.33 334 *e*PKPdf **PKPdf 08 17 29.0 -0.8**
TAM Tamanrasset 143.40 301 PKPdf PKPbc 08 17 28.7 +1.0
TAM Tamanrasset 143.40 301 PKIKP PKPbc 08 17 28.7 +0.9
MESJ Messejana 143.41 333 *e*PKPdf **PKPdf 08 17 29.8 -0.2**
MESJ Messejana 143.41 333 IAMs_20 IAMs_20 09 26 58.9
comp=Z,2µm,19.0s
MESJ Messejana 143.41 333 *e*PKPdf **PKPdf 08 17 28.8 -1.2**
MESJ IAMs_20 IAMs_20 09 27 02.3
comp=Z,2µm,21.6s
MESJ Messejana 143.41 333 *e*PKIKP **PKPdf 08 17 28.8 -1.2**
PCVE Castro Verde 143.50 333 *e*PKPdf **PKPdf 08 17 29.6 -0.6**
PVAQ Vaqueiros 143.54 332 *e*PKPdf PKPbc 08 17 28.6 +1.1
PVAQ Vaqueiros 143.54 332 *e*LQ LQ 08 40 08.5
PVAQ Vaqueiros 143.54 332 A A 09 29 47.9
comp=Z,2µm,18.0s
PVAQ Vaqueiros 143.54 332 IAMs_20 IAMs_20 09 29 25.4
comp=Z,2µm,18.0s
PCRV Puerto La Cruz 143.74 81 *e*P PKPab 08 17 26.8 -1.3
PBDV Barranco-do-Ve 143.77 332 *e*PKPdf **PKPdf 08 17 29.8 -0.9**
PTEO Sao Teotonio 143.88 333 *e*PKPdf **PKPdf 08 17 29.6 -1.2**
SMRT St. Maarten 143.95 67 IAMs_20 IAMs_20 09 17 44.6
comp=Z,2µm,21.0s
MORF Marmelete 144.05 333 *e*PKPdf **PKPdf 08 17 30.9 -0.3**
MORF Marmelete 144.05 333 IAMs_20 IAMs_20 09 31 09.8
comp=Z,2µm,19.0s
MORF Marmelete 144.05 333 *e*PKPdf PKPbc 08 17 30.0 +0.9
MORF IAMs_20 IAMs_20 09 31 11.3
comp=Z,2µm,11.9s
MORF Marmelete 144.05 333 *e*PKIKP PKPbc 08 17 30.0 +0.9
SEUS St. Eustatius 144.18 68 IAMs_20 IAMs_20 09 18 09.7
comp=Z,2µm,20.0s
PFVI Vila Bisbo 144.27 333 *e*PKPdf **PKPdf 08 17 32.4 +0.9**
PFVI Vila Bisbo 144.27 333 IAMs_20 IAMs_20 09 31 23.6
comp=Z,3µm,19.0s
PCMB Pacaembu 144.50 141 *e*P **PKPab 08 17 30.7 0.0**
MBFL Flemmings, Mon 145.07 69 *e*P **PKPbc 08 17 30.9 -2.0**
CRUV Carupano 145.08 80 *e*P **PKPbc 08 17 26.6 -6.4**
ANBD Bethesda, Anti 145.42 69 *e*P **PKPbc 08 17 27.1 -6.9**
TBG Guadaloupe-3 145.81 71 *e*P PKPdf 08 17 26.9 -7.8
VAO Valinhos 145.88 148 *e*P **PKPdf 08 17 33.8 -1.1**
H07N1 FLORES T-PHASE 146.32 4 *e*PKP **PKiKP 08 17 39.1 -0.2**
GRFF Grenada Fort F 146.39 77 *e*P PKPdf 08 17 27.9 -7.9
GRGR Grenville 146.46 77 *e*P **PKPdf 08 17 34.4 -1.5**
GRHS Sauteurs 146.46 77 *e*P **PKPbc 08 17 37.6 +0.3**
GRSS Sisters 146.48 77 *e*P PKPdf 08 17 22.4 -14
FDF Fort de France 146.52 72 IAMs_20 IAMs_20 09 35 46.0
comp=Z,2µm,19.0s
AVE Averroes 146.62 327 PKPbc PKPbc **08 17 36.8 -0.5**
H07S1 FLORES T-PHASE 146.63 4 *e*PKP **PKiKP 08 17 42.2 +2.2**
BIM Bigot 146.63 73 IAMs_20 IAMs_20 09 22 23.6
comp=Z,2µm,21.0s
GCMP Grenada, Carri 146.63 76 *e*P **PKPdf 08 17 35.3 -0.9**
SVB Belmont 146.68 75 *e*P **PKPdf 08 17 37.0 +0.8**
SVT Saint Vincent 146.71 75 *e*P **PKPdf 08 17 35.0 -1.3**
SLBI Saint Lucia, B 146.82 74 *e*P **PKPdf 08 17 37.1 +0.7**
TRN Trinidad (W) 146.87 80 *e*P PKPdf 08 17 27.4 -9.2
SRBC Serra Branca 147.08 360 *e*PKP **PKPbc 08 17 38.7 +0.4**
PGRA Graciosa 147.08 360 *e*PKP **PKiKP 08 17 40.4 -0.5**
PAGU Agualva, Azore 147.33 358 *e*PKP **PKiKP 08 17 42.2 +0.8**
PSBA Serra de Santa 147.34 359 *e*PKP **PKPbc 08 17 38.6 -0.5**
ROSA Rosais 147.39 360 *e*PKP **PKiKP 08 17 41.6 -0.1**
PSCM Serra do Cume 147.40 358 *e*PKP **PKiKP 08 17 43.9 +2.4**
ADH Angra Heroismo 147.44 359 *e*PKP **PKPbc 08 17 39.1 -0.3**
PMAN Manadas 147.48 360 *e*PKP **PKPdf 08 17 35.5 -1.5**
PCED Cedros 147.48 1 *e*PKP **PKPab 08 17 40.4 -1.0**
CALA Caldeira 147.53 1 *e*PKP **PKiKP 08 17 42.2 +0.3**
PICO Pico 147.61 0 *e*PKP **PKPdf 08 17 37.6 +0.3**
PPNO Prainha do Nor 147.64 0 *e*PKP **PKiKP 08 17 42.6 +0.5**
PSET Sete Cidades 148.21 356 *e*PKP **PKPbc 08 17 41.9 +0.4**
BART Pico Bartolome 148.21 355 *e*PKP **PKPab 08 17 43.9 -0.5**
PCALD Caldeiras da R 148.22 356 *e*PKP **PKiKP 08 17 42.6 -0.6**
PGRON Lagoa das Cont 148.23 356 *e*PKP **PKiKP 08 17 43.4 +0.1**
CMLA Cha da Macela 148.25 356 *e*PKP **PKiKP 08 17 43.2 -0.1**
PDA Ponta Delgada 148.28 356 *e*PKP **PKPab 08 17 44.8 +0.2**
PSMN Pico do Norte, 148.97 355 *e*PKP **PKiKP 08 17 45.2 +0.4**
PSMA Santa Maria 148.98 355 *e*PKP **PKPdf 08 17 41.3 +1.8**
PMPST Porto Santo, M 150.83 339 *e*PKPdf **PKiKP 08 17 51.0 +2.2**
PMPS Porto Santo 150.85 339 *e*PKPdf **PKiKP 08 17 50.2 +1.4**
BDFB Brasilia 150.94 138 IAMs_20 IAMs_20 09 26 19.6
comp=Z,3µm,19.0s
BDFB Brasilia 150.94 138 PKP **PKPdf 08 17 42.7 -0.6**
comp=Z,8.3nm,1.0s,baz=71,slow=3.8,SNR=7.3
BDFB PKPbc **PKiKP 08 17 50.2 +0.6**
comp=Z,47nm,1.1s,baz=185,slow=5.1,SNR=13
PMAR Madeira 151.36 340 *e*PKPdf **PKiKP 08 17 51.3 +1.2**
PMOZ Porto Moniz, M 151.36 340 *e*PKPdf **PKPdf 08 17 44.0 +0.5**
PMOZ Porto Moniz, M 151.36 340 A A 09 46 51.4
comp=Z,1µm,18.0s
KIC Kean Boka 156.63 272 *e*PKP2 **PKPab 08 18 20.4 0.0**
comp=Z,90nm,1.0s
DBIC Dimbokro 156.75 273 IAMs_20 IAMs_20 09 42 53.3
comp=Z,3µm,20.0s
DBIC Dimbokro 156.75 273 PKP **PKPdf 08 17 51.1 -0.4**
comp=Z,11nm,1.0s,baz=26,slow=10,SNR=2.1
DBIC PKPab **PKPab 08 18 21.0 +0.1**
comp=Z,39nm,0.9s,baz=80,slow=6.6,SNR=9.9
TIC Toumodi 156.91 273 *e*PKP2 **PKPab 08 18 21.6 0.0**
comp=Z,51nm,0.9s
LIC Lamto 156.92 272 *e*PKP2 **PKPab 08 18 21.5 -0.2**
comp=Z,107nm,1.0s

*IDC **09** 08:03:25.4±2.3,5.°41S×151.°56E, h0km, mb4.0/5, mbtmp4.1/6, ML2.3/1, Error ellipse: s-maj=88.7km s-min=23.9km az=122.0*

ISC 09 08:03:26.8±2.1, 5.°5S±0.°4×151.°6E±0.°5, h10km, n6, σ0s8/7, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.90**	**228**	Pn	**Pn**	**08 04 55.0**	**+0.7**
	5.0nm,0.3s,baz=40,slow=8.6,SNR=1.5						
PMG				Sn	**Sn**	**08 06 01.3**	**-0.8**
	5.0nm,0.3s,baz=112,slow=13,SNR=1.2						
	126nm,0.9s						
WRA	**Warramunga Arr**	**22.12**	**228**	P	**P**	**08 08 22.9**	**+0.2**
	4.5nm,0.7s,baz=46,slow=9.8,SNR=1.2						
	4.6nm,0.7s						
ASAR	**Alice Springs**	**24.86**	**222**	P	**P**	**08 08 49.7**	**-0.2**
	6.0nm,0.8s,baz=54,slow=9.6,SNR=1.7						
	6.0nm,0.8s						
MKAR	**Makanchi Array**	**80.07**	**319**	P	**P**	**08 15 37.0**	**0.0**
	0.4nm,0.6s,baz=104,slow=6.1,SNR=1.1						
	0.4nm,0.6s						
ZALV	**Zalesovo Beam**	**81.07**	**327**	P	**P**	**08 15 42.2**	**+0.1**
	1.2nm,0.7s,baz=116,slow=5.6,SNR=1.8						
	1.2nm,0.7s						
ILAR	**Eielson Array**	**83.23**	**22**	P	**P**	**08 15 52.9**	**-0.3**
	0.7nm,0.6s,baz=250,slow=5.3,SNR=4.8						
	0.7nm,0.6s						

IDC 09 08:05:53.3±2.0, 5.°51S×151.°74E, h0km, mb3.9/4, mbtmp4.0/5, ML2.1/1, Error ellipse: s-maj=90.8km s-min=23.7km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.96**	**229**	Pn	Pn	08 07 24.7	+1.8
	2.9nm,0.3s,baz=45,slow=16,SNR=1.5						
PMG				Sn	Sn	08 08 33.0	+1.1
	1.9nm,0.3s,baz=90,slow=20,SNR=1.6						
	28nm,0.7s						
WRA	**Warramunga Arr**	**22.18**	**228**	P	P	08 10 50.6	-0.6
	1.4nm,0.7s,baz=55,slow=10,SNR=1.4						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**24.91**	**222**	P	P	08 11 18.1	-0.1
	2.9nm,0.8s,baz=43,slow=10,SNR=5.7						
	2.9nm,0.8s						
ZALV	**Zalesovo Beam**	**81.16**	**327**	P	P	08 18 10.2	-0.5
	0.3nm,0.3s,baz=109,slow=7.4,SNR=1.8						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**83.21**	**22**	P	P	08 18 21.6	+0.4
	1.2nm,0.8s,baz=250,slow=5.3,SNR=7.1						
	1.2nm,0.8s						

*IDC **09** 08:08:24.9±2.1,4.°33S×153.°22E, h0km, mb4.0/4, mbtmp4.0/5, ML2.1/1, Error ellipse: s-maj=66.5km s-min=30.6km az=115.0*
*NEIC **09** 08:08:27.7±2.2,4.°43S±0.°05×153.°24E±0.°06, h10km±1km, mb4.4/10, Error ellipse: s-maj=10.7km s-min=8.0km az=306.0*

ISC 09 08:08:31.6±0.8, 4.°35S±0.°09×153.°25E±0.°08, h55km, n23, σ0s86/23, mb4.1/10, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.09**	**278**	Pn	**Pn**	**08 08 49.4**	**-1.4**
RABL				Sn	**Sn**	**08 09 04.9**	**0.0**
PMG	**Port Moresby**	**7.86**	**230**	Pn	**Pn**	**08 10 22.0**	**-1.4**
PMG	**Port Moresby**	**7.86**	**230**	Pn	**Pn**	**08 10 22.3**	**-1.0**
	1.6nm,0.3s,baz=24,slow=20,SNR=1.7						
PMG				Sn	**Sn**	**08 11 53.2**	**+2.2**
	2.8nm,0.3s,baz=348,slow=19,SNR=3.6						
	8.2nm,0.4s						
HNR	**Honiara**	**8.35**	**128**	Pn	**Pn**	**08 10 29.7**	**-0.4**
PATS	**Pohnpei**	**12.21**	**24**	Pn	**Pn**	**08 11 23.3**	**+0.4**
WB0	**Warramunga Arr**	**23.93**	**229**	P	**P**	**08 13 40.5**	**-0.3**
WR0	**Warramunga Arr**	**23.93**	**228**	P	**P**	**08 13 41.1**	**+0.3**
WR0				IAmb	IAmb	08 13 52.1	
	comp=Z,17nm,1.3s						
WRAB	**Tennant Creek**	**24.06**	**228**	P	**P**	**08 13 41.7**	**-0.2**
WRAB				IAmb	IAmb	08 14 22.1	
	comp=Z,20nm,1.3s						
WB2	**Warramunga Arr**	**24.07**	**228**	P	**P**	**08 13 41.2**	**-0.8**
WB2				IAmb	IAmb	08 14 23.3	
	comp=Z,16nm,1.2s						
WRA	**Warramunga Arr**	**24.07**	**228**	P	**P**	**08 13 41.9**	**-0.2**
WRA	**Warramunga Arr**	**24.07**	**228**	P	**P**	**08 13 42.1**	**0.0**
	comp=Z,2.4nm,0.5s,baz=52,slow=9.8,SNR=9.9						
WRA				PcP	**PcP**	**08 17 22.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=64,slow=3.0,SNR=1.1						
	comp=Z,2.4nm,0.5s						
ARMA	**Armidale**	**25.97**	**183**	P	**P**	**08 13 59.3**	**0.0**
ARMA				IAmb	IAmb	08 14 29.1	
	comp=Z,12nm,1.5s						
H11S3	**WAKE ISLAND Hy**	**26.28**	**30**	T	T	08 41 31.9	
	baz=210,slow=74,SNR=6.4						
H11S2	**WAKE ISLAND Hy**	**26.29**	**30**	T	T	08 41 35.0	
	baz=210,slow=74,SNR=6.5						
H11S1	**WAKE ISLAND Hy**	**26.30**	**30**	T	T	08 41 34.7	
	baz=210,slow=74,SNR=6.3						
ASAR	**Alice Springs**	**26.78**	**222**	P	**P**	**08 14 07.6**	**+0.9**
ASAR	**Alice Springs**	**26.78**	**222**	P	**P**	**08 14 06.4**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=57,slow=8.8,SNR=1.4						
	comp=Z,0.5nm,0.8s						
SOEI	**Soe**	**29.25**	**258**	P	**P**	**08 14 29.0**	**+0.1**
STKA	**Stephens Creek**	**29.49**	**200**	P	**P**	**08 14 29.9**	**-0.7**
STKA	**Stephens Creek**	**29.49**	**200**	P	**P**	**08 14 31.2**	**+0.6**
	comp=Z,2.5nm,0.6s,baz=24,slow=14,SNR=5.0						
	comp=Z,2.5nm,0.6s						
VNDA	**Vanda**	**73.26**	**178**	P	**P**	**08 19 56.8**	**+0.3**
VNDA				IAmb	IAmb	08 20 11.3	
	comp=Z,3.3nm,1.4s						
ZALV	**Zalesovo Beam**	**81.03**	**326**	P	**P**	**08 20 41.7**	**+1.2**
	comp=Z,1.3nm,0.7s,baz=123,slow=5.3,SNR=2.8						
	comp=Z,1.3nm,0.7s						
QSPA	**South Pole Qui**	**85.61**	**180**	P	**P**	**08 21 03.4**	**-0.7**
QSPA				IAmb	IAmb	08 21 45.6	
	comp=Z,2.4nm,1.2s						

AFAD 09 08:10:45.1±0.0, 38.°37N×29.°74E, h7km±3km, ML1.3, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PASA	**Karahalli, USA**	**0.20**	**265**	P	Pg	08 10 49.2	+0.2
PASA				S	Sg	08 10 55.8	+4.1
PASA				*i* AML	AML	08 10 59.0	
	comp=N,29nm,0.5s						
BNAZ	**Uak-Banaz**	**0.33**	**20**	P	Pg	08 10 51.7	0.0
BNAZ				S	Sb	08 10 59.1	+0.1
BNAZ				*i* AML	AML	08 11 01.0	
	comp=N,59nm,0.3s						
BNAZ				*i* AML	AML	08 11 02.0	
	comp=E,109nm,0.5s						
KZIL	**AFYON_Kizioren**	**0.34**	**109**	P	Pg	08 10 50.0	-1.7
KZIL				S	Sg	08 10 57.4	+1.2
USAK	**Uak-Merkez**	**0.66**	**302**	P	Pg	08 10 58.2	+0.4
USAK				*i* AML	AML	08 11 08.0	
	comp=N,72nm,1.3s						
USAK				*i* AML	AML	08 11 08.0	
	comp=E,111nm,1.3s						
USAK				S	Sb	08 11 08.1	-0.3
GDZ	**Gediz**	**0.75**	**345**	P	Pg	08 10 59.1	-0.4
GDZ				S	Sb	08 11 10.6	-0.5

IDC 09 08:11:01.4±2.7, 5.°58S×152.°98E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=211.5km s-min=31.2km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.08**	**230**	P	P	08 16 08.3	-0.7
	1.3nm,0.7s,baz=55,slow=10.0,SNR=1.9						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**25.71**	**224**	P	P	08 16 34.1	+0.4
	1.5nm,0.9s,baz=59,slow=8.8,SNR=2.8						
	1.5nm,0.9s						
ILAR	**Eielson Array**	**82.81**	**22**	P	P	08 23 27.4	+0.1
	0.6nm,0.7s,baz=247,slow=5.2,SNR=5.5						
	0.6nm,0.7s						

IDC 09 08:11:33.4±2.4, 5.°36S×151.°50E, h0km, mb3.4/3, mbtmp3.5/4, ML2.1/1, Error ellipse: s-maj=168.1km s-min=27.9km az=129.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.89**	**227**	Pn	Pn	08 13 02.6	+0.5
	3.0nm,0.3s,baz=55,slow=12,SNR=1.6						
PMG				Sn	Sn	08 14 09.6	-0.8
	1.3nm,0.3s,baz=48,slow=15,SNR=2.7						
	4.9nm,0.3s						
WRA	**Warramunga Arr**	**

0.5nm,0.4s
ASAR Alice Springs 24.88 221 P P 08 16 58.0 -0.1
1.0nm,0.8s,baz=49,slow=9.4,SNR=4.3
1.0nm,0.8s
ILAR Eielson Array 83.16 22 P P 08 24 01.0 -0.1
0.2nm,0.6s,baz=247,slow=4.8,SNR=1.5
0.2nm,0.6s

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*IDC **09** 08:13:43.4±1.1,6˚.02S×152˚.09E,h0km,mb3.9/9, mbtmp3.9/10,ML1.8/1,Error ellipse: s-maj=38.9km s-min=20.5km az=114.0*
ISC 09 08:13:44.6±0.9,6˚.0S±0˚.2×152˚.1E±0˚.2,h10km,n11, σ4§57/12,mb3.9/9,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96**	**235**	Pn		**Pn**	**08 15 12.8**	**-0.1**
	1.7nm,0.3s,baz=8.5,slow=8.5,SNR=2.8							
PMG				Sn		**Sn**	**08 16 20.9**	**-0.4**
	2.3nm,0.3s,baz=351,slow=19,SNR=1.9							
	24nm,0.8s							
WRA	**Warramunga Arr**	**22.15**	**229**	P		**P**	**08 18 40.4**	**-0.4**
	5.4nm,0.9s,baz=53,slow=9.7,SNR=13							
	5.4nm,0.9s							
ASAR	**Alice Springs**	**24.82**	**223**	P		**P**	**08 19 07.2**	**-0.1**
	4.7nm,0.9s,baz=60,slow=9.1,SNR=14							
	4.7nm,0.9s							
STKA	**Stephens Creek**	**27.59**	**200**	P		**P**	**08 19 31.0**	**-1.1**
	2.1nm,0.8s,baz=72,slow=12,SNR=2.1							
	2.1nm,0.8s							
VNDA	**Vanda**	**71.71**	**178**	P		**P**	**08 25 07.2**	**+0.8**
	0.8nm,1.0s,baz=15,slow=7.7,SNR=2.3							
	0.8nm,1.0s							
MKAR	**Makanchi Array**	**80.72**	**319**	P		**P**	**08 25 59.8**	**+1.6**
	0.1nm,0.5s,baz=103,slow=6.4,SNR=1.6							
	0.1nm,0.5s							
ZALV	**Zalesovo Beam**	**81.71**	**327**	P		**P**	**08 26 05.2**	**+2.0**
	0.2nm,0.3s,baz=131,slow=4.0,SNR=1.7							
	0.2nm,0.3s							
ILAR	**Eielson Array**	**83.49**	**22**	P		**P**	**08 26 11.9**	**-0.4**
	0.8nm,0.8s,baz=251,slow=5.0,SNR=7.3							
	0.8nm,0.8s							
QSPA	**South Pole Qui**	**84.01**	**180**	P		**P**	**08 26 16.1**	**+0.9**
	2.1nm,0.9s,baz=12,slow=4.5,SNR=4.0							
	2.1nm,0.9s							
BVAR	**Borovoye Array**	**89.73**	**323**	P		**P**	**08 26 43.3**	**+0.2**
	0.2nm,0.4s,baz=119,slow=1.8,SNR=1.4							
	0.2nm,0.4s							
NEEM	**North Greenlan**	**107.50**	**5**	*i* P		**Pdif**	**08 27 49.9**	**-13**
NEEM				IAmb		IAmb	08 27 53.3	
	comp=Z,4.0nm,0.9s							

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*UPP **09** 08:15:08.7±0.9,63˚.94N×23˚.87E,h0km,ML1.6*
HEL 09 08:15:07.9±0.1,63˚.91N×24˚.02E,h0km,ML1.2, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OUF	**Merijarvi**	**0.56**	**34**	PG	Pg	Pg	08 15 17.5	-1.0
OUF				SG	Sg	Sg	08 15 25.1	-0.6
OUF				MSG			08 15 25.8	
	comp=Z,3.3nm,0.2s							
OBF0	**Syolatti, Pyha**	**0.60**	**9**	PG	Pg	Pg	08 15 18.8	-0.6
OBF0				SG	Sg	Sg	08 15 26.7	-0.4
OBF0				MSG			08 15 26.8	
	comp=Z,3.1nm,0.2s							
OBF4	**Vikkela, Lumij**	**1.02**	**27**	PG	Pg	Pg	08 15 26.6	-0.9
OBF4				MSG			08 15 39.3	
	comp=Z,1.4nm,0.2s							
VAF	**Ylistaro**	**1.06**	**215**	PG	Pg	Pg	08 15 27.4	-0.7
	baz=34							
VAF				MSG			08 15 40.3	
	comp=Z,1.7nm,0.2s							
VAF				SB	Sg	Sg	08 15 42.3	+0.4
BURU	**Burvik**	**1.34**	**302**	PG	Pg	Pg	08 15 31.9	-1.6
BURU				SB	Sg	Sg	08 15 50.2	-0.7
BURU	**Burvik**	**1.34**	**302**	P	Pg	Pg	08 15 32.1	-1.5
BURU				S	Sg	Sg	08 15 50.4	-0.5
OUL	**Oulu**	**1.43**	**34**	PG	Pn	Pn	08 15 34.0	-1.1
OUL				SN	Sg	Sg	08 15 53.2	-0.7
UMAU	**Umeaa**	**1.48**	**270**	PN	Pn	Pn	08 15 35.0	-0.7
	baz=86							
UMAU				SG	Sg	Sg	08 15 53.2	-2.2
UMAU	**Umeaa**	**1.48**	**270**	P	Pn	Pn	08 15 34.8	-1.0
UMAU				S	Sg	Sg	08 15 53.5	-1.8
ODEU	**Stanfors**	**1.53**	**291**	P	Pn	Pn	08 15 35.5	-1.0
ODEU				S	Sn	Sn	08 15 54.9	-2.2
SUF	**Sumiainen**	**1.53**	**140**	PN	Pn	Pn	08 15 35.7	-0.7
SUF				MSG			08 15 53.8	
	comp=Z,1.4nm,0.2s							
SUF				SN	Sn	Sn	08 15 56.3	-0.7
NIF	**Nilsia**	**1.77**	**105**	PG	Pn	Pn	08 15 40.1	+0.4
NIF				SG	Sb	Sb	08 16 03.7	-0.1
KEF	**Keuruu**	**1.79**	**167**	PG	Pn	Pn	08 15 40.0	-0.1
KEF				MSG			08 16 01.3	
	comp=Z,1.5nm,0.2s							
KEF				SN	Sn	Sn	08 16 03.2	-0.2
SJUU	**Sjulsmark**	**1.91**	**328**	P	Pn	Pn	08 15 41.9	+0.2
SJUU				S	Sn	Sn	08 16 06.0	-0.4
KALU	**Kalix**	**1.98**	**352**	PG	Pn	Pn	08 15 42.7	+0.1
KALU				SG	Sb	Sb	08 16 09.5	-0.4
KALU	**Kalix**	**1.98**	**352**	P	Pn	Pn	08 15 42.9	+0.3
KAF	**Kangasniemi**	**2.08**	**149**	PG	Pn	Pn	08 15 44.4	+0.4
KAF				MSG			08 16 09.6	
	comp=Z,2.4nm,0.2s							
KAF				SG	Sb	Sb	08 16 12.4	-0.4
TOF	**Tornio**	**2.18**	**3**	PG	Pn	Pn	08 15 46.2	+0.8
TOF				MSG			08 16 12.4	
	comp=Z,1.0nm,0.2s							
TOF				SG	Sb	Sb	08 16 15.4	-0.4
HUSU	**Husum**	**2.22**	**257**	SG	Sb	Sb	08 16 15.9	-0.9
KPF	**Kankaanpaa**	**2.27**	**204**	SG	Sb	Sb	08 16 17.1	-1.0
LILU	**Lilltraesk**	**2.27**	**309**	P	Pn	Pn	08 15 47.4	+0.8
LILU				S	Sn	Sn	08 16 15.0	-0.2
RANF	**Ranua**	**2.42**	**28**	SN	Sn	Sn	08 16 18.5	-0.4
RMF	**Romuvaara**	**2.62**	**81**	MSG			08 16 25.1	
	comp=Z,2.1nm,0.2s							
RMF				SB	Sb	Sb	08 16 27.0	-1.2
FIA0	**FINESS Array S**	**2.65**	**158**	PB	Pn	Pn	08 15 53.0	+1.2
FIA0				MSG			08 16 25.9	
	comp=Z,1.1nm,0.2s							
MSF	**Maaselka**	**2.93**	**45**	SB	Sb	Sb	08 16 35.6	-1.8
RAF	**Rauma**	**3.08**	**201**	MSG			08 16 38.3	
	comp=Z,0.6nm,0.2s							
RAF				SG	Sb	Sb	08 16 40.9	-0.7
JOF	**Joensuu**	**3.42**	**104**	SG	Sg	Sg	08 16 55.1	-2.7
SGF	**Sodankyl**	**3.70**	**15**	PG	Pb	Pb	08 16 13.8	-0.1

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*HEL **09** 08:15:25.7±0.4,67˚.18N×20˚.65E,h0km,ML1.1,Suspected explosion*
UPP 09 08:15:24.8±0.2,67˚.18N×20˚.65E,h5km±36km,ML1.7, Confirmed Induced event,Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.07**	**206**	P		Pg	08 15 26.3	-0.1
	baz=32							
DUNU				S		Sg	08 15 27.4	-0.1
MASU	**Masugnsbyn**	**0.59**	**62**	P		Pg	08 15 35.8	-0.3
RATU	**Laukkuluspa**	**0.76**	**328**	P		Pg	08 15 38.9	-0.5
SALU	**Saltoluokta**	**0.85**	**284**	P		Pg	08 15 40.6	-0.5
PAJU	**Pajala**	**0.98**	**98**	PN		Sn	08 15 59.4	-0.1
PAJU	**Pajala**	**0.98**	**98**	PG		Pg	08 15 42.7	-0.8
PAJU				SB		Sn	08 15 59.4	-0.1
LANU	**Lannavaara**	**1.01**	**30**	PG		Pg	08 15 44.0	-0.1
LANU				SB		Sg	08 15 57.2	0.0
HEF	**Hetta**	**1.68**	**42**	PN		Sb	08 16 17.2	-0.4
HEF	**Hetta**	**1.68**	**42**	PG		Pn	08 15 55.3	+0.5
	baz=220							
HEF				MSG			08 16 15.7	
	comp=Z,0.8nm,0.2s							
HEF				SG		Sb	08 16 17.2	-0.4
KIF	**Kilpisjarvi**	**1.83**	**2**	PG		Pb	08 15 58.8	+0.1
KIF				MSG			08 16 21.4	
	comp=Z,1.3nm,0.2s							
KIF				SN		Sg	08 16 24.0	+0.5
TOF	**Tornio**	**1.84**	**125**	PG		Pb	08 15 58.2	-0.6
TOF				MSG			08 16 20.1	
	comp=Z,1.0nm,0.2s							
KTK1	**Kautokeino**	**2.08**	**27**	PG		Pb	08 16 02.3	-0.7
KTK1				SG		Sb	08 16 29.8	+0.8
RNF	**Rovaniemi**	**2.19**	**103**	SB		Sb	08 16 33.1	+0.7
RNF	**Rovaniemi**	**2.19**	**103**	SG		Sb	08 16 33.1	+0.7
SGF	**Sodankyl**	**2.29**	**81**	SG		Sb	08 16 36.5	+1.3
VRF	**Varrio**	**3.50**	**77**	SN		Sb	08 17 08.3	-1.6
VRF	**Varrio**	**3.50**	**77**	SB		Sb	08 17 08.3	-1.6
HEMU	**Hemsoen**	**4.66**	**195**	SG		Pn	08 16 37.4	+1.7
HEMU	**Hemsoen**	**4.66**	**195**	PN		Pn	08 16 37.4	+1.7

ISC 09 08:19:31.9±5.9,5˚.27S×150˚.91E,h90km±52km,mb3.4/3, mbtmp3.8/4,ML2.0/1,Error ellipse: s-maj=142.2km s-min=32.8km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.54**	**222**	P		Pn	08 20 51.6	-0.3
	3.0nm,0.3s,baz=49,slow=10,SNR=3.6							
PMG				S		Sn	08 21 55.6	+1.4
	38nm,0.7s,baz=66,slow=7.2,SNR=4.2							
	19nm,0.7s							
WRA	**Warramunga Arr**	**21.73**	**226**	P		P	08 24 15.2	-0.9
	0.8nm,0.5s,baz=54,slow=10,SNR=4.1							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**24.55**	**220**	P		P	08 24 43.6	+0.2
	1.2nm,0.6s,baz=51,slow=9.3,SNR=16							
	1.2nm,0.6s							
ILAR	**Eielson Array**	**83.31**	**22**	P		P	08 31 48.6	+0.1
	0.7nm,0.6s,baz=245,slow=5.0,SNR=14							
	0.7nm,0.6s							

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*IDC **09** 08:21:33.8±2.4,31˚.44S×69˚.11W,h88km±21km,mb3.7/9, mbtmp4.0/14,Error ellipse: s-maj=23.8km s-min=15.9km az=96.0*
*SJA **09** 08:21:34.8±0.8,31˚.45S×69˚.21W,h123km±2km,ML4.1, MW4.1*
ISC 09 08:21:36.1±0.6,31˚.39S±0˚.04×69˚.18W±0˚.04,h113km±5km, n55,σ1§49/74,mb3.9/9,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.42**	**194**	*i* P		**Pn**	**08 21 53.2**	**-0.1**
RTLS				*i* S		**Sn**	**08 22 07.3**	**+1.2**
RTLS				IAML			08 22 08.9	
	comp=Z,5μm,0.3s							
DOCA	**Reserva Natura**	**0.45**	**11**	*i* P		**Pn**	**08 21 54.0**	**+0.5**
DOCA				*i* S		**Sn**	**08 22 08.8**	**+2.3**
DOCA				IAML			08 22 12.6	
	comp=Z,6μm,0.7s							
ZON	**Zonda**	**0.46**	**110**	*i* P		**Pn**	**08 21 53.6**	**+0.5**
ZON				*i* S		**Sn**	**08 22 07.5**	**+1.6**
ZON				IAML			08 22 09.3	
	comp=Z,4μm,0.3s							
SJA	**San Juan**	**0.55**	**105**	*i* P		**Pn**	**08 21 54.4**	**+0.8**
SJA				*i* S		**Sn**	**08 22 08.0**	**+1.1**
SJA				IAML			08 22 08.8	
	comp=Z,5μm,0.3s							
RTLL	**Cerro Villicun**	**0.60**	**85**	*i* P		**Pn**	**08 21 54.5**	**+0.4**
RTLL				*i* S		**Sn**	**08 22 09.3**	**+1.6**
RTCV	**Cerro Valdivia**	**0.72**	**131**	*i* P		**Pn**	**08 21 55.5**	**+0.5**
RTCV				*i* S		**Sn**	**08 22 10.2**	**+0.9**
ACCO	**Cerro Coronel**	**0.80**	**7**	*i* P		**Pn**	**08 21 57.3**	**+1.2**
ACCO				IAML			08 22 15.4	
	comp=Z,2μm,2.4s							
ACDV	**Cuesta del Vie**	**1.22**	**2**	*i* P		**Pn**	**08 22 01.6**	**+1.6**
ASAL	**Salagasta**	**1.23**	**166**	*i* P		**Pn**	**08 21 59.9**	**-0.3**
ASAL				*i* S		**Sn**	**08 22 18.4**	**0.0**
AROD	**Rodeo**	**1.24**	**348**	*i* P		**Pn**	**08 22 02.1**	**+1.6**
AROD				*i* S		**Sn**	**08 22 21.9**	**+2.9**
CO03	**El Pedregal**	**1.41**	**293**	*i* P		**Pn**	**08 22 02.9**	**+0.8**
CO03				*i* S		**Sn**	**08 22 22.9**	**+1.0**
ARCO	**CERRO ARCO**	**1.46**	**172**	*i* P		**Pn**	**08 22 02.6**	**-0.3**
ARCO				*i* S		**Sn**	**08 22 22.7**	**-0.5**
ARCO				IAML			08 22 24.8	
	comp=Z,3μm,0.6s							
CO02	**Combarbal**	**1.57**	**276**	*i* P		**Pn**	**08 22 04.3**	**+0.2**
CO02				*i* S		**Sn**	**08 22 25.6**	**+0.3**
CO02				IAML			08 22 27.2	
	comp=Z,4μm,0.4s							
AVFE	**Valle Fertil**	**1.65**	**64**	*i* P		**Pn**	**08 22 05.8**	**+0.8**
AVFE				*i* S		**Sn**	**08 22 28.3**	**+1.4**
AVFE				IAML			08 22 28.8	
	comp=Z,1μm,0.3s							
AAGR	**Agrelo**	**1.72**	**170**	*i* P		**Pn**	**08 22 06.0**	**+0.2**
AAGR				IAML			08 22 32.8	
	comp=Z,889nm,1.3s							
VA03	**San Esteban**	**1.80**	**220**	*i* P		**Pn**	**08 22 06.2**	**-0.6**
VA03				*i* S		**Sn**	**08 22 29.2**	**-1.0**
VA03				IAML			08 22 32.5	
	comp=Z,2μm,0.2s							
GO04	**Tololo Observa**	**1.85**	**311**	*i* P		**Pn**	**08 22 07.5**	**-0.1**
AVIZ	**Vizcacheras**	**2.15**	**165**	*i* P		**Pn**	**08 22 10.8**	**-0.5**
ACHE	**Chepes**	**2.17**	**85**	*i* P		**Pn**	**08 22 12.2**	**+0.8**
MT08	**Bocatoma Ro**	**2.17**	**199**	*eP*		**Pn**	**08 22 13.0**	**+1.4**
MT08				*eS*		**Sn**	**08 22 42.3**	**+3.6**
MT08				IAML			08 22 45.7	
	comp=N,519nm,0.5s							
MT10	**Hacienda Santa**	**2.20**	**211**	*i* P		**Pn**	**08 22 11.9**	**0.0**
MT10				*eS*		**Sn**	**08 22 41.2**	**+1.8**
MT10				IAML			08 22 41.9	
	comp=N,2μm,0.4s							
ROCH	**El Roble**	**2.21**	**224**	*i* P		**Pn**	**08 22 11.3**	**-0.9**
ROCH				*eS*		**Sn**	**08 22 38.6**	**-1.1**
ROCH				IAML			08 22 42.1	
	comp=N,883nm,0.3s							
MT14	**Cerro Cal¡n**	**2.31**	**209**	*eP*		**Pn**	**08 22 13.3**	**+0.1**
MT14				*eS*		**Sn**	**08 22 42.3**	**+0.7**
MT14				IAML			08 22 45.5	
	comp=E,1μm,0.4s							
MT05	**Renca**	**2.39**	**213**	*i* P		**Pn**	**08 22 13.5**	**-0.8**
MT05				IAML			08 22 44.6	
	comp=Z,1μm,0.3s							
APLL	**PUNTA DE LOS L**	**2.48**	**67**	*i* P		**Pn**	**08 22 16.4**	**+0.9**
MT02	**Curacav**	**2.50**	**221**	*i* P		**Pn**	**08 22 14.7**	**-0.9**
LCO	**Las Campanas**	**2.71**	**331**	*i* P		**Pn**	**08 22 19.0**	**+0.3**
AC05	**El Transito**	**2.71**	**339**	*i* P		**Pn**	**08 22 19.3**	**+0.7**
AC05				IAML			08 22 54.2	
	comp=Z,439nm,0.3s							
ACLC	**CERRO LA CRUZ**	**2.74**	**45**	*i* P		**Pn**	**08 22 20.1**	**+1.1**
ACLC				IAML			08 23 21.6	
	comp=Z,522nm,0.9s							
BO01	**Tunca**	**3.40**	**208**	*i* P		**Pn**	**08 22 26.3**	**-1.1**
RFA	**San Rafael**	**3.43**	**170**	*i* P		**Pn**	**08 22 26.7**	**-1.1**
RFA				IAML			08 23 08.8	
	comp=Z,344nm,0.7s							
BO02	**Sierra Bellavi**	**3.65**	**201**	*i* P		**Pn**	**08 22 30.1**	**-0.8**
BO02				IAML			08 23 20.4	
	comp=Z,186nm,0.2s							
H03N1	**Juan Fernandez**	**8.48**	**253**	P		**Pn**	**08 23 34.9**	**-0.9**
	baz=86,slow=15,SNR=8.2							
H03N3	**Juan Fernandez**	**8.49**	**253**	P		**Pn**	**08 23 35.1**	**-0.9**
	baz=86,slow=15,SNR=9.5							
H03N2	**Juan Fernandez**	**8.50**	**254**	P		**Pn**	**08 23 35.3**	**-0.7**
	baz=86,slow=15,SNR=12							
LVC	**Limon Verde**	**8.75**	**2**	P		**Pn**	**08 23 38.0**	**-2.0**
	comp=Z,2.4nm,0.4s,baz=184,slow=6.1,SNR=5.8							
LVC				S		**Sn**	**08 25 11.3**	**-5.9**
	comp=Z,3.7nm,0.4s,baz=39,slow=21,SNR=7.7							
PLCA	**Paso Flores**	**9.39**	**186**	P		**Pn**	**08 23 45.0**	**-3.4**
	comp=Z,0.3nm,0.4s,baz=7.1,slow=7.8,SNR=5.4							
CPUP	**Villa Florida**	**11.54**	**67**	P		**Pn**	**08 24 14.4**	**-2.9**
	comp=Z,2.6nm,0.7s,baz=239,slow=13,SNR=6.9							
CPUP				S		**Sn**	**08 26 19.9**	**-4.4**
	comp=Z,4.3nm,1.0s,baz=246,slow=13,SNR=1.6							
LPAZ	**La Paz**	**15.06**	**4**	P		**Pn**	**08 25 04.8**	**+1.2**
	comp=Z,2.5nm,0.7s,baz=183,slow=6.9,SNR=7.7							
SIV	**San Ignacio**	**17.02**	**28**	P		**P**	**08 25 27.5**	**+0.2**
	comp=Z,4.2nm,0.5s,baz=207,slow=9.8,SNR=15							
BDFB	**Brasilia**	**24.88**	**56**	P		**P**	**08 26 49.1**	**+0.6**
	comp=Z,3.4nm,0.8s,baz=162,slow=5.3,SNR=3.2							
	comp=Z,3.4nm,0.8s							
SNAA	**Sanae**	**53.11**	**159**	P		**P**	**08 30 41.7**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=347,slow=13,SNR=1.8							
	comp=Z,1.5nm,0.7s							
QSPA	**South Pole Qui**	**58.84**	**180**	P		**P**	**08 31 23.4**	**+0.8**
	comp=Z,1.9nm,0.7s,baz=185,slow=1.8,SNR=9.9							
	comp=Z,1.9nm,0.7s							
TXAR	**Lajitas Array**	**68.72**	**328**	P		**P**	**08 32 29.1**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=151,slow=8.0,SNR=5.1							
	comp=Z,0.5nm,0.6s							
DBIC	**Dimbokro**	**72.04**	**70**	P		**P**	**08 32 48.9**	**+0.7**
	comp=Z,1.7nm,0.5s,baz=229,slow=5.4,SNR=1.1							
	comp=Z,1.7nm,0.5s							
PDAR	**Pinedale Array**	**82.58**	**331**	P		**P**	**08 33 47.8**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=169,slow=5.5,SNR=2.8							
	comp=Z,0.6nm,0.8s							
NVAR	**Mina Array Bea**	**83.18**	**323**	P		**P**	**08 33 51.2**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=142,slow=5.0,SNR=4.0							
	comp=Z,0.7nm,0.8s							
ULM	**Lac du Bonnet**	**84.66**	**343**	P		**P**	**08 33 56.9**	**+0.2**
	comp=Z,1.1nm,0.8s,baz=80,slow=6.1,SNR=2.1							
	comp=Z,1.1nm,0.8s							
SCHQ	**Schefferville**	**85.89**	**1**	P		**P**	**08 34 02.7**	**0.0**
	comp=Z,2.6nm,0.8s,baz=209,slow=13,SNR=2.1							
	comp=Z,2.6nm,0.8s							
ASAR	**Alice Springs**	**120.96**	**205**	PKP		**PKPdf**	**08 40 15.7**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=185,slow=10.0,SNR=1.6							
WRA	**Warramunga Arr**	**124.19**	**207**	PKP		**PKPdf**	**08 40 21.0**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=154,slow=2.0,SNR=9.0							
BVAR	**Borovoye Array**	**143.73**	**41**	PKP		PKPbc	08 40 55.7	+0.5
	comp=Z,0.3nm,0.3s,baz=249,slow=4.0,SNR=2.5							
KURBB	**Kurchatov Arra**	**149.32**	**42**	PKPbc		**PKiKP**	**08 41 12.0**	**-0.2**
	comp=Z,0.4nm,0.4s,baz=304,slow=3.1,SNR=10							
ZALV	**Zalesovo Beam**	**150.74**	**32**	PKPbc		**PKiKP**	**08 41 15.2**	**+0.2**
	comp=Z,3.5nm,0.5s,baz=293,slow=3.2,SNR=16							
MKAR	**Makanchi Array**	**153.23**	**47**	PKPbc		**PKiKP**	**08 41 20.6**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=316,slow=2.2,SNR=6.1							
MKAR				PKPab		**PKPab**	**08 41 33.2**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=298,slow=5.1,SNR=7.3							

IDC 09 08:22:52.7±7.6,5˚.89S×151˚.82E,h74km±64km,mb3.6/3, mbtmp4.0/4,ML2.2/1,Error ellipse: s-maj=128.4km s-min=33.2km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.79**	**233**	P		Pn	08 24 15.4	-0.7
	4.3nm,0.3s,baz=49,slow=11,SNR=3.6							
PMG				S		Sn	08 25 21.9	+0.7
	14nm,0.4s,baz=37,slow=20,SNR=1.6							
	13nm,0.4s							
WRA	**Warramunga Arr**	**22.00**	**229**	P		P	08 27 41.3	+0.3
	2.3nm,0.7s,baz=54,slow=9.9,SNR=12							
	2.3nm,0.7s							
ASAR	**Alice Springs**	**24.69**	**222**	P		P	08 28 07.2	+0.2
	3.5nm,0.8s,baz=57,slow=9.5,SNR=19							
	3.5nm,0.8s							
ILAR	**Eielson Array**	**83.53**	**22**	P		P	08 35 12.1	-0.1
	0.7nm,0.7s,baz=254,slow=5.8,SNR=9.0							
	0.7nm,0.7s							

IDC 09 08:45:09.2±7.3,5˚.73S×151˚.60E,h76km±61km,mb3.3/3, mbtmp3.8/4,ML2.1/1,Error ellipse: s-maj=137.5km s-min=33.1km az=125.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.72**	**230**	P		Pn	08 46 30.9	-0.7
	3.3nm,0.3s,baz=49,slow=7.4,SNR=5.6							
PMG				S		Sn	08 47 37.5	+1.6
	14nm,0.3s,baz=92,slow=19,SNR=4.0							
	12nm,0.3s							
WRA	**Warramunga Arr**	**21.94**	**228**	P		P	08 49 55.9	-0.7
	1.2nm,0.6s,baz=55,slow=10.0,SNR=12							
	1.2nm,0.6s							
ASAR	**Alice Springs**	**24.66**	**222**	P		P	08 50 23.6	+0.5
	1.2nm,0.6s,baz=51,slow=8.9,SNR=17							
	1.2nm,0.6s							
ILAR	**Eielson Array**	**83.46**	**22**	P		P	08 57 28.2	0.0
	0.4nm,0.6s,baz=252,slow=5.1,SNR=8.2							
	0.4nm,0.6s							

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*IDC **09** 08:54:43.2±1.0,0˚.87N×125˚.77E,h0km,mb3.6/6, mbtmp3.6/6,Error ellipse: s-maj=61.4km s-min=20.7km az=69.0*
ISC 09 08:54:49.2±1.1,0˚.9N±0˚.2×125˚.9E±0˚.4,h44km,n7,σ0§58/7, mb3.7/6,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.27**	**159**	P		**P**	**08 59 42.1**	**-0.7**
	0.9nm,0.7s,baz=333,slow=11,SNR=3.1							
	0.9nm,0.7s							
ASAR	**Alice Springs**	**25.59**	**163**	P		**P**	**09 00 15.2**	**+0.7**
	0.3nm,0.3s,baz=344,slow=9.2,SNR=10							
	0.3nm,0.3s							
PETK	**Petropavlovsk-**	**58.39**	**22**	P		**P**	**09 04 40.1**	**0.0**
	0.9nm,0.6s,baz=199,slow=3.1,SNR=4.1							
	0.9nm,0.6s							
MKAR	**Makanchi Array**	**59.45**	**327**	P		**P**	**09 04 47.9**	**+0.3**
	0.4nm,0.5s,baz=125,slow=6.2,SNR=4.8							
	0.4nm,0.5s							
KURBB	**Kurchatov Arra**	**63.71**	**328**	P		**P**	**09 05 15.8**	**-0.5**
	0.7nm,0.8s,baz=118,slow=7.0,SNR=5.1							
	0.7nm,0.8s							
BVAR	**Borovoye Array**	**69.27**	**328**	P		**P**	**09 05 51.9**	**+0.1**
	0.4nm,0.5s,baz=116,slow=3.4,SNR=3.6							
	0.4nm,0.5s							
TXAR	**Lajitas Array**	**124.00**	**53**	PKP		**PKiKP**	**09 13 44.2**	**+0.3**
	0.2nm,0.8s,baz=207,slow=1.8,SNR=2.5							

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*IDC **09** 09:00:10.2±0.9,5˚.77S×151˚.82E,h0km,mb3.8/10, mbtmp3.9/11,ML2.4/1,Error ellipse: s-maj=40.4km s-min=18.8km az=121.0

QSPA South Pole Qui 84.22 180 P P 09 22 31.1 -0.7
1.5nm,1.1s,baz=333,slow=2.3,SNR=2.1
1.5nm,1.1s
BVAR Borovoye Array 89.37 323 P P 09 22 56.8 -0.1
0.5nm,0.7s,baz=92,slow=11,SNR=2.9
0.5nm,0.7s
NVAR Mina Array Bea 93.48 52 P P 09 23 17.6 +1.0
0.3nm,0.7s,baz=230,slow=5.6,SNR=1.9
0.3nm,0.7s
YKA Yellowknife Ar 96.74 28 P P 09 23 31.0 +0.5
0.1nm,0.7s,baz=277,slow=5.5,SNR=2.5
0.1nm,0.7s

ISC 09 09:18:52.9±1.2, 49°07.87N±0°01.09×17°38.84E±0°00.05, h10km, n7, σ0°68/11, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MORC	Moravsky Berou	0.21	245	*e*PG	Pg	09 18 57.5	+0.1
MORC				*e*SG	Sg	09 19 00.7	+0.3
VRAC	Vranov	0.98	236	*e*PG	Pb	09 19 12.1	0.0
JAVC	Velka Javorina	1.01	186	*e*PG	Pn	09 19 12.9	-0.4
KRUC	Moravsky	1.24	230	*e*PG	Pb	09 19 16.4	0.0
LANS	Liptovska Anna	1.28	123	*e*PG	Pb	09 19 17.1	-0.1
LANS				*e*SG	Sn	09 19 35.8	+1.6
OJC	Ojcow	1.31	74	*e*Pg	Pn	09 19 16.9	-0.5
OJC				*e*Sg	Sn	09 19 35.0	+0.1
VYHS	Vyhne	1.52	154	*e*PG	Pn	09 19 19.8	-0.4
VYHS				*e*SG	Sn	09 19 39.4	-0.7

*NEIC **09** 09:20:36.1±1.2,6.°02S×0.°08×152.°1E±0.°1, h10km±1km, mb4.6/25, Error ellipse: s-maj=22.6km s-min=11.5km az=107.0*
*IDC **09** 09:20:42.3±6.0,5.°85S×151.°74E, h60km±51km, mb3.8/12, mbtmp4.1/13, ML2.4/1, Error ellipse: s-maj=40.6km s-min=20.3km az=88.0*
ISC 09 09:20:39.2±0.6, 5°98S±0°07×152°1E±0°1, h36km, n44, σ0°96/44, mb4.5/24, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	Rabaul	1.78	3		Pn	09 21 07.0	-0.5
PMG	Port Moresby	5.93	235		Pn	09 22 05.1	+0.6
PMG	Port Moresby	5.93	235	P	Pn	09 22 05.4	+0.9
	7.3nm,0.3s,baz=35,slow=7.6,SNR=22						
PMG				S	Sn	09 23 11.0	-0.2
	26nm,0.4s,baz=38,slow=19,SNR=2.4						
	106nm,0.8s						
MANU	Manus Island	6.10	310		Pn	09 22 08.4	+1.5
CTAO	Charters Tower	15.11	201	Pn	Pn	09 24 09.4	-0.8
EIDS	Eidsvold	19.30	183	P	P	09 24 58.5	-2.6
MTN	Manton Dam	21.73	250	P	P	09 25 27.0	-0.5
MTN				IAmb	IAmb	09 25 37.3	
	comp=Z,28nm,0.9s						
WB0	Warramunga Arr	21.97	230	P	P	09 25 30.0	-0.1
WB0				IAmb	IAmb	09 25 33.0	
	comp=Z,25nm,1.0s						
WR0	Warramunga Arr	21.98	229	P	P	09 25 30.4	+0.3
WR0				IAmb	IAmb	09 25 33.1	
	comp=Z,22nm,0.9s						
WRAB	Tennant Creek	22.11	230	P	P	09 25 30.5	-1.1
WRAB				IAmb	IAmb	09 25 34.1	
	comp=Z,19nm,0.9s						
WB2	Warramunga Arr	22.11	229	P	P	09 25 32.0	+0.4
WB2				IAmb	IAmb	09 25 34.3	
	comp=Z,17nm,0.9s						
WRA	Warramunga Arr	22.12	230	P	P	09 25 30.7	-1.0
WRA	Warramunga Arr	22.12	230	P	P	09 25 31.0	-0.7
	comp=Z,16nm,0.9s,baz=52,slow=9.7,SNR=48						
	comp=Z,16nm,0.9s						
AS31	Alice Springs	24.79	223	P	P	09 25 57.4	-0.5
ASAR	Alice Springs	24.79	223	P	P	09 25 57.8	-0.2
	comp=Z,18nm,0.9s,baz=56,slow=9.0,SNR=90						
	comp=Z,18nm,0.9s						
STKA	Stephens Creek	27.56	200	P	P	09 26 22.0	-0.8
STKA	Stephens Creek	27.56	200	P	P	09 26 23.5	+0.7
	comp=Z,3.5nm,0.8s,baz=351,slow=11,SNR=4.5						
	comp=Z,3.5nm,0.8s						
FORT	Forrest	33.41	219	P	P	09 27 14.5	0.0
MBWA	Marble Bar	34.75	241	P	P	09 27 26.5	+0.2
PSA00	Pilbara Seismi	34.80	240	P	P	09 27 26.8	0.0
PSA00				IAmb	IAmb	09 27 31.6	
	comp=Z,12nm,0.9s						
YOJ	Yonaguni jima	41.44	318	P	P	09 28 22.5	0.0
YULB	Yu-li	41.90	315	P	P	09 28 25.5	-0.8
YULB				IAmb	IAmb	09 28 37.2	
	comp=Z,8.4nm,0.9s						
SONM	Songino Array	66.93	328	P	P	09 31 26.6	-1.5
	comp=Z,0.3nm,0.4s,baz=122,slow=5.4,SNR=4.3						
	comp=Z,0.3nm,0.4s						
VNDA	Vanda	71.68	178	P	P	09 31 58.1	+1.3
	comp=Z,0.7nm,0.8s,baz=333,slow=5.1,SNR=4.8						
	comp=Z,0.7nm,0.8s						
CNPM	China Post	79.09	26	P	P	09 32 40.4	+0.7
MKAR	Makanchi Array	80.73	319	P	P	09 32 47.5	-1.4
	comp=Z,0.6nm,0.9s,baz=108,slow=8.2,SNR=3.1						
	comp=Z,0.6nm,0.9s						
E19K	Redstone River	81.53	18	P	P	09 32 53.9	+1.3
E19K				IAmb	IAmb	09 33 05.1	
	comp=Z,5.5nm,0.8s						
ZALV	Zalesovo Beam	81.73	327	P	P	09 32 53.8	-0.1
	comp=Z,0.7nm,0.6s,baz=106,slow=9.2,SNR=1.9						
	comp=Z,0.7nm,0.6s						
IMAR	Indian Mountai	81.74	20	P	P	09 32 55.1	+1.4
D19K	Kuna River	81.93	17	P	P	09 32 54.7	-0.1
GLB	Gilahina Butte	83.24	26	P	P	09 33 02.5	+0.8
ILAR	Eielson Array	83.53	22	P	P	09 33 03.2	+0.1
ILAR	Eielson Array	83.53	22	P	P	09 33 02.9	-0.2
	comp=Z,1.4nm,0.7s,baz=252,slow=5.1,SNR=12						
	comp=Z,1.4nm,0.7s						
QSPA	South Pole Qui	83.98	180	P	P	09 33 06.4	+0.8
QSPA				IAmb	IAmb	09 33 10.9	
	comp=Z,6.1nm,1.1s						
QSPA	South Pole Qui	83.98	180	P	P	09 33 06.7	+1.1
	comp=Z,3.5nm,1.0s,baz=360,slow=1.2,SNR=8.1						
	comp=Z,3.5nm,1.0s						
J25K	Salcha River,	84.03	23	P	P	09 33 06.5	+0.8
J25K				IAmb	IAmb	09 33 18.4	
	comp=Z,5.9nm,0.9s						
KURBB	Kurchatov Arra	84.27	322	P	P	09 33 06.0	-1.2
	comp=Z,0.2nm,0.3s,baz=108,slow=5.3,SNR=1.4						
	comp=Z,0.2nm,0.3s						
F24K	Squaw Lake	84.53	20	P	P	09 33 09.1	+1.0
F24K				IAmb	IAmb	09 33 20.5	
	comp=Z,4.6nm,0.9s						
D24K	Happy Valley	85.06	18	IAmb	IAmb	09 33 23.0	
	comp=Z,3.4nm,0.8s						
E27K	Coleen River	86.95	20	P	P	09 33 21.1	+0.9
E27K				IAmb	IAmb	09 33 32.6	
	comp=Z,4.2nm,0.8s						
BVAR	Borovoye Array	89.74	323	P	P	09 33 32.2	-1.5
	comp=Z,0.9nm,0.8s,baz=101,slow=4.8,SNR=4.3						
	comp=Z,0.9nm,0.8s						
A36M	Sachs Harbour	93.39	18	P	P	09 33 51.1	+0.9
YKA	Yellowknife Ar	96.81	28	P	P	09 34 07.2	+1.2
	comp=Z,0.2nm,0.8s,baz=277,slow=5.5,SNR=3.0						
	comp=Z,0.2nm,0.8s						
LPAZ	La Paz	134.49	120	PKP	PKiKP	09 39 57.5	+0.7
	comp=Z,1.0nm,0.9s,baz=162,slow=3.2,SNR=4.5						

*EAF **09** 09:41:06.9±0.2, 16.°62S×35.°45E, h10km, MD3.8*
BUL 09 09:41:06.9±0.2, 16°67S×35°38E, h10km±15km, MD4.1, Malawi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZOMB	Zomba	1.27	359	*e*PG	Pg	09 41 33.3	+1.9
ZOMB				*i* SG	Sn	09 41 50.5	+2.4
CHIPN	CHIPINGE	4.39	216	*i* P	Pn	09 42 12.9	-0.9
CHIPN				*i* S	Sn	09 43 01.2	-3.9
CHIPN	CHIPINGE	4.39	216	*i* P	Pn	09 42 12.9	-0.9
CHIPN				*i* S	Sn	09 43 01.2	-3.9
KRI	Karoi	5.52	267	*i* P	Pn	09 42 24.8	-4.5
KRI				*i* S	Sn	09 43 21.8	-11
KRI	Karoi	5.52	267	*i* P	Pn	09 42 24.8	-4.5
KRI				*i* S	Sn	09 43 21.8	-11
MATP	Matopo	7.52	239	*i* P	Pn	09 42 56.5	-0.3
MATP				*i* S	Sn	09 44 16.5	-5.7
MATP	Matopo	7.52	239	*i* P	Pn	09 42 56.5	-0.3
MATP				*i* S	Sn	09 44 16.5	-5.7
MUSN	Musina, Limpop	7.64	222	*i* P	Pn	09 42 58.1	-0.3
MUSN				*i* S	Sn	09 44 19.2	-5.9
MUSN	Musina, Limpop	7.64	222	*i* P	Pn	09 42 58.1	-0.3
MUSN				*i* S	Sn	09 44 19.2	-5.9
MOPA	Mopani	7.77	208	*i* P	Pn	09 43 02.3	+2.1
MOPA				*i* S	Sn	09 44 26.4	-1.9
MOPA	Mopani	7.77	208	*i* P	Pn	09 43 02.3	+2.1
MOPA				*i* S	Sn	09 44 26.4	-1.9
LBTB	Lobatse	12.35	226	*i* P	Pn	09 44 00.4	-2.5
LBTB				*i* S	Sn	09 46 07.0	-14
LBTB	Lobatse	12.35	226	*i* P	Pn	09 44 00.4	-2.5
LBTB				*i* S	Sn	09 46 07.0	-14

IDC 09 09:41:18.2±4.0, 17°39S×174°86W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=170.6km s-min=82.6km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	41.85	241	P	P	09 49 10.7	+0.5
	0.4nm,0.3s,baz=80,slow=10,SNR=4.3						
	0.4nm,0.3s						
WRA	Warramunga Arr	48.06	259	P	P	09 49 59.7	-0.2
	1.6nm,0.6s,baz=97,slow=7.7,SNR=32						
WRA				PcP	PcP	09 51 27.7	-0.1
	0.8nm,1.1s,baz=92,slow=3.6,SNR=2.3						
	1.6nm,0.6s						
ASAR	Alice Springs	48.19	254	P	P	09 50 00.4	-0.4
	3.1nm,0.8s,baz=88,slow=8.0,SNR=35						
ASAR				PcP	PcP	09 51 27.8	-0.6
	0.3nm,0.6s,baz=93,slow=3.3,SNR=2.0						
	3.1nm,0.8s						

*DSN **09** 10:08:32.0±3.4, 27.°31N×53.°86E, h15km, ML3.0/4, Error ellipse: s-maj=57.5km s-min=18.6km az=12.0*
*OMAN **09** 10:08:38.5±1.0, 27.°20N×57.°98E, h10km, ml3.0/19, Error ellipse: s-maj=8.8km s-min=6.6km az=11.0*
*TEH **09** 10:08:38.3, 27.°17N×57.°86E, h8km±65km, ML3.5*
ISC 09 10:08:37.4±1.5, 27°20N±0°04×57°96E±0°04, h1km±12km, n36, σ1°30/50, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHNJ	Kahnooj	0.78	343	Pg	Pb	10 08 54.1	+0.2
KHNJ				Sg	Sb	10 09 06.3	+1.3
IBND	Bandar-abas	1.29	282	Pg	Pg	10 09 02.6	+0.5
JASK	Jask - Hormozg	1.32	184	Pg	Pg	10 09 03.7	+0.8
JASK	Jask - Hormozg	1.32	184	P	Pn	10 09 02.4	-0.7
	SNR=7.7						
JASK				S	Sn	10 09 23.1	+1.7
GENO	Geno	1.60	278	Pg	Pb	10 09 07.8	-0.1
BANOM	Banah	1.95	230	P	Pn	10 09 12.4	+0.7
BANOM				S	Sb	10 09 38.2	-0.5
KBAM	BAM	1.98	13	Pn	Pb	10 09 15.2	+0.8
SHME	Shamm	1.99	235	P	Pn	10 09 10.8	-1.4
SHME				S	Sg	10 09 40.6	-0.6
SHME	Shamm	1.99	235	P	Pn	10 09 11.7	-0.5
	SNR=9.4						
SHME				S	Sg	10 09 40.5	-0.8
MDH	Madha	2.41	219	P	Pn	10 09 18.0	0.0
MDH				S	Sn	10 09 48.4	+0.3
MASF	Masafi	2.43	222	P	Pn	10 09 19.3	+1.0
	SNR=7.6						
MASF				S	Sn	10 09 49.9	+1.2
MSFE	Esma-Masafi	2.44	222	P	Pn	10 09 17.3	-1.1
UOSS	Minazif	2.74	216	P	Pn	10 09 20.0	-2.5
UOSS	Minazif	2.74	216	P	Pn	10 09 23.4	+0.8
HATD	Hatta, Dubai	2.88	215	P	Pn	10 09 20.7	-3.7
HATD	Hatta, Dubai	2.88	215	P	Pn	10 09 26.2	+1.8
HATD				S	Sn	10 09 59.6	-0.1
ASHO	Ashiyiah	3.03	215	P	Pn	10 09 24.6	-2.0
ASHO	Ashiyiah	3.03	215	P	Pn	10 09 28.0	+1.4
ASHO				S	Sn	10 10 04.6	+1.0
FAQ	Al Faqa, Dubai	3.24	222	P	Pn	10 09 29.8	+0.4
SOHO	SOHO	3.31	203	P	Pn	10 09 29.5	-0.8
SOHO				S	Sn	10 10 11.2	+0.9
ZHDN	Zahedan	3.34	48	Pn	Pb	10 09 35.6	-2.0
ASUD	Al Ashush, Dub	3.48	223	P	Pn	10 09 33.4	+0.6
HOQ	Hoqain	3.65	189	P	Pn	10 09 34.2	-0.9
BIDO	Bidbid	3.66	178	P	Pn	10 09 34.5	-0.8
ALNE	Al Ain	3.71	213	P	Pn	10 09 35.7	-0.2
AJN	Ajban	3.75	226	P	Pn	10 09 35.7	-0.7
ARQ	Araqi	4.06	199	P	Pn	10 09 42.7	+2.0
ARQ				S	Sn	10 10 29.3	+0.4
SMDO	Samad	4.12	179	P	Pn	10 09 42.5	+0.8
SMDO				S	Sn	10 10 29.3	-1.3
BSY	Bisya	4.48	189	P	Pn	10 09 47.8	+1.2
BSY				S	Sn	10 10 39.6	+0.1
WBK	Wadi Bani Khal	4.66	168	P	Pn	10 09 48.1	-0.9
	SNR=9.3						
JMDO	Jabal Madar	4.81	178	P	Pn	10 09 53.1	+2.1
JLN	Jalan Bani Buh	5.19	165	P	Pn	10 09 55.1	-1.2
MHTO	MHTO	6.18	180	P	Pn	10 10 11.3	+1.4
TRNA	Turayna	6.55	250	P	Pn	10 10 13.8	-1.1
TRNA				S	Sn	10 11 28.6	-1.6
WHFO	Wadi Hawf	10.01	204	P	Pn	10 11 02.6	+0.1
ABTO	Aybut	10.70	205	P	Pn	10 11 10.1	-1.9

*IDC **09** 10:11:51.8±6.0, 5.°73S×151.°51E, h73km±51km, mb3.6/7, mbtmp4.0/8, ML2.2/1, Error ellipse: s-maj=49.3km s-min=25.7km az=102.0*
ISC 09 10:11:49.8±1.1, 5°75S±0°2×151°7E±0°2, h57km, n8, σ0°25/9, mb3.8/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.76	230	P	Pn	10 13 13.0	+0.2
	4.3nm,0.3s,baz=63,slow=9.0,SNR=5.6						
PMG				S	Sn	10 14 17.4	-0.1
	33nm,0.5s,baz=56,slow=17,SNR=4.4						
	14nm,0.4s						
WRA	Warramunga Arr	21.97	228	P	P	10 16 38.9	-0.3
	2.9nm,0.7s,baz=54,slow=10,SNR=16						
	2.9nm,0.7s						
ASAR	Alice Springs	24.69	222	P	P	10 17 05.7	-0.1
	3.1nm,0.6s,baz=54,slow=8.8,SNR=24						
	3.1nm,0.6s						
STKA	Stephens Creek	27.66	199	P	P	10 17 32.1	-0.3
	1.8nm,0.8s,baz=25,slow=10,SNR=1.8						
	1.8nm,0.8s						
ZALV	Zalesovo Beam	81.30	327	P	P	10 23 59.7	-0.2
	0.6nm,0.6s,baz=118,slow=5.5,SNR=2.3						
	0.6nm,0.6s						
ILAR	Eielson Array	83.45	22	P	P	10 24 10.9	0.0
	1.4nm,0.7s,baz=244,slow=5.3,SNR=18						
	1.4nm,0.7s						
KURBB	Kurchatov Arra	83.84	322	P	P	10 24 13.4	+0.2
	0.2nm,0.6s,baz=105,slow=4.1,SNR=2.3						
	0.2nm,0.6s						
QSPA	South Pole Qui	84.23	180	P	P	10 24 15.3	+0.2
	0.8nm,0.7s,baz=51,slow=0.7,SNR=6.0						
	0.8nm,0.7s						

*RSNC **09** 10:22:06.7±0.0, 11°N±3°×7°1W±°, h8km±6km, M2.3, mb3.3, ML2.3*
*FUNV **09** 10:22:06.8, 10.°54N×70.°96W, h5km, MW3.0*
ISC 09 10:22:04.9±2.0, 10°58N±0°06×71°01W±0°03, h11km±15km, n14, σ1°13/27, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIQV	Siquisique	1.18	86	*e*P	Pg	10 22 27.6	-0.1
SIQV				*e*S	Sn	10 22 43.2	-0.4
SDV	Santo Domingo	1.72	168	P	Pn	10 22 36.1	+1.1
SDV				S	Sn	10 22 57.5	+0.4
TEPV	Terepaima	1.89	109	*e*P	Pn	10 22 38.7	+1.5
TEPV				*e*S	Sb	10 23 02.1	-1.1
CRJC	Cerrejon, Guaj	1.89	284	P	Pn	10 22 37.1	-0.2
CRJC				S	Sn	10 23 01.7	+0.4
SOCV	Socops	2.28	176	*e*P	Pn	10 22 43.6	+1.0
SOCV				*e*S	Sn	10 23 11.3	+0.5
CAPV	Capacho	2.99	206	*e*P	Pn	10 22 53.9	+1.4
CAPV				*e*S	Sn	10 23 29.3	+0.8
OCAC	Ocana	3.25	225	P	Pn	10 22 56.3	+0.2
OCAC				S	Sn	10 23 35.4	+0.4
BAUV	El Baul	3.34	119	*e*P	Pn	10 22 58.1	+0.9
BAUV				*e*S	Sn	10 23 35.5	-1.5
BENV	Beln	3.41	100	*e*P	Pn	10 22 59.1	+0.9
BENV				*e*S	Sn	10 23 37.8	-0.9
PAMC	Pamplona, Colo	3.62	208	P	Pn	10 23 01.1	-0.4
PAMC				S	Sn	10 23 45.6	+1.1

SJCC San Jacinto, C 4.16 261 P Pn 10 23 10.0 +1.5
SJCC S Sn 10 23 58.2 +0.9
ZARC Zaragoza, Cauc 4.88 231 P Pn 10 23 17.6 -0.8
ZARC S Sn 10 24 15.7 +0.7
RUSC La Rusia 5.09 204 P Pn 10 23 21.3 -0.3
2.9nm,0.8s
PTBC PUERTO BERRIO, 5.26 221 P Pn 10 23 22.2 -1.4
PTBC S Sn 10 24 21.6 -2.8

IDC 09 10:29:30.3±50.0, 17°21S×179°35W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=903.2km s-min=154.2km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	Stephens Creek	38.19	240	P	P	10 36 52.6	+0.8
	1.6nm,0.5s,baz=79,slow=16,SNR=4.3						
	1.6nm,0.5s						
WRA	Warramunga Arr	43.88	259	P	P	10 37 38.5	-0.5
	1.2nm,0.7s,baz=95,slow=8.3,SNR=29						
	1.2nm,0.7s						
ASAR	Alice Springs	44.12	254	P	P	10 37 40.5	-0.4
	7.2nm,0.5s,baz=89,slow=8.6,SNR=150						
	7.2nm,0.5s						

*NEIC **09** 10:33:33.5±0.9, 19°39N±0°02×155°02W±0°04, h2km±12km, Error ellipse: s-maj=5.3km s-min=1.6km az=113.0*
HVO 09 10:33:32.7±1.0, 19°38N±0°02×155°01W±0°04, h6km±4km, ML2.4/7, ML2.6/22(NEIC), Error ellipse: s-maj=5.4km s-min=2.0km az=115.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	Jonika Flow	0.05	6		Pg	10 33 34.5	+0.2
JCUZ	Jacuzzi	0.09	273		Pg	10 33 35.1	+0.3
NPOC	North of Pu'u	0.10	278		Pg	10 33 35.3	+0.4
STCH	Steam Cracks	0.11	273		Pg	10 33 35.4	+0.3
STCH				IAML		10 33 38.0	
	comp=E,1μm,0.2s						
KNHH	Kane Nui o Ham	0.15	270		Pg	10 33 36.2	+0.3
RSD	Rainshed	0.27	288	Pg	Pg	10 33 37.8	-0.2
RSD				IAML		10 33 42.2	
	comp=E,967nm,1.1s						
RSD				IAML		10 33 45.6	
	comp=N,1μm,0.9s						
HLP	Hilina Pali	0.29	253		Pg	10 33 39.3	+0.8
HLP				IAML		10 33 43.6	
	comp=E,1μm,0.8s						
HLP				IAML		10 33 45.3	
	comp=N,1μm,0.7s						
MLH	Mauna Loa	0.37	288		Pg	10 33 40.6	+0.5
MLH				IAML		10 33 42.8	
	comp=N,715nm,0.9s						
MLH				IAML		10 33 44.7	
	comp=E,398nm,1.3s						
HTC	Hot Caves	0.39	249		Pg	10 33 40.8	+0.5
HMH	Humu'ula Sheep	0.50	296		Pg	10 33 42.7	+0.3
HMH				IAML		10 33 51.0	
	comp=E,595nm,1.0s						
MLOA	Mauna Loa Obse	0.56	286	Pg	Pg	10 33 43.2	-0.3
MLOA					Sg	10 33 51.7	+0.9
MLOA				IAML		10 33 55.4	
	comp=N,320nm,0.8s						
MWH	Moku'aweowe	0.56	281		Pg	10 33 43.3	-0.4
MWH				IAML		10 34 03.4	
	comp=N,491nm,0.8s						
KHU	Kahuku	0.59	257		Pg	10 33 43.3	-0.7
KHU				IAML		10 33 57.9	
	comp=N,307nm,1.5s						
KHU				IAML		10 34 03.7	
	comp=E,381nm,3.0s						
ALEP	Alea Permanent	0.62	285		Pg	10 33 44.0	-0.7
ALEP					Sg	10 33 53.7	+0.9
HUH	Hualalai	0.83	291	Pg	Pg	10 33 48.5	-0.3

*IDC **09** 10:37:08.7±2.6, 34.°55N×45.°36E, h0km, mb4.0/6, mbtmp3.9/9, ML4.1/3, Error ellipse: s-maj=54.6km s-min=28.2km az=24.0*
*TEH **09** 10:37:13.5, 34.°84N×45.°71E, h8km±24km, ML3.6*
*ISN **09** 10:37:14.7±0.3, 34.°83N×45.°80E, h34km±2km, ML3.9*
ISC 09 10:37:13.0±0.6, 34°84N±0°03×45°70E±0°04, h10km, n34, σ1°53/39, mb3.8/6, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	Ghasr-e-Shirin	0.35	196	Pg	Pg	10 37 20.9	+0.9
IDHR	Dehrash	0.58	104	Pg	Pg	10 37 24.8	+0.4
IDHR				Sg	Sb	10 37 33.6	-0.2
GLG1	Gilan-e-Gharb	0.75	167	Pg	Pg	10 37 27.9	+0.4
IGHG	Ghaleghazi	0.88	125	Pg	Pg	10 37 30.4	+0.4
ILIN	Lien	1.04	85	Pg	Pb	10 37 33.5	+0.3
KCHF	Cheshme Sefid,	1.24	117	Pg	Pn	10 37 36.4	-0.2
KCHF				Sg	Sn	10 37 55.3	+1.8
SDS1	Sardasht. Az.	1.31	352	Pg	Pg	10 37 38.9	+0.6
SNQR	Sonqor, Kerman	1.58	89	Pg	Pb	10 37 42.9	+0.4
IBDR	Badra	1.74	174	*e*Pg	Pb	10 37 45.5	+0.5
IBDR				*e*Sg	Sb	10 38 08.0	+1.1
IBDR				AML	AML	10 38 14.6	
	comp=E,1μm,0.3s						
IBDR				AML	AML	10 38 15.5	
	comp=N,1μm,0.4s						
IBZA	Bozab	1.82	101	Pn	Pg	10 37 47.6	-0.3
BHD	Baghdad	1.92	215	*e*Pn	Pn	10 37 47.4	+1.7
BHD				*e*Sn	Sn	10 38 11.0	+1.2
BHD				AML	AML	10 38 17.1	
	comp=E,3μm,0.4s						
MAHB	Mahabad	1.92	0	Pn	Pb	10 37 48.0	-0.2
IKFM	Kafar-mosalman	2.21	126	Pn	Pb	10 37 52.6	-0.5
IDOB	Doab	2.30	117	Pn	Pb	10 37 53.7	-1.2
IHSH	Hashtrud	2.76	27	Pn	Pb	10 38 00.9	-1.8
BDRS	Dareh Seyedi	2.77	108	Pn	Pn	10 37 59.8	+2.0
IAZR	Azarshahr	2.84	4	Pn	Pn	10 38 01.0	+2.3
RAFI	Al-Rafai	3.13	174	*e*Pn	Pn	10 38 03.3	+0.9
RAFI				*e*Sn	Sn	10 38 39.0	-0.9
QABG	Abgarm-Qazvin	3.29	74	Pn	Pn	10 38 07.6	+2.7
IHRS	Heris	3.63	17	Pn	Pn	10 38 12.1	+2.5
IMRD	Marand	3.86	0	Pn	Pn	10 38 14.9	+2.3
IPIR	Pirpir	4.83	115	Pn	Pn	10 38 28.0	+1.9
MZPU	Pul - Mazandar	5.04	70	Pn	Pn	10 38 31.2	+2.4
ISFB	Sefidab	5.42	93	Pn	Pn	10 38 36.1	+2.2
IRAM	Ramesheh	6.36	117	Pn	Pn	10 38 49.1	+2.1
WSAR	Wadi Sarin	16.15	132	Pn	Pn	10 40 57.7	-2.5
	comp=E,1.1nm,0.3s,baz=310,slow=14,SNR=2.3						
	comp=E,3.5nm,0.4s						
AKTO	Aktyubinsk	17.98	26	P	P	10 41 25.2	+1.7
	comp=E,0.3nm,0.3s,baz=189,slow=7.1,SNR=2.9						
	comp=E,1.1nm,0.5s						
AKASG

Duration: 3ᵍ6 Moment tensor: Scale 10^{18}Nm; M_{rr}2.71±.02; $M_{\theta\theta}$-3.73±.02; $M_{\phi\phi}$1.02±.02; $M_{r\theta}$-1.25±.02; $M_{\theta\phi}$-0.88±.02; $M_{\phi r}$-1.82±.02; Best double couple: M_o4.08700×10^{18} NP1:ϕ_s234.00000°,δ64.00000°, λ59.00000°. NP2:ϕ_s108.00000°,δ40.00000°,λ136.00000°. Principal axes: T 3.9190, Plg59.0000°, Azm99.0000°; N 0.3360, Plg28.0000°, Azm249.0000°; P -4.2550, Plg13.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function

*NEIC **09** 10:41:45.9±2.2,36°.99N±0°.05×71°.38E±0°.08, h116km±1km, mb6.2/580, Mwb6.3/88, Mww6.2/39 Error ellipse: s-maj=10.6km s-min=9.0km az=284.0, Moment Tensor Solution. Moment tensor: Scale 10^{18}Nm; M_{rr}2.56; $M_{\theta\theta}$-2.76; $M_{\phi\phi}$0.20; $M_{r\theta}$-1.37; $M_{\theta\phi}$-0.74; $M_{\phi r}$-1.23; Fault plane solution: M_o3.32000×10^{18} NP1:ϕ_s240.54000°, δ62.27000°,λ73.09000°. NP2:ϕ_s93.69000°,δ32.13000°, λ118.95000°. Principal axes: T 3.2515, Plg68.0000°, Azm117.0000°; N 0.1360, Plg15.0000°, Azm249.0000°; P -3.3875, Plg16.0000°, Azm343.0000°;*

*NEIC **09** 10:41:45.3,36°.98N×71°.37E,h110km,Moment Tensor Solution. Duration: 6ᵍ5 Moment tensor: Scale 10^{18}Nm; M_{rr}1.93; $M_{\theta\theta}$-2.23; $M_{\phi\phi}$0.30; $M_{r\theta}$-1.14; $M_{\theta\phi}$0.29; $M_{\phi r}$-1.43; Fault plane solution: M_o2.76000×10^{18} NP1: ϕ_s246.85000°,δ65.01000°,λ60.14000°. NP2: ϕ_s120.50000°,δ38.18000°,λ136.89000°. Principal axes: T 3.0066, Plg59.0000°, Azm114.0000°; N -0.4832, Plg27.0000°, Azm260.0000°; P -2.5234, Plg15.0000°, Azm358.0000°;*

*NEIC **09** 10:41:45.3,36°.98N×71°.37E,h110km*

*NEIC **09** 10:41:45.2,36°.98N×71°.38E,h108km*

*IDC **09** 10:41:45.3±0.4,36°.90N×71°.52E,h118km±3km,mb5.7/31, mbtmp6.1/34,MS5.6/48,Error ellipse: s-maj=7.4km s-min=6.1km az=1.0*

*IPGP **09** 10:41:45.0,36°.99N×71°.37E,h118km,Mw6.3,Fault plane solution: NP1:ϕ_s238.00000°,δ62.00000°,λ71.00000°. NP2:ϕ_s94.00000°,δ33.00000°,λ122.00000°.*

ISC 09 10:41:44.5±0.2,36°.91N±0°.02×71°.41E±0°.02,h112km±1km, h112km:pP-P,n2328,σ1ˢ68/3043,mb6.2/687,214C-243D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.26**	**338**		**Pn**	**10 42 20.1**	**-0.9**
GAR				Sn	**Sn**	**10 42 45.8**	**-3.2**
CHGR	**Chuyangaron**	**2.50**	**315**	Pn	**Pn**	**10 42 22.6**	**-1.4**
CHGR	**Chuyangaron**	**2.50**	**315**	PN	**Pn**	**10 42 22.6**	**-1.4**
SIMJ	**Simiganj**	**2.58**	**313**	Pn	**Pn**	**10 42 23.8**	**-1.4**
DRK	**Karamyk**	**2.58**	**7**		**Pn**	**10 42 26.0**	**+0.6**
DRK	**Karamyk**	**2.58**	**7**	PN	**Pn**	**10 42 26.0**	**+0.6**
KBL	**Kabul**	**3.05**	**220**	Pn	**Pn**	**10 42 33.0**	**+1.6**
KBL	**Kabul**	**3.05**	**220**	P	**Pn**	**10 42 33.1**	**+1.6**
	SNR=5097						
KBL				S	**Sn**	**10 43 04.1**	**-3.4**
KBL	**Kabul**	**3.05**	**220**	PN	**Pn**	**10 42 33.0**	**+1.6**
BTK	**Batken**	**3.18**	**352**	Pn	**Pn**	**10 42 33.6**	**+0.7**
BTK	**Batken**	**3.18**	**352**	PN	**Pn**	**10 42 33.7**	**+0.7**
KSH	**Kashi**	**4.44**	**53**	P	**Pn**	**10 42 46.1**	**-3.8**
KSH				S	**Sn**	**10 43 33.3**	**-7.3**
KSH				smax	smax		
	comp=N,332μm,0.9s						
KSH				smax	smax		
	comp=E,129μm,0.8s						
ARSB	**Arslanbob**	**4.58**	**15**		**Pn**	**10 42 51.2**	**-0.5**
ARSB	**Arslanbob**	**4.58**	**15**	PN	**Pn**	**10 42 51.2**	**-0.5**
ARK	**Arkit**	**4.90**	**5**	PN	**Pn**	**10 42 55.2**	**-0.9**
IUG	**Iuzhnay**	**5.34**	**349**	⇓*i*P	**Pn**	**10 43 01.3**	**-0.7**
	baz=348						
IUG				*e*S	**Sn**	**10 43 59.5**	**-2.8**
	baz=348						
IUG	**Iuzhnay**	**5.34**	**349**	*d i*PN	**Pn**	**10 43 01.2**	**-0.7**
CHM	**Chimkent**	**5.58**	**346**	⇓*i*P	**Pn**	**10 43 04.5**	**-0.6**
	baz=345						
CHM	**Chimkent**	**5.58**	**346**	*d i*PN	**Pn**	**10 43 04.5**	**-0.6**
UCH	**Uchtor**	**5.83**	**23**	P	**Pn**	**10 43 08.9**	**0.0**
	SNR=9978						
DZA	**Taraz**	**5.98**	**359**	*e*P	**Pn**	**10 43 10.1**	**-0.5**
	baz=359						
DZA				*e*S	**Sn**	**10 44 15.5**	**-2.1**
	baz=359						
DZA	**Taraz**	**5.98**	**359**	*e*PN	**Pn**	**10 43 10.0**	**-0.5**
EKS2	**Erkin-Say**	**6.03**	**17**	P	**Pn**	**10 43 11.5**	**+0.2**
	SNR=4703						
DHRM	**DHARAMSHALA**	**6.15**	**138**	*e*P	**Pn**	**10 43 14.0**	**+0.9**
DHRM				*e*S	**Sn**	**10 44 19.4**	**-2.9**
DHRM				IAML		10 44 23.1	
	comp=E,65μm,0.3s						
DHRM				IAML		10 44 24.5	
	comp=E,59μm,0.4s						
AAK	**Ala-Archa**	**6.19**	**22**	P	**Pn**	**10 43 14.0**	**+0.4**
AAK	**Ala-Archa**	**6.19**	**22**	⇓P	**Pn**	**10 43 12.8**	**-0.9**
	comp=E,3μm,0.3s						
AAK				⇑S	**Sn**	**10 44 20.2**	**-3.0**
	comp=E,10μm,0.8s						
AAK	**Ala-Archa**	**6.19**	**22**	*i* P	**Pn**	**10 43 14.1**	**+0.4**
	SNR=5054						
AAK	**Ala-Archa**	**6.19**	**22**	⇑P	**Pn**	**10 43 13.5**	**-0.1**
AAK	**Ala-Archa**	**6.19**	**22**	P	**Pn**	**10 43 14.0**	**+0.4**
	comp=E,20μm,0.3s,baz=190,slow=7.3						
AAK				S	**Sn**	**10 44 20.4**	**-2.7**
	comp=E,11μm,0.6s,baz=140,slow=23,SNR=9.9						
AAK				LR	LR	10 45 17.2	
	comp=E,51μm,19.8s,baz=201,slow=34						
AAK	**Ala-Archa**	**6.19**	**22**	P	**Pn**	**10 43 14.5**	**+0.9**
AAK				P	**Pn**	**10 43 14.5**	**+0.9**
AAK				S	**Sn**	**10 44 19.3**	**-3.8**
AAK				S	**Sn**	**10 44 19.3**	**-3.8**
KK31	**Karatay Array**	**6.22**	**354**	P	**Pn**	**10 43 11.0**	**-2.9**
	comp=E,4μm,0.4s,baz=181,slow=13						
KK31				⇑S	**Sn**	**10 44 19.9**	**-3.7**
	comp=E,5μm,0.5s,baz=169,slow=14,SNR=5.8						
KK31	**Karatay Array**	**6.22**	**354**	Pn	**Pn**	**10 43 13.2**	**-0.7**
KK31	**Karatay Array**	**6.22**	**354**	PN	**Pn**	**10 43 13.2**	**-0.7**
KKAR	**Karatay Array**	**6.22**	**354**		**Pn**	**10 43 13.1**	**-0.9**
KKAR	**Karatay Array**	**6.22**	**354**	⇓P	**Pn**	**10 43 12.9**	**-0.9**
KKAR	**Karatay Array**	**6.22**	**354**	PN	**Pn**	**10 43 13.1**	**-0.9**
BRLS	**Boroldaу**	**6.23**	**349**	⇓*i*P	**Pn**	**10 43 09.6**	**-4.5**
	comp=E,947nm,0.5s,baz=347						
BRLS	**Boroldaу**	**6.23**	**349**	*d i*PN	**Pn**	**10 43 09.5**	**-4.5**
BRLS				pmax	pmax		
	comp=Z,947nm,0.5s						
KBK	**Karagaybulak**	**6.35**	**24**	P	**Pn**	**10 43 16.3**	**+0.5**
	SNR=9143						
FRU1	**Bishkek**	**6.39**	**22**		**Pn**	**10 43 17.0**	**+0.8**
FRU1	**Bishkek**	**6.39**	**22**	PN	**Pn**	**10 43 17.0**	**+0.8**
ULHL	**Ulahol**	**6.50**	**34**	P	**Pn**	**10 43 17.7**	**-0.1**
	SNR=2002						
BOOM	**Boomskoye usch**	**6.58**	**31**		**Pn**	**10 43 18.9**	**+0.1**
BOOM	**Boomskoye usch**	**6.58**	**31**	PN	**Pn**	**10 43 18.9**	**+0.1**
CHMS	**Chumysh**	**6.60**	**22**	P	**Pn**	**10 43 19.1**	**+0.1**
	SNR=8970						
CHMS	**Chumysh**	**6.60**	**22**	⇑P	**Pn**	**10 43 17.3**	**-1.8**
	comp=Z,12μm,1.0s						
CHMS				⇓S	**Sn**	**10 44 29.5**	**-3.2**
	comp=Z,7μm,0.6s						
CHMS	**Chumysh**	**6.60**	**22**	PN	**Pn**	**10 43 17.2**	**-1.8**
USP	**Ospenovka**	**6.78**	**19**	P	**Pn**	**10 43 20.9**	**-0.5**
TKM2	**Tokmak 2**	**6.81**	**27**	P	**Pn**	**10 43 22.2**	**+0.1**
TKM2	**Tokmak 2**	**6.81**	**27**	⇓P	**Pn**	**10 43 21.8**	**-0.2**
	comp=Z,9μm,0.8s						
TKM2				⇓S	**Sn**	**10 44 34.3**	**-3.9**
	comp=Z,11μm,0.8s						
TKM2	**Tokmak 2**	**6.81**	**27**	PN	**Pn**	**10 43 21.8**	**-0.2**
TARG	**Taragay, Kyrgy**	**6.91**	**44**		**Pn**	**10 43 23.5**	**0.0**
TARG	**Taragay, Kyrgy**	**6.91**	**44**	PN	**Pn**	**10 43 23.5**	**0.0**
SGDS	**Sogindy**	**6.98**	**20**	⇓*i*P	**Pn**	**10 43 23.5**	**-0.7**
	baz=20						
SGDS				*e*S	**Sn**	**10 44 40.0**	**-2.2**
	baz=20						
SGDS	**Sogindy**	**6.98**	**20**	*d i*PN	**Pn**	**10 43 23.5**	**-0.7**
TNSS	**Tian-Shan**	**7.45**	**33**	*i* P	**Pn**	**10 43 29.8**	**-1.0**
	baz=33						
TNSS	**Tian-Shan**	**7.45**	**33**	*i* PN	**Pn**	**10 43 29.8**	**-1.0**
KASK	**Kaskelen**	**7.47**	**31**	⇑P	**Pn**	**10 43 31.3**	**+0.5**
KASK				⇑S	**Sn**	**10 44 52.2**	**-1.7**
SMLA	**Simla**	**7.49**	**139**	*e*P	**Pn**	**10 43 31.0**	**0.0**
SMLA				*e*S	**Sn**	**10 44 48.5**	**-5.8**
SMLA				IAML		10 44 55.0	
	comp=Z,21μm,0.6s						
SMLA				IAML		10 45 00.9	
	comp=E,21μm,0.6s						
AAA	**Alma-Ata**	**7.58**	**32**	*e*P	**Pn**	**10 43 31.7**	**-0.6**
	baz=32						
AAA	**Alma-Ata**	**7.58**	**32**	*e*PN	**Pn**	**10 43 31.6**	**-0.6**
MDOK	**Medeo**	**7.60**	**33**	⇑P	**Pn**	**10 43 32.2**	**-0.4**
	comp=E,7μm,0.7s						
MDOK				S	**Sn**	**10 44 56.7**	**-0.4**
	comp=E,7μm,1.0s						
MDOK	**Medeo**	**7.60**	**33**	*e*P	**Pn**	**10 43 31.6**	**-1.0**
	baz=33						
MDOK	**Medeo**	**7.60**	**33**	*e*PN	**Pn**	**10 43 31.6**	**-1.0**
KNDC	**Almaty**	**7.60**	**32**	⇑P	**Pn**	**10 43 32.8**	**+0.2**
	comp=E,8μm,0.6s						
KNDC				⇑S	**Sn**	**10 44 55.2**	**-1.9**
	comp=E,10μm,0.9s						
KNDC	**Almaty**	**7.60**	**32**	PN	**Pn**	**10 43 32.8**	**+0.2**
HRA	**Herat**	**7.87**	**254**		**Pn**	**10 43 35.9**	**-0.6**
CHKK	**Chushkaly**	**8.14**	**30**	⇓*i*P	**Pn**	**10 43 38.6**	**-1.2**
	baz=30						
CHKK	**Chushkaly**	**8.14**	**30**	⇓*i*PN	**Pn**	**10 43 38.5**	**-1.2**
SATY	**Saty**	**8.16**	**39**	⇑*i*P	**Pn**	**10 43 39.4**	**-0.8**
	comp=E,498nm,0.8s,baz=39						
SATY	**Saty**	**8.16**	**39**	*c i*PN	**Pn**	**10 43 39.3**	**-0.8**
SATY				pmax	pmax		
	comp=Z,498nm,0.8s						
ZHN	**Zhinishke**	**8.25**	**39**	*e*P	**Pn**	**10 43 40.7**	**-0.7**
	comp=Z,535nm,0.9s,baz=39						
ZHN	**Zhinishke**	**8.25**	**39**	*e*PN	**Pn**	**10 43 40.7**	**-0.7**
ZHN				pmax	pmax		
	comp=Z,535nm,0.9s						
BTLS	**Baital**	**8.36**	**13**	⇓*i*P	**Pn**	**10 43 41.6**	**-1.3**
	comp=Z,1μm,0.7s,baz=13						
BTLS	**Baital**	**8.36**	**13**	*d i*PN	**Pn**	**10 43 41.5**	**-1.3**
BTLS				pmax	pmax		
	comp=Z,1μm,0.7s						
DDI	**Dehra Dun**	**8.59**	**138**	*e*P	**Pn**	**10 43 46.1**	**+0.1**
DDI				*e*S	**Sn**	**10 45 15.8**	**-5.5**
DDI				IAML		10 45 22.4	
	comp=Z,20μm,0.4s						
DDI				IAML		10 45 23.2	
	comp=E,29μm,0.6s						
ARXS	**Arharly**	**8.78**	**32**	*e*PN	**Pn**	**10 43 46.9**	**-1.6**
SHLS	**Shalkode**	**8.78**	**42**	*e*P	**Pn**	**10 43 50.8**	**+2.2**
	comp=E,490nm,0.8s,baz=44						
SHLS	**Shalkode**	**8.78**	**42**	*e*PN	**Pn**	**10 43 50.7**	**+2.2**
SHLS				pmax	pmax		
	comp=Z,491nm,0.8s						
PDGK	**Podgornoye**	**8.91**	**41**	⇑P	**Pn**	**10 43 48.9**	**-1.4**
	comp=Z,2μm,1.1s						
PDGK				⇓S	**Sn**	**10 45 28.8**	**-0.2**
	comp=Z,11μm,1.1s						
PDGK	**Podgornoye**	**8.91**	**41**	PN	**Pn**	**10 43 48.9**	**-1.4**
TDK	**Taldyqorghan**	**9.66**	**31**	*e*P	**Pn**	**10 43 59.1**	**-1.4**
	baz=31						
TDK	**Taldyqorghan**	**9.66**	**31**	*e*P	**Pn**	**10 43 59.0**	**-1.4**
GEYT	**Alibeck**	**10.62**	**280**	P	**Pn**	**10 44 10.3**	**-3.3**
GEYT				S	Sn	10 46 00.7	-10
OTUK	**Ortayu**	**11.35**	**3**	⇑P	**Pn**	**10 44 19.8**	**-3.4**
	comp=Z,10μm,1.2s						
OTUK				⇓S	**Sn**	**10 46 23.9**	**-4.0**
	comp=Z,6μm,1.1s						
OTUK	**Ortayu**	**11.35**	**3**	P	**Pn**	**10 44 19.8**	**-3.4**
OTUK				S	**Sn**	**10 46 23.9**	**-4.0**
MAKZ	**Makanchi**	**12.63**	**35**	⇑P	**Pn**	**10 44 37.7**	**-2.4**
	comp=Z,2μm,1.1s						
MAKZ	**Makanchi**	**12.63**	**35**		**Pn**	**10 44 38.5**	**-1.6**
MAKZ	**Makanchi**	**12.63**	**35**	⇓P	**Pn**	**10 44 38.3**	**-1.8**
MAKZ	**Makanchi**	**12.63**	**35**	P	**Pn**	**10 44 38.5**	**-1.6**
MK31	**Makanchi Array**	**12.77**	**36**	P	**Pn**	**10 44 39.6**	**-2.2**
	comp=Z,1μm,0.8s,baz=223,slow=6.2,SNR=6310						
MK31	**Makanchi Array**	**12.77**	**36**		**Pn**	**10 44 40.1**	**-1.8**
MK31	**Makanchi Array**	**12.77**	**36**	*c*eP	**Pn**	**10 44 39.7**	**-2.2**
MKAR	**Makanchi Array**	**12.77**	**36**		**Pn**	**10 44 40.0**	**-1.9**
MKAR	**Makanchi Array**	**12.77**	**36**	P	**Pn**	**10 44 41.4**	**-0.5**
	comp=Z,1μm,0.8s,baz=210,slow=4.8,SNR=1267						
MKAR				S	**Sn**	**10 47 02.5**	**+0.2**
	comp=Z,79nm,0.7s,baz=195,slow=33,SNR=2.1						
MKAR				P3KPbc		11 20 35.8	
	comp=Z,2.3nm,1.2s,baz=75,slow=1.6,SNR=4.6						
MKAR	**Makanchi Array**	**12.77**	**36**	*i* P	**Pn**	**10 44 39.5**	**-2.4**
MKAR				pmax	pmax		
	comp=Z,1μm,0.8s						
BHUJ	**Bhuj**	**13.69**	**187**	*e*P	**Pn**	**10 44 51.4**	**-2.7**
BHUJ				IAmb	IAmb	10 44 53.9	
	comp=Z,3μm,0.8s						
WMQ	**Urumqi**	**14.19**	**56**	⇑*i*P	**Pn**	**10 44 59.1**	**-1.3**
WMQ				sP	P	10 45 33.7	+29
WMQ				S	**Sn**	**10 47 29.1**	**-7.8**
WMQ				pmax	pmax		
	comp=Z,2μm,1.3s						
WMQ				pmax	pmax		
	comp=Z,12μm,3.9s						
WMQ				LR	LR		
	comp=Z,36μm,7.5s						
WMQ				LR	LR		
	comp=Z,34μm,6.9s						
WMQ				LR	LR		
	comp=Z,15μm,24.0s						
NGCH	**Negor - Chabah**	**14.48**	**220**	P	**Pn**	**10 45 04.4**	**+0.3**
	SNR=18						
NGCH				S	**Sn**	**10 47 41.2**	**-2.6**
BHPL	**Bhopal**	**14.58**	**157**	*e*P	**Pn**	**10 45 03.6**	**-1.9**
BHPL				IAmb	IAmb	10 45 12.5	
	comp=Z,4μm,0.6s						
BHPL				*ex*	x	10 47 33.4	
KURBB	**Kurchatov Arra**	**14.63**	**18**	⇑P	**Pn**	**10 45 06.5**	**+0.6**
	comp=Z,3μm,0.9s						
KURBB	**Kurchatov Arra**	**14.63**	**18**	P	**Pn**	**10 45 03.3**	**-2.6**
	comp=Z,647nm,0.8s,baz=211,slow=12,SNR=578						
KURBB				S	**Sn**	**10 47 48.0**	**+0.8**
	comp=Z,99nm,0.7s,baz=124,slow=17,SNR=3.0						
KURBB				P3KPbc		11 20 29.0	
	comp=Z,1.6nm,0.9s,baz=26,slow=2.9,SNR=7.2						
KURBB	**Kurchatov Arra**	**14.63**	**18**	P	**Pn**	**10 45 06.5**	**+0.6**
KURK	**Kurchatov**	**14.74**	**18**	⇓P	**Pn**	**10 45 06.5**	**-0.7**
	comp=Z,2μm,0.9s						
KURK	**Kurchatov**	**14.74**	**18**		**Pn**	**10 45 03.0**	**-4.3**
KURK	**Kurchatov**	**14.74**	**18**	⇓P	**Pn**	**10 45 02.9**	**-4.3**
KURK	**Kurchatov**	**14.74**	**18**	P	**Pn**	**10 45 03.5**	**-3.7**
KURK				P	**Pn**	**10 45 03.5**	**-3.7**
KURK				S	**Sn**	**10 47 46.3**	**-3.5**
KURK				S	**Sn**	**10 47 46.3**	**-3.5**
KURK	**Kurchatov**	**14.74**	**18**	*d i*P	**Pn**	**10 45 02.7**	**-4.5**
AB31	**Akbulak array**	**14.89**	**330**	P	**Pn**	**10 45 05.5**	**-3.7**
	comp=Z,1μm,0.6s,baz=138,slow=7.0						
AB31				⇓S	**Sn**	**10 47 47.3**	**-6.2**
	comp=Z,6μm,0.8s,baz=144,slow=20,SNR=27						
AB31	**Akbulak array**	**14.89**	**330**	P	**Pn**	**10 45 05.5**	**-3.7**
AB31				S	**Sn**	**10 47 47.3**	**-6.2**
ABKAR	**Akbulak array**	**14.89**	**330**	P	**Pn**	**10 45 05.6**	**-3.6**
SEM	**Semipalatinsk**	**14.92**	**22**	*e*P	**Pn**	**10 45 08.5**	**-1.2**
	comp=Z,1μm,0.7s,baz=22						
SEM	**Semipalatinsk**	**14.92**	**22**	*e*P	**Pn**	**10 45 08.5**	**-1.2**
SEM				pmax	pmax		
	comp=Z,1μm,0.7s						
JASK	**Jask - Hormozg**	**15.95**	**230**	P	**Pn**	**10 45 22.8**	**+0.3**
	SNR=30						
JASK				S	**Sn**	**10 48 17.3**	**-2.0**
BVA0	**Borovoye Array**	**16.13**	**358**	⇑P	**Pn**	**10 45 23.8**	**-0.9**
	comp=Z,6μm,1.4s,baz=236,slow=38,SNR=9300						
BVA0	**Borovoye Array**	**16.13**	**358**	P	**Pn**	**10 45 23.7**	**-0.9**
BVAR	**Borovoye Array**	**16.13**	**358**	P	**Pn**	**10 45 23.0**	**-1.6**
	comp=Z,2μm,0.7s,baz=170,slow=12,SNR=1132						
BVAR				S	**Sn**	**10 48 24.7**	**+1.3**
	comp=Z,1μm,1.0s,baz=160,slow=22,SNR=7.0						
BVAR				LR	LR	10 52 01.9	
	comp=Z,62μm,21.4s,baz=188,slow=38						
BVAR				P3KPbc		11 20 23.2	
	comp=Z,0.4nm,0.3s,baz=325,slow=1.8,SNR=2.7						
BRVK	**Borovoye**	**16.17**	**358**	⇓P	**Pn**	**10 45 24.0**	**-1.0**
	comp=Z,9μm,1.4s						
BRVK	**Borovoye**	**16.17**	**358**	P	**Pn**	**10 45 22.8**	**-2.3**
BRVK	**Borovoye**	**16.17**	**358**	⇓P	**Pn**	**10 45 22.5**	**-2.5**
BRVK	**Borovoye**	**16.17**	**358**	P	**Pn**	**10 45 22.8**	**-2.3**
BRVK				P	**Pn**	**10 45 22.8**	**-2.3**
BRVK				S	**Sn**	**10 48 19.5**	**-4.7**
BRVK				S	**Sn**	**10 48 19.5**	**-4.7**
BRVK	**Borovoye**	**16.17**	**358**	*d i*P	**Pn**	**10 45 22.4**	**-2.6**
BRVK				pmax	pmax		
	comp=Z,7μm,1.7s						
I31KZ	**AKTYUBINSK INF**	**16.57**	**329**	I	I	12 33 00.0	
	baz=142,slow=310,SNR=0.9						
AKTO	**Aktyubinsk**	**16.60**	**329**	P	**Pn**	**10 45 29.4**	**-0.9**
	comp=Z,4μm,0.6s,baz=137,slow=11,SNR=1646						
AKTO				S	Sn	10 48 20.6	-14
	comp=Z,934nm,0.8s,baz=252,slow=17,SNR=3.0						
AKTO				LR	LR	10 52 22.6	
	comp=Z,55μm,18.6s,baz=144,slow=38						
BANOM	**Banah**	**16.90**	**234**	*i* P	**P**	**10 45 35.3**	**+0.9**
	SNR=18						
BANOM	**Banah**	**16.90**	**234**	P	**P**	**10 45 35.8**	**+1.4**
BANOM				S	**Sn**	**10 48 39.5**	**-2.7**
SHME	**Shamm**	**16.91**	**235**	*i* P	**Pn**	**10 45 34.4**	**0.0**
	SNR=147						
SHME	**Shamm**	**16.91**	**235**	P	**P**	**10 45 35.2**	**+0.6**
	SNR=55						
SHME				P	**P**	**10 45 35.2**	**+0.6**
	SNR=55						
SHME				S	**Sn**	**10 48 40.9**	**-1.7**
SHME				S	**Sn**	**10 48 40.9**	**-1.7**
MDH	**Madha**	**17.34**	**232**	*i* P	**P**	**10 45 38.6**	**-0.6**
	SNR=70						
MDH	**Madha**	**17.34**	**232**	P	**P**	**10 45 39.0**	**-0.3**
	SNR=30						
MDH				P	**P**	**10 45 39.0**	**-0.3**
	SNR=30						
MDH				S	**Sn**	**10 48 48.2**	**-4.5**
MDH				S	**Sn**	**10 48 48.2**	**-4.5**
MASF	**Masafi**	**17.37**	**233**	P	**Pn**	**10 45 40.6**	**+0.5**
	SNR=47						
MASF				S	**Sn**	**10 48 50.3**	**-3.4**
MSFE	**Esma-Masafi**	**17.38**	**233**	*i* P	**P**	**10 45 39.8**	**0.0**
	SNR=146						
GTK	**Tadong**	**17.40**	**118**	*e*P	**P**	**10 45 39.0**	**-1.1**
GTK				IAmb	IAmb	10 45 50.0	
	comp=Z,795nm,0.6s						
WSAR	**Wadi Sarin**	**17.52**	**223**	P	**Pn**	**10 45 42.9**	**+1.0**
	comp=Z,307nm,0.8s,baz=47,slow=5.8,SNR=86						
WSAR				S	**S**	**10 48 57.6**	**-0.3**
	comp=Z,31nm,0.4s,baz=16,slow=22,SNR=1.6						
WSAR				LR	LR	10 53 31.9	
	comp=Z,22μm,20.6s,baz=72,slow=40						
BIDO	**Bidbid**	**17.57**	**224**	P	**Pn**	**10 45 42.9**	**+0.4**
	SNR=59						
BIDO				P	**Pn**	**10 45 42.9**	**+0.4**
	SNR=59						
BIDO				S	**Sn**	**10 48 54.5**	**-4.1**
BIDO				S	**Sn**	**10 48 54.5**	**-4.1**
UMQ	**Umm Al-Quwin**	**17.59**	**234**	*i* P	**P**	**10 45 41.5**	**-0.4**
	SNR=38						
UMQ	**Umm Al-Quwin**	**17.59**	**234**	P	**Pn**	**10 45 43.2**	**+0.7**
	SNR=30						
UMQ				P	**Pn**	**10 45 43.2**	**+0.7**
	SNR=30						
UMQ				S	**Sn**	**10 48 57.2**	**-1.5**
UMQ				S	**Sn**	**10 48 57.2**	**-1.5**
UOSS	**Minazif**	**17.65**	**232**	P	**P**	**10 45 41.8**	**-0.9**
UOSS	**Minazif**	**17.65**	**232**	*i* P	**P**	**10 45 41.8**	**-0.9**
	SNR=31						
UOSS	**Minazif**	**17.65**	**232**	⇓P	**P**	**10 45 42.0**	**-0.7**
UOSS	**Minazif**	**17.65**	**232**	P	**P**	**10 45 42.7**	**0.0**
UOSS				P	**P**	**10 45 42.7**	**0.0**
UOSS				S	**Sn**	**10 48 57.1**	**-3.1**
UOSS				S	**Sn**	**10 48 57.1**	**-3.1**
HATD	**Hatta, Dubai**	**17.78**	**232**	*i* P	**P**	**10 45 43.6**	**-0.6**
	SNR=116						
HATD	**Hatta, Dubai**	**17.78**	**232**	P	**P**	**10 45 44.2**	**0.0**
	SNR=72						
HATD				P	**P**	**10 45 44.2**	**0.0**
	SNR=72						
HATD				S	**S**	**10 49 01.1**	**-1.9**
HATD				S	**S**	**10 49 01.1**	**-1.9**
WBK	**Wadi Bani Khal**	**17.85**	**220**	P	**Pn**	**10 45 49.0**	**+3.1**
	SNR=152						
WBK				P	**Pn**	**10 45 49.0**	**+3.1**
	SNR=152						
WBK				S	**Sn**	**10 49 05.4**	**+0.1**
WBK				S	**Sn**	**10 49 05.4**	**+0.1**
ASHO	**Ashiyiah**	**17.93**	**231**	*i* P	**P**	**10 45 46.0**	**+0.2**
	SNR=308						
ASHO	**Ashiyiah**	**17.93**	**231**	P	**Pn**	**10 45 47.1**	**+0.4**
	SNR=148						
ASHO				S	**S**	**10 49 02.8**	**-3.3**
NAZ	**Nazwa, Dubai**	**17.96**	**233**	*i* P	**P**	**10 45 46.6**	**+0.5**
	SNR=81						
NAZ	**Nazwa, Dubai**	**17.96**	**233**	P	**Pn**	**10 45 47.2**	**+0.1**
	SNR=110						
NAZ				P	**Pn**	**10 45 47.2**	**+0.1**
	SNR=110						
NAZ				S	**S**	**10 49 04.6**	**-2.1**
NAZ				S	**S**	**10 49 04.6**	**-2.1**
LSA	**Lhasa**	**17.98**	**108**	P	**Pn**	**10 45 48.6**	**+0.8**
LSA				S	**S**	**10 49 07.9**	**0.0**
LSA				pmax	pmax		
	comp=Z,460nm,1.4s						
LSA				LR	LR		
	comp=Z,15μm,12.9s						
LSA				LR	LR		
	comp=Z,13μm

GOMU LR LR
comp=Z,10µm,5.1s
GOMU LR LR
comp=Z,14µm,7.8s
MAK Makhachkala 19.27 296 *e*P **P 10 45 59.9 -0.3**
MAK *e*S **S 10 49 32.4 0.0**
MAK pmax pmax
comp=Z,2µm,0.9s
MAK MLR MLR
comp=Z,52µm,14.0s
I46RU ZALESOVO INFRA 19.41 24 P **P 10 46 00.0 -1.6**
baz=217,slow=10.0,SNR=3.1
ZAA0 Zalesovo Array 19.41 24 ⇑P **Pn 10 46 05.7 +1.8**
comp=Z,351nm,0.6s
ZAA0 Zalesovo Array 19.41 24 P **P 10 46 01.2 -0.4**
ZALV Zalesovo Beam 19.41 24 P **P 10 46 01.4 -0.2**
ZALV Zalesovo Beam 19.41 24 P **P 10 46 01.2 -0.4**
comp=Z,1µm,0.4s,baz=212,slow=9.9,SNR=3639
ZALV S **S 10 49 32.9 -2.0**
comp=Z,266nm,0.8s,baz=225,slow=12,SNR=3.3
ZALV Zalesovo Beam 19.41 24 *i*P **P 10 46 01.2 -0.4**
ZALV pmax pmax
comp=Z,1µm,0.4s
MHTO MHTO 19.71 220 P **Pn 10 46 07.5 -0.2**
SNR=119
MHTO S **S 10 49 40.4 -1.1**
JRN Qarnain Island 19.86 238 P **P 10 46 06.3 -0.4**
SNR=32
JRN S **S 10 49 38.5 -5.7**
MZWR Madinat Zayed 19.97 234 P **P 10 46 08.8 +0.8**
MZWR P **P 10 46 08.8 +0.8**
MZWR S **S 10 49 42.7 -3.9**
MZWR S **S 10 49 42.7 -3.9**
HYB Hyderabad 20.42 160⇑ *e*P **P 10 46 14.2 +1.3**
HYB *e* 10 46 38.2
HYB IVmB_BB 10 46 50.6
comp=Z,32µm,4.2s
HYB *e*S **S 10 49 53.9 -1.5**
HYB *e* 10 52 13.6
HYB Hyderabad 20.42 160 *e*P Pn 10 46 14.5 -1.5
HYB IAmb IAmb 10 46 20.5
comp=Z,355nm,1.0s
GHWR Ruwais 20.49 236 P **P 10 46 14.5 +0.9**
GHWR S **S 10 49 52.3 -4.5**
SHMA Al-Shehemyia 20.60 243 P **P 10 46 15.2 +0.4**
SNR=39
SHMA S **S 10 49 53.6 -5.3**
MZR Muzera 20.77 233 *i*P **P 10 46 15.8 -0.8**
SNR=123
MZR Muzera 20.77 233 P **P 10 46 16.8 +0.1**
SNR=152
MZR S **S 10 49 58.0 -4.3**
SHL Shillong 20.79 117 P **P 10 46 17.8 +0.7**
SHL Shillong 20.79 117 *e*P **P 10 46 18.3 +1.3**
SHL IAmb IAmb 10 46 26.1
comp=Z,1µm,0.5s
SHL Shillong 20.79 117 P **P 10 46 18.1 +1.0**
SNR=701
SHL Shillong 20.79 117 P **P 10 46 17.8 +0.7**
DQM DQM 20.82 219 P Pn 10 46 19.0 -1.6
SNR=52
DQM S **S 10 50 02.9 -0.3**
SAKB Bahrain 20.83 244 P **P 10 46 17.7 +0.5**
SAKB S **S 10 49 58.3 -5.2**
GNI Garni 21.08 287 P **P 10 46 22.6 +2.6**
GNI Garni 21.08 287 P **P 10 46 22.9 +2.8**
GNI Garni 21.08 287 ⇓P **P 10 46 22.9 +2.8**
GNI Garni 21.08 287 P **P 10 46 23.0 +2.9**
comp=Z,2µm,1.0s,baz=87,slow=1.7,SNR=508
GNI S **S 10 50 11.1 +2.6**
comp=Z,346nm,1.1s,baz=337,slow=23,SNR=2.1
comp=Z,2µm,1.0s
GNI Garni 21.08 287*d i*P **P 10 46 22.8 +2.8**
GNI pmax pmax
comp=Z,4µm,1.3s
GNI Garni 21.08 287 P **P 10 46 22.5 +2.5**
comp=Z,4µm,1.2s,comp=Z,51µm
GNI pP **pP 10 46 40.6 -0.9**
comp=Z,4µm,1.2s,comp=Z,51µm
TRNA Turayna 21.12 241 P **P 10 46 20.0 -0.3**
SNR=26
TRNA S **S 10 50 02.7 -6.3**
ZIRO ZIRO 21.12 110⇑ *e*P **P 10 46 22.0 +1.4**
ZIRO IAmb IAmb 10 46 25.3
comp=Z,3µm,0.7s
SVE Sverdlovsk 21.19 343*c i*P **P 10 46 20.7 -0.1**
SVE *i*S **S 10 50 11.2 +1.3**
SVE pmax pmax
comp=Z,4µm,1.1s
SLWR Sila 21.22 238 P **P 10 46 22.2 +0.8**
SLWR S **S 10 50 05.1 -5.9**
ITAN ITANAGAR 21.23 111 *e*P **P 10 46 23.6 +2.0**
KBD Kabd 21.29 256 P **P 10 46 23.2 +1.0**
KBD S **S 10 50 10.9 -1.4**
ARU Arti 21.36 340 P **P 10 46 22.1 -0.5**
ARU Arti 21.36 340 ⇓P **P 10 46 22.1 -0.5**
ARU Arti 21.36 340 P **P 10 46 22.2 -0.3**
comp=Z,517nm,0.5s,baz=154,slow=5.4,SNR=936
ARU S **S 10 50 14.7 +1.7**
comp=Z,145nm,0.4s,baz=349,slow=22,SNR=2.3
ARU LR LR 10 55 38.9
comp=Z,68µm,18.5s,baz=150,slow=39
comp=Z,517nm,0.5s
ARU Arti 21.36 340*d i*P **P 10 46 22.1 -0.5**
ARU 10 46 58.3
ARU S **S 10 50 13.6 +0.5**
ARU *SS **sS 10 50 48.1 -2.1**
ARU pmax pmax
comp=Z,3µm,1.2s
ARU MLR MLR
comp=Z,54µm,14.0s
ARU Arti 21.36 340 P **P 10 46 22.5 -0.1**
comp=Z,3µm,0.9s,comp=Z,34µm
SMRA Abu-Samra 21.38 241 P **P 10 46 22.7 -0.4**
SNR=74
SMRA S **S 10 50 08.6 -5.5**
GOA Goa 21.44 174 *e*P **P 10 46 26.0 +2.2**
GOA IAmb IAmb 10 46 34.2
comp=Z,2µm,1.4s
VIS Vishakhapatnam 21.81 148 *e*P **P 10 46 29.6 +1.9**
VIS IAmb IAmb 10 46 32.4
comp=Z,806nm,0.7s
JORH JORHAT 21.85 111 *e*P **P 10 46 29.5 +1.4**
DIBR DIBRUGARH 21.96 109 *e*P **P 10 46 30.3 +1.1**
DIBR IAmb IAmb 10 46 34.2
comp=Z,4µm,0.8s
BELO BELONIA 21.99 123 *e*P **P 10 46 31.9 +2.4**
NCK Nalchik 22.18 296*d i*P **P 10 46 31.5 +0.1**
NCK pmax pmax
comp=Z,4µm,0.8s
ONI Oni 22.18 293 P **P 10 46 33.9 +2.4**
ONI Oni 22.18 293 P **P 10 46 33.9 +2.4**
KOHI KOHIMA 22.32 114 *e*P **P 10 46 34.2 +1.1**
KOHI IAmb IAmb 10 46 38.5
comp=Z,4µm,0.9s
KARS Kars 22.36 288 P **P 10 46 36.0 +2.6**
KARS Kars 22.36 288 ⇓P **P 10 46 36.0 +2.6**
KARS Kars 22.36 288 P **P 10 46 36.0 +2.6**
GTA Gaotai 22.44 75 ⇑P **P 10 46 35.1 +0.8**
GTA pP pP 10 46 54.9 -1.9
GTA S **S 10 50 34.1 +1.3**
GTA sS sS 10 51 07.9 -4.4
GTA pmax pmax
comp=Z,3µm,1.0s
GTA pmax pmax
comp=Z,19µm,7.6s
GTA LR LR
comp=Z,9µm,12.0s
GTA LR LR
comp=Z,9µm,13.5s
GTA LR LR
comp=Z,10µm,11.6s
KBZ Khabaz 22.71 296 P **P 10 46 36.3 -0.5**
comp=Z,326nm,1.0s,baz=108,slow=7.0,SNR=148
KBZ S **S 10 50 39.4 +2.7**
comp=Z,152nm,1.0s,baz=318,slow=21,SNR=1.2
comp=Z,326nm,1.0s
KBZ Khabaz 22.71 296*d i*P **P 10 46 36.2 -0.5**
KBZ pmax pmax
comp=Z,809nm,0.9s
IMP Imphal 22.72 116 *e*P **P 10 46 38.8 +1.6**
IMP IAmb IAmb 10 46 42.8
comp=Z,1µm,0.6s
BELG Belogornoye 22.78 320 P **P 10 46 37.0 -0.4**
comp=Z,8µm,1.0s,baz=302,slow=1.2,SNR=916

BELG S **S 10 50 39.7 +2.0**
comp=Z,707nm,0.9s,baz=320,slow=22,SNR=2.4
BELG Belogornoye 22.78 320*d i*P **P 10 46 36.9 -0.4**
BELG pmax pmax
comp=Z,2µm,1.0s
GOF Gofitskoye 22.82 300*d i*P **P 10 46 39.0 +1.1**
GOF *e*S **S 10 50 43.2 +4.7**
SHA1 Shidzhatmaz 22.88 296*c e*P **P 10 46 38.6 -0.2**
KVAR Kislovodsk Arr 22.89 297 P **P 10 46 39.6 +0.9**
comp=Z,138nm,0.9s,baz=80,slow=22,SNR=49
KVAR S **S 10 50 41.9 +2.1**
comp=Z,221nm,0.9s,baz=269,slow=13,SNR=1.4
comp=Z,138nm,0.9s
KIV Kislovodsk 22.89 297 ⇑P **P 10 46 39.8 +1.1**
KIV Kislovodsk 22.89 297 *i*P **P 10 46 38.9 +0.2**
SNR=171
KIV Kislovodsk 22.89 297 ⇓P **P 10 46 38.5 -0.2**
KIV Kislovodsk 22.89 297 P **P 10 46 36.1 -2.6**
KIV P **P 10 46 36.1 -2.6**
KIV S **S 10 50 42.8 +2.9**
KIV S **S 10 50 42.8 +2.9**
KIV Kislovodsk 22.89 297 *e*P **P 10 46 38.4 -0.2**
KIV *e*S **S 10 50 40.5 +0.6**
KIV pmax pmax
comp=Z,2µm,4.3s
KIV pmax pmax
comp=Z,850nm,1.0s
KIV MLR MLR
comp=Z,17µm,14.0s
KIV Kislovodsk 22.89 297 P **P 10 46 38.3 -0.4**
comp=Z,930nm,0.8s,comp=Z,13µm
GURO Guroymak-BITLI 23.25 283 ⇓P **P 10 46 44.9 +2.7**
SHAO Shalim 23.39 221 *i*P **P 10 46 44.6 +1.2**
SNR=12
SHAO Shalim 23.39 221 P **P 10 46 44.9 +1.5**
SHAO P **P 10 46 44.9 +1.5**
SHAO S **S 10 50 47.1 -0.9**
SHAO S **S 10 50 47.1 -0.9**
BCA Borcka 23.47 290 ⇓P **P 10 46 46.5 +2.5**
DOK Doka 23.72 224 P **P 10 46 47.3 +1.0**
SNR=40
DOK P **P 10 46 47.3 +1.0**
SNR=40
DOK S **S 10 50 50.6 -2.7**
DOK S **S 10 50 50.6 -2.7**
DMTO DMTO 24.00 222 P **P 10 46 49.6 +0.7**
DMTO P **P 10 46 49.6 +0.7**
DMTO S **S 10 50 55.4 -2.5**
DMTO S **S 10 50 55.4 -2.5**
LABN Labinsk 24.38 298 *e*P **P 10 46 54.5 +2.3**
LABN *e*PP **pP 10 47 16.9 +0.2**
LABN *e*S **S 10 51 09.6 +6.0**
LABN *i *SS **sS 10 51 50.9 +2.8**
LABN pmax pmax
comp=E,85nm,1.0s
LABN pmax pmax
comp=Z,2µm,1.2s
LABN pmax pmax
comp=N,92nm,0.9s
LABN smax smax
comp=E,91µm,8.2s
LABN smax smax
comp=N,52µm,8.1s
WHFO Wadi Hawf 24.48 224 P **P 10 46 54.2 +0.9**
SNR=25
WHFO P **P 10 46 54.2 +0.9**
SNR=25
WHFO S **S 10 51 05.7 0.0**
WHFO S **S 10 51 05.7 0.0**
RBK Rabkut 24.58 223 P **P 10 46 54.6 +0.4**
SNR=17
RBK P **P 10 46 54.6 +0.4**
SNR=17
RBK S **S 10 51 05.3 -1.9**
RBK S **S 10 51 05.3 -1.9**
ERBR Yeremizino-Bor 24.71 301*d i*P **P 10 46 56.2 +1.0**
ERBR *i *PP **pP 10 47 17.8 -2.3**
ERBR *e*S **S 10 51 12.7 +3.8**
ERBR *e*SS **sS 10 51 54.2 +0.7**
ERBR pmax pmax
comp=E,771nm,1.3s
ERBR pmax pmax
comp=Z,2µm,1.2s
ERBR smax smax
comp=N,31µm,6.7s
ERBR smax smax
comp=E,11µm,4.1s
VSLR Vesyoloye 24.75 295*d i*P **P 10 46 57.1 +1.5**
VSLR pmax pmax
comp=Z,891nm,1.1s
KTUT Trabzon 24.87 289 ⇑P **P 10 46 59.0 +2.4**
SOC Sochi 24.99 295 *e*P **P 10 46 57.0 -0.7**
SOC *e*PP **pP 10 47 20.9 -1.5**
SOC *e*SP **sP 10 47 33.9 -1.9**
SOC *e*S **S 10 51 10.5 -2.8**
SOC *e*SS **sS 10 51 53.7 -4.1**
SOC pmax pmax
comp=Z,484nm,0.9s
MDRS Chennai 25.03 159 *e*P **P 10 47 00.3 +2.0**
MDRS IAmb IAmb 10 47 49.8
comp=Z,581nm,0.8s
ABTO Aybut 25.20 224 P **P 10 47 00.4 +0.6**
SNR=57
ABTO P **P 10 47 00.4 +0.6**
SNR=57
ABTO S **S 10 51 14.9 -2.2**
ABTO S **S 10 51 14.9 -2.2**
VRH Novokhopyorsk 25.46 314 *e*P **P 10 47 01.6 -0.3**
VRH *e*S **S 10 51 16.2 -4.3**
VRH pmax pmax
comp=Z,920nm,1.1s
VRH smax smax
comp=E,41µm,10.4s
MOY Mondy 25.58 45 *e*P **P 10 47 04.0 +0.8**
MOY pmax pmax
comp=Z,2µm,2.3s
RAYN Ar Rayn 25.96 246 P **P 10 47 07.2 +0.5**
RAYN IAmb IAmb 10 47 09.8
comp=Z,843nm,1.0s
RAYN Ar Rayn 25.96 246 *i*P **P 10 47 07.3 +0.5**
SNR=75
RAYN Ar Rayn 25.96 246 ⇑P **P 10 47 07.1 +0.3**
RAYN Ar Rayn 25.96 246 P **P 10 47 07.9 +1.1**
RAYN Ar Rayn 25.96 246 P **P 10 47 07.3 +0.5**
RAYN pmax pmax
comp=Z,843nm,1.0s
TNCH TengChong 26.00 109 ⇑P **P 10 47 09.2 +2.0**
TNCH pP pP 10 47 36.1 +3.5
TNCH sP sP 10 47 49.4 +3.3
TNCH pmax pmax
comp=Z,800nm,1.4s
TNCH pmax pmax
comp=Z,8µm,5.2s
TNCH LR LR
comp=Z,7µm,10.6s
TNCH LR LR
comp=Z,7µm,12.4s
TNCH LR LR
comp=Z,21µm,19.0s
KIRV Kirov 26.02 333*d i*P **P 10 47 07.4 +0.6**
LZH Lanzhou 26.02 82 ⇑P **P 10 47 09.2 +1.9**
LZH pP pP 10 47 31.0 -1.9
LZH sP sP 10 47 47.9 +1.4
LZH S **S 10 51 32.8 +2.7**
LZH sS sS 10 52 15.8 +0.8
LZH pmax pmax
comp=Z,1µm,1.3s
LZH pmax pmax
comp=Z,5µm,4.8s
LZH LR LR
comp=Z,15µm,13.1s
LZH LR LR
comp=Z,12µm,13.1s
LZH LR LR
comp=Z,11µm,13.4s
ARPR Arapgir-MALATY 26.08 285 P **P 10 47 11.2 +3.4**
ZAK Zakamensk 26.47 49 *e*P **P 10 47 12.0 +0.8**
ZAK pmax pmax
comp=Z,731nm,1.7s
ANN Anapa 26.73 298*d i*P **P 10 47 13.9 +0.5**
ANN *i *PP **pP 10 47 37.8 -0.6**
ANN *e* 10 48 00.0
ANN *e*S **S 10 51 42.6 +1.9**
ANN *i *SS **sS 10 52 23.4 -2.2**

ANN pmax pmax
comp=Z,701nm,1.0s
ANN pmax pmax
comp=N,208nm,1.1s
ANN pmax pmax
comp=E,253nm,1.0s
ANN smax smax
comp=E,6µm,6.8s
ANN smax smax
comp=N,7µm,6.5s
VORD Divnogorie 26.81 312 *e*P **P 10 47 13.5 -0.5**
VORD *e*S **S 10 51 40.0 -1.8**
VORD pmax pmax
comp=Z,650nm,1.1s
VORD pmax pmax
comp=Z,650nm,1.2s
VORD smax smax
comp=E,4µm,4.4s
VSR Storozhevoye 26.97 312 *e*P **P 10 47 13.5 -1.9**
VSR *e*S **S 10 51 40.0 -4.3**
VSR pmax pmax
comp=Z,760nm,1.0s
VSR smax smax
comp=E,17µm,8.5s
VORR Voronezh 27.10 313 *e*P **P 10 47 16.6 0.0**
VORR pmax pmax
comp=Z,600nm,1.2s
VORR pmax pmax
comp=Z,496nm,1.2s
GAZ Gaziantep 27.22 281 IAmb IAmb 10 47 49.5
comp=Z,1µm,1.3s
CD2 Chengdu 27.42 93 ⇑P **P 10 47 21.5 +1.7**
CD2 sP sP 10 47 59.3 +0.3
CD2 S **S 10 51 54.0 +2.0**
CD2 sS sS 10 52 39.7 +2.7
CD2 pmax pmax
comp=Z,440nm,1.3s
CD2 pmax pmax
comp=Z,8µm,8.1s
CD2 LR LR
comp=Z,6µm,10.8s
CD2 LR LR
comp=Z,9µm,8.2s
CD2 LR LR
comp=Z,9µm,8.3s
LPSR Galich'ya Gora 27.59 315 *e*P **P 10 47 20.2 -0.8**
LPSR *e*S **S 10 51 46.7 -7.4**
LPSR pmax pmax
comp=Z,770nm,0.9s
LPSR smax smax
comp=E,27µm,10.4s
IRK Irkutsk 27.68 46 *i*P **P 10 47 22.8 +1.0**
IRK pmax pmax
comp=Z,2µm,1.8s
PZH PanZhiHua 27.71 103 P **P 10 47 23.8 +1.3**
PZH sP **sP 10 48 01.5 -0.3**
PZH S **S 10 51 57.0 +0.3**
PZH sS **sS 10 52 36.5 -5.2**
PZH ScS **ScS 10 57 56.3 -3.1**
PZH pmax pmax
comp=Z,320nm,1.4s
PZH pmax pmax
comp=Z,9µm,8.5s
SONM Songino Array 27.83 56 P **P 10 47 24.8 +1.4**
SONM IAmb IAmb 10 47 26.5
comp=Z,820nm,1.0s
SONM Songino Array 27.83 56 P **P 10 47 24.8 +1.4**
comp=Z,590nm,0.9s,baz=260,slow=8.8,SNR=774
SONM S **S 10 51 58.1 -0.3**
comp=Z,16nm,0.9s,baz=256,slow=21,SNR=1.1
SONM LR LR 10 58 25.2
comp=Z,11µm,21.4s,baz=249,slow=96
SONM P3KPbc 11 19 48.0
comp=Z,15nm,0.9s,baz=93,slow=4.2,SNR=45
comp=Z,590nm,0.9s
DIKM Dikmen 28.25 291 ⇑P **P 10 47 29.3 +2.4**
DIKM Dikmen 28.25 291 P **P 10 47 28.7 +1.8**
comp=Z,339nm,2.1s,comp=Z,7µm
ULN Ulaanbaatar 28.27 56 P **P 10 47 28.5 +1.1**
ULN IAmb IAmb 10 47 30.2
comp=Z,677nm,1.0s
ULN Ulaanbaatar 28.27 56 ⇑P **P 10 47 28.5 +1.1**
ULN Ulaanbaatar 28.27 56 P **P 10 47 28.4 +1.0**
ULN P **P 10 47 28.4 +1.0**
ULN S **S 10 52 00.8 -4.5**
ULN S **S 10 52 00.8 -4.5**
ULN Ulaanbaatar 28.27 56*c i*P **P 10 47 28.3 +1.0**
ULN pmax pmax
comp=Z,1µm,1.7s
MNCI Minicoy 28.54 177 P **P 10 47 31.4 +1.7**
MNCY Minicoy 28.55 177 *e*P **P 10 47 32.0 +2.1**
MNCY IAmb IAmb 10 47 42.4
comp=Z,637nm,1.4s
BEIL Beino 28.60 276 *e*P **P 10 47 32.2 +2.0**
TRD Trivandrum 28.72 169 *e*P **P 10 47 32.5 +1.2**
TRD IAmb IAmb 10 47 36.7
comp=Z,222nm,0.7s
HWQ Hawqa 28.86 275 *e*P **P 10 47 35.4 +2.8**
SIM Simferopol' 29.09 298 *e*P **P 10 47 35.0 +0.6**
SIM *e*S **S 10 52 18.9 +1.0**
SIM pmax pmax
comp=Z,540nm,1.2s
RCY Rachaya 29.16 274 *e*P **P 10 47 38.1 +2.8**
KMI Kunming 29.18 105 ⇑P **P 10 47 36.6 +1.0**
KMI sP sP 10 48 14.5 -0.6
KMI S **S 10 52 18.0 -2.0**
KMI sS sS 10 53 05.4 +0.3
KMI pmax pmax
comp=Z,170nm,0.6s
KMI pmax pmax
comp=Z,6µm,11.0s
KMI LR LR
comp=Z,20µm,41.6s
BHL Bhannes 29.19 275 *e*P **P 10 47 38.4 +2.8**
QRWL Qaraoun 29.27 274 *e*P **P 10 47 39.3 +3.1**
DQRL Deir Qamar 29.32 275 *e*P **P 10 47 39.8 +3.2**
GEM Giv'at Ha'Em 29.39 274 ⇑P **P 10 47 40.2 +3.1**
MOS Moscow 29.55 320 *e*P **P 10 47 38.6 +0.3**
MOS *e*PP **pP 10 48 03.8 -0.1**
MOS *e* 10 48 16.9
MOS *e* 10 48 35.9
MOS *e*S **S 10 52 21.6 -3.2**
MOS *e**SS **sS 10 53 08.0 -1.9**
MOS *e*SS **SnSn 10 54 03.8 -1.6**
MOS pmax pmax
comp=Z,2µm,1.3s
MOS pmax pmax
comp=Z,2µm,1.2s
MOS pmax pmax
comp=N,500nm,1.1s
MOS pmax pmax
comp=E,1µm,1.1s
MOS pmax pmax
comp=N,339nm,1.0s
MOS pmax pmax
comp=E,936nm,1.1s
MOS MLR MLR
comp=Z,9µm,14.0s
MALK Mahakanadarawa 29.57 161 P **P 10 47 38.9 0.0**
MALK S **S 10 52 25.3 -0.5**
MALK Mahakanadarawa 29.57 161 ⇑P **P 10 47 39.9 +1.0**
BR131 Keskin Array S 29.62 287 P **P 10 47 40.8 +1.4**
BR131 Keskin Array S 29.62 287*d i*P **P 10 47 41.0 +1.6**
BRTR Keskin Array B 29.63 287 P **P 10 47 40.9 +1.6**
BRTR pP **pP 10 48 05.0 +0.5**
BRTR Keskin Array B 29.63 287 P **P 10 47 41.0 +1.6**
comp=Z,188nm,1.0s,baz=99,slow=7.6,SNR=425
BRTR PcP **PcP 10 50 42.4 +1.1**
comp=Z,29nm,1.0s,baz=126,slow=3.3,SNR=1.3
BRTR S **S 10 52 29.1 +2.4**
comp=Z,8.5nm,1.0s,baz=103,slow=12,SNR=1.0
BRTR P3KPbc 11 19 42.1
comp=Z,1.3nm,0.9s,baz=177,slow=2.5,SNR=3.8
comp=Z,188nm,1.0s
MMAI Mount Meron Ar 29.65 273 P **P 10 47 42.6 +3.0**
comp=Z,53nm,1.0s,baz=80,slow=9.7,SNR=26
MMAI pP **pP 10 48 06.0 +1.2**
comp=Z,38nm,0.9s,baz=73,slow=9.8,SNR=3.3
MMAI PcP **PcP 10 50 42.5 +1.1**
comp=Z,5.6nm,0.4s,baz=72,slow=6.4,SNR=4.7
MMAI S **S 10 52 29.6 +2.5**
comp=Z,9.6nm,0.8s,baz=74,slow=6.2,SNR=1.1
MMAI ScP **ScP 10 54 11.9 -1.0**
comp=Z,16nm,0.7s,baz=63,slow=3.9,SNR=3.5
comp=Z,53nm,1.0s

BALJ Balqa 29.76 271 lAmb lAmb 10 48 32.2
comp=Z,438nm,1.3s
OBN Obninsk 29.84 319 ⇑P **P** **10 47 42.4 +1.5**
OBN Obninsk 29.84 319 P **P** **10 47 41.5 +0.7**
OBN Obninsk 29.84 319 ⇓P **P** **10 47 41.6 +0.7**
OBN Obninsk 29.84 319 *d* *i*P **P** **10 47 41.4 +0.5**
OBN *i* *PP **pP** **10 48 07.2 +0.8**
OBN *i* S **S** **10 52 36.0 +6.6**
OBN pmax pmax
comp=Z,1μm,1.3s
OBN MLR MLR
comp=Z,11μm,15.0s
OBN Obninsk 29.84 319 P **P** **10 47 41.5 +0.7**
comp=Z,784nm,1.2s,comp=Z,19μm
BTO Baotou 30.17 71 ⇑*i*P **P** **10 47 44.5 +0.4**
BTO pP **pP** **10 48 09.1 -1.1**
BTO sP **sP** **10 48 21.8 -2.0**
BTO PP **PnPn** **10 48 47.0 +0.5**
BTO S **S** **10 52 36.4 +1.3**
BTO SS **ScP** **10 54 16.4 +1.9**
BTO pmax pmax
comp=Z,1μm,1.9s
BTO pmax pmax
comp=Z,14μm,9.6s
BTO LR LR
comp=Z,17μm,12.1s
BTO LR LR
comp=Z,14μm,15.4s
BTO LR LR
comp=Z,29μm,12.7s
CRAI Chiangrai 30.22 115 P **P** **10 47 46.0 +1.3**
CRAI lAmb lAmb 10 47 47.1
comp=Z,969nm,1.6s
ANTO Ankara 30.25 288 ⇓P **P** **10 47 47.1 +2.2**
ANTO Ankara 30.25 288 P **P** **10 47 46.6 +1.8**
ANTO Ankara 30.25 288 ⇓P **P** **10 47 47.0 +2.1**
ANTO Ankara 30.25 288 P **P** **10 47 46.6 +1.8**
ANTO S **S** **10 52 34.2 -2.2**
ANTO Ankara 30.25 288 P **P** **10 47 47.0 +2.1**
ANTO Ankara 30.25 288 P **P** **10 47 46.9 +2.1**
ANTO pP **pP** **10 48 10.9 +0.9**
ANTO sP **sP** **10 48 24.4 +1.2**
ANTO Ankara 30.25 288 P **P** **10 47 46.9 +2.1**
comp=Z,145nm,1.2s,comp=Z,4μm
CM31 Chiang Mai Arr 30.37 120 P **P** **10 47 46.8 +0.9**
CM31 lAmb lAmb 10 47 49.3
comp=Z,373nm,1.1s
CMAR Chiang Mai Arr 30.37 120 P **P** **10 47 46.7 +0.8**
CMAR Chiang Mai Arr 30.37 120 P **P** **10 47 46.9 +0.9**
comp=Z,75nm,0.7s,baz=300,slow=7.5,SNR=282
CMAR PcP **PcP** **10 50 42.8 -0.5**
comp=Z,47nm,1.0s,baz=312,slow=2.6,SNR=2.6
CMAR ScP **ScP** **10 54 14.5 -0.8**
comp=Z,16nm,0.9s,baz=298,slow=5.1,SNR=4.8
CMAR P3KPbc 11 19 40.0
comp=Z,9.6nm,0.9s,baz=160,slow=3.2,SNR=47
comp=Z,75nm,0.7s
XAN Xi'an 30.56 84 ⇑P **P** **10 47 48.4 +0.9**
XAN pP pP 10 48 12.9 -0.5
XAN sP sP 10 48 26.5 -0.3
XAN S **S** **10 52 42.6 +1.4**
XAN sS sS 10 53 27.7 +1.4
XAN pmax pmax
comp=Z,790nm,1.3s
XAN pmax pmax
comp=Z,8μm,10.1s
XAN LR LR
comp=Z,18μm,11.3s
XAN LR LR
comp=Z,8μm,10.3s
XAN LR LR
comp=Z,7μm,17.2s
XAN Xi'an 30.56 84 P **P** **10 47 48.2 +0.7**
XAN pP **pP** **10 48 12.3 -1.1**
XAN sP **sP** **10 48 26.3 -0.5**
PALK Pallekele 30.69 162 P **P** **10 47 50.2 +1.4**
PALK Pallekele 30.69 162 LR LR 11 00 37.0
comp=Z,22μm,18.6s,baz=79,slow=37
PALK Pallekele 30.69 162 P **P** **10 47 50.5 +1.6**
PALK Pallekele 30.69 162 P **P** **10 47 50.2 +1.4**
PALK pmax pmax
comp=Z,171nm,1.0s
CSS Mathiatis 30.76 278 ⇓P **P** **10 47 51.1 +1.9**
EIL Elat 31.18 267 ⇑P **P** **10 47 55.0 +2.0**
EIL Elat 31.18 267 LR LR 11 04 09.5
comp=Z,5μm,18.3s,baz=40,slow=43
PHRA Phrae 31.24 118 P **P** **10 47 54.4 +0.8**
KLMR Klimovskoe 31.29 330 *d* *i*P **P** **10 47 53.9 +0.3**
KLMR *e**PP **pP** **10 48 19.6 +0.4**
KLMR *e* 10 48 32.5
KLMR pmax pmax
comp=Z,2μm,1.2s
KLMR MLR MLR
comp=Z,13μm,10.0s
HHC Hu-ho-hao-te 31.31 70 *e*P **P** **10 47 55.8 +1.6**
HHC sP sP 10 48 30.8 -3.1
HHC S **S** **10 52 52.1 -0.9**
HHC sS sS 10 53 34.8 -3.3
HHC pmax pmax
comp=Z,340nm,1.5s
HHC pmax pmax
comp=Z,5μm,5.6s
MDUB Mudurnu 31.40 289 ⇓P **P** **10 47 57.0 +2.0**
GYA Guiyang 31.60 99 ⇑*i*P **P** **10 47 58.3 +1.4**
GYA pP pP 10 48 19.9 -3.2
GYA sP sP 10 48 33.6 -3.1
GYA S **S** **10 52 59.3 +1.6**
GYA pmax pmax
comp=Z,770nm,1.7s
PBA Port Blair 31.63 137 P **P** **10 47 59.6 +2.6**
PBA Port Blair 31.63 137 *e*P **P** **10 48 00.5 +3.5**
PBA lAmb lAmb 10 48 02.5
comp=Z,480nm,0.7s
PBA Port Blair 31.63 137 P **P** **10 47 59.9 +2.9**
SNR=56
HALK Hakmana 31.83 162 ⇑P **P** **10 47 59.9 +1.2**
PURM Purcari 32.13 301 ⇓P **P** **10 48 03.0 +1.9**
PURM Purcari 32.13 301 P **P** **10 48 02.7 +1.5**
comp=Z,1μm,1.0s,comp=Z,18μm
SLVN Son La 32.16 110 P **P** **10 48 03.7 +1.9**
SLVN lAmb lAmb 10 48 04.8
comp=Z,752nm,1.6s
ENH Enshi 32.25 91 P **P** **10 48 03.7 +1.3**
ENH Enshi 32.25 91 P **P** **10 48 03.6 +1.2**
ENH lAmb lAmb 10 48 05.6
comp=Z,772nm,1.3s
ENH Enshi 32.25 91 P **P** **10 48 03.9 +1.5**
ISP Isparta 32.33 284 P **P** **10 48 03.9 +0.8**
ISP pP **pP** **10 48 27.9 -0.5**
ISP Isparta 32.33 284 ⇓P **P** **10 48 04.5 +1.3**
ISP Isparta 32.33 284 ⇓*e*P **P** **10 48 04.3 +1.2**
ISP pmax pmax
comp=Z,234nm,1.3s
TIY Taiyuan 32.46 76 ⇑P **P** **10 48 05.4 +1.2**
TIY sP **sP** **10 48 43.0 -0.7**
TIY S **S** **10 53 11.2 +0.4**
TIY pmax pmax
comp=Z,720nm,1.4s
JURR Jurilovca 32.82 297 ⇑P **P** **10 48 09.6 +2.5**
TLCR 32.85 298 ⇓P **P** **10 48 08.7 +1.2**
TLCR 32.85 298 P **P** **10 48 08.6 +1.2**
KIS Kishinev 32.88 301 ⇑P **P** **10 48 09.8 +2.1**
KIS Kishinev 32.88 301 *i* P **P** **10 48 08.0 +0.3**
comp=Z,670nm,1.4s
KIS *i* pP **pP** **10 48 32.0 -1.2**
KIS Kishinev 32.88 301 *e*PP PP 10 49 20.0 -4.0
KIS ⇓*i*S **S** **10 53 19.0 +2.1**
comp=Z,3μm,8.8s
KIS *e*sS sS 10 53 57.0 -5.2
KIS Kishinev 32.88 301 *d* *i*P **P** **10 48 08.0 +0.3**
KIS *i* *PP **pP** **10 48 32.0 -1.2**
KIS *e* 10 49 20.0
KIS *i* S **S** **10 53 19.0 +2.1**
KIS *e*SS **sS** **10 53 57.0 -5.2**
KIS pmax pmax
comp=Z,670nm,1.4s
KIS smax smax
comp=N,3μm,8.8s
KIS smax smax
comp=E,3μm,9.9s
MILM Milestii Mici 32.88 301 ⇑P **P** **10 48 08.8 +1.2**
MILM Milestii Mici 32.88 301 ⇓*i*P **P** **10 48 08.0 +0.3**
comp=E,1μm,1.1s
MILM *i* pP **pP** **10 48 32.0 -1.2**
MILM Milestii Mici 32.88 301 *e*PP PP 10 49 19.0 -5.0
MILM *i* S **S** **10 53 18.0 +1.1**
comp=E,9μm,10.7s
MILM *e*sS sS 10 53 56.0 -6.2
MILM *e*ScP ScP 10 54 46.0 +23
MILM *e*SS **SnSn** **10 55 20.0 -6.0**
MILM *e*L L 10 56 58.0
MILM M M 10 57 48.0
comp=E,25μm,55.0s
MILM LQM 11 02 29.0
comp=E,9μm,17.0s
MILM Milestii Mici 32.88 301 *d* *i*P **P** **10 48 08.0 +0.3**
MILM *i* *PP **pP** **10 48 32.0 -1.2**
MILM *e* 10 49 19.0
MILM *i* S **S** **10 53 18.0 +1.1**
MILM *e**SS **sS** **10 53 56.0 -6.2**
MILM *e*SS **SnSn** **10 55 20.0 -6.0**
MILM pmax pmax
comp=Z,1μm,1.1s
MILM smax smax
comp=N,9μm,10.7s
AKASG Malin Array Be 32.95 308 P **P** **10 48 08.6 +0.4**
comp=N,185nm,0.9s,baz=84,slow=7.1,SNR=652
AKASG LR LR 11 03 26.9
comp=N,8μm,20.5s,baz=112,slow=39
comp=N,185nm,0.9s
KIEV Kiev 32.96 308 ⇑P **P** **10 48 09.1 +0.7**
KIEV Kiev 32.96 308 P **P** **10 48 08.7 +0.3**
KIEV Kiev 32.96 308 *i* P **P** **10 48 08.7 +0.3**
SNR=197
KIEV Kiev 32.96 308 ⇑P **P** **10 48 08.5 +0.2**
KIEV Kiev 32.96 308 P **P** **10 48 09.0 +0.7**
KIEV Kiev 32.96 308 ⇓P **P** **10 48 08.6 +0.3**
KIEV pP **pP** **10 48 33.2 -0.7**
KIEV sP **sP** **10 48 46.8 -0.3**
KIEV Kiev 32.96 308 P **P** **10 48 08.5 +0.2**
comp=N,2μm,1.5s,comp=N,26μm
EFOR EFORIE 33.01 296 ⇑P **P** **10 48 10.9 +2.1**
MANR Mangalia 33.06 296 ⇑P **P** **10 48 11.4 +2.2**
CIT Chita 33.13 49 *i* P **P** **10 48 11.0 +1.1**
CIT *e* 10 48 37.0
CIT *e* 10 49 23.8
CIT *e* 10 50 49.0
CIT *e*S **S** **10 53 23.2 +2.3**
CIT pmax pmax
comp=Z,3μm,1.7s
TPGR Topolog 33.14 297 ⇑P **P** **10 48 11.3 +1.3**
MFTR Murfatlar 33.16 296 ⇑P **P** **10 48 12.0 +1.9**
LYN LuoYang 33.23 82 ⇑*i*P **P** **10 48 13.1 +2.2**
LYN sP sP 10 48 51.8 +1.3
LYN PP **PP** **10 49 31.5 +3.4**
LYN S **S** **10 53 27.4 +4.7**
LYN sS sS 10 54 09.6 +1.6
LYN pmax pmax
comp=Z,2μm,1.6s
LYN pmax pmax
comp=Z,12μm,3.7s
SORM Soroca 33.25 303 ⇑P **P** **10 48 11.8 +0.9**
SORM Soroca 33.25 303 P **P** **10 48 11.7 +0.9**
SORM Soroca 33.25 303 P **P** **10 48 11.1 +0.2**
comp=Z,594nm,1.1s,comp=Z,11μm
LEOM Leova 33.26 300 ⇓P **P** **10 48 13.1 +2.1**
LEOM Leova 33.26 300 P **P** **10 48 13.0 +2.1**
GIUM Giurgiulesti 33.28 299 ⇑P **P** **10 48 13.8 +2.7**
CFR Carcaliu 33.33 298 ⇓P **P** **10 48 12.9 +1.3**
CFR Carcaliu 33.33 298 P **P** **10 48 12.9 +1.3**
VLDR Vladesti 33.37 299 ⇓P **P** **10 48 13.6 +1.7**
SRDT SRDT 33.38 125 P **P** **10 48 14.3 +1.9**
TATR Tatarca 33.39 299 ⇑P **P** **10 48 13.7 +1.6**
PSN Preselentsi 33.40 295 P **P** **10 48 14.0 +1.8**
TLBR Topalu 33.42 297 ⇓P **P** **10 48 14.5 +2.1**
SCTR Scanteiesti 33.43 299 ⇓P **P** **10 48 14.2 +1.8**
CTYL Yalikoy Yolu 33.47 291 P **P** **10 48 14.3 +1.4**
comp=Z,433nm,1.1s,comp=Z,6μm
HARR Harsova 33.49 297 ⇑P **P** **10 48 14.5 +1.4**
HARR Harsova 33.49 297 P **P** **10 48 14.4 +1.4**
NEGRR Negrea 33.51 299 ⇑P **P** **10 48 14.8 +1.7**
VARL Varlezi 33.53 299 ⇓P **P** **10 48 15.1 +1.8**
SCHL Schela 33.55 299 ⇓P **P** **10 48 16.0 +2.5**
VASR Vaslui 33.57 301 ⇑P **P** **10 48 15.0 +1.3**
ADZR Andozero 33.59 334 ⇓*i*P **P** **10 48 14.4 +0.8**
ADZR pmax pmax
comp=Z,865nm,1.0s
IZVR Izvoarele 33.59 299 ⇑P **P** **10 48 15.6 +1.7**
ICOR Ion Corvin 33.61 296 ⇑P **P** **10 48 16.0 +1.9**
TUDR 33.66 299 ⇓P **P** **10 48 16.5 +2.0**
IAS Iasi 33.75 302 P **P** **10 48 15.7 +0.5**
GHRR 33.84 300 ⇓P **P** **10 48 18.3 +2.3**
AMRR Amara 33.92 297 ⇓P **P** **10 48 19.2 +2.4**
AMRR Amara 33.92 297 P **P** **10 48 19.1 +2.4**
PRD Provadia 33.96 294 P **P** **10 48 19.1 +2.0**
PANC Panciu 34.02 299 ⇓P **P** **10 48 19.7 +2.2**
NEF NEVSHA 34.05 295 P **P** **10 48 19.7 +1.8**
ODBI Odobesti 34.08 299 ⇓P **P** **10 48 20.8 +2.6**
PGOR Pogoanele 34.16 298 ⇓P **P** **10 48 21.5 +2.7**
HNS HongShan 34.29 76 ⇑P **P** **10 48 21.5 +1.5**
HNS sP **sP** **10 48 59.6 0.0**
HNS PP **PP** **10 49 39.8 +0.1**
HNS S **S** **10 53 43.3 +4.4**
HNS pmax pmax
comp=Z,350nm,1.5s
HNS pmax pmax
comp=Z,6μm,7.3s
HNS LR LR
comp=Z,11μm,15.9s
HNS LR LR
comp=Z,5μm,14.7s
HNS LR LR
comp=Z,10μm,18.3s
SPBR Spulber 34.30 299 ⇑P **P** **10 48 22.6 +2.5**
VRI Vrincioaia 34.31 299 ⇓P **P** **10 48 22.2 +2.0**
VRI Vrincioaia 34.31 299 P **P** **10 48 22.1 +2.0**
VRI Vrincioaia 34.31 299 P **P** **10 48 22.2 +2.0**
comp=Z,269nm,1.1s,comp=Z,8μm
BISRR Bisoca 34.33 299 ⇑P **P** **10 48 23.1 +2.7**
PLOR5 Plostina Array 34.36 299 P **P** **10 48 22.8 +2.2**
comp=Z,420nm,1.1s,comp=Z,8μm
TESR Tescani 34.36 300 ⇓P **P** **10 48 21.9 +1.4**
TESR Tescani 34.36 300 P **P** **10 48 21.8 +1.3**
comp=Z,250nm,0.9s,comp=Z,8μm
PLOR Plostina 34.37 299 ⇓P **P** **10 48 22.9 +2.2**
PLOR Plostina 34.37 299 P **P** **10 48 22.8 +2.2**
XLT XiLinHaoTe 34.39 64 ⇑*i*P **P** **10 48 22.3 +1.4**
XLT S **S** **10 53 42.5 +2.0**
XLT sS sS 10 54 23.6 -2.4
XLT pmax pmax
comp=Z,250nm,1.3s
XLT pmax pmax
comp=Z,5μm,9.3s
XLT LR LR
comp=Z,1μm,11.6s
XLT LR LR
comp=Z,5μm,9.4s
XLT LR LR
comp=Z,5μm,9.7s
DRBR Darabani 34.42 303 ⇑P **P** **10 48 22.1 +1.1**
MNK Minsk 34.44 315 *i* P **P** **10 48 21.9 +0.8**
comp=E,158nm,1.1s
MNK *i* P **P** **10 48 21.9 +0.8**
comp=N,74nm,1.1s
MNK *i* P **P** **10 48 21.9 +0.8**
comp=Z,380nm,0.9s,baz=102
MNK *i* pP **pP** **10 48 46.8 -0.1**
MNK *i* sP **sP** **10 48 55.5 -4.7**
MNK *i* PP **PnPn** **10 49 40.3 +0.4**
MNK *i* S **S** **10 53 40.3 -0.7**
MNK *i* sS **sS** **10 54 27.1 +0.8**
MNK *i* SS SnSn 10 55 17.5 -46
MNK *i* LQ LQ 11 01 45.7
MNK *i* LR LR 11 02 53.2
MNK *i* LRM MLR 11 04 31.5
comp=E,9μm,18.7s
MNK *i* LRM MLR 11 04 35.9
comp=Z,27μm,18.8s
MNK *i* LRM MLR 11 04 55.3
comp=N,9μm,17.1s
MNK Minsk 34.44 315 *i* P **P** **10 48 21.9 +0.8**
MNK *i* *PP **pP** **10 48 46.7 -0.1**
MNK *i* *SP **sP** **10 48 55.4 -4.7**
MNK *i* 10 49 40.2
MNK *i* 10 50 54.9
MNK *i* S **S** **10 53 40.2 -0.7**
MNK pmax pmax
comp=N,74nm,1.0s
MNK pmax pmax
comp=Z,380nm,0.9s
MNK pmax pmax
comp=E,158nm,1.0s
MNK MLR MLR
comp=E,9μm,19.0s
MNK MLR MLR
comp=Z,27μm,19.0s
MNK MLR MLR
comp=N,9μm,17.0s
ISR Istrita 34.46 298 ⇓P **P** **10 48 24.5 +2.9**
ISR Istrita 34.46 298 P **P** **10 48 24.4 +2.9**
ISR Istrita 34.46 298 P **P** **10 48 24.2 +2.7**
comp=N,622nm,1.1s,comp=N,9μm
ARG Arkhangelos 34.55 282 P **P** **10 48 23.1 +0.9**
ARG Arkhangelos 34.55 282 ⇓P **P** **10 48 23.5 +1.2**
ARG Arkhangelos 34.55 282 P **P** **10 48 23.2 +0.9**
ARG pmax pmax
comp=Z,1μm,1.4s
RAZG Razgrad 34.58 295 ⇓P **P** **10 48 24.2 +1.8**
NEHR Nehoiu 34.63 299 ⇑P **P** **10 48 25.8 +2.9**
PRAR RASCA 34.65 302 ⇓P **P** **10 48 24.3 +1.2**
JMB Yambol 34.66 293 P **P** **10 48 25.2 +2.0**
COVR Voineasa-Covas 34.68 299 ⇑P **P** **10 48 25.7 +2.4**
SULR 34.69 297 ⇑P **P** **10 48 26.3 +2.9**
PUL Pulkovo 34.77 324 *d* *i*P **P** **10 48 24.9 +1.0**
PUL pmax pmax
comp=Z,2μm,1.0s
TURR Turia 34.80 300 ⇓P **P** **10 48 26.8 +2.4**
BOD Bodaibo 34.82 39 ⇓*i*P **P** **10 48 24.7 +0.3**
BOD pmax pmax
comp=Z,112nm,1.5s
MLR Muntele Rosu 34.87 299 ⇓P **P** **10 48 27.9 +2.7**
MLR Muntele Rosu 34.87 299 LR LR 11 07 02.3
comp=Z,21μm,18.6s,baz=64,slow=43
MLR Muntele Rosu 34.87 299 P **P** **10 48 27.8 +2.7**
MLR Muntele Rosu 34.87 299 P **P** **10 48 27.7 +2.6**
comp=Z,692nm,1.0s,comp=Z,11μm
BJT Baijiatuao 34.91 71 P **P** **10 48 27.0 +1.7**
BJT Baijiatuao 34.91 71 P **P** **10 48 26.7 +1.4**
BJT lAmb lAmb 10 48 27.7
comp=Z,369nm,1.5s
BJT Baijiatuao 34.91 71 P **P** **10 48 26.7 +1.4**
BJT pmax pmax
comp=Z,369nm,1.5s
BJI Beijing 34.91 71 P **P** **10 48 26.7 +1.4**
BJI S **S** **10 53 50.2 +1.8**
BJI sS **ScP** **10 54 32.2 +1.5**
BJI PcS **PcS** **10 54 41.9 -0.4**
BJI pmax pmax
comp=Z,82nm,1.2s
BJI pmax pmax
comp=Z,2μm,4.5s
SGRR Singureni 34.92 297 ⇓P **P** **10 48 27.3 +2.0**
OZUR 34.96 300 ⇑P **P** **10 48 27.2 +1.5**
SZH Strazhitsa 34.99 295 P **P** **10 48 27.9 +1.9**
BOSR Bodos 35.05 300 ⇑P **P** **10 48 28.9 +2.4**
ELND Elena 35.10 294 ⇓P **P** **10 48 28.8 +1.9**
NACGM Naroch 35.15 315 ⇑*i*P **P** **10 48 28.5 +1.3**
comp=Z,716nm,0.9s,baz=101
EZN Ezine 35.19 289 P **P** **10 48 29.3 +1.6**
comp=Z,790nm,1.1s,comp=Z,8μm
DOPR Dopca 35.24 300 ⇓P **P** **10 48 30.1 +2.0**
IDID Didziasalis 35.27 316 *e*P **P** **10 48 29.8 +1.6**
BURAR Bucovina Array 35.34 302 ⇓P **P** **10 48 30.8 +1.7**
BURAR Bucovina Array 35.34 302 P **P** **10 48 30.3 +1.2**
BURAR lAmb lAmb 10 48 32.0
comp=Z,242nm,0.9s
BURAR pP **pP** **10 48 54.7 -0.1**
BURAR Bucovina Array 35.34 302 P **P** **10 48 30.7 +1.7**
BUR08 Bucovina Ar. S 35.35 302 P **P** **10 48 30.4 +1.2**
BUR08 lAmb lAmb 10 48 31.9
comp=Z,260nm,1.1s
COPA Copaceanca 35.47 296 ⇑P **P** **10 48 32.1 +2.1**
KARP Karpathos 35.48 281 ⇓P **P** **10 48 31.6 +1.3**
KARP Karpathos 35.48 281 P **P** **10 48 31.4 +1.1**
comp=Z,854nm,0.9s,comp=Z,10μm
VOIR 35.50 299 ⇑P **P** **10 48 31.9 +1.5**
VOIR 35.50 299 P **P** **10 48 31.9 +1.5**
VOIR 35.50 299 P **P** **10 48 31.9 +1.5**
comp=Z,183nm,1.3s,comp=Z,5μm
MTUR Matau 35.50 298 ⇑P **P** **10 48 33.2 +2.7**
MTUR Matau 35.50 298 P **P** **10 48 33.2 +2.7**
RDO Rodhopi 35.57 291 lAmb lAmb 10 48 34.5
comp=Z,288nm,1.1s
RDO Rodhopi 35.57 291 ⇓P **P** **10 48 32.3 +1.4**
STFAR Stefanesti-Arg 35.60 298 ⇑P **P** **10 48 33.9 +2.7**
HUMR Humele 35.61 297 ⇓P **P** **10 48 33.0 +1.8**
IZAR Zarasai 35.63 317 *e*P **P** **10 48 33.4 +2.1**
KDZ Kurdzhali 35.65 292 P **P** **10 48 33.1 +1.4**
ISAL Salakas 35.66 316 *e*P **P** **10 48 33.3 +1.7**
JOF Joensuu 35.68 330 *e*P **P** **10 48 32.7 +1.1**
TGMR Targu Mures 35.83 301 ⇓P **P** **10 48 36.1 +3.0**
CNSH ChangSha 35.84 92 ⇑*i*P **P** **10 48 34.2 +0.8**
CNSH S **S** **10 54 03.7 +0.9**
CNSH PcS **PcS** **10 54 41.8 -4.3**
CNSH sS **sS** **10 54 52.6 +4.1**
CNSH ScS **ScS** **10 58 38.0 -1.9**
CNSH pmax pmax
comp=Z,320nm,1.3s
CNSH LR LR
comp=Z,11μm,17.2s
CNSH LR LR
comp=Z,3μm,10.3s
CNSH LR LR
comp=Z,4μm,18.4s
ARCR ARCALIA 35.93 302 ⇓P **P** **10 48 36.8 +2.8**
MDB Medias 35.94 300 ⇑P **P** **10 48 37.0 +2.9**
MDB Medias 35.94 300 P **P** **10 48 36.9 +2.9**
PLD Plovdiv 36.02 293 P **P** **10 48 36.6 +1.8**
ATD Arta Tunnel 36.03 233 *e*P **P** **10 48 35.6 +0.4**
ATD *e*S **S** **10 54 09.1 +3.0**
WHN Wuhan 36.04 87 ⇑*i*P **P** **10 48 36.4 +1.3**
WHN sP **sP** **10 49 15.5 +1.0**
WHN PP **PnPn** **10 50 04.2 +4.5**
WHN S **S** **10 54 07.5 +1.6**
WHN pmax pmax
comp=Z,2μm,1.2s
WHN pmax pmax
comp=Z,16μm,4.6s
VLAD Vladila 36.06 296 ⇑P **P** **10 48 36.8 +1.7**
VSU Vasula 36.07 321 ⇓P **P** **10 48 35.5 +0.5**
VSU Vasula 36.07 321 *d* *i*P **P** **10 48 35.4 +0.4**
VSU pmax pmax
comp=Z,1μm,1.7s
RZN Rozhen 36.08 292 P **P** **10 48 37.5 +1.9**
LVV L'vov 36.18 306 *e*P **P** **10 48 37.4 +1.3**
LVV *e**PP **pP** **10 49 01.8 -0.2**
LVV *i* 10 49 58.2
LVV *e* 10 50 24.0
LVV *e* 10 50 59.5
LVV *e*S **S** **10 54 09.6 +1.9**
LVV *e* 10 58 47.8
LVV pmax pmax
comp=Z,1μm,1.3s
LVV MLR MLR
comp=E,16μm,16.0s
LVV MLR MLR
comp=N,4μm,17.0s
LVV MLR MLR
comp=Z,17μm,17.0s
KAAM Kaadhehdhoo 36.27 177 P **P** **10 48 38.9 +1.8**
KAAM Kaadhehdhoo 36.27 177 ⇑P **P** **10 48 38.7 +1.6**
KAAM Kaadhehdhoo 36.27 177 P **P** **10 48 38.6 +1.5**
SNR=7.2
APE Apeiranthos 36.37 284 ⇓P **P** **10 48 39.4 +1.5**
APE Apeiranthos 36.37 284 *d* *i*P **P** **10 48 39.0 +1.1**
APE pmax pmax
comp=Z,532nm,1.1s
PGB Panagyurishte 36.39 294 P **P** **10 48 40.4 +2.4**
LOT Lotru 36.40 299 ⇓P **P** **10 48 39.7 +1.5**
TIA Tai'an 36.45 77 P **P** **10 48 40.0 +1.4**
TIA S **S** **10 54 15.2 +3.0**
TIA pmax pmax
comp=Z,380nm,1.6s
TIA pmax pmax
comp=Z,4μm,3.7s
TIA LR LR
comp=Z,2μm,16.3s
TIA LR LR
comp=Z,4μm,12.9s
TIA LR LR
comp=Z,4μm,10.4s

CJR	**Cluj-Napoca**	**36.46 301**	⇓P	**P**	**10 48 41.0 +2.4**
CJR	**Cluj-Napoca**	**36.46 301**	P	**P**	**10 48 40.9 +2.4**
BMR	**Baia Mare**	**36.51 303**	⇑P	**P**	**10 48 41.3 +2.4**
BMR	**Baia Mare**	**36.51 303**	P	**P**	**10 48 41.2 +2.4**
MPEP	**Malo Peshtene**	**36.61 295**	P	**P**	**10 48 42.1 +2.3**
ARBE	**Arbavere**	**36.73 323**	*e*P	**P**	**10 48 40.7 +0.1**
HIA	**Hailar**	**36.79 55**	P	**P**	**10 48 42.8 +1.5**
HIA	**Hailar**	**36.79 55**	P	**P**	**10 48 42.3 +1.0**
HIA			IAmb	IAmb	10 48 44.2
	comp=Z,471nm,1.2s				
HIA	**Hailar**	**36.79 55**	P	**P**	**10 48 42.3 +1.0**
HIA			pmax	pmax	
	comp=Z,471nm,1.2s				
HIA	**Hailar**	**36.79 55**	P	**P**	**10 48 42.6 +1.3**
VALD	**Valchedram**	**36.79 296**	P	**P**	**10 48 43.3 +2.0**
MARR	**Marisel-Cluj**	**36.79 301**	⇑P	**P**	**10 48 43.5 +2.0**
MMB	**Musomishta**	**36.84 292**	P	**P**	**10 48 43.5 +1.7**
PABE	**Paberze**	**36.85 316**	P	**P**	**10 48 42.7 +1.1**
PABE	**Paberze**	**36.85 316**	*e*P	**P**	**10 48 42.9 +1.2**
SRE	**Strehaia**	**36.86 298**	⇑P	**P**	**10 48 44.6 +2.7**
SRE	**Strehaia**	**36.86 298**	P	**P**	**10 48 44.6 +2.7**
MESR	**Meseseni**	**36.89 302**	⇓P	**P**	**10 48 44.4 +2.3**
VSVD	**Vaisvydziai**	**36.96 316**	*e*P	**P**	**10 48 43.7 +1.2**
DEV	**Deva**	**36.98 300**	⇓P	**P**	**10 48 45.4 +2.4**
DEV	**Deva**	**36.98 300**	P	**P**	**10 48 45.3 +2.4**
KWP	**Kalwaria Pacla**	**37.04 306**	*e*P	**P**	**10 48 45.5 +2.1**
KWP	**Kalwaria Pacla**	**37.04 306**	⇓P	**P**	**10 48 45.3 +1.9**
KWP	**Kalwaria Pacla**	**37.04 306**	P	**P**	**10 48 45.3 +1.9**
	comp=Z,583nm,1.4s,comp=Z,15μm				
DRGR		**37.06 301**	⇓P	**P**	**10 48 45.7 +1.9**
DRGR		**37.06 301**	P	**P**	**10 48 45.6 +1.9**
VTS	**Vitosha**	**37.06 294**	P	**P**	**10 48 45.8 +1.9**
SUW	**Suwalki**	**37.08 313**	*e*P	**P**	**10 48 44.1 +0.6**
SUW	**Suwalki**	**37.08 313**	⇓P	**P**	**10 48 43.9 +0.3**
SUW	**Suwalki**	**37.08 313**	*e*P	**P**	**10 48 43.9 +0.3**
SUW	**Suwalki**	**37.08 313**	⇓P	**P**	**10 48 43.9 +0.3**
PUNG	**Punghina**	**37.09 297**	⇑P	**P**	**10 48 45.3 +1.5**
GZR	**Gura Zlata**	**37.10 299**	⇓P	**P**	**10 48 45.2 +1.2**
UBPT	**Khong Chiam**	**37.11 116**	P	**P**	**10 48 44.5 +0.2**
UBPT	**Khong Chiam**	**37.11 116**	⇑P	**P**	**10 48 44.7 +0.3**
LVZ	**Lovozero**	**37.20 338**	P	**P**	**10 48 45.0 +0.5**
LVZ	**Lovozero**	**37.20 338**	⇓P	**P**	**10 48 45.0 +0.5**
LVZ	**Lovozero**	**37.20 338**	*d* P	**P**	**10 48 45.0 +0.5**
LVZ			pmax	pmax	
	comp=Z,1μm,1.7s				
LVZ	**Lovozero**	**37.20 338**	⇓P	**P**	**10 48 45.2 +0.6**
LVZ			PcP	**PcP**	**10 51 01.8 -0.1**
LVZ	**Lovozero**	**37.20 338**	P	**P**	**10 48 45.1 +0.5**
	comp=Z,726nm,0.8s,comp=Z,10μm				
KOLS	**Kolonicke sedl**	**37.31 305**	*e*P	**P**	**10 48 47.1 +1.4**
KOLS			*e*PP	**PnPn**	**10 50 15.1 +0.3**
KOLS	**Kolonicke sedl**	**37.31 305**	*e*P	**P**	**10 48 47.1 +1.4**
KOLS			pmax	pmax	
	comp=Z,412nm,1.0s				
FINES	**FINESS Array B**	**37.33 326**	P	**P**	**10 48 46.4 +0.8**
FINES			pP	**pP**	**10 49 11.5 -0.2**
FINES	**FINESS Array B**	**37.33 326**	P	**P**	**10 48 46.5 +0.8**
	comp=Z,417nm,0.9s,baz=101,slow=9.9,SNR=607				
FINES			pP	**pP**	**10 49 12.9 +1.2**
	comp=Z,283nm,0.9s,baz=98,slow=8.3,SNR=4.5				
FINES			LR	LR	11 05 06.6
	comp=Z,31μm,20.0s,baz=112,slow=38				
	comp=Z,417nm,0.9s				
FINES	**FINESS Array B**	**37.33 326**	*i* P	**P**	**10 48 46.5 +0.9**
FINES			pmax	pmax	
	comp=Z,414nm,0.9s				
IDI	**Anoyia**	**37.34 282**	IAmb	IAmb	10 49 14.7
	comp=Z,301nm,1.1s				
IDI	**Anoyia**	**37.34 282**	P	**P**	**10 48 46.4 +0.2**
IDI			S	**S**	**10 54 25.4 -0.3**
BLKB	**Belogradchik**	**37.35 296**	⇑P	**P**	**10 48 48.2 +2.1**
APA	**Apatity**	**37.39 337**	⇓*i*P	**P**	**10 48 44.9 -1.1**
APA			*i* PPP	PPP	10 50 18.0
APA			*i* S	**S**	**10 54 23.0 -2.5**
APA			pmax	pmax	
	comp=Z,187nm,1.0s				
APA			MLR	MLR	
	comp=Z,78μm,16.0s				
HERR	**Herculane**	**37.40 298**	⇑P	**P**	**10 48 47.5 +1.0**
SURR	**Surduc**	**37.53 299**	⇓P	**P**	**10 48 49.6 +2.1**
MTSE	**Matsula**	**37.61 321**	*e*P	**P**	**10 48 48.7 +0.7**
BORR	**Bors**	**37.69 302**	⇓P	**P**	**10 48 51.4 +2.6**
MEF	**Metsahovi**	**37.73 323**	*e*P	**P**	**10 48 49.9 +1.0**
VAY	**Valandovo**	**37.75 292**	*i* P	**P**	**10 48 50.8 +1.3**
SIRR	**Siria**	**37.82 300**	⇓P	**P**	**10 48 52.3 +2.2**
CRVS	**Cervenica-Dubn**	**37.85 305**	*e*P	**P**	**10 48 51.2 +1.0**
CRVS			*e*		10 49 15.9
CRVS			*e*PP	**PP**	**10 50 18.3 -0.4**
CRVS			*e*S	**S**	**10 54 34.0 +1.0**
CRVS	**Cervenica-Dubn**	**37.85 305**	*e*P	**P**	**10 48 51.2 +1.0**
CRVS			*e*		10 49 15.9
CRVS			*e*		10 50 18.3
CRVS			*e*S	**S**	**10 54 34.0 +1.0**
CRVS			pmax	pmax	
	comp=Z,213nm,1.0s				
BZS	**Buzias**	**37.90 299**	⇓P	**P**	**10 48 52.7 +2.0**
BZS	**Buzias**	**37.90 299**	⇓P	**P**	**10 48 52.3 +1.7**
BZS	**Buzias**	**37.90 299**	P	**P**	**10 48 52.6 +2.0**
MDVR	**Moldovita**	**37.91 298**	⇓P	**P**	**10 48 52.5 +1.7**
MSF	**Maaselka**	**37.97 333**	P	**P**	**10 48 51.7 +0.7**
STIP	**Stip**	**37.97 293**	*i* P	P	10 48 56.2 +4.8
STHS	**Stebnicka Huta**	**37.99 305**	*e*P	**P**	**10 48 51.3 -0.1**
STHS	**Stebnicka Huta**	**37.99 305**	*e*P	**P**	**10 48 51.3 -0.1**
STHS			pmax	pmax	
	comp=Z,107nm,1.0s				
QIZ	**Qiongzhong**	**38.02 107**	P	**P**	**10 48 52.8 +0.8**
QIZ	**Qiongzhong**	**38.02 107**	P	**P**	**10 48 52.4 +0.4**
QIZ			pP	**pP**	**10 49 20.7 +2.0**
QIZ			sP	**sP**	**10 49 30.6 -1.5**
QIZ			PP	**PP**	**10 50 22.4 +1.4**
QIZ			S	**S**	**10 54 30.0 -6.2**
QIZ			sS	**sS**	**10 55 24.3 +2.2**
QIZ			pmax	pmax	
	comp=Z,210nm,1.7s				
QIZ			pmax	pmax	
	comp=Z,6μm,7.0s				
QIZ			LR	LR	
	comp=Z,5μm,13.5s				
QIZ			LR	LR	
	comp=Z,6μm,15.2s				
QIZ			LR	LR	
	comp=Z,9μm,17.7s				
QIZ	**Qiongzhong**	**38.02 107**	IAmb	IAmb	10 48 54.8
	comp=Z,448nm,1.4s				
QIZ	**Qiongzhong**	**38.02 107**	P	**P**	**10 48 52.4 +0.4**
BOVS	**Bovan**	**38.04 296**	⇓P	**P**	**10 48 53.2 +1.3**
SRIT	**Nakonsritamara**	**38.06 131**	P	**P**	**10 48 53.5 +1.2**
SRIT	**Nakonsritamara**	**38.06 131**	IAmb	IAmb	10 48 55.6
	comp=Z,525nm,1.0s				
PBUR	**Paburge**	**38.08 316**	*e*P	**P**	**10 48 53.1 +1.1**
KEF	**Keuruu**	**38.11 326**	*e*P	**P**	**10 48 53.1 +0.9**
SLIT	**Slitere, Latvi**	**38.16 319**	⇑P	**P**	**10 48 52.4 -0.3**
SLIT	**Slitere, Latvi**	**38.16 319**	*e*P	**P**	**10 48 52.7 +0.1**
BANR	**Banloc**	**38.26 299**	⇓P	**P**	**10 48 56.0 +2.4**
BEL	**Belsk**	**38.33 309**	*e*P	**P**	**10 48 55.1 +1.0**
AGG	**Agios Georgios**	**38.38 289**	P	**P**	**10 48 55.4 +0.6**
AGG			pP	**pP**	**10 49 20.0 -0.5**
AGG			IAmb	IAmb	10 49 23.5
	comp=Z,343nm,1.5s				
AGG	**Agios Georgios**	**38.38 289**	⇑P	**P**	**10 48 55.3 +0.5**
SKO	**Skopje**	**38.48 293**	*i* P	**P**	**10 48 56.8 +1.2**
KECS	**Kecovo**	**38.50 304**	*e*P	**P**	**10 48 57.4 +1.7**
KECS			*e*PP	**PP**	**10 50 27.0 +1.2**
KECS	**Kecovo**	**38.50 304**	*e*P	**P**	**10 48 57.4 +1.7**
KECS			pmax	pmax	
	comp=Z,110nm,1.0s				
GZH	**Guangzhou**	**38.54 99**	P	**P**	**10 48 54.6 -1.6**
GZH			sP	**sP**	**10 49 35.0 -1.3**
GZH			PP	**PP**	**10 50 24.7 -1.9**
GZH			S	**S**	**10 54 40.5 -3.3**
GZH			pmax	pmax	
	comp=Z,420nm,1.2s				
GZH			LR	LR	
	comp=Z,4μm,11.6s				
GZH			LR	LR	
	comp=Z,4μm,9.8s				
NIE	**Niedzica**	**38.60 305**	*e*P	**P**	**10 48 58.9 +2.3**
NIE	**Niedzica**	**38.60 305**	P	**P**	**10 48 58.6 +2.0**
	comp=Z,328nm,1.2s,comp=Z,4μm				
BSZH	**Besenyszg**	**38.71 302**	⇓P	**P**	**10 49 00.3 +2.9**
OUL	**Oulu**	**38.78 331**	P	**P**	**10 48 58.0 +0.3**
OUL			pmax	pmax	
	comp=Z,821nm,1.2s				
BEO	**Beograd**	**38.78 298**	P	**P**	**10 48 58.7 +0.6**
KLNR	**Kaliningrad**	**38.87 314**	*d* P	**P**	**10 48 59.6 +1.0**
KLNR			pmax	pmax	
	comp=Z,1μm,1.0s				
OJC	**Ojcow**	**38.92 307**	*e*P	**P**	**10 49 00.2 +1.0**
OJC	**Ojcow**	**38.92 307**	IAmb	IAmb	10 49 01.5
	comp=Z,599nm,1.1s				
OJC	**Ojcow**	**38.92 307**	⇓P	**P**	**10 49 00.1 +1.0**
OJC	**Ojcow**	**38.92 307**	P	**P**	**10 48 59.9 +0.7**
	comp=Z,554nm,1.1s,comp=Z,6μm				
PSZ	**Piszkesteto**	**38.92 303**	⇓P	**P**	**10 49 01.0 +1.7**
PSZ	**Piszkesteto**	**38.92 303**	⇓P	**P**	**10 49 00.8 +1.5**
PSZ	**Piszkesteto**	**38.92 303**	P	**P**	**10 49 01.0 +1.7**
NJ2	**Nanjing**	**39.09 83**	⇑*i*P	**P**	**10 49 02.2 +1.4**
NJ2			pP	**pP**	**10 49 32.5 +5.3**
NJ2			S	**S**	**10 54 54.3 +2.2**
NJ2			sS	**sS**	**10 55 40.7 +2.6**
NJ2			pmax	pmax	
	comp=Z,510nm,1.1s				
NJ2			pmax	pmax	
	comp=Z,7μm,8.5s				
OHR	**Ohrid**	**39.10 292**	*i* P	**P**	**10 49 01.4 +0.5**
LANS	**Liptovska Anna**	**39.16 305**	*e*P	**P**	**10 49 03.1 +1.9**
LANS	**Liptovska Anna**	**39.16 305**	*e*P	**P**	**10 49 03.1 +1.9**
LANS			pmax	pmax	
	comp=Z,99nm,1.0s				
RAF	**Rauma**	**39.19 324**	*e*P	**P**	**10 49 01.6 +0.4**
FRGS	**Fruska Gora**	**39.21 299**	⇑P	**P**	**10 49 03.3 +1.6**
FRGS	**Fruska Gora**	**39.21 299**	⇓*i*P	**P**	**10 49 03.2 +1.6**
FRGS	**Fruska Gora**	**39.21 299**	P	**P**	**10 49 03.2 +1.6**
	comp=Z,244nm,1.2s,comp=Z,6μm				
LHMI	**Lhok Sumawe**	**39.25 137**	P	**P**	**10 49 03.7 +1.5**
LHMI	**Lhok Sumawe**	**39.25 137**	IAmb	IAmb	10 49 04.8
	comp=Z,382nm,0.9s				
LHMI	**Lhok Sumawe**	**39.25 137**	⇑P	**P**	**10 49 02.6 +0.4**
LHMI	**Lhok Sumawe**	**39.25 137**	P	**P**	**10 49 02.9 +0.7**
	comp=Z,431nm,0.9s,comp=Z,17μmcomp=Z,26μm				
DL2	**Dalian**	**39.27 71**	P	**P**	**10 49 03.3 +1.1**
DL2			sP	**sP**	**10 49 41.1 -1.2**
DL2			PcP	**PcP**	**10 51 11.2 +2.4**
DL2			S	**S**	**10 54 55.7 +1.2**
DL2			pmax	pmax	
	comp=Z,570nm,0.9s				
DL2			pmax	pmax	
	comp=Z,7μm,6.0s				
SJES	**Sjenica**	**39.34 296**	⇓*i*P	**P**	**10 49 04.6 +1.7**
VAF	**Ylistaro**	**39.36 327**	*e*P	**P**	**10 49 03.5 +0.9**
VAF	**Ylistaro**	**39.36 327**	P	**P**	**10 49 03.0 +0.4**
VAF			pmax	pmax	
	comp=Z,797nm,1.1s				
IVA	**Berane**	**39.46 295**	⇓*i*P	**P**	**10 49 05.6 +1.7**
TEKS	**Tekeris**	**39.48 298**	⇓*i*P	**P**	**10 49 04.8 +0.9**
BUD	**Budapest**	**39.54 302**	P	**P**	**10 49 03.6 -0.7**
SGF	**Sodankyl**	**39.58 335**	P	**P**	**10 49 04.9 +0.6**
SGF			pmax	pmax	
	comp=Z,548nm,1.2s				
HKPS	**Hong Kong Po S**	**39.58 99**	P	**P**	**10 49 06.9 +1.9**
VYHS	**Vyhne**	**39.60 304**	*e*P	**P**	**10 49 06.2 +1.3**
VYHS			*e*		10 49 31.0
VYHS			*e*PP	**PnPn**	**10 50 43.4 +1.5**
VYHS			*e*S	**S**	**10 55 02.4 +3.1**
VYHS			*e*SS	**SnSn**	**10 58 17.1 +9.3**
VYHS	**Vyhne**	**39.60 304**	*e*P	**P**	**10 49 06.2 +1.3**
VYHS			*e*		10 49 31.0
VYHS			*e*		10 50 43.4
VYHS			*e*S	**S**	**10 55 02.4 +3.1**
VYHS			pmax	pmax	
	comp=Z,266nm,1.2s				
PUK	**Puka**	**39.60 294**	IAmb	IAmb	10 49 07.5
	comp=Z,488nm,1.2s				
BBLS	**Lazi&#263i**	**39.66 297**	⇓*i*P	**P**	**10 49 06.8 +1.3**
RUDO	**Rudo**	**39.73 296**	*e*P	**P**	**10 49 06.6 +0.7**
KOME	**Kolasin**	**39.74 295**	⇓*i*P	**P**	**10 49 07.6 +1.4**
TIR	**Tirane**	**39.75 293**	P	**P**	**10 49 06.7 +0.5**
TIR			pmax	pmax	
	comp=Z,151nm,0.9s				
TIR	**Tirane**	**39.75 293**	P	**P**	**10 49 06.3 +0.1**
	comp=Z,151nm,0.9s,comp=Z,4μm				
PLE	**Pljevlja**	**39.76 296**	⇓*i*P	**P**	**10 49 08.1 +1.8**
MLSI	**Meulaboh, Aceh**	**39.77 139**	P	**P**	**10 49 06.1 -0.4**
	comp=Z,282nm,1.2s,comp=Z,3μm				
AAL	**Aland**	**39.85 322**	*e*P	**P**	**10 49 06.6 -0.1**
RAC	**Raciborz**	**39.95 307**	*e*P	**P**	**10 49 08.6 +0.9**
RAC			*e*PP	**pP**	**10 49 32.0 -1.9**
RAC			AMS	AMS	11 09 04.2
	comp=Z,8.3nm,17.2s				
RAC	**Raciborz**	**39.95 307**	*e*P	**P**	**10 49 08.6 +0.9**
RAC			*e**PP	**pP**	**10 49 32.0 -1.9**
RAC			MLR	MLR	
	comp=Z,8μm,17.2s				
HAPS	**Han Pijesak,Bl**	**39.96 297**	⇓*i*P	**P**	**10 49 09.4 +1.4**
OKC	**Ostrava-Krasne**	**39.99 306**	*e*P	**P**	**10 49 09.5 +1.4**
OKC			*e*S	**S**	**10 55 06.8 +1.7**
OKC	**Ostrava-Krasne**	**39.99 306**	*e*P	**P**	**10 49 09.5 +1.4**
OKC			*e*S	**S**	**10 55 06.8 +1.7**
SRO	**Srobarova**	**39.99 303**	*e*P	**P**	**10 49 10.5 +2.4**
SRO	**Srobarova**	**39.99 303**	*e*P	**P**	**10 49 10.5 +2.4**
SRO			pmax	pmax	
	comp=Z,612nm,1.1s				
PDG	**Podgorica**	**40.00 295**	⇑P	**P**	**10 49 09.3 +1.1**
PDG	**Podgorica**	**40.00 295**	⇑P	**P**	**10 49 08.9 +0.6**
PDG	**Podgorica**	**40.00 295**	⇓*i*P	**P**	**10 49 08.8 +0.6**
PDG	**Podgorica**	**40.00 295**	⇓*i*P	**P**	**10 49 09.0 +0.8**
VADS	**Vadso**	**40.05 339**	*e*P	**P**	**10 49 09.3 +1.1**
VADS			IVmB_BB		10 49 10.4
	comp=Z,5μm,1.2s				
VADS			*e*PP	**PP**	**10 50 35.9 -6.4**
VADS			*e*S	**S**	**10 55 07.0 +1.6**
VADS			*e*SS	**SS**	**10 58 02.6 -4.1**
VADS			IVMs_BB	IVMs_BB	11 06 37.4
	comp=Z,25μm,16.4s				
ULC	**Ulcinj**	**40.09 294**	⇓*i*P	**P**	**10 49 09.1 +0.1**
DRME	**Dracevica, Mon**	**40.09 294**	⇓*i*P	**P**	**10 49 09.3 +0.3**
DRME	**Dracevica, Mon**	**40.09 294**	⇓*i*P	**P**	**10 49 09.8 +0.8**
SNY	**Shenyang**	**40.12 66**	⇑P	**P**	**10 49 09.4 +0.2**
SNY			pP	**pP**	**10 49 34.7 -1.1**
SNY			S	**S**	**10 55 03.4 -3.8**
SNY			pmax	pmax	
	comp=Z,140nm,0.9s				
SNY			pmax	pmax	
	comp=Z,4μm,9.5s				
SNY			LR	LR	
	comp=Z,3μm,13.1s				
SNY			LR	LR	
	comp=Z,11μm,15.3s				
SNY			LR	LR	
	comp=Z,14μm,15.0s				
UPM	**Unac-Piva**	**40.12 296**	⇓*i*P	**P**	**10 49 10.6 +1.1**
UPM	**Unac-Piva**	**40.12 296**	⇓*i*P	**P**	**10 49 10.7 +1.2**
NKME	**Niksic**	**40.16 295**	⇓*i*P	**P**	**10 49 10.5 +0.9**
MAUC	**Maruska**	**40.22 305**	*e*P	**P**	**10 49 12.0 +2.0**
CEME	**Cevo**	**40.23 295**	⇓*i*P	**P**	**10 49 10.9 +0.7**
BUM	**Brajici-Budva**	**40.29 294**	⇓*i*P	**P**	**10 49 11.4 +0.7**
KOVH	**Kovagotottos**	**40.30 300**	⇓P	**P**	**10 49 11.8 +1.1**
JAVC	**Velka Javorina**	**40.35 305**	⇓*i*P	**P**	**10 49 13.3 +2.2**
JAVC			*e*pP	**pP**	**10 49 38.7 +1.3**
JAVC			*e*PP	**PnPn**	**10 50 49.4 -1.3**
JAVC			*e*S	**S**	**10 55 14.9 +4.3**
MORC	**Moravsky Berou**	**40.39 306**	⇓P	**P**	**10 49 13.0 +1.6**
MORC	**Moravsky Berou**	**40.39 306**	IAmb	IAmb	10 49 14.2
	comp=Z,324nm,1.0s				
MORC	**Moravsky Berou**	**40.39 306**	⇓*i*P	**P**	**10 49 12.5 +1.2**
MORC			*e*pP	**pP**	**10 49 37.7 +0.1**
MORC			*e*PP	**PnPn**	**10 50 49.4 -1.7**
MORC			*e*S	**S**	**10 55 11.6 +0.5**
MORC	**Moravsky Berou**	**40.39 306**	⇓P	**P**	**10 49 12.6 +1.2**
MORC	**Moravsky Berou**	**40.39 306**	P	**P**	**10 49 13.0 +1.6**
BRY	**Bratogost**	**40.44 295**	⇓*i*P	**P**	**10 49 13.0 +1.0**
BRY	**Bratogost**	**40.44 295**	⇓*i*P	**P**	**10 49 13.1 +1.0**
SMOL	**Smolenice**	**40.53 304**	*e*P	**P**	**10 49 14.4 +1.9**
SMOL			*e*		10 49 39.0
SMOL			*e*		10 50 50.1
SMOL			pmax	pmax	
	comp=Z,92nm,1.0s				
KEV	**Kevo**	**40.55 338**	P	**P**	**10 49 12.9 +0.7**
KEV			IAmb	IAmb	10 49 14.5
	comp=Z,546nm,1.2s				
KEV	**Kevo**	**40.55 338**	⇓P	**P**	**10 49 13.1 +0.7**
KEV	**Kevo**	**40.55 338**	P	**P**	**10 49 13.0 +0.7**
KEV			pmax	pmax	
	comp=Z,547nm,1.2s				
KEV	**Kevo**	**40.55 338**	P	**P**	**10 49 13.1 +0.7**
GKP	**Gorka Klasztor**	**40.55 311**	*e*P	**P**	**10 49 13.3 +0.7**
GKP	**Gorka Klasztor**	**40.55 311**	*e*P	**P**	**10 49 13.5 +1.0**
MPLH	**Magyarpolny**	**40.57 302**	P	**P**	**10 49 13.9 +1.0**
	comp=Z,460nm,1.3s,comp=Z,12μm				
TREB	**Trebinje**	**40.61 295**	*e*P	**P**	**10 49 14.3 +1.1**
MODS	**Modra-Piesok**	**40.64 304**	*e*P	**P**	**10 49 15.1 +1.6**
MODS			*e*		10 49 39.4
MODS			*e*PP	**PP**	**10 50 50.6 +1.5**
MODS			*e*S	**S**	**10 55 15.8 +0.9**
MODS			*e*SS	**SS**	**10 58 21.1 +1.9**
MODS			*e*SS	**SnSn**	**10 58 22.1 -11**
MODS	**Modra-Piesok**	**40.64 304**	*e*P	**P**	**10 49 15.1 +1.6**
MODS			*e*		10 49 39.4
MODS			*e*		10 50 50.6
MODS			*e*S	**S**	**10 55 15.8 +0.9**
MODS			*e*SS	**SS**	**10 58 21.1 +1.9**
MODS			pmax	pmax	
	comp=Z,479nm,1.1s				
NEVS	**Nevesinje**	**40.69 296**	*e*P	**P**	**10 49 15.8 +1.8**
ZST	**Bratislava**	**40.77 304**	*e*P	**P**	**10 49 16.0 +1.5**
ZST			*e*		10 49 40.9
ZST			*e*PP	**PnPn**	**10 50 55.4 -0.2**
ZST			*e*S	**S**	**10 55 18.1 +1.3**
ZST			*e*SS	**SnSn**	**10 58 38.4 +2.5**
ZST	**Bratislava**	**40.77 304**	*e*P	**P**	**10 49 16.0 +1.5**
ZST			*e*		10 49 40.9
ZST			*e*		10 50 55.4
ZST			*e*S	**S**	**10 55 18.1 +1.3**
ZST			pmax	pmax	
	comp=Z,342nm,1.1s				
KRLC	**Kraliky**	**40.87 307**	*e*P	**P**	**10 49 16.9 +1.6**
KRLC			*e*PP	**PP**	**10 50 53.4 +1.9**
KRLC			*e*S	**S**	**10 55 21.8 +3.6**
KRLC	**Kraliky**	**40.87 307**	*e*P	**P**	**10 49 16.9 +1.6**
KRLC			*e*		10 50 53.4
KRLC			*e*S	**S**	**10 55 21.8 +3.6**
ARA0	**ARCESS Array S**	**40.89 337**	⇓*i*P	**P**	**10 49 16.3 +1.1**
ARA0			IVmB_BB		10 49 16.8
	comp=Z,7μm,1.5s				
ARA0			*e*pP	**pP**	**10 49 40.6 -1.1**
ARA0			*e*		10 50 47.4
ARA0			*i*		10 58 20.5
ARA0			IVMs_BB	IVMs_BB	11 07 02.8
	comp=Z,30μm,17.2s				
ARCES	**ARCESS Array B**	**40.89 337**	P	**P**	**10 49 16.4 +1.1**
ARCES			pP	**pP**	**10 49 42.0 +0.3**
ARCES	**ARCESS Array B**	**40.89 337**	P	**P**	**10 49 16.2 +1.0**
	comp=Z,328nm,0.8s,baz=111,slow=6.6,SNR=433				
ARCES			pP	**pP**	**10 49 42.7 +1.0**
	comp=Z,144nm,0.8s,baz=106,slow=8.9,SNR=2.4				
ARCES			sP	**sP**	**10 49 56.5 +1.7**
	comp=Z,231nm,0.8s,baz=116,slow=8.4,SNR=2.9				
ARCES			PP	**PP**	**10 50 52.0 +0.5**
	comp=Z,101nm,0.8s,baz=121,slow=8.5,SNR=1.2				
ARCES			LR	LR	11 07 15.0
	comp=Z,74μm,18.7s,baz=116,slow=37				
	comp=Z,328nm,0.8s				
UPP	**Uppsala**	**40.96 322**	*e*P	**P**	**10 49 16.1 +0.3**
VRAC	**Vranov**	**41.03 305**	⇓P	**P**	**10 49 18.4 +1.8**
VRAC	**Vranov**	**41.03 305**	⇓*i*P	**P**	**10 49 18.4 +1.8**
VRAC			*e*pP	**pP**	**10 49 43.3 +0.4**
VRAC			*e*PP	**PnPn**	**10 50 58.6 0.0**
VRAC			*e*S	**S**	**10 55 24.0 +3.4**
VRAC	**Vranov**	**41.03 305**	LR	LR	11 09 19.8
	comp=Z,6μm,18.1s,baz=68,slow=40				
VRAC	**Vranov**	**41.03 305**	P	**P**	**10 49 18.4 +1.8**
STON	**Ston**	**41.05 296**	⇓*i*P	**P**	**10 49 17.3 +0.5**
SCTE	**Santa Cesarea**	**41.06 291**	P	**P**	**10 49 15.8 -1.1**
SCTE			pP	**pP**	**10 49 40.4 -2.6**
BLY	**Banja Luka**	**41.11 298**	⇓P	**P**	**10 49 18.8 +1.4**
BLY	**Banja Luka**	**41.11 298**	⇓*i*P	**P**	**10 49 18.6 +1.3**
KCSI	**Kotacane, Aceh**	**41.12 138**	P	**P**	**10 49 16.0 -1.7**
	comp=Z,217nm,0.7s,comp=Z,7μmcomp=Z,18μm				
CN2	**Changchun**	**41.13 63**	*e*P	**P**	**10 49 17.6 +0.1**
CN2			*e*S	**S**	**10 55 17.3 -4.8**
CN2			pmax	pmax	
	comp=Z,200nm,1.4s				
CN2			pmax	pmax	
	comp=Z,4μm,5.1s				
CN2			LR	LR	
	comp=Z,4μm,11.0s				
CN2			LR	LR	
	comp=Z,8μm,11.0s				
CN2			LR	LR	
	comp=Z,8μm,14.0s				
DPC	**Dobruska-Polom**	**41.15 307**	*e*P	**P**	**10 49 19.2 +1.6**
DPC			*e*S	**S**	**10 55 24.9 +2.5**
DPC	**Dobruska-Polom**	**41.15 307**	*e*P	**P**	**10 49 19.2 +1.6**
DPC			*e*S	**S**	**10 55 24.9 +2.5**
DPC	**Dobruska-Polom**	**41.15 307**	P	**P**	**10 49 19.2 +1.6**
	comp=Z,301nm,1.1s,comp=Z,5μm				
SUJ	**Sinuiju**	**41.16 69**	P	**P**	**10 49 17.6 -0.1**
SUJ			S	**S**	**10 55 22.5 0.0**
SUJ			AmB		
	comp=Z,4μm,2.5s				
SUJ			AMS	AMS	
	comp=Z,866nm,4.8s				
KRUC	**Moravsky**	**41.18 305**	⇓*i*P	**P**	**10 49 19.3 +1.5**
KRUC			*e*pP	**pP**	**10 49 44.3 +0.2**
KRUC			*e*PP	**PnPn**	**10 51 00.2 -0.1**
KRUC			*e*S	**S**	**10 55 25.7 +3.0**
OSTC	**Ostas**	**41.20 307**	*e*P	**P**	**10 49 19.8 +1.7**
OSTC	**Ostas**	**41.20 307**	*e*P	**P**	**10 49 19.8 +1.7**
SRKY	**Kupres RS**	**41.23 297**	⇓*i*P	**P**	**10 49 19.8 +1.4**
MGRS	**Mrkonjic Grad**	**41.23 298**	*e*P	**P**	**10 49 20.4 +2.0**
VIKU	**Vikbolandet**	**41.23 319**	*e*P	**P**	**10 49 18.6 +0.5**
A051A	**Mrakovica**	**41.27 299**	⇓*i*P	**P**	**10 49 19

QZH pmax pmax
comp=Z,210nm,1.0s
QZH pmax pmax
comp=Z,7μm,4.4s
QZH LR LR
comp=Z,8μm,14.8s
QZH LR LR
comp=Z,8μm,17.5s
KNMB Chin-men Tao 41.88 94 IAmb IAmb 10 49 26.5
comp=Z,373nm,1.0s
ARSA Arzberg 41.93 302 *i* P **P 10 49 25.2 +1.2**
comp=Z,80nm,1.0s,SNR=60
ARSA Arzberg 41.93 302 ⇓P **P 10 49 25.1 +1.1**
BSD Bornholm Skovb 41.96 314 *eP* P **10 49 24.1 0.0**
BSD Bornholm Skovb 41.96 314 ⇑P **P 10 49 22.2 -1.9**
BSD Bornholm Skovb 41.96 314 *i* P **P 10 49 23.3 -0.8**
BSD IAmb IAmb 10 51 09.6
comp=Z,990nm,1.1s
HAMF Hammerfest 41.97 338 *eP* **P 10 49 25.3 +1.4**
HAMF IVmB_BB 10 49 26.4
comp=Z,7μm,1.1s
HAMF *e*PP **PnPn 10 51 07.3 -1.8**
HAMF *e*S **S 10 55 35.5 +1.7**
HAMF *e*SS **SS 10 58 53.9 +9.4**
HAMF IVMs_BB IVMs_BB 11 07 36.5
comp=Z,28μm,12.8s
GOPC GO Pecny, Ondr 42.16 306 *eP* **P 10 49 27.5 +1.7**
GOPC GO Pecny, Ondr 42.16 306 *eP* **P 10 49 27.5 +1.7**
CRES Cresnjev 42.16 300 ⇓*iP* **P 10 49 27.3 +1.4**
IPM Ipoh 42.17 133 P **P 10 49 26.8 +0.5**
IPM Ipoh 42.17 133 P **P 10 49 27.1 +0.8**
IPM Ipoh 42.17 133 ⇑P **P 10 49 27.1 +0.8**
BNX BinXian 42.20 60 ⇑P **P 10 49 26.9 +0.7**
BNX pP **pP 10 49 52.4 -0.7**
BNX sP **sP 10 50 08.5 +2.2**
BNX PP **PP 10 51 09.0 +3.1**
BNX S **S 10 55 38.9 +1.0**
BNX sS **sS 10 56 22.3 -2.1**
BNX pmax pmax
comp=Z,420nm,1.3s
BNX pmax pmax
comp=Z,5μm,9.4s
BNX LR LR
comp=Z,13μm,18.6s
BNX LR LR
comp=Z,6μm,19.4s
BNX LR LR
comp=Z,11μm,15.5s
MATE Matera 42.23 292 ⇑P **P 10 49 27.5 +1.0**
MATE Matera 42.23 292 ⇓P **P 10 49 26.9 +0.3**
PVCC Panska Ves 42.26 307 *eP* **P 10 49 28.3 +1.7**
PVCC Panska Ves 42.26 307 *eP* **P 10 49 28.3 +1.7**
PRU Pruhonice 42.31 307 *eP* **P 10 49 28.7 +1.7**
PRU *e*S **S 10 55 36.3 -3.1**
PRU AMS AMS 11 09 20.0
comp=Z,8μm,14.9s
PRU Pruhonice 42.31 307 *eP* **P 10 49 28.7 +1.7**
PRU *e*S **S 10 55 36.3 -3.1**
PRU MLR MLR
comp=Z,8μm,14.9s
SOKA Soboth 42.33 302 *i* P **P 10 49 28.9 +1.6**
comp=Z,187nm,1.1s,SNR=211
BOJS Bojanci 42.35 300 ⇓*iP* **P 10 49 28.9 +1.5**
PYAG Pyongyang 42.36 70 P **P 10 49 27.6 +0.1**
PYAG pP **pP 10 49 54.7 +0.1**
PYAG S **S 10 55 40.0 -0.3**
PYAG AmB
comp=Z,4μm,2.5s
PYAG AMS AMS
comp=Z,658nm,4.8s
PRA Prague 42.38 307 *eP* **P 10 49 29.4 +1.9**
PRA *e*PP **PP 10 51 06.0 -1.7**
PRA *e*S **S 10 55 41.8 +1.5**
PRA Prague 42.38 307 *eP* **P 10 49 29.4 +1.9**
PRA *e* 10 51 06.0
PRA *e*S **S 10 55 41.8 +1.5**
JETT Jettan, Norway 42.52 336 *eP* **P 10 49 29.1 +0.7**
JETT *e* 10 51 13.4
JETT *i* 10 58 44.5
JETT IVMs_BB IVMs_BB 11 07 53.0
comp=Z,22μm,14.3s
TIP Timpagrande 42.55 290 ⇑P **P 10 49 30.3 +1.1**
TIP Timpagrande 42.55 290 IAmb IAmb 10 49 32.4
comp=Z,373nm,1.2s
TIP Timpagrande 42.55 290 ⇓P **P 10 49 29.7 +0.5**
TIP Timpagrande 42.55 290 P **P 10 49 29.7 +0.5**
comp=Z,221nm,1.2s,comp=Z,4μm
RICC Richard 42.55 307 *eP* **P 10 49 30.7 +1.7**
CKRC Cesky Krumlov 42.57 305 *eP* **P 10 49 30.7 +1.6**
CKRC *e*S **S 10 55 43.8 +0.5**
CKRC Cesky Krumlov 42.57 305 *eP* **P 10 49 30.7 +1.6**
CKRC *e*S **S 10 55 43.8 +0.5**
ZVC Zvikov 42.58 306 *eP* **P 10 49 31.1 +1.9**
DEL Delary 42.59 316 *eP* **P 10 49 29.7 +0.5**
HJU Haeju 42.60 71 P **P 10 49 29.5 0.0**
HJU S **S 10 55 43.7 -0.2**
HJU AmB
comp=Z,4μm,1.7s
HJU AMS AMS
comp=Z,38nm,2.7s
BRG Berggiesshubel 42.63 308 ⇓*iP* **P 10 49 31.1 +1.4**
BRG Amp 10 49 32.5
comp=Z,435nm,1.0s
BRG pP **pP 10 49 58.1 +2.1**
BRG Amp 10 50 00.3
comp=Z,277nm,1.1s
BRG sP **sP 10 50 13.2 +4.2**
BRG Amp 10 50 18.3
comp=Z,305nm,1.1s
BRG PP **PcP 10 51 17.4 -2.2**
BRG Amp 10 51 18.7
comp=Z,762nm,1.6s
BRG Berggiesshubel 42.63 308 SS SS 10 59 05.0 +7.0
BRG Amp 11 09 43.0
comp=N,4.4nm,15.0s
BRG Amp 11 09 43.0
comp=E,10nm,14.8s
BRG Amp 11 09 48.0
comp=Z,16nm,14.8s
BRG Berggiesshubel 42.63 308 ⇓*iP* **P 10 49 31.0 +1.4**
BRG 10 49 58.0
BRG SP 10 50 13.1
BRG 10 51 17.4
BRG 10 51 50.4
BRG S **S 10 55 48.0 +3.9**
BRG pmax pmax
comp=Z,435nm,1.0s
BRG pmax pmax
comp=Z,762nm,1.6s
BRG MLR MLR
comp=E,10μm,14.8s
BRG MLR MLR
comp=Z,16μm,14.8s
RUE Ruedersdorf 42.65 310 ⇓P **P 10 49 30.6 +0.9**
RUE Ruedersdorf 42.65 310 *eP* **P 10 49 30.6 +0.9**
OBKA Obir 42.69 301 *i* P **P 10 49 31.9 +1.7**
comp=Z,79nm,1.1s,SNR=63
OBKA Obir 42.69 301 ⇓*iP* **P 10 49 31.7 +1.5**
SGRT San Giovanni R 42.70 294 IAmb IAmb 10 49 33.0
comp=Z,455nm,1.1s
MOA Molln 42.70 303 *i* P **P 10 49 31.4 +1.1**
comp=Z,138nm,0.9s,SNR=106
LJU Ljubljana 42.77 301 ⇓*iP* **P 10 49 32.5 +1.7**
LJU *e*pP **pP 10 49 57.5 +0.2**
LJU *e* 10 55 00.2
LJU *e*S **S 10 55 48.7 +2.4**
LJU *e* 10 56 30.1
LJU *e* 10 59 04.5
RGN Rugen 42.87 313 ⇓P **P 10 49 32.9 +1.4**
RGN Rugen 42.87 313 *eP* **P 10 49 32.9 +1.4**
CEY Cerknica 42.89 300 ⇓*iP* **P 10 49 32.7 +0.9**
GSI Gunungsitoli 42.89 140 P **P 10 49 33.8 +1.8**
GSI Gunungsitoli 42.89 140 P **P 10 49 33.6 +1.6**
GSI Gunungsitoli 42.89 140 ⇑P **P 10 49 33.9 +1.8**
GSI Gunungsitoli 42.89 140 P **P 10 49 33.8 +1.8**
comp=Z,2μm,1.2s,comp=Z,33μmcomp=Z,32μm
HFS Hagfors 42.95 322 P **P 10 49 32.6 +0.6**
comp=Z,150nm,0.4s,baz=106,slow=9.4,SNR=476
HFS pP **pP 10 49 59.4 +0.8**
comp=Z,644nm,0.7s,baz=94,slow=9.1,SNR=7.5
HFS sP **sP 10 50 13.6 +1.9**
comp=Z,221nm,0.6s,baz=91,slow=10,SNR=2.9
HFS LR LR 11 08 23.7
comp=Z,18μm,19.6s,baz=90,slow=37
comp=Z,150nm,0.4s
GERES GERESS Array B 42.96 305 P **P 10 49 33.2 +0.8**
GERES pP **pP 10 49 58.7 -0.2**
GERES GERESS Array B 42.96 305 P **P 10 49 33.7 +1.2**
comp=Z,33nm,0.9s,baz=87,slow=7.2,SNR=66
GERES PcP **PcP 10 51 20.8 -0.1**
comp=Z,89nm,1.0s,baz=74,slow=1.8,SNR=3.4
GERES ScP **ScP 10 55 00.9 -0.8**
comp=Z,6.8nm,0.6s,baz=96,slow=6.0,SNR=1.9
comp=Z,33nm,0.9s
GERES GERESS Array B 42.96 305 P **P 10 49 33.2 +0.8**
GERES *PP **pP 10 49 58.7 -0.2**
HSKC Hora Svate Kat 42.97 308 *eP* **P 10 49 34.2 +1.8**
KHC Kasperske Hory 43.01 305 ⇓P **P 10 49 33.9 +1.1**
KHC Kasperske Hory 43.01 305 *eP* **P 10 49 34.3 +1.5**
KHC *e*pP **pP 10 49 58.4 -0.9**
KHC *e*PP **PP 10 51 14.2 -0.4**
KHC *e*S **S 10 55 52.1 +2.3**
KHC AMS AMS 11 10 50.0
comp=Z,8μm,18.4s
KHC Kasperske Hory 43.01 305 *ceP* **P 10 49 33.8 +1.0**
KHC pmax pmax
comp=Z,517nm,1.3s
KHC Kasperske Hory 43.01 305 P **P 10 49 33.9 +1.1**
comp=Z,184nm,1.6s,comp=Z,5μm
TRO Tromso 43.03 336 *eP* **P 10 49 33.1 +0.7**
TRO IVmB_BB 10 49 34.5
comp=Z,4μm,1.2s
TRO *e*PP **PP 10 51 15.5 +1.2**
TRO *e*S **S 10 55 42.6 -6.8**
TRO IVMs_BB IVMs_BB 11 08 29.7
comp=Z,20μm,14.2s
CUC Castrocucco 43.05 292 P **P 10 49 34.4 +1.2**
CUC pP **pP 10 49 59.8 +0.3**
CUC Castrocucco 43.05 292 ⇓P **P 10 49 34.5 +1.3**
BIOA Bad Ischl, Aus 43.14 303 *i* P **P 10 49 34.9 +1.1**
comp=Z,55nm,0.6s,SNR=51
CLL Collm 43.19 309 ⇓*iP* **P 10 49 35.0 +0.9**
comp=Z,300nm,1.1s
CLL *e*pP **pP 10 49 59.0 -1.5**
CLL *e*sP **sP 10 50 12.0 -1.8**
CLL *e*PP **PP 10 51 16.0 -0.4**
CLL *i* PP **PcP 10 51 22.2 +0.7**
CLL *e*sPP 10 51 49.0
CLL *ex* x 10 52 36.0
CLL *e*ScP **ScP 10 55 02.0 -0.4**
CLL *e*S **S 10 55 54.0 +1.7**
CLL *e*sS **sS 10 56 35.0 -3.9**
CLL *e*SS **SS 10 59 06.0 -3.0**
CLL *e*sSS 10 59 48.0
CLL *ex* x 11 00 48.0
CLL Collm 43.19 309 ⇓*iP* **P 10 49 35.0 +0.9**
CLL *e**PP **pP 10 49 59.0 -1.5**
CLL *e*S **S 10 55 54.0 +1.7**
CLL pmax pmax
comp=Z,300nm,1.1s
CLL Collm 43.19 309 P **P 10 49 35.0 +0.9**
comp=Z,260nm,1.2s,comp=Z,4μm
CADS Cadrg 43.28 301 ⇓*iP* **P 10 49 36.0 +1.1**
MYKA Terra Mystica 43.29 302 *eP* **P 10 49 36.2 +1.1**
comp=Z,70nm,1.0s,SNR=47
PRED Cave del Predi 43.37 302 P **P 10 49 36.7 +1.0**
PRED pP **pP 10 50 01.2 -1.1**
PRED IAmb IAmb 10 50 21.3
comp=Z,276nm,1.0s
COP Copenhagen 43.38 315 *i* P **P 10 49 36.4 +0.9**
COP IAmb IAmb 10 49 38.0
comp=Z,1μm,1.0s
SABO M.te Sabotino 43.42 301 IAmb IAmb 10 49 38.5
comp=Z,886nm,1.1s
KBA Koelnbreinsper 43.42 302 *eP* **P 10 49 37.3 +1.0**
comp=Z,63nm,1.0s,SNR=167
KBA Koelnbreinsper 43.42 302 ⇓P **P 10 49 37.2 +1.0**
YAK Yakutsk 43.44 36 P **P 10 49 36.0 +0.1**
YAK Yakutsk 43.44 36 ⇑P **P 10 49 35.8 -0.1**
YAK Yakutsk 43.44 36 *ciP* **P 10 49 35.7 -0.2**
YAK pmax pmax
comp=Z,1μm,0.8s
YAK Yakutsk 43.44 36 P **P 10 49 35.9 -0.1**
INCN Inchon 43.45 72 P **P 10 49 37.2 +0.8**
INCN Inchon 43.45 72 P **P 10 49 36.5 +0.1**
INCN Inchon 43.45 72 ⇑P **P 10 49 36.6 +0.2**
INCN Inchon 43.45 72 P **P 10 49 36.7 +0.3**
INCN P **P 10 49 36.7 +0.3**
INCN S **S 10 55 56.0 -0.4**
INCN S **S 10 55 56.0 -0.4**
INCN Inchon 43.45 72 P **P 10 49 36.5 +0.1**
INCN pmax pmax
comp=Z,1μm,1.8s
INCN Inchon 43.45 72 P **P 10 49 36.8 +0.4**
CEL Celeste 43.45 289 IAmb IAmb 10 49 39.5
comp=Z,320nm,1.0s
CEL Celeste 43.45 289 ⇑P **P 10 49 35.9 -0.6**
CEL Celeste 43.45 289 P **P 10 49 37.4 +1.0**
comp=Z,321nm,1.1s,comp=Z,8μm
HHU Hamhung 43.46 68 P **P 10 49 36.8 +0.4**
HHU S **S 10 55 56.4 0.0**
HHU AmB
comp=Z,4μm,1.5s
HHU AMS AMS
comp=Z,548nm,4.6s
LLD Lille Linde 43.51 315 *i* P **P 10 49 37.6 +1.1**
LLD IAmb IAmb 10 49 38.7
comp=Z,894nm,1.0s
PTCC Patocco-Chiusa 43.52 301 ⇓P **P 10 49 37.8 +0.9**
FAUS Fauske 43.59 332 *eP* **P 10 49 38.0 +0.9**
FAUS IVmB_BB 10 49 38.6
comp=Z,7μm,1.3s
FAUS *e*pP **pP 10 50 05.3 +1.4**
FAUS *e*PP **PP 10 51 21.7 +1.3**
FAUS *e*S **S 10 55 59.5 +1.8**
FAUS *e*SS **SS 10 59 13.0 -3.3**
FAUS IVMs_BB IVMs_BB 11 05 16.0
comp=Z,12μm,4.6s
MOR8 Moi Rana 43.62 330 *eP* **P 10 49 37.5 +0.1**
MOR8 IVmB_BB 10 49 38.0
comp=Z,9μm,0.9s
MOR8 *e*pP **pP 10 50 03.3 -0.7**
MOR8 *e*PP **PP 10 51 20.4 -0.3**
MOR8 *e*S **S 10 55 57.0 -1.2**
MOR8 *e*SS **SS 10 59 09.1 -8.0**
MOR8 IVMsBB 11 08 35.6
comp=Z,13μm,5.9s
NKC Novy Kostel 43.63 307 *eP* **P 10 49 39.7 +2.0**
NKC Novy Kostel 43.63 307 *eP* **P 10 49 39.7 +2.0**
STEI Steigen 43.76 333 ⇓*iP* **P 10 49 39.1 +0.8**
STEI IVmB_BB 10 49 40.4
comp=Z,5μm,1.3s
STEI *e*PP **PP 10 51 22.8 +0.7**
STEI *e* 10 59 21.2
STEI IVMsBB 11 07 22.1
comp=Z,11μm,10.9s
LESA Schwarzleotal 43.83 303 *i* P **P 10 49 40.2 +0.8**
comp=Z,173nm,1.1s
MDJ Mudanjiang 43.92 61 P **P 10 49 40.5 +0.5**
MDJ Mudanjiang 43.92 61 P **P 10 49 40.1 +0.1**
MDJ pP pP 10 50 07.0 0.0
MDJ S **S 10 56 03.1 +0.1**
MDJ ScS **SS 10 59 25.2 +1.9**
MDJ pmax pmax
comp=Z,170nm,1.5s
MDJ pmax pmax
comp=Z,5μm,9.2s
MDJ LR LR
comp=Z,7μm,12.4s
MDJ LR LR
comp=Z,6μm,20.6s
MDJ LR LR
comp=Z,11μm,18.5s
MDJ Mudanjiang 43.92 61 P **P 10 49 40.2 +0.1**
MDJ IAmb IAmb 10 49 43.6
comp=Z,1μm,1.7s
MSEY Mahe Island 43.96 203 P **P 10 49 41.7 +1.0**
MSEY Mahe Island 43.96 203 ⇑*iP* **P 10 49 41.5 +0.8**
ABTA Abfaltersbach 44.04 302 *i* P **P 10 49 41.5 +0.4**
comp=Z,50nm,0.9s,SNR=69
NC602 NORSAR Array S 44.07 322 IAmb IAmb 10 51 28.1
comp=Z,616nm,1.1s
NC602 NORSAR Array S 44.07 322 *eP* **P 10 49 41.2 +0.2**
NC602 IVmB_BB 10 49 49.6
comp=Z,3μm,1.2s
NC602 *e*PP **PcP 10 51 21.5 -2.8**
NC602 *e*S **S 10 56 05.7 +0.9**
NC602 *e*SS **ScS 10 59 30.6 +2.9**
NC602 IVMs_BB IVMs_BB 11 09 20.6
comp=Z,10μm,7.9s
NORES NORESS Array B 44.07 322 P **P 10 49 41.3 +0.3**
DGAR Diego Garcia 44.10 179 P **P 10 49 42.3 +0.6**
DGAR IAmb IAmb 10 49 43.9
comp=Z,605nm,1.1s
DGAR Diego Garcia 44.10 179 ⇑P **P 10 49 42.5 +0.8**
DGAR Diego Garcia 44.10 179 P **P 10 49 42.9 +1.3**
DGAR P **P 10 49 42.9 +1.3**
DGAR Diego Garcia 44.10 179 *ciP* **P 10 49 42.8 +1.1**
DGAR pmax pmax
comp=Z,782nm,1.7s
DGAR Diego Garcia 44.10 179 P **P 10 49 42.5 +0.8**
TATO Taipei 44.12 91 P **P 10 49 44.1 +2.3**
TATO Taipei 44.12 91 P **P 10 49 44.0 +2.1**
TATO P **P 10 49 44.0 +2.1**
GUMA Gualdo di Mace 44.15 297 IAmb IAmb 10 50 02.6
comp=Z,647nm,1.2s
YHNB Yeheng 44.17 91 P **P 10 49 44.3 +1.9**
FLTG Flechtingen 44.21 310 ⇓P **P 10 49 43.0 +0.7**
KONS Konsvik 44.22 331 *eP* **P 10 49 42.8 +0.8**
KONS IVmB_BB 10 49 44.0
comp=Z,3μm,1.4s
KONS *e*S **S 10 56 08.6 +1.9**
KONS *e*SS **ScS 10 59 32.8 +4.4**
NB201 NORSAR Array S 44.22 323 P **P 10 49 42.4 +0.2**
STOK Stokkvaagen 44.22 330 *eP* **P 10 49 42.7 +0.7**
STOK IVmB_BB 10 49 43.3
comp=Z,3μm,1.7s
STOK *e*SS SS 10 59 31.2 +2.9
STOK IVMs_BB IVMs_BB 11 07 09.9
comp=Z,12μm,5.0s
TPUB Ta-pu 44.23 94 P **P 10 49 44.7 +1.9**
NB2 NORSAR Subarra 44.25 323 P **P 10 49 42.5 0.0**
comp=Z,573nm,1.0s,baz=94,slow=7.9
NB2 PP **PcP 10 51 24.0 -1.0**
comp=Z,196nm,0.9s,baz=113,slow=12
NB2 NORSAR Subarra 44.25 323 P **P 10 49 42.5 0.0**
baz=94,slow=7.9
NB2 NORSAR Subarra 44.25 323 P **P 10 49 42.7 +0.2**
NB2 pmax pmax
comp=Z,345nm,1.4s
NOA NORSAR Array B 44.25 323 P **P 10 49 42.6 0.0**
comp=Z,294nm,0.9s,baz=95,slow=7.8,SNR=470
NOA pP **pP 10 50 08.9 -0.4**
comp=Z,411nm,0.8s,baz=95,slow=8.0,SNR=8.7
NOA sP **sP 10 50 23.5 +1.2**
comp=Z,70nm,0.7s,baz=96,slow=8.1,SNR=1.6
NOA LR LR 11 09 14.3
comp=Z,15μm,21.5s,baz=95,slow=37
comp=Z,294nm,0.9s
SSLB Suanglung 44.26 93 P **P 10 49 45.1 +2.1**
H08S3 Diego Garcia H 44.31 178 P **P 10 49 44.4 +1.3**
baz=352,slow=14,SNR=18
NSS Namsos 44.33 328 *eP* **P 10 49 43.1 +0.2**
NSS IVmB_BB 10 49 44.4
comp=Z,2μm,1.4s
NSS *e*PP **PP 10 51 28.3 +0.1**
NSS *e*SS SS 10 59 33.3 +3.1
NSS IVMs_BB IVMs_BB 11 08 49.2
comp=Z,11μm,9.3s
H08S1 Diego Garcia H 44.33 178 P **P 10 49 44.7 +1.4**
baz=352,slow=14,SNR=20
H08S2 Diego Garcia H 44.33 178 P **P 10 49 44.8 +1.6**
baz=352,slow=14,SNR=31
TJN Taejon 44.34 73 P **P 10 49 43.1 -0.4**
TJN Taejon 44.34 73 P **P 10 49 42.9 -0.6**
TJN Taejon 44.34 73 *ceP* **P 10 49 43.5 0.0**
FDMO Fiordimonte 44.34 297 IAmb IAmb 10 49 46.2
comp=Z,502nm,1.3s
NRCA Norcia 44.36 296 IAmb IAmb 10 49 56.7
comp=Z,329nm,1.1s
KS19 Wonju Array Si 44.38 71 IAmb IAmb 10 49 46.2
comp=Z,434nm,1.1s
NAO01 NORSAR Array S 44.40 322 IAmb IAmb 10 50 12.6
comp=Z,535nm,0.9s
PBSI Pulau Batu 44.41 140 P **P 10 49 45.9 +1.7**
comp=Z,2μm,1.7s,comp=Z,34μmcomp=Z,27μm
KSAR Wonju Array Be 44.41 71 P **P 10 49 44.1 0.0**
KSAR Wonju Array Be 44.41 71 P **P 10 49 44.1 0.0**
OSL Oslo 44.42 321 *eP* **P 10 49 44.5 +0.7**
OSL IVmBBB 10 49 45.3
comp=Z,3μm,1.0s
OSL *e*PP **PP 10 51 29.6 +0.3**
OSL *e*S **S 10 56 07.8 -2.1**
LOF Lofoten 44.43 333 *eP* **P 10 49 43.6 -0.1**
LOF IVmB_BB 10 49 45.2
comp=Z,3μm,1.4s
LOF *e*PP **PP 10 51 29.4 +0.2**
LOF *e*S **S 10 56 12.1 +2.4**
LOF *e*SS **SS 10 59 32.9 +1.0**
LOF IVMs_BB IVMs_BB 11 06 37.2
comp=Z,13μm,4.6s
KSRS Korea Array 44.44 71 P **P 10 49 44.2 0.0**
comp=Z,115nm,0.8s,baz=279,slow=6.7,SNR=222
comp=Z,115nm,0.8s
GRA1 Grafenberg Arr 44.48 306 IAmb IAmb 10 49 48.0
comp=Z,486nm,1.1s
GRFO Grafenberg 44.48 306 P **P 10 49 45.9 +1.5**
GRFO IAmb IAmb 10 49 48.0
comp=Z,527nm,1.2s
GRFO Grafenberg 44.48 306 P **P 10 49 45.9 +1.5**
GRFO pmax pmax
comp=Z,527nm,1.2s
WTTA Wattenberg 44.55 303 *i* P **P 10 49 45.7 +0.5**
comp=Z,220nm,1.1s,SNR=107
WATA Walderalm 44.58 303 *i* P **P 10 49 45.8 +0.4**
comp=Z,92nm,0.9s,SNR=72
NACB Ninganchiao 44.58 92 P **P 10 49 48.1 +2.5**
NACB Ninganchiao 44.58 92 P **P 10 49 47.2 +1.6**
NACB IAmb IAmb 10 49 49.9
comp=Z,998nm,1.6s
KLR Kul'dur 44.64 54 LR LR 11 11 08.0
comp=Z,8μm,19.7s,baz=266,slow=40
KLR Kul'dur 44.64 54 *ciP* **P 10 49 46.1 +0.4**
KLR pmax pmax
comp=Z,875nm,1.7s
HOPEN Hopen 44.68 346 *eP* **P 10 49 48.1 +2.4**
HOPEN IVmBBB 10 49 49.1
comp=Z,4μm,1.6s
HOPEN *e*PP **PP 10 51 31.1 -0.6**
HOPEN *e*S **S 10 56 15.7 +2.4**
HOPEN IVMs_BB IVMs_BB 11 12 17.4
comp=Z,8μm,8.8s
YULB Yu-li 44.72 93 P **P 10 49 48.8 +2.1**
YULB Yu-li 44.72 93 IAmb IAmb 10 49 52.5
comp=Z,424nm,1.1s
CESX Cesi 44.80 296 IAmb IAmb 10 49 50.1
comp=Z,484nm,1.2s
TWGBT Beinan 44.83 94 P **P 10 49 50.2 +2.6**
SQTA Sankt Quirin 44.84 303 *i* P **P 10 49 47.8 +0.3**
comp=Z,117nm,1.2s,SNR=78
TEOL Teolo 44.86 300 P **P 10 49 48.1 +0.6**
TEOL pP **pP 10 50 13.4 -0.7**
TEOL IAmb IAmb 10 50 29.7
comp=Z,328nm,0.8s
MOTA Moosalm 44.89 303 *i* P **P 10 49 48.2 +0.2**
comp=Z,121nm,0.9s,SNR=91
TBLU Trondheim 44.91 326 *eP* **P 10 49 47.9 +0.2**
TBLU IVmB_BB 10 49 48.9
comp=Z,3μm,1.1s
TBLU *e*pP **pP 10 50 14.8 +0.4**
TBLU *e*PP **PP 10 51 33.1 -1.3**
TBLU *e*S **S 10 56 14.9 -1.9**
TBLU *e*ScS **ScS 10 59 30.4 -2.5**
TBLU IVMs_BB IVMs_BB 11 09 09.2
comp=Z,12μm,20.5s
BJO1 Bjornoya 44.98 342 *eP* **P 10 49 49.0 +1.0**
BJO1 IVmB_BB 10 49 55.7
comp=Z,7μm,1.2s
BJO1 *e*PP **PP 10 51 36.1 +1.2**
BJO1 *e*S **S 10 56 19.0 +1.5**
BJO1 *e*SS **SS 10 59 41.7 +0.4**
BJO1 IVMs_BB IVMs_BB 11 10 17.3
comp=Z,14μm,14.8s
KONO Kongsberg 44.98 321 P **P 10 49 48.5 +0.3**
KONO pP **pP 10 50 14.0 -1.0**
KONO IAmb IAmb 10 50 16.8
comp=Z,450nm,0.9s
KONO Kongsberg 44.98 321 *eP* **P 10 49 48.7 +0.5**
KONO *e*pP **pP 10 50 15.1 +0.1**
KONO *e*PP **PP 10 51 33.7 -1.5**
KONO *e*S **S 10 56 19.7 +1.8**
KONO IVMs_BB IVMs_BB 11 09 11.7
comp=Z,9μm,7.2s

KONO Kongsberg 44.98 321 ⇓P P 10 49 48.5 +0.3
KONO Kongsberg 44.98 321 *d* iP P 10 49 48.5 +0.3
KONO pmax pmax
comp=Z,412nm,1.3s
KONO Kongsberg 44.98 321 P P 10 49 48.4 +0.2
KONO pP pP 10 50 14.2 -0.8
KONO sP sP 10 50 27.5 -0.5
SSRD Sdr. Stenderup 44.98 315 *i* P P 10 49 49.8 +1.5
SSRD IAmb IAmb 10 51 46.4
comp=Z,3μm,1.5s
RETA Reutte 45.10 303 *i* P P 10 49 50.0 +0.5
comp=Z,75nm,0.9s,SNR=46
FETA Feichten 45.20 303 *i* P P 10 49 50.6 +0.2
comp=Z,94nm,0.9s,SNR=90
MUD Monsted U'grnd 45.20 316 ⇓P P 10 49 51.2 +1.2
MUD Monsted U'grnd 45.20 316 *i* P P 10 49 48.8 -1.2
MUD IAmb IAmb 10 52 05.0
comp=Z,1μm,1.9s
WDD Wied Dalam 45.22 287 IAmb IAmb 10 49 53.2
comp=Z,554nm,1.1s
TIXI Tiksi 45.27 22 P P 10 49 50.7 +0.4
TIXI Tiksi 45.27 22 ⇑P P 10 49 50.7 +0.4
TIXI Tiksi 45.27 22 LR LR 11 09 12.6
comp=Z,7μm,18.7s,baz=274,slow=36
TIXI Tiksi 45.27 22 *c* iP P 10 49 50.4 0.0
TIXI pmax pmax
comp=Z,1μm,1.0s
DOMB Dombas 45.35 324 *e*P P 10 49 51.8 +0.6
DOMB IVmB_BB 10 49 52.4
comp=Z,3μm,1.3s
DOMB *e*pP pP 10 50 18.2 +0.1
DOMB *e*PP PP 10 51 38.1 -1.1
DOMB *e*S S 10 56 23.9 +0.4
DOMB IVMsBB 11 09 27.9
comp=Z,10μm,7.0s
MSHR Mys Shultsa 45.46 64 *c* iP P 10 49 53.6 +1.3
MSHR pmax pmax
comp=Z,630nm,1.7s
BKNI Bangkinang 45.57 136 P P 10 49 54.1 +0.7
BKNI Bangkinang 45.57 136 P P 10 49 54.0 +0.6
BKNI Bangkinang 45.57 136 P P 10 49 51.1 -2.3
BKNI S S 10 56 25.6 -1.8
BKNI Bangkinang 45.57 136 P P 10 49 53.8 +0.4
comp=Z,2μm,0.9s,comp=Z,27μmcomp=Z,20μm
SKAR Skarslia 45.66 322 *e*P P 10 49 54.8 +1.2
SKAR *e*PP PP 10 51 41.0 -1.5
SKAR *e*S S 10 56 30.8 +3.0
SKAR IVMs_BB IVMs_BB 11 10 13.8
comp=Z,14μm,6.2s
CLTB Caltabellotta 45.67 289 P P 10 49 54.6 +0.5
CLTB Caltabellotta 45.67 289 ⇑P P 10 49 54.6 +0.5
USA0B Ussuriysk Arra 45.68 61 P P 10 49 53.9 -0.1
USA0B Ussuriysk Arra 45.68 61 *c* iP P 10 49 53.9 -0.1
USRK Ussuriysk Ar. 45.68 61 P P 10 49 53.8 -0.2
USRK Ussuriysk Ar. 45.68 61 P P 10 49 54.0 0.0
comp=Z,122nm,0.8s,baz=270,slow=6.8,SNR=282
USRK PP PP 10 51 45.7 +2.7
comp=Z,68nm,1.1s,baz=288,slow=10,SNR=7.9
USRK LR LR 11 11 42.0
comp=Z,8μm,18.8s,baz=285,slow=39
comp=Z,122nm,0.8s
USRK Ussuriysk Ar. 45.68 61 P P 10 49 54.0 0.0
DAVA Damuels 45.72 303 *i* P P 10 49 55.2 +0.7
comp=Z,365nm,0.8s,SNR=220
DAVOX Davos/Dischmat 45.82 303 S S 10 56 32.4 +1.6
comp=Z,13nm,0.9s,baz=302,slow=23,SNR=2.3
SISI Saibi 45.91 140 P P 10 49 57.4 +1.4
comp=Z,1μm,1.3s,comp=Z,22μmcomp=Z,22μm
PRMA PARMA 45.92 300 IAmb IAmb 10 50 45.8
comp=Z,634nm,1.2s
CASP Castiglione de 45.98 297 P P 10 49 56.5 +0.1
CASP pP pP 10 50 21.6 -1.5
MYKOM Kota Tinggi 46.00 132 P P 10 49 58.0 +1.2
MYKOM Kota Tinggi 46.00 132 ⇑P P 10 49 58.2 +1.4
VLC Villacollemand 46.00 299 P P 10 49 57.5 +0.9
VLC S S 10 56 34.2 +1.0
VLC Villacollemand 46.00 299 ⇓P P 10 49 57.8 +1.2
HLG Helgoland 46.07 313 ⇓P P 10 49 58.4 +1.5
MOL Molde 46.09 325 *e*P P 10 49 58.1 +1.1
MOL IVmB_BB 10 49 59.4
comp=Z,2μm,1.9s
MOL *e*S S 10 56 36.6 +2.8
MOL IVMsBB 11 09 49.7
comp=Z,12μm,11.8s
SNART Snartemo 46.21 319 *e*P P 10 49 58.9 +1.0
SNART IVmB_BB 10 50 00.2
comp=Z,5μm,1.4s
SNART *e*PP PP 10 51 47.9 -0.1
SNART *e*S S 10 56 38.3 +2.7
TUE Stuetta 46.23 302 ⇓P P 10 49 58.7 +0.1
TUE Stuetta 46.23 302 P P 10 49 58.6 0.0
comp=Z,687nm,0.9s,comp=Z,18μm
PDSI Padang 46.28 138 P P 10 49 59.3 +0.3
comp=Z,1μm,0.9s,comp=Z,28μmcomp=Z,22μm
AKN Aaknes 46.33 324 *e*P P 10 49 59.8 +0.9
AKN IVmB_BB 10 50 00.9
comp=Z,1μm,1.1s
AKN *e*pP pP 10 50 26.0 +0.1
AKN *e*PP PP 10 51 50.5 +1.3
AKN *e*S S 10 56 39.7 +2.4
AKN *e* 10 59 46.4
AKN IVMs_BB IVMs_BB 11 07 18.8
comp=Z,9μm,4.5s
IBBN Ibbenburen 46.34 310 ⇓P P 10 50 00.3 +1.3
ODD1 Odda 46.48 321 *e*P P 10 50 01.4 +1.3
ODD1 IVmB_BB 10 50 02.7
comp=Z,2μm,1.4s
ODD1 *e*pP pP 10 50 26.5 -0.5
ODD1 *e*PP PP 10 51 51.6 +1.0
ODD1 *e*S S 10 56 41.7 +2.1
ODD1 *e*SS SS 10 59 57.9 -8.4
ODD1 IVMs_BB IVMs_BB 11 10 18.5
comp=Z,10μm,8.6s
JTU Tsushima 46.52 75 P P 10 50 01.4 +0.7
JTU Tsushima 46.52 75 ⇑P P 10 50 01.2 +0.5
JTU Tsushima 46.52 75 P P 10 50 01.0 +0.3
BFO Black Forest 46.57 305 P P 10 50 01.6 +0.7
BLS5 Blasjo 46.58 320 *e*P P 10 50 02.0 +1.2
BLS5 IVmB_BB 10 50 05.8
comp=Z,4μm,1.1s
BLS5 *e*PP PP 10 51 53.0 +1.4
BLS5 *e*ScP ScP 10 55 16.9 +0.7
BLS5 *e*S S 10 56 43.4 +2.5
BLS5 *e*SS SS 11 00 02.1 -5.8
BLS5 IVMs_BB IVMs_BB 11 11 09.6
comp=Z,10μm,7.2s
MSSA Maissana 46.58 299 IAmb IAmb 10 50 03.2
comp=Z,326nm,1.1s
JFU Fukue jima 2 46.69 77 P P 10 50 02.5 +0.4
HYA Hoyanger 46.70 323 *e*P P 10 50 02.9 +1.2
HYA IVmB_BB 10 50 03.2
comp=Z,2μm,6.4s
HYA *e*pP pP 10 50 32.6 +3.9
HYA *e*PP PP 10 51 50.3 -2.3
HYA *e*S S 10 56 42.0 -0.5
HYA IVMs_BB IVMs_BB 11 10 11.8
comp=Z,7μm,6.2s
HSPB Hornsund (broa 46.83 345 *e*P P 10 50 04.2 +1.7
LODK Lodwar 46.97 233 P P 10 50 06.1 +1.6
LODK IAmb IAmb 10 50 07.8
comp=Z,328nm,0.9s
LODK pP pP 10 50 31.2 -0.2
LODK Lodwar 46.97 233 *e*P P 10 49 59.6 -4.9
LODK *e*S S 10 56 46.8 -0.9
LODK Lodwar 46.97 233 *i* P P 10 50 06.5 +2.0
BER Bergen 47.12 322 *e*P P 10 50 06.0 +1.0
BER IVmB_BB 10 50 06.4
comp=Z,3μm,1.0s
BER *e* 10 50 33.6
BER *e*PP PP 10 51 58.2 +1.7
BER *e*S S 10 56 41.3 -7.3
BER *e*ScS ScS 10 59 50.8 +3.5
BER IVMs_BB IVMs_BB 11 13 02.2
comp=Z,9μm,9.4s
SZP Santa 47.12 101 P P 10 50 08.0 +2.4
SPB2 Spitsbergen Ar 47.17 347 P P 10 50 06.0 +0.8
SPB2 IAmb IAmb 10 51 08.2
comp=Z,558nm,1.3s
SPA0 Spitsbergen Ar 47.17 347 *e*P P 10 50 06.9 +1.7
SPA0 IVmB_BB 10 50 08.2
comp=Z,2μm,1.7s
SPA0 *e*PP PP 10 51 57.3 +0.5
SPA0 *e*S S 10 56 50.6 +1.6
SPA0 *e*SS SS 11 00 20.4 +3.5
SPA0 IVMs_BB IVMs_BB 11 12 15.1
comp=Z,9μm,10.4s
SPITS Spitsbergen Ar 47.17 347 P P 10 50 06.6 +1.4
comp=Z,68nm,0.6s,baz=128,slow=11,SNR=128
SPITS LR LR 11 12 25.8
comp=Z,14μm,19.7s,baz=72,slow=39
comp=Z,68nm,0.6s
ASK Askoy 47.19 322 *e*P P 10 50 06.4 +0.9
ASK IVmB_BB 10 50 06.9
comp=Z,3μm,1.1s
ASK *e*pP pP 10 50 32.7 +0.2
ASK *e*PP PP 10 51 57.3 +0.2
ASK *e*S S 10 56 51.4 +1.9
ASK *e*SS SS 11 00 21.0 +3.4
ASK IVMs_BB IVMs_BB 11 13 03.5
comp=Z,9μm,15.6s
KMY Karmoy 47.20 320 *e*P P 10 50 06.9 +1.3
KMY *e*PP PP 10 51 58.3 +1.0
KMY *e*S S 10 56 48.5 -1.2
KMY IVMsBB 11 11 34.5
comp=Z,9μm,7.2s
CDF Champ du Feu 47.24 305 *e*P P 10 50 06.1 -0.2
CDF pmax pmax
comp=Z,100nm,1.0s
JMJ Miyako jima 2 47.24 89 P P 10 50 08.9 +2.5
FOO Floro 47.25 323 *e*P P 10 50 06.9 +1.0
FOO IVmB_BB 10 50 07.4
comp=Z,2μm,1.2s
FOO *e*pP pP 10 50 33.2 +0.2
FOO *e*PP PP 10 51 59.5 +1.9
FOO *e*S S 10 56 52.4 +2.1
FOO *e*ScS ScS 10 59 52.3 +4.1
FOO IVMs_BB IVMs_BB 11 07 41.9
comp=Z,8μm,6.2s
ECH Echery 47.36 305 ⇓P P 10 50 07.5 +0.4
ECH Echery 47.36 305 ⇓P P 10 50 07.5 +0.4
ECH Echery 47.36 305 P P 10 50 07.3 +0.2
ECH pP pP 10 50 33.3 -0.9
PGF Pioggiola 47.38 297 ⇑P P 10 50 08.3 +0.9
SUE Sulen 47.39 323 *e*P P 10 50 07.6 +0.6
SUE IVmB_BB 10 50 09.0
comp=Z,2μm,1.4s
SUE *e*pP pP 10 50 33.7 -0.4
SUE *e*PP PP 10 52 00.6 +1.6
SUE *e*S S 10 56 51.5 -0.9
SUE *e*SS SS 11 00 24.5 +3.7
SUE IVMs_BB IVMs_BB 11 05 37.9
comp=Z,8μm,5.6s
GRNR Gornyy 47.40 51 ⇑*i* P P 10 50 08.3 +1.0
GRNR *e*S S 10 56 56.3 +3.5
GRNR pmax pmax
comp=E,160nm,1.1s
GRNR pmax pmax
comp=N,40nm,1.0s
GRNR pmax pmax
comp=Z,360nm,1.2s
GRNR smax smax
comp=N,20nm,1.2s
GRNR MLR MLR
comp=N,3μm,12.0s
GRNR MLR MLR
comp=Z,4μm,16.0s
MONC Moncucco Torin 47.51 301 ⇓P P 10 50 09.0 +0.8
BTNL Ternell 47.59 308 *d*P P 10 50 09.8 +1.0
BTNL *d*pP pP 10 50 34.4 -1.5
BTNL *d*PcP PcP 10 51 37.4 +0.5
BTNL *d*PP PP 10 52 00.9 -0.2
PPSI Pulau Pagai 47.60 140 P P 10 50 10.9 +1.7
comp=Z,2μm,1.5s,comp=Z,31μm
MEM Membach 47.67 308 *d*P P 10 50 10.5 +1.1
MEM *d*pP pP 10 50 37.2 +0.8
MEM *d*PcP PcP 10 51 37.6 +0.6
MEM *d*PP PP 10 52 07.7 +6.0
BHOU Houvegnez 47.71 308 *d*P P 10 50 11.2 +1.4
BHOU *d*pP pP 10 50 36.1 -0.7
BHOU *d*sP sP 10 50 50.5 +0.8
BHOU *d*PcP PcP 10 51 36.8 -0.5
BHOU *d*PP PP 10 52 03.1 +0.9
WLF Walferdange 47.74 307 IAmb IAmb 10 50 13.5
comp=Z,580nm,1.1s
WLF Walferdange 47.74 307 *d*P P 10 50 11.7 +1.7
WLF *d*pP pP 10 50 38.6 +1.5
WLF P P 10 50 11.5 +1.6
WLF S S 10 57 00.3 +2.6
WLF Walferdange 47.74 307 ⇓P P 10 50 11.6 +1.6
BEBN Eben Emael 47.84 309 *d*P P 10 50 11.5 +0.8
BEBN *d*pP pP 10 50 37.6 -0.2
BEBN *d*sP sP 10 50 51.0 +0.3
BEBN *d*PP PP 10 52 04.5 +1.3
HAU Haudompre 47.93 305 *e*P P 10 50 11.6 +0.1
HAU pmax pmax
comp=Z,264nm,1.1s
BSTI Sart Tilman 47.95 308 *d*P P 10 50 12.6 +1.1
BSTI *d*PcP PcP 10 51 39.1 +1.0
VSL Villasalto 47.96 293 P P 10 50 11.8 0.0
VSL pP pP 10 50 37.3 -1.3
VSL Villasalto 47.96 293 ⇑P P 10 50 12.1 +0.3
BCLA Clavier 48.14 308 *d*P P 10 50 14.2 +1.1
BCLA *d*PcP PcP 10 51 39.1 +0.3
BCLA *d*PP PP 10 52 05.6 -0.4
SBF Sospel 48.14 299 *e*P P 10 50 12.5 -0.7
SBF pmax pmax
comp=Z,1μm,1.3s
JNU Nakatsue 48.17 76 P P 10 50 14.5 +0.9
JNU Nakatsue 48.17 76 ⇑P P 10 50 14.4 +0.9
JNU Nakatsue 48.17 76 P P 10 50 14.4 +0.8
LPG La Plagne 48.21 302 *e*P P 10 50 14.5 +0.5
LPG pmax pmax
comp=Z,428nm,1.2s
LPL La Plagne 48.22 302 *e*P P 10 50 14.5 +0.5
LPL pmax pmax
comp=Z,660nm,1.2s
RCHB Rochefort 48.24 308 *d*P P 10 50 15.0 +1.2
RCHB *d*pP pP 10 50 40.6 -0.2
RCHB *d*PP PP 10 52 06.0 -0.9
DSRI Dabo 48.25 133 P P 10 50 15.5 +1.3
comp=Z,1μm,1.0s,comp=Z,20μmcomp=Z,19μm
BGES Gesves 48.28 308 *d*P P 10 50 15.1 +0.9
BGES *d*pP pP 10 50 39.9 -1.3
BGES *d*sP sP 10 50 54.8 +0.6
BGES *d*PcP PcP 10 51 39.1 -0.2
BGES *d*PP PP 10 52 08.7 +1.4
KBS Kingsbay 48.29 347 P P 10 50 14.8 +1.1
KBS IAmb IAmb 10 51 09.0
comp=Z,336nm,0.8s
KBS Kingsbay 48.29 347 *e*P P 10 50 15.2 +1.5
KBS *e*pP pP 10 50 41.4 +0.3
KBS *e*PP PP 10 52 07.9 +1.1
KBS *e*S S 10 57 06.8 +2.1
KBS IVMs_BB IVMs_BB 11 14 03.3
comp=Z,9μm,13.0s
KBS Kingsbay 48.29 347 ⇓P P 10 50 15.1 +1.3
KBS Kingsbay 48.29 347 *ce*P P 10 50 15.5 +1.7
KBS pmax pmax
comp=Z,327nm,1.3s
KBS Kingsbay 48.29 347 P P 10 50 15.0 +1.3
KBS pP pP 10 50 41.8 +0.7
KBS sP sP 10 50 54.7 +0.6
KBS Kingsbay 48.29 347 *i* P P 10 50 14.9 +1.1
BNI Bardonecchia 48.37 301 IAmb IAmb 10 50 17.9
comp=Z,372nm,1.3s
BNI Bardonecchia 48.37 301 ⇓P P 10 50 15.8 +0.7
BNI Bardonecchia 48.37 301 P P 10 50 15.6 +0.5
BNI pmax pmax
comp=Z,894nm,1.1s
MBDF Montbardon 48.39 301 *e*P P 10 50 15.0 -0.2
MBDF pmax pmax
comp=Z,153nm,0.8s
CABF La Chapelle 48.40 303 *e*P P 10 50 15.7 +0.4
CABF pmax pmax
comp=Z,319nm,1.0s
BMRD Maredsous 48.50 308 *d*P P 10 50 17.0 +1.2
BMRD *d*pP pP 10 50 41.6 -1.3
BMRD *d*sP sP 10 50 57.0 +1.1
BMRD *d*PcP PcP 10 51 40.9 +0.8
BMRD *d*PP PP 10 52 12.1 +2.8
JMBI JAMBI 48.64 135 P P 10 50 18.1 +0.9
comp=Z,641nm,0.8s,comp=Z,9μm
DOU Dourbes 48.65 308 *d*P P 10 50 18.2 +1.3
DOU *d*pP pP 10 50 43.8 -0.3
DOU *d*PcP PcP 10 51 41.6 +1.0
DOU *d*PP PP 10 52 11.8 +1.2
TEY Ternei 48.69 59 ⇑*e*P P 10 50 16.8 -0.5
TEY *e* 10 52 11.3
TEY *e* 10 57 04.5
TEY pmax pmax
comp=N,100nm,6.3s
TEY pmax pmax
comp=Z,100nm,6.3s
TEY pmax pmax
comp=N,300nm,7.1s
TEY pmax pmax
comp=N,100nm,1.2s
TEY pmax pmax
comp=E,40nm,1.2s
TEY pmax pmax
comp=Z,100nm,1.2s
JOW Kunigami 48.70 85 P P 10 50 18.4 +0.7
JOW Kunigami 48.70 85 IAmb IAmb 10 50 19.4
comp=Z,612nm,1.3s
JOW Kunigami 48.70 85 ⇑P P 10 50 17.4 -0.3
LMR La Mourre 48.93 299 *e*P P 10 50 19.2 0.0
LMR pmax pmax
comp=Z,144nm,1.3s
ORIF Oris-en-Rattie 48.95 301 *e*P P 10 50 18.9 -0.6
ORIF pmax pmax
comp=Z,156nm,1.3s
JHS Saijyo 49.21 73 P P 10 50 20.5 -1.0
KEST Kesra 49.22 288 IAmb IAmb 10 51 04.4
comp=Z,401nm,1.2s
KEST Kesra 49.22 288 P P 10 50 23.4 +1.7
comp=Z,139nm,0.8s,baz=10,slow=2.7,SNR=102
KEST sP sP 10 51 03.1 +1.8
comp=Z,116nm,0.7s,baz=80,slow=9.1,SNR=3.9
comp=Z,139nm,0.8s
KMBO Kilima Mbogo 49.35 228 P P 10 50 24.8 +1.8
comp=Z,1.0nm,0.9s,baz=29,slow=24,SNR=128
TATN Tataouine 49.48 284 IAmb IAmb 10 50 52.7
comp=Z,542nm,1.1s
TATN Tataouine 49.48 284 ⇓P P 10 50 25.1 +1.5
NKL Nikolayevsk 49.59 48 *e*P P 10 50 17.9 -6.1
NKL pmax pmax
comp=E,133nm,0.5s
NKL pmax pmax
comp=N,146nm,0.6s
NKL pmax pmax
comp=Z,507nm,0.6s
LOR Lormes 49.74 304 ⇓P P 10 50 25.6 +0.3
LOR Lormes 49.74 304 *e*P P 10 50 25.0 -0.3
LOR pmax pmax
comp=Z,153nm,1.0s
SSB Saint Sauveur 49.78 302 P P 10 50 26.4 +0.8
SSB pP pP 10 50 52.3 -0.3
SSB IAmb IAmb 10 51 10.8
comp=Z,202nm,1.0s
SSB Saint Sauveur 49.78 302 ⇓P P 10 50 26.6 +1.0
SSB Saint Sauveur 49.78 302 P P 10 50 26.4 +0.8
SSB pP pP 10 50 52.4 -0.3
VIVF Saint-Julien-l 49.80 301 *e*P P 10 50 26.4 +0.6
VIVF pmax pmax
comp=Z,571nm,1.3s
KIBK Kibwezi 49.86 226 P P 10 50 28.2 +1.5
KIBK Kibwezi 49.86 226 P P 10 50 26.4 -0.2
KIBK S S 10 57 28.5 +0.2
KIBK Kibwezi 49.86 226 P P 10 50 28.5 +1.9
SNR=102
KIBK Kibwezi 49.86 226 *i* P P 10 50 28.5 +1.9
JAD Aida 50.03 72 P P 10 50 27.7 0.0
AVF Avril sur Loir 50.19 304 *e*P P 10 50 28.3 -0.4
AVF pmax pmax
comp=Z,479nm,1.0s
JMN Monobe 50.27 74 P P 10 50 30.5 +1.0
JMN Monobe 50.27 74 IAmb IAmb 10 50 39.9
comp=Z,224nm,0.8s
JMN Monobe 50.27 74 ⇑P P 10 50 30.1 +0.6
JMN Monobe 50.27 74 P P 10 50 30.2 +0.6
KSM Kuching 50.29 125 P P 10 50 30.9 +1.1
KSM Kuching 50.29 125 P P 10 50 31.2 +1.4
KSM Kuching 50.29 125 ⇑P P 10 50 31.0 +1.1
PMBI Palembang 50.34 134 P P 10 50 31.1 +1.0
PMBI Palembang 50.34 134 P P 10 50 30.4 +0.2
PMBI Palembang 50.34 134 P P 10 50 30.5 +0.4
comp=Z,1μm,0.8s,comp=Z,32μm
CMAH Djebel Manchou 50.36 290 P P 10 50 31.6 +1.4
LRW Lerwick 50.38 322 *e*P P 10 50 30.1 +0.2
LRW IAmb IAmb 10 50 34.8
comp=Z,321nm,0.9s
ABSA Djebel Ababsia 50.44 290 P P 10 50 32.5 +1.6
MNAI Manna 50.51 137 P P 10 50 30.7 -0.7
MNAI Manna 50.51 137 P P 10 50 30.2 -1.2
MNAI Manna 50.51 137 ⇑P P 10 50 30.4 -1.1
MNAI Manna 50.51 137 P P 10 50 30.0 -1.4
comp=Z,515nm,0.9s,comp=Z,19μmcomp=Z,20μm
BGF Bois d'Agland 50.59 304 *e*P P 10 50 31.6 -0.1
BGF pmax pmax
comp=Z,195nm,1.0s
ELSH Elham, Standar 50.59 310 *e*P P 10 50 32.2 +0.6
ELSH IAmb IAmb 10 50 36.5
comp=Z,1μm,1.0s
CLF Chambon-Foret 50.60 306 P P 10 50 32.2 +0.4
CLF IAmb IAmb 10 50 34.4
comp=Z,455nm,1.1s
CLF pP pP 10 50 57.7 -1.4
CLF Chambon-Foret 50.60 306 ⇑P P 10 50 32.4 +0.7
CLF Chambon-Foret 50.60 306 P P 10 50 32.5 +0.7
CLF pP pP 10 50 58.3 -0.8
CLF PcP PcP 10 51 49.8 +2.0
CAEH 'Ain El Ouahch 50.73 291 P P 10 50 33.4 +0.4
SBUM Sibu 50.84 123 P P 10 50 35.8 +1.9
SBUM IAmb IAmb 10 50 37.7
comp=Z,232nm,1.0s
JWT Wachi 50.85 71 P P 10 50 34.7 +0.9
CKFL Kef-Lekhel 50.97 290 P P 10 50 35.8 +0.9
LMK Market Rasen 50.99 313 *e*P P 10 50 35.1 +0.5
LMK IAmb IAmb 10 50 41.6
comp=Z,447nm,1.0s
GDLE Glaisdale, N Y 51.08 314 *e*P P 10 50 35.8 +0.6
GDLE IAmb IAmb 10 50 36.8
comp=Z,325nm,1.1s
TCF Toulx Ste Croi 51.08 304 *e*P P 10 50 35.9 +0.4
TCF pmax pmax
comp=Z,471nm,1.1s
HMNX Herstmonceux 51.15 310 *e*P P 10 50 36.8 +1.0
HMNX IAmb IAmb 10 50 41.9
comp=Z,492nm,1.0s
CASM Ain Smara 51.19 290 P P 10 50 37.8 +1.4
TYV Tymovskoe 51.25 50 *e*P P 10 50 38.1 +1.5
TYV *e*S S 10 57 49.3 +2.7
TYV pmax pmax
comp=Z,200nm,1.2s
TYV pmax pmax
comp=Z,2μm,3.9s
TYV smax smax
comp=N,4μm,9.1s
TYV smax smax
comp=E,800nm,9.1s
TYV MLR MLR
comp=Z,3μm,15.0s
UGL Uglegorsk 51.31 53 *c* iP P 10 50 37.9 +0.9
UGL *i* 10 51 06.2
UGL *i* S S 10 57 48.7 +1.3
UGL *e* 10 58 38.0
UGL pmax pmax
comp=Z,1μm,1.2s
UGL pmax pmax
comp=N,810nm,2.0s
UGL pmax pmax
comp=E,2μm,2.0s
UGL pmax pmax
comp=Z,2μm,4.0s
UGL smax smax
comp=E,110nm,1.0s
UGL smax smax
comp=N,200nm,1.6s
UGL smax smax
comp=E,2μm,9.0s
UGL smax smax
comp=N,6μm,11.0s
UGL MLR MLR
comp=E,8μm,11.0s
UGL MLR MLR
comp=N,7μm,10.0s
UGL MLR MLR
comp=Z,6μm,9.0s
CTEI Djebel Teioual 51.33 290 P P 10 50 39.3 +1.7
DRUM Mains of Drumt 51.54 318 *e*P P 10 50 38.9 +0.2
DRUM IAmb IAmb 10 50 40.6
comp=Z,292nm,1.0s

DFRA **Djebel Bou Aff** 51.55 291 P **P** **10 50 40.4 +1.2**
MAHO **Mahon** 51.57 295 P **P** **10 50 39.6 +0.5**
MAHO S **S** **10 57 52.5 +1.2**
HPK **Haverah Park** 51.64 314 *e*P **P** **10 50 39.8 +0.4**
HPK IAmb IAmb 10 50 43.6
comp=Z,392nm,0.9s
EDMD **Edmundbyers** 51.65 315 *e*P **P** **10 50 39.9 +0.4**
EDMD IAmb IAmb 10 50 41.6
comp=Z,616nm,1.0s
LWLI **Liwa** 51.66 137 P **P** **10 50 37.7 -2.4**
comp=Z,1µm,0.9s,comp=Z,14µmcomp=Z,16µm
CWF **Charnwood Fore** 51.72 312 *e*P **P** **10 50 40.2 +0.2**
CWF IAmb IAmb 10 50 41.8
comp=Z,169nm,1.1s
EJON **La Jonquera** 51.73 299 P **P** **10 50 39.9 -0.4**
EJON S **S** **10 57 55.0 +1.5**
JSH **Shimam** 51.75 61 P **P** **10 50 39.9 -0.6**
LBWR **Ladybower, Pea** 51.82 313 *e*P **P** **10 50 40.7 -0.1**
LBWR IAmb IAmb 10 50 45.6
comp=Z,272nm,0.9s
RJF **Les Rejaudoux** 51.82 303 *e*P **P** **10 50 40.7 -0.3**
RJF pmax pmax
comp=Z,335nm,1.4s
MCD **Coleburn Disti** 51.83 319 *e*P **P** **10 50 41.1 +0.3**
MCD IAmb IAmb 10 50 42.4
comp=Z,595nm,1.0s
MTLF **Montolieu** 51.93 300 ⇑P **P** **10 50 42.9 +1.2**
MTLF **Montolieu** 51.93 300 *e*P **P** **10 50 42.2 +0.4**
MTLF pmax pmax
comp=Z,282nm,1.1s
JGN **Niukaw** 51.95 70 P **P** **10 50 41.8 -0.3**
LDF **La Druitiere** 51.99 307 *e*P **P** **10 50 42.0 -0.2**
LDF pmax pmax
comp=Z,355nm,1.2s
JSD **Sado** 52.00 67 P **P** **10 50 41.3 -1.0**
JSD **Sado** 52.00 67 P **P** **10 50 41.8 -0.5**
JSD **Sado** 52.00 67 P **P** **10 50 41.5 -0.9**
WOL **Wolverton** 52.00 311 *e*P **P** **10 50 42.6 +0.5**
BIGH **Upper Bighouse** 52.01 320 *e*P **P** **10 50 42.7 +0.6**
BIGH IAmb IAmb 10 50 44.3
comp=Z,466nm,1.0s
CKHR **Kef el Ahmar** 52.02 290 P **P** **10 50 44.0 +1.3**
SET **Setif** 52.03 290 P **P** **10 50 43.0 +0.2**
EDI **Edinburgh** 52.12 317 *e*P **P** **10 50 43.2 +0.3**
EDI IAmb IAmb 10 50 47.7
comp=Z,325nm,1.0s
STKI **Sintang** 52.12 125 P **P** **10 50 45.4 +2.0**
comp=Z,1µm,1.3s,comp=Z,24µmcomp=Z,20µm
STNC **Stoke** 52.17 313 *e*P **P** **10 50 43.2 -0.2**
STNC IAmb IAmb 10 50 45.7
comp=Z,456nm,1.3s
JIE **Ise** 52.18 72 P **P** **10 50 43.8 +0.1**
FLN **La Foliniere** 52.18 307 *e*P **P** **10 50 43.2 -0.3**
FLN pmax pmax
comp=Z,234nm,1.0s
JGF **Kuroka** 52.21 70 P **P** **10 50 44.1 +0.1**
JGF **Kuroka** 52.21 70 P **P** **10 50 43.5 -0.6**
JWK2 **Keihoku** 52.22 57 P **P** **10 50 44.2 +0.3**
EKA **Eskdalemuir Ar** 52.22 316 P **P** **10 50 44.0 +0.3**
comp=Z,338nm,1.0s,baz=85,slow=8.0,SNR=218
EKA pP **pP** **10 51 10.4 -0.7**
comp=Z,209nm,1.0s,baz=86,slow=7.6,SNR=3.8
EKA sP **sP** **10 51 25.6 +1.6**
comp=Z,214nm,1.0s,baz=83,slow=7.8,SNR=3.0
EKA PcP **PcP** **10 51 55.0 +1.3**
comp=Z,200nm,0.9s,baz=97,slow=5.9,SNR=6.8
EKA ScP **ScP** **10 55 40.5 +0.2**
comp=Z,21nm,0.8s,baz=74,slow=6.0,SNR=3.1
comp=Z,338nm,1.0s
ESK **Eskdalemuir** 52.25 316 *e*P **P** **10 50 43.9 0.0**
ESK IAmb IAmb 10 50 45.9
comp=Z,378nm,1.1s
ESK **Eskdalemuir** 52.25 316 P **P** **10 50 43.9 0.0**
ESK IAmb IAmb 10 50 46.1
comp=Z,400nm,1.1s
ESK **Eskdalemuir** 52.25 316 P **P** **10 50 43.9 0.0**
ESK pmax pmax
comp=Z,400nm,1.1s
ESK **Eskdalemuir** 52.25 316 P **P** **10 50 44.1 +0.2**
ESK pP **pP** **10 51 10.8 -0.6**
ESK sP **sP** **10 51 24.1 -0.1**
ESK PcP **PcP** **10 51 55.1 +1.3**
JNE **Jan Mayen East** 52.27 336 *e*P **P** **10 50 46.2 +2.3**
SWN1 **Swindon** 52.30 311 *e*P **P** **10 50 45.3 +0.9**
SWN1 IAmb IAmb 10 50 46.6
comp=Z,924nm,1.0s
KASI **Kota Agung** 52.32 137 P **P** **10 50 42.0 -2.9**
comp=Z,429nm,1.0s,comp=Z,7µmcomp=Z,16µm
YSS **Yuzh-Sakhalins** 52.32 55 P **P** **10 50 44.3 -0.3**
YSS **Yuzh-Sakhalins** 52.32 55 P **P** **10 50 44.8 +0.3**
YSS **Yuzh-Sakhalins** 52.32 55 ⇑P **P** **10 50 44.6 +0.1**
YSS **Yuzh-Sakhalins** 52.32 55 *a*P **P** **10 50 44.9 +0.3**
YSS *e**PP **pP** **10 51 13.3 +0.9**
YSS *e**SP **sP** **10 51 25.3 +0.1**
YSS *e* 10 52 43.8
YSS *e*S **S** **10 58 00.9 -0.4**
YSS *e*PS PKiKP 10 58 19.5 -14
YSS *e**SS **sS** **10 58 50.2 +1.9**
YSS pmax pmax
comp=Z,3µm,4.8s
YSS pmax pmax
comp=Z,330nm,0.9s
YSS **Yuzh-Sakhalins** 52.32 55 P **P** **10 50 44.9 +0.3**
YSS PcP **PcP** **10 51 53.7 -0.6**
JMIC **Jan Mayen** 52.34 336 *e*P **P** **10 50 46.5 +2.1**
JMIC *e*S **S** **10 58 06.5 +5.5**
JMIC **Jan Mayen** 52.34 336 LR LR 11 13 16.8
comp=Z,15µm,19.8s,baz=90,slow=36
KESW **Keswick, Cumbr** 52.35 315 *e*P **P** **10 50 44.9 +0.2**
KESW IAmb IAmb 10 50 47.0
comp=Z,515nm,1.1s
JMI **Jan Mayen** 52.42 336 *e*S **S** **10 58 06.8 +4.8**
STRD **Stroud** 52.46 311 *e*P **P** **10 50 45.3 -0.2**
STRD IAmb IAmb 10 50 49.9
comp=Z,538nm,1.0s
INVG **Invergeldie, C** 52.48 317 *e*P **P** **10 50 45.8 +0.1**
INVG IAmb IAmb 10 50 47.4
comp=Z,129nm,1.0s
MAJO **Matsushiro** 52.50 69 P **P** **10 50 45.6 -0.5**
MAJO **Matsushiro** 52.50 69 P **P** **10 50 45.6 -0.5**
MAJO **Matsushiro** 52.50 69 ⇑P **P** **10 50 45.5 -0.6**
MAJO **Matsushiro** 52.50 69 P **P** **10 50 45.6 -0.5**
MAJO pmax pmax
comp=Z,528nm,1.2s
MAJO **Matsushiro** 52.50 69 P **P** **10 50 45.7 -0.4**
MAJO PcP **PcP** **10 51 54.5 -0.6**
MAT **Matsushiro** 52.50 69 P **P** **10 50 45.8 -0.3**
MJAR **Matsushiro Arr** 52.50 69 P **P** **10 50 46.0 -0.1**
comp=Z,218nm,1.0s,baz=292,slow=8.9,SNR=208
MJAR PcP **PcP** **10 51 55.5 +0.4**
comp=Z,15nm,0.7s,baz=70,slow=33,SNR=4.1
MJAR ScP **ScP** **10 55 41.6 -0.3**
comp=Z,10nm,1.1s,baz=293,slow=2.7,SNR=2.4
MJAR LR LR 11 14 25.9
comp=Z,3µm,20.0s,baz=293,slow=37
MJAR PKP2ab **P'P'ab** **11 21 56.9 -2.1**
comp=Z,3.5nm,1.1s,baz=158,slow=10,SNR=4.4
comp=Z,218nm,1.0s
GRR **Gorron** 52.52 307 *e*P **P** **10 50 45.7 -0.3**
GRR pmax pmax
comp=Z,355nm,1.0s
ETOS **Mallorca** 52.67 296 P **P** **10 50 47.9 +0.6**
ETOS S **S** **10 58 07.0 +0.7**
JEW **Eniwo** 52.67 60 P **P** **10 50 47.4 +0.1**
HLM1 **Long Mynd** 52.70 312 *e*P **P** **10 50 48.0 +0.6**
HLM1 IAmb IAmb 10 50 51.4
comp=Z,244nm,1.0s
OLDB **Oldbury-Upon-S** 52.72 311 *e*P **P** **10 50 47.2 -0.2**
OLDB IAmb IAmb 10 50 52.1
comp=Z,328nm,1.0s
LINV **Loch Inver, As** 52.74 320 *e*P **P** **10 50 48.1 +0.6**
LINV IAmb IAmb 10 50 49.8
comp=Z,497nm,1.0s
FOEL **Foel Wylfa** 52.80 313 *e*P **P** **10 50 48.7 +0.6**
FOEL IAmb IAmb 10 50 49.8
comp=Z,263nm,1.2s
MONM **Monmouth** 52.83 311 *e*P **P** **10 50 48.2 0.0**
MONM IAmb IAmb 10 50 50.0
comp=Z,591nm,1.1s
PGBU **Glenifferbraes** 52.85 317 *e*P **P** **10 50 48.3 -0.1**
PGBU IAmb IAmb 10 50 50.0
comp=Z,360nm,1.0s
JOT **Ohata** 52.87 62 P **P** **10 50 47.9 -0.8**
JYA **Atsumi** 52.87 66 P **P** **10 50 48.2 -0.6**

NEWG **New Galloway** 52.87 316 *e*P **P** **10 50 48.4 -0.1**
NEWG IAmb IAmb 10 50 50.7
comp=Z,493nm,1.0s
MCH1 **Michaelchurch** 52.90 312 *e*P **P** **10 50 49.1 +0.3**
MCH1 IAmb IAmb 10 50 50.6
comp=Z,681nm,1.0s
MBAR **Mbarara** 53.01 235 P **P** **10 50 51.0 +0.8**
MBAR pP **pP** **10 51 17.0 -0.7**
MBAR **Mbarara** 53.01 235 *i*P **P** **10 50 50.8 +0.5**
MBAR **Mbarara** 53.01 235 ⇑*i*P **P** **10 50 51.0 +0.8**
MBAR IAmb IAmb 10 50 52.3
comp=Z,432nm,0.8s
MBAR **Mbarara** 53.01 235 LR LR 11 15 53.5
comp=Z,2µm,18.9s,baz=38,slow=39
MBAR **Mbarara** 53.01 235 P **P** **10 50 51.3 +1.1**
MBAR P **P** **10 50 51.3 +1.1**
MBAR S **S** **10 58 13.3 +1.5**
MBAR S **S** **10 58 13.3 +1.5**
MBAR **Mbarara** 53.01 235 *i*P **P** **10 50 50.8 +0.5**
MBAR **Mbarara** 53.01 235*ce*P **P** **10 50 51.0 +0.8**
MBAR pmax pmax
comp=Z,579nm,1.0s
MBAR **Mbarara** 53.01 235 ⇑P **P** **10 50 51.0 +0.8**
MBAR pP **pP** **10 51 17.2 -0.5**
ASAJ **Asahikawa** 53.06 59 LR LR 11 15 03.5
comp=Z,5µm,18.5s,baz=290,slow=38
ASAJ **Asahikawa** 53.06 59 P **P** **10 50 49.7 -0.3**
ASAJ **Asahikawa** 53.06 59 P **P** **10 50 49.8 -0.3**
ASAJ pmax pmax
comp=Z,416nm,1.2s
JKA **Kamikawa-asahi** 53.06 59 P **P** **10 50 49.8 -0.3**
JKA IAmb IAmb 10 51 04.4
comp=Z,416nm,1.2s
JLP **Les Platons** 53.08 308 *e*P **P** **10 50 50.1 0.0**
JTM **Tenmabayashi** 53.08 63 P **P** **10 50 50.0 -0.3**
JTM **Tenmabayashi** 53.08 63 P **P** **10 50 49.9 -0.4**
JTM **Tenmabayashi** 53.08 63 ⇑P **P** **10 50 49.9 -0.4**
JTM **Tenmabayashi** 53.08 63 P **P** **10 50 49.7 -0.5**
LLW **Llanuwychllyn** 53.08 313 *e*P **P** **10 50 50.5 +0.3**
JSA **Saint Aubin** 53.14 308 *e*P **P** **10 50 49.9 -0.6**
JSA IAmb IAmb 10 50 51.6
comp=Z,143nm,1.1s
KPL **Plockton** 53.15 319 *e*P **P** **10 50 50.3 -0.2**
KPL IAmb IAmb 10 50 52.4
comp=Z,372nm,1.0s
GETA **Geita** 53.15 230 *i*P **P** **10 50 56.1 +4.8**
JSG **Sagara** 53.19 71 P **P** **10 50 52.4 +1.2**
GAL1 **Galloway** 53.20 316 *e*P **P** **10 50 51.5 +0.6**
GAL1 IAmb IAmb 10 50 52.5
comp=Z,261nm,1.1s
JRY **Ryogami san** 53.21 69 P **P** **10 50 50.6 -0.8**
LAWE **Loch Awe, Argy** 53.25 317 *e*P **P** **10 50 51.6 +0.3**
LAWE IAmb IAmb 10 50 53.5
comp=Z,402nm,1.1s
IOMK **Kirk Michael** 53.26 315 *e*P **P** **10 50 51.4 +0.1**
IOMK IAmb IAmb 10 50 53.1
comp=Z,1µm,1.1s
YLL **Llanberis** 53.31 313 *e*P **P** **10 50 51.5 -0.2**
WME **Myndd Eilian** 53.32 314 *e*P **P** **10 50 52.0 +0.2**
EPF **Esparros** 53.33 300 *e*P **P** **10 50 51.4 -0.7**
EPF pmax pmax
comp=Z,83nm,1.0s
WIM **Isle of Man** 53.35 315 *e*P **P** **10 50 52.7 +0.7**
WLF1 **Llynfaes** 53.40 314 *e*P **P** **10 50 52.5 +0.1**
WLF1 IAmb IAmb 10 50 54.0
comp=Z,412nm,1.1s
WPS **Cemaes, Angles** 53.43 314 *e*P **P** **10 50 52.6 -0.1**
WPS IAmb IAmb 10 50 54.2
comp=Z,242nm,1.2s
NOR **Nord** 53.46 349 *i*P **P** **10 50 53.0 +0.6**
NOR IAmb IAmb 10 51 02.4
comp=Z,64nm,0.8s
LEWI **Lewis, Hebride** 53.61 320 *e*P **P** **10 50 54.2 +0.3**
LEWI IAmb IAmb 10 50 55.7
comp=Z,299nm,1.2s
JMP **Maruseppu** 53.62 58 P **P** **10 50 54.0 -0.2**
JOD2 **Odawara 2** 53.64 70 P **P** **10 50 54.5 0.0**
SGMF **Saint Gilles** 53.65 307 *e*P **P** **10 50 54.3 0.0**
SGMF pmax pmax
comp=Z,316nm,1.1s
JOM **Ohasama** 53.70 64 P **P** **10 50 54.2 -0.6**
MA2 **Magadan** 53.84 38 P **P** **10 50 55.6 +0.1**
MA2 **Magadan** 53.84 38 P **P** **10 50 55.5 0.0**
MA2 **Magadan** 53.84 38 ⇑P **P** **10 50 55.7 +0.1**
MA2 **Magadan** 53.84 38*c* *i*P **P** **10 50 55.8 +0.2**
MA2 pmax pmax
comp=Z,613nm,1.7s
MA2 **Magadan** 53.84 38 P **P** **10 50 55.6 +0.1**
MA2 PcP **PcP** **10 52 00.1 +0.3**
MA2 **Magadan** 53.84 38 P **P** **10 50 55.7 +0.2**
comp=Z,327nm,1.6s,comp=Z,7µm
SEY **Seymchan** 53.90 34*c* *i*P **P** **10 50 56.3 +0.4**
SEY pmax pmax
comp=Z,744nm,1.7s
JMM **Marumori** 53.92 66 P **P** **10 50 56.4 -0.1**
JMM **Marumori** 53.92 66 ⇑P **P** **10 50 56.2 -0.3**
JMM **Marumori** 53.92 66 P **P** **10 50 56.1 -0.4**
CLGH **Cloghs, Cushen** 53.93 316 *e*P **P** **10 50 56.4 +0.2**
CLGH IAmb IAmb 10 50 58.3
comp=Z,227nm,1.0s
RSBS **Rosebush, Pemb** 53.96 312 *e*P **P** **10 50 56.9 +0.4**
RSBS IAmb IAmb 10 51 00.2
comp=Z,219nm,1.1s
ETSF **Etsaut** 53.99 300 *e*P **P** **10 50 57.4 +0.4**
ETSF pmax pmax
comp=Z,132nm,0.7s
EIBI **Ibiza** 53.99 295 P **P** **10 50 58.1 +1.1**
EIBI S **S** **10 58 25.8 +1.5**
HTL **Hartland** 54.06 311 *e*P **P** **10 50 57.2 0.0**
HTL IAmb IAmb 10 50 59.0
comp=Z,166nm,1.0s
JYT **Yasato** 54.10 69 P **P** **10 50 56.9 -0.9**
QUIF **Quistinic** 54.14 307 *e*P **P** **10 50 57.6 -0.3**
QUIF pmax pmax
comp=Z,210nm,1.0s
ERM **Erimo** 54.14 61 P **P** **10 50 58.1 +0.1**
ERM **Erimo** 54.14 61 P **P** **10 50 58.0 0.0**
ERM **Erimo** 54.14 61*ce*P **P** **10 50 58.4 +0.4**
ERM pmax pmax
comp=Z,727nm,1.7s
JEM **Erimo** 54.14 61 P **P** **10 50 58.1 +0.1**
JEM **Erimo** 54.14 61 P **P** **10 50 57.8 -0.2**
DODT **Dodoma, Tanzan** 54.31 226 *i*P **P** **10 50 59.8 +0.2**
SBD **Saint Breward** 54.31 310 *e*P **P** **10 50 59.0 0.0**
ILTH **Belurgan, Co L** 54.33 315 P **P** **10 50 59.5 +0.4**
ILTH **Belurgan, Co L** 54.33 315 *e*P **P** **10 50 59.3 +0.2**
COCO **West Island** 54.39 149 P **P** **10 51 02.0 +2.1**
COCO **West Island** 54.39 149 P **P** **10 51 02.0 +2.1**
COCO **West Island** 54.39 149 P **P** **10 51 01.7 +1.7**
COCO **West Island** 54.39 149 P **P** **10 51 02.0 +2.1**
COCO pmax pmax
comp=Z,2µm,1.4s
COCO **West Island** 54.39 149 P **P** **10 51 01.5 +1.6**
DAG **Danmarks Havn** 54.43 344 P **P** **10 50 59.5 0.0**
DAG S **S** **10 58 30.6 +1.6**
DAG **Danmarks Havn** 54.43 344 P **P** **10 51 00.1 +0.5**
DAG pmax pmax
comp=Z,406nm,1.0s
DAG **Danmarks Havn** 54.43 344 *i*P **P** **10 51 00.0 +0.5**
DAG IAmb IAmb 10 51 07.5
comp=Z,191nm,0.7s
DSB **Dublin** 54.56 314 P **P** **10 51 01.6 +0.8**
SKJI **Sukabumi** 54.68 136 P **P** **10 50 58.4 -3.8**
comp=Z,250nm,0.5s,comp=Z,7µmcomp=Z,14µm
IDGL **Inch Island, C** 54.71 316 P **P** **10 51 02.8 +0.9**
IDGL **Inch Island, C** 54.71 316 *e*P **P** **10 51 02.4 +0.6**
CCA1 **Carnmenellis** 54.75 310 *e*P **P** **10 51 02.6 +0.3**
CCA1 IAmb IAmb 10 51 06.7
comp=Z,320nm,0.9s
JHJ **Hachijo jima 2** 55.03 72 LR LR 11 15 48.3
comp=Z,3µm,21.8s,baz=280,slow=37
IWEX **Carrickbyrne,** 55.04 313 P **P** **10 51 05.0 +0.7**
IWEX **Carrickbyrne,** 55.04 313 *e*P **P** **10 51 05.1 +0.8**
MTKI **Muara Teweh, K** 55.13 123 P **P** **10 51 06.5 +1.0**
comp=Z,522nm,0.7s,comp=Z,15µmcomp=Z,17µm
LEM **Lembang** 55.14 134 LR LR 11 17 39.5
comp=Z,3µm,19.1s,baz=316,slow=39
LEM **Lembang** 55.14 134 P **P** **10 51 02.5 -3.1**
comp=Z,100nm,0.9s,comp=Z,3µmcomp=Z,13µm
CNJI **Cibinong** 55.25 135 P **P** **10 51 01.7 -4.6**
DBG **Daneborg** 55.31 341 *i*P **P** **10 51 07.3 +1.4**
DBG IAmb IAmb 10 51 14.1
comp=Z,33nm,0.7s

YUK **Yuzh-Kuril'sk** 55.31 58*d* *i*P **P** **10 51 05.8 -0.6**
YUK *e**PP **pP** **10 51 34.6 +0.3**
YUK *e* 10 52 05.0
YUK *e* 10 53 12.5
YUK *e*PPP PPP 10 54 24.7
YUK *e*S **S** **10 58 39.2 -2.4**
YUK *e* 11 00 43.1
YUK pmax pmax
comp=Z,2µm,1.4s
ECHE **Chera** 55.45 297 P **P** **10 51 09.0 +1.5**
ECHE S **S** **10 58 46.4 +2.5**
OKGL **Djebel Kef Gue** 55.65 292 P **P** **10 51 14.0 +5.0**
OJGS **Djebel Guires** 55.78 291 P **P** **10 51 13.0 +3.0**
OJBR **Djebel Berber** 56.05 292 P **P** **10 51 15.0 +3.1**
IGLA **Glengowla, Co** 56.23 315 P **P** **10 51 13.7 +0.9**
IGLA **Glengowla, Co** 56.23 315 *e*P **P** **10 51 13.5 +0.7**
ETOB **Tobarra** 56.23 296 P **P** **10 51 14.3 +1.1**
ETOB S **S** **10 58 56.7 +2.4**
KUR **Kuril'sk** 56.24 56*c* *i*P **P** **10 51 12.0 -1.0**
KUR *e* 10 53 20.3
KUR *e*PPP PPP 10 54 37.5
KUR *e*S **S** **10 58 52.8 -1.1**
KUR pmax pmax
comp=Z,474nm,1.2s
KUR pmax pmax
comp=Z,4µm,6.8s
KUR MLR MLR
comp=Z,3µm,15.0s
KUR MLR MLR
comp=N,4µm,16.0s
KUR MLR MLR
comp=E,3µm,17.0s
CART **Cartagena** 56.25 294 P **P** **10 51 13.6 +0.4**
CART S **S** **10 58 56.4 +2.1**
KPJI **Karang Pucung** 56.31 133 P **P** **10 51 11.2 -2.6**
comp=E,217nm,1.0s,comp=E,4µm
EMUR **La Murta** 56.32 295 P **P** **10 51 14.0 +0.2**
EMUR S **S** **10 58 56.1 +0.7**
CMJI **Cimerak** 56.39 134 P **P** **10 51 09.9 -4.5**
ODJA **Bouhanifia** 56.53 292 P **P** **10 51 17.0 +1.7**
BKB **Balikpapan** 56.72 121 P **P** **10 51 18.6 +1.8**
BKB **Balikpapan** 56.72 121 ⇑P **P** **10 51 18.1 +1.3**
BKB **Balikpapan** 56.72 121 P **P** **10 51 18.2 +1.4**
comp=E,2µm,0.8s,comp=E,26µmcomp=E,25µm
TLOR **Lorca, Murcia** 56.72 295 P **P** **10 51 17.8 +1.3**
TLOR S **S** **10 59 00.6 0.0**
UCM **Universidad Co** 56.80 298 P **P** **10 51 17.7 +0.5**
UCM S **S** **10 59 03.8 +2.1**
SCO **Scoresbysund** 56.81 336 IAmb IAmb 10 52 21.0
comp=Z,395nm,2.0s
SCO **Scoresbysund** 56.81 336 *i*P **P** **10 51 19.3 +2.7**
SCO IAmb IAmb 10 51 21.8
comp=Z,31nm,0.8s
ROCAM **Rodrigues Isla** 56.87 189 P **P** **10 51 18.0 +0.5**
ROCAM **Rodrigues Isla** 56.87 189 ⇑P **P** **10 51 18.6 +1.0**
SMRI **Semarang** 56.97 132 P **P** **10 51 18.2 -0.3**
SMRI **Semarang** 56.97 132 IAmb IAmb 10 51 20.7
comp=Z,300nm,0.8s
SMRI **Semarang** 56.97 132 ⇑P **P** **10 51 17.7 -0.9**
SMRI **Semarang** 56.97 132 P **P** **10 51 17.6 -0.9**
comp=Z,490nm,0.8s,comp=Z,13µmcomp=Z,21µm
XMIS **Christmas Isla** 57.07 139 P **P** **10 51 18.6 -0.6**
VAL **Valentia** 57.20 313 P **P** **10 51 21.2 +1.5**
VAL **Valentia** 57.20 313 P **P** **10 51 20.2 +0.6**
VAL **Valentia** 57.20 313 ⇑P **P** **10 51 21.1 +1.5**
BWJI **Bawean** 57.39 129 P **P** **10 51 22.0 +0.6**
comp=Z,1µm,0.9s,comp=Z,17µmcomp=Z,19µm
DAV **Davao City (W)** 57.40 107 P **P** **10 51 24.2 +2.6**
DAV **Davao City (W)** 57.40 107 P **P** **10 51 24.8 +3.2**
DAV **Davao City (W)** 57.40 107 P **P** **10 51 23.4 +1.8**
DAV P **P** **10 51 23.4 +1.8**
ESBB **Sonseca Array** 57.56 298 IAmb IAmb 10 51 25.0
comp=Z,326nm,1.1s
ESDC **Sonseca Array** 57.56 298 P **P** **10 51 23.1 +0.6**
ESDC IAmb IAmb 10 51 25.1
comp=Z,312nm,1.1s
ESDC pP **pP** **10 51 49.1 -1.3**
ESDC **Sonseca Array** 57.56 298 P **P** **10 51 23.3 +0.8**
comp=Z,183nm,0.9s,baz=60,slow=7.2,SNR=693
ESDC pP **pP** **10 51 49.6 -0.7**
comp=Z,69nm,0.8s,baz=55,slow=7.2,SNR=3.2
ESDC PKPPKP **P'P'df** **11 21 04.9 -4.8**
comp=Z,2.0nm,1.1s,baz=255,slow=3.1,SNR=4.4
comp=Z,183nm,0.9s
MPSI **Mapaga** 57.68 118 P **P** **10 51 25.3 +1.8**
comp=Z,2µm,1.5s,comp=Z,22µmcomp=Z,17µm
UGM **Wanagama** 57.70 132 P **P** **10 51 20.4 -3.3**
comp=Z,172nm,1.2s,comp=Z,13µm
TOLI2 **Tolitoli** 57.77 116 P **P** **10 51 24.8 +0.6**
TOLI2 **Tolitoli** 57.77 116 P **P** **10 51 25.3 +1.1**
TAM **Tamanrasset** 57.82 276 P **P** **10 51 25.3 +0.6**
TAM IAmb IAmb 10 52 11.0
comp=Z,307nm,1.7s
TAM **Tamanrasset** 57.82 276 P **P** **10 51 25.3 +0.6**
TAM pmax pmax
comp=Z,307nm,1.7s
TAM **Tamanrasset** 57.82 276 P **P** **10 51 25.5 +0.8**
TAM pP **pP** **10 51 51.9 -0.6**
NGJI **Ngawi** 57.84 131 P **P** **10 51 24.4 -0.2**
comp=Z,371nm,0.9s,comp=Z,9µmcomp=Z,21µm
PAB **San Pablo** 57.88 298 P **P** **10 51 25.2 +0.4**
PAB IAmb IAmb 10 51 27.5
comp=Z,384nm,1.2s
PAB **San Pablo** 57.88 298 P **P** **10 51 25.2 +0.4**
PAB pmax pmax
comp=Z,384nm,1.3s
PAB **San Pablo** 57.88 298 P **P** **10 51 25.6 +0.8**
PAB pP **pP** **10 51 52.1 -0.6**
PDHT **Panda Hill** 58.01 226 *i*P **P** **10 51 27.3 +1.3**
BILL **Bilibino** 58.09 26 P **P** **10 51 26.6 +0.8**
BILL **Bilibino** 58.09 26 *i*P **P** **10 51 26.5 +0.8**
BILL pmax pmax
comp=Z,773nm,1.7s
BILL MLR MLR
comp=Z,8µm,16.5s
BILL **Bilibino** 58.09 26 P **P** **10 51 26.6 +0.8**
BILL pP **pP** **10 51 54.7 +0.9**
BILL sP **sP** **10 52 06.7 +0.2**
GRJI **Gresik** 58.10 130 P **P** **10 51 26.1 -0.3**
comp=Z,355nm,0.8s,comp=Z,12µmcomp=Z,15µm
BORG **Borgarnes** 58.42 330 P **P** **10 51 31.3 +3.3**
BORG IAmb IAmb 10 52 00.3
comp=Z,269nm,0.9s
BORG **Borgarnes** 58.42 330 P **P** **10 51 31.3 +3.3**
BORG pmax pmax
comp=Z,269nm,0.9s
BORG **Borgarnes** 58.42 330 P **P** **10 51 31.0 +3.1**
BORG pP **pP** **10 51 58.1 +2.2**
PWJI **Pagerwojo** 58.56 131 P **P** **10 51 26.8 -2.8**
comp=Z,226nm,1.2s,comp=Z,4µm
PBRG **Braganca** 58.66 301 *e*P **P** **10 51 30.1 0.0**
comp=Z,228nm,1.5s
PBRG *e*pP **pP** **10 51 57.4 -0.6**
ALE **Alert** 58.67 354 P **P** **10 51 30.9 +1.4**
ALE pP **pP** **10 51 58.1 +0.2**
ALE PcP **PcP** **10 52 19.6 +1.4**
MVO **Moncorvo** 59.11 300 *e*P **P** **10 51 34.5 +1.2**
comp=Z,318nm,1.4s
MVO *e*pP **pP** **10 52 00.3 -0.9**
MVO *e*S **S** **10 59 34.8 +3.0**
MVO *e*SS **SS** **11 03 34.2 +7.0**
BLJI **Banyuglugur** 59.44 129 P **P** **10 51 34.8 -0.9**
comp=Z,581nm,1.2s,comp=Z,12µmcomp=Z,37µm
SKR **Severo-Kuril's** 59.44 47 *e*P **P** **10 51 33.8 -1.5**
SKR *e* 10 51 58.2
SKR *e*PPP PPP 10 53 51.4
SKR *e*SSS SSS 11 03 39.7
SKR 11 06 05.8
SKR pmax pmax
comp=Z,439nm,1.3s
SKR pmax pmax
comp=Z,2µm,12.2s
PEA0B **Petropavlovsk-** 59.45 44 P **P** **10 51 34.1 -1.2**
PEA0B IAmb IAmb 10 51 36.2
comp=Z,438nm,1.4s
PEA0B **Petropavlovsk-** 59.45 44*ce*P **P** **10 51 34.3 -1.0**
PETK **Petropavlovsk-** 59.45 44 P **P** **10 51 34.2 -1.1**
PETK **Petropavlovsk-** 59.45 44 P **P** **10 51 34.0 -1.3**
comp=Z,68nm,0.9s,baz=333,slow=2.9,SNR=154
PETK LR LR 11 17 48.9
comp=Z,4µm,20.2s,baz=283,slow=36
PETK PKPPKP P'P'df 11 20 57.7 -8.8
comp=Z,5.7nm,1.0s,baz=41,slow=4.7,SNR=4.7
comp=Z,68nm,0.9s

PETK Petropavlovsk- 59.45 44 P **P** **10 51 34.0 -1.3**
PVRL Vila Real 59.54 301 *e*P **P** **10 51 37.5 +1.3**
comp=Z,278nm,1.4s
PVRL *e*pP **pP** **10 52 03.5 -0.7**
POLO Lamas de Olo 59.55 301 *e*P **P** **10 51 37.2 +0.8**
comp=Z,78nm,1.5s
POLO *e*pP **pP** **10 52 03.6 -0.7**
JCJ Chichijima 59.59 77 P **P** **10 51 34.7 -2.0**
RER Riviere de l'E 59.62 197 P **P** **10 51 37.8 +1.0**
RER Riviere de l'E 59.62 197 P **P** **10 51 37.9 +1.0**
SNR=9.7
RER Riviere de l'E 59.62 197 P **P** **10 51 37.9 +1.0**
PGAV Gavieira, Arco 59.64 302 *e*P **P** **10 51 37.9 +1.0**
comp=Z,389nm,1.3s
PGAV *e*pP **pP** **10 52 04.3 -0.6**
PGAV *e*S **S** **10 59 40.8 +2.2**
PGAV *e*SS **SS** **11 03 41.3 +5.8**
OPO Ambohidratompo 59.73 207 LR LR 11 14 44.9
comp=Z,2µm,21.4s,baz=173,slow=33
MTE Manteigas 59.78 300 *e*P **P** **10 51 39.3 +1.4**
comp=Z,657nm,1.4s
MTE *e*pP **pP** **10 52 05.6 -0.3**
MTE *e*S **S** **10 59 41.1 +0.7**
ABJI Asem Bagus 59.87 129 P **P** **10 51 38.3 -0.3**
comp=Z,632nm,0.9s,comp=Z,13µmcomp=Z,18µm
PVIS Viseu 59.89 300 *e*P **P** **10 51 39.3 +0.7**
PVIS *e*pP **pP** **10 52 06.1 -0.5**
PCBR Castelo Branco 59.97 299 *e*P **P** **10 51 40.6 +1.5**
comp=Z,239nm,1.3s
PCBR *e*pP **pP** **10 52 06.9 -0.2**
PET Petropavlovsk 60.01 44 P **P** **10 51 37.6 -1.6**
PET Petropavlovsk 60.01 44 P **P** **10 51 37.2 -1.9**
PET IAmb IAmb 10 51 39.1
comp=Z,368nm,1.3s
PET Petropavlovsk 60.01 44 *e*P **P** **10 51 37.5 -1.6**
PET *e* 10 53 52.5
PET *e*S **S** **10 59 37.8 -5.0**
PET *e*SS **SS** **11 03 36.3 -4.2**
PET pmax pmax
comp=Z,240nm,1.3s
PET pmax pmax
comp=Z,2µm,6.6s
PET pmax pmax
comp=Z,2µm,12.6s
PET MLR MLR
comp=Z,4µm,13.0s
PET MLR MLR
comp=Z,2µm,16.0s
PET Petropavlovsk 60.01 44 P **P** **10 51 37.2 -1.9**
PET Petropavlovsk 60.01 44 P **P** **10 51 37.4 -1.7**
comp=Z,207nm,1.8s,comp=Z,5µm
TTSI Tana Toraja 60.02 120 P **P** **10 51 39.8 +0.1**
comp=Z,1µm,0.9s,comp=Z,16µmcomp=Z,14µm
PMRV Marv??o 60.08 299 *e*P **P** **10 51 41.4 +1.5**
comp=Z,378nm,1.5s
PMRV *e*pP **pP** **10 52 07.2 -0.7**
PMRV *e*S **S** **10 59 47.0 +2.8**
PMRV *e*SS SS 11 03 54.8 +12
ABPO Ambohimpanom 60.13 207 P **P** **10 51 41.5 +1.1**
ABPO IAmb IAmb 10 51 44.2
comp=Z,270nm,1.2s
ABPO Ambohimpanom 60.13 207 P **P** **10 51 41.6 +1.1**
ABPO pmax pmax
comp=Z,270nm,1.2s
ABPO Ambohimpanom 60.13 207 ⇑P **P** **10 51 41.4 +0.9**
PTO Porto 60.20 301 *e*P **P** **10 51 42.2 +1.5**
comp=Z,269nm,1.5s
JAGI Jajag, Banyuwa 60.34 129 P **P** **10 51 39.9 -2.0**
JAGI Jajag, Banyuwa 60.34 129 IAmb IAmb 10 51 41.9
comp=Z,185nm,0.7s
JAGI Jajag, Banyuwa 60.34 129 P **P** **10 51 39.3 -2.6**
comp=Z,259nm,0.8s,comp=Z,5µmcomp=Z,11µm
PBAR Barrancos 60.36 297 *e*P **P** **10 51 42.8 +1.0**
comp=Z,648nm,1.3s
PBAR *e*pP **pP** **10 52 09.2 -0.4**
PESTR Estremoz 60.45 298 *e*P **P** **10 51 43.6 +1.1**
comp=Z,379nm,1.2s
PESTR *e*pP **pP** **10 52 09.9 -0.4**
PESTR Estremoz 60.45 298 P **P** **10 51 43.0 +0.5**
PESTR IAmb IAmb 10 51 45.2
comp=Z,271nm,1.0s
KMSI Cibinong 60.46 114 P **P** **10 51 42.7 0.0**
comp=Z,3µm,1.1s,comp=Z,28µmcomp=Z,15µm
COI Coimbra 60.46 300 *e*P **P** **10 51 44.1 +1.7**
comp=Z,657nm,1.6s
COI *e*pP **pP** **10 52 10.1 -0.4**
PCAS Casmilo, Conde 60.59 300 *e*P **P** **10 51 44.5 +1.2**
comp=Z,272nm,1.4s
PCAS *e*pP **pP** **10 52 10.6 -0.8**
LUWI Luwuk 60.69 116 P **P** **10 51 43.8 -0.5**
LUWI Luwuk 60.69 116 P **P** **10 51 43.0 -1.2**
LUWI Luwuk 60.69 116 P **P** **10 51 40.3 -4.0**
LUWI Luwuk 60.69 116 P **P** **10 51 43.0 -1.2**
comp=Z,584nm,1.3s,comp=Z,9µmcomp=Z,15µm
NEEM North Greenlan 60.70 348 *i* P **P** **10 51 44.6 +0.7**
NEEM IAmb IAmb 10 51 47.9
comp=Z,196nm,0.6s
SRBI Singaraja 60.71 128 P **P** **10 51 43.4 -0.9**
comp=Z,424nm,1.1s,comp=Z,10µmcomp=Z,16µm
SOEG Soedalen 60.76 335 *i* P **P** **10 51 46.5 +2.5**
SOEG IAmb IAmb 10 51 51.8
comp=Z,60nm,0.8s
SUMG Summit 60.78 341 P **P** **10 51 45.4 +0.8**
SUMG Summit 60.78 341 P **P** **10 51 45.4 +0.8**
SUMG pmax pmax
comp=Z,918nm,1.0s
SUMG Summit 60.78 341 *i* P **P** **10 51 46.6 +2.1**
SUMG IAmb IAmb 10 51 52.4
comp=Z,314nm,0.7s
PMTG Montargil 60.82 299 *e*P **P** **10 51 46.0 +1.1**
comp=Z,236nm,1.3s
PMTG *e*pP **pP** **10 52 12.2 -0.5**
EVO Evora 60.90 298 *e*P **P** **10 51 46.6 +1.2**
comp=Z,408nm,1.3s
EVO *e*pP **pP** **10 52 13.0 -0.3**
MDT Midelt 60.95 291 LR LR 11 22 23.6
comp=Z,2µm,19.7s,baz=76,slow=40
PBEJ Beja 61.01 297 *e*P **P** **10 51 47.5 +1.3**
comp=Z,404nm,1.3s
PBEJ *e*pP **pP** **10 52 13.7 -0.4**
PSBE So Bento 61.02 299 *e*P **P** **10 51 47.9 +1.6**
comp=Z,613nm,1.4s
PSBE *e*pP **pP** **10 52 14.1 -0.3**
PVAQ Vaqueiros 61.18 297 *e*P **P** **10 51 48.5 +1.2**
comp=Z,549nm,1.3s
PVAQ *e*pP **pP** **10 52 14.7 -0.6**
PVAQ *e*S **S** **10 59 59.6 +1.4**
PVAQ Vaqueiros 61.18 297 P **P** **10 51 47.8 +0.5**
PVAQ IAmb IAmb 10 51 50.1
comp=Z,374nm,1.1s
PVAQ pP **pP** **10 52 14.4 -0.8**
PCVE Castro Verde 61.31 297 *e*P **P** **10 51 49.3 +1.1**
comp=Z,256nm,1.6s
PCVE *e*pP **pP** **10 52 15.8 -0.3**
MESJ Messejana 61.35 297 *e*P **P** **10 51 50.0 +1.5**
comp=Z,462nm,1.2s
MESJ *e*pP **pP** **10 52 15.9 -0.5**
MESJ Messejana 61.35 297 IAmb IAmb 10 51 51.4
comp=Z,412nm,1.1s
MESJ Messejana 61.35 297 *e*P **P** **10 51 49.4 +0.9**
MESJ IAmb IAmb 10 51 51.7
comp=Z,296nm,0.9s
MESJ *e*pP **pP** **10 52 16.4 0.0**
MESJ *e*S **S** **11 00 01.4 +1.1**
MESJ Messejana 61.35 297 *e*P **P** **10 51 49.4 +0.9**
MESJ *e**PP **pP** **10 52 16.4 0.0**
MESJ *e*S **S** **11 00 01.4 +1.1**
PACT Alcochete 61.37 299 *e*P **P** **10 51 50.5 +1.9**
comp=Z,783nm,1.5s
PACT *e*pP **pP** **10 52 16.6 +0.1**
KAPI Kappang 61.39 122 P **P** **10 51 48.7 -0.3**
KAPI Kappang 61.39 122 P **P** **10 51 48.5 -0.5**
KAPI Kappang 61.39 122 PKPPKP **P'P'df** **11 21 01.5 0.0**
comp=Z,9.1nm,1.0s,baz=265,slow=2.6,SNR=4.2
KAPI LR LR 11 22 10.1
comp=Z,2µm,18.8s,baz=304,slow=40
KAPI Kappang 61.39 122 P **P** **10 51 48.5 -0.5**
KAPI pmax pmax
comp=Z,423nm,1.0s
PBDV Barranco-do-Ve 61.40 297 *e*P **P** **10 51 50.5 +1.6**
comp=Z,794nm,1.1s
PBDV *e*pP **pP** **10 52 16.5 -0.3**
PNCL Nicolau / Gran 61.45 298 *e*P **P** **10 51 50.9 +1.8**
comp=Z,340nm,1.4s
PNCL *e*pP **pP** **10 52 16.7 -0.3**

PMAFR Mafra 61.61 299 *e*P **P** **10 51 51.7 +1.5**
comp=Z,643nm,1.3s
PMAFR *e*pP **pP** **10 52 17.9 -0.2**
LIS Lisbon 61.62 299 *e*P **P** **10 51 52.1 +1.8**
comp=Z,672nm,1.3s
LIS *e*pP **pP** **10 52 18.1 -0.1**
LIS Lisbon 61.62 299 *e*P **P** **10 51 51.2 +0.9**
LIS IAmb IAmb 10 51 53.8
comp=Z,978nm,1.4s
LIS *e*pP **pP** **10 52 18.3 +0.1**
LIS *e*S **S** **11 00 04.6 +0.9**
LIS Lisbon 61.62 299 *e*P **P** **10 51 51.2 +0.9**
LIS *e**PP **pP** **10 52 18.3 +0.1**
LIS *e*S **S** **11 00 04.6 +0.9**
PTEO Sao Teotonio 61.83 297 *e*P **P** **10 51 53.5 +1.8**
comp=Z,591nm,1.2s
PTEO *e*pP **pP** **10 52 19.6 -0.1**
MORF Marmelete 61.89 297 *e*P **P** **10 51 53.5 +1.3**
comp=Z,302nm,1.7s
MORF *e*pP **pP** **10 52 19.6 -0.6**
MORF Marmelete 61.89 297 IAmb IAmb 10 51 55.3
comp=Z,403nm,1.7s
MORF Marmelete 61.89 297 *e*P **P** **10 51 53.0 +0.8**
MORF IAmb IAmb 10 51 54.8
comp=Z,357nm,1.6s
MORF *e*pP **pP** **10 52 20.1 0.0**
MORF *e*S **S** **11 00 08.4 +1.1**
MORF Marmelete 61.89 297 *e*P **P** **10 51 53.0 +0.8**
RTC Rabat Centre 62.09 293 P **P** **10 51 53.9 +0.4**
PFVI Vila Bisbo 62.09 297 *e*P **P** **10 51 55.0 +1.5**
comp=Z,517nm,1.6s
PFVI *e*pP **pP** **10 52 21.1 -0.4**
PFVI Vila Bisbo 62.09 297 IAmb IAmb 10 51 56.0
comp=Z,305nm,1.0s
TNTI Ternate 62.83 111 P **P** **10 51 59.1 +0.5**
TNTI Ternate 62.83 111 P **P** **10 51 59.2 +0.5**
TNTI Ternate 62.83 111 P **P** **10 51 59.1 +0.5**
comp=Z,2µm,1.5s,comp=Z,30µmcomp=Z,12µm
PLAI Plampang 62.91 127 P **P** **10 51 55.8 -3.3**
comp=Z,312nm,0.9s,comp=Z,7µm
VOI Vohitsoka 62.94 206 P **P** **10 52 00.1 +0.8**
VOI Vohitsoka 62.94 206 ⇑*i*P **P** **10 52 00.0 +0.8**
ICESG Greenland Ices 62.95 338 *i* P **P** **10 51 59.8 +0.7**
BBSI Bau Bau 63.67 120 P **P** **10 52 05.6 +1.5**
comp=Z,1µm,1.0s,comp=Z,24µmcomp=Z,19µm
SANI Sanana 63.70 115 P **P** **10 52 04.0 -0.4**
SANI Sanana 63.70 115 P **P** **10 52 00.4 -4.0**
SANI Sanana 63.70 115 P **P** **10 52 04.3 -0.1**
comp=Z,1µm,0.8s,comp=Z,22µmcomp=Z,20µm
KULLO Kullorsuaq 63.75 347 *i* P **P** **10 52 05.3 +1.5**
KULLO IAmb IAmb 10 52 10.8
comp=Z,155nm,0.7s
LBMI Labuha 63.86 112 P **P** **10 52 05.4 -0.1**
comp=Z,1µm,1.1s,comp=Z,18µm
TULEG Thule 64.09 350 *i* P **P** **10 52 07.6 +1.6**
TULEG IAmb IAmb 10 52 13.3
comp=Z,77nm,0.8s
ANGG Ammassalik, Gr 64.19 334 IAmb IAmb 10 52 12.2
comp=Z,337nm,0.9s
ANGG Ammassalik, Gr 64.19 334 *i* P **P** **10 52 07.9 +1.1**
ANGG IAmb IAmb 10 52 12.9
comp=Z,189nm,0.9s
ISOG Isortoq, Green 64.69 334 *i* P **P** **10 52 10.3 +0.2**
ISOG IAmb IAmb 10 52 15.9
comp=Z,82nm,0.9s
UPNV Upernavik 64.83 345 *i* P **P** **10 52 12.9 +2.0**
UPNV IAmb IAmb 10 52 18.2
comp=Z,140nm,0.7s
NUUG Nuugaatsiaq 65.05 343 *i* P **P** **10 52 12.9 +0.6**
NUUG IAmb IAmb 10 52 19.1
comp=Z,57nm,0.9s
EKNA AfricaArray - 65.28 256 ⇑*e*P **P** **10 52 15.8 +1.0**
NLAI Namlea 65.32 115 P **P** **10 52 15.3 +0.4**
comp=Z,536nm,0.7s,comp=Z,12µm
UMMG Uummannaq 65.39 342 *i* P **P** **10 52 15.8 +1.3**
UMMG IAmb IAmb 10 52 21.5
comp=Z,109nm,0.9s
EDFI Ende, Flores 65.42 123 P **P** **10 52 12.3 -3.4**
comp=Z,262nm,0.9s,comp=Z,5µmcomp=Z,10µm
MMRI Maumere 65.71 123 P **P** **10 52 15.9 -1.5**
MMRI Maumere 65.71 123 P **P** **10 52 15.0 -2.4**
comp=Z,512nm,1.8s,comp=Z,12µmcomp=Z,12µm
FOMA Nahampoana Res 65.72 204 P **P** **10 52 18.1 +0.9**
SNR=20
FOMA Nahampoana Res 65.72 204 P **P** **10 52 18.1 +0.9**
BASI Baing, Sumba 65.77 125 P **P** **10 52 16.4 -1.3**
comp=Z,4µm,1.5s,comp=Z,43µmcomp=Z,14µm
LSZ Lusaka 65.97 226 P **P** **10 52 19.7 +0.5**
LSZ Lusaka 65.97 226 *i* P **P** **10 52 20.7 +1.6**
LSZ Lusaka 65.97 226 LR LR 11 23 15.7
comp=Z,2µm,18.5s,baz=46,slow=38
LSZ Lusaka 65.97 226 P **P** **10 52 19.8 +0.6**
LSZ Lusaka 65.97 226 *i* P **P** **10 52 17.7 -1.5**
LSZ Lusaka 65.97 226 P **P** **10 52 19.7 +0.5**
LSZ pmax pmax
comp=Z,655nm,1.0s
LSZ Lusaka 65.97 226 P **P** **10 52 19.8 +0.6**
LSZ PcP **PcP** **10 52 49.6 +0.6**
ILULI Ilulissat 66.12 341 *i* P **P** **10 52 19.9 +0.6**
ILULI IAmb IAmb 10 52 22.0
comp=Z,293nm,0.6s
KRI Karoi 66.41 224 *i* P **P** **10 52 23.2 +1.2**
KRI Karoi 66.41 224 *i* P **P** **10 52 24.3 +2.4**
DY2G Dye2 66.53 337 *i* P **P** **10 52 23.4 +1.2**
DY2G IAmb IAmb 10 52 25.3
comp=Z,282nm,0.7s
A19K Wainwright 66.68 17 P **P** **10 52 24.0 +1.3**
baz=316,SNR=12
A19K S **S** **11 01 07.1 +2.1**
baz=316
SWI Sorong 66.82 110 P **P** **10 52 24.4 -0.1**
comp=Z,1µm,1.2s,comp=Z,16µmcomp=Z,11µm
A21K Barrow 66.83 15 P **P** **10 52 24.7 +1.0**
baz=320,SNR=14
A21K S **S** **11 01 08.3 +1.4**
baz=320
C16K Lisburne Hills 66.96 20 IAmb IAmb 10 52 26.4
comp=Z,616nm,1.2s
C16K Lisburne Hills 66.96 20 P **P** **10 52 25.0 +0.4**
baz=313,SNR=87
C16K S **S** **11 01 09.9 +1.4**
baz=313
B18K Kokolik River 67.11 18 P **P** **10 52 26.9 +1.4**
baz=316,SNR=238
B18K S **S** **11 01 12.0 +1.7**
baz=316
C17K DeLong Mountai 67.40 19 P **P** **10 52 28.1 +0.7**
baz=315,SNR=197
C17K S **S** **11 01 14.3 +0.5**
baz=315
A22K Sinclair Lake 67.42 15 P **P** **10 52 28.5 +1.1**
baz=321
A22K S **S** **11 01 15.8 +1.8**
baz=321
SFJD Kangerlussuaq 67.49 339 P **P** **10 52 28.8 +0.8**
SFJD IAmb IAmb 10 52 59.8
comp=Z,456nm,1.2s
SFJD Kangerlussuaq 67.49 339 S **S** **11 01 15.7 +0.7**
comp=Z,12nm,1.1s,baz=281,slow=20,SNR=8.7
SFJD LR LR 11 22 09.9
comp=Z,12µm,20.8s,baz=49,slow=36
SFJD Kangerlussuaq 67.49 339 P **P** **10 52 28.8 +0.8**
SFJD pmax pmax
comp=Z,456nm,1.3s
SFJD Kangerlussuaq 67.49 339 P **P** **10 52 28.9 +0.8**
SFJD pP **pP** **10 52 56.6 -0.3**
SFJD Kangerlussuaq 67.49 339 *i* P **P** **10 52 28.3 +0.4**
SFJD IAmb IAmb 10 52 31.1
comp=Z,104nm,0.8s
B20K Meade River 67.72 16 P **P** **10 52 30.3 +0.9**
baz=320
B20K S **S** **11 01 18.1 +0.4**
baz=320
RDOG Red Dog Mine 67.77 19 P **P** **10 52 29.8 +0.1**
RDOG IAmb IAmb 10 52 31.5
comp=Z,430nm,1.3s
RDOG Red Dog Mine 67.77 19 P **P** **10 52 29.9 +0.1**
baz=315,SNR=35
RDOG S **S** **11 01 18.5 +0.2**
baz=315
C18K Utukok River 67.78 18 P **P** **10 52 30.5 +0.6**
baz=317,SNR=231
C18K S **S** **11 01 18.8 +0.3**
baz=317
BATI Baumata 67.81 123 S **S** **11 01 20.3 +0.2**
comp=Z,10nm,0.3s,baz=252,slow=22,SNR=3.8

BATI LR LR 11 27 59.1
comp=Z,4µm,19.2s,baz=306,slow=41
BATI Baumata 67.81 123 P **P** **10 52 30.0 -0.7**
comp=Z,949nm,0.8s,comp=Z,15µmcomp=Z,12µm
C19K Lookout Ridge 67.84 18 P **P** **10 52 31.2 +1.0**
baz=318,SNR=323
C19K S **S** **11 01 20.0 +0.8**
baz=318
SOEI Soe 67.89 122 P **P** **10 52 30.3 -1.1**
SOEI Soe 67.89 122 P **P** **10 52 29.2 -2.1**
SOEI Soe 67.89 122 P **P** **10 52 30.1 -1.3**
comp=Z,1µm,1.1s,comp=Z,15µmcomp=Z,15µm
D17K Noatak River 67.97 20 P **P** **10 52 31.5 +0.5**
baz=315,SNR=355
D17K S **S** **11 01 21.7 +1.0**
baz=315
GAMB Gambell 68.00 25 P **P** **10 52 31.8 +0.7**
baz=310,SNR=5.5
GAMB S **S** **11 01 23.7 +2.7**
baz=310
TNA Tin City 68.06 23 P **P** **10 52 32.6 +1.0**
baz=312,SNR=13
BNDI Bandanaira 68.24 114 P **P** **10 52 33.2 -0.2**
BNDI Bandanaira 68.24 114 P **P** **10 52 32.5 -0.9**
comp=Z,1µm,0.7s,comp=Z,17µmcomp=Z,14µm
B22K Teshekpuk Lake 68.27 15 P **P** **10 52 33.7 +1.0**
baz=323,SNR=236
B22K S **S** **11 01 25.6 +1.6**
baz=323
RES Resolute Bay 68.31 356 IAmb IAmb 10 53 04.6
comp=Z,467nm,1.9s
RES Resolute Bay 68.31 356 LR LR 11 27 02.0
comp=Z,3µm,18.5s,baz=25,slow=40
B21K Ikpikpuk River 68.58 16 P **P** **10 52 35.9 +1.2**
baz=322
B21K S **S** **11 01 29.0 +1.1**
baz=322
F14K Arctic Creek 68.61 22 P **P** **10 52 36.0 +1.0**
baz=313,SNR=44
F14K S **S** **11 01 30.9 +2.6**
baz=313
D19K Kuna River 68.65 18 P **P** **10 52 35.8 +0.5**
baz=319,SNR=544
D19K S **S** **11 01 28.3 -0.5**
baz=319
E17K Hotham Inlet 68.76 20 P **P** **10 52 36.2 +0.3**
baz=316,SNR=137
E17K S **S** **11 01 30.2 +0.2**
baz=316
E18K Tukpahlearik C 68.83 19 P **P** **10 52 36.9 +0.5**
baz=317,SNR=245
E18K S **S** **11 01 31.0 +0.1**
baz=317
D20K Etivluk River 68.84 17 P **P** **10 52 37.0 +0.6**
baz=320,SNR=251
D20K S **S** **11 01 31.8 +0.7**
baz=320
FAKI Fak Fak 68.91 111 P **P** **10 52 38.1 +0.4**
FAKI Fak Fak 68.91 111 P **P** **10 52 38.0 +0.4**
FAKI Fak Fak 68.91 111 P **P** **10 52 37.8 +0.1**
comp=Z,849nm,1.5s,comp=Z,14µmcomp=Z,14µm
C21K Knifeblade Rid 68.91 16 P **P** **10 52 37.8 +1.0**
baz=322,SNR=183
C21K S **S** **11 01 32.7 +0.8**
baz=322
F15K North Star Dit 68.94 22 IAmb IAmb 10 52 39.4
comp=Z,688nm,1.2s
F15K North Star Dit 68.94 22 P **P** **10 52 38.0 +1.0**
baz=315,SNR=118
F15K S **S** **11 01 33.8 +1.5**
baz=315
C23K Itkillik River 69.24 14 P **P** **10 52 40.0 +1.1**
baz=325,SNR=467
C23K S **S** **11 01 37.5 +1.8**
baz=325
E20K Nigu River 69.30 17 P **P** **10 52 39.8 +0.5**
baz=321,SNR=284
E20K S **S** **11 01 35.9 -0.6**
baz=321
F17K Baldwin Pennin 69.38 20 P **P** **10 52 40.6 +0.9**
baz=317,SNR=149
F17K S **S** **11 01 39.8 +2.5**
baz=317
PMPST Porto Santo, M 69.43 296 *e*P **P** **10 52 41.7 +1.0**
comp=Z,656nm,1.2s
PMPST *e*pP **pP** **10 53 08.9 -0.5**
PMPS Porto Santo 69.44 296 *e*P **P** **10 52 40.8 +0.1**
comp=Z,453nm,1.6s
PMPS *e*pP **pP** **10 53 07.9 -1.5**
ANM Nome 69.53 23 IAmb IAmb 10 52 43.4
comp=Z,903nm,1.6s
ANM Nome 69.53 23 P **P** **10 52 42.0 +1.3**
baz=314,SNR=24
ANM S **S** **11 01 43.0 +3.8**
baz=314
D22K Ayikyak River 69.59 16 IAmb IAmb 10 52 43.4
comp=Z,686nm,1.3s
D22K Ayikyak River 69.59 16 P **P** **10 52 42.0 +0.9**
baz=324,SNR=320
D22K S **S** **11 01 40.6 +0.7**
baz=324
G15K Niukluk 69.63 22 P **P** **10 52 42.0 +0.7**
baz=315,SNR=47
G15K S **S** **11 01 43.2 +2.9**
baz=315
NRS Narsarsuaq 69.66 333 IAmb IAmb 10 53 13.4
comp=Z,538nm,1.2s
NRS Narsarsuaq 69.66 333 *i* P **P** **10 52 42.3 +0.8**
NRS IAmb IAmb 10 52 46.6
comp=Z,164nm,0.8s
E21K Killik River 69.66 16 P **P** **10 52 41.9 +0.4**
baz=323
E21K S **S** **11 01 40.3 -0.4**
baz=323
E19K Redstone River 69.66 18 P **P** **10 52 42.0 +0.5**
baz=320,SNR=226
E19K S **S** **11 01 40.3 -0.4**
baz=320
F18K Selawik 69.69 19 P **P** **10 52 42.0 +0.4**
baz=318,SNR=182
F18K S **S** **11 01 42.2 +1.3**
baz=318
C24K Franklin Bluff 69.71 14 P **P** **10 52 42.9 +1.1**
baz=327
C24K S **S** **11 01 42.9 +1.8**
baz=327
NUUK Nuuk 69.78 337 *i* P **P** **10 52 43.2 +1.0**
NUUK IAmb IAmb 10 52 48.1
comp=Z,150nm,0.9s
G16K Koyuk River 69.84 21 IAmb IAmb 10 52 45.0
comp=Z,486nm,1.4s
G16K Koyuk River 69.84 21 P **P** **10 52 43.5 +1.0**
baz=317,SNR=61
G16K S **S** **11 01 45.9 +3.2**
baz=317
MATP Matopo 69.93 223 *i* P **P** **10 52 45.8 +2.0**
MATP Matopo 69.93 223 *i* P **P** **10 52 44.4 +0.5**
D23K Nanushuk River 69.95 15 P **P** **10 52 44.1 +0.9**
baz=325
D23K S **S** **11 01 45.1 +1.1**
baz=325
F19K Shaleruckik Mo 70.01 19 IAmb IAmb 10 52 44.9
comp=Z,680nm,1.8s
F19K Shaleruckik Mo 70.01 19 P **P** **10 52 43.2 -0.4**
baz=320,SNR=114
F19K S **S** **11 01 43.5 -1.1**
baz=320
PMAR Madeira 70.03 296 *e*P **P** **10 52 46.0 +1.4**
comp=Z,1µm,1.2s
PMAR *e*pP **pP** **10 53 12.9 -0.4**
FUL Funchal 70.06 296 *e*P **P** **10 52 45.6 +1.1**
comp=Z,664nm,2.0s
FUL *e*pP **pP** **10 53 13.8 +0.6**
D24K Happy Valley 70.17 14 P **P** **10 52 45.3 +0.8**
baz=327
D24K S **S** **11 01 47.6 +1.1**
baz=327
PMOZ Porto Moniz, M 70.18 297 *e*P **P** **10 52 46.8 +1.4**
comp=Z,633nm,1.4s
PMOZ *e*pP **pP** **10 53 13.7 -0.4**
PMOZ *e*S **S** **11 01 50.5 +2.4**
C26K Camden Bay 70.24 13 P **P** **10 52 46.5 +1.6**
baz=330,SNR=185
C26K S **S** **11 01 49.8 +2.6**
baz=330
G17K Kiwalik Mounta 70.24 20 P **P** **10 52 45.8 +0.7**
baz=318,SNR=102
G17K S **S** **11 01 49.2 +1.7**

baz=318
F20K Avaraart Lake 70.35 18 P P **10 52 45.7 +0.1**
baz=322
F20K S S **11 01 47.8 -0.9**
baz=322
E22K Anaktuvuk Pass 70.39 16 P P **10 52 46.5 +0.5**
baz=324
E22K S S **11 01 49.1 -0.1**
baz=324
H16K Elim 70.42 22 P P **10 52 46.9 +0.8**
baz=317,SNR=56
H16K S S **11 01 52.3 +2.7**
baz=317
TOLK Toolik Lake Re 70.44 15 P P **10 52 47.0 +0.7**
baz=326,SNR=499
TOLK S S **11 01 50.2 +0.4**
baz=326
D25K Kavik River 70.49 13 P P **10 52 47.8 +1.2**
baz=329
D25K S S **11 01 51.4 +1.0**
baz=329
KMPI Kaimana, Papua 70.49 110 P P **10 52 47.9 +0.6**
comp=Z,845nm,1.8s,comp=Z,17µmcomp=Z,17µm
G18K Tagagawik 70.50 20 IAmb IAmb 10 52 48.2
comp=Z,406nm,1.5s
G18K Tagagawik 70.50 20 P P **10 52 46.5 -0.1**
baz=319,SNR=78
G18K S S **11 01 50.3 -0.2**
baz=319
IVI Ivigtut 70.63 333 IAmb IAmb 10 53 19.5
comp=Z,396nm,1.3s
IVI Ivigtut 70.63 333 P P **10 52 47.9 +0.5**
IVI pP pP **10 53 16.1 -0.3**
IVI Ivigtut 70.63 333 *i* P P **10 52 48.7 +1.3**
IVI IAmb IAmb 10 52 58.3
comp=Z,59nm,0.7s
C27K Jago River 70.70 12 P P **10 52 49.2 +1.4**
baz=331,SNR=429
C27K S S **11 01 54.8 +2.1**
baz=331
G19K Purcell Mounta 70.72 19 IAmb IAmb 10 52 49.7
comp=Z,850nm,1.5s
G19K Purcell Mounta 70.72 19 P P **10 52 48.3 +0.3**
baz=321,SNR=263
G19K S S **11 01 52.7 -0.3**
baz=321
MUSN Musina, Limpop 70.73 221⇑ *i*P P **10 52 48.7 +0.2**
MUSN IAmb IAmb 10 52 49.8
comp=Z,363nm,1.1s
F21K Alatna River 70.75 17 IAmb IAmb 10 52 51.0
comp=Z,636nm,1.3s
F21K Alatna River 70.75 17 P P **10 52 48.6 +0.4**
baz=323,SNR=346
F21K S S **11 01 53.3 -0.1**
baz=323
A36M Sachs Harbour 70.77 5 P P **10 52 49.0 +0.9**
baz=346,SNR=914
A36M S S **11 01 55.3 +1.9**
baz=346
F22K John River 70.82 16 P P **10 52 49.5 +1.0**
baz=324
F22K S S **11 01 54.1 -0.1**
baz=324
H17K Granite Mounta 70.87 21 IAmb IAmb 10 52 51.0
comp=Z,686nm,1.5s
H17K Granite Mounta 70.87 21 P P **10 52 49.6 +0.7**
baz=319,SNR=68
H17K S S **11 01 56.7 +1.8**
baz=319
E23K Chandalar 70.92 15 P P **10 52 49.8 +0.6**
baz=326,SNR=256
E23K S S **11 01 55.9 +0.4**
baz=326
MOPA Mopani 70.96 219 *i* P P **10 52 51.1 +1.2**
MOPA Mopani 70.96 219⇑ *i*P P **10 52 50.4 +0.5**
MOPA IAmb IAmb 10 52 51.8
comp=Z,2µm,1.1s
MOPA Mopani 70.96 219 *i* P P **10 52 51.1 +1.2**
MPHEP Siloam, Limpop 71.07 220⇑ *i*P P **10 52 51.3 +0.5**
MPHEP IAmb IAmb 10 52 53.6
comp=Z,705nm,1.1s
E24K Your Creek 71.14 15 P P **10 52 51.3 +0.8**
baz=327
E24K S S **11 01 58.8 +0.8**
baz=327
H18K Honhosa River 71.14 20 P P **10 52 50.9 +0.3**
baz=320,SNR=62
H18K S S **11 01 57.9 0.0**
baz=320
G21K Allakaket 71.31 17 P P **10 52 51.4 -0.1**
baz=323,SNR=178
G21K S S **11 01 59.3 -0.6**
baz=323
H19K Roundabout Mou 71.36 19 IAmb IAmb 10 52 53.9
comp=Z,799nm,1.6s
H19K Roundabout Mou 71.36 19 P P **10 52 52.3 +0.5**
baz=321,SNR=144
H19K S S **11 02 01.1 +0.8**
baz=321
J14K Nanvaranak Lak 71.39 23 P P **10 52 52.9 +0.9**
baz=316
J14K S S **11 02 03.9 +3.1**
baz=316
I17K Unalakleet 71.44 22 IAmb IAmb 10 52 54.9
comp=Z,715nm,1.4s
I17K Unalakleet 71.44 22 P P **10 52 53.3 +1.0**
baz=318,SNR=47
I17K S S **11 02 03.7 +2.4**
baz=318
G22K Bettles 71.45 16 P P **10 52 52.7 +0.4**
baz=325
G22K S S **11 02 00.8 -0.6**
baz=325
COLD Coldfoot 71.49 16 P P **10 52 53.3 +0.8**
baz=326,SNR=450
COLD S S **11 02 02.0 +0.1**
baz=326
D27M Malcolm River 71.50 12 P P **10 52 53.9 +1.3**
baz=333
D27M S S **11 02 04.2 +2.1**
baz=333
SAUI Saumlaki 71.59 115 P P **10 52 55.8 +1.8**
K13K Kusilvak Mount 71.62 24 IAmb IAmb 10 52 55.7
comp=Z,749nm,1.6s
K13K Kusilvak Mount 71.62 24 P P **10 52 54.5 +1.1**
baz=316,SNR=36
K13K S S **11 02 05.7 +2.1**
baz=316
E25K Arctic Village 71.68 14 IAmb IAmb 10 52 56.0
comp=Z,774nm,1.7s
E25K Arctic Village 71.68 14 P P **10 52 54.4 +0.7**
baz=330,SNR=215
E25K S S **11 02 05.5 +1.4**
baz=330
IMAR Indian Mountai 71.68 18 P P **10 52 53.6 -0.2**
IMAR pP pP **10 53 22.3 -0.5**
GIRL Giralia 71.69 139 P P **10 52 55.3 +1.0**
F24K Squaw Lake 71.73 15 IAmb IAmb 10 53 27.6
comp=Z,823nm,1.9s
F24K Squaw Lake 71.73 15 P P **10 52 54.8 +0.7**
baz=328,SNR=146
F24K S S **11 02 05.6 +0.9**
baz=328
D28M Stokes Point 71.77 11 P P **10 52 55.7 +1.5**
baz=335,SNR=368
D28M S S **11 02 08.3 +3.4**
baz=335
H20K Anotleneega Mo 71.79 19 P P **10 52 54.8 +0.3**
baz=322,SNR=289
H20K S S **11 02 05.3 -0.1**
baz=322
AMKA Amchitka 71.84 39 P P **10 52 54.5 -0.5**
GCSA Galena City Sc 71.86 20 P P **10 52 55.6 +0.8**
baz=321,SNR=38
GCSA S S **11 02 06.8 +0.7**
baz=321
J16K Anvik River 71.92 22 IAmb IAmb 10 52 57.6
comp=Z,310nm,1.0s
J16K Anvik River 71.92 22 P P **10 52 56.2 +1.1**
baz=318,SNR=74
J16K S S **11 02 09.5 +2.7**
baz=318
HOED Hoedspruit, Li 71.94 218⇑ *i*P P **10 52 56.0 +0.1**
HOED IAmb IAmb 10 52 57.4
comp=Z,532nm,1.1s
G23K Bananza Creek 71.96 16 IAmb IAmb 10 52 57.6
comp=Z,344nm,1.2s
G23K Bananza Creek 71.96 16 P P **10 52 56.0 +0.6**
baz=326,SNR=181
G23K S S **11 02 07.2 -0.2**
baz=326
F25K Christian Rive 72.12 14 P P **10 52 57.6 +1.2**
baz=330,SNR=311
F25K S S **11 02 11.6 +2.3**
baz=330
H21K Melozitna Rive 72.18 18 IAmb IAmb 10 52 58.7
comp=Z,582nm,1.3s
H21K Melozitna Rive 72.18 18 P P **10 52 57.1 +0.4**
baz=324,SNR=283
H21K S S **11 02 09.6 -0.2**
baz=324
M11K Mekoryuk 72.20 26 P P **10 52 58.5 +1.6**
baz=315,SNR=6.2
M11K S S **11 02 15.3 +5.2**
baz=315
J17K VABM Dome 72.28 21 P P **10 52 58.1 +0.7**
baz=320
J17K S S **11 02 12.6 +1.6**
baz=320
E28M Babbage River 72.30 11 IAmb IAmb 10 53 00.3
comp=Z,898nm,1.6s
E28M Babbage River 72.30 11 P P **10 52 58.8 +1.4**
baz=334
E28M S S **11 02 13.3 +2.2**
baz=334
F26K Sheenjek River 72.32 13 P P **10 52 58.5 +1.0**
baz=331,SNR=164
F26K S S **11 02 13.3 +1.9**
baz=331
H22K Ishtalitna Cre 72.33 17 P P **10 52 58.3 +0.7**
baz=325
H22K S S **11 02 12.1 +0.6**
baz=325
E27K Coleen River 72.34 12 IAmb IAmb 10 53 00.3
comp=Z,727nm,1.4s
E27K Coleen River 72.34 12 P P **10 52 58.7 +1.1**
baz=333,SNR=418
E27K S S **11 02 13.2 +1.6**
baz=333
K15K Wolf Creek Mou 72.37 23 IAmb IAmb 10 53 00.9
comp=Z,800nm,1.8s
K15K Wolf Creek Mou 72.37 23 P P **10 52 59.3 +1.4**
baz=318,SNR=36
K15K S S **11 02 15.7 +3.6**
baz=318
I20K Naaghedeneel 72.45 19 P P **10 52 59.2 +0.9**
baz=323,SNR=77
I20K S S **11 02 14.1 +1.3**
baz=323
BMAR Burnt Mountain 72.47 14 P P **10 52 59.4 +1.0**
BMAR pP pP **10 53 28.9 +1.3**
PILG Pilgrimsrest, 72.48 218⇑ *i*P P **10 52 59.8 +0.6**
PILG IAmb IAmb 10 53 00.8
comp=Z,1µm,1.1s
G24K Hadweenzic Riv 72.52 15 IAmb IAmb 10 53 01.4
comp=Z,830nm,1.5s
G24K Hadweenzic Riv 72.52 15 P P **10 52 59.8 +1.1**
baz=328,SNR=194
G24K S S **11 02 14.7 +1.0**
baz=328
L14K Kuka Creek 72.70 24 IAmb IAmb 10 53 02.5
comp=Z,617nm,1.4s
L14K Kuka Creek 72.70 24 P P **10 53 01.2 +1.3**
baz=317,SNR=56
L14K S SKiKP **11 02 19.7 -2.6**
baz=317
G25K Bearman Lake 72.74 15 P P **10 53 01.5 +1.5**
baz=329,SNR=125
G25K S SKiKP **11 02 19.3 -3.0**
baz=329
E29M Blow River 72.75 11 IAmb IAmb 10 53 02.8
comp=Z,724nm,1.3s
E29M Blow River 72.75 11 P P **10 53 01.4 +1.3**
baz=336,SNR=492
E29M S S **11 02 18.2 +1.9**
baz=336
I21K Tanana 72.77 18 P P **10 53 00.9 +0.7**
baz=325
I21K S S **11 02 16.5 0.0**
baz=325
J19K Poorman 72.79 20 IAmb IAmb 10 53 02.6
comp=Z,540nm,1.1s
J19K Poorman 72.79 20 P P **10 53 01.1 +0.8**
baz=322,SNR=208
J19K S S **11 02 18.0 +1.1**
baz=322
H23K Yukon River 72.81 16 IAmb IAmb 10 53 03.0
comp=Z,916nm,1.6s
H23K Yukon River 72.81 16 P P **10 53 01.6 +1.1**
baz=327,SNR=246
H23K S S **11 02 17.8 +0.8**
baz=327
WTBG Waterberg Wild 72.81 220⇑ *i*P P **10 53 00.9 -0.3**
WTBG IAmb IAmb 10 53 01.6
comp=Z,281nm,1.1s
L15K Ungalak Mounta 72.84 23 P P **10 53 01.6 +1.0**
baz=318,SNR=30
L15K S SKiKP **11 02 20.7 -1.9**
baz=318
SPIA Saint Paul Isl 72.89 30 P P **10 53 02.1 +1.1**
baz=313
SPIA S SKiKP **11 02 22.7 -0.1**
baz=313
J18K Innoko River 72.91 20 IAmb IAmb 10 53 03.1
comp=Z,894nm,1.6s
J18K Innoko River 72.91 20 P P **10 53 01.7 +0.6**
baz=321,SNR=140
J18K S S **11 02 18.5 +0.3**
baz=321
BART Pico Bartolome 73.02 305 *e*P P **10 53 03.5 +1.2**
comp=Z,441nm,1.2s
BART epP pP **10 53 29.9 -1.4**
K17K Iditarod 73.03 22 P P **10 53 02.7 +0.9**
baz=320
K17K S SKiKP **11 02 21.9 -0.9**
baz=320
J20K Nowinta River 73.04 19 P P **10 53 02.6 +0.8**
baz=323,SNR=247
J20K S S **11 02 21.0 +1.5**
baz=323
G26K Porcupine Rive 73.04 14 P P **10 53 02.8 +1.1**
baz=331,SNR=108
G26K S SKiKP **11 02 21.7 -1.0**
baz=331
LEPH Lephalale, Lim 73.09 221⇑ *i*P P **10 53 02.2 -0.5**
LEPH IAmb IAmb 10 53 03.7
comp=Z,910nm,1.3s
F28M Old Crow 73.14 12 IAmb IAmb 10 53 05.0
comp=Z,499nm,1.4s
F28M Old Crow 73.14 12 P P **10 53 03.6 +1.1**
baz=334,SNR=234
F28M S SKiKP **11 02 23.2 +0.3**
baz=334
PGRON Lagoa das Cont 73.16 305 *e*pP pP 10 53 30.2 -1.9
M13K Dall Lake 73.16 25 IAmb IAmb 10 53 05.9
comp=Z,519nm,1.0s
M13K Dall Lake 73.16 25 P P **10 53 04.5 +1.9**
baz=317,SNR=38
M13K S SKiKP **11 02 26.6 +3.5**
baz=317
H24K Noodor Dome 73.17 16 P P **10 53 03.6 +1.0**
baz=328,SNR=192
H24K S SKiKP **11 02 22.5 -0.6**
baz=328
MLY Manley 73.19 17 IAmb IAmb 10 53 04.8
comp=Z,574nm,1.4s
MLY Manley 73.19 17 P P **10 53 03.3 +0.5**
baz=326,SNR=149
MLY S S **11 02 21.6 +0.1**
baz=326
PCALD Caldeiras da R 73.22 305 *e*P P **10 53 04.8 +1.4**
comp=Z,201nm,1.4s
PCALD epP pP **10 53 31.4 -1.0**
H25L Birch Creek 73.23 15 P P **10 53 04.2 +1.3**
baz=330,SNR=133
H25L S SKiKP **11 02 25.0 +2.0**
baz=330
SMPI Sarmi 73.23 106 P P **10 53 04.4 +0.7**
comp=Z,834nm,1.7s,comp=Z,14µmcomp=Z,14µm
CMLA Cha da Macela 73.26 305 *e*P P **10 53 05.0 +1.4**
comp=Z,292nm,1.5s
CMLA epP pP **10 53 31.1 -1.6**
PSET Sete Cidades 73.36 305 *e*P P **10 53 05.4 +1.2**
comp=Z,338nm,1.2s
PSET epP pP **10 53 31.4 -1.9**
PDA Ponta Delgada 73.36 305 *e*P P **10 53 04.6 +0.4**
comp=Z,407nm,1.4s
M14K Bethel 73.38 24 IAmb IAmb 10 53 06.5
comp=Z,597nm,0.9s
M14K Bethel 73.38 24 P P **10 53 05.1 +1.2**
baz=318,SNR=82
M14K S S **11 02 27.5 +4.0**
baz=318
PSMN Pico do Norte, 73.38 304 *e*P P **10 53 05.3 +1.0**
comp=Z,558nm,1.2s
PSMN epP pP **10 53 32.9 -0.5**
I23K Minto, Yukon-K 73.42 17 IAmb IAmb 10 53 06.3
comp=Z,708nm,1.4s
I23K Minto, Yukon-K 73.42 17 P P **10 53 04.8 +0.8**
baz=327,SNR=214
I23K S S **11 02 24.5 +0.7**
baz=327
PSMA Santa Maria 73.43 304 *e*P P **10 53 06.3 +1.7**
comp=Z,700nm,1.2s
PSMA epP pP **10 53 32.9 -0.8**
C36M Paulatuk 73.44 6 P P **10 53 04.5 +0.4**
baz=347,SNR=848
C36M S S **11 02 23.8 -0.1**
baz=347
INK Inuvik 73.45 9 P P **10 53 05.0 +0.9**
baz=339,SNR=510
INK S S **11 02 25.3 +1.3**
baz=339
INK Inuvik 73.45 9 LR LR 11 31 05.2
comp=Z,2µm,18.3s,baz=342,slow=40
L16K Owhat River 73.45 23 IAmb IAmb 10 53 06.9
comp=Z,372nm,1.1s
L16K Owhat River 73.45 23 P P **10 53 05.6 +1.3**
baz=320,SNR=112
L16K S S **11 02 27.7 +3.4**
baz=320
MTLB Matlabas, Limp 73.45 222⇑ *i*P P **10 53 05.3 +0.5**
MTLB IAmb IAmb 10 53 06.4
comp=Z,427nm,1.1s
L17K Donlin 73.48 22 P P **10 53 05.7 +1.3**
baz=320,SNR=58
L17K S S **11 02 26.6 +1.9**
baz=320
G27K Doyon Strip 73.56 13 IAmb IAmb 10 53 07.6
comp=Z,636nm,1.5s
G27K Doyon Strip 73.56 13 P P **10 53 06.2 +1.3**
baz=333,SNR=310
G27K S S **11 02 27.5 +2.0**
baz=333
P08K Saint George I 73.56 30 P P **10 53 06.2 +1.2**
baz=313
MBWA Marble Bar 73.57 133 P P **10 53 05.3 -0.2**
MBWA Marble Bar 73.57 133 P P **10 53 05.5 0.0**
MBWA IAmb IAmb 10 53 07.1
comp=Z,461nm,0.9s
MBWA Marble Bar 73.57 133 P P **10 53 05.5 0.0**
CRLN Carolina, Mapu 73.71 218⇑ *i*P P **10 53 06.7 +0.3**
CRLN IAmb IAmb 10 53 08.1
comp=Z,208nm,1.1s
K20K Telida 73.72 20 P P **10 53 06.7 +0.9**
baz=324
K20K S S **11 02 28.5 +1.1**
baz=324
CHUM Lake Minchumin 73.75 19 P P **10 53 06.7 +0.8**
baz=325,SNR=156
CHUM S S **11 02 27.6 0.0**
baz=325
PSCM Serra do Cume 73.78 306 *e*P P **10 53 08.0 +1.4**
comp=Z,177nm,0.9s
PSCM epP pP **10 53 34.8 -0.9**
PAGU Agualva, Azore 73.78 306 *e*P P **10 53 08.6 +1.9**
comp=Z,289nm,1.3s
PAGU epP pP **10 53 34.0 -1.7**
F30M Barrier River 73.78 11 P P **10 53 07.2 +1.0**
baz=338,SNR=224
F30M S S **11 02 29.1 +1.2**
baz=338
MDM Murphy Dome 73.83 16 P P **10 53 06.5 0.0**
MDM IAmb IAmb 10 53 08.5
comp=Z,653nm,1.2s
MDM pP pP **10 53 35.6 0.0**
M15K Kasigluk River 73.84 24 P P **10 53 07.8 +1.3**
baz=319,SNR=51
M15K S S **11 02 31.6 +2.9**
baz=319
RUST Rust De Winter 73.84 220⇑ *i*P P **10 53 07.9 +0.8**
RUST IAmb IAmb 10 53 08.9
comp=Z,634nm,1.0s
PSBA Serra de Santa 73.87 306 *e*P P **10 53 09.0 +1.8**
comp=Z,382nm,1.4s
PSBA epP pP **10 53 35.1 -1.2**
POKR Poker Plat Res 73.88 16 P P **10 53 07.7 +0.9**
baz=328,SNR=134
POKR S S **11 02 29.9 +0.8**
baz=328
ADH Angra Heroismo 73.88 306 *e*P P **10 53 07.2 0.0**
comp=Z,310nm,1.0s
L18K Granite Mounta 73.89 21 IAmb IAmb 10 53 09.1
comp=Z,603nm,1.6s
L18K Granite Mounta 73.89 21 P P **10 53 07.7 +0.8**
baz=322,SNR=63
L18K S S **11 02 29.7 +0.4**
baz=322
BPAW Bear Paw Mtn. 73.90 18 IAmb IAmb 10 53 08.5
comp=Z,377nm,1.2s
BPAW Bear Paw Mtn. 73.90 18 P P **10 53 07.0 +0.1**
baz=326,SNR=164
BPAW S S **11 02 28.3 -1.2**
baz=326
PRP Porcupine Dome 73.94 15 P P **10 53 08.1 +0.9**
baz=330,SNR=110
PRP S S **11 02 31.6 +1.5**
baz=330
NEA2 Nenana 73.95 17 IAmb IAmb 10 53 08.8
comp=Z,739nm,1.2s
NEA2 Nenana 73.95 17 P P **10 53 07.3 +0.2**
baz=327,SNR=285
NEA2 S S **11 02 28.5 -1.4**
baz=327
PSA00 Pilbara Seismi 73.96 134 P P **10 53 07.3 -0.4**
PSA00 Pilbara Seismi 73.96 134 P P **10 53 07.6 -0.1**
PSA00 IAmb IAmb 10 53 09.3
comp=Z,261nm,0.9s
PSA00 Pilbara Seismi 73.96 134 IAmb IAmb 10 53 09.3
comp=Z,537nm,0.9s
COLA College 73.99 16 P P **10 53 07.5 +0.1**
COLA College 73.99 16 P P **10 53 07.7 +0.3**
COLA IAmb IAmb 10 53 09.2
comp=Z,444nm,0.8s
COLA College 73.99 16 P P **10 53 08.0 +0.6**
baz=328
COLA S S **11 02 30.4 +0.1**
baz=328
COLA College 73.99 16 P P **10 53 07.7 +0.3**
COLA pmax pmax
comp=Z,444nm,0.9s
POGA Pongola 74.02 216 IAmb IAmb 10 53 09.9
comp=Z,414nm,1.1s
POGA Pongola 74.02 216⇑ *i*P P **10 53 08.2 +0.2**
POGA IAmb IAmb 10 53 09.3
comp=Z,482nm,1.2s
G29M Pine Creek 74.09 12 P P **10 53 08.7 +0.8**
G29M IAmb IAmb 10 53 10.5
comp=Z,958nm,1.7s
G29M pP pP **10 53 37.2 +0.1**
G29M Pine Creek 74.09 12 P P **10 53 08.7 +0.8**
baz=336,SNR=145
G29M S S **11 02 32.9 +1.5**
baz=336
N14K Kuskokwak Cree 74.09 25 P P **10 53 09.2 +1.2**
baz=318
N14K S S **11 02 34.0 +2.5**
baz=318
H27K Steamboat Moun 74.10 13 P P **10 53 09.1 +1.0**
baz=333,SNR=318
H27K S S **11 02 32.8 +1.2**
baz=333
PGRA Graciosa 74.15 307 *e*P P 10 53 20.4 +12
comp=Z,724nm,1.6s
SRBC Serra Branca 74.18 307 *e*P P **10 53 10.0 +1.0**
comp=Z,1µm,1.2s
CAST Castle Rocks 74.19 19 P P **10 53 09.1 +0.5**
baz=325,SNR=396
CAST S S **11 02 32.3 -0.3**
baz=325
CCB Clear Creek Bu 74.20 16 IAmb IAmb 10 53 10.1
comp=Z,480nm,1.9s
NHAM Northam, North 74.21 221⇑ *i*P P **10 53 09.9 +0.7**

NHAM IAmb IAmb 10 53 10.9
comp=Z,553nm,1.2s
BWN Browne 74.21 17 IAmb IAmb 10 53 10.5
comp=Z,622nm,1.0s
F31M Tsiigehtchic 74.23 10 P **P 10 53 09.4 +0.7**
baz=339,SNR=361
F31M S **S 11 02 33.6 +0.7**
baz=339
IL31 74.30 16 IAmb IAmb 10 53 10.3
comp=Z,320nm,1.2s
ILAR Eielson Array 74.30 16 P **P 10 53 08.6 -0.5**
ILAR pP **pP 10 53 37.7 -0.7**
ILAR Eielson Array 74.30 16 P **P 10 53 08.7 -0.5**
comp=Z,144nm,1.0s,baz=318,slow=4.2,SNR=478
ILAR PKKPbc **PKKPbc 11 12 35.9 -1.3**
comp=Z,1.3nm,0.9s,baz=171,slow=2.9,SNR=4.7
ILAR PKPPKP **P'P'df 11 20 37.8 -3.3**
comp=Z,3.4nm,1.0s,baz=185,slow=2.4,SNR=6.3
ILAR LR LR 11 29 20.9
comp=Z,3µm,18.9s,baz=322,slow=38
comp=Z,144nm,1.0s
G30M tAoh Zraii Nji 74.30 11 IAmb IAmb 10 53 11.2
comp=Z,651nm,1.2s
G30M tAoh Zraii Nji 74.30 11 P **P 10 53 09.7 +0.5**
baz=337,SNR=316
G30M S **S 11 02 34.3 +0.5**
baz=337
M17K Holitna River 74.31 22 IAmb IAmb 10 53 12.2
comp=Z,498nm,1.1s
M17K Holitna River 74.31 22 P **P 10 53 10.8 +1.4**
baz=321,SNR=86
M17K S **S 11 02 36.3 +2.3**
baz=321
DRS Darwin Rock St 74.36 119 P **P 10 53 09.9 -0.3**
KTH Kantishna Hill 74.37 18 IAmb IAmb 10 53 11.3
comp=Z,514nm,1.0s
N15K Kwethluk River 74.43 24 IAmb IAmb 10 53 13.1
comp=Z,673nm,1.4s
N15K Kwethluk River 74.43 24 P **P 10 53 11.7 +1.7**
baz=320,SNR=52
N15K S **S 11 02 38.3 +2.9**
baz=320
NYAT Nyati, Northwe 74.44 221⇑*iP* **P 10 53 11.4 +0.8**
NYAT IAmb IAmb 10 53 12.5
comp=Z,823nm,1.1s
PMAN Manadas 74.44 307 *eP* **P 10 53 11.1 +0.6**
comp=Z,634nm,1.2s
PMAN *ep*P **pP 10 53 38.9 -0.7**
L19K White Mountain 74.45 21 IAmb IAmb 10 53 12.4
comp=Z,478nm,1.3s
L19K White Mountain 74.45 21 P **P 10 53 10.9 +0.8**
baz=323,SNR=110
L19K S **S 11 02 36.4 +0.8**
baz=323
L20K Farewell, AK 74.48 20 P **P 10 53 11.0 +0.7**
baz=324,SNR=119
L20K S **S 11 02 36.5 +0.6**
baz=324
ROSA Rosais 74.49 307 *eP* **P 10 53 13.1 +2.3**
comp=Z,244nm,0.8s
ROSA *ep*P **pP 10 53 38.9 -1.0**
PPLA Purkeypile 74.59 19 P **P 10 53 11.5 +0.4**
baz=325,SNR=114
PPLA S **S 11 02 36.3 -1.1**
baz=325
HDA Harding Lake 74.59 16 P **P 10 53 10.2 -0.7**
baz=329,SNR=97
HDA S **S 11 02 34.1 -3.0**
baz=329
HDA S **S 11 02 34.1 -3.0**
baz=329
I26K Coal Creek Min 74.61 14 P **P 10 53 11.8 +0.8**
baz=332
I26K S **S 11 02 39.2 +2.0**
baz=332
TRF Thorofare Moun 74.62 18 P **P 10 53 10.8 -0.5**
baz=326,SNR=51
TRF S **S 11 02 35.0 -2.8**
baz=326
N16K Nishlik Lake 74.62 23 P **P 10 53 12.7 +1.5**
baz=320
N16K S **S 11 02 39.8 +2.2**
baz=320
I27K Kandik River 74.64 14 P **P 10 53 12.0 +0.8**
baz=333,SNR=168
I27K S **S 11 02 38.0 +0.2**
baz=333
G31M Satah River 74.64 10 P **P 10 53 11.6 +0.5**
baz=339,SNR=394
G31M S **S 11 02 37.9 +0.5**
baz=339
H29M Whitestone 74.66 12 IAmb IAmb 10 53 13.0
comp=Z,465nm,1.1s
H29M Whitestone 74.66 12 P **P 10 53 12.2 +0.9**
baz=336,SNR=369
H29M S **S 11 02 39.0 +1.2**
baz=336
MCK McKinley 74.71 17 P **P 10 53 11.0 -0.6**
baz=328,SNR=128
MCK S **S 11 02 35.0 -3.5**
baz=328
M18K Stony River 74.72 21 P **P 10 53 12.6 +1.0**
baz=322,SNR=68
M18K S **S 11 02 39.4 +0.9**
baz=322
O14K Tigyukauivet M 74.73 25 P **P 10 53 12.9 +1.1**
baz=319
O14K S **S 11 02 41.4 +2.6**
baz=319
PICO Pico 74.73 307 *eP* **P 10 53 13.1 +0.8**
comp=Z,577nm,1.2s
PICO *ep*P **pP 10 53 41.5 +0.1**
GENI Genyem 74.74 105 P **P 10 53 13.4 +0.9**
GENI Genyem 74.74 105 P **P 10 53 13.1 +0.6**
comp=Z,1µm,0.9s,comp=Z,17µmcomp=Z,15µm
J25K Salcha River, 74.76 16 P **P 10 53 11.8 -0.2**
baz=330,SNR=129
J25K S **S 11 02 37.4 -1.7**
baz=330
FRB Frobisher Bay 74.77 343 LR LR 11 31 00.7
comp=Z,4µm,18.5s,baz=36,slow=40
EPYK Eagle Plains 74.79 11 IAmb IAmb 10 53 13.9
comp=Z,459nm,1.4s
EPYK Eagle Plains 74.79 11 P **P 10 53 12.3 +0.2**
baz=337,SNR=143
EPYK S **S 11 02 39.7 +0.4**
baz=337
M19K Big River Lodg 74.80 21 P **P 10 53 13.1 +1.0**
baz=324
M19K S **S 11 02 40.9 +1.5**
baz=324
HRAO HartRAO 74.81 220⇑*iP* **P 10 53 13.1 +0.4**
MTN Manton Dam 74.81 119 P **P 10 53 12.2 -0.6**
MTN Manton Dam 74.81 119 IAmb IAmb 10 53 14.8
comp=Z,246nm,0.9s
PCED Cedros 74.84 307 *eP* **P 10 53 14.8 +2.0**
comp=Z,622nm,1.1s
PCED *ep*P **pP 10 53 43.8 +1.9**
HOR Horta 74.85 307 *ep*P pP 10 53 40.4 -1.6
CALA Caldeira 74.86 307 *eP* **P 10 53 14.2 +1.2**
comp=Z,904nm,1.1s
CALA *ep*P **pP 10 53 42.3 +0.1**
RND Reindeer 75.01 18 IAmb IAmb 10 53 14.2
comp=Z,834nm,1.5s
DBIC Dimbokro 75.05 267⇑*iP* **P 10 53 13.4 -0.9**
DBIC Dimbokro 75.05 267 P **P 10 53 13.5 -0.8**
comp=Z,76nm,0.9s,baz=53,slow=8.3,SNR=7.0
DBIC sP **sP 10 53 59.1 +3.6**
comp=Z,88nm,0.8s,baz=42,slow=4.1,SNR=3.8
comp=Z,76nm,0.9s
N17K Nushagak Hills 75.07 23 IAmb IAmb 10 53 16.8
comp=Z,697nm,1.6s
N17K Nushagak Hills 75.07 23 P **P 10 53 15.1 +1.4**
baz=322,SNR=57
N17K S **S 11 02 46.0 +3.5**
baz=322
I28M Miner Creek 75.09 13 P **P 10 53 14.2 +0.3**
baz=334,SNR=287
I28M S **S 11 02 42.7 -0.1**
baz=334
JAY Jayapura 75.11 105 P **P 10 53 14.8 +0.1**
comp=Z,204nm,1.2s,comp=Z,5µmcomp=Z,9µm
SVW2 Sparrevohn 75.11 22 P **P 10 53 15.1 +1.2**
KIC Kosan Boka 75.14 267⇑*eP* **P 10 53 14.1 -0.7**
comp=Z,176nm,1.0s
M20K Styx River 75.17 20 P **P 10 53 14.5 +0.1**
baz=324
M20K S **S 11 02 42.5 -1.2**
baz=324
TIC Toumodi 75.19 267⇑*eP* **P 10 53 14.4 -0.8**
comp=Z,116nm,1.0s
LBTB Lobatse 75.20 222 P **P 10 53 15.6 +0.6**
LBTB Lobatse 75.20 222 *i* P **P 10 53 16.4 +1.4**
LBTB Lobatse 75.20 222⇑*iP* **P 10 53 15.8 +0.8**
LBTB IAmb IAmb 10 53 18.0
comp=Z,1µm,1.2s
LBTB Lobatse 75.20 222 *i* P **P 10 53 16.1 +1.1**
LBTB Lobatse 75.20 222 P **P 10 53 15.6 +0.6**
LBTB pmax pmax
comp=Z,1µm,1.2s
NWCL Newcastle 75.22 217⇑*iP* **P 10 53 15.3 +0.2**
NWCL IAmb IAmb 10 53 16.1
comp=Z,372nm,1.1s
J26L Joseph Creek 75.24 15 IAmb IAmb 10 53 16.5
comp=Z,769nm,1.6s
J26L Joseph Creek 75.24 15 P **P 10 53 15.1 +0.4**
baz=332,SNR=201
J26L S **S 11 02 44.5 +0.1**
baz=332
O15K Ungalikthiuk R 75.28 25 P **P 10 53 16.0 +1.1**
baz=320,SNR=38
O15K S **S 11 02 47.2 +2.4**
baz=320
N18K Kilae Creek 75.34 22 P **P 10 53 16.4 +1.0**
N18K IAmb IAmb 10 53 18.1
comp=Z,900nm,2.0s
N18K Kilae Creek 75.34 22 P **P 10 53 16.5 +1.2**
baz=323,SNR=33
N18K S **S 11 02 47.5 +2.0**
baz=323
K24K Donnelly Dome 75.38 16 P **P 10 53 15.2 -0.2**
baz=330,SNR=212
K24K S **S 11 02 42.9 -2.9**
baz=330
TSUM Tsumeb 75.43 232 P **P 10 53 17.1 +0.7**
TSUM Tsumeb 75.43 232 *i* P **P 10 53 16.8 +0.4**
TSUM Tsumeb 75.43 232⇑*iP* **P 10 53 17.0 +0.6**
TSUM IAmb IAmb 10 53 19.1
comp=Z,640nm,1.0s
TSUM Tsumeb 75.43 232 LR LR 11 29 26.3
comp=Z,2µm,19.1s,baz=44,slow=38
TSUM Tsumeb 75.43 232 *i* P **P 10 53 18.6 +2.2**
LIC Lamto 75.45 267⇑*eP* **P 10 53 15.8 -0.8**
comp=Z,174nm,1.0s
I29M Ogilvie Camp, 75.46 12 P **P 10 53 16.0 +0.1**
I29M IAmb IAmb 10 53 17.5
comp=Z,741nm,1.4s
I29M Ogilvie Camp, 75.46 12 P **P 10 53 16.0 +0.1**
baz=336,SNR=365
I29M S **S 11 02 45.9 -0.8**
baz=336
EGAK Eagle 75.47 14 IAmb IAmb 10 53 17.9
comp=Z,915nm,1.8s
EGAK Eagle 75.47 14 P **P 10 53 16.4 +0.5**
baz=334,SNR=208
EGAK S **S 11 02 47.1 +0.3**
baz=334
CUT Chulitna 75.50 19 IAmb IAmb 10 53 49.4
comp=Z,671nm,1.2s
CUT Chulitna 75.50 19 P **P 10 53 15.7 -0.4**
baz=327,SNR=9.6
CUT S **S 11 02 42.8 -4.3**
baz=327
O16K Kokwok River B 75.52 24 P **P 10 53 17.6 +1.4**
baz=321,SNR=90
O16K S **S 11 02 51.1 +3.7**
baz=321
SKT Skwentna 75.52 19 IAmb IAmb 10 53 17.3
comp=Z,506nm,0.9s
SKT Skwentna 75.52 19 P **P 10 53 15.9 -0.4**
baz=326,SNR=198
SKT S **S 11 02 43.1 -4.4**
baz=326
WAT1 Susitna Watana 75.57 18 P **P 10 53 15.7 -0.8**
baz=328
WAT1 S **S 11 02 43.7 -4.3**
baz=328
SCRK Sand Creek 75.61 15 IAmb IAmb 10 53 19.0
comp=Z,593nm,1.4s
SCRK Sand Creek 75.61 15 P **P 10 53 17.3 +0.4**
baz=331,SNR=176
SCRK S **S 11 02 47.9 -0.7**
baz=331
DHY Denali Highway 75.64 17 IAmb IAmb 10 53 18.4
comp=Z,367nm,1.2s
DHY Denali Highway 75.64 17 P **P 10 53 16.7 -0.4**
baz=329,SNR=137
DHY S **S 11 02 45.9 -3.1**
baz=329
KDU Kakadu 75.64 118 P **P 10 53 17.2 -0.4**
N19K Bonanza Creek 75.65 21 P **P 10 53 18.1 +0.9**
baz=324,SNR=59
N19K S **S 11 02 49.1 0.0**
baz=324
H31M Peel River 75.68 11 IAmb IAmb 10 53 18.3
comp=Z,410nm,1.1s
H31M Peel River 75.68 11 P **P 10 53 17.7 +0.6**
baz=339,SNR=290
H31M S **S 11 02 48.6 -0.5**
baz=339
O17K Koliganek Bris 75.69 23 P **P 10 53 18.6 +1.3**
baz=322
O17K S **S 11 02 52.1 +2.8**
baz=322
H07N1 FLORES T-PHASE 75.75 309 *eP* **P 10 53 19.1 +1.1**
comp=Z,245nm,0.7s
H07N1 FLORES T-PHASE 75.75 309 P **P 10 53 19.5 +1.5**
SNR=5.9
PRYS Parys 75.82 220⇑*iP* **P 10 53 18.2 -0.3**
PRYS IAmb IAmb 10 53 19.5
comp=Z,391nm,1.1s
I30M Mount Dempster 75.91 12 IAmb IAmb 10 53 20.4
comp=Z,478nm,1.2s
I30M Mount Dempster 75.91 12 P **P 10 53 19.1 +0.5**
baz=337,SNR=340
I30M S **S 11 02 51.2 -0.7**
baz=337
K27K Chicken 75.96 15 P **P 10 53 19.8 +1.1**
baz=333
K27K S **S 11 02 53.3 +1.1**
baz=333
WAT6 Susitna Watana 75.98 18 P **P 10 53 18.5 -0.6**
baz=329,SNR=94
WAT6 S **S 11 02 49.5 -3.3**
baz=329
H07S1 FLORES T-PHASE 75.98 309 *eP* P 10 53 24.2 +4.8
comp=Z,415nm,1.3s
H07S1 FLORES T-PHASE 75.98 309 P **P 10 53 20.4 +1.0**
SNR=12
P16K Nushagak River 75.99 24 P **P 10 53 20.2 +1.3**
baz=321,SNR=34
P16K S **S 11 02 55.6 +3.0**
baz=321
M22K Willow 76.08 19 IAmb IAmb 10 53 52.2
comp=Z,465nm,0.9s
M22K Willow 76.08 19 P **P 10 53 18.9 -0.5**
baz=327,SNR=63
M22K S **S 11 02 50.8 -2.7**
baz=327
SUA Susitna One 76.16 19 IAmb IAmb 10 53 21.2
comp=Z,288nm,1.0s
SUA Susitna One 76.16 19 P **P 10 53 19.8 -0.2**
baz=326,SNR=82
SUA S **S 11 02 52.0 -2.7**
baz=326
PAX Paxson 76.17 16 P **P 10 53 20.1 0.0**
baz=330,SNR=132
PAX S **S 11 02 53.1 -1.7**
baz=330
O19K Port Alsworth 76.20 22 P **P 10 53 20.8 +0.7**
baz=324,SNR=27
O19K S **S 11 02 54.8 -0.1**
baz=324
O18K Koktuh Hills 76.21 22 IAmb IAmb 10 53 22.8
comp=Z,350nm,0.8s
O18K Koktuh Hills 76.21 22 P **P 10 53 21.4 +1.2**
baz=323,SNR=54
O18K S **S 11 02 57.2 +2.1**
baz=323
J29N Klondike Camp 76.31 13 P **P 10 53 21.7 +0.9**
baz=336,SNR=141
J29N S **S 11 02 56.3 +0.2**
baz=336
P17K Kvichak River 76.36 23 P **P 10 53 22.5 +1.5**
baz=322,SNR=58
P17K S **S 11 02 59.1 +2.5**
baz=322
GHO Glory Hole Cre 76.38 18 IAmb IAmb 10 53 54.3
comp=Z,536nm,1.2s
PMBG Pietermaritzbu 76.41 216⇑*iP* **P 10 53 22.4 +0.7**
PMBG IAmb IAmb 10 53 23.6
comp=Z,504nm,1.3s
DAWY Dawson 76.45 13 IAmb IAmb 10 53 23.4
comp=Z,802nm,1.5s
DAWY Dawson 76.45 13 P **P 10 53 22.0 +0.4**
baz=335,SNR=241
DAWY S **S 11 02 57.7 +0.1**
baz=335
PMR Palmer 76.47 19 P **P 10 53 21.2 -0.4**
PMR Palmer 76.47 19 IAmb IAmb 10 53 22.9
comp=Z,847nm,1.8s
PMR Palmer 76.47 19 P **P 10 53 21.5 -0.1**
baz=328,SNR=69
PMR S **S 11 02 55.7 -2.1**
baz=328
SML Sawmill 76.50 18 IAmb IAmb 10 53 23.3
comp=Z,431nm,0.7s
SML Sawmill 76.50 18 P **P 10 53 21.9 0.0**
baz=328,SNR=164
SML S **S 11 02 55.7 -2.6**
baz=328
J30M Hart River 76.52 12 IAmb IAmb 10 53 24.3
comp=Z,537nm,1.4s
J30M Hart River 76.52 12 P **P 10 53 22.7 +0.7**
baz=338,SNR=260
J30M S **S 11 02 58.8 +0.3**
baz=338
P18K Big Mountain, 76.58 22 P **P 10 53 23.1 +0.7**
baz=323,SNR=24
P18K S **S 11 03 00.5 +1.4**
baz=323
MENT Mentasta 76.59 16 P **P 10 53 22.6 +0.3**
L26K Log Cabin Wild 76.59 16 IAmb IAmb 10 53 24.6
comp=Z,746nm,1.8s
L26K Log Cabin Wild 76.59 16 P **P 10 53 22.9 +0.6**
baz=332,SNR=154
L26K S **S 11 02 58.0 -1.2**
baz=332
CAPN Captain Cook N 76.63 20 P **P 10 53 23.2 +0.7**
baz=326
CAPN S **S 11 02 58.4 -1.1**
baz=326
M23K Glacier View 76.66 18 P **P 10 53 22.7 0.0**
baz=329,SNR=255
M23K S **S 11 02 57.5 -2.4**
baz=329
Q16K King Salmon 76.70 24 P **P 10 53 24.0 +1.1**
baz=322,SNR=57
Q16K S **S 11 03 02.5 +2.2**
baz=322
SNKL Senekal, Frees 76.71 219⇑*iP* **P 10 53 23.8 +0.2**
SNKL IAmb IAmb 10 53 24.9
comp=Z,827nm,1.2s
SCM Sheep Creek Mo 76.72 18 IAmb IAmb 10 54 19.7
comp=Z,308nm,0.9s
SCM Sheep Creek Mo 76.72 18 P **P 10 53 23.5 +0.3**
baz=329,SNR=104
SCM S **S 11 02 58.9 -1.8**
baz=329
UNV Unalaska Valle 76.74 31 P **P 10 53 22.2 -1.0**
UNV Unalaska Valle 76.74 31 P **P 10 53 23.8 +0.6**
baz=316
UNV S **S 11 02 58.3 -2.6**
baz=316
RC01 Rabbit Creek A 76.74 19 IAmb IAmb 10 53 24.4
comp=Z,585nm,1.4s
RC01 Rabbit Creek A 76.74 19 P **P 10 53 23.0 -0.1**
baz=327,SNR=46
RC01 S **S 11 02 58.3 -2.5**
baz=327
HARP HAARP 76.74 17 P **P 10 53 24.4 +1.2**
baz=331,SNR=215
HARP S **S 11 03 01.7 +0.9**
baz=331
M24K Tolsona, Glenn 76.76 17 P **P 10 53 24.4 +1.1**
baz=330,SNR=115
M24K S **S 11 03 00.6 -0.5**
baz=330
O20K Slope Mountain 76.79 21 P **P 10 53 23.3 -0.3**
baz=325,SNR=10
KNK Knik Glacier 76.80 18 IAmb IAmb 10 53 56.8
comp=Z,637nm,1.3s
KNK Knik Glacier 76.80 18 P **P 10 53 23.9 +0.4**
baz=328,SNR=91
KNK S **S 11 02 59.9 -1.6**
baz=328
L27K Beaver Creek, 76.88 15 P **P 10 53 24.9 +0.9**
baz=333,SNR=191
L27K S **S 11 03 03.0 +0.7**
baz=333
BCAR Beaver Creek A 76.88 15 P **P 10 53 24.9 +0.8**
BCAR pP **pP 10 53 54.1 +0.6**
P19K Oil Pt 76.96 21 P **P 10 53 24.0 -0.5**
baz=325,SNR=6.4
P19K S **S 11 03 02.5 -0.8**
baz=325
K29M Barlow Dome 76.99 13 P **P 10 53 25.5 +0.8**
K29M IAmb IAmb 10 53 26.9
comp=Z,723nm,1.4s
K29M Barlow Dome 76.99 13 P **P 10 53 25.4 +0.8**
baz=337,SNR=315
K29M S **S 11 03 04.0 +0.3**
baz=337
S12K Black Hills 77.12 28 P **P 10 53 24.9 -0.5**
baz=319
S12K S **S 11 03 04.8 -0.4**
baz=319
M26K Nabesna, AK 77.22 16 P **P 10 53 26.4 +0.5**
M26K Nabesna, AK 77.22 16 P **P 10 53 26.6 +0.7**
baz=332,SNR=91
M26K S **S 11 03 06.8 +0.7**
baz=332
FALS False Pass 77.24 29 P **P 10 53 27.2 +1.2**
FALS False Pass 77.24 29 P **P 10 53 26.8 +0.8**
baz=318
TABU Tabubil 77.24 107 P **P 10 53 27.4 +0.6**
MEEK Meekatharra 77.25 138 P **P 10 53 26.1 -0.3**
O22K Cooper Landing 77.26 20 IAmb IAmb 10 54 22.0
comp=Z,213nm,0.8s
O22K Cooper Landing 77.26 20 P **P 10 53 25.8 -0.3**
baz=327,SNR=16
O22K S **S 11 03 03.8 -2.6**
baz=327
Q17K Contact Creek 77.27 23 P **P 10 53 25.9 -0.4**
baz=323,SNR=22
Q17K S **S 11 03 06.8 -0.1**
baz=323
R16K Pilot Point 77.28 25 P **P 10 53 25.8 -0.4**
baz=322
R16K S **S 11 03 05.2 -1.4**
baz=322
KLU Klutina 77.36 17 IAmb IAmb 10 53 28.8
comp=Z,384nm,1.3s
KLU Klutina 77.36 17 P **P 10 53 27.5 +0.8**
baz=330,SNR=80
KLU S **S 11 03 06.5 -1.2**
baz=330
HOM Homer 77.42 21 P **P 10 53 26.3 -0.7**
baz=326
Q19K Cape Douglas, 77.43 22 P **P 10 53 25.8 -1.4**
baz=325
M27K Edge Creek, AK 77.50 15 IAmb IAmb 10 53 30.1
comp=Z,715nm,1.2s
M27K Edge Creek, AK 77.50 15 P **P 10 53 28.7 +1.1**
baz=333,SNR=249
M27K S **S 11 03 10.8 +1.6**
baz=333
MAYO Mayo, Yukon 77.50 12 IAmb IAmb 10 54 01.4
comp=Z,351nm,0.9s
MAYO Mayo, Yukon 77.50 12 P **P 10 53 28.2 +0.8**
baz=338,SNR=81
MAYO S **S 11 03 09.6 +0.6**
baz=338
L29M L29M 77.56 13 IAmb IAmb 10 53 30.2
comp=Z,621nm,1.3s
L29M L29M 77.56 13 P **P 10 53 28.6 +0.9**
baz=336,SNR=270
L29M S **S 11 03 09.9 +0.2**
baz=336
N25K Chitina, Valde 77.57 17 IAmb IAmb 10 54 01.7
comp=Z,1µm,1.9s
N25K Chitina, Valde 77.57 17 P **P 10 53 28.6 +0.7**
baz=331,SNR=83
N25K S **S 11 03 10.0 +0.1**

baz=331
S14K Fog Glacier 77.59 26 P P 10 53 27.6 -0.6
baz=320
GLI Glacier Island 77.60 18 IAmb IAmb 10 53 28.8
comp=Z,326nm,1.2s
GLI Glacier Island 77.60 18 P P 10 53 28.1 +0.2
baz=329,SNR=28
GLI S S 11 03 09.6 -0.5
baz=329
BRSE Bradley Lake S 77.60 20 P P 10 53 27.5 -0.5
baz=327,SNR=17
BRSE S S 11 03 06.6 -3.6
baz=327
SEW Seward 77.65 20 P P 10 53 27.9 -0.3
baz=328,SNR=22
SEW S S 11 03 08.5 -2.1
baz=328
BVCY Beaver Creek 77.66 15 S S 11 03 12.3 +1.5
baz=334
MORW Morawa 77.86 141 P P 10 53 29.3 -0.5
KSTD Kokstad 77.90 216⇑ *i*P P 10 53 30.2 +0.1
KSTD IAmb IAmb 10 53 31.0
comp=Z,326nm,1.5s
SDPT Sand Point 77.98 27 P P 10 53 29.0 -1.1
baz=320
CHGN Chignik 77.98 26 IAmb IAmb 10 53 30.7
comp=Z,397nm,1.6s
CHGN Chignik 77.98 26 P P 10 53 29.2 -1.0
baz=321,SNR=9.8
CHGN S S 11 03 11.5 -2.7
baz=321
Q20K Shuyak Island 78.07 22 P P 10 53 30.2 -0.4
baz=326,SNR=5.7
Q20K S S 11 03 11.4 -3.8
baz=326
M29M Somme Creek 78.10 14 IAmb IAmb 10 53 33.4
comp=Z,935nm,1.9s
M29M Somme Creek 78.10 14 P P 10 53 32.0 +1.1
baz=336,SNR=274
M29M S S 11 03 17.3 +1.6
baz=336
MCARA McCarthy VSAT 78.12 16 P P 10 53 31.5 +0.7
baz=332,SNR=36
MCARA S S 11 03 14.9 -0.8
baz=332
BMRM Bremner River 78.13 17 P P 10 53 31.6 +0.7
baz=331,SNR=99
BMRM S S 11 03 15.6 -0.3
baz=331
VRDI Verde Repeater 78.16 16 IAmb IAmb 10 53 33.3
comp=Z,411nm,1.4s
HIN Hinchinbrook I 78.17 18 IAmb IAmb 10 53 33.3
comp=Z,623nm,1.6s
EYAK Cordova Ski Ar 78.22 18 P P 10 53 32.2 +0.8
EYAK Cordova Ski Ar 78.22 18 P P 10 53 32.1 +0.7
baz=330,SNR=67
EYAK S S 11 03 17.0 +0.4
baz=330
WIN Windhoek 78.22 230 IAmb IAmb 10 53 34.5
comp=Z,366nm,1.1s
WIN Windhoek 78.22 230 P P 10 53 32.7 +0.5
WIN pmax pmax
comp=Z,356nm,1.2s
BOSA Boshof 78.27 220 P P 10 53 31.9 -0.3
BOSA IAmb IAmb 10 53 34.2
comp=Z,539nm,1.1s
BOSA Boshof 78.27 220 *i* P P 10 53 32.7 +0.5
BOSA Boshof 78.27 220⇑ *i*P P 10 53 32.1 -0.1
BOSA IAmb IAmb 10 53 33.4
comp=Z,660nm,1.1s
BOSA Boshof 78.27 220 P P 10 53 32.1 -0.1
comp=Z,501nm,1.1s,baz=39,slow=5.9,SNR=139
BOSA S S 11 03 16.2 -2.0
comp=Z,17nm,1.0s,baz=246,slow=20,SNR=8.7
BOSA LR LR 11 29 16.1
comp=Z,1µm,20.2s,baz=42,slow=36
comp=Z,501nm,1.1s
BOSA Boshof 78.27 220 *i* P P 10 53 31.1 -1.0
P23K Montague Islan 78.28 19 P P 10 53 32.4 +0.7
baz=329
P23K S S 11 03 17.6 +0.2
baz=329
YUK3 Moose Creek 78.32 15 P P 10 53 33.1 +0.8
baz=334,SNR=341
YUK3 S S 11 03 19.4 +1.1
baz=334
RAGM Ragged Mountai 78.62 17 P P 10 53 34.5 +0.9
RAGM IAmb IAmb 10 53 36.2
comp=Z,1µm,1.9s
MMPI Merauke 78.64 110 P P 10 53 33.9 -0.5
comp=Z,640nm,1.1s,comp=Z,13µm
KDAK Kodiak Island 78.69 22 P P 10 53 34.2 +0.1
KDAK IAmb IAmb 10 53 35.7
comp=Z,508nm,1.1s
KDAK Kodiak Island 78.69 22 P P 10 53 34.4 +0.3
baz=326
KDAK S S 11 03 19.0 -2.9
baz=326
KDAK Kodiak Island 78.69 22 LR LR 11 29 53.9
comp=Z,2µm,18.3s,baz=349,slow=37
KDAK Kodiak Island 78.69 22 P P 10 53 34.2 +0.1
KDAK pmax pmax
comp=Z,508nm,1.1s
BARN Barnard Glacie 78.71 16 IAmb IAmb 10 53 36.7
comp=Z,506nm,1.3s
CTG Chitna Glacier 78.86 16 P P 10 53 36.0 +0.9
baz=334,SNR=194
CTG S S 11 03 23.3 -0.6
baz=334
CTGM Chitina Glacie 78.87 16 IAmb IAmb 10 53 37.6
comp=Z,925nm,1.5s
YUK8 Steele Glacier 78.91 15 P P 10 53 36.0 +0.5
baz=335,SNR=139
YUK8 S S 11 03 24.4 -0.2
baz=335
OHAK Old Harbor 78.94 23 P P 10 53 36.0 +0.6
OHAK Old Harbor 78.94 23 IAmb IAmb 10 53 37.2
comp=Z,302nm,1.0s
OHAK Old Harbor 78.94 23 P P 10 53 35.9 +0.6
baz=325,SNR=23
OHAK S S 11 03 22.7 -1.8
baz=325
ISLE Juniper Island 78.97 16 IAmb IAmb 10 53 37.6
comp=Z,373nm,1.4s
WAX Waxell Ridge 78.99 17 IAmb IAmb 10 53 39.3
comp=Z,639nm,1.4s
Q23K Middleton Isla 79.04 19 P P 10 53 36.9 +1.0
baz=330
Q23K S S 11 03 26.1 +0.6
baz=330
M31M Drury Creek, Y 79.05 12 IAmb IAmb 10 53 38.1
comp=Z,543nm,1.4s
M31M Drury Creek, Y 79.05 12 P P 10 53 36.6 +0.6
baz=339,SNR=264
M31M S S 11 03 26.3 +0.6
baz=339
LOGN Logan Glacier 79.06 16 IAmb IAmb 10 53 38.4
comp=Z,348nm,1.2s
YUK4 Talbot Arm 79.08 14 P P 10 53 37.0 +0.7
baz=336,SNR=246
YUK4 S S 11 03 27.0 +0.7
baz=336
KAIM Kayak Island 79.09 17 IAmb IAmb 10 53 38.9
comp=Z,504nm,1.4s
KAIM Kayak Island 79.09 17 P P 10 53 37.5 +1.3
baz=332,SNR=32
KAIM S S 11 03 26.0 0.0
baz=332
SUCK Suckling Hills 79.11 17 IAmb IAmb 10 53 39.3
comp=Z,793nm,1.6s
BGLC Bering Glacier 79.18 17 P P 10 53 38.4 +1.7
baz=332,SNR=14
BGLC S S 11 03 27.4 +0.5
baz=332
SII Sitkinak Islan 79.20 24 P P 10 53 37.8 +0.9
SII Sitkinak Islan 79.20 24 IAmb IAmb 10 53 38.9
comp=Z,788nm,1.3s
SII Sitkinak Islan 79.20 24 P P 10 53 37.3 +0.4
baz=324,SNR=14
SII S S 11 03 27.7 +0.4
baz=324
FARO Faro, Yukon 79.20 12 P P 10 53 37.4 +0.6
baz=340,SNR=134
FARO S S 11 03 27.6 +0.4
baz=340
N30M Aishikik Lake 79.27 13 IAmb IAmb 10 53 39.8
comp=Z,968nm,1.9s
N30M Aishikik Lake 79.27 13 P P 10 53 38.3 +1.1
baz=337,SNR=131
N30M S S 11 03 28.9 +0.9
baz=337
O28M Mount Upton 79.28 15 P P 10 53 38.3 +0.7
baz=335,SNR=84
O28M S S 11 03 28.5 -0.2
baz=335
CHIR Chirikof Islan 79.32 25 IAmb IAmb 10 54 11.2
comp=Z,555nm,1.4s
CHIR Chirikof Islan 79.32 25 P P 10 53 38.1 +0.6
baz=324,SNR=6.5
CHIR S S 11 03 29.2 +0.6
baz=324
MESA MESA 79.44 16 IAmb IAmb 10 53 40.8
comp=Z,890nm,1.6s
MESA MESA 79.44 16 P P 10 53 39.5 +1.2
baz=333,SNR=61
MESA S S 11 03 30.2 +0.1
baz=333
BLDU Ballidu 79.45 141 P P 10 53 37.1 -1.4
WRGLY Wrigley 79.50 7 P P 10 53 39.7 +1.4
baz=348,SNR=115
WRGLY S S 11 03 32.4 +2.3
baz=348
YUK6 Outpost Mounta 79.50 14 P P 10 53 39.7 +1.0
baz=336,SNR=6.5
YUK6 S S 11 03 30.7 -0.1
baz=336
HVD Gariep Dam 79.75 219⇑ *i*P P 10 53 40.3 0.0
HVD IAmb IAmb 10 53 41.3
comp=Z,385nm,1.2s
HYT Haines Junctio 79.78 14 P P 10 53 41.0 +0.9
HYT IAmb IAmb 10 53 50.1
comp=Z,242nm,0.8s
HYT pP pP 10 54 09.9 +0.2
HYT Haines Junctio 79.78 14 P P 10 53 41.1 +1.0
baz=337,SNR=300
HYT S S 11 03 33.5 -0.1
baz=337
MANU Manus Island 80.03 100 P P 10 53 42.7 +0.7
MANU Manus Island 80.03 100 P P 10 53 42.6 +0.6
MTKN Mount Kenneth 80.07 143 P P 10 53 42.2 +0.5
O30N Mendenhall 80.09 13 P P 10 53 42.4 +0.7
baz=338,SNR=177
O30N S S 11 03 36.8 +0.1
baz=338
BCPM Bancas Point 80.14 15 IAmb IAmb 10 53 51.3
comp=Z,383nm,1.0s
MBO M'Bour 80.22 281 IAmb IAmb 10 54 14.4
comp=Z,381nm,1.2s
N32M Quiet Lake 80.26 12 P P 10 53 42.6 0.0
baz=340
N32M S S 11 03 38.2 -0.2
baz=340
MUN Mundaring 80.32 143 P P 10 53 42.0 -1.1
MUN Mundaring 80.32 143 P P 10 53 42.3 -0.8
WHY Whitehorse 80.42 13 P P 10 53 43.4 -0.1
baz=339,SNR=123
WHY S S 11 03 39.8 -0.4
baz=339
PNL Peninsula 80.45 15 P P 10 53 44.4 +0.8
PNL Peninsula 80.45 15 P P 10 53 44.7 +1.1
baz=336,SNR=87
PNL S S 11 03 40.8 +0.3
baz=336
P30M Million Dollar 80.53 14 P P 10 53 45.1 +1.1
baz=337
P30M S S 11 03 41.7 +0.4
baz=337
YKU2 Yakutat 80.54 15 P P 10 53 46.3 +2.3
YKU2 Yakutat 80.54 15 IAmb IAmb 10 53 47.1
comp=Z,792nm,1.4s
TGTN Hyland Airport 80.61 9 P P 10 53 45.8 +1.3
baz=344,SNR=134
TGTN S S 11 03 44.1 +2.0
baz=344
KEIM Keimoes 80.64 223⇑ *i*P P 10 53 45.9 +1.0
KEIM IAmb IAmb 10 53 46.7
comp=Z,630nm,1.1s
KLBR Kellerberrin 80.77 141 P P 10 53 44.4 -1.1
YKA Yellowknife Ar 80.82 3 P P 10 53 45.9 +0.4
comp=Z,179nm,0.8s,baz=348,slow=6.0,SNR=1349
YKA pP pP 10 54 15.7 +0.7
comp=Z,202nm,1.0s,baz=349,slow=5.8,SNR=4.1
YKA sP sP 10 54 31.2 +3.8
comp=Z,91nm,0.8s,baz=349,slow=6.2,SNR=2.8
YKA S S 11 03 44.2 +0.1
comp=Z,4.4nm,1.1s,baz=3.6,slow=12,SNR=5.5
YKA PKKPbc PKKPbc 11 12 21.1 -2.1
comp=Z,12nm,0.8s,baz=169,slow=1.8,SNR=77
YKA PKPPKP P'P'df 11 20 21.9 -7.4
comp=Z,1.9nm,0.8s,baz=146,slow=1.7,SNR=8.4
comp=Z,179nm,0.8s
YKA Yellowknife Ar 80.82 3 *i* P P 10 53 45.9 +0.4
YKA pmax pmax
comp=Z,184nm,0.8s
P29M Windy Craggy 80.83 15 P P 10 53 46.2 +0.6
baz=337,SNR=70
P29M S S 11 03 44.4 0.0
baz=337
YKAB2 New Yellowknif 80.89 3 P P 10 53 46.3 +0.5
P33M Teslin, Yukon 81.19 12 IAmb IAmb 10 53 49.3
comp=Z,877nm,1.4s
P33M Teslin, Yukon 81.19 12 P P 10 53 47.8 +0.2
baz=341,SNR=499
P33M S S 11 03 47.5 -0.7
baz=341
PLBC Pleasant Camp 81.26 14 P P 10 53 48.8 +0.9
baz=338,SNR=190
PLBC S S 11 03 48.9 +0.1
baz=338
SKAG Skagway 81.46 13 P P 10 53 49.4 +0.6
SKAG Skagway 81.46 13 IAmb IAmb 10 54 23.0
comp=Z,490nm,1.4s
SKAG Skagway 81.46 13 P P 10 53 49.9 +1.1
baz=339,SNR=142
SKAG S S 11 03 52.6 +1.9
baz=339
GRHM Grahamstown, E 81.49 217 IAmb IAmb 10 53 52.3
comp=Z,386nm,1.2s
GRHM Grahamstown, E 81.49 217⇑ *i*P P 10 53 49.5 +0.2
GRHM IAmb IAmb 10 53 51.7
comp=Z,399nm,1.2s
NWAO Narrogin (SRO) 81.59 142 P P 10 53 48.8 -1.0
NWAO Narrogin (SRO) 81.59 142 P P 10 53 48.9 -1.0
NWAO IAmb IAmb 10 53 50.3
comp=Z,469nm,0.9s
NWAO Narrogin (SRO) 81.59 142 PKKPbc PKKPbc 11 12 22.8 +0.1
comp=Z,18nm,0.8s,baz=164,slow=5.2,SNR=7.7
NWAO LR LR 11 27 32.2
comp=Z,2µm,21.6s,baz=304,slow=34
NWAO Narrogin (SRO) 81.59 142 P P 10 53 48.9 -0.9
NWAO pmax pmax
comp=Z,469nm,0.9s
GRAF Camdeboo Natio 81.61 219⇑ *i*P P 10 53 49.6 -0.5
GRAF IAmb IAmb 10 53 52.9
comp=Z,283nm,1.2s
P32M Atlin 81.62 13 IAmb IAmb 10 53 51.9
comp=Z,478nm,1.6s
P32M Atlin 81.62 13 P P 10 53 50.2 +0.4
baz=340,SNR=96
P32M S S 11 03 52.7 +0.1
baz=340
BFON Badsfontein, M 81.63 220⇑ *i*P P 10 53 50.7 +0.5
BFON IAmb IAmb 10 53 52.2
comp=Z,564nm,1.2s
WRKA Warakurna 81.63 130 P P 10 53 49.6 -0.7
H01W3 Cape Leeuwin H 81.74 146 P P 10 53 51.0 +0.7
baz=314,slow=5.2,SNR=7.4
H01W2 Cape Leeuwin H 81.75 146 P P 10 53 51.4 +1.1
baz=314,slow=5.2,SNR=5.4
H01W1 Cape Leeuwin H 81.76 146 P P 10 53 50.9 +0.6
baz=314,slow=5.2,SNR=4.9
SCHQ Schefferville 81.85 337 P P 10 53 51.8 +0.7
comp=Z,161nm,0.8s,baz=38,slow=5.2,SNR=82
SCHQ S S 11 03 55.6 +0.6
comp=Z,39nm,1.2s,baz=237,slow=14,SNR=11
SCHQ LR LR 11 29 46.2
comp=Z,8µm,21.1s,baz=40,slow=35
comp=Z,161nm,0.8s
WTLY Watson Lake, Y 81.90 10 P P 10 53 51.9 +0.6
baz=344,SNR=29
WTLY S S 11 03 55.4 0.0
baz=344
WRA Warramunga Arr 81.93 122 P P 10 53 51.0 -1.0
WRA pP pP 10 54 21.4 -0.5
WRA Warramunga Arr 81.93 122 P P 10 53 50.9 -1.0
comp=Z,344nm,0.8s,baz=325,slow=5.0,SNR=1631
WRA sP sP 10 54 40.4 +6.2
comp=Z,104nm,0.9s,baz=322,slow=5.1,SNR=2.7
WRA PKKPbc PKKPbc 11 12 22.6 +1.6
comp=Z,12nm,0.9s,baz=136,slow=2.1,SNR=27
WRA PKPPKP P'P'df 11 20 24.9 -1.0
comp=Z,4.8nm,1.0s,baz=112,slow=1.4,SNR=11
WRA LR LR 11 36 40.3
comp=Z,454nm,19.8s,baz=309,slow=40
comp=Z,344nm,0.8s
WRAB Tennant Creek 81.93 122 P P 10 53 51.1 -0.8
WRAB IAmb IAmb 10 53 53.7
comp=Z,392nm,0.7s
WRAB Tennant Creek 81.93 122 P P 10 53 51.1 -0.8
WRAB pmax pmax
comp=Z,392nm,0.7s
BRAK Brakfontein 82.02 220⇑ *i*P P 10 53 52.5 +0.2
BRAK IAmb IAmb 10 53 53.3
comp=Z,293nm,1.4s
WR0 Warramunga Arr 82.08 122 P P 10 53 51.8 -0.9
WR0 IAmb IAmb 10 53 53.1
comp=Z,397nm,1.0s
R33M Jennings River 82.27 11 P P 10 53 53.9 +0.6
baz=342,SNR=206
R33M S S 11 03 59.3 -0.1
baz=342
R31K City Hall, Gus 82.35 14 P P 10 53 54.2 +0.7
baz=338,SNR=13
R31K S S 11 04 01.6 +1.7
baz=338
KOTAN Kotaneelee Air 82.47 8 P P 10 53 55.1 +0.9
baz=348,SNR=35
KOTAN S S 11 04 02.6 +1.4
baz=348
H11N2 WAKE ISLAND Hy 82.62 71 P P 10 53 55.5 +0.2
baz=263,slow=6.5,SNR=7.0
H11N1 WAKE ISLAND Hy 82.62 71 P P 10 53 55.4 0.0
baz=263,slow=6.5,SNR=10
H11N3 WAKE ISLAND Hy 82.64 71 P P 10 53 55.4 0.0
baz=263,slow=6.5,SNR=9.1
S31K Pelican 82.68 14 P P 10 53 56.3 +1.0
baz=338,SNR=18
S31K S SKSac 11 04 05.6 -0.4
baz=338
WAKE Wake Island 82.70 72 P P 10 53 56.6 +0.6
WAKE Wake Island 82.70 72 P P 10 53 55.8 -0.2
WAKE IAmb IAmb 10 53 57.2
comp=Z,397nm,0.9s
R32K Eaglecrest 82.72 13 P P 10 53 56.8 +1.3
baz=339,SNR=65
R32K S SKSac 11 04 06.1 -0.2
baz=339
KMBL Kambalda 82.72 138 P P 10 53 54.9 -0.9
JIS Juneau Island 82.74 13 P P 10 53 56.2 +0.6
JIS Juneau Island 82.74 13 IAmb IAmb 10 53 58.4
comp=Z,296nm,1.3s
GRAN Grantham 82.81 220⇑ *i*P P 10 53 56.5 +0.2
GRAN IAmb IAmb 10 53 58.3
comp=Z,130nm,1.1s
FRAZ Fraserburg 82.92 221⇑ *i*P P 10 53 57.5 +0.5
FRAZ IAmb IAmb 10 53 58.8
comp=Z,380nm,1.1s
LIRD Liard River Hi 82.94 9 P P 10 53 57.7 +1.1
baz=346,SNR=14
LIRD S SKSac 11 04 07.2 -0.5
baz=346
BUFB Buffelsbos 82.99 217⇑ *i*P P 10 53 57.7 +0.6
BUFB IAmb IAmb 10 53 58.5
comp=Z,267nm,1.3s
DRLN Deer Lake 83.00 329 IAmb IAmb 10 54 01.7
comp=Z,356nm,1.1s
KAVG Kavieng 83.07 98 P P 10 53 58.8 +0.8
H11S3 WAKE ISLAND Hy 83.19 72 P P 10 53 58.5 +0.1
baz=76,slow=74,SNR=3.5
H11S1 WAKE ISLAND Hy 83.19 72 P P 10 53 58.8 +0.4
baz=76,slow=74,SNR=4.5
H11S2 WAKE ISLAND Hy 83.21 72 P P 10 53 58.8 +0.4
baz=76,slow=74,SNR=3.6
DLBC Dease Lake 83.33 11 IAmb IAmb 10 54 01.2
comp=Z,554nm,1.6s
DLBC Dease Lake 83.33 11 P P 10 53 59.7 +0.9
baz=343,SNR=151
DLBC S SKSac 11 04 11.5 +1.0
baz=343
DLBC Dease Lake 83.33 11 LR LR 11 36 09.4
comp=Z,2µm,19.4s,baz=344,slow=39
MERW Merweville 83.44 220 *i* P P 10 54 00.2 +0.6
MERW IAmb IAmb 10 54 01.3
comp=Z,350nm,1.2s
CVNA Calvinia 83.45 222⇑ *i*P P 10 53 59.9 +0.3
CVNA IAmb IAmb 10 54 02.3
comp=Z,426nm,1.2s
S32K Killisnoo 83.46 14 P P 10 54 00.1 +0.8
S32K IAmb IAmb 10 54 33.4
comp=Z,401nm,1.5s
S32K Killisnoo 83.46 14 P P 10 54 00.3 +1.1
baz=339,SNR=28
S32K S S 11 04 10.7 -0.5
baz=339
PATS Pohnpei 83.47 86 P P 10 54 01.3 +1.2
SUR Sutherland 83.58 221 P P 10 54 01.2 +0.8
SUR IAmb IAmb 10 54 03.7
comp=Z,364nm,1.2s
SUR Sutherland 83.58 221⇑ *i*P P 10 54 01.2 +0.8
SUR IAmb IAmb 10 54 03.5
comp=Z,344nm,1.1s
SUR Sutherland 83.58 221 LR LR 11 32 06.6
comp=Z,2µm,21.9s,baz=43,slow=36
SUR Sutherland 83.58 221 P P 10 54 01.5 +1.1
TOAD Toad River Com 83.59 9 P P 10 54 00.7 +0.6
baz=347,SNR=192
TOAD S SKSac 11 04 11.7 -0.4
baz=347
AUALB St Joseph's Co 83.59 143 P P 10 53 59.5 -0.6
S34M Telegraph Cree 83.66 12 IAmb IAmb 10 54 03.0
comp=Z,261nm,0.8s
S34M Telegraph Cree 83.66 12 P P 10 54 01.6 +1.3
baz=342,SNR=195
S34M S S 11 04 15.0 +1.8
baz=342
SIT Sitka 83.70 14 P P 10 54 01.5 +1.0
SIT Sitka 83.70 14 IAmb IAmb 10 54 34.8
comp=Z,374nm,1.6s
SIT Sitka 83.70 14 P P 10 54 01.7 +1.2
baz=339,SNR=34
SIT S S 11 04 13.4 -0.2
baz=339
FCC Fort Churchill 83.92 352 IAmb IAmb 10 54 04.0
comp=Z,593nm,1.2s
AS31 Alice Springs 84.22 125 P P 10 54 02.8 -0.9
ASAR Alice Springs 84.22 125 P P 10 54 02.6 -1.0
comp=Z,331nm,0.7s,baz=312,slow=4.9,SNR=776
ASAR sP sP 10 54 51.4 +5.2
comp=Z,64nm,0.8s,baz=312,slow=5.2,SNR=3.1
ASAR PP PP 10 57 21.4 +1.4
comp=Z,24nm,0.9s,baz=314,slow=7.3,SNR=2.5
ASAR PKKPbc PKKPbc 11 12 17.6 +1.7
comp=Z,8.1nm,0.8s,baz=122,slow=2.7,SNR=36
ASAR PKPPKP P'P'df 11 20 19.2 -2.4
comp=Z,4.3nm,1.0s,baz=122,slow=2.8,SNR=15
comp=Z,331nm,0.7s
COEN Coen 84.25 112 P P 10 54 02.9 -1.1
T33K Petersburg 84.38 13 P P 10 54 05.2 +1.2
baz=341
T33K S S 11 04 19.9 -0.6
baz=341
MATJ Matjiesfontein 84.39 221⇑ *i*P P 10 54 05.0 +0.6
MATJ IAmb IAmb 10 54 07.3
comp=Z,441nm,1.0s
HILA High Level 84.63 4 P P 10 54 05.8 +0.6
T35M Bob Quinn 84.69 12 IAmb IAmb 10 54 40.0
comp=Z,337nm,1.5s
T35M Bob Quinn 84.69 12 P P 10 54 06.8 +1.2
baz=343,SNR=76
T35M S S 11 04 23.3 -0.4
baz=343
WRAK Wrangell Islan 84.87 13 pP pP 10 54 37.0 +0.6
WRAK Wrangell Islan 84.87 13 P P 10 54 07.4 +1.0
baz=341,SNR=77
WRAK S S 11 04 25.6 +0.4
baz=341
U33K Whale Pass 85.01 13 IAmb IAmb 10 54 41.4
comp=Z,326nm,1.5s
U33K Whale Pass 85.01 13 P P 10 54 08.2 +1.0
baz=341,SNR=18
U33K S S 11 04 27.9 +1.2
baz=341

PRTV Porterville,We 85.03 222 ⇑*i*P **P 10 54 08.2 +0.7**
PRTV IAmb IAmb 10 54 09.0
comp=Z,369nm,1.4s
CER Ceres 85.15 222 ⇑*i*P **P 10 54 09.0 +0.9**
CER IAmb IAmb 10 54 10.3
comp=Z,417nm,1.2s
CRAG Craig 85.62 14 P **P 10 54 11.3 +1.1**
CRAG Craig 85.62 14 P **P 10 54 11.2 +1.0**
baz=341,SNR=6.0
CRAG S **S 11 04 32.4 -0.3**
baz=341
FORT Forrest 85.71 134 P **P 10 54 10.1 -0.8**
U35K Hyder 85.75 12 IAmb IAmb 10 55 24.2
comp=Z,160nm,0.7s
U35K Hyder 85.75 12 P **P 10 54 11.6 +0.8**
baz=343
U35K S **S 11 04 33.0 -0.9**
baz=343
QIS Mount Isa 85.97 119 P **P 10 54 10.8 -1.7**
V35K Ketchikan 86.03 13 P **P 10 54 12.5 +0.3**
baz=342,SNR=13
V35K S **S 11 04 37.4 +0.7**
baz=342
GBN Guysborough 87.71 329 IAmb IAmb 10 54 26.2
comp=Z,206nm,0.9s
GRNB Grenville Isla 87.74 12 IAmb IAmb 10 54 54.5
comp=Z,388nm,1.6s
MTSU Mount Surprise 87.76 115 P **P 10 54 20.4 -0.8**
DIB Dawson Inlet, 87.89 14 P **P 10 54 21.6 +0.3**
H02S1 DAWSON INLET T 87.89 14 P **P 10 54 23.4 +2.1**
SNR=12
OOD Oodnadatta 88.23 127 P **P 10 54 21.8 -1.4**
FFC Flin Flon 88.56 356 P **P 10 54 24.9 +0.6**
FFC Flin Flon 88.56 356 P **P 10 54 25.0 +0.6**
FFC pmax pmax
comp=Z,483nm,1.3s
MIDW Midway 88.56 55 P **P 10 54 25.0 +0.1**
MIDW Midway 88.56 55 P **P 10 54 24.7 -0.2**
MIDW IAmb IAmb 10 54 26.0
comp=Z,190nm,0.7s
MULG Mulgathing 88.94 130 P **P 10 54 25.5 -0.9**
D62A Allapoint, All 89.19 334 IAmb IAmb 10 55 40.7
comp=Z,277nm,2.0s
SHEL Horse Pasture 89.54 250 P **P 10 54 30.1 +0.5**
SHEL IAmb IAmb 10 54 31.6
comp=Z,283nm,1.2s
SHEL Horse Pasture 89.54 250 P **P 10 54 30.1 +0.5**
SHEL pmax pmax
comp=Z,283nm,1.2s
BBB Bella Bella 89.65 12 LR LR 11 40 56.6
comp=Z,2µm,19.1s,baz=1.5,slow=40
TV1H Townsville Har 90.29 114 P **P 10 54 32.4 -0.6**
CTAO Charters Tower 90.41 115 P **P 10 54 33.2 -0.4**
CTAO Charters Tower 90.41 115 P **P 10 54 32.6 -1.0**
CTAO IAmb IAmb 10 54 34.3
comp=Z,286nm,1.1s
CTAO Charters Tower 90.41 115 P **P 10 54 32.6 -1.0**
CTAO pmax pmax
comp=Z,286nm,1.1s
PKME Peaks-Kenny Pk 90.84 333 P **P 10 54 36.5 +1.3**
baz=30,SNR=20
PKME S **S 11 05 22.3 -0.2**
baz=30
AUAYR Ayr State High 90.94 114 P **P 10 54 36.0 0.0**
INKA Innaminka 91.50 124 P **P 10 54 38.2 -0.2**
LCRK Leigh Creek 91.66 127 P **P 10 54 38.3 -0.8**
TRQ Mont Tremblant 91.77 337 IAmb IAmb 10 54 43.8
comp=Z,136nm,0.9s
BBOO Buckleboo 91.92 130 P **P 10 54 39.3 -1.0**
BBOO Buckleboo 91.92 130 IAmb IAmb 10 54 40.3
comp=Z,131nm,1.1s
CBB Campbell River 92.17 11 P **P 10 54 42.5 +1.1**
ULM Lac du Bonnet 92.49 352 P **P 10 54 42.8 0.0**
ULM IAmb IAmb 10 54 44.1
comp=Z,149nm,1.1s
ULM Lac du Bonnet 92.49 352 P **P 10 54 42.7 0.0**
comp=Z,88nm,1.0s,baz=4.2,slow=4.8,SNR=94
ULM pP **pP 10 55 13.4 +0.4**
comp=Z,79nm,1.0s,baz=360,slow=5.5,SNR=4.0
ULM PKKPbc **PKKPdf 11 11 52.8 +1.6**
comp=Z,15nm,1.0s,baz=214,slow=1.4,SNR=13
ULM PKPPKP P'P'df 11 19 54.8 -13
comp=Z,3.2nm,0.9s,baz=201,slow=6.8,SNR=4.6
ULM LR LR 11 40 27.4
comp=Z,5µm,18.3s,baz=2.5,slow=38
comp=Z,88nm,1.0s
ULM Lac du Bonnet 92.49 352 P **P 10 54 42.8 0.0**
ULM pmax pmax
comp=Z,149nm,1.1s
LBNH Lisbon 92.66 335 P **P 10 54 45.0 +1.3**
baz=28,SNR=15
LBNH S **S 11 05 38.9 0.0**
baz=28
WHYH Whyalla 93.00 130 P **P 10 54 44.5 -0.7**
QLP Quilpie 93.11 121 P **P 10 54 45.2 -0.7**
OZB Mount Ozzard 93.19 11 IAmb IAmb 10 54 55.7
comp=Z,144nm,0.9s
LONY Lake Ozonia 93.20 336 IAmb IAmb 10 54 50.5
comp=Z,120nm,0.9s
LONY Lake Ozonia 93.20 336 P **P 10 54 47.3 +1.1**
baz=27
LONY S **S 11 05 44.0 +0.2**
baz=27
J61A Chester 93.66 335 IAmb IAmb 10 54 53.3
comp=Z,100nm,0.8s
PGC Sidney 93.80 10 P **P 10 54 49.5 +0.7**
PGC IAmb IAmb 10 55 45.5
comp=Z,146nm,1.5s
HRV Adam Dziewonsk 94.05 333 P **P 10 54 50.7 +0.6**
HRV Adam Dziewonsk 94.05 333 P **P 10 54 51.1 +1.0**
baz=29
HRV S **S 11 05 50.1 -1.0**
baz=29
HRV Adam Dziewonsk 94.05 333 P **P 10 54 50.7 +0.6**
HRV pmax pmax
comp=Z,26nm,0.8s
B35A Bob, Littlefor 94.08 350 IAmb IAmb 10 55 23.5
comp=Z,94nm,1.2s
HTT Hallett 94.10 129 P **P 10 54 49.9 -0.5**
EYMN Ely 94.15 349 IAmb IAmb 10 54 52.3
comp=Z,152nm,1.0s
EYMN Ely 94.15 349 P **P 10 54 51.1 +0.6**
baz=14
EYMN S **S 11 05 51.5 -0.3**
baz=14
DELO Deloro Mine 94.23 338 IAmb IAmb 10 54 55.0
comp=Z,117nm,0.8s
B04A Port Angeles 94.37 10 IAmb IAmb 10 55 26.1
comp=Z,268nm,1.8s
AGMN Agassiz Nation 94.41 352 IAmb IAmb 10 54 53.3
comp=Z,131nm,1.0s
AGMN Agassiz Nation 94.41 352 P **P 10 54 52.0 +0.3**
baz=10
AGMN S **S 11 05 53.8 -0.3**
baz=10
SADO Sadowa 94.44 339 LR LR 11 37 31.1
comp=Z,5µm,21.8s,baz=33,slow=35
L61B Northampton 94.49 334 P **P 10 54 53.0 +0.8**
baz=28,SNR=16
L61B S **S 11 05 53.6 -1.4**
baz=28
D41A Chassel 94.50 346 IAmb IAmb 10 54 53.9
comp=Z,118nm,1.1s
M65A Busby, Falmout 94.54 332 S **S 11 05 55.0 -0.4**
baz=30
STKA Stephens Creek 94.77 127 P **P 10 54 52.6 -0.8**
STKA Stephens Creek 94.77 127 P **P 10 54 52.2 -1.1**
comp=Z,29nm,0.6s,baz=333,slow=6.1,SNR=38
STKA PP **PP 10 58 42.9 -0.9**
comp=Z,34nm,1.1s,baz=307,slow=9.2,SNR=5.7
STKA PKKPbc **PKKPdf 11 11 51.0 +1.0**
comp=Z,7.6nm,0.9s,baz=92,slow=0.9,SNR=5.3
comp=Z,29nm,0.6s
E43A Lone Tree Farm 94.85 345 IAmb IAmb 10 54 55.4
comp=Z,171nm,1.4s
NEW Newport 94.86 6 P **P 10 54 54.5 +0.7**
baz=353,SNR=19
NEW S **S 11 05 56.7 -1.5**
baz=353
NEW Newport 94.86 6 LR LR 11 43 06.8
comp=Z,7µm,18.4s,baz=356,slow=39
NEW Newport 94.86 6 P **P 10 54 54.4 +0.7**
DGMT Dagmar 94.91 357 P **P 10 54 55.4 +1.4**
baz=3.5
DGMT S **S 11 05 57.6 -0.9**
baz=3.5
UCCT U. Connecticut 94.91 334 IAmb IAmb 10 54 57.9
comp=Z,60nm,0.8s
GNW Green Mountain 94.94 10 IAmb IAmb 10 55 27.7
comp=Z,108nm,1.2s
J56A Wolcott 95.13 337 IAmb IAmb 10 54 58.7
comp=Z,109nm,0.9s
MDND Maddock 95.24 354 P **P 10 54 56.1 +0.6**
baz=7.2
MDND S **S 11 05 59.5 -1.9**
baz=7.2
J55A Hilton 95.43 338 IAmb IAmb 10 54 58.3
comp=Z,68nm,0.9s
EGMT Eagleton 95.44 1 IAmb IAmb 10 54 58.5
comp=Z,119nm,1.1s
EGMT Eagleton 95.44 1 P **P 10 54 57.1 +0.7**
baz=359
EGMT S **S 11 06 01.5 -1.7**
baz=359
E38A The Farm, Brul 95.46 348 IAmb IAmb 10 55 28.4
comp=Z,148nm,1.2s
COWI Conover 95.53 347 IAmb IAmb 10 54 58.3
comp=Z,88nm,1.1s
RK1H Rockhampton Ha 95.54 115 P **P 10 54 56.5 -0.6**
F42A Maple Grove Fa 95.67 346 P **P 10 54 57.8 +0.3**
F42A IAmb IAmb 10 54 59.1
comp=Z,68nm,0.8s
F42A **pP 10 55 27.1 -0.7**
J54A Appleton 95.67 339 IAmb IAmb 10 54 59.5
comp=Z,92nm,1.1s
D32A Dogwood Acres, 95.69 352 P **P 10 54 57.5 -0.1**
D32A IAmb IAmb 10 54 58.8
comp=Z,152nm,1.6s
D32A pP **pP 10 55 26.9 -0.9**
GLMI Grayling 95.80 343 P **P 10 54 58.8 +0.7**
baz=19
GLMI S **S 11 06 04.7 -1.6**
baz=19
BINY Binghamton 95.83 336 P **P 10 54 58.8 +0.5**
baz=26,SNR=13
BINY S **S 11 06 05.6 -1.0**
baz=26
G45A Suttons Bay 95.83 344 IAmb IAmb 10 55 00.1
comp=Z,109nm,1.0s
E03A Lebam 95.84 10 IAmb IAmb 10 55 31.6
comp=Z,94nm,1.2s
LON Longmire 95.88 9 P **P 10 54 58.6 +0.1**
LON Longmire 95.88 9 P **P 10 54 58.6 +0.1**
LON pmax pmax
comp=Z,31nm,0.9s
D08A Wollman Farm, 95.90 7 P **P 10 54 58.8 +0.4**
N62A Caumsett State 96.11 334 IAmb IAmb 10 55 02.6
comp=Z,54nm,0.9s
PAL Palisades 96.20 334 P **P 10 54 60.0 +0.1**
baz=27
PAL S **S 11 06 06.6 -3.2**
baz=27
MXC Moxie City 96.23 8 P **P 10 55 00.3 +0.3**
MXC **pP 10 55 29.8 -0.4**
MXC IAmb IAmb 10 55 33.8
comp=Z,121nm,1.3s
L56A Greenwood 96.38 337 IAmb IAmb 10 55 04.4
comp=Z,90nm,0.9s
E08A Dider Farm, El 96.44 7 P **P 10 55 01.6 +0.7**
E08A **pP 10 55 31.1 -0.1**
E08A IAmb IAmb 10 55 34.0
comp=Z,56nm,1.1s
WVNY West Valley, N 96.45 338 IAmb IAmb 10 55 04.9
comp=Z,100nm,0.9s
F36A Milaca 96.49 349 P **P 10 55 01.2 0.0**
F36A IAmb IAmb 10 55 02.7
comp=Z,74nm,1.2s
MSO Missoula 96.50 4 P **P 10 55 01.4 +0.1**
MSO IAmb IAmb 10 55 03.3
comp=Z,88nm,1.5s
MSO Missoula 96.50 4 P **P 10 55 01.6 +0.2**
baz=356,SNR=12
MSO S **S 11 06 07.0 -5.4**
baz=356
E09A Wood Farm, Sta 96.51 7 P **P 10 55 01.6 +0.4**
E09A **pP 10 55 31.4 -0.1**
E09A IAmb IAmb 10 55 35.1
comp=Z,196nm,1.8s
G40A Rib Lake 96.53 347 P **P 10 55 01.7 +0.3**
G40A IAmb IAmb 10 55 03.1
comp=Z,92nm,1.1s
G40A **pP 10 55 30.6 -1.2**
F04A Amboy 96.60 10 IAmb IAmb 10 55 34.5
comp=Z,110nm,1.4s
BRNJ Basking Ridge 96.71 335 IAmb IAmb 10 55 05.9
comp=Z,69nm,0.8s
LAO LASA Array 96.75 358 P **P 10 55 04.2 +1.8**
baz=1.9
LAO S **S 11 06 14.5 0.0**
baz=1.9
H43A Windswept, Lux 96.83 345 IAmb IAmb 10 55 36.2
comp=Z,67nm,1.0s
F33A 5 Mile Ranch, 96.89 351 IAmb IAmb 10 55 04.8
comp=Z,183nm,1.6s
M57A Sunshine Farm, 96.97 337 IAmb IAmb 10 55 05.2
comp=Z,45nm,0.8s
SPMN Marine on St. 97.01 349 P Pdif 10 55 03.9 +0.3
baz=13
SPMN S **S 11 06 13.1 -3.6**
baz=13
ERPA Erie 97.12 339 IAmb IAmb 10 55 07.7
comp=Z,58nm,0.9s
ERPA Erie 97.12 339 P Pdif 10 55 04.5 +0.3
baz=23,SNR=12
ERPA S **S 11 06 15.5 -2.2**
baz=23
EIDS Eidsvold 97.17 116 P **P 10 55 03.6 -0.9**
G03D McMinnville, O 97.19 10 IAmb IAmb 10 56 16.2
comp=Z,140nm,1.4s
CMSA Cobar Meteorol 97.23 124 P **P 10 55 03.5 -1.1**
K50A Casco 97.24 341 IAmb IAmb 10 55 06.6
comp=Z,129nm,1.1s
J47A Sunmer 97.35 343 IAmb IAmb 10 55 09.2
comp=Z,119nm,1.0s
M55A Ridgway 97.36 338 IAmb IAmb 10 55 09.2
comp=Z,54nm,0.9s
AULRC Lightning Ridg 97.47 121 P **P 10 55 04.8 -0.9**
ALLY Alegheny Colle 97.60 339 IAmb IAmb 10 55 12.1
comp=Z,56nm,1.1s
I42A Draeger Farm, 97.62 346 IAmb IAmb 10 55 08.2
comp=Z,85nm,1.4s
COR Corvallis 97.80 11 P Pdif 10 55 07.4 +0.3
COR Corvallis 97.80 11 P Pdif 10 55 07.4 +0.3
COR pmax pmax
comp=Z,258nm,1.9s
BOZ Bozeman (W) 97.83 2 P Pdif 10 55 08.1 +0.7
baz=358,SNR=43
BOZ S **S 11 06 20.4 -3.5**
baz=358
SSPA Standing Stone 97.85 337 P **P 10 55 07.3 -0.1**
SSPA IAmb IAmb 10 55 10.3
comp=Z,82nm,1.4s
SSPA pP **pP 10 55 36.0 -1.9**
SSPA Standing Stone 97.85 337 P Pdif 10 55 07.8 +0.3
baz=24
SSPA S **S 11 06 19.5 -4.4**
baz=24
H04A Detroit Lake 97.86 10 IAmb IAmb 10 55 40.9
comp=Z,116nm,1.9s
H04D Lebanon 97.94 10 IAmb IAmb 10 56 29.5
comp=Z,61nm,1.0s
I40A Norwalk 97.94 347 IAmb IAmb 10 55 09.8
comp=Z,74nm,1.0s
AAM Ann Arbor 97.94 342 P Pdif 10 55 08.1 +0.3
baz=20
AAM S **S 11 06 23.3 -1.4**
baz=20
M53A WI Miller and 97.95 339 P Pdif 10 55 08.2 +0.3
baz=22,SNR=6.8
M53A S **S 11 06 21.1 -3.7**
baz=22
M52A Chesterland 98.05 340 IAmb IAmb 10 55 12.0
comp=Z,42nm,0.8s
PLID Pearl Lake 98.11 5 IAmb IAmb 10 55 10.3
comp=Z,132nm,1.9s
I37A Lemond, Waseca 98.28 349 IAmb IAmb 10 55 11.5
comp=Z,141nm,1.4s
RLMT Red Lodge 98.34 0 IAmb IAmb 10 55 12.6
comp=Z,122nm,1.4s
RLMT Red Lodge 98.34 0 P Pdif 10 55 10.8 +1.0
baz=360,SNR=40
RLMT S **S 11 06 24.2 -4.3**
baz=360
L48A N Adams 98.48 342 IAmb IAmb 10 55 11.9
comp=Z,83nm,1.3s
SUSD Miller 98.56 353 P **P 10 55 10.5 0.0**
SUSD IAmb IAmb 10 55 15.5
comp=Z,80nm,0.8s
SUSD Miller 98.56 353 Pdiff Pdif 10 55 10.7 +0.2
baz=7.8
SUSD S **S 11 06 25.5 -4.3**
baz=7.8
K43A Burlington 98.64 345 P Pdif 10 55 11.2 +0.2
K43A pP 10 55 40.4 -1.0
K43A IAmb IAmb 10 56 05.5
comp=Z,68nm,0.9s
JFWS Jewell Farm 98.81 346 IAmb IAmb 10 55 13.2
comp=Z,58nm,0.9s
JFWS Jewell Farm 98.81 346 Pdiff Pdif 10 55 11.9 +0.2
baz=15
JFWS S **S 11 06 29.0 -3.1**
baz=15
PINE Pine Mountain 98.90 9 IAmb IAmb 10 55 46.9
comp=Z,74nm,1.6s
N51A Ashland 98.90 340 IAmb IAmb 10 55 15.8
comp=Z,39nm,0.8s
ECSD EROS Data Cent 99.00 351 P Pdif 10 55 12.8 +0.3
ECSD IAmb IAmb 10 55 14.5
comp=Z,67nm,1.1s
ECSD pP pP 10 55 42.1 -0.7
ECSD EROS Data Cent 99.00 351 Pdiff Pdif 10 55 12.9 +0.4
baz=9.7
ECSD S **S 11 06 31.2 -2.4**
baz=9.7
O54A Avella 99.02 338 IAmb IAmb 10 55 16.4
comp=Z,67nm,1.1s
H17A Grant Village 99.05 1 Pdiff **Pdif 10 55 15.6 +2.5**
baz=358
H17A S **S 11 06 32.6 -2.0**
baz=358
L44A Lake County Fo 99.05 345 Pdiff **Pdif 10 55 13.2 +0.4**
baz=17
L44A S **S 11 06 30.8 -3.3**
baz=17
O53A New Philadelph 99.20 339 IAmb IAmb 10 55 17.3
comp=Z,49nm,1.0s
O53A New Philadelph 99.20 339 Pdiff **Pdif 10 55 14.1 +0.6**
baz=22
O53A S **S 11 06 32.2 -3.2**
baz=22
RSSD Black Hills 99.24 357 P **Pdif 10 55 14.4 +0.5**
RSSD IAmb IAmb 10 55 49.3
comp=Z,47nm,1.1s
RSSD Black Hills 99.24 357 Pdiff **Pdif 10 55 14.5 +0.7**
baz=3.7
RSSD S **S 11 06 32.7 -3.4**
baz=3.7
RSSD Black Hills 99.24 357 P **Pdif 10 55 14.4 +0.5**
RSSD pmax pmax
comp=Z,47nm,1.2s
MCWV Mont Chateau 99.35 338 IAmb IAmb 10 55 18.1
comp=Z,79nm,1.0s
MCWV Mont Chateau 99.35 338 Pdiff **Pdif 10 55 14.6 +0.5**
baz=23
N49A Columbus Grove 99.38 341 P **Pdif 10 55 14.2 -0.1**
N49A IAmb IAmb 10 55 15.8
comp=Z,65nm,1.2s
N49A pP **pP 10 55 43.2 -1.5**
HQIL Hanson Quary C 99.40 344 IAmb IAmb 10 55 17.1
comp=Z,49nm,0.8s
AUDCS Dubbo College 99.62 123 P **Pdif 10 55 14.6 -0.7**
ACSO Alum Creek Sta 99.71 340 Pdiff **Pdif 10 55 16.0 +0.2**
baz=20
HLID Hailey 99.73 4 Pdiff **Pdif 10 55 16.5 +0.5**
baz=355
AUWSH Wavell State H 99.79 117 P **Pdif 10 55 16.3 +0.2**
BRAT Ballarat 99.88 130 P **Pdif 10 55 16.3 +0.1**
P52A Corning 100.03 340 Pdiff **Pdif 10 55 17.3 +0.1**
baz=21
O48B Farmland 100.25 342 Pdiff **Pdif 10 55 17.9 -0.2**
baz=19
SCIA State Center 100.31 348 Pdiff **Pdif 10 55 18.9 +0.5**
baz=12
ARMA Armidale 100.58 120 P **Pdif 10 55 19.6 -0.1**
SFIN Lafayette 100.59 343 Pdiff **Pdif 10 55 20.0 +0.4**
baz=17
BW06 Boulder Array 100.70 1 Pdiff **Pdif 10 55 20.6 +0.2**
baz=359
PDAR Pinedale Array 100.70 1 P **Pdif 10 55 20.8 +0.4**
comp=Z,2.4nm,0.6s,baz=40,slow=3.1,SNR=22
PDAR PKiKP **PKiKP 10 59 46.9 +1.0**
comp=Z,7.6nm,0.8s,baz=59,slow=2.4,SNR=4.4
PDAR PKKPbc **PKKPbc 11 11 31.9 -1.5**
comp=Z,8.9nm,0.8s,baz=164,slow=4.3,SNR=24
PDAR PKPPKP **P'P'df 11 19 45.0 -7.5**
comp=Z,1.9nm,0.9s,baz=151,slow=3.4,SNR=7.0
K22A Casper 100.79 358 Pdiff **Pdif 10 55 20.8 +0.1**
baz=1.7
P49A Miami Univ. Ec 100.82 341 Pdiff **Pdif 10 55 20.5 -0.1**
baz=19
HDIL Hopedale 100.90 345 Pdiff **Pdif 10 55 21.4 +0.4**
baz=16
BGNE Belgrade 101.47 352 Pdiff **Pdif 10 55 24.6 +1.0**
baz=8.5
BLA Blacksburg 101.77 337 Pdiff **Pdif 10 55 25.0 0.0**
baz=23
OGNE Ogallala 102.29 355 Pdiff **Pdif 10 55 27.5 +0.2**
baz=5.4
WCI Wyandotte Cave 102.45 342 Pdiff **Pdif 10 55 28.2 +0.3**
baz=18
N23A Red Feather La 102.53 358 Pdiff **Pdif 10 55 29.9 +1.3**
baz=2.2
DUG Dugway, Tooele 103.17 3 Pdiff **Pdif 10 55 32.7 +1.3**
baz=357
TZTN Tazewell 103.31 339 Pdiff **Pdif 10 55 32.6 +0.7**
baz=20
O20A White River Ci 103.33 360 Pdiff **Pdif 10 55 33.4 +1.3**
baz=0.3
KSU1 Kansas State U 103.56 350 Pdiff **Pdif 10 55 33.4 +0.5**
baz=9.8
ISCO Idaho Springs 103.62 358 Pdiff **Pdif 10 55 34.3 +0.7**
baz=2.5
AFDM Forest Hills D 103.66 10 **Pdif 10 55 33.3 -0.1**
CCM Cathedral Cave 103.70 346 Pdiff **Pdif 10 55 33.9 +0.3**
baz=14
KMSC Kings Mountain 103.96 337 Pdiff **Pdif 10 55 35.1 +0.3**
baz=22
CBKS Cedar Bluff 104.21 353 Pdiff **Pdif 10 55 36.5 +0.7**
baz=7.3
KSCO Kaye Shedlock' 104.25 355 Pdiff **Pdif 10 55 36.7 +0.6**
baz=4.9
MAW Mawson 104.39 183 Pdiff **Pdif 10 55 37.0 +1.4**
comp=Z,20nm,1.1s,baz=342,slow=7.2,SNR=12
MAW PKiKP **PKiKP 10 59 52.3 +1.1**
comp=Z,27nm,1.1s,baz=0.0,slow=2.2,SNR=7.5
MAW PKKPbc **PKKPbc 11 11 23.6 -0.1**
comp=Z,4.8nm,0.8s,baz=238,slow=2.5,SNR=5.3
Q24A Divide 104.43 357 Pdiff **Pdif 10 55 37.3 +0.1**
baz=2.9
NVAR Mina Array Bea 104.50 8 Pdiff **Pdif 10 55 38.7 +1.4**
comp=Z,1.9nm,0.6s,baz=343,slow=3.3,SNR=18
NVAR PKiKP **PKiKP 10 59 53.4 +0.5**
comp=Z,8.2nm,1.0s,baz=321,slow=2.9,SNR=5.2
NVAR PKKPbc **PKKPbc 11 11 21.9 -0.4**
comp=Z,10nm,0.8s,baz=199,slow=4.1,SNR=19
NVAR PKPPKP **P'P'df 11 19 40.3 -5.0**
comp=Z,2.5nm,1.0s,baz=173,slow=4.2,SNR=10
WVT Waverly 104.82 343 Pdiff **Pdif 10 55 38.6 +0.1**
baz=17
R11B Troy Canyon, C 104.83 6 Pdiff **Pdif 10 55 39.5 +0.7**
baz=354
SDCO Great Sand Dun 105.66 357 Pdiff **Pdif 10 55 43.5 +0.8**
baz=2.6
GRAC Grapevine Rang 106.02 7 Pdiff **Pdif 10 55 45.5 +1.6**
baz=353
GOGA Godfrey 106.22 338 Pdiff **Pdif 10 55 45.5 +0.7**
baz=21
T25A Trinidad 106.22 357 Pdiff **Pdif 10 55 45.5 +0.4**
baz=3.5
MVCO Mesa Verde 106.25 360 Pdiff **Pdif 10 55 45.0 -0.2**
baz=0.1
VOG Valley Oaks Go 106.45 9 Pdiff **Pdif 10 55 46.1 +0.3**
baz=351
CWC Cottonwood Cre 106.49 8 Pdiff **Pdif 10 55 46.6 +0.4**
baz=352
TUL3 Leonard 106.58 349 Pdiff **Pdif 10 55 46.7 +0.4**
baz=11
FURC Furnace Creek, 106.59 7 Pdiff **Pdif 10 55 47.5 +1.2**
baz=353
OXF Oxford 106.73 344 Pdiff **Pdif 10 55 46.8 -0.2**
baz=16
DZM Mont Dzumac 106.78 105 *e*P **Pdif 10 55 46.0 -1.4**

comp=Z,346nm,25.3s
DZM Mont Dzumac 106.78 105 *e*PP **PP** 11 00 07.7 -7.0
comp=Z,934nm,26.8s
DZM Mont Dzumac 106.78 105 *e*SS SS 11 15 12.0 0.0
comp=Z,3µm,26.4s
DZM Mont Dzumac 106.78 105 *e*LR LR 11 31 14.9
comp=Z,5µm,35.9s
MPMC Manual Prospec 106.93 8 Pdiff **Pdif** 10 55 48.9 +0.7
baz=353
VES Vestal, Richgr 106.96 9 Pdiff **Pdif** 10 55 48.0 0.0
baz=351
SHOC Shoshone, Teco 107.21 7 Pdiff **Pdif** 10 55 50.0 +0.8
baz=354
SMMC Simmler 107.36 10 Pdiff **Pdif** 10 55 51.3 +1.4
baz=350
LRMC Laurel Mtn Rad 107.48 8 Pdiff **Pdif** 10 55 50.9 +0.3
baz=352
MIAR Mount Ida 107.55 347 Pdiff **Pdif** 10 55 51.1 +0.4
baz=12
LRAL Lakeview Retre 107.55 341 Pdiff **Pdif** 10 55 50.3 -0.4
baz=18
ARVC Arvin 107.70 9 Pdiff **Pdif** 10 55 52.7 +1.3
baz=352
TUQ Turquoise Moun 107.70 6 Pdiff **Pdif** 10 55 52.1 +0.6
baz=354
GSC Goldstone, Bar 107.75 7 Pdiff **Pdif** 10 55 53.0 +1.3
baz=353
PKM Mcpherson Peak 107.81 10 Pdiff **Pdif** 10 55 53.5 +1.4
baz=351
WUAZ Wupatki 107.89 2 Pdiff **Pdif** 10 55 53.4 +1.0
baz=358
EDW2 Edwards Air Fo 108.04 8 Pdiff **Pdif** 10 55 53.1 +0.2
baz=352
TIGA Tifton 108.09 338 Pdiff **Pdif** 10 55 53.7 +0.5
baz=21
WMOK Wichita Mounta 108.14 352 Pdiff **Pdif** 10 55 54.5 +1.1
baz=8.2
HEC Hector,Ludlow 108.26 7 Pdiff **Pdif** 10 55 54.5 +0.5
baz=354
AMTX Amarillo 108.28 354 Pdiff **Pdif** 10 55 54.9 +0.8
baz=5.8
W18A Petrified Fore 108.33 1 Pdiff **Pdif** 10 55 55.8 +1.4
baz=359
GMRC Granite Mounta 108.37 6 Pdiff **Pdif** 10 55 55.5 +1.0
baz=354
ANMO Albuquerque 108.48 358 Pdiff **Pdif** 10 55 56.5 +1.3
baz=1.8
BBRC Big Bear Solar 108.77 7 Pdiff **Pdif** 10 55 56.4 0.0
baz=353
IRM Iron Mountain 109.03 6 Pdiff **Pdif** 10 55 58.5 +1.1
baz=354
MURC Murrieta 109.39 8 Pdiff **Pdif** 10 55 59.4 +0.4
baz=353
CIS Catalina Islan 109.45 9 Pdiff **Pdif** 10 55 58.3 -0.9
baz=352
PFO Pinyon Flats O 109.46 7 Pdiff **Pdif** 10 55 57.9 -1.5
baz=353
TPFO Pinon Flats 109.46 7 Pdiff **Pdif** 10 55 57.4 -2.1
baz=353
GLA Glamis 110.16 6 Pdiff **Pdif** 10 56 02.0 -0.5
baz=355
MONP2 Monument Peak 110.17 7 Pdiff **Pdif** 10 56 03.0 +0.3
baz=353
SWSC Sam W. Stewart 110.18 6 Pdiff **Pdif** 10 56 03.9 +1.5
baz=354
ABTX Abilene, Hawle 110.32 352 Pdiff **Pdif** 10 56 03.6 +0.5
baz=7.6
IKP In-Ko-Pah, Jac 110.44 7 Pdiff **Pdif** 10 56 03.7 -0.1
baz=354
WHTX Lake Whitney, 110.67 350 Pdiff **Pdif** 10 56 04.7 0.0
baz=9.5
121A Cookes Peak, D 110.91 359 Pdiff **Pdif** 10 56 05.7 -0.3
baz=0.7
TUC Tucson 111.11 2 Pdiff **Pdif** 10 56 07.2 +0.5
baz=358
214A Organ Pipe Nat 111.38 4 Pdiff **Pdif** 10 56 07.8 -0.1
baz=356
MNTX Cornudas Mount 111.68 357 Pdiff **Pdif** 10 56 08.3 -0.9
baz=2.8
435B Jarrell 111.88 350 Pdiff **Pdif** 10 56 08.9 -1.2
baz=9.4
JCT Junction City 112.46 352 Pdiff **Pdif** 10 56 11.4 -1.3
baz=7.6
ELIB Princess Elisa 113.65 195 *d*PKiKP **PKiKP** 11 00 08.0 -0.7
TXAR Lajitas Array 113.94 355 Pdiff **Pdif** 10 56 20.4 +1.0
comp=Z,0.8nm,0.7s,baz=24,slow=2.2,SNR=8.8
TXAR PKiKP **PKiKP** 11 00 11.2 +0.5
comp=Z,9.4nm,1.0s,baz=229,slow=1.2,SNR=12
TXAR PKKPbc **PKKPbc** 11 10 51.2 -0.8
comp=Z,27nm,0.9s,baz=184,slow=5.1,SNR=67
TXAR PKPPKP **P'P'df** 11 19 21.1 -5.9
comp=Z,1.2nm,0.8s,baz=170,slow=4.5,SNR=8.4
833A Chaparral WMA, 114.54 351 Pdiff **Pdif** 10 56 20.2 -1.7
baz=8.1
NVL N'lazarevskaya 115.45 198 ⇓*i*PKiKP **PKPdf** 11 00 10.3 -1.6
NVL *e*SP SP 11 10 53.5 +11
NVL *e*PS **PS** 11 10 54.7 -2.1
NVL pmax pmax
comp=Z,73nm,0.8s
HPIG 116.44 357 **PKiKP** 11 00 15.8 +0.1
PCRV Puerto La Cruz 117.59 310 PKP **PKPdf** 11 00 16.7 -1.2
comp=Z,13nm,0.9s,baz=330,slow=5.5,SNR=4.0
TROLL Troll, Antarti 118.59 199 ⇑PKPdf **PKPdf** 11 00 17.9 -0.3
comp=Z,10µm,0.8s
TROLL ⇑pPKPdf **pPKPdf** 11 00 47.2 -2.8
comp=Z,892nm,0.6s
SLBS Sierra La Lagu 119.72 1 **PKiKP** 11 00 22.1 +0.1
SNAA Sanae 119.89 201 **PKPdf** 11 00 19.5 -1.1
SNAA Sanae 119.89 201 ⇑*i*P **PKPdf** 11 00 19.4 -1.1
SNAA Sanae 119.89 201 ⇑PKKPbc **PKKPab** 11 10 28.1 -1.3
comp=Z,109nm,0.5s
SNAA ⇑PKPdf **PKPdf** 11 00 19.4 -1.2
comp=Z,1µm,0.8s
SNAA ⇑pPKPdf **pPKPdf** 11 00 53.0 +0.5
comp=Z,288nm,0.9s
SNAA ⇑PKKPdf PKKPdf 11 11 16.9 +13
comp=Z,143nm,0.7s
SNAA Sanae 119.89 201 PKP **PKPdf** 11 00 20.2 -0.4
comp=Z,61nm,0.9s,baz=58,slow=2.7,SNR=53
SNAA PKKPbc **PKKPab** 11 10 30.4 +0.9
comp=Z,5.5nm,0.8s,baz=183,slow=20,SNR=11
TEIG Tepich 120.02 338 **PKPdf** 11 00 22.1 -0.3
DSZ Denniston Nort 120.32 121 P **PKPdf** 11 00 21.1 -1.2
ZAIG Zacatecas 120.37 354 **PKiKP** 11 00 24.1 +0.6
BAUV El Baul 120.62 312 **PKPdf** 11 00 23.0 -0.7
DIAM Diamantina, MG 120.62 269 *e*P **PKiKP** 11 00 24.3 +0.5
BOAV Boa Vista 120.69 300 **PKPdf** 11 00 23.7 -0.2
BOAV Boa Vista 120.69 300 *e*P **PKiKP** 11 00 24.6 +0.6
VNA2 Neumayer--Watz 120.90 202 ⇑PKKPbc **PKKPab** 11 10 25.5 +0.5
comp=Z,7.2nm,0.6s,baz=21,slow=1.5
VNA2 ⇑PKPdf **PKPdf** 11 00 21.3 -1.2
comp=Z,173nm,0.8s,baz=33,slow=1.2
VNA2 ⇑pPKPdf **pPKPdf** 11 00 45.9 -8.4
comp=Z,17nm,0.7s,baz=55,slow=2.7
VNA2 ⇑PKKPdf PKKPdf 11 11 13.3 +12
comp=Z,6.8nm,0.6s,baz=214,slow=4.8
VNA1 Neumayer--Stat 121.06 203 ⇑PKPdf **PKPdf** 11 00 22.1 -0.6
comp=Z,177nm,1.0s
VNA1 ⇑pPKPdf **pPKPdf** 11 00 53.7 -0.9
comp=Z,44nm,1.0s
NNZ Nelson 121.19 120 P **PKPdf** 11 00 21.7 -2.3
GVZ Greta Valley S 121.64 122 P **PKPdf** 11 00 24.3 -0.5
TUWZ Tuamarina 121.67 120 P **PKPdf** 11 00 22.3 -2.5
VNA3 Neumayer Olymp 121.71 202 ⇑PKKPbc **PKKPbc** 11 10 23.5 -1.4
comp=Z,15nm,0.8s
VNA3 ⇑PKPdf **PKPdf** 11 00 22.5 -1.5
comp=Z,210nm,0.8s
VNA3 ⇑pPKPdf **pPKPdf** 11 00 53.2 -2.7
comp=Z,23nm,0.6s
VNA3 ⇑PKKPdf PKKPdf 11 11 11.4 +11
comp=Z,14nm,0.7s
ITTB Itaituba 121.86 291 *e*P **PKPdf** 11 00 23.9 -2.2
SDV Santo Domingo 122.19 314 PKP **PKPdf** 11 00 27.0 0.0
comp=Z,98nm,0.9s,baz=89,slow=1.6,SNR=43
SDV Santo Domingo 122.19 314 *e*P **PKPdf** 11 00 27.0 0.0
OGWZ Otaki Gorge 122.28 119 P **PKPdf** 11 00 24.4 -1.6
CAW Cannon Point 122.32 120 P **PKPdf** 11 00 25.6 -0.6
MRZ Mangatainoka R 122.50 119 P **PKPdf** 11 00 25.6 -0.9
VAS01 Vassouras-RJ 122.51 265 *e*P **PKiKP** 11 00 28.0 +0.7
TSZ Takapari Road 122.54 118 P **PKPdf** 11 00 25.0 -1.6
HOWZ Holdsworth Sta 122.55 119 P **PKPdf** 11 00 25.6 -1.0
MTW Mount Morrison 122.64 120 P **PKPdf** 11 00 22.3 -4.5
BDFB Brasilia 122.66 275 PKP **PKiKP** 11 00 28.5 +0.7
comp=Z,7.3nm,0.9s,baz=115,slow=11,SNR=3.1
BDFB PKKPbc **PKKPbc** 11 10 19.2 -0.9
comp=Z,5.7nm,0.9s,baz=232,slow=4.4,SNR=3.9
PAWZ Paruwai Farm 122.68 120 P **PKPdf** 11 00 26.2 -0.7

DVHZ Dannevirke 122.78 118 P **PKPdf** 11 00 25.9 -1.2
BFZ Birch Farm 122.98 119 P **PKiKP** 11 00 27.7 +0.1
BFZ Birch Farm 122.98 119 P **PKPdf** 11 00 26.7 -0.7
BFZ Birch Farm 122.98 119 P **PKPdf** 11 00 26.2 -1.2
BFZ Birch Farm 122.98 119 P **PKPdf** 11 00 26.7 -0.7
PXZ Pawanui 123.17 118 P **PKPdf** 11 00 27.4 -0.3
PETF Flores 123.62 338 **PKiKP** 11 00 29.6 -0.1
IPMB Ipameri, GO 124.09 272 *e*P **PKiKP** 11 00 30.8 +0.2
MACA Manacapuru-AM 124.70 296 *e*P **PKiKP** 11 00 31.8 -0.1
CCIG Comitan 124.86 341 **PKPdf** 11 00 31.8 -0.2
TGUH Tegucigalpa,Un 125.47 334 **PKiKP** 11 00 33.8 +0.2
APG El Apazote 125.61 338 PKP **PKPdf** 11 00 33.0 -0.5
comp=Z,1.9nm,1.0s,baz=169,slow=9.4,SNR=10
ARAG Araguaiana, MT 125.72 277 *e*P **PKiKP** 11 00 34.2 +0.4
VNDA Vanda 125.80 164 PKP **PKPdf** 11 00 29.8 -1.9
comp=Z,38nm,1.0s,baz=284,slow=4.6,SNR=48
VNDA PP **PP** 11 02 25.5 -0.8
comp=Z,21nm,1.1s,baz=236,slow=13,SNR=5.1
VNDA PKKP **PKKPdf** 11 10 52.0 -0.3
comp=Z,5.1nm,1.0s,baz=30,slow=2.0,SNR=5.8
BB19B Bebedouro 125.96 269 *e*P **PKiKP** 11 00 34.5 +0.3
ACON Acoyapa 126.62 331 **PKPdf** 11 00 35.2 0.0
QSPA South Pole Qui 126.70 180 PKP **PKPdf** 11 00 32.6 -1.2
comp=Z,217nm,0.9s,baz=284,slow=1.5,SNR=120
QSPA PP **PP** 11 02 31.5 -1.1
comp=Z,56nm,1.0s,baz=296,slow=6.1,SNR=2.9
QSPA PKKP **PKKPdf** 11 10 50.6 -0.5
comp=Z,7.9nm,1.0s,baz=319,slow=4.5,SNR=3.6
BCIP Isla Barro Col 126.81 324 **PKPdf** 11 00 35.1 -0.5
BCIP Isla Barro Col 126.81 324 PKIKP **PKPdf** 11 00 35.1 -0.5
SBA Scott Base 126.89 165 PKPpre 11 00 23.6
SBA Scott Base 126.89 165 PKIKP PKPpre 11 00 23.6
ROSC El Rosal 127.58 315 PKP **PKiKP** 11 00 39.2 +1.1
comp=Z,494nm,0.8s,baz=133,slow=4.4,SNR=113
JTS Las Juntas de 128.06 330 **PKPdf** 11 00 35.9 -2.1
JTS Las Juntas de 128.06 330 PKP **PKPdf** 11 00 37.2 -0.8
comp=Z,15nm,0.9s,baz=332,slow=3.7,SNR=8.6
SALV Santo Antonio 128.91 280 *e*P **PKiKP** 11 00 40.3 +0.1
LDASE Londrina, Braz 129.20 268 *e*P **PKiKP** 11 00 40.9 +0.3
TRCB Terra Rica 130.12 270 *e*P **PKiKP** 11 00 42.2 -0.3
SAML Samuel 130.42 292 PKPpre 11 00 32.6
SAML Samuel 130.42 292 *e*P **PKiKP** 11 00 43.0 -0.3
PTGB Pitanga 130.59 267 *e*P **PKPdf** 11 00 42.9 +0.3
VILB Vilhena 130.70 286 *e*P **PKiKP** 11 00 43.6 -0.2
PTLB Pontes e Lacer 131.36 283 *e*P **PKPdf** 11 00 44.1 0.0
AQDB Aquidauana 131.40 275 *e*P **PKiKP** 11 00 44.8 -0.2
CNLB Canela 131.68 261 *e*P **PKiKP** 11 00 45.0 -0.5
AMBA Amambai (Brazi 132.08 271 *e*P **PKiKP** 11 00 46.5 +0.1
BDQN Bodoquena, MS 132.23 275 *e*P **PKPdf** 11 00 45.0 -0.6
ALGR Alto Alegre (B 133.19 263 *e*P **PKPdf** 11 00 47.9 +0.5
ETMB Extrema 133.22 294 *e*P **PKiKP** 11 00 48.5 -0.4
CRSM Crissiumal (Br 133.44 265 *e*P **PKiKP** 11 00 48.6 -0.4
BBRB Robore, Bolivi 133.49 280 *e*P **PKPdf** 11 00 48.7 +0.6
BBSD Serra de San D 133.51 282 *e*P **PKPdf** 11 00 48.6 +0.4
MURT Porto Murtinho 133.54 274 *e*P **PKPdf** 11 00 46.7 -1.3
CPSB Cacapava Do Su 134.17 261 *e*P **PKPdf** 11 00 49.5 +0.5
PLTB Pedras Altas 134.83 260 *e*P **PKiKP** 11 00 51.2 -0.5
UNIS Unistalda (Bra 134.93 264 *e*P **PKPdf** 11 00 51.2 +0.7
RODS Rosario do Sul 135.54 262 *e*P **PKiKP** 11 00 52.6 -0.5
CPUP Villa Florida 135.56 269 PKhKP PKPpre 11 00 36.2
comp=Z,12nm,1.1s,baz=69,slow=3.3,SNR=5.8
CPUP PKP **PKPdf** 11 00 51.1 -0.6
comp=Z,25nm,0.8s,baz=63,slow=1.8,SNR=17
CPUP Villa Florida 135.56 269 *e*P **PKPdf** 11 00 52.2 +0.5
CZSB Cruzeiro do Su 136.34 303 *e*P **PKPdf** 11 00 53.5 -0.1
ITQB Itaqui 136.41 264 PKPpre 11 00 42.7
ITQB Itaqui 136.41 264 *e*P **PKPdf** 11 00 54.0 +0.8
PSAL Palomas, Salto 137.74 262 *e*P **PKPdf** 11 00 56.2 +0.6
LPAZ La Paz 138.79 289 PKhKP PKPpre 11 00 49.6
comp=Z,5.2nm,0.9s,baz=24,slow=4.3,SNR=16
LPAZ PKP **PKPdf** 11 00 59.4 +0.6
comp=Z,18nm,0.9s,baz=21,slow=5.9,SNR=17
PPT Papeete 139.16 73 PKP **PKPdf** 11 00 58.9 +0.3
comp=Z,76nm,1.0s,baz=342,slow=10,SNR=5.5
PPT2 Papeete2 139.18 73 *e*P PKPpre 11 00 41.6
comp=Z,395nm,27.0s
PPT2 Papeete2 139.18 73 *e*P **PKPdf** 11 00 57.2 -1.5
comp=Z,83nm,1.1s
PPT2 Papeete2 139.18 73 *e*PP **PP** 11 03 47.1 -6.0
comp=Z,1µm,28.0s
PPT2 *e*sS 11 12 58.3
comp=Z,1µm,24.8s
PPT2 *e*SS **SS** 11 21 58.2 -3.8
comp=Z,2µm,27.0s
PPT2 Papeete2 139.18 73 *e*LR LR 11 46 10.5
comp=Z,3µm,30.5s
PPT2 *e*LR LR 11 46 11.8
comp=Z,2µm,33.0s
PPTF Pamatai, Papee 139.18 73 P **PKPdf** 11 00 58.4 -0.3
PPTF Pamatai, Papee 139.18 73 P **PKPdf** 11 00 57.6 -1.1
TVO Taravao 139.54 73 *e*P **PKPdf** 11 00 57.8 -1.6
comp=Z,20nm,0.8s
ATAH Atahualpa 139.57 310 PKP **PKPdf** 11 00 59.8 -0.3
comp=Z,32nm,0.8s,baz=80,slow=4.3,SNR=13
EFI East Falkland 141.74 231 PKPpre 11 00 56.8
EFI East Falkland 141.74 231 PKHKP PKPpre 11 00 56.8
PB08 IPOC Station P 141.84 285 PP PP 11 04 07.9 -1.9
PB12 IPOC Station P 141.86 288 **PKPdf** 11 01 03.5 -0.1
NNA Nana 142.22 303 PKP **PKPdf** 11 01 02.6 -1.7
comp=Z,38nm,0.7s,baz=316,slow=3.1,SNR=17
TBI Tubuai 142.44 81 *e*P **PKPdf** 11 00 57.5 -6.8
comp=Z,4µm,23.5s
TBI Tubuai 142.44 81 *e*PP **PP** 11 04 10.4 -2.6
comp=Z,4µm,35.5s
TBI *e*sS 11 13 28.7
comp=Z,6µm,32.0s
TBI *e*SS **SS** 11 22 31.2 -8.8
comp=Z,9µm,27.5s
TBI Tubuai 142.44 81 *e*LR LR 11 47 39.5
comp=Z,2µm,31.8s
TBI *e*LR LR 11 47 44.7
comp=Z,11µm,33.2s
LVC Limon Verde 143.00 281 PKPpre 11 01 02.1
LVC Limon Verde 143.00 281 PKIKP **PKPdf** 11 01 02.1 -3.7
PB07 IPOC Station P 143.29 283 PKP PKPab 11 01 02.2 0.0
TRQA Tornquist 143.29 254 PKPpre 11 01 02.0
TRQA Tornquist 143.29 254 PKHKP PKPpre 11 01 02.0
PB14 IPOC Station P 145.29 280 PKP **PKPbc** 11 01 08.2 -1.3
LCO Las Campanas 147.41 273 **PKPdf** 11 01 14.0 +0.8
LCO Las Campanas 147.41 273 PKIKP **PKPdf** 11 01 14.0 +0.8
BO01 Tunca 149.54 263 **PKPdf** 11 01 16.1 0.0
PLCA Paso Flores 150.27 251 PKP **PKPdf** 11 01 17.4 +0.2
comp=Z,40nm,1.0s,baz=55,slow=1.7,SNR=45
PLCA PKPbc **PKiKP** 11 01 23.4 +0.2
comp=Z,253nm,1.0s,baz=99,slow=2.5,SNR=80
PLCA PKPab **PKPab** 11 01 28.9 -0.2
comp=Z,255nm,1.0s,baz=109,slow=4.3,SNR=20
GO05 Huala 150.38 263 **PKPdf** 11 01 17.7 +0.2
GO05 PKPbc **PKPbc** 11 01 22.9 +0.1
GO05 PKPab **PKPab** 11 01 29.0 -0.6
GO09 Cerro Castillo 150.61 229 **PKPdf** 11 01 17.3 +0.1
GO09 PKPbc **PKPbc** 11 01 22.7 0.0
GO09 PKPab **PKPab** 11 01 29.8 -0.2
LL01 San Ignacio de 151.76 248 **PKPdf** 11 01 18.3 -0.9
LL01 PKPbc **PKPbc** 11 01 24.6 -1.1
GO07 Milladeo Hill, 152.68 246 **PKPdf** 11 01 20.6 +0.1
GO07 PKPbc **PKPbc** 11 01 27.3 -0.4

DNK 09 11:00:00.9±0.4,**57.60N**×**12.08E**,**h0**km,**ML0.9**(UPP),
Explosion,Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ONAU	**Onsala**	**0.22**	**204**	P		Pg 11 00 04.8	-0.3
ONAU				S		Sg 11 00 08.0	+0.1
BORU	**Boraas**	**0.37**	**84**	P		Pg 11 00 07.8	-0.2
TJOU	**Tjoern**	**0.50**	**331**	P		Pg 11 00 10.0	-0.5
TJOU				S		Sg 11 00 16.8	-0.2
FABU	**Falkenberg**	**0.69**	**150**	P		Pg 11 00 13.2	-0.9
VANU	**Vaenersborg**	**0.90**	**360**	P		Pg 11 00 17.3	-0.8
VANU				S		Sg 11 00 29.3	-0.5
GNOU	**Gnosjoe**	**0.96**	**108**	P		Pg 11 00 18.4	-0.8
FKPU	**Falk**	**1.04**	**57**	P		Pg 11 00 20.1	-0.8

UPP 09 11:00:39.8±0.7,**59.28N**×**10.26E**,**h0**km,**ML2.1**,**Southern**
Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STRU	**Stroemstad**	**0.54**	**117**	P		Pg 11 00 50.1	0.0
STRU				S		Sg 11 00 57.3	+0.3
FINU	**Finntorp**	**1.14**	**83**	P		Pg 11 01 01.0	-0.7
FINU				S		Sg 11 01 16.0	-0.5
VANU	**Vaenersborg**	**1.23**	**129**	P		Pg 11 01 02.2	-1.1
TJOU	**Tjoern**	**1.45**	**150**	P		Pn 11 01 06.4	-0.7
NASU	**Vaermlandsnaes**	**1.55**	**102**	P		Pn 11 01 08.2	-0.5

JMA 09 11:34:14.8±0.3,**29.2N**±0.5×**14.3E**±,**h47**km,**MV3.8**/19,
NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.16**	**189**	*e*P		Pn 11 34 49.1	+0.9
CBIJ				*e*S		Sn 11 35 14.6	+0.9
BSO3	**Boso 3**	**5.82**	**343**	*e*P		Pn 11 35 40.3	+2.1
JHU	**Hanno**	**7.15**	**338**	*e*P		Pn 11 36 00.1	+3.3
JRY	**Ryogami san**	**7.43**	**336**	*e*P		Pn 11 36 03.8	+3.2
JAG	**Ashikaga**	**7.63**	**341**	*e*P		Pn 11 36 05.4	+2.1
JAG				*e*S		Sn 11 37 29.6	+1.2

SJA ***09*** *11:37:59.0±0.6,29.97S×71.33W,h54km±5km, ML3.4, MW3.5*
GUC ***09*** *11:38:00.6±0.7,30.01S×71.23W,h60km±2km, ML3.6*
ISC 09 11:38:01.0±1.3,**29.95S**±0.03×**71.39W**±0.05,**h46**km±9km,
n36,σ1§73/55,2C-5D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.13**	**77**	*e*P		**Pn 11 38 08.9**	**+0.4**
CO05				*i* S		**Sn 11 38 15.4**	**+1.7**
CO05				IAML		11 38 15.9	
	comp=N,5µm,0.1s						
GO04	**Tololo Observa**	**0.56**	**114**	*e*P		**Pn 11 38 11.7**	**-1.3**
GO04				*e*S		**Sn 11 38 20.8**	**-0.8**
GO04	**Tololo Observa**	**0.56**	**114**	⇓*i*P		**Pn 11 38 11.8**	**-1.3**
GO04				*i* S		**Sn 11 38 19.7**	**-1.8**
GO04				IAML		11 38 20.7	
	comp=E,16µm,0.6s						
CO06	**Fray Jorge**	**0.75**	**196**	⇑*i*P		**Pn 11 38 15.5**	**+0.1**
CO06				*e*S		**Sn 11 38 26.4**	**+0.6**
CO06				IAML		11 38 31.1	
	comp=N,2µm,0.1s						
CO03	**El Pedregal**	**1.07**	**146**	*e*P		**Pn 11 38 18.2**	**-1.5**
CO03				IAML		11 38 32.4	
	comp=Z,636nm,0.3s						
CO03				*e*S		**Sn 11 38 33.0**	**-0.6**
CO03	**El Pedregal**	**1.07**	**146**	⇓*i*P		**Pn 11 38 18.2**	**-1.5**
CO03				*i* S		**Sn 11 38 31.2**	**-2.4**
CO03				IAML		11 38 32.4	
	comp=E,3µm,0.1s						
LCO	**Las Campanas**	**1.11**	**33**	*e*P		**Pn 11 38 19.8**	**-0.6**
LCO				*e*S		**Sn 11 38 34.7**	**0.0**
LCO	**Las Campanas**	**1.11**	**33**	⇓*i*P		**Pn 11 38 19.7**	**-0.7**
LCO				*i* S		**Sn 11 38 33.9**	**-0.8**
LCO				IAML		11 38 35.4	
	comp=E,10µm,0.4s						
CO01	**Juntas del Tor**	**1.12**	**92**	*e*P		**Pn 11 38 19.2**	**-1.4**
CO01				*e*S		**Sn 11 38 32.7**	**-2.3**
CO01				IAML		11 38 33.2	
	comp=Z,2µm,0.1s						
CO01	**Juntas del Tor**	**1.12**	**92**	⇓*i*P		**Pn 11 38 19.2**	**-1.4**
CO01				*i* S		**Sn 11 38 32.5**	**-2.5**
CO01				IAML		11 38 33.0	
	comp=N,2µm,0.2s						
CO02	**Combarbal**	**1.29**	**165**	*e*P		Pn 11 38 16.2	-6.6
CO02				*e*P		**Pn 11 38 21.7**	**-1.2**
CO02				IAML		11 38 38.8	
	comp=Z,697nm,0.1s						
CO02				*e*S		**Sn 11 38 38.9**	**-0.2**
CO02	**Combarbal**	**1.29**	**165**	*e*P		**Pn 11 38 21.6**	**-1.2**
CO02				*i* S		**Sn 11 38 37.4**	**-1.7**
AC05	**El Transito**	**1.47**	**42**	*e*P		**Pn 11 38 24.5**	**-0.8**
AC05				*e*S		**Sn 11 38 43.5**	**+0.1**
AC05				IAML		11 38 45.6	
	comp=Z,303nm,0.5s						
AC05	**El Transito**	**1.47**	**42**	⇓*i*P		**Pn 11 38 25.2**	**-0.1**
AC05				*i* S		**Sn 11 38 43.6**	**+0.2**
AC05				IAML		11 38 46.4	
	comp=N,721nm,0.5s						
AROD	**Rodeo**	**1.67**	**98**	*e*P		**Pn 11 38 28.0**	**-0.2**
AROD				*e*S		**Sn 11 38 48.7**	**+0.1**
AC04	**Llanos de Chal**	**1.76**	**9**	*e*P		**Pn 11 38 29.0**	**-0.1**
AC04				*e*S		**Sn 11 38 45.3**	**-5.0**
AC04				IAML		11 38 56.5	
	comp=Z,199nm,0.2s						
AC04	**Llanos de Chal**	**1.76**	**9**	⇑*i*P		**Pn 11 38 29.7**	**+0.6**
AC04				IAML		11 39 01.8	
	comp=E,434nm,0.2s						
ACDV	**Cuesta del Vie**	**1.98**	**97**	*e*P		**Pn 11 38 31.8**	**-0.5**
DOCA	**Reserva Natura**	**2.23**	**117**	*e*P		**Pn 11 38 35.5**	**-0.3**
DOCA				*e*S		Sn 11 38 51.7	-11
DOCA				IAML		11 38 51.7	
	comp=Z,294nm,0.8s						
GO03	**Copiap**	**2.56**	**24**	*e*P		**Pn 11 38 40.2**	**+0.2**
GO03				*e*S		Sn 11 38 56.5	-14
RTLS	**Leoncito**	**2.58**	**136**	*e*P		**Pn 11 38 40.5**	**-0.1**
RTLS				*e*S		Sn 11 38 57.4	-13
RTLS				IAML		11 38 57.8	
	comp=Z,318nm,0.9s						
AC06	**Mina Casimiro**	**2.74**	**20**	IAML		11 39 26.4	
	comp=E,171nm,0.3s						
VA03	**San Esteban**	**2.90**	**166**	*e*P		**Pn 11 38 44.6**	**-0.2**
VA03				*e*S		Sn 11 39 01.4	-17
VA03				IAML		11 39 02.0	
	comp=Z,138nm,0.6s						
VA03	**San Esteban**	**2.90**	**166**	IAML		11 39 29.9	
	comp=N,342nm,0.4s						
VCA	**Vinchina**	**3.03**	**67**	*e*P		**Pn 11 38 47.1**	**+0.5**
VCA				*e*S		Sn 11 39 32.1	+10
VCA				IAML		11 39 34.0	
	comp=Z,406nm,0.4s						
PEL	**Peldehue**	**3.24**	**170**	*e*P		**Pn 11 38 49.2**	**-0.3**
PEL				IAML		11 39 41.3	
	comp=Z,107nm,0.3s						
MT02	**Curacav**	**3.31**	**176**	*e*P		**Pn 11 38 50.3**	**0.0**
MT02				*e*S		**Sn 11 39 26.2**	**-2.2**
MT02				IAML		11 39 47.0	
	comp=Z,95nm,0.5s						
ASAL	**Salagasta**	**3.42**	**141**	*e*P		**Pn 11 38 52.5**	**+0.5**
ASAL				*e*S		**Sn 11 39 35.2**	**+3.8**
ASAL				IAML		11 39 57.0	
	comp=Z,44nm,0.7s						
AVFE	**Valle Fertil**	**3.47**	**103**	*e*P		**Pn 11 38 52.2**	**-0.5**
AVFE				*e*S		**Sn 11 39 34.7**	**+2.1**
AVFE				IAML		11 39 40.8	
	comp=Z,73nm,0.6s						
ARCO	**CERRO ARCO**	**3.57**	**145**	*e*P		**Pn 11 38 54.0**	**0.0**
ARCO				IAML		11 39 45.6	
	comp=Z,42nm,0.5s						
AC02	**Maricunga**	**3.68**	**33**	*e*P		**Pn 11 38 56.5**	**+0.6**
AC02				IAML		11 39 51.1	
	comp=Z,201nm,0.8s						
ACLC	**CERRO LA CRUZ**	**3.89**	**83**	*e*P		**Pn 11 38 58.2**	**-0.3**
ACLC				*e*S		**Sn 11 39 50.4**	**+7.3**
ACLC				IAML		11 39 52.6	
	comp=Z,72nm,0.3s						
MT01	**Popeta**	**3.91**	**178**	*e*P		**Pn 11 38 58.9**	**+0.3**
MT01				*e*S		**Sn 11 39 44.8**	**+1.7**
MT01				IAML		11 39 56.9	
	comp=Z,50nm,0.2s						
ACHE	**Chepes**	**4.25**	**108**	*e*P		**Pn 11 39 03.0**	**-0.4**
BO01	**Tunca**	**4.44**	**177**	*e*P		**Pn 11 39 05.9**	**+0.1**
BO01				IAML		11 40 09.5	
	comp=Z,20nm,0.3s						
BO02	**Sierra Bellavi**	**4.86**	**174**	*e*P		**Pn 11 39 12.1**	**+0.4**
BO02				*e*S		Sn 11 40 16.2	+10
BO02				IAML		11 40 24.6	
	comp=Z,36nm,0.8s						

AEIC ***09*** *11:53:36.0±1.6,53.79N±0.07×164.16W±0.07,h29km±7km, Error ellipse: s-maj=10.5km s-min=4.6km az=155.0*
NEIC ***09*** *11:53:36.4±1.5,53.83N±0.04×164.20W±0.03, h25km±10km,mb3.5/2,ML3.7/12,ML3.3(AEIC),Error ellipse: s-maj=6.4km s-min=2.2km

WESE	**West Dahl East**	**0.83**	**337**			**Pb**	**11 53 50.1**	**-0.3**
WECS	**Westdahl Cape**	**0.94**	**332**			**Pn**	**11 53 51.5**	**-0.5**
WECS						**Sb**	**11 54 03.0**	**-1.1**
WEBT	**Westdahl Beart**	**0.98**	**335**			**Pn**	**11 53 52.2**	**-0.3**
WEBT						**Sb**	**11 54 04.6**	**-0.8**
ISNN	**Isanotski Nort**	**1.14**	**7**			**Pn**	**11 53 55.1**	**+0.4**
ISNN						**Sn**	**11 54 08.9**	**-0.5**
AKBBA	**Akutan Broad B**	**1.19**	**290**			**Pn**	**11 53 55.3**	**-0.1**
AKBBA						**Sn**	**11 54 09.7**	**-1.1**
FALS	**False Pass**	**1.21**	**17**			**Pn**	**11 53 55.9**	**+0.3**
FALS	**False Pass**	**1.21**	**17**			**Sn**	**11 54 10.6**	**-0.5**
FALS	**False Pass** baz=202	**1.21**	**17**	P		**Pn**	**11 53 55.7**	**+0.1**
FALS	baz=202			S		**Sn**	**11 54 10.6**	**-0.5**
ZRO	**Akutan Zero**	**1.22**	**289**			**Pn**	**11 53 55.7**	**-0.1**
AKRB	**Akutan Reef Bi**	**1.28**	**290**			**Pn**	**11 53 56.5**	**-0.1**
UNV	**Unalaska Valle**	**1.48**	**276**			**Pn**	**11 53 59.1**	**-0.2**
UNV	**Unalaska Valle** baz=92	**1.48**	**276**	P		**Pn**	**11 53 59.0**	**-0.3**
MNAT	**Makushin Natee**	**1.58**	**277**			**Pn**	**11 54 01.0**	**+0.2**
MTBL	**Makushin Table**	**1.59**	**281**			**Pn**	**11 54 01.2**	**+0.2**
MTBL						**Sn**	**11 54 21.3**	**+0.6**
MSW	**Makushin Switc**	**1.65**	**278**			**Pn**	**11 54 01.7**	**0.0**
MAPS	**Pakushin South**	**1.73**	**275**			**Pn**	**11 54 03.0**	**+0.1**
MAPS						**Sn**	**11 54 23.4**	**-0.7**
PVV	**Pavlof Volcano**	**2.12**	**37**			**Pn**	**11 54 10.1**	**+1.9**
PS1A	**Pavlof South-1**	**2.17**	**37**			**Pn**	**11 54 10.9**	**+1.9**
S12K	**Black Hills**	**2.30**	**29**			**Pn**	**11 54 11.9**	**+1.2**
S12K	comp=E,478nm,0.3s			IAML			11 54 46.1	
S12K	comp=N,401nm,0.3s			IAML			11 54 46.6	
S12K	**Black Hills** baz=213	**2.30**	**29**	P		**Pn**	**11 54 12.7**	**+2.0**
SDPT	**Sand Point**	**2.64**	**50**			**Pn**	**11 54 17.5**	**+2.1**
SDPT	comp=E,276nm,1.1s			IAML			11 55 01.2	
SDPT	**Sand Point** baz=235	**2.64**	**50**	P		**Pn**	**11 54 17.5**	**+2.1**
NIKH	**Nikolski High**	**2.99**	**258**			**Pn**	**11 54 20.9**	**+0.8**
S14K	**Fog Glacier** baz=228	**3.65**	**43**	P		**Pn**	**11 54 31.5**	**+2.2**
VNFG	**Fog Glacier, M**	**3.65**	**43**			**Pn**	**11 54 31.3**	**+2.1**
CHGN	**Chignik**	**4.15**	**49**			**Pn**	**11 54 38.7**	**+2.7**
CHGN	**Chignik** baz=235	**4.15**	**49**	P		**Pn**	**11 54 39.0**	**+3.0**
CHIR	**Chirikof Islan**	**5.31**	**63**			**Pn**	**11 54 53.8**	**+1.9**
CHIR	comp=N,28nm,1.2s			IAML			11 55 55.5	
CHIR	comp=E,35nm,1.1s			IAML			11 56 44.4	
CHIR	**Chirikof Islan** baz=251	**5.31**	**63**	P		**Pn**	**11 54 54.3**	**+2.3**
R16K	**Pilot Point**	**5.32**	**41**	Pn		**Pn**	**11 54 53.6**	**+1.5**
R16K	comp=N,50nm,1.0s			IAML			11 57 09.9	
O14K	**Tigyukauivet M**	**5.77**	**14**			**Pn**	**11 54 58.5**	**+0.3**
O14K	**Tigyukauivet M** baz=197	**5.77**	**14**	P		**Pn**	**11 55 00.1**	**+1.9**
O15K	**Ungalikthiuk R**	**5.96**	**21**			**Pn**	**11 55 02.8**	**+1.9**
O15K	**Ungalikthiuk R** baz=206	**5.96**	**21**	P		**Pn**	**11 55 02.8**	**+1.9**
M13K	**Dall Lake**	**6.73**	**3**	Pn		**Pn**	**11 55 11.8**	**+0.3**
O16K	**Kokwok River B**	**6.75**	**27**	Pn		**Pn**	**11 55 13.7**	**+2.0**
N15K	**Kwethluk River**	**6.83**	**17**	Pn		**Pn**	**11 55 14.5**	**+1.7**
M14K	**Bethel**	**7.15**	**8**	Pn		**Pn**	**11 55 19.1**	**+1.9**
KDAK	**Kodiak Island** comp=N,0.6nm,0.3s,baz=53,slow=13,SNR=1.9	**7.64**	**53**	Pn		**Pn**	**11 55 22.8**	**-1.1**
KDAK	comp=N,0.2nm,0.3s,baz=311,slow=9.8,SNR=1.4 comp=N,9.3nm,0.9s			Sn		**Sn**	**11 56 44.8**	**-4.7**
L14K	**Kuka Creek**	**7.69**	**5**	Pn		**Pn**	**11 55 27.2**	**+2.6**
N17K	**Nushagak Hills**	**7.78**	**26**	Pn		**Pn**	**11 55 28.8**	**+2.9**
O18K	**Koktuh Hills**	**7.83**	**35**	Pn		**Pn**	**11 55 28.0**	**+1.4**
N18K	**Kilae Creek**	**8.26**	**29**	Pn		**Pn**	**11 55 34.7**	**+2.2**
L16K	**Owhat River**	**8.38**	**15**	Pn		**Pn**	**11 55 36.0**	**+1.8**
M17K	**Holitna River**	**8.48**	**22**	Pn		**Pn**	**11 55 38.0**	**+2.5**
K15K	**Wolf Creek Mou**	**8.71**	**8**	Pn		**Pn**	**11 55 41.1**	**+2.5**
N19K	**Bonanza Creek**	**8.79**	**32**	Pn		**Pn**	**11 55 43.1**	**+3.2**
L18K	**Granite Mounta**	**9.38**	**22**	Pn		**Pn**	**11 55 50.1**	**+2.4**
K17K	**Iditarod**	**9.52**	**16**	Pn		**Pn**	**11 55 50.9**	**+1.2**
M19K	**Big River Lodg**	**9.68**	**28**	Pn		**Pn**	**11 55 54.3**	**+2.3**
J16K	**Anvik River**	**9.77**	**9**	Pn		**Pn**	**11 55 53.9**	**+0.8**
L19K	**White Mountain**	**9.79**	**26**	Pn		**Pn**	**11 55 54.8**	**+1.4**
J17K	**VABM Dome**	**10.05**	**13**	Pn		**Pn**	**11 55 58.3**	**+1.4**
SUA	**Susitna One**	**10.53**	**37**	Pn		**Pn**	**11 56 04.9**	**+1.3**
K20K	**Telida**	**10.97**	**24**	Pn		**Pn**	**11 56 11.4**	**+1.9**
CAST	**Castle Rocks**	**11.54**	**28**	Pn		**Pn**	**11 56 19.5**	**+2.2**
HIN	**Hinchinbrook I**	**11.63**	**48**	Pn		**Pn**	**11 56 18.7**	**+0.1**
FID	**Port Fidalgo**	**11.81**	**46**	Pn		**Pn**	**11 56 21.0**	**0.0**
SCM	**Sheep Creek Mo**	**12.04**	**41**	Pn		**Pn**	**11 56 24.3**	**+0.1**
KLU	**Klutina**	**12.42**	**44**			**Pn**	**11 56 29.1**	**-0.3**
M24K	**Tolsona, Glenn**	**12.64**	**41**	Pn		**Pn**	**11 56 33.2**	**+0.7**
BERG	**Berg Lake**	**12.89**	**51**	Pn		**Pn**	**11 56 36.9**	**+1.1**
N25K	**Chitina, Valde**	**13.03**	**45**	Pn		**Pn**	**11 56 37.4**	**-0.2**
GLB	**Gilahina Butte**	**13.28**	**46**	Pn		**Pn**	**11 56 42.5**	**+1.4**
VRDI	**Verde Repeater**	**13.34**	**47**	Pn		**Pn**	**11 56 41.8**	**-0.3**
M26K	**Nabesna, AK**	**14.07**	**43**	Pn		**Pn**	**11 56 53.4**	**+1.5**
ILAR	**Eielson Array** baz=227,slow=15,SNR=1.5 comp=N,0.3nm,0.9s	**14.07**	**31**	Pn		Pn	11 56 39.7	-12
H23K	**Yukon River**	**14.12**	**25**	Pn		**Pn**	**11 56 52.9**	**+0.4**
M27K	**Edge Creek, AK**	**14.51**	**45**	Pn		**Pn**	**11 56 59.3**	**+1.3**
SCRK	**Sand Creek**	**14.53**	**37**	Pn		**Pn**	**11 56 59.0**	**+0.7**
INK	**Inuvik** comp=N,0.1nm,0.3s,baz=232,slow=12,SNR=2.7 comp=N,0.5nm,0.5s	**20.46**	**33**	P		**P**	**11 58 07.4**	**-2.3**
C36M	**Paulatuk**	**24.01**	**34**	P		**P**	**11 58 46.7**	**+0.1**
C36M	comp=Z,0.9nm,1.1s			IAmb		IAmb	11 58 58.9	
A36M	**Sachs Harbour**	**24.72**	**28**	P		**P**	**11 58 54.5**	**+1.4**
A36M	comp=Z,2.8nm,1.1s			IAmb		IAmb	11 58 55.8	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.5s,baz=280,slow=10,SNR=3.2 comp=Z,0.1nm,0.5s	**26.91**	**51**	P		**P**	**11 59 15.5**	**+2.5**
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.7s,baz=308,slow=8.7,SNR=2.9 comp=Z,0.4nm,0.7s	**34.55**	**97**	P		P	12 00 33.6	+13
H11N2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=32	**40.60**	**225**	T		T	12 44 45.6	
H11N3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=42	**40.60**	**225**	T		T	12 44 43.7	
H11N1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=36	**40.62**	**225**	T		T	12 44 52.2	
H11S1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=53	**41.77**	**224**	T		T	12 46 14.8	
H11S2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=36	**41.78**	**224**	T		T	12 46 16.8	
H11S3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=40	**41.79**	**224**	T		T	12 46 12.7	
TXAR	**Lajitas Array** comp=Z,0.3nm,0.6s,baz=297,slow=4.6,SNR=5.1 comp=Z,0.3nm,0.6s	**49.56**	**94**	P		P	12 02 35.3	+12
H03N2	**Juan Fernandez** baz=325	**113.49**	**115**	T		T	14 15 50.4	
H03N1	**Juan Fernandez** baz=325	**113.50**	**115**	T		T	14 15 52.2	
H03N3	**Juan Fernandez** baz=325	**113.50**	**115**	T		T	14 15 53.0	

ROM 09 11:58:40.2±0.1, 43°036N±0°003×13°052E±0°005, h9km, ML1.5/16, 4C-1D, Error ellipse: s-maj=0.4km s-min=0.1km az=99.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**90**	P	Pg	11 58 41.9	0.0
FDMO				S	Sg	11 58 42.8	-0.3
FDMO				AML	AML		
	comp=E,1350μm,0.2s						
FDMO				AML	AML		
	comp=N,1685μm,0.2s						
FDMO				AML	AML		
	comp=N,1685μm,1.8s						
T1219	**Muccia, Frazio**	**0.04**	**301**	P	Pg	11 58 42.1	+0.1
T1219				S	Sg	11 58 43.2	-0.1
T1219				AML	AML		
	comp=E,1865μm,0.3s						
T1219				AML	AML		
	comp=N,2310μm,0.2s						
T1220	**Camerino, Fraz**	**0.08**	**20**	P	Pg	11 58 42.9	+0.4
T1220				S	Sg	11 58 44.6	+0.6
T1220				AML	AML		
	comp=E,1730μm,0.3s						
T1220				AML	AML		
	comp=N,1385μm,0.4s						
T1220				AML	AML		
	comp=N,728μm,0.4s						
T1220				AML	AML		
	comp=E,868μm,0.3s						
MML1	**Montelago di S**	**0.10**	**323**	⇓P	Pg	11 58 43.1	+0.4
MML1				S	Sg	11 58 45.2	+0.7
MML1				AML	AML		
	comp=E,253μm,0.9s						
MML1				AML	AML		
	comp=N,348μm,0.4s						
MML1				AML	AML		
	comp=E,252μm,0.9s						
CESI	**CESI - Serrava**	**0.11**	**254**	⇑P	Pg	11 58 43.5	+0.5
CESI				S	Sg	11 58 45.6	+0.7
CESI				AML	AML		
	comp=N,288μm,0.2s						
CESI				AML	AML		
	comp=N,288μm,0.2s						
CESI				AML	AML		
	comp=E,198μm,0.6s						
CSP1	**Cessapalombo**	**0.12**	**64**	P	Pg	11 58 43.6	+0.4
CSP1				S	Sg	11 58 45.9	+0.7
CSP1				AML	AML		
	comp=E,211μm,0.6s						
CSP1				AML	AML		
	comp=N,82μm,1.6s						
CSP1				AML	AML		
	comp=N,80μm,1.6s						
CSP1				AML	AML		
	comp=E,211μm,0.6s						
PF6	**Pievefavera**	**0.15**	**42**	P	Pg	11 58 44.0	+0.4
MC2	**Monte Cornacci**	**0.16**	**141**	P	Pg	11 58 44.6	+0.8
NRCA	**Norcia**	**0.21**	**167**	⇑P	Pg	11 58 45.0	+0.6
NRCA				S	Sg	11 58 48.8	+1.4
NRCA				AML	AML		
	comp=E,376μm,0.2s						
NRCA				AML	AML		
	comp=N,437μm,0.1s						
T1221	**Campello sul C**	**0.23**	**221**	⇑P	Pg	11 58 45.6	+0.6
T1221				S	Sg	11 58 49.4	+1.3
SNTG	**Esanatoglia**	**0.23**	**340**	P	Pg	11 58 45.8	+0.8
SNTG				S	Sg	11 58 49.7	+1.5
SNTG				AML	AML		
	comp=E,63μm,0.9s						
SNTG				AML	AML		
	comp=N,52μm,0.8s						
SNTG				AML	AML		
	comp=E,63μm,1.1s						
EL6	**Elcito**	**0.29**	**7**	⇑P	Pg	11 58 46.7	+0.6
EL6				S	Sb	11 58 51.7	-1.2
EL6				AML	AML		
	comp=E,192μm,1.4s						
EL6				AML	AML		
	comp=N,296μm,0.3s						
EL6				AML	AML		
	comp=E,192μm,0.6s						

ROM 09 11:58:56.9±0.1, 43°030N±0°002×13°051E±0°003, h7km, ML2.0/34, 5C-5D, Error ellipse: s-maj=0.2km s-min=0.1km az=197.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**76**	P	Pg	11 58 58.4	+0.1
FDMO				S	Sg	11 58 59.2	0.0
T1219	**Muccia, Frazio**	**0.04**	**309**	⇓P	Pg	11 58 58.6	+0.2
T1219				S	Sg	11 58 59.7	+0.2
T1219				AML	AML		
	comp=N,8750μm,0.3s						
T1219				AML	AML		
	comp=E,6050μm,0.3s						
T1220	**Camerino, Fraz**	**0.09**	**19**	P	Pg	11 58 59.2	+0.3
T1220				S	Sg	11 59 01.0	+0.6
T1220				AML	AML		
	comp=E,3300μm,0.3s						
T1220				AML	AML		
	comp=N,4900μm,0.2s						
T1220				AML	AML		
	comp=E,6555μm,0.3s						
T1220				AML	AML		
	comp=N,2490μm,0.4s						
MML1	**Montelago di S**	**0.10**	**325**	⇓P	Pg	11 58 59.6	+0.3
MML1				S	Sg	11 59 01.5	+0.6
MML1				AML	AML		
	comp=N,1800μm,0.1s						
MML1				AML	AML		
	comp=E,1130μm,0.1s						
MML1				AML	AML		
	comp=N,1825μm,0.1s						
MML1				AML	AML		
	comp=E,1074μm,0.1s						
CESI	**CESI - Serrava**	**0.11**	**257**	⇑P	Pg	11 58 59.9	+0.5
CESI				S	Sg	11 59 02.0	+0.9
CESI				AML	AML		
	comp=E,1112μm,0.2s						
CESI				AML	AML		
	comp=N,1223μm,0.3s						
CSP1	**Cessapalombo**	**0.13**	**61**	⇑P	Pg	11 59 00.1	+0.4
CSP1				S	Sg	11 59 02.4	+0.8
CSP1				AML	AML		
	comp=E,448μm,0.6s						
CSP1				AML	AML		
	comp=N,156μm,1.6s						
MC2	**Monte Cornacci**	**0.16**	**139**	⇓P	Pg	11 59 00.9	+0.7
PF6	**Pievefavera**	**0.16**	**41**	⇑P	Pg	11 59 00.4	+0.2
PF6				AML	AML		
	comp=E,426μm,0.3s						
PF6				AML	AML		
	comp=N,118μm,0.2s						
NRCA	**Norcia**	**0.20**	**167**	P	Pg	11 59 01.4	+0.5
NRCA				S	Sg	11 59 05.0	+1.3
NRCA				AML	AML		
	comp=E,642μm,0.7s						
NRCA				AML	AML		
	comp=N,816μm,0.2s						
GUMA	**Gualdo di Mace**	**0.21**	**81**	⇑P	Pg	11 59 01.9	+0.8
GUMA				S	Sg	11 59 05.8	+1.9
GUMA				AML	AML		
	comp=E,906μm,0.3s						
GUMA				AML	AML		
	comp=N,978μm,1.6s						
GUMA				AML	AML		
	comp=E,1250μm,0.3s						
GUMA				AML	AML		
	comp=N,678μm,0.4s						
GUMA				AML	AML		
	comp=N,978μm,0.4s						
T1221	**Campello sul C**	**0.23**	**222**	⇑P	Pg	11 59 02.0	+0.6
T1221				S	Sg	11 59 05.9	+1.4
T1221				AML	AML		
	comp=E,580μm,0.8s						
T1221				AML	AML		
	comp=N,486μm,0.7s						
T1221				AML	AML		
	comp=E,580μm,1.2s						
SNTG	**Esanatoglia**	**0.24**	**340**	⇓P	Pg	11 59 02.2	+0.5
SNTG				S	Sg	11 59 06.1	+1.2
SNTG				AML	AML		
	comp=E,308μm,0.1s						
SNTG				AML	AML		
	comp=N,262μm,0.5s						
MMO1	**Montemonaco**	**0.24**	**123**	⇓P	Pg	11 59 02.3	+0.6
MMO1				S	Sg	11 59 06.2	+1.3
ARRO	**Arrone**	**0.50**	**205**	AML	AML		
	comp=E,121μm,0.2s						
ARRO				AML	AML		
	comp=N,140μm,0.2s						
VIVA	**Pratoni del Vi**	**1.30**	**189**	AML	AML		
	comp=N,285μm,0.8s						
VIVA				AML	AML		
	comp=E,406μm,1.2s						

IDC 09 12:18:32.1±4.1, 23°64N×95°28E, h116km±38km, mb3.0/3, mbtmp3.3/4, Error ellipse: s-maj=171.6km s-min=22.9km az=60.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr** 0.6nm,0.3s,baz=326,slow=14,SNR=2.0	**6.19**	**146**	P	Pn	12 20 01.2	0.0
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=143,slow=10,SNR=4.8 0.4nm,0.5s	**25.35**	**339**	P	P	12 23 48.3	0.0
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=322,slow=7.4,SNR=4.8 0.2nm,0.5s	**57.68**	**135**	P	P	12 28 11.0	+0.2
ASAR	**Alice Springs** 0.3nm,0.5s,baz=316,slow=6.8,SNR=9.8 0.3nm,0.5s	**60.15**	**139**	P	P	12 28 27.6	-0.2

*NEIC **09** 12:29:24.5±1.5, 19°.40N±0°.02×154°.86W±0°.04, h6km±6km, Error ellipse: s-maj=5.5km s-min=1.7km az=109.0*
HVO 09 12:29:25.2±0.8, 19°.44N±0°.02×154°.93W±0°.03, h4km±3km, ML2.6/3, ML2.5/22(NEIC), Error ellipse: s-maj=4.5km s-min=2.6km az=122.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**43**		Pg	12 29 27.1	+0.6
JOKA	**Jonika Flow**	**0.07**	**264**		Pg	12 29 27.2	+0.4
JCUZ	**Jacuzzi**	**0.17**	**251**	Pg	Pg	12 29 29.1	+0.4
STCH	**Steam Cracks**	**0.19**	**253**		Pg	12 29 29.2	+0.2
STCH	comp=E,406nm,1.4s			IAML		12 29 34.9	
RSD	**Rainshed**	**0.33**	**274**	Pg	Pg	12 29 32.5	+0.8
RSD	comp=N,814nm,0.6s			IAML		12 29 33.6	
RSD	comp=E,1μm,0.6s			IAML		12 29 43.1	
HLP	**Hilina Pali**	**0.39**	**248**		Pg	12 29 33.4	+0.7
MLH	**Mauna Loa**	**0.43**	**277**		Pg	12 29 34.3	+0.7
MLH	comp=N,500nm,0.9s			IAML		12 29 37.0	
MLH	comp=E,552nm,0.9s			IAML		12 29 43.4	
HTC	**Hot Caves**	**0.49**	**245**		Pg	12 29 35.0	+0.4
HMH	**Humu'ula Sheep**	**0.55**	**287**		Pg	12 29 36.0	+0.2
HMH	comp=N,286nm,1.3s			IAML		12 29 45.8	
HMH	comp=E,295nm,1.1s			IAML		12 29 48.8	
MLOA	**Mauna Loa Obse**	**0.62**	**279**	Pg	Pg	12 29 37.0	-0.2
MLOA	comp=E,264nm,1.9s			IAML		12 29 46.5	
MLOA	comp=N,240nm,2.0s			IAML		12 29 49.0	
MWH	**Moku'aweowe**	**0.63**	**274**		Pg	12 29 37.0	-0.4
POHA	**Pohakuloa**	**0.65**	**299**		Pg	12 29 37.4	-0.4
POHA	**Pohakuloa** comp=N,238nm,1.9s	**0.65**	**299**	IAML		12 29 50.1	
POHA	comp=N,232nm,1.4s			IAML		12 29 51.7	
KHU	**Kahuku**	**0.68**	**253**		Pg	12 29 37.4	-0.9
KHU	comp=N,385nm,3.1s			IAML		12 29 55.3	
ALEP	**Alea Permanent**	**0.68**	**278**		Pg	12 29 38.1	-0.3

IDC 09 12:40:24.0±577.0, 57°21N×18°30E, h0km, Error ellipse: s-maj=255.2km s-min=153.8km az=53.0, Baltic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON** baz=284,slow=324,SNR=3.3	**10.34**	**85**	I	I	13 44 10.0	
I37NO	**I37NO** baz=185,slow=319,SNR=1.5	**11.91**	**1**	I	I	13 57 00.0	
I31KZ	**AKTYUBINSK INF** baz=303,slow=323,SNR=0.6	**24.15**	**89**	I	I	15 04 20.0	

*NEIC **09** 12:42:34.1±1.2, 19°.43N±0°.02×155°.10W±0°.02, h5km±1km, Error ellipse: s-maj=4.5km s-min=3.0km az=137.0*
HVO 09 12:42:32.8±0.7, 19°.36N±0°.02×155°.01W±0°.04, h5km±5km, ML2.3/3, ML2.6/24(NEIC), Error ellipse: s-maj=5.7km s-min=2.5km az=120.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.09**	**284**		Pg	12 42 35.0	+0.1
NPOC	**North of Pu'u**	**0.10**	**287**		Pg	12 42 35.2	+0.1
NPOC	comp=E,2μm,0.3s			IAML		12 42 37.6	
STCH	**Steam Cracks**	**0.12**	**282**		Pg	12 42 35.3	0.0
STCH	comp=E,1μm,0.2s			IAML		12 42 39.5	
KNHH	**Kane Nui o Ham**	**0.16**	**276**		Pg	12 42 36.1	+0.1
PUH	**Pauahi**	**0.20**	**273**		Pg	12 42 36.7	-0.1
PUH	comp=N,945nm,0.7s			IAML		12 42 43.8	
RSD	**Rainshed**	**0.28**	**291**		Pg	12 42 38.6	+0.3
RSD	comp=E,991nm,0.4s			IAML		12 42 44.5	
RSD	comp=N,1μm,0.6s			IAML		12 42 44.9	
HLP	**Hilina Pali**	**0.29**	**257**		Pg	12 42 38.9	+0.3
HLP	comp=N,1μm,0.9s			IAML		12 42 45.0	
MLH	**Mauna Loa**	**0.38**	**290**		Pg	12 42 40.5	+0.2
MLH	comp=E,412nm,0.6s			IAML		12 42 49.3	
HTC	**Hot Caves**	**0.39**	**252**		Pg	12 42 40.7	+0.2
HMH	**Humu'ula Sheep**	**0.51**	**298**		Pg	12 42 42.7	0.0
MLOA	**Mauna Loa Obse**	**0.57**	**288**		Pg	12 42 43.2	-0.6
MLOA	comp=E,408nm,0.2s			IAML		12 42 52.1	
MWH	**Moku'aweowe**	**0.57**	**282**		Pg	12 42 43.2	-0.7
MWH	comp=N,463nm,1.2s			IAML		12 42 52.1	
KHU	**Kahuku**	**0.59**	**259**		Pg	12 42 43.6	-0.6
KHU					Sg	12 42 52.0	+0.1
KHU	comp=E,434nm,2.6s			IAML		12 43 03.6	
KHU	comp=N,335nm,2.3s			IAML		12 43 03.6	
ALEP	**Alea Permanent**	**0.63**	**287**		Pg	12 42 44.1	-0.9
ALEP					Sg	12 42 53.3	+0.1

*HVO **09** 12:54:37.6±1.0, 19°.171N±0°.009×155°.13W±0°.01, h-0km±10km, Md2.2/11, ML2.5/20(NEIC), Error ellipse: s-maj=2.0km s-min=1.4km az=102.0*
NEIC 09 12:54:39.0±0.9, 19°.19N±0°.02×155°.19W±0°.02, h5km±2km, Error ellipse: s-maj=4.1km s-min=3.1km az=316.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.16**	**315**		Pg	12 54 43.0	+0.7
PUH	**Pauahi**	**0.19**	**353**	Pg	Pg	12 54 42.9	+0.1
PUH	comp=E,992nm,0.1s			IAML		12 54 47.8	
HTC	**Hot Caves**	**0.20**	**285**		Pg	12 54 44.0	+1.0
STCH	**Steam Cracks**	**0.21**	**17**		Pg	12 54 43.0	-0.2
JCUZ	**Jacuzzi**	**0.21**	**23**	Pg	Pg	12 54 43.3	-0.1
NPOC	**North of Pu'u**	**0.22**	**20**	Pg	Pg	12 54 43.3	-0.1
NPOC	comp=E,679nm,0.8s			IAML		12 54 48.9	
JOKA	**Jonika Flow**	**0.30**	**35**		Pg	12 54 44.7	-0.3
MLH	**Mauna Loa**	**0.36**	**329**		Pg	12 54 46.3	+0.2
MLH	**Mauna Loa** comp=N,638nm,1.1s	**0.36**	**329**	IAML		12 54 50.2	
MLH	comp=E,439nm,0.7s			IAML		12 54 55.0	
KHU	**Kahuku**	**0.41**	**279**		Pg	12 54 46.9	-0.1
KHU	comp=N,380nm,3.3s			IAML		12 54 52.5	
KHU	comp=E,473nm,3.0s			IAML		12 54 54.1	
MWH	**Moku'aweowe**	**0.49**	**308**		Pg	12 54 47.8	-0.7
MWH	comp=N,366nm,1.6s			IAML		12 54 54.4	
HMH	**Humu'ula Sheep**	**0.50**	**326**		Pg	12 54 48.4	-0.3
HMH	comp=N,344nm,2.4s			IAML		12 54 55.2	
HMH	comp=E,400nm,3.5s			IAML		12 54 59.8	
MLOA	**Mauna Loa Obse**	**0.50**	**314**	Pg	Pg	12 54 48.5	-0.3
MLOA	comp=N,367nm,0.7s			IAML		12 54 59.1	
MLOA	comp=E,298nm,0.4s			IAML		12 54 59.6	
ALEP	**Alea Permanent**	**0.56**	**310**		Pg	12 54 49.5	-0.4

*IDC **09** 12:56:54.1±2.8, 15°.39N×94°.50W, h0km, mb3.2/2, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=51.5km s-min=24.0km az=32.0*
*MEX **09** 12:56:56.4±1.0, 15°.08N×94°.56W, h11km±22km, MD4.4*
ISC 09 12:56:52.7±1.5, **15°.19N**±0°.04×**94°.51W**±0°.02, **h13**km±8km, **n52**, σ2s**03**/70, **1D**, **Near coast of Oaxaca**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CARR	**Arriaga**	**1.20**	**29**	*eP*	**Pg**	**12 57 16.1**	**+0.3**
CARR				*eS*	**Sn**	**12 57 31.6**	**+0.1**
PCIG		**1.35**	**67**	*eP*	**Pn**	**12 57 18.5**	**+1.2**
PCIG				*i* S	**Sg**	**12 57 35.8**	**-0.4**
HUIG	**Huatulco**	**1.64**	**291**	*eP*	**Pn**	**12 57 20.5**	**-0.8**
HUIG				*eS*	**Sn**	**12 57 37.9**	**-4.5**
CMIG	**Matias Romero**	**1.93**	**349**	Pn	**Pn**	**12 57 26.7**	**+1.5**
	102nm,0.3s,baz=174,slow=13,SNR=827						
CMIG				Sn	**Sn**	**12 57 47.7**	**-1.7**
	104nm,0.3s,baz=61,slow=21,SNR=25						
CMIG	**Matias Romero**	**1.93**	**349**	*eP*	**Pn**	**12 57 26.7**	**+1.5**
CMIG				*eS*	**Sn**	**12 57 49.4**	**+0.1**
TGIG		**2.07**	**40**	*eP*	**Pb**	**12 57 30.2**	**-0.1**
TGIG				*eS*	**Sb**	**12 57 55.3**	**-0.6**
TGBT	**Tuxtla Gutierr**	**2.09**	**41**	*eP*	**Pb**	**12 57 29.9**	**-0.6**
TGBT				*eS*	**Sb**	**12 57 56.8**	**+0.4**
UXUV	**UXUV**	**2.15**	**9**	*eP*	**Pb**	**12 57 31.7**	**+0.2**
UXUV				*i* S	**Sb**	**12 57 57.6**	**-0.5**
THIG		**2.19**	**97**	*eP*	**Pn**	**12 57 28.6**	**-0.3**
THIG				*eS*	**Sn**	**12 57 54.6**	**-1.2**
PATR	**El Naranjo**	**2.20**	**92**	*eP*	**Pn**	**12 57 30.2**	**+1.0**
PATR				*i* S	**Sn**	**12 57 57.2**	**+0.7**
PAVE	**Pavencul**	**2.26**	**90**	*eP*	**Pn**	**12 57 31.5**	**+1.6**
PAVE				*i* S	**Sn**	**12 57 58.9**	**+1.1**
CHUJ	**Union Juarez**	**2.33**	**92**	*eP*	**Pn**	**12 57 32.3**	**+1.4**
CHUJ				*eS*	**Sn**	**12 58 00.1**	**+0.6**
CCIG	**Comitan**	**2.53**	**64**	*eP*	**Pb**	**12 57 37.7**	**-0.5**
CCIG				*eS*	**Sb**	**12 58 10.6**	**+1.3**
SMSP	**San Marcos**	**2.65**	**94**	*eP*	Pn	12 57 30.8	-4.6
SMSP				*eS*	**Sn**	**12 58 06.5**	**-1.0**
PEIG	**Puerto Escondi**	**2.66**	**288**	*eP*	**Pn**	**12 57 34.6**	**-0.8**
NEUV	**Arroyo Zacate**	**2.80**	**334**	*eP*	**Pn**	**12 57 38.7**	**+1.5**
NEUV				*i* S	**Sn**	**12 58 11.5**	**+0.7**
RTAL	**Retalhuleu**	**2.80**	**103**	*eP*	Pn	12 57 33.5	-3.8
RTAL				*eS*	**Sn**	**12 58 09.0**	**-2.0**
OXLC	**Oaxaca**	**2.81**	**312**	*eP*	**Pn**	**12 57 39.4**	**+1.8**
OXLC				*eS*	**Sn**	**12 58 11.1**	**-0.4**
TUIG	**Tuzandepetl**	**2.83**	**2**	*eP*	**Pn**	**12 57 37.2**	**-0.4**
VHO	**Vista Hermosa**	**2.84**	**312**	*i* P	**Pn**	**12 57 40.6**	**+2.6**
VHO				*eS*	**Sn**	**12 58 11.2**	**-0.9**
HUEH	**Huehuetenango**	**2.91**	**87**	*eP*	**Pn**	**12 57 40.1**	**+1.2**
HUEH				*eS*	**Sn**	**12 58 15.3**	**+1.3**
YOIG	**Yosondua**	**3.35**	**300**	*eP*	**Pn**	**12 57 47.5**	**+2.4**
YOIG				*eS*	**Sn**	**12 58 23.1**	**-1.9**
PMUV	**Sontecomapan**	**3.39**	**350**	*eP*	**Pn**	**12 57 46.3**	**+0.9**
PMUV				*eS*	**Sn**	**12 58 21.3**	**-4.3**
PNIG	**Pinotepa**	**3.68**	**289**	*eP*	**Pn**	**12 57 49.9**	**+0.5**
PNIG				*eS*	Sn	12 58 26.4	-6.3
TXIG	**Tlaxiaco**	**3.74**	**304**	*eP*	**Pn**	**12 57 53.3**	**+2.8**
TXIG				*eS*	**Sn**	**12 58 33.5**	**-1.1**
TOIG	**Toxpalan**	**3.79**	**320**	*eP*	Pn	12 57 55.6	-4.6
TOIG				*eS*	**Sn**	**12 58 38.8**	**+3.3**
APG	**El Apazote**	**3.92**	**92**	Pn	**Pn**	**12 57 56.1**	**+3.3**
	0.4nm,0.3s,baz=203,slow=12,SNR=19						
APG				Sn	**Sn**	**12 58 42.7**	**+3.9**
	0.8nm,0.3s,baz=62,slow=23,SNR=7.6 2.4nm,0.4s						
TPIG	**Tehuac#an**	**4.21**	**320**	*eP*	**Pn**	**12 57 56.4**	**-0.5**
TPIG				*eS*	**Sb**	**12 58 53.2**	**-4.6**
FTIG	**Fresnillo de T**	**4.40**	**308**	*eP*	**Pn**	**12 58 02.3**	**+2.9**
FTIG				*eS*	**Sn**	**12 58 48.9**	**-1.7**
MGIG	**Malinaltepec**	**4.45**	**298**	*eP*	**Pn**	**12 58 02.7**	**+2.6**
MGIG				*eS*	**Sn**	**12 58 49.7**	**-2.3**
JAUV	**Jalcomulco**	**4.70**	**333**	*eP*	**Pn**	**12 58 04.1**	**+0.7**
JAUV				*eS*	**Sn**	**12 58 55.5**	**-2.3**
CRIG	**Cruz Grande**	**4.70**	**290**	*eP*	**Pn**	**12 58 03.9**	**+0.5**
LVIG	**Laguna Verde**	**4.86**	**338**	*e*	Pn	12 58 01.4	-4.3
SCIG	**Sabancuy**	**4.92**	**40**	*eP*	**Pn**	**12 58 09.5**	**+3.0**
SCIG				*eS*	**Sn**	**12 59 03.0**	**-0.3**
PPM	**Popocatepetl**	**5.51**	**315**	*eP*	Pn	12 58 20.5	+5.6
PPM				*eS*	**Sn**	**12 59 17.9**	**-0.6**
MEIG	**Mezcala**	**5.60**	**300**	*eP*	**Pn**	**12 58 18.5**	**+2.6**
MEIG				*eS*	**Sn**	**12 59 17.6**	**-2.6**
PLIG	**Platanillo**	**5.74**	**304**	*eP*	**Pn**	**12 58 21.7**	**+3.9**
PLIG				*eS*	**Sn**	**12 59 20.1**	**-3.6**
CAIG	**El Cayaco**	**5.83**	**289**	*eP*	**Pn**	**12 58 20.5**	**+1.6**
ARIG	**Puente Sto Nin**	**6.38**	**300**	*eP*	Pn	12 58 30.4	+3.9
ARIG				*eS*	**Sn**	**12 59 35.8**	**-3.5**
MMIG	**Aquila**	**9.01**	**291**	*eP*	**Pn**	**12 59 04.6**	**+2.1**
COIG	**Colima**	**9.63**	**296**	*eP*	Pn	12 59 16.2	+5.1
JUBC	**Volcan de Coli**	**9.66**	**298**	*eP*	Pn	12 59 17.7	+5.7
EZ5V		**9.67**	**297**	*eP*	Pn	12 59 17.8	+5.9
MNGA	**Volcan de Coli**	**9.68**	**297**	*eP*	Pn	12 59 17.9	+5.8
INCO	**Volcan de Coli**	**9.69**	**298**	*eP*	Pn	12 59 18.1	+5.7
SOMAC	**Volcano de Col**	**9.71**	**298**	*eP*	Pn	12 59 18.5	+5.9
CEGR	**Campo Tres**	**9.85**	**296**	*eP*	Pn	12 59 19.7	+5.4
R15V		**9.88**	**295**	*eP*	Pn	12 59 19.7	+5.1
CJM	**Chamela**	**10.93**	**295**	*eP*	Pn	12 59 33.2	+4.3
TXAR	**Lajitas Array**	**16.42**	**331**	Pn	**Pn**	**13 00 44.5**	**+1.4**
	0.1nm,0.3s,baz=156,slow=12,SNR=7.5 1.0nm,1.0s						
NVAR	**Mina Array Bea**	**31.24**	**322**	P	**P**	**13 03 15.1**	**+2.8**
	0.2nm,0.4s,baz=146,slow=12,SNR=5.0 0.2nm,0.4s						
YKA	**Yellowknife Ar**	**49.34**	**348**	P	**P**	**13 05 42.3**	**+0.9**
	0.1nm,0.4s,baz=136,slow=8.1,SNR=7.7 0.1nm,0.4s						

*IDC **09** 13:34:51.8±0.9, 56°.04N×149°.88W, h0km, mb3.7/8, mbtmp3.7/11, ML3.3/3, Error ellipse: s-maj=27.7km s-min=15.7km az=40.0*
*NEIC **09** 13:34:51.9±1.9, 56°.04N±0°.08×149°.80W±0°.10, h21km±8km, mb4.0/3, ML4.0/48, ML3.8(AEIC), Error ellipse: s-maj=11.2km s-min=7.4km az=164.0*
*AEIC **09** 13:34:54.5±2.0, 56°.00N±0°.08×149°.70W±0°.10, h12km±6km, Error ellipse: s-maj=11.4km s-min=7.6km az=169.0*
ISC 09 13:34:52.2±0.7, **56°.15N**±0°.06×**149°.81W**±0°.05, **h10**km, **n229**, σ1**s18**/229, **mb3.8**/9, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.20**	**301**	P	**Pn**	**13 35 27.7**	**-1.0**
OHAK	**Old Harbor**	**2.20**	**301**		**Pn**	**13 35 27.4**	**-1.3**
OHAK	**Old Harbor**	**2.20**	**301**		**Sn**	**13 35 53.4**	**-2.5**
OHAK	**Old Harbor**	**2.20**	**301**	P	**Pn**	**13 35 27.6**	**-1.0**
	baz=120						
OHAK				S	**Sn**	**13 35 53.4**	**-2.5**
	baz=120						
KDAK	**Kodiak Island**	**2.23**	**318**		**Pn**	**13 35 28.1**	**-1.1**
KDAK	**Kodiak Island**	**2.23**	**318**		**Sn**	**13 35 55.5**	**-1.3**
KDAK	**Kodiak Island**	**2.23**	**318**	S	**Sn**	**13 35 55.5**	**-1.3**
	baz=138						
KDAK	**Kodiak Island**	**2.23**	**318**	Pn	**Pn**	**13 35 28.4**	**-0.8**
	11nm,0.3s,baz=171,slow=5.5,SNR=44						
KDAK				Sn	Sn	13 35 48.8	-8.0
	9.8nm,0.3s,baz=32,slow=18,SNR=7.3 48nm,0.6s						
SII	**Sitkinak Islan**	**2.47**	**281**	P	**Pn**	**13 35 31.3**	**-1.1**
SII	**Sitkinak Islan**	**2.47**	**281**	Pn	**Pn**	**13 35 30.8**	**-1.7**
SII				IAML		13 36 01.4	
	comp=E,1μm,0.8s						
SII				IAML		13 36 09.2	
	comp=N,820nm,0.8s						
SII	**Sitkinak Islan**	**2.47**	**281**		**Sn**	**13 36 00.3**	**-2.3**
SII	**Sitkinak Islan**	**2.47**	**281**	P	**Pn**	**13 35 31.5**	**-1.0**
	baz=100						
SII				S	**Sn**	**13 36 00.3**	**-2.3**
	baz=100						
SYI	**Shuyak Island**	**2.83**	**332**		**Pn**	**13 35 36.8**	**-0.7**
SYI	**Shuyak Island**	**2.83**	**332**		**Sn**	**13 36 11.3**	**-0.3**
Q20K	**Shuyak Island**	**2.83**	**332**	P	**Pn**	**13 35 37.0**	**-0.5**
	baz=150						
Q20K				S	**Sn**	**13 36 11.3**	**-0.3**
	baz=150						
CHIR	**Chirikof Islan**	**3.28**	**267**		**Sn**	**13 36 18.3**	**-4.3**
CHIR	**Chirikof Islan**	**3.28**	**267**	Pn	**Pn**	**13 35 42.0**	**-1.6**
CHIR	**Chirikof Islan**	**3.28**	**267**	IAML		13 36 19.6	
	comp=N,537nm,0.5s						
CHIR				IAML		13 36 19.7	
	comp=E,649nm,0.6s						
CHIR	**Chirikof Islan**	**3.28**	**267**	S	**Sn**	**13 36 18.3**	**-4.3**
	baz=84						
Q19K	**Cape Douglas,**	**3.47**	**325**		**Pn**	**13 35 46.4**	**+0.2**
Q19K	**Cape Douglas,**	**3.47**	**325**	P	**Pn**	**13 35 46.7**	**+0.5**
	baz=143						
CNPM	**China Poot**	**3.47**	**348**	Pn	**Pn**	**13 35 45.2**	**-1.1**
CNPM	**China Poot**	**3.47**	**348**		**Sn**	**13 36 26.6**	**-0.8**
KAKN	**Katmai Knife C**	**3.57**	**309**		**Pn**	**13 35 47.7**	**0.0**
KCE	**Katmai Mt Cerb**	**3.60**	**308**		**Pn**	**13 35 48.8**	**+0.8**
BRSE	**Bradley Lake S**	**3.64**	**353**		**Pn**	**13 35 47.1**	**-1.4**
BRSE					**Sn**	**13 36 30.8**	**-0.6**
BRSE	**Bradley Lake S**	**3.64**	**353**	P	**Pn**	**13 35 47.5**	**-1.0**
	baz=172						
BRSE				S	**Sn**	**13 36 30.8**	**-0.6**
	baz=172						
ACHA	**Angle Creek He**	**3.64**	**307**		**Pn**	**13 35 48.4**	**-0.2**
BRLK	**Bradley Lake**	**3.67**	**351**		**Pn**	**13 35 47.6**	**-1.4**
BRLK				IAML		13 36 35.3	
	comp=N,172nm,0.9s						
BRLK				IAML		13 36 36.5	
	comp=E,153nm,0.8s						
ANCK	**Angle Creek**	**3.71**	**306**		**Pn**	**13 35 49.9**	**+0.3**
KVTA	**Katmai Vly 10**	**3.72**	**309**		**Pn**	**13 35 50.6**	**+0.9**
KAHC	**Katmai Hardscr**	**3.77**	**314**		**Pn**	**13 35 51.2**	**+0.8**
KAHC	**Katmai Hardscr**	**3.77**	**314**	P	**Pn**	**13 35 51.2**	**+0.8**
	baz=131						
Q23K	**Middleton Isla**	**3.78**	**28**	Pn	**Pn**	**13 35 49.0**	**-1.4**
Q23K				IAML		13 36 34.0	
	comp=E,150nm,1.0s						
Q23K				IAML		13 36 35.9	
	comp=N,169nm,1.5s						
CNTC	**Contact Creek**	**3.92**	**305**		**Pn**	**13 35 52.2**	**-0.3**
Q17K	**Contact Creek**	**3.92**	**305**	P	**Pn**	**13 35 52.6**	**+0.1**
	baz=121						
KELA	**Mount Kelaz**	**3.95**	**308**		**Pn**	**13 35 53.6**	**+0.7**
P19K	**Oil Pt**	**3.96**	**334**	Pn	**Pn**	**13 35 52.7**	**-0.3**
SEW	**Seward**	**3.97**	**3**		**Pn**	**13 35 51.6**	**-1.4**
SEW	**Seward**	**3.97**	**3**	P	**Pn**	**13 35 52.9**	**-0.1**
	baz=183						
P23K	**Montague Islan**	**4.07**	**17**		**Pn**	**13 35 53.3**	**-1.1**
P23K					**Sn**	**13 36 38.9**	**-3.1**
O20K	**Slope Mountain**	**4.21**	**340**		**Pn**	**13 35 56.2**	**-0.4**
IVE	**Iliamna Volcan**	**4.23**	**338**		**Pn**	**13 35 55.8**	**-1.0**
O22K	**Cooper Landing**	**4.34**	**1**		**Pn**	**13 35 57.9**	**-0.3**
P18K	**Big Mountain,**	**4.36**	**321**		**Pn**	**13 35 57.6**	**-0.8**
P18K	**Big Mountain,**	**4.36**	**321**	P	**Pn**	**13 35 59.5**	**+1.1**
	baz=137						
SLKM	**Skilak Lake**	**4.38**	**357**		**Pn**	**13 35 57.9**	**-0.8**
Q16K	**King Salmon**	**4.48**	**307**		**Pn**	**13 35 59.8**	**-0.3**
Q16K	**King Salmon**	**4.48**	**307**	P	**Pn**	**13 36 00.4**	**+0.3**
	baz=123						
RSO	**Redoubt South**	**4.59**	**342**		**Pn**	**13 36 01.0**	**-0.8**
HIN	**Hinchinbrook I**	**4.60**	**21**	Pn	**Pn**	**13 36 00.8**	**-1.0**
HIN				IAML		13 37 04.6	
	comp=N,116nm,0.8s						
HIN				IAML		13 37 06.6	
	comp=E,165nm,0.9s						
ANNE	**Aniakchak Nort**	**4.63**	**283**		**Pn**	**13 36 00.5**	**-1.6**
RDWB	**Redoubt West**	**4.63**	**341**		**Pn**	**13 36 01.3**	**-1.0**
P17K	**Kvichak River**	**4.69**	**313**		**Pn**	**13 36 02.9**	**0.0**
P17K	**Kvichak River**	**4.69**	**313**	P	**Pn**	**13 36 03.3**	**+0.4**
	baz=129						
O18K	**Koktuh Hills**	**4.69**	**325**	Pn	**Pn**	**13 36 02.2**	**-0.8**
O18K				IAML		13 37 11.8	
	comp=E,69nm,1.2s						
O18K				IAML		13 37 14.4	
	comp=N,106nm,0.8s						
O18K	**Koktuh Hills**	**4.69**	**325**	P	**Pn**	**13 36 02.4**	**-0.7**
	baz=141						
DFR	**Drift River**	**4.71**	**342**		**Pn**	**13 36 02.3**	**-1.0**
O19K	**Port Alsworth**	**4.71**	**331**		**Pn**	**13 36 02.6**	**-0.6**
O19K	**Port Alsworth**	**4.71**	**331**	P	**Pn**	**13 36 03.5**	**+0.4**
	baz=148						
KAIM	**Kayak Island**	**4.75**	**35**	Pn	**Pn**	**13 36 02.9**	**-0.9**
KAIM				IAML		13 37 05.0	
	comp=E,188nm,1.0s						
KAIM				IAML		13 37 08.3	
	comp=N,158nm,0.7s						
CHGN	**Chignik**	**4.80**	**275**	Pn	**Pn**	**13 36 04.1**	**-0.4**
CHGN				IAML		13 37 02.2	
	comp=N,102nm,0.5s						
CHGN				IAML		13 37 02.5	
	comp=E,123nm,0.7s						
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	**Pn**	**13 36 05.4**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.90**	**24**		**Pn**	**13 36 05.1**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.90**	**24**	P	**Pn**	**13 36 05.5**	**-0.3**
	baz=207						
FID	**Port Fidalgo**	**4.94**	**19**		**Pn**	**13 36 05.2**	**-1.1**
FID				IAML		13 37 01.2	
	comp=E,92nm,0.6s						
FID				IAML		13 37 03.9	
	comp=N,86nm,0.7s						
GLI	**Glacier Island**	**4.95**	**16**		**Pn**	**13 36 06.3**	**-0.3**
GLI				IAML		13 37 04.6	
	comp=E,84nm,0.5s						
GLI				IAML		13 37 16.5	
	comp=N,55nm,0.7s						
GLI	**Glacier Island**	**4.95**	**16**	P	**Pn**	**13 36 05.6**	**-1.0**
	baz=197						
RC01	**Rabbit Creek A**	**4.96**	**0**		**Pn**	**13 36 05.6**	**-1.0**
RC01	**Rabbit Creek A**	**4.96**	**0**	IAML		13 37 04.0	
	comp=N,55nm,0.4s						
RC01				IAML		13 37 05.6	
	comp=E,87nm,0.7s						
RAGM	**Ragged Mountai**	**5.04**	**30**		**Pn**	**13 36 06.8**	**-1.0**
SUCK	**Suckling Hills**	**5.07**	**37**		**Pn**	**13 36 07.4**	**-0.8**
SUCK				IAML		13 37 05.4	
	comp=N,129nm,0.5s						
SUCK				IAML		13 37 20.3	
	comp=E,108nm,1.2s						
HMT	**Hamilton**	**5.12**	**33**		**Pn**	**13 36 06.7**	**-2.2**
NICHA	**Nichawak Mount**	**5.13**	**35**		**Pn**	**13 36 08.5**	**-0.6**
GOAT	**Goat Mountain**	**5.19**	**29**		**Pn**	**13 36 08.6**	**-1.3**
P16K	**Nushagak River**	**5.26**	**307**		**Pn**	**13 36 10.8**	**0.0**
P16K	**Nushagak River**	**5.26**	**307**	P	**Pn**	**13 36 11.1**	**+0.3**
	baz=121						
SPCP	**Crater Peak Br**	**5.28**	**348**		**Pn**	**13 36 10.1**	**-1.0**
N19K	**Bonanza Creek**	**5.28**	**334**		**Pn**	**13 36 10.6**	**-0.6**
N19K	**Bonanza Creek**	**5.28**	**334**	P	**Pn**	**13 36 11.5**	**+0.4**
	baz=151						
O17K	**Koliganek Bris**	**5.31**	**316**		**Pn**	**13 36 10.4**	**-1.1**
O17K	**Koliganek Bris**	**5.31**	**316**	P	**Pn**	**13 36 12.4**	**+0.9**
	baz=131						
KNK	**Knik Glacier**	**5.33**	**7**		**Pn**	**13 36 11.3**	**-0.4**
KNK	**Knik Glacier**	**5.33**	**7**	P	**Pn**	**13 36 12.5**	**+0.8**
	baz=188						
BERG	**Berg Lake**	**5.34**	**35**		**Pn**	**13 36 10.6**	**-1.3**
SUA	**Susitna One**	**5.35**	**355**		**Pn**	**13 36 11.3**	**-0.8**
GRIN	**Grindle Hills**	**5.38**	**37**		**Pn**	**13 36 10.9**	**-1.6**
DIV	**Divide**	**5.42**	**21**		**Pn**	**13 36 11.8**	**-1.2**
VNFG	**Fog Glacier, M**	**5.44**	**275**		**Pn**	**13 36 13.5**	**+0.2**
STLK	**Strandline Lak**	**5.47**	**350**		**Pn**	**13 36 12.4**	**-1.3**
PMR	**Palmer**	**5.47**	**3**	P	**Pn**	**13 36 14.8**	**+1.1**
PMR	**Palmer**	**5.47**	**3**	Pn	**Pn**	**13 36 13.7**	**0.0**
SNH	**Sunshine Point**	**5.47**	**40**		**Pn**	**13 36 12.7**	**-1.1**
KHIT	**Khitrov Hills**	**5.52**	**36**		**Pn**	**13 36 13.5**	**-1.0**
BMRM	**Bremner River**	**5.55**	**27**		**Pn**	**13 36 13.9**	**-0.9**
BMRM	**Bremner River**	**5.55**	**27**	P	**Pn**	**13 36 14.5**	**-0.3**
	baz=211						
N18K	**Kilae Creek**	**5.55**	**327**	Pn	**Pn**	**13 36 13.7**	**-1.1**
N18K	**Kilae Creek**	**5.55**	**327**	P	**Pn**	**13 36 14.2**	**-0.6**
	baz=143						
O16K	**Kokwok River B**	**5.61**	**311**	Pn	**Pn**	**13 36 15.2**	**-0.4**
O16K	**Kokwok River B**	**5.61**	**311**	P	**Pn**	**13 36 15.8**	**+0.3**
	baz=125						
GHO	**Glory Hole Cre**	**5.66**	**4**		**Pn**	**13 36 16.2**	**-0.1**
WAX	**Waxell Ridge**	**5.66**	**38**		**Pn**	**13 36 15.1**	**-1.3**
KLU	**Klutina**	**5.73**	**19**		**Pn**	**13 36 17.2**	**-0.1**
KLU	**Klutina**	**5.73**	**19**	P	**Pn**	**13 36 17.5**	**+0.2**
	baz=202						
SML	**Sawmill**	**5.73**	**7**	Pn	**Pn**	**13 36 17.0**	**-0.2**
SML	**Sawmill**	**5.73**	**7**	P	**Pn**	**13 36 18.6**	**+1.4**
	baz=188						
BARK	**Barkley Ridge**	**5.75**	**39**		**Pn**	**13 36 15.9**	**-1.8**
M23K	**Glacier View**	**5.76**	**10**		**Pn**	**13 36 18.8**	**+1.0**
M23K	**Glacier View**	**5.76**	**10**	P	**Pn**	**13 36 18.8**	**+1.0**
	baz=191						
MESA	**MESA**	**5.80**	**43**		**Pn**	**13 36 18.0**	**-0.3**
MESA	**MESA**	**5.80**	**43**	P	**Pn**	**13 36 18.5**	**+0.1**
	baz=228						
SCM	**Sheep Creek Mo**	**5.84**	**12**		**Pn**	**13 36 18.9**	**0.0**
SCM	**Sheep Creek Mo**	**5.84**	**12**	P	**Pn**	**13 36 19.3**	**+0.4**
	baz=194						
N17K	**Nushagak Hills**	**5.86**	**322**	Pn	**Pn**	**13 36 18.2**	**-0.8**
N17K	**Nushagak Hills**	**5.86**	**322**	P	**Pn**	**13 36 19.6**	**+0.6**
	baz=136						
SKT	**Skwentna**	**5.92**	**352**	Pn	**Pn**	**13 36 19.1**	**-0.7**
ISLE	**Juniper Island**	**5.95**	**38**		**Pn**	**13 36 19.4**	**-0.9**
M20K	**Styx River**	**6.00**	**345**		**Pn**	**13 36 19.5**	**-1.5**
SDPT	**Sand Point**	**6.08**	**267**	P	**Pn**	**13 36 21.3**	**-0.7**
SDPT	**Sand Point**	**6.08**	**267**		**Pn**	**13 36 20.6**	**-1.4**
VRDI	**Verde Repeater**	**6.08**	**30**	Pn	**Pn**	**13 36 21.7**	**-0.5**
N25K	**Chitina, Valde**	**6.10**	**24**	Pn	**Pn**	**13 36 21.9**	**-0.5**
GLB	**Gilahina Butte**	**6.16**	**28**	Pn	**Pn**	**13 36 22.8**	**-0.3**
O15K	**Ungalikthiuk R**	**6.17**	**304**		**Pn**	**13 36 23.1**	**-0.2**
KIAG	**Kiagna River**	**6.17**	**36**		**Pn**	**13 36 22.6**	**-1.0**
M18K	**Stony River**	**6.20**	**332**		**Pn**	**13 36 22.8**	**-0.9**
SAMH	**Samovar Hills**	**6.23**	**46**		**Pn**	**13 36 23.7**	**-0.4**
M19K	**Big River Lodg**	**6.24**	**340**		**Pn**	**13 36 24.1**	**-0.1**
M24K	**Tolsona, Glenn**	**6.26**	**16**	Pn	**Pn**	**13 36 24.4**	**-0.2**
MCARA	**McCarthy VSAT**	**6.32**	**31**		**Pn**	**13 36 24.9**	**-0.4**
PTPK	**Patty Peak**	**6.34**	**34**		**Pn**	**13 36 25.3**	**-0.4**
N16K	**Nishlik Lake**	**6.41**	**316**		**Pn**	**13 36 26.6**	**+0.1**
BARN	**Barnard Glacie**	**6.51**	**37**		**Pn**	**13 36 27.1**	**-1.0**
WAT6	**Susitna Watana**	**6.54**	**8**		**Pn**	**13 36 28.6**	**+0.1**
CTGM	**Chitina Glacie**	**6.55**	**39**		**Pn**	**13 36 27.9**	**-0.8**
PNL	**Peninsula**	**6.58**	**53**	P	**Pn**	**13 36 28.8**	**-0.1**
PNL	**Peninsula**	**6.58**	**53**		**Pn**	**13 36 28.2**	**-0.7**
LOGN	**Logan Glacier**	**6.58**	**41**		**Pn**	**13 36 28.3**	**-0.8**
L19K	**White Mountain**	**6.58**	**339**	Pn	**Pn**	**13 36 27.6**	**-1.4**
M17K	**Holitna River**	**6.59**	**326**	Pn	**Pn**	**13 36 28.4**	**-0.6**
BCPM	**Bancas Point**	**6.61**	**51**		**Pn**	**13 36 28.5**	**-0.8**
N15K	**Kwethluk River**	**6.77**	**311**	Pn	**Pn**	**13 36 31.8**	**+0.3**
O28M	**Mount Upton**	**6.85**	**43**		**Pn**	**13 36 32.1**	**-0.8**
O14K	**Tigyuktuiyet M**	**6.88**	**302**		**Pn**	**13 36 33.1**	**+0.1**
S12K	**Black Hills**	**6.90**	**271**		**Pn**	**13 36 32.6**	**-0.7**
L18K	**Granite Mounta**	**7.04**	**333**	Pn	**Pn**	**13 36 33.8**	**-1.3**
DHY	**Denali Highway**	**7.06**	**9**		**Pn**	**13 36 35.8**	**+0.2**
M26K	**Nabesna, AK**	**7.17**	**26**	Pn	**Pn**	**13 36 37.3**	**+0.2**
PAX	**Paxson**	**7.19**	**16**		**Pn**	**13 36 36.1**	**-1.2**
RND	**Reindeer**	**7.30**	**3**	Pn	**Pn**	**13 36 38.5**	**-0.3**
M15K	**Kasigluk River**	**7.30**	**313**		**Pn**	**13 36 38.6**	**-0.2**
P29M	**Windy Craggy**	**7.32**	**57**	Pn	**Pn**	**13 36 38.8**	**-0.2**
TRF	**Thorofare Moun**	**7.33**	**358**		**Pn**	**13 36 39.3**	**0.0**
N14K	**Kuskokwak Cree**	**7.35**	**306**		**Pn**	**13 36 39.6**	**+0.3**
CAST	**Castle Rocks**	**7.38**	**352**		**Pn**	**13 36 40.2**	**+0.3**
M27K	**Edge Creek, AK**	**7.43**	**30**	Pn	**Pn**	**13 36 41.1**	**+0.4**
KTH	**Kantishna Hill**	**7.45**	**356**	Pn	**Pn**	**13 36 40.5**	**-0.4**
MENT	**Mentasta**	**7.48**	**22**		**Pn**	**13 36 41.6**	**+0.4**
L16K	**Owhat River**	**7.48**	**322**	Pn	**Pn**	**13 36 41.2**	**-0.1**
K20K	**Telida**	**7.54**	**345**		**Pn**	**13 36 40.3**	**-1.8**
S31K	**Pelican**	**7.63**	**71**		**Pn**	**13 36 40.5**	**-2.7**
L25K	**Log Cabin Wild**	**7.63**	**23**		**Pn**	**13 36 44.5**	**+1.1**
M14K	**Bethel**	**7.86**	**311**	Pn	**Pn**	**13 36 46.4**	**0.0**
K17K	**Iditarod**	**7.87**	**330**		**Pn**	**13 36 46.0**	**-0.6**
BPAW	**Bear Paw Mtn.**	**8.00**	**356**	Pn	**Pn**	**13 36 47.6**	**-0.7**
L27K	**Beaver Creek,**	**8.02**	**27**		**Pn**	**13 36 48.4**	**-0.3**
SIT	**Sitka**	**8.05**	**78**	P	**Pn**	**13 36 46.3**	**-2.7**
SIT	**Sitka**	**8.

*AEIC **09** 13:40:50.2±1.8,55.99N±0.08×149.73W±0.10,h1km±6km,*
Error ellipse: s-maj=11.3km s-min=7.9km az=168.0
ISC 09 13:40:49.3±0.5,**56.10N**±0.06×**149.85W**±0.05,**h10**km,
n263,σ1**26**/228,**mb4.1**/1,**MS4.0**/46,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
OHAK	**Old Harbor**	**2.20**	**302**	P		**Pn**	**13 41 24.9**	**-1.0**
OHAK	**Old Harbor**	**2.20**	**302**	Pn		**Pn**	**13 41 24.7**	**-1.2**
OHAK	**Old Harbor**	**2.20**	**302**			**Sn**	**13 41 51.1**	**-2.1**
OHAK	**Old Harbor**	**2.20**	**302**	P		**Pn**	**13 41 24.8**	**-1.1**
	baz=120							
OHAK				S		**Sn**	**13 41 51.1**	**-2.1**
	baz=120							
KDAK	**Kodiak Island**	**2.25**	**320**	Pn		**Pn**	**13 41 25.4**	**-1.1**
KDAK	**Kodiak Island**	**2.25**	**320**			**Sn**	**13 41 53.3**	**-1.1**
KDAK	**Kodiak Island**	**2.25**	**320**	Pn		**Pn**	**13 41 25.7**	**-0.9**
	13nm,0.3s,baz=136,slow=6.5,SNR=90							
KDAK				Sn		Sn	13 41 46.2	-8.2
	11nm,0.3s,baz=314,slow=20,SNR=7.6							
KDAK				LR		LR	13 42 38.3	
	comp=Z,5μm,19.1s,baz=201,slow=47							
	36nm,0.2s							
SII	**Sitkinak Islan**	**2.46**	**283**	P		**Pn**	**13 41 28.4**	**-1.0**
SII	**Sitkinak Islan**	**2.46**	**283**	Pn		**Pn**	**13 41 27.9**	**-1.5**
SII				IAML			13 41 58.4	
	comp=E,693nm,0.8s							
SII				IAML			13 42 06.0	
	comp=N,627nm,0.6s							
SII	**Sitkinak Islan**	**2.46**	**283**			**Sn**	**13 41 58.0**	**-1.5**
SII	**Sitkinak Islan**	**2.46**	**283**	P		**Pn**	**13 41 28.5**	**-0.9**
	baz=100							
SII				S		**Sn**	**13 41 58.0**	**-1.5**
	baz=100							
SYI	**Shuyak Island**	**2.87**	**332**	Pn		**Pn**	**13 41 34.1**	**-0.9**
SYI	**Shuyak Island**	**2.87**	**332**			**Sn**	**13 42 09.3**	**-0.2**
Q20K	**Shuyak Island**	**2.87**	**332**	P		**Pn**	**13 41 34.2**	**-0.8**
	baz=150							
Q20K				S		**Sn**	**13 42 09.3**	**-0.2**
	baz=150							
CHIR	**Chirikof Islan**	**3.25**	**267**	Pn		**Pn**	**13 41 39.2**	**-1.2**
CHIR	**Chirikof Islan**	**3.25**	**267**			**Sn**	**13 42 15.5**	**-3.6**
CHIR	**Chirikof Islan**	**3.25**	**267**	IAML			13 42 16.5	
	comp=E,373nm,0.9s							
CHIR				IAML			13 42 18.2	
	comp=N,274nm,0.9s							
CHIR	**Chirikof Islan**	**3.25**	**267**	P		**Pn**	**13 41 39.1**	**-1.2**
	baz=84							
CHIR				S		**Sn**	**13 42 15.5**	**-3.6**
	baz=84							
Q19K	**Cape Douglas,**	**3.49**	**326**			**Pn**	**13 41 44.0**	**+0.3**
Q19K	**Cape Douglas,**	**3.49**	**326**	P		**Pn**	**13 41 44.1**	**+0.3**
	baz=143							
CNPM	**China Poot**	**3.51**	**348**	Pn		**Pn**	**13 41 42.5**	**-1.4**
CNPM	**China Poot**	**3.51**	**348**			**Sn**	**13 42 25.0**	**-0.5**
KAKN	**Katmai Knife C**	**3.59**	**310**			**Pn**	**13 41 45.0**	**0.0**
KCE	**Katmai Mt Cerb**	**3.61**	**309**			**Pn**	**13 41 45.9**	**+0.7**
ACHA	**Angle Creek He**	**3.65**	**308**			**Pn**	**13 41 45.7**	**-0.2**
BRSE	**Bradley Lake S**	**3.68**	**353**			**Pn**	**13 41 44.7**	**-1.5**
BRSE						**Sn**	**13 42 28.7**	**-0.9**
BRSE	**Bradley Lake S**	**3.68**	**353**	P		**Pn**	**13 41 45.5**	**-0.7**
	baz=172							
BRLK	**Bradley Lake**	**3.71**	**352**			**Pn**	**13 41 45.0**	**-1.7**
BRLK				IAML			13 42 34.0	
	comp=E,139nm,0.8s							
ANCK	**Angle Creek**	**3.72**	**307**			**Pn**	**13 41 46.7**	**-0.1**
KVTA	**Katmai Vly 10**	**3.74**	**310**			**Pn**	**13 41 47.7**	**+0.7**
KAHC	**Katmai Hardscr**	**3.78**	**315**			**Pn**	**13 41 48.2**	**+0.5**
KAHC	**Katmai Hardscr**	**3.78**	**315**	P		**Pn**	**13 41 48.2**	**+0.5**
	baz=131							
Q23K	**Middleton Isla**	**3.83**	**28**			**Pn**	**13 41 46.4**	**-1.8**
Q23K	**Middleton Isla**	**3.83**	**28**	IAML			13 42 50.4	
	comp=E,162nm,1.4s							
Q23K				IAML			13 43 45.8	
	comp=N,175nm,1.5s							
CNTC	**Contact Creek**	**3.93**	**306**			**Pn**	**13 41 49.6**	**-0.1**
Q17K	**Contact Creek**	**3.93**	**306**	P		**Pn**	**13 41 49.8**	**0.0**
	baz=122							
KELA	**Mount Kelaz**	**3.96**	**309**			**Pn**	**13 41 50.6**	**+0.4**
P19K	**Oil Pt**	**3.99**	**335**			**Pn**	**13 41 49.9**	**-0.6**
P19K				IAML			13 42 44.2	
	comp=E,376nm,0.7s							
P19K	**Oil Pt**	**3.99**	**335**	P		**Pn**	**13 41 49.2**	**-1.2**
	baz=152							
SEW	**Seward**	**4.02**	**3**			**Pn**	**13 41 48.9**	**-1.9**
SEW	**Seward**	**4.02**	**3**	P		**Pn**	**13 41 50.5**	**-0.3**
	baz=183							
PLK1	**Peulik 1**	**4.07**	**298**			**Pn**	**13 41 51.4**	**-0.1**
P23K	**Montague Islan**	**4.12**	**17**			**Pn**	**13 41 50.6**	**-1.6**
O20K	**Slope Mountain**	**4.25**	**341**			**Pn**	**13 41 53.1**	**-1.0**
O20K	**Slope Mountain**	**4.25**	**341**	P		**Pn**	**13 41 53.2**	**-1.0**
	baz=159							
IVE	**Iliamna Volcan**	**4.27**	**338**			**Pn**	**13 41 53.1**	**-1.3**
P18K	**Big Mountain,**	**4.38**	**321**			**Pn**	**13 41 55.3**	**-0.5**
P18K	**Big Mountain,**	**4.38**	**321**	P		**Pn**	**13 41 55.6**	**-0.2**
	baz=197							
O22K	**Cooper Landing**	**4.39**	**1**			**Pn**	**13 41 54.4**	**-1.6**
SLKM	**Skilak Lake**	**4.42**	**358**			**Pn**	**13 41 55.4**	**-1.1**
Q16K	**King Salmon**	**4.50**	**308**			**Pn**	**13 41 57.2**	**-0.1**
Q16K	**King Salmon**	**4.50**	**308**	P		**Pn**	**13 41 57.4**	**+0.1**
	baz=123							
ANNE	**Aniakchak Nort**	**4.62**	**284**			**Pn**	**13 41 58.1**	**-1.0**
RSO	**Redoubt South**	**4.63**	**342**			**Pn**	**13 41 59.0**	**-0.4**
HIN	**Hinchinbrook I**	**4.66**	**21**	Pn		**Pn**	**13 41 58.8**	**-0.8**
HIN				IAML			13 42 52.2	
	comp=N,186nm,0.6s							
HIN				IAML			13 42 59.9	
	comp=E,232nm,1.1s							
RDWB	**Redoubt West**	**4.67**	**342**			**Pn**	**13 41 58.6**	**-1.3**
RDT	**Redoubt**	**4.68**	**344**			**Pn**	**13 41 58.7**	**-1.3**
P17K	**Kvichak River**	**4.70**	**314**			**Pn**	**13 41 59.7**	**-0.6**
P17K	**Kvichak River**	**4.70**	**314**	P		**Pn**	**13 42 00.5**	**+0.3**
	baz=129							
O18K	**Koktuh Hills**	**4.72**	**325**			**Pn**	**13 41 59.6**	**-0.8**
O18K				IAML			13 42 60.0	
	comp=E,82nm,1.2s							
O18K				IAML			13 43 04.2	
	comp=N,115nm,0.8s							
O18K	**Koktuh Hills**	**4.72**	**325**	P		**Pn**	**13 42 00.6**	**+0.1**
	baz=141							
O19K	**Port Alsworth**	**4.74**	**332**			**Pn**	**13 41 59.7**	**-1.0**
CHGN	**Chignik**	**4.79**	**276**	Pn		**Pn**	**13 42 01.4**	**0.0**
CHGN				IAML			13 42 57.6	
	comp=N,92nm,1.3s							
CHGN				IAML			13 43 00.8	
	comp=E,92nm,0.6s							
CHGN	**Chignik**	**4.79**	**276**	P		**Pn**	**13 42 02.1**	**+0.8**
	baz=90							
KAIM	**Kayak Island**	**4.80**	**35**			**Pn**	**13 42 00.6**	**-0.9**
KAIM				IAML			13 43 02.3	
	comp=E,197nm,1.1s							
EYAK	**Cordova Ski Ar**	**4.96**	**24**	P		**Pn**	**13 42 02.8**	**-0.9**
EYAK	**Cordova Ski Ar**	**4.96**	**24**			**Pn**	**13 42 02.4**	**-1.3**
EYAK	**Cordova Ski Ar**	**4.96**	**24**	P		**Pn**	**13 42 02.7**	**-0.9**
	baz=207							
FID	**Port Fidalgo**	**4.99**	**19**			**Pn**	**13 42 03.1**	**-1.1**
FID				IAML			13 42 59.4	
	comp=E,108nm,0.5s							
FID				IAML			13 43 01.1	
	comp=N,97nm,0.7s							
RC01	**Rabbit Creek A**	**5.00**	**1**			**Pn**	**13 42 03.4**	**-0.9**
RC01				IAML			13 43 02.9	
	comp=N,74nm,0.4s							
RC01				IAML			13 43 03.6	
	comp=E,92nm,0.6s							
GLI	**Glacier Island**	**5.00**	**16**			**Pn**	**13 42 03.6**	**-0.8**
GLI				IAML			13 43 06.7	
	comp=E,108nm,0.8s							
GLI				IAML			13 43 11.3	
	comp=N,63nm,1.2s							
GLI	**Glacier Island**	**5.00**	**16**	P		**Pn**	**13 42 04.3**	**-0.1**
	baz=198							
RAGM	**Ragged Mountai**	**5.09**	**30**			**Pn**	**13 42 04.9**	**-0.7**
SUCK	**Suckling Hills**	**5.12**	**36**			**Pn**	**13 42 05.2**	**-0.8**
SUCK				IAML			13 43 09.6	
	comp=E,128nm,1.4s							
SUCK				IAML			13 43 22.6	
	comp=N,157nm,1.2s							
HMT	**Hamilton**	**5.17**	**33**			**Pn**	**13 42 06.5**	**-0.2**
NICHA	**Nichawak Mount**	**5.18**	**34**			**Pn**	**13 42 05.1**	**-1.8**
VNHG	**Veniaminof 1**	**5.21**	**275**			**Pn**	**13 42 06.8**	**-0.4**
GOAT	**Goat Mountain**	**5.24**	**29**			**Pn**	**13 42 06.5**	**-1.1**
P16K	**Nushagak River**	**5.27**	**307**			**Pn**	**13 42 07.9**	**-0.1**
P16K	**Nushagak River**	**5.27**	**307**	P		**Pn**	**13 42 08.1**	**+0.1**
	baz=121							
N19K	**Bonanza Creek**	**5.31**	**335**			**Pn**	**13 42 08.4**	**-0.3**
N19K				IAML			13 43 35.3	
	comp=E,46nm,1.1s							
N19K	**Bonanza Creek**	**5.31**	**335**	P		**Pn**	**13 42 08.0**	**-0.7**
	baz=151							
SPCP	**Crater Peak Br**	**5.32**	**348**			**Pn**	**13 42 07.7**	**-1.1**
SPCG	**Spurr Capps Gl**	**5.33**	**349**			**Pn**	**13 42 08.2**	**-0.7**
O17K	**Koliganek Bris**	**5.33**	**317**			**Pn**	**13 42 08.1**	**-0.7**
O17K	**Koliganek Bris**	**5.33**	**317**	P		**Pn**	**13 42 09.2**	**+0.4**
	baz=131							
KNK	**Knik Glacier**	**5.38**	**7**			**Pn**	**13 42 08.4**	**-1.1**
KNK	**Knik Glacier**	**5.38**	**7**	P		**Pn**	**13 42 09.9**	**+0.4**
	baz=188							
BERG	**Berg Lake**	**5.39**	**35**			**Pn**	**13 42 09.3**	**-0.3**
SUA	**Susitna One**	**5.40**	**355**			**Pn**	**13 42 09.1**	**-0.8**
SUA	**Susitna One**	**5.40**	**355**	P		**Pn**	**13 42 10.5**	**+0.6**
	baz=174							
VNFG	**Fog Glacier, M**	**5.42**	**276**			**Pn**	**13 42 11.1**	**+1.0**
GRIN	**Grindle Hills**	**5.43**	**37**			**Pn**	**13 42 09.2**	**-1.1**
DIV	**Divide**	**5.47**	**21**			**Pn**	**13 42 10.0**	**-0.9**
SPNN	**North Nagishla**	**5.48**	**346**			**Pn**	**13 42 11.2**	**+0.1**
STLK	**Strandline Lak**	**5.51**	**350**			**Pn**	**13 42 10.5**	**-0.8**
PMR	**Palmer**	**5.52**	**4**	P		**Pn**	**13 42 11.7**	**+0.3**
PMR	**Palmer**	**5.52**	**4**	Pn		**Pn**	**13 42 11.4**	**0.0**
PMR	**Palmer**	**5.52**	**4**	P		**Pn**	**13 42 12.2**	**+0.8**
	baz=184							
SNH	**Sunshine Point**	**5.52**	**39**			**Pn**	**13 42 11.2**	**-0.4**
KHIT	**Khitrov Hills**	**5.57**	**36**			**Pn**	**13 42 10.7**	**-1.6**
N18K	**Kilae Creek**	**5.58**	**328**	Pn		**Pn**	**13 42 11.2**	**-1.1**
N18K	**Kilae Creek**	**5.58**	**328**	P		**Pn**	**13 42 11.5**	**-0.8**
	baz=143							
BMRM	**Bremner River**	**5.60**	**27**			**Pn**	**13 42 11.5**	**-1.1**
BMRM	**Bremner River**	**5.60**	**27**	P		**Pn**	**13 42 11.5**	**-1.1**
	baz=211							
O16K	**Kokwok River B**	**5.62**	**312**			**Pn**	**13 42 12.8**	**-0.1**
O16K	**Kokwok River B**	**5.62**	**312**	P		**Pn**	**13 42 12.8**	**-0.1**
	baz=125							
GHO	**Glory Hole Cre**	**5.71**	**4**			**Pn**	**13 42 13.9**	**-0.2**
WAX	**Waxell Ridge**	**5.71**	**37**			**Pn**	**13 42 13.4**	**-0.7**
SML	**Sawmill**	**5.78**	**7**	Pn		**Pn**	**13 42 14.9**	**-0.1**
SML	**Sawmill**	**5.78**	**7**	P		**Pn**	**13 42 15.6**	**+0.6**
	baz=188							
KLU	**Klutina**	**5.78**	**19**			**Pn**	**13 42 14.4**	**-0.7**
KLU	**Klutina**	**5.78**	**19**	P		**Pn**	**13 42 14.5**	**-0.5**
	baz=202							
BARK	**Barkley Ridge**	**5.80**	**39**			**Pn**	**13 42 14.5**	**-1.0**
M23K	**Glacier View**	**5.81**	**10**			**Pn**	**13 42 14.8**	**-0.7**
M23K	**Glacier View**	**5.81**	**10**	P		**Pn**	**13 42 15.7**	**+0.3**
	baz=192							
MESA	**MESA**	**5.85**	**42**			**Pn**	**13 42 15.0**	**-1.2**
MESA	**MESA**	**5.85**	**42**	P		**Pn**	**13 42 15.6**	**-0.5**
	baz=228							
N17K	**Nushagak Hills**	**5.88**	**322**			**Pn**	**13 42 15.7**	**-0.7**
N17K	**Nushagak Hills**	**5.88**	**322**	P		**Pn**	**13 42 16.4**	**0.0**
	baz=136							
SCM	**Sheep Creek Mo**	**5.89**	**12**			**Pn**	**13 42 17.1**	**+0.5**
SCM	**Sheep Creek Mo**	**5.89**	**12**	P		**Pn**	**13 42 17.5**	**+0.9**
	baz=194							
SKT	**Skwentna**	**5.96**	**352**	Pn		**Pn**	**13 42 17.4**	**-0.1**
ISLE	**Juniper Island**	**6.00**	**38**			**Pn**	**13 42 17.4**	**-0.8**
SDPT	**Sand Point**	**6.05**	**267**	P		**Pn**	**13 42 18.0**	**-0.7**
SDPT	**Sand Point**	**6.05**	**267**			**Pn**	**13 42 17.2**	**-1.5**
VRDI	**Verde Repeater**	**6.13**	**30**	Pn		**Pn**	**13 42 19.4**	**-0.6**
N25K	**Chitina, Valde**	**6.16**	**24**	Pn		**Pn**	**13 42 19.5**	**-0.7**
O15K	**Ungalikthiuk R**	**6.18**	**304**			**Pn**	**13 42 20.1**	**-0.4**
GLB	**Gilahina Butte**	**6.21**	**28**	Pn		**Pn**	**13 42 20.2**	**-0.7**
M18K	**Stony River**	**6.23**	**333**			**Pn**	**13 42 20.7**	**-0.5**
M19K	**Big River Lodg**	**6.27**	**340**			**Pn**	**13 42 20.4**	**-1.4**
M24K	**Tolsona, Glenn**	**6.31**	**16**	Pn		**Pn**	**13 42 23.4**	**+1.0**
MCARA	**McCarthy VSAT**	**6.38**	**31**			**Pn**	**13 42 22.5**	**-0.7**
BARN	**Barnard Glacie**	**6.56**	**37**			**Pn**	**13 42 25.4**	**-0.5**
CTGM	**Chitina Glacie**	**6.61**	**39**			**Pn**	**13 42 25.5**	**-1.0**
M17K	**Holitna River**	**6.62**	**327**	Pn		**Pn**	**13 42 25.7**	**-0.8**
L19K	**White Mountain**	**6.62**	**339**	Pn		**Pn**	**13 42 24.9**	**-1.7**
PNL	**Peninsula**	**6.62**	**53**	P		**Pn**	**13 42 25.5**	**-1.1**
LOGN	**Logan Glacier**	**6.63**	**41**			**Pn**	**13 42 26.1**	**-0.7**
BCPM	**Bancas Point**	**6.66**	**50**			**Pn**	**13 42 26.2**	**-0.9**
HARP	**HAARP**	**6.76**	**19**			**Pn**	**13 42 27.9**	**-0.6**
N15K	**Kwethluk River**	**6.78**	**311**	Pn		**Pn**	**13 42 28.8**	**0.0**
WAT1	**Susitna Watana**	**6.78**	**5**			**Pn**	**13 42 28.6**	**-0.2**
S12K	**Black Hills**	**6.88**	**272**			**Pn**	**13 42 28.1**	**-2.0**
O28M	**Mount Upton**	**6.90**	**43**			**Pn**	**13 42 28.8**	**-1.8**
M26K	**Nabesna, AK**	**7.23**	**26**	Pn		**Pn**	**13 42 34.4**	**-0.5**
M15K	**Kasigluk River**	**7.32**	**313**			**Pn**	**13 42 36.2**	**+0.1**
RND	**Reindeer**	**7.34**	**4**	Pn		**Pn**	**13 42 36.0**	**-0.6**
N14K	**Kuskokwak Cree**	**7.36**	**306**			**Pn**	**13 42 36.4**	**-0.3**
P29M	**Windy Craggy**	**7.36**	**56**	Pn		**Pn**	**13 42 35.3**	**-1.5**
TRF	**Thorofare Moun**	**7.38**	**358**			**Pn**	**13 42 36.0**	**-1.0**
CAST	**Castle Rocks**	**7.42**	**352**	Pn		**Pn**	**13 42 38.4**	**+0.7**
L17K	**Donlin**	**7.44**	**328**			**Pn**	**13 42 37.9**	**0.0**
M27K	**Edge Creek, AK**	**7.48**	**30**	Pn		**Pn**	**13 42 38.8**	**+0.3**
KTH	**Kantishna Hill**	**7.49**	**356**	Pn		**Pn**	**13 42 38.7**	**+0.1**
L16K	**Owhat River**	**7.51**	**322**	Pn		**Pn**	**13 42 38.5**	**-0.2**
MENT	**Mentasta**	**7.53**	**22**	P		**Pn**	**13 42 39.3**	**+0.3**
MENT	**Mentasta**	**7.53**	**22**			**Pn**	**13 42 39.0**	**-0.1**
K20K	**Telida**	**7.58**	**345**			**Pn**	**13 42 38.8**	**-0.9**
S31K	**Pelican**	**7.66**	**70**			**Pn**	**13 42 38.1**	**-2.7**
L26K	**Log Cabin Wild**	**7.69**	**23**			**Pn**	**13 42 42.1**	**+0.9**
M14K	**Bethel**	**7.88**	**311**			**Pn**	**13 42 44.5**	**+0.8**
K17K	**Iditarod**	**7.90**	**331**			**Pn**	**13 42 42.3**	**-1.8**
P30M	**Million Dollar**	**7.92**	**54**			**Pn**	**13 42 42.4**	**-2.1**
HYT	**Haines Junctio**	**8.01**	**49**	Pn		**Pn**	**13 42 45.1**	**-0.7**
BPAW	**Bear Paw Mtn.**	**8.04**	**356**	Pn		**Pn**	**13 42 45.9**	**-0.2**
L27K	**Beaver Creek,**	**8.07**	**27**			**Pn**	**13 42 46.6**	**0.0**
SIT	**Sitka**	**8.08**	**77**	P		**Pn**	**13 42 43.1**	**-3.4**
BCAR	**Beaver Creek A**	**8.09**	**27**			**Pn**	**13 42 46.4**	**-0.4**
J18K	**Innoko River**	**8.15**	**338**			**Pn**	**13 42 46.2**	**-1.4**
L15K	**Ungalak Mounta**	**8.21**	**318**			**Pn**	**13 42 48.5**	**+0.2**
J20K	**Nowinta River**	**8.38**	**347**	Pn		**Pn**	**13 42 50.7**	**+0.1**
SCRK	**Sand Creek**	**8.42**	**18**	Pn		**Pn**	**13 42 51.8**	**+0.4**
SKAG	**Skagway**	**8.46**	**61**	P		**Pn**	**13 42 51.1**	**-0.6**
SKAG	**Skagway**	**8.46**	**61**			**Pn**	**13 42 50.9**	**-0.8**
HDA	**Harding Lake**	**8.46**	**9**			**Pn**	**13 42 52.6**	**+0.9**
N30M	**Aishikik Lake**	**8.52**	**46**	Pn		**Pn**	**13 42 52.6**	**-0.1**
ILAR	**Eielson Array**	**8.82**	**8**			**Pn**	**13 42 57.2**	**+0.6**
ILAR	**Eielson Array**	**8.82**	**8**	Pn		**Pn**	**13 42 56.9**	**+0.2**
	comp=E,0.8nm,0.3s,baz=190,slow=13,SNR=24							
ILAR				Sn		**Sn**	**13 44 29.1**	**-6.9**
	baz=201,slow=19							
ILAR				LR		LR	13 46 33.8	
	comp=E,597nm,20.1s,baz=234,slow=39							
	comp=E,3.2nm,0.5s							
COLA	**College**	**8.86**	**6**	P		**Pn**	**13 42 59.3**	**+2.2**
J26L	**Joseph Creek**	**8.98**	**18**	Pn		**Pn**	**13 42 58.9**	**-0.1**
U33K	**Whale Pass**	**9.35**	**83**			**Pn**	**13 42 59.6**	**-4.3**
CRAG	**Craig**	**9.45**	**87**	P		**Pn**	**13 43 02.5**	**-2.8**
UNV	**Unalaska Valle**	**9.84**	**264**	P		**Pn**	**13 43 09.3**	**-1.3**
P33M	**Teslin, Yukon**	**9.89**	**58**			**Pn**	**13 43 10.2**	**-1.3**
FARO	**Faro, Yukon**	**10.44**	**47**			**Pn**	**13 43 18.9**	**-0.1**
G21K	**Allakaket**	**10.59**	**352**			**Pn**	**13 43 20.6**	**-0.4**
J30M	**Hart River**	**10.79**	**33**			**Pn**	**13 43 22.6**	**-1.2**
DLBC	**Dease Lake**	**10.98**	**70**			**Pn**	**13 43 25.4**	**-0.9**
DLBC	**Dease Lake**	**10.98**	**70**	Pn		**Pn**	**13 43 27.9**	**+1.6**
	comp=E,0.5nm,0.3s,baz=301,slow=10,SNR=7.1							
DLBC				LR		LR	13 46 55.2	
	comp=E,824nm,19.8s,baz=264,slow=33							
	comp=E,1.0nm,0.3s							
BBB	**Bella Bella**	**13.31**	**98**	LR		LR	13 47 50.9	
	comp=E,488nm,20.6s,baz=302,slow=32							
INK	**Inuvik**	**14.34**	**25**	Pn		**Pn**	**13 44 13.1**	**+1.0**
	comp=E,0.1nm,0.3s,baz=209,slow=15,SNR=12							
INK				LR		LR	13 50 03.0	
	comp=E,656nm,20.0s,baz=182,slow=38							
	comp=E,12nm,1.2s							
C36M	**Paulatuk**	**17.56**	**31**			**Pn**	**13 44 52.6**	**-1.1**
C36M				IAmb		IAmb	13 45 07.3	
	comp=Z,11nm,0.9s							
YKA	**Yellowknife Ar**	**18.91**	**56**	P		**P**	**13 45 08.5**	**-1.2**
YKA	**Yellowknife Ar**	**18.91**	**56**	P		**Pn**	**13 45 10.7**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=267,slow=11,SNR=26							
YKA				LR		LR	13 52 11.0	
	comp=Z,468nm,19.8s,baz=244,slow=36							
	comp=Z,5.1nm,1.0s							
A36M	**Sachs Harbour**	**18.97**	**23**	P		**P**	**13 45 10.4**	**+0.1**
NEW	**Newport**	**21.38**	**98**	P		**P**	**13 45 36.9**	**+0.1**
	comp=Z,1.0nm,0.4s,baz=349,slow=15,SNR=1.7							
NEW				LR		LR	13 52 34.6	
	comp=Z,308nm,20.7s,baz=296,slow=33							
	comp=Z,1.0nm,0.4s							
DBO	**Dodson Butte**	**21.42**	**116**	P		**P**	**13 45 37.9**	**+0.6**
DBO				IAmb		IAmb	13 45 50.3	
	comp=Z,9.8nm,1.1s							
E09A	**Wood Farm, Sta**	**21.84**	**103**	P		**P**	**13 45 39.9**	**-1.7**
E09A				IAmb		IAmb	13 45 50.5	
	comp=Z,12nm,0.8s							
YBH	**Yreka Blue Hor**	**22.71**	**118**	P		**P**	**13 45 52.3**	**+1.2**
	comp=Z,2.8nm,1.2s,baz=316,slow=6.8,SNR=3.1							
YBH				LR		LR	13 52 25.8	
	comp=Z,617nm,21.0s,baz=320,slow=31							
	comp=Z,2.8nm,1.2s							
LYMT	**Lyon Mountain**	**24.81**	**96**	P		**P**	**13 46 07.2**	**-4.3**
MCMT	**McKenzie Canyo**	**25.80**	**100**	P		**P**	**13 46 19.9**	**-0.6**
MPK	**Martis Peak**	**25.89**	**118**	P		**P**	**13 46 20.5**	**-0.9**
MPK				IAmb		IAmb	13 46 25.7	
	comp=Z,9.5nm,1.2s							
NVAR	**Mina Array Bea**	**27.41**	**117**	P		**P**	**13 46 33.9**	**-1.2**
NVAR	**Mina Array Bea**	**27.41**	**117**	P		**P**	**13 46 35.0**	**-0.1**
	comp=Z,1.6nm,1.0s,baz=305,slow=10,SNR=6.7							
NVAR				LR		LR	13 55 42.7	
	comp=Z,557nm,18.5s,baz=310,slow=33							
	comp=Z,1.6nm,1.0s							
RES	**Resolute Bay**	**27.87**	**28**	LR		LR	13 58 15.1	
	comp=Z,403nm,18.8s,baz=222,slow=38							
PDAR	**Pinedale Array**	**28.95**	**100**	P		**P**	**13 46 49.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=316,slow=5.0,SNR=2.2							
PDAR				LR		LR	13 57 41.9	
	comp=Z,146nm,18.4s,baz=318,slow=35							
	comp=Z,0.2nm,0.4s							
SEY	**Seymchan**	**29.16**	**307**	LR		LR	13 59 46.9	
	comp=Z,674nm,18.1s,baz=72,slow=39							
PETK	**Petropavlovsk-**	**29.92**	**287**	P		**P**	**13 46 58.7**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=66,slow=12,SNR=1.3							
PETK				LR		LR	13 59 59.8	
	comp=Z,152nm,19.0s,baz=82,slow=38							
	comp=Z,0.9nm,0.8s							
MA2	**Magadan**	**30.88**	**301**	LR		LR	14 00 55.6	
	comp=Z,414nm,18.1s,baz=80,slow=39							
PFO	**Pinyon Flats O**	**32.14**	**120**	LR		LR	13 58 38.9	
	comp=Z,630nm,19.0s,baz=326,slow=33							
ULM	**Lac du Bonnet**	**32.16**	**77**	LR		LR	13 59 33.6	
	comp=Z,86nm,18.2s,baz=298,slow=35							
TIXI	**Tiksi**	**35.65**	**328**	LR		LR	14 04 28.7	
	comp=Z,93nm,19.3s,baz=101,slow=40							
ANMO	**Albuquerque**	**36.22**	**107**	LR		LR	14 02 05.1	
	comp=Z,121nm,18.1s,baz=46,slow=35							
FRB	**Frobisher Bay**	**38.78**	**45**	LR		LR	14 04 20.1	
	comp=Z,629nm,19.3s,baz=328,slow=36							
YAK	**Yakutsk Array**	**39.27**	**313**	LR		LR	14 05 20.6	
	comp=Z,194nm,20.2s,baz=71,slow=37							
TXAR	**Lajitas Array**	**42.06**	**110**	P		**P**	**13 48 42.2**	**+1.1**
	comp=Z,1.4nm,1.1s,baz=311,slow=4.8,SNR=7.0							
TXAR				LR		LR	14 05 31.6	
	comp=Z,159nm,18.2s,baz=330,slow=35	

comp=Z,0.5nm,0.6s
MDP Montagnes des 89.82 81 LR LR 14 32 35.7
comp=Z,42nm,21.1s,baz=235,slow=35
NNA Nana 90.62 111 LR LR 14 32 38.3
comp=Z,36nm,20.2s,baz=342,slow=34
URZ Urewera 98.11 206 P **P** **13 54 24.5 -1.0**
comp=Z,3.2nm,0.9s,baz=99,slow=3.4,SNR=1.3
QSPA South Pole Qui 145.89 180 PKPbc **PKPab** **14 00 28.7 +0.8**
comp=Z,6.4nm,1.1s,baz=111,slow=0.9,SNR=13

IDC 09 13:46:09.3±7.3, 5.67S×151.54E, h90km±60km, mb3.3/3, mbtmp3.7/4, ML1.8/1, MS3.5/1, Error ellipse: s-maj=148.1km s-min=34.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.71**	**229**	P		Pn	13 47 31.1	-0.6
	1.8nm,0.3s,baz=64,slow=17,SNR=1.6						
PMG				S		Sn	13 48 36.4	+0.6
	8.4nm,0.7s,baz=235,slow=17,SNR=1.5						
	6.3nm,0.4s						
WRA	**Warramunga Arr**	**21.93**	**228**	P		P	13 50 55.5	-0.1
	1.6nm,0.9s,baz=55,slow=9.6,SNR=7.0						
	1.6nm,0.9s						
ASAR	**Alice Springs**	**24.66**	**222**	P		P	13 51 22.4	+0.4
	1.3nm,0.7s,baz=52,slow=9.0,SNR=19						
	1.3nm,0.7s						
PPT	**Papeete**	**58.67**	**107**	LR		LR	14 18 14.7	
	comp=Z,39nm,21.0s,baz=306,slow=33						
ILAR	**Eielson Array**	**83.43**	**22**	P		P	13 58 26.4	-0.2
	0.4nm,0.6s,baz=255,slow=4.7,SNR=5.5						
	0.4nm,0.6s						

*WEL **09** 13:59:22.5±0.5, 39˚S±3˚×17˚4E±˚, h20km±5km, M3.2/13, ML3.5/13, MLv3.2/13, Error ellipse: s-maj=0.0km s-min=0.0km az=163.0, confirmed*
*NOU **09** 13:59:23.0, 39.12S×174.27E, h16km, MLv3.3/11, North Island, New Zealand*
ISC 09 13:59:23.5±0.9, 39.17S±0.03×174.41E±0.02, h30km±6km, n141, σ1§25/149, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHEZ	**Mangahewa**	**0.11**	**322**	P	**Pb**	**13 59 28.7**	**-0.3**
MHEZ				S	**Sb**	**13 59 33.2**	**+0.6**
DREZ	**Durham Road**	**0.17**	**262**	P	**Pb**	**13 59 28.8**	**-0.6**
DREZ				S	**Sb**	**13 59 33.3**	**-0.1**
PREZ	**Palmer Road**	**0.27**	**228**	P	**Pb**	**13 59 29.5**	**-1.0**
NEZ	**North Egmont**	**0.27**	**247**	P	**Pb**	**13 59 29.9**	**-0.8**
VRZ	**Vera Road**	**0.27**	**82**	P	**Pb**	**13 59 29.8**	**-0.8**
VRZ				S	**Sb**	**13 59 35.0**	**-0.4**
LREZ	**Lake Rotokare**	**0.29**	**182**	P	**Pb**	**13 59 29.6**	**-1.3**
LREZ				S	**Sb**	**13 59 35.0**	**-1.0**
PKE	**Pukeiti**	**0.33**	**265**	P	**Pb**	**13 59 31.3**	**-0.1**
PKE				S	**Sb**	**13 59 37.3**	**+0.5**
KHEZ	**Kahui Hut**	**0.34**	**247**	P	**Pb**	**13 59 30.4**	**-1.1**
KHEZ	**Kahui Hut**	**0.34**	**247**	P	**Pb**	**13 59 31.0**	**-0.5**
NBEZ	**Newall Road No**	**0.44**	**256**	P	**Pb**	**13 59 32.7**	**-0.2**
NMEZ	**Namu Road**	**0.48**	**239**	P	**Pb**	**13 59 33.1**	**-0.6**
NMEZ				S	**Sb**	**13 59 40.8**	**+0.1**
PKVZ	**Pokaka**	**0.73**	**100**	P	**Pb**	**13 59 36.7**	**-1.1**
PKVZ				S	**Sb**	**13 59 47.5**	**-0.2**
HIZ	**Hauiti**	**0.74**	**28**	P	**Pb**	**13 59 37.4**	**-0.5**
HIZ	**Hauiti**	**0.74**	**28**	P	**Pb**	**13 59 37.6**	**-0.3**
HIZ				S	**Sn**	**13 59 48.5**	**+0.4**
WAZ	**Wanganui**	**0.74**	**143**	P	**Pb**	**13 59 36.5**	**-1.0**
TWVZ	**Taurewa**	**0.80**	**84**	P	**Pb**	**13 59 37.9**	**-1.1**
MTVZ	**Mangateitei**	**0.85**	**105**	P	**Pb**	**13 59 38.5**	**-1.3**
COVZ	**Chateau Observ**	**0.88**	**93**	P	**Pb**	**13 59 39.1**	**-1.2**
FWVZ	**Far West T-bar**	**0.89**	**96**	P	**Pb**	**13 59 39.3**	**-1.3**
TRVZ	**Turoa**	**0.89**	**99**	P	**Pb**	**13 59 39.4**	**-1.2**
MAVZ	**Matarangi**	**0.90**	**97**	P	**Pb**	**13 59 39.5**	**-1.2**
WTVZ	**West Tongariro**	**0.92**	**87**	P	**Pb**	**13 59 39.9**	**-1.1**
WHVZ	**Whangaehu Hut**	**0.92**	**98**	P	**Pb**	**13 59 39.8**	**-1.3**
NGZ	**Ngauruhoe**	**0.92**	**91**	P	**Pb**	**13 59 39.9**	**-1.2**
WNVZ	**Wahianoa**	**0.93**	**100**	P	**Pb**	**13 59 40.1**	**-1.2**
NNVZ	**North Ngauruho**	**0.94**	**88**	P	**Pb**	**13 59 40.2**	**-1.1**
SNVZ	**South Ngauruho**	**0.95**	**92**	P	**Pn**	**13 59 40.5**	**-0.5**
KRVZ	**Karewarewa**	**0.96**	**86**	P	**Pn**	**13 59 40.6**	**-0.5**
TUVZ	**Tukino**	**0.97**	**96**	P	**Pn**	**13 59 41.1**	**-0.1**
OTVZ	**Oturere**	**0.97**	**90**	P	**Pn**	**13 59 40.9**	**-0.4**
NTVZ	**North Tongarir**	**0.98**	**87**	P	**Pn**	**13 59 41.1**	**-0.4**
TMVZ	**Te Maari**	**1.00**	**88**	P	**Pn**	**13 59 41.4**	**-0.3**
ETVZ	**East Tongariro**	**1.01**	**89**	P	**Pn**	**13 59 41.5**	**-0.2**
KATZ	**Karaeramea**	**1.01**	**80**	P	**Pn**	**13 59 41.7**	**-0.2**
MOVZ	**Moawhango**	**1.07**	**104**	P	**Pn**	**13 59 42.3**	**-0.2**
RATZ	**Rangitukua**	**1.10**	**75**	P	**Pn**	**13 59 43.3**	**-0.7**
WATZ	**Wairara**	**1.13**	**67**	P	**Pb**	**13 59 43.7**	**-0.7**
RITZ	**Rihia Road**	**1.14**	**81**	P	**Pb**	**13 59 44.2**	**-0.5**
TLZ	**Tolley Road**	**1.21**	**47**	P	**Pn**	**13 59 44.9**	**+0.4**
OHWZ	**Ohakea**	**1.25**	**146**	P	**Pb**	**13 59 45.8**	**+0.8**
KUTZ	**Kaahu Road**	**1.29**	**59**	P	**Pb**	**13 59 46.4**	**-0.8**
WHTZ	**Whakaora**	**1.30**	**68**	P	**Pb**	**13 59 47.0**	**-0.4**
BHHZ	**Black Hill Sta**	**1.32**	**105**	P	**Pn**	**13 59 46.1**	**+0.1**
TSZ	**Takapari Road**	**1.49**	**127**	P	**Pn**	**13 59 49.1**	**+0.8**
WPRZ	**Whakapapataran**	**1.51**	**65**	P	**Pn**	**13 59 49.4**	**+0.8**
GRRZ	**Galatos Road**	**1.56**	**59**	P	**Pn**	**13 59 49.9**	**+0.7**
PNHZ	**Pukenui**	**1.57**	**119**	P	**Pn**	**13 59 50.1**	**+0.6**
KWHZ	**Kaweka Forest**	**1.58**	**100**	P	**Pn**	**13 59 50.4**	**+0.8**
KRHZ	**Kereru**	**1.59**	**108**	P	**Pb**	**13 59 51.0**	**-1.3**
MRHZ	**Matea Rd**	**1.60**	**79**	P	**Pn**	**13 59 50.7**	**+1.0**
POWZ	**Post Office Ro**	**1.61**	**140**	P	**Pn**	**13 59 51.9**	**+1.3**
BKZ	**Black Stump Fm**	**1.62**	**91**	P	**Pn**	**13 59 50.7**	**+0.6**
BKZ	**Black Stump Fm**	**1.62**	**91**	P	**Pn**	**13 59 50.7**	**+0.6**
ALRZ	**Allen Road**	**1.62**	**69**	P	**Pn**	**13 59 51.0**	**+0.9**
HSRZ	**Hossack Road**	**1.67**	**60**	P	**Pn**	**13 59 51.9**	**+1.2**
TOZ	**Tahuroa Road**	**1.67**	**31**	P	**Pn**	**13 59 51.3**	**+0.6**
DUWZ	**D'Urville Isla**	**1.68**	**193**	P	**Pn**	**13 59 51.2**	**+0.3**
PRRZ	**Plateau Road**	**1.68**	**67**	P	**Pb**	**13 59 53.7**	**-0.2**
UTU	**Utuhina**	**1.71**	**55**	P	**Pn**	**13 59 52.2**	**+1.0**
KIW	**Kapiti Island**	**1.74**	**167**	P	**Pn**	**13 59 52.5**	**+0.8**
MRZ	**Mangatainoka R**	**1.74**	**149**	P	**Pn**	**13 59 53.0**	**+1.3**
OGWZ	**Otaki Gorge**	**1.75**	**161**	P	**Pn**	**13 59 52.9**	**+1.1**
DVHZ	**Dannevirke**	**1.76**	**131**	P	**Pb**	**13 59 54.2**	**-1.0**
KMRZ	**Kaimai**	**1.78**	**43**	P	**Pn**	**13 59 53.2**	**+0.9**
MCHZ	**McNeill Hill**	**1.79**	**100**	P	**Pb**	**13 59 55.2**	**-0.6**
WPHZ	**Waipukurau**	**1.81**	**120**	P	**Pb**	**13 59 55.1**	**-0.8**
KARZ	**Kaharoa**	**1.83**	**52**	P	**Pn**	**13 59 53.8**	**+0.8**
PRWZ	**Pori Road**	**1.83**	**140**	P	**Pb**	**13 59 55.1**	**-1.3**
NMHZ	**Naumai**	**1.85**	**89**	P	**Pb**	**13 59 55.3**	**-1.6**
OMRZ	**Omania**	**1.86**	**56**	P	**Pn**	**13 59 54.4**	**+1.0**
MTHZ	**Maungataniwha**	**1.92**	**81**	P	**Pn**	**13 59 55.1**	**+0.9**
HOWZ	**Holdsworth Sta**	**1.93**	**154**	P	**Pn**	**13 59 55.9**	**+1.6**
MUGZ	**Murupara**	**1.96**	**70**	P	**Pb**	**13 59 56.8**	**-1.8**
TIWZ	**Tintock**	**1.97**	**145**	P	**Pb**	**13 59 57.0**	**-1.6**
CAW	**Cannon Point**	**2.00**	**166**	P	**Pn**	**13 59 56.5**	**+1.2**
KAHZ	**Kahuranaki**	**2.01**	**109**	P	**Pb**	**13 59 58.9**	**-0.5**
ARHZ	**Aropaoanui**	**2.01**	**94**	P	**Pb**	**13 59 58.0**	**-1.3**
PRHZ	**Porangahau**	**2.04**	**123**	P	**Pb**	**14 00 00.1**	**+0.3**
TGRZ	**Tauranga**	**2.04**	**46**	P	**Pn**	**13 59 56.5**	**+0.7**
TCW	**Tory Channel**	**2.05**	**183**	P	**Pn**	**13 59 56.6**	**+0.7**
ANWZ	**Angora Road**	**2.05**	**130**	P	**Pb**	**14 00 00.4**	**+0.4**
BFZ	**Birch Farm**	**2.07**	**138**	P	**Pb**	**13 59 59.5**	**-0.9**
BFZ	**Birch Farm**	**2.07**	**138**	P	**Pn**	**13 59 57.4**	**+1.1**
RTZ	**Ruatahuna**	**2.08**	**75**	P	**Pb**	**13 59 59.0**	**-1.6**
PXZ	**Pawanui**	**2.08**	**115**	P	**Pb**	**14 00 02.0**	**+1.4**
RAHZ	**Arahi**	**2.10**	**84**	P	**Pb**	**13 59 58.0**	**+1.4**
KBAZ	**Karaka Road Bo**	**2.10**	**10**	P	**Pn**	**13 59 58.1**	**+1.5**
AWAZ	**Awhitu Peninsu**	**2.10**	**5**	P	**Pn**	**13 59 57.7**	**+1.0**
WEL	**Wellington**	**2.13**	**173**	P	**Pn**	**13 59 58.8**	**+1.7**
OPRZ	**Ohinepanea**	**2.14**	**53**	P	**Pn**	**13 59 58.0**	**+0.8**
MKAZ	**Moumakai**	**2.14**	**16**	P	**Pn**	**13 59 58.0**	**+0.8**
SNZO	**South Karori**	**2.15**	**174**	P	**Pn**	**13 59 58.5**	**+1.1**
MTW	**Mount Morrison**	**2.16**	**158**	P	**Pn**	**13 59 59.7**	**+2.2**
TKNZ	**Takaka Hill**	**2.17**	**210**	P	**Pn**	**13 59 57.5**	**-0.2**
WHHZ	**Waihua**	**2.20**	**89**	P	**Pb**	**14 00 00.9**	**-1.7**
NNZ	**Nelson**	**2.20**	**201**	P	**Pn**	**13 59 58.1**	**+0.1**
QRZ	**Quartz Range**	**2.20**	**221**	P	**Pn**	**13 59 57.3**	**-0.7**
QRZ	**Quartz Range**	**2.20**	**221**	P	**Pn**	**13 59 57.3**	**-0.7**
CPWZ	**Castlepoint**	**2.22**	**142**	P	**Pb**	**14 00 03.7**	**+0.7**
ETAZ	**East Tamaki Re**	**2.25**	**11**	P	**Pn**	**13 59 59.5**	**+0.8**
TMWZ	**Te Maipa**	**2.25**	**150**	P	**Pn**	**14 00 01.3**	**+2.6**
BHW	**Baring Head**	**2.27**	**171**	P	**Pn**	**14 00 00.7**	**+1.8**
TUWZ	**Tuamarina**	**2.29**	**189**	P	**Pn**	**13 59 59.9**	**+0.6**
URZ	**Urewera**	**2.30**	**68**	P	**Pb**	**14 00 02.2**	**-2.1**
URZ	**Urewera**	**2.30**	**68**	P	**Pb**	**14 00 02.1**	**-2.1**
SNGZ	**Shannon Statio**	**2.31**	**81**	P	**Pb**	**14 00 02.9**	**-1.7**
PAWZ	**Paruwai Farm**	**2.35**	**161**	P	**Pn**	**14 00 02.5**	**+2.4**
RVAZ	**Riverhead Bore**	**2.39**	**3**	P	**Pn**	**14 00 01.3**	**+0.6**
MBAZ	**Motutapu North**	**2.42**	**9**	P	**Pn**	**14 00 01.9**	**+0.8**
TRWZ	**Traveller**	**2.43**	**157**	P	**Pb**	**14 00 05.0**	**-1.6**
WIAZ	**Waiheke Island**	**2.44**	**14**	P	**Pn**	**14 00 02.3**	**+1.0**
RAGZ	**Rawiri**	**2.44**	**75**	P	**Pb**	**14 00 04.6**	**-2.1**
PLWZ	**Palliser**	**2.49**	**165**	P	**Pn**	**14 00 04.5**	**+2.5**
MRNZ	**Matariki Terra**	**2.57**	**209**	P	**Pn**	**14 00 03.1**	**0.0**
MWZ	**Matawai**	**2.57**	**72**	P	**Pn**	**14 00 05.3**	**+2.1**
BSWZ	**Blackbirch Sta**	**2.58**	**189**	P	**Pn**	**14 00 04.9**	**+1.7**
ABAZ	**Army Bay**	**2.58**	**8**	P	**Pn**	**14 00 04.1**	**+0.9**
CMWZ	**Cape Campbell**	**2.59**	**183**	P	**Pn**	**14 00 06.5**	**+3.2**
KUZ	**Kuaotunu**	**2.63**	**24**	P	**Pn**	**14 00 04.2**	**+0.3**
KUZ	**Kuaotunu**	**2.63**	**24**	P	**Pn**	**14 00 04.0**	**+0.1**
PRGZ	**Paritu Road**	**2.71**	**86**	P	**Pn**	**14 00 07.2**	**+2.1**
RUGZ	**Raukumara Rang**	**2.83**	**66**	P	**Pn**	**14 00 09.2**	**+2.4**
THZ	**Tophouse**	**2.84**	**203**	P	**Pn**	**14 00 07.3**	**+0.4**
TWGZ	**Tauwhareparae**	**2.96**	**72**	P	**Pb**	**14 00 12.2**	**-3.4**
HAZ	**Te Kaha**	**3.00**	**63**	P	**Pn**	**14 00 10.7**	**+1.8**
GRZ	**Great Barrier**	**3.02**	**16**	P	**Pn**	**14 00 09.6**	**+0.2**
PUZ	**Puketiti**	**3.20**	**71**	P	**Pn**	**14 00 14.7**	**+2.9**
WCZ	**Waipu Caves**	**3.22**	**359**	P	**Pn**	**14 00 12.8**	**+0.7**
DSZ	**Denniston Nort**	**3.26**	**217**	P	**Pn**	**14 00 12.5**	**-0.1**
KHZ	**Kahutara**	**3.31**	**191**	P	**Pn**	**14 00 15.1**	**+1.8**
KHZ	**Kahutara**	**3.31**	**191**	P	**Pn**	**14 00 14.6**	**+1.2**
WMGZ	**Waiomatatini S**	**3.42**	**68**	P	**Pn**	**14 00 17.6**	**+2.9**
MXZ	**Matakaoa Point**	**3.45**	**64**	P	**Pn**	**14 00 18.5**	**+3.2**
MXZ	**Matakaoa Point**	**3.45**	**64**	P	**Pn**	**14 00 18.4**	**+3.2**
GVZ	**Greta Valley S**	**3.94**	**195**	P	**Pn**	**14 00 22.7**	**+0.8**
LTZ	**Lake Taylor**	**3.96**	**203**	P	**Pn**	**14 00 23.2**	**+1.0**
OUZ	**Omahuta**	**3.99**	**350**	P	**Pn**	**14 00 23.3**	**+0.6**
INZ	**Inchbonnie**	**4.21**	**211**	P	**Pn**	**14 00 25.7**	**+0.1**
OXZ	**Oxford**	**4.53**	**203**	P	**Pn**	**14 00 29.4**	**-0.6**
TMZ	**Tinaru**	**5.80**	**205**	P	**Pn**	**14 00 46.6**	**-1.0**
ODZ	**Otahua Downs**	**6.51**	**204**	P	**Pn**	**14 00 56.5**	**-0.7**

*NEIC **09** 14:11:06.5±1.4, 19˚41N±0.01˚×155˚05W±0.03, h5km±1km, Error ellipse: s-maj=5.2km s-min=2.9km az=106.0*
HVO 09 14:11:05.4±1.4, 19.375N±0.010˚×154.99W±0.03, h6km±5km, ML2.5/8, ML2.6/26(NEIC), Error ellipse: s-maj=4.5km s-min=1.3km az=95.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.06**	**346**		Pg	14 11 07.3	+0.2
JCUZ	**Jacuzzi**	**0.11**	**275**	Pg	Pg	14 11 08.1	+0.2
NPOC	**North of Pu'u**	**0.12**	**279**		Pg	14 11 08.4	+0.4
NPOC	**North of Pu'u**	**0.12**	**279**	IAML		14 11 10.8	
	comp=E,1µm,0.2s						
NPOC				IAML		14 11 10.9	
	comp=N,1µm,0.3s						
STCH	**Steam Cracks**	**0.13**	**274**		Pg	14 11 08.5	+0.4
STCH	**Steam Cracks**	**0.13**	**274**	IAML		14 11 11.0	
	comp=N,492nm,0.2s						
STCH				IAML		14 11 11.1	
	comp=E,1µm,0.2s						
PUH	**Pauahi**	**0.21**	**270**		Pg	14 11 09.7	0.0
PUH				IAML		14 11 15.9	
	comp=N,967nm,0.7s						
RSD	**Rainshed**	**0.29**	**288**		Pg	14 11 11.7	+0.6
RSD	**Rainshed**	**0.29**	**288**	IAML		14 11 14.7	
	comp=E,731nm,0.5s						
RSD				IAML		14 11 18.1	
	comp=N,820nm,0.4s						
HLP	**Hilina Pali**	**0.31**	**255**	IAML		14 11 19.1	
	comp=E,1µm,1.2s						
HLP				IAML		14 11 22.4	
	comp=N,843nm,1.0s						
HLP	**Hilina Pali**	**0.31**	**255**		Pg	14 11 12.3	+0.8
HLP					Sb	14 11 17.6	-1.2
MLH	**Mauna Loa**	**0.39**	**288**		Pg	14 11 13.4	+0.3
MLH	**Mauna Loa**	**0.39**	**288**	IAML		14 11 19.4	
	comp=E,480nm,1.1s						
MLH				IAML		14 11 20.0	
	comp=N,786nm,0.9s						
HTC	**Hot Caves**	**0.41**	**251**		Pg	14 11 13.8	+0.4
HMH	**Humu'ula Sheep**	**0.52**	**296**		Pg	14 11 15.5	+0.1
HMH					Sg	14 11 23.3	+1.1
MLOA	**Mauna Loa Obse**	**0.58**	**286**		Sg	14 11 24.8	+0.6
MLOA	**Mauna Loa Obse**	**0.58**	**286**		Pg	14 11 16.1	-0.6
MLOA				IAML		14 11 24.8	
	comp=N,277nm,0.9s						
MLOA				IAML		14 11 25.2	
	comp=E,363nm,0.2s						
MWH	**Moku'aweowe**	**0.58**	**281**		Pg	14 11 16.2	-0.6
KHU	**Kahuku**	**0.60**	**258**		Sg	14 11 25.5	+0.5
KHU	**Kahuku**	**0.60**	**258**	Pg	Pg	14 11 16.6	-0.5
KHU				IAML		14 11 20.1	
	comp=E,320nm,3.5s						
KHU				IAML		14 11 29.9	
	comp=N,336nm,3.1s						
POHA	**Pohakuloa**	**0.64**	**307**	Pg	Pg	14 11 16.9	-0.9
POHA				IAML		14 11 27.1	
	comp=N,265nm,0.2s						
POHA				IAML		14 11 34.7	
	comp=N,227nm,0.8s						
ALEP	**Alea Permanent**	**0.64**	**285**		Pg	14 11 17.1	-0.7
ALEP					Sg	14 11 26.5	+0.3
HUH	**Hualalai**	**0.86**	**291**	Pg	Pg	14 11 21.3	-0.6
CPH	**Captain Cook**	**0.88**	**277**		Pg	14 11 21.3	-1.1

*IDC **09** 15:00:09.3±0.5, 52˚24N×174˚31E, h0km, mb4.7/33, mbtmp4.7/36, ML4.5/3, MS4.2/83, Error ellipse: s-maj=11.2km s-min=9.6km az=165.0*
*AEIC **09** 15:00:11.6±2.9, 51˚8N±0˚1×174˚24E±0˚09, h10km±3km, Error ellipse: s-maj=15.8km s-min=8.0km az=177.0*
*MOS **09** 15:00:13.2±1.0, 52˚22N×174˚21E, h37km, mb5.1/96, MS4.6/6, Error ellipse: s-maj=6.0km s-min=3.8km az=123.4*
*NEIC **09** 15:00:15.8±2.1, 52˚29N±0˚06×174˚20E±0˚09, h45km±5km, mb5.0/449, ML4.8(AEIC), Error ellipse: s-maj=9.1km s-min=7.3km az=224.0*
*GCMT **09** 15:00:16.8±0.3, 52˚27N±0˚02×174˚22E±0˚03, h39km±1km, MW5.1/85, Moment Tensor Solution. s63,c71; s85,c116; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.50±.27; $M_{\theta\theta}$-5.51±.18; $M_{\phi\phi}$0.00±.18; $M_{r\theta}$1.99±.19; $M_{r\phi}$1.10±.10; $M_{\theta\phi}$0.21±.19; Best double couple: M_o5.95800×10^{16} NP1:ϕ95.00000°,δ55.00000°,λ83.00000°. NP2: ϕ287.00000°,δ36.00000°,λ100.00000°. Principal axes: T 5.8760, Plg79.0000°, Azm339.0000°; N 0.1630, Plg6.0000°, Azm99.0000°; P -6.0400, Plg9.0000°, Azm190.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*BJI **09** 15:00:16.4±0.0, 52˚50N×173˚88E, h58km, mb5.0/67, mB5.0/35, Ms4.5/39, Ms7 4.3/41*
*KRSC **09** 15:00:17.4±1.8, 52˚09N×173˚42E, h44km±30km, Ml5.5*
ISC 09 15:00:14.8±0.4, 52.18N±0.05×174.22E±0.03, h44km±2km, h44km:pP-P,n1177,σ1§40/981, mb4.9/352, MS4.3/104, 42C-18D, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	**0.55**	**352**	Pn	**Pn**	**15 00 25.5**	**-0.9**
	22µm,0.3s,baz=178,slow=6.4,SNR=5572						
SHEM				Sn	**Sn**	**15 00 33.8**	**-0.8**
	13µm,0.3s,baz=117,slow=3.3,SNR=16						
LSNW	**Little Sitkin**	**2.66**	**93**		**Pn**	**15 00 56.7**	**+1.5**
LSSA	**Little Sitkin**	**2.66**	**93**		**Pn**	**15 00 56.8**	**+1.6**
LSSA					**Sn**	**15 01 28.6**	**+2.4**
LSPA	**Little Sitkin**	**2.70**	**93**		**Pn**	**15 00 57.7**	**+2.0**
LSPA					**Sn**	**15 01 31.6**	**+4.6**
LSSE	**Little Sitkin**	**2.70**	**94**		**Pn**	**15 00 57.3**	**+1.6**
AMKA	**Amchitka**	**3.26**	**102**	Pn	**Pn**	**15 01 03.9**	**+0.6**
AMKA					**Sn**	**15 01 41.7**	**+0.9**
CESW	**Semis' Southwe**	**3.31**	**93**		**Pn**	**15 01 04.9**	**+0.8**
CERB	**Semis' Cerberu**	**3.35**	**92**		**Pn**	**15 01 06.8**	**+2.1**
CERB					**Sn**	**15 01 48.2**	**+5.1**
CEPE	**Semis' Perret**	**3.36**	**92**		**Pn**	**15 01 06.6**	**+1.9**
BKI	**Bering**	**5.76**	**305**	*eP*	**Pn**	**15 01 40.7**	**+3.1**
BKI				*eS*	**Sn**	**15 02 42.0**	**-0.3**
BKI	**Bering**	**5.76**	**305**	P	**Pn**	**15 01 40.7**	**+3.1**
BKI				S	**Sn**	**15 02 42.0**	**-0.3**
KOKL	**Mount Kliuchef**	**7.11**	**84**		**Pn**	**15 01 57.4**	**+1.1**
ATKA	**Atka Island**	**7.12**	**85**	P	**Pn**	**15 01 58.0**	**+1.6**
ATKA	**Atka Island**	**7.12**	**85**		**Pn**	**15 01 57.5**	**+1.2**
ATKA				Sn	**Sn**	**15 03 15.1**	**-0.8**
KOFP	**Korovin Flat P**	**7.18**	**85**		**Pn**	**15 01 58.6**	**+1.4**
KBTR	**Krutoberegovo**	**7.80**	**306**	*eP*	**Pn**	**15 02 07.8**	**+2.1**
KBTR	**Krutoberegovo**	**7.80**	**306**	P	**Pn**	**15 02 07.8**	**+2.1**
TUMD	**Tumrok D**	**8.74**	**296**	*eP*	**Pn**	**15 02 19.5**	**+1.0**
BZP	**Bezymyannyi-Pe**	**8.87**	**300**	*eP*	**Pn**	**15 02 22.4**	**+2.0**
TUMR	**Tumrok**	**8.90**	**296**	*eP*	**Pn**	**15 02 23.4**	**+2.6**
TUMR	**Tumrok**	**8.90**	**296**	P	**Pn**	**15 02 19.5**	**-1.3**
BZMR	**Bezymyannaya**	**8.90**	**300**	*eP*	**Pn**	**15 02 23.1**	**+2.2**
BZMR	**Bezymyannaya**	**8.90**	**300**	P	**Pn**	**15 02 23.1**	**+2.2**
BZWR	**Bezymyannyi-We**	**8.91**	**301**	*eP*	**Pn**	**15 02 22.9**	**+1.9**
BZWR	**Bezymyannyi-We**	**8.91**	**301**	P	**Pn**	**15 02 22.9**	**+1.9**
KMNR	**Kamenistaya**	**8.98**	**299**	*eP*	**Pn**	**15 02 23.7**	**+1.8**
KMNR	**Kamenistaya**	**8.98**	**299**	P	**Pn**	**15 02 23.7**	**+1.8**
KII	**Karymskiy**	**9.08**	**288**	*eP*	**Pn**	**15 02 24.1**	**+1.0**
KII	**Karymskiy**	**9.08**	**288**	P	**Pn**	**15 02 24.2**	**+1.0**
NLC	**Nalytchevo**	**9.09**	**282**	*eP*	**Pn**	**15 02 23.7**	**+0.4**
NLC	**Nalytchevo**	**9.09**	**282**	P	**Pn**	**15 02 23.7**	**+0.4**
UGLR	**Uglovaya**	**9.41**	**282**	*eP*	**Pn**	**15 02 28.9**	**+1.2**
UGLR	**Uglovaya**	**9.41**	**282**	P	**Pn**	**15 02 28.9**	**+1.2**
SMAR	**Somma**	**9.42**	**283**	*eP*	**Pn**	**15 02 29.0**	**+1.0**
SMAR	**Somma**	**9.42**	**283**	P	**Pn**	**15 02 29.0**	**+1.0**
SRDR	**Sredinnyy**	**9.44**	**302**	*eP*	**Pn**	**15 02 31.6**	**+3.5**
SRDR	**Sredinnyy**	**9.44**	**302**	P	**Pn**	**15 02 31.6**	**+3.5**
DALK	**Dalny**	**9.45**	**281**	*eP*	**Pn**	**15 02 28.6**	**+0.4**
DALK				*eS*	**Sn**	**15 04 06.9**	**-6.1**
DALK	**Dalny**	**9.45**	**281**	P	**Pn**	**15 02 28.6**	**+0.4**
DALK				S	**Sn**	**15 04 06.9**	**-6.1**
KRER	**Koryakskii**	**9.45**	**283**	*eP*	**Pn**	**15 02 29.9**	**+1.4**
KRER	**Koryakskii**	**9.45**	**283**	P	**Pn**	**15 02 29.9**	**+1.4**
AVH	**Avacha**	**9.46**	**283**	*eP*	**Pn**	**15 02 29.4**	**+1.0**
AVH	**Avacha**	**9.46**	**283**	P	**Pn**	**15 02 29.4**	**+1.0**
PET	**Petropavlovsk**	**9.51**	**281**		**Sn**	**15 04 12.2**	**-2.3**
PET	**Petropavlovsk**	**9.51**	**281**	Pn	**Pn**	**15 02 29.2**	**+0.1**
PET	**Petropavlovsk**	**9.51**	**281**	*eP*	**Pn**	**15 02 30.7**	**+1.6**
PET	**Petropavlovsk**	**9.51**	**281**	*eP*	**Pn**	**15 02 30.9**	**+1.9**
PET				*eS*	**Sn**	**15 04 09.9**	**-4.6**
PET				MLR	MLR		
	comp=Z,500nm,14.0s						
PET	**Petropavlovsk**	**9.51**	**281**	Pn	**Pn**	**15 02 31.3**	**+2.3**
	comp=Z,47nm,0.8s						
KRX	**Arik**	**9.51**	**283**	*eP*	**Pn**	**15 02 29.6**	**+0.4**
KRX	**Arik**	**9.51**	**283**	P	**Pn**	**15 02 29.6**	**+0.4**
KOK	**Koryaka**	**9.52**	**283**	*eP*	**Pn**	**15 02 30.3**	**+1.0**
KOK	**Koryaka**	**9.52**	**283**	P	**Pn**	**15 02 30.3**	**+1.0**
RUS	**Russkaya**	**9.63**	**278**	*eP*	**Pn**	**15 02 31.2**	**+0.6**
RUS	**Russkaya**	**9.63**	**278**	P	**Pn**	**15 02 31.2**	**+0.6**
MTVR	**Mutnovka**	**9.82**	**278

comp=Z,64nm,2.5s
CHGN Chignik 16.46 65 Pn **P** **15 04 03.1 -1.5**
CHGN Chignik 16.46 65 P **P** **15 04 03.3 -1.2**
baz=267
K15K Wolf Creek Mou 16.46 43 P **P** **15 04 06.4 +1.8**
K15K IAmb IAmb 15 04 09.2
comp=Z,179nm,1.4s
K15K Wolf Creek Mou 16.46 43 P **P** **15 04 04.4 -0.1**
baz=243,SNR=8.3
F14K Arctic Creek 16.59 29 P **P** **15 04 06.6 +0.7**
baz=226
G15K Niukluk 16.99 33 P **P** **15 04 11.7 +1.3**
baz=232,SNR=5.5
N16K Nishlik Lake 17.02 50 P **P** **15 04 10.3 -0.4**
baz=253
R16K Pilot Point 17.03 60 P **P** **15 04 10.0 -0.7**
baz=264
P16K Nushagak River 17.04 55 P **P** **15 04 10.5 -0.4**
baz=259
L16K Owhat River 17.11 46 P **P** **15 04 12.9 +1.2**
L16K Owhat River 17.11 46 P **P** **15 04 11.9 +0.3**
baz=248,SNR=12
O16K Kokwok River B 17.11 53 P **P** **15 04 12.5 +0.8**
O16K Kokwok River B 17.11 53 P **P** **15 04 11.8 +0.1**
baz=257,SNR=11
F15K North Star Dit 17.26 30 P **P** **15 04 14.9 +1.5**
F15K North Star Dit 17.26 30 P **P** **15 04 14.8 +1.4**
baz=229,SNR=19
J16K Anvik River 17.30 40 P **P** **15 04 16.3 +2.5**
J16K Anvik River 17.30 40 P **P** **15 04 15.1 +1.3**
baz=242,SNR=12
H16K Elim 17.40 35 P **P** **15 04 16.1 +1.3**
baz=236,SNR=7.8
I17K Unalakleet 17.56 38 Pn **P** **15 04 19.0 +2.3**
I17K IAmb IAmb 15 04 22.8
comp=Z,78nm,1.1s
I17K Unalakleet 17.56 38 P **P** **15 04 18.0 +1.4**
baz=240,SNR=12
O17K Koliganek Bris 17.64 53 P **P** **15 04 18.1 +0.6**
baz=258,SNR=10
Q16K King Salmon 17.66 57 P **P** **15 04 17.8 0.0**
baz=261,SNR=9.6
L17K Donlin 17.78 45 P **P** **15 04 19.3 +0.2**
baz=249,SNR=15
N17K Nushagak Hills 17.78 51 IAmb IAmb 15 04 23.1
comp=Z,181nm,1.4s
N17K Nushagak Hills 17.78 51 P **P** **15 04 20.0 +0.9**
baz=255,SNR=23
G16K Koyuk River 17.80 33 P **P** **15 04 21.3 +2.0**
G16K Koyuk River 17.80 33 P **P** **15 04 20.3 +1.1**
baz=233,SNR=6.5
P17K Kvichak River 17.86 55 P **P** **15 04 20.1 +0.2**
baz=260,SNR=7.4
M17K Holitna River 17.92 48 **P** **15 04 22.1 +1.5**
M17K IAmb IAmb 15 04 25.2
comp=Z,165nm,1.1s
M17K Holitna River 17.92 48 P **P** **15 04 21.4 +0.8**
baz=252,SNR=33
J17K VABM Dome 17.97 41 **P** **15 04 22.8 +1.6**
J17K VABM Dome 17.97 41 P **P** **15 04 22.7 +1.6**
baz=244,SNR=9.8
K17K Iditarod 18.00 43 IAmb IAmb 15 04 25.6
comp=Z,142nm,1.6s
K17K Iditarod 18.00 43 P **P** **15 04 22.8 +1.3**
baz=247,SNR=14
Q17K Contact Creek 18.00 58 P **P** **15 04 21.9 +0.2**
baz=264,SNR=20
CHIR Chirikof Islan 18.02 66 P **P** **15 04 21.8 0.0**
baz=271
H17K Granite Mounta 18.39 36 P **Pn** **15 04 27.0 +0.7**
baz=239,SNR=7.3
N18K Kilae Creek 18.44 51 IAmb IAmb 15 04 31.3
comp=Z,143nm,1.6s
N18K Kilae Creek 18.44 51 P **Pn** **15 04 27.1 +0.2**
baz=256,SNR=11
G17K Kiwalik Mounta 18.44 34 P **Pn** **15 04 27.8 +1.0**
baz=236
P18K Big Mountain, 18.50 55 IAmb IAmb 15 04 31.3
comp=Z,157nm,1.4s
P18K Big Mountain, 18.50 55 P **Pn** **15 04 27.4 -0.2**
baz=261,SNR=9.4
L18K Granite Mounta 18.52 46 IAmb IAmb 15 04 32.6
comp=Z,143nm,1.4s
L18K Granite Mounta 18.52 46 P **Pn** **15 04 27.7 0.0**
baz=251,SNR=21
O18K Koktuh Hills 18.59 54 IAmb IAmb 15 04 32.8
comp=Z,168nm,1.5s
O18K Koktuh Hills 18.59 54 P **Pn** **15 04 28.5 -0.2**
baz=259,SNR=11
M18K Stony River 18.68 48 P **Pn** **15 04 29.7 0.0**
baz=254,SNR=15
F17K Baldwin Pennin 18.80 31 IAmb IAmb 15 04 36.0
comp=Z,230nm,1.5s
F17K Baldwin Pennin 18.80 31 P **Pn** **15 04 31.7 +0.7**
baz=233,SNR=26
SII Sitkinak Islan 18.82 64 P **Pn** **15 04 30.9 -0.5**
SII Sitkinak Islan 18.82 64 P **P** **15 04 29.5 -1.1**
SII IAmb IAmb 15 04 33.4
comp=Z,199nm,1.3s
SII Sitkinak Islan 18.82 64 P **P** **15 04 30.4 -0.2**
baz=270
C16K Lisburne Hills 18.89 24 P **Pn** **15 04 32.6 +0.5**
baz=222
J18K Innoko River 18.96 42 P **Pn** **15 04 33.4 +0.4**
baz=247,SNR=24
E17K Hotham Inlet 19.02 29 P **Pn** **15 04 34.5 +0.8**
baz=230,SNR=16
D17K Noatak River 19.07 27 P **Pn** **15 04 34.6 +0.3**
baz=227,SNR=31
H18K Honhosa River 19.07 37 P **Pn** **15 04 34.0 -0.3**
H18K IAmb IAmb 15 04 36.4
comp=Z,143nm,1.5s
H18K Honhosa River 19.07 37 P **Pn** **15 04 35.1 +0.7**
baz=240
O19K Port Alsworth 19.09 53 IAmb IAmb 15 04 39.7
comp=Z,35nm,0.6s
O19K Port Alsworth 19.09 53 P **Pn** **15 04 34.5 -0.1**
baz=260,SNR=9.5
N19K Bonanza Creek 19.14 51 IAmb IAmb 15 04 39.8
comp=Z,167nm,1.4s
N19K Bonanza Creek 19.14 51 P **Pn** **15 04 35.0 -0.3**
baz=258,SNR=13
Q19K Cape Douglas, 19.25 57 P **P** **15 04 35.4 +0.2**
baz=264
OHAK Old Harbor 19.32 62 P **Pn** **15 04 36.3 -1.0**
OHAK Old Harbor 19.32 62 IAmb IAmb 15 04 42.5
comp=Z,37nm,0.5s
OHAK Old Harbor 19.32 62 P **P** **15 04 35.6 -0.3**
baz=269,SNR=7.0
L19K White Mountain 19.32 47 IAmb IAmb 15 04 41.9
comp=Z,196nm,1.8s
L19K White Mountain 19.32 47 P **Pn** **15 04 37.0 -0.5**
baz=253,SNR=22
G18K Tagagawik 19.35 34 IAmb IAmb 15 04 39.1
comp=Z,171nm,1.4s
G18K Tagagawik 19.35 34 P **Pn** **15 04 38.1 +0.4**
baz=238,SNR=48
RDOG Red Dog Mine 19.36 26 IAmb IAmb 15 04 45.5
comp=Z,46nm,0.7s
RDOG Red Dog Mine 19.36 26 P **Pn** **15 04 37.7 -0.2**
baz=226,SNR=33
F18K Selawik 19.41 32 P **Pn** **15 04 38.8 +0.5**
baz=235,SNR=46
GCSA Galena City Sc 19.43 39 P **Pn** **15 04 38.6 0.0**
baz=244,SNR=24
M19K Big River Lodg 19.45 48 IAmb IAmb 15 04 42.8
comp=Z,114nm,1.4s
M19K Big River Lodg 19.45 48 P **Pn** **15 04 38.7 -0.3**
baz=255
P19K Oil Pt 19.55 55 P **Pn** **15 04 39.1 -1.0**
baz=262
C17K DeLong Mountai 19.59 25 P **Pn** **15 04 41.1 +0.6**
baz=225,SNR=28
E18K Tukpahlearik C 19.61 29 IAmb IAmb 15 04 43.1
comp=Z,178nm,1.6s
E18K Tukpahlearik C 19.61 29 P **Pn** **15 04 41.0 +0.3**
baz=232,SNR=36
TYV Tymovskoe 19.61 279 *e*P **Pn** **15 04 42.8 +2.0**
TYV pmax pmax
comp=Z,14nm,0.9s
TYV pmax pmax
comp=Z,100nm,3.0s
J19K Poorman 19.62 41 P **Pn** **15 04 40.7 -0.2**
J19K IAmb IAmb 15 04 47.1
comp=Z,39nm,0.6s
J19K Poorman 19.62 41 P **Pn** **15 04 40.6 -0.2**
baz=247,SNR=35
KDAK Kodiak Island 19.72 60 P **P** **15 04 39.6 -0.7**
KDAK IAmb IAmb 15 04 41.9
comp=Z,152nm,1.4s
KDAK Kodiak Island 19.72 60 P **P** **15 04 40.1 -0.2**
baz=268
KDAK Kodiak Island 19.72 60 P **P** **15 04 39.5 -0.8**
comp=Z,7.4nm,0.3s,baz=266,slow=6.4,SNR=28
KDAK Sn **S** **15 08 19.0 -0.9**
comp=Z,0.3nm,0.3s,baz=327,slow=19,SNR=1.7
KDAK LR LR 15 12 25.3
comp=Z,955nm,20.5s,baz=264,slow=38
comp=Z,32nm,0.5s
L20K Farewell, AK 19.84 46 P **Pn** **15 04 42.5 -1.1**
baz=254
Q20K Shuyak Island 19.86 58 P **P** **15 04 42.3 +0.4**
baz=266
SYI Shuyak Island 19.86 58 IAmb IAmb 15 04 48.2
comp=Z,63nm,0.8s
RSO Redoubt South 19.91 52 P **Pn** **15 04 44.0 -0.6**
O20K Slope Mountain 19.91 54 P **P** **15 04 42.2 -0.3**
baz=262
H19K Roundabout Mou 19.96 37 P **P** **15 04 43.5 +0.7**
baz=242,SNR=17
M20K Styx River 20.02 48 IAmb IAmb 15 04 50.6
comp=Z,43nm,0.8s
M20K Styx River 20.02 48 P Pn 15 04 44.7 -1.1
baz=256,SNR=28
G19K Purcell Mounta 20.03 35 IAmb IAmb 15 04 46.8
comp=Z,112nm,1.8s
G19K Purcell Mounta 20.03 35 P **P** **15 04 44.1 +0.5**
baz=240,SNR=15
K20K Telida 20.03 44 IAmb IAmb 15 04 51.8
comp=Z,34nm,0.7s
K20K Telida 20.03 44 P Pn 15 04 44.6 -1.2
baz=251,SNR=25
F19K Shaleruckik Mo 20.16 33 P Pn 15 04 46.1 -1.1
F19K IAmb IAmb 15 04 47.3
comp=Z,114nm,1.6s
F19K Shaleruckik Mo 20.16 33 P **P** **15 04 45.9 +0.9**
baz=237,SNR=29
C18K Utukok River 20.24 26 P Pn 15 04 47.2 -1.0
baz=228,SNR=39
J20K Nowinta River 20.29 41 IAmb IAmb 15 04 50.4
comp=Z,102nm,0.8s
J20K Nowinta River 20.29 41 P Pn 15 04 47.4 -1.3
baz=249,SNR=109
N20K Mount Spurr 20.31 50 P **P** **15 04 46.7 -0.1**
baz=259
HOM Homer 20.35 55 P **P** **15 04 47.0 -0.2**
baz=264
I20K Naaghedeneel 20.39 40 IAmb IAmb 15 04 54.5
comp=Z,73nm,0.7s
I20K Naaghedeneel 20.39 40 P **P** **15 04 48.3 +0.7**
baz=247,SNR=14
H20K Anotlenegea Mo 20.52 38 P **P** **15 04 49.7 +0.6**
baz=245,SNR=113
UGL Uglegorsk 20.54 274 ⇓ *i*P Pn 15 04 53.0 +1.2
UGL *e* 15 05 02.9
UGL *e*S Sn 15 08 42.9 +0.7
UGL *e* 15 09 10.3
UGL pmax pmax
comp=Z,90nm,0.9s
B18K Kokolik River 20.57 24 P Pn 15 04 51.0 -1.0
baz=226,SNR=24
E19K Redstone River 20.68 31 P **P** **15 04 51.9 +1.2**
baz=237
PPLA Purpypile 20.71 46 P Pn 15 04 52.4 -1.5
baz=255,SNR=17
BRLK Bradley Lake 20.74 55 P **P** **15 04 51.9 +0.4**
SKT Skwentna 20.79 49 IAmb IAmb 15 04 58.4
comp=Z,40nm,0.8s
SKT Skwentna 20.79 49 P **P** **15 04 52.7 +0.8**
baz=258,SNR=23
BRSE Bradley Lake S 20.81 55 P **P** **15 04 51.9 -0.3**
baz=264
CAST Castle Rocks 20.90 44 P Pn 15 04 54.5 -1.6
CAST IAmb IAmb 15 05 00.3
comp=Z,61nm,0.8s
CAST Castle Rocks 20.90 44 P **P** **15 04 53.6 +0.4**
baz=253,SNR=60
CHUM Lake Minchumin 20.94 43 P Pn 15 04 54.8 -1.7
baz=252,SNR=43
F20K Avaraart Lake 20.96 33 IAmb IAmb 15 05 05.6
comp=Z,154nm,1.8s
F20K Avaraart Lake 20.96 33 P **P** **15 04 54.4 +0.7**
baz=240,SNR=33
YSS Yuzh-Sakhalins 20.96 268 *e*P Pn 15 04 56.2 -0.6
YSS *e**SP sP 15 05 10.3 +0.4
YSS *e*S **S** **15 08 44.9 +0.1**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,200nm,4.5s
YSS smax smax
comp=N,400nm,6.0s
YSS smax smax
comp=E,500nm,6.0s
C19K Lookout Ridge 20.98 26 P **P** **15 04 55.0 +1.0**
C19K IAmb IAmb 15 05 00.3
comp=Z,62nm,1.1s
C19K Lookout Ridge 20.98 26 P **P** **15 04 54.6 +0.7**
baz=230,SNR=24
D19K Kuna River 21.01 29 P **P** **15 04 55.6 +1.3**
baz=233
SUA Susitna One 21.05 50 IAmb IAmb 15 05 08.6
comp=Z,85nm,1.6s
SUA Susitna One 21.05 50 P **P** **15 04 54.7 -0.2**
baz=260
IMAR Indian Mountai 21.16 37 P **P** **15 04 56.8 +0.9**
A19K Wainwright 21.35 23 P **P** **15 04 58.9 +1.1**
baz=225
H21K Melozitna Rive 21.38 38 IAmb IAmb 15 05 03.2
comp=Z,34nm,0.9s
H21K Melozitna Rive 21.38 38 P **P** **15 04 59.0 +0.7**
baz=247,SNR=42
M22K Willow 21.40 49 P **P** **15 04 58.6 +0.2**
baz=260
O22K Cooper Landing 21.40 53 IAmb IAmb 15 05 16.6
comp=Z,55nm,0.6s
O22K Cooper Landing 21.40 53 P **P** **15 04 58.8 +0.4**
baz=264
KTH Kantishna Hill 21.44 44 P **P** **15 04 59.8 +0.8**
E20K Nigu River 21.45 30 P **P** **15 05 00.0 +0.9**
baz=236,SNR=53
RC01 Rabbit Creek A 21.47 51 P **P** **15 04 59.3 +0.1**
baz=262
G21K Allakaket 21.48 36 P **P** **15 04 59.9 +0.6**
baz=244
SEW Seward 21.49 54 P **P** **15 04 59.4 0.0**
baz=265
I21K Tanana 21.52 40 P **P** **15 05 00.5 +0.8**
baz=249
BPAW Bear Paw Mtn. 21.57 43 P **P** **15 05 01.4 +1.1**
BPAW IAmb IAmb 15 05 05.7
comp=Z,40nm,0.9s
BPAW Bear Paw Mtn. 21.57 43 P **P** **15 05 00.8 +0.5**
baz=253,SNR=29
D20K Etivluk River 21.58 29 P **P** **15 05 01.3 +0.9**
baz=235
TRF Thorofare Moun 21.69 45 IAmb IAmb 15 05 17.4
comp=Z,95nm,1.2s
TRF Thorofare Moun 21.69 45 P **P** **15 05 02.3 +0.6**
baz=256,SNR=29
F21K Alatna River 21.81 34 IAmb IAmb 15 05 06.3
comp=Z,101nm,1.2s
F21K Alatna River 21.81 34 P **P** **15 05 03.5 +0.6**
baz=242,SNR=54
PMR Palmer 21.83 50 P **P** **15 05 05.0 +1.9**
PMR Palmer 21.83 50 P **P** **15 05 03.1 0.0**
baz=261
MLY Manley 21.96 41 P **P** **15 05 04.2 -0.3**
MLY IAmb IAmb 15 05 09.9
comp=Z,52nm,0.8s
MLY Manley 21.96 41 P **P** **15 05 05.1 +0.6**
baz=251,SNR=50
H22K Ishtalitna Cre 22.01 38 P **P** **15 05 05.5 +0.4**
baz=248
KNK Knik Glacier 22.13 51 IAmb IAmb 15 05 09.6
comp=Z,30nm,0.8s
KNK Knik Glacier 22.13 51 P **P** **15 05 05.7 -0.6**
baz=263,SNR=13
B20K Meade River 22.21 26 IAmb IAmb 15 05 11.9
comp=Z,65nm,0.8s
B20K Meade River 22.21 26 P **P** **15 05 07.5 +0.4**
baz=231,SNR=32
SML Sawmill 22.24 50 P **P** **15 05 07.7 +0.1**
SML Sawmill 22.24 50 P **P** **15 05 07.2 -0.4**
baz=262,SNR=42
E21K Killik River 22.25 31 IAmb IAmb 15 05 10.9
comp=Z,105nm,1.9s
E21K Killik River 22.25 31 P **P** **15 05 07.4 -0.1**
baz=239
RND Reindeer 22.30 45 P **P** **15 05 08.1 -0.2**
WAT1 Susitna Watana 22.32 47 P **P** **15 05 07.6 -0.7**
baz=259
MCK McKinley 22.34 45 P **P** **15 05 08.0 -0.6**
baz=256,SNR=20
MCK McKinley 22.34 45 P **P** **15 05 08.9 +0.3**
G22K Bettles 22.37 36 P **P** **15 05 08.6 -0.2**
baz=246,SNR=12
C21K Knifeblade Rid 22.38 29 P **P** **15 05 09.3 +0.3**
baz=236,SNR=17
F22K John River 22.39 34 P **P** **15 05 08.9 -0.2**
baz=244
JKA Kamikawa-asahi 22.44 262 P **P** **15 05 11.6 +1.8**
ASAJ Asahikawa 22.45 262 P **P** **15 05 11.8 +1.9**
comp=Z,14nm,0.7s,baz=75,slow=7.9,SNR=15
ASAJ LR LR 15 12 59.8
comp=Z,496nm,21.3s,baz=68,slow=34
comp=Z,14nm,0.7s
ASAJ Asahikawa 22.45 262 P **P** **15 05 11.6 +1.8**
ASAJ pmax pmax
comp=Z,21nm,0.9s
NEA2 Nenana 22.51 42 IAmb IAmb 15 05 15.3
comp=Z,68nm,0.7s
NEA2 Nenana 22.51 42 P **P** **15 05 10.3 -0.1**
baz=254,SNR=43
P23K Montague Islan 22.51 55 P **P** **15 05 09.0 -1.4**
baz=267
M23K Glacier View 22.53 50 P **P** **15 05 09.7 -0.9**
baz=262,SNR=32
I23K Minto, Yukon-K 22.55 41 IAmb IAmb 15 05 14.8
comp=Z,48nm,0.9s
I23K Minto, Yukon-K 22.55 41 P **P** **15 05 10.6 -0.2**
baz=253,SNR=54
WAT6 Susitna Watana 22.64 48 P **P** **15 05 11.3 -0.7**
baz=260,SNR=49
B21K Ikpikpuk River 22.69 28 IAmb IAmb 15 05 15.9
comp=Z,98nm,1.1s
B21K Ikpikpuk River 22.69 28 P **P** **15 05 12.5 +0.3**
baz=236,SNR=54
H23K Yukon River 22.70 39 P **P** **15 05 12.3 -0.1**
baz=251,SNR=9.7
SCM Sheep Creek Mo 22.72 50 P **P** **15 05 11.5 -1.2**
baz=263,SNR=39
GLI Glacier Island 22.73 52 P **P** **15 05 11.5 -1.2**
baz=265
E22K Anaktuvuk Pass 22.80 33 P **P** **15 05 13.5 +0.1**
baz=243
G23K Bananza Creek 22.83 37 IAmb IAmb 15 05 17.4
comp=Z,47nm,1.1s
G23K Bananza Creek 22.83 37 P **P** **15 05 13.6 -0.2**
baz=248,SNR=39
D22K Ayikyak River 22.88 31 IAmb IAmb 15 05 33.2
comp=Z,122nm,1.5s
D22K Ayikyak River 22.88 31 P **P** **15 05 14.4 +0.2**
baz=240,SNR=26
WRH Wood River Hil 22.89 43 IAmb IAmb 15 05 18.6
comp=Z,36nm,0.8s
DHY Denali Highway 22.89 47 P **P** **15 05 14.1 -0.4**
DHY Denali Highway 22.89 47 P **P** **15 05 13.4 -1.1**
baz=260,SNR=17
COLD Coldfoot 22.96 35 P **P** **15 05 14.3 -0.7**
baz=247,SNR=35
Q23K Middleton Isla 23.02 56 P **P** **15 05 14.6 -1.1**
baz=269
COLA College 23.09 42 P **P** **15 05 20.2 +3.9**
COLA College 23.09 42 P **P** **15 05 17.2 +0.9**
COLA College 23.09 42 P **P** **15 05 15.6 -0.7**
baz=255
COLA College 23.09 42 *i*P **P** **15 05 16.6 +0.3**
COLA pmax pmax
comp=Z,113nm,0.9s
A21K Barrow 23.19 23 P **P** **15 05 16.6 -0.7**
baz=230
M24K Tolsona, Glenn 23.29 49 P **P** **15 05 18.6 +0.1**
M24K IAmb IAmb 15 05 42.6
comp=Z,59nm,0.8s
M24K Tolsona, Glenn 23.29 49 P **P** **15 05 17.9 -0.6**
baz=263,SNR=18
POKR Poker Plat Res 23.32 42 IAmb IAmb 15 05 22.4
comp=Z,65nm,0.8s
POKR Poker Plat Res 23.32 42 P **P** **15 05 18.7 0.0**
baz=255,SNR=103
KLU Klutina 23.35 51 IAmb IAmb 15 05 39.4
comp=Z,25nm,0.8s
KLU Klutina 23.35 51 P **P** **15 05 18.0 -1.0**
baz=265,SNR=13
H24K Noodor Dome 23.35 40 P **P** **15 05 19.1 +0.1**
H24K IAmb IAmb 15 05 25.2
comp=Z,44nm,0.8s
H24K Noodor Dome 23.35 40 P **P** **15 05 18.8 -0.2**
baz=253,SNR=57
HDA Harding Lake 23.35 43 P **P** **15 05 18.0 -1.0**
baz=257,SNR=28
EYAK Cordova Ski Ar 23.36 53 P **P** **15 05 20.6 +1.6**
EYAK Cordova Ski Ar 23.36 53 P **P** **15 05 18.0 -1.1**
baz=267
A22K Sinclair Lake 23.41 25 P **P** **15 05 19.2 -0.2**
baz=233,SNR=42
GRNR Gornyy 23.41 282 ⇑ *i*P **P** **15 05 21.0 +1.3**
GRNR pmax pmax
comp=E,10.0nm,0.7s
GRNR pmax pmax
comp=Z,20nm,0.8s
GRNR MLR MLR
comp=E,190nm,14.0s
GRNR MLR MLR
comp=N,180nm,16.0s
GRNR MLR MLR
comp=Z,200nm,15.0s
B22K Teshekpuk Lake 23.44 27 IAmb IAmb 15 05 21.8
comp=Z,37nm,0.8s
B22K Teshekpuk Lake 23.44 27 P **P** **15 05 19.4 -0.2**
baz=236,SNR=33
ILAR Eielson Array 23.46 43 P **P** **15 05 18.4 -1.6**
ILAR Eielson Array 23.46 43 P **P** **15 05 19.0 -1.1**
comp=Z,13nm,0.7s,baz=244,slow=7.7,SNR=84
ILAR LR LR 15 14 45.4
comp=Z,729nm,18.9s,baz=237,slow=38
comp=Z,13nm,0.7s
E23K Chandalar 23.50 34 P **P** **15 05 20.8 +0.3**
baz=246,SNR=51
D23K Nanushuk River 23.55 31 P **P** **15 05 20.9 +0.1**
baz=242,SNR=48
K24K Donnelly Dome 23.73 45 P **P** **15 05 21.7 -0.9**
baz=260,SNR=38
PAX Paxson 23.73 47 P **P** **15 05 21.8 -0.9**
baz=262,SNR=52
TOLK Toolik Lake Re 23.77 32 P **P** **15 05 23.4 +0.5**
baz=245,SNR=110
G24K Hadweenzic Riv 23.77 38 P **P** **15 05 23.7 +0.7**
G24K IAmb IAmb 15 05 32.4
comp=Z,36nm,0.8s
G24K Hadweenzic Riv 23.77 38 P **P** **15 05 23.3 +0.4**
baz=251,SNR=29
HARP HAARP 23.80 49 P **P** **15 05 22.9 -0.3**
baz=264,SNR=9.1
E24K Your Creek 23.90 34 IAmb IAmb 15 05 27.2
comp=Z,66nm,1.4s
E24K Your Creek 23.90 34 P **P** **15 05 24.7 +0.5**
baz=247,SNR=41
F24K Squaw Lake 23.90 36 IAmb IAmb 15 05 28.8
comp=Z,22nm,0.7s
F24K Squaw Lake 23.90 36 P **P** **15 05 24.2 +0.1**
baz=249,SNR=47
BMRM Bremner River 23.95 52 P **P** **15 05 24.3 -0.4**
baz=267,SNR=7.7
N25K Chitina, Valde 23.99 51 P **P** **15 05 24.5 -0.6**
baz=266,SNR=15
C23K Itkillik River 23.99 29 P **P** **15 05 24.9 0.0**
baz=241,SNR=46
KAIM Kayak Island 24.01 55 IAmb IAmb 15 05 52.0
comp=Z,28nm,0.8s
KAIM Kayak Island 24.01 55 P **P** **15 05 24.0 -1.1**
baz=270
J25K Salcha River, 24.06 43 P **P** **15 05 23.3 -2.4**
J25K Salcha River, 24.06 43 P **P** **15 05 24.6 -1.1**
baz=258,SNR=18
HMT Hamilton 24.09 54 IAmb IAmb 15 05 52.5
comp=Z,28nm,0.9s
PRP Porcupine Dome 24.20 41 IAmb IAmb 15 05 31.5
comp=Z,58nm,0.9s
PRP Porcupine Dome 24.20 41 P **P** **15 05 26.4 -0.7**
baz=256,SNR=77
D24K Happy Valley 24.23 32 IAmb IAmb 15 05 30.7

comp=Z,54nm,0.9s
D24K Happy Valley 24.23 32 P P 15 05 26.9 -0.2
baz=245
H25L Birch Creek 24.28 39 P P 15 05 27.1 -0.4
baz=254
G25K Bearman Lake 24.31 38 P P 15 05 27.7 -0.1
baz=253,SNR=12
SUCK Suckling Hills 24.33 55 IAmb IAmb 15 05 37.7
comp=Z,32nm,1.1s
GLB Gilahina Butte 24.36 51 P P 15 05 28.1 -0.2
GLB IAmb IAmb 15 05 40.4
comp=Z,26nm,0.9s
VRDI Verde Repeater 24.52 52 IAmb IAmb 15 05 49.9
comp=Z,65nm,1.8s
C24K Franklin Bluff 24.52 30 P P 15 05 29.4 -0.3
baz=244
SCRK Sand Creek 24.54 45 IAmb IAmb 15 05 32.3
comp=Z,31nm,0.6s
SCRK Sand Creek 24.54 45 P P 15 05 29.1 -1.0
baz=261,SNR=59
L26K Log Cabin Wild 24.70 47 IAmb IAmb 15 05 36.3
comp=Z,22nm,0.7s
L26K Log Cabin Wild 24.70 47 P P 15 05 31.2 -0.2
baz=264,SNR=26
MCARA McCarthy VSAT 24.73 51 IAmb IAmb 15 05 36.4
comp=Z,35nm,0.9s
MCARA McCarthy VSAT 24.73 51 P P 15 05 31.3 -0.4
baz=268,SNR=17
F25K Christian Rive 24.74 36 P P 15 05 31.7 -0.1
baz=252,SNR=55
WAX Waxell Ridge 24.79 54 IAmb IAmb 15 05 58.9
comp=Z,24nm,0.8s
SNH Sunshine Point 24.80 54 IAmb IAmb 15 05 49.4
comp=Z,28nm,1.0s
M26K Nabesna, AK 24.80 49 P P 15 05 32.0 -0.5
baz=266,SNR=14
J26L Joseph Creek 24.81 44 IAmb IAmb 15 05 36.1
comp=Z,36nm,0.7s
J26L Joseph Creek 24.81 44 P P 15 05 32.2 -0.3
baz=261,SNR=77
E25K Arctic Village 24.94 35 P P 15 05 34.1 +0.6
E25K IAmb IAmb 15 05 38.7
comp=Z,60nm,0.9s
E25K Arctic Village 24.94 35 P P 15 05 33.7 +0.1
baz=251,SNR=90
ISLE Juniper Island 25.05 53 IAmb IAmb 15 05 56.9
comp=Z,51nm,1.5s
BMAR Burnt Mountain 25.08 37 P P 15 05 35.0 +0.2
D25K Kavik River 25.10 32 IAmb IAmb 15 05 38.2
comp=Z,85nm,1.6s
D25K Kavik River 25.10 32 P P 15 05 35.2 +0.2
baz=247,SNR=20
I26K Coal Creek Min 25.12 42 P P 15 05 34.8 -0.4
baz=259
G26K Porcupine Rive 25.24 38 P P 15 05 36.7 +0.4
baz=255,SNR=78
MESA MESA 25.25 54 IAmb IAmb 15 06 10.2
comp=Z,27nm,0.8s
MESA MESA 25.25 54 P P 15 05 35.7 -0.9
baz=271,SNR=13
F26K Sheenjek River 25.32 36 P P 15 05 36.8 -0.2
baz=253,SNR=105
M27K Edge Creek, AK 25.32 49 IAmb IAmb 15 05 51.7
comp=Z,54nm,1.1s
M27K Edge Creek, AK 25.32 49 P P 15 05 37.1 -0.1
baz=267,SNR=24
BARN Barnard Glacie 25.38 52 IAmb IAmb 15 05 40.9
comp=Z,31nm,0.8s
K27K Chicken 25.38 45 IAmb IAmb 15 05 41.1
comp=Z,33nm,0.8s
K27K Chicken 25.38 45 P P 15 05 37.5 -0.1
baz=263
L27K Beaver Creek, 25.39 47 IAmb IAmb 15 05 40.8
comp=Z,33nm,0.8s
L27K Beaver Creek, 25.39 47 P P 15 05 37.9 +0.1
baz=265,SNR=64
BCAR Beaver Creek A 25.41 47 P P 15 05 38.2 +0.2
CTG Chitna Glacier 25.54 52 P P 15 05 38.7 -0.5
baz=270,SNR=19
CTGM Chitina Glacie 25.54 52 IAmb IAmb 15 05 42.3
comp=Z,23nm,0.8s
YAK Yakutsk 25.60 310 P P 15 05 39.8 +0.3
YAK Yakutsk 25.60 310 P P 15 05 39.6 0.0
comp=Z,98nm,0.7s,baz=80,slow=2.0,SNR=34
YAK LR LR 15 15 29.1
comp=Z,324nm,21.1s,baz=94,slow=36
comp=Z,98nm,0.7s
YAK Yakutsk 25.60 310*ce*P P 15 05 39.0 -0.6
YAK pmax pmax
comp=Z,121nm,0.8s
C26K Camden Bay 25.80 31 P P 15 05 41.6 +0.3
baz=248,SNR=87
I27K Kandik River 25.81 42 P P 15 05 40.9 -0.6
baz=260,SNR=7.8
EGAK Eagle 25.88 44 IAmb IAmb 15 05 44.4
comp=Z,32nm,0.8s
EGAK Eagle 25.88 44 P P 15 05 41.5 -0.6
baz=262,SNR=33
H27K Steamboat Moun 25.96 40 P P 15 05 42.5 -0.4
baz=259,SNR=14
YUK3 Moose Creek 25.97 51 P P 15 05 42.4 -0.8
baz=269,SNR=55
G27K Doyon Strip 26.03 39 IAmb IAmb 15 05 49.0
comp=Z,24nm,0.8s
G27K Doyon Strip 26.03 39 P P 15 05 43.5 0.0
baz=258,SNR=46
C27K Jago River 26.09 32 P P 15 05 43.8 -0.1
baz=250,SNR=28
O28M Mount Upton 26.10 53 P P 15 05 43.4 -1.1
baz=272,SNR=27
YUK8 Steele Glacier 26.30 52 P P 15 05 45.2 -1.0
baz=271,SNR=12
E27K Coleen River 26.38 36 IAmb IAmb 15 05 52.9
comp=Z,28nm,0.8s
E27K Coleen River 26.38 36 P P 15 05 46.7 +0.1
baz=255,SNR=48
I28M Miner Creek 26.48 42 P P 15 05 47.5 -0.2
baz=262,SNR=28
PNL Peninsula 26.55 55 P P 15 05 49.7 +1.4
PNL Peninsula 26.55 55 P P 15 05 47.8 -0.5
baz=275
DAWY Dawson 26.56 45 P P 15 05 47.8 -0.6
DAWY IAmb IAmb 15 05 52.1
comp=Z,36nm,0.7s
DAWY Dawson 26.56 45 P P 15 05 47.9 -0.4
baz=266,SNR=55
KLR Kul'dur 26.77 281 LR LR 15 17 56.6
comp=Z,265nm,18.3s,baz=76,slow=40
KLR Kul'dur 26.77 281*ce*P P 15 05 51.1 +0.8
KLR pmax pmax
comp=Z,17nm,2.5s
YUK4 Talbot Arm 26.84 51 P P 15 05 50.6 -0.5
baz=272,SNR=23
F28M Old Crow 26.88 37 IAmb IAmb 15 05 57.8
comp=Z,22nm,1.0s
F28M Old Crow 26.88 37 P P 15 05 51.0 -0.1
baz=258,SNR=24
D27M Malcolm River 26.89 34 IAmb IAmb 15 05 57.5
comp=Z,22nm,0.8s
D27M Malcolm River 26.89 34 P P 15 05 51.5 +0.3
baz=254,SNR=33
M29M Somme Creek 26.91 49 IAmb IAmb 15 05 54.5
comp=Z,19nm,0.8s
M29M Somme Creek 26.91 49 P P 15 05 51.0 -0.5
baz=270,SNR=36
YUK6 Outpost Mounta 26.99 52 P P 15 05 51.7 -0.7
baz=273
L29M L29M 27.08 48 IAmb IAmb 15 05 56.1
comp=Z,20nm,0.8s
L29M L29M 27.08 48 P P 15 05 52.8 -0.2
baz=269,SNR=22
J29N Klondike Camp 27.10 45 IAmb IAmb 15 06 00.6
comp=Z,13nm,0.6s
J29N Klondike Camp 27.10 45 P P 15 05 53.1 -0.1
baz=266,SNR=9.5
I29M Ogilvie Camp, 27.14 43 IAmb IAmb 15 05 58.5
comp=Z,15nm,0.7s
I29M Ogilvie Camp, 27.14 43 P P 15 05 53.5 -0.1
baz=264,SNR=26
E28M Babbage River 27.22 35 P P 15 05 54.5 +0.3
E28M Babbage River 27.22 35 P P 15 05 54.1 0.0
baz=257,SNR=18
H29M Whitestone 27.22 41 P P 15 05 53.9 -0.3
baz=262,SNR=12
K29M Barlow Dome 27.37 46 IAmb IAmb 15 05 59.1
comp=Z,23nm,0.9s
K29M Barlow Dome 27.37 46 P P 15 05 55.4 -0.3
baz=268,SNR=32

P29M Windy Craggy 27.40 55 P P 15 05 55.3 -0.5
baz=276
HYT Haines Junctio 27.42 53 P P 15 05 55.6 -0.5
baz=274,SNR=19
G29M Pine Creek 27.46 39 IAmb IAmb 15 06 03.5
comp=Z,30nm,0.7s
G29M Pine Creek 27.46 39 P P 15 05 56.7 +0.4
baz=253,SNR=37
N30M Aishikik Lake 27.58 51 P P 15 05 57.0 -0.5
baz=273
D28M Stokes Point 27.67 34 P P 15 05 58.1 -0.1
baz=256
P30M Million Dollar 27.74 54 P P 15 05 58.1 -0.8
baz=276
E29M Blow River 27.76 36 IAmb IAmb 15 06 06.8
comp=Z,22nm,0.8s
E29M Blow River 27.76 36 P P 15 05 59.1 +0.2
baz=259,SNR=38
TIXI Tiksi 27.82 331 P P 15 06 00.2 +0.8
TIXI Tiksi 27.82 331 LR LR 15 17 24.1
comp=Z,358nm,18.4s,baz=104,slow=37
TIXI Tiksi 27.82 331*ce*P P 15 06 00.0 +0.6
TIXI pmax pmax
comp=Z,5.0nm,0.7s
EPYK Eagle Plains 27.90 41 P P 15 05 59.8 -0.5
baz=264,SNR=16
J30M Hart River 27.92 44 P P 15 06 00.2 -0.4
baz=268,SNR=18
ZEA Zeya 27.94 292 *e*P P 15 06 00.7 0.0
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZEA MLR MLR
comp=Z,200nm,16.0s
I30M Mount Dempster 27.94 43 P P 15 06 00.4 -0.4
baz=266,SNR=7.4
O30N Mendenhall 28.11 53 P P 15 06 01.6 -0.6
baz=275
PLBC Pleasant Camp 28.11 55 P P 15 06 01.8 -0.4
baz=277
G30M tAoh Zraii Nji 28.17 39 P P 15 06 02.7 0.0
baz=263,SNR=7.9
N31M Braeburn, Yuko 28.21 51 P P 15 06 02.5 -0.5
baz=274
S31K Pelican 28.40 59 P P 15 06 03.8 -0.9
baz=280
F30M Barrier River 28.42 38 P P 15 06 04.9 0.0
baz=2,SNR=21
SKAG Skagway 28.64 55 P P 15 06 05.7 -1.1
baz=278
WHY Whitehorse 28.71 53 P P 15 06 07.0 -0.7
WHY Whitehorse 28.71 53 P P 15 06 06.5 -1.2
baz=276
M31M Drury Creek, Y 28.82 49 P P 15 06 08.0 -0.5
baz=274,SNR=14
H31M Peel River 28.82 42 P P 15 06 07.8 -0.6
baz=267,SNR=8.3
USRK Ussuriysk Ar. 28.91 271 P P 15 06 09.5 0.0
comp=Z,3.2nm,0.7s,baz=53,slow=9.0,SNR=2.1
USRK LR LR 15 16 51.6
comp=Z,444nm,21.4s,baz=63,slow=35
comp=Z,3.2nm,0.7s
G31M Satah River 28.93 40 IAmb IAmb 15 06 11.7
comp=Z,36nm,1.1s
G31M Satah River 28.93 40 P P 15 06 09.1 -0.3
baz=265,SNR=23
HEH HeiHe 28.99 285 *e*P P 15 06 10.1 +0.1
HEH sP sP 15 06 35.0 +8.5
HEH PcP PcP 15 09 18.0 +0.4
HEH pmax pmax
comp=Z,5.0nm,0.7s
HEH LR LR
comp=Z,310nm,19.8s
HEH LR LR
comp=Z,300nm,20.8s
HEH LR LR
comp=Z,530nm,21.2s
SIT Sitka 29.06 60 P P 15 06 09.5 -1.1
baz=282
F31M Tsiigehtchic 29.18 39 P P 15 06 11.4 -0.2
baz=265
R32K Eaglecrest 29.24 58 P P 15 06 10.9 -1.4
baz=281
FARO Faro, Yukon 29.30 49 P P 15 06 12.1 -0.7
baz=275,SNR=7.7
INK Inuvik 29.35 37 P P 15 06 13.1 0.0
INK Inuvik 29.35 37 P P 15 06 12.6 -0.5
baz=264,SNR=11
INK Inuvik 29.35 37 LR LR 15 19 01.3
comp=Z,515nm,18.8s,baz=340,slow=39
INK Inuvik 29.35 37 P P 15 06 13.1 0.0
INK pmax pmax
comp=Z,18nm,1.3s
S32K Killisnoo 29.37 59 P P 15 06 12.1 -1.2
baz=282
P32M Atlin 29.43 55 P P 15 06 13.0 -1.0
baz=279,SNR=8.4
N32M Quiet Lake 29.53 52 IAmb IAmb 15 06 18.3
comp=Z,18nm,0.9s
N32M Quiet Lake 29.53 52 P P 15 06 14.6 -0.3
baz=277
MJAR Matsushiro Arr 29.75 253 P P 15 06 18.5 +1.6
comp=Z,2.4nm,0.7s,baz=54,slow=6.0,SNR=8.0
MJAR LR LR 15 17 33.2
comp=Z,119nm,21.7s,baz=52,slow=35
comp=Z,2.4nm,0.7s
MAJO Matsushiro 29.75 253 P P 15 06 18.3 +1.4
MAJO Matsushiro 29.75 253 P P 15 06 18.3 +1.4
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MJB9 Matsu-Tunnel 29.75 253 P P 15 06 19.7 +2.8
P33M Teslin, Yukon 29.79 53 P P 15 06 16.8 -0.3
baz=279,SNR=18
MDJ Mudanjiang 30.17 273 P P 15 06 21.7 +1.1
MDJ pmax pmax
comp=Z,6.0nm,0.8s
MDJ pmax pmax
comp=Z,92nm,3.8s
U33K Whale Pass 30.46 61 P P 15 06 21.5 -1.5
baz=285
CRAG Craig 30.64 63 P P 15 06 23.0 -1.5
baz=286
WRAK Wrangell Islan 30.80 61 P P 15 06 24.6 -1.4
baz=285
R33M Jennings River 30.84 55 IAmb IAmb 15 06 31.0
comp=Z,13nm,0.8s
R33M Jennings River 30.84 55 P P 15 06 26.1 -0.4
baz=281,SNR=21
S34M Telegraph Cree 31.08 58 P P 15 06 30.0 +1.6
S34M Telegraph Cree 31.08 58 P P 15 06 27.1 -1.3
baz=284
JHJ Hachijo jima 2 31.28 246 LR LR 15 16 21.7
comp=Z,362nm,20.6s,baz=89,slow=31
V35K Ketchikan 31.50 62 P P 15 06 31.3 -0.9
baz=287
DLBC Dease Lake 31.52 56 P P 15 06 31.5 -0.9
baz=283
DLBC Dease Lake 31.52 56 LR LR 15 19 24.4
comp=Z,427nm,18.2s,baz=284,slow=37
T35M Bob Quinn 31.77 59 IAmb IAmb 15 06 38.0
comp=Z,23nm,1.5s
T35M Bob Quinn 31.77 59 P P 15 06 33.9 -0.6
baz=286,SNR=6.5
TGTN Hyland Airport 31.78 50 P P 15 06 34.3 -0.3
baz=280,SNR=16
WTLY Watson Lake, Y 31.78 53 IAmb IAmb 15 06 38.4
comp=Z,10nm,0.7s
A36M Sachs Harbour 32.53 30 P P 15 06 40.9 -0.2
A36M IAmb IAmb 15 06 45.4
comp=Z,26nm,0.8s
A36M Sachs Harbour 32.53 30 P P 15 06 41.3 +0.3
baz=266,SNR=37
C36M Paulatuk 32.83 35 IAmb IAmb 15 06 46.9
comp=Z,35nm,1.1s
C36M Paulatuk 32.83 35 P P 15 06 43.9 +0.2
baz=271,SNR=43
H11N2 WAKE ISLAND Hy 32.89 193 T T 15 41 39.2
baz=9.0,slow=76
H11N3 WAKE ISLAND Hy 32.90 193 T T 15 41 45.2
baz=9.0,slow=76
H11N1 WAKE ISLAND Hy 32.91 193 T T 15 41 51.1
baz=9.0,slow=76
CN2 Changchun 33.14 275 *e*P P 15 06 47.1 +0.4
CN2 *e*S S 15 12 00.7 -2.2
CN2 SS SnSn 15 14 00.1 -4.4
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 pmax pmax
comp=Z,100nm,4.0s

CN2 LR LR
comp=Z,200nm,12.0s
CN2 LR LR
comp=Z,300nm,12.0s
CN2 LR LR
comp=Z,200nm,12.0s
TOAD Toad River Com 33.85 54 P P 15 06 52.4 -0.3
baz=286,SNR=12
BOD Bodaibo 33.97 304 *e*P P 15 06 53.2 -0.5
BOD pmax pmax
comp=Z,32nm,0.9s
KOTAN Kotaneelee Air 34.09 52 P P 15 06 54.6 -0.2
baz=285,SNR=5.9
H11S1 WAKE ISLAND Hy 34.12 193 T T 15 43 12.5
baz=1.4,slow=76
H11S3 WAKE ISLAND Hy 34.14 193 T T 15 43 11.8
baz=1.4,slow=76
H11S2 WAKE ISLAND Hy 34.14 193 T T 15 43 12.4
baz=1.4,slow=76
BBB Bella Bella 34.55 67 LR LR 15 19 14.8
comp=Z,240nm,20.1s,baz=300,slow=33
JCJ Chichijima 34.68 236 LR LR 15 18 43.2
comp=Z,167nm,21.1s,baz=120,slow=32
KSRS Korea Array 35.34 264 P P 15 07 08.6 +2.8
comp=Z,7.6nm,0.7s,baz=53,slow=8.4,SNR=43
KSRS LR LR 15 20 26.3
comp=Z,156nm,21.4s,baz=50,slow=34
comp=Z,7.6nm,0.7s
KS19 Wonju Array Si 35.35 264 IAmb IAmb 15 07 43.9
comp=Z,38nm,1.6s
KSAR Wonju Array Be 35.37 264 P P 15 07 06.8 +0.7
KSAR Wonju Array Be 35.37 264 P P 15 07 06.8 +0.7
SNY Shenyang 35.38 274 ⇑P P 15 07 05.5 -0.5
SNY S S 15 12 33.4 -3.9
SNY pmax pmax
comp=Z,14nm,0.5s
SNY pmax pmax
comp=Z,100nm,5.1s
SNY LR LR
comp=Z,180nm,15.4s
SNY LR LR
comp=Z,160nm,15.7s
SNY LR LR
comp=Z,250nm,22.8s
INCN Inchon 36.12 265 P P 15 07 14.2 +1.8
INCN IAmb IAmb 15 07 15.8
comp=Z,24nm,0.8s
INCN Inchon 36.12 265 P P 15 07 14.2 +1.8
INCN pmax pmax
comp=Z,25nm,0.9s
TJN Taejon 36.38 263*ce*P P 15 07 17.3 +2.6
JNU Nakatsue 36.45 256 LR LR 15 21 15.3
comp=Z,305nm,21.3s,baz=44,slow=35
YKA Yellowknife Ar 37.80 46 P P 15 07 26.2 -0.2
YKA Yellowknife Ar 37.80 46 P P 15 07 27.1 +0.6
comp=Z,4.1nm,0.7s,baz=288,slow=8.3,SNR=33
YKA PcP PcP 15 09 42.8 +0.6
comp=Z,0.6nm,0.7s,baz=326,slow=3.3,SNR=3.9
YKA LR LR 15 24 14.2
comp=Z,778nm,18.4s,baz=266,slow=38
comp=Z,4.1nm,0.7s
XLT XiLinHaoTe 38.79 281 *e*P P 15 07 36.2 +1.1
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,72nm,5.7s
EUNU Eureka 40.66 15 P P 15 07 50.5 +0.3
RES Resolute Bay 40.79 24 P P 15 07 51.3 +0.1
RES Resolute Bay 40.79 24 P P 15 07 51.3 +0.1
RES pmax pmax
comp=Z,14nm,1.3s
BJI Beijing 40.97 277 P P 15 07 55.4 +2.4
BJI pmax pmax
comp=Z,4.0nm,0.6s
BJI pmax pmax
comp=Z,52nm,5.3s
BJI LR LR
comp=Z,110nm,23.8s
BJI LR LR
comp=Z,84nm,16.7s
BJI LR LR
comp=Z,160nm,21.0s
B08A Colville Reser 41.30 68 P P 15 07 55.9 +0.1
ULN Ulaanbaatar 41.97 292*ce*P P 15 08 02.4 +1.0
ULN pmax pmax
comp=Z,6.0nm,0.8s
C09A Chrisman Ranch 42.20 68 P P 15 08 02.7 -0.5
C09A IAmb IAmb 15 08 06.5
comp=Z,18nm,0.8s
HAWA Hanford 42.24 70 IAmb IAmb 15 08 04.9
comp=Z,16nm,0.7s
SONM Songino Array 42.37 292 P P 15 08 05.8 +1.2
SONM Songino Array 42.37 292 P P 15 08 05.8 +1.2
comp=Z,4.4nm,0.7s,baz=58,slow=9.4,SNR=35
SONM PcP PcP 15 09 58.0 +0.8
comp=Z,2.0nm,0.7s,baz=85,slow=1.4,SNR=4.1
SONM LR LR 15 27 21.1
comp=Z,228nm,18.5s,baz=58,slow=38
comp=Z,4.4nm,0.7s
JOW Kunigami 42.58 252 LR LR 15 23 50.5
comp=Z,81nm,21.6s,baz=120,slow=33
NEW Newport 42.61 67 P P 15 08 06.0 -0.5
NEW IAmb IAmb 15 08 09.9
comp=Z,16nm,0.8s
NEW Newport 42.61 67 P P 15 08 04.8 -1.7
baz=302,SNR=6.6
NEW Newport 42.61 67 P P 15 08 06.0 -0.5
NEW pmax pmax
comp=Z,16nm,0.8s
ZAK Zakamensk 42.77 297 *e*P P 15 08 08.2 +0.4
ZAK pmax pmax
comp=Z,7.0nm,1.1s
TIA Tai'an 42.78 271 P P 15 08 09.9 +2.0
TIA pmax pmax
comp=Z,5.0nm,0.6s
YBH Yreka Blue Hor 43.01 78 LR LR 15 22 47.0
comp=Z,343nm,21.8s,baz=310,slow=32
HHC Hu-ho-hao-te 43.28 281 *e*P P 15 08 13.5 +1.4
HHC pmax pmax
comp=Z,25nm,0.8s
HHC pmax pmax
comp=Z,130nm,5.3s
HHC LR LR
comp=Z,170nm,15.3s
HHC LR LR
comp=Z,220nm,16.8s
HHC LR LR
comp=Z,220nm,16.8s
MOY Mondy 43.35 300 *e*P P 15 08 12.5 0.0
MOY pmax pmax
comp=Z,21nm,3.1s
HNS HongShan 43.50 274 ⇑P P 15 08 15.9 +2.2
HNS pP sP 15 08 32.5 +1.8
HNS *e*S S 15 14 36.9 -2.3
HNS pmax pmax
comp=Z,35nm,1.1s
HNS LR LR
comp=Z,190nm,20.7s
HNS LR LR
comp=Z,290nm,18.3s
HNS LR LR
comp=Z,390nm,23.1s
F10A Beach Ranch, E 43.80 70 P P 15 08 14.5 -1.7
BTO Baotou 44.36 281 *e*P P 15 08 22.5 +1.7
BTO pP sP 15 08 37.8 +0.1
BTO sP pwP 15 08 45.4 +13
BTO PP PP 15 10 07.8 +3.3
BTO S S 15 14 53.1 +1.1
BTO sS sS 15 15 18.3 +6.8
BTO SS SS 15 18 00.2 -11
BTO pmax pmax
comp=Z,51nm,0.9s
BTO pmax pmax
comp=Z,310nm,7.8s
BTO LR LR
comp=Z,470nm,18.0s
BTO LR LR
comp=Z,560nm,15.9s
BTO LR LR
comp=Z,610nm,22.9s
BMO Blue Mountains 44.39 71 IAmb IAmb 15 08 23.0
comp=Z,32nm,1.9s
NJ2 Nanjing 44.50 265 *e*P P 15 08 22.2 +0.5
NJ2 sP sP 15 08 43.4 +4.6
NJ2 pmax pmax
comp=Z,12nm,1.4s

NJ2 pmax pmax
comp=Z,350nm,4.7s
WVOR Wild Horse Val 45.03 75 P **P** **15 08 26.7 +0.7**
WVOR pmax pmax
comp=Z,4.0nm,1.1s
GUMO Guam 45.10 222 LR LR 15 25 27.9
comp=Z,221nm,19.6s,baz=55,slow=34
MSO Missoula 45.20 67 IAmb IAmb 15 08 29.5
comp=Z,14nm,0.9s
MSO Missoula 45.20 67 P **P** **15 08 25.6 -1.8**
baz=305,SNR=11
OVMT Ovando 45.60 66 P **P** **15 08 29.3 -1.2**
MPK Martis Peak 46.11 79 IAmb IAmb 15 08 36.2
comp=Z,18nm,1.3s
LYN LuoYang 46.73 273 ⇑P **P** **15 08 41.4 +2.0**
LYN S **S** **15 15 30.5 +4.5**
LYN pmax pmax
comp=Z,30nm,0.8s
LYN LR LR
comp=Z,370nm,16.4s
LYN LR LR
comp=Z,200nm,18.2s
LYN LR LR
comp=Z,510nm,22.9s
HLID Hailey 46.83 71 P **P** **15 08 38.6 -1.8**
baz=307,SNR=10
EGMT Eagleton 46.85 63 IAmb IAmb 15 08 50.2
comp=Z,11nm,0.7s
EGMT Eagleton 46.85 63 P **P** **15 08 38.9 -1.4**
baz=305,SNR=8.6
WAKR Walker 46.97 79 P **P** **15 08 40.1 -1.4**
FFC Flin Flon 47.12 52 P **P** **15 08 42.0 -0.2**
FFC IAmb IAmb 15 10 15.6
comp=Z,12nm,1.2s
FFC Flin Flon 47.12 52 P **P** **15 08 42.0 -0.2**
FFC pmax pmax
comp=Z,12nm,1.2s
FFC Flin Flon 47.12 52 P **P** **15 08 41.7 -0.5**
FFC PcP **PcP** **15 10 13.6 +0.3**
BOZ Bozeman (W) 47.22 67 IAmb IAmb 15 08 44.4
comp=Z,27nm,1.3s
BOZ Bozeman (W) 47.22 67 P **P** **15 08 41.7 -1.6**
baz=306,SNR=25
NEEM North Greenlan 47.61 12 *i* P **P** **15 08 45.4 -0.7**
NEEM IAmb IAmb 15 08 51.6
comp=Z,22nm,0.4s
LHV Little Huntoon 47.70 79 IAmb IAmb 15 10 18.6
comp=Z,17nm,1.3s
NVAR Mina Array Bea 47.70 79 P **P** **15 08 46.0 -1.3**
NVAR Mina Array Bea 47.70 79 P **P** **15 08 47.6 +0.4**
comp=Z,1.9nm,0.7s,baz=292,slow=7.8,SNR=16
NVAR PcP **PcP** **15 10 17.4 +1.4**
comp=Z,1.5nm,0.8s,baz=318,slow=2.0,SNR=4.8
NVAR LR LR 15 25 39.1
comp=Z,286nm,21.8s,baz=292,slow=32
comp=Z,1.9nm,0.7s
ELK Elko 48.08 74 LR LR 15 25 60.0
comp=Z,236nm,21.2s,slow=32
ELK Elko 48.08 74 P **P** **15 08 49.5 -0.6**
YNR Norris Junctio 48.29 67 P **P** **15 08 51.7 0.0**
YNR IAmb IAmb 15 09 04.3
comp=Z,13nm,1.0s
WHN Wuhan 48.31 268 P **P** **15 08 53.1 +1.4**
WHN pmax pmax
comp=Z,96nm,0.6s
YFT Old Faithful 48.36 68 IAmb IAmb 15 08 56.6
comp=Z,13nm,0.9s
FCC Fort Churchill 48.47 44 IAmb IAmb 15 08 53.8
comp=Z,30nm,1.4s
LKWY Lake 48.54 67 P **P** **15 08 53.9 +0.3**
LKWY Lake 48.54 67 P **P** **15 08 53.9 +0.3**
LKWY pmax pmax
comp=Z,7.0nm,0.8s
YMP Mirror Lake Pl 48.57 67 IAmb IAmb 15 08 55.4
comp=Z,15nm,1.3s
FLWY Flagg Ranch 48.66 68 IAmb IAmb 15 09 06.6
comp=Z,16nm,1.1s
RLMT Red Lodge 48.84 66 IAmb IAmb 15 08 59.7
comp=Z,16nm,1.1s
RLMT Red Lodge 48.84 66 P **P** **15 08 53.7 -2.1**
baz=308,SNR=19
KULLO Kullorsuaq 48.96 16 *i* P **P** **15 08 56.7 +0.6**
KULLO IAmb IAmb 15 09 02.5
comp=Z,6.3nm,0.6s
CWC Cottonwood Cre 49.13 81 P **P** **15 08 56.2 -1.9**
baz=311
GRAC Grapevine Rang 49.20 80 P **P** **15 08 56.6 -1.9**
baz=311
SPITS Spitsbergen Ar 49.20 354 P **P** **15 08 57.8 -0.1**
comp=Z,8.6nm,0.3s,baz=42,slow=6.8,SNR=145
SPITS LR LR 15 29 06.3
comp=Z,519nm,21.0s,baz=351,slow=35
comp=Z,8.6nm,0.3s
AHID Auburn Hatcher 49.24 70 IAmb IAmb 15 10 06.4
comp=Z,6.7nm,0.7s
XAN Xi'an 49.25 275 ⇑P **P** **15 09 00.1 +1.1**
XAN pmax pmax
comp=Z,12nm,1.2s
XAN LR LR
comp=Z,420nm,21.3s
XAN LR LR
comp=Z,360nm,24.0s
XAN LR LR
comp=Z,550nm,21.3s
BGU Big Grassy Mou 49.27 73 P **P** **15 08 59.6 +0.5**
R11B Troy Canyon, C 49.39 77 P **P** **15 08 57.8 -2.3**
baz=310,SNR=9.1
LAO LASA Array 49.58 63 IAmb IAmb 15 09 03.2
comp=Z,20nm,0.9s
LAO LASA Array 49.58 63 P **P** **15 08 59.5 -1.8**
baz=308
DGMT Dagmar 49.60 60 P **P** **15 09 00.3 -1.1**
baz=307
HWUT Hardware Ranch 49.70 71 P **P** **15 09 01.4 -1.0**
MPMC Manual Prospec 49.74 81 P **P** **15 08 60.0 -2.8**
baz=312
DUG Dugway, Tooele 49.86 73 IAmb IAmb 15 09 15.5
comp=Z,12nm,1.1s
DUG Dugway, Tooele 49.86 73 P **P** **15 09 01.2 -2.4**
baz=310,SNR=8.7
BW06 Boulder Array 50.13 69 P **P** **15 09 03.4 -2.4**
baz=309,SNR=13
PD31 Pinedale Array 50.13 69 IAmb IAmb 15 09 17.8
comp=Z,9.5nm,1.0s
PDAR Pinedale Array 50.13 69 P **P** **15 09 04.9 -0.8**
PDAR Pinedale Array 50.13 69 P **P** **15 09 06.4 +0.7**
comp=Z,3.5nm,0.5s,baz=306,slow=5.0,SNR=31
comp=Z,3.5nm,0.5s
QSM Queen of Sheba 50.17 80 P **P** **15 09 06.1 +0.2**
ZALV Zalesovo Beam 50.25 310 P **P** **15 09 04.5 -1.7**
ZALV Zalesovo Beam 50.25 310 P **P** **15 09 05.9 -0.3**
comp=Z,3.9nm,0.7s,baz=47,slow=5.8,SNR=12
ZALV PcP **PcP** **15 10 24.6 0.0**
comp=Z,3.8nm,0.7s,baz=20,slow=2.7,SNR=7.0
ZALV LR LR 15 31 49.0
comp=Z,218nm,18.1s,baz=56,slow=38
comp=Z,3.9nm,0.7s
ZALV Zalesovo Beam 50.25 310 *i* P **P** **15 09 06.5 +0.3**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
JLU Jordanelle 50.40 72 P **P** **15 09 07.6 -0.2**
UPNV Upernavik 50.56 17 *i* P **P** **15 09 08.5 +0.2**
UPNV IAmb IAmb 15 09 10.4
comp=Z,8.5nm,0.7s
SHOC Shoshone, Teco 50.58 80 P **P** **15 09 06.9 -2.1**
baz=312
GSC Goldstone, Bar 50.65 81 P **P** **15 09 09.3 -0.3**
GSC IAmb IAmb 15 09 22.3
comp=Z,27nm,1.7s
GSC Goldstone, Bar 50.65 81 P **P** **15 09 07.4 -2.2**
baz=312
GSC Goldstone, Bar 50.65 81 P **P** **15 09 09.3 -0.3**
GSC pmax pmax
comp=Z,27nm,1.7s
BSUT Blindstream Ca 50.84 72 IAmb IAmb 15 09 23.3
comp=Z,12nm,1.3s
BFSC Mount Baldy Ra 50.85 82 P **P** **15 09 08.6 -2.6**
baz=313,SNR=16
LZH Lanzhou 50.98 281 ⇑P **P** **15 09 14.2 +2.0**
LZH pP sP 15 09 29.6 +0.2
LZH sP pwP 15 09 37.5 +13
LZH pmax pmax
comp=Z,24nm,1.3s
LZH LR LR
comp=Z,260nm,16.1s
LZH LR LR
comp=Z,370nm,15.5s
LZH LR LR
comp=Z,490nm,16.5s
DAG Danmarks Havn 51.05 4 P **P** **15 09 11.2 -0.8**
DAG Danmarks Havn 51.05 4 *i* P **P** **15 09 08.9 -3.0**
DAG IAmb IAmb 15 09 13.7
comp=Z,3.3nm,0.5s
GTA Gaotai 51.21 287 P **P** **15 09 14.9 +1.1**
GTA pP pP 15 09 24.6 -1.4
GTA sP sP 15 09 31.9 +0.9
GTA pmax pmax
comp=Z,16nm,1.0s
GTA LR LR
comp=Z,220nm,15.9s
GTA LR LR
comp=Z,270nm,19.1s
GTA LR LR
comp=Z,290nm,22.3s
TMUT Trail Mountain 51.38 73 P **P** **15 09 14.3 -1.0**
ENH Enshi 51.49 271 P **P** **15 09 16.2 +0.3**
ENH IAmb IAmb 15 09 17.8
comp=Z,10nm,0.7s
ENH Enshi 51.49 271 P **P** **15 09 16.9 +1.0**
ENH pP pP 15 09 26.8 -1.3
RDMU Red Mountain 51.52 71 IAmb IAmb 15 09 28.7
comp=Z,16nm,1.0s
P17A Butcher Ranch, 51.54 73 IAmb IAmb 15 10 32.2
comp=Z,22nm,1.4s
Q16A Castle Valley 51.65 74 IAmb IAmb 15 09 19.7
comp=Z,21nm,1.7s
GMRC Granite Mounta 51.70 81 P **P** **15 09 14.4 -3.1**
baz=313
P18A Preston Nutter 51.73 72 IAmb IAmb 15 10 33.0
comp=Z,14nm,1.4s
SRU San Rafael Swe 51.91 73 IAmb IAmb 15 09 34.9
comp=Z,7.9nm,0.9s
KNB Kanab 51.92 76 IAmb IAmb 15 10 34.9
comp=Z,19nm,1.2s
K22A Casper 51.93 67 IAmb IAmb 15 09 20.1
comp=Z,10nm,1.1s
K22A Casper 51.93 67 P **P** **15 09 17.1 -2.2**
baz=310
PFO Pinyon Flats O 52.00 82 LR LR 15 27 17.6
comp=Z,328nm,21.9s,baz=299,slow=31
RSSD Black Hills 52.39 64 P **P** **15 09 22.2 -0.4**
RSSD IAmb IAmb 15 09 23.8
comp=Z,13nm,1.3s
RSSD Black Hills 52.39 64 P **P** **15 09 20.6 -2.0**
baz=310
RSSD Black Hills 52.39 64 P **P** **15 09 22.2 -0.4**
RSSD pmax pmax
comp=Z,13nm,1.3s
RSSD Black Hills 52.39 64 P **P** **15 09 22.9 +0.3**
MDND Maddock 52.41 58 P **P** **15 09 21.3 -1.2**
baz=309
IRM Iron Mountain 52.43 81 P **P** **15 09 20.7 -2.1**
baz=313
MONP2 Monument Peak 52.52 83 P **P** **15 09 21.0 -2.8**
baz=314
HMU Henry Mountain 52.55 74 IAmb IAmb 15 09 26.8
comp=Z,8.0nm,0.7s
O20A White River Ci 52.57 71 P **P** **15 09 21.6 -2.5**
baz=311
BC3 Big Chuckawall 52.59 81 P **P** **15 09 21.5 -2.6**
baz=313
U15A North Rim 52.63 77 IAmb IAmb 15 10 37.7
comp=Z,23nm,1.7s
ULM Lac du Bonnet 52.78 54 IAmb IAmb 15 09 25.6
comp=Z,22nm,1.4s
ULM Lac du Bonnet 52.78 54 P **P** **15 09 25.2 0.0**
comp=Z,5.9nm,0.6s,baz=312,slow=7.7,SNR=13
ULM PcP **PcP** **15 10 34.0 -0.1**
comp=Z,2.1nm,0.3s,baz=327,slow=4.4,SNR=6.4
ULM LR LR 15 32 58.4
comp=Z,453nm,18.4s,baz=316,slow=37
comp=Z,5.9nm,0.6s
ULM Lac du Bonnet 52.78 54 *i* P **P** **15 09 25.1 -0.1**
GLA Glamis 53.38 82 P **P** **15 09 27.4 -2.5**
baz=314
N23A Red Feather La 53.40 68 P **P** **15 09 27.9 -2.3**
baz=311
SUMG Summit 53.47 12 P **P** **15 09 30.2 -0.2**
SUMG Summit 53.47 12 P **P** **15 09 30.2 -0.2**
SUMG pmax pmax
comp=Z,57nm,1.6s
SUMG Summit 53.47 12 *i* P **P** **15 09 29.3 -1.1**
SUMG IAmb IAmb 15 09 34.0
comp=Z,5.0nm,0.6s
WUAZ Wupatki 53.79 77 IAmb IAmb 15 10 40.8
comp=Z,16nm,1.4s
WUAZ Wupatki 53.79 77 P **P** **15 09 29.7 -3.3**
baz=313
AGMN Agassiz Nation 54.05 56 IAmb IAmb 15 09 35.5
comp=Z,12nm,1.0s
AGMN Agassiz Nation 54.05 56 P **P** **15 09 32.4 -2.1**
baz=311,SNR=7.2
ZSN Zaisan 54.31 303 *e*P **P** **15 09 36.8 +0.3**
comp=Z,8.1nm,0.9s,baz=303
ZSN Zaisan 54.31 303 *e*P **P** **15 09 36.7 +0.3**
ZSN pmax pmax
comp=Z,8.0nm,0.9s
ISCO Idaho Springs 54.31 69 P **P** **15 09 37.0 0.0**
ISCO Idaho Springs 54.31 69 P **P** **15 09 34.5 -2.4**
baz=312
ISCO Idaho Springs 54.31 69 P **P** **15 09 38.3 +1.4**
ISCO pmax pmax
comp=Z,4.0nm,1.0s
MVCO Mesa Verde 54.36 73 IAmb IAmb 15 10 51.6
comp=Z,15nm,1.4s
MVCO Mesa Verde 54.36 73 P **P** **15 09 34.9 -2.4**
baz=313
FRB Frobisher Bay 54.52 29 LR LR 15 34 07.6
comp=Z,426nm,20.6s,baz=8.5,slow=37
FRB Frobisher Bay 54.52 29 P **P** **15 09 37.1 -0.5**
FRB pmax pmax
comp=Z,20nm,1.4s
CD2 Chengdu 54.57 276 P **P** **15 09 39.9 +1.3**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,240nm,17.1s
SEM Semipalatinsk 54.67 309 *e*P **P** **15 09 40.6 +1.3**
comp=Z,6.2nm,0.6s,baz=309
SEM Semipalatinsk 54.67 309 *e*P **P** **15 09 40.6 +1.3**
SEM pmax pmax
comp=Z,6.0nm,0.6s
B35A Bob, Littlefor 55.08 54 IAmb IAmb 15 09 43.1
comp=Z,12nm,0.8s
Q24A Divide 55.14 70 P **P** **15 09 39.4 -3.5**
baz=312
WMQ Urumqi 55.20 298 ⇑*i*P **P** **15 09 43.9 +0.9**
WMQ pmax pmax
comp=Z,42nm,0.9s
WMQ pmax pmax
comp=Z,120nm,5.5s
WMQ LR LR
comp=Z,470nm,23.3s
WMQ LR LR
comp=Z,520nm,19.9s
WMQ LR LR
comp=Z,250nm,24.2s
WMQ Urumqi 55.20 298 P **P** **15 09 44.4 +1.4**
WMQ pP **pP** **15 09 54.0 -1.3**
KURK Kurchatov 55.24 310 P **P** **15 09 43.2 +0.1**
KURK Kurchatov 55.24 310 *ce*P **P** **15 09 43.4 +0.3**
KURK pmax pmax
comp=Z,117nm,1.3s
KURK Kurchatov 55.24 310 P **P** **15 09 43.4 +0.3**
KURK pP **pP** **15 09 53.4 -2.0**
KURK PcP **PcP** **15 10 43.3 -0.2**
KURBB Kurchatov Arra 55.35 310 P **P** **15 09 44.2 +0.4**
comp=Z,36nm,0.7s,baz=51,slow=6.9,SNR=123
KURBB PcP **PcP** **15 10 44.6 +0.7**
comp=Z,6.4nm,0.8s,baz=47,slow=6.6,SNR=4.3
KURBB LR LR 15 35 00.7
comp=Z,410nm,18.1s,baz=172,slow=38
comp=Z,36nm,0.7s
F33A 5 Mile Ranch, 55.44 58 IAmb IAmb 15 10 46.0
comp=Z,14nm,1.4s
SDCO Great Sand Dun 55.75 71 IAmb IAmb 15 09 49.5
comp=Z,18nm,1.6s
SDCO Great Sand Dun 55.75 71 P **P** **15 09 44.7 -2.6**
baz=313,SNR=11
K30B Basset 55.77 63 P **P** **15 09 47.6 +0.5**
GYA Guiyang 55.95 270 ⇓*i*P **P** **15 09 50.3 +1.6**
GYA sP sP 15 10 12.0 +6.4
GYA pmax pmax
comp=Z,21nm,0.8s
MK31 Makanchi Array 56.06 304 P **P** **15 09 48.5 -0.6**
MK31 IAmb IAmb 15 09 49.9
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 56.06 304 *ce*P **P** **15 09 49.1 0.0**
MKAR Makanchi Array 56.06 304 P **P** **15 09 48.3 -0.8**
MKAR Makanchi Array 56.06 304 P **P** **15 09 49.0 -0.1**
comp=Z,10nm,0.5s,baz=55,slow=7.6,SNR=13
MKAR LR LR 15 35 00.4
comp=Z,432nm,21.1s,baz=42,slow=37
comp=Z,10nm,0.5s
MKAR Makanchi Array 56.06 304 *i* P **P** **15 09 49.0 -0.1**
MKAR pmax pmax
comp=Z,10.0nm,0.5s
MAKZ Makanchi 56.21 304 P **P** **15 09 49.4 -0.8**
MAKZ IAmb IAmb 15 09 50.9
comp=Z,18nm,0.8s
MAKZ Makanchi 56.21 304 P **P** **15 09 50.2 +0.1**
MAKZ Makanchi 56.21 304 P **P** **15 09 49.8 -0.3**
MAKZ pP **pP** **15 09 59.4 -3.0**
GOMU GeErMu 56.30 287 P **P** **15 09 52.0 +0.7**
GOMU S **S** **15 17 41.4 +3.0**
GOMU sS sS 15 17 56.5 -2.4
GOMU ScS **ScS** **15 19 32.1 -4.9**
GOMU SS **SS** **15 21 22.8 -2.3**
GOMU pmax pmax
comp=Z,25nm,0.9s
GOMU LR LR
comp=Z,350nm,18.1s
GOMU LR LR
comp=Z,240nm,17.8s
GOMU LR LR
comp=Z,630nm,19.3s
SFJD Kangerlussuaq 56.43 19 LR LR 15 35 06.6
comp=Z,198nm,22.0s,baz=336,slow=37
ARCES ARCESS Array B 56.45 347 P **P** **15 09 50.9 -0.7**
ARCES ARCESS Array B 56.45 347 P **P** **15 09 51.3 -0.2**
comp=Z,2.2nm,0.4s,baz=34,slow=7.7,SNR=26
ARCES LR LR 15 36 51.1
comp=Z,333nm,18.5s,baz=5.0,slow=39
comp=Z,2.2nm,0.4s
EYMN Ely 56.47 54 IAmb IAmb 15 09 53.3
comp=Z,13nm,0.8s
EYMN Ely 56.47 54 P **P** **15 09 49.7 -2.3**
baz=313
LVZ Lovozero 56.49 343 P **P** **15 09 50.8 -1.1**
LVZ Lovozero 56.49 343 *ce*P **P** **15 09 52.2 +0.3**
LVZ pmax pmax
comp=Z,25nm,1.3s
LVZ Lovozero 56.49 343 P **P** **15 09 51.5 -0.4**
LVZ Lovozero 56.49 343 P **P** **15 09 51.7 -0.2**
comp=Z,23nm,0.9s
ICESG Greenland Ices 56.50 14 *i* P **P** **15 09 50.2 -2.0**
ICESG IAmb IAmb 15 09 54.9
comp=Z,6.7nm,0.9s
ECSD EROS Data Cent 56.68 60 P **P** **15 09 50.3 -3.2**
baz=313
T25A Trinidad 56.80 71 P **P** **15 09 54.3 -0.4**
T25A IAmb IAmb 15 09 57.7
comp=Z,21nm,1.3s
T25A Trinidad 56.80 71 P **P** **15 09 51.6 -3.1**
baz=314,SNR=8.6
F36A Milaca 56.86 57 IAmb IAmb 15 10 08.4
comp=Z,26nm,1.7s
ANMO Albuquerque 57.11 74 P **P** **15 09 54.1 -2.8**
baz=314
ANMO Albuquerque 57.11 74 LR LR 15 33 06.3
comp=Z,136nm,20.2s,baz=49,slow=35
ANMO Albuquerque 57.11 74 *ce*P **P** **15 09 58.7 +1.8**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
JMIC Jan Mayen 57.12 1 LR LR 15 34 57.2
comp=Z,128nm,19.1s,baz=24,slow=37
BVAR Borovoye Array 57.38 316 P **P** **15 09 58.6 +0.3**
comp=Z,16nm,0.4s,baz=53,slow=7.4,SNR=142
BVAR LR LR 15 36 08.5
comp=Z,239nm,21.4s,baz=45,slow=38
comp=Z,16nm,0.4s
BRVK Borovoye 57.40 316 P **P** **15 09 58.5 +0.1**
BRVK Borovoye 57.40 316 *ce*P **P** **15 09 58.7 +0.3**
BRVK pmax pmax
comp=Z,20nm,0.8s
BRVK Borovoye 57.40 316 P **P** **15 09 58.8 +0.4**
SPMN Marine on St. 57.66 57 IAmb IAmb 15 10 02.0
comp=Z,24nm,1.1s
SPMN Marine on St. 57.66 57 P **P** **15 09 58.0 -2.4**
baz=314
DY2G Dye2 57.74 18 *i* P **P** **15 10 00.4 -0.5**
DY2G IAmb IAmb 15 10 02.8
comp=Z,7.5nm,0.3s
SVE Sverdlovsk 58.48 324 *e*P **P** **15 10 06.8 +0.9**
SVE pmax pmax
comp=Z,14nm,1.0s
BRZS Berezniki 58.52 312 *e*P **P** **15 10 06.3 0.0**
comp=Z,13nm,0.9s,baz=312
BRZS Berezniki 58.52 312 *e*P **P** **15 10 06.3 0.0**
BRZS pmax pmax
comp=Z,13nm,0.9s
PZH PanZhiHua 58.94 274 P **P** **15 10 11.3 +1.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,80nm,5.9s
TDK Taldyqorghan 59.26 305 *e*P **P** **15 10 12.1 +0.5**
comp=Z,9.9nm,0.7s,baz=305
TDK Taldyqorghan 59.26 305 *e*P **P** **15 10 12.0 +0.5**
TDK pmax pmax
comp=Z,10.0nm,0.7s
ARU Arti 59.53 324 P **P** **15 10 13.4 +0.2**
ARU Arti 59.53 324 LR LR 15 39 13.4
comp=Z,244nm,18.3s,baz=29,slow=39
ARU Arti 59.53 324 *c* *i*P **P** **15 10 13.9 +0.6**
ARU *PP **sP** **15 10 30.3 0.0**
ARU 15 10 56.1
ARU S **S** **15 18 22.0 +2.7**
ARU SS **SS** **15 22 21.3 +7.1**
ARU pmax pmax
comp=Z,21nm,0.9s
ARU MLR MLR
comp=Z,291nm,18.0s
ARU Arti 59.53 324 P **P** **15 10 13.8 +0.6**
ARU pP **pP** **15 10 24.2 -1.1**
ARU Arti 59.53 324 P **P** **15 10 13.8 +0.6**
comp=Z,27nm,1.2s
I40A Norwalk 59.71 56 P **P** **15 10 14.2 -0.5**
E43A Lone Tree Farm 59.77 52 IAmb IAmb 15 10 16.6
comp=Z,14nm,0.8s
ISOG Isortoq, Green 59.87 15 *i* P **P** **15 10 14.5 -0.8**
ISOG IAmb IAmb 15 10 16.7
comp=Z,13nm,0.9s
DAV Davao City (W) 59.99 239 LR LR 15 31 44.4
comp=Z,124nm,21.8s,baz=54,slow=32
SHLS Shalkode 60.02 303 *e*P **P** **15 10 16.0 -1.0**
comp=Z,5.1nm,0.7s,baz=302
SHLS Shalkode 60.02 303 *e*P **P** **15 10 16.0 -1.0**
SHLS pmax pmax
comp=Z,5.0nm,0.7s
MNTX Cornudas Mount 60.03 76 P **P** **15 10 14.1 -3.0**
baz=316,SNR=9.9
N38A Joes South For 60.52 61 P **P** **15 10 19.9 -0.3**
OUL Oulu 60.54 345 P **P** **15 10 20.9 +1.0**
OUL pmax pmax
comp=Z,23nm,1.2s
ZHN Zhinishke 60.54 303 *e*P **P** **15 10 21.0 +0.5**
baz=303
ZHN Zhinishke 60.54 303 *e*P **P** **15 10 21.0 +0.5**
JFWS Jewell Farm 60.59 57 P **P** **15 10 18.5 -2.3**
baz=316
SATY Saty 60.64 303 *e*P **P** **15 10 21.9 +0.7**
comp=Z,13nm,1.1s,baz=303
SATY Saty 60.64 303 *e*P **P** **15 10 21.8 +0.7**
SATY pmax pmax
comp=Z,13nm,1.1s
L40A Anamosa 60.69 58 IAmb IAmb 15 10 24.2
comp=Z,16nm,1.0s
CHKK Chushkaly 60.79 305 *e*P **P** **15 10 21.6 -0.5**
baz=305
CHKK Chushkaly 60.79 305 *e*P **P** **15 10 21.6 -0.5**
KIRV Kirov 60.84 330 LR LR 15 38 51.7
comp=Z,176nm,19.9s,baz=23,slow=38
KIRV Kirov 60.84 330 *ce*P **P** **15 10 23.6 +1.5**
MDOK Medeo 61.26 304 *e*P **P** **15 10 25.8 +0.4**
baz=304
MDOK Medeo 61.26 304 *e*P **P** **15 10 25.8 +0.4**
DKNS Dickens 61.26 71 P **P** **15 10 25.9 +0.4**
DKNS IAmb IAmb 15 10 28.2
comp=Z,15nm,1.2s

AAA	**Alma-Ata**	**61.29**	**304**	*e*P		**P**		**15 10 25.8**	**+0.2**
	baz=304								
AAA	**Alma-Ata**	**61.29**	**304**	*e*P		**P**		**15 10 25.7**	**+0.2**
POST	**Post**	**61.35**	**72**	IAmb		IAmb		15 11 07.6	
	comp=Z,7.9nm,0.7s								
TNSS	**Tian-Shan**	**61.40**	**304**	*e*P		**P**		**15 10 26.8**	**+0.1**
	baz=304								
TNSS	**Tian-Shan**	**61.40**	**304**	*e*P		**P**		**15 10 26.8**	**+0.1**
BTLS	**Baital**	**61.41**	**307**	*e*P		**P**		**15 10 26.4**	**+0.2**
	comp=Z,5.3nm,0.8s,baz=307								
BTLS	**Baital**	**61.41**	**307**	*e*P		**P**		**15 10 26.3**	**+0.1**
BTLS				pmax		pmax			
	comp=Z,5.0nm,0.8s								
SLVN	**Son La**	**61.42**	**268**	IAmb		IAmb		15 10 29.8	
	comp=Z,16nm,1.1s								
WUS	**Wushi**	**61.54**	**301**	P		**P**		**15 10 28.1**	**+0.7**
WUS				pP		**pP**		**15 10 38.6**	**-1.2**
L42A	**Oliver, Polo**	**61.55**	**57**	IAmb		IAmb		15 10 27.7	
	comp=Z,15nm,0.8s								
JOF	**Joensuu**	**61.59**	**342**	*e*P		**P**		**15 10 26.1**	**-1.0**
KLMR	**Klimovskoe**	**61.63**	**337**	*e*P		**P**		**15 10 26.7**	**-0.7**
KLMR				pmax		pmax			
	comp=Z,45nm,1.4s								
WMOK	**Wichita Mounta**	**61.74**	**69**	IAmb		IAmb		15 10 30.4	
	comp=Z,17nm,1.5s								
WMOK	**Wichita Mounta**	**61.74**	**69**	P		**P**		**15 10 26.6**	**-2.0**
	baz=316								
WMOK	**Wichita Mounta**	**61.74**	**69**	P		**P**		**15 10 29.7**	**+1.1**
WMOK				pmax		pmax			
	comp=Z,5.0nm,2.0s								
SCHQ	**Schefferville**	**61.95**	**35**	P		**P**		**15 10 28.8**	**-0.9**
SCHQ	**Schefferville**	**61.95**	**35**	P		**P**		**15 10 29.8**	**+0.1**
	comp=Z,22nm,0.9s,baz=328,slow=7.2,SNR=46								
	comp=Z,22nm,0.9s								
TNCH	**TengChong**	**62.00**	**275**	P		**P**		**15 10 31.4**	**+0.7**
TNCH				S		**S**		**15 18 48.5**	**-3.5**
TNCH				pmax		pmax			
	comp=Z,17nm,0.4s								
TNCH				pmax		pmax			
	comp=Z,100nm,4.6s								
TNCH				LR		LR			
	comp=Z,88nm,18.5s								
TNCH				LR		LR			
	comp=Z,99nm,16.5s								
TNCH				LR		LR			
	comp=Z,210nm,20.9s								
SGDS	**Sogindy**	**62.27**	**306**	*e*P		**P**		**15 10 32.9**	**+0.8**
	comp=Z,9.6nm,1.0s,baz=306								
SGDS	**Sogindy**	**62.27**	**306**	*e*P		**P**		**15 10 32.9**	**+0.8**
SGDS				pmax		pmax			
	comp=Z,10.0nm,1.0s								
BOOM	**Boomskoye usch**	**62.31**	**304**	P		**P**		**15 10 32.2**	**-0.3**
BOOM				IAmb		IAmb		15 10 34.6	
	comp=Z,12nm,0.8s								
BOOM	**Boomskoye usch**	**62.31**	**304**	P		**P**		**15 10 32.2**	**-0.3**
BOOM				pmax		pmax			
	comp=Z,12nm,0.8s								
LPIG	**La Paz**	**62.54**	**86**	LR		LR		15 32 06.7	
	comp=Z,152nm,21.3s,baz=276,slow=31								
TUL3	**Leonard**	**62.60**	**66**	P		**P**		**15 10 33.0**	**-1.4**
	baz=316								
TX31	**Lajitas Ar. Si**	**62.75**	**77**	IAmb		IAmb		15 10 37.5	
	comp=Z,25nm,1.4s								
TXAR	**Lajitas Array**	**62.75**	**77**	P		**P**		**15 10 35.6**	**0.0**
TXAR	**Lajitas Array**	**62.75**	**77**	P		**P**		**15 10 36.1**	**+0.5**
	comp=Z,2.7nm,0.4s,baz=302,slow=5.5,SNR=59								
TXAR				LR		LR		15 34 53.6	
	comp=Z,97nm,20.9s,baz=316,slow=33								
	comp=Z,2.7nm,0.4s								
ABTX	**Abilene, Hawle**	**62.76**	**71**	P		**P**		**15 10 33.4**	**-2.0**
	baz=317								
BORG	**Borgarnes**	**62.78**	**7**	LR		LR		15 36 44.0	
	comp=Z,155nm,21.9s,baz=347,slow=35								
R40A	**Maddies Statio**	**62.83**	**62**	IAmb		IAmb		15 10 36.0	
	comp=Z,13nm,1.1s								
AAK	**Ala-Archa**	**62.93**	**305**	P		**P**		**15 10 37.0**	**+0.3**
AAK				IAmb		IAmb		15 10 38.6	
	comp=Z,14nm,0.8s								
AAK	**Ala-Archa**	**62.93**	**305**	LR		LR		15 38 58.7	
	comp=Z,228nm,21.2s,baz=46,slow=37								
AAK	**Ala-Archa**	**62.93**	**305**	*ce*P		**P**		**15 10 37.7**	**+1.0**
AAK				pmax		pmax			
	comp=Z,13nm,0.7s								
AAK	**Ala-Archa**	**62.93**	**305**	P		**P**		**15 10 37.6**	**+0.9**
VAF	**Ylistaro**	**62.96**	**346**	*e*P		**P**		**15 10 35.9**	**-0.3**
SLBS	**Sierra La Lagu**	**63.07**	**86**	P		**P**		**15 10 38.4**	**+0.7**
SLBS	**Sierra La Lagu**	**63.07**	**86**	P		**P**		**15 10 38.5**	**+0.8**
HPIG		**63.30**	**80**	IAmb		IAmb		15 10 41.2	
	comp=Z,29nm,1.5s								
KEF	**Keuruu**	**63.44**	**344**	*e*P		**P**		**15 10 38.4**	**-1.0**
ARLS	**Aral**	**63.59**	**305**	P		**P**		**15 10 42.5**	**+1.5**
ARLS				pmax		pmax			
	comp=Z,32nm,0.9s								
FIA1	**FINESS Array S**	**63.91**	**344**	P		**P**		**15 10 42.2**	**-0.3**
FINES	**FINESS Array B**	**63.91**	**344**	P		**P**		**15 10 42.4**	**-0.2**
FINES	**FINESS Array B**	**63.91**	**344**	P		**P**		**15 10 42.5**	**0.0**
	comp=Z,6.3nm,0.5s,baz=18,slow=7.8,SNR=42								
FINES				LR		LR		15 40 05.4	
	comp=Z,338nm,21.8s,baz=26,slow=38								
	comp=Z,6.3nm,0.5s								
SWI	**Sorong**	**63.98**	**229**	P		**P**		**15 10 45.1**	**+1.5**
SWI				pmax		pmax			
	comp=Z,33nm,1.0s								
SFIN	**Lafayette**	**64.06**	**57**	P		**P**		**15 10 41.0**	**-2.8**
	baz=318,SNR=5.3								
BRDY	**Brady**	**64.10**	**72**	IAmb		IAmb		15 10 46.1	
	comp=Z,18nm,1.5s								
Q44A	**Meyer Farm, Va**	**64.14**	**59**	P		**P**		**15 10 42.5**	**-1.9**
JCT	**Junction City**	**64.22**	**73**	P		**P**		**15 10 42.0**	**-3.2**
	baz=317								
DZA	**Taraz**	**64.31**	**307**	*e*P		**P**		**15 10 45.8**	**+0.1**
	comp=Z,6.7nm,0.8s,baz=307								
DZA	**Taraz**	**64.31**	**307**	*e*P		**P**		**15 10 45.7**	**+0.1**
DZA				pmax		pmax			
	comp=Z,7.0nm,0.8s								
AKTO	**Aktyubinsk**	**64.41**	**320**	LR		LR		15 42 43.3	
	comp=Z,314nm,18.3s,baz=16,slow=40								
CRAI	**Chiangrai**	**64.42**	**270**	IAmb		IAmb		15 10 49.1	
	comp=Z,9.4nm,0.7s								
KSH	**Kashi**	**64.46**	**302**	P		P		15 10 51.2	+4.5
KSH				pP		sP		15 11 07.0	+2.8
KSH				pmax		pmax			
	comp=Z,27nm,0.8s								
KSH				LR		LR			
	comp=Z,220nm,19.1s								
KSH				LR		LR			
	comp=Z,280nm,19.2s								
KSH				LR		LR			
	comp=Z,380nm,21.6s								
WHTX	**Lake Whitney,**	**64.48**	**70**	P		**P**		**15 10 43.8**	**-3.1**
	baz=317								
KK31	**Karatay Array**	**64.55**	**308**	P		**P**		**15 10 47.0**	**-0.1**
KK31	**Karatay Array**	**64.55**	**308**	P		**P**		**15 10 47.0**	**-0.1**
KK31				pmax		pmax			
	comp=Z,17nm,0.7s								
KKAR	**Karatay Array**	**64.55**	**308**	P		**P**		**15 10 47.1**	**0.0**
KKAR	**Karatay Array**	**64.55**	**308**	P		**P**		**15 10 47.2**	**0.0**
KKAR				pmax		pmax			
	comp=Z,17nm,0.7s								
ABKAR	**Akbulak array**	**64.57**	**319**	P		**P**		**15 10 47.5**	**+0.4**
ABKAR	**Akbulak array**	**64.57**	**319**	IAmb		IAmb		15 10 48.9	
	comp=Z,86nm,2.0s								
FCAR	**Ozark Folk Cen**	**64.66**	**64**	IAmb		IAmb		15 10 48.1	
	comp=Z,22nm,1.1s								
SADO	**Sadowa**	**64.69**	**49**	LR		LR		15 39 13.6	
	comp=Z,211nm,20.9s,baz=314,slow=36								
MIAR	**Mount Ida**	**64.83**	**66**	IAmb		IAmb		15 10 50.4	
	comp=Z,18nm,1.2s								
MIAR	**Mount Ida**	**64.83**	**66**	P		**P**		**15 10 46.1**	**-3.0**
	baz=317,SNR=7.0								
MIAR	**Mount Ida**	**64.83**	**66**	P		**P**		**15 10 49.1**	**0.0**
MIAR				pmax		pmax			
	comp=Z,12nm,1.4s								
BRLS	**Borolday**	**64.94**	**308**	*e*P		**P**		**15 10 51.6**	**+1.9**
	baz=308								
BRLS	**Borolday**	**64.94**	**308**	*e*P		**P**		**15 10 51.5**	**+1.9**
RAF	**Rauma**	**65.01**	**346**	*e*P		**P**		**15 10 48.8**	**-1.0**
O48B	**Farmland**	**65.14**	**56**	P		**P**		**15 10 48.1**	**-2.9**
	baz=318								
MEF	**Metsahovi**	**65.35**	**344**	*e*P		**P**		**15 10 50.3**	**-1.7**
IUG	**Iuzhnay**	**65.51**	**308**	*e*P		**P**		**15 10 54.5**	**+1.0**
	comp=Z,9.6nm,0.7s,baz=308								
IUG	**Iuzhnay**	**65.51**	**308**	*e*P		**P**		**15 10 54.4**	**+1.0**
IUG				pmax		pmax			
	comp=Z,10.0nm,0.7s								
USIN	**University of**	**65.54**	**59**	P		**P**		**15 10 52.8**	**-0.8**
PMG	**Port Moresby**	**65.60**	**210**	LR		LR		15 36 38.4	
	comp=Z,159nm,18.9s,baz=32,slow=33								
PHRA	**Phrae**	**65.82**	**269**	P		**P**		**15 10 55.2**	**-0.4**
P49A	**Miami Univ. Ec**	**65.91**	**56**	P		**P**		**15 10 53.4**	**-2.5**
	baz=319,SNR=5.6								
833A	**Chaparral WMA,**	**66.04**	**74**	P		**P**		**15 10 54.0**	**-2.9**
	baz=318								
WCI	**Wyandotte Cave**	**66.07**	**58**	P		**P**		**15 10 55.3**	**-1.6**
	baz=319								
NC405	**NORSAR Array S**	**66.19**	**351**	IAmb		IAmb		15 10 58.6	
	comp=Z,15nm,0.8s								
ERPA	**Erie**	**66.31**	**51**	P		**P**		**15 10 58.0**	**-0.4**
ERPA	**Erie**	**66.31**	**51**	P		**P**		**15 10 56.4**	**-2.1**
	baz=320								
NB2	**NORSAR Subarra**	**66.31**	**351**	P		**P**		**15 10 58.1**	**-0.1**
	comp=Z,19nm,1.0s,baz=10.0,slow=6.5								
NB2	**NORSAR Subarra**	**66.31**	**351**	P		**P**		**15 10 58.1**	**-0.1**
	baz=10.0,slow=6.5								
NB2	**NORSAR Subarra**	**66.31**	**351**	P		P		15 10 54.2	-4.0
NB2				pmax		pmax			
	comp=Z,6.0nm,1.0s								
NOA	**NORSAR Array B**	**66.31**	**351**	P		**P**		**15 10 58.2**	**0.0**
	comp=Z,4.3nm,0.4s,baz=12,slow=6.4,SNR=36								
NOA				LR		LR		15 40 04.6	
	comp=Z,91nm,20.7s,baz=20,slow=36								
	comp=Z,4.3nm,0.4s								
M53A	**WI Miller and**	**66.49**	**52**	P		**P**		**15 10 57.4**	**-2.3**
	baz=320,SNR=9.3								
NORES	**NORESS Array B**	**66.58**	**351**	P		**P**		**15 11 00.1**	**+0.2**
VSU	**Vasula**	**66.58**	**342**	*ce*P		**P**		**15 11 01.0**	**+1.1**
VSU				pmax		pmax			
	comp=Z,20nm,1.3s								
R49A	**Shelbyville**	**66.61**	**57**	IAmb		IAmb		15 11 01.7	
	comp=Z,34nm,1.4s								
MOS	**Moscow**	**66.62**	**335**	*e*P		**P**		**15 10 59.1**	**-1.1**
MOS				pmax		pmax			
	comp=Z,34nm,0.8s								
DRK	**Karamyk**	**66.64**	**305**	IAmb		IAmb		15 11 03.1	
	comp=Z,14nm,0.9s								
CMAR	**Chiang Mai Arr**	**66.64**	**270**	P		**P**		**15 11 01.4**	**+0.5**
CMAR	**Chiang Mai Arr**	**66.64**	**270**	P		**P**		**15 11 02.2**	**+1.3**
	comp=Z,9.1nm,0.7s,baz=24,slow=7.2,SNR=49								
CMAR				LR		LR		15 42 00.2	
	comp=Z,62nm,19.7s,baz=50,slow=38								
	comp=Z,9.1nm,0.7s								
CMAR	**Chiang Mai Arr**	**66.64**	**270**	*ce*P		**P**		**15 11 02.2**	**+1.3**
CMAR				pmax		pmax			
	comp=Z,12nm,0.8s								
BTK	**Batken**	**66.70**	**306**	P		**P**		**15 11 02.1**	**+1.0**
BTK				pmax		pmax			
	comp=Z,46nm,0.9s								
UPP	**Uppsala**	**66.73**	**347**	*e*P		**P**		**15 10 59.9**	**-0.9**
WVNY	**West Valley, N**	**66.75**	**50**	IAmb		IAmb		15 11 02.4	
	comp=Z,17nm,1.0s								
WVT	**Waverly**	**66.82**	**61**	P		**P**		**15 11 01.6**	**-0.3**
WVT	**Waverly**	**66.82**	**61**	P		**P**		**15 10 59.1**	**-2.8**
	baz=319								
WVT	**Waverly**	**66.82**	**61**	P		**P**		**15 11 01.6**	**-0.3**
WVT				pmax		pmax			
	comp=Z,29nm,0.8s								
WVT	**Waverly**	**66.82**	**61**	P		**P**		**15 11 01.5**	**-0.3**
WVT				pP		**pP**		**15 11 11.6**	**-2.6**
MTSE	**Matsula**	**66.87**	**344**	*e*P		**P**		**15 11 01.6**	**-0.1**
LONY	**Lake Ozonia**	**66.88**	**46**	P		**P**		**15 10 59.0**	**-3.1**
	baz=322								
J56A	**Wolcott**	**66.89**	**49**	IAmb		IAmb		15 11 03.8	
	comp=Z,26nm,1.4s								
HFS	**Hagfors**	**66.94**	**350**	P		**P**		**15 11 02.1**	**-0.1**
	comp=Z,7.9nm,0.4s,baz=44,slow=4.4,SNR=20								
HFS				LR		LR		15 41 54.0	
	comp=Z,138nm,19.8s,baz=354,slow=37								
	comp=Z,7.9nm,0.4s								
O53A	**New Philadelph**	**67.13**	**54**	P		**P**		**15 11 01.4**	**-2.3**
	baz=320								
P52A	**Corning**	**67.14**	**55**	P		**P**		**15 11 01.1**	**-2.7**
	baz=320								
OXF	**Oxford**	**67.17**	**63**	P		**P**		**15 11 02.0**	**-2.1**
	baz=319,SNR=6.0								
M55A	**Ridgway**	**67.39**	**51**	P		**P**		**15 11 04.4**	**-1.0**
OBN	**Obninsk**	**67.45**	**335**	LR		LR		15 42 19.1	
	comp=Z,514nm,21.6s,baz=360,slow=38								
OBN	**Obninsk**	**67.45**	**335**	*i* P		**P**		**15 11 06.3**	**+0.9**
OBN				*i*				15 11 14.2	
OBN				pmax		pmax			
	comp=Z,16nm,1.1s								
OBN				MLR		MLR			
	comp=Z,505nm,21.0s								
OBN	**Obninsk**	**67.45**	**335**	P		**P**		**15 11 06.3**	**+0.9**
	comp=Z,26nm,0.8s								
PLAL	**Pickwick Lake**	**67.55**	**62**	IAmb		IAmb		15 11 07.2	
	comp=Z,33nm,1.4s								
TOLI2	**Tolitoli**	**67.55**	**240**	IAmb		IAmb		15 11 08.4	
	comp=Z,7.1nm,0.6s								
J58A	**Remsen**	**67.55**	**48**	IAmb		IAmb		15 11 07.3	
	comp=Z,19nm,1.2s								
Y45A	**Yeager Farm, C**	**67.58**	**63**	P		**P**		**15 11 06.1**	**-0.5**
V48A	**Smith Brothers**	**67.65**	**60**	IAmb		IAmb		15 11 08.1	
	comp=Z,22nm,1.2s								
T50A	**Nancy**	**67.74**	**58**	IAmb		IAmb		15 11 08.9	
	comp=Z,12nm,0.7s								
KONO	**Kongsberg**	**67.83**	**352**	*ce*P		**P**		**15 11 09.0**	**+1.2**
KONO				pmax		pmax			
	comp=Z,24nm,1.7s								
KONO	**Kongsberg**	**67.83**	**352**	P		**P**		**15 11 08.2**	**+0.4**
F62A	**Pittston Farm,**	**67.87**	**43**	IAmb		IAmb		15 11 08.9	
	comp=Z,20nm,1.2s								
BINY	**Binghamton**	**68.14**	**49**	P		**P**		**15 11 06.5**	**-3.6**
	baz=322								
VIKU	**Vikbolandet**	**68.16**	**348**	*e*P		**P**		**15 11 08.4**	**-1.5**
ACCN	**Adirondack Com**	**68.26**	**47**	IAmb		IAmb		15 11 11.1	
	comp=Z,36nm,1.6s								
M57A	**Sunshine Farm,**	**68.27**	**50**	IAmb		IAmb		15 11 12.1	
	comp=Z,15nm,0.8s								
LBNH	**Lisbon**	**68.35**	**45**	IAmb		IAmb		15 11 12.4	
	comp=Z,24nm,1.2s								
LBNH	**Lisbon**	**68.35**	**45**	P		**P**		**15 11 08.4**	**-3.0**
	baz=323								
F63A	**Nahmakanta, Br**	**68.38**	**42**	IAmb		IAmb		15 11 24.7	
	comp=Z,34nm,1.7s								
SSPA	**Standing Stone**	**68.46**	**51**	P		**P**		**15 11 11.8**	**-0.2**
SSPA	**Standing Stone**	**68.46**	**51**	P		**P**		**15 11 09.8**	**-2.3**
	baz=321								
SSPA	**Standing Stone**	**68.46**	**51**	P		**P**		**15 11 12.1**	**0.0**
SSPA				pP		**pP**		**15 11 22.7**	**-1.8**
SSPA				sP		**sP**		**15 11 26.8**	**-2.5**
X48A	**Hartselle**	**68.50**	**61**	IAmb		IAmb		15 11 17.0	
	comp=Z,21nm,1.6s								
SWET	**Sewanee**	**68.52**	**60**	P		**P**		**15 11 11.7**	**-0.9**
SWET				IAmb		IAmb		15 11 12.5	
	comp=Z,29nm,1.4s								
PKME	**Peaks-Kenny Pk**	**68.66**	**43**	P		**P**		**15 11 11.2**	**-2.0**
	baz=324								
SIMJ	**Simiganj**	**68.67**	**306**	P		**P**		**15 11 13.0**	**-0.6**
SIMJ	**Simiganj**	**68.67**	**306**	P		**P**		**15 11 14.1**	**+0.5**
TZTN	**Tazewell**	**68.77**	**58**	IAmb		IAmb		15 11 15.5	
	comp=Z,16nm,1.1s								
TZTN	**Tazewell**	**68.77**	**58**	P		**P**		**15 11 12.1**	**-2.1**
	baz=320								
W50A	**Signal Mountai**	**68.86**	**60**	IAmb		IAmb		15 11 15.8	
	comp=Z,24nm,1.3s								
CPCT	**Cooper Cave**	**69.09**	**59**	P		**P**		**15 11 15.2**	**-0.9**
CPCT				IAmb		IAmb		15 11 17.6	
	comp=Z,31nm,1.3s								
FPAL	**Fort Paine**	**69.21**	**60**	IAmb		IAmb		15 11 17.7	
	comp=Z,24nm,1.2s								
V52A	**Sevierville**	**69.28**	**58**	IAmb		IAmb		15 11 18.6	
	comp=Z,31nm,1.5s								
TKL	**Tuckaleechee C**	**69.33**	**58**	IAmb		IAmb		15 11 18.6	
	comp=Z,16nm,1.1s								
TKL	**Tuckaleechee C**	**69.33**	**58**	LR		LR		15 43 23.3	
	comp=Z,698nm,18.2s,baz=329,slow=38								
G65A	**Princeton**	**69.42**	**42**	IAmb		IAmb		15 11 19.9	
	comp=Z,14nm,1.1s								
L61B	**Northampton**	**69.44**	**47**	P		**P**		**15 11 16.3**	**-1.9**
	baz=323								
IDID	**Didziasalis**	**69.53**	**341**	*e*P		**P**		**15 11 18.5**	**+0.1**
LRAL	**Lakeview Retre**	**69.60**	**62**	P		**P**		**15 11 16.8**	**-2.5**
	baz=320								
W52A	**Murphy**	**69.68**	**59**	IAmb		IAmb		15 11 20.9	
	comp=Z,13nm,0.7s								
V53A	**Saluda**	**69.82**	**58**	IAmb		IAmb		15 11 34.5	
	comp=Z,21nm,1.2s								
EMMW	**East Machias**	**69.87**	**42**	P		**P**		**15 11 19.9**	**-0.8**
PABE	**Paberze**	**69.88**	**343**	*e*P		**P**		**15 11 20.5**	**-0.1**
NACGM	**Naroch**	**69.90**	**341**	LRM		MLR		15 46 25.2	
	comp=Z,272nm,18.4s								
NACGM	**Naroch**	**69.90**	**341**	*e*P		**P**		**15 11 22.2**	**+1.4**
	comp=Z,19nm,0.8s,baz=20								
NACGM	**Naroch**	**69.90**	**341**	PcP		**PcP**		**15 11 40.3**	**-2.6**
NACGM	**Naroch**	**69.90**	**341**	PP		PP		15 13 46.9	-8.1
NACGM	**Naroch**	**69.90**	**341**	PPP		PPP		15 15 35.5	
NACGM	**Naroch**	**69.90**	**341**	S		**S**		**15 20 29.3**	**+2.3**
NACGM	**Naroch**	**69.90**	**341**	PS				15 21 09.8	
NACGM	**Naroch**	**69.90**	**341**	SS		SS		15 25 22.2	+27
NACGM	**Naroch**	**69.90**	**341**	SSS		SSS		15 28 30.4	
NACGM	**Naroch**	**69.90**	**341**	LQ		LQ		15 37 32.8	
NACGM	**Naroch**	**69.90**	**341**	LR		LR		15 42 43.3	
PAL	**Palisades**	**70.03**	**48**	P		**P**		**15 11 20.1**	**-1.7**
	baz=323								
MNK	**Minsk**	**70.05**	**340**	*i* LRM		MLR		15 45 05.6	
	comp=N,219nm,19.4s								
MNK	**Minsk**	**70.05**	**340**	*i* P		**P**		**15 11 21.9**	**+0.2**
MNK				*i* *PP		**sP**		**15 11 38.3**	**-0.6**
MNK				*i* *SP		**PcP**		**15 11 45.3**	**+1.7**
MNK				*i*				15 13 57.4	
MNK				*i* S		**S**		**15 20 28.9**	**+0.2**
MNK				pmax		pmax			
	comp=Z,26nm,0.9s								
MNK				pmax		pmax			
	comp=E,9.0nm,0.9s								
MNK				pmax		pmax			
	comp=N,23nm,0.9s								
MNK				MLR		MLR			
	comp=E,270nm,19.0s								
MNK				MLR		MLR			
	comp=Z,277nm,19.0s								
MNK				MLR		MLR			
	comp=N,219nm,19.0s								
MNK	**Minsk**	**70.05**	**340**	*i* P		**P**		**15 11 21.9**	**+0.2**
	comp=Z,26nm,0.9s,baz=21								
MNK	**Minsk**	**70.05**	**340**	*i* P		**P**		**15 11 21.9**	**+0.2**
	comp=N,23nm,0.9s								
MNK	**Minsk**	**70.05**	**340**	*i* P		**P**		**15 11 21.9**	**+0.2**
	comp=E,9.0nm,0.9s								
MNK	**Minsk**	**70.05**	**340**	*i* pP		pP		15 11 38.3	+4.3
MNK	**Minsk**	**70.05**	**340**	*i* sP		sP		15 11 45.3	+6.4
MNK	**Minsk**	**70.05**	**340**	*i* PP		PP		15 13 57.5	+1.2
MNK	**Minsk**	**70.05**	**340**	*i* PPP		PPP		15 14 59.2	
MNK	**Minsk**	**70.05**	**340**	*i* S		**S**		**15 20 28.9**	**+0.2**
MNK	**Minsk**	**70.05**	**340**	*i* SS		SS		15 25 12.2	+15
MNK	**Minsk**	**70.05**	**340**	*i* SSS		SSS		15 27 55.7	
MNK	**Minsk**	**70.05**	**340**	*i* LQ		LQ		15 34 19.4	
MNK	**Minsk**	**70.05**	**340**	*i* LR		LR		15 40 02.0	
MNK	**Minsk**	**70.05**	**340**	*i* LRM		MLR		15 43 10.3	
	comp=E,270nm,19.1s								
MNK	**Minsk**	**70.05**	**340**	*i* LRM		MLR		15 45 00.7	
	comp=Z,277nm,19.0s								
BG3	**Lake Jocassee**	**70.28**	**58**	IAmb		IAmb		15 11 24.8	
	comp=Z,16nm,0.9s								
NIL	**Nilore**	**70.31**	**300**	P		**P**		**15 11 25.1**	**+1.4**
KMSC	**Kings Mountain**	**71.00**	**57**	P		**P**		**15 11 26.9**	**-0.9**
KMSC				IAmb		IAmb		15 11 28.2	
	comp=Z,38nm,1.4s								
KMSC	**Kings Mountain**	**71.00**	**57**	P		**P**		**15 11 25.9**	**-1.9**
	baz=321,SNR=6.0								
SBUM	**Sibu**	**71.20**	**249**	P		**P**		**15 11 29.8**	**+0.6**
GOGA	**Godfrey**	**71.21**	**60**	P		**P**		**15 11 27.2**	**-1.9**
	baz=321								
KBL	**Kabul**	**71.84**	**303**	P		**P**		**15 11 32.5**	**-0.7**
KBL	**Kabul**	**71.84**	**303**	P		**P**		**15 11 32.5**	**-0.7**
KBL				pmax		pmax			
	comp=Z,32nm,0.8s								
EKA	**Eskdalemuir Ar**	**72.83**	**358**	P		**P**		**15 11 38.8**	**+0.4**
	comp=Z,3.5nm,0.5s,baz=4.2,slow=4.9,SNR=19								
	comp=Z,3.5nm,0.5s								
KSM	**Kuching**	**73.09**	**250**	IAmb		IAmb		15 11 43.0	
	comp=Z,6.7nm,0.6s								
KAPI	**Kappang**	**73.26**	**238**	LR		LR		15 39 58.9	
	comp=Z,59nm,19.9s,baz=76,slow=33								
AK23	**Malin Array Si**	**73.26**	**338**	P		**P**		**15 11 41.7**	**+0.7**
AK21	**Malin Array Si**	**73.27**	**338**	P		**P**		**15 11 41.6**	**+0.5**
AKASG	**Malin Array Be**	**73.30**	**338**	P		**P**		**15 11 41.6**	**+0.3**
	comp=Z,7.6nm,0.4s,baz=23,slow=6.1,SNR=41								
AKASG				LR		LR		15 46 52.3	
	comp=Z,265nm,20.6s,baz=16,slow=38								
	comp=Z,7.6nm,0.4s								
AKBB	**Malin Array Si**	**73.30**	**338**	P		**P**		**15 11 40.7**	**-0.5**
AKBB				IAmb		IAmb		15 11 42.1	
	comp=Z,14nm,1.0s								
AKBB	**Malin Array Si**	**73.30**	**338**	P		**P**		**15 11 40.7**	**-0.5**
AKBB				pmax		pmax			
	comp=Z,14nm,1.0s								
AKBB	**Malin Array Si**	**73.30**	**338**	P		**P**		**15 11 41.6**	**+0.4**
KIEV	**Kiev**	**73.31**	**338**	⇓P		**P**		**15 11 41.5**	**+0.2**
KIEV	**Kiev**	**73.31**	**338**	P		**P**		**15 11 41.0**	**-0.3**
KIEV				IAmb		IAmb		15 11 42.1	
	comp=Z,13nm,1.

comp=Z,19nm,1.1s
OJC Ojcow 75.69 343 P **P** **15 11 56.3 +1.1**
comp=Z,19nm,1.1s
SHA1 Shidzhatmaz 75.71 326 *ce*P **P** **15 11 57.6 +1.9**
BATI Baumata 75.74 232 LR LR 15 42 03.6
comp=Z,106nm,20.4s,baz=114,slow=33
KMPD K-Podol'skiy 75.93 339 P **P** **15 11 57.0 +0.4**
KMPD P **P** **15 11 56.9 +0.4**
BRG Berggiesshubel 75.97 347 *e*P **P** **15 11 57.0 +0.2**
BRG Amp 15 11 57.8
comp=Z,4.7nm,0.9s
BRG Berggiesshubel 75.97 347 *e*P **P** **15 11 56.9 +0.2**
BRG pmax pmax
comp=Z,5.0nm,1.0s
ZKTA Zakatala 76.11 322 P **P** **15 11 56.4 -1.4**
DPC Dobruska-Polom 76.14 346 *e*P **P** **15 11 58.6 +0.8**
DPC Dobruska-Polom 76.14 346 *e*P **P** **15 11 58.6 +0.8**
DPC Dobruska-Polom 76.14 346 P **P** **15 11 58.7 +0.9**
comp=Z,13nm,0.9s
STHS Stebnicka Huta 76.20 342 *e*P **P** **15 11 59.4 +1.3**
STHS Stebnicka Huta 76.20 342 *e*P **P** **15 11 59.4 +1.3**
STHS pmax pmax
comp=Z,16nm,1.4s
PPT Papeete 76.26 145 LR LR 15 37 16.5
comp=Z,241nm,19.9s,baz=342,slow=29
SEKA Sheki 76.26 322 P **P** **15 11 57.1 -1.6**
KRLC Kraliky 76.33 345 P **P** **15 12 00.0 +1.1**
KRLC pmax pmax
comp=Z,13nm,1.7s
NIE Niedzica 76.37 343 P **P** **15 12 00.4 +1.3**
NIE pmax pmax
comp=Z,5.0nm,1.7s
NIE Niedzica 76.37 343 P **P** **15 12 00.9 +1.8**
comp=Z,4.7nm,1.7s
ONI Oni 76.44 325 P **P** **15 11 58.8 -0.9**
KOLS Kolonicke sedl 76.46 341 *e*P **P** **15 12 01.1 +1.5**
KOLS Kolonicke sedl 76.46 341 *e*P **P** **15 12 01.1 +1.5**
KOLS pmax pmax
comp=Z,14nm,0.9s
ANN Anapa 76.47 330 *e*P **P** **15 11 56.3 -3.4**
ANN *e**PP **sP** **15 12 14.9 -2.2**
ANN *e*S **S** **15 21 40.2 -1.5**
ANN pmax pmax
comp=Z,52nm,1.6s
ANN MLR MLR
comp=Z,379nm,21.0s
MORC Moravsky Berou 76.50 345 ⇓P **P** **15 12 00.5 +0.6**
MORC Moravsky Berou 76.50 345 P **P** **15 11 59.8 0.0**
MORC IAmb IAmb 15 12 02.4
comp=Z,25nm,1.7s
MORC Moravsky Berou 76.50 345 *e*P **P** **15 12 00.6 +0.7**
MORC Moravsky Berou 76.50 345 P **P** **15 12 00.4 +0.6**
RAR Rarotonga 76.53 155 LR LR 15 38 12.3
comp=Z,238nm,19.7s,baz=326,slow=30
CRVS Cervenica-Dubn 76.65 342 *e*P **P** **15 12 01.9 +1.2**
CRVS Cervenica-Dubn 76.65 342 *e*P **P** **15 12 01.9 +1.2**
CRVS pmax pmax
comp=Z,67nm,2.0s
MNGR Mingechevir, A 76.68 322 P **P** **15 11 59.7 -1.2**
LANS Liptovska Anna 76.78 343 *e*P **P** **15 12 03.5 +2.1**
LANS Liptovska Anna 76.78 343 *e*P **P** **15 12 03.5 +2.1**
LANS pmax pmax
comp=Z,12nm,0.8s
GOPC GO Pecny, Ondr 76.79 347 *e*P **P** **15 12 01.6 +0.2**
GOPC GO Pecny, Ondr 76.79 347 *e*P **P** **15 12 01.6 +0.2**
HOLU Holmets 76.83 341 P **P** **15 12 02.8 +1.2**
SOC Sochi 76.84 328 *e*P **P** **15 12 00.8 -1.0**
SOC *e* 15 14 54.5
SOC *e*PPP PPP 15 16 42.0
SOC *e*S **S** **15 21 44.4 -1.4**
SOC *e*SS **SS** **15 26 43.4 +2.1**
SOC pmax pmax
comp=Z,7.0nm,0.6s
SOC MLR MLR
comp=Z,291nm,20.0s
MUKU Mukachevo 76.84 341 P **P** **15 12 02.9 +1.2**
BRIU Brid 76.88 341 P **P** **15 12 02.6 +0.7**
BERU Beregovo 77.06 341 P **P** **15 12 03.8 +0.9**
BUR08 Bucovina Ar. S 77.08 339 IAmb IAmb 15 12 23.2
comp=Z,13nm,0.8s
GANJ Ganja 77.08 322 P **P** **15 12 02.0 -1.3**
BURAR Bucovina Array 77.11 339 ⇓P **P** **15 12 04.5 +1.2**
BURAR Bucovina Array 77.11 339 P **P** **15 12 04.3 +0.9**
BURAR IAmb IAmb 15 12 23.5
comp=Z,16nm,0.8s
BURAR Bucovina Array 77.11 339 P **P** **15 12 04.5 +1.2**
VRAC Vranov 77.11 345 ⇑P **P** **15 12 04.7 +1.4**
VRAC Vranov 77.11 345 *e*P **P** **15 12 04.3 +1.1**
VRAC Vranov 77.11 345 LR LR 15 47 06.5
comp=Z,152nm,21.6s,baz=8.5,slow=37
VRAC Vranov 77.11 345 P **P** **15 12 04.6 +1.4**
BTNL Ternell 77.11 352 *d*P **P** **15 12 04.1 +0.9**
CMIG Matias Romero 77.24 79 LR LR 15 42 07.6
comp=Z,175nm,21.6s,baz=350,slow=33
ZVC Zvikov 77.34 347 *e*P **P** **15 12 05.6 +1.1**
BCLA Clavier 77.34 353 *d*P **P** **15 12 05.2 +0.7**
JAVC Velka Javorina 77.37 344 *e*P **P** **15 12 06.7 +1.9**
KRUC Moravsky 77.38 345 *e*P **P** **15 12 05.6 +0.9**
KRUC Moravsky 77.38 345 P **P** **15 12 05.8 +1.1**
KRUC pmax pmax
comp=Z,9.0nm,1.5s
BMRD Maredsous 77.50 353 *d*P **P** **15 12 05.9 +0.6**
comp=Z,5.6nm,0.8s
BMRD *d*PcP **PcP** **15 12 13.8 -1.7**
VYHS Vyhne 77.52 344 *e*P **P** **15 12 06.9 +1.3**
VYHS Vyhne 77.52 344 *e*P **P** **15 12 06.9 +1.3**
VYHS pmax pmax
comp=Z,13nm,1.2s
DOU Dourbes 77.72 353 *d*P **P** **15 12 07.0 +0.4**
KHC Kasperske Hory 77.72 347 IAmb IAmb 15 12 09.1
comp=Z,38nm,1.9s
KHC Kasperske Hory 77.72 347 *e*P **P** **15 12 07.4 +0.7**
KHC Kasperske Hory 77.72 347 *ce*P **P** **15 12 08.0 +1.3**
KHC pmax pmax
comp=Z,25nm,1.3s
SMOL Smolenice 77.74 344 *e*P **P** **15 12 08.6 +1.8**
BAIF Baives 77.78 353 *e*P **P** **15 12 07.8 +0.9**
BAIF pmax pmax
comp=Z,16nm,1.2s
LKRN Lenkeran, Azer 77.79 319 P **P** **15 12 06.1 -1.1**
TESR Tescani 77.82 338 ⇑P **P** **15 12 07.2 0.0**
TESR Tescani 77.82 338 P **P** **15 12 07.4 +0.1**
comp=Z,14nm,0.8s
PSZ Piszkesteto 77.89 343 ⇓P **P** **15 12 08.6 +0.8**
PSZ Piszkesteto 77.89 343 IAmb IAmb 15 12 10.8
comp=Z,36nm,1.5s
PSZ Piszkesteto 77.89 343 P **P** **15 12 08.5 +0.8**
MODS Modra-Piesok 77.91 345 *e*P **P** **15 12 09.4 +1.7**
MODS Modra-Piesok 77.91 345 *e*P **P** **15 12 09.4 +1.7**
MODS pmax pmax
comp=Z,79nm,1.8s
GEC2 GERESS Array S 77.99 347 P **P** **15 12 09.0 +0.7**
GEC2 pmax pmax
comp=Z,6.0nm,1.6s
GERES GERESS Array B 77.99 347 P **P** **15 12 07.5 -0.7**
GERES GERESS Array B 77.99 347 P **P** **15 12 08.7 +0.5**
comp=Z,1.4nm,0.7s,baz=18,slow=4.8,SNR=5.1
GERES LR LR 15 50 47.9
comp=Z,146nm,18.6s,baz=10.0,slow=39
comp=Z,1.4nm,0.7s
GNI Garni 78.11 323 LR LR 15 51 33.9
comp=Z,225nm,18.7s,baz=23,slow=40
VRI Vrincioaia 78.41 337 ⇓P **P** **15 12 12.1 +1.6**
VRI Vrincioaia 78.41 337 P **P** **15 12 12.1 +1.6**
PLOR Plostina 78.44 338 ⇑P **P** **15 12 12.0 +1.3**
PLOR Plostina 78.44 338 P **P** **15 12 12.0 +1.3**
MARR Marisel-Cluj 78.45 340 ⇑P **P** **15 12 12.4 +1.5**
COVR Voineasa-Covas 78.55 338 ⇓P **P** **15 12 13.3 +2.0**
CONA Conrad Observa 78.56 345 *i* P **P** **15 12 13.0 +1.6**
comp=Z,6.9nm,0.9s,SNR=7.9
NAX Nakhchivan 78.68 322 P **P** **15 12 10.9 -1.3**
RONA Rosalia, Austr 78.72 345 *i* P **P** **15 12 14.3 +2.0**
comp=Z,9.7nm,1.5s
TEIG Tepich 78.74 72 LR LR 15 47 38.4
comp=Z,766nm,20.5s,slow=36
MOA Molln 78.88 346 *e*P **P** **15 12 15.3 +2.2**
comp=Z,4.7nm,1.0s
TPGR Topolog 78.95 336 ⇑P **P** **15 12 14.3 +0.8**
MLR Muntele Rosu 78.95 338 ⇑P **P** **15 12 15.3 +1.7**
MLR Muntele Rosu 78.95 338 IAmb IAmb 15 12 16.3
comp=Z,8.8nm,0.9s
MLR Muntele Rosu 78.95 338 LR LR 15 49 58.4
comp=Z,288nm,21.4s,baz=21,slow=38
MLR Muntele Rosu 78.95 338 P **P** **15 12 15.3 +1.7**

BIOA Bad Ischl, Aus 79.12 347 *e*P **P** **15 12 15.8 +1.3**
comp=Z,0.7nm,0.3s
SIRR Siria 79.14 341 ⇑P **P** **15 12 16.5 +2.0**
VOIR 79.20 338 ⇑P **P** **15 12 16.7 +1.7**
VOIR 79.20 338 P **P** **15 12 16.6 +1.7**
VOIR 79.20 338 P **P** **15 12 16.2 +1.2**
comp=Z,10nm,1.2s
DEV Deva 79.25 340 P **P** **15 12 13.2 -1.9**
ARSA Arzberg 79.28 345 *i* P **P** **15 12 16.9 +1.6**
comp=Z,4.7nm,0.7s
FLN La Foliniere 79.33 356 *e*P **P** **15 12 15.7 +0.2**
FLN pmax pmax
comp=Z,21nm,1.2s
ECH Echery 79.37 351 P **P** **15 12 15.9 +0.1**
LDF La Druitiere 79.48 356 *e*P **P** **15 12 16.6 +0.3**
LDF pmax pmax
comp=Z,45nm,1.9s
SURR Surduc 79.53 341 ⇑P **P** **15 12 17.7 +1.1**
HAU Haudompre 79.65 352 *e*P **P** **15 12 17.5 +0.2**
HAU pmax pmax
comp=Z,5.0nm,0.8s
RETA Reutte 79.70 349 *e*P **P** **15 12 19.3 +1.6**
comp=Z,6.2nm,1.3s
GRR Gorron 79.72 357 *e*P **P** **15 12 18.1 +0.5**
GRR pmax pmax
comp=Z,5.0nm,0.5s
GZR Gura Zlata 79.74 340 ⇓P **P** **15 12 19.1 +1.2**
WATA Walderalm 79.75 348 *i* P **P** **15 12 19.0 +1.0**
comp=Z,12nm,1.3s
MORH Mrgy, Hungar 79.76 343 P **P** **15 12 18.8 +0.9**
comp=Z,5.8nm,1.3s
KBA Koelnbreinsper 79.77 347 *i* P **P** **15 12 19.6 +1.5**
comp=Z,19nm,0.7s,SNR=15
KBA Koelnbreinsper 79.77 347 P **P** **15 12 19.8 +1.7**
KBA pmax pmax
comp=Z,38nm,0.8s
BZS Buzias 79.77 341 P **P** **15 12 18.7 +0.8**
BZS pmax pmax
comp=Z,9.0nm,1.6s
WRAB Tennant Creek 79.77 218 P **P** **15 12 18.3 +0.2**
WRAB IAmb IAmb 15 12 20.0
comp=Z,47nm,1.9s
WRAB Tennant Creek 79.77 218 P **P** **15 12 18.3 +0.2**
WRAB pmax pmax
comp=Z,47nm,1.9s
WB2 Warramunga Arr 79.78 218 IAmb IAmb 15 12 20.1
comp=Z,10nm,0.8s
WRA Warramunga Arr 79.79 218 P **P** **15 12 18.2 0.0**
WRA Warramunga Arr 79.79 218 P **P** **15 12 19.1 +0.9**
comp=Z,5.1nm,0.7s,baz=31,slow=6.4,SNR=45
comp=Z,5.1nm,0.7s
WRA Warramunga Arr 79.79 218 *i* P **P** **15 12 19.1 +0.9**
WRA pmax pmax
comp=Z,6.0nm,0.6s
HINF Hinteralfeld 79.79 351 *e*P **P** **15 12 18.4 +0.3**
HINF pmax pmax
comp=Z,6.0nm,1.1s
MOTA Moosalm 79.80 348 *i* P **P** **15 12 19.6 +1.3**
comp=Z,13nm,1.1s
WTTA Wattenberg 79.81 348 *i* P **P** **15 12 19.8 +1.4**
comp=Z,10nm,0.9s
WTTA Wattenberg 79.81 348 P **P** **15 12 19.3 +0.9**
WTTA pmax pmax
comp=Z,15nm,1.5s
SOKA Soboth 79.91 346 *i* P **P** **15 12 20.6 +1.8**
comp=Z,16nm,1.1s,SNR=9.5
SQTA Sankt Quirin 79.91 348 *e*P **P** **15 12 20.3 +1.5**
comp=Z,8.2nm,1.1s
DAVA Damuels 80.00 349 *i* P **P** **15 12 20.3 +0.9**
comp=Z,8.0nm,1.5s
GROS Grobnik 80.05 345 *i* P **P** **15 12 20.6 +1.0**
OBKA Obir 80.15 346 *i* P **P** **15 12 21.9 +1.8**
comp=Z,16nm,0.9s,SNR=7.1
MYKA Terra Mystica 80.16 347 *i* P **P** **15 12 21.2 +1.1**
comp=Z,2.4nm,0.8s
FETA Feichten 80.17 349 *i* P **P** **15 12 21.4 +1.1**
comp=Z,5.9nm,0.9s
ABTA Abfaltersbach 80.20 347 *i* P **P** **15 12 21.4 +1.0**
comp=Z,8.2nm,1.0s
HERR Herculane 80.31 340 ⇓P **P** **15 12 21.4 +0.6**
DOBS Dobrina 80.36 345 *i* P **P** **15 12 21.8 +0.6**
PRED Cave del Predi 80.36 347 IAmb IAmb 15 12 31.0
comp=Z,7.8nm,0.8s
GOLS Golise 80.47 345 *i* P **P** **15 12 22.7 +0.9**
DAVOX Davos/Dischmat 80.50 349 LR LR 15 47 34.8
comp=Z,122nm,21.8s,baz=74,slow=35
PTJ Puntijarka 80.52 345 P **P** **15 12 24.5 +2.4**
MDVR Moldovita 80.55 341 ⇑P **P** **15 12 23.3 +1.1**
FRGS Fruska Gora 80.56 342 ⇑P **P** **15 12 23.1 +0.8**
FRGS Fruska Gora 80.56 342 P **P** **15 12 23.6 +1.3**
comp=Z,24nm,1.2s
LOR Lormes 80.58 353 *e*P **P** **15 12 22.9 +0.6**
LOR pmax pmax
comp=Z,7.0nm,0.9s
SSF Saint Saulge 80.81 354 *e*P **P** **15 12 24.2 +0.7**
SSF pmax pmax
comp=Z,6.0nm,0.8s
TUE Stuetta 80.87 349 P **P** **15 12 23.8 -0.3**
TUE IAmb IAmb 15 12 26.6
comp=Z,37nm,1.8s
TUE Stuetta 80.87 349 P **P** **15 12 25.1 +1.0**
AVF Avril sur Loir 81.09 354 *e*P **P** **15 12 25.7 +0.7**
AVF pmax pmax
comp=Z,28nm,1.6s
SMF Signal de Mont 81.20 353 *e*P **P** **15 12 26.3 +0.6**
SMF pmax pmax
comp=Z,7.0nm,0.9s
ARPR Arapgir-MALATY 81.32 327 IAmb IAmb 15 12 29.9
comp=Z,45nm,1.8s
LEM Lembang 81.39 247 LR LR 15 49 45.6
comp=Z,22nm,18.4s,baz=54,slow=36
BLKB Belogradchik 81.45 340 ⇓P **P** **15 12 27.3 +0.3**
MFF Saint Martin d 81.47 356 *e*P **P** **15 12 29.3 +2.2**
MFF pmax pmax
comp=Z,16nm,1.3s
BOVS Bovan 81.65 340 ⇑P **P** **15 12 28.4 +0.3**
TCF Toulx Ste Croi 81.67 354 *e*P **P** **15 12 28.7 +0.6**
TCF pmax pmax
comp=Z,9.0nm,1.1s
LPL La Plagne 82.08 351 *e*P **P** **15 12 32.2 +1.6**
LPL pmax pmax
comp=Z,13nm,1.3s
LPG La Plagne 82.10 351 *e*P **P** **15 12 32.5 +1.7**
LPG pmax pmax
comp=Z,18nm,1.3s
BR131 Keskin Array S 82.25 330 IAmb IAmb 15 12 34.5
comp=Z,9.6nm,0.8s
BRTR Keskin Array B 82.25 330 P **P** **15 12 31.9 +0.4**
BRTR Keskin Array B 82.25 330 P **P** **15 12 32.5 +1.0**
comp=Z,8.4nm,0.7s,baz=57,slow=3.0,SNR=34
BRTR LR LR 15 55 08.8
comp=Z,146nm,18.6s,baz=360,slow=40
comp=Z,8.4nm,0.7s
BNI Bardonecchia 82.55 351 IAmb IAmb 15 12 49.4
comp=Z,12nm,1.0s
BNI Bardonecchia 82.55 351 P **P** **15 12 35.0 +2.1**
BNI pmax pmax
comp=Z,14nm,1.0s
MTO3 Montecristo 82.65 76 P **P** **15 12 33.8 -0.1**
MTO3 IAmb IAmb 15 12 35.7
comp=Z,20nm,1.3s
ORIF Oris-en-Rattie 82.76 352 *e*P **P** **15 12 35.5 +1.6**
ORIF pmax pmax
comp=Z,10.0nm,0.9s
ZCCA Zocca 82.76 348 IAmb IAmb 15 12 38.6
comp=Z,18nm,0.8s
MBDF Montbardon 82.86 351 *e*P **P** **15 12 36.0 +1.4**
MBDF pmax pmax
comp=Z,5.0nm,0.7s
VIVF Saint-Julien-l 82.92 353 *e*P **P** **15 12 35.8 +1.1**
VIVF pmax pmax
comp=Z,9.0nm,1.2s
CAF Calviac 83.03 354 *e*P **P** **15 12 36.5 +1.2**
CAF pmax pmax
comp=Z,8.0nm,1.0s
PDG Podgorica 83.30 342 ⇓P **P** **15 12 37.5 +0.8**
PDG Podgorica 83.30 342 IAmb IAmb 15 12 37.8
comp=Z,11nm,0.9s
ASAR Alice Springs 83.34 217 P **P** **15 12 37.7 +0.7**
ASAR Alice Springs 83.34 217 P **P** **15 12 38.2 +1.3**
comp=Z,2.2nm,0.7s,baz=24,slow=4.9,SNR=40
ASAR LR LR 15 47 04.2
comp=Z,181nm,21.0s,baz=34,slow=34
comp=Z,2.2nm,0.7s
TGUH Tegucigalpa,Un 84.16 75 P **P** **15 12 42.4 +0.8**
EZN Ezine 84.20 336 P **P** **15 12 42.0 +0.7**

LMR La Mourre 84.27 351 *e*P **P** **15 12 42.6 +1.0**
LMR pmax pmax
comp=Z,32nm,1.4s
MTLF Montolieu 84.60 354 *e*P **P** **15 12 44.5 +1.2**
MTLF pmax pmax
comp=Z,47nm,1.8s
SJPF Ste Jean 85.00 357 *e*P **P** **15 12 47.4 +2.1**
SJPF pmax pmax
comp=Z,57nm,1.8s
EPF Esparros 85.02 355 *e*P **P** **15 12 45.8 +0.4**
EPF pmax pmax
comp=Z,14nm,1.3s
ETSF Etsaut 85.19 356 *e*P **P** **15 12 47.5 +1.2**
ETSF pmax pmax
comp=Z,5.0nm,0.6s
CEST Esterri de Car 85.40 355 IAmb IAmb 15 12 49.9
comp=Z,14nm,1.0s
WSAR Wadi Sarin 86.30 304 LR LR 15 55 34.5
comp=Z,90nm,19.9s,baz=66,slow=38
PALK Pallekele 86.47 277 LR LR 15 53 38.2
comp=Z,51nm,21.7s,baz=142,slow=37
TIP Timpagrande 86.92 343 P **P** **15 12 55.2 +0.3**
MMAI Mount Meron Ar 87.82 326 LR LR 15 58 41.1
comp=Z,101nm,18.4s,baz=316,slow=40
KARP Karpathos 88.01 334 P **P** **15 12 59.8 -0.4**
comp=Z,26nm,0.7s
ORTG Ortega, Santa 88.15 76 P **P** **15 13 02.5 +1.3**
STKA Stephens Creek 88.45 207 P **P** **15 13 03.4 +1.4**
comp=Z,3.5nm,0.6s,baz=356,slow=3.7,SNR=9.0
STKA LR LR 15 49 59.7
comp=Z,145nm,19.5s,baz=23,slow=34
comp=Z,3.5nm,0.6s
ESDC Sonseca Array 88.50 359 P **P** **15 13 02.2 -0.3**
comp=Z,0.9nm,0.8s,baz=345,slow=5.0,SNR=4.2
ESDC LR LR 15 54 41.4
comp=Z,97nm,18.2s,baz=3.5,slow=37
comp=Z,0.9nm,0.8s
JTS Las Juntas de 88.51 75 LR LR 15 50 27.0
comp=Z,47nm,21.9s,baz=306,slow=34
VAE Valguarnera 88.98 344 LR LR 15 58 09.2
comp=Z,217nm,18.9s,baz=342,slow=39
EIL Elat 91.03 325 LR LR 16 00 47.0
comp=Z,62nm,18.5s,baz=65,slow=40
KEST Kesra 91.46 348 LR LR 15 57 01.8
comp=Z,97nm,19.6s,baz=312,slow=37
RAYN Ar Rayn 92.33 314 P **P** **15 13 20.5 -0.1**
RAYN IAmb IAmb 15 13 21.9
comp=Z,8.9nm,1.1s
RAYN Ar Rayn 92.33 314 P **P** **15 13 20.5 -0.1**
RAYN pmax pmax
comp=Z,9.0nm,1.1s
SDV Santo Domingo 97.91 65 LR LR 16 00 45.6
comp=Z,80nm,19.7s,baz=326,slow=37
NWAO Narrogin (SRO) 98.29 225 LR LR 15 58 14.4
comp=Z,113nm,19.6s,baz=128,slow=35
ROSC El Rosal 99.12 70 LR LR 16 02 59.0
comp=Z,100nm,20.0s,baz=260,slow=38
CPUP Villa Florida 133.73 77 PKP **PKPdf** **15 19 26.3 -0.1**
comp=Z,1.8nm,0.8s,baz=326,slow=5.2,SNR=3.0
PLCA Paso Flores 135.37 102 PKP **PKiKP** **15 19 30.1 -0.6**
comp=Z,0.3nm,0.4s,baz=310,slow=5.3,SNR=1.5
MAW Mawson 144.46 218 PKP **PKPdf** **15 19 43.9 -0.7**
comp=Z,7.6nm,0.8s,baz=91,slow=6.2,SNR=9.3
WIN Windhoek 145.59 321 PKPdf **PKPdf** **15 19 48.4 0.0**
WIN Windhoek 145.59 321 PKP2 **PKPdf** **15 19 48.4 0.0**
BOSA Boshof 147.06 304 PKPbc **PKPbc** **15 19 53.4 +0.7**
comp=Z,5.5nm,0.7s,baz=24,slow=2.7,SNR=13
EFI East Falkland 148.33 110 PKPbc **PKiKP** **15 19 56.2 -0.6**
EFI East Falkland 148.33 110 PKP2 **PKiKP** **15 19 56.2 -0.6**
GRHM Grahamstown, E 150.11 297 PKPbc **PKiKP** **15 20 01.2 +0.1**

*SOME **09** 15:06:13.7,41°.98N×81°.90E,h10km*
*NNC **09** 15:06:15.5±1.1,42°.02N×81°.83E,h0km,mb4.0,mpv3.8,*
Error ellipse: s-maj=8.8km s-min=4.6km az=155.0
ISC 09 15:06:15.9±1.8,**42°.02N**±0°.08×**81°.74E**±0°.06,**h10km,n41,**
σ2°.07/64,5C-9D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.75**	**325**	*e*P	**Pb**	**15 06 49.1**	**+0.9**
	105nm,0.3s						
KTMS				*e*S	**Sg**	**15 07 14.7**	**+2.4**
	158nm,0.4s						
SHLS	**Shalkode**	**2.03**	**305**	Pg	**Pn**	**15 06 50.4**	**+0.1**
	119nm,0.2s						
SHLS				Lg	Lg	15 07 17.1	
	432nm,0.2s						
SHLS	**Shalkode**	**2.03**	**305**	*e*P	**Pn**	**15 06 49.8**	**-0.5**
	77nm,0.2s						
SHLS				*e*S	**Sn**	**15 07 15.7**	**-0.1**
	482nm,0.3s						
PDGK	**Podgornoye**	**2.11**	**309**	Pg	**Pb**	**15 06 54.6**	**+0.2**
	13nm,0.3s						
PDGK				Lg	Lg	15 07 24.2	
	85nm,0.2s						
PDGK	**Podgornoye**	**2.11**	**309**	⇓Pn	**Pb**	**15 06 54.2**	**-0.2**
	12nm,0.2s						
PDGK				⇓Lg	Lg	15 07 24.3	
	69nm,0.3s						
SATY	**Saty**	**2.67**	**294**	Pg	**Pb**	**15 07 05.7**	**+1.8**
	28nm,0.1s						
SATY				Lg	Lg	15 07 43.3	
	244nm,0.1s						
SATY	**Saty**	**2.67**	**294**	*e*P	**Pb**	**15 07 05.7**	**+1.8**
	28nm,0.1s						
SATY				*e*S	**Sg**	**15 07 43.3**	**+1.5**
	244nm,0.1s						
ZHN	**Zhinishke**	**2.69**	**296**	Pg	**Pb**	**15 07 06.0**	**+1.6**
	14nm,0.1s						
ZHN				Lg	Lg	15 07 44.2	
	305nm,0.2s						
ZHN	**Zhinishke**	**2.69**	**296**	*e*P	**Pb**	**15 07 06.0**	**+1.6**
	14nm,0.1s						
ZHN				*e*S	**Sg**	**15 07 44.2**	**+1.7**
	305nm,0.2s						
DJR	**Jarkent**	**2.71**	**329**	*e*P	**Pb**	**15 07 05.1**	**+0.4**
	4.9nm,0.2s						
DJR				*e*S	**Sg**	**15 07 41.9**	**-1.2**
	62nm,0.2s						
KURS	**Kuram**	**3.01**	**300**	Pg	**Pb**	**15 07 11.2**	**+1.5**
	20nm,0.6s						
KURS				Lg	Lg	15 07 52.6	
	35nm,0.4s						
KURS	**Kuram**	**3.01**	**300**	*e*P	**Pb**	**15 07 11.2**	**+1.5**
	20nm,0.6s						
KURS				*e*S	**Sg**	**15 07 52.6**	**0.0**
	35nm,0.4s						
BLB	**Baldybastay**	**3.16**	**312**	Pg	**Pb**	**15 07 13.3**	**+0.9**
	110nm,0.5s						
BLB				Lg	Lg	15 07 57.4	
	75nm,0.3s						
ARXS	**Arharly**	**3.60**	**309**	Pg	**Pb**	**15 07 22.1**	**+2.3**
	12nm,0.4s						
ARXS				Lg	Lg	15 08 12.2	
	32nm,0.5s						
ARXS	**Arharly**	**3.60**	**309**	*e*P	**Pb**	**15 07 22.1**	**+2.3**
	12nm,0.4s						
ARXS				*e*S	**Sg**	**15 08 12.2**	**+0.5**
	32nm,0.5s						
KOTS	**Kotyrbulak**	**3.62**	**291**	Pg	**Pb**	**15 07 21.5**	**+1.3**
	11nm,0.2s						
KOTS				Lg	Lg	15 08 11.2	
	120nm,0.6s						
KOTS	**Kotyrbulak**	**3.62**	**291**	*e*P	**Pb**	**15 07 21.5**	**+1.3**
	11nm,0.2s						
KOTS				*e*S	**Sg**	**15 08 11.2**	**-1.0**
	120nm,0.6s						
MDOK	**Medeo**	**3.65**	**290**	Pg	**Pb**	**15 07 22.1**	**+1.5**
	6.2nm,0.2s						
MDOK				Pg	**Pg**	**15 07 22.7**	**-3.1**
	18nm,0.9s						
MDOK				Lg	Lg	15 08 11.1	
	40nm,0.5s						
MDOK				Lg	Lg	15 08 12.3	
	35nm,0.6s						
MDOK	**Medeo**	**3.65**	**290**	*e*P	**Pb**	**15 07 22.1**	**+1.5**
	6.2nm,0.2s						
MDOK				*e*S	**Sg**	**15 08 11.1**	**-1.9**
	40nm,0.5s						
TNSS	**Tian-Shan**	**3.68**	**288**	Pg	**Pb**	**15 07 22.4**	**+1.1**
	10nm,0.5s						
TNSS				Lg	Lg	15 08 13.5	
	24nm,0.2s						
TNSS	**Tian-Shan**	**3.68**	**288**	*e*P	**Pb**	**15 07 23.6**	**+2.2**
	10nm,0.5s						
TNSS				*e*S	**Sg**	**15 08 13.6**	**-0.6**

	28nm,0.4s							
KAPS	**Kapalarasan**	**3.69**	**333**	Pg	**Pg**	**15 07 24.5**	**-2.1**
	8.5nm,0.4s							
KAPS				Lg	Lg	15 08 15.5		
	66nm,0.3s							
KAPS	**Kapalarasan**	**3.69**	**333**	*e*P	**Pb**	**15 07 23.5**	**+2.3**
	7.4nm,0.2s							
KAPS				*e*S	**Sg**	**15 08 13.7**	**-0.8**
	44nm,0.3s							
IZV	**Izvestkoviy**	**3.92**	**287**	Pg	**Pb**	**15 07 27.4**	**+2.1**
	6.8nm,0.3s							
IZV				Lg	Lg	15 08 20.6		
	82nm,0.6s							
IZV	**Izvestkoviy**	**3.92**	**287**	*e*P	**Pb**	**15 07 27.4**	**+2.1**
	6.8nm,0.3s							
IZV				*e*S	**Sg**	**15 08 20.6**	**-1.3**
	82nm,0.6s							
CHKK	**Chushkaly**	**3.94**	**299**	Pg	**Pb**	**15 07 28.3**	**+2.9**
	9.2nm,0.4s							
CHKK				Lg	Lg	15 08 22.0		
	33nm,0.2s							
CHKK	**Chushkaly**	**3.94**	**299**	*e*P	**Pb**	**15 07 28.3**	**+2.9**
	9.2nm,0.4s							
CHKK				*e*S	**Sg**	**15 08 22.0**	**-0.4**
	33nm,0.2s							
MTBS	**Maitube**	**4.08**	**288**	Pg	**Pb**	**15 07 29.9**	**+2.0**
	5.9nm,0.2s							
MTBS				Lg	Lg	15 08 24.9		
	38nm,0.4s							
MTBS	**Maitube**	**4.08**	**288**	*e*P	**Pb**	**15 07 29.9**	**+2.0**
	5.9nm,0.2s							
MTBS				*e*S	**Sg**	**15 08 24.9**	**-1.9**
	38nm,0.4s							
KTBS	**Karatobe**	**4.08**	**296**	Pg	**Pb**	**15 07 31.3**	**+3.4**
	10nm,0.4s							
KTBS				Lg	Lg	15 08 26.7		
	65nm,0.2s							
KTBS	**Karatobe**	**4.08**	**296**	*e*P	**Pb**	**15 07 31.3**	**+3.4**
	10nm,0.4s							
KTBS				*e*S	**Sg**	**15 08 26.7**	**-0.3**
	65nm,0.2s							
KST	**Kastek**	**4.39**	**285**	Pg	**Pg**	**15 07 37.5**	**-2.5**
	13nm,0.5s							
KST				Lg	Lg	15 08 37.8		
	64nm,0.6s							
KST	**Kastek**	**4.39**	**285**	*e*P	**Pg**	**15 07 37.5**	**-2.5**
	13nm,0.5s							
KST				*e*S	**Sg**	**15 08 37.8**	**+1.0**
	64nm,0.6s							
DGS	**Degeres**	**4.57**	**287**	Pg	**Pb**	**15 07 39.3**	**+3.0**
	5.8nm,0.3s							
DGS				Lg	Lg	15 08 40.8		
	29nm,0.3s							
DGS	**Degeres**	**4.57**	**287**	*e*P	**Pb**	**15 07 39.3**	**+3.0**
	5.8nm,0.3s							
DGS				*e*S	**Sg**	**15 08 40.8**	**-1.8**
	29nm,0.3s							
TKM2	**Tokmak 2**	**4.63**	**283**	⇑Pg	**Pb**	**15 07 39.7**	**+2.4**
	4.6nm,0.6s							
TKM2				⇓Lg	Lg	15 08 45.3		
	23nm,0.4s							
MK31	**Makanchi Array**	**4.79**	**5**	⇓Pn	**Pn**	**15 07 29.1**	**+1.0**
	0.4nm,0.3s,baz=185,slow=13,SNR=41							
MK31				⇑Pg	**Pb**	**15 07 41.9**	**+2.0**
	0.7nm,0.3s,baz=180,slow=12,SNR=8.5							
MK31				⇑Sn	**Sn**	**15 08 24.8**	**+1.2**
	3.4nm,0.4s,baz=184,slow=26,SNR=6.7							
MK31				⇑Lg	Lg	15 08 45.5		
	7.1nm,0.4s,baz=185,slow=29,SNR=6.8							
MAKZ	**Makanchi**	**4.79**	**2**	⇓Pn	**Pn**	**15 07 29.4**	**+1.2**
	0.8nm,0.4s							
MAKZ				⇓Pg	**Pb**	**15 07 41.1**	**+1.1**
	2.2nm,0.6s							
MAKZ				⇑Sn	**Sn**	**15 08 26.0**	**+2.3**
	9.0nm,0.6s							
MAKZ				⇓Lg	Lg	15 08 44.7		
	8.4nm,0.4s							
AAK	**Ala-Archa**	**5.41**	**279**	⇓Pg	**Pg**	**15 07 56.2**	**-3.2**
	1.7nm,0.5s							
AAK				⇓Lg	Lg	15 09 09.0		
	12nm,0.6s							
ZSN	**Zaisan**	**5.87**	**21**	Pg	**Pb**	**15 08 01.2**	**+2.9**
	7.4nm,0.3s							
ZSN				Lg	Lg	15 09 18.3		
	7.7nm,0.6s							
ZSN	**Zaisan**	**5.87**	**21**	*e*P	**Pb**	**15 08 01.2**	**+2.9**
	7.4nm,0.3s							
ZSN				*e*S	**Sg**	**15 09 18.3**	**-5.9**
	7.7nm,0.6s							

PRU 09 15:09:12.9, 49°.87N × 18°.53E, *h*0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.25**	**263**	*e*PG	Pg	15 09 16.5	-1.2
OKC				*e*SG	Sg	15 09 21.4	+0.5
	18nm,1.2s						
MORC	**Moravsky Berou**	**0.65**	**262**	*e*PG	Pg	15 09 24.3	-1.0
MORC				*e*SG	Sg	15 09 31.8	-1.8
LANS	**Liptovska Anna**	**0.94**	**139**	*e*SG	Sg	15 09 38.1	-5.1
KRLC	**Kraliky**	**1.15**	**281**	*e*PG	Pg	15 09 33.3	-1.6
KRLC				*e*SG	Sg	15 09 49.6	-0.1
JAVC	**Velka Javorina**	**1.16**	**209**	*e*PG	Pg	15 09 34.3	-0.8
VRAC	**Vranov**	**1.38**	**247**	*e*PG	Pg	15 09 37.4	-1.9
VYHS	**Vyhne**	**1.39**	**172**	*e*PG	Pg	15 09 37.0	-2.5
DPC	**Dobruska-Polom**	**1.50**	**290**	*e*PG	Pn	15 09 39.9	-1.2
KRUC	**Moravsky**	**1.61**	**241**	*e*PG	Pn	15 09 35.6	-7.0

*NEIC **09** 15:09:39.3±1.0, 37°.87S±0°.08 × 178°.9E±0°.2, h30km±9km, mb4.6/14, Error ellipse: s-maj=19.6km s-min=9.9km az=71.0*
*WEL **09** 15:09:41.2±1.0, 38°.5±6" × 17°.9E±°, h24km±4km, M4.3/19, ML4.7/19, MLv4.3/19, Error ellipse: s-maj=0.0km s-min=0.0km az=40.4, confirmed*
*NOU **09** 15:09:41.8, 37°.73S × 178°.70E, h21km, MLv4.5/16, Off E. Coast of N. Island, N.Z.*
*IDC **09** 15:09:44.2±3.7, 38°.29S × 178°.92E, h80km±24km, mb4.3/3, mbtmp4.5/4, MS3.5/4, Error ellipse: s-maj=34.5km s-min=30.5km az=94.0*

ISC 09 15:09:36.9±1.2, 37°.59S±0°.06 × 179°.13E±0°.07, h20km±7km, n206, σ1§52/208, mb4.5/11, MS3.5/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**0.61**	**248**	P	**Pn**	**15 09 51.8**	**+1.3**
WMGZ				S	**Sn**	**15 09 59.9**	**+0.2**
MXZ	**Matakaoa Point**	**0.66**	**272**	P	**Pb**	**15 09 50.5**	**+0.8**
MXZ	**Matakaoa Point**	**0.66**	**272**		**Pb**	**15 09 50.3**	**+0.6**
MXZ	**Matakaoa Point**	**0.66**	**272**	P	**Pb**	**15 09 50.4**	**+0.6**
MXZ				S	**Sb**	**15 09 57.2**	**-1.2**
PUZ	**Puketiti**	**0.85**	**235**	P	**Pn**	**15 09 55.5**	**+1.9**
PUZ				S	**Sn**	**15 10 06.1**	**+0.6**
HAZ	**Te Kaha**	**1.09**	**261**	P	**Pb**	**15 09 57.5**	**+0.6**
HAZ				S	**Sb**	**15 10 09.0**	**-1.7**
TWGZ	**Tauwhareparae**	**1.09**	**237**	P	**Pb**	**15 09 58.9**	**+1.9**
TWGZ				S	**Sn**	**15 10 12.2**	**+0.8**
CNGZ	**Carnagh Statio**	**1.16**	**219**	P	**Pb**	**15 10 01.2**	**+3.0**
RUGZ	**Raukumara Rang**	**1.21**	**252**	P	**Pb**	**15 09 59.8**	**+0.6**
RUGZ				S	**Sn**	**15 10 13.6**	**-1.1**
TKGZ	**Te Karaka**	**1.32**	**230**	P	**Pb**	**15 10 02.0**	**+1.0**
MWZ	**Matawai**	**1.47**	**239**	P	**Pb**	**15 10 03.5**	**-0.1**
WIZ	**White Island**	**1.55**	**272**	P	**Pn**	**15 10 04.0**	**+0.8**
RIGZ	**Rimuhau**	**1.55**	**224**	P	**Pb**	**15 10 05.4**	**+0.4**
RIGZ				S	**Sb**	**15 10 24.4**	**+0.2**
RAGZ	**Rawiri**	**1.63**	**236**	P	**Pb**	**15 10 05.9**	**-0.4**
PRGZ	**Paritu Road**	**1.66**	**216**	P	**Pb**	**15 10 07.1**	**+0.4**
WHRZ	**Whale Island**	**1.73**	**260**	P	**Pn**	**15 10 07.1**	**+1.3**
URZ	**Urewera**	**1.73**	**247**	P	**Pb**	**15 10 07.6**	**-0.4**
URZ	**Urewera**	**1.73**	**247**	P	**Pn**	**15 10 07.1**	**+1.4**
	485nm,0.5s,baz=300,slow=23,SNR=868						
URZ				LR	LR	15 10 16.3	
	comp=Z,121nm,20.5s,baz=38,slow=23						
URZ				S	**Sn**	**15 10 27.0**	**-0.4**
	2μm,0.5s,baz=264,slow=18,SNR=11						
URZ	**Urewera**	**1.73**	**247**	P	**Pn**	**15 10 07.2**	**+1.4**
KNZ	**Kokohu**	**1.83**	**218**	P	**Pn**	**15 10 08.8**	**+1.6**
MHGZ	**Mahia Peninsul**	**1.84**	**211**	P	**Pb**	**15 10 09.8**	**+0.1**
SNGZ	**Shannon Statio**	**1.85**	**229**	P	**Pn**	**15 10 09.0**	**+1.6**
SNGZ				S	**Sn**	**15 10 30.5**	**+0.3**
EDRZ	**Edgecumbe**	**1.96**	**254**	P	**Pn**	**15 10 10.2**	**+1.1**
RTZ	**Ruatahuna**	**1.98**	**238**		**Pn**	**15 10 10.3**	**+1.0**
RTZ	**Ruatahuna**	**1.98**	**238**	P	**Pn**	**15 10 11.2**	**+1.8**
MARZ	**Manawahe**	**1.99**	**258**	P	**Pn**	**15 10 10.0**	**+0.7**
OPRZ	**Ohinepanea**	**2.06**	**262**	P	**Pn**	**15 10 10.5**	**+0.2**
MUGZ	**Murupara**	**2.07**	**244**	P	**Pn**	**15 10 11.7**	**+1.3**
RAHZ	**Arahi**	**2.09**	**230**	P	**Pn**	**15 10 12.8**	**+2.1**
WHHZ	**Waihua**	**2.11**	**225**	P	**Pn**	**15 10 12.6**	**+1.7**
TARZ	**Mount Tarawera**	**2.18**	**252**	P	**Pn**	**15 10 13.3**	**+1.3**
MKRZ	**Makatiti**	**2.18**	**255**	P	**Pn**	**15 10 13.9**	**+1.8**
RRRZ	**Republican Roa**	**2.20**	**249**	P	**Pn**	**15 10 13.5**	**+1.2**
MTHZ	**Maungataniwha**	**2.20**	**234**	P	**Pn**	**15 10 14.2**	**+1.9**
LIRZ	**Lichensteins R**	**2.22**	**258**	P	**Pn**	**15 10 13.7**	**+1.2**
OMRZ	**Omania**	**2.25**	**256**	P	**Pn**	**15 10 14.1**	**+1.2**
TGRZ	**Tauranga**	**2.29**	**266**	P	**Pn**	**15 10 13.5**	**+0.1**
HLRZ	**Highlands Stat**	**2.30**	**252**	P	**Pn**	**15 10 15.4**	**+1.8**
MYRZ	**Mayor Island**	**2.32**	**277**	P	**Pn**	**15 10 14.4**	**+0.5**
KARZ	**Kaharoa**	**2.33**	**258**	P	**Pn**	**15 10 14.7**	**+0.7**
PRRZ	**Plateau Road**	**2.35**	**246**	P	**Pn**	**15 10 15.2**	**+0.9**
ARHZ	**Aropaoanui**	**2.37**	**224**	P	**Pn**	**15 10 16.4**	**+1.8**
NMHZ	**Naumai**	**2.37**	**230**	P	**Pn**	**15 10 16.5**	**+1.8**
HRRZ	**Handcock Road**	**2.39**	**250**	P	**Pn**	**15 10 16.0**	**+1.1**
HSRZ	**Hossack Road**	**2.40**	**252**	P	**Pn**	**15 10 16.6**	**+1.7**
UTU	**Utuhina**	**2.40**	**255**	P	**Pn**	**15 10 16.9**	**+1.9**
ALRZ	**Allen Road**	**2.41**	**245**	P	**Pn**	**15 10 16.2**	**+1.1**
MRHZ	**Matea Rd**	**2.48**	**239**	P	**Pn**	**15 10 16.7**	**+0.6**
GRRZ	**Galatos Road**	**2.51**	**251**	P	**Pn**	**15 10 17.9**	**+1.4**
WPRZ	**Whakapapatarin**	**2.52**	**247**	P	**Pn**	**15 10 18.1**	**+1.4**
KMRZ	**Kaimai**	**2.54**	**263**	P	**Pn**	**15 10 17.2**	**+0.2**
BKZ	**Black Stump Fm**	**2.61**	**232**		**Pn**	**15 10 19.6**	**+1.7**
BKZ	**Black Stump Fm**	**2.61**	**232**	Pn	**Pn**	**15 10 18.8**	**+1.0**
BKZ	**Black Stump Fm**	**2.61**	**232**	P	**Pn**	**15 10 19.3**	**+1.4**
CKHZ	**Cape Kidnapper**	**2.62**	**217**	P	**Pn**	**15 10 19.2**	**+1.2**
MCHZ	**McNeill Hill**	**2.66**	**225**	P	**Pn**	**15 10 20.1**	**+1.5**
HATZ	**Hinemaiaia**	**2.73**	**241**	P	**Pn**	**15 10 20.6**	**+1.1**
WHTZ	**Whakaora**	**2.73**	**246**	P	**Pn**	**15 10 21.3**	**+1.8**
KUTZ	**Kaahu Road**	**2.76**	**250**	P	**Pn**	**15 10 21.1**	**+1.1**
KWHZ	**Kaweka Forest**	**2.81**	**228**	P	**Pn**	**15 10 21.7**	**+1.1**
KAHZ	**Kahuranaki**	**2.82**	**218**	P	**Pn**	**15 10 21.8**	**+1.0**
KUZ	**Kuaotunu**	**2.85**	**286**	P	**Pn**	**15 10 20.9**	**-0.3**
KUZ	**Kuaotunu**	**2.85**	**286**	P	**Pn**	**15 10 20.7**	**-0.5**
TOZ	**Tahuroa Road**	**2.89**	**266**	Pn	**Pn**	**15 10 21.5**	**-0.2**
TOZ	**Tahuroa Road**	**2.89**	**266**	P	**Pn**	**15 10 21.8**	**+0.2**
WATZ	**Wairara**	**2.91**	**246**	P	**Pn**	**15 10 23.3**	**+1.3**
RITZ	**Rihia Road**	**2.93**	**241**	P	**Pn**	**15 10 23.6**	**+1.3**
TLZ	**Tolley Road**	**2.94**	**254**	P	**Pn**	**15 10 23.4**	**+1.0**
RATZ	**Rangitukua**	**2.94**	**243**	P	**Pn**	**15 10 23.8**	**+1.4**
KRHZ	**Kereru**	**2.98**	**226**	P	**Pn**	**15 10 23.7**	**+0.6**
PXZ	**Pawanui**	**3.02**	**215**	P	**Pn**	**15 10 24.0**	**+0.6**
KATZ	**Kakaramea**	**3.04**	**242**	P	**Pn**	**15 10 25.3**	**+1.3**
BHHZ	**Black Hill Sta**	**3.07**	**231**	P	**Pn**	**15 10 25.2**	**+1.0**
TMVZ	**Te Maari**	**3.10**	**239**	P	**Pn**	**15 10 25.6**	**+0.9**
ETVZ	**East Tongariro**	**3.10**	**239**	P	**Pn**	**15 10 25.7**	**+0.9**
NTVZ	**North Tongarir**	**3.11**	**240**	P	**Pn**	**15 10 25.8**	**+1.0**
KRVZ	**Karewarewa**	**3.13**	**240**	P	**Pn**	**15 10 26.1**	**+0.9**
OTVZ	**Oturere**	**3.15**	**239**	P	**Pn**	**15 10 26.3**	**+0.9**
NNVZ	**North Ngauruho**	**3.17**	**240**	P	**Pn**	**15 10 26.9**	**+1.2**
SNVZ	**South Ngauruho**	**3.17**	**239**	P	**Pn**	**15 10 26.7**	**+0.9**
WTVZ	**West Tongariro**	**3.18**	**240**	P	**Pn**	**15 10 27.0**	**+1.2**
NGZ	**Ngauruhoe**	**3.20**	**239**	P	**Pn**	**15 10 27.0**	**+0.9**
MKAZ	**Moumakai**	**3.20**	**277**	P	**Pn**	**15 10 26.3**	**+0.3**
TUVZ	**Tukino**	**3.21**	**237**	P	**Pn**	**15 10 27.4**	**+1.2**
MOVZ	**Moawhango**	**3.21**	**235**	P	**Pn**	**15 10 26.9**	**+0.6**
GRZ	**Great Barrier**	**3.23**	**293**	P	**Pn**	**15 10 27.1**	**+0.7**
WPHZ	**Waipukurau**	**3.25**	**220**	P	**Pn**	**15 10 27.3**	**+0.7**
COVZ	**Chateau Observ**	**3.25**	**239**	P	**Pn**	**15 10 27.6**	**+0.9**
WHVZ	**Whangaehu Hut**	**3.26**	**238**	P	**Pn**	**15 10 27.9**	**+0.9**
TWVZ	**Taurewa**	**3.26**	**242**	P	**Pn**	**15 10 28.1**	**+1.1**
PNHZ	**Pukenui**	**3.26**	**224**	P	**Pn**	**15 10 26.9**	**0.0**
FWVZ	**Far West T-bar**	**3.27**	**238**	P	**Pn**	**15 10 27.9**	**+0.8**
MAVZ	**Matarangi**	**3.27**	**238**	P	**Pn**	**15 10 28.2**	**+1.0**
WNVZ	**Wahianoa**	**3.27**	**237**	P	**Pn**	**15 10 27.8**	**+0.7**
WIAZ	**Waiheke Island**	**3.29**	**283**	P	**Pn**	**15 10 27.7**	**+0.5**
TRVZ	**Turoa**	**3.29**	**238**	P	**Pn**	**15 10 28.3**	**+0.8**
PRHZ	**Porangahau**	**3.31**	**215**	P	**Pn**	**15 10 27.7**	**+0.2**
MTVZ	**Mangateitei**	**3.39**	**237**	P	**Pn**	**15 10 29.4**	**+0.8**
ETAZ	**East Tamaki Re**	**3.42**	**279**	P	**Pn**	**15 10 29.7**	**+0.8**
KBAZ	**Karaka Road Bo**	**3.42**	**277**	P	**Pn**	**15 10 30.4**	**+1.4**
PKVZ	**Pokaka**	**3.42**	**239**	P	**Pn**	**15 10 30.3**	**+1.2**
MBAZ	**Motutapu North**	**3.48**	**282**	P	**Pn**	**15 10 30.7**	**+0.9**
TSZ	**Takapari Road**	**3.50**	**224**	P	**Pn**	**15 10 29.7**	**-0.4**
HIZ	**Hauiti**	**3.50**	**253**	P	**Pn**	**15 10 32.1**	**+2.0**
HIZ	**Hauiti**	**3.50**	**253**	Pn	**Pn**	**15 10 30.8**	**+0.6**
HIZ	**Hauiti**	**3.50**	**253**	P	**Pn**	**15 10 31.9**	**+1.8**
ANWZ	**Angora Road**	**3.54**	**215**	P	**Pn**	**15 10 30.7**	**+0.1**
DVHZ	**Dannevirke**	**3.56**	**220**	P	**Pn**	**15 10 30.9**	**0.0**
EPAZ	**Eden Park BICE**	**3.58**	**280**	P	**Pn**	**15 10 32.4**	**+1.2**
ABAZ	**Army Bay**	**3.58**	**285**	P	**Pn**	**15 10 32.2**	**+1.1**
HBAZ	**Herne Bay Bore**	**3.59**	**281**	P	**Pn**	**15 10 32.7**	**+1.4**
AWAZ	**Awhitu Peninsu**	**3.62**	**277**	P	**Pn**	**15 10 33.3**	**+1.6**
WTAZ	**Waiatarua**	**3.70**	**279**	P	**Pn**	**15 10 35.6**	**+2.8**
RVAZ	**Riverhead Bore**	**3.73**	**281**	P	**Pn**	**15 10 34.5**	**+1.3**
VRZ	**Vera Road**	**3.77**	**245**	P	**Pn**	**15 10 35.4**	**+1.7**
BFZ	**Birch Farm**	**3.82**	**215**	P	**Pn**	**15 10 34.4**	**-0.1**
BFZ	**Birch Farm**	**3.82**	**215**	Pn	**Pn**	**15 10 33.9**	**-0.6**
POWZ	**Post Office Ro**	**3.84**	**222**	P	**Pn**	**15 10 34.7**	**-0.1**
PRWZ	**Pori Road**	**3.85**	**219**	P	**Pn**	**15 10 35.0**	**0.0**
WAZ	**Wanganui**	**3.90**	**235**	P	**Pn**	**15 10 36.9**	**+1.3**
CPWZ	**Castlepoint**	**4.02**	**214**	P	**Pn**	**15 10 37.4**	**+0.2**
TIWZ	**Tintock**	**4.06**	**217**	P	**Pn**	**15 10 37.8**	**-0.1**
MHEZ	**Mangahewa**	**4.06**	**247**	P	**Pn**	**15 10 40.8**	**+3.0**
MRZ	**Mangatainoka R**	**4.13**	**221**	Pn	**Pn**	**15 10 37.2**	**-1.6**
LREZ	**Lake Rotokare**	**4.16**	**242**	P	**Pn**	**15 10 38.7**	**+1.6**
WCZ	**Waipu Caves**	**4.18**	**292**	P	**Pn**	**15 10 40.2**	**+0.7**
DREZ	**Durham Road**	**4.19**	**246**	P	**Pn**	**15 10 41.4**	**+1.8**
PREZ	**Palmer Road**	**4.28**	**244**	P	**Pn**	**15 10 43.4**	**+2.5**
NEZ	**North Egmont**	**4.30**	**245**	P	**Pn**	**15 10 43.6**	**+2.5**
PKE	**Pukeiti**	**4.35**	**247**	P	**Pn**	**15 10 44.2**	**+2.3**
KHEZ	**Kahui Hut**	**4.37**	**245**	P	**Pn**	**15 10 43.5**	**+1.4**
KHEZ	**Kahui Hut**	**4.37**	**245**	P	**Pn**	**15 10 44.5**	**+2.5**
NBEZ	**Newall Road No**	**4.46**	**246**	P	**Pn**	**15 10 46.6**	**+3.3**
NMEZ	**Namu Road**	**4.51**	**245**	P	**Pn**	**15 10 48.1**	**+4.2**
PLWZ	**Palliser**	**4.98**	**216**	Pn	**Pn**	**15 10 47.7**	**-2.7**
BHW	**Baring Head**	**5.04**	**220**	Pn	**Pn**	**15 10 48.8**	**-2.5**
OUZ	**Omahuta**	**5.05**	**296**	P	**Pn**	**15 10 52.9**	**+1.5**
OUZ	**Omahuta**	**5.05**	**296**	P	**Pn**	**15 10 52.7**	**+1.3**
SNZO	**South Karori**	**5.06**	**221**	P	**Pn**	**15 10 51.7**	**+0.2**
SNZO	**South Karori**	**5.06**	**221**	Pn	**Pn**	**15 10 48.1**	**-3.4**
TCW	**Tory Channel**	**5.22**	**225**	Pn	**Pn**	**15 10 51.8**	**-2.0**
TUWZ	**Tuamarina**	**5.55**	**225**	Pn	**Pn**	**15 10 55.4**	**-2.9**
CMWZ	**Cape Campbell**	**5.63**	**221**	Pn	**Pn**	**15 10 57.1**	**-1.6**
NNZ	**Nelson**	**5.74**	**229**	Pn	**Pn**	**15 10 58.2**	**-2.8**
BSWZ	**Blackbirch Sta**	**5.78**	**223**	Pn	**Pn**	**15 10 59.8**	**-1.7**
TKNZ	**Takaka Hill**	**5.89**	**232**	Pn	**Pn**	**15 11 00.0**	**-3.0**
QRZ	**Quartz Range**	**6.06**	**236**	P	**Pn**	**15 11 04.3**	**-1.0**
QRZ	**Quartz Range**	**6.06**	**236**	Pn	**Pn**	**15 11 02.6**	**-2.7**
MRNZ	**Matariki Terra**	**6.23**	**230**	Pn	**Pn**	**15 11 05.1**	**-2.5**
THZ	**Tophouse**	**6.36**	**227**	Pn	**Pn**	**15 11 07.1**	**-2.4**
KHZ	**Kahutara**	**6.46**	**220**	P	**Pn**	**15 11 09.5**	**-1.2**
KHZ	**Kahutara**	**6.46**	**220**	Pn	**Pn**	**15 11 09.4**	**-1.2**
CTZ	**Chatham Island**	**6.94**	**154**	P	Pn	15 11 23.9	+6.6
CTZ	**Chatham Island**	**6.94**	**154**	Pn	**Pn**	**15 11 19.1**	**+1.8**
CTZ	**Chatham Island**	**6.94**	**154**	P	Pn	15 11 23.8	+6.6
CTZ				S	**Sn**	**15 12 37.0**	**+1.4**
DSZ	**Denniston Nort**	**7.01**	**231**	Pn	**Pn**	**15 11 14.7**	**-3.7**
GVZ	**Greta Valley S**	**7.11**	**219**	Pn	**Pn**	**15 11 16.4**	**-3.4**
LTZ	**Lake Taylor**	**7.38**	**223**	Pn	**Pn**	**15 11 20.4**	**-3.1**
AMCZ	**Amberley**	**7.46**	**220**	Pn	**Pn**	**15 11 22.8**	**-1.7**
INZ	**Inchbonnie**	**7.81**	**227**	Pn	**Pn**	**15 11 26.0**	**-3.2**
MQZ	**McQueen's Vall**	**7.85**	**117**	Pn	**Pn**	**15 11 26.5**	**-3.3**
OXZ	**Oxford**	**7.88**	**221**	Pn	**Pn**	**15 11 27.7**	**-2.6**
WVZ	**Waitaha Valley**	**8.43**	**227**	P	**Pn**	**15 11 35.4**	**-2.4**
WVZ				S	Sn	15 12 59.6	-13
RPZ	**Rata Peaks**	**8.67**	**223**	P	**Pn**	**15 11 39.9**	**-1.2**
RPZ	**Rata Peaks**	**8.67**	**223**	Pn	**Pn**	**15 11 39.1**	**-1.9**
RPZ	**Rata Peaks**	**8.67**	**223**	P	**Pn**	**15 11 38.7**	**-2.3**
	5.4nm,0.3s,baz=70,slow=4.6,SNR=8.7						
RPZ				S	Sn	15 13 07.3	-11
	43nm,0.6s,baz=312,slow=23,SNR=16						
FOZ	**Fox Glacier**	**9.24**	**227**	Pn	**Pn**	**15 11 45.8**	**-3.1**
LBZ	**Lake Benmore**	**9.58**	**222**	Pn	**Pn**	**15 11 50.4**	**-3.2**
ODZ	**Otahua Downs**	**9.81**	**218**	P	**Pn**	**15 11 55.1**	**-1.5**
ODZ	**Otahua Downs**	**9.81**	**218**	Pn	**Pn**	**15 11 53.3**	**-3.3**
JCZ	**Jackson Bay**	**10.17**	**227**	P	**Pn**	**15 12 02.2**	**+0.5**
MLZ	**Mavora Lakes**	**11.34**	**223**	Pn	**Pn**	**15 12 15.6**	**-2.0**
SYZ	**Scrubby Hill**	**11.62**	**217**	P	**Pn**	**15 12 22.4**	**+1.0**
WHZ	**Wether Hill Ro**	**11.77**	**222**	Pn	**Pn**	**15 12 23.6**	**+0.2**
WHZ	**Wether Hill Ro**	**11.77**	**222**	P	**Pn**	**15 12 24.8**	**+1.4**
DCZ	**Deep Cove**	**11.93**	**225**	Pn	**Pn**	**15 12 24.7**	**-1.0**
NIUE	**Niue**	**20.77**	**30**	P	**Pn**	15 14 19.5	+0.4
CAN	**Canberra**	**24.30**	**266**	P	**P**	**15 14 55.0**	**+2.0**
CAN				IAmb	IAmb	15 14 55.6	
	comp=Z,20nm,1.1s						
RAR	**Rarotonga**	**24.49**	**54**	LR	LR	15 22 40.4	
	comp=Z,52nm,21.9s,baz=192,slow=31						
STKA	**Stephens Creek**	**31.23**	**269**	P	**P**	**15 15 55.5**	**+0.6**
STKA	**Stephens Creek**	**31.23**	**269**	P	**P**	**15 15 54.6**	**-0.4**
	comp=Z,6.5nm,0.8s,baz=103,slow=9.6,SNR=7.2						
STKA				LR	LR	15 27 19.1	
	comp=Z,93nm,20.4s,baz=68,slow=34						
	comp=Z,6.5nm,0.8s						
CTAO	**Charters Tower**	**33.44**	**292**	P	**P**	**15 16 15.8**	**+1.3**
CTAO				IAmb	IAmb	15 16 50.2	
	comp=Z,17nm,1.5s						
BBOO	**Buckleboo**	**35.29**	**265**	P	**P**	**15 16 30.6**	**+0.2**
COEN	**Coen**	**39.66**	**297**	P	**P**	**15 17 07.8**	**+0.2**
COEN				IAmb	IAmb	15 17 09.2	
	comp=Z,12nm,0.9s						
AS31	**Alice Springs**	**40.94**	**277**	P	**P**	**15 17 18.0**	**-0.2**
ASAR	**Alice Springs**	**40.94**	**277**	P	**P**	**15 17 17.1**	**-1.0**
ASAR	**Alice Springs**	**40.94**	**277**	P	**P**	**15 17 18.0**	**-0.2**
	comp=Z,8.4nm,0.6s,baz=125,slow=8.0,SNR=176						
ASAR				PcP	**PcP**	**15 19 17.8**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=115,slow=3.7,SNR=2.2						
	comp=Z,8.4nm,0.6s						
FORT	**Forrest**	**42.37**	**264**	P	**P**	**15 17 29.6**	**-0.1**
WR0	**Warramunga Arr**	**42.42**	**282**	P	**P**	**15 17 29.6**	**-0.6**
WR0				IAmb	IAmb	15 17 31.8	
	comp=Z,8.2nm,1.0s						
WB2	**Warramunga Arr**	**42.58**	**282**	P	**P**	**15 17 31.0**	**-0.5**
WB2				IAmb	IAmb	15 17 32.6	
	comp=Z,10nm,1.0s						
WRAB	**Tennant Creek**	**42.58**	**282**	P	**P**	**15 17 31.0**	**-0.6**
WRAB				IAmb	IAmb	15 17 32.6	
	comp=Z,8.6nm,1.0s						
WRA	**Warramunga Arr**	**42.59**	**282**	P	**P**	**15 17 30.8**	**-0.8**
WRA	**Warramunga Arr**	**42.59**	**282**	P	**P**	**15 17 31.3**	**-0.3**
	comp=Z,2.3nm,0.4s,baz=123,slow=7.0,SNR=76						
	comp=Z,2.3nm,0.4s						
WB0	**Warramun

VNFG				IAML		16 11 12.1	
	comp=N,938nm,0.7s						
ISNN	**Isanotski Nort**	**1.52**	**259**		**Pn**	**16 10 36.4**	**+0.1**
ISNN					**Sn**	**16 10 56.0**	**+0.6**
CHGN	**Chignik**	**1.95**	**53**	Pn	**Pn**	**16 10 42.4**	**+0.5**
CHGN				Sn	**Sn**	**16 11 06.3**	**+0.7**
CHGN				IAML		16 11 08.0	
	comp=E,982nm,0.4s						
CHGN	**Chignik**	**1.95**	**53**	P	**Pn**	**16 10 42.6**	**+0.6**
	baz=233						
CHGN				S	**Sn**	**16 11 06.5**	**+1.0**
	baz=233						
ZRO	**Akutan Zero**	**2.97**	**251**		**Pn**	**16 10 55.8**	**0.0**
AKRB	**Akutan Reef Bi**	**3.01**	**252**		**Pn**	**16 10 56.5**	**+0.3**
CHIR	**Chirikof Islan**	**3.24**	**76**	Pn	**Pn**	**16 10 59.1**	**-0.3**
CHIR	**Chirikof Islan**	**3.24**	**76**		**Sn**	**16 11 35.3**	**-1.6**
CHIR	**Chirikof Islan**	**3.24**	**76**	IAML		16 11 58.5	
	comp=N,202nm,2.3s						
CHIR				IAML		16 11 58.7	
	comp=E,202nm,1.9s						
CHIR	**Chirikof Islan**	**3.24**	**76**	P	**Pn**	**16 10 59.4**	**-0.1**
	baz=259						
CHIR				S	**Sn**	**16 11 35.3**	**-1.6**
	baz=259						
UNV	**Unalaska Valle**	**3.36**	**249**	P	**Pn**	**16 11 00.5**	**-0.5**
UNV	**Unalaska Valle**	**3.36**	**249**	P	**Pn**	**16 11 00.4**	**-0.5**
	baz=66						
MTBL	**Makushin Table**	**3.40**	**252**		**Pn**	**16 11 01.5**	**-0.2**
MNAT	**Makushin Natee**	**3.44**	**250**		**Pn**	**16 11 01.8**	**-0.3**
MAPS	**Pakushin South**	**3.61**	**250**		**Pn**	**16 11 04.1**	**-0.3**
O15K	**Ungalikthiuk R**	**4.10**	**10**		**Pn**	**16 11 11.1**	**0.0**
O15K	**Ungalikthiuk R**	**4.10**	**10**	P	**Pn**	**16 11 11.1**	**0.0**
	baz=191						
O14K	**Tigyukauivet M**	**4.11**	**360**		**Pn**	**16 11 11.5**	**+0.4**
O14K	**Tigyukauivet M**	**4.11**	**360**	P	**Pn**	**16 11 11.5**	**+0.4**
	baz=179						
SII	**Sitkinak Islan**	**4.20**	**68**	P	**Pn**	**16 11 12.1**	**-0.3**
SII	**Sitkinak Islan**	**4.20**	**68**	Pn	**Pn**	**16 11 11.2**	**-1.2**
SII	**Sitkinak Islan**	**4.20**	**68**	P	**Pn**	**16 11 11.9**	**-0.5**
	baz=252						
P16K	**Nushagak River**	**4.26**	**23**		**Pn**	**16 11 13.6**	**+0.4**
P16K	**Nushagak River**	**4.26**	**23**	P	**Pn**	**16 11 13.6**	**+0.4**
	baz=205						
Q17K	**Contact Creek**	**4.28**	**41**	P	**Pn**	**16 11 14.4**	**+0.8**
	baz=225						
CNTC	**Contact Creek**	**4.28**	**41**		**Pn**	**16 11 14.4**	**+0.8**
OKFG	**Magazine Ridge**	**4.30**	**249**		**Pn**	**16 11 13.8**	**-0.1**
ANCK	**Angle Creek**	**4.38**	**44**		**Pn**	**16 11 15.6**	**+0.6**
O16K	**Kokwok River B**	**4.76**	**19**	Pn	**Pn**	**16 11 19.8**	**-0.2**
O16K	**Kokwok River B**	**4.76**	**19**	P	**Pn**	**16 11 20.2**	**+0.2**
	baz=202						
N14K	**Kuskokwak Cree**	**4.79**	**357**	P	**Pn**	**16 11 20.9**	**+0.5**
	baz=177						
P17K	**Kvichak River**	**4.81**	**31**		**Pn**	**16 11 21.6**	**+0.9**
P17K	**Kvichak River**	**4.81**	**31**	P	**Pn**	**16 11 21.6**	**+0.9**
	baz=214						
OHAK	**Old Harbor**	**4.88**	**62**	Pn	**Pn**	**16 11 20.3**	**-1.4**
OHAK				IAML		16 12 35.8	
	comp=N,67nm,2.3s						
OHAK				IAML		16 12 38.8	
	comp=E,78nm,1.5s						
OHAK	**Old Harbor**	**4.88**	**62**	P	**Pn**	**16 11 20.9**	**-0.8**
	baz=247						
NIKH	**Nikolski High**	**5.01**	**247**	P	**Pn**	**16 11 24.0**	**+0.5**
N15K	**Kwethluk River**	**5.06**	**6**	Pn	**Pn**	**16 11 24.1**	**0.0**
N15K				IAML		16 13 05.2	
	comp=N,47nm,0.7s						
N15K				IAML		16 13 10.9	
	comp=E,50nm,1.7s						
N15K	**Kwethluk River**	**5.06**	**6**	P	**Pn**	**16 11 24.8**	**+0.6**
	baz=187						
O17K	**Koliganek Bris**	**5.13**	**24**		**Pn**	**16 11 25.2**	**+0.1**
O17K	**Koliganek Bris**	**5.13**	**24**	P	**Pn**	**16 11 25.2**	**+0.1**
	baz=207						
P18K	**Big Mountain,**	**5.34**	**35**	Pn	**Pn**	**16 11 29.2**	**+1.2**
P18K				IAML		16 12 11.8	
	comp=N,26nm,3.6s						
M13K	**Dall Lake**	**5.39**	**349**	Pn	**Pn**	**16 11 28.7**	**0.0**
M13K	**Dall Lake**	**5.39**	**349**	P	**Pn**	**16 11 29.5**	**+0.9**
	baz=167						
KDAK	**Kodiak Island**	**5.45**	**58**	Pn	**Pn**	**16 11 28.8**	**-0.7**
KDAK	**Kodiak Island**	**5.45**	**58**	LR	LR	16 13 57.7	
	comp=N,59nm,20.6s,baz=205,slow=38						
N16K	**Nishlik Lake**	**5.49**	**13**		**Pn**	**16 11 30.8**	**+0.8**
N16K	**Nishlik Lake**	**5.49**	**13**	P	**Pn**	**16 11 30.8**	**+0.8**
	baz=194						
M15K	**Kasigluk River**	**5.56**	**3**		**Pn**	**16 11 31.3**	**+0.3**
M15K	**Kasigluk River**	**5.56**	**3**	P	**Pn**	**16 11 31.3**	**+0.3**
	baz=183						
Q19K	**Cape Douglas,**	**5.59**	**44**	Pn	**Pn**	**16 11 32.2**	**+0.8**
M14K	**Bethel**	**5.62**	**356**	Pn	**Pn**	**16 11 32.1**	**+0.3**
M14K	**Bethel**	**5.62**	**356**	P	**Pn**	**16 11 32.0**	**+0.3**
	baz=176						
O18K	**Koktuh Hills**	**5.71**	**32**	Pn	**Pn**	**16 11 34.3**	**+1.3**
O18K	**Koktuh Hills**	**5.71**	**32**	P	**Pn**	**16 11 33.8**	**+0.8**
	baz=216						
N17K	**Nushagak Hills**	**5.79**	**20**	Pn	**Pn**	**16 11 34.7**	**+0.5**
N17K	**Nushagak Hills**	**5.79**	**20**	P	**Pn**	**16 11 34.2**	**0.0**
	baz=203						
M11K	**Mekoryuk**	**5.88**	**335**		**Pn**	**16 11 35.4**	**+0.1**
M11K	**Mekoryuk**	**5.88**	**335**	P	**Pn**	**16 11 35.4**	**+0.1**
	baz=151						
Q20K	**Shuyak Island**	**5.94**	**51**	P	**Pn**	**16 11 36.0**	**-0.1**
	baz=238						
SYI	**Shuyak Island**	**5.94**	**51**	Pn	**Pn**	**16 11 35.2**	**-0.9**
N18K	**Kilae Creek**	**6.22**	**25**	Pn	**Pn**	**16 11 39.3**	**-0.6**
N18K	**Kilae Creek**	**6.22**	**25**	P	**Pn**	**16 11 40.3**	**+0.4**
	baz=209						
L14K	**Kuka Creek**	**6.25**	**353**	Pn	**Pn**	**16 11 40.2**	**-0.1**
L14K	**Kuka Creek**	**6.25**	**353**	P	**Pn**	**16 11 40.5**	**+0.2**
	baz=172						
O19K	**Port Alsworth**	**6.25**	**33**	Pn	**Pn**	**16 11 40.3**	**-0.1**
L15K	**Ungalak Mounta**	**6.54**	**359**	P	**Pn**	**16 11 44.4**	**+0.1**
	baz=178						
IVE	**Iliamna Volcan**	**6.56**	**39**		**Pn**	**16 11 45.0**	**+0.3**
M17K	**Holitna River**	**6.57**	**16**	Pn	**Pn**	**16 11 44.7**	**0.0**
M17K	**Holitna River**	**6.57**	**16**	P	**Pn**	**16 11 44.9**	**+0.2**
	baz=199						
L16K	**Owhat River**	**6.63**	**7**	Pn	**Pn**	**16 11 45.9**	**+0.3**
L16K	**Owhat River**	**6.63**	**7**	P	**Pn**	**16 11 46.1**	**+0.5**
	baz=188						
N19K	**Bonanza Creek**	**6.70**	**29**	Pn	**Pn**	**16 11 48.2**	**+1.6**
N19K	**Bonanza Creek**	**6.70**	**29**	P	**Pn**	**16 11 47.7**	**+1.1**
	baz=215						
CNPM	**China Poot**	**6.94**	**47**	Pn	**Pn**	**16 11 49.2**	**-0.7**
M18K	**Stony River**	**6.95**	**22**		**Pn**	**16 11 49.9**	**0.0**
M18K	**Stony River**	**6.95**	**22**	P	**Pn**	**16 11 49.9**	**0.0**
	baz=206						
RSO	**Redoubt South**	**6.97**	**37**		**Pn**	**16 11 52.3**	**+1.9**
NCT	**North Crescent**	**6.98**	**36**		**Pn**	**16 11 50.7**	**+0.2**
K13K	**Kusilvak Mount**	**7.03**	**347**	Pn	**Pn**	**16 11 50.4**	**-0.6**
K13K	**Kusilvak Mount**	**7.03**	**347**	P	**Pn**	**16 11 51.2**	**+0.2**
	baz=164						
L17K	**Donlin**	**7.16**	**11**		**Pn**	**16 11 52.6**	**-0.1**
L17K	**Donlin**	**7.16**	**11**	P	**Pn**	**16 11 52.6**	**-0.1**
	baz=193						
K15K	**Wolf Creek Mou**	**7.16**	**359**	Pn	**Pn**	**16 11 53.3**	**+0.5**
K15K	**Wolf Creek Mou**	**7.16**	**359**	P	**Pn**	**16 11 53.2**	**+0.5**
	baz=178						
BRLK	**Bradley Lake**	**7.23**	**46**	Pn	**Pn**	**16 11 51.0**	**-2.8**
BRSE	**Bradley Lake S**	**7.27**	**47**		**Pn**	**16 11 54.0**	**-0.3**
BRSE	**Bradley Lake S**	**7.27**	**47**	P	**Pn**	**16 11 54.0**	**-0.3**
	baz=235						
L18K	**Granite Mounta**	**7.46**	**16**	Pn	**Pn**	**16 11 56.9**	**+0.1**
L18K	**Granite Mounta**	**7.46**	**16**	P	**Pn**	**16 11 57.0**	**+0.1**
	baz=200						
M19K	**Big River Lodg**	**7.64**	**25**	Pn	**Pn**	**16 12 00.1**	**+0.8**
M19K	**Big River Lodg**	**7.64**	**25**	P	**Pn**	**16 11 59.8**	**+0.4**
	baz=210						
J14K	**Nanvaranak Lak**	**7.71**	**352**	Pn	**Pn**	**16 11 60.0**	**-0.3**
K17K	**Iditarod**	**7.73**	**10**	Pn	**Pn**	**16 12 00.2**	**-0.3**
L19K	**White Mountain**	**7.78**	**23**	Pn	**Pn**	**16 12 00.7**	**-0.6**
L19K	**White Mountain**	**7.78**	**23**	P	**Pn**	**16 12 01.2**	**0.0**
	baz=208						
M20K	**Styx River**	**7.95**	**29**	Pn	**Pn**	**16 12 05.6**	**+1.9**
M20K	**Styx River**	**7.95**	**29**	P	**Pn**	**16 12 04.6**	**+1.0**
	baz=215						
SEW	**Seward**	**8.02**	**47**		**Pn**	**16 12 04.2**	**-0.2**
SEW	**Seward**	**8.02**	**47**	P	**Pn**	**16 12 04.3**	**-0.2**
	baz=236						
J16K	**Anvik River**	**8.16**	**2**	Pn	**Pn**	**16 12 06.8**	**+0.4**
ATKA	**Atka Island**	**8.26**	**254**	P	**Pn**	**16 12 07.4**	**-0.4**
ATKA	**Atka Island**	**8.26**	**254**	Pn	**Pn**	**16 12 06.8**	**-1.0**
J17K	**VABM Dome**	**8.34**	**7**	Pn	**Pn**	**16 12 08.6**	**-0.2**
SUA	**Susitna One**	**8.38**	**37**	Pn	**Pn**	**16 12 09.3**	**-0.1**
SUA	**Susitna One**	**8.38**	**37**	P	**Pn**	**16 12 08.6**	**-0.8**
	baz=225						
RC01	**Rabbit Creek A**	**8.49**	**41**	Pn	**Pn**	**16 12 10.9**	**0.0**
SKT	**Skwentna**	**8.50**	**32**	Pn	**Pn**	**16 12 11.8**	**+0.8**
J18K	**Innoko River**	**8.64**	**14**	Pn	**Pn**	**16 12 13.1**	**+0.1**
J18K	**Innoko River**	**8.64**	**14**	P	**Pn**	**16 12 13.3**	**+0.3**
	baz=197						
P23K	**Montague Islan**	**8.85**	**51**		**Pn**	**16 12 15.2**	**-0.6**
P23K	**Montague Islan**	**8.85**	**51**	P	**Pn**	**16 12 15.2**	**-0.6**
	baz=242						
K20K	**Telida**	**8.99**	**21**	Pn	**Pn**	**16 12 17.7**	**-0.1**
KNK	**Knik Glacier**	**9.17**	**42**	Pn	**Pn**	**16 12 20.1**	**-0.1**
KNK	**Knik Glacier**	**9.17**	**42**	P	**Pn**	**16 12 19.7**	**-0.6**
	baz=232						
GHO	**Glory Hole Cre**	**9.23**	**39**	Pn	**Pn**	**16 12 18.8**	**-2.2**
J19K	**Poorman**	**9.30**	**15**	Pn	**Pn**	**16 12 21.6**	**-0.3**
J19K	**Poorman**	**9.30**	**15**	P	**Pn**	**16 12 21.7**	**-0.3**
	baz=200						
HIN	**Hinchinbrook I**	**9.44**	**50**	Pn	**Pn**	**16 12 22.7**	**-1.2**
SML	**Sawmill**	**9.47**	**40**	Pn	**Pn**	**16 12 22.8**	**-1.5**
CAST	**Castle Rocks**	**9.50**	**26**	Pn	**Pn**	**16 12 24.2**	**-0.4**
FID	**Port Fidalgo**	**9.61**	**48**	Pn	**Pn**	**16 12 23.5**	**-2.7**
J20K	**Nowinta River**	**9.72**	**19**	Pn	**Pn**	**16 12 28.0**	**+0.4**
J20K	**Nowinta River**	**9.72**	**19**	P	**Pn**	**16 12 27.4**	**-0.2**
	baz=204						
EYAK	**Cordova Ski Ar**	**9.84**	**50**		**Pn**	**16 12 28.8**	**-0.5**
EYAK	**Cordova Ski Ar**	**9.84**	**50**	P	**Pn**	**16 12 28.8**	**-0.5**
	baz=243						
SCM	**Sheep Creek Mo**	**9.86**	**42**	Pn	**Pn**	**16 12 28.2**	**-1.4**
SCM	**Sheep Creek Mo**	**9.86**	**42**	P	**Pn**	**16 12 29.1**	**-0.5**
	baz=233						
KTH	**Kantishna Hill**	**9.91**	**28**	Pn	**Pn**	**16 12 30.9**	**+0.6**
TRF	**Thorofare Moun**	**10.00**	**29**	Pn	**Pn**	**16 12 29.8**	**-1.9**
KAIM	**Kayak Island**	**10.20**	**55**	Pn	**Pn**	**16 12 34.1**	**-0.1**
KLU	**Klutina**	**10.22**	**45**	Pn	**Pn**	**16 12 33.2**	**-1.4**
RAGM	**Ragged Mountai**	**10.25**	**53**	Pn	**Pn**	**16 12 34.4**	**-0.6**
G16K	**Koyuk River**	**10.29**	**357**	Pn	**Pn**	**16 12 35.0**	**-0.4**
RND	**Reindeer**	**10.39**	**32**	Pn	**Pn**	**16 12 35.0**	**-1.9**
HMT	**Hamilton**	**10.42**	**53**	Pn	**Pn**	**16 12 34.6**	**-2.6**
M24K	**Tolsona, Glenn**	**10.46**	**42**	Pn	**Pn**	**16 12 37.0**	**-0.8**
SUCK	**Suckling Hills**	**10.55**	**55**	Pn	**Pn**	**16 12 38.9**	**-0.1**
DHY	**Denali Highway**	**10.63**	**36**	Pn	**Pn**	**16 12 36.7**	**-3.5**
BERG	**Berg Lake**	**10.70**	**54**	Pn	**Pn**	**16 12 39.3**	**-1.8**
F15K	**North Star Dit**	**10.72**	**352**	Pn	**Pn**	**16 12 41.6**	**+0.4**
N25K	**Chitina, Valde**	**10.83**	**47**	Pn	**Pn**	**16 12 41.7**	**-1.1**
SNH	**Sunshine Point**	**11.03**	**55**	Pn	**Pn**	**16 12 43.1**	**-2.5**
GLB	**Gilahina Butte**	**11.08**	**48**	Pn	**Pn**	**16 12 43.6**	**-2.7**
WAX	**Waxell Ridge**	**11.11**	**54**	Pn	**Pn**	**16 12 45.6**	**-1.2**
VRDI	**Verde Repeater**	**11.14**	**50**	Pn	**Pn**	**16 12 46.5**	**-0.8**
H21K	**Melozitna Rive**	**11.31**	**18**	Pn	**Pn**	**16 12 49.7**	**+0.4**
MCARA	**McCarthy VSAT**	**11.40**	**49**	Pn	**Pn**	**16 12 52.1**	**+1.6**
ISLE	**Juniper Island**	**11.40**	**54**	Pn	**Pn**	**16 12 49.3**	**-1.5**
IMAR	**Indian Mountai**	**11.45**	**16**	Pn	**Pn**	**16 12 51.4**	**+0.2**
BARN	**Barn Glacie**	**11.88**	**52**	Pn	**Pn**	**16 12 55.0**	**-2.3**
M26K	**Nabesna, AK**	**11.88**	**45**	Pn	**Pn**	**16 12 56.8**	**-0.3**
IL31		**11.98**	**31**	Pn	**Pn**	**16 12 56.9**	**-1.5**
ILAR	**Eielson Array**	**11.98**	**31**	Pn	**Pn**	**16 12 54.5**	**-3.9**
	comp=N,0.1nm,0.3s,baz=224,slow=13,SNR=2.3						
ILAR				Sn	Sn	16 15 01.8	-8.2
	comp=N,0.1nm,0.3s,baz=226,slow=26,SNR=1.5 comp=N,0.2nm,0.3s						
CTGM	**Chitina Glacie**	**11.99**	**53**	Pn	**Pn**	**16 12 57.7**	**-1.1**
LOGN	**Logan Glacier**	**12.10**	**54**	Pn	**Pn**	**16 12 59.7**	**-0.5**
F20K	**Avaraart Lake**	**12.21**	**19**	Pn	**Pn**	**16 13 01.8**	**+0.3**
M27K	**Edge Creek, AK**	**12.32**	**46**	Pn	**Pn**	**16 13 03.5**	**+0.4**
PNL	**Peninsula**	**12.57**	**60**	P	**Pn**	**16 13 06.3**	**-0.2**
F21K	**Alatna River**	**12.65**	**14**	Pn	**Pn**	**16 13 08.6**	**+1.1**
L27K	**Beaver Creek,**	**12.67**	**44**	Pn	**Pn**	**16 13 07.0**	**-0.9**
BCAR	**Beaver Creek A**	**12.69**	**44**	Pn	**Pn**	**16 13 06.0**	**-2.2**
J26L	**Joseph Creek**	**12.85**	**36**	Pn	**Pn**	**16 13 08.5**	**-1.8**
P29M	**Windy Craggy**	**13.39**	**61**	Pn	**Pn**	**16 13 16.6**	**-0.9**
I26K	**Coal Creek Min**	**13.50**	**34**	Pn	**Pn**	**16 13 16.8**	**-2.0**
C18K	**Utukok River**	**13.54**	**0**		**P**	**16 13 25.5**	**-0.4**
HYT	**Haines Junctio**	**13.74**	**56**	Pn	**Pn**	**16 13 21.1**	**-1.1**
M29M	**Somme Creek**	**13.80**	**49**	Pn	**Pn**	**16 13 22.2**	**-0.8**
S31K	**Pelican**	**14.02**	**68**	Pn	**Pn**	**16 13 25.0**	**-0.7**
N30M	**Aishikik Lake**	**14.10**	**54**	Pn	**Pn**	**16 13 25.2**	**-1.6**
L29M	**L29M**	**14.20**	**47**	Pn	**Pn**	**16 13 28.2**	**+0.1**
E24K	**Your Creek**	**14.25**	**20**	Pn	**Pn**	**16 13 30.5**	**+1.8**
D22K	**Ayikyak River**	**14.31**	**13**	P	**P**	**16 13 34.3**	**-0.1**
O30N	**Mendenhall**	**14.41**	**57**	Pn	**Pn**	**16 13 29.9**	**-0.9**
TOLK	**Toolik Lake Re**	**14.55**	**17**	Pn	**Pn**	**16 13 32.4**	**-0.3**
BMAR	**Burnt Mountain**	**14.60**	**26**	Pn	**Pn**	**16 13 34.0**	**+0.8**
N31M	**Braeburn, Yuko**	**14.71**	**54**	Pn	**Pn**	**16 13 34.6**	**-0.1**
K29M	**Barlow Dome**	**14.75**	**44**	Pn	**Pn**	**16 13 36.0**	**+0.8**
S32K	**Killisnoo**	**14.92**	**70**	Pn	**Pn**	**16 13 37.3**	**0.0**
D24K	**Happy Valley**	**15.13**	**17**	P	**Pn**	**16 13 42.3**	**+2.2**
D24K				IAmb	IAmb	16 14 00.1	
	comp=Z,8.0nm,1.5s						
C23K	**Itkillik River**	**15.48**	**14**		**Pn**	**16 13 46.1**	**+1.7**
C23K				IAmb	IAmb	16 14 09.5	
	comp=Z,9.5nm,1.5s						
J30M	**Hart River**	**15.54**	**43**	Pn	**Pn**	**16 13 45.1**	**-0.2**
H29M	**Whitestone**	**15.62**	**36**	Pn	**Pn**	**16 13 46.6**	**+0.3**
B22K	**Teshekpuk Lake**	**15.63**	**10**	Pn	**Pn**	**16 13 47.2**	**+0.9**
B22K				IAmb	IAmb	16 14 03.8	
	comp=Z,7.7nm,1.3s						
I30M	**Mount Dempster**	**15.81**	**40**	Pn	**Pn**	**16 13 48.5**	**-0.3**
U33K	**Whale Pass**	**15.84**	**75**	Pn	**Pn**	**16 13 48.3**	**-0.7**
G29M	**Pine Creek**	**16.14**	**34**		**Pn**	**16 13 53.3**	**+0.6**
G30M	**tAoh Zraii Nji**	**16.76**	**35**		**P**	**16 14 02.0**	**+0.4**
G30M				IAmb	IAmb	16 14 04.2	
	comp=Z,5.8nm,1.2s						
H31M	**Peel River**	**16.83**	**40**	Pn	**Pn**	**16 13 59.9**	**-1.5**
H31M				IAmb	IAmb	16 14 05.9	
	comp=Z,2.6nm,0.5s						
G31M	**Satah River**	**17.39**	**37**		**Pn**	**16 14 06.5**	**-1.6**
G31M				IAmb	IAmb	16 14 14.5	
	comp=Z,9.7nm,1.3s						
F31M	**Tsiigehtchic**	**17.82**	**36**	P	**P**	**16 14 11.9**	**-1.3**
F31M				IAmb	IAmb	16 14 22.4	
	comp=Z,5.5nm,1.5s						
INK	**Inuvik**	**18.35**	**33**	P	**P**	**16 14 17.2**	**-1.6**
NVAR	**Mina Array Bea**	**33.16**	**102**	P	**P**	**16 16 42.0**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=305,slow=8.6,SNR=7.3 comp=Z,0.9nm,0.6s						
PDAR	**Pinedale Array**	**35.28**	**89**	P	**P**	**16 16 58.3**	**-0.2**
	comp=Z,0.2nm,0.4s,baz=296,slow=6.7,SNR=1.6 comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**48.08**	**98**	P	**P**	**16 18 44.0**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=304,slow=6.4,SNR=4.2 comp=Z,0.4nm,0.7s						
AKASG	**Malin Array Be**	**74.15**	**353**	P	P	16 21 34.5	-4.2
	comp=Z,0.5nm,0.4s,baz=7.6,slow=5.5,SNR=4.0 comp=Z,0.5nm,0.4s						

*IDC **09** 16:19:42.9±1.7,5˚.81S×130˚.68E,h0km,mb4.1/2, mbtmp4.2/5,ML4.2/3,Error ellipse: s-maj=57.0km s-min=27.2km az=81.0*
*DJA **09** 16:20:00.6±0.2,7˚S±3˚×13˚0E±˚,h168km±8km, M4.2/11, mb4.2/10,mB4.7/4,MLv4.3/11,Mw(mB)3.9/4*

ISC 09 16:19:59.8±0.9,6˚56S±0˚06×130˚01E±0˚07,h150km,n22, σ1°81/24,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.91**	**138**	P	**Pn**	**16 20 37.6**	**+3.7**
SAUI	**Saumlaki**	**1.91**	**138**	P	**Pn**	**16 20 37.0**	**+3.1**
BNDI	**Bandanaira**	**2.02**	**357**	P	**Pn**	**16 20 38.8**	**+3.5**
BNDI	**Bandanaira**	**2.02**	**357**	P	**Pn**	**16 20 37.7**	**+2.4**
FAKI	**Fak Fak**	**4.25**	**32**	P	**Pn**	**16 21 03.7**	**+0.3**
FAKI	**Fak Fak**	**4.25**	**32**	P	**Pn**	**16 21 03.3**	**-0.1**
KMPI	**Kaimana, Papua**	**4.67**	**52**	P	**Pn**	**16 21 09.5**	**+0.6**
SWI	**Sorong**	**5.79**	**12**	P	**Pn**	**16 21 23.3**	**-0.5**
DRS	**Darwin Rock St**	**5.90**	**172**	P	**Pn**	**16 21 26.6**	**+1.3**
MTN	**Manton Dam**	**6.34**	**170**	P	**Pn**	**16 21 32.5**	**+1.3**
LBMI	**Labuha**	**6.39**	**337**	P	**Pn**	**16 21 33.1**	**+1.3**
	73nm,0.8s,1μm0.2nm						
SOEI	**Soe**	**6.51**	**240**	P	**Pn**	**16 21 35.5**	**+2.0**
SOEI	**Soe**	**6.51**	**240**	P	**Pn**	**16 21 34.1**	**+0.6**
	36nm,0.8s,0.2nm						
KDU	**Kakadu**	**6.56**	**158**	P	**Pn**	**16 21 34.8**	**+0.8**
BATI	**Baumata**	**7.25**	**240**	Pn	**Pn**	**16 21 44.8**	**+1.5**
	9.4nm,0.3s,baz=332,slow=2.2,SNR=8.6						
BATI				Sn	**Sn**	**16 23 03.0**	**-1.5**
	9.0nm,0.3s,baz=302,slow=17,SNR=6.7 22nm,0.3s						
BATI	**Baumata**	**7.25**	**240**	P	**Pn**	**16 21 44.3**	**+1.0**
	36nm,0.6s,0.2nm						
EDFI	**Ende, Flores**	**8.53**	**255**	P	**Pn**	**16 22 01.0**	**+0.6**
	8.2nm,0.7s						
PLAI	**Plampang**	**12.33**	**259**	P	**Pn**	**16 22 51.7**	**+1.2**
WRA	**Warramunga Arr**	**13.95**	**163**	Pn	**Pn**	**16 23 09.1**	**-2.1**
	0.8nm,0.3s,baz=345,slow=13,SNR=28						
WRA				Sn	Sn	16 25 37.4	-8.5
	2.2nm,0.3s,baz=346,slow=24,SNR=11 1.3nm,0.4s						
ASAR	**Alice Springs**	**17.42**	**168**	P	**P**	**16 23 54.5**	**+1.6**
	0.9nm,0.3s,baz=344,slow=10,SNR=80						
ASAR				S	**S**	**16 27 05.7**	**-1.0**
	1.5nm,0.8s,baz=355,slow=27,SNR=6.3 1.8nm,0.5s						
MKAR	**Makanchi Array**	**67.86**	**327**	P	**P**	**16 30 42.0**	**0.0**
	2.2nm,0.5s,baz=120,slow=6.9,SNR=40 2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**72.14**	**328**	P	**P**	**16 31 07.0**	**-0.9**
	0.5nm,0.5s,baz=123,slow=5.0,SNR=5.7 0.5nm,0.5s						

*IDC **09** 16:25:14.9±0.7,51˚.82N×170˚.53W,h0km,mb4.0/25, mbtmp4.0/27,ML3.6/2,MS3.4/11,Error ellipse: s-maj=22.4km s-min=13.0km az=176.0*
*MOS **09** 16:25:16.5±1.0,51˚.80N×170˚.35W,h25km,mb4.6/19, Error ellipse: s-maj=11.1km s-min=7.1km az=92.3*
*NEIC **09** 16:25:18.7±2.2,51˚.71N±0˚.09×170˚.36W±0˚.08,h31km±6km, mb4.1/107,ML3.6(AEIC),Error ellipse: s-maj=13.5km s-min=5.8km az=157.0*
*AEIC **09** 16:25:20.4±2.3,51˚.75N±0˚.09×170˚.40W±0˚.08,h33km±5km, Error ellipse: s-maj=13.2km s-min=5.6km az=156.0*

ISC 09 16:25:18.0±1.7,51˚.73N±0˚.07×170˚.36W±0˚.04, h23km±11km,n259,σ1°33/254,mb4.3/72,MS3.5/15,9C, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLCO	**Concord Point,**	**1.13**	**20**		**Pb**	**16 25 39.3**	**+0.5**
CLCO					**Sb**	**16 25 52.8**	**-0.2**
CLES	**Cleveland East**	**1.13**	**14**		**Pn**	**16 25 38.0**	**-0.4**
CLES					**Sn**	**16 25 54.0**	**+0.8**
NIKH	**Nikolski High**	**1.55**	**36**		**Sn**	**16 26 03.2**	**-0.2**
NIKH	**Nikolski High**	**1.55**	**36**	Pn	**Pn**	**16 25 43.6**	**-0.5**
OKSP	**Okmok Steeple**	**1.98**	**39**		**Pn**	**16 25 50.2**	**+0.1**
OKSP					**Sn**	**16 26 14.7**	**+0.5**
OKCE	**Okmok Cone E**	**2.16**	**37**		**Pn**	**16 25 53.8**	**+1.2**
OKFG	**Magazine Ridge**	**2.25**	**41**		**Pn**	**16 25 54.5**	**+0.7**
OKFG					**Sn**	**16 26 20.9**	**+0.1**
KOFP	**Korovin Flat P**	**2.37**	**285**		**Pn**	**16 25 56.2**	**+0.6**
ATKA	**Atka Island**	**2.42**	**283**	Pn	**Pn**	**16 25 55.1**	**-1.0**
ATKA					**Sn**	**16 26 23.5**	**-1.5**
KOKL	**Mount Kliuchef**	**2.45**	**286**		**Pn**	**16 25 57.3**	**+0.8**
MAPS	**Pakushin South**	**2.94**	**44**		**Pn**	**16 26 04.0**	**+0.8**
MSW	**Makushin Switc**	**3.08**	**43**		**Pn**	**16 26 06.1**	**+0.9**
MNAT	**Makushin Natee**	**3.10**	**45**		**Pn**	**16 26 06.6**	**+1.1**
MNAT					**Sn**	**16 26 42

C18K Utukok River 17.53 11 P **P** 16 29 23.3 +1.7
COLA College 17.55 33 *i* P **Pn** 16 29 20.6 -0.2
HDA Harding Lake 17.59 35 Pn **Pn** 16 29 19.6 -1.7
MCARA McCarthy VSAT 17.76 46 **P** 16 29 24.2 +0.1
MCARA IAmb IAmb 16 29 52.0
comp=Z,9.5nm,0.8s
ISLE Juniper Island 17.82 49 Pn **Pn** 16 29 22.9 -1.4
ISLE IAmb IAmb 16 29 37.3
comp=Z,30nm,1.5s
IL31 17.82 34 Pn **Pn** 16 29 22.5 -1.6
ILAR Eielson Array 17.82 34 P **Pn** 16 29 22.3 -1.9
comp=Z,0.2nm,0.3s,baz=215,slow=8.4,SNR=11
comp=Z,0.5nm,0.6s
G23K Bananza Creek 18.12 26 **P** 16 29 29.2 +1.1
H24K Noodor Dome 18.16 30 **P** 16 29 28.5 0.0
M26K Nabesna, AK 18.16 43 **Pn** 16 29 27.0 -1.4
C19K Lookout Ridge 18.17 12 **P** 16 29 29.1 +0.5
J25K Salcha River, 18.27 36 P **Pn** 16 29 27.9 -1.8
J25K IAmb IAmb 16 29 34.7
comp=Z,6.3nm,0.6s
BARN Barnard Glacie 18.28 48 P **Pn** 16 29 29.5 -0.5
BARN IAmb IAmb 16 30 02.2
comp=Z,8.0nm,0.6s
CTGM Chitina Glacie 18.40 49 P **P** 16 29 31.1 -0.2
CTGM IAmb IAmb 16 29 38.1
comp=Z,9.8nm,0.6s
SCRK Sand Creek 18.45 38 P **P** 16 29 29.7 -2.2
LOGN Logan Glacier 18.51 49 P **P** 16 29 32.5 -0.1
LOGN IAmb IAmb 16 29 44.3
comp=Z,13nm,0.8s
E21K Killik River 18.53 19 P **Pn** 16 29 33.2 +0.4
M27K Edge Creek, AK 18.62 44 P **P** 16 29 33.1 -0.7
M27K IAmb IAmb 16 29 56.5
comp=Z,7.1nm,0.8s
G24K Hadweenzic Riv 18.85 29 P **P** 16 29 36.4 +0.3
G24K IAmb IAmb 16 29 53.6
comp=Z,10.0nm,1.1s
J26L Joseph Creek 18.88 37 P **P** 16 29 35.0 -1.5
L27K Beaver Creek, 18.91 42 P **P** 16 29 36.3 -0.6
BCAR Beaver Creek A 18.93 42 P **P** 16 29 36.4 -0.7
D22K Ayikyak River 19.16 20 P **Pn** 16 29 40.3 -0.1
D22K IAmb IAmb 16 29 46.4
comp=Z,9.5nm,1.2s
K27K Chicken 19.22 39 P **P** 16 29 40.1 -0.1
B20K Meade River 19.34 14 P **P** 16 29 42.0 +0.6
B20K IAmb IAmb 16 29 48.4
comp=Z,28nm,1.5s
B21K Ikpikpuk River 19.41 17 P **P** 16 29 41.4 -0.8
B21K IAmb IAmb 16 29 50.0
comp=Z,6.4nm,0.7s
I26K Coal Creek Min 19.44 35 P **P** 16 29 41.2 -1.2
I26K IAmb IAmb 16 30 16.8
comp=Z,6.7nm,0.8s
PEA0B Petropavlovsk- 19.45 287 P **P** 16 29 43.0 +0.3
PEA0B Petropavlovsk- 19.45 287 P **P** 16 29 43.0 +0.3
PEA0B pmax pmax
comp=Z,37nm,1.4s
PETK Petropavlovsk- 19.45 287 P **P** 16 29 43.1 +0.4
PETK Petropavlovsk- 19.45 287 P **P** 16 29 43.0 +0.3
comp=Z,0.8nm,0.3s,baz=85,slow=13,SNR=34
comp=Z,5.5nm,0.6s
PETK Petropavlovsk- 19.45 287 P **P** 16 29 43.1 +0.4
E24K Your Creek 19.52 25 P **Pn** 16 29 45.1 +0.3
TOLK Toolik Lake Re 19.67 23 P **P** 16 29 45.7 +0.7
TOLK IAmb IAmb 16 30 03.4
comp=Z,7.2nm,0.9s
BILL Bilibino 19.89 334 P **P** 16 29 48.2 +0.8
BILL IAmb IAmb 16 29 53.4
comp=Z,6.8nm,0.6s
BILL Bilibino 19.89 334⇑ *e*P **P** 16 29 48.2 +0.8
BILL pmax pmax
comp=Z,11nm,1.2s
EGAK Eagle 19.92 38 P **P** 16 29 47.8 0.0
EGAK IAmb IAmb 16 30 32.3
comp=Z,4.5nm,0.7s
M29M Somme Creek 20.15 46 P **P** 16 29 51.2 +0.8
M29M IAmb IAmb 16 29 55.1
comp=Z,9.2nm,0.7s
HYT Haines Junctio 20.18 50 P Pn 16 29 53.2 +0.5
BMAR Burnt Mountain 20.19 29 P **P** 16 29 50.7 +0.1
D24K Happy Valley 20.23 22 P **P** 16 29 50.6 -0.5
D24K IAmb IAmb 16 30 24.4
comp=Z,9.8nm,1.1s
B22K Teshekpuk Lake 20.24 17 P **P** 16 29 51.4 +0.2
DAWY Dawson 20.31 41 P **P** 16 29 52.9 +0.8
DAWY IAmb IAmb 16 30 32.3
comp=Z,6.4nm,1.1s
E25K Arctic Village 20.34 27 P **P** 16 29 51.9 -0.5
E25K IAmb IAmb 16 29 59.0
comp=Z,8.3nm,1.2s
C23K Itkillik River 20.37 20 P **P** 16 29 52.5 -0.1
L29M L29M 20.50 44 P **P** 16 29 53.9 -0.3
L29M IAmb IAmb 16 29 58.5
comp=Z,5.0nm,0.8s
N30M Aishikik Lake 20.51 49 P Pn 16 29 55.9 -0.7
I28M Miner Creek 20.68 37 P **P** 16 29 55.8 -0.4
I28M IAmb IAmb 16 30 14.3
comp=Z,5.9nm,0.8s
G27K Doyon Strip 20.76 32 P **P** 16 29 55.8 -1.0
D25K Kavik River 20.96 24 P **P** 16 29 58.2 -0.8
D25K IAmb IAmb 16 30 03.9
comp=Z,9.4nm,0.8s
K29M Barlow Dome 21.00 42 P **P** 16 29 58.7 -0.9
K29M IAmb IAmb 16 30 06.1
comp=Z,6.4nm,1.0s
N31M Braeburn, Yuko 21.13 49 P **P** 16 30 01.4 +0.5
I29M Ogilvie Camp, 21.26 38 P **P** 16 30 00.8 -1.5
I29M IAmb IAmb 16 30 08.2
comp=Z,8.3nm,1.1s
E27K Coleen River 21.55 29 P **P** 16 30 04.1 -1.3
E27K IAmb IAmb 16 30 09.7
comp=Z,5.1nm,0.9s
H29M Whitestone 21.61 36 P **P** 16 30 05.6 -0.4
J30M Hart River 21.74 41 P **P** 16 30 07.3 -0.2
J30M IAmb IAmb 16 30 40.3
comp=Z,3.8nm,0.8s
F28M Old Crow 21.77 32 P **P** 16 30 06.9 -0.9
M31M Drury Creek, Y 21.92 48 P **P** 16 30 09.7 +0.2
M31M IAmb IAmb 16 30 39.0
comp=Z,4.4nm,0.7s
I30M Mount Dempster 21.95 39 P **P** 16 30 08.3 -1.5
I30M IAmb IAmb 16 30 30.1
comp=Z,5.2nm,0.9s
G29M Pine Creek 22.05 34 P **P** 16 30 09.6 -1.1
G29M IAmb IAmb 16 30 12.2
comp=Z,14nm,1.1s
EPYK Eagle Plains 22.28 36 P **P** 16 30 12.0 -1.2
EPYK IAmb IAmb 16 30 34.6
comp=Z,10nm,0.8s
N32M Quiet Lake 22.36 51 P **P** 16 30 13.4 -0.7
D27M Malcolm River 22.36 27 P **P** 16 30 14.2 +0.1
D27M IAmb IAmb 16 30 18.0
comp=Z,12nm,1.1s
E28M Babbage River 22.42 30 P **P** 16 30 13.7 -0.9
SEY Seymchan 22.66 314 *ce*P **P** 16 30 17.3 0.0
SEY pmax pmax
comp=Z,6.0nm,1.0s
E29M Blow River 22.81 31 P **P** 16 30 18.8 0.0
E29M IAmb IAmb 16 30 21.4
comp=Z,13nm,1.4s
H31M Peel River 22.95 38 P **P** 16 30 19.9 -0.4
H31M IAmb IAmb 16 30 44.5
comp=Z,10nm,1.1s
MA2 Magadan 23.00 305 P **P** 16 30 20.9 0.0
MA2 Magadan 23.00 305 *ce*P **P** 16 30 21.4 +0.6
MA2 pmax pmax
comp=Z,18nm,1.0s
MMPY Sheldon Lake, 23.43 47 P **P** 16 30 26.5 +1.3
F31M Tsiigehtchic 23.79 35 P **P** 16 30 27.7 -0.8
F31M IAmb IAmb 16 30 53.3
comp=Z,7.6nm,1.3s
INK Inuvik 24.21 33 P **P** 16 30 31.7 -0.7
INK Inuvik 24.21 33 P **P** 16 30 31.7 -0.7
INK pmax pmax
comp=Z,29nm,1.5s
C36M Paulatuk 27.80 33 P **P** 16 31 04.9 +0.2
C36M IAmb IAmb 16 31 06.1
comp=Z,4.0nm,1.0s
YSS Yuzh-Sakhalins 30.50 280 *e*P P 16 31 18.0 -11
YSS MLR MLR
comp=Z,100nm,14.0s
YKA Yellowknife Ar 31.12 48 P **P** 16 31 35.9 +1.6
comp=Z,1.2nm,0.5s,baz=278,slow=10,SNR=19
comp=Z,1.2nm,0.5s

JKA Kamikawa-asahi 31.95 275 P **P** 16 31 42.5 +0.7
ASAJ Asahikawa 31.95 275 P **P** 16 31 42.5 +0.6
ASAJ pmax pmax
comp=Z,11nm,1.1s
YAK Yakutsk 33.14 312 *e*P **P** 16 31 50.4 -1.6
YAK pmax pmax
comp=Z,5.0nm,0.8s
YAK pmax pmax
comp=N,2.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,2.0s
YBH Yreka Blue Hor 33.60 88 LR LR 16 43 50.4
comp=E,65nm,18.9s,baz=282,slow=33
NEW Newport 33.76 74 LR LR 16 43 47.5
comp=E,61nm,21.3s,baz=304,slow=33
KLR Kul'dur 36.09 290 LR LR 16 49 04.1
comp=E,54nm,18.1s,baz=42,slow=40
KLR Kul'dur 36.09 290 *i* P **P** 16 32 17.0 -0.7
KLR pmax pmax
comp=Z,2.0nm,1.3s
H11N2 WAKE ISLAND Hy 36.58 218 T T 17 11 02.9
baz=24
H11N3 WAKE ISLAND Hy 36.58 218 T T 17 11 04.5
baz=24
H11N1 WAKE ISLAND Hy 36.59 218 T T 17 11 03.4
baz=24
ZEA Zeya 36.76 298 *e*P **P** 16 32 22.2 -1.1
RES Resolute Bay 37.21 25 LR LR 16 51 48.0
comp=Z,65nm,18.3s,baz=260,slow=43
H11S1 WAKE ISLAND Hy 37.76 217 T T 17 12 31.3
baz=23
H11S2 WAKE ISLAND Hy 37.78 217 T T 17 12 32.9
baz=23
H11S3 WAKE ISLAND Hy 37.78 217 T T 17 12 37.6
baz=23
HEH HeiHe 38.14 293 *e*P **P** 16 32 33.7 -1.4
HEH pmax pmax
comp=Z,11nm,1.1s
HEH LR LR
comp=N,190nm,14.7s
HEH LR LR
comp=E,140nm,15.7s
HEH LR LR
comp=Z,180nm,16.0s
NVAR Mina Array Bea 38.27 89 P **P** 16 32 39.3 +2.7
comp=Z,0.3nm,0.5s,baz=294,slow=8.7,SNR=2.3
comp=Z,0.3nm,0.5s
USRK Usuriysk Ar. 38.43 282 P **P** 16 32 35.8 -1.7
comp=Z,0.9nm,0.6s,baz=49,slow=6.5,SNR=3.4
comp=Z,0.9nm,0.6s
MJAR Matsushiro Arr 39.06 268 P **P** 16 32 42.6 -0.4
comp=Z,1.6nm,0.9s,baz=47,slow=6.9,SNR=3.3
comp=Z,1.6nm,0.9s
PDAR Pinedale Array 41.13 78 P **P** 16 33 01.3 +1.0
comp=Z,0.6nm,0.5s,baz=303,slow=6.9,SNR=5.7
PDAR LR LR 16 48 04.2
comp=Z,53nm,19.6s,baz=308,slow=33
comp=Z,0.6nm,0.5s
FCC Fort Churchill 41.82 49 P **P** 16 33 04.8 -0.6
FCC Fort Churchill 41.82 49 P **P** 16 33 04.8 -0.6
FCC pmax pmax
comp=Z,8.0nm,1.1s
BOD Bodaibo 41.92 309 *e*P **P** 16 33 05.3 -1.0
BOD pmax pmax
comp=Z,9.0nm,1.3s
KSRS Korea Array 44.87 277 P **P** 16 33 31.0 +0.6
comp=Z,0.8nm,0.7s,baz=54,slow=7.0,SNR=2.8
KSRS LR LR 16 52 12.1
comp=Z,24nm,20.3s,baz=40,slow=36
comp=Z,0.8nm,0.7s
KSRS Korea Array 44.87 277 P **P** 16 33 31.0 +0.6
ULM Lac du Bonnet 44.99 61 P **P** 16 33 32.3 +1.1
comp=Z,1.4nm,0.7s,baz=298,slow=11,SNR=2.0
ULM LR LR 16 53 39.2
comp=Z,79nm,19.8s,baz=322,slow=38
comp=Z,1.4nm,0.7s
NEEM North Greenlan 45.77 15 *i* P **P** 16 33 36.0 -1.3
NEEM IAmb IAmb 16 33 38.8
comp=Z,11nm,0.5s
NOR Nord 46.16 5 *i* P **P** 16 33 40.0 -0.1
NOR IAmb IAmb 16 34 43.7
comp=Z,1.6nm,1.1s
ANMO Albuquerque 47.83 84 LR LR 16 53 33.0
comp=Z,53nm,18.1s,baz=48,slow=35
SPITS Spitsbergen Ar 50.29 358 P **P** 16 34 11.7 -0.2
comp=Z,18nm,1.1s,baz=40,slow=5.6,SNR=5.9
comp=Z,18nm,1.1s
DAG Danmarks Havn 50.51 8 *i* P **P** 16 34 13.0 -0.6
DAG IAmb IAmb 16 34 15.2
comp=Z,3.1nm,0.5s
ULN Ulaanbaatar 50.73 300 *ce*P **P** 16 34 16.4 +0.5
ULN pmax pmax
comp=Z,3.0nm,1.0s
SONM Songino Array 51.10 301 P **P** 16 34 17.7 -1.0
SONM IAmb IAmb 16 34 20.1
comp=Z,2.2nm,0.8s
SONM Songino Array 51.10 301 P **P** 16 34 19.4 +0.8
comp=Z,2.2nm,0.7s,baz=57,slow=7.3,SNR=11
comp=Z,2.2nm,0.7s
ZAK Zakamensk 51.18 305 *e*P **P** 16 34 14.8 -4.4
ZAK pmax pmax
comp=Z,3.0nm,1.4s
MOY Mondy 51.55 307 *e*P **P** 16 34 22.0 +0.1
SUMG Summit 51.57 17 P **P** 16 34 22.6 +0.5
SUMG Summit 51.57 17 P **P** 16 34 22.6 +0.5
SUMG pmax pmax
comp=Z,22nm,1.4s
SUMG Summit 51.57 17 *i* P **P** 16 34 22.5 +0.5
SUMG IAmb IAmb 16 34 26.4
comp=Z,3.6nm,0.8s
GUMO Guam 52.26 240 LR LR 16 53 30.7
comp=Z,18nm,20.9s,baz=86,slow=32
HHC Hu-ho-hao-te 52.58 291 *e*P **P** 16 34 29.0 -0.7
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,56nm,4.5s
HHC LR LR
comp=N,85nm,16.8s
HHC LR LR
comp=E,130nm,17.6s
HHC LR LR
comp=Z,130nm,16.0s
HNS HongShan 52.96 286 ⇑P **P** 16 34 33.5 +1.1
HNS pmax pmax
comp=Z,18nm,0.9s
LPIG La Paz 53.01 98 LR LR 16 54 29.8
comp=Z,23nm,18.1s,baz=206,slow=33
TX31 Lajitas Ar. Si 53.38 88 P **P** 16 34 34.9 -0.8
TX31 IAmb IAmb 16 34 53.7
comp=Z,2.1nm,0.8s
TXAR Lajitas Array 53.38 88 P **P** 16 34 35.4 -0.3
TXAR Lajitas Array 53.38 88 P **P** 16 34 36.5 +0.8
comp=Z,1.2nm,0.7s,baz=295,slow=5.4,SNR=15
TXAR PcP **PcP** 16 35 43.9 +1.1
comp=Z,0.6nm,0.8s,baz=308,slow=4.4,SNR=1.0
comp=Z,1.2nm,0.7s
ICESG Greenland Ices 54.18 20 *i* P **P** 16 34 40.3 -1.0
ICESG IAmb IAmb 16 34 43.2
comp=Z,5.6nm,1.6s
DY2G Dye2 54.74 24 *i* P **P** 16 34 44.2 -1.1
DY2G IAmb IAmb 16 34 47.7
comp=Z,4.2nm,0.6s
SCHQ Schefferville 56.32 43 P **P** 16 34 55.6 -1.0
SCHQ Schefferville 56.32 43 LR LR 17 01 23.9
comp=Z,76nm,18.4s,baz=327,slow=38
ZALV Zalesovo Beam 57.48 317 P **P** 16 35 03.1 -1.6
comp=Z,1.0nm,0.7s,baz=29,slow=3.4,SNR=5.5
ZALV PcP **PcP** 16 35 58.2 +0.1
comp=Z,0.9nm,0.6s,baz=46,slow=4.6,SNR=3.9
comp=Z,1.0nm,0.7s
ZALV Zalesovo Beam 57.48 317 *i* P **P** 16 35 04.8 +0.1
ZALV pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 58.49 354 P **P** 16 35 09.6 -2.0
comp=Z,2.7nm,0.8s,baz=27,slow=8.2,SNR=3.9
comp=Z,2.7nm,0.8s
LVZ Lovozero 59.23 349 P **P** 16 35 16.7 -0.1
LVZ Lovozero 59.23 349 P **P** 16 35 16.7 -0.1
LVZ pmax pmax
comp=Z,14nm,1.1s
KURK Kurchatov 62.44 318 P **P** 16 35 38.6 -0.2
KURK Kurchatov 62.44 318 *ce*P **P** 16 35 38.8 0.0
KURK pmax pmax
comp=Z,8.0nm,1.0s
KURBB Kurchatov Arra 62.55 318 P **P** 16 35 39.3 -0.3
comp=Z,3.8nm,0.5s,baz=44,slow=7.2,SNR=25
comp=Z,3.8nm,0.5s

LMN Caledonia Moun 63.67 49 P **P** 16 35 47.9 +0.8
MK31 Makanchi Array 63.80 313 P **P** 16 35 47.5 -0.5
MK31 IAmb IAmb 16 35 48.4
comp=Z,2.1nm,0.8s
MK31 Makanchi Array 63.80 313 *ce*P **P** 16 35 47.2 -0.8
MKAR Makanchi Array 63.80 313 P **P** 16 35 47.6 -0.3
comp=Z,2.0nm,0.7s,baz=52,slow=7.1,SNR=23
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 63.80 313 *i* P **P** 16 35 47.5 -0.5
MKAR pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 63.86 324 P **P** 16 35 48.5 +0.3
comp=Z,3.5nm,0.6s,baz=51,slow=6.7,SNR=24
BVAR PcP **PcP** 16 36 23.7 -0.1
comp=Z,2.1nm,0.7s,baz=59,slow=3.8,SNR=4.5
comp=Z,3.5nm,0.6s
BRVK Borovoye 63.88 324 P **P** 16 35 48.3 0.0
BRVK Borovoye 63.88 324 *ce*P **P** 16 35 49.2 +0.9
BRVK pmax pmax
comp=Z,6.0nm,1.0s
MAKZ Makanchi 63.93 313 P **P** 16 35 48.3 -0.5
MAKZ IAmb IAmb 16 35 49.2
comp=Z,2.2nm,0.8s
MAKZ Makanchi 63.93 313 P **P** 16 35 48.3 -0.5
MAKZ pmax pmax
comp=Z,2.0nm,0.8s
ARU Arti 64.91 332 *i* P **P** 16 35 54.6 -0.4
ARU pmax pmax
comp=Z,4.0nm,0.7s
GOMU GeErMu 65.28 297 P **P** 16 36 00.1 +1.8
GOMU pP sP 16 36 05.7 -1.0
GOMU sP pwP 16 36 08.5 -0.8
GOMU ScS S 16 44 27.7 -13
FINES FINESS Array B 66.41 351 P **P** 16 36 04.6 0.0
FINES FINESS Array B 66.41 351 P **P** 16 36 04.7 +0.1
comp=Z,1.9nm,0.8s,baz=15,slow=5.8,SNR=5.2
comp=Z,1.9nm,0.8s
NOA NORSAR Array B 67.57 359 P **P** 16 36 11.5 -0.6
comp=Z,1.3nm,0.8s,baz=1.7,slow=6.2,SNR=4.2
comp=Z,1.3nm,0.8s
PZH PanZhiHua 68.41 286 P **P** 16 36 18.6 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,5.8s
HFS Hagfors 68.44 358 P **P** 16 36 17.7 +0.2
comp=Z,1.3nm,0.5s,baz=45,slow=2.5,SNR=8.9
comp=Z,1.3nm,0.5s
BOOM Boomskoye usch 70.00 314 P **P** 16 36 28.6 +0.9
BOOM Boomskoye usch 70.00 314 P **P** 16 36 28.6 +0.9
BOOM pmax pmax
comp=Z,4.0nm,0.7s
AAK Ala-Archa 70.52 315 P **P** 16 36 31.4 +0.5
AAK Ala-Archa 70.52 315 *ce*P **P** 16 36 31.7 +0.9
AAK pmax pmax
comp=Z,4.0nm,0.8s
ABKAR Akbulak array 70.65 328 P **P** 16 36 31.5 +0.2
KK31 Karatay Array 71.85 318 P **P** 16 36 37.8 -0.9
KK31 IAmb IAmb 16 36 39.8
comp=Z,2.8nm,0.8s
KK31 Karatay Array 71.85 318 P **P** 16 36 37.8 -0.9
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 71.85 318 P **P** 16 36 39.2 +0.5
KKAR IAmb IAmb 16 36 39.8
comp=Z,2.8nm,0.8s
KKAR Karatay Array 71.85 318 P **P** 16 36 39.2 +0.5
KKAR pmax pmax
comp=Z,3.0nm,0.9s
KSH Kashi 72.35 312 P **P** 16 36 46.2 +4.3
KSH pP PcP 16 36 58.5 -1.3
KSH pmax pmax
comp=Z,6.0nm,1.2s
EKA Eskdalemuir Ar 72.77 8 P **P** 16 36 44.7 +0.8
comp=Z,0.5nm,0.4s,baz=356,slow=5.0,SNR=1.5
comp=Z,0.5nm,0.4s
MNK Minsk 73.05 349 *i* P **P** 16 36 45.8 +0.2
MNK *i* 16 37 02.2
MNK *i* PPP PPP 16 41 08.7
MNK *i* S **S** 16 46 13.2 +2.2
MNK *i* SS **SS** 16 50 47.6 -3.0
MNK pmax pmax
comp=N,3.0nm,0.9s
MNK pmax pmax
comp=Z,7.0nm,0.9s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=E,24nm,18.0s
MNK MLR MLR
comp=N,98nm,17.0s
CMAR Chiang Mai Arr 76.16 282 P **P** 16 37 04.8 +0.6
comp=N,1.5nm,0.7s,baz=24,slow=6.6,SNR=14
comp=N,1.5nm,0.7s
SIMJ Simiganj 76.17 316 P **P** 16 37 04.8 +0.6
AKASG Malin Array Be 76.60 347 P **P** 16 37 06.1 -0.1
comp=N,1.5nm,0.6s,baz=12,slow=5.6,SNR=6.8
comp=N,1.5nm,0.6s
CONA Conrad Observa 80.58 356 *e*PcP **P** 16 37 31.0 +2.7
comp=N,1.0nm,0.6s
KBA Koelnbreinsper 81.52 357 *e*PcP **P** 16 37 35.7 +2.3
comp=N,3.3nm,0.6s
FETA Feichten 81.62 359 *i* PcP **P** 16 37 36.3 +2.3
comp=N,2.0nm,0.7s
WRA Warramunga Arr 86.13 231 P **P** 16 37 55.7 -1.3
comp=N,0.4nm,0.8s,baz=36,slow=6.1,SNR=2.5
comp=N,0.4nm,0.8s
BRTR Keskin Array B 86.54 342 P **P** 16 37 57.7 -1.4
comp=N,0.7nm,0.6s,baz=20,slow=4.6,SNR=2.9
comp=N,0.7nm,0.6s
ESDC Sonseca Array 88.20 10 P **P** 16 38 07.5 +0.5
comp=N,1.7nm,1.0s,baz=352,slow=3.6,SNR=5.8
comp=N,1.7nm,1.0s
ASAR Alice Springs 89.52 229 P **P** 16 38 13.1 -0.1
comp=N,0.4nm,0.8s,baz=23,slow=4.8,SNR=4.9
comp=N,0.4nm,0.8s
QSPA South Pole Qui 141.49 180 PKP **PKPdf** 16 44 45.9 +0.2
comp=N,1.0nm,1.1s,baz=56,slow=1.9,SNR=1.3

*TEH **09** 16:34:03.9,34.90N×45.83E,h8km×34km,ML3.2*
*ISN **09** 16:34:04.7±0.3,34.92N×45.85E,h30km±4km,ML3.0*
ISC 09 16:34:04.2±0.9,**34.88N**±0.04×**45.85E**±0.04,**h10**km,**n19,**
σ1§**37**/22,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.43**	**210**	Pg	**Pb**	**16 34 12.9**	**-1.1**
IDHR	**Dehrash**	**0.48**	**112**	Pg	**Pb**	**16 34 13.8**	**-1.0**
GLG1	**Gilan-e-Gharb**	**0.77**	**176**	Pg	**Pb**	**16 34 19.1**	**-0.7**
ILIN	**Lien**	**0.91**	**87**	Pg	**Pn**	**16 34 22.4**	**-1.0**
ILIN				Sg	**Sn**	**16 34 35.9**	**-0.8**
KCHF	**Cheshme Sefid,**	**1.15**	**121**	Pg	**Pn**	**16 34 26.2**	**-0.4**
SDS1	**Sardasht. Az.**	**1.30**	**347**	Pg	**Pg**	**16 34 28.4**	**-0.8**
SNQR	**Sonqor, Kerman**	**1.46**	**90**	Pg	**Pg**	**16 34 32.3**	**0.0**
IBZA	**Bozab**	**1.71**	**103**	Pg	**Pg**	**16 34 36.9**	**-0.1**
IBDR	**Badra**	**1.77**	**178**	*e*Pg	**Pb**	**16 34 37.0**	**+0.3**
IBDR				*e*Sg	**Sg**	**16 35 00.6**	**-0.5**
IBDR				AML	AML	16 35 06.7	
	comp=N,165nm,0.7s						
IBDR				AML	AML	16 35 11.8	
	comp=E,236nm,0.9s						
MAHB	**Mahabad**	**1.88**	**356**	Pn	**Pg**	**16 34 38.7**	**-1.6**
BHD	**Baghdad**	**2.02**	**218**	*e*Pn	**Pn**	**16 34 39.0**	**+0.7**
BHD				*e*Sn	**Sn**	**16 35 04.0**	**+0.4**
IKFM	**Kafar-mosalman**	**2.14**	**129**	Pn	**Pb**	**16 34 42.6**	**-0.4**
IDOB	**Doab**	**2.21**	**119**	Pn	**Pb**	**16 34 43.5**	**-0.9**
RAFI	**Al-Rafai**	**3.16**	**176**	*e*Pn	**Pn**	**16 34 55.0**	**+1.0**
ISHB	**Shabestar**	**3.40**	**357**	Pn	**Pn**	**16 34 58.7**	**+1.2**
IHRS	**Heris**	**3.56**	**15**	Pn	**Pn**	**16 35 02.2**	**+2.5**
IMRD	**Marand**	**3.83**	**358**	Pn	**Pn**	**16 35 05.4**	**+2.1**
IPIR	**Pirpir**	**4.74**	**116**	Pn	**Pn**	**16 35 18.0**	**+2.1**
IKLH	**Kolahrood**	**5.00**	**107**	Pn	**Pn**	**16 35 22.6**	**+3.0**

*TEH **09** 16:39:36.7,39.98N×53.02E,h10km,ML3.6*
ISC 09 16:39:38.4±1.1,**40.25N**±0.07×**53.22E**±0.07,**h49**km,**n22,**
σ1§**88**/23,**4D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIZA	**Siyzn**	**3.39**	**286**	Pn	**Pn**	**16 40 32.4**	**+3.6**
PQL	**Pirkuli**	**3.57**	**280**	Pn	**Pn**	**16 40 33.4**	**+2.1**
LKRN	**Lenkeran, Azer**	**3.76**	**247**	Pn	**Pn**	**16 40 33.6**	**-0.3**
IGLO	**Ghaloghah**	**3.77**	**172**	Pn	**Pn**	**16 40 33.5**	**-0.7**

ASTR	**Astara**	**3.82**	**245**	Pn	**Pn**	**16 40 34.1**	**-0.6**
GLBA	**Clilabad**	**3.85**	**256**	Pn	**Pn**	**16 40 35.3**	**+0.2**
MZPU	**Pul - Mazandar**	**4.02**	**199**	Pn	**Pn**	**16 40 36.2**	**-1.4**
IPRN	**Peran**	**4.06**	**190**	Pn	**Pn**	**16 40 36.5**	**-1.6**
QBL	**Gabala**	**4.16**	**281**	Pn	**Pn**	**16 40 40.8**	**+1.5**
GYA0B	**ALIBECK ARRAY**	**4.46**	**120**	⇓Pn	Pn	16 40 48.9	+5.4
GYA0B				⇓Sn	**Sn**	**16 41 34.9**	**+0.8**
SEKA	**Sheki**	**4.67**	**284**	Pn	**Pn**	**16 40 49.7**	**+3.2**
ISFR	**Sfrayin**	**4.92**	**129**	Pn	**Pn**	**16 40 52.7**	**+2.8**
ISRB	**Sarab**	**4.95**	**243**	Pn	**Pn**	**16 40 49.9**	**-0.6**
IEMG	**Emamgholi**	**5.10**	**122**	Pn	**Pn**	**16 40 54.9**	**+2.4**
IHRS	**Heris**	**5.17**	**250**	Pn	**Pn**	**16 40 53.7**	**+0.3**
GANJ	**Ganja**	**5.28**	**277**	Pn	**Pn**	**16 40 54.5**	**-0.2**
QABG	**Abgarm-Qazvin**	**5.37**	**214**	Pn	**Pn**	**16 40 55.1**	**-1.0**
IPAY	**Payeh**	**5.91**	**128**	Pn	**Pn**	**16 41 06.1**	**+2.5**
SBZ	**Shahbuz**	**5.96**	**264**	Pn	**Pn**	**16 41 05.1**	**+0.9**
TKDS	**Koohdasht(Taba**	**7.32**	**154**	Pn	**Pn**	**16 41 24.4**	**+1.6**
TPRV	**Parvadeh(Tabas**	**7.72**	**158**	Pn	**Pn**	**16 41 29.6**	**+1.3**
AB31	**Akbulak array**	**10.19**	**26**	⇓Pn	**Pn**	**16 42 01.7**	**-0.2**
	0.3nm,0.3s,baz=204,slow=13,SNR=19						
AB31				⇓Sn	**Sn**	**16 43 51.7**	**-3.0**
	0.5nm,0.3s,baz=208,slow=23,SNR=9.7						

*NEIC **09** 17:00:04.6±1.2, 47°.42N±0°.02×93°.13W±0°.03, h0km±2km, mb_Lg2.8/23, Error ellipse: s-maj=4.1km s-min=3.1km az=38.0*
*IDC **09** 17:00:06.0±3.1, 47°.42N×93°.33W, h0km, mbtmp2.9/3, ML0.7/1, Error ellipse: s-maj=34.0km s-min=15.8km az=95.0*
ISC 09 17:00:02.1±0.9, 47°.47N±0°.04×93°.20W±0°.05, h0km, n23, σ1ᵍ43/18, Minnesota

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
B35A	**Bob, Littlefor**	**0.95**	**339**		**Pn**	**17 00 23.3**	**+0.5**
EYMN	**Ely**	**1.25**	**67**	Pg	**Pb**	**17 00 26.1**	**-0.4**
E38A	**The Farm, Brul**	**1.42**	**127**	Pg	**Pb**	**17 00 29.1**	**-0.3**
F36A	**Milaca**	**1.63**	**188**		**Pg**	**17 00 33.0**	**-0.3**
F36A				IAmb_Lg		17 00 57.3	
	comp=Z,92nm,1.1s						
AGMN	**Agassiz Nation**	**1.97**	**296**	Pn	**Pg**	**17 00 39.3**	**-0.5**
AGMN				IAmb_Lg		17 01 13.9	
	comp=Z,31nm,1.0s						
SPMN	**Marine on St.**	**2.27**	**173**		**Pb**	**17 00 42.7**	**-1.1**
SPMN					**Sb**	**17 01 10.8**	**-1.6**
SPMN				IAmb_Lg		17 01 14.5	
	comp=Z,27nm,0.8s						
F33A	**5 Mile Ranch,**	**2.68**	**234**		**Pn**	**17 00 48.2**	**+1.7**
G40A	**Rib Lake**	**3.03**	**136**		**Pn**	**17 00 53.1**	**+1.8**
G40A				IAmb_Lg		17 01 44.9	
	comp=Z,19nm,1.1s						
COWI	**Conover**	**3.11**	**115**		**Pn**	**17 00 53.4**	**+1.0**
D41A	**Chassel**	**3.19**	**96**	Pn	**Pn**	**17 00 54.7**	**+1.3**
ULM	**Lac du Bonnet**	**3.29**	**329**	IAmb_Lg		17 01 49.6	
	comp=Z,21nm,0.7s						
ULM	**Lac du Bonnet**	**3.29**	**329**	Pn	**Pn**	**17 00 57.8**	**+3.0**
	comp=Z,0.1nm,0.3s,baz=157,slow=10,SNR=1.9						
ULM				Pg	**Pg**	**17 01 04.7**	**-0.4**
	comp=Z,0.6nm,0.3s,baz=150,slow=14,SNR=8.5						
ULM				Lg	Lg	17 01 47.2	
	comp=Z,2.2nm,0.3s,baz=67,slow=19,SNR=25						
	comp=Z,1.3nm,0.6s						
I10CA	**LAC DU BONNET**	**3.31**	**327**	I	I	17 20 40.0	
	comp=Z,0.1nm,0.9s,baz=143,slow=326,SNR=4.9						
I37A	**Lemond, Waseca**	**3.46**	**182**		**Pn**	**17 00 58.9**	**+1.7**
I37A				IAmb_Lg		17 01 57.0	
	comp=Z,35nm,1.3s						
F42A	**Maple Grove Fa**	**3.89**	**114**	Pn	**Pn**	**17 01 03.5**	**+0.4**
F42A				IAmb_Lg		17 02 09.2	
	comp=Z,20nm,1.0s						
I42A	**Draeger Farm,**	**4.68**	**138**	IAmb_Lg		17 02 26.9	
	comp=Z,14nm,0.8s						
JFWS	**Jewell Farm**	**5.01**	**154**	IAmb_Lg		17 02 42.2	
	comp=Z,14nm,0.8s						
E28A	**Huff**	**5.20**	**263**	IAmb_Lg		17 02 51.2	
	comp=Z,17nm,0.9s						
K43A	**Burlington**	**5.88**	**142**	IAmb_Lg		17 03 06.8	
	comp=Z,22nm,0.9s						
L42A	**Oliver, Polo**	**6.02**	**154**		**Pn**	**17 01 34.5**	**+2.2**
L42A				IAmb_Lg		17 03 08.9	
	comp=Z,15nm,0.9s						
N38A	**Joes South For**	**6.68**	**180**	IAmb_Lg		17 03 50.3	
	comp=Z,16nm,1.1s						
PDAR	**Pinedale Array**	**12.47**	**254**	Pn	**Pn**	**17 03 00.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=58,slow=11,SNR=4.3						
PDAR				Lg	Lg	17 06 29.1	
	comp=Z,0.1nm,0.3s,baz=59,slow=33,SNR=2.1						
YKA	**Yellowknife Ar**	**19.27**	**329**	Pn	**Pn**	**17 04 28.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=129,slow=13,SNR=4.8						
YKA				Lg	Lg	17 10 00.3	
	baz=122,slow=27						

*UPP **09** 17:00:51.2±0.1, 67°.06N×20°.94E, h0km, ML2.0, Unknown*
*IDC **09** 17:00:52.5±1.2, 67°.04N×21°.16E, h0km, mbtmp2.9/3, ML2.1/3, Error ellipse: s-maj=19.3km s-min=8.5km az=105.0*
*HEL **09** 17:00:52.1±0.2, 67°.09N×20°.96E, h0km, ML1.9, Explosion*
ISC 09 17:00:51.3±0.7, 67°.08N±0°.02×20°.93E±0°.02, h0km, n43, σ1ᵍ00/66, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.15**	**287**	P	**Pg**	**17 00 54.5**	**+0.3**
DUNU				S	**Sg**	**17 00 56.9**	**+0.8**
MASU	**Masugnsbyn**	**0.56**	**47**	P	**Pg**	**17 01 02.2**	**+0.1**
PAJU	**Pajala**	**0.86**	**93**	PG	**Pg**	**17 01 06.9**	**-0.8**
	baz=276						
PAJU				SB	**Sg**	**17 01 19.5**	**+0.8**
PAJU	**Pajala**	**0.86**	**93**	P	**Pg**	**17 01 07.1**	**-0.6**
KUA	**Kurravaara**	**0.91**	**346**	P	**Pg**	**17 01 08.4**	**-0.3**
RATU	**Laukkuluspa**	**0.91**	**326**	P	**Pg**	**17 01 08.3**	**-0.4**
HARU	**Harads**	**0.92**	**179**	P	**Pg**	**17 01 07.9**	**-1.0**
SALU	**Saltoluokta**	**0.99**	**289**	*e*P	**Pg**	**17 01 10.1**	**-0.1**
SALU	**Saltoluokta**	**0.99**	**289**	P	**Pg**	**17 01 10.0**	**-0.3**
LANU	**Lannavaara**	**1.05**	**22**	PG	**Pg**	**17 01 10.9**	**-0.6**
KLF	**Kolari**	**1.19**	**81**	PG	**Pg**	**17 01 13.4**	**-0.8**
	baz=263						
KLF				MSG		17 01 27.9	
	comp=Z,10.0nm,0.2s						
KLF				SN	**Sb**	**17 01 31.0**	**+0.3**
KALU	**Kalix**	**1.56**	**140**	PG	**Pn**	**17 01 19.7**	**-0.6**
	baz=326						
KALU				SN	**Sn**	**17 01 41.3**	**+0.1**
TOF	**Tornio**	**1.69**	**125**	PG	**Pn**	**17 01 21.9**	**-0.1**
TOF				MSG		17 01 42.6	
	comp=Z,8.2nm,0.2s						
TOF				SN	**Sn**	**17 01 44.7**	**+0.5**
HEF	**Hetta**	**1.69**	**37**	PG	**Pn**	**17 01 21.8**	**-0.2**
	baz=224						
HEF				MSG		17 01 42.1	
	comp=Z,8.9nm,0.2s						
HEF				SN	**Sb**	**17 01 45.0**	**-0.1**
KIF	**Kilpisjarvi**	**1.94**	**359**	PG	**Pb**	**17 01 27.0**	**-0.3**
KIF				MSG		17 01 50.4	
	comp=Z,18nm,0.2s						
KIF				SG	**Sg**	**17 01 53.8**	**+0.4**
RNF	**Rovaniemi**	**2.06**	**101**	PG	**Pn**	**17 01 27.8**	**+0.6**
RNF				SG	**Sb**	**17 01 56.5**	**+0.8**
KTK1	**Kautokeino**	**2.13**	**23**	*e*P	**Pb**	**17 01 29.5**	**-1.2**
KTK1	**Kautokeino**	**2.13**	**23**	PG	**Pb**	**17 01 29.5**	**-1.2**
KTK1				SG	**Sg**	**17 01 58.8**	**-0.8**
I37NO	**I37NO**	**2.19**	**338**	I	I	17 14 40.0	
	baz=155,slow=317,SNR=6.8						
SGF	**Sodankyl**	**2.20**	**78**	PG	**Pn**	**17 01 30.3**	**+1.2**
SGF				SG	**Sg**	**17 02 00.9**	**-1.1**
BURU	**Burvik**	**2.51**	**176**	PN	**Pn**	**17 01 34.2**	**+0.9**
BURU				SG	**Sb**	**17 02 09.3**	**+0.7**
RANF	**Ranua**	**2.58**	**112**	PN	**Pn**	**17 01 34.9**	**+0.7**
RANF				SG	**Sb**	**17 02 10.8**	**+0.3**
TRO	**Tromso**	**2.67**	**345**	PG	**Pb**	**17 01 39.7**	**-0.2**
	baz=159						
TRO				SG	**Sg**	**17 02 16.2**	**-0.8**
OBF4	**Vikkela, Lumij**	**2.84**	**141**	PN	**Pn**	**17 01 38.5**	**+0.6**
OBF4				MSG		17 02 15.8	
	comp=Z,2.4nm,0.2s						
OUL	**Oulu**	**2.85**	**132**	PN	**Pn**	**17 01 38.8**	**+0.9**
	baz=317						
OUL				SG	**Sb**	**17 02 18.7**	**+0.5**
OBF0	**Syolatti, Pyha**	**2.93**	**151**	PN	**Pn**	**17 01 40.2**	**+1.2**
OBF0				SB	**Sn**	**17 02 17.0**	**+2.1**
OBF0				MSG		17 02 18.4	
	comp=Z,2.7nm,0.2s						
ARCES	**ARCESS Array B**	**3.00**	**32**	Pn	**Pn**	**17 01 40.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=212,slow=14,SNR=60						
ARCES				Sn	**Sn**	**17 02 18.5**	**+1.9**
	comp=Z,0.5nm,0.3s,baz=212,slow=23,SNR=8.3						
	comp=Z,1.0nm,0.2s						
KMNF	**Kaamanen**	**3.08**	**45**	PN	**Pn**	**17 01 41.5**	**+0.4**
RAJF	**Raja-Jooseppi**	**3.13**	**60**	PN	**Pn**	**17 01 42.7**	**+0.8**
OUF	**Merijarvi**	**3.14**	**148**	PN	**Pn**	**17 01 42.9**	**+0.9**
UMAU	**Umeaa**	**3.21**	**182**	PN	**Pn**	**17 01 43.6**	**+0.7**
	baz=1.0						
UMAU				SN	**Sn**	**17 02 22.1**	**+0.3**
VRF	**Varrio**	**3.42**	**75**	PN	**Pn**	**17 01 47.1**	**+1.3**
VRF				SG	**Sb**	**17 02 36.8**	**+2.1**
OLKF	**Oulanka, Finla**	**3.45**	**99**	PN	**Pn**	**17 01 47.2**	**+1.0**
MSF	**Maaselka**	**3.45**	**106**	PN	**Pn**	**17 01 46.9**	**+0.6**
KEV	**Kevo**	**3.50**	**37**	PN	**Pn**	**17 01 47.4**	**+0.5**
KEV				SB	**Sb**	**17 02 36.8**	**-0.3**
KU6	**Riekki**	**3.73**	**102**	PN	**Pn**	**17 01 50.7**	**+0.6**
HUSU	**Husum**	**3.82**	**192**	PN	**Pn**	**17 01 52.1**	**+0.8**
HUSU				SN	**Sn**	**17 02 36.7**	**-0.1**
VAF	**Ylistaro**	**4.12**	**169**	PN	**Pn**	**17 01 56.4**	**+1.0**
VAF				SN	**Sn**	**17 02 44.2**	**0.0**
HEMU	**Hemsoen**	**4.59**	**197**	PN	**Pn**	**17 02 02.8**	**+1.0**
	baz=10.0						
NIF	**Nilsia**	**4.70**	**139**	PN	**Pn**	**17 02 04.3**	**+1.0**
NIF				SN	**Sn**	**17 02 58.6**	**+0.2**
RMF	**Romuvaara**	**4.70**	**123**	PN	**Pn**	**17 02 05.3**	**+1.9**
	baz=310						
FINES	**FINESS Array B**	**6.08**	**156**	Pn	**Pn**	**17 02 23.6**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=343,slow=11,SNR=6.4						
FINES				Sn	**Sn**	**17 03 31.5**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=337,slow=20,SNR=4.0						
FINES				Lg	Lg	17 03 60.0	
	comp=Z,0.2nm,0.3s,baz=335,slow=29,SNR=3.4						
	comp=Z,0.3nm,0.3s						
HFS	**Hagfors**	**7.68**	**208**	Pn	**Pn**	**17 02 43.8**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=30,slow=15,SNR=1.8						
HFS				Sn	**Sn**	**17 04 07.8**	**-3.9**
	baz=27,slow=26,SNR=1.5						
HFS				Lg	Lg	17 04 44.8	
	comp=Z,0.1nm,0.3s,baz=41,slow=27,SNR=1.9						
	comp=Z,1.2nm,0.8s						

*NEIC **09** 17:01:02.6±1.4, 19°.44N±0°.01×154°.94W±0°.03, h5km±2km, Error ellipse: s-maj=5.5km s-min=3.0km az=287.0*
HVO 09 17:01:01.9±1.4, 19°.43N±0°.02×154°.89W±0°.03, h5km±7km, ML2.7/9, ML2.8/30(NEIC), Error ellipse: s-maj=4.7km s-min=2.0km az=104.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**5**		Pg	17 01 03.6	+0.5
JCUZ	**Jacuzzi**	**0.20**	**256**	Pg	Pg	17 01 05.5	-0.4
NPOC	**North of Pu'u**	**0.21**	**259**	Pg	Pg	17 01 05.1	-0.9
STCH	**Steam Cracks**	**0.22**	**258**	Pg	Pg	17 01 06.3	0.0
STCH					Sg	17 01 10.9	+1.7
PUH	**Pauahi**	**0.31**	**259**		Pg	17 01 08.2	+0.2
PUH				IAML		17 01 18.3	
	comp=N,1μm,1.1s						
HATHI	**Halema'uma'u T**	**0.35**	**268**	Pg	Pg	17 01 08.7	0.0
RSD	**Rainshed**	**0.36**	**275**		Pg	17 01 08.7	-0.3
RSD				IAML		17 01 15.8	
	comp=N,2μm,0.3s						
HLP	**Hilina Pali**	**0.41**	**251**		Pg	17 01 09.9	0.0
HLP				IAML		17 01 16.3	
	comp=E,1μm,1.5s						
HLP				IAML		17 01 19.4	
	comp=N,1μm,0.9s						
MLH	**Mauna Loa**	**0.47**	**278**	Pg	Pg	17 01 10.9	-0.1
MLH				IAML		17 01 18.7	
	comp=E,782nm,1.0s						
MLH				IAML		17 01 21.2	
	comp=N,887nm,0.8s						
HTC	**Hot Caves**	**0.51**	**248**		Pg	17 01 11.5	-0.3
HMH	**Humu'ula Sheep**	**0.58**	**287**		Pg	17 01 12.6	-0.5
MLOA	**Mauna Loa Obse**	**0.65**	**279**		Sg	17 01 23.2	+0.6
MLOA	**Mauna Loa Obse**	**0.65**	**279**	Pg	Pg	17 01 13.6	-0.8
MLOA	**Mauna Loa Obse**	**0.65**	**279**	IAML		17 01 24.9	
	comp=N,363nm,0.2s						
MLOA				IAML		17 01 25.2	
	comp=E,475nm,0.8s						
MWH	**Moku'aweowe**	**0.67**	**275**		Pg	17 01 12.8	-1.9
MWH				IAML		17 01 32.0	
	comp=E,830nm,1.1s						
MWH				IAML		17 01 34.3	
	comp=N,842nm,0.7s						
POHA	**Pohakuloa**	**0.68**	**298**	Pg	Pg	17 01 13.5	-1.6
POHA				IAML		17 01 38.1	
	comp=N,452nm,0.8s						
POHA				IAML		17 01 38.7	
	comp=N,480nm,0.7s						
KHU	**Kahuku**	**0.70**	**255**		Sg	17 01 24.8	+0.1
KHU	**Kahuku**	**0.70**	**255**	Pg	Pg	17 01 14.1	-1.4
KHU	**Kahuku**	**0.70**	**255**	IAML		17 01 27.4	
	comp=E,376nm,2.0s						
KHU				IAML		17 01 29.0	
	comp=N,372nm,3.5s						
ALEP	**Alea Permanent**	**0.71**	**279**		Pg	17 01 14.8	-0.9
ALEP					Sg	17 01 25.2	+0.2
HUH	**Hualalai**	**0.92**	**286**	Pg	Pg	17 01 17.8	-1.8
HPAH	**Hawaii Prepara**	**0.96**	**308**	Pg	Pg	17 01 20.7	+0.3
HPAH				IAML		17 01 43.0	
	comp=N,236nm,1.8s						
HPAH				IAML		17 01 44.0	
	comp=E,189nm,0.5s						
MHA	**Mahukona**	**1.21**	**309**	Pg	Pg	17 01 23.4	-1.8

*AEIC **09** 17:02:39.9±1.5, 55°.22N±0°.05×157°.81W±0°.05, h18km±6km, ML3.1, mb3.6/6(NEIC), ML3.4/30(NEIC), Error ellipse: s-maj=7.1km s-min=3.3km az=199.0*
*NEIC **09** 17:02:40.2±1.3, 55°.22N±0°.05×157°.83W±0°.04, h22km±8km, Error ellipse: s-maj=6.8km s-min=3.6km az=178.0*
ISC 09 17:02:39.4±2.7, 55°.17N±0°.07×157°.83W±0°.04, h20km±11km, n113, σ0ᵍ74/118, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**1.18**	**344**		**Pn**	**17 03 00.3**	**-0.4**
CHGN				IAML		17 03 20.1	
	comp=E,1μm,0.3s						
CHGN	**Chignik**	**1.18**	**344**		**Sn**	**17 03 15.8**	**-0.4**
CHGN	**Chignik**	**1.18**	**344**	P	**Pn**	**17 03 00.4**	**-0.4**
	baz=162						
CHGN				S	**Sn**	**17 03 15.8**	**-0.4**
	baz=162						
VNSG	**Veniaminof 6**	**1.19**	**324**		**Pn**	**17 03 00.7**	**-0.3**
VNSG					**Sn**	**17 03 16.5**	**-0.2**
VNHG	**Veniaminof 1**	**1.30**	**325**		**Pn**	**17 03 02.6**	**+0.2**
VNWF	**Veniaminof 8**	**1.39**	**316**		**Pn**	**17 03 04.1**	**+0.4**
VNSS	**Veniaminof 8**	**1.40**	**320**		**Pn**	**17 03 04.5**	**+0.5**
CHIR	**Chirikof Islan**	**1.42**	**62**		**Pn**	**17 03 04.2**	**+0.2**
CHIR					**Sn**	**17 03 22.1**	**+0.1**
CHIR	**Chirikof Islan**	**1.42**	**62**	P	**Pn**	**17 03 04.2**	**+0.2**
	baz=245						
CHIR				S	**Sn**	**17 03 22.1**	**+0.1**
	baz=245						
S14K	**Fog Glacier**	**1.48**	**320**	P	**Pb**	**17 03 06.0**	**-0.3**
	baz=136						
S14K				S	**Sb**	**17 03 25.6**	**+0.9**
	baz=136						
VNFG	**Fog Glacier, M**	**1.48**	**320**		**Pb**	**17 03 06.0**	**-0.3**
VNFG					**Sb**	**17 03 25.6**	**+0.9**
SDPT	**Sand Point**	**1.53**	**278**		**Pn**	**17 03 05.3**	**-0.2**
SDPT					**Sn**	**17 03 25.3**	**+0.6**
SDPT	**Sand Point**	**1.53**	**278**	IAML		17 03 31.6	
	comp=N,390nm,0.6s						
SDPT				IAML		17 03 38.5	
	comp=E,449nm,0.9s						
SDPT	**Sand Point**	**1.53**	**278**	P	**Pn**	**17 03 05.3**	**-0.2**
	baz=93						
SDPT				S	**Sn**	**17 03 25.3**	**+0.6**
	baz=93						
ANNE	**Aniakchak Nort**	**1.75**	**356**		**Pn**	**17 03 09.2**	**+0.5**
PS1A	**Pavlof South-1**	**2.25**	**278**		**Pn**	**17 03 15.5**	**+0.1**
PS1A					**Sb**	**17 03 45.9**	**-0.8**
PVV	**Pavlof Volcano**	**2.28**	**277**		**Pn**	**17 03 16.7**	**+0.9**
PVV					**Sb**	**17 03 46.5**	**-0.9**
R16K	**Pilot Point**	**2.41**	**3**		**Pn**	**17 03 18.2**	**+0.6**
R16K	**Pilot Point**	**2.41**	**3**	IAML		17 04 02.4	
	comp=N,215nm,1.2s						
R16K				IAML		17 04 05.7	
	comp=E,222nm,2.7s						
R16K	**Pilot Point**	**2.41**	**3**	P	**Pn**	**17 03 18.2**	**+0.6**
	baz=183						
S12K	**Black Hills**	**2.47**	**284**		**Pn**	**17 03 18.7**	**+0.2**
S12K	**Black Hills**	**2.47**	**284**	P	**Pn**	**17 03 18.7**	**+0.2**
	baz=99						
SII	**Sitkinak Islan**	**2.48**	**54**		**Pn**	**17 03 19.2**	**+0.6**
SII	**Sitkinak Islan**	**2.48**	**54**	IAML		17 04 08.0	
	comp=E,206nm,0.8s						
SII	**Sitkinak Islan**	**2.48**	**54**	P	**Pn**	**17 03 19.2**	**+0.6**
	baz=238						
PLK1	**Peulik 1**	**2.72**	**14**		**Pn**	**17 03 22.6**	**+0.7**
OHAK	**Old Harbor**	**3.27**	**49**		**Pn**	**17 03 29.9**	**+0.5**
OHAK	**Old Harbor**	**3.27**	**49**	P	**Pn**	**17 03 29.9**	**+0.5**
	baz=234						
Q17K	**Contact Creek**	**3.28**	**18**	P	**Pn**	**17 03 30.2**	**+0.5**
	baz=200						
CNTC	**Contact Creek**	**3.28**	**18**		**Pn**	**17 03 30.2**	**+0.5**
ANCK	**Angle Creek**	**3.30**	**22**		**Pn**	**17 03 30.9**	**+0.9**
ACHA	**Angle Creek He**	**3.35**	**23**		**Pn**	**17 03 31.5**	**+0.9**
ISLZ	**Isanotski Laza**	**3.42**	**265**		**Pn**	**17 03 31.9**	**+0.3**
ISNN	**Isanotski Nort**	**3.44**	**267**		**Pn**	**17 03 32.7**	**+0.8**
KAHC	**Katmai Hardscr**	**3.81**	**23**		**Pn**	**17 03 37.7**	**+0.7**
KAHC	**Katmai Hardscr**	**3.81**	**23**	P	**Pn**	**17 03 37.7**	**+0.7**
	baz=205						
P16K	**Nushagak River**	**3.87**	**359**		**Pn**	**17 03 38.6**	**+0.8**
P16K	**Nushagak River**	**3.87**	**359**	P	**Pn**	**17 03 38.6**	**+0.8**
	baz=178						
KDAK	**Kodiak Island**	**3.91**	**46**	Pn	**Pn**	**17 03 38.5**	**+0.2**
KDAK				IAML		17 04 22.9	
	comp=E,41nm,3.3s						
KDAK				IAML		17 06 04.5	
	comp=E,42nm,3.0s						
WECS	**Westdahl Cape**	**4.07**	**264**		**Pn**	**17 03 41.3**	**+0.9**
P17K	**Kvichak River**	**4.11**	**10**		**Pn**	**17 03 41.9**	**+1.0**
P17K	**Kvichak River**	**4.11**	**10**	P	**Pn**	**17 03 41.9**	**+1.0**
	baz=191						
O15K	**Ungalikthiuk R**	**4.16**	**346**	P	**Pn**	**17 03 42.0**	**+0.3**
	baz=164						
O16K	**Kokwok River B**	**4.44**	**358**		**Pn**	**17 03 45.8**	**+0.3**
O16K	**Kokwok River B**	**4.44**	**358**	P	**Pn**	**17 03 45.8**	**+0.3**
	baz=178						
O14K	**Tigyukauivet M**	**4.50**	**337**		**Pn**	**17 03 47.0**	**+0.6**
O14K	**Tigyukauivet M**	**4.50**	**337**	IAML		17 06 09.9	
	comp=N,37nm,2.9s						
O14K	**Tigyukauivet M**	**4.50**	**337**	P	**Pn**	**17 03 47.0**	**+0.6**
	baz=154						
Q20K	**Shuyak Island**	**4.56**	**39**	P	**Pn**	**17 03 47.5**	**+0.4**
	baz=224						
SYI	**Shuyak Island**	**4.56**	**39**		**Pn**	**17 03 47.5**	**+0.4**
SYI	**Shuyak Island**	**4.56**	**39**	IAML		17 05 05.4	
	comp=N,44nm,3.0s						
SYI				IAML		17 05 21.1	
	comp=E,41nm,2.1s						
O17K	**Koliganek Bris**	**4.63**	**5**		**Pn**	**17 03 48.6**	**+0.5**
O17K	**Koliganek Bris**	**4.63**	**5**	P	**Pn**	**17 03 48.6**	**+0.5**
	baz=185						
O18K	**Koktuh Hills**	**4.91**	**16**		**Pn**	**17 03 52.4**	**+0.5**
O18K	**Koktuh Hills**	**4.91**	**16**	IAML		17 05 23.3	
	comp=E,21nm,2.3s						
O18K				IAML		17 06 26.2	
	comp=N,23nm,2.5s						
O18K	**Koktuh Hills**	**4.91**	**16**	P	**Pn**	**17 03 52.4**	**+0.5**
	baz=198						
N15K	**Kwethluk River**	**5.16**	**347**		**Pn**	**17 03 54.8**	**-0.6**
N15K				IAML		17 06 16.1	
	comp=N,26nm,2.8s						
N14K	**Kuskokwak Cree**	**5.20**	**338**		**Pn**	**17 03 56.8**	**+0.9**
N14K	**Kuskokwak Cree**	**5.20**	**338**	P	**Pn**	**17 03 56.8**	**+0.9**
	baz=154						
MSW	**Makushin Switc**	**5.36**	**260**		**Pn**	**17 03 58.2**	**0.0**
N17K	**Nushagak Hills**	**5.38**	**3**	Pn	**Pn**	**17 03 55.5**	**-3.0**
N17K				IAML		17 05 21.2	
	comp=E,16nm,3.7s						
N17K				IAML		17 05 33.7	
	comp=N,18nm,3.0s						
N18K	**Kilae Creek**	**5.62**	**10**		**Pn**	**17 04 02.0**	**+0.3**
CNPM	**China Poot**	**5.64**	**37**		**Pn**	**17 04 00.3**	**-1.7**
N19K	**Bonanza Creek**	**5.93**	**16**	Pn	**Pn**	**17 04 04.9**	**-1.2**
BRLK	**Bradley Lake**	**5.94**	**36**	Pn	**Pn**	**17 04 05.2**	**-0.9**
RSO	**Redoubt South**	**5.96**	**25**	Pn	**Pn**	**17 04 06.1**	**-0.4**
BRSE	**Bradley Lake S**	**5.97**	**37**		**Pn**	**17 04 06.1**	**-0.4**
BRSE	**Bradley Lake S**	**5.97**	**37**	P	**Pn**	**17 04 06.1**	**-0.4**
	baz=223						
M14K	**Bethel**	**6.01**	**340**		**Pn**	**17 04 07.5**	**+0.4**
M13K	**Dall Lake**	**6.03**	**333**	Pn	**Pn**	**17 04 08.4**	**+1.1**
L16K	**Owhat River**	**6.62**	**353**		**Pn**	**17 04 16.2**	**+0.8**
L14K	**Kuka Creek**	**6.70**	**340**	P	**Pn**	**17 04 16.9**	**+0.4**
	baz=155						
SLKM	**Skilak Lake**	**6.71**	**34**		**Pn**	**17 04 16.5**	**-0.3**
M19K	**Big River Lodg**	**6.99**	**13**		**Pn**	**17 04 19.7**	**-0.8**
M20K	**Styx River**	**7.17**	**18**	Pn	**Pn**	**17 04 24.4**	**+1.5**
SUA	**Susitna One**	**7.33**	**28**	Pn	**Pn**

CMAR	**Chiang Mai Arr**	**36.90**	**318**	P		P		17 20 49.7	+0.1
	0.4nm,0.3s,baz=123,slow=6.6,SNR=2.8								
	0.4nm,0.3s								
MKAR	**Makanchi Array**	**66.84**	**330**	P		P		17 24 31.6	-0.3
	0.2nm,0.5s,baz=134,slow=5.2,SNR=4.0								
	0.2nm,0.5s								

*NEIC **09** 17:21:17.8±0.8,36°.53N±0°.03×98°.96W±0°.05,h14km±8km, Error ellipse: s-maj=6.0km s-min=3.6km az=104.0*

TUL 09 17:21:18.3±0.9,36°.54N±0°.03×98°.96W±0°.04,h6km±6km, ML2.7,mb_Lg2.4/33(NEIC),ML3.0/26(NEIC),Error ellipse: s-maj=4.9km s-min=2.7km az=121.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK038	**West end E0370**	**0.19**	**108**	Pg	Pg	17 21 22.0	0.0
OK038				IAML		17 21 25.9	
	4μm,0.2s						
OK038				IAML		17 21 27.9	
	4μm,0.3s						
OK035	**E0210 Rd and N**	**0.27**	**50**	Pg	Pg	17 21 23.4	-0.1
ELIS	**Ellis County**	**0.60**	**218**	Pg	Pg	17 21 29.3	-0.5
OK032	**Salt Plains WL**	**0.66**	**66**		Pg	17 21 30.2	-0.8
OK032				IAML		17 21 43.1	
	804nm,0.2s						
OK032				IAML		17 21 43.2	
	735nm,0.1s						
CROK	**Carrier**	**0.79**	**92**		Pg	17 21 33.1	-0.4
CROK				IAML		17 21 51.1	
	comp=N,483nm,0.2s						
KAN14	**Manchester OK**	**0.91**	**62**		Pg	17 21 35.1	-0.6
KAN14				IAML		17 21 55.2	
	comp=N,407nm,0.1s						
CSTR	**Hydro, Custer**	**0.92**	**166**		Pg	17 21 35.2	-0.7
GC02	**Grant County #**	**0.94**	**70**		Pg	17 21 35.7	-0.7
KAN08	**Anthony NE Sta**	**1.05**	**49**	Pg	Pg	17 21 37.5	-1.0
KAN12	**Harper NE Stat**	**1.08**	**45**		Pg	17 21 37.6	-1.5
KAN12				IAML		17 22 03.6	
	comp=N,489nm,0.3s						
KAN17	**Caldwell West**	**1.09**	**62**		Pg	17 21 38.3	-0.8
KAN17				IAML		17 21 55.9	
	comp=E,390nm,0.3s						
KAN17				IAML		17 21 56.1	
	comp=N,340nm,0.3s						
KAN01	**Argonia South**	**1.15**	**57**		Pg	17 21 39.0	-1.3
KAN01				IAML		17 21 55.9	
	comp=N,314nm,0.2s						
KAN01				IAML		17 22 00.3	
	comp=E,312nm,0.2s						
KAN09	**Caldwell North**	**1.23**	**61**		Pg	17 21 41.0	-1.0
KAN13	**South Haven SW**	**1.28**	**68**		Pn	17 21 41.3	-1.4
KAN13				IAML		17 22 06.4	
	comp=E,415nm,0.2s						
BLOK	**Blackwell**	**1.42**	**80**		Pn	17 21 44.2	-0.5
OK029	**Liberty Lake**	**1.43**	**121**		Pn	17 21 43.6	-1.1
OK048	**Pawnee Station**	**1.63**	**94**		Pn	17 21 47.5	0.0
SMWD	**Samnorwood**	**1.77**	**216**		Pn	17 21 49.7	+0.3
WMOK	**Wichita Mounta**	**1.80**	**175**		Pn	17 21 49.6	-0.3
R32A	**Long Quarter,**	**1.89**	**6**		Pn	17 21 51.1	-0.1
T35A	**Sooner Cattle**	**2.00**	**78**		Pn	17 21 52.9	+0.2
DEOK	**Depew**	**2.11**	**108**		Pn	17 21 54.0	-0.1
W35A	**Tecumseh**	**2.19**	**129**		Pn	17 21 55.0	-0.1
CBKS	**Cedar Bluff**	**2.36**	**345**	IAmb_Lg		17 22 39.1	
	comp=Z,19nm,0.8s						
TUL3	**Leonard**	**2.64**	**103**	IAmb_Lg		17 22 45.9	
	comp=Z,13nm,0.9s						
LOOK	**Love County**	**2.93**	**150**	IAmb_Lg		17 22 50.6	
	comp=Z,15nm,1.2s						
RTBA	**Rita Blanca**	**3.04**	**269**	Pn	Pn	17 22 06.8	-0.3
KSU1	**Kansas State U**	**3.17**	**35**	IAmb_Lg		17 23 06.9	
	comp=Z,12nm,0.8s						
RLO	**Rose Lookout**	**3.20**	**95**	Pg	Pb	17 22 16.9	+1.3
APMT	**Aspermont**	**3.34**	**197**	Pn	Pn	17 22 11.9	+0.9
U38A	**Gravette**	**3.69**	**90**	Pg	Pb	17 22 24.0	+0.2
U38A				IAmb_Lg		17 23 21.9	
	comp=Z,11nm,0.7s						
PLPT	**Palo Pinto**	**3.75**	**172**	IAmb_Lg		17 23 21.6	
	comp=Z,7.8nm,0.8s						
SN07	**Snyder 07**	**3.79**	**205**		Pn	17 22 16.9	-0.3
SN07				IAmb_Lg		17 23 25.9	
	comp=Z,7.7nm,0.7s						
KSCO	**Kaye Shedlock'**	**3.81**	**311**	IAmb_Lg		17 23 16.4	
	comp=Z,8.6nm,0.8s						
SN05	**Snyder 5**	**3.98**	**204**	IAmb_Lg		17 23 29.4	
	comp=Z,9.3nm,0.7s						
T25A	**Trinidad**	**4.41**	**279**		Pn	17 22 26.6	+0.6
T25A				IAmb_Lg		17 23 42.8	
	comp=Z,8.6nm,0.8s						
S39A	**Bolivar**	**4.65**	**74**	IAmb_Lg		17 23 43.4	
	comp=Z,9.7nm,0.7s						
P38A	**Dawn**	**5.28**	**53**	IAmb_Lg		17 24 02.9	
	comp=Z,7.7nm,0.9s						
Q24A	**Divide**	**5.47**	**298**	IAmb_Lg		17 24 26.2	
	comp=Z,5.3nm,0.7s						
R40A	**Maddies Statio**	**5.61**	**70**	IAmb_Lg		17 24 15.6	
	comp=Z,6.7nm,0.8s						
MNHN	**Monahans**	**6.07**	**212**	IAmb_Lg		17 24 34.5	
	comp=Z,5.1nm,0.9s						
T42A	**Van Buren**	**6.33**	**83**	IAmb_Lg		17 24 47.0	
	comp=Z,4.7nm,0.8s						
PHWY	**Pilot Hill**	**6.95**	**315**	IAmb_Lg		17 24 59.1	
	comp=Z,6.2nm,0.8s						

*TEH **09** 17:21:40.3,34°.44N×45°.51E,h11km±37km,ML2.5*
*ISN **09** 17:21:41.0±0.8,34°.45N×45°.50E,h23km±5km,ML2.4*

ISC 09 17:21:40.6±1.3,34°.46N±0°.07×45°.52E±0°.07,h12km±9km, n11,σ0s87/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.07**	**51**	Pg	**Pg**	**17 21 43.5**	**+0.4**
GLG1	**Gilan-e-Gharb**	**0.47**	**137**	Pg	**Pg**	**17 21 50.2**	**+0.3**
IDHR	**Dehrash**	**0.75**	**71**	Pg	**Pb**	**17 21 55.2**	**-0.6**
IDHR				Sg	**Sn**	**17 22 07.6**	**-1.2**
IGHG	**Ghaleghazi**	**0.88**	**98**	Pg	**Pb**	**17 21 56.5**	**-1.5**
IGHG				Sg	**Sn**	**17 22 12.2**	**+0.3**
ILIN	**Lien**	**1.27**	**69**	Pg	**Pg**	**17 22 05.4**	**+0.3**
IBDR	**Badra**	**1.39**	**166**	*e*Pg	**Pb**	**17 22 06.5**	**0.0**
IBDR				*e*Sg	**Sb**	**17 22 24.0**	**-0.2**
IBDR				AML	AML	17 22 34.4	
	comp=N,69nm,0.6s						
IBDR				AML	AML	17 22 36.5	
	comp=E,73nm,0.5s						
BHD	**Baghdad**	**1.52**	**219**	*e*Pn	**Pb**	**17 22 08.0**	**-0.8**
BHD				*e*Sn	**Sg**	**17 22 28.6**	**-0.9**
SNQR	**Sonqor, Kerman**	**1.78**	**77**	Pg	**Pb**	**17 22 14.1**	**+0.7**
IBZA	**Bozab**	**1.93**	**89**	Pn	**Pb**	**17 22 15.7**	**-0.3**
IKFM	**Kafar-mosalman**	**2.15**	**115**	Pn	**Pb**	**17 22 18.4**	**-1.0**
RAFI	**Al-Rafai**	**2.77**	**170**	*e*Pn	**Pn**	**17 22 26.0**	**+1.1**
RAFI				*e*Sn	**Sn**	**17 22 59.0**	**+0.7**

*NEIC **09** 17:25:14.5±1.0,36°.55N±0°.01×98°.99W±0°.05,h15km±8km, Error ellipse: s-maj=6.2km s-min=1.5km az=105.0*

TUL 09 17:25:15.5±1.9,36°.54N±0°.02×98°.96W±0°.04,h6km±6km, ML3.0,mb_Lg2.7/57(NEIC),ML3.0/14(NEIC),Error ellipse: s-maj=5.3km s-min=2.6km az=119.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK035	**E0210 Rd and N**	**0.27**	**50**	Pg	Pg	17 25 20.6	-0.1
ELIS	**Ellis County**	**0.60**	**218**	Pg	Pg	17 25 26.7	-0.2
ELIS				IAML		17 25 37.5	
	comp=N,693nm,0.2s						
ELIS				IAML		17 25 43.7	
	comp=E,856nm,0.5s						
OK032	**Salt Plains WL**	**0.66**	**66**	Pg	Pg	17 25 27.2	-1.0
OK032				IAML		17 25 44.8	
	comp=E,728nm,0.2s						
OK032				IAML		17 25 52.1	
	comp=E,666nm,0.2s						
CROK	**Carrier**	**0.79**	**92**	Pg	Pg	17 25 30.0	-0.7
CROK				IAML		17 25 47.6	
	comp=N,523nm,0.3s						
KAN14	**Manchester OK**	**0.91**	**62**		Pg	17 25 31.9	-1.0
CSTR	**Hydro, Custer**	**0.92**	**166**		Pg	17 25 32.6	-0.5
GC02	**Grant County #**	**0.94**	**70**	Pg	Pg	17 25 32.4	-1.2
KAN08	**Anthony NE Sta**	**1.05**	**49**	Pg	Pg	17 25 35.1	-0.6
KAN17	**Caldwell West**	**1.09**	**62**		Pg	17 25 35.9	-0.5
KAN09	**Caldwell North**	**1.23**	**61**		Pg	17 25 37.6	-1.6
KAN13	**South Haven SW**	**1.28**	**68**		Pn	17 25 39.0	-1.1
BLOK	**Blackwell**	**1.42**	**80**		Pn	17 25 41.5	-0.5
OK029	**Liberty Lake**	**1.43**	**121**		Pn	17 25 41.4	-0.6
OK048	**Pawnee Station**	**1.63**	**94**		Pn	17 25 44.9	0.0
OK051	**E0350 and S346**	**1.71**	**90**		Pn	17 25 45.9	0.0
SMWD	**Samnorwood**	**1.77**	**216**	Pn	Pn	17 25 46.7	0.0
FNO	**Franklin**	**1.80**	**135**	Pn	Pn	17 25 46.8	-0.3
WMOK	**Wichita Mounta**	**1.80**	**175**	Pn	Pn	17 25 47.5	+0.3
OK031	**S. Brethren Rd**	**1.81**	**108**		Pn	17 25 47.3	0.0
OK052	**Battle Ridge R**	**1.83**	**107**		Pn	17 25 46.9	-0.6
QUOK	**Quay**	**1.86**	**101**	Pn	Pn	17 25 47.4	-0.5
R32A	**Long Quarter,**	**1.90**	**6**		Pn	17 25 48.2	-0.3
T35A	**Sooner Cattle**	**2.01**	**78**	Pn	Pn	17 25 50.1	+0.1
T35A				IAmb_Lg		17 26 21.4	
	comp=Z,28nm,0.7s						
DEOK	**Depew**	**2.11**	**108**		Pn	17 25 51.2	-0.2
CBKS	**Cedar Bluff**	**2.36**	**345**	IAmb_Lg		17 26 33.3	
	comp=Z,39nm,0.9s						
TUL3	**Leonard**	**2.64**	**103**	Pn	Pn	17 25 58.1	-0.6
TUL3				IAmb_Lg		17 26 43.7	
	comp=Z,25nm,1.0s						
LOOK	**Love County**	**2.93**	**150**	Pn	Pn	17 26 01.8	-0.8
LOOK				IAmb_Lg		17 26 47.9	
	comp=Z,26nm,1.1s						
RTBA	**Rita Blanca**	**3.04**	**269**	Pn	Pn	17 26 03.4	-0.9
KSU1	**Kansas State U**	**3.17**	**35**	IAmb_Lg		17 26 58.4	
	comp=Z,18nm,0.7s						
RLO	**Rose Lookout**	**3.20**	**95**	Pn	Pn	17 26 06.0	-0.4
DKNS	**Dickens**	**3.28**	**210**	Pn	Pn	17 26 06.9	-0.7
APMT	**Aspermont**	**3.34**	**197**		Pn	17 26 07.8	-0.5
X37A	**Clayton**	**3.51**	**122**		Pn	17 26 09.9	-0.8
X37A				IAmb_Lg		17 27 16.1	
	comp=Z,26nm,0.7s						
FW03	**Perrin-Whitt E**	**3.56**	**168**	IAmb_Lg		17 27 06.2	
	comp=Z,15nm,0.9s						
U38A	**Gravette**	**3.69**	**90**		Pn	17 26 13.5	+0.4
U38A				IAmb_Lg		17 27 19.2	
	comp=Z,16nm,0.7s						
SN07	**Snyder 07**	**3.78**	**205**		Pn	17 26 14.0	-0.5
SN07				IAmb_Lg		17 27 19.2	
	comp=Z,17nm,0.7s						
KSCO	**Kaye Shedlock'**	**3.81**	**312**	IAmb_Lg		17 27 26.3	
	comp=Z,29nm,0.8s						
ABTX	**Abilene, Hawle**	**3.94**	**188**		Pn	17 26 15.6	-1.0
SN05	**Snyder 5**	**3.98**	**204**		Pn	17 26 15.7	-1.4
SN05				IAmb_Lg		17 27 24.6	
	comp=Z,21nm,1.0s						
POST	**Post**	**4.04**	**212**		Pn	17 26 16.6	-1.4
POST				IAmb_Lg		17 27 32.0	
	comp=Z,12nm,0.8s						
HHAR	**Hobbs**	**4.06**	**92**	IAmb_Lg		17 27 28.2	
	comp=Z,18nm,0.9s						
T25A	**Trinidad**	**4.41**	**279**		Pn	17 26 22.2	-1.0
T25A				IAmb_Lg		17 27 40.1	
	comp=Z,13nm,0.7s						
S39A	**Bolivar**	**4.65**	**74**	IAmb_Lg		17 27 44.1	
	comp=Z,26nm,0.9s						
WHTX	**Lake Whitney,**	**4.70**	**164**	IAmb_Lg		17 27 53.7	
	comp=Z,10.0nm,0.9s						
MIAR	**Mount Ida**	**4.82**	**113**	Pn	Pn	17 26 27.6	-1.1
MIAR				IAmb_Lg		17 27 59.3	
	comp=Z,15nm,1.1s						
BRDY	**Brady**	**5.24**	**180**		Pn	17 26 33.2	-1.1
P38A	**Dawn**	**5.28**	**53**	IAmb_Lg		17 28 14.2	
	comp=Z,12nm,0.8s						
SDCO	**Great Sand Dun**	**5.36**	**285**		Pn	17 26 35.7	-0.7
MGMO	**Mountain Grove**	**5.41**	**81**	IAmb_Lg		17 28 06.9	
	comp=Z,15nm,0.9s						
Q24A	**Divide**	**5.47**	**298**	IAmb_Lg		17 28 23.8	
	comp=Z,10nm,0.7s						
WHAR	**Wooly Hollow**	**5.56**	**101**		Pn	17 26 37.6	-1.2
R40A	**Maddies Statio**	**5.61**	**70**	IAmb_Lg		17 28 15.5	
	comp=Z,18nm,1.1s						
435B	**Jarrell**	**5.85**	**168**	IAmb_Lg		17 28 35.7	
	comp=Z,12nm,0.8s						
OZNA	**Ozona**	**5.88**	**198**	IAmb_Lg		17 28 29.8	
	comp=Z,6.5nm,0.8s						
MNHN	**Monahans**	**6.07**	**212**	IAmb_Lg		17 28 40.8	
	comp=Z,6.1nm,0.8s						
JCT	**Junction City**	**6.08**	**187**	IAmb_Lg		17 28 39.0	
	comp=Z,9.3nm,0.8s						
ISCO	**Idaho Springs**	**6.17**	**304**	IAmb_Lg		17 28 37.5	
	comp=Z,9.6nm,1.1s						
T42A	**Van Buren**	**6.34**	**83**	Pn	Pn	17 26 47.0	-2.4
CCM	**Cathedral Cave**	**6.34**	**74**	Pn	Pn	17 26 48.3	-1.2
CCM				IAmb_Lg		17 28 42.2	
	comp=Z,18nm,0.7s						
PHWY	**Pilot Hill**	**6.95**	**315**	IAmb_Lg		17 29 01.3	
	comp=Z,8.6nm,0.7s						

IDC 09 17:36:32.6±2.2,6°.53S×128°.95E,h0km,mb3.2/1, mbtmp3.1/3,ML3.1/2,Error ellipse: s-maj=114.9km s-min=33.3km az=67.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.32**	**159**	Pn	Pn	17 39 57.2	+0.3
	0.1nm,0.3s,baz=338,slow=14,SNR=7.3						
WRA				Sn	Sn	17 42 20.9	-16
	0.2nm,0.3s,baz=338,slow=22,SNR=2.7						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**17.69**	**165**	P	Pn	17 40 40.5	-0.2
	baz=339,slow=9.4,SNR=5.8						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.27**	**327**	P	P	17 47 29.2	0.0
	0.1nm,0.4s,baz=111,slow=7.9,SNR=2.0						
	0.1nm,0.4s						

*IDC **09** 17:38:24.3±1.5,5°.33S×146°.28E,h128km±14km,mb3.9/16, mbtmp4.3/18,MS3.9/1,Error ellipse: s-maj=19.4km s-min=7.9km az=97.0*
*NEIC **09** 17:38:27.6±1.9,5°.31S±0°.08×146°.3E±0°.1,h155km±9km, mb4.4/40,Error ellipse: s-maj=16.0km s-min=11.4km az=110.0*
*DJA **09** 17:38:27.7±0.4,5°.5±4°×14°.6E±°,h149km±8km,M4.8/13, mB5.3/5,mb4.6/13,MLv4.8/4,Mw(mB)4.7/5*

ISC 09 17:38:27.0±0.5,5°.33S±0°.05×146°.30E±0°.07,h150km,n110, σ1s08/114,mb4.3/33,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.43**	**18**		**Pn**	**17 39 20.3**	**+0.5**
PMG	**Port Moresby**	**4.14**	**168**	P	**Pn**	**17 39 26.6**	**-2.5**
	16nm,0.3s,baz=42,slow=12,SNR=8.4						
PMG				S	**Sn**	**17 40 12.9**	**-4.6**
	193nm,0.6s,baz=0.0,slow=20,SNR=36						
TABU	**Tabubil**	**5.06**	**270**	P	**Pn**	**17 39 41.5**	**+0.2**
RABL	**Rabaul**	**5.95**	**79**		**Pn**	**17 39 53.8**	**+0.7**
JAY	**Jayapura**	**6.24**	**296**	P	**Pn**	**17 39 55.8**	**-1.2**
	94nm,0.9s,1μm0.4nm						
GENI	**Genyem**	**6.70**	**294**	P	**Pn**	**17 40 03.4**	**+0.4**
GENI	**Genyem**	**6.70**	**294**	P	**Pn**	**17 40 02.7**	**-0.3**
	262nm,1.0s,2μm0.7nm						
SMPI	**Sarmi**	**8.27**	**293**	P	**Pn**	**17 40 23.8**	**-0.2**
	93nm,0.5s,18μm						
COEN	**Coen**	**9.12**	**200**	P	**Pn**	**17 40 36.4**	**+1.0**
	baz=9.2,SNR=8.6						
COEN	**Coen**	**9.12**	**200**	P	**Pn**	**17 40 36.3**	**+1.0**
COEN	**Coen**	**9.12**	**200**	Pn	**Pn**	**17 40 36.2**	**+0.9**
COEN				Sn	**Sn**	**17 42 14.8**	**-1.8**
MTSU	**Mount Surprise**	**12.88**	**189**	P	**Pn**	**17 41 26.1**	**+1.3**
	baz=13,SNR=7.9						
MTSU	**Mount Surprise**	**12.88**	**189**	P	**Pn**	**17 41 26.2**	**+1.5**
FAKI	**Fak Fak**	**14.22**	**279**	P	**Pn**	**17 41 41.9**	**+0.1**
FAKI	**Fak Fak**	**14.22**	**279**	Pn	**Pn**	**17 41 40.3**	**-1.5**
CTAO	**Charters Tower**	**14.68**	**180**	P	**Pn**	**17 41 48.4**	**+1.0**
KDU	**Kakadu**	**15.49**	**241**	P	**Pn**	**17 41 57.6**	**+0.1**
	baz=16,SNR=6.0						
SWI	**Sorong**	**15.66**	**286**	P	**Pn**	**17 42 00.3**	**+0.6**
	61nm,0.8s						
QIS	**Mount Isa**	**16.48**	**203**	P	**P**	**17 42 10.0**	**+0.3**
	baz=17,SNR=11						
QIS	**Mount Isa**	**16.48**	**203**	P	**Pn**	**17 42 10.4**	**+0.7**
MTN	**Manton Dam**	**16.73**	**242**	P	**P**	**17 42 12.7**	**+0.2**
	baz=17,SNR=6.3						
MTN	**Manton Dam**	**16.73**	**242**		**P**	**17 42 12.8**	**+0.4**
MTN				IAmb	IAmb	17 42 13.8	
	comp=Z,21nm,1.1s						
PATS	**Pohnpei**	**17.02**	**45**	P	**P**	**17 42 15.4**	**-0.2**
PATS	**Pohnpei**	**17.02**	**45**	P	**P**	**17 42 15.0**	**-0.6**
WB0	**Warramunga Arr**	**18.45**	**218**	P	**P**	**17 42 32.1**	**+0.8**
WB0				IAmb	IAmb	17 42 34.4	
	comp=Z,22nm,1.0s						
WR0	**Warramunga Arr**	**18.51**	**217**	P	**P**	**17 42 32.0**	**+0.1**
WRAB	**Tennant Creek**	**18.61**	**218**	P	**P**	**17 42 33.7**	**+0.7**
WRAB				IAmb	IAmb	17 42 34.7	
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**18.61**	**218**	P	**P**	**17 42 33.7**	**+0.6**
WC3	**Warramunga Arr**	**18.61**	**218**	P	**P**	**17 42 33.3**	**+0.3**
	baz=19						
WRA	**Warramunga Arr**	**18.62**	**218**	P	**P**	**17 42 33.2**	**0.0**
WRA	**Warramunga Arr**	**18.62**	**218**	P	**P**	**17 42 33.3**	**+0.2**
	comp=Z,9.7nm,0.4s,baz=36,slow=11,SNR=42						
WRA				S	**S**	**17 45 54.1**	**-3.5**
	comp=Z,1.4nm,0.7s,baz=34,slow=21,SNR=4.8						
EIDS	**Eidsvold**	**20.45**	**168**	P	**P**	**17 42 54.1**	**+1.3**
	baz=21,SNR=9.2						
EIDS	**Eidsvold**	**20.45**	**168**	P	**P**	**17 42 54.5**	**+1.7**
EIDS	**Eidsvold**	**20.45**	**168**	P	**P**	**17 42 53.4**	**+0.5**
QLP	**Quilpie**	**21.23**	**185**	P	**P**	**17 43 02.1**	**+0.9**
	baz=21,SNR=24						
QLP	**Quilpie**	**21.23**	**185**	P	**P**	**17 43 02.6**	**+1.4**
AS31	**Alice Springs**	**21.80**	**212**	P	**P**	**17 43 07.4**	**+0.1**
AS31				IAmb	IAmb	17 43 15.7	
	comp=Z,9.2nm,0.5s						
ASAR	**Alice Springs**	**21.80**	**212**	P	**P**	**17 43 07.4**	**+0.1**
ASAR	**Alice Springs**	**21.80**	**212**	P	**P**	**17 43 07.8**	**+0.5**
	comp=Z,21nm,0.7s,baz=45,slow=8.1,SNR=480						
ASAR				S	**S**	**17 47 00.3**	**+1.8**
	comp=Z,1.7nm,0.7s,baz=25,slow=22,SNR=6.1						
	comp=Z,21nm,0.7s						
SOEI	**Soe**	**22.28**	**257**	P	**P**	**17 43 11.3**	**-1.0**
INKA	**Innaminka**	**22.91**	**193**	P	**P**	**17 43 19.5**	**+1.5**
BATI	**Baumata**	**22.94**	**256**	P	**P**	**17 43 19.3**	**+0.8**
	comp=Z,19nm,0.5s,baz=132,slow=2.1,SNR=6.1						
	comp=Z,19nm,0.5s						
FITZ	**Fitzroy Crossi**	**23.85**	**236**	P	**P**	**17 43 26.6**	**-0.1**
	baz=24						
OOD	**Oodnadatta**	**24.52**	**203**	P	**P**	**17 43 33.9**	**+1.3**
ARMA	**Armidale**	**25.46**	**169**	P	**P**	**17 43 42.6**	**+1.3**
	baz=26,SNR=16						
ARMA	**Armidale**	**25.46**	**169**	P	**P**	**17 43 42.6**	**+1.3**
ARMA	**Armidale**	**25.46**	**169**	P	**P**	**17 43 42.4**	**+1.2**
CMSA	**Cobar Meteorol**	**26.08**	**181**	P	**P**	**17 43 47.7**	**+1.0**
	baz=26,SNR=9.9						
CMSA	**Cobar Meteorol**	**26.08**	**181**	P	**P**	**17 43 47.5**	**+0.8**
LCRK	**Leigh Creek**	**26.13**	**196**	P	**P**	**17 43 47.8**	**+0.7**
WRKA	**Warakurna**	**26.13**	**220**	P	**P**	**17 43 47.4**	**+0.1**
	baz=26,SNR=15						
WRKA	**Warakurna**	**26.13**	**220**	P	**P**	**17 43 47.8**	**+0.5**
STKA	**Stephens Creek**	**26.78**	**189**	P	**P**	**17 43 53.5**	**+0.5**
	baz=27,SNR=10.0						
STKA	**Stephens Creek**	**26.78**	**189**	P	**P**	**17 43 53.1**	**+0.2**
	comp=Z,3.4nm,0.5s,baz=44,slow=10,SNR=13						
STKA				S	**S**	**17 48 22.1**	**+4.2**
	comp=Z,1.9nm,0.7s,baz=38,slow=19,SNR=1.6						
	comp=Z,3.4nm,0.5s						
HTT	**Hallett**	**28.80**	**193**	P	**P**	**17 44 11.7**	**+0.8**
	baz=29,SNR=3.6						
BBOO	**Buckleboo**	**28.97**	**198**	P	**P**	**17 44 12.9**	**+0.5**
	baz=29,SNR=5.2						
FORT	**Forrest**	**30.59**	**212**	P	**P**	**17 44 27.2**	**+0.4**
	baz=31						
ARPS	**Mount Arapiles**	**31.56**	**187**	P	**P**	**17 44 36.4**	**+1.2**
	baz=32						
MEEK	**Meekatharra**	**33.87**	**228**	P	**P**	**17 44 55.9**	**+0.3**
	baz=34,SNR=6.0						
KMBL	**Kambalda**	**34.58**	**219**	P	**P**	**17 45 02.0**	**+0.4**
	baz=35,SNR=25						
MORW	**Morawa**	**37.11**	**227**	P	**P**	**17 45 23.1**	**-0.1**
	baz=37,SNR=4.9						
KLBR	**Kellerberrin**	**37.40**	**222**	P	**P**	**17 45 25.6**	**0.0**
	baz=38,SNR=17						
BLDU	**Balliduu**	**37.52**	**224**	P	**P**	**17 45 26.5**	**-0.1**
	baz=38,SNR=7.8						
MUN	**Mundaring**	**38.67**	**223**	P	**P**	**17 45 35.5**	**-0.7**
	baz=39,SNR=3.1						
RPZ	**Rata Peaks**	**44.01**	**154**	LR	LR	18 05 36.9	
	comp=Z,156nm,19.5s,baz=103,slow=37						
KSRS	**Korea Array**	**45.88**	**340**	P	**P**	**17 46 34.2**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=171,slow=9.9,SNR=7.6						
	comp=Z,1.7nm,0.9s						
USRK	**Ussuriysk Ar.**	**50.96**	**347**	P	**P**	**17 47 13.2**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=164,slow=8.9,SNR=7.5						
	comp=Z,1.4nm,0.5s						
CMAR	**Chiang Mai Arr**	**52.32**	**298**	P	**P**	**17 47 23.6**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=123,slow=6.1,SNR=6.5						
	comp=Z,0.8nm,0.8s						
PETK	**Petropavlovsk-**	**59.01**	**8**	P	**P**	**17 48 11.2**	**+0.4**
	comp=Z,0.7nm,0.4s,baz=154,slow=6.6,SNR=8.4						
	comp=Z,0.7nm,0.4s						
SONM	**Songino Array**	**63.48**	**331**	P	**P**	**17 48 42.1**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=146,slow=6.6,SNR=5.3						
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**72.62**	**176**	P	**P**	**17 49 37.7**	**+0.1**
VNDA	**Vanda**	**72.62**	**176**	P	**P**	**17 49 38.0**	**+0.4**
	comp=Z,2.9nm,0.8s,baz=324,slow=8.7,SNR=15						
	comp=Z

I30M	Mount Dempster	89.51	24	P	P	17 51 06.8	-0.3
H31M	Peel River	90.47	24	P	P	17 51 10.8	-0.6
H31M				IAmb	IAmb	17 51 24.0	
	comp=Z,3.5nm,1.2s						
G31M	Satah River	90.73	23	P	P	17 51 12.3	-0.1
G31M				IAmb	IAmb	17 51 14.4	
	comp=Z,6.3nm,1.5s						
YKA	Yellowknife Ar	98.90	28	P	P	17 51 49.4	-0.4
	comp=Z,0.3nm,0.8s,baz=276,slow=4.6,SNR=5.3						
	comp=Z,0.3nm,0.8s						

NNC 09 17:46:23.4±1.7, 36.95N×70.50E, h0km, mb3.6, mpv3.2, 1C-4D, Error ellipse: s-maj=16.4km s-min=13.1km az=78.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.14	0	⇑Pn	Pn	17 47 55.8	+0.4
	0.2nm,0.2s,baz=178,slow=12,SNR=12						
KK31				⇓Sn	Sn	17 49 07.4	+1.0
	2.4nm,0.7s						
AAK	Ala-Archa	6.46	27	⇓Pn	Pn	17 47 59.6	-0.3
	0.8nm,0.3s						
AAK				⇓Sn	Sn	17 49 15.7	+1.4
	2.9nm,0.7s						
TKM2	Tokmak 2	7.13	32	⇓Pn	Pn	17 48 09.1	-0.1
	2.6nm,0.5s						

IDC 09 18:08:33.9±1.5, 26.24S×69.03E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=62.7km s-min=31.2km az=87.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	Diego Garcia H	18.78	11	T	T	18 31 35.8	
	baz=189,slow=76,SNR=80						
H08S2	Diego Garcia H	18.78	11	T	T	18 31 38.5	
	baz=189,slow=76,SNR=62						
H08S3	Diego Garcia H	18.80	11	T	T	18 31 36.5	
	baz=189,slow=76,SNR=68						
H04N2	CROZET ISLANDS	24.16	210	T	T	18 39 40.6	
	baz=41,slow=74						
H04N1	CROZET ISLANDS	24.17	210	T	T	18 39 46.6	
	baz=41,slow=74						
H04N3	CROZET ISLANDS	24.18	210	T	T	18 39 41.4	
	baz=41,slow=74						
H01W2	Cape Leeuwin H	39.51	114	T	T	18 57 53.9	
	baz=271,slow=75,SNR=6.5						
H01W3	Cape Leeuwin H	39.51	114	T	T	18 57 51.8	
	baz=271,slow=75,SNR=7.0						
H01W1	Cape Leeuwin H	39.53	114	T	T	18 57 52.7	
	baz=271,slow=75,SNR=8.2						
MAW	Mawson	41.55	184	P	P	18 16 22.7	-0.1
	1.2nm,0.4s,baz=290,slow=6.9,SNR=2.3						
	1.2nm,0.4s						
ASAR	Alice Springs	58.32	103	P	P	18 18 31.0	0.0
	0.2nm,0.7s,baz=250,slow=6.8,SNR=4.9						
	0.2nm,0.7s						
MKAR	Makanchi Array	73.67	9	P	P	18 20 08.9	-0.3
	0.6nm,0.8s,baz=189,slow=5.5,SNR=5.4						
	0.6nm,0.8s						
ZALV	Zalesovo Beam	81.02	9	P	P	18 20 50.4	+0.3
	0.5nm,0.5s,baz=178,slow=3.8,SNR=2.0						
	0.5nm,0.5s						
SONM	Songino Array	81.03	24	P	P	18 20 50.7	+0.2
	0.5nm,0.6s,baz=224,slow=4.0,SNR=2.3						
	0.5nm,0.6s						

*IDC **09** 18:12:05.0±1.6, 53.72N×170.60E, h0km, mb3.4/5, mbtmp3.4/7, ML3.4/2, Error ellipse: s-maj=56.5km s-min=20.6km az=10.0*
*KRSC **09** 18:12:09.8±2.0, 53.15N×170.05E, h52km±108km, Ml4.0*
*NEIC **09** 18:12:10.2±2.4, 53.8N±0.2×170.9E±0.1, h35km±2km, mb4.0/6, Error ellipse: s-maj=30.6km s-min=11.0km az=195.0*

ISC 09 18:12:06.9±0.8, 53.5N±0.1×170.58E±0.05, h24km, n39, σ2s12/38, mb3.7/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	Shemya Is, Ala	2.26	109	Pn	Pn	18 12 44.2	+1.5
	15nm,0.3s,baz=150,slow=18,SNR=1.9						
SHEM				Sn	Sn	18 13 11.5	+1.7
	13nm,0.3s,baz=265,slow=19,SNR=2.4						
	66nm,0.5s						
SPN	Mys Shipunski	6.34	271	eP	Pn	18 13 41.2	+2.5
KII	Karymskiy	6.62	279	eP	Pn	18 13 44.3	+1.6
UGLR	Uglovaya	7.04	272	eP	Pn	18 13 50.5	+2.0
SMAR	Somma	7.05	273	eP	Pn	18 13 50.2	+1.5
KRER	Koryakskii	7.08	273	eP	Pn	18 13 51.2	+2.2
AVH	Avacha	7.09	273	eP	Pn	18 13 51.3	+2.2
DALK	Dalny	7.11	271	eP	Pn	18 13 51.4	+2.1
DALK				eS	Sn	18 15 08.2	-1.0
KRX	Arik	7.13	274	eP	Pn	18 13 51.4	+1.7
KOK	Koryaka	7.14	273	eP	Pn	18 13 52.1	+2.2
PET	Petropavlovsk	7.17	271	Pn	Pn	18 13 51.8	+1.7
PET	Petropavlovsk	7.17	271	eP	Pn	18 13 51.6	+1.5
RUS	Russkaya	7.37	266	eP	Pn	18 13 54.8	+2.0
KRMR	Karymshinskiy	7.51	270	eP	Pn	18 13 56.1	+1.3
GNL	Ganaly	7.52	277	eP	Pn	18 13 57.7	+2.6
MTVR	Mutnovka	7.55	267	eP	Pn	18 13 56.9	+1.4
PEA0B	Petropavlovsk-	7.73	272	Pn	Pn	18 14 00.1	+2.3
PEA0B				Sn	Sn	18 15 21.2	-3.2
PETK	Petropavlovsk-	7.73	272	Pn	Pn	18 13 60.0	+2.2
PETK	Petropavlovsk-	7.73	272	Pn	Pn	18 13 59.7	+1.9
	1.4nm,0.3s,baz=116,slow=12,SNR=164						
PETK				Sn	Sn	18 15 23.9	-0.6
	0.2nm,0.3s,baz=282,slow=26,SNR=1.4						
	1.9nm,0.4s						
ASAK	Asacha	7.74	267	eP	Pn	18 14 00.1	+2.1
KDTR	Khodutka, Kamc	7.79	262	eP	Pn	18 13 59.9	+1.3
KDTR				eS	Sn	18 15 20.5	-5.5
ATKA	Atka Island	9.31	92	Pn	Pn	18 14 17.9	-1.6
K15K	Wolf Creek Mou	17.11	48	P	Pn	18 16 04.3	+0.2
B20K	Meade River	22.06	29	P	P	18 16 57.4	-2.1
B20K				IAmb	IAmb	18 17 06.7	
	comp=Z,12nm,1.4s						
ILAR	Eielson Array	24.04	45	P	P	18 17 19.8	+0.1
	comp=Z,0.2nm,0.7s,baz=266,slow=8.6,SNR=1.7						
	comp=Z,0.2nm,0.7s						
TIXI	Tiksi	25.59	331	P	P	18 17 35.2	+1.6
TIXI				IAmb	IAmb	18 17 40.1	
	comp=Z,4.6nm,1.4s						
G31M	Satah River	29.36	41	P	P	18 18 04.0	-3.4
G31M				IAmb	IAmb	18 18 28.5	
	comp=Z,2.9nm,1.2s						
H11N2	WAKE ISLAND Hy	33.83	186	T	T	18 54 31.3	
	baz=3.5,slow=76						
H11N3	WAKE ISLAND Hy	33.84	186	T	T	18 54 32.2	
	baz=3.5,slow=76						
H11N1	WAKE ISLAND Hy	33.85	186	T	T	18 54 34.8	
	baz=3.5,slow=76						
H11S1	WAKE ISLAND Hy	35.06	186	T	T	18 56 10.4	
	baz=2.7,slow=76						
H11S3	WAKE ISLAND Hy	35.07	186	T	T	18 56 07.8	
	baz=2.7,slow=76						
H11S2	WAKE ISLAND Hy	35.07	186	T	T	18 56 11.5	
	baz=2.7,slow=76						
Q09A	Carvers	49.97	76	P	P	18 20 56.8	-2.2
KURBB	Kurchatov Arra	52.80	307	P	P	18 21 20.8	+1.0
	comp=Z,0.3nm,0.4s,baz=50,slow=7.0,SNR=4.9						
	comp=Z,0.3nm,0.4s						
MKAR	Makanchi Array	53.49	301	P	P	18 21 25.4	+0.4
	comp=Z,0.1nm,0.3s,baz=60,slow=7.8,SNR=5.0						
	comp=Z,0.1nm,0.3s						
BVAR	Borovoye Array	54.88	313	P	P	18 21 35.9	+1.0
	comp=Z,0.5nm,0.6s,baz=46,slow=6.2,SNR=3.0						
	comp=Z,0.5nm,0.6s						
BRVK	Borovoye	54.90	313	P	P	18 21 36.9	+1.8
BRVK				IAmb	IAmb	18 21 56.3	
	comp=Z,4.4nm,1.5s						
TXAR	Lajitas Array	64.56	75	P	P	18 22 43.8	+1.7
	comp=Z,0.3nm,0.4s,baz=292,slow=4.8,SNR=4.8						
	comp=Z,0.3nm,0.4s						

*NIED **09** 18:13:45.7, 37.60N×138.25E, h24km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}=0.69; $M_{\theta\theta}$2.73; $M_{\phi\phi}$-2.04; $M_{r\theta}$-1.71; $M_{\theta\phi}$-1.43; $M_{\phi r}$0.54; Fault plane solution: $M_0$3.14000×10¹⁴ NP1: ϕ_s332.00000°, δ77.00000°, λ18.00000°. NP2: ϕ_s238.00000°, δ73.00000°, λ167.00000°.*

JMA 09 18:13:45.7±0.1, 37.6N±0.2×138.3E±0.3, h24km±1km, MD3.8/40, MV4.0/40, 11D, OFF S NIIGATA PREF, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIZZ	Izumozaki	0.37	100	⇓P	Pb	18 13 53.6	-0.2
JIZZ				⇓eS	Sb	18 13 59.7	+0.4
JIZZ	Izumozaki	0.37	100	A	A	18 13 53.6	
	comp=E,11nm,0.3s,comp=N,16nm,0.4s						
JSD	Sado	0.44	1	P	Pb	18 13 54.7	-0.1
JSD				S	Sb	18 14 01.2	+0.2
JJN	Nakama	0.50	188	P	Pb	18 13 55.8	-0.1
JJN				eS	Sb	18 14 03.0	+0.3
JJN	Nakama	0.50	188	A	A	18 13 55.8	
	comp=E,9.0nm,0.9s,comp=N,9.0nm,0.4s						
JSZ	Suzu	0.72	258	⇓P	Pb	18 13 59.2	-0.3
JSZ				⇓eS	Sb	18 14 09.1	+0.1
JSZ	Suzu	0.72	258	A	A	18 13 59.2	
	comp=E,5.0nm,0.3s,comp=N,7.0nm,0.4s						
JUON	Uonuma	0.75	121	⇓P	Pb	18 13 59.2	-0.9
JUON				⇓eS	Sb	18 14 09.2	-0.8
JNS	Sasagawa	0.88	75	⇓P	Pb	18 14 01.8	-0.4
JNS				⇓S	Sb	18 14 13.6	+0.1
JNS	Sasagawa	0.88	75	A	A	18 14 01.8	
	comp=E,3.0nm,1.0s,comp=N,6.0nm,0.2s						
MAT	Matsushiro	1.06	182	P	Pn	18 14 04.2	-0.8
MAT				eS	Sb	18 14 18.3	-0.4
JHG	Hegura jima	1.08	284	⇓P	Pn	18 14 05.2	-0.2
JKT	Katashina	1.16	136	⇓P	Pn	18 14 06.1	-0.3
JKT				⇓S	Sn	18 14 21.0	-0.5
JKT	Katashina	1.16	136	A	A	18 14 06.1	
	comp=E,6.0nm,0.3s,comp=N,5.0nm,0.6s						
JAW	Awa shima	1.17	42	P	Pn	18 14 06.3	-0.2
JFY	Yanaizu	1.18	99	P	Pn	18 14 06.8	+0.1
JFY				eS	Sn	18 14 21.8	-0.2
JTT	Ttatey	1.23	217	P	Pn	18 14 07.2	-0.2

*DJA **09** 18:14:50.2±0.4, 1.1N±4.4×12.3E±.*, h10km, M4.1/11, mb4.3/4, mB4.8/1, MLv4.0/11, Mw(mB)4.1/1*
*IDC **09** 18:14:54.4±1.8, 0.49N×123.13E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=209.8km s-min=27.6km az=62.0*

ISC 09 18:14:48.1±2.1, 1.4N±0.1×122.62E±0.07, h10km, n12, σ2s65/11, mb3.2/3, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTOI	Gorontalo	0.85	152	P	Pg	18 15 02.6	-1.9
KMSI	Cibinong	1.59	121	P	Pn	18 15 18.6	+2.3
LUWI	Luwuk	2.42	176	P	Pn	18 15 29.9	+2.1
MPSI	Mapaga	2.91	249	P	Pn	18 15 35.3	+0.8
SANI	Sanana	4.80	135	P	Pn	18 16 00.7	+0.2
TTSI	Tana Toraja	5.22	212	P	Pn	18 16 08.8	+2.5
	37nm,0.9s,0.1nm						
LBMI	Labuha	5.28	112	P	Pn	18 16 10.5	+3.3
	19nm,0.7s,970nm0.1nm						
BBSI	Bau Bau	6.83	180	P	Pn	18 16 31.0	+2.5
	37nm,0.9s,0.2nm						
BKSI	Bulukumba	7.12	200	P	Pn	18 16 35.6	+3.2
WRA	Warramunga Arr	24.12	152	P	P	18 20 02.0	-2.3
	2.0nm,0.6s,baz=330,slow=10,SNR=13						
	2.0nm,0.6s						
ASAR	Alice Springs	27.22	157	P	P	18 20 30.7	-1.7
	0.3nm,0.6s,baz=340,slow=13,SNR=6.9						
	0.3nm,0.6s						
MKAR	Makanchi Array	57.24	328	P	P	18 24 51.1	+15
	0.2nm,0.7s,baz=145,slow=8.3,SNR=2.4						
	0.2nm,0.7s						

*IDC **09** 18:57:51.7±36.0, 19.43N×155.78W, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=757.9km s-min=65.5km az=39.0*
*NEIC **09** 18:57:52.4±0.6, 19.43N±0.01×154.98W±0.04, h5km±2km, ML3.3/50, Error ellipse: s-maj=6.1km s-min=3.1km az=283.0*

ISC 09 18:57:53.4±1.2, 19.49N±0.05×155.05W±0.08, h10km, n35, σ1s45/28, mb3.4/3, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPOC	North of Pu'u	0.11	209	Pg	Pg	18 57 54.9	-1.4
NPOC				IAML		18 57 59.0	
	comp=N,16μm,0.3s						
JCUZ	Jacuzzi	0.12	203	Pg	Pg	18 57 55.0	-1.3
JCUZ				IAML		18 57 59.0	
	comp=E,11μm,0.7s						
STCH	Steam Cracks	0.13	213	Pg	Pg	18 57 55.4	-1.1
STCH				IAML		18 57 59.4	
	comp=E,11μm,0.5s						
PUH	Pauahi	0.19	233	Pg	Pg	18 57 56.8	-0.8
HATHI	Halema'uma'u T	0.21	251	Pg	Pg	18 57 57.4	-0.5
HATHI				IAML		18 58 05.2	
	comp=E,5μm,0.8s						
HATHI				IAML		18 58 06.1	
	comp=N,5μm,1.0s						
BYL	Byron's Ledge	0.21	248	Pg	Pg	18 57 57.5	-0.5
SBLHI	Steaming Bluff	0.21	253	Pg	Pg	18 57 56.7	-1.2
SBLHI				IAML		18 58 06.9	
	comp=E,5μm,0.6s						
SBLHI				IAML		18 58 06.9	
	comp=N,5μm,1.0s						
RSD	Rainshed	0.21	262		Pg	18 57 57.5	-0.5
RSD				IAML		18 58 05.7	
	comp=N,4μm,0.7s						
RSD				IAML		18 58 07.1	
	comp=E,4μm,1.1s						
KKO	Keanakako'i	0.22	245	Pg	Pg	18 57 56.5	-1.6
KKO				IAML		18 58 06.6	
	comp=E,5μm,0.8s						
KKO				IAML		18 58 07.1	
	comp=N,4μm,0.8s						
UWB	Uwekahuna B	0.22	253	Pg	Pb	18 57 58.9	+0.8
NPH	North Pit	0.23	250	Pg	Pg	18 57 57.3	-1.0
OBL	Observatory Le	0.23	251	Pg	Pg	18 57 57.9	-0.4
RIM	Rim	0.23	245	Pg	Pg	18 57 56.7	-1.5
RIM				IAML		18 58 03.4	
	comp=E,4μm,0.6s						
RIM				IAML		18 58 05.9	
	comp=N,7μm,0.6s						
UWE	Uwekahuna	0.24	253	Pg	Pg	18 57 57.9	-0.5
UWE				IAML		18 58 07.5	
	comp=N,6μm,0.5s						
WRMHI	West Rim	0.25	250	Pg	Pg	18 57 54.8	-3.8
WRMHI				IAML		18 58 06.9	
	comp=N,6μm,0.8s						
SDHHI	Sand Hill	0.25	246		Pg	18 57 57.1	-1.5
SDHHI				IAML		18 58 06.6	
	comp=N,5μm,0.5s						
SDHHI				IAML		18 58 08.3	
	comp=E,5μm,1.2s						
HLP	Hilina Pali	0.31	231		Pg	18 57 59.3	-0.4
HLP				IAML		18 58 06.6	
	comp=E,5μm,0.3s						
HLP				IAML		18 58 06.6	
	comp=N,4μm,0.2s						
MLH	Mauna Loa	0.32	271		Pg	18 58 00.5	+0.6
HMH	Humu'ula Sheep	0.42	285		Pg	18 58 02.6	+0.7
MLOA	Mauna Loa Obse	0.50	275		Pg	18 58 03.4	+0.2
MLOA				IAML		18 58 22.2	
	comp=N,3μm,0.7s						
MWH	Moku'aweowe	0.51	269		Pg	18 58 02.8	-0.8
MWH				IAML		18 58 23.5	
	comp=E,3μm,1.3s						
MWH				IAML		18 58 23.6	
	comp=N,3μm,0.9s						
POHA	Pohakuloa	0.52	300		Pg	18 58 03.5	-0.3
POHA				IAML		18 58 18.5	
	comp=N,2μm,0.7s						
KHU	Kahuku	0.58	245	Pg	Pg	18 58 03.4	-1.5
KHU				IAML		18 58 23.2	
	comp=E,1μm,1.0s						
HUH	Hualalai	0.76	285		Pg	18 58 06.7	-1.5
HPAH	Hawaii Prepara	0.81	312		Pg	18 58 06.8	-2.3
HPAH				IAML		18 58 38.1	
	comp=E,980nm,0.9s						
HPAH				IAML		18 58 39.6	
	comp=N,794nm,0.9s						
MHA	Mahukona	1.06	311	Pg	Pb	18 58 11.3	-2.5
H11N3	WAKE ISLAND Hy	35.78	277	T	T	19 42 10.3	
	baz=84						
H11N2	WAKE ISLAND Hy	35.80	277	T	T	19 42 04.3	
	baz=84						
H11N1	WAKE ISLAND Hy	35.80	277	T	T	19 42 04.9	
	baz=84						
ILAR	Eielson Array	45.58	5	P	P	19 06 14.6	+1.1
	comp=N,0.4nm,0.8s,baz=202,slow=6.8,SNR=2.6						
	comp=N,0.4nm,0.8s						
TXAR	Lajitas Array	47.49	68	P	P	19 06 34.0	+4.9
	comp=N,0.2nm,0.7s,baz=254,slow=8.3,SNR=3.9						
	comp=N,0.2nm,0.7s						
YKA	Yellowknife Ar	51.16	23	P	P	19 06 58.1	+1.6
	comp=N,0.3nm,0.6s,baz=238,slow=7.1,SNR=4.4						
	comp=N,0.3nm,0.6s						
H03N2	Juan Fernandez	89.58	126	T	T	20 49 45.6	
	baz=298,slow=76,SNR=141						
H03N3	Juan Fernandez	89.59	126	T	T	20 49 46.5	
	baz=298,slow=76,SNR=141						
H03N1	Juan Fernandez	89.60	126	T	T	20 49 46.9	
	baz=298,slow=76,SNR=189						

IDC 09 19:04:35.3±2.5, 5.69S×149.45E, h235km±24km, mb3.2/5, mbtmp3.8/6, Error ellipse: s-maj=61.1km s-min=18.2km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	4.33	211	P	Pn	19 05 43.8	+1.3
	17nm,0.8s,baz=30,slow=13,SNR=4.5						
PMG				S	S	19 06 35.5	-0.2
	18nm,0.6s,baz=110,slow=21,SNR=2.4						
WRA	Warramunga Arr	20.41	225	P	P	19 08 54.5	-0.4
	1.3nm,0.5s,baz=50,slow=10,SNR=14						
	1.3nm,0.5s						
ASAR	Alice Springs	23.31	218	P	P	19 09 23.1	+0.5
	1.4nm,0.9s,baz=54,slow=8.4,SNR=24						
	1.4nm,0.9s						
KSRS	Korea Array	47.38	337	P	P	19 12 46.0	-0.1
	0.9nm,0.7s,baz=153,slow=8.3,SNR=6.4						
	0.9nm,0.7s						
PETK	Petropavlovsk-	58.99	6	P	P	19 14 10.5	+0.3
	3.5nm,0.9s,baz=160,slow=6.3,SNR=9.1						
	3.5nm,0.9s						
ILAR	Eielson Array	84.25	23	P	P	19 16 39.1	-1.2
	0.3nm,0.7s,baz=260,slow=5.0,SNR=1.9						
	0.3nm,0.7s						

*AUST **09** 19:13:02.4±0.9, 21.57S×120.91E, h10km, Error ellipse: s-maj=13.3km s-min=7.9km az=174.0*
*NOU **09** 19:13:03.3, 21.54S×120.91E, h0km, MLv4.2/5, Western Australia*

ISC 09 19:13:02.4±1.1, 21.59S±0.09×120.92E±0.09, h10km, n20, σ1s18/22, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSA00	Pilbara Seismi	1.00	271	P	Pn	19 13 22.9	+0.4
MBWA	Marble Bar	1.19	291	P	Pn	19 13 25.2	+0.1
MEEK	Meekatharra	5.45	202	P	Pn	19 14 25.3	+1.6
	baz=5.5,SNR=6.8						
MEEK				S	Sn	19 15 24.8	-1.6
	baz=5.5						
MEEK	Meekatharra	5.45	202	P	Pn	19 14 26.4	+2.7
FITZ	Fitzroy Crossi	5.64	53	P	Pn	19 14 26.3	-0.1
	baz=5.6						
GIRL	Giralia	6.29	259	P	Pn	19 14 36.2	+1.0
	baz=6.3						
GIRL	Giralia	6.29	259	P	Pn	19 14 36.3	+1.1
WRKA	Warakurna	7.60	118	P	Pn	19 14 53.7	+0.4
	baz=7.6,SNR=6.7						
WRKA	Warakurna	7.60	118	P	Pn	19 14 55.7	+2.4
MORW	Morawa	8.65	210	P	Pn	19 15 07.8	+0.2
	baz=8.7						
BLDU	Ballidu	9.75	202	P	Pn	19 15 23.1	+0.4
	baz=9.8						
KMBL	Kambalda	9.77	175	P	Pn	19 15 24.0	+1.0
	baz=9.8						
KLBR	Kellerberrin	10.35	195	P	Pn	19 15 32.0	+1.0
	baz=10						
MUN	Mundaring	11.16	201	P	Pn	19 15 42.6	+0.5
	baz=11						
FORT	Forrest	11.16	146	P	Pn	19 15 42.8	+0.6
	baz=11						
NWAO	Narrogin (SRO)	11.75	195	P	Pn	19 15 49.5	-0.7
	baz=12						
NWAO				P	Pn	19 15 49.5	-0.7
	baz=12						
WC3	Warramunga Arr	12.69	85	P	Pn	19 16 02.7	-0.4
	baz=13						
MTN	Manton Dam	13.07	50	P	Pn	19 16 08.2	0.0
	baz=13						
MULG	Mulgathing	14.64	129	P	Pn	19 16 30.0	+0.4
	baz=15						
OOD	Oodnadatta	14.77	118	P	Pn	19 16 30.5	-0.9
	baz=15						

*IDC **09** 19:50:32.3±8.0, 37.60N×70.80E, h73km±33km, mb3.4/4, mbtmp3.5/9, ML2.7/5, Error ellipse: s-maj=130.1km s-min=22.9km az=160.0*

ISC 09 19:50:31.1±3.8, 37.3N±0.4×70.9E±0.2, h100km, n14, σ1s60/13, mb3.7/4, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	5.70	28	P	Pn	19 51 55.5	+1.8
	SNR=7.5						
EKS2	Erkin-Say	5.84	21	P	Pn	19 51 58.0	+2.7
	SNR=20						
AAK	Ala-Archa	6.05	26	P	Pn	19 52 00.5	+2.4
	SNR=8.3						
USP	Ospenovka	6.61	24	P	Pn	19 52 07.3	+1.7
	SNR=7.2						
TKM2	Tokmak 2	6.71	31	P	Pn	19 52 08.5	+1.3
	SNR=10						
GEYT	Alibeck	10.16	278	P	Pn	19 52 53.5	-0.4
	0.2nm,0.3s,baz=89,slow=13,SNR=2.1						
GEYT				S	Sn	19 54 45.6	-0.3
	1.1nm,0.3s,baz=123,slow=16,SNR=6.3						
	0.6nm,0.5s						
MKAR	Makanchi Array	12.74	38	P	Pn	19 53 27.4	-1.1
	baz=206,slow=9.6,SNR=2.5						
KURBB	0.2nm,0.8s						
	Kurchatov Arra	14.44	20	P	Pn	19 53 49.5	-1.0
	baz=208,slow=10.0,SNR=2.1						
	0.4nm,0.7s						
BVAR	Borovoye Array	15.78	359	P	Pn	19 54 04.9	-2.4
	baz=154,slow=11,SNR=2.1						
	0.5nm,0.6s						
ZALV	Zalesovo Beam	19.27	26	P	Pn	19 54 48.0	-1.6
	0.4nm,0.3s,baz=212,slow=11,SNR=6.5						
	1.1nm,0.5s						
FINES	FINESS Array B	36.81	326	P	P	19 57 30.9	+2.0
	0.9nm,0.8s,baz=128,slow=9.0,SNR=1.4						
	0.9nm,0.8s						
ARCES	ARCESS Array B	40.41	337	P	P	19 57 59.3	+0.3
	3.8nm,1.2s,baz=121,slow=11,SNR=1.4						
	3.8nm,1.2s						
HFS	Hagfors	42.42	321	P	P	19 58 16.9	+1.4
	0.6nm,0.5s,baz=98,slow=7.4,SNR=5.0						
	0.6nm,0.5s						
NOA	NORSAR Array B	43.73	323	P	P	19 58 26.8	+0.8
	0.2nm,0.5s,baz=99,slow=7.7,SNR=1.8						
	0.2nm,0.5s						

IDC 09 20:01:13.9±6.2, 5.04S×150.88E, h95km±53km, mb3.1/4, mbtmp3.5/5, Error ellipse: s-maj=74.3km s-min=34.7km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	Port Moresby	5.70	220	P	Pn	20 02 35.8	-0.2
	6.7nm,0.4s,baz=209,slow=21,SNR=2.4						
PMG				S	Sn	20 03 41.7	+1.6
	23nm,0.9s,baz=178,slow=22

*IDC **09** 20:25:18.7±0.8, 13˚.01N×86˚.98W, h190km±9km, mb3.4/9, mbtmp4.0/12, Error ellipse: s-maj=21.2km s-min=7.7km az=48.0*
*CATAC **09** 20:25:20.4±0.6, 12˚.86N×87˚.26W, h197km±4km, ML3.6*
*SNET **09** 20:25:20.4±1.7, 12˚.45N×87˚.48W, h188km±49km, ML4.2*
*NEIC **09** 20:25:21.1±0.8, 12˚.90N±0˚.07×87˚.18W±0˚.08, h195km±7km, mb4.6/89, Error ellipse: s-maj=13.3km s-min=7.3km az=55.0*

ISC 09 20:25:20.0±0.6, **12˚.86N**±0˚.06×**87˚.25W**±0˚.05, **h205**km±5km, **n138**, σ1§**20**/119, **mb4.6**/50, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
CRIN	**San Cristobal**	**0.25**	**129**		**Pn**		**20**	**25**	**46.9**	**-0.2**
CRIN	**San Cristobal**	**0.25**	**129**	*i* P	**Pn**		**20**	**25**	**47.2**	**+0.1**
CRIN				*i* S	**Sn**		**20**	**26**	**11.4**	**+3.4**
CRIN				IAML			20	26	17.6	
	comp=Z,8μm,1.0s									
QUEN	**AI S del Volca**	**0.47**	**125**	*i* P	**Pn**		**20**	**25**	**47.9**	**+0.3**
QUEN				IAML			20	25	48.9	
	comp=Z,13μm,1.0s									
AMPH	**Amapala**	**0.58**	**317**	*e*P	**Pn**		**20**	**25**	**47.9**	**-0.1**
AMPH	**Amapala**	**0.58**	**317**	*i* P	**Pn**		**20**	**25**	**47.8**	**-0.1**
AMPH				*i* S	**Sn**		**20**	**26**	**09.7**	**0.0**
CNGN	**Cerro Negro**	**0.64**	**124**		**Pn**		**20**	**25**	**47.9**	**-0.4**
CNGN	**Cerro Negro**	**0.64**	**124**	*i* P	**Pn**		**20**	**25**	**48.0**	**-0.3**
CNGN				IAML			20	25	48.6	
	comp=Z,5μm,1.0s									
MACN	**El Madrono**	**0.68**	**125**	*i* P	**Pn**		**20**	**25**	**48.4**	**-0.1**
MACN				IAML			20	25	49.2	
	comp=Z,5μm,1.0s									
CNCH	**Conchagua**	**0.71**	**306**	*e*P	**Pn**		**20**	**25**	**48.3**	**-0.4**
CNCH	**Conchagua**	**0.71**	**306**	*i* P	**Pn**		**20**	**25**	**48.1**	**-0.6**
CNCH				IAML			20	25	48.9	
	comp=Z,3μm,1.0s									
LEVN	**Ruinas Leon Vi**	**0.77**	**126**	*i* P	**Pn**		**20**	**25**	**48.4**	**-0.5**
LEVN				IAML			20	25	48.9	
	comp=Z,6μm,1.0s									
LEVN				*i* S	**Sn**		**20**	**26**	**11.0**	**-0.2**
LCND	**La Caada**	**0.77**	**306**	*e*P	**Pn**		**20**	**25**	**48.6**	**-0.3**
LCND				IAML			20	25	49.7	
	comp=Z,1μm,0.3s									
LCND	**La Caada**	**0.77**	**306**	*i* P	**Pn**		**20**	**25**	**48.9**	**0.0**
LCND				IAML			20	25	49.2	
	comp=Z,940nm,1.0s									
MOMN	**Momotombo**	**0.82**	**123**	*i* P	**Pn**		**20**	**25**	**49.2**	**-0.1**
MOMN				IAML			20	25	49.8	
	comp=Z,540nm,1.0s									
MOM2	**El Cardon**	**0.85**	**119**	*i* P	**Pn**		**20**	**25**	**49.5**	**+0.1**
MOM2				IAML			20	25	49.6	
	comp=Z,5μm,1.0s									
MOM2				*i* S	**Sn**		**20**	**26**	**12.3**	**+0.3**
BRAN	**Las Pilas**	**0.89**	**99**	*i* P	**Pn**		**20**	**25**	**51.0**	**+1.5**
BRAN				IAML			20	25	51.1	
	comp=Z,4μm,1.0s									
BRAN				*i* S	**Sn**		**20**	**26**	**15.8**	**+3.5**
BC86	**Nagarote**	**0.89**	**131**	*i* P	**Pn**		**20**	**25**	**49.5**	**-0.1**
BC86				IAML			20	25	49.5	
	comp=Z,7μm,1.0s									
BC86				*i* S	**Sn**		**20**	**26**	**11.9**	**-0.6**
COPN	**Copaltepe**	**0.93**	**136**	*i* P	**Pn**		**20**	**25**	**49.4**	**-0.4**
COPN				IAML			20	25	49.8	
	comp=Z,3μm,1.0s									
APQ3	**Volcan Apoyequ**	**1.04**	**124**	*i* P	**Pn**		**20**	**25**	**50.4**	**-0.1**
APQ3				IAML			20	25	51.3	
	comp=Z,4μm,1.0s									
APQ3				*i* S	**Sn**		**20**	**26**	**14.2**	**+0.1**
JUCU	**Jucuarįn**	**1.05**	**292**	*e*P	**Pn**		**20**	**25**	**50.3**	**-0.4**
JUCU				IAML			20	25	51.1	
	comp=Z,3μm,0.3s									
JUCU	**Jucuarįn**	**1.05**	**292**	*i* P	**Pn**		**20**	**25**	**50.4**	**-0.3**
JUCU				IAML			20	25	51.0	
	comp=Z,3μm,1.0s									
JUCU				*i* S	**Sn**		**20**	**26**	**14.2**	**-0.3**
SAPS	**Ciudad Sandino**	**1.07**	**130**	*i* P	**Pn**		**20**	**25**	**50.3**	**-0.5**
SAPS				IAML			20	25	50.9	
	comp=Z,4μm,1.0s									
SAPS				*i* S	**Sn**		**20**	**26**	**13.9**	**-0.7**
APYN	**Apoyeque**	**1.07**	**125**	*i* P	**Pn**		**20**	**25**	**50.5**	**-0.3**
APYN				IAML			20	25	51.0	
	comp=Z,4μm,1.0s									
BLLM	**Bellamira**	**1.13**	**301**	*e*P	**Pn**		**20**	**25**	**51.3**	**+0.1**
LCY	**Lacayo**	**1.17**	**299**	*e*P	**Pn**		**20**	**25**	**51.8**	**+0.2**
RANC	**El Ranchito**	**1.17**	**300**	*e*P	**Pn**		**20**	**25**	**51.8**	**+0.2**
RANC	**El Ranchito**	**1.17**	**300**	*i* P	**Pn**		**20**	**25**	**51.6**	**0.0**
RANC				IAML			20	25	52.5	
	comp=Z,3μm,1.0s									
RE6B4	**Centro civico**	**1.18**	**128**	*i* P	**Pn**		**20**	**25**	**51.1**	**-0.5**
RE6B4				IAML			20	25	51.6	
	comp=Z,9μm,1.0s									
TGUH	**Tegucigalpa,Un**	**1.19**	**359**	Pn	**Pn**		**20**	**25**	**51.8**	**0.0**
TGUH	**Tegucigalpa,Un**	**1.19**	**359**	*i* P	**Pn**		**20**	**25**	**51.9**	**+0.1**
TGUH				IAML			20	25	52.4	
	comp=Z,1μm,1.0s									
TGUH				*i* S	**Sn**		**20**	**26**	**15.5**	**-1.1**
TISN	**Laguna Tiscapa**	**1.19**	**127**	*i* P	**Pn**		**20**	**25**	**51.3**	**-0.3**
TISN				IAML			20	25	51.7	
	comp=Z,400nm,1.0s									
USIM	**UNAN**	**1.20**	**128**	*i* P	**Pn**		**20**	**25**	**51.3**	**-0.4**
USIM				IAML			20	25	51.8	
	comp=Z,18μm,1.0s									
R4DEC	**Barrio San Lui**	**1.20**	**126**	*i* P	**Pn**		**20**	**25**	**52.9**	**+1.2**
R4DEC				IAML			20	25	53.7	
	comp=Z,3μm,1.0s									
PACA	**Pacayal**	**1.21**	**300**	*e*P	**Pn**		**20**	**25**	**52.3**	**+0.4**
PACA				IAML			20	26	25.3	
	comp=Z,9μm,0.3s									
ENAN	**Enatrel Managu**	**1.21**	**127**	*i* P	**Pn**		**20**	**25**	**51.7**	**-0.1**
ENAN				IAML			20	25	51.9	
	comp=Z,12μm,1.0s									
MAS3	**AI N del Volca**	**1.33**	**128**	*i* P	**Pn**		**20**	**25**	**52.3**	**-0.5**
MAS3				*i* S	**Sn**		**20**	**26**	**17.8**	**-0.4**
MAS3				IAML			20	26	19.6	
	comp=Z,3μm,1.0s									
RB213	**Mirador 2 Volc**	**1.37**	**129**	*i* P	**Pn**		**20**	**25**	**51.1**	**-2.0**
RB213				IAML			20	25	51.7	
	comp=Z,8μm,1.0s									
COEB	**Comit de Eme**	**1.40**	**297**	*e*P	**Pn**		**20**	**25**	**53.8**	**+0.3**
PQSS	**Presa 15 de Se**	**1.49**	**301**	*e*P	**Pn**		**20**	**25**	**54.6**	**+0.5**
SCLA	**Alcaldia de Sa**	**1.67**	**300**	*e*P	**Pn**		**20**	**25**	**56.3**	**+0.6**
COEG	**Centro de Oper**	**1.76**	**296**	*e*P	**Pn**		**20**	**25**	**56.9**	**+0.3**
PAVA	**Las Pavas**	**1.85**	**297**	*e*P	**Pn**		**20**	**25**	**57.9**	**+0.4**
LOMA	**Loma Larga**	**2.03**	**293**	*e*P	**Pn**		**20**	**25**	**59.4**	**+0.1**
MORN	**AI O del Volca**	**2.04**	**130**	*i* P	**Pn**		**20**	**25**	**59.2**	**-0.1**
MORN				IAML			20	26	41.6	
	comp=Z,6μm,1.0s									
SNET	**Serv Nac Est T**	**2.10**	**293**		**Pn**		**20**	**25**	**59.8**	**-0.2**
SNET					**Sn**		**20**	**26**	**29.8**	**-1.3**
PIC2	**El Picacho**	**2.15**	**294**	*e*P	**Pn**		**20**	**26**	**01.5**	**+0.8**
BOQS	**Boqueron**	**2.16**	**294**	*e*P	**Pn**		**20**	**26**	**01.1**	**+0.2**
BOQS				*e*S	**Sn**		**20**	**26**	**35.2**	**+2.7**
PMON	**Piamonte**	**2.18**	**293**	*e*P	**Pn**		**20**	**26**	**01.4**	**+0.5**
ACON	**Acoyapa**	**2.21**	**113**		**Pn**		**20**	**26**	**00.9**	**-0.2**
SNJE	**San Jose**	**2.50**	**294**	*e*P	**Pn**		**20**	**26**	**05.0**	**+0.5**
SNJE				IAML			20	26	55.5	
	comp=Z,116nm,0.4s									
CEVE	**Cerro Verde**	**2.51**	**293**	*e*P	**Pn**		**20**	**26**	**05.1**	**+0.6**
CEVE				IAML			20	26	51.1	
	comp=Z,1μm,0.4s									
SBLS	**San Blas**	**2.51**	**293**	*e*P	**Pn**		**20**	**26**	**05.0**	**+0.5**
SBLS				*e*S	**Sn**		**20**	**26**	**38.0**	**-1.3**
RTR	**El Retiro**	**2.55**	**294**	*e*P	**Pn**		**20**	**26**	**06.0**	**+1.1**
MTO3	**Montecristo**	**2.56**	**307**		**Pn**		**20**	**26**	**05.9**	**+0.8**
ESQI	**Esquipulas**	**2.65**	**310**	Pn	**Pn**		**20**	**26**	**07.0**	**+1.0**
NUBE	**Las Nubes**	**2.67**	**293**	*e*P	**Pn**		**20**	**26**	**06.1**	**-0.2**
HZTE	**Horizontes, Gu**	**2.68**	**143**		**Pn**		**20**	**26**	**06.6**	**+0.4**
HZTE				Sn	**Sn**		**20**	**26**	**39.0**	**-3.3**
ESPN	**Las Esperanzas**	**2.95**	**103**		**Pn**		**20**	**26**	**09.2**	**-0.2**
ORTG	**Ortega, Santa**	**3.04**	**145**		**Pn**		**20**	**26**	**11.0**	**+0.5**
DUNO	**Dulce Nombre,**	**3.25**	**148**		**Pn**		**20**	**26**	**13.3**	**+0.4**
JTS	**Las Juntas de**	**3.40**	**138**		**Pn**		**20**	**26**	**14.6**	**-0.1**
JTS	**Las Juntas de**	**3.40**	**138**	P	**Pn**		**20**	**26**	**13.7**	**-1.0**
	comp=Z,42nm,0.3s,baz=300,slow=22,SNR=32									
JTS				S	**Sn**		**20**	**26**	**53.4**	**-4.2**
	comp=Z,126nm,0.3s,baz=295,slow=22,SNR=14									
SOCE	**Pocosol**	**3.56**	**133**		**Pn**		**20**	**26**	**16.9**	**+0.3**
APG	**El Apazote**	**3.78**	**305**	P	**Pn**		**20**	**26**	**20.9**	**+1.3**
	comp=Z,2.4nm,0.5s,baz=129,slow=10,SNR=25									
APG				S	**Sn**		**20**	**27**	**06.7**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=203,slow=14,SNR=7.6									
JACO	**JACO, Garabito**	**4.07**	**141**	Pn	**Pn**		**20**	**26**	**23.3**	**+0.5**
LCR2	**La Lucha 2**	**4.44**	**134**	Pn	**Pn**		**20**	**26**	**28.2**	**+0.5**
SRBA	**San Rafael, Bu**	**5.25**	**133**		**Pn**		**20**	**26**	**38.7**	**+0.8**
CMIG	**Matias Romero**	**8.49**	**301**	P	**Pn**		**20**	**27**	**20.1**	**+0.4**
	comp=Z,1.1nm,0.3s,baz=162,slow=12,SNR=2.5									
CMIG				S	**Sn**		**20**	**28**	**48.9**	**-6.5**
	comp=Z,1.7nm,0.5s,baz=168,slow=23,SNR=1.8									
SDV	**Santo Domingo**	**16.78**	**102**	P	**P**		**20**	**29**	**03.2**	**+0.6**
SDV				IAmb	IAmb		20	29	05.4	
	comp=Z,21nm,0.6s									
SDV	**Santo Domingo**	**16.78**	**102**	P	**P**		**20**	**29**	**01.1**	**-1.5**
	comp=Z,18nm,0.6s,baz=284,slow=6.8,SNR=12									
TIGA	**Tifton**	**18.80**	**10**	P	**P**		**20**	**29**	**25.5**	**+1.4**
BAUV	**El Baul**	**19.25**	**100**	P	**P**		**20**	**29**	**28.2**	**-1.1**
152A	**Waverly Hall**	**19.85**	**6**	P	**P**		**20**	**29**	**36.5**	**+1.0**
LRAL	**Lakeview Retre**	**20.09**	**1**	P	**P**		**20**	**29**	**38.9**	**+0.9**
LRAL				IAmb	IAmb		20	29	42.0	
	comp=Z,24nm,1.2s									
GOGA	**Godfrey**	**20.75**	**9**	P	**P**		**20**	**29**	**45.3**	**+0.3**
Y49A	**Blount Mountai**	**20.92**	**2**	IAmb	IAmb		20	29	48.4	
	comp=Z,18nm,0.8s									
JCT	**Junction City**	**21.03**	**328**	P	**P**		**20**	**29**	**49.1**	**+1.0**
BRDY	**Brady**	**21.30**	**331**	P	**P**		**20**	**29**	**50.8**	**-0.1**
BRDY				IAmb	IAmb		20	29	53.0	
	comp=Z,14nm,0.8s									
FPAL	**Fort Paine**	**21.64**	**4**	IAmb	IAmb		20	29	55.0	
	comp=Z,9.4nm,0.6s									
HODGE	**Hodges**	**21.75**	**11**	IAmb	IAmb		20	29	57.3	
	comp=Z,24nm,1.1s									
JSC	**Jenkinsville**	**22.01**	**13**	IAmb	IAmb		20	30	00.3	
	comp=Z,16nm,1.0s									
SWET	**Sewanee**	**22.29**	**3**	IAmb	IAmb		20	30	02.1	
	comp=Z,9nm,0.5s									
PLPT	**Palo Pinto**	**22.30**	**335**	IAmb	IAmb		20	30	02.3	
	comp=Z,22nm,0.8s									
W52A	**Murphy**	**22.34**	**7**	IAmb	IAmb		20	30	02.5	
	comp=Z,15nm,0.6s									
MIAR	**Mount Ida**	**22.34**	**346**	IAmb	IAmb		20	30	02.7	
	comp=Z,12nm,0.8s									
BG3	**Lake Jocassee**	**22.38**	**9**	P	**P**		**20**	**30**	**02.5**	**+1.1**
BG3				IAmb	IAmb		20	30	03.0	
	comp=Z,17nm,0.8s									
TXAR	**Lajitas Array**	**22.39**	**320**	P	**P**		**20**	**30**	**02.9**	**+1.3**
TXAR	**Lajitas Array**	**22.39**	**320**	P	**P**		**20**	**30**	**02.5**	**+0.9**
	comp=Z,3.0nm,0.7s,baz=139,slow=9.6,SNR=41									
TXAR				ScP	**ScP**		**20**	**37**	**09.1**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=116,slow=4.1,SNR=2.4									
	comp=Z,3.0nm,0.7s									
TX31	**Lajitas Ar. Si**	**22.39**	**320**	P	**P**		**20**	**30**	**02.6**	**+0.9**
PAULI	**Pauline**	**22.41**	**12**	IAmb	IAmb		20	30	03.5	
	comp=Z,16nm,0.7s									
BIRD	**Birdtown, Kers**	**22.55**	**15**	IAmb	IAmb		20	30	04.4	
	comp=Z,21nm,0.8s									
CPCT	**Cooper Cave**	**22.63**	**6**	IAmb	IAmb		20	30	06.2	
	comp=Z,34nm,1.1s									
KMSC	**Kings Mountain**	**22.82**	**13**	IAmb	IAmb		20	30	07.5	
	comp=Z,13nm,0.8s									
X37A	**Clayton**	**22.86**	**343**	P	**P**		**20**	**30**	**07.0**	**+1.3**
X37A				IAmb	IAmb		20	30	08.4	
	comp=Z,9.7nm,0.8s									
LOOK	**Love County**	**22.90**	**338**	IAmb	IAmb		20	30	11.2	
	comp=Z,17nm,0.7s									
TKL	**Tuckaleechee C**	**22.92**	**7**	IAmb	IAmb		20	30	09.1	
	comp=Z,21nm,0.9s									
V53A	**Saluda**	**23.06**	**9**	IAmb	IAmb		20	30	10.8	
	comp=Z,15nm,0.7s									
W57A	**Gilead**	**23.15**	**15**	IAmb	IAmb		20	30	09.6	
	comp=Z,14nm,0.8s									
WTFS	**Witchita Falls**	**23.19**	**336**	IAmb	IAmb		20	30	11.2	
	comp=Z,16nm,0.8s									
APMT	**Aspermont**	**23.52**	**332**	IAmb	IAmb		20	30	14.3	
	comp=Z,15nm,0.9s									
U49A	**Red Boiling Sp**	**23.59**	**3**	IAmb	IAmb		20	30	15.1	
	comp=Z,12nm,0.8s									
TZTN	**Tazewell**	**23.82**	**7**	IAmb	IAmb		20	30	17.9	
	comp=Z,18nm,0.8s									
POST	**Post**	**23.96**	**329**	IAmb	IAmb		20	30	19.5	
	comp=Z,8.1nm,0.6s									
T47A	**Sharon Grove**	**24.03**	**0**	IAmb	IAmb		20	30	18.8	
	comp=Z,10.0nm,0.6s									
WMOK	**Wichita Mounta**	**24.16**	**336**	IAmb	IAmb		20	30	20.6	
	comp=Z,19nm,0.9s									
OK048	**Pawnee Station**	**25.02**	**341**	IAmb	IAmb		20	30	28.9	
	comp=Z,17nm,1.1s									
OK051	**E0350 and S346**	**25.07**	**342**	IAmb	IAmb		20	30	29.4	
	comp=Z,13nm,0.9s									
S39A	**Bolivar**	**25.32**	**349**	IAmb	IAmb		20	30	28.3	
	comp=Z,8.9nm,0.6s									
R55A	**Marlinton**	**26.10**	**13**	IAmb	IAmb		20	30	39.0	
	comp=Z,9.6nm,0.9s									
Q52A	**Bidwell**	**26.37**	**9**	IAmb	IAmb		20	30	38.5	
	comp=Z,13nm,0.7s									
P53A	**Whipple**	**27.02**	**10**	IAmb	IAmb		20	30	44.4	
	comp=Z,11nm,0.6s									
O52A	**Adamsville**	**27.57**	**9**	IAmb	IAmb		20	30	49.0	
	comp=Z,8.6nm,0.7s									
P57A	**Homestead Farm**	**27.75**	**15**	IAmb	IAmb		20	30	51.7	
	comp=Z,10nm,0.6s									
M57A	**Sushine Farm,**	**29.72**	**15**	IAmb	IAmb		20	31	08.5	
	comp=Z,17nm,1.0s									
BINY	**Binghamton**	**30.83**	**16**	IAmb	IAmb		20	31	18.1	
	comp=Z,8.7nm,0.8s									
J56A	**Wolcott**	**31.61**	**15**	IAmb	IAmb		20	31	24.3	
	comp=Z,17nm,0.8s									
F33A	**5 Mile Ranch,**	**33.76**	**349**	IAmb	IAmb		20	31	41.8	
	comp=Z,14nm,0.7s									
LPAZ	**La Paz**	**34.58**	**146**	P	**P**		**20**	**31**	**50.9**	**+0.6**
	comp=Z,0.7nm,0.5s,baz=101,slow=5.0,SNR=2.2									
	comp=Z,0.7nm,0.5s									
G62A	**West of Eustis**	**35.25**	**21**	IAmb	IAmb		20	31	56.7	
	comp=Z,23nm,1.2s									
PDAR	**Pinedale Array**	**35.51**	**331**	P	**P**		**20**	**31**	**58.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=127,slow=10,SNR=9.1									
	comp=Z,0.9nm,0.5s									
PB16	**IPOC Station P**	**35.59**	**150**	P	**P**		**20**	**32**	**00.3**	**+1.4**
HWUT	**Hardware Ranch**	**35.63**	**328**	P	**P**		**20**	**31**	**59.6**	**+1.0**
G65A	**Princeton**	**36.33**	**24**	IAmb	IAmb		20	32	05.9	
	comp=Z,16nm,1.1s									
GO01	**Chusmiza**	**36.89**	**151**	P	**P**		**20**	**32**	**11.2**	**+1.5**
D62A	**Allapoint, All**	**37.38**	**21**	IAmb	IAmb		20	32	14.2	
	comp=Z,12nm,0.9s									
NVAR	**Mina Array Bea**	**37.53**	**318**	P	**P**		**20**	**32**	**16.3**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=133,slow=8.3,SNR=4.5									
	comp=Z,0.6nm,0.7s									
ULM	**Lac du Bonnet**	**37.95**	**351**	P	**P**		**20**	**32**	**16.2**	**-1.5**
	comp=Z,8.5nm,0.6s,baz=170,slow=8.2,SNR=11									
	comp=Z,8.5nm,0.6s									
FFC	**Flin Flon**	**43.34**	**348**	P	**P**		**20**	**33**	**01.9**	**+0.2**
SCHQ	**Schefferville**	**44.83**	**17**	P	**P**		**20**	**33**	**12.7**	**-1.0**
SCHQ				IAmb	IAmb		20	33	13.4	
	comp=Z,14nm,0.6s									
SCHQ	**Schefferville**	**44.83**	**17**	P	**P**		**20**	**33**	**12.6**	**-1.1**
	comp=Z,14nm,0.5s,baz=217,slow=6.2,SNR=59									
YKA	**Yellowknife Ar**	**53.27**	**345**	P	**P**		**20**	**34**	**16.5**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=136,slow=6.9,SNR=28									
	comp=Z,1.4nm,0.8s									
PLCA	**Paso Flores**	**55.52**	**165**	P	**P**		**20**	**34**	**34.5**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=337,slow=6.8,SNR=6.4									
	comp=Z,0.7nm,0.5s									
ILAR	**Eielson Array**	**65.73**	**336**	P	**P**		**20**	**35**	**41.2**	**-1.3**
	comp=Z,0.5nm,0.8s,baz=108,slow=4.9,SNR=5.0									
	comp=Z,0.5nm,0.8s									
ESDC	**Sonseca Array**	**76.78**	**52**	P	**P**		**20**	**36**	**47.1**	**-2.2**
	comp=Z,0.5nm,0.7s,baz=275,slow=5.0,SNR=4.0									
	comp=Z,0.5nm,0.7s									
STKA	**Stephens Creek**	**131.47**	**239**	PKP	**PKPdf**		**20**	**44**	**08.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=86,slow=8.9,SNR=5.0									
WRA	**Warramunga Arr**	**139.57**	**254**	PKhKP	PKPpre		20	44	16.1	
	comp=Z,0.4nm,0.5s,baz=90,slow=3.6,SNR=8.0									
WRA				PKP	**PKPdf**		**20**	**44**	**24.7**	**+0.6**
	comp=Z,2.7nm,0.5s,baz=91,slow=2.3,SNR=14									
ASAR	**Alice Springs**	**139.60**	**249**	PKhKP	PKPpre		20	44	17.0	
	comp=Z,1.6nm,0.6s,baz=112,slow=3.3,SNR=8.2									
ASAR				PKP	**PKPdf**		**20**	**44**	**24.7**	**+0.6**
	comp=Z,1.7nm,0.6s,baz=92,slow=1.8,SNR=12									
NWAO	**Narrogin (SRO)**	**150.01**	**224**	PKPbc	**PKPbc**		**20**	**44**	**47.4**	**+0.6**
	comp=Z,14nm,1.1s,baz=192,slow=13,SNR=2.9									

SSNC 09 20:25:20.2±1.3, **19˚.73N**×**75˚.64W**, **h17**km±4km, **MD2.3, ML1.3, Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
RCC	**Rio Carpintero**	**0.27**	**349**	*e*P	Pg		20	25	25.6	-0.5
RCC				*e*S	Sg		20	25	29.6	-0.6
RCC				IAML			20	25	29.9	
	comp=N,81nm,0.1s									
RCC				IAML			20	25	30.0	
	comp=E,63nm,0.1s									
MARVS	**Santiago de Cu**	**0.36**	**318**	*e*P	Pg		20	25	27.3	-0.5
MARVS				*e*S	Sg		20	25	32.3	-0.6
MARVS				IAML			20	25	33.5	
	comp=E,12nm,0.1s									
MARVS				IAML			20	25	33.5	
	comp=N,26nm,0.1s									
MARVS	**Santiago de Cu**	**0.36**	**318**	*e*P	Pg		20	25	27.2	-0.5
MARVS				*e*S	Sg		20	25	32.4	-0.5
MARVS				IAML			20	25	34.1	
	comp=N,26nm,0.2s									
MARVS				IAML			20	25	34.7	
	comp=E,19nm,0.1s									
GTBY	**Guantanamo Bay**	**0.54**	**69**	*e*P	Pg		20	25	30.6	-0.3
GTBY				*e*S	Sg		20	25	38.0	-0.1
GTBY				IAML			20	25	38.9	
	comp=E,49nm,0.1s									
GTBY				IAML			20	25	39.1	
	comp=E,31nm,0.1s									
SABCS	**La Quijada**	**0.70**	**26**	*e*P	Pg		20	25	32.2	-1.8
SABCS				*e*S	Sg		20	25	42.3	-1.0
SABCS				IAML			20	25	44.3	
	comp=N,10nm,0.2s									
SABCS				IAML			20	25	45.3	
	comp=E,11nm,0.2s									
PINC	**Pinares de May**	**0.77**	**350**	*e*P	Pb		20	25	32.9	-2.2
PINC				*e*S	Sb		20	25	42.3	-2.9
PINC				IAML			20	25	43.1	
	comp=E,39nm,0.1s									
PINC				IAML			20	25	43.1	
	comp=N,44nm,0.1s									
PINC	**Pinares de May**	**0.77**	**350**	*e*P	Pb		20	25	33.1	-2.0
PINC				*e*S	Sb		20	25	42.2	-3.0
PINC				IAML			20	25	43.0	
	comp=E,30nm,0.1s									
PINC				IAML			20	25	43.0	
	comp=N,46nm,0.1s									
CHIV	**Chivirico**	**0.77**	**289**	*e*P	Pb		20	25	33.5	-1.6
CHIV				*e*S	Sb		20	25	42.7	-2.5
CHIV				IAML			20	25	45.5	
	comp=E,5.4nm,0.1s									
CHIV				IAML			20	25	45.6	
	comp=N,4.7nm,0.1s									
CHIV	**Chivirico**	**0.77**	**289**	*e*P	Pb		20	25	33.6	-1.5
CHIV				*e*S	Sg		20	25	45.3	0.0
CHIV				IAML			20	25	46.8	
	comp=N,4.7nm,0.1s									
CHIV				IAML			20	25	46.

GUMO LR LR 21 03 24.5
comp=Z,49µm,20.5s,baz=48,slow=47
JCJ Chichijima 13.39 346 Pn **Pn 21 05 49.3 +1.2**
JCJ Chichijima 13.39 346 P **Pn 21 05 47.1 -1.0**
26nm,0.5s,baz=299,slow=16,SNR=1.6
JCJ S **Sn 21 08 15.8 +0.2**
25nm,0.3s,baz=292,slow=23,SNR=1.5
JCJ LR LR 21 09 22.2
comp=Z,341nm,21.7s,baz=104,slow=30
PATS Pohnpei 14.31 119 Pn **Pn 21 05 55.7 -4.3**
MANU Manus Island 16.07 174 P **Pn 21 06 22.4 +0.1**
192nm,1.7s
MANU Manus Island 16.07 174 **Pn 21 06 19.8 -2.5**
JAY Jayapura 17.19 197 P **Pn 21 06 35.7 -0.4**
73nm,0.8s,1µm
JAY Jayapura 17.19 197 P **P 21 06 36.8 +0.7**
JAY pmax pmax
comp=Z,73nm,0.8s
KAVG Kavieng 17.28 163 P **Pn 21 06 36.9 -0.2**
comp=Z,6µm,0.9s
SMPI Sarmi 17.38 204 P **Pn 21 06 39.0 +0.6**
comp=Z,73nm,1.2s,comp=Z,2µm
GENI Genyem 17.43 199 P **Pn 21 06 40.1 +1.2**
comp=Z,155nm,1.3s
GENI Genyem 17.43 199 P **Pn 21 06 41.5 +2.6**
JMZ Minamidaito 2 17.95 313 P **Pn 21 06 48.0 +2.9**
comp=Z,400nm,1.0s
JMZ Minamidaito 2 17.95 313 P **Pn 21 06 47.2 +2.1**
RABL Rabaul 19.22 160 P **Pn 21 07 00.5 +0.2**
comp=Z,596nm,1.6s
RABL Rabaul 19.22 160 P **P 21 06 58.3 0.0**
KRVT Keravat (AS076 19.28 161 LR LR 21 13 46.7
comp=Z,150nm,19.9s,baz=279,slow=35
TABU Tabubil 19.70 193 P **Pn 21 07 05.6 -0.4**
comp=Z,5µm,0.9s
JHJ2 Mitsune 19.72 345 P **P 21 07 03.8 +0.2**
JHJ Hachijo jima 2 19.74 345 P **P 21 07 03.4 -0.4**
comp=Z,58nm,0.3s,baz=88,slow=24,SNR=1.6
JHJ S **S 21 10 30.4 -10**
comp=Z,174nm,0.9s,baz=261,slow=23,SNR=1.8
JHJ LR LR 21 14 05.1
comp=Z,528nm,20.8s,baz=189,slow=35
H11S3 WAKE ISLAND Hy 20.61 75 T T 21 29 24.1
baz=261,slow=75,SNR=8.6
SWI Sorong 20.61 225 P **P 21 07 14.4 +1.1**
comp=Z,1µm,1.0s,comp=Z,12µmcomp=Z,3µm
H11S1 WAKE ISLAND Hy 20.62 75 T T 21 29 12.3
baz=261,slow=75,SNR=26
H11S2 WAKE ISLAND Hy 20.62 75 T T 21 29 12.0
baz=261,slow=75,SNR=15
JOW Kunigami 20.68 311 P Pn 21 07 16.5 -0.7
comp=Z,336nm,0.5s
JOW Kunigami 20.68 311 P **P 21 07 14.9 +0.9**
JOW Kunigami 20.68 311 P **P 21 07 14.3 +0.3**
comp=Z,183nm,0.8s,baz=141,slow=11,SNR=22
JOW LR LR 21 13 49.8
comp=Z,797nm,19.4s,baz=132,slow=32
comp=Z,183nm,0.8s
DAV Davao City (W) 20.96 253 P **P 21 07 17.0 -0.2**
DAV Davao City (W) 20.96 253 P **P 21 07 17.2 0.0**
comp=Z,150nm,0.4s,baz=69,slow=2.9,SNR=6.9
DAV S **S 21 11 06.8 +1.6**
comp=Z,118nm,0.3s,baz=75,slow=17,SNR=1.6
DAV LR LR 21 14 02.7
comp=Z,416nm,20.4s,baz=58,slow=32
comp=Z,150nm,0.4s
H11N1 WAKE ISLAND Hy 21.02 72 T T 21 30 24.5
baz=258,slow=75
H11N2 WAKE ISLAND Hy 21.03 72 T T 21 30 07.8
baz=258
H11N3 WAKE ISLAND Hy 21.04 72 T T 21 30 26.3
baz=258,slow=75
FAKI Fak Fak 21.51 219 P **P 21 07 24.2 +1.2**
comp=Z,985nm,0.8s
FAKI Fak Fak 21.51 219 P **P 21 07 23.3 +0.3**
FAKI Fak Fak 21.51 219 P **P 21 07 23.5 +0.5**
comp=Z,991nm,1.1s,comp=Z,11µmcomp=Z,3µm
JMN Monobe 22.34 333 P **P 21 07 33.5 +1.8**
comp=Z,297nm,1.8s
JMN Monobe 22.34 333 P **P 21 07 32.7 +1.0**
TNTI Ternate 22.44 236 P **P 21 07 32.0 -0.8**
comp=Z,158nm,0.8s
TNTI Ternate 22.44 236 P **P 21 07 30.5 -2.3**
TNTI Ternate 22.44 236 P **P 21 07 30.9 -1.9**
comp=Z,158nm,0.8s,comp=Z,2µmcomp=Z,1µm
JGF Kuroka 22.74 342 P **P 21 07 36.4 +0.8**
comp=Z,93nm,0.9s
JGF Kuroka 22.74 342 P **P 21 07 35.6 0.0**
LBMI Labuha 23.20 232 P **P 21 07 39.0 -1.3**
comp=Z,182nm,0.9s,comp=Z,3µm
JNU Nakatsue 23.30 327 P **P 21 07 42.0 +0.9**
comp=Z,140nm,0.7s
JNU Nakatsue 23.30 327 P **P 21 07 41.4 +0.4**
JNU Nakatsue 23.30 327 P **P 21 07 41.5 +0.5**
comp=Z,71nm,0.6s,baz=168,slow=2.4,SNR=64
JNU LR LR 21 13 41.0
comp=Z,513nm,21.4s,baz=150,slow=28
comp=Z,71nm,0.6s
PMG Port Moresby 23.35 176 P **P 21 07 40.1 -1.4**
PMG Port Moresby 23.35 176 P **P 21 07 40.1 -1.4**
MJAR Matsushiro Arr 23.39 345 P **P 21 07 41.1 -0.7**
comp=Z,22nm,0.6s,baz=174,slow=9.2,SNR=51
MJAR S **S 21 11 48.4 +1.5**
comp=Z,2.6nm,0.9s,baz=141,slow=12,SNR=1.7
MJAR ScP **ScP 21 14 54.1 -0.1**
comp=Z,2.2nm,0.8s,baz=200,slow=3.2,SNR=3.0
MJAR LR LR 21 15 58.0
comp=Z,1µm,21.5s,baz=156,slow=34
comp=Z,22nm,0.6s
MAJO Matsushiro 23.39 345 P **P 21 07 41.7 -0.1**
comp=Z,56nm,0.8s
MAJO Matsushiro 23.39 345 P **P 21 07 40.9 -0.9**
MAJO Matsushiro 23.39 345 P **P 21 07 40.9 -0.9**
MJB9 Matsu-Tunnel 23.39 345 P **P 21 07 42.2 +0.4**
YOJ Yonaguni jima 23.77 299 P **P 21 07 44.9 -0.4**
YOJ Yonaguni jima 23.77 299 P **P 21 07 44.9 -0.4**
TGY Tagaytay City 24.03 273 LR LR 21 17 05.6
comp=Z,459nm,19.6s,baz=98,slow=36
JMM Marumori 24.12 350 P **P 21 07 47.5 -0.9**
BNDI Bandanaira 24.22 221 P **P 21 07 50.1 +0.7**
comp=Z,629nm,0.8s
BNDI Bandanaira 24.22 221 P **P 21 07 49.5 +0.1**
comp=Z,624nm,0.8s
JSD Sado 24.79 346 P **P 21 07 57.6 +3.2**
comp=Z,102nm,0.8s
JSD Sado 24.79 346 P **P 21 07 54.1 -0.3**
NACB Ninganchiao 24.88 297 P **P 21 07 56.0 +0.6**
YULB Yu-li 24.89 296 P **P 21 07 56.7 +1.1**
comp=Z,144nm,0.7s
YULB Yu-li 24.89 296 P **P 21 07 55.6 0.0**
TWGBT Beinan 24.92 294 P **P 21 07 57.1 +1.3**
comp=Z,104nm,1.1s
YHNB Yeheng 25.23 298 P **P 21 07 58.2 -0.5**
SANI Sanana 25.26 232 P **P 21 07 57.2 -1.8**
comp=Z,116nm,0.8s
SANI Sanana 25.26 232 P **P 21 07 56.7 -2.3**
comp=Z,87nm,0.6s,comp=Z,2µm
SSLB Suanglung 25.31 296 P **P 21 08 00.6 +1.2**
comp=Z,140nm,0.9s
SSLB Suanglung 25.31 296 P **P 21 07 59.1 -0.3**
KMSI Cibinong 25.34 240 P **P 21 07 59.3 -0.3**
comp=Z,1µm,0.8s,comp=Z,13µmcomp=Z,2µm
TPUB Ta-pu 25.45 295 P **P 21 08 01.8 +1.2**
comp=Z,83nm,0.8s
TPUB Ta-pu 25.45 295 P **P 21 08 00.2 -0.4**
GTOI Gorontalo 26.12 241 P **P 21 08 06.4 -0.3**
comp=Z,48nm,0.6s,comp=Z,594nm
JTM Tenmabayashi 26.95 352 P **P 21 08 14.2 +0.3**
JTM IAmb IAmb 21 08 38.4
comp=Z,151nm,1.4s
LUWI Luwuk 27.23 238 P **P 21 08 15.6 -1.1**
comp=Z,702nm,0.7s
LUWI Luwuk 27.23 238 P **P 21 08 15.1 -1.7**
LUWI Luwuk 27.23 238 P **P 21 08 15.0 -1.7**
comp=Z,707nm,0.7s,comp=Z,4µm
TJN Taejon 27.65 327 P **P 21 08 20.7 +0.5**
comp=Z,141nm,1.0s
TJN Taejon 27.65 327 P **P 21 08 20.3 +0.1**
TJN IAmb IAmb 21 08 25.4
comp=Z,104nm,0.8s
TJN Taejon 27.65 327 *ce*P **P 21 08 19.7 -0.5**
TOLI2 Tolitoli 27.81 245 P **P 21 08 20.9 -1.0**
comp=Z,27nm,0.8s
TOLI2 Tolitoli 27.81 245 P **P 21 08 20.6 -1.3**
COEN Coen 27.94 185 P **P 21 08 23.2 +0.2**
comp=Z,42nm,1.0s
COEN Coen 27.94 185 P **P 21 08 22.8 -0.2**

ERM Erimo 27.95 356 P **P 21 08 23.5 +0.7**
ERM Erimo 27.95 356 P **P 21 08 23.5 +0.7**
ERM pmax pmax
comp=Z,30nm,1.1s
KSRS Korea Array 28.18 329 P **P 21 08 25.2 +0.3**
comp=Z,53nm,0.7s,baz=142,slow=10,SNR=171
KSRS PcP **PcP 21 11 37.4 +1.1**
comp=Z,3.6nm,0.8s,baz=152,slow=3.7,SNR=6.4
KSRS ScP **ScP 21 15 09.2 +1.2**
comp=Z,5.3nm,1.2s,baz=152,slow=2.7,SNR=8.8
KSRS LR LR 21 19 13.0
comp=Z,476nm,18.9s,baz=145,slow=35
comp=Z,53nm,0.7s
KSAR Wonju Array Be 28.19 329 P **P 21 08 25.4 +0.4**
KSAR Wonju Array Be 28.19 329 P **P 21 08 25.4 +0.4**
SSE Sheshan 28.20 311 P **P 21 08 24.6 -0.5**
SSE S **S 21 13 04.1 +0.8**
SSE pmax pmax
comp=Z,17nm,0.9s
SSE pmax pmax
comp=Z,290nm,7.4s
SSE LR LR
comp=Z,380nm,20.1s
SSE LR LR
comp=Z,330nm,19.0s
KS19 Wonju Array Si 28.25 329 P **P 21 08 25.6 +0.1**
KS19 IAmb IAmb 21 08 27.4
comp=Z,88nm,0.9s
INCN Inchon 28.86 327 P **P 21 08 31.9 +0.9**
comp=Z,51nm,0.8s
INCN Inchon 28.86 327 P **P 21 08 30.8 -0.2**
INCN IAmb IAmb 21 08 32.0
comp=Z,37nm,0.9s
INCN Inchon 28.86 327 P **P 21 08 30.8 -0.2**
INCN pmax pmax
comp=Z,37nm,0.9s
MPSI Mapaga 28.96 244 P **P 21 08 31.1 -1.0**
comp=Z,42nm,1.6s,comp=Z,749nm
KDU Kakadu 29.63 207 P **P 21 08 37.9 0.0**
comp=Z,30nm,0.8s
TARA Tarawa 29.71 113 P **P 21 08 37.3 -1.5**
TARA IAmb IAmb 21 08 58.7
comp=Z,140nm,1.4s
BBSI Bau Bau 30.07 231 P P 21 08 48.5 +6.6
JKA Kamikawa-asahi 30.08 356 P **P 21 08 42.2 +0.5**
ASAJ Asahikawa 30.08 356 P **P 21 08 42.0 +0.3**
comp=Z,13nm,0.6s,baz=206,slow=10,SNR=27
ASAJ LR LR 21 20 49.4
comp=Z,291nm,20.2s,baz=188,slow=36
comp=Z,13nm,0.6s
ASAJ Asahikawa 30.08 356 P **P 21 08 42.2 +0.5**
ASAJ pmax pmax
comp=Z,13nm,0.6s
MTN Manton Dam 30.38 209 P **P 21 08 44.5 -0.1**
comp=Z,37nm,0.7s
MTN Manton Dam 30.38 209 P **P 21 08 43.9 -0.7**
MTN IAmb IAmb 21 09 09.0
comp=Z,34nm,0.9s
NJ2 Nanjing 30.39 311 *e*P P 21 08 53.6 +9.0
NJ2 pmax pmax
comp=Z,14nm,0.9s
NJ2 pmax pmax
comp=Z,370nm,5.2s
NJ2 LR LR
comp=N,930nm,18.9s
NJ2 LR LR
comp=E,590nm,17.5s
NJ2 LR LR
comp=Z,1µm,23.7s
TTSI Tana Toraja 30.79 238 P **P 21 08 49.5 +1.2**
comp=Z,35nm,0.6s,comp=Z,713nm
MSHR Mys Shultsa 31.09 339 *ce*P **P 21 08 51.1 +0.6**
MSHR pmax pmax
comp=Z,24nm,0.8s
VLA Vladivostok 31.32 340 *i* P **P 21 08 53.4 +0.8**
VLA pmax pmax
comp=Z,93nm,0.9s
SOEI Soe 31.82 223 P **P 21 08 58.3 +0.9**
comp=Z,240nm,0.8s
SOEI Soe 31.82 223 P **P 21 08 55.7 -1.7**
SOEI Soe 31.82 223 P **P 21 08 56.3 -1.1**
comp=Z,237nm,0.8s,comp=Z,3µm
BKSI Bulukumba 31.86 235 P **P 21 08 59.1 +1.4**
comp=Z,38nm,1.0s,comp=Z,578nm
KAPI Kappang 31.98 235 P **P 21 08 58.6 -0.1**
comp=Z,54nm,1.0s
KAPI Kappang 31.98 235 P **P 21 08 57.7 -1.0**
KAPI IAmb IAmb 21 08 58.8
comp=Z,37nm,0.8s
KAPI Kappang 31.98 235 *i* P **P 21 08 58.0 -0.7**
KAPI pmax pmax
comp=Z,42nm,0.8s
MTSU Mount Surprise 32.01 183 P **P 21 08 59.6 +0.7**
comp=Z,50nm,0.8s
USRK Ussuriysk Ar. 32.26 341 P **P 21 09 01.0 +0.2**
comp=Z,29nm,0.8s,baz=156,slow=8.3,SNR=37
USRK LR LR 21 20 45.8
comp=Z,567nm,20.6s,baz=155,slow=34
comp=Z,29nm,0.8s
USA0B Ussuriysk Arra 32.26 341 P **P 21 09 01.5 +0.7**
USA0B IAmb IAmb 21 09 03.5
comp=Z,34nm,0.8s
USA0B Ussuriysk Arra 32.26 341 *i* P **P 21 09 01.6 +0.8**
BKB Balikpapan 32.35 244 P **P 21 09 00.9 -1.1**
BKB IAmb IAmb 21 09 06.1
comp=Z,123nm,1.2s
MMRI Maumere 32.42 227 P **P 21 09 02.7 +0.2**
comp=Z,219nm,1.0s
MMRI Maumere 32.42 227 P **P 21 09 01.3 -1.3**
MMRI Maumere 32.42 227 P **P 21 09 01.8 -0.7**
comp=Z,217nm,1.0s,comp=Z,3µm
BATI Baumata 32.55 223 P **P 21 09 02.2 -1.5**
comp=Z,118nm,0.7s,baz=69,slow=13,SNR=24
comp=Z,118nm,0.7s
BATI Baumata 32.55 223 P **P 21 09 02.5 -1.2**
comp=Z,157nm,1.0s
DL2 Dalian 32.63 324 P **P 21 09 05.2 +1.0**
DL2 pP **pP 21 09 27.2 +0.3**
DL2 S **S 21 14 14.8 +2.3**
DL2 pmax pmax
comp=Z,260nm,0.8s
DL2 pmax pmax
comp=Z,760nm,5.7s
DL2 LR LR
comp=Z,930nm,14.5s
DL2 LR LR
comp=Z,740nm,17.3s
DL2 LR LR
comp=Z,750nm,18.6s
EDFI Ende, Flores 32.89 228 P **P 21 09 05.1 -1.7**
comp=Z,74nm,0.8s,comp=Z,1µm
YSS Yuzh-Sakhalins 32.90 356 P **P 21 09 05.1 -1.3**
YSS Yuzh-Sakhalins 32.90 356 *e*P **P 21 09 06.0 -0.3**
YSS *e**SP **sP 21 09 38.4 -2.1**
YSS *e* 21 10 33.3
YSS *e*S **S 21 14 17.8 +1.4**
YSS *e*SS **SS 21 16 45.0 +2.6**
YSS pmax pmax
comp=Z,20nm,0.7s
TV1H Townsville Har 33.12 178 P **P 21 09 09.1 +0.6**
comp=Z,49nm,1.1s
WHN Wuhan 33.19 305 P **P 21 09 09.8 +0.7**
WHN S **S 21 14 25.8 +4.4**
WHN pmax pmax
comp=Z,220nm,1.7s
MDJ Mudanjiang 33.42 339 P **P 21 09 11.2 +0.3**
MDJ pP pP 21 09 32.5 -1.4
MDJ PcP **PcP 21 11 50.4 +0.3**
MDJ S **S 21 14 26.8 +2.2**
MDJ sS sS 21 15 04.0 +0.7
MDJ pmax pmax
comp=Z,30nm,1.1s
MDJ pmax pmax
comp=Z,310nm,4.6s
MDJ LR LR
comp=Z,670nm,18.9s
MDJ LR LR
comp=Z,530nm,18.6s
MDJ LR LR
comp=Z,1µm,22.7s
MDJ Mudanjiang 33.42 339 P **P 21 09 11.1 +0.2**
MDJ IAmb IAmb 21 09 12.9
comp=Z,29nm,1.0s
CNSH ChangSha 33.53 300 ⇑P **P 21 09 13.6 +1.4**
CNSH S **S 21 14 28.1 +1.3**
CNSH pmax pmax
comp=Z,30nm,0.8s
CNSH LR LR
comp=Z,1µm,15.6s
CNSH LR LR
comp=Z,670nm,16.5s
CNSH LR LR
comp=Z,1µm,31.0s
SNY Shenyang 33.68 329 ⇑P **P 21 09 13.4 +0.1**
SNY pP **pP 21 09 37.4 +1.2**
SNY S **S 21 14 28.7 0.0**
SNY pmax pmax
comp=Z,35nm,1.0s
SNY pmax pmax
comp=Z,170nm,4.4s
SNY LR LR
comp=Z,620nm,15.0s
SNY LR LR
comp=Z,770nm,16.6s
SNY LR LR
comp=Z,600nm,21.4s
TIA Tai'an 33.80 316 P **P 21 09 14.1 -0.3**
TIA pmax pmax
comp=Z,6.0nm,1.5s
TIA pmax pmax
comp=Z,130nm,4.7s
TIA LR LR
comp=Z,680nm,18.8s
TIA LR LR
comp=Z,560nm,20.2s
TIA LR LR
comp=Z,790nm,30.8s
CTA Charters Tower 33.93 179 P **P 21 09 16.0 +0.4**
CTAO Charters Tower 33.93 179 P **P 21 09 16.0 +0.4**
comp=Z,30nm,1.8s
CTAO Charters Tower 33.93 179 P **P 21 09 14.3 -1.3**
CTAO IAmb IAmb 21 09 17.3
comp=Z,149nm,2.0s
CTAO Charters Tower 33.93 179 P **P 21 09 14.3 -1.3**
CTAO pmax pmax
comp=Z,149nm,2.0s
CTAO Charters Tower 33.93 179 P **P 21 09 15.7 +0.1**
MTKI Muara Teweh, K 33.97 246 P **P 21 09 16.2 +0.1**
comp=Z,94nm,0.6s,comp=Z,4µm
CN2 Changchun 34.35 334 *e*P **P 21 09 19.3 +0.2**
CN2 PP **PP 21 10 39.8 +0.9**
CN2 *e*S **S 21 14 37.6 -1.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,500nm,18.1s
BASI Baing, Sumba 34.69 227 P **P 21 09 22.2 0.0**
comp=Z,286nm,0.9s
QIZ Qiongzhong 34.70 283 P **P 21 09 23.0 +0.6**
QIZ pP **pP 21 09 43.8 -1.7**
QIZ PP **PP 21 10 46.0 +3.0**
QIZ S **S 21 14 47.7 +2.7**
QIZ ScS **ScS 21 19 34.1 +0.1**
QIZ pmax pmax
comp=Z,61nm,1.6s
QIZ pmax pmax
comp=Z,570nm,2.8s
QIZ LR LR
comp=Z,380nm,24.1s
QIZ LR LR
comp=Z,620nm,16.3s
QIZ LR LR
comp=Z,1µm,29.2s
QIZ Qiongzhong 34.70 283 P **P 21 09 23.1 +0.6**
QIZ Qiongzhong 34.70 283 P **P 21 09 23.6 +1.2**
QIS Mount Isa 34.91 190 P **P 21 09 24.5 +0.4**
comp=Z,33nm,0.8s
SBUM Sibu 35.03 254 P **P 21 09 24.9 -0.4**
SBUM IAmb IAmb 21 09 26.6
comp=Z,49nm,0.7s
BNX BinXian 35.17 338 P **P 21 09 26.7 +0.6**
BNX pP **pP 21 09 49.6 +0.4**
BNX sP **sP 21 09 59.6 -1.4**
BNX PP **PP 21 10 48.1 +0.2**
BNX S **S 21 14 52.0 +0.4**
BNX sS **sS 21 15 28.8 -1.6**
BNX pmax pmax
comp=Z,92nm,0.9s
BNX pmax pmax
comp=Z,510nm,3.5s
BNX LR LR
comp=Z,400nm,15.7s
BNX LR LR
comp=Z,410nm,12.9s
BNX LR LR
comp=Z,790nm,33.7s
WB0 Warramunga Arr 35.40 199 P **P 21 09 27.4 -1.0**
WB0 IAmb IAmb 21 09 47.0
comp=Z,28nm,0.7s
WRAB Tennant Creek 35.57 199 *i* P **P 21 09 29.5 -0.3**
WRAB pmax pmax
comp=Z,21nm,0.8s
WRA Warramunga Arr 35.59 199 P **P 21 09 28.3 -1.6**
WRA Warramunga Arr 35.59 199 P **P 21 09 29.1 -0.8**
comp=Z,20nm,0.7s,baz=20,slow=9.2,SNR=60
WRA S **S 21 14 57.2 -1.2**
comp=Z,5.8nm,1.2s,baz=12,slow=14,SNR=5.1
WRA ScP **ScP 21 15 34.1 +0.7**
comp=Z,5.4nm,0.8s,baz=14,slow=3.9,SNR=12
comp=Z,20nm,0.7s
WRA Warramunga Arr 35.59 199 *i* P **P 21 09 29.3 -0.6**
WRA pmax pmax
comp=Z,21nm,0.7s
PLAI Plampang 35.85 232 P **P 21 09 32.6 +0.4**
comp=Z,116nm,0.8s
PLAI Plampang 35.85 232 P **P 21 09 32.7 +0.5**
comp=Z,116nm,0.8s,comp=Z,1µm
HNS HongShan 36.07 316 ⇑P **P 21 09 34.7 +0.9**
HNS pP **pP 21 09 54.4 -2.5**
HNS sP **sP 21 10 08.7 +0.1**
HNS PP **PP 21 10 58.4 +0.6**
HNS PcP **PcP 21 11 59.7 +1.8**
HNS S **S 21 15 07.2 +1.7**
HNS ScP **ScP 21 15 37.3 +2.4**
HNS PcS **PcS 21 15 48.6 +3.1**
HNS SS **SnSn 21 17 40.3 -1.3**
HNS pmax pmax
comp=Z,70nm,1.5s
HNS pmax pmax
comp=Z,480nm,3.9s
HNS LR LR
comp=Z,890nm,18.3s
HNS LR LR
comp=Z,1µm,21.5s
HNS LR LR
comp=Z,1µm,22.3s
LYN LuoYang 36.28 310 *e*P **P 21 09 37.0 +1.3**
LYN pP pP 21 09 58.8 -0.1
LYN PP **PnPn 21 11 04.1 +3.1**
LYN S **S 21 15 10.9 +2.0**
LYN sS sS 21 15 51.7 +3.8
LYN pmax pmax
comp=Z,66nm,0.7s
LYN pmax pmax
comp=Z,920nm,3.6s
DLV T Lat 36.31 271 P **P 21 09 37.7 +1.2**
comp=Z,52nm,1.0s
DLV T Lat 36.31 271 P **P 21 09 35.7 -0.8**
DLV IAmb IAmb 21 09 37.5
comp=Z,39nm,1.0s
TWSI Taliwang, Sumb 36.49 233 P **P 21 09 37.2 -0.5**
comp=Z,168nm,0.7s
BJT Baijiatuao 36.60 321 P **P 21 09 38.0 -0.3**
BJT IAmb IAmb 21 09 39.7
comp=Z,67nm,1.4s
BJT Baijiatuao 36.60 321 P **P 21 09 38.0 -0.3**
BJT pmax pmax
comp=Z,67nm,1.4s
BJT Baijiatuao 36.60 321 P **P 21 09 39.0 +0.7**
BJI Beijing 36.60 321 P **P 21 09 39.0 +0.6**
BJI pP **pP 21 10 00.9 -0.6**
BJI S **S 21 15 14.3 +0.7**
BJI ScP **ScP 21 15 39.8 +3.0**
BJI sS **sS 21 15 54.5 +1.9**
BJI pmax pmax
comp=Z,19nm,1.1s

STKI	**Sintang**	**36.62 251**	P	**P**	**21 09 38.3 -0.6**		
	comp=Z,371nm,0.7s,comp=Z,3µm						
TYV	**Tymovskoe**	**36.80 357**	*e*P	**P**	**21 09 40.0 +0.2**		
TYV			pmax	pmax			
	comp=Z,100nm,1.9s						
TYV			pmax	pmax			
	comp=Z,17nm,1.0s						
KLR	**Kul'dur**	**36.91 345**	P	**P**	**21 09 40.7 -0.1**		
	comp=Z,11nm,0.6s,baz=153,slow=7.6,SNR=40						
KLR			LR	LR	21 24 13.5		
	comp=Z,362nm,20.6s,baz=160,slow=35						
	comp=Z,11nm,0.6s						
KLR	**Kul'dur**	**36.91 345**	*ce*P	**P**	**21 09 40.3 -0.6**		
KLR			pmax	pmax			
	comp=Z,54nm,1.9s						
ENH	**Enshi**	**37.04 302**	P	**P**	**21 09 42.5 +0.3**		
ENH			IAmb	IAmb	21 10 19.7		
	comp=Z,52nm,0.8s						
ENH	**Enshi**	**37.04 302**	P	**P**	**21 09 43.2 +1.0**		
ENH			pP	**pP**	**21 10 06.8 +1.3**		
ENH			sP	**sP**	**21 10 18.1 +0.9**		
KSM	**Kuching**	**37.17 253**	P	**P**	**21 09 43.1 -0.4**		
	comp=Z,212nm,0.9s						
KSM	**Kuching**	**37.17 253**	P	**P**	**21 09 42.6 -0.9**		
GRNR	**Gornyy**	**37.39 350** ⇑	*i*P	**P**	**21 09 44.7 -0.2**		
GRNR			pmax	pmax			
	comp=Z,9.0nm,0.7s						
SRBI	**Singaraja**	**37.42 236**	P	**P**	**21 09 45.8 +0.3**		
	comp=Z,163nm,1.0s,comp=Z,2µm						
RK1H	**Rockhampton Ha**	**37.50 173**	P	**P**	**21 09 46.2 +0.1**		
	comp=Z,43nm,0.8s						
FITZ	**Fitzroy Crossi**	**37.58 212**	P	**P**	**21 09 46.9 +0.1**		
TIY	**Taiyuan**	**37.78 315**	*e*P	**P**	**21 09 49.8 +1.3**		
TIY			pP	**pP**	**21 10 14.1 +2.5**		
TIY			S	**S**	**21 15 34.0 +2.3**		
TIY			pmax	pmax			
	comp=Z,47nm,0.7s						
TIY			pmax	pmax			
	comp=Z,430nm,4.5s						
ABJI	**Asem Bagus**	**38.04 237**	P	**P**	**21 09 52.4 +1.6**		
	comp=Z,246nm,1.3s,comp=Z,4µm						
JAGI	**Jajag, Banyuwa**	**38.49 236**	P	**P**	**21 09 54.5 -0.1**		
	comp=Z,110nm,1.0s						
JAGI	**Jajag, Banyuwa**	**38.49 236**	P	**P**	**21 09 52.5 -2.1**		
JAGI	**Jajag, Banyuwa**	**38.49 236**	P	**P**	**21 09 53.9 -0.7**		
	comp=Z,112nm,1.0s						
GYA	**Guiyang**	**38.51 295** ⇑	*i*P	**P**	**21 09 56.1 +1.3**		
GYA			pP	pP	21 10 17.8 -0.5		
GYA			sP	sP	21 10 29.1 -1.0		
GYA			PP	**PnPn**	**21 11 30.0 +2.0**		
GYA			PcP	**PcP**	**21 12 07.0 +1.2**		
GYA			S	**S**	**21 15 44.9 +1.8**		
GYA			SS	**SS**	**21 18 37.4 +0.6**		
GYA			pmax	pmax			
	comp=Z,31nm,1.0s						
GYA			pmax	pmax			
	comp=Z,480nm,4.1s						
GYA			LR	LR			
	comp=Z,600nm,16.2s						
BLJI	**Banyuglugur**	**38.54 238**	P	**P**	**21 09 55.9 +0.9**		
	comp=Z,307nm,1.0s,comp=Z,4µm						
XAN	**Xi'an**	**38.76 307**	⇑P	**P**	**21 09 57.3 +0.6**		
XAN			pP	pP	21 10 19.7 -0.4		
XAN			S	**S**	**21 15 46.6 0.0**		
XAN			sS	sS	21 16 28.1 +2.3		
XAN			pmax	pmax			
	comp=Z,35nm,1.5s						
XAN			pmax	pmax			
	comp=Z,560nm,9.0s						
XAN			LR	LR			
	comp=Z,950nm,14.5s						
XAN			LR	LR			
	comp=Z,780nm,16.8s						
XAN			LR	LR			
	comp=Z,750nm,19.2s						
XAN	**Xi'an**	**38.76 307**	P	**P**	**21 09 57.2 +0.5**		
XAN			pP	**pP**	**21 10 20.1 0.0**		
UBPT	**Khong Chiam**	**38.92 277**	P	**P**	**21 10 00.1 +1.9**		
	comp=Z,13nm,0.7s						
UBPT	**Khong Chiam**	**38.92 277**	P	**P**	**21 09 58.5 +0.3**		
KOUNC	**Koumac, New Ca**	**38.93 152**	P	**P**	**21 09 59.3 +1.2**		
	comp=Z,40nm,1.2s						
KOUNC	**Koumac, New Ca**	**38.93 152**	P	**P**	**21 09 57.1 -1.0**		
KOUNC			IAmb	IAmb	21 09 59.4		
	comp=Z,119nm,1.5s						
XLT	**XiLinHaoTe**	**39.06 325** ⇑	*i*P	**P**	**21 09 59.9 +0.8**		
XLT			pP	pP	21 10 22.7 +0.2		
XLT			S	**S**	**21 15 51.0 +0.1**		
XLT			sS	sS	21 16 31.5 +1.3		
XLT			SS	**SS**	**21 18 43.3 -4.0**		
XLT			pmax	pmax			
	comp=Z,76nm,0.8s						
XLT			pmax	pmax			
	comp=Z,440nm,5.8s						
XLT			LR	LR			
	comp=Z,290nm,15.1s						
XLT			LR	LR			
	comp=Z,410nm,16.4s						
HEH	**HeiHe**	**39.07 341**	*e*P	**P**	**21 09 58.7 -0.2**		
HEH			sP	**sP**	**21 10 30.1 -4.1**		
HEH			PcP	**PcP**	**21 12 07.5 +0.6**		
HEH			ScP	**ScP**	**21 15 46.4 +0.5**		
HEH			S	**S**	**21 15 49.3 -1.2**		
HEH			ScS	**ScS**	**21 19 54.3 -3.0**		
HEH			pmax	pmax			
	comp=Z,71nm,1.2s						
HEH			pmax	pmax			
	comp=Z,130nm,3.8s						
AS31	**Alice Springs**	**39.22 197**	P	**P**	**21 10 00.6 0.0**		
ASAR	**Alice Springs**	**39.23 197**	P	**P**	**21 10 00.2 -0.3**		
	comp=Z,6.9nm,0.9s,baz=22,slow=13,SNR=43						
ASAR			ScP	**ScP**	**21 15 47.6 +0.6**		
	comp=Z,1.3nm,0.8s,baz=25,slow=4.6,SNR=4.1						
ASAR			S	**S**	**21 15 52.7 -0.8**		
	comp=Z,4.6nm,1.2s,baz=18,slow=25,SNR=6.3						
ASAR			LR	LR	21 25 17.3		
	comp=Z,513nm,21.9s,baz=20,slow=35						
	comp=Z,6.9nm,0.9s						
EIDS	**Eidsvold**	**39.53 172**	P	**P**	**21 10 02.7 -0.3**		
	comp=Z,22nm,1.9s						
EIDS	**Eidsvold**	**39.53 172**	P	**P**	**21 10 02.5 -0.6**		
HHC	**Hu-ho-hao-te**	**39.97 318**	*e*P	**P**	**21 10 07.6 +0.9**		
HHC			pP	pP	21 10 26.4 -3.7		
HHC			S	**S**	**21 16 07.3 +2.8**		
HHC			sS	sS	21 16 46.4 +2.5		
HHC			SS	**SS**	**21 18 59.2 -6.2**		
HHC			ScS	**ScS**	**21 20 04.4 +1.1**		
HHC			pmax	pmax			
	comp=Z,45nm,1.1s						
HHC			pmax	pmax			
	comp=Z,390nm,4.1s						
HHC			LR	LR			
	comp=Z,630nm,19.1s						
HHC			LR	LR			
	comp=Z,610nm,19.1s						
HHC			LR	LR			
	comp=Z,430nm,18.3s						
FUNA	**Funafuti**	**40.09 122**	P	**P**	**21 10 07.5 -0.4**		
NGJI	**Ngawi**	**40.11 240**	P	**P**	**21 10 11.3 +3.3**		
	comp=Z,88nm,1.2s						
PEA0B	**Petropavlovsk-**	**40.11 11**	P	**P**	**21 10 08.2 +0.6**		
PEA0B			IAmb	IAmb	21 10 46.7		
	comp=Z,25nm,0.8s						
PEA0B	**Petropavlovsk-**	**40.11 11**	P	**P**	**21 10 08.2 +0.6**		
PEA0B			pmax	pmax			
	comp=Z,25nm,0.9s						
PETK	**Petropavlovsk-**	**40.11 11**	P	**P**	**21 10 08.4 +0.8**		
	comp=Z,5.7nm,0.6s,baz=183,slow=7.4,SNR=21						
	comp=Z,5.7nm,0.6s						
PWJI	**Pagerwojo**	**40.17 239**	P	**P**	**21 10 07.4 -1.1**		
	comp=Z,398nm,0.9s,comp=Z,3µm						
SLVN	**Son La**	**40.39 286**	P	**P**	**21 10 11.0 +0.5**		
SLVN			IAmb	IAmb	21 10 13.0		
	comp=Z,25nm,0.8s						
QLP	**Quilpie**	**40.41 182**	P	**P**	**21 10 10.0 -0.3**		
	comp=Z,158nm,0.9s						
SMRI	**Semarang**	**40.80 241**	P	**P**	**21 10 16.4 +2.6**		
	comp=Z,102nm,1.0s						
SMRI	**Semarang**	**40.80 241**	P	**P**	**21 10 13.3 -0.5**		
SMRI	**Semarang**	**40.80 241**	P	**P**	**21 10 15.5 +1.7**		
	comp=Z,101nm,0.9s						
BTO	**Baotou**	**40.85 317**	*e*P	**P**	**21 10 16.1 +2.1**		
BTO			pP	**pP**	**21 10 38.4 +1.0**		
BTO			sP	**sP**	**21 10 50.4 +1.3**		
BTO			PP	**PnPn**	**21 11 55.3 +0.1**		
BTO			S	**S**	**21 16 20.6 +3.0**		
BTO			sS	**sS**	**21 16 59.0 +1.9**		
BTO			SS	**SS**	**21 19 22.2 -0.6**		
BTO			pmax	pmax			
	comp=Z,110nm,1.5s						
BTO			pmax	pmax			
	comp=Z,910nm,7.7s						
BTO			LR	LR			
	comp=Z,2µm,19.6s						
BTO			LR	LR			
	comp=Z,2µm,18.3s						
BTO			LR	LR			
	comp=Z,2µm,23.5s						
HIA	**Hailar**	**41.08 334**	P	**P**	**21 10 16.1 +0.5**		
HIA			IAmb	IAmb	21 10 18.0		
	comp=Z,85nm,1.3s						
HIA	**Hailar**	**41.08 334**	P	**P**	**21 10 16.1 +0.5**		
HIA			pmax	pmax			
	comp=Z,85nm,1.3s						
HIA	**Hailar**	**41.08 334**	P	**P**	**21 10 16.5 +0.8**		
HIA			pP	**pP**	**21 10 40.4 +1.2**		
UGM	**Wanagama**	**41.18 240**	P	**P**	**21 10 17.0 +0.1**		
	comp=Z,366nm,1.2s						
UGM	**Wanagama**	**41.18 240**	P	**P**	**21 10 16.2 -0.7**		
UGM	**Wanagama**	**41.18 240**	P	**P**	**21 10 17.0 +0.1**		
	comp=Z,369nm,1.2s,comp=Z,5µm						
DZM	**Mont Dzumac**	**41.25 150**	P	**P**	**21 10 18.3 +0.9**		
	comp=Z,53nm,1.8s						
DZM	**Mont Dzumac**	**41.25 150**	P	**P**	**21 10 17.2 -0.2**		
DZM	**Mont Dzumac**	**41.25 150**	LR	LR	21 27 36.1		
	comp=Z,174nm,18.1s,baz=342,slow=36						
DZM	**Mont Dzumac**	**41.25 150**	P	**P**	**21 10 17.8 +0.3**		
YOGI	**Yogyakarta**	**41.32 240**	P	**P**	**21 10 18.7 +0.6**		
	comp=Z,290nm,0.8s,comp=Z,3µm						
OUENC	**Ouen Island, N**	**41.74 150**	P	**P**	**21 10 21.0 -0.3**		
KMI	**Kunming**	**41.80 292**	⇑P	**P**	**21 10 23.4 +1.3**		
KMI			pP	pP	21 10 44.1 -1.7		
KMI			PP	**PnPn**	**21 12 05.2 -1.4**		
KMI			S	**S**	**21 16 31.7 -0.7**		
KMI			sS	sS	21 17 11.3 -0.7		
KMI			SS	**SS**	**21 19 35.5 -6.8**		
KMI			pmax	pmax			
	comp=Z,20nm,1.1s						
KMI			pmax	pmax			
	comp=Z,310nm,6.2s						
INKA	**Innaminka**	**41.82 187**	P	**P**	**21 10 23.1 +1.3**		
	comp=Z,55nm,0.8s						
CD2	**Chengdu**	**41.96 301**	P	**P**	**21 10 23.8 +0.6**		
CD2			pP	pP	21 10 42.5 -4.2		
CD2			ScP	**ScP**	**21 15 59.9 +2.1**		
CD2			S	**S**	**21 16 33.5 -0.8**		
CD2			SS	**SS**	**21 19 46.6 +1.5**		
CD2			pmax	pmax			
	comp=Z,30nm,0.8s						
CD2			pmax	pmax			
	comp=Z,260nm,5.9s						
CD2			LR	LR			
	comp=Z,340nm,12.7s						
CD2			LR	LR			
	comp=Z,310nm,14.0s						
CD2			LR	LR			
	comp=Z,800nm,18.4s						
ZEA	**Zeya**	**42.19 344**	*e*P	**P**	**21 10 24.0 -0.6**		
ZEA			*e*		21 20 19.4		
ZEA			pmax	pmax			
	comp=Z,20nm,1.1s						
KPJI	**Karang Pucung**	**42.24 242**	P	**P**	**21 10 24.8 -0.7**		
	comp=Z,135nm,0.8s						
JCJI	**Jatiwangi**	**42.40 244**	P	**P**	**21 10 28.0 +1.2**		
	comp=Z,341nm,0.8s						
WRKA	**Warakurna**	**42.40 204**	P	**P**	**21 10 27.0 +0.3**		
	comp=Z,60nm,0.7s						
OOD	**Oodnadatta**	**42.72 193**	P	**P**	**21 10 29.0 -0.1**		
	comp=Z,93nm,0.8s						
PZH	**PanZhiHua**	**42.87 294**	P	**P**	**21 10 31.1 +0.4**		
PZH			PP	**PcP**	**21 12 18.3 -1.6**		
PZH			S	**S**	**21 16 50.2 +2.3**		
PZH			sS	**sS**	**21 17 30.5 +2.9**		
PZH			ScS	**ScS**	**21 20 21.4 -0.1**		
PZH			pmax	pmax			
	comp=Z,30nm,0.8s						
PZH			pmax	pmax			
	comp=Z,210nm,7.7s						
PZH			LR	LR			
	comp=Z,400nm,18.4s						
PZH			LR	LR			
	comp=Z,390nm,18.6s						
PZH			LR	LR			
	comp=Z,570nm,22.4s						
LEM	**Lembang**	**43.12 244**	P	**P**	**21 10 32.2 -0.7**		
LEM			pmax	pmax			
	comp=Z,124nm,0.8s						
MYKOM	**Kota Tinggi**	**43.13 257**	P	**P**	**21 10 32.4 -0.3**		
DSRI	**Dabo**	**43.21 254**	P	**P**	**21 10 32.8 -0.6**		
	comp=Z,276nm,0.7s,comp=Z,3µm						
AULRC	**Lightning Ridg**	**43.28 177**	P	**P**	**21 10 33.3 -0.3**		
	comp=Z,271nm,0.9s						
MBWA	**Marble Bar**	**43.31 217**	P	**P**	**21 10 34.2 +0.2**		
	comp=Z,42nm,0.8s						
MBWA	**Marble Bar**	**43.31 217**	P	**P**	**21 10 33.9 -0.1**		
MBWA			IAmb	IAmb	21 10 57.6		
	comp=Z,49nm,0.8s						
MBWA	**Marble Bar**	**43.31 217**	P	**P**	**21 10 33.8 -0.2**		
MBWA			pP	**pP**	**21 10 56.5 -0.8**		
LZH	**Lanzhou**	**43.38 308**	*e*P	**P**	**21 10 35.7 +1.0**		
LZH			pP	pP	21 11 00.3 +1.9		
LZH			sP	sP	21 11 12.0 +2.0		
LZH			PcP	**PcP**	**21 12 20.2 -1.3**		
LZH			S	**S**	**21 16 53.4 -1.8**		
LZH			sS	sS	21 17 34.0 -1.0		
LZH			SS	**SS**	**21 20 03.7 -9.2**		
LZH			pmax	pmax			
	comp=Z,39nm,1.2s						
LZH			pmax	pmax			
	comp=Z,270nm,4.8s						
LZH			LR	LR			
	comp=Z,490nm,15.5s						
LZH			LR	LR			
	comp=Z,440nm,15.5s						
LZH			LR	LR			
	comp=Z,490nm,15.1s						
BBJI	**Bungbulang**	**43.40 243**	P	**P**	**21 10 33.0 -2.0**		
	comp=Z,234nm,0.9s						
PSA00	**Pilbara Seismi**	**43.56 216**	P	**P**	**21 10 36.9 +0.8**		
	comp=Z,65nm,0.9s						
PSA00	**Pilbara Seismi**	**43.56 216**	P	**P**	**21 10 35.9 -0.1**		
PSA00			IAmb	IAmb	21 11 00.0		
	comp=Z,63nm,0.9s						
PSA00	**Pilbara Seismi**	**43.56 216**	P	**P**	**21 10 35.7 -0.3**		
PSA00			IAmb	IAmb	21 10 59.9		
	comp=Z,28nm,0.8s						
CBJI	**Citeko**	**43.60 245**	P	**P**	**21 10 36.0 -0.5**		
	comp=Z,112nm,0.8s						
CRAI	**Chiangrai**	**43.66 285**	P	**P**	**21 10 37.2 +0.2**		
CNJI	**Cibinong**	**43.78 243**	P	**P**	**21 10 36.7 -1.2**		
	comp=Z,68nm,1.0s,comp=Z,822nm						
PHRA	**Phrae**	**43.80 282**	P	**P**	**21 10 38.5 +0.3**		
PMBI	**Palembang**	**43.96 251**	P	**P**	**21 10 38.9 -0.5**		
ARMA	**Armidale**	**44.58 173**	P	**P**	**21 10 44.6 +0.5**		
	comp=Z,40nm,1.1s						
ARMA	**Armidale**	**44.58 173**	P	**P**	**21 10 42.7 -1.5**		
ARMA			IAmb	IAmb	21 11 15.7		
	comp=Z,36nm,0.9s						
SHEM	**Shemya Is, Ala**	**44.70 24**	LR	LR	21 26 21.9		
	comp=Z,144nm,19.9s,baz=280,slow=32						
LCRK	**Leigh Creek**	**44.83 189**	P	**P**	**21 10 46.1 +0.1**		
	comp=Z,148nm,0.9s						
MSVF	**Nonsavu**	**44.89 134**	P	**P**	**21 10 48.8 +2.0**		
	comp=Z,85nm,1.4s						
MSVF	**Nonsavu**	**44.89 134**	P	**P**	**21 10 46.6 -0.2**		
MSVF	**Nonsavu**	**44.89 134**	P	**P**	**21 10 46.6 -0.2**		
MSVF			pmax	pmax			
	comp=Z,165nm,1.5s						
MSVF	**Nonsavu**	**44.89 134**	P	**P**	**21 10 47.5 +0.7**		
MSVF			pP	**pP**	**21 11 11.3 +2.3**		
CM31	**Chiang Mai Arr**	**45.02 282**	P	**P**	**21 10 48.5 +0.6**		
CM31			IAmb	IAmb	21 10 50.0		
	comp=Z,58nm,0.7s						
CM31			PcP	**PcP**	**21 12 29.1 +1.9**		
CMAR	**Chiang Mai Arr**	**45.02 282**	P	**P**	**21 10 48.2 +0.3**		
CMAR	**Chiang Mai Arr**	**45.02 282**	P	**P**	**21 10 48.7 +0.8**		
	comp=Z,42nm,0.7s,baz=84,slow=5.9,SNR=325						
CMAR			pP	**pP**	**21 11 11.6 -0.3**		
	comp=Z,14nm,0.8s,baz=85,slow=6.3,SNR=4.1						
CMAR			PcP	**PcP**	**21 12 28.9 +1.7**		
	comp=Z,16nm,0.7s,baz=86,slow=2.4,SNR=14						
CMAR			ScP	**ScP**	**21 16 11.2 +0.8**		
	comp=Z,1.7nm,0.8s,baz=87,slow=2.7,SNR=5.5						
	comp=Z,42nm,0.7s						
SRDT	**SRDT**	**45.11 276**	P	**P**	**21 10 50.3 +1.7**		
	comp=Z,36nm,1.8s						
AUPHS	**Peel Hgh Scho**	**45.16 174**	P	**P**	**21 10 49.5 +0.8**		
	comp=Z,69nm,1.3s						
KULM	**Kulim**	**45.20 263**	P	**P**	**21 10 49.3 0.0**		
KASI	**Kota Agung**	**45.29 247**	P	**P**	**21 10 48.4 -1.5**		
	comp=Z,179nm,0.9s,comp=Z,1µm						
CMSA	**Cobar Meteorol**	**45.33 180**	P	**P**	**21 10 49.8 -0.1**		
	comp=Z,30nm,0.9s						
LWLI	**Liwa**	**45.46 248**	P	**P**	**21 10 49.9 -1.6**		
	comp=Z,820nm,0.8s,comp=Z,6µm						
MULG	**Mulgathing**	**45.48 194**	P	**P**	**21 10 51.4 +0.2**		
	comp=Z,73nm,1.0s						
SRIT	**Nakonsritamara**	**45.48 268**	P	**P**	**21 10 52.8 +1.3**		
	comp=Z,83nm,0.8s						
SRIT	**Nakonsritamara**	**45.48 268**	P	**P**	**21 10 51.8 +0.3**		
SRIT			IAmb	IAmb	21 10 53.8		
	comp=Z,51nm,0.7s						
TNCH	**TengChong**	**45.60 291**	⇑P	**P**	**21 10 53.2 +0.7**		
TNCH			pP	pP	21 11 15.3 -1.2		
TNCH			sP	sP	21 11 26.4 -1.6		
TNCH			S	**S**	**21 17 28.0 +0.4**		
TNCH			ScS	**ScS**	**21 20 37.4 -1.6**		
TNCH			pmax	pmax			
	comp=Z,58nm,1.1s						
TNCH			pmax	pmax			
	comp=Z,230nm,4.3s						
TNCH			LR	LR			
	comp=Z,210nm,11.8s						
TNCH			LR	LR			
	comp=Z,210nm,15.3s						
TNCH			LR	LR			
	comp=Z,560nm,19.7s						
MA2	**Magadan**	**45.60 4**	P	**P**	**21 10 52.1 +0.3**		
	comp=Z,74nm,0.9s						
MA2	**Magadan**	**45.60 4**	P	**P**	**21 10 51.9 +0.1**		
MA2			IAmb	IAmb	21 10 53.3		
	comp=Z,50nm,0.7s						
MA2	**Magadan**	**45.60 4**	*ce*P	**P**	**21 10 52.1 +0.3**		
MA2			pmax	pmax			
	comp=Z,46nm,0.7s						
MA2	**Magadan**	**45.60 4**	P	**P**	**21 10 51.8 +0.1**		
MA2			pP	**pP**	**21 11 15.2 +0.1**		
MA2			sP	**sP**	**21 11 28.1 +1.6**		
MA2	**Magadan**	**45.60 4**	P	**P**	**21 10 52.0 +0.3**		
	comp=Z,73nm,0.9s,comp=Z,709nm						
CIT	**Chita**	**45.79 333**	*e*P	**P**	**21 10 53.2 -0.2**		
CIT			*e*		21 11 17.2		
CIT			*e*		21 11 26.2		
CIT			*e*		21 12 30.0		
CIT			*e*		21 12 44.0		
CIT			pmax	pmax			
	comp=Z,213nm,2.3s						
STKA	**Stephens Creek**	**45.84 185**	P	**P**	**21 10 53.5 -0.5**		
	comp=Z,11nm,1.1s						
STKA	**Stephens Creek**	**45.84 185**	P	**P**	**21 10 53.0 -0.9**		
STKA	**Stephens Creek**	**45.84 185**	P	**P**	**21 10 53.4 -0.5**		
	comp=Z,26nm,0.8s,baz=349,slow=8.0,SNR=30						
STKA			LR	LR	21 31 22.3		
	comp=Z,303nm,18.6s,baz=359,slow=38						
	comp=Z,26nm,0.8s						
AUDCS	**Dubbo College**	**46.10 177**	P	**P**	**21 10 56.6 +0.6**		
	comp=Z,37nm,1.6s						
MNAI	**Manna**	**46.19 250**	P	**P**	**21 10 56.7 -0.4**		
	comp=Z,858nm,0.8s						
MNAI	**Manna**	**46.19 250**	P	**P**	**21 10 55.2 -1.9**		
MNAI	**Manna**	**46.19 250**	P	**P**	**21 10 55.9 -1.2**		
	comp=Z,844nm,0.7s						
BKNI	**Bangkinang**	**46.26 257**	P	**P**	**21 10 56.2 -1.4**		
ULN	**Ulaanbaatar**	**46.48 325**	P	**P**	**21 10 59.3 +0.3**		
ULN			IAmb	IAmb	21 11 01.6		
	comp=Z,38nm,1.1s						
ULN	**Ulaanbaatar**	**46.48 325**	*ce*P	**P**	**21 11 00.0 +0.9**		
ULN			pmax	pmax			
	comp=Z,66nm,1.7s						
ULN	**Ulaanbaatar**	**46.48 325**	P	**P**	**21 11 00.1 +1.1**		
XMIS	**Christmas Isla**	**46.62 241**	P	**P**	**21 10 59.4 -1.0**		
	comp=Z,249nm,0.8s						
XMIS	**Christmas Isla**	**46.62 241**	P	**P**	**21 10 58.7 -1.7**		
SONM	**Songino Array**	**46.84 324**	P	**P**	**21 11 02.3 +0.5**		
SONM			IAmb	IAmb	21 11 04.4		
	comp=Z,119nm,1.8s						
SONM	**Songino Array**	**46.84 324**	P	**P**	**21 11 02.8 +1.0**		
	comp=Z,6.1nm,0.4s,baz=137,slow=9.4,SNR=71						
SONM			pP	**pP**	**21 11 27.0 +1.1**		
	comp=Z,16nm,0.8s,baz=130,slow=7.1,SNR=6.3						
SONM			LR	LR	21 30 14.7		
	comp=Z,482nm,21.8s,baz=122,slow=35						
	comp=Z,6.1nm,0.4s						
PDSI	**Padang**	**47.21 255**	P	**P**	**21 11 02.7 -2.4**		
	comp=Z,102nm,0.7s,comp=Z,934nm						
GTA	**Gaotai**	**47.49 311**	⇑P	**P**	**21 11 07.7 +0.7**		
GTA			pP	pP	21 11 29.0 -2.1		
GTA			sP	sP	21 11 40.2 -2.4		
GTA			ScP	**ScP**	**21 16 23.1 +2.6**		
GTA			S	**S**	**21 17 54.1 0.0**		
GTA			sS	sS	21 18 35.1 +0.6		
GTA			pmax	pmax			
	comp=Z,23nm,2.2s						
GTA			pmax	pmax			
	comp=Z,280nm,10.4s						
GTA			LR	LR			
	comp=Z,530nm,15.9s						
GTA			LR	LR			
	comp=Z,450nm,17.9s						
GTA			LR	LR			
	comp=Z,490nm,18.3s						
BBOO	**Buckleboo**	**47.50 191**	P	**P**	**21 11 07.1 +0.2**		
BBOO	**Buckleboo**	**47.50 191**	P	**P**	**21 11 06.5 -0.5**		
FORT	**Forrest**	**47.70 201**	P	**P**	**21 11 09.2 +0.7**		
	comp=Z,103nm,1.0s						
FORT	**Forrest**	**47.70 201**	P	**P**	**21 11 08.2 -0.2**		
GIRL	**Giralia**	**47.76 221**	P	**P**	**21 11 09.2 +0.2**		
MEEK	**Meekatharra**	**48.27 213**	P	**P**	**21 11 12.9 -0.1**		
	comp=Z,25nm,0.8s						
KCSI	**Kotacane, Aceh**	**48.43 262**	P	**P**	**21 11 13.8 -0.7**		
	comp=Z,98nm,1.1s,comp=Z,3µm						
SISI	**Saibi**	**48.64 256**	P	**P**	**21 11 14.1 -2.0**		
	comp=Z,380nm,0.7s,comp=Z,4µm						
LHMI	**Lhok Sumawe**	**48.79 265**	P	**P**	**21 11 19.1 +1.8**		
	comp=Z,177nm,0.8s						
LHMI	**Lhok Sumawe**	**48.79 265**	P	**P**	**21 11 17.5 +0.3**		
LHMI	**Lhok Sumawe**	**48.79 265**	P	**P**	**21 11 19.0 +1.8**		
	comp=Z,175nm,0.8s,comp=Z,2µm						
SEY	**Seymchan**	**49.05**	*ce*P	**P**	**21 11 19.0 +0.6**		
SEY			pmax	pmax			
	comp=Z,16nm,0.6s						
CAN	**Canberra**	**49.20 176**	P	**P**	**21 11 19.6 -0.3**		
CAN	**Canberra**	**49.20 176**	P	**P**	**21 11 19.6 -0.3**		
CAN			pmax	pmax			
	comp=Z,20nm,1.1s						
CAN	**Canberra**	**49.20 176**	P	**P**	**21 11 20.5 +0.6**		
CNB	**Canberra Magne**	**49.22 176**	P	**P**	**21 11 21.1 +1.0**		
	comp=Z,39nm,1.1s						
GSI	**Gunungsitoli**	**49.24 259**	P	**P**	**21 11 19.8 -0.9**		
	comp=Z,138nm,1.0s						
GSI	**Gunungsitoli**	**49.24 259**	P	**P**	**21 11 18.9 -1.8**		
GSI	**Gunungsitoli**	**49.24 259**	P	**P**	**21 11 19.1 -1.6**		
	comp=Z,137nm,0.8s						
YAK	**Yakutsk**	**49.27 350**	P	**P**	**21 11 19.0

comp=E,113nm,3.3s
YAK smax smax
comp=N,43nm,3.3s
YAK Yakutsk 49.27 350 P P 21 11 19.4 -0.8
MLSI Meulaboh, Aceh 49.55 264 P P 21 11 24.6 +1.6
comp=N,58nm,0.7s
BOD Bodaibo 49.79 338 *e*P P 21 11 23.7 -0.4
BOD pmax pmax
comp=Z,40nm,2.0s
ZAK Zakamensk 49.92 326 *e*P P 21 11 25.7 +0.3
ZAK pmax pmax
comp=Z,23nm,1.5s
SNSI Sinabang, Aceh 50.12 261 P P 21 11 27.7 +0.4
comp=Z,392nm,0.8s,comp=Z,3µm
IRK Irkutsk 50.39 328 *e*P P 21 11 28.8 0.0
IRK *e* 21 18 37.2
IRK pmax pmax
comp=Z,911nm,2.5s
GOMU GeErMu 50.44 305 P P 21 11 31.2 +1.3
GOMU PP PP 21 13 28.1 +1.6
GOMU S S 21 18 30.9 -5.2
GOMU ScS ScS 21 21 02.2 -9.1
GOMU SS SS 21 22 14.7 +3.6
GOMU pmax pmax
comp=Z,23nm,1.0s
GOMU LR LR
comp=Z,370nm,17.3s
GOMU LR LR
comp=Z,180nm,15.5s
GOMU LR LR
comp=Z,470nm,14.8s
ARPS Mount Arapiles 50.68 184 P P 21 11 32.0 +0.9
comp=Z,241nm,0.7s
TOO Toolangi 51.35 180 P P 21 11 37.1 +1.0
comp=Z,106nm,1.4s
TOO Toolangi 51.35 180 P P 21 11 36.8 +0.7
TOO Toolangi 51.35 180 P P 21 11 36.8 +0.7
TOO pmax pmax
comp=Z,56nm,0.8s
BRAT Ballarat 51.35 182 P P 21 11 37.0 +0.9
comp=Z,32nm,1.1s
MORW Morawa 51.57 214 P P 21 11 37.8 -0.1
comp=Z,33nm,1.2s
MORW Morawa 51.57 214 P P 21 11 37.3 -0.6
MORW IAmb IAmb 21 12 02.0
comp=Z,46nm,1.0s
PBA Port Blair 51.62 274 P P 21 11 38.0 -0.6
SHL Shillong 51.62 292 P P 21 11 37.8 -0.9
SHL Shillong 51.62 292 P P 21 11 37.8 -0.9
MOY Mondy 51.82 326 *e*P P 21 11 39.2 -0.4
MOY pmax pmax
comp=Z,50nm,2.6s
BLDU Balliduu 52.45 212 P P 21 11 44.6 +0.2
comp=Z,59nm,0.8s
LSA Lhasa 52.52 297 P P 21 11 46.2 +0.6
LSA IAmb IAmb 21 11 48.2
comp=Z,24nm,0.7s
LSA Lhasa 52.52 297 P P 21 11 46.2 +0.6
LSA pmax pmax
comp=Z,24nm,0.7s
LSA Lhasa 52.52 297 P P 21 11 47.1 +1.5
LSA pP **pP** 21 12 11.7 +1.4
KLBR Kellerberrin 52.72 210 P P 21 11 46.7 +0.3
comp=Z,82nm,0.7s
NIKH Nikolski High 52.84 33 P P 21 11 47.0 0.0
baz=240
NWAO Narrogin (SRO) 54.06 210 P P 21 11 55.3 -0.9
NWAO IAmb IAmb 21 11 57.0
comp=Z,46nm,1.1s
NWAO Narrogin (SRO) 54.06 210 P P 21 11 55.4 -0.9
comp=Z,10nm,0.6s,baz=24,slow=5.8,SNR=9.7
NWAO pP **pP** 21 12 21.1 +0.7
comp=Z,11nm,0.6s,baz=44,slow=6.1,SNR=2.9
comp=Z,10nm,0.6s
NWAO Narrogin (SRO) 54.06 210 P P 21 11 55.9 -0.2
NWAO pP **pP** 21 12 21.3 +1.0
P08K Saint George I 54.39 29 P P 21 11 57.7 -0.5
baz=237
UNV Unalaska Valle 54.50 33 P P 21 11 58.7 -0.3
baz=242
GLAD Gladstone 54.80 178 P P 21 12 02.2 +0.9
comp=Z,62nm,0.8s
RAO Raoul Island 55.55 141 LR LR 21 34 52.9
comp=Z,196nm,18.8s,baz=293,slow=35
BILL Bilibino 55.58 9 P P 21 12 06.9 +0.3
BILL IAmb IAmb 21 12 09.4
comp=Z,30nm,0.7s
BILL Bilibino 55.58 9 ||| *i*P P 21 12 07.2 +0.6
BILL pmax pmax
comp=Z,28nm,0.7s
BILL Bilibino 55.58 9 P P 21 12 06.9 +0.3
BILL pP **pP** 21 12 31.5 +0.8
TAU Tasmania Unive 56.70 179 P P 21 12 15.5 +0.7
TAU Tasmania Unive 56.70 179 P P 21 12 15.5 +0.7
TAU pmax pmax
comp=Z,147nm,1.8s
TAU Tasmania Unive 56.70 179 P P 21 12 15.6 +0.7
XMAS Kiritimati 57.38 97 P P 21 12 20.3 +0.1
WMQ Urumqi 57.42 313 ||| *i*P P 21 12 21.3 +1.1
WMQ pP pP 21 12 44.1 -1.0
WMQ pmax pmax
comp=Z,21nm,1.1s
WMQ pmax pmax
comp=Z,280nm,5.3s
WMQ LR LR
comp=Z,630nm,11.5s
WMQ LR LR
comp=Z,550nm,24.1s
WMQ LR LR
comp=Z,700nm,22.9s
WMQ Urumqi 57.42 313 P P 21 12 20.5 +0.3
WMQ IAmb IAmb 21 12 49.0
comp=Z,26nm,0.7s
WMQ Urumqi 57.42 313 P P 21 12 20.5 +0.3
WMQ pmax pmax
comp=Z,26nm,0.7s
M11K Mekoryuk 57.90 26 P P 21 12 23.7 +0.6
baz=238
SDPT Sand Point 58.31 33 P P 21 12 28.9 +2.8
comp=Z,142nm,1.4s
SDPT Sand Point 58.31 33 P P 21 12 26.6 +0.4
SDPT Sand Point 58.31 33 P P 21 12 26.5 +0.4
baz=247
TIXI Tiksi 58.47 354 P P 21 12 26.2 -0.7
TIXI Tiksi 58.47 354 LR LR 21 39 30.9
comp=Z,103nm,19.3s,baz=164,slow=38
TIXI Tiksi 58.47 354 *ce*P P 21 12 25.8 -1.1
TIXI pmax pmax
comp=Z,6.0nm,0.8s
TOZ Tahuroa Road 58.61 153 P P 21 12 27.9 -0.5
M13K Dall Lake 59.14 27 P P 21 12 32.3 +0.6
baz=241
S14K Fog Glacier 59.15 32 P P 21 12 31.9 -0.2
baz=247
K13K Kusilvak Mount 59.34 25 P P 21 12 34.4 +1.2
K13K IAmb IAmb 21 13 00.3
comp=Z,33nm,0.8s
K13K Kusilvak Mount 59.34 25 P P 21 12 32.9 -0.2
baz=239
O14K Tigyukauivet M 59.54 28 P P 21 12 34.7 +0.2
baz=244
N14K Kuskokwak Cree 59.65 28 P P 21 12 35.0 -0.3
baz=243
CHGN Chignik 59.75 32 P P 21 12 36.1 +0.2
baz=248
URZ Urewera 59.78 152 LR LR 21 35 40.9
comp=Z,210nm,19.9s,baz=32,slow=33
L14K Kuka Creek 59.87 26 P P 21 12 37.8 +1.0
baz=241,SNR=11
M14K Bethel 59.91 27 P P 21 12 37.5 +0.6
baz=242,SNR=7.5
QRZ Quartz Range 59.99 157 P P 21 12 37.6 -0.2
TNA Tin City 60.13 20 P P 21 12 38.7 +0.3
baz=234
ZSN Zaisan 60.13 317 *e*P P 21 12 38.7 -0.2
baz=317
ZSN Zaisan 60.13 317 *e*P P 21 12 38.7 -0.2
O15K Ungalikthiuk R 60.18 29 P P 21 12 39.3 +0.3
baz=245,SNR=7.9
J14K Nanvaranak Lak 60.20 24 P P 21 12 38.8 -0.2
baz=240
TKNZ Takaka Hill 60.33 157 P P 21 12 40.0 -0.2
M15K Kasigluk River 60.44 27 P P 21 12 39.9 -0.7
baz=244
ANM Nome 60.46 22 P P 21 12 40.9 +0.2
baz=237

N15K Kwethluk River 60.48 28 P P 21 12 42.5 +1.5
N15K Kwethluk River 60.48 28 P P 21 12 40.6 -0.3
baz=245,SNR=8.3
L15K Ungalak Mounta 60.54 26 P P 21 12 41.3 0.0
baz=242
F14K Arctic Creek 60.63 21 P P 21 12 41.7 -0.1
baz=236
K15K Wolf Creek Mou 60.80 25 P P 21 12 43.0 -0.1
baz=242,SNR=5.9
P16K Nushagak River 60.99 29 P P 21 12 43.8 -0.6
baz=247
CHIR Chirikof Islan 61.05 33 P P 21 12 45.1 +0.2
baz=251
O16K Kokwok River B 61.16 29 P P 21 12 45.7 +0.1
baz=247,SNR=9.0
G15K Niukluk 61.17 22 P P 21 12 46.0 +0.4
baz=238
N16K Nishlik Lake 61.20 28 P P 21 12 46.2 +0.3
baz=246
F15K North Star Dit 61.34 21 P P 21 12 46.5 -0.2
baz=237
L16K Owhat River 61.41 26 P P 21 12 46.8 -0.4
baz=244
J16K Anvik River 61.64 24 P P 21 12 48.6 -0.1
baz=243
H16K Elim 61.65 23 P P 21 12 49.4 +0.6
baz=240
O17K Koliganek Bris 61.70 29 P P 21 12 49.4 +0.2
baz=248
Q17K Contact Creek 61.73 31 P P 21 12 49.2 -0.3
baz=250
ZAA0 Zalesovo Array 61.73 324 P P 21 12 49.6 0.0
ZAA0 IAmb IAmb 21 12 52.3
comp=Z,13nm,0.7s
ZALV Zalesovo Beam 61.73 324 P P 21 12 49.5 0.0
comp=Z,12nm,0.6s,baz=104,slow=7.4,SNR=41
ZALV LR LR 21 40 27.4
comp=Z,224nm,19.3s,baz=121,slow=37
comp=Z,12nm,0.6s
MK31 Makanchi Array 61.73 316 P P 21 12 49.8 +0.1
MK31 Makanchi Array 61.73 316 *ce*P P 21 12 50.5 +0.8
MKAR Makanchi Array 61.73 316 P P 21 12 49.7 0.0
MKAR Makanchi Array 61.73 316 P P 21 12 50.2 +0.5
comp=Z,6.6nm,0.4s,baz=92,slow=8.4,SNR=119
MKAR pP **pP** 21 13 14.8 0.0
comp=Z,14nm,0.6s,baz=90,slow=7.7,SNR=6.9
comp=Z,6.6nm,0.4s
P17K Kvichak River 61.79 30 P P 21 12 49.3 -0.5
baz=249
I17K Unalakleet 61.88 24 P P 21 12 51.6 +1.3
I17K IAmb IAmb 21 13 29.8
comp=Z,28nm,0.9s
I17K Unalakleet 61.88 24 P P 21 12 50.9 +0.6
baz=242,SNR=5.4
N17K Nushagak Hills 61.94 28 P P 21 12 51.5 +0.7
baz=247,SNR=9.7
MAKZ Makanchi 61.95 316 P P 21 12 51.7 +0.5
MAKZ IAmb IAmb 21 13 18.9
comp=Z,29nm,0.7s
MAKZ Makanchi 61.95 316 P P 21 12 51.7 +0.5
MAKZ pmax pmax
comp=Z,29nm,0.7s
MAKZ Makanchi 61.95 316 P P 21 12 51.7 +0.5
MAKZ pP **pwP** 21 13 17.3 -1.1
RPZ Rata Peaks 61.97 159 P P 21 12 50.5 -0.7
RPZ IAmb IAmb 21 13 20.0
comp=Z,39nm,1.0s
RPZ Rata Peaks 61.97 159 LR LR 21 37 01.3
comp=Z,199nm,20.5s,baz=319,slow=33
G16K Koyuk River 61.99 22 P P 21 12 52.2 +1.2
baz=240
SII Sitkinak Islan 62.05 33 P P 21 12 56.4 +4.8
comp=Z,117nm,0.7s
SII Sitkinak Islan 62.05 33 P P 21 12 52.3 +0.7
SII Sitkinak Islan 62.05 33 P P 21 12 52.5 +0.8
baz=252,SNR=5.9
L17K Donlin 62.09 26 P P 21 12 53.1 +1.3
baz=245,SNR=5.6
M17K Holitna River 62.17 27 P P 21 12 52.3 0.0
baz=247,SNR=9.9
J17K VABM Dome 62.31 25 P P 21 12 54.9 +1.7
J17K IAmb IAmb 21 13 35.3
comp=Z,37nm,1.0s
J17K VABM Dome 62.31 25 P P 21 12 52.8 -0.4
baz=244,SNR=12
K17K Iditarod 62.34 26 P P 21 12 53.7 +0.3
baz=245
P18K Big Mountain, 62.44 30 P P 21 12 54.1 -0.1
baz=250
C16K Lisburne Hills 62.53 18 P P 21 12 55.3 +0.7
C16K IAmb IAmb 21 12 57.2
comp=Z,29nm,0.8s
C16K Lisburne Hills 62.53 18 P P 21 12 54.4 -0.2
baz=236,SNR=7.4
N18K Kilae Creek 62.59 28 P P 21 12 54.5 -0.6
baz=248,SNR=5.5
O18K Koktuh Hills 62.61 29 P P 21 12 54.7 -0.7
baz=250,SNR=6.3
G17K Kiwalik Mounta 62.66 22 P P 21 12 55.3 -0.2
baz=242,SNR=7.6
H17K Granite Mounta 62.67 23 P P 21 12 54.9 -0.7
baz=242
OHAK Old Harbor 62.72 32 P P 21 12 57.0 +1.0
OHAK IAmb IAmb 21 13 28.7
comp=Z,74nm,1.4s
OHAK Old Harbor 62.72 32 P P 21 12 55.5 -0.5
baz=253
L18K Granite Mounta 62.82 26 P P 21 12 56.2 -0.4
baz=247,SNR=7.1
F17K Baldwin Pennin 62.91 21 P P 21 12 57.1 0.0
baz=240,SNR=8.6
M18K Stony River 62.92 27 P P 21 12 58.1 +0.8
baz=248,SNR=7.5
D17K Noatak River 62.93 20 P P 21 12 57.7 +0.4
baz=238,SNR=14
E17K Hotham Inlet 63.03 20 P P 21 12 57.9 0.0
baz=240,SNR=11
Q19K Cape Douglas, 63.06 30 P P 21 12 58.1 -0.3
baz=252
O19K Port Alsworth 63.15 29 P P 21 12 58.8 0.0
baz=250
RDOG Red Dog Mine 63.18 19 P P 21 12 59.9 +1.0
baz=238,SNR=5.1
PDGK Podgornoye 63.23 312 *i*P P 21 12 59.8 -0.1
PDGK pmax pmax
comp=Z,7.0nm,0.6s
SHLS Shalkode 63.23 311 *e*P P 21 12 57.7 -2.2
baz=311
SHLS Shalkode 63.23 311 *e*P P 21 12 57.7 -2.2
KDAK Kodiak Island 63.24 32 P P 21 13 00.7 +1.2
KDAK Kodiak Island 63.24 32 P P 21 12 59.7 +0.2
baz=253
KDAK Kodiak Island 63.24 32 LR LR 21 40 49.4
comp=Z,82nm,18.8s,baz=262,slow=36
KDAK Kodiak Island 63.24 32 P P 21 13 00.7 +1.2
KDAK pmax pmax
comp=Z,235nm,2.0s
N19K Bonanza Creek 63.28 28 P P 21 13 00.4 +0.5
baz=250,SNR=12
J18K Innoko River 63.30 25 P P 21 12 59.6 -0.2
baz=246
C17K DeLong Mountai 63.31 19 P P 21 12 59.9 +0.1
baz=238,SNR=6.5
H18K Honhosa River 63.36 23 P P 21 13 00.5 +0.3
baz=244
P19K Oil Pt 63.49 30 P P 21 13 01.7 +0.5
baz=252
F18K Selawik 63.54 21 P P 21 13 02.2 +0.9
baz=242
G18K Tagagawik 63.58 22 P P 21 13 02.5 +0.9
baz=243,SNR=13
Q20K Shuyak Island 63.58 31 P P 21 13 02.4 +0.7
baz=253
L19K White Mountain 63.60 27 P P 21 13 02.5 +0.6
baz=249,SNR=13
E18K Tukpahlearik C 63.61 20 P P 21 13 02.8 +1.1
baz=241,SNR=15
SEM Semipalatinsk 63.69 320 *e*P P 21 13 01.8 -1.2
baz=320
SEM Semipalatinsk 63.69 320 *e*P P 21 13 01.7 -1.2
M19K Big River Lodg 63.71 27 P P 21 13 03.3 +0.7
baz=249
GCSA Galena City Sc 63.76 24 P P 21 13 03.4 +0.7
baz=246
O20K Slope Mountain 63.92 29 P P 21 13 03.6 -0.4
baz=252
J19K Poorman 63.96 25 P P 21 13 04.1 0.0

baz=247,SNR=12
RAR Rarotonga 63.97 122 LR LR 21 35 28.8
comp=Z,105nm,21.4s,baz=288,slow=31
ZHN Zhinishke 63.98 311 *e*P P 21 13 04.6 -0.2
baz=311
ZHN Zhinishke 63.98 311 *e*P P 21 13 04.6 -0.2
SATY Saty 63.99 311 *e*P P 21 13 04.9 -0.1
baz=311
SATY Saty 63.99 311 *e*P P 21 13 04.8 -0.1
C18K Utukok River 64.03 19 P P 21 13 04.8 +0.2
baz=240,SNR=8.2
L20K Farewell, AK 64.13 27 P P 21 13 05.0 -0.3
baz=250
TDK Taldyqorghan 64.18 313 *e*P P 21 13 06.0 0.0
comp=Z,20nm,0.8s,baz=313
TDK Taldyqorghan 64.18 313 *e*P P 21 13 05.9 0.0
TDK pmax pmax
comp=Z,20nm,0.8s
B18K Kokolik River 64.21 18 P P 21 13 06.1 +0.4
baz=239
H19K Roundabout Mou 64.25 23 P P 21 13 06.1 +0.2
baz=246
M20K Styx River 64.26 27 P P 21 13 06.0 -0.3
baz=251,SNR=13
G19K Purcell Mounta 64.26 22 P P 21 13 06.2 +0.1
baz=245,SNR=22
F19K Shaleruckik Mo 64.31 21 P P 21 13 06.6 +0.3
baz=244
TARG Taragay, Kyrgy 64.33 310 P P 21 13 07.3 -0.2
TARG Taragay, Kyrgy 64.33 310 P P 21 13 07.3 -0.2
TARG pmax pmax
comp=Z,7.0nm,0.7s
K20K Telida 64.36 26 P P 21 13 07.0 +0.2
baz=249
CNPM China Poot 64.42 30 P P 21 13 08.1 +0.9
CNPM IAmb IAmb 21 13 10.9
comp=Z,47nm,0.7s
HYB Hyderabad 64.45 283 *e*P P 21 13 08.1 0.0
N20K Mount Spurr 64.46 28 P P 21 13 07.9 +0.4
baz=252
ARXS Arharly 64.51 312 *e*P P 21 13 07.8 -0.4
J20K Nowinta River 64.63 25 P P 21 13 08.7 +0.3
baz=249,SNR=8.5
BRLK Bradley Lake 64.66 30 P P 21 13 09.1 +0.3
BRLK IAmb IAmb 21 13 12.0
comp=Z,31nm,0.8s
BRSE Bradley Lake S 64.72 30 P P 21 13 09.6 +0.4
baz=254
C19K Lookout Ridge 64.76 19 P P 21 13 09.5 +0.2
baz=241,SNR=18
KURK Kurchatov 64.77 320 P P 21 13 09.4 -0.2
KURK IAmb IAmb 21 13 48.2
comp=Z,79nm,1.1s
KURK Kurchatov 64.77 320 *ce*P P 21 13 09.6 0.0
KURK pmax pmax
comp=Z,68nm,1.3s
KURK Kurchatov 64.77 320 P P 21 13 09.6 0.0
E19K Redstone River 64.78 21 P P 21 13 09.6 +0.2
baz=244
KURBB Kurchatov Arra 64.81 320 P P 21 13 09.9 0.0
comp=Z,24nm,0.5s,baz=100,slow=6.7,SNR=188
KURBB pP **pP** 21 13 35.3 +0.1
comp=Z,24nm,0.7s,baz=100,slow=7.0,SNR=4.4
KURBB PKP2bc **P'P'bc** 21 42 00.0 -1.4
comp=Z,1.0nm,0.9s,baz=275,slow=3.2,SNR=6.8
KURBB LR LR 21 42 27.4
comp=Z,489nm,19.0s,baz=142,slow=37
comp=Z,24nm,0.5s
H20K Anotleneega Mo 64.83 23 P P 21 13 09.7 -0.1
baz=247,SNR=12
D19K Kuna River 64.95 20 P P 21 13 10.7 +0.2
baz=243
MDOK Medeo 64.99 311 *e*P P 21 13 11.3 -0.2
baz=311
MDOK Medeo 64.99 311 *e*P P 21 13 11.3 -0.2
PPLA Purkeypile 65.01 27 P P 21 13 10.9 -0.2
baz=251,SNR=9.9
SKT Skwentna 65.01 28 P P 21 13 10.4 -0.7
baz=252,SNR=9.4
TNSS Tian-Shan 65.06 311 *e*P P 21 13 11.8 -0.4
baz=311
TNSS Tian-Shan 65.06 311 *e*P P 21 13 11.7 -0.4
CHKK Chushkaly 65.09 312 *e*P P 21 13 11.3 -0.6
baz=312
CHKK Chushkaly 65.09 312 *e*P P 21 13 11.3 -0.6
AAA Alma-Ata 65.09 311 *e*P P 21 13 11.6 -0.5
comp=Z,24nm,1.2s,baz=311
AAA Alma-Ata 65.09 311 *e*P P 21 13 11.5 -0.5
AAA pmax pmax
comp=Z,24nm,1.2s
F20K Avaraart Lake 65.14 22 P P 21 13 11.9 +0.2
baz=246,SNR=13
SUA Susitna One 65.21 28 P P 21 13 13.3 +0.8
SUA IAmb IAmb 21 13 44.8
comp=Z,24nm,0.7s
SUA Susitna One 65.21 28 P P 21 13 12.0 -0.5
baz=253
CAST Castle Rocks 65.22 26 P P 21 13 12.6 +0.2
baz=251,SNR=32
CHUM Lake Minchumin 65.28 25 P P 21 13 12.7 0.0
baz=250,SNR=8.7
O22K Cooper Landing 65.42 29 P P 21 13 14.8 +1.2
baz=254,SNR=8.9
SEW Seward 65.45 30 P P 21 13 14.3 +0.5
baz=255,SNR=5.7
IMAR Indian Mountai 65.45 23 P P 21 13 14.6 +0.8
E20K Nigu River 65.48 20 P P 21 13 14.3 +0.3
baz=245
D20K Etivluk River 65.54 20 P P 21 13 15.3 +1.0
baz=244
RC01 Rabbit Creek A 65.57 29 P P 21 13 14.6 0.0
baz=254,SNR=7.3
KSH Kashi 65.62 307 P P 21 13 18.4 +2.9
KSH pP PcP 21 13 44.9 -1.4
KSH sP sP 21 13 54.5 +2.4
KSH S S 21 21 54.1 +0.9
KSH pmax pmax
comp=Z,9.0nm,0.9s
KSH pmax pmax
comp=Z,250nm,5.7s
H21K Melozitna Rive 65.69 24 P P 21 13 15.8 +0.5
baz=249,SNR=9.4
CUT Chulitna 65.70 27 P P 21 13 16.6 +1.2
CUT IAmb IAmb 21 14 09.6
comp=Z,50nm,0.8s
G21K Allakaket 65.74 23 P P 21 13 16.5 +0.8
baz=248
I21K Tanana 65.85 24 P P 21 13 16.9 +0.6
baz=250
BPAW Bear Paw Mtn. 65.91 25 P P 21 13 17.6 +0.8
baz=252,SNR=14
B20K Meade River 65.94 18 P P 21 13 17.9 +1.1
baz=243,SNR=14
PMR Palmer 65.99 28 P P 21 13 19.6 +2.3
comp=Z,44nm,0.8s
PMR Palmer 65.99 28 P P 21 13 18.0 +0.7
PMR IAmb IAmb 21 13 48.4
comp=Z,38nm,0.9s
PMR Palmer 65.99 28 P P 21 13 17.7 +0.4
baz=254
PMR Palmer 65.99 28 P P 21 13 18.0 +0.7
PMR pmax pmax
comp=Z,38nm,0.9s
TRF Thorofare Moun 66.00 26 P P 21 13 17.4 -0.2
baz=253,SNR=13
F21K Alatna River 66.01 22 P P 21 13 17.2 -0.2
baz=248
TKM2 Tokmak 2 66.04 311 P P 21 13 18.8 +0.6
SNR=17
TKM2 Tokmak 2 66.04 311 *i*P P 21 13 18.7 +0.4
TKM2 pmax pmax
comp=Z,10.0nm,0.8s
GHO Glory Hole Cre 66.13 28 P P 21 13 19.1 +0.8
GHO IAmb IAmb 21 13 49.7
comp=Z,44nm,0.8s
KNK Knik Glacier 66.26 29 P P 21 13 19.3 +0.3
baz=255,SNR=14
MLY Manley 66.30 25 P P 21 13 20.0 +0.7
baz=252,SNR=20
E21K Killik River 66.31 21 P P 21 13 19.6 +0.3
baz=247,SNR=11
C21K Knifeblade Rid 66.33 20 P P 21 13 20.3 +1.0
baz=246,SNR=9.7
H22K Ishtalitna Cre 66.33 24 P P 21 13 20.3 +0.9
baz=250
SML Sawmill 66.42 28 P P 21 13 20.3 +0.1
baz=255,SNR=18

P23K	**Montague Islan**	**66.42**	**30**	P		**P**		**21 13 20.9**	**+0.9**
	baz=257								
KBK	**Karagaybulak**	**66.50**	**311**	P		**P**		**21 13 21.8**	**+0.6**
	SNR=12								
B21K	**Ikpikpuk River**	**66.57**	**19**	P		**P**		**21 13 21.3**	**+0.5**
	baz=246,SNR=13								
WAT1	**Susitna Watana**	**66.58**	**27**	P		**P**		**21 13 21.6**	**+0.4**
	baz=254								
F22K	**John River**	**66.59**	**22**	P		**P**		**21 13 22.2**	**+1.2**
	baz=249,SNR=34								
RND	**Reindeer**	**66.61**	**26**	P		**P**		**21 13 22.0**	**+0.7**
G22K	**Bettles**	**66.63**	**22**	P		**P**		**21 13 22.1**	**+0.9**
	baz=250								
MCK	**McKinley**	**66.66**	**26**	P		**P**		**21 13 21.9**	**+0.3**
	baz=254								
MCK	**McKinley**	**66.66**	**26**	P		**P**		**21 13 22.6**	**+1.0**
CHMS	**Chumysh**	**66.66**	**311**	P		**P**		**21 13 22.8**	**+0.8**
	SNR=6.0								
M23K	**Glacier View**	**66.69**	**28**	P		**P**		**21 13 22.1**	**+0.3**
	baz=256,SNR=7.6								
A21K	**Barrow**	**66.70**	**17**	P		**P**		**21 13 22.7**	**+1.1**
	baz=243								
FRU1	**Bishkek**	**66.75**	**311**	P		**P**		**21 13 22.8**	**+0.2**
FRU1	**Bishkek**	**66.75**	**311**	P		**P**		**21 13 22.8**	**+0.2**
FRU1				pmax		pmax			
	comp=Z,9.0nm,0.8s								
GLI	**Glacier Island**	**66.77**	**29**	P		**P**		**21 13 23.5**	**+1.2**
	baz=257								
SGDS	**Sogindy**	**66.77**	**311**	*e*P		**P**		**21 13 22.6**	**-0.1**
	baz=311								
SGDS	**Sogindy**	**66.77**	**311**	*e*P		**P**		**21 13 22.6**	**-0.1**
UCH	**Uchtor**	**66.81**	**310**	P		**P**		**21 13 24.5**	**+1.0**
	SNR=16								
AAK	**Ala-Archa**	**66.84**	**311**	P		**P**		**21 13 23.8**	**+0.5**
	SNR=6.2								
AAK	**Ala-Archa**	**66.84**	**311**	P		**P**		**21 13 23.4**	**+0.1**
AAK	**Ala-Archa**	**66.84**	**311**	*ce*P		**P**		**21 13 23.9**	**+0.5**
AAK				pmax		pmax			
	comp=Z,3.0nm,0.8s								
AAK	**Ala-Archa**	**66.84**	**311**	P		**P**		**21 13 23.8**	**+0.5**
NEA2	**Nenana**	**66.85**	**25**	P		**P**		**21 13 23.5**	**+0.7**
	baz=253								
USP	**Ospenovka**	**66.86**	**311**	P		**P**		**21 13 23.6**	**+0.4**
	SNR=7.6								
WAT6	**Susitna Watana**	**66.88**	**28**	P		**P**		**21 13 23.2**	**0.0**
	baz=255,SNR=14								
SCM	**Sheep Creek Mo**	**66.88**	**28**	P		**P**		**21 13 24.3**	**+1.2**
SCM	**Sheep Creek Mo**	**66.88**	**28**	P		**P**		**21 13 23.8**	**+0.7**
	baz=256,SNR=13								
SCM	**Sheep Creek Mo**	**66.88**	**28**	P		**P**		**21 13 24.3**	**+1.2**
SCM				pmax		pmax			
	comp=Z,88nm,0.8s								
I23K	**Minto, Yukon-K**	**66.89**	**25**	P		**P**		**21 13 23.5**	**+0.6**
	baz=253,SNR=10.0								
D22K	**Ayikyak River**	**66.91**	**20**	P		**P**		**21 13 24.0**	**+0.8**
	baz=248,SNR=26								
ARLS	**Aral**	**66.94**	**310**	P		**P**		**21 13 24.8**	**+0.8**
ARLS				pmax		pmax			
	comp=Z,20nm,0.8s								
HIN	**Hinchinbrook I**	**66.95**	**30**	P		**P**		**21 13 24.6**	**+1.1**
HIN				IAmb		IAmb		21 13 54.2	
	comp=Z,25nm,0.8s								
H23K	**Yukon River**	**67.02**	**24**	P		**P**		**21 13 24.6**	**+0.7**
	baz=252								
FID	**Port Fidalgo**	**67.03**	**30**	P		**P**		**21 13 24.9**	**+0.9**
FID				IAmb		IAmb		21 13 51.2	
	comp=Z,66nm,1.2s								
A22K	**Sinclair Lake**	**67.04**	**18**	P		**P**		**21 13 25.1**	**+1.3**
	baz=245								
G23K	**Bananza Creek**	**67.11**	**23**	P		**P**		**21 13 25.5**	**+1.1**
	baz=252,SNR=11								
DHY	**Denali Highway**	**67.17**	**27**	P		**P**		**21 13 26.1**	**+1.2**
	baz=256,SNR=7.7								
COLD	**Coldfoot**	**67.21**	**22**	P		**P**		**21 13 26.0**	**+1.0**
	baz=251,SNR=18								
B22K	**Teshekpuk Lake**	**67.24**	**19**	P		**P**		**21 13 25.8**	**+0.7**
	baz=247,SNR=20								
BTLS	**Baital**	**67.26**	**313**	*e*P		**P**		**21 13 25.3**	**-0.5**
	baz=313								
BTLS	**Baital**	**67.26**	**313**	*e*P		**P**		**21 13 25.2**	**-0.5**
EYAK	**Cordova Ski Ar**	**67.34**	**30**	P		**P**		**21 13 28.6**	**+2.7**
	comp=Z,25nm,0.9s								
EYAK	**Cordova Ski Ar**	**67.34**	**30**	P		**P**		**21 13 25.6**	**-0.3**
	baz=258								
EKS2	**Erkin-Say**	**67.37**	**311**	P		**P**		**21 13 26.9**	**+0.3**
	SNR=7.5								
COLA	**College**	**67.43**	**25**	P		**P**		**21 13 29.3**	**+2.9**
	comp=Z,11nm,0.8s								
COLA	**College**	**67.43**	**25**	*i* P		**P**		**21 13 27.0**	**+0.6**
COLA				pmax		pmax			
	comp=Z,20nm,2.1s								
COLA	**College**	**67.43**	**25**	P		**P**		**21 13 28.1**	**+1.7**
COLA				pP		**PcP**		**21 13 53.0**	**-0.1**
KLU	**Klutina**	**67.46**	**29**	P		**P**		**21 13 27.3**	**+0.5**
	baz=258,SNR=12								
M24K	**Tolsona, Glenn**	**67.48**	**28**	P		**P**		**21 13 27.4**	**+0.6**
	baz=257,SNR=6.3								
D23K	**Nanushuk River**	**67.62**	**20**	P		**P**		**21 13 27.7**	**+0.2**
	baz=250								
POKR	**Poker Plat Res**	**67.67**	**25**	P		**P**		**21 13 28.8**	**+0.9**
	baz=255								
H24K	**Noodor Dome**	**67.68**	**24**	P		**P**		**21 13 28.3**	**+0.2**
	baz=254,SNR=11								
HDA	**Harding Lake**	**67.68**	**26**	P		**P**		**21 13 28.3**	**+0.3**
	baz=255,SNR=11								
E23K	**Chandalar**	**67.69**	**22**	P		**P**		**21 13 28.7**	**+0.6**
	baz=251								
ILAR	**Eielson Array**	**67.80**	**25**	P		**P**		**21 13 28.1**	**-0.7**
ILAR	**Eielson Array**	**67.80**	**25**	P		**P**		**21 13 28.4**	**-0.4**
	comp=Z,7.1nm,0.5s,baz=250,slow=5.9,SNR=102								
ILAR				pP		**pP**		**21 13 53.1**	**-0.5**
	comp=Z,14nm,0.8s,baz=254,slow=4.6,SNR=5.7								
ILAR				LR		LR		21 39 24.6	
	comp=Z,99nm,21.9s,baz=258,slow=32								
	comp=Z,7.1nm,0.5s								
KAIM	**Kayak Island**	**67.87**	**31**	P		**P**		**21 13 30.3**	**+1.1**
KAIM				IAmb		IAmb		21 14 02.5	
	comp=Z,53nm,0.8s								
KAIM	**Kayak Island**	**67.87**	**31**	P		**P**		**21 13 29.6**	**+0.4**
	baz=260,SNR=8.5								
TOLK	**Toolik Lake Re**	**67.89**	**21**	P		**P**		**21 13 30.7**	**+1.3**
	baz=251,SNR=19								
ARSB	**Arslanbob**	**67.94**	**309**	P		**P**		**21 13 30.3**	**0.0**
ARSB	**Arslanbob**	**67.94**	**309**	P		**P**		**21 13 30.3**	**0.0**
ARSB				pmax		pmax			
	comp=Z,4.0nm,0.9s								
C23K	**Itkillik River**	**67.94**	**20**	P		**P**		**21 13 30.3**	**+0.8**
	baz=250,SNR=40								
BMRM	**Bremner River**	**67.98**	**30**	P		**P**		**21 13 31.5**	**+1.6**
	baz=259,SNR=12								
PAX	**Paxson**	**67.99**	**27**	P		**P**		**21 13 30.3**	**+0.2**
	baz=257,SNR=21								
HARP	**HAARP**	**68.00**	**28**	P		**P**		**21 13 30.5**	**+0.4**
	baz=258,SNR=10								
K24K	**Donnelly Dome**	**68.04**	**26**	P		**P**		**21 13 30.9**	**+0.6**
	baz=257,SNR=15								
G24K	**Hadweenzic Riv**	**68.08**	**23**	P		**P**		**21 13 31.0**	**+0.5**
	baz=254,SNR=8.3								
OHH	**Osh**	**68.08**	**308**	P		**P**		**21 13 31.9**	**+0.8**
OHH				pmax		pmax			
	comp=Z,26nm,0.7s								
E24K	**Your Creek**	**68.10**	**22**	P		**P**		**21 13 32.2**	**+1.5**
	baz=252,SNR=21								
N25K	**Chitina, Valde**	**68.10**	**29**	P		**P**		**21 13 31.4**	**+0.6**
	baz=259,SNR=8.1								
F24K	**Squaw Lake**	**68.15**	**22**	P		**P**		**21 13 31.9**	**+1.0**
	baz=253,SNR=22								
D24K	**Happy Valley**	**68.31**	**21**	P		**P**		**21 13 32.6**	**+0.7**
	baz=252								
J25K	**Salcha River,**	**68.40**	**26**	P		**P**		**21 13 32.9**	**+0.3**
	baz=257,SNR=14								
BRZS	**Berezniki**	**68.47**	**318**	*e*P		**P**		**21 13 32.5**	**-0.7**
	baz=318								
BRZS	**Berezniki**	**68.47**	**318**	*e*P		**P**		**21 13 32.5**	**-0.7**
C24K	**Franklin Bluff**	**68.53**	**20**	P		**P**		**21 13 34.1**	**+0.9**
	baz=252,SNR=7.4								
PRP	**Porcupine Dome**	**68.54**	**25**	P		**P**		**21 13 34.0**	**+0.4**
	baz=256								
OTUK	**Ortayu**	**68.59**	**317**	*i* P		**P**		**21 13 33.5**	**-0.6**
OTUK				pmax		pmax			
	comp=Z,21nm,1.0s								
H25L	**Birch Creek**	**68.61**	**24**	P		**P**		**21 13 34.4**	**+0.7**
	baz=256,SNR=8.1								
G25K	**Bearman Lake**	**68.62**	**23**	P		**P**		**21 13 35.0**	**+1.2**
	baz=255								
MENT	**Mentasta**	**68.76**	**28**	P		**P**		**21 13 39.1**	**+4.3**
	comp=Z,31nm,0.9s								

MCARA	**McCarthy VSAT**	**68.81**	**29**	P		**P**		**21 13 36.3**	**+1.3**
	baz=260,SNR=11								
DRK	**Karamyk**	**68.85**	**307**	P		**P**		**21 13 36.1**	**0.0**
DRK	**Karamyk**	**68.85**	**307**	P		**P**		**21 13 36.1**	**0.0**
DRK				pmax		pmax			
	comp=Z,10.0nm,0.7s								
SCRK	**Sand Creek**	**68.85**	**26**	P		**P**		**21 13 36.1**	**+0.6**
	baz=258,SNR=14								
L26K	**Log Cabin Wild**	**68.95**	**28**	P		**P**		**21 13 37.1**	**+1.2**
	baz=259,SNR=12								
M26K	**Nabesna, AK**	**68.99**	**28**	P		**P**		**21 13 37.5**	**+1.2**
	baz=260								
F25K	**Christian Rive**	**69.00**	**22**	P		**P**		**21 13 38.2**	**+1.9**
	baz=255,SNR=20								
J26L	**Joseph Creek**	**69.14**	**26**	P		**P**		**21 13 38.1**	**+1.0**
	baz=258,SNR=18								
MESA	**MESA**	**69.14**	**31**	P		**P**		**21 13 38.6**	**+1.2**
	baz=262,SNR=9.9								
E25K	**Arctic Village**	**69.16**	**22**	P		**P**		**21 13 38.2**	**+1.0**
	baz=255,SNR=17								
DZA	**Taraz**	**69.17**	**311**	*e*P		**P**		**21 13 37.3**	**-0.4**
	baz=311								
DZA	**Taraz**	**69.17**	**311**	*e*P		**P**		**21 13 37.3**	**-0.4**
D25K	**Kavik River**	**69.20**	**21**	P		**P**		**21 13 38.4**	**+1.0**
	baz=254,SNR=54								
TRKS	**Terek-Say**	**69.32**	**309**	P		**P**		**21 13 39.1**	**+0.2**
TRKS				pmax		pmax			
	comp=Z,22nm,0.9s								
BMAR	**Burnt Mountain**	**69.36**	**23**	P		**P**		**21 13 40.1**	**+1.7**
I26K	**Coal Creek Min**	**69.47**	**25**	P		**P**		**21 13 39.9**	**+0.9**
	baz=259								
M27K	**Edge Creek, AK**	**69.50**	**28**	P		**P**		**21 13 40.6**	**+1.1**
	baz=261,SNR=12								
CTG	**Chitna Glacier**	**69.55**	**30**	P		**P**		**21 13 41.6**	**+1.7**
	baz=262,SNR=29								
G26K	**Porcupine Rive**	**69.55**	**23**	P		**P**		**21 13 41.1**	**+1.6**
	baz=257,SNR=16								
F26K	**Sheenjek River**	**69.58**	**23**	P		**P**		**21 13 41.3**	**+1.5**
	baz=257,SNR=25								
BTK	**Batken**	**69.59**	**308**	P		**P**		**21 13 40.3**	**-0.2**
BTK	**Batken**	**69.59**	**308**	P		**P**		**21 13 40.3**	**-0.2**
BTK				pmax		pmax			
	comp=Z,12nm,1.1s								
L27K	**Beaver Creek,**	**69.64**	**28**	P		**P**		**21 13 41.0**	**+0.8**
	baz=261,SNR=16								
BCAR	**Beaver Creek A**	**69.66**	**28**	P		**P**		**21 13 41.5**	**+1.1**
K27K	**Chicken**	**69.69**	**27**	P		**P**		**21 13 41.9**	**+1.4**
	baz=260								
KK31	**Karatay Array**	**69.77**	**311**	P		**P**		**21 13 41.4**	**0.0**
KK31	**Karatay Array**	**69.77**	**311**	P		**P**		**21 13 41.4**	**0.0**
KK31				pmax		pmax			
	comp=Z,11nm,0.9s								
KKAR	**Karatay Array**	**69.77**	**311**	P		**P**		**21 13 41.5**	**+0.1**
KKAR	**Karatay Array**	**69.77**	**311**	P		**P**		**21 13 41.5**	**+0.1**
KKAR				pmax		pmax			
	comp=Z,11nm,0.9s								
C26K	**Camden Bay**	**69.85**	**20**	P		**P**		**21 13 42.8**	**+1.5**
	baz=255,SNR=76								
GAR	**Garm**	**70.01**	**307**	P		**P**		**21 13 43.1**	**0.0**
GAR				IAmb		IAmb		21 14 44.3	
	comp=Z,43nm,1.2s								
YUK3	**Moose Creek**	**70.08**	**29**	P		**P**		**21 13 44.0**	**+0.9**
	baz=262,SNR=17								
BVAR	**Borovoye Array**	**70.08**	**322**	P		**P**		**21 13 43.1**	**+0.1**
	comp=Z,38nm,0.6s,baz=101,slow=7.4,SNR=259								
BVAR				LR		LR		21 47 11.3	
	comp=Z,351nm,18.0s,baz=126,slow=38								
	comp=Z,38nm,0.6s								
O28M	**Mount Upton**	**70.08**	**30**	P		**P**		**21 13 44.1**	**+0.9**
	baz=263,SNR=26								
IUG	**Iuzhnay**	**70.14**	**310**	*e*P		**P**		**21 13 43.6**	**-0.3**
	baz=310								
IUG	**Iuzhnay**	**70.14**	**310**	*e*P		**P**		**21 13 43.5**	**-0.3**
BRVK	**Borovoye**	**70.14**	**322**	P		**P**		**21 13 43.5**	**0.0**
BRVK				IAmb		IAmb		21 13 44.8	
	comp=Z,34nm,0.8s								
BRVK	**Borovoye**	**70.14**	**322**	*ce*P		**P**		**21 13 43.6**	**+0.1**
BRVK				pmax		pmax			
	comp=Z,39nm,0.8s								
BRVK	**Borovoye**	**70.14**	**322**	P		**P**		**21 13 43.7**	**+0.2**
BRVK				pP		**pP**		**21 14 10.1**	**+1.1**
BRVK				sP		**sP**		**21 14 21.8**	**+1.8**
I27K	**Kandik River**	**70.15**	**25**	P		**P**		**21 13 44.6**	**+1.3**
	baz=260								
C27K	**Jago River**	**70.18**	**21**	P		**P**		**21 13 44.6**	**+1.2**
	baz=256,SNR=28								
BRLS	**Borolday**	**70.27**	**311**	*e*P		**P**		**21 13 44.7**	**+0.2**
	baz=311								
BRLS	**Borolday**	**70.27**	**311**	*e*P		**P**		**21 13 44.6**	**+0.2**
H27K	**Steamboat Moun**	**70.30**	**24**	P		**P**		**21 13 45.1**	**+0.9**
	baz=260,SNR=23								
YUK8	**Steele Glacier**	**70.35**	**30**	P		**P**		**21 13 45.8**	**+0.9**
	baz=263,SNR=29								
PNL	**Peninsula**	**70.35**	**31**	P		**P**		**21 13 47.1**	**+2.5**
	comp=Z,37nm,0.7s								
PNL	**Peninsula**	**70.35**	**31**	P		**P**		**21 13 45.5**	**+0.9**
	baz=264								
G27K	**Doyon Strip**	**70.35**	**24**	P		**P**		**21 13 46.1**	**+1.6**
	baz=260,SNR=9.3								
E27K	**Coleen River**	**70.63**	**22**	P		**P**		**21 13 47.9**	**+1.7**
	baz=259,SNR=17								
I28M	**Miner Creek**	**70.82**	**25**	P		**P**		**21 13 48.8**	**+1.3**
	baz=262,SNR=15								
DAWY	**Dawson**	**70.86**	**27**	P		**P**		**21 13 49.0**	**+1.3**
DAWY	**Dawson**	**70.86**	**27**	P		**P**		**21 13 49.5**	**+1.8**
	baz=263,SNR=16								
YUK4	**Talbot Arm**	**70.89**	**30**	P		**P**		**21 13 49.6**	**+1.5**
	baz=264,SNR=32								
CHGR	**Chuyangaron**	**70.93**	**306**	P		**P**		**21 13 48.6**	**-0.1**
CHGR				IAmb		IAmb		21 14 51.5	
	comp=Z,50nm,1.0s								
CHGR	**Chuyangaron**	**70.93**	**306**	P		**P**		**21 13 48.6**	**-0.1**
CHGR				pmax		pmax			
	comp=Z,50nm,1.0s								
YUK6	**Outpost Mounta**	**70.99**	**30**	P		**P**		**21 13 50.2**	**+1.5**
	baz=265,SNR=10.0								
SIMJ	**Simiganj**	**71.05**	**306**	P		**P**		**21 13 49.2**	**-0.2**
SIMJ				IAmb		IAmb		21 14 52.2	
	comp=Z,24nm,0.9s								
SIMJ	**Simiganj**	**71.05**	**306**	P		**P**		**21 13 49.6**	**+0.2**
SIMJ				pP		**pP**		**21 14 14.7**	**-0.5**
D27M	**Malcolm River**	**71.05**	**21**	P		**P**		**21 13 50.7**	**+1.9**
	baz=259,SNR=34								
M29M	**Somme Creek**	**71.09**	**28**	P		**P**		**21 13 50.4**	**+1.2**
	baz=264,SNR=27								
PPT	**Papeete**	**71.15**	**114**	LR		LR		21 36 50.7	
	comp=Z,533nm,20.9s,baz=317,slow=29								
F28M	**Old Crow**	**71.17**	**23**	P		**P**		**21 13 50.8**	**+1.4**
	baz=261,SNR=23								
P29M	**Windy Craggy**	**71.19**	**31**	P		**P**		**21 13 51.5**	**+1.8**
	baz=266,SNR=20								
KBL	**Kabul**	**71.29**	**302**	P		**P**		**21 13 50.6**	**-0.4**
KBL	**Kabul**	**71.29**	**302**	P		**P**		**21 13 50.6**	**-0.4**
KBL				pmax		pmax			
	comp=Z,18nm,0.9s								
L29M	**L29M**	**71.31**	**28**	P		**P**		**21 13 51.6**	**+1.2**
	baz=264,SNR=37								
HYT	**Haines Junctio**	**71.39**	**30**	P		**P**		**21 13 52.4**	**+1.4**
	baz=265,SNR=31								
J29N	**Klondike Camp**	**71.42**	**26**	P		**P**		**21 13 52.8**	**+1.8**
	baz=264,SNR=7.6								
E28M	**Babbage River**	**71.45**	**22**	P		**P**		**21 13 51.8**	**+0.7**
	baz=261,SNR=25								
I29M	**Ogilvie Camp,**	**71.48**	**25**	P		**P**		**21 13 53.0**	**+1.6**
	baz=263,SNR=12								
H29M	**Whitestone**	**71.56**	**24**	P		**P**		**21 13 53.4**	**+1.6**
	baz=263,SNR=8.4								
P30M	**Million Dollar**	**71.61**	**31**	P		**P**		**21 13 53.4**	**+1.1**
	baz=266								
N30M	**Aishikik Lake**	**71.65**	**30**	P		**P**		**21 13 53.5**	**+1.0**
	baz=266,SNR=22								
K29M	**Barlow Dome**	**71.66**	**27**	P		**P**		**21 13 53.4**	**+0.9**
	baz=264,SNR=26								
G29M	**Pine Creek**	**71.78**	**24**	P		**P**		**21 13 54.5**	**+1.3**
	baz=263,SNR=15								
D28M	**Stokes Point**	**71.85**	**21**	P		**P**		**21 13 54.9**	**+1.5**
	baz=261,SNR=22								
S31K	**Pelican**	**71.87**	**33**	P		**P**		**21 13 54.9**	**+1.2**
	baz=267								
PLBC	**Pleasant Camp**	**71.87**	**32**	P		**P**		**21 13 54.6**	**+0.8**
	baz=267,SNR=32								
E29M	**Blow River**	**72.02**	**22**	P		**P**		**21 13 55.3**	**+0.8**
	baz=262,SNR=12								
O30N	**Mendenhall**	**72.08**	**30**	P		**P**		**21 13 55.4**	**+0.3**
	baz=267								
J30M	**Hart River**	**72.24**	**26**	P		**P**		**21 13 56.1**	**+0.1**
	baz=265,SNR=13								

EPYK	**Eagle Plains**	**72.24**	**24**	P		**P**		**21 13 56.2**	**+0.2**
	baz=264,SNR=12								
N31M	**Braeburn, Yuko**	**72.27**	**30**	P		**P**		**21 13 56.8**	**+0.6**
	baz=267,SNR=11								
I30M	**Mount Dempster**	**72.28**	**26**	P		**P**		**21 13 56.7**	**+0.4**
	baz=265,SNR=14								
SKAG	**Skagway**	**72.40**	**32**	P		**P**		**21 14 00.1**	**+3.2**
	comp=Z,20nm,0.9s								
SKAG	**Skagway**	**72.40**	**32**	P		**P**		**21 13 58.1**	**+1.2**
	baz=268								
G30M	**tAoh Zraii Nji**	**72.50**	**24**	P		**P**		**21 13 58.5**	**+1.0**
	baz=264,SNR=12								
WHY	**Whitehorse**	**72.67**	**30**	P		**P**		**21 14 00.4**	**+1.8**
WHY	**Whitehorse**	**72.67**	**30**	P		**P**		**21 13 59.3**	**+0.7**
	baz=268,SNR=13								
F30M	**Barrier River**	**72.72**	**23**	P		**P**		**21 14 00.3**	**+1.6**
	baz=265,SNR=20								
S32K	**Killisnoo**	**72.74**	**34**	P		**P**		**21 14 00.3**	**+1.3**
	baz=269								
R32K	**Eaglecrest**	**72.79**	**33**	P		**P**		**21 14 00.4**	**+1.2**
	baz=269,SNR=6.5								
M31M	**Drury Creek, Y**	**72.97**	**29**	P		**P**		**21 14 00.9**	**+0.6**
M31M	**Drury Creek, Y**	**72.97**	**29**	P		**P**		**21 14 01.9**	**+1.6**
	baz=268,SNR=15								
H31M	**Peel River**	**73.16**	**25**	P		**P**		**21 14 02.1**	**+0.8**
	baz=267,SNR=22								
P32M	**Atlin**	**73.23**	**32**	P		**P**		**21 14 03.0**	**+1.2**
	baz=269,SNR=12								
G31M	**Satah River**	**73.26**	**24**	P		**P**		**21 14 03.0**	**+1.2**
	baz=266,SNR=26								
FARO	**Faro, Yukon**	**73.46**	**29**	P		**P**		**21 14 03.8**	**+0.6**
F31M	**Tsiigehtchic**	**73.50**	**23**	P		**P**		**21 14 04.4**	**+1.2**
	baz=267,SNR=12								
N32M	**Quiet Lake**	**73.56**	**30**	P		**P**		**21 14 04.9**	**+1.1**
	baz=269								
INK	**Inuvik**	**73.63**	**22**	P		**P**		**21 14 04.3**	**+0.4**
INK	**Inuvik**	**73.63**	**22**	P		**P**		**21 14 04.7**	**+0.7**
	baz=267,SNR=29								
INK	**Inuvik**	**73.63**	**22**	P		**P**		**21 14 04.3**	**+0.4**
INK				pmax		pmax			
	comp=Z,18nm,1.0s								
P33M	**Teslin, Yukon**	**73.69**	**31**	P		**P**		**21 14 05.8**	**+1.2**
	baz=270,SNR=7.0								
WRAK	**Wrangell Islan**	**73.97**	**35**	P		**P**		**21 14 08.2**	**+2.1**
	baz=271								
V35K	**Ketchikan**	**74.41**	**36**	P		**P**		**21 14 10.2**	**+1.5**
	baz=272								
MMPY	**Sheldon Lake,**	**74.43**	**28**	P		**P**		**21 14 11.4**	**+2.6**
	baz=270,SNR=6.7								
S34M	**Telegraph Cree**	**74.59**	**33**	P		**P**		**21 14 11.7**	**+2.0**
	baz=272,SNR=10								
R33M	**Jennings River**	**74.63**	**32**	P		**P**		**21 14 11.5**	**+1.4**
	baz=272,SNR=18								
T35M	**Bob Quinn**	**75.10**	**34**	P		**P**		**21 14 14.4**	**+1.6**
	baz=273,SNR=7.2								
DLBC	**Dease Lake**	**75.15**	**33**	P		**P**		**21 14 14.6**	**+1.5**
DLBC				IAmb		IAmb		21 14 44.4	
	comp=Z,30nm,1.0s								
DLBC	**Dease Lake**	**75.15**	**33**	P		**P**		**21 14 14.9**	**+1.7**
	baz=273,SNR=14								
SVE	**Sverdlovsk**	**75.68**	**326**	*de*P		**P**		**21 14 16.4**	**+0.3**
SVE				pmax		pmax			
	comp=Z,40nm,0.8s								
DGAR	**Diego Garcia**	**75.75**	**258**	P		**P**		**21 14 17.4**	**+0.2**
DGAR	**Diego Garcia**	**75.75**	**258**	P		**P**		**21 14 17.4**	**+0.2**
DGAR				pmax		pmax			
	comp=Z,320nm,1.2s								
TGTN	**Hyland Airport**	**75.87**	**30**	P		**P**		**21 14 19.2**	**+2.1**
	baz=273,SNR=16								
A36M	**Sachs Harbour**	**76.45**	**19**	P		**P**		**21 14 20.8**	**+0.7**
	baz=273,SNR=37								
BBB	**Bella Bella**	**76.70**	**39**	LR		LR		21 41 55.0	
	comp=Z,97nm,21.6s,baz=260,slow=31								
ABKAR	**Akbulak array**	**76.76**	**318**	P		**P**		**21 14 21.6**	**-0.7**
ABKAR	**Akbulak array**	**76.76**	**318**	P		**P**		**21 14 21.7**	**-0.6**
ABKAR				IAmb		IAmb		21 14 23.1	
	comp=Z,17nm,0.8s								
ARU	**Arti**	**76.86**	**325**	P		**P**		**21 14 22.2**	**-0.5**
ARU				IAmb		IAmb		21 14 23.7	
	comp=Z,29nm,0.7s								
ARU	**Arti**	**76.86**	**325**	P		**P**		**21 14 22.6**	**-0.2**
	comp=Z,31nm,0.6s,baz=94,slow=3.2,SNR=81								
	comp=Z,31nm,0.6s								
ARU	**Arti**	**76.86**	**325**	*ce*P		**P

RES pmax pmax
comp=Z,12nm,0.8s
NOR Nord 84.11 357 P **P** **21 15 01.5 +0.4**
NOR pmax pmax
comp=Z,16nm,2.1s
NOR Nord 84.11 357 *i* P **P** **21 14 58.9 -2.2**
NOR IAmb IAmb 21 15 03.3
comp=Z,147nm,2.7s
NEW Newport 84.34 42 P **P** **21 15 04.0 +1.1**
baz=285
NEW Newport 84.34 42 LR LR 21 50 56.0
comp=Z,86nm,19.1s,baz=284,slow=34
NEW Newport 84.34 42 P **P** **21 15 05.3 +2.4**
NEW pmax pmax
comp=Z,56nm,0.8s
WVOR Wild Horse Val 84.75 48 P **P** **21 15 04.9 -0.3**
WVOR pmax pmax
comp=Z,37nm,0.8s
LVZ Lovozero 84.76 339 P **P** **21 15 04.4 -0.2**
LVZ IAmb IAmb 21 15 04.9
comp=Z,35nm,1.0s
LVZ Lovozero 84.76 339 *ce* P **P** **21 15 04.6 0.0**
LVZ pmax pmax
comp=Z,18nm,0.6s
LVZ Lovozero 84.76 339 P **P** **21 15 04.1 -0.5**
comp=Z,42nm,0.8s
ADZR Andozero 84.95 335 *e* P **P** **21 15 03.8 -1.8**
ADZR pmax pmax
comp=Z,33nm,0.6s
BMO Blue Mountains 85.08 45 P **P** **21 15 07.4 +0.6**
BMO IAmb IAmb 21 15 35.7
comp=Z,35nm,0.8s
BMO Blue Mountains 85.08 45 P **P** **21 15 07.4 +0.6**
BMO pmax pmax
comp=Z,35nm,0.9s
EDM Edmonton 85.29 36 P **P** **21 15 08.7 +1.1**
EDM IAmb IAmb 21 15 35.7
comp=Z,43nm,0.9s
EDM Edmonton 85.29 36 P **P** **21 15 08.7 +1.1**
EDM pmax pmax
comp=Z,43nm,0.9s
APA Apatity 85.33 339 ⇓ *i* P **P** **21 15 12.2 +4.8**
APA pmax pmax
comp=Z,7.0nm,0.6s
VADS Vadso 85.45 342 *e* P **P** **21 15 08.2 +0.3**
KLMR Klimovskoe 85.54 332 *e* P **P** **21 15 04.7 -3.8**
KLMR pmax pmax
comp=Z,42nm,1.3s
PKM Mcpherson Peak 85.69 55 P **P** **21 15 09.6 -0.5**
baz=284
NVAR Mina Array Bea 85.99 52 P **P** **21 15 12.8 +1.2**
NVAR Mina Array Bea 85.99 52 P **P** **21 15 13.2 +1.7**
comp=Z,5.8nm,0.6s,baz=269,slow=5.5,SNR=42
NVAR pP **pP** **21 15 37.0 -0.3**
comp=Z,13nm,0.8s,baz=265,slow=6.3,SNR=9.0
comp=Z,5.8nm,0.6s
KEV Kevo 86.34 342 P **P** **21 15 12.1 -0.2**
KEV IAmb IAmb 21 15 13.0
comp=Z,30nm,0.8s
KEV Kevo 86.34 342 P **P** **21 15 12.1 -0.2**
KEV pmax pmax
comp=Z,30nm,0.8s
MAK Makhachkala 86.44 313 *e* P **P** **21 15 10.8 -2.6**
MAK *e* *PP **pP** **21 15 37.0 -2.8**
MAK *e* *SP **sP** **21 15 46.9 -3.8**
MAK *e* 21 18 35.2
MAK *e* PPP PPP 21 20 28.4
MAK *e* 21 25 26.7
MAK *e* SS SS 21 31 25.8 +2.9
MAK pmax pmax
comp=Z,496nm,1.8s
MAK MLR MLR
comp=Z,189nm,17.0s
OSI Oeito Audit: C 86.62 55 P **P** **21 15 15.1 +0.5**
baz=285
CWC Cottonwood Cre 86.67 53 P **P** **21 15 15.1 +0.2**
baz=285
HAMF Hammerfest 86.80 344 *e* P **P** **21 15 13.5 -1.0**
ARA0 ARCESS Array S 86.90 342 *e* P **P** **21 15 15.4 +0.3**
ARCES ARCESS Array B 86.90 342 P **P** **21 15 15.0 -0.1**
ARCES IAmb IAmb 21 15 15.9
comp=Z,25nm,0.9s
ARCES ARCESS Array B 86.90 342 P **P** **21 15 14.7 -0.4**
comp=Z,14nm,0.7s,baz=74,slow=6.9,SNR=51
comp=Z,14nm,0.7s
ARCES ARCESS Array B 86.90 342 P **P** **21 15 15.0 -0.1**
ARCES pmax pmax
comp=Z,25nm,0.9s
DECC Green Verdugo 87.03 56 P **P** **21 15 17.2 +0.7**
baz=285
GRAC Grapevine Rang 87.08 53 P **P** **21 15 17.6 +0.9**
baz=285
EDW2 Edwards Air Fo 87.14 55 P **P** **21 15 18.7 +1.6**
baz=285,SNR=6.7
LRMC Laurel Mtn Rad 87.23 54 P **P** **21 15 18.6 +1.0**
baz=285,SNR=8.2
MPMC Manual Prospec 87.23 54 P **P** **21 15 17.7 0.0**
baz=285,SNR=13
HLID Hailey 87.44 46 P **P** **21 15 20.1 +1.6**
HLID Hailey 87.44 46 P **P** **21 15 19.8 +1.3**
baz=287,SNR=8.5
BFSC Mount Baldy Ra 87.57 55 P **P** **21 15 20.4 +1.2**
baz=285
FURC Furnace Creek, 87.61 53 P **P** **21 15 20.4 +1.2**
baz=286
MSF Maaselka 87.64 338 P **P** **21 15 17.8 -0.9**
MSF pmax pmax
comp=Z,17nm,0.7s
ELK Elko 87.65 49 P **P** **21 15 21.4 +1.8**
ELK Elko 87.65 49 LR LR 21 47 44.1
comp=Z,209nm,21.8s,slow=31
ELK Elko 87.65 49 P **P** **21 15 21.4 +1.8**
ELK pmax pmax
comp=Z,56nm,0.9s
WCT Wildcat Mounta 87.70 53 P **P** **21 15 20.8 +1.1**
WCT IAmb IAmb 21 15 50.9
comp=Z,20nm,0.9s
SGF Sodankyl 87.71 340 P **P** **21 15 18.8 -0.2**
SGF pmax pmax
comp=Z,27nm,0.7s
VRH Novokhopyorsk 87.72 322 *e* P **P** **21 15 17.1 -2.2**
VRH pmax pmax
comp=Z,27nm,0.7s
KTK1 Kautokeino 87.86 342 *e* P **P** **21 15 19.6 -0.1**
GSC Goldstone, Bar 87.97 54 P **P** **21 15 22.3 +1.3**
baz=286,SNR=10
R11B Troy Canyon, C 88.07 51 P **P** **21 15 22.4 +0.8**
baz=286,SNR=13
NEEM North Greenlan 88.16 4 *i* P **P** **21 15 20.2 -1.1**
NEEM IAmb IAmb 21 15 21.6
comp=Z,11nm,1.1s
SHOC Shoshone, Teco 88.22 54 P **P** **21 15 23.4 +1.2**
baz=286,SNR=5.5
JOF Joensuu 88.22 335 *e* P **P** **21 15 20.7 -0.9**
JETT Jettan, Norway 88.35 343 *e* P **P** **21 15 22.6 +0.5**
MOS Moscow 88.37 327 *e* P **P** **21 15 20.4 -1.9**
MOS *e* 21 18 49.8
HEC Hector,Ludlow 88.47 55 P **P** **21 15 24.3 +0.9**
baz=286,SNR=7.4
TUQ Turquoise Moun 88.62 54 P **P** **21 15 25.9 +1.6**
baz=286,SNR=6.9
PFO Pinyon Flats O 88.70 56 P **P** **21 15 25.1 +0.5**
PFO IAmb IAmb 21 16 04.0
comp=Z,28nm,1.2s
PFO Pinyon Flats O 88.70 56 P **P** **21 15 25.3 +0.7**
baz=286,SNR=6.2
PFO Pinyon Flats O 88.70 56 P **P** **21 15 25.1 +0.5**
PFO pmax pmax
comp=Z,28nm,1.2s
TPFO Pinon Flats 88.71 56 P **P** **21 15 24.7 0.0**
baz=286,SNR=6.4
BOZ Bozeman (W) 88.71 43 P **P** **21 15 25.1 +0.7**
BOZ IAmb IAmb 21 15 53.3
comp=Z,26nm,1.1s
BOZ Bozeman (W) 88.71 43 P **P** **21 15 25.7 +1.2**
baz=289
BOZ Bozeman (W) 88.71 43 P **P** **21 15 25.1 +0.7**
BOZ pmax pmax
comp=Z,26nm,1.2s
TRO Tromso 88.71 344 *e* P **P** **21 15 23.5 -0.1**
LPSR Galich'ya Gora 88.84 324 *e* P **P** **21 15 22.6 -2.0**
LPSR pmax pmax
comp=Z,40nm,0.8s
DAG Danmarks Havn 88.88 356 P **P** **21 15 24.3 -0.1**
DAG Danmarks Havn 88.88 356 *i* P **P** **21 15 22.3 -2.1**
DAG IAmb IAmb 21 15 24.7
comp=Z,3.7nm,0.9s
MONP2 Monument Peak 88.93 56 P **P** **21 15 26.8 +1.1**
baz=286,SNR=15
BELC Belle Mtn. Jos 88.96 55 P **P** **21 15 27.1 +1.3**
baz=286,SNR=8.2
GMRC Granite Mounta 89.01 54 P **P** **21 15 26.1 0.0**
baz=286,SNR=12
VORR Voronezh 89.02 323 *e* P **P** **21 15 24.2 -1.3**
VORR pmax pmax
comp=Z,32nm,0.9s
HVU Hansel Valley 89.12 47 P **P** **21 15 28.0 +1.5**
HVU IAmb IAmb 21 15 56.1
comp=Z,39nm,0.9s
HVU Hansel Valley 89.12 47 P **P** **21 15 28.0 +1.5**
HVU pmax pmax
comp=Z,39nm,0.9s
OBN Obninsk 89.17 327 P **P** **21 15 25.1 -1.0**
OBN IAmb IAmb 21 15 26.0
comp=Z,18nm,0.9s
OBN Obninsk 89.17 327 P **P** **21 15 24.7 -1.4**
comp=Z,11nm,0.8s,baz=90,slow=6.1,SNR=8.4
comp=Z,11nm,0.8s
OBN Obninsk 89.17 327 *c i* P **P** **21 15 24.2 -1.9**
OBN pmax pmax
comp=Z,37nm,1.5s
OBN MLR MLR
comp=Z,223nm,15.0s
OBN Obninsk 89.17 327 P **P** **21 15 25.1 -1.0**
comp=Z,29nm,1.4s,comp=Z,602nm
VSR Storozhevoye 89.22 323 *e* P **P** **21 15 23.3 -3.1**
VSR pmax pmax
comp=Z,20nm,0.7s
VORD Divnogorie 89.23 323 *e* P **P** **21 15 24.2 -2.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s
GNI Garni 89.24 311 LR LR 21 59 11.5
comp=Z,175nm,19.6s,baz=89,slow=38
IKP In-Ko-Pah, Jac 89.25 57 P **P** **21 15 27.5 +0.4**
baz=286,SNR=7.2
KBZ Khabaz 89.42 315 P **P** **21 15 26.4 -1.1**
comp=Z,4.6nm,0.8s,baz=127,slow=6.1,SNR=11
KBZ LR LR 21 59 00.6
comp=Z,142nm,19.7s,baz=76,slow=38
comp=Z,4.6nm,0.8s
KIV Kislovodsk 89.49 315 ⇑ P **P** **21 15 27.8 -0.2**
KIV Kislovodsk 89.49 315 P **P** **21 15 27.1 -1.0**
KIV IAmb IAmb 21 15 55.9
comp=Z,12nm,0.9s
KIV Kislovodsk 89.49 315 *e* P **P** **21 15 27.1 -1.0**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV Kislovodsk 89.49 315 P **P** **21 15 27.4 -0.6**
comp=Z,11nm,0.9s
BC3 Big Chuckawall 89.50 56 P **P** **21 15 29.0 +0.7**
baz=286,SNR=12
DUG Dugway, Tooele 89.58 49 P **P** **21 15 30.1 +1.5**
baz=288,SNR=6.4
DUG Dugway, Tooele 89.58 49 P **P** **21 15 30.6 +2.0**
DUG pmax pmax
comp=Z,71nm,0.8s
SHA1 Shidzhatmaz 89.58 315 *ce* P **P** **21 15 30.7 +2.0**
IRM Iron Mountain 89.60 55 P **P** **21 15 30.8 +2.1**
baz=287,SNR=9.4
FXWY Fox Creek 89.75 45 P **P** **21 15 31.6 +2.1**
FXWY IAmb IAmb 21 15 58.9
comp=Z,16nm,0.8s
H17A Grant Village 89.81 44 P **P** **21 15 31.5 +1.7**
baz=289,SNR=6.4
AHID Auburn Hatcher 89.99 46 P **P** **21 15 32.1 +1.6**
HWUT Hardware Ranch 90.04 47 P **P** **21 15 32.6 +1.9**
GLA Glamis 90.17 56 P **P** **21 15 32.8 +1.5**
baz=287,SNR=5.4
W13A Hualapai Mount 90.32 54 P **P** **21 15 33.3 +1.0**
W13A IAmb IAmb 21 16 02.1
comp=Z,15nm,0.9s
PDMCI Parker Dam,Lak 90.35 55 P **P** **21 15 33.6 +1.5**
baz=287,SNR=8.8
RLMT Red Lodge 90.44 43 P **P** **21 15 35.0 +2.4**
RLMT IAmb IAmb 21 16 03.5
comp=Z,21nm,0.8s
RLMT Red Lodge 90.44 43 P **P** **21 15 33.9 +1.3**
baz=290
STEI Steigen 90.84 343 *e* P **P** **21 15 33.7 +0.1**
FFC Flin Flon 90.98 32 P **P** **21 15 35.8 +1.2**
FFC IAmb IAmb 21 16 04.3
comp=Z,17nm,1.1s
FFC Flin Flon 90.98 32 P **P** **21 15 35.8 +1.2**
FFC pmax pmax
comp=Z,17nm,1.1s
BW06 Boulder Array 91.06 45 P **P** **21 15 36.0 +0.5**
baz=290
PD31 Pinedale Array 91.06 45 P **P** **21 15 37.0 +1.5**
PDAR Pinedale Array 91.06 45 P **P** **21 15 36.5 +0.9**
PDAR Pinedale Array 91.06 45 P **P** **21 15 36.6 +1.1**
comp=Z,0.9nm,0.5s,baz=228,slow=1.8,SNR=7.2
PDAR pP **pP** **21 16 03.0 +1.6**
comp=Z,6.7nm,0.7s,baz=257,slow=2.5,SNR=18
PDAR LR LR 21 50 02.9
comp=Z,116nm,21.7s,baz=298,slow=31
comp=Z,0.9nm,0.5s
BCA Borcka 91.07 313 ⇓ P **P** **21 15 34.6 -0.8**
FIA1 FINESS Array S 91.09 335 P **P** **21 15 33.6 -1.4**
FINES FINESS Array B 91.09 335 P **P** **21 15 33.7 -1.3**
FINES FINESS Array B 91.09 335 P **P** **21 15 33.9 -1.1**
comp=Z,24nm,0.5s,baz=66,slow=4.6,SNR=280
comp=Z,24nm,0.5s
U15A North Rim 91.15 52 P **P** **21 15 37.7 +1.5**
KEF Keuruu 91.18 336 *e* P **P** **21 15 33.8 -1.5**
FAUS Fauske 91.20 343 *e* P **P** **21 15 34.7 -0.6**
VAF Ylistaro 91.52 338 *e* P **P** **21 15 36.0 -0.8**
SOC Sochi 91.64 316 *e* P **P** **21 15 35.3 -2.6**
SOC *e* 21 19 14.3
SOC *e* PPP PPP 21 21 13.9
SOC *e* S **SKSac** **21 25 58.1 -3.2**
SOC *e* SS **SS** **21 32 37.0 -1.2**
SOC *e* SSS SSS 21 36 15.3
SOC MLR MLR
comp=Z,162nm,19.0s
GURO Guroymak-BITLI 91.74 310 P **P** **21 15 37.5 -1.1**
LAO LASA Array 91.84 41 P **P** **21 15 39.4 +0.5**
baz=293
VNDA Vanda 91.87 177 P **P** **21 15 38.6 +0.5**
VNDA IAmb IAmb 21 15 52.1
comp=Z,8.0nm,0.9s
VNDA Vanda 91.87 177 P **P** **21 15 38.4 +0.2**
comp=Z,3.0nm,0.7s,baz=328,slow=7.3,SNR=19
comp=Z,3.0nm,0.7s
VNDA Vanda 91.87 177 P **P** **21 15 38.6 +0.5**
VNDA pmax pmax
comp=Z,8.0nm,0.9s
214A Organ Pipe Nat 92.12 56 P **P** **21 15 40.8 +0.4**
baz=288
WUAZ Wupatki 92.14 53 P **P** **21 15 40.7 +0.1**
baz=289,SNR=5.5
ARBE Arbavere 92.21 334 *e* P **P** **21 15 39.4 -0.7**
MOR8 Moi Rana 92.27 342 *e* P **P** **21 15 39.0 -1.3**
VSU Vasula 92.40 333 *ce* P **P** **21 15 40.3 -0.8**
VSU pmax pmax
comp=Z,30nm,0.7s
MEF Metsahovi 92.45 335 *e* P **P** **21 15 39.8 -1.4**
SBA Scott Base 92.52 176 P **P** **21 15 42.2 +1.1**
SBA IAmb IAmb 21 16 12.7
comp=Z,27nm,1.3s
SBA Scott Base 92.52 176 P **P** **21 15 42.2 +1.1**
SBA pmax pmax
comp=Z,27nm,1.3s
O20A White River Ci 92.91 48 P **P** **21 15 45.0 +0.9**
baz=291
RAF Rauma 93.05 336 *e* P **P** **21 15 43.0 -1.0**
K22A Casper 93.18 45 P **P** **21 15 45.9 +0.6**
baz=292
W18A Petrified Fore 93.54 53 P **P** **21 15 46.9 -0.2**
baz=290
MTSE Matsula 93.55 334 *e* P **P** **21 15 45.4 -0.9**
RAYN Ar Rayn 93.57 295 P **P** **21 15 46.5 -0.7**
RAYN Ar Rayn 93.57 295 P **P** **21 15 46.6 -0.7**
TUC Tucson 93.64 56 P **P** **21 15 47.0 -0.5**
baz=289
MNK Minsk 93.92 329 *i* P **P** **21 15 50.1 +2.0**
MNK *i* *PP **pwP** **21 16 16.4 -1.5**
MNK *i* 21 19 37.0
MNK *i* PPP PPP 21 21 38.1
MNK *i* S **SKSac** **21 26 15.1 +1.7**
MNK *i* PS PS 21 28 35.0 +18
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=N,2.0nm,0.7s
MNK pmax pmax
comp=E,3.0nm,0.9s
MNK MLR MLR
comp=N,176nm,18.0s
MNK MLR MLR
comp=E,94nm,18.0s
MNK MLR MLR
comp=Z,228nm,19.0s
N23A Red Feather La 94.25 46 P **P** **21 15 49.8 -0.6**
baz=292
RSSD Black Hills 94.27 43 P **P** **21 15 50.5 +0.2**
baz=294
RSSD Black Hills 94.27 43 P **P** **21 15 52.2 +1.9**
RSSD pmax pmax
comp=Z,30nm,0.9s
AKASG Malin Array Be 95.11 325 P **P** **21 15 51.9 -1.7**
comp=Z,0.6nm,0.5s,baz=47,slow=6.1,SNR=5.6
comp=Z,0.6nm,0.5s
AK20 Malin Array Si 95.21 325 P **P** **21 15 53.7 -0.4**
UPP Uppsala 95.39 336 *e* P **P** **21 15 53.2 -1.5**
Q24A Divide 95.56 48 P **P** **21 15 55.6 -0.9**
baz=293
ANMO Albuquerque 96.11 52 P **P** **21 15 57.2 -1.7**
baz=292
ANMO Albuquerque 96.11 52 LR LR 21 54 22.0
comp=Z,115nm,20.1s,baz=21,slow=32
LUBAR Lubar, Ukraine 96.32 325 P **P** **21 15 57.8 -1.4**
VIKU Vikbolandet 96.63 336 *e* P **P** **21 15 59.6 -0.8**
LPIG La Paz 96.67 63 LR LR 21 50 53.7
comp=Z,157nm,21.6s,baz=260,slow=30
HFS Hagfors 96.68 338 P **P** **21 15 59.2 -1.4**
comp=Z,7.1nm,0.6s,baz=83,slow=4.6,SNR=47
HFS LR LR 22 01 38.8
comp=Z,316nm,18.4s,baz=72,slow=37
comp=Z,7.1nm,0.6s
NC405 NORSAR Array S 96.69 339 P **P** **21 15 59.4 -1.2**
T25A Trinidad 96.81 49 P **P** **21 16 00.8 -1.3**
baz=293
DOMB Dombas 96.88 341 *e* P **P** **21 16 01.8 +0.3**
NB2 NORSAR Subarra 96.91 340 P **P** **21 16 00.2 -1.5**
comp=Z,3.5nm,0.7s,baz=48,slow=4.4
NB2 NORSAR Subarra 96.91 340 P **P** **21 16 00.2 -1.5**
baz=48,slow=4.4
NOA NORSAR Array B 96.91 340 P **P** **21 16 00.6 -1.1**
comp=Z,3.4nm,0.7s,baz=46,slow=5.6,SNR=20
NOA LR LR 22 01 56.0
comp=Z,146nm,20.1s,baz=40,slow=37
comp=Z,3.4nm,0.7s
NDNU Novodnistrovsk 97.21 324 P **P** **21 16 01.6 -1.7**
BRTR Keskin Array B 97.34 314 P **P** **21 16 03.2 -1.0**
BRTR Keskin Array B 97.34 314 P **P** **21 16 03.4 -0.8**
comp=Z,1.9nm,0.7s,baz=80,slow=3.7,SNR=7.9
comp=Z,1.9nm,0.7s
KSCO Kaye Shedlock' 97.34 47 P **P** **21 16 03.6 -0.6**
baz=295
KMPD K-Podol'skiy 97.74 324 P **P** **21 16 04.0 -1.7**
MNTX Cornudas Mount 98.15 55 P **P** **21 16 06.4 -1.5**
baz=292,SNR=6.3
MMAI Mount Meron Ar 98.76 307 P **P** **21 16 10.1 -0.6**
comp=Z,2.4nm,0.8s,baz=47,slow=6.3,SNR=4.3
comp=Z,2.4nm,0.8s
STNU Starunia 98.77 325 P **P** **21 16 09.0 -1.3**
MORS Morshin 98.87 326 P **P** **21 16 10.4 -0.3**
MORS Morshin 98.87 326 P **P** **21 16 10.4 -0.3**
BURAR Bucovina Ar. S 98.95 324 **P** **21 16 09.9 -1.4**
BURAR Bucovina Array 98.95 324 ⇓ P **P** **21 16 10.4 -0.9**
BURAR Bucovina Array 98.95 324 **P** **21 16 10.3 -0.9**
BURAR Bucovina Array 98.95 324 P **P** **21 16 10.4 -0.9**
VRI Vrincioaia 98.98 322 ⇓ P Pdif 21 16 11.4 +0.1
VRI Vrincioaia 98.98 322 P Pdif 21 16 11.4 +0.1
VRI Vrincioaia 98.98 322 P **P** **21 16 09.9 -1.4**
comp=Z,3.2nm,0.8s
PLOR Plostina 99.03 322 ⇑ P **Pdif** **21 16 11.3 -0.3**
PLOR Plostina 99.03 322 P **Pdif** **21 16 11.3 -0.3**
ICOR Ion Corvin 99.20 320 ⇑ P **Pdif** **21 16 12.4 +0.1**
ECSD EROS Data Cent 99.23 41 P **Pdif** **21 16 11.5 -1.0**
baz=299
KWP Kalwaria Pacla 99.23 326 P **Pdif** **21 16 12.4 0.0**
KWP Kalwaria Pacla 99.23 326 P **Pdif** **21 16 12.4 0.0**
TURR Turia 99.31 322 ⇓ P **Pdif** **21 16 13.1 +0.3**
MLR Muntele Rosu 99.64 322 LR LR 22 05 55.4
comp=Z,112nm,18.2s,baz=58,slow=38
AMTX Amarillo 99.75 50 P **Pdif** **21 16 13.8 -1.2**
baz=295
EYMN Ely 100.06 35 P **Pdif** **21 16 14.6 -1.5**
baz=304
TXAR Lajitas Array 100.42 56 P **Pdif** **21 16 19.1 +0.9**
comp=Z,0.7nm,0.8s,baz=278,slow=2.6,SNR=5.1
TXAR PKKPbc **PKKPbc** **21 32 32.2 -1.8**
comp=Z,0.1nm,0.8s,baz=304,slow=40,SNR=2.8
MARR Marisel-Cluj 100.66 324 ⇑ P **Pdif** **21 16 18.0 -0.9**
SURR Surduc 101.75 323 ⇓ P **Pdif** **21 16 23.1 -0.5**
HERR Herculane 102.07 323 ⇓ P **Pdif** **21 16 23.9 -1.1**
BZS Buzias 102.12 324 ⇑ P **Pdif** **21 16 24.1 -1.2**
BZS Buzias 102.12 324 P **Pdif** **21 16 24.0 -1.2**
BRG Berggiesshubel 102.88 331 *e* PKP **PP** **21 20 40.8 -2.3**
BRG Amp 21 20 42.6
comp=Z,8.0nm,1.4s
CLL Collm 103.03 332 *e* Pdif **Pdif** **21 16 29.0 -0.2**
CLL *e* PP **PP** **21 20 43.0 -1.1**
CLL Collm 103.03 332 *e* P **Pdif** **21 16 29.0 -0.2**
CLL *e* 21 20 43.0
FRGS Fruska Gora 103.43 324 ⇓ P **Pdif** **21 16 30.7 -0.4**
CONA Conrad Observa 103.87 328 *e* PP **PKiKP** **21 20 51.0 +0.6**
comp=Z,5.1nm,1.4s
SOKA Soboth 105.11 327 *e* PKiKP **PKiKP** **21 20 52.1 -0.5**
comp=Z,4.2nm,1.3s
OBKA Obir 105.47 327 *e* PP **PP** **21 21 02.2 -0.4**
comp=Z,4.4nm,1.3s
ABTA Abfaltersbach 106.36 329 *e* PP **PP** **21 21 11.4 +2.3**
comp=Z,5.3nm,1.5s
WATA Walderalm 106.43 329 *e* PP **PP** **21 21 11.5 +1.9**
comp=Z,1.2nm,0.5s
WTTA Wattenberg 106.45 329 *e* PP **PP** **21 21 08.4 -1.3**
comp=Z,4.5nm,1.2s
MOTA Moosalm 106.66 330 *i* PP **PP** **21 21 12.3 +1.0**
comp=Z,4.7nm,1.1s
SQTA Sankt Quirin 106.69 330 *i* PP **PP** **21 21 12.4 +0.9**
comp=Z,10nm,1.6s
FETA Feichten 107.06 330 *i* PP **PP** **21 21 13.0 -1.3**
comp=Z,5.1nm,1.2s
DAVA Damuels 107.29 330 *e* PP **PP** **21 21 17.5 +1.6**
comp=Z,11nm,1.5s
MBAR Mbarara 114.35 276 *c i* PKIKP PKPdf 21 21 11.0 -0.1
MBAR pmax pmax
comp=Z,7.0nm,2.5s
BELA Belgrano 2 116.16 180 **PKPdf** **21 21 12.1 -0.4**
ESDC Sonseca Array 119.55 333 PKP **PKiKP** **21 21 20.8 +0.5**
comp=Z,0.5nm,0.7s,baz=6.7,slow=2.6,SNR=8.1
BOSA Boshof 123.19 245 PKP **PKiKP** **21 21 27.8 0.0**
comp=Z,4.2nm,0.8s,baz=63,slow=1.0,SNR=7.1
H03N2 Juan Fernandez 135.20 123 T T 23 53 16.2
baz=256
H03N3 Juan Fernandez 135.21 124 T T 23 53 15.3
baz=256,slow=74
H03N1 Juan Fernandez 135.22 123 T T 23 53 10.7
baz=256,slow=74
PLCA Paso Flores 138.71 137 PKPdf **PKPdf** **21 21 57.5 +1.0**
PLCA Paso Flores 138.71 137 PKP **PKPdf** **21 21 56.4 -0.1**
comp=Z,1.7nm,0.6s,baz=208,slow=2.2,SNR=11
AC06 Mina Casimiro 143.90 117 PKPdf PKPbc 21 22 04.7 +0.6
GO03 Copiap 143.94 118 PKPbc 21 22 04.4 +0.1
AC01 Pan de Azucar 143.96 115 PKPdf PKPbc 21 22 05.0 +0.6
ZON Zonda 144.03 125 PKPbc 21 22 04.9 +0.4
ZON Zonda 144.03 125 PKIKP PKPbc 21 22 04.9 +0.4
DBIC Dimbokro 144.27 303 PKPdf **PKPab** **21 22 04.8 -0.4**
DBIC Dimbokro 144.27 303 PKP PKPbc 21 22 05.8 +0.2
comp=Z,27nm,0.6s,baz=50,slow=3.1,SNR=44
PB14 IPOC Station P 144.43 113 PKPdf PKPbc 21 22 06.5 +0.3
TRQA Tornquist 145.73 139 **PKPbc** **21 22 09.3 -0.2**
TRQA Tornquist 145.73 139 PKP2 **PKPbc** **21 22 09.4 -0.2**
LPAZ La Paz 147.28 98 PKPbc **PKPdf** **21 22 13.9 +1.1**
comp=Z,4.4nm,0.6s,baz=301,slow=2.0,SNR=17
LPAZ La Paz 147.28 98 PKP2 **PKPdf** **21 22 14.0 +1.1**
ETMB Extrema 148.49 86 **PKPbc** **21 22 17.4 -0.5**
BOAV Boa Vista 149.28 60 **PKPdf** **21 22 17.4 +1.8**
SAML Samuel 151.25 83 **PKPdf** **21 22 18.0 -0.5**
SAML Samuel 151.25 83 PKIKP **PKPdf** **21 22 18.0 -0.5**

*NEIC **09** 21:07:47.5± 1.9, 17°.57N ± 0°.07, 83°.36W ± 0°.08, h10km ± 2km, mb4.1/13, Error ellipse: s-maj=12.9km s-min=11.9km az=123.0*

IDC ***09*** *21:07:52.8±0.8, 17°.08N×83°.56W, h0km, mb4.0/9, mbtmp4.1/11, ML3.2/3, MS3.5/11, Error ellipse: s-maj=23.4km s-min=21.0km az=84.0*

ISC 09 21:07:47.9±0.6, **17°.57N**±0°.07×**83°.40W**±0°.06, **h10**km, **n61**, σ1**s54**/47, **mb4.0**/11, **MS3.3**/5, **North of Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TGUH	**Tegucigalpa,Un**	**5.11**	**227**	Pn	**Pn**	**21 09 03.4**	**-1.2**
SOR	**Soroa**	**5.21**	**4**	Pn	**Pn**	**21 09 05.3**	**-0.5**
TEIG	**Tepich**	**5.32**	**301**	Pn	**Pn**	**21 09 06.9**	**-0.5**
TEIG	**Tepich**	**5.32**	**301**	LR	LR	21 11 11.5	
	comp=Z,4μm,20.8s,slow=36						
ESPN	**Las Esperanzas**	**5.42**	**189**	Pn	**Pn**	**21 09 08.2**	**-0.6**
MTDJ	**Mount Denham**	**5.62**	**82**	Pn	**Pn**	**21 09 09.2**	**-2.5**
CAMR	**Camarioca**	**5.78**	**19**	Pn	**Pn**	**21 09 13.1**	**-0.7**
ACON	**Acoyapa**	**5.83**	**197**	Pn	**Pn**	**21 09 13.8**	**-0.6**
CNGN	**Cerro Negro**	**5.96**	**213**		**Pn**	**21 09 14.8**	**-1.6**
CRIN	**San Cristobal**	**5.99**	**217**		**Pn**	**21 09 16.8**	**+0.1**
PETF	**Flores**	**6.21**	**265**	Pn	**Pn**	**21 09 18.6**	**-1.1**
ESQI	**Esquipulas**	**6.45**	**243**	Pn	**Pn**	**21 09 22.7**	**-0.4**
MTO3	**Montecristo**	**6.54**	**242**		**Pn**	**21 09 24.1**	**-0.4**
HZTE	**Horizontes, Gu**	**7.14**	**198**	Pn	**Pn**	**21 09 32.0**	**-0.5**
SOCE	**Pocosol**	**7.24**	**190**	Pn	**Pn**	**21 09 33.9**	**-0.1**
APG	**El Apazote**	**7.25**	**250**	Pn	**Pn**	**21 09 35.1**	**+0.9**
	0.1nm,0.3s,baz=93,slow=11,SNR=5.9						
APG				Sn	**Sn**	21 10 52.9	-3.8
	0.1nm,0.3s,baz=67,slow=22,SNR=1.9						
JTS	**Las Juntas de**	**7.39**	**192**	Pn	**Pn**	**21 09 35.1**	**-0.9**
	2.1nm,0.3s,baz=4.0,slow=13,SNR=6.4						
JTS				LR	LR	21 12 29.4	
	comp=Z,292nm,18.8s,baz=14,slow=40						
	5.0nm,0.3s						
ORTG	**Ortega, Santa**	**7.44**	**196**	Pn	**Pn**	**21 09 36.1**	**-0.6**
DUNO	**Dulce Nombre,**	**7.72**	**196**		**Pn**	**21 09 41.5**	**+1.0**
GTBY	**Guantanamo Bay**	**8.20**	**72**	Pn	**Pn**	**21 09 44.7**	**-2.2**
SRBA	**San Rafael, Bu**	**8.29**	**180**	Pn	**Pn**	**21 09 47.2**	**-1.2**
CCIG	**Comitan**	**8.46**	**263**	Pn	**Pn**	**21 09 48.4**	**-2.4**
061Z	**Ochoppi**	**8.57**	**15**	Pn	**Pn**	**21 09 51.7**	**-0.3**
CMIG	**Matias Romero**	**10.98**	**269**	Pn	**Pn**	**21 10 24.4**	**-0.7**
	0.4nm,0.3s,baz=80,slow=12,SNR=3.2						
CMIG				Sn	Sn	21 12 18.5	-10
	0.6nm,0.3s,baz=76,slow=18,SNR=2.1						
CMIG				LR	LR	21 14 28.6	
	comp=Z,163nm,19.2s,baz=169,slow=36						
SDDR	**Presa de Saban**	**11.59**	**81**	Pn	**Pn**	**21 10 33.7**	**+0.1**
GRTK	**Grand Turk**	**12.21**	**69**	Pn	**Pn**	**21 10 39.7**	**-2.2**
553A	**Crawfordville**	**12.60**	**356**	Pn	**Pn**	**21 10 47.0**	**-0.2**
SDV	**Santo Domingo**	**15.12**	**123**	Pn	**Pn**	**21 11 20.6**	**-1.4**
SDV	**Santo Domingo**	**15.12**	**123**	Pn	**P**	**21 11 25.8**	**-1.4**
	1.2nm,0.3s,baz=330,slow=4.5,SNR=7.6						
SDV				LR	LR	21 17 50.6	
	comp=Z,177nm,19.5s,baz=314,slow=40						
	9.1nm,0.6s						
ROSC	**El Rosal**	**15.46**	**144**	LR	LR	21 17 53.1	
	comp=Z,177nm,20.2s,baz=312,slow=40						
LRAL	**Lakeview Retre**	**15.73**	**349**	Pn	**Pn**	**21 11 28.4**	**-1.3**
BAUV	**El Baul**	**17.22**	**118**		**Pn**	**21 11 47.0**	**-1.7**
BAUV				IAmb	IAmb	21 11 50.1	
	comp=Z,23nm,1.0s						
W50A	**Signal Mountai**	**17.64**	**355**		**Pn**	**21 11 53.0**	**-0.8**
TKL	**Tuckaleechee C**	**18.02**	**359**	P	P	21 12 07.2	+8.3
	comp=Z,2.2nm,0.5s,baz=140,slow=8.4,SNR=3.3						
TKL				LR	LR	21 18 09.6	
	comp=Z,54nm,19.5s,baz=189,slow=33						
833A	**Chaparral WMA,**	**18.18**	**309**	P	**Pn**	**21 12 00.1**	**-0.5**
833A				IAmb	IAmb	21 12 05.4	
	comp=Z,11nm,0.8s						
ZAIG	**Zacatecas**	**18.71**	**289**		**Pn**	**21 12 07.6**	**+0.2**
HNDO	**Hondo**	**18.78**	**312**	P	**P**	**21 12 07.5**	**+0.1**
HNDO				IAmb	IAmb	21 12 29.8	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida**	**19.20**	**334**		**P**	**21 12 12.0**	**+0.1**
MIAR				IAmb	IAmb	21 12 24.1	
	comp=Z,8.9nm,0.8s						
BRDY	**Brady**	**19.67**	**317**		**P**	**21 12 16.5**	**-0.7**
BRDY				IAmb	IAmb	21 12 35.4	
	comp=Z,5.0nm,0.7s						
S51A	**Beattyville**	**19.99**	**360**	P	**P**	**21 12 21.0**	**+0.4**
T42A	**Van Buren**	**20.54**	**342**	P	**P**	**21 12 26.4**	**-0.1**
T42A				IAmb	IAmb	21 12 38.0	
	comp=Z,16nm,1.1s						
WMOK	**Wichita Mounta**	**21.93**	**324**	P	**P**	**21 12 42.2**	**+0.6**
WMOK				IAmb	IAmb	21 12 54.1	
	comp=Z,7.5nm,0.8s						
TXAR	**Lajitas Array**	**21.93**	**306**	P	**P**	**21 12 42.0**	**+0.2**
TXAR	**Lajitas Array**	**21.93**	**306**	P	**P**	**21 12 45.0**	**+3.2**
	comp=Z,1.0nm,0.8s,baz=118,slow=11,SNR=7.8						
TXAR				LR	LR	21 23 41.6	
	comp=Z,48nm,18.1s,baz=88,slow=43						
OK048	**Pawnee Station**	**22.27**	**330**	P	**P**	**21 12 44.8**	**-0.4**
ANMO	**Albuquerque**	**26.86**	**315**	LR	LR	21 27 31.3	
	comp=Z,52nm,18.1s,baz=232,slow=44						
SADO	**Sadowa**	**27.35**	**7**	LR	LR	21 24 53.2	
	comp=Z,93nm,18.0s,baz=228,slow=37						
MDP	**Montagnes des**	**32.54**	**109**	LR	LR	21 29 30.8	
	comp=Z,57nm,18.1s,baz=282,slow=40						
PDAR	**Pinedale Array**	**33.54**	**324**	P	P	21 14 36.4	+8.2
	comp=Z,0.8nm,0.7s,baz=128,slow=11,SNR=5.4						
	comp=Z,0.8nm,0.7s						
NVAR	**Mina Array Bea**	**36.85**	**311**	P	P	21 15 05.7	+9.0
	comp=Z,1.2nm,0.8s,baz=115,slow=10.0,SNR=6.8						
	comp=Z,1.2nm,0.8s						
SCHQ	**Schefferville**	**39.31**	**15**	P	P	21 15 27.9	+11
	comp=Z,1.2nm,0.4s,baz=207,slow=6.9,SNR=9.3						
	comp=Z,1.2nm,0.4s						
PLCA	**Paso Flores**	**59.22**	**169**	P	**P**	**21 17 53.0**	**+3.6**
	comp=Z,1.9nm,1.1s,baz=315,slow=3.1,SNR=3.5						
	comp=Z,1.9nm,1.1s						
INK	**Inuvik**	**59.61**	**341**	LR	LR	21 44 49.0	
	comp=Z,46nm,20.5s,baz=205,slow=37						
ILAR	**Eielson Array**	**63.02**	**335**	P	P	21 18 24.2	+9.3
	comp=Z,2.8nm,0.8s,baz=117,slow=5.0,SNR=12						
	comp=Z,2.8nm,0.8s						
EKA	**Eskdalemuir Ar**	**70.20**	**37**	P	P	21 19 09.9	+9.0
	comp=Z,3.3nm,0.9s,baz=291,slow=6.0,SNR=3.4						
	comp=Z,3.3nm,0.9s						
ESDC	**Sonseca Array**	**70.99**	**53**	P	P	21 19 15.5	+9.4
	comp=Z,2.7nm,1.0s,baz=278,slow=7.0,SNR=10						
	comp=Z,2.7nm,1.0s						
NOA	**NORSAR Array B**	**77.01**	**30**	P	P	21 19 49.1	+8.2
	comp=Z,1.3nm,0.9s,baz=283,slow=5.6,SNR=2.5						
	comp=Z,1.3nm,0.9s						
GERES	**GERESS Array B**	**81.53**	**42**	P	P	21 20 15.6	+10
	comp=Z,0.8nm,0.8s,baz=269,slow=5.3,SNR=3.6						
	comp=Z,0.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**144.12**	**356**	PKP	**PKiKP**	**21 27 31.6**	**+3.2**
	comp=Z,0.6nm,0.3s,baz=347,slow=3.7,SNR=4.6						
WRA	**Warramunga Arr**	**144.24**	**260**	PKP	**PKiKP**	**21 27 30.9**	**+2.3**
	comp=Z,1.5nm,0.6s,baz=87,slow=3.2,SNR=11						
ASAR	**Alice Springs**	**144.63**	**254**	PKP	**PKiKP**	**21 27 32.0**	**+2.6**
	comp=Z,4.9nm,0.8s,baz=105,slow=3.4,SNR=22						

NEIC ***09*** *21:25:58.8±2.1, 6°.34S×0°.06×104°.91E×0°.06, h47km±4km, mb5.5/179, Mww5.3/19, Error ellipse: s-maj=10.0km s-min=8.0km az=218.0*

GCMT ***09*** *21:25:59.8±0.1, 6°.43S±0°.01×104°.84E±0°.01, h24km, MW5.5/127, Moment Tensor Solution. s71,c102; s127,c204; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr0.28±.02; Mθθ-0.25±.01; Mϕϕ-0.03±.02; Mrθ1.78±.05; Mθϕ-0.10±.01; Mϕr-1.70±.05; Best double couple: Mo2.46900×10^17 NP1:ϕs133.00000°, δ88.00000°, λ93.00000°. NP2:ϕs259.00000°, δ3.00000°, λ35.00000°. Principal axes: T 2.5840, Plg47.0000°, Azm46.0000°; N -0.2280, Plg3.0000°, Azm313.0000°; P -2.3550, Plg43.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***09*** *21:25:59.4±0.2, 6°.S±2°×10°.5E±°, h66km±2km, M5.3/72, mb5.5/72, mB5.7/54, MLv5.9/26, Mw5.4/39, Mw(mB)5.3/54, MwMwp5.0/12, Mwp5.3/12*

NEIC ***09*** *21:26:00.3, 6°.29S×104°.93E, h36km*

NEIC ***09*** *21:26:00.3, 6°.89S×104°.22E, h36km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^17Nm; Mrr-0.21; Mθθ-0.20; Mϕϕ0.40; Mrθ1.01; Mθϕ-0.22; Mϕr-0.68; Fault plane solution: M0 1.29000×10^17 NP1: ϕs305.23000°, δ85.17000°, λ-106.04000°. NP2: ϕs198.90000°, δ16.73000°, λ-17.01000°. Principal axes: T 1.2894, Plg38.0000°, Azm50.0000°; N -0.0035, Plg16.0000°, Azm307.0000°; P -1.2859, Plg47.0000°, Azm198.0000°;*

BJI ***09*** *21:26:00.0±0.0, 6°.20S×105°.00E, h65km, mb4.8/73, mB5.2/47, Ms4.9/69, Ms7 4.8/68*

IDC ***09*** *21:26:01.1±0.9, 6°.17S×105°.03E, h69km±7km, mb4.8/33, mbtmp5.1/35, MS4.4/51, Error ellipse: s-maj=10.9km s-min=6.1km az=37.0*

MOS ***09*** *21:26:02.1±1.2, 6°.01S×105°.13E, h48km, mb5.4/82, Error ellipse: s-maj=7.0km s-min=3.6km az=121.0*

ISC 09 21:25:59.8±0.3, **6°.28S**±0°.03×**104°.93E**±0°.03, **h62**km±2km, **h62**km:**pP-P, n1324,** σ1**933**/1399, **mb5.3**/237, **57C-52D, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**0.87**	**330**	P	**Pn**	**21 26 17.8**	**+1.6**
SBJI	**Serang**	**1.21**	**82**	P	**Pn**	**21 26 21.6**	**+1.0**
LWLI	**Liwa**	**1.52**	**325**	P	**Pn**	**21 26 27.5**	**+2.5**
TNG	**Tangerang**	**1.71**	**86**	P	**Pn**	**21 26 29.1**	**+1.7**
TNG				P	**Pn**	**21 26 28.4**	**+1.0**
SKJI	**Sukabumi**	**1.77**	**114**	P	**Pn**	**21 26 27.8**	**-0.4**
CBJI	**Citeko**	**1.92**	**94**	P	**Pn**	**21 26 32.9**	**+2.7**
CNJI	**Cibinong**	**2.42**	**115**	P	**Pn**	**21 26 35.7**	**-1.2**
LEM	**Lembang**	**2.73**	**102**	P	**Pn**	**21 26 43.6**	**+2.2**
	4μm,0.8s,baz=313,slow=4.7,SNR=201						
LEM				S	**Sn**	**21 27 15.2**	**+1.9**
	4μm,0.8s,baz=126,slow=15,SNR=5.4						
LEM	**Lembang**	**2.73**	**102**	P	**Pn**	**21 26 43.6**	**+2.2**
MNAI	**Manna**	**2.74**	**314**	P	**Pn**	**21 26 43.9**	**+2.5**
MNAI	**Manna**	**2.74**	**314**		**Pn**	**21 26 42.6**	**+1.2**
MNAI				Sn	**Sn**	**21 27 14.5**	**+1.2**
MNAI	**Manna**	**2.74**	**314**	P	**Pn**	**21 26 43.9**	**+2.5**
BBJI	**Bungbulang**	**2.95**	**114**	P	**Pn**	**21 26 44.4**	**+0.1**
JCJI	**Jatiwangi**	**3.33**	**94**	P	**Pn**	**21 26 51.3**	**+1.9**
PMBI	**Palembang**	**3.34**	**357**	P	Pn	21 26 53.6	+4.0
PMBI	**Palembang**	**3.34**	**357**		**Pn**	**21 26 52.0**	**+2.5**
PMBI	**Palembang**	**3.34**	**357**	P	Pn	21 26 53.2	+3.6
CMJI	**Cimerak**	**3.80**	**113**	P	**Pn**	**21 26 55.9**	**0.0**
KPJI	**Karang Pucung**	**4.11**	**105**	P	**Pn**	**21 27 01.3**	**+1.1**
XMIS	**Christmas Isla**	**4.23**	**170**	Pn	Pn	21 26 55.3	-6.5
JMBI	**JAMBI**	**4.79**	**344**	P	**Pn**	**21 27 12.8**	**+3.3**
SMRI	**Semarang**	**5.53**	**98**	P	**Pn**	**21 27 22.7**	**+3.1**
SMRI	**Semarang**	**5.53**	**98**		**Pn**	**21 27 20.5**	**+0.9**
SMRI	**Semarang**	**5.53**	**98**	P	**Pn**	**21 27 20.3**	**+0.7**
	606nm,0.7s,12μm5.5nm						
YOGI	**Yogyakarta**	**5.54**	**106**	P	**Pn**	**21 27 21.0**	**+1.2**
	426nm,0.6s,6μm4.5nm						
DSRI	**Dabo**	**5.77**	**357**	P	**Pn**	**21 27 25.7**	**+2.7**
	393nm,0.5s,6μm3.2nm						
UGM	**Wanagama**	**5.79**	**107**	P	**Pn**	**21 27 24.9**	**+1.8**
UGM	**Wanagama**	**5.79**	**107**		**Pn**	**21 27 24.6**	**+1.5**
UGM	**Wanagama**	**5.79**	**107**	P	**Pn**	**21 27 23.9**	**+0.8**
	960nm,0.8s,11μm5.9nm						
PPSI	**Pulau Pagai**	**6.02**	**305**	P	**Pn**	**21 27 26.0**	**-0.3**
	2μm,0.6s,23μm47nm						
NGJI	**Ngawi**	**6.58**	**100**	P	**Pn**	**21 27 34.5**	**+0.5**
	416nm,0.8s,6μm1.9nm						
PDSI	**Padang**	**6.95**	**320**	P	**Pn**	**21 27 39.3**	**+0.2**
	218nm,0.9s,5μm3.6nm						
PWJI	**Pagerwojo**	**7.04**	**105**	P	**Pn**	**21 27 42.0**	**+1.7**
	418nm,0.7s,6μm3.5nm						
GRJI	**Gresik**	**7.53**	**95**	P	**Pn**	**21 27 49.1**	**+2.1**
	1μm,0.7s,11μm3.7nm						
SISI	**Saibi**	**7.62**	**310**	P	**Pn**	**21 27 47.5**	**-0.8**
	533nm,1.1s,8μm4.8nm						
BKNI	**Bangkinang**	**7.62**	**329**		**Pn**	**21 27 49.6**	**+1.3**
BKNI	**Bangkinang**	**7.62**	**329**	P	**Pn**	**21 27 49.9**	**+1.6**
	383nm,1.1s,5μm3.4nm						
MYKOM	**Kota Tinggi**	**8.09**	**352**		**Pn**	**21 27 57.5**	**+2.8**
BLJI	**Banyuglugur**	**8.73**	**100**	P	**Pn**	**21 28 05.9**	**+2.5**
	617nm,0.5s,13μm						
PBSI	**Pulau Batu**	**9.07**	**313**	P	**Pn**	**21 28 05.8**	**-2.3**
	367nm,0.8s,7μm						
STKI	**Sintang**	**9.08**	**46**	P	**Pn**	**21 28 11.6**	**+3.3**
	246nm,1.0s,3μm4μm						
ABJI	**Asem Bagus**	**9.36**	**100**	P	Pn	21 28 16.6	+4.5
KSM	**Kuching**	**9.39**	**35**	P	**Pn**	**21 28 15.4**	**+2.9**
KSM	**Kuching**	**9.39**	**35**	Pn	**Pn**	**21 28 14.3**	**+1.8**
JAGI	**Jajag, Banyuwa**	**9.40**	**104**	P	**Pn**	**21 28 13.9**	**+1.2**
JAGI	**Jajag, Banyuwa**	**9.40**	**104**	Pn	**Pn**	**21 28 13.5**	**+0.9**
JAGI	**Jajag, Banyuwa**	**9.40**	**104**	P	**Pn**	**21 28 13.8**	**+1.1**
	916nm,0.8s,14μm						
COCO	**West Island**	**9.91**	**233**	P	**Pn**	**21 28 18.3**	**-1.2**
COCO	**West Island**	**9.91**	**233**	Pn	**Pn**	**21 28 17.2**	**-2.4**
COCO	**West Island**	**9.91**	**233**	P	**Pn**	**21 28 18.4**	**-1.2**
COCO				S	**Sn**	**21 30 03.0**	**-6.2**
COCO	**West Island**	**9.91**	**233**	P	**Pn**	**21 28 18.5**	**-1.1**
COCO				pmax	pmax		
	comp=Z,1μm,1.0s						
SRBI	**Singaraja**	**10.36**	**101**	P	**Pn**	**21 28 27.5**	**+1.7**
	comp=Z,654nm,0.7s,comp=Z,10μm						
GSI	**Gunungsitoli**	**10.52**	**316**	P	**Pn**	**21 28 25.5**	**-2.4**
GSI	**Gunungsitoli**	**10.52**	**316**		**Pn**	**21 28 25.2**	**-2.6**
GSI	**Gunungsitoli**	**10.52**	**316**	P	**Pn**	**21 28 25.3**	**-2.6**
	comp=Z,321nm,0.4s,comp=Z,6μm						
MTKI	**Muara Teweh, K**	**11.27**	**62**	P	**Pn**	**21 28 41.6**	**+3.4**
	comp=Z,127nm,0.5s,comp=Z,3μm						
SBUM	**Sibu**	**11.33**	**40**	Pn	**Pn**	**21 28 39.8**	**+0.9**
IPM	**Ipoh**	**11.38**	**340**		**Pn**	**21 28 38.2**	**-1.5**
KCSI	**Kotacane, Aceh**	**12.08**	**324**	P	**Pn**	**21 28 44.5**	**-4.7**
TWSI	**Taliwang, Sumb**	**12.10**	**102**	P	**Pn**	**21 28 47.9**	**-1.6**
	comp=Z,196nm,0.5s,comp=Z,4μm						
SNSI	**Sinabang, Aceh**	**12.18**	**315**	P	**Pn**	**21 28 48.0**	**-2.5**
	comp=Z,194nm,0.8s,comp=Z,3μm						
KULM	**Kulim**	**12.26**	**340**	Pn	**Pn**	**21 28 50.1**	**-1.6**
BKB	**Balikpapan**	**12.94**	**68**	Pn	**Pn**	**21 29 01.3**	**+0.3**
PLAI	**Plampang**	**12.99**	**102**	P	**Pn**	**21 28 58.8**	**-2.8**
	comp=Z,268nm,0.6s,comp=Z,3μm						
MLSI	**Meulaboh, Aceh**	**13.50**	**321**	P	**Pn**	**21 29 04.4**	**-4.1**
LHMI	**Lhok Sumawe**	**13.94**	**325**	P	**Pn**	**21 29 11.8**	**-2.6**
LHMI	**Lhok Sumawe**	**13.94**	**325**	Pn	Pn	21 29 09.5	-4.9
LHMI	**Lhok Sumawe**	**13.94**	**325**	P	Pn	21 29 09.4	-5.0
KAPI	**Kappang**	**14.81**	**86**	Pn	**Pn**	**21 29 23.1**	**-2.7**
KAPI	**Kappang**	**14.81**	**86**	P	**Pn**	**21 29 27.1**	**+1.3**
	comp=Z,36nm,0.8s,baz=261,slow=8.0,SNR=17						
KAPI				S	**Sn**	**21 32 11.1**	**+2.3**
	comp=Z,3.4nm,0.4s,baz=269,slow=22,SNR=0.9						
KAPI				LR	LR	21 35 51.4	
	comp=Z,3μm,18.5s,baz=243,slow=40						
KAPI	**Kappang**	**14.81**	**86**	P	**Pn**	**21 29 27.9**	**+2.1**
KAPI	**Kappang**	**14.81**	**86**	*i* P	**Pn**	**21 29 27.4**	**+1.6**
BKSI	**Bulukumba**	**15.15**	**87**	P	**Pn**	**21 29 30.6**	**+0.4**
	comp=Z,318nm,0.8s,comp=Z,3μmcomp=Z,2μm						
TTSI	**Tana Toraja**	**15.19**	**78**	P	**P**	**21 29 33.5**	**-1.0**
	comp=Z,121nm,1.1s,comp=Z,2μm						
SRIT	**Nanasritamara**	**15.70**	**340**		**Pn**	**21 29 35.8**	**-1.5**
BASI	**Baing, Sumba**	**15.97**	**105**	P	**Pn**	**21 29 35.3**	**-5.5**
MPSI	**Mapaga**	**16.33**	**67**	P	**P**	**21 29 47.9**	**+0.8**
	comp=Z,88nm,0.6s,comp=Z,3μmcomp=Z,4μm						
EDFI	**Ende, Flores**	**16.80**	**99**	P	**Pn**	**21 29 46.0**	**-5.2**
MMRI	**Maumere**	**17.32**	**99**		**Pn**	**21 29 54.8**	**-2.8**
MMRI	**Maumere**	**17.32**	**99**	P	**Pn**	**21 29 54.6**	**-3.0**
	comp=Z,870nm,0.6s,comp=Z,9μm						
TOLI2	**Tolitoli**	**17.45**	**66**	P	**P**	**21 30 02.4**	**+2.8**
TOLI2	**Tolitoli**	**17.45**	**66**	P	**P**	**21 30 00.2**	**+0.6**
TOLI2				IAmb	IAmb	21 30 04.4	
	comp=Z,115nm,0.5s						
BBSI	**Bau Bau**	**17.57**	**88**	P	**Pn**	**21 30 00.9**	**+0.3**
	comp=Z,281nm,0.9s,comp=Z,3μmcomp=Z,3μm						
DLV	**T Lat**	**18.45**	**11**	P	**Pn**	**21 30 12.6**	**+1.1**
LUWI	**Luwuk**	**18.55**	**74**	P	**P**	**21 30 12.4**	**+0.7**
LUWI				IAmb	IAmb	21 30 16.8	
	comp=Z,437nm,1.3s						
LUWI	**Luwuk**	**18.55**	**74**	P	**Pn**	**21 30 13.5**	**+1.0**
	comp=Z,224nm,1.0s,comp=Z,5μm						
GIRL	**Giralia**	**18.58**	**152**	P	**Pn**	**21 30 12.4**	**-0.4**
	tau=19,SNR=59						
GIRL	**Giralia**	**18.58**	**152**	P	**P**	**21 30 11.3**	**-0.7**
GIRL	**Giralia**	**18.58**	**152**	P	**P**	**21 30 11.1**	**-0.8**
GIRL				IAmb	IAmb	21 30 15.5	
	comp=Z,211nm,1.1s						
BATI	**Baumata**	**18.95**	**103**	P	**P**	**21 30 14.8**	**-1.3**
	comp=Z,607nm,0.3s,baz=301,slow=12,SNR=147						
BATI				S	**Sn**	**21 33 47.5**	**-1.6**
	comp=Z,240nm,0.6s,baz=240,slow=12,SNR=5.7						
BATI	**Baumata**	**18.95**	**103**	P	**P**	**21 30 15.0**	**-1.1**
	comp=Z,1μm,0.6s,comp=Z,13μm						
GTOI	**Gorontalo**	**19.32**	**70**	P	**P**	**21 30 20.2**	**+0.1**
	comp=Z,64nm,0.5s,comp=Z,1μm						
SOEI	**Soe**	**19.46**	**101**	P	**P**	**21 30 21.8**	**0.0**
SOEI	**Soe**	**19.46**	**101**	P	**P**	**21 30 20.8**	**-1.0**
SOEI	**Soe**	**19.46**	**101**	P	**P**	**21 30 21.1**	**-0.7**
	comp=Z,1μm,0.8s,comp=Z,10μm						
KMSI	**Cibinong**	**20.20**	**71**	P	**P**	**21 30 31.3**	**+1.6**
	comp=Z,293nm,0.6s,comp=Z,5μmcomp=Z,4μm						
MBWA	**Marble Bar**	**20.60**	**137**	P	**P**	**21 30 35.0**	**+1.0**
MBWA	**Marble Bar**	**20.60**	**137**	P	**P**	**21 30 33.9**	**-0.1**
MBWA	**Marble Bar**	**20.60**	**137**	P	Pn	21 30 35.7	-1.0
MBWA				S	**S**	**21 34 15.9**	**-5.1**
PSA00	**Pilbara Seismi**	**20.96**	**138**	P	**P**	**21 30 38.7**	**+0.8**
PSA00	**Pilbara Seismi**	**20.96**	**138**	P	**P**	**21 30 38.3**	**+0.4**
PSA00	**Pilbara Seismi**	**20.96**	**138**	P	**P**	**21 30 37.3**	**-0.6**
PSA00				IAmb	IAmb	21 30 41.1	
	comp=Z,24nm,0.6s						
SRDT	**SRDT**	**21.29**	**344**	P	**P**	**21 30 42.4**	**+1.0**
SANI	**Sanana**	**21.42**	**80**	P	**P**	**21 30 44.2**	**+1.4**
SANI	**Sanana**	**21.42**	**80**	P	**P**	**21 30 42.9**	**+0.1**
	comp=Z,39nm,0.7s,comp=Z,1μmcomp=Z,2μm						
UBPT	**Khong Chiam**	**21.43**	**1**	P	**P**	**21 30 44.0**	**+1.1**
UBPT	**Khong Chiam**	**21.43**	**1**	P	**P**	**21 30 41.7**	**-1.2**
PBA	**Port Blair**	**21.55**	**326**	P	**P**	**21 30 40.8**	**-3.4**
LBMI	**Labuha**	**23.21**	**77**	P	**P**	**21 31 02.1**	**+0.3**
	comp=Z,406nm,0.9s,comp=Z,5μm						
FITZ	**Fitzroy Crossi**	**23.37**	**122**	P	**P**	**21 31 03.3**	**+0.1**
	baz=23						
FITZ	**Fitzroy Crossi**	**23.37**	**122**	P	**P**	**21 31 02.8**	**-0.5**
FITZ				IAmb	IAmb	21 31 28.7	
	comp=Z,202nm,0.7s						
TNTI	**Ternate**	**23.47**	**73**	P	**P**	**21 31 05.5**	**+1.3**
TNTI	**Ternate**	**23.47**	**73**	P	**P**	**21 31 03.3**	**-0.9**
TNTI				IAmb	IAmb	21 31 08.2	
	comp=Z,148nm,0.6s						
TNTI	**Ternate**	**23.47**	**73**	P	**P**	**21 31 04.6**	**+0.4**
	comp=Z,230nm,2.3s,comp=Z,4μmcomp=Z,1μm						
MEEK	**Meekatharra**	**24.08**	**149**	P	**P**	**21 31 11.3**	**+1.7**
	baz=24,SNR=23						
MEEK	**Meekatharra**	**24.08**	**149**	P	**P**	**21 31 10.5**	**+0.8**
DAV	**Davao City (W)**	**24.51**	**58**	P	**P**	**21 31 15.0**	**+1.4**
MORW	**Morawa**	**24.98**	**156**	P	**P**	**21 31 19.1**	**+1.3**
	baz=25,SNR=7.3						
MORW	**Morawa**	**24.98**	**156**	P	**P**	**21 31 18.0**	**+0.2**
MORW	**Morawa**	**24.98**	**156**	P	**P**	**21 31 17.2**	**-0.6**
PHRA	**Phrae**	**25.05**	**349**	P	**P**	**21 31 17.6**	**-0.9**
CM31	**Chiang Mai Arr**	**25.28**	**347**	P	**P**	**21 31 18.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**25.28**	**347**	P	**P**	**21 31 18.9**	**-1.6**
	comp=Z,4.2nm,0.7s,baz=181,slow=7.9,SNR=32						
CMAR				S	**S**	**21 35 40.9**	**-1.4**
	comp=Z,3.4nm,1.0s,baz=181,slow=13,SNR=3.9						
CMAR				ScP	**ScP**	**21 38 27.6**	**+0.9**
	comp=Z,3.3nm,0.8s,baz=200,slow=3.6,SNR=11						
CMAR				LR	LR	21 43 10.2	
	comp=Z,1μm,18.6s,baz=170,slow=41						
	comp=Z,4.2nm,0.7s						
QIZ	**Qiongzhong**	**25.61**	**11**	P	**P**	**21 31 25.5**	**+1.9**
QIZ				sP	**sP**	**21 31 47.7**	**+2.0**
QIZ				S	**S**	**21 35 49.0**	**+1.6**
QIZ				sS	**sS**	**21 36 16.0**	**+3.3**
QIZ				LR	LR		
	comp=Z,3μm,16.8s						
QIZ		

baz=89,slow=76,SNR=50
KAAM Kaadhehdhoo 32.57 281 P P 21 32 29.6 +4.0
GYA Guiyang 32.59 3 P P 21 32 28.5 +2.9
GYA pP sP 21 32 43.4 -4.5
GYA PcP **PcP** **21 35 12.6 +1.7**
GYA S **S** **21 37 39.1 +2.0**
GYA ScS **ScS** **21 42 47.3 -2.2**
GYA pmax pmax
comp=Z,8.0nm,1.2s
GYA LR LR
comp=Z,520nm,17.3s
GYA LR LR
comp=Z,810nm,13.0s
GYA LR LR
comp=Z,1μm,17.6s
FORT Forrest 32.64 141 P P 21 32 27.0 +1.1
baz=33,SNR=7.3
FORT Forrest 32.64 141 P P 21 32 27.0 +1.1
FORT Forrest 32.64 141 P P 21 32 26.1 +0.2
FORT IAmb IAmb 21 33 00.1
comp=Z,32nm,0.8s
PZH PanZhiHua 32.74 355 P P 21 32 30.8 +3.9
PZH S **S** **21 37 38.6 -0.8**
PZH ScS **ScS** **21 42 47.7 -2.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,90nm,5.3s
PZH LR LR
comp=Z,2μm,17.3s
PZH LR LR
comp=Z,940nm,16.9s
PZH LR LR
comp=Z,3μm,16.2s
AS31 Alice Springs 32.78 125 P P 21 32 27.4 +0.1
ASAR Alice Springs 32.78 125 P P 21 32 27.4 0.0
ASAR Alice Springs 32.78 125 P P 21 32 27.6 +0.3
comp=Z,11nm,0.3s,baz=300,slow=7.6,SNR=221
ASAR PcP **PcP** **21 35 11.9 +0.4**
comp=Z,4.8nm,0.8s,baz=316,slow=2.6,SNR=5.2
ASAR S **S** **21 37 39.2 -1.0**
comp=Z,12nm,0.6s,baz=295,slow=16,SNR=15
ASAR ScP **ScP** **21 38 51.0 +0.6**
comp=Z,10nm,1.2s,baz=299,slow=3.7,SNR=8.5
ASAR LR LR 21 45 59.4
comp=Z,622nm,21.7s,baz=298,slow=37
comp=Z,11nm,0.3s
TPUB Ta-pu 33.17 27 P P 21 32 31.6 +1.0
TPUB Ta-pu 33.17 27 P P 21 32 30.7 +0.1
TPUB IAmb IAmb 21 33 07.8
comp=Z,98nm,1.4s
YULB Yu-li 33.55 28 P P 21 32 34.6 +0.6
SSLB Suanglung 33.73 27 P P 21 32 37.1 +1.5
SSLB Suanglung 33.73 27 P P 21 32 36.1 +0.5
SSLB IAmb IAmb 21 32 56.0
comp=Z,32nm,1.0s
SHL Shillong 34.10 339 P P 21 32 37.6 -1.3
SHL Shillong 34.10 339 P P 21 32 38.7 -0.2
SNR=16
SHL Shillong 34.10 339 P P 21 32 37.6 -1.3
NACB Ninganchiao 34.36 28 P P 21 32 42.5 +1.6
YHNB Yeheng 34.69 27 P P 21 32 45.2 +1.3
HYB Hyderabad 35.12 313⇑ *e*P P **21 32 48.9 +1.3**
HYB IVmB_BB 21 32 49.4
comp=Z,531nm,1.2s
HYB *ep*P **pP** **21 33 01.5 -1.6**
HYB *e* 21 34 12.3
HYB *e*S **S** **21 38 17.3 +1.0**
HYB *es*S **sS** **21 38 39.2 -2.8**
HYB *e* 21 40 51.2
HYB *e*ScS **ScS** **21 43 03.4 +0.4**
CNSH ChangSha 35.12 12 ⇑P P 21 32 47.9 +0.4
CNSH S **S** **21 38 16.4 +0.4**
CNSH pmax pmax
comp=Z,10.0nm,1.1s
CNSH LR LR
comp=Z,850nm,16.8s
CNSH LR LR
comp=Z,710nm,13.4s
CNSH LR LR
comp=Z,1μm,15.8s
YOJ Yonaguni jima 35.28 29 P P 21 32 50.0 +1.2
YOJ Yonaguni jima 35.28 29 P P 21 32 49.4 +0.6
YOJ Yonaguni jima 35.28 29 P P 21 32 49.4 +0.6
YOJ pmax pmax
comp=Z,119nm,1.0s
GENI Genyem 35.32 86 P P 21 32 49.6 +0.2
comp=Z,60nm,0.5s
JAY Jayapura 35.86 86 P P 21 32 54.5 +0.4
comp=Z,32nm,0.7s,comp=Z,675nm
JAY Jayapura 35.86 86 P P 21 32 51.9 -2.2
JAY pmax pmax
comp=Z,32nm,0.7s
OOD Oodnadatta 36.18 130 P P 21 32 57.1 +0.5
MULG Mulgathing 36.33 135 P P 21 32 58.2 +0.4
QIS Mount Isa 36.49 116 P P 21 32 59.5 +0.2
baz=36,SNR=41
QIS Mount Isa 36.49 116 P P 21 32 59.7 +0.3
ENH Enshi 36.61 7 P P 21 32 59.9 -0.3
CD2 Chengdu 37.00 358 P P 21 33 06.2 +2.7
CD2 S **S** **21 38 42.7 -2.0**
CD2 ScS **ScS** **21 43 11.4 -1.5**
CD2 pmax pmax
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=Z,530nm,10.8s
CD2 LR LR
comp=Z,720nm,14.6s
CD2 LR LR
comp=Z,820nm,15.9s
WHN Wuhan 37.71 13 P P 21 33 14.1 +4.6
WHN S **S** **21 38 54.4 -1.1**
WHN LR LR
comp=Z,2μm,17.4s
LSA Lhasa 38.15 340 P P 21 33 13.1 -0.7
LSA Lhasa 38.15 340 P P 21 33 13.3 -0.4
LSA Lhasa 38.15 340 P P 21 33 13.1 -0.7
LSA pmax pmax
comp=Z,18nm,0.8s
LSA Lhasa 38.15 340 P P 21 33 14.3 +0.6
COEN Coen 38.37 104 P P 21 33 15.2 -0.2
baz=38,SNR=15
COEN Coen 38.37 104 P P 21 33 15.6 +0.2
COEN Coen 38.37 104 P P 21 33 14.6 -0.8
COEN IAmb IAmb 21 33 16.4
comp=Z,64nm,0.6s
BBOO Buckleboo 39.18 136 P P 21 33 22.8 +1.0
baz=39,SNR=9.2
BBOO Buckleboo 39.18 136 P P 21 33 22.5 +0.6
BBOO Buckleboo 39.18 136 P P 21 33 20.9 -1.0
BBOO IAmb IAmb 21 33 44.0
comp=Z,159nm,1.9s
LCRK Leigh Creek 39.43 132 P P 21 33 25.3 +1.3
JOW Kunigami 39.94 33 LR LR 21 50 37.5
comp=Z,675nm,20.8s,baz=258,slow=37
MTSU Mount Surprise 40.16 111 P P 21 33 31.0 +0.8
baz=40,SNR=74
MTSU Mount Surprise 40.16 111 P P 21 33 31.1 +0.8
XAN Xi'an 40.28 5 ⇓P P 21 33 30.6 -0.4
XAN S **S** **21 39 31.8 -2.3**
XAN pmax pmax
comp=Z,21nm,1.6s
XAN LR LR
comp=Z,2μm,18.1s
XAN LR LR
comp=Z,980nm,18.4s
XAN LR LR
comp=Z,3μm,19.2s
NJ2 Nanjing 40.37 18 *e*P **P 21 33 34.1 +2.4**
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
NJ2 pmax pmax
comp=Z,290nm,5.2s
NJ2 LR LR
comp=Z,770nm,19.4s
NJ2 LR LR
comp=Z,530nm,16.1s
NJ2 LR LR
comp=Z,1μm,18.9s
LYN LuoYang 41.23 9 ⇑P P 21 33 39.2 +0.4
LYN pP sP 21 33 59.4 -1.9
LYN PcP **PcP** **21 35 38.2 +1.5**
LYN S **S** **21 39 49.0 +0.8**
LYN pmax pmax
comp=Z,37nm,0.5s
LYN pmax pmax
comp=Z,290nm,3.9s
LYN LR LR
comp=Z,2μm,22.9s
LYN LR LR
comp=Z,1μm,20.8s
LYN LR LR
comp=Z,2μm,25.5s
HTT Hallett 41.51 135 P P 21 33 42.4 +1.2
baz=42,SNR=13
HTT Hallett 41.51 135 P P 21 33 42.6 +1.4
PMG Port Moresby 41.93 97 P P 21 33 44.9 0.0
PMG IAmb IAmb 21 34 16.5
comp=Z,68nm,0.8s
PMG Port Moresby 41.93 97 LR LR 21 56 52.4
comp=Z,176nm,18.3s,baz=260,slow=44
PMG Port Moresby 41.93 97 P P 21 33 44.9 0.0
PMG pmax pmax
comp=Z,68nm,0.9s
PMG Port Moresby 41.93 97 P P 21 33 44.7 -0.2
PMG pP **pP** **21 33 58.0 -2.6**
LZH Lanzhou 42.16 359 *e*P P 21 33 52.1 +5.6
LZH sP sP 21 34 11.6 +2.6
LZH PcP **PcP** **21 35 41.4 +1.4**
LZH S **S** **21 40 01.1 -1.0**
LZH ScS **ScS** **21 43 41.6 -1.7**
LZH pmax pmax
comp=Z,22nm,1.2s
LZH LR LR
comp=Z,1μm,14.4s
LZH LR LR
comp=Z,810nm,15.5s
LZH LR LR
comp=Z,1μm,15.5s
CTAO Charters Tower 42.38 113 P P 21 33 49.0 +0.6
CTAO Charters Tower 42.38 113 P P 21 33 48.6 +0.2
CTAO Charters Tower 42.38 113 P P 21 33 48.6 +0.2
CTAO pmax pmax
comp=Z,42nm,1.2s
CTAO Charters Tower 42.38 113 P P 21 33 49.1 +0.6
QLP Quilpie 42.51 123 P P 21 33 50.7 +1.3
baz=42,SNR=18
QLP Quilpie 42.51 123 P P 21 33 50.9 +1.5
MANU Manus Island 42.52 86 P P 21 33 49.8 +0.1
MANU IAmb IAmb 21 33 50.6
comp=Z,30nm,0.6s
STKA Stephens Creek 42.65 131 P P 21 33 51.1 +0.6
baz=43,SNR=206
STKA Stephens Creek 42.65 131 P P 21 33 51.5 +1.0
STKA Stephens Creek 42.65 131 P P 21 33 50.9 +0.5
STKA Stephens Creek 42.65 131 P P 21 33 51.4 +0.9
comp=Z,60nm,0.5s,baz=304,slow=8.1,SNR=203
STKA LR LR 21 54 24.1
comp=Z,643nm,19.5s,baz=294,slow=40
comp=Z,60nm,0.5s
STKA Stephens Creek 42.65 131⇑ *i*P **P 21 33 51.8 +1.3**
TV1H Townsville Har 42.70 112 P P 21 33 51.9 +0.9
GOMU GeErMu 43.31 348 P P 21 33 55.9 -0.2
GOMU S **S** **21 40 17.1 -2.4**
GOMU pmax pmax
comp=Z,9.0nm,0.5s
GOMU LR LR
comp=Z,1μm,20.7s
GOMU LR LR
comp=Z,580nm,17.1s
GOMU LR LR
comp=Z,2μm,20.6s
TIA Tai'an 43.79 14 P P 21 33 59.2 -0.3
TIA pmax pmax
comp=Z,4.0nm,0.7s
TIA pmax pmax
comp=Z,67nm,4.9s
TIA LR LR
comp=Z,500nm,19.6s
TIA LR LR
comp=Z,310nm,15.5s
TIA LR LR
comp=Z,620nm,20.1s
GUMO Guam 44.30 63 P P 21 34 01.4 -2.5
GUMO IAmb IAmb 21 34 31.8
comp=Z,210nm,1.3s
GUMO Guam 44.30 63 LR LR 21 53 46.9
comp=Z,169nm,21.3s,baz=242,slow=38
GUMO Guam 44.30 63 P P 21 34 01.4 -2.5
GUMO pmax pmax
comp=Z,210nm,1.3s
HNS HongShan 44.40 11 *e*P **P 21 34 06.0 +1.6**
HNS PcP **PcP** **21 35 48.7 +1.4**
HNS *e*S **S** **21 40 34.4 -0.2**
HNS ScS **SS** **21 43 53.9 -1.9**
HNS LR LR
comp=Z,710nm,19.9s
HNS LR LR
comp=Z,340nm,19.1s
HNS LR LR
comp=Z,820nm,24.9s
ARPS Mount Arapiles 45.33 137 P P 21 34 14.4 +2.5
baz=45,SNR=8.4
ARPS Mount Arapiles 45.33 137 P P 21 34 14.8 +2.9
CMSA Cobar Meteorol 45.62 129 P P 21 34 15.3 +1.1
baz=46,SNR=84
CMSA Cobar Meteorol 45.62 129 P P 21 34 15.6 +1.4
GTA Gaotai 45.71 354 ⇑P P 21 34 14.6 -0.3
GTA pP pP 21 34 29.8 -0.7
GTA sP sP 21 34 39.9 +2.4
GTA PcP **PcP** **21 35 53.6 +1.6**
GTA S **S** **21 40 52.7 -1.0**
GTA sS sS 21 41 17.5 -2.5
GTA ScS **ScS** **21 44 02.5 -3.0**
GTA pmax pmax
comp=Z,10.0nm,1.1s
GTA pmax pmax
comp=Z,260nm,11.5s
GTA LR LR
comp=Z,690nm,21.1s
GTA LR LR
comp=Z,620nm,23.1s
GTA LR LR
comp=Z,1μm,21.9s
JNU Nakatsue 46.29 31 P P 21 34 19.8 +0.3
JNU Nakatsue 46.29 31 P P 21 34 19.4 -0.1
JNU IAmb IAmb 21 34 20.7
comp=Z,62nm,1.3s
BTO Baotou 46.89 5 *e*P **P 21 34 25.4 +1.3**
BTO pP **pP** **21 34 44.0 +4.2**
BTO sP sP 21 34 53.0 +6.2
BTO PP **PP** **21 36 16.9 +1.7**
BTO S **S** **21 41 11.5 +0.9**
BTO sS sS 21 41 44.7 +7.7
BTO SS **SS** **21 44 33.2 -5.0**
BTO pmax pmax
comp=Z,32nm,1.8s
BTO pmax pmax
comp=Z,460nm,9.5s
BTO LR LR
comp=Z,4μm,21.0s
BTO LR LR
comp=Z,2μm,22.4s
BTO LR LR
comp=Z,4μm,21.4s
RK1H Rockhampton Ha 46.98 116 P P 21 34 25.6 +0.6
BJT Baijiatuau 47.22 12 P P 21 34 25.4 -1.2
BJT Baijiatuau 47.22 12 P P 21 34 25.4 -1.2
BJT pmax pmax
comp=Z,20nm,1.1s
BJI Beijing 47.25 12 P P 21 34 26.5 -0.2
BJI PcP **PcP** **21 35 58.1 +0.9**
BJI S **S** **21 41 17.4 +2.0**
BJI ScS **ScS** **21 44 13.6 -1.6**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,81nm,3.9s
BJI LR LR
comp=Z,320nm,22.6s
BJI LR LR
comp=Z,210nm,17.7s
BJI LR LR
comp=Z,390nm,21.4s
HHC Hu-ho-hao-te 47.29 7 *e*P **P 21 34 28.5 +1.2**
HHC S **S** **21 41 17.5 +1.2**
HHC sS sS 21 41 40.9 -1.9
HHC pmax pmax
comp=Z,20nm,1.3s
HHC pmax pmax
comp=Z,96nm,5.7s
HHC LR LR
comp=Z,940nm,21.4s
HHC LR LR
comp=Z,660nm,21.4s
HHC LR LR
comp=Z,1μm,21.4s
DL2 Dalian 47.55 18 P P 21 34 28.9 -0.2
DL2 S **S** **21 41 22.0 +2.2**
DL2 pmax pmax
comp=Z,19nm,1.5s
DL2 pmax pmax
comp=Z,280nm,4.2s
DL2 LR LR
comp=Z,690nm,16.3s
DL2 LR LR
comp=Z,440nm,13.8s
DL2 LR LR
comp=Z,1μm,16.5s
EIDS Eidsvold 47.99 119 P P 21 34 33.8 +0.9
baz=48,SNR=7.9
EIDS Eidsvold 47.99 119 P P 21 34 33.3 +0.4
TOO Toolangi 48.24 136 P P 21 34 35.7 +1.1
baz=48,SNR=6.9
TOO Toolangi 48.24 136 P P 21 34 37.4 +2.8
TOO Toolangi 48.24 136 P P 21 34 34.6 0.0
TOO IAmb IAmb 21 35 47.1
comp=Z,94nm,1.8s
TOO Toolangi 48.24 136 P P 21 34 34.6 0.0
TOO pmax pmax
comp=Z,94nm,1.8s
JMN Monobe 48.33 33 P P 21 34 36.0 +0.7
JMN Monobe 48.33 33 P P 21 34 35.0 -0.4
JMN IAmb IAmb 21 34 36.8
comp=Z,67nm,1.1s
KSAR Wonju Array Be 48.49 24 P P 21 34 36.2 -0.2
KSAR Wonju Array Be 48.49 24 P P 21 34 36.2 -0.2
KSRS Korea Array 48.52 25 P P 21 34 36.9 +0.3
comp=Z,2.1nm,0.5s,baz=210,slow=8.3,SNR=18
KSRS PcP **PcP** **21 36 01.4 -0.4**
comp=Z,6.9nm,1.1s,baz=216,slow=3.6,SNR=5.7
KSRS ScP **ScP** **21 39 51.8 +0.4**
comp=Z,1.0nm,0.4s,baz=224,slow=4.5,SNR=4.3
KSRS LR LR 21 55 29.4
comp=Z,255nm,21.8s,baz=215,slow=37
comp=Z,2.1nm,0.5s
YNG Young 48.84 131 P P 21 34 40.5 +1.3
baz=49,SNR=12
YNG Young 48.84 131 P P 21 34 40.8 +1.5
JCJ Chichijima 49.00 46 P P 21 34 38.1 -2.4
JCJ Chichijima 49.00 46 P P 21 34 38.0 -2.5
JCJ Chichijima 49.00 46 LR LR 21 55 15.5
comp=Z,301nm,21.8s,baz=263,slow=36
CAN Canberra 49.71 132 P P 21 34 48.8 +2.8
CAN Canberra 49.71 132 P P 21 34 45.1 -0.9
CAN IAmb IAmb 21 35 20.4
comp=Z,112nm,1.8s
CAN Canberra 49.71 132 P P 21 34 45.1 -0.9
CAN pmax pmax
comp=Z,112nm,1.8s
CAN Canberra 49.71 132 P P 21 34 48.7 +2.7
ARMA Armidale 49.94 125 P P 21 34 50.2 +2.4
baz=50,SNR=4.8
ARMA Armidale 49.94 125 P P 21 34 47.3 -0.5
ARMA IAmb IAmb 21 35 39.5
comp=Z,89nm,2.0s
XLT XiLinHaoTe 50.96 10 *e*P **P 21 34 55.0 -0.2**
XLT pP sP 21 35 12.8 -5.2
XLT PcP **PcP** **21 36 11.8 +1.1**
XLT S S 21 42 00.5 -7.0
XLT ScS **ScS** **21 44 33.0 -7.3**
XLT pmax pmax
comp=Z,14nm,1.1s
XLT pmax pmax
comp=Z,130nm,5.4s
XLT LR LR
comp=Z,51nm,20.0s
XLT LR LR
comp=Z,430nm,20.4s
XLT LR LR
comp=Z,610nm,22.1s
JHJ Hachijo jima 2 51.28 38 LR LR 21 57 03.6
comp=Z,325nm,21.2s,baz=260,slow=36
JGF Kuroka 51.63 34 P P 21 34 59.5 -0.8
JGF Kuroka 51.63 34 P P 21 34 59.1 -1.2
WMQ Urumqi 52.25 344 *e*P **P 21 35 05.0 +0.2**
WMQ sP sP 21 35 31.5 +3.8
WMQ S **S** **21 42 21.7 -3.6**
WMQ ScS **ScS** **21 44 48.0 -1.2**
WMQ pmax pmax
comp=Z,25nm,1.5s
WMQ LR LR
comp=Z,310nm,18.3s
WMQ LR LR
comp=Z,470nm,22.9s
WMQ LR LR
comp=Z,500nm,24.1s
JLN Jalan Bani Buh 52.77 304 P P 21 35 11.4 +2.4
MAJO Matsushiro 52.78 34 P P 21 35 07.9 -0.9
MAJO Matsushiro 52.78 34 P P 21 35 07.6 -1.3
MAJO IAmb IAmb 21 35 26.9
comp=Z,81nm,1.8s
MAJO Matsushiro 52.78 34 P P 21 35 07.6 -1.3
MAJO pmax pmax
comp=Z,81nm,1.8s
MAJO Matsushiro 52.78 34 P P 21 35 07.3 -1.5
MJAR Matsushiro Arr 52.78 34 P P 21 35 07.4 -1.5
comp=Z,6.4nm,0.4s,baz=212,slow=6.6,SNR=49
MJAR PcP **PcP** **21 36 18.8 +1.2**
comp=Z,6.6nm,0.7s,baz=199,slow=3.6,SNR=6.8
MJAR ScP **ScP** **21 40 09.8 -0.1**
comp=Z,0.9nm,0.6s,baz=291,slow=27,SNR=4.5
MJAR LR LR 21 58 02.5
comp=Z,280nm,21.0s,baz=220,slow=36
comp=Z,6.4nm,0.4s
MJB9 Matsu-Tunnel 52.78 34 P P 21 35 07.7 -1.2
MJB9 IAmb IAmb 21 35 27.8
comp=Z,83nm,1.8s
KSH Kashi 52.85 332 P P 21 35 08.0 -1.4
KSH pP pP 21 35 23.7 -1.6
KSH S **S** **21 42 28.8 -4.9**
KSH pmax pmax
comp=Z,28nm,1.0s
KSH LR LR
comp=Z,310nm,14.4s
KSH LR LR
comp=Z,210nm,15.1s
KSH LR LR
comp=Z,230nm,16.0s
KBL Kabul 52.88 323 P P 21 35 09.1 -0.7
KBL IAmb IAmb 21 35 11.8
comp=Z,130nm,1.6s
KBL Kabul 52.88 323 P P 21 35 09.9 +0.1
SNR=34
KBL Kabul 52.88 323 P P 21 35 09.1 -0.7
KBL pmax pmax
comp=Z,130nm,1.6s
NGCH Negor - Chabah 52.92 308 P P 21 35 11.9 +1.9
CN2 Changchun 53.19 18 *e*P **P 21 35 10.7 -1.0**
CN2 *e*S **S** **21 42 35.9 -2.1**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,600nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,700nm,16.0s
WBK Wadi Bani Khal 53.34 304 P P 21 35 15.8 +2.6
SNR=6.1
DQM DQM 53.39 300 P P 21 35 16.1 +2.5
MHTO MHTO 53.46 302 P P 21 35 16.0 +1.9
SNR=7.9
TARG Taragay, Kyrgy 53.83 335 P P 21 35 17.0 +0.1
TARG Taragay, Kyrgy 53.83 335 P P 21 35 17.0 +0.1
TARG pmax pmax
comp=Z,24nm,1.0s
SONM Songino Array 53.90 1 P P 21 35 16.7 -0.3
SONM Songino Array 53.90 1 P P 21 35 17.1 +0.1
comp=Z,2.3nm,0.3s,baz=186,slow=7.9,SNR=46
SONM ScP **ScP** **21 40 14.2 -0.4**
comp=Z,3.9nm,0.8s,baz=182,slow=4.2,SNR=6.4
SONM LR LR 22 00 54.8
comp=Z,1μm,18.5s,baz=172,slow=39

comp=Z,2.3nm,0.3s
WSAR Wadi Sarin 53.90 305 P **P** 21 35 19.3 +2.0
comp=Z,28nm,0.6s,baz=164,slow=4.7,SNR=31
comp=Z,28nm,0.6s
JSD Sado 53.91 32 P **P** 21 35 17.5 +0.5
JSD Sado 53.91 32 P **P** 21 35 16.3 -0.7
ULN Ulaanbaatar 53.95 2 P **P** 21 35 16.9 -0.4
ULN Ulaanbaatar 53.95 2 *ce*P **P** 21 35 17.1 -0.2
ULN pmax pmax
comp=Z,23nm,1.9s
ULN Ulaanbaatar 53.95 2 P **P** 21 35 17.6 +0.3
ULN pP **pP** 21 35 32.6 -0.6
JMDO Jabal Madar 53.95 303 P **P** 21 35 19.9 +2.3
MSHR Mys Shultsa 54.17 24 *ce*P **P** 21 35 19.9 +1.1
MSHR pmax pmax
comp=Z,29nm,1.7s
SMDO Samad 54.30 304 P **P** 21 35 22.7 +2.4
SNR=10
SHLS Shalkode 54.36 337 *e*P **P** 21 35 18.8 -1.7
baz=337
SHLS Shalkode 54.36 337 *e*P **P** 21 35 18.7 -1.7
BIDO Bidbid 54.44 305 P **P** 21 35 23.6 +2.4
SNR=14
HNR Honiara 54.55 97 P **P** 21 35 21.2 -1.0
HNR Honiara 54.55 97 P **P** 21 35 21.2 -1.0
HNR pmax pmax
comp=Z,123nm,0.6s
SATY Saty 54.69 336 *e*P **P** 21 35 22.1 -0.7
baz=336
SATY Saty 54.69 336 *e*P **P** 21 35 22.1 -0.7
ZHN Zhinishke 54.77 336 *e*P **P** 21 35 22.4 -0.9
baz=336
ZHN Zhinishke 54.77 336 *e*P **P** 21 35 22.4 -0.9
BSY Bisya 54.86 303 P **P** 21 35 26.5 +2.2
SNR=9.5
DRK Karamyk 54.87 329 P **P** 21 35 24.1 -0.2
DRK Karamyk 54.87 329 P **P** 21 35 24.1 -0.2
DRK pmax pmax
comp=Z,342nm,1.9s
HOQ Hoqain 55.14 304 P **P** 21 35 28.6 +2.4
SNR=11
OHH Osh 55.16 330 P **P** 21 35 26.7 +0.5
OHH pmax pmax
comp=Z,65nm,1.4s
JMM Marumori 55.17 34 P **P** 21 35 25.2 -1.0
JMM Marumori 55.17 34 P **P** 21 35 24.7 -1.5
JMM IAmb IAmb 21 35 26.1
comp=Z,62nm,1.2s
BOOM Boomskoye 55.25 334 P **P** 21 35 26.1 -0.7
BOOM IAmb IAmb 21 36 09.4
comp=Z,30nm,1.1s
BOOM Boomskoye usch 55.25 334 P **P** 21 35 26.2 -0.7
BOOM pmax pmax
comp=Z,30nm,1.1s
TNSS Tian-Shan 55.27 335 *e*P **P** 21 35 26.5 -0.8
baz=335
TNSS Tian-Shan 55.27 335 *e*P **P** 21 35 26.5 -0.8
GAR Garm 55.29 327 P **P** 21 35 25.1 -2.1
MDJ Mudanjiang 55.31 21 P **P** 21 35 26.9 -0.2
MDJ S **S** 21 43 06.2 -0.4
MDJ sS sS 21 43 34.0 -0.1
MDJ ScS **ScS** 21 45 07.4 -3.3
MDJ pmax pmax
comp=Z,14nm,2.0s
MDJ pmax pmax
comp=Z,240nm,5.8s
MDJ LR LR
comp=Z,280nm,21.3s
MDJ LR LR
comp=Z,380nm,22.7s
MDJ LR LR
comp=Z,670nm,23.0s
MDJ Mudanjiang 55.31 21 P **P** 21 35 26.1 -0.9
MDOK Medeo 55.33 335 *e*P **P** 21 35 27.0 -0.4
baz=335
MDOK Medeo 55.33 335 *e*P **P** 21 35 27.0 -0.4
RBK Rabkut 55.38 296 P **P** 21 35 30.4 +2.2
AAA Alma-Ata 55.42 335 *e*P **P** 21 35 27.4 -0.7
comp=Z,13nm,0.7s,baz=335
AAA Alma-Ata 55.42 335 *e*P **P** 21 35 27.3 -0.7
AAA pmax pmax
comp=Z,13nm,0.7s
ARLS Aral 55.47 333 P **P** 21 35 28.4 -0.1
ARLS pmax pmax
comp=Z,33nm,1.5s
BNX BinXian 55.55 19 ⇓P **P** 21 35 29.4 +0.7
BNX pP **pP** 21 35 46.0 +1.2
BNX sP **sP** 21 35 53.2 +1.5
BNX PP **PP** 21 37 36.2 +2.7
BNX S **S** 21 43 12.7 +3.0
BNX sS **sS** 21 43 37.1 -0.2
BNX pmax pmax
comp=Z,57nm,1.1s
BNX pmax pmax
comp=Z,400nm,3.7s
BNX LR LR
comp=Z,460nm,19.5s
BNX LR LR
comp=Z,250nm,15.9s
BNX LR LR
comp=Z,580nm,17.1s
UCH Uchtor 55.67 333 P **P** 21 35 30.5 +0.2
SNR=17
CHGR Chuyangaron 55.67 326 P **P** 21 35 28.2 -1.7
CHGR Chuyangaron 55.67 326 P **P** 21 35 28.2 -1.7
CHGR pmax pmax
comp=Z,276nm,1.3s
ARSB Arslanbob 55.68 331 P **P** 21 35 29.4 -0.5
ARSB IAmb IAmb 21 35 31.9
comp=Z,53nm,1.5s
ARSB Arslanbob 55.68 331 P **P** 21 35 29.5 -0.5
ARSB pmax pmax
comp=Z,53nm,1.5s
ARQ Araqi 55.68 304 P **P** 21 35 31.9 +1.7
SNR=8.2
JASK Jask - Hormozg 55.74 307 P **P** 21 35 33.2 +2.7
TKM2 Tokmak 2 55.75 334 P **P** 21 35 30.6 +0.1
SNR=11
SIMJ Simiganj 55.76 326 P **P** 21 35 29.0 -1.6
SIMJ IAmb IAmb 21 35 31.1
comp=Z,94nm,1.2s
SIMJ Simiganj 55.76 326 P **P** 21 35 29.2 -1.4
SIMJ sP **sP** 21 35 49.6 -3.9
BTK Batken 55.80 329 P **P** 21 35 30.4 -0.4
BTK IAmb IAmb 21 35 32.3
comp=Z,55nm,1.1s
BTK Batken 55.80 329 P **P** 21 35 30.4 -0.4
BTK pmax pmax
comp=Z,55nm,1.2s
KBK Karagaybulak 55.82 334 P **P** 21 35 31.6 +0.6
SNR=28
DOK Doka 55.85 297 P **P** 21 35 32.9 +1.5
USA0B Ussuriysk Arra 55.86 23 P **P** 21 35 30.5 -0.5
USA0B IAmb IAmb 21 35 32.3
comp=Z,43nm,1.1s
USA0B Ussuriysk Arra 55.86 23 *i* P **P** 21 35 30.8 -0.2
USRK Ussuriysk Ar. 55.86 23 P **P** 21 35 30.7 -0.3
USRK Ussuriysk Ar. 55.86 23 P **P** 21 35 31.0 0.0
comp=Z,12nm,0.4s,baz=196,slow=3.8,SNR=74
USRK LR LR 22 03 01.7
comp=Z,165nm,18.2s,baz=225,slow=40
comp=Z,12nm,0.4s
USRK Ussuriysk Ar. 55.86 23 P **P** 21 35 31.0 0.0
ARXS Arharly 55.89 337 *e*P **P** 21 35 30.4 -0.9
WHFO Wadi Hawf 55.92 296 P **P** 21 35 33.4 +1.4
CHKK Chushkaly 55.92 336 *e*P **P** 21 35 31.1 -0.4
baz=336
CHKK Chushkaly 55.92 336 *e*P **P** 21 35 31.1 -0.4
AAK Ala-Archa 56.00 333 P **P** 21 35 32.6 +0.3
SNR=11
AAK Ala-Archa 56.00 333 P **P** 21 35 31.7 -0.6
AAK Ala-Archa 56.00 333 *i* P **P** 21 35 32.4 +0.1
SNR=13
AAK Ala-Archa 56.00 333 P **P** 21 35 31.9 -0.4
comp=Z,1.9nm,0.4s,baz=156,slow=5.7,SNR=18
AAK LR LR 22 04 28.2
comp=Z,174nm,18.1s,baz=153,slow=41
comp=Z,1.9nm,0.4s
AAK Ala-Archa 56.00 333 *ce*P **P** 21 35 32.6 +0.3
AAK pmax pmax
comp=Z,27nm,1.6s
AAK Ala-Archa 56.00 333 P **P** 21 35 32.2 -0.1
SOHO SOHO 56.02 305 *i* P **P** 21 35 33.5 +1.0
SNR=8.6
SOHO SOHO 56.02 305 P **P** 21 35 34.7 +2.1

FRU1 Bishkek 56.08 333 P **P** 21 35 32.4 -0.3
FRU1 IAmb IAmb 21 36 11.5
comp=Z,20nm,0.8s
FRU1 Bishkek 56.08 333 P **P** 21 35 32.4 -0.3
FRU1 pmax pmax
comp=Z,20nm,0.8s
ABTO Aybut 56.14 296 P **P** 21 35 35.6 +2.0
SNR=9.1
CHMS Chumysh 56.18 334 P **P** 21 35 33.1 -0.3
SNR=8.4
TDK Taldyqorghan 56.33 338 *e*P **P** 21 35 33.8 -0.6
comp=Z,32nm,1.1s,baz=338
TDK Taldyqorghan 56.33 338 *e*P **P** 21 35 33.7 -0.6
TDK pmax pmax
comp=Z,32nm,1.1s
EKS2 Erkin-Say 56.35 333 P **P** 21 35 34.6 -0.1
SNR=25
ZSN Zaisan 56.36 344 *e*P **P** 21 35 34.4 -0.2
baz=344
ZSN Zaisan 56.36 344 *e*P **P** 21 35 34.4 -0.2
ZAK Zakamensk 56.45 359 *e*P **P** 21 35 34.6 -0.6
ZAK pmax pmax
comp=Z,10.0nm,1.5s
USP Ospenovka 56.50 334 P **P** 21 35 36.4 +0.7
SNR=14
ARK Arkit 56.53 331 P **P** 21 35 35.5 -0.5
ARK pmax pmax
comp=Z,16nm,0.9s
MK31 Makanchi Array 56.54 342 P **P** 21 35 35.2 -0.6
MK31 Makanchi Array 56.54 342 *ce*P **P** 21 35 35.1 -0.7
MKAR Makanchi Array 56.54 342 P **P** 21 35 34.8 -1.1
comp=Z,11nm,0.4s,baz=153,slow=8.2,SNR=308
MKAR ScP **ScP** 21 40 24.5 -1.6
comp=Z,0.9nm,0.8s,baz=150,slow=6.5,SNR=2.5
MKAR LR LR 22 05 15.7
comp=Z,241nm,18.9s,baz=162,slow=42
comp=Z,11nm,0.4s
UMZA Um Al Zommool 56.55 302 P **P** 21 35 37.9 +1.6
SGDS Sogindy 56.59 334 *e*P **P** 21 35 35.9 -0.5
baz=334
SGDS Sogindy 56.59 334 *e*P **P** 21 35 35.8 -0.5
ALNE Al Ain 56.63 304 *i* P **P** 21 35 38.1 +1.2
SNR=33
ALNE Al Ain 56.63 304 P **P** 21 35 38.9 +2.0
SNR=14
MAKZ Makanchi 56.65 341 P **P** 21 35 35.5 -1.1
MAKZ Makanchi 56.65 341 P **P** 21 35 35.5 -1.1
MAKZ pmax pmax
comp=Z,10.0nm,0.8s
UOSS Minazif 56.65 305 P **P** 21 35 37.4 +0.3
UOSS IAmb IAmb 21 35 39.7
comp=Z,96nm,1.2s
UOSS Minazif 56.65 305 *i* P **P** 21 35 37.9 +0.9
SNR=13
UOSS Minazif 56.65 305 P **P** 21 35 38.2 +1.2
UOSS Minazif 56.65 305 P **P** 21 35 38.0 +0.9
UOSS pP **pP** 21 35 53.0 -0.3
ASHO Ashiyiah 56.65 305 *i* P **P** 21 35 38.2 +1.1
SNR=19
ASHO Ashiyiah 56.65 305 P **P** 21 35 38.9 +1.8
HATD Hatta, Dubai 56.66 305 *i* P **P** 21 35 38.5 +1.5
SNR=18
HATD Hatta, Dubai 56.66 305 P **P** 21 35 39.4 +2.3
SNR=5.8
MDH Madha 56.73 306 *i* P **P** 21 35 38.0 +0.4
SNR=8.8
HIA Hailar 56.81 12 P **P** 21 35 36.5 -1.2
HIA Hailar 56.81 12 P **P** 21 35 36.5 -1.2
HIA pmax pmax
comp=Z,15nm,1.0s
MSFE Esma-Masafi 56.87 306 *i* P **P** 21 35 40.0 +1.4
SNR=19
MASF Masafi 56.88 306 P **P** 21 35 40.6 +1.9
SNR=5.7
FAQ Al Faqa, Dubai 57.06 305 *i* P **P** 21 35 42.0 +2.0
SNR=36
FAQ Al Faqa, Dubai 57.06 305 P **P** 21 35 41.8 +1.8
SNR=19
HRA Herat 57.09 318 P **P** 21 35 39.3 -0.9
HRA IAmb IAmb 21 35 41.4
comp=Z,39nm,1.4s
NAZ Nazwa, Dubai 57.11 305 *i* P **P** 21 35 42.2 +1.9
SNR=19
NAZ Nazwa, Dubai 57.11 305 P **P** 21 35 42.4 +2.1
SNR=9.9
SHME Shamm 57.20 306 P **P** 21 35 42.3 +1.4
SHME Shamm 57.20 306 P **P** 21 35 43.0 +2.1
ASUD Al Ashush, Dub 57.22 304 *i* P **P** 21 35 42.9 +1.9
SNR=25
ASUD Al Ashush, Dub 57.22 304 P **P** 21 35 43.2 +2.1
SNR=9.2
JTM Tenmabayashi 57.40 32 P **P** 21 35 41.7 -0.3
JTM Tenmabayashi 57.40 32 P **P** 21 35 41.3 -0.7
ABPO Ambohimpanom 57.47 252 P **P** 21 35 42.9 -0.2
ABPO IAmb IAmb 21 35 46.1
comp=Z,58nm,1.1s
ABPO Ambohimpanom 57.47 252 P **P** 21 35 42.9 -0.2
ABPO pmax pmax
comp=Z,58nm,1.1s
ABPO Ambohimpanom 57.47 252 P **P** 21 35 44.6 +1.5
OPO Ambohidratompo 57.47 252 LR LR 21 54 43.6
comp=Z,145nm,20.8s,baz=238,slow=30
AJN Ajban 57.48 304 *i* P **P** 21 35 43.9 +1.1
SNR=10
AJN Ajban 57.48 304 P **P** 21 35 44.3 +1.5
SNR=7.6
DZA Taraz 57.67 331 *e*P **P** 21 35 43.4 -0.5
baz=331
DZA Taraz 57.67 331 *e*P **P** 21 35 43.4 -0.5
IUG Iuzhnay 57.75 330 *e*P **P** 21 35 44.4 -0.2
comp=Z,30nm,1.0s,baz=330
IUG Iuzhnay 57.75 330 *e*P **P** 21 35 44.3 -0.2
IUG pmax pmax
comp=Z,30nm,1.0s
MOY Mondy 57.82 357 *e*P **P** 21 35 44.6 -0.3
MOY pmax pmax
comp=Z,41nm,2.2s
MZR Muzera 58.09 302 *i* P **P** 21 35 48.5 +1.3
SNR=34
MZR Muzera 58.09 302 P **P** 21 35 49.1 +1.9
SNR=11
BTLS Baital 58.12 335 *e*P **P** 21 35 46.1 -0.9
baz=334
BTLS Baital 58.12 335 *e*P **P** 21 35 46.0 -0.9
VOI Vohitsoka 58.15 248 P **P** 21 35 49.8 +2.0
VOI Vohitsoka 58.15 248 P **P** 21 35 47.6 -0.3
VOI IAmb IAmb 21 35 50.5
comp=Z,49nm,0.9s
VOI Vohitsoka 58.15 248 P **P** 21 35 49.7 +1.8
KK31 Karatay Array 58.22 331 P **P** 21 35 46.8 -1.0
KK31 IAmb IAmb 21 36 32.0
comp=Z,42nm,1.8s
KK31 Karatay Array 58.22 331 P **P** 21 35 46.8 -1.0
KK31 pmax pmax
comp=Z,42nm,1.8s
KKAR Karatay Array 58.22 331 P **P** 21 35 46.7 -1.1
KKAR IAmb IAmb 21 36 32.0
comp=Z,41nm,1.8s
KKAR Karatay Array 58.22 331 P **P** 21 35 46.7 -1.1
KKAR pmax pmax
comp=Z,41nm,1.8s
IRK Irkutsk 58.30 360 *e*P **P** 21 35 47.0 -1.1
IRK *e* 21 45 31.2
IRK pmax pmax
comp=Z,51nm,2.2s
FOMA Nahampoana Res 58.37 245 P **P** 21 35 48.0 -1.2
FOMA Nahampoana Res 58.37 245 P **P** 21 35 51.7 +2.6
BRLS Boroldav 58.50 330 *e*P **P** 21 35 48.4 -1.4
comp=Z,21nm,1.1s,baz=330
BRLS Boroldav 58.50 330 *e*P **P** 21 35 48.3 -1.4
BRLS pmax pmax
comp=Z,21nm,1.1s
GHWR Ruwais 58.98 303 P **P** 21 35 55.8 +2.4
KOUNC Koumac, New Ca 59.16 110 P **P** 21 35 55.8 +1.1
KOUNC Koumac, New Ca 59.16 110 P **P** 21 35 55.0 +0.3
KOUNC IAmb IAmb 21 36 15.6
comp=Z,27nm,0.9s
ERM Erimo 59.38 32 P **P** 21 35 55.3 -0.5
ERM Erimo 59.38 32 P **P** 21 35 55.1 -0.5
ERM IAmb IAmb 21 36 18.4
comp=Z,94nm,1.8s
ERM Erimo 59.38 32 P **P** 21 35 55.2 -0.5
ERM pmax pmax
comp=Z,94nm,1.8s
JEM Erimo 59.38 32 P **P** 21 35 55.5 -0.2
JRN Qarnain Island 59.40 304 P **P** 21 35 58.3 +2.1

HEH HeiHe 59.58 17 *e*P **P** 21 35 56.6 -0.4
HEH ScP **ScP** 21 40 38.8 -0.6
HEH S **S** 21 43 58.0 -4.4
HEH pmax pmax
comp=Z,30nm,0.5s
HEH pmax pmax
comp=Z,210nm,6.8s
HEH LR LR
comp=Z,400nm,19.8s
HEH LR LR
comp=Z,390nm,18.6s
HEH LR LR
comp=Z,820nm,16.6s
CASY Casey 60.02 177 P **P** 21 36 00.2 +0.4
CASY IAmb IAmb 21 36 01.9
comp=Z,45nm,1.2s
CASY Casey 60.02 177 P **P** 21 36 00.2 +0.4
CASY pP **pP** 21 36 15.0 -0.9
KLR Kul'dur 60.04 20 LR LR 22 03 29.8
comp=Z,306nm,18.3s,baz=217,slow=38
KLR Kul'dur 60.04 20 *ce*P **P** 21 35 59.5 -0.7
KLR pmax pmax
comp=Z,42nm,1.7s
SEM Semipalatinsk 60.37 342 *e*P **P** 21 36 01.8 -0.9
baz=342
SEM Semipalatinsk 60.37 342 *e*P **P** 21 36 01.7 -0.9
H04N2 CROZET ISLANDS 60.48 220 T T 22 41 51.8
baz=66,slow=75,SNR=2226
H04N1 CROZET ISLANDS 60.49 220 T T 22 41 52.1
baz=66,slow=75,SNR=1830
H04N3 CROZET ISLANDS 60.50 220 T T 22 41 45.3
baz=66,slow=75,SNR=1888
ASAJ Asahikawa 60.57 30 P **P** 21 36 03.3 -0.6
ASAJ pmax pmax
comp=Z,42nm,1.4s
JKA Kamikawa-asahi 60.57 30 P **P** 21 36 03.3 -0.6
JKA IAmb IAmb 21 36 04.1
comp=Z,42nm,1.4s
H04S1 CROZET ISLANDS 60.69 219 T T 22 41 57.8
baz=65,slow=76,SNR=148
H04S3 CROZET ISLANDS 60.70 219 T T 22 41 57.2
baz=65,slow=76,SNR=163
H04S2 CROZET ISLANDS 60.70 219 T T 22 41 57.3
baz=65,slow=76,SNR=156
KURBB Kurchatov Arra 61.09 341 P **P** 21 36 07.2 -0.1
comp=Z,4.5nm,0.5s,baz=152,slow=6.4,SNR=70
KURBB LR LR 22 06 42.4
comp=Z,319nm,20.8s,baz=150,slow=40
comp=Z,4.5nm,0.5s
KURK Kurchatov 61.14 341 P **P** 21 36 07.3 -0.3
KURK IAmb IAmb 21 36 39.9
comp=Z,37nm,1.1s
KURK Kurchatov 61.14 341 *ce*P **P** 21 36 07.4 -0.3
KURK pmax pmax
comp=Z,40nm,1.7s
KURK Kurchatov 61.14 341 P **P** 21 36 07.4 -0.3
NOUC Port Laguerre 61.16 112 P **P** 21 36 08.7 +0.3
NOUC pP **pP** 21 36 24.4 -0.5
DZM Mont Dzumac 61.29 112 P **P** 21 36 10.0 +0.6
DZM Mont Dzumac 61.29 112 *e*P **P** 21 36 09.7 +0.3
comp=Z,47nm,1.2s
DZM *e*S **S** 21 44 28.0 +2.5
comp=Z,194nm,24.7s
DZM *e*SS **SS** 21 48 20.4 -6.5
comp=Z,177nm,24.4s
DZM *e*LR LR 21 54 24.2
comp=Z,650nm,26.8s
DZM Mont Dzumac 61.29 112 P **P** 21 36 09.4 0.0
ONTNC Ouen Toro 61.32 112 P **P** 21 36 09.4 0.0
OUENC Ouen Island, N 61.69 112 P **P** 21 36 13.0 +1.1
OUENC Ouen Island, N 61.69 112 P **P** 21 36 12.1 +0.2
OUENC IAmb IAmb 21 36 57.2
comp=Z,98nm,1.7s
GEYT Alibeck 61.87 319 P **P** 21 36 13.0 +0.1
GEYT Alibeck 61.87 319 P **P** 21 36 13.2 +0.3
comp=Z,8.3nm,0.4s,baz=139,slow=7.0,SNR=55
GEYT LR LR 22 05 07.0
comp=Z,237nm,21.0s,baz=132,slow=38
comp=Z,8.3nm,0.4s
GYA0B ALIBECK ARRAY 61.87 319 P **P** 21 36 12.9 0.0
GYA0B IAmb IAmb 21 36 35.1
comp=Z,63nm,1.1s
LIFNC LIFOU 61.93 110 P **P** 21 36 12.8 -0.8
ZAA0 Zalesovo Array 62.35 347 P **P** 21 36 14.1 -1.6
ZAA0 IAmb IAmb 21 36 52.7
comp=Z,33nm,1.1s
ZALV Zalesovo Beam 62.35 347 P **P** 21 36 14.1 -1.6
ZALV Zalesovo Beam 62.35 347 P **P** 21 36 14.4 -1.3
comp=Z,16nm,0.3s,baz=155,slow=5.7,SNR=66
ZALV LR LR 22 05 52.7
comp=Z,1µm,19.9s,baz=144,slow=38
comp=Z,16nm,0.3s
ZALV Zalesovo Beam 62.35 347 *i* P **P** 21 36 14.3 -1.4
ZALV pmax pmax
comp=Z,17nm,0.3s
BRZS Berezniki 62.63 337 *e*P **P** 21 36 17.3 -0.5
baz=337
BRZS Berezniki 62.63 337 *e*P **P** 21 36 17.2 -0.5
ZEA Zeya 62.69 15 *e*P **P** 21 36 18.3 +0.3
ZEA pmax pmax
comp=N,100nm,2.0s
ZEA pmax pmax
comp=Z,100nm,2.3s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA MLR MLR
comp=N,200nm,16.0s
YSS Yuzh-Sakhalins 62.70 28 P **P** 21 36 17.0 -1.2
YSS IAmb IAmb 21 36 19.2
comp=Z,82nm,1.2s
YSS Yuzh-Sakhalins 62.70 28 *e*P **P** 21 36 17.9 -0.3
YSS *e*S **S** 21 44 41.0 -1.1
YSS pmax pmax
comp=Z,30nm,1.1s
GRNR Gornyy 62.98 22 ⇑ *i* P **P** 21 36 19.7 -0.3
GRNR pmax pmax
comp=Z,10.0nm,1.2s
GRNR MLR MLR
comp=Z,180nm,15.0s
BOD Bodaibo 64.31 5 *e*P **P** 21 36 27.6 -1.0
BOD pmax pmax
comp=Z,27nm,1.8s
DRV Dumont d'Urvil 64.93 165 P **P** 21 36 32.6 +0.1
RAYN Ar Rayn 65.10 299 P **P** 21 36 34.5 0.0
RAYN IAmb IAmb 21 36 52.3
comp=Z,51nm,1.1s
RAYN Ar Rayn 65.10 299 *i* P **P** 21 36 35.2 +0.7
SNR=6.3
RAYN Ar Rayn 65.10 299 P **P** 21 36 35.4 +0.9
RAYN Ar Rayn 65.10 299 P **P** 21 36 35.2 +0.7
RAYN pP **pP** 21 36 50.5 -0.7
WAKE Wake Island 65.85 66 P **P** 21 36 40.0 +0.7
BVAR Borovoye Array 65.92 338 P **P** 21 36 38.5 -0.6
comp=Z,12nm,0.5s,baz=138,slow=8.2,SNR=42
BVAR LR LR 22 07 38.3
comp=Z,400nm,21.7s,baz=145,slow=38
comp=Z,12nm,0.5s
BRVK Borovoye 65.98 338 P **P** 21 36 38.5 -1.1
BRVK Borovoye 65.98 338 *ce*P **P** 21 36 39.3 -0.3
BRVK pmax pmax
comp=Z,35nm,1.7s
BRVK Borovoye 65.98 338 P **P** 21 36 39.1 -0.5
BRVK pP **pP** 21 36 54.9 -1.3
KIBK Kibwezi 66.77 270 P **P** 21 36 44.2 -1.3
MAW Mawson 67.47 196 P **P** 21 36 49.7 +1.0
comp=Z,23nm,1.0s,baz=35,slow=8.6,SNR=19
MAW LR LR 22 00 08.3
comp=Z,602nm,21.9s,baz=43,slow=30
comp=Z,23nm,1.0s
ABKAR Akbulak array 67.75 330 P **P** 21 36 50.6 -0.3
ABKAR Akbulak array 67.75 330 P **P** 21 36 50.6 -0.3
ABKAR IAmb IAmb 21 36 52.1
comp=Z,122nm,1.0s
LKRN Lenkeran, Azer 68.56 316 P **P** 21 36 57.7 +1.6
AKTO Aktyubinsk 69.47 330 LR LR 22 11 13.8
comp=Z,276nm,20.3s,baz=136,slow=39
CCD Concordia, Ant 69.58 175 P **P** 21 37 03.8 +1.4
LODK Lodwar 70.12 276 P **P** 21 37 06.8 +0.4
LODK Lodwar 70.12 276 P **P** 21 37 09.2 +2.7
SNR=5.9
YAK Yakutsk 70.75 12 P **P** 21 37 08.1 -1.0
YAK IAmb IAmb 21 37 09.3
comp=Z,117nm,1.2s
YAK Yakutsk 70.75 12 LR LR 22 10 21.2
comp=Z,321nm,20.5s,baz=217,slow=38
YAK Yakutsk 70.75 12 *e*P **P** 21 37 07.8 -1.3

YAK e*PP PcP 21 37 29.8 +0.3
YAK ePPP PPP 21 41 28.7
YAK eS S 21 46 15.1 -3.6
YAK e*SS SKiKP 21 46 53.3 +6.8
YAK e 21 47 03.8
YAK eSS SS 21 50 49.4 -2.7
YAK pmax pmax
comp=Z,90nm,1.3s
YAK pmax pmax
comp=N,33nm,1.4s
YAK pmax pmax
comp=E,28nm,1.6s
YAK smax smax
comp=E,55nm,2.0s
YAK smax smax
comp=N,52nm,3.7s
YAK Yakutsk 70.75 12 P P 21 37 08.2 -0.9
SEKA Sheki 70.78 318 P P 21 37 10.9 +1.0
NAX Nakhchivan 71.06 315 P P 21 37 13.0 +1.4
GANJ Ganja 71.12 317 P P 21 37 13.4 +1.5
ZKTA Zakatala 71.36 318 P P 21 37 14.8 +1.5
MAK Makhachkala 71.39 319 eP P 21 37 11.6 -1.8
MAK e*SP PcP 21 37 36.8 +4.1
MAK e 21 39 52.0
MAK eS S 21 46 24.4 -2.5
MAK e*SS sS 21 46 53.2 -2.3
MAK eSS SS 21 51 02.6 -0.1
MAK pmax pmax
comp=Z,354nm,1.4s
BKZ Black Stump Fm 71.78 129 P P 21 37 15.9 -0.1
BKZ IAmb IAmb 21 37 21.3
comp=Z,42nm,0.6s
SKR Severo-Kuril's 71.79 31ceP P 21 37 17.1 +1.5
GNI Garni 72.00 316 P P 21 37 17.4 0.0
GNI IAmb IAmb 21 37 48.4
comp=Z,51nm,1.2s
GNI Garni 72.00 316 P P 21 37 17.5 +0.1
GNI Garni 72.00 316 P P 21 37 18.6 +1.3
comp=Z,41nm,1.3s,baz=117,slow=2.3,SNR=6.3
comp=Z,41nm,1.3s
GNI Garni 72.00 316 P P 21 37 19.2 +1.9
GNI Garni 72.00 316ceP P 21 37 19.8 +2.4
GNI pmax pmax
comp=Z,35nm,1.3s
GNI Garni 72.00 316 P P 21 37 18.4 +1.0
comp=Z,27nm,0.8s
MSVF Nonsavu 72.06 107 P P 21 37 19.1 +1.0
MSVF Nonsavu 72.06 107 P P 21 37 17.5 -0.6
MSVF IAmb IAmb 21 39 41.3
comp=Z,120nm,2.0s
MSVF Nonsavu 72.06 107 P P 21 37 17.5 -0.6
MSVF pmax pmax
comp=Z,120nm,2.0s
URZ Urewera 72.16 128 LR LR 22 09 54.2
comp=Z,561nm,20.6s,baz=30,slow=36
POGA Pongola 72.25 243 P P 21 37 19.1 +0.1
SVE Sverdlovsk 72.52 336di P 21 37 20.4 +0.5
SVE pmax pmax
comp=Z,116nm,1.4s
TRLG Trialeti 73.02 317 P P 21 37 22.9 -0.5
MXZ Matakaoa Point 73.03 127 P P 21 37 24.2 +0.8
ARU Arti 73.10 335 P P 21 37 23.1 -0.3
ARU IAmb IAmb 21 37 24.8
comp=Z,84nm,1.2s
ARU Arti 73.10 335 LR LR 22 13 53.9
comp=Z,221nm,19.0s,baz=139,slow=39
ARU Arti 73.10 335ceP P 21 37 23.7 +0.4
ARU pmax pmax
comp=Z,123nm,1.7s
ARU Arti 73.10 335 P P 21 37 23.0 -0.3
comp=Z,64nm,1.3s,comp=Z,854nm
GUDG Gudauri 73.16 318 P P 21 37 26.4 +2.1
GURO Guroymak-BITLI 73.28 313 P P 21 37 25.8 +0.8
GURO IAmb IAmb 21 37 45.1
comp=Z,198nm,2.0s
KARS Kars 73.35 316 P P 21 37 25.7 +0.3
KARS Kars 73.35 316 P P 21 37 25.7 +0.3
KARS pmax pmax
comp=Z,170nm,1.0s
ONI Oni 73.90 318 P P 21 37 29.1 +0.7
ONI Oni 73.90 318 P P 21 37 29.1 +0.7
ONI pmax pmax
comp=Z,26nm,1.1s
PEA0B Petropavlovsk- 73.99 30 P P 21 37 28.0 -0.6
PEA0B IAmb IAmb 21 37 53.0
comp=Z,53nm,1.2s
PEA0B Petropavlovsk- 73.99 30ceP P 21 37 29.1 +0.5
PETK Petropavlovsk- 73.99 30 P P 21 37 27.6 -1.0
PETK Petropavlovsk- 73.99 30 P P 21 37 27.9 -0.7
comp=Z,2.1nm,0.4s,baz=250,slow=1.3,SNR=24
PETK LR LR 22 09 46.1
comp=Z,152nm,21.9s,baz=231,slow=36
comp=Z,2.1nm,0.4s
MBAR Mbarara 74.22 271 P P 21 37 31.1 0.0
MBAR Mbarara 74.22 271 LR LR 22 05 01.9
comp=Z,414nm,21.4s,baz=79,slow=32
MBAR Mbarara 74.22 271 P P 21 37 32.8 +1.8
MBAR Mbarara 74.22 271ceP P 21 37 32.9 +1.8
MBAR pmax pmax
comp=Z,43nm,1.3s
PET Petropavlovsk 74.42 30 P P 21 37 31.3 +0.2
PET Petropavlovsk 74.42 30 P P 21 37 30.1 -1.0
PET IAmb IAmb 21 37 32.0
comp=Z,66nm,1.0s
PET Petropavlovsk 74.42 30ceP P 21 37 31.5 +0.4
PET pmax pmax
comp=Z,105nm,1.7s
BCA Borcka 74.69 316 ⇓P P 21 37 34.3 +1.3
BATM Batumi 74.70 316 P P 21 37 34.0 +1.0
KBZ Khabaz 74.74 318 P P 21 37 33.6 +0.4
comp=Z,16nm,1.1s,baz=119,slow=4.7,SNR=23
comp=Z,16nm,1.1s
KBZ Khabaz 74.74 318ceP P 21 37 34.6 +1.4
KBZ pmax pmax
comp=Z,41nm,1.1s
SHA1 Shidzhatmaz 74.91 318ceP P 21 37 36.2 +1.7
KIV Kislovodsk 74.98 319 ⇓P P 21 37 36.0 +1.3
KIV Kislovodsk 74.98 319 P P 21 37 35.2 +0.5
KIV IAmb IAmb 21 37 53.0
comp=Z,83nm,1.4s
KIV Kislovodsk 74.98 319 iP P 21 37 35.6 +0.8
SNR=11
KIV Kislovodsk 74.98 319 P P 21 37 36.3 +1.6
KIV Kislovodsk 74.98 319 eP P 21 37 34.6 -0.1
KIV eS S 21 47 06.8 -1.0
KIV pmax pmax
comp=Z,19nm,1.1s
KIV Kislovodsk 74.98 319 P P 21 37 35.5 +0.8
comp=Z,33nm,1.3s,comp=Z,372nm
MA2 Magadan 75.00 22 P P 21 37 34.0 -0.4
MA2 Magadan 75.00 22 LR LR 22 12 48.7
comp=Z,153nm,19.7s,baz=241,slow=38
MA2 Magadan 75.00 22ceP P 21 37 35.2 +0.9
MA2 pmax pmax
comp=Z,45nm,1.7s
MATP Matopo 75.14 251 LR LR 22 07 35.0
comp=Z,149nm,18.1s,baz=62,slow=33
GOF Gofitskoye 75.20 320ceP P 21 37 36.7 +0.8
LSZ Lusaka 75.61 256 P P 21 37 38.8 -0.2
LSZ IAmb IAmb 21 37 41.4
comp=Z,50nm,1.1s
LSZ Lusaka 75.61 256 LR LR 22 05 47.8
comp=Z,710nm,21.9s,baz=103,slow=32
LSZ Lusaka 75.61 256 P P 21 37 40.4 +1.4
LSZ Lusaka 75.61 256 P P 21 37 38.8 -0.2
LSZ pmax pmax
comp=Z,50nm,1.1s
RAO Raoul Island 75.76 118 LR LR 22 11 46.1
comp=Z,302nm,19.9s,baz=116,slow=36
GHAJ Ghor Haditha 75.89 304 P P 21 37 40.6 +0.5
GHAJ IAmb IAmb 21 37 43.3
comp=Z,57nm,0.8s
BELG Belogornoye 75.92 328 LR LR 22 16 11.3
comp=Z,204nm,19.6s,baz=100,slow=40
EIL Elat 75.95 303 P P 21 37 42.2 +1.7
comp=Z,39nm,0.9s,baz=104,slow=1.4,SNR=29
comp=Z,39nm,0.9s
ARPR Arapgir-MALATY 76.17 313 P P 21 37 42.3 +0.6
ARPR IAmb IAmb 21 37 44.6
comp=Z,55nm,1.1s
GAZ Gaziantep 76.37 310 P P 21 37 43.1 +0.3
GAZ IAmb IAmb 21 37 45.5
comp=Z,47nm,0.8s
MMAI Mount Meron Ar 76.51 306 P P 21 37 46.2 +2.5
comp=Z,22nm,0.7s,baz=96,slow=7.6,SNR=47
comp=Z,22nm,0.7s
SOC Sochi 76.81 317 eP P 21 37 43.1 -1.9
SOC e*PP pP 21 37 59.9 -1.9
SOC e*SP sP 21 38 07.0 -1.5
SOC ePPP PPP 21 42 22.0
SOC eS S 21 47 25.4 -2.3
SOC e*SS pS 21 47 47.1 -1.7
SOC eSSS SSS 21 55 46.2
SOC pmax pmax
comp=Z,30nm,1.1s
VNDA Vanda 77.05 169 P P 21 37 46.6 +0.9
VNDA IAmb IAmb 21 37 48.0
comp=Z,52nm,1.4s
VNDA Vanda 77.05 169 P P 21 37 46.7 +0.9
comp=Z,15nm,0.9s,baz=310,slow=5.7,SNR=48
VNDA LR LR 22 06 50.5
comp=Z,330nm,20.5s,baz=323,slow=32
comp=Z,15nm,0.9s
LBTB Lobatse 77.72 246 P P 21 37 50.5 -0.2
LBTB IAmb IAmb 21 37 53.1
comp=Z,58nm,1.0s
LBTB Lobatse 77.72 246 LR LR 22 06 26.7
comp=Z,205nm,21.6s,baz=97,slow=31
LBTB Lobatse 77.72 246 P P 21 37 50.5 -0.2
LBTB pmax pmax
comp=Z,58nm,1.0s
SEY Seymchan 77.83 20 LR LR 22 13 26.8
comp=Z,223nm,20.7s,baz=234,slow=37
SEY Seymchan 77.83 20ceP P 21 37 50.6 +0.3
SEY pmax pmax
comp=Z,44nm,1.7s
BNN Bunyan 77.92 312 P P 21 37 51.7 +0.2
BOSA Boshof 77.97 242 P P 21 37 52.4 +0.3
BOSA IAmb IAmb 21 37 54.3
comp=Z,71nm,1.0s
BOSA Boshof 77.97 242 P P 21 37 53.1 +1.1
comp=Z,52nm,0.9s,baz=90,slow=5.3,SNR=40
BOSA LR LR 22 05 40.0
comp=Z,404nm,21.5s,baz=85,slow=30
comp=Z,52nm,0.9s
SBA Scott Base 78.13 169 P P 21 37 52.7 +0.9
SBA IAmb IAmb 21 37 55.0
comp=Z,48nm,1.4s
SBA Scott Base 78.13 169 P P 21 37 52.7 +0.9
SBA pmax pmax
comp=Z,49nm,1.4s
KIRV Kirov 78.33 334 LR LR 22 16 04.8
comp=Z,159nm,19.8s,baz=127,slow=38
KIRV Kirov 78.33 334ceP P 21 37 53.9 +0.8
VRH Novokhopyorsk 78.61 325 eP P 21 37 54.3 -0.5
VRH pmax pmax
comp=Z,120nm,1.8s
CSS Mathiatis 78.71 307 P P 21 37 56.7 +0.9
CSS Mathiatis 78.71 307 P P 21 37 56.1 +0.3
comp=Z,140nm,1.0s,comp=Z,1µm
DIKM Dikmen 79.23 314 ⇓P P 21 37 60.0 +1.5
DIKM Dikmen 79.23 314 P P 21 37 59.5 +1.0
TIXI Tiksi 79.36 8 P P 21 37 57.0 -1.5
TIXI IAmb IAmb 21 37 58.6
comp=Z,56nm,1.5s
TIXI Tiksi 79.36 8 LR LR 22 16 30.8
comp=Z,507nm,18.9s,baz=226,slow=38
TIXI Tiksi 79.36 8 ⇑iP P 21 37 57.0 -1.5
TIXI pmax pmax
comp=Z,40nm,1.5s
BR131 Keskin Array S 79.82 312 P P 21 38 02.0 +0.1
BR131 IAmb IAmb 21 38 03.7
comp=Z,34nm,0.8s
BR131 Keskin Array S 79.82 312 iP P 21 38 02.9 +1.0
BRTR Keskin Array B 79.82 312 P P 21 38 01.8 -0.1
BRTR Keskin Array B 79.82 312 P P 21 38 02.0 +0.1
comp=Z,20nm,0.7s,baz=133,slow=7.0,SNR=98
BRTR LR LR 22 15 36.6
comp=Z,166nm,20.8s,baz=105,slow=37
comp=Z,20nm,0.7s
VORD Divnogorie 79.91 324 eP P 21 38 01.1 -0.8
VORD pmax pmax
comp=Z,50nm,1.6s
VSR Storozhevoye 80.08 324 eP P 21 38 01.6 -1.3
VSR pmax pmax
comp=Z,40nm,1.0s
VORR Voronezh 80.24 325 eP P 21 38 02.5 -1.2
VORR eS S 21 47 58.7 -5.4
VORR pmax pmax
comp=Z,25nm,0.7s
VORR smax smax
comp=N,110nm,1.5s
ANTO Ankara 80.48 312 ⇑P P 21 38 06.0 +0.6
ANTO Ankara 80.48 312 P P 21 38 05.3 -0.1
ANTO IAmb IAmb 21 38 07.7
comp=Z,52nm,1.1s
ANTO Ankara 80.48 312 P P 21 38 06.3 +0.9
ANTO Ankara 80.48 312 P P 21 38 06.0 +0.6
ANTO Ankara 80.48 312 P P 21 38 05.2 -0.2
comp=Z,24nm,1.2s
BR231 Keskin MP Arra 80.49 312 P P 21 38 05.4 -0.1
BR231 IAmb IAmb 21 38 07.8
comp=Z,38nm,0.9s
LPSR Galich'ya Gora 80.76 326 eP P 21 38 06.2 -0.3
LPSR pmax pmax
comp=Z,70nm,1.5s
SIM Simferopol' 81.05 317 eP P 21 38 08.1 -0.1
SIM eS S 21 48 12.6 -0.3
SIM pmax pmax
comp=Z,73nm,1.0s
ELIB Princess Elisa 81.45 198 dP P 21 38 09.6 -0.5
comp=Z,27nm,1.2s
ISP Isparta 81.65 310 P P 21 38 12.1 +0.4
ISP IAmb IAmb 21 38 33.7
comp=Z,25nm,0.8s
ISP Isparta 81.65 310 P P 21 38 12.1 +0.4
ISP pmax pmax
comp=Z,25nm,0.8s
SUR Sutherland 81.71 238 P P 21 38 13.2 +0.9
SUR Sutherland 81.71 238 LR LR 22 07 17.1
comp=Z,516nm,21.9s,baz=100,slow=30
SUR Sutherland 81.71 238 P P 21 38 15.2 +2.9
MDUB Mudurnu 81.82 312 P P 21 38 13.0 +0.5
ELL Elmali 81.86 308 P P 21 38 13.0 +0.1
ELL Elmali 81.86 308 P P 21 38 13.0 +0.1
ELL pmax pmax
comp=Z,704nm,2.0s
SHEM Shemya Is, Ala 82.61 35 LR LR 22 15 04.2
comp=Z,28nm,20.7s,baz=286,slow=36
MOS Moscow 82.69 328 eP P 21 38 16.7 +0.2
MOS eS S 21 48 25.4 -3.8
MOS pmax pmax
comp=Z,300nm,1.7s
MOS pmax pmax
comp=Z,173nm,1.5s
OBN Obninsk 83.01 327 ⇓P P 21 38 19.7 +1.5
OBN Obninsk 83.01 327 P P 21 38 18.8 +0.6
OBN Obninsk 83.01 327ci P P 21 38 19.1 +0.8
OBN i 21 41 28.7
OBN pmax pmax
comp=Z,88nm,1.3s
OBN Obninsk 83.01 327 P P 21 38 19.0 +0.8
comp=Z,81nm,1.7s,comp=Z,1µm
ARG Arkhangelos 83.13 308 P P 21 38 20.1 +0.8
ARG Arkhangelos 83.13 308 P P 21 38 20.1 +0.8
ARG pmax pmax
comp=Z,100nm,1.1s
ISK Istanbul-Kandi 83.55 312 P P 21 38 22.5 +1.2
ISK pmax pmax
comp=Z,96nm,1.1s
QSPA South Pole Qui 83.70 180 P P 21 38 22.1 +0.2
QSPA IAmb IAmb 21 38 23.8
comp=Z,37nm,1.1s
QSPA South Pole Qui 83.70 180 P P 21 38 21.9 +0.1
comp=Z,32nm,1.1s,baz=319,slow=3.1,SNR=36
QSPA LR LR 22 10 44.0
comp=Z,573nm,21.4s,baz=322,slow=32
comp=Z,32nm,1.1s
KARP Karpathos 83.75 307 P P 21 38 23.7 +1.1
KARP Karpathos 83.75 307 P P 21 38 23.5 +0.9
comp=Z,345nm,1.0s,comp=Z,3µm
KLMR Klimovskoe 83.81 333 eP P 21 38 20.4 -1.8
KLMR eS SKSac 21 48 37.1 -2.5
KLMR pmax pmax
comp=Z,212nm,1.3s
BALB Balikesir 84.09 311 P P 21 38 24.6 +0.4
PURM Purcari 84.35 318 ⇑P P 21 38 26.6 +1.3
TLCR 84.73 316 ⇓P P 21 38 29.0 +1.7
TLCR 84.73 316 P P 21 38 28.9 +1.7
TLBR Topalu 85.10 316 ⇓P P 21 38 30.6 +1.5
MILM Milestii Mici 85.16 318 ⇑P P 21 38 30.3 +0.9
MILM Milestii Mici 85.16 318 PM 21 38 21.0
comp=Z,180nm,1.3s
MILM Milestii Mici 85.16 318 ⇓iP P 21 38 29.7 +0.4
MILM i pP 21 38 45.0 -1.5
MILM Milestii Mici 85.16 318di P 21 38 29.7 +0.4
MILM i 21 38 54.0
MILM pmax pmax
comp=Z,180nm,1.3s
ICOR Ion Corvin 85.17 315 ⇓P P 21 38 31.2 +1.7
KIS Kishinev 85.17 318 eP P 21 38 29.7 +0.3
KIS Kishinev 85.17 318 PM1 21 38 31.5
comp=Z,90nm,1.8s
KIS Kishinev 85.17 318 PM2 21 38 34.0
KIS comp=Z,180nm,6.0s
KIS i pP pP 21 38 45.0 -1.6
KIS Kishinev 85.17 318 eP P 21 38 29.7 +0.3
KIS pmax pmax
comp=Z,90nm,1.8s
CFR Carcaliu 85.19 316 ⇓P P 21 38 31.2 +1.6
CFR Carcaliu 85.19 316 P P 21 38 31.1 +1.6
HARR Harsova 85.22 316 ⇓P P 21 38 31.4 +1.7
HARR Harsova 85.22 316 P P 21 38 31.4 +1.7
PRD Provadia 85.23 314 P P 21 38 31.4 +1.6
APE Apeiranthos 85.35 308 ⇓P P 21 38 31.9 +1.3
APE Apeiranthos 85.35 308 P P 21 38 31.9 +1.3
VLDR Vladesti 85.39 317 ⇑P P 21 38 32.3 +1.8
LEOM Leova 85.43 318 ⇑P P 21 38 31.9 +1.2
LEOM Leova 85.43 318 P P 21 38 31.9 +1.2
TSUM Tsumeb 85.46 251 P P 21 38 32.3 +0.6
TSUM IAmb IAmb 21 38 34.4
comp=Z,32nm,1.1s
TSUM Tsumeb 85.46 251 LR LR 22 11 01.9
comp=Z,571nm,21.8s,baz=85,slow=32
BILL Bilibino 85.49 19 ⇑eP P 21 38 30.3 -0.3
BILL pmax pmax
comp=Z,36nm,1.7s
IDI Anoyia 85.52 306 P P 21 38 32.1 +0.6
IDI IAmb IAmb 21 38 34.5
comp=Z,42nm,0.8s
ADZR Andozero 85.60 336 eP P 21 38 31.8 +0.6
ADZR pmax pmax
comp=Z,99nm,1.5s
WIN Windhoek 85.62 248 P P 21 38 33.1 +0.6
WIN IAmb IAmb 21 38 35.5
comp=Z,30nm,0.9s
WIN Windhoek 85.62 248 P P 21 38 33.1 +0.6
WIN pmax pmax
comp=Z,30nm,0.9s
JMB Yambol 85.71 313 iP P 21 38 33.6 +1.4
SORM Soroca 85.76 319 ⇓P P 21 38 33.6 +1.2
SORM Soroca 85.76 319 P P 21 38 33.5 +1.2
SORM Soroca 85.76 319 P P 21 38 33.0 +0.7
VASR Vaslui 85.77 318 ⇑P P 21 38 34.1 +1.7
AK09 Malin Array Si 85.80 322 P P 21 38 32.3 -0.1
AK10 Malin Array Si 85.81 322 P P 21 38 32.6 +0.1
AK08 Malin Array Si 85.82 322 P P 21 38 32.3 -0.3
AKASG Malin Array Be 85.86 322 P P 21 38 33.0 +0.3
comp=Z,7.3nm,0.6s,baz=86,slow=4.5,SNR=67
comp=Z,7.3nm,0.6s
AKBB Malin Array Si 85.86 322 P P 21 38 32.6 -0.1
AKBB IAmb IAmb 21 38 34.4
comp=Z,27nm,0.9s
AKBB Malin Array Si 85.86 322ceP P 21 38 33.0 +0.3
AKBB Malin Array Si 85.86 322 P P 21 38 32.8 +0.1
KIEV Kiev 85.87 322 ⇓P P 21 38 33.6 +0.8
KIEV Kiev 85.87 322 P P 21 38 32.6 -0.2
KIEV IAmb IAmb 21 38 34.3
comp=Z,26nm,0.9s
KIEV Kiev 85.87 322 iP P 21 38 32.9 +0.1
SNR=16
KIEV Kiev 85.87 322 P P 21 38 33.5 +0.8
KIEV Kiev 85.87 322 P P 21 38 32.6 -0.2
comp=Z,147nm,1.1s
GHRR 85.89 317 ⇓P P 21 38 34.5 +1.4
RAZG Razgrad 85.96 314 ⇓P P 21 38 34.5 +1.0
IAS Iasi 86.06 318 P P 21 38 34.9 +1.1
IAS pmax pmax
comp=Z,82nm,0.7s
RDO Rodhopi 86.16 312 P P 21 38 34.9 +0.4
RDO IAmb IAmb 21 38 36.7
comp=Z,23nm,1.0s
ELND Elena 86.28 314 ⇓P P 21 38 36.1 +1.0
VRI Vrincioaia 86.31 317 ⇑P P 21 38 37.0 +1.8
VRI Vrincioaia 86.31 317 P P 21 38 37.0 +1.8
VRI Vrincioaia 86.31 317 P P 21 38 36.5 +1.3
PLOR5 Plostina Array 86.35 317 P P 21 38 37.0 +1.6
PLOR Plostina 86.36 317 ⇑P P 21 38 37.5 +2.0
PLOR Plostina 86.36 317 P P 21 38 37.4 +2.0
PLOR3 Plostina Array 86.37 317 P P 21 38 36.9 +1.4
SULR 86.38 315 ⇓P P 21 38 37.8 +2.4
NDNU Novodnistrovsk 86.51 319 P P 21 38 35.9 -0.1
TESR Tescani 86.51 317 ⇓P P 21 38 38.4 +2.3
TESR Tescani 86.51 317 P P 21 38 36.8 +0.7
LUBAR Lubar, Ukraine 86.57 321 P P 21 38 36.4 +0.1
MI29 MI29, Kamyanyy 86.64 321 P P 21 38 36.3 -0.3
COVR Voineasa-Covas 86.67 317 ⇓P P 21 38 37.8 +0.9
MLR Muntele Rosu 86.77 316 ⇓P P 21 38 39.9 +2.3
MLR Muntele Rosu 86.77 316 P P 21 38 38.4 +0.9
MLR Muntele Rosu 86.77 316 P P 21 38 39.8 +2.3
MLR Muntele Rosu 86.77 316 P P 21 38 38.8 +1.3
ZIMR 86.79 314 ⇓P P 21 38 39.3 +1.8
ZIMR 86.79 314 P P 21 38 39.3 +1.8
TURR Turia 86.84 317 ⇑P P 21 38 39.3 +1.5
MI28 Mi28,Pidlybu 86.87 322 P P 21 38 37.4 -0.3
PRAR RASCA 86.98 318 ⇑P P 21 38 39.1 +0.7
COPA Copaceanca 86.99 315 ⇓P P 21 38 39.4 +1.0
OZUR 87.00 317 ⇓P P 21 38 40.2 +1.7
KMPD K-Podol'skiy 87.09 319 P PcP 21 38 39.1 -1.8
KMPD P P 21 38 38.7 -0.1
HUMR Humele 87.24 315 ⇓P P 21 38 41.3 +1.7
DOPR Dopca 87.25 317 ⇓P P 21 38 40.8 +1.1
HORU Horodok 87.25 320 P P 21 38 40.4 +0.8
VOIR 87.37 316 ⇓P P 21 38 41.5 +1.1
VOIR 87.37 316 P P 21 38 41.5 +1.1
VOIR 87.37 316 P P 21 38 40.9 +0.5
MMB Musomishta 87.56 312 iP P 21 38 41.8 +0.5
MNK Minsk 87.61 325 iP P 21 38 42.1 +0.9
MNK i*SP sP 21 39 12.6 +7.4
MNK iPPP PPP 21 44 03.5
MNK iS SKSac 21 49 02.0 -1.7
MNK pmax pmax
comp=Z,70nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=E,22nm,1.0s
BURAR Bucovina Array 87.70 318 ⇑P P 21 38 44.3 +2.3
BURAR Bucovina Array 87.70 318 P P 21 38 43.4 +1.4
BURAR Bucovina Array 87.70 318 P P 21 38 44.2 +2.3
BUR08 Bucovina Ar. S 87.72 318 P P 21 38 43.3 +1.2
PUL Pulkovo 87.72 331ceP P 21 38 43.7 +2.1
PUL pmax pmax
comp=Z,47nm,0.6s
MPEP Malo Peshtene 87.89 314 P P 21 38 44.4 +1.6
KSV Kosov 87.94 319 P P 21 38 43.9 +0.9
KSV Kosov 87.94 319 P P 21 38 43.0 0.0
TGMR Targu Mures 87.95 317 ⇓P P 21 38 45.2 +2.1
RNPP5 Staryi Chortor 88.03 322 P P 21 38 43.1 -0.2
KKB Krupnik 88.07 312 iP P 21 38 44.8 +1.1
RNPP9 Sopachiv 88.07 322 P P 21 38 42.9 -0.6
RNPP8 Varash 88.08 322 P P 21 38 43.1 -0.4
VTS Vitosha 88.13 313 iP P 21 38 45.7 +1.5
ARCR ARCALIA 88.17 318 ⇓P P 21 38 45.9 +1.9
VALD Valchedram 88.17 314 P P 21 38 46.1 +2.0
JOF Joensuu 88.18 334 eP P 21 38 44.7 +1.0
AGG Agios Georgios 88.19 309 P P 21 38 44.3 -0.1
AGG IAmb IAmb 21 38 46.2
comp=Z,28nm,1.2s
AGG Agios Georgios 88.19 309 P P 21 38 44.3 -0.1
AGG pmax pmax
comp=Z,28nm,1.2s
LIT Litokhoron 88.25 310 P P 21 38 44.7 +0.1
LIT Litokhoron 88.25 310 P P 21 38 44.7 +0.1
LIT pmax pmax
comp=Z,106nm,0.9s
LOT Lotru 88.26 316 ⇑P P 21 38 45.8 +1.1
STNU Starunia 88.39 319 P P 21 38 45.3 +0.2
VAY Valandovo 88.39 312 iP P 21 38 46.1 +0.9
IDID Didziasalis 88.44 326 eP P 21 38 47.1 +2.0
LVZ Lovozero 88.49 339ceP P 21 38 46.7 +1.5
LVZ pmax pmax

comp=Z,26nm,1.0s
CJR Cluj-Napoca 88.61 317 ⇓P P 21 38 48.2 +2.0
CJR Cluj-Napoca 88.61 317 P P 21 38 48.2 +2.0
PUNG Punghina 88.63 315 ⇓P P 21 38 48.0 +1.7
BLKB Belogradchik 88.70 314 ⇓P P 21 38 47.5 +0.7
APA Apatity 88.82 339 ⇓*i*P P 21 38 46.5 -0.2
APA pmax pmax
comp=Z,16nm,1.1s
ISAL Salakas 88.84 326 *e*P P 21 38 50.4 +3.4
BMR Baia Mare 88.85 318 ⇓P P 21 38 47.8 +0.5
BMR Baia Mare 88.85 318 P P 21 38 47.7 +0.5
MORS Morshin 88.86 320 P P 21 38 48.9 +1.6
MORS Morshin 88.86 320 P P 21 38 48.9 +1.6
LVV L'vov 88.91 320 *e*P P 21 38 48.8 +1.3
MARR Marisel-Cluj 88.93 317 ⇓P P 21 38 50.0 +2.2
DEV Deva 88.94 316 ⇓P P 21 38 49.6 +1.9
DEV Deva 88.94 316 P P 21 38 49.6 +1.9
GZR Gura Zlata 88.94 316 ⇓P P 21 38 49.1 +1.2
GZR Gura Zlata 88.94 316 P P 21 38 49.0 +1.2
HERR Herculane 89.10 315 ⇑P P 21 38 50.0 +1.5
MESR Meseseni 89.12 317 ⇓P P 21 38 50.9 +2.4
VSU Vasula 89.17 329 *ce*P P 21 38 49.6 +1.1
VSU pmax pmax
comp=Z,49nm,0.7s
DRGR 89.22 317 ⇓P P 21 38 50.8 +1.6
DRGR 89.22 317 P P 21 38 50.7 +1.6
TRSU Trosnyk 89.29 318 P P 21 38 51.2 +1.9
SKO Skopje 89.33 312 *i*P P 21 38 50.2 +0.6
BOVS Bovan 89.40 314 ⇑P P 21 38 51.0 +1.1
SURR Surduc 89.45 316 ⇓P P 21 38 52.0 +1.9
MDVR Moldovita 89.58 315 ⇑P P 21 38 52.4 +1.6
SNAA Sanae 89.59 198 P P 21 38 51.3 +0.9
SNAA IAmb IAmb 21 38 53.8
comp=Z,53nm,1.3s
SNAA Sanae 89.59 198 ⇑P P 21 38 52.7 +2.3
comp=Z,162nm,0.6s
SNAA Sanae 89.59 198 P P 21 38 51.8 +1.5
comp=Z,17nm,1.1s,baz=86,slow=4.3,SNR=7.8
SNAA LR LR 22 12 22.8
comp=Z,477nm,20.7s,baz=14,slow=31
comp=Z,17nm,1.1s
SNAA Sanae 89.59 198 *ce*P P 21 38 52.9 +2.5
SNAA pmax pmax
comp=Z,38nm,1.0s
OHR Ohrid 89.68 311 *i*P P 21 38 51.9 +0.5
KWP Kalwaria Pacla 89.72 320 *e*P P 21 38 52.8 +1.5
KWP Kalwaria Pacla 89.72 320 P P 21 38 51.7 +0.4
KWP IAmb IAmb 21 38 57.9
comp=Z,56nm,1.4s
KWP Kalwaria Pacla 89.72 320 P P 21 38 51.7 +0.4
KWP pmax pmax
comp=Z,56nm,1.4s
KWP Kalwaria Pacla 89.72 320 P P 21 38 52.6 +1.3
ARBE Arbavere 89.77 330 *e*P P 21 38 52.8 +1.5
BZS Buzias 89.78 316 ⇓P P 21 38 52.7 +1.1
BZS Buzias 89.78 316 P P 21 38 52.7 +1.1
SIRR Siria 89.85 316 ⇓P P 21 38 53.9 +1.9
KOLS Kolonicke sedl 89.88 319 *e*P P 21 38 53.8 +1.7
KOLS Kolonicke sedl 89.88 319 *e*P P 21 38 53.8 +1.7
KOLS pmax pmax
comp=Z,68nm,1.0s
MSF Maaselka 89.98 337 P P 21 38 52.8 +0.7
MSF pmax pmax
comp=Z,35nm,1.6s
PABE Paberze 90.03 326 P P 21 38 52.7 +0.2
PABE Paberze 90.03 326 *e*P P 21 38 53.7 +1.1
FIA1 FINESS Array S 90.17 332 P P 21 38 52.9 -0.2
FINES FINESS Array B 90.17 332 P P 21 38 53.6 +0.5
comp=Z,26nm,1.0s,baz=107,slow=5.3,SNR=68
FINES LR LR 22 25 07.1
comp=Z,293nm,18.3s,baz=84,slow=39
comp=Z,26nm,1.0s
FINES FINESS Array B 90.17 332 *i*P P 21 38 53.5 +0.5
FINES pmax pmax
comp=Z,13nm,0.7s
SUW Suwalki 90.20 324 P P 21 38 53.5 +0.1
SUW Suwalki 90.20 324 *e*P P 21 38 54.4 +1.0
SUW Suwalki 90.20 324 P P 21 38 53.5 +0.1
SUW pmax pmax
comp=Z,110nm,1.0s
CRVS Cervenica-Dubn 90.40 319 *e*P P 21 38 56.6 +2.1
CRVS Cervenica-Dubn 90.40 319 *e*P P 21 38 56.6 +2.1
TIR Tirane 90.41 311 P P 21 38 55.0 +0.3
TIR Tirane 90.41 311 P P 21 38 55.0 +0.3
TIR pmax pmax
comp=Z,56nm,1.0s
PUK Puka 90.48 312 P P 21 38 55.2 0.0
PUK IAmb IAmb 21 38 57.3
comp=Z,31nm,0.9s
VLO Vlora 90.56 310 P P 21 38 56.0 +0.6
VLO Vlora 90.56 310 P P 21 38 56.0 +0.6
VLO pmax pmax
comp=Z,149nm,1.0s
SJES Sjenica 90.59 313 *e*P P 21 38 57.3 +1.6
STHS Stebnicka Huta 90.62 320 *e*P P 21 38 56.2 +0.7
STHS Stebnicka Huta 90.62 320 *e*P P 21 38 56.2 +0.7
STHS pmax pmax
comp=Z,17nm,0.8s
MEF Metsahovi 90.72 330 *e*P P 21 38 56.7 +1.0
MTSE Matsula 90.72 329 *e*P P 21 38 57.1 +1.4
KEF Keuruu 90.88 332 *e*P P 21 38 56.8 +0.4
FRGS Fruska Gora 90.97 315 *e*P P 21 38 58.3 +1.1
FRGS Fruska Gora 90.97 315 P P 21 38 57.7 +0.5
PDG Podgorica 91.00 312 ⇓P P 21 38 58.3 +0.9
PDG Podgorica 91.00 312 P P 21 38 57.8 +0.4
PDG Podgorica 91.00 312 *e*P P 21 38 58.3 +0.9
DRME Dracevica, Mon 91.02 312 *e*P P 21 38 58.1 +0.6
OUL Oulu 91.05 335 P P 21 38 58.4 +1.3
OUL pmax pmax
comp=Z,35nm,1.5s
RUDO Rudo 91.08 314 *e*P P 21 38 58.5 +0.7
BBLS Lazi&#263i 91.08 314 *e*P P 21 38 59.3 +1.4
TEKS Tekeris 91.09 315 *e*P P 21 38 58.5 +0.7
VNA2 Neumayer--Watz 91.23 198 ⇑P P 21 39 00.3 +2.3
comp=Z,10nm,0.8s,baz=114,slow=4.7
NIE Niedzica 91.23 319 *e*P P 21 39 00.6 +2.2
NIE Niedzica 91.23 319 P P 21 39 00.1 +1.7
NIE pmax pmax
comp=Z,8.0nm,1.3s
NIE Niedzica 91.23 319 P P 21 38 59.3 +0.9
BEL Belsk 91.27 322 *e*P P 21 39 00.2 +1.8
PSZ Piszkesteto 91.29 318 ⇓P P 21 39 00.5 +1.8
PSZ Piszkesteto 91.29 318 P P 21 38 59.2 +0.5
PSZ IAmb IAmb 21 39 01.2
comp=Z,15nm,1.1s
PSZ Piszkesteto 91.29 318 P P 21 39 00.5 +1.8
SCTE Santa Cesarea 91.29 310 P P 21 38 59.0 +0.1
SGF Sodankyl 91.33 338 P P 21 38 59.4 +1.1
SGF pmax pmax
comp=Z,31nm,2.0s
HAPS Han Pijesak,Bl 91.44 314 *e*P P 21 39 00.6 +1.0
BRY Bratogost 91.59 313 *e*P P 21 39 00.3 0.0
VNA1 Neumayer--Stat 91.60 198 ⇑P P 21 39 01.4 +1.7
comp=Z,24nm,1.0s
OJC Ojcow 91.67 320 *e*P P 21 39 01.4 +1.1
OJC Ojcow 91.67 320 P P 21 39 00.8 +0.5
OJC IAmb IAmb 21 39 02.9
comp=Z,25nm,1.5s
OJC Ojcow 91.67 320 P P 21 39 00.8 +0.5
OJC pmax pmax
comp=Z,25nm,1.5s
OJC Ojcow 91.67 320 P P 21 39 01.5 +1.1
VNA3 Neumayer Olymp 91.78 197 ⇑P P 21 38 57.9 -2.6
comp=Z,6.6nm,0.7s
MORH Mrgy, Hungar 91.92 316 ⇓P P 21 39 02.6 +1.0
MORH Mrgy, Hungar 91.92 316 P P 21 39 02.1 +0.5
comp=Z,16nm,1.0s
NEVS Nevesinje 91.95 313 *e*P P 21 39 01.7 -0.2
VAF Ylistaro 92.05 333 *e*P P 21 39 02.8 +1.1
VAF Ylistaro 92.05 333 P P 21 39 03.0 +1.3
VAF pmax pmax
comp=Z,46nm,1.1s
VYHS Vyhne 92.07 318 *e*P P 21 39 03.3 +1.1
VYHS *e* 21 42 43.0
VYHS Vyhne 92.07 318 *e*P P 21 39 03.3 +1.1
VYHS pmax pmax
comp=Z,16nm,1.3s
RAF Rauma 92.14 331 *e*P P 21 39 03.2 +1.0
ARA0 ARCESS Array S 92.15 340 *e*P P 21 39 02.0 -0.2
ARCES ARCESS Array B 92.15 340 P P 21 39 01.9 -0.2
ARCES ARCESS Array B 92.15 340 P P 21 39 02.3 +0.1
comp=Z,22nm,1.0s,baz=97,slow=6.2,SNR=42
ARCES LR LR 22 24 19.3
comp=Z,218nm,20.2s,baz=102,slow=38
comp=Z,22nm,1.0s
STON Ston 92.20 313 *e*P P 21 39 02.1 -0.8
SRO Srobarova 92.33 318 *e*P P 21 39 05.5 +2.1
SRO Srobarova 92.33 318 *e*P P 21 39 05.5 +2.1
SPIA Saint Paul Isl 92.43 33 P P 21 39 03.7 0.0
baz=262
TIP Timpagrande 92.50 309 ⇑P P 21 39 06.4 +1.9
TIP Timpagrande 92.50 309 P P 21 39 04.9 +0.4
TIP IAmb IAmb 21 39 07.8
comp=Z,21nm,1.4s
RAR Rarotonga 92.67 112 LR LR 22 20 17.4
comp=Z,100nm,21.7s,baz=259,slow=35
NIKH Nikolski High 92.69 37 P P 21 39 03.9 -1.1
baz=263
MATE Matera 92.70 310 ⇓P P 21 39 07.0 +1.7
P08K Saint George I 92.73 34 P P 21 39 05.0 -0.1
baz=263
BLY Banja Luka 92.77 315 *e*P P 21 39 06.6 +1.0
MPLH Magyarpolny 92.78 317 P P 21 39 06.5 +0.9
comp=Z,76nm,1.1s
KTK1 Kautokeino 92.84 339 *e*P P 21 39 05.4 +0.1
JAVC Velka Javorina 92.88 319 *e*P P 21 39 07.7 +1.7
AAL Aland 92.88 330 *e*P P 21 39 06.5 +0.9
HAMF Hammerfest 92.98 341 *e*P P 21 39 06.2 +0.3
A051A Mrakovica 93.00 315 *e*P P 21 39 07.4 +0.7
MORC Moravsky Berou 93.06 320 ⇑P P 21 39 08.3 +1.4
MORC Moravsky Berou 93.06 320 P P 21 39 07.3 +0.5
MORC Moravsky Berou 93.06 320 *e*P P 21 39 07.4 +0.6
MORC *e*PP PP 21 42 51.0 +0.4
MORC Moravsky Berou 93.06 320 P P 21 39 08.2 +1.4
BELA Belgrano 2 93.08 188 P P 21 39 07.2 +0.9
CEL Celeste 93.08 308 P P 21 39 08.0 +0.8
CEL Celeste 93.08 308 P P 21 39 08.2 +1.0
MODS Modra-Piesok 93.08 318 *e*P P 21 39 08.3 +1.3
MODS *e* 21 42 52.7
MODS Modra-Piesok 93.08 318 *e*P P 21 39 08.3 +1.3
MODS *e* 21 42 52.7
MODS pmax pmax
comp=Z,35nm,1.4s
A050A Klekovaca 93.21 314 *e*P P 21 39 07.6 -0.1
KOGS Kog 93.59 316 *i*P P 21 39 10.5 +1.2
VRAC Vranov 93.63 319 *e*P P 21 39 10.2 +0.8
VRAC *e*PP PP 21 42 55.1 +0.1
RONA Rosalia, Austr 93.67 317 *i*PcP P 21 39 10.8 +1.1
comp=Z,6.7nm,1.4s
RONA *e*PP PP 21 42 55.0 -0.4
comp=Z,7.9nm,1.6s
HOPEN Hopen 93.72 347 *e*P P 21 39 06.9 -2.3
KRUC Moravsky 93.73 319 *e*P P 21 39 10.4 +0.5
KRUC *e*PP PP 21 42 56.4 +0.6
DPC Dobruska-Polom 93.90 320 P P 21 39 11.5 +0.8
comp=Z,8.9nm,1.4s
JETT Jettan, Norway 93.92 339 *e*P P 21 39 10.7 +0.4
CONA Conrad Observa 93.99 318 *e*P P 21 39 11.3 +0.1
comp=Z,4.7nm,1.1s
CONA *e*PP PP 21 42 58.7 +0.7
comp=Z,13nm,1.6s
CRES Cresnjev 94.09 315 *e*P P 21 39 12.5 +0.9
ARSA Arberg 94.16 317 *e*PcP PcP 21 39 13.5 +1.1
comp=Z,14nm,1.5s,SNR=5.8
ARSA *e*PP PP 21 42 59.3 +0.1
comp=Z,7.4nm,1.3s
UNV Unalaska Valle 94.18 36 P P 21 39 11.3 -0.4
baz=265
BOJS Bojanci 94.20 315 *e*P P 21 39 12.5 +0.4
PERS Pernice 94.39 316 *i*P P 21 39 14.0 +1.0
TRO Tromso 94.45 339 *e*P P 21 39 12.4 -0.2
SOKA Soboth 94.45 316 *e*PcP PcP 21 39 14.8 +1.0
comp=Z,19nm,1.2s,SNR=14
SOKA *e*PP PP 21 43 01.1 -0.5
comp=Z,3.9nm,1.3s
TNA Tin City 94.49 25 P P 21 39 12.4 -0.5
baz=265
LJU Ljubljana 94.75 316 *i*P P 21 39 16.2 +1.5
OBKA Obir 94.77 316 *e*PcP PcP 21 39 16.4 +1.2
comp=Z,12nm,1.2s,SNR=5.5
OBKA *e*PP PP 21 43 06.4 +2.3
comp=Z,6.4nm,1.4s
OBKA Obir 94.77 316 *e*P P 21 39 15.5 +0.7
M11K Mekoryuk 94.86 30 P P 21 39 14.5 -0.2
baz=266
MOA Molln 95.05 317 *i*PcP P 21 39 16.8 +0.8
comp=Z,5.2nm,1.1s
MOA *e*PP PP 21 43 06.2 +0.1
comp=Z,2.5nm,1.2s
F14K Arctic Creek 95.14 25 P P 21 39 16.3 +0.3
baz=266
MYKA Terra Mystica 95.40 316 *e*PcP P 21 39 18.6 +0.9
comp=Z,7.1nm,1.3s
MYKA *e*PP PP 21 43 09.5 +0.6
comp=Z,0.3nm,0.4s
PRED Cave del Predi 95.44 316 P P 21 39 18.3 +0.4
PRED IAmb IAmb 21 39 19.8
comp=Z,12nm,1.1s
BRG Berggiesshubel 95.45 320 *e*P P 21 39 18.8 +1.1
BRG Amp 21 39 20.0
comp=Z,6.6nm,1.0s
BRG Berggiesshubel 95.45 320 *e*P P 21 39 18.8 +1.1
BRG pmax pmax
comp=Z,7.0nm,1.0s
BRG pmax pmax
comp=Z,2.0nm,0.8s
BIOA Bad Ischl, Aus 95.47 317 *i*PcP P 21 39 18.6 +0.7
comp=Z,4.2nm,1.2s
GEC2 GERESS Array S 95.49 318 P P 21 39 18.6 +0.5
GEC2 IAmb IAmb 21 39 20.3
comp=Z,22nm,1.5s
GEC2 GERESS Array S 95.49 318 P P 21 39 18.9 +0.8
GEC2 pmax pmax
comp=Z,9.0nm,1.4s
GERES GERESS Array B 95.49 318 P P 21 39 18.3 +0.2
GERES GERESS Array B 95.49 318 P P 21 39 18.6 +0.5
comp=Z,2.7nm,0.9s,baz=108,slow=3.0,SNR=11
comp=Z,2.7nm,0.9s
ANM Nome 95.50 26 P P 21 39 17.6 0.0
baz=267
KHC Kasperske Hory 95.58 319 *ce*P P 21 39 21.6 +3.2
KHC pmax pmax
comp=Z,10.0nm,1.7s
FAUS Fauske 95.61 337 *e*P P 21 39 18.8 +0.7
KBA Koelnbreinsper 95.63 317 *i*P P 21 39 18.1 -0.8
comp=Z,4.2nm,1.0s
KBA *e*PP PP 21 43 11.3 +0.5
comp=Z,5.7nm,1.7s
STEI Steigen 95.66 338 *e*P P 21 39 18.6 +0.4
C16K Lisburne Hills 95.69 22 P P 21 39 18.2 -0.2
baz=267
K13K Kusilvak Mount 95.69 28 P P 21 39 18.2 -0.4
baz=267
DEL Delary 95.77 326 *e*P P 21 39 19.8 +0.8
SPA0 Spitsbergen Ar 95.81 348 *e*P P 21 39 18.9 +0.1
SPITS Spitsbergen Ar 95.81 348 P P 21 39 17.8 -1.0
comp=Z,4.1nm,0.4s,baz=98,slow=10,SNR=19
SPITS LR LR 22 29 52.5
comp=Z,391nm,19.9s,baz=60,slow=40
comp=Z,4.1nm,0.4s
F15K North Star Dit 95.86 25 P P 21 39 19.1 -0.1
baz=268
HFS Hagfors 96.02 330 P P 21 39 20.0 -0.1
comp=Z,8.3nm,0.9s,baz=72,slow=4.7,SNR=16
comp=Z,8.3nm,0.9s
HFS Hagfors 96.02 330 P P 21 39 20.0 -0.1
FALS False Pass 96.04 36 P P 21 39 20.4 +0.1
baz=268
WET Wettzell 96.04 319 P P 21 39 20.9 +0.4
WET pmax pmax
comp=Z,10.0nm,1.3s
CLL Collm 96.06 321 *e*P P 21 39 21.0 +0.5
comp=Z,11nm,1.5s
CLL *e*(pP) pP 21 39 37.0 -0.8
CLL *e*PP PP 21 43 13.0 -0.8
CLL Collm 96.06 321 *e*P P 21 39 21.0 +0.5
CLL pmax pmax
comp=Z,11nm,1.5s
G15K Niukluk 96.09 25 P P 21 39 20.1 -0.2
baz=268
LESA Schwarzleotal 96.10 317 *e*P P 21 39 21.3 +0.4
comp=Z,3.0nm,0.7s
LESA *e*PP PP 21 43 17.6 +3.2
comp=Z,3.4nm,1.0s
ABTA Abfaltersbach 96.18 316 *i*P P 21 39 21.3 0.0
comp=Z,5.1nm,1.5s
ABTA *e*PP PP 21 43 13.0 -2.1
comp=Z,4.8nm,1.5s
J14K Nanvaranak Lak 96.24 28 P P 21 39 21.3 +0.3
baz=268
M13K Dall Lake 96.27 30 P P 21 39 21.4 +0.3
baz=268
NKC Novy Kostel 96.37 320 P P 21 39 22.4 +0.4
NKC pmax pmax
comp=Z,7.0nm,1.1s
C17K DeLong Mountai 96.50 22 P P 21 39 21.7 -0.4
baz=269
D17K Noatak River 96.53 23 P P 21 39 22.3 0.0
baz=269
RDOG Red Dog Mine 96.59 22 P P 21 39 22.7 +0.1
baz=270
L14K Kuka Creek 96.62 29 P P 21 39 22.5 -0.2
baz=269
WTTA Wattenberg 96.80 317 *i*P P 21 39 24.3 +0.1
comp=Z,7.8nm,1.1s
WTTA *e*PP PP 21 43 19.7 -0.2
comp=Z,6.5nm,1.4s
G16K Koyuk River 96.80 25 P P 21 39 24.0 +0.5
baz=270,SNR=7.1
S12K Black Hills 96.84 35 P P 21 39 23.7 -0.3
baz=269
WATA Walderalm 96.84 317 *e*P P 21 39 24.3 0.0
comp=Z,9.0nm,1.4s
WATA *e*PP PP 21 43 20.9 +0.7
comp=Z,4.6nm,1.1s
H16K Elim 96.85 26 P P 21 39 23.9 +0.2
baz=270
MOX Moxa 96.91 320 P P 21 39 25.8 +1.4
M14K Bethel 96.96 30 P P 21 39 25.0 +0.7
baz=270
B18K Kokolik River 96.99 21 P P 21 39 24.8 +0.5
baz=271
E17K Hotham Inlet 97.01 23 P P 21 39 24.7 +0.3
baz=270
SQTA Sankt Quirin 97.09 317 *e*PcP P 21 39 25.8 +0.3
comp=Z,2.7nm,0.9s
SQTA *e*PP PP 21 43 27.3 +5.2
comp=Z,5.3nm,1.1s
N14K Kuskokwak Cree 97.09 30 P P 21 39 25.5 +0.6
baz=270
MOTA Moosalm 97.17 317 *e*PcP P 21 39 26.2 +0.3
comp=Z,4.7nm,0.8s
MOTA *e*PP PP 21 43 21.7 -0.9
comp=Z,3.1nm,0.9s
K15K Wolf Creek Mou 97.17 28 P P 21 39 25.8 +0.5
baz=270
L15K Ungalak Mounta 97.19 29 P P 21 39 25.8 +0.4
baz=270
C18K Utukok River 97.22 22 P P 21 39 25.9 +0.4
baz=271
A19K Wainwright 97.23 20 P P 21 39 25.8 +0.5
baz=272
F17K Baldwin Pennin 97.25 24 P P 21 39 26.0 +0.5
baz=271
NOA NORSAR Array B 97.25 331 P P 21 39 25.6 -0.2
comp=Z,2.2nm,0.9s,baz=89,slow=4.7,SNR=3.8
comp=Z,2.2nm,0.9s
O14K Tigyukauivet M 97.31 31 P P 21 39 26.2 +0.3
baz=270
RETA Reutte 97.40 317 *e*PcP P 21 39 27.2 +0.4
comp=Z,7.6nm,1.1s
FETA Feichten 97.42 317 *i*P P 21 39 26.8 -0.2
comp=Z,5.8nm,1.1s
FETA *e*PP PP 21 43 28.0 +3.4
comp=Z,4.9nm,1.1s
E18K Tukpahlearik C 97.48 23 P P 21 39 27.4 +0.8
baz=272
G17K Kiwalik Mounta 97.51 25 P P 21 39 27.0 +0.2
baz=271,SNR=5.6
I17K Unalakleet 97.53 26 P P 21 39 27.7 +0.9
baz=271
J16K Anvik River 97.58 27 P P 21 39 27.3 +0.2
J16K IAmb IAmb 21 39 29.2
comp=Z,25nm,1.4s
J16K Anvik River 97.58 27 P P 21 39 27.7 +0.6
baz=271
M15K Kasigluk River 97.59 30 P P 21 39 27.3 +0.2
baz=271
FUORN Ofenpass-Fuorn 97.73 316 P P 21 39 28.7 +0.2
SDPT Sand Point 97.74 35 P P 21 39 28.6 +0.7
baz=270
C19K Lookout Ridge 97.79 21 P P 21 39 28.7 +0.8
baz=273
H17K Granite Mounta 97.84 25 P P 21 39 28.8 +0.5
baz=272
F18K Selawik 97.88 24 P P 21 39 29.0 +0.6
baz=272,SNR=9.7
N15K Kwethluk River 97.89 30 P P 21 39 28.5 0.0
baz=271
DAVA Damuels 98.00 317 *i*PcP Pdif 21 39 30.6 +1.0
comp=Z,7.5nm,1.0s
O15K Ungalikthiuk R 98.05 31 P P 21 39 29.8 +0.5
baz=271
KONO Kongsberg 98.08 329 *ce*P Pdif 21 39 32.4 +3.0
KONO pmax pmax
comp=Z,19nm,2.5s
L16K Owhat River 98.15 29 P P 21 39 29.6 -0.1
baz=272
S14K Fog Glacier 98.25 34 P P 21 39 29.6 -0.8
baz=271
J17K VABM Dome 98.27 27 P P 21 39 30.5 +0.4
baz=272
G18K Tagagawik 98.32 24 P P 21 39 30.3 -0.1
baz=273
D19K Kuna River 98.36 22 P P 21 39 31.3 +0.7
baz=274
H18K Honhosa River 98.49 25 P P 21 39 31.5 +0.4
baz=273
N16K Nishlik Lake 98.54 30 P P 21 39 31.7 +0.2
baz=272
B20K Meade River 98.58 20 P P 21 39 31.4 0.0
baz=275
F19K Shaleruckik Mo 98.62 23 P P 21 39 31.6 0.0
baz=274,SNR=6.0
A21K Barrow 98.63 19 P P 21 39 32.1 +0.5
baz=276
K17K Iditarod 98.66 28 P P 21 39 32.7 +0.8
baz=273
L17K Donlin 98.69 28 P P 21 39 32.5 +0.4
baz=273
E19K Redstone River 98.78 23 P P 21 39 32.8 +0.4
baz=275
CHGN Chignik 98.89 34 P P 21 39 33.2 +0.1
baz=272
D20K Etivluk River 98.89 21 P P 21 39 33.1 +0.2
baz=276
O16K Kokwok River B 98.92 31 P P 21 39 33.4 +0.3
baz=273
G19K Purcell Mounta 98.94 24 P Pdif 21 39 33.6 +0.5
baz=275
P16K Nushagak River 99.00 31 P Pdif 21 39 34.0 +0.5
baz=273
E20K Nigu River 99.09 22 P Pdif 21 39 33.6 -0.2
baz=276
M17K Holitna River 99.14 29 P Pdif 21 39 34.1 -0.1
baz=274
GCSA Galena City Sc 99.15 25 P Pdif 21 39 33.9 -0.2
baz=275
A22K Sinclair Lake 99.19 19 P Pdif 21 39 34.3 +0.2
baz=278
H19K Roundabout Mou 99.26 25 P Pdif 21 39 35.0 +0.5
baz=275
N17K Nushagak Hills 99.32 30 P Pdif 21 39 35.0 0.0
baz=274
J18K Innoko River 99.32 27 P Pdif 21 39 34.7 -0.3
baz=275
F20K Avaraart Lake 99.40 23 Pdif 21 39 35.1 -0.1
F20K Avaraart Lake 99.40 23 P Pdif 21 39 35.1 -0.1
baz=276
O17K Koliganek Bris 99.41 31 P Pdif 21 39 35.3 -0.1
baz=274
L18K Granite Mounta 99.44 28 P Pdif 21 39 35.5 +0.1
baz=274
B21K Ikpikpuk River 99.50 20 P Pdif 21 39 36.3 +0.8
baz=278
C21K Knifeblade Rid 99.50 21 P Pdif 21 39 36.3 +0.7
baz=277
J19K Poorman 99.76 26 P Pdif 21 39 36.7 -0.1
baz=276
P17K Kvichak River 99.79 31 P Pdif 21 39 36.8 -0.2
baz=274
B22K Teshekpuk Lake 99.80 20 P Pdif 21 39 37.4 +0.6
baz=279
E21K Killik River 99.89 22 P Pdif 21 39 37.6 +0.2
baz=278
M18K Stony River 99.91 29 P Pdif 21 39 37.9 +0.4
baz=275

H20K	Anotleneega Mo	99.91	25	P		Pdif	21	39	38.0	+0.5
	baz=277									
N18K	Kilae Creek	99.94	30	P		Pdif	21	39	37.9	+0.2
	baz=275									
F21K	Alatna River	100.25	23	P		Pdif	21	39	39.6	+0.6
	baz=278									
D22K	Ayikyak River	100.29	21	P		Pdif	21	39	39.5	+0.3
	baz=279									
L19K	White Mountain	100.30	28	P		Pdif	21	39	39.6	+0.3
	baz=276									
G21K	Allakaket	100.34	24	P		Pdif	21	39	40.0	+0.6
	baz=278									
O18K	Koktuh Hills	100.36	30	P		Pdif	21	39	40.0	+0.4
	baz=275									
J20K	Nowinta River	100.38	26	P		Pdif	21	39	40.0	+0.4
	baz=277									
P18K	Big Mountain,	100.39	31	P		Pdif	21	39	39.8	0.0
	baz=275									
CHIR	Chirikof Islan	100.48	34	P		Pdif	21	39	40.2	0.0
	baz=274									
K20K	Telida	100.52	27	P		Pdif	21	39	40.8	+0.5
	baz=277									
M19K	Big River Lodg	100.54	28	P		Pdif	21	39	40.7	+0.3
	baz=276									
N19K	Bonanza Creek	100.62	29	P		Pdif	21	39	41.6	+0.7
	baz=276									
F22K	John River	100.70	22	P		Pdif	21	39	41.5	+0.5
	baz=280									
L20K	Farewell, AK	100.71	28	P		Pdif	21	39	42.1	+0.9
	baz=277									
H21K	Melozitna Rive	100.75	24	P		Pdif	21	39	42.3	+1.1
	baz=279									
O19K	Port Alsworth	100.77	30	P		Pdif	21	39	42.1	+0.8
	baz=276									
C23K	Itkillik River	100.84	20	P		Pdif	21	39	42.4	+0.9
	baz=282									
D23K	Nanushuk River	100.99	21	P		Pdif	21	39	43.1	+0.9
	baz=281									
G22K	Bettles	101.06	23	P		Pdif	21	39	43.0	+0.4
	baz=280									
M20K	Styx River	101.14	28	P		Pdif	21	39	44.2	+1.1
	baz=278									
I21K	Tanana	101.16	25	P		Pdif	21	39	44.2	+1.1
	baz=279									
H22K	Ishtalitna Cre	101.29	24	P		Pdif	21	39	44.7	+1.1
	baz=280									
P19K	Oil Pt	101.38	30	P		Pdif	21	39	44.5	+0.3
	baz=277									
CAST	Castle Rocks	101.40	27	P		Pdif	21	39	45.1	+0.9
	baz=279									
PPLA	Purkeypile	101.43	27	P		Pdif	21	39	44.7	+0.2
	baz=279									
TOLK	Toolik Lake Re	101.45	21	P		Pdif	21	39	45.3	+1.0
	baz=282									
COLD	Coldfoot	101.50	23	P		Pdif	21	39	45.0	+0.5
	baz=281									
C24K	Franklin Bluff	101.51	20	P		Pdif	21	39	44.4	-0.1
	baz=283									
E23K	Chandalar	101.55	22	P		Pdif	21	39	45.9	+1.0
	baz=282									
D24K	Happy Valley	101.60	21	P		Pdif	21	39	45.8	+0.9
	baz=283									
O20K	Slope Mountain	101.62	30	P		Pdif	21	39	45.2	-0.1
	baz=278									
OHAK	Old Harbor	101.63	33	P		Pdif	21	39	45.3	0.0
	baz=276									
N20K	Mount Spurr	101.67	29	P		Pdif	21	39	46.0	+0.5
	baz=278									
G23K	Bananza Creek	101.67	23	P		Pdif	21	39	46.0	+0.6
	baz=281									
MLY	Manley	101.71	25	P		Pdif	21	39	46.2	+0.7
	baz=280									
TBI	Tubuai	101.72	115	eS		Sdif	21	51	22.5	-0.9
	comp=Z,602nm,38.5s									
TBI				eSS		SS	21	58	24.1	-3.0
	comp=Z,679nm,31.2s									
TBI	Tubuai	101.72	115	eLR		LR	22	13	14.3	
	comp=Z,1μm,31.2s									
BPAW	Bear Paw Mtn.	101.77	26	P		Pdif	21	39	46.4	+0.6
	baz=280									
SKT	Skwentna	101.87	28	P		Pdif	21	39	47.0	+0.7
	baz=275									
Q20K	Shuyak Island	101.94	31	P		Pdif	21	39	47.5	+0.9
	baz=278									
KDAK	Kodiak Island	101.94	32	P		Pdif	21	39	46.7	0.0
	baz=277									
E24K	Your Creek	101.97	22	P		Pdif	21	39	47.7	+1.1
	baz=283									
H23K	Yukon River	102.04	24	P		Pdif	21	39	47.9	+0.8
	baz=282									
TRF	Thorofare Moun	102.19	26	P		Pdif	21	39	47.5	-0.4
	baz=280									
CAPN	Captain Cook N	102.24	29	P		Pdif	21	39	48.3	+0.4
	baz=279									
I23K	Minto, Yukon-K	102.26	25	P		Pdif	21	39	48.6	+0.7
	baz=282									
F24K	Squaw Lake	102.32	22	P		Pdif	21	39	48.6	+0.4
	baz=284									
SUA	Susitna One	102.33	28	P		Pdif	21	39	48.8	+0.3
	baz=280									
D25K	Kavik River	102.40	20	P		Pdif	21	39	48.9	+0.3
	baz=285									
BRSE	Bradley Lake S	102.61	30	P		Pdif	21	39	49.8	+0.2
	baz=279									
G24K	Hadweenzic Riv	102.67	23	P		Pdif	21	39	50.6	+0.9
	baz=284									
H24K	Noodor Dome	102.71	24	P		Pdif	21	39	50.4	+0.4
	baz=283									
MCK	McKinley	102.73	26	P		Pdif	21	39	50.2	+0.1
	baz=282									
C26K	Camden Bay	102.73	19	P		Pdif	21	39	50.0	+0.1
	baz=287									
PPT2	Papeete2	102.75	110	eLR		LR	22	13	34.5	
	comp=Z,356nm,23.2s									
PPT2				eLR		LR	22	13	40.9	
	comp=Z,397nm,22.8s									
RC01	Rabbit Creek A	102.87	29	P		Pdif	21	39	51.4	+0.7
	baz=280									
E25K	Arctic Village	103.01	21	P		Pdif	21	39	51.3	0.0
	baz=286									
POKR	Poker Plat Res	103.06	24	P		Pdif	21	39	51.1	-0.4
	baz=284									
WAT1	Susitna Watana	103.08	27	P		Pdif	21	39	51.8	+0.1
	baz=282									
F25K	Christian Rive	103.13	22	P		Pdif	21	39	52.0	+0.1
	baz=286									
G25K	Bearman Lake	103.18	23	P		Pdif	21	39	51.7	-0.3
	baz=285									
C27K	Jago River	103.22	20	P		Pdif	21	39	52.5	+0.4
	baz=288									
ILAR	Eielson Array	103.37	25	PKiKP		PKiKP	21	44	11.0	-0.6
	comp=Z,0.3nm,0.6s,baz=247,slow=4.6,SNR=4.5									
SML	Sawmill	103.39	28	P		Pdif	21	39	52.8	-0.3
	baz=282									
KNK	Knik Glacier	103.42	28	P		Pdif	21	39	53.6	+0.4
	baz=282									
DAG	Danmarks Havn	103.44	349	P		Pdif	21	39	52.8	-0.1
DAG				pmax		pmax				
	comp=Z,12nm,1.6s									
WAT6	Susitna Watana	103.50	27	P		Pdif	21	39	54.0	+0.2
	baz=283									
DHY	Denali Highway	103.55	26	P		Pdif	21	39	53.8	-0.2
	baz=283									
F26K	Sheenjek River	103.65	22	P		Pdif	21	39	54.2	+0.1
	baz=287									
M23K	Glacier View	103.68	28	P		Pdif	21	39	54.3	0.0
	baz=282									
SCM	Sheep Creek Mo	103.85	28	P		Pdif	21	39	55.7	+0.5
	baz=283									
G26K	Porcupine Rive	104.01	22	P		Pdif	21	39	56.5	+0.9
	baz=287									
J25K	Salcha River,	104.04	25	P		Pdif	21	39	56.2	+0.3
	baz=285									
GLI	Glacier Island	104.17	29	P		Pdif	21	39	56.3	-0.3
	baz=283									
P23K	Montague Islan	104.22	30	P		Pdif	21	39	56.9	+0.2
	baz=282									
D27M	Malcolm River	104.26	20	P		Pdif	21	39	57.3	+0.5
	baz=291									
M24K	Tolsona, Glenn	104.32	27	P		Pdif	21	39	57.7	+0.4
	baz=284									
E27K	Coleen River	104.41	21	P		Pdif	21	39	58.1	+0.6
	baz=290									
PAX	Paxson	104.42	26	P		Pdif	21	39	58.1	+0.4
	baz=285									
KLU	Klutina	104.59	28	P		Pdif	21	39	59.0	+0.5
	baz=284									
HARP	HAARP	104.71	27	P		Pdif	21	39	58.9	-0.1
	baz=285									
I26K	Coal Creek Min	104.75	24	P		Pdif	21	39	59.6	+0.6
	baz=288									
SCRK	Sand Creek	104.79	25	P		Pdif	21	39	59.8	+0.4
	baz=286									
J26L	Joseph Creek	104.82	25	P		Pdif	21	40	00.2	+0.8
	baz=287									
G27K	Doyon Strip	104.85	22	P		Pdif	21	40	00.1	+0.7
	baz=289									
Q23K	Middleton Isla	104.86	30	P		Pdif	21	40	00.5	+0.9
	baz=283									
EYAK	Cordova Ski Ar	104.89	29	P		Pdif	21	40	00.3	+0.6
	baz=284									
D28M	Stokes Point	104.96	19	P		Pdif	21	40	00.2	+0.4
	baz=293									
E28M	Babbage River	104.97	20	P		Pdif	21	40	00.2	+0.3
	baz=292									
H27K	Steamboat Moun	105.09	23	P		PKiKP	21	44	14.6	-0.1
	baz=289									
F28M	Old Crow	105.22	21	P		PKiKP	21	44	15.2	+0.3
	baz=291									
I27K	Kandik River	105.26	23	P		PKiKP	21	44	15.1	-0.1
	baz=289									
BMRM	Bremner River	105.33	28	P		PKiKP	21	44	15.8	+0.4
	baz=285									
K27K	Chicken	105.58	25	P		PKiKP	21	44	16.4	+0.7
	baz=288									
E29M	Blow River	105.61	20	P		PKiKP	21	44	16.0	+0.4
	baz=293									
M26K	Nabesna, AK	105.68	27	P		PKiKP	21	44	15.9	0.0
	baz=287									
KAIM	Kayak Island	105.69	29	P		PKiKP	21	44	16.6	+0.6
	baz=285									
MCARA	McCarthy VSAT	105.96	28	P		PKiKP	21	44	17.4	+1.0
	baz=287									
I28M	Miner Creek	105.97	23	P		PKiKP	21	44	17.0	+0.5
	baz=291									
L27K	Beaver Creek,	105.99	26	P		PKiKP	21	44	16.6	+0.1
	baz=288									
G29M	Pine Creek	106.15	21	P		PKiKP	21	44	17.5	+0.8
	baz=293									
M27K	Edge Creek, AK	106.19	27	P		PKiKP	21	44	16.7	-0.4
	baz=288									
BGLC	Bering Glacier	106.19	29	P		PKiKP	21	44	17.7	+0.8
	baz=286									
H29M	Whitestone	106.29	22	P		PKiKP	21	44	17.7	+0.8
	baz=292									
F30M	Barrier River	106.66	20	P		PKiKP	21	44	18.6	+1.0
	baz=295									
DAWY	Dawson	106.68	24	P		PKiKP	21	44	18.4	+0.7
	baz=291									
G30M	tAoh Zraii Nji	106.77	21	P		PKiKP	21	44	17.7	-0.1
	baz=295									
MESA	MESA	106.81	29	P		PKiKP	21	44	18.5	+0.1
	baz=287									
EPYK	Eagle Plains	106.84	22	P		PKiKP	21	44	18.5	+0.5
	baz=294									
CTG	Chitna Glacier	106.86	28	P		PKiKP	21	44	18.5	+0.1
	baz=288									
J29N	Klondike Camp	107.02	24	P		PKiKP	21	44	18.7	+0.3
	baz=292									
INK	Inuvik	107.11	19	P		PKiKP	21	44	19.1	+0.8
	baz=298									
F31M	Tsiigehtchic	107.44	20	P		PKiKP	21	44	19.6	+0.6
	baz=297									
I30M	Mount Dempster	107.44	23	P		PKiKP	21	44	19.7	+0.5
	baz=294									
O28M	Mount Upton	107.46	28	P		PKiKP	21	44	20.0	+0.4
	baz=289									
YUK8	Steele Glacier	107.48	27	P		PKiKP	21	44	19.9	+0.3
	baz=290									
G31M	Satah River	107.49	21	P		PKiKP	21	44	19.8	+0.7
	baz=296									
K29M	Barlow Dome	107.53	24	P		PKiKP	21	44	19.9	+0.4
	baz=292									
A36M	Sachs Harbour	107.54	15	P		PKiKP	21	44	19.6	+0.5
	baz=307									
L29M	L29M	107.56	25	P		PKiKP	21	44	20.1	+0.6
	baz=292									
M29M	Somme Creek	107.66	26	P		PKiKP	21	44	20.0	+0.3
	baz=291									
J30M	Hart River	107.72	23	P		PKiKP	21	44	19.6	-0.2
	baz=294									
H31M	Peel River	107.96	22	P		PKiKP	21	44	20.1	0.0
	baz=296									
YUK4	Talbot Arm	107.97	27	P		PKiKP	21	44	20.9	+0.4
	baz=291									
ESDC	Sonseca Array	108.51	310	PP		PP	21	44	47.7	0.0
	comp=Z,1.9nm,1.0s,baz=81,slow=5.8,SNR=6.9									
M31M	Muru Creek, Y	109.50	25	P		PKiKP	21	44	23.9	+0.8
	baz=295									
R32K	Eaglecrest	111.06	29	P		PKiKP	21	44	26.8	+0.8
	baz=294									
R33M	Jennings River	112.25	27	P		PKiKP	21	44	28.4	-0.1
	baz=297									
CRAG	Craig	112.89	32	P		PKiKP	21	44	30.1	+0.5
	baz=294									
T35M	Bob Quinn	113.69	29	P		PKiKP	21	44	31.8	+0.7
	baz=297									
TOAD	Toad River Com	115.08	26	P		PKiKP	21	44	34.5	+0.7
	baz=303									
YKA	Yellowknife Ar	116.89	19	PKPdf		PKPdf	21	44	36.6	-0.5
YKA	Yellowknife Ar	116.89	19	PKP		PKPdf	21	44	37.0	-0.1
	comp=Z,0.7nm,0.5s,baz=324,slow=2.8,SNR=4.0									
YKA				PKKPbc		PKKPbc	21	55	03.3	-2.3
	comp=Z,1.1nm,1.0s,baz=121,slow=2.5,SNR=4.9									
YKA				PKKP		PKKPdf	21	55	32.8	+0.8
	comp=Z,0.9nm,0.8s,baz=116,slow=3.8,SNR=7.0									
YKA	Yellowknife Ar	116.89	19	PKIKP		PKPdf	21	44	37.0	-0.1
HILA	High Level	118.69	24			PKPdf	21	44	40.6	-0.1
I04A	Tendick Farm,	124.25	40			PKPdf	21	44	51.2	-0.7
NEW	Newport	125.04	33	P		PKPdf	21	44	53.1	-0.2
	baz=306									
FFC	Flin Flon	127.07	19			PKPdf	21	44	56.9	0.0
FFC	Flin Flon	127.07	19	PKIKP		PKPdf	21	44	56.9	0.0
AFDM	Forest Hills D	127.41	45	PKPdf		PKPdf	21	44	58.3	+0.2
PLID	Pearl Lake	127.50	36	PKPdf		PKPdf	21	44	58.7	+0.3
MSO	Missoula	127.62	33	PKPdf		PKPdf	21	44	58.2	-0.2
MSO	Missoula	127.62	33	P		PKPdf	21	44	58.1	-0.2
	baz=308									
EGMT	Eagleton	129.00	29	PKPdf		PKPdf	21	45	01.5	+0.6
EGMT	Eagleton	129.00	29	P		PKPdf	21	45	00.8	-0.1
	baz=313									
HLID	Hailey	129.31	37	P		PKPdf	21	45	01.4	-0.3
	baz=306									
KVN	Kaiserville	129.35	43	PKPdf		PKPdf	21	45	02.5	+0.5
KVN	Kaiserville	129.35	43	PKIKP		PKPdf	21	45	02.5	+0.5
NVAR	Mina Array Bea	129.50	44			PKPdf	21	45	02.6	+0.3
NVAR	Mina Array Bea	129.50	44	PKP		PKPdf	21	45	02.1	-0.2
	comp=Z,1.2nm,0.7s,baz=263,slow=2.4,SNR=11									
BOZ	Bozeman (W)	129.65	33			PKPdf	21	45	02.5	+0.2
BOZ	Bozeman (W)	129.65	33	P		PKPdf	21	45	01.5	-0.8
	baz=310									
BOZ	Bozeman (W)	129.65	33	PKIKP		PKPdf	21	45	02.5	+0.2
H17A	Grant Village	130.99	33	P		PKPdf	21	45	06.0	+0.9
	baz=310									
SCHQ	Schefferville	131.14	354	PKP		PKPdf	21	45	05.5	+0.8
	comp=Z,2.1nm,0.7s,baz=17,slow=4.4,SNR=7.1									
SCHQ				SKPbc		SKPbc	21	48	23.1	-1.1
	comp=Z,8.4nm,0.9s,baz=40,slow=3.2,SNR=8.9									
MPMC	Manual Prospec	131.18	47	P		PKPdf	21	45	06.7	+1.2
	baz=297									
RLMT	Red Lodge	131.22	32	P		PKiKP	21	45	07.9	+1.6
	baz=312									
DGMT	Dagmar	131.23	26	P		PKPdf	21	45	06.2	+1.1
	baz=320									
LRMC	Laurel Mtn Rad	131.29	47	P		PKiKP	21	45	08.3	+1.6
	baz=296									
EDW2	Edwards Air Fo	131.33	48	P		PKiKP	21	45	08.8	+2.1
	baz=296									
R11B	Troy Canyon, C	131.41	43	P		PKiKP	21	45	07.6	+0.7
	baz=301									
CIS	Catalina Islan	131.63	50	P		PKiKP	21	45	08.5	+1.2
	baz=294									
LAO	LASA Array	131.64	28	P		PKiKP	21	45	08.2	+1.2
	baz=317									
GSC	Goldstone, Bar	132.01	47	P		PKiKP	21	45	09.2	+1.1
	baz=297									
DUG	Dugway, Tooele	132.22	39	P		PKiKP	21	45	10.2	+1.7
	baz=305									
BW06	Boulder Array	132.60	35	P		PKiKP	21	45	10.2	+1.0
	baz=310									
PDAR	Pinedale Array	132.60	35	PKP		PKPdf	21	45	06.7	-1.5
	comp=Z,0.9nm,0.4s,baz=264,slow=1.8,SNR=3.7									
PDAR				SKPbc		SKPbc	21	48	30.1	0.0
	comp=Z,2.6nm,0.6s,baz=216,slow=0.6,SNR=17									
ULM	Lac du Bonnet	132.84	18	PKP		PKPdf	21	45	08.8	+0.8
	comp=Z,5.5nm,0.8s,baz=299,slow=4.2,SNR=5.0									
ULM				SKPbc		SKPbc	21	48	29.1	-1.1
	comp=Z,6.2nm,0.5s,baz=325,slow=6.1,SNR=10.0									
PFO	Pinyon Flats O	133.02	49	P		PKiKP	21	45	11.4	+1.2
	baz=296									
TPFO	Pinon Flats	133.03	49	P		PKiKP	21	45	11.4	+1.2
	baz=296									
PLCA	Paso Flores	133.03	185	PKhKP		PKPpre	21	45	05.9	
	comp=Z,0.4nm,0.4s,baz=143,slow=5.1,SNR=1.6									
PLCA				SKPbc		SKPbc	21	48	31.8	+0.3
	comp=Z,6.9nm,1.1s,baz=171,slow=3.9,SNR=9.7									
GMRC	Granite Mounta	133.09	47	P		PKiKP	21	45	12.3	+1.9
	baz=298									
BELC	Belle Mtn. Jos	133.19	48	P		PKiKP	21	45	12.9	+2.3
	baz=297									
MONP2	Monument Peak	133.36	50	P		PKiKP	21	45	12.1	+1.1
	baz=296									
IKP	In-Ko-Pah, Jac	133.70	50	P		PKiKP	21	45	13.5	+2.0
	baz=296									
IRM	Iron Mountain	133.75	48	P		PKiKP	21	45	13.1	+1.5
	baz=298									
BC3	Big Chuckawall	133.75	48	P		PKiKP	21	45	13.3	+1.6
	baz=297									
SWSC	Sam W. Stewart	133.81	49	P		PKiKP	21	45	12.8	+1.1
	baz=296									
K22A	Casper	134.35	33	P		PKPdf	21	45	12.8	+1.5
	baz=314									
PDMCI	Parker Dam,Lak	134.42	47	P		PKiKP	21	45	13.4	+0.6
	baz=299									
RSSD	Black Hills	134.57	29	P		PKPdf	21	45	13.1	+1.3
	baz=318									
O20A	White River Ci	135.05	36	P		PKPdf	21	45	13.9	+1.2
	baz=310									
WUAZ	Wupatki	135.76	44	P		PKPdf	21	45	15.3	+1.1
	baz=303									
N23A	Red Feather La	135.87	34	P		PKPdf	21	45	15.3	+0.9
	baz=313									
EYMN	Ely	136.18	16	P		PKPdf	21	45	16.1	+1.8
	baz=336									
214A	Organ Pipe Nat	136.51	49	P		PKPdf	21	45	17.2	+1.7
	baz=298									
SUSD	Miller	136.63	25	P		PKiKP	21	45	17.6	+0.6
	baz=324									
MVCO	Mesa Verde	136.71	40	P		PKPdf	21	45	17.5	+1.6
	baz=307									
ISCO	Idaho Springs	136.79	35	P		PKPdf	21	45	17.8	+1.6
	baz=313									
W18A	Petrified Fore	137.10	43	P		PKPdf	21	45	18.5	+1.8
	baz=304									
CPSB	Cacapava Do Su	138.04	208	eP		PKPdf	21	45	18.9	+0.5
ECSD	EROS Data Cent	138.17	24	PKPdf		PKPdf	21	45	16.9	-1.3
NBAN	Anadia - AL	138.22	248	eP		PKPdf	21	45	19.5	+0.4
SDCO	Great Sand Dun	138.22	37	P		PKiKP	21	45	20.9	0.0
	baz=311									
T25A	Trinidad	139.28	37	P		PKPdf	21	45	22.7	+2.0
	baz=312									
ANMO	Albuquerque	139.39	41	P		PKiKP	21	45	23.5	+0.3
	baz=307									
121A	Cookes Peak, D	139.88	45	P		PKiKP	21	45	24.2	-0.1
	baz=304									
VAO	Valinhos	139.97	222	eP		PKPdf	21	45	22.4	+0.2
PKME	Peaks-Kenny Pk	140.84	354	P		PKiKP	21	45	25.9	+0.3
	baz=9.1									
MNTX	Cornudas Mount	142.03	44	P		PKiKP	21	45	28.8	+0.3
	baz=306									
AMTX	Amarillo	142.43	37	P		PKiKP	21	45	28.9	-0.4
	baz=313									
SMWD	Samnorwood	143.12	36	PKPdf		PKPbc	21	45	25.6	+1.2
CPUP	Villa Florida	143.29	207	PKP		PKPbc	21	45	25.8	+0.8
	comp=Z,7.2nm,1.0s,baz=156,slow=1.4,SNR=8.7									
AAM	Ann Arbor	143.33	11	P		PKiKP	21	45	30.9	+0.1
	baz=346									
CO01	Juntas del Tor	143.63	187			PKPbc	21	45	27.2	+1.0
TRCB	Terra Rica	143.71	217			PKPbc	21	45	26.7	+0.4
TRCB	Terra Rica	143.71	217	eP		PKPdf	21	45	28.7	-0.1
PCMB	Pacaembu	143.76	219	eP		PKPbc	21	45	28.4	+1.9
T35A	Sooner Cattle	143.76	30	PKPdf		PKPab	21	45	26.3	+0.9
ERPA	Erie	144.05	6			PKPab	21	45	26.8	+0.6
OK029	Liberty Lake	144.15	32			PKPab	21	45	26.9	0.0
IPMB	Ipameri, GO	144.16	227	eP		PKPab	21	45	27.9	+0.4
WMOK	Wichita Mounta	144.22	34	P		PKPab	21	45	27.8	+0.6
	baz=317,SNR=60									
BINY	Binghamton	144.22	1	P		PKPab	21	45	27.2	+0.2
	baz=358,SNR=8.7									
P43A	Skaggs, Pawnee	144.33	19			PKPab	21	45	27.5	+0.1
SFIN	Lafayette	144.38	16	P		PKPab	21	45	28.0	+0.5
	baz=339									
HPIG		144.38	51	PKPdf		PKPab	21	45

ZAIG	Zacatecas	148.84	55			PKPdf	21 45 39.4	+1.7
TZTN	Tazewell	148.90	13			PKPdf	21 45 38.8	+1.7
TZTN	Tazewell	148.90	13	P		PKPbc	21 45 41.5	+0.4
	baz=344							
OXF	Oxford	148.94	23	P		PKPbc	21 45 41.6	+0.3
	baz=332							
PLAL	Pickwick Lake	149.02	21			PKPdf	21 45 36.9	-0.4
HNVL	Huntsville, TX	149.03	36			PKPbc	21 45 42.4	+0.8
TKL	Tuckaleechee C	149.69	14	PKPdf		PKPdf	21 45 38.0	-0.4
TKL	Tuckaleechee C	149.69	14	PKHKP		PKPpre	21 45 38.0	
CPCT	Cooper Cave	149.70	15	PKPdf		PKPdf	21 45 38.2	-0.3
PB15	IPOC Station P	150.18	190			PKPdf	21 45 39.4	-0.4
SNDB	Serra Nova Dou	150.20	233	*e*P		PKPdf	21 45 39.6	-0.2
VBMS	Vicksburg	150.44	27	P		PKPbc	21 45 45.4	+0.4
	baz=328							
LVC	Limon Verde	150.66	192	*e*P		PKPdf	21 45 38.6	-2.2
KMSC	Kings Mountain	150.71	11	P		PKPbc	21 45 45.6	0.0
	baz=347							
SALV	Santo Antonio	150.78	221	*e*P		PKPdf	21 45 39.6	-1.0
LRAL	Lakeview Retre	151.16	21	P		PKPbc	21 45 46.7	+0.1
	baz=335							
BBRB	Robore, Bolivi	151.32	211	*e*P		PKPdf	21 45 40.4	-1.0
TMAB	Tom-Au,PA,Br	151.72	253	*e*P		PKPdf	21 45 40.6	-1.5
GOGA	Godfrey	151.90	15	P		PKPbc	21 45 49.1	+0.8
	baz=342							
PRPB	Parauapebas	151.92	244	*e*P		PKPdf	21 45 41.2	-1.3
BBSD	Serra de San D	152.65	211	*e*P		PKPdf	21 45 41.6	-1.9
PB08	IPOC Station P	153.10	192	PKPdf		PKPdf	21 45 43.0	-1.5
PB08				PKPbc		PKPbc	21 45 52.0	+0.1
PTLB	Pontes e Lacer	153.25	216	*e*P		PKPdf	21 45 44.0	-0.3
MCPB	Macapa, AP	156.10	255	*e*P		PKPdf	21 45 46.8	-1.6
LPAZ	La Paz	156.55	197	PKP		PKPdf	21 45 50.6	+1.0
	comp=Z,4.7nm,1.1s,baz=207,slow=2.3,SNR=10							
LPAZ				PKPab		PKPab	21 46 19.2	+0.8
	comp=Z,4.6nm,0.8s,baz=121,slow=14,SNR=3.5							
ITTB	Itaituba	157.98	242	*e*P		PKPdf	21 45 47.6	-3.1
ETMB	Extrema	161.73	209	*e*P		PKPdf	21 45 54.3	-0.6
BOAV	Boa Vista	164.99	256	*e*P		PKPdf	21 45 55.6	-2.5

JMA 09 21:34:00.9±0.1, 35°.2N±0°.2×137°.7E±0°.2, h17km, MV0.3/18, NE AICHI PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JNY	**Yasuok**	**0.20**	**36**	P	Pg	21 34 05.7	-0.1
JNY				*e*S	Sg	21 34 09.0	0.0

*NOU **09** 21:34:58.5, 42°.73S×173°.39E, h7km, MLv4.2/14, South Island, New Zealand*
*WEL **09** 21:34:59.5±0.3, 43°.5±2°.×17°.3E±°, h12km±3km, M4.0/16, ML4.2/16, MLv4.0/16, Error ellipse: s-maj=0.0km s-min=0.0km az=124.2, confirmed*
*WEL **09** 21:34:59.5, 42°.57S×173°.21E, h8km, ML4.0, Mw3.8, Moment Tensor Solution. s3 Moment tensor: Mrr19.62; Mθθ28.59; Mφφ-48.21; Mrθ24.00; Mrφ15.38; Mθφ-31.12; Fault plane solution: NP1:φs149.00000°, δ40.00000°, λ19.00000°. NP2:φs44.00000°, δ78.00000°, λ129.00000°. Principal axes: T -66.1000, Plg44.0000°, Azm352.0000°; N 49.3800, Plg38.0000°, Azm214.0000°; P 16.7200, Plg23.0000°, Azm106.0000°; SOUTH ISLAND*

ISC 09 21:34:59.5±0.8, 42°.58S±0°.02×173°.22E±0°.03, h16km±6km, n144, σ1$36/162, South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WTMC	**Te Mara Farm W**	**0.13**	**252**	P	**Pg**	**21 35 02.7**	**-0.5**
WTMC				S	**Sg**	**21 35 05.6**	**0.0**
CECS	**Cheviot Emerge**	**0.24**	**171**	P	**Pg**	**21 35 06.1**	**+1.3**
CECS				S	**Sg**	**21 35 11.5**	**+3.1**
KHZ	**Kahutara**	**0.29**	**55**	P	**Pb**	**21 35 05.8**	**-0.4**
KHZ	**Kahutara**	**0.29**	**55**	P	**Pb**	**21 35 05.9**	**-0.4**
KHZ				S	**Sb**	**21 35 10.6**	**-0.2**
HSES	**Hanmer Springs**	**0.29**	**281**	P	**Pg**	**21 35 05.0**	**-0.8**
HSES				S	**Sg**	**21 35 09.5**	**-0.6**
WIGC	**Waiau Gorge**	**0.33**	**249**	P	**Pg**	**21 35 04.9**	**-1.5**
WIGC				S	**Sg**	**21 35 10.2**	**-1.0**
KIKS	**Kaikoura**	**0.37**	**66**	P	**Pb**	**21 35 08.3**	**+0.6**
KIKS				S	**Sb**	**21 35 14.9**	**+1.5**
GVZ	**Greta Valley S**	**0.41**	**200**	P	**Pb**	**21 35 09.0**	**+0.6**
GVZ				S	**Sb**	**21 35 16.3**	**+1.8**
SCAC	**Scargill**	**0.42**	**212**	P	**Pb**	**21 35 07.5**	**-1.1**
SCAC				S	**Sb**	**21 35 14.7**	**0.0**
WAKC	**Waikari**	**0.54**	**225**	P	**Pb**	**21 35 10.7**	**+0.1**
WAKC				S	**Sb**	**21 35 19.0**	**+0.9**
LSRC	**Lake Sumner Ro**	**0.58**	**240**	P	**Pg**	**21 35 10.3**	**-0.6**
AMBC	**Amberley HDC**	**0.68**	**212**	P	**Pb**	**21 35 13.0**	**0.0**
AMCZ	**Amberley**	**0.73**	**215**	P	**Pn**	**21 35 14.8**	**-0.4**
AMCZ				S	**Sn**	**21 35 26.2**	**+0.1**
LTZ	**Lake Taylor**	**0.73**	**254**	P	**Pg**	**21 35 13.5**	**-0.2**
LTZ				S	**Sg**	**21 35 23.5**	**+0.1**
SJFS	**Springs Juncti**	**0.81**	**287**	P	**Pg**	**21 35 14.8**	**-0.4**
THZ	**Tophouse**	**0.85**	**344**	P	**Pg**	**21 35 15.2**	**-0.9**
THZ				S	**Sg**	**21 35 26.6**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.99**	**30**	P	**Pg**	**21 35 18.4**	**-0.2**
BSWZ				S	**Sn**	**21 35 33.4**	**+0.9**
CMWZ	**Cape Campbell**	**1.11**	**42**	P	**Pn**	**21 35 21.5**	**+1.1**
OXZ	**Oxford**	**1.15**	**229**	P	**Pb**	**21 35 20.3**	**-0.6**
OXZ				S	**Sn**	**21 35 36.7**	**+0.4**
MQZ	**McQueen's Vall**	**1.20**	**200**	P	**Pb**	**21 35 20.5**	**-1.4**
MQZ				S	**Sn**	**21 35 37.3**	**-0.3**
MRNZ	**Matariki Terra**	**1.23**	**343**	P	**Pn**	**21 35 22.0**	**-0.1**
TUWZ	**Tuamarina**	**1.27**	**25**	P	**Pn**	**21 35 23.2**	**+0.6**
AKCZ	**Akaroa Harbour**	**1.31**	**190**	P	**Pb**	**21 35 22.7**	**-1.1**
INZ	**Inchbonnie**	**1.32**	**263**	P	**Pn**	**21 35 23.3**	**0.0**
INZ				S	**Sb**	**21 35 41.6**	**+1.0**
DSZ	**Denniston Nort**	**1.34**	**308**	P	**Pn**	**21 35 24.1**	**+0.4**
DSZ				S	**Sn**	**21 35 42.0**	**+0.8**
NNZ	**Nelson**	**1.37**	**5**	P	**Pn**	**21 35 24.1**	**+0.1**
RACZ	**Rakaia**	**1.39**	**214**	P	**Pn**	**21 35 23.7**	**-0.6**
RACZ				S	**Sn**	**21 35 42.5**	**+0.1**
MHCZ	**Mount Hutt**	**1.54**	**231**	P	**Pn**	**21 35 25.8**	**-0.6**
MHCZ				S	**Sn**	**21 35 46.0**	**-0.1**
TKNZ	**Takaka Hill**	**1.56**	**353**	P	**Pn**	**21 35 27.3**	**+0.7**
TCW	**Tory Channel**	**1.58**	**30**	P	**Pn**	**21 35 27.1**	**+0.3**
SNZO	**South Karori**	**1.68**	**42**	P	**Pn**	**21 35 28.5**	**+0.2**
WACZ	**Wakanui South**	**1.70**	**216**	P	**Pn**	**21 35 28.0**	**-0.5**
BHW	**Baring Head**	**1.70**	**47**	P	**Pn**	**21 35 28.5**	**0.0**
WEL	**Wellington**	**1.73**	**42**	P	**Pn**	**21 35 29.3**	**+0.3**
PLWZ	**Palliser**	**1.82**	**57**	P	**Pn**	**21 35 29.7**	**-0.5**
QRZ	**Quartz Range**	**1.83**	**343**	P	**Pn**	**21 35 31.4**	**+1.1**
QRZ	**Quartz Range**	**1.83**	**343**	P	**Pn**	**21 35 31.2**	**+0.9**
DUWZ	**D'Urville Isla**	**1.85**	**17**	P	**Pn**	**21 35 31.5**	**+0.8**
WVZ	**Waitaha Valley**	**1.89**	**254**	P	**Pn**	**21 35 31.7**	**+0.5**
RPZ	**Rata Peaks**	**1.95**	**234**	P	**Pn**	**21 35 31.7**	**-0.3**
RPZ	**Rata Peaks**	**1.95**	**234**	P	**Pn**	**21 35 31.7**	**-0.3**
CAW	**Cannon Point**	**2.02**	**44**	P	**Pn**	**21 35 32.8**	**-0.1**
ARCZ	**Arundel**	**2.02**	**227**	P	**Pn**	**21 35 32.3**	**-0.7**
PAWZ	**Paruwai Farm**	**2.03**	**55**	P	**Pn**	**21 35 32.5**	**-0.6**
KIW	**Kapiti Island**	**2.13**	**37**	P	**Pn**	**21 35 34.7**	**+0.3**
TRWZ	**Traveller**	**2.19**	**58**	P	**Pn**	**21 35 34.7**	**-0.5**
MTW	**Mount Morrison**	**2.22**	**51**	P	**Pn**	**21 35 35.0**	**-0.7**
GCSZ	**Gaunt Creek Bo**	**2.25**	**250**	P	**Pn**	**21 35 36.9**	**+0.8**
OGWZ	**Otaki Gorge**	**2.29**	**40**	P	**Pn**	**21 35 36.5**	**-0.1**
HOWZ	**Holdsworth Sta**	**2.40**	**46**	P	**Pn**	**21 35 37.4**	**-0.8**
TMZ	**Timaru**	**2.42**	**221**	P	**Pn**	**21 35 37.9**	**-0.5**
TMWZ	**Te Maipa**	**2.48**	**54**	P	**Pn**	**21 35 38.5**	**-0.8**
MRZ	**Mangatainoka R**	**2.61**	**43**	P	**Pn**	**21 35 40.4**	**-0.6**
FOZ	**Fox Glacier**	**2.67**	**248**	P	**Pn**	**21 35 43.0**	**+1.2**
TIWZ	**Tintock**	**2.69**	**49**	P	**Pb**	**21 35 46.7**	**-0.6**
LBZ	**Lake Benmore**	**2.85**	**230**	P	**Pn**	**21 35 44.1**	**-0.3**
PRWZ	**Pori Road**	**2.89**	**46**	P	**Pn**	**21 35 43.9**	**-1.0**
POWZ	**Post Office Ro**	**2.91**	**42**	P	**Pn**	**21 35 44.4**	**-0.7**
BFZ	**Birch Farm**	**2.96**	**51**	P	**Pn**	**21 35 45.3**	**-0.5**
BFZ	**Birch Farm**	**2.96**	**51**	P	**Pn**	**21 35 44.4**	**-1.4**
ODZ	**Otahua Downs**	**3.09**	**216**	P	**Pn**	**21 35 47.1**	**-0.5**
ODZ	**Otahua Downs**	**3.09**	**216**	P	**Pn**	**21 35 46.8**	**-0.8**
WAZ	**Wanganui**	**3.12**	**26**	P	**Pn**	**21 35 50.5**	**+2.4**
DVHZ	**Dannevirke**	**3.18**	**45**	P	**Pn**	**21 35 47.8**	**-1.1**
NMEZ	**Namu Road**	**3.20**	**9**	P	**Pn**	**21 35 52.4**	**+3.3**
ANWZ	**Angora Road**	**3.23**	**50**	P	**Pn**	**21 35 49.6**	**0.0**
LREZ	**Lake Rotokare**	**3.24**	**16**	P	**Pn**	**21 35 52.8**	**+3.1**
PREZ	**Palmer Road**	**3.31**	**13**	P	**Pn**	**21 35 53.9**	**+3.1**
KHEZ	**Kahui Hut**	**3.34**	**11**	P	**Pn**	**21 35 54.2**	**+3.1**
KHEZ	**Kahui Hut**	**3.34**	**11**	P	**Pn**	**21 35 53.4**	**+2.3**
NBEZ	**Newall Road No**	**3.34**	**9**	P	**Pn**	**21 35 53.8**	**+2.6**
NEZ	**North Egmont**	**3.37**	**12**	P	**Pn**	**21 35 54.7**	**+3.1**
PKE	**Pukeiti**	**3.43**	**10**	P	**Pn**	**21 35 54.9**	**+2.5**
PRHZ	**Porangahau**	**3.45**	**49**	P	**Pn**	**21 35 52.4**	**-0.3**
DREZ	**Durham Road**	**3.47**	**13**	P	**Pn**	**21 35 55.9**	**+3.1**
PNHZ	**Pukenui**	**3.48**	**41**	P	**Pn**	**21 35 51.9**	**-1.2**
JCZ	**Jackson Bay**	**3.56**	**244**	P	**Pn**	**21 35 54.8**	**+0.5**
JCZ	**Jackson Bay**	**3.56**	**244**	P	**Pn**	**21 35 54.7**	**+0.5**
MTVZ	**Mangateitei**	**3.62**	**29**	P	**Pn**	**21 35 56.5**	**+1.6**
VRZ	**Vera Road**	**3.64**	**19**	P	**Pn**	**21 35 57.4**	**+2.1**
PKVZ	**Pokaka**	**3.66**	**27**	P	**Pn**	**21 35 60.0**	**+4.4**
MOVZ	**Moawhango**	**3.70**	**32**	P	**Pn**	**21 35 56.4**	**+0.2**
WNVZ	**Wahianoa**	**3.71**	**30**	P	**Pn**	**21 35 57.3**	**+0.9**
TRVZ	**Turoa**	**3.72**	**29**	P	**Pn**	**21 35 59.0**	**+2.5**
WHVZ	**Whangaehu Hut**	**3.75**	**29**	P	**Pn**	**21 35 57.7**	**+0.8**
MAVZ	**Matarangi**	**3.75**	**29**	P	Pn	**21 36 01.9**	**+4.8**
BHHZ	**Black Hill Sta**	**3.76**	**36**	P	**Pn**	**21 35 56.8**	**-0.2**
FWVZ	**Far West T-bar**	**3.76**	**29**	P	**Pn**	**21 35 58.3**	**+1.2**
KRHZ	**Kereru**	**3.78**	**40**	P	**Pn**	**21 35 55.7**	**-1.4**
WKZ	**Wanaka**	**3.79**	**232**	P	**Pn**	**21 35 55.5**	**-1.7**
TUVZ	**Tukino**	**3.79**	**30**	P	**Pn**	**21 35 58.5**	**+1.2**
HHSZ	**Highcliff Hill**	**3.80**	**209**	P	**Pn**	**21 35 56.8**	**-0.6**
COVZ	**Chateau Observ**	**3.81**	**28**	P	**Pb**	**21 36 03.8**	**-2.5**
NGZ	**Ngauruhoe**	**3.85**	**29**	P	**Pn**	**21 35 59.0**	**+0.7**
SNVZ	**South Ngauruho**	**3.85**	**29**	P	**Pn**	**21 35 59.5**	**+1.2**
EAZ	**Earnscleugh**	**3.88**	**226**	P	**Pn**	**21 35 58.1**	**-0.4**
OTVZ	**Oturere**	**3.88**	**29**	P	**Pn**	**21 35 59.4**	**+0.7**
TWVZ	**Taurewa**	**3.89**	**26**	P	**Pn**	**21 35 59.5**	**+0.8**
NNVZ	**North Ngauruho**	**3.89**	**29**	P	**Pn**	**21 35 59.6**	**+0.8**
WTVZ	**West Tongariro**	**3.90**	**28**	P	**Pn**	**21 35 59.4**	**+0.6**
KAHZ	**Kahuranaki**	**3.92**	**46**	P	**Pn**	**21 35 58.0**	**-1.0**
ETVZ	**East Tongariro**	**3.92**	**30**	P	**Pn**	**21 35 60.0**	**+0.7**
KRVZ	**Karewarewa**	**3.94**	**29**	P	**Pn**	**21 36 00.1**	**+0.7**
TMVZ	**Te Maari**	**3.94**	**29**	P	**Pn**	**21 36 00.1**	**+0.7**
NTVZ	**North Tongarir**	**3.94**	**29**	P	**Pn**	**21 36 00.4**	**+0.9**
KWHZ	**Kaweka Forest**	**3.98**	**39**	P	**Pn**	**21 35 59.1**	**-0.8**
KATZ	**Kakaramea**	**4.06**	**28**	P	**Pn**	**21 36 04.2**	**+3.1**
BKZ	**Black Stump Fm**	**4.22**	**37**	P	**Pn**	**21 36 04.3**	**+1.1**
BKZ	**Black Stump Fm**	**4.22**	**37**	P	**Pn**	**21 36 02.1**	**-1.1**
TUZ	**Tuapeka**	**4.25**	**216**	P	**Pn**	**21 36 02.9**	**-0.6**
HIZ	**Hauiti**	**4.25**	**18**	P	**Pn**	**21 36 05.0**	**+1.4**
HIZ	**Hauiti**	**4.25**	**18**	P	**Pn**	**21 36 05.1**	**+1.5**
WATZ	**Wairara**	**4.31**	**27**	P	**Pb**	**21 36 11.0**	**-4.0**
TLZ	**Tolley Road**	**4.60**	**23**	P	**Pn**	**21 36 10.3**	**+1.9**
MLZ	**Mavora Lakes**	**4.62**	**231**	P	**Pn**	**21 36 08.3**	**-0.4**
MTHZ	**Maungataniwha**	**4.63**	**38**	P	**Pn**	**21 36 09.4**	**+0.6**
RTZ	**Ruatahuna**	**4.88**	**37**	P	**Pn**	**21 36 13.4**	**+1.0**
SYZ	**Scrubby Hill**	**4.92**	**215**	P	**Pn**	**21 36 12.6**	**-0.1**
SYZ	**Scrubby Hill**	**4.92**	**215**	P	**Pn**	**21 36 12.6**	**-0.1**
SNGZ	**Shannon Statio**	**4.92**	**41**	P	**Pn**	**21 36 11.6**	**-1.2**
MHGZ	**Mahia Peninsul**	**4.93**	**48**	P	**Pn**	**21 36 13.1**	**+0.1**
PRGZ	**Paritu Road**	**5.09**	**46**	P	**Pn**	**21 36 14.9**	**-0.2**
TOZ	**Tahuroa Road**	**5.15**	**21**	P	**Pn**	**21 36 16.6**	**+0.6**
URZ	**Urewera**	**5.24**	**36**	P	**Pn**	**21 36 16.7**	**-0.4**
URZ	**Urewera**	**5.24**	**36**	P	**Pn**	**21 36 15.0**	**-2.1**
MWZ	**Matawai**	**5.36**	**39**	P	**Pn**	**21 36 16.7**	**-2.2**
CNGZ	**Carnagh Statio**	**5.58**	**45**	P	**Pn**	**21 36 21.8**	**-0.1**
AWAZ	**Awhitu Peninsu**	**5.62**	**12**	P	**Pn**	**21 36 23.9**	**+1.6**
APZ	**The Paps**	**5.65**	**219**	P	**Pn**	**21 36 22.1**	**-0.8**
MKAZ	**Moumakai**	**5.67**	**16**	P	**Pn**	**21 36 24.1**	**+1.1**
TWGZ	**Tauwhareparae**	**5.70**	**41**	P	**Pn**	**21 36 24.0**	**+0.3**
WTAZ	**Waiatarua**	**5.74**	**11**	P	**Pn**	**21 36 26.3**	**+2.3**
ETAZ	**East Tamaki Re**	**5.77**	**14**	P	**Pn**	**21 36 25.7**	**+1.2**
MBAZ	**Motutapu North**	**5.95**	**13**	P	**Pn**	**21 36 28.6**	**+1.7**
HAZ	**Te Kaha**	**5.95**	**37**	P	**Pn**	**21 36 25.2**	**-1.8**
WIAZ	**Waiheke Island**	**5.96**	**15**	P	**Pn**	**21 36 28.6**	**+1.5**
ABAZ	**Army Bay**	**6.10**	**12**	P	**Pn**	**21 36 30.5**	**+1.5**
KUZ	**Kuaotunu**	**6.14**	**19**	P	**Pn**	**21 36 30.3**	**+0.8**
MXZ	**Matakaoa Point**	**6.35**	**40**	P	**Pn**	**21 36 33.0**	**+0.6**
MXZ	**Matakaoa Point**	**6.35**	**40**	P	**Pn**	**21 36 32.0**	**-0.4**
GRZ	**Great Barrier**	**6.55**	**16**	P	**Pn**	**21 36 37.3**	**+2.1**
WCZ	**Waipu Caves**	**6.69**	**8**	P	**Pn**	**21 36 39.7**	**+2.6**
OUZ	**Omahuta**	**7.36**	**2**	P	**Pn**	**21 36 49.2**	**+3.0**
OUZ	**Omahuta**	**7.36**	**2**	P	**Pn**	**21 36 49.0**	**+2.7**

PRU 09 21:38:47.9, 49°.82N×18°.53E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OKC	**Ostrava-Krasne**	**0.25**	**274**	*e*PG	Pg	21 38 52.0	-0.7
OKC				*e*SG	Sg	21 38 57.0	+1.1
	comp=Z,13nm,0.8s						
MORC	**Moravsky Berou**	**0.64**	**267**	*e*PG	Pg	21 38 59.9	-0.3
LANS	**Liptovska Anna**	**0.91**	**137**	*e*PG	Pg	21 39 04.6	-0.7
LANS				*e*SG	Sg	21 39 17.0	0.0
LANS	**Liptovska Anna**	**0.91**	**137**	*e*P	Pg	21 39 04.6	-0.7
KRLC	**Kraliky**	**1.16**	**283**	*e*PG	Pg	21 39 08.5	-1.6
KRLC				*e*SG	Sg	21 39 24.7	-0.4
KRLC	**Kraliky**	**1.16**	**283**	*e*P	Pg	21 39 08.5	-1.6
VRAC	**Vranov**	**1.36**	**249**	*e*PG	Pg	21 39 12.9	-1.1
VRAC				*e*SG	Sg	21 39 31.3	-0.3
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*PG	Pn	21 39 15.6	-0.8
DPC				*e*SG	Sg	21 39 35.8	-0.8
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*	Sn	21 39 35.8	-1.0
DPC	**Dobruska-Polom**	**1.52**	**291**	*e*P	Pn	21 39 15.6	-0.8
KRUC	**Moravsky**	**1.59**	**242**	*e*PG	Pn	21 39 16.2	-1.0
KRUC				*e*SG	Sn	21 39 37.7	-0.8
BRG	**Berggiesshubel**	**3.12**	**291**	P	Pn	21 39 41.2	+2.8
BRG				Amp		21 39 43.3	
	comp=Z,2.3nm,0.8s						
BRG	**Berggiesshubel**	**3.12**	**291**		Pn	21 39 41.1	+2.8

*IDC **09** 21:48:01.5±2.5, 46°.19N×13°.30E, h0km, mb3.6/1, mbtmp3.4/5, ML3.3/4, Error ellipse: s-maj=33.9km s-min=21.5km az=113.0*
*LDG **09** 21:48:01.1±0.1, 46°.30N×13°.12E, h7km, Ml3.5/44, Error ellipse: s-maj=2.4km s-min=1.8km az=79.0*
*ROM **09** 21:48:01.9±0.1, 46°.303N±0°.003×13°.105E±0°.003, h9km, ML3.6/289, Error ellipse: s-maj=0.3km s-min=0.1km az=164.0*
*VIE **09** 21:48:02.2±0.1, 46°.29N×13°.11E, h15km, mb2.8/22, ml3.9/22, Error ellipse: s-maj=1.1km s-min=0.9km az=44.0*
*PRU **09** 21:48:04.0, 46°.28N×13°.12E, h10km*
*BGR **09** 21:48:06.1, 46°.35N×13°.14E, h10km, ML3.8/33*
*BNS **09** 21:48:07.5±0.5, 46°.26N×12°.87E, h10km, ML3.6*
*BEO **09** 21:48:08.2±0.7, 46°.35N×13°.40E, h25km±3km, ML3.5/13*

ISC 09 21:48:02.9±0.7, 46°.28N±0°.01×13°.09E±0°.01, h9km±4km, n265, σ2$05/401, 6C-36D, Austria

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOO	**Bordano**	**0.04**	**7**	‖*e*Pg	**Pg**	**21 48 04.0**	**-0.8**
BOO				*e*Sg	**Sg**	**21 48 04.9**	**-1.3**
BUA	**Buia**	**0.06**	**159**	*e*Pg	**Pg**	**21 48 04.5**	**-0.4**
BUA				*e*Sg	**Sg**	**21 48 06.0**	**-0.3**
MPRI	**Monte Prat**	**0.08**	**245**	⇑*e*Pg	**Pg**	**21 48 05.0**	**-0.2**
MPRI				*e*Sg	**Sg**	**21 48 06.9**	**0.0**
MPRI	**Monte Prat**	**0.08**	**245**	⇑P	**Pg**	**21 48 05.0**	**-0.2**
MPRI				S	**Sg**	**21 48 06.9**	**+0.1**
MPRI				AML	AML		
	comp=E,40400μm,0.3s						
MPRI				AML	AML		
	comp=N,63500μm,1.1s						
MPRI				AML	AML		
	comp=E,52900μm,0.3s						
MPRI				AML	AML		
	comp=N,82200μm,1.1s						
MPRI				AML	AML		
	comp=E,40407μm,0.3s						
MPRI				AML	AML		
	comp=E,52891μm,0.3s						
BAD	**Bernadia**	**0.11**	**110**	‖*e*Pg	**Pg**	**21 48 05.2**	**-0.4**
BAD				*e*Sg	**Sg**	**21 48 07.1**	**-0.4**
VINO	**Villanova**	**0.13**	**98**	⇑*e*Pg	**Pg**	**21 48 05.2**	**-0.7**
VINO				*e*Sg	**Sg**	**21 48 07.2**	**-0.9**
FUSE	**Fusea**	**0.15**	**336**	‖*e*Pg	**Pg**	**21 48 05.7**	**-0.5**
FUSE				*e*Sg	**Sg**	**21 48 08.0**	**-0.6**
PTCC	**Patocco-Chiusa**	**0.22**	**54**	⇑P	**Pg**	**21 48 06.7**	**-0.8**
PTCC				S	**Sg**	**21 48 09.9**	**-0.7**
PTCC				AML	AML		
	comp=E,16200μm,0.2s						
PTCC				AML	AML		
	comp=N,14300μm,0.5s						
PTCC				AML	AML		
	comp=N,14300μm,1.5s						
PTCC				AML	AML		
	comp=E,16199μm,0.2s						
PTCC				AML	AML		
	comp=N,13744μm,0.4s						
CLUD	**Cludinico**	**0.23**	**321**	‖*e*Pg	**Pg**	**21 48 07.1**	**-0.5**
CLUD				*e*Sg	**Sg**	**21 48 10.5**	**-0.3**
CLUD	**Cludinico**	**0.23**	**321**	‖P	**Pg**	**21 48 07.1**	**-0.5**
CLUD				S	**Sg**	**21 48 11.3**	**+0.4**
COLI	**Coloredo**	**0.24**	**125**	*e*Pg	**Pg**	**21 48 07.6**	**-0.2**
COLI				*e*Sg	**Sg**	**21 48 11.3**	**+0.1**
STAL	**STALIGIAL**	**0.27**	**267**	⇑P	**Pg**	**21 48 08.0**	**-0.2**
STAL				S	**Sg**	**21 48 12.5**	**+0.7**
STAL				AML	AML		
	comp=E,25550μm,0.2s						
STAL				AML	AML		
	comp=N,32600μm,0.2s						
STAL				AML	AML		
	comp=E,25550μm,0.2s						
STAL				AML	AML		
	comp=N,23300μm,1.3s						
STAL				AML	AML		
	comp=N,32600μm,0.2s						
STAL				AML	AML		
	comp=E,20450μm,1.2s						
STAL				AML	AML		
	comp=N,23300μm,0.7s						
STAL				AML	AML		
	comp=E,20450μm,0.8s						
STAL				AML	AML		
	comp=N,32609μm,0.2s						
STAL				AML	AML		
	comp=N,16989μm,0.2s						
STAL				AML	AML		
	comp=E,19984μm,0.3s						
STAL				AML	AML		
	comp=E,25564μm,0.2s						
PLRO	**Paularo**	**0.28**	**8**	⇑*e*Pg	**Pg**	**21 48 07.5**	**-1.0**
PLRO				*e*Sg	**Sg**	**21 48 11.7**	**-0.6**
ROBS	**Robic**	**0.29**	**96**	*i* Pg	**Pg**	**21 48 07.9**	**-0.8**
ROBS				*i* Sg	**Sg**	**21 48 13.2**	**+0.6**
ROBS				IAML		21 48 13.4	
	comp=Z,963nm,0.1s						
ZOU	**Zoufplan**	**0.29**	**344**	‖*e*Pg	**Pg**	**21 48 08.3**	**-0.6**
ZOU				*e*Sg	**Sg**	**21 48 12.4**	**-0.4**
ZOU	**Zoufplan**	**0.29**	**344**	‖P	**Pg**	**21 48 08.3**	**-0.6**
ZOU				S	**Sg**	**21 48 13.3**	**+0.5**
ZOU				AML	AML		
	comp=N,16500μm,1.2s						
ZOU				AML	AML		
	comp=N,16550μm,1.2s						
ZOU				AML	AML		
	comp=E,20550μm,0.3s						
ZOU				AML	AML		
	comp=E,20700μm,0.3s						
ZOU				AML	AML		
	comp=N,16550μm,0.8s						
ZOU				AML	AML		
	comp=N,16500μm,0.8s						
ZOU				AML	AML		
	comp=N,14707μm,0.3s						
ZOU				AML	AML		
	comp=N,14672μm,0.3s						
ZOU				AML	AML		
	comp=E,20706μm,0.3s						
ZOU				AML	AML		
	comp=E,20511μm,0.3s						
TLI	**Talmassons**	**0.35**	**179**	‖*e*Pg	**Pg**	**21 48 09.7**	**-0.2**
MLNI	**Malnisio**	**0.36**	**250**	*e*Pg	**Pg**	**21 48 09.9**	**-0.1**
MLNI				*e*Sg	**Sg**	**21 48 15.6**	**+0.9**
LSR	**Lussari**	**0.36**	**56**	*e*Pg	**Pg**	**21 48 09.3**	**-0.8**
LSR				*e*Sg	**Sg**	**21 48 14.5**	**-0.4**
CSMI	**Casera Mimoias**	**0.39**	**308**	‖*e*Pg	**Pg**	**21 48 09.9**	**-0.7**

	comp=Z,374nm,0.2s								
GORS	**Gorjuse**	**0.63**	**86**	*i* Pg	**Pg**	**21 48 13.8**	**-1.3**		
GORS				*e*Sg	**Sg**	**21 48 23.2**	**0.0**		
GORS				IAML		21 48 25.5			
	comp=Z,1µm,0.2s								
AFL	**Alpe Faloria**	**0.68**	**292**	*e*Pg	**Pg**	**21 48 15.7**	**-0.4**		
AGOR	**Agordo**	**0.72**	**271**	*e*Pg	**Pg**	**21 48 17.0**	**+0.2**		
AGOR	**Agordo**	**0.72**	**271**	P	**Pg**	**21 48 16.5**	**-0.4**		
TRI	**Trieste**	**0.73**	**140**	*e*Pg	**Pg**	**21 48 15.6**	**-1.5**		
VARN	**Col Varnada, M**	**0.74**	**248**	P	**Pg**	**21 48 16.4**	**-0.8**		
VARN				AML	AML				
	comp=N,3845µm,1.1s								
VARN				AML	AML				
	comp=N,3905µm,1.1s								
VARN				AML	AML				
	comp=E,5150µm,0.3s								
VARN				AML	AML				
	comp=E,5240µm,0.3s								
VARN				AML	AML				
	comp=N,3845µm,0.9s								
VARN				AML	AML				
	comp=N,3905µm,0.9s								
VARN				AML	AML				
	comp=N,3442µm,0.3s								
VARN				AML	AML				
	comp=E,5237µm,0.3s								
VARN				AML	AML				
	comp=E,5147µm,0.3s								
VARN				AML	AML				
	comp=N,3411µm,0.2s								
FAU	**Forcella Aurin**	**0.77**	**267**	*e*Pg	**Pg**	**21 48 16.8**	**-1.0**		
JAVS	**Javornik**	**0.78**	**119**	*e*Pg	**Pg**	**21 48 16.4**	**-1.4**		
JAVS				*i* Sg	**Sg**	**21 48 29.1**	**+1.1**		
JAVS				IAML		21 48 30.8			
	comp=Z,806nm,0.3s								
KBA	**Koelnbreinsper**	**0.82**	**12**	*e*Pg	**Pg**	**21 48 18.0**	**-0.8**		
	comp=Z,79nm,0.2s,SNR=116								
KBA				*i* Sg	**Sg**	**21 48 29.2**	**-0.3**		
	comp=Z,435nm,0.2s								
KBA	**Koelnbreinsper**	**0.82**	**12**	*e*Pg	**Pg**	**21 48 18.0**	**-0.8**		
KBA				*e*Sg	**Sg**	**21 48 29.4**	**-0.1**		
CRND	**Cornuda**	**0.83**	**238**	P	**Pg**	**21 48 19.6**	**+0.8**		
MTLO	**Montello**	**0.83**	**237**	*e*Pg	**Pg**	**21 48 18.7**	**-0.2**		
CRNS	**Crni Vrh**	**0.83**	**103**	*e*Pg	**Pg**	**21 48 17.5**	**-1.4**		
CRNS				*i* Sg	**Sg**	**21 48 30.8**	**+1.0**		
CRNS				IAML		21 48 33.7			
	comp=Z,682nm,0.2s								
IESO	**Jesolo**	**0.84**	**207**	*e*Pg	**Pg**	**21 48 19.2**	**+0.1**		
MOZS	**Mozjanca**	**0.94**	**88**	*i* Pg	**Pg**	**21 48 19.6**	**-1.3**		
MOZS				*e*Sg	**Sg**	**21 48 34.0**	**+0.9**		
MOZS				IAML		21 48 40.1			
	comp=Z,200nm,0.1s								
ASOL	**Asolo**	**0.95**	**241**	P	**Pg**	**21 48 21.6**	**+0.4**		
CGRP	**Cima Grappa**	**0.98**	**247**	P	**Pg**	**21 48 20.8**	**-1.0**		
CGRP				AML	AML				
	comp=E,6625µm,0.8s								
CGRP				AML	AML				
	comp=N,4410µm,0.2s								
CGRP				AML	AML				
	comp=N,4355µm,0.2s								
CGRP				AML	AML				
	comp=E,6560µm,0.8s								
CGRP				AML	AML				
	comp=N,4356µm,0.2s								
CGRP				AML	AML				
	comp=E,6093µm,0.4s								
CGRP				AML	AML				
	comp=E,6121µm,0.5s								
CGRP				AML	AML				
	comp=N,4414µm,0.2s								
VENL	**Venezia Lido**	**0.99**	**210**	P	**Pg**	**21 48 22.5**	**+0.6**		
VENL				AML	AML				
	comp=E,5860µm,1.6s								
VENL				AML	AML				
	comp=N,7350µm,0.7s								
VENL				AML	AML				
	comp=E,5860µm,0.4s								
VENL				AML	AML				
	comp=N,6659µm,0.2s								
VENL				AML	AML				
	comp=E,5426µm,0.4s								
GBAS	**Gorenja Brezov**	**1.00**	**109**	*i* Pg	**Pg**	**21 48 20.6**	**-1.5**		
GBAS				*i* Sg	**Sg**	**21 48 36.0**	**+0.9**		
GBAS				IAML		21 48 40.5			
	comp=Z,587nm,0.2s								
LJU	**Ljubljana**	**1.02**	**103**	*i* Pg	**Pg**	**21 48 21.2**	**-1.3**		
LJU				*i* Sg	**Sg**	**21 48 37.4**	**+1.6**		
LJU				IAML		21 48 41.8			
	comp=Z,424nm,0.2s								
CTI	**Castel Tesino**	**1.03**	**258**	P	**Pg**	**21 48 23.1**	**+0.5**		
CTI				AML	AML				
	comp=N,11650µm,0.8s								
CTI				AML	AML				
	comp=E,8780µm,1.6s								
CTI				AML	AML				
	comp=E,7739µm,0.2s								
CTI				AML	AML				
	comp=N,10720µm,0.2s								
BRES	**Bressanone**	**1.03**	**295**	P	**Pg**	**21 48 22.1**	**-0.5**		
BRES				AML	AML				
	comp=N,2490µm,0.5s								
BRES				AML	AML				
	comp=N,2490µm,1.5s								
BRES				AML	AML				
	comp=E,1755µm,0.2s								
BRES				AML	AML				
	comp=E,1754µm,0.2s								
BRES				AML	AML				
	comp=N,2183µm,0.2s								
OBKA	**Obir**	**1.03**	**76**	*e*Pg	**Pg**	**21 48 21.1**	**-1.7**		
	comp=N,69nm,0.3s,SNR=56								
OBKA				*e*Sg	**Sg**	**21 48 37.2**	**+1.0**		
	comp=N,737nm,0.5s								
OBKA	**Obir**	**1.03**	**76**	*e*Pn	**Pg**	**21 48 21.1**	**-1.7**		
OBKA	**Obir**	**1.03**	**76**	*e*Pg	**Pg**	**21 48 21.2**	**-1.6**		
OBKA				*e*Sg	**Sg**	**21 48 37.4**	**+1.2**		
ZIAN	**Ziano**	**1.06**	**271**	P	**Pg**	**21 48 22.6**	**-0.7**		
ZIAN				AML	AML				
	comp=E,2440µm,0.5s								
ZIAN				AML	AML				
	comp=E,4010µm,0.6s								
ZIAN				AML	AML				
	comp=N,4000µm,0.6s								
ZIAN				AML	AML				
	comp=E,4015µm,0.6s								
ZIAN				AML	AML				
	comp=N,2515µm,0.5s								
ZIAN				AML	AML				
	comp=N,4000µm,1.4s								
ZIAN				AML	AML				
	comp=E,4015µm,1.4s								
ZIAN				AML	AML				
	comp=E,2613µm,0.3s								
ZIAN				AML	AML				
	comp=N,2680µm,0.3s								
ZIAN				AML	AML				
	comp=E,2425µm,0.5s								
ZIAN				AML	AML				
	comp=N,2514µm,0.5s								
CEY	**Cerknica**	**1.07**	**119**	*i* Pg	**Pg**	**21 48 21.6**	**-1.9**		
CEY				*i* Sg	**Sg**	**21 48 38.8**	**+1.4**		
CEY				*i*		21 48 41.6			
CEY				IAML		21 48 42.8			
	comp=Z,883nm,0.2s								
VNDS	**Vrh nad Dolski**	**1.13**	**98**	*i* Pg	**Pg**	**21 48 23.4**	**-1.2**		
VNDS				*i* Sg	**Sg**	**21 48 40.5**	**+1.2**		
VNDS				IAML		21 48 43.9			
	comp=Z,419nm,0.2s								
KNDS	**Knezji Dol**	**1.17**	**129**	*i* Pg	**Pg**	**21 48 23.2**	**-2.1**		
KNDS				IAML		21 48 45.0			
	comp=Z,657nm,0.2s								
LESA	**Schwarzleotal**	**1.18**	**346**	*e*Pg	**Pg**	**21 48 24.9**	**-0.7**		
	comp=Z,99nm,0.2s								
LESA				*e*Sg	**Sg**	**21 48 40.5**	**-0.5**		
	comp=Z,475nm,0.2s								
PANI	**Panarotta**	**1.24**	**260**	P	**Pg**	**21 48 26.9**	**+0.1**		
PANI				AML	AML				
	comp=N,6680µm,0.3s								
PANI				AML	AML				
	comp=E,2835µm,0.8s								
PANI				AML	AML				
	comp=E,2608µm,0.2s								
PANI				AML	AML				
	comp=N,6684µm,0.3s								
BOSI	**Bolzano**	**1.25**	**281**	P	**Pg**	**21 48 26.4**	**-0.4**		
BOSI				AML	AML				
	comp=E,4020µm,0.5s								
BOSI				AML	AML				
	comp=N,6500µm,0.5s								
BOSI				AML	AML				
	comp=N,6500µm,0.5s								
BOSI				AML	AML				
	comp=E,4021µm,0.5s								
VISS	**Visnje**	**1.30**	**111**	*i* Pg	**Pn**	**21 48 26.4**	**-0.8**		
VISS				*i* Sg	**Sg**	**21 48 45.3**	**+0.4**		
VISS				IAML		21 48 50.2			
	comp=Z,396nm,0.2s								
PDKS	**Podkum**	**1.34**	**98**	*i* Pg	**Pn**	**21 48 27.1**	**-0.7**		
PDKS				*i* Sg	**Sg**	**21 48 46.6**	**+0.6**		
PDKS				IAML		21 48 49.3			
	comp=Z,287nm,0.2s								
ZAVS	**Zavodnje**	**1.35**	**83**	*i* Pg	**Pn**	**21 48 26.8**	**-1.1**		
ZAVS				*i* Sg	**Sg**	**21 48 46.5**	**+0.3**		
ZAVS				IAML		21 48 48.6			
	comp=Z,663nm,0.3s								
SOKA	**Soboth**	**1.40**	**73**	*e*Pg	**Pn**	**21 48 27.6**	**-1.1**		
	comp=Z,26nm,0.4s,SNR=63								
SOKA				*e*Sg	**Sg**	**21 48 46.8**	**-1.2**		
	comp=Z,100nm,0.6s								
WTTA	**Wattenberg**	**1.41**	**315**	*e*Pg	**Pn**	**21 48 29.0**	**+0.1**		
	comp=Z,43nm,0.4s,SNR=60								
WTTA				*e*Sg	**Sg**	**21 48 47.7**	**-0.4**		
	comp=Z,581nm,0.6s								
WTTA	**Wattenberg**	**1.41**	**315**	*e*Pn	**Pn**	**21 48 28.7**	**-0.1**		
WTTA				*e*Sg	**Sg**	**21 48 47.7**	**-0.4**		
GBRS	**Gornja Briga**	**1.41**	**121**	*i* Pn	**Pn**	**21 48 28.1**	**-0.7**		
GBRS				*i*		21 48 30.0			
GBRS				*i* Sn	**Sb**	**21 48 49.3**	**+1.8**		
GBRS				IAML		21 48 51.6			
	comp=Z,431nm,0.2s								
PERS	**Pernice**	**1.45**	**75**	*i* Pg	**Pn**	**21 48 28.4**	**-0.9**		
PERS				*i* Sg	**Sb**	**21 48 49.6**	**+1.1**		
PERS				IAML		21 48 52.6			
	comp=Z,299nm,0.3s								
BIOA	**Bad Ischl, Aus**	**1.47**	**15**	*e*Pg	**Pn**	**21 48 30.2**	**+0.7**		
	comp=Z,30nm,0.2s,SNR=83								
BIOA				*e*Sg	**Sn**	**21 48 50.2**	**+1.4**		
	comp=Z,114nm,0.3s								
RJOB	**Jochberg**	**1.48**	**352**	*e*Pn	**Pn**	**21 48 30.0**	**+0.3**		
RJOB				*e*Sg	**Sn**	**21 48 50.7**	**+1.5**		
WATA	**Walderalm**	**1.49**	**316**	*e*Pg	**Pn**	**21 48 30.1**	**+0.2**		
	comp=Z,22nm,0.2s,SNR=50								
WATA				*e*Sg	**Sb**	**21 48 49.8**	**+0.1**		
	comp=Z,159nm,0.4s								
LEGS	**Legarje**	**1.58**	**101**	*i* Pn	**Pn**	**21 48 31.4**	**+0.3**		
LEGS				*i* Sn	**Sn**	**21 48 52.4**	**+0.7**		
SQTA	**Sankt Quirin**	**1.60**	**307**	*e*Pg	**Pn**	**21 48 32.4**	**+0.9**		
	comp=Z,24nm,0.3s,SNR=77								
SQTA				*e*Sg	**Sg**	**21 48 55.1**	**+0.7**		
	comp=Z,1µm,0.6s								
DOBS	**Dobrina**	**1.66**	**93**	*i* Pn	**Pn**	**21 48 32.0**	**-0.1**		
DOBS				*i*		21 48 32.9			
CESS	**Cesta pri Krsk**	**1.68**	**100**	*i* Pn	**Pn**	**21 48 33.0**	**+0.6**		
CESS				IAML		21 49 01.6			
	comp=Z,410nm,0.4s								
BOJS	**Bojanci**	**1.69**	**116**	*e*Pn	**Pn**	**21 48 33.6**	**+1.0**		
BOJS	**Bojanci**	**1.69**	**116**	*i* Pn	**Pn**	**21 48 33.5**	**+0.8**		
BOJS				*i* Sn	**Sn**	**21 48 56.3**	**+1.9**		
BOJS				IAML		21 48 59.8			
	comp=Z,265nm,0.2s								
BOJS	**Bojanci**	**1.69**	**116**	*e*Pn	**Pn**	**21 48 33.4**	**+0.8**		
CRES	**Cresnjev**	**1.71**	**104**	*i* Pn	**Pn**	**21 48 33.2**	**+0.4**		
CRES				*i* Sn	**Sn**	**21 48 56.2**	**+1.5**		
CRES				IAML		21 49 07.3			
	comp=Z,181nm,0.3s								
CRES	**Cresnjev**	**1.71**	**104**	*e*Pn	**Pn**	**21 48 33.7**	**+0.9**		
MOTA	**Moosalm**	**1.73**	**309**	*e*Pg	**Pn**	**21 48 34.4**	**+1.1**		
	comp=Z,16nm,0.3s,SNR=64								
MOTA				*e*Sg	**Sg**	**21 49 00.9**	**+2.3**		
	comp=Z,1µm,0.6s								
MOA	**Molln**	**1.77**	**27**	*e*Pg	**Pn**	**21 48 35.4**	**+1.7**		
	comp=Z,36nm,0.3s,SNR=59								
MOA				*e*Sg	**Sg**	**21 49 00.5**	**+0.9**		
	comp=Z,568nm,0.5s								
MOA	**Molln**	**1.77**	**27**	*e*Pn	**Pb**	**21 48 35.5**	**+0.1**		
MOA				*e*Sg	**Sg**	**21 48 59.9**	**+0.2**		
MOA	**Molln**	**1.77**	**27**	*e*Pn	**Pn**	**21 48 35.4**	**+1.7**		
MOA				*e*Sg	**Sg**	**21 48 59.8**	**+0.2**		
GOLS	**Golise**	**1.78**	**98**	*i* Pn	**Pn**	**21 48 34.0**	**+0.2**		
GOLS				*i*		21 48 35.2			
GOLS				IAML		21 49 05.2			
	comp=Z,190nm,0.2s								
FETA	**Feichten**	**1.79**	**295**	*e*Pg	**Pb**	**21 48 35.9**	**-0.1**		
	comp=Z,15nm,0.3s,SNR=40								
FETA				*e*Sg	**Sg**	**21 49 00.5**	**0.0**		
	comp=Z,37nm,0.2s								
GCIS	**Gornji Cirnik**	**1.81**	**102**	*i* Pn	**Pn**	**21 48 34.8**	**+0.6**		
GCIS				*i*		21 48 36.0			
GCIS				IAML		21 49 04.5			
	comp=Z,188nm,0.3s								
ZUGS	**Zugspitze, Sch**	**1.85**	**309**	*e*Pn	**Pn**	**21 48 36.6**	**+1.7**		
ZUGS				*e*Sg	**Sg**	**21 49 03.8**	**+1.6**		
KW1	**Garching a.d.**	**1.88**	**350**	*e*Pn	**Pb**	**21 48 37.7**	**+0.3**		
KW1				*e*Sg	**Sg**	**21 49 04.2**	**+1.0**		
ARSA	**Arzberg**	**1.94**	**59**	*e*Pn	**Pn**	**21 48 36.5**	**+0.5**		
	comp=Z,11nm,0.3s,SNR=38								
ARSA				*e*Sn	**Sb**	**21 49 02.9**	**+0.4**		
	comp=Z,74nm,0.4s								
ARSA	**Arzberg**	**1.94**	**59**	*e*Pn	**Pn**	**21 48 36.4**	**+0.5**		
ARSA	**Arzberg**	**1.94**	**59**	*e*Pn	**Pn**	**21 48 36.6**	**+0.7**		
ARSA				*e*Sg	**Sb**	**21 49 04.0**	**+1.5**		
RETA	**Reutte**	**2.01**	**308**	*e*Pg	**Pb**	**21 48 39.9**	**+0.4**		
	comp=Z,119nm,0.6s,SNR=49								
RETA				*e*Sg	**Sg**	**21 49 08.6**	**+1.3**		
	comp=Z,216nm,0.2s								
BE1	**Monatshausen**	**2.08**	**323**	*e*Pn	**Pb**	**21 48 40.5**	**-0.2**		
BE1				*e*Sg	**Sg**	**21 49 09.5**	**-0.1**		
IMOL	**Imola, Italy**	**2.14**	**207**	AML	AML				
	comp=N,726µm,1.2s								
IMOL				AML	AML				
	comp=E,754µm,0.5s								
IMOL				AML	AML				
	comp=N,630µm,0.6s								
IMOL				AML	AML				
	comp=E,634µm,0.7s								
KOGS	**Kog**	**2.19**	**84**	*i* Pn	**Pn**	**21 48 39.0**	**-0.5**		
KOGS				IAML		21 49 20.0			
	comp=Z,199nm,0.6s								
OBER	**Oberstdorf**	**2.23**	**302**	*e*Pn	**Pb**	**21 48 42.8**	**-0.6**		
OBER				*e*Sg	**Sg**	**21 49 15.5**	**+1.0**		
FUR	**Furstenfeldbru**	**2.26**	**327**	*e*Pn	**Pn**	**21 48 42.6**	**+2.2**		
DAVA	**Damuels**	**2.43**	**296**	*e*Pn	**Pn**	**21 48 45.5**	**+2.7**		
	comp=Z,23nm,0.3s,SNR=39								
DAVA				*e*Sn	**Sn**	**21 49 15.1**	**+2.4**		
	comp=Z,117nm,0.4s								
DAVA	**Damuels**	**2.43**	**296**	*e*Pn	**Pb**	**21 48 45.7**	**-1.1**		
DAVA				*e*Sg	**Sg**	**21 49 20.2**	**-0.7**		
UBR	**Ueberruh**	**2.48**	**306**	*e*Pn	**Pn**	**21 48 45.9**	**+2.5**		
CONA	**Conrad Observa**	**2.51**	**48**	*e*Pn	**Pn**	**21 48 44.2**	**+0.3**		
	comp=Z,3.2nm,0.2s,SNR=11								
CONA				*e*Sn	**Sb**	**21 49 19.7**	**+0.5**		
	comp=Z,32nm,0.3s								
GEC2	**GERESS Array S**	**2.60**	**9**	*e*Pn	**Pn**	**21 48 46.5**	**+1.3**		
GEC2				*e*Sg	**Sg**	**21 49 25.7**	**-0.9**		
GERES	**GERESS Array B**	**2.60**	**9**	Pn	**Pn**	**21 48 46.4**	**+1.2**		
	comp=Z,4.7nm,0.3s,baz=183,slow=12,SNR=110								
GERES				Sn	**Sn**	**21 49 19.4**	**+2.4**		
	comp=Z,64nm,0.3s,baz=184,slow=31,SNR=12								
GERES				Lg	Lg	21 49 26.2			
	comp=Z,64nm,0.3s,baz=186,slow=30,SNR=12								
	comp=Z,11nm,0.3s								
RONA	**Rosalia, Austr**	**2.62**	**56**	*e*Pn	**Pn**	**21 48 45.9**	**+0.6**		
	comp=Z,7.5nm,0.3s,SNR=8.6								
RONA				*e*Sn	**Sn**	**21 49 18.8**	**+1.7**		
	comp=Z,43nm,0.5s								
CKRC	**Cesky Krumlov**	**2.68**	**18**	*e*PN	**Pn**	**21 48 47.1**	**+1.0**		
CKRC				*e*SN	**Sn**	**21 49 19.5**	**+0.9**		
APEC	**Apecchio**	**2.76**	**190**	AML	AML				
	comp=E,270µm,1.1s								
APEC				AML	AML				
	comp=N,318µm,0.4s								
BADI	**Badiali**	**2.83**	**193**	AML	AML				
	comp=N,254µm,0.7s								
BADI				AML	AML				
	comp=E,260µm,0.6s								
BADI				AML	AML				
	comp=N,254µm,1.3s								
BADI				AML	AML				
	comp=E,260µm,0.6s								
BADI				AML	AML				
	comp=N,226µm,0.7s								
PRIJ	**Prijedor**	**2.85**	**116**	*e*Pn	**Pb**	**21 48 56.4**	**+2.5**		
WET	**Wettzell**	**2.87**	**357**	*e*Pn	**Pn**	**21 48 49.8**	**+1.0**		
KHC	**Kasperske Hory**	**2.88**	**6**	*e*PN	**Pn**	**21 48 49.9**	**+1.0**		
KHC				*e*PG	**Pg**	**21 48 59.0**	**+1.0**		
KHC				*e*SN	**Sn**	**21 49 25.4**	**+1.8**		
KHC				*e*SG	**Sg**	**21 49 34.4**	**-0.8**		
	comp=N,124nm,0.4s								
CARD	**Cardoso**	**2.91**	**220**	AML	AML				
	comp=N,257µm,0.2s								
CARD				AML	AML				
	comp=N,258µm,0.2s								
CARD				AML	AML				
	comp=E,296µm,0.7s								
CARD				AML	AML				
	comp=E,295µm,0.7s								
A051A	**Mrakovica**	**2.96**	**114**	*e*Pn	**Pn**	**21 48 50.2**	**+0.2**		
EQUI	**Equi**	**2.96**	**226**	AML	AML				
	comp=E,163µm,0.5s								
EQUI				AML	AML				
	comp=N,195µm,0.7s								
EQUI				AML	AML				
	comp=E,163µm,0.5s								
EQUI				AML	AML				
	comp=N,195µm,1.3s								
EQUI				AML	AML				
	comp=N,195µm,0.7s								
NORI	**Noerdlinger Ri**	**2.96**	**327**	*e*Pn	**Pn**	**21 48 51.6**	**+1.6**		
NORI				*e*Pg	**Pg**	**21 48 59.5**	**-0.1**		
NORI				*e*Sn	**Sn**	**21 49 27.6**	**+1.9**		
NORI				*e*Sg	**Sg**	**21 49 36.9**	**-1.1**		
ATMI	**Monte Miggiano**	**3.00**	**192**	AML	AML				
	comp=N,373µm,0.7s								
ATMI				AML	AML				
	comp=E,291µm,0.5s								
ATMI				AML	AML				
	comp=E,291µm,0.5s								
ATMI				AML	AML				
	comp=N,373µm,0.7s								
A050A	**Klekovaca**	**3.02**	**125**	*e*Pn	**Pn**	**21 48 51.9**	**+1.1**		
WILA	**Wila**	**3.09**	**293**	*e*Pn	**Pn**	**21 48 53.9**	**+2.0**		
WILA				*e*Sg	**Sg**	**21 49 41.8**	**-0.3**		
WALHA	**Wallhausen, DE**	**3.09**	**300**	*e*Pn	**Pn**	**21 48 54.0**	**+2.2**		
WALHA				*e*Sg	**Sg**	**21 49 42.0**	**-0.1**		
PF6	**Pievefavera**	**3.13**	**179**	AML	AML				
	comp=N,67µm,0.8s								
PF6				AML	AML				
	comp=N,67µm,0.8s								
PF6				AML	AML				
	comp=E,216µm,1.0s								
PF6				AML	AML				
	comp=N,67µm,1.2s								
PF6				AML	AML				
	comp=E,205µm,0.3s								
ZVC	**Zvikov**	**3.25**	**13**	*e*PN	**Pn**	**21 48 55.5**	**+1.5**		
BLY	**Banja Luka**	**3.26**	**116**	*e*Pn	**Pn**	**21 48 55.1**	**+1.0**		
EMING	**Emmingen-Lipti**	**3.32**	**301**	*e*Pn	**Pn**	**21 48 56.8**	**+1.8**		
EMING				*e*Sn	**Sn**	**21 49 35.2**	**+0.6**		
EMING				*e*Sg	**Sg**	**21 49 49.4**	**-0.2**		
ZST	**Bratislava**	**3.34**	**53**	*e*PG	**Pg**	**21 49 05.6**	**-1.2**		
ZST				*e*SG	**Sg**	**21 49 48.7**	**-1.4**		
MGRS	**Mrkonjic Grad**	**3.37**	**122**	*e*Pn	**Pn**	**21 48 55.8**	**+0.1**		
SLE	**Schleitheim**	**3.48**	**297**	*e*Pn	**Pn**	**21 48 58.7**	**+1.5**		
SLE				*e*Sg	**Sg**	**21 49 55.2**	**+0.6**		
MOMA	**Monte Martano**	**3.49**	**186**	AML	AML				
	comp=E,201µm,0.4s								
MOMA				AML	AML				
	comp=N,247µm,0.4s								
MOMA				AML	AML				
	comp=E,199µm,0.6s								
MOMA				AML	AML				
	comp=N,228µm,0.3s								
MOMA				AML	AML				
	comp=E,201µm,0.4s								
MODS	**Modra-Piesok**	**3.54**	**52**	*e*PN	**Pn**	**21 48 58.7**	**+0.8**		
MODS				*e*PG	**Pb**	**21 49 08.7**	**+3.1**		
MODS				*e*SG	**Sb**	**21 49 52.9**	**+4.3**		
ROTZ	**Rotzenmuhle**	**3.54**	**351**	*e*Pn	**Pn**	**21 48 58.4**	**+0.4**		
KRUC	**Moravsky**	**3.57**	**37**	*e*PN	**Pn**	**21 48 58.2**	**-0.2**		
KRUC				*e*SN	**Sn**	**21 49 40.5**	**-0.2**		
GAVE	**Gavelli**	**3.58**	**182**	AML	AML				
	comp=N,4850µm,0.4s								
GAVE				AML	AML				
	comp=N,4850µm,1.6s								
GAVE				AML	AML				
	comp=E,374µm,0.3s								
GAVE				AML	AML				
	comp=N,343µm,0.4s								
GAVE				AML	AML				
	comp=N,343µm,1.6s								
GAVE				AML	AML				
	comp=E,374µm,1.7s								
GAVE				AML	AML				
	comp=E,37500µm,1.6s								
GAVE				AML	AML				
	comp=N,343µm,0.4s								
GAVE				AML	AML				
	comp=E,374µm,0.3s								
METMA	**Mettma DE**	**3.61**	**295**	*e*Pn	**Pn**	**21 49 00.4**	**+1.4**		
METMA				*e*Sn	**Sn**	**21 49 41.6**	**-0.1**		
METMA				*e*Sg	**Sg**	**21 49 59.3**	**+0.5**		
SRKY	**Kupres RS**	**3.63**	**126**	*e*Pn	**Pn**	**21 49 01.0**	**+1.7**		
RIBO	**Ribolla Roccas**	**3.63**	**204**	AML	AML				
	comp=E,84µm,0.6s								
STU	**Stuttgart**	**3.63**	**315**	*e*Pn	**Pn**	**21 49 01.1**	**+1.9**		
SULZ	**Cheisacher**	**3.64**	**292**	*e*Pn	**Pn**	**21 49 00.9**	**+1.6**		
SULZ				*e*Sn	**Sn**	**21 49 44.5**	**+2.2**		
SULZ				*e*Sg	**Sg**	**21 50 00.1**	**+0.4**		
GRF	**Grafenberg Arr**	**3.64**	**341**	*e*Pn	**Pn**	**21 49 00.2**	**+0.8**		
GRF				*e*Pg	**Pg**	**21 49 11.8**	**-0.8**		
GRF				*e*Sn	**Sn**	**21 49 42.2**	**-0.2**		
GRF				*e*Sg	**Sg**	**21 49 59.9**	**+0.1**		
TERO	**Teramo**	**3.67**	**174**	AML	AML				
	comp=N,228µm,1.7s								
TERO				AML	AML				
	comp=E,140µm,1.6s								
TERO				AML	AML				
	comp=N,160µm,0.9s								
TERO				AML	AML				
	comp=E,210µm,1.6s								
TERO				AML	AML				
	comp=N,228µm,0.3s								
TERO				AML	AML				
	comp=E,210µm,0.4s								
TERO				AML	AML				
	comp=E,140µm,0.4s								
TERO				AML	AML				
	comp=N,160µm,1.1s			

comp=N,114µm,1.4s
QLNO AML AML
comp=E,106µm,0.5s
PRA Prague 3.90 13 ePN Pn 21 49 04.2 +1.3
NKC Novy Kostel 3.98 354 ePN Pn 21 49 05.3 +1.2
NKC eSN Sn 21 49 51.4 +0.5
NKC eSG Sg 21 50 11.7 +0.9
comp=E,107nm,0.4s
CANO Canova, Maglio 4.00 241 AML AML
comp=N,198µm,1.1s
CANO AML AML
comp=E,404µm,1.1s
CANO AML AML
comp=N,198µm,0.9s
CANO AML AML
comp=E,393µm,0.9s
CANO AML AML
comp=N,183µm,0.3s
FAGN Fagnano 4.02 175 AML AML
comp=E,438µm,0.4s
FAGN AML AML
comp=N,286µm,0.4s
FAGN AML AML
comp=N,285µm,0.4s
FAGN AML AML
comp=E,438µm,0.4s
JAVC Velka Javorina 4.04 49 ePN Pn 21 49 05.6 +0.8
T0110 Collepietro 4.08 173 AML AML
comp=E,222µm,0.4s
T0110 AML AML
comp=N,237µm,0.4s
T0110 AML AML
comp=E,222µm,0.4s
T0110 AML AML
comp=N,237µm,0.4s
RORO Rocca Rossa 4.16 240 AML AML
comp=E,53µm,1.5s
RORO AML AML
comp=N,53µm,1.3s
RORO AML AML
comp=E,53µm,0.5s
RORO AML AML
comp=N,53µm,0.7s
RORO AML AML
comp=E,41µm,0.2s
RORO AML AML
comp=N,46µm,0.6s
MILB Miltenberg 4.37 326 ePn Pn 21 49 10.6 +1.2
MILB eSn Sn 21 49 59.7 -0.7
MOX Moxa 4.48 348 ePn Pn 21 49 11.2 +0.3
MOX eSn Sn 21 50 01.9 -1.2
MOX eSg Sg 21 50 25.4 -1.3
ECH Echery 4.48 298 ePn Pn 21 49 12.1 +1.1
ECH eSn Sn 21 50 03.9 +0.7
VYHS Vyhne 4.49 58 ePN Pn 21 49 10.5 -0.5
VYHS eSN Sn 21 50 03.4 +0.1
CDF Champ du Feu 4.49 301 eP Pn 21 49 11.9 +0.7
CDF eSn Sn 21 49 57.0 -6.6
comp=N,40nm,0.4s
LPG La Plagne 4.50 262 eP Pn 21 49 13.0 +1.6
LPG eSn Sn 21 49 57.9 -6.0
comp=N,23nm,0.4s
LPL La Plagne 4.50 263 eP Pn 21 49 13.2 +1.8
LPL eSn Sn 21 49 57.9 -6.1
comp=N,22nm,0.6s
HINF Hinteralfeld 4.54 292 eP Pn 21 49 12.5 +0.8
HINF eSn Sn 21 49 58.1 -6.4
comp=N,47nm,0.3s
MORC Moravsky Berou 4.60 39 ePN Pn 21 49 13.3 +0.7
DPC Dobruska-Polom 4.61 27 ePN Pn 21 49 12.1 -0.6
BRG Berggiesshubel 4.64 7 Pn Pn 21 49 13.1 +0.1
BRG Amp 21 49 15.7
comp=Z,7.1nm,0.4s
BRG Berggiesshubel 4.64 7 Pg Pg 21 49 29.2 -2.4
BRG Sn Sn 21 50 07.3 +0.4
BRG r 21 50 20.4
BRG Berggiesshubel 4.64 7 Sg Sg 21 50 30.4 -1.3
BRG Amp 21 50 39.0
comp=Z,49nm,0.5s
BRG Berggiesshubel 4.64 7 ePn Pn 21 49 13.4 +0.3
UPC Upice 4.66 24 ePN Pn 21 49 14.4 +1.0
SBF Sospel 4.68 241 eP Pn 21 49 14.5 +0.9
SBF eSn Sn 21 50 02.5 -5.5
comp=Z,48nm,0.5s
HAPS Han Pijesak,BI 4.69 116 ePn Pn 21 49 15.0 +1.2
HROE Hohe Rhon--Fla 4.69 336 ePn Pn 21 49 14.2 +0.4
MBDF Montbardon 4.71 253 eP Pn 21 49 14.8 +0.7
MBDF eSn Sn 21 50 03.0 -5.9
comp=Z,40nm,0.6s
STON Ston 4.73 134 ePn Pn 21 49 14.5 +0.2
PGF Pioggiola 4.74 220 eP Pn 21 49 14.6 0.0
PGF eSn Sn 21 50 04.0 -5.7
comp=Z,18nm,0.4s
CHVC Chvalec 4.75 23 ePN Pn 21 49 14.3 -0.2
FRGS Fruska Gora 4.84 101 ePn Pn 21 49 16.0 +0.2
FRGS eSn Sn 21 50 08.6 -3.3
FRGS Fruska Gora 4.84 101 ePn Pn 21 49 14.4 -1.4
TEKS Tekeris 4.85 109 ePn Pn 21 49 17.8 +1.8
TEKS eSn Sn 21 50 08.1 -4.1
TEKS Tekeris 4.85 109 ePn Pn 21 49 16.4 +0.4
CABF La Chapelle 4.85 276 eP Pn 21 49 17.4 +1.3
CABF eSn Sn 21 50 05.9 -6.5
comp=Z,22nm,0.7s
HAU Haudompre 4.92 293 eP Pn 21 49 18.0 +1.1
HAU eSn Sn 21 50 06.8 -7.1
comp=Z,85nm,0.4s
TNS Taunus Mts 5.02 324 ePn Pn 21 49 20.3 +1.9
CLL Collm 5.04 359 ePn Pn 21 49 19.0 +0.5
CLL ePg Pg 21 49 40.0 +0.7
CLL eSn Sn 21 50 16.0 -0.8
CLL eSg Sg 21 50 42.0 -2.5
comp=Z,66nm,0.9s
CLL Collm 5.04 359 ePn Pn 21 49 19.1 +0.6
BBLS Lazi&#263i 5.08 116 ePn Pn 21 49 20.9 +1.7
BBLS eSn Sn 21 50 15.0 -2.9
BBLS Lazi&#263i 5.08 116 ePn Pn 21 49 20.5 +1.3
BRY Bratogost 5.15 129 ePn Pn 21 49 21.2 +1.0
LANS Liptovska Anna 5.18 54 ePN Pn 21 49 22.2 +1.7
TREB Trebinje 5.18 132 ePn Pn 21 49 21.9 +1.5
RUDO Rudo 5.19 119 ePn Pn 21 49 20.6 0.0
ORIF Oris-en-Rattie 5.24 258 eP Pn 21 49 22.8 +1.4
ORIF eSn Sn 21 50 15.5 -6.5
comp=Z,27nm,0.5s
NAST IGS Nastaetten 5.25 320 ePn Pn 21 49 23.9 +2.4
DIVS Divibare 5.34 112 ePn Pn 21 49 24.0 +1.2
WMM Wimmelburg 5.35 349 ePn Pn 21 49 22.8 -0.1
KOE Koeppel 5.48 321 ePn Pn 21 49 27.2 +2.6
KECS Kecovo 5.49 64 ePN Pn 21 49 25.0 +0.3
PAGF Fort de Pagny 5.50 297 eP Pn 21 49 26.0 +1.2
PAGF eSn Sn 21 50 20.8 -7.3
comp=Z,30nm,0.4s
BGG Burgeitz 5.50 318 ePn Pn 21 49 26.6 +1.8
LMR La Mourre 5.53 240 eP Pn 21 49 25.7 +0.4
LMR eSn Sn 21 50 22.5 -6.4
comp=Z,13nm,0.4s
TRUS Trudelj 5.56 109 ePn Pn 21 49 26.5 +0.8
TRUS eSn Sn 21 50 27.0 -2.6
SJES Sjenica 5.75 119 ePn Pn 21 49 30.9 +2.5
SJES eSn Sn 21 50 30.9 -3.7
SJES Sjenica 5.75 119 ePn Pn 21 49 30.2 +1.8
WLF Walferdange 5.76 309 dP Pn 21 49 31.2 +2.8
WLF dS Sn 21 50 34.8 +0.2
SMRF Simiane la Rot 5.79 249 eP Pn 21 49 30.8 +1.8
SMRF eSn Sn 21 50 28.7 -6.8
comp=Z,12nm,0.5s
SFTF Sexfontaines 5.81 292 eP Pn 21 49 30.6 +1.4
baz=107
SFTF eSn Sn 21 50 28.2 -7.7
comp=Z,12nm,0.4s
PDG Podgorica 5.86 129 ePn Pn 21 49 29.7 -0.1
SAVF Savonnieres en 5.89 296 eP Pn 21 49 32.6 +2.4
baz=110
SAVF eSn Sn 21 50 30.0 -7.8
comp=Z,20nm,0.5s
MEZF Maizieres J'vi 5.90 295 eP Pn 21 49 31.7 +1.4
baz=109
MEZF eSn Sn 21 50 30.2 -7.7
comp=Z,17nm,0.4s
GRUS Gruza 5.90 111 ePn Pn 21 49 32.1 +1.7
GRUS eSn Sn 21 50 35.1 -3.0
DRME Dracevica, Mon 5.99 131 ePn Pn 21 49 30.9 -0.7
STB Steinbach 6.00 318 ePn Pn 21 49 33.6 +1.9
STB eSn Sn 21 50 39.4 -1.0
comp=Z,16nm,0.3s
HOBG Hohbusch 6.06 323 ePn Pn 21 49 35.2 +2.6
VIVF Saint-Julien-l 6.08 260 eP Pn 21 49 33.7 +0.8
VIVF eSn Sn 21 50 35.2 -7.3
comp=Z,9.7nm,0.6s
BHOU Houvegnez 6.24 313 dP Pn 21 49 37.7 +2.6
BHOU dS Sn 21 50 44.9 -1.6
KLL Kalltalsperre 6.28 317 ePn Pn 21 49 37.7 +2.1
STHS Stebnicka Huta 6.32 57 ePN Pn 21 49 37.1 +0.9
BTNL Ternell 6.33 315 dP Pn 21 49 38.9 +2.6
BTNL dS Sn 21 50 47.6 -1.0
DREG Dreilaegerbach 6.33 316 ePn Pn 21 49 38.4 +2.1
KUBS Kucevo 6.33 104 ePn Pn 21 49 36.1 -0.2
KUBS eSn Sn 21 50 43.2 -5.5
SMF Signal de Mont 6.40 277 eP Pn 21 49 38.3 +1.0
SMF eSn Sn 21 50 42.8 -7.6
comp=Z,27nm,0.8s
MEM Membach 6.40 315 dP Pn 21 49 40.0 +2.7
MEM dS Sn 21 50 51.3 +0.8
LOR Lormes 6.42 282 eP Pn 21 49 38.4 +0.9
baz=95
LOR eSn Sn 21 50 43.1 -7.8
comp=Z,11nm,0.3s
SELS Selova 6.48 115 ePn Pn 21 49 39.9 +1.5
SELS eSn Sn 21 50 48.3 -4.1
LAUG Laupendahl 6.50 324 ePn Pn 21 49 40.5 +1.9
RCHB Rochefort 6.53 309 dP Pn 21 49 42.0 +3.0
RCHB dS Sn 21 50 51.4 -2.2
BSTI Sart Tilman 6.61 313 dP Pn 21 49 43.1 +3.1
BCLA Clavier 6.64 311 dP Pn 21 49 43.4 +2.8
BCLA dS Sn 21 50 55.8 -0.5
SSF Saint Saulge 6.64 280 eP Pn 21 49 41.6 +1.0
SSF eSn Sn 21 50 48.5 -7.9
comp=Z,8.7nm,0.6s
BOVS Bovan 6.66 110 ePn Pn 21 49 41.6 +0.8
GIVF Givet 6.72 308 eP Pn 21 49 44.4 +2.7
GIVF eSn Sn 21 50 49.9 -8.4
comp=Z,20nm,0.4s
BGES Gesves 6.74 311 dP Pn 21 49 44.8 +2.9
BGES dS Sn 21 50 57.3 -1.3
AVF Avril sur Loir 6.74 278 eP Pn 21 49 42.7 +0.8
AVF eSn Sn 21 50 51.2 -7.5
comp=Z,7.9nm,0.6s
DOU Dourbes 6.85 307 dP Pn 21 49 46.2 +2.8
DOU dS Sn 21 51 00.2 -1.1
BMRD Maredsous 6.86 309 dP Pn 21 49 46.7 +3.2
BMRD dS Sn 21 51 01.1 -0.5
LASF Ste Croix 6.89 255 eP Pn 21 49 44.8 +0.8
LASF eSn Sn 21 50 54.6 -7.8
comp=Z,9.0nm,0.5s
ZAGS Zajecar 6.93 108 ePn Pn 21 49 44.9 +0.4
ZAGS eSn Sn 21 50 58.2 -5.1
BAIF Baives 7.04 306 eP Pn 21 49 48.8 +2.8
BAIF eSn Sn 21 50 57.6 -8.6
comp=Z,19nm,0.5s
BGF Bois d'Agland 7.09 276 eP Pn 21 49 47.9 +1.2
BGF eSn Sn 21 50 59.3 -8.0
comp=Z,16nm,0.3s
BARS Barje 7.13 116 ePn Pn 21 49 47.5 +0.3
BARS eSn Sn 21 51 03.1 -5.2
HYF Humbligny 7.25 282 eP Pn 21 49 50.2 +1.3
HYF eSn Sn 21 51 02.9 -8.3
PRVS Prvonek 7.46 117 ePn Pn 21 49 53.5 +1.7
TCF Toulx Ste Croi 7.54 274 eP Pn 21 49 54.4 +1.5
TCF eSn Sn 21 51 09.9 -8.6
comp=Z,9.3nm,0.5s
CAF Calviac 7.85 264 eP Pn 21 49 58.7 +1.5
CAF eSn Sn 21 51 17.7 -8.5
comp=Z,3.3nm,0.4s
RJF Les Rejaudoux 8.15 267 eP Pn 21 50 03.0 +1.7
RJF eSn Sn 21 51 25.0 -8.4
comp=Z,4.1nm,0.7s
MTLF Montolieu 8.27 253 eP Pn 21 50 05.0 +2.1
MTLF eSn Sn 21 51 27.8 -8.6
comp=Z,6.3nm,0.7s
LFF La Frestale 8.76 266 eP Pn 21 50 11.5 +1.8
LFF eSn Sn 21 51 39.5 -9.0
comp=Z,6.2nm,0.6s
MFF Saint Martin d 9.15 277 eP Pn 21 50 16.6 +1.7
MFF eSn Sn 21 51 48.4 -10
comp=Z,3.4nm,0.4s
LDF La Druitiere 9.25 289 eP Pn 21 50 17.9 +1.5
LDF eSn Sn 21 51 50.9 -10
comp=Z,11nm,0.8s
FLN La Foliniere 9.52 290 eP Pn 21 50 21.6 +1.6
baz=100
FLN eSn Sn 21 51 57.4 -10
comp=Z,4.7nm,0.6s
EPF Esparros 9.65 255 eP Pn 21 50 23.6 +1.7
EPF eSn Sn 21 52 00.7 -10
comp=Z,2.5nm,0.6s
GRR Gorron 9.71 288 eP Pn 21 50 24.3 +1.7
GRR eSn Sn 21 52 01.7 -10
comp=Z,4.4nm,0.6s
QUIF Quistinic 11.21 284 eP Pn 21 50 44.7 +1.6
QUIF eSn Sn 21 52 37.3 -11
comp=Z,32nm,1.0s
EKA Eskdalemuir Ar 13.67 317 Pn Pn 21 51 18.7 +2.0
baz=125,slow=14
comp=Z,0.3nm,0.3s
ESDC Sonseca Array 14.11 248 Pn Pn 21 51 23.2 +0.4
baz=50,slow=12,SNR=1.9
comp=Z,0.3nm,0.7s
FINES FINESS Array B 16.96 22 Pn Pn 21 51 58.4 -1.7
comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=8.2
comp=Z,1.3nm,0.7s
ARCES ARCESS Array B 24.14 11 P P 21 53 18.8 +0.1
comp=Z,1.4nm,0.9s,baz=208,slow=11,SNR=4.8
comp=Z,1.4nm,0.9s

TRN ***09*** *22:04:13.6, 10°.66N×62°.42W, h96km, MD2.9, Paria peninsula*
FUNV ***09*** *22:04:13.5, 10°.74N×62°.40W, h101km, MW3.2*
ISC 09 22:04:11.3±1.5, 10°.64N±0°.05×62°.46W±0°.05, h117km±12km, n10, σ1§42/18, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.76**	**273**	***e*P**	**Pn**	**22 04 31.9**	**+1.1**
CRUV				*e*S	**Sn**	**22 04 44.8**	**-0.8**
CRUV	**Carupano**	**0.76**	**273**	***e*P**	**Pn**	**22 04 32.0**	**+1.1**
CRUV				*e*S	**Sn**	**22 04 45.1**	**-0.5**
TRN	**Trinidad (W)**	**1.04**	**89**	***e*P**	**Pn**	**22 04 34.7**	**+1.2**
TRN				*e*S	**Sn**	**22 04 48.2**	**-2.0**
GRFF	**Grenada Fort F**	**1.57**	**27**	***e*P**	**Pn**	**22 04 39.5**	**+0.2**
GRFF				*e*S	**Sn**	**22 04 59.3**	**-1.4**
GRGR	**Grenville**	**1.68**	**28**	***e*P**	**Pn**	**22 04 41.2**	**+0.5**
GRGR				*e*S	**Sn**	**22 05 01.9**	**-1.2**
GRW	**Mount Saint Ca**	**1.70**	**27**	***e*S**	**Sn**	**22 05 03.4**	**-0.3**
GRHS	**Sauteurs**	**1.77**	**27**	***e*S**	**Sn**	**22 05 04.5**	**-0.4**
GCMP	**Grenada, Carri**	**2.10**	**29**	***e*P**	**Pn**	**22 04 46.9**	**+1.1**
GCMP				*e*S	**Sn**	**22 05 11.8**	**-0.5**
LUEV	**Luepa**	**4.87**	**168**	***e*P**	**Pn**	**22 05 24.1**	**+1.5**
LUEV				*e*S	**Sn**	**22 06 16.4**	**-1.7**
BAUV	**El Baul**	**5.75**	**253**	***e*P**	**Pn**	**22 05 35.6**	**+1.2**
BAUV				*e*S	**Sn**	**22 06 36.5**	**-2.7**

DJA 09 22:18:06.3±0.3, 0°.5S±4°.9×9°.9E±°, h36km±7km, M3.6/7, mb3.7/1, MLv3.5/7, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PBSI	**Pulau Batu**	**0.32**	**267**	P	Pn	22 18 15.7	+1.2
PBSI				S	Sn	22 18 23.3	+2.2
SISI	**Saibi**	**1.37**	**159**	P	Pn	22 18 29.1	+0.2
SBSI	**Sibolga**	**1.61**	**10**	P	Pn	22 18 32.4	+0.2
GSI	**Gunungsitoli**	**1.68**	**323**	P	Pn	22 18 33.2	0.0
PDSI	**Padang**	**2.05**	**115**	P	Pn	22 18 38.7	+0.4

WEL ***09*** *22:36:51.6±1.1, 46°.5S±7°×16°.6E±°, h12km, M4.1/11, ML4.2/12, MLv4.1/11, Error ellipse: s-maj=0.0km s-min=0.0km az=27.1, confirmed*
NOU ***09*** *22:36:58.8, 46°.04S×166°.90E, h0km, MLv4.0/7, Off W. Coast of S. Island, N.Z.*
ISC 09 22:36:48.8±2.8, 46°.40S±0°.10×165°.9E±0°.1, h10km±13km, n49, σ1§41/58, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PYZ	**Puysegur Point**	**0.61**	**68**	P	**Pb**	**22 37 02.8**	**+1.1**
PYZ	**Puysegur Point**	**0.61**	**68**	P	**Pb**	**22 37 02.9**	**+1.3**
PYZ				S	**Sb**	**22 37 10.7**	**+0.3**
RRKS	**Rarakau**	**1.15**	**78**	P	**Pn**	**22 37 11.5**	**+0.5**
RRKS				S	**Sn**	**22 37 26.3**	**-0.4**
DCZ	**Deep Cove**	**1.30**	**44**	P	**Pn**	**22 37 11.3**	**-1.8**
DCZ				S	**Sb**	**22 37 26.1**	**-4.0**
ORPS	**Orepuki**	**1.32**	**86**	P	**Pg**	**22 37 14.8**	**+0.6**
ORPS				S	**Sn**	**22 37 31.5**	**+0.4**
APZ	**The Paps**	**1.53**	**107**	P	**Pg**	**22 37 18.0**	**-0.1**
APZ				S	**Sg**	**22 37 37.6**	**-0.3**
WHZ	**Wether Hill Ro**	**1.54**	**71**	P	**Pb**	**22 37 17.2**	**-0.3**
WHZ				S	**Sn**	**22 37 36.0**	**-0.3**
MOSS	**Mossburn Schoo**	**1.81**	**67**	P	**Pb**	**22 37 21.9**	**-0.2**
MLZ	**Mavora Lakes**	**1.89**	**57**	P	**Pn**	**22 37 22.6**	**+1.5**
MLZ				S	**Sb**	**22 37 47.1**	**+0.1**
MSZ	**Milford Sound**	**2.26**	**41**	P	**Pn**	**22 37 27.1**	**+0.8**
SYZ	**Scrubby Hill**	**2.27**	**95**	P	**Pb**	**22 37 28.3**	**-1.6**
SYZ	**Scrubby Hill**	**2.27**	**95**	P	**Pb**	**22 37 28.3**	**-1.6**
SYZ				S	**Sn**	**22 37 54.8**	**+0.4**
TUZ	**Tuapeka**	**2.66**	**82**	P	**Pn**	**22 37 33.7**	**+2.0**
TUZ				S	**Sn**	**22 38 05.2**	**+1.2**
EAZ	**Earnscleugh**	**2.68**	**65**	P	**Pn**	**22 37 34.1**	**+2.0**
WKZ	**Wanaka**	**2.72**	**56**	P	**Pn**	**22 37 34.5**	**+1.9**
JCZ	**Jackson Bay**	**3.11**	**43**	P	**Pn**	**22 37 39.9**	**+1.8**
JCZ	**Jackson Bay**	**3.11**	**43**	P	**Pn**	**22 37 39.2**	**+1.1**
HHSZ	**Highcliff Hill**	**3.33**	**83**	P	**Pn**	**22 37 42.9**	**+1.8**
ODZ	**Otahua Downs**	**3.61**	**70**	P	**Pn**	**22 37 45.0**	**+0.1**
ODZ	**Otahua Downs**	**3.61**	**70**	P	**Pn**	**22 37 45.0**	**+0.1**
LBZ	**Lake Benmore**	**3.65**	**58**	P	**Pn**	**22 37 45.9**	**+0.5**
FOZ	**Fox Glacier**	**4.01**	**46**	P	**Pn**	**22 37 50.4**	**0.0**
TMZ	**Timaru**	**4.15**	**63**	P	**Pn**	**22 37 52.3**	**0.0**
GCSZ	**Gaunt Creek Bo**	**4.43**	**47**	P	**Pn**	**22 37 55.6**	**-0.5**
ARCZ	**Arundel**	**4.49**	**59**	P	**Pn**	**22 37 56.6**	**-0.3**
RPZ	**Rata Peaks**	**4.55**	**56**	P	**Pn**	**22 37 57.4**	**-0.4**
RPZ	**Rata Peaks**	**4.55**	**56**	P	**Pn**	**22 37 57.4**	**-0.4**
WVZ	**Waitaha Valley**	**4.81**	**48**	P	**Pn**	**22 38 01.6**	**+0.3**
MHCZ	**Mount Hutt**	**4.96**	**57**	P	**Pn**	**22 38 03.1**	**-0.4**
INZ	**Inchbonnie**	**5.42**	**49**	P	**Pn**	**22 38 09.5**	**-0.2**
LTZ	**Lake Taylor**	**5.83**	**54**	P	**Pn**	**22 38 14.6**	**-0.9**
GVZ	**Greta Valley S**	**6.16**	**59**	P	**Pn**	**22 38 19.4**	**-0.5**
DSZ	**Denniston Nort**	**6.32**	**45**	P	**Pn**	**22 38 21.6**	**-0.6**
THZ	**Tophouse**	**6.87**	**50**	P	**Pn**	**22 38 28.7**	**-1.0**
MRNZ	**Matariki Terra**	**7.06**	**47**	P	**Pn**	**22 38 34.0**	**+1.8**
QRZ	**Quartz Range**	**7.38**	**43**	P	**Pn**	**22 38 36.4**	**-0.2**
QRZ	**Quartz Range**	**7.38**	**43**	P	**Pn**	**22 38 35.8**	**-0.8**
TKNZ	**Takaka Hill**	**7.43**	**46**	P	**Pn**	**22 38 38.6**	**+1.3**
TUWZ	**Tuamarina**	**7.66**	**52**	P	**Pn**	**22 38 42.6**	**+2.1**
TCW	**Tory Channel**	**8.00**	**53**	P	**Pn**	**22 38 47.3**	**+2.2**
DUWZ	**D'Urville Isla**	**8.09**	**49**	P	**Pn**	**22 38 47.9**	**+1.5**
MRZ	**Mangatainoka R**	**9.09**	**54**	P	**Pn**	**22 38 59.3**	**-0.8**
KHEZ	**Kahui Hut**	**9.29**	**43**	P	**Pn**	**22 39 03.4**	**+0.5**
KHEZ	**Kahui Hut**	**9.29**	**43**	P	**Pn**	**22 39 03.3**	**+0.5**
PKE	**Pukeiti**	**9.35**	**43**	P	**Pn**	**22 39 03.9**	**+0.2**
WNVZ	**Wahianoa**	**10.05**	**49**	P	**Pn**	**22 39 17.4**	**+4.1**
OTVZ	**Oturere**	**10.20**	**48**	P	**Pn**	**22 39 18.0**	**+2.5**
TLZ	**Tolley Road**	**10.78**	**45**	P	**Pn**	**22 39 26.3**	**+3.0**
WCZ	**Waipu Caves**	**12.24**	**34**	P	**Pn**	**22 39 42.3**	**-0.9**

IDC ***09*** *22:37:42.8±1.0, 3°.38N×129°.00E, h0km, mb4.1/8, mbtmp4.1/8, Error ellipse: s-maj=51.3km s-min=16.3km az=68.0*
DJA ***09*** *22:38:09.6±0.8, 3°.N±6°×12°.8E±°, h209km±5km, M4.0/9, mb4.0/4, mB4.8/1, MLv4.0/9, Mw(mB)4.1/1*
ISC 09 22:38:05.5±1.1, 3°.1N±0°.1×128.6E±0°.1, h200km, n14, σ1§26/14, mb3.9/8, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**2.61**	**209**	P	**Pn**	**22 38 52.9**	**+2.2**
SGSI	**Sangihe**	**3.14**	**281**	P	**Pn**	**22 38 57.9**	**+1.1**
SGSI				S	**Sn**	**22 39 35.6**	**-1.3**
LBMI	**Labuha**	**3.86**	**197**	P	**Pn**	**22 39 07.7**	**+2.1**
SANI	**Sanana**	**5.73**	**207**	P	**Pn**	**22 39 28.3**	**-1.1**
	118nm,0.8s,2µm0.6nm						
GTOI	**Gorontalo**	**6.10**	**247**	P	**Pn**	**22 39 35.5**	**+1.3**
	5.6nm,1.0s,0.0nm						
LUWI	**Luwuk**	**7.13**	**235**	P	**Pn**	**22 39 47.8**	**+0.3**
WRA	**Warramunga Arr**	**23.56**	**166**	P	**P**	**22 42 57.4**	**-0.7**
	0.7nm,0.3s,baz=343,slow=10.0,SNR=25						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**27.08**	**169**	P	**P**	**22 43 29.4**	**-0.4**
	0.6nm,0.5s,baz=354,slow=7.7,SNR=8.0						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**32.82**	**300**	P	**P**	**22 44 21.4**	**+1.0**
	3.0nm,0.3s,baz=114,slow=6.6,SNR=9.6						
	3.0nm,0.3s						
MJAR	**Matsushiro Arr**	**34.45**	**14**	P	P	22 44 30.4	-4.0
	1.8nm,0.5s,baz=188,slow=8.5,SNR=2.7						
	1.8nm,0.5s						
STKA	**Stephens Creek**	**36.89**	**161**	P	**P**	**22 44 54.4**	**-0.6**
	1.1nm,0.3s,baz=335,slow=6.3,SNR=4.5						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**59.16**	**325**	P	**P**	**22 47 45.4**	**0.0**
	0.9nm,0.4s,baz=110,slow=7.3,SNR=21						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**63.30**	**327**	P	**P**	**22 48 12.6**	**-0.4**
	1.2nm,0.6s,baz=125,slow=6.1,SNR=16						
	1.2nm,0.6s						
BVAR	**Borovoye Array**	**68.89**	**327**	P	**P**	**22 48 48.1**	**-0.5**
	1.0nm,0.4s,baz=99,slow=6.3,SNR=8.2						
	1.0nm,0.4s						

SNET ***09*** *22:40:48.2±0.8, 12°.92N×88°.72W, h49km±20km, ML3.2*
CATAC ***09*** *22:41:06.6±0.6, 13°.50N×88°.88W, h8km, ML2.6*
ISC 09 22:40:47.4±1.9, 12°.9N±0°.1×88.76W±0°.06, h50km, n19, σ1§49/24, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JUCU	**Jucuar¡n**	**0.62**	**53**	***e*P**	**Pn**	**22 41 00.3**	**+0.1**
JUCU				*e*S	**Sn**	**22 41 09.8**	**+0.3**
COEB	**Comit de Eme**	**0.66**	**20**	***e*S**	**Sn**	**22 41 11.4**	**+1.1**
TECO	**Alcaldia de Te**	**0.66**	**358**	*i* P	**Sn**	**22 41 09.9**	**-0.3**
TECO				*i* S	**Sn**	**22 41 11.1**	**+0.9**
TECO				IAML		22 41 13.3	
	comp=Z,1µm,1.0s						
LCY	**Lacayo**	**0.71**	**40**	***e*P**	**Pn**	**22 41 01.6**	**+0.3**
BLLM	**Bellamira**	**0.76**	**42**	***e*P**	**Pn**	**22 41 02.3**	**+0.4**
PANCS	**Alcalda de**	**0.84**	**331**	*i* P	**Sn**	**22 41 13.6**	**-0.8**
PANCS				IAML		22 41 41.4	
	comp=Z,2µm,1.0s						
PAVA	**Las Pavas**	**0.85**	**348**	*i* P	**Sn**	**22 41 12.8**	**-2.0**
PAVA				*i* S	**Sn**	**22 41 15.8**	**+1.0**
PAVA				IAML		22 41 18.5	
	comp=Z,1µm,1.0s						
LOMA	**Loma Larga**	**0.86**	**332**	***e*P**	**Pn**	**22 41 04.1**	**+0.7**
LOMA	**Loma Larga**	**0.86**	**332**	*i* P	**Sn**	**22 41 13.0**	**-2.1**
LOMA				*i* S	**Sn**	**22 41 17.1**	**+2.0**
LOMA				IAML		22 41 18.1	
	comp=Z,550nm,1.0s						
LCND	**La Caada**	**0.95**	**63**	***e*P**	**Pn**	**22 41 04.5**	**+0.1**
LCND				*e*S	**Sn**	**22 41 17.1**	**+0.2**
CNCH	**Conchagua**	**0.98**	**66**	***e*P**	**Pn**	**22 41 05.0**	**0.0**
CNCH				IAML		22 41 24.2	
	comp=Z,641nm,0.2s						
PMON	**Piamonte**	**0.99**	**327**	*i* P	**Sn**	**22 41 17.2**	**-1.0**
PMON				IAML		22 41 23.1	
	comp=Z,520nm,1.0s						
BOQS	**Boqueron**	**0.99**	**329**	*e*S	**Sn**	**22 41 20.1**	**+1.7**
JAYA	**Jayaque - finc**	**1.02**	**319**	*e*S	**Sn**	**22 41 17.0**	**+1.0**
JAYA	**Jayaque - finc**	**1.02**	**319**	*i* P	**Sn**	**22 41 17.8**	**-1.2**
JAYA				IAML		22 41 52.9	
	comp=Z,1µm,1.0s						
CEVE	**Cerro Verde**	**1.27**	**318**	*i* P	**Sn**	**22 41 23.3**	**-1.7**
CEVE				IAML		22 41 35.2	
	comp=Z,220nm,1.0s						
NUBE	**Las Nubes**	**1.43**	**316**	***e*P**	**Pn**	**22 41 12.2**	**+1.2**
ESQI	**Esquipulas**	**1.77**	**341**	*i* P	**Sn**	**22 41 32.8**	**-4.2**
COPN	**Copaltepe**	**2.23**	**108**	*i* P	**Sn**	**22 41 47.3**	**-0.8**

CATAC ***09*** *22:55:10.0±0.3, 16°.02N×89°.51W, h10km, ML4.0*
GCG ***09*** *22:55:13.0±0.3, 15°.55N×89°.32W, h23km, MD3.9*
ISC 09 22:55:07.2±2.0, 16°.02N±0°.04×89°.55W±0°.04, h4km±15km, n20, σ1§06/26, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MRL	**Marmol**	**0.94**	**188**	***e*P**	**Pg**	**22 55 25.0**	**-0.3**
PETF	**Flores**	**0.95**	**341**	*i* P	**Pn**	**22 55 27.7**	**+0.4**
PETF				*i* S	**Sn**	**22 55 41.2**	**-0.1**
PETF				IAML		22 55 45.6	

comp=Z,4μm,1.0s
IZABA Izabal, Puerto 0.97 107 *i* P **Pn 22 55 27.4 -0.2**
IZABA *i* S **Sn 22 55 41.3 -0.5**
IZABA IAML 22 55 44.9
comp=Z,31nm,1.0s
ESQI Esquipulas 1.46 172 *i* P **Pn 22 55 34.6 +0.1**
ESQI *i* S **Sn 22 55 53.6 -0.5**
GUNB GUNB 1.61 209 *i* P **Pb 22 55 38.0 +0.3**
GUNB IAML 22 56 06.7
comp=Z,2μm,1.0s
NBG Las Nubes 1.62 209 *e*P **Pn 22 55 37.6 +0.8**
MTO3 Montecristo 1.62 174 *i* P **Pn 22 55 37.2 +0.5**
MTO3 *i* S **Sn 22 55 57.8 -0.4**
MTO3 IAML 22 56 01.6
comp=Z,670nm,1.0s
GUMI Mixco 1.72 217 *i* P **Pn 22 55 39.0 +0.9**
GUMI IAML 22 56 17.3
comp=Z,4μm,1.0s
HUEH Huehuetenango 2.01 250 *i* P **Pb 22 55 44.8 +0.4**
HUEH IAML 22 55 46.4
comp=Z,2μm,1.0s
NUBE Las Nubes 2.11 186 *i* P **Pn 22 55 45.0 +1.5**
NUBE *i* S **Sb 22 56 13.0 +0.1**
NUBE IAML 22 56 17.0
comp=Z,470nm,1.0s
CEVE Cerro Verde 2.18 182 *i* P **Pb 22 55 47.7 +0.4**
CEVE IAML 22 56 27.7
comp=Z,540nm,1.0s
PMON Piamonte 2.30 174 *i* P **Pb 22 55 49.1 -0.3**
PMON IAML 22 56 27.6
comp=Z,920nm,1.0s
STG3 Santiaguito 3, 2.34 237 *e*P **Pb 22 55 50.5 +0.4**
PAVA Las Pavas 2.37 165 *i* P **Pb 22 55 49.8 -0.7**
PAVA IAML 22 56 24.2
comp=Z,720nm,1.0s
LOMA Loma Larga 2.39 171 *i* P **Pb 22 55 50.9 +0.1**
LOMA IAML 22 56 26.7
comp=Z,290nm,1.0s
PANCS Alcalda de 2.42 171 *i* P Pg 22 56 00.2 +6.6
RTAL Retalhuleu 2.55 235 *i* P **Pb 22 55 53.0 -0.5**
RTAL IAML 22 55 55.0
comp=Z,360nm,1.0s
RTAL *i* S **Sb 22 56 25.2 0.0**
SULM Suchitepequez, 2.58 229 *e*P **Pn 22 55 49.0 -0.9**
PACA Pacayal 2.80 155 *i* P **Pn 22 55 55.4 +2.5**
PACA *i* S **Sb 22 56 30.2 -2.3**
PACA IAML 22 56 38.6
comp=Z,1μm,1.0s
TGUH Tegucigalpa,Un 2.94 131 *i* P **Pn 22 55 57.3 +2.5**
TGUH IAML 22 56 46.4
comp=Z,360nm,1.0s

WEL 09 23:08:28.9±1.3, 46°S±6°×16°6E±°, h12km, M3.4/7, ML3.6/9, MLv3.4/7, Error ellipse: s-maj=0.0km s-min=0.0km az=63.6, confirmed, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.48**	**79**	P	Pb	23 08 39.5	+0.2
PYZ				S	Sb	23 08 47.3	+0.9
DCZ	**Deep Cove**	**1.13**	**46**	P	Pb	23 08 48.0	-2.3
DCZ				S	Sb	23 09 02.7	-2.3
WHZ	**Wether Hill Ro**	**1.41**	**76**	P	Pn	23 08 53.7	-0.6
WHZ				S	Sn	23 09 12.7	0.0
APZ	**The Paps**	**1.49**	**113**	P	Pn	23 08 54.6	-0.8
APZ				S	Sn	23 09 13.9	-1.0
MLZ	**Mavora Lakes**	**1.73**	**60**	P	Pn	23 08 59.2	+0.4
MLZ				S	Sg	23 09 23.6	-0.9
MSZ	**Milford Sound**	**2.09**	**41**	P	Pn	23 09 03.4	-0.2
SYZ	**Scrubby Hill**	**2.19**	**98**	P	Pn	23 09 05.1	0.0
SYZ				S	Sn	23 09 32.5	+0.4
EAZ	**Earnscleugh**	**2.54**	**67**	P	Pn	23 09 10.6	+0.8
TUZ	**Tuapeka**	**2.55**	**84**	P	Pn	23 09 10.2	+0.3
WKZ	**Wanaka**	**2.56**	**57**	P	Pn	23 09 11.8	+1.6
JCZ	**Jackson Bay**	**2.94**	**43**	P	Pn	23 09 15.7	+0.2
ODZ	**Otahua Downs**	**3.48**	**71**	P	Pn	23 09 21.6	-1.2
LBZ	**Lake Benmore**	**3.50**	**59**	P	Pn	23 09 22.8	-0.3
FOZ	**Fox Glacier**	**3.85**	**46**	P	Pn	23 09 27.1	-0.7
GCSZ	**Gaunt Creek Bo**	**4.26**	**48**	P	Pn	23 09 33.0	-0.5
ARCZ	**Arundel**	**4.33**	**60**	P	Pn	23 09 33.3	-1.2
LTZ	**Lake Taylor**	**5.67**	**54**	P	Pn	23 09 53.8	+0.8
DSZ	**Denniston Nort**	**6.16**	**45**	P	Pn	23 09 58.6	-1.0
QRZ	**Quartz Range**	**7.21**	**43**	P	Pn	23 10 13.1	-0.9

ISC 09 23:18:40.9±1.1, 46°29N±0°.03×13°12E±0°.03, h9km±6km, n17, σ0°44/28, 5C-4D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	**Bordano**	**0.03**	**338**	⇓*e*P**g**	**Pg**	**23 18 42.3**	**-0.3**
BOO				*e*S**g**	**Sg**	**23 18 43.2**	**-0.7**
BUA	**Buia**	**0.07**	**177**	*e*P**g**	**Pg**	**23 18 43.0**	**0.0**
MPRI	**Monte Prat**	**0.10**	**241**	⇑*e*P**g**	**Pg**	**23 18 43.3**	**0.0**
MPRI				*e*S**g**	**Sg**	**23 18 45.3**	**+0.1**
BAD	**Bernadia**	**0.10**	**122**	⇓*e*P**g**	**Pg**	**23 18 43.6**	**+0.1**
BAD				*e*S**g**	**Sg**	**23 18 45.6**	**+0.4**
VINO	**Villanova**	**0.12**	**107**	⇑*e*P**g**	**Pg**	**23 18 43.8**	**+0.1**
VINO				*e*S**g**	**Sg**	**23 18 46.2**	**+0.5**
FUSE	**Fusea**	**0.15**	**327**	⇓*e*P**g**	**Pg**	**23 18 44.1**	**-0.1**
FUSE				*e*S**g**	**Sg**	**23 18 46.5**	**+0.1**
CLUD	**Cludinico**	**0.23**	**316**	⇑*e*P**g**	**Pg**	**23 18 45.6**	**-0.1**
CLUD				*e*S**g**	**Sg**	**23 18 49.2**	**+0.3**
COLI	**Coloredo**	**0.24**	**131**	⇑*e*P**g**	**Pb**	**23 18 46.2**	**+0.4**
PLRO	**Paularo**	**0.26**	**5**	⇑*e*P**g**	**Pg**	**23 18 46.3**	**0.0**
ROBS	**Robic**	**0.28**	**99**	*i* P**g**	**Pg**	**23 18 46.4**	**-0.1**
ROBS				*i* S**g**	**Sb**	**23 18 51.5**	**-1.4**
ROBS				IAML		23 18 52.1	
comp=Z,6.9nm,0.1s							
ZOU	**Zoufplan**	**0.28**	**340**	⇓*e*P**g**	**Pg**	**23 18 46.7**	**-0.1**
ZOU				*e*S**g**	**Sg**	**23 18 51.3**	**+0.7**
LSR	**Lussari**	**0.34**	**57**	*e*P**g**	**Pg**	**23 18 47.9**	**+0.1**
ACOM	**Acomizza, Ital**	**0.38**	**47**	*e*P**g**	**Pg**	**23 18 48.5**	**+0.1**
MLNI	**Malnisio**	**0.38**	**248**	*e*P**g**	**Pg**	**23 18 48.5**	**+0.1**
CADS	**Cadrg**	**0.43**	**98**	*i* P**g**	**Pg**	**23 18 49.2**	**-0.2**
CADS				*i* S**g**	**Sb**	**23 18 56.6**	**-0.9**
CADS				IAML		23 18 58.9	
comp=Z,1.0nm,0.1s							
VOJS	**Vojsko**	**0.59**	**116**	*i* P**g**	**Pg**	**23 18 52.1**	**-0.3**
VOJS				*i* S**g**	**Sb**	**23 19 01.9**	**-0.2**
GORS	**Gorjuse**	**0.61**	**87**	*i* P**g**	**Pg**	**23 18 52.7**	**0.0**
GORS				*i* S**g**	**Sb**	**23 19 02.8**	**+0.2**

*ASRS **09** 23:25:56.2, 50°.1N±1°.0×87°.8E±1°.0, h5km±4km, MLh3.7/10, confirmed*
*NNC **09** 23:25:57.4±2.5, 50°.17N×87°.72E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=22.2km s-min=9.5km az=104.0*
ISC 09 23:25:56.8±0.8, 50°.12N±0°.03×87°.82E±0°.03, h10km, n20, σ1°89/39, 12C-8D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHBI	**Chibit, Altay**	**0.28**	**314**	⇓P**g**	**Pg**	**23 26 00.6**	**-1.8**
CHBI				S**g**	**Sg**	**23 26 04.2**	**-2.0**
CUR	**Chagan-Uzun**	**0.34**	**94**	⇑P**g**	**Pg**	**23 26 02.3**	**-1.4**
CUR				S**g**	**Sg**	**23 26 07.6**	**-0.6**
DGZ	**Jazzator, Alta**	**0.49**	**211**	⇓P**g**	**Pg**	**23 26 04.6**	**-1.7**
DGZ				S**g**	**Sg**	**23 26 10.7**	**-2.2**
ULGR	**Ulagan, Altay**	**0.51**	**10**	P**g**	**Pg**	**23 26 06.9**	**+0.2**
ULGR				S**g**	**Sg**	**23 26 13.6**	**+0.2**
YALR	**Yailyu, Altay**	**1.65**	**356**	⇑P**g**	**Pn**	**23 26 24.8**	**-1.0**
YALR				S**g**	**Sn**	**23 26 47.5**	**+0.4**
ARTR	**Artybash**	**1.71**	**349**	P**g**	**Pn**	**23 26 26.3**	**-0.4**
ARTR				S**g**	**Sn**	**23 26 49.5**	**+1.0**
TEL	**Teeli**	**1.77**	**59**	⇑P**g**	**Pn**	**23 26 27.2**	**-0.2**
TEL				S**g**	**Sb**	**23 26 51.3**	**-0.2**
UKR	**Ust'-Kan**	**2.11**	**294**	P**g**	**Pb**	**23 26 34.1**	**-1.0**
UKR				S**g**	**Sb**	**23 27 02.6**	**+1.3**
GALT	**Gorno-Altaysk,**	**2.19**	**328**	P**g**	**Pb**	**23 26 35.6**	**-0.7**
GALT				S**g**	**Sb**	**23 27 05.4**	**+2.0**
TASR	**Tashtagol**	**2.64**	**1**	P**g**	**Pb**	**23 26 43.2**	**-0.9**
TASR				S**g**	**Sb**	**23 27 18.1**	**+1.4**
ELT	**Eltsovka**	**3.29**	**343**	P**g**	**Pn**	**23 26 50.7**	**+2.4**
ELT				S**g**	**Sb**	**23 27 36.0**	**+0.7**
DJO	**Djoy, Khakassi**	**3.41**	**37**	P**g**	**Pg**	**23 27 01.0**	**-1.0**
DJO				S**g**	**Sb**	**23 27 42.4**	**+3.8**
VEH	**Verkhnyaya Baz**	**3.50**	**25**	P**g**	**Pb**	**23 27 00.7**	**+1.9**
VEH				S**g**	**Sb**	**23 27 44.0**	**+2.7**
CERR	**Cheremushki**	**3.54**	**38**	P**g**	**Pg**	**23 27 02.9**	**-1.6**
CERR				S**g**	**Sg**	**23 27 47.4**	**-3.0**
ZAA0	**Zalesovo Array**	**4.25**	**335**	⇑P**n**	**Pn**	**23 27 02.1**	**+0.5**
0.5nm,0.4s							
ZAA0				⇓S**n**	**Sn**	**23 27 53.6**	**+2.4**
0.7nm,0.2s							
ZAA0				⇑L**g**	Lg	23 28 11.7	
5.7nm,0.8s							
MAKZ	**Makanchi**	**5.11**	**232**	⇑P**n**	**Pn**	**23 27 16.6**	**+3.3**
6.6nm,0.6s							
MAKZ				⇓S**n**	**Sn**	**23 28 15.2**	**+2.9**
4.8nm,0.4s							
MAKZ				⇓L**g**	Lg	23 28 36.8	
14nm,0.6s							
KURK	**Kurchatov**	**5.91**	**279**	⇑P**n**	**Pn**	**23 27 25.3**	**+1.0**
4.4nm,0.8s							
KURK				⇑L**g**	Lg	23 29 00.9	
9.2nm,0.4s							
KURBB	**Kurchatov Arra**	**5.96**	**278**	⇓P**n**	**Pn**	**23 27 25.9**	**+0.9**
4.2nm,0.4s							
KURBB				⇑S**n**	**Sn**	**23 28 37.8**	**+4.5**
13nm,0.6s							
KURBB				⇑L**g**	Lg	23 29 03.5	
50nm,0.7s							
BVA0	**Borovoye Array**	**11.23**	**292**	⇓P**n**	**Pn**	**23 28 35.0**	**-2.2**
1.6nm,1.1s,baz=315,slow=42,SNR=12							
BVA0				⇓S**n**	**Sn**	**23 30 42.8**	**+0.2**
3.9nm,1.2s,baz=96,slow=24,SNR=5.1							
BRVK	**Borovoye**	**11.29**	**292**	⇑P**n**	**Pn**	**23 28 37.0**	**-1.1**
2.5nm,1.0s							
BRVK				⇑S**n**	**Sn**	**23 30 42.8**	**-1.4**
1.4nm,0.6s							

*KRNET **09** 23:32:03.3±0.1, 41°.22N×78°.84E, h19km, mb2.3*
*NNC **09** 23:32:04.4±1.5, 41°.23N×78°.74E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=10.1km s-min=6.5km az=169.0*
*SOME **09** 23:32:04.5, 41°.30N×78°.75E, h5km*
ISC 09 23:32:04.7±1.7, 41°.22N±0°.07×78°.73E±0°.04, h10km, n48, σ1°26/75, 15C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**0.86**	**307**	⇓*e*P**g**	**Pg**	**23 32 20.9**	**-0.5**
baz=4.0							
TARG				⇓*e*S**g**	**Sb**	**23 32 34.1**	**+0.3**
baz=4.0							
PRZ	**Przheval'sk**	**1.29**	**349**	⇓*e*P**g**	**Pn**	**23 32 28.0**	**-1.0**
baz=46							
PRZ				⇓*e*S**g**	**Sn**	**23 32 45.8**	**-0.6**
baz=46							
KDJ	**Kajisay**	**1.47**	**309**	⇑*e*P**g**	**Pn**	**23 32 31.5**	**0.0**
baz=7.0							
KDJ				⇑*e*S**g**	**Sg**	**23 32 52.0**	**-0.2**
baz=7.0							
ANVS	**Anan'yevo**	**1.75**	**334**	⇑*e*P**g**	**Pb**	**23 32 36.3**	**-0.8**
baz=31							
ANVS				⇑*e*S**g**	**Sg**	**23 33 00.3**	**-0.8**
baz=31							
SATY	**Saty**	**1.85**	**353**	P**g**	**Pg**	**23 32 39.2**	**-1.2**
4.6nm,0.3s							
SATY				S**g**	**Sg**	**23 33 04.3**	**-0.1**
44nm,0.4s							
SATY	**Saty**	**1.85**	**353**	*e*P**g**	**Pg**	**23 32 39.2**	**-1.2**
4.6nm,0.3s							
SATY				*e*S**g**	**Sg**	**23 33 04.3**	**-0.1**
44nm,0.4s							
ZHN	**Zhinishke**	**1.96**	**354**	P**g**	**Pg**	**23 32 41.2**	**-1.2**
6.5nm,0.1s							
ZHN				L**g**	Lg	23 33 07.8	
80nm,0.5s							
ZHN	**Zhinishke**	**1.96**	**354**	*e*P**g**	**Pg**	**23 32 41.2**	**-1.2**
6.5nm,0.1s							
ZHN				*e*S**g**	**Sg**	**23 33 07.8**	**+0.1**
80nm,0.5s							
SHLS	**Shalkode**	**2.01**	**16**	P**g**	**Pg**	**23 32 43.3**	**0.0**
16nm,0.3s							
SHLS				L**g**	Lg	23 33 11.5	
36nm,0.5s							
SHLS	**Shalkode**	**2.01**	**16**	*e*P**g**	**Pg**	**23 32 43.3**	**0.0**
16nm,0.3s							
SHLS				*e*S**g**	**Sg**	**23 33 11.5**	**+2.0**
36nm,0.5s							
NRN	**Naryn**	**2.06**	**277**	⇑*e*P**g**	**Pb**	**23 32 41.8**	**-0.7**
baz=76							
NRN				⇑*e*S**g**	**Sg**	**23 33 09.8**	**-1.3**
baz=76							
ULHL	**Ulahol**	**2.12**	**300**	⇑*e*P**g**	**Pb**	**23 32 42.3**	**-1.1**
baz=99							
ULHL				⇑*e*S**g**	**Sb**	**23 33 10.6**	**+0.7**
baz=99							
PDGK	**Podgornoye**	**2.18**	**15**	P**g**	**Pb**	**23 32 44.2**	**-0.3**
2.0nm,0.3s							
PDGK				L**g**	Lg	23 33 13.0	
30nm,0.5s							
PDGK	**Podgornoye**	**2.18**	**15**	⇑P**g**	**Pb**	**23 32 42.9**	**-1.5**
2.6nm,0.5s							
PDGK				⇑L**g**	Lg	23 33 13.8	
51nm,0.6s							
TNSS	**Tian-Shan**	**2.25**	**325**	P**g**	**Pb**	**23 32 46.2**	**+0.5**
2.0nm,0.2s							
TNSS				L**g**	Lg	23 33 16.2	
17nm,0.7s							
TNSS	**Tian-Shan**	**2.25**	**325**	*e*P**g**	**Pb**	**23 32 46.2**	**+0.5**
2.0nm,0.2s							
TNSS				*e*S**g**	**Sg**	**23 33 16.2**	**-0.8**
17nm,0.7s							
KURS	**Kuram**	**2.31**	**350**	P**g**	**Pb**	**23 32 47.2**	**+0.7**
1.2nm,0.2s							
KURS				L**g**	Lg	23 33 18.0	
12nm,0.3s							
KURS	**Kuram**	**2.31**	**350**	*e*P**g**	**Pb**	**23 32 47.2**	**+0.7**
1.2nm,0.2s							
KURS				*e*S**g**	**Sg**	**23 33 18.0**	**-0.8**
12nm,0.3s							
MDOK	**Medeo**	**2.31**	**328**	P**g**	**Pb**	**23 32 45.0**	**-1.6**
2.7nm,0.5s							
MDOK				P**g**	**Pb**	**23 32 45.7**	**-0.9**
1.6nm,0.5s							
MDOK				L**g**	Lg	23 33 15.6	
20nm,0.5s							
MDOK				L**g**	Lg	23 33 17.3	
19nm,0.8s							
MDOK	**Medeo**	**2.31**	**328**	*e*P**g**	**Pb**	**23 32 45.7**	**-0.9**
1.6nm,0.5s							
MDOK				*e*S**g**	**Sb**	**23 33 15.6**	**+0.4**
20nm,0.5s							
KOTS	**Kotyrbulak**	**2.34**	**330**	P**g**	**Pb**	**23 32 48.0**	**+0.9**
3.5nm,0.2s							
KOTS				L**g**	Lg	23 33 19.3	
34nm,0.4s							
KOTS	**Kotyrbulak**	**2.34**	**330**	*e*P**g**	**Pb**	**23 32 48.0**	**+0.9**
3.5nm,0.2s							
KOTS				*e*S**g**	**Sg**	**23 33 19.3**	**-0.8**
34nm,0.4s							
KNDC	**Almaty**	**2.39**	**327**	⇑P**g**	**Pn**	**23 32 44.6**	**+0.6**
11nm,0.4s							
KNDC				⇑L**g**	Lg	23 33 20.9	
22nm,0.5s							
IZV	**Izvestkoviy**	**2.40**	**320**	P**g**	**Pb**	**23 32 49.1**	**+1.0**
0.9nm,0.2s							
IZV				L**g**	Lg	23 33 21.4	
13nm,0.3s							
IZV	**Izvestkoviy**	**2.40**	**320**	*e*P**g**	**Pb**	**23 32 49.1**	**+1.0**
0.9nm,0.2s							
IZV				*e*S**g**	**Sg**	**23 33 21.4**	**-0.5**
13nm,0.3s							
BOOM	**Boomskoye usch**	**2.44**	**302**	⇓*e*P**n**	**Pn**	**23 32 46.5**	**+1.7**
baz=1.0							
BOOM				⇓*e*S**b**	**Sb**	**23 33 18.0**	**-0.9**
baz=1.0							
KTMS	**Ketmen**	**2.53**	**28**	P**g**	**Pb**	**23 32 49.9**	**-0.4**
2.1nm,0.3s							
KTMS				L**g**	Lg	23 33 23.0	
7.9nm,0.4s							
KTMS	**Ketmen**	**2.53**	**28**	*e*P**g**	**Pb**	**23 32 49.9**	**-0.4**
2.1nm,0.3s							
KTMS				*e*S**g**	**Sb**	**23 33 23.0**	**+1.3**
7.9nm,0.4s							
MTBS	**Maitube**	**2.56**	**319**	P**g**	**Pb**	**23 32 51.8**	**+1.0**
0.8nm,0.1s							
MTBS				L**g**	Lg	23 33 25.8	
13nm,0.3s							
MTBS	**Maitube**	**2.56**	**319**	*e*P**g**	**Pb**	**23 32 51.8**	**+1.0**
0.8nm,0.1s							
MTBS				*e*S**g**	**Sg**	**23 33 25.8**	**-1.2**
13nm,0.3s							
KST	**Kastek**	**2.75**	**313**	P**g**	**Pb**	**23 32 55.2**	**+1.2**
1.5nm,0.2s							
KST				L**g**	Lg	23 33 31.7	
12nm,0.7s							
KST	**Kastek**	**2.75**	**313**	*e*P**g**	**Pb**	**23 32 55.2**	**+1.2**
1.5nm,0.2s							
KST				*e*S**g**	**Sg**	**23 33 31.7**	**-1.2**
12nm,0.7s							
BLB	**Baldybastay**	**2.88**	**356**	P**g**	**Pb**	**23 32 57.3**	**+1.0**
4.6nm,0.4s							
BLB				L**g**	Lg	23 33 35.3	
7.7nm,0.5s							
TKM2	**Tokmak 2**	**2.88**	**307**	⇓P**g**	**Pg**	**23 32 58.5**	**-1.5**
1.7nm,0.8s							
TKM2				⇑L**g**	Lg	23 33 35.2	
5.9nm,0.7s							
TKM2	**Tokmak 2**	**2.88**	**307**	⇑*e*P**n**	**Pn**	**23 32 53.1**	**+2.1**
baz=6.0							
TKM2				⇑*e*S**n**	**Sn**	**23 33 28.5**	**+2.7**
baz=6.0							
KTBS	**Karatobe**	**2.92**	**329**	P**g**	**Pb**	**23 32 56.9**	**+0.1**
2.0nm,0.6s							
KTBS				L**g**	Lg	23 33 34.9	
7.5nm,0.4s							
KTBS	**Karatobe**	**2.92**	**329**	*e*P**g**	**Pb**	**23 32 57.0**	**+0.1**
2.0nm,0.6s							
KTBS				*e*S**g**	**Sb**	**23 33 34.9**	**+2.4**
7.5nm,0.4s							
CHKK	**Chushkaly**	**2.93**	**335**	P**g**	**Pb**	**23 32 58.0**	**+0.9**
0.9nm,0.1s							
CHKK				L**g**	Lg	23 33 36.5	
14nm,0.4s							
CHKK	**Chushkaly**	**2.93**	**335**	*e*P**g**	**Pb**	**23 32 58.0**	**+0.9**
0.9nm,0.1s							
CHKK				*e*S**g**	**Sg**	**23 33 36.5**	**-2.3**
14nm,0.4s							
DGS	**Degeres**	**2.98**	**314**	P**g**	**Pb**	**23 32 58.8**	**+0.8**
1.9nm,0.4s							
DGS				L**g**	Lg	23 33 37.9	
4.8nm,0.5s							
DGS	**Degeres**	**2.98**	**314**	*e*P**g**	**Pb**	**23 32 58.8**	**+0.8**
1.9nm,0.4s							
DGS				*e*S**g**	**Sg**	**23 33 37.9**	**-2.6**
4.8nm,0.5s							
ARXS	**Arharly**	**3.06**	**348**	P**g**	**Pb**	**23 33 00.3**	**+0.9**
1.4nm,0.4s							
ARXS				L**g**	Lg	23 33 40.6	
13nm,0.6s							
ARXS	**Arharly**	**3.06**	**348**	*e*P**g**	**Pb**	**23 33 00.3**	**+0.9**
1.4nm,0.4s							
ARXS				*e*S**g**	**Sg**	**23 33 40.6**	**-2.6**
13nm,0.6s							
KNOS	**Konyrlen**	**3.16**	**6**	P**g**	**Pb**	**23 33 01.4**	**+0.4**
0.9nm,0.2s							
KNOS				L**g**	Lg	23 33 42.4	
4.5nm,0.4s							
DJR	**Jarkent**	**3.21**	**14**	P**g**	**Pb**	**23 33 02.4**	**+0.5**
0.7nm,0.1s							
DJR				L**g**	Lg	23 33 43.9	
4.0nm,0.2s							
DJR	**Jarkent**	**3.21**	**14**	*e*P**g**	**Pb**	**23 33 02.4**	**+0.5**
0.7nm,0.1s							
DJR				*e*S**g**	**Sg**	**23 33 43.9**	**-4.0**
4.0nm,0.2s							
KRBS	**Karabastau**	**3.35**	**319**	P**g**	**Pb**	**23 33 05.7**	**+1.4**
0.8nm,0.3s							
KRBS				L**g**	Lg	23 33 49.8	
4.5nm,0.4s							
KRBS	**Karabastau**	**3.35**	**319**	*e*P**g**	**Pb**	**23 33 05.7**	**+1.4**
0.8nm,0.3s							
KRBS				*e*S**g**	**Sg**	**23 33 49.8**	**-2.5**
4.5nm,0.4s							

*IDC **09** 23:40:26.7±1.0, 27°.94N×127°.70E, h0km, mb3.6/6, mbtmp3.7/7, ML3.5/1, MS2.9/4, Error ellipse: s-maj=47.0km s-min=14.0km az=65.0*
*JMA **09** 23:40:26.3±0.2, 28°.1N±0°.3×128°.0E±0°.5, h11km±2km, MV3.5/17, NW OFF OKINAWAJIMA IS*
*NIED **09** 23:40:26.3, 28°.12N×128°.03E, h11km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.16; $M_{\theta\theta}$0.73; $M_{\phi\phi}$-0.57; $M_{r\theta}$-0.84; $M_{\theta\phi}$0.46; $M_{\phi r}$-0.16; Fault plane solution: $M_0$1.06000×10^{15} NP1: ϕ_s290.00000°, δ90.00000°, λ44.00000°. NP2: ϕ_s200.00000°, δ46.00000°, λ179.00000°.*
ISC 09 23:40:27.0±3.3, 28°.06N±0°.04×128°.12E±0°.06, h10km±22km, n24, σ0°83/26, mb3.6/6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.79**	**110**	P	**Pb**	**23 40 42.8**	**0.0**
JTK				S	**Sn**	**23 40 54.5**	**-1.6**
JOKE	**Okinoerabujima**	**0.81**	**150**	*e*P	**Pb**	**23 40 43.4**	**+0.2**
JOKE				*e*S	**Sn**	**23 40 55.2**	**-1.3**
JAMN	**Amaminishikomi**	**0.95**	**79**	P	**Pb**	**23 40 45.6**	**0.0**
JAMN				*e*S	**Sn**	**23 40 59.5**	**-0.6**
JIH	**Iheya**	**1.03**	**187**	P	**Pb**	**23 40 46.3**	**-0.6**
JIH				S	**Sb**	**23 41 00.6**	**+0.1**
JYRO	**Yoronjima**	**1.07**	**164**	P	**Pb**	**23 40 47.5**	**-0.2**
JYRO				S	**Sn**	**23 41 03.3**	**+0.2**
JOW	**Kunigami**	**1.23**	**173**	Pn	**Pn**	**23 40 49.9**	**-0.5**
215nm,0.3s,baz=355,slow=14,SNR=58							
JOW				Sn	**Sn**	**23 41 07.3**	**+0.2**
74nm,0.3s,baz=141,slow=23,SNR=12							
JOW	**Kunigami**	**1.23**	**173**	P	**Pn**	**23 40 49.8**	**-0.5**
JAM	**Amami Oshima**	**1.36**	**75**	P	**Pn**	**23 40 52.1**	**+0.1**
JTAJ	**Takarajima**	**1.45**	**41**	*e*P	**Pn**	**23 40 52.5**	**-0.8**
JNTH	**Nagotoyohara**	**1.54**	**183**	P	**Pn**	**23 40 54.7**	**+0.2**
JNTH				*e*S	**Sb**	**23 41 14.9**	**-0.3**
JZK	**Kikaishima**	**1.66**	**81**	*e*P	**Pn**	**23 40 56.8**	**+0.6**
JAGN	**Aguni-jima**	**1.66**	**208**	*e*P	**Pn**	**23 40 56.5**	**+0.3**
JYAK	**Yakushimahirau**	**3.02**	**43**	*e*P	**Pn**	**23 41 15.7**	**+0.8**
JNU	**Nakatsue**	**5.58**	**25**	Pn	Pn	23 41 55.6	+5.5
1.4nm,0.3s,baz=164,slow=8.7,SNR=11							
29nm,0.9s							
KSRS	**Korea Array**	**9.37**	**359**	LR	LR	23 46 31.5	
comp=Z,142nm,18.1s,baz=165,slow=38							
JHJ	**Hachijo jima 2**	**11.24**	**61**	LR	LR	23 47 34.0	
comp=Z,41nm,18.1s,baz=188,slow=37							
MJAR	**Matsushiro Arr**	**12.01**	**43**	LR	LR	23 48 44.6	
comp=Z,40nm,19.2s,baz=244,slow=40							
SONM	**Songino Array**	**25.98**	**325**	P	**P**	**23 45 59.6**	**-0.4**
1.3nm,0.8s,baz=139,slow=9.7,SNR=7.1							
1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**28.39**	**257**	LR	LR	23 59 05.1	

*NOU **10** 00:12:46.3, 16°.39S×167°.59E, h14km, MLv4.4/10, Vanuatu Islands*
*NEIC **10** 00:12:51.4±1.1, 16°.7S±0°.1×167°.49E±0°.10, h35km±2km, mb4.2/14, Error ellipse: s-maj=20.4km s-min=15.4km az=338.0*
ISC 10 00:12:48.5±0.8, **16°.58S**±0°.09×**167°.44E**±0°.09, **h20**km, **n40, σ1s02/39, mb4.3/11, MS3.4/3, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
LIFNC	**LIFOU**	**4.17**	**183**	P		**Pn**	**00 13 51.6**	**+0.5**
LIFNC	**LIFOU**	**4.17**	**183**	Pn		**Pn**	**00 13 49.8**	**-1.3**
MARNC	**Mare, Loyalty**	**4.90**	**174**	P		**Pn**	**00 14 02.2**	**+1.1**
KOUNC	**Koumac, New Ca**	**4.95**	**217**	P		**Pn**	**00 14 02.7**	**+0.9**
KOUNC	**Koumac, New Ca**	**4.95**	**217**			**Pn**	**00 14 02.4**	**+0.7**
DZM	**Mont Dzumac**	**5.54**	**190**			**Pn**	**00 14 10.1**	**+0.2**
DZM	**Mont Dzumac**	**5.54**	**190**	Pn		**Pn**	**00 14 10.4**	**+0.5**
	4.9nm,0.3s,baz=88,slow=12,SNR=45							
DZM				Sn		**Sn**	**00 15 12.1**	**-1.0**
	baz=320,slow=22							
DZM				LR		LR	00 16 11.0	
	comp=Z,251nm,19.8s,baz=251,slow=37							
	11nm,0.3s							
NOUC	**Port Laguerre**	**5.59**	**191**	P		**Pn**	**00 14 12.8**	**+2.2**
ONTNC	**Ouen Toro**	**5.77**	**189**	P		**Pn**	**00 14 14.6**	**+1.6**
ONTNC	**Ouen Toro**	**5.77**	**189**			**Pn**	**00 14 13.3**	**+0.3**
OUENC	**Ouen Island, N**	**5.83**	**185**	P		**Pn**	**00 14 16.8**	**+2.9**
OUENC	**Ouen Island, N**	**5.83**	**185**	Pn		**Pn**	**00 14 14.6**	**+0.8**
PINNC	**Pines Island,**	**6.00**	**180**	Pn		**Pn**	**00 14 15.8**	**-0.3**
MSVF	**Nonsavu**	**10.21**	**98**	Pn		**Pn**	**00 15 13.8**	**-0.2**
EIDS	**Eidsvold**	**17.58**	**237**	Pn		**Pn**	**00 16 51.1**	**-1.4**
ARMA	**Armidale**	**19.96**	**224**	P		**P**	**00 17 19.4**	**-0.2**
ARMA				IAmb		IAmb	00 17 27.0	
	comp=Z,11nm,1.1s							
CTAO	**Charters Tower**	**20.41**	**257**	P		**P**	**00 17 24.5**	**0.0**
CTAO				IAmb		IAmb	00 17 27.4	
	comp=Z,5.4nm,0.8s							
BKZ	**Black Stump Fm**	**23.85**	**162**	P		**P**	**00 18 00.4**	**-0.1**
BKZ				IAmb		IAmb	00 18 07.2	
	comp=Z,13nm,1.1s							
MRZ	**Mangatainoka R**	**25.01**	**165**	P		**P**	**00 18 10.1**	**-1.0**
MRZ				IAmb		IAmb	00 18 13.4	
	comp=Z,14nm,0.8s							
BFZ	**Birch Farm**	**25.20**	**164**	P		**P**	**00 18 11.5**	**-1.3**
STKA	**Stephens Creek**	**27.95**	**232**	P		**P**	**00 18 38.5**	**+0.7**
STKA	**Stephens Creek**	**27.95**	**232**	P		**P**	**00 18 37.7**	**-0.1**
	comp=Z,2.3nm,0.6s,baz=21,slow=8.9,SNR=3.9							
	comp=Z,2.3nm,0.6s							
RAR	**Rarotonga**	**31.33**	**104**	LR		LR	00 29 38.1	
	comp=Z,48nm,22.0s,baz=270,slow=32							
WB0	**Warramunga Arr**	**31.53**	**259**	P		**P**	**00 19 08.7**	**-0.9**
WB0				IAmb		IAmb	00 19 31.0	
	comp=Z,5.9nm,1.1s							
WRA	**Warramunga Arr**	**31.58**	**259**	P		**P**	**00 19 10.2**	**+0.1**
WRA	**Warramunga Arr**	**31.58**	**259**	P		**P**	**00 19 09.8**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=87,slow=8.6,SNR=6.6							
	comp=Z,0.7nm,0.7s							
AS31	**Alice Springs**	**32.21**	**252**	P		**P**	**00 19 15.7**	**+0.1**
AS31				IAmb		IAmb	00 19 21.2	
	comp=Z,3.4nm,0.8s							
ASAR	**Alice Springs**	**32.21**	**252**	P		**P**	**00 19 15.7**	**+0.1**
ASAR	**Alice Springs**	**32.21**	**252**	P		**P**	**00 19 15.9**	**+0.3**
	comp=Z,5.5nm,0.9s,baz=79,slow=8.7,SNR=38							
ASAR				LR		LR	00 31 58.4	
	comp=Z,117nm,18.5s,baz=154,slow=36							
	comp=Z,5.5nm,0.9s							
FITZ	**Fitzroy Crossi**	**39.87**	**261**	P		**P**	**00 20 21.2**	**+0.1**
VNDA	**Vanda**	**61.02**	**181**	P		**P**	**00 23 01.5**	**+1.3**
VNDA				IAmb		IAmb	00 23 11.7	
	comp=Z,1.6nm,1.2s							
VNDA	**Vanda**	**61.02**	**181**	P		**P**	**00 23 01.8**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=355,slow=5.9,SNR=1.8							
	comp=Z,0.4nm,0.5s							
CASY	**Casey**	**61.88**	**203**	P		**P**	**00 23 06.3**	**+0.2**
QSPA	**South Pole Qui**	**73.45**	**180**	P		**P**	**00 24 19.8**	**+0.4**
QSPA				IAmb		IAmb	00 24 20.3	
	comp=Z,2.9nm,0.8s							
QSPA	**South Pole Qui**	**73.45**	**180**	P		**P**	**00 24 19.3**	**-0.1**
	comp=Z,3.3nm,0.9s,baz=63,slow=1.5,SNR=9.2							
	comp=Z,3.3nm,0.9s							
CMAR	**Chiang Mai Arr**	**75.85**	**294**	P		**P**	**00 24 33.5**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=115,slow=4.3,SNR=1.1							
	comp=Z,0.9nm,0.3s							
MA2	**Magadan**	**77.09**	**351**	LR		LR	00 53 15.2	
	comp=Z,17nm,19.3s,baz=329,slow=32							
SONM	**Songino Array**	**84.08**	**324**	P		**P**	**00 25 18.3**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=151,slow=7.0,SNR=4.0							
	comp=Z,0.7nm,0.7s							
SPITS	**Spitsbergen Ar**	**116.78**	**354**	PKP		**PKiKP**	**00 31 32.0**	**+1.2**
	comp=Z,16nm,1.1s,baz=7.8,slow=12,SNR=2.3							
ARCES	**ARCESS Array B**	**122.08**	**345**	PKP		**PKPdf**	**00 31 39.4**	**-1.7**
	comp=Z,1.2nm,0.8s,baz=79,slow=2.6,SNR=6.0							

*IDC **10** 00:16:37.0±0.8, 5°.84S×142°.74E, h0km, mb4.0/8, mbtmp4.1/10, ML2.3/1, MS3.5/2, Error ellipse: s-maj=37.5km s-min=18.5km az=73.0*
*NEIC **10** 00:16:38.9±1.7, 5°.7S±0°.1×142°.55E±0°.06, h10km±1km, mb4.2/11, Error ellipse: s-maj=21.1km s-min=6.5km az=24.0*
ISC 10 00:16:41.2±0.7, **5°.89S**±0°.08×**142°.61E**±0°.08, **h28**km, **n32, σ1s28/31, mb4.1/11, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PMG	**Port Moresby**	**5.71**	**128**	Pn		**Pn**	**00 18 03.6**	**-0.5**
PMG	**Port Moresby**	**5.71**	**128**	Pn		**Pn**	**00 18 03.2**	**-0.9**
	5.5nm,0.3s,baz=0.0,slow=20,SNR=7.0							
PMG				Sn		**Sn**	**00 19 07.4**	**-1.4**
	2.6nm,0.3s,baz=330,slow=20,SNR=3.0							
	23nm,0.4s							
COEN	**Coen**	**8.04**	**176**	Pn		**Pn**	**00 18 37.9**	**+1.7**
FAKI	**Fak Fak**	**10.74**	**285**			**Pn**	**00 19 13.4**	**+0.2**
MTN	**Manton Dam**	**13.26**	**238**			**Pn**	**00 19 45.1**	**-2.6**
WB0	**Warramunga Arr**	**15.94**	**209**			**Pn**	**00 20 23.4**	**-0.3**
WB0				IAmb		IAmb	00 20 34.8	
	comp=Z,12nm,0.9s							
WRA	**Warramunga Arr**	**16.12**	**209**			**Pn**	**00 20 25.5**	**-0.4**
WRA	**Warramunga Arr**	**16.12**	**209**	Pn		**Pn**	**00 20 22.4**	**-3.5**
	comp=Z,0.9nm,0.3s,baz=29,slow=13,SNR=22							
WRA				Sn		Sn	00 23 11.0	-13
	comp=Z,0.8nm,0.3s,baz=23,slow=22,SNR=6.0							
WRA				Lg		Lg	00 25 05.8	
	comp=Z,0.2nm,0.3s,baz=2.7,slow=39,SNR=1.5							
SOEI	**Soe**	**18.57**	**257**	P		**P**	**00 20 54.8**	**-1.5**
SOEI				IAmb		IAmb	00 21 14.1	
	comp=Z,28nm,0.8s							
AS31	**Alice Springs**	**19.56**	**204**	P		**P**	**00 21 07.5**	**+0.5**
AS31				IAmb		IAmb	00 21 15.4	
	comp=Z,5.3nm,1.0s							
ASAR	**Alice Springs**	**19.56**	**204**	P		**P**	**00 21 07.2**	**+0.2**
ASAR	**Alice Springs**	**19.56**	**204**	P		**Pn**	**00 21 07.9**	**-0.5**
	comp=Z,7.7nm,0.8s,baz=32,slow=9.9,SNR=33							
ASAR				S		S	00 24 35.3	-11
	comp=Z,1.1nm,0.5s,baz=14,slow=28,SNR=2.3							
ASAR				Lg		Lg	00 26 53.0	
	baz=22,slow=28							
FITZ	**Fitzroy Crossi**	**20.53**	**232**	P		**P**	**00 21 17.9**	**+0.4**
EIDS	**Eidsvold**	**21.00**	**158**	P		**P**	**00 21 23.7**	**+1.1**
EIDS				IAmb		IAmb	00 21 29.1	
	comp=Z,10nm,1.3s							
STKA	**Stephens Creek**	**25.88**	**182**	P		**P**	**00 22 11.8**	**+1.2**
STKA	**Stephens Creek**	**25.88**	**182**	P		**P**	**00 22 12.3**	**+1.7**
	comp=Z,1.9nm,0.7s,baz=338,slow=15,SNR=3.0							
	comp=Z,1.9nm,0.7s							
ASAJ	**Asahikawa**	**49.77**	**360**	LR		LR	00 46 26.1	
	comp=Z,27nm,21.9s,baz=154,slow=36							
USRK	**Ussuriysk Ar.**	**50.77**	**350**	P		**P**	**00 25 40.1**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=128,slow=9.3,SNR=1.5							
	comp=Z,1.1nm,0.8s							
VNDA	**Vanda**	**72.32**	**176**	LR		LR	00 58 01.4	
	comp=Z,70nm,18.5s,baz=338,slow=34							
MKAR	**Makanchi Array**	**74.67**	**322**	P		**P**	**00 28 17.7**	**-0.5**
MKAR	**Makanchi Array**	**74.67**	**322**	P		**P**	**00 28 19.6**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=104,slow=7.6,SNR=5.4							
	comp=Z,0.7nm,0.8s							
MAKZ	**Makanchi**	**74.86**	**322**	P		**P**	**00 28 17.9**	**-1.5**
MAKZ				IAmb		IAmb	00 28 24.0	
	comp=Z,2.3nm,1.2s							
ZALV	**Zalesovo Beam**	**76.63**	**329**	P		**P**	**00 28 27.8**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=187,slow=7.3,SNR=1.4							
	comp=Z,0.3nm,0.4s							
KURBB	**Kurchatov Arra**	**78.55**	**324**	P		**P**	**00 28 39.8**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=104,slow=6.8,SNR=4.7							
	comp=Z,0.4nm,0.3s							
QSPA	**South Pole Qui**	**84.08**	**180**	P		**P**	**00 29 09.6**	**+0.3**
QSPA				IAmb		IAmb	00 29 10.5	
	comp=Z,2.1nm,0.7s							
QSPA	**South Pole Qui**	**84.08**	**180**	P		**P**	**00 29 08.9**	**-0.4**
	comp=Z,1.8nm,0.6s,baz=351,slow=0.2,SNR=21							
	comp=Z,1.8nm,0.6s							
BVAR	**Borovoye Array**	**84.13**	**325**	P		**P**	**00 29 11.1**	**+1.5**
	comp=Z,2.6nm,0.8s,baz=110,slow=8.1,SNR=14							
	comp=Z,2.6nm,0.8s							
ILAR	**Eielson Array**	**87.12**	**24**	P		**P**	**00 29 23.8**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=248,slow=4.5,SNR=8.0							
	comp=Z,0.8nm,0.7s							
M27K	**Edge Creek, AK**	**88.52**	**27**			**P**	**00 29 31.5**	**+0.4**
D25K	**Kavik River**	**88.87**	**20**	P		**P**	**00 29 32.6**	**+0.1**
D25K				IAmb		IAmb	00 29 45.5	
	comp=Z,3.5nm,1.3s							
BMAR	**Burnt Mountain**	**88.88**	**22**			**P**	**00 29 33.4**	**+0.8**
ABKAR	**Akbulak array**	**89.64**	**319**	P		**P**	**00 29 35.9**	**-0.6**

IDC 10 00:29:49.9±5.1, **5°.69S×147°.50E, h0**km, **mb3.2**/2, **mbtmp3.2**/3, **ML3.4**/1, **Error ellipse: s-maj=151.3km s-min=37.4km az=103.0, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**19.09**	**221**	P		Pn	00 34 15.1	+0.1
	0.1nm,0.3s,baz=45,slow=11,SNR=6.2							
	0.6nm,0.7s							
ASAR	**Alice Springs**	**22.15**	**215**	P		P	00 34 46.7	-0.8
	0.3nm,0.6s,baz=46,slow=8.1,SNR=2.2							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**77.58**	**320**	P		P	00 41 48.1	+0.1
	0.3nm,0.8s,baz=99,slow=6.7,SNR=2.2							
	0.3nm,0.8s							

*NEIC **10** 00:41:00.5±0.7, 19°.41N±0°.04×155°.27W±0°.03, h1km±13km, Error ellipse: s-maj=5.4km s-min=3.2km az=203.0*
HVO 10 00:40:60.0±0.7, **19°.40N**±0°.03×**155°.29W**±0°.02, **h1**km±8km, **ML2.8**/8, **ML1.9**/40(NEIC), **Error ellipse: s-maj=4.5km s-min=2.3km az=218.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SDHHI	**Sand Hill**	**0.01**	**202**	Pg		Pg	00 41 00.7	+0.3
SDHHI						Sg	00 41 01.1	+0.3
WRMHI	**West Rim**	**0.01**	**305**	IAML			00 41 00.6	
	comp=E,7μm,0.5s							
WRMHI				Pg		Pg	00 41 00.7	+0.3
WRMHI						Sg	00 41 01.3	+0.5
NPH	**North Pit**	**0.01**	**34**	Pg		Pg	00 41 00.6	+0.1
NPH						Sg	00 41 01.3	+0.4
RIM	**Rim**	**0.01**	**106**	Pg		Pg	00 41 00.6	+0.1
RIM						Sg	00 41 01.3	+0.5
OBL	**Observatory Le**	**0.02**	**17**			Pg	00 41 00.7	+0.2
OBL				IAML			00 41 00.7	
	comp=N,5μm,0.8s							
OBL						Sg	00 41 01.6	+0.7
KKO	**Keanakako`i**	**0.02**	**95**	IAML			00 41 00.6	
	comp=E,3μm,0.7s							
KKO				Pg		Pg	00 41 00.7	+0.2
KKO						Sg	00 41 01.5	+0.6
UWE	**Uwekahuna**	**0.02**	**352**	IAML			00 41 00.5	
	comp=N,3μm,0.5s							
UWE				IAML			00 41 00.7	
	comp=E,4μm,0.5s							
UWE				Pg		Pg	00 41 00.8	+0.3
UWB	**Uwekahuna B**	**0.03**	**24**	Pg		Pg	00 41 00.8	+0.2
BYL	**Byron's Ledge**	**0.03**	**66**	IAML			00 41 00.7	
	comp=N,2μm,0.5s							
BYL				Pg		Pg	00 41 00.8	+0.1
BYL				IAML			00 41 00.8	
	comp=E,2μm,0.4s							
SBLHI	**Steaming Bluff**	**0.03**	**37**	Pg		Pg	00 41 01.0	+0.3
SBLHI				IAML			00 41 01.0	
	comp=N,2μm,0.4s							
SBLHI				IAML			00 41 01.4	
	comp=E,2μm,0.5s							
SBLHI						Sg	00 41 02.2	+1.0
HATHI	**Halema'uma'u T**	**0.04**	**49**			Pg	00 41 01.0	+0.3
RSD	**Rainshed**	**0.06**	**10**	Pg		Pg	00 41 01.7	+0.4
RSD				IAML			00 41 02.1	
	comp=N,1μm,0.6s							
RSD						Sg	00 41 02.7	+0.5
RSD				IAML			00 41 03.3	
	comp=E,928nm,0.4s							
PUH	**Pauahi**	**0.07**	**110**			Pg	00 41 01.9	+0.5
PUH				IAML			00 41 03.9	
	comp=N,778nm,0.6s							
HLP	**Hilina Pali**	**0.10**	**190**	IAML			00 41 02.8	
	comp=N,582nm,0.7s							
HLP						Pg	00 41 02.9	+0.8
HLP						Sg	00 41 04.2	+0.8
MLH	**Mauna Loa**	**0.13**	**316**			Pg	00 41 03.4	+0.8
MLH						Sg	00 41 04.8	+0.5
MLH				IAML			00 41 06.5	
	comp=E,464nm,0.6s							
STCH	**Steam Cracks**	**0.16**	**95**	Pg		Pg	00 41 03.3	+0.3
STCH				IAML			00 41 05.2	
	comp=N,358nm,0.9s							
NPOC	**North of Pu'u**	**0.17**	**92**			Pg	00 41 03.9	+0.6
NPOC				IAML			00 41 04.1	
	comp=E,337nm,1.0s							
NPOC				IAML			00 41 08.1	
	comp=N,314nm,1.1s							
JCUZ	**Jacuzzi**	**0.18**	**95**	Pg		Pg	00 41 03.9	+0.5
JCUZ				IAML			00 41 07.9	
	comp=E,345nm,0.9s							
HTC	**Hot Caves**	**0.19**	**212**			Pg	00 41 04.5	+0.9
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg		Pg	00 41 05.7	+0.5
HMH				IAML			00 41 08.4	
	comp=N,222nm,0.8s							
HMH				IAML			00 41 10.9	
	comp=E,225nm,1.9s							
MWH	**Moku'aweowe**	**0.30**	**286**	Pg		Pg	00 41 06.6	+0.8
KHU	**Kahuku**	**0.34**	**244**			Pg	00 41 07.0	+0.4
HUH	**Hualalai**	**0.59**	**299**	Pg		Pg	00 41 11.8	+0.5

*IDC **10** 01:17:11.7±11.0, 36°.60N×141°.00E, h0km, mb3.9/3, mbtmp3.7/4, ML2.5/1, Error ellipse: s-maj=230.6km s-min=43.1km az=155.0*
*JMA **10** 01:17:14.5±0.1, 36°.3N±0°.3×141°.0E±0°.9, h38km±1km, MV3.4/37, E OFF IBARAKI PREF*
JMA Felt II J1 at E OFF IBARAKI PREF .
ISC 10 01:17:13.8±1.9, **36°.33N**±0°.05×**141°.0E**±0°.1, **h28**km±10km, **n20, σ0s77/20, mb3.7/3, 2D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JHYU	**Hitachinakayam**	**0.37**	**271**	⇓*i* P		**Pn**	**01 17 22.7**	**-0.6**
JHYU				⇓S		**Sb**	**01 17 27.7**	**+0.1**
JHO	**Hitachi**	**0.47**	**306**	P		**Pn**	**01 17 24.1**	**-0.6**
JHO				*e*S		**Sb**	**01 17 30.8**	**+0.4**
JIHU	**Itakohorinouch**	**0.56**	**229**	*i* P		**Pn**	**01 17 25.6**	**-0.2**
JIHU				*e*S		**Sb**	**01 17 33.5**	**+0.8**
JYT	**Yasato**	**0.69**	**262**	*i* P		**Pn**	**01 17 26.8**	**-1.0**
ONAJ	**Iwakimizuishiy**	**0.79**	**346**	P		**Pb**	**01 17 29.2**	**+0.2**
JSMT	**Sammumatsuo**	**0.84**	**215**	P		**Pb**	**01 17 29.3**	**-0.5**
JFK	**Kawauchi**	**1.04**	**353**	*i* P		**Pb**	**01 17 32.6**	**-0.6**
JAG	**Ashikaga**	**1.28**	**275**	P		**Pn**	**01 17 35.4**	**-0.5**
JAG				*e*S		**Sn**	**01 17 50.4**	**-1.7**
JOTO	**OTAMA OYAMA**	**1.35**	**335**	P		**Pb**	**01 17 38.2**	**-0.2**
JOTO				*e*S		**Sb**	**01 17 55.1**	**-0.2**
JKT	**Katashina**	**1.51**	**287**	P		**Pn**	**01 17 39.5**	**+0.5**
MJAR	**Matsushiro Arr**	**2.29**	**276**	Pn		**Pn**	**01 17 50.2**	**+0.5**
	1.3nm,0.3s,baz=113,slow=9.3,SNR=33							
MJAR				Sn		**Sn**	**01 18 18.3**	**+1.2**
	0.8nm,0.3s,baz=93,slow=18,SNR=5.9							
	6.8nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.06**	**119**	T		T	01 52 27.0	
	baz=311							
H11N1	**WAKE ISLAND Hy**	**28.07**	**119**	T		T	01 52 29.3	
	baz=311,slow=74							
H11N3	**WAKE ISLAND Hy**	**28.08**	**119**	T		T	01 52 29.7	
	baz=311,slow=74							
H11S1	**WAKE ISLAND Hy**	**28.74**	**121**	T		T	01 53 08.4	
	baz=314,slow=76,SNR=63							
H11S3	**WAKE ISLAND Hy**	**28.74**	**121**	T		T	01 53 15.1	
	baz=314,slow=76,SNR=34							
H11S2	**WAKE ISLAND Hy**	**28.76**	**121**	T		T	01 53 21.0	
	baz=314,slow=76,SNR=34							
ZALV	**Zalesovo Beam**	**42.17**	**313**	P		**P**	**01 25 04.7**	**+1.0**
	1.0nm,0.7s,baz=110,slow=8.2,SNR=4.8							
	1.0nm,0.7s							
MKAR	**Makanchi Array**	**44.24**	**303**	P		**P**	**01 25 20.6**	**0.0**
	0.8nm,0.9s,baz=76,slow=6.7,SNR=4.7							
	0.8nm,0.9s							
KURBB	**Kurchatov Arra**	**46.20**	**308**	P		**P**	**01 25 36.4**	**+0.4**
	0.9nm,0.2s,baz=83,slow=7.8,SNR=5.8							
	0.9nm,0.2s							

*IDC **10** 01:18:59.7±3.4, 28°.84S×74°.01E, h0km, mb4.0/6, mbtmp4.0/6, MS3.6/5, Error ellipse: s-maj=109.7km s-min=30.8km az=43.0*
ISC 10 01:18:59.9±3.6, **29°.0S**±0°.6×**73°.8E**±0°.5, **h10**km, **n20, σ1s02/7, mb4.1/6, MS3.6/5, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
H08S2	**Diego Garcia H**	**21.31**	**356**	T		T	01 45 11.2	
	baz=176,slow=75,SNR=14							
H08S1	**Diego Carcia H**	**21.31**	**356**	T		T	01 45 18.1	
	baz=176,slow=75,SNR=15							
H08S3	**Diego Garcia H**	**21.32**	**356**	T		T	01 45 11.4	
	baz=176,slow=75,SNR=15							
H04N2	**CROZET ISLANDS**	**24.28**	**219**	T		T	01 50 28.1	
	baz=54,slow=74,SNR=141							
H04N1	**CROZET ISLANDS**	**24.29**	**219**	T		T	01 50 27.2	
	baz=54,slow=74,SNR=117							
H04N3	**CROZET ISLANDS**	**24.30**	**219**	T		T	01 50 27.8	
	baz=54,slow=74,SNR=138							
H04S1	**CROZET ISLANDS**	**24.64**	**218**	T		T	01 50 53.1	
	baz=45,slow=72,SNR=5.1							
H04S3	**CROZET ISLANDS**	**24.65**	**218**	T		T	01 50 58.7	
	baz=45,slow=72,SNR=11							
H04S2	**CROZET ISLANDS**	**24.66**	**218**	T		T	01 50 58.2	
	baz=45,slow=72,SNR=5.1							
BOSA	**Boshof**		**42.27**	**258**	LR	LR	01 40 20.3	
	comp=Z,78nm,18.8s,baz=129,slow=30							
LSZ	**Lusaka**		**44.13**	**278**	LR	LR	01 42 54.0	
	comp=Z,64nm,18.9s,baz=179,slow=32							
SUR	**Sutherland**		**45.29**	**252**	LR	LR	01 43 28.9	
	comp=Z,68nm,18.4s,baz=142,slow=32							
TSUM	**Tsumeb**		**51.81**	**268**	LR	LR	01 46 32.0	
	comp=Z,55nm,21.5s,baz=150,slow=32							
CMAR	**Chiang Mai Arr**	**53.10**	**30**	P		**P**	**01 28 18.0**	**+0.4**
	1.0nm,0.3s,baz=227,slow=6.1,SNR=1.7							
	1.0nm,0.3s							
ASAR	**Alice Springs**	**53.65**	**99**	P		**P**	**01 28 21.4**	**-0.5**
	0.9nm,0.6s,baz=248,slow=6.6,SNR=11							
	0.9nm,0.6s							
WRA	**Warramunga Arr**	**55.34**	**95**	P		**P**	**01 28 34.6**	**+0.4**
	2.0nm,0.8s,baz=251,slow=7.2,SNR=7.2							
	2.0nm,0.8s							
MKAR	**Makanchi Array**	**75.86**	**6**	P		**P**	**01 30 44.6**	**-1.6**
	0.3nm,0.7s,baz=176,slow=5.8,SNR=3.1							
MKAR				LR		LR	02 02 39.8	
	comp=Z,44nm,18.2s,baz=304,slow=35							
	0.3nm,0.7s							
BVAR	**Borovoye Array**	**81.76**	**358**	P		**P**	**01 31 19.3**	**+0.9**
	2.0nm,0.7s,baz=165,slow=6.2,SNR=9.9							
	2.0nm,0.7s							
ZALV	**Zalesovo Beam**	**83.18**	**7**	P		**P**	**01 31 25.9**	**+0.2**
	0.3nm,0.4s,baz=164,slow=5.7,SNR=2.0							
	0.3nm,0.4s							
YKA	**Yellowknife Ar**	**146.08**	**7**	PKPbc		**PKPab**	**01 38 40.5**	**+0.5**
	0.5nm,0.9s,baz=338,slow=4.0,SNR=5.8							

*DNK **10** 01:24:25.6±2.7, 81°.85N×3°.48W, h34km±26km, ML1.7*
*BER **10** 01:24:25.6±2.2, 81°.78N×3°.80W, h10km, mb(Pn)3.0, Confirmed Earthquake*
*KOLA **10** 01:24:30.4, 81°.97N×0°.59E, h0km, ML2.4, Error ellipse: s-maj=141.0km s-min=29.4km az=50.0, Arctic Ocean*
ISC 10 01:24:22.7±1.3, **81°.65N**±0°.10×**4°.03W**±0°.04, **h10**km, **n17, σ2s23/27, North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NOR	**Nord**	**1.85**	**275**	*e*P		**Pn**	**01 24 55.5**	**+1.0**
NOR				*e*S		**Sn**	**01 25 17.5**	**-0.3**
NOR	**Nord**	**1.85**	**275**	*e*		**Pn**	**01 24 54.5**	**+0.1**
	baz=68,slow=14							
NOR				*i* P		**Pb**	**01 24 55.7**	**-0.9**
NOR				*e*S		**Sn**	**01 25 18.0**	**+0.2**
NOR				IAML			01 25 18.5	
	comp=Z,7.9nm,0.4s							
KBS	**Kingsbay**	**3.83**	**127**	P		**Pn**	**01 25 23.2**	**+1.5**
KBS				S		**Sn**	**01 26 04.2**	**-2.5**
KBS	**Kingsbay**	**3.83**	**127**	*e*P		**Pn**	**01 25 23.6**	**+1.9**
KBS				*e*S		**Sn**	**01 26 03.8**	**-2.9**
KBS				IAML			01 26 10.5	
	comp=Z,4.2nm,0.4s							
KBS	**Kingsbay**	**3.83**	**127**

HMH	**Humu'ula Sheep**	**0.51**	**298**		Pg	01 24 44.9	-0.1
HMH	**Humu'ula Sheep**	**0.51**	**298**	IAML		01 24 52.8	
	comp=E,700nm,0.5s						
HMH				IAML		01 24 58.9	
	comp=N,2μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.56**	**288**		Pg	01 24 45.4	-0.6
MLOA	**Mauna Loa Obse**	**0.56**	**288**	IAML		01 24 54.0	
	comp=N,398nm,0.2s						
MLOA				IAML		01 24 54.2	
	comp=E,496nm,0.2s						
MWH	**Moku'aweowe**	**0.57**	**282**		Pg	01 24 45.5	-0.6
MWH	**Moku'aweowe**	**0.57**	**282**	IAML		01 24 50.8	
	comp=N,578nm,0.8s						
MWH				IAML		01 25 06.3	
	comp=E,748nm,0.9s						
KHU	**Kahuku**	**0.58**	**259**		Sg	01 24 54.4	+0.4
KHU	**Kahuku**	**0.58**	**259**		Pg	01 24 45.7	-0.7
KHU	**Kahuku**	**0.58**	**259**	IAML		01 25 05.4	
	comp=N,423nm,3.7s						
KHU				IAML		01 25 05.8	
	comp=E,430nm,2.9s						
ALEP	**Alea Permanent**	**0.62**	**287**		Sg	01 24 55.2	-0.1
POHA	**Pohakuloa**	**0.63**	**309**		Sg	01 24 54.6	-0.9
POHA	**Pohakuloa**	**0.63**	**309**	Pg	Pg	01 24 47.2	-0.1
POHA	**Pohakuloa**	**0.63**	**309**	IAML		01 24 55.9	
	comp=E,824nm,0.1s						
POHA				IAML		01 25 01.9	
	comp=E,802nm,0.1s						

NOU 10 01:28:11.5,19°00S×168°87E,h0km,MLv4.5/10,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**2.34**	**221**	P	Pn	01 28 49.5	-1.8
MARNC	**Mare, Loyalty**	**2.59**	**198**	P	Pn	01 28 53.3	-1.4
DZM	**Mont Dzumac**	**3.81**	**216**	P	Pn	01 29 11.3	-0.2
PINNC	**Pines Island,**	**3.83**	**200**	P	Pn	01 29 12.1	+0.3
OUENC	**Ouen Island, N**	**3.90**	**209**	P	Pn	01 29 13.1	+0.5
NOUC	**Port Laguerre**	**3.91**	**218**	P	Pn	01 29 13.2	+0.3
ONTNC	**Ouen Toro**	**3.99**	**214**	P	Pn	01 29 14.9	+0.9
KOUNC	**Koumac, New Ca**	**4.58**	**250**	P	Pn	01 29 21.9	-0.2

IDC 10 01:35:44.9±3.0,32°29S×178°37W,h0km,mb3.6/2, mbtmp3.5/3,ML3.1/1,MS3.1/1,Error ellipse: s-maj=72.1km s-min=37.0km az=115.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**7.01**	**211**	Pn	Pn	01 37 28.4	-0.3
	0.3nm,0.3s,baz=128,slow=20,SNR=1.1						
URZ				Sn	Sn	01 38 49.9	+0.8
	0.7nm,0.3s,baz=336,slow=19,SNR=2.0						
	1.5nm,0.4s						
ASAR	**Alice Springs**	**42.73**	**269**	P	P	01 43 43.2	-0.8
	0.2nm,0.3s,baz=105,slow=7.9,SNR=1.9						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.88**	**274**	P	P	01 43 53.7	+0.4
	0.5nm,0.5s,baz=112,slow=8.0,SNR=8.9						
	0.5nm,0.5s						
GUMO	**Guam**	**57.61**	**316**	LR	LR	02 08 05.3	
	comp=Z,16nm,19.8s,baz=85,slow=34						
FINES	**FINESS Array B**	**146.80**	**339**	PKPbc	PKPbc	01 55 27.4	-0.8
	1.2nm,0.8s,baz=29,slow=4.4,SNR=7.3						

*IDC **10** 01:51:57.4±2.5,34°14N×25°91E,h0km,mb3.7/5, mbtmp3.6/7,ML3.8/2,Error ellipse: s-maj=51.9km s-min=26.7km az=9.0*
*ISK **10** 01:51:59.9,34°21N×26°22E,h10km,ML2.9/14*
*ATH **10** 01:52:01.9,34°24N×26°08E,h5km±2km,ML2.6/9,Error ellipse: s-maj=3.2km s-min=1.6km az=337.0*
*GII **10** 01:52:02.6±0.4,33°944N±0°003×26°551E±0°001,h1km, Mws2.8,confirmed*
*THE **10** 01:52:03.9,34°40N×26°06E,h0km±2km,ML2.2/2,Error ellipse: s-maj=4.3km s-min=1.2km az=155.0*
*AFAD **10** 01:52:04.8±0.0,34°71N×26°34E,h7km±1km,ML2.7*

ISC 10 01:51:58.9±1.7,34°13N±0°06×26°19E±0°05,h10km±10km, n104,σ1s79/122,mb3.6/5,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRMA	**Ierapetra Chan**	**0.96**	**337**	P	**Pg**	**01 52 17.2**	**-0.2**
FRMA	**Ierapetra Chan**	**0.96**	**337**	P	**Pg**	**01 52 16.0**	**-1.4**
FRMA				S	**Sg**	**01 52 27.9**	**-2.0**
FRMA				AML	AML	01 52 36.0	
	comp=N,1559μm,0.4s						
FRMA				AML	AML	01 52 37.1	
	comp=E,1600μm,0.4s						
ZKR	**Zakros**	**0.98**	**1**	Pg	**Pg**	**01 52 17.6**	**-0.3**
ZKR				Sg	**Sg**	**01 52 30.7**	**+0.1**
ZKR	**Zakros**	**0.98**	**1**	P	**Pg**	**01 52 17.5**	**-0.3**
ZKR				S	**Sg**	**01 52 29.8**	**-0.8**
	comp=E,710nm,0.3s						
ZKR	**Zakros**	**0.98**	**1**	P	**Pg**	**01 52 17.6**	**-0.3**
ZKR				S	**Sg**	**01 52 31.1**	**+0.5**
ZKR				AML	AML	01 52 31.6	
	comp=N,949μm,0.3s						
ZKR				AML	AML	01 52 37.4	
	comp=E,1883μm,0.3s						
KSTL	**Kastelli Herak**	**1.49**	**322**	P	Pn	01 52 22.5	-3.3
KSTL				S	Sb	01 52 38.2	-7.5
	comp=E,50nm,0.5s						
KSTL	**Kastelli Herak**	**1.49**	**322**	P	**Pn**	**01 52 24.3**	**-1.5**
KSTL				S	Sb	01 52 38.8	-6.9
KSTL				AML	AML	01 52 56.0	
	comp=N,378μm,0.4s						
KSTL				AML	AML	01 53 03.6	
	comp=E,193μm,0.8s						
IDI	**Anoyia**	**1.58**	**317**	Pn	**Pn**	**01 52 28.2**	**+1.2**
IDI	**Anoyia**	**1.58**	**317**	P	**Pn**	**01 52 28.1**	**+1.1**
IDI	**Anoyia**	**1.58**	**317**	P	**Pn**	**01 52 27.9**	**+0.9**
IDI				AML	AML	01 53 04.5	
	comp=N,168μm,0.4s						
IDI				AML	AML	01 53 05.4	
	comp=E,152μm,0.6s						
KARP	**Karpathos**	**1.62**	**29**	Pn	**Pn**	**01 52 28.3**	**+0.7**
KARP	**Karpathos**	**1.62**	**29**	P	**Pn**	**01 52 30.2**	**+2.6**
KARP	**Karpathos**	**1.62**	**29**	P	**Pn**	**01 52 30.2**	**+2.6**
KARP				S	**Sn**	**01 52 49.7**	**+1.1**
KARP				AML	AML	01 53 01.8	
	comp=E,332μm,0.6s						
KARP				AML	AML	01 53 03.1	
	comp=N,394μm,0.7s						
GVDS	**Gavdos**	**1.88**	**293**	Pn	**Pn**	**01 52 32.7**	**+1.6**
GVD	**Gavdhos**	**1.88**	**293**	Pn	**Pn**	**01 52 33.0**	**+1.9**
GVD	**Gavdhos**	**1.88**	**293**	P	**Pn**	**01 52 33.2**	**+2.1**
GVD	**Gavdhos**	**1.88**	**293**	P	**Pn**	**01 52 32.8**	**+1.7**
GVD				AML	AML	01 53 12.3	
	comp=E,263μm,0.5s						
GVD				AML	AML	01 53 12.5	
	comp=N,274μm,0.3s						
IMMV	**Iera Moni Meta**	**2.25**	**307**	Pn	**Pn**	**01 52 37.7**	**+1.5**
IMMV	**Iera Moni Meta**	**2.25**	**307**	P	**Pn**	**01 52 38.4**	**+2.1**
IMMV	**Iera Moni Meta**	**2.25**	**307**	P	**Pn**	**01 52 37.8**	**+1.5**
IMMV				S	**Sn**	**01 53 01.9**	**-2.2**
IMMV				AML	AML	01 53 37.4	
	comp=N,176μm,0.8s						
IMMV				AML	AML	01 53 41.7	
	comp=E,209μm,1.0s						
THR6	**Thira Island,**	**2.31**	**344**	P	**Pn**	**01 52 38.0**	**+0.9**
THR6	**Thira Island,**	**2.31**	**344**	P	**Pn**	**01 52 37.7**	**+0.6**
THR9	**Santorini-Faro**	**2.32**	**343**	P	**Pn**	**01 52 38.4**	**+1.2**
THR9	**Santorini-Faro**	**2.32**	**343**	P	**Pn**	**01 52 39.4**	**+2.2**
KNDR	**Palaiochora Ch**	**2.34**	**299**	Pn	**Pn**	**01 52 39.9**	**+2.4**
KNDR	**Palaiochora Ch**	**2.34**	**299**	P	**Pn**	**01 52 39.7**	**+2.2**
KNDR				AML	AML	01 53 42.1	
	comp=N,146μm,1.2s						
KNDR				AML	AML	01 53 44.9	
	comp=E,169μm,1.0s						
THR8	**Santorini-Mono**	**2.34**	**346**	P	**Pn**	**01 52 38.9**	**+1.4**
SNT5	**Nea Kammeni, S**	**2.36**	**344**	P	**Pn**	**01 52 39.2**	**+1.5**
THR3	**Thira Island,**	**2.36**	**344**	P	**Pn**	**01 52 38.4**	**+0.6**
THR5	**Thira Island,**	**2.38**	**343**	P	**Pn**	**01 52 38.6**	**+0.6**
THR5	**Thira Island,**	**2.38**	**343**	P	**Pn**	**01 52 38.7**	**+0.6**
RODP	**Rodopos**	**2.46**	**306**	Pn	**Pn**	**01 52 40.7**	**+1.6**
NISR	**Nisiros**	**2.59**	**17**	P	**Pn**	**01 52 42.3**	**+1.4**
ARG	**Arkhangelos**	**2.62**	**37**	Pn	**Pn**	**01 52 42.3**	**+1.1**
ARG	**Arkhangelos**	**2.62**	**37**	P	**Pn**	**01 52 44.4**	**+3.2**
ARG	**Arkhangelos**	**2.62**	**37**	P	**Pn**	**01 52 44.2**	**+3.0**
ARG				S	**Sn**	**01 53 14.3**	**+1.2**
YAZI	**Mula-Dat§a-**	**2.75**	**22**	P	**Pn**	**01 52 43.8**	**+0.7**
YAZI				S	**Sn**	**01 53 13.4**	**-2.8**
DAT	**Datca**	**2.83**	**23**	Pn	**Pn**	**01 52 45.2**	**+0.9**
DAT	**Datca**	**2.83**	**23**	P	**Pn**	**01 52 45.9**	**+1.6**
ANKY	**Antikythira Is**	**2.94**	**307**	P	**Pn**	**01 52 46.2**	**+0.5**
APE	**Apeiranthos**	**2.98**	**350**	Pn	**Pn**	**01 52 47.4**	**+1.0**
APE	**Apeiranthos**	**2.98**	**350**	P	**Pn**	**01 52 47.3**	**+1.0**
APE	**Apeiranthos**	**2.98**	**350**	P	**Pn**	**01 52 47.1**	**+0.7**
APE				S	**Sn**	**01 53 22.2**	**0.0**
APE				AML	AML	01 53 24.6	
	comp=N,117μm,0.6s						
APE				AML	AML	01 53 28.1	
	comp=E,40μm,0.3s						
TURN	**Turunc**	**3.12**	**32**	Pn	**Pn**	**01 52 49.6**	**+1.4**
TURN	**Turunc**	**3.12**	**32**	P	**Pn**	**01 52 50.0**	**+1.7**
TURN				S	**Sn**	**01 53 25.2**	**-0.4**
DALY	**Dalyan (Mula)**	**3.35**	**36**	Pn	**Pn**	**01 52 52.9**	**+1.6**
IZZE	**Mula-Seydike**	**3.38**	**46**	P	**Pn**	**01 52 53.3**	**+1.4**
IZZE				S	**Sn**	**01 53 28.4**	**-3.6**
IZZE				*i* AML	AML	01 53 34.0	
	comp=E,28nm,0.3s						
IZZE				*i* AML	AML	01 53 36.0	
	comp=E,32nm,0.4s						
IZZE				*i* AML	AML	01 53 41.0	
	comp=E,29nm,0.4s						
MLSB	**Milas**	**3.41**	**22**	Pn	**Pn**	**01 52 53.5**	**+1.3**
AKAS	**Kas**	**3.49**	**52**	Pn	**Pn**	**01 52 55.2**	**+1.7**
AKAS	**Kas**	**3.49**	**52**	P	**Pn**	**01 52 55.4**	**+1.9**
AKAS				S	**Sn**	**01 53 35.2**	**+0.2**
AKAS				*i* AML	AML	01 53 37.0	
	comp=E,14nm,0.6s						
AKAS				*i* AML	AML	01 53 39.0	
	comp=E,40nm,0.6s						
AKAS				*i* AML	AML	01 53 43.0	
	comp=E,29nm,0.6s						
SABU	**Mula-Dalaman**	**3.51**	**39**	P	**Pn**	**01 52 55.5**	**+1.9**
SABU				S	**Sn**	**01 53 29.5**	**-5.8**
VLI	**Veliai**	**3.71**	**315**	P	**Pn**	**01 52 56.9**	**+0.7**
VLI				S	**Sn**	**01 53 38.4**	**-1.6**
CAME	**Cameli-Denizli**	**3.78**	**41**	Pn	**Pn**	**01 52 59.1**	**+1.7**
KNIK	**Mula-Seydike**	**3.87**	**45**	P	**Pn**	**01 53 01.3**	**+2.7**
KNIK				S	**Sn**	**01 53 41.5**	**-2.6**
DNZT	**Denizli-Tavas-**	**3.90**	**35**	P	**Pn**	**01 53 00.7**	**+1.8**
DNZT				S	**Sn**	**01 53 42.5**	**-2.4**
CAEL	**Denizli, Camel**	**3.92**	**40**	P	**Pn**	**01 53 01.4**	**+2.1**
CAEL				S	**Sn**	**01 53 44.1**	**-1.4**
CAEL				*i* AML	AML	01 53 50.0	
	comp=E,26nm,0.6s						
CAEL				*i* AML	AML	01 53 59.0	
	comp=E,26nm,0.6s						
CAEL				*i* AML	AML	01 54 02.0	
	comp=E,18nm,0.6s						
TAVA	**DENIZLI_Tavas**	**4.00**	**33**	P	**Pn**	**01 53 03.0**	**+2.7**
TAVA				S	**Sn**	**01 53 42.6**	**-4.7**
ELL	**Elmali**	**4.00**	**48**	Pn	**Pn**	**01 53 02.3**	**+1.8**
KRND	**KRANIDI**	**4.08**	**324**	P	**Pn**	**01 53 02.3**	**+0.9**
GOLH	**Golhisar**	**4.14**	**41**	P	**Pn**	**01 53 04.7**	**+2.4**
GOLH				S	**Sn**	**01 53 49.5**	**-1.3**
GOLH				*i* AML	AML	01 53 54.0	
	comp=E,13nm,0.7s						
GOLH				*i* AML	AML	01 54 05.0	
	comp=E,13nm,0.4s						
APMY	**Acipayam-Deniz**	**4.18**	**36**	Pn	**Pn**	**01 53 04.7**	**+1.8**
DION	**Dionisos Attik**	**4.34**	**336**	P	**Pn**	**01 53 07.5**	**+2.5**
KLV	**Kalavryta, Ach**	**5.09**	**321**	P	**Pn**	**01 53 16.6**	**+1.2**
ANX	**Ano Chora**	**5.63**	**323**	P	**Pn**	**01 53 24.3**	**+1.6**
CSS	**Mathiatis**	**5.95**	**80**	P	**Pn**	**01 53 28.2**	**+1.1**
EVGI	**Lefkada island**	**6.33**	**317**	P	**Pn**	**01 53 35.5**	**+3.2**
HNTI	**Hanita**	**7.57**	**95**	S	**Sn**	**01 55 13.9**	**-1.2**
HNTI	**Hanita**	**7.57**	**95**	P	**Pn**	**01 53 49.9**	**+0.6**
KZIT	**Kziot**	**7.64**	**113**	P	**Pn**	**01 53 51.0**	**+0.7**
KZIT	**Kziot**	**7.64**	**113**	S	**Sn**	**01 55 15.0**	**-1.9**
MMC7	**Mount Meron ar**	**7.76**	**96**	P	**Pn**	**01 53 52.7**	**+0.7**
MMA0B	**Mount Meron ar**	**7.77**	**96**	S	**Sn**	**01 55 18.6**	**-1.6**
MMA0B	**Mount Meron ar**	**7.77**	**96**	P	**Pn**	**01 53 52.6**	**+0.5**
MMAI	**Mount Meron Ar**	**7.77**	**96**	Pn	**Pn**	**01 53 54.0**	**+1.8**
	comp=E,0.7nm,0.3s,baz=278,slow=13,SNR=3.1						
MMAI				Sn	**Sn**	**01 55 18.5**	**-1.7**
	comp=E,0.8nm,0.3s,baz=230,slow=15,SNR=1.3						
	comp=E,0.4nm,0.3s						
AMAZ	**Amatzia**	**7.79**	**107**	P	**Pn**	**01 53 53.4**	**+1.1**
AMAZ	**Amatzia**	**7.79**	**107**	S	**Sn**	**01 55 18.8**	**-1.7**
MMLI	**Mount Malkishu**	**7.91**	**100**	S	**Sn**	**01 55 22.2**	**-1.4**
MMLI	**Mount Malkishu**	**7.91**	**100**	P	**Pn**	**01 53 54.9**	**+0.8**
GEM	**Giv'at Ha'Em**	**7.95**	**94**	S	**Sn**	**01 55 23.5**	**-1.0**
GEM	**Giv'at Ha'Em**	**7.95**	**94**	P	**Pn**	**01 53 55.0**	**+0.5**
NATI	**Neve Ativ**	**8.00**	**94**	S	**Sn**	**01 55 24.5**	**-1.3**
NATI	**Neve Ativ**	**8.00**	**94**	P	**Pn**	**01 53 56.1**	**+0.9**
YTIR	**Yattir**	**8.01**	**108**	P	**Pn**	**01 53 56.1**	**+0.7**
YTIR	**Yattir**	**8.01**	**108**	S	**Sn**	**01 55 24.4**	**-1.8**
HMDT	**Nahal Hemdat**	**8.04**	**101**	S	**Sn**	**01 55 25.4**	**-1.5**
HMDT	**Nahal Hemdat**	**8.04**	**101**	P	**Pn**	**01 53 56.4**	**+0.5**
DSI	**Dead Sea**	**8.14**	**106**	P	**Pn**	**01 53 58.0**	**+0.8**
DSI	**Dead Sea**	**8.14**	**106**	S	**Sn**	**01 55 27.8**	**-1.5**
MSBI	**Mazada**	**8.22**	**107**	P	**Pn**	**01 53 58.9**	**+0.7**
MSBI	**Mazada**	**8.22**	**107**	S	**Sn**	**01 55 28.6**	**-2.5**
KRMI	**Paran Flat**	**8.27**	**117**	P	**Pn**	**01 53 59.5**	**+0.5**
KRMI	**Paran Flat**	**8.27**	**117**	S	**Sn**	**01 55 28.8**	**-3.6**
PRNI	**Paran**	**8.36**	**114**	P	**Pn**	**01 54 00.8**	**+0.6**
PRNI	**Paran**	**8.36**	**114**	S	**Sn**	**01 55 32.5**	**-2.2**
GHAJ	**Ghor Haditha**	**8.39**	**107**	P	**Pn**	**01 54 01.3**	**+0.8**
GHAJ	**Ghor Haditha**	**8.39**	**107**	S	**Sn**	**01 55 33.3**	**-2.0**
EIL	**Elat**	**8.67**	**118**	P	**Pn**	**01 54 05.2**	**+0.8**
EIL	**Elat**	**8.67**	**118**	S	**Sn**	**01 55 39.0**	**-3.3**
AKASG	**Malin Array Be**	**16.71**	**7**	Pn	**Pn**	**01 55 54.6**	**+1.6**
	comp=E,0.5nm,0.3s,baz=193,slow=10,SNR=5.0						
	comp=E,0.2nm,0.3s						
ESDC	**Sonseca Array**	**24.67**	**292**	P	**P**	**01 57 18.4**	**-1.6**
	comp=E,0.9nm,0.9s,baz=82,slow=9.0,SNR=5.3						
	comp=E,0.9nm,0.9s						
FINES	**FINESS Array B**	**27.33**	**360**	P	**P**	**01 57 42.5**	**-1.2**
	comp=E,1.1nm,0.9s,baz=165,slow=12,SNR=1.7						
	comp=E,1.1nm,0.9s						
ARCES	**ARCESS Array B**	**35.46**	**360**	P	P	01 58 53.7	-1.4
	comp=E,2.4nm,1.0s,baz=186,slow=8.2,SNR=3.8						
	comp=E,2.4nm,1.0s						
KURBB	**Kurchatov Arra**	**41.12**	**50**	P	**P**	**01 59 44.2**	**+1.2**
	comp=E,0.8nm,0.7s,baz=276,slow=8.5,SNR=5.9						
	comp=E,0.8nm,0.7s						
MKAR	**Makanchi Array**	**43.64**	**56**	P	**P**	**02 00 05.7**	**+2.1**
	comp=E,0.7nm,0.6s,baz=270,slow=7.4,SNR=6.9						
	comp=E,0.7nm,0.6s						

*IDC **10** 02:02:21.8±2.9,55°73S×25°56W,h0km,mb3.9/3, mbtmp3.9/3,MS3.9/2,Error ellipse: s-maj=131.6km s-min=33.7km az=62.0*
*NEIC **10** 02:02:30.8±1.5,56°0S±0°2×26°2W±0°3,h53km±12km, mb4.4/20,Error ellipse: s-maj=26.2km s-min=15.8km az=221.0*

ISC 10 02:02:23.8±1.2,55°8S±0°1×25°8W±0°2,h10km,n26, σ0s92/24,mb4.3/11,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**6.35**	**280**	Pn	**Pn**	**02 03 58.5**	**+1.2**
SNAA	**Sanae**	**18.64**	**157**		**Pn**	**02 06 43.8**	**+2.2**
PMSA	**Palmer Station**	**20.66**	**229**	P	**P**	**02 07 03.1**	**-0.1**
BELA	**Belgrano 2**	**22.37**	**185**	P	**P**	**02 07 20.9**	**-0.7**
TRQA	**Tornquist**	**29.98**	**291**	P	**P**	**02 08 32.8**	**+0.6**
ITQB	**Itaqui**	**34.08**	**307**	P	**P**	**02 09 07.6**	**-0.6**
QSPA	**South Pole Qui**	**34.43**	**180**	P	**P**	**02 09 11.1**	**0.0**
QSPA				IAmb	IAmb	02 09 24.3	
	comp=Z,6.6nm,1.1s						
SPB	**Sao Paulo**	**35.93**	**325**	P	**P**	**02 09 25.0**	**+0.8**
CPUP	**Villa Florida**	**37.27**	**309**	P	**P**	**02 09 34.0**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=172,slow=9.6,SNR=3.5						
	comp=Z,1.4nm,0.7s						
MT09	**Talagante**	**38.01**	**286**	P	**P**	**02 09 41.0**	**-1.0**
MT09				IAmb	IAmb	02 10 23.5	
	comp=Z,4.2nm,1.1s						
MT02	**Curacav**	**38.48**	**287**	P	**P**	**02 09 45.3**	**-0.5**
MT02				IAmb	IAmb	02 09 52.4	
	comp=Z,4.2nm,1.1s						
ZON	**Zonda**	**38.49**	**291**	P	**P**	**02 09 46.0**	**+0.1**
ZON				IAmb	IAmb	02 09 46.7	
	comp=Z,4.4nm,0.7s						
CO03	**El Pedregal**	**40.11**	**289**	P	**P**	**02 09 59.8**	**+0.3**
CO01	**Juntas del Tor**	**40.47**	**291**	P	**P**	**02 10 04.1**	**+1.4**
CO01				IAmb	IAmb	02 10 05.4	
	comp=Z,3.7nm,0.8s						
AC05	**El Transito**	**41.47**	**292**	P	**P**	**02 10 10.9**	**0.0**
AC05				IAmb	IAmb	02 10 12.2	
	comp=Z,7.1nm,0.8s						
LCO	**Las Campanas**	**41.56**	**291**	P	**P**	**02 10 11.4**	**-0.3**
LCO				IAmb	IAmb	02 10 36.8	
	comp=Z,15nm,1.5s						
AC04	**Llanos de Chal**	**42.40**	**291**	P	**P**	**02 10 18.8**	**+0.6**
AC04				IAmb	IAmb	02 10 19.8	
	comp=Z,9.0nm,0.8s						
BOSA	**Boshof**	**45.14**	**75**	LR	LR	02 26 26.7	
	comp=Z,96nm,18.0s,baz=200,slow=32						
PB06	**IPOC Station P**	**46.13**	**298**	P	**P**	**02 10 48.8**	**+0.4**
VNDA	**Vanda**	**46.84**	**182**	P	**P**	**02 10 52.0**	**-1.2**
VNDA	**Vanda**	**46.84**	**182**	P	**P**	**02 10 53.1**	**0.0**
	comp=Z,0.6nm,0.8s,baz=174,slow=6.6,SNR=2.8						
	comp=Z,0.6nm,0.8s						
LPAZ	**La Paz**	**50.91**	**304**	P	**P**	**02 11 26.3**	**+0.6**
LPAZ				IAmb	IAmb	02 11 31.0	
	comp=Z,2.9nm,0.8s						
LPAZ	**La Paz**	**50.91**	**304**	P	**P**	**02 11 26.4**	**+0.6**
	comp=Z,3.1nm,0.8s,baz=154,slow=5.3,SNR=14						
	comp=Z,3.1nm,0.8s						
PTCN	**Pitcairn Islan**	**77.22**	**244**	P	**P**	**02 14 16.9**	**-1.1**
NWAO	**Narrogin (SRO)**	**86.13**	**150**	LR	LR	02 49 56.8	
	comp=Z,83nm,19.9s,baz=232,slow=33						
ILAR	**Eielson Array**	**150.56**	**312**	PKPbc	**PKPbc**	**02 22 13.7**	**-0.6**
	comp=Z,1.2nm,0.9s,baz=125,slow=2.0,SNR=13						

*NEIC **10** 02:23:15.4±0.7,19°41N±0°01×155°267W±0°008, h5km±2km,Error ellipse: s-maj=3.2km s-min=1.8km az=24.0*

HVO 10 02:23:15.3±0.3,19°401N±0°009×155°263W±0°006, h2km±2km,ML2.7/6,ML2.0/30(NEIC),Error ellipse: s-maj=1.3km s-min=0.8km az=196.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKO	**Keanakako`i**	**0.01**	**223**		Pg	02 23 16.0	+0.2
BYL	**Byron's Ledge**	**0.01**	**13**		Pg	02 23 16.1	+0.2
RIM	**Rim**	**0.01**	**241**		Pg	02 23 16.1	+0.2
RIM	**Rim**	**0.01**	**241**	IAML		02 23 16.2	
	comp=N,7μm,0.1s						
RIM				IAML		02 23 16.3	
	comp=E,8μm,0.1s						
HATHI	**Halema'uma'u T**	**0.02**	**4**	IAML		02 23 16.0	
	comp=E,3μm,0.7s						
HATHI				IAML		02 23 16.6	
	comp=N,3μm,0.2s						
HATHI	**Halema'uma'u T**	**0.02**	**4**		Pg	02 23 16.3	+0.3
OBL	**Observatory Le**	**0.03**	**309**	IAML		02 23 16.1	
	comp=E,4μm,0.5s						
OBL				IAML		02 23 16.5	
	comp=N,4μm,0.3s						
OBL	**Observatory Le**	**0.03**	**309**		Pg	02 23 16.4	+0.4
SBLHI	**Steaming Bluff**	**0.03**	**349**		Pg	02 23 16.3	+0.3
SBLHI	**Steaming Bluff**	**0.03**	**349**	IAML		02 23 16.6	
	comp=N,1μm,0.3s						
SBLHI				IAML		02 23 16.7	
	comp=E,2μm,0.5s						
UWB	**Uwekahuna B**	**0.03**	**328**		Pg	02 23 16.3	+0.3
SDHHI	**Sand Hill**	**0.03**	**249**		Pg	02 23 16.4	+0.4
SDHHI	**Sand Hill**	**0.03**	**249**	IAML		02 23 17.0	
	comp=E,6μm,0.2s						
SDHHI				IAML		02 23 17.1	
	comp=N,6μm,0.1s						
UWE	**Uwekahuna**	**0.04**	**305**		Pg	02 23 16.8	+0.7
WRMHI	**West Rim**	**0.04**	**279**		Pg	02 23 16.5	+0.4
WRMHI	**West Rim**	**0.04**	**279**	IAML		02 23 16.7	
	comp=N,5μm,0.5s						
WRMHI				IAML		02 23 17.2	
	comp=E,11μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.09**	**104**		Pg	02 23 17.7	+0.6
HLP	**Hilina Pali**	**0.11**	**202**		Pg	02 23 18.1	+0.6
HLP	**Hilina Pali**	**0.11**	**202**	IAML		02 23 20.7	
	comp=E,783nm,0.6s						
HLP				IAML		02 23 21.0	
	comp=N,832nm,0.4s						
NPOC	**North of Pu'u**	**0.14**	**93**		Pg	02 23 18.6	+0.4
NPOC	**North of Pu'u**	**0.14**	**93**	IAML		02 23 22.0	
	comp=N,530nm,0.6s						
NPOC				IAML		02 23 23.2	
	comp=E,496nm,0.5s						
MLH	**Mauna Loa**	**0.15**	**308**		Pg	02 23 19.1	+0.8
MLH	**Mauna Loa**	**0.15**	**308**	IAML		02 23 19.4	
	comp=E,314nm,1.1s						
MLH				IAML		02 23 23.3	
	comp=N,554nm,0.6s						
JCUZ	**Jacuzzi**	**0.15**	**96**		Pg	02 23 18.7	+0.4
JCUZ	**Jacuzzi**	**0.15**	**96**	IAML		02 23 21.5	
	comp=E,431nm,0.8s						
JCUZ				IAML		02 23 22.4	
	comp=N,382nm,0.7s						
KHU	**Kahuku**	**0.37**	**245**		Pg	02 23 22.4	+0.1
KHU				IAML		02 23 31.2	
	comp=N,253nm,1.9s						

**IDC 10 02:43:05.9±1.7,11°22S×165°05E,

MLH	**Mauna Loa**	**0.35**	**289**	IAML		02 47 59.0	
	comp=E,561nm,0.2s						
MLH				IAML		02 47 59.1	
	comp=N,805nm,0.4s						
HTC	**Hot Caves**	**0.37**	**247**		Pg	02 47 50.9	+0.6
MLOA	**Mauna Loa Obse**	**0.53**	**287**		Pg	02 47 53.1	-0.3
MLOA	**Mauna Loa Obse**	**0.53**	**287**	IAML		02 48 00.9	
	comp=N,415nm,0.6s						
MLOA				IAML		02 48 01.4	
	comp=E,418nm,0.5s						
MWH	**Moku'aweowe**	**0.54**	**281**		Pg	02 47 53.1	-0.4
KHU	**Kahuku**	**0.56**	**256**	IAML		02 48 00.8	
	comp=E,361nm,1.8s						
KHU				IAML		02 48 11.9	
	comp=N,304nm,2.3s						
KHU	**Kahuku**	**0.56**	**256**		Pg	02 47 53.4	-0.5
KHU	**Kahuku**	**0.56**	**256**		Sg	02 48 01.5	+0.2
ALEP	**Alea Permanent**	**0.59**	**286**		Pg	02 47 54.0	-0.6
POHA	**Pohakuloa**	**0.60**	**309**		Sg	02 48 02.0	-0.5
HUH	**Hualalai**	**0.81**	**292**	Pg	Pg	02 47 58.5	-0.2

IDC ***10*** *02:50:09.3±1.0, 67°.66N×33°.90E, h0km, mb3.3/4, mbtmp3.4/9, ML2.6/5, MS3.1/1, Error ellipse: s-maj=11.3km s-min=8.9km az=84.0*

HEL ***10*** *02:50:09.6±0.1, 67°.65N×33°.69E, h0km, ML2.1, Suspected explosion*

KOLA ***10*** *02:50:10.3, 67°.61N×33°.81E, h0km, Error ellipse: s-maj=4.7km s-min=1.2km az=150.0, Khibiny, mines Rasvumchorr, Central*

ISC 10 02:50:08.4±0.7, 67°.59N±0°.04×33°.77E±0°.04, h0km, n30, σ1s75/51, mb3.2/3, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.46**	**47**	PG	**Pg**	**02 50 17.4**	**+0.1**
LVZ				SG	**Sg**	**02 50 23.7**	**+0.5**
VRF	**Varrio**	**1.60**	**278**	PG	**Pn**	**02 50 37.7**	**-0.2**
VRF				MSG		02 50 56.3	
	comp=Z,24nm,0.2s						
VRF				SG	**Sn**	**02 50 58.2**	**-1.1**
OLKF	**Oulanka, Finla**	**2.14**	**236**	PG	**Pb**	**02 50 48.2**	**+0.3**
OLKF				MSG		02 51 13.3	
	comp=Z,10nm,0.2s						
OLKF				SG	**Sg**	**02 51 17.1**	**+0.1**
KU6	**Riekki**	**2.19**	**226**	PG	**Pb**	**02 50 49.0**	**+0.1**
KU6				MSG		02 51 15.2	
	comp=Z,9.6nm,0.2s						
KU6				SG	**Sg**	**02 51 19.4**	**+0.6**
RAJF	**Raja-Jooseppi**	**2.24**	**296**	PB	**Pn**	**02 50 47.1**	**+0.4**
RAJF				SB	**Sn**	**02 51 14.8**	**-0.2**
MSF	**Maaselka**	**2.52**	**230**	PG	**Pb**	**02 50 54.0**	**-0.5**
MSF				SG	**Sg**	**02 51 28.7**	**-0.6**
SGF	**Sodankyl**	**2.79**	**270**	PN	**Pn**	**02 50 55.0**	**+0.8**
SGF				SB	**Sn**	**02 51 30.6**	**+2.0**
KMNF	**Kaamanen**	**2.96**	**305**	PN	**Pn**	**02 50 56.9**	**+0.3**
KMNF				SN	**Sn**	**02 51 32.6**	**-0.2**
RANF	**Ranua**	**3.18**	**244**	PN	**Pn**	**02 51 02.0**	**+2.4**
	baz=53						
RANF				SG	**Sb**	**02 51 47.0**	**+2.0**
RNF	**Rovaniemi**	**3.19**	**256**	PN	**Pn**	**02 51 00.9**	**+1.2**
	baz=67						
RNF				SN	**Sn**	**02 51 40.6**	**+2.2**
KEV	**Kevo**	**3.29**	**315**	PN	**Pn**	**02 51 01.7**	**+0.5**
	baz=129						
KEV				SN	**Sn**	**02 51 40.1**	**-0.9**
ARCES	**ARCESS Array B**	**3.61**	**307**	Pn	**Pn**	**02 51 05.8**	**+0.3**
	comp=Z,1.6nm,0.3s,baz=120,slow=15,SNR=176						
ARCES				Pg	**Pb**	**02 51 14.6**	**+1.5**
	comp=Z,2.2nm,0.3s,baz=114,slow=15,SNR=9.2						
ARCES				Sn	**Sn**	**02 51 47.0**	**-1.8**
	comp=Z,2.2nm,0.3s,baz=118,slow=25,SNR=18						
ARCES				Lg	Lg	02 51 57.8	
	comp=Z,3.7nm,0.3s,baz=120,slow=31,SNR=15						
	comp=Z,4.9nm,0.4s						
RMF	**Romuvaara**	**3.73**	**207**	PN	**Pn**	**02 51 09.0**	**+1.8**
	baz=21						
KLF	**Kolari**	**3.80**	**269**	PN	**Pn**	**02 51 09.2**	**+1.0**
KLF				SN	**Sn**	**02 51 54.7**	**+1.2**
HEF	**Hetta**	**3.89**	**287**	PN	**Pn**	**02 51 09.7**	**+0.2**
	baz=100						
HEF				SN	**Sn**	**02 51 54.2**	**-1.6**
TOF	**Tornio**	**4.03**	**252**	PG	**Pb**	**02 51 22.1**	**+2.0**
TOF				SN	**Sn**	**02 51 59.6**	**+0.6**
OUL	**Oulu**	**4.05**	**235**	PB	**Pb**	**02 51 18.7**	**-1.7**
	baz=46						
OUL				SB	**Sb**	**02 52 11.1**	**+1.3**
PAJU	**Pajala**	**4.17**	**267**	PN	**Pn**	**02 51 13.6**	**+0.4**
	baz=72						
PAJU				SN	**Sn**	**02 52 02.7**	**+0.2**
KALU	**Kalix**	**4.48**	**252**	PG	**Pb**	**02 51 28.8**	**+0.9**
KALU				SN	**Sn**	**02 52 09.8**	**-0.4**
LANU	**Lannavaara**	**4.49**	**281**	PN	**Pn**	**02 51 17.3**	**-0.3**
LANU				SN	**Sn**	**02 52 10.1**	**-0.4**
FINES	**FINESS Array B**	**7.00**	**212**	Pn	**Pn**	**02 51 53.3**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=26,slow=14,SNR=6.4						
FINES				Sn	**Sn**	**02 53 10.8**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=27,slow=19,SNR=3.2						
FINES				Lg	Lg	02 53 46.1	
	comp=Z,1.3nm,0.3s,baz=33,slow=28,SNR=12						
	comp=Z,0.8nm,0.6s						
FAUS	**Fauske**	**7.09**	**277**	S	**Sn**	**02 53 10.9**	**-3.6**
HFS	**Hagfors**	**11.53**	**239**	Pn	**Pn**	**02 52 52.0**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=34,slow=14,SNR=4.5						
HFS				Sn	Sn	02 54 54.5	-8.9
	comp=Z,0.1nm,0.3s,baz=47,slow=22,SNR=1.6						
HFS				Lg	Lg	02 56 06.9	
	comp=Z,0.4nm,0.3s,baz=45,slow=16,SNR=2.6						
	comp=Z,1.1nm,0.8s						
NOA	**NORSAR Array B**	**11.72**	**247**	Pn	**Pn**	**02 52 54.3**	**-2.4**
	baz=41,slow=11,SNR=1.8						
NOA				Sn	**Sn**	**02 55 00.6**	**-7.5**
	baz=42,slow=21,SNR=2.5						
NOA				Lg	Lg	02 56 17.5	
	baz=48,slow=26,SNR=2.9						
	comp=Z,0.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**11.72**	**342**	Pn	**Pn**	**02 52 53.1**	**-3.5**
	baz=148,slow=16						
SPITS				Sn	Sn	02 54 58.3	-10
	baz=145,slow=23						
	comp=Z,1.6nm,0.4s						
AKTO	**Aktyubinsk**	**20.99**	**133**	P	**P**	**02 54 53.6**	**+0.6**
	comp=Z,2.1nm,0.6s,baz=311,slow=8.8,SNR=7.5						
	comp=Z,2.1nm,0.6s						
EKA	**Eskdalemuir Ar**	**21.08**	**253**	P	**P**	**02 54 55.4**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=48,slow=12,SNR=1.8						
	comp=Z,0.7nm,0.6s						
BVAR	**Borovoye Array**	**22.79**	**112**	P	**P**	**02 55 12.8**	**+0.6**
	comp=Z,0.4nm,0.5s,baz=327,slow=16,SNR=2.4						
	comp=Z,0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**27.70**	**105**	P	**P**	**02 55 57.6**	**-0.3**
	comp=Z,0.2nm,0.8s,baz=324,slow=11,SNR=1.9						
	comp=Z,0.2nm,0.8s						
EIL	**Elat**	**37.95**	**178**	LR	LR	03 13 39.3	
	comp=Z,27nm,19.9s,baz=242,slow=37						

IDC ***10*** *02:58:30.6±1.2, 38°.76N×122°.87W, h0km, mb3.5/4, mbtmp3.5/10, ML3.8/4, MS3.4/16, Error ellipse: s-maj=16.5km s-min=8.5km az=44.0*

NEIC ***10*** *02:58:30.9±2.0, 38°.80N±0°.01×122°.81W±0°.02, h13km±1km, Error ellipse: s-maj=2.3km s-min=1.9km az=48.0*

NCEDC ***10*** *02:58:30.9±2.2, 38°.81N±0°.01×122°.80W±0°.02, h2km±1km, Mwr4.2/4, mb3.9/3(NEIC), ML3.4/90(NEIC), Error ellipse: s-maj=2.2km s-min=1.8km az=60.0*

ISC 10 02:58:31.5±0.7, 38°.80N±0°.02×122°.77W±0°.02, h10km, n184, σ1s05/165, mb3.5/5, MS3.4/9, Northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GDXM	**Geysers**	**0.03**	**302**		**Pg**	**02 58 31.5**	**-2.0**
GDXM	**Geysers**	**0.03**	**302**	IAML		02 58 31.8	
	comp=N,2μm,0.1s						
GDXM				IAML		02 58 31.9	
	comp=E,6μm,0.1s						
GCRM	**Castle Rock Sp**	**0.05**	**117**		**Pg**	**02 58 32.5**	**-1.1**
GGPM	**Geyser Peak**	**0.07**	**243**		**Pg**	**02 58 32.3**	**-1.5**
GBGM	**Boggs Mountain**	**0.07**	**74**		**Pg**	**02 58 33.2**	**-0.7**
GSGM	**Seigler Mounta**	**0.09**	**32**		**Pg**	**02 58 33.3**	**-0.6**
GPMM	**Pine Mountain**	**0.15**	**291**		**Pg**	**02 58 33.7**	**-1.2**
GRTM	**Round Top Moun**	**0.16**	**28**		**Pg**	**02 58 34.3**	**-0.8**
NHSM	**Mount Saint He**	**0.18**	**139**		**Pg**	**02 58 35.4**	**-0.1**
GCVM	**Cloverdale**	**0.19**	**263**		**Pg**	**02 58 35.0**	**-0.5**
GSSM	**Skaggs Springs**	**0.21**	**244**		**Pg**	**02 58 35.6**	**-0.3**
NMTM	**Middletown**	**0.25**	**87**		**Pg**	**02 58 36.6**	**-0.1**
MNRC	**McLaughlin Min**	**0.27**	**72**		**Pg**	**02 58 37.2**	**+0.3**
HOPS	**Hopland Field**	**0.31**	**310**		**Pg**	**02 58 36.9**	**-0.8**
HOPS	**Hopland Field**	**0.31**	**310**	IAML		02 58 43.6	
	comp=E,11μm,0.9s						
HOPS				IAML		02 58 45.4	
	comp=N,16μm,0.9s						
GHLM	**Highland Sprin**	**0.31**	**322**		**Pg**	**02 58 36.8**	**-1.0**
GDCM	**Dry Creek**	**0.37**	**266**		**Pg**	**02 58 38.8**	**0.0**
GHCM	**Hoose Creek**	**0.39**	**241**		**Pg**	**02 58 38.7**	**-0.4**
GBMM	**Baldy Mountain**	**0.41**	**32**		**Pb**	**02 58 39.9**	**-1.0**
NBPM	**Berryessa Peak**	**0.47**	**106**		**Pb**	**02 58 41.5**	**-0.3**
CVS	**Carmenet Viney**	**0.51**	**151**		**Pg**	**02 58 41.4**	**0.0**
GTSM	**Trough Springs**	**0.53**	**14**		**Pb**	**02 58 42.3**	**-0.7**
NAPC	**Atlas Peak**	**0.54**	**131**		**Pb**	**02 58 42.1**	**-0.9**
GGUM	**Gualala**	**0.57**	**276**		**Pg**	**02 58 42.2**	**-0.5**
GWRM	**Wonder Ranch**	**0.58**	**315**		**Pg**	**02 58 42.4**	**-0.5**
GFC	**Funks Creek**	**0.65**	**35**		**Pn**	**02 58 46.2**	**-0.5**
MCCM	**Marconi Confer**	**0.66**	**188**	Pg	**Pb**	**02 58 44.7**	**-0.3**
SNT	**Sears Point**	**0.66**	**158**		**Pb**	**02 58 44.2**	**-0.9**
NDHM	**Dunnigan Hills**	**0.67**	**92**		**Pn**	**02 58 46.2**	**-0.9**
NADM	**Allendale**	**0.71**	**118**		**Pn**	**02 58 46.9**	**-0.7**
GHMM	**Hull Mountain**	**0.71**	**350**		**Pb**	**02 58 45.8**	**-0.3**
NOLM	**Olema**	**0.75**	**181**		**Pb**	**02 58 46.4**	**-0.3**
GCK	**Clark Valley**	**0.79**	**19**		**Pn**	**02 58 48.4**	**-0.4**
DCMP	**DeCamp, Califo**	**0.81**	**327**		**Pg**	**02 58 46.6**	**-0.4**
NPRM	**Point Reyes**	**0.82**	**194**		**Pb**	**02 58 47.7**	**-0.1**
OSUM	**Sutter Buttes**	**0.86**	**56**		**Pb**	**02 58 48.0**	**-0.4**
GTC	**Three Chop Rid**	**0.86**	**315**		**Pg**	**02 58 47.7**	**-0.4**
HERB	**Hercules**	**0.88**	**153**		**Pb**	**02 58 48.7**	**-0.1**
SUTB	**Sutter Butte**	**0.88**	**60**		**Pg**	**02 58 47.8**	**-0.6**
CPMM	**Point Molate**	**0.89**	**161**		**Pb**	**02 58 48.6**	**-0.4**
C067	**Fleetwood El S**	**0.90**	**155**		**Pn**	**02 58 49.4**	**-0.8**
CSPM	**San Pablo Ridg**	**0.91**	**157**		**Pn**	**02 58 49.5**	**-0.9**
CPIM	**Pinole Ridge**	**0.91**	**151**		**Pb**	**02 58 49.2**	**-0.3**
C024	**33rd St Richmo**	**0.92**	**158**		**Pn**	**02 58 49.8**	**-0.6**
CTAM	**Taylor**	**0.97**	**142**		**Pn**	**02 58 50.8**	**-0.3**
C007	**Forest Lane Be**	**0.98**	**156**		**Pn**	**02 58 50.9**	**-0.4**
GVV	**Valley View**	**0.98**	**4**		**Pn**	**02 58 51.5**	**0.0**
BRK	**Berkeley--Havi**	**1.00**	**156**		**Pb**	**02 58 50.6**	**-0.3**
BL67	**Building 67, L**	**1.00**	**156**		**Pn**	**02 58 50.8**	**-0.9**
VAK	**Adit at Lawren**	**1.00**	**156**		**Pb**	**02 58 50.4**	**-0.5**
CVPM	**Vollmer Peak**	**1.00**	**155**		**Pn**	**02 58 51.1**	**-0.6**
BKS	**Berkeley--Byer**	**1.01**	**155**		**Pg**	**02 58 50.0**	**-0.9**
JPFM	**Presidio of Sa**	**1.02**	**167**		**Pn**	**02 58 50.7**	**-0.6**
CYBM	**Yerba Buena Is**	**1.03**	**162**		**Pg**	**02 58 50.7**	**-0.6**
C013	**Ascot Lane Oak**	**1.07**	**155**		**Pn**	**02 58 52.5**	**-0.1**
OSTM	**Stimpson Lane**	**1.08**	**57**		**Pb**	**02 58 51.4**	**-0.8**
SMCB	**Saint Mary's C**	**1.08**	**151**		**Pn**	**02 58 52.1**	**-0.7**
KCPM	**Cahto Peak**	**1.09**	**325**		**Pn**	**02 58 52.3**	**-0.7**
KCPM	**Cahto Peak**	**1.09**	**325**	IAML		02 59 19.4	
	comp=N,1μm,1.0s						
FARB	**Farallon Islan**	**1.11**	**190**		**Pb**	**02 58 51.7**	**-1.1**
CRPB	**Russellman Par**	**1.11**	**142**		**Pb**	**02 58 52.1**	**-0.8**
CMCM	**Mills College**	**1.11**	**155**		**Pn**	**02 58 52.9**	**-0.3**
BGC	**Bolinger Road**	**1.12**	**150**		**Pb**	**02 58 52.5**	**-0.6**
KBNM	**Bluenose Ridge**	**1.15**	**343**		**Pn**	**02 58 54.0**	**+0.2**
JSBM	**San Bruno Moun**	**1.15**	**165**		**Pg**	**02 58 53.0**	**-0.6**
KIPM	**Iron Peak**	**1.15**	**332**		**Pn**	**02 58 53.4**	**-0.5**
PAM	**Palermo**	**1.17**	**56**		**Pb**	**02 58 52.4**	**-1.4**
JMGM	**Milagra Ridge**	**1.18**	**169**		**Pb**	**02 58 53.0**	**-0.9**
CSLM	**San Leandro Hi**	**1.18**	**154**		**Pb**	**02 58 53.1**	**-1.0**
OWYM	**Wyandotte**	**1.19**	**56**		**Pb**	**02 58 52.4**	**-1.8**
SAC	**San Andreas**	**1.24**	**167**		**Pn**	**02 58 54.1**	**-0.8**
CMOB	**Morgan Territo**	**1.24**	**142**		**Pn**	**02 58 54.3**	**-0.7**
OGOM	**Van Goodin Ran**	**1.24**	**46**		**Pn**	**02 58 53.8**	**-1.1**
ORV	**Oroville**	**1.24**	**52**		**Pn**	**02 58 53.5**	**-1.4**
JCPM	**Coyote Point**	**1.25**	**164**		**Pb**	**02 58 54.8**	**-0.5**
CDOM	**Doolan Road**	**1.29**	**145**		**Pn**	**02 58 54.9**	**-0.8**
JCHM	**Cahill Ridge**	**1.31**	**166**		**Pn**	**02 58 54.8**	**-1.1**
CBSNC	**Byron Hot Spri**	**1.32**	**137**		**Pg**	**02 58 56.5**	**-0.3**
CNIC	**Niles Canyon**	**1.34**	**152**		**Pn**	**02 58 55.5**	**-0.8**
CVLM	**Vallecito**	**1.38**	**148**		**Pn**	**02 58 56.4**	**-0.4**
O02D	**Mt. Diablo Mer**	**1.38**	**359**		**Pb**	**02 58 57.1**	**-0.3**
AFDM	**Forest Hills D**	**1.41**	**83**		**Pn**	**02 58 55.6**	**-1.7**
BGH	**Bear Gulch**	**1.49**	**167**		**Pg**	**02 59 01.1**	**+1.0**
JFP	**Foothills Park**	**1.50**	**162**		**Pn**	**02 58 57.3**	**-1.3**
LBPM	**Beegum Peak**	**1.52**	**357**		**Pg**	**02 59 00.1**	**-0.7**
CALM	**Calaveras Res.**	**1.54**	**150**		**Pn**	**02 58 59.0**	**-0.1**
KMRM	**Mail Ridge**	**1.60**	**333**		**Pn**	**02 58 59.2**	**-0.8**
KMRM				IAML		02 59 35.2	
	comp=E,626nm,1.0s						
KMRM				IAML		02 59 40.6	
	comp=N,642nm,1.3s						
MTOS	**Mt Oso, Westle**	**1.72**	**138**		**Pn**	**02 59 01.4**	**-0.1**
ARN	**Arnold Ranch**	**1.74**	**146**		**Pn**	**02 59 02.2**	**+0.3**
KMPM	**Mount Pierce**	**1.93**	**328**		**Pn**	**02 59 03.1**	**-1.4**
KMPM				IAML		02 59 16.3	
	comp=N,368nm,0.8s						
KMPM				IAML		02 59 49.5	
	comp=E,456nm,1.5s						
HLPM	**Lions Peak**	**1.97**	**152**		**Pn**	**02 59 04.5**	**-0.3**
DONR	**Donner Summit**	**1.98**	**73**		**Pb**	**02 59 06.7**	**-1.2**
GHS	**Gilroy Hot Spr**	**1.99**	**148**		**Pn**	**02 59 04.8**	**-0.5**
CMB	**Columbia Colle**	**2.02**	**111**	Pn	**Pn**	**02 59 05.4**	**-0.2**
CMB				IAML		02 59 38.0	
	comp=N,228nm,0.7s						
RUBR	**Rubicon Trail**	**2.05**	**82**		**Pn**	**02 59 07.1**	**+0.8**
EMB	**Emerald Bay**	**2.09**	**84**		**Pb**	**02 59 07.8**	**-1.8**
EMB				IAML		02 59 40.4	
	comp=N,495nm,0.7s						
LOY	**Loyalton**	**2.15**	**66**		**Pb**	**02 59 09.6**	**-0.9**
BEKR	**Beckworth**	**2.15**	**59**		**Pn**	**02 59 08.4**	**+0.7**
MPK	**Martis Peak**	**2.19**	**76**		**Pn**	**02 59 08.0**	**-0.3**
KHMM	**Horse Mountain**	**2.21**	**341**		**Pn**	**02 59 08.8**	**+0.5**
KHMM				IAML		03 00 13.6	
	comp=E,198nm,1.9s						
KHMM				IAML		03 00 14.4	
	comp=N,236nm,1.6s						
JCC	**Jacoby Creek,**	**2.24**	**335**	Pn	**Pn**	**02 59 09.2**	**+0.5**
JCC				IAML		03 00 10.2	
	comp=E,257nm,2.3s						
JCC				IAML		03 00 13.2	
	comp=N,218nm,2.1s						
HATC	**Hat Creek Radi**	**2.26**	**26**		**Pb**	**02 59 10.9**	**-1.5**
SAO	**San Andreas Ge**	**2.28**	**152**	Pn	**Pn**	**02 59 07.9**	**-1.3**
BMRR	**Black Mountain**	**2.32**	**55**		**Pb**	**02 59 12.5**	**-1.2**
MYLM	**Yosemite Lake**	**2.33**	**127**		**Pn**	**02 59 10.1**	**+0.3**
PEAR	**Peavine Mounta**	**2.33**	**69**		**Pb**	**02 59 12.3**	**-1.4**
PNTR	**Pine Nut**	**2.49**	**82**		**Pn**	**02 59 13.2**	**+0.9**
KRPM	**Rodgers**	**2.55**	**338**		**Pn**	**02 59 12.7**	**-0.3**
KRPM				IAML		03 00 25.5	
	comp=N,212nm,1.6s						
KRPM				IAML		03 00 29.9	
	comp=E,132nm,2.6s						
HAST	**Hastings Reser**	**2.59**	**158**		**Pn**	**02 59 12.4**	**-1.1**
BBGB	**Big Mountain B**	**2.60**	**148**		**Pn**	**02 59 14.1**	**+0.4**
WAKR	**Walker**	**2.62**	**95**		**Pn**	**02 59 14.8**	**+0.7**
WAKR				IAML		02 59 59.4	
	comp=E,270nm,1.1s						
WAKR				IAML		03 00 15.7	
	comp=N,176nm,1.6s						
YERR	**Yerington**	**2.76**	**85**		**Pn**	**02 59 16.4**	**+0.5**
PAHR	**Pah Rah Range**	**2.78**	**70**		**Pn**	**02 59 16.0**	**-0.2**
PAHR				IAML		02 59 59.5	
	comp=E,102nm,1.6s						
PAHR				IAML		03 00 09.8	
	comp=N,129nm,1.6s						
KRMB	**Red Mountain**	**2.86**	**343**		**Pn**	**02 59 17.5**	**+0.2**
YBH	**Yreka Blue Hor**	**2.93**	**1**		**Pn**	**02 59 18.5**	**+0.2**
YBH	**Yreka Blue Hor**	**2.93**	**1**	Pn	**Pn**	**02 59 20.1**	**+1.8**
	comp=N,5.2nm,0.6s,baz=179,slow=12,SNR=17						
YBH				Sn	**Sn**	**02 59 55.4**	**+1.7**
	comp=N,1.9nm,0.3s,baz=70,slow=14,SNR=4.3						
YBH				LR	LR	03 00 47.0	
	comp=N,290nm,18.7s,baz=252,slow=46						
PMPB	**Monarch Peak**	**3.01**	**148**	Pn	**Pn**	**02 59 19.2**	**-0.2**
PMPB				IAML		03 00 29.5	
	comp=E,209nm,1.6s						
MDPB	**Devils Postpil**	**3.13**	**111**		**Pn**	**02 59 21.9**	**+0.8**
MDPB				IAML		03 00 11.0	
	comp=N,182nm,0.9s						
MDPB				IAML		03 00 19.4	
	comp=E,179nm,1.3s						
MINS	**Minaret Summit**	**3.13**	**110**		**Pn**	**02 59 23.8**	**+2.5**
KSXB	**Camp Six Broad**	**3.15**	**345**		**Pn**	**02 59 21.3**	**0.0**
KSXB				IAML		03 00 43.2	
	comp=E,79nm,2.3s						
MMSM	**Mammoth Summit**	**3.16**	**110**		**Pb**	**02 59 24.7**	**-3.4**
MDYM	**Dry Creek**	**3.17**	**110**		**Pn**	**02 59 24.2**	**+2.5**
RYN	**Ryan**	**3.33**	**92**		**Pn**	**02 59 24.5**	**+0.7**
RYN				IAML		03 00 21.7	
	comp=N,87nm,0.9s						
RYN				IAML		03 00 21.7	
	comp=E,104nm,0.9s						
L02F	**Cave Junction**	**3.38**	**350**		**Pn**	**02 59 25.4**	**+1.0**
LHV	**Little Huntoon**	**3.39**	**98**		**Pn**	**02 59 24.9**	**+0.5**
L04D	**Klamath Falls**	**3.44**	**6**		**Pn**	**02 59 24.4**	**-0.9**
L04D				IAML		03 00 54.1	
	comp=E,78nm,1.7s						
NVAR	**Mina Array Bea**	**3.52**	**95**		**Pn**	**02 59 27.2**	**+0.8**
NVAR	**Mina Array Bea**	**3.52**	**95**	Pn	**Pn**	**02 59 27.8**	**+1.4**
	comp=E,3.0nm,0.3s,baz=269,slow=15,SNR=61						
NVAR				Pg	**Pb**	**02 59 33.4**	**-0.5**
	comp=E,8.5nm,0.3s,baz=264,slow=17,SNR=28						
NVAR				Lg	Lg	03 00 22.9	
	comp=E,6.4nm,0.3s,baz=267,slow=18,SNR=4.4						
	comp=E,10.0nm,0.6s						
NV11	**Mina Array Sit**	**3.63**	**94**	Pn	**Pn**	**02 59 28.4**	**+0.5**
NV11				IAML		03 00 42.0	
	comp=E,101nm,1.8s						
KVN	**Kaiserville**	**3.65**	**85**	Pn	**Pn**	**02 59 28.5**	**+0.3**
KVN				IAML		03 00 36.3	
	comp=N,65nm,1.7s						
KVN				IAML		03 00 52.9	
	comp=E,58nm,1.3s						
HUMO	**Hull Mountain**	**3.81**	**358**		**Pn**	**02 59 30.2**	**-0.1**
K02D	**Willamette Mer**	**3.96**	**350**		**Pn**	**02 59 32.1**	**-0.3**
K02D				IAML		03 00 02.5	
	comp=N,42nm,1.3s						
K02D				IAML		03 01 03.0	
	comp=E,38nm,1.8s						
DSP	**Deep Springs**	**4.04**	**109**		**Pn**	**02 59 34.4**	**+1.0**
DSP				IAML		03 00 40.0	
	comp=E,57nm,1.2s						
DSP				IAML		03 01 12.4	
	comp=N,51nm,2.0s						
K05A	**Summer Lake**	**4.18**	**19**		**Pn**	**02 59 35.8**	**+0.3**
TPH	**Tonopah**	**4.41**	**98**		**Pn**	**02 59 39.0**	**+0.3**
BAKC	**Calstate**	**4.52**	**138**		**Pn**	**02 59 37.3**	**-2.7**
BMN	**Battle Mountai**	**4.58**	**67**		**Pn**	**02 59 41.3**	**+0.3**
QMN	**Gold Mountain**	**4.60**	**107**		**Pn**	**02 59 42.4**	**+1.2**
GMN				IAML		03 00 58.2	
	comp=E,25nm,1.4s						
GMN				IAML		03 00 59.6	
	comp=N,34nm,1.6s						
J05D	**Fort Rock, OR**	**4.63**	**14**		**Pn**	**02 59 41.8**	**+0.1**
J05D				IAML		03 01 39.1	
	comp=E,23nm,3.3s						
J05D				IAML		03 01 54.5	
	comp=N,24nm,4.1s						
GRAC	**Grapevine Rang**	**4.63**	**111**	Pn	**Pn**	**02 59 42.8**	**+1.2**
WVOR	**Wild Horse Val**	**4.81**	**40**	Pn	**Pn**	**02 59 44.8**	**+0.7**
WVOR				IAML		03 01 49.5	
	comp=N,22nm,4.7s						
WCT	**Wildcat Mounta**	**5.26**	**110**		**Pn**	**02 59 50.5**	**+0.2**
WCT				IAML		03 01 41.4	
	comp=N,34nm,1.6s						
WCT				IAML		03 01 42.9	
	comp=E,20nm,2.4s						
BUCK	**Buck Mountain**	**5.40**	**358**	Pn	**Pn**	**02 59 51.4**	**-0.7**
BUCK				IAML		03 01 56.8	
	comp=N,31nm,2.4s						
GWY	**Greenwater Val**	**5.50**	**116**	Pn	**Pn**	**02 59 54.0**	**+0.3**
J08A	**Circle Bar Ran**	**5.59**	**34**	Pn	**Pn**	**02 59 56.3**	**+1.4**
S11A	**Rachel**	**5.65**	**100**	Pn	**Pn**	**02 59 56.0**	**+0.3**
ELK	**Elko**	**6.12**	**69**	Pn	**Pn**	**03 00 02.5**	**+0.3**
ELK	**Elko**	**6.12**	**69**	Pn	**Pn**	**03 00 04.0**	**+1.8**
	comp=N,3.8nm,0.8s						
ELK				LR	LR	03 02 29.6	
	comp=N,352nm,19.6s,slow=38						
Q12A	**Willow Creek R**	**6.20**	**85**		**Pn**	**03 00 04.1**	**+0.9**
SPR3	**Spring Creek 3**	**6.58**	**86**	Pn	**Pn**	**03 00 08.8**	**+0.1**
PSUT	**Pine Spring**	**6.98**	**89**	Pn	**Pn**	**03 00 14.2**	**+0.2**
MFID	**Camas Ranch**	**6.98**	**46**	Pn	**Pn**	**03 00 13.7**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDXM	**Geysers**	**0.01**	**313**	IAML		02 59 28.1	
	comp=E,53μm,0.4s						
GDXM	**Geysers**	**0.01**	**313**		Pg	02 59 28.2	+0.4
GCRM	**Castle Rock Sp**	**0.06**	**116**		Pg	02 59 28.8	+0.2
GGPM	**Geyser Peak**	**0.06**	**234**		Pg	02 59 29.0	+0.4
GBGM	**Boggs Mountain**	**0.08**	**80**		Pg	02 59 29.6	+0.6
GSGM	**Seigler Mounta**	**0.09**	**40**		Pg	02 59 30.1	+0.9
GPMM	**Pine Mountain**	**0.14**	**291**		Pg	02 59 30.7	+0.6
GRTM	**Round Top Moun**	**0.17**	**32**		Pg	02 59 31.3	+0.6
GCVM	**Cloverdale**	**0.18**	**261**		Pg	02 59 31.7	+0.7
NHSM	**Mount Saint He**	**0.19**	**157**		Pg	02 59 32.1	+0.6
GSSM	**Skaggs Springs**	**0.20**	**242**		Pg	02 59 32.4	+0.9
NMTM	**Middletown**	**0.26**	**89**		Pg	02 59 33.4	+0.8
MNRC	**McLaughlin Min**	**0.28**	**73**		Pb	02 59 34.2	-1.2
HOPS	**Hopland Field**	**0.30**	**311**		Sg	02 59 34.6	-2.4
HOPS	**Hopland Field**	**0.30**	**311**	Pg	Pg	02 59 34.1	+0.9
HOPS	**Hopland Field**	**0.30**	**311**	IAML		02 59 39.8	
	comp=E,734nm,1.1s						
HOPS				IAML		02 59 41.6	
	comp=N,1μm,0.8s						
GHLM	**Highland Sprin**	**0.30**	**323**		Pg	02 59 34.2	+0.8
GHCM	**House Creek**	**0.38**	**239**		Pg	02 59 35.6	+0.9
NBPM	**Berryessa Peak**	**0.48**	**106**		Pb	02 59 38.4	-0.5
CVS	**Carmenet Viney**	**0.52**	**151**		Pg	02 59 38.1	+0.6
NAPC	**Atlas Peak**	**0.55**	**131**		Pg	02 59 38.8	+0.8
GGUM	**Gualala**	**0.56**	**276**		Pg	02 59 39.3	-1.0
NBRB	**Beebe Ranch Br**	**0.57**	**161**		Pb	02 59 39.5	-0.9
MCCM	**Marconi Confer**	**0.66**	**187**	Pg	Pb	02 59 41.3	-0.5
MCCM				IAML		03 00 02.4	
	comp=N,428nm,1.2s						
SNT	**Sears Point**	**0.67**	**157**		Pg	02 59 40.9	+0.6
NADM	**Allendale**	**0.72**	**118**		Pn	02 59 44.0	-1.0
NPRM	**Point Reyes**	**0.82**	**193**		Pb	02 59 44.2	-0.4

RSNC 10 03:21:42.0±0.0, 6°N±1°×7°6W±°, h6km±3km, M2.6, mB4.8, mb3.9, ML2.6, Mw(mB)4.1, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLMC	**San Jos del P**	**0.87**	**192**	P	Pg	03 21 56.8	-1.9
PLMC				S	Sg	03 22 08.9	-1.1
CMAN1	**Manizales, Cal**	**0.89**	**140**	P	Pg	03 21 59.1	-0.1
CMAN1				S	Sg	03 22 09.8	-1.0
NIZA	**Niza - Manizal**	**0.94**	**138**	P	Pg	03 21 59.2	-0.8
NIZA				S	Sg	03 22 11.4	-0.9
NORC	**Norcasia**	**1.24**	**99**	P	Pg	03 22 01.8	-4.0
NORC				S	Sg	03 22 17.5	-4.4
DBBC	**Dabeiba**	**1.25**	**355**	P	Pg	03 22 02.8	-3.3
DBBC				S	Sg	03 22 20.8	-1.6
SOLC	**Bahia Solano**	**1.38**	**290**	P	Pn	03 22 04.9	-2.9
SOLC				S	Sb	03 22 21.9	-4.3
PIZC	**Pizarro, Choco**	**1.48**	**238**	P	Pn	03 22 06.1	-3.1
PIZC				S	Sn	03 22 26.5	-2.4
PTBC	**PUERTO BERRIO,**	**1.81**	**65**	P	Pn	03 22 10.2	-3.5
PTBC				S	Sn	03 22 32.3	-4.7
ROSC	**El Rosal**	**1.99**	**117**	P	Pn	03 22 14.8	-1.8
SPBC	**San Pablo de B**	**2.02**	**93**	P	Pn	03 22 14.4	-2.3
SPBC				S	Sn	03 22 38.0	-4.4
ORTC	**Ortega, Tolima**	**2.03**	**155**	P	Pn	03 22 13.9	-2.9
ORTC				S	Sn	03 22 40.4	-2.0
UREC	**San Jos de Ur**	**2.06**	**16**	P	Pn	03 22 13.9	-3.3
UREC				S	Sn	03 22 39.3	-3.9
ZARC	**Zaragoza, Cauc**	**2.12**	**36**	P	Pn	03 22 15.1	-2.9
ZARC				S	Sn	03 22 43.2	-1.5
MALC	**Bahia Malaga**	**2.13**	**215**	P	Pn	03 22 15.1	-3.0
MALC				S	Sn	03 22 43.7	-1.2
APAC	**Apartado, Choc**	**2.18**	**347**	P	Pn	03 22 17.8	-1.0
APAC				S	Sn	03 22 45.9	-0.3
PTAC	**Punta Ardita,**	**2.19**	**309**	P	Pn	03 22 16.9	-2.0
PTAC				S	Sn	03 22 43.3	-3.0
PRAC	**Prado**	**2.37**	**149**	P	Pn	03 22 18.4	-3.0
JAMC	**Jamundi, Valle**	**2.59**	**193**	P	Pn	03 22 20.6	-4.1
JAMC				S	Sn	03 22 50.5	-6.2
CHIC	**Chingaza**	**2.61**	**115**	P	Pn	03 22 22.7	-2.5
CHIC				P	Pb	03 22 24.3	-5.2
VILC	**Villavicencio,**	**2.90**	**124**	P	Pn	03 22 28.8	-0.1
RUSC	**La Rusia**	**3.00**	**87**	P	Pn	03 22 27.8	-2.8
BARC	**Barichara**	**3.02**	**74**	P	Pn	03 22 28.0	-2.6
BARC				S	Sn	03 23 02.7	-4.5
CAPC	**Capurgana**	**3.12**	**337**	P	Pn	03 22 28.9	-2.8
POPC	**Popayan, Colom**	**3.25**	**190**	P	Pn	03 22 31.2	-2.6
POPC				S	Sn	03 23 08.5	-4.4
GARC	**Garzon, Huila**	**3.60**	**170**	P	Pn	03 22 35.8	-2.8
OCAC	**Ocana**	**3.70**	**48**	P	Pn	03 22 37.2	-2.7
OCAC				S	Sn	03 23 21.2	-2.7
PAMC	**Pamplona, Colo**	**3.73**	**65**	P	Pn	03 22 37.8	-2.7
FLOC	**Florencia**	**4.17**	**174**	P	Pn	03 22 43.0	-3.3
SJCC	**San Jacinto, C**	**4.21**	**12**	P	Pn	03 22 43.7	-3.1
MACC	**Macarena, Meta**	**4.24**	**148**	P	Pn	03 22 42.6	-4.6
AZU	**Azuero**	**4.61**	**296**	P	Pn	03 22 48.0	-4.3
AZU				S	Sn	03 23 39.6	-6.6
CACAO	**El Cacao, Vera**	**4.99**	**289**	P	Pn	03 22 52.0	-5.4
CRJC	**Cerrejon, Guaj**	**6.12**	**31**	P	Pn	03 23 09.0	-4.1

*NEIC **10** 04:01:50.5±1.1, 15°.85S±0°.07×74°.24W±0°.10, h55km±3km, mb4.4/17, Error ellipse: s-maj=14.3km s-min=9.2km az=62.0*
*IDC **10** 04:01:53.5±9.0, 16°.19S×74°.37W, h110km±57km, mb3.2/3, mbtmp3.6/4, MS2.6/4, Error ellipse: s-maj=163.6km s-min=34.4km az=24.0*

ISC 10 04:01:49.3±0.6, 15°.85S±0°.07×74°.40W±0°.08, h49km, n60, σ1°21/47, mb4.3/11, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.51**	**328**	Pn	**Pn**	**04 02 57.1**	**+1.9**
AP01	**Chacalluta**	**4.62**	**123**	Pn	**Pn**	**04 02 57.5**	**+0.9**
PB12	**IPOC Station P**	**4.76**	**126**	Pn	**Pn**	**04 02 58.0**	**-0.7**
PB18	**Visviri**	**5.02**	**111**	Pn	**Pn**	**04 03 02.7**	**+0.1**
PB11	**IPOC Station P**	**5.96**	**131**	Pn	**Pn**	**04 03 14.4**	**-0.8**
TA02	**Huaiquique**	**5.99**	**138**	Pn	**Pn**	**04 03 15.4**	**+0.1**
LPAZ	**La Paz**	**6.04**	**95**	Pn	**Pn**	**04 03 16.5**	**-0.2**
LPAZ	**La Paz**	**6.04**	**95**	P	**Pn**	**04 03 20.3**	**+3.6**
	4.6nm,0.5s,baz=269,slow=8.6,SNR=31						
LPAZ				S	**Sn**	**04 04 28.8**	**+3.9**
	6.2nm,0.8s,baz=207,slow=14,SNR=2.1						
LPAZ				LR	LR	04 05 24.6	
	comp=Z,20nm,19.0s,baz=264,slow=35						
HMBC	**Humberstone**	**6.15**	**136**	Pn	**Pn**	**04 03 17.1**	**-0.6**
TA01	**Diego Aracena**	**6.17**	**140**	Pn	**Pn**	**04 03 17.0**	**-0.9**
GO01	**Chusmiza**	**6.25**	**128**		**Pn**	**04 03 19.4**	**0.0**
PATCX	**Punta Patache**	**6.38**	**141**		**Pn**	**04 03 20.4**	**-0.5**
PB08	**IPOC Station P**	**6.57**	**131**		**Pn**	**04 03 23.2**	**-0.5**
PB02	**IPOC Station P**	**6.92**	**143**		**Pn**	**04 03 27.9**	**-0.4**
PB01	**IPOC Station P**	**6.96**	**139**		**Pn**	**04 03 28.4**	**-0.4**
PB07	**IPOC Station P**	**7.24**	**145**		**Pn**	**04 03 32.0**	**-0.7**
PB04	**IPOC Station P**	**7.60**	**149**	Pn	**Pn**	**04 03 37.3**	**-0.4**
PB09	**IPOC Station P**	**7.67**	**141**		**Pn**	**04 03 39.2**	**+0.6**
PB05	**IPOC Station P**	**8.02**	**151**		**Pn**	**04 03 42.9**	**-0.4**
PB06	**IPOC Station P**	**8.21**	**147**	Pn	**Pn**	**04 03 45.5**	**-0.4**
CZSB	**Cruzeiro do Su**	**8.23**	**12**	Pn	**Pn**	**04 03 46.0**	**-0.2**
PB10	**IPOC Station P**	**8.44**	**155**	Pn	**Pn**	**04 03 49.0**	**0.0**
LVC	**Limon Verde**	**8.49**	**143**	Pn	**Pn**	**04 03 51.7**	**+1.6**
LVC	**Limon Verde**	**8.49**	**143**	LR	LR	04 06 44.4	
	comp=Z,37nm,21.2s,baz=267,slow=36						
PB15	**IPOC Station P**	**8.67**	**148**	Pn	**Pn**	**04 03 53.4**	**+1.1**
ATAH	**Atahualpa**	**9.50**	**335**	LR	LR	04 07 44.3	
	comp=Z,51nm,18.3s,baz=165,slow=36						
ETMB	**Extrema**	**9.98**	**54**	Pn	**Pn**	**04 04 08.6**	**-1.5**
AC01	**Pan de Azucar**	**10.85**	**162**	Pn	**Pn**	**04 04 21.6**	**-0.3**
SIV	**San Ignacio**	**12.82**	**92**	LR	LR	04 10 09.8	
	comp=Z,70nm,19.9s,baz=284,slow=39						
SAML	**Samuel**	**12.92**	**59**	Pn	Pn	04 04 46.7	-3.6
CO01	**Juntas del Tor**	**14.61**	**165**	Pn	Pn	04 05 00.4	-13
SLOR	**San Lorenzo -**	**15.55**	**345**	Pn	**Pn**	**04 05 26.5**	**+0.6**
MT02	**Curacav**	**17.59**	**171**		**P**	**04 05 50.8**	**-0.6**
H03N1	**Juan Fernandez**	**17.99**	**192**	T	T	04 24 29.6	
	baz=16,slow=74						
H03N2	**Juan Fernandez**	**17.99**	**192**	T	T	04 24 20.0	
	baz=16,slow=74						
H03N3	**Juan Fernandez**	**18.00**	**192**	T	T	04 24 28.4	
	baz=16,slow=74						
MT09	**Talagante**	**18.12**	**171**	P	**Pn**	**04 05 57.5**	**-0.1**
CPUP	**Villa Florida**	**19.02**	**126**	P	**P**	**04 06 06.2**	**-1.0**
RUSC	**La Rusia**	**21.64**	**4**	P	**P**	**04 06 36.4**	**+0.3**
RUSC				IAmb	IAmb	04 06 38.4	
	comp=Z,11nm,1.0s						
BOAV	**Boa Vista**	**22.73**	**38**	P	**P**	**04 06 45.4**	**-2.0**
BDFB	**Brasilia**	**25.39**	**93**	P	**P**	**04 07 11.1**	**-1.4**
BDFB				IAmb	IAmb	04 07 50.2	
	comp=Z,11nm,1.5s						
BDFB	**Brasilia**	**25.39**	**93**	P	**P**	**04 07 10.8**	**-1.6**
	comp=Z,0.8nm,0.4s,baz=118,slow=7.3,SNR=3.5						
	comp=Z,0.8nm,0.4s						
BAUV	**El Baul**	**25.42**	**15**	P	**P**	**04 07 11.8**	**-0.7**
BAUV				IAmb	IAmb	04 07 12.3	
	comp=Z,12nm,0.9s						
LL06	**Loncomilla**	**26.29**	**179**	P	**P**	**04 07 19.6**	**-0.5**
V53A	**Saluda**	**51.85**	**351**	P	**P**	**04 10 53.9**	**+1.2**
V53A				IAmb	IAmb	04 11 06.7	
	comp=Z,9.4nm,1.4s						
TXAR	**Lajitas Array**	**53.07**	**328**	P	**P**	**04 11 02.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=149,slow=7.5,SNR=4.7						
	comp=Z,0.2nm,0.5s						
X37A	**Clayton**	**53.98**	**339**	P	**P**	**04 11 08.2**	**-0.1**
X37A				IAmb	IAmb	04 11 13.1	
	comp=Z,3.8nm,1.1s						
SDCO	**Great Sand Dun**	**60.80**	**332**	P	**P**	**04 11 56.7**	**0.0**
SDCO				IAmb	IAmb	04 11 57.6	
	comp=Z,1.6nm,0.7s						
Q24A	**Divide**	**61.65**	**333**	P	**P**	**04 12 02.5**	**0.0**
Q24A				IAmb	IAmb	04 12 06.3	
	comp=Z,3.1nm,0.9s						
GLA	**Glamis**	**62.09**	**322**	P	**P**	**04 12 05.7**	**+0.4**
DBIC	**Dimbokro**	**72.37**	**78**	P	**P**	**04 13 09.6**	**-1.1**
DBIC				IAmb	IAmb	04 13 27.5	
	comp=Z,20nm,1.3s						
QSPA	**South Pole Qui**	**74.31**	**180**	P	**P**	**04 13 21.6**	**+0.1**
QSPA				IAmb	IAmb	04 13 38.5	
	comp=Z,2.4nm,1.1s						
SBA	**Scott Base**	**80.39**	**191**	P	**P**	**04 13 57.4**	**+2.3**
YKA	**Yellowknife Ar**	**84.21**	**342**	P	**P**	**04 14 13.7**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=136,slow=4.6,SNR=6.3						
	comp=Z,0.3nm,0.7s						
H11N3	**WAKE ISLAND Hyl**	**21.76**	**284**	T	T	06 34 31.3	
	baz=97						
H11N2	**WAKE ISLAND Hyl**	**21.77**	**284**	T	T	06 34 32.4	
	baz=97						
H11N1	**WAKE ISLAND Hyl**	**21.77**	**284**	T	T	06 34 28.5	
	baz=97						
H11S2	**WAKE ISLAND Hyl**	**21.80**	**282**	T	T	06 34 31.4	
	baz=98						
H11S1	**WAKE ISLAND Hyl**	**21.80**	**282**	T	T	06 34 31.2	
	baz=98						
H11S3	**WAKE ISLAND Hyl**	**21.81**	**282**	T	T	06 34 30.1	
	baz=98						

*NAO **10** 04:21:00.6±2.0, 72°.83N×4°.22E, ML2.6*
*BER **10** 04:21:04.0±3.4, 72°.84N×4°.42E, h10km, mb(Pn)4.0, ML2.6(NAO), Confirmed Earthquake*

ISC 10 04:21:01.1±1.1, 72°.70N±0°.07×4°.48E±0°.08, h10km, n27, σ2^{s}66/33, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**5.19**	**29**	Pn	**Pn**	**04 22 17.9**	**-0.8**
HSPB	**Hornsund (broa**	**5.19**	**29**	Pn	**Pn**	**04 22 17.9**	**-0.8**
LOF	**Lofoten**	**5.50**	**142**	Pn	**Pn**	**04 22 26.1**	**+3.2**
LOF				Sn	**Sn**	**04 23 22.6**	**-3.5**
LOF	**Lofoten**	**5.50**	**142**	*e*P	**Pn**	**04 22 25.1**	**+2.2**
LOF				*e*S	**Sn**	**04 23 22.9**	**-3.3**
LOF				IAML		04 23 31.4	
	comp=Z,3.6nm,0.8s						
TRO	**Tromso**	**5.59**	**116**	Pn	**Pn**	**04 22 26.1**	**+2.0**
TRO	**Tromso**	**5.59**	**116**	*e*P	**Pn**	**04 22 26.1**	**+2.0**
STEI	**Steigen**	**6.01**	**138**	*e*P	**Pn**	**04 22 32.4**	**+2.6**
JETT	**Jettan, Norway**	**6.04**	**114**	Pn	**Pn**	**04 22 33.6**	**+3.2**
JETT	**Jettan, Norway**	**6.04**	**114**	Pn	**Pn**	**04 22 33.6**	**+3.2**
SPA0	**Spitsbergen Ar**	**6.25**	**23**	Pn	**Pn**	**04 22 33.6**	**+0.4**
	baz=197,slow=16						
SPA0	**Spitsbergen Ar**	**6.25**	**23**	Pn	**Pn**	**04 22 33.6**	**+0.4**
	baz=197,slow=16						
HAMF	**Hammerfest**	**6.38**	**100**	Pn	**Pn**	**04 22 36.0**	**+1.0**
HAMF	**Hammerfest**	**6.38**	**100**	*e*P	**Pn**	**04 22 35.5**	**+0.5**
KBS	**Kingsbay**	**6.51**	**13**	Pn	**Pn**	**04 22 37.1**	**+0.3**
KBS	**Kingsbay**	**6.51**	**13**	Pn	**Pn**	**04 22 37.1**	**+0.3**
KONS	**Konsvik**	**6.91**	**150**	*e*P	**Pn**	**04 22 45.6**	**+3.4**
KONS				IAML		04 23 58.1	
	comp=Z,3.3nm,0.7s						
KONS				*e*S	**Sn**	**04 23 58.4**	**-2.4**
SALU	**Saltoluokta**	**7.16**	**131**	*e*P	**Pn**	**04 22 48.0**	**+2.3**
DBG	**Daneborg**	**7.18**	**295**	Pn	**Pn**	**04 22 44.2**	**-1.7**
DBG	**Daneborg**	**7.18**	**295**	Pn	**Pn**	**04 22 44.2**	**-1.7**
MOR8	**Moi Rana**	**7.42**	**147**	*e*P	**Pn**	**04 22 53.0**	**+3.8**
MOR8				*e*S	**Sn**	**04 24 08.6**	**-4.8**
MOR8				IAML		04 24 16.4	
	comp=Z,2.0nm,0.2s						
ARA0	**ARCESS Array S**	**7.50**	**105**	Pn	**Pn**	**04 22 52.8**	**+2.5**
	baz=318,slow=11						
ARA0				Sn	**Sn**	**04 24 12.3**	**-2.8**
	baz=306,slow=22						
ARA0	**ARCESS Array S**	**7.50**	**105**	Pn	**Pn**	**04 22 52.8**	**+2.5**
	baz=318,slow=11						
ARA0				Sn	**Sn**	**04 24 12.3**	**-2.8**
	baz=306,slow=22						
VADS	**Vadso**	**8.32**	**96**	Pn	**Pn**	**04 23 03.0**	**+1.5**
HFS	**Hagfors**	**13.12**	**159**	Pn	**Pn**	**04 24 10.7**	**+3.6**
	baz=350,slow=12						
HFS	**Hagfors**	**13.12**	**159**	Pn	**Pn**	**04 24 10.7**	**+3.6**
	baz=350,slow=12						
FIA0	**FINESS Array S**	**13.95**	**133**	Pn	**Pn**	**04 24 21.2**	**+2.7**
FIA0	**FINESS Array S**	**13.95**	**133**	Pn	**Pn**	**04 24 21.2**	**+2.7**

*JMA **10** 04:54:08.1±0.2, 39°.1N±0°.3×143°.0E±0°.9, h19km±1km, MV3.9/40, FAR E OFF SANRIKU*
*NIED **10** 04:54:08.1, 39°.12N×143°.01E, h19km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.53; $M_{\theta\theta}$0.12; $M_{\phi\phi}$-0.65; $M_{r\theta}$0.59; $M_{\theta\phi}$-0.04; $M_{\phi r}$0.81; Fault plane solution: $M_0$1.17000×10^{15} NP1:ϕ_s30.00000°, δ76.00000°, λ106.00000°. NP2:ϕ_s159.00000°, δ21.00000°, λ41.00000°.*
*NEIC **10** 04:54:13.2±1.6, 39°.10N±0°.07×142°.89E±0°.05, h48km±8km, mb4.3/23 Error ellipse: s-maj=10.2km s-min=5.0km az=171.0*
*IDC **10** 04:54:16.1±2.7, 39°.02N×142°.80E, h85km±22km, mb3.7/9, mbtmp4.0/12, MS3.3/4, Error ellipse: s-maj=27.1km s-min=21.1km az=105.0*

ISC 10 04:54:08.5±0.7, 39°.13N±0°.04×142°.91E±0°.06, h16km, n66, σ1°31/58, mb4.2/22, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.95**	**298**	*i* P	**Pg**	**04 54 26.9**	**-0.1**
MIYJ				*e*S	**Sn**	**04 54 40.9**	**+0.4**
OFUJ	**Ofunato**	**0.96**	**267**	*i* P	**Pn**	**04 54 27.3**	**0.0**
JTH	**Tanohata**	**1.14**	**315**	*e*P	**Pg**	**04 54 30.4**	**-0.1**
JKMT	**Kesennumamotoy**	**1.16**	**254**	*i* P	**Pg**	**04 54 30.3**	**-0.6**
JOM	**Ohasama**	**1.30**	**286**	P	**Pg**	**04 54 32.5**	**-1.0**
JMK	**Ichinoseki**	**1.33**	**263**	P	**Pg**	**04 54 32.9**	**-1.1**
JIO	**Ouri**	**1.39**	**241**	*i* P	**Pg**	**04 54 33.6**	**-1.7**
JANG	**Nango**	**1.64**	**320**	*e*P	**Pn**	**04 54 37.0**	**+0.4**
JRG	**Rokugo**	**1.78**	**279**	P	**Pb**	**04 54 40.3**	**-0.5**
JOU	**Okura**	**1.91**	**247**	P	**Pb**	**04 54 42.0**	**-1.0**
JYK	**Kaneyama**	**2.00**	**265**	P	**Pb**	**04 54 43.4**	**-1.0**
JAH	**Hinai**	**2.05**	**302**	P	**Pb**	**04 54 43.6**	**-1.6**
JMM	**Marumori**	**2.08**	**233**		**Pb**	**04 54 44.0**	**-1.9**
JMM	**Marumori**	**2.08**	**233**	P	**Pb**	**04 54 43.9**	**-2.0**
JTM	**Tenmabayashi**	**2.17**	**320**	Pn	**Pb**	**04 54 46.6**	**-0.9**
JTM	**Tenmabayashi**	**2.17**	**320**	*e*P	**Pn**	**04 54 45.0**	**+1.0**
ERM	**Erimo**	**2.89**	**4**	Pn	**Pn**	**04 54 53.7**	**0.0**
JSD	**Sado**	**3.80**	**255**	Pn	**Pn**	**04 55 08.8**	**+2.4**
MJAR	**Matsushiro Arr**	**4.53**	**237**	P	**Pn**	**04 55 19.8**	**+3.4**
	11nm,0.6s,baz=38,slow=12,SNR=32						
MJAR				LR	LR	04 57 21.4	
	comp=Z,235nm,18.6s,baz=82,slow=42						
MAJO	**Matsushiro**	**4.53**	**237**		**Pn**	**04 55 19.9**	**+3.5**
MJB9	**Matsu-Tunnel**	**4.53**	**237**		Pb	04 55 21.0	-6.6
JKA	**Kamikawa-asahi**	**4.99**	**357**		**Pn**	**04 55 25.9**	**+3.3**
ASAJ	**Asahikawa**	**4.99**	**357**	P	Pb	04 55 31.0	-4.4
	7.6nm,0.4s,baz=198,slow=15,SNR=6.6						
ASAJ				S	**Sn**	**04 56 18.6**	**-1.2**
	20nm,0.6s,baz=8.0,slow=26,SNR=5.6						
ASAJ				LR	LR	04 57 52.8	
	comp=Z,299nm,21.7s,baz=188,slow=42						
JGF	**Kuroka**	**5.65**	**233**		**Pn**	**04 55 34.0**	**+2.2**
USRK	**Ussuriysk Ar.**	**9.61**	**305**	P	Pn	04 56 31.3	+5.2
	5.7nm,0.7s,baz=114,slow=14,SNR=8.7						
USRK				LR	LR	04 59 59.9	
	comp=Z,216nm,19.0s,baz=99,slow=36						
KSRS	**Korea Array**	**11.89**	**267**	P	Pn	04 57 01.7	+4.4
	1.4nm,0.7s,baz=82,slow=14,SNR=2.8						
KLR	**Kul'dur**	**12.87**	**325**	P	**P**	**04 57 21.1**	**-0.3**
	1.7nm,0.5s,baz=146,slow=8.7,SNR=7.1						
KLR				LR	LR	05 02 15.8	
	comp=Z,104nm,18.7s,baz=152,slow=37						
SONM	**Songino Array**	**27.67**	**300**	P	**P**	**04 59 55.4**	**-0.2**
	1.2nm,0.7s,baz=107,slow=9.9,SNR=5.3						
	1.2nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.32**	**126**	T	T	05 29 43.0	
	baz=318,slow=75						
H11N1	**WAKE ISLAND Hy**	**28.33**	**126**	T	T	05 29 36.6	
	baz=318						
H11N3	**WAKE ISLAND Hy**	**28.34**	**126**	T	T	05 29 45.7	
	baz=318,slow=75						
H11S1	**WAKE ISLAND Hy**	**29.12**	**128**	T	T	05 30 47.5	
	baz=320,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.12**	**128**	T	T	05 30 47.4	
	baz=320,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.13**	**128**	T	T	05 30 49.1	
	baz=320						
ZALV	**Zalesovo Beam**	**41.41**	**311**	P	**P**	**05 01 52.9**	**-0.9**
	1.4nm,0.5s,baz=79,slow=7.6,SNR=3.5						
	1.4nm,0.5s						
H18K	**Honhosa River**	**42.24**	**32**	P	**P**	**05 02 02.4**	**+1.8**
H18K				IAmb	IAmb	05 02 35.4	
	comp=Z,8.1nm,1.4s						
D19K	**Kuna River**	**42.94**	**28**	P	**P**	**05 02 07.7**	**+1.5**
D19K				IAmb	IAmb	05 02 33.5	
	comp=Z,7.7nm,1.4s						
B20K	**Meade River**	**43.59**	**26**	P	**P**	**05 02 12.9**	**+1.5**
MK31	**Makanchi Array**	**44.04**	**301**	P	**P**	**05 02 16.1**	**+0.8**
MKAR	**Makanchi Array**	**44.04**	**301**	P	**P**	**05 02 15.4**	**+0.1**
	comp=Z,2.8nm,0.9s,baz=81,slow=9.4,SNR=18						
	comp=Z,2.8nm,0.9s						
MAKZ	**Makanchi**	**44.24**	**301**	P	**P**	**05 02 17.2**	**+0.2**
B21K	**Ikpikpuk River**	**44.39**	**26**	P	**P**	**05 02 19.0**	**+1.3**
B21K				IAmb	IAmb	05 02 20.6	
	comp=Z,8.5nm,1.2s						
KURK	**Kurchatov**	**45.60**	**307**	P	**P**	**05 02 27.3**	**-0.3**
KURK				IAmb	IAmb	05 02 28.6	
	comp=Z,8.3nm,1.1s						
KURBB	**Kurchatov Arra**	**45.67**	**307**	P	**P**	**05 02 28.1**	**-0.1**
	comp=Z,5.7nm,0.6s,baz=81,slow=8.2,SNR=36						
	comp=Z,5.7nm,0.6s						
C23K	**Itkillik River**	**45.80**	**26**	P	**P**	**05 02 29.3**	**+0.4**
C23K				IAmb	IAmb	05 03 03.6	
	comp=Z,6.0nm,1.2s						
D24K	**Happy Valley**	**46.37**	**27**	P	**P**	**05 02 35.6**	**+2.1**
D24K				IAmb	IAmb	05 02 48.8	
	comp=Z,4.6nm,1.1s						
ILAR	**Eielson Array**	**47.09**	**33**	P	**P**	**05 02 39.4**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=248,slow=6.5,SNR=5.0						
	comp=Z,0.5nm,0.8s						
D25K	**Kavik River**	**47.25**	**27**	P	**P**	**05 02 42.0**	**+1.6**
D25K				IAmb	IAmb	05 02 43.5	
	comp=Z,3.0nm,1.2s						
D27M	**Malcolm River**	**49.18**	**27**	P	**P**	**05 02 55.4**	**+0.1**
MCARA	**McCarthy VSAT**	**49.18**	**38**	P	**P**	**05 02 54.8**	**-0.6**
BOOM	**Boomskoye usch**	**49.60**	**297**	P	**P**	**05 02 59.7**	**+0.6**
BOOM				IAmb	IAmb	05 03 11.5	
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**50.05**	**311**	P	**P**	**05 03 02.0**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=69,slow=8.1,SNR=6.8						
	comp=Z,1.5nm,0.6s						
I30M	**Mount Dempster**	**51.47**	**32**	P	**P**	**05 03 14.1**	**+1.3**
INK	**Inuvik**	**51.98**	**28**	P	**P**	**05 03 18.0**	**+1.6**
INK				IAmb	IAmb	05 03 48.7	
	comp=Z,6.0nm,1.4s						
C36M	**Paulatuk**	**55.03**	**26**	P	**P**	**05 03 39.4**	**+0.7**
ABKAR	**Akbulak array**	**57.50**	**310**

comp=N,1µm,20.6s,baz=210,slow=38
comp=N,40nm,0.9s
YOJ Yonaguni jima 5.75 234 Pn **Pn** **05 05 18.4 +0.1**
YHNB Yeheng 6.88 243 Pn **Pn** **05 05 34.5 +0.7**
NACB Ninganchiao 6.97 239 Pn **Pn** **05 05 35.3 +0.3**
JMN Monobe 7.60 39 Pn **Pn** **05 05 42.4 -1.2**
YULB Yu-li 7.65 235 Pn **Pn** **05 05 44.1 -0.2**
SSLB Suanglung 7.67 239 Pn **Pn** **05 05 45.3 +0.6**
KSRS Korea Array 9.49 359 Pn **Pn** **05 06 09.6 +0.1**
comp=N,0.3nm,0.3s,baz=174,slow=13,SNR=2.2
KSRS LR LR 05 09 56.9
comp=N,977nm,18.5s,baz=175,slow=39
comp=N,14nm,0.3s
JHJ Hachijo jima 2 11.29 60 LR LR 05 11 20.9
comp=N,147nm,18.1s,baz=186,slow=39
MAJO Matsushiro 12.09 42 Pn **Pn** **05 06 44.8 -0.4**
MJAR Matsushiro Arr 12.09 42 LR LR 05 12 06.9
comp=N,495nm,19.5s,baz=223,slow=40
JCJ Chichijima 12.51 91 LR LR 05 11 25.3
comp=N,305nm,19.1s,baz=276,slow=36
HNS HongShan 14.71 313 ⇓P **Pn** **05 07 21.4 +0.5**
HNS S **Sn** **05 10 08.1 +4.4**
HNS pmax pmax
comp=N,9.0nm,1.1s
HNS LR LR
comp=N,1µm,11.2s
HNS LR LR
comp=N,1µm,11.9s
HNS LR LR
comp=N,820nm,12.7s
LYN LuoYang 14.92 300 *e*P **Pn** **05 07 23.5 -0.3**
LYN sP P 05 07 29.1 -0.3
LYN pmax pmax
comp=N,15nm,0.5s
LYN pmax pmax
comp=N,150nm,4.0s
LYN LR LR
comp=N,2µm,14.4s
LYN LR LR
comp=N,1µm,16.8s
LYN LR LR
comp=N,1µm,11.0s
TGY Tagaytay City 15.31 207 LR LR 05 13 39.9
comp=N,405nm,19.2s,baz=69,slow=39
BJT Baijiatuan 15.59 324 **Pn** **05 07 33.3 +0.7**
BJT IAmb IAmb 05 07 45.9
comp=Z,20nm,1.1s
ENH Enshi 16.46 283 Pn **P** **05 07 44.9 -1.7**
USA0B Ussuriysk Arra 16.52 10 Pn **Pn** **05 07 44.0 -0.6**
USRK Ussuriysk Ar. 16.52 10 **Pn** **05 07 43.6 -0.9**
USRK Ussuriysk Ar. 16.52 10 Pn **Pn** **05 07 42.9 -1.6**
comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=2.1
USRK LR LR 05 13 56.4
comp=Z,381nm,19.1s,baz=187,slow=36
comp=Z,1.3nm,0.7s
MDJ Mudanjiang 16.68 4 P **P** **05 07 48.2 -0.7**
MDJ pP pP 05 07 50.5 -2.1
MDJ sP sP 05 07 52.3 -2.0
MDJ PP **PnPn** **05 08 00.1 +4.0**
MDJ S **S** **05 10 59.6 -3.2**
MDJ pmax pmax
comp=Z,7.0nm,1.3s
MDJ pmax pmax
comp=Z,230nm,6.9s
MDJ LR LR
comp=Z,520nm,13.1s
MDJ LR LR
comp=Z,910nm,12.0s
MDJ LR LR
comp=Z,750nm,13.3s
MDJ Mudanjiang 16.68 4 Pn **Pn** **05 07 46.1 -0.5**
XAN Xi'an 17.54 295 ⇑P **Pn** **05 07 55.7 -1.9**
XAN pmax pmax
comp=Z,14nm,2.1s
XAN LR LR
comp=Z,2µm,16.1s
XAN LR LR
comp=Z,850nm,16.8s
XAN LR LR
comp=Z,680nm,15.8s
XLT XiLinHaoTe 18.64 332 *e*P **Pn** **05 08 14.3 +3.3**
XLT pP sP 05 08 18.0 +1.9
XLT sP pP 05 08 22.1 +7.8
XLT S **S** **05 11 45.5 +2.7**
XLT pmax pmax
comp=Z,14nm,1.0s
XLT pmax pmax
comp=Z,150nm,4.2s
XLT LR LR
comp=Z,650nm,13.6s
XLT LR LR
comp=Z,650nm,14.0s
HHC Hu-ho-hao-te 18.74 318 *e*P **Pn** **05 08 14.9 +2.7**
HHC sP sP 05 08 18.8 +1.6
HHC sP pP 05 08 22.4 +7.0
HHC S **S** **05 11 43.1 -1.8**
HHC sS sS 05 11 47.8 -2.9
HHC pmax pmax
comp=Z,19nm,0.7s
HHC pmax pmax
comp=Z,89nm,4.2s
HHC LR LR
comp=Z,1µm,13.4s
HHC LR LR
comp=Z,1µm,14.1s
HHC LR LR
comp=Z,530nm,14.1s
QIZ Qiongzhong 18.95 246 P **P** **05 08 13.6 -0.6**
QIZ S **S** **05 11 50.4 +1.1**
QIZ LR LR
comp=Z,800nm,15.3s
QIZ LR LR
comp=Z,540nm,15.1s
QIZ LR LR
comp=Z,450nm,7.6s
ASAJ Asahikawa 19.89 32 LR LR 05 17 16.3
comp=Z,262nm,18.5s,baz=226,slow=40
DAV Davao City (W) 20.90 187 LR LR 05 16 51.8
comp=Z,220nm,20.8s,baz=342,slow=37
CD2 Chengdu 21.42 284 P **P** **05 08 40.5 -0.5**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,1µm,9.4s
CD2 LR LR
comp=Z,860nm,9.2s
CD2 LR LR
comp=Z,730nm,12.1s
KLR Kul'dur 21.44 7 P **P** **05 08 42.0 +1.0**
comp=Z,1.3nm,0.9s,baz=181,slow=8.2,SNR=2.2
KLR LR LR 05 16 43.7
comp=Z,262nm,20.2s,baz=202,slow=36
comp=Z,1.3nm,0.9s
LZH Lanzhou 22.09 298 *e*P **P** **05 08 51.5 +3.2**
LZH pP sP 05 08 57.6 +3.8
LZH S **S** **05 12 52.3 +0.6**
LZH pmax pmax
comp=Z,18nm,1.4s
LZH LR LR
comp=Z,1µm,15.8s
LZH LR LR
comp=Z,620nm,15.8s
LZH LR LR
comp=Z,690nm,14.4s
HEH HeiHe 22.29 359 *e*P **P** **05 08 51.2 +1.1**
KMI Kunming 22.88 269 ⇑P **P** **05 08 59.9 +3.1**
KMI S **S** **05 13 10.2 +3.8**
KMI pmax pmax
comp=Z,16nm,1.1s
KMI LR LR
comp=Z,580nm,11.8s
KMI LR LR
comp=Z,450nm,13.7s
KMI LR LR
comp=Z,380nm,9.1s
PZH PanZhiHua 23.49 273 P **P** **05 09 04.3 +1.3**
PZH S **S** **05 13 17.2 +0.7**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,140nm,4.7s
PZH LR LR
comp=Z,470nm,11.6s
PZH LR LR
comp=Z,280nm,10.8s
PZH LR LR
comp=Z,420nm,13.1s
ULN Ulaanbaatar 25.78 326 P **P** **05 09 24.5 +0.6**
ULN IAmb IAmb 05 09 29.1
comp=Z,14nm,1.1s
SONM Songino Array 26.08 325 P **P** **05 09 26.3 -0.3**
SONM Songino Array 26.08 325 P **P** **05 09 24.9 -1.7**
comp=Z,1.8nm,0.8s,baz=143,slow=8.3,SNR=13
SONM LR LR 05 19 36.7
comp=Z,114nm,21.0s,baz=130,slow=36
comp=Z,1.8nm,0.8s
GTA Gaotai 26.09 303 *e*P **P** **05 09 27.3 +0.6**
GTA pP sP 05 09 33.7 +1.4
GTA pmax pmax
comp=Z,17nm,1.3s
GTA LR LR
comp=Z,990nm,17.1s
GTA LR LR
comp=Z,460nm,15.9s
GTA LR LR
comp=Z,700nm,13.9s
TNCH TengChong 26.63 271 P **P** **05 09 33.8 +2.0**
TNCH S **S** **05 14 06.8 +0.1**
TNCH pmax pmax
comp=Z,26nm,0.6s
TNCH pmax pmax
comp=Z,91nm,3.2s
TNCH LR LR
comp=Z,560nm,10.7s
TNCH LR LR
comp=Z,580nm,12.3s
TNCH LR LR
comp=Z,660nm,14.7s
TOLI2 Tolitoli 27.59 196 P **P** **05 09 41.1 +0.9**
TOLI2 IAmb IAmb 05 09 44.9
comp=Z,7.9nm,1.0s
GOMU GeErMu 29.30 295 P **P** **05 09 56.4 +0.6**
GOMU pP sP 05 10 00.4 -1.0
GOMU sP pP 05 10 03.7 +3.9
GOMU S **S** **05 14 42.6 -6.3**
GOMU sS sS 05 14 59.4 +4.0
GOMU pmax pmax
comp=Z,5.0nm,0.7s
GOMU LR LR
comp=Z,650nm,11.8s
GOMU LR LR
comp=Z,350nm,12.0s
GOMU LR LR
comp=Z,500nm,12.8s
SHL Shillong 32.38 274 P **P** **05 10 21.0 -1.9**
SHL IAmb IAmb 05 10 21.1
comp=Z,4.3nm,0.6s
PETK Petropavlovsk- 33.30 33 LR LR 05 22 57.2
comp=Z,134nm,21.7s,baz=225,slow=34
KAPI Kappang 33.74 195 LR LR 05 23 56.5
comp=Z,104nm,21.3s,baz=2.5,slow=36
YAK Yakutsk 34.10 1 LR LR 05 24 31.8
comp=Z,171nm,20.7s,baz=164,slow=36
MA2 Magadan 35.23 20 LR LR 05 25 39.4
comp=Z,120nm,18.4s,baz=239,slow=37
WMQ Urumqi 36.00 307 *e*P **P** **05 10 57.0 +3.1**
WMQ LR LR
comp=Z,770nm,12.7s
WMQ LR LR
comp=Z,210nm,21.1s
SEY Seymchan 38.42 18 LR LR 05 26 35.9
comp=Z,185nm,20.6s,baz=190,slow=36
MK31 Makanchi Array 40.34 310 P **P** **05 11 28.5 -2.0**
MKAR Makanchi Array 40.34 310 P **P** **05 11 28.5 -2.0**
comp=Z,1.4nm,0.8s,baz=102,slow=10.0,SNR=12
MKAR LR LR 05 28 28.8
comp=Z,136nm,21.5s,baz=112,slow=37
comp=Z,1.4nm,0.8s
MAKZ Makanchi 40.56 310 P **P** **05 11 32.5 +0.2**
MAKZ IAmb IAmb 05 11 36.7
comp=Z,6.0nm,1.0s
ZAA0 Zalesovo Array 40.84 322 P **P** **05 11 34.7 +0.2**
ZAA0 IAmb IAmb 05 11 36.2
comp=Z,4.4nm,1.0s
ZALV Zalesovo Beam 40.84 322 P **P** **05 11 34.1 -0.3**
ZALV Zalesovo Beam 40.84 322 P **P** **05 11 32.6 -1.9**
comp=Z,0.9nm,0.5s,baz=124,slow=9.4,SNR=5.8
comp=Z,0.9nm,0.5s
PMG Port Moresby 41.45 151 LR LR 05 26 34.8
comp=Z,119nm,21.2s,baz=294,slow=33
TARG Taragay, Kyrgy 42.95 302 P **P** **05 11 51.2 -1.2**
TARG IAmb IAmb 05 11 57.9
comp=Z,7.3nm,0.9s
KURK Kurchatov 43.53 315 P **P** **05 11 54.9 -1.5**
KURK IAmb IAmb 05 12 00.6
comp=Z,8.4nm,1.0s
KURBB Kurchatov Arra 43.56 315 P **P** **05 11 54.5 -2.2**
comp=Z,1.3nm,0.5s,baz=102,slow=8.6,SNR=8.7
KURBB LR LR 05 32 03.5
comp=Z,88nm,18.4s,baz=164,slow=39
comp=Z,1.3nm,0.5s
KSH Kashi 44.33 299 P **P** **05 12 05.1 +1.9**
KSH pP sP 05 12 10.2 +1.3
KSH LR LR
comp=Z,480nm,16.7s
KSH LR LR
comp=Z,370nm,14.9s
KSH LR LR
comp=Z,430nm,16.0s
BOOM Boomskoye usch 44.37 303 P **P** **05 12 03.8 +0.3**
AAK Ala-Archa 45.44 303 P **P** **05 12 10.8 -1.2**
AAK IAmb IAmb 05 12 16.8
comp=Z,4.5nm,1.1s
FITZ Fitzroy Crossi 45.83 183 P **P** **05 12 15.5 +0.5**
BILL Bilibino 46.08 19 P **P** **05 12 16.9 +0.3**
ARSB Arsanbob 46.57 302 P **P** **05 12 20.6 -0.4**
WB0 Warramunga Arr 47.81 172 P **P** **05 12 30.6 0.0**
WRA Warramunga Arr 47.98 172 P **P** **05 12 32.3 +0.4**
WRA Warramunga Arr 47.98 172 P **P** **05 12 31.9 +0.1**
comp=Z,4.4nm,0.8s,baz=353,slow=8.3,SNR=14
comp=Z,4.4nm,0.8s
WB2 Warramunga Arr 47.98 172 P **P** **05 12 31.5 -0.4**
WR0 Warramunga Arr 48.02 172 P **P** **05 12 31.4 -0.7**
WR0 IAmb IAmb 05 12 48.2
comp=Z,4.9nm,1.1s
KK31 Karatay Array 48.36 304 P **P** **05 12 34.0 -0.7**
KK31 IAmb IAmb 05 12 40.3
comp=Z,2.7nm,1.0s
KKAR Karatay Array 48.36 304 P **P** **05 12 34.1 -0.6**
KKAR IAmb IAmb 05 12 40.3
comp=Z,2.7nm,1.0s
BVAR Borovoye Array 48.95 317 P **P** **05 12 37.3 -1.7**
comp=Z,0.8nm,0.6s,baz=101,slow=7.7,SNR=12
BVAR LR LR 05 34 54.2
comp=Z,345nm,18.1s,baz=96,slow=38
comp=Z,0.8nm,0.6s
BRVK Borovoye 49.02 317 P **P** **05 12 39.2 -0.3**
SIMJ Simiganj 49.80 298 P **P** **05 12 45.9 0.0**
PSA00 Pilbara Seismi 49.87 190 P **P** **05 12 46.1 -0.2**
KBL Kabul 50.33 293 P **P** **05 12 50.0 -0.1**
KBL IAmb IAmb 05 12 56.4
comp=Z,4.6nm,0.7s
ASAR Alice Springs 51.61 173 P **P** **05 12 58.7 -0.7**
ASAR Alice Springs 51.61 173 P **P** **05 12 59.9 +0.5**
comp=Z,1.5nm,0.6s,baz=350,slow=7.4,SNR=12
ASAR LR LR 05 33 24.9
comp=Z,84nm,21.9s,baz=7.5,slow=34
comp=Z,1.5nm,0.6s
ABKAR Akbulak array 55.42 312 P **P** **05 13 27.5 +0.3**
ARU Arti 56.00 321 P **P** **05 13 30.9 -0.3**
ARU IAmb IAmb 05 13 38.5
comp=Z,5.2nm,1.1s
ARU Arti 56.00 321 LR LR 05 38 02.3
comp=Z,146nm,18.1s,baz=146,slow=37
GEYT Alibeck 58.37 299 P **P** **05 13 47.4 -0.9**
GEYT IAmb IAmb 05 13 48.5
comp=Z,3.2nm,0.8s
GEYT Alibeck 58.37 299 P **P** **05 13 46.8 -1.6**
comp=Z,1.5nm,0.4s,baz=242,slow=5.7,SNR=1.0
comp=Z,1.5nm,0.4s
GYA0B ALIBECK ARRAY 58.37 299 P **P** **05 13 47.5 -0.8**
KIRV Kirov 60.81 324 LR LR 05 41 37.8
comp=Z,231nm,19.8s,baz=89,slow=37
STKA Stephens Creek 60.85 167 LR LR 05 41 48.5
comp=Z,47nm,19.4s,baz=172,slow=37
KDAK Kodiak Island 61.20 37 LR LR 05 43 45.9
comp=Z,53nm,18.5s,baz=249,slow=39
NWAO Narrogin (SRO) 61.41 190 LR LR 05 44 03.6
comp=Z,55nm,19.2s,baz=188,slow=39
SUA Susitna One 61.68 33 P **P** **05 14 10.8 0.0**
H23K Yukon River 61.75 28 P **P** **05 14 11.1 +0.1**
H23K IAmb IAmb 05 14 28.2
comp=Z,3.9nm,1.0s
E24K Your Creek 61.95 25 P **P** **05 14 12.7 +0.2**
E24K IAmb IAmb 05 14 15.6
comp=Z,1.5nm,0.8s
F24K Squaw Lake 62.23 26 P **P** **05 14 14.9 +0.6**
F24K IAmb IAmb 05 14 17.7
comp=Z,1.5nm,0.8s
RND Reindeer 62.31 30 P **P** **05 14 13.8 -1.1**
D25K Kavik River 62.59 24 P **P** **05 14 16.9 +0.3**
D25K IAmb IAmb 05 14 39.8
comp=Z,2.4nm,1.1s
BELG Belogornoye 62.76 317 LR LR 05 43 09.3
comp=Z,143nm,21.0s,baz=312,slow=38
ILAR Eielson Array 62.98 29 P **P** **05 14 19.3 0.0**
comp=Z,0.5nm,0.8s,baz=288,slow=6.3,SNR=4.1
ILAR LR LR 05 44 37.4
comp=Z,60nm,18.8s,baz=272,slow=39
comp=Z,0.5nm,0.8s
I28M Miner Creek 65.73 27 P **P** **05 14 37.4 0.0**
I28M IAmb IAmb 05 15 02.6
comp=Z,3.2nm,1.1s
SPITS Spitsbergen Ar 67.14 348 LR LR 05 48 03.6
comp=Z,93nm,19.1s,baz=6.5,slow=40
INK Inuvik 67.36 23 LR LR 05 46 06.0
comp=Z,86nm,19.1s,baz=236,slow=38
GNI Garni 67.82 305 LR LR 05 46 25.6
comp=Z,79nm,18.1s,baz=42,slow=38
KBZ Khabaz 68.01 309 LR LR 05 46 24.9
comp=Z,65nm,19.4s,baz=310,slow=38
ARCES ARCESS Array B 68.39 338 LR LR 05 49 17.4
comp=Z,143nm,18.9s,baz=83,slow=40
OBN Obninsk 68.43 322 LR LR 05 46 32.1
comp=Z,162nm,20.8s,baz=327,slow=38
C36M Paulatuk 70.13 21 P **P** **05 15 05.6 +0.7**
C36M IAmb IAmb 05 15 07.7
comp=Z,2.4nm,0.9s
FINES FINESS Array B 71.33 330 LR LR 05 49 30.4
comp=Z,194nm,19.1s,baz=38,slow=38
RES Resolute Bay 73.89 11 LR LR 05 48 36.0
comp=Z,65nm,21.5s,baz=20,slow=36
AKASG Malin Array Be 74.18 319 LR LR 05 50 10.8
comp=Z,150nm,21.2s,baz=62,slow=38
JMIC Jan Mayen 76.73 347 LR LR 05 54 22.4
comp=Z,42nm,18.5s,baz=44,slow=40
YKA Yellowknife Ar 77.02 25 P **P** **05 15 45.1 -0.4**
comp=Z,1.7nm,0.9s,baz=302,slow=6.0,SNR=19
YKA LR LR 05 54 27.8
comp=Z,103nm,18.1s,baz=296,slow=39
comp=Z,1.7nm,0.9s
HFS Hagfors 77.27 332 LR LR 05 53 21.1
comp=Z,195nm,18.1s,baz=42,slow=38
MMAI Mount Meron Ar 77.44 301 LR LR 05 56 56.2
comp=Z,59nm,18.1s,baz=2.0,slow=41
NOA NORSAR Array B 77.74 334 LR LR 05 54 36.7
comp=Z,80nm,19.4s,baz=250,slow=39
MLR Muntele Rosu 78.46 315 LR LR 05 53 26.0
comp=Z,131nm,19.2s,baz=13,slow=38
KOLS Kolonicke sedl 78.99 320 *e*P **P** **05 15 55.9 -0.8**
EIL Elat 79.23 298 LR LR 05 55 48.5
comp=Z,53nm,18.8s,baz=65,slow=40
STHS Stebnicka Huta 79.33 321 *e*P **P** **05 15 56.5 -2.1**
CRVS Cervenica-Dubn 79.47 320 *e*P **P** **05 16 01.0 +1.6**
VRAC Vranov 81.96 322 LR LR 05 56 41.2
comp=Z,165nm,19.1s,baz=50,slow=39
GERES GERESS Array B 83.78 323 LR LR 05 57 31.0
comp=Z,211nm,18.8s,baz=29,slow=38
SFJD Kangerlussuaq 85.36 360 LR LR 05 55 24.5
comp=Z,93nm,20.2s,baz=26,slow=36
DAVOX Davos/Dischmat 87.09 323 LR LR 06 00 32.9
comp=Z,256nm,19.3s,baz=41,slow=39
FRB Frobisher Bay 87.68 7 LR LR 05 56 15.6
comp=Z,96nm,21.7s,baz=27,slow=36
NVAR Mina Array Bea 89.39 46 P **P** **05 16 52.7 +2.6**
comp=Z,0.3nm,0.3s,baz=289,slow=2.8,SNR=3.9
comp=Z,0.3nm,0.3s
PPT Papeete 91.53 109 LR LR 05 50 33.3
comp=Z,44nm,21.5s,baz=270,slow=30
PPT2 Papeete2 91.54 109 *e*LR LR 05 46 10.3
comp=Z,76nm,22.2s
PPT2 *e*LR LR 05 46 16.6
comp=Z,104nm,30.2s
PDAR Pinedale Array 91.89 39 P **P** **05 17 01.6 -0.1**
comp=Z,0.7nm,0.7s,baz=27,slow=0.3,SNR=5.0
comp=Z,0.7nm,0.7s
SCHQ Schefferville 96.56 9 LR LR 06 02 08.8
comp=Z,56nm,22.0s,baz=57,slow=36
ESDC Sonseca Array 99.28 325 LR LR 06 08 03.4
comp=Z,178nm,18.9s,baz=22,slow=39

NEIC ***10*** *05:08:51.2±1.6, 19°.45N±0°.03×155°.27W±0°.01, h5km±1km, Error ellipse: s-maj=5.4km s-min=1.9km az=199.0*
HVO 10 05:08:51.7±1.3, 19°.40N±0°.07×155°.27W±0°.02, h0km±9km, ML3.0/11, **ML2.0**/20(NEIC), **Error ellipse: s-maj=10.3km s-min=0.8km az=195.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.00**	**225**	Pg	Pg	05 08 52.2	+0.3
KKO	**Keanakako`i**	**0.01**	**87**		Pg	05 08 52.3	+0.3
NPH	**North Pit**	**0.02**	**329**		Pg	05 08 52.4	+0.2
BYL	**Byron's Ledge**	**0.02**	**37**	Pg	Pg	05 08 52.2	+0.1
OBL	**Observatory Le**	**0.02**	**330**	Pg	Pg	05 08 52.0	-0.2
SDHHI	**Sand Hill**	**0.02**	**249**		Pg	05 08 52.1	-0.1
HATHI	**Halema'uma'u T**	**0.03**	**22**	Pg	Pg	05 08 52.2	0.0
HATHI				IAML		05 08 52.3	
	comp=N,2µm,0.7s						
UWB	**Uwekahuna B**	**0.03**	**348**	Pg	Pg	05 08 52.2	-0.1
WRMHI	**West Rim**	**0.03**	**289**	Pg	Pg	05 08 52.1	-0.1
SBLHI	**Steaming Bluff**	**0.03**	**7**	Pg	Pg	05 08 51.4	-0.9
UWE	**Uwekahuna**	**0.03**	**319**	Pg	Pg	05 08 51.9	-0.4
PUH	**Pauahi**	**0.06**	**114**	Pg	Pg	05 08 52.7	-0.2
PUH				IAML		05 08 54.0	
	comp=N,1µm,0.5s						
RSD	**Rainshed**	**0.07**	**355**		Pg	05 08 51.9	-1.1
RSD				IAML		05 08 54.8	
	comp=N,1µm,0.7s						
KNHH	**Kane Nui o Ham**	**0.10**	**101**		Pg	05 08 54.9	+1.3
HLP	**Hilina Pali**	**0.11**	**199**	Pg	Pg	05 08 53.3	-0.5
HLP				IAML		05 08 54.3	
	comp=N,806nm,0.6s						
HLP				IAML		05 08 54.4	
	comp=E,850nm,0.8s						
STCH	**Steam Cracks**	**0.14**	**95**		Pg	05 08 54.1	-0.3
STCH				IAML		05 08 58.8	
	comp=E,498nm,0.4s						
STCH				IAML		05 08 59.2	
	comp=N,493nm,0.5s						
NPOC	**North of Pu'u**	**0.15**	**92**		Pg	05 08 54.6	-0.1
JCUZ	**Jacuzzi**	**0.16**	**95**		Pg	05 08 54.5	-0.3
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg	Pg	05 08 57.1	-0.1
HMH				IAML		05 08 58.9	
	comp=N,405nm,3.3s						
HMH				IAML		05 09 02.8	
	comp=E,190nm,1.4s						
MWH	**Moku'aweowe**	**0.32**	**286**	Pg	Pg	05 08 57.6	-0.3
KHU	**Kahuku**	**0.36**	**245**	Pg	Pg	05 08 58.5	-0.1
KHU				IAML		05 09 00.0	
	comp=N,296nm,3.8s						
HUH	**Hualalai**	**0.60**	**298**	Pg	Pg	05 09 02.9	-0.4

SNET ***10*** *05:09:25.5±1.0, 13°.26N×88°.06W, h8km±4km, ML2.8*
CATAC ***10*** *05:09:26.3±0.2, 13°.28N×88°.06W, h10km, ML2.6*
ISC 10 05:09:25.6±0.8, 13°.26N±0°.04×88°.06W±0°.02, h13km±5km, n38, σ0°52/58, 5C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.07**	**176**	⇓*i* P	**Pg**	**05 09 27.9**	**-0.3**
INTP				*e*S	**Sg**	**05 09 29.6**	**-0.5**
LCND	**La Caada**	**0.17**	**74**	⇑*i* P	**Pg**	**05 09 29.7**	**+0.2**
LCND	**La Caada**	**0.17**	**74**	*i* P	**Pg**	**05 09 29.9**	**+0.3**
LCND				*i* S	**Sg**	**05 09 32.7**	**+0.4**
LCND				IAML		05 09 34.0	
	comp=Z,3µm,1.0s						
JUCU	**Jucuarn**	**0.18**	**267**	⇑*e* P	**Pg**	**05 09 30.1**	**+0.2**
JUCU				*e*S	**Sg**	**05 09 33.2**	**+0.4**
JUCU	**Jucuarn**	**0.18**	**267**	*i* P	**Pg**	**05 09 30.2**	**+0.3**
JUCU				*i* S	**Sg**	**05 09 33.2**	**+0.4**
JUCU				IAML		05 09 35.4	
	comp=Z,1µm,1.0s						
CNCH	**Conchagua**	**0.22**	**86**	⇑*i* P	**Pg**	**05 09 30.7**	**+0.3**
CNCH				*e*S	**Sg**	**05 09 34.4**	**+0.7**
CNCH	**Conchagua**	**0.22**	**86**	*i* P	**Pg**	**05 09 30.7**	**+0.3**
CNCH				*i* S	**Sg**	**05 09 34.7**	**+0.9**

CNCH			IAML		05 09 40.4	
	comp=Z,3μm,1.0s					
CNRM	**Centro Naciona**	**0.24 333**	*i* P	**Pg**	**05 09 30.1**	**-0.6**
CNRM			*i* S	**Sg**	**05 09 34.7**	**+0.6**
CNRM			IAML		05 09 36.5	
	comp=Z,5μm,1.0s					
BLLM	**Bellamira**	**0.25 316**⇑	*i* P	**Pg**	**05 09 31.4**	**+0.4**
VSM	**San Miguel**	**0.27 308**	*e*P	**Pb**	**05 09 32.2**	**-0.3**
LCY	**Lacayo**	**0.28 305**	*e*P	**Pg**	**05 09 32.0**	**+0.5**
RANC	**El Ranchito**	**0.28 307**⇑	*i*P	**Pg**	**05 09 32.1**	**+0.5**
RANC	**El Ranchito**	**0.28 307**	*i* P	**Pg**	**05 09 32.1**	**+0.5**
RANC			*i* S	**Sb**	**05 09 36.7**	**-0.7**
RANC			IAML		05 09 47.2	
	comp=Z,730nm,1.0s					
PACA	**Pacayal**	**0.33 309**	*e*P	**Pg**	**05 09 32.9**	**+0.4**
PACA	**Pacayal**	**0.33 309**	*i* P	**Pg**	**05 09 33.0**	**+0.6**
PACA			*i* S	**Sb**	**05 09 38.3**	**-0.5**
PACA			IAML		05 09 51.6	
	comp=Z,4μm,1.0s					
TECA	**Tecapa**	**0.49 298**	*e*P	**Pg**	**05 09 35.9**	**+0.5**
COEB	**Comit de Eme**	**0.52 297**⇓	*e*P	**Pg**	**05 09 36.2**	**+0.3**
COEB			*e*S	**Sg**	**05 09 43.6**	**+0.9**
COEB	**Comit de Eme**	**0.52 297**	*i* P	**Pg**	**05 09 36.1**	**+0.3**
COEB			*i* S	**Sb**	**05 09 43.7**	**-0.4**
COEB			IAML		05 09 46.6	
	comp=Z,230nm,1.0s					
TECO	**Alcaldia de Te**	**0.75 291**	*e*P	**Pg**	**05 09 40.2**	**-0.1**
TECO			*e*S	**Sg**	**05 09 50.6**	**+0.4**
TECO	**Alcaldia de Te**	**0.75 291**	*i* P	**Pg**	**05 09 40.1**	**-0.1**
TECO			*i* S	**Sg**	**05 09 50.6**	**+0.4**
TECO			IAML		05 09 51.5	
	comp=Z,180nm,1.0s					
SCLA	**Alcaldia de Sa**	**0.78 304**	*e*P	**Pg**	**05 09 40.9**	**0.0**
SCLA	**Alcaldia de Sa**	**0.78 304**	*i* P	**Pb**	**05 09 41.3**	**+0.1**
SCLA			*i* S	**Sg**	**05 09 51.6**	**+0.4**
SCLA			IAML		05 10 04.3	
	comp=Z,47nm,1.0s					
UESV	**Universidad de**	**0.80 298**	*e*P	**Pg**	**05 09 41.3**	**+0.1**
UESV	**Universidad de**	**0.80 298**	*i* P	**Pg**	**05 09 41.2**	**0.0**
UESV			IAML		05 09 53.8	
	comp=Z,180nm,1.0s					
COEG	**Centro de Oper**	**0.88 294**	*e*P	**Pg**	**05 09 42.5**	**-0.1**
COEG			*e*S	**Sb**	**05 09 54.7**	**+0.3**
COEG	**Centro de Oper**	**0.88 294**	*i* P	**Pg**	**05 09 42.5**	**-0.1**
COEG			*i* S	**Sb**	**05 09 54.5**	**0.0**
COEG			IAML		05 09 57.6	
	comp=Z,230nm,1.0s					
PAVA	**Las Pavas**	**0.96 298**	*i* P	**Pg**	**05 09 44.3**	**0.0**
PAVA			*i* S	**Sb**	**05 09 57.7**	**+0.6**
PAVA			IAML		05 09 59.8	
	comp=Z,480nm,1.0s					
TGUH	**Tegucigalpa,Un**	**1.10 44**	*e*P	**Pb**	**05 09 45.9**	**-0.7**
CRIN	**San Cristobal**	**1.13 120**	*i* P	**Pg**	**05 09 47.8**	**+0.3**
CRIN			*i* S	**Sn**	**05 10 04.1**	**+1.3**
CRIN			IAML		05 10 07.1	
	comp=Z,220nm,1.0s					
LOMA	**Loma Larga**	**1.15 289**	*i* P	**Pb**	**05 09 47.6**	**+0.1**
LOMA			*i* S	**Sn**	**05 10 03.4**	**+0.1**
LOMA			IAML		05 10 05.7	
	comp=Z,300nm,1.0s					
LLGN	**La Laguna**	**1.24 316**	*i* P	**Pn**	**05 09 48.2**	**-0.7**
LLGN			IAML		05 10 59.3	
	comp=Z,490nm,1.0s					
ROCN	**Rota Cerro Neg**	**1.48 120**	*i* P	**Pg**	**05 09 53.8**	**-0.3**
ROCN			IAML		05 10 27.5	
	comp=Z,31nm,1.0s					
CNGA	**Al SSO del Vol**	**1.53 120**	*i* P	**Pn**	**05 09 51.3**	**-1.5**
CNGA			IAML		05 10 21.4	
	comp=Z,44nm,1.0s					
CNGN	**Cerro Negro**	**1.53 120**	*i* P	**Pn**	**05 09 52.6**	**-0.2**
CNGN			IAML		05 10 27.2	
	comp=Z,65nm,1.0s					
MACN	**El Madrono**	**1.56 120**	*i* P	**Pb**	**05 09 54.9**	**+0.4**
MACN			IAML		05 10 23.2	
	comp=Z,27nm,1.0s					
MTO3	**Montecristo**	**1.70 312**	*e*P	**Pb**	**05 09 56.3**	**-0.6**
MTO3	**Montecristo**	**1.70 312**	*i* P	**Sn**	**05 10 17.8**	**+0.8**
MTO3			IAML		05 10 19.9	
	comp=Z,31nm,1.0s					
NUBE	**Las Nubes**	**1.79 291**	*i* P	**Pb**	**05 09 58.4**	**-0.1**
NUBE			*i* S	**Sb**	**05 10 20.4**	**-0.5**
NUBE			IAML		05 10 26.6	
	comp=Z,61nm,1.0s					

NEIC ***10*** *05:15:48.6±1.2, 19°.39N±0°.01×155°.05W±0°.03, h5km±1km, Error ellipse: s-maj=4.8km s-min=2.8km az=289.0*
HVO 10 05:15:47.6±1.3, 19°.38N±0°.02×155°.01W±0°.03, h1km±8km, ML2.5/9, ML2.9/28(NEIC), Error ellipse: s-maj=4.0km s-min=2.5km az=123.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.06**	**9**		Pg	05 15 49.8	+0.9
JCUZ	**Jacuzzi**	**0.08**	**276**		Pg	05 15 50.0	+0.7
NPOC	**North of Pu'u**	**0.09**	**281**		Pg	05 15 50.2	+0.8
NPOC				IAML		05 15 52.5	
	comp=E,6μm,0.4s						
STCH	**Steam Cracks**	**0.10**	**275**		Pg	05 15 50.3	+0.6
STCH				IAML		05 15 52.3	
	comp=E,4μm,0.2s						
PAH	**Pahoa**	**0.14**	**28**		Pg	05 15 53.5	+3.3
KNHH	**Kane Nui o Ham**	**0.15**	**271**		Pg	05 15 50.9	+0.5
PUH	**Pauahi**	**0.19**	**269**	Pg	Pg	05 15 51.5	+0.2
HATHI	**Halema'uma'u T**	**0.24**	**281**	Pg	Pg	05 15 52.6	+0.4
HATHI					Sg	05 15 57.0	+1.7
SBLHI	**Steaming Bluff**	**0.24**	**282**	Pg	Pg	05 15 53.0	+0.6
SBLHI				IAML		05 16 00.1	
	comp=E,4μm,0.4s						
RSD	**Rainshed**	**0.26**	**289**		Pg	05 15 53.4	+0.7
RSD				IAML		05 15 57.8	
	comp=N,2μm,0.5s						
RSD					Sg	05 15 57.9	+1.8
RSD				IAML		05 15 58.3	
	comp=E,2μm,0.2s						
HLP	**Hilina Pali**	**0.29**	**254**		Pg	05 15 53.8	+0.6
HLP				IAML		05 15 59.3	
	comp=E,2μm,0.3s						
HLP				IAML		05 15 59.4	
	comp=N,2μm,0.1s						
MLH	**Mauna Loa**	**0.37**	**289**	Pg	Pg	05 15 55.3	+0.6
MLH				IAML		05 16 01.6	
	comp=E,1μm,0.5s						
MLH				IAML		05 16 05.3	
	comp=N,1μm,0.3s						
HMH	**Humu'ula Sheep**	**0.50**	**297**	Pg	Pg	05 15 57.5	+0.3
HMH					Sg	05 16 05.0	+1.3
HMH				IAML		05 16 11.5	
	comp=E,1μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.55**	**287**	Pg	Pg	05 15 57.9	-0.4
MWH	**Moku'aweowe**	**0.56**	**281**	Pg	Pg	05 15 58.0	-0.4
MWH				IAML		05 16 07.5	
	comp=N,795nm,0.6s						
MWH				IAML		05 16 07.6	
	comp=E,909nm,0.7s						
KHU	**Kahuku**	**0.58**	**257**	Pg	Pg	05 15 58.5	-0.3
KHU				IAML		05 16 08.0	
	comp=E,385nm,0.3s						
ALEP	**Alea Permanent**	**0.62**	**286**		Pg	05 15 58.7	-0.8
POHA	**Pohakuloa**	**0.62**	**308**		Pg	05 15 59.1	-0.4
POHA	**Pohakuloa**	**0.62**	**308**	IAML		05 16 09.6	
	comp=E,993nm,0.2s						

NOU ***10*** *05:16:38.3, 21°.94S×170°.36E, h0km, MLv4.0/9, Southeast of Loyalty Islands*
NEIC ***10*** *05:16:42.3±1.4, 21°.92S±0°.05×170°.02E±0°.08, h10km±1km, mb4.2/10, Error ellipse: s-maj=12.1km s-min=8.8km az=82.0*
IDC ***10*** *05:16:44.7±3.2, 20°.73S×169°.46E, h0km, mb3.8/5, mbtmp3.9/6, ML3.8/1, MS3.4/3, Error ellipse: s-maj=134.0km s-min=24.6km az=148.0*
ISC 10 05:16:44.2±0.7, 21°.8S±0°.1×170°.06E±0°.07, h25km, n42, σ1s05/40, mb4.2/11, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.92**	**280**	P	**Pn**	**05 17 15.9**	**+0.6**
MARNC	**Mare, Loyalty**	**1.92**	**280**		**Pn**	**05 17 15.7**	**+0.4**
PINNC	**Pines Island,**	**2.54**	**252**	P	**Pn**	**05 17 23.7**	**-0.1**
PINNC	**Pines Island,**	**2.54**	**252**		**Pn**	**05 17 23.6**	**-0.1**
LIFNC	**LIFOU**	**2.83**	**291**	P	**Pn**	**05 17 28.3**	**+0.5**
LIFNC	**LIFOU**	**2.83**	**291**		**Pn**	**05 17 27.4**	**-0.4**
OUENC	**Ouen Island, N**	**3.04**	**258**	P	**Pn**	**05 17 31.1**	**+0.5**
OUENC	**Ouen Island, N**	**3.04**	**258**	P	**Pb**	**05 17 38.4**	**+0.9**
OUENC	**Ouen Island, N**	**3.04**	**258**		**Pn**	**05 17 31.3**	**+0.7**
DZM	**Mont Dzumac**	**3.36**	**265**	P	**Pn**	**05 17 36.0**	**+0.8**
DZM	**Mont Dzumac**	**3.36**	**265**	P	**Pn**	**05 17 36.5**	**+1.3**
DZM	**Mont Dzumac**	**3.36**	**265**		**Pn**	**05 17 34.4**	**-0.8**
DZM	**Mont Dzumac**	**3.36**	**265**	Pn	**Pn**	**05 17 36.0**	**+0.8**
DZM	13nm,0.3s,baz=86,slow=19,SNR=167			Sn	**Sn**	**05 18 14.6**	**+0.2**
	6.5nm,0.3s,baz=73,slow=16,SNR=3.8 33nm,0.3s						
ONTNC	**Ouen Toro**	**3.37**	**261**	P	**Pn**	**05 17 36.0**	**+0.7**
ONTNC	**Ouen Toro**	**3.37**	**261**	P	**Pn**	**05 17 37.4**	**+2.1**
ONTNC	**Ouen Toro**	**3.37**	**261**		**Pn**	**05 17 34.6**	**-0.7**
NOUC	**Port Laguerre**	**3.49**	**265**	P	**Pn**	**05 17 37.4**	**+0.5**
NOUC	**Port Laguerre**	**3.49**	**265**	P	**Pn**	**05 17 38.1**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.54**	**282**	P	**Pn**	**05 18 06.9**	**+1.9**
KOUNC	**Koumac, New Ca**	**5.54**	**282**		**Pn**	**05 18 04.1**	**-0.9**
MSVF	**Nonsavu**	**8.56**	**63**		**Pn**	**05 18 47.4**	**+0.7**
URZ	**Urewera**	**17.45**	**161**	LR	LR	05 26 53.8	
	comp=Z,90nm,18.7s,baz=28,slow=33						
PMG	**Port Moresby**	**25.23**	**296**	P	**P**	**05 22 07.5**	**-0.8**
WR0	**Warramunga Arr**	**33.19**	**267**	P	**P**	**05 23 16.9**	**-2.2**
WR0				IAmb	IAmb	05 23 42.1	
	comp=Z,4.0nm,1.0s						
AS31	**Alice Springs**	**33.33**	**260**	P	**P**	**05 23 18.6**	**-1.8**
AS31				IAmb	IAmb	05 23 42.1	
	comp=Z,1.1nm,0.9s						
ASAR	**Alice Springs**	**33.34**	**260**	P	**P**	**05 23 21.0**	**+0.6**
	comp=Z,0.5nm,0.7s,baz=88,slow=9.0,SNR=3.0 comp=Z,0.5nm,0.7s						
WB0	**Warramunga Arr**	**33.36**	**267**	P	**P**	**05 23 19.4**	**-1.3**
WB0				IAmb	IAmb	05 23 27.8	
	comp=Z,2.9nm,0.9s						
WB2	**Warramunga Arr**	**33.37**	**267**	P	**P**	**05 23 19.3**	**-1.4**
WB2				IAmb	IAmb	05 23 34.6	
	comp=Z,4.7nm,1.0s						
WRA	**Warramunga Arr**	**33.38**	**267**	P	**P**	**05 23 19.4**	**-1.4**
WRA	**Warramunga Arr**	**33.38**	**267**	P	**P**	**05 23 20.5**	**-0.3**
	comp=Z,0.7nm,0.4s,baz=100,slow=8.2,SNR=10 comp=Z,0.7nm,0.4s						
TOLI2	**Tolitoli**	**53.21**	**289**	P	**P**	**05 26 01.4**	**+0.6**
VNDA	**Vanda**	**55.87**	**182**	P	**P**	**05 26 19.0**	**-0.2**
SBA	**Scott Base**	**56.09**	**181**	P	**P**	**05 26 20.1**	**-0.6**
SBA				IAmb	IAmb	05 26 26.7	
	comp=Z,2.0nm,0.9s						
QSPA	**South Pole Qui**	**68.23**	**180**	P	**P**	**05 27 42.8**	**+0.3**
QSPA				IAmb	IAmb	05 28 01.6	
	comp=Z,3.3nm,1.1s						
ASAJ	**Asahikawa**	**70.29**	**339**	LR	LR	05 54 41.5	
	comp=Z,28nm,18.7s,baz=170,slow=33						
CMAR	**Chiang Mai Arr**	**80.27**	**294**	P	**P**	**05 28 52.3**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=121,slow=6.4,SNR=1.1 comp=Z,0.7nm,0.3s						
MA2	**Magadan**	**82.65**	**350**	LR	LR	06 00 08.2	
	comp=Z,32nm,20.2s,baz=138,slow=32						
SONM	**Songino Array**	**89.75**	**323**	P	**P**	**05 29 40.6**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=152,slow=6.5,SNR=2.0 comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**92.48**	**17**	P	**P**	**05 29 51.9**	**-0.6**
	comp=Z,0.1nm,0.5s,baz=232,slow=5.4,SNR=4.2 comp=Z,0.1nm,0.5s						
ARCES	**ARCESS Array B**	**127.77**	**345**	PKP	**PKiKP**	**05 35 49.6**	**+2.3**
	comp=Z,2.5nm,0.9s,baz=24,slow=1.1,SNR=3.8						
EKA	**Eskdalemuir Ar**	**146.17**	**353**	PKPbc	**PKPbc**	**05 36 21.8**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=359,slow=2.7,SNR=11						
GERES	**GERESS Array B**	**147.13**	**331**	PKPbc	**PKPab**	**05 36 26.1**	**-0.6**
	comp=Z,2.5nm,1.1s,baz=63,slow=0.2,SNR=5.2						

SNET ***10*** *05:18:14.8±1.0, 13°.23N×88°.06W, h9km±4km, ML2.6*
CATAC ***10*** *05:18:16.0±0.3, 13°.25N×88°.02W, h2km±1km, ML2.2*
ISC 10 05:18:15.5±0.9, 13°.22N±0°.05×88°.04W±0°.02, h10km±6km, n27, σ0s55/38, 3C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.03**	**201**⇓	*i*P	**Pg**	**05 18 16.9**	**-0.5**
INTP				*e*S	**Sg**	**05 18 18.4**	**-0.3**
INTP				IAML		05 18 19.5	
	comp=Z,799nm,0.5s						
LCND	**La Caada**	**0.17**	**60**⇑	*i*P	**Pg**	**05 18 19.0**	**-0.3**
LCND				IAML		05 18 23.6	
	comp=Z,592nm,0.2s						
LCND	**La Caada**	**0.17**	**60**	*i* P	**Pg**	**05 18 19.2**	**-0.1**
LCND				IAML		05 18 23.8	
	comp=Z,650nm,1.0s						
JUCU	**Jucuarįn**	**0.20**	**279**⇑	*i*P	**Pg**	**05 18 19.5**	**-0.3**
JUCU				*e*S	**Sg**	**05 18 22.9**	**+0.2**
JUCU				IAML		05 18 26.9	
	comp=Z,448nm,0.2s						
JUCU	**Jucuarįn**	**0.20**	**279**	*i* P	**Pg**	**05 18 19.5**	**-0.3**
JUCU				*i* S	**Sg**	**05 18 23.7**	**+1.0**
JUCU				IAML		05 18 26.5	
	comp=Z,340nm,1.0s						
CNCH	**Conchagua**	**0.21**	**75**⇑	*i*P	**Pg**	**05 18 20.0**	**0.0**
CNCH				*e*S	**Sg**	**05 18 23.8**	**+0.7**
CNCH				IAML		05 18 26.5	
	comp=Z,1μm,0.4s						
CNCH	**Conchagua**	**0.21**	**75**	*i* P	**Pg**	**05 18 20.0**	**0.0**
CNCH				*i* S	**Sg**	**05 18 23.7**	**+0.6**
CNCH				IAML		05 18 26.2	
	comp=Z,1μm,1.0s						
CNRM	**Centro Naciona**	**0.28**	**334**	*i* P	**Pg**	**05 18 20.5**	**-0.7**
CNRM				*i* S	**Sg**	**05 18 24.6**	**-0.4**
CNRM				IAML		05 18 28.1	
	comp=Z,3μm,1.0s						
BLLM	**Bellamira**	**0.29**	**319**	*e*P	**Pg**	**05 18 20.9**	**-0.4**
VSM	**San Miguel**	**0.30**	**312**	*e*P	**Pg**	**05 18 21.8**	**+0.1**
LCY	**Lacayo**	**0.32**	**309**	*e*P	**Pg**	**05 18 21.6**	**-0.3**
RANC	**El Ranchito**	**0.32**	**311**	*e*P	**Pg**	**05 18 21.7**	**-0.3**
RANC				IAML		05 18 31.6	
	comp=Z,260nm,0.3s						
RANC	**El Ranchito**	**0.32**	**311**	*i* P	**Pg**	**05 18 21.7**	**-0.3**
RANC				*i* S	**Sg**	**05 18 26.7**	**+0.5**
RANC				IAML		05 18 28.9	
	comp=Z,260nm,1.0s						
PACA	**Pacayal**	**0.37**	**312**	*e*P	**Pg**	**05 18 23.1**	**+0.3**
PACA				IAML		05 18 32.1	
	comp=Z,44μm,0.1s						
PACA	**Pacayal**	**0.37**	**312**	*i* P	**Pb**	**05 18 24.2**	**0.0**
PACA				*i* S	**Sg**	**05 18 28.0**	**+0.3**
PACA				IAML		05 18 33.2	
	comp=Z,2μm,1.0s						
COEB	**Comit de Eme**	**0.55**	**300**	*i* P	**Pg**	**05 18 26.1**	**-0.1**
COEB				*i* S	**Sg**	**05 18 33.4**	**0.0**
COEB				IAML		05 18 35.1	
	comp=Z,87nm,1.0s						
TECO	**Alcaldia de Te**	**0.78**	**294**	*e*S	**Sg**	**05 18 40.9**	**0.0**
TECO	**Alcaldia de Te**	**0.78**	**294**	*i* P	**Pg**	**05 18 30.0**	**-0.6**
TECO				IAML		05 18 42.9	
	comp=Z,45nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.82**	**306**	*i* P	**Pg**	**05 18 31.0**	**-0.3**
SCLA				IAML		05 18 47.9	
	comp=Z,19nm,1.0s						
COEG	**Centro de Oper**	**0.90**	**296**	*e*S	**Sg**	**05 18 44.8**	**0.0**
COEG	**Centro de Oper**	**0.90**	**296**	*i* P	**Pg**	**05 18 32.0**	**-1.0**
COEG				IAML		05 18 47.5	
	comp=Z,50nm,1.0s						
PAVA	**Las Pavas**	**1.00**	**299**	*i* P	Pn	05 18 47.9	+12
PAVA				IAML		05 18 49.9	
	comp=Z,130nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.12**	**42**	*e*P	**Pg**	**05 18 35.7**	**-1.4**
CNGA	**Al SSO del Vol**	**1.50**	**119**	*i* P	**Pn**	**05 18 41.2**	**-1.3**
CNGA				*i* S	**Sn**	**05 19 02.4**	**+0.3**
CNGA				IAML		05 19 06.0	
	comp=Z,26nm,1.0s						
MACN	**El Madrono**	**1.53**	**119**	*i* P	**Pn**	**05 18 43.6**	**+0.6**
MACN				*i* S	**Sn**	**05 19 03.5**	**+0.5**
MACN				IAML		05 19 09.1	
	comp=Z,13nm,1.0s						
MTO3	**Montecristo**	**1.73**	**313**	*i* P	**Pn**	**05 18 46.3**	**+0.4**
MTO3				IAML		05 19 09.7	
	comp=Z,20nm,1.0s						
ESQI	**Esquipulas**	**1.83**	**317**	*i* P	**Pn**	**05 18 47.8**	**+0.6**
ESQI				IAML		05 18 48.9	
	comp=Z,180nm,1.0s						
ESQI				*i* S	**Sn**	**05 19 10.5**	**0.0**

IDC ***10*** *05:31:28.5±1.1, 6°.29S×143°.68E, h0km, mb4.0/4, mbtmp4.0/6, ML1.9/1, Error ellipse: s-maj=38.9km s-min=24.2km az=78.0*
ISC 10 05:31:33.0±0.9, 6°.60S±0°.09×143°.37E±0°.10, h35km, n7, σ2s48/10, mb4.0/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.67**	**127**	Pn	**Pn**	**05 32 41.0**	**-0.1**
	3.7nm,0.3s,baz=319,slow=11,SNR=2.6						
PMG				Sn	**Sn**	**05 33 33.7**	**-0.4**
	3.6nm,0.3s,baz=21,slow=14,SNR=2.3 9.4nm,0.3s						
WRA	**Warramunga Arr**	**15.90**	**213**	Pn	**P**	**05 35 15.8**	**-1.8**
	0.2nm,0.3s,baz=22,slow=13,SNR=11						
WRA				Sn	**Sn**	**05 38 06.0**	**-3.5**
	0.2nm,0.3s,baz=18,slow=22,SNR=2.1						
WRA				Lg	Lg	05 40 03.0	
	0.1nm,0.3s,baz=26,slow=23,SNR=4.6						
ASAR	**Alice Springs**	**19.25**	**207**	P	**Pn**	**05 36 00.2**	**+4.4**
	6.1nm,0.8s,baz=35,slow=9.5,SNR=54						
ASAR				S	**S**	**05 39 30.3**	**-0.7**
	0.6nm,0.6s,baz=20,slow=25,SNR=2.3						
PETK	**Petropavlovsk-**	**60.71**	**10**	P	**P**	**05 41 39.1**	**-1.8**
	3.3nm,0.9s,baz=169,slow=8.5,SNR=4.0 3.3nm,0.9s						
MKAR	**Makanchi Array**	**75.69**	**322**	P	**P**	**05 43 15.9**	**+1.0**
	0.7nm,0.8s,baz=99,slow=6.6,SNR=4.2 0.7nm,0.8s						
QSPA	**South Pole Qui**	**83.37**	**180**	P	**P**	**05 43 58.2**	**+1.8**
	1.5nm,0.8s,baz=335,slow=1.1,SNR=5.6 1.5nm,0.8s						
ILAR	**Eielson Array**	**87.47**	**24**	P	**P**	**05 44 16.0**	**-0.7**
	0.8nm,1.0s,baz=263,slow=4.7,SNR=2.0 0.8nm,1.0s						

NOU ***10*** *05:40:41.3, 37°.87S×176°.32E, h244km, mb3.9/9, North Island, New Zealand*
WEL ***10*** *05:40:50.2±1.1, 38°.5±7°×17°.6E±°, h161km±9km, M2.7/22, MLv2.7/22, Error ellipse: s-maj=0.0km s-min=0.0km az=3.2, confirmed*
ISC 10 05:40:43.4±1.9, 38°.04S±0°.07×176°.11E±0°.06, h216km±10km, n130, σ2s07/139, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMRZ	**Omania**	**0.21**	**109**	P	**Pn**	**05 41 13.0**	**+1.3**
KMRZ	**Kaimai**	**0.23**	**325**	P	**Pn**	**05 41 13.0**	**+1.3**
WPRZ	**Whakapapatarin**	**0.48**	**175**	P	**Pn**	**05 41 14.4**	**+2.1**
TLZ	**Tolley Road**	**0.54**	**237**	P	**Pn**	**05 41 14.0**	**+1.5**
TOZ	**Tahuroa Road**	**0.57**	**302**	P	**Pn**	**05 41 14.0**	**+1.4**
MUGZ	**Murupara**	**0.68**	**131**	P	**Pn**	**05 41 14.4**	**+1.3**
MUGZ				S	**S**	**05 41 32.9**	**-3.4**
URZ	**Urewera**	**0.82**	**106**	P	**Pn**	**05 41 14.8**	**+1.2**
URZ	**Urewera**	**0.82**	**106**	P	**Pn**	**05 41 14.9**	**+1.2**
URZ				S	**S**	**05 41 34.7**	**-2.6**
MRHZ	**Matea Rd**	**0.83**	**163**	P	**Pn**	**05 41 15.6**	**+1.7**
MRHZ				S	**S**	**05 41 35.0**	**-2.7**
RATZ	**Rangitukua**	**0.87**	**198**	P	**Pn**	**05 41 15.8**	**+1.7**
RTZ	**Ruatahuna**	**0.89**	**130**	P	**Pn**	**05 41 15.9**	**+1.6**
RTZ				S	**S**	**05 41 36.5**	**-1.8**
KATZ	**Kakaramea**	**0.99**	**199**	P	**Pn**	**05 41 17.1**	**+2.2**
MTHZ	**Maungataniwha**	**0.99**	**145**	P	**Pn**	**05 41 16.7**	**+1.9**
MTHZ				S	**S**	**05 41 37.4**	**-1.9**
HIZ	**Hauiti**	**1.10**	**244**	P	**Pn**	**05 41 17.5**	**+2.1**
HIZ	**Hauiti**	**1.10**	**244**	P	**Pn**	**05 41 17.5**	**+2.1**
NTVZ	**North Tongarir**	**1.11**	**198**	P	**Pn**	**05 41 17.8**	**+2.1**
KRVZ	**Karewarewa**	**1.12**	**199**	P	**Pn**	**05 41 17.7**	**+2.0**
RAGZ	**Rawiri**	**1.12**	**114**	P	**Pn**	**05 41 17.6**	**+1.9**
RAGZ				S	**S**	**05 41 39.3**	**-1.5**
TMVZ	**Te Maari**	**1.12**	**196**	P	**Pn**	**05 41 17.7**	**+2.0**
ETVZ	**East Tongariro**	**1.14**	**196**	P	**Pn**	**05 41 18.0**	**+2.1**
WTVZ	**West Tongariro**	**1.15**	**201**	P	**Pn**	**05 41 18.0**	**+2.1**
MWZ	**Matawai**	**1.15**	**105**	P	**Pn**	**05 41 17.4**	**+1.6**
MWZ				S	**S**	**05 41 39.4**	**-1.7**
NNVZ	**North Ngauruho**	**1.16**	**199**	P	**Pn**	**05 41 18.3**	**+2.2**
TWVZ	**Taurewa**	**1.16**	**207**	P	**Pn**	**05 41 18.1**	**+2.1**
RAHZ	**Arahi**	**1.16**	**139**	P	**Pn**	**05 41 18.3**	**+2.4**
RAHZ				S	**S**	**05 41 40.2**	**-1.0**
BKZ	**Black Stump Fm**	**1.17**	**165**	P	**Pn**	**05 41 17.9**	**+1.9**
BKZ	**Black Stump Fm**	**1.17**	**165**	P	**Pn**	**05 41 17.8**	**+1.9**
OTVZ	**Oturere**	**1.18**	**197**	P	**Pn**	**05 41 18.4**	**+2.2**
NMHZ	**Naumai**	**1.19**	**153**	P	**Pn**	**05 41 19.3**	**+3.1**
MKAZ	**Moumakai**	**1.20**	**321**	P	**Pn**	**05 41 18.0**	**+1.8**
NGZ	**Ngauruhoe**	**1.21**	**199**	P	**Pn**	**05 41 18.6**	**+2.3**
SNVZ	**South Ngauruho**	**1.21**	**198**	P	**Pn**	**05 41 18.5**	**+2.1**
SNGZ	**Shannon Statio**	**1.22**	**128**	P	**Pn**	**05 41 18.7**	**+2.4**
RUGZ	**Raukumara Rang**	**1.24**	**87**	P	**Pn**	**05 41 17.3**	**+0.7**
RUGZ				S	**S**	**05 41 39.7**	**-2.5**
COVZ	**Chateau Observ**	**1.24**	**201**	P	**Pn**	**05 41 18.8**	**+2.2**
TUVZ	**Tukino**	**1.28**	**196**	P	**Pn**	**05 41 19.1**	**+2.3**
FWVZ	**Far West T-bar**	**1.29**	**200**	P	**Pn**	**05 41 19.1**	**+2.1**
MAVZ	**Matarangi**	**1.30**	**199**	P	**Pn**	**05 41 19.8**	**+2.5**
WHVZ	**Whangaehu Hut**	**1.31**	**198**	P	**Pn**	**05 41 19.4**	**+2.2**
TRVZ	**Turoa**	**1.33**	**199**	P	**Pn**	**05 41 19.6**	**+2.2**
WNVZ	**Wahianoa**	**1.35**	**197**	P	**Pn**	**05 41 19.5

MRNZ	**Matariki Terra**	**4.24 217**	P	**Pn**	**05 41 49.2**	**+0.6**
THZ	**Tophouse**	**4.46 213**	P	**Pn**	**05 41 52.6**	**+1.2**
KHZ	**Kahutara**	**4.80 203**	P	**Pn**	**05 41 56.8**	**+1.3**
KHZ	**Kahutara**	**4.80 203**	P	**Pn**	**05 41 56.7**	**+1.3**
DSZ	**Denniston Nort**	**4.97 220**	P	**Pn**	**05 41 58.4**	**+0.6**
GVZ	**Greta Valley S**	**5.45 204**	P	**Pn**	**05 42 04.7**	**+0.9**
LTZ	**Lake Taylor**	**5.57 211**	P	**Pn**	**05 42 06.0**	**+0.6**
INZ	**Inchbonnie**	**5.88 216**	P	**Pn**	**05 42 09.7**	**+0.5**
OXZ	**Oxford**	**6.12 209**	P	**Pn**	**05 42 12.4**	**+0.1**
MQZ	**McQueen's Vall**	**6.24 204**	P	**Pn**	**05 42 13.5**	**-0.3**
AKCZ	**Akaroa Harbour**	**6.31 202**	P	**Pn**	**05 42 15.2**	**+0.4**
MHCZ	**Mount Hutt**	**6.48 211**	P	**Pn**	**05 42 17.8**	**+0.8**
WACZ	**Wakanui South**	**6.73 207**	P	**Pn**	**05 42 20.5**	**+0.5**
RPZ	**Rata Peaks**	**6.84 212**	P	**Pn**	**05 42 23.2**	**+1.6**
RPZ	**Rata Peaks**	**6.84 212**	P	**Pn**	**05 42 22.6**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**6.87 218**	P	**Pn**	**05 42 22.3**	**+0.5**
ARCZ	**Arundel**	**6.98 211**	P	**Pn**	**05 42 24.1**	**+0.7**
FOZ	**Fox Glacier**	**7.28 219**	P	**Pn**	**05 42 28.1**	**+1.0**
TMZ	**Timaru**	**7.42 210**	P	**Pn**	**05 42 29.7**	**+0.8**
ODZ	**Otahua Downs**	**8.11 209**	P	**Pn**	**05 42 38.9**	**+1.0**

*NEIC **10** 05:52:48.0±1.1,46.70N×0.01×121.05W×0.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.1km az=223.0*
*SEA **10** 05:52:48.7±1.4,46.70N±0.01×121.06W±0.02, h-2km±7km, ML1.8/19,ML2.0/46(NEIC),Error ellipse: s-maj=1.9km s-min=1.5km az=181.0*

PNSN 10 05:52:48.7, 46.70N×121.06W, h4km, MD1.8, Fault plane solution: NP1:φ80.00000°,δ25.00000°,λ60.00000°., Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAC	**Naches**	**0.17**	**78**		Pg	05 52 52.2	+0.2
YA2	**Yakima**	**0.41**	**115**		Pg	05 52 56.6	0.0
RCM	**Mount Rainier-**	**0.48**	**287**		Pg	05 52 57.8	-0.1
RCM					Sg	05 53 04.9	+0.7
RCS	**Mount Rainier-**	**0.49**	**291**		Pg	05 52 58.0	-0.1
LON	**Longmire**	**0.52**	**276**		Pg	05 52 58.0	-0.6
LON				Sg	Sg	05 53 04.8	-0.5
LON	**Longmire**	**0.52**	**276**		Pg	05 52 58.0	-0.6
TRW	**Toppenish Ridg**	**0.54**	**138**		Pg	05 52 59.0	-0.1
MXC	**Moxie City**	**0.55**	**103**		Pg	05 52 59.0	-0.2
MXC	**Moxie City**	**0.55**	**103**	Sg	Sg	05 53 06.7	+0.4
MXC				IAML		05 53 06.9	
	comp=N,144nm,0.3s						
MXC				IAML		05 53 07.1	
	comp=E,77nm,0.2s						
REMR	**Mount Rainier-**	**0.55**	**283**		Pg	05 52 58.9	-0.4
OBSR	**Observation Ro**	**0.55**	**292**		Pg	05 52 59.1	-0.2
TBM	**Table Mountain**	**0.57**	**34**		Pg	05 52 59.8	+0.2
LTY	**Liberty**	**0.62**	**26**		Pg	05 53 00.1	-0.5
LTY	**Liberty**	**0.62**	**26**	Sg	Sg	05 53 08.6	-0.1
LTY				IAML		05 53 09.0	
	comp=N,39nm,0.4s						
LTY				IAML		05 53 09.1	
	comp=E,31nm,0.4s						
ASR	**Mount Adams--S**	**0.66**	**214**		Pg	05 53 01.7	+0.4
RVC	**Mount Rainier-**	**0.67**	**292**		Pg	05 53 01.1	-0.4
GSM	**Grass Mountain**	**0.71**	**316**		Pg	05 53 02.3	0.0
D05A	**Enumclaw**	**0.80**	**308**		Pg	05 53 03.7	-0.4
D05A	**Enumclaw**	**0.80**	**308**	IAML		05 53 15.2	
D05A	comp=E,55nm,0.2s			IAML		05 53 15.4	
	comp=N,88nm,0.5s						
KOSW	**Kosmos**	**0.81**	**253**		Pg	05 53 03.5	-0.8
BVW	**Beverly**	**0.82**	**82**		Pg	05 53 04.1	-0.3
B941	**Kapowsin**	**0.84**	**290**		Pg	05 53 04.2	-0.6
B941					Sg	05 53 15.9	+0.1
E07A	**Sunnyside**	**0.84**	**99**	Pg	Pg	05 53 04.3	-0.6
F05D	**White Salmon**	**0.86**	**199**		Pg	05 53 04.9	-0.2
TDL	**Tradedollar La**	**0.87**	**247**		Pg	05 53 04.5	-0.8
RATT	**Rattlesnake La**	**0.89**	**325**		Pg	05 53 04.8	-0.8
CDFW	**Cedar Flats**	**0.90**	**230**		Pg	05 53 05.5	-0.4
GHW	**Garrison Hill**	**0.90**	**293**		Pg	05 53 05.3	-0.6
MDW	**Midway**	**0.90**	**95**		Pg	05 53 05.1	-0.9
MDW					Sg	05 53 18.0	+0.3
JRO	**Jston Ridge Ob**	**0.90**	**242**		Pg	05 53 05.2	-0.8
JRO					Sg	05 53 17.4	-0.3
JRO				IAML		05 53 17.7	
	comp=N,72nm,0.3s						
BOLM	**Sugar Bowl**	**0.91**	**238**		Pg	05 53 06.0	-0.1
B201	**Coldwater, Mou**	**0.92**	**245**		Pg	05 53 05.3	-1.0
B201					Sg	05 53 17.7	-0.5
STD	**Studebaker Rid**	**0.92**	**240**		Pg	05 53 05.9	-0.5
STD					Sg	05 53 18.4	0.0
SEPW	**September Lobe**	**0.93**	**238**		Pg	05 53 06.5	+0.1
JLK	**June Lake**	**0.93**	**234**		Pg	05 53 06.1	-0.5
SWF2	**Southwest Flan**	**0.95**	**237**		Pg	05 53 06.4	-0.6
SHW	**Mount Saint He**	**0.96**	**238**		Pg	05 53 06.6	-0.5
ERK	**Elk Rock**	**0.97**	**246**		Pg	05 53 06.0	-1.2
ERK					Sg	05 53 19.1	-0.7
GBB	**Gable Butte**	**0.99**	**95**		Pg	05 53 06.9	-0.9
SNIWA	**Snively Ranch**	**1.00**	**103**		Pg	05 53 06.9	-0.9
FL2	**Flat Top 2**	**1.02**	**241**		Pg	05 53 07.4	-0.8
B203	**Quarry, Mount**	**1.03**	**239**		Pg	05 53 07.5	-0.8
WAH2	**Wahluke Slope**	**1.03**	**86**		Pg	05 53 06.1	-2.4
RSW	**Rattlesnake Hi**	**1.06**	**106**		Pg	05 53 07.9	-1.1
HAWA	**Hanford**	**1.10**	**106**		Pg	05 53 08.3	-1.4
HAWA				IAML		05 53 24.7	
	comp=N,22nm,0.3s						
FHE	**Frenchman Hill**	**1.10**	**76**		Pg	05 53 09.0	-0.8
GBL	**Gable Mountain**	**1.11**	**95**		Pg	05 53 08.9	-1.0
LOCW	**Locke Island**	**1.12**	**88**		Pg	05 53 09.2	-1.0
F07A	**Phinny Hill Vi**	**1.13**	**135**	Pg	Pg	05 53 09.0	-1.2
CRF	**Corfu**	**1.16**	**83**		Pg	05 53 09.8	-1.1
WRW	**Wenatchee Ridg**	**1.17**	**6**		Pg	05 53 09.8	-1.3
SP2	**Seward Park 2**	**1.18**	**317**		Pb	05 53 11.6	0.0
F04A	**Amboy**	**1.21**	**231**	Pg	Pg	05 53 10.8	-1.1
WTV	**Waterville**	**1.25**	**37**		Pg	05 53 11.4	-1.4
CBSW	**Chelan Butte S**	**1.31**	**32**		Pg	05 53 12.3	-1.5
E08A	**Dider Farm, El**	**1.40**	**98**	Pn	Pn	05 53 13.1	-1.8
E08A				IAML		05 53 32.8	
	comp=N,22nm,0.2s						
E08A				IAML		05 53 33.0	
	comp=E,25nm,0.2s						
HOOD	**Mount Hood Mea**	**1.44**	**197**	Pn	Pn	05 53 14.7	-0.9
HOOD				IAML		05 53 39.7	
	comp=N,16nm,0.1s						
HOOD				IAML		05 53 57.2	
	comp=E,22nm,0.1s						
GMW	**Gold Mountain**	**1.45**	**306**		Pn	05 53 14.7	-0.9
G05A	**Wamic**	**1.47**	**187**		Pn	05 53 15.0	-0.9
G05A				IAML		05 53 28.0	
	comp=E,17nm,3.5s						
G05A				IAML		05 53 43.4	
	comp=N,34nm,4.6s						
GNW	**Green Mountain**	**1.48**	**306**		Pn	05 53 15.0	-1.0
GNW				IAML		05 53 35.1	
	comp=N,14nm,1.6s						
GNW				IAML		05 53 35.4	
	comp=E,14nm,0.3s						
G06A	**Carlson Farm,**	**1.49**	**168**	Pn	Pn	05 53 14.6	-1.7
BMW	**Boistfort Moun**	**1.51**	**262**		Pn	05 53 15.2	-1.3
D08A	**Wollman Farm,**	**1.51**	**76**	Pn	Pn	05 53 15.0	-1.5
D08A				IAML		05 53 36.1	
	comp=N,30nm,0.1s						
D08A				IAML		05 53 36.5	
	comp=E,24nm,0.1s						
JCW	**Jim Creek**	**1.61**	**339**		Pn	05 53 17.5	-0.3
HDW	**Hoodsport**	**1.66**	**306**		Pn	05 53 17.9	-0.7
B013	**Quilcene**	**1.68**	**312**		Pn	05 53 18.3	-0.3
B013	**Quilcene**	**1.68**	**312**		Pn	05 53 18.4	-0.3
E03A	**Lebam**	**1.73**	**266**	Pn	Pn	05 53 18.9	-0.6
E03A				IAML		05 53 31.8	
	comp=E,21nm,3.1s						
E03A				IAML		05 54 18.8	
	comp=N,19nm,3.7s						
RADR	**Rader Ridge**	**1.91**	**263**	Pn	Pn	05 53 22.4	+0.4
G08A	**Pilot Rock**	**2.03**	**133**	Pn	Pn	05 53 21.6	-2.2
G08A				IAML		05 53 49.8	
	comp=E,13nm,0.7s						
G08A				IAML		05 53 50.0	
	comp=N,14nm,0.4s						
H04A	**Detroit Lake**	**2.16**	**202**	Pn	Pn	05 53 26.3	+0.8
H04A				IAML		05 54 22.2	
	comp=E,9.1nm,3.7s						
H04A				IAML		05 54 42.0	
	comp=N,7.4nm,3.5s						
C09A	**Chrisman Ranch**	**2.20**	**59**		Pn	05 53 24.4	-1.5
I05D	**Terrebonne, OR**	**2.37**	**185**	Pn	Pn	05 53 28.3	0.0
PGC	**Sidney**	**2.53**	**321**	Pn	Pn	05 53 30.8	+0.3
F10A	**Beach Ranch, E**	**2.75**	**104**	Pn	Pn	05 53 33.3	-0.3
F10A				IAML		05 54 32.7	
	comp=N,6.3nm,1.5s						
F10A				IAML		05 54 39.4	
	comp=E,7.7nm,4.4s						
I07A	**Izee**	**2.84**	**157**	Pn	Pn	05 53 33.9	-0.9

AUST 10 06:03:11.9±1.8, 32.35S×149.90E, h0km, Error ellipse: s-maj=17.2km s-min=12.2km az=115.0, Mining explosion., New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIV	**Riverview**	**1.82**	**145**	P	Pn	06 03 45.2	+0.8
	baz=1.8,SNR=4.5						
RIV				S	Sg	06 04 09.8	-0.4
	baz=1.8,SNR=13						
YNG	**Young**	**2.31**	**212**	P	Pn	06 03 50.6	-0.7
	baz=2.3,SNR=9.7						
YNG				S	Sn	06 04 20.6	+0.1
	baz=2.3,SNR=5.2						
ARMA	**Armidale**	**2.43**	**38**	P	Pn	06 03 52.3	-0.7
	baz=2.4,SNR=24						
ARMA				S	Sb	06 04 25.9	-1.2
	baz=2.4,SNR=7.4						
CNB	**Canberra Magne**	**2.99**	**188**	P	Pn	06 04 02.7	+2.1
	baz=3.0,SNR=11						
CNB				S	Sb	06 04 42.5	-0.7
	baz=3.0,SNR=6.0						
MILA	**Mila**	**4.73**	**187**	P	Pb	06 04 31.3	-4.5
	baz=4.7						
MILA				S	Sb	06 05 30.3	-3.0
	baz=4.7,SNR=4.4						
KLBR	**Kellerberrin**	**27.23**	**263**	S	S	06 13 47.2	+10
	baz=27,SNR=8.3						
NWAO	**Narrogin (SRO)**	**27.45**	**260**	S	S	06 13 39.1	-2.0
	baz=27,SNR=7.8						
NWAO				S	S	06 13 39.1	-2.0
	baz=27,SNR=7.8						
MUN	**Mundaring**	**28.46**	**262**	S	S	06 13 56.5	-0.5
	baz=28,SNR=7.5						

IDC 10 06:05:12.3±4.8, 27.82S×73.40E, h0km, mb3.8/3, mbtmp3.8/3, MS3.5/6, Error ellipse: s-maj=175.1km s-min=42.3km az=41.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Garcia H**	**20.08**	**357**	T	T	06 30 31.4	
	baz=177,slow=76						
H08S2	**Diego Garcia H**	**20.08**	**357**	T	T	06 30 31.4	
	baz=177,slow=76						
H08S3	**Diego Garcia H**	**20.10**	**357**	T	T	06 30 35.6	
	baz=177,slow=76						
H04N2	**CROZET ISLANDS**	**25.02**	**217**	T	T	06 37 02.6	
	baz=52,slow=74						
H04N1	**CROZET ISLANDS**	**25.03**	**217**	T	T	06 37 11.5	
	baz=52,slow=74						
H04N3	**CROZET ISLANDS**	**25.04**	**217**	T	T	06 37 03.2	
	baz=52,slow=74						
H04S1	**CROZET ISLANDS**	**25.40**	**216**	T	T	06 37 29.7	
	baz=50,slow=76						
H04S3	**CROZET ISLANDS**	**25.41**	**216**	T	T	06 37 36.8	
	baz=50,slow=76						
H04S2	**CROZET ISLANDS**	**25.42**	**216**	T	T	06 37 46.0	
	baz=50,slow=76						
PALK	**Pallekele**	**35.59**	**13**	LR	LR	06 22 51.9	
	comp=Z,62nm,19.3s,baz=283,slow=30						
MAW	**Mawson**	**40.32**	**186**	LR	LR	06 28 09.4	
	comp=Z,73nm,18.0s,baz=21,slow=34						
LBTB	**Lobatse**	**42.69**	**262**	LR	LR	06 29 06.3	
	comp=Z,65nm,19.5s,baz=158,slow=34						
SUR	**Sutherland**	**45.35**	**251**	LR	LR	06 30 20.5	
	comp=Z,66nm,18.7s,baz=146,slow=33						
CMAR	**Chiang Mai Arr**	**52.23**	**31**	LR	LR	06 35 17.2	
	comp=Z,31nm,18.3s,baz=195,slow=35						
ASAR	**Alice Springs**	**54.19**	**100**	P	P	06 14 40.0	0.0
	1.6nm,0.7s,baz=250,slow=6.1,SNR=13						
	1.6nm,0.7s						
WRA	**Warramunga Arr**	**55.80**	**96**	P	P	06 14 51.4	-0.2
	1.6nm,1.0s,baz=248,slow=8.9,SNR=4.8						
	1.6nm,1.0s						
MKAR	**Makanchi Array**	**74.70**	**6**	P	P	06 16 53.7	+0.1
	0.5nm,0.8s,baz=176,slow=6.8,SNR=3.3						
	0.5nm,0.8s						
KSRS	**Korea Array**	**82.65**	**41**	LR	LR	06 52 32.9	
	comp=Z,15nm,20.0s,baz=205,slow=34						
YKA	**Yellowknife Ar**	**144.92**	**6**	PKP	PKPbc	06 24 50.1	+0.1
	0.2nm,0.8s,baz=330,slow=3.5,SNR=3.8						

NNC 10 06:05:58.6±3.9, 37.63N×71.97E, h0km, mb3.8, mpv3.4, 2C-3D, Error ellipse: s-maj=41.0km s-min=30.6km az=129.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.36**	**20**	⇑P	Pn	06 07 20.4	+0.4
	4.7nm,0.7s						
AAK				⇓S	Sn	06 08 23.8	+1.3
	2.2nm,0.6s						
KK31	**Karatay Array**	**5.58**	**349**	⇑P	Pn	06 07 23.1	+0.3
	0.5nm,0.2s,baz=156,slow=11,SNR=15						
KK31				⇓S	Sn	06 08 27.7	+0.1
	0.8nm,0.3s,baz=172,slow=22,SNR=4.6						
TKM2	**Tokmak 2**	**5.96**	**27**	⇓P	Pn	06 07 27.6	-0.8
	3.0nm,0.5s						

*IDC **10** 06:13:52.7±1.1,37.79N×22.97E, h0km,mb3.7/10, mbtmp3.7/12,ML3.7/2,MS4.0/1,Error ellipse: s-maj=24.2km s-min=17.6km az=28.0*
*TIR **10** 06:13:53.6,37.05N×22.06E,h50km±32km,Md4.1,Ml3.7*
*THE **10** 06:13:56.1,37.81N×22.91E,h4km±1km,ML3.8/13, Error ellipse: s-maj=1.3km s-min=0.4km az=39.0*
*AFAD **10** 06:13:56.0±0.0,37.83N×22.83E,h109km±59km,MW4.0*
*ATH **10** 06:13:56.4,37.82N×22.91E,h6km±1km,ML3.7/23, Error ellipse: s-maj=1.2km s-min=0.6km az=57.0*

ISC 10 06:13:55.5±0.8, 37.80N±0.02×22.94E±0.02, h15km±5km, n148,σ1§24/192,mb3.6/10, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOUT	**Loutraki**	**0.19**	**10**	P	**Pg**	**06 14 00.1**	**+0.1**
LOUT				S	**Sg**	**06 14 03.3**	**+0.3**
	24μm,0.6s						
LOUT	**Loutraki**	**0.19**	**10**	P	**Pg**	**06 14 00.1**	**+0.1**
LOUT				S	**Sg**	**06 14 02.9**	**0.0**
LTK	**Loutraki**	**0.22**	**7**	P	**Pg**	**06 14 00.7**	**+0.2**
LTK				S	**Sg**	**06 14 03.4**	**-0.5**
LTK				AML	AML	06 14 04.2	
	comp=E,43835μm,0.4s						
LTK				AML	AML	06 14 04.2	
	comp=N,62552μm,0.3s						
THAL	**Thalero**	**0.32**	**317**	P	**Pg**	**06 14 02.1**	**0.0**
THAL				S	**Sg**	**06 14 06.8**	**+0.2**
	comp=N,39μm,0.4s						
KRND	**KRANIDI**	**0.45**	**158**	P	**Pb**	**06 14 05.2**	**-0.1**
KRND				S	**Sb**	**06 14 12.4**	**+0.6**
	comp=N,45μm,0.4s						
KRND	**KRANIDI**	**0.45**	**158**	P	**Pb**	**06 14 05.5**	**+0.2**
KRND				S	**Sb**	**06 14 11.9**	**0.0**
KRND				AML	AML	06 14 13.9	
	comp=E,75402μm,0.4s						
KRND				AML	AML	06 14 13.9	
VILL	**Villia**	**0.47**	**40**	P	**Pb**	**06 14 05.2**	**-0.3**
VILL				S	**Sb**	**06 14 12.2**	**-0.1**
	comp=E,9μm,0.6s						
VIL2	**Platees**	**0.48**	**33**	P	**Pg**	**06 14 05.2**	**+0.1**
VIL2				S	**Sg**	**06 14 12.0**	**+0.3**
VIL2				AML	AML	06 14 15.1	
	comp=E,20195μm,0.8s						
VIL2				AML	AML	06 14 16.9	
	comp=N,10986μm,0.4s						
GUR	**Goura**	**0.49**	**286**	P	**Pg**	**06 14 04.9**	**-0.3**
GUR				S	**Sg**	**06 14 11.3**	**-0.5**
	comp=N,28μm,0.4s						
GUR	**Goura**	**0.49**	**286**	P	**Pg**	**06 14 05.0**	**-0.3**
GUR				S	**Sg**	**06 14 11.0**	**-0.8**
GUR				AML	AML	06 14 13.2	
	comp=E,63927μm,0.3s						
GUR				AML	AML	06 14 17.2	
	comp=N,42729μm,0.5s						
YDRA	**Hydra**	**0.62**	**137**	P	**Pb**	**06 14 08.4**	**+0.3**
YDRA				S	**Sb**	**06 14 17.4**	**+0.8**
ATH	**Athens Observa**	**0.64**	**75**	P	**Pb**	**06 14 08.6**	**+0.2**
ATH				S	**Sb**	**06 14 18.3**	**+1.1**
	comp=N,6μm,0.6s						
ATH	**Athens Observa**	**0.64**	**75**	P	**Pb**	**06 14 08.7**	**+0.2**
ATH				S	**Sb**	**06 14 18.6**	**+1.4**
ATH				AML	AML	06 14 19.3	
	comp=E,12803μm,0.7s						
ATH				AML	AML	06 14 21.6	
	comp=N,9984μm,0.4s						
KLV	**Kalavryta, Ach**	**0.67**	**291**	P	**Pg**	**06 14 07.9**	**-0.7**
KLV				S	**Sg**	**06 14 17.3**	**-0.1**
	comp=N,4μm,0.5s						
KLV	**Kalavryta, Ach**	**0.67**	**291**	P	**Pg**	**06 14 08.2**	**-0.4**
KLV				S	**Sg**	**06 14 16.8**	**-0.6**
ATHU	**Athens Univers**	**0.69**	**76**	P	**Pb**	**06 14 09.4**	**+0.1**
ATHU				S	**Sb**	**06 14 19.1**	**+0.4**
	comp=N,1μm,0.4s						
ATHU	**Athens Univers**	**0.69**	**76**	P	**Pb**	**06 14 09.6**	**+0.2**
ATHU				S	**Sb**	**06 14 19.5**	**+0.7**
DLFA	**Delphi**	**0.76**	**333**	P	**Pg**	**06 14 10.3**	**0.0**
DLFA				S	**Sg**	**06 14 20.4**	**+0.1**
PTL	**Penteli**	**0.78**	**71**	P	**Pb**	**06 14 10.8**	**0.0**
PTL				S	**Sn**	**06 14 23.0**	**-0.4**
	comp=N,4μm,0.5s						
PTL	**Penteli**	**0.78**	**71**	P	**Pb**	**06 14 11.5**	**+0.7**
PTL				S	**Sb**	**06 14 21.8**	**+0.7**
PTL				AML	AML	06 14 24.1	
	comp=N,7134μm,0.6s						
PTL				AML	AML	06 14 24.8	
	comp=E,8117μm,0.5s						
ALIK	**Aliki, Aigiali**	**0.79**	**305**	P	**Pg**	**06 14 11.2**	**+0.2**
DION	**Dionisos Attik**	**0.83**	**71**	P	**Pn**	**06 14 12.8**	**-0.1**
DION				S	**Sn**	**06 14 24.8**	**-0.1**
	comp=E,16μm,0.5s						
DION	**Dionisos Attik**	**0.83**	**71**	P	**Pn**	**06 14 12.7**	**-0.1**
DION				S	**Sb**	**06 14 23.3**	**+0.4**
DION				AML	AML	06 14 26.4	
	comp=E,27190μm,0.5s						
DION				AML	AML	06 14 27.9	
	comp=N,14832μm,0.5s						
TRIZ	**Trizonia**	**0.88**	**310**	P	**Pg**	**06 14 12.0**	**-0.6**
TRIZ	**Trizonia**	**0.88**	**310**	P	**Pg**	**06 14 12.4**	**-0.2**
TRIZ				S	**Sg**	**06 14 24.3**	**+0.1**
DRO	**Drossia**	**0.98**	**279**	P	**Pg**	**06 14 14.1**	**-0.4**
DRO	**Drossia**	**0.98**	**279**	P	**Pg**	**06 14 14.4**	**-0.1**
DRO				S	**Sg**	**06 14 27.4**	**0.0**
DRO				AML	AML	06 14 32.0	
	comp=N,20186μm,0.6s						
DRO				AML	AML	06 14 33.0	
	comp=E,25181μm,1.0s						
AXAR	**Agios Charalam**	**0.98**	**347**	P	**Pg**	**06 14 13.9**	**-0.7**
AXAR				S	**Sb**	**06 14 28.1**	**+0.9**
	comp=E,9μm,0.4s						
AXAR	**Agios Charalam**	**0.98**	**347**	P	**Pg**	**06 14 14.7**	**+0.1**
AXAR				S	**Sg**	**06 14 27.9**	**+0.4**
AXAR				AML	AML	06 14 30.9	
	comp=N,19132μm,0.6s						
AXAR				AML	AML	06 14 31.3	
	comp=E,17327μm,0.3s						
EFP	**Efpalio**	**1.02**	**308**	P	**Pg**	**06 14 14.7**	**-0.6**
EFP				S	**Sg**	**06 14 29.0**	**+0.3**
	comp=E,2μm,0.6s						
EFP	**Efpalio**	**1.02**	**308**	P	**Pg**	**06 14 15.2**	**-0.1**
EFP				AML	AML	06 14 31.8	
	comp=N,4209μm,0.5s						
EFP				AML	AML	06 14 36.5	
	comp=E,3947μm,0.7s						
UPR	**University Cam**	**1.02**	**298**	P	**Pg**	**06 14 15.7**	**+0.3**
VLI	**Veliai**	**1.08**	**180**	P	**Pg**	**06 14 15.9**	**-0.6**
VLI				S	**Sn**	**06 14 31.7**	**+0.7**
	comp=E,5μm,0.4s						
VLI	**Veliai**	**1.08**	**180**	P	**Pb**	**06 14 16.5**	**+0.5**
VLI				S	**Sn**	**06 14 32.3**	**+1.4**
VLI				AML	AML	06 14 34.9	
	comp=N,10064μm,0.5s						
VLI				AML	AML	06 14 35.2	
	comp=E,8432μm,0.4s						
MNVA	**Monemvasia**	**1.12**	**176**	P	**Pn**	**06 14 17.8**	**+1.2**
MNVA				S	**Sn**	**06 14 33.7**	**+2.0**
ANX	**Ano Chora**	**1.12**	**315**	P	**Pg**	**06 14 16.3**	**-0.9**
ANX	**Ano Chora**	**1.12**	**315**	P	**Pg**	**06 14 16.9**	**-0.3**
ANX				S	**Sg**	**06 14 31.3**	**-0.6**
ANX				AML	AML	06 14 36.2	
	comp=N,5140μm,0.5s						
ANX				AML	AML	06 14 42.5	
	comp=E,5275μm,0.7s						
RLS	**Riolos of Patr**	**1.19**	**283**	P	**Pg**	**06 14 17.4**	**-1.0**
RLS	**Riolos of Patr**	**1.19**	**283**	P	**Pg**	**06 14 17.5**	**-1.0**
RLS				S	**Sg**	**06 14 34.1**	**+0.2**
RLS				AML	AML	06 14 39.7	
	comp=N,4224μm,0.5s						
RLS				AML	AML	06 14 40.5	
	comp=E,3840μm,0.5s						
AGG	**Agios Georgios**	**1.31**	**339**	P	**Pn**	**06 14 19.6**	**+0.3**
AGG	**Agios Georgios**	**1.31**	**339**	P	**Pn**	**06 14 19.9**	**+0.5**
AGG				S	**Sb**	**06 14 36.5**	**+0.1**
AGG	**Agios Georgios**	**1.31**	**339**	P	**Pn**	**06 14 19.6**	**+0.3**
PYL	**PYLOS**	**1.31**	**227**	P	**Pn**	**06 14 19.9**	**+0.5**
PYL	**PYLOS**	**1.31**	**227**	P	**Pn**	**06 14 20.3**	**+1.0**
PYL				AML	AML	06 14 42.8	
	comp=E,5686μm,0.5s						
PYL				AML	AML	06 14 43.5	
	comp=N,3038μm,0.5s						
MAKR	**Makrakomi, Fth**	**1.36**	**333**	P	**Pn**	**06 14 20.9**	**+0.8**
MAKR	**Makrakomi, Fth**	**1.36**	**333**	P	**Pn**	**06 14 21.3**	**+1.2**
MAKR				S	**Sb**	**06 14 38.3**	**+0.2**
MAKR				AML	AML	06 14 44.2	
	comp=N,4600μm,0.6s						
MAKR				AML	AML	06 14 51.1	
	comp=E,4728μm,0.9s						
PVO	**Paravola**	**1.38**	**307**	P	**Pn**	**06 14 21.5**	**+1.3**
PVO	**Paravola**	**1.38**	**307**	P	**Pn**	**06 14 21.7**	**+1.5**
EVR	**Evrytania**	**1.42**	**322**	P	**Pn**	**06 14 22.4**	**+1.5**
EVR	**Evrytania**	**1.42**	**322**	P	**Pn**	**06 14 22.4**	**+1.5**
EVR				S	**Sb**	**06 14 39.8**	**0.0**
EVR				AML	AML	06 14 43.7	
	comp=N,2261μm,0.7s						
EVR				AML	AML	06 14 44.7	
	comp=E,3026μm,0.6s	

LKD2				S	Sn	06 14 54.6	-0.1	
	baz=328							
LKD2				AMP				
	comp=N,2.2nm,0.8s,baz=328							
LKD2	**Lefkada island**	**2.04**	**299**	P	**Pn**	**06 14 30.8**	**+1.3**	
LKD2	**Lefkada island**	**2.04**	**299**	P	**Pn**	**06 14 31.8**	**+2.4**	
DRAG	**Dragano-Lefkad**	**2.06**	**296**	P	**Pn**	**06 14 31.7**	**+2.1**	
DRAG	**Dragano-Lefkad**	**2.06**	**296**	P	**Pn**	**06 14 31.3**	**+1.7**	
TSLK	**Tsoukalades, L**	**2.06**	**300**	P	**Pn**	**06 14 31.2**	**+1.5**	
TSLK	**Tsoukalades, L**	**2.06**	**300**	P	**Pn**	**06 14 31.7**	**+2.0**	
DMLN	**Damoulianata-K**	**2.07**	**283**	P	**Pn**	**06 14 31.9**	**+2.1**	
DMLN	**Damoulianata-K**	**2.07**	**283**	P	**Pn**	**06 14 31.5**	**+1.7**	
KEF3	**Kipouria, Keph**	**2.08**	**282**	P	**Pn**	**06 14 31.7**	**+1.8**	
KEF3	**Kipouria, Keph**	**2.08**	**282**	P	**Pn**	**06 14 31.5**	**+1.6**	
APE	**Apeiranthos**	**2.19**	**109**	P	**Pn**	**06 14 32.1**	**+0.6**	
APE	**Apeiranthos**	**2.19**	**109**	P	**Pn**	**06 14 32.3**	**+0.8**	
APE	**Apeiranthos**	**2.19**	**109**	P	**Pn**	**06 14 32.1**	**+0.6**	
APE				AML	AML	06 15 12.4		
	comp=N,585µm,0.6s							
APE				AML	AML	06 15 15.8		
	comp=E,366µm,0.3s							
PAIG	**Paliouri**	**2.20**	**15**	P	**Pn**	**06 14 31.3**	**-0.2**	
LIT	**Litokhoron**	**2.32**	**352**	P	**Pn**	**06 14 33.3**	**0.0**	
LIT	**Litokhoron**	**2.32**	**352**	P	**Pn**	**06 14 33.0**	**-0.2**	
RODP	**Rodopos**	**2.33**	**163**	P	**Pn**	**06 14 34.5**	**+1.1**	
SNT5	**Nea Kammeni, S**	**2.41**	**125**	P	**Pn**	**06 14 36.2**	**+1.7**	
CHAN	**Chania**	**2.45**	**158**	P	**Pn**	**06 14 36.6**	**+1.6**	
CHAN				AML	AML	06 15 09.6		
	comp=N,2164µm,0.3s							
CHAN				AML	AML	06 15 10.5		
	comp=E,2410µm,0.7s							
KPRO	**Kipourio**	**2.47**	**331**	P	**Pn**	**06 14 36.5**	**+1.1**	
KPRO	**Kipourio**	**2.47**	**331**	P	**Pn**	**06 14 35.6**	**+0.2**	
IMMV	**Iera Moni Meta**	**2.49**	**160**	P	**Pn**	**06 14 36.9**	**+1.4**	
IMMV	**Iera Moni Meta**	**2.49**	**160**	P	**Pn**	**06 14 36.1**	**+0.6**	
CHOS	**Chios island**	**2.53**	**76**	P	**Pn**	**06 14 36.8**	**+0.6**	
CHOS	**Chios island**	**2.53**	**76**	P	**Pn**	**06 14 36.7**	**+0.5**	
KNDR	**Palaiochora Ch**	**2.63**	**167**	P	**Pn**	**06 14 39.1**	**+1.6**	
KNDR				AML	AML	06 15 25.6		
	comp=N,1513µm,0.6s							
KNDR				AML	AML	06 15 26.3		
	comp=E,1681µm,0.6s							
IGT	**Igoumenitsa**	**2.67**	**311**	P	**Pn**	**06 14 40.5**	**+2.4**	
	baz=332							
IGT				S	**Sn**	**06 15 14.2**	**+4.1**	
	baz=332							
IGT				AMP				
	comp=E,0.5nm,0.8s,baz=332							
IGT	**Igoumenitsa**	**2.67**	**311**	P	**Pn**	**06 14 39.6**	**+1.6**	
IGT	**Igoumenitsa**	**2.67**	**311**	P	**Pn**	**06 14 39.5**	**+1.4**	
LIA	**Limnos Island**	**2.73**	**39**	P	**Pn**	**06 14 39.0**	**+0.2**	
LIA	**Limnos Island**	**2.73**	**39**	P	**Pn**	**06 14 38.9**	**0.0**	
PENT	**Pentalofos**	**2.77**	**330**	P	**Pn**	**06 14 40.4**	**+0.9**	
HORT	**Hortiatis**	**2.79**	**3**	P	**Pn**	**06 14 38.9**	**-0.9**	
HORT	**Hortiatis**	**2.79**	**3**	P	**Pn**	**06 14 39.4**	**-0.4**	
ZEYE	**Izmir, Urla-Ze**	**2.85**	**80**	P	**Pb**	**06 14 45.4**	**-0.8**	
ZEYE				S	**Sg**	**06 15 29.2**	**+2.1**	
KARB	**zmir-Karabur**	**2.87**	**72**	P	**Pn**	**06 14 42.1**	**+1.3**	
URLA	**Izmir**	**2.94**	**78**	P	**Pn**	**06 14 43.1**	**+1.3**	
URLA				S	**Sg**	**06 15 28.7**	**-1.3**	
IDI	**Anoyia**	**2.96**	**147**	P	**Pn**	**06 14 42.6**	**+0.5**	
IDI	**Anoyia**	**2.96**	**147**	Pn	**Pn**	**06 14 41.4**	**-0.7**	
	comp=E,7.9nm,0.3s,baz=310,slow=8.3,SNR=27							
IDI				Sn	**Sn**	**06 15 17.0**	**-0.5**	
	comp=E,19nm,0.3s,baz=116,slow=18,SNR=7.2							
IDI	**Anoyia**	**2.96**	**147**	P	**Pn**	**06 14 42.8**	**+0.7**	
LSK	**Leskovik**	**2.97**	**323**	P	**Pb**	**06 14 46.3**	**-1.9**	
	baz=341							
LSK				S	**Sb**	**06 15 26.9**	**+2.6**	
	baz=341							
LSK				AMP				
	comp=N,1.4nm,0.8s,baz=341							
NEST	**Nestorio**	**2.99**	**331**	P	**Pn**	**06 14 44.5**	**+1.9**	
NEST	**Nestorio**	**2.99**	**331**	P	**Pn**	**06 14 44.0**	**+1.5**	
KOCA	**Canakkale, Ayv**	**3.03**	**55**	P	**Pn**	**06 14 43.7**	**+0.7**	
SOH	**Sokhos**	**3.03**	**6**	P	**Pn**	**06 14 43.7**	**+0.6**	
SRN	**Sarande**	**3.09**	**313**	P	**Pn**	**06 14 45.8**	**+2.0**	
	baz=331							
SRN				S	**Sn**	**06 15 24.6**	**+4.1**	
	baz=331							
GVDS	**Gavdos**	**3.10**	**162**	P	**Pn**	**06 14 46.0**	**+2.1**	
GVD	**Gavdhos**	**3.10**	**162**	P	**Pn**	**06 14 46.9**	**+2.9**	
THAS	**Thassos island**	**3.12**	**26**	P	**Pn**	**06 14 43.8**	**-0.5**	
BOZC	**Bozcaada**	**3.17**	**49**	P	**Pn**	**06 14 44.4**	**-0.5**	
GRG	**Griva**	**3.17**	**353**	P	**Pn**	**06 14 46.1**	**+1.0**	
GOAD	**anakkale-G¶**	**3.30**	**44**	P	**Pn**	**06 14 47.0**	**+0.3**	
GOAD				S	**Sg**	**06 15 45.9**	**+4.2**	
SRS	**Serrai**	**3.35**	**9**	P	**Pn**	**06 14 47.3**	**-0.1**	
KNT	**Kendrikon**	**3.35**	**360**	P	**Pn**	**06 14 48.7**	**+1.3**	
BAYC	**CANAKKALE_Bayr**	**3.42**	**54**	P	**Pn**	**06 14 47.5**	**-0.8**	
VAY	**Valandovo**	**3.52**	**356**	*i* Pn	**Pn**	**06 14 52.1**	**+2.3**	
VAY				*i* Sn	**Sn**	**06 15 30.4**	**-0.8**	
OHR	**Ohrid**	**3.69**	**334**	*i* Pn	**Pn**	**06 14 56.1**	**+3.9**	
OHR				*i* Sn	**Sn**	**06 15 39.6**	**+4.2**	
ERIK	**Erikli-Kesan**	**3.99**	**43**	P	**Pn**	**06 14 55.4**	**-0.8**	
SCTE	**Santa Cesarea**	**4.16**	**304**	AMP				
	comp=E,0.1nm,0.4s,baz=319							
MLR	**Muntele Rosu**	**8.00**	**15**	Pn	**Pn**	**06 15 53.0**	**+1.6**	
	comp=E,0.7nm,0.3s,baz=330,slow=6.5,SNR=4.0							
	comp=E,1.6nm,0.4s							
BRTR	**Keskin Array B**	**8.58**	**74**	Pn	**Pn**	**06 16 01.6**	**+2.3**	
	comp=E,0.1nm,0.3s,baz=259,slow=14,SNR=2.4							
	comp=E,0.7nm,0.5s							
ESDC	**Sonseca Array**	**21.04**	**283**	P	**P**	**06 18 39.0**	**+0.1**	
	comp=E,1.0nm,0.7s,baz=72,slow=11,SNR=6.9							
	comp=E,1.0nm,0.7s							
HFS	**Hagfors**	**23.11**	**348**	P	**P**	**06 18 58.9**	**-1.8**	
	comp=E,1.1nm,0.6s,baz=156,slow=11,SNR=5.1							
	comp=E,1.1nm,0.6s							
FINES	**FINESS Array B**	**23.75**	**4**	P	**P**	**06 19 06.8**	**-0.2**	
	comp=E,1.3nm,0.7s,baz=177,slow=7.0,SNR=2.5							
	comp=E,1.3nm,0.7s							
EKA	**Eskdalemuir Ar**	**24.85**	**323**	P	**P**	**06 19 16.5**	**-0.7**	
	comp=E,1.2nm,0.5s,baz=126,slow=9.4,SNR=8.2							
	comp=E,1.2nm,0.5s							
BORG	**Borgarnes**	**37.37**	**330**	LR	LR	06 39 18.9		
	comp=E,235nm,19.2s,baz=128,slow=41							
KURBB	**Kurchatov Arra**	**40.92**	**53**	P	**P**	**06 21 36.3**	**-0.8**	
	comp=E,0.5nm,0.5s,baz=279,slow=8.6,SNR=4.5							
	comp=E,0.5nm,0.5s							
MKAR	**Makanchi Array**	**43.87**	**59**	P	**P**	**06 21 59.9**	**-1.3**	
	comp=E,0.6nm,0.5s,baz=272,slow=7.3,SNR=6.0							
	comp=E,0.6nm,0.5s							
ZALV	**Zalesovo Beam**	**44.52**	**48**	P	**P**	**06 22 04.6**	**-1.7**	
	comp=E,0.9nm,0.5s,baz=259,slow=8.2,SNR=2.5							
	comp=E,0.9nm,0.5s							
SONM	**Songino Array**	**59.21**	**51**	P	**P**	**06 23 55.3**	**-0.9**	
	comp=E,0.4nm,0.5s,baz=290,slow=10,SNR=2.2							
	comp=E,0.4nm,0.5s							
SCHQ	**Schefferville**	**60.02**	**318**	P	**P**	**06 24 01.2**	**-0.2**	
	comp=E,3.4nm,0.4s,baz=74,slow=4.9,SNR=24							
	comp=E,3.4nm,0.4s							
YKA	**Yellowknife Ar**	**74.38**	**341**	P	**P**	**06 25 32.1**	**-0.2**	
	comp=E,0.3nm,0.7s,baz=28,slow=6.0,SNR=7.1							
	comp=E,0.3nm,0.7s							

NIED ***10*** *06:15:34.7,28.08N×128.00E,h16km,MW3.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-0.55; Mθθ3.73; Mφφ-3.18; Mrθ0.58; Mθφ-0.91; Mrφ-0.00; Fault plane solution: M0 3.61000×10¹⁴ NP1:φs52.00000°, δ86.00000°, λ174.00000°. NP2:φs143.00000°, δ84.00000°, λ4.00000°*

JMA 10 06:15:34.7±0.2,28.1N±0.4×128.0E±0.5,h16km±2km, MV3.5/15,NW OFF OKINAWAJIMA IS,Northwest of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.88**	**145**	*e*P	Pb	06 15 51.3	-0.3
JOKE				*e*S	Sb	06 16 02.9	-0.3
JTK	**Tokunoshima**	**0.89**	**109**	P	Pb	06 15 51.2	-0.7
JTK				S	Sb	06 16 03.3	-0.3
JIH	**Iheya**	**1.04**	**181**	P	Pb	06 15 53.9	-0.5
JIH				S	Sb	06 16 08.1	+0.2
JAMN	**Amaminishikomi**	**1.05**	**81**	*e*P	Pb	06 15 54.3	-0.3
JAMN				*e*S	Sb	06 16 07.7	-0.4
JYRO	**Yoronjima**	**1.13**	**159**	*e*P	Pb	06 15 55.4	-0.4
JYRO				S	Sb	06 16 09.6	-0.7
JOW	**Kunigami**	**1.27**	**169**	P	Pn	06 15 57.5	-0.4
JOW				*e*S	Sb	06 16 14.3	-0.1
JAM	**Amami Oshima**	**1.46**	**77**	*e*P	Pb	06 16 01.1	-0.3
JAM				*e*S	Sn	06 16 19.3	+0.1
JTAJ	**Takarajima**	**1.50**	**45**	*e*P	Pn	06 16 01.0	-0.1
JNTH	**Nagotoyohara**	**1.56**	**179**	*e*P	Pn	06 16 01.9	+0.1
JNTH				*e*S	Sb	06 16 22.4	-0.3
JAGN	**Aguni-jima**	**1.63**	**204**	*e*P	Pn	06 16 03.4	+0.5
JZK	**Kikaishima**	**1.76**	**82**	*e*P	Pb	06 16 06.9	+0.2
JJT3	**Tamagusuku3**	**1.94**	**186**	*e*P	Pb	06 16 08.5	-1.2

PGC ***10*** *06:36:15.7±0.4,48.66N×129.39W,h10km,MLSn3.4/39, Mw4.0/39,Mw4.0/39,259km west of Tofino, Bc Vancouver Island, Canada Region*

NEIC ***10*** *06:36:15.7,48.66N×129.39W,h12km,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr1.06; Mθθ-5.88; Mφφ5.87; Mrθ-3.04; Mφφ2.22; Mθr-1.70; Fault plane solution: M0 7.20000×10¹⁵ NP1:φs237.00000°, δ88.00000°, λ29.00000°. NP2:φs145.00000°, δ61.00000°, λ178.00000°. Principal axes: T 6.8097, Plg22.0000°, Azm105.0000°; N 0.7366, Plg61.0000°, Azm240.0000°; P -7.5463, Plg19.0000°, Azm7.0000°;*

IDC ***10*** *06:36:16.0±1.1,48.83N×129.36W,h0km,mb3.9/5, mbtmp3.9/15,ML3.6/8,MS3.5/28 Error ellipse: s-maj=21.8km s-min=10.8km az=63.0*

NEIC ***10*** *06:36:20.1±1.5,49.03N±0.05×128.88W±0.08,h10km±2km, mb4.1/40,Mwr4.5(OTT),Error ellipse: s-maj=9.3km s-min=8.8km az=319.0*

ISC 10 06:36:14.8±0.5,48.70N±0.04×129.33W±0.05,h10km, n551,σ1§54/487,mb4.1/10,MS3.6/18,Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NCHR	**NEPTUNE Canada**	**0.74**	**167**	P	**Pg**	**06 36 29.1**	**+0.1**
NCHR				S	**Sg**	**06 36 37.8**	**-0.8**
KEMF	**NEPTUNE Canada**	**0.76**	**168**	P	**Pg**	**06 36 29.4**	**0.0**
KEMF				S	**Sg**	**06 36 38.4**	**-1.0**
KEMO	**NEPTUNE Canada**	**0.79**	**169**	P	**Pg**	**06 36 29.8**	**-0.1**
KEMO				S	**Sg**	**06 36 38.6**	**-1.5**
NC27	**ODP1027**	**1.41**	**131**	Pn	**Pn**	**06 36 38.5**	**-1.6**
NC89	**ODP889**	**1.64**	**90**	Pn	**Pn**	**06 36 43.4**	**-0.2**
EDB	**Eliza Dome**	**1.87**	**50**	Pn	**Pn**	**06 36 46.0**	**-0.8**
ETB	**Estevan Point**	**1.96**	**69**	Pn	**Pn**	**06 36 47.7**	**-0.4**
HOLB	**Holberg**	**2.10**	**21**		**Pn**	**06 36 49.8**	**-0.2**
HOLB	**Holberg**	**2.10**	**21**	Pn	**Pn**	**06 36 49.5**	**-0.4**
PACB	**Port Alice, BC**	**2.11**	**34**	Pn	**Pn**	**06 36 49.4**	**-0.7**
MAYB	**Maynard**	**2.21**	**39**	Pn	**Pn**	**06 36 51.0**	**-0.6**
WOSB	**Woss**	**2.32**	**50**	Pn	**Pn**	**06 36 53.2**	**+0.1**
PHC	**Port Hardy**	**2.36**	**31**	Pn	**Pn**	**06 36 53.5**	**0.0**
GDR	**Gold River**	**2.42**	**62**	Pn	**Pn**	**06 36 53.9**	**-0.5**
B012	**Ucluelet**	**2.51**	**83**	Pn	**Pn**	**06 36 54.3**	**-1.3**
B012	**Ucluelet**	**2.51**	**83**	Sn	**Sn**	**06 37 23.5**	**-2.8**
OZB	**Mount Ozzard**	**2.55**	**83**		**Pn**	**06 36 55.6**	**-0.6**
OZB				Sn	**Sn**	**06 37 24.7**	**-2.6**
OZB	**Mount Ozzard**	**2.55**	**83**	Pn	**Pn**	**06 36 55.5**	**-0.8**
SPLB	**Strathcona Par**	**2.69**	**62**	Pn	**Pn**	**06 36 58.2**	**+0.2**
SPLB	**Strathcona Par**	**2.69**	**62**	Sn	**Sn**	**06 37 29.4**	**-1.2**
NCSB	**Newcastle Ridg**	**2.73**	**50**	Pn	**Pn**	**06 36 59.5**	**+0.7**
NCSB	**Newcastle Ridg**	**2.73**	**50**	Sn	**Sn**	**06 37 30.4**	**-1.7**
NCRB	**Newcastle Ridg**	**2.73**	**50**	Pn	**Pn**	**06 36 59.5**	**+0.7**
NCRB	**Newcastle Ridg**	**2.73**	**50**	Sn	**Sn**	**06 37 30.4**	**-1.5**
BFSB	**Bamfield**	**2.78**	**86**	Pn	**Pn**	**06 36 58.5**	**-0.8**
BFSB	**Bamfield**	**2.78**	**86**	Sn	**Sn**	**06 37 30.2**	**-2.7**
B928	**Bamfield**	**2.78**	**86**	Pn	**Pn**	**06 36 58.4**	**-0.9**
B928	**Bamfield**	**2.78**	**86**	Sn	**Sn**	**06 37 30.2**	**-2.6**
CBB	**Campbell River**	**2.92**	**61**	Pn	**Pn**	**06 37 01.9**	**+0.7**
CBB	**Campbell River**	**2.92**	**61**	Pn	**Pn**	**06 37 01.6**	**+0.4**
B927	**Port Alberni**	**3.02**	**78**	Pn	**Pn**	**06 37 02.4**	**-0.3**
OCP	**Olym-Cheeka Pk**	**3.15**	**96**	Pn	**Pn**	**06 37 04.9**	**+0.4**
PFB	**Port Renfrew**	**3.25**	**90**	Pn	**Pn**	**06 37 04.5**	**-1.3**
C03A	**Quillayute Air**	**3.27**	**101**	Pn	**Pn**	**06 37 07.0**	**+1.0**
PTRF	**Port Renfrew**	**3.27**	**91**	Pn	**Pn**	**06 37 05.2**	**-0.8**
PTRF				Sn	**Sn**	**06 37 41.3**	**-3.6**
B926	**Mesachie Lake**	**3.44**	**86**	Sn	**Sn**	**06 37 46.7**	**-2.6**
B926	**Mesachie Lake**	**3.44**	**86**	Pn	**Pn**	**06 37 07.9**	**-0.5**
CLRS	**Cowichan Lake**	**3.44**	**86**	Pn	**Pn**	**06 37 08.4**	**0.0**
CLRS	**Cowichan Lake**	**3.44**	**86**	Pn	**Pn**	**06 37 08.2**	**-0.2**
CLRS	**Cowichan Lake**	**3.44**	**86**	Sn	**Sn**	**06 37 47.0**	**-2.3**
NLLB	**Nanaimo Lost L**	**3.56**	**79**	Pn	**Pn**	**06 37 11.0**	**+1.0**
NLLB				Sn	**Sn**	**06 37 52.4**	**+0.2**
BBB	**Bella Bella**	**3.58**	**12**		**Pn**	**06 37 11.8**	**+1.5**
BBB	**Bella Bella**	**3.58**	**12**	Pn	**Pn**	**06 37 11.4**	**+1.2**
	204nm,0.3s,baz=199,slow=5.8,SNR=1166						
BBB				Sn	**Sn**	**06 37 49.7**	**-2.8**
	89nm,0.3s,baz=89,slow=12,SNR=13						
BBB				LR	LR	06 38 25.0	
	comp=Z,318nm,19.8s,baz=192,slow=37						
BBB	**Bella Bella**	**3.58**	**12**	Pn	**Pn**	**06 37 11.4**	**+1.2**
BBB				Sn	**Sn**	**06 37 49.2**	**-3.4**
SYMB	**Survey Mountai**	**3.67**	**90**	Pn	**Pn**	**06 37 11.4**	**-0.2**
SHB	**Sechelt**	**3.69**	**74**	Pn	**Pn**	**06 37 12.6**	**+0.6**
HG4B	**Hotspring**	**3.79**	**342**	Pn	**Pn**	**06 37 13.3**	**0.0**
STW	**Striped Peak**	**3.81**	**96**	Pn	**Pn**	**06 37 14.5**	**+1.0**
GOBB	**Galiano Island**	**3.85**	**84**	Pn	**Pn**	**06 37 14.5**	**+0.4**
GOBB				Sn	**Sn**	**06 37 58.8**	**-0.5**
B009	**North Saanich**	**3.90**	**88**	Pn	**Pn**	**06 37 14.7**	**+0.1**
B009				Sn	**Sn**	**06 37 59.3**	**-1.1**
B010	**North Saanich**	**3.90**	**88**	Pn	**Pn**	**06 37 14.7**	**+0.1**
PGC	**Sidney**	**3.90**	**88**	Pn	**Pn**	**06 37 15.1**	**+0.5**
PGC	**Sidney**	**3.90**	**88**	Pn	**Pn**	**06 37 14.7**	**0.0**
PGC				Sn	**Sn**	**06 37 59.0**	**-1.4**
B011	**North Saanich**	**3.90**	**88**	Pn	**Pn**	**06 37 14.5**	**-0.2**
B04A	**Port Angeles**	**3.94**	**97**	Pn	**Pn**	**06 37 16.8**	**+1.6**
VGZ	**Gonzales**	**4.00**	**92**	Pn	**Pn**	**06 37 15.8**	**-0.2**
VGZ	**Gonzales**	**4.00**	**92**	Sn	**Sn**	**06 38 00.6**	**-2.3**
BIB	**Bowen Island**	**4.03**	**78**	Pn	**Pn**	**06 37 17.1**	**+0.7**
WISH	**Wishkah**	**4.06**	**111**	Pn	**Pn**	**06 37 19.3**	**+2.4**
SNB	**Saturna Island**	**4.08**	**87**	Pn	**Pn**	**06 37 17.8**	**+0.6**
SNB	**Saturna Island**	**4.08**	**87**	Sn	**Sn**	**06 38 03.0**	**-1.9**
WPB	**Watts Point**	**4.13**	**74**	Pn	**Pn**	**06 37 19.1**	**+1.3**
BNB	**Barry Inlet**	**4.18**	**339**	Pn	**Pn**	**06 37 19.3**	**+0.7**
MCW	**Mount Constitu**	**4.30**	**88**	Pn	**Pn**	**06 37 20.7**	**+0.4**
HDW	**Hoodsport**	**4.33**	**102**	Sn	**Sn**	**06 38 10.2**	**-1.0**
RADR	**Rader Ridge**	**4.38**	**119**	Pn	**Pn**	**06 37 23.9**	**+2.5**
BUTB	**Butedale**	**4.41**	**7**	Pn	**Pn**	**06 37 22.9**	**+1.1**
BUTB	**Butedale**	**4.41**	**7**	Sn	**Sn**	**06 38 10.3**	**-2.9**
WSLR	**Whistler**	**4.42**	**69**	Pn	**Pn**	**06 37 23.5**	**+1.6**
E03A	**Lebam**	**4.45**	**117**	Pn	**Pn**	**06 37 25.0**	**+2.7**
HNBB	**Haney**	**4.49**	**80**	Pn	**Pn**	**06 37 23.8**	**+1.0**
HNBB	**Haney**	**4.49**	**80**	Sn	**Sn**	**06 38 14.4**	**-0.7**
GNW	**Green Mountain**	**4.50**	**102**	Pn	**Pn**	**06 37 25.9**	**+3.0**
GRIB	**Gribbell Islan**	**4.65**	**1**	Pn	**Pn**	**06 37 26.1**	**+1.1**
HWKB	**Hawksbury Isla**	**4.91**	**1**	Pn	**Pn**	**06 37 29.3**	**+0.7**
HWKB	**Hawksbury Isla**	**4.91**	**1**	Sn	**Sn**	**06 38 23.1**	**-2.4**
MBW	**Mount Baker**	**4.92**	**86**	Pn	**Pn**	**06 37 30.0**	**+1.1**
MBW	**Mount Baker**	**4.92**	**86**	Sn	**Sn**	**06 38 23.9**	**-2.0**
DIB	**Dawson Inlet,**	**4.93**	**337**	Pn	**Pn**	**06 37 30.1**	**+1.3**
DIB	**Dawson Inlet,**	**4.93**	**337**	Pn	**Pn**	**06 37 29.7**	**+0.8**
JCW	**Jim Creek**	**4.95**	**93**	Pn	**Pn**	**06 37 30.6**	**+1.4**
D05A	**Enumclaw**	**5.16**	**104**	Pn	**Pn**	**06 37 35.5**	**+3.5**
GRNB	**Grenville Isla**	**5.17**	**356**	Pn	**Pn**	**06 37 33.9**	**+1.7**
GRNB	**Grenville Isla**	**5.17**	**356**	Pn	**Pn**	**06 37 33.1**	**+0.9**
RPW	**Rockport**	**5.20**	**90**	Pn	**Pn**	**06 37 33.7**	**+1.1**
RPW	**Rockport**	**5.20**	**90**	Sn	**Sn**	**06 38 33.0**	**+0.4**
LLLB	**Lillooet**	**5.20**	**66**	Pn	**Pn**	**06 37 34.1**	**+1.4**
HOPB	**Hope**	**5.25**	**79**	Pn	**Pn**	**06 37 34.6**	**+1.4**
KITB	**Kitimat**	**5.41**	**4**	Pn	**Pn**	**06 37 37.2**	**+1.8**
G03D	**McMinnville, O**	**5.42**	**128**	Pn	Pn	**06 37 40.5**	**+4.9**
LON	**Longmire**	**5.43**	**108**		**Pn**	**06 37 39.8**	**+3.9**
F04A	**Amboy**	**5.45**	**118**	Pn	**Pn**	**06 37 40.7**	**+4.7**
COR	**Corvallis**	**5.84**	**133**		Pn	**06 37 47.3**	**+6.0**
LTY	**Liberty**	**5.99**	**101**		**Pn**	**06 37 45.8**	**+2.2**
LTY	**Liberty**	**5.99**	**101**	Pn	**Pn**	**06 37 46.4**	**+2.9**
LTY	**Liberty**	**5.99**	**101**	Sn	**Sn**	**06 38 52.5**	**+0.4**
H04D	**Lebanon**	**6.17**	**130**		Pn	**06 37 52.0**	**+6.1**
BUCK	**Buck Mountain**	**6.28**	**133**	Pn	Pn	**06 37 53.6**	**+6.1**
H04A	**Detroit Lake**	**6.34**	**127**	Pn	**Pn**	**06 37 52.9**	**+4.5**
I03D	**Drain, OR**	**6.50**	**138**		Pn	**06 37 55.8**	**+5.4**
FSJB	**Fort St James**	**6.57**	**27**	Pn	**Pn**	**06 37 53.2**	**+1.8**
J01E	**Myrtle Point**	**6.69**	**144**	Pn	Pn	**06 37 58.7**	**+5.6**
V35K	**Ketchikan**	**6.79**	**349**	Pn	**Pn**	**06 37 57.3**	**+2.9**
V35K	**Ketchikan**	**6.79**	**349**	P	**Pn**	**06 37 54.5**	**+0.2**
	baz=168						
V35K	**Ketchikan**	**6.79**	**349**	Pn	**Pn**	**06 37 56.7**	**+2.4**
I04A	**Tendick Farm,**	**6.86**	**133**		Pn	**06 38 01.2**	**+5.8**
DBO	**Dodson Butte**	**7.01**	**140**		Pn	**06 38 03.6**	**+6.1**
I05D	**Terrebonne, OR**	**7.03**	**125**	Pn	Pn	**06 38 03.3**	**+5.6**
CRAG	**Craig**	**7.17**	**342**	Pn	**Pn**	**06 38 02.6**	**+3.0**
CRAG	**Craig**	**7.17**	**342**	P	**Pn**	**06 38 00.0**	**+0.4**
	baz=160						
K02D	**Willamette Mer**	**7.19**	**144**		Pn	**06 38 05.8**	**+5.7**
KBO	**Bosley Butte**	**7.41**	**149**	Pn	Pn	**06 38 08.7**	**+5.7**
HUMO	**Hull Mountain**	**7.55**	**141**	Pn	Pn	**06 38 12.0**	**+7.1**
PINE	**Pine Mountain**	**7.61**	**127**	Pn	Pn	**06 38 11.7**	**+5.9**
L02F	**Cave Junction**	**7.72**	**146**		Pn	**06 38 14.0**	**+6.8**
U33K	**Whale Pass**	**7.78**	**344**	P	**Pn**	**06 38 07.6**	**-0.4**
	baz=162						
J05D	**Fort Rock, OR**	**7.81**	**131**	Pn	Pn	**06 38 14.7**	**+6.1**
KSXB	**Camp Six Broad**	**7.87**	**149**	Pn	Pn	**06 38 15.5**	**+6.1**
WRAK	**Wrangell Islan**	**7.95**	**348**	P	**Pn**	**06 38 10.3**	**0.0**
	baz=166						
NEW	**Newport**	**8.12**	**88**	Pn	**Pn**	**06 38 13.5**	**+0.7**
NEW	**Newport**	**8.12**	**88**	P	**Pn**	**06 38 12.9**	**+0.1**
	baz=277						
NEW	**Newport**	**8.12**	**88**	Pn	**Pn**	**06 38 14.3**	**+1.6**
	0.6nm,0.3s,baz=288,slow=4.7,SNR=4.8						
NEW				LR	LR	06 41 23.8	
	comp=Z,238nm,20.6s,baz=274,slow=38						
	2.6nm,0.5s						
KRMB	**Red Mountain**	**8.13**	**150**		Pn	**06 38 20.0**	**+7.1**
L04D	**Klamath Falls**	**8.14**	**140**	Pn	Pn	**06 38 20.0**	**+6.8**
T35M	**Bob Quinn**	**8.32**	**357**		**Pn**	**06 38 16.6**	**+1.2**
T35M	**Bob Quinn**	**8.32**	**357**	P	**Pn**	**06 38 16.0**	**+0.6**
	baz=176						
T35M	**Bob Quinn**	**8.32**	**357**	Pn	**Pn**	**06 38 17.6**	**+2.3**
YBH	**Yreka Blue Hor**	**8.38**	**144**	Pn	Pn	**06 38 24.9**	**+8.5**
YBH	**Yreka Blue Hor**	**8.38**	**144**	Pn	Pn	**06 38 23.0**	**+6.6**
	0.3nm,0.3s,baz=339,slow=13,SNR=60						
	25nm,0.9s						
KRPM	**Rodgers**	**8.42**	**152**	Pn	Pn	**06 38 24.0**	**+7.1**
BMTB	**Bullhead Mount**	**8.57**	**28**	P	**Pn**	**06 38 22.2**	**+3.3**
KHMM	**Horse Mountain**	**8.77**	**151**	Pn	Pn	**06 38 29.0**	**+7.2**
NBC4	**NorthernBC 4**	**8.79**	**34**	P	**Pn**	**06 38 24.6**	**+2.7**
BDMTA	**Bald Mountain**	**8.90**	**43**	P	**Pn**	**06 38 26.1**	**+2.8**
SIT	**Sitka**	**9.12**	**339**	P	**Pn**	**06 38 26.6**	**+0.3**
	baz=154						
J08A	**Circle Bar Ran**	**9.24**	**121**	Pn	Pn	**06 38 33.4**	**+5.2**
**

baz=156,SNR=8.5
M29M Somme Creek 14.69 343 P P 06 39 46.5 -2.3
TCUT Toone Canyon 14.77 114 P P 06 39 59.5 +10
CWC Cottonwood Cre 14.77 142 P Pn 06 39 42.7 -1.1
baz=329
CTU Camp Tracy 14.82 116 P P 06 40 02.6 +12
MCARA McCarthy VSAT 14.89 334 P Pn 06 39 44.3 -0.9
baz=143
WRGLY Wrigley 14.92 10 P P 06 39 50.7 -0.5
PDAR Pinedale Array 15.01 106 Pn 06 39 49.7 +2.6
PDAR Pinedale Array 15.01 106 Pn P 06 39 52.9 +0.3
0.1nm,0.3s,baz=306,slow=13,SNR=8.4
PDAR LR LR 06 45 56.7
comp=Z,105nm,18.0s,baz=303,slow=38
1.0nm,0.8s
BMRM Bremner River 15.06 330 P Pn 06 39 46.3 -1.2
baz=138
EYAK Cordova Ski Ar 15.15 328 P Pn 06 39 47.7 -1.0
baz=134
L29M L29M 15.24 345 Pn Pn 06 39 52.1 +2.2
L29M L29M 15.24 345 P Pn 06 39 49.2 -0.7
baz=158,SNR=7.4
L29M L29M 15.24 345 P P 06 39 53.4 -1.4
FURC Furnace Creek, 15.26 139 P Pn 06 39 49.5 -0.6
baz=327
MPMC Manual Prospec 15.34 141 P Pn 06 39 50.5 -1.0
baz=329
PRN Pahroc Range 15.34 132 P 06 39 57.1 +0.9
PRN IAmb IAmb 06 40 09.4
comp=Z,15nm,0.9s
M27K Edge Creek, AK 15.38 338 P Pn 06 39 51.1 -0.6
baz=147,SNR=6.1
M27K Edge Creek, AK 15.38 338 P P 06 39 57.2 +0.7
P23K Montague Islan 15.40 324 P Pn 06 39 50.7 -1.2
baz=130
PKM Mcpherson Peak 15.50 149 P Pn 06 39 52.0 -1.5
baz=336
BSUT Blindstream Ca 15.51 115 Pn P 06 39 57.9 -0.4
BSUT IAmb IAmb 06 40 11.7
comp=Z,14nm,1.2s
N25K Chitina, Valde 15.54 332 P Pn 06 39 53.2 -0.7
baz=140
DIV Divide 15.57 329 Pn P 06 39 57.4 -1.1
ARVC Arvin 15.63 146 P Pn 06 39 54.8 -0.2
baz=333
LAO LASA Array 15.68 89 P Pn 06 39 55.5 -0.2
baz=286
M26K Nabesna, AK 15.71 336 P Pn 06 39 55.7 -0.3
baz=145
LRMC Laurel Mtn Rad 15.76 143 P Pn 06 39 56.7 -0.1
baz=330
K29M Barlow Dome 15.83 347 P Pn 06 39 57.5 0.0
baz=160
K29M Barlow Dome 15.83 347 P P 06 40 02.0 +0.6
GLI Glacier Island 15.86 327 P Pn 06 39 57.4 -0.5
baz=132
L27K Beaver Creek, 15.96 339 P Pn 06 39 59.1 -0.2
baz=149,SNR=7.6
L27K Beaver Creek, 15.96 339 P P 06 40 04.2 +1.3
YKAB2 New Yellowknif 16.02 25 Pn Pn 06 39 58.5 -1.4
MSU Marysvale 16.03 123 P 06 40 04.6 +0.7
YKA Yellowknife Ar 16.07 25 Pn Pn 06 40 00.7 +0.1
YKA Yellowknife Ar 16.07 25 Pn Pn 06 40 00.0 -0.6
comp=Z,0.5nm,0.3s,baz=242,slow=5.8,SNR=51
YKA LR LR 06 45 12.5
comp=Z,121nm,19.6s,baz=140,slow=34
comp=Z,3.0nm,0.7s
GSC Goldstone, Bar 16.27 141 Pn P 06 40 08.4 +2.0
DAWY Dawson 16.35 344 Pn P 06 40 06.6 -0.5
DAWY Dawson 16.35 344 P Pn 06 40 03.8 -0.4
baz=156
J30M Hart River 16.36 349 P Pn 06 40 04.7 +0.3
baz=164,SNR=5.4
J30M Hart River 16.36 349 P P 06 40 10.6 +3.3
KDAK Kodiak Island 16.55 312 LR LR 06 44 42.4
comp=Z,196nm,21.2s,baz=131,slow=31
LCMT Little Creek M 16.56 129 P 06 40 11.7 +2.0
DGMT Dagmar 16.62 81 P Pn 06 40 07.4 -0.3
baz=280
OHAK Old Harbor 16.69 310 P Pn 06 40 08.3 -0.2
baz=111
PASC Pasadena Art C 16.72 146 Pn P 06 40 14.4 +3.0
PASC IAmb IAmb 06 40 42.7
comp=Z,18nm,1.2s
RC01 Rabbit Creek A 16.98 325 P Pn 06 40 12.2 0.0
baz=128
I30M Mount Dempster 16.99 350 P Pn 06 40 12.4 0.0
baz=164,SNR=9.1
I30M Mount Dempster 16.99 350 P P 06 40 16.7 +2.4
K22A Casper 17.02 102 P Pn 06 40 12.9 0.0
baz=299
PMR Palmer 17.07 327 P Pn 06 40 13.1 -0.1
baz=130
SNCC San Nicolas Is 17.09 151 P Pn 06 40 14.1 +0.4
baz=337
GMRC Granite Mounta 17.20 139 P Pn 06 40 15.7 +0.5
baz=328
SCRK Sand Creek 17.26 338 P Pn 06 40 15.2 -0.6
baz=146
WAT6 Susitna Watana 17.27 330 P Pn 06 40 15.5 -0.4
baz=135
O20A White River Ci 17.29 112 P Pn 06 40 15.8 -0.5
baz=307,SNR=12
EGAK Eagle 17.32 343 P Pn 06 40 15.6 -0.8
baz=153
CIS Catalina Islan 17.33 148 P Pn 06 40 16.3 -0.4
baz=335
H31M Peel River 17.36 353 P Pn 06 40 16.7 -0.2
baz=169
I29M Ogilvie Camp, 17.37 347 P Pn 06 40 17.8 +0.7
baz=160
Q19K Cape Douglas, 17.53 315 P Pn 06 40 18.4 -0.7
baz=115
K24K Donnelly Dome 17.59 335 P Pn 06 40 19.6 -0.2
baz=142
J26L Joseph Creek 17.60 339 P Pn 06 40 19.7 -0.3
baz=148,SNR=8.6
SUA Susitna One 17.60 325 P Pn 06 40 19.1 -0.9
baz=127
O20K Slope Mountain 17.61 319 P Pn 06 40 19.3 -0.7
baz=120
WAT1 Susitna Watana 17.71 330 P Pn 06 40 20.6 -0.6
baz=134
I28M Miner Creek 17.71 345 P Pn 06 40 21.6 +0.2
baz=156
I28M Miner Creek 17.71 345 P P 06 40 25.8 +3.6
PFO Pinyon Flats O 17.88 143 P Pn 06 40 23.2 -0.4
baz=331
PFO Pinyon Flats O 17.88 143 P P 06 40 28.9 +4.6
comp=Z,0.1nm,0.3s,baz=326,slow=8.3,SNR=3.8
PFO LR LR 06 47 31.3
comp=Z,53nm,18.6s,baz=20,slow=38
comp=Z,2.6nm,0.8s
TPFO Pinon Flats 17.89 143 P Pn 06 40 23.4 -0.3
baz=331
FFC Flin Flon 17.92 60 Pn 06 40 23.7 -0.2
FFC Flin Flon 17.92 60 P P 06 40 25.2 +0.7
RSSD Black Hills 18.00 95 P 06 40 26.2 +0.5
RSSD Black Hills 18.00 95 P Pn 06 40 24.7 -0.5
baz=294
N20K Mount Spurr 18.02 323 P Pn 06 40 24.7 -0.5
baz=124
J25K Salcha River, 18.13 337 P Pn 06 40 26.6 +0.1
baz=144
EPYK Eagle Plains 18.14 350 P P 06 40 26.8 0.0
baz=164,SNR=6.4
I27K Kandik River 18.15 344 P Pn 06 40 26.8 +0.1
baz=153
H29M Whitestone 18.19 348 P Pn 06 40 27.2 +0.1
baz=161,SNR=6.2
H29M Whitestone 18.19 348 P P 06 40 30.5 +3.1
I26K Coal Creek Min 18.20 341 P P 06 40 27.4 0.0
baz=150,SNR=7.0
SKT Skwentna 18.21 325 P Pn 06 40 27.4 0.0
baz=127
BC3 Big Chuckawall 18.25 140 P P 06 40 28.4 0.0
baz=330
PV15 Paradox Valley 18.27 117 P 06 40 32.0 +3.4
PV15 IAmb IAmb 06 40 41.9
comp=Z,20nm,1.0s
N23A Red Feather La 18.29 106 P Pn 06 40 28.6 -0.2
baz=303
Q17K Contact Creek 18.36 311 P Pn 06 40 28.9 -0.5
baz=110
HDA Harding Lake 18.39 335 P P 06 40 29.7 +0.2
baz=141
O19K Port Alsworth 18.40 318 P Pn 06 40 29.9 +0.1
baz=118
G31M Satah River 18.45 354 P Pn 06 40 30.7 +0.4
baz=170
G31M Satah River 18.45 354 P Pn 06 40 33.4 +3.1
P18K Big Mountain, 18.47 315 P Pn 06 40 30.7 +0.1
baz=114
MCK McKinley 18.47 332 P Pn 06 40 30.8 +0.3
baz=136
MONP2 Monument Peak 18.52 144 P Pn 06 40 31.7 +0.1
baz=332
O18K Koktuh Hills 18.65 316 P P 06 40 31.4 -1.1
baz=116
ILAR Eielson Array 18.65 336 P Pn 06 40 35.9 +3.1
ILAR Eielson Array 18.65 336 P Pn 06 40 34.0 +1.2
comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=24
ILAR LR LR 06 46 21.1
comp=Z,109nm,21.9s,baz=107,slow=33
comp=Z,2.5nm,0.9s
WUAZ Wupatki 18.67 128 P Pn 06 40 37.3 +3.9
H27K Steamboat Moun 18.70 345 P Pn 06 40 33.3 -0.1
baz=154
TRF Thorofare Moun 18.71 330 P P 06 40 33.4 +0.2
baz=133
SWSC Sam W. Stewart 18.73 142 P Pn 06 40 34.1 +0.3
baz=331
N19K Bonanza Creek 18.77 320 P Pn 06 40 34.4 +0.1
baz=119
M20K Styx River 18.77 324 P Pn 06 40 34.2 -0.1
baz=124
G29M Pine Creek 18.81 349 P Pn 06 40 34.9 +0.3
baz=162,SNR=8.4
G29M Pine Creek 18.81 349 P Pn 06 40 37.4 +2.8
IKP In-Ko-Pah, Jac 18.86 143 P Pn 06 40 35.5 -0.1
baz=332
Q16K King Salmon 18.88 312 P P 06 40 34.4 -0.6
baz=110
PRP Porcupine Dome 18.91 339 P P 06 40 35.4 0.0
baz=145
F31M Tsiigehtchic 18.93 355 P Pn 06 40 36.3 +0.2
baz=171,SNR=6.2
F31M Tsiigehtchic 18.93 355 P Pn 06 40 39.0 +2.9
CBX Cerro Bola 18.95 145 P Pn 06 40 41.3 +4.7
CBX IAmb IAmb 06 40 47.1
comp=Z,12nm,1.0s
P17K Kvichak River 18.96 314 P P 06 40 34.9 -1.0
baz=112
PPLA Purkeypile 19.01 327 P P 06 40 36.7 +0.1
baz=129
MVCO Mesa Verde 19.02 119 P P 06 40 36.9 -0.1
baz=314,SNR=11
POKR Poker Plat Res 19.07 336 P P 06 40 36.7 -0.4
baz=141
ISCO Idaho Springs 19.11 109 P P 06 40 37.6 -0.4
baz=306
NEA2 Nenana 19.13 334 P Pn 06 40 41.2 +2.6
NEA2 IAmb IAmb 06 40 43.6
comp=Z,12nm,1.3s
NEA2 Nenana 19.13 334 P P 06 40 38.0 +0.3
baz=137
CHGN Chignik 19.16 304 P P 06 40 37.6 -0.5
baz=101
MDM Murphy Dome 19.16 335 Pn 06 40 41.3 +2.3
G27K Doyon Strip 19.24 345 P Pn 06 40 39.5 -0.4
baz=155,SNR=8.8
G27K Doyon Strip 19.24 345 P Pn 06 40 42.4 +2.4
F30M Barrier River 19.25 352 P P 06 40 39.5 +0.5
baz=167,SNR=7.8
F30M Barrier River 19.25 352 P Pn 06 40 41.8 +1.8
M19K Big River Lodg 19.28 323 P P 06 40 38.9 -0.5
baz=122
CAST Castle Rocks 19.30 328 P P 06 40 39.5 -0.1
baz=129
N18K Kilae Creek 19.32 318 P P 06 40 39.5 -0.3
baz=117
BPAW Bear Paw Mtn. 19.38 331 P P 06 40 40.6 +0.2
baz=133
L20K Farewell, AK 19.39 324 P P 06 40 40.6 0.0
baz=124
O17K Koliganek Bris 19.49 315 P P 06 40 40.7 -0.9
baz=112
H25L Birch Creek 19.60 340 P P 06 40 42.6 -0.2
baz=146,SNR=6.2
L19K White Mountain 19.62 323 P P 06 40 42.6 -0.5
baz=122
I23K Minto, Yukon-K 19.63 334 P P 06 40 43.1 0.0
baz=138
P16K Nushagak River 19.66 312 P P 06 40 43.4 0.0
baz=109
M18K Stony River 19.66 321 P P 06 40 43.5 0.0
baz=119
CHUM Lake Minchumin 19.67 329 P P 06 40 43.8 +0.2
baz=130,SNR=6.0
F28M Old Crow 19.71 348 P P 06 40 44.5 +0.4
baz=159
F28M Old Crow 19.71 348 P Pn 06 40 46.4 +0.9
H24K Noodor Dome 19.75 337 P P 06 40 44.6 +0.1
baz=142,SNR=9.7
G26K Porcupine Rive 19.76 343 P P 06 40 44.6 +0.1
baz=151,SNR=5.9
INK Inuvik 19.78 355 P P 06 40 45.5 +0.8
INK Inuvik 19.78 355 P P 06 40 44.7 0.0
baz=172
INK Inuvik 19.78 355 P Pn 06 40 46.2 0.0
baz=154,slow=8.6,SNR=6.3
INK LR LR 06 48 53.6
comp=Z,138nm,18.1s,baz=181,slow=39
comp=Z,4.9nm,1.2s
INK Inuvik 19.78 355 P Pn 06 40 46.9 +0.6
N17K Nushagak Hills 19.83 317 P P 06 40 44.6 -0.8
baz=114
W18A Petrified Fore 19.84 126 P P 06 40 45.8 -0.1
baz=319
O16K Kokwok River B 19.90 314 P P 06 40 46.3 +0.2
baz=111
Q24A Divide 19.90 110 P P 06 40 46.4 -0.2
baz=307
MLY Manley 19.95 333 P P 06 40 46.2 -0.5
baz=135
K20K Telida 19.97 326 P Pn 06 40 50.4 +1.8
K20K Telida 19.97 326 P P 06 40 46.4 -0.6
baz=126
G25K Bearman Lake 20.08 341 P P 06 40 48.0 +0.1
baz=146,SNR=5.6
SDPT Sand Point 20.17 301 P P 06 40 48.0 -1.0
baz=96
H23K Yukon River 20.18 336 P P 06 40 48.1 -1.1
baz=139
E29M Blow River 20.21 351 P Pn 06 40 51.7 +0.3
E29M IAmb IAmb 06 40 56.9
comp=Z,19nm,1.3s
E29M Blow River 20.21 351 P P 06 40 49.4 -0.1
baz=164,SNR=10.0
E29M Blow River 20.21 351 P Pn 06 40 52.5 +1.1
M17K Holitna River 20.31 319 P P 06 40 49.7 -0.9
baz=116
BMAR Burnt Mountain 20.33 343 P Pn 06 40 53.4 +0.6
G24K Hadweenzic Riv 20.34 339 P P 06 40 50.5 -0.4
baz=144
L18K Granite Mounta 20.38 322 P Pn 06 40 55.2 +1.8
L18K IAmb IAmb 06 41 05.9
comp=Z,13nm,1.1s
L18K Granite Mounta 20.38 322 P P 06 40 50.9 -0.4
baz=119
I21K Tanana 20.43 332 P P 06 40 51.6 -0.2
baz=133
SDCO Great Sand Dun 20.44 114 P P 06 40 52.0 -0.5
baz=310
F26K Sheenjek River 20.48 344 P P 06 40 52.1 -0.3
baz=151,SNR=6.4
J20K Nowinta River 20.49 328 P Pn 06 40 56.6 +1.9
J20K IAmb IAmb 06 40 59.9
comp=Z,13nm,1.2s
J20K Nowinta River 20.49 328 P P 06 40 52.5 0.0
baz=128,SNR=6.1
E27K Coleen River 20.49 347 P P 06 40 52.5 -0.1
baz=156
E27K Coleen River 20.49 347 P Pn 06 40 56.9 +2.2
N16K Nishlik Lake 20.53 316 P P 06 40 52.7 -0.3
baz=112
O15K Ungalikthiuk R 20.60 312 P P 06 40 52.4 -1.4
baz=107
E28M Babbage River 20.60 349 P Pn 06 40 56.0 +0.1
E28M IAmb IAmb 06 40 58.6
comp=Z,11nm,1.2s
E28M Babbage River 20.60 349 P P 06 40 52.4 -1.3
baz=161,SNR=9.7
E28M Babbage River 20.60 349 P Pn 06 40 56.1 +0.1
F25K Christian Rive 20.68 342 P P 06 40 53.8 -0.8
baz=148
H22K Ishtalitna Cre 20.75 334 P P 06 40 54.7 -0.6
baz=136
OGNE Ogallala 20.78 102 Pn 06 40 58.4 +0.1
OGNE IAmb IAmb 06 41 08.5
comp=Z,13nm,0.8s
OGNE Ogallala 20.78 102 P P 06 40 55.7 -0.2
baz=301
M16K Timber Creek 20.83 317 P Pn 06 41 01.2 +2.6
M16K Timber Creek 20.83 317 P P 06 40 55.1 -1.1
baz=113
214A Organ Pipe Nat 20.86 137 P P 06 40 56.6 -0.2
baz=328
C36M Paulatuk 20.87 5 P Pn 06 40 58.9 -0.2
C36M Paulatuk 20.87 5 P P 06 40 56.8 +0.2
baz=190
C36M Paulatuk 20.87 5 P Pn 06 40 59.3 +0.2
J19K Poorman 20.91 327 P Pn 06 41 00.5 +1.0
J19K IAmb IAmb 06 41 05.4
comp=Z,9.1nm,1.1s
J19K Poorman 20.91 327 P P 06 40 56.1 -1.0
baz=125,SNR=5.3
G23K Bananza Creek 20.98 337 P P 06 40 57.6 -0.2
baz=139
I20K Naaghedeneel 20.98 329 P P 06 40 57.4 -0.4
baz=128
L17K Donlin 21.00 321 P P 06 40 57.6 -0.5
baz=117
H21K Melozitna Rive 21.01 333 P P 06 41 01.0 +2.9
H21K IAmb IAmb 06 41 08.7
comp=Z,14nm,1.4s
H21K Melozitna Rive 21.01 333 P P 06 40 58.0 -0.1
baz=133
J18K Innoko River 21.02 325 P P 06 41 01.8 +3.5
J18K IAmb IAmb 06 41 02.5
comp=Z,7.3nm,0.8s
J18K Innoko River 21.02 325 P P 06 40 58.4 +0.1
baz=122
N15K Kwethluk River 21.04 315 P P 06 40 57.7 -0.8
baz=110
F24K Squaw Lake 21.10 340 P P 06 40 58.8 -0.3
baz=144
S12K Black Hills 21.10 302 P P 06 40 58.3 -0.9
baz=96
E25K Arctic Village 21.12 343 P P 06 40 59.0 -0.4
baz=149
D28M Stokes Point 21.20 351 P P 06 40 59.3 -0.8
baz=163,SNR=11
D28M Stokes Point 21.20 351 P P 06 41 03.3 +3.2
K17K Iditarod 21.27 322 P P 06 41 04.9 +3.9
K17K IAmb IAmb 06 41 16.7
comp=Z,13nm,1.1s
K17K Iditarod 21.27 322 P P 06 40 59.9 -1.1
baz=118
L16K Owhat River 21.33 319 P P 06 41 00.7 -0.9
baz=114
D27M Malcolm River 21.39 349 P P 06 41 00.4 -1.8
baz=159,SNR=6.4
D27M Malcolm River 21.39 349 P P 06 41 06.2 +4.0
COLD Coldfoot 21.42 338 P P 06 41 01.3 -1.2
baz=140,SNR=6.0
COLD Coldfoot 21.42 338 P P 06 41 06.1 +3.6
KSCO Kaye Shedlock' 21.45 107 P P 06 41 02.5 -0.7
baz=306,SNR=6.0
T25A Trinidad 21.49 113 P P 06 41 03.3 -0.5
baz=310
M15K Kasigluk River 21.50 316 P P 06 41 02.2 -1.1
baz=110,SNR=6.8
TUC Tucson 21.51 133 P P 06 41 02.8 -1.0
baz=325
IMAR Indian Mountai 21.52 333 P P 06 41 06.7 +3.1
G22K Bettles 21.53 336 P P 06 41 03.0 -0.6
baz=137
H20K Anotleneega Mo 21.55 331 P P 06 41 03.3 -0.6
baz=129
E24K Your Creek 21.68 341 P P 06 41 04.0 -1.5
baz=144
ULM Lac du Bonnet 21.70 73 P P 06 41 06.3 +0.7
ULM Lac du Bonnet 21.70 73 P P 06 41 08.2 +2.6
comp=Z,6.5nm,0.7s,baz=290,slow=12,SNR=8.7
ULM LR LR 06 50 03.5
comp=Z,86nm,18.1s,baz=308,slow=38
comp=Z,6.5nm,0.7s
ULM Lac du Bonnet 21.70 73 P P 06 41 07.6 +2.0
ANMO Albuquerque 21.78 121 P P 06 41 05.9 -1.0
baz=316
GCSA Galena City Sc 21.78 328 P P 06 41 05.2 -1.2
baz=124
G21K Allakaket 21.80 334 P P 06 41 05.2 -1.4
baz=133
J17K VABM Dome 21.91 323 P P 06 41 06.7 -1.1
baz=118
E23K Chandalar 21.93 340 P P 06 41 07.2 -0.8
baz=142
AGMN Agassiz Nation 22.09 78 P P 06 41 09.8 0.0
baz=284,SNR=9.0
H19K Roundabout Mou 22.09 330 P P 06 41 09.9 +0.2
baz=127,SNR=5.3
M14K Bethel 22.11 315 P P 06 41 09.7 -0.2
baz=108
C27K Jago River 22.13 347 P P 06 41 09.7 -0.4
baz=154
C27K Jago River 22.13 347 P P 06 41 13.4 +3.3
F22K John River 22.14 337 P P 06 41 10.0 -0.3
baz=137
L15K Ungalak Mounta 22.20 318 P P 06 41 10.4 -0.5
baz=111
F21K Alatna River 22.29 335 P P 06 41 11.1 -0.8
baz=134
D25K Kavik River 22.30 344 P P 06 41 11.6 -0.4
baz=149
TOLK Toolik Lake Re 22.38 341 P P 06 41 12.3 -0.6
baz=143,SNR=8.3
K15K Wolf Creek Mou 22.45 319 P P 06 41 17.4 +3.8
K15K Wolf Creek Mou 22.45 319 P P 06 41 12.6 -1.0
baz=113
J16K Anvik River 22.47 322 P P 06 41 13.3 -0.5
baz=116
E22K Anaktuvuk Pass 22.51 338 P P 06 41 13.7 -0.5
baz=139
H18K Honhosa River 22.54 328 P P 06 41 18.1 +3.6
H18K Honhosa River 22.54 328 P P 06 41 14.1 -0.4
baz=123
C26K Camden Bay 22.58 346 P P 06 41 15.1 +0.2
baz=152,SNR=18
L14K Kuka Creek 22.63 316 P P 06 41 15.2 -0.2
baz=109
D24K Happy Valley 22.64 342 P P 06 41 15.9 +0.4
baz=145
M13K Dall Lake 22.66 314 P P 06 41 15.8 0.0
baz=106
G19K Purcell Mounta 22.67 331 P P 06 41 15.9 0.0
baz=127
I17K Unalakleet 22.77 323 P P 06 41 16.2 -0.8
baz=117
F20K Avaraart Lake 22.82 333 P P 06 41 16.8 -0.6
baz=131
121A Cookes Peak, D 22.86 127 P P 06 41 18.8 +0.4
baz=321
D23K Nanushuk River 22.89 340 P P 06 41 17.8 -0.3
baz=142
FCC Fort Churchill 22.89 51 P P 06 41 18.7 +0.5
FCC Fort Churchill 22.89 51 P P 06 41 19.6 +1.3
H17K Granite Mounta 22.98 326 P P 06 41 19.4 +0.2
baz=120
G18K Tagagawik 23.05 329 P P 06 41 19.4 -0.5
baz=124
ECSD EROS Data Cent 23.07 90 P P 06 41 22.1 +1.8
ECSD EROS Data Cent 23.07 90 P P 06 41 20.4 +0.1
baz=294
C24K Franklin Bluff 23.08 343 P P 06 41 20.3 +0.1
baz=146
E21K Killik River 23.28 337 P P 06 41 22.0 -0.3
baz=136
D22K Ayikyak River 23.29 339 P P 06 41 22.1 -0.2
baz=138
F19K Shaleruckik Mo 23.31 332 P P 06 41 22.5 0.0
baz=127
A36M Sachs Harbour 23.44 3 P P 06 41 25.8 +2.0
A36M IAmb IAmb 06 41 37.6
comp=Z,7.6nm,0.9s
A36M Sachs Harbour 23.44 3 P P 06 41 23.9 +0.1
baz=187,SNR=5.5
A36M Sachs Harbour 23.44 3 P P 06 41 26.6 +2.9
B35A Bob, Littlefor 23.45 77 P P 06 41 25.8 +1.6
J14K Nanvaranak Lak 23.49 319 P P 06 41 23.9 -0.4

baz=111
E19K **Redstone River** 23.53 333 P P 06 41 24.6 -0.1
baz=129
G17K **Kiwalik Mounta** 23.54 327 P P 06 41 24.3 -0.5
baz=121
C23K **Itkillik River** 23.56 342 P P 06 41 25.4 +0.4
baz=143
UNV **Unalaska Valle** 23.63 297 P P 06 41 24.9 -0.9
baz=88
K13K **Kusilvak Mount** 23.71 317 P P 06 41 26.5 0.0
baz=108
H16K **Elim** 23.72 324 P P 06 41 26.0 -0.5
baz=117
BLKN **Baker Lake** 23.74 36 P P 06 41 28.5 +1.8
E20K **Nigu River** 23.75 335 P P 06 41 26.5 -0.4
baz=132
F18K **Selawik** 23.78 330 P P 06 41 27.8 +0.7
baz=124
C21K **Knifeblade Rid** 24.00 338 P P 06 41 30.0 +0.7
baz=136
M11K **Mekoryuk** 24.03 313 P P 06 41 29.6 +0.1
baz=103
G16K **Koyuk River** 24.11 326 P P 06 41 30.5 +0.2
baz=118
D20K **Etivluk River** 24.17 336 P P 06 41 30.8 0.0
baz=132
F17K **Baldwin Pennin** 24.23 329 P P 06 41 31.3 -0.1
baz=122
B21K **Ikpikpuk River** 24.30 339 P P 06 41 31.3 -0.6
baz=137
D19K **Kuna River** 24.45 335 P P 06 41 33.0 -0.4
baz=130
E18K **Tukpahlearik C** 24.55 331 P P 06 41 34.1 -0.2
baz=124
B22K **Teshekpuk Lake** 24.56 341 P P 06 41 34.2 -0.1
baz=140
G15K **Niukluk** 24.56 324 P P 06 41 33.9 -0.5
baz=115
ANM **Nome** 24.92 323 P P 06 41 37.5 -0.1
baz=112
PKLO **Pickle Lake** 24.96 69 P P 06 41 40.2 +2.1
EYMN **Ely** 25.00 77 P P 06 41 38.6 0.0
baz=286
EYMN **Ely** 25.00 77 P P 06 41 41.0 +2.5
SPMN **Marine on St.** 25.02 84 P P 06 41 38.7 0.0
baz=291
NIKH **Nikolski High** 25.10 295 P P 06 41 38.8 -0.5
baz=84
F15K **North Star Dit** 25.10 326 P P 06 41 39.0 -0.3
baz=116
B20K **Meade River** 25.20 338 P P 06 41 40.7 +0.6
baz=134
C19K **Lookout Ridge** 25.25 335 P P 06 41 40.7 +0.1
baz=129
A22K **Sinclair Lake** 25.40 341 P P 06 41 42.3 +0.3
baz=138
C18K **Utukok River** 25.44 333 P P 06 41 41.9 -0.4
baz=126
RDOG **Red Dog Mine** 25.63 331 P P 06 41 43.6 -0.5
baz=122
F14K **Arctic Creek** 25.64 325 P P 06 41 43.3 -0.8
baz=113
SPIA **Saint Paul Isl** 25.73 305 P P 06 41 44.4 -0.6
baz=92
C17K **DeLong Mountai** 25.95 332 P P 06 41 46.6 -0.3
baz=123
B18K **Kokolik River** 26.04 334 P P 06 41 47.7 0.0
baz=126
WMOK **Wichita Mounta** 26.52 110 P P 06 41 52.8 +0.3
baz=311
TXAR **Lajitas Array** 27.56 125 P P 06 42 05.9 +4.0
comp=Z,0.5nm,0.8s,baz=330,slow=7.2,SNR=5.6
TXAR LR LR 06 53 37.1
comp=Z,49nm,18.1s,baz=322,slow=38
comp=Z,0.5nm,0.8s
JCT **Junction City** 28.87 118 P P 06 42 13.5 -0.1
baz=318
MIAR **Mount Ida** 29.93 105 P P 06 42 22.5 -0.4
baz=309
SADO **Sadowa** 34.12 77 LR LR 06 57 02.0
comp=Z,133nm,18.6s,baz=90,slow=36
P52A **Corning** 34.56 87 P P 06 43 03.3 -0.1
baz=301
ERPA **Erie** 34.75 82 P P 06 43 04.6 -0.4
baz=298
TZTN **Tazewell** 35.30 93 P P 06 43 09.5 -0.3
baz=305
FRB **Frobisher Bay** 35.44 42 LR LR 06 58 04.8
comp=Z,136nm,18.7s,baz=306,slow=37
TKL **Tuckaleechee C** 35.66 94 LR LR 06 57 15.4
comp=Z,64nm,20.6s,baz=308,slow=35
KMSC **Kings Mountain** 37.58 93 P P 06 43 28.4 -0.8
baz=306
SCHQ **Schefferville** 38.01 56 P P 06 43 39.8 +7.1
comp=Z,8.8nm,1.0s,baz=287,slow=14,SNR=7.7
SCHQ LR LR 06 59 16.3
comp=Z,201nm,18.9s,baz=251,slow=36
SFJD **Kangerlussuaq** 42.29 35 LR LR 07 02 20.8
comp=Z,134nm,18.7s,baz=298,slow=37
SEY **Seymchan** 43.32 319 LR LR 06 59 51.4
comp=Z,34nm,20.8s,baz=304,slow=33
MA2 **Magadan** 45.26 315 LR LR 07 01 55.0
comp=Z,42nm,18.4s,baz=96,slow=34
JTS **Las Juntas de** 53.20 121 LR LR 07 12 44.8
comp=Z,24nm,18.1s,baz=359,slow=41
H11N2 **WAKE ISLAND Hy** 58.18 264 T T 07 49 14.6
baz=44,slow=76,SNR=63
H11N3 **WAKE ISLAND Hy** 58.19 264 T T 07 49 18.3
baz=44,slow=76,SNR=54
H11N1 **WAKE ISLAND Hy** 58.20 264 T T 07 49 17.9
baz=44,slow=76,SNR=59
H11S1 **WAKE ISLAND Hy** 59.19 263 T T 07 50 31.4
baz=44,slow=74,SNR=7.0
H11S2 **WAKE ISLAND Hy** 59.20 263 T T 07 50 33.0
baz=44,slow=74,SNR=14
H11S3 **WAKE ISLAND Hy** 59.20 263 T T 07 50 31.5
baz=44,slow=74,SNR=8.0
ARCES **ARCESS Array B** 60.64 10 LR LR 07 17 31.8
comp=Z,7nm,18.4s,baz=291,slow=41
ROSC **El Rosal** 63.81 115 LR LR 07 20 24.9
comp=Z,21nm,18.6s,baz=124,slow=42
ZALV **Zalesovo Beam** 73.74 340 LR LR 07 24 28.4
comp=Z,47nm,19.0s,baz=60,slow=39
ARU **Arti** 75.04 355 LR LR 07 22 29.2
comp=Z,31nm,18.1s,baz=323,slow=37
BVAR **Borovoye Array** 77.28 348 P P 06 48 10.8 +1.8
comp=Z,0.8nm,0.7s,baz=352,slow=4.4,SNR=4.6
comp=Z,0.8nm,0.7s
MDP **Montagnes des** 77.40 97 LR LR 07 25 05.0
comp=Z,17nm,20.4s,baz=83,slow=38
KURBB **Kurchatov Arra** 78.21 342 P P 06 48 15.5 +1.3
comp=Z,1.2nm,0.9s,baz=18,slow=5.1,SNR=7.2
comp=Z,1.2nm,0.9s
MKAR **Makanchi Array** 80.99 339 P P 06 48 31.0 +1.6
comp=Z,0.7nm,0.8s,baz=16,slow=3.9,SNR=6.4
MKAR LR LR 07 26 11.3
comp=Z,54nm,18.8s,baz=304,slow=37
comp=Z,0.7nm,0.8s
MLR **Muntele Rosu** 83.74 17 LR LR 07 29 32.9
comp=Z,59nm,18.1s,baz=316,slow=38
AAK **Ala-Archa** 86.66 343 LR LR 07 35 50.6
comp=Z,24nm,18.9s,baz=351,slow=41

RSNC 10 06:38:09.5±0.0, 8°N±2°×7°3W±°, h127km±4km, M2.5, mB6.3, mb3.4, ML2.5, Mw(mB)6.0, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAMC	**Pamplona, Colo**	**0.55**	**110**	P	Pn	06 38 27.7	-1.4
PAMC				S	Sn	06 38 43.2	-0.7
OCAC	**Ocana**	**0.71**	**352**	P	Pn	06 38 28.2	-1.7
OCAC				S	Sn	06 38 44.5	-0.8
BARC	**Barichara**	**0.93**	**178**	P	Pn	06 38 29.7	-2.1
BARC				S	Sn	06 38 47.5	-1.2
PTBC	**PUERTO BERRIO,**	**1.57**	**231**	P	Pn	06 38 35.8	-2.5
PTBC				S	Sn	06 38 58.4	-1.8
ZARC	**Zaragoza, Cauc**	**1.62**	**269**	P	Pn	06 38 36.7	-2.1
ZARC				S	Sn	06 39 00.5	-0.7
RUSC	**La Rusia**	**1.63**	**175**	P	Pn	06 38 36.4	-3.0
RUSC				S	Sn	06 38 59.8	-2.4
SPBC	**San Pablo de B**	**2.05**	**204**	P	Pn	06 38 42.1	-1.9
SPBC				S	Sn	06 39 09.6	-0.9
UREC	**San Jos de Ur**	**2.30**	**276**	P	Pn	06 38 43.9	-3.2
UREC				S	Sn	06 39 12.2	-3.8
ARGC	**Ariguani, Magd**	**2.53**	**336**	P	Pn	06 38 49.4	-0.5
ARGC				S	Sn	06 39 23.9	+2.9
NORC	**Norcasia**	**2.55**	**220**	P	Pn	06 38 47.9	-2.4
NORC				S	Sn	06 39 20.5	-1.1
ROSC	**El Rosal**	**2.89**	**202**	P	Pn	06 38 55.0	0.0
ROSC				S	Sn	06 39 31.5	+1.6
SDV	**Santo Domingo**	**2.89**	**62**	P	Pn	06 38 52.3	-2.5
SDV				S	Sn	06 39 25.8	-3.9
CHIC	**Chingaza**	**2.93**	**190**	P	Pn	06 38 54.1	-1.4
CHIC				S	Sn	06 39 31.0	+0.1
SJCC	**San Jacinto, C**	**3.05**	**321**	P	Pn	06 38 53.8	-2.9
SJCC				S	Sn	06 39 29.4	-3.7
NIZA	**Niza - Manizal**	**3.32**	**222**	P	Pn	06 39 03.2	+2.7
NIZA				S	Sn	06 39 40.4	+0.5
APAC	**Apartado, Choc**	**3.35**	**277**	P	Pn	06 38 58.2	-2.4
APAC				S	Sn	06 39 37.0	-3.1
VILC	**Villavicencio,**	**3.43**	**188**	P	Pn	06 39 01.3	-0.5
PTGC	**Puerto Gaitan,**	**3.48**	**162**	P	Pn	06 38 58.5	-3.9
PTGC				S	Sn	06 39 37.6	-5.7
CRJC	**Cerrejon, Guaj**	**3.48**	**5**	P	Pn	06 38 58.7	-3.8
CRJC				S	Sn	06 39 38.8	-4.7
SMRC	**Santa Marta, M**	**3.74**	**345**	P	Pn	06 39 03.8	-2.0
SMRC				S	Sn	06 39 45.4	-4.1
PLMC	**San Jos del P**	**4.01**	**230**	P	Pn	06 39 07.4	-2.0
PLMC				S	Sn	06 39 52.3	-3.6
ORTC	**Ortega, Tolima**	**4.12**	**209**	P	Pn	06 39 10.3	-0.6
ORTC				S	Sn	06 39 59.1	+0.5
PRAC	**Prado**	**4.14**	**204**	P	Pn	06 39 08.7	-2.4
PRAC				S	Sn	06 39 59.5	+0.6
CAPC	**Capurgana**	**4.24**	**285**	P	Pn	06 39 07.2	-5.1
CAPC				S	Sn	06 39 52.6	-8.5
URMC	**La Uribe, Meta**	**4.41**	**195**	P	Pn	06 39 13.0	-1.8
URMC				S	Sn	06 40 05.1	-0.3
GUVC	**San Jose del G**	**4.99**	**173**	P	Pn	06 39 20.3	-2.2
GUVC				S	Sn	06 40 15.1	-4.1
MACC	**Macarena, Meta**	**5.39**	**187**	P	Pn	06 39 24.0	-3.8
	4.9nm,0.6s						
POPC	**Popayan, Colom**	**6.04**	**215**	P	Pn	06 39 34.8	-1.9
	2.7nm,0.9s						
FLOC	**Florencia**	**6.39**	**202**	P	Pn	06 39 39.1	-2.2

*DNK **10** 06:47:08.6±2.6, 79°.63N×3°.59E, h25km±24km, ML1.0*
*BER **10** 06:47:08.5±2.5, 79°.71N×3°.40E, h15km±15km, mb(Pn)2.7, Confirmed Earthquake*

ISC 10 06:47:03.0±1.0, 79°83N±0°.09×2°71E±0°.04, h10km, n11, σ2°36/17, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.94**	**113**	*e*P	**Pb**	**06 47 37.1**	**-1.2**
KBS				*e*S	**Sn**	**06 47 57.2**	**-3.0**
KBS				IAML		06 47 60.0	
	comp=Z,7.6nm,0.7s						
KBS	**Kingsbay**	**1.94**	**113**	*i* P	**Pb**	**06 47 37.3**	**-1.0**
KBS				*i* S	**Sn**	**06 47 57.4**	**-2.8**
BRBB	**Barentsburg B**	**2.81**	**123**	*e*Pg	**Pb**	**06 47 52.4**	**-0.8**
BRBB				*e*S	**Sn**	**06 48 19.7**	**-2.1**
BRBA	**Barentsburg A**	**2.84**	**123**	*e*Pg	**Pb**	**06 47 53.0**	**-0.7**
SPA0	**Spitsbergen Ar**	**3.10**	**116**	*e*P	**Pn**	**06 47 53.8**	**+2.0**
SPA0				IAML		06 47 56.5	
	comp=Z,5.1nm,0.3s						
SPA0				*e*S	**Sn**	**06 48 26.3**	**-2.4**
NOR	**Nord**	**3.59**	**309**	*e*P	**Pb**	**06 48 05.9**	**-0.5**
NOR				*e*S	**Sb**	**06 48 47.9**	**-2.1**
NOR				IAML		06 48 55.9	
	comp=Z,0.5nm,0.3s						
DAG	**Danmarks Havn**	**5.29**	**246**	*e*P	Pn	06 48 25.5	+3.6
DAG				*e*S	**Sn**	**06 49 20.4**	**-2.3**
DAG	**Danmarks Havn**	**5.29**	**246**	*e*	**Pn**	**06 48 23.0**	**+1.2**
	baz=34,slow=18						
DAG				*i* P	Pb	06 48 25.2	-10
DAG				*i* S	**Sn**	**06 49 20.7**	**-1.9**
DAG				IAML		06 49 23.7	
	comp=Z,0.9nm,0.4s						
DBG	**Daneborg**	**7.49**	**234**	*e*P	Pn	06 48 55.7	+3.8
DBG	**Daneborg**	**7.49**	**234**	*i* P	**Pn**	**06 48 54.8**	**+2.8**
DBG				*i* S	**Sn**	**06 50 13.2**	**-3.5**
SUMG	**Summit**	**11.86**	**255**	*i* P	**Pn**	**06 49 55.0**	**+2.9**

*JMA **10** 06:56:19.9±0.2, 24°.N±2°×122°.8E±0°.7, h25km±4km, MV2.3/11, NW OFF ISHIGAKIJIMA IS*
*TAP **10** 06:56:19.6, 24°.11N×122°.79E, h20km, ML2.8, D*

ISC 10 06:56:19.3±1.0, 24°05N±0°.04×122°81E±0°.02, h22km±8km, n54, σ0°72/79, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonaguni jima**	**0.42**	**17**	P	**Pb**	**06 56 27.7**	**-0.3**
YOJ	**Yonaguni jima**	**0.45**	**24**	*e*P	**Pb**	**06 56 28.4**	**-0.2**
YOJ				*e*S	**Sb**	**06 56 34.2**	**-0.6**
YOJ	**Yonaguni jima**	**0.45**	**24**	*i* P	**Pb**	**06 56 28.4**	**-0.2**
	baz=28						
YOJ				*i* S	**Sb**	**06 56 34.3**	**-0.6**
	baz=28						
EOS4	**EOS4**	**0.46**	**279**	P	**Pb**	**06 56 28.4**	**0.0**
	baz=276						
EOS3	**EOS3**	**0.51**	**298**	*i* P	**Pb**	**06 56 29.5**	**0.0**
	baz=298						
EOS2	**EOS2**	**0.65**	**305**	*i* P	**Pn**	**06 56 32.4**	**-0.6**
	baz=298						
HATJ	**Hateruma jima**	**0.91**	**89**	*e*P	**Pb**	**06 56 36.4**	**0.0**
EWUT	**Wuta**	**1.02**	**293**	*e*P	**Pn**	**06 56 38.3**	**0.0**
	baz=291						
EWUT				*e*S	**Sn**	**06 56 51.9**	**-0.1**
	baz=291						
TWC	**Suao**	**1.04**	**303**	*i* P	**Pb**	**06 56 38.0**	**-0.6**
	baz=301						
TWC				S	**Sn**	**06 56 52.4**	**0.0**
	baz=301						
ENA	**Nanau**	**1.05**	**291**	P	**Pb**	**06 56 38.7**	**-0.1**
	baz=298						
ENA				S	**Sn**	**06 56 53.1**	**+0.5**
	baz=298						
JKRS	**Kuro-shima**	**1.11**	**80**	*e*P	**Pb**	**06 56 40.2**	**+0.4**
NACB	**Ninganchiao**	**1.12**	**277**	*e*P	**Pn**	**06 56 39.2**	**-0.5**
	baz=285						
NACB				*e*S	**Sn**	**06 56 54.8**	**+0.4**
	baz=285						
NDS	**Dongshan**	**1.16**	**301**	*e*P	**Pn**	**06 56 39.5**	**-0.7**
	baz=299						
NDS				*e*S	**Sn**	**06 56 56.8**	**+1.5**
	baz=299						
ETM	**Tongmen**	**1.21**	**266**	P	**Pn**	**06 56 40.0**	**-1.0**
	baz=251						
ETM				S	**Sn**	**06 56 56.0**	**-0.6**
	baz=251						
TWB1	**Santiao Chiao**	**1.22**	**322**	*e*P	**Pn**	**06 56 40.5**	**-0.4**
	baz=322						
ETLH	**Xiulin Townshi**	**1.22**	**278**	*e*P	**Pn**	**06 56 40.8**	**-0.5**
	baz=276						
TWE	**Neicheng**	**1.24**	**303**	*e*P	**Pb**	**06 56 41.9**	**-0.1**
	baz=302						
JIJ	**Ishigaki jima**	**1.26**	**75**	*e*P	**Pn**	**06 56 41.9**	**+0.4**
JIJ				*e*S	**Sn**	**06 56 58.0**	**+0.2**
LATG	**Datong**	**1.27**	**293**	P	**Pb**	**06 56 42.4**	**-0.2**
	baz=301						
LATG				S	**Sb**	**06 57 00.0**	**+1.5**
	baz=301						
LXIB	**Xiulin Townshi**	**1.28**	**269**	*e*P	**Pn**	**06 56 41.8**	**-0.2**
	baz=255						
LXIB				*e*S	**Sb**	**06 56 59.6**	**+0.8**
	baz=255						
ENTT	**Nioudou**	**1.28**	**298**	P	**Pb**	**06 56 42.7**	**-0.1**
	baz=297						
ESL	**Shilin**	**1.28**	**260**	P	**Pn**	**06 56 41.0**	**-0.9**
	baz=246						
ESL				S	**Sn**	**06 56 59.0**	**+0.6**
	baz=246						
TIPB	**Shuangxi**	**1.28**	**316**	P	**Pn**	**06 56 41.8**	**-0.2**
	baz=315						
TIPB				*e*S	**Sb**	**06 56 59.5**	**+0.6**
	baz=315						
NDT	**Datong Townshi**	**1.31**	**295**	P	**Pb**	**06 56 43.4**	**+0.2**
	baz=294						
FUSB	**Fushanzhiwuyua**	**1.32**	**303**	P	**Pb**	**06 56 43.1**	**-0.4**
	baz=313						
FUSB				S	**Sb**	**06 57 01.2**	**+1.2**
	baz=313						
SXI1	**Grass Mountain**	**1.34**	**321**	P	**Pn**	**06 56 42.4**	**-0.5**
	baz=330						
WARBT	**Fenglin Townsh**	**1.34**	**256**	P	**Pn**	**06 56 41.9**	**-0.9**
	baz=254						
WARBT				*e*S	**Sn**	**06 56 58.7**	**-1.3**
	baz=254						
NNSB	**Datong**	**1.36**	**286**	P	**Pb**	**06 56 43.8**	**-0.3**
	baz=285						
NNSB				*e*S	**Sb**	**06 57 02.5**	**+1.4**
	baz=285						
NNS	**Nan Shan**	**1.37**	**287**	P	**Pb**	**06 56 44.3**	**0.0**
	baz=285						
NWF	**Wu-fen Shan**	**1.38**	**318**	*e*P	**Pn**	**06 56 42.7**	**-0.7**
	baz=317						
NWF				*e*S	**Sb**	**06 57 01.9**	**0.0**
	baz=317						
WFSB	**Wu-fen Shan**	**1.38**	**318**	P	**Pn**	**06 56 42.3**	**-1.0**
	baz=317						
HGSD	**Ruisui**	**1.39**	**247**	P	**Pn**	**06 56 44.3**	**+1.0**
	baz=244						
NWLT	**Wulai**	**1.40**	**302**	*e*P	**Pb**	**06 56 44.3**	**-0.4**
	baz=301						
NWLT				*e*S	**Sb**	**06 57 03.3**	**+1.2**
	baz=301						
WHF	**Hehuan Shan**	**1.42**	**274**	*e*P	**Pn**	**06 56 43.6**	**-0.5**
	baz=258						
WHF				*e*S	**Sn**	**06 57 02.7**	**+0.3**
	baz=258						
FUSS	**Fushou**	**1.45**	**278**	*e*P	**Pn**	**06 56 44.8**	**+0.4**
	baz=277						
YHNB	**Yeheng**	**1.45**	**296**	P	**Pb**	**06 56 45.3**	**-0.3**
	baz=295						
YHNB				*e*S	**Sb**	**06 57 04.1**	**+0.4**
	baz=295						
NSK	**Sanguang**	**1.47**	**296**	*i* P	**Pb**	**06 56 45.3**	**-0.6**
	baz=295						
NSK				S	**Sb**	**06 57 04.3**	**+0.1**
	baz=295						
EHY	**Hungye**	**1.47**	**249**	*e*P	**Pn**	**06 56 43.9**	**-0.6**
	baz=246						
JISG	**Ishigakijimahi**	**1.47**	**68**	*e*P	**Pn**	**06 56 44.9**	**+0.4**
CHGB	**Renai**	**1.50**	**271**	*e*P	**Pn**	**06 56 45.0**	**-0.1**
	baz=255						
CHGB				*e*S	**Sn**	**06 57 04.2**	**+0.2**
	baz=255						
YULB	**Yu-li**	**1.53**	**245**	P	**Pn**	**06 56 45.1**	**-0.3**
	baz=243						
YULB				S	**Sn**	**06 57 04.3**	**-0.4**
	baz=243						
WUSB	**Renai**	**1.55**	**268**	P	**Pn**	**06 56 46.1**	**+0.4**
	baz=266						
WUSB				*e*S	**Sn**	**06 57 04.8**	**-0.4**
	baz=266						
VWDT	**VWDT**	**1.56**	**259**	P	**Pn**	**06 56 45.7**	**0.0**
	baz=257						
VWDT				S	**Sn**	**06 57 05.0**	**-0.2**
	baz=257						
NFF	**Wufeng Townshi**	**1.65**	**291**	*e*P	**Pb**	**06 56 48.6**	**-0.5**
	baz=277						
SSLB	**Suanglung**	**1.72**	**262**	*e*P	**Pn**	**06 56 48.6**	**+0.6**
	baz=260						
WHP	**Taichung City**	**1.72**	**278**	P	**Pb**	**06 56 51.1**	**+0.8**
	baz=264						
WCS	**Beigang Elemen**	**1.74**	**271**	*e*P	**Pn**	**06 56 49.2**	**+1.0**
	baz=269						
EDH	**Donghe**	**1.75**	**233**	*e*S	**Sn**	**06 57 07.3**	**-2.7**
	baz=217						
SMLT	**Sun Moon Lake**	**1.76**	**265**	*e*P	**Pn**	**06 56 48.3**	**-0.3**
	baz=264						
TYC	**Yuchr**	**1.79**	**266**	*e*P	**Pn**	**06 56 49.7**	**+0.7**
	baz=264						
WHYT	**Xinyi Township**	**1.83**	**259**	*e*P	**Pn**	**06 56 50.7**	**+1.2**
	baz=258						
ELDTW	**Lidau**	**1.85**	**243**	*e*P	**Pn**	**06 56 48.9**	**-1.0**
	baz=241						
ALS	**Alishan**	**1.91**	**254**	*e*P	**Pn**	**06 56 52.1**	**+1.2**
	baz=252						
CHN4	**Tsaushan**	**2.15**	**252**	*e*P	**Pb**	**06 56 56.7**	**-0.8**
	baz=250						

IDC 10 07:00:29.2±2.7, 54°13N×86°50E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=22.7km s-min=13.6km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**260**	I	I	07 07 10.0	
	baz=81,slow=323,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.01**	**260**	Pg	Pg	07 00 47.2	-1.2
	1.2nm,0.3s,baz=81,slow=17,SNR=8.5						
ZALV				Lg	Lg	07 01 03.2	
	1.8nm,0.3s,baz=74,slow=30,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.01**	**237**	Pn	Pn	07 01 60.0	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=9.0						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	07 02 25.4	+1.2
	0.2nm,0.3s,baz=26,slow=14,SNR=7.5						
MKAR				Lg	Lg	07 04 36.1	
	baz=17,slow=31,SNR=1.6						
	0.3nm,0.3s						

*SOME **10** 07:10:38.7, 49°.47N×81°.22E, h0km*
*NNC **10** 07:10:40.5±2.0, 49°.53N×81°.39E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=37.6km s-min=6.2km az=57.0, Suspected Mining explosion.*

ISC 10 07:10:39.3±1.2, 49°47N±0°.09×81°2E±0°.1, h0km, n6, σ0°41/8, 4C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.13**	**327**	*e*P	**Pb**	**07 11 02.0**	**+0.2**
	3.1nm,0.1s						
SEM				*e*S	**Sb**	**07 11 17.2**	**+0.1**
	15nm,0.1s						
KURBB	**Kurchatov Arra**	**2.08**	**305**	⇓Pn	**Pb**	**07 11 17.8**	**0.0**
	7.4nm,0.9s						
KURBB				⇓Lg	Lg	07 11 47.8	
	42nm,0.9s						
KURK	**Kurchatov**	**2.08**	**308**	⇓Pn	**Pb**	**07 11 18.0**	**+0.1**
	6.5nm,0.7s						
KURK				⇑Lg	Lg	07 11 47.6	
	20nm,0.9s						
MAKZ	**Makanchi**	**2.71**	**169**	⇑Pg	**Pg**	**07 11 30.8**	**-0.5**
	1.0nm,0.6s						
MAKZ				⇓Lg	Lg	07 12 09.4	
	3.3nm,0.8s						
MK31	**Makanchi Array**	**2.77**	**164**	⇑Pg	**Pb**	**07 11 30.1**	**+0.4**
	0.2nm,0.2s,baz=354,slow=13,SNR=20						
MK31				⇑Lg	Lg	07 12 10.2	
	2.1nm,0.7s,baz=354,slow=27,SNR=15						
ZSN	**Zaisan**	**3.16**	**128**	*e*P	**Pb**	**07 11 36.1**	**-0.2**
	3.8nm,0.4s						
ZSN				*e*S	**Sb**	**07 12 16.0**	**+0.6**
	5.4nm,0.4s						

MIRAS 10 07:10:58.1, 59°35N×57°76E, h0km, ML1.8/3, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PR1R	**Pomanovo**	**0.54**	**253**	*i* P	Pg	07 11 08.8	+0.4
	5.5nm,0.1s,baz=256						
PR1R				*i* S	Sg	07 11 16.5	+1.0
	13nm,0.4s,baz=256						
PR1R				*i* AML	AML	07 11 18.7	
	16nm,0.5s						
PR1R	**Pomanovo**	**0.54**	**253**	*i* P	Pg	07 11 08.8	+0.4
	3.8nm,0.1s,baz=253						
PR1R				*i* S	Sg	07 11 16.5	+1.0
	18nm,0.4s,baz=253						
PR1R				*i* AML	AML	07 11 18.7	
	38nm,1.0s,baz=253						
PR7R	**Sarany**	**0.95**	**146**	*i* P	Pg	07 11 16.6	+0.3
	12nm,0.2s,baz=147						
PR7R				*i* S	Sg	07 11 28.0	-0.7
	17nm,0.4s,baz=147						
PR7R				*i* AML	AML	07 11 34.1	
	46nm,1.2s						
PR7R	**Sarany**	**0.95**	**146**	*i* P	Pg	07 11 16.6	+0.3
	12nm,0.2s,baz=146						
PR7R				*e*S	Sg	07 11 29.4	+0.7
	23nm,0.3s,baz=146						
PR7R				*i* AML	AML	07 11 34.1	
	46nm,1.2s,baz=146						
SVUR	**Severouralsk**	**1.41**	**52**	*i* P	Pn	07 11 22.9	-2.0
	2.6nm,0.2s,baz=51						
SVUR				*i* S	Sb	07 11 43.9	+0.1
	baz=51						
SVUR				*i* AML	AML	07 11 44.7	
	15nm,0.7s						
SVUR	**Severouralsk**	**1.41**	**52**	*e*S	Sb	07 11 43.6	-0.2
	baz=52						

SVUR *i* AML AML 07 11 47.3
14nm,0.9s

TEH ***10*** *07:12:02.0,30°.54N×51°.40E,h5km±29km,ML4.2*
NEIC ***10*** *07:12:03.8±1.6,30°.43N±0°.07×51°.38E±0°.05,h10km±1km, mb4.5/47, Error ellipse: s-maj=12.9km s-min=6.0km az=158.0*
MOS ***10*** *07:12:03.0±1.6,30°.54N×51°.33E,h11km,mb4.4/21, Error ellipse: s-maj=8.6km s-min=5.2km az=111.6*
SGS ***10*** *07:12:05.5,30°.81N×51°.42E,h6km,Ml4.8*
OMAN ***10*** *07:12:08.7±0.1,30°.50N×51°.65E,h35km±2km, mb4.5/23, Error ellipse: s-maj=3.7km s-min=1.3km az=353.0*
IDC ***10*** *07:12:09.1±4.7,30°.94N×51°.11E,h30km±32km,mb3.8/19, mbtmp4.0/25,ML3.6/6,MS3.3/9, Error ellipse: s-maj=21.1km s-min=13.4km az=172.0*
DSN ***10*** *07:12:09.0±1.5,30°.12N×51°.50E,h15km,ML4.1/11, Error ellipse: s-maj=20.7km s-min=8.4km az=9.0*

ISC 10 07:12:04.5±0.4,30°.55N±0°.04×51°.48E±0°.04,h10km,n293, σ1§51/301,mb4.5/73,MS3.4/7,23C-2D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAZ2	**Kazeron-Fars-I**	**0.94**	**171**	Pg	**Pg**	**07 12 21.9**	**-0.8**
SHI	**Shiraz**	**1.27**	**135**	Pg	**Pn**	**07 12 27.5**	**-1.0**
SHI	**Shiraz**	**1.27**	**135**	P	**Pn**	**07 12 27.8**	**-0.7**
IBRJ	**Brojen**	**1.37**	**352**	Pg	**Pn**	**07 12 28.8**	**-1.1**
JHBN	**Jahan bin**	**1.82**	**338**	Pn	**Pn**	**07 12 36.2**	**+0.1**
IGAR	**Gharneh**	**1.91**	**14**	Pn	**Pn**	**07 12 39.2**	**+1.9**
DSHU	**Dashti - Bushe**	**2.19**	**185**	Pn	**Pn**	**07 12 42.3**	**+1.4**
IPIR	**Pirpir**	**2.19**	**347**	Pn	**Pn**	**07 12 42.6**	**+1.3**
ISAD	**Sadrabad**	**2.33**	**54**	Pn	**Pn**	**07 12 45.3**	**+2.2**
IZEF	**Zefreh**	**2.45**	**17**	Pn	**Pn**	**07 12 46.5**	**+1.7**
AHWZ	**Ahwaz**	**2.56**	**288**	Pn	**Pn**	**07 12 47.0**	**+1.0**
JHRM	**Jahrom**	**2.73**	**138**	Pn	**Pn**	**07 12 50.2**	**+1.7**
IKLH	**Kolahrood**	**2.76**	**2**	Pn	**Pn**	**07 12 50.4**	**+1.3**
IMEH	**Mehriz**	**2.82**	**72**	Pn	**Pn**	**07 12 52.0**	**+2.2**
ICHK	**Chekchek**	**3.02**	**55**	Pn	**Pn**	**07 12 54.7**	**+2.1**
QAMS	**Qamsar**	**3.18**	**359**	Pn	**Pn**	**07 12 56.8**	**+2.0**
KRSH	**Karshahi**	**3.46**	**9**	Pn	**Pn**	**07 13 00.7**	**+2.2**
KBD	**Kabd**	**3.56**	**248**	P	**Pn**	**07 13 02.6**	**+2.7**
KBD				S	**Sn**	**07 13 46.2**	**+4.2**
IBAF	**Bafgh**	**3.66**	**72**	Pn	**Pn**	**07 13 03.5**	**+2.2**
ISFB	**Sefidab**	**3.85**	**9**	Pn	**Pn**	**07 13 04.7**	**+0.9**
BDRS	**Dareh Seyedi**	**4.05**	**328**	Pn	**Pn**	**07 13 07.3**	**+0.6**
IDOB	**Doab**	**4.28**	**320**	Pn	**Pn**	**07 13 09.7**	**-0.1**
IKFM	**Kafar-mosalman**	**4.28**	**315**	Pn	**Pn**	**07 13 10.1**	**+0.4**
IQOM	**Qom**	**4.30**	**355**	Pn	**Pn**	**07 13 10.6**	**+0.4**
KHGB	**Koh Gabri**	**4.32**	**91**	Pn	**Pn**	**07 13 12.3**	**+1.9**
IVRN	**Varamin**	**4.44**	**3**	Pn	**Pn**	**07 13 13.0**	**+1.0**
TVBK	**TV Kerman**	**4.60**	**96**	Pn	**Pn**	**07 13 16.9**	**+2.5**
SAKB	**Bahrain**	**4.63**	**191**	P	**Pn**	**07 13 17.5**	**+3.0**
SAKB				S	**Sn**	**07 14 10.4**	**+2.1**
SHMA	**Al-Shehemyia** SNR=60	**4.70**	**186**	P	**Pn**	**07 13 18.0**	**+2.6**
SHMA				S	**Sn**	**07 14 12.4**	**+2.4**
QYSM	**Um Kedad**	**4.84**	**237**	S	**Sn**	**07 14 14.6**	**+1.1**
QYSM				P	**Pn**	**07 13 18.6**	**+1.2**
IBZA	**Bozab**	**4.96**	**323**	Pn	**Pn**	**07 13 19.8**	**+0.5**
IRAZ	**Razeghan**	**5.02**	**345**	Pn	**Pn**	**07 13 20.4**	**+0.3**
BQQSS		**5.02**	**202**	S	**Sn**	**07 14 20.4**	**+2.5**
BQQSS				P	**Pn**	**07 13 22.8**	**+2.9**
TPRV	**Parvadeh(Tabas**	**5.07**	**59**	Pn	**Pn**	**07 13 22.8**	**+2.1**
IMHD	**Mahdasht**	**5.17**	**353**	Pn	**Pn**	**07 13 22.7**	**+0.7**
KCHF	**Cheshme Sefid,**	**5.28**	**316**	Pn	**Pn**	**07 13 23.5**	**-0.1**
SMAN	**Sihmah**	**5.29**	**216**	P	**Pn**	**07 13 25.2**	**+1.5**
SMAN				S	**Sn**	**07 14 26.0**	**+1.3**
IANJ	**Anjilo**	**5.31**	**22**	Pn	**Pn**	**07 13 25.9**	**+1.8**
SNQR	**Sonqor, Kerman**	**5.39**	**324**	Pn	**Pn**	**07 13 25.7**	**+0.5**
QABG	**Abgarm-Qazvin**	**5.39**	**343**	Pn	**Pn**	**07 13 26.3**	**+1.2**
TNSJ	**Nastanj**	**5.52**	**51**	Pn	**Pn**	**07 13 29.2**	**+2.4**
IGHG	**Ghaleghazi**	**5.61**	**314**	Pn	**Pn**	**07 13 28.5**	**+0.3**
TKDS	**Koohdasht(Taba**	**5.68**	**56**	Pn	**Pn**	**07 13 30.9**	**+1.8**
IPRN	**Peran**	**5.72**	**7**	Pn	**Pn**	**07 13 31.6**	**+2.0**
TRNA	**Turayna** SNR=11	**5.79**	**182**	P	**Pn**	**07 13 32.3**	**+1.8**
TRNA				S	**Sn**	**07 14 39.4**	**+2.3**
RQBS	**RQBS**	**5.80**	**238**	P	**Pn**	**07 13 31.1**	**+0.5**
SMRA	**Abu-Samra**	**5.81**	**186**	P	**Pn**	**07 13 32.7**	**+2.0**
SMRA				S	**Sn**	**07 14 38.8**	**+1.4**
MZPU	**Pul - Mazandar**	**5.88**	**1**	Pn	**Pn**	**07 13 33.7**	**+1.8**
GLG1	**Gilan-e-Gharb**	**5.91**	**308**	Pn	**Pn**	**07 13 32.5**	**+0.4**
IDHR	**Dehrash**	**5.97**	**315**	Pn	**Pn**	**07 13 32.5**	**-0.6**
SHME	**Shamm**	**6.08**	**136**	P	**Pn**	**07 13 33.6**	**-0.8**
SHME	**Shamm**	**6.08**	**136**	P	**Pn**	**07 13 34.8**	**+0.3**
SHME				S	**Sn**	**07 14 44.0**	**0.0**
NHRD	**Haradh**	**6.20**	**201**	P	**Pn**	**07 13 38.4**	**+2.2**
NHRD	**Haradh**	**6.20**	**201**	S	**Sn**	**07 14 48.4**	**+1.2**
KBAM	**BAM**	**6.21**	**101**	Pn	**Pn**	**07 13 38.3**	**+1.9**
BANOM	**Banah**	**6.27**	**136**	P	**Pn**	**07 13 35.9**	**-1.1**
SLWR	**Sila**	**6.46**	**178**	P	**Pn**	**07 13 40.9**	**+1.3**
SLWR				S	**Sn**	**07 14 52.6**	**-0.7**
RMAH	**Rumah**	**6.59**	**219**	P	**Pn**	**07 13 42.3**	**+0.9**
RMAH	**Rumah**	**6.59**	**219**	S	**Sn**	**07 14 56.0**	**-0.8**
MASF	**Masafi** SNR=9.1	**6.61**	**140**	P	**Pn**	**07 13 42.1**	**+0.3**
MASF				S	**Sn**	**07 14 55.1**	**-2.1**
ITEG	**Tejag**	**6.62**	**67**	Pn	**Pn**	**07 13 44.0**	**+2.0**
MSFE	**Esma-Masafi**	**6.62**	**140**	P	**Pn**	**07 13 41.5**	**-0.4**
NAZ	**Nazwa, Dubai**	**6.66**	**145**	P	**Pn**	**07 13 42.7**	**+0.3**
NAZ	**Nazwa, Dubai**	**6.66**	**145**	P	**Pn**	**07 13 44.1**	**+1.7**
NAZ				S	**Sn**	**07 14 56.7**	**-1.7**
GHWR	**Ruwais**	**6.67**	**169**	P	**Pn**	**07 13 44.0**	**+1.4**
GHWR				S	**Sn**	**07 14 57.5**	**-1.2**
IKOO	**Kooshah**	**6.69**	**72**	Pn	**Pn**	**07 13 45.9**	**+2.8**
AJN	**Ajban**	**6.72**	**152**	P	**Pn**	**07 13 45.6**	**+2.3**
AJN				S	**Sn**	**07 15 00.2**	**+0.3**
MDH	**Madha**	**6.74**	**140**	P	**Pn**	**07 13 43.0**	**-0.6**
MDH	**Madha** SNR=7.0	**6.74**	**140**	P	**Pn**	**07 13 43.4**	**-0.1**
MDH				S	**Sn**	**07 14 58.7**	**-1.8**
ASUD	**Al Ashush, Dub**	**6.81**	**149**	P	**Pn**	**07 13 44.3**	**-0.2**
ASUD	**Al Ashush, Dub**	**6.81**	**149**	P	**Pn**	**07 13 45.4**	**+0.8**
ASUD				S	**Sn**	**07 15 02.7**	**+0.5**
FAQ	**Al Faqa, Dubai**	**6.83**	**147**	P	**Pn**	**07 13 44.2**	**-0.5**
FAQ	**Al Faqa, Dubai**	**6.83**	**147**	P	**Pn**	**07 13 45.8**	**+1.0**
FAQ				S	**Sn**	**07 15 01.2**	**-1.4**
UOSS	**Minazif**	**6.97**	**142**	Pn	**Pn**	**07 13 45.9**	**-0.9**
UOSS	**Minazif**	**6.97**	**142**	P	**Pn**	**07 13 46.0**	**-0.7**
UOSS				S	**Sn**	**07 15 01.7**	**-4.4**
UOSS	**Minazif**	**6.97**	**142**	P	**Pn**	**07 13 46.3**	**-0.4**
UOSS				S	**Sn**	**07 15 03.3**	**-2.9**
HATD	**Hatta, Dubai**	**7.03**	**143**	P	**Pn**	**07 13 46.9**	**-0.6**
HATD	**Hatta, Dubai**	**7.03**	**143**	P	**Pn**	**07 13 48.2**	**+0.7**
HATD				S	**Sn**	**07 15 06.3**	**-1.3**
MZWR	**Madinat Zayed**	**7.09**	**162**	P	**Pn**	**07 13 48.9**	**+0.6**
MZWR				S	**Sn**	**07 15 07.5**	**-1.5**
ASHO	**Ashiyiah**	**7.11**	**144**	P	**Pn**	**07 13 48.3**	**-0.4**
KHRJ	**Al Kharj**	**7.49**	**208**	P	**Pn**	**07 13 55.3**	**+1.4**
KHRJ	**Al Kharj**	**7.49**	**208**	S	**Sn**	**07 15 16.9**	**-2.0**
ALNE	**Al Ain**	**7.50**	**149**	P	**Pn**	**07 13 53.9**	**0.0**
ALNE				S	**Sn**	**07 15 19.1**	**0.0**
MZR	**Muzera**	**7.72**	**166**	P	**Pn**	**07 13 57.1**	**0.0**
MZR	**Muzera**	**7.72**	**166**	P	**Pn**	**07 13 57.9**	**+0.8**
MZR				S	**Sn**	**07 15 23.7**	**-0.9**
SBZV	**Sabzevar**	**7.75**	**40**	Pn	**Pn**	**07 13 59.7**	**+2.1**
SOHO	**SOHO**	**7.81**	**144**	P	**Pn**	**07 13 57.0**	**-1.2**
SOHO	**SOHO**	**7.81**	**144**	P	**Pn**	**07 13 57.4**	**-0.8**
SOHO				S	**Sn**	**07 15 24.3**	**-2.4**
ARQ	**Araqi**	**8.47**	**147**	P	**Pn**	**07 14 07.3**	**0.0**
ARQ				S	**Sn**	**07 15 39.8**	**-3.3**
HOQ	**Hoqain**	**8.66**	**142**	P	**Pn**	**07 14 09.5**	**-0.5**
RAYN	**Ar Rayn**	**8.79**	**219**	Pn	Pn	07 14 09.8	-2.0
RAYN	**Ar Rayn**	**8.79**	**219**	P	**Pn**	**07 14 10.4**	**-1.3**
RAYN	**Ar Rayn**	**8.79**	**219**	P	**Pn**	**07 14 10.8**	**-1.0**
RAYN	**Ar Rayn**	**8.79**	**219**	P	Pn	07 14 09.8	-2.0
GEYT	**Alibeck**	**9.18**	**35**	Pn	**Pn**	**07 14 18.8**	**+1.8**
GEYT	**Alibeck** 0.9nm,0.3s,baz=210,slow=11,SNR=15	**9.18**	**35**	Pn	**Pn**	**07 14 18.4**	**+1.3**
GEYT	0.3nm,0.3s,baz=158,slow=9.1,SNR=1.5 10.0nm,0.8s			Lg	Lg	07 16 57.2	
GEYT	**Alibeck**	**9.18**	**35**	P	**Pn**	**07 14 18.8**	**+1.8**
GYA0B	**ALIBECK ARRAY**	**9.18**	**35**	Pn	**Pn**	**07 14 18.7**	**+1.7**
BSY	**Bisya**	**9.30**	**145**	P	**Pn**	**07 14 18.4**	**-0.3**
BSY				S	**Sn**	**07 15 58.4**	**-5.0**
SMDO	**Samad**	**9.49**	**140**	P	**Pn**	**07 14 20.5**	**-0.8**
SMDO				S	**Sn**	**07 16 04.0**	**-4.1**
WSAR	**Wadi Sarin** 1.9nm,0.3s,baz=344,slow=13,SNR=31	**9.68**	**137**	Pn	**Pn**	**07 14 22.6**	**-1.3**
WSAR	2.5nm,0.3s,baz=208,slow=20,SNR=6.4			Sn	Sn	07 16 06.4	-6.2
HRA	**Herat**	**9.86**	**64**	Pn	**Pn**	**07 14 28.2**	**+1.7**
NGCH	**Negor - Chabah** SNR=12	**9.98**	**119**	P	**Pn**	**07 14 27.1**	**-0.8**
SRVN	**Saravan**	**10.06**	**105**	Pn	**Pn**	**07 14 31.8**	**+2.6**
JMDO	**Jabal Madar**	**10.07**	**142**	P	**Pn**	**07 14 28.7**	**-0.6**
WBK	**Wadi Bani Khal** SNR=8.3	**10.36**	**138**	P	Pn	07 14 31.5	-1.7
MHTO	**MHTO**	**11.17**	**147**	P	Pn	07 14 42.3	-1.9
DOK	**Doka**	**12.12**	**168**	P	**Pn**	**07 14 55.9**	**-1.4**
WHFO	**Wadi Hawf**	**12.74**	**170**	P	Pn	07 15 03.7	-2.1
DMTO	**DMTO** SNR=15	**13.16**	**165**	P	Pn	07 15 09.0	-2.5
HSUJ	**Al Zarqa**	**13.16**	**281**	P	**Pn**	**07 15 09.8**	**-1.8**
RBK	**Rabkut**	**13.22**	**169**	P	Pn	07 15 10.0	-2.3
ABTO	**Aybut**	**13.24**	**172**	P	**Pn**	**07 15 11.8**	**-0.8**
GAZ	**Gaziantep**	**13.57**	**303**	Pn	Pn	07 15 15.1	-2.0
SHMJ	**Saham**	**13.57**	**283**	P	**Pn**	**07 15 15.3**	**-1.8**
ARPR	**Arapgir-MALATY**	**13.75**	**312**	Pn	**Pn**	**07 15 19.9**	**+0.4**
MMAI	**Mount Meron Ar** 0.6nm,0.3s,baz=105,slow=17,SNR=2.2	**13.90**	**284**	Pn	Pn	07 15 18.0	-3.6
MMAI	1.8nm,0.3s,baz=167,slow=40,SNR=2.3			Sn	Sn	07 17 47.2	-8.9
MMAI	0.4nm,0.3s,baz=122,slow=32,SNR=1.0			Lg	Lg	07 19 19.0	
MMAI	comp=Z,29nm,21.1s,baz=53,slow=40 0.3nm,0.3s			LR	LR	07 21 07.0	
EIL	**Elat** 0.4nm,0.3s,baz=71,slow=17,SNR=1.9	**14.34**	**271**	Pn	**Pn**	**07 15 26.9**	**-0.7**
EIL	0.3nm,0.3s,baz=352,slow=4.6,SNR=2.4			Sn	**Sn**	**07 18 05.2**	**-1.5**
EIL	0.2nm,0.3s,baz=108,slow=23,SNR=1.6 4.3nm,0.9s			Lg	Lg	07 19 35.8	
KBZ	**Khabaz** 0.1nm,0.3s,baz=128,slow=9.7,SNR=6.9 4.5nm,0.9s	**14.82**	**335**	Pn	**Pn**	**07 15 33.5**	**-0.5**
SHA1	**Shidzhatmaz**	**14.91**	**334**	*e*P	**Pn**	**07 15 38.6**	**+3.0**
KVAR	**Kislovodsk Arr** baz=81,slow=22	**15.09**	**335**	Pn	**Pn**	**07 15 36.6**	**-1.1**
KVAR	comp=Z,70nm,20.3s,baz=96,slow=41 1.3nm,0.3s			LR	LR	07 22 10.7	
KIV	**Kislovodsk**	**15.09**	**335**	Pn	**Pn**	**07 15 38.3**	**+0.6**
KIV	comp=Z,24nm,0.9s			IAmb	IAmb	07 15 56.6	
KIV	**Kislovodsk**	**15.09**	**335**	*e*P	**Pn**	**07 15 38.7**	**+0.9**
KIV	comp=Z,14nm,1.0s			pmax	pmax		
KIV	comp=Z,50nm,13.0s			MLR	MLR		
KIV	**Kislovodsk** comp=Z,24nm,0.8s	**15.09**	**335**	P	**Pn**	**07 15 38.4**	**+0.6**
BNN	**Bunyan**	**15.28**	**307**		**Pn**	**07 15 39.4**	**-1.1**
CSS	**Mathiatis** comp=Z,18nm,0.9s	**15.89**	**291**	P	**Pn**	**07 15 47.2**	**-1.1**
SOC	**Sochi**	**16.02**	**328**	*i* P	**Pn**	**07 15 48.6**	**-1.3**
SOC				*e*		07 18 47.6	
SOC	comp=Z,22nm,0.7s			pmax	pmax		
BR131	**Keskin Array S**	**17.20**	**307**	P	**Pn**	**07 16 04.4**	**-0.6**
BR131	**Keskin Array S**	**17.20**	**307**	*i* P	**Pn**	**07 16 03.7**	**-1.4**
BRTR	**Keskin Array B**	**17.20**	**307**	P	**Pn**	**07 16 04.8**	**-0.2**
BRTR	**Keskin Array B** comp=Z,0.1nm,0.3s,baz=113,slow=11,SNR=9.6 comp=Z,3.8nm,1.0s	**17.20**	**307**	Pn	**Pn**	**07 16 03.8**	**-1.2**
BRTR	**Keskin Array B**	**17.20**	**307**	*ce*P	**Pn**	**07 16 04.6**	**-0.5**
BRTR	comp=Z,3.0nm,0.8s			pmax	pmax		
KK31	**Karatay Array**	**19.67**	**45**	P	**P**	**07 16 33.0**	**-0.6**
KK31	**Karatay Array**	**19.67**	**45**	P	**P**	**07 16 33.0**	**-0.6**
KK31	comp=Z,7.0nm,1.3s			pmax	pmax		
KKAR	**Karatay Array**	**19.67**	**45**	P	**P**	**07 16 34.1**	**+0.5**
KKAR	**Karatay Array**	**19.67**	**45**	P	**P**	**07 16 34.1**	**+0.5**
KKAR	comp=Z,7.0nm,1.3s			pmax	pmax		
ABKAR	**Akbulak array**	**19.76**	**17**	P	**P**	**07 16 34.4**	**-0.1**
ABKAR	**Akbulak array**	**19.76**	**17**		**P**	**07 16 34.5**	**0.0**
ARSB	**Arslanbob**	**20.41**	**52**	P	**P**	**07 16 41.6**	**-0.2**
ARSB	**Arslanbob**	**20.41**	**52**	P	**P**	**07 16 41.6**	**-0.2**
ARSB	comp=Z,1.0nm,0.9s			pmax	pmax		
MANT	**Manisa**	**20.45**	**299**	P	**P**	**07 16 41.2**	**-1.1**
MANT	comp=Z,23nm,0.9s			IAmb	IAmb	07 16 50.2	
AKTO	**Aktyubinsk** comp=Z,3.4nm,0.6s,baz=184,slow=9.5,SNR=12	**20.46**	**12**	P	**P**	**07 16 43.0**	**+0.9**
KARP	**Karpathos**	**20.97**	**290**	P	**P**	**07 16 45.9**	**-1.9**
KARP	comp=Z,21nm,0.7s			IAmb	IAmb	07 17 04.1	
KARP	**Karpathos** comp=Z,32nm,0.8s	**20.97**	**290**	P	**P**	**07 16 46.5**	**-1.3**
CTYL	**Yalikoy Yolu** comp=Z,17nm,1.0s,comp=Z,3μm	**21.64**	**307**	P	**P**	**07 16 53.1**	**-1.7**
VRH	**Novokhopyorsk**	**21.88**	**343**	*e*P	**P**	**07 16 54.7**	**-2.6**
VRH	comp=Z,20nm,0.5s			pmax	pmax		
KSH	**Kashi**	**21.91**	**59**	P	P	07 16 52.8	-5.2
KSH				pP	pP	07 16 57.2	-4.3
AAK	**Ala-Archa**	**21.99**	**50**	P	**P**	**07 16 59.6**	**+0.7**
AAK	**Ala-Archa** comp=Z,0.6nm,0.3s,baz=270,slow=6.1,SNR=2.0	**21.99**	**50**	P	**P**	**07 17 01.8**	**+2.9**
AAK	comp=Z,38nm,20.4s,baz=8.5,slow=42 comp=Z,0.6nm,0.3s			LR	LR	07 27 23.9	
AAK	**Ala-Archa**	**21.99**	**50**	*ce*P	**P**	**07 17 03.1**	**+4.2**
AAK	comp=Z,8.0nm,1.7s			pmax	pmax		
BELG	**Belogornoye** comp=Z,14nm,0.8s,baz=171,slow=3.7,SNR=4.1 comp=Z,14nm,0.8s	**22.01**	**354**	P	**P**	**07 16 57.5**	**-1.2**
BELG	**Belogornoye**	**22.01**	**354**	*i* P	**P**	**07 17 01.1**	**+2.4**
BELG	comp=Z,9.0nm,1.2s			pmax	pmax		
IDI	**Anoyia**	**22.79**	**289**	P	**P**	**07 17 06.1**	**-1.3**
IDI	comp=Z,13nm,0.7s			IAmb	IAmb	07 17 25.2	
RDO	**Rodhopi**	**23.46**	**304**	P	**P**	**07 17 13.1**	**-1.0**
RDO	comp=Z,15nm,1.1s			IAmb	IAmb	07 17 26.8	
LPSR	**Galich'ya Gora**	**23.88**	**341**	*e*P	**P**	**07 17 17.2**	**-0.9**
LPSR	comp=Z,10.0nm,0.6s			pmax	pmax		
VRI	**Vrincioaia**	**24.61**	**315**	⇑P	**P**	**07 17 24.5**	**-0.3**
VRI	**Vrincioaia**	**24.61**	**315**	⇑P	**P**	**07 17 24.5**	**-0.3**
PLOR	**Plostina**	**24.65**	**315**	⇑P	**P**	**07 17 26.2**	**+1.0**
PLOR	**Plostina**	**24.65**	**315**	⇑P	**P**	**07 17 26.3**	**+1.0**
PLOR3	**Plostina Array** comp=Z,8.9nm,0.8s	**24.65**	**315**	P	**P**	**07 17 25.4**	**+0.1**
MLR	**Muntele Rosu**	**24.91**	**314**	⇑P	**P**	**07 17 29.1**	**+1.4**
MLR	**Muntele Rosu**	**24.91**	**314**	P	**P**	**07 17 27.9**	**+0.2**
MLR	comp=Z,12nm,0.9s			IAmb	IAmb	07 17 37.7	
MLR	**Muntele Rosu**	**24.91**	**314**	⇑P	**P**	**07 17 29.1**	**+1.4**
MLR	**Muntele Rosu** comp=Z,18nm,1.0s	**24.91**	**314**	P	**P**	**07 17 28.4**	**+0.7**
COVR	**Voineasa-Covas**	**24.91**	**315**	⇑P	**P**	**07 17 28.6**	**+0.9**
SORM	**Soroca**	**24.92**	**321**	⇑P	**P**	**07 17 26.0**	**-1.6**
SORM	**Soroca**	**24.92**	**321**	⇑P	**P**	**07 17 26.0**	**-1.6**
TESR	**Tescani**	**24.98**	**317**	⇑P	**P**	**07 17 27.8**	**-0.4**
TESR	**Tescani** comp=Z,21nm,1.1s	**24.98**	**317**	P	**P**	**07 17 27.3**	**-0.9**
AGG	**Agios Georgios**	**25.31**	**297**	P	**P**	**07 17 30.5**	**-0.8**
AGG	comp=Z,12nm,1.2s			IAmb	IAmb	07 17 37.7	
AGG	**Agios Georgios**	**25.31**	**297**	P	**P**	**07 17 30.5**	**-0.8**
AGG	comp=Z,12nm,1.2s			pmax	pmax		
VOIR		**25.44**	**313**	⇑P	**P**	**07 17 33.6**	**+1.1**
VOIR	comp=Z,22nm,1.1s	**25.44**	**313**	P	**P**	**07 17 32.3**	**-0.2**
DOPR	**Dopca**	**25.47**	**314**	⇓P	**P**	**07 17 32.8**	**+0.1**
AK07	**Malin Array Si**	**26.01**	**327**	P	**P**	**07 17 36.8**	**-0.7**
AKASG	**Malin Array Be** comp=Z,2.1nm,0.4s,baz=134,slow=9.0,SNR=22 comp=Z,2.1nm,0.4s	**26.10**	**327**	P	**P**	**07 17 34.8**	**-3.5**
AKASG	**Malin Array Be**	**26.10**	**327**	*i* P	**P**	**07 17 38.7**	**+0.4**
AKASG	comp=Z,2.0nm,0.4s			pmax	pmax		
AKBB	**Malin Array Si**	**26.10**	**327**	P	**P**	**07 17 37.1**	**-1.2**
AKBB	comp=Z,10nm,0.8s			IAmb	IAmb	07 17 42.5	
AKBB	**Malin Array Si**	**26.10**	**327**	*ce*P	**P**	**07 17 37.1**	**-1.2**
AKBB	comp=Z,10.0nm,0.8s			pmax	pmax		
AKBB	**Malin Array Si**	**26.10**	**327**	P	**P**	**07 17 37.4**	**-0.9**
KIEV	**Kiev**	**26.10**	**327**	⇑P	**P**	**07 17 38.0**	**-0.3**
KIEV	**Kiev**	**26.10**	**327**	P	**P**	**07 17 37.9**	**-0.4**
KIEV	comp=Z,9.2nm,0.8s			IAmb	IAmb	07 17 42.6	
KIEV	**Kiev**	**26.10**	**327**	⇑P	**P**	**07 17 38.0**	**-0.3**
KMPD	**K-Podol'skiy**	**26.19**	**320**	P	**P**	**07 17 37.9**	**-1.2**
KMPD				P	**pP**	**07 17 38.1**	**-4.7**
LOT	**Lotru**	**26.26**	**312**	⇑P	**P**	**07 17 40.6**	**+0.7**
BLKB	**Belogradchik**	**26.28**	**308**	⇑P	**P**	**07 17 42.4**	**+2.3**
LUBAR	**Lubar, Ukraine**	**26.31**	**324**	P	**P**	**07 17 39.3**	**-0.9**
BRVK	**Borovoye**	**26.34**	**26**	*i* P	**P**	**07 17 43.3**	**+2.8**
BRVK	comp=Z,4.0nm,1.7s			pmax	pmax		
ARU	**Arti**	**26.35**	**9**	*i* P	**P**	**07 17 43.9**	**+3.4**
ARU	comp=Z,4.0nm,1.4s			pmax	pmax		
BVAR	**Borovoye Array** comp=Z,2.1nm,0.5s,baz=222,slow=7.0,SNR=10.0 comp=Z,2.1nm,0.5s	**26.36**	**26**	P	**P**	**07 17 40.8**	**+0.1**
BURAR	**Bucovina Array**	**26.39**	**318**	⇑P	**P**	**07 17 42.1**	**+1.0**
BURAR	**Bucovina Array**	**26.39**	**318**	P	**P**	**07 17 40.7**	**-0.4**
BURAR	**Bucovina Array**	**26.39**	**318**	⇑P	**P**	**07 17 42.1**	**+1.0**
BUR08	**Bucovina Ar. S**	**26.41**	**318**	P	**P**	**07 17 40.6**	**-0.7**
BUR08	comp=Z,6.7nm,0.9s			IAmb	IAmb	07 17 55.5	
GZR	**Gura Zlata**	**26.87**	**312**	⇑P	**P**	**07 17 46.2**	**+0.7**
HERR	**Herculane**	**26.91**	**310**	⇓P	**P**	**07 17 46.6**	**+0.9**
BOVS	**Bovan**	**26.95**	**307**	⇑P	**P**	**07 17 48.7**	**+2.6**
MI28	**MI28,Pidlybu**	**27.00**	**326**	P	**P**	**07 17 45.9**	**-0.5**
BZS	**Buzias**	**27.71**	**311**	P	**P**	**07 17 53.6**	**+0.7**
BZS	comp=Z,5.0nm,1.6s			pmax	pmax		
PUK	**Puka**	**27.77**	**303**	P	**P**	**07 17 52.9**	**-0.6**
PUK	comp=Z,9.6nm,1.2s			IAmb	IAmb	07 18 27.6	
KIRV	**Kirov** comp=Z,77nm,20.4s,baz=332,slow=43	**28.07**	**358**	LR	LR	07 32 03.6	
KURBB	**Kurchatov Arra** comp=Z,0.6nm,0.6s,baz=236,slow=9.6,SNR=3.3	**28.45**	**37**	P	**P**	**07 17 60.0**	**+0.6**
KURBB	comp=Z,82nm,18.6s,baz=180,slow=42 comp=Z,0.6nm,0.6s			LR	LR	07 31 45.1	
KURK	**Kurchatov**	**28.55**	**37**	P	**P**	**07 18 00.0**	**-0.2**
MK31	**Makanchi Array**	**28.77**	**47**	P	**P**	**07 18 02.9**	**+0.5**
MK31	**Makanchi Array**	**28.77**	**47**	P	**P**	**07 18 02.9**	**+0.5**
MK31	comp=Z,2.0nm,1.3s			pmax	pmax		
MKAR	**Makanchi Array**	**28.77**	**47**	P	**P**	**07 18 02.6**	**+0.3**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.4s,baz=244,slow=9.4,SNR=7.5 comp=Z,0.4nm,0.4s	**28.77**	**47**	P	**P**	**07 18 02.8**	**+0.5**
CUC	**Castrocucco**	**30.44**	**298**	P	**P**	**07 18 17.0**	**-0.3**
CUC	comp=Z,4.9nm,0.8s			IAmb	IAmb	07 18 36.3	
WMQ	**Urumqi**	**31.49**	**55**	*e*P	**P**	**07 18 29.3**	**+2.8**
WMQ	comp=Z,11nm,0.7s			pmax	pmax		
RONA	**Rosalia, Austr** comp=Z,1.5nm,0.5s	**31.88**	**313**	*e*P	**P**	**07 18 29.1**	**-0.7**
ARSA	**Arzberg** comp=Z,1.7nm,0.5s	**32.23**	**311**	*e*P	**P**	**07 18 31.9**	**-0.9**
CONA	**Conrad Observa** comp=Z,2.3nm,0.8s	**32.23**	**313**	*e*P	**P**	**07 18 31.8**	**-1.2**
FDMO	**Fiordimonte**	**32.90**	**303**	P	**P**	**07 18 38.4**	**-0.4**
FDMO	comp=Z,6.2nm,1.1s			IAmb	IAmb	07 18 56.3	
MOA	**Molln** comp=Z,4.8nm,0.6s	**33.22**	**312**	*e*P	**P**	**07 18 41.1**	**-0.5**
ZALV	**Zalesovo Beam**	**33.49**	**36**	P	**P**	**07 18 44.0**	**+0.2**
ZALV	**Zalesovo Beam** comp=Z,0.5nm,0.4s,baz=257,slow=9.4,SNR=2.5 comp=Z,0.5nm,0.4s	**33.49**	**36**	P	**P**	**07 18 43.1**	**-0.7**
ZALV	**Zalesovo

comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,5.0s
CMAR Chiang Mai Arr 44.54 94 P **P** 07 20 20.6 +3.9
comp=Z,1.9nm,0.3s,baz=288,slow=8.5,SNR=1.9
CMAR LR LR 07 41 27.7
comp=Z,40nm,18.8s,baz=135,slow=39
comp=Z,1.9nm,0.3s
EKA Eskdalemuir Ar 45.55 319 P P 07 20 22.4 -1.9
comp=Z,2.0nm,0.6s,baz=106,slow=7.7,SNR=5.6
comp=Z,2.0nm,0.6s
ESDC Sonseca Array 45.64 297 P P 07 20 21.2 -4.0
comp=Z,0.8nm,0.7s,baz=72,slow=7.0,SNR=1.5
comp=Z,0.8nm,0.7s
DSB Dublin 47.15 316 P **P** 07 20 35.3 -1.6
BTO Baotou 47.88 61 *e*P **P** 07 20 41.4 -1.4
BTO pP **sP** 07 20 51.4 +3.2
BTO sP pP 07 20 55.3 +8.6
BTO pmax pmax
comp=Z,34nm,0.8s
BTO pmax pmax
comp=Z,170nm,5.9s
HHC Hu-ho-hao-te 49.01 61 *e*P **P** 07 20 51.2 -0.4
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,110nm,5.4s
SPB2 Spitsbergen Ar 50.18 351 P **P** 07 21 01.1 +1.3
SPITS Spitsbergen Ar 50.18 351 P **P** 07 20 58.4 -1.5
comp=Z,9.4nm,1.0s,baz=116,slow=12,SNR=7.0
comp=Z,9.4nm,1.0s
BORG Borgarnes 55.51 330 LR LR 07 47 59.5
comp=Z,130nm,20.1s,baz=118,slow=39
NJ2 Nanjing 56.70 70 *e*P **P** 07 21 47.3 -1.1
NJ2 pmax pmax
comp=Z,13nm,0.5s
NJ2 pmax pmax
comp=Z,280nm,3.5s
TIXI Tiksi 57.36 22 *i* P **P** 07 21 55.2 +2.8
TIXI pmax pmax
comp=Z,8.0nm,1.6s
SUMG Summit 61.15 340 P **P** 07 22 19.0 -0.1
SUMG IAmb IAmb 07 22 27.3
comp=Z,3.2nm,0.8s
SUMG Summit 61.15 340 P **P** 07 22 19.0 -0.1
SUMG pmax pmax
comp=Z,3.0nm,0.8s
KSRS Korea Array 62.15 61 P **P** 07 22 28.6 +2.7
comp=Z,0.6nm,0.4s,baz=286,slow=7.1,SNR=1.5
comp=Z,0.6nm,0.4s
BOSA Boshof 63.93 206 P **P** 07 22 40.1 +2.3
comp=Z,2.7nm,0.8s,baz=64,slow=7.8,SNR=2.4
comp=Z,2.7nm,0.8s
JNU Nakatsue 65.90 65 LR LR 07 53 59.2
comp=Z,26nm,18.1s,baz=17,slow=38
A36M Sachs Harbour 77.72 359 P **P** 07 24 00.6 -0.5
C18K Utukok River 78.19 12 P **P** 07 24 03.4 -0.4
C18K IAmb IAmb 07 24 08.2
comp=Z,5.4nm,1.1s
C23K Itkillik River 78.63 8 P **P** 07 24 06.2 +0.1
C23K IAmb IAmb 07 24 15.4
comp=Z,9.5nm,1.5s
E19K Redstone River 79.93 11 P **P** 07 24 13.2 -0.1
C36M Paulatuk 80.35 358 P **P** 07 24 14.1 -1.4
C36M IAmb IAmb 07 24 25.9
comp=Z,3.0nm,0.9s
INK Inuvik 81.38 2 P **P** 07 24 20.1 -0.8
INK Inuvik 81.38 2 P **P** 07 24 20.2 -0.8
INK pmax pmax
comp=Z,2.0nm,1.0s
F31M Tsiigehtchic 82.24 2 P **P** 07 24 25.2 -0.3
J16K Anvik River 83.06 14 P **P** 07 24 29.8 -0.2
H29M Whitestone 83.25 4 P **P** 07 24 30.1 -0.8
I28M Miner Creek 83.91 5 P **P** 07 24 33.3 -1.0
I28M IAmb IAmb 07 24 57.9
comp=Z,3.3nm,1.1s
ILAR Eielson Array 83.91 8 LR LR 08 08 53.7
comp=Z,31nm,18.5s,baz=239,slow=41
I30M Mount Dempster 84.35 3 P **P** 07 24 36.0 -0.7
I30M IAmb IAmb 07 24 44.4
comp=Z,2.9nm,0.9s
J30M Hart River 85.00 3 P **P** 07 24 39.4 -0.6
J30M IAmb IAmb 07 24 45.9
comp=Z,3.2nm,1.2s
BCAR Beaver Creek A 86.11 6 P **P** 07 24 45.6 +0.2
L27K Beaver Creek, 86.11 6 P **P** 07 24 45.8 +0.4
L27K IAmb IAmb 07 25 10.0
comp=Z,2.7nm,1.0s
YKA Yellowknife Ar 86.61 354 P **P** 07 24 47.2 -0.6
comp=Z,0.5nm,0.9s,baz=5.2,slow=5.5,SNR=8.0
comp=Z,0.5nm,0.9s
QSPA South Pole Qui 120.38 180 PKP **PKiKP** 07 30 58.7 +3.3
comp=Z,1.4nm,0.8s,baz=314,slow=0.7,SNR=6.6

*NEIC **10** 07:37:02.3±1.3, 19°.47N±0°.02×154°.87W±0°.02, h5^{km}±1^{km}, Error ellipse: s-maj=4.0km s-min=3.0km az=152.0*
HVO 10 07:37:01.8±1.3, **19°.49N**±0°.01×**154°.88W**±0°.01, **h2**^{km}±3^{km}, **ML2.8**/12, **ML2.8**/20(NEIC), **Error ellipse: s-maj=2.0km s-min=1.8km az=77.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.02**	**243**		Pg	07 37 02.9	+0.5
PHO	**Puu Honuaula**	**0.02**	**243**		Pg	07 37 02.9	+0.5
PAH	**Pahoa**	**0.07**	**275**		Pg	07 37 05.6	+2.4
JOKA	**Jonika Flow**	**0.13**	**246**		Pg	07 37 04.9	+0.4
STCH	**Steam Cracks**	**0.26**	**246**	Pg	Pg	07 37 07.3	+0.5
PUH	**Pauahi**	**0.34**	**250**	Pg	Pg	07 37 08.8	+0.4
PUH				IAML		07 37 15.5	
	comp=E,761nm,0.9s						
PUH				IAML		07 37 15.8	
	comp=N,806nm,0.6s						
BYL	**Byron's Ledge**	**0.37**	**258**		Sg	07 37 15.6	+1.8
RSD	**Rainshed**	**0.38**	**266**		Pg	07 37 09.1	-0.1
RSD				IAML		07 37 17.2	
	comp=E,1μm,1.7s						
HLP	**Hilina Pali**	**0.45**	**245**	Pg	Pg	07 37 10.9	+0.4
HLP				IAML		07 37 25.2	
	comp=N,1μm,0.7s						
MLH	**Mauna Loa**	**0.48**	**271**		Pg	07 37 11.6	+0.5
MLH					Sb	07 37 19.3	-1.5
MLH	**Mauna Loa**	**0.48**	**271**	IAML		07 37 20.2	
	comp=E,441nm,0.7s						
MLH				IAML		07 37 25.3	
	comp=N,732nm,0.8s						
HTC	**Hot Caves**	**0.55**	**243**		Pg	07 37 12.9	+0.5
HMH	**Humu'ula Sheep**	**0.58**	**281**	Pg	Pg	07 37 13.4	+0.3
HMH				IAML		07 37 28.0	
	comp=E,781nm,0.4s						
MWH	**Moku'aweowe**	**0.68**	**270**	Pg	Pg	07 37 14.2	-0.7
MWH				IAML		07 37 36.1	
	comp=N,549nm,0.8s						
ALEP	**Alea Permanent**	**0.73**	**274**		Sb	07 37 27.4	-0.5
KHU	**Kahuku**	**0.74**	**251**		Pg	07 37 15.4	-0.6
KHU	**Kahuku**	**0.74**	**251**	IAML		07 37 29.5	
	comp=E,354nm,2.5s						
KHU				IAML		07 37 31.4	
	comp=N,331nm,3.2s						
HUH	**Hualalai**	**0.93**	**282**	Pg	Pg	07 37 19.7	+0.1
HUH				IAML		07 37 49.0	
	comp=N,378nm,0.6s						

*IDC **10** 07:47:13.5±0.6, 28°.78S×61°.82E, h0^{km}, mb4.2/15, mbtmp4.2/16, ML3.3/1, MS3.6/10, Error ellipse: s-maj=22.2km s-min=17.0km az=78.0*
*NEIC **10** 07:47:15.7±1.7, 28°.9S±0°.1×61°.8E±0°.1, h10^{km}±1^{km}, mb4.6/24, Error ellipse: s-maj=20.5km s-min=17.1km az=241.0*
ISC 10 07:47:15.1±0.5, **28°.87S**±0°.09×**61°.75E**±0°.10, **h10**^{km}, **n64, σ0^{s}93/48, mb4.3/22, MS3.6**/10, **Southwest Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RER	**Riviere de l'E**	**9.41**	**323**	Pn	**Pn**	**07 49 32.1**	**+1.2**
FOMA	**Nahampoana Res**	**13.73**	**283**	Pn	**Pn**	**07 50 27.4**	**-2.6**
VOI	**Vohitsoka**	**15.18**	**294**	Pn	**Pn**	**07 50 49.0**	**-0.8**
VOI				IAmb	IAmb	07 51 30.8	
	comp=Z,29nm,1.5s						
ABPO	**Ambohimpanom**	**16.49**	**303**	Pn	**Pn**	**07 51 07.2**	**+0.4**
OPO	**Ambohidratompo**	**16.80**	**304**	Pn	**Pn**	**07 51 10.1**	**-0.7**
	baz=151,slow=10,SNR=2.7						
OPO				Sn	Sn	07 54 04.6	-13
	baz=359,slow=19,SNR=2.4						

comp=Z,3.0nm,0.7s
H04N2 CROZET ISLANDS 18.95 202 T T 08 11 04.6
baz=28,slow=75,SNR=314
H04N1 CROZET ISLANDS 18.96 202 T T 08 11 16.6
baz=28,slow=75,SNR=345
H04N3 CROZET ISLANDS 18.97 202 T T 08 11 14.3
baz=28,slow=75,SNR=333
H08S1 Diego Garcia H 23.41 28 T T 08 16 33.0
baz=204,slow=76,SNR=13
H08S2 Diego Garcia H 23.42 28 T T 08 16 41.5
baz=204,slow=76,SNR=6.5
H08S3 Diego Garcia H 23.43 28 T T 08 16 37.0
baz=204,slow=76,SNR=9.3
BOSA Boshof 31.92 261 P **P** **07 53 41.1 -0.1**
BOSA IAmb IAmb 07 53 54.1
comp=Z,18nm,1.4s
BOSA Boshof 31.92 261 P **P** **07 53 40.9 -0.2**
comp=Z,3.6nm,0.9s,baz=113,slow=3.7,SNR=4.6
comp=Z,3.6nm,0.9s
LSZ Lusaka 33.78 286 P **P** **07 53 58.1 +0.5**
LSZ IAmb IAmb 07 53 58.8
comp=Z,6.7nm,1.0s
SUR Sutherland 35.25 254 P **P** **07 54 10.8 +0.6**
SUR Sutherland 35.25 254 LR LR 08 06 44.4
comp=Z,64nm,19.4s,baz=139,slow=33
MAW Mawson 38.77 179 P **P** **07 54 41.5 +2.1**
comp=Z,1.7nm,0.5s,baz=0.7,slow=10.0,SNR=3.2
MAW LR LR 08 06 59.9
comp=Z,145nm,18.9s,baz=20,slow=30
comp=Z,1.7nm,0.5s
PALK Pallekele 40.31 30 LR LR 08 07 38.1
comp=Z,76nm,19.7s,baz=320,slow=30
MBAR Mbarara 40.83 308 LR LR 08 10 34.7
comp=Z,61nm,18.2s,baz=146,slow=34
H01W2 Cape Leeuwin H 44.47 112 T T 08 43 10.5
baz=262,slow=75,SNR=7.3
H01W3 Cape Leeuwin H 44.48 112 T T 08 43 10.1
baz=262,slow=75,SNR=6.8
H01W1 Cape Leeuwin H 44.49 112 T T 08 43 11.0
baz=262,slow=75,SNR=7.6
WSAR Wadi Sarin 51.89 356 LR LR 08 13 40.8
comp=Z,71nm,18.5s,baz=203,slow=31
CM31 Chiang Mai Arr 59.20 42 P **P** **07 57 17.0 +0.3**
CMAR Chiang Mai Arr 59.20 42 P **P** **07 57 15.8 -0.9**
CMAR Chiang Mai Arr 59.20 42 P **P** **07 57 15.1 -1.6**
comp=Z,1.2nm,0.4s,baz=232,slow=7.0,SNR=7.6
CMAR LR LR 08 20 54.8
comp=Z,25nm,18.6s,baz=245,slow=34
comp=Z,1.2nm,0.4s
QSPA South Pole Qui 61.28 180 P **P** **07 57 30.7 +0.2**
QSPA IAmb IAmb 07 57 33.3
comp=Z,11nm,0.9s
QSPA South Pole Qui 61.28 180 P **P** **07 57 30.8 +0.2**
comp=Z,11nm,1.0s,baz=265,slow=2.8,SNR=27
comp=Z,11nm,1.0s
ASAR Alice Springs 64.01 104 P **P** **07 57 49.1 -0.2**
comp=Z,1.8nm,0.8s,baz=247,slow=6.5,SNR=17
comp=Z,1.8nm,0.8s
AS31 Alice Springs 64.02 104 P **P** **07 57 49.0 -0.4**
VNDA Vanda 64.19 166 P **P** **07 57 50.1 +0.6**
VNDA IAmb IAmb 07 57 51.3
comp=Z,3.7nm,0.9s
VNDA Vanda 64.19 166 P **P** **07 57 49.8 +0.3**
comp=Z,3.5nm,1.0s,baz=261,slow=7.9,SNR=8.0
VNDA LR LR 08 22 40.4
comp=Z,81nm,20.3s,baz=218,slow=33
comp=Z,3.5nm,1.0s
SBA Scott Base 65.08 167 P **P** **07 57 56.9 +1.6**
SBA IAmb IAmb 07 57 58.2
comp=Z,3.9nm,0.8s
WRA Warramunga Arr 65.81 100 P **P** **07 58 00.5 -0.5**
WRA Warramunga Arr 65.81 100 P **P** **07 58 00.7 -0.3**
comp=Z,1.9nm,0.9s,baz=248,slow=6.0,SNR=8.4
comp=Z,1.9nm,0.9s
WB2 Warramunga Arr 65.82 100 P **P** **07 58 00.3 -0.8**
WB2 IAmb IAmb 07 58 09.4
comp=Z,12nm,1.4s
MMAI Mount Meron Ar 66.43 336 LR LR 08 22 30.5
comp=Z,36nm,21.0s,baz=124,slow=32
GEYT Alibeck 66.54 357 P **P** **07 58 05.8 +0.7**
GEYT IAmb IAmb 07 58 32.6
comp=Z,3.2nm,0.3s
GYA0B ALIBECK ARRAY 66.54 357 P **P** **07 58 05.8 +0.7**
GNI Garni 70.46 346 LR LR 08 28 09.7
comp=Z,36nm,18.9s,baz=140,slow=35
ARG Arkhangelos 72.06 332 P **P** **07 58 40.3 +1.0**
KK31 Karatay Array 72.07 7 P **P** **07 58 39.3 0.0**
KKAR Karatay Array 72.07 7 P **P** **07 58 39.3 0.0**
AAK Ala-Archa 72.11 10 P **P** **07 58 40.9 +1.2**
AAK IAmb IAmb 07 59 06.6
comp=Z,1.7nm,0.6s
KBZ Khabaz 74.28 346 LR LR 08 30 23.8
comp=Z,62nm,19.7s,baz=185,slow=35
MK31 Makanchi Array 77.57 14 P **P** **07 59 10.5 -0.5**
MKAR Makanchi Array 77.57 14 P **P** **07 59 11.2 +0.1**
MKAR Makanchi Array 77.57 14 P **P** **07 59 09.2 -1.8**
comp=Z,0.4nm,0.6s,baz=202,slow=3.1,SNR=3.4
comp=Z,0.4nm,0.6s
EIDS Eidsvold 77.65 112 P **P** **07 59 10.3 -1.8**
ABKAR Akbulak array 77.79 359 P **P** **07 59 12.0 -0.2**
ABKAR IAmb IAmb 07 59 13.2
comp=Z,3.9nm,1.3s
KURBB Kurchatov Arra 80.53 11 P **P** **07 59 27.8 +0.7**
comp=Z,0.9nm,0.7s,baz=206,slow=5.9,SNR=3.7
comp=Z,0.9nm,0.7s
KURK Kurchatov 80.63 11 P **P** **07 59 28.6 +0.9**
KURK IAmb IAmb 07 59 32.2
comp=Z,4.7nm,1.3s
BVAR Borovoye Array 81.89 5 P **P** **07 59 34.6 +0.2**
comp=Z,1.7nm,0.6s,baz=168,slow=7.4,SNR=6.7
comp=Z,1.7nm,0.6s
AKASG Malin Array Be 84.28 340 P **P** **07 59 47.1 +0.4**
comp=Z,0.3nm,0.2s,baz=162,slow=4.4,SNR=6.0
comp=Z,0.3nm,0.2s
ZAA0 Zalesovo Array 84.86 13 P **P** **07 59 49.7 +0.1**
ZALV Zalesovo Beam 84.86 13 P **P** **07 59 49.7 +0.1**
comp=Z,6.4nm,0.9s,baz=200,slow=5.5,SNR=15
comp=Z,6.4nm,0.9s
SONM Songino Array 86.25 28 P **P** **07 59 56.1 -0.8**
comp=Z,1.1nm,0.7s,baz=212,slow=6.8,SNR=2.4
comp=Z,1.1nm,0.7s
GERES CERESS Array B 88.47 331 P **P** **08 00 08.1 +0.5**
comp=Z,0.3nm,0.4s,baz=163,slow=3.8,SNR=2.3
comp=Z,0.3nm,0.4s
ESDC Sonseca Array 91.55 315 P **P** **08 00 22.0 -0.1**
comp=Z,2.1nm,1.0s,baz=83,slow=2.9,SNR=6.8
comp=Z,2.1nm,1.0s
ILAR Eielson Array 139.81 19 PKP **PKPdf** **08 06 43.1 +0.4**
comp=Z,0.7nm,1.0s,baz=318,slow=2.6,SNR=3.7
M31M Drury Creek, Y 145.01 13 **PKPab** **08 06 51.2 -0.2**
N30M Aishikik Lake 145.08 16 **PKPdf** **08 06 52.0 -0.3**
YKA Yellowknife Ar 146.29 357 PKPbc **PKPbc** **08 06 54.9 -0.4**
comp=Z,3.3nm,0.8s,baz=353,slow=4.0,SNR=40
ULM Lac du Bonnet 152.74 328 PKPbc **PKPbc** **08 07 10.0 -1.9**
comp=Z,2.3nm,0.7s,baz=255,slow=4.1,SNR=4.4

ISC 10 07:51:28.2±1.1, **49°.05N**±0°.05×**18°.40E**±0°.04, **h10**^{km}, **n5, σ0^{s}61/9, Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.51**	**248**	*e*PG	**Pg**	**07 51 37.1**	**-1.1**
JAVC				*e*SG	**Sg**	07 51 45.7	+0.7
VYHS	**Vyhne**	**0.63**	**152**	*e*PG	**Pg**	**07 51 40.3**	**-0.1**
VYHS				*e*SG	**Sg**	07 51 48.6	0.0
LANS	**Liptovska Anna**	**0.71**	**81**	*e*PG	**Pb**	**07 51 42.6**	**-0.2**
LANS				*e*SG	**Sb**	07 51 52.9	+0.3
MORC	**Moravsky Berou**	**0.92**	**323**	*e*PG	**Pg**	**07 51 45.8**	**-0.1**
MODS	**Modra-Piesok**	**1.00**	**228**	*e*PG	**Pb**	**07 51 47.9**	**+0.2**
MODS				*e*SG	**Sb**	**07 52 01.5**	**+0.6**

IDC 10 08:12:42.0±2.1, **54°.51N×83°.60E, h0**^{km}, **mbtmp2.8**/2, **ML2.6**/2, **Error ellipse: s-maj=18.4km s-min=10.8km az=162.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.91**	**127**	I	I	08 18 06.1	
	baz=306,slow=326,SNR=3.9						
ZALV	**Zalesovo Beam**	**0.91**	**128**	Pg	Pg	08 12 58.9	-0.5
	3.9nm,0.3s,baz=315,slow=17,SNR=22						
ZALV				Lg	Lg	08 13 12.6	
	4.0nm,0.3s,baz=310,slow=30,SNR=6.9						
KURBB	**Kurchatov Arra**	**4.97**	**221**	Pn	Pn	08 13 57.5	-0.3
	0.1nm,0.3s,baz=44,slow=17,SNR=1.5						
KURBB				Lg	Lg	08 15 21.0	

baz=35,slow=30,SNR=2.0
0.3nm,0.2s
MKAR Makanchi Array 7.77 187 Pn Pn 08 14 36.8 +0.5
0.3nm,0.3s,baz=19,slow=14,SNR=10
0.3nm,0.3s

*IDC **10** 08:20:29.6±2.3, 4°.65N×124°.48E, h0^{km}, mb3.4/3, mbtmp3.4/3, MS2.3/1, Error ellipse: s-maj=223.1km s-min=29.6km az=64.0*
ISC 10 08:20:29.7±1.3, **5°.0N**±0°.1×**125°.0E**±0°.2, **h10**^{km}, **n6, σ1^{s}49/6, mb3.3/3, 2C, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.08**	**356**	⇑*i*P	**Pn**	**08 20 49.8**	**-1.3**
DAV	**Davao City (W)**	**2.13**	**15**	LR	LR	08 22 19.2	
	comp=Z,55nm,21.0s,baz=163,slow=42						
CDOP	**Cateel, Davao**	**3.10**	**27**	*i* S	**Sb**	**08 22 02.5**	**-0.4**
CDOP				⇑*e*P	**Sn**	**08 21 56.9**	**+1.1**
WRA	**Warramunga Arr**	**26.42**	**160**	P	**P**	**08 26 07.8**	**+1.0**
	0.6nm,0.9s,baz=338,slow=10,SNR=6.5						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**29.78**	**163**	P	**P**	**08 26 35.9**	**-1.0**
	0.3nm,0.6s,baz=343,slow=7.1,SNR=1.7						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**55.55**	**326**	P	**P**	**08 30 06.7**	**+1.3**
	0.2nm,0.5s,baz=120,slow=5.7,SNR=2.9						
	0.2nm,0.5s						

*IDC **10** 08:34:03.0±2.1, 8°.22N×104°.20W, h0^{km}, mb3.4/6, mbtmp3.4/7, ML3.1/1, MS3.5/12, Error ellipse: s-maj=63.9km s-min=28.9km az=56.0*
ISC 10 08:34:04.7±1.6, **8°.3N**±0°.2×**104°.1W**±0°.2, **h10**^{km}, **n15, σ0^{s}96/7, mb3.5/5, MS3.4/9, Northern East Pacific Rise**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.57**	**45**	Pn	**Pn**	**08 37 03.6**	**-0.1**
	0.1nm,0.3s,baz=220,slow=14,SNR=1.9						
CMIG				LR	LR	08 40 36.5	
	comp=Z,283nm,21.9s,baz=226,slow=31						
	0.8nm,0.5s						
LPIG	**La Paz**	**16.82**	**340**	LR	LR	08 42 52.8	
	comp=Z,157nm,19.9s,baz=188,slow=32						
JTS	**Las Juntas de**	**19.02**	**82**	LR	LR	08 43 37.1	
	comp=Z,143nm,21.8s,baz=258,slow=30						
TXAR	**Lajitas Array**	**20.96**	**1**	P	**P**	**08 38 48.8**	**+0.6**
	0.5nm,0.9s,baz=184,slow=12,SNR=11						
TXAR				LR	LR	08 46 18.3	
	comp=Z,65nm,18.6s,baz=181,slow=35						
	0.5nm,0.9s						
ANMO	**Albuquerque**	**26.64**	**356**	LR	LR	08 48 54.4	
	comp=Z,80nm,20.8s,baz=257,slow=33						
PFO	**Pinyon Flats O**	**27.68**	**337**	LR	LR	08 49 14.9	
	comp=Z,57nm,18.2s,baz=206,slow=33						
ATAH	**Atahualpa**	**29.86**	**120**	LR	LR	08 49 17.6	
	comp=Z,109nm,21.7s,baz=279,slow=31						
NVAR	**Mina Array Bea**	**32.64**	**339**	P	**P**	**08 40 38.3**	**+1.1**
	0.4nm,0.8s,baz=144,slow=9.4,SNR=2.5						
NVAR				LR	LR	08 51 18.8	
	comp=Z,118nm,20.9s,baz=192,slow=32						
	0.4nm,0.8s						
TKL	**Tuckaleechee C**	**33.01**	**31**	LR	LR	08 55 25.3	
	comp=Z,75nm,18.9s,baz=176,slow=39						
SDV	**Santo Domingo**	**33.11**	**86**	LR	LR	08 51 59.1	
	comp=Z,92nm,21.5s,baz=277,slow=32						
PDAR	**Pinedale Array**	**34.70**	**353**	P	**P**	**08 40 55.6**	**+0.6**
	0.4nm,0.6s,baz=170,slow=8.2,SNR=2.5						
PDAR				LR	LR	08 55 05.0	
	comp=Z,38nm,19.4s,baz=194,slow=36						
	0.4nm,0.6s						
LPAZ	**La Paz**	**43.17**	**124**	P	**P**	**08 42 07.1**	**+0.3**
	2.2nm,1.2s,baz=292,slow=8.3,SNR=2.7						
	2.2nm,1.2s						
YKA	**Yellowknife Ar**	**54.66**	**354**	P	**P**	**08 43 32.9**	**-0.7**
	0.2nm,0.8s,baz=165,slow=7.0,SNR=3.7						
	0.2nm,0.8s						
PLCA	**Paso Flores**	**57.73**	**150**	LR	LR	09 03 53.4	
	comp=Z,62nm,21.2s,baz=200,slow=31						
ILAR	**Eielson Array**	**63.87**	**341**	P	**P**	**08 44 36.3**	**-1.0**
	0.5nm,0.8s,baz=157,slow=4.6,SNR=4.4						
	0.5nm,0.8s						

IDC 10 08:35:45.8±2.7, **53°.63N×86°.89E, h0**^{km}, **mbtmp3.3**/2, **ML2.5**/2, **Error ellipse: s-maj=26.0km s-min=15.0km az=69.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**286**	I	I	08 44 30.5	
	baz=105,slow=324,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.27**	**286**	Pg	Pg	08 36 08.2	-2.0
	1.2nm,0.3s,baz=104,slow=17,SNR=10						
ZALV				Lg	Lg	08 36 27.1	
	1.8nm,0.3s,baz=107,slow=32,SNR=11						
KURBB	**Kurchatov Arra**	**5.96**	**243**	Pn	Pn	08 37 17.2	+1.9
	0.1nm,0.3s,baz=59,slow=12,SNR=1.6						
	2.4nm,0.2s						
MKAR	**Makanchi Array**	**7.45**	**205**	Pn	Pn	08 37 36.8	+1.1
	0.1nm,0.3s,baz=25,slow=13,SNR=6.1						
	0.2nm,0.3s						

*IDC **10** 08:37:28.9±0.6, 6°.05N×125°.52E, h163^{km}±4^{km}, mb3.7/23, mbtmp4.2/24, MS4.2/3, Error ellipse: s-maj=24.0km s-min=9.3km az=78.0*
*DJA **10** 08:37:29.0±0.3, 6°.N±3°×12°.6E±°, h145^{km}±3^{km}, M5.0/20, mb4.8/20, mB5.2/11, MLv5.7/7, Mw(mB)4.5/11, MwMwp5.0/1, Mwp5.3/1*
*NEIC **10** 08:37:29.7±1.7, 6°.05N±0°.07×125°.80E±0°.09, h161^{km}±6^{km}, mb4.7/50, Error ellipse: s-maj=13.4km s-min=10.0km az=76.0*
ISC 10 08:37:28.8±0.6, **6°.04N**±0°.04×**125°.85E**±0°.05, **h158**^{km}±6^{km}, **n151, σ1^{s}41/159, mb4.5/53, 5C-8D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**0.90**	**273**	⇓*i*P	**Pn**	**08 37 52.3**	**-1.3**
GSPH				*i* S	**Sn**	**08 38 10.5**	**-2.1**
DAV	**Davao City (W)**	**1.06**	**345**		**Pn**	**08 37 55.0**	**+0.2**
DAV	**Davao City (W)**	**1.06**	**345**	P	**Pn**	**08 37 55.3**	**+0.5**
	676nm,0.3s,baz=225,slow=1.4,SNR=19						
DAV				S	**Sn**	**08 38 15.4**	**+0.5**
	5μm,0.3s,baz=198,slow=19,SNR=14						
KCP	**Kidapawan**	**1.23**	**322**	⇓*i*P	**Pn**	**08 37 56.3**	**0.0**
KCP				*i* S	**Sn**	**08 38 16.0**	**-1.5**
CDOP	**Cateel, Davao**	**1.83**	**19**	⇑*e*P	**Pn**	**08 38 02.6**	**+0.1**
CDOP				*e*S	**Sn**	**08 38 27.8**	**-0.7**
BIPH	**Bislig**	**2.19**	**13**	⇑*e*P	**Pn**	**08 38 06.2**	**-0.5**
BIPH				*e*S	**Sn**	**08 38 33.8**	**-2.1**
SGSI	**Sangihe**	**2.36**	**188**	P	**Pn**	**08 38 08.4**	**-0.2**
TASP	**Talacogon, Agu**	**2.40**	**359**	⇓*e*P	**Pn**	**08 38 10.4**	**+1.3**
CGP	**Cagayan de Oro**	**2.66**	**335**	⇓*e*P	**Pn**	**08 38 12.8**	**+0.5**
CGP				*e*S	**Sn**	**08 38 45.0**	**-1.0**
DCPH	**Dipolog City**	**3.54**	**316**	⇓*i*P	**Pn**	**08 38 23.3**	**0.0**
DCPH				*i* S	**Sn**	**08 39 13.9**	**+8.2**
ZCP	**Zamboanga City**	**3.85**	**284**	⇑*i*P	**Pn**	**08 38 30.2**	**+2.9**
ZCP				*i* S	**Sn**	**08 39 11.2**	**-1.7**
GHBP	**Garcia Hernand**	**3.88**	**337**	⇓*e*P	**Pn**	**08 38 28.4**	**+0.7**
GHBP				*e*S	**Sn**	**08 39 14.1**	**+0.6**
TBP	**Tagbilaran**	**4.13**	**332**	⇓*i*P	**Pn**	**08 38 31.1**	**+0.1**
SNPH	**Sibulan**	**4.18**	**322**	*e*P	**Pn**	**08 38 32.5**	**+0.8**
TABP	**Talibon, Bohol**	**4.30**	**340**	⇓*e*P	**Pn**	**08 38 33.4**	**+0.3**
LLP	**Lapu-Lapu**	**4.64**	**336**	*e*P	**Pn**	**08 38 35.3**	**-2.3**
LLP				*e*S	**Sn**	**08 39 33.6**	**+2.2**
PLP	**Palo**	**5.17**	**350**	⇓*e*P	**Pn**	**08 38 46.3**	**+1.8**
TNTI	**Ternate**	**5.44**	**164**	P	**Pn**	**08 38 48.3**	**+0.1**
TNTI	**Ternate**	**5.44**	**164**		**Pn**	**08 38 47.8**	**-0.4**
TNTI	**Ternate**	**5.44**	**164**	P	**Pn**	**08 38 47.6**	**-0.6**
GTOI	**Gorontalo**	**6.07**	**208**	P	**Pn**	**08 38 56.2**	**-0.3**
	41nm,0.9s,382nm11nm						
RCP	**Roxas**	**6.29**	**331**	⇑*i*P	**Pn**	**08 39 00.7**	**+1.3**
TOLI2	**Tolitoli**	**7.04**	**226**	P	**Pn**	**08 39 09.4**	**0.0**
TOLI2	**Tolitoli**	**7.04**	**226**	Pn	**Pn**	**08 39 08.6**	**-0.7**
LUWI	**Luwuk**	**7.67**	**204**	Pn	**Pn**	**08 39 20.4**	**+2.5**
SANI	**Sanana**	**8.03**	**179**	P	**Pn**	**08 39 19.2**	**-3.4**
	181nm,0.7s,6μm5μm						
FAKI	**Fak Fak**	**10.95**	**144**	P	**Pn**	**08 40 02.7**	**+1.4**
FAKI	**Fak Fak**	**10.95**	**

KAPI **Kappang** 12.55 209 P Pn 08 40 21.7 -0.3
15nm,0.7s,baz=57,slow=8.2,SNR=9.4
BKSI **Bulukumba** 12.65 207 P Pn 08 40 23.5 +0.2
37nm,0.9s
SBUM **Sibu** 14.05 256 Pn Pn 08 40 41.8 +0.7
MMRI **Maumere** 15.01 194 P P 08 40 56.0 +1.3
EDFI **Ende, Flores** 15.26 196 P Pn 08 40 56.7 +0.4
39nm,0.8s,683nm
STKI **Sintang** 15.52 248 P P 08 41 01.4 +1.0
SOEI **Soe** 15.77 186 P Pn 08 41 00.8 -1.7
SOEI **Soe** 15.77 186 Pn 08 41 02.5 +0.1
SOEI IAmb IAmb 08 41 22.9
comp=Z,33nm,0.9s
SOEI **Soe** 15.77 186 P P 08 41 03.9 +0.7
comp=Z,40nm,0.9s
KSM **Kuching** 16.15 254 P P 08 41 07.8 +0.5
KSM IAmb IAmb 08 41 12.0
comp=Z,20nm,0.7s
BATI **Baumata** 16.28 188 P Pn 08 41 10.0 +1.3
comp=Z,92nm,0.5s,baz=330,slow=0.9,SNR=9.0
BATI **Baumata** 16.28 188 P Pn 08 41 11.0 +2.3
comp=Z,87nm,0.5s
GENI **Genyem** 16.67 121 P Pn 08 41 15.2 +1.8
comp=Z,210nm,0.8s
PLAI **Plampang** 16.82 209 P Pn 08 41 16.0 +0.9
PLAI **Plampang** 16.82 209 P Pn 08 41 15.2 +0.1
comp=Z,50nm,0.5s,comp=Z,1µm
JAY **Jayapura** 17.09 119 P Pn 08 41 19.7 +1.1
comp=Z,26nm,0.8s
TWSI **Taliwang, Sumb** 17.18 211 P Pn 08 41 19.5 -0.1
comp=Z,49nm,0.8s
DLV **T Lat** 18.12 290 P 08 41 29.2 +0.1
DLV IAmb IAmb 08 41 31.8
comp=Z,46nm,0.7s
JAGI **Jajag, Banyuwa** 18.54 219 P Pn 08 41 36.8 +1.2
TABU **Tabubil** 19.02 126 P Pn 08 41 42.8 +1.5
MTN **Manton Dam** 19.48 164 P P 08 41 45.0 +1.3
baz=20,SNR=20
MTN **Manton Dam** 19.48 164 P P 08 41 44.0 +0.4
MTN IAmb IAmb 08 41 55.2
comp=Z,15nm,0.9s
KDU **Kakadu** 19.73 161 P P 08 41 47.5 +1.1
KDU **Kakadu** 19.73 161 P P 08 41 48.0 +1.6
UGM **Wanagama** 20.63 228 P Pn 08 41 58.4 -2.0
DSRI **Dabo** 22.20 254 P P 08 42 13.0 +0.5
comp=Z,51nm,0.7s,comp=Z,3µm
LEM **Lembang** 22.23 235 P P 08 42 14.3 +1.3
comp=Z,23nm,0.5s,baz=98,slow=19,SNR=5.2
MYKOM **Kota Tinggi** 22.34 260 P P 08 42 14.1 +0.1
MYKOM IAmb IAmb 08 42 16.1
comp=Z,32nm,0.9s
MANU **Manus Island** 22.94 110 P P 08 42 20.3 +0.9
MANU IAmb IAmb 08 42 22.7
comp=Z,46nm,0.9s
FITZ **Fitzroy Crossi** 23.98 180 P P 08 42 29.3 +0.4
baz=24,SNR=50
FITZ **Fitzroy Crossi** 23.98 180 P P 08 42 29.2 +0.4
JCJ **Chichijima** 26.09 35 P P 08 42 47.0 -0.8
SRIT **Nakonsritamara** 26.15 277 P P 08 42 47.7 -1.0
SRIT IAmb IAmb 08 42 49.8
comp=Z,10nm,0.8s
PDSI **Padang** 26.27 256 P P 08 42 49.3 -0.4
comp=Z,33nm,1.1s,comp=Z,6µm
COEN **Coen** 26.27 139 P P 08 42 48.8 -0.8
baz=26,SNR=10
COEN **Coen** 26.27 139 P P 08 42 49.4 -0.3
COEN IAmb IAmb 08 42 55.8
comp=Z,31nm,0.9s
NJ2 **Nanjing** 26.70 347 *e*P P 08 42 54.7 +1.4
NJ2 pmax pmax
comp=Z,11nm,0.5s
WB0 **Warramunga Arr** 26.98 162 P P 08 42 53.9 -2.1
WB0 IAmb IAmb 08 43 12.9
comp=Z,13nm,0.6s
WRA **Warramunga Arr** 27.13 162 P P 08 42 56.4 -0.9
WRA **Warramunga Arr** 27.13 162 P P 08 42 57.5 +0.2
comp=Z,0.4nm,0.3s,baz=343,slow=9.5,SNR=14
comp=Z,0.4nm,0.3s
MBWA **Marble Bar** 27.68 192 P P 08 43 00.2 -2.0
MBWA IAmb IAmb 08 43 08.2
comp=Z,36nm,1.5s
PSA00 **Pilbara Seismi** 28.06 192 P P 08 43 04.9 -0.6
PSA00 IAmb IAmb 08 43 07.2
comp=Z,15nm,0.6s
GSI **Gunungsitoli** 28.60 262 P P 08 43 08.6 -1.9
GSI **Gunungsitoli** 28.60 262 P P 08 43 08.8 -1.6
comp=Z,48nm,0.8s
QIS **Mount Isa** 29.68 153 P P 08 43 20.6 +0.6
baz=30,SNR=5.2
MTSU **Mount Surprise** 30.15 143 P P 08 43 24.0 -0.1
baz=30,SNR=5.1
AS31 **Alice Springs** 30.55 165 P P 08 43 26.5 -1.1
ASAR **Alice Springs** 30.55 165 P P 08 43 27.6 0.0
comp=Z,2.0nm,0.6s,baz=344,slow=7.5,SNR=45
ASAR LR LR 08 58 10.6
comp=Z,486nm,19.3s,baz=346,slow=40
comp=Z,2.0nm,0.6s
GIRL **Giralia** 30.68 201 P P 08 43 28.9 +0.2
PZH **PanZhiHua** 30.70 314 P P 08 43 30.7 +1.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,4.7s
WRKA **Warakurna** 30.98 176 P P 08 43 31.8 +0.4
baz=31,SNR=31
KSRS **Korea Array** 31.33 3 P P 08 43 34.1 -0.1
comp=Z,0.8nm,0.6s,baz=186,slow=11,SNR=2.2
comp=Z,0.8nm,0.6s
MJAR **Matsushiro Arr** 32.41 19 P P 08 43 43.9 +0.2
comp=Z,1.7nm,0.8s,baz=197,slow=9.4,SNR=2.8
comp=Z,1.7nm,0.8s
CTAO **Charters Tower** 32.81 143 P P 08 43 46.8 -0.6
CTAO IAmb IAmb 08 43 56.9
comp=Z,22nm,1.5s
MEEK **Meekatharra** 33.23 192 P P 08 43 50.8 -0.2
baz=33,SNR=8.3
JMM **Marumori** 34.48 21 P P 08 44 02.1 +0.6
MORW **Morawa** 36.16 195 P P 08 44 15.8 -0.3
baz=36,SNR=5.6
MORW **Morawa** 36.16 195 P P 08 44 15.4 -0.7
MORW IAmb IAmb 08 44 26.2
comp=Z,29nm,1.5s
FORT **Forrest** 36.67 177 P P 08 44 20.7 +0.4
FORT IAmb IAmb 08 44 28.7
comp=Z,20nm,0.8s
HHC **Hu-ho-hao-te** 36.95 342 *e*P P 08 44 24.7 +1.9
HHC pmax pmax
comp=Z,10.0nm,0.7s
HHC pmax pmax
comp=Z,89nm,5.6s
HHC LR LR
comp=N,760nm,18.3s
HHC LR LR
comp=E,520nm,19.1s
HHC LR LR
comp=Z,2µm,19.9s
KMBL **Kambalda** 37.38 186 P P 08 44 26.6 +0.2
baz=38,SNR=27
BLDU **Ballidu** 37.48 193 P P 08 44 26.9 -0.3
baz=38,SNR=12
KLBR **Kellerberrin** 38.21 191 P P 08 44 33.2 -0.1
baz=38,SNR=17
MDJ **Mudanjiang** 38.57 4 P P 08 44 38.1 +1.9
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,81nm,4.5s
XLT **XiLinHaoTe** 38.68 349 *e*P P 08 44 40.7 +3.5
XLT pP pP 08 45 17.5 +6.2
XLT sP sP 08 45 31.2 +2.0
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,79nm,4.9s
MUN **Mundaring** 38.90 193 P P 08 44 39.0 -0.1
baz=39,SNR=3.5
NWAO **Narrogin (SRO)** 39.60 191 P P 08 44 45.3 +0.4
baz=40,SNR=13
NWAO P P 08 44 45.3 +0.4
baz=40,SNR=13
NWAO **Narrogin (SRO)** 39.60 191 P P 08 44 44.9 0.0
NWAO IAmb IAmb 08 44 46.1
comp=Z,27nm,1.1s
NWAO **Narrogin (SRO)** 39.60 191 LR LR 09 04 37.1
comp=Z,291nm,18.6s,baz=38,slow=41

BBOO **Buckleboo** 39.83 167 P P 08 44 47.9 +1.1
baz=40,SNR=17
BBOO **Buckleboo** 39.83 167 P P 08 44 47.1 +0.3
STKA **Stephens Creek** 40.58 159 P P 08 44 54.1 +1.2
baz=41,SNR=4.8
STKA **Stephens Creek** 40.58 159 P P 08 44 53.2 +0.2
STKA **Stephens Creek** 40.58 159 P P 08 44 53.9 +0.9
comp=Z,5.7nm,0.8s,baz=338,slow=7.4,SNR=9.9
comp=Z,5.7nm,0.8s
HTT **Hallett** 41.16 163 P P 08 44 59.9 +2.1
baz=41,SNR=6.4
ARMA **Armidale** 43.87 147 P P 08 45 20.7 +1.0
ARMA IAmb IAmb 08 45 33.8
comp=Z,10nm,0.8s
SONM **Songino Array** 44.85 341 P P 08 45 26.2 -1.1
comp=Z,0.3nm,0.4s,baz=163,slow=1.5,SNR=2.0
comp=Z,0.3nm,0.4s
CAN **Canberra** 46.55 154 P P 08 45 41.9 +1.1
CAN IAmb IAmb 08 45 45.8
comp=Z,37nm,1.3s
DZM **Mont Dzumac** 48.59 126 P P 08 45 57.1 +0.4
DZM IAmb IAmb 08 46 03.4
comp=Z,17nm,1.1s
LIFNC **LIFOU** 48.60 124 P P 08 45 58.1 +1.5
PEA0B **Petropavlovsk-** 53.66 23 P P 08 46 34.7 +0.7
PEA0B IAmb IAmb 08 46 40.4
comp=Z,35nm,1.4s
PETK **Petropavlovsk-** 53.66 23 P P 08 46 33.7 -0.2
PETK **Petropavlovsk-** 53.66 23 P P 08 46 35.6 +1.6
comp=Z,1.2nm,0.6s,baz=208,slow=3.4,SNR=6.5
comp=Z,1.2nm,0.6s
MK31 **Makanchi Array** 55.17 325 P P 08 46 44.1 -0.9
MKAR **Makanchi Array** 55.17 325 P P 08 46 44.1 -0.9
MKAR **Makanchi Array** 55.17 325 P P 08 46 44.2 -0.8
comp=Z,1.2nm,0.3s,baz=115,slow=7.6,SNR=27
MKAR PcP PcP 08 47 42.6 -1.7
comp=Z,1.9nm,0.4s,baz=120,slow=4.5,SNR=9.0
comp=Z,1.2nm,0.3s
MAKZ **Makanchi** 55.36 325 P P 08 46 45.3 -1.1
ZALV **Zalesovo Beam** 58.15 333 P P 08 47 04.0 -1.8
comp=Z,0.6nm,0.4s,baz=120,slow=8.7,SNR=2.9
comp=Z,0.6nm,0.4s
KURBB **Kurchatov Arra** 59.34 327 P P 08 47 12.7 -1.4
comp=Z,2.3nm,0.7s,baz=127,slow=6.4,SNR=18
comp=Z,2.3nm,0.7s
KURK **Kurchatov** 59.34 327 P 08 47 12.5 -1.6
KURK IAmb IAmb 08 47 13.6
comp=Z,3.7nm,0.8s
NNZ **Nelson** 64.02 142 P P 08 47 44.8 -0.8
KHZ **Kahutara** 64.81 143 P P 08 47 50.7 0.0
RTZ **Ruatahuna** 64.91 138 P P 08 47 51.5 -0.1
RTZ IAmb IAmb 08 47 52.9
comp=Z,11nm,0.6s
BVAR **Borovoye Array** 64.92 327 P P 08 47 49.8 -1.5
comp=Z,1.8nm,0.6s,baz=134,slow=10,SNR=9.6
comp=Z,1.8nm,0.6s
GEYT **Alibeck** 68.78 308 P P 08 48 13.1 -2.9
comp=Z,1.7nm,0.5s,baz=132,slow=8.5,SNR=4.1
comp=Z,1.7nm,0.5s
ABKAR **Akbulak array** 69.82 320 P P 08 48 20.0 -2.1
ARU **Arti** 72.53 328 P P 08 48 36.2 -2.1
ARU IAmb IAmb 08 48 37.0
comp=Z,7.3nm,0.6s
CASY **Casey** 72.99 186 P P 08 48 40.8 +0.1
CASY IAmb IAmb 08 48 41.6
comp=Z,6.9nm,0.8s
L14K **Kuka Creek** 75.88 28 P P 08 48 58.0 +0.4
M14K **Bethel** 76.09 29 P P 08 48 59.6 +0.9
M14K IAmb IAmb 08 49 08.0
comp=Z,14nm,1.3s
L16K **Owhat River** 77.47 28 P P 08 49 06.9 +0.4
J17K **VABM Dome** 77.96 26 P P 08 49 10.4 +1.2
C18K **Utukok River** 78.23 21 P P 08 49 11.3 +0.6
C18K IAmb IAmb 08 49 45.3
comp=Z,20nm,1.5s
O18K **Koktuh Hills** 79.25 30 P P 08 49 17.0 +0.6
O18K IAmb IAmb 08 49 18.7
comp=Z,10.0nm,1.0s
D19K **Kuna River** 79.31 21 P P 08 49 17.2 +0.7
KDAK **Kodiak Island** 80.43 33 P P 08 49 23.6 +0.9
IMAR **Indian Mountai** 80.61 24 P P 08 49 24.6 +1.1
C23K **Itkillik River** 82.14 20 P P 08 49 32.1 +0.6
I23K **Minto, Yukon-K** 82.37 25 P P 08 49 33.9 +1.1
ILAR **Eielson Array** 83.41 26 P P 08 49 37.6 -0.6
comp=Z,0.5nm,0.7s,baz=250,slow=4.7,SNR=3.8
comp=Z,0.5nm,0.7s
MAW **Mawson** 85.60 200 P P 08 49 48.2 -0.7
comp=Z,2.8nm,0.6s,baz=60,slow=5.4,SNR=8.3
comp=Z,2.8nm,0.6s
VNDA **Vanda** 85.81 173 P P 08 49 49.7 -0.2
comp=Z,0.4nm,0.7s,baz=323,slow=5.1,SNR=2.1
comp=Z,0.4nm,0.7s
PPT **Papeete** 86.66 108 LR LR 09 24 27.5
comp=Z,97nm,20.7s,baz=274,slow=32
BRTR **Keskin Array B** 87.88 310 P P 08 49 57.4 -3.6
comp=Z,1.1nm,0.8s,baz=106,slow=3.1,SNR=4.4
comp=Z,1.1nm,0.8s
ARCES **ARCESS Array B** 88.00 340 P P 08 49 59.3 -1.4
comp=Z,1.5nm,0.7s,baz=60,slow=5.3,SNR=8.0
comp=Z,1.5nm,0.7s
SPITS **Spitsbergen Ar** 88.06 349 P P 08 50 00.3 -0.5
comp=Z,4.7nm,0.7s,baz=64,slow=6.6,SNR=8.2
comp=Z,4.7nm,0.7s
FINES **FINESS Array B** 89.40 332 P P 08 50 05.7 -1.7
comp=Z,2.0nm,0.6s,baz=68,slow=4.8,SNR=16
comp=Z,2.0nm,0.6s
HFS **Hagfors** 95.58 332 P P 08 50 33.2 -2.7
comp=Z,1.0nm,0.5s,baz=46,slow=6.4,SNR=4.6
comp=Z,1.0nm,0.5s
QSPA **South Pole Qui** 95.93 180 P P 08 50 37.6 +0.1
comp=Z,0.7nm,1.0s,baz=5.2,slow=11,SNR=1.4
comp=Z,0.7nm,1.0s
NOA **NORSAR Array B** 96.34 334 P P 08 50 37.4 -2.1
comp=Z,0.9nm,0.7s,baz=65,slow=4.7,SNR=3.3
comp=Z,0.9nm,0.7s
YKA **Yellowknife Ar** 97.77 24 P Pdif 08 50 46.0 +0.2
comp=Z,0.2nm,0.8s,baz=335,slow=7.1,SNR=2.4
comp=Z,0.2nm,0.8s

BJI ***10*** *08:39:48.2±0.0, 0.˚65N×126.˚07E, h46km, mb5.4/88, mB5.2/56, Ms4.8/78, Ms7 4.6/75*
MOS ***10*** *08:39:50.6±0.9, 1.˚02N×125.˚98E, h48km, mb5.7/62, MS4.5/11, Error ellipse: s-maj=7.3km s-min=4.0km az=113.8*
NEIC ***10*** *08:39:50.0±1.8, 0.˚98N±0.˚06×126.˚07E±0.˚06, h24km±4km, mb5.4/134, Error ellipse: s-maj=9.4km s-min=9.1km az=223.0*
DJA ***10*** *08:39:53.7±0.2, 1.˚N±2.˚×12.˚6E±.˚, h65km±2km, M5.2/76, mb5.4/76, mB5.7/42, MLv5.5/16, Mw(mB)5.3/42, MwMwp5.1/20, Mwp5.3/20*
IDC ***10*** *08:39:54.9±1.1, 0.˚91N×126.˚08E, h72km±9km, mb5.0/33, mbtmp5.3/38, MS4.3/41, Error ellipse: s-maj=9.7km s-min=5.6km az=78.0*
GCMT ***10*** *08:39:56.0±0.1, 1.˚03N±0.˚01×126.˚15E±0.˚01, h41km, MW5.4/136, Moment Tensor Solution. s107,c170; s136,c222; Duration: 1s2 Moment tensor: Scale 1017 Nm; Mrr0.58±.02; Mθθ-0.36±.02; Mϕϕ-0.21±.02; Mrθ0.45±.03; Mθϕ1.23±.02; Mϕr0.56±.03; Best double couple: M○1.51300×1017 NP1:ϕs352.00000°, δ66.00000°, λ150.00000°. NP2:ϕs95.00000°, δ63.00000°, λ28.00000°. Principal axes: T 1.5020, Plg38.0000°, Azm312.0000°; N 0.0220, Plg52.0000°, Azm136.0000°; P -1.5230, Plg2.0000°, Azm44.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC **10 08:39:52.2**±0.3,**0.˚96N**±0.˚03×**126.˚09E**±0.˚03,**h47**km±2km, **h48**km**;pP-P,n1043,**σ1**46**/1133,**mb5.4**/204,**MS4.5**/76, **42C-24D,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.29**	**98**	Pn	**Pn**	**08 40 12.9**	**-0.9**
TNTI	**Ternate**	**1.29**	**98**	P	**Pn**	**08 40 13.3**	**-0.5**
TNTI				S	**Sn**	**08 40 31.9**	**+1.9**
LBMI	**Labuha**	**2.13**	**138**	P	**Pn**	**08 40 20.9**	**-4.4**
KMSI	**Cibinong**	**2.14**	**260**	P	**Pn**	**08 40 26.4**	**+0.9**
KMSI				S	**Sn**	**08 40 52.7**	**+1.8**
SGSI	**Sangihe**	**2.76**	**348**	P	Pn	08 40 37.8	+3.8
SANI	**Sanana**	**3.00**	**182**	P	**Pn**	**08 40 36.5**	**-0.7**
GTOI	**Gorontalo**	**3.10**	**264**	P	Pn	08 40 42.5	+4.0
LUWI	**Luwuk**	**3.87**	**239**	P	Pn	08 40 52.0	+2.8
LUWI	**Luwuk**	**3.87**	**239**		**Pn**	**08 40 48.4**	**-0.8**
LUWI	**Luwuk**	**3.87**	**239**	P	Pn	08 40 52.9	+3.7
GSPH	**General Santos**	**5.21**	**347**	*i*P	**Pn**	**08 41 09.2**	**+1.4**
TOLI2	**Tolitoli**	**5.31**	**272**	P	Pn	**08 41 10.3**	**+1.3**
TOLI2	**Tolitoli**	**5.31**	**272**	Pn	**Pn**	**08 41 08.2**	**-0.8**
SWI	**Sorong**	**5.48**	**109**	P	**Pn**	**08 41 14.8**	**+3.5**
206nm,0.9s,3µm8µm0.8nm							
SWI	**Sorong**	**5.48**	**109**	P	Pn	08 41 15.1	+3.8
SWI				pmax	pmax		
comp=Z,206nm,0.9s							
DAV	**Davao City (W)**	**6.09**	**355**	Pn	**Pn**	**08 41 19.6**	**-0.1**
DAV	**Davao City (W)**	**6.09**	**355**	P	Pn	08 41 22.8	+3.2
comp=Z,100nm,0.3s,baz=250,slow=15,SNR=1.6							
DAV				S	Sn	08 42 38.0	+10
comp=Z,244nm,0.5s,baz=204,slow=21,SNR=1.3							
DAV				LR	LR	08 44 05.5	
comp=Z,4µm,21.0s,baz=120,slow=41							
KCP	**Kidapawan**	**6.09**	**351**	*e*P	Pn	08 41 25.1	+5.3
CDOP	**Cateel, Davao**	**6.78**	**3**	*e*P	**Pn**	**08 41 31.2**	**+2.0**
ZCP	**Zamboanga City**	**7.15**	**326**	*i*P	Pn	08 41 36.9	+2.6
ZCP				*i* S	Sn	08 43 05.8	+12
BIPH	**Bislig**	**7.18**	**2**	*e*P	**Pn**	**08 41 36.5**	**+1.9**
BIPH				*e*S	**Sn**	**08 42 56.5**	**+1.6**
FAKI	**Fak Fak**	**7.27**	**122**	P	Pn	**08 41 37.8**	**+1.9**
FAKI	**Fak Fak**	**7.27**	**122**	Pn	**Pn**	**08 41 36.0**	**+0.2**
FAKI	**Fak Fak**	**7.27**	**122**	P	**Pn**	**08 41 36.8**	**+0.9**
comp=Z,243nm,0.9s,comp=Z,2µmcomp=Z,6µmcomp=Z,0.8nm							
BBSI	**Bau Bau**	**7.31**	**209**	P	Pn	**08 41 38.7**	**+2.3**
comp=Z,1µm,1.1s,comp=Z,10µmcomp=Z,10µmcomp=Z,3.7nm							
CGP	**Cagayan de Oro**	**7.57**	**349**	*i*P	Pn	08 41 48.9	+8.9
DCPH	**Dipolog City**	**8.04**	**340**	*i*P	Pn	08 41 50.6	+4.1
BKSI	**Bulukumba**	**8.63**	**224**	P	**Pn**	**08 41 56.2**	**+1.6**
comp=Z,244nm,0.6s,comp=Z,4µmcomp=Z,9µm							
KAPI	**Kappang**	**8.68**	**227**	P	**Pn**	**08 41 56.9**	**+1.7**
KAPI	**Kappang**	**8.68**	**227**	Pn	**Pn**	**08 41 56.7**	**+1.5**
KAPI	**Kappang**	**8.68**	**227**	P	**Pn**	**08 41 55.8**	**+0.6**
comp=Z,49nm,0.3s,baz=34,slow=5.3,SNR=22							
KAPI				S	**Sn**	**08 43 31.3**	**-0.5**
comp=Z,22nm,0.6s,baz=206,slow=22,SNR=0.7							
KAPI	**Kappang**	**8.68**	**227**	P	**Pn**	**08 41 56.0**	**+0.8**
KAPI				S	**Sn**	**08 43 32.9**	**+1.1**
KAPI	**Kappang**	**8.68**	**227**	P	**Pn**	**08 41 56.7**	**+1.5**
TABP	**Talibon, Bohol**	**9.23**	**349**	*e*P	Pn	08 42 07.3	+4.5
BKB	**Balikpapan**	**9.45**	**257**	P	**Pn**	**08 42 07.7**	**+1.9**
BKB	**Balikpapan**	**9.45**	**257**	Pn	**Pn**	**08 42 05.9**	**+0.1**
LLP	**Lapu-Lapu**	**9.53**	**347**	*e*P	Pn	08 42 10.0	+3.2
LLP				*e*S	Sn	08 44 03.0	+10
PLP	**Palo**	**10.19**	**354**	*e*P	**Pn**	**08 42 18.1**	**+2.1**
MMRI	**Maumere**	**10.28**	**202**	P	**Pn**	**08 42 19.9**	**+2.7**
MMRI	**Maumere**	**10.28**	**202**	Pn	**Pn**	**08 42 18.6**	**+1.4**
MMRI	**Maumere**	**10.28**	**202**	P	**Pn**	**08 42 19.2**	**+2.0**
comp=Z,217nm,1.2s,comp=Z,4µmcomp=Z,4µm							
EDFI	**Ende, Flores**	**10.60**	**204**	P	**Pn**	**08 42 23.0**	**+1.4**
comp=Z,125nm,1.0s,comp=Z,2µmcomp=Z,4µm							
SOEI	**Soe**	**10.80**	**190**	P	**Pn**	**08 42 26.7**	**+2.3**
SOEI	**Soe**	**10.80**	**190**	Pn	**Pn**	**08 42 27.3**	**+2.9**
SOEI	**Soe**	**10.80**	**190**	P	Pn	08 42 30.0	+5.6
comp=Z,608nm,1.1s,comp=Z,8µmcomp=Z,7µm							
RCP	**Roxas**	**11.04**	**343**	*e*P	Pn	08 42 30.4	+2.8
MTKI	**Muara Teweh, K**	**11.35**	**260**	P	Pn	08 42 35.5	+3.7
BATI	**Baumata**	**11.36**	**192**	P	**Pn**	**08 42 32.7**	**+0.8**
comp=Z,39nm,0.3s,baz=357,slow=8.1,SNR=4.8							
BATI				S	**Sn**	**08 44 40.3**	**+2.8**
comp=Z,28nm,0.4s,baz=308,slow=20,SNR=1.8							
BATI	**Baumata**	**11.36**	**192**	P	**Pn**	**08 42 34.2**	**+2.3**
comp=Z,291nm,1.1s,comp=Z,4µm							
BASI	**Baing, Sumba**	**12.39**	**206**	P	**Pn**	**08 42 46.3**	**+0.3**
comp=Z,346nm,1.4s,comp=Z,5µmcomp=Z,4µm							
PLAI	**Plampang**	**12.78**	**220**	P	**Pn**	**08 42 53.0**	**+1.7**
PLAI	**Plampang**	**12.78**	**220**	P	P	08 42 55.8	-5.3
comp=Z,129nm,0.9s,comp=Z,2µmcomp=Z,6µm							
SMPI	**Sarmi**	**12.96**	**103**	P	**Pn**	**08 42 56.3**	**+2.5**
comp=Z,161nm,1.5s,comp=Z,3µmcomp=Z,3µm							
TWSI	**Taliwang, Sumb**	**13.31**	**223**	P	**Pn**	**08 43 00.4**	**+1.9**
comp=Z,145nm,1.0s,comp=Z,2µmcomp=Z,6µm							
GQP	**Guinayangan**	**13.35**	**345**	*e*P	**P**	**08 43 03.2**	**-4.3**
SBUM	**Sibu**	**13.94**	**276**	Pn	**Pn**	**08 43 08.0**	**+0.8**
TGY	**Tagaytay City**	**14.01**	**339**	P	**Pn**	**08 43 10.3**	**+2.1**
comp=Z,118nm,0.3s,baz=337,slow=6.6,SNR=1.6							
TGY				S	**Sn**	**08 45 43.9**	**+1.5**
comp=Z,114nm,0.3s,baz=44,slow=16,SNR=1.3							
TGY				LR	LR	08 49 56.3	
comp=Z,1µm,20.8s,baz=169,slow=43							
SRBI	**Singaraja**	**14.09**	**230**	P	**Pn**	**08 43 11.4**	**+2.3**
comp=Z,230nm,1.1s,comp=Z,3µmcomp=Z,5µm							
GENI	**Genyem**	**14.51**	**104**	P	**Pn**	**08 43 16.5**	**+1.6**
GENI	**Genyem**	**14.51**	**104**	P	**P**	**08 43 20.2**	**-0.3**
comp=Z,122nm,1.7s,comp=Z,5µmcomp=Z,3µm							
MTN	**Manton Dam**	**14.60**	**160**	P	**Pn**	**08 43 17.0**	**+0.9**
baz=15,SNR=5.6							
MTN	**Manton Dam**	**14.60**	**160**	P	**Pn**	**08 43 17.2**	**+1.2**
MTN	**Manton Dam**	**14.60**	**160**	Pn	**Pn**	**08 43 14.4**	**-1.6**
STKI	**Sintang**	**14.64**	**267**	P	**P**	**08 43 19.5**	**-2.4**
comp=Z,174nm,1.1s,comp=Z,4µm							
ABJI	**Asem Bagus**	**14.68**	**233**	P	**P**	**08 43 22.5**	**+0.2**
comp=Z,176nm,1.1s							
KDU	**Kakadu**	**14.97**	**155**	P	**Pn**	**08 43 17.6**	**-3.2**
baz=15,SNR=4.8							
KDU	**Kakadu**	**14.97**	**155**	P	**Pn**	**08 43 22.0**	**+1.2**
JAY	**Jayapura**	**15.02**	**103**	P	**P**	**08 43 24.3**	**-1.8**
comp=Z,56nm,0.9s,comp=Z,1µm							
JAGI	**Jajag, Banyuwa**	**15.14**	**232**	P	**P**	**08 43 25.2**	**-2.3**
JAGI	**Jajag, Banyuwa**	**15.14**	**232**	P	**P**	**08 43 27.7**	**+0.2**
JAGI	**Jajag, Banyuwa**	**15.14**	**232**	P	**P**	**08 43 29.6**	**+2.1**
comp=Z,229nm,2.0s,comp=Z,4µmcomp=Z,5µm							
KSM	**Kuching**	**15.79**	**272**	P	**P**	**08 43 32.7**	**-1.9**
KSM	**Kuching**	**15.79**	**272**		**Pn**	**08 43 31.6**	**+0.1**
KSM				IAmb	IAmb	08 43 37.8	
comp=Z,601nm,1.6s							
TABU	**Tabubil**	**16.34**	**112**	P	**P**	**08 43 40.5**	**-0.3**
NGJI	**Ngawi**	**16.77**	**240**	P	**P**	**08 43 47.6**	**+2.0**
comp=Z,167nm,1.0s							
PWJI	**Pagerwojo**	**16.81**	**238**	P	**P**	**08 43 46.8**	**+0.8**
comp=Z,333nm,1.3s,comp=Z,4µm							
SMRI	**Semarang**	**17.52**	**243**	P	**P**	**08 43 54.6**	**+0.7**
SMRI	**Semarang**	**17.52**	**243**	P	**P**	**08 43 53.7**	**-0.2**
SMRI	**Semarang**	**17.52**	**243**	P	**P**	**08 43 55.1**	**+1.2**
comp=Z,137nm,1.1s							
UGM	**Wanagama**	**17.85**	**240**	P	**P**	**08 43 58.4**	**+0.9**
comp=Z,171nm,1.3s							
FITZ	**Fitzroy Crossi**	**18.95**	**181**	P	**P**	**08 44 08.9**	**-0.6**
baz=19,SNR=19							
FITZ	**Fitzroy Crossi**	**18.95**	**181**	P	**P**	**08 44 08.8**	**-0.7**
KPJI	**Karang Pucung**	**19.00**	**244**	P	**Pn**	**08 44 11.4**	**+0.2**
comp=Z,100nm,1.2s,comp=Z,2µm							
LEM	**Lembang**	**19.99**	**247**	P	**P**	**08 44 20.9**	**-0.3**
comp=Z,25nm,0.5s,baz=133,slow=19,SNR=5.0							
LEM				S	**S**	**08 48 03.4**	**-0.3**
comp=Z,18nm,0.4s,baz=326,slow=23,SNR=1.5							
LEM				LR	LR	08 52 39.0	
comp=Z,2µm,19.6s,baz=64,slow=38							
BBJI	**Bungbulang**	**20.21**	**245**	P	Pn	08 44 24.1	-1.5
DLV	**T Lat**	**20.59**	**303**	P	Pn	08 44 28.7	-1.6
DLV	**T Lat**	**20.59**	**303**	P	**P**	**08 44 27.8**	**+0.1**
DLV				IAmb	IAmb	08 44 44.1	
comp=Z,157nm,1.0s							
CNJI	**Cibinong**	**20.62**	**246**	P	**P**	**08 44 28.3**	**+0.5**
comp=Z,76nm,1.1s							
MANU	**Manus Island**	**21.48**	**98**	P	**P**	**08 44 37.8**	**+0.7**
MANU	**Manus Island**	**21.48**	**98**	P	**P**	**08 44 35.5**	**-1.6**
DSRI	**Dabo**	**21.56**	**266**	P	**P**	**08 44 36.7**	**-1.2**
comp=Z,67nm,1.1s							
WB0	**Warramunga Arr**	**22.15**	**159**	P	**P**	**08 44 42.1**	**-2.1**
WB0				IAmb	IAmb	08 44 51.7	
comp=Z,180nm,1.0s							
MYKOM	**Kota Tinggi**	**22.25**	**272**	P	**P**	**08 44 44.6**	**-0.7**
MYKOM				IAmb	IAmb	08 44 49.2	
comp=Z,171nm,1.0s							
TWG	**Pinlang**	**22.27**	**348**	P	**P**	**08 44 41.4**	**-4.0**
TWG				IAmb	IAmb	08 44 47.3	
comp=Z,185nm,0.9s							
WRAB	**Tennant Creek**	**22.29**	**159**	*i* P	**P**	**08 44 43.9**	**-1.8**
WRAB				pmax	pmax		
comp=Z,184nm,0.8s							
WRAB				MLR	MLR		
comp=Z,879nm,16.4s							
WRA	**Warramunga Arr**	**22.30**	**159**	P	**P**	**08 44 45.5**	**-0.2**
WRA	**Warramunga Arr**	**22.30**	**159**	P	**P**	**08 44 44.3**	**-1.4**
comp=Z,56nm,0.6s,baz=336,slow=11,SNR=51							
WRA				PcP	**PcP**	**08 48 39

comp=Z,24nm,0.9s
GUMO Guam 22.43 55 P **P** **08 44 46.8 -0.4**
comp=Z,67nm,0.6s,baz=239,slow=5.9,SNR=7.6
GUMO LR LR 08 52 58.0
comp=Z,956nm,20.6s,baz=236,slow=35
comp=Z,67nm,0.6s
COEN Coen 22.50 132 P **P** **08 44 47.4 -0.6**
baz=22,SNR=16
COEN Coen 22.50 132 P **P** **08 44 48.2 +0.2**
COEN Coen 22.50 132 P **P** **08 44 47.6 -0.4**
COEN IAmb IAmb 08 45 01.7
comp=Z,120nm,1.2s
KASI Kota Agung 22.51 253 P **P** **08 44 47.2 -0.9**
comp=Z,87nm,1.1s
YULB Yu-li 22.77 349 P **P** **08 44 46.9 -3.9**
YULB IAmb IAmb 08 44 54.3
comp=Z,89nm,0.9s
LWLI Liwa 22.79 255 P P 08 45 00.3 +9.1
TPUB Ta-pu 22.83 347 P **P** **08 44 48.6 -2.7**
MBWA Marble Bar 22.85 195 P **P** **08 44 50.3 -1.3**
MBWA Marble Bar 22.85 195 P **P** **08 44 49.9 -1.7**
MBWA Marble Bar 22.85 195 P **P** **08 44 50.9 -0.7**
PSA00 Pilbara Seismi 23.21 195 P **P** **08 44 54.3 -0.9**
PSA00 Pilbara Seismi 23.21 195 P **P** **08 44 53.7 -1.5**
PSA00 IAmb IAmb 08 44 56.3
comp=Z,96nm,0.7s
SSLB Suanglung 23.23 348 P **P** **08 44 53.6 -1.8**
SSLB IAmb IAmb 08 45 00.1
comp=Z,188nm,0.9s
XMIS Christmas Isla 23.30 240 P **P** **08 44 54.9 -1.2**
XMIS Christmas Isla 23.30 240 P **P** **08 44 54.5 -1.7**
XMIS IAmb IAmb 08 44 57.9
comp=Z,175nm,0.8s
PMG Port Moresby 23.38 117 LR LR 08 56 37.5
comp=Z,1μm,18.4s,baz=301,slow=43
NACB Ninganchiao 23.48 350 P **P** **08 44 58.3 +0.5**
NACB Ninganchiao 23.48 350 P **P** **08 44 54.6 -3.2**
YOJ Yonaguni jima 23.55 353 P **P** **08 44 59.0 +0.6**
JMJ Miyako jima 2 23.72 358 P **P** **08 45 01.7 +1.7**
QIZ Qiongzhong 24.00 319 P **P** **08 45 02.5 -0.2**
QIZ Qiongzhong 24.00 319 P **P** **08 45 02.2 -0.5**
QIZ S **S** **08 49 20.7 +4.1**
QIZ pmax pmax
comp=Z,88nm,0.9s
QIZ pmax pmax
comp=Z,640nm,5.6s
QIZ LR LR
comp=Z,1μm,14.3s
QIZ LR LR
comp=Z,850nm,20.2s
QIZ LR LR
comp=Z,2μm,24.4s
YHNB Yeheng 24.00 349 P **P** **08 45 00.4 -2.3**
HKPS Hong Kong Po S 24.17 332 P **P** **08 45 04.1 -0.1**
TATO Taipei 24.28 350 P **P** **08 45 04.5 -0.7**
TATO Taipei 24.28 350 P **P** **08 45 02.9 -2.2**
TATO IAmb IAmb 08 45 06.7
comp=Z,174nm,1.1s
TATO Taipei 24.28 350 P **P** **08 45 04.3 -0.9**
TATO P **P** **08 45 04.3 -0.9**
UBPT Khong Chiam 24.83 306 P **P** **08 45 10.4 +0.1**
UBPT Khong Chiam 24.83 306 P **P** **08 45 09.7 -0.6**
QZH Quanzhou 24.92 344 ⇑*i*P **P** **08 45 11.3 +0.4**
QZH S **S** **08 49 35.2 +4.0**
QZH pmax pmax
comp=Z,140nm,1.0s
QZH LR LR
comp=Z,2μm,24.7s
QZH LR LR
comp=Z,1μm,21.0s
QZH LR LR
comp=Z,3μm,26.1s
BKNI Bangkinang 25.05 269 P **P** **08 45 13.0 +0.6**
BKNI Bangkinang 25.05 269 P **P** **08 45 12.3 -0.1**
BKNI Bangkinang 25.05 269 P **P** **08 45 15.1 +2.7**
QIS Mount Isa 25.15 149 P **P** **08 45 12.6 -0.6**
baz=25,SNR=37
QIS Mount Isa 25.15 149 P **P** **08 45 12.7 -0.5**
AS31 Alice Springs 25.63 163 P **P** **08 45 16.9 -0.7**
ASAR Alice Springs 25.64 163 P **P** **08 45 16.8 -0.8**
comp=Z,44nm,0.7s,baz=346,slow=11,SNR=89
ASAR PcP **PcP** **08 48 47.8 +0.2**
comp=Z,10nm,0.5s,baz=344,slow=2.2,SNR=11
ASAR S **S** **08 49 40.5 -2.2**
comp=Z,7.8nm,1.0s,baz=350,slow=24,SNR=4.8
comp=Z,44nm,0.7s
PDSI Padang 25.69 266 P **P** **08 45 17.3 -0.9**
comp=Z,150nm,1.1s,comp=Z,7μm
KULM Kulim 25.75 280 P **P** **08 45 17.4 -1.4**
KULM IAmb IAmb 08 45 20.0
comp=Z,152nm,1.3s
JOW Kunigami 25.81 4 P **P** **08 45 20.6 +1.6**
JOW Kunigami 25.81 4 P **P** **08 45 19.2 +0.1**
JOW Kunigami 25.81 4 P **P** **08 45 20.6 +1.6**
comp=Z,221nm,0.8s,baz=184,slow=7.8,SNR=24
JOW S **S** **08 49 43.9 -1.4**
comp=Z,10nm,0.5s,baz=85,slow=24,SNR=1.7
JOW LR LR 08 54 17.7
comp=Z,717nm,20.6s,baz=174,slow=33
comp=Z,221nm,0.8s
WRKA Warakurna 25.94 175 P **P** **08 45 20.5 +0.2**
baz=26,SNR=67
WRKA Warakurna 25.94 175 P **P** **08 45 20.5 +0.2**
MTSU Mount Surprise 26.11 137 P **P** **08 45 22.7 +0.7**
baz=26,SNR=10.0
MTSU Mount Surprise 26.11 137 P **P** **08 45 23.9 +2.0**
GIRL Giralia 26.15 206 P **P** **08 45 23.8 +1.6**
baz=26,SNR=6.4
RABL Rabaul 26.55 101 P **P** **08 45 28.2 +2.2**
SRIT Nakonsritamara 27.44 287 P **P** **08 45 34.0 +0.1**
SRIT Nakonsritamara 27.44 287 P **P** **08 45 33.2 -0.7**
SRIT IAmb IAmb 08 45 35.0
comp=Z,98nm,1.2s
MEEK Meekatharra 28.37 194 P **P** **08 45 41.7 -0.4**
baz=28,SNR=13
MEEK Meekatharra 28.37 194 P **P** **08 45 41.9 -0.2**
KCSI Kotacane, Aceh 28.41 276 P **P** **08 45 40.9 -1.7**
comp=Z,97nm,1.5s,comp=Z,5μm
GSI Gunungsitoli 28.51 271 P **P** **08 45 41.2 -2.2**
GSI Gunungsitoli 28.51 271 P **P** **08 45 40.9 -2.6**
comp=Z,154nm,1.2s,comp=Z,3μm
TV1H Townsville Har 28.59 136 P **P** **08 45 44.5 +0.4**
CTAO Charters Tower 28.78 138 P **P** **08 45 46.3 +0.5**
CTAO Charters Tower 28.78 138 P **P** **08 45 46.6 +0.8**
CTAO Charters Tower 28.78 138 P **P** **08 45 46.6 +0.8**
CTAO pmax pmax
comp=Z,76nm,1.8s
SLVN Son La 29.63 315 P **P** **08 45 53.2 -0.2**
SLVN IAmb IAmb 08 45 55.2
comp=Z,123nm,1.3s
SNSI Sinabang, Aceh 29.78 273 P **P** **08 45 52.3 -2.5**
comp=Z,100nm,0.7s
SRDT SRDT 29.80 298 P **P** **08 45 55.5 +0.6**
MLSI Meulaboh, Aceh 29.83 277 P **P** **08 45 53.8 -1.4**
comp=Z,74nm,1.2s
OOD Oodnadatta 30.05 163 P **P** **08 45 56.3 -0.6**
JCJ Chichijima 30.23 29 LR LR 08 56 33.5
comp=Z,434nm,19.5s,baz=240,slow=33
SSE Sheshan 30.33 352 P **P** **08 46 00.2 +0.9**
SSE S **S** **08 50 58.7 +2.3**
SSE pmax pmax
comp=Z,15nm,0.6s
SSE pmax pmax
comp=Z,120nm,3.9s
SSE LR LR
comp=Z,240nm,24.7s
SSE LR LR
comp=Z,240nm,24.9s
PHRA Phrae 30.79 306 P **P** **08 46 03.2 -0.3**
MORW Morawa 31.37 197 P **P** **08 46 08.5 -0.2**
baz=32,SNR=12
MORW Morawa 31.37 197 P **P** **08 46 08.4 -0.2**
MORW Morawa 31.37 197 P **P** **08 46 08.5 -0.2**
MORW IAmb IAmb 08 46 09.8
comp=Z,55nm,1.1s
WHN Wuhan 31.46 340 ⇑P **P** **08 46 09.7 +0.4**
WHN pP **sP** **08 46 25.7 -0.9**
WHN S **S** **08 51 16.5 +2.4**
WHN pmax pmax
comp=Z,150nm,1.2s
WHN LR LR
comp=Z,7μm,22.7s
GYA Guiyang 31.49 325 ⇓P **P** **08 46 10.2 +0.3**
GYA S **S** **08 51 17.0 +2.0**
GYA pmax pmax
comp=Z,89nm,1.0s
GYA pmax pmax
comp=Z,250nm,5.4s
GYA LR LR
comp=Z,760nm,25.4s
GYA LR LR
comp=Z,740nm,22.3s
GYA LR LR
comp=Z,630nm,20.9s
CRAI Chiangrai 31.60 309 P **P** **08 46 10.2 -0.6**
CRAI IAmb IAmb 08 46 12.1
comp=Z,127nm,2.0s
FORT Forrest 31.62 177 P **P** **08 46 10.1 -0.7**
baz=32,SNR=12
FORT Forrest 31.62 177 P **P** **08 46 10.3 -0.5**
FORT Forrest 31.62 177 P **P** **08 46 10.2 -0.6**
NJ2 Nanjing 31.67 348 *e*P **P** **08 46 11.9 +0.8**
NJ2 S **S** **08 51 23.6 +6.3**
NJ2 pmax pmax
comp=Z,15nm,0.5s
NJ2 pmax pmax
comp=Z,310nm,3.5s
NJ2 LR LR
comp=Z,820nm,19.2s
NJ2 LR LR
comp=Z,680nm,17.3s
NJ2 LR LR
comp=Z,880nm,22.7s
CM31 Chiang Mai Arr 31.81 305 P **P** **08 46 12.3 -0.3**
CM31 IAmb IAmb 08 46 13.8
comp=Z,69nm,1.1s
CMAR Chiang Mai Arr 31.81 305 P **P** **08 46 11.6 -1.1**
CMAR Chiang Mai Arr 31.81 305 P **P** **08 46 12.6 -0.1**
comp=Z,19nm,0.9s,baz=127,slow=7.1,SNR=87
CMAR PcP **PcP** **08 49 04.1 +1.0**
comp=Z,9.7nm,0.9s,baz=161,slow=1.8,SNR=15
CMAR S **S** **08 51 24.3 +4.3**
comp=Z,1.3nm,0.3s,baz=196,slow=35,SNR=2.5
CMAR ScP **ScP** **08 52 41.2 -1.6**
comp=Z,1.3nm,0.3s,baz=58,slow=2.2,SNR=2.3
CMAR LR LR 09 00 52.5
comp=Z,426nm,19.7s,baz=115,slow=40
comp=Z,19nm,0.9s
INKA Innaminka 31.83 155 P **P** **08 46 12.9 +0.3**
MULG Mulgathing 31.99 167 P **P** **08 46 13.6 -0.4**
CHTO Chiang Mai 31.99 305 P **P** **08 46 13.2 -1.0**
CHTO IAmb IAmb 08 46 15.1
comp=Z,81nm,1.1s
CHTO Chiang Mai 31.99 305 P **P** **08 46 13.2 -1.0**
CHTO pmax pmax
comp=Z,81nm,1.1s
JNU Nakatsue 32.30 8 P **P** **08 46 17.7 +0.9**
JNU Nakatsue 32.30 8 P **P** **08 46 16.8 0.0**
JNU IAmb IAmb 08 46 22.6
comp=Z,60nm,1.0s
JNU Nakatsue 32.30 8 LR LR 08 57 50.3
comp=Z,417nm,20.8s,baz=176,slow=33
KMBL Kambalda 32.40 187 P **P** **08 46 17.6 0.0**
baz=32,SNR=28
KMBL Kambalda 32.40 187 P **P** **08 46 17.7 0.0**
QLP Quilpie 32.50 149 P **P** **08 46 17.2 -1.4**
baz=33,SNR=4.1
QLP Quilpie 32.50 149 P **P** **08 46 18.5 -0.1**
BLDU Ballidu 32.65 195 P **P** **08 46 19.7 -0.1**
baz=33,SNR=22
BLDU Ballidu 32.65 195 P **P** **08 46 19.8 0.0**
KMI Kunming 32.95 319 ⇑P **P** **08 46 23.2 +0.5**
KMI pmax pmax
comp=Z,100nm,1.4s
KMI LR LR
comp=Z,780nm,17.9s
KMI LR LR
comp=Z,820nm,22.0s
KMI LR LR
comp=Z,1μm,23.4s
ENH Enshi 33.14 333 P **P** **08 46 24.1 -0.1**
LCRK Leigh Creek 33.30 161 P **P** **08 46 25.2 -0.3**
KLBR Kellerberrin 33.33 193 P **P** **08 46 25.8 +0.1**
JMN Monobe 33.40 12 P **P** **08 46 27.8 +1.4**
RK1H Rockhampton Ha 33.90 137 P **P** **08 46 31.3 +0.5**
MUN Mundaring 34.07 195 P **P** **08 46 32.1 -0.1**
JHJ Hachijo jima 2 34.48 21 LR LR 09 00 05.7
comp=Z,326nm,19.6s,baz=254,slow=35
PZH PanZhiHua 34.54 319 P **P** **08 46 36.0 -0.5**
PZH S **S** **08 52 08.1 +5.7**
PZH pmax pmax
comp=Z,90nm,1.3s
PZH pmax pmax
comp=Z,110nm,4.9s
PZH LR LR
comp=Z,410nm,18.0s
PZH LR LR
comp=Z,710nm,18.6s
PZH LR LR
comp=Z,860nm,19.0s
NWAO Narrogin (SRO) 34.73 193 P **P** **08 46 36.7 -1.2**
NWAO Narrogin (SRO) 34.73 193 PcP **PcP** **08 49 11.5 +0.6**
comp=Z,16nm,0.8s,baz=326,slow=3.5,SNR=4.1
NWAO Narrogin (SRO) 34.73 193 P **P** **08 46 38.8 +0.9**
BBOO Buckleboo 34.89 165 P **P** **08 46 38.2 -1.1**
baz=35,SNR=19
TJN Taejon 35.26 2 P **P** **08 46 44.2 +1.9**
TJN Taejon 35.26 2 P **P** **08 46 42.3 0.0**
TJN Taejon 35.26 2 P **P** **08 46 42.3 0.0**
TJN pmax pmax
comp=Z,121nm,1.0s
WHYH Whyalla 35.51 163 P **P** **08 46 43.9 -0.7**
EIDS Eidsvold 35.64 139 P **P** **08 46 45.0 -0.8**
baz=36,SNR=3.6
EIDS Eidsvold 35.64 139 P **P** **08 46 47.0 +1.2**
EIDS Eidsvold 35.64 139 P **P** **08 46 45.4 -0.4**
LYN LuoYang 35.76 341 ⇓P **P** **08 46 46.8 +0.1**
LYN PcP **PcP** **08 49 14.7 +0.8**
LYN S **S** **08 52 20.1 -0.5**
LYN pmax pmax
comp=Z,52nm,0.9s
LYN pmax pmax
comp=Z,200nm,5.3s
LYN LR LR
comp=Z,1μm,24.0s
LYN LR LR
comp=Z,900nm,24.0s
TNCH TengChong 35.80 314 ⇑P **P** **08 46 47.2 -0.2**
TNCH PP **PP** **08 48 10.9 +1.5**
TNCH S **S** **08 52 24.1 +2.2**
TNCH pmax pmax
comp=Z,140nm,1.7s
TNCH pmax pmax
comp=Z,320nm,4.6s
TNCH LR LR
comp=Z,1μm,13.4s
TNCH LR LR
comp=Z,650nm,16.9s
TNCH LR LR
comp=Z,1μm,30.1s
STKA Stephens Creek 35.82 157 P **P** **08 46 46.7 -0.5**
baz=36,SNR=18
STKA Stephens Creek 35.82 157 P **P** **08 46 46.9 -0.3**
STKA Stephens Creek 35.82 157 P **P** **08 46 46.6 -0.6**
STKA Stephens Creek 35.82 157 P **P** **08 46 45.9 -1.3**
comp=Z,30nm,0.7s,baz=328,slow=9.0,SNR=30
STKA PcP **PcP** **08 49 14.2 +0.1**
comp=Z,6.8nm,0.5s,baz=345,slow=2.1,SNR=4.1
STKA S **S** **08 52 19.7 -1.9**
comp=Z,9.2nm,1.2s,baz=35,slow=21,SNR=2.2
comp=Z,30nm,0.7s
STKA Stephens Creek 35.82 157 P **P** **08 46 46.6 -0.6**
STKA pmax pmax
comp=Z,7.0nm,0.8s
JGF Kuroka 36.02 16 P **P** **08 46 49.7 +0.7**
JGF Kuroka 36.02 16 P **P** **08 46 49.0 0.0**
TIA Tai'an 36.04 348 P **P** **08 46 49.0 -0.1**
TIA S **S** **08 52 26.7 +1.7**
TIA pmax pmax
comp=Z,13nm,1.0s
TIA pmax pmax
comp=Z,92nm,7.9s
TIA LR LR
comp=Z,220nm,13.3s
TIA LR LR
comp=Z,330nm,21.6s
TIA LR LR
comp=Z,550nm,29.8s
KSAR Wonju Array Be 36.34 2 P **P** **08 46 52.0 +0.4**
KSAR Wonju Array Be 36.34 2 P **P** **08 46 52.0 +0.4**
INCN Inchon 36.34 1 P **P** **08 46 53.1 +1.4**
INCN Inchon 36.34 1 P **P** **08 46 50.5 -1.2**
INCN IAmb IAmb 08 46 54.0
comp=Z,36nm,0.9s
INCN Inchon 36.34 1 P **P** **08 46 52.7 +1.0**
INCN P **P** **08 46 52.7 +1.0**
INCN Inchon 36.34 1 P **P** **08 46 50.5 -1.2**
INCN pmax pmax
comp=Z,36nm,1.0s
KSRS Korea Array 36.35 2 P **P** **08 46 53.1 +1.4**
comp=Z,17nm,0.7s,baz=182,slow=10.0,SNR=53
KSRS PcP **PcP** **08 49 16.3 +0.7**
comp=Z,5.7nm,0.7s,baz=192,slow=2.7,SNR=12
KSRS S **S** **08 52 28.2 -1.4**
comp=Z,0.5nm,0.5s,baz=247,slow=15,SNR=1.8
KSRS LR LR 09 04 59.8
comp=Z,96nm,18.1s,baz=185,slow=41
comp=Z,17nm,0.7s
KS19 Wonju Array Si 36.40 2 P **P** **08 46 51.9 -0.2**
KS19 IAmb IAmb 08 46 58.7
comp=Z,65nm,1.2s
CD2 Chengdu 36.54 327 P **P** **08 46 52.5 -1.0**
CD2 pmax pmax
comp=Z,120nm,1.2s
CD2 pmax pmax
comp=Z,190nm,4.3s
CD2 LR LR
comp=Z,350nm,10.2s
CD2 LR LR
comp=Z,200nm,8.9s
CD2 LR LR
comp=Z,760nm,14.0s
XAN Xi'an 36.62 336 ⇑P **P** **08 46 53.2 -1.0**
XAN pP **sP** **08 47 08.5 -3.0**
XAN sP pwP 08 47 15.6 +7.0
XAN PcP **PcP** **08 49 17.5 +0.9**
XAN S **S** **08 52 34.0 0.0**
XAN pmax pmax
comp=Z,98nm,1.3s
XAN LR LR
comp=Z,1μm,16.5s
XAN LR LR
comp=Z,1μm,17.9s
XAN LR LR
comp=Z,640nm,24.7s
AULRC Lightning Ridg 36.76 147 P **P** **08 46 54.1 -1.2**
MAJO Matsushiro 37.14 16 P **P** **08 46 58.4 -0.1**
MAJO Matsushiro 37.14 16 P **P** **08 46 58.1 -0.4**
MAJO IAmb IAmb 08 46 59.8
comp=Z,58nm,1.1s
MAJO Matsushiro 37.14 16 P **P** **08 46 58.1 -0.4**
MAJO pmax pmax
comp=Z,58nm,1.1s
MJAR Matsushiro Arr 37.14 16 P **P** **08 46 58.0 -0.4**
comp=Z,21nm,0.8s,baz=184,slow=9.3,SNR=34
MJAR PcP **PcP** **08 49 18.8 +0.8**
comp=Z,8.0nm,0.9s,baz=174,slow=2.7,SNR=6.1
MJAR S **S** **08 52 40.4 -1.4**
comp=Z,0.5nm,0.6s,baz=40,slow=27,SNR=1.7
MJAR LR LR 09 00 50.5
comp=Z,464nm,20.0s,baz=208,slow=34
comp=Z,21nm,0.8s
MJB9 Matsu-Tunnel 37.14 16 P **P** **08 46 58.7 +0.2**
MJB9 IAmb IAmb 08 47 00.8
comp=Z,59nm,1.1s
CMSA Cobar Meteorol 37.29 152 P **P** **08 46 59.3 -0.6**
baz=37,SNR=9.3
CMSA Cobar Meteorol 37.29 152 P **P** **08 46 59.9 +0.1**
HNS HongShan 37.75 345 ⇑P **P** **08 47 03.2 -0.4**
HNS PP **PnPn** **08 48 31.5 -0.5**
HNS S **S** **08 52 51.5 +0.7**
HNS SS **SnSn** **08 55 27.6 -6.7**
HNS pmax pmax
comp=Z,35nm,1.1s
HNS LR LR
comp=Z,640nm,20.7s
HNS LR LR
comp=Z,530nm,19.1s
HNS LR LR
comp=Z,810nm,21.6s
DL2 Dalian 37.98 354 P **P** **08 47 06.3 +0.8**
DL2 *e*pP **sP** **08 47 21.1 -1.7**
DL2 S **S** **08 52 53.0 -1.4**
DL2 pmax pmax
comp=Z,250nm,0.8s
DL2 LR LR
comp=Z,660nm,17.8s
DL2 LR LR
comp=Z,520nm,16.6s
DL2 LR LR
comp=Z,880nm,23.7s
JMM Marumori 39.14 19 P **P** **08 47 16.4 +1.2**
AUDCS Dubbo College 39.30 149 P **P** **08 47 16.5 -0.2**
ARMA Armidale 39.57 144 P **P** **08 47 19.1 0.0**
baz=40,SNR=17
ARMA Armidale 39.57 144 P **P** **08 47 19.5 +0.4**
ARMA Armidale 39.57 144 P **P** **08 47 18.8 -0.3**
ARMA IAmb IAmb 08 47 40.1
comp=Z,144nm,1.9s
BJT Baijiatuau 39.91 348 P **P** **08 47 21.4 -0.2**
BJI Beijing 39.93 348 P **P** **08 47 21.2 -0.6**
BJI PcP **PcP** **08 49 28.0 +1.4**
BJI S **S** **08 53 24.5 +0.9**
BJI pmax pmax
comp=Z,19nm,1.1s
BJI pmax pmax
comp=Z,110nm,3.6s
BJI LR LR
comp=Z,220nm,23.7s
BJI LR LR
comp=Z,220nm,22.4s
BJI LR LR
comp=Z,310nm,22.5s
ARPS Mount Arapiles 40.29 160 P **P** **08 47 25.4 +0.5**
baz=40,SNR=10
ARPS Mount Arapiles 40.29 160 P **P** **08 47 25.6 +0.7**
LZH Lanzhou 40.59 332 ⇑P **P** **08 47 27.4 -0.1**
LZH PcP **PcP** **08 49 30.9 +1.8**
LZH S **S** **08 53 35.7 +1.7**
LZH SS **SS** **08 56 34.6 -0.8**
LZH pmax pmax
comp=Z,64nm,1.3s
LZH pmax pmax
comp=Z,230nm,5.2s
LZH LR LR
comp=Z,1μm,16.1s
LZH LR LR
comp=Z,950nm,15.1s
LZH LR LR
comp=Z,1μm,15.8s
SNY Shenyang 40.74 357 ⇑P **P** **08 47 29.2 +0.7**
SNY S **S** **08 53 35.4 -0.3**
SNY pmax pmax
comp=Z,200nm,1.1s
SNY LR LR
comp=Z,460nm,20.8s
SNY LR LR
comp=Z,420nm,19.8s
SNY LR LR
comp=Z,610nm,22.6s
YNG Young 40.85 151 P **P** **08 47 29.6 0.0**
SHL Shillong 41.06 309 P **P** **08 47 30.4 -1.1**
SHL IAmb IAmb 08 47 31.6
comp=Z,85nm,1.2s
SHL Shillong 41.06 309 P **P** **08 47 29.8 -1.8**
SNR=36
SHL Shillong 41.06 309 P **P** **08 47 30.5 -1.1**
SHL pmax pmax
comp=Z,85nm,1.2s
PSTR Posyet 41.72 5 *i*P **P** **08 47 36.5 0.0**
BRAT Ballarat 41.73 159 P **P** **08 47 37.7 +1.1**
HHC Hu-ho-hao-te 41.83 343 *e*P **P** **08 47 37.3 -0.3**
HHC S **S** **08 53 53.1 +0.9**
HHC SS **SS** **08 56 58.0 -1.8**
HHC pmax pmax
comp=Z,22nm,1.0s
HHC pmax pmax
comp=Z,120nm,4.9s
HHC LR LR
comp=Z,710nm,17.6s
HHC LR LR
comp=Z,520nm,17.8s
HHC LR LR
comp=Z,1μm,18.3s
JTM Tenmabayashi 41.90 17 P **P** **08 47 39.7 +1.7**
JTM Tenmabayashi 41.90 17 P **P** **08 47 38.0 0.0**
JTM IAmb IAmb 08 47 51.7

comp=Z,60nm,0.9s
BTO Baotou 42.07 342 *e*P **P** **08 47 40.3 +0.8**
BTO pP **sP** **08 47 54.8 -2.2**
BTO PP **PP** **08 49 22.1 +4.4**
BTO S **S** **08 53 56.7 +1.0**
BTO SS **SS** **08 57 01.5 -3.1**
BTO pmax pmax
comp=Z,15nm,1.1s
BTO pmax pmax
comp=Z,430nm,9.5s
BTO LR LR
comp=Z,2μm,26.5s
BTO LR LR
comp=Z,1μm,19.6s
BTO LR LR
comp=Z,3μm,24.7s
VLA Vladivostok 42.29 6 *i*P **P** **08 47 41.4 +0.3**
VLA pmax pmax
comp=Z,144nm,1.5s
TOO Toolangi 42.34 157 P **P** **08 47 42.6 +0.9**
baz=42,SNR=5.3
TOO Toolangi 42.34 157 P **P** **08 47 43.7 +2.0**
CN2 Changchun 42.66 359 *e*P **P** **08 47 44.0 -0.1**
CN2 *e*S **S** **08 54 12.7 +8.7**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,100nm,3.0s
CN2 LR LR
comp=Z,400nm,14.0s
CN2 LR LR
comp=Z,300nm,14.0s
CN2 LR LR
comp=Z,200nm,10.0s
USA0B Ussuriysk Arra 43.37 6 P **P** **08 47 50.3 +0.4**
USA0B Ussuriysk Arra 43.37 6 P **P** **08 47 50.3 +0.4**
USA0B pmax pmax
comp=Z,279nm,2.0s
USRK Ussuriysk Ar. 43.37 6 P **P** **08 47 50.2 +0.3**
USRK Ussuriysk Ar. 43.37 6 P **P** **08 47 50.9 +1.0**
comp=Z,27nm,0.7s,baz=192,slow=6.2,SNR=35
USRK S **S** **08 54 13.9 -0.6**
comp=Z,1.3nm,0.6s,baz=154,slow=39,SNR=1.3
USRK LR LR 09 03 29.4
comp=Z,288nm,21.9s,baz=181,slow=33
comp=Z,27nm,0.7s
MDJ Mudanjiang 43.58 4 P **P** **08 47 53.1 +1.5**
MDJ Mudanjiang 43.58 4 P **P** **08 47 52.9 +1.3**
MDJ PP **PP** **08 49 32.8 -0.9**
MDJ S **S** **08 54 19.8 +2.3**
MDJ pmax pmax
comp=Z,100nm,0.9s
MDJ pmax pmax
comp=Z,240nm,4.1s
MDJ LR LR
comp=Z,380nm,18.6s
MDJ LR LR
comp=Z,450nm,22.7s
MDJ LR LR
comp=Z,900nm,22.4s
XLT XiLinHaoTe 43.67 350 *e*P **P** **08 47 52.6 +0.1**
XLT pP **pP** **08 48 03.9 -0.7**
XLT sP **sP** **08 48 12.5 +2.6**
XLT PcP **PcP** **08 49 39.3 +0.3**
XLT S **S** **08 54 18.2 -0.9**
XLT sS **sS** **08 54 42.8 +2.8**
XLT SS **SS** **08 57 26.7 -9.1**
XLT ScS **ScS** **08 57 44.6 -3.3**
XLT pmax pmax
comp=Z,56nm,1.0s
XLT pmax pmax
comp=Z,240nm,4.0s
XLT LR LR
comp=Z,480nm,17.9s
XLT LR LR
comp=Z,640nm,25.9s
LSA Lhasa 43.83 314 P **P** **08 47 54.4 -0.1**
BNX BinXian 44.60 1 ⇓P **P** **08 48 00.3 +0.5**
BNX pP **sP** **08 48 15.7 -1.7**
BNX sP pwP 08 48 22.1 +7.8
BNX PP **PP** **08 49 48.0 +3.4**
BNX S **S** **08 54 34.4 +2.0**
BNX sS sS 08 54 59.6 +6.2
BNX pmax pmax
comp=Z,48nm,1.1s
BNX pmax pmax
comp=Z,220nm,3.6s
BNX LR LR
comp=Z,390nm,14.1s
BNX LR LR
comp=Z,460nm,14.7s
BNX LR LR
comp=Z,590nm,23.9s
TEY Ternei 44.86 11 *e*P **P** **08 48 02.8 +1.0**
TEY *e* 08 54 36.6
TEY *e* 08 57 53.4
GTA Gaotai 45.16 331 P **P** **08 48 04.6 +0.1**
GTA PcP **PcP** **08 49 45.8 +1.5**
GTA S **S** **08 54 35.6 -5.4**
GTA sS sS 08 55 07.9 +5.9
GTA pmax pmax
comp=Z,37nm,1.0s
GTA LR LR
comp=Z,630nm,19.9s
GTA LR LR
comp=Z,460nm,21.1s
GTA LR LR
comp=Z,1μm,22.7s
ASAJ Asahikawa 45.41 17 LR LR 09 05 20.3
comp=Z,276nm,21.0s,baz=210,slow=34
ASAJ Asahikawa 45.41 17 P **P** **08 48 07.0 +0.8**
ASAJ pmax pmax
comp=Z,31nm,0.8s
JKA Kamikawa-asahi 45.41 17 P **P** **08 48 07.0 +0.8**
JKA lAmb lAmb 08 48 24.3
comp=Z,31nm,0.8s
GOMU GeErMu 45.49 324 P **P** **08 48 07.2 -0.2**
GOMU sS **sS** **08 55 11.0 +3.7**
GOMU SS **ScS** **08 58 04.9 +4.5**
GOMU pmax pmax
comp=Z,65nm,1.5s
GOMU LR LR
comp=Z,1μm,20.0s
GOMU LR LR
comp=Z,590nm,19.0s
GOMU LR LR
comp=Z,890nm,21.0s
DZM Mont Dzumac 45.53 123 P **P** **08 48 09.3 +1.6**
DZM Mont Dzumac 45.53 123 P **P** **08 48 08.3 +0.6**
comp=Z,16nm,0.9s,baz=350,slow=11,SNR=3.5
comp=Z,16nm,0.9s
PALK Pallekele 45.67 279 P **P** **08 48 08.1 -0.8**
PALK Pallekele 45.67 279 LR LR 09 08 23.7
comp=Z,1μm,21.6s,baz=203,slow=37
PALK Pallekele 45.67 279 P **P** **08 48 07.7 -1.1**
PALK P **P** **08 48 07.7 -1.1**
PALK Pallekele 45.67 279 P **P** **08 48 08.1 -0.8**
PALK pmax pmax
comp=Z,40nm,1.3s
YSS Yuzh-Sakhalins 48.06 15 P **P** **08 48 27.8 +0.9**
YSS Yuzh-Sakhalins 48.06 15 P **P** **08 48 27.0 +0.1**
YSS Yuzh-Sakhalins 48.06 15 *e*P **P** **08 48 27.8 +0.9**
YSS *e* 08 50 18.8
YSS *e*S **S** **08 55 19.8 -2.1**
YSS pmax pmax
comp=Z,20nm,1.0s
KLR Kul'dur 48.33 5 *e*P **P** **08 48 27.0 -1.9**
KLR pmax pmax
comp=Z,28nm,0.9s
HIA Hailar 48.43 354 P **P** **08 48 31.4 +1.7**
HEH HeiHe 49.12 1 *e*P **P** **08 48 35.3 +0.3**
HEH PcP **PcP** **08 49 58.0 +0.1**
HEH ScP **ScP** **08 53 47.1 -2.3**
HEH S **S** **08 55 34.4 -2.3**
HEH ScS **ScS** **08 58 21.4 -1.5**
HEH pmax pmax
comp=Z,71nm,0.9s
HEH pmax pmax
comp=Z,300nm,3.8s
HEH LR LR
comp=Z,580nm,21.8s
HEH LR LR
comp=Z,470nm,21.0s
HEH LR LR
comp=Z,810nm,21.2s

HYB Hyderabad 49.50 292 ⇓*e*P **P** **08 48 38.0 -0.5**
HYB lVmB_BB 08 48 38.7
comp=Z,1μm,1.4s
HYB *e*S **S** **08 55 42.3 -0.9**
HYB *e*pS sS 08 55 52.6 -12
HYB *e*ScS **ScS** **08 58 27.6 +0.7**
ULN Ulaanbaatar 49.55 343 P **P** **08 48 38.3 -0.2**
ULN Ulaanbaatar 49.55 343 P **P** **08 48 39.0 +0.5**
ULN Ulaanbaatar 49.55 343 P **P** **08 48 38.3 -0.2**
SONM Songino Array 49.72 343 P **P** **08 48 39.0 -0.7**
SONM lAmb lAmb 08 48 42.9
comp=Z,35nm,1.0s
SONM Songino Array 49.72 343 P **P** **08 48 39.8 +0.1**
comp=Z,30nm,0.9s,baz=157,slow=8.6,SNR=50
SONM PcP **PcP** **08 50 00.2 -0.1**
comp=Z,13nm,0.8s,baz=159,slow=3.7,SNR=6.5
SONM LR LR 09 12 36.2
comp=Z,292nm,20.8s,baz=148,slow=39
comp=Z,30nm,0.9s
UGL Uglegorsk 49.86 14 *e*P **P** **08 48 40.1 -0.5**
UGL *e*S **S** **08 55 53.0 +5.9**
UGL pmax pmax
comp=Z,110nm,0.8s
UGL smax smax
comp=E,540nm,3.5s
UGL smax smax
comp=N,1μm,8.0s
GRNR Gornyy 50.39 9⇑ *i*P **P** **08 48 46.0 +1.3**
GRNR pmax pmax
comp=N,20nm,1.2s
GRNR pmax pmax
comp=Z,30nm,0.9s
TYV Tymovskoe 51.66 13 *e*P **P** **08 48 52.2 -2.0**
TYV *e*S **S** **08 56 14.5 +2.4**
TYV pmax pmax
comp=Z,100nm,2.5s
TYV pmax pmax
comp=Z,9.0nm,1.4s
TYV smax smax
comp=N,200nm,7.3s
TYV smax smax
comp=E,200nm,7.3s
CIT Chita 51.96 350 *e*P **P** **08 48 57.7 +1.3**
CIT *e* 08 49 08.4
CIT *e* 08 49 13.5
CIT *e* 08 50 13.0
CIT *e* 08 50 55.5
CIT pmax pmax
comp=Z,525nm,1.4s
ZEA Zeya 52.61 1 *e*P **P** **08 49 01.4 +0.3**
ZEA pmax pmax
comp=Z,10.0nm,0.8s
ZAK Zakamensk 52.92 342 *e*P **P** **08 49 02.4 -1.3**
ZAK pmax pmax
comp=Z,17nm,1.3s
HMDM Hanimaadhoo 53.07 278 P **P** **08 49 05.3 0.0**
MNCI Minicoy 53.31 280 P **P** **08 49 06.8 -0.2**
IRK Irkutsk 54.27 344 *e*P **P** **08 49 12.5 -0.9**
IRK *e* 08 49 21.8
IRK *e* 08 52 26.8
IRK pmax pmax
comp=Z,86nm,1.7s
WMQ Urumqi 54.64 327 ⇓P **P** **08 49 16.6 +0.3**
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ pmax pmax
comp=Z,320nm,3.9s
WMQ LR LR
comp=Z,750nm,20.3s
WMQ LR LR
comp=Z,660nm,18.7s
WMQ LR LR
comp=Z,780nm,22.1s
BOD Bodaibo 57.50 352 *e*P **P** **08 49 36.5 +0.1**
BOD pmax pmax
comp=Z,168nm,1.0s
PEA0B Petropavlovsk- 58.22 22 P **P** **08 49 42.5 +1.0**
PEA0B lAmb lAmb 08 49 43.7
comp=Z,28nm,0.7s
PEA0B Petropavlovsk- 58.22 22 P **P** **08 49 42.5 +1.0**
PEA0B pmax pmax
comp=Z,28nm,0.7s
PETK Petropavlovsk- 58.22 22 P **P** **08 49 42.6 +1.1**
PETK Petropavlovsk- 58.22 22 P **P** **08 49 42.2 +0.6**
comp=Z,23nm,0.6s,baz=188,slow=6.4,SNR=79
PETK LR LR 09 13 57.8
comp=Z,278nm,21.6s,baz=225,slow=35
comp=Z,23nm,0.6s
PETK Petropavlovsk- 58.22 22 P **P** **08 49 42.6 +1.1**
ZSN Zaisan 58.49 328 *e*P **P** **08 49 42.8 -0.8**
comp=Z,31nm,0.9s,baz=328
ZSN Zaisan 58.49 328 *e*P **P** **08 49 42.8 -0.8**
ZSN pmax pmax
comp=Z,31nm,0.9s
PET Petropavlovsk 58.51 22 P **P** **08 49 45.1 +1.6**
PET Petropavlovsk 58.51 22 P **P** **08 49 43.7 +0.2**
PET lAmb lAmb 08 49 48.3
comp=Z,34nm,1.1s
PET Petropavlovsk 58.51 22 *e*P **P** **08 49 44.1 +0.6**
PET *e*S **S** **08 57 46.6 +3.0**
PET *e*SS **SS** **09 01 38.8 +1.9**
PET *e*SSS SSS 09 04 00.3
PET pmax pmax
comp=Z,33nm,1.1s
PET pmax pmax
comp=Z,100nm,12.4s
PET MLR MLR
comp=Z,400nm,16.0s
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 58.51 22 P **P** **08 49 43.8 +0.3**
comp=Z,25nm,1.1s
SHLS Shalkode 59.08 322 *e*P **P** **08 49 45.0 -2.9**
comp=Z,40nm,0.9s,baz=322
SHLS Shalkode 59.08 322 *e*P **P** **08 49 45.0 -2.9**
SHLS pmax pmax
comp=Z,40nm,0.9s
PDGK Podgornoye 59.15 322 P **P** **08 49 47.4 -1.0**
UZB Uzynbulak 59.35 321 *e*P **P** **08 49 48.6 -1.2**
comp=Z,25nm,0.7s,baz=322
UZB Uzynbulak 59.35 321 *e*P **P** **08 49 48.6 -1.2**
UZB pmax pmax
comp=Z,25nm,0.7s
TARG Taragay, Kyrgy 59.40 320 P **P** **08 49 49.9 -0.6**
TARG Taragay, Kyrgy 59.40 320 P **P** **08 49 49.9 -0.6**
TARG pmax pmax
comp=Z,128nm,1.2s
MK31 Makanchi Array 59.47 326 P **P** **08 49 49.8 -0.6**
MK31 Makanchi Array 59.47 326 P **P** **08 49 49.8 -0.6**
MK31 pmax pmax
comp=Z,71nm,1.0s
MKAR Makanchi Array 59.47 326 P **P** **08 49 50.0 -0.4**
comp=Z,62nm,0.8s,baz=124,slow=8.2,SNR=135
MKAR S **S** **08 57 52.5 -4.0**
comp=Z,0.2nm,0.3s,baz=134,slow=44,SNR=1.5
MKAR LR LR 09 15 57.7
comp=Z,524nm,21.3s,baz=123,slow=36
comp=Z,62nm,0.8s
KSH Kashi 59.57 316 P **P** **08 49 51.9 +0.6**
KSH pmax pmax
comp=Z,71nm,1.2s
KSH LR LR
comp=Z,550nm,20.3s
KSH LR LR
comp=Z,440nm,19.7s
KSH LR LR
comp=Z,510nm,22.3s
MAKZ Makanchi 59.65 326 P **P** **08 49 50.6 -1.1**
MAKZ Makanchi 59.65 326 P **P** **08 49 50.6 -1.1**
MAKZ pmax pmax
comp=Z,146nm,1.2s
SATY Saty 59.69 321 *e*P **P** **08 49 51.1 -1.0**
comp=Z,22nm,0.8s,baz=321
SATY Saty 59.69 321 *e*P **P** **08 49 51.1 -1.0**
SATY pmax pmax
comp=Z,22nm,0.8s
ZHN Zhinishke 59.72 321 *e*P **P** **08 49 51.2 -1.1**
comp=Z,30nm,0.8s,baz=321
ZHN Zhinishke 59.72 321 *e*P **P** **08 49 51.2 -1.1**
ZHN pmax pmax
comp=Z,30nm,0.8s
RPZ Rata Peaks 59.90 144 P **P** **08 49 52.3 -1.1**
comp=Z,16nm,0.9s,baz=358,slow=20,SNR=5.1
RPZ LR LR 09 15 41.4
comp=Z,645nm,20.8s,baz=310,slow=36
comp=Z,16nm,0.9s

UTU Utuhina 60.32 136 P **P** **08 49 54.4 -2.0**
OTVZ Oturere 60.43 137 P **P** **08 49 58.4 +1.1**
TUWZ Tuamarina 60.43 140 P **P** **08 49 55.6 -1.4**
WNVZ Wahianoa 60.46 137 P **P** **08 49 59.0 +1.5**
MDOK Medeo 60.60 321 *e*P **P** **08 49 57.1 -1.3**
baz=321
MDOK LR LR 09 17 01.3
comp=Z,227nm,16.5s,baz=321
MDOK Medeo 60.60 321 *e*P **P** **08 49 57.0 -1.3**
MDOK MLR MLR
comp=Z,227nm,17.0s
TNSS Tian-Shan 60.60 320 *e*P **P** **08 49 57.5 -1.3**
baz=320
TNSS Tian-Shan 60.60 320 *e*P **P** **08 49 57.4 -1.3**
ULHL Ulahol 60.66 319 P **P** **08 49 58.4 -0.6**
SNR=18
EDRZ Edgecumbe 60.67 136 P P 08 49 49.1 -10
AAA Alma-Ata 60.70 321 *e*P **P** **08 49 58.1 -0.9**
comp=Z,42nm,1.1s,baz=321
AAA Alma-Ata 60.70 321 *e*P **P** **08 49 58.1 -0.9**
AAA pmax pmax
comp=Z,42nm,1.1s
TDK Taldyqorghan 60.70 323 *e*P **P** **08 49 58.0 -1.0**
comp=Z,34nm,0.6s,baz=323
TDK LR LR 09 17 17.7
comp=Z,542nm,23.3s,baz=323
TDK Taldyqorghan 60.70 323 *e*P **P** **08 49 57.9 -1.0**
TDK pmax pmax
comp=Z,34nm,0.6s
TDK MLR MLR
comp=Z,542nm,23.0s
BHHZ Black Hill Sta 60.85 137 P **P** **08 49 59.5 -0.6**
YAK Yakutsk 60.98 2 P **P** **08 50 00.9 +0.6**
YAK Yakutsk 60.98 2 LR LR 09 16 52.4
comp=Z,282nm,21.3s,baz=184,slow=36
YAK Yakutsk 60.98 2 *e*P **P** **08 50 00.6 +0.3**
YAK *e**PP **sP** **08 50 15.3 -3.1**
YAK *e* 08 50 37.6
YAK *e*S **S** **08 58 14.5 -0.6**
YAK *e**SS **sS** **08 58 38.6 +2.3**
YAK *e* 08 59 44.6
YAK pmax pmax
comp=Z,111nm,1.0s
YAK pmax pmax
comp=N,48nm,1.1s
YAK pmax pmax
comp=E,19nm,1.1s
YAK smax smax
comp=E,168nm,3.0s
YAK smax smax
comp=N,176nm,2.9s
BOOM Boomskoye usch 60.98 320 P **P** **08 50 00.5 -0.5**
BOOM Boomskoye usch 60.98 320 P **P** **08 50 00.5 -0.5**
BOOM pmax pmax
comp=Z,98nm,1.3s
CHKK Chushkaly 60.98 321 *e*P **P** **08 49 59.7 -1.1**
baz=321
CHKK Chushkaly 60.98 321 *e*P **P** **08 49 59.6 -1.1**
BKZ Black Stump Fm 60.99 137 P **P** **08 50 01.9 +0.9**
BKZ Black Stump Fm 60.99 137 P **P** **08 50 02.1 +1.1**
BKZ Black Stump Fm 60.99 137 P **P** **08 50 01.8 +0.8**
URZ Urewera 61.00 136 P **P** **08 50 00.1 -0.9**
comp=Z,6.7nm,0.5s,baz=343,slow=11,SNR=6.6
comp=Z,6.7nm,0.5s
KWHZ Kaweka Forest 61.07 137 P **P** **08 50 01.8 +0.3**
TKM2 Tokmak 2 61.41 320 P **P** **08 50 03.0 -0.9**
SNR=74
TKM2 Tokmak 2 61.41 320 P **P** **08 50 02.7 -1.2**
MA2 Magadan 61.53 14 P **P** **08 50 05.7 +1.6**
MA2 Magadan 61.53 14 P **P** **08 50 04.9 +0.8**
MA2 lAmb lAmb 08 50 07.4
comp=Z,56nm,1.0s
MA2 Magadan 61.53 14⇑ *e*P **P** **08 50 03.6 -0.5**
MA2 pmax pmax
comp=Z,55nm,1.2s
MA2 Magadan 61.53 14 P **P** **08 50 04.9 +0.8**
comp=Z,66nm,1.0s
MXZ Matakaoa Point 61.53 134 P **P** **08 50 04.8 +0.2**
TKGZ Te Karaka 61.60 135 P **P** **08 50 05.2 +0.2**
KBK Karagaybulak 61.70 319 P **P** **08 50 05.9 0.0**
SNR=28
WMGZ Waiomatatini S 61.72 135 P **P** **08 50 05.5 -0.4**
UCH Uchtor 61.79 319 P **P** **08 50 07.3 +0.5**
SNR=158
AAK Ala-Archa 61.99 319 P **P** **08 50 08.0 +0.2**
SNR=29
AAK Ala-Archa 61.99 319 LR LR 09 20 27.2
comp=Z,386nm,21.4s,baz=108,slow=39
AAK Ala-Archa 61.99 319 P **P** **08 50 07.9 +0.1**
AAK Ala-Archa 61.99 319 *i*P **P** **08 50 07.0 -0.8**
AAK pmax pmax
comp=Z,82nm,1.3s
CHMS Chumysh 61.99 320 P **P** **08 50 07.4 -0.3**
SNR=10
USP Ospenovka 62.28 320 P **P** **08 50 08.9 -0.7**
SNR=48
SGDS Sogindy 62.28 320 *e*P **P** **08 50 08.4 -1.3**
comp=Z,24nm,1.2s,baz=320
SGDS Sogindy 62.28 320 *e*P **P** **08 50 08.3 -1.3**
SGDS pmax pmax
comp=Z,24nm,1.2s
EKS2 Erkin-Say 62.47 319 P **P** **08 50 10.9 -0.1**
SNR=47
KBL Kabul 62.72 309 P **P** **08 50 13.2 +0.3**
KBL Kabul 62.72 309 P **P** **08 50 12.1 -0.8**
SNR=47
KBL Kabul 62.72 309 P **P** **08 50 13.2 +0.3**
KBL pmax pmax
comp=Z,95nm,1.0s
ZAA0 Zalesovo Array 62.76 334 P **P** **08 50 11.7 -0.8**
ZAA0 lAmb lAmb 08 50 15.0
comp=Z,54nm,1.1s
ZALV Zalesovo Beam 62.76 334 P **P** **08 50 11.0 -1.5**
ZALV Zalesovo Beam 62.76 334 P **P** **08 50 11.2 -1.3**
comp=Z,23nm,0.9s,baz=123,slow=5.9,SNR=48
comp=Z,23nm,0.9s
BTK Batken 63.39 315 P **P** **08 50 16.4 -0.7**
BTK Batken 63.39 315 P **P** **08 50 16.4 -0.7**
BTK pmax pmax
comp=Z,209nm,1.4s
BTLS Baital 63.40 321 *e*P **P** **08 50 15.7 -1.3**
comp=Z,29nm,1.1s,baz=321
BTLS Baital 63.40 321 *e*P **P** **08 50 15.6 -1.3**
BTLS pmax pmax
comp=Z,29nm,1.1s
KURBB Kurchatov Arra 63.73 328 P **P** **08 50 18.3 -0.7**
comp=Z,114nm,0.9s,baz=124,slow=6.3,SNR=166
KURBB PP **PP** **08 52 37.6 -1.9**
comp=Z,4.7nm,0.8s,baz=128,slow=8.1,SNR=4.1
KURBB S **S** **08 58 48.0 -2.1**
comp=Z,0.6nm,0.2s,baz=332,slow=30,SNR=1.5
KURBB PKP2bc 09 19 18.8
comp=Z,0.8nm,0.8s,baz=297,slow=2.5,SNR=4.2
KURBB LR LR 09 20 14.7
comp=Z,268nm,21.3s,baz=147,slow=38
comp=Z,114nm,0.9s
KURK Kurchatov 63.73 329 P **P** **08 50 18.2 -0.7**
KURK Kurchatov 63.73 329 P **P** **08 50 18.8 -0.2**
KURK P **P** **08 50 18.8 -0.2**
KURK Kurchatov 63.73 329 P **P** **08 50 18.3 -0.7**
KURK S **S** **08 58 48.1 -2.1**
DZA Taraz 64.19 318 *e*P **P** **08 50 21.1 -1.2**
comp=Z,38nm,1.0s,baz=318
DZA Taraz 64.19 318 *e*P **P** **08 50 21.0 -1.2**
DZA pmax pmax
comp=Z,38nm,1.0s
IUG luzhnay 64.76 317 *e*P **P** **08 50 25.1 -1.1**
comp=Z,34nm,1.0s,baz=317
IUG luzhnay 64.76 317 *e*P **P** **08 50 25.0 -1.1**
IUG pmax pmax
comp=Z,34nm,1.0s
KK31 Karatay Array 64.83 318 P **P** **08 50 24.9 -1.5**
KK31 Karatay Array 64.83 318 *i*P **P** **08 50 25.1 -1.3**
KKAR Karatay Array 64.83 318 P **P** **08 50 24.9 -1.5**
KKAR Karatay Array 64.83 318 P **P** **08 50 24.9 -1.5**
KKAR pmax pmax
comp=Z,82nm,1.1s
SEY Seymchan 64.85 13 *e*P **P** **08 50 27.0 +0.9**
SEY pmax pmax
comp=Z,32nm,1.3s
CHM Chimkent 65.12 317 *e*P **P** **08 50 27.6 -0.7**
baz=317
CHM LR LR 09 19 46.8
comp=Z,217nm,20.9s,baz=317
CHM Chimkent 65.12 317 *e*P **P** **08 50 27.6 -0.7**

CHM MLR MLR
comp=Z,217nm,21.0s
SHEM Shemya Is, Ala 65.16 30 LR LR 09 14 56.4
comp=Z,411nm,21.9s,baz=274,slow=32
BRLS Boroldav 65.25 318 *eP* **P 08 50 27.9 -1.2**
comp=Z,39nm,1.2s,baz=318
BRLS Boroldav 65.25 318 *eP* **P 08 50 27.9 -1.2**
BRLS pmax pmax
comp=Z,39nm,1.2s
OTUK Ortayu 65.94 324 P P 08 50 32.7 -0.8
BRZS Berezniki 66.58 326 *eP* **P 08 50 36.7 -0.8**
comp=Z,36nm,1.0s,baz=326
BRZS Berezniki 66.58 326 *eP* **P 08 50 36.7 -0.8**
BRZS pmax pmax
comp=Z,36nm,1.0s
CASY Casey 68.01 187 P P 08 50 46.9 +0.7
CASY IAmb IAmb 08 50 48.2
comp=Z,31nm,0.8s
HRA Herat 68.04 307 P P 08 50 46.4 -1.0
HRA IAmb IAmb 08 50 48.7
comp=Z,42nm,1.1s
WBK Wadi Bani Khal 68.55 294 P P 08 50 50.8 +0.2
WBK P P **08 50 50.8 +0.2**
MHTO MHTO 69.26 292 P P 08 50 54.6 -0.3
SNR=11
BVA0 Borovoye Array 69.29 328 *i* P **P 08 50 53.1 -1.4**
BVAR Borovoye Array 69.29 328 P **P 08 50 54.0 -0.5**
comp=Z,90nm,0.9s,baz=132,slow=8.2,SNR=74
BVAR S **S 08 59 55.0 -2.4**
comp=Z,0.3nm,0.4s,baz=136,slow=41,SNR=1.9
BVAR LR LR 09 23 05.8
comp=Z,212nm,19.9s,baz=121,slow=37
comp=Z,90nm,0.9s
JMDO Jabal Madar 69.31 293 P P 08 50 55.4 +0.1
SNR=5.4
JMDO P **P 08 50 55.4 +0.1**
SNR=5.4
BRVK Borovoye 69.36 328 P P 08 50 54.3 -0.5
BRVK Borovoye 69.36 328 P P 08 50 54.9 0.0
BRVK P **P 08 50 54.9 0.0**
BRVK Borovoye 69.36 328 *ce* **P P 08 50 54.4 -0.5**
BRVK pmax pmax
comp=Z,170nm,1.3s
BRVK MLR MLR
comp=Z,266nm,23.0s
BIDO Bidbid 69.45 295 P P 08 50 56.5 +0.4
SNR=7.8
SMDO Samad 69.46 294 P P 08 50 56.3 +0.1
DQM DQM 69.53 291 P P 08 50 57.3 +0.6
SNR=9.0
DQM P **P 08 50 57.3 +0.6**
SNR=9.0
JASK Jask - Hormozg 70.03 297 P P 08 51 01.4 +1.8
BSY Bisya 70.19 294 P P 08 51 01.2 +0.6
BSY P **P 08 51 01.2 +0.6**
TIXI Tiksi 70.60 1 P P 08 51 01.8 -0.3
TIXI Tiksi 70.60 1 LR LR 09 22 11.8
comp=Z,265nm,21.2s,baz=203,slow=36
TIXI Tiksi 70.60 1 ⇑ *eP* **P 08 51 01.8 -0.3**
TIXI pmax pmax
comp=Z,74nm,1.4s
MSEY Mahe Island 70.76 265 P P 08 51 06.7 +2.3
ARQ Araqi 70.89 294 P P 08 51 05.6 +0.7
SOHO SOHO 70.98 295 P P 08 51 05.8 +0.4
SOHO P **P 08 51 05.8 +0.4**
ATKA Atka Island 71.13 34 P P 08 51 06.4 +0.7
ATKA Atka Island 71.13 34 P P 08 51 06.6 +0.9
ASHO Ashiyiah 71.48 296 P P 08 51 10.8 +2.3
ALNE Al Ain 71.68 295 P P 08 51 09.9 +0.2
SNR=5.5
FAQ Al Faqa, Dubai 71.91 296 P P 08 51 11.8 +0.7
ASUD Al Ashush, Dub 72.13 295 P P 08 51 12.0 -0.3
ASUD P **P 08 51 12.0 -0.3**
GEYT Alibeck 72.14 310 P P 08 51 11.8 -0.4
comp=Z,33nm,1.0s,baz=104,slow=6.3,SNR=28
comp=Z,33nm,1.0s
BILL Bilibino 72.37 15 P P 08 51 13.4 +0.5
BILL Bilibino 72.37 15 ⇑ *eP* **P 08 51 14.0 +1.1**
BILL pmax pmax
comp=Z,17nm,1.7s
AJN Ajban 72.44 295 P P 08 51 14.9 +0.8
AJN P **P 08 51 14.9 +0.8**
RBK Rabkut 72.44 288 P P 08 51 15.0 +0.6
RBK P **P 08 51 15.0 +0.6**
DOK Doka 72.61 289 P P 08 51 15.5 +0.2
SNR=6.4
WHFO Wadi Hawf 72.89 288 P P 08 51 17.3 +0.3
WHFO P **P 08 51 17.3 +0.3**
ABTO Aybut 73.29 288 P P 08 51 20.0 +0.6
ABTO P **P 08 51 20.0 +0.6**
MZR Muzera 73.63 294 P P 08 51 22.5 +1.2
AB31 Akbulak array 73.89 321 *i* P **P 08 51 20.5 -1.7**
ABKAR Akbulak array 73.89 321 P P 08 51 21.1 -1.1
ABKAR IAmb IAmb 08 51 25.2
comp=Z,57nm,1.1s
NIKH Nikolski High 74.44 35 P P 08 51 25.2 -0.1
baz=250
P08K Saint George I 75.33 31 P P 08 51 28.7 -1.7
baz=249
RAR Rarotonga 75.58 112 LR LR 09 22 50.7
comp=Z,160nm,22.0s,baz=276,slow=34
SVE Sverdlovsk 75.98 329 *de* **P P 08 51 34.0 -0.1**
SVE pmax pmax
comp=Z,258nm,1.0s
UNV Unalaska Valle 76.05 34 P P 08 51 34.7 +0.2
baz=252
ARU Arti 76.92 328 LR LR 09 28 43.8
comp=Z,147nm,20.0s,baz=97,slow=38
ARU Arti 76.92 328 *c i* P **P 08 51 38.7 -0.8**
ARU 08 54 29.0
ARU S **S 09 01 27.4 +3.5**
ARU SS **SS 09 06 16.9 -4.4**
ARU pmax pmax
comp=Z,182nm,1.0s
ARU Arti 76.92 328 P P 08 51 38.3 -1.2
comp=Z,160nm,1.1s,comp=Z,1μm
FALS False Pass 78.07 34 P P 08 51 46.8 +0.9
FALS False Pass 78.07 34 P P 08 51 44.4 -1.5
baz=254
M11K Mekoryuk 78.30 28 P P 08 51 47.4 +0.4
baz=251
S12K Black Hills 79.04 33 P P 08 51 51.6 +0.3
baz=255
TNA Tin City 79.37 23 P P 08 51 53.0 +0.2
baz=248
LKRN Lenkeran, Azer 79.50 309 P P 08 51 53.6 -0.5
K13K Kusilvak Mount 79.50 27 P P 08 51 55.1 +1.5
K13K IAmb IAmb 08 51 57.2
comp=Z,35nm,0.8s
K13K Kusilvak Mount 79.50 27 P P 08 51 54.4 +0.7
baz=252,SNR=14
M13K Dall Lake 79.65 28 P P 08 51 56.2 +1.7
M13K Dall Lake 79.65 28 P P 08 51 54.8 +0.4
baz=253
ABPO Ambohimpanom 79.78 251 P P 08 51 56.1 -0.2
ABPO Ambohimpanom 79.78 251 P P 08 51 56.1 -0.2
ABPO pmax pmax
comp=Z,28nm,1.2s
SDPT Sand Point 79.83 34 P P 08 51 56.4 +0.9
SDPT Sand Point 79.83 34 P P 08 51 56.1 +0.5
SDPT Sand Point 79.83 34 P P 08 51 55.5 0.0
baz=257,SNR=5.4
F14K Arctic Creek 79.96 23 P P 08 51 56.1 0.0
baz=250,SNR=6.2
ANM Nome 80.03 24 P P 08 51 57.2 +0.8
baz=251
L14K Kuka Creek 80.23 28 P P 08 51 58.6 +1.1
L14K IAmb IAmb 08 52 01.2
comp=Z,41nm,0.8s
L14K Kuka Creek 80.23 28 P P 08 51 56.6 -1.0
baz=254,SNR=17
J14K Nanvaranak Lak 80.24 26 P P 08 51 58.1 +0.5
baz=253,SNR=7.7
N14K Kuskokwak Cree 80.32 29 P P 08 51 58.5 +0.5
baz=255,SNR=8.2
O14K Tigyukauivet M 80.36 30 P P 08 51 58.5 +0.2
baz=256
M14K Bethel 80.41 28 P P 08 52 00.1 +1.6
M14K IAmb IAmb 08 52 01.6
comp=Z,42nm,0.8s
M14K Bethel 80.41 28 P P 08 51 58.8 +0.3
baz=255,SNR=15
VOI Vohitsoka 80.43 248 P P 08 52 00.3 +0.7
VOI Vohitsoka 80.43 248 P P 08 51 60.0 +0.3
VOI IAmb IAmb 08 52 00.6
comp=Z,31nm,1.1s
VOI Vohitsoka 80.43 248 P P 08 52 00.2 +0.6
S14K Fog Glacier 80.55 33 P P 08 51 59.9 +0.3
baz=257
F15K North Star Dit 80.70 23 P P 08 52 00.8 +0.8
F15K North Star Dit 80.70 23 P P 08 51 59.4 -0.6
baz=251,SNR=6.4
G15K Niukluk 80.71 24 P P 08 52 00.7 +0.5
baz=252,SNR=6.7
VNDA Vanda 80.78 173 P P 08 52 00.0 -0.3
VNDA Vanda 80.78 173 P P 08 52 00.2 -0.1
comp=Z,18nm,0.9s,baz=312,slow=6.2,SNR=66
comp=Z,18nm,0.9s
L15K Ungalak Mounta 80.87 27 P P 08 52 01.0 0.0
baz=255,SNR=17
MAW Mawson 80.95 200 P P 08 52 01.8 +0.5
comp=Z,17nm,1.0s,baz=82,slow=3.7,SNR=22
comp=Z,17nm,1.0s
RAYN Ar Rayn 80.98 294 P P 08 52 02.8 +0.3
RAYN Ar Rayn 80.98 294 P P 08 52 02.8 +0.3
MAK Makhachkala 80.99 313 *eP* **P 08 51 57.8 -4.2**
MAK *e* 08 55 03.2
MAK *eS* **S 09 02 03.4 -4.3**
MAK *eSS* **SS 09 07 25.7 +2.8**
MAK *eSSS* SSS 09 10 49.2
MAK pmax pmax
comp=Z,244nm,1.1s
M15K Kasigluk River 80.99 28 P P 08 52 01.2 -0.5
baz=256,SNR=13
SEKA Sheki 81.01 311 P P 08 52 01.3 -1.0
K15K Wolf Creek Mou 81.01 27 P P 08 52 02.8 +1.0
K15K IAmb IAmb 08 52 05.6
comp=Z,55nm,0.9s
K15K Wolf Creek Mou 81.01 27 P P 08 52 02.2 +0.5
baz=255,SNR=23
MNGR Mingechevir, A 81.04 311 P P 08 52 01.8 -0.6
O15K Ungalikthiuk R 81.06 30 P P 08 52 02.4 +0.4
baz=257
N15K Kwethluk River 81.15 29 P P 08 52 03.7 +1.1
N15K IAmb IAmb 08 52 07.2
comp=Z,46nm,0.9s
N15K Kwethluk River 81.15 29 P P 08 52 02.7 +0.2
baz=256,SNR=12
CHGN Chignik 81.17 33 P P 08 52 02.6 -0.1
baz=258
C16K Lisburne Hills 81.28 21 P P 08 52 03.7 +0.6
C16K IAmb IAmb 08 52 06.5
comp=Z,41nm,1.0s
C16K Lisburne Hills 81.28 21 P P 08 52 02.8 -0.3
baz=250,SNR=7.6
H16K Elim 81.34 24 P P 08 52 03.0 -0.5
baz=254,SNR=23
ZKTA Zakatala 81.48 312 P P 08 52 04.3 -0.5
G16K Koyuk River 81.51 24 P P 08 52 04.9 +0.6
G16K Koyuk River 81.51 24 P P 08 52 03.8 -0.5
baz=254,SNR=6.8
GANJ Ganja 81.60 311 P P 08 52 04.8 -0.6
J16K Anvik River 81.68 26 P P 08 52 04.3 -1.0
baz=255,SNR=21
SBA Scott Base 81.70 172 P P 08 52 06.0 +0.9
SBA Scott Base 81.70 172 P P 08 52 06.0 +0.9
SBA pmax pmax
comp=Z,15nm,0.9s
I17K Unalakleet 81.79 25 P P 08 52 07.0 +1.1
I17K IAmb IAmb 08 52 11.3
comp=Z,85nm,1.5s
I17K Unalakleet 81.79 25 P P 08 52 05.4 -0.4
baz=255,SNR=12
L16K Owhat River 81.81 28 P P 08 52 04.7 -1.3
baz=257,SNR=15
N16K Nishlik Lake 81.86 29 P P 08 52 05.3 -1.0
baz=258,SNR=16
R16K Pilot Point 81.87 32 P P 08 52 01.7 -4.7
baz=259
M16K Timber Creek 81.89 28 P P 08 52 04.3 -2.2
baz=257
D17K Noatak River 81.91 21 P P 08 52 05.1 -1.3
baz=252,SNR=13
P16K Nushagak River 81.95 30 P P 08 52 03.2 -3.6
baz=258
O16K Kokwok River B 82.01 30 P P 08 52 07.2 +0.1
O16K IAmb IAmb 08 52 10.3
comp=Z,32nm,0.8s
O16K Kokwok River B 82.01 30 P P 08 52 07.8 +0.7
baz=258,SNR=17
RDOG Red Dog Mine 82.08 21 P P 08 52 08.2 +0.9
RDOG IAmb IAmb 08 52 12.9
comp=Z,37nm,1.3s
RDOG Red Dog Mine 82.08 21 P P 08 52 08.2 +0.9
baz=253,SNR=11
NAX Nakhchivan 82.09 309 P P 08 52 06.8 -1.3
C17K DeLong Mountai 82.11 21 P P 08 52 08.8 +1.3
baz=252,SNR=7.1
E17K Hotham Inlet 82.19 22 P P 08 52 08.8 +0.9
baz=254,SNR=23
BELG Belogornoye 82.20 323 P P 08 52 07.8 -0.4
comp=Z,324nm,0.9s,baz=133,slow=1.1,SNR=55
BELG LR LR 09 31 31.0
comp=Z,163nm,21.3s,baz=117,slow=38
BELG Belogornoye 82.20 323 *c i* P **P 08 52 07.5 -0.7**
BELG pmax pmax
comp=Z,71nm,1.0s
G17K Kiwalik Mounta 82.23 24 P P 08 52 09.1 +1.0
baz=255,SNR=17
F17K Baldwin Pennin 82.24 23 P P 08 52 08.7 +0.6
baz=254,SNR=7.8
J17K VABM Dome 82.38 26 P P 08 52 10.2 +1.2
baz=257,SNR=48
H17K Granite Mounta 82.39 24 P P 08 52 09.8 +0.8
baz=256
L17K Donlin 82.45 27 P P 08 52 10.5 +1.2
baz=258,SNR=20
O17K Koliganek Bris 82.54 30 P P 08 52 10.0 +0.2
baz=259
Q16K King Salmon 82.56 31 P P 08 52 10.0 0.0
baz=260
K17K Iditarod 82.57 27 P P 08 52 10.5 +0.5
baz=258,SNR=69
N17K Nushagak Hills 82.64 29 P P 08 52 11.5 +1.2
baz=259,SNR=7.1
M17K Holitna River 82.69 28 P P 08 52 12.1 +1.5
M17K IAmb IAmb 08 52 14.8
comp=Z,43nm,0.9s
M17K Holitna River 82.69 28 P P 08 52 11.5 +0.9
baz=259,SNR=15
E18K Tukpahlearik C 82.74 22 P P 08 52 12.6 +1.8
E18K IAmb IAmb 08 52 14.7
comp=Z,49nm,0.8s
E18K Tukpahlearik C 82.74 22 P P 08 52 11.4 +0.6
baz=255,SNR=45
GNI Garni 82.76 310 P P 08 52 11.8 +0.2
comp=Z,46nm,1.2s,baz=116,slow=2.1,SNR=17
comp=Z,46nm,1.2s
GNI Garni 82.76 310 P P 08 52 13.1 +1.4
GNI P **P 08 52 13.1 +1.4**
GNI Garni 82.76 310 *ce* **P P 08 52 12.7 +1.0**
GNI pmax pmax
comp=Z,112nm,1.7s
GNI Garni 82.76 310 P P 08 52 12.0 +0.3
comp=Z,97nm,1.2s,comp=Z,808nm
P17K Kvichak River 82.77 30 P P 08 52 11.6 +0.6
baz=260
C18K Utukok River 82.86 21 P P 08 52 12.1 +0.7
C18K IAmb IAmb 08 52 16.8
comp=Z,24nm,0.9s
C18K Utukok River 82.86 21 P P 08 52 12.1 +0.7
baz=254,SNR=12
Q17K Contact Creek 82.89 31 P P 08 52 12.3 +0.5
baz=260,SNR=15
F18K Selawik 82.90 23 P P 08 52 11.7 +0.2
baz=256,SNR=17
H18K Honhosa River 83.08 24 P P 08 52 13.1 +0.5
baz=257,SNR=27
G18K Tagagawik 83.12 24 P P 08 52 13.0 +0.2
baz=257,SNR=20
L18K Granite Mounta 83.20 27 P P 08 52 13.3 0.0
baz=259,SNR=71
N18K Kilae Creek 83.30 29 P P 08 52 15.2 +1.4
N18K IAmb IAmb 08 52 19.5
comp=Z,27nm,1.0s
N18K Kilae Creek 83.30 29 P P 08 52 13.9 +0.1
baz=260,SNR=12
A19K Wainwright 83.33 19 P P 08 52 13.4 -0.3
baz=254
P18K Big Mountain, 83.41 30 P P 08 52 13.8 -0.7
baz=261
J18K Innoko River 83.43 26 P P 08 52 15.3 +0.9
baz=259
M18K Stony River 83.47 28 P P 08 52 15.4 +0.7
baz=260,SNR=38
O18K Koktuh Hills 83.50 30 P P 08 52 15.9 +1.1
baz=261,SNR=8.4
SVW2 Sparrevohn 83.52 29 P P 08 52 15.2 +0.3
SVW2 Sparrevohn 83.52 29 P P 08 52 15.5 +0.5
SVW2 IAmb IAmb 08 52 18.5
comp=Z,25nm,0.8s
C19K Lookout Ridge 83.54 20 P P 08 52 16.6 +1.7
C19K Lookout Ridge 83.54 20 P P 08 52 16.3 +1.4
baz=256,SNR=22
GCSA Galena City Sc 83.61 25 P P 08 52 16.1 +0.8
baz=259
F19K Shaleruckik Mo 83.68 23 P P 08 52 16.6 +1.0
F19K Shaleruckik Mo 83.68 23 P P 08 52 16.0 +0.4
baz=258,SNR=12
G19K Purcell Mounta 83.80 23 P P 08 52 17.2 +1.0
baz=258,SNR=59
NCK Nalchik 83.89 313 *i* P **P 08 52 16.3 -0.9**
NCK pmax pmax
comp=Z,58nm,0.7s
D19K Kuna River 83.92 21 P P 08 52 17.9 +1.1
baz=257,SNR=36
H19K Roundabout Mou 83.94 24 P P 08 52 18.2 +1.3
H19K Roundabout Mou 83.94 24 P P 08 52 17.9 +1.0
baz=259,SNR=66
O19K Port Alsworth 83.99 30 P P 08 52 17.9 +0.6
baz=261
N19K Bonanza Creek 84.00 29 P P 08 52 18.5 +1.0
baz=261,SNR=49
J19K Poorman 84.00 26 P P 08 52 16.4 -1.0
baz=260,SNR=17
E19K Redstone River 84.02 22 P P 08 52 17.5 +0.1
baz=258,SNR=65
L19K White Mountain 84.04 28 P P 08 52 18.1 +0.5
baz=261,SNR=27
OHAK Old Harbor 84.11 33 P P 08 52 18.4 +0.4
OHAK Old Harbor 84.11 33 P P 08 52 19.0 +1.0
OHAK Old Harbor 84.11 33 P P 08 52 18.0 +0.1
baz=263,SNR=12
Q19K Cape Douglas, 84.15 31 P P 08 52 18.2 0.0
baz=262,SNR=5.7
M19K Big River Lodg 84.21 28 P P 08 52 19.8 +1.3
M19K IAmb IAmb 08 52 22.1
comp=Z,28nm,0.8s
M19K Big River Lodg 84.21 28 P P 08 52 18.9 +0.4
baz=261,SNR=19
PYA1 Pyatigorsk 84.29 314 *i* P **P 08 52 18.7 -0.6**
KBZ Khabaz 84.41 314 P P 08 52 19.9 0.0
comp=Z,41nm,1.0s,baz=101,slow=6.2,SNR=58
comp=Z,41nm,1.0s
KBZ Khabaz 84.41 314 ⇑ *eP* **P 08 52 19.8 0.0**
KBZ pmax pmax
comp=Z,89nm,1.1s
P19K Oil Pt 84.45 30 P P 08 52 18.8 -1.0
baz=262
D20K Etivluk River 84.50 21 P P 08 52 19.0 -0.8
baz=258,SNR=13
F20K Avaraart Lake 84.51 23 P P 08 52 19.4 -0.4
baz=260
L20K Farewell, AK 84.54 27 P P 08 52 19.5 -0.6
baz=262,SNR=7.2
KDAK Kodiak Island 84.56 32 P P 08 52 20.7 +0.5
KDAK Kodiak Island 84.56 32 P P 08 52 19.9 -0.4
baz=263
KDAK Kodiak Island 84.56 32 LR LR 09 24 46.9
comp=Z,323nm,21.6s,baz=271,slow=32
KDAK Kodiak Island 84.56 32 P P 08 52 20.7 +0.5
KDAK pmax pmax
comp=Z,56nm,1.0s
E20K Nigu River 84.56 21 P P 08 52 19.9 -0.3
baz=259,SNR=28
H20K Anotleneega Mo 84.58 24 P P 08 52 20.0 -0.3
baz=260,SNR=12
KIV Kislovodsk 84.58 314 ⇑ P **P 08 52 21.5 +0.7**
KIV Kislovodsk 84.58 314 P **P 08 52 21.7 +0.9**
KIV Kislovodsk 84.58 314 *eP* **P 08 52 20.9 +0.1**
KIV *e* 09 02 44.1
KIV pmax pmax
comp=Z,50nm,1.0s
KIV pmax pmax
comp=Z,43nm,3.5s
KIV Kislovodsk 84.58 314 P P 08 52 20.4 -0.4
comp=Z,60nm,1.5s,comp=Z,890nm
B20K Meade River 84.58 20 P P 08 52 19.9 -0.2
baz=258
K20K Telida 84.58 26 P P 08 52 21.1 +0.8
K20K Telida 84.58 26 P P 08 52 20.6 +0.3
baz=261,SNR=9.1
SHA1 Shidzhatmaz 84.58 314 ⇑ *eP* **P 08 52 21.2 +0.2**
I20K Naaghedeneel 84.63 25 P P 08 52 19.8 -0.6
baz=261
J20K Nowinta River 84.67 26 P P 08 52 20.6 -0.1
baz=261
Q20K Shuyak Island 84.75 31 P P 08 52 21.0 -0.2
baz=263
M20K Styx River 84.80 28 P P 08 52 21.7 +0.1
baz=262
O20K Slope Mountain 84.81 30 P P 08 52 21.0 -0.6
baz=263
N20K Mount Spurr 85.15 29 P P 08 52 22.3 -1.0
baz=263
C21K Knifeblade Rid 85.23 21 P P 08 52 22.7 -0.8
baz=260
HOM Homer 85.26 30 P P 08 52 24.1 +0.4
baz=264
G21K Aliakaket 85.29 23 P P 08 52 23.7 -0.1
baz=262,SNR=6.1
PPLA Purkeypile 85.37 27 P P 08 52 23.6 -0.8
baz=263
B21K Ikpikpuk River 85.37 20 P P 08 52 24.5 +0.5
baz=260
F21K Alatna River 85.40 23 P P 08 52 24.0 -0.4
baz=262
E21K Killik River 85.41 21 P P 08 52 24.4 0.0
baz=261
CHUM Lake Minchumin 85.43 26 P P 08 52 24.8 +0.3
baz=263
CNPM China Poot 85.45 30 P P 08 52 25.2 +0.5
H21K Melozitna Rive 85.45 24 P P 08 52 24.2 -0.4
baz=262,SNR=9.6
CAST Castle Rocks 85.48 27 P P 08 52 24.2 -0.6
baz=263,SNR=9.0
A22K Sinclair Lake 85.49 19 P P 08 52 23.5 -1.1
baz=260
SKT Skwentna 85.56 28 P P 08 52 24.3 -0.9
baz=264,SNR=7.7
VRH Novokhopyorsk 85.71 321 *eP* **P 08 52 25.2 -1.0**
VRH pmax pmax
comp=Z,260nm,1.1s
BRSE Bradley Lake S 85.72 30 P P 08 52 25.4 -0.7
baz=265,SNR=11
I21K Tanana 85.73 25 P P 08 52 24.7 -1.2
baz=263
SUA Susitna One 85.88 29 P P 08 52 27.1 +0.1
SUA IAmb IAmb 08 52 29.4
comp=Z,24nm,0.7s
SUA Susitna One 85.88 29 P P 08 52 26.6 -0.4
baz=264,SNR=6.8
B22K Teshekpuk Lake 85.89 20 P P 08 52 27.5 +0.9
B22K IAmb IAmb 08 52 29.5
comp=Z,27nm,0.8s
B22K Teshekpuk Lake 85.89 20 P P 08 52 26.4 -0.3
baz=261,SNR=19
D22K Ayikyak River 85.94 21 P P 08 52 27.5 +0.5
baz=262
F22K John River 85.94 22 P P 08 52 27.4 +0.3
baz=263
KTH Kantishna Hill 86.01 26 P P 08 52 28.0 +0.5
LABN Labinsk 86.02 314 *eP* P 08 52 21.2 -6.7
BPAW Bear Paw Mtn. 86.04 26 P P 08 52 27.2 -0.3
baz=264
H22K Ishtalitna Cre 86.07 24 P P 08 52 26.9 -0.7
baz=264,SNR=8.0
G22K Bettles 86.13 23 P P 08 52 28.1 +0.2
baz=263,SNR=9.2
E22K Anaktuvuk Pass 86.16 22 P P 08 52 28.1 0.0
baz=263
M22K Willow 86.21 28 P P 08 52 28.6 +0.3
baz=265
ERBR Yeremizino-Bor 86.24 316 *eP* **P 08 52 28.4 -0.5**
ERBR pmax pmax
comp=Z,217nm,1.1s
MLY Manley 86.24 25 P P 08 52 28.1 -0.5
baz=264,SNR=22
TRF Thorofare Moun 86.28 27 P P 08 52 28.6 -0.4

baz=265
O22K **Cooper Landing** 86.29 30 P P 08 52 28.2 -0.6
baz=265
RC01 **Rabbit Creek A** 86.33 29 P P 08 52 28.1 -0.9
baz=265,SNR=5.1
SEW **Seward** 86.40 30 P P 08 52 28.9 -0.5
baz=266
KTUT **Trabzon** 86.59 311 ⇑P P 08 52 31.8 +1.1
PMR **Palmer** 86.67 28 P P 08 52 31.1 +0.5
PMR **Palmer** 86.67 28 P P 08 52 30.6 0.0
PMR **Palmer** 86.67 28 P P 08 52 30.6 0.0
baz=266,SNR=6.5
PMR **Palmer** 86.67 28 P P 08 52 30.6 0.0
PMR pmax pmax
comp=Z,11nm,0.8s
D23K **Nanushuk River** 86.67 21 P P 08 52 30.5 -0.1
baz=264
COLD **Coldfoot** 86.67 23 P P 08 52 31.6 +1.0
baz=265,SNR=34
G23K **Bananza Creek** 86.69 23 P P 08 52 31.5 +0.7
baz=265,SNR=33
SOC **Sochi** 86.71 313 eP P 08 52 28.4 -2.9
SOC e 08 55 50.8
SOC eS SKSac 09 02 54.3 -0.1
SOC eSS SS 09 08 39.9 -7.5
SOC eSSS SSS 09 12 11.6
SOC pmax pmax
comp=Z,89nm,1.0s
SOC MLR MLR
comp=Z,205nm,21.0s
GHO **Glory Hole Cre** 86.78 28 P P 08 52 32.1 +0.8
C23K **Itkillik River** 86.78 20 P P 08 52 30.7 -0.3
baz=264,SNR=20
H23K **Yukon River** 86.81 24 P P 08 52 31.0 -0.3
baz=265,SNR=18
I23K **Minto, Yukon-K** 86.83 25 P P 08 52 32.1 +0.8
I23K IAmb IAmb 08 52 33.8
comp=Z,17nm,0.8s
I23K **Minto, Yukon-K** 86.83 25 P P 08 52 30.8 -0.5
baz=266,SNR=22
MCK **McKinley** 86.91 26 P P 08 52 30.8 -1.1
baz=266,SNR=5.3
MCK **McKinley** 86.91 26 P P 08 52 30.6 -1.3
NEA2 **Nenana** 86.91 25 P P 08 52 31.1 -0.7
baz=266
RND **Reindeer** 86.92 27 P P 08 52 31.2 -0.8
RND **Reindeer** 86.92 27 P P 08 52 31.2 -0.8
RND pmax pmax
comp=Z,12nm,0.8s
E23K **Chandalar** 86.97 22 P P 08 52 31.4 -0.8
baz=265
KNK **Knik Glacier** 86.97 29 P P 08 52 32.3 +0.1
KNK IAmb IAmb 08 52 34.4
comp=Z,20nm,0.8s
KNK **Knik Glacier** 86.97 29 P P 08 52 31.4 -0.8
baz=266,SNR=8.2
WAT1 **Susitna Watana** 87.02 27 P P 08 52 31.7 -0.7
baz=266
TOLK **Toolik Lake Re** 87.04 21 P P 08 52 31.7 -0.7
baz=265,SNR=25
SML **Sawmill** 87.06 28 P P 08 52 32.7 0.0
SML IAmb IAmb 08 52 38.9
comp=Z,24nm,0.9s
SML **Sawmill** 87.06 28 P P 08 52 32.5 -0.2
baz=267,SNR=12
SML **Sawmill** 87.06 28 P P 08 52 32.7 0.0
VORD **Divnogorie** 87.23 321 eP P 08 52 33.3 -0.3
VORD pmax pmax
comp=Z,120nm,1.0s
MDM **Murphy Dome** 87.30 25 P P 08 52 33.3 -0.4
VORR **Voronezh** 87.31 322 eP P 08 52 33.8 -0.2
VORR pmax pmax
comp=Z,300nm,1.1s
VSR **Storozhevoye** 87.32 321 eP P 08 52 32.7 -1.3
VSR pmax pmax
comp=Z,90nm,0.9s
M23K **Glacier View** 87.35 28 P P 08 52 33.2 -0.8
baz=267,SNR=9.9
D24K **Happy Valley** 87.35 21 P P 08 52 33.5 -0.4
baz=266
WAT6 **Susitna Watana** 87.38 28 P P 08 52 33.5 -0.9
baz=267,SNR=18
E24K **Your Creek** 87.40 22 P P 08 52 33.0 -1.2
baz=266
P23K **Montague Islan** 87.42 30 P P 08 52 32.6 -1.7
baz=268
C24K **Franklin Bluff** 87.43 20 P P 08 52 32.7 -1.5
baz=266
COLA **College** 87.45 25 P P 08 52 34.3 -0.1
COLA **College** 87.45 25 P P 08 52 33.2 -1.1
baz=267
COLA **College** 87.45 25 *i* P P 08 52 33.8 -0.6
COLA pmax pmax
comp=Z,5.0nm,0.8s
CCB **Clear Creek Bu** 87.46 25 P P 08 52 33.5 -0.9
CCB IAmb IAmb 08 52 36.0
comp=Z,18nm,1.0s
KLMR **Klimovskoe** 87.49 331 eP P 08 52 32.7 -1.9
KLMR pmax pmax
comp=Z,158nm,1.1s
H24K **Noodor Dome** 87.50 24 P P 08 52 33.9 -0.8
baz=267,SNR=13
LPSR **Galich'ya Gora** 87.51 322 eP P 08 52 34.5 -0.4
LPSR pmax pmax
comp=Z,220nm,1.0s
SCM **Sheep Creek Mo** 87.54 28 P P 08 52 35.6 +0.6
SCM IAmb IAmb 08 52 38.2
comp=Z,23nm,0.8s
SCM **Sheep Creek Mo** 87.54 28 P P 08 52 33.9 -1.1
baz=268,SNR=6.4
SCM **Sheep Creek Mo** 87.54 28 P P 08 52 35.6 +0.6
SCM pmax pmax
comp=Z,23nm,0.8s
DHY **Denali Highway** 87.57 27 P P 08 52 34.2 -1.0
baz=267
F24K **Squaw Lake** 87.59 23 P P 08 52 35.8 +0.7
F24K IAmb IAmb 08 52 39.2
comp=Z,16nm,0.9s
F24K **Squaw Lake** 87.59 23 P P 08 52 33.9 -1.2
baz=267,SNR=22
GLI **Glacier Island** 87.61 29 P P 08 52 32.1 -3.1
baz=268
POKR **Poker Plat Res** 87.64 25 P P 08 52 33.0 -2.3
baz=267
G24K **Hadweenzic Riv** 87.70 23 P P 08 52 34.9 -0.7
baz=267,SNR=9.7
HDA **Harding Lake** 87.82 26 P P 08 52 35.0 -1.2
baz=268,SNR=12
ILAR **Eielson Array** 87.86 25 P P 08 52 35.1 -1.3
comp=Z,4.1nm,0.8s,baz=253,slow=4.3,SNR=29
ILAR PP PP 08 56 06.2 +3.5
comp=Z,1.0nm,0.9s,baz=260,slow=6.9,SNR=3.3
ILAR PKKPbc PKKPbc 09 10 24.6 -1.1
comp=Z,0.6nm,0.9s,baz=44,slow=1.6,SNR=6.1
ILAR LR LR 09 29 50.1
comp=Z,91nm,21.0s,baz=253,slow=34
comp=Z,4.1nm,0.8s
Q23K **Middleton Isla** 87.93 31 P P 08 52 35.3 -1.5
baz=268
KIBK **Kibwezi** 88.08 268 P P 08 52 39.6 +0.9
SNR=6.6
M24K **Tolsona, Glenn** 88.09 28 P P 08 52 37.6 0.0
baz=268,SNR=12
ADZR **Andozero** 88.17 334 eP P 08 52 35.4 -2.4
ADZR pmax pmax
comp=Z,17nm,0.6s
KLU **Klutina** 88.19 29 P P 08 52 38.3 +0.2
KLU **Klutina** 88.19 29 P P 08 52 38.1 -0.1
baz=269,SNR=6.4
D25K **Kavik River** 88.23 21 P P 08 52 37.5 -0.6
baz=268
G25K **Bearman Lake** 88.25 23 P P 08 52 37.9 -0.3
baz=268
EYAK **Cordova Ski Ar** 88.26 30 P P 08 52 37.9 -0.4
baz=269
K24K **Donnelly Dome** 88.31 26 P P 08 52 38.3 -0.3
baz=269,SNR=6.6
MOS **Moscow** 88.34 326 eP P 08 52 37.9 -0.9
MOS pmax pmax
comp=Z,200nm,1.3s
MOS pmax pmax
comp=Z,129nm,1.1s
H25L **Birch Creek** 88.35 24 P P 08 52 38.2 -0.4
baz=269,SNR=11
ANN **Anapa** 88.37 315 eP P 08 52 37.9 -1.3
ANN eS SKSac 09 03 06.4 +2.0
ANN pmax pmax
comp=Z,198nm,1.1s
PAX **Paxson** 88.44 27 P P 08 52 37.8 -1.5
baz=269,SNR=8.9
F25K **Christian Rive** 88.45 23 P P 08 52 37.3 -2.0
baz=269,SNR=11
PRP **Porcupine Dome** 88.46 25 P P 08 52 38.4 -0.9
baz=269
E25K **Arctic Village** 88.49 22 P P 08 52 39.0 -0.3
baz=269,SNR=24
J25K **Salcha River,** 88.51 26 P P 08 52 38.8 -0.8
baz=269,SNR=8.2
HARP **HAARP** 88.57 28 P P 08 52 38.7 -1.1
baz=269
C26K **Camden Bay** 88.76 20 P P 08 52 39.5 -0.9
baz=269
BMRM **Bremner River** 88.83 29 P P 08 52 39.0 -2.1
baz=270,SNR=5.8
N25K **Chitina, Valde** 88.83 29 P P 08 52 38.2 -3.0
baz=270
KMBO **Kilima Mbogo** 88.86 269 P P 08 52 41.5 -1.0
comp=Z,0.1nm,0.8s,baz=45,slow=24,SNR=6.5
KAIM **Kayak Island** 88.92 30 P P 08 52 39.3 -2.2
baz=270
OBN **Obninsk** 88.94 325 P P 08 52 40.7 -1.0
comp=Z,37nm,0.4s,baz=322,slow=0.8,SNR=14
comp=Z,37nm,0.4s
OBN **Obninsk** 88.94 325 *c i* P P 08 52 40.6 -1.0
OBN S S 09 03 24.0 -2.0
OBN SSS SSS 09 12 59.0
OBN pmax pmax
comp=Z,138nm,1.3s
OBN MLR MLR
comp=Z,321nm,21.0s
OBN **Obninsk** 88.94 325 P P 08 52 39.3 -2.3
comp=Z,109nm,1.2s
F26K **Sheenjek River** 89.03 22 P P 08 52 40.1 -1.8
baz=270,SNR=10.0
SCRK **Sand Creek** 89.11 26 P P 08 52 40.7 -1.7
baz=270,SNR=7.6
G26K **Porcupine Rive** 89.17 23 P P 08 52 40.9 -1.6
baz=270,SNR=8.2
C27K **Jago River** 89.17 21 P P 08 52 41.5 -1.0
baz=271,SNR=33
GLB **Gilahina Butte** 89.21 29 P P 08 52 43.0 +0.1
GLB IAmb IAmb 08 52 46.3
comp=Z,18nm,1.2s
MENT **Mentasta** 89.24 27 P P 08 52 43.7 +0.7
MENT **Mentasta** 89.24 27 P P 08 52 42.8 -0.1
MENT IAmb IAmb 08 52 45.2
comp=Z,11nm,0.7s
J26L **Joseph Creek** 89.29 26 P P 08 52 41.6 -1.6
baz=271,SNR=19
VRDI **Verde Repeater** 89.38 29 P P 08 52 44.2 +0.3
L26K **Log Cabin Wild** 89.41 27 P P 08 52 42.1 -1.6
baz=271,SNR=9.3
I26K **Coal Creek Min** 89.45 25 P P 08 52 41.8 -2.1
baz=271
M26K **Nabesna, AK** 89.58 28 P P 08 52 42.5 -2.1
baz=271
MCARA **McCarthy VSAT** 89.59 29 P P 08 52 45.1 +0.6
MCARA **McCarthy VSAT** 89.59 29 P P 08 52 43.0 -1.6
baz=271,SNR=8.1
LVZ **Lovozero** 89.66 338 ⇑eP P 08 52 41.7 -3.1
LVZ pmax pmax
comp=Z,27nm,1.0s
LVZ **Lovozero** 89.66 338 P P 08 52 46.5 +1.7
comp=Z,35nm,1.0s
WAX **Waxell Ridge** 89.69 30 P P 08 52 46.5 +1.3
K27K **Chicken** 89.95 26 P P 08 52 44.0 -2.2
baz=272,SNR=33
E27K **Coleen River** 89.98 22 P P 08 52 43.5 -2.8
baz=272,SNR=20
DIKM **Dikmen** 89.99 311 ⇓P P 08 52 48.0 +1.1
G27K **Doyon Strip** 90.01 23 P P 08 52 43.4 -3.1
baz=272
MMAI **Mount Meron Ar** 90.06 303 P P 08 52 47.2 -0.3
comp=Z,15nm,0.8s,baz=85,slow=4.8,SNR=18
comp=Z,15nm,0.8s
I27K **Kandik River** 90.08 25 P P 08 52 43.4 -3.5
baz=272,SNR=21
H27K **Steamboat Moun** 90.09 24 P P 08 52 44.4 -2.5
baz=273
L27K **Beaver Creek,** 90.10 27 P P 08 52 44.7 -2.3
baz=272,SNR=27
M27K **Edge Creek, AK** 90.10 28 P P 08 52 44.8 -2.4
baz=272,SNR=11
APA **Apatity** 90.14 337 ⇓*i* P P 08 52 44.4 -2.6
APA pmax pmax
comp=Z,8.0nm,0.8s
MESA **MESA** 90.15 30 P P 08 52 45.0 -2.5
baz=272
D27M **Malcolm River** 90.16 21 P P 08 52 44.7 -2.5
baz=273
EGAK **Eagle** 90.31 25 P P 08 52 45.1 -2.8
baz=273,SNR=9.2
CTG **Chitna Glacier** 90.42 29 P P 08 52 46.5 -2.1
baz=273,SNR=12
CTGM **Chitina Glacie** 90.42 29 P P 08 52 49.9 +1.2
CTGM IAmb IAmb 08 52 51.6
comp=Z,17nm,0.8s
EIL **Elat** 90.52 300 LR LR 09 40 21.5
comp=Z,152nm,19.2s,baz=68,slow=40
F28M **Old Crow** 90.66 22 P P 08 52 50.1 +0.6
F28M **Old Crow** 90.66 22 P P 08 52 47.3 -2.2
baz=274,SNR=14
LODK **Lodwar** 90.67 273 P P 08 52 53.1 +2.4
SNR=6.0
E28M **Babbage River** 90.71 21 P P 08 52 48.5 -1.2
baz=274,SNR=22
SIM **Simferopol'** 90.73 315 eP P 08 52 51.3 +1.0
SIM pmax pmax
comp=Z,75nm,0.8s
I28M **Miner Creek** 90.79 25 P P 08 52 48.3 -2.0
baz=274,SNR=23
YUK3 **Moose Creek** 90.80 28 P P 08 52 48.9 -1.6
baz=274
QSPA **South Pole Qui** 90.89 180 P P 08 52 50.7 +0.1
comp=Z,11nm,0.7s,baz=328,slow=3.6,SNR=51
QSPA PKKPbc PKKPdf 09 10 14.6 -0.3
comp=Z,1.0nm,0.7s,baz=254,slow=22,SNR=2.7
comp=Z,11nm,0.7s
D28M **Stokes Point** 90.94 21 P P 08 52 49.6 -1.1
baz=275,SNR=5.6
O28M **Mount Upton** 90.99 29 P P 08 52 50.5 -1.0
baz=274,SNR=9.2
DAWY **Dawson** 91.13 26 P P 08 52 51.9 +0.1
DAWY **Dawson** 91.13 26 P P 08 52 51.4 -0.4
baz=274,SNR=14
YUK8 **Steele Glacier** 91.16 29 P P 08 52 51.6 -0.7
baz=274,SNR=8.1
BR131 **Keskin Array S** 91.28 310 *i* P P 08 52 51.7 -1.4
BRTR **Keskin Array B** 91.28 310 P P 08 52 52.2 -0.9
comp=Z,7.9nm,0.9s,baz=127,slow=5.7,SNR=21
BRTR LR LR 09 40 19.9
comp=Z,135nm,21.2s,baz=85,slow=40
comp=Z,7.9nm,0.9s
JOF **Joensuu** 91.33 333 eP P 08 52 51.8 -0.9
E29M **Blow River** 91.33 22 P P 08 52 51.4 -1.2
baz=276,SNR=6.0
H29M **Whitestone** 91.37 24 P P 08 52 51.2 -1.6
baz=276
G29M **Pine Creek** 91.44 23 P P 08 52 50.6 -2.5
baz=276,SNR=15
PNL **Peninsula** 91.46 30 P P 08 52 51.0 -2.3
baz=274
I29M **Ogilvie Camp,** 91.48 25 P P 08 52 51.4 -1.9
baz=276,SNR=14
M29M **Somme Creek** 91.68 28 P P 08 52 55.6 +1.2
M29M IAmb IAmb 08 52 57.5
comp=Z,13nm,0.8s
M29M **Somme Creek** 91.68 28 P P 08 52 53.3 -1.1
baz=275,SNR=23
YUK4 **Talbot Arm** 91.70 29 P P 08 52 53.6 -1.1
baz=275,SNR=7.3
CSS **Mathiatis** 91.72 305 P P 08 52 53.4 -1.7
comp=Z,40nm,1.1s
L29M **L29M** 91.77 27 P P 08 52 54.1 -0.7
baz=276,SNR=36
YUK6 **Outpost Mounta** 91.87 29 P P 08 52 53.5 -2.0
baz=275
K29M **Barlow Dome** 91.97 26 P P 08 52 55.9 +0.1
baz=276
EPYK **Eagle Plains** 92.02 24 P P 08 52 55.2 -0.7
baz=277,SNR=12
G30M **tAoh Zraii Nji** 92.14 23 P P 08 52 56.0 -0.3
baz=278
F30M **Barrier River** 92.22 22 P P 08 52 54.8 -1.9
baz=278,SNR=13
I30M **Mount Dempster** 92.30 25 P P 08 52 56.8 -0.5
baz=277,SNR=7.3
HYT **Haines Junctio** 92.30 29 P P 08 52 56.2 -1.2
baz=276,SNR=12
P29M **Windy Craggy** 92.31 30 P P 08 52 56.5 -0.8
baz=276,SNR=14
J30M **Hart River** 92.40 25 P P 08 52 56.6 -1.1
baz=277,SNR=9.4
N30M **Aishikik Lake** 92.43 29 P P 08 52 55.8 -2.1
baz=276,SNR=16
P30M **Million Dollar** 92.64 30 P P 08 52 58.4 -0.5
baz=276
MAYO **Mayo, Yukon** 92.72 26 P P 08 52 57.8 -1.3
baz=278,SNR=8.8
ARCES **ARCESS Array B** 92.81 340 P P 08 52 58.5 -0.8
comp=Z,10nm,0.8s,baz=65,slow=5.6,SNR=21
ARCES PKKPbc PKKPdf 09 10 10.2 -0.5
comp=Z,0.5nm,0.4s,baz=259,slow=1.7,SNR=9.5
ARCES LR LR 09 38 31.3
comp=Z,171nm,21.8s,baz=84,slow=38
comp=Z,10nm,0.8s
G31M **Satah River** 92.90 23 P P 08 52 58.0 -1.8
baz=279,SNR=16
INK **Inuvik** 92.95 21 P P 08 52 57.9 -2.1
baz=280,SNR=20
INK **Inuvik** 92.95 21 LR LR 09 35 08.2
comp=Z,96nm,21.9s,baz=190,slow=36
INK **Inuvik** 92.95 21 P P 08 52 58.8 -1.2
O30N **Mendenhall** 92.99 29 P P 08 52 58.7 -1.8
baz=277,SNR=8.3
F31M **Tsiigehtchic** 93.02 22 P P 08 52 58.5 -1.8
baz=280,SNR=14
PLBC **Pleasant Camp** 93.02 30 P P 08 52 59.1 -1.4
baz=277
N31M **Braebun, Yuko** 93.05 28 P P 08 53 02.4 +1.7
baz=278,SNR=24
SPITS **Spitsbergen Ar** 93.05 349 P P 08 52 58.7 -1.6
comp=Z,18nm,0.9s,baz=81,slow=8.9,SNR=10
SPITS LR LR 09 41 19.6
comp=Z,141nm,18.6s,baz=36,slow=40
comp=Z,18nm,0.9s
H31M **Peel River** 93.05 24 P P 08 53 00.2 -0.4
baz=279,SNR=8.0
S31K **Pelican** 93.27 32 P P 08 53 02.8 +1.2
baz=277
R31K **City Hall, Gus** 93.47 31 P P 08 53 02.8 +0.2
baz=278
SKAG **Skagway** 93.55 30 P P 08 53 04.3 +1.4
SKAG **Skagway** 93.55 30 P P 08 53 03.5 +0.5
baz=278,SNR=6.1
AK09 **Malin Array Si** 93.59 321 P P 08 53 01.6 -1.7
WHY **Whitehorse** 93.60 29 P P 08 53 04.3 +1.0
WHY IAmb IAmb 08 53 06.2
comp=Z,17nm,0.8s
WHY **Whitehorse** 93.60 29 P P 08 53 03.4 0.0
baz=278,SNR=23
M31M **Drury Creek, Y** 93.60 28 P P 08 53 04.2 +1.0
baz=279,SNR=14
AK08 **Malin Array Si** 93.61 321 P P 08 53 01.5 -1.9
AK10 **Malin Array Si** 93.61 321 P P 08 53 01.4 -2.0
AKASG **Malin Array Be** 93.62 321 P P 08 53 02.5 -1.0
comp=Z,6.1nm,0.8s,baz=70,slow=4.4,SNR=18
AKASG LR LR 09 39 43.1
comp=Z,164nm,21.3s,baz=60,slow=38
comp=Z,6.1nm,0.8s
AKBB **Malin Array Si** 93.62 321 P P 08 53 01.6 -1.9
AK01 **Malin Array Si** 93.63 321 P P 08 53 01.3 -2.2
KIEV **Kiev** 93.63 321 ⇑P P 08 53 02.8 -0.7
KIEV **Kiev** 93.63 321 P P 08 53 02.8 -0.7
KIEV **Kiev** 93.63 321 P P 08 53 00.9 -2.6
comp=Z,70nm,1.1s
AK02 **Malin Array Si** 93.63 321 P P 08 53 01.1 -2.4
SIT **Sitka** 93.88 33 P P 08 53 04.3 -0.1
baz=278
FINES **FINESS Array B** 93.95 332 P P 08 53 03.2 -1.6
comp=Z,6.4nm,1.0s,baz=96,slow=5.6,SNR=12
comp=Z,6.4nm,1.0s
FINES **FINESS Array B** 93.95 332 *i* P P 08 53 06.9 +2.2
FINES pmax pmax
comp=Z,9.0nm,0.9s
MNK **Minsk** 93.99 325 *i* P P 08 53 04.7 -0.4
MNK *i* *PP sP 08 53 21.7 -2.1
MNK *i* S SKSac 09 03 34.3 -1.8
MNK *i* *SS SKSac 09 04 04.2 +7.5
MNK *i* SS SS 09 10 31.3 -0.7
MNK *i* SSS SSS 09 14 06.5
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,16nm,1.0s
MNK pmax pmax
comp=Z,45nm,0.9s
FARO **Faro, Yukon** 94.08 27 P P 08 53 04.9 -0.5
baz=280,SNR=76
R32K **Eaglecrest** 94.13 32 P P 08 53 06.8 +1.1
baz=278
JIS **Juneau Island** 94.20 32 P P 08 53 07.3 +1.4
S32K **Kiilisnoo** 94.22 32 P P 08 53 05.6 -0.5
baz=278
MI30 **MI30,Zelenitsa** 94.27 321 P P 08 53 04.0 -2.5
P32M **Atlin** 94.34 30 P P 08 53 08.1 +1.4
baz=279,SNR=8.2
N32M **Quiet Lake** 94.39 29 P P 08 53 06.0 -0.9
baz=280
KEF **Keuruu** 94.39 333 eP P 08 53 06.1 -0.7
SORM **Soroca** 94.46 318 ⇑P P 08 53 06.9 -0.5
SORM **Soroca** 94.46 318 P P 08 53 06.9 -0.5
MI28 **MI28,Pidlybu** 94.57 321 P P 08 53 07.1 -0.7
LUBAR **Lubar, Ukraine** 94.64 320 P P 08 53 05.6 -2.6
P33M **Teslin, Yukon** 94.68 29 P P 08 53 07.3 -0.9
baz=280,SNR=15
A36M **Sachs Harbour** 94.80 17 P P 08 53 08.1 -0.4
A36M **Sachs Harbour** 94.80 17 P P 08 53 08.8 +0.3
baz=288,SNR=10
ELIB **Princess Elisa** 94.86 198 *d* P P 08 53 10.1 +1.1
comp=Z,10.0nm,0.9s
CFR **Carcaliu** 94.94 315 ⇑P P 08 53 10.4 +0.7
CFR **Carcaliu** 94.94 315 P P 08 53 10.3 +0.7
VAF **Ylistaro** 95.21 334 eP P 08 53 10.4 0.0
HORU **Horodok** 95.59 319 P P 08 53 11.8 -0.8
WRAK **Wrangell Islan** 95.59 33 P P 08 53 11.8 -0.6
baz=280
RNPP9 **Sopachiv** 95.61 322 P P 08 53 11.4 -1.2
RNPP8 **Varash** 95.65 322 P P 08 53 11.8 -1.0
R33M **Jennings River** 95.75 30 P P 08 53 12.5 -0.7
baz=282,SNR=9.7
NOR **Nord** 95.77 355 *i* P P 08 53 10.5 -2.3
NOR IAmb IAmb 08 53 13.7
comp=Z,6.6nm,0.9s
TESR **Tescani** 95.81 317 ⇓P P 08 53 13.5 -0.2
SPBR **Spulber** 95.83 316 ⇓P P 08 53 14.2 +0.4
VRI **Vrincioaia** 95.84 316 ⇑P P 08 53 14.2 +0.4
VRI **Vrincioaia** 95.84 316 P P 08 53 14.2 +0.4
PLOR **Plostina** 95.89 316 ⇑P P 08 53 14.3 +0.2
PLOR **Plostina** 95.89 316 P P 08 53 14.2 +0.2
S34M **Telegraph Cree** 95.97 32 P P 08 53 13.2 -0.9
baz=281
C36M **Paulatuk** 96.01 20 P P 08 53 13.0 -1.0
baz=289,SNR=32
PABE **Paberze** 96.07 326 eP P 08 53 15.3 +0.8
NEHR **Nehoiu** 96.19 316 ⇓P P 08 53 15.9 +0.5
COVR **Voineasa-Covas** 96.20 316 ⇓P P 08 53 15.7 +0.2
DLBC **Dease Lake** 96.43 31 P P 08 53 16.8 +0.6
baz=282
DLBC **Dease Lake** 96.43 31 LR LR 09 32 29.1
comp=Z,265nm,21.8s,baz=280,slow=33
MLR **Muntele Rosu** 96.43 316 ⇑P P 08 53 16.8 +0.1
MLR **Muntele Rosu** 96.43 316 LR LR 09 43 07.2
comp=Z,270nm,21.0s,baz=68,slow=39
MLR **Muntele Rosu** 96.43 316 P P 08 53 16.7 +0.1
MLR **Muntele Rosu** 96.43 316 P P 08 53 15.4 -1.3
TGTN **Hyland Airport** 96.58 28 P P 08 53 16.2 -0.6
baz=284,SNR=16
KSV **Kosov** 96.61 319 P P 08 53 16.0 -1.3
KSV **Kosov** 96.61 319 P P 08 53 16.0 -1.3
BURAR **Bucovina Array** 96.62 318 ⇑P P 08 53 17.9 +0.5
BURAR **Bucovina Array** 96.62 318 P P 08 53 17.9 +0.5
T35M **Bob Quinn** 96.62 32 P P 08 53 17.1 -0.1
baz=282
WTLY **Watson Lake, Y** 96.67 29 P P 08 53 17.6 +0.3
baz=284,SNR=20
SUW **Suwalki** 96.80 325 eP P 08 53 17.7 -0.2
ELND **Elena** 96.83 313 ⇑P P 08 53 18.4 0.0
STNU **Starunia** 96.92 319 P P 08 53 17.6 -1.0
LVV **L'vov** 97.04 320 eP Pdif 08 53 22.5 +3.3
VOIR 97.06 316 ⇑P Pdif 08 53 19.6 +0.1

VOIR		97.06	316	P	Pdif	08 53 19.6	+0.1		
MORS	Morshin	97.25	320	P	Pdif	08 53 20.3	+0.1		
MORS	Morshin	97.25	320	P	**P**	**08 53 19.6**	**-0.5**		
MATP	Matopo	97.45	250	LR	LR	09 31 10.6			
	comp=Z,90nm,21.6s,baz=63,slow=32								
MEZ	Mezhgor'ye	97.60	319	P	**P**	**08 53 21.2**	**-0.5**		
LIRD	Liard River Hi	98.17	29	P	**P**	**08 53 23.6**	**-0.4**		
	baz=286								
MARR	Marisel-Cluj	98.19	317	⇓P	Pdif	08 53 24.6	0.0		
KOLS	Kolonicke sedl	98.33	320	*e*PDIFF	Pdif	08 53 27.0	+2.0		
KOLS	Kolonicke sedl	98.33	320	*e*P	Pdif	08 53 27.1	+2.1		
HOLU	Holmets	98.34	319	P	**P**	**08 53 24.6**	**-0.4**		
DRGR		98.44	317	⇑P	**P**	**08 53 25.2**	**-0.5**		
DRGR		98.44	317	P	**P**	**08 53 25.1**	**-0.5**		
GZR	Gura Zlata	98.65	316	⇓P	Pdif	08 53 27.0	+0.4		
GZR	Gura Zlata	98.65	316	P	Pdif	08 53 27.0	+0.4		
TOAD	Toad River Com	98.75	30	P	Pdif	08 53 27.5	+0.8		
	baz=287								
BBB	Bella Bella	98.88	37	LR	LR	09 32 51.0			
	comp=Z,167nm,20.1s,baz=268,slow=32								
STHS	Stebnicka Huta	98.90	320	*e*PDIFF	Pdif	08 53 27.7	+0.2		
STHS	Stebnicka Huta	98.90	320	*e*P	Pdif	08 53 27.7	+0.2		
HERR	Herculane	98.99	316	⇑P	**P**	**08 53 28.1**	**0.0**		
SURR	Surduc	99.03	317	⇑P		08 53 28.0			
BOVS	Bovan	99.72	314	⇑P	**Pdif**	**08 53 31.6**	**+0.3**		
DAG	Danmarks Havn	99.89	352	P	**Pdif**	**08 53 30.9**	**-0.4**		
DAG				pmax	pmax				
	comp=Z,14nm,1.1s								
DAG	Danmarks Havn	99.89	352	*i* P	**Pdif**	**08 53 29.3**	**-2.0**		
DAG				IAmb	IAmb	08 53 31.9			
	comp=Z,14nm,1.1s								
BOSA	Boshof	99.97	241	P	**Pdif**	**08 53 31.4**	**-1.5**		
	comp=Z,4.6nm,1.1s,baz=108,slow=3.2,SNR=3.7								
BOSA				LR	LR	09 33 36.4			
	comp=Z,239nm,22.0s,baz=96,slow=32								
	comp=Z,4.6nm,1.1s								
LANS	Liptovska Anna	100.09	320	*e*P	**Pdif**	**08 53 34.0**	**+1.1**		
PSZ	Piszkesteto	100.09	319	⇑P	**Pdif**	**08 53 33.1**	**+0.1**		
PSZ	Piszkesteto	100.09	319	P	**Pdif**	**08 53 33.1**	**+0.1**		
HFS	Hagfors	100.15	332	P	**Pdif**	**08 53 30.1**	**-2.7**		
	comp=Z,7.1nm,1.0s,baz=180,slow=1.4,SNR=5.3								
VYHS	Vyhne	100.65	320	*e*P	**Pdif**	**08 53 39.2**	**+3.9**		
NB2	NORSAR Subarra	100.96	333	P	**Pdif**	**08 53 34.5**	**-2.0**		
	comp=Z,15nm,1.2s,baz=71,slow=4.4								
NB2	NORSAR Subarra	100.96	333	P	**Pdif**	**08 53 34.5**	**-2.0**		
	baz=71,slow=4.4								
NOA	NORSAR Array B	100.96	333	P	**Pdif**	**08 53 35.1**	**-1.3**		
	comp=Z,0.2nm,0.5s,baz=68,slow=4.6,SNR=6.0								
MORC	Moravsky Berou	101.15	321	⇓P	**Pdif**	**08 53 37.7**	**+0.1**		
MORC	Moravsky Berou	101.15	321	*e*P	**Pdif**	**08 53 41.6**	**+4.0**		
MORC	Moravsky Berou	101.15	321	P	**Pdif**	**08 53 37.7**	**+0.1**		
JAVC	Velka Javorina	101.31	320	*e*P	**Pdif**	**08 53 43.3**	**+5.0**		
NEEM	North Greenlan	101.66	359	*i* P	**Pdif**	**08 53 39.9**	**+0.2**		
NEEM				IAmb	IAmb	08 53 41.8			
	comp=Z,7.6nm,0.9s								
PDG	Podgorica	101.72	314	⇓P	**Pdif**	**08 53 39.7**	**-0.5**		
VRAC	Vranov	101.87	321	*e*P	**Pdif**	**08 53 44.9**	**+4.1**		
VRAC	Vranov	101.87	321	P	**Pdif**	**08 53 40.3**	**-0.5**		
	comp=Z,3.0nm,0.6s,baz=99,slow=6.8,SNR=3.1								
KRUC	Moravsky	102.07	321	*e*P	**Pdif**	**08 53 45.6**	**+4.0**		
YKA	Yellowknife Ar	102.27	24	P	**Pdif**	**08 53 42.8**	**+0.6**		
	comp=Z,2.8nm,1.0s,baz=304,slow=5.1,SNR=19								
YKA				PKiKP	**PKiKP**	**08 58 03.4**	**-0.5**		
	comp=Z,0.2nm,0.5s,baz=310,slow=2.5,SNR=8.4								
YKA				PKKPbc	**PKKPbc**	**09 09 44.0**	**-3.0**		
	comp=Z,1.1nm,0.8s,baz=104,slow=2.2,SNR=14								
BRG	Berggiesshubel	103.06	323	⇓*e*Pif		08 53 46.4			
BRG				Amp		08 53 48.5			
	comp=Z,3.6nm,0.9s								
BRG	Berggiesshubel	103.06	323	P	**Pdif**	**08 53 51.0**	**+5.0**		
BRG				Amp		08 53 51.5			
	comp=Z,14nm,1.1s								
BRG				PP	**PKiKP**	**08 58 04.5**	**-1.2**		
BRG				Amp		08 58 04.5			
	comp=Z,10nm,1.2s								
BRG				PKKP	**PKKPbc**	**09 09 45.9**	**+1.7**		
BRG				Amp		09 09 50.0			
	comp=Z,3.5nm,0.6s								
CLL	Collm	103.48	324	*e*Pdif	**Pdif**	**08 53 48.0**	**+0.2**		
CLL				*e*pPdif	**pPdif**	**08 53 52.0**	**-9.4**		
	comp=Z,9.0nm,1.2s								
CLL				*ex*	x	08 57 53.0			
CLL				*e*PP	**PP**	**08 58 04.0**	**+0.2**		
CLL				*e*PKKPbc	**PKKPbc**	**09 09 45.0**	**+2.0**		
CLL				AMS	AMS	09 46 00.0			
	comp=Z,300nm,20.7s								
CLL	Collm	103.48	324	*e*P	**Pdif**	**08 53 48.0**	**+0.2**		
CLL				*e*		08 58 04.0			
CLL				MLR	MLR				
	comp=Z,300nm,20.7s								
GERES	GERESS Array B	103.83	321	Pdiff	**Pdif**	**08 53 49.7**	**+0.1**		
	comp=Z,3.0nm,1.0s,baz=35,slow=4.9,SNR=4.4								
GERES				PKiKP	**PKiKP**	**08 58 07.3**	**0.0**		
	comp=Z,3.3nm,1.1s,baz=100,slow=8.2,SNR=4.9								
DAVOX	Davos/Dischmat	106.94	320	PP	**PP**	**08 58 29.7**	**-0.1**		
	comp=Z,1.9nm,0.5s,baz=114,slow=9.4,SNR=4.5								
NVAR	Mina Array Bea	109.21	49	Pdiff	**Pdif**	**08 54 15.6**	**+1.7**		
	comp=Z,0.9nm,0.9s,baz=264,slow=4.4,SNR=4.2								
NVAR				PKiKP	**PKiKP**	**08 58 18.3**	**+0.6**		
	comp=Z,1.0nm,0.7s,baz=247,slow=1.9,SNR=7.4								
NVAR				PP	**PP**	**08 58 43.5**	**-3.3**		
	comp=Z,0.7nm,0.9s,baz=298,slow=3.2,SNR=3.7								
NVAR				PKKPbc	**PKKPbc**	**09 09 25.0**	**-0.2**		
	comp=Z,0.8nm,0.8s,baz=124,slow=4.5,SNR=6.2								
NVAR				PKKPab	**PKKPab**	**09 09 36.9**	**0.0**		
	comp=Z,1.6nm,0.8s,baz=132,slow=5.0,SNR=9.1								
CWC	Cottonwood Cre	109.96	51	P	**PKiKP**	**08 58 20.7**	**+1.5**		
	baz=287								
HLID	Hailey	110.27	42	P	**PKiKP**	**08 58 21.2**	**+1.6**		
	baz=292								
FURC	Furnace Creek,	110.89	50	P	**PKiKP**	**08 58 22.1**	**+1.4**		
	baz=288								
R11B	Troy Canyon, C	111.27	48	P	**PKiKP**	**08 58 22.1**	**+0.5**		
	baz=289								
BOZ	Bozeman (W)	111.29	40	P	**PKiKP**	**08 58 22.1**	**+0.8**		
	baz=295								
EGMT	Eagleton	111.38	37	P	**PKiKP**	**08 58 22.6**	**+1.2**		
	baz=297								
PFO	Pinyon Flats O	112.05	53	P	**PKiKP**	**08 58 22.4**	**-0.8**		
	baz=287								
TPFO	Pinon Flats	112.06	53	P	**PKiKP**	**08 58 22.4**	**-0.8**		
	baz=287								
MONP2	Monument Peak	112.29	54	P	**PKiKP**	**08 58 22.8**	**-0.9**		
	baz=287								
BELC	Belle Mtn. Jos	112.31	53	P	**PKiKP**	**08 58 24.5**	**+0.8**		
	baz=287								
GMRC	Granite Mounta	112.34	52	P	**PKiKP**	**08 58 25.2**	**+1.5**		
	baz=288								
IKP	In-Ko-Pah, Jac	112.61	54	P	**PKiKP**	**08 58 24.4**	**+0.2**		
	baz=287								
DUG	Dugway, Tooele	112.63	45	P	**PKiKP**	**08 58 25.7**	**+1.6**		
	baz=292								
SWSC	Sam W. Stewart	112.77	54	P	**PKiKP**	**08 58 24.7**	**+0.4**		
	baz=287								
BC3	Big Chuckawall	112.84	53	P	**PKiKP**	**08 58 25.5**	**+0.8**		
	baz=288								
IRM	Iron Mountain	112.93	52	P	**PKiKP**	**08 58 25.7**	**+1.0**		
	baz=288								
RLMT	Red Lodge	112.99	39	P	**PKiKP**	**08 58 24.4**	**-0.3**		
	baz=297								
BW06	Boulder Array	113.84	42	P	**PKiKP**	**08 58 27.6**	**+1.2**		
	baz=296								
PDAR	Pinedale Array	113.84	42	PKiKP	**PKiKP**	**08 58 26.6**	**+0.2**		
	comp=Z,0.8nm,0.6s,baz=180,slow=0.9,SNR=6.0								
PDAR				PKKPbc	**PKKPbc**	**09 09 08.8**	**-1.3**		
	comp=Z,1.9nm,0.8s,baz=111,slow=5.1,SNR=11								
LAO	LASA Array	114.12	37	P	**PKiKP**	**08 58 27.5**	**+0.9**		
	baz=300								
DGMT	Dagmar	114.38	34	P	PKPdf	08 58 28.9	+1.9		
	baz=302								
WUAZ	Wupatki	115.41	50	P	**PKPdf**	**08 58 30.4**	**+0.8**		
	baz=291								
214A	Organ Pipe Nat	115.48	54	P	**PKiKP**	**08 58 30.2**	**+0.6**		
	baz=289								
O20A	White River Ci	115.86	44	P	**PKPdf**	**08 58 30.9**	**+0.5**		
	baz=296								
K22A	Casper	115.89	41	P	**PKPdf**	**08 58 31.2**	**+0.9**		
	baz=298								
RSSD	Black Hills	116.75	38	P	**PKPdf**	**08 58 31.9**	**-0.1**		
	baz=301								
W18A	Petrified Fore	116.80	49	P	**PKiKP**	**08 58 33.3**	**+1.0**		
	baz=292								
MVCO	Mesa Verde	116.90	47	P	**PKiKP**	**08 58 33.9**	**+1.3**		
	baz=294								
TUC	Tucson	116.99	53	P	**PKiKP**	**08 58 33.4**	**+0.8**		
	baz=290								
N23A	Red Feather La	117.09	42	P	**PKiKP**	**08 58 33.2**	**+0.4**		
	baz=298								
ULM	Lac du Bonnet	117.68	29	PKP	**PKPdf**	**08 58 31.5**	**-1.7**		
	comp=Z,7.7nm,0.9s,baz=291,slow=1.1,SNR=9.3								
ULM				PKKPbc	**PKKPbc**	**09 08 56.5**	**-0.2**		
	comp=Z,2.0nm,0.6s,baz=124,slow=2.7,SNR=3.4								
ISCO	Idaho Springs	117.82	43	P	**PKiKP**	**08 58 35.3**	**+0.9**		
	baz=298								
SDCO	Great Sand Dun	118.83	45	P	**PKiKP**	**08 58 36.9**	**+0.6**		
	baz=297								
ESDC	Sonseca Array	119.07	317	PKP	**PKPdf**	**08 58 35.7**	**-0.7**		
	comp=Z,0.3nm,0.3s,baz=45,slow=2.4,SNR=2.7								
ESDC				PP	**PP**	**08 59 54.8**	**-1.3**		
	comp=Z,5.1nm,1.1s,baz=56,slow=7.9,SNR=4.3								
121A	Cookes Peak, D	119.28	51	P	**PKiKP**	**08 58 38.4**	**+1.2**		
	baz=292								
ANMO	Albuquerque	119.34	48	P	**PKiKP**	**08 58 38.5**	**+1.2**		
	baz=295								
T25A	Trinidad	119.88	45	P	**PKPdf**	**08 58 37.6**	**-0.6**		
	baz=297								
KSCO	Kaye Shedlock'	120.23	43	P	**PKiKP**	**08 58 39.9**	**+1.0**		
	baz=300								
ECSD	EROS Data Cent	121.41	35	P	**PKiKP**	**08 58 41.1**	**+0.3**		
	baz=308								
MNTX	Cornudas Mount	121.48	51	P	**PKPdf**	**08 58 40.4**	**-0.8**		
	baz=294								
BGNE	Belgrade	121.86	38	P	**PKPdf**	**08 58 39.4**	**-2.2**		
	baz=305								
CBKS	Cedar Bluff	122.27	42	P	**PKPdf**	**08 58 42.1**	**-0.4**		
	baz=302								
SPMN	Marine on St.	122.56	32	P	**PKPdf**	**08 58 42.6**	**-0.2**		
	baz=312								
MDT	Midelt	122.68	311	PKP	**PKPdf**	**08 58 43.5**	**-0.1**		
	comp=Z,1.9nm,0.6s,baz=99,slow=6.5,SNR=4.3								
AMTX	Amarillo	122.89	46	P	**PKPdf**	**08 58 43.9**	**0.0**		
	baz=298								
TXAR	Lajitas Array	123.77	53	PKP	**PKiKP**	**08 58 46.4**	**+0.4**		
	comp=Z,5.2nm,0.8s,baz=229,slow=1.2,SNR=58								
TXAR				PKKPbc	**PKKPbc**	**09 08 34.0**	**+0.7**		
	comp=Z,0.8nm,0.8s,baz=111,slow=6.7,SNR=9.1								
KSU1	Kansas State U	124.14	40	P	**PKPdf**	**08 58 45.6**	**-0.4**		
	baz=305								
SCIA	State Center	124.50	35	P	**PKPdf**	**08 58 46.3**	**-0.4**		
	baz=310								
WMOK	Wichita Mounta	125.04	45	P	**PKPdf**	**08 58 46.5**	**-1.5**		
	baz=301								
ABTX	Abilene, Hawle	125.45	48	P	**PKPdf**	**08 58 48.3**	**-0.4**		
	baz=299								
JFWS	Jewell Farm	125.48	32	P	**PKPdf**	**08 58 47.8**	**-0.7**		
	baz=313								
JCT	Junction City	126.33	50	P	**PKPdf**	**08 58 50.5**	**-0.1**		
	baz=297								
TUL3	Leonard	126.48	42	P	**PKPdf**	**08 58 50.4**	**-0.2**		
	baz=304								
L44A	Lake County Fo	127.23	31	P	**PKPdf**	**08 58 51.6**	**-0.2**		
	baz=316								
WHTX	Lake Whitney,	127.37	47	P	**PKPdf**	**08 58 52.4**	**0.0**		
	baz=300								
833A	Chaparral WMA,	127.60	53	P	**PKPdf**	**08 58 52.9**	**-0.1**		
	baz=296								
HDIL	Hopedale	127.61	34	P	**PKPdf**	**08 58 52.5**	**-0.1**		
	baz=313								
435B	Jarrell	127.87	49	P	**PKPdf**	**08 58 53.1**	**-0.3**		
	baz=299								
CCM	Cathedral Cave	128.12	37	P	**PKPdf**	**08 58 54.2**	**+0.6**		
	baz=310								
MIAR	Mount Ida	128.75	42	P	**PKPdf**	**08 58 54.7**	**-0.3**		
	baz=305								
SFIN	Lafayette	128.94	33	P	**PKPdf**	**08 58 54.7**	**-0.5**		
	baz=315								
O48B	Farmland	130.05	31	P	**PKPdf**	**08 58 57.4**	**+0.1**		
	baz=318								
DBIC	Dimbokro	130.46	280	PKP	**PKiKP**	**08 58 59.6**	**0.0**		
	comp=Z,2.4nm,0.4s,baz=97,slow=1.8,SNR=6.7								
P49A	Miami Univ. Ec	130.81	32	P	**PKPdf**	**08 58 59.0**	**+0.2**		
	baz=318								
WCI	Wyandotte Cave	130.90	34	P	**PKPdf**	**08 58 59.0**	**0.0**		
	baz=315								
LONY	Lake Ozonia	131.02	20	P	**PKPdf**	**08 58 59.0**	**0.0**		
	baz=332								
ERPA	Erie	131.07	26	P	**PKPdf**	**08 58 59.0**	**-0.2**		
	baz=324								
ACSO	Alum Creek Sta	131.17	30	P	**PKPdf**	**08 58 59.2**	**-0.2**		
	baz=320								
M53A	WI Miller and	131.31	27	P	**PKPdf**	**08 58 59.9**	**+0.2**		
	baz=323								
WVT	Waverly	131.44	37	P	**PKPdf**	**08 59 00.0**	**0.0**		
	baz=312								
OXF	Oxford	131.51	40	P	**PKPdf**	**08 59 00.3**	**+0.1**		
	baz=309								
O53A	New Philadelph	132.01	28	P	**PKPdf**	**08 59 01.2**	**+0.2**		
	baz=322								
P52A	Corning	132.05	29	P	**PKPdf**	**08 59 01.6**	**+0.5**		
	baz=321								
VBMS	Vicksburg	132.18	43	P	**PKPdf**	**08 59 02.1**	**+0.5**		
	baz=307								
LBNH	Lisbon	132.21	17	P	**PKPdf**	**08 59 01.8**	**+0.6**		
	baz=335								
BINY	Binghamton	132.63	22	P	**PKPdf**	**08 59 02.3**	**+0.2**		
	baz=299								
MCWV	Mont Chateau	133.12	28	P	**PKPdf**	**08 59 03.0**	**-0.1**		
	baz=323								
SSPA	Standing Stone	133.19	25	P	**PKPdf**	**08 59 03.5**	**+0.3**		
	baz=326								
L61B	Northampton	133.59	19	P	**PKPdf**	**08 59 03.5**	**-0.4**		
	baz=334								
TZTN	Tazewell	133.63	33	P	**PKPdf**	**08 59 03.9**	**-0.2**		
	baz=317								
HRV	Adam Dziewonsk	133.89	18	P	**PKPdf**	**08 59 04.4**	**-0.1**		
	baz=335								
LRAL	Lakeview Retre	134.00	40	P	**PKPdf**	**08 59 03.9**	**-1.0**		
	baz=311								
PAL	Palisades	134.44	21	P	**PKPdf**	**08 59 04.8**	**-0.7**		
	baz=332								
BLA	Blacksburg	134.77	30	P	**PKPdf**	**08 59 05.8**	**-0.6**		
	baz=321								
BRAL	Brewton	135.16	42	P	**PKPdf**	**08 59 07.9**	**+0.8**		
	baz=309								
CBN	Corbin Frederi	135.42	27	P	**PKiKP**	**08 59 08.6**	**-0.4**		
	baz=326								
KMSC	Kings Mountain	135.87	33	P	**PKPdf**	**08 59 09.3**	**+0.9**		
	baz=319								
GOGA	Godfrey	135.92	36	P	**PKPdf**	**08 59 09.4**	**+0.9**		
	baz=315								
TIGA	Tifton	137.21	39	P	**PKPdf**	**08 59 11.8**	**+0.9**		
	baz=313								
PLCA	Paso Flores	137.63	161	PKP	**PKiKP**	**08 59 12.9**	**-0.6**		
	comp=Z,5.2nm,1.0s,baz=195,slow=4.2,SNR=6.0								
PLCA	Paso Flores	137.63	161	*e*P	**PKPdf**	**08 59 10.8**	**-0.9**		
DWPF	Disney Wildern	140.85	40	P	**PKPdf**	**08 59 18.9**	**+1.2**		
	baz=313								
HDC	Heredia	148.03	69	*e*P	**PKPdf**	**08 59 29.0**	**-1.7**		
CPUP	Villa Florida	154.57	173	PKP	**PKPdf**	**08 59 41.1**	**+0.9**		
	comp=Z,6.2nm,0.9s,baz=209,slow=3.9,SNR=4.8								
CPUP				PKPbc	**PKPbc**	**08 59 48.8**	**+0.2**		
	comp=Z,12nm,0.9s,baz=160,slow=2.5,SNR=8.8								
ATAH	Atahualpa	154.83	105	PKP	**PKPdf**	**08 59 40.9**	**-0.5**		
	comp=Z,5.7nm,0.8s,baz=132,slow=11,SNR=3.9								
ATAH				PKPbc	**PKiKP**	**08 59 51.5**	**+1.4**		
	comp=Z,14nm,0.8s,baz=206,slow=2.2,SNR=9.0								
ROSC	El Rosal	158.81	74	PKP	**PKPdf**	**08 59 45.6**	**-0.8**		
	comp=Z,9.8nm,0.5s,baz=258,slow=8.6,SNR=6.8								
ROSC				PKPab	**PKPab**	**09 00 23.4**	**+0.9**		
	comp=Z,20nm,0.9s,baz=144,slow=21,SNR=5.8								
LPAZ	La Paz	159.31	138	PKP	**PKPdf**	**08 59 47.8**	**+0.6**		
	comp=Z,3.4nm,0.8s,baz=71,slow=1.9,SNR=6.3								
LPAZ				PKPab	**PKPab**	**09 00 24.8**	**+0.2**		
	comp=Z,2.4nm,0.6s,baz=158,slow=6.1,SNR=3.5								
SDV	Santo Domingo	160.68	59	*e*P	**PKPdf**	**08 59 46.7**	**-1.7**		
SIV	San Ignacio	163.48	155	PKP	**PKPdf**	**08 59 51.7**	**+0.8**		
	comp=Z,7.1nm,0.9s,baz=188,slow=1.5,SNR=7.4								
BDFB	Brasilia	164.30	201	PKP	**PKPdf**	**08 59 52.4**	**+0.6**		
	comp=Z,3.1nm,0.7s,baz=102,slow=5.9,SNR=3.0								
BDFB				PKPab	**PKPab**	**09 00 46.1**	**+0.5**		
	comp=Z,8.5nm,1.0s,baz=296,slow=2.5,SNR=4.3								

TAP 10 08:43:17.3,24°.14N×121°.62E,h4km,ML1.5,1C-3D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	Fush Village	0.02	23	*i* P	Pg	08 43 18.5	+0.4
	baz=24						
ETL				S	Sg	08 43 19.0	+0.3
	baz=24						
NACB	Ninganchiao	0.04	327	⇑P	Pg	08 43 19.0	+0.7
	baz=326						
NACB				*i* S	Sg	08 43 19.8	+0.9
	baz=326						
TWD	Chiawan	0.07	196	P	Pg	08 43 19.6	+0.9
	baz=189						
TWD				S	Sg	08 43 21.0	+1.4
	baz=189						
ETLH	Xiulin Townshi	0.14	297	⇓P	Pg	08 43 21.3	+1.2
	baz=297						
ETLH				S	Sg	08 43 23.9	+2.0
	baz=297						
HWA	Hwalien	0.17	183	*i* P	Pg	08 43 21.6	+1.1
	baz=180						
HWA				S	Sg	08 43 24.9	+2.2
	baz=180						
EHP	Heping Village	0.20	35	*e*P	Pg	08 43 21.9	+0.7
	baz=36						
ETM	Tongmen	0.21	212	*e*P	Pg	08 43 22.2	+0.8
	baz=212						
ETM				*e*S	Sg	08 43 26.4	+2.3
	baz=212						
EAHA	Aohua	0.22	31	*e*P	Pg	08 43 22.4	+0.9
	baz=31						
EAHA				*i* S	Sg	08 43 26.5	+2.2
	baz=31						
LXIB	Xiulin Townshi	0.22	237	P	Pg	08 43 22.9	+1.2
	baz=236						
LXIB				*i* S	Sg	08 43 26.6	+2.1
	baz=236						
TEYL	Yanliau Villag	0.28	183	*i* P	Pg	08 43 23.1	+0.5
	baz=183						
TEYL				*e*S	Sg	08 43 26.9	+0.6
	baz=183						
ENA	Nanau	0.30	22	*e*P	Pb	08 43 24.6	-0.7
	baz=23						
ENA				*e*S	Sb	08 43 29.2	-1.5
	baz=23						
WHF	Hehuan Shan	0.32	270	⇓*i* P	Pg	08 43 24.6	+1.0
	baz=269						
WHF				S	Sb	08 43 29.9	-1.7
	baz=269						
EWUT	Wuta	0.34	26	*e*P	Pb	08 43 26.2	+0.3
	baz=26						
EWUT				*e*S	Sg	08 43 29.7	+1.6
	baz=26						
NNSB	Datong	0.35	323	*i* P	Pb	08 43 25.6	-0.7
	baz=323						
NNSB				S	Sb	08 43 31.7	-0.6
	baz=323						
NNSH	Datong	0.35	323	*i* P	Pb	08 43 25.6	-0.7
	baz=323						
FUSS	Fushou	0.35	287	⇓*e*P	Pg	08 43 25.2	+1.0
	baz=286						
FUSS				*e*S	Sb	08 43 31.3	-1.1
	baz=286						
SHUL	Shoufeng	0.36	188	P	Pb	08 43 25.8	-0.5
	baz=187						
SHUL				*i* S	Sb	08 43 31.7	-0.5
	baz=187						
ESL	Shilin	0.37	207	P	Pb	08 43 25.6	-0.9
	baz=205						
ESL				*e*S	Sb	08 43 31.5	-1.0
	baz=205						
CHGB	Renai	0.41	258	*e*S	Sb	08 43 33.4	-0.7
	baz=258						
WARBT	Fenglin Townsh	0.47	206	*i* P	Pb	08 43 28.0	-0.2
	baz=206						
WARBT				S	Sb	08 43 35.9	+0.3
	baz=206						
WUSB	Renai	0.48	252	*i* P	Pb	08 43 28.1	-0.3
	baz=251						
NDS	Dongshan	0.50	11	*e*S	Sb	08 43 35.8	-0.4
	baz=10.0						
TWC	Suao	0.51	25	*e*P	Pb	08 43 28.9	0.0
	baz=25						
TWC				*i* S	Sb	08 43 37.1	+0.5
	baz=25						
NSK	Sanguang	0.58	336	*i* P	Pb	08 43 30.0	-0.1
	baz=336						
NSK				S	Sb	08 43 39.2	+0.5
	baz=336						
VWDT	VWDT	0.58	228	*e*P	Pb	08 43 29.8	-0.2
	baz=228						
VWDT				*e*S	Sb	08 43 39.0	+0.3
	baz=228						
FUSB	Fushanzhiwuyua	0.61	358	*i* P	Pb	08 43 30.6	0.0
	baz=357						
FUSB				S	Sb	08 43 40.2	+0.5
	baz=357						
NWLT	Wulai	0.64	351	P	Pb	08 43 31.0	-0.1
	baz=350						
NWLT				*e*S	Sb	08 43 40.9	+0.5
	baz=350						
YULB	Yu-li	0.80	201	*i* P	Pb	08 43 34.0	+0.1
	baz=201						
YULB				S	Sb	08 43 46.1	+1.0
	baz=201						
WHYT	Xinyi Township	0.83	238	*e*P	Pg	08 43 32.5	-0.6
	baz=237						
WHYT				*e*S	Sb	08 43 46.5	+0.7
	baz=237						

comp=Z,1.4nm,0.7s
SONM Songino Array 49.76 343 P **P** 08 52 17.0 0.0
comp=Z,1.1nm,0.7s,baz=139,slow=6.8,SNR=1.8
comp=Z,1.1nm,0.7s
PETK Petropavlovsk- 58.24 22 P **P** 08 53 19.9 +1.3
comp=Z,1.5nm,0.5s,baz=188,slow=3.7,SNR=7.9
comp=Z,1.5nm,0.5s
MK31 Makanchi Array 59.52 326 P **P** 08 53 26.6 -1.1
MKAR Makanchi Array 59.52 326 P **P** 08 53 26.5 -1.2
MKAR Makanchi Array 59.52 326 P **P** 08 53 27.0 -0.7
comp=Z,1.7nm,0.5s,baz=122,slow=7.8,SNR=6.2
comp=Z,1.7nm,0.5s
INZ Inchbonnie 59.52 143 P **P** 08 53 29.1 +1.4
MAKZ Makanchi 59.70 326 P **P** 08 53 28.0 -1.0
MAKZ IAmb IAmb 08 53 29.3
comp=Z,8.9nm,1.3s
ZAA0 Zalesovo Array 62.81 334 P **P** 08 53 51.1 +1.3
ZAA0 IAmb IAmb 08 53 51.6
comp=Z,8.1nm,1.2s
ZALV Zalesovo Beam 62.81 334 P **P** 08 53 51.5 +1.7
ZALV Zalesovo Beam 62.81 334 P **P** 08 53 48.0 -1.7
comp=Z,0.8nm,0.4s,baz=107,slow=8.0,SNR=2.1
comp=Z,0.8nm,0.4s
KURBB Kurchatov Arra 63.77 328 P **P** 08 53 55.5 -0.8
comp=Z,1.8nm,0.3s,baz=128,slow=6.1,SNR=3.3
comp=Z,1.8nm,0.3s
KURK Kurchatov 63.78 328 P **P** 08 53 55.2 -1.1
KK31 Karatay Array 64.88 318 P **P** 08 54 04.2 +0.5
KK31 IAmb IAmb 08 54 08.4
comp=Z,5.7nm,1.2s
KKAR Karatay Array 64.88 318 P **P** 08 54 03.8 +0.1
CASY Casey 67.98 187 P **P** 08 54 23.2 +0.2
BVAR Borovoye Array 69.34 328 P **P** 08 54 30.9 -0.9
comp=Z,2.4nm,0.6s,baz=128,slow=9.3,SNR=3.3
comp=Z,2.4nm,0.6s
TIXI Tiksi 70.63 1 P **P** 08 54 38.6 -0.7
ABKAR Akbulak array 73.94 321 P **P** 08 54 58.5 -1.0
ARU Arti 76.97 328 P **P** 08 55 15.7 -1.1
K13K Kusilvak Mount 79.52 27 P **P** 08 55 31.1 +0.4
K13K IAmb IAmb 08 55 38.7
comp=Z,18nm,1.5s
L14K Kuka Creek 80.24 28 P **P** 08 55 35.4 +0.8
L14K IAmb IAmb 08 55 38.7
comp=Z,12nm,1.4s
M14K Bethel 80.42 28 P **P** 08 55 36.5 +1.0
M14K IAmb IAmb 08 55 58.3
comp=Z,24nm,1.5s
VNDA Vanda 80.74 173 P **P** 08 55 37.3 +0.3
VNDA Vanda 80.74 173 P **P** 08 55 37.3 +0.3
comp=Z,2.0nm,0.8s,baz=320,slow=7.5,SNR=3.1
comp=Z,2.0nm,0.8s
SBA Scott Base 81.66 172 P **P** 08 55 43.1 +1.2
L16K Owhat River 81.82 28 P **P** 08 55 43.9 +0.8
L16K IAmb IAmb 08 56 06.1
comp=Z,11nm,1.5s
M16K Timber Creek 81.91 28 P **P** 08 55 44.5 +0.9
M16K IAmb IAmb 08 55 55.3
comp=Z,12nm,1.4s
J17K VABM Dome 82.39 26 P **P** 08 55 47.7 +1.7
J17K IAmb IAmb 08 55 49.2
comp=Z,4.8nm,0.8s
K17K Iditarod 82.58 27 P **P** 08 55 48.7 +1.6
K17K IAmb IAmb 08 55 50.2
comp=Z,7.8nm,0.9s
C18K Utukok River 82.88 21 P **P** 08 55 48.9 +0.4
C18K IAmb IAmb 08 56 00.6
comp=Z,14nm,1.4s
L18K Granite Mounta 83.22 27 P **P** 08 55 52.1 +1.8
L18K IAmb IAmb 08 55 53.3
comp=Z,4.8nm,0.7s
B20K Meade River 84.60 20 P **P** 08 55 58.8 +1.7
B21K Ikpikpuk River 85.39 20 P **P** 08 56 02.1 +1.0
QSPA South Pole Qui 90.85 180 P **P** 08 56 28.2 +0.7
QSPA IAmb IAmb 08 56 57.2
comp=Z,11nm,1.4s
QSPA South Pole Qui 90.85 180 P **P** 08 56 27.9 +0.4
comp=Z,3.1nm,0.9s,baz=2.9,slow=1.9,SNR=2.9
comp=Z,3.1nm,0.9s
TXAR Lajitas Array 123.76 53 PKP **PKiKP** 09 02 23.2 +0.2
comp=Z,0.4nm,0.7s,baz=318,slow=1.2,SNR=3.4

*IDC **10** 08:50:52.7±3.6,23.˚82S×179.˚41E,h521km±40km,*
mb3.4/11,mbtmp4.3/13,Error ellipse: s-maj=24.4km
s-min=22.0km az=55.0
*NEIC **10** 08:50:53.6±1.3,23.˚9S±0.˚1×179.˚6E±0.˚1,h541km±9km,*
mb4.2/16,Error ellipse: s-maj=20.3km s-min=12.8km
az=127.0
ISC 10 08:50:53.8±0.6,23.˚91S±0.˚08×179.˚43E±0.˚09,h537km,n39,
s0˚90/39,mb4.0/17,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MSVF	**Nonsavu**	**6.28**	**348**	P		**P**	**08 52 34.6**	**0.0**
NIUE	**Niue**	**11.01**	**66**	P		**P**	**08 53 20.9**	**-1.1**
PINNC	**Pines Island,**	**11.09**	**274**	P		**P**	**08 53 24.1**	**+1.2**
DZM	**Mont Dzumac**	**12.10**	**276**	P		**P**	**08 53 31.7**	**-1.8**
	6.7nm,1.0s,baz=69,slow=14,SNR=2.2							
URZ	**Urewera**	**14.45**	**187**	P		**P**	**08 53 56.9**	**-0.6**
	6.3nm,0.6s,baz=19,slow=1.7,SNR=7.9							
URZ				S		**S**	**08 56 28.0**	**-1.0**
	5.8nm,0.9s,baz=122,slow=6.7,SNR=2.5							
BFZ	**Birch Farm**	**16.94**	**188**	P		**P**	**08 54 21.2**	**-1.2**
LTZ	**Lake Taylor**	**19.74**	**196**	P		**P**	**08 54 47.7**	**-0.2**
LTZ				IAmb		IAmb	08 54 53.0	
	comp=Z,14nm,1.0s							
RPZ	**Rata Peaks**	**20.93**	**197**	P		**P**	**08 54 59.0**	**+0.3**
	comp=Z,5.9nm,0.8s,baz=27,slow=2.3,SNR=1.7							
	comp=Z,5.9nm,0.8s							
ARMA	**Armidale**	**25.53**	**249**	P		**P**	**08 55 41.6**	**+1.5**
PMG	**Port Moresby**	**34.00**	**290**	P		**P**	**08 56 53.0**	**-0.2**
	comp=Z,29nm,0.8s,baz=135,slow=4.3,SNR=6.5							
	comp=Z,29nm,0.8s							
STKA	**Stephens Creek**	**34.24**	**248**	P		**P**	**08 56 55.6**	**+0.6**
STKA	**Stephens Creek**	**34.24**	**248**	P		**P**	**08 56 55.6**	**+0.6**
	comp=Z,3.2nm,0.8s,baz=90,slow=10,SNR=4.4							
	comp=Z,3.2nm,0.8s							
COEN	**Coen**	**35.60**	**280**	P		**P**	**08 57 06.5**	**0.0**
COEN				IAmb		IAmb	08 57 31.4	
	comp=Z,9.0nm,1.1s							
AS31	**Alice Springs**	**41.52**	**261**	P		**P**	**08 57 53.9**	**-0.6**
ASAR	**Alice Springs**	**41.52**	**261**	P		**P**	**08 57 53.6**	**-0.9**
ASAR	**Alice Springs**	**41.52**	**261**	P		**P**	**08 57 54.4**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=99,slow=7.0,SNR=30							
ASAR				PcP		**PcP**	**08 59 38.9**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=115,slow=4.2,SNR=3.6							
	comp=Z,2.3nm,0.5s							
WRAB	**Tennant Creek**	**41.88**	**266**	P		**P**	**08 57 56.6**	**-0.7**
WRAB				IAmb		IAmb	08 58 12.8	
	comp=Z,5.5nm,0.9s							
WRA	**Warramunga Arr**	**41.89**	**266**	P		**P**	**08 57 56.6**	**-0.8**
WRA	**Warramunga Arr**	**41.89**	**266**	P		**P**	**08 57 56.9**	**-0.5**
	comp=Z,3.4nm,0.5s,baz=94,slow=8.3,SNR=106							
	comp=Z,3.4nm,0.5s							
FORT	**Forrest**	**45.82**	**250**	P		**P**	**08 58 27.2**	**-0.5**
TOLI2	**Tolitoli**	**62.08**	**285**	P		**P**	**09 00 21.9**	**-0.7**
TOLI2				IAmb		IAmb	09 00 46.2	
	comp=Z,4.3nm,1.0s							
QSPA	**South Pole Qui**	**66.18**	**180**	P		**P**	**09 00 49.8**	**+1.8**
QSPA				IAmb		IAmb	09 00 59.3	
	comp=Z,5.2nm,1.4s							
SBUM	**Sibu**	**70.30**	**282**	P		**P**	**09 01 13.1**	**-0.7**
MJAR	**Matsushiro Arr**	**71.61**	**326**	P		**P**	**09 01 20.0**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=150,slow=5.5,SNR=3.5							
	comp=Z,2.7nm,0.8s							
YULB	**Yu-li**	**73.45**	**306**	P		**P**	**09 01 34.0**	**+2.1**
KSRS	**Korea Array**	**77.92**	**320**	P		**P**	**09 01 56.4**	**+0.2**
	comp=Z,1.0nm,0.7s,baz=145,slow=5.7,SNR=5.3							
	comp=Z,1.0nm,0.7s							
PEA0B	**Petropavlovsk-**	**78.98**	**347**	P		**P**	**09 02 00.7**	**-0.9**
PEA0B				IAmb		IAmb	09 02 15.3	
	comp=Z,29nm,1.5s							
PETK	**Petropavlovsk-**	**78.98**	**347**	P		**P**	**09 02 01.4**	**-0.3**
PETK	**Petropavlovsk-**	**78.98**	**347**	P		**P**	**09 02 00.8**	**-0.9**
	comp=Z,4.8nm,0.9s,baz=117,slow=7.4,SNR=9.9							
	comp=Z,4.8nm,0.9s							
USRK	**Ussuriysk Ar.**	**80.49**	**328**	P		**P**	**09 02 10.4**	**+0.7**
	comp=Z,2.2nm,0.7s,baz=104,slow=6.1,SNR=4.1							
	comp=Z,2.2nm,0.7s							
NVAR	**Mina Array Bea**	**85.12**	**44**	P		**P**	**09 02 34.4**	**+1.0**
	comp=Z,0.3nm,0.6s,baz=219,slow=7.0,SNR=2.8							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	**90.88**	**58**	P		**P**	**09 03 01.4**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=209,slow=7.2,SNR=3.1							
	comp=Z,0.4nm,0.8s							
J26L	**Joseph Creek**	**92.69**	**15**	P		**P**	**09 03 07.8**	**-0.2**
J26L				IAmb		IAmb	09 03 19.2	
	comp=Z,1.9nm,1.3s							
E19K	**Redstone River**	**92.74**	**9**	P		**P**	**09 03 07.7**	**-0.3**
E19K				IAmb		IAmb	09 03 25.7	
	comp=Z,6.5nm,1.4s							
ARCES	**ARCESS Array B 131.78 348**			PKP		**PKPdf**	**09 09 05.1**	**0.0**
	comp=Z,2.5nm,0.9s,baz=29,slow=4.1,SNR=4.3							
NOA	**NORSAR Array B 142.00 351**			PKhKP		PKPpre	09 09 19.4	
	comp=Z,0.9nm,0.8s,baz=20,slow=3.9,SNR=3.4							
HFS	**Hagfors 142.45 348**			PKhKP		PKPpre	09 09 21.0	
	comp=Z,2.5nm,0.5s,baz=64,slow=3.4,SNR=20							
AKASG	**Malin Array Be 144.69 327**			PKP		**PKPdf**	**09 09 28.5**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=45,slow=4.1,SNR=14							
BRTR	**Keskin Array B 147.16 307**			PKPbc		**PKPbc**	**09 09 37.0**	**0.0**
	comp=Z,1.9nm,0.6s,baz=90,slow=3.6,SNR=5.9							

*VAO **10** 08:51:22.4±0.2,22.˚52S×66.˚13W,h261km±3km,mb4.7*
*NEIC **10** 08:51:22.4±2.0,22.˚64S±0.˚06×66.˚17W±0.˚09,h255km±5km,*
mb4.7/33,Error ellipse: s-maj=11.6km s-min=8.5km
az=83.0
*IDC **10** 08:51:22.3±0.8,22.˚54S×66.˚13W,h248km±7km,mb3.7/11,*
mbtmp4.4/18,Error ellipse: s-maj=12.0km s-min=9.5km
az=96.0
*SJA **10** 08:51:22.0±0.9,22.˚51S×66.˚13W,h269km±5km,ML4.7,*
MW4.4
*GUC **10** 08:51:24.2±0.8,22.˚59S×66.˚22W,h258km±7km,ML4.8*
ISC 10 08:51:22.4±0.5,22.˚53S±0.˚04×66.˚16W±0.˚04,h255km±5km,
n209,s1˚28/250,mb4.5/22,16C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YJA	**Yavi**	**0.69**	**60**	*i* P		**Pn**	**08 51 59.0**	**+1.9**
YJA				*e*S		**S**	**08 52 25.3**	**+1.0**
YJA	**Yavi**	**0.69**	**60**	⇓*i*P		**Pn**	**08 51 58.9**	**+1.8**
YJA				*e*S		**S**	**08 52 25.2**	**+0.8**
AF01	**San Pedro de A**	**1.92**	**257**			**Pn**	**08 52 06.1**	**+1.2**
AF01	**San Pedro de A**	**1.92**	**257**	⇑*i*P		**Pn**	**08 52 07.0**	**+2.1**
AF01				IAML			08 52 22.9	
	comp=N,1μm,0.4s							
AF01				*e*S		**S**	**08 52 39.6**	**+1.2**
SLA	**San Lorenzo**	**2.27**	**165**	*e*P		**Pn**	**08 52 09.5**	**+1.6**
SLA	**San Lorenzo**	**2.27**	**165**	*i* P		**Pn**	**08 52 09.2**	**+1.3**
SLA				*e*S		**S**	**08 52 43.7**	**-0.3**
LVC	**Limon Verde**	**2.55**	**268**			**Pn**	**08 52 11.5**	**+0.7**
LVC	**Limon Verde**	**2.55**	**268**	*e*P		**Pn**	**08 52 12.1**	**+1.2**
LVC				*e*S		**S**	**08 52 48.8**	**-0.3**
LVC	**Limon Verde**	**2.55**	**268**	P		**Pn**	**08 52 12.0**	**+1.0**
	comp=N,656nm,0.3s,baz=84,slow=5.0,SNR=1613							
LVC				S		**S**	**08 52 48.1**	**-1.1**
	comp=N,458nm,0.4s,baz=203,slow=22,SNR=36							
LVC	**Limon Verde**	**2.55**	**268**	⇑*i*P		**Pn**	**08 52 11.9**	**+1.0**
LVC				*i* S		**S**	**08 52 48.9**	**-0.3**
LVC				IAML			08 52 50.5	
	comp=N,4μm,0.6s							
LVC	**Limon Verde**	**2.55**	**268**	*e*P		**Pn**	**08 52 11.6**	**+0.7**
LVC				*e*S		**S**	**08 52 49.0**	**-0.1**
PB09	**IPOC Station P**	**2.95**	**284**			**Pn**	**08 52 16.1**	**+1.2**
PB09	**IPOC Station P**	**2.95**	**284**	*e*P		**Pn**	**08 52 16.4**	**+1.5**
PB09				*e*S		**S**	**08 52 56.2**	**-0.2**
PB09				IAML			08 53 01.7	
	comp=Z,1μm,0.5s							
PB09	**IPOC Station P**	**2.95**	**284**	⇑*i*P		**Pn**	**08 52 16.5**	**+1.6**
PB09				*e*S		**S**	**08 52 58.2**	**+1.8**
PB15	**IPOC Station P**	**3.13**	**257**			**Pn**	**08 52 16.6**	**-0.3**
PB15	**IPOC Station P**	**3.13**	**257**	*e*P		**Pn**	**08 52 18.3**	**+1.4**
PB15				*e*S		**S**	**08 52 59.6**	**-0.4**
PB15	**IPOC Station P**	**3.13**	**257**	⇑*i*P		**Pn**	**08 52 17.6**	**+0.8**
PB15				*e*S		**S**	**08 52 59.6**	**-0.4**
PB06	**IPOC Station P**	**3.16**	**266**			**Pn**	**08 52 17.4**	**+0.3**
PB06	**IPOC Station P**	**3.16**	**266**	*e*P		**Pn**	**08 52 17.8**	**+0.7**
PB06				*e*S		**S**	**08 53 00.0**	**-0.5**
PB06	**IPOC Station P**	**3.16**	**266**	⇑*i*P		**Pn**	**08 52 17.7**	**+0.7**
PB06				*e*S		**S**	**08 52 59.8**	**-0.7**
PB01	**IPOC Station P**	**3.43**	**295**			**Pn**	**08 52 20.4**	**+0.4**
PB01	**IPOC Station P**	**3.43**	**295**	*e*P		**Pn**	**08 52 21.0**	**+1.0**
PB01				*e*S		**S**	**08 53 04.6**	**-1.2**
PB01	**IPOC Station P**	**3.43**	**295**	⇑*i*P		**Pn**	**08 52 21.1**	**+1.0**
PB01				*e*S		**S**	**08 53 04.6**	**-1.2**
PB07	**IPOC Station P**	**3.55**	**282**			**Pn**	**08 52 21.5**	**0.0**
PB07	**IPOC Station P**	**3.55**	**282**	*e*P		**Pn**	**08 52 22.4**	**+0.9**
PB07				*e*S		**S**	**08 53 07.2**	**-1.1**
PB07	**IPOC Station P**	**3.55**	**282**	⇑*i*P		**Pn**	**08 52 22.4**	**+0.9**
PB07				*e*S		**S**	**08 53 06.5**	**-1.8**
PB08	**IPOC Station P**	**3.67**	**310**			**Pn**	**08 52 24.2**	**+1.2**
PB08	**IPOC Station P**	**3.67**	**310**	⇑*i*P		**Pn**	**08 52 25.0**	**+2.0**
PB08				*e*S		**S**	**08 53 11.2**	**+0.1**
PB02	**IPOC Station P**	**3.67**	**288**			**Pn**	**08 52 22.7**	**-0.1**
PB02	**IPOC Station P**	**3.67**	**288**	*e*P		**Pn**	**08 52 23.4**	**+0.6**
PB02				*e*S		**S**	**08 53 09.4**	**-1.3**
PB02	**IPOC Station P**	**3.67**	**288**	⇑*i*P		**Pn**	**08 52 23.4**	**+0.6**
PB02				*e*S		**S**	**08 53 08.8**	**-2.0**
PB04	**IPOC Station P**	**3.70**	**272**			**Pn**	**08 52 22.8**	**-0.3**
PB04	**IPOC Station P**	**3.70**	**272**	*e*P		**Pn**	**08 52 23.8**	**+0.6**
PB04				*e*S		**S**	**08 53 09.8**	**-1.6**
PB04	**IPOC Station P**	**3.70**	**272**	⇑*i*P		**Pn**	**08 52 23.7**	**+0.6**
PB04				*e*S		**S**	**08 53 09.2**	**-2.1**
GO01	**Chusmiza**	**4.02**	**314**			**Pn**	**08 52 27.9**	**+0.7**
GO01	**Chusmiza**	**4.02**	**314**	*e*P		**Pn**	**08 52 28.5**	**+1.3**
GO01	**Chusmiza**	**4.02**	**314**	*i* P		**Pn**	**08 52 28.6**	**+1.3**
GO01				*e*S		**S**	**08 53 19.7**	**+1.1**
PATCX	**Punta Patache**	**4.09**	**294**			**Pn**	**08 52 27.4**	**-0.2**
PATCX	**Punta Patache**	**4.09**	**294**	*e*P		**Pn**	**08 52 27.9**	**+0.4**
PATCX				*e*S		**S**	**08 53 17.2**	**-2.1**
PATCX	**Punta Patache**	**4.09**	**294**	⇑*i*P		**Pn**	**08 52 27.9**	**+0.4**
PATCX				*e*S		**S**	**08 53 16.9**	**-2.5**
GO02	**Mina Guanaco**	**4.10**	**229**			**Pn**	**08 52 27.5**	**-0.4**
GO02	**Mina Guanaco**	**4.10**	**229**	*e*P		**Pn**	**08 52 28.4**	**+0.5**
GO02				*e*S		**S**	**08 53 18.0**	**-1.9**
HMBC	**Humberstone**	**4.13**	**302**	*e*P		**Pn**	**08 52 28.3**	**+0.1**
HMBC				*e*S		**S**	**08 53 18.1**	**-2.3**
HMBC	**Humberstone**	**4.13**	**302**	⇑*i*P		**Pn**	**08 52 28.3**	**+0.1**
HMBC				*e*S		**S**	**08 53 17.8**	**-2.7**
PB10	**IPOC Station P**	**4.17**	**256**			**Pn**	**08 52 27.4**	**-1.0**
PB10	**IPOC Station P**	**4.17**	**256**	*e*P		**Pn**	**08 52 28.2**	**-0.2**
PB10				*e*S		**S**	**08 53 17.9**	**-3.1**
TA01	**Diego Aracena**	**4.22**	**297**	Pn		**Pn**	**08 52 28.6**	**-0.5**
TA01	**Diego Aracena**	**4.22**	**297**	⇑*i*P		**Pn**	**08 52 29.1**	**0.0**
TA01				*e*S		**S**	**08 53 19.3**	**-2.9**
PB11	**IPOC Station P**	**4.27**	**309**	Pn		**Pn**	**08 52 30.0**	**+0.2**
PB11	**IPOC Station P**	**4.27**	**309**	⇑*i*P		**Pn**	**08 52 30.2**	**+0.4**
PB11				*e*S		**S**	**08 53 21.4**	**-2.1**
TA02	**Huaiquique**	**4.33**	**300**			**Pn**	**08 52 29.9**	**-0.4**
TA02	**Huaiquique**	**4.33**	**300**	⇑*e*P		**Pn**	**08 52 30.2**	**-0.1**
PB14	**IPOC Station P**	**4.42**	**241**			**Pn**	**08 52 31.0**	**-0.7**
AC02	**Maricunga**	**5.07**	**212**	Pn		**Pn**	**08 52 39.5**	**-0.2**
AC02	**Maricunga**	**5.07**	**212**	*e*P		**Pn**	**08 52 40.0**	**+0.3**
AC02				*e*S		**S**	**08 53 39.7**	**-1.6**
AC01	**Pan de Azucar**	**5.42**	**227**			**Pn**	**08 52 41.9**	**-1.6**
PB12	**IPOC Station P**	**5.52**	**314**	Pn		**Pn**	**08 52 43.6**	**-1.2**
PB12	**IPOC Station P**	**5.52**	**314**	⇑*i*P		**Pn**	**08 52 43.7**	**-1.1**
PB12				*e*S		**S**	**08 53 46.6**	**-4.1**
AP01	**Chacalluta**	**5.70**	**316**			**Pn**	**08 52 46.3**	**-0.7**
FDPY	**Filadelfia**	**5.75**	**89**	*e*P		**Pn**	**08 52 48.1**	**+0.5**
PB18	**Visviri**	**5.82**	**327**			**Pn**	**08 52 50.9**	**+1.9**
AC06	**Mina Casimiro**	**6.14**	**218**			**Pn**	**08 52 50.6**	**-1.7**
GO03	**Copiap**	**6.26**	**215**			**Pn**	**08 52 52.2**	**-1.7**
LPAZ	**La Paz**	**6.48**	**343**	P		**Pn**	**08 52 58.6**	**+1.4**
	comp=Z,20nm,0.4s,baz=173,slow=8.8,SNR=104							
LPAZ				S		**S**	**08 54 13.2**	**-0.1**
	comp=Z,58nm,0.7s,baz=335,slow=16,SNR=13							
LPAZ	**La Paz**	**6.48**	**343**	*e*P		**Pn**	**08 52 58.4**	**+1.1**
TICA	**Tres Isletas**	**6.51**	**127**	*e*P		**Pn**	**08 52 58.8**	**+1.8**
AC04	**Llanos de Chal**	**7.19**	**217**			**Pn**	**08 53 03.6**	**-1.9**
AC05	**El Transito**	**7.30**	**210**			**Pn**	**08 53 05.1**	**-1.9**
BBRB	**Robore, Bolivi**	**7.30**	**56**	*e*P		**Pn**	**08 53 05.1**	**-1.8**
BBSD	**Serra de San D**	**7.44**	**45**	*e*P		**Pn**	**08 53 08.6**	**-0.2**
LCO	**Las Campanas**	**7.65**	**211**			**Pn**	**08 53 09.2**	**-2.3**
MURT	**Porto Murtinho**	**7.97**	**85**	*e*P		**Pn**	**08 53 14.9**	**-0.5**
SIV	**San Ignacio**	**8.08**	**37**	P		**Pn**	**08 53 16.4**	**-0.4**
	comp=Z,142nm,0.9s,baz=232,slow=12,SNR=259							
SIV				S		**S**	**08 54 41.6**	**-7.5**
	comp=Z,8.1nm,0.6s,baz=217,slow=13,SNR=3.1							
CO05	**La Serena**	**8.66**	**211**			**Pn**	**08 53 21.5**	**-2.4**
GO04	**Tololo Observa**	**8.68**	**208**			**Pn**	**08 53 22.1**	**-2.4**
CPUP	**Villa Florida**	**8.89**	**117**	P		**Pn**	**08 53 27.7**	**+0.8**
	comp=Z,3.4nm,0.8s,baz=296,slow=15,SNR=5.2							
BDQN	**Bodoquena, MS**	**9.00**	**78**	*e*P		**Pn**	**08 53 27.8**	**-0.6**
CO03	**El Pedregal**	**9.22**	**205**	Pn		**Pn**	**08 53 29.2**	**-1.9**
ZON	**Zonda**	**9.26**	**194**			**Pn**	**08 53 29.6**	**-2.0**
CO06	**Fray Jorge**	**9.48**	**210**			**Pn**	**08 53 32.2**	**-2.1**
CO02	**Combarbal**	**9.66**	**206**			**Pn**	**08 53 34.5**	**-2.2**
PTLB	**Pontes e Lacer**	**9.67**	**45**	Pn		**Pn**	**08 53 37.0**	**+0.1**
PTLB	**Pontes e Lacer**	**9.67**	**45**	*e*P		**Pn**	**08 53 36.6**	**-0.2**
AQDB	**Aquidauana**	**9.95**	**80**	Pn		**Pn**	**08 53 40.3**	**+0.1**
AQDB	**Aquidauana**	**9.95**	**80**	*e*P		**Pn**	**08 53 40.4**	**+0.2**
AMBA	**Amambai (Braz**	**10.31**	**94**	*e*P		**Pn**	**08 53 45.3**	**+0.4**
VA03	**San Esteban**	**10.92**	**200**			**Pn**	**08 53 51.5**	**-0.9**
VA06	**Catapilco**	**10.99**	**203**	Pn		**Pn**	**08 53 51.0**	**-2.1**
RVDE	**Rio Verde (Bra**	**11.05**	**74**	*e*P		**Pn**	**08 53 53.3**	**-0.9**
VILB	**Vilhena**	**11.08**	**32**	Pn		**Pn**	**08 53 55.8**	**+1.3**
VILB	**Vilhena**	**11.08**	**32**	*e*P		**Pn**	**08 53 54.8**	**+0.3**
ITQB	**Itaqui**	**11.13**	**132**	Pn		**Pn**	**08 53 54.5**	**-0.5**
ITQB	**Itaqui**	**11.13**	**132**	*e*P		**Pn**	**08 53 54.8**	**-0.2**
PEL	**Peldehue**	**11.31**	**200**			**Pn**	**08 53 56.0**	**-1.2**
MT08	**Bocatoma Ro**	**11.40**	**197**	P		**Pn**	**08 53 59.7**	**+1.2**
PSAL	**Palomas, Salto**	**11.44**	**140**	*e*P		**Pn**	**08 53 58.9**	**+0.1**
MT16	**CCHEN**	**11.52**	**199**			**Pn**	**08 53 60.0**	**0.0**
LMEL	**Las Melosas**	**11.83**	**197**	P		**Pn**	**08 54 03.6**	**-0.2**
SALV	**Santo Antonio**	**11.87**	**58**	*e*P		**Pn**	**08 54 03.9**	**-0.4**
UNIS	**Unistalda (Bra**	**11.92**	**125**	*e*P		**Pn**	**08 54 04.8**	**0.0**
MT09	**Talagante**	**11.99**	**200**	P		**Pn**	**08 54 04.3**	**-1.5**
CRSM	**Crissiumal (Br**	**12.04**	**117**	*e*P		**Pn**	**08 54 06.4**	**0.0**
BO04	**La Punta**	**12.07**	**198**	P		**Pn**	**08 54 06.5**	**-0.2**
RODS	**Rosario do Sul**	**12.53**	**131**	*e*P		**Pn**	**08 54 11.6**	**-0.7**
ETMB	**Extrema**	**12.64**	**360**			**Pn**	**08 54 14.4**	**+0.6**
ETMB	**Extrema**	**12.64**	**360**	*e*P		**Pn**	**08 54 13.9**	**+0.1**
BO02	**Sierra Bellavi**	**12.88**	**197**			**Pn**	**08 54 15.7**	**-1.0**
TBOT	**Tacuaremb**	**12.88**	**137**	*e*P		**Pn**	**08 54 15.8**	**-0.8**
PTGB	**Pitanga**	**13.10**	**102**	*e*P		**Pn**	**08 54 17.8**	**-1.7**
ALGR	**Alto Alegre (B**	**13.38**	**121**	*e*P		**Pn**	**08 54 22.0**	**-0.9**
GO05	**Huala**	**13.43**	**201**	P		**Pn**	**08 54 21.6**	**-1.7**
ITAB	**Concordia**	**13.56**	**113**			**Pn**	**08 54 24.6**	**-0.4**
ITAB	**Concordia**	**13.56**	**113**	*e*P		**Pn**	**08 54 24.3**	**-0.7**
SAML	**Samuel**	**13.80**	**12**	*e*P		**Pn**	**08 54 28.2**	**+0.2**
CPSB	**Cacapava Do Su**	**13.82**	**127**	*e*P		**Pn**	**08 54 27.2**	**-1.0**
PCMB	**Pacaembu**	**13.84**	**89**	*e*P		**Pn**	**08 54 27.7**	**-0.8**
LDASE	**Londrina, Braz**	**13.88**	**96**	*e*P		**Pn**	**08 54 27.7**	**-1.3**
ML02	**Panimavida**	**13.96**	**198**	P		**Pn**	**08 54 27.7**	**-2.1**
PLTB	**Pedras Altas**	**14.46**	**132**			**Pn**	**08 54 34.5**	**-1.4**
PLTB	**Pedras Altas**	**14.46**	**132**	*e*P		**Pn**	**08 54 35.0**	**-0.9**
NNA	**Nana**	**14.62**	**314**	P		**Pn**	**08 54 40.0**	**+2.0**
	comp=Z,5.6nm,0.4s,baz=136,slow=13,SNR=2.9							
NNA				S		**S**	**08 57 18.6**	**-1.0**
	comp=Z,6.7nm,0.3s,baz=101,slow=18,SNR=1.7							
ITRB	**Iturama**	**15.01**	**82**	*e*P		**Pn**	**08 54 42.0**	**-0.6**
ARAG	**Araguaiana, MT**	**15.15**	**66**	*e*P		**Pn**	**08 54 44.1**	**-0.2**
CLDB	**Colider**	**15.24**	**42**	*e*P		**Pn**	**08 54 45.0**	**-0.5**
FRTB	**Fartura**	**15.31**	**96**	*e*P		**Pn**	**08 54 45.5**	**-0.7**
CNLB	**Canela**	**15.33**	**119**	*e*P		**Pn**	**08 54 46.0**	**-0.4**
BI05	**Punta Hualpn**	**15.43**	**202**	P		**P**	**08 54 46.1**	**-0.4**
TRQA	**Tornquist**	**15.89**	**168**	P		**P**	**08 54 48.8**	**-2.9**
**CZ

ULM	**Lac du Bonnet**	**77.09**	**341**	P	**P**	**09 02 47.4**	**+0.1**
	comp=Z,1.3nm,0.4s,baz=157,slow=6.4,SNR=3.3						
	comp=Z,1.3nm,0.4s						
NVAR	**Mina Array Bea**	**77.89**	**321**	P	**P**	**09 02 54.2**	**+1.9**
	comp=Z,0.4nm,0.7s,baz=120,slow=5.3,SNR=3.7						
	comp=Z,0.4nm,0.7s						
BOSA	**Boshof**	**80.71**	**117**	P	**P**	**09 03 07.1**	**-0.7**
	comp=Z,3.1nm,0.6s,baz=232,slow=5.2,SNR=9.9						
	comp=Z,3.1nm,0.6s						
LYMT	**Lyon Mountain**	**80.72**	**330**	P	**P**	**09 03 05.9**	**-1.4**
LBTB	**Lobatse**	**82.27**	**114**	P	**P**	**09 03 14.7**	**-1.3**
LBTB				IAmb	IAmb	09 03 49.5	
	comp=Z,16nm,1.5s						
MAW	**Mawson**	**82.60**	**163**	P	**P**	**09 03 17.7**	**+1.1**
	comp=Z,2.0nm,0.7s,baz=261,slow=11,SNR=3.7						
	comp=Z,2.0nm,0.7s						
ESDC	**Sonseca Array**	**84.80**	**43**	P	**P**	**09 03 28.9**	**+0.7**
	comp=Z,5.7nm,0.9s,baz=244,slow=5.1,SNR=22						
	comp=Z,5.7nm,0.9s						
ESBB	**Sonseca Array**	**84.80**	**43**	P	**P**	**09 03 28.9**	**+0.7**
ESBB				IAmb	IAmb	09 03 30.7	
	comp=Z,13nm,1.1s						
YKA	**Yellowknife Ar**	**93.02**	**340**	P	**P**	**09 04 07.8**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=123,slow=3.9,SNR=11						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**130.11**	**204**	PKP	**PKiKP**	**09 10 04.2**	**+0.7**
	comp=Z,0.4nm,0.8s,baz=134,slow=1.8,SNR=2.6						
ASAR				SKPbc	**SKPab**	**09 13 01.0**	**-0.3**
	comp=Z,1.8nm,0.9s,baz=144,slow=3.3,SNR=9.7						
WRA	**Warramunga Arr**	**133.29**	**207**	PKP	**PKiKP**	**09 10 09.5**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=172,slow=1.7,SNR=5.2						
PETK	**Petropavlovsk-**	**134.90**	**324**	SKPbc	**SKPbc**	**09 13 17.6**	**+0.9**
	comp=Z,3.7nm,0.8s,baz=46,slow=4.4,SNR=4.7						
KURBB	**Kurchatov Arra**	**140.73**	**36**	PKP	**PKiKP**	**09 10 23.4**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=288,slow=2.8,SNR=4.4						
KURBB				SKPbc	**SKPbc**	**09 13 33.1**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=300,slow=2.8,SNR=4.1						
ZALV	**Zalesovo Beam**	**141.73**	**28**	PKhKP	PKPpre	09 10 19.6	
	comp=Z,0.8nm,0.4s,baz=2.9,slow=2.9,SNR=2.4						
ZALV				SKPbc	**SKiKP**	**09 13 37.7**	**+0.1**
	comp=Z,1.2nm,0.6s,baz=312,slow=5.1,SNR=3.9						
MKAR	**Makanchi Array**	**144.90**	**39**	PKP	**PKPdf**	**09 10 29.9**	**+0.9**
	comp=Z,12nm,0.7s,baz=307,slow=3.6,SNR=94						
MKAR				SKPbc	**SKiKP**	**09 13 45.4**	**+1.0**
	comp=Z,1.2nm,0.8s,baz=289,slow=2.6,SNR=6.2						

IDC 10 09:00:13.6±7.9, 2°48N×126°34E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=179.9km s-min=123.0km az=73.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.62**	**161**	P	P	09 05 26.4	-0.3
	1.2nm,0.6s,baz=340,slow=10,SNR=16						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**27.01**	**165**	P	P	09 05 57.8	+0.2
	0.2nm,0.8s,baz=344,slow=7.9,SNR=4.8						
	0.2nm,0.8s						
STKA	**Stephens Creek**	**37.11**	**158**	P	P	09 07 26.0	0.0
	1.5nm,0.7s,baz=326,slow=7.3,SNR=4.5						
	1.5nm,0.7s						

*PRU **10** 09:04:28.6, 50°.27N×12°.44E, h10km, West Bohemia Swarm*

WBNET 10 09:04:28.9, 50°.25N×12°.45E, h9km, Ml0.7, 12C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**184**	↑P	Pg	09 04 31.0	+0.3
NKC				S	Sg	09 04 31.9	+0.1
NKC	**Novy Kostel**	**0.02**	**184**	↑P	Pg	09 04 31.0	+0.3
NKC				S	Sg	09 04 32.1	+0.3
LBCW	**Luby**	**0.03**	**301**	↓P	Pg	09 04 30.8	+0.1
LBCW				S	Sg	09 04 32.2	+0.2
LBCW	**Luby**	**0.03**	**301**	↓P	Pg	09 04 31.0	+0.3
LBCW				S	Sg	09 04 32.4	+0.4
STCW	**Studenec**	**0.04**	**80**	↑P	Pg	09 04 30.9	+0.1
STCW				S	Sg	09 04 32.2	-0.1
STCW	**Studenec**	**0.04**	**80**	↑P	Pg	09 04 31.1	+0.2
STCW				S	Sg	09 04 32.3	+0.1
VAC	**Vackov**	**0.05**	**251**	↓P	Pg	09 04 30.9	0.0
VAC				S	Sg	09 04 32.2	-0.1
VAC	**Vackov**	**0.05**	**251**	↓P	Pg	09 04 31.1	+0.2
VAC				S	Sg	09 04 32.4	+0.1
KVC	**Kvetna**	**0.06**	**137**	↓P	Pg	09 04 31.1	+0.1
KVC				S	Sg	09 04 32.5	0.0
KVC	**Kvetna**	**0.06**	**137**	↓P	Pg	09 04 31.2	+0.2
KVC				S	Sg	09 04 32.6	+0.1
POCW	**Potky**	**0.07**	**348**	↑P	Pg	09 04 31.3	+0.1
POCW				S	Sg	09 04 32.8	+0.1
POCW	**Potky**	**0.07**	**348**	↑P	Pg	09 04 31.5	+0.3
POCW				S	Sg	09 04 33.0	+0.3
KRCW	**Kraslice**	**0.10**	**33**	↑P	Pg	09 04 31.5	0.0
KRCW				S	Sg	09 04 33.2	-0.1
KRCW	**Kraslice**	**0.10**	**33**	↑P	Pg	09 04 31.7	+0.2
KRCW				S	Sg	09 04 33.4	+0.1
SKC	**Skalna**	**0.10**	**215**	↑P	Pg	09 04 31.5	+0.1
SKC				S	Sg	09 04 33.3	0.0
SKC	**Skalna**	**0.10**	**215**	↑P	Pg	09 04 31.7	+0.3
SKC				S	Sg	09 04 33.4	+0.2
KOCW	**Kopaniny**	**0.14**	**276**	↓P	Pg	09 04 32.1	0.0
KOCW				S	Sg	09 04 34.2	-0.1
KOCW	**Kopaniny**	**0.14**	**276**	↓P	Pg	09 04 32.3	+0.2
KOCW				S	Sg	09 04 34.4	+0.1
ZHC	**Zelena Hora**	**0.20**	**207**	↑P	Pg	09 04 33.2	+0.1
ZHC				S	Sg	09 04 36.1	+0.1
ZHC	**Zelena Hora**	**0.20**	**207**	↑P	Pg	09 04 33.4	+0.3
ZHC				S	Sg	09 04 36.2	+0.3
LACW	**Lazy**	**0.23**	**151**	S	Sg	09 04 37.2	+0.3
CLL	**Collm**	**1.11**	**18**	*i* Sg	Sb	09 05 05.3	+0.3

*IDC **10** 09:05:25.8±1.7, 1°.48N×126°.95E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=172.0km s-min=19.3km az=67.0*

*DJA **10** 09:05:29.7±0.4, 1°.7N×12°.6E±°, h10km, M4.0/6, MLv4.0/6*

ISC 10 09:05:28.1±0.9, 1°.0N±0°.1×126°.16E±0°.05, h10km, n9, σ1°52′11, mb4.0/5, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.22**	**101**	P	**Pb**	**09 05 50.5**	**-0.9**
TNTI				S	**Sb**	**09 06 07.1**	**-0.1**
KMSI	**Cibinong**	**2.22**	**259**	P	**Pn**	**09 06 06.4**	**+1.3**
KMSI				S	**Sn**	**09 06 34.4**	**+1.8**
GTOI	**Gorontalo**	**3.17**	**263**	P	**Pb**	**09 06 23.9**	**-0.8**
LUWI	**Luwuk**	**3.95**	**239**	P	**Pb**	**09 06 35.4**	**-2.5**
WRA	**Warramunga Arr**	**22.30**	**159**	P	**P**	**09 10 26.4**	**+0.4**
	1.2nm,0.5s,baz=340,slow=11,SNR=19						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**25.65**	**163**	P	**P**	**09 11 00.1**	**+1.9**
	0.6nm,0.3s,baz=335,slow=6.9,SNR=16						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**59.48**	**326**	P	**P**	**09 15 31.4**	**0.0**
	0.5nm,0.3s,baz=119,slow=7.7,SNR=9.8						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**63.73**	**328**	P	**P**	**09 15 59.4**	**-0.6**
	1.1nm,0.7s,baz=128,slow=6.0,SNR=11						
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**69.30**	**328**	P	**P**	**09 16 34.4**	**-1.3**
	0.4nm,0.3s,baz=117,slow=6.2,SNR=3.5						
	0.4nm,0.3s						

*DJA **10** 09:07:42.9±0.5, 2°.1N±4°×12°.8E±°, h75km±8km, M4.0/7, mb3.6/1, MLv4.1/7*

*IDC **10** 09:07:43.3±4.0, 2°.26N×128°.19E, h104km±33km, mb3.6/6, mbtmp3.9/6, Error ellipse: s-maj=118.5km s-min=16.2km az=66.0*

ISC 10 09:07:42.4±0.9, 2°.31N±0°.08×128°.25E±0°.09, h100km, n11, σ0°72′16, mb3.8/6, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.77**	**210**	P	**Pn**	**09 08 11.6**	**-0.4**
TNTI				S	**Sn**	**09 08 33.5**	**-1.1**
LBMI	**Labuha**	**3.02**	**194**	P	**Pn**	**09 08 28.8**	**+0.2**
SGSI	**Sangihe**	**3.04**	**297**	P	**Pn**	**09 08 28.2**	**-0.6**
SGSI				S	**Sn**	**09 09 03.7**	**-0.8**
SWI	**Sorong**	**4.36**	**136**	P	**Pn**	**09 08 46.3**	**-0.2**
GTOI	**Gorontalo**	**5.50**	**252**	P	**Pn**	**09 09 02.9**	**+1.0**
WRA	**Warramunga Arr**	**22.91**	**165**	P	**P**	**09 12 37.5**	**-0.5**
	1.9nm,0.3s,baz=345,slow=11,SNR=36						
WRA				PcP	**PcP**	**09 16 25.8**	**+0.4**
	0.4nm,0.7s,baz=337,slow=3.1,SNR=1.8						
	1.9nm,0.3s						
ASAR	**Alice Springs**	**26.40**	**168**	P	**P**	**09 13 10.3**	**+0.5**
	0.6nm,0.5s,baz=352,slow=8.0,SNR=8.6						
ASAR				PcP	**PcP**	**09 16 33.6**	**+0.5**
	0.4nm,0.4s,baz=357,slow=2.0,SNR=7.5						
ASAR				ScP	**ScP**	**09 20 03.0**	**-1.1**
	0.4nm,0.9s,baz=346,slow=3.3,SNR=2.8						
	0.6nm,0.5s						
STKA	**Stephens Creek**	**36.28**	**161**	P	**P**	**09 14 36.6**	**+0.2**
	2.8nm,0.6s,baz=352,slow=8.8,SNR=9.0						
	2.8nm,0.6s						
MKAR	**Makanchi Array**	**59.58**	**325**	P	**P**	**09 17 36.8**	**+1.0**
	0.6nm,0.5s,baz=114,slow=7.5,SNR=4.6						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**63.74**	**327**	P	**P**	**09 18 03.8**	**+0.2**
	0.6nm,0.6s,baz=128,slow=6.3,SNR=5.3						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**69.33**	**327**	P	**P**	**09 18 39.0**	**-0.2**
	0.5nm,0.4s,baz=115,slow=5.8,SNR=2.0						
	0.5nm,0.4s						

IDC 10 09:10:38.1±3.9, 54°.19N×87°.46E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=34.7km s-min=20.8km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.57**	**262**	I	I	09 20 06.5	
	baz=82,slow=321,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.57**	**262**	Pg	Pn	09 11 05.0	-2.3
	1.9nm,0.3s,baz=80,slow=16,SNR=11						
ZALV				Lg	Lg	09 11 28.8	
	1.2nm,0.3s,baz=81,slow=16,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.53**	**240**	Pn	Pn	09 12 16.4	+1.1
	0.1nm,0.3s,baz=56,slow=13,SNR=2.1						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**8.10**	**206**	Pn	Pn	09 12 38.2	+1.2
	0.1nm,0.3s,baz=23,slow=12,SNR=1.4						
	0.1nm,0.4s						

*NEIC **10** 09:14:35.9±1.5, 35°.39N±0°.01×98°.09W±0°.02, h15km±1km, Error ellipse: s-maj=2.1km s-min=1.9km az=203.0*

TUL 10 09:14:36±1.3, 35°.39N±0°.01×98°.097W±0°.005, h8km±3km, ML2.5, mb_Lg2.4/24(NEIC), ML2.2/40(NEIC), Error ellipse: s-maj=1.8km s-min=0.4km az=194.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.54**	**88**	Pg	Pg	09 14 46.6	+0.1
OKCSW				IAML		09 14 58.0	
	comp=N,117nm,0.3s						
OKCSW				IAML		09 15 00.3	
	comp=E,109nm,0.3s						
CSTR	**Hydro, Custer**	**0.55**	**298**		Pb	09 14 47.2	-0.6
CSTR				Sg	Sb	09 14 57.7	+1.8
FNO	**Franklin**	**0.58**	**103**		Pg	09 14 47.4	+0.1
FNO				Sg	Sg	09 14 54.4	-0.5
OK029	**Liberty Lake**	**0.66**	**52**	Pg	Pg	09 14 49.1	+0.3
OK029				Sg	Sg	09 14 57.8	+0.4
OK029				IAML		09 15 01.0	
	comp=E,93nm,0.3s						
OK029				IAML		09 15 04.3	
	comp=E,99nm,0.5s						
WMOK	**Wichita Mounta**	**0.86**	**221**	Pg	Pg	09 14 52.7	+0.1
WMOK				Sg	Sg	09 15 02.5	-1.2
W35A	**Tecumseh**	**1.03**	**103**		Pg	09 14 55.0	-0.7
W35A				Sg	Sg	09 15 08.7	-0.4
W35A				IAML		09 15 15.8	
	comp=N,57nm,0.3s						
W35A				IAML		09 15 17.4	
	comp=E,59nm,0.5s						
CROK	**Carrier**	**1.11**	**5**		Pg	09 14 55.8	-1.6
OK038	**West end E0370**	**1.20**	**334**		Pb	09 14 58.4	-0.7
OK052	**Battle Ridge R**	**1.21**	**60**		Pb	09 14 58.2	-1.0
ELIS	**Ellis County**	**1.27**	**302**		Pn	09 14 59.9	-0.3
QUOK	**Quay**	**1.37**	**55**		Pn	09 15 01.1	-0.4
DEOK	**Depew**	**1.38**	**70**		Pn	09 15 01.1	-0.4
OK048	**Pawnee Station**	**1.39**	**42**		Pn	09 15 01.8	+0.1
OK032	**Salt Plains WL**	**1.41**	**356**		Pn	09 15 01.6	-0.5
GC02	**Grant County #**	**1.47**	**7**		Pn	09 15 02.4	-0.5
OK051	**E0350 and S346**	**1.51**	**42**		Pn	09 15 03.5	+0.1
WTFS	**Witchita Falls**	**1.65**	**191**		Pn	09 15 05.5	+0.1
KAN01	**Argonia South**	**1.78**	**9**	IAmb_Lg		09 15 34.6	
	comp=Z,17nm,1.0s						
KAN09	**Caldwell North**	**1.78**	**12**	Pn	Pn	09 15 07.7	+0.5
KAN09				IAmb_Lg		09 15 35.9	
	comp=Z,16nm,0.8s						
T35A	**Sooner Cattle**	**1.99**	**40**		Pn	09 15 10.7	+0.7
FW03	**Perrin-Whitt E**	**2.35**	**179**	IAmb_Lg		09 15 50.2	
	comp=Z,26nm,0.9s						
X37A	**Clayton**	**2.38**	**109**		Pn	09 15 16.5	+1.2
X37A				IAmb_Lg		09 15 55.0	
	comp=Z,16nm,0.8s						
FW06	**Azle**	**2.45**	**169**	Pn	Pn	09 15 16.8	+0.4
PLPT	**Palo Pinto**	**2.58**	**184**	Pn	Pn	09 15 18.3	+0.2
RLO	**Rose Lookout**	**2.62**	**72**	Pn	Pn	09 15 19.9	+1.3
APMT	**Aspermont**	**2.66**	**220**	Pn	Pn	09 15 21.2	+2.0
DKNS	**Dickens**	**2.90**	**234**	Pn	Pn	09 15 23.9	+1.3
SGCY	**Sterling City**	**4.29**	**217**	IAmb_Lg		09 16 57.1	
	comp=Z,6.6nm,0.8s						
S39A	**Bolivar**	**4.48**	**58**	IAmb_Lg		09 16 58.1	
	comp=Z,6.2nm,0.8s						
KSCO	**Kaye Shedlock'**	**5.11**	**316**	IAmb_Lg		09 17 32.7	
	comp=Z,7.3nm,0.8s						
T25A	**Trinidad**	**5.39**	**291**	IAmb_Lg		09 17 36.0	
	comp=Z,4.3nm,0.8s						
T42A	**Van Buren**	**5.89**	**72**	IAmb_Lg		09 17 41.6	
	comp=Z,6.8nm,1.2s						
CCM	**Cathedral Cave**	**6.11**	**62**	IAmb_Lg		09 17 57.6	
	comp=Z,5.0nm,0.8s						
P40A	**Paris**	**6.34**	**48**	IAmb_Lg		09 17 57.0	
	comp=Z,6.5nm,0.8s						
PBMO	**Poplar Bluff**	**6.36**	**75**	IAmb_Lg		09 18 02.2	
	comp=Z,5.7nm,0.9s						

*NEIC **10** 09:21:41.2±0.7, 19°.41N±0°.02×155°.02W±0°.03, h5km±3km, Error ellipse: s-maj=5.3km s-min=1.0km az=121.0*

HVO 10 09:21:40.8±0.6, 19°.38N±0°.02×155°.01W±0°.04, h4km±4km, ML2.6/3, ML2.6/12(NEIC), Error ellipse: s-maj=5.6km s-min=0.9km az=122.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**7**		Pg	09 21 42.5	+0.4
STCH	**Steam Cracks**	**0.11**	**271**		Pg	09 21 43.2	+0.1
STCH	**Steam Cracks**	**0.11**	**271**	IAML		09 21 45.5	
	comp=E,928nm,0.4s						
STCH				IAML		09 21 45.9	
	comp=N,627nm,0.5s						
HLP	**Hilina Pali**	**0.29**	**253**		Pg	09 21 47.0	+0.5
HLP	**Hilina Pali**	**0.29**	**253**	IAML		09 21 48.9	
HLP	comp=N,2μm,0.7s						
				IAML		09 21 56.3	
	comp=E,1μm,0.7s						
MLH	**Mauna Loa**	**0.37**	**287**		Pg	09 21 48.4	+0.3
MLH	**Mauna Loa**	**0.37**	**287**	IAML		09 22 00.2	
	comp=E,609nm,0.8s						
MLH				IAML		09 22 00.3	
	comp=N,829nm,0.9s						
HTC	**Hot Caves**	**0.39**	**248**		Pg	09 21 48.8	+0.3
HMH	**Humu'ula Sheep**	**0.50**	**296**		Pg	09 21 50.5	0.0
HMH	**Humu'ula Sheep**	**0.50**	**296**	IAML		09 21 58.3	
	comp=N,920nm,0.6s						
HMH				IAML		09 22 02.4	
	comp=E,407nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.56**	**286**	Pg	Pg	09 21 51.2	-0.4
MLOA				IAML		09 21 54.4	
	comp=N,395nm,0.9s						
MLOA				IAML		09 21 59.8	
	comp=E,383nm,0.9s						
KHU	**Kahuku**	**0.59**	**257**		Sg	09 22 00.1	+0.3
POHA	**Pohakuloa**	**0.62**	**307**	Pg	Pg	09 21 51.4	-1.4
POHA				IAML		09 22 04.4	
	comp=E,328nm,1.1s						
POHA				IAML		09 22 12.9	
	comp=E,322nm,0.6s						
HUH	**Hualalai**	**0.83**	**291**	Pg	Pg	09 21 57.1	+0.2

IDC 10 09:29:15.0±4.3, 53°.65N×87°.99E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=43.3km s-min=19.8km az=46.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**280**	I	I	09 41 30.0	
	baz=98,slow=326,SNR=2.5						
ZALV	**Zalesovo Beam**	**1.91**	**280**	Pg	Pn	09 29 49.4	+0.7
	1.2nm,0.3s,baz=103,slow=11,SNR=5.4						
ZALV				Lg	Lg	09 30 15.5	
	2.1nm,0.3s,baz=105,slow=26,SNR=6.8						
KURBB	**Kurchatov Arra**	**6.56**	**246**	Pn	Pn	09 30 53.3	+0.6
	baz=64,slow=14,SNR=3.6						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.77**	**210**	Pn	Pn	09 31 10.4	+1.1
	0.1nm,0.3s,baz=24,slow=9.1,SNR=2.1						
	0.1nm,0.3s						

*NEIC **10** 09:30:43.3±0.7, 19°.244N±0°.007×155°.396W±0°.007, h2km±6km, Error ellipse: s-maj=1.2km s-min=0.8km az=213.0*

HVO 10 09:30:42.6±0.6, 19°.249N±0°.007×155°.391W±0°.009, h2km±6km, ML2.7/3, ML2.3/12(NEIC), Error ellipse: s-maj=1.3km s-min=1.0km az=111.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.01**	**209**		Pg	09 30 43.7	+0.7
HLP	**Hilina Pali**	**0.09**	**59**	IAML		09 30 46.7	
	comp=E,2μm,1.1s						
HLP				IAML		09 30 47.3	
	comp=N,2μm,0.7s						
HLP	**Hilina Pali**	**0.09**	**59**		Pg	09 30 45.2	+0.7
HLP	**Hilina Pali**	**0.09**	**59**		Sg	09 30 47.6	+2.0
KHU	**Kahuku**	**0.21**	**269**		Pg	09 30 47.3	+0.6
KHU	**Kahuku**	**0.21**	**269**	IAML		09 30 51.0	
	comp=N,343nm,1.6s						
KHU				IAML		09 30 52.8	
	comp=E,309nm,0.9s						
MWH	**Moku'aweowe**	**0.30**	**320**	Pg	Pg	09 30 49.1	+0.6
MWH				IAML		09 30 58.1	
	comp=N,734nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.34**	**329**	Pg	Pg	09 30 49.1	0.0
MLOA				IAML		09 30 57.5	
	comp=E,351nm,0.7s						
HMH	**Humu'ula Sheep**	**0.36**	**346**	Pg	Pg	09 30 50.5	+0.9
HMH				IAML		09 30 52.9	
	comp=E,322nm,1.0s						
HMH				IAML		09 31 01.9	
	comp=N,329nm,0.8s						
PHO	**Puu Honuaula**	**0.53**	**64**		Pg	09 30 53.1	+0.4
HUH	**Hualalai**	**0.60**	**316**	Pg	Pg	09 30 54.7	+0.5

*IDC **10** 09:37:48.5±1.6, 0°.86N×125°.69E, h0km, mb3.5/4, mbtmp3.6/4, MS2.6/1, Error ellipse: s-maj=185.6km s-min=22.9km az=65.0*

*DJA **10** 09:37:52.3±0.4, 1°.1N±8°×12°.6E±°, h10km, M3.5/6, MLv3.5/6*

ISC 10 09:37:54.5±1.1, 1°.0N±0°.2×126°.12E±0°.07, h44km, n9, σ1°26′9, mb3.6/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**99**	P	**Pn**	**09 38 15.3**	**-0.5**
TNTI				S	**Sn**	**09 38 33.8**	**+2.1**
LBMI	**Labuha**	**2.12**	**139**	P	**Pn**	**09 38 27.1**	**-0.4**
KMSI	**Cibinong**	**2.17**	**259**	P	**Pn**	**09 38 28.6**	**+0.4**
GTOI	**Gorontalo**	**3.12**	**264**	P	Pn	09 38 44.8	+3.5
KAPI	**Kappang**	**8.71**	**227**	LR	LR	09 42 45.1	
	comp=Z,45nm,20.1s,baz=16,slow=36						
WRA	**Warramunga Arr**	**22.30**	**159**	P	**P**	**09 42 47.0**	**-1.4**
	0.8nm,0.8s,baz=336,slow=12,SNR=7.7						
	0.8nm,0.8s						
ASAR	**Alice Springs**	**25.64**	**163**	P	**P**	**09 43 21.6**	**+1.3**
	0.6nm,0.5s,baz=342,slow=10.0,SNR=11						
ASAR				PcP	**PcP**	**09 46 50.0**	**-0.3**
	0.2nm,0.6s,baz=344,slow=2.8,SNR=4.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**59.47**	**326**	P	**P**	**09 47 52.4**	**-0.6**
	0.5nm,0.6s,baz=124,slow=7.4,SNR=3.0						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**63.72**	**328**	P	**P**	**09 48 21.4**	**-0.3**
	0.4nm,0.5s,baz=124,slow=6.5,SNR=1.9						
	0.4nm,0.5s						

*IDC **10** 09:44:12.1±1.6, 0°.96N×125°.69E, h0km, mb3.4/4, mbtmp3.5/4, Error ellipse: s-maj=182.5km s-min=21.6km az=65.0*

*DJA **10** 09:44:17.9±1.1, 1°.1N±5°×12°.6E±°, h10km±10km, M3.3/7, MLv3.3/7*

ISC 10 09:44:17.9±1.3, 1°.0N±0°.1×125°.89E±0°.10, h44km, n8, σ1°28′9, mb3.4/4, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.49**	**98**	P	**Pn**	**09 44 41.9**	**-0.3**
TNTI				S	**Sn**	**09 45 01.1**	**+0.6**
LBMI	**Labuha**	**2.28**	**135**	P	**Pn**	**09 44 53.4**	**+0.3**
LBMI				S	**Sn**	**09 45 19.7**	**-0.3**
GTOI	**Gorontalo**	**2.90**	**263**	P	Pn	09 45 08.8	+7.2
SANI	**Sanana**	**3.02**	**178**	P	**Pn**	**09 45 03.3**	**0.0**
WRA	**Warramunga Arr**	**22.39**	**159**	P	**P**	**09 49 11.4**	**-1.4**
	0.5nm,0.5s,baz=336,slow=11,SNR=9.2						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.72**	**163**	P	**P**	**09 49 45.8**	**+1.4**
	0.4nm,0.5s,baz=345,slow=11,SNR=8.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.34**	**327**	P	**P**	**09 54 17.1**	**+1.5**
	0.2nm,0.4s,baz=119,slow=7.2,SNR=5.9						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**63.60**	**328**	P	**P**	**09 54 42.4**	**-1.7**
	0.5nm,0.7s,baz=124,slow=7.2,SNR=5.6						
	0.5nm,0.7s						

IDC 10 09:46:32.4±3.3, 54°.32N×87°.17E, h0km, mbtmp3.0/2, ML2.7/1, Error ellipse: s-maj=28.1km s-min=20.4km az=56.0, Southwestern Siberia

| Code

0.9nm,0.6s
LPAZ La Paz 43.28 124 P **P** 09 55 44.6 +0.3
0.6nm,0.6s,baz=326,slow=6.5,SNR=2.4
0.6nm,0.6s
H03N2 Juan Fernandez 47.94 151 T T 10 47 50.0
baz=328,slow=78,SNR=5.6
H03N1 Juan Fernandez 47.95 151 T T 10 47 49.5
baz=328,slow=78,SNR=6.6
H03N3 Juan Fernandez 47.96 151 T T 10 47 45.5
baz=328,slow=78,SNR=6.7
PPT Papeete 51.60 240 LR LR 10 12 14.5
comp=Z,100nm,19.1s,baz=54,slow=29
YKA Yellowknife Ar 54.67 354 P **P** 09 57 09.3 -1.0
0.3nm,0.6s,baz=170,slow=7.5,SNR=6.3
0.3nm,0.6s
ILAR Eielson Array 63.84 341 P **P** 09 58 13.3 -0.5
0.5nm,0.7s,baz=149,slow=5.3,SNR=9.4
0.5nm,0.7s
CMAR Chiang Mai Arr 144.95 319 PKPbc **PKPab** 10 07 20.3 +1.2
0.5nm,0.4s,baz=2.4,slow=2.5,SNR=4.4

*NEIC **10** 09:50:33.0±1.9, 17.02N±0.04×99.84W±0.02, h10km±2km, ML3.7/8, Md4.0/51(MEX), Error ellipse: s-maj=7.4km s-min=3.0km az=188.0*
*MEX **10** 09:50:33.9±1.4, 16.84N×99.93W, h10km±5km, MD4.0*
ISC 10 09:50:32.5±0.9, 16.86N±0.04×99.91W±0.02, h31km±5km, n52, σ1§17/101, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ACP2	**Acapulco**	**0.03**	**48**		**Pb**	**09 50 38.0**	**+0.3**
ACP2					**Sb**	**09 50 41.4**	**+0.1**
ACP2	**Acapulco**	**0.03**	**48**	*i* P	**Pb**	**09 50 38.0**	**+0.3**
ACP2				*i* S	**Sb**	**09 50 41.4**	**+0.1**
DAIG	**Los Arroyos**	**0.29**	**56**		**Pb**	**09 50 39.7**	**-0.3**
DAIG					**Sb**	**09 50 44.0**	**-1.1**
DAIG	**Los Arroyos**	**0.29**	**56**	*i* P	**Pb**	**09 50 39.7**	**-0.3**
DAIG				*i* S	**Sb**	**09 50 44.0**	**-1.1**
CAIG	**El Cayaco**	**0.39**	**299**		**Pb**	**09 50 41.1**	**-0.3**
CAIG					**Sb**	**09 50 46.6**	**-0.8**
CAIG	**El Cayaco**	**0.39**	**299**	*i* P	**Pb**	**09 50 41.1**	**-0.3**
CAIG				*i* S	**Sb**	**09 50 46.6**	**-0.8**
ATYC	**Atoyac**	**0.61**	**305**	*e*P	**Pb**	**09 50 43.5**	**-1.4**
ATYC				*e*S	**Sb**	**09 50 51.8**	**-1.5**
CRIG	**Cruz Grande**	**0.75**	**99**		**Pn**	**09 50 47.3**	**+0.3**
CRIG					**Sb**	**09 50 57.3**	**+0.2**
CRIG	**Cruz Grande**	**0.75**	**99**	*e*P	**Pn**	**09 50 47.3**	**+0.3**
CRIG				*e*S	**Sb**	**09 50 57.3**	**+0.2**
MEIG	**Mezcala**	**1.10**	**14**		**Pn**	**09 50 51.3**	**-0.5**
MEIG					**Sb**	**09 51 04.9**	**-2.2**
MEIG	**Mezcala**	**1.10**	**14**	*i* P	**Pn**	**09 50 51.3**	**-0.5**
MEIG				*i* S	**Sb**	**09 51 04.9**	**-2.2**
MGIG	**Malinaltepec**	**1.27**	**73**		**Pn**	**09 50 54.8**	**+0.5**
MGIG					**Sn**	**09 51 11.1**	**+0.6**
MGIG	**Malinaltepec**	**1.27**	**73**	*i* P	**Pn**	**09 50 54.8**	**+0.5**
MGIG				*i* S	**Sn**	**09 51 11.1**	**+0.6**
PET2	**Petatlan**	**1.46**	**298**	*e*P	**Pn**	**09 50 57.7**	**+1.0**
PET2				*e*S	**Sn**	**09 51 15.0**	**+0.2**
TLIG	**Tlapa**	**1.46**	**61**	Pn	**Pn**	**09 50 57.3**	**+0.5**
TLIG				Sn	**Sn**	**09 51 16.1**	**+1.1**
TLIG				IAML		09 51 18.8	
	comp=N,998nm,0.9s						
TLIG				IAML		09 51 21.1	
	comp=E,767nm,0.7s						
TLIG	**Tlapa**	**1.46**	**61**	*e*P	**Pn**	**09 50 57.6**	**+0.8**
TLIG				*e*S	**Sn**	**09 51 16.7**	**+1.7**
ARIG	**Puente Sto Nin**	**1.48**	**344**		**Pn**	**09 50 57.3**	**+0.3**
ARIG					**Sn**	**09 51 14.7**	**-0.5**
ARIG	**Puente Sto Nin**	**1.48**	**344**	*e*P	**Pn**	**09 50 57.3**	**+0.3**
ARIG				*e*S	**Sn**	**09 51 14.7**	**-0.5**
PLIG	**Platanillo**	**1.58**	**14**		**Pn**	**09 50 58.7**	**+0.3**
PLIG					**Sn**	**09 51 18.0**	**+0.2**
PLIG	**Platanillo**	**1.58**	**14**	*e*P	**Pn**	**09 50 58.7**	**+0.3**
PLIG				*i* S	**Sn**	**09 51 18.0**	**+0.2**
HMTT	**Tlapaneco**	**1.59**	**54**		**Pn**	**09 50 59.0**	**+0.4**
HMTT					**Sn**	**09 51 18.8**	**+0.6**
HMTT	**Tlapaneco**	**1.59**	**54**	*e*P	**Pn**	**09 50 59.0**	**+0.4**
HMTT				*e*S	**Sn**	**09 51 18.8**	**+0.6**
ZIIG	**Zihuatanejo**	**1.67**	**297**		**Pn**	**09 51 00.9**	**+1.5**
ZIIG					**Sn**	**09 51 20.1**	**+0.3**
ZIIG	**Zihuatanejo**	**1.67**	**297**	*e*P	**Pn**	**09 51 00.9**	**+1.5**
ZIIG				*e*S	**Sn**	**09 51 20.1**	**+0.3**
PNIG	**Pinotepa**	**1.77**	**105**		**Pn**	**09 51 01.6**	**+0.7**
PNIG					**Sn**	**09 51 21.7**	**-0.7**
PNIG	**Pinotepa**	**1.77**	**105**	*e*P	**Pn**	**09 51 01.6**	**+0.7**
PNIG				*e*S	**Sn**	**09 51 21.7**	**-0.7**
FTIG	**Fresnillo de T**	**1.99**	**58**		**Pn**	**09 51 04.6**	**+0.5**
FTIG					**Sn**	**09 51 28.6**	**+0.5**
FTIG	**Fresnillo de T**	**1.99**	**58**	*e*P	**Pn**	**09 51 04.6**	**+0.5**
FTIG				*e*S	**Sn**	**09 51 28.6**	**+0.5**
TEJU	**Tejupilco**	**2.05**	**353**	*e*P	**Pn**	**09 51 06.6**	**+1.6**
TEJU				*e*S	**Sn**	**09 51 31.9**	**+2.4**
TXIG	**Tlaxiaco**	**2.08**	**79**		**Pn**	**09 51 06.6**	**+1.1**
TXIG					**Sb**	**09 51 36.5**	**+1.1**
TXIG	**Tlaxiaco**	**2.08**	**79**	*e*P	**Pn**	**09 51 06.6**	**+1.1**
TXIG				*e*S	**Sb**	**09 51 36.5**	**+1.1**
YAIG	**Yautepec**	**2.15**	**22**		**Pn**	**09 51 06.1**	**-0.2**
YAIG					**Sn**	**09 51 32.8**	**+0.8**
YAIG	**Yautepec**	**2.15**	**22**	*e*P	**Pn**	**09 51 06.1**	**-0.2**
YAIG				*e*S	**Sn**	**09 51 32.8**	**+0.8**
YOIG	**Yosondua**	**2.26**	**90**		**Pn**	**09 51 07.6**	**-0.4**
YOIG					**Sn**	**09 51 35.0**	**0.0**
YOIG	**Yosondua**	**2.26**	**90**	*e*P	**Pn**	**09 51 07.6**	**-0.4**
YOIG				*e*S	**Sn**	**09 51 35.0**	**0.0**
PPIG	**Popocatepetl**	**2.51**	**29**		**Pn**	**09 51 11.9**	**+0.3**
PPIG					**Sb**	**09 51 48.2**	**+0.2**
PPM	**Popocatepetl**	**2.51**	**29**	*e*P	**Pn**	**09 51 11.9**	**+0.3**
PPM				*e*S	**Sb**	**09 51 48.2**	**+0.2**
UNM	**Universidad Na**	**2.56**	**16**	Pn	**Pn**	**09 51 12.9**	**+0.9**
UNM				Sn	**Sn**	**09 51 43.1**	**+0.9**
UNM	**Universidad Na**	**2.56**	**16**	*e*P	**Pn**	**09 51 14.5**	**+2.5**
UNM				*e*S	**Sn**	**09 51 43.8**	**+1.6**
PEIG	**Puerto Escondi**	**2.78**	**107**		**Pn**	**09 51 16.7**	**+1.8**
PEIG					**Sn**	**09 51 45.7**	**-1.7**
PEIG	**Puerto Escondi**	**2.78**	**107**	*e*P	**Pn**	**09 51 16.7**	**+1.8**
PEIG				*e*S	**Sn**	**09 51 45.7**	**-1.7**
TPIG	**Tehuac#an**	**2.88**	**57**		**Pn**	**09 51 16.8**	**+0.4**
TPIG					**Sb**	**09 51 55.6**	**-2.6**
TPIG	**Tehuac#an**	**2.88**	**57**	*e*P	**Pn**	**09 51 16.8**	**+0.4**
TPIG				*e*S	**Sb**	**09 51 55.6**	**-2.6**
TOIG	**Toxpalan**	**2.98**	**65**		**Pn**	**09 51 18.3**	**+0.6**
TOIG					**Sn**	**09 51 54.6**	**+2.2**
TOIG	**Toxpalan**	**2.98**	**65**	*e*P	**Pn**	**09 51 18.3**	**+0.6**
TOIG				*e*S	**Sn**	**09 51 54.6**	**+2.2**
MOIG	**Morelia**	**3.06**	**337**	Pn	**Pn**	**09 51 18.1**	**-0.7**
MOIG				Sn	**Sn**	**09 51 56.7**	**+2.1**
MOIG				IAML		09 52 07.5	
	comp=N,345nm,0.8s						
MOIG				IAML		09 52 17.1	
	comp=E,387nm,0.7s						
MOIG	**Morelia**	**3.06**	**337**	*e*S	**Sn**	**09 51 56.9**	**+2.3**
DHIG	**Demacu**	**3.52**	**13**		**Pb**	**09 51 34.6**	**+0.3**
DHIG					**Sb**	**09 52 16.1**	**-0.7**
DEIG	**Demacu**	**3.52**	**13**	*e*P	**Pb**	**09 51 34.6**	**+0.3**
DEIG				*e*S	**Sb**	**09 52 16.1**	**-0.7**
JRQG	**Juriquilla Cam**	**3.86**	**352**	Pn	**Pn**	**09 51 31.7**	**+1.8**
JRQG				Sn	**Sn**	**09 52 17.6**	**+3.3**
ZAIG	**Zacatecas**	**6.39**	**337**	Pn	**Pn**	**09 52 04.3**	**-0.5**
TEIG	**Tepich**	**11.53**	**71**	Pn	**Pn**	**09 53 12.2**	**-2.8**

*IDC **10** 09:58:14.5±2.7, 8.21N×104.07W, h0km, mb3.6/7, mbtmp3.7/8, ML4.5/1, MS3.8/5, Error ellipse: s-maj=107.1km s-min=27.2km az=59.0*
ISC 10 09:58:16.1±2.3, 8.2N±0.4×104.0W±0.5, h10km, n14, σ0§83/8, mb3.6/6, MS3.4/3, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**12.53**	**45**	LR	LR	10 04 48.7	
	comp=Z,378nm,20.7s,baz=203,slow=31						
LPIG	**La Paz**	**16.88**	**340**	Pn	**Pn**	**10 02 11.6**	**-0.9**
	1.6nm,0.3s,baz=172,slow=3.0,SNR=4.1						
	12nm,0.6s						
TEIG	**Tepich**	**19.35**	**50**	LR	LR	10 09 15.0	
	comp=Z,1μm,19.8s,slow=34						
TXAR	**Lajitas Array**	**20.99**	**1**	P	**P**	**10 03 00.3**	**+0.5**
	1.6nm,0.9s,baz=182,slow=12,SNR=18						
TXAR				LR	LR	10 10 32.2	
	comp=Z,150nm,18.1s,baz=166,slow=35						
	1.6nm,0.9s						

ANMO Albuquerque 26.67 356 P **P** 10 03 55.3 -0.2
0.5nm,0.5s,baz=220,slow=16,SNR=1.5
0.5nm,0.5s
NVAR Mina Array Bea 32.70 339 P **P** 10 04 50.2 +1.2
0.2nm,0.5s,baz=132,slow=12,SNR=2.0
0.2nm,0.5s
PDAR Pinedale Array 34.73 353 P **P** 10 05 07.3 +0.6
1.7nm,0.9s,baz=168,slow=7.6,SNR=7.9
PDAR LR LR 10 20 00.3
comp=Z,77nm,18.9s,baz=15,slow=38
1.7nm,0.9s
LPAZ La Paz 43.09 124 P **P** 10 06 17.5 0.0
0.9nm,0.7s,baz=278,slow=8.1,SNR=3.2
0.9nm,0.7s
H03N2 Juan Fernandez 47.83 151 T T 10 57 49.9
baz=338,slow=77,SNR=15
H03N1 Juan Fernandez 47.84 151 T T 10 57 52.4
baz=338,slow=77,SNR=11
H03N3 Juan Fernandez 47.84 151 T T 10 57 48.4
baz=338,slow=77,SNR=15
PPT Papeete 51.78 240 LR LR 10 23 40.3
comp=Z,40nm,20.3s,baz=77,slow=30
YKA Yellowknife Ar 54.70 354 P **P** 10 07 44.6 -0.6
0.3nm,0.6s,baz=164,slow=6.6,SNR=7.2
0.3nm,0.6s
ILAR Eielson Array 63.92 341 P **P** 10 08 48.9 -0.2
0.9nm,0.9s,baz=152,slow=5.1,SNR=6.7
0.9nm,0.9s

*NNC **10** 09:59:21.2±3.2, 54.76N×86.27E, h0km, mb2.9, mpv2.8, Error ellipse: s-maj=117.7km s-min=19.2km az=138.0, Suspected Mining explosion.*
IDC 10 09:59:26.6±2.5, 54.34N×86.27E, h0km, mbtmp3.3/2, ML3.1/2, 3C-3D, Error ellipse: s-maj=20.4km s-min=12.9km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.94**	**246**	I	I	10 05 00.0	
	baz=68,slow=323,SNR=1.1						
ZAA0	**Zalesovo Array**	**0.94**	**246**	⇓P	Pg	09 59 42.8	-1.8
	0.2nm,0.2s						
ZAA0				⇓S	Sb	09 59 59.7	+1.0
	2.0nm,0.5s						
ZALV	**Zalesovo Beam**	**0.94**	**246**	Pg	Pg	09 59 42.6	-1.9
	2.3nm,0.3s,baz=66,slow=17,SNR=15						
ZALV				Lg	Lg	09 59 58.6	
	7.3nm,0.3s,baz=61,slow=27,SNR=9.8						
KURK	**Kurchatov**	**5.91**	**235**	⇑Pn	Pn	10 00 54.4	-1.0
	0.9nm,0.7s						
KURK				⇑Lg	Lg	10 02 40.6	
	1.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.01**	**235**	⇑Pn	Pn	10 00 57.5	+0.7
	1.0nm,0.4s						
KURBB				⇓Lg	Lg	10 02 42.5	
	2.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.01**	**235**	Pn	Pn	10 00 57.5	+0.7
	0.2nm,0.3s,baz=51,slow=13,SNR=8.7						
KURBB				Lg	Lg	10 02 40.3	
	0.1nm,0.3s,baz=51,slow=32,SNR=2.7						
	0.6nm,0.3s						
MK31	**Makanchi Array**	**7.96**	**200**	Pn	Pn	10 01 25.2	+1.6
	0.3nm,0.3s,baz=26,slow=14,SNR=26						
MKAR	**Makanchi Array**	**7.96**	**200**	Pn	Pn	10 01 24.9	+1.3
	0.5nm,0.3s,baz=24,slow=11,SNR=17						
MKAR				Lg	Lg	10 03 36.8	
	0.1nm,0.3s,baz=21,slow=30,SNR=2.0						
	0.9nm,0.3s						

IDC 10 10:00:58.2±1.7, 1.55N×126.91E, h0km, mb3.5/4, mbtmp3.6/4, MS3.0/3, Error ellipse: s-maj=170.0km s-min=21.6km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**9.68**	**228**	LR	LR	10 06 46.9	
	comp=Z,38nm,20.4s,baz=149,slow=36						
WRA	**Warramunga Arr**	**22.57**	**162**	P	P	10 05 59.0	-1.3
	0.9nm,0.7s,baz=339,slow=11,SNR=14						
	0.9nm,0.7s						
PMG	**Port Moresby**	**22.92**	**119**	LR	LR	10 15 59.8	
	comp=Z,90nm,20.6s,baz=148,slow=39						
ASAR	**Alice Springs**	**25.97**	**165**	P	P	10 06 33.8	+1.0
	0.3nm,0.4s,baz=343,slow=11,SNR=14						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**59.44**	**326**	P	P	10 11 04.1	+1.2
	0.4nm,0.4s,baz=128,slow=8.8,SNR=6.4						
	0.4nm,0.4s						
MA2	**Magadan**	**60.77**	**14**	LR	LR	10 34 30.2	
	comp=Z,13nm,21.5s,baz=2.0,slow=33						
ZALV	**Zalesovo Beam**	**62.60**	**333**	P	P	10 11 22.3	-1.9
	0.4nm,0.4s,baz=131,slow=8.5,SNR=1.6						
	0.4nm,0.4s						

*CATAC **10** 10:02:39.1±1.1, 14.68N×92.95W, h10km, ML3.6*
*MEX **10** 10:02:41.1±1.1, 14.78N×92.90W, h66km±20km, MD3.9*
*GCG **10** 10:02:44.8±0.7, 15.16N×92.47W, h24km±4km, MD3.7*
ISC 10 10:02:38.8±1.4, 14.77N±0.05×92.97W±0.04, h21km±5km, n32, σ1§08/55, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**0.69**	**78**	*i* P	**Pn**	**10 02 53.7**	**+0.4**
THIG				*i* S	**Sn**	**10 03 04.3**	**+0.9**
THIG		**0.69**	**78**	*i* P	**Pn**	**10 02 53.7**	**+0.4**
THIG				*i* S	**Sn**	**10 03 04.3**	**+0.9**
PATR	**El Naranjo**	**0.79**	**64**	*i* P	**Pn**	**10 02 54.5**	**-0.4**
PATR				*i* S	**Sn**	**10 03 05.6**	**-0.5**
PATR	**El Naranjo**	**0.79**	**64**	*i* P	**Pn**	**10 02 54.5**	**-0.4**
PATR				*i* S	**Sn**	**10 03 05.3**	**-0.8**
PAVE	**Pavencul**	**0.87**	**61**	*i* P	**Pn**	**10 02 55.9**	**0.0**
PAVE				*i* S	**Sn**	**10 03 07.8**	**-0.4**
PAVE	**Pavencul**	**0.87**	**61**	*i* P	**Pn**	**10 02 56.0**	**0.0**
PAVE				*i* S	**Sn**	**10 03 07.7**	**-0.4**
CHUJ	**Union Juarez**	**0.89**	**69**	*i* P	**Pb**	**10 02 55.8**	**+0.1**
CHUJ				*i* S	**Sb**	**10 03 07.9**	**+0.7**
CHUJ	**Union Juarez**	**0.89**	**69**	*i* P	**Pb**	**10 02 55.8**	**+0.1**
CHUJ				*i* S	**Sb**	**10 03 07.9**	**+0.7**
PCIG		**0.96**	**345**	*i* P	**Pn**	**10 02 57.6**	**+0.5**
PCIG				*i* S	**Sn**	**10 03 10.3**	**+0.3**
PCIG		**0.96**	**345**	*i* P	**Pn**	**10 02 57.5**	**+0.5**
PCIG				*i* S	**Sn**	**10 03 10.2**	**+0.3**
SMSP	**San Marcos**	**1.16**	**80**	*i* P	**Pn**	**10 03 00.1**	**0.0**
SMSP				IAML		10 03 21.6	
	comp=Z,3μm,1.0s						
RTAL	**Retalhuleu**	**1.25**	**101**	*i* P	**Pn**	**10 03 01.2**	**+0.1**
RTAL				IAML		10 03 01.4	
	comp=Z,810nm,1.0s						
RTAL				*i* S	**Sb**	**10 03 18.1**	**+0.6**
STG3	**Santiaguito 3,**	**1.35**	**92**	*e*P	**Pb**	**10 03 03.1**	**-0.4**
STG3				*e*S	**Sn**	**10 03 17.3**	**-2.7**
SULM	**Suchitepequez,**	**1.43**	**109**	*e*P	**Pb**	**10 03 05.3**	**+0.5**
SULM				*e*S	**Sb**	**10 03 22.9**	**+0.3**
CCIG	**Comitan**	**1.70**	**28**	*e*P	**Pb**	**10 03 08.7**	**-0.8**
CCIG				*e*S	**Sn**	**10 03 28.9**	**+0.3**
CCIG	**Comitan**	**1.70**	**28**	*i* P	**Pb**	**10 03 08.7**	**-0.8**
CCIG	**Comitan**	**1.70**	**28**	*i* P	**Pb**	**10 03 09.3**	**-0.2**
CCIG				IAML		10 03 35.6	
	comp=Z,280nm,1.0s						
CARR	**Arriaga**	**1.73**	**328**	*e*P	**Pn**	**10 03 08.8**	**+1.2**
CARR				*e*S	**Sb**	**10 03 30.4**	**-0.7**
TGIG		**2.00**	**356**	*e*P	**Pn**	**10 03 11.9**	**+0.5**
TGIG				*e*S	**Sn**	**10 03 35.0**	**-0.8**
TGIG		**2.00**	**356**	*e*P	**Pn**	**10 03 11.9**	**+0.5**
TGIG				*e*S	**Sn**	**10 03 35.1**	**-0.8**
FUG	**Fuego 3**	**2.08**	**99**	*e*P	**Pn**	**10 03 14.0**	**+1.5**
FUG				*e*S	**Sn**	**10 03 36.3**	**-1.7**
UXUV	**UXUV**	**2.78**	**336**	*e*P	**Pn**	**10 03 23.5**	**+1.5**
UXUV				*e*S	**Sn**	**10 03 56.3**	**+1.4**
UXUV	**UXUV**	**2.78**	**336**	*i* P	**Pn**	**10 03 23.4**	**+1.5**
UXUV				*i* S	**Sn**	**10 03 56.1**	**+1.2**
CMIG	**Matias Romero**	**2.96**	**322**	*e*P	**Pn**	**10 03 25.1**	**+0.7**
CMIG				*e*S	**Sn**	**10 03 57.4**	**-1.9**
CMIG	**Matias Romero**	**2.96**	**322**	*e*P	**Pn**	**10 03 25.1**	**+0.7**
CMIG				*i* S	**Sn**	**10 03 57.2**	**-2.1**
HUIG	**Huatulco**	**3.19**	**289**	*i* P	**Pn**	**10 03 27.5**	**-0.2**
NUBE	**Las Nubes**	**3.21**	**105**	*i* P	**Pn**	**10 03 29.1**	**+1.0**
NUBE				*i* S	**Sn**	**10 04 07.8**	**+2.1**
NUBE				IAML		10 04 14.8	
	comp=Z,65nm,1.0s						
CEVE	**Cerro Verde**	**3.37**	**106**	*i* P	**Pn**	**10 03 31.9**	**+1.5**
CEVE				IAML		10 04 26.2	
	comp=Z,190nm,1.0s						
MTO3	**Montecristo**	**3.51**	**96**	*i* P	**Pn**	**10 03 32.7**	**+0.4**
MTO3				IAML		10 04 38.4	
	comp=Z,17nm,1.0s						
ESQI	**Esquipulas**	**3.51**	**93**	*i* P	**Pb**	**10 03 38.4**	**-2.0**
ESQI				IAML		10 04 17.5	
	comp=Z,37nm,1.0s						
JAYA	**Jayaque - finc**	**3.59**	**108**	*i* P	**Pn**	**10 03 34.5**	**+1.2**
QUEZ	**Alcaldia de Qu**	**3.70**	**104**	*i* P	**Pn**	**10 03 32.2**	**-2.5**
QUEZ				IAML		10 03 33.4	
	comp=Z,2μm,1.0s						

IDC 10 10:06:29.0±2.2, 6.35S×129.54E, h0km, mb3.5/1, mbtmp3.2/3, ML3.1/2, Error ellipse: s-maj=87.3km s-min=33.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.30**	**161**	Pn	Pn	10 09 51.9	-1.0
	0.1nm,0.3s,baz=341,slow=15,SNR=2.5						
WRA				Sn	Sn	10 12 15.3	-17
	0.1nm,0.3s,baz=336,slow=21,SNR=1.7						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**17.73**	**167**	P	P	10 10 38.1	-0.3
	0.1nm,0.3s,baz=343,slow=9.3,SNR=7.5						
ASAR				S	Sn	10 13 40.5	-15
	0.4nm,0.9s,baz=355,slow=29,SNR=2.4						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**67.43**	**327**	P	P	10 17 26.5	0.0
	0.2nm,0.4s,baz=141,slow=7.4,SNR=2.5						
	0.2nm,0.4s						

VIE 10 10:08:57.6±0.3, 49.10N×14.60E, h0km, mb1.5/1, ml1.7/3, Error ellipse: s-maj=2.5km s-min=1.9km az=179.0, Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRUC	**Moravsky**	**1.18**	**91**	*e*PG	Pb	10 09 21.0	0.0
KRUC				*e*SG	Sb	10 09 37.5	+0.7
MOA	**Molln**	**1.27**	**190**	*i* Pn	Pb	10 09 22.5	+0.1
	0.2nm,0.1s						
VRAC	**Vranov**	**1.33**	**80**	*e*PG	Pn	10 09 23.7	+0.2
VRAC				*e*SG	Sn	10 09 41.6	-0.2
CONA	**Conrad Observa**	**1.44**	**144**	*e*Pn	Pb	10 09 25.5	+0.1
	0.4nm,0.1s						
CONA				*e*Sn	Sn	10 09 44.9	+0.1
	0.7nm,0.1s						

WBNET 10 10:09:18.0, 50.25N×12.45E, h9km, Ml0.8, 8C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**185**	⇑P	Pg	10 09 19.8	+0.1
NKC				S	Sg	10 09 21.0	+0.1
LBCW	**Luby**	**0.03**	**303**	⇑P	Pg	10 09 19.9	+0.1
LBCW				S	Sg	10 09 21.2	+0.2
STCW	**Studenec**	**0.05**	**78**	⇑P	Pg	10 09 19.9	+0.1
STCW				S	Sg	10 09 21.2	-0.1
VAC	**Vackov**	**0.05**	**252**	⇑P	Pg	10 09 20.0	+0.1
VAC				S	Sg	10 09 21.2	-0.1
KVC	**Kvetna**	**0.06**	**136**	⇓P	Pg	10 09 20.1	+0.1
KVC				S	Sg	10 09 21.4	-0.1
POCW	**Potky**	**0.07**	**348**	⇓P	Pg	10 09 20.3	+0.1
POCW				S	Sg	10 09 21.8	0.0
KRCW	**Kraslice**	**0.10**	**32**	S	Sg	10 09 22.2	-0.1
SKC	**Skalna**	**0.10**	**215**	⇑P	Pg	10 09 20.5	+0.1
SKC				S	Sg	10 09 22.3	0.0
KOCW	**Kopaniny**	**0.14**	**276**	⇑P	Pg	10 09 21.1	0.0
KOCW				S	Sg	10 09 23.2	-0.1
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P	Pg	10 09 22.2	+0.1
ZHC				S	Sg	10 09 25.0	0.0
TRCW	**Trojmez**	**0.20**	**285**	⇑P	Pg	10 09 22.2	0.0
TRCW				S	Sg	10 09 25.0	-0.1
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	10 09 22.8	+0.2
LACW				S	Sg	10 09 26.2	+0.4
CLL	**Collm**	**1.12**	**18**	*i* Sg	Sb	10 09 54.0	0.0

*NAO **10** 10:18:45.1±2.2, 73.22N×5.74E, ML2.6*
*BER **10** 10:18:48.6±3.4, 73.14N×5.58E, h10km, mb(Pn)3.8, ML2.6(NAO), Confirmed Earthquake*
ISC 10 10:18:46.2±1.2, 73.09N±0.09×5.5E±0.1, h11km, n17, σ1§42/17, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BJO1	**Bjornoya**	**4.03**	**63**	Pn	**Pn**	**10 19 45.5**	**-2.3**
BJO1	**Bjornoya**	**4.03**	**63**	*e*P	**Pn**	**10 19 45.7**	**-2.1**
TRO	**Tromso**	**5.52**	**122**	Pn	**Pn**	**10 20 07.5**	**-0.6**
TRO	**Tromso**	**5.52**	**122**	*e*P	**Pn**	**10 20 08.4**	**+0.3**
LOF	**Lofoten**	**5.65**	**148**	Pn	**Pn**	**10 20 10.1**	**+0.2**
LOF	**Lofoten**	**5.65**	**148**	*e*P	**Pn**	**10 20 10.3**	**+0.3**
SPA0	**Spitsbergen Ar**	**5.77**	**23**	Pn	**Pn**	**10 20 11.8**	**+0.1**
	baz=209,slow=16						
SPA0	**Spitsbergen Ar**	**5.77**	**23**	Pn	**Pn**	**10 20 11.8**	**+0.1**
	baz=209,slow=16						
KBS	**Kingsbay**	**6.07**	**12**	*e*P	**Pn**	**10 20 18.1**	**+2.5**
KBS				IAML		10 20 20.3	
	comp=Z,4.7nm,0.8s						
STEI	**Steigen**	**6.11**	**143**	*e*P	**Pn**	**10 20 16.9**	**+0.6**
STEI				IAML		10 20 18.0	
	comp=Z,1.8nm,0.3s						
KONS	**Konsvik**	**7.12**	**155**	*e*P	**Pn**	**10 20 31.6**	**+1.5**
DBG	**Daneborg**	**7.31**	**292**	Pn	**Pn**	**10 20 32.4**	**-0.3**
DBG	**Daneborg**	**7.31**	**292**	Pn	**Pn**	**10 20 32.4**	**-0.3**
**

JMM	**Marumori**	**2.13**	**236**	P	**Pn**	**10 22 19.4**	**+0.5**
JMM				*e*S	**Sn**	**10 22 45.1**	**+1.0**
JAH	**Hinai**	**2.16**	**302**	P	**Pn**	**10 22 19.4**	**+0.1**
JAH				S	**Sn**	**10 22 47.3**	**+2.4**
MJAR	**Matsushiro Arr**	**4.58**	**238**	P	**Pn**	**10 22 55.2**	**+2.6**
	comp=N,1.1nm,0.3s,baz=38,slow=12,SNR=75						
	comp=N,8.7nm,0.4s						
ASAJ	**Asahikawa**	**5.05**	**356**	P	**Pn**	**10 22 58.8**	**-0.2**
	comp=N,2.0nm,0.3s,baz=225,slow=10,SNR=17						
ASAJ				S	**Sn**	**10 23 54.1**	**-1.9**
	comp=N,18nm,0.7s,baz=3.5,slow=19,SNR=2.7						
	comp=N,4.7nm,0.4s						
JHJ	**Hachijo jima 2**	**6.50**	**205**	S	**Sn**	**10 24 28.3**	**-3.5**
	comp=N,210nm,0.9s,baz=94,slow=22,SNR=1.8						
USRK	**Ussuriysk Ar.**	**9.72**	**305**	P	**Pn**	**10 24 04.7**	**+1.7**
	comp=N,0.2nm,0.3s,baz=181,slow=36,SNR=4.6						
USRK				LR	LR	10 27 35.1	
	comp=N,189nm,18.5s,baz=136,slow=36						
	comp=N,4.6nm,0.7s						
JNU	**Nakatsue**	**11.48**	**243**	LR	LR	10 28 28.8	
	comp=N,68nm,20.9s,baz=42,slow=35						
KSRS	**Korea Array**	**11.99**	**267**	P	**Pn**	**10 24 35.7**	**+1.7**
	comp=N,0.2nm,0.3s,baz=76,slow=14,SNR=2.9						
KSRS				LR	LR	10 28 43.3	
	comp=N,74nm,19.2s,baz=85,slow=34						
	comp=N,0.7nm,0.6s						
KLR	**Kul'dur**	**12.97**	**325**	P	**Pn**	**10 24 47.3**	**-0.2**
	comp=N,0.1nm,0.3s,baz=77,slow=16,SNR=4.3						
KLR				LR	LR	10 29 51.7	
	comp=N,103nm,18.8s,baz=127,slow=37						
	comp=N,0.7nm,0.4s						
PETK	**Petropavlovsk-**	**17.29**	**31**	LR	LR	10 32 01.7	
	comp=N,32nm,22.0s,baz=70,slow=36						
SONM	**Songino Array**	**27.78**	**300**	P	**P**	**10 27 30.5**	**-0.5**
	comp=N,1.0nm,0.6s,baz=108,slow=9.3,SNR=3.4						
	comp=N,1.0nm,0.6s						
H11N2	**WAKE ISLAND Hy 28.21**	**126**		T	T	10 58 23.8	
	baz=318,slow=75,SNR=121						
H11N1	**WAKE ISLAND Hy 28.22**	**126**		T	T	10 58 15.3	
	baz=318,slow=75,SNR=104						
H11N3	**WAKE ISLAND Hy 28.23**	**126**		T	T	10 58 25.3	
	baz=318,slow=75,SNR=87						
H11S1	**WAKE ISLAND Hy 29.00**	**128**		T	T	10 59 21.6	
	baz=318,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy 29.01**	**128**		T	T	10 59 14.7	
	baz=318,slow=76,SNR=6.2						
H11S2	**WAKE ISLAND Hy 29.02**	**128**		T	T	10 59 18.8	
	baz=318,slow=76,SNR=6.2						
DAV	**Davao City (W)**	**35.53**	**211**	LR	LR	10 43 01.9	
	comp=N,22nm,21.1s,baz=194,slow=36						
ZALV	**Zalesovo Beam**	**41.52**	**311**	P	**P**	**10 29 27.9**	**-1.1**
	comp=N,1.5nm,0.5s,baz=92,slow=8.9,SNR=5.4						
ZALV				LR	LR	10 47 04.0	
	comp=N,62nm,18.3s,baz=11,slow=36						
	comp=N,1.5nm,0.5s						
CMAR	**Chiang Mai Arr**	**43.26**	**255**	P	**P**	**10 29 43.7**	**+0.2**
	comp=N,0.5nm,0.4s,baz=68,slow=22,SNR=1.7						
	comp=N,0.5nm,0.4s						
MKAR	**Makanchi Array**	**44.15**	**301**	P	**P**	**10 29 50.4**	**-0.1**
	comp=N,3.2nm,0.9s,baz=86,slow=9.3,SNR=12						
	comp=N,3.2nm,0.9s						
KURBB	**Kurchatov Array**	**45.78**	**307**	P	**P**	**10 30 03.4**	**+0.1**
	comp=N,6.7nm,0.7s,baz=81,slow=8.5,SNR=15						
	comp=N,6.7nm,0.7s						
ILAR	**Eielson Array**	**47.09**	**33**	P	**P**	**10 30 12.7**	**-0.7**
	comp=N,0.3nm,0.9s,baz=242,slow=5.8,SNR=2.2						
	comp=N,0.3nm,0.9s						
BVAR	**Borovoye Array**	**50.16**	**311**	P	**P**	**10 30 37.7**	**+0.5**
	comp=N,1.5nm,0.6s,baz=57,slow=10,SNR=5.0						
	comp=N,1.5nm,0.6s						
WRA	**Warramunga Arr**	**59.27**	**190**	P	**P**	**10 31 43.0**	**-0.4**
	comp=N,0.5nm,0.6s,baz=5.6,slow=7.0,SNR=7.0						
	comp=N,0.5nm,0.6s						
ASAR	**Alice Springs**	**62.99**	**189**	P	**P**	**10 32 06.8**	**-1.7**
	comp=N,0.3nm,0.8s,baz=17,slow=6.8,SNR=2.7						
	comp=N,0.3nm,0.8s						
FINES	**FINESS Array B**	**67.60**	**332**	P	**P**	**10 32 39.0**	**+1.0**
	comp=N,1.0nm,0.8s,baz=57,slow=5.1,SNR=1.8						
	comp=N,1.0nm,0.8s						
NOA	**NORSAR Array B**	**72.79**	**338**	P	**P**	**10 33 10.1**	**+0.2**
	comp=N,0.3nm,0.5s,baz=41,slow=5.9,SNR=2.3						
	comp=N,0.3nm,0.5s						
AKASG	**Malin Array Be**	**73.46**	**323**	P	**P**	**10 33 14.2**	**+0.4**
	comp=N,0.3nm,0.4s,baz=42,slow=5.9,SNR=2.5						
	comp=N,0.3nm,0.4s						

KRSZO 10 10:23:55.3, 48°.45N×20°.79E, h0km, M1.5/6, Explosion. locality : Meszes Hungary description : known quarry blast GT info : GT2 explosion, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KECS	**Kecovo**	**0.20**	**280**	Pg	Pg	10 24 00.2	+1.0
KECS				Lg	Lg	10 24 02.0	
KECS				Lg	Lg	10 24 03.3	
KECS	**Kecovo**	**0.20**	**280**	*e*PG	Pg	10 24 00.3	+1.1
KECS				*e*SG	Sg	10 24 03.3	+1.5
ABAH	**Abaujker**	**0.34**	**116**	Pg	Pb	10 24 03.0	-1.1
ABAH				Lg	Lg	10 24 08.4	
PSZ	**Piszkesteto**	**0.80**	**229**	Pg	Pb	10 24 11.9	-0.1
PSZ				Lg	Lg	10 24 23.8	
NIE	**Niedzica**	**1.02**	**342**	Pn	Pn	10 24 18.1	+1.1
BSZH	**Besenyszg**	**1.20**	**197**	Sn	Sb	10 24 34.5	-0.5
A336A	**Medovarce**	**1.21**	**261**	Sn	Sg	10 24 34.7	+0.5
TRPA	**Tarpa**	**1.21**	**104**	Sn	Sn	10 24 36.5	-0.1
VYHS	**Vyhne**	**1.30**	**273**	Pg	Pn	10 24 20.9	+0.2
VYHS				Sn	Sn	10 24 39.4	+0.6
A332A	**Rudnianska**	**1.58**	**284**	Sn	Sn	10 24 45.5	-0.2
A338A	**Semerovo**	**1.68**	**256**	Pn	Pn	10 24 25.3	-0.7

BUC 10 10:24:48.4±0.2, 45°.23N×24°.04E, h6km±1km, ml1.4/7, 11C-8D, Error ellipse: s-maj=2.5km s-min=1.2km az=178.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOT	**Lotru**	**0.29**	**319**	⇑P	Pg	10 24 54.2	+0.1
LOT				⇑S	Sg	10 24 58.6	+0.8
VOIR		**0.74**	**74**	⇓P	Pg	10 25 02.3	-0.4
VOIR				⇓S	Sg	10 25 13.3	+0.9
VOIR		**0.74**	**74**	Pn	Pg	10 25 02.3	-0.4
VOIR				Sn	Sg	10 25 13.3	+0.9
GZR	**Gura Zlata**	**0.90**	**281**	⇓P	Pg	10 25 05.3	-0.4
GZR				⇑S	Sg	10 25 17.9	+0.5
HERR	**Herculane**	**1.20**	**254**	⇑P	Pn	10 25 11.8	+0.1
HERR				⇓S	Sn	10 25 28.5	+0.1
MLR	**Muntele Rosu**	**1.37**	**78**	⇑P	Pn	10 25 14.1	-0.1
MLR				⇑S	Sn	10 25 33.9	+1.1
SURR	**Surduc**	**1.44**	**292**	⇑P	Pn	10 25 14.6	-0.5
SURR				⇓S	Sg	10 25 34.9	+0.2
MARR	**Marisel-Cluj**	**1.58**	**336**	⇑P	Pn	10 25 17.4	+0.3
MARR				⇑S	Sb	10 25 38.5	+0.1
BZS	**Buzias**	**1.75**	**284**	⇓P	Pn	10 25 19.6	+0.3
BZS				⇑S	Sn	10 25 42.0	+0.2
DRGR		**1.81**	**330**	⇓S	Sb	10 25 45.1	+0.1
SIRR	**Siria**	**1.96**	**303**	⇓S	Pn	10 25 22.1	-0.1
SIRR				⇓S	Sn	10 25 48.0	+0.8

CATAC 10 10:27:04.6±1.7, 13°.12N×88°.05W, h15km±7km, ML2.6, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JUCU	**Jucuarˌn**	**0.24**	**305**	*i* P	Pb	10 27 11.3	+0.6
JUCU				*i* S	Sb	10 27 15.5	+0.7
JUCU				IAML		10 27 18.3	
	comp=Z,360nm,1.0s						
LCND	**La Caada**	**0.25**	**39**	*i* P	Pb	10 27 11.1	+0.3
LCND				*i* P	Pb	10 27 11.1	+0.3
CNCH	**Conchagua**	**0.26**	**53**	*i* P	Pb	10 27 12.0	+0.9
CNCH				*i* S	Sb	10 27 16.3	+0.8
CNCH				IAML		10 27 19.3	
	comp=Z,1μm,1.0s						
RANC	**El Ranchito**	**0.39**	**323**	*i* P	Pb	10 27 14.0	+0.6
RANC				IAML		10 27 23.5	
	comp=Z,130nm,1.0s						
PACA	**Pacayal**	**0.44**	**323**	*i* P	Pb	10 27 14.8	+0.6
PACA				IAML		10 27 23.9	
	comp=Z,620nm,1.0s						
PQSS	**Presa 15 de Se**	**0.71**	**315**	*i* P	Pb	10 27 19.3	+0.6
PQSS				IAML		10 27 34.7	
	comp=Z,28nm,1.0s						

ITCA	**Escuela Especi**	**1.32**	**295**	*i* P	Pn	10 27 27.4	-1.2
ITCA				IAML		10 28 13.1	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.91**	**319**	*i* P	Pn	10 27 17.9	-19

*CATAC **10** 10:28:41.9±0.2, 13°.24N×88°.07W, h5km±2km, ML2.9*
SNET 10 10:28:41.6±0.8, 13°.25N×88°.08W, h5km±3km, ML3.0, 7C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.06**	**158**	⇓*i* P	Pg	10 28 43.5	+0.5
INTP				*e*S	Sg	10 28 44.7	+0.7
INTP				IAML		10 28 45.8	
	comp=Z,4μm,0.2s						
JUCU	**Jucuarˌn**	**0.17**	**270**	*e*P	Pg	10 28 45.8	+0.8
JUCU				*e*S	Sg	10 28 49.0	+1.8
JUCU				IAML		10 28 51.2	
	comp=Z,5μm,0.2s						
JUCU	**Jucuarˌn**	**0.17**	**270**	*i* P	Pg	10 28 45.9	+0.9
JUCU				*i* S	Sg	10 28 48.9	+1.7
JUCU				IAML		10 28 51.0	
	comp=Z,5μm,1.0s						
LCND	**La Caada**	**0.19**	**73**	⇑*i* P	Pg	10 28 46.3	+0.9
LCND				*e*S	Sg	10 28 49.6	+1.7
LCND				IAML		10 28 51.5	
	comp=Z,4μm,0.4s						
LCND	**La Caada**	**0.19**	**73**	*i* P	Pg	10 28 46.4	+1.0
LCND				*i* S	Sg	10 28 49.9	+2.0
LCND				IAML		10 28 52.4	
	comp=Z,4μm,1.0s						
LCND	**La Caada**	**0.19**	**73**	IAML		10 28 52.4	
	comp=Z,4μm,1.0s						
LCND				IAML		10 29 34.8	
	comp=Z,21μm,1.0s						
CNCH	**Conchagua**	**0.24**	**84**	⇑*i* P	Pg	10 28 47.3	+1.0
CNCH				*e*S	Sg	10 28 51.2	+1.7
CNCH				IAML		10 28 56.7	
	comp=Z,6μm,0.2s						
CNCH	**Conchagua**	**0.24**	**84**	*i* P	Pg	10 28 47.4	+1.1
CNCH				*i* S	Sg	10 28 51.2	+1.8
CNCH				IAML		10 28 54.6	
	comp=Z,6μm,1.0s						
CNRM	**Centro Naciona**	**0.24**	**338**	⇓*i* P	Pg	10 28 47.2	+1.0
CNRM	**Centro Naciona**	**0.24**	**338**	*i* P	Pg	10 28 47.2	+0.9
CNRM				IAML		10 28 55.8	
	comp=Z,4μm,1.0s						
BLLM	**Bellamira**	**0.24**	**320**	⇑*i* P	Pg	10 28 47.5	+1.1
VSM	**San Miguel**	**0.26**	**312**	*e*P	Pb	10 28 48.1	-0.9
LCY	**Lacayo**	**0.27**	**309**	⇑*i* P	Pb	10 28 48.1	-1.0
RANC	**El Ranchito**	**0.27**	**311**	⇑*i* P	Pb	10 28 48.1	-1.0
RANC	**El Ranchito**	**0.27**	**311**	*i* P	Pb	10 28 48.1	-1.0
RANC				IAML		10 29 01.2	
	comp=Z,830nm,1.0s						
PACA	**Pacayal**	**0.32**	**312**	⇑*e*P	Pg	10 28 48.9	+1.0
PACA				IAML		10 29 02.6	
	comp=Z,4μm,0.2s						
PACA	**Pacayal**	**0.32**	**312**	*i* P	Pb	10 28 49.0	-1.0
PACA				IAML		10 29 03.2	
	comp=Z,5μm,1.0s						
AMPH	**Amapala**	**0.41**	**85**	⇑*i* P	Pg	10 28 50.2	+0.7
AMPH				*e*S	Sb	10 28 56.7	-1.2
TECA	**Tecapa**	**0.48**	**300**	*e*P	Pb	10 28 51.8	-0.9
PQSS	**Presa 15 de Se**	**0.60**	**308**	*e*P	Pg	10 28 53.8	+0.7
PQSS	**Presa 15 de Se**	**0.60**	**308**	*i* P	Pg	10 28 53.7	+0.6
PQSS				IAML		10 29 04.8	
	comp=Z,200nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.78**	**305**	*e*P	Pg	10 28 57.0	+0.5
SCLA	**Alcaldia de Sa**	**0.78**	**305**	*i* P	Pg	10 28 57.0	+0.5
SCLA				IAML		10 28 57.7	
	comp=Z,64nm,1.0s						
SCLA				*i* S	Sb	10 29 08.1	-0.4
UESV	**Universidad de**	**0.79**	**299**	*i* P	Pg	10 28 56.8	0.0
UESV				*i* S	Sb	10 29 08.6	-0.3
UESV				IAML		10 29 10.2	
	comp=Z,280nm,1.0s						
COEG	**Centro de Oper**	**0.86**	**295**	*e*P	Pg	10 28 58.4	+0.2
COEG				*e*S	Sb	10 29 10.9	-0.2
COEG				IAML		10 29 12.0	
	comp=Z,223nm,0.1s						
COEG	**Centro de Oper**	**0.86**	**295**	*i* P	Pg	10 28 58.2	0.0
COEG				*i* S	Sb	10 29 10.4	-0.7
COEG				IAML		10 29 11.8	
	comp=Z,230nm,1.0s						
PAVA	**Las Pavas**	**0.95**	**299**	*i* P	Pg	10 29 00.3	+0.4
PAVA				*i* S	Sb	10 29 14.4	+0.7
PAVA				IAML		10 29 17.2	
	comp=Z,690nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.12**	**44**	*e*P	Pg	10 29 02.6	-0.5
TGUH	**Tegucigalpa,Un**	**1.12**	**44**	*i* P	Pg	10 29 02.8	-0.3
TGUH				*i* S	Sg	10 29 17.9	+0.3
TGUH				IAML		10 29 24.5	
	comp=Z,300nm,1.0s						
CRIN	**San Cristobal**	**1.14**	**119**	*e*P	Pb	10 29 03.8	-0.2
CRIN	**San Cristobal**	**1.14**	**119**	*i* P	Pb	10 29 04.1	+0.2
CRIN				IAML		10 29 24.5	
	comp=Z,410nm,1.0s						
LLGN	**La Laguna**	**1.24**	**317**	*i* P	Pg	10 29 04.3	-1.0
LLGN				*i* S	Sn	10 29 22.6	-0.3
LLGN				IAML		10 30 10.6	
	comp=Z,360nm,1.0s						
PMON	**Piamonte**	**1.29**	**291**	*i* P	Pg	10 29 06.2	-0.1
PMON				*i* S	Sn	10 29 23.9	-0.2
PMON				IAML		10 29 28.8	
	comp=Z,230nm,1.0s						
JAYA	**Jayaque - finc**	**1.39**	**287**	*i* P	Pn	10 29 07.4	-0.5
JAYA				*i* S	Sn	10 29 27.0	+0.2
JAYA				IAML		10 29 27.0	
	comp=Z,850nm,1.0s						
CNGA	**Al SSO del Vol**	**1.54**	**119**	*i* P	Pn	10 29 07.5	-2.3
CNGA				*i* S	Sn	10 29 30.2	0.0
CNGA				IAML		10 29 35.1	
	comp=Z,130nm,1.0s						
CNGN	**Cerro Negro**	**1.54**	**119**	*i* S	Sn	10 29 30.3	+0.1
MACN	**El Madrono**	**1.58**	**120**	*i* P	Pn	10 29 09.4	-0.9
MACN				*i* S	Sb	10 29 31.4	-0.2
MACN				IAML		10 29 37.8	
	comp=Z,50nm,1.0s						
MTO3	**Montecristo**	**1.69**	**313**	*e*P	Pn	10 29 12.6	+0.5
MTO3	**Montecristo**	**1.69**	**313**	*i* P	Pn	10 29 12.4	+0.4
MTO3				IAML		10 29 12.7	
	comp=Z,40nm,1.0s						
MTO3				*i* S	Sb	10 29 35.1	+0.1
MOM2	**El Cardon**	**1.75**	**117**	*i* P	Pn	10 29 13.2	+0.5
MOM2				IAML		10 29 41.9	
	comp=Z,41nm,1.0s						
NUBE	**Las Nubes**	**1.78**	**291**	*i* P	Pn	10 29 13.6	+0.4
NUBE				IAML		10 29 39.4	
	comp=Z,95nm,1.0s						
COPN	**Copaltepe**	**1.80**	**126**	*i* P	Pn	10 29 13.0	-0.4
COPN				IAML		10 29 57.5	
	comp=Z,83nm,1.0s						

KRSC 10 10:38:50.8±1.5, 50°.05N×156°.70E, h108km±18km, MI4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.74**	**330**	*e*P	Pn	10 39 10.2	+0.9
SKR				*e*S	Sn	10 39 24.1	+0.9
PAU	**Pauzhetka**	**1.42**	**3**	*e*P	Pn	10 39 19.0	+2.5
PAU				*e*S	Sn	10 39 38.8	+2.7
KDTR	**Khodutka, Kamc**	**1.97**	**26**	*e*P	Pn	10 39 24.9	+1.7
KDTR				*e*S	Sn	10 39 49.8	+1.8
ASAK	**Asacha**	**2.46**	**17**	*e*P	Pn	10 39 31.7	+2.1
ASAK				*e*S	Sn	10 40 03.1	+3.7
MTVR	**Mutnovka**	**2.61**	**20**	*e*P	Pn	10 39 33.8	+2.1
MTVR				*e*S	Sn	10 40 06.0	+2.9
RUS	**Russkaya**	**2.65**	**25**	*e*P	Pn	10 39 33.4	+1.4
RUS				*e*S	Sn	10 40 04.7	+1.0
APC	**Apacha**	**2.90**	**5**	*e*P	Pn	10 39 35.9	+0.6
PET	**Petropavlovsk**	**3.22**	**21**	*e*P	Pn	10 39 42.0	+2.4
PET				*e*S	Sn	10 40 18.5	+1.3
DALK	**Dalny**	**3.25**	**22**	*e*P	Pn	10 39 42.0	+2.0
DALK				*e*S	Sn	10 40 19.1	+1.1
UGLR	**Uglovaya**	**3.43**	**22**	*i* P	Pn	10 39 45.1	+2.5
AVH	**Avacha**	**3.46**	**21**	*e*P	Pn	10 39 45.6	+2.6
KOK	**Koryaka**	**3.47**	**20**	*e*P	Pn	10 39 45.8	+2.8
SMAR	**Somma**	**3.48**	**21**	*e*P	Pn	10 39 45.6	+2.3
KRER	**Koryakskii**	**3.50**	**21**	*e*P	Pn	10 39 46.0	+2.4
KRX	**Arik**	**3.53**	**19**	*i* P	Pn	10 39 46.3	+2.4
SPN	**Mys Shipunski**	**3.69**	**33**	*e*P	Pn	10 39 48.1	+2.2
SPN				*e*S	Sn	10 40 28.6	0.0
GNL	**Ganaly**	**3.73**	**11**	*e*P	Pn	10 39 47.9	+1.3
TUMD	**Tumrok D**	**5.63**	**22**	*e*P	Pn	10 40 14.6	+2.5

IDC 10 10:41:10.5±6.9, 17°.58S×178°.43W, h623km±78km, mb3.0/5, mbtmp4.0/5, Error ellipse: s-maj=89.5km s-min=32.2km az=146.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.77**	**241**	P	P	10 47 43.9	+0.1
	5.8nm,1.1s,baz=62,slow=11,SNR=2.8						
	5.8nm,1.1s						
WRA	**Warramunga Arr**	**44.67**	**259**	P	P	10 48 30.0	-0.1
	1.9nm,0.6s,baz=94,slow=7.1,SNR=56						
WRA				PcP	PcP	10 49 58.5	-0.3
	0.2nm,0.3s,baz=90,slow=3.8,SNR=5.2						
	1.9nm,0.6s						
ASAR	**Alice Springs**	**44.86**	**254**	P	P	10 48 31.6	0.0
	3.0nm,0.4s,baz=90,slow=8.1,SNR=72						
ASAR				PcP	PcP	10 49 59.2	-0.2
	0.6nm,0.5s,baz=101,slow=3.8,SNR=9.3						
	3.0nm,0.4s						
ILAR	**Eielson Array**	**85.57**	**13**	P	P	10 52 43.9	0.0
	0.2nm,0.5s,baz=216,slow=4.8,SNR=5.7						
	0.2nm,0.5s						
TXAR	**Lajitas Array**	**85.84**	**58**	P	P	10 52 46.1	0.0
	0.3nm,0.7s,baz=201,slow=4.8,SNR=4.2						
	0.3nm,0.7s						

*NOU **10** 10:49:25.8, 19°.93S×177°.70W, h625km, mb4.6/42, Fiji Islands Region*
*NEIC **10** 10:49:28.6±1.8, 20°.20S±0°.10×178°.4W±0°.1, h575km±6km, mb4.7/70, Error ellipse: s-maj=14.7km s-min=13.8km az=91.0*
*IDC **10** 10:49:30.4±0.7, 20°.12S×178°.62W, h607km±7km, mb3.9/16, mbtmp4.8/16, Error ellipse: s-maj=14.5km s-min=11.2km az=126.0*
ISC 10 10:49:29.9±0.4, 20°.24S±0°.05×178°.46W±0°.06, h605km±4km, h607km:pP-P, n252, σ1s44/278, mb4.6/55, 5C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAVE	**Taveuni**	**3.78**	**338**	P	**P**	**10 50 54.1**	**-0.3**
MSVF	**Nonsavu**	**4.14**	**306**	P	**P**	**10 50 57.5**	**+0.6**
MSVF	**Nonsavu**	**4.14**	**306**	P	**P**	**10 50 57.7**	**+0.7**
DGTI	**Dogotuki**	**4.28**	**336**	P	**P**	**10 50 53.3**	**-4.6**
YSA	**Yasawairara**	**5.16**	**313**	P	**P**	**10 51 04.1**	**-0.4**
NIUE	**Niue**	**8.12**	**83**	P	**P**	**10 51 30.8**	**+0.2**
RAO	**Raoul Island**	**8.98**	**177**	P	**P**	**10 51 37.8**	**-0.8**
RAO	**Raoul Island**	**8.98**	**177**	P	**P**	**10 51 37.9**	**-0.8**
RAO	**Raoul Island**	**8.98**	**177**	P	**P**	**10 51 37.5**	**-1.2**
	196nm,0.3s,baz=71,slow=12,SNR=7.0						
RAO				S	**S**	**10 53 20.9**	**-3.5**
	228nm,0.6s,baz=291,slow=24,SNR=1.7						
FUNA	**Funafuti**	**11.87**	**349**		**P**	**10 52 05.4**	**-2.1**
MARNC	**Mare, Loyalty**	**12.69**	**262**	P	**P**	**10 52 14.1**	**-1.5**
OUENC	**Ouen Island, N**	**13.87**	**258**	P	**P**	**10 52 29.3**	**+1.9**
DZM	**Mont Dzumac**	**14.20**	**260**	P	**P**	**10 52 33.5**	**+2.8**
DZM	**Mont Dzumac**	**14.20**	**260**	P	**P**	**10 52 33.0**	**+2.2**
DZM	**Mont Dzumac**	**14.20**	**260**	P	**P**	**10 52 27.3**	**-3.4**
	11nm,0.5s,baz=103,slow=18,SNR=2.4						
NOUC	**Port Laguerre**	**14.34**	**260**	P	**P**	**10 52 32.6**	**+0.7**
KOUNC	**Koumac, New Ca**	**16.18**	**266**	P	**P**	**10 52 52.1**	**+3.3**
KOUNC	**Koumac, New Ca**	**16.18**	**266**	P	**P**	**10 52 51.1**	**+2.4**
KOUNC				IAmb	IAmb	10 52 52.1	
	comp=Z,19nm,0.9s						
OUZ	**Omahuta**	**16.48**	**204**	P	**P**	**10 52 53.1**	**+1.8**
KUZ	**Kuaotunu**	**17.21**	**196**	P	**P**	**10 52 59.2**	**+1.3**
MXZ	**Matakaoa Point**	**17.49**	**189**	P	**P**	**10 53 00.0**	**-0.4**
MXZ	**Matakaoa Point**	**17.49**	**189**	P	**P**	**10 53 00.4**	**0.0**
MXZ				IAmb	IAmb	10 53 02.6	
	comp=Z,30nm,0.9s						
MXZ	**Matakaoa Point**	**17.49**	**189**	P	**P**	**10 52 59.6**	**-0.8**
MYRZ	**Mayor Island**	**17.59**	**194**	P	**P**	**10 53 03.5**	**+2.1**
WMGZ	**Waiomatatini S**	**17.72**	**188**	P	**P**	**10 53 03.4**	**+0.8**
HAZ	**Te Kaha**	**17.75**	**190**	P	**P**	**10 53 01.5**	**-1.4**
PKGZ	**Pakihiroa**	**17.84**	**189**	P	**P**	**10 53 03.2**	**-0.5**
RUGZ	**Raukumara Rang**	**17.98**	**190**	P	**P**	**10 53 04.3**	**-0.7**
RUGZ	**Raukumara Rang**	**17.98**	**190**	P	**S**	**10 55 58.7**	**-0.9**
TGRZ	**Tauranga**	**18.02**	**194**	P	**P**	**10 53 07.3**	**+2.0**
TWGZ	**Tauwhareparae**	**18.14**	**189**	P	**P**	**10 53 06.6**	**+0.2**
TWGZ	**Tauwhareparae**	**18.14**	**189**	P	**S**	**10 56 03.8**	**+1.7**
TOZ	**Tahuroa Road**	**18.20**	**195**	P	**P**	**10 53 08.7**	**+1.8**
URZ	**Urewera**	**18.36**	**191**	P	**P**	**10 53 07.5**	**-0.9**
URZ	**Urewera**	**18.36**	**191**	P	**S**	**10 53 05.5**	**-2.9**
	comp=Z,61nm,0.7s,baz=38,slow=2.8,SNR=38						
URZ				S	**S**	**10 55 59.2**	**-6.3**
	comp=Z,14nm,0.7s,baz=317,slow=23,SNR=9.4						
URZ	**Urewera**	**18.36**	**191**	P	**P**	**10 53 05.7**	**-2.6**
URZ	**Urewera**	**18.36**	**191**	P	**S**	**10 56 03.5**	**-2.0**
MWZ	**Matawai**	**18.36**	**190**	P	**S**	**10 56 06.6**	**+0.9**
CNGZ	**Carnagh Statio**	**18.41**	**188**	P	**P**	**10 53 08.6**	**-0.1**
MUGZ	**Murupara**	**18.63**	**192**	P	**P**	**10 53 09.9**	**-1.0**
RIGZ	**Rimuhau**	**18.

CMSA	**Cobar Meteorol**	**34.01**	**243**	P		**P**		**10 55 26.0**	**+0.7**
PATS	**Pohnpei**	**35.30**	**317**	P		**P**		**10 55 36.5**	**+0.4**
TOO	**Toolangi**	**35.70**	**233**	P		**P**		**10 55 40.1**	**+0.8**
COEN	**Coen**	**37.14**	**273**	P		**P**		**10 55 52.1**	**+0.8**
COEN	**Coen**	**37.14**	**273**	P		**P**		**10 55 51.8**	**+0.5**
COEN				IAmb		IAmb		10 55 52.8	
	comp=Z,7.4nm,0.7s								
STKA	**Stephens Creek**	**37.51**	**244**	P		**P**		**10 55 54.7**	**+0.6**
STKA	**Stephens Creek**	**37.51**	**244**	P		**P**		**10 55 53.4**	**-0.7**
	comp=Z,6.0nm,0.7s,baz=89,slow=12,SNR=10								
STKA				PcP		**PcP**		**10 57 56.2**	**+0.4**
	comp=Z,3.5nm,0.8s,baz=103,slow=8.8,SNR=4.4								
	comp=Z,6.0nm,0.7s								
QIS	**Mount Isa**	**39.23**	**262**	P		**P**		**10 56 08.8**	**+0.7**
HTT	**Hallett**	**39.97**	**242**	P		**P**		**10 56 15.0**	**+1.1**
LCRK	**Leigh Creek**	**40.24**	**247**	P		**P**		**10 56 16.7**	**+0.7**
WAKE	**Wake Island**	**41.91**	**339**	P		**P**		**10 56 28.6**	**-0.6**
BBOO	**Buckleboo**	**42.28**	**243**	P		**P**		**10 56 32.9**	**+0.9**
BBOO	**Buckleboo**	**42.28**	**243**	P		**P**		**10 56 32.1**	**+0.1**
BBOO				IAmb		IAmb		10 56 32.9	
	comp=Z,21nm,0.8s								
OOD	**Oodnadatta**	**42.36**	**251**	P		**P**		**10 56 34.6**	**+1.9**
MULG	**Mulgathing**	**43.82**	**247**	P		**P**		**10 56 44.2**	**+0.2**
WR0	**Warramunga Arr**	**44.02**	**262**	P		**P**		**10 56 45.4**	**-0.4**
WR0				IAmb		IAmb		10 56 46.5	
	comp=Z,16nm,1.1s								
AS31	**Alice Springs**	**44.16**	**257**	P		**P**		**10 56 46.9**	**+0.1**
ASAR	**Alice Springs**	**44.16**	**257**	P		**P**		**10 56 47.0**	**+0.2**
ASAR	**Alice Springs**	**44.16**	**257**	P		**P**		**10 56 46.1**	**-0.7**
	comp=Z,22nm,0.8s,baz=95,slow=7.6,SNR=324								
ASAR				PcP		**PcP**		**10 58 17.8**	**-0.3**
	comp=Z,6.7nm,0.7s,baz=101,slow=4.2,SNR=16								
ASAR				ScP		**ScP**		**11 01 13.6**	**+0.4**
	comp=Z,2.1nm,0.8s,baz=114,slow=5.0,SNR=5.8								
ASAR				S		**S**		**11 02 34.9**	**-2.5**
	comp=Z,2.1nm,0.7s,baz=91,slow=16,SNR=13								
	comp=Z,22nm,0.8s								
WB0	**Warramunga Arr**	**44.19**	**262**	P		**P**		**10 56 46.9**	**-0.1**
WB0				IAmb		IAmb		10 56 47.0	
	comp=Z,19nm,0.5s								
WB2	**Warramunga Arr**	**44.20**	**262**	P		**P**		**10 56 46.7**	**-0.4**
WB2				IAmb		IAmb		10 56 47.1	
	comp=Z,26nm,1.1s								
WRAB	**Tennant Creek**	**44.20**	**262**	P		**P**		**10 56 46.7**	**-0.4**
WRAB				IAmb		IAmb		10 56 47.1	
	comp=Z,21nm,1.1s								
WRA	**Warramunga Arr**	**44.21**	**262**	P		**P**		**10 56 46.5**	**-0.7**
WRA	**Warramunga Arr**	**44.21**	**262**	P		**P**		**10 56 46.3**	**-0.9**
	comp=Z,11nm,0.6s,baz=98,slow=8.3,SNR=119								
WRA				PcP		**PcP**		**10 58 18.2**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=93,slow=3.5,SNR=6.2								
WRA				ScP		**ScP**		**11 01 13.9**	**+0.5**
	comp=Z,0.5nm,0.8s,baz=127,slow=7.3,SNR=4.6								
WRA				S		**S**		**11 02 35.2**	**-2.8**
	comp=Z,4.0nm,0.9s,baz=95,slow=13,SNR=12								
	comp=Z,11nm,0.6s								
FORT	**Forrest**	**49.00**	**246**	P		**P**		**10 57 23.9**	**+0.9**
FORT	**Forrest**	**49.00**	**246**	P		**P**		**10 57 22.8**	**-0.2**
WRKA	**Warakurna**	**49.12**	**254**	P		**P**		**10 57 24.1**	**+0.1**
FITZ	**Fitzroy Crossi**	**52.64**	**262**	P		**P**		**10 57 49.4**	**0.0**
PSA00	**Pilbara Seismi**	**57.31**	**257**	P		**P**		**10 58 21.3**	**-0.6**
MBWA	**Marble Bar**	**57.49**	**257**	P		**P**		**10 58 22.4**	**-0.7**
MBWA	**Marble Bar**	**57.49**	**257**	P		**P**		**10 58 22.6**	**-0.5**
MEEK	**Meekatharra**	**57.60**	**251**	P		**P**		**10 58 22.9**	**-0.9**
KLBR	**Kellerberrin**	**57.77**	**245**	P		**P**		**10 58 25.1**	**+0.2**
SBA	**Scott Base**	**58.10**	**184**	P		**P**		**10 58 29.4**	**+3.3**
SBA				IAmb		IAmb		10 58 29.7	
	comp=Z,21nm,0.8s								
NWAO	**Narrogin (SRO)**	**58.10**	**243**	P		**P**		**10 58 27.4**	**+0.3**
VNDA	**Vanda**	**58.13**	**185**	P		**P**		**10 58 28.7**	**+2.3**
VNDA	**Vanda**	**58.13**	**185**	P		**P**		**10 58 27.8**	**+1.4**
	comp=Z,7.0nm,0.9s,baz=358,slow=7.4,SNR=53								
VNDA				PcP		**PcP**		**10 59 10.9**	**+1.3**
	comp=Z,1.6nm,0.6s,baz=307,slow=6.1,SNR=4.2								
	comp=Z,7.0nm,0.9s								
BLDU	**Ballidu**	**58.77**	**246**	P		**P**		**10 58 31.0**	**-0.5**
MUN	**Mundaring**	**59.05**	**244**	P		**P**		**10 58 33.2**	**-0.2**
	comp=Z,16nm,0.8s								
MORW	**Morawa**	**59.53**	**248**	P		**P**		**10 58 36.4**	**-0.2**
MORW	**Morawa**	**59.53**	**248**	P		**P**		**10 58 36.2**	**-0.4**
GIRL	**Giralia**	**62.20**	**254**	P		**P**		**10 58 54.6**	**+0.4**
GIRL	**Giralia**	**62.20**	**254**	P		**P**		**10 58 55.2**	**+1.0**
GIRL				IAmb		IAmb		10 58 57.1	
	comp=Z,39nm,1.1s								
CASY	**Casey**	**64.01**	**205**	P		**P**		**10 59 05.9**	**+1.0**
CASY				IAmb		IAmb		10 59 06.3	
	comp=Z,30nm,1.1s								
UGM	**Wanagama**	**69.54**	**269**	P		**P**		**10 59 39.6**	**-0.3**
UGM				IAmb		IAmb		11 00 01.8	
	comp=Z,43nm,1.0s								
QSPA	**South Pole Qui**	**69.82**	**180**	P		**P**		**10 59 41.6**	**+0.9**
	comp=Z,32nm,0.7s,baz=347,slow=0.6,SNR=189								
	comp=Z,32nm,0.7s								
KSM	**Kuching**	**72.95**	**278**	P		**P**		**10 59 60.0**	**+0.3**
KSM				IAmb		IAmb		11 00 02.5	
	comp=Z,16nm,0.5s								
PEA0B	**Petropavlovsk-**	**75.92**	**345**	P		**P**		**11 00 15.5**	**+0.1**
PEA0B				IAmb		IAmb		11 00 16.1	
	comp=Z,29nm,1.1s								
PETK	**Petropavlovsk-**	**75.92**	**345**	P		**P**		**11 00 15.6**	**+0.2**
PETK	**Petropavlovsk-**	**75.92**	**345**	P		**P**		**11 00 14.9**	**-0.5**
	comp=Z,16nm,0.9s,baz=133,slow=8.3,SNR=18								
	comp=Z,16nm,0.9s								
S12K	**Black Hills**	**76.92**	**9**	P		**P**		**11 00 20.2**	**-0.6**
S12K				IAmb		IAmb		11 00 25.8	
	comp=Z,31nm,1.1s								
SMAI	**San Martin Ant**	**79.00**	**159**	P		**P**		**11 00 33.7**	**+1.8**
NJ2	**Nanjing**	**79.39**	**310**	*e*P		**P**		**11 00 37.2**	**+2.7**
NJ2				pmax		pmax			
	comp=Z,7.0nm,0.5s								
NJ2				pmax		pmax			
	comp=Z,200nm,3.9s								
LPIG	**La Paz**	**79.65**	**60**	P		**P**		**11 00 37.9**	**+1.8**
	comp=Z,25nm,0.3s,baz=148,slow=0.2,SNR=3.5								
	comp=Z,25nm,0.3s								
BELA	**Belgrano 2**	**79.87**	**173**	P		**P**		**11 00 36.8**	**+0.5**
BELA				IAmb		IAmb		11 00 37.1	
	comp=Z,21nm,0.7s								
NVAR	**Mina Array Bea**	**81.14**	**44**	pP		**pP**		**11 02 49.8**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=246,slow=8.8,SNR=2.0								
NVAR				PKKPbc		**PKKPbc**		**11 19 16.3**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=60,slow=3.2,SNR=3.8								
N15K	**Kwethluk River**	**81.51**	**9**	P		**P**		**11 00 45.5**	**+0.6**
N15K				IAmb		IAmb		11 00 47.2	
	comp=Z,13nm,0.9s								
TPH	**Tonopah**	**81.64**	**44**	P		**P**		**11 00 47.2**	**+0.9**
TPH				IAmb		IAmb		11 00 48.4	
	comp=Z,16nm,1.1s								
MAW	**Mawson**	**81.66**	**200**	P		**P**		**11 00 46.0**	**+0.3**
	comp=Z,5.5nm,0.8s,baz=135,slow=7.7,SNR=6.4								
	comp=Z,5.5nm,0.8s								
M14K	**Bethel**	**81.81**	**8**			**P**		**11 00 47.3**	**+1.0**
O18K	**Koktuh Hills**	**82.04**	**12**			**P**		**11 00 47.8**	**+0.2**
O18K				IAmb		IAmb		11 00 48.2	
	comp=Z,23nm,0.9s								
O19K	**Port Alsworth**	**82.53**	**12**	P		**P**		**11 00 50.0**	**+0.1**
O19K				IAmb		IAmb		11 00 50.4	
	comp=Z,24nm,0.8s								
CNPM	**China Poot**	**82.55**	**14**	P		**P**		**11 00 50.5**	**+0.4**
CNPM				IAmb		IAmb		11 00 51.0	
	comp=Z,12nm,0.9s								
KULM	**Kulim**	**83.31**	**278**	P		**P**		**11 00 55.5**	**+0.5**
K15K	**Wolf Creek Mou**	**83.35**	**8**	IAmb		IAmb		11 00 58.0	
	comp=Z,12nm,1.1s								
COYC	**Coyhaique**	**86.62**	**138**	P		**P**		**11 01 11.9**	**+1.5**
ELIB	**Princess Elisa**	**86.85**	**187**	*d*P		**P**		**11 01 11.2**	**+0.1**
	comp=Z,33nm,0.7s								
TX31	**Lajitas Ar. Si**	**87.28**	**58**			**P**		**11 01 15.6**	**+1.7**
TX31				IAmb		IAmb		11 01 16.6	
	comp=Z,14nm,1.1s								
TXAR	**Lajitas Array**	**87.28**	**58**	P		**P**		**11 01 15.6**	**+1.7**
TXAR	**Lajitas Array**	**87.28**	**58**	P		**P**		**11 01 15.4**	**+1.6**
	comp=Z,6.4nm,0.9s,baz=221,slow=6.1,SNR=30								
TXAR				pP		**pwP**		**11 03 25.1**	**-0.8**
	comp=Z,1.7nm,1.0s,baz=208,slow=3.7,SNR=8.1								
	comp=Z,6.4nm,0.9s								
ANMO	**Albuquerque**	**87.58**	**51**	P		**P**		**11 01 15.6**	**+0.3**
ALPN	**Alpine**	**87.74**	**57**			**P**		**11 01 17.0**	**+1.0**
ALPN				IAmb		IAmb		11 01 18.3	
	comp=Z,8.2nm,1.0s								
IMAR	**Indian Mountai**	**87.98**	**10**	P		**P**		**11 01 16.1**	**0.0**
TROLL	**Troll, Antarti**	**87.98**	**180**	⇑P		**P**		**11 01 16.5**	**+0.1**
	comp=Z,924nm,0.8s								
ILAR	**Eielson Array**	**88.16**	**13**	P		**P**		**11 01 15.9**	**-1.1**
	comp=Z,3.0nm,1.0s,baz=224,slow=5.7,SNR=12								
ILAR				pP		**pP**		**11 03 26.9**	**+0.5**
	comp=Z,2.7nm,1.1s,baz=239,slow=6.1,SNR=6.7								
ILAR				PKKP		**PKKPdf**		**11 18 56.0**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=325,slow=3.4,SNR=4.4								
	comp=Z,3.0nm,1.0s								
SNAA	**Sanae**	**88.28**	**179**	P		**P**		**11 01 16.9**	**-0.8**
	comp=Z,4.4nm,0.7s,baz=217,slow=13,SNR=3.6								
	comp=Z,4.4nm,0.7s								
LL04	**Puerto Octay**	**88.42**	**133**	IAmb		IAmb		11 01 20.4	
	comp=Z,9.8nm,1.1s								
VNA3	**Neumayer Olymp**	**88.42**	**176**	⇑P		**P**		**11 01 17.7**	**-0.6**
	comp=Z,44nm,0.6s								
VNA2	**Neumayer--Watz**	**88.86**	**177**	⇑P		**P**		**11 01 19.5**	**-0.8**
	comp=Z,28nm,0.8s,baz=182,slow=6.0								
HHC	**Hu-ho-hao-te**	**88.87**	**315**	*e*P		**P**		**11 01 19.4**	**-1.6**
HHC				pmax		pmax			
	comp=Z,16nm,0.7s								
HHC				pmax		pmax			
	comp=Z,110nm,4.8s								
PDAR	**Pinedale Array**	**89.07**	**43**	P		**P**		**11 01 22.5**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=206,slow=6.0,SNR=2.1								
PDAR				PKKPbc		**PKKPbc**		**11 18 56.5**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=94,slow=4.5,SNR=3.8								
	comp=Z,1.0nm,0.6s								
VNA1	**Neumayer--Stat**	**89.09**	**177**	⇑P		**P**		**11 01 21.2**	**-0.1**
	comp=Z,36nm,0.8s								
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P		**P**		**11 01 25.7**	**+0.9**
CMAR	**Chiang Mai Arr**	**89.62**	**290**	P		**P**		**11 01 26.0**	**+1.1**
	comp=Z,3.4nm,0.8s,baz=120,slow=3.1,SNR=17								
CMAR				PKKPbc		**PKKPbc**		**11 18 55.4**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=285,slow=5.5,SNR=4.9								
	comp=Z,3.4nm,0.8s								
DRIO	**Del Rio**	**89.75**	**59**	P		**P**		**11 01 25.9**	**+0.7**
DRIO				IAmb		IAmb		11 01 27.0	
	comp=Z,12nm,1.0s								
CHTO	**Chiang Mai**	**89.75**	**290**	P		**P**		**11 01 26.0**	**+0.6**
CHTO				IAmb		IAmb		11 01 27.3	
	comp=Z,5.4nm,0.7s								
PLCA	**Paso Flores**	**89.76**	**134**	P		**P**		**11 01 26.5**	**+1.3**
PLCA				IAmb		IAmb		11 01 27.8	
	comp=Z,8.0nm,0.9s								
PLCA	**Paso Flores**	**89.76**	**134**	P		**P**		**11 01 26.5**	**+1.3**
	comp=Z,5.8nm,0.8s,baz=204,slow=4.7,SNR=15								
	comp=Z,5.8nm,0.8s								
CMIG	**Matias Romero**	**90.00**	**72**	P		**P**		**11 01 27.6**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=240,slow=8.3,SNR=6.7								
	comp=Z,3.5nm,0.8s								
PZH	**PanZhiHua**	**90.21**	**298**	P		**P**		**11 01 29.4**	**+1.8**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,130nm,5.1s								
HNDO	**Hondo**	**90.86**	**59**	IAmb		IAmb		11 01 32.5	
	comp=Z,11nm,0.8s								
SONM	**Songino Array**	**95.28**	**319**	PKKPbc		PKKPbc		11 18 39.3	-2.2
	comp=Z,1.1nm,1.0s,baz=273,slow=2.5,SNR=3.9								
YKA	**Yellowknife Ar**	**96.46**	**25**	P		**P**		**11 01 53.6**	**-1.4**
	comp=Z,0.2nm,0.8s,baz=232,slow=4.6,SNR=3.3								
YKA				pP		**pP**		**11 04 06.7**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=244,slow=3.5,SNR=3.4								
YKA				PP		**PP**		**11 05 58.5**	**-1.4**
	comp=Z,0.1nm,0.6s,baz=60,slow=6.7,SNR=2.6								
YKA				PKKPbc		**PKKPbc**		**11 18 35.1**	**-3.6**
	comp=Z,0.1nm,0.6s,baz=38,slow=2.3,SNR=4.1								
	comp=Z,0.2nm,0.8s								
ZALV	**Zalesovo Beam**	**110.03**	**321**	PKiKP		**PKiKP**		**11 06 52.2**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=146,slow=3.3,SNR=1.6								
MKAR	**Makanchi Array**	**110.71**	**314**	PKiKP		**PKiKP**		**11 06 53.8**	**-1.1**
	comp=Z,1.3nm,0.7s,baz=27,slow=1.4,SNR=1.8								
MKAR				PKKPbc		**PKKPbc**		**11 17 55.6**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=275,slow=3.0,SNR=8.5								
KURBB	**Kurchatov Arra**	**113.57**	**317**	PKiKP		**PKiKP**		**11 06 58.3**	**-1.9**
	comp=Z,1.7nm,0.7s,baz=82,slow=7.7,SNR=3.2								
KURBB				PKKPbc		**PKKPbc**		**11 17 46.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=269,slow=4.2,SNR=5.5								
BVAR	**Borovoye Array**	**118.61**	**320**	PKP		**PKPdf**		**11 07 09.0**	**-0.8**
	comp=Z,4.2nm,0.5s,baz=95,slow=1.8,SNR=7.0								
BOSA	**Boshof**	**126.30**	**206**			**PKiKP**		**11 07 26.6**	**+0.4**
BOSA	**Boshof**	**126.30**	**206**	PKP		**PKiKP**		**11 07 26.1**	**0.0**
	comp=Z,8.2nm,1.0s,baz=73,slow=2.9,SNR=7.2								
GEYT	**Alibeck**	**128.28**	**303**	PKP		**PKPdf**		**11 07 29.2**	**+0.2**
	comp=Z,1.7nm,0.3s,baz=88,slow=5.0,SNR=4.7								
GEYT				PP		**PP**		**11 09 41.5**	**-1.9**
	comp=Z,0.9nm,0.3s,baz=86,slow=16,SNR=1.4								
ARCES	**ARCESS Array B**	**128.59**	**349**	PKP		**PKPdf**		**11 07 27.8**	**-0.7**
	comp=Z,1.8nm,0.6s,baz=80,slow=1.3,SNR=15								
ARCES				PP		**PP**		**11 09 48.0**	**+4.1**
	comp=Z,1.7nm,0.8s,baz=20,slow=4.0,SNR=2.0								
BELG	**Belogornoye**	**132.14**	**323**	SKPbc		**SKPbc**		**11 10 05.1**	**-1.3**
	comp=Z,61nm,1.1s,baz=157,slow=7.7,SNR=8.6								
FINES	**FINESS Array B**	**135.41**	**343**	PKP		**PKPdf**		**11 07 40.0**	**-1.5**
	comp=Z,1.8nm,1.0s,baz=117,slow=11,SNR=4.6								
FINES				SKP				11 10 17.7	
	comp=Z,3.0nm,0.7s,baz=76,slow=10.0,SNR=4.2								
LSZ	**Lusaka**	**136.05**	**219**			**PKPdf**		**11 07 44.3**	**0.0**
OBN	**Obninsk**	**136.33**	**331**	SKP				11 10 20.5	
	comp=Z,26nm,0.3s,baz=61,slow=8.7,SNR=8.3								
NB2	**NORSAR Subarra**	**138.68**	**353**	PKP		**PKPdf**		**11 07 40.3**	**-7.3**
	comp=Z,0.8nm,0.7s,baz=15,slow=3.3								
NOA	**NORSAR Array B**	**138.68**	**353**	PKhKP		PKPpre		11 07 40.6	
	comp=Z,0.6nm,0.8s,baz=9.8,slow=2.6,SNR=4.4								
NOA				PKP		**PKPdf**		**11 07 45.6**	**-2.1**
	comp=Z,0.1nm,0.3s,baz=28,slow=3.0,SNR=1.9								
NOA				SKPbc		**SKPbc**		**11 10 24.9**	**-1.4**
	comp=Z,5.1nm,1.1s,baz=16,slow=4.3,SNR=3.2								
HFS	**Hagfors**	**139.22**	**351**	PKhKP		PKPpre		11 07 41.6	
	comp=Z,0.9nm,0.3s,baz=56,slow=2.7,SNR=8.5								
HFS				PKP		**PKPdf**		**11 07 46.3**	**-2.2**
	comp=Z,1.0nm,0.6s,baz=64,slow=6.6,SNR=2.1								
HFS				SKPbc		**SKPbc**		**11 10 27.3**	**-0.4**
	comp=Z,7.0nm,0.9s,baz=63,slow=2.7,SNR=6.2								
AKASG	**Malin Array Be**	**142.58**	**331**	PKhKP		PKPpre		11 07 50.8	
	comp=Z,5.2nm,0.6s,baz=43,slow=4.4,SNR=29								
AKASG				SKPbc		**SKPbc**		**11 10 35.4**	**-1.1**
	comp=Z,5.5nm,0.9s,baz=39,slow=2.4,SNR=8.0								
KIEV	**Kiev**	**142.59**	**331**			PKPpre		11 07 51.4	
LODK	**Lodwar**	**143.05**	**248**			**PKPdf**		**11 07 56.3**	**-0.6**
SHEL	**Horse Pasture**	**143.32**	**168**	PKPdf		PKPbc		11 07 56.3	+0.4
MBAR	**Mbarara**	**144.69**	**238**			**PKPdf**		**11 07 59.7**	**-0.2**
EKA	**Eskdalemuir Ar**	**144.79**	**5**	PKP		**PKPdf**		**11 07 58.4**	**-0.2**
	comp=Z,1.0nm,0.3s,baz=276,slow=7.1,SNR=3.6								
EKA				SKPbc		**SKPbc**		**11 10 41.8**	**+0.2**
	comp=Z,5.6nm,0.8s,baz=29,slow=3.6,SNR=5.2								
BNN	**Bunyan**	**145.14**	**310**			**PKPbc**		**11 08 01.4**	**+0.4**
BR131	**Keskin Array S**	**146.35**	**312**			**PKPbc**		**11 08 03.7**	**-0.7**
BRTR	**Keskin Array B**	**146.35**	**312**			**PKPbc**		**11 08 04.2**	**-0.2**
BRTR	**Keskin Array B**	**146.35**	**312**	PKPbc		**PKPbc**		**11 08 03.6**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=140,slow=3.5,SNR=13								
BURAR	**Bucovina Array**	**146.63**	**330**	PKPdf		**PKPdf**		**11 08 02.6**	**+0.5**
MMAI	**Mount Meron Ar**	**147.31**	**300**	PKPbc		**PKPbc**		**11 08 07.3**	**+0.2**
	comp=Z,20nm,0.8s,baz=60,slow=4.9,SNR=13								
GHAJ	**Ghor Haditha**	**147.56**	**297**			**PKPbc**		**11 08 08.2**	**+0.6**
MDUB	**Mudurnu**	**147.66**	**315**			**PKPbc**		**11 08 07.8**	**0.0**
CLL	**Collm**	**147.72**	**346**	*e*PKPdf		**PKPdf**		**11 08 04.0**	**+0.4**
	comp=Z,5.0nm,1.2s								
CLL				⇑*i*PKPbc		**PKPbc**		**11 08 07.3**	**-0.1**
	comp=Z,19nm,0.8s								
CLL				*e*PKPab		**PKPab**		**11 08 11.0**	**-0.9**
CLL				*ep*PKiKP		**pPKPab**		**11 10 26.0**	**+0.6**
	comp=Z,23nm,1.5s								
CLL				*ex*		x		11 10 39.0	
CLL				*e*SKPbc		**SKiKP**		**11 10 50.0**	**+1.7**
MLR	**Muntele Rosu**	**147.78**	**327**	PKPbc		**PKPbc**		**11 08 07.3**	**-0.6**
	comp=Z,5.1nm,0.6s,baz=46,slow=3.7,SNR=5.0								
MORC	**Moravsky Berou**	**147.89**	**340**	*e*PKP		**PKPbc**		**11 08 07.8**	**-0.2**
BRG	**Berggiesshubel**	**147.91**	**345**	*e*P		**PKPbc**		**11 08 07.9**	**+0.1**
BRG				Amp				11 08 08.6	
	comp=Z,6.0nm,0.8s								
BRG				PP		**pPKPab**		**11 10 28.1**	**+1.9**
BRG				Amp				11 10 31.2	
	comp=Z,12nm,1.5s								
VYHS	**Vyhne**	**148.56**	**338**	*e*PKP		**PKPbc**		**11 08 10.1**	**+0.5**
VRAC	**Vranov**	**148.60**	**341**	*e*PKP		**PKPbc**		**11 08 09.1**	**-0.6**
JAVC	**Velka Javorina**	**148.65**	**339**	*e*PKP		**PKiKP**		**11 08 10.5**	**-0.4**
KRUC	**Moravsky**	**148.88**	**341**	*e*PKP		**PKPbc**		**11 08 10.1**	**-0.2**
MODS	**Modra-Piesok**	**149.20**	**339**	*e*PKP		**PKPbc**		**11 08 11.4**	**+0.2**
ZST	**Bratislava**	**149.41**	**339**	*e*PKP		**PKPbc**		**11 08 11.8**	**+0.2**
MEM	**Membach**	**149.49**	**354**	*d*PKP		**PKPbc**		**11 08 11.4**	**-0.3**
BTNL	**Ternell**	**149.50**	**354**	*d*PKP		**PKPbc**		**11 08 11.8**	**0.0**
BSTI	**Sart Tilman**	**149.56**	**355**	*d*PKP		**PKPbc**		**11 08 11.7**	**-0.2**
KHC	**Kasperske Hory**	**149.61**	**344**	PKPdf		**PKPdf**		**11 08 07.1**	**+0.3**
KHC				PKPbc		**PKiKP**		**11 08 12.7**	**-0.2**
BGES	**Gesves**	**149.79**	**355**	*d*PKP		**PKPbc**		**11 08 11.8**	**-0.7**
GERES	**GERESS Array B**	**149.84**	**344**			**PKPbc**		**11 08 12.7**	**0.0**
GERES	**GERESS Array B**	**149.84**	**344**	PKP		**PKPdf**		**11 08 05.6**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=42,slow=3.1,SNR=2.9								
GERES				PKPbc		**PKPbc**		**11 08 12.1**	**-0.6**
	comp=Z,4.7nm,0.8s,baz=54,slow=2.3,SNR=14								
BMRD	**Maredsous**	**149.90**	**356**	*d*PKP		**PKPbc**		**11 08 12.8**	**+0.1**
RCHB	**Rochefort**	**150.01**	**355**	*d*PKP		**PKPbc**		**11 08 12.8**	**-0.2**
CONA	**Conrad Observa**	**150.05**	**341**	*e*PKiKP		**PKPbc**		**11 08 12.9**	**-0.4**
	comp=Z,7.1nm,0.7s,SNR=8.9								
RONA	**Rosalia, Austr**	**150.11**	**340**	*e*PKiKP		**PKPbc**		**11 08 13.1**	**-0.3**
	comp=Z,8.6nm,0.7s								
DOU	**Dourbes**	**150.11**	**356**	*d*PKP		**PKPbc**		**11 08 13.2**	**-0.1**
WLF	**Walferdange**	**150.41**	**354**	*d*PKPdf		**PKPdf**		**11 08 08.1**	**+0.2**
WLF				*d*PKP		**PKiKP**		**11 08 14.2**	**-0.2**
MOA	**Molln**	**150.59**	**342**	*e*PKiKP		**PKPbc**		**11 08 14.1**	**-0.4**
	comp=Z,4.2nm,0.8s								
LESA	**Schwarzleotal**	**151.41**	**344**	*e*PKP		**PKPbc**		**11 08 15.4**	**-1.0**
	comp=Z,2.3nm,0.5s								
SOKA	**Soboth**	**151.42**	**340**	*e*PKiKP		**PKPbc**		**11 08 15.7**	**-0.7**
	comp=Z,4.5nm,0.7s								
BFO	**Black Forest**	**151.45**	**351**			**PKPbc**		**11 08 16.0**	**-0.4**
KBA	**Koelnbreinsper**	**151.56**	**343**	*e*PKP		**PKPbc**		**11 08 15.8**	**-1.1**
	comp=Z,6.7nm,1.0s								
OBKA	**Obir**	**151.72**	**341**	*e*PKP		**PKPbc**		**11 08 15.5**	**-1.7**
	comp=Z,3.4nm,1.1s								
WTTA	**Wattenberg**	**151.82**	**345**	*e*PKiKP		**PKPbc**		**11 08 17.0**	**-0.4**
	comp=Z,9.9nm,0.8s,SNR=5.8								
MOTA	**

SDCO	Great Sand Dun	29.49	357	P	P	10 59 56.3	+0.6
ATAH	Atahualpa	29.63	120	LR	LR	11 09 31.7	
	comp=Z,288nm,21.8s,baz=292,slow=32						
KNB	Kanab	29.85	346	IAmb	IAmb	11 00 11.4	
	comp=Z,5.2nm,0.9s						
HMU	Henry Mountain	30.28	349	IAmb	IAmb	11 00 09.5	
	comp=Z,6.8nm,1.2s						
SMCO	Snowmass	31.01	355	IAmb	IAmb	11 00 17.4	
	comp=Z,10nm,1.4s						
GRAC	Grapevine Rang	31.20	339	IAmb	IAmb	11 00 09.6	
	comp=Z,5.1nm,0.6s						
P17A	Butcher Ranch,	31.77	350	IAmb	IAmb	11 00 23.0	
	comp=Z,5.0nm,1.0s						
MPU	Maple Canyon	32.46	349	IAmb	IAmb	11 00 29.4	
	comp=Z,6.6nm,1.0s						
NVAR	Mina Array Bea	32.81	339	P	P	11 00 24.2	-0.7
	comp=Z,0.3nm,0.7s,baz=151,slow=14,SNR=2.8						
NVAR				LR	LR	11 11 12.9	
	comp=Z,176nm,20.5s,baz=175,slow=32						
	comp=Z,0.3nm,0.7s						
SDV	Santo Domingo	32.91	86	P	P	11 00 25.8	-0.2
SDV	Santo Domingo	32.91	86	LR	LR	11 13 07.1	
	comp=Z,73nm,20.0s,baz=189,slow=35						
TKL	Tuckaleechee C	32.99	31	LR	LR	11 15 21.8	
	comp=Z,174nm,19.1s,baz=206,slow=39						
P40A	Paris	33.00	17	P	P	11 00 25.4	-0.8
PHWY	Pilot Hill	33.03	358	IAmb	IAmb	11 00 33.9	
	comp=Z,5.9nm,1.1s						
TCUT	Toone Canyon	33.49	350	IAmb	IAmb	11 00 38.4	
	comp=Z,6.5nm,0.8s						
NNA	Nana	33.54	126	LR	LR	11 10 57.8	
	comp=Z,155nm,20.6s,baz=318,slow=30						
PD31	Pinedale Array	34.83	353	IAmb	IAmb	11 00 49.2	
	comp=Z,6.5nm,1.1s						
PDAR	Pinedale Array	34.83	353	P	P	11 00 42.2	-0.2
PDAR	Pinedale Array	34.83	353	P	P	11 00 41.4	-1.0
	comp=Z,2.8nm,0.9s,baz=157,slow=7.9,SNR=14						
PDAR				LR	LR	11 12 59.7	
	comp=Z,96nm,20.1s,baz=180,slow=33						
	comp=Z,2.8nm,0.9s						
CZSB	Cruzeiro do Su	34.88	116	P	P	11 00 43.4	+0.4
AHID	Auburn Hatcher	35.04	351	P	P	11 00 44.0	-0.2
AHID				IAmb	IAmb	11 00 51.0	
	comp=Z,5.7nm,0.9s						
SNOW	Snow King Moun	35.67	351	IAmb	IAmb	11 00 58.5	
	comp=Z,8.5nm,1.2s						
LOHW	Long Hollow	35.80	352	IAmb	IAmb	11 00 53.6	
	comp=Z,6.6nm,1.1s						
ECSD	EROS Data Cent	36.01	9	IAmb	IAmb	11 01 08.0	
	comp=Z,7.7nm,1.4s						
FLWY	Flagg Ranch	36.27	352	IAmb	IAmb	11 00 57.3	
	comp=Z,7.3nm,1.0s						
AGMN	Agassiz Nation	40.58	8	P	P	11 01 30.0	-0.7
AGMN				IAmb	IAmb	11 01 37.6	
	comp=Z,10nm,0.8s						
ETMB	Extrema	41.57	115	P	P	11 01 39.7	+0.4
ETMB				IAmb	IAmb	11 01 47.6	
	comp=Z,10nm,1.0s						
SADO	Sadowa	42.33	26	LR	LR	11 20 44.1	
	comp=Z,115nm,18.4s,baz=269,slow=38						
ULM	Lac du Bonnet	42.49	8	P	P	11 01 44.2	-2.1
	comp=Z,4.0nm,1.1s,baz=236,slow=12,SNR=3.0						
ULM				LR	LR	11 19 20.6	
	comp=Z,300nm,18.8s,baz=214,slow=36						
	comp=Z,4.0nm,1.1s						
LPAZ	La Paz	42.94	124	P	P	11 01 51.8	+0.6
LPAZ				IAmb	IAmb	11 02 01.2	
	comp=Z,7.8nm,0.8s						
LPAZ	La Paz	42.94	124	P	P	11 01 53.4	+2.2
	comp=Z,3.9nm,1.0s,baz=334,slow=10,SNR=10.0						
LPAZ				LR	LR	11 17 15.9	
	comp=Z,130nm,21.7s,baz=318,slow=33						
	comp=Z,3.9nm,1.0s						
PB11	IPOC Station P	43.67	130	P	P	11 01 57.2	+0.7
SAML	Samuel	43.99	112	P	P	11 01 58.0	-1.0
PB08	IPOC Station P	44.28	130	P	P	11 02 01.9	+0.3
PB08				IAmb	IAmb	11 02 11.8	
	comp=Z,5.5nm,0.8s						
EDM	Edmonton	45.58	352	P	P	11 02 10.2	-0.9
LVC	Limon Verde	45.94	132	LR	LR	11 17 07.5	
	comp=Z,128nm,19.7s,baz=297,slow=30						
FFC	Flin Flon	46.46	2	P	P	11 02 18.1	+0.1
FFC				IAmb	IAmb	11 02 19.4	
	comp=Z,6.0nm,1.2s						
H03N2	Juan Fernandez	47.70	151	T	T	11 53 57.4	
	baz=327,slow=77,SNR=26						
H03N1	Juan Fernandez	47.71	151	T	T	11 53 58.7	
	baz=327,slow=77,SNR=30						
H03N3	Juan Fernandez	47.72	151	T	T	11 53 57.0	
	baz=327,slow=77,SNR=27						
SIV	San Ignacio	48.73	120	LR	LR	11 21 25.4	
	comp=Z,137nm,18.8s,baz=294,slow=34						
MDP	Montagnes des	50.99	90	LR	LR	11 22 06.3	
	comp=Z,95nm,20.0s,baz=289,slow=33						
FCC	Fort Churchill	51.05	7	P	P	11 02 52.7	-0.4
FCC				IAmb	IAmb	11 02 53.0	
	comp=Z,3.5nm,0.8s						
PPT	Papeete	51.85	240	LR	LR	11 19 23.8	
	comp=Z,128nm,18.6s,baz=14,slow=30						
YKA	Yellowknife Ar	54.79	354	P	P	11 03 18.9	-1.9
	comp=Z,0.4nm,0.6s,baz=165,slow=7.0,SNR=8.8						
YKA				LR	LR	11 27 10.9	
	comp=Z,169nm,18.8s,baz=182,slow=37						
	comp=Z,0.4nm,0.6s						
SCHQ	Schefferville	55.11	25	LR	LR	11 28 13.9	
	comp=Z,157nm,18.8s,baz=274,slow=38						
CPUP	Villa Florida	56.74	129	P	P	11 03 35.9	+0.6
CPUP	Villa Florida	56.74	129	P	P	11 03 36.2	+0.9
	comp=Z,2.9nm,0.9s,baz=306,slow=6.9,SNR=5.0						
	comp=Z,2.9nm,0.9s						
PLCA	Paso Flores	57.54	150	LR	LR	11 22 58.5	
	comp=Z,79nm,18.6s,baz=307,slow=30						
BDFB	Brasilia	60.20	113	LR	LR	11 28 31.3	
	comp=Z,104nm,19.4s,baz=321,slow=34						
FRB	Frobisher Bay	60.97	17	LR	LR	11 30 33.4	
	comp=Z,108nm,18.2s,baz=252,slow=36						
ILAR	Eielson Array	64.03	341	P	P	11 04 23.4	-1.3
	comp=Z,1.4nm,1.0s,baz=148,slow=4.8,SNR=10						
	comp=Z,1.4nm,1.0s						
SFJD	Kangerlussuaq	68.76	20	LR	LR	11 34 17.1	
	comp=Z,108nm,20.9s,baz=246,slow=35						
BORG	Borgarnes	79.50	26	LR	LR	11 40 49.6	
	comp=Z,58nm,18.1s,baz=171,slow=36						
WRA	Warramunga Arr	122.54	252	PKP	PKPdf	11 12 46.9	-0.8
	comp=Z,0.3nm,0.8s,baz=70,slow=1.4,SNR=2.5						
ASAR	Alice Springs	122.67	247	PKP	PKPdf	11 12 47.5	-0.5
	comp=Z,0.7nm,0.9s,baz=142,slow=4.3,SNR=5.0						
CMAR	Chiang Mai Arr	145.24	320	PKPbc	PKPbc	11 13 30.2	+0.6
	comp=Z,1.5nm,0.8s,baz=10.0,slow=2.3,SNR=8.9						

MOS ***10*** *10:57:09.4±1.1,37.˙78N×141.˙90E,h38km,mb4.8/24,Error ellipse: s-maj=7.9km s-min=5.1km az=96.5*

BJI ***10*** *10:57:09.2±0.0,37.˙71N×141.˙90E,h38km,mb4.6/60, mB4.8/31,Ms4.3/44,Ms7 4.2/46*

NIED ***10*** *10:57:11.9,37.˙82N×141.˙76E,h41km,MW4.7,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr1.00; Mθθ-0.12; Mφφ-0.88; Mrθ0.14; Mθφ-0.34; Mφr1.05; Fault plane solution: M₀1.46000×10¹⁶ NP1:φs11.00000°, δ68.00000°,λ83.00000°. NP2:φs210.00000°,δ23.00000°, λ108.00000°.*

JMA ***10*** *10:57:11.9±0.1,37.˙8N±0.˙3×141.˙8E±0.˙6,h41km±1km, MD4.7/40,MW4.7/40,SE OFF MIYAGI PREF*

JMA Felt II J1 at SE OFF MIYAGI PREF .

IDC ***10*** *10:57:13.2±1.9,37.˙82N×141.˙72E,h54km±16km,mb3.9/23, mbtmp4.2/31,ML3.4/6,MS3.9/46,Error ellipse: s-maj=14.3km s-min=11.0km az=106.0*

NEIC ***10*** *10:57:13.2±1.5,37.˙82N±0.˙06×141.˙64E±0.˙07,h37km±2km, mb4.8/51,Error ellipse: s-maj=9.2km s-min=7.8km az=146.0*

GCMT ***10*** *10:57:16.2±0.4,37.˙81N±0.˙03×141.˙79E±0.˙04,h46km±2km, MW4.8/69,Moment Tensor Solution. s25,c27; s69,c94; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.58±.17; Mθθ-0.38±.12; Mφφ-1.20±.11; Mrθ0.17±.08; Mθφ-0.94±.07; Mφr1.23±.08; Best double couple: M₀2.11000×10¹⁶ NP1:φs18.00000°,δ64.00000°,λ75.00000°. NP2: φs230.00000°,δ30.00000°,λ118.00000°. Principal axes: T 2.0590, Plg68.0000°, Azm258.0000°; N 0.1040, Plg14.0000°, Azm25.0000°; P -2.1610, Plg17.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 10:57:11.7±0.4,37.˙81N±0.˙04×141.˙87E±0.˙04,**h36**km±1km, **n273**,σ2s**04**/231,**mb4.6**/78,**MS4.1**/53,**5C-20D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.59**	**328**	⇓*i* P	**Pn**	**10 57 23.2**	**-0.5**
JIKH				⇓S	**Sn**	**10 57 30.9**	**-1.2**
JIKH	**Ishinomakikobu**	**0.59**	**328**	A	A	10 57 23.2	
	comp=E,46nm,0.8s,comp=N,15nm,0.2s						
JIO	**Ouri**	**0.76**	**328**	⇓*i* P	**Pn**	**10 57 25.6**	**-0.4**
JIO				⇓S	**Sn**	**10 57 34.8**	**-1.5**
JIO	**Ouri**	**0.76**	**328**	A	A	10 57 25.6	
	comp=E,32nm,2.0s,comp=N,14nm,1.3s						
JMST	**Minamisoumatoc**	**0.78**	**264**	*i* P	**Pn**	**10 57 25.4**	**-0.9**
JMST				S	**Sn**	**10 57 34.9**	**-1.8**
JMST	**Minamisoumatoc**	**0.78**	**264**	A	A	10 57 25.4	
	comp=E,27nm,1.4s,comp=N,48nm,1.3s						
JMM	**Marumori**	**0.85**	**274**		**Pn**	**10 57 26.3**	**-0.9**
JMM				Sn	**Sn**	**10 57 36.4**	**-2.1**
JMM	**Marumori**	**0.85**	**274**	⇓*i* P	**Pn**	**10 57 26.4**	**-0.8**
JMM				⇓S	**Sn**	**10 57 36.6**	**-1.9**
JMM	**Marumori**	**0.85**	**274**	A	A	10 57 26.4	
	comp=E,32nm,1.7s,comp=N,32nm,0.5s						
JFK	**Kawauchi**	**0.91**	**241**	⇓*i* P	**Pn**	**10 57 27.2**	**-0.8**
JFK	**Kawauchi**	**0.91**	**241**	A	A	10 57 27.2	
	comp=E,42nm,1.0s,comp=N,41nm,2.5s						
JKMT	**Kesennumamotoy**	**1.05**	**343**	⇓*i* P	**Pn**	**10 57 29.7**	**-0.2**
JKMT				⇓*e*S	**Sn**	**10 57 42.7**	**-0.5**
JOFO	**Osakifurukawao**	**1.09**	**317**	A	A	10 57 30.2	
	comp=E,101nm,1.6s,comp=N,67nm,1.6s						
JOU	**Okura**	**1.10**	**301**	⇓*i* P	**Pn**	**10 57 30.2**	**-0.4**
JOU				⇓*e*S	**Sn**	**10 57 43.5**	**-1.1**
JOU	**Okura**	**1.10**	**301**	A	A	10 57 30.2	
	comp=E,24nm,1.3s,comp=N,32nm,2.0s						
ONAJ	**Iwakimizuishiy**	**1.11**	**231**	⇓*i* P	**Pn**	**10 57 30.0**	**-0.7**
ONAJ				⇓S	**Sn**	**10 57 43.0**	**-1.8**
ONAJ	**Iwakimizuishiy**	**1.11**	**231**	A	A	10 57 30.0	
	comp=E,81nm,0.3s,comp=N,57nm,0.3s						
JOTO	**OTAMA OYAMA**	**1.24**	**259**	*i* P	**Pn**	**10 57 32.6**	**0.0**
JOTO				*e*S	**Sn**	**10 57 47.4**	**-0.7**
JOTO	**OTAMA OYAMA**	**1.24**	**259**	A	A	10 57 32.6	
	comp=E,70nm,0.9s,comp=N,110nm,1.2s						
JMK	**Ichinoseki**	**1.25**	**336**	⇓*i* P	**Pn**	**10 57 32.7**	**0.0**
JMK	**Ichinoseki**	**1.25**	**336**	A	A	10 57 32.7	
	comp=E,13nm,3.0s,comp=N,5.0nm,2.6s						
JFFD	**Fukushimafurud**	**1.26**	**236**	A	A	10 57 32.7	
	comp=E,19nm,0.7s,comp=N,12nm,0.4s						
JYAR	**Yonezawaarcadi**	**1.37**	**275**	A	A	10 57 33.9	
	comp=E,37nm,1.7s,comp=N,39nm,1.1s						
JYS	**Shirataka**	**1.48**	**287**	*e*P	**Pn**	**10 57 35.7**	**-0.2**
JYS	**Shirataka**	**1.48**	**287**	A	A	10 57 35.7	
	comp=E,20nm,1.1s,comp=N,19nm,2.4s						
JYK	**Kaneyama**	**1.62**	**313**	⇓*i* P	**Pn**	**10 57 37.7**	**-0.1**
JOM	**Ohasama**	**1.72**	**345**	⇓*e*P	**Pn**	**10 57 39.5**	**+0.4**
JSB	**Shiboa**	**1.76**	**242**	A	A	10 57 39.9	
	comp=E,22nm,1.0s,comp=N,22nm,1.2s						
JFY	**Yanaizu**	**1.77**	**258**	⇓*i* P	**Pn**	**10 57 39.8**	**0.0**
JFY	**Yanaizu**	**1.77**	**258**	A	A	10 57 39.8	
	comp=E,8.0nm,1.2s,comp=N,11nm,3.4s						
JRG	**Rokugo**	**1.86**	**329**	A	A	10 57 41.5	
	comp=E,11nm,2.2s,comp=N,11nm,3.8s						
JYA	**Atsumi**	**1.87**	**295**	A	A	10 57 41.2	
	comp=E,10.0nm,0.9s,comp=N,7.0nm,2.2s						
JYYZ	**Yamagatayuza**	**1.94**	**309**	A	A	10 57 42.4	
	comp=E,25nm,3.6s,comp=N,21nm,3.4s						
JNS	**Sasagawa**	**2.02**	**271**	A	A	10 57 43.3	
	comp=E,5.0nm,2.1s,comp=N,5.0nm,1.7s						
JSZI	**Iwateshizukuis**	**2.06**	**340**	A	A	10 57 44.5	
	comp=E,25nm,2.1s,comp=N,21nm,3.8s						
JYT	**Yasato**	**2.07**	**221**	A	A	10 57 44.6	
	comp=E,25nm,0.4s,comp=N,18nm,0.3s						
JIHU	**Itakohorinouch**	**2.13**	**211**	A	A	10 57 45.7	
	comp=E,35nm,1.1s,comp=N,34nm,2.7s						
JYW	**Yuwa**	**2.16**	**324**	A	A	10 57 45.8	
	comp=E,18nm,2.1s,comp=N,18nm,1.4s						
JIZZ	**Izumozaki**	**2.52**	**265**	A	A	10 57 50.5	
	comp=E,22nm,2.2s,comp=N,21nm,3.3s						
JAH	**Hinai**	**2.56**	**338**	A	A	10 57 51.8	
	comp=E,16nm,3.6s,comp=N,8.0nm,2.9s						
JCN	**Nagara**	**2.74**	**210**	A	A	10 57 54.3	
	comp=E,23nm,2.0s,comp=N,22nm,2.7s						
JNTW	**Noshirotokiwa**	**2.80**	**332**	A	A	10 57 54.9	
	comp=E,39nm,4.0s,comp=N,23nm,1.9s						
JGK	**Kuni**	**2.86**	**245**	A	A	10 57 55.5	
	comp=E,10.0nm,5.5s,comp=N,10.0nm,3.6s						
JSD	**Sado**	**2.86**	**276**		**Pn**	**10 57 54.9**	**+0.1**
JJN	**Nakama**	**3.03**	**258**	A	A	10 57 57.8	
	comp=E,10.0nm,3.5s,comp=N,8.0nm,1.7s						
JTM	**Tenmabayashi**	**3.04**	**348**		**Pn**	**10 57 58.5**	**+1.3**
MJAR	**Matsushiro Arr**	**3.19**	**248**	P	**Pn**	**10 57 59.5**	**+0.2**
	comp=N,1.7nm,0.3s,baz=76,slow=13,SNR=105						
MJAR				S	**Sn**	**10 58 34.8**	**-1.2**
	comp=N,80nm,0.6s,baz=100,slow=14,SNR=2.7						
MJAR				LR	LR	10 59 29.8	
	comp=N,3μm,20.1s,baz=70,slow=44						
	comp=N,54nm,0.9s						
MAJO	**Matsushiro**	**3.19**	**248**		**Pn**	**10 57 59.2**	**-0.1**
MAJO	**Matsushiro**	**3.19**	**248**	P	**Pn**	**10 57 59.2**	**-0.1**
MJB9	**Matsu-Tunnel**	**3.19**	**248**		**Pn**	**10 57 59.0**	**-0.3**
TATJ	**Tateyama 2**	**3.20**	**211**	A	A	10 58 00.8	
	comp=E,32nm,1.6s,comp=N,25nm,3.1s						
JOD2	**Odawara 2**	**3.39**	**222**	A	A	10 58 03.3	
	comp=E,8.0nm,2.0s,comp=N,11nm,1.5s						
JGF	**Kuroka**	**4.24**	**240**	Pn	**Pn**	**10 58 15.4**	**+1.6**
ERM	**Erimo**	**4.32**	**13**		**Pn**	**10 58 17.7**	**+2.9**
ERM	**Erimo**	**4.32**	**13**	*i* P	**Pn**	**10 58 15.7**	**+0.9**
JSG	**Sagara**	**4.32**	**225**	Pn	**Pn**	**10 58 14.9**	**+0.1**
JHJ2	**Mitsune**	**4.98**	**200**	Pn	**Pn**	**10 58 24.9**	**+1.1**
JHJ	**Hachijo jima 2**	**4.98**	**201**	P	**Pn**	**10 58 23.8**	**-0.1**
	comp=N,224nm,0.3s,baz=121,slow=23,SNR=24						
JHJ				S	**Sn**	**10 59 18.6**	**-1.6**
	comp=N,812nm,0.5s,baz=119,slow=22,SNR=15						
JHJ				LR	LR	11 00 32.4	
	comp=N,860nm,20.3s,baz=48,slow=40						
NMR	**Nemuro--Hokkai**	**6.28**	**27**	*e*P	**Pn**	**10 58 41.0**	**-0.8**
NMR				*e*S	**Sn**	**10 59 48.2**	**-4.1**
ASAJ	**Asahikawa**	**6.33**	**5**	P	**Pn**	**10 58 43.0**	**+0.6**
	comp=N,1.4nm,0.3s,baz=216,slow=11,SNR=16						
ASAJ				S	**Sn**	**10 59 50.6**	**-2.8**
	comp=N,22nm,0.6s,baz=199,slow=17,SNR=3.8						
	comp=N,4.0nm,0.2s						
ASAJ	**Asahikawa**	**6.33**	**5**	P	**Pn**	**10 58 43.3**	**+0.9**
JKA	**Kamikawa-asahi**	**6.33**	**5**	Pn	**Pn**	**10 58 43.3**	**+0.9**
RUSJ	**Misakicho**	**6.79**	**21**	*e*P	**Pn**	**10 58 49.3**	**+0.6**
RUSJ				*e*S	**Sn**	**11 00 03.7**	**-1.0**
YUK	**Yuzh-Kuril'sk**	**6.91**	**25**	P	**Pn**	**10 58 50.6**	**+0.2**
YUK				*e*S	**Sn**	**11 00 04.8**	**-3.0**
YUK				smax	smax		
	comp=E,458nm,0.4s						
YUK				smax	smax		
	comp=N,449nm,0.5s						
SHO	**Shikotan**	**7.13**	**30**	*e*P	**Pn**	**10 58 51.8**	**-1.6**
SHO				*e*S	**Sn**	**11 00 06.3**	**-6.7**
SHO				smax	smax		
	comp=N,184nm,0.4s						
SHO				smax	smax		
	comp=E,150nm,0.2s						
JMN	**Monobe**	**7.66**	**240**	Pn	**Pn**	**10 58 59.7**	**-1.2**
TEY	**Ternei**	**8.23**	**333**	*e*P	**Pn**	**10 59 13.1**	**+4.6**
TEY				*e*		11 00 41.0	
KUR	**Kuril'sk**	**8.67**	**29**	*e*P	Pn	10 59 20.5	+6.0
KUR				*e*S	**Sn**	**11 00 47.1**	**-3.9**
KUR				pmax	pmax		
	comp=Z,42nm,0.5s						
KUR				smax	smax		
	comp=N,94nm,0.6s						
KUR				smax	smax		
	comp=E,62nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.16**	**4**		**Pn**	**10 59 23.4**	**+2.1**
YSS	**Yuzh-Sakhalins**	**9.16**	**4**	*e*P	**Pn**	**10 59 22.8**	**+1.5**
YSS				*e*S	**Sn**	**11 01 00.3**	**-2.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=E,200nm,16.0s						
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
VLA	**Vladivostok**	**9.27**	**308**	*i* P	**Pn**	**10 59 23.4**	**+0.6**
PSTR	**Posyet**	**9.74**	**303**	*i* P	**Pn**	**10 59 29.3**	**+0.1**
USA0B	**Ussuriysk Arra**	**9.82**	**314**		**Pn**	**10 59 30.2**	**-0.1**
USA0B	**Ussuriysk Arra**	**9.82**	**314**	P	**Pn**	**10 59 30.2**	**-0.1**
USRK	**Ussuriysk Ar.**	**9.82**	**314**	Pn	**Pn**	**10 59 30.5**	**+0.2**
USRK	**Ussuriysk Ar.**	**9.82**	**314**	P	**Pn**	**10 59 30.9**	**+0.6**
	comp=Z,0.4nm,0.3s,baz=125,slow=14,SNR=6.6						
USRK				LR	LR	11 03 03.6	
	comp=Z,1μm,18.6s,baz=128,slow=36						
	comp=Z,3.7nm,0.8s						
JNU	**Nakatsue**	**10.11**	**246**		**Pn**	**10 59 33.3**	**-1.0**
JNU	**Nakatsue**	**10.11**	**246**	P	**Pn**	**10 59 34.4**	**0.0**
	comp=Z,0.2nm,0.3s,baz=49,slow=7.3,SNR=5.8						
JNU				LR	LR	11 03 49.6	
	comp=Z,1μm,19.7s,baz=57,slow=40						
	comp=Z,20nm,1.1s						
JCJ	**Chichijima**	**10.69**	**178**	Pn	**Pn**	**10 59 43.8**	**+1.5**
JCJ	**Chichijima**	**10.69**	**178**	LR	LR	11 05 22.1	
	comp=Z,133nm,19.2s,baz=346,slow=46						
KSRS	**Korea Array**	**11.07**	**272**	P	**Pn**	**10 59 49.2**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=84,slow=14,SNR=20						
KSRS				LR	LR	11 03 52.1	
	comp=Z,778nm,19.0s,baz=80,slow=36						
	comp=Z,6.6nm,0.8s						
KSAR	**Wonju Array Be**	**11.10**	**272**	Pn	**Pn**	**10 59 45.9**	**-1.9**
KSAR	**Wonju Array Be**	**11.10**	**272**	P	**Pn**	**10 59 45.9**	**-1.9**
KS19	**Wonju Array Si**	**11.11**	**273**		**Pn**	**10 59 46.6**	**-1.4**
MDJ	**Mudanjiang**	**11.47**	**310**	P	**Pn**	**10 59 54.6**	**+1.7**
MDJ				pP		10 59 57.5	
MDJ				PP	**PnPn**	**11 00 03.4**	**+2.8**
MDJ				S	**Sn**	**11 02 04.0**	**+4.3**
MDJ				SS	**SnSn**	**11 02 17.4**	**+5.8**
MDJ				PcS	**PcS**	**11 09 21.2**	**+3.8**
MDJ				pmax	pmax		
	comp=Z,14nm,1.9s						
MDJ				pmax	pmax		
	comp=Z,150nm,6.5s						
MDJ				LR	LR		
	comp=Z,520nm,18.2s						
MDJ				LR	LR		
	comp=Z,740nm,18.2s						
MDJ				LR	LR		
	comp=Z,1μm,17.9s						
MDJ	**Mudanjiang**	**11.47**	**310**	Pn	**Pn**	**10 59 51.6**	**-1.2**
TJN	**Taejon**	**11.67**	**267**		**Pn**	**10 59 54.6**	**-1.1**
TJN	**Taejon**	**11.67**	**267**	P	**Pn**	**10 59 54.6**	**-1.1**
BNX	**BinXian**	**13.38**	**311**	P	**Pn**	**11 00 19.8**	**+0.9**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.6s						
BNX				pmax	pmax		
	comp=Z,92nm,3.5s						
KLR	**Kul'dur**	**13.56**	**331**	P	**Pn**	**11 00 22.5**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=128,slow=15,SNR=2.2						
KLR				LR	LR	11 05 34.6	
	comp=Z,576nm,18.2s,baz=144,slow=37						
	comp=Z,0.8nm,0.6s						
KLR	**Kul'dur**	**13.56**	**331**	*e*P	**Pn**	**11 00 23.1**	**+1.7**
KLR				pmax	pmax		
	comp=Z,15nm,1.8s						
CN2	**Changchun**	**13.79**	**301**	*e*P	**Pn**	**11 00 23.4**	**-1.2**
CN2				*e*S	**Sn**	**11 02 50.9**	**-5.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
CN2				pmax	pmax		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=Z,400nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
CN2				LR	LR		
	comp=Z,500nm,18.0s						
DL2	**Dalian**	**15.92**	**280**	P	**P**	**11 00 54.8**	**-1.4**
DL2				S	**Sn**	**11 03 53.7**	**+5.5**
DL2				pmax	pmax		
	comp=Z,40nm,1.1s						
DL2				pmax	pmax		
	comp=Z,390nm,9.3s						
DL2				LR	LR		
	comp=Z,200nm,12.2s						
DL2				LR	LR		
	comp=Z,530nm,19.3s						
DL2				LR	LR		
	comp=Z,730nm,21.0s						
HEH	**HeiHe**	**16.17**	**325**	*e*P	**Pn**	**11 00 50.7**	**-5.4**
HEH				LR	LR		
	comp=N,390nm,16.5s						
HEH				LR	LR		
	comp=E,390nm,15.9s						
HEH				LR	LR		
	comp=Z,620nm,14.9s						
PETK	**Petropavlovsk-**	**18.84**	**31**	P	**Pn**	**11 01 30.2**	**+1.2**
PETK	**Petropavlovsk-**	**18.84**	**31**	P	**Pn**	**11 01 29.8**	**+0.7**
	comp=Z,4.7nm,1.0s,baz=170,slow=8.8,SNR=2.7						
PETK				LR	LR	11 09 25.0	
	comp=Z,77nm,19.5s,baz=218,slow=39						
PETK	**Petropavlovsk-**	**18.84**	**31**	P	**Pn**	**11 01 30.3**	**+1.2**
ZEA	**Zeya**	**18.85**	**332**	*e*P	**P**	**11 01 27.8**	**-0.7**
ZEA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PET	**Petropavlovsk**	**19.17**	**32**	P	**Pn**	**11 01 34.6**	**+1.6**
PET	**Petropavlovsk**	**19.17**	**32**	*i* P	**P**	**11 01 30.8**	**-1.1**
PET				pmax	pmax		
	comp=Z,31nm,1.3s						
NJ2	**Nanjing**	**19.70**	**260**	*e*P	**P**	**11 01 38.0**	**0.0**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				LR	LR		
	comp=Z,390nm,16.1s						
NJ2				LR	LR		
	comp=Z,420nm,15.7s						
NJ2				LR	LR		
	comp=Z,920nm,14.1s						
TIA	**Tai'an**	**19.81**	**273**	P	**P**	**11 01 39.2**	**0.0**
TIA				pmax	pmax		
	comp=Z,14nm,1.1s						
TIA				pmax	pmax		

comp=Z,170nm,6.2s
GUMO Guam 24.27 173 LR LR 11 11 28.4
comp=Z,64nm,21.9s,baz=12,slow=35
CIT Chita 24.38 315 *e*P **P** **11 02 26.5 +0.1**
CIT *e* 11 02 37.0
CIT *e* 11 03 04.0
BTO Baotou 24.77 286 *e*P **P** **11 02 30.5 +0.4**
BTO pP **pP** **11 02 42.1 +1.9**
BTO sP **sP** **11 02 47.5 +2.9**
BTO PP **PnPn** **11 03 08.1 +5.2**
BTO S **S** **11 06 48.8 -1.3**
BTO sS **sS** **11 07 05.2 -0.1**
BTO SS **SnSn** **11 07 45.8 +7.6**
BTO pmax pmax
comp=Z,17nm,0.6s
BTO pmax pmax
comp=Z,210nm,6.7s
BTO LR LR
comp=Z,410nm,17.7s
BTO LR LR
comp=Z,790nm,16.5s
BTO LR LR
comp=Z,710nm,19.0s
YAK Yakutsk 25.40 347 P **P** **11 02 34.6 -0.8**
YAK IAmb IAmb 11 02 49.8
comp=Z,52nm,1.2s
YAK Yakutsk 25.40 347 LR LR 11 12 46.9
comp=Z,138nm,21.0s,baz=164,slow=37
YAK Yakutsk 25.40 347 *e*P **P** **11 02 35.0 -0.4**
YAK *e*S **S** **11 06 58.6 -0.8**
YAK pmax pmax
comp=Z,23nm,0.9s
YAK pmax pmax
comp=N,8.0nm,0.9s
YAK smax smax
comp=N,109nm,2.5s
YAK smax smax
comp=E,64nm,2.5s
YAK MLR MLR
comp=Z,285nm,15.0s
YAK MLR MLR
comp=N,128nm,13.0s
SEY Seymchan 25.96 11 LR LR 11 13 46.8
comp=N,85nm,19.5s,baz=186,slow=38
SEY Seymchan 25.96 11 *e*P **P** **11 02 37.9 -2.6**
SEY pmax pmax
comp=Z,13nm,1.1s
XAN Xi'an 26.87 272 ⇑P **P** **11 02 48.6 -0.5**
XAN pmax pmax
comp=Z,21nm,1.8s
XAN LR LR
comp=Z,440nm,14.4s
XAN LR LR
comp=Z,490nm,13.7s
ULN Ulaanbaatar 27.23 303 *i* P **P** **11 02 52.2 -0.2**
ULN pmax pmax
comp=Z,4.0nm,0.5s
SONM Songino Array 27.66 303 P **P** **11 02 56.8 +0.6**
SONM Songino Array 27.66 303 P **P** **11 02 53.5 -2.7**
comp=Z,2.9nm,0.8s,baz=98,slow=9.1,SNR=10
SONM LR LR 11 14 16.8
comp=Z,274nm,18.4s,baz=116,slow=37
comp=Z,2.9nm,0.8s
SONM Songino Array 27.66 303 P **P** **11 02 56.8 +0.6**
SONM pmax pmax
comp=Z,7.0nm,0.8s
ENH Enshi 27.77 264 P **P** **11 02 55.8 -1.4**
ENH IAmb IAmb 11 03 04.9
comp=Z,27nm,0.9s
H11N2 WAKE ISLAND Hy 28.25 123 T T 11 33 22.6
baz=316,slow=76,SNR=598
H11N1 WAKE ISLAND Hy 28.25 123 T T 11 33 23.4
baz=316,slow=76,SNR=364
H11N3 WAKE ISLAND Hy 28.26 123 T T 11 33 23.9
baz=316,slow=76,SNR=635
H11S1 WAKE ISLAND Hy 28.99 125 T T 11 34 19.4
baz=318,slow=76,SNR=482
H11S3 WAKE ISLAND Hy 28.99 125 T T 11 34 20.1
baz=318,slow=76,SNR=684
H11S2 WAKE ISLAND Hy 29.00 125 T T 11 34 22.0
baz=318,slow=76,SNR=562
LZH Lanzhou 30.30 279 *e*P **P** **11 03 22.1 +2.3**
LZH pP sP 11 03 32.6 -1.7
LZH pmax pmax
comp=Z,15nm,1.3s
LZH LR LR
comp=Z,240nm,14.4s
LZH LR LR
comp=Z,380nm,14.4s
LZH LR LR
comp=Z,420nm,14.4s
GYA Guiyang 31.71 259 ⇓P **P** **11 03 34.5 +2.2**
GYA pmax pmax
comp=Z,39nm,1.0s
CD2 Chengdu 32.04 269 P **P** **11 03 39.0 +4.0**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 LR LR
comp=Z,330nm,14.0s
BILL Bilibino 33.18 16 *i* P **P** **11 03 46.2 +1.7**
BILL pmax pmax
comp=Z,5.0nm,1.1s
QIZ Qiongzhong 33.58 245 P **P** **11 03 48.3 -0.2**
QIZ S **S** **11 09 08.6 0.0**
QIZ LR LR
comp=Z,410nm,17.2s
QIZ LR LR
comp=Z,470nm,15.6s
QIZ LR LR
comp=Z,320nm,18.5s
DAV Davao City (W) 33.98 210 LR LR 11 16 10.0
comp=Z,73nm,21.8s,baz=44,slow=34
TIXI Tiksi 34.57 353 LR LR 11 19 12.9
comp=Z,142nm,18.5s,baz=161,slow=38
TIXI Tiksi 34.57 353⇑ *e*P **P** **11 03 54.6 -1.9**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
KMI Kunming 35.44 261 ⇑P **P** **11 04 07.4 +2.6**
KMI pP pP 11 04 15.0 -0.1
KMI LR LR
comp=Z,180nm,17.7s
KMI LR LR
comp=Z,270nm,17.2s
KMI LR LR
comp=Z,280nm,18.5s
PZH PanZhiHua 35.55 263 P **P** **11 04 04.7 -0.9**
PZH S **S** **11 09 40.4 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,80nm,5.1s
PZH LR LR
comp=Z,190nm,16.1s
PZH LR LR
comp=Z,270nm,16.3s
PZH LR LR
comp=Z,410nm,17.2s
GOMU GeErMu 37.30 282 P **P** **11 04 21.1 +0.3**
GOMU pP pP 11 04 26.9 -4.2
GOMU S **S** **11 09 58.1 -8.1**
GOMU pmax pmax
comp=Z,13nm,1.2s
GOMU LR LR
comp=Z,280nm,14.1s
GOMU LR LR
comp=Z,210nm,16.3s
GOMU LR LR
comp=Z,480nm,17.3s
CRAI Chiangrai 39.92 256 P **P** **11 04 41.8 -0.8**
WMQ Urumqi 40.82 296 *e*P **P** **11 04 50.8 +1.0**
WMQ pP pP 11 05 00.7 +0.6
WMQ pmax pmax
comp=Z,16nm,1.1s
WMQ LR LR
comp=Z,220nm,21.3s
FAKI Fak Fak 41.49 195 P **P** **11 04 55.8 +0.4**
FAKI IAmb IAmb 11 05 10.4
comp=Z,25nm,1.1s
ZAA0 Zalesovo Array 41.66 312 P **P** **11 04 55.7 -0.8**
ZAA0 IAmb IAmb 11 05 20.1
comp=Z,8.8nm,0.7s
ZALV Zalesovo Beam 41.66 312 P **P** **11 04 55.8 -0.6**
ZALV Zalesovo Beam 41.66 312 P **P** **11 04 55.7 -0.8**
comp=Z,3.1nm,0.7s,baz=77,slow=7.1,SNR=9.8
ZALV LR LR 11 22 45.1
comp=Z,243nm,18.0s,baz=72,slow=37
comp=Z,3.1nm,0.7s
ZALV Zalesovo Beam 41.66 312 *i* P **P** **11 04 56.1 -0.4**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 41.84 255 P **P** **11 04 56.6 -1.7**
CHTO Chiang Mai 41.84 255 P **P** **11 04 56.6 -1.7**
CHTO pmax pmax
comp=Z,5.0nm,1.0s
CMAR Chiang Mai Arr 42.05 255 P **P** **11 04 59.4 -0.6**
CMAR Chiang Mai Arr 42.05 255 P **P** **11 04 59.2 -0.8**
comp=Z,0.4nm,0.3s,baz=42,slow=13,SNR=4.7
CMAR LR LR 11 24 50.3
comp=Z,73nm,18.5s,baz=40,slow=40
comp=Z,0.4nm,0.3s
CMAR Chiang Mai Arr 42.05 255 P **P** **11 04 59.4 -0.6**
SHL Shillong 43.78 269 P **P** **11 05 13.2 -1.0**
SHL IAmb IAmb 11 05 21.3
comp=Z,14nm,0.6s
SHL Shillong 43.78 269 P **P** **11 05 13.2 -1.0**
SHL pmax pmax
comp=Z,14nm,0.6s
MKAR Makanchi Array 44.02 302 P **P** **11 05 13.2 -2.5**
comp=Z,4.0nm,0.8s,baz=79,slow=8.7,SNR=8.1
MKAR LR LR 11 25 46.5
comp=Z,80nm,18.9s,baz=62,slow=39
comp=Z,4.0nm,0.8s
H19K Roundabout Mou 44.64 31 IAmb IAmb 11 05 36.8
comp=Z,15nm,1.4s
KURK Kurchatov 45.74 308 P **P** **11 05 28.7 -0.6**
KURK Kurchatov 45.74 308 P **P** **11 05 28.7 -0.6**
KURK pmax pmax
comp=Z,29nm,0.8s
KURBB Kurchatov Arra 45.81 307 P **P** **11 05 28.4 -1.5**
comp=Z,5.7nm,0.7s,baz=82,slow=8.7,SNR=13
KURBB LR LR 11 25 26.9
comp=Z,308nm,18.3s,baz=168,slow=37
comp=Z,5.7nm,0.7s
KDAK Kodiak Island 46.28 42 LR LR 11 24 53.6
comp=Z,128nm,21.3s,baz=243,slow=36
B22K Teshekpuk Lake 46.45 25 P **P** **11 05 36.4 +1.8**
B22K IAmb IAmb 11 06 00.8
comp=Z,6.8nm,0.9s
D22K Ayikyak River 46.51 27 P **P** **11 05 37.1 +2.0**
D22K IAmb IAmb 11 06 04.4
comp=Z,13nm,1.3s
KAPI Kappang 47.31 211 LR LR 11 23 28.0
comp=Z,28nm,21.3s,baz=8.0,slow=33
C23K Itkillik River 47.34 26 P **P** **11 05 43.6 +2.0**
COLA College 48.23 33 *i* P **P** **11 05 47.4 -1.1**
COLA pmax pmax
comp=Z,3.0nm,1.2s
COLA College 48.23 33 P **P** **11 05 51.7 +3.2**
TARG Taragay, Kyrgy 48.39 296 IAmb IAmb 11 05 53.3
comp=Z,6.9nm,0.7s
TARG Taragay, Kyrgy 48.39 296 P **P** **11 05 50.8 +0.2**
TARG pmax pmax
comp=Z,10.0nm,0.7s
ILAR Eielson Array 48.65 33 P **P** **11 05 51.7 0.0**
comp=Z,1.0nm,1.0s,baz=270,slow=6.0,SNR=6.9
comp=Z,1.0nm,1.0s
BOOM Boomskoye usch 49.48 297 IAmb IAmb 11 06 15.5
comp=Z,7.4nm,0.9s
BVAR Borovoye Array 50.32 312 P **P** **11 06 03.1 -1.5**
comp=Z,1.1nm,0.6s,baz=60,slow=8.8,SNR=2.5
BVAR LR LR 11 28 22.8
comp=Z,219nm,18.2s,baz=81,slow=37
comp=Z,1.1nm,0.6s
BRVK Borovoye 50.38 312 *i* P **P** **11 06 05.4 +0.3**
BRVK pmax pmax
comp=Z,11nm,2.3s
KSH Kashi 50.42 294 P **P** **11 06 10.0 +4.2**
KSH pP sP 11 06 23.3 +2.7
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,810nm,16.8s
KSH LR LR
comp=Z,690nm,18.0s
KSH LR LR
comp=Z,350nm,17.0s
AAK Ala-Archa 50.44 298 LR LR 11 28 42.4
comp=Z,186nm,19.2s,baz=76,slow=38
BATI Baumata 50.72 203 P **P** **11 06 08.5 +0.5**
comp=Z,26nm,0.4s,baz=313,slow=7.0,SNR=2.4
I29M Ogilvie Camp, 52.20 31 IAmb IAmb 11 06 32.4
comp=Z,10nm,1.4s
EPYK Eagle Plains 52.67 30 IAmb IAmb 11 06 38.8
comp=Z,16nm,1.4s
I30M Mount Dempster 53.02 31 P **P** **11 06 26.4 +1.5**
I30M IAmb IAmb 11 06 40.7
comp=Z,22nm,1.5s
HYT Haines Junctio 53.46 37 IAmb IAmb 11 06 47.0
comp=Z,12nm,1.3s
INK Inuvik 53.53 27 LR LR 11 29 55.5
comp=Z,91nm,20.9s,baz=183,slow=37
H31M Peel River 53.73 31 P **P** **11 06 31.0 +1.1**
H31M IAmb IAmb 11 06 48.0
comp=Z,9.6nm,0.9s
GSI Gunungsitoli 54.51 239 P **P** **11 06 35.2 -1.0**
SIMJ Simiganj 55.77 295 P **P** **11 06 44.6 -0.6**
SIMJ Simiganj 55.77 295 P **P** **11 06 44.8 -0.4**
P33M Teslin, Yukon 55.86 37 IAmb IAmb 11 07 01.8
comp=Z,7.0nm,1.1s
ARU Arti 56.02 318 P **P** **11 06 45.9 -0.7**
ARU IAmb IAmb 11 06 47.9
comp=Z,8.5nm,0.9s
ARU Arti 56.02 318 P **P** **11 06 45.8 -0.7**
comp=Z,4.8nm,0.5s,baz=30,slow=8.1,SNR=3.1
ARU LR LR 11 32 52.9
comp=Z,210nm,18.5s,baz=58,slow=38
comp=Z,4.8nm,0.5s
ARU Arti 56.02 318*d* *i*P **P** **11 06 45.5 -1.0**
ARU 11 07 42.4
ARU 11 08 48.1
ARU S **S** **11 14 32.9 +0.7**
ARU SS **SS** **11 18 13.4 -4.6**
ARU pmax pmax
comp=Z,23nm,1.7s
ARU MLR MLR
comp=Z,355nm,18.0s
ARU Arti 56.02 318 P **P** **11 06 46.1 -0.4**
FITZ Fitzroy Crossi 57.67 198 P **P** **11 06 58.9 +0.4**
WB0 Warramunga Arr 57.70 188 P **P** **11 06 58.4 -0.4**
ABKAR Akbulak array 57.72 310 P **P** **11 06 57.5 -1.2**
ABKAR Akbulak array 57.72 310 IAmb IAmb 11 06 59.2
comp=Z,3.5nm,0.8s
DLBC Dease Lake 57.79 38 LR LR 11 34 58.6
comp=Z,27nm,19.4s,baz=131,slow=39
WRAB Tennant Creek 57.87 188 P **P** **11 06 59.6 -0.3**
WRAB Tennant Creek 57.87 188 P **P** **11 06 59.6 -0.3**
WRAB pmax pmax
comp=Z,29nm,1.5s
WB2 Warramunga Arr 57.88 188 P **P** **11 06 59.8 -0.2**
WRA Warramunga Arr 57.88 188 P **P** **11 06 59.3 -0.7**
WRA Warramunga Arr 57.88 188 P **P** **11 06 59.2 -0.7**
comp=Z,5.9nm,0.8s,baz=4.9,slow=6.8,SNR=50
comp=Z,5.9nm,0.8s
WRA Warramunga Arr 57.88 188 P **P** **11 06 59.3 -0.7**
WRA pmax pmax
comp=Z,1.0nm,1.0s
AKTO Aktyubinsk 58.43 312 P **P** **11 07 03.1 -0.5**
comp=Z,1.2nm,0.5s,baz=41,slow=12,SNR=4.0
AKTO LR LR 11 33 12.3
comp=Z,179nm,18.7s,baz=64,slow=37
comp=Z,1.2nm,0.5s
SPITS Spitsbergen Ar 59.83 349 P **P** **11 07 12.2 -0.8**
comp=Z,4.6nm,0.8s,baz=348,slow=12,SNR=1.7
comp=Z,4.6nm,0.8s
KIRV Kirov 59.85 323 LR LR 11 35 33.6
comp=Z,108nm,18.7s,baz=11,slow=38
KIRV Kirov 59.85 323⇑ *e*P **P** **11 07 12.8 -0.5**
AS31 Alice Springs 61.60 188 P **P** **11 07 25.7 +0.1**
ASAR Alice Springs 61.60 188 P **P** **11 07 25.7 +0.1**
ASAR Alice Springs 61.60 188 P **P** **11 07 25.4 -0.2**
comp=Z,2.9nm,0.8s,baz=12,slow=7.4,SNR=25
comp=Z,2.9nm,0.8s
ASAR Alice Springs 61.60 188 P **P** **11 07 25.7 +0.1**
RES Resolute Bay 61.76 15 P **P** **11 07 29.5 +3.5**
RES pmax pmax
comp=Z,4.0nm,1.0s
PALK Pallekele 62.89 258 LR LR 11 37 54.9
comp=Z,57nm,18.2s,baz=145,slow=39
YKA Yellowknife Ar 62.96 30 P **P** **11 07 34.1 -0.2**
comp=Z,0.3nm,0.7s,baz=301,slow=6.9,SNR=5.4
comp=Z,0.3nm,0.7s
KLMR Klimovskoe 63.30 328 *e*P **P** **11 07 32.9 -3.6**
KLMR *e* 11 10 02.1
KLMR pmax pmax
comp=Z,19nm,1.5s
ARCES ARCESS Array B 63.40 339 LR LR 11 37 41.7
comp=Z,91nm,20.1s,baz=14,slow=38
BELG Belogornoye 63.48 317 LR LR 11 36 56.0
comp=Z,101nm,18.8s,baz=215,slow=38
GEYT Alibeck 63.78 299 P **P** **11 07 39.3 -0.9**
comp=Z,2.1nm,0.3s,baz=42,slow=2.3,SNR=4.4
GEYT LR LR 11 37 05.3
comp=Z,91nm,19.8s,baz=39,slow=38
comp=Z,2.1nm,0.3s
DZM Mont Dzumac 63.89 155 *e*LR LR 11 26 44.8
comp=Z,201nm,21.8s
DZM Mont Dzumac 63.89 155 LR LR 11 33 20.8
comp=Z,117nm,20.5s,baz=316,slow=34
DAG Danmarks Havn 65.03 355 *i* P P 11 07 57.0 +9.3
DAG IAmb IAmb 11 08 00.6
comp=Z,2.5nm,0.8s
FINES FINESS Array B 68.30 332 P **P** **11 08 06.3 -2.4**
comp=Z,2.8nm,0.7s,baz=43,slow=8.9,SNR=8.3
FINES LR LR 11 39 22.2
comp=Z,125nm,18.7s,baz=33,slow=37
comp=Z,2.8nm,0.7s
FINES FINESS Array B 68.30 332 *i* P **P** **11 08 09.3 +0.6**
FINES pmax pmax
comp=Z,3.0nm,0.6s
STKA Stephens Creek 69.33 180 P **P** **11 08 13.5 -1.9**
comp=Z,1.5nm,0.5s,baz=336,slow=10.0,SNR=2.1
comp=Z,1.5nm,0.5s
SUMG Summit 69.91 0 *i* P **P** **11 08 23.3 +4.2**
KBZ Khabaz 70.67 311 P **P** **11 08 23.1 -0.6**
comp=Z,3.0nm,0.7s,baz=52,slow=8.4,SNR=8.8
comp=Z,3.0nm,0.7s
KBZ Khabaz 70.67 311⇑ *e*P **P** **11 08 23.0 -0.6**
KBZ pmax pmax
comp=Z,14nm,1.6s
KIV Kislovodsk 70.67 311 *e*P **P** **11 08 22.8 -1.0**
KIV pmax pmax
comp=Z,16nm,1.1s
KIV MLR MLR
comp=Z,65nm,18.0s
WSAR Wadi Sarin 71.02 285 LR LR 11 43 58.7
comp=Z,50nm,18.9s,baz=70,slow=40
FCC Fort Churchill 73.15 27 P **P** **11 08 39.7 +1.5**
FCC IAmb IAmb 11 08 53.0
comp=Z,8.6nm,1.1s
FCC Fort Churchill 73.15 27 P **P** **11 08 39.7 +1.5**
FCC pmax pmax
comp=Z,9.0nm,1.2s
HFS Hagfors 73.53 336 P **P** **11 08 39.8 -0.7**
comp=Z,2.6nm,1.0s,baz=64,slow=3.4,SNR=2.4
HFS LR LR 11 43 40.7
comp=Z,298nm,18.2s,baz=352,slow=38
comp=Z,2.6nm,1.0s
NB2 NORSAR Subarra 73.61 337 P **P** **11 08 40.5 -0.5**
comp=Z,27nm,1.7s,baz=38,slow=5.9
NB2 NORSAR Subarra 73.61 337 P **P** **11 08 40.5 -0.5**
baz=38,slow=5.9
NOA NORSAR Array B 73.61 337 P **P** **11 08 40.1 -0.9**
comp=Z,1.2nm,0.7s,baz=39,slow=5.8,SNR=3.9
NOA LR LR 11 43 22.3
comp=Z,133nm,21.6s,baz=265,slow=38
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 73.91 322 LR LR 11 44 06.2
comp=Z,106nm,18.3s,baz=34,slow=38
NVAR Mina Array Bea 74.23 54 P **P** **11 08 45.8 +0.5**
comp=Z,0.8nm,0.8s,baz=272,slow=5.8,SNR=4.5
comp=Z,0.8nm,0.8s
H17A Grant Village 75.27 45 P **P** **11 08 54.6 +3.4**
H17A IAmb IAmb 11 09 08.9
comp=Z,16nm,1.4s
R11B Troy Canyon, C 76.00 52 IAmb IAmb 11 09 10.9
comp=Z,11nm,1.5s
ARPR Arapgir-MALATY 76.16 309 P **P** **11 08 56.7 +0.4**
PDAR Pinedale Array 76.87 46 P **P** **11 09 00.7 +0.4**
comp=Z,0.7nm,0.7s,baz=204,slow=1.6,SNR=4.8
comp=Z,0.7nm,0.7s
KWP Kalwaria Pacla 77.71 324 P **P** **11 09 04.6 0.0**
KWP Kalwaria Pacla 77.71 324 P **P** **11 09 04.6 0.0**
KWP pmax pmax
comp=Z,22nm,1.4s
BRTR Keskin Array B 78.61 312 P **P** **11 09 09.9 -0.1**
comp=Z,1.6nm,0.9s,baz=90,slow=3.7,SNR=4.6
comp=Z,1.6nm,0.9s
MLR Muntele Rosu 79.03 320 LR LR 11 45 35.9
comp=Z,193nm,19.0s,baz=24,slow=37
RAR Rarotonga 80.32 126 LR LR 11 39 19.9
comp=Z,87nm,19.6s,baz=284,slow=31
CLL Collm 80.61 330 *e*pP pP 11 09 34.0 +2.5
CLL Collm 80.61 330 *e*P **P** **11 09 20.0 -0.4**
CLL *e**PP **pP** **11 09 34.0 +2.5**
CLL Collm 80.61 330 *e*P **P** **11 09 20.0 -0.4**
VRAC Vranov 80.67 327 LR LR 11 47 19.5
comp=Z,134nm,18.4s,baz=334,slow=37
ISCO Idaho Springs 81.05 46 P **P** **11 09 25.7 +2.3**
ISCO pmax pmax
comp=Z,4.0nm,1.6s
MMAI Mount Meron Ar 81.81 306 LR LR 11 47 55.5
comp=Z,99nm,20.8s,baz=339,slow=37
KHC Kasperske Hory 82.07 329 *i* P **P** **11 09 27.7 -0.6**
KHC pmax pmax
comp=Z,12nm,1.3s
GERES GERESS Array B 82.24 328 LR LR 11 48 27.2
comp=Z,146nm,19.5s,baz=318,slow=37
ECSD EROS Data Cent 83.08 38 P **P** **11 09 35.2 +1.6**
ECSD IAmb IAmb 11 09 47.9
comp=Z,13nm,1.4s
T25A Trinidad 83.55 47 IAmb IAmb 11 09 51.7
comp=Z,14nm,1.4s
ANMO Albuquerque 83.81 50 P **P** **11 09 39.7 +1.9**
ANMO IAmb IAmb 11 09 54.2
comp=Z,9.5nm,1.2s
ANMO Albuquerque 83.81 50 LR LR 11 43 33.4
comp=Z,115nm,20.7s,baz=268,slow=33
ANMO Albuquerque 83.81 50 P **P** **11 09 39.7 +1.9**
ANMO pmax pmax
comp=Z,10.0nm,1.3s
PUK Puka 84.56 321 P **P** **11 09 41.5 +0.3**
PUK IAmb IAmb 11 09 57.4
comp=Z,5.6nm,1.0s
PDG Podgorica 84.59 321 P **P** **11 09 40.8 -0.5**
PDG IAmb IAmb 11 09 57.0
comp=Z,7.3nm,1.0s
PPT2 Papeete2 84.67 117 *e*LR LR 11 36 16.6
comp=Z,170nm,25.0s
PPT2 *e*LR LR 11 36 25.1
comp=Z,150nm,28.5s
DAVOX Davos/Dischmat 85.45 329 LR LR 11 51 14.3
comp=Z,136nm,18.6s,baz=262,slow=38
IDI Anoyia 86.72 313 P **P** **11 09 50.7 -1.4**
comp=Z,0.1nm,0.8s,baz=311,slow=6.3,SNR=1.9
WMOK Wichita Mounta 88.48 46 P **P** **11 10 01.9 +1.4**
WMOK pmax pmax
comp=Z,9.0nm,1.9s
TBI Tubuai 88.61 121 *e*LR LR 11 38 13.8
comp=Z,533nm,29.8s
TXAR Lajitas Array 89.36 53 P **P** **11 10 03.8 -1.1**
comp=Z,0.4nm,0.7s,baz=308,slow=3.3,SNR=7.3
comp=Z,0.4nm,0.7s
ESDC Sonseca Array 96.75 334 LR LR 12 00 34.7
comp=Z,109nm,20.5s,baz=344,slow=39
QSPA South Pole Qui 127.55 180 PKP **PKPdf** **11 16 10.8 -1.2**
comp=Z,0.8nm,0.7s,baz=281,slow=2.5,SNR=1.9
LPAZ La Paz 145.99 59 PKPbc **PKPdf** **11 16 47.2 -0.8**
comp=Z,2.6nm,0.9s,baz=10,slow=3.3,SNR=7.9
H03N2 Juan Fernandez 146.74 95 T T 14 01 02.1
baz=291,slow=76,SNR=18
H03N3 Juan Fernandez 146.75 95 T T 14 01 03.8
baz=291,slow=76,SNR=22
H03N1 Juan Fernandez 146.75 95 T T 14 00 58.4
baz=291,slow=76,SNR=27
PTLB Pontes e Lacer 151.00 45 PKPbc **PKPbc** **11 17 00.9 -0.2**
LCO Las Campanas 151.54 82 PKPab **PKPab** **11 17 15.4 +4.3**
AC02 Maricunga 151.73 76 PKPab **PKPab** **11 17 16.7 +4.5**
AC05 El Transito 151.80 81 PKPab **PKPab** **11 17 11.6 -0.4**

NEIC **10** *11:02:49.3±0.2, 19°.31N±0°.04×155°.25W±0°.02, h10km±4km, Error ellipse: s-maj=5.6km s-min=1.2km az=155.0*
HVO 10 11:02:49.5±0.3, **19°.30N**±0°.04×**155°.25W**±0°.02, **h7**km±4km,
ML2.6/7, **ML2.7**/32(NEIC), **Error ellipse: s-maj=5.9km s-min=0.7km az=155.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.05**	**263**			Pg	11 02 51.4	+0.1
HLP				IAML			11 02 53.7	

	comp=E,7μm,0.3s							
PUH	**Pauahi**	**0.08**	**25**	Pg	Pg	11 02 51.2	-0.4	
PUH				IAML		11 02 53.6		
	comp=E,2μm,0.4s							
RIM	**Rim**	**0.10**	**347**		Pg	11 02 52.0	+0.1	
RIM	**Rim**	**0.10**	**347**	IAML		11 02 54.1		
	comp=E,3μm,0.2s							
RIM				IAML		11 02 54.1		
	comp=N,5μm,0.5s							
SDHHI	**Sand Hill**	**0.10**	**335**		Pg	11 02 52.0	+0.1	
SDHHI	**Sand Hill**	**0.10**	**335**	IAML		11 02 54.7		
	comp=N,4μm,0.4s							
SDHHI				IAML		11 02 54.7		
	comp=E,5μm,0.4s							
KKO	**Keanakako`i**	**0.10**	**352**		Pg	11 02 52.1	+0.2	
KKO	**Keanakako`i**	**0.10**	**352**	IAML		11 02 54.9		
	comp=E,3μm,0.6s							
KKO				IAML		11 02 55.0		
	comp=N,5μm,0.8s							
KNHH	**Kane Nui o Ham**	**0.11**	**45**		Pg	11 02 52.1	+0.1	
WRMHI	**West Rim**	**0.11**	**336**		Pg	11 02 52.2	+0.1	
WRMHI	**West Rim**	**0.11**	**336**	IAML		11 02 53.2		
	comp=E,8μm,0.5s							
WRMHI				IAML		11 02 53.6		
	comp=N,6μm,0.7s							
HATHI	**Halema'uma'u T**	**0.12**	**356**		Pg	11 02 52.3	+0.1	
HATHI	**Halema'uma'u T**	**0.12**	**356**	IAML		11 02 54.7		
	comp=N,4μm,0.6s							
HATHI				IAML		11 02 55.1		
	comp=E,4μm,0.7s							
STCH	**Steam Cracks**	**0.14**	**55**		Pg	11 02 52.6	0.0	
STCH	**Steam Cracks**	**0.14**	**55**	IAML		11 02 55.4		
	comp=N,436nm,0.6s							
STCH				IAML		11 02 58.2		
	comp=E,460nm,0.1s							
NPOC	**North of Pu'u**	**0.16**	**56**	Pg	Pg	11 02 53.0	+0.1	
JCUZ	**Jacuzzi**	**0.16**	**60**	Pg	Pg	11 02 52.5	-0.5	
MLH	**Mauna Loa**	**0.23**	**326**	Pg	Pg	11 02 52.4	-1.7	
MLH				IAML		11 03 00.0		
	comp=N,1μm,0.2s							
JOKA	**Jonika Flow**	**0.27**	**61**		Pg	11 02 55.0	+0.1	
KHU	**Kahuku**	**0.35**	**261**		Pg	11 02 56.3	-0.2	
KHU	**Kahuku**	**0.35**	**261**	IAML		11 03 02.3		
	comp=N,792nm,0.4s							
KHU				IAML		11 03 02.7		
	comp=E,851nm,0.5s							
HMH	**Humu'ula Sheep**	**0.37**	**324**	IAML		11 03 03.6		
	comp=E,884nm,0.2s							
MWH	**Moku'aweowe**	**0.37**	**299**		Pg	11 02 56.8	-0.2	
MWH	**Moku'aweowe**	**0.37**	**299**	IAML		11 03 04.0		
	comp=E,1μm,0.5s							
MWH				IAML		11 03 06.3		
	comp=N,810nm,0.7s							
MLOA	**Mauna Loa Obse**	**0.38**	**307**		Pg	11 02 57.3	+0.1	
MLOA	**Mauna Loa Obse**	**0.38**	**307**	IAML		11 03 04.5		
	comp=N,863nm,0.3s							
MLOA				IAML		11 03 05.1		
	comp=E,1μm,0.2s							
POHA	**Pohakuloa**	**0.52**	**330**		Pg	11 02 59.2	-0.5	
POHA	**Pohakuloa**	**0.52**	**330**	IAML		11 03 07.2		
	comp=E,1μm,0.4s							
POHA				IAML		11 03 08.0		
	comp=E,1μm,0.3s							
HUH	**Hualalai**	**0.67**	**305**		Pg	11 03 02.6	+0.1	
HPAH	**Hawaii Prepara**	**0.84**	**330**	Pg	Pg	11 03 05.5	-0.1	

*IDC **10** 11:06:49.8±1.2,27.°91N×127.°60E, h0km, mb3.5/4, mbtmp3.6/5, ML2.9/1, MS3.0/1, Error ellipse: s-maj=47.2km s-min=19.1km az=65.0*

*JMA **10** 11:06:49.2±0.2,28.°1N±0.°4×128.°0E±0.°6, h13km±2km, MV3.4/13, NW OFF OKINAWAJIMA IS*

ISC 10 11:06:49.2±1.9, 28.°08N±0.°05×128.°04E±0.°07, h8km±12km, n18, σ0.°83/24, mb3.4/4, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.86**	**110**	*e*P	**Pg**	**11 07 05.6**	**-0.1**
JTK				S	**Sg**	**11 07 17.6**	**+0.8**
JOKE	**Okinoerabujima**	**0.86**	**147**	P	**Pg**	**11 07 06.0**	**+0.2**
JOKE				*e*S	**Sb**	**11 07 18.2**	**+0.1**
JAMN	**Amaminishikomi**	**1.01**	**81**	*i* P	**Pb**	**11 07 08.7**	**-0.3**
JAMN				S	**Sb**	**11 07 22.1**	**-0.4**
JIH	**Iheya**	**1.05**	**184**	P	**Pb**	**11 07 08.8**	**-0.8**
JIH				S	**Sb**	**11 07 23.0**	**-0.4**
JYRO	**Yoronjima**	**1.11**	**161**	P	**Pb**	**11 07 10.2**	**-0.6**
JYRO				S	**Sb**	**11 07 25.4**	**0.0**
JOW	**Kunigami**	**1.26**	**171**	Pn	**Pn**	**11 07 12.8**	**-0.4**
	88nm,0.3s,baz=348,slow=17,SNR=19						
JOW				Sn	**Sb**	**11 07 28.6**	**-1.1**
	109nm,0.3s,baz=166,slow=18,SNR=16						
JOW	**Kunigami**	**1.26**	**171**	P	**Pn**	**11 07 12.3**	**-0.9**
JOW				*e*S	**Sb**	**11 07 29.3**	**-0.4**
JAM	**Amami Oshima**	**1.42**	**76**	*e*S	**Sn**	**11 07 33.2**	**-0.9**
JTAJ	**Takarajima**	**1.48**	**43**	*e*P	**Pb**	**11 07 16.1**	**-0.8**
JNTH	**Nagotoyohara**	**1.56**	**181**	*e*P	**Pn**	**11 07 16.8**	**-0.4**
JNTH				*e*S	**Sn**	**11 07 37.0**	**-0.6**
JAGN	**Aguni-jima**	**1.65**	**206**	*e*P	**Pn**	**11 07 18.2**	**-0.3**
JJT3	**Tamagusuku3**	**1.95**	**187**	*e*P	**Pn**	**11 07 23.3**	**+0.7**
JNU	**Nakatsue**	**5.58**	**25**	Pn	Pb	11 08 19.7	-7.3
	0.4nm,0.3s,baz=159,slow=5.7,SNR=6.2						
	27nm,1.1s						
KSRS	**Korea Array**	**9.34**	**359**	LR	LR	11 12 54.3	
	comp=Z,77nm,18.2s,baz=160,slow=38						
MKAR	**Makanchi Array**	**40.20**	**310**	P	**P**	**11 14 25.7**	**-0.4**
	0.2nm,0.5s,baz=99,slow=8.9,SNR=2.4						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**43.41**	**315**	P	**P**	**11 14 52.3**	**0.0**
	0.4nm,0.6s,baz=102,slow=9.4,SNR=2.4						
	0.4nm,0.6s						
WRA	**Warramunga Arr**	**48.13**	**172**	P	**P**	**11 15 30.8**	**+0.9**
	0.7nm,0.6s,baz=354,slow=8.1,SNR=6.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**51.76**	**173**	P	**P**	**11 15 59.8**	**+2.4**
	0.3nm,0.6s,baz=357,slow=8.4,SNR=5.7						
	0.3nm,0.6s						

*JMA **10** 11:07:07.0±0.5, 46.°N±2.°×14.°3E±.°, h326km±3km, MV3.0/33, NE OFF HOKKAIDO*

*SKHL **10** 11:07:09.4±0.6, 45.°70N×142.°90E, h313km±1km, mb3.8/5, msh4.3/5*

ISC 10 11:07:06.9±1.3, 45.°64N±0.°08×142.°71E±0.°08, h317km, n19, σ1.°20/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWK2	**Keihoku**	**0.66**	**241**	P	**Pn**	**11 07 48.8**	**+1.0**
JSE	**Soyaes**	**0.69**	**188**	*e*P	**Pn**	**11 07 48.8**	**+0.8**
JRR	**Rishiri**	**1.11**	**243**	P	**Pn**	**11 07 50.2**	**+0.7**
JRBN	**Rebuntou**	**1.18**	**260**	P	**Pn**	**11 07 49.8**	**0.0**
JRBN				*e*S	**S**	**11 08 23.0**	**-1.2**
YSS	**Yuzh-Sakhalins**	**1.31**	**1**	*e*P	**Pn**	**11 07 51.3**	**+0.8**
YSS				AMB	AMB	11 07 51.3	
	20nm,0.4s						
YSS				*e*S	**S**	**11 08 24.5**	**-0.8**
YSS				A	A	11 08 25.5	
	30nm,0.7s						
YSS				A	A	11 08 25.5	
	10.0nm,0.7s						
JSS	**Shosan**	**1.39**	**206**	*e*P	**Pn**	**11 07 52.1**	**+1.1**
JYG	**Yagishiri**	**1.52**	**217**	*e*P	**Pn**	**11 07 52.8**	**+0.9**
ASAJ	**Asahikawa**	**1.53**	**183**	P	**Pn**	**11 07 53.2**	**+1.3**
JMP	**Maruseppu**	**1.70**	**164**	P	**Pn**	**11 07 54.3**	**+1.2**
JKK2	**Kamakawa 2**	**1.77**	**179**	P	**Pn**	**11 07 54.9**	**+1.3**
JTKR	**Abashiri--Toko**	**1.88**	**153**	P	**Pn**	**11 07 55.9**	**+1.6**
JAR	**Ashorobuto**	**2.47**	**162**	*e*P	**Pn**	**11 08 00.6**	**+1.6**
JAK	**Akkeshi**	**3.01**	**151**	*e*P	**Pn**	**11 08 05.8**	**+1.9**
AKK	**Akkeshi**	**3.04**	**149**	*e*P	**Pn**	**11 08 05.5**	**+1.3**
AKK				*e*S	**S**	**11 08 49.1**	**-1.0**
AKK				A	A	11 08 50.7	
	50nm,0.4s						
AKK				A	A	11 08 50.7	
	90nm,0.4s						
JCH	**Churui**	**3.06**	**171**	P	**Pn**	**11 08 04.1**	**-0.3**
JCH				*e*S	**S**	**11 08 48.6**	**-2.0**
NMR	**Nemuro--Hokkai**	**3.13**	**135**	*e*P	**Pn**	**11 08 06.2**	**+1.1**
NMR				*e*S	**S**	**11 08 50.2**	**-1.6**
NMR				A	A	11 08 52.8	
	10.0nm,0.2s						
NMR				A	A	11 08 52.8	
	20nm,0.2s						
NEM2	**Nemuro 2**	**3.15**	**135**	P	**Pn**	**11 08 05.3**	**+0.1**
NEM2				S	**S**	**11 08 50.5**	**-1.5**
JNBK	**Urakawa-nobuka**	**3.36**	**179**	P	**Pn**	**11 08 08.2**	**+0.8**
JNBK				*e*S	**S**	**11 08 56.0**	**+0.1**
SHO	**Shikotan**	**3.43**	**120**	*e*P	**Pn**	**11 08 08.5**	**+0.5**
SHO				AMB	AMB	11 08 10.5	
	20nm,0.4s						
SHO				*e*S	**S**	**11 08 56.4**	**-0.6**
SHO				A	A	11 09 01.6	
	20nm,0.4s						
SHO				A	A	11 09 01.6	
	20nm,0.4s						

IDC 10 11:08:27.4±1.6, 0.°70N×125.°50E, h0km, mb3.6/4, mbtmp3.7/4, MS3.1/1, Error ellipse: s-maj=186.2km s-min=20.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.27**	**158**	P	P	11 13 26.1	-0.2
	0.7nm,0.5s,baz=336,slow=11,SNR=13						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**25.56**	**162**	P	P	11 13 58.4	+0.2
	0.4nm,0.3s,baz=344,slow=9.9,SNR=26						
	0.4nm,0.3s						
PETK	**Petropavlovsk-**	**58.68**	**22**	LR	LR	11 42 27.1	
	comp=Z,19nm,21.4s,baz=74,slow=35						
MKAR	**Makanchi Array**	**59.37**	**327**	P	P	11 18 31.6	0.0
	0.5nm,0.4s,baz=111,slow=8.7,SNR=5.1						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.65**	**329**	P	P	11 19 00.3	0.0
	0.7nm,0.6s,baz=128,slow=6.1,SNR=7.3						
	0.7nm,0.6s						

*PRU **10** 11:08:59.2, 50.°27N×12.°44E, h10km, West Bohemia Swarm*

WBNET 10 11:09:00.1, 50.°25N×12.°45E, h9km, Ml1.1, 10C-10D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**185**	*e*SG	Sg	11 09 02.8	-0.2
	comp=Z,17nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**185**	⇓P	Pg	11 09 01.6	-0.2
NKC				S	Sg	11 09 02.8	-0.2
NKC	**Novy Kostel**	**0.02**	**185**	S	Sg	11 09 03.1	+0.1
LBCW	**Luby**	**0.03**	**303**	⇓P	Pg	11 09 01.7	-0.2
LBCW				S	Sg	11 09 03.0	-0.2
LBCW	**Luby**	**0.03**	**303**	⇓P	Pg	11 09 02.0	+0.1
LBCW				S	Sg	11 09 03.4	+0.1
STCW	**Studenec**	**0.05**	**78**	⇑P	Pg	11 09 01.8	-0.3
STCW				S	Sg	11 09 03.0	-0.4
STCW	**Studenec**	**0.05**	**78**	⇑P	Pg	11 09 02.1	0.0
STCW				S	Sg	11 09 03.4	-0.1
VAC	**Vackov**	**0.05**	**252**	⇓P	Pg	11 09 01.8	-0.3
VAC				S	Sg	11 09 03.1	-0.4
VAC	**Vackov**	**0.05**	**252**	⇓P	Pg	11 09 02.1	0.0
VAC				S	Sg	11 09 03.4	-0.1
KVC	**Kvetna**	**0.06**	**136**	⇑P	Pg	11 09 01.9	-0.3
KVC				S	Sg	11 09 03.3	-0.4
POCW	**Potky**	**0.07**	**348**	⇑P	Pg	11 09 02.1	-0.2
POCW				S	Sg	11 09 03.7	-0.3
POCW	**Potky**	**0.07**	**348**	⇓P	Pg	11 09 02.4	+0.1
POCW				S	Sg	11 09 04.0	+0.1
KRCW	**Kraslice**	**0.10**	**32**	⇑P	Pg	11 09 02.3	-0.3
KRCW				S	Sg	11 09 04.1	-0.4
KRCW	**Kraslice**	**0.10**	**32**	⇑P	Pg	11 09 02.6	0.0
KRCW				S	Sg	11 09 04.4	-0.1
SKC	**Skalna**	**0.10**	**215**	⇑P	Pg	11 09 02.3	-0.3
SKC				S	Sg	11 09 04.1	-0.3
SKC	**Skalna**	**0.10**	**215**	⇑P	Pg	11 09 02.6	0.0
SKC				S	Sg	11 09 04.4	0.0
KOCW	**Kopaniny**	**0.14**	**276**	⇓P	Pg	11 09 02.9	-0.3
KOCW				S	Sg	11 09 05.0	-0.4
KOCW	**Kopaniny**	**0.14**	**276**	⇓P	Pg	11 09 03.2	0.0
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P	Pg	11 09 04.0	-0.3
ZHC				S	Sg	11 09 06.8	-0.3
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P	Pg	11 09 04.3	0.0
TRCW	**Trojmez**	**0.20**	**285**	⇓P	Pg	11 09 04.0	-0.4
TRCW				S	Sg	11 09 06.9	-0.3
TRCW	**Trojmez**	**0.20**	**285**	⇓P	Pg	11 09 04.3	0.0
LACW	**Lazy**	**0.23**	**150**	S	Sg	11 09 07.9	0.0
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*SG	Sg	11 09 22.8	-0.7

*IDC **10** 11:18:18.0±0.8, 29.°09N×142.°40E, h0km, mb3.7/13, mbtmp3.7/16, ML3.5/2, MS2.8/1, Error ellipse: s-maj=23.7km s-min=17.6km az=75.0*

ISC 10 11:18:21.2±0.7, 29.°04N±0.°06×142.°4E±0.°1, h27km, n19, σ2.°92/21, mb3.6/13, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.94**	**185**	Pn	**Pn**	**11 18 49.8**	**-2.7**
	5.2nm,0.3s,baz=293,slow=22,SNR=2.0						
JCJ				Sn	**Sn**	**11 19 12.7**	**-3.3**
	17nm,0.3s,baz=268,slow=23,SNR=6.5						
MJAR	**Matsushiro Arr**	**8.26**	**336**	Pn	**Pn**	**11 20 18.3**	**-0.9**
	0.3nm,0.3s,baz=161,slow=11,SNR=22						
MJAR				Sn	**Sn**	**11 21 46.9**	**-4.7**
	baz=284,slow=29						
	2.5nm,0.4s						
KSRS	**Korea Array**	**14.70**	**309**	Pn	**Pn**	**11 21 47.4**	**+0.2**
	0.7nm,0.6s,baz=117,slow=11,SNR=2.1						
KSRS				LR	LR	11 27 01.9	
	comp=Z,37nm,21.7s,baz=0.0,slow=36						
ASAJ	**Asahikawa**	**15.05**	**1**	Pn	**Pn**	**11 21 47.9**	**-4.1**
	0.2nm,0.3s,baz=345,slow=26,SNR=2.3						
ASAJ				Sn	Sn	11 24 24.2	-14
	0.1nm,0.3s,baz=74,slow=12,SNR=1.5						
USRK	**Ussuriysk Ar.**	**17.25**	**334**	P	**Pn**	**11 22 20.3**	**+0.2**
	0.3nm,0.3s,baz=153,slow=8.6,SNR=3.2						
	1.5nm,0.6s						
NACB	**Ninganchiao**	**19.18**	**260**	P	**Pn**	**11 22 45.5**	**+1.6**
KLR	**Kul'dur**	**21.74**	**341**	P	**P**	**11 23 10.4**	**+0.1**
	0.7nm,0.4s,baz=163,slow=12,SNR=2.7						
	0.7nm,0.4s						
SONM	**Songino Array**	**33.45**	**314**	P	**P**	**11 24 58.7**	**+0.7**
	0.7nm,0.5s,baz=125,slow=9.1,SNR=4.3						
	0.7nm,0.5s						
CMAR	**Chiang Mai Arr**	**40.91**	**265**	P	**P**	**11 26 02.5**	**+1.0**
	0.3nm,0.3s,baz=37,slow=9.1,SNR=1.9						
	0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**48.14**	**318**	P	**P**	**11 27 00.1**	**+1.4**
	0.9nm,0.4s,baz=103,slow=9.9,SNR=5.6						
	0.9nm,0.4s						
WRA	**Warramunga Arr**	**49.31**	**190**	P	**P**	**11 27 09.2**	**+1.1**
	1.8nm,0.8s,baz=9.7,slow=8.2,SNR=15						
	1.8nm,0.8s						
MKAR	**Makanchi Array**	**49.38**	**308**	P	**P**	**11 27 08.6**	**+0.2**
	0.9nm,0.5s,baz=86,slow=10.0,SNR=6.1						
	0.9nm,0.5s						
KURBB	**Kurchatov Arra**	**51.81**	**313**	P	**P**	**11 27 27.1**	**+0.5**
	4.4nm,0.5s,baz=91,slow=7.3,SNR=36						
	4.4nm,0.5s						
ASAR	**Alice Springs**	**53.03**	**190**	P	**P**	**11 27 37.2**	**+1.3**
	0.2nm,0.4s,baz=359,slow=4.7,SNR=7.2						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**55.94**	**29**	P	**P**	**11 27 56.6**	**-0.1**
	0.2nm,0.8s,baz=246,slow=6.7,SNR=2.1						
	0.2nm,0.8s						
BVAR	**Borovoye Array**	**56.73**	**317**	P	**P**	**11 28 03.9**	**+1.4**
	2.7nm,0.5s,baz=89,slow=7.7,SNR=12						
	2.7nm,0.5s						
YKA	**Yellowknife Ar**	**70.37**	**29**	P	**P**	**11 29 32.1**	**-0.2**
	0.2nm,0.6s,baz=301,slow=6.8,SNR=4.3						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**79.20**	**52**	P	**P**	**11 30 26.0**	**+1.7**
	0.4nm,0.6s,baz=329,slow=3.4,SNR=4.0						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**94.32**	**53**	P	**P**	**11 31 40.1**	**+1.3**
	0.1nm,0.4s,baz=318,slow=1.2,SNR=2.4						
	0.1nm,0.4s						

*IDC **10** 11:28:02.3±1.7, 8.°20N×103.°36W, h0km, mb3.9/7, mbtmp3.9/8, ML3.8/1, Error ellipse: s-maj=50.1km s-min=27.7km az=60.0*

*GCMT **10** 11:28:06.6±0.5, 8.°47N±0.°02×103.°84W±0.°03, h12km, MW4.8/60, Moment Tensor Solution. s13,c13; s60,c89; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.24±.10; $M_{\theta\theta}$0.81±.09; $M_{\phi\phi}$-0.57±.11; $M_{r\theta}$-0.57±.29; $M_{\theta\phi}$-2.12±.07; $M_{\phi r}$-0.09±.29; Best double couple: M_o2.30600×10^{16} NP1:ϕ_s81.00000°, δ88.00000°, λ-165.00000°. NP2: ϕ_s351.00000°, δ75.00000°, λ-2.00000°. Principal axes: T 2.4120, Plg9.0000°, Azm215.0000°; N -0.2140, Plg75.0000°, Azm90.0000°; P -2.1990, Plg12.0000°, Azm307.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **10** 11:28:08.6±2.4, 8.°5N±0.°1×104.°1W±0.°1, h10km±2km, mb4.5/100 Error ellipse: s-maj=25.2km s-min=16.2km az=253.0*

ISC 10 11:28:07.5±1.1, 8.°5N±0.°1×104.°1W±0.°1, h10km, n99, σ0.°96/76, mb4.5/49, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**10.55**	**30**	Pn	**Pn**	**11 30 38.6**	**-0.4**
MOIG	**Morelia**	**11.52**	**14**	Pn	**Pn**	**11 30 55.0**	**+2.7**
H06S1	**SOCORRO T**	**12.19**	**328**	T	T	11 43 51.0	
	SNR=9.2						
H06E1	**SOCORRO T-PHAS**	**12.21**	**328**	T	T	11 43 58.0	
	SNR=49						
CMIG	**Matias Romero**	**12.44**	**45**	Pn	Pn	11 30 55.3	-9.5
	0.5nm,0.3s,baz=206,slow=10.0,SNR=6.8						
	1.6nm,0.4s						
PETF	**Flores**	**16.25**	**57**		**Pn**	**11 31 55.1**	**-0.9**
PETF				IAmb	IAmb	11 31 56.7	
	comp=Z,39nm,1.1s						
HBVL	**Hebbronville**	**19.22**	**15**	P	**P**	**11 32 32.6**	**+0.8**
HBVL				IAmb	IAmb	11 32 36.1	
	comp=Z,54nm,1.5s						
ESPN	**Las Esperanzas**	**19.85**	**78**	P	**P**	**11 32 38.4**	**-0.4**
833A	**Chaparral WMA,**	**20.27**	**12**	P	**P**	**11 32 43.4**	**+0.2**
833A				IAmb	IAmb	11 32 47.2	
	comp=Z,22nm,1.1s						
TXAR	**Lajitas Array**	**20.78**	**1**	P	**P**	**11 32 49.6**	**+0.7**
TXAR	**Lajitas Array**	**20.78**	**1**	P	**P**	**11 32 49.3**	**+0.4**
	comp=Z,3.6nm,0.9s,baz=180,slow=12,SNR=25						
	comp=Z,3.6nm,0.9s						
TX31	**Lajitas Ar. Si**	**20.78**	**1**	P	**P**	**11 32 49.7**	**+0.8**
DRIO	**Del Rio**	**21.12**	**9**	P	**P**	**11 32 52.9**	**+0.4**
BRU2	**Volcan**	**21.20**	**87**	P	**P**	**11 32 53.8**	**+0.1**
EF01	**Eagle Ford 01**	**21.27**	**14**	P	**P**	**11 32 54.1**	**+0.1**
HSIG		**21.44**	**343**	P	**P**	**11 32 55.2**	**-0.8**
HNDO	**Hondo**	**21.46**	**12**	P	**P**	**11 32 55.9**	**-0.2**
HNDO				IAmb	IAmb	11 32 58.9	
	comp=Z,32nm,1.1s						
SAND	**Sanderson**	**21.48**	**5**	P	**P**	**11 32 57.7**	**+1.4**
SAND				IAmb	IAmb	11 33 00.2	
	comp=Z,16nm,1.1s						
ALPN	**Alpine**	**21.82**	**1**	P	**P**	**11 33 01.2**	**+1.1**
MLDN	**Muldoon**	**22.23**	**16**	P	**P**	**11 33 05.3**	**+0.9**
JCT	**Junction City**	**22.29**	**10**	P	**P**	**11 33 05.2**	**+0.1**
OZNA	**Ozona**	**22.53**	**7**	P	**P**	**11 33 08.5**	**+0.8**
HKT	**Hockley**	**22.76**	**19**	P	**P**	**11 33 09.6**	**-0.3**
435B	**Jarrell**	**23.04**	**15**	P	**P**	**11 33 12.7**	**-0.4**
BRDY	**Brady**	**23.22**	**11**	P	**P**	**11 33 14.0**	**-0.8**
ODSA	**Odessa**	**23.60**	**3**	P	**P**	**11 33 18.2**	**-0.4**
ODSA				IAmb	IAmb	11 33 26.4	
	comp=Z,26nm,1.4s						
121A	**Cookes Peak, D**	**24.20**	**352**	P	**P**	**11 33 23.2**	**-1.3**
ABTX	**Abilene, Hawle**	**24.41**	**9**	P	**P**	**11 33 24.9**	**-1.3**
ABTX				IAmb	IAmb	11 33 26.2	
	comp=Z,23nm,1.1s						
TUC	**Tucson**	**24.53**	**346**	P	**P**	**11 33 28.5**	**+1.0**
FW13	**Cleburne**	**24.58**	**14**	P	**P**	**11 33 26.2**	**-1.6**
FW13				IAmb	IAmb	11 33 30.3	
	comp=Z,18nm,1.2s						
PIX	**Pinacate**	**24.58**	**341**	P	**P**	**11 33 28.2**	**+0.4**
POST	**Post**	**24.61**	**5**	P	**P**	**11 33 28.4**	**+0.2**
POST				IAmb	IAmb	11 33 29.1	
	comp=Z,13nm,1.0s						
237A	**Washetta, Mont**	**24.68**	**17**	P	**P**	**11 33 28.6**	**0.0**
237A				IAmb	IAmb	11 33 45.2	
	comp=Z,12nm,0.9s						
214A	**Organ Pipe Nat**	**24.74**	**342**	P	**P**	**11 33 28.6**	**-0.7**
NATX	**Nacogdoches**	**24.81**	**20**	P	**P**	**11 33 28.5**	**-1.3**
PLPT	**Palo Pinto**	**24.83**	**12**	P	**P**	**11 33 28.9**	**-1.2**
PLPT				IAmb	IAmb	11 33 30.0	
	comp=Z,19nm,1.2s						
APMT	**Aspermont**	**25.03**	**8**	P	**P**	**11 33 30.8**	**-1.0**
APMT				IAmb	IAmb	11 33 34.9	
	comp=Z,15nm,1.1s						
FW03	**Perrin-Whitt E**	**25.10**	**12**	P	**P**	**11 33 31.1**	**-1.4**
FW03				IAmb	IAmb	11 33 32.1	
	comp=Z,17nm,1.2s						
WTFS	**Witchita Falls**	**25.73**	**11**	P	**P**	**11 33 37.6**	**-0.5**
WTFS				IAmb	IAmb	11 33 39.8	
	comp=Z,12nm,0.9s						
113A	**Mohawk Valley,**	**25.79**	**341**	P	**P**	**11 33 39.9**	**+1.2**
AMTX	**Amarillo**	**26.40**	**5**	IAmb	IAmb	11 33 47.8	
	comp=Z,9.0nm,1.0s						
ANMO	**Albuquerque**	**26.46**	**356**	P	**P**	**11 33 43.5**	**-1.5**
SMWD	**Samnorwood**	**26.77**	**7**	P	**P**	**11 33 46.8**	**-0.8**
MIAR	**Mount Ida**	**27.72**	**19**	P	**P**	**11 33 54.3**	**-1.8**
MIAR				IAmb	IAmb	11 33 55.0	
	comp=Z,12nm,1.1s						
T25A	**Trinidad**	**28.56**	**360**	P	**P**	**11 34 04.1**	**+0.2**
T25A				IAmb	IAmb	11 34 10.2	
	comp=Z,11nm,1.4s						
OK048	**Pawnee Station**	**28.59**	**12**	P	**P**	**11 34 02.8**	**-1.1**
OK048				IAmb	IAmb	11 34 06.5	
	comp=Z,10nm,1.2s						
KNB	**Kanab**	**29.51**	**346**	IAmb	IAmb	11 34 23.9	
	comp=Z,6.6nm,1.2s						
WCT	**Wildcat Mounta**	**30.42**	**340**	IAmb	IAmb	11 34 25.6	
	comp=Z,5.6nm,1.1s						

comp=Z,4.4nm,1.1s
M27K Edge Creek, AK 60.40 341 P P 11 38 18.0 +1.0
M27K IAmb IAmb 11 38 20.3
comp=Z,2.3nm,0.8s
GLB Gilahina Butte 60.40 339 P P 11 38 16.6 -0.3
GLB IAmb IAmb 11 38 32.3
comp=Z,5.9nm,1.2s
DAWY Dawson 60.90 343 P P 11 38 21.0 +0.7
DAWY IAmb IAmb 11 38 44.6
comp=Z,6.7nm,1.5s
H31M Peel River 60.96 346 P P 11 38 21.1 +0.4
INK Inuvik 62.87 348 IAmb IAmb 11 38 34.7
comp=Z,4.5nm,0.9s
IL31 63.69 341 IAmb IAmb 11 38 40.5
comp=Z,4.4nm,0.8s
ILAR Eielson Array 63.69 341 P P 11 38 37.7 -1.2
ILAR Eielson Array 63.69 341 P P 11 38 37.2 -1.6
comp=Z,2.9nm,0.8s,baz=151,slow=4.6,SNR=26
comp=Z,2.9nm,0.8s
F28M Old Crow 63.74 346 P P 11 38 38.6 -0.6
F28M IAmb IAmb 11 38 40.8
comp=Z,3.5nm,0.9s
PRP Porcupine Dome 63.77 342 P P 11 38 38.8 -0.8
PRP IAmb IAmb 11 38 49.9
comp=Z,3.4nm,1.0s
E29M Blow River 63.88 347 P P 11 38 39.5 -0.6
E29M IAmb IAmb 11 38 56.2
comp=Z,3.3nm,1.0s
NEA2 Nenana 64.29 340 IAmb IAmb 11 38 43.7
comp=Z,3.8nm,1.0s
E28M Babbage River 64.42 346 IAmb IAmb 11 38 45.0
comp=Z,3.6nm,0.8s
E27K Coleen River 64.60 345 P P 11 38 44.3 -0.6
E27K IAmb IAmb 11 38 46.5
comp=Z,3.9nm,0.9s
CAST Castle Rocks 64.63 338 P P 11 38 45.1 0.0
CAST IAmb IAmb 11 38 46.8
comp=Z,4.8nm,1.0s
H24K Noodor Dome 64.71 342 IAmb IAmb 11 38 47.3
comp=Z,5.0nm,1.1s
A36M Sachs Harbour 64.79 353 P P 11 38 45.1 -0.8
BMAR Burnt Mountain 64.83 344 P P 11 38 47.5 +1.1
D27M Malcolm River 65.25 346 P P 11 38 48.5 -0.6
D27M IAmb IAmb 11 38 54.2
comp=Z,4.4nm,1.0s
J20K Nowinta River 65.82 338 IAmb IAmb 11 39 00.6
comp=Z,6.3nm,1.1s
D25K Kavik River 66.63 345 P P 11 38 57.5 -0.5
TOLK Toolik Lake Re 67.04 344 P P 11 39 00.2 -0.4
TOLK IAmb IAmb 11 39 12.3
comp=Z,5.4nm,1.0s
CMAR Chiang Mai Arr 144.88 320 PKPbc **PKPab 11 47 43.8 -1.1**
comp=Z,0.5nm,0.4s,baz=18,slow=2.6,SNR=5.0

*IDC **10** 11:29:04.9±2.1,8˚.50N×102˚.87W,h0km,mb3.6/5, mbtmp3.6/5,MS4.0/9,Error ellipse: s-maj=98.2km s-min=26.9km az=59.0*
ISC 10 11:29:03.7±2.0,8˚.1N±0˚.3×103˚.5W±0˚.5,h10km,n17, σ0s.27/6,mb3.7/5,MS4.0/6,Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.29**	**42**	LR	LR	11 34 35.8	
	comp=Z,846nm,21.6s,baz=183,slow=29						
H06S1	**SOCORRO T**	**12.80**	**326**	T	T	11 44 32.1	
H06E1	**SOCORRO T-PHAS**	**12.82**	**327**	T	T	11 44 35.4	
LPIG	**La Paz**	**17.19**	**339**	LR	LR	11 37 49.6	
	comp=Z,742nm,21.1s,baz=168,slow=31						
JTS	**Las Juntas de**	**18.47**	**82**	LR	LR	11 38 43.9	
	comp=Z,148nm,18.3s,baz=250,slow=33						
TXAR	**Lajitas Array**	**21.12**	**360**	P	**P**	**11 33 48.5**	**-0.3**
	1.9nm,1.0s,baz=183,slow=14,SNR=1.9						
	1.9nm,1.0s						
ROSC	**El Rosal**	**29.20**	**95**	LR	LR	11 44 14.9	
	comp=Z,269nm,20.9s,baz=288,slow=32						
ATAH	**Atahualpa**	**29.27**	**120**	LR	LR	11 44 44.4	
	comp=Z,556nm,21.9s,baz=307,slow=32						
NNA	**Nana**	**33.20**	**127**	LR	LR	11 46 20.7	
	comp=Z,204nm,19.5s,baz=318,slow=32						
PDAR	**Pinedale Array**	**34.94**	**352**	P	**P**	**11 35 56.2**	**+0.2**
	1.0nm,0.8s,baz=168,slow=9.1,SNR=2.0						
	1.0nm,0.8s						
PCRV	**Puerto La Cruz**	**38.44**	**84**	LR	LR	11 50 42.6	
	comp=Z,157nm,22.0s,slow=34						
LPAZ	**La Paz**	**42.60**	**125**	P	**P**	**11 37 01.1**	**0.0**
	1.0nm,0.4s,baz=303,slow=7.0,SNR=6.6						
	1.0nm,0.4s						
LVC	**Limon Verde**	**45.62**	**133**	LR	LR	11 52 30.5	
	comp=Z,217nm,19.6s,baz=300,slow=31						
YKA	**Yellowknife Ar**	**54.89**	**354**	P	**P**	**11 38 34.4**	**+0.2**
	0.4nm,0.9s,baz=174,slow=6.8,SNR=1.9						
	0.4nm,0.9s						
ILAR	**Eielson Array**	**64.22**	**341**	P	**P**	**11 39 38.6**	**0.0**
	0.4nm,0.8s,baz=156,slow=5.0,SNR=0.9						
	0.4nm,0.8s						
RCBR	**Riachuelo**	**68.85**	**99**	LR	LR	12 09 55.1	
	comp=Z,122nm,19.0s,baz=210,slow=36						
CMAR	**Chiang Mai Arr**	**145.53**	**320**	PKPbc	**PKiKP**	**11 48 47.0**	**-0.2**
	0.6nm,0.6s,baz=18,slow=1.5,SNR=4.3						

KRSC 10 11:31:26.6±1.4,49˚.60N×156˚.82E,h6km±19km,MI3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.17**	**338**	*eP*	Pg	11 31 47.2	-1.9
SKR				*eS*	Sg	11 32 03.4	-0.9
PAU	**Pauzhetka**	**1.87**	**360**	*eP*	Pb	11 32 00.5	-0.7
PAU				*eS*	Sb	11 32 25.3	+0.6
KDTR	**Khodutka, Kamc**	**2.35**	**19**	*eP*	Pn	11 32 07.4	+1.7
KDTR				*eS*	Sb	11 32 37.8	-0.7
ASAK	**Asacha**	**2.87**	**13**	*eP*	Pb	11 32 15.6	-2.6
MTVR	**Mutnovka**	**3.01**	**16**	*eP*	Pn	11 32 17.0	+2.1
MTVR				*eS*	Sb	11 32 54.9	-2.8
RUS	**Russkaya**	**3.03**	**20**	*eP*	Pn	11 32 16.7	+1.6
RUS				*eS*	Sn	11 32 54.7	+3.1
KRMR	**Karymshinskiy**	**3.34**	**14**	*eP*	Pn	11 32 22.5	+3.2
PET	**Petropavlovsk**	**3.62**	**18**	*eP*	Pn	11 32 26.8	+3.7
PET				*eS*	Sb	11 33 11.1	-3.9
DALK	**Dalny**	**3.64**	**19**	*eP*	Pn	11 32 26.0	+2.5
UGLR	**Uglovaya**	**3.83**	**18**	*eP*	Pn	11 32 29.9	+3.9
AVH	**Avacha**	**3.86**	**17**	*eP*	Pn	11 32 30.1	+3.6
KOK	**Koryaka**	**3.87**	**16**	*eP*	Pn	11 32 30.8	+4.1
KRER	**Koryakskii**	**3.90**	**17**	*eP*	Pb	11 32 31.8	-4.0
KRX	**Arik**	**3.93**	**16**	*eP*	Pn	11 32 31.4	+3.8
GNL	**Ganaly**	**4.16**	**9**	*eP*	Pb	11 32 35.8	-4.4

*ISU **10** 11:33:14.8,40˚.19N×72˚.20E,h20km*
*KRNET **10** 11:33:15.5±0.1,40˚.20N×72˚.22E,h17km,mb2.9*
*SOME **10** 11:33:22.8,40˚.68N×72˚.15E,h10km*
*NNC **10** 11:33:24.0±1.5,40˚.74N×72˚.13E,h23km±10km,mb3.7, mpv3.3,Error ellipse: s-maj=13.2km s-min=5.0km az=1.0*
ISC 10 11:33:14.8±1.1,40˚.19N±0˚.03×72˚.23E±0˚.02,h3km±10km, n64,σ1s.72/112,33C-18D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FRG	**Fergana**	**0.38**	**298**	P	**Pg**	**11 33 22.8**	**+0.6**
FRG				S	**Sg**	**11 33 28.7**	**+1.6**
TSTA	**Tashata**	**0.43**	**27**	P	**Pg**	**11 33 24.2**	**+1.1**
TSTA				S	**Sb**	**11 33 31.0**	**-1.0**
OHH	**Osh**	**0.54**	**52**	⇑*eP*	**Pg**	**11 33 26.1**	**+0.9**
	baz=52						
OHH				⇑*eS*	**Sg**	**11 33 33.5**	**+1.3**
	baz=52						
CHMI	**Chimion**	**0.54**	**278**	P	**Pg**	**11 33 25.5**	**+0.3**
CHMI				S	**Sg**	**11 33 33.3**	**+1.1**
ANR	**Andizhan**	**0.57**	**10**	P	**Pg**	**11 33 26.4**	**+0.7**
ANR				S	**Sb**	**11 33 35.0**	**-1.0**
DRK	**Karamyk**	**0.78**	**205**	⇑*eP*	**Pb**	**11 33 30.4**	**-0.8**
	baz=4.0						
DRK				⇑*eS*	**Sg**	**11 33 41.0**	**+1.0**
	baz=4.0						
NAM	**Namangan**	**0.91**	**332**	P	**Pb**	**11 33 32.0**	**-1.2**
NAM				S	**Sg**	**11 33 44.8**	**+0.9**
MINT	**Mingtut**	**0.99**	**286**	P	**Pb**	**11 33 33.4**	**-1.2**
MINT				S	**Sb**	**11 33 47.2**	**-0.9**
SFK	**Sufi-Kurgan**	**1.00**	**100**	⇑*eP*	**Pb**	**11 33 34.2**	**-0.6**
	baz=0.0						
SFK				⇑*eS*	**Sb**	**11 33 47.7**	**-0.8**
	baz=0.0						
BTK	**Batken**	**1.09**	**263**	⇑*eP*	**Pb**	**11 33 35.5**	**-0.8**
	baz=63						
BTK				⇑*eS*	**Sb**	**11 33 50.2**	**-0.7**
	baz=63						
KSNS	**Kasansay**	**1.10**	**331**	P	**Pb**	**11 33 35.5**	**-1.0**
KSNS				S	**Sn**	**11 33 51.0**	**-2.0**
ARSB	**Arslanbob**	**1.27**	**27**	⇓*eP*	**Pb**	**11 33 39.0**	**-0.4**
	baz=27						
ARSB				⇓*eS*	**Sn**	**11 33 55.9**	**-1.3**
	baz=27						
CHDK	**Chadak**	**1.36**	**305**	P	**Pn**	**11 33 39.9**	**-0.9**
CHDK				S	**Sg**	**11 33 59.1**	**+0.5**
TRKS	**Terek-Say**	**1.57**	**329**	⇑*eP*	**Pn**	**11 33 43.2**	**-0.5**
	baz=28						
TRKS				⇑*eS*	**Sn**	**11 34 02.9**	**-1.7**
	baz=28						
ARK	**Arkit**	**1.61**	**353**	⇓*eP*	**Pb**	**11 33 44.8**	**-0.5**
	baz=53						
ARK				⇓*eS*	**Sg**	**11 34 06.8**	**+0.1**
	baz=53						
CHMG	**Chimgan**	**2.16**	**310**	P	**Pb**	**11 33 53.1**	**-1.5**
CHMG				S	**Sb**	**11 34 22.1**	**+0.3**
CHRV	**Charvak**	**2.25**	**311**	P	**Pb**	**11 33 54.4**	**-1.7**
CHRV				S	**Sb**	**11 34 24.8**	**+0.5**
ARLS	**Aral**	**2.30**	**43**	⇓*eP*	**Pb**	**11 33 55.1**	**-1.9**
	baz=43						
ARLS				⇓*eS*	**Sb**	**11 34 24.2**	**-1.7**
	baz=43						
MNAS	**Manas**	**2.30**	**5**	⇑*eP*	**Pb**	**11 33 55.1**	**-1.9**
	baz=5.0						
MNAS				⇑*eS*	**Sb**	**11 34 24.2**	**-1.7**
	baz=5.0						
TGS	**TashGRES**	**2.39**	**302**	P	**Pb**	**11 33 57.7**	**-0.8**
TGS				S	**Sg**	**11 34 31.1**	**-0.5**
IUG	**luzhnay**	**2.56**	**320**	Pg	**Pb**	**11 34 02.3**	**+0.9**
	29nm,0.3s						
IUG				Lg	Lg	11 34 29.4	
	55nm,0.6s						
IUG	**luzhnay**	**2.56**	**320**	*eP*	**Pb**	**11 34 02.3**	**+0.9**
	29nm,0.3s						
IUG				*eS*	**Sn**	**11 34 29.4**	**+0.4**
	55nm,0.6s						
MRKS	**Merke**	**2.66**	**16**	Pg	**Pb**	**11 34 04.3**	**+1.3**
	8.1nm,0.4s						
MRKS				Lg	Lg	11 34 33.0	
	47nm,0.4s						
MRKS	**Merke**	**2.66**	**16**	*eP*	**Pb**	**11 34 04.3**	**+1.3**
	8.1nm,0.4s						
MRKS				*eS*	**Sb**	**11 34 33.0**	**-3.2**
	47nm,0.4s						
UCH	**Uchtor**	**2.67**	**40**	⇓*eP*	**Pn**	**11 34 00.5**	**+1.4**
	baz=40						
UCH				⇓*eS*	**Sb**	**11 34 33.4**	**-3.3**
	baz=40						
EKS2	**Erkin-Say**	**2.73**	**25**	⇓*eP*	**Pn**	**11 34 01.2**	**+1.6**
	baz=25						
EKS2				⇓*eS*	**Sb**	**11 34 34.5**	**-3.7**
	baz=25						
AAK	**Ala-Archa**	**2.98**	**34**	⇑Pn	**Pn**	**11 34 04.9**	**+1.9**
	2.7nm,0.6s						
AAK				⇓Pg	**Pg**	**11 34 10.7**	**-1.2**
	4.9nm,0.5s						
AAK				⇓Lg	Lg	11 34 48.6	
	27nm,0.4s						
AAK	**Ala-Archa**	**2.98**	**34**	⇑*eP*	**Pn**	**11 34 04.7**	**+1.6**
	baz=34						
AAK				⇑*eS*	**Sn**	**11 34 40.8**	**+1.4**
	baz=34						
NRN	**Naryn**	**3.12**	**65**	⇑*eP*	**Pn**	**11 34 06.8**	**+1.6**
	baz=65						
NRN				⇑*eS*	**Sn**	**11 34 43.1**	**0.0**
	baz=65						
KK31	**Karatay Array**	**3.18**	**337**	Pg	**Pb**	**11 34 13.2**	**+1.3**
	2.0nm,0.3s,baz=143,slow=14,SNR=14						
KK31				⇓Lg	Lg	11 34 52.5	
	3.1nm,0.3s,baz=136,slow=30,SNR=3.0						
KKAR	**Karatay Array**	**3.18**	**337**	⇑*eP*	**Pn**	**11 34 07.2**	**+1.5**
	baz=37						
KKAR				⇑*eS*	**Sn**	**11 34 45.1**	**+1.0**
	baz=37						
KBK	**Karagaybulak**	**3.20**	**39**	⇓*eP*	**Pn**	**11 34 07.8**	**+1.6**
	baz=39						
KBK				⇓*eS*	**Sn**	**11 34 45.9**	**+1.0**
	baz=39						
BXML	**Bakhmal**	**3.26**	**262**	P	**Pb**	**11 34 11.7**	**-1.7**
BXML				S	**Sg**	**11 34 57.7**	**-1.9**
BRLS	**Borolday**	**3.35**	**328**	Pg	**Pb**	**11 34 14.4**	**-0.4**
	3.9nm,0.2s						
BRLS				Lg	Lg	11 34 50.2	
	18nm,0.5s						
BRLS	**Borolday**	**3.35**	**328**	*eP*	**Pb**	**11 34 14.4**	**-0.4**
	3.9nm,0.2s						
BRLS				*eS*	**Sn**	**11 34 50.2**	**+1.8**
	18nm,0.5s						
CHMS	**Chumysh**	**3.38**	**33**	⇑*eP*	**Pn**	**11 34 10.2**	**+1.7**
	baz=33						
CHMS				⇑*eS*	**Sn**	**11 34 50.1**	**+0.9**
	baz=33						
USP	**Ospenovka**	**3.51**	**28**	⇑*eP*	**Pn**	**11 34 12.0**	**+1.7**
	baz=28						
USP				⇑*eS*	**Sn**	**11 34 53.1**	**+0.7**
	baz=28						
BOOM	**Boomskoye usch**	**3.62**	**49**	⇑*eP*	**Pn**	**11 34 13.6**	**+1.7**
	baz=49						
BOOM				⇑*eS*	**Sn**	**11 34 56.1**	**+0.9**
	baz=49						
TKM2	**Tokmak 2**	**3.72**	**42**	⇑Pn	**Pn**	**11 34 14.8**	**+1.5**
	2.0nm,0.5s						
TKM2				⇑Pg	**Pb**	**11 34 23.3**	**+2.1**
	3.6nm,0.6s						
TKM2				⇓Lg	Lg	11 35 13.4	
	11nm,0.7s						
TKM2	**Tokmak 2**	**3.72**	**42**	⇑*eP*	**Pn**	**11 34 15.1**	**+1.8**
	baz=42						
TKM2				⇑*eS*	**Sn**	**11 34 58.5**	**+0.8**
	baz=42						
SGDS	**Sogindy**	**3.72**	**28**	Pg	**Pb**	**11 34 23.8**	**+2.6**
	3.9nm,0.2s						
SGDS				Lg	Lg	11 35 06.3	
	12nm,0.5s						
KST	**Kastek**	**4.00**	**43**	Pg	**Pg**	**11 34 31.3**	**0.0**
	3.0nm,0.4s						
KST				Lg	Lg	11 35 18.9	
	11nm,0.7s						
KST	**Kastek**	**4.00**	**43**	*eP*	**Pg**	**11 34 31.3**	**0.0**
	3.0nm,0.4s						
KST				*eS*	**Sg**	**11 35 18.9**	**-4.2**
	11nm,0.7s						
DGS	**Degeres**	**4.04**	**40**	Pg	**Pg**	**11 34 31.9**	**-0.3**
	6.5nm,0.5s						
DGS				Lg	Lg	11 35 20.4	
	11nm,0.4s						
DGS	**Degeres**	**4.04**	**40**	*eP*	**Pg**	**11 34 31.9**	**-0.3**
	6.5nm,0.5s						
DGS				*eS*	**Sg**	**11 35 20.4**	**-4.2**
	11nm,0.4s						
KDJ	**Kajisay**	**4.21**	**61**	⇑*eP*	**Pn**	**11 34 21.8**	**+1.8**
	baz=61						
KDJ				⇑*eS*	**Sn**	**11 35 10.1**	**+0.3**
	baz=61						
MTBS	**Maitube**	**4.30**	**46**	Pg	**Pg**	**11 34 37.9**	**+0.6**
	3.9nm,0.4s						
MTBS				Lg	Lg	11 35 30.3	
	5.9nm,0.3s						
MTBS	**Maitube**	**4.30**	**46**	*eP*	**Pg**	**11 34 37.9**	**+0.6**
	3.9nm,0.4s						
MTBS				*eS*	**Sg**	**11 35 30.3**	**-2.7**
	5.9nm,0.3s						
KRBS	**Karabastau**	**4.34**	**35**	Pg	**Pg**	**11 34 36.9**	**-1.1**
	2.6nm,0.4s						
KRBS				Lg	Lg	11 35 28.5	
	6.5nm,0.5s						
KRBS	**Karabastau**	**4.34**	**35**	*eP*	**Pg**	**11 34 36.9**	**-1.1**
	2.6nm,0.4s						
KRBS				*eS*	**Sb**	**11 35 28.5**	**+3.9**
	6.5nm,0.5s						
TARG	**Taragay, Kyrgy**	**4.50**	**68**	⇑*eP*	**Pn**	**11 34 26.0**	**+1.9**
	baz=68						
TARG				⇑*eS*	**Sn**	**11 35 17.4**	**+0.3**
	baz=68						
TNSS	**Tian-Shan**	**4.54**	**50**	Pg	**Pg**	**11 34 42.5**	**+0.7**
	2.5nm,0.3s						
TNSS				Lg	Lg	11 35 38.3	
	3.9nm,0.5s						
TNSS	**Tian-Shan**	**4.54**	**50**	*eP*	**Pg**	**11 34 42.5**	**+0.7**
	2.5nm,0.3s						
TNSS				*eS*	**Sg**	**11 35 38.3**	**-2.3**
	3.9nm,0.5s						
MDOK	**Medeo**	**4.67**	**49**	⇓Pg	**Pg**	**11 34 42.8**	**-1.6**
	3.2nm,0.8s						
MDOK				Pg	Pb	11 34 45.2	+7.8
	2.4nm,0.3s						
MDOK				⇓Lg	Lg	11 35 42.5	
	7.6nm,1.0s						
MDOK				Lg	Lg	11 35 42.7	
	4.6nm,0.6s						
MDOK	**Medeo**	**4.67**	**49**	*eP*	**Pg**	**11 34 45.2**	**+0.9**
	2.4nm,0.3s						
MDOK				*eS*	**Sg**	**11 35 42.7**	**-2.2**
	4.6nm,0.6s						
KTBS	**Karatobe**	**4.84**	**42**	Pg	**Pg**	**11 34 46.6**	**-0.9**
	2.5nm,0.6s						
KTBS				Lg	Lg	11 35 45.1	
	11nm,0.5s						
KTBS	**Karatobe**	**4.84**	**42**	*eP*	**Pg**	**11 34 46.6**	**-0.9**
	2.5nm,0.6s						
KTBS				*eS*	**Sg**	**11 35 45.1**	**-5.0**
	11nm,0.5s						
BTLS	**Baital**	**5.03**	**15**	Pg	**Pb**	**11 34 47.3**	**+3.9**
	2.3nm,0.4s						
BTLS				Lg	Lg	11 35 46.3	
	4.5nm,0.5s						
BTLS	**Baital**	**5.03**	**15**	*eP*	**Pb**	**11 34 47.3**	**+3.9**
	2.3nm,0.4s						
BTLS				*eS*	**Sb**	**11 35 46.3**	**+2.1**
	4.5nm,0.5s						
CHKK	**Chushkaly**	**5.09**	**43**	Pg	**Pg**	**11 34 52.2**	**-0.2**
	1.7nm,0.3s						
CHKK				Lg	Lg	11 35 54.7	
	8.1nm,0.4s						
CHKK	**Chushkaly**	**5.09**	**43**	*eP*	**Pg**	**11 34 52.2**	**-0.2**
	1.7nm,0.3s						
CHKK				*eS*	**Sg**	**11 35 54.6**	**-3.7**
	8.1nm,0.4s						
ARXS	**Arharly**	**5.78**	**44**	Pg	**Pg**	**11 35 05.5**	**-0.1**
	2.4nm,0.4s						
ARXS				Lg	Lg	11 36 17.6	
	5.1nm,0.7s						
ARXS	**Arharly**	**5.78**	**44**	*eP*	**Pg**	**11 35 05.5**	**-0.1**
	2.4nm,0.4s						
ARXS				*eS*	**Sg**	**11 36 17.6**	**-2.9**
	5.1nm,0.7s						
BLB	**Baldybastay**	**6.07**	**48**	Pg	**Pg**	**11 35 11.8**	**+0.8**
	6.3nm,0.6s						
BLB				Lg	Lg	11 36 28.3	
	3.5nm,0.6s						

IDC 10 11:33:42.6±2.3,32˚.58N×123˚.96E,h0km,mb3.4/3, mbtmp3.4/5,ML2.9/2,Error ellipse: s-maj=43.6km s-min=20.1km az=173.0,Off east coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**5.85**	**83**	Pn	Pn	11 35 11.1	+0.5
	0.4nm,0.3s,baz=294,slow=12,SNR=1.3						
JNU				Pg	Pg	11 35 34.1	-0.6
	0.7nm,0.3s,baz=271,slow=4.3,SNR=8.5						
JNU				Lg	Lg	11 36 46.4	
	0.5nm,0.3s,baz=52,slow=12,SNR=2.5						
	3.6nm,0.9s						
KSRS	**Korea Array**	**5.85**	**33**	Pn	Pn	11 35 09.8	-0.8
	0.3nm,0.3s,baz=214,slow=14,SNR=4.3						
KSRS				Pg	Pg	11 35 32.8	-1.9
	0.5nm,0.3s,baz=213,slow=17,SNR=3.8						
KSRS				Lg	Lg	11 36 47.6	
	1.5nm,0.3s,baz=213,slow=29,SNR=2.0						
	2.0nm,0.8s						
MKAR	**Makanchi Array**	**34.64**	**307**	P	P	11 40 32.5	-1.1
	0.5nm,0.6s,baz=108,slow=9.3,SNR=5.7						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**37.76**	**312**	P	P	11 41 00.3	+0.1
	0.3nm,0.3s,baz=102,slow=8.9,SNR=2.1						
	0.3nm,0.3s						
YKA	**Yellowknife Ar**	**74.32**	**24**	P	P	11 45 22.6	+1.1
	0.1nm,0.6s,baz=320,slow=6.6,SNR=2.3						
	0.1nm,0.6s						

*IDC **10** 11:37:08.2±0.5,0˚.94N×126˚.00E,h0km,mb4.3/23, mbtmp4.3/23,MS3.2/1,Error ellipse: s-maj=26.6km s-min=12.5km az=73.0*
*NEIC **10** 11:37:11.1±2.3,1˚.05N±0˚.08×126˚.15E±0˚.06,h10km±1km, mb4.7/58,Error ellipse: s-maj=13.7km s-min=9.4km az=184.0*
*DJA **10** 11:37:13.4±0.3,1˚.N±3˚×12˚6E±˚,h10km,M4.5/12,mb4.8/3, mB4.4/1,MLv4.4/12,Mw(mB)3.6/1*
ISC 10 11:37:11.7±1.3,1˚.01N±0˚.05×126˚.06E±0˚.05,h16km±8km, n125,σ1s.43/133,mb4.6/57,1C,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.33**	**100**		**Pg**	**11 37 36.4**	**-0.8**
TNTI	**Ternate**	**1.33**	**100**	P	**Pg**	**11 37 36.6**	**-0.6**
TNTI				S	**Sg**	**11 37 56.3**	**+1.8**
KMSI	**Cibinong**	**2.13**	**258**	P	**Pb**	**11 37 49.0**	**-0.8**
LBMI	**Labuha**	**2.18**	**139**	P	**Pn**	**11 37 48.0**	**+0.7**
SGSI	**Sangihe**	**2.71**	**349**	P	**Pn**	**11 37 54.7**	**+0.1**
SANI	**Sanana**	**3.04**	**181**	P	**Pn**	**11 37 58.9**	**-0.2**
SANI	**Sanana**	**3.04**	**181**	P	**Pn**	**11 37 59.5**	**+0.4**
GTOI	**Gorontalo**	**3.07**	**263**	P	**Pb**	**11 38 04.7**	**-1.3**
LUWI	**Luwuk**	**3.87**	**238**		**Pb**	**11 38 15.3**	**-4.3**
LUWI	**Luwuk**	**3.87**	**238**	P	**Pn**	**11 38 13.8**	**+3.3**
TOLI2	**Tolitoli**	**5.28**	**271**	Pn	**Pn**	**11 38 32.5**	**+2.5**
FAKI	**Fak Fak**	**7.31**	**122**	P	Pn	11 39 03.3	+5.4
FAKI	**Fak Fak**	**7.31**	**122**	Pn	**Pn**	**11 38 59.0**	**+1.1**
BBSI	**Bau Bau**	**7.34**	**208**	P	**Pn**	**11 39 01.6**	**+3.4**
	126nm,0.9s,0.4nm						
BKSI	**Bulukumba**	**8.65**	**223**	P	**Pn**	**11 39 19.5**	**+3.3**
KAPI	**Kappang**	**8.69**	**226**	Pn	**Pn**	**11 39 19.5**	**+2.7**
	1.8nm,0.3s,baz=53,slow=10,SNR=2.1						
KAPI				Sn	**Sn**	**11 40 55.5**	**+0.9**
	2.7nm,0.3s,baz=140,slow=18,SNR=2.5						
SOEI	**Soe**	**10.84**	**189**	Pn	**Pn**	**11 39 48.7**	**+2.3**
SBUM	**Sibu**	**13.91**	**276**	Pn	**Pn**	**11 40 29.4**	**+1.2**
MTN	**Manton Dam**	**14.65**	**160**	Pn	**Pn**	**11 40 39.2**	**+0.8**
KDU	**Kakadu**	**15.02**	**155**	P	**Pn**	**11 40 44.6**	**+1.2**
KSM	**Kuching**	**15.76**	**272**	Pn	**Pn**	**11 40 54.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**18.99**	**181**	P	**P**	**11 41 32.1**	**-0.6**
WB0	**Warramunga Arr**	**22.21**	**159**	P	**P**	**11 42 06.2**	**-1.3**
WB0				IAmb	IAmb	11 42 11.3	
	comp=Z,22nm,0.9s						
WRAB	**Tennant Creek**	**22.34**	**159**	P	**P**	**11 42 07.8**	**-1.3**
WRA	**Warramunga Arr**	**22.35**	**159**	P	**P**	**11 42 07.4**	**-1.7**
WRA	**Warramunga Arr**	**22.35**	**159**	P	**P**	**11 42 07.5**	**-1.6**
	comp=Z,5.1nm,0.5s,baz=340,slow=11,SNR=54						
WRA				PcP	**PcP**	**11 46 03.1**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=302,slow=1.9,SNR=2.8						
	comp=Z,5.1nm,0.5s						
WB2	**Warramunga Arr**	**22.35**	**159**	P	**P**	**11 42 07.7**	**-1.5**
GUMO	**Guam**	**22.42**	**55**	P	**P**	**11 42 08.2**	**-1.7**
WR0	**Warramunga Arr**	**22.44**	**159**	P	**P**	**11 42 08.7**	**-1.4**
COEN	**Coen**	**22.55**	**132**	P	**P**	**11 42 16.5**	**+5.

comp=Z,0.4nm,0.4s,baz=135,slow=9.1,SNR=10
comp=Z,0.4nm,0.4s
CHTO Chiang Mai 31.94 305 P **P** **11 43 35.8 -1.2**
MULG Mulgathing 32.04 167 P **P** **11 43 39.8 +2.1**
JNU Nakatsue 32.26 8 P **P** **11 43 40.3 +0.6**
JNU IAmb IAmb 11 43 41.9
comp=Z,12nm,0.9s
JNU Nakatsue 32.26 8 P **P** **11 43 40.2 +0.6**
comp=Z,10nm,0.9s,baz=176,slow=2.0,SNR=5.8
comp=Z,10nm,0.9s
KMI Kunming 32.89 319 ⇑P **P** **11 43 47.4 +1.9**
KMI pmax pmax
comp=Z,14nm,1.1s
ENH Enshi 33.09 333 P **P** **11 43 47.3 +0.3**
ENH IAmb IAmb 11 43 47.5
comp=Z,23nm,1.3s
LCRK Leigh Creek 33.36 161 P **P** **11 43 50.9 +1.7**
PZH PanZhiHua 34.49 319 P **P** **11 43 59.0 -0.3**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,150nm,5.2s
NWAO Narrogin (SRO) 34.77 193 P **P** **11 44 01.6 +0.1**
NWAO IAmb IAmb 11 44 29.9
comp=Z,19nm,1.1s
BBOO Buckleboo 34.94 165 P **P** **11 44 03.4 +0.4**
STKA Stephens Creek 35.87 157 P **P** **11 44 09.6 -1.3**
comp=Z,3.2nm,0.5s,baz=0.4,slow=6.1,SNR=4.5
comp=Z,3.2nm,0.5s
KSRS Korea Array 36.31 3 P **P** **11 44 12.2 -2.4**
comp=Z,1.9nm,0.7s,baz=120,slow=30,SNR=5.3
comp=Z,1.9nm,0.7s
MJAR Matsushiro Arr 37.10 16 P **P** **11 44 20.5 -0.9**
comp=Z,2.3nm,0.8s,baz=186,slow=9.3,SNR=5.6
comp=Z,2.3nm,0.8s
DL2 Dalian 37.93 354 P **P** **11 44 29.6 +1.2**
DL2 pmax pmax
comp=Z,43nm,0.6s
HHC Hu-ho-hao-te 41.78 343 *e*P **P** **11 45 03.4 +2.9**
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,81nm,4.5s
USA0B Ussuriysk Arra 43.33 6 P **P** **11 45 13.1 +0.2**
USA0B IAmb IAmb 11 45 14.8
comp=Z,11nm,0.8s
USRK Ussuriysk Ar. 43.33 6 P **P** **11 45 13.3 +0.5**
USRK Ussuriysk Ar. 43.33 6 P **P** **11 45 13.8 +0.9**
comp=Z,8.5nm,0.7s,baz=190,slow=8.2,SNR=9.4
comp=Z,8.5nm,0.7s
MDJ Mudanjiang 43.53 4 P **P** **11 45 16.2 +1.6**
MDJ pP pwP 11 45 29.2 +7.9
MDJ sP sP 11 45 34.0 +13
MDJ PP **PP** **11 46 56.2 +0.2**
MDJ PcS **PcS** **11 50 55.0 +0.2**
MDJ S **S** **11 51 43.7 +0.8**
MDJ sS sS 11 52 04.1 +14
MDJ SS **SS** **11 55 01.6 +3.8**
MDJ ScS **ScS** **11 55 11.1 -2.7**
MDJ pmax pmax
comp=Z,22nm,0.8s
MDJ pmax pmax
comp=Z,120nm,4.8s
MDJ Mudanjiang 43.53 4 P **P** **11 45 16.1 +1.6**
MDJ IAmb IAmb 11 45 17.1
comp=Z,17nm,0.8s
XLT XiLinHaoTe 43.62 350 *e*P **P** **11 45 16.4 +1.0**
XLT pP pwP 11 45 29.8 +10
XLT sP sP 11 45 34.1 +12
XLT PcP **PcP** **11 47 02.6 -0.1**
XLT pmax pmax
comp=Z,11nm,1.0s
XLT pmax pmax
comp=Z,95nm,5.0s
JKA Kamikawa-asahi 45.37 17 P **P** **11 45 28.8 -0.5**
JKA IAmb IAmb 11 45 51.6
comp=Z,11nm,1.3s
KLR Kul'dur 48.28 5 P **P** **11 45 52.5 +0.5**
comp=Z,5.9nm,0.9s,baz=197,slow=5.5,SNR=16
comp=Z,5.9nm,0.9s
SONM Songino Array 49.66 343 P **P** **11 46 02.6 -0.2**
comp=Z,3.5nm,0.8s,baz=154,slow=7.4,SNR=13
SONM PcP **PcP** **11 47 23.8 -0.2**
comp=Z,1.2nm,0.8s,baz=152,slow=3.3,SNR=4.3
comp=Z,3.5nm,0.8s
PETK Petropavlovsk- 58.19 22 P **P** **11 47 04.7 -0.1**
comp=Z,2.9nm,0.9s,baz=300,slow=20,SNR=3.7
comp=Z,2.9nm,0.9s
TARG Taragay, Kyrgy 59.34 320 P **P** **11 47 13.1 -0.5**
TARG IAmb IAmb 11 47 25.5
comp=Z,6.4nm,1.1s
MK31 Makanchi Array 59.42 326 P **P** **11 47 13.1 -0.4**
MK31 IAmb IAmb 11 47 16.1
comp=Z,4.4nm,1.0s
MKAR Makanchi Array 59.42 326 P **P** **11 47 12.8 -0.7**
MKAR Makanchi Array 59.42 326 P **P** **11 47 12.7 -0.8**
comp=Z,2.9nm,0.6s,baz=122,slow=8.6,SNR=26
comp=Z,2.9nm,0.6s
MAKZ Makanchi 59.60 326 P **P** **11 47 14.3 -0.5**
MAKZ IAmb IAmb 11 47 15.2
comp=Z,11nm,1.4s
AAK Ala-Archa 61.94 319 P **P** **11 47 30.6 -0.4**
AAK IAmb IAmb 11 47 32.8
comp=Z,5.0nm,1.2s
AAK Ala-Archa 61.94 319 P **P** **11 47 29.2 -1.8**
comp=Z,0.9nm,0.4s,baz=144,slow=8.2,SNR=1.9
comp=Z,0.9nm,0.4s
ARSB Arslanbob 62.36 317 P **P** **11 47 34.7 +0.9**
KBL Kabul 62.67 309 P **P** **11 47 35.7 -0.4**
KBL IAmb IAmb 11 47 36.5
comp=Z,7.5nm,1.1s
ZAA0 Zalesovo Array 62.71 334 P **P** **11 47 34.6 -1.1**
ZAA0 IAmb IAmb 11 47 37.6
comp=Z,4.7nm,1.1s
ZALV Zalesovo Beam 62.71 334 P **P** **11 47 34.5 -1.2**
ZALV Zalesovo Beam 62.71 334 P **P** **11 47 34.1 -1.6**
comp=Z,4.1nm,1.0s,baz=116,slow=6.8,SNR=7.6
comp=Z,4.1nm,1.0s
BTK Batken 63.34 315 P **P** **11 47 40.6 +0.3**
KURBB Kurchatov Arra 63.67 328 P **P** **11 47 41.4 -0.8**
comp=Z,6.4nm,0.8s,baz=126,slow=6.1,SNR=60
comp=Z,6.4nm,0.8s
KURK Kurchatov 63.68 329 P **P** **11 47 41.6 -0.6**
SIMJ Simiganj 64.11 313 P **P** **11 47 44.8 -0.8**
SIMJ IAmb IAmb 11 47 46.2
comp=Z,9.4nm,1.1s
KK31 Karatay Array 64.78 318 P **P** **11 47 49.0 -0.6**
KK31 IAmb IAmb 11 47 52.0
comp=Z,3.7nm,1.1s
KKAR Karatay Array 64.78 318 P **P** **11 47 48.9 -0.8**
BVAR Borovoye Array 69.23 328 P **P** **11 48 17.0 -0.7**
comp=Z,5.2nm,0.9s,baz=139,slow=7.7,SNR=14
comp=Z,5.2nm,0.9s
BRVK Borovoye 69.31 328 P **P** **11 48 17.4 -0.7**
TIXI Tiksi 70.55 1 P **P** **11 48 25.5 +0.1**
TIXI IAmb IAmb 11 48 26.2
comp=Z,9.8nm,1.1s
GEYT Alibeck 72.08 310 P **P** **11 48 35.8 +0.3**
GEYT IAmb IAmb 11 48 37.1
comp=Z,3.6nm,0.8s
GEYT Alibeck 72.08 310 P **P** **11 48 35.5 0.0**
comp=Z,2.2nm,0.2s,baz=77,slow=3.1,SNR=2.6
comp=Z,2.2nm,0.2s
GYA0B ALIBECK ARRAY 72.08 310 P **P** **11 48 36.3 +0.8**
GYA0B IAmb IAmb 11 48 37.0
comp=Z,4.6nm,0.7s
ABKAR Akbulak array 73.83 321 P **P** **11 48 44.5 -1.0**
VNDA Vanda 80.83 173 P **P** **11 49 23.1 -1.2**
VNDA Vanda 80.83 173 P **P** **11 49 23.1 -1.2**
comp=Z,1.2nm,0.8s,baz=318,slow=5.8,SNR=6.9
comp=Z,1.2nm,0.8s
L16K Owhat River 81.78 28 P **P** **11 49 30.0 +0.4**
L16K IAmb IAmb 11 49 34.0
comp=Z,6.3nm,1.2s
BELG Belogornoye 82.15 323 P **P** **11 49 29.9 -1.7**
comp=Z,29nm,0.8s,baz=12,slow=1.7,SNR=7.5
KIRV Kirov 82.19 329 P **P** **11 49 30.8 -1.0**
comp=Z,6.8nm,0.4s,baz=120,slow=9.1,SNR=3.8
comp=Z,6.8nm,0.4s
J17K VABM Dome 82.34 26 P **P** **11 49 32.1 -0.4**
J17K IAmb IAmb 11 49 35.3
comp=Z,4.0nm,0.9s
K17K Iditarod 82.54 27 P **P** **11 49 33.9 +0.4**
K17K IAmb IAmb 11 49 36.8
comp=Z,6.3nm,0.8s
E18K Tukpahlearik C 82.71 22 P **P** **11 49 34.7 +0.4**
E18K IAmb IAmb 11 49 37.1
comp=Z,6.2nm,0.9s
G19K Purcell Mounta 83.77 23 P **P** **11 49 41.0 +1.1**
G19K IAmb IAmb 11 49 41.8
comp=Z,6.4nm,1.0s
D19K Kuna River 83.88 21 P **P** **11 49 41.5 +1.1**
H19K Roundabout Mou 83.91 24 P **P** **11 49 42.2 +1.7**
H19K IAmb IAmb 11 49 42.6
comp=Z,6.0nm,1.1s
J19K Poorman 83.97 26 P **P** **11 49 39.2 -1.7**
E19K Redstone River 83.98 22 P **P** **11 49 40.9 0.0**
E19K IAmb IAmb 11 49 43.4
comp=Z,4.5nm,0.9s
KBZ Khabaz 84.36 314 P **P** **11 49 42.6 -0.7**
comp=Z,2.6nm,0.8s,baz=155,slow=6.0,SNR=5.3
comp=Z,2.6nm,0.8s
CAST Castle Rocks 85.45 27 P **P** **11 49 48.2 -0.2**
CAST IAmb IAmb 11 50 14.7
comp=Z,4.6nm,1.4s
BRLK Bradley Lake 85.62 30 P **P** **11 49 49.3 -0.1**
ARPR Arapgir-MALATY 87.60 309 P **P** **11 50 00.4 +0.8**
POKR Poker Plat Res 87.61 25 P **P** **11 49 57.4 -1.6**
POKR IAmb IAmb 11 49 57.6
comp=Z,5.0nm,0.7s
ILAR Eielson Array 87.83 25 P **P** **11 49 58.5 -1.5**
comp=Z,0.3nm,0.8s,baz=238,slow=5.2,SNR=2.0
comp=Z,0.3nm,0.8s
KLU Klutina 88.17 29 P **P** **11 49 59.7 -2.1**
BMAR Burnt Mountain 88.83 23 P **P** **11 50 05.6 +0.9**
L27K Beaver Creek, 90.07 27 P **P** **11 50 10.9 +0.3**
BCAR Beaver Creek A 90.09 27 P **P** **11 50 10.9 +0.2**
BRTR Keskin Array B 91.23 310 P **P** **11 50 16.2 -0.5**
comp=Z,1.1nm,0.8s,baz=126,slow=4.4,SNR=2.6
comp=Z,1.1nm,0.8s
ARCES ARCESS Array B 92.75 340 P **P** **11 50 22.3 -0.6**
comp=Z,1.8nm,0.8s,baz=80,slow=5.6,SNR=1.7
comp=Z,1.8nm,0.8s
BURAR Bucovina Array 96.57 318 P **P** **11 50 40.8 -0.2**
BURAR IAmb IAmb 11 50 41.7
comp=Z,2.1nm,0.8s
TXAR Lajitas Array 123.77 53 PKP **PKPdf** **11 56 09.5 -0.1**
comp=Z,0.2nm,0.6s,baz=223,slow=1.7,SNR=4.7

*NSSP **10** 11:40:07.4,39˚.20N×42˚.33E,h10km,Ms3.1*
*AZER **10** 11:40:10.0,38˚.54N×45˚.15E,h8km,ml2.9*
*TEH **10** 11:40:11.6,38˚.40N×45˚.37E,h12km±18km,ML2.8*

ISC 10 11:40:10.3±1.6,38˚.41N±0˚.03×45˚.27E±0˚.05,h4km±13km, n23,σ1ş40/33,1D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.30**	**115**	Pg	**Pg**		**11 40 16.6**	**+0.5**
IMRD	**Marand**	**0.45**	**48**	Pg	**Pg**		**11 40 19.8**	**+0.7**
ITBZ	**Tabriz**	**0.71**	**104**	Pg	**Pg**		**11 40 23.5**	**-0.4**
ORD	**Ordubad**	**0.77**	**47**	P	**Pg**		**11 40 25.3**	**+0.3**
ORD				S	**Sb**		**11 40 36.7**	**-0.4**
NAX	**Nakhchivan**	**0.78**	**13**	P	**Pg**		**11 40 25.1**	**-0.3**
NAX				S	**Sg**		**11 40 36.3**	**+0.7**
IAZR	**Azarshahr**	**0.92**	**142**	Pg	**Pg**		**11 40 28.4**	**+0.5**
SBZ	**Shahbuz**	**1.01**	**12**	P	**Pg**		**11 40 29.0**	**-0.8**
HYR	**Heyderabad**	**1.35**	**346**	P	**Pn**		**11 40 33.3**	**-2.7**
HYR				S	**Sn**		**11 40 50.8**	**-3.7**
IHRS	**Heris**	**1.39**	**93**	Pg	**Pb**		**11 40 36.5**	**-0.6**
MAHB	**Mahabad**	**1.67**	**168**	Pg	**Pb**		**11 40 41.7**	**-0.1**
GNI	**Garni**	**1.79**	**347**	⇓*i*P	**Pn**		**11 40 43.1**	**+1.0**
QRD	**Qoradiz**	**1.91**	**56**	S	**Sg**		**11 41 12.6**	**+0.9**
IHSH	**Hashtrud**	**1.92**	**124**	Pn	**Pb**		**11 40 45.1**	**-1.0**
ISRB	**Sarab**	**1.98**	**106**	Pn	**Pb**		**11 40 46.0**	**-0.9**
AMBZ	**Amberd**	**2.13**	**339**	*e*P	**Pn**		**11 40 48.6**	**+1.7**
AMBZ				*e*S	**Sb**		**11 41 18.0**	**+1.5**
GDB	**GEDABAY**	**2.34**	**9**	P	**Pn**		**11 40 50.4**	**+0.7**
GDB				S	**Sb**		**11 41 23.8**	**+1.3**
BRDA	**Brd**	**2.37**	**38**	S	**Sg**		**11 41 25.4**	**-1.0**
YRD	**Yardimli**	**2.38**	**77**	P	**Pb**		**11 40 54.0**	**+0.2**
YRD				S	**Sg**		**11 41 26.6**	**-0.1**
GANJ	**Ganja**	**2.38**	**20**	P	**Pb**		**11 40 52.6**	**-1.1**
GANJ				S	**Sb**		**11 41 23.4**	**0.0**
LRK	**Lerik**	**2.42**	**83**	P	**Pb**		**11 40 54.6**	**+0.1**
LRK				S	**Sg**		**11 41 27.1**	**-0.9**
QZX	**Qazax, Azerbai**	**2.65**	**2**	P	**Pn**		**11 40 56.4**	**+2.5**
QZX				S	**Sn**		**11 41 28.8**	**+2.4**
ASTR	**Astara**	**2.76**	**86**	P	**Pb**		**11 41 01.3**	**+1.0**
ASTR				S	**Sg**		**11 41 36.7**	**-2.4**
LKRN	**Lenkeran, Azer**	**2.76**	**83**	S	**Sg**		**11 41 38.8**	**-0.3**

*JMA **10** 11:46:17.0±0.1,38˚.6N±0˚.2×142˚.2E±0˚.7,h36km±1km, MD4.1/40,MV3.7/40,E OFF MIYAGI PREF*
*NIED **10** 11:46:17.0,38˚.59N×142˚.17E,h36km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.73; Mθθ-0.69; Mφφ-0.04; Mrθ0.24; Mθφ0.69; Mφr0.41; Fault plane solution: M₀1.09000×10¹⁵ NP1: φs332.00000°,δ55.00000°,λ135.00000°. NP2: φs92.00000°,δ54.00000°,λ45.00000°.*
*IDC **10** 11:46:18.9±2.0,38˚.61N×142˚.18E,h45km±19km,mb3.3/8, mbtmp3.6/12,ML2.9/2,MS2.8/3 Error ellipse: s-maj=23.2km s-min=12.1km az=111.0*

ISC 10 11:46:17.5±1.7,38˚.55N±0˚.05×142˚.22E±0˚.07,h34km±4km, n32,σ1ş77/33,mb3.6/8,6D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JKMT	**Kesennumamotoy**	**0.64**	**294**	*i*P	**Pn**		**11 46 28.8**	**-1.2**
JKMT				S	**Sb**		**11 46 37.0**	**-2.1**
JIKH	**Ishinomakikobu**	**0.64**	**248**	⇓*i*P	**Pn**		**11 46 29.0**	**-1.0**
JIKH				⇓S	**Sn**		**11 46 37.4**	**-1.6**
OFUJ	**Ofunato**	**0.68**	**321**	⇓*i*P	**Pn**		**11 46 29.3**	**-1.3**
OFUJ				⇓S	**Sn**		**11 46 37.6**	**-2.4**
JIO	**Ouri**	**0.69**	**262**	⇓*i*P	**Pn**		**11 46 29.6**	**-1.1**
JIO				⇓S	**Sn**		**11 46 38.5**	**-1.7**
JMK	**Ichinoseki**	**0.88**	**297**	*i*P	**Pn**		**11 46 32.2**	**-1.1**
JMK				S	**Sn**		**11 46 43.2**	**-1.7**
JOFO	**Osakifurukawao**	**1.02**	**273**	A	A		11 46 34.7	
	comp=E,11nm,1.4s,comp=N,20nm,0.6s							
JOM	**Ohasama**	**1.17**	**322**	*i*P	**Pn**		**11 46 36.5**	**-0.9**
JOU	**Okura**	**1.23**	**262**	*i*P	**Pn**		**11 46 38.0**	**-0.4**
JOU				S	**Sn**		**11 46 53.6**	**-0.2**
JOU	**Okura**	**1.23**	**262**	A	A		11 46 38.0	
	comp=E,5.0nm,0.5s,comp=N,6.0nm,1.0s							
JMM	**Marumori**	**1.31**	**239**	*i*P	**Pn**		**11 46 38.4**	**-1.0**
JMM				*e*S	**Sn**		**11 46 54.4**	**-1.3**
JRG	**Rokugo**	**1.49**	**305**	P	**Pn**		**11 46 41.5**	**-0.4**
JYK	**Kaneyama**	**1.50**	**285**	P	**Pn**		**11 46 41.5**	**-0.4**
MJAR	**Matsushiro Arr**	**3.77**	**239**	P	**Pn**		**11 47 14.4**	**+1.3**
	comp=N,0.7nm,0.3s,baz=49,slow=10,SNR=35							
MJAR				S	**Sn**		**11 47 57.9**	**+1.6**
	comp=N,4.6nm,0.5s,baz=156,slow=33,SNR=1.8							
MJAR				LR	LR		11 49 03.0	
	comp=N,251nm,18.2s,baz=58,slow=44							
	comp=N,12nm,0.6s							
ASAJ	**Asahikawa**	**5.57**	**3**	P	**Pn**		**11 47 38.4**	**+0.6**
	comp=N,0.4nm,0.3s,baz=273,slow=24,SNR=2.6							
ASAJ				S	**Sn**		**11 48 40.5**	**0.0**
	comp=N,5.2nm,0.7s,baz=216,slow=20,SNR=2.0							
	comp=N,3.8nm,0.8s							
JHJ	**Hachijo jima 2**	**5.77**	**201**	P	**Pn**		**11 47 41.4**	**+0.7**
	comp=N,57nm,0.3s,baz=271,slow=17,SNR=1.9							
JHJ				S	**Sn**		**11 48 41.1**	**-4.6**
	comp=N,208nm,1.0s,baz=85,slow=20,SNR=1.6							
USRK	**Ussuriysk Ar.**	**9.53**	**310**	P	**Pn**		**11 48 37.0**	**+4.8**
	comp=N,7.2nm,0.7s,baz=114,slow=13,SNR=11							
KSRS	**Korea Array**	**11.33**	**269**	P	**Pn**		**11 48 59.9**	**+3.0**
	comp=N,0.9nm,0.7s,baz=60,slow=16,SNR=2.1							
KSRS				LR	LR		11 53 10.5	
	comp=N,19nm,21.4s,baz=335,slow=36							
PETK	**Petropavlovsk-**	**18.06**	**31**	LR	LR		11 58 39.6	
	comp=N,46nm,18.0s,baz=192,slow=41							
H11N2	**WAKE ISLAND Hy**	**28.43**	**124**	T	T		12 22 01.3	
	baz=316,slow=75,SNR=209							
H11N1	**WAKE ISLAND Hy**	**28.44**	**124**	T	T		12 22 01.3	
	baz=316,slow=75,SNR=168							
H11N3	**WAKE ISLAND Hy**	**28.45**	**124**	T	T		12 22 00.7	
	baz=316,slow=75,SNR=160							
H11S1	**WAKE ISLAND Hy**	**29.20**	**126**	T	T		12 22 58.0	
	baz=318,slow=76,SNR=65							
H11S3	**WAKE ISLAND Hy**	**29.20**	**126**	T	T		12 22 57.0	
	baz=318,slow=76,SNR=65							
H11S2	**WAKE ISLAND Hy**	**29.21**	**126**	T	T		12 22 57.6	
	baz=318,slow=76,SNR=36							
ZALV	**Zalesovo Beam**	**41.38**	**311**	P	**P**		**11 53 59.7**	**-0.4**
	comp=N,0.5nm,0.3s,baz=98,slow=11,SNR=3.8							
	comp=N,0.5nm,0.3s							
MKAR	**Makanchi Array**	**43.87**	**301**	P	**P**		**11 54 20.3**	**-0.1**
	comp=N,0.8nm,0.7s,baz=82,slow=8.7,SNR=7.1							
	comp=N,0.8nm,0.7s							
KURBB	**Kurchatov Arra**	**45.58**	**307**	P	**P**		**11 54 33.5**	**-0.4**
	comp=N,2.8nm,0.7s,baz=82,slow=8.1,SNR=27							
	comp=N,2.8nm,0.7s							
ILAR	**Eielson Array**	**47.87**	**33**	P	**P**		**11 54 52.5**	**+0.8**
	comp=N,0.2nm,0.6s,baz=278,slow=6.3,SNR=1.7							
	comp=N,0.2nm,0.6s							
BVAR	**Borovoye Array**	**50.03**	**312**	P	**P**		**11 55 07.2**	**-1.2**
	comp=N,0.5nm,0.5s,baz=76,slow=6.1,SNR=2.2							
	comp=N,0.5nm,0.5s							
WRA	**Warramunga Arr**	**58.65**	**189**	P	**P**		**11 56 11.5**	**+0.2**
	comp=N,0.3nm,0.5s,baz=6.5,slow=7.0,SNR=7.6							
	comp=N,0.3nm,0.5s							
ASAR	**Alice Springs**	**62.38**	**189**	P	**P**		**11 56 37.5**	**+0.7**
	comp=N,0.5nm,1.1s,baz=359,slow=5.6,SNR=2.4							
	comp=N,0.5nm,1.1s							
TXAR	**Lajitas Array**	**88.69**	**53**	P	**P**		**11 59 07.7**	**0.0**
	comp=N,0.1nm,0.5s,baz=316,slow=7.5,SNR=1.4							
	comp=N,0.1nm,0.5s							

*SIGU **10** 11:48:09.1,48˚.16N×25˚.32E,h1km,mb1.8*
*MCSM **10** 11:48:10.3±0.4,48˚N±.3˚×2˚5E±˚,h3km±3km,ML2.7, MLv2.6*

ISC 10 11:48:09.3±1.1,48˚.14N±0˚.03×25˚.31E±0˚.03,h5km±10km, n19,σ0ş82/31,1C-1D,Ukraine-Moldova-Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KSV	**Kosov**	**0.24**	**316**	*i*P	**Pg**		**11 48 13.8**	**-0.2**
KSV				Pm			11 48 15.3	
KSV				*i*S	**Sg**		**11 48 18.8**	**+1.7**
KSV				m			11 48 22.6	
KSV				Sm			11 48 24.1	
KSV	**Kosov**	**0.24**	**316**	P	**Pg**		**11 48 13.7**	**-0.2**
KSV				S	**Sg**		**11 48 16.1**	**-1.0**
BURAR	**Bucovina Array**	**0.53**	**187**	⇑P	**Pg**		**11 48 19.2**	**-0.4**
BURAR				⇓S	**Sg**		**11 48 26.7**	**+0.1**
NSLU	**Nyzhne Selyshc**	**0.58**	**276**	*e*S	Sn		11 48 51.2	+17
RAKU	**Rahkiv**	**0.78**	**262**	P	**Pg**		**11 48 24.2**	**-0.1**
RAKU				S	**Sg**		**11 48 34.1**	**-0.3**
STNU	**Starunia**	**0.78**	**317**	*e*S	**Sb**		**11 48 35.9**	**-0.5**
KMPD	**K-Podol'skiy**	**0.87**	**61**	*i*P	**Pb**		**11 48 26.7**	**-0.2**
KMPD				*i*S	**Sb**		**11 48 38.5**	**-0.4**
KMPD	**K-Podol'skiy**	**0.87**	**61**	P	**Pb**		**11 48 26.6**	**-0.3**
KMPD				P	**Pg**		**11 48 25.9**	**-0.2**
KMPD				S	**Sb**		**11 48 38.5**	**-0.4**
MEZ	**Mezhgor'ye**	**1.26**	**288**	*e*P	**Pg**		**11 48 34.1**	**+0.7**
MEZ				*e*S	**Sn**		**11 48 51.8**	**+0.7**
HORU	**Horodok**	**1.30**	**34**	*i*P	**Pb**		**11 48 33.5**	**-0.8**
HORU				*i*S	**Sg**		**11 48 52.5**	**+1.4**
HORU				m			11 48 57.4	
HORU	**Horodok**	**1.30**	**34**	P	**Pn**		**11 48 32.6**	**-1.6**
HORU				S	**Sn**		**11 48 50.6**	**-1.3**
MORS	**Morshin**	**1.37**	**317**	*e*S	**Sg**		**11 48 53.5**	**+0.3**
NDNU	**Novodnistrovsk**	**1.44**	**71**	*i*P	**Pg**		**11 48 36.6**	**-0.3**
NDNU				m			11 48 37.6	
NDNU				Pm			11 48 37.8	
NDNU				*i*S	**Sg**		**11 48 56.2**	**+0.6**
NDNU				Sm			11 49 02.9	
NDNU	**Novodnistrovsk**	**1.44**	**71**	P	**Pb**		**11 48 36.4**	**-0.2**
NDNU				S	**Sg**		**11 48 56.6**	**+1.0**
TESR	**Tescani**	**1.87**	**150**	P	**Pb**		**11 48 44.2**	**+0.3**
SORM	**Soroca**	**2.03**	**89**	P	**Pb**		**11 48 45.9**	**-0.8**
SORM				S	**Sb**		**11 49 12.7**	**+0.4**
LUBAR	**Lubar, Ukraine**	**2.40**	**41**	P	**Pn**		**11 48 50.0**	**+0.8**
MI28	**Mi28,Pidlybu**	**3.18**	**28**	S	**Sn**		**11 49 39.6**	**+1.3**
AK14	**Malin Array Si**	**3.51**	**43**	P	**Pn**		**11 49 05.4**	**+0.9**

*BJI **10** 11:56:54.3±0.0,9˚.90N×125˚.73E,h32km,mb5.2/96, mB5.4/63,Ms5.3/98,Ms7 5.1/91*
*NEIC **10** 11:56:56.6,10˚.18N×125˚.46E,h30km*
*NEIC **10** 11:56:56.6,10˚.18N×125˚.77E,h30km,Moment Tensor Solution. Duration: 3ş3 Moment tensor: Scale 10¹⁷Nm; Mrr-2.25; Mθθ1.63; Mφφ0.62; Mrθ1.51; Mθφ2.98; Mφr-1.33; Fault plane solution: M₀4.12000×10¹⁷ NP1: φs263.76000°,δ60.91000°,λ-39.67000°. NP2:φs15.72000°, δ56.09000°,λ-144.14000°. Principal axes: T 4.1621, Plg3.0000°, Azm321.0000°; N -0.0874, Plg42.0000°, Azm53.0000°; P -4.0748, Plg48.0000°, Azm228.0000°;*
*MAN **10** 11:56:58.6,10˚.13N×125˚.65E,h34km,mb6.1,ML5.2, MS5.7*
MAN INTENSITY V - BASILISA CAGDIANAO DINAGAT LIBJO LORETO SAN JOSE AND TUBAJON DINAGAT ISLANDS; SURIGAO CITY SURIGAO DEL NORTE; GUIUAN MERCEDES AND SALCEDO EASTERN ; SAMAR; INTENSITY IV - DEL CARMEN MAINIT AND PLACER SURIGAO DEL NORTE; CANTILAN AND CARRASCAL SURIGAO DEL SUR; GENERAL MACARTHUR GIPORLOS LAWAAN LLORENTE MAYDOLONG AND ; SAN JULIAN EASTERN SAMAR; HINUNANGAN LILOAN SAN FRANCISCO SAN JUAN AND SAN RICARDO SOUTHERN LEYTE; TOLOSA LEYTE; ROSARIO AGUSAN DEL SUR; BUTUAN CITY; INTENSITY III - TACLOBAN CITY; BAYBAY CITY; DULAG KANANGA PALO AND PASTRANA LEYTE; BORONGAN CITY; DOLORES EASTERN SAMAR; MAASIN CITY; SOGOD SOUTHERN LEYTE; SAN MIGUEL ; SURIGAO DEL SUR; BURGOS SURIGAO DEL NORTE; GINGOOG CITY MISAMIS ORIENTAL; INTENSITY II- CAGAYAN DE ORO CITY; ILIGAN CITY; TAGUM CITY DAVAO DEL NORTE; HINATUAN SURIGAO DEL SUR; ORAS EASTERN SAMAR; MAMBAJAO CAMIGUIN; INTENSITY I- DUMAGUETE CITY; BISLIG CITY.
*MOS **10** 11:56:59.4±1.2,10˚.18N×125˚.48E,h54km,mb5.7/85, MS5.0/22,Error ellipse: s-maj=6.9km s-min=3.5km az=116.5*
*NEIC **10** 11:56:59.1±2.4,10˚.17N±0˚.06×125˚.64E±0˚.07,h29km±1km, mb5.8/276,Ms_20 5.1/245,Mww5.7/18,Error ellipse: s-maj=11.4km s-min=9.7km az=68.0*
*GCMT **10** 11:57:00.2±0.1,10˚.15N×125˚.52E,h31km,MW5.7/160, Moment Tensor Solution. s140,c260; s160,c324; Duration: 1ş7 Moment tensor: Scale 10¹⁷Nm; Mrr-1.93±.05; Mθθ2.09±.04; Mφφ-0.16±.04; Mrθ1.92±.07; Mθφ3.28±.03; Mφr-0.09±.07; Best double couple: M₀4.16900×10¹⁷ NP1:φs270.00000°,δ72.00000°, λ-41.00000°. NP2:φs15.00000°,δ51.00000°, λ-157.00000°. Principal axes: T 4.7810, Plg13.0000°, Azm327.0000°; N -1.2310, Plg46.0000°, Azm71.0000°; P -3.5560, Plg41.0000°, Azm225.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **10** 11:57:01.5±0.3,10˚N±2˚×12˚6E±˚,h45km±3km,M5.7/108, mb5.8/108,mB6.1/86,MLv6.7/5,Mw(mB)5.8/86, MwMwp5.4/48,Mwp5.6/48*
*IDC **10** 11:57:02.5±0.9,10˚.10N×125˚.49E,h70km±7km,mb4.9/38, mbtmp5.2/43,MS4.9/70,Error ellipse: s-maj=9.3km s-min=5.5km az=79.0*

ISC 10 11:56:59.5±0.2,10˚.14N±0˚.02×125˚.56E±0˚.02,h40km±1km, h40km:pP-P,n1466,σ1ş77/1455,mb5.7/333,MS5.1/230, 96C-32D,Leyte

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LDIP	**Loreto**	**0.26**	**11**	⇓*e*P	**Pn**		**11 57 06.5**	**-0.9**
LDIP				*e*S	**Sn**		**11 57 12.1**	**-0.7**
GLSP	**General Luna,**	**0.66**	**123**	⇑*i*P	**Pn**		**11 57 11.2**	**-1.2**
GLSP				*e*S	**Sn**		**11 57 19.9**	**-1.7**
PLP	**Palo**	**1.17**	**331**	⇑*i*P	**Pn**		**11 57 19.2**	**-0.2**
PLP				*i*S	**Sn**		**11 57 40.1**	**+6.0**
TABP	**Talibon, Bohol**	**1.21**	**268**	⇓*e*P	**Pn**		**11

GHBP Garcia Hernand 1.33 248⇓ *iP* **Pn 11 57 21.9 +0.3**
GHBP *eS* **Sn 11 57 39.6 +1.5**
GHBP Garcia Hernand 1.33 248⇓ *eP* **Pn 11 57 22.3 +0.7**
GHBP *eS* **Sn 11 57 39.7 +1.7**
BESP Borongan 1.46 355 *eP* **Pn 11 57 24.0 +0.6**
BESP *eS* **Sn 11 57 44.4 +3.2**
LLP Lapu-Lapu 1.58 276⇑ *iP* **Pn 11 57 26.7 +1.6**
LLP *iS* **Sn 11 57 46.8 +2.4**
TASP Talacogon, Agu 1.70 172⇑ *eP* **Pn 11 57 27.3 +0.6**
TASP *eS* **Sn 11 57 55.4 +8.2**
TASP Talacogon, Agu 1.70 172⇑ *eP* **Pn 11 57 27.7 +1.0**
TBP Tagbilaran 1.74 255⇓ *iP* **Pn 11 57 28.4 +1.2**
TBP *iS* **Sn 11 57 50.4 +2.2**
MECP Medelin, Cebu 1.86 303⇑ *eP* **Pn 11 57 30.3 +1.3**
MECP *eS* **Sn 11 57 53.2 +1.9**
CGP Cagayan de Oro 1.88 207⇓ *iP* **Pn 11 57 30.0 +0.8**
CGP *iS* **Sn 11 57 52.7 +0.9**
DACP Dalaguete, Ceb 2.04 260⇓ *eP* **Pn 11 57 32.9 +1.5**
DACP *eS* **Sn 11 57 58.6 +2.9**
BIPH Bislig 2.10 158⇑ *iP* **Pn 11 57 32.2 0.0**
BIPH *iS* **Sn 11 58 00.3 +3.3**
LSIP Lazi, Siquijor 2.15 242⇓ *eP* **Pn 11 57 33.5 +0.6**
LSIP *eS* **Sn 11 57 59.9 +1.4**
LSIP Lazi, Siquijor 2.15 242⇓ *eP* **Pn 11 57 34.0 +1.0**
LSIP *eS* **Sn 11 57 59.7 +1.3**
GNOP Guihulngan Cit 2.28 272⇓ *eP* **Pn 11 57 36.5 +1.8**
GNOP *eS* **Sn 11 58 03.3 +1.7**
BUKP Musuan 2.30 192⇑ *eP* **Pn 11 57 37.1 +2.1**
BUKP *iS* Sn 11 58 20.5 +18
CADP Cadiz City 2.36 289⇑ *eP* **Pn 11 57 37.3 +1.5**
CADP *eS* **Sn 11 58 05.1 +1.4**
SNPH Sibulan 2.43 251⇓ *iP* **Pn 11 57 38.1 +1.3**
SNPH *iS* Sn 11 58 20.9 +16
BLNP Bacolod Lanao 2.49 218⇓ *iP* **Pn 11 57 37.8 +0.2**
BLNP *eS* **Sn 11 58 07.7 +0.9**
CDOP Cateel, Davao 2.50 160⇑ *eP* **Pn 11 57 38.0 +0.3**
CDOP *eS* **Sn 11 58 08.4 +1.4**
CDOP Cateel, Davao 2.50 160⇑ *eP* **Pn 11 57 40.0 +2.3**
CDOP *eS* **Sn 11 58 10.7 +3.8**
DCPH Dipolog City 2.68 235⇓ *iP* **Pn 11 57 41.1 +1.0**
DCPH *iS* **Sn 11 58 18.7 +7.3**
CNOP Candoni, Negro 2.90 264⇓ *eP* **Pn 11 57 44.8 +1.6**
CNOP *eS* **Sn 11 58 17.8 +1.0**
CNOP Candoni, Negro 2.90 264⇓ *eP* **Pn 11 57 45.2 +2.1**
CNOP *eS* **Sn 11 58 22.4 +5.6**
MMPH Masbate 2.91 319⇓ *iP* **Pn 11 57 44.8 +1.5**
MMPH *iS* Sn 11 58 34.9 +18
DAV Davao City (W) 3.05 180 P **Pn 11 57 48.6 +3.3**
DAV Davao City (W) 3.05 180 Pn **Pn 11 57 46.8 +1.5**
DAV Davao City (W) 3.05 180 P **Pn 11 57 48.4 +3.0**
4µm,0.5s,baz=13,slow=2.3,SNR=181
DAV Davao City (W) 3.05 180⇑ *eP* Pn 11 57 50.0 +4.7
DAV Davao City (W) 3.05 180 P **Pn 11 57 48.2 +2.9**
DAV S **Sn 11 58 24.8 +4.2**
RCP Roxas 3.11 297⇑ *eP* **Pn 11 57 48.3 +2.3**
RCP *iS* **Sn 11 58 20.4 -1.6**
PAGZ Pagadian 3.14 224⇓ *eP* **Pn 11 57 47.8 +1.3**
KCP Kidapawan 3.15 189⇑ *iP* **Pn 11 57 48.5 +1.8**
KCP *iS* Sn 11 58 10.7 -12
PICP Pikit 3.19 196⇑ *eP* **Pn 11 57 47.5 +0.3**
PICP *eS* **Sn 11 58 27.9 +3.9**
MATI Mati 3.25 168⇑ *eP* **Pn 11 57 49.6 +1.6**
MATI *eS* **Sn 11 58 29.7 +4.2**
JAP San Jose, Anti 3.61 280⇑ *eP* **Pn 11 57 49.7 -3.2**
PVCP Virac 3.70 338⇑ *eP* **Pn 11 57 56.2 +2.0**
PVCP *eS* **Sn 11 58 44.6 +8.0**
IBAJ Ibajay, Aklan 3.73 297⇑ *iP* **Pn 11 57 56.8 +2.2**
SKMP Bagumbayan, Su 3.74 196 *eP* **Pn 11 57 55.5 +0.7**
SKMP *eS* **Sn 11 58 41.5 +4.0**
DDMP Don Marcelino, 4.01 178⇑ *eP* **Pn 11 57 57.8 -0.8**
DDMP *eS* **Sn 11 58 46.0 +1.6**
SCSP San Jose Seism 4.02 330⇑ *eP* **Pn 11 57 59.7 +1.1**
SCSP *eS* **Sn 11 58 50.9 +6.4**
GSPH General Santos 4.08 189⇑ *eP* **Pn 11 58 02.9 +3.4**
OTRP Odiongan 4.12 303⇑ *eP* **Pn 11 58 00.8 +0.9**
OTRP *eS* **Sn 11 58 49.9 +3.0**
ZCP Zamboanga City 4.70 228⇓ *iP* **Pn 11 58 09.1 +1.1**
ZCP *iS* **Sn 11 58 52.8 -8.4**
GQP Guinayangan 4.83 321⇑ *eP* **Pn 11 58 10.0 +0.3**
JCNP Jose Panganiba 4.98 326 *eP* **Pn 11 58 12.7 +0.8**
JCNP *eS* **Sn 11 59 15.7 +7.5**
JCNP Jose Panganiba 4.98 326⇑ *eP* **Pn 11 58 15.6 +3.7**
LQP Lukban 5.57 315⇑ *eP* **Pn 11 58 22.8 +2.6**
PGP Puerto Galera 5.62 307⇑ *eP* **Pn 11 58 21.6 +1.1**
PGP *eS* Sn 11 58 57.1 -27
LBLP Los Banos, Lag 5.83 314⇑ *eP* **Pn 11 58 25.6 +2.1**
LBLP *eS* **Sn 11 59 33.0 +3.8**
TGY Tagaytay City 6.00 311 P **Pn 11 58 29.3 +3.5**
2µm,1.0s,baz=140,slow=4.1,SNR=30
TGY LR LR 12 01 05.7
comp=Z,18µm,20.3s,baz=146,slow=41
TGY Tagaytay City 6.00 311⇓ *eP* Pn 11 58 30.9 +5.1
TGY *eS* Sn 11 59 53.7 +20
ENPP El Nido 6.13 280 *eP* **Pn 11 58 29.7 +2.1**
MACP Maragondon, Ca 6.26 311⇑ *eP* **Pn 11 58 31.5 +2.1**
MACP *eS* Sn 12 00 14.6 +35
QVP Quezon City--P 6.30 315⇑ *eP* Pn 11 58 34.7 +4.8
QVP *eS* Sn 12 00 14.2 +34
LUBP Lubang 6.31 305⇑ *eP* **Pn 11 58 32.4 +2.3**
LUBP *eS* Sn 12 00 35.4 +54
LUBP Lubang 6.31 305⇑ *eP* **Pn 11 58 33.7 +3.6**
SGSI Sangihe 6.41 180 P **Pn 11 58 33.7 +2.2**
8µm,0.9s,72µm31µm51nm
RTBP Dona Remedios 6.50 318⇑ *iP* **Pn 11 58 34.6 +1.9**
RTBP *eS* Sn 11 59 55.5 +10
PPR Puerto Princes 6.74 267⇑ *eP* **Pn 11 58 39.2 +3.2**
ABPP Abucay Bataan 6.77 313⇑ *eP* **Pn 11 58 39.2 +2.8**
ABPP *eS* Sn 12 00 07.8 +15
CAAP Casiguran, Aur 6.94 331⇑ *eP* **Pn 11 58 38.3 -0.4**
CAAP *eS* **Sn 11 59 57.5 +1.1**
IBZP Iba, Zambales 7.52 315⇑ *eP* **Pn 11 58 49.0 +2.3**
IBZP *eS* Sn 12 00 24.2 +14
SMPP San Manuel, Pa 7.63 322⇑ *eP* **Pn 11 58 49.2 +1.6**
SMPP *eS* **Sn 12 00 18.9 +5.3**
BTTP Bongao, Tawi-T 7.67 229⇓ *eP* **Pn 11 58 49.5 +0.7**
BTTP *eS* **Sn 12 00 21.7 +7.1**
CAUP Cauayan 7.68 332 *eP* **Pn 11 58 51.3 +2.5**
CAUP *eS* **Sn 12 00 19.1 +4.6**
BATP Bataraza 7.77 261 *eP* Pn 11 58 55.3 +5.1
BATP *eS* Sn 12 00 27.7 +11
SAMP Sagada Mountai 8.25 327⇑ *eP* **Pn 11 58 58.3 +1.6**
SAMP *eS* **Sn 12 00 25.2 -3.5**
CVP Callao Caves 8.35 335⇑ *eP* **Pn 11 58 60.0 +1.9**
CVP *eS* 11 59 19.7
PACPP Pamplona Cagay 9.22 334 *eP* **Pn 11 59 10.6 +0.6**
PACPP *eS* **Sn 12 00 52.3 -0.2**
PACPP Pamplona Cagay 9.22 334⇑ *eP* **Pn 11 59 11.0 +1.0**
I39PW PALAU INFRASON 9.25 106 P Pn 11 59 05.0 -5.4
baz=265,slow=9.1,SNR=2.6
I39PW S Sn 12 00 42.8 -10
baz=157,slow=25,SNR=0.6
I39PW T T 12 07 50.0
baz=284,slow=25,SNR=0.5
I39PW I I 12 51 40.0
baz=282,slow=310,SNR=1.0
PIP Pasuquin 9.44 330⇑ *eP* **Pn 11 59 13.0 0.0**
TNTI Ternate 9.48 169 P **Pn 11 59 15.5 +1.9**
TNTI Ternate 9.48 169 Pn **Pn 11 59 14.2 +0.6**
TNTI Ternate 9.48 169 P **Pn 11 59 14.1 +0.5**
1µm,1.2s,13µm12µm
KMSI Cibinong 9.63 190 P **Pn 11 59 15.8 +0.1**
2µm,1.0s,34µm13µm
GTOI Gorontalo 9.78 195 P **Pn 11 59 18.2 +0.5**
701nm,0.9s,6µm4µm
CICP Calayan Island 9.89 337⇑ *eP* Pn 11 59 23.9 +4.7
TOLI2 Tolitoli 10.15 208 P **Pn 11 59 24.4 +1.5**
TOLI2 Tolitoli 10.15 208 Pn **Pn 11 59 22.5 -0.3**
BBPB Basco Batanes 10.81 342⇑ *eP* **Pn 11 59 32.0 +0.3**
BBPB *eS* **Sn 12 01 23.5 -8.0**
LBMI Labuha 10.88 170 P **Pn 11 59 30.2 -2.6**
1µm,0.9s,25µm
MPSI Mapaga 11.25 210 P **Pn 11 59 36.9 -1.0**
88nm,1.0s,2µm9µm
LUWI Luwuk 11.45 194 P **Pn 11 59 43.6 +3.0**
LUWI Luwuk 11.45 194 Pn Pn 11 59 45.4 +4.8
LUWI Luwuk 11.45 194 P **Pn 11 59 44.4 +3.8**
2µm,1.2s,22µm
SANI Sanana 12.12 178 P **Pn 11 59 51.2 +1.5**
SANI Sanana 12.12 178 P **Pn 11 59 46.8 -2.9**
1µm,0.6s,11µm17µm
SWI Sorong 12.31 152 P **Pn 11 59 48.8 -3.6**
531nm,0.9s,6µm17µm
SWI Sorong 12.31 152 P **Pn 11 59 52.1 -0.3**
SWI pmax pmax
comp=Z,525nm,0.9s
TWGBT Beinan 13.31 342 P **P 12 00 13.0 -1.9**
NLAI Namlea 13.38 173 P **Pn 12 00 07.9 +0.9**
comp=Z,531nm,0.8s,comp=Z,10µm
SMKI Samarinda 13.41 219 P **P 12 00 12.1 -3.9**
comp=Z,996nm,1.8s,comp=Z,19µmcomp=Z,10µm
YULB Yu-li 13.79 343 P **P 12 00 17.5 -2.8**
YULB Yu-li 13.79 343 Pn 12 00 12.5 -0.1
TPUB Ta-pu 13.91 341 P **P 12 00 21.9 +0.3**
TPUB Ta-pu 13.91 341 Pn 12 00 13.4 -0.8
BKB Balikpapan 14.24 218 P **P 12 00 23.6 -1.7**
comp=Z,821nm,1.1s,comp=Z,20µmcomp=Z,11µm
SSLB Suanglung 14.27 343 P **P 12 00 25.9 +0.4**
SSLB Suanglung 14.27 343 Pn **Pn 12 00 21.0 +2.0**
TTSI Tana Toraja 14.29 204 P **Pn 12 00 22.5 +3.1**
comp=Z,585nm,0.9s,comp=Z,8µmcomp=Z,11µm
YOJ Yonaguni jima 14.45 351 P **P 12 00 26.7 -0.8**
YOJ Yonaguni jima 14.45 351 Pn 12 00 21.3 -0.1
YOJ Yonaguni jima 14.45 351 P **Pn 12 00 21.3 -0.1**
NACB Ninganchiao 14.46 345 P **P 12 00 27.3 -0.3**
NACB Ninganchiao 14.46 345 Pn 12 00 23.4 +1.8
FAKI Fak Fak 14.58 153 P **Pn 12 00 25.1 +1.8**
FAKI Fak Fak 14.58 153 Pn **Pn 12 00 22.6 -0.7**
FAKI Fak Fak 14.58 153 P **Pn 12 00 22.9 -0.4**
comp=Z,611nm,0.8s,comp=Z,9µmcomp=Z,13µm
JMJ Miyako jima 2 14.60 359 P **P 12 00 30.0 +0.9**
YHNB Yeheng 14.99 345 P **P 12 00 33.2 -0.4**
YHNB Yeheng 14.99 345 Pn 12 00 27.6 -1.1
TATO Taipei 15.25 346 P **P 12 00 38.0 +1.5**
TATO Taipei 15.25 346 P **Pn 12 00 31.0 -1.1**
TATO Taipei 15.25 346 P **P 12 00 35.9 -0.6**
TATO S **Sn 12 03 23.0 +3.0**
MTKI Muara Teweh, K 15.30 225 P **P 12 00 38.5 +1.5**
comp=Z,635nm,1.6s,comp=Z,11µmcomp=Z,7µm
SBUM Sibu 15.30 241 Pn 12 00 33.8 +1.0
KNMB Chin-men Tao 15.80 335 Pn **Pn 12 00 36.0 -3.2**
BBSI Bau Bau 15.81 191 P **P 12 00 42.6 -0.1**
comp=Z,258nm,1.1s,comp=Z,5µmcomp=Z,5µm
KMPI Kaimana, Papua 15.93 149 P **Pn 12 00 41.2 +0.3**
comp=Z,1µm,1.3s,comp=Z,18µmcomp=Z,15µm
KAPI Kappang 16.13 201 P **Pn 12 00 44.8 +1.3**
comp=Z,390nm,1.1s,baz=12,slow=7.2,SNR=50
KAPI S **Sn 12 03 43.2 +1.8**
comp=Z,12nm,0.3s,baz=226,slow=1.9,SNR=1.4
KAPI LR LR 12 08 03.4
comp=Z,5µm,20.6s,baz=32,slow=41
KAPI Kappang 16.13 201 P **P 12 00 45.7 -0.6**
KAPI P **P 12 00 45.7 -0.6**
KAPI S **S 12 03 47.6 -5.8**
KAPI S **S 12 03 47.6 -5.8**
KAPI Kappang 16.13 201 *d iP* **Pn 12 00 44.9 +1.4**
QZH Quanzhou 16.14 337⇑ *iP* **Pn 12 00 42.9 -0.7**
QZH S **Sn 12 03 41.7 +0.1**
QZH pmax pmax
comp=Z,250nm,1.2s
QZH pmax pmax
comp=Z,4µm,4.3s
QZH LR LR
comp=Z,7µm,19.2s
QZH LR LR
comp=Z,3µm,22.3s
QZH LR LR
comp=Z,10µm,23.0s
HKC Hong Kong Obse 16.29 319⇑ P **P 12 00 48.0 0.0**
BKSI Bulukumba 16.29 200 P **P 12 00 48.4 +0.4**
comp=Z,315nm,1.3s,comp=Z,6µmcomp=Z,6µm
HKPS Hong Kong Po S 16.29 319 Pn **Pn 12 00 43.1 -2.4**
JMZ Minamidaito 2 16.49 18 P **P 12 00 53.4 +3.2**
JMZ Minamidaito 2 16.49 18 Pn **Pn 12 00 48.0 0.0**
MCO Taipa Grande 16.57 317 P **P 12 00 51.0 -0.1**
JOW Kunigami 16.80 8 P **P 12 00 56.6 +3.0**
JOW Kunigami 16.80 8 P **P 12 00 53.9 +0.3**
JOW IAmb IAmb 12 00 59.3
comp=Z,1µm,1.3s
JOW Kunigami 16.80 8 P **P 12 00 54.1 +0.5**
comp=Z,272nm,1.0s,baz=191,slow=13,SNR=18
JOW LR LR 12 06 32.9
comp=Z,6µm,20.2s,baz=180,slow=34
DLV T Lat 16.86 278 Pn **P 12 00 54.0 -0.6**
STKI Sintang 17.22 235 P **P 12 01 02.2 +3.8**
comp=Z,688nm,1.3s,comp=Z,17µmcomp=Z,12µm
GZH Guangzhou 17.38 319 P **P 12 01 02.5 +2.4**
GZH S **S 12 04 22.6 +3.7**
GZH pmax pmax
comp=Z,140nm,1.0s
GZH pmax pmax
comp=Z,4µm,2.6s
GZH LR LR
comp=Z,2µm,11.2s
GZH LR LR
comp=Z,3µm,13.8s
KSM Kuching 17.44 241 P **P 12 01 01.1 +0.3**
QIZ Qiongzhong 17.58 302 P **P 12 01 06.3 +4.0**
QIZ Qiongzhong 17.58 302 P **Pn 12 01 01.5 -0.2**
QIZ S **Sn 12 04 18.1 +1.5**
QIZ pmax pmax
comp=Z,160nm,1.3s
QIZ pmax pmax
comp=Z,3µm,7.5s
QIZ LR LR
comp=Z,5µm,18.6s
QIZ LR LR
comp=Z,4µm,18.6s
QIZ LR LR
comp=Z,5µm,17.9s
SMPI Sarmi 17.79 132 P **P 12 01 05.2 +0.5**
comp=Z,2µm,1.4s,comp=Z,22µmcomp=Z,18µm
SAUI Saumlaki 18.89 162 P **Pn 12 01 17.9 +0.3**
SAUI Saumlaki 18.89 162 P **P 12 01 16.4 -0.3**
SAUI IAmb IAmb 12 01 28.6
comp=Z,679nm,0.7s
SAUI Saumlaki 18.89 162 P **Pn 12 01 17.4 -0.2**
comp=Z,2µm,0.8s,comp=Z,18µmcomp=Z,12µm
MMRI Maumere 18.95 190 P **Pn 12 01 18.9 +0.6**
MMRI Maumere 18.95 190 P **P 12 01 17.3 -0.1**
MMRI Maumere 18.95 190 P **Pn 12 01 18.4 +0.1**
comp=Z,653nm,0.8s,comp=Z,7µmcomp=Z,8µm
EDFI Ende, Flores 19.16 192 P **Pn 12 01 22.6 +1.6**
comp=Z,183nm,0.9s,comp=Z,4µmcomp=Z,8µm
GUMO Guam 19.20 78 P **Pn 12 01 23.6 +2.2**
GUMO Guam 19.20 78 P **P 12 01 20.7 +0.6**
GUMO Guam 19.20 78 P **Pn 12 01 22.8 +1.4**
comp=Z,104nm,1.1s,baz=57,slow=3.6,SNR=6.6
GUMO S **Sn 12 04 56.8 +1.0**
comp=Z,34nm,0.8s,baz=79,slow=22,SNR=1.4
GENI Genyem 19.27 130 P **Pn 12 01 22.9 +0.6**
GENI Genyem 19.27 130 P **Pn 12 01 22.8 +0.5**
comp=Z,2µm,1.3s,comp=Z,33µmcomp=Z,18µm
JAY Jayapura 19.63 129 P **Pn 12 01 26.1 -0.5**
comp=Z,869nm,0.9s,comp=Z,9µmcomp=Z,12µm
JAY Jayapura 19.63 129 P **Pn 12 01 26.2 -0.4**
JAY pmax pmax
comp=Z,869nm,1.1s
SOEI Soe 19.81 184 P **Pn 12 01 29.1 +0.3**
SOEI IAmb IAmb 12 01 41.4
comp=Z,555nm,0.9s
SOEI Soe 19.81 184 P **Pn 12 01 30.5 +1.8**
comp=Z,1µm,1.5s,comp=Z,16µmcomp=Z,10µm
UBPT Khong Chiam 20.25 287 Pn 12 01 33.6 -0.2
BATI Baumata 20.30 185 P **P 12 01 32.5 +0.3**
comp=Z,586nm,0.9s,baz=300,slow=1.2,SNR=19
BATI S **S 12 05 17.0 -0.8**
comp=Z,33nm,0.7s,baz=124,slow=23,SNR=1.1
BATI LR LR 12 12 19.7
comp=Z,3µm,19.3s,baz=16,slow=45
comp=Z,586nm,0.9s
BATI Baumata 20.30 185 P **P 12 01 33.4 +1.2**
comp=Z,1µm,1.1s,comp=Z,10µmcomp=Z,6µm
PLAI Plampang 20.38 203 P Pn 12 01 35.1 -0.2
PLAI Plampang 20.38 203 P Pn 12 01 37.3 +2.0
comp=Z,378nm,0.9s,comp=Z,6µmcomp=Z,6µm
TWSI Taliwang, Sumb 20.65 205 P Pn 12 01 37.6 -0.9
comp=Z,432nm,1.3s,comp=Z,7µmcomp=Z,6µm
BASI Baing, Sumba 20.83 194 P **P 12 01 38.7 +0.9**
comp=Z,351nm,1.3s,comp=Z,6µmcomp=Z,6µm
SRBI Singaraja 20.84 210 P **P 12 01 38.5 +0.6**
comp=Z,467nm,1.3s,comp=Z,5µmcomp=Z,4µm
ABJI Asem Bagus 21.09 213 P **P 12 01 42.2 +1.5**
comp=Z,488nm,1.1s,comp=Z,6µmcomp=Z,5µm
SSE Sheshan 21.24 350 P **P 12 01 43.6 +1.4**
SSE pP **pP 12 01 53.3 +1.0**
SSE S **S 12 05 37.2 +1.0**
SSE pmax pmax
comp=Z,130nm,1.1s
SSE LR LR
comp=Z,2µm,20.6s
DNP Denpasar 21.35 209 P **P 12 01 47.8 +4.3**
comp=Z,1µm,1.1s
DNP Denpasar 21.35 209 P **P 12 01 45.0 +1.5**
DNP pmax pmax
comp=Z,1µm,1.1s
GRJI Gresik 21.38 218 P **P 12 01 46.5 +2.7**
comp=Z,838nm,1.2s,comp=Z,11µmcomp=Z,5µm
BLJI Banyuglugur 21.40 214 P **P 12 01 45.2 +1.2**
comp=Z,258nm,0.9s,comp=Z,7µm
CNSH ChangSha 21.52 328⇓ P **P 12 01 46.4 +1.2**
CNSH S **S 12 05 43.3 +1.6**
CNSH LR LR
comp=Z,5µm,19.0s
CNSH LR LR
comp=Z,6µm,20.6s
CNSH LR LR
comp=Z,6µm,22.6s
JAGI Jajag, Banyuwa 21.70 212 P **P 12 01 49.4 +2.1**
JAGI Jajag, Banyuwa 21.70 212 P **P 12 01 47.3 +0.1**
JAGI IAmb IAmb 12 01 53.7
comp=Z,705nm,1.0s
JAGI Jajag, Banyuwa 21.70 212 P **P 12 01 48.4 +1.1**
comp=Z,801nm,1.2s,comp=Z,9µmcomp=Z,4µm
TABU Tabubil 21.86 134 P **P 12 01 50.4 +1.4**
NGJI Ngawi 22.36 219 P **P 12 01 56.8 +2.5**
comp=Z,622nm,1.0s,comp=Z,11µm
PWJI Pagerwojo 22.66 218 P **P 12 01 58.6 +1.1**
comp=Z,257nm,1.4s,comp=Z,5µm
NJ2 Nanjing 22.67 345⇑ P **P 12 01 57.8 +0.3**
NJ2 pP **pP 12 02 06.4 -1.2**
NJ2 sP **sP 12 02 09.8 -2.8**
NJ2 S **S 12 06 05.6 +2.6**
NJ2 sS Sn 12 06 16.6 -2.2
NJ2 pmax pmax
comp=Z,93nm,1.0s
NJ2 LR LR
comp=Z,3µm,19.4s
NJ2 LR LR
comp=Z,3µm,12.8s
NJ2 LR LR
comp=Z,5µm,23.7s
SMRI Semarang 22.77 222 P **P 12 01 59.7 +1.0**
SMRI IAmb IAmb 12 02 03.7
comp=Z,590nm,1.0s
SMRI Semarang 22.77 222 P **P 12 02 01.7 +3.0**
comp=Z,664nm,1.0s,comp=Z,15µmcomp=Z,10µm
WHN Wuhan 22.83 334⇑ P **P 12 01 59.6 +0.4**
WHN pP **pP 12 02 08.9 -0.4**
WHN PP **PnPn 12 02 28.0 +3.5**
WHN S **S 12 06 07.0 +1.2**
WHN sS Sn 12 06 22.6 -0.1
WHN pmax pmax
comp=Z,430nm,1.0s
WHN pmax pmax
comp=Z,3µm,3.3s
WHN LR LR
comp=Z,3µm,6.2s
WHN LR LR
comp=Z,5µm,12.6s
WHN LR LR
comp=Z,13µm,17.6s
JCJ Chichijima 23.03 41 P **P 12 02 04.5 +3.2**
JCJ Chichijima 23.03 41 P **P 12 02 01.9 +0.7**
JCJ Chichijima 23.03 41 LR LR 12 11 51.0
comp=Z,2µm,18.1s,baz=254,slow=38
DRS Darwin Rock St 23.04 167 P **P 12 02 02.6 +1.1**
MYKOM Kota Tinggi 23.12 250 P **P 12 02 01.7 -0.6**
UGM Wanagama 23.37 220 P **P 12 02 05.7 +0.9**
UGM Wanagama 23.37 220 P **P 12 02 06.1 +1.3**
UGM Wanagama 23.37 220 P **P 12 02 06.7 +1.9**
comp=Z,783nm,1.8s,comp=Z,17µmcomp=Z,7µm
JNU Nakatsue 23.39 11 P **P 12 02 09.0 +4.2**
JNU Nakatsue 23.39 11 P **P 12 02 05.2 +0.3**
JNU Nakatsue 23.39 11 LR LR 12 10 08.6
comp=Z,3µm,21.8s,baz=196,slow=34
DSRI Dabo 23.40 244 P **P 12 02 06.3 +1.3**
comp=Z,131nm,1.3s,comp=Z,5µmcomp=Z,3µm
YOGI Yogyakarta 23.44 221 P **P 12 02 08.3 +2.9**
comp=Z,499nm,1.5s,comp=Z,10µm
MTN Manton Dam 23.50 166 P **P 12 02 08.3 +2.4**
baz=24,SNR=9.5
MTN Manton Dam 23.50 166 P **P 12 02 05.7 -0.2**
SLVN Son La 23.60 301 P **P 12 02 07.5 +0.5**
MMPI Merauke 23.65 141 P **P 12 02 09.1 +1.7**
comp=Z,771nm,0.5s,comp=Z,16µm
KDU Kakadu 23.70 163 P **P 12 02 08.3 +0.5**
KPJI Karang Pucung 24.00 224 P **P 12 02 12.1 +1.5**
comp=Z,325nm,1.2s,comp=Z,5µm
GYA Guiyang 24.14 315⇓ *iP* **P 12 02 13.7 +1.6**
GYA S **S 12 06 30.5 +3.0**
GYA pmax pmax
comp=Z,90nm,1.6s
GYA pmax pmax
comp=Z,1µm,6.3s
GYA LR LR
comp=Z,7µm,19.4s
GYA LR LR
comp=Z,5µm,16.2s
GYA LR LR
comp=Z,7µm,21.0s
PMBI Palembang 24.44 239 P **P 12 02 16.8 +2.1**
PMBI Palembang 24.44 239 P **P 12 02 19.8 +5.0**
comp=Z,592nm,0.9s,comp=Z,31µm
JTU Tsushima 24.52 8 P **P 12 02 16.7 +1.4**
JTU IAmb IAmb 12 02 28.5
comp=Z,328nm,1.6s
LEM Lembang 24.57 227 LR LR 12 13 48.8
comp=Z,4µm,19.4s,baz=47,slow=41
LEM Lembang 24.57 227 P **P 12 02 18.1 +2.0**
LEM pmax pmax
comp=Z,347nm,1.1s
CMJI Cimerak 24.65 224 P P 12 02 26.0 +9.4
JMN Monobe 24.69 17 P **P 12 02 20.9 +4.0**
JMN Monobe 24.69 17 P **P 12 02 17.9 +1.1**
JMN IAmb IAmb 12 02 34.1
comp=Z,377nm,1.0s
JMBI JAMBI 24.76 243 P **P 12 02 23.0 +5.3**
comp=Z,240nm,1.2s
MANU Manus Island 24.85 118 P **P 12 02 19.5 +1.0**
MANU IAmb IAmb 12 02 29.9
comp=Z,215nm,1.1s
CBJI Citeko 24.86 229 P **P 12 02 21.3 +2.7**
comp=Z,815nm,1.2s
KULM Kulim 25.15 261 P **P 12 02 21.8 +0.6**
SBJI Serang 25.21 231 P **P 12 02 23.6 +1.8**
comp=Z,1µm,1.2s,comp=Z,16µm
CNJI Cibinong 25.25 227 P **P 12 02 22.8 +0.7**
comp=Z,191nm,1.1s,comp=Z,2µmcomp=Z,1µm
SKJI Sukabumi 25.47 229 P **P 12 02 26.2 +2.1**
SRIT Nakonsritamara 25.66 269 P **P 12 02 27.1 +1.2**
SRIT IAmb IAmb 12 02 55.5
comp=Z,341nm,1.7s
PHRA Phrae 25.89 292 P **P 12 02 29.4 +1.5**
KASI Kota Agung 26.13 234 P **P 12 02 30.0 -0.1**
comp=Z,160nm,1.2s,comp=Z,2µm
TJN Taejon 26.17 3 P **P 12 02 30.8 +0.6**
TJN Taejon 26.17 3 P **P 12 02 30.8 +0.6**
TJN pmax pmax
comp=Z,533nm,0.9s
LWLI Liwa 26.18 236 P **P 12 02 31.0 +0.3**
comp=Z,558nm,0.8s,comp=Z,5µmcomp=Z,3µm
CRAI Chiangrai 26.26 295 P **P 12 02 32.6 +1.3**
CRAI IAmb IAmb 12 02 35.0
comp=Z,379nm,1.6s
BKNI Bangkinang 26.27 250 P **P 12 02 32.8 +1.4**
BKNI IAmb IAmb 12 02 49.8
comp=Z,333nm,1.1s
BKNI Bangkinang 26.27 250 P **P 12 02 32.8 +1.4**
comp=Z,285nm,1.3s,comp=Z,5µmcomp=Z,3µm
KMI Kunming 26.30 307⇑ P **P 12 02 32.9 +1.1**
KMI S **S 12 06 57.9 -4.3**
KMI pmax pmax
comp=Z,49nm,1.7s
KMI pmax pmax
comp=Z,450nm,5.6s
KMI LR LR
comp=Z,1µm,17.6s
KMI LR LR
comp=Z,3µm,18.2s
KMI LR LR
comp=Z,3µm,17.2s
JHJ Hachijo jima 2 26.35 28 LR LR 12 13 55.8

comp=Z,2µm,19.4s,baz=246,slow=38
CM31 Chiang Mai Arr 27.06 291 P **P** **12 02 40.5 +2.0**
CM31 IAmb IAmb 12 02 41.8
comp=Z,315nm,1.4s
CMAR Chiang Mai Arr 27.06 291 P **P** **12 02 39.7 +1.3**
comp=Z,40nm,1.0s,baz=101,slow=6.9,SNR=238
CMAR PcP **PcP** **12 05 57.0 -2.1**
comp=Z,2.0nm,0.8s,baz=122,slow=4.4,SNR=1.5
CMAR LR LR 12 12 52.7
comp=Z,2µm,21.3s,baz=100,slow=35
CMAR P3KPbc 12 35 18.5
comp=Z,0.5nm,0.3s,baz=290,slow=5.4,SNR=4.4
comp=Z,40nm,1.0s
TIA Tai'an 27.06 345 P **P** **12 02 38.0 -0.3**
TIA S **S** **12 07 05.0 -8.5**
TIA pmax pmax
comp=Z,21nm,1.0s
TIA pmax pmax
comp=Z,180nm,7.4s
TIA LR LR
comp=Z,1µm,22.3s
TIA LR LR
comp=Z,2µm,19.1s
TIA LR LR
comp=Z,3µm,22.1s
LYN LuoYang 27.09 336 ⇑P **P** **12 02 39.0 +0.5**
LYN sP sP 12 02 56.7 +2.4
LYN S **S** **12 07 14.5 +0.5**
LYN sS sS 12 07 27.6 -4.8
LYN ScP **ScP** **12 09 36.1 -0.1**
LYN pmax pmax
comp=Z,99nm,1.2s
LYN pmax pmax
comp=Z,670nm,3.9s
LYN LR LR
comp=Z,4µm,19.6s
LYN LR LR
comp=Z,3µm,15.1s
LYN LR LR
comp=Z,6µm,24.4s
CHTO Chiang Mai 27.15 292 P **P** **12 02 40.4 +1.1**
CHTO Chiang Mai 27.15 292 P **P** **12 02 40.4 +1.1**
CHTO pmax pmax
comp=Z,112nm,1.3s
INCN Inchon 27.24 2 P **P** **12 02 40.1 +0.2**
INCN Inchon 27.24 2 P **P** **12 02 42.7 +2.8**
INCN P **P** **12 02 42.7 +2.8**
INCN S **S** **12 07 22.4 +6.1**
INCN S **S** **12 07 22.4 +6.1**
INCN Inchon 27.24 2 P **P** **12 02 40.1 +0.2**
INCN pmax pmax
comp=Z,36nm,0.9s
INCN MLR MLR
comp=Z,2µm,20.0s
KSAR Wonju Array Be 27.26 4 P **P** **12 02 39.8 -0.3**
KSAR Wonju Array Be 27.26 4 P **P** **12 02 39.8 -0.3**
KSRS Korea Array 27.28 4 P **P** **12 02 40.7 +0.6**
comp=Z,28nm,1.0s,baz=185,slow=10,SNR=64
KSRS PcP **PcP** **12 05 58.8 -0.5**
comp=Z,2.3nm,0.6s,baz=175,slow=2.3,SNR=3.2
KSRS S **S** **12 07 17.6 +0.8**
comp=Z,0.5nm,0.6s,baz=53,slow=17,SNR=1.4
KSRS ScP **ScP** **12 09 35.0 -1.7**
comp=Z,7.9nm,1.0s,baz=193,slow=3.2,SNR=12
KSRS ScS **ScS** **12 13 23.4 -4.7**
comp=Z,0.3nm,0.4s,baz=40,slow=37,SNR=1.3
KSRS LR LR 12 13 33.2
comp=Z,3µm,21.5s,baz=180,slow=36
comp=Z,28nm,1.0s
PDSI Padang 27.29 248 P **P** **12 02 40.8 +0.2**
comp=Z,83nm,0.7s,comp=Z,1µm
KS19 Wonju Array Si 27.32 4 P **P** **12 02 40.7 +0.2**
JGF Kuroka 27.52 21 P **P** **12 02 46.3 +3.8**
JGF Kuroka 27.52 21 P **P** **12 02 41.9 -0.6**
PZH PanZhiHua 27.78 309 P **P** **12 02 44.5 -0.5**
PZH PP **PnPn** **12 03 32.4 +0.1**
PZH S **S** **12 07 26.6 +1.3**
PZH pmax pmax
comp=Z,50nm,1.6s
PZH pmax pmax
comp=Z,760nm,5.9s
PZH LR LR
comp=Z,2µm,17.2s
PZH LR LR
comp=Z,3µm,17.7s
PZH LR LR
comp=Z,3µm,16.1s
FITZ Fitzroy Crossi 28.06 180 P **P** **12 02 46.9 -0.4**
baz=28,SNR=91
FITZ Fitzroy Crossi 28.06 180 P **P** **12 02 47.2 -0.1**
FITZ Fitzroy Crossi 28.06 180 P **P** **12 02 46.9 -0.4**
XAN Xi'an 28.26 330 ⇑P **P** **12 02 48.5 -0.6**
XAN sP sP 12 03 05.8 +0.9
XAN PP **PnPn** **12 03 40.6 +1.9**
XAN S **S** **12 07 30.3 -2.3**
XAN sS sS 12 07 52.6 +1.6
XAN pmax pmax
comp=Z,170nm,1.0s
XAN LR LR
comp=Z,6µm,16.7s
XAN LR LR
comp=Z,6µm,17.8s
XAN LR LR
comp=Z,9µm,22.4s
KCSI Kotacane, Aceh 28.35 259 P **P** **12 02 50.2 +0.1**
comp=Z,113nm,1.0s
MJAR Matsushiro Arr 28.67 22 P **P** **12 02 51.7 -1.0**
comp=Z,8.4nm,0.8s,baz=193,slow=8.9,SNR=13
MJAR PcP **PcP** **12 06 00.6 -2.2**
comp=Z,6.4nm,1.1s,baz=184,slow=2.8,SNR=1.9
MJAR LR LR 12 12 30.4
comp=Z,3µm,21.9s,baz=199,slow=32
comp=Z,8.4nm,0.8s
MAJO Matsushiro 28.67 22 P **P** **12 02 52.4 -0.3**
MAJO Matsushiro 28.67 22 P **P** **12 02 52.4 -0.3**
MAJO pmax pmax
comp=Z,122nm,1.5s
MAJO MLR MLR
comp=Z,3µm,20.0s
MJB9 Matsu-Tunnel 28.67 22 P **P** **12 02 53.2 +0.5**
SISI Saibi 28.71 248 P **P** **12 02 52.8 -0.4**
comp=Z,242nm,1.4s
LHMI Lhok Sumawe 28.77 262 P **P** **12 02 56.0 +2.2**
LHMI IAmb IAmb 12 03 28.0
comp=Z,211nm,1.0s
HNS HongShan 28.85 342 ⇑P **P** **12 02 54.5 +0.3**
HNS S **S** **12 07 40.8 -0.8**
HNS pmax pmax
comp=Z,60nm,1.1s
HNS LR LR
comp=Z,2µm,20.7s
HNS LR LR
comp=Z,2µm,19.0s
HNS LR LR
comp=Z,2µm,19.6s
DL2 Dalian 28.86 354 P **P** **12 02 54.8 +0.5**
DL2 pP **pP** **12 03 05.3 0.0**
DL2 sP **sP** **12 03 10.4 +0.3**
DL2 PP **PnPn** **12 03 49.8 +3.0**
DL2 S **S** **12 07 40.3 -1.4**
DL2 pmax pmax
comp=Z,69nm,0.8s
DL2 pmax pmax
comp=Z,530nm,7.6s
DL2 LR LR
comp=Z,3µm,17.5s
DL2 LR LR
comp=Z,2µm,15.0s
DL2 LR LR
comp=Z,4µm,21.9s
CD2 Chengdu 28.94 319 P **P** **12 02 55.1 -0.1**
CD2 S **S** **12 07 42.0 -1.4**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,250nm,4.1s
CD2 LR LR
comp=Z,1µm,14.6s
CD2 LR LR
comp=Z,2µm,14.0s
CD2 LR LR
comp=Z,4µm,19.7s
PMG Port Moresby 28.96 131 P **P** **12 02 55.4 -0.1**
comp=Z,73nm,0.8s,baz=316,slow=7.6,SNR=12
PMG S **S** **12 07 42.6 -1.2**
comp=Z,7.6nm,0.4s,baz=309,slow=23,SNR=2.1
comp=Z,73nm,0.8s
GSI Gunungsitoli 29.17 254 P **P** **12 02 56.6 -0.7**
GSI IAmb IAmb 12 02 58.1
comp=Z,148nm,1.0s
GSI Gunungsitoli 29.17 254 P **P** **12 02 56.8 -0.6**
comp=Z,153nm,1.6s
COEN Coen 29.64 144 P **P** **12 03 01.2 -0.2**
baz=30,SNR=42
COEN Coen 29.64 144 P **P** **12 03 01.7 +0.2**
COEN Coen 29.64 144 P **P** **12 03 01.4 -0.1**
COEN IAmb IAmb 12 03 07.9
comp=Z,142nm,0.8s
TNCH TengChong 29.64 303 P **P** **12 03 02.5 +0.8**
TNCH PP **PnPn** **12 03 56.2 -1.5**
TNCH S **S** **12 07 55.9 +1.1**
TNCH PcS **PcS** **12 09 49.7 +0.6**
TNCH pmax pmax
comp=Z,110nm,0.4s
TNCH pmax pmax
comp=Z,370nm,3.8s
TNCH LR LR
comp=Z,1µm,15.0s
TNCH LR LR
comp=Z,1µm,16.6s
TNCH LR LR
comp=Z,2µm,17.8s
TIY Taiyuan 29.89 339 *e*P **P** **12 03 03.7 +0.2**
TIY S **S** **12 07 57.8 -0.4**
TIY pmax pmax
comp=Z,34nm,1.1s
TIY pmax pmax
comp=Z,310nm,3.5s
TIY LR LR
comp=Z,2µm,23.4s
TIY LR LR
comp=Z,2µm,22.0s
SNSI Sinabang, Aceh 30.04 257 P **P** **12 03 06.5 +1.5**
comp=Z,149nm,1.1s,comp=Z,2µm
RABL Rabaul 30.08 117 P **P** **12 03 07.1 +1.6**
RABL IAmb IAmb 12 03 18.2
comp=Z,131nm,0.7s
JMM Marumori 30.82 24 P **P** **12 03 12.0 +0.4**
JMM IAmb IAmb 12 03 25.4
comp=Z,226nm,1.2s
BJT Baijiatuan 30.90 346 P **P** **12 03 12.6 +0.2**
BJT pmax pmax
comp=Z,104nm,1.1s
BJT Baijiatuan 30.90 346 P **P** **12 03 12.6 +0.2**
BJT sP **pP** **12 03 25.6 +2.1**
BJI Beijing 30.92 346 P **P** **12 03 12.5 0.0**
BJI S **S** **12 08 12.6 -1.5**
BJI pmax pmax
comp=Z,25nm,1.7s
BJI pmax pmax
comp=Z,250nm,3.8s
BJI LR LR
comp=Z,1µm,18.9s
BJI LR LR
comp=Z,540nm,17.1s
BJI LR LR
comp=Z,1µm,19.6s
WB0 Warramunga Arr 30.97 164 P **P** **12 03 12.9 -0.2**
WRAB Tennant Creek 31.11 164 P **P** **12 03 13.9 -0.5**
WRAB Tennant Creek 31.11 164 P **P** **12 03 13.9 -0.5**
WRAB pmax pmax
comp=Z,76nm,0.9s
WRA Warramunga Arr 31.12 164 P **P** **12 03 13.7 -0.8**
WRA Warramunga Arr 31.12 164 P **P** **12 03 12.9 -1.5**
comp=Z,31nm,0.6s,baz=344,slow=9.3,SNR=125
WRA PcP **PcP** **12 06 08.7 -0.6**
comp=Z,17nm,0.7s,baz=335,slow=2.8,SNR=4.7
WRA S **S** **12 08 12.9 -4.7**
comp=Z,8.9nm,0.7s,baz=349,slow=14,SNR=4.5
WRA P3KPbc 12 35 03.0
comp=Z,0.6nm,0.8s,baz=168,slow=3.7,SNR=2.8
comp=Z,31nm,0.6s
WRA Warramunga Arr 31.12 164 P **P** **12 03 13.7 -0.8**
WRA pmax pmax
comp=Z,4.0nm,1.0s
WB2 Warramunga Arr 31.12 164 P **P** **12 03 14.7 +0.2**
WB1 Warramunga Ar. 31.14 164 P **P** **12 03 14.9 +0.3**
WR0 Warramunga Arr 31.19 164 P **P** **12 03 15.2 +0.1**
WR0 IAmb IAmb 12 04 01.4
comp=Z,97nm,0.8s
SNY Shenyang 31.61 357 ⇑P **P** **12 03 19.5 +1.0**
SNY S **S** **12 08 22.5 -2.3**
SNY pmax pmax
comp=Z,120nm,1.0s
SNY LR LR
comp=Z,2µm,18.4s
SNY LR LR
comp=Z,2µm,20.7s
SNY LR LR
comp=Z,3µm,19.4s
MBWA Marble Bar 31.63 190 P **P** **12 03 18.1 -0.8**
MBWA Marble Bar 31.63 190 P **P** **12 03 18.4 -0.5**
MBWA Marble Bar 31.63 190 P **P** **12 03 18.2 -0.8**
MBWA Marble Bar 31.63 190 P **P** **12 03 17.8 -1.1**
PSA00 Pilbara Seismi 32.01 190 P **P** **12 03 21.7 -0.6**
PSA00 Pilbara Seismi 32.01 190 P **P** **12 03 21.2 -1.1**
PSA00 Pilbara Seismi 32.01 190 IAmb IAmb 12 03 54.8
comp=Z,117nm,1.1s
LZH Lanzhou 32.49 326 ⇑P **P** **12 03 27.5 +0.9**
LZH S **S** **12 08 37.5 -1.6**
LZH SS **SnSn** **12 10 37.8 +2.9**
LZH pmax pmax
comp=Z,100nm,1.3s
LZH pmax pmax
comp=Z,530nm,4.0s
LZH LR LR
comp=Z,4µm,14.4s
LZH LR LR
comp=Z,3µm,14.4s
LZH LR LR
comp=Z,6µm,14.1s
PATS Pohnpei 32.55 93 P **P** **12 03 28.7 +1.5**
baz=32,SNR=4.6
PATS Pohnpei 32.55 93 P **P** **12 03 28.7 +1.5**
PATS IAmb IAmb 12 03 53.2
comp=Z,174nm,1.2s
HHC Hu-ho-hao-te 33.00 340 *e*P **P** **12 03 31.6 +0.7**
HHC sP pP 12 03 39.7 -2.2
HHC PP **PnPn** **12 04 40.4 -0.7**
HHC S **S** **12 08 38.9 -7.8**
HHC pmax pmax
comp=Z,78nm,1.2s
HHC pmax pmax
comp=Z,500nm,3.7s
HHC LR LR
comp=Z,2µm,11.8s
HHC LR LR
comp=Z,650nm,11.5s
HHC LR LR
comp=Z,2µm,12.2s
VLA Vladivostok 33.31 8 *i*P **P** **12 03 30.8 -2.6**
VLA pmax pmax
comp=Z,90nm,1.0s
BTO Baotou 33.32 338 *e*P **P** **12 03 35.2 +1.5**
BTO pP **pP** **12 03 47.0 +2.2**
BTO sP **sP** **12 03 52.6 +3.0**
BTO PP **PP** **12 04 49.1 -0.5**
BTO S **S** **12 08 56.1 +4.4**
BTO SS **SnSn** **12 10 58.6 +3.8**
BTO pmax pmax
comp=Z,99nm,1.9s
BTO pmax pmax
comp=Z,890nm,8.3s
BTO LR LR
comp=Z,5µm,24.1s
BTO LR LR
comp=Z,7µm,19.0s
BTO LR LR
comp=Z,7µm,24.1s
IMP Imphal 33.40 300 *e*P **P** **12 03 34.0 -0.6**
IMP IAmb IAmb 12 03 40.2
comp=Z,14nm,0.6s
QIS Mount Isa 33.49 156 P **P** **12 03 35.0 -0.3**
CN2 Changchun 33.53 360 *e*P **P** **12 03 35.4 0.0**
CN2 PP **PnPn** **12 04 48.5 +0.8**
CN2 *e*S **S** **12 08 55.9 +1.2**
CN2 SS **SnSn** **12 11 01.0 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
CN2 pmax pmax
comp=Z,300nm,4.0s
CN2 LR LR
comp=Z,1µm,17.0s
CN2 LR LR
comp=Z,900nm,17.0s
CN2 LR LR
comp=Z,2µm,17.0s
KOHI KOHIMA 33.58 302 *e*P **P** **12 03 35.2 -1.0**
KOHI IAmb IAmb 12 04 01.0
comp=Z,61nm,1.0s
MTSU Mount Surprise 33.65 147 P **P** **12 03 36.9 +0.2**
baz=34,SNR=93
MTSU Mount Surprise 33.65 147 P **P** **12 03 36.9 +0.2**
USRK Ussuriysk Ar. 34.39 8 P **P** **12 03 43.2 +0.4**
comp=Z,73nm,0.9s,baz=199,slow=4.2,SNR=63
USRK S **S** **12 09 06.6 -1.3**
comp=Z,2.1nm,0.7s,baz=147,slow=28,SNR=2.2
USRK LR LR 12 16 44.0
comp=Z,3µm,21.6s,baz=187,slow=34
comp=Z,73nm,0.9s
GIRL Giralia 34.42 199 P **P** **12 03 44.0 +0.7**
ITAN ITANAGAR 34.44 304 *ex* pP 12 03 51.6 -3.0
MDJ Mudanjiang 34.52 5 P **P** **12 03 45.3 +1.3**
MDJ pP pP 12 03 48.6 -6.5
MDJ S **S** **12 09 10.6 +0.6**
MDJ SS **SnSn** **12 11 19.9 -3.9**
MDJ pmax pmax
comp=Z,130nm,1.3s
MDJ pmax pmax
comp=Z,620nm,3.6s
MDJ LR LR
comp=Z,1µm,16.1s
MDJ LR LR
comp=Z,2µm,19.6s
MDJ LR LR
comp=Z,2µm,20.0s
MDJ Mudanjiang 34.52 5 P **P** **12 03 45.0 +1.1**
MDJ sP **pP** **12 03 57.9 +2.8**
AS31 Alice Springs 34.58 166 IAmb IAmb 12 03 56.2
comp=Z,37nm,0.4s
ASAR Alice Springs 34.58 166 P **P** **12 03 43.6 -1.1**
comp=Z,15nm,0.4s,baz=353,slow=7.1,SNR=143
ASAR PP **PP** **12 05 03.9 +0.3**
comp=Z,18nm,0.7s,baz=334,slow=10,SNR=1.6
ASAR PcP **PcP** **12 06 18.4 -0.5**
comp=Z,20nm,0.8s,baz=343,slow=3.1,SNR=3.1
ASAR S **S** **12 09 08.3 -3.0**
comp=Z,3.3nm,0.7s,baz=95,slow=25,SNR=3.9
ASAR ScP **ScP** **12 09 57.4 -3.8**
comp=Z,2.4nm,0.8s,baz=352,slow=3.2,SNR=1.2
ASAR LR LR 12 18 48.6
comp=Z,2µm,21.9s,baz=356,slow=38
ASAR P3KPbc 12 34 39.2
comp=Z,0.5nm,1.0s,baz=165,slow=4.1,SNR=2.0
comp=Z,15nm,0.4s
XLT XiLinHaoTe 34.62 348 *e*P **P** **12 03 45.1 +0.1**
XLT pP pP 12 03 58.4 +2.3
XLT sP sP 12 04 02.7 +1.8
XLT PP **PP** **12 05 05.0 +1.0**
XLT PcP **PcP** **12 06 17.8 -0.9**
XLT S **S** **12 09 09.0 -2.8**
XLT sS sS 12 09 31.2 +0.9
XLT SS **SnSn** **12 11 28.5 +2.1**
XLT pmax pmax
comp=Z,64nm,1.0s
XLT pmax pmax
comp=Z,540nm,5.4s
XLT LR LR
comp=Z,3µm,19.6s
XLT LR LR
comp=Z,2µm,23.0s
WRKA Warakurna 35.07 176 P **P** **12 03 48.5 -0.5**
baz=35,SNR=104
WRKA Warakurna 35.07 176 P **P** **12 03 48.4 -0.5**
ERM Erimo 35.31 23 P P 12 03 55.5 +4.7
ERM Erimo 35.31 23 IAMs_20 IAMs_20 12 17 35.8
comp=Z,3µm,20.0s
ERM Erimo 35.31 23 *i*P **P** **12 03 52.3 +1.5**
ERM pmax pmax
comp=Z,75nm,1.1s
JEM Erimo 35.31 23 P **P** **12 03 55.0 +4.2**
JEM Erimo 35.31 23 IAMs_20 IAMs_20 12 17 47.6
comp=Z,3µm,20.0s
SHL Shillong 35.40 300 P **P** **12 03 52.3 +0.2**
SHL Shillong 35.40 300 *e*P **P** **12 03 51.9 -0.1**
SHL IAmb IAmb 12 04 03.2
comp=Z,91nm,0.9s
SHL Shillong 35.40 300 P **P** **12 03 53.0 +1.0**
SNR=27
SHL Shillong 35.40 300 P **P** **12 03 52.3 +0.2**
BNX BinXian 35.51 2 ⇑P **P** **12 03 52.3 -0.1**
BNX pP **pP** **12 04 04.1 +0.5**
BNX sP **sP** **12 04 10.2 +1.8**
BNX PP **PP** **12 05 13.7 +0.1**
BNX S **S** **12 09 26.2 +1.1**
BNX pmax pmax
comp=Z,60nm,1.1s
BNX pmax pmax
comp=Z,200nm,4.4s
BNX LR LR
comp=Z,2µm,20.0s
BNX LR LR
comp=Z,1µm,18.4s
BNX LR LR
comp=Z,3µm,22.3s
TV1H Townsville Har 35.94 144 P **P** **12 03 57.5 +1.1**
TEY Ternei 36.05 13 ⇑*e*P **P** **12 03 57.4 +0.4**
TEY *e* 12 09 32.3
TEY pmax pmax
comp=N,200nm,2.7s
TEY pmax pmax
comp=E,100nm,2.7s
TEY pmax pmax
comp=N,10.0nm,1.0s
TEY pmax pmax
comp=E,30nm,1.0s
TEY pmax pmax
comp=Z,10.0nm,1.0s
TEY pmax pmax
comp=N,50nm,1.0s
TEY pmax pmax
comp=N,100nm,3.6s
TEY pmax pmax
comp=N,100nm,4.3s
TEY pmax pmax
comp=E,100nm,4.3s
CTAO Charters Tower 36.29 146 P **P** **12 03 59.6 +0.2**
CTAO Charters Tower 36.29 146 P **P** **12 03 58.9 -0.6**
CTAO IAmb IAmb 12 04 15.5
comp=Z,310nm,1.6s
CTAO Charters Tower 36.29 146 IAMs_20 IAMs_20 12 18 45.4
comp=Z,3µm,18.0s
CTAO Charters Tower 36.29 146 P **P** **12 03 58.9 -0.6**
CTAO pmax pmax
comp=Z,310nm,1.7s
CTAO MLR MLR
comp=Z,2µm,18.0s
CTAO Charters Tower 36.29 146 P **P** **12 03 59.7 +0.2**
ASAJ Asahikawa 36.93 21 P **P** **12 04 05.8 +1.2**
comp=Z,36nm,0.8s,baz=239,slow=15,SNR=27
ASAJ S **S** **12 09 46.3 -0.6**
comp=Z,4.9nm,1.0s,baz=337,slow=32,SNR=2.2
ASAJ LR LR 12 17 19.1
comp=Z,3µm,21.8s,baz=224,slow=33
comp=Z,36nm,0.8s
JKA Kamikawa-asahi 36.93 21 IAMs_20 IAMs_20 12 16 46.6
comp=Z,3µm,22.0s
GTA Gaotai 37.09 326 ⇑P **P** **12 04 06.7 +0.4**
GTA pP pP 12 04 10.8 -6.6
GTA S **S** **12 09 47.9 -2.0**
GTA pmax pmax
comp=Z,48nm,1.3s
GTA pmax pmax
comp=Z,340nm,9.2s
GTA LR LR
comp=Z,2µm,21.9s
GTA LR LR
comp=Z,3µm,19.5s
GTA LR LR
comp=Z,5µm,20.3s
MEEK Meekatharra 37.18 190 P **P** **12 04 06.4 -0.5**
baz=37,SNR=7.9
MEEK Meekatharra 37.18 190 P **P** **12 04 06.2 -0.7**
LSA Lhasa 37.54 306 P **P** **12 04 11.0 +0.4**
LSA pmax pmax
comp=Z,5.0nm,0.1s
LSA Lhasa 37.54 306 P **P** **12 04 11.8 +1.2**

LSA pmax pmax
comp=Z,45nm,0.7s
GOMU GeErMu 38.07 318 P **P** **12 04 15.3 +0.5**
GOMU pP pP 12 04 21.9 -4.1
GOMU sP sP 12 04 24.6 -6.2
GOMU pmax pmax
comp=Z,36nm,1.3s
GOMU LR LR
comp=Z,10μm,21.1s
GOMU LR LR
comp=Z,4μm,19.5s
GOMU LR LR
comp=Z,6μm,21.8s
SHBG Sahibganj 38.93 298 *e*P **P** **12 04 23.8 +2.0**
OOD Oodnadatta 38.97 166 P **P** **12 04 22.4 +0.5**
HIA Hailar 39.30 354 IAMs_20 IAMs_20 12 20 39.1
comp=Z,3μm,20.0s
KLR Kul'dur 39.30 6 P **P** **12 04 25.1 +0.6**
comp=Z,28nm,0.9s,baz=204,slow=6.1,SNR=56
KLR PP **PnPn** **12 05 58.5 +0.3**
comp=Z,5.7nm,0.7s,baz=180,slow=8.4,SNR=0.8
KLR ScS ScS 12 14 26.1 -3.8
comp=Z,0.8nm,0.8s,baz=316,slow=18,SNR=1.6
KLR LR LR 12 19 49.7
comp=Z,2μm,22.0s,baz=188,slow=35
comp=Z,28nm,0.9s
KLR Kul'dur 39.30 6 *e*P **P** **12 04 22.7 -1.9**
KLR pmax pmax
comp=Z,59nm,1.0s
HNR Honiara 39.35 119 P **P** **12 04 25.6 +0.2**
HNR IAmb IAmb 12 04 54.8
comp=Z,174nm,0.9s
HNR Honiara 39.35 119 P **P** **12 04 25.6 +0.2**
HNR pmax pmax
comp=Z,174nm,1.0s
HNR Honiara 39.35 119 P **P** **12 04 25.7 +0.2**
YSS Yuzh-Sakhalins 39.48 19 P **P** **12 04 27.4 +1.4**
YSS IAmb IAmb 12 04 41.8
comp=Z,333nm,1.8s
YSS Yuzh-Sakhalins 39.48 19 *o**e*P **P** **12 04 27.1 +1.0**
YSS *e* 12 05 58.8
YSS *e*S **S** **12 10 26.8 +1.4**
YSS pmax pmax
comp=N,200nm,2.8s
YSS pmax pmax
comp=Z,300nm,2.8s
YSS pmax pmax
comp=Z,50nm,1.0s
YSS pmax pmax
comp=N,300nm,3.5s
YSS pmax pmax
comp=E,400nm,3.4s
YSS smax smax
comp=E,300nm,5.1s
YSS MLR MLR
comp=E,400nm,16.0s
YSS Yuzh-Sakhalins 39.48 19 P **P** **12 04 27.1 +1.0**
HEH HeiHe 40.02 2 *e*P **P** **12 04 30.8 +0.3**
HEH pP **pP** **12 04 37.2 -4.5**
HEH S **S** **12 10 33.0 -0.4**
HEH pmax pmax
comp=E,110nm,1.0s
HEH pmax pmax
comp=E,570nm,4.7s
HEH LR LR
comp=E,2μm,22.4s
HEH LR LR
comp=E,1μm,19.4s
HEH LR LR
comp=E,3μm,20.5s
MORW Morawa 40.05 193 P **P** **12 04 30.5 -0.5**
MORW Morawa 40.05 193 P **P** **12 04 30.8 -0.2**
MORW IAmb IAmb 12 04 44.9
comp=Z,444nm,2.0s
BOK Bokaro 40.16 295 *e*P **P** **12 04 33.5 +1.5**
BOK IAmb IAmb 12 04 43.5
comp=Z,43nm,0.8s
INKA Innaminka 40.43 159 P **P** **12 04 35.5 +1.4**
H11S3 WAKE ISLAND Hy 40.62 73 T T 12 47 35.6
baz=261,slow=74,SNR=3075
H11S1 WAKE ISLAND Hy 40.64 73 T T 12 47 33.9
baz=261,slow=74,SNR=1601
H11S2 WAKE ISLAND Hy 40.64 73 T T 12 47 36.8
baz=261,slow=74,SNR=1266
ULN Ulaanbaatar 40.71 341 P **P** **12 04 37.1 +0.6**
ULN Ulaanbaatar 40.71 341 P **P** **12 04 37.1 +0.6**
ULN P **P** **12 04 37.1 +0.6**
ULN S **S** **12 10 48.1 +4.0**
ULN S **S** **12 10 48.1 +4.0**
ULN Ulaanbaatar 40.71 341 P **P** **12 04 37.1 +0.6**
ULN pmax pmax
comp=Z,102nm,0.9s
ULN MLR MLR
comp=Z,1μm,20.0s
ULN Ulaanbaatar 40.71 341 P **P** **12 04 36.9 +0.4**
ULN pP **pP** **12 04 45.3 -2.4**
FORT Forrest 40.76 177 P **P** **12 04 37.4 +0.6**
FORT Forrest 40.76 177 P **P** **12 04 36.8 +0.1**
QLP Quilpie 40.76 154 P **P** **12 04 37.2 +0.3**
SONM Songino Array 40.90 340 P **P** **12 04 38.1 +0.2**
SONM Songino Array 40.90 340 P **P** **12 04 38.2 +0.2**
comp=Z,22nm,0.9s,baz=161,slow=9.2,SNR=90
SONM PcP **PcP** **12 06 36.9 -1.1**
comp=Z,3.4nm,0.9s,baz=156,slow=3.3,SNR=0.7
SONM LR LR 12 22 21.6
comp=Z,2μm,18.7s,baz=149,slow=37
comp=Z,22nm,0.9s
H11N1 WAKE ISLAND Hy 40.95 72 T T 12 48 03.8
baz=265,slow=74,SNR=4221
H11N2 WAKE ISLAND Hy 40.96 72 T T 12 48 02.3
baz=265,slow=74,SNR=3653
H11N3 WAKE ISLAND Hy 40.97 72 T T 12 48 02.3
baz=265,slow=74,SNR=3768
MULG Mulgathing 41.01 169 P **P** **12 04 39.8 +0.9**
UGL Uglegorsk 41.19 16 *e*P **P** **12 04 41.3 +1.2**
UGL *e*S **S** **12 10 53.6 +2.8**
UGL pmax pmax
comp=Z,820nm,2.5s
UGL pmax pmax
comp=Z,170nm,1.0s
UGL smax smax
comp=E,1μm,3.0s
UGL smax smax
comp=N,890nm,5.0s
RK1H Rockhampton Ha 41.30 144 P **P** **12 04 42.3 +1.0**
BLDU Ballidu 41.41 192 P **P** **12 04 41.2 -1.0**
baz=42,SNR=3.8
BLDU Ballidu 41.41 192 P **P** **12 04 41.5 -0.6**
KMBL Kambalda 41.42 185 P **P** **12 04 42.2 -0.1**
GRNR Gornyy 41.48 10⇑ *i*P **P** **12 04 44.0 +1.4**
GRNR pmax pmax
comp=E,8.0nm,0.8s
GRNR pmax pmax
comp=N,30nm,1.2s
GRNR pmax pmax
comp=Z,50nm,1.0s
GRNR MLR MLR
comp=E,540nm,16.0s
VIS Vishakhapatnam 41.60 285 *e*P **P** **12 04 46.9 +2.8**
VIS IAmb IAmb 12 05 01.5
comp=Z,376nm,1.9s
LCRK Leigh Creek 42.15 164 P **P** **12 04 49.0 +0.8**
KLBR Kellerberrin 42.16 190 P **P** **12 04 47.9 -0.4**
MUN Mundaring 42.83 192 P **P** **12 04 53.6 -0.1**
CIT Chita 42.89 349 *e*P **P** **12 04 54.9 +0.8**
CIT *e* 12 05 12.3
CIT *e* 12 11 11.1
CIT *e* 12 11 31.2
CIT pmax pmax
comp=Z,301nm,2.0s
TYV Tymovskoe 42.97 16 *e*P **P** **12 04 55.3 +0.7**
TYV *e*S **S** **12 11 21.3 +4.2**
TYV pmax pmax
comp=Z,35nm,2.0s
TYV pmax pmax
comp=Z,600nm,4.7s
TYV smax smax
comp=N,400nm,6.3s
TYV smax smax
comp=E,500nm,6.3s
EIDS Eidsvold 43.17 145 P **P** **12 04 56.4 -0.2**
EIDS Eidsvold 43.17 145 P **P** **12 04 55.9 -0.8**
BLSP Bilaspur 43.24 291 *e*P **P** **12 04 58.3 +0.9**
BLSP IAmb IAmb 12 05 07.9
comp=Z,49nm,0.9s

ZEA Zeya 43.50 1 *e*P **P** **12 04 58.8 -0.1**
ZEA *e* 12 06 43.5
ZEA *e* 12 14 46.8
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=Z,60nm,1.0s
NWAO Narrogin (SRO) 43.56 190 P **P** **12 04 59.5 -0.1**
NWAO Narrogin (SRO) 43.56 190 P **P** **12 04 59.7 +0.1**
NWAO IAmb IAmb 12 05 38.5
comp=Z,126nm,0.8s
NWAO Narrogin (SRO) 43.56 190 P **P** **12 04 59.4 -0.3**
comp=Z,45nm,0.7s,baz=8.7,slow=7.7,SNR=34
NWAO LR LR 12 24 54.2
comp=Z,464nm,21.4s,baz=6.0,slow=38
comp=Z,45nm,0.7s
NWAO Narrogin (SRO) 43.56 190 P **P** **12 04 59.7 +0.1**
NWAO Narrogin (SRO) 43.56 190 P **P** **12 04 59.7 +0.1**
NWAO pmax pmax
comp=Z,126nm,0.8s
NWAO Narrogin (SRO) 43.56 190 P **P** **12 04 59.2 -0.3**
BBOO Buckleboo 43.87 167 P **P** **12 05 02.7 +0.6**
BBOO Buckleboo 43.87 167 P **P** **12 05 02.4 +0.3**
VJD Vijayawada 44.09 283 *e*P **P** **12 05 07.4 +3.2**
VJD IAmb IAmb 12 05 18.8
comp=Z,100nm,1.0s
ALBI Allahabad 44.10 296 *e*P **P** **12 05 04.6 +0.4**
ALBI IAmb IAmb 12 05 07.5
comp=Z,89nm,1.1s
PALK Pallekele 44.41 270 LR LR 12 23 52.8
comp=Z,1μm,20.6s,baz=184,slow=36
PALK Pallekele 44.41 270 P **P** **12 05 09.9 +3.0**
PALK P **P** **12 05 09.9 +3.0**
PALK S **S** **12 11 43.0 +3.7**
PALK S **S** **12 11 43.0 +3.7**
PALK Pallekele 44.41 270 *i* P **P** **12 05 05.5 -1.4**
PALK pmax pmax
comp=Z,82nm,2.1s
WHYH Whyalla 44.44 166 P **P** **12 05 07.5 +0.9**
MDRS Chennai 44.44 278 *e*P **P** **12 05 10.1 +3.1**
MDRS IAmb IAmb 12 05 31.0
comp=Z,102nm,1.2s
STKA Stephens Creek 44.51 160 P **P** **12 05 07.4 +0.2**
STKA Stephens Creek 44.51 160 P **P** **12 05 07.5 +0.2**
STKA Stephens Creek 44.51 160 P **P** **12 05 07.3 +0.2**
comp=Z,127nm,0.6s,baz=335,slow=8.6,SNR=186
STKA PP **PP** **12 06 51.3 -0.5**
comp=Z,32nm,0.8s,baz=340,slow=11,SNR=1.3
STKA S **S** **12 11 38.1 -1.8**
comp=Z,4.8nm,0.7s,baz=88,slow=21,SNR=5.1
STKA LR LR 12 26 36.2
comp=Z,858nm,19.6s,baz=339,slow=40
comp=Z,127nm,0.6s
STKA Stephens Creek 44.51 160 P **P** **12 05 07.5 +0.2**
STKA pmax pmax
comp=Z,38nm,0.9s
HTT Hallett 45.16 164 P **P** **12 05 12.8 +0.3**
baz=45,SNR=68
HTT Hallett 45.16 164 P **P** **12 05 13.1 +0.6**
IRK Irkutsk 45.41 342 *e*P **P** **12 05 12.8 -1.4**
IRK *e*S S 12 12 04.2 +12
IRK pmax pmax
comp=Z,185nm,1.4s
CMSA Cobar Meteorol 45.71 156 P **P** **12 05 16.8 0.0**
baz=46,SNR=61
CMSA Cobar Meteorol 45.71 156 P **P** **12 05 17.5 +0.7**
HYB Hyderabad 46.13 284 *e*P **P** **12 05 22.1 +1.6**
HYB IVmB_BB 12 05 36.0
comp=Z,784nm,2.0s
HYB *e*ScP **ScP** **12 10 47.8 +1.4**
HYB *e*S **S** **12 12 05.2 +1.1**
HYB *e* 12 15 37.9
LGTI Lohaghat 46.42 301 *e*P **P** **12 05 22.5 0.0**
PTH Pithoragarh 46.47 301 *e*P **P** **12 05 22.7 -0.5**
WMQ Urumqi 46.90 323 *e*P **P** **12 05 27.2 +1.1**
WMQ sP pP 12 05 35.9 -1.7
WMQ S S 12 12 23.7 +9.3
WMQ pmax pmax
comp=Z,46nm,1.3s
WMQ pmax pmax
comp=Z,260nm,4.1s
WMQ LR LR
comp=Z,4μm,14.1s
WMQ LR LR
comp=Z,4μm,14.1s
WMQ LR LR
comp=Z,3μm,15.1s
JHNI Jhansi 47.04 295 *e*P **P** **12 05 26.6 -0.8**
JHNI IAmb IAmb 12 05 29.4
comp=Z,117nm,1.2s
JOSI Joshimath 47.28 302 *e*P **P** **12 05 29.9 +0.4**
ARMA Armidale 47.48 149 P **P** **12 05 31.5 +0.7**
ARMA Armidale 47.48 149 P **P** **12 05 29.2 -1.6**
ARMA IAmb IAmb 12 05 41.1
comp=Z,104nm,1.2s
SKR Severo-Kuril's 47.59 26 *e*P P 12 05 17.3 -14
SKR *e* 12 07 05.9
SKR *e*PPP PPP 12 08 14.0
SKR *e*S **S** **12 12 24.5 +0.7**
SKR pmax pmax
comp=Z,300nm,7.9s
BHPL Bhopal 47.70 292 *e*P **P** **12 05 33.4 +0.7**
BHPL IAmb IAmb 12 05 40.9
comp=Z,43nm,0.9s
AKL Akola 47.80 289 *e*P **P** **12 05 34.9 +1.4**
AKL IAmb IAmb 12 05 44.6
comp=Z,89nm,0.9s
TARA Tarawa 47.87 97 P **P** **12 05 35.3 +1.3**
NRDN NARMADA NAGAR 47.87 291 *e*P P 12 05 39.6 +5.6
NRDN IAmb IAmb 12 05 46.3
comp=Z,62nm,0.8s
GUNA GUNA 47.98 294 *e*P **P** **12 05 35.2 +0.4**
GUNA IAmb IAmb 12 05 38.0
comp=Z,131nm,1.1s
BOD Bodaibo 48.39 352 *e*P **P** **12 05 37.5 +0.1**
BOD pmax pmax
comp=Z,163nm,1.5s
KLP Kalpa 48.62 303 *e*P **P** **12 05 40.5 +0.5**
KLP IAmb IAmb 12 05 41.2
comp=Z,52nm,0.8s
KOUNC Koumac, New Ca 48.79 129 P **P** **12 05 41.4 +0.4**
KOUNC Koumac, New Ca 48.79 129 P **P** **12 05 42.5 +1.5**
KOUNC IAmb IAmb 12 06 12.8
comp=Z,189nm,1.9s
NDI New Delhi 48.82 299 *ex* P 12 05 48.3 +7.1
SONA Sohna 48.84 299 *e*P **P** **12 05 41.5 +0.2**
NPLP NPLP New Delhi 48.85 299 *e*P **P** **12 05 40.5 -0.9**
ARPS Mount Arapiles 49.11 163 P **P** **12 05 44.4 +1.3**
YNG Young 49.22 155 P **P** **12 05 45.8 +1.7**
KUDL Kundal 49.33 298 *e*P **P** **12 05 44.2 -0.9**
KUDL IAmb IAmb 12 05 45.8
comp=Z,33nm,0.7s
SMLA Simla 49.41 302 *e*P **P** **12 05 46.2 +0.6**
SYDH Sydney Hard Ro 49.80 152 P **P** **12 05 49.9 +1.5**
PEA0B Petropavlovsk- 50.04 25 IAmb IAmb 12 06 09.9
comp=Z,145nm,0.9s
PEA0B IAMs_20 IAMs_20 12 25 51.7
comp=Z,2μm,21.0s
PETK Petropavlovsk- 50.04 25 P **P** **12 05 51.0 +0.9**
PETK Petropavlovsk- 50.04 25 P **P** **12 05 51.4 +1.3**
comp=Z,36nm,0.8s,baz=211,slow=7.4,SNR=52
PETK PcP **PcP** **12 07 09.5 +0.1**
comp=Z,11nm,1.0s,baz=117,slow=1.7,SNR=0.7
PETK LR LR 12 25 52.6
comp=Z,2μm,21.0s,baz=220,slow=34
comp=Z,36nm,0.8s
RIV Riverview 50.04 152 P **P** **12 05 50.9 +0.6**
RIV pmax pmax
comp=Z,218nm,1.1s
BHK Bhakra 50.11 303 *e*P **P** **12 05 51.9 +0.9**
KAD Karad 50.30 284 *e*P **P** **12 05 54.3 +1.7**
CAN Canberra 50.35 155 P **P** **12 05 53.9 +1.2**
CAN Canberra 50.35 155 P **P** **12 05 53.7 +1.0**
CAN Canberra 50.35 155 P **P** **12 05 53.7 +1.0**
CAN pmax pmax
comp=Z,473nm,1.6s
CAN Canberra 50.35 155 P **P** **12 05 54.2 +1.5**
PET Petropavlovsk 50.38 25 P **P** **12 05 56.3 +3.7**
PET Petropavlovsk 50.38 25 P **P** **12 05 53.0 +0.5**
PET IAmb IAmb 12 06 06.8
comp=Z,210nm,1.3s
PET Petropavlovsk 50.38 25 *e*P **P** **12 05 53.8 +1.2**
PET *e* 12 07 04.0
PET *e* 12 07 49.1

PET *i* S **S** **12 13 03.5 +0.6**
PET pmax pmax
comp=Z,130nm,1.2s
PET pmax pmax
comp=Z,600nm,11.0s
PET pmax pmax
comp=Z,300nm,11.7s
PET Petropavlovsk 50.38 25 P **P** **12 05 54.0 +1.4**
PET Petropavlovsk 50.38 25 P **P** **12 05 53.3 +0.7**
comp=Z,135nm,1.4s,comp=Z,2μm
DHRM DHARAMSHALA 50.41 304 *e*P **P** **12 05 53.1 -0.4**
DHRM IAmb IAmb 12 06 11.8
comp=Z,137nm,1.4s
BRAT Ballarat 50.47 161 P **P** **12 05 54.6 +1.2**
CNB Canberra Magne 50.50 155 P **P** **12 05 55.0 +1.1**
ZSN Zaisan 50.57 325 *e*P **P** **12 05 53.1 -1.2**
baz=325
ZSN Zaisan 50.57 325 *e*P **P** **12 05 53.0 -1.2**
POO Poona 50.65 286 *ex* P 12 06 03.2 +8.0
AJM Ajmer 50.66 296 *e*P **P** **12 05 55.1 -0.2**
THN Thein Dam 50.93 304 *e*P **P** **12 05 56.8 -0.4**
THN IAmb IAmb 12 06 06.5
comp=Z,36nm,1.0s
TOO Toolangi 51.01 160 P **P** **12 05 59.2 +1.6**
TOO Toolangi 51.01 160 P **P** **12 05 58.9 +1.3**
TOO IAmb IAmb 12 06 10.4
comp=Z,121nm,1.0s
TOO Toolangi 51.01 160 P **P** **12 05 58.9 +1.3**
TOO pmax pmax
comp=Z,121nm,1.0s
LIFNC LIFOU 51.21 127 P **P** **12 06 01.1 +1.8**
NOUC Port Laguerre 51.22 129 P **P** **12 06 00.5 +1.1**
NOUC Port Laguerre 51.22 129 P **P** **12 06 00.0 +0.7**
NOUC pP **pP** **12 06 09.6 -1.4**
DZM Mont Dzumac 51.31 129 P **P** **12 06 01.5 +1.3**
DZM Mont Dzumac 51.31 129 *e*P **P** **12 06 01.3 +1.1**
comp=Z,232nm,1.1s
DZM Mont Dzumac 51.31 129 *e*PP **PP** **12 08 00.7 +3.1**
comp=Z,123nm,26.6s
DZM *e*S S 12 13 25.5 +8.7
comp=Z,1μm,32.8s
DZM *e*SS **SS** **12 16 52.2 -0.9**
comp=Z,927nm,25.5s
DZM *e*LQ LQ 12 18 42.0
comp=Z,5μm,33.8s
DZM *e*LR LR 12 20 43.7
comp=Z,3μm,26.4s
DZM Mont Dzumac 51.31 129 IAmb IAmb 12 06 02.5
comp=Z,85nm,0.6s
DZM Mont Dzumac 51.31 129 LR LR 12 27 01.5
comp=Z,502nm,20.7s,baz=312,slow=35
DZM Mont Dzumac 51.31 129 P **P** **12 06 01.3 +1.1**
MK31 Makanchi Array 51.71 323 *i* P **P** **12 06 02.2 -0.6**
MKAR Makanchi Array 51.71 323 P **P** **12 06 02.7 -0.1**
comp=Z,23nm,0.8s,baz=118,slow=7.0,SNR=38
MKAR PcP **PcP** **12 07 15.4 -0.4**
comp=Z,12nm,0.8s,baz=112,slow=6.3,SNR=0.8
MKAR ScP **ScP** **12 11 06.3 -3.4**
comp=Z,1.0nm,0.8s,baz=122,slow=7.0,SNR=1.0
MKAR S **S** **12 13 18.4 -3.3**
comp=Z,0.5nm,0.7s,baz=315,slow=26,SNR=1.5
MKAR ScS **ScS** **12 15 45.6 -4.3**
comp=Z,0.5nm,0.8s,baz=199,slow=7.2,SNR=1.3
MKAR LR LR 12 29 43.3
comp=Z,2μm,18.7s,baz=139,slow=38
MKAR PKPPKP **P'P'df** **12 36 39.6 -2.4**
comp=Z,0.8nm,0.9s,baz=267,slow=4.9,SNR=5.3
comp=Z,23nm,0.8s
SHLS Shalkode 51.77 318 *e*P **P** **12 05 59.9 -3.6**
comp=Z,25nm,0.7s,baz=318
SHLS Shalkode 51.77 318 *e*P **P** **12 05 59.8 -3.6**
SHLS pmax pmax
comp=Z,25nm,0.7s
OUENC Ouen Island, N 51.80 129 IAmb IAmb 12 06 27.7
comp=Z,108nm,1.1s
PDGK Podgornoye 51.83 318 P **P** **12 06 01.8 -2.1**
HMDM Hanimaadhoo 51.88 271 IAMs_20 IAMs_20 12 28 07.8
comp=Z,2μm,20.0s
HMDM Hanimaadhoo 51.88 271 P **P** **12 06 06.8 +2.3**
YAK Yakutsk 51.88 2 P **P** **12 06 03.8 +0.1**
YAK Yakutsk 51.88 2 IAMs_20 IAMs_20 12 28 57.1
comp=Z,1μm,20.0s
YAK Yakutsk 51.88 2 P **P** **12 06 03.8 +0.1**
comp=Z,139nm,0.9s,baz=200,slow=2.9,SNR=40
YAK S **S** **12 13 21.8 -1.6**
comp=Z,11nm,0.3s,baz=329,slow=23,SNR=9.7
YAK ScS **ScS** **12 15 46.1 -4.2**
comp=Z,9.0nm,0.4s,baz=292,slow=2.0,SNR=1.2
YAK LR LR 12 29 15.1
comp=Z,1μm,20.3s,baz=185,slow=37
comp=Z,139nm,0.9s
YAK Yakutsk 51.88 2*c* *i*P **P** **12 06 03.5 -0.2**
YAK *e* 12 08 07.4
YAK *e*S **S** **12 13 26.2 +2.8**
YAK *e* 12 15 53.1
YAK *e*SS **SS** **12 17 00.1 -0.4**
YAK pmax pmax
comp=Z,473nm,1.0s
YAK pmax pmax
comp=N,132nm,1.0s
YAK pmax pmax
comp=E,72nm,1.1s
YAK pmax pmax
comp=Z,138nm,2.3s
YAK pmax pmax
comp=N,148nm,2.5s
YAK pmax pmax
comp=E,77nm,2.2s
YAK smax smax
comp=N,256nm,3.2s
YAK smax smax
comp=E,199nm,2.8s
YAK MLR MLR
comp=Z,1μm,21.0s
YAK MLR MLR
comp=N,1μm,22.0s
YAK Yakutsk 51.88 2 P **P** **12 06 03.9 +0.1**
YAK pP **pP** **12 06 12.7 -2.6**
MAKZ Makanchi 51.90 323 P **P** **12 06 03.2 -1.0**
MILA Mila 51.91 156 P **P** **12 06 06.1 +1.7**
UZB Uzynbulak 52.06 318 *e*P **P** **12 06 03.9 -1.7**
baz=318
UZB Uzynbulak 52.06 318 *e*P **P** **12 06 03.9 -1.7**
TARG Taragay, Kyrgy 52.31 316 P **P** **12 06 08.8 +1.0**
TARG pmax pmax
comp=Z,44nm,1.0s
PINNC Pines Island, 52.38 129 P **P** **12 06 09.5 +1.5**
PINNC Pines Island, 52.38 129 P **P** **12 06 10.0 +2.0**
PINNC IAmb IAmb 12 06 25.7
comp=Z,154nm,0.9s
LHI Lord Howe Isla 52.40 143 P **P** **12 06 09.6 +1.6**
SATY Saty 52.43 317 *e*P **P** **12 06 06.8 -1.5**
baz=317
SATY Saty 52.43 317 *e*P **P** **12 06 06.8 -1.5**
KSH Kashi 52.80 312 P **P** **12 06 12.6 +1.4**
KSH S **S** **12 13 39.7 +2.6**
KSH pmax pmax
comp=Z,14nm,1.4s
KSH LR LR
comp=Z,3μm,20.1s
KSH LR LR
comp=Z,2μm,19.6s
KSH LR LR
comp=Z,3μm,21.1s
MA2 Magadan 52.84 16 P **P** **12 06 15.3 +4.4**
MA2 Magadan 52.84 16 P **P** **12 06 11.2 +0.2**
MA2 IAmb IAmb 12 06 21.5
comp=Z,122nm,0.9s
MA2 Magadan 52.84 16 P **P** **12 06 11.6 +0.6**
comp=Z,26nm,0.6s,baz=198,slow=11,SNR=18
MA2 S **S** **12 13 34.6 -2.1**
comp=Z,11nm,0.9s,baz=164,slow=20,SNR=2.3
MA2 LR LR 12 26 30.6
comp=Z,723nm,21.6s,baz=204,slow=33
comp=Z,26nm,0.6s
MA2 Magadan 52.84 16⇑ *e*P **P** **12 06 12.7 +1.8**
MA2 pmax pmax
comp=Z,112nm,1.7s
MA2 Magadan 52.84 16 P **P** **12 06 11.9 +0.9**
MA2 pP **pP** **12 06 20.2 -2.3**
MA2 sP **sP** **12 06 24.4 -2.8**
KAAM Kaadhehdhoo 53.14 263 P **P** **12 06 13.7 -0.1**
KAAM IAmb IAmb 12 06 16.4
comp=Z,100nm,0.9s
KAAM Kaadhehdhoo 53.14 263 P **P** **12 06 15.8 +2.0**
TDK Taldyqorghan 53.25 320 *e*P **P** **12 06 12.9 -1.4**

comp=Z,38nm,0.8s,baz=320
TDK LR LR 12 29 08.5
comp=Z,2µm,18.9s,baz=320
TDK Taldyqorghan 53.25 320 *e*P **P 12 06 12.8 -1.5**
TDK pmax pmax
comp=Z,38nm,0.8s
TDK MLR MLR
comp=Z,2µm,19.0s
MDOK Medeo 53.38 317 *e*P **P 12 06 14.2 -1.2**
baz=317
MDOK LR LR 12 29 11.8
comp=Z,930nm,18.7s,baz=317
MDOK Medeo 53.38 317 P **P 12 06 14.5 -0.9**
TNSS Tian-Shan 53.40 317 *e*P **P 12 06 14.3 -1.5**
baz=317
TNSS Tian-Shan 53.40 317 *e*P **P 12 06 14.3 -1.5**
CHKK Chushkaly 53.70 318 *e*P **P 12 06 16.5 -1.1**
baz=318
CHKK Chushkaly 53.70 318 *e*P **P 12 06 16.4 -1.1**
BOOM Boomskoye usch 53.88 316 P **P 12 06 19.0 -0.1**
BOOM pmax pmax
comp=Z,20nm,0.9s
TKM2 Tokmak 2 54.27 316 P **P 12 06 21.1 -0.9**
ZALV Zalesovo Beam 54.41 332 P **P 12 06 21.4 -1.0**
ZALV Zalesovo Beam 54.41 332 P **P 12 06 21.3 -1.2**
comp=Z,7.3nm,0.7s,baz=123,slow=6.8,SNR=23
ZALV LR LR 12 32 14.5
comp=Z,1µm,19.6s,baz=128,slow=39
comp=Z,7.3nm,0.7s
ARLS Aral 54.78 315 P **P 12 06 26.2 +0.6**
ARLS pmax pmax
comp=Z,55nm,1.1s
GLAD Gladstone 54.93 159 P **P 12 06 27.5 +1.1**
AAK Ala-Archa 54.93 315 P **P 12 06 26.8 +0.1**
AAK Ala-Archa 54.93 315 LR LR 12 31 40.3
comp=Z,3µm,21.7s,baz=100,slow=38
AAK Ala-Archa 54.93 315 P **P 12 06 26.7 +0.1**
AAK P **P 12 06 26.7 +0.1**
AAK Ala-Archa 54.93 315*ce*P **P 12 06 27.3 +0.6**
AAK pmax pmax
comp=Z,22nm,2.5s
SGDS Sogindy 55.13 316 *e*P **P 12 06 26.7 -1.4**
baz=316
SGDS Sogindy 55.13 316 *e*P **P 12 06 26.6 -1.4**
OHH Osh 55.44 313 P **P 12 06 31.1 +0.8**
OHH pmax pmax
comp=Z,37nm,0.9s
KURK Kurchatov 55.78 326 P **P 12 06 32.0 -0.4**
KURK IAmb IAmb 12 06 47.1
comp=Z,111nm,0.9s
KURK Kurchatov 55.78 326 P **P 12 06 32.8 +0.4**
KURK P **P 12 06 32.8 +0.4**
KURK S S 12 14 25.3 +8.8
KURK S S 12 14 25.3 +8.8
KURK Kurchatov 55.78 326 P **P 12 06 32.0 -0.4**
KURK pmax pmax
comp=Z,111nm,1.0s
KURK Kurchatov 55.78 326 P **P 12 06 32.0 -0.4**
KURBB Kurchatov Arra 55.78 326 P **P 12 06 31.9 -0.6**
comp=Z,15nm,0.7s,baz=123,slow=6.9,SNR=94
KURBB S **S 12 14 13.9 -2.7**
comp=Z,0.4nm,0.6s,baz=105,slow=18,SNR=1.7
KURBB LR LR 12 31 06.1
comp=Z,1µm,21.2s,baz=141,slow=37
KURBB PKPPKP **P'P'df 12 36 30.4 -5.6**
comp=Z,2.8nm,1.2s,baz=268,slow=3.8,SNR=5.0
KURBB PKP2bc 12 36 45.2
comp=Z,1.6nm,0.9s,baz=283,slow=3.0,SNR=5.5
comp=Z,15nm,0.7s
KURBB Kurchatov Arra 55.78 326 P **P 12 06 28.1 -4.4**
MOO Moorlands 55.95 161 P **P 12 06 35.4 +1.6**
baz=56,SNR=4.0
MOO Moorlands 55.95 161 P **P 12 06 34.9 +1.2**
BTLS Baital 56.10 318 *e*P **P 12 06 33.7 -1.1**
baz=318
BTLS Baital 56.10 318 *e*P **P 12 06 33.7 -1.1**
SEY Seymchan 56.12 14 P **P 12 06 35.8 +1.2**
comp=Z,11nm,0.6s,baz=226,slow=6.2,SNR=21
SEY S **S 12 14 18.0 -2.6**
comp=Z,0.8nm,0.4s,baz=355,slow=23,SNR=1.5
SEY LR LR 12 29 00.1
comp=Z,993nm,21.6s,baz=218,slow=34
comp=Z,11nm,0.6s
SEY Seymchan 56.12 14 *e*P **P 12 06 34.2 -0.4**
SEY pmax pmax
comp=Z,96nm,0.9s
MIDW Midway 56.31 63 IAMs_20 IAMs_20 12 23 24.0
comp=Z,1µm,21.0s
BTK Batken 56.75 311 P **P 12 06 40.2 +0.5**
BTK pmax pmax
comp=Z,36nm,0.9s
KBL Kabul 56.83 305 P **P 12 06 40.8 +0.2**
KBL Kabul 56.83 305 P **P 12 06 40.7 +0.2**
SNR=15
KBL P **P 12 06 40.7 +0.2**
SNR=15
KBL S **S 12 14 30.7 -0.8**
KBL S **S 12 14 30.7 -0.8**
KBL Kabul 56.83 305 P **P 12 06 40.8 +0.2**
KBL pmax pmax
comp=Z,34nm,0.9s
TRKS Terek-Say 56.93 313 P **P 12 06 40.9 -0.2**
TRKS pmax pmax
comp=Z,82nm,1.1s
DZA Taraz 57.21 315 *e*P **P 12 06 41.8 -1.0**
comp=Z,27nm,1.1s,baz=315
DZA Taraz 57.21 315 *e*P **P 12 06 41.8 -1.0**
DZA pmax pmax
comp=Z,27nm,1.1s
SHEM Shemya Is, Ala 57.63 33 LR LR 12 26 27.7
comp=Z,357nm,21.5s,baz=254,slow=31
SIMJ Simiganj 57.75 309 P **P 12 06 46.3 -0.5**
SIMJ Simiganj 57.75 309 P **P 12 06 46.5 -0.4**
SIMJ sP **pP 12 06 59.6 +1.0**
KK31 Karatay Array 57.85 315 *i* P **P 12 06 45.8 -1.5**
KKAR Karatay Array 57.85 315 P **P 12 06 46.7 -0.6**
KKAR Karatay Array 57.85 315 P **P 12 06 46.7 -0.6**
KKAR pmax pmax
comp=Z,51nm,1.0s
IUG Iuzhnay 57.90 314 *e*P **P 12 06 46.8 -1.0**
comp=Z,29nm,0.8s,baz=314
IUG Iuzhnay 57.90 314 *e*P **P 12 06 46.8 -1.0**
IUG pmax pmax
comp=Z,29nm,0.8s
CHM Chimkent 58.26 314 *e*P **P 12 06 49.2 -1.1**
baz=314
CHM LR LR 12 32 31.0
comp=Z,622nm,18.1s,baz=314
CHM Chimkent 58.26 314 *e*P **P 12 06 49.1 -1.1**
CHM MLR MLR
comp=Z,622nm,18.0s
BRLS Boroldaу 58.30 315 *e*P **P 12 06 49.5 -1.0**
baz=314
BRLS Boroldaу 58.30 315 *e*P **P 12 06 49.4 -1.0**
OTUK Ortayu 58.39 321 P **P 12 06 49.7 -1.3**
MSVF Nonsavu 58.77 118 P **P 12 06 55.3 +1.1**
MSVF Nonsavu 58.77 118 P **P 12 06 56.6 +2.4**
MSVF IAmb IAmb 12 07 09.2
comp=Z,98nm,1.0s
MSVF Nonsavu 58.77 118 P **P 12 06 56.6 +2.4**
MSVF pmax pmax
comp=Z,98nm,1.0s
MSVF Nonsavu 58.77 118 P **P 12 06 56.2 +2.0**
MSVF sP **sP 12 07 08.7 -1.8**
BRZS Berezniki 58.86 323 *e*P **P 12 06 52.8 -1.5**
baz=323
BRZS Berezniki 58.86 323 *e*P **P 12 06 52.7 -1.5**
BVA0 Borovoye Array 61.38 326 *i* P **P 12 07 09.5 -1.9**
BVAR Borovoye Array 61.38 326 P **P 12 07 10.6 -0.8**
comp=Z,11nm,0.9s,baz=111,slow=8.1,SNR=41
BVAR S **S 12 15 24.5 -4.8**
comp=Z,0.8nm,0.4s,baz=228,slow=41,SNR=1.7
BVAR LR LR 12 35 50.5
comp=Z,2µm,20.0s,baz=115,slow=38
comp=Z,11nm,0.9s
BRVK Borovoye 61.45 326 P **P 12 07 11.1 -0.8**
BRVK IAmb IAmb 12 07 20.5
comp=Z,82nm,1.1s
BRVK Borovoye 61.45 326 P **P 12 07 11.8 0.0**
BRVK P **P 12 07 11.8 0.0**
BRVK Borovoye 61.45 326*ce*P **P 12 07 11.5 -0.4**
BRVK pmax pmax
comp=Z,23nm,1.0s
BRVK Borovoye 61.45 326 P **P 12 07 11.0 -0.9**
BRVK pP **pP 12 07 19.2 -4.4**
BRVK sP **sP 12 07 23.2 -5.0**
TIXI Tiksi 61.49 1 P **P 12 07 10.6 -1.2**
TIXI Tiksi 61.49 1 P **P 12 07 11.2 -0.6**
comp=Z,22nm,0.9s,baz=181,slow=5.3,SNR=94
TIXI PKiKP **PKiKP 12 14 07.4 -0.6**
comp=Z,1.5nm,0.3s,baz=160,slow=2.2,SNR=2.9
TIXI S **S 12 15 26.6 -3.5**
comp=Z,2.9nm,0.8s,baz=6.9,slow=20,SNR=9.1
TIXI ScS **SKKSac 12 16 53.4 -6.3**
comp=Z,0.9nm,0.3s,baz=55,slow=21,SNR=1.1
TIXI LR LR 12 33 58.1
comp=Z,2µm,21.4s,baz=195,slow=36
comp=Z,22nm,0.9s
TIXI Tiksi 61.49 1⇑ *e*P **P 12 07 11.1 -0.7**
TIXI pmax pmax
comp=Z,94nm,1.7s
TIXI Tiksi 61.49 1 P **P 12 07 11.2 -0.6**
TIXI pP **pP 12 07 20.4 -3.2**
BILL Bilibino 63.72 16 P **P 12 07 27.1 +0.4**
BILL Bilibino 63.72 16⇑ *e*P **P 12 07 27.5 +0.8**
BILL pmax pmax
comp=Z,93nm,1.7s
BILL Bilibino 63.72 16 P **P 12 07 27.1 +0.4**
BILL pP **pP 12 07 36.4 -2.2**
BILL sP **sP 12 07 40.5 -2.7**
ATKA Atka Island 63.98 36 P **P 12 07 32.8 +4.1**
OUZ Omahuta 63.98 137 P **P 12 07 30.9 +1.9**
JLN Jalan Bani Buh 64.24 290 P **P 12 07 32.1 +1.1**
JLN P **P 12 07 32.1 +1.1**
WBK Wadi Bani Khal 64.64 290 P **P 12 07 34.1 +0.4**
WBK P **P 12 07 34.1 +0.4**
WBK S **S 12 16 14.2 +3.0**
WBK S **S 12 16 14.2 +3.0**
BIDO Bidbid 65.41 291 P **P 12 07 40.0 +1.5**
SNR=5.4
BIDO P **P 12 07 40.0 +1.5**
SNR=5.4
JMDO Jabal Madar 65.45 290 P **P 12 07 39.4 +0.5**
JMDO P **P 12 07 39.4 +0.5**
JMDO P **P 12 07 39.4 +0.5**
JMDO S **S 12 16 23.9 +2.8**
JMDO S **S 12 16 23.9 +2.8**
JMDO S **S 12 16 23.9 +2.8**
SMDO Samad 65.48 291 P **P 12 07 40.1 +0.9**
SNR=5.2
MHTO MHTO 65.61 288 P **P 12 07 40.0 +0.1**
SNR=8.0
MHTO P **P 12 07 40.0 +0.1**
SNR=8.0
DQM DQM 66.05 287 P **P 12 07 44.4 +1.6**
DQM P **P 12 07 44.4 +1.6**
GEYT Alibeck 66.06 307 P **P 12 07 42.1 -0.5**
comp=Z,9.2nm,0.9s,baz=107,slow=7.9,SNR=17
GEYT S **S 12 16 26.2 -2.0**
comp=Z,1.0nm,0.3s,baz=268,slow=38,SNR=1.4
GEYT LR LR 12 41 14.1
comp=Z,1µm,19.2s,baz=90,slow=40
comp=Z,9.2nm,0.9s
HOQ Hoqain 66.15 291 P **P 12 07 43.9 +0.4**
SNR=5.9
AB31 Akbulak array 66.52 319 *i* P **P 12 07 43.7 -1.6**
ABKAR Akbulak array 66.52 319 P **P 12 07 44.2 -1.1**
QRZ Quartz Range 66.67 143 P **P 12 07 47.3 +1.0**
JCZ Jackson Bay 66.68 147 P **P 12 07 47.3 +0.9**
HIZ Hauiti 66.72 140 P **P 12 07 48.3 +1.7**
HIZ Hauiti 66.72 140 IAmb IAmb 12 08 00.3
comp=Z,113nm,1.0s
DCZ Deep Cove 66.80 149 IAmb IAmb 12 07 52.8
comp=Z,86nm,1.0s
DSZ Denniston Nort 66.83 144 IAmb IAmb 12 08 03.8
comp=Z,82nm,0.9s
SOHO SOHO 66.86 292 P **P 12 07 48.1 +0.2**
FOZ Fox Glacier 66.87 147 IAmb IAmb 12 08 03.9
comp=Z,83nm,1.2s
ARQ Araqi 66.88 291 P **P 12 07 48.5 +0.4**
SNR=5.1
ARQ P **P 12 07 48.5 +0.4**
SNR=5.1
KMRZ Kaimai 67.03 139 P **P 12 07 51.9 +3.1**
RAO Raoul Island 67.07 128 LR LR 12 32 05.2
comp=Z,332nm,20.7s,baz=62,slow=31
UOSS Minazif 67.14 293 P **P 12 07 50.0 +0.3**
UOSS Minazif 67.14 293 P **P 12 07 49.6 -0.1**
UOSS pP **pP 12 07 58.7 -2.9**
TGRZ Tauranga 67.18 138 P **P 12 07 51.6 +2.0**
HATD Hatta, Dubai 67.21 293 P **P 12 07 50.7 +0.6**
ASHO Ashiyiah 67.28 293 P **P 12 07 51.1 +0.5**
NIKH Nikolski High 67.33 37 P **P 12 07 54.1 +3.8**
NIKH Nikolski High 67.33 37 P **P 12 07 51.3 +0.9**
baz=256,SNR=5.5
NNZ Nelson 67.42 143 IAmb IAmb 12 07 52.9
comp=Z,114nm,1.3s
OMRZ Omania 67.46 139 P **P 12 07 54.1 +2.6**
THZ Tophouse 67.48 143 IAmb IAmb 12 08 03.6
comp=Z,81nm,0.8s
RATZ Rangitukua 67.51 140 P **P 12 07 54.0 +2.3**
WAZ Wanganui 67.52 141 P P 12 07 58.9 +7.1
WTVZ West Tongariro 67.53 140 P **P 12 07 55.5 +3.6**
COVZ Chateau Observ 67.55 140 P P 12 07 59.1 +7.1
KRVZ Karewarewa 67.55 140 P P 12 07 57.4 +5.3
NNVZ North Ngauruho 67.56 140 P P 12 07 57.9 +5.7
ALNE Al Ain 67.57 292 P **P 12 07 52.6 +0.2**
ALNE SNR=5.3 P **P 12 07 52.6 +0.2**
SNR=5.3
FWVZ Far West T-bar 67.59 140 P **P 12 07 56.6 +4.2**
SNVZ South Ngauruho 67.61 140 P **P 12 07 54.7 +2.2**
TMVZ Te Maari 67.61 140 P **P 12 07 55.7 +3.3**
OTVZ Oturere 67.61 140 P P 12 07 58.9 +6.4
ETVZ East Tongariro 67.62 140 P **P 12 07 55.9 +3.4**
LBZ Lake Benmore 67.63 147 IAmb IAmb 12 07 54.1
comp=Z,152nm,1.0s
SPIA Saint Paul Isl 67.65 32 P **P 12 07 55.9 +3.6**
SPIA Saint Paul Isl 67.65 32 P **P 12 07 52.8 +0.5**
baz=254
RPZ Rata Peaks 67.67 146 P **P 12 07 53.6 +1.0**
RPZ Rata Peaks 67.67 146 IAmb IAmb 12 08 07.5
comp=Z,84nm,0.8s
RPZ Rata Peaks 67.67 146 LR LR 12 37 54.2
comp=Z,553nm,19.4s,baz=308,slow=36
LTZ Lake Taylor 67.75 145 IAmb IAmb 12 07 55.0
comp=Z,68nm,1.1s
P08K Saint George I 67.86 33 P **P 12 07 54.1 +0.5**
baz=254
ASUD Al Ashush, Dub 67.94 292 P **P 12 07 55.6 +0.8**
SVE Sverdlovsk 67.94 328 *e*P **P 12 07 53.8 -0.3**
SVE pmax pmax
comp=Z,111nm,1.3s
SHAO Shalim 67.97 285 P **P 12 07 56.6 +1.6**
SHAO P **P 12 07 56.6 +1.6**
AKTO Aktyubinsk 67.98 320 LR LR 12 39 50.2
comp=Z,3µm,19.6s,baz=84,slow=38
URZ Urewera 68.03 138 P **P 12 07 56.2 +1.3**
URZ Urewera 68.03 138 LR LR 12 41 20.7
comp=Z,439nm,18.2s,baz=30,slow=39
URZ Urewera 68.03 138 P **P 12 07 55.8 +0.8**
BHHZ Black Hill Sta 68.05 140 P **P 12 07 57.5 +2.3**
BKZ Black Stump Fm 68.14 139 P **P 12 07 56.8 +1.1**
BKZ Black Stump Fm 68.14 139 IAmb IAmb 12 08 06.2
comp=Z,122nm,1.1s
BKZ Black Stump Fm 68.14 139 P **P 12 07 56.4 +0.7**
MTHZ Maungataniwha 68.19 139 P **P 12 07 56.9 +0.9**
HAZ Te Kaha 68.20 138 P **P 12 07 56.9 +1.0**
RUGZ Raukumara Rang 68.24 138 P **P 12 07 57.1 +0.6**
KHZ Kahutara 68.25 144 P **P 12 07 57.0 +0.8**
KHZ Kahutara 68.25 144 IAmb IAmb 12 08 28.3
comp=Z,85nm,1.1s
SNZO South Karori 68.27 142 P **P 12 07 57.5 +1.1**
SNZO South Karori 68.27 142 P **P 12 07 55.0 -1.3**
NMHZ Naumai 68.30 139 P **P 12 07 58.7 +1.9**
GVZ Greta Valley S 68.30 144 IAmb IAmb 12 08 08.7
comp=Z,83nm,0.7s
ODZ Otahua Downs 68.32 147 P **P 12 07 57.9 +1.3**
ODZ Otahua Downs 68.32 147 IAmb IAmb 12 08 47.3
comp=Z,103nm,1.6s
KRHZ Kereru 68.33 140 P **P 12 07 57.7 +0.9**
MWZ Matawai 68.34 138 P **P 12 07 57.9 +0.9**
RAHZ Arahi 68.38 139 P **P 12 08 00.8 +3.6**
MCHZ McNeill Hill 68.42 140 P **P 12 07 59.3 +1.9**
BHW Baring Head 68.43 142 IAmb IAmb 12 07 58.2
comp=Z,147nm,1.6s
MXZ Matakaoa Point 68.44 137 P **P 12 07 58.7 +1.2**
MXZ Matakaoa Point 68.44 137 P **P 12 08 01.1 +3.6**
PKGZ Pakihiroa 68.46 138 P **P 12 08 00.2 +2.5**
SNGZ Shannon Statio 68.47 139 P **P 12 07 58.9 +1.2**
ARHZ Aropaoanui 68.52 139 P **P 12 07 59.5 +1.5**
SYZ Scrubby Hill 68.54 149 P **P 12 07 59.5 +1.6**
TWGZ Tauwhareparae 68.56 138 P **P 12 07 59.7 +1.4**
WHHZ Waihua 68.56 139 P **P 12 08 00.1 +1.9**
DMTO DMTO 68.63 285 P **P 12 08 00.5 +1.3**
WMGZ Waiomatatini S 68.65 137 P **P 12 07 56.3 -2.6**
PUZ Puketiti 68.68 138 P **P 12 08 03.4 +4.3**
RIGZ Rimuhau 68.70 138 P **P 12 08 01.6 +2.4**
KAHZ Kahuranaki 68.74 140 P **P 12 08 01.7 +2.3**
BFZ Birch Farm 68.85 141 P **P 12 08 01.2 +1.2**
BFZ Birch Farm 68.85 141 IAmb IAmb 12 08 01.0
comp=Z,67nm,0.9s
PXZ Pawanui 68.86 140 P **P 12 08 02.0 +1.9**
CNGZ Carnagh Statio 68.87 138 P **P 12 08 01.6 +1.4**
UNV Unalaska Valle 68.89 36 P **P 12 08 02.0 +1.9**
UNV Unalaska Valle 68.89 36 P **P 12 08 00.5 +0.4**
baz=258,SNR=12
ARU Arti 68.95 327 P **P 12 07 58.8 -1.7**
ARU IAmb IAmb 12 08 34.0
comp=Z,63nm,0.9s
ARU Arti 68.95 327 LR LR 12 40 40.1
comp=Z,1µm,18.7s,baz=107,slow=38
ARU Arti 68.95 327*c i*P **P 12 07 59.2 -1.2**
ARU 12 08 25.6
ARU S **S 12 17 04.2 +2.1**
ARU SS **SS 12 21 23.5 -4.4**
ARU pmax pmax
comp=Z,17nm,1.4s
ARU MLR MLR
comp=Z,1µm,18.0s
ARU Arti 68.95 327 P **P 12 07 59.1 -1.4**
ARU Arti 68.95 327 P **P 12 07 58.7 -1.7**
comp=Z,52nm,0.6s,comp=Z,876nm
DOK Doka 69.34 286 P **P 12 08 04.2 +0.6**
DOK P **P 12 08 04.2 +0.6**
RBK Rabkut 69.35 285 P **P 12 08 05.5 +1.8**
SNR=5.2
RBK P **P 12 08 05.5 +1.8**
SNR=5.2
MZR Muzera 69.69 291 P **P 12 08 06.6 +0.9**
MZR P **P 12 08 06.6 +0.9**
WHFO Wadi Hawf 69.73 285 P **P 12 08 06.4 +0.4**
ABTO Aybut 70.23 285 P **P 12 08 10.0 +0.8**
ABTO P **P 12 08 10.0 +0.8**
M11K Mekoryuk 70.54 29 P **P 12 08 10.8 +0.7**
baz=256
FALS False Pass 70.86 35 P **P 12 08 13.3 +1.1**
baz=260,SNR=5.6
TNA Tin City 71.19 24 P **P 12 08 15.0 +1.0**
baz=253,SNR=7.7
SLWR Sila 71.28 292 P **P 12 08 16.5 +1.1**
MSEY Mahe Island 71.33 262 P **P 12 08 16.3 +0.4**
K13K Kusilvak Mount 71.63 28 P **P 12 08 18.3 +1.6**
baz=257
TRNA Turayna 71.68 293 P **P 12 08 18.6 +0.8**
S12K Black Hills 71.76 35 P **P 12 08 18.9 +1.2**
baz=261
F14K Arctic Creek 71.81 24 P **P 12 08 19.3 +1.6**
baz=254,SNR=15
SHMA Al-Shehemyia 71.85 294 P **P 12 08 17.9 -0.9**
M13K Dall Lake 71.92 30 P **P 12 08 20.1 +1.6**
baz=259,SNR=8.7
ANM Nome 71.96 25 IAmb IAmb 12 08 31.7
comp=Z,102nm,0.9s
ANM Nome 71.96 25 P **P 12 08 19.6 +1.0**
baz=255
SMRA Abu-Samra 72.03 293 P **P 12 08 20.4 +0.6**
J14K Nanvaranak Lak 72.32 27 P **P 12 08 21.5 +0.7**
baz=258
L14K Kuka Creek 72.43 29 P **P 12 08 22.7 +1.2**
baz=259,SNR=22
F15K North Star Dit 72.54 24 IAmb IAmb 12 08 35.3
comp=Z,175nm,1.0s
F15K North Star Dit 72.54 24 P **P 12 08 23.5 +1.4**
baz=256,SNR=19
SDPT Sand Point 72.60 35 P **P 12 08 25.0 +2.4**
SDPT Sand Point 72.60 35 P **P 12 08 23.9 +1.2**
baz=263
G15K Niukluk 72.62 25 P **P 12 08 23.4 +0.8**
baz=256,SNR=18
N14K Kuskokwak Cree 72.65 30 P **P 12 08 24.1 +1.3**
baz=260,SNR=13
M14K Bethel 72.66 29 P **P 12 08 24.4 +1.5**
baz=260,SNR=18
O14K Tigyukauivet M 72.75 31 P **P 12 08 24.4 +0.9**
baz=261
C16K Lisburne Hills 72.95 21 P **P 12 08 25.2 +0.7**
baz=254
L15K Ungalak Mounta 73.06 28 P **P 12 08 26.3 +1.1**
baz=260,SNR=14
K15K Wolf Creek Mou 73.15 28 IAmb IAmb 12 08 38.6
comp=Z,116nm,1.0s
K15K Wolf Creek Mou 73.15 28 P **P 12 08 27.0 +1.3**
baz=260,SNR=6.3
S14K Fog Glacier 73.24 34 P **P 12 08 27.5 +0.9**
baz=263
M15K Kasigluk River 73.27 30 P **P 12 08 27.2 +0.7**
baz=261,SNR=14
H16K Elim 73.29 25 P **P 12 08 27.1 +0.5**
baz=258,SNR=9.1
G16K Koyuk River 73.40 25 P **P 12 08 28.3 +1.1**
baz=258,SNR=6.4
LKRN Lenkeran, Azer 73.44 307 P **P 12 08 27.0 -0.9**
O15K Ungalikthiuk R 73.47 31 P **P 12 08 28.4 +0.6**
baz=262,SNR=7.7
N15K Kwethluk River 73.48 30 P **P 12 08 28.6 +0.8**
baz=262,SNR=9.3
D17K Noatak River 73.63 22 P **P 12 08 30.0 +1.5**
baz=257,SNR=27
J16K Anvik River 73.74 27 IAmb IAmb 12 08 42.7
comp=Z,132nm,1.1s
J16K Anvik River 73.74 27 P **P 12 08 30.7 +1.5**
baz=260,SNR=58
RDOG Red Dog Mine 73.78 22 IAmb IAmb 12 08 42.1
comp=Z,185nm,1.0s
RDOG Red Dog Mine 73.78 22 P **P 12 08 30.5 +1.1**
baz=257
C17K DeLong Mountai 73.78 21 P **P 12 08 30.8 +1.4**
baz=256
I17K Unalakleet 73.81 26 IAmb IAmb 12 08 41.3
comp=Z,189nm,1.1s
I17K Unalakleet 73.81 26 P **P 12 08 30.5 +1.0**
baz=260,SNR=13
E17K Hotham Inlet 73.97 23 P **P 12 08 32.1 +1.6**
baz=258,SNR=19
L16K Owhat River 74.01 29 IAmb IAmb 12 08 43.4
comp=Z,128nm,0.9s
L16K Owhat River 74.01 29 P **P 12 08 32.3 +1.5**
baz=262,SNR=11
F17K Baldwin Pennin 74.06 24 IAmb IAmb 12 08 43.8
comp=Z,191nm,1.1s
F17K Baldwin Pennin 74.06 24 P **P 12 08 32.1 +1.1**
baz=259,SNR=59
G17K Kiwalik Mounta 74.12 25 P **P 12 08 33.0 +1.6**
baz=260,SNR=39
M16K Timber Creek 74.16 29 P **P 12 08 32.9 +1.2**
baz=262
N16K Nishlik Lake 74.17 30 P **P 12 08 33.6 +1.7**
baz=263,SNR=26
KIRV Kirov 74.19 328 LR LR 12 44 39.7
comp=Z,1µm,18.1s,baz=102,slow=38
KIRV Kirov 74.19 328⇑ *e*P **P 12 08 31.1 -0.8**
H17K Granite Mounta 74.32 25 P **P 12 08 34.2 +1.6**
baz=260
P16K Nushagak River 74.39 31 P **P 12 08 35.0 +2.0**
baz=264,SNR=6.2
O16K Kokwok River B 74.40 31 P **P 12 08 34.6 +1.4**
baz=264,SNR=18
MAK Makhachkala 74.43 312 *e*P **P 12 08 29.8 -3.9**
MAK *e* 12 11 16.5
MAK *e*PPP PPP 12 13 03.7
MAK *e*S **SKiKP 12 18 00.1 +2.9**
MAK *e*SS **SS 12 22 51.6 -0.9**
MAK *e*SSS SSS 12 26 10.5
MAK pmax pmax
comp=Z,325nm,1.1s
MAK MLR MLR
comp=Z,775nm,16.0s
J17K VABM Dome 74.44 27 IAmb IAmb 12 08 46.3
comp=Z,145nm,0.9s
J17K VABM Dome 74.44 27 P **P 12 08 35.1 +1.8**
baz=262,SNR=19
R16K Pilot Point 74.46 33 P **P 12 08 34.7 +1.2**
baz=264
B18K Kokolik River 74.47 21 P **P 12 08 35.0 +1.6**

baz=257
E18K Tukpahlearik C 74.50 23 P P 12 08 35.1 +1.5
baz=259,SNR=81
C18K Utukok River 74.53 21 P P 12 08 34.9 +1.0
baz=258,SNR=14
L17K Donlin 74.62 28 P P 12 08 35.9 +1.5
baz=263,SNR=14
SEKA Sheki 74.66 310 P P 12 08 34.7 -0.4
BELG Belogornoye 74.67 322 LR LR 12 43 13.6
comp=Z,644nm,18.6s,baz=93,slow=37
BELG Belogornoye 74.67 322 *i* P P 12 08 33.2 -1.6
BELG pmax pmax
comp=Z,20nm,1.0s
K17K Iditarod 74.69 28 P P 12 08 36.3 +1.5
baz=262,SNR=17
F18K Selawik 74.72 24 P P 12 08 36.1 +1.3
baz=260,SNR=26
A19K Wainwright 74.90 20 P P 12 08 37.2 +1.3
baz=256
O17K Koliganek Bris 74.93 31 P P 12 08 37.4 +1.2
baz=264,SNR=9.9
M17K Holitna River 74.93 29 P P 12 08 37.5 +1.3
baz=264,SNR=14
N17K Nushagak Hills 74.96 30 P P 12 08 37.7 +1.3
baz=264,SNR=13
G18K Tagagawik 75.00 24 IAmb IAmb 12 08 49.3
comp=Z,139nm,1.0s
G18K Tagagawik 75.00 24 P P 12 08 37.9 +1.3
baz=261,SNR=12
H18K Honhosa River 75.01 25 IAMs_20 IAMs_20 12 39 47.0
comp=Z,769nm,21.0s
H18K Honhosa River 75.01 25 P P 12 08 37.6 +1.0
baz=262
Q16K King Salmon 75.05 32 P P 12 08 37.8 +0.9
baz=265
ZKTA Zakatala 75.09 310 P P 12 08 37.4 -0.2
C19K Lookout Ridge 75.19 21 P P 12 08 38.8 +1.2
baz=260,SNR=10
P17K Kvichak River 75.20 31 P P 12 08 38.8 +1.1
baz=265,SNR=13
GANJ Ganja 75.32 309 P P 12 08 38.3 -0.7
L18K Granite Mounta 75.38 28 IAmb IAmb 12 08 52.2
comp=Z,161nm,1.1s
L18K Granite Mounta 75.38 28 P P 12 08 40.1 +1.3
baz=264,SNR=12
CHIR Chirlkof Islan 75.39 35 P P 12 08 40.0 +1.1
baz=267
Q17K Contact Creek 75.41 32 P P 12 08 40.8 +1.6
baz=266,SNR=14
F19K Shaleruckik Mo 75.49 23 IAmb IAmb 12 08 52.0
comp=Z,121nm,1.1s
F19K Shaleruckik Mo 75.49 23 P P 12 08 40.5 +1.1
baz=262,SNR=8.2
J18K Innoko River 75.50 27 IAmb IAmb 12 08 51.8
comp=Z,73nm,0.8s
J18K Innoko River 75.50 27 P P 12 08 40.9 +1.4
baz=264,SNR=11
GCSA Galena City Sc 75.58 26 P P 12 08 41.0 +1.2
baz=263
N18K Kilae Creek 75.61 30 IAmb IAmb 12 08 53.0
comp=Z,159nm,1.1s
N18K Kilae Creek 75.61 30 P P 12 08 41.3 +1.2
baz=265,SNR=65
D19K Kuna River 75.61 22 P P 12 08 41.4 +1.4
baz=261,SNR=20
G19K Purcell Mounta 75.67 24 IAmb IAmb 12 08 52.9
comp=Z,112nm,0.8s
G19K Purcell Mounta 75.67 24 P P 12 08 41.6 +1.2
baz=263,SNR=61
M18K Stony River 75.71 29 P P 12 08 42.5 +1.8
baz=265,SNR=40
E19K Redstone River 75.79 23 P P 12 08 42.5 +1.5
baz=262,SNR=52
P18K Big Mountain, 75.84 31 P P 12 08 42.7 +1.2
baz=266,SNR=6.8
H19K Roundabout Mou 75.85 25 IAMs_20 IAMs_20 12 40 00.2
comp=Z,787nm,22.0s
H19K Roundabout Mou 75.85 25 P P 12 08 43.0 +1.6
baz=263,SNR=24
O18K Koktuh Hills 75.88 31 P P 12 08 43.3 +1.6
baz=266,SNR=23
NAX Nakhchivan 75.99 308 P P 12 08 42.8 -0.1
J19K Poorman 76.04 26 IAmb IAmb 12 08 55.1
comp=Z,106nm,1.1s
J19K Poorman 76.04 26 P P 12 08 43.8 +1.3
baz=264,SNR=9.6
B20K Meade River 76.18 20 P P 12 08 44.6 +1.4
baz=262
D20K Etivluk River 76.19 22 P P 12 08 44.7 +1.4
baz=262,SNR=31
L19K White Mountain 76.23 28 IAmb IAmb 12 08 56.9
comp=Z,153nm,1.0s
L19K White Mountain 76.23 28 P P 12 08 45.0 +1.4
baz=266,SNR=15
SII Sitkinak Islan 76.23 34 P P 12 08 44.7 +1.0
baz=268
E20K Nigu River 76.29 22 P P 12 08 45.2 +1.2
baz=263
N19K Bonanza Creek 76.31 30 IAmb IAmb 12 08 57.6
comp=Z,186nm,1.1s
N19K Bonanza Creek 76.31 30 P P 12 08 45.4 +1.1
baz=266,SNR=16
F20K Avaraart Lake 76.32 23 P P 12 08 45.5 +1.4
baz=264
O19K Port Alsworth 76.35 30 P P 12 08 45.5 +1.1
baz=267,SNR=15
M19K Big River Lodg 76.43 29 P P 12 08 46.1 +1.3
baz=266
H20K Anotleneega Mo 76.50 25 P P 12 08 46.6 +1.5
baz=265,SNR=34
GNI Garni 76.54 309 LR LR 12 47 14.6
comp=Z,997nm,21.6s,baz=92,slow=39
GNI Garni 76.54 309 *ce* P P 12 08 47.6 +1.5
GNI pmax pmax
comp=Z,27nm,1.7s
A21K Barrow 76.55 19 P P 12 08 46.5 +1.2
baz=262
I20K Naaghedeneel 76.61 26 P P 12 08 47.0 +1.3
baz=265,SNR=11
Q19K Cape Douglas, 76.63 32 P P 12 08 47.2 +1.2
baz=268
K20K Telida 76.68 27 P P 12 08 47.4 +1.3
baz=266,SNR=49
J20K Nowinta River 76.70 26 IAmb IAmb 12 08 59.1
comp=Z,137nm,1.0s
J20K Nowinta River 76.70 26 P P 12 08 47.6 +1.3
baz=266,SNR=13
L20K Farewell, AK 76.70 28 P P 12 08 47.6 +1.2
baz=266
OHAK Old Harbor 76.75 34 P P 12 08 48.0 +1.4
baz=268
P19K Oil Pt 76.87 31 P P 12 08 48.2 +0.9
baz=268
C21K Knifeblade Rid 76.90 21 P P 12 08 48.5 +1.2
baz=264
RAYN Ar Rayn 76.97 292 P P 12 08 48.7 0.0
RAYN IAmb IAmb 12 08 57.6
comp=Z,59nm,0.8s
RAYN Ar Rayn 76.97 292 P P 12 08 49.2 +0.5
RAYN Ar Rayn 76.97 292 P P 12 08 49.0 +0.3
B21K Ikpikpuk River 77.01 21 P P 12 08 49.2 +1.4
baz=264
CASY Casey 77.02 186 P P 12 08 48.1 +0.2
CASY IAmb IAmb 12 08 58.7
comp=Z,71nm,0.8s
M20K Styx River 77.02 29 P P 12 08 49.4 +1.1
baz=267
A22K Sinclair Lake 77.04 19 P P 12 08 49.5 +1.5
baz=264
E21K Kilik River 77.12 22 P P 12 08 49.6 +1.0
baz=265
G21K Allakaket 77.14 24 P P 12 08 49.9 +1.2
baz=266,SNR=41
KDAK Kodiak Island 77.14 33 P P 12 08 50.4 +1.5
KDAK Kodiak Island 77.14 33 P P 12 08 49.4 +0.6
baz=269
KDAK Kodiak Island 77.14 33 LR LR 12 38 38.6
comp=Z,658nm,21.0s,baz=278,slow=32
KDAK Kodiak Island 77.14 33 P P 12 08 50.4 +1.5
KDAK pmax pmax
comp=Z,168nm,0.8s
O20K Slope Mountain 77.19 31 P P 12 08 49.5 +0.3
baz=268
F21K Alatna River 77.21 23 P P 12 08 49.3 +0.2
F21K Alatna River 77.21 23 P P 12 08 49.9 +0.8
baz=266
Q20K Shuyak Island 77.27 32 P P 12 08 50.3 +0.7
baz=269
SYI Shuyak Island 77.27 32 P P 12 08 49.3 -0.2
SYI IAmb IAmb 12 09 02.2
comp=Z,121nm,0.8s
H21K Melozitna Rive 77.37 25 IAMs_20 IAMs_20 12 40 44.4
comp=Z,801nm,22.0s
H21K Melozitna Rive 77.37 25 P P 12 08 50.9 +0.9
baz=267,SNR=34
N20K Mount Spurr 77.44 29 P P 12 08 51.2 +0.6
baz=268,SNR=9.6
B22K Teshekpuk Lake 77.49 20 P P 12 08 51.9 +1.3
baz=265,SNR=32
CHUM Lake Minchumin 77.49 27 P P 12 08 52.0 +1.3
baz=268,SNR=12
PPLA Purkeypile 77.50 28 P P 12 08 51.6 +0.6
baz=268,SNR=6.7
CAST Castle Rocks 77.57 27 P P 12 08 51.9 +0.6
CAST Castle Rocks 77.57 27 P P 12 08 52.3 +1.1
baz=268,SNR=34
D22K Ayikyak River 77.63 22 IAmb IAmb 12 09 03.8
comp=Z,167nm,1.2s
D22K Ayikyak River 77.63 22 P P 12 08 52.9 +1.5
baz=266,SNR=26
GOF Gofitskoye 77.63 314 *ce* P P 12 08 50.4 -1.5
HOM Homer 77.68 31 P P 12 08 52.3 +0.5
baz=269
I21K Tanana 77.69 25 P P 12 08 52.9 +1.1
baz=268
F22K John River 77.73 23 P P 12 08 53.3 +1.3
baz=267
SKT Skwentna 77.78 29 IAmb IAmb 12 09 03.7
comp=Z,128nm,1.2s
SKT Skwentna 77.78 29 P P 12 08 52.7 +0.3
baz=269,SNR=20
KBZ Khabaz 77.78 313 P P 12 08 52.1 -0.6
comp=Z,15nm,1.1s,baz=106,slow=3.7,SNR=16
KBZ S S 12 18 40.4 -2.1
comp=Z,0.5nm,0.4s,baz=334,slow=10,SNR=1.8
KBZ LR LR 12 48 18.7
comp=Z,2µm,18.1s,baz=78,slow=40
comp=Z,15nm,1.1s
CNPM China Poot 77.88 31 IAmb IAmb 12 09 04.3
comp=Z,100nm,0.8s
E22K Anaktuvuk Pass 77.90 22 P P 12 08 54.0 +1.0
baz=267
KIV Kislovodsk 77.93 313 ⇑ P P 12 08 53.9 +0.2
KIV Kislovodsk 77.93 313 P P 12 08 53.8 +0.1
KIV IAmb IAmb 12 09 02.6
comp=Z,279nm,1.9s
KIV Kislovodsk 77.93 313 *e* P P 12 08 53.4 -0.3
KIV *e* 12 11 48.9
KIV *e* S S 12 18 46.1 +1.8
KIV pmax pmax
comp=Z,10.0nm,3.6s
KIV pmax pmax
comp=Z,40nm,1.1s
KIV MLR MLR
comp=Z,1µm,18.0s
KIV Kislovodsk 77.93 313 P P 12 08 53.0 -0.7
comp=Z,41nm,0.8s,comp=Z,610nm
CAPN Captain Cook N 77.94 30 P P 12 08 53.7 +0.5
baz=269
SHA1 Shidzhatmaz 77.96 313 ⇑ *e* P P 12 08 55.7 +1.7
G22K Bettles 77.96 24 P P 12 08 54.1 +0.9
baz=268
H22K Ishtalitna Cre 77.97 25 P P 12 08 54.5 +1.2
baz=268,SNR=19
BRLK Bradley Lake 78.06 31 P P 12 08 54.9 +0.9
BRLK IAmb IAmb 12 09 10.5
comp=Z,126nm,1.0s
BPAW Bear Paw Mtn. 78.08 26 P P 12 08 55.0 +0.9
baz=269,SNR=49
KTH Kantishna Hill 78.10 27 IAmb IAmb 12 09 14.7
comp=Z,89nm,1.1s
BRSE Bradley Lake S 78.13 31 P P 12 08 54.7 +0.3
baz=270
SUA Susitna One 78.14 29 P P 12 08 54.9 +0.3
baz=270,SNR=12
MLY Manley 78.21 26 IAMs_20 IAMs_20 12 42 16.6
comp=Z,648nm,18.0s
MLY Manley 78.21 26 P P 12 08 55.9 +1.2
baz=269,SNR=28
VRH Novokhopyorsk 78.32 320 *e* P P 12 08 54.3 -1.2
VRH pmax pmax
comp=Z,112nm,1.6s
D23K Nanushuk River 78.36 21 P P 12 08 56.8 +1.4
baz=268
CUT Chulitna 78.38 28 P P 12 08 56.1 +0.4
baz=270
TRF Thorofare Moun 78.38 27 IAmb IAmb 12 09 06.1
comp=Z,150nm,1.0s
TRF Thorofare Moun 78.38 27 P P 12 08 56.1 +0.2
baz=270
C23K Itkillik River 78.42 21 IAMs_20 IAMs_20 12 44 53.5
comp=Z,843nm,19.0s
C23K Itkillik River 78.42 21 P P 12 08 57.0 +1.2
baz=268,SNR=55
M22K Willow 78.45 29 P P 12 08 57.1 +1.1
baz=270,SNR=31
COLD Coldfoot 78.48 23 P P 12 08 56.7 +0.6
baz=269,SNR=29
G23K Bananza Creek 78.54 24 IAmb IAmb 12 09 08.2
comp=Z,140nm,1.1s
G23K Bananza Creek 78.54 24 P P 12 08 58.1 +1.6
baz=269,SNR=18
RC01 Rabbit Creek A 78.63 30 IAmb IAmb 12 09 08.2
comp=Z,78nm,1.0s
RC01 Rabbit Creek A 78.63 30 P P 12 08 57.9 +0.8
baz=270
O22K Cooper Landing 78.64 30 P P 12 08 57.6 +0.5
baz=271
GURO Guroymak-BITLI 78.72 307 IAmb IAmb 12 09 12.8
comp=Z,68nm,0.8s
E23K Chandalar 78.72 22 P P 12 08 58.9 +1.3
baz=269
H23K Yukon River 78.72 25 P P 12 08 59.1 +1.5
baz=270,SNR=20
BWN Browne 78.75 26 IAmb IAmb 12 11 01.0
comp=Z,139nm,1.0s
TOLK Toolik Lake Re 78.75 22 IAmb IAmb 12 09 10.5
comp=Z,151nm,0.8s
TOLK Toolik Lake Re 78.75 22 P P 12 08 58.6 +0.9
baz=269,SNR=43
SEW Seward 78.78 31 P P 12 08 58.2 +0.3
baz=271
I23K Minto, Yukon-K 78.80 25 P P 12 08 59.0 +1.1
baz=270,SNR=26
BCA Borcka 78.84 310 ⇑ P P 12 08 59.0 +0.3
PMR Palmer 78.92 29 P P 12 09 02.8 +4.2
PMR Palmer 78.92 29 IAmb IAmb 12 09 09.9
comp=Z,92nm,0.9s
PMR Palmer 78.92 29 P P 12 08 58.7 +0.1
baz=271,SNR=11
NEA2 Nenana 78.92 26 IAmb IAmb 12 09 11.3
comp=Z,115nm,0.7s
NEA2 Nenana 78.92 26 P P 12 08 59.0 +0.3
baz=270,SNR=17
MCK McKinley 78.99 27 P P 12 08 59.3 +0.3
baz=271,SNR=27
MCK McKinley 78.99 27 P P 12 08 58.9 -0.1
GHO Glory Hole Cre 79.02 29 P P 12 08 60.0 +0.7
GHO IAmb IAmb 12 09 10.8
comp=Z,97nm,1.0s
RND Reindeer 79.03 27 P P 12 08 59.5 +0.2
RND Reindeer 79.03 27 P P 12 08 59.5 +0.2
RND pmax pmax
comp=Z,360nm,1.5s
D24K Happy Valley 79.03 21 IAMs_20 IAMs_20 12 45 05.2
comp=Z,705nm,20.0s
D24K Happy Valley 79.03 21 P P 12 09 00.1 +1.0
baz=270
C24K Franklin Bluff 79.08 21 P P 12 09 00.3 +0.9
baz=270
E24K Your Creek 79.15 22 P P 12 09 01.1 +1.3
baz=271
WAT1 Susitna Watana 79.17 28 P P 12 09 00.2 +0.1
baz=271
KNK Knik Glacier 79.25 29 P P 12 09 00.8 +0.3
baz=272,SNR=72
MDM Murphy Dome 79.28 26 IAmb IAmb 12 09 12.5
comp=Z,92nm,0.9s
KLMR Klimovskoe 79.29 330 *c i* P P 12 08 59.3 -1.4
KLMR *e* 12 09 06.4
KLMR *e* 12 11 58.3
KLMR *e* S S 12 18 55.3 -2.7
KLMR pmax pmax
comp=Z,126nm,1.2s
KLMR MLR MLR
comp=Z,2µm,18.0s
SML Sawmill 79.30 29 P P 12 09 01.7 +0.9
baz=272,SNR=13
LABN Labinsk 79.30 314 *e* P P 12 08 57.2 -3.9
LABN pmax pmax
comp=Z,23nm,0.8s
WRH Wood River Hil 79.35 26 IAmb IAmb 12 09 13.6
comp=Z,85nm,1.0s
F24K Squaw Lake 79.38 23 IAmb IAmb 12 09 14.2
comp=Z,106nm,0.8s
F24K Squaw Lake 79.38 23 P P 12 09 02.7 +1.6
baz=271,SNR=63
ERBR Yeremizino-Bor 79.40 315 *e* P P 12 08 59.8 -1.8
ERBR *e**PP PcP 12 09 08.1 -1.5
ERBR pmax pmax
comp=Z,18nm,1.1s
H24K Noodor Dome 79.41 25 IAmb IAmb 12 09 15.0
comp=Z,91nm,0.9s
H24K Noodor Dome 79.41 25 P P 12 09 02.3 +1.0
baz=271,SNR=27
COLA College 79.44 26 P P 12 09 04.5 +3.1
COLA College 79.44 26 P P 12 09 01.7 +0.3
COLA IAmb IAmb 12 09 14.8
comp=Z,64nm,0.8s
COLA College 79.44 26 P P 12 09 02.7 +1.3
baz=271
COLA College 79.44 26 *i* P P 12 09 03.1 +1.7
COLA pmax pmax
comp=Z,66nm,0.9s
CCB Clear Creek Bu 79.47 26 P P 12 09 01.4 -0.2
CCB IAmb IAmb 12 09 13.9
comp=Z,66nm,0.9s
WAT6 Susitna Watana 79.55 28 P P 12 09 02.7 +0.4
baz=272,SNR=128
G24K Hadweenzic Riv 79.56 24 IAmb IAmb 12 09 13.6
comp=Z,128nm,0.9s
G24K Hadweenzic Riv 79.56 24 P P 12 09 03.2 +1.1
baz=271,SNR=22
M23K Glacier View 79.58 29 P P 12 09 03.1 +0.8
baz=272,SNR=15
POKR Poker Plat Res 79.61 25 IAMs_20 IAMs_20 12 42 59.6
comp=Z,669nm,20.0s
POKR Poker Plat Res 79.61 25 P P 12 09 03.0 +0.6
baz=272,SNR=13
RAR Rarotonga 79.63 114 LR LR 12 38 23.4
comp=Z,582nm,21.3s,baz=282,slow=31
DHY Denali Highway 79.70 28 IAmb IAmb 12 09 16.7
comp=Z,39nm,0.8s
DHY Denali Highway 79.70 28 P P 12 09 03.4 +0.3
baz=272,SNR=12
ADZR Andozero 79.77 333 *e* P P 12 09 01.0 -2.2
ADZR pmax pmax
comp=Z,52nm,1.0s
SCM Sheep Creek Mo 79.77 29 P P 12 09 04.3 +0.9
baz=272,SNR=14
P23K Montague Islan 79.81 31 P P 12 09 04.3 +0.8
baz=273,SNR=9.5
HDA Harding Lake 79.84 26 IAmb IAmb 12 09 14.5
comp=Z,120nm,0.7s
HDA Harding Lake 79.84 26 P P 12 09 03.7 +0.1
baz=272,SNR=21
ILAR Eielson Array 79.86 26 P P 12 09 03.3 -0.4
comp=Z,9.2nm,1.0s,baz=239,slow=4.9,SNR=31
ILAR PP PP 12 12 04.4 -0.8
comp=Z,4.4nm,1.0s,baz=276,slow=8.1,SNR=4.0
ILAR S S 12 19 01.6 -2.3
comp=Z,0.2nm,0.5s,baz=141,slow=9.6,SNR=1.6
ILAR PKKPbc PKKPbc 12 27 48.1 -3.9
comp=Z,0.6nm,0.6s,baz=124,slow=3.4,SNR=5.4
ILAR LR LR 12 42 47.1
comp=Z,588nm,21.7s,baz=269,slow=34
comp=Z,9.2nm,1.0s
VORD Divnogorie 79.86 320 *e* P P 12 09 01.4 -2.6
VORD pmax pmax
comp=Z,30nm,0.3s
VORR Voronezh 79.87 321 *e* P P 12 09 02.1 -1.9
VORR pmax pmax
comp=Z,78nm,1.5s
VSLR Vesyoloye 79.88 312 *i* P P 12 09 03.6 -0.7
VSLR pmax pmax
comp=Z,85nm,1.0s
D25K Kavik River 79.90 21 IAMs_20 IAMs_20 12 46 02.8
comp=Z,826nm,22.0s
D25K Kavik River 79.90 21 P P 12 09 05.2 +1.2
baz=272,SNR=48
GLI Glacier Island 79.92 30 IAmb IAmb 12 09 16.3
comp=Z,126nm,0.7s
GLI Glacier Island 79.92 30 P P 12 09 05.2 +1.1
baz=273,SNR=6.8
VSR Storozhevoye 79.93 320 *e* P P 12 09 02.9 -1.4
VSR pmax pmax
comp=Z,60nm,1.4s
LPSR Galich'ya Gora 79.99 322 *e* P P 12 09 02.9 -1.7
LPSR pmax pmax
comp=Z,50nm,0.8s
SOC Sochi 80.10 313 *e* P P 12 09 02.1 -3.3
SOC *e* 12 12 01.9
SOC *e* PPP PPP 12 13 52.9
SOC *e* S S 12 19 05.9 -1.3
G25K Bearman Lake 80.10 24 P P 12 09 06.3 +1.3
baz=273,SNR=13
FID Port Fidalgo 80.23 30 IAMs_20 IAMs_20 12 43 58.0
comp=Z,679nm,19.0s
H25L Birch Creek 80.24 24 P P 12 09 06.9 +1.2
baz=273,SNR=16
F25K Christian Rive 80.24 23 P P 12 09 07.6 +1.8
baz=273,SNR=21
E25K Arctic Village 80.24 22 P P 12 09 07.3 +1.5
baz=273,SNR=25
M24K Tolsona, Glenn 80.30 28 P P 12 09 07.1 +0.8
baz=273,SNR=15
Q23K Middleton Isla 80.38 31 P P 12 09 07.5 +1.0
baz=274
MID Middleton Isla 80.38 31 IAMs_20 IAMs_20 12 43 10.6
comp=Z,779nm,20.0s
C26K Camden Bay 80.39 21 P P 12 09 08.0 +1.6
baz=273,SNR=27
K24K Donnelly Dome 80.39 27 P P 12 09 07.2 +0.6
baz=273,SNR=22
PRP Porcupine Dome 80.40 25 P P 12 09 07.6 +0.8
baz=273,SNR=13
FYU Fort Yukon 80.45 24 IAmb IAmb 12 09 18.5
comp=Z,143nm,1.0s
KLU Klutina 80.46 29 IAmb IAmb 12 09 21.1
comp=Z,117nm,1.3s
KLU Klutina 80.46 29 P P 12 09 07.8 +0.6
baz=274,SNR=6.7
J25K Salcha River, 80.52 26 P P 12 09 07.8 +0.4
baz=274,SNR=12
MOS Moscow 80.54 325 *e* P P 12 09 05.4 -2.1
MOS *e* 12 12 11.6
MOS *e* S S 12 19 14.6 +3.2
MOS pmax pmax
comp=Z,37nm,0.6s
MOS MLR MLR
comp=Z,1µm,19.0s
PAX Paxson 80.58 28 P P 12 09 08.3 +0.5
baz=274,SNR=66
EYAK Cordova Ski Ar 80.60 30 P P 12 09 11.5 +3.7
EYAK Cordova Ski Ar 80.60 30 P P 12 09 08.4 +0.6
baz=274
BMAR Burnt Mountain 80.66 23 P P 12 09 09.5 +1.5
HARP HAARP 80.76 28 P P 12 09 09.5 +0.9
baz=274,SNR=7.5
F26K Sheenjek River 80.81 23 P P 12 09 09.8 +1.0
baz=274,SNR=17
C27K Jago River 80.82 21 P P 12 09 09.8 +0.9
baz=274,SNR=20
ATD Arta Tunnel 80.96 280 LR LR 12 44 51.0
comp=Z,11nm,18.5s,baz=64,slow=36
G26K Porcupine Rive 81.00 23 P P 12 09 11.0 +1.2
baz=275,SNR=32
LVZ Lovozero 81.03 337 *i* P P 12 09 11.1 +1.1
LVZ pmax pmax
comp=Z,28nm,0.9s
N25K Chitina, Valde 81.08 29 IAmb IAmb 12 09 22.4
comp=Z,139nm,1.4s
N25K Chitina, Valde 81.08 29 P P 12 09 11.4 +1.0
baz=275,SNR=36
BMRM Bremner River 81.13 30 P P 12 09 11.3 +0.6
baz=275,SNR=11
SCRK Sand Creek 81.17 27 IAmb IAmb 12 09 23.4
comp=Z,69nm,0.9s
SCRK Sand Creek 81.17 27 P P 12 09 11.0 +0.1
baz=275,SNR=77
OBN Obninsk 81.19 324 LR LR 12 48 51.7
comp=Z,820nm,18.5s,baz=85,slow=38

OBN	**Obninsk**	**81.19**	**324**	⇑	*i*	P		**P**	**12 09 10.6**	**-0.4**
OBN					*e*				12 09 26.4	
OBN						S		S	12 19 08.0	-10
OBN						pmax		pmax		
	comp=Z,25nm,0.6s									
OBN						MLR		MLR		
	comp=Z,891nm,17.0s									
J26L	**Joseph Creek**	**81.30**	**26**			IAmb		IAmb	12 09 23.9	
	comp=Z,105nm,1.3s									
J26L	**Joseph Creek**	**81.30**	**26**			P		**P**	**12 09 12.0**	**+0.4**
	baz=275,SNR=40									
KAIM	**Kayak Island**	**81.31**	**31**			P		**P**	**12 09 12.3**	**+0.7**
	baz=275,SNR=7.8									
MENT	**Mentasta**	**81.38**	**28**			IAmb		IAmb	12 09 31.1	
	comp=Z,94nm,1.1s									
I26K	**Coal Creek Min**	**81.40**	**25**			P		**P**	**12 09 12.5**	**+0.6**
	baz=276									
GLB	**Gilahina Butte**	**81.47**	**29**			IAmb		IAmb	12 09 24.8	
	comp=Z,169nm,1.0s									
APA	**Apatity**	**81.53**	**337**	⇓	*i*	P		**P**	**12 09 11.3**	**-1.3**
APA						pmax		pmax		
	comp=Z,31nm,0.8s									
L26K	**Log Cabin Wild**	**81.54**	**27**			P		**P**	**12 09 13.5**	**+0.8**
	baz=276,SNR=14									
ANN	**Anapa**	**81.62**	**314**		*e*	P		**P**	**12 09 11.9**	**-1.6**
ANN					*e*	S		**S**	**12 19 22.7**	**-0.3**
ANN						pmax		pmax		
	comp=Z,49nm,1.3s									
VRDI	**Verde Repeater**	**81.67**	**29**			P		**P**	**12 09 15.1**	**+1.4**
VRDI						IAmb		IAmb	12 09 25.8	
	comp=Z,95nm,1.0s									
E27K	**Coleen River**	**81.72**	**22**			IAmb		IAmb	12 09 25.2	
	comp=Z,144nm,1.1s									
E27K	**Coleen River**	**81.72**	**22**			P		**P**	**12 09 14.7**	**+1.0**
	baz=277,SNR=34									
M26K	**Nabesna, AK**	**81.76**	**28**			IAmb		IAmb	12 09 27.0	
	comp=Z,173nm,1.2s									
M26K	**Nabesna, AK**	**81.76**	**28**			P		**P**	**12 09 15.0**	**+1.0**
	baz=276,SNR=15									
D27M	**Malcolm River**	**81.83**	**21**			IAMs_20		IAMs_20	12 47 24.6	
	comp=Z,844nm,20.0s									
D27M	**Malcolm River**	**81.83**	**21**			P		**P**	**12 09 15.5**	**+1.3**
	baz=277									
G27K	**Doyon Strip**	**81.85**	**24**			P		**P**	**12 09 15.8**	**+1.4**
	baz=277,SNR=14									
MCARA	**McCarthy VSAT**	**81.86**	**29**			P		**P**	**12 09 16.1**	**+1.7**
MCARA						IAmb		IAmb	12 09 41.5	
	comp=Z,90nm,0.8s									
MCARA						IAMs_20		IAMs_20	12 42 34.3	
	comp=Z,595nm,19.0s									
MCARA	**McCarthy VSAT**	**81.86**	**29**			P		**P**	**12 09 15.6**	**+1.1**
	baz=276,SNR=13									
BGLC	**Bering Glacier**	**81.86**	**30**			P		**P**	**12 09 16.4**	**+2.0**
	baz=276									
H27K	**Steamboat Moun**	**81.97**	**24**			P		**P**	**12 09 16.5**	**+1.4**
	baz=277,SNR=15									
K27K	**Chicken**	**82.00**	**26**			P		**P**	**12 09 16.6**	**+1.5**
	baz=277									
I27K	**Kandik River**	**82.01**	**25**			P		**P**	**12 09 17.0**	**+1.7**
	baz=277,SNR=30									
L27K	**Beaver Creek,**	**82.22**	**27**			P		**P**	**12 09 17.7**	**+1.3**
L27K						IAmb		IAmb	12 09 29.8	
	comp=Z,155nm,1.2s									
L27K	**Beaver Creek,**	**82.22**	**27**			P		**P**	**12 09 17.4**	**+1.0**
	baz=277,SNR=31									
BCAR	**Beaver Creek A**	**82.24**	**27**			P		**P**	**12 09 18.2**	**+1.7**
M27K	**Edge Creek, AK**	**82.28**	**28**			IAmb		IAmb	12 09 29.9	
	comp=Z,133nm,1.2s									
M27K	**Edge Creek, AK**	**82.28**	**28**			P		**P**	**12 09 17.8**	**+0.9**
	baz=277,SNR=83									
EGAK	**Eagle**	**82.30**	**26**			P		**P**	**12 09 17.7**	**+1.0**
	baz=277,SNR=54									
E28M	**Babbage River**	**82.42**	**22**			IAmb		IAmb	12 09 28.7	
	comp=Z,114nm,0.9s									
E28M	**Babbage River**	**82.42**	**22**			P		**P**	**12 09 18.7**	**+1.4**
	baz=278,SNR=32									
F28M	**Old Crow**	**82.44**	**23**			IAmb		IAmb	12 09 30.2	
	comp=Z,93nm,0.8s									
F28M	**Old Crow**	**82.44**	**23**			P		**P**	**12 09 18.7**	**+1.3**
	baz=278,SNR=28									
MESA	**MESA**	**82.52**	**30**			P		**P**	**12 09 18.4**	**+0.2**
	baz=277,SNR=7.8									
D28M	**Stokes Point**	**82.60**	**21**			P		**P**	**12 09 19.3**	**+1.2**
	baz=279,SNR=29									
GAZ	**Gaziantep**	**82.65**	**306**			IAmb		IAmb	12 09 33.3	
	comp=Z,58nm,0.9s									
CTG	**Chitna Glacier**	**82.72**	**29**			P		**P**	**12 09 20.4**	**+1.3**
	baz=278,SNR=38									
I28M	**Miner Creek**	**82.72**	**25**			P		**P**	**12 09 20.7**	**+1.7**
	baz=278,SNR=35									
JOF	**Joensuu**	**82.98**	**333**		*e*	P		**P**	**12 09 19.4**	**-0.9**
YUK3	**Moose Creek**	**83.02**	**29**			P		**P**	**12 09 21.6**	**+0.7**
	baz=278,SNR=11									
E29M	**Blow River**	**83.05**	**22**			P		**P**	**12 09 21.8**	**+1.2**
	baz=280,SNR=43									
DAWY	**Dawson**	**83.16**	**26**			IAmb		IAmb	12 09 34.0	
	comp=Z,134nm,1.1s									
DAWY	**Dawson**	**83.16**	**26**			P		**P**	**12 09 22.5**	**+1.2**
	baz=279,SNR=19									
H29M	**Whitestone**	**83.24**	**24**			IAmb		IAmb	12 09 34.3	
	comp=Z,96nm,0.8s									
H29M	**Whitestone**	**83.24**	**24**			P		**P**	**12 09 22.8**	**+1.2**
	baz=280,SNR=24									
G29M	**Pine Creek**	**83.26**	**23**			P		**P**	**12 09 22.6**	**+0.9**
	baz=280,SNR=29									
O28M	**Mount Upton**	**83.30**	**30**			P		**P**	**12 09 23.0**	**+0.6**
	baz=279,SNR=14									
I29M	**Ogilvie Camp,**	**83.41**	**25**			IAmb		IAmb	12 09 35.1	
	comp=Z,109nm,1.1s									
I29M	**Ogilvie Camp,**	**83.41**	**25**			P		**P**	**12 09 23.5**	**+1.0**
	baz=280,SNR=24									
YUK8	**Steele Glacier**	**83.43**	**29**			P		**P**	**12 09 24.2**	**+1.2**
	baz=279,SNR=14									
MSF	**Maaselka**	**83.48**	**336**			P		**P**	**12 09 21.8**	**-1.0**
MSF						pmax		pmax		
	comp=Z,98nm,1.0s									
VOI	**Vohitsoka**	**83.50**	**246**			P		**P**	**12 09 24.3**	**+0.4**
VOI	**Vohitsoka**	**83.50**	**246**			P		**P**	**12 09 22.6**	**-1.4**
DIKM	**Dikmen**	**83.58**	**311**	⇑		P		**P**	**12 09 23.8**	**0.0**
J29N	**Klondike Camp**	**83.60**	**26**			P		**P**	**12 09 24.7**	**+1.1**
	baz=280,SNR=28									
M29M	**Somme Creek**	**83.84**	**28**			IAmb		IAmb	12 09 36.9	
	comp=Z,89nm,0.9s									
M29M	**Somme Creek**	**83.84**	**28**			P		**P**	**12 09 26.3**	**+1.4**
	baz=280,SNR=33									
PNL	**Peninsula**	**83.87**	**31**			P		**P**	**12 09 28.4**	**+3.5**
PNL	**Peninsula**	**83.87**	**31**			P		**P**	**12 09 25.6**	**+0.7**
	baz=280,SNR=8.5									
EPYK	**Eagle Plains**	**83.87**	**24**			P		**P**	**12 09 25.6**	**+0.8**
	baz=281,SNR=68									
L29M	**L29M**	**83.88**	**27**			P		**P**	**12 09 27.0**	**+2.0**
	baz=280,SNR=45									
G30M	**tAoh Zraii Nji**	**83.94**	**23**			P		**P**	**12 09 25.7**	**+0.5**
	baz=282,SNR=16									
SIM	**Simferopol'**	**83.94**	**314**		*e*	P		**P**	**12 09 25.4**	**-0.2**
YUK4	**Talbot Arm**	**83.95**	**29**			P		**P**	**12 09 26.6**	**+1.1**
	baz=280,SNR=11									
F30M	**Barrier River**	**83.98**	**22**			P		**P**	**12 09 26.3**	**+0.9**
	baz=282,SNR=24									
SPITS	**Spitsbergen Ar**	**84.00**	**349**			P		**P**	**12 09 24.7**	**-0.7**
	comp=Z,18nm,0.8s,baz=91,slow=8.6,SNR=18									
SPITS						PKKP		**PKKPdf**	**12 27 32.2**	**-1.2**
	comp=Z,8.8nm,1.0s,baz=326,slow=13,SNR=2.5									
SPITS						PKKPbc		**PKKPbc**	**12 27 41.9**	**-0.9**
	comp=Z,16nm,1.2s,baz=165,slow=3.5,SNR=4.9									
SPITS						LR		LR	12 53 19.4	
	comp=Z,732nm,18.2s,baz=29,slow=40									
	comp=Z,18nm,0.8s									
K29M	**Barlow Dome**	**84.01**	**26**			IAmb		IAmb	12 09 38.8	
	comp=Z,109nm,0.9s									
K29M						IAMs_20		IAMs_20	12 46 25.1	
	comp=Z,768nm,19.0s									
K29M	**Barlow Dome**	**84.01**	**26**			P		**P**	**12 09 26.8**	**+1.1**
	baz=281,SNR=33									
ARCES	**ARCESS Array B**	**84.07**	**340**			P		**P**	**12 09 25.1**	**-0.7**
ARCES						IAmb		IAmb	12 09 55.2	
	comp=Z,59nm,1.0s									
ARCES	**ARCESS Array B**	**84.07**	**340**			P		**P**	**12 09 25.1**	**-0.7**
	comp=Z,6.8nm,0.5s,baz=81,slow=6.9,SNR=38									
ARCES						PKKPbc		**PKKPbc**	**12 27 41.4**	**-1.1**
	comp=Z,1.3nm,0.9s,baz=285,slow=3.5,SNR=1.2									
ARCES						LR		LR	12 52 04.3	
	comp=Z,670nm,18.5s,baz=79,slow=39									
	comp=Z,6.8nm,0.5s									
YUK6	**Outpost Mounta**	**84.16**	**29**			P		**P**	**12 09 27.5**	**+0.8**
	baz=280,SNR=12									
SGF	**Sodankyl**	**84.16**	**337**			P		**P**	**12 09 26.3**	**+0.1**
SGF						pmax		pmax		
	comp=Z,34nm,1.2s									
I30M	**Mount Dempster**	**84.23**	**25**			IAmb		IAmb	12 09 37.9	
	comp=Z,109nm,1.0s									
I30M	**Mount Dempster**	**84.23**	**25**			P		**P**	**12 09 27.8**	**+1.0**
	baz=282,SNR=35									
J30M	**Hart River**	**84.38**	**25**			P		**P**	**12 09 29.0**	**+1.3**
	baz=282,SNR=28									
KBS	**Kingsbay**	**84.53**	**350**			P		**P**	**12 09 27.2**	**-0.7**
KBS						pmax		pmax		
	comp=Z,54nm,1.0s									
KBS	**Kingsbay**	**84.53**	**350**		*i*	P		**P**	**12 09 24.0**	**-3.9**
HYT	**Haines Junctio**	**84.59**	**29**			P		**P**	**12 09 30.1**	**+1.4**
	baz=281,SNR=31									
INK	**Inuvik**	**84.66**	**22**			P		**P**	**12 09 28.8**	**+0.1**
INK	**Inuvik**	**84.66**	**22**			P		**P**	**12 09 29.2**	**+0.5**
	baz=284,SNR=43									
INK	**Inuvik**	**84.66**	**22**			S		**SKSac**	**12 19 44.8**	**-4.6**
	comp=Z,1.4nm,0.9s,baz=183,slow=32,SNR=11									
INK						PKKPbc		PKKPbc	12 27 37.1	-3.9
	comp=Z,1.4nm,0.6s,baz=29,slow=7.1,SNR=8.7									
INK						LR		LR	12 49 26.9	
	comp=Z,378nm,21.5s,baz=315,slow=37									
INK	**Inuvik**	**84.66**	**22**			P		**P**	**12 09 28.8**	**+0.1**
INK						pmax		pmax		
	comp=Z,133nm,1.1s									
N30M	**Aishikik Lake**	**84.67**	**29**			P		**P**	**12 09 29.6**	**+0.6**
	baz=281,SNR=28									
MMAI	**Mount Meron Ar**	**84.69**	**302**			P		**P**	**12 09 28.9**	**-0.9**
	comp=Z,6.2nm,0.9s,baz=80,slow=6.0,SNR=6.6									
MMAI						LR		LR	12 51 13.0	
	comp=Z,480nm,21.6s,baz=28,slow=38									
	comp=Z,6.2nm,0.9s									
P29M	**Windy Craggy**	**84.70**	**30**			P		**P**	**12 09 30.5**	**+1.3**
	baz=281,SNR=90									
G31M	**Satah River**	**84.70**	**23**			P		**P**	**12 09 29.7**	**+0.8**
	baz=283,SNR=22									
MAYO	**Mayo Yukon**	**84.77**	**26**			P		**P**	**12 09 30.3**	**+0.9**
	baz=282,SNR=16									
F31M	**Tsiigehtchic**	**84.78**	**22**			P		**P**	**12 09 29.9**	**+0.5**
	baz=284,SNR=26									
GHAJ	**Ghor Haditha**	**84.81**	**301**			IAmb		IAmb	12 09 41.8	
	comp=Z,64nm,1.0s									
OUL	**Oulu**	**84.93**	**335**			P		**P**	**12 09 29.7**	**-0.4**
OUL						pmax		pmax		
	comp=Z,57nm,0.9s									
H31M	**Peel River**	**84.94**	**24**			P		**P**	**12 09 31.1**	**+0.9**
	baz=283,SNR=72									
P30M	**Million Dollar**	**84.99**	**30**			P		**P**	**12 09 32.2**	**+1.6**
	baz=282									
BR131	**Keskin Array S**	**85.08**	**309**		*i*	P		**P**	**12 09 30.2**	**-1.5**
BRTR	**Keskin Array B**	**85.08**	**309**			P		**P**	**12 09 29.9**	**-1.7**
BRTR	**Keskin Array B**	**85.08**	**309**			P		**P**	**12 09 30.1**	**-1.5**
	comp=Z,4.3nm,0.8s,baz=111,slow=4.7,SNR=16									
BRTR						LR		LR	12 52 39.7	
	comp=Z,742nm,20.6s,baz=95,slow=39									
	comp=Z,4.3nm,0.8s									
BRTR	**Keskin Array B**	**85.08**	**309**		*ce*	P		**P**	**12 09 30.7**	**-0.9**
BRTR						pmax		pmax		
	comp=Z,4.0nm,0.8s									
N31M	**Braeburn, Yuko**	**85.27**	**28**			P		**P**	**12 09 33.6**	**+1.6**
	baz=282,SNR=30									
O30N	**Mendenhall**	**85.28**	**29**			P		**P**	**12 09 33.8**	**+1.7**
	baz=282,SNR=15									
PLBC	**Pleasant Camp**	**85.42**	**30**			P		**P**	**12 09 34.2**	**+1.5**
	baz=282,SNR=6.0									
FURI	**Furi**	**85.43**	**278**			IAMs_20		IAMs_20	12 48 16.6	
	comp=Z,876nm,20.0s									
EIL	**Elat**	**85.58**	**299**			LR		LR	12 53 04.5	
	comp=Z,286nm,19.2s,baz=72,slow=39									
FINES	**FINESS Array B**	**85.67**	**332**			P		**P**	**12 09 32.4**	**-1.5**
FINES	**FINESS Array B**	**85.67**	**332**			P		**P**	**12 09 32.8**	**-1.1**
	comp=Z,11nm,0.5s,baz=72,slow=4.6,SNR=41									
FINES						PP		**PP**	**12 12 54.2**	**+1.3**
	comp=Z,3.4nm,0.9s,baz=74,slow=12,SNR=1.8									
FINES						S		**SKSac**	**12 19 50.3**	**-5.8**
	comp=Z,1.3nm,0.8s,baz=153,slow=30,SNR=1.4									
FINES						PKKPbc		**PKKPbc**	**12 27 36.9**	**-1.5**
	comp=Z,3.4nm,1.1s,baz=250,slow=2.5,SNR=2.0									
FINES						LR		LR	12 51 11.5	
	comp=Z,2μm,19.0s,baz=76,slow=38									
	comp=Z,11nm,0.5s									
M31M	**Drury Creek, Y**	**85.75**	**28**			P		**P**	**12 09 35.7**	**+1.3**
	baz=284,SNR=61									
S31K	**Pelican**	**85.81**	**32**			P		**P**	**12 09 36.2**	**+1.6**
	baz=282									
WHY	**Whitehorse**	**85.88**	**29**			P		**P**	**12 09 36.3**	**+1.1**
	baz=283,SNR=39									
SKAG	**Skagway**	**85.94**	**30**			P		**P**	**12 09 37.7**	**+2.4**
SKAG	**Skagway**	**85.94**	**30**			P		**P**	**12 09 36.8**	**+1.5**
	baz=283,SNR=10									
R31K	**City Hall, Gus**	**85.96**	**31**			P		**P**	**12 09 37.5**	**+2.1**
	baz=283									
VSU	**Vasula**	**86.02**	**329**	⇑	*e*	P		**P**	**12 09 35.9**	**+0.2**
VSU						pmax		pmax		
	comp=Z,48nm,1.7s									
KEF	**Keuruu**	**86.06**	**332**		*e*	P		**P**	**12 09 34.4**	**-1.4**
ARBE	**Arbavere**	**86.18**	**330**		*e*	P		**P**	**12 09 36.5**	**0.0**
FARO	**Faro, Yukon**	**86.22**	**27**			P		**P**	**12 09 37.9**	**+1.1**
	baz=285,SNR=37									
AKASG	**Malin Array Be**	**86.22**	**321**			P		**P**	**12 09 34.9**	**-2.0**
	comp=Z,9.2nm,0.9s,baz=65,slow=4.3,SNR=33									
AKASG						S		**SKSac**	**12 19 54.8**	**-5.2**
	comp=Z,0.2nm,0.3s,baz=331,slow=9.9,SNR=1.5									
	comp=Z,9.2nm,0.9s									
AKBB	**Malin Array Si**	**86.22**	**321**			P		**P**	**12 09 35.0**	**-1.9**
KIEV	**Kiev**	**86.23**	**321**		⇓	P		**P**	**12 09 36.1**	**-0.9**
KIEV	**Kiev**	**86.23**	**321**			P		**P**	**12 09 35.0**	**-2.0**
KIEV						IAmb		IAmb	12 09 46.5	
	comp=Z,81nm,1.0s									
KIEV	**Kiev**	**86.23**	**321**			P		**P**	**12 09 36.0**	**-0.9**
KIEV	**Kiev**	**86.23**	**321**			P		**P**	**12 09 34.9**	**-2.0**
	comp=Z,322nm,1.0s									
A36M	**Sachs Harbour**	**86.24**	**17**			P		**P**	**12 09 37.0**	**+0.5**
	baz=291,SNR=46									
MNK	**Minsk**	**86.25**	**325**		*i*	P		**P**	**12 09 38.7**	**+1.8**
MNK					*i*				12 12 59.3	
MNK					*i*	PPP		PPP	12 14 53.1	
MNK					*i*	S		**SKSac**	**12 20 03.7**	**+3.7**
MNK					*i*	SS		**SS**	**12 25 54.6**	**+6.2**
MNK						pmax		pmax		
	comp=E,9.0nm,0.8s									
MNK						pmax		pmax		
	comp=N,37nm,0.9s									
MNK						pmax		pmax		
	comp=Z,20nm,0.9s									
MNK						MLR		MLR		
	comp=N,1μm,20.0s									
MNK						MLR		MLR		
	comp=Z,960nm,19.0s									
MNK						MLR		MLR		
	comp=E,346nm,17.0s									
SIT	**Sitka**	**86.48**	**33**			P		**P**	**12 09 42.1**	**+4.1**
SIT	**Sitka**	**86.48**	**33**			P		**P**	**12 09 39.6**	**+1.6**
	baz=283									
N32M	**Quiet Lake**	**86.62**	**28**			P		**P**	**12 09 39.8**	**+1.1**
	baz=285,SNR=35									
R32K	**Eaglecrest**	**86.62**	**31**			P		**P**	**12 09 39.8**	**+1.1**
	baz=284									
NOR	**Nord**	**86.64**	**355**			P		**P**	**12 09 37.6**	**-0.8**
NOR						pmax		pmax		
	comp=Z,29nm,1.3s									
NOR	**Nord**	**86.64**	**355**		*i*	P		**P**	**12 09 37.0**	**-1.4**
NOR						IAmb		IAmb	12 09 45.9	
	comp=Z,6.0nm,0.9s									
JIS	**Juneau Island**	**86.69**	**31**			P		**P**	**12 09 42.1**	**+3.1**
P32M	**Atlin**	**86.71**	**30**			IAmb		IAmb	12 09 52.5	
	comp=Z,68nm,1.4s									
P32M	**Atlin**	**86.71**	**30**			P		**P**	**12 09 40.3**	**+1.1**
	baz=284,SNR=5.4									
MEF	**Metsahovi**	**86.77**	**331**		*e*	P		**P**	**12 09 38.6**	**-0.7**
S32K	**Killisnoo**	**86.78**	**32**			P		**P**	**12 09 41.0**	**+1.6**
	baz=284									
VAF	**Ylistaro**	**86.81**	**334**		*e*	P		**P**	**12 09 38.4**	**-1.1**
VAF	**Ylistaro**	**86.81**	**334**			P		**P**	**12 09 39.4**	**-0.1**
VAF						pmax		pmax		
	comp=Z,43nm,0.9s									
MI30	**MI30,Zelenitsa**	**86.86**	**321**			P		**P**	**12 09 38.5**	**-1.5**
MI30						pP		**PcP**	**12 09 47.0**	**+4.8**
P33M	**Teslin, Yukon**	**86.99**	**29**			P		**P**	**12 09 41.6**	**+1.0**
	baz=285,SNR=8.5									
MI29	**MI29, Kamyanyy**	**87.14**	**321**			P		**P**	**12 09 40.3**	**-1.1**
MI28	**MI28,Pidlybu**	**87.14**	**321**			P		**P**	**12 09 40.0**	**-1.4**
MILM	**Milestii Mici**	**87.25**	**317**		*e*	P		**P**	**12 09 45.0**	**+3.0**
	comp=Z,80nm,1.1s									
MILM					*e*	L		L	12 49 16.0	
MILM						LRM		MLR	12 53 06.0	
	comp=Z,1μm,20.5s									
MILM	**Milestii Mici**	**87.25**	**317**		*e*	P		**P**	**12 09 45.0**	**+3.0**
MILM						pmax		pmax		
	comp=Z,80nm,1.1s									
SORM	**Soroca**	**87.30**	**318**	⇑		P		**P**	**12 09 41.4**	**-0.8**
SORM	**Soroca**	**87.30**	**318**			P		**P**	**12 09 41.4**	**-0.8**
SORM	**Soroca**	**87.30**	**318**			P		**P**	**12 09 40.5**	**-1.7**
	comp=Z,60nm,1.4s									
LUBAR	**Lubar, Ukraine**	**87.30**	**320**			P		**P**	**12 09 40.2**	**-2.0**
MTSE	**Matsula**	**87.44**	**329**		*e*	P		**P**	**12 09 41.5**	**-1.2**
C36M	**Paulatuk**	**87.59**	**19**			P		**P**	**12 09 43.1**	**0.0**
	baz=293,SNR=45									
TLCR		**87.60**	**315**	⇓		P		**P**	**12 09 43.6**	**-0.1**
TLCR		**87.60**	**315**			P		**P**	**12 09 43.6**	**-0.1**
RAF	**Rauma**	**87.80**	**332**		*e*	P		**P**	**12 09 44.0**	**-0.3**
ISP	**Isparta**	**87.81**	**308**			IAMs_20		IAMs_20	12 54 22.5	
	comp=Z,627nm,20.0s									
NDNU	**Novodnistrovsk**	**87.84**	**319**			P		**P**	**12 09 43.2**	**-1.6**
U33K	**Whale Pass**	**87.89**	**33**			P		**P**	**12 09 45.5**	**+0.6**
	baz=285									
TPGR	**Topolog**	**87.94**	**315**	⇑		P		**P**	**12 09 45.0**	**-0.4**
CRAG	**Craig**	**88.06**	**34**			P		**P**	**12 09 49.6**	**+3.9**
CRAG	**Craig**	**88.06**	**34**			P		**P**	**12 09 46.3**	**+0.6**
	baz=285									
CFR	**Carcaliu**	**88.07**	**315**	⇑		P		**P**	**12 09 45.9**	**-0.1**
CFR	**Carcaliu**	**88.07**	**315**			P		**P**	**12 09 45.8**	**-0.1**
R33M	**Jennings River**	**88.11**	**30**			P		**P**	**12 09 46.9**	**+0.9**
	baz=287									
RNPP9	**Sopachiv**	**88.12**	**322**			P		**P**	**12 09 44.5**	**-1.6**
PPT	**Papeete**	**88.19**	**108**			LR		LR	12 42 10.0	
	comp=Z,332nm,21.2s,baz=279,slow=31									
PPT2	**Papeete2**	**88.19**	**108**		*e*	PKP1		**P**	**12 09 45.7**	**-1.4**
	comp=Z,57nm,25.5s									
PPT2	**Papeete2**	**88.19**	**108**		*e*	P		P	12 10 00.4	+13
	comp=Z,69nm,1.0s									
PPT2	**Papeete2**	**88.19**	**108**		*e*	PP		**PP**	**12 13 12.8**	**-1.9**
	comp=Z,87nm,28.2s									
PPT2					*e*	S		**S**	**12 20 29.5**	**+0.3**
	comp=Z,312nm,27.8s									
PPT2					*e*	SS		**SS**	**12 26 19.5**	**+0.5**
	comp=Z,484nm,26.0s									
PPT2					*e*	LQ		LQ	12 33 56.9	
	comp=Z,2μm,30.8s									
PPT2					*e*	LR		LR	12 37 39.1	
	comp=Z,515nm,22.0s									
PPT2					*e*	LR		LR	12 37 40.0	
	comp=Z,552nm,29.8s									
PAE	**Paea**	**88.20**	**108**		*e*	P		P	12 10 01.9	+15
	comp=Z,43nm,1.3s									
PABE	**Paberze**	**88.21**	**326**		*e*	P		**P**	**12 09 45.9**	**-0.4**
WRAK	**Wrangell Islan**	**88.23**	**33**			P		**P**	**12 09 47.2**	**+0.7**
	baz=286									
HARR	**Harsova**	**88.32**	**315**	⇑		P		**P**	**12 09 47.0**	**-0.2**
HARR	**Harsova**	**88.32**	**315**			P		**P**	**12 09 46.9**	**-0.2**
KMPD	**K-Podol'skiy**	**88.44**	**319**			P		**PcP**	**12 09 46.0**	**-3.2**
KMPD						P		**P**	**12 09 45.4**	**-2.2**
S34M	**Telegraph Cree**	**88.45**	**31**			P		**P**	**12 09 48.8**	**+1.3**
	baz=287									
TVO	**Taravao**	**88.53**	**108**		*e*	PKP1		P	12 09 41.7	-7.0
	comp=Z,18nm,0.8s									
TGTN	**Hyland Airport**	**88.73**	**27**			P		**P**	**12 09 49.9**	**+1.1**
	baz=289,SNR=15									
TESR	**Tescani**	**88.79**	**317**	⇑		P		**P**	**12 09 49.1**	**-0.2**
TESR	**Tescani**	**88.79**	**317**			P		**P**	**12 09 48.5**	**-0.9**
	comp=Z,53nm,0.8s									
DLBC	**Dease Lake**	**88.86**	**31**			P		**P**	**12 09 50.7**	**+1.2**
	baz=288									
DLBC	**Dease Lake**	**88.86**	**31**			PK

comp=Z,6.0nm,0.7s
GZR Gura Zlata 91.69 317 P P 12 10 03.7 +0.7
RES Resolute Bay 91.74 10 IAmb IAmb 12 10 12.9
comp=Z,67nm,1.2s
RES Resolute Bay 91.74 10 LR LR 12 52 11.0
comp=Z,300nm,21.0s,baz=340,slow=36
RES Resolute Bay 91.74 10 P P **12 10 03.3 +0.8**
RES pmax pmax
comp=Z,42nm,1.0s
HFS Hagfors 91.84 332 P P **12 10 01.8 -1.5**
comp=Z,6.4nm,0.6s,baz=180,slow=2.4,SNR=6.7
HFS PKKPbc **PKKPbc 12 27 22.7 -0.5**
comp=Z,0.8nm,0.4s,baz=247,slow=7.5,SNR=4.6
HFS LR LR 12 55 01.0
comp=Z,2µm,18.2s,baz=65,slow=38
comp=Z,6.4nm,0.6s
BBB Bella Bella 91.86 36 LR LR 12 45 40.8
comp=Z,143nm,20.8s,baz=266,slow=32
NIE Niedzica 92.11 321 *eP* **P 12 10 03.5 -1.3**
NIE Niedzica 92.11 321 P P **12 10 05.2 +0.4**
NIE pmax pmax
comp=Z,18nm,1.1s
OJC Ojcow 92.17 322 *eP* P **12 10 04.4 -0.6**
BLKB Belogradchik 92.25 315 ⇑P P **12 10 05.2 -0.4**
KECS Kecovo 92.28 320 *eP* P 12 10 10.3 +4.7
KECS Kecovo 92.28 320 *eP* P 12 10 10.3 +4.7
NEEM North Greenlan 92.54 359 *i* P P **12 10 05.4 -1.2**
NEEM IAmb IAmb 12 10 15.5
comp=Z,27nm,0.8s
NB2 NORSAR Subarra 92.56 334 P P **12 10 04.8 -1.9**
comp=Z,17nm,1.1s,baz=65,slow=4.6
NB2 NORSAR Subarra 92.56 334 P P **12 10 04.8 -1.9**
baz=65,slow=4.6
NB2 NORSAR Subarra 92.56 334 P P **12 10 04.8 -1.9**
NOA NORSAR Array B 92.56 334 P P **12 10 04.5 -2.1**
comp=Z,3.3nm,0.7s,baz=64,slow=4.6,SNR=12
NOA PP **PP 12 13 48.5 +0.6**
comp=Z,0.5nm,0.5s,baz=60,slow=7.8,SNR=2.5
NOA LR LR 12 56 23.3
comp=Z,831nm,18.6s,baz=50,slow=38
comp=Z,3.3nm,0.7s
IDI Anoyia 92.78 306 IAmb IAmb 12 10 21.9
comp=Z,31nm,1.1s
IDI Anoyia 92.78 306 LR LR 12 58 12.4
comp=Z,7.6nm,21.1s,baz=84,slow=40
PSZ Piszkesteto 92.83 320 ⇑P P **12 10 08.0 -0.3**
PSZ Piszkesteto 92.83 320 P P **12 10 07.9 -0.3**
BOVS Bovan 92.92 315 ⇑P P **12 10 09.4 +0.8**
DBG Daneborg 93.05 351 *i* P P **12 10 07.8 -0.8**
DBG IAmb IAmb 12 10 09.5
comp=Z,5.8nm,0.8s
BSD Bornholm Skovb 93.23 327 *eP* P **12 10 09.3 -0.4**
DEL Delary 93.23 329 *eP* P **12 10 10.2 +0.5**
VYHS Vyhne 93.32 320 *eP* P 12 10 18.0 +7.6
VYHS Vyhne 93.32 320 *eP* P 12 10 18.0 +7.6
VYHS pmax pmax
comp=Z,27nm,1.4s
JMIC Jan Mayen 93.39 346 LR LR 12 58 23.0
comp=Z,470nm,18.7s,baz=82,slow=39
MORC Moravsky Berou 93.69 322 ⇑P P **12 10 12.4 +0.3**
MORC Moravsky Berou 93.69 322 *eP* P **12 10 11.1 -1.0**
MORC Moravsky Berou 93.69 322 P P **12 10 12.4 +0.3**
JAVC Velka Javorina 93.92 321 *eP* P **12 10 13.4 +0.2**
KRLC Kraliky 94.04 322 P P **12 10 13.5 -0.2**
KRLC pmax pmax
comp=Z,7.0nm,0.9s
YKA Yellowknife Ar 94.16 24 P P **12 10 13.7 -0.2**
comp=Z,6.9nm,0.9s,baz=303,slow=5.1,SNR=46
YKA PP **PP 12 14 03.0 +2.8**
comp=Z,1.6nm,1.0s,baz=295,slow=8.0,SNR=2.1
YKA PKiKP **PKiKP 12 14 58.4 +0.7**
comp=Z,0.4nm,0.6s,baz=329,slow=2.9,SNR=4.6
YKA S **SKSac 12 20 42.5 -3.1**
comp=Z,1.9nm,1.2s,baz=317,slow=5.6,SNR=6.0
YKA PKKPbc **PKKPdf 12 27 13.3 -2.3**
comp=Z,0.7nm,0.7s,baz=119,slow=2.3,SNR=8.9
YKA LR LR 12 54 14.0
comp=Z,227nm,21.7s,baz=328,slow=36
comp=Z,6.9nm,0.9s
DPC Dobruska-Polom 94.22 323 P P **12 10 14.8 +0.3**
DPC pmax pmax
comp=Z,11nm,1.3s
UPC Upice 94.34 323 P P **12 10 14.4 -0.6**
UPC pmax pmax
comp=Z,13nm,1.9s
VRAC Vranov 94.43 322 *eP* P **12 10 14.7 -0.8**
VRAC Vranov 94.43 322 LR LR 12 57 45.3
comp=Z,708nm,19.1s,baz=65,slow=39
VRAC Vranov 94.43 322 P P **12 10 15.7 +0.2**
VRAC pmax pmax
comp=Z,28nm,1.2s
KRUC Moravsky 94.64 321 *eP* P **12 10 15.5 -0.9**
KRUC Moravsky 94.64 321 P P **12 10 16.6 +0.2**
KRUC pmax pmax
comp=Z,27nm,1.5s
MBAR Mbarara 94.86 270 LR LR 12 53 24.1
comp=Z,777nm,18.5s,baz=61,slow=36
MBAR Mbarara 94.86 270 *i* P P **12 10 17.9 -0.4**
MBAR pmax pmax
comp=Z,6.0nm,1.0s
PDG Podgorica 95.00 314 ⇓P P **12 10 17.2 -0.9**
RONA Rosalia, Austr 95.19 320 *e*PcP **PcP 12 10 20.0 +0.7**
comp=Z,16nm,1.3s
CONA Conrad Observa 95.38 321 *e*PcP **PcP 12 10 20.3 +0.1**
comp=Z,29nm,1.4s,SNR=6.2
PRU Pruhonice 95.41 323 P P **12 10 20.0 +0.1**
PRU pmax pmax
comp=Z,16nm,1.3s
BRG Berggiesshubel 95.42 324 *eP* P **12 10 19.3 -0.7**
BRG Amp 12 10 22.5
comp=Z,11nm,1.4s
BRG Berggiesshubel 95.42 324 P P 12 10 29.1 +9.1
BRG Amp 12 10 30.3
comp=Z,26nm,1.3s
BRG Berggiesshubel 95.42 324 P P **12 10 19.5 -0.4**
BRG pmax pmax
comp=Z,17nm,1.6s
KULLO Kullorsuaq 95.42 1 *i* P P **12 10 18.2 -1.3**
KULLO IAmb IAmb 12 10 30.3
comp=Z,57nm,1.0s
CLL Collm 95.79 324 *eP* P **12 10 20.0 -1.6**
CLL pmax pmax
comp=Z,46nm,2.4s
HSKC Hora Svate Kat 95.83 324 AMS AMS 12 58 00.0
comp=Z,1µm,18.0s
ZVC Zvikov 95.84 322 *eP* P **12 10 21.9 0.0**
ARSA Arzberg 95.84 320 *e*PcP **PcP 12 10 23.1 +0.9**
comp=Z,15nm,1.2s
CKRC Cesky Krumlov 96.00 322 *eP* P **12 10 21.8 -0.9**
CKRC Cesky Krumlov 96.00 322 *eP* P **12 10 21.8 -0.9**
KHC Kasperske Hory 96.33 322 *eP* P **12 10 24.0 -0.2**
KHC *ex* x 12 10 31.1
KHC AMS AMS 12 57 40.0
comp=Z,900nm,19.2s
KHC Kasperske Hory 96.33 322 *eP* P **12 10 24.0 -0.2**
KHC MLR MLR
comp=Z,900nm,19.2s
PERS Pernice 96.33 319 *eP* P **12 10 25.3 +1.1**
PERS *e* 12 10 31.4
GEC2 GERESS Array S 96.36 322 P P **12 10 24.2 -0.2**
GEC2 pmax pmax
comp=Z,21nm,1.1s
GERES GERESS Array B 96.36 322 P P **12 10 23.3 -1.1**
comp=Z,1.6nm,0.7s,baz=69,slow=4.4,SNR=8.4
GERES PP **PP 12 14 18.6 +0.6**
comp=Z,0.5nm,0.3s,baz=75,slow=12,SNR=2.7
GERES PKKPbc **PKKPdf 12 27 13.2 +1.5**
comp=Z,0.3nm,0.4s,baz=334,slow=8.9,SNR=3.8
GERES LR LR 12 58 55.0
comp=Z,716nm,20.6s,baz=74,slow=38
comp=Z,1.6nm,0.7s
SOKA Soboth 96.37 320 *eP* P **12 10 24.3 -0.2**
comp=Z,21nm,1.4s
MOA Molln 96.41 321 *eP* P **12 10 24.0 -0.5**
comp=Z,56nm,1.1s
CRES Cresnjev 96.41 319 *eP* P **12 10 26.0 +1.4**
NKC Novy Kostel 96.55 324 AMS AMS 12 58 30.0
comp=Z,1µm,18.9s
OBKA Obir 96.74 320 *e*PcP **PcP 12 10 26.6 +0.3**
comp=Z,14nm,1.0s
SUMG Summit 96.80 355 *i* P P **12 10 26.5 +0.3**
SUMG IAmb IAmb 12 10 39.2
comp=Z,9.6nm,1.0s
BIOA Bad Ischl, Aus 96.86 321 *eP* P **12 10 26.6 0.0**
comp=Z,21nm,1.1s
BRLDA Berland Lookou 97.02 32 IAmb IAmb 12 10 40.0
comp=Z,36nm,0.9s
F04D Rainier, OR 97.16 41 IAMs_20 IAMs_20 12 45 55.2
comp=Z,698nm,22.0s
UPNV Upernavik 97.24 1 *i* P P **12 10 24.4 -3.3**
UPNV IAmb IAmb 12 10 30.3
comp=Z,9.2nm,1.0s
MYKA Terra Mystica 97.27 320 *eP* P **12 10 28.1 -0.4**
comp=Z,16nm,1.1s
KBA Koelnbreinsper 97.28 320 *eP* P **12 10 28.1 -0.6**
comp=Z,11nm,0.9s
ROBS Robic 97.50 320 *eP* P **12 10 28.2 -1.3**
LESA Schwarzleotal 97.56 321 *eP* P **12 10 28.6 -1.3**
comp=Z,24nm,1.1s
F04A Amboy 97.60 41 IAMs_20 IAMs_20 12 46 19.8
comp=Z,627nm,20.0s
TIP Timpagrande 97.85 312 ⇑P P **12 10 30.9 -0.5**
ABTA Abfaltersbach 97.94 320 *e*PcP Pdif 12 10 31.9 +0.3
comp=Z,26nm,1.1s,SNR=6.6
H04A Detroit Lake 98.24 42 IAMs_20 IAMs_20 12 46 56.9
comp=Z,550nm,21.0s
WTTA Wattenberg 98.27 321 *eP* P **12 10 31.8 -1.4**
comp=Z,29nm,1.1s
WATA Walderalm 98.28 321 *eP* P **12 10 32.0 -1.1**
comp=Z,32nm,1.3s
HOOD Mount Hood Mea 98.34 41 IAMs_20 IAMs_20 12 47 16.4
comp=Z,528nm,21.0s
SQTA Sank Quirin 98.56 321 *eP* P **12 10 33.0 -1.3**
comp=Z,29nm,1.0s,SNR=5.2
MOTA Moosalm 98.57 321 *eP* P **12 10 33.0 -1.4**
comp=Z,23nm,1.0s
I05D Terrebonne, OR 98.93 42 IAMs_20 IAMs_20 12 45 05.2
comp=Z,663nm,22.0s
FETA Feichten 98.94 321 *e*Pdiff P **12 10 34.7 -1.5**
comp=Z,24nm,1.1s,SNR=5.3
YBH Yreka Blue Hor 99.02 45 IAMs_20 IAMs_20 12 50 15.8
comp=Z,496nm,20.0s
YBH Yreka Blue Hor 99.02 45 LR LR 12 50 27.3
comp=Z,181nm,19.8s,baz=304,slow=32
G06A Carlson Farm, 99.03 41 IAMs_20 IAMs_20 12 45 45.6
comp=Z,720nm,22.0s
DAVA Damuels 99.34 322 *e*Pdiff **Pdif 12 10 36.4 -1.5**
comp=Z,19nm,1.2s
PINE Pine Mountain 99.42 42 IAMs_20 IAMs_20 12 46 39.0
comp=Z,614nm,20.0s
DAVOX Davos/Dischmat 99.57 321 LR LR 13 00 25.9
comp=Z,828nm,18.1s,baz=65,slow=38
LSZ Lusaka 99.66 256 LR LR 12 52 21.4
comp=Z,464nm,21.9s,baz=96,slow=33
NEW Newport 99.89 37 P **Pdif 12 10 40.8 +0.6**
baz=298
QSPA South Pole Qui 100.01 180 P **Pdif 12 10 39.4 -0.9**
comp=Z,6.0nm,1.1s,baz=11,slow=1.3,SNR=16
QSPA S **SKSac 12 21 12.5 -3.2**
comp=Z,0.9nm,0.9s,baz=197,slow=19,SNR=1.4
QSPA PKKPbc **PKKPbc 12 27 01.7 -0.8**
comp=Z,2.1nm,0.7s,baz=201,slow=1.3,SNR=7.2
QSPA LR LR 12 56 56.7
comp=Z,698nm,19.7s,baz=344,slow=36
comp=Z,6.0nm,1.1s
MATP Matopo 100.04 251 LR LR 12 52 36.1
comp=Z,251nm,21.1s,baz=61,slow=33
E09A Wood Farm, Sta 100.06 39 IAMs_20 IAMs_20 12 48 48.6
comp=Z,675nm,21.0s
G08A Pilot Rock 100.08 40 IAMs_20 IAMs_20 12 46 57.3
comp=Z,674nm,22.0s
I07A Izee 100.24 42 IAMs_20 IAMs_20 12 47 08.8
comp=Z,470nm,19.0s
J08A Circle Bar Ran 101.23 42 IAMs_20 IAMs_20 12 46 27.9
comp=Z,619nm,21.0s
BMO Blue Mountains 101.33 40 IAMs_20 IAMs_20 12 49 05.0
comp=Z,487nm,18.0s
WVOR Wild Horse Val 101.51 43 IAMs_20 IAMs_20 12 58 50.2
comp=Z,619nm,20.0s
MPK Martis Peak 101.85 46 IAMs_20 IAMs_20 12 46 15.8
comp=Z,451nm,20.0s
EMB Emerald Bay 101.92 47 IAMs_20 IAMs_20 12 46 09.0
comp=Z,548nm,20.0s
EKA Eskdalemuir Ar 102.03 333 P **Pdif 12 10 48.5 -1.0**
comp=Z,0.3nm,0.4s,baz=54,slow=3.7,SNR=2.1
EKA PP **PP 12 15 02.1 +1.5**
comp=Z,0.3nm,0.4s,baz=57,slow=8.5,SNR=2.2
EKA PKKPbc **PKKPbc 12 26 55.2 -0.1**
comp=Z,0.3nm,0.4s,baz=242,slow=3.0,SNR=3.7
PNTR Pine Nut 102.24 46 IAMs_20 IAMs_20 12 48 29.2
comp=Z,544nm,19.0s
MSO Missoula 102.47 37 P **Pdif 12 10 52.1 +0.3**
baz=300
YERR Yerington 102.54 46 IAMs_20 IAMs_20 12 48 22.1
comp=Z,531nm,22.0s
WAKR Walker 102.59 47 IAMs_20 IAMs_20 12 47 47.6
comp=Z,520nm,22.0s
RYN Ryan 103.19 46 IAMs_20 IAMs_20 12 49 04.5
comp=Z,446nm,21.0s
NVAR Mina Array Bea 103.43 46 Pdiff **Pdif 12 10 58.5 +2.0**
comp=Z,0.5nm,0.6s,baz=275,slow=5.2,SNR=2.5
NVAR PP **PKiKP 12 15 14.6 -0.7**
comp=Z,1.0nm,0.9s,baz=286,slow=7.4,SNR=1.7
NVAR PKKPbc **PKKPbc 12 26 49.6 -1.3**
comp=Z,0.7nm,0.8s,baz=104,slow=3.8,SNR=4.3
SMMC Simmler 103.44 50 P **Pdif 12 10 56.9 +0.6**
baz=293
PKM Mcpherson Peak 103.75 50 P **Pdif 12 10 57.8 -0.1**
baz=293
HLID Hailey 103.77 40 P **Pdif 12 10 56.5 -1.3**
baz=299
BOSA Boshof 103.78 243 PP **PP 12 15 11.4 -3.9**
comp=Z,6.5nm,1.0s,baz=81,slow=8.7,SNR=5.8
EGMT Eagleton 104.27 35 P **Pdif 12 10 58.5 -1.2**
baz=304
ARVC Arvin 104.39 50 P **Pdif 12 11 01.5 +1.0**
baz=294
BOZ Bozeman (W) 104.47 38 P **Pdif 12 11 00.4 -0.4**
baz=302
OSI Osito Audit: C 104.68 50 P **Pdif 12 11 01.0 -0.8**
baz=294
GRAC Grapevine Rang 104.71 47 P **Pdif 12 11 02.5 +0.7**
baz=295
EDW2 Edwards Air Fo 105.12 50 P **PKiKP 12 15 18.0 -0.3**
R11B Troy Canyon, C 105.39 46 P **PKiKP 12 15 19.6 +0.8**
baz=297
CIS Catalina Islan 105.39 51 P **PKiKP 12 15 18.5 -0.3**
baz=294
SCI2 San Clemente I 105.46 52 P **PKiKP 12 15 19.5 +0.7**
baz=293
Q12A Willow Creek R 105.61 45 IAMs_20 IAMs_20 12 51 02.2
comp=Z,461nm,20.0s
HVU Hansel Valley 105.69 41 IAMs_20 IAMs_20 12 49 23.9
comp=Z,471nm,21.0s
H17A Grant Village 105.74 38 P **PKiKP 12 15 20.5 +1.1**
baz=302
IMW Indian Meadow 105.78 39 IAMs_20 IAMs_20 12 51 29.9
comp=Z,671nm,21.0s
FLWY Flagg Ranch 105.83 39 IAMs_20 IAMs_20 12 51 05.2
comp=Z,543nm,21.0s
GSC Goldstone, Bar 105.83 49 P **PKiKP 12 15 19.3 -0.3**
baz=295
BGU Big Grassy Mou 105.94 42 IAMs_20 IAMs_20 13 02 17.7
comp=Z,512nm,20.0s
SPR3 Spring Creek 3 105.97 45 IAMs_20 IAMs_20 12 51 05.8
comp=Z,489nm,22.0s
RLMT Red Lodge 106.14 37 P **PKiKP 12 15 18.5 -1.5**
baz=303
BBRC Big Bear Solar 106.18 50 P **PKiKP 12 15 18.7 -1.7**
baz=295
MURC Murrieta 106.25 51 P **PKiKP 12 15 20.3 0.0**
baz=294
AHID Auburn Hatcher 106.27 40 IAMs_20 IAMs_20 12 52 15.7
comp=Z,617nm,21.0s
DUG Dugway, Tooele 106.44 43 IAMs_20 IAMs_20 13 02 47.5
comp=Z,460nm,20.0s
DUG Dugway, Tooele 106.44 43 P **PKiKP 12 15 20.6 0.0**
baz=299
PSUT Pine Spring 106.52 45 IAMs_20 IAMs_20 12 51 18.3
comp=Z,426nm,21.0s
PFO Pinyon Flats O 106.80 50 P **PKiKP 12 15 19.9 -1.6**
baz=295
TPFO Pinon Flats 106.81 50 P **PKiKP 12 15 19.6 -1.9**
baz=295
CTU Camp Tracy 106.90 42 IAMs_20 IAMs_20 13 02 59.0
comp=Z,523nm,18.0s
GMRC Granite Mounta 106.90 49 P **PKiKP 12 15 21.2 -0.4**
baz=296
BELC Belle Mtn. Jos 106.99 50 P **PKiKP 12 15 21.1 -0.7**
baz=295
LAO LASA Array 107.00 34 P **PKiKP 12 15 22.2 +0.8**
baz=306
MONP2 Monument Peak 107.13 51 P **PKiKP 12 15 19.9 -2.3**
baz=295
JLU Jordanelle 107.14 42 IAMs_20 IAMs_20 13 02 55.4
comp=Z,480nm,20.0s
PDAR Pinedale Array 107.23 39 Pdiff **Pdif 12 11 13.8 +0.5**
comp=Z,0.2nm,0.5s,baz=344,slow=3.0,SNR=1.6
PDAR PKiKP **PKiKP 12 15 21.7 -0.4**
comp=Z,1.0nm,0.9s,baz=325,slow=4.5,SNR=1.7
PDAR PKKPab **PKKPab 12 26 54.8 0.0**
comp=Z,0.4nm,0.4s,baz=160,slow=2.9,SNR=3.6
MPU Maple Canyon 107.31 43 IAMs_20 IAMs_20 13 01 17.0
comp=Z,556nm,18.0s
IKP In-Ko-Pah, Jac 107.47 51 P **PKiKP 12 15 22.9 +0.2**
baz=295
IRM Iron Mountain 107.56 49 P **PKiKP 12 15 21.9 -0.9**
baz=296
SWSC Sam W. Stewart 107.58 51 P **PKiKP 12 15 21.4 -1.4**
baz=295
BSUT Blindstream Ca 107.63 42 IAMs_20 IAMs_20 13 03 34.2
comp=Z,509nm,19.0s
PKCU Pink Cliffs 108.11 45 IAMs_20 IAMs_20 12 52 09.4
comp=Z,619nm,22.0s
RDMU Red Mountain 108.39 41 IAMs_20 IAMs_20 13 03 49.2
comp=Z,513nm,21.0s
P18A Preston Nutter 108.43 42 IAMs_20 IAMs_20 13 03 57.6
comp=Z,563nm,20.0s
K22A Casper 109.16 38 IAMs_20 IAMs_20 12 54 12.3
comp=Z,506nm,21.0s
RWWY Rawlins 109.28 39 IAMs_20 IAMs_20 12 53 18.6
comp=Z,588nm,22.0s
WUAZ Wupatki 109.69 47 P **PKiKP 12 15 27.6 +0.7**
baz=299
RSSD Black Hills 109.77 36 P **PKiKP 12 15 27.0 +0.2**
baz=307
ULM Lac du Bonnet 109.86 27 PKiKP **PKiKP 12 15 26.3 -0.2**
comp=Z,1.2nm,0.6s,baz=321,slow=6.5,SNR=1.9
ULM PP **PP 12 16 01.0 +2.7**
comp=Z,1.9nm,0.9s,baz=317,slow=7.4,SNR=1.8
214A Organ Pipe Nat 110.28 51 P **PKiKP 12 15 28.2 +0.3**
baz=297
N23A Red Feather La 110.52 39 IAMs_20 IAMs_20 12 54 22.4
comp=Z,483nm,22.0s
PHWY Pilot Hill 110.58 39 IAMs_20 IAMs_20 12 54 57.1
comp=Z,586nm,21.0s
MVCO Mesa Verde 110.85 44 P **PKiKP 12 15 30.7 +1.5**
baz=302
W18A Petrified Fore 111.06 46 IAMs_20 IAMs_20 13 02 52.7
comp=Z,460nm,20.0s
W18A Petrified Fore 111.06 46 P **PKiKP 12 15 29.9 +0.4**
baz=300
ISCO Idaho Springs 111.34 40 IAMs_20 IAMs_20 12 55 14.1
comp=Z,436nm,21.0s
ISCO Idaho Springs 111.34 40 P **PKiKP 12 15 30.7 +0.6**
baz=305
TUC Tucson 111.65 49 P **PKiKP 12 15 32.5 +1.9**
baz=298
BRIGG Briggsdale 111.70 39 IAMs_20 IAMs_20 12 55 31.7
comp=Z,536nm,19.0s
ESDC Sonseca Array 111.86 320 PP **PP 12 16 13.9 +0.6**
comp=Z,1.0nm,0.9s,baz=55,slow=6.2,SNR=2.0
ESDC PKKPbc **PKKPbc 12 26 22.7 -1.8**
comp=Z,0.2nm,0.3s,baz=227,slow=26,SNR=1.9
ESDC PKKPab **PKKPab 12 26 33.9 -0.1**
comp=Z,1.4nm,0.9s,baz=251,slow=4.6,SNR=4.5
Q24A Divide 112.11 41 IAMs_20 IAMs_20 12 53 53.9
comp=Z,435nm,21.0s
Q24A Divide 112.11 41 P **PKiKP 12 15 33.3 +1.7**
baz=305
SDCO Great Sand Dun 112.57 42 P **PKiKP 12 15 33.0 +0.6**
baz=304
TAM Tamanrasset 112.80 300 IAMs_20 IAMs_20 13 07 18.9
comp=Z,401nm,21.0s
K30B Basset 113.18 35 IAMs_20 IAMs_20 13 07 37.3
comp=Z,432nm,20.0s
ANMO Albuquerque 113.45 45 IAMs_20 IAMs_20 12 57 02.9
comp=Z,393nm,21.0s
Y22D IRIS PASSCAL I 113.58 46 IAMs_20 IAMs_20 12 55 51.6
comp=Z,480nm,20.0s
KSCO Kaye Shedlock' 113.68 39 IAMs_20 IAMs_20 12 55 18.2
comp=Z,548nm,22.0s
121A Cookes Peak, D 113.75 48 P **PKiKP 12 15 34.4 -0.2**
baz=301
ECSD EROS Data Cent 114.10 32 P PKPdf 12 15 35.2 +0.4
baz=314
F36A Milaca 114.13 29 IAMs_20 IAMs_20 13 10 27.7
comp=Z,439nm,20.0s
SCHQ Schefferville 114.44 8 PKP **PKiKP 12 15 34.1 -1.0**
comp=Z,0.9nm,0.6s,baz=342,slow=15,SNR=1.5
SCHQ PP **PP 12 16 31.6 +1.0**
comp=Z,3.9nm,0.8s,baz=354,slow=10,SNR=2.5
SPMN Marine on St. 114.95 29 IAMs_20 IAMs_20 13 13 04.1
comp=Z,526nm,22.0s
L34A Svendsen Farm, 115.44 34 IAMs_20 IAMs_20 13 11 33.9
comp=Z,523nm,21.0s
CBKS Cedar Bluff 115.58 38 IAMs_20 IAMs_20 12 58 10.1
comp=Z,520nm,22.0s
CBKS Cedar Bluff 115.58 38 P **PKiKP 12 15 37.0 -0.9**
baz=309
MNTX Cornudas Mount 115.93 47 P **PKiKP 12 15 38.3 -0.4**
baz=302
G40A Rib Lake 116.12 27 IAMs_20 IAMs_20 13 05 38.1
comp=Z,555nm,22.0s
R32A Long Quarter, 116.45 38 IAMs_20 IAMs_20 12 58 46.2
comp=Z,425nm,20.0s
AMTX Amarillo 116.74 43 IAMs_20 IAMs_20 13 10 05.1
comp=Z,444nm,18.0s
H06N1 SOCORRO T-PHAS 117.24 63 T T 14 23 45.5
SNR=9.7
H06E1 SOCORRO T-PHAS 117.32 63 T T 14 23 36.5
SNR=12
OK032 Salt Plains WL 117.79 39 IAMs_20 IAMs_20 12 59 12.9
comp=Z,556nm,21.0s
H43A Windswept, Lux 117.83 26 IAMs_20 IAMs_20 13 12 50.3
comp=Z,528nm,22.0s
N38A Joes South For 117.95 33 IAMs_20 IAMs_20 13 06 38.6
comp=Z,437nm,20.0s
TXAR Lajitas Array 118.43 49 PKP **PKiKP 12 15 43.8 +0.1**
comp=Z,0.8nm,0.6s,baz=234,slow=0.7,SNR=9.8
TXAR PP **PP 12 17 01.8 +1.7**
comp=Z,1.6nm,1.0s,baz=269,slow=4.5,SNR=1.1
TXAR PKKPab **PKKPab 12 26 03.9 -1.0**
comp=Z,0.3nm,0.7s,baz=108,slow=4.1,SNR=3.5
OK048 Pawnee Station 118.82 38 IAMs_20 IAMs_20 13 07 20.2
comp=Z,368nm,19.0s
OK051 E0350 and S346 118.83 38 IAMs_20 IAMs_20 13 06 18.4
comp=Z,487nm,19.0s
OK052 Battle Ridge R 119.18 39 IAMs_20 IAMs_20 13 15 07.8
comp=Z,509nm,19.0s
ABTX Abilene, Hawle 119.44 43 P **PKiKP 12 15 45.6 +0.1**
baz=307
TUL3 Leonard 119.85 38 IAMs_20 IAMs_20 13 08 06.5
comp=Z,422nm,20.0s
HQIL Hanson Quary C 119.89 28 IAMs_20 IAMs_20 13 06 08.1
comp=Z,502nm,22.0s
S39A Bolivar 120.10 35 IAMs_20 IAMs_20 13 06 46.8
comp=Z,345nm,20.0s
LDAQ Lac Daran 120.26 13 IAMs_20 IAMs_20 13 08 26.7
comp=Z,533nm,21.0s
U38A Gravette 120.34 37 IAMs_20 IAMs_20 13 14 52.7
comp=Z,442nm,20.0s
HHAR Hobbs 120.71 37 IAMs_20 IAMs_20 13 15 01.4
comp=Z,472nm,21.0s
CCM Cathedral Cave 120.99 33 P **PKiKP 12 15 49.9 +1.6**
baz=317
SLM Saint Louis 121.11 32 IAMs_20 IAMs_20 13 10 34.0
comp=Z,332nm,19.0s
FVM French Village 121.48 33 IAMs_20 IAMs_20 13 10 48.2
comp=Z,485nm,20.0s
N47A Urbana 121.61 28 IAMs_20 IAMs_20 13 04 46.5
comp=Z,539nm,22.0s
435B Jarrell 121.94 44 IAMs_20 IAMs_20 13 15 00.5
comp=Z,429nm,21.0s
FCAR Ozark Folk Cen 122.04 36 IAMs_20 IAMs_20 13 16 07.5
comp=Z,423nm,21.0s
MIAR Mount Ida 122.11 38 IAMs_20 IAMs_20 13 02 36.0
comp=Z,481nm,20.0s
MIAR Mount Ida 122.11 38 P **PKPdf 12 15 49.7 -0.7**
baz=313
833A Chaparral WMA, 122.12 47 P **PKiKP 12 15 51.0 +0.2**
baz=305
SIUC Southern Illin 122.33 32 IAMs_20 IAMs_20 13 12 20.4
comp=Z,497nm,21.0s
O48B Farmland 122.35 28 P **PKiKP 12 15 52.7 +1.8**
baz=324
CGM3 Cape Girardeau 122.40 33 IAMs_20 IAMs_20 13 11 26.5
comp=Z,386nm,21.0s
LONY Lake Ozonia 122.52 17 P **PKiKP 12 15 52.4 +1.2**
baz=336
M52A Chesterland 122.92 24 IAMs_20 IAMs_20 13 13 58.6
comp=Z,428nm,19.0s

USIN	**University of** comp=Z,492nm,20.0s	**122.94**	**31**	IAMs_20	IAMs_20	13 15 57.4
WCI	**Wyandotte Cave** comp=Z,506nm,22.0s	**123.42**	**30**	IAMs_20	IAMs_20	13 09 07.9
HALT	**Halls** comp=Z,467nm,19.0s	**123.60**	**34**	IAMs_20	IAMs_20	13 12 05.2
P52A	**Corning** comp=Z,467nm,20.0s	**124.20**	**26**	IAMs_20	IAMs_20	13 15 14.8
WVT	**Waverly** comp=Z,545nm,22.0s	**124.25**	**33**	IAMs_20	IAMs_20	13 10 10.3
J61A	**Chester** comp=Z,473nm,19.0s	**124.26**	**16**	IAMs_20	IAMs_20	13 11 32.0
CLTN	**Cedars of Leba** comp=Z,450nm,21.0s	**125.06**	**32**	IAMs_20	IAMs_20	13 12 25.6
HRV	**Adam Dziewonsk** baz=339	**125.31**	**15**	P	**PKPdf**	**12 15 56.5 +0.1**
YLE	**Yale** comp=Z,394nm,19.0s	**126.03**	**17**	IAMs_20	IAMs_20	13 17 57.1
WUPA	**West Chester U** comp=Z,343nm,22.0s	**126.45**	**20**	IAMs_20	IAMs_20	13 16 38.5
FPAL	**Fort Paine** comp=Z,335nm,18.0s	**126.63**	**32**	IAMs_20	IAMs_20	13 02 44.3
TKL	**Tuckaleechee C** comp=Z,419nm,19.0s	**126.69**	**30**	IAMs_20	IAMs_20	13 17 20.3
TKL	**Tuckaleechee C** comp=Z,3.1nm,0.7s,baz=326,slow=3.6,SNR=1.3	**126.69**	**30**	PP	**PP**	**12 17 57.0 +1.9**
UNM	**Universidad Na** comp=Z,501nm,21.0s	**127.07**	**56**	IAMs_20	IAMs_20	12 58 22.6
KIC	**Kosan Boka** comp=Z,28nm,0.8s	**127.86**	**286**	⇑*iP*	**PKiKP**	**12 16 06.6 +4.0**
DBIC	**Dimbokro** comp=Z,5.5nm,0.8s,baz=58,slow=2.7,SNR=2.7	**127.88**	**287**	PKP	**PKPdf**	**12 16 01.1 -0.9**
TIC	**Toumodi** comp=Z,7.6nm,0.2s	**128.04**	**287**	⇑*iP*	**PKiKP**	**12 16 05.4 +2.4**
LIC	**Lamto** comp=Z,39nm,0.8s	**128.18**	**286**	⇑*iP*	**PKiKP**	**12 16 05.3 +2.1**
250A	**Grady** comp=Z,447nm,20.0s	**128.22**	**35**	IAMs_20	IAMs_20	13 22 23.8
152A	**Waverly Hall** comp=Z,393nm,19.0s	**128.55**	**33**	IAMs_20	IAMs_20	13 19 09.1
154A	**Montrose** comp=Z,443nm,22.0s	**129.44**	**32**	IAMs_20	IAMs_20	13 14 13.5
CMIG	**Matias Romero** comp=Z,4.2nm,0.9s,baz=16,slow=2.2,SNR=6.4	**131.72**	**56**	SKPbc	**SKPbc**	**12 19 29.2 -2.7**
TEIG	**Tepich** comp=Z,352nm,21.0s	**135.06**	**48**	IAMs_20	IAMs_20	13 17 25.3
JTS	**Las Juntas de** comp=Z,2.9nm,0.3s,baz=225,slow=22,SNR=2.1	**143.48**	**57**	PKP	**PKPdf**	**12 16 31.3 +0.3**
PLCA	**Paso Flores** comp=Z,112nm,0.9s,baz=217,slow=3.0,SNR=110	**146.36**	**158**	PKPbc	**PKPbc**	**12 16 36.6 +0.2**
PLCA	**Paso Flores**	**146.36**	**158**	*eP*	**PKPbc**	**12 16 36.7 +0.2**
SDV	**Santo Domingo** comp=Z,336nm,21.0s	**155.16**	**41**	IAMs_20	IAMs_20	13 23 27.3
SDV	**Santo Domingo** comp=Z,8.2nm,0.5s,baz=355,slow=4.1,SNR=7.0	**155.16**	**41**	PKP	**PKPdf**	**12 16 49.0 -0.7**
SDV				PP	**PP**	**12 20 51.2 +1.6**
SDV	**Santo Domingo** comp=Z,3.1nm,0.2s,baz=328,slow=4.2,SNR=1.6	**155.16**	**41**	*eP*	**PKPdf**	**12 16 49.4 -0.3**
ROSC	**El Rosal** comp=Z,4.4nm,0.4s,baz=159,slow=23,SNR=1.4	**155.22**	**54**	PKP	**PKPdf**	**12 16 49.4 -0.7**
ROSC				PP	**PP**	**12 20 52.2 +1.4**
TBOT	**Tacuaremb** comp=Z,4.4nm,0.4s,baz=313,slow=7.8,SNR=1.3	**158.52**	**177**	*eP*	**PKPdf**	**12 16 55.5 +2.2**
LVC	**Limon Verde** comp=Z,2.5nm,0.7s,baz=324,slow=5.0,SNR=3.3	**161.41**	**134**	PKP	**PKPdf**	**12 16 57.7 +0.4**
LVC				PKPab	**PKPab**	**12 17 39.1 -2.4**
LVC	comp=Z,3.1nm,0.7s,baz=237,slow=11,SNR=2.0			PP	**PP**	**12 21 24.4 +0.1**
LVC	comp=Z,3.7nm,0.9s,baz=259,slow=2.8,SNR=1.9 **Limon Verde**	**161.41**	**134**	*eP*	**PKPdf**	**12 16 58.7 +1.4**
CZSB	**Cruzeiro do Su**	**161.79**	**84**	*eP*	**PKPdf**	**12 16 57.9 +0.4**
CPUP	**Villa Florida** comp=Z,1.4nm,0.6s,baz=22,slow=3.9,SNR=2.4	**163.67**	**171**	PKP	**PKPdf**	**12 16 59.2 +0.2**
CPUP				PKPab	**PKPab**	**12 17 48.5 -2.0**
CPUP	comp=Z,10nm,1.0s,baz=201,slow=2.7,SNR=5.2			PP	**PP**	**12 21 35.4 +0.8**
CPUP	comp=Z,1.0nm,0.5s,baz=168,slow=3.7,SNR=1.4 **Villa Florida**	**163.67**	**171**	*eP*	**PKPdf**	**12 17 00.9 +2.0**
SPB	**Sao Paulo**	**165.05**	**206**	*eP*	**PKPdf**	**12 17 02.3 +2.1**
LPAZ	**La Paz** comp=Z,15nm,1.2s,baz=343,slow=1.8,SNR=15	**165.34**	**116**	PKP	**PKPdf**	**12 17 02.1 +0.7**
LPAZ				PKPab	**PKPab**	**12 17 57.5 -1.8**
SIV	**San Ignacio** comp=Z,3.1nm,0.8s,baz=292,slow=5.5,SNR=8.2	**171.31**	**133**	PKP	**PKPdf**	**12 17 04.2 -0.5**
SIV				PKPab	**PKPab**	**12 18 22.7 -2.2**
	comp=Z,4.4nm,0.7s,baz=272,slow=3.8,SNR=4.8					

ISK 10 11:59:48.6, 36°15N×34°68E, h9km, ML2.1/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KIZK	**Mersin**	**0.55**	**308**	Pg	Pb	12 00 00.0	-0.4
KIZK				Sg	Sb	12 00 07.8	-0.5
KIZK	**Mersin**	**0.55**	**308**	Pg	Pg	11 59 59.7	+0.5
SLFK	**Silifke-Mersin**	**0.64**	**293**	Pg	Pg	12 00 01.4	+0.4
SLFK				Sg	Sg	12 00 10.0	+0.6
SILI	**Silifke-Mersin**	**0.65**	**290**	Pg	Pg	12 00 01.6	+0.5
EREN	**Erenkoy**	**0.74**	**214**	Pg	Pb	12 00 03.5	-0.2
KARG	**Kargicak-Mersi**	**0.79**	**274**	Pg	Pb	12 00 04.2	-0.3
IKL	**Isikli**	**0.81**	**277**	Pg	Pb	12 00 04.6	-0.3
IKL				Sg	Sb	12 00 16.3	+0.4
TISA	**Tisan-Mersin**	**0.81**	**271**	Pg	Pb	12 00 04.7	-0.2
KEBE	**Keben-Mersin**	**0.84**	**291**	Pg	Pb	12 00 05.0	+0.3
KEBE				Sg	Sb	12 00 17.3	+0.6
KEBE	**Keben-Mersin**	**0.84**	**291**	Pg	Pb	12 00 05.1	-0.3
YESI	**Yesilovacik-Me**	**0.84**	**274**	Pg	Pb	12 00 05.2	-0.2
AKKU	**Akkuyu-Mersin**	**0.91**	**271**	Pg	Pb	12 00 06.6	0.0
AKKU	**Akkuyu-Mersin**	**0.91**	**271**	Pg	Pn	12 00 09.3	+1.7
AKKU				Sg	Sg	12 00 17.9	-0.2
AKK2	**Akkuyu-Mersin**	**0.92**	**270**	Pg	Pb	12 00 06.5	-0.1
AKK1	**Akkuyu-Mersin**	**0.92**	**270**	Pg	Pb	12 00 06.8	0.0
AKK1	**Akkuyu-Mersin**	**0.92**	**270**	Pg	Pn	12 00 09.7	+2.0
AKK1				Sg	Sg	12 00 18.3	0.0
TEPK	**Tepekoy-MERSIN**	**0.92**	**275**	Pg	Pb	12 00 06.8	0.0
OREN	**Orenkoy-Mersin**	**0.99**	**274**	Pg	Pb	12 00 07.8	-0.1
TEVE	**Tevekalti-Mers**	**1.04**	**286**	Pg	Pb	12 00 08.9	+0.1
CEYT	**Ceyhan**	**1.22**	**45**	Pn	Pg	12 00 11.9	-0.1
TEKE	**Tekeli-Mersin**	**1.27**	**270**	Pn	Pg	12 00 12.9	0.0
LFK	**Lefkose**	**1.27**	**227**	Pn	Sg	12 00 13.1	0.0
CMRD	**Camardi-Nigde**	**1.53**	**9**	Pn	Pb	12 00 16.8	-0.5
YESY	**Yesilyurt**	**1.80**	**336**	Pn	Pn	12 00 20.6	+0.7
GAZI	**Gazipasa**	**1.92**	**273**	Pn	Pn	12 00 22.3	+0.9
HDMB	**Hadim**	**1.94**	**295**	Pn	Pn	12 00 22.8	+0.8
KONT	**Konya--Tatoy**	**2.58**	**315**	Pn	Pb	12 00 32.9	-2.2

*NEIC **10** 12:21:07.0±1.4, 11°51N×0°03×86°32W×0°05, h64km±9km, mb4.2/35, Error ellipse: s-maj=8.1km s-min=3.7km az=67.0*
*SNET **10** 12:21:07.3±1.3, 12°84N×85°70W, h17km±19km, ML4.1*
*UCR **10** 12:21:07.1±1.8, 11°53N×86°33W, h31km±6km, MW4.4*
*IDC **10** 12:21:08.1±1.6, 11°57N×85°98W, h96km±17km, mb3.6/10, mbtmp4.0/10, Error ellipse: s-maj=34.1km s-min=17.0km az=60.0*

ISC 10 12:21:06.7±0.7, 11°54N±0°04×86°32W±0°04, h77km±7km, n150, σ0°99/170, mb4.1/27, 3C-20D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCRUZ	**La Cruz**	**0.82**	**124**	⇓*iP*	**Pn**	**12 21 23.6**	**+0.1**
LCRUZ				*eS*	**Sn**	**12 21 36.1**	**+0.1**
CNGN	**Cerro Negro**	**1.02**	**339**	Pn	**Pn**	**12 21 25.6**	**-0.3**
CNGN				Sn	**Sn**	**12 21 39.5**	**-0.8**
CNGN	**Cerro Negro**	**1.02**	**339**	*eP*	**Pn**	**12 21 26.0**	**0.0**
CNGN				*eS*	**Sn**	**12 21 40.3**	**0.0**
CNGN	**Cerro Negro**	**1.02**	**339**	⇓*iP*	**Pn**	**12 21 26.0**	**0.0**
CNGN				*eS*	**Sn**	**12 21 40.5**	**+0.2**
HZTE	**Horizontes, Gu**	**1.09**	**139**		**Pn**	**12 21 25.6**	**-1.1**
HZTE				Sn	**Sn**	**12 21 40.6**	**-1.0**
HZTE	**Horizontes, Gu**	**1.09**	**139**	*eP*	**Pn**	**12 21 26.1**	**-0.6**
HZTE				*eS*	**Sn**	**12 21 42.0**	**+0.4**
ELI1	**Hacienda Flor**	**1.17**	**140**	*eP*	**Pn**	**12 21 27.5**	**-0.1**
VORI	**VORI**	**1.20**	**127**	⇓*iP*	**Pn**	**12 21 27.4**	**-0.8**
VRLE	**La Escondida,**	**1.20**	**129**	⇓*eP*	**Pn**	**12 21 27.4**	**-0.8**
ACON	**Acoyapa**	**1.20**	**69**		**Pn**	**12 21 27.4**	**-0.7**
ACON				Sn	**Sn**	**12 21 43.8**	**-0.3**
ACON	**Acoyapa**	**1.20**	**69**	⇓*iP*	**Pn**	**12 21 28.0**	**-0.1**
ACON				*eS*	**Sn**	**12 21 44.3**	**+0.2**
ALIBA	**Liberia Airpor**	**1.21**	**141**	⇓*eP*	**Pn**	**12 21 29.1**	**+0.9**
ALIBA				*eS*	**Sn**	**12 21 45.9**	**+1.5**
GPS3	**Bodega del ICE**	**1.22**	**130**	⇑*iP*	**Pn**	**12 21 28.8**	**+0.4**
GPS2	**Hotel Rincn d**	**1.23**	**129**	⇓*eP*	**Pn**	**12 21 27.9**	**-0.7**
ERIA	**Liberia**	**1.25**	**136**	*eP*	**Pn**	**12 21 28.7**	**0.0**
DELF	**Filadelfia**	**1.32**	**145**	⇓*eP*	**Pn**	**12 21 30.0**	**+0.4**
CRIN	**San Cristobal**	**1.36**	**328**	Pn	**Pn**	**12 21 29.9**	**-0.3**
CRIN	**San Cristobal**	**1.36**	**328**	⇓*iP*	**Pn**	**12 21 30.4**	**+0.3**
CRIN				*eS*	**Sn**	**12 21 48.1**	**+0.3**
CRIN	**San Cristobal**	**1.36**	**328**	⇓*eP*	**Pn**	**12 21 30.5**	**+0.3**
CRIN				*eS*	**Sn**	**12 21 48.3**	**+0.5**
CAMAV	**Centro de Prod**	**1.39**	**127**	*eP*	**Pn**	**12 21 30.4**	**-0.1**
VMAR	**Armenia, Volca**	**1.39**	**121**	⇓*iP*	**Pn**	**12 21 30.0**	**-0.5**
VMAR				*eS*	**Sn**	**12 21 48.8**	**+0.3**
COLC	**Colonia**	**1.40**	**128**	⇓*eP*	**Pn**	**12 21 30.5**	**-0.2**
CUI	**Cuipilapa**	**1.43**	**128**	⇓*iP*	**Pn**	**12 21 30.9**	**-0.2**
CUI				*eS*	**Sn**	**12 21 49.9**	**+0.3**
ORTG	**Ortega, Santa**	**1.44**	**144**	Pn	**Pn**	**12 21 30.8**	**-0.5**
ORTG				Sn	**Sn**	**12 21 48.2**	**-1.6**
ORTG	**Ortega, Santa**	**1.44**	**144**	*eP*	**Pn**	**12 21 31.0**	**-0.3**
BAGA	**Bagaces**	**1.45**	**134**	⇓*eP*	**Pn**	**12 21 31.2**	**0.0**
BAGA				*eS*	**Sn**	**12 21 50.6**	**+0.9**
SACU	**Santa Cruz**	**1.46**	**150**	*eP*	**Pn**	**12 21 32.2**	**+0.7**
PLVR	**Palo Verde**	**1.52**	**141**	⇓*eP*	**Pn**	**12 21 32.2**	**-0.2**
PLVR				*eS*	**Sn**	**12 21 51.6**	**-0.1**
TENO	**El Achiote**	**1.56**	**122**	*eP*	**Pn**	**12 21 32.5**	**-0.3**
JUD3	**Juan Diaz 3**	**1.57**	**151**	*eP*	**Pn**	**12 21 32.2**	**-0.7**
VERA	**Finca Concepci**	**1.58**	**115**	⇓*iP*	**Pn**	**12 21 32.5**	**-0.4**
VERA				*eS*	**Sn**	**12 21 53.7**	**+0.9**
NICO	**Nicoya**	**1.64**	**148**	*eP*	**Pn**	**12 21 33.7**	**-0.1**
DUNO	**Dulce Nombre,**	**1.66**	**151**	Pn	**Pn**	**12 21 33.6**	**-0.6**
DUNO	**Dulce Nombre,**	**1.66**	**151**	*eP*	**Pn**	**12 21 33.5**	**-0.6**
CMARA	**Lajas Hojancha**	**1.75**	**150**	*eP*	**Pn**	**12 21 36.6**	**+1.3**
JTS	**Las Juntas de**	**1.83**	**133**	Pn	**Pn**	**12 21 35.4**	**-0.9**
JTS	**Las Juntas de** 319nm,0.3s,baz=288,slow=23,SNR=55	**1.83**	**133**	P	**Pn**	**12 21 35.6**	**-0.7**
JTS	275nm,0.3s,baz=290,slow=20,SNR=5.1			S	**Sn**	**12 21 56.5**	**-2.3**
JTS	comp=Z,83nm,20.1s,baz=286,slow=44			LR	LR	12 22 19.7	
JTS	**Las Juntas de**	**1.83**	**133**	⇓*eP*	**Pn**	**12 21 35.8**	**-0.5**
JUNT	**Juntas**	**1.83**	**133**	*eP*	**Pn**	**12 21 35.9**	**-0.4**
NYURE	**Nandayure**	**1.86**	**146**	*eP*	**Pn**	**12 21 36.1**	**-0.6**
CEDE	**Laguna Cedeo**	**1.90**	**123**	⇓*iP*	**Pn**	**12 21 37.2**	**-0.1**
SOCE	**Pocosol**	**2.03**	**124**	Pn	**Pn**	**12 21 37.9**	**-1.1**
SOCE	**Pocosol**	**2.03**	**124**	*eP*	**Pn**	**12 21 38.4**	**-0.6**
COVE	**Coope Vega, Sa**	**2.05**	**113**	Pn	**Pn**	**12 21 36.8**	**-2.4**
ESPN	**Las Esperanzas**	**2.08**	**72**	Pn	**Pn**	**12 21 40.1**	**+0.4**
ESPN	**Las Esperanzas**	**2.08**	**72**	⇓*iP*	**Pn**	**12 21 40.5**	**+0.9**
ESPN				*eS*	**Sn**	**12 22 05.4**	**+0.7**
LAFE	**Finca La Fe, P**	**2.21**	**141**	*eP*	**Pn**	**12 21 40.7**	**-0.7**
CNCH	**Conchagua**	**2.27**	**320**	*eP*	**Pn**	**12 21 42.7**	**+0.3**
CPMI	**Catarata Coope**	**2.28**	**123**	*eP*	**Pn**	**12 21 42.3**	**-0.2**
ZARE	**Zarcero**	**2.33**	**125**	*eP*	**Pn**	**12 21 43.6**	**+0.4**
LCND	**La Caada**	**2.33**	**319**	⇓*iP*	**Pn**	**12 21 43.3**	**+0.2**
LCND				*eS*	**Sn**	**12 22 10.4**	**-0.5**
LCND	comp=Z,1μm,0.3s			IAML		12 22 14.5	
TRB2	**Turrubares**	**2.45**	**131**	*eP*	**Pn**	**12 21 44.6**	**-0.1**
JACO	**JACO, Garabito**	**2.48**	**139**	Pn	**Pn**	**12 21 45.2**	**+0.2**
JACO	**JACO, Garabito**	**2.48**	**139**	*eP*	**Pn**	**12 21 45.5**	**+0.5**
TCS1	**Tacares**	**2.48**	**127**	*eP*	**Pn**	**12 21 45.6**	**+0.4**
JUCU	**Jucuarn**	**2.54**	**312**	*eP*	**Pn**	**12 21 46.1**	**+0.2**
JUCU	comp=Z,922nm,0.3s			IAML		12 22 18.9	
BELE	**Belen**	**2.61**	**126**	*eP*	**Pn**	**12 21 46.9**	**0.0**
SANTA	**Santa Ana**	**2.64**	**127**	*eP*	**Pn**	**12 21 46.9**	**-0.4**
HDC	**Heredia**	**2.65**	**125**	Pn	**Pn**	**12 21 46.0**	**-1.4**
HDC	**Heredia**	**2.65**	**125**	*eP*	**Pn**	**12 21 47.7**	**+0.2**
HDC3	**Heredia 3**	**2.65**	**125**	*eP*	**Pn**	**12 21 46.8**	**-0.8**
BLLM	**Bellamira**	**2.66**	**315**	*eP*	**Pn**	**12 21 48.3**	**+0.8**
TGUH	**Tegucigalpa,Un**	**2.67**	**340**	Pn	**Pn**	**12 21 47.6**	**-0.1**
LCY	**Lacayo**	**2.69**	**314**	*eP*	**Pn**	**12 21 48.7**	**+0.8**
RANC	**El Ranchito**	**2.69**	**315**	⇑*iP*	**Pn**	**12 21 48.8**	**+0.8**
ACOS	**Acosta**	**2.74**	**129**	*eP*	**Pn**	**12 21 49.0**	**+0.3**
PACA	**Pacayal**	**2.74**	**315**	*eP*	**Pn**	**12 21 49.5**	**+0.8**
CVIMO	**Finca Echandi**	**2.78**	**123**	*eP*	**Pn**	**12 21 50.2**	**+1.0**
OCM	**Ochomogo**	**2.84**	**125**	*eP*	**Pn**	**12 21 50.2**	**+0.1**
ABE2	**San Pablo**	**2.88**	**129**	*eP*	**Pn**	**12 21 51.0**	**+0.3**
TECA	**Tecapa**	**2.88**	**313**	*eP*	**Pn**	**12 21 51.5**	**+0.8**
LCR2	**La Lucha 2**	**2.89**	**128**	Pn	**Pn**	**12 21 50.7**	**-0.1**
LCR2	**La Lucha 2**	**2.89**	**128**	*eP*	**Pn**	**12 21 50.7**	**-0.1**
COEB	**Comit de Eme**	**2.91**	**312**	*eP*	**Pn**	**12 21 51.6**	**+0.7**
REPA	**Paraso**	**2.95**	**125**	*eP*	**Pn**	**12 21 53.2**	**+1.7**
VTLO	**VTLO**	**2.95**	**120**	*eP*	**Pn**	**12 21 51.6**	**-0.1**
VTCV	**VTCV, Calle Va**	**2.98**	**121**	*eP*	**Pn**	**12 21 52.5**	**+0.5**
PQSS	**Presa 15 de Se**	**3.01**	**314**	*eP*	**Pn**	**12 21 53.1**	**+0.8**
RVLA	**Villa Bonita**	**3.04**	**118**	*eP*	**Pn**	**12 21 53.0**	**+0.4**
LCOCO	**El Coco**	**3.08**	**118**	*eP*	**Pn**	**12 21 52.9**	**-0.2**
TECO	**Alcaldia de Te**	**3.12**	**310**	*eP*	**Pn**	**12 21 54.7**	**+1.0**
CDM	**Cerro de Muert**	**3.20**	**128**	⇓*eP*	**Pn**	**12 21 55.6**	**+0.4**
CDM				*eS*	**Sn**	**12 22 34.0**	**+1.6**
BUS1	**Rivas**	**3.21**	**128**	*eP*	**Pn**	**12 21 55.4**	**+0.1**
BUS1				*eS*	**Sn**	**12 22 34.7**	**+2.0**
BATAN	**Batan**	**3.23**	**116**	Pn	**Pn**	**12 21 54.8**	**-0.4**
BATAN	**Batan**	**3.23**	**116**	*eP*	**Pn**	**12 21 55.7**	**+0.6**
COEG	**Centro de Oper**	**3.24**	**310**	*eP*	**Pn**	**12 21 55.8**	**+1.4**
COEG	comp=Z,457nm,0.5s			IAML		12 22 44.1	
PEZE	**Perez Zeledon,**	**3.37**	**129**	Pn	**Pn**	**12 21 58.1**	**+1.0**
PEZE	**Perez Zeledon,**	**3.37**	**129**	*eP*	**Pn**	**12 21 58.8**	**+1.7**
OCHAL	**Ojochal**	**3.58**	**132**	*eP*	**Pn**	**12 22 01.9**	**+2.0**
SRBA	**San Rafael, Bu**	**3.71**	**128**	Pn	**Pn**	**12 22 02.3**	**+0.6**
SRBA	**San Rafael, Bu**	**3.71**	**128**	*eP*	**Pn**	**12 22 03.0**	**+1.2**
DRK0	**Durika**	**3.78**	**127**	*eP*	**Pn**	**12 22 03.9**	**+1.1**
MTO3	**Montecristo**	**4.11**	**314**	Pn	**Pn**	**12 22 07.7**	**+0.4**
BRU2	**Volcan**	**4.50**	**127**	Pn	**Pn**	**12 22 13.5**	**+0.9**
BRU2	**Volcan**	**4.50**	**127**	*eP*	**Pn**	**12 22 13.8**	**+1.2**
CDITO	**Canoas**	**4.50**	**131**	Pn	**Pn**	**12 22 12.3**	**-0.1**
CDITO	**Canoas**	**4.50**	**131**	*eP*	**Pn**	**12 22 11.4**	**-1.0**
BCIP	**Isla Barro Col**	**6.80**	**110**	Pn	**Pn**	**12 22 44.0**	**+0.1**
CMIG	**Matias Romero** comp=Z,11nm,0.3s,baz=144,slow=8.8,SNR=46	**9.96**	**305**	P	**Pn**	**12 23 28.0**	**+0.9**
CMIG	comp=Z,1.0nm,0.4s,baz=121,slow=22,SNR=0.9			S	**Sn**	**12 25 14.6**	**-2.7**
TLIG	**Tlapa**	**13.28**	**298**	Pn	**Pn**	**12 24 12.7**	**+0.5**
BAUV	**El Baul**	**18.17**	**96**	P	**P**	**12 25 13.2**	**-0.1**
BAUV	comp=Z,14nm,1.1s			IAmb	IAmb	12 25 19.2	
HBVL	**Hebbronville**	**19.32**	**325**	P	**Pn**	**12 25 28.5**	**+0.9**
152A	**Waverly Hall**	**21.08**	**4**	P	**P**	**12 25 48.7**	**+3.9**
152A	comp=Z,12nm,0.8s			IAmb	IAmb	12 25 49.8	
Y49A	**Blount Mountai**	**22.21**	**360**	P	**P**	**12 25 58.4**	**+1.4**
Y49A	comp=Z,5.1nm,0.6s			IAmb	IAmb	12 25 59.2	
DRIO	**Del Rio**	**22.23**	**325**	P	**P**	**12 25 59.3**	**+2.2**
BRDY	**Brady**	**22.88**	**331**	P	**P**	**12 26 03.9**	**-0.1**
BRDY	comp=Z,5.7nm,0.6s			IAmb	IAmb	12 26 06.1	
HODGE	**Hodges**	**22.89**	**9**	P	**P**	**12 26 05.0**	**+0.9**
HODGE	comp=Z,4.5nm,0.7s			IAmb	IAmb	12 26 05.9	
JSC	**Jenkinsville**	**23.10**	**11**	P	**P**	**12 26 07.8**	**+1.6**
JSC	comp=Z,6.5nm,0.8s			IAmb	IAmb	12 26 09.4	
BG3	**Lake Jocassee**	**23.55**	**7**	P	**P**	**12 26 11.5**	**+1.2**
W50A	**Signal Mountai**	**23.57**	**2**	P	**P**	**12 26 10.1**	**-0.4**
W50A	comp=Z,6.0nm,0.7s			IAmb	IAmb	12 26 13.0	
SWET	**Sewanee**	**23.57**	**1**	P	**P**	**12 26 11.1**	**+0.6**
SWET	comp=Z,5.5nm,0.7s			IAmb	IAmb	12 26 11.6	
OZNA	**Ozona**	**23.67**	**327**	P	**P**	**12 26 12.4**	**+0.9**
CPCT	**Cooper Cave**	**23.86**	**4**	P	**P**	**12 26 14.0**	**+1.0**
CPCT	comp=Z,7.8nm,0.9s			IAmb	IAmb	12 26 16.4	
TXAR	**Lajitas Array**	**23.98**	**320**	P	**P**	**12 26 15.6**	**+1.3**
TXAR	**Lajitas Array** comp=Z,2.9nm,0.6s,baz=142,slow=8.9,SNR=29	**23.98**	**320**	P	**P**	**12 26 15.7**	**+1.4**
TX31	**Lajitas Ar. Si**	**23.98**	**320**	P	**P**	**12 26 16.0**	**+1.7**
V48A	**Smith Brothers**	**24.10**	**359**	P	**P**	**12 26 17.3**	**+2.1**
TKL	**Tuckaleechee C**	**24.12**	**5**	P	**P**	**12 26 18.6**	**+3.2**
TKL	**Tuckaleechee C** comp=Z,2.2nm,0.7s,baz=184,slow=9.9,SNR=3.6	**24.12**	**5**	P	**P**	**12 26 16.4**	**+1.0**
V53A	**Saluda** comp=Z,2.2nm,0.7s	**24.23**	**7**	P	**P**	**12 26 18.2**	**+1.8**
V53A	comp=Z,4.9nm,0.6s			IAmb	IAmb	12 26 20.3	
X37A	**Clayton** comp=Z,4.5nm,0.7s	**24.38**	**342**	P	**P**	**12 26 17.4**	**-0.3**
X37A				IAmb	IAmb	12 26 20.2	
H06E1	**SOCORRO T-PHAS** SNR=9.8	**24.80**	**290**	T	T	12 52 12.7	
H06N1	**SOCORRO T-PHAS** SNR=10	**24.87**	**290**	T	T	12 52 11.6	
V58A	**Windy Hill, Pi**	**25.01**	**14**	P	**P**	**12 26 24.0**	**+0.5**
V58A	comp=Z,8.4nm,0.7s			IAmb	IAmb	12 26 25.4	
Q56A	**Snyder Ridge,**	**28.11**	**12**	P	**P**	**12 26 52.8**	**+1.4**
Q56A	comp=Z,9.5nm,1.2s			IAmb	IAmb	12 27 07.1	
SSPA	**Standing Stone**	**29.92**	**13**	P	**P**	**12 27 08.3**	**+0.9**
M57A	**Sunshine Farm,**	**30.76**	**14**	P	**P**	**12 27 16.2**	**+1.5**
J58A	**Remsen**	**33.12**	**15**	P	**P**	**12 27 35.8**	**+0.4**
F36A	**Milaca**	**34.75**	**351**	P	**P**	**12 27 48.3**	**-1.3**
F36A	comp=Z,2.9nm,0.8s			IAmb	IAmb	12 27 49.1	
G62A	**West of Eustis**	**36.18**	**19**	P	**P**	**12 28 03.0**	**+1.1**
PKME	**Peaks-Kenny Pk**	**36.63**	**20**	P	**P**	**12 28 06.8**	**+1.2**
PDAR	**Pinedale Array** comp=Z,0.4nm,0.4s,baz=130,slow=8.3,SNR=1.6 comp=Z,0.4nm,0.4s	**37.10**	**331**	P	**P**	**12 28 10.1**	**+0.1**
REDW	**Red Top Meadow**	**38.16**	**331**	P	**P**	**12 28 19.5**	**+0.5**
D62A	**Allapoint, All**	**38.31**	**19**	P	**P**	**12 28 20.6**	**+0.8**
LMQ	**La Malbaie**	**38.33**	**18**	P	**P**	**12 28 20.1**	**+0.1**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.5s,baz=141,slow=6.3,SNR=2.0 comp=Z,0.3nm,0.5s	**39.11**	**319**	P	**P**	**12 28 28.5**	**+1.6**
HLID	**Hailey**	**40.09**	**328**	P	**P**	**12 28 36.0**	**+1.0**
BOZ	**Bozeman (W)**	**40.22**	**332**	P	**P**	**12 28 35.7**	**-0.3**
BOZ	comp=Z,4.1nm,1.4s			IAmb	IAmb	12 29 10.3	
SCHQ	**Schefferville** comp=Z,5.5nm,0.6s,baz=200,slow=12,SNR=12 comp=Z,5.5nm,0.6s	**45.84**	**16**	P	**P**	**12 29 19.8**	**-1.2**
PLCA	**Paso Flores**	**54.02**	**165**	P	**P**	**12 30 22.6**	**-0.5**
PLCA	comp=Z,4.3nm,1.2s			IAmb	IAmb	12 30 51.3	
PLCA	**Paso Flores** comp=Z,1.3nm,0.7s,baz=345,slow=16,SNR=6.1 comp=Z,1.3nm,0.7s	**54.02**	**165**	P	**P**	**12 30 22.4**	**-0.8**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.8s,baz=136,slow=7.0,SNR=5.6 comp=Z,0.3nm,0.8s	**54.78**	**344**	P	**P**	**12 30 26.9**	**-1.4**
RES	**Resolute Bay** comp=Z,0.5nm,0.5s,baz=186,slow=12,SNR=5.5 comp=Z,0.5nm,0.5s	**63.31**	**357**	P	**P**	**12 31 25.9**	**-1.2**
F28M	**Old Crow**	**66.01**	**340**	P	**P**	**12 31 44.1**	**-0.8**
F28M	comp=Z,5.9nm,1.5s			IAmb	IAmb	12 32 05.2	
J20K	**Nowinta River**	**70.08**	**334**	P	**P**	**12 32 09.6**	**-0.8**
J20K	comp=Z,7.4nm,1.5s			IAmb	IAmb	12 32 27.2	
F21K	**Alatna River**	**70.66**	**338**	P	**P**	**12 32

DUWZ	**D'Urville Isla**	**3.35 212**	P	**Pn**	**12 42 01.8**	**-0.1**
TRWZ	**Traveller**	**3.45 187**	P	**Pn**	**12 42 02.8**	**-0.3**
PAWZ	**Paruwai Farm**	**3.46 190**	P	**Pn**	**12 42 02.7**	**-0.5**
WEL	**Wellington**	**3.50 199**	P	**Pn**	**12 42 03.4**	**-0.2**
SNZO	**South Karori**	**3.54 199**	P	**Pn**	**12 42 03.8**	**-0.3**
TCW	**Tory Channel**	**3.57 205**	P	**Pn**	**12 42 04.3**	**-0.2**
BHW	**Baring Head**	**3.59 197**	P	**Pn**	**12 42 04.2**	**-0.5**
PLWZ	**Palliser**	**3.67 192**	P	**Pn**	**12 42 05.1**	**-0.7**
TUWZ	**Tuamarina**	**3.88 207**	P	**Pn**	**12 42 08.0**	**-0.3**
NNZ	**Nelson**	**3.92 213**	P	**Pn**	**12 42 08.7**	**0.0**
TKNZ	**Takaka Hill**	**3.97 219**	P	**Pn**	**12 42 09.3**	**-0.2**
QRZ	**Quartz Range**	**4.05 224**	P	**Pn**	**12 42 10.6**	**+0.2**
QRZ	**Quartz Range**	**4.05 224**	P	**Pn**	**12 42 10.1**	**-0.3**
BSWZ	**Blackbirch Sta**	**4.16 205**	P	**Pn**	**12 42 11.6**	**-0.1**
MRNZ	**Matariki Terra**	**4.35 217**	P	**Pn**	**12 42 13.6**	**-0.5**
THZ	**Tophouse**	**4.57 213**	P	**Pn**	**12 42 16.9**	**-0.1**
KHZ	**Kahutara**	**4.90 204**	P	**Pn**	**12 42 20.7**	**-0.3**
KHZ	**Kahutara**	**4.90 204**	P	**Pn**	**12 42 20.6**	**-0.3**
GVZ	**Greta Valley S**	**5.55 205**	P	**Pn**	**12 42 28.8**	**-0.6**
LTZ	**Lake Taylor**	**5.68 211**	P	**Pn**	**12 42 30.3**	**-0.7**
MQZ	**McQueen's Vall**	**6.34 204**	P	**Pn**	**12 42 37.9**	**-1.6**
ARCZ	**Arundel**	**7.09 211**	P	**Pn**	**12 42 49.2**	**-0.1**
TMZ	**Timaru**	**7.52 210**	P	**Pn**	**12 42 54.4**	**-0.4**
ODZ	**Otahua Downs**	**8.22 209**	P	**Pn**	**12 43 03.5**	**-0.3**

*IDC **10** 12:44:54.5±1.1,51°.80N×75°.46E,h0km,mbtmp2.6/2, ML2.2/2,Error ellipse: s-maj=23.4km s-min=8.2km az=29.0*
*NNC **10** 12:44:55.6±0.7,51°.86N×75°.57E,h0km,mb3.1,mpv2.7, Error ellipse: s-maj=13.2km s-min=4.2km az=23.0, Suspected Mining explosion.*

ISC 10 12:44:53.8±1.1,51°.78N±0°.08×75°.42E±0°.05,h0km,n13, σ0s82/9,5C-5D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.28**	**119**	⇑Pg		**Pg**	**Pg**	**12 45 37.3**	**-0.2**
	3.5nm,0.6s								
KURBB				⇓Lg		Lg	Lg	12 46 06.8	
	35nm,0.7s								
KURBB	**Kurchatov Arra**	**2.28**	**119**	Pg		**Pb**	**Pb**	**12 45 34.9**	**-0.9**
	0.2nm,0.3s,baz=308,slow=19,SNR=15								
KURBB				Lg		Lg	Lg	12 46 06.0	
	0.4nm,0.3s,baz=305,slow=32,SNR=8.6								
KURK	**Kurchatov**	**2.28**	**117**	⇓Pg		**Pb**	**Pb**	**12 45 35.8**	**0.0**
	2.4nm,0.6s								
KURK				⇓Lg		Lg	Lg	12 46 04.9	
	9.3nm,0.6s								
BVA0	**Borovoye Array**	**3.32**	**294**	Pg		**Pg**	**Pg**	**12 45 57.0**	**-0.5**
	2.3nm,0.8s,baz=116,slow=14,SNR=6.0								
BVA0				⇑Lg		Lg	Lg	12 46 43.0	
	10nm,0.8s,baz=114,slow=25,SNR=13								
BVAR	**Borovoye Array**	**3.32**	**294**	Pg		**Pb**	**Pb**	**12 45 53.3**	**-0.3**
	0.1nm,0.3s,baz=114,slow=16,SNR=6.2								
BVAR				Lg		Lg	Lg	12 46 40.1	
	0.2nm,0.3s,baz=116,slow=29,SNR=3.5								
BRVK	**Borovoye**	**3.39**	**294**	⇑Lg		Lg	Lg	12 46 45.2	
	17nm,0.9s								
OTUK	**Ortayu**	**4.06**	**210**	⇓Pg		**Pg**	**Pg**	**12 46 12.0**	**+0.4**
	1.3nm,0.8s								
OTUK				⇑Lg		Lg	Lg	12 47 07.9	
	3.8nm,0.7s								
I46RU	**ZALESOVO INFRA**	**6.09**	**65**	I		I	I	13 18 40.0	
	baz=251,slow=328,SNR=4.1								
ZALV	**Zalesovo Beam**	**6.09**	**65**	Pn		**Pn**	**Pn**	**12 46 26.2**	**+1.1**
	0.3nm,0.3s,baz=259,slow=14,SNR=1.2								
ZALV				Lg		Lg	Lg	12 48 08.6	
	baz=259,slow=26								
	0.4nm,0.3s								
MAKZ	**Makanchi**	**6.57**	**137**	⇑Lg		Lg	Lg	12 48 23.6	
	6.9nm,1.1s								
MK31	**Makanchi Array**	**6.72**	**135**	⇓Lg		Lg	Lg	12 48 29.9	
	3.1nm,0.8s,baz=315,slow=26,SNR=4.3								
MKAR	**Makanchi Array**	**6.72**	**135**	Pn		**Pn**	**Pn**	**12 46 34.4**	**+0.7**
	0.1nm,0.3s,baz=322,slow=13,SNR=2.6								
MKAR				Sn		**Sn**	**Sn**	**12 47 49.9**	**-1.0**
	baz=135,slow=12,SNR=1.5								
MKAR				Lg		Lg	Lg	12 48 25.7	
	0.2nm,0.3s,baz=313,slow=25,SNR=7.5								
	0.1nm,0.4s								
AAK	**Ala-Archa**	**9.17**	**184**	Lg		Lg	Lg	12 49 43.3	
	0.2nm,0.3s,baz=189,slow=23,SNR=1.8								

*ISN **10** 12:46:38.0±0.7,33°.03N×46°.02E,h9km±7km,ML2.6*
*TEH **10** 12:46:39.2,33°.03N×46°.02E,h18km±4km,ML2.6*

ISC 10 12:46:39.1±1.1,33°.05N±0°.04×46°.00E±0°.06,h7km±9km,n7, σ0s83/11,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.08**	**316**	*e*Pg		**Pg**	**Pg**	**12 46 41.0**	**-0.1**
IBDR				*e*Sg		**Sg**	**Sg**	**12 46 42.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**1.06**	**356**	Pg		**Pg**	**Pg**	**12 47 00.1**	**+0.6**
GLG1				Sg		**Sn**	**Sn**	**12 47 15.7**	**+0.2**
RAFI	**Al-Rafai**	**1.33**	**176**	*e*Pn		**Pg**	**Pg**	**12 47 04.0**	**-0.6**
RAFI				*e*Sn		**Sg**	**Sg**	**12 47 23.5**	**+1.7**
IGHG	**Ghaleghazi**	**1.36**	**20**	Pg		**Pg**	**Pg**	**12 47 05.0**	**-0.2**
BHD	**Baghdad**	**1.37**	**280**	*e*Pg		**Pg**	**Pg**	**12 47 05.0**	**-0.4**
BHD				*e*Sg		**Sg**	**Sg**	**12 47 24.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.62**	**73**	Pg		**Pb**	**Pb**	**12 47 08.8**	**-0.5**
IDHR	**Dehrash**	**1.68**	**11**	Pg		**Pb**	**Pb**	**12 47 09.9**	**-0.5**

*ISK **10** 13:16:44.5,36°.11N×31°.19E,h16km,ML3.4/23*
*AFAD **10** 13:16:45.5±0.0,36°.06N×31°.25E,h46km±1km,MW3.7*
*NIC **10** 13:16:46.5,35°.97N×31°.21E,h25km±3km,Ml3.3/10*
*GII **10** 13:16:53.1±0.2,35°.756N±0°.001×31°.426E±0°.001,h20km, Mws3.2,confirmed*

ISC 10 13:16:45.3±1.2,36°.16N±0°.03×31°.29E±0°.02,h18km±4km, n83,σ1s51/99,1C,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MNVG	**Manavgat-Antal**	**0.64**	**9**	Pg		**Pn**	**Pn**	**13 16 58.7**	**-0.7**
AKUM	**Antalya-Kumluc**	**0.78**	**282**	P		**Pg**	**Pg**	**13 17 01.1**	**+0.6**
AKUM				S		**Sn**	**Sn**	**13 17 13.9**	**+1.4**
GAZI	**Gazipasa**	**0.84**	**85**	Pg		**Pn**	**Pn**	**13 17 02.8**	**+0.6**
ANTB	**Antalya**	**0.90**	**326**	Pg		**Pb**	**Pb**	**13 17 02.4**	**+0.2**
DEMR	**Demre-Antalya**	**1.12**	**274**	Pg		**Pn**	**Pn**	**13 17 04.9**	**-1.1**
KORT	**Korkueli**	**1.13**	**318**	Pn		**Pn**	**Pn**	**13 17 06.0**	**-0.2**
ELL	**Elmali**	**1.25**	**298**	Pn		**Pn**	**Pn**	**13 17 07.5**	**-0.5**
ELL	**Elmali**	**1.25**	**298**	P		**Pb**	**Pb**	**13 17 08.5**	**0.0**
ELL				S		**Sg**	**Sg**	**13 17 27.4**	**+1.4**
ELL				AML		AML	AML	13 17 33.6	
	7.4nm,0.7s								
ELL				AML		AML	AML	13 17 35.3	
	5.9nm,0.6s								
SEYD	**Seydisehir-KON**	**1.32**	**20**	Pn		**Pg**	**Pg**	**13 17 09.9**	**-0.9**
SEDI	**Konya, Seydise**	**1.34**	**16**	P		**Pb**	**Pb**	**13 17 09.5**	**-0.5**
SEDI				S		**Sg**	**Sg**	**13 17 29.9**	**+1.2**
AKAS	**Kas**	**1.36**	**273**	Pn		**Pn**	**Pn**	**13 17 08.5**	**-1.0**
KSL	**Kastellorizon**	**1.38**	**270**	P		**Pn**	**Pn**	**13 17 08.9**	**-0.6**
KSL				S		**Sn**	**Sn**	**13 17 26.8**	**-0.5**
KSL				AML		AML	AML	13 17 36.6	
	0.5nm,0.5s								
KSL				AML		AML	AML	13 17 38.9	
	1.2nm,0.6s								
BCK	**Bucak**	**1.41**	**337**	Pn		**Pn**	**Pn**	**13 17 10.4**	**+0.3**
AKMS	**Akamas**	**1.43**	**143**	P		**Pn**	**Pn**	**13 17 10.2**	**0.0**
AKMS				S		**Sn**	**Sn**	**13 17 27.2**	**-1.4**
AKMS				AML		AML	AML	13 17 39.1	
	2.4nm,0.6s								
AKMS				AML		AML	AML	13 17 39.3	
	2.0nm,0.5s								
ALFC	**Alefka**	**1.47**	**133**	⇑*e*P		**Pn**	**Pn**	**13 17 10.6**	**-0.3**
ALFC				S		**Sn**	**Sn**	**13 17 28.0**	**-1.6**
ALFC				AML		AML	AML	13 17 38.3	
	1.3nm,0.2s								
ALFC				AML		AML	AML	13 17 39.0	
	1.4nm,0.3s								
KNIK	**Mula-Seydike**	**1.54**	**297**	P		**Pn**	**Pn**	**13 17 12.6**	**+0.7**
KNIK				S		**Sg**	**Sg**	**13 17 34.2**	**-0.8**
LEF	**Lefka**	**1.67**	**128**	P		**Pn**	**Pn**	**13 17 14.1**	**+0.5**
LEF				S		**Sn**	**Sn**	**13 17 33.2**	**-1.4**
KKBE	**Karaman, Kazim**	**1.70**	**51**	P		**Pg**	**Pg**	**13 17 16.8**	**-1.1**
KKBE				S		**Sg**	**Sg**	**13 17 38.7**	**-1.4**
ISP	**Isparta**	**1.77**	**340**	Pn		**Pn**	**Pn**	**13 17 15.7**	**+0.7**
TROD	**Troodos**	**1.77**	**133**	P		**Pn**	**Pn**	**13 17 15.0**	**-0.2**
TROD				S		**Sn**	**Sn**	**13 17 37.1**	**-0.2**
TROD				AML		AML	AML	13 17 48.9	
	0.9nm,0.6s								
TROD				AML		AML	AML	13 17 54.1	
	1.1nm,0.6s								
CAME	**Cameli-Denizli**	**1.78**	**297**	Pn		**Pn**	**Pn**	**13 17 14.9**	**-0.3**
BRDR	**BURDUR-Merkez**	**1.82**	**328**	P		**Pb**	**Pb**	**13 17 18.0**	**-0.1**
BRDR				S		**Sb**	**Sb**	**13 17 40.8**	**+0.3**
KMER	**Konya-Meram**	**1.82**	**28**	P		**Pb**	**Pb**	**13 17 18.5**	**+0.3**
KMER				S		**Sb**	**Sb**	**13 17 41.2**	**+0.5**
GULN	**MERSIN_Gulnar**	**1.83**	**89**	P		**Pb**	**Pb**	**13 17 16.9**	**-1.3**
GULN				S		**Sb**	**Sb**	**13 17 41.7**	**+1.0**
GULN				*i* AML		AML	AML	13 17 47.0	
	comp=N,205nm,0.5s								
FETY	**Fethiye**	**1.84**	**286**	Pn		**Pn**	**Pn**	**13 17 15.5**	**-0.4**
FETY	**Fethiye**	**1.84**	**286**	P		**Pb**	**Pb**	**13 17 18.1**	**-0.3**
FETY				S		**Sn**	**Sn**	**13 17 39.4**	**+0.6**
ATHAL	**Athalassa**	**2.00**	**120**	P		**Pn**	**Pn**	**13 17 18.1**	**0.0**
ATHAL				S		**Sn**	**Sn**	**13 17 42.8**	**+0.1**
ATHAL				AML		AML	AML	13 17 52.9	
	1.6nm,0.5s								
ATHAL				AML		AML	AML	13 18 02.2	
	1.0nm,0.7s								
BASM	**Basmaki-Afyon**	**2.01**	**331**	Pn		**Pn**	**Pn**	**13 17 19.1**	**+0.7**
CSS	**Mathiatis**	**2.05**	**125**	P		**Pn**	**Pn**	**13 17 18.2**	**-0.7**
CSS				S		**Sn**	**Sn**	**13 17 43.5**	**-0.5**
CSS				AML		AML	AML	13 17 59.2	
	0.5nm,0.6s								
CSS				AML		AML	AML	13 18 03.3	
	0.8nm,0.6s								
APMY	**Acipayam-Deniz**	**2.06**	**310**	Pn		**Pn**	**Pn**	**13 17 19.2**	**+0.2**
ASGA	**Asgata**	**2.11**	**130**	P		**Pn**	**Pn**	**13 17 20.4**	**+0.8**
ASGA				AML		AML	AML	13 17 59.6	
	0.9nm,0.5s								
ASGA				AML		AML	AML	13 18 01.6	
	1.0nm,0.6s								
DNZT	**Denizli-Tavas-**	**2.13**	**302**	P		**Pn**	**Pn**	**13 17 20.3**	**+0.3**
DALY	**Dalyan (Mula)**	**2.22**	**288**	Pn		**Pn**	**Pn**	**13 17 20.9**	**-0.2**
MVOU	**Mavrovouni**	**2.23**	**120**	P		**Pn**	**Pn**	**13 17 20.8**	**-0.5**
MVOU				AML		AML	AML	13 18 00.5	
	0.7nm,0.6s								
MVOU				AML		AML	AML	13 18 00.7	
	0.6nm,0.4s								
TAVA	**DENIZLI_Tavas**	**2.31**	**305**	P		**Pn**	**Pn**	**13 17 23.4**	**+1.0**
DNIZ	**Denizli-Tavas-**	**2.32**	**310**	P		**Pn**	**Pn**	**13 17 23.6**	**+1.0**
TURN	**Turunc**	**2.53**	**285**	Pn		**Pn**	**Pn**	**13 17 25.2**	**-0.1**
PARAL	**Paralimni**	**2.53**	**117**	P		**Pn**	**Pn**	**13 17 25.9**	**+0.5**
PARAL				AML		AML	AML	13 18 09.4	
	0.7nm,0.7s								
PARAL				AML		AML	AML	13 18 14.9	
	0.6nm,0.8s								
ARG	**Arkhangelos**	**2.56**	**272**	Pn		**Pn**	**Pn**	**13 17 25.2**	**-0.6**
KHL	**Karahalli**	**2.58**	**327**	Pn		**Pn**	**Pn**	**13 17 26.9**	**+0.8**
NAZL	**Nazilli-Aydin**	**2.99**	**308**	Pn		**Pn**	**Pn**	**13 17 32.3**	**+0.5**
MLSB	**Milas**	**3.04**	**293**	Pn		**Pn**	**Pn**	**13 17 32.6**	**+0.2**
DAT	**Datca**	**3.04**	**282**	Pn		**Pn**	**Pn**	**13 17 32.5**	**-0.1**
AYDB	**Zeytinkoy-Aydi**	**3.25**	**304**	Pn		**Pn**	**Pn**	**13 17 35.3**	**-0.1**
BODT	**Bodrum**	**3.32**	**287**	Pn		**Pn**	**Pn**	**13 17 36.2**	**-0.1**
YKAV	**Yalikavak-Bodr**	**3.36**	**288**	Pn		**Pn**	**Pn**	**13 17 36.4**	**-0.4**
KARP	**Karpathos**	**3.41**	**261**	Pn		**Pn**	**Pn**	**13 17 36.8**	**-0.7**
KARP	**Karpathos**	**3.41**	**261**	P		**Pn**	**Pn**	**13 17 37.1**	**-0.4**
HNTI	**Hanita**	**4.44**	**133**	P		**Pn**	**Pn**	**13 17 55.1**	**+3.4**
HNTI	**Hanita**	**4.44**	**133**	S		**Sn**	**Sn**	**13 18 42.1**	**-0.8**
MMC7	**Mount Meron ar**	**4.61**	**132**	P		**Pn**	**Pn**	**13 17 56.9**	**+2.8**
MMA0B	**Mount Meron ar**	**4.62**	**132**	S		**Sn**	**Sn**	**13 18 47.0**	**-0.5**
MMA0B	**Mount Meron ar**	**4.62**	**132**	P		**Pn**	**Pn**	**13 17 57.1**	**+2.8**
GEM	**Giv'at Ha'Em**	**4.66**	**128**	S		**Sn**	**Sn**	**13 18 48.0**	**-0.2**
GEM	**Giv'at Ha'Em**	**4.66**	**128**	P		**Pn**	**Pn**	**13 17 58.0**	**+3.3**
NATI	**Neve Ativ**	**4.67**	**127**	S		**Sn**	**Sn**	**13 18 48.6**	**0.0**
NATI	**Neve Ativ**	**4.67**	**127**	P		**Pn**	**Pn**	**13 17 58.0**	**+3.2**
OFRI	**`Ofer**	**4.67**	**138**	P		**Pn**	**Pn**	**13 17 57.7**	**+2.8**
OFRI	**`Ofer**	**4.67**	**138**	S		**Sn**	**Sn**	**13 18 47.4**	**-1.3**
KSHT	**Keshet**	**4.90**	**129**	S		**Sn**	**Sn**	**13 18 53.9**	**-0.4**
KSHT	**Keshet**	**4.90**	**129**	P		**Pn**	**Pn**	**13 18 01.2**	**+3.1**
MMLI	**Mount Malkishu**	**5.05**	**136**	P		**Pn**	**Pn**	**13 18 03.1**	**+3.0**
MMLI	**Mount Malkishu**	**5.05**	**136**	S		**Sn**	**Sn**	**13 18 57.1**	**-0.9**
HMDT	**Nahal Hemdat**	**5.25**	**137**	S		**Sn**	**Sn**	**13 19 01.5**	**-1.3**
HMDT	**Nahal Hemdat**	**5.25**	**137**	P		**Pn**	**Pn**	**13 18 05.9**	**+3.1**
DSI	**Dead Sea**	**5.71**	**142**	P		**Pn**	**Pn**	**13 18 11.8**	**+2.7**
DSI	**Dead Sea**	**5.71**	**142**	S		**Sn**	**Sn**	**13 19 12.4**	**-1.7**
YTIR	**Yattir**	**5.75**	**145**	S		**Sn**	**Sn**	**13 19 13.9**	**-1.4**
YTIR	**Yattir**	**5.75**	**145**	P		**Pn**	**Pn**	**13 18 12.7**	**+2.9**
KZIT	**Kziot**	**5.85**	**153**	P		**Pn**	**Pn**	**13 18 13.6**	**+2.5**
KZIT	**Kziot**	**5.85**	**153**	S		**Sn**	**Sn**	**13 19 15.7**	**-2.0**
GHAJ	**Ghor Haditha**	**6.02**	**142**	P		**Pn**	**Pn**	**13 18 16.1**	**+2.8**
GHAJ	**Ghor Haditha**	**6.02**	**142**	S		**Sn**	**Sn**	**13 19 20.2**	**-1.5**
PRNI	**Paran**	**6.58**	**151**	S		**Sn**	**Sn**	**13 19 33.4**	**-2.2**
PRNI	**Paran**	**6.58**	**151**	P		**Pn**	**Pn**	**13 18 23.5**	**+2.4**
KRMI	**Paran Flat**	**6.68**	**153**	P		**Pn**	**Pn**	**13 18 24.9**	**+2.4**
KRMI	**Paran Flat**	**6.68**	**153**	S		**Sn**	**Sn**	**13 19 35.9**	**-2.3**
HRFI	**Mount Harif**	**6.87**	**152**	S		**Sn**	**Sn**	**13 19 40.7**	**-2.2**
HRFI	**Mount Harif**	**6.87**	**152**	P		**Pn**	**Pn**	**13 18 27.6**	**+2.4**
MBRI	**Mt Berech**	**7.04**	**153**	P		**Pn**	**Pn**	**13 18 29.9**	**+2.4**
MBRI	**Mt Berech**	**7.04**	**153**	S		**Sn**	**Sn**	**13 19 45.2**	**-1.9**
EIL	**Elat**	**7.17**	**154**	P		**Pn**	**Pn**	**13 18 31.3**	**+2.1**
EIL	**Elat**	**7.17**	**154**	S		**Sn**	**Sn**	**13 19 47.9**	**-2.2**

ATH 10 13:20:59.6±1.5,38°.97N×21°.85E,h29km±7km,ML0.7/4, Manual Solution by G.Panopoulou This location: 2020/06/22 22:12:08 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 14 km; Longitude uncertainty: 9 km,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.06**	**214**	P		P	Pb	13 21 05.8	+1.1
EVR				S		S	Sb	13 21 09.2	+1.0
MAKR	**Makrakomi, Fth**	**0.22**	**78**	P		P	Pn	13 21 06.9	-0.1
MAKR				S		S	Sb	13 21 13.4	+3.0
AGG	**Agios Georgios**	**0.38**	**81**	P		P	Pn	13 21 09.5	+0.4
AGG				S		S	Sn	13 21 17.0	+1.5
ANX	**Ano Chora**	**0.38**	**172**	P		P	Pn	13 21 09.4	+0.2

ATH 10 13:21:03.7,37°.35N×22°.19E,h12km±3km,ML1.5/4,Error ellipse: s-maj=4.0km s-min=1.3km az=85.0,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.58**	**219**	P		P	Pg	13 21 14.6	-0.5
PYL				S		S	Sb	13 21 23.6	-0.4
PYL				AML		AML	AML	13 21 27.2	
	comp=E,177μm,0.3s								
PYL				AML		AML	AML	13 21 27.4	
	comp=N,108μm,0.4s								
GUR	**Goura**	**0.59**	**11**	P		Pg	Pg	13 21 15.2	-0.2
GUR				S		S	Sb	13 21 24.0	-0.5
GUR				AML		AML	AML	13 21 24.9	
	comp=N,138μm,0.3s								
GUR				AML		AML	AML	13 21 27.1	
	comp=E,98μm,0.2s								
KLV	**Kalavryta, Ach**	**0.69**	**357**	P		Pg	Pg	13 21 16.1	-1.1
KLV				S		S	Sg	13 21 25.8	-0.5
KLV				AML		AML	AML	13 21 28.4	
	comp=E,45μm,0.4s								
KLV				AML		AML	AML	13 21 29.3	
	comp=N,48μm,0.2s								
DRO	**Drossia**	**0.71**	**328**	P		Pg	Pg	13 21 16.5	-1.1
DRO				S		S	Sb	13 21 27.4	-0.5
DRO				AML		AML	AML	13 21 28.5	
	comp=N,135μm,0.3s								
DRO				AML		AML	AML	13 21 32.8	
	comp=E,184μm,0.4s								
KRND	**KRANIDI**	**0.76**	**87**	P		Pg	Pg	13 21 17.5	-0.9
VLI	**Veliai**	**0.87**	**137**	P		Pg	Pg	13 21 20.6	+0.1
LTK	**Loutraki**	**0.91**	**42**	P		Pb	Pb	13 21 21.4	0.0
LTHK	**Lithakia**	**1.14**	**289**	P		Pb	Pb	13 21 24.3	-1.0
LTHK				S		Sg	Sg	13 21 40.2	-0.2

*JMA **10** 13:34:59.2±0.2,24°.1N×123°.3E±0°.6,h49km±2km, MV2.9/10,NW OFF ISHIGAKIJIMA IS*

ISC 10 13:34:59.8±3.3,24°.13N±0°.08×123°.32E±0°.03,h39km±5km, n15,σ0s80/23,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.42**	**61**	P		P	Pn	**13 35 08.7**	**-0.5**
IRIF				S		S	Sn	**13 35 16.5**	**+0.4**
YOJ	**Yonaguni jima**	**0.44**	**319**	P		P	Pn	**13 35 09.1**	**-0.4**
YOJ				S		S	Sn	**13 35 16.7**	**+0.3**
HATJ	**Hateruma jima**	**0.45**	**99**	P		P	Pn	**13 35 09.7**	**+0.1**
HATJ				S		S	Sn	**13 35 17.7**	**+1.1**
JYNG	**Yonagunijimaku**	**0.47**	**313**	P		P	Pn	**13 35 09.6**	**-0.4**
JYNG				S		S	Sn	**13 35 16.1**	**-1.1**
JKRS	**Kuro-shima**	**0.64**	**80**	P		P	Pn	**13 35 12.3**	**0.0**
JKRS				*e*S		S	Sn	**13 35 22.6**	**+1.4**
JIJ	**Ishigaki jima**	**0.78**	**72**	P		P	Pn	**13 35 13.7**	**-0.6**
JIJ				S		S	Sn	**13 35 24.5**	**-0.4**
JISG	**Ishigakijimahi**	**1.01**	**63**	P		P	Pn	**13 35 16.6**	**-0.8**
JISG				*e*S		S	Sn	**13 35 29.6**	**-0.8**
JTJ	**Tarama**	**1.36**	**68**	P		P	Pn	**13 35 21.9**	**-0.3**
JTJ				S		S	Sn	**13 35 39.0**	**+0.1**
NACB	**Ninganchiao**	**1.58**	**272**	P		P	Pn	**13 35 24.7**	**-0.5**
YHNB	**Yeheng**	**1.86**	**287**	P		P	Pn	**13 35 29.9**	**+0.8**
TATO	**Taipei**	**1.87**	**297**	P		P	Pn	**13 35 30.8**	**+1.6**
YULB	**Yu-li**	**2.00**	**249**	P		P	Pn	**13 35 30.1**	**-0.9**
SSLB	**Suanglung**	**2.19**	**262**	P		P	Pn	**13 35 33.5**	**-0.2**
TWGBT	**Beinan**	**2.44**	**238**	P		P	Pn	**13 35 36.2**	**-0.9**
TPUB	**Ta-pu**	**2.60**	**252**	P		P	Pn	**13 35 39.9**	**+0.6**

*RSPR **10** 13:44:09.4,19°.95N×64°.96W,h17km±23km,MD3.4/8*
*NEIC **10** 13:44:09.0±0.7,19°.94N±0°.10×64°.96W±0°.05,h35km±2km, ML3.0/24,Md3.4/8(RSPR),Error ellipse: s-maj=17.2km s-min=7.1km az=12.0*

ISC 10 13:44:05.4±2.2,19°.9N±0°.1×64°.85W±0°.05,h17km,n46, σ0s84/48,10C-1D,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GCPR	**Guaynabo City**	**1.97**	**217**	Pn		**Pn**	**Pn**	**13 44 38.0**	**0.0**
HUMP	**Col San Antoni**	**1.99**	**209**	⇑*e*P		**Pb**	**Pb**	**13 44 40.1**	**-1.0**
HUMP	**Col San Antoni**	**1.99**	**209**	*e*S		**Sn**	**Sn**	**13 45 03.1**	**+0.3**
HUMP	**Col San Antoni**	**1.99**	**209**			**Pb**	**Pb**	**13 44 40.1**	**-1.0**
HUMP						**Sn**	**Sn**	**13 45 03.1**	**+0.3**
HUMP	**Col San Antoni**	**1.99**	**209**	IAML				13 45 05.5	
	comp=E,82nm,0.2s								
HUMP				IAML				13 45 12.0	
	comp=N,69nm,0.2s								
EMPR	**Esperanza - Ma**	**2.13**	**228**	⇑*e*P		**Pn**	**Pn**	**13 44 41.2**	**+1.1**
EMPR	**Esperanza - Ma**	**2.13**	**228**	*e*S		**Sn**	**Sn**	**13 45 06.9**	**+0.6**
EMPR	**Esperanza - Ma**	**2.13**	**228**			**Pn**	**Pn**	**13 44 41.2**	**+1.1**
EMPR						**Sn**	**Sn**	**13 45 06.9**	**+0.6**
EMPR	**Esperanza - Ma**	**2.13**	**228**	IAML				13 45 37.6	
	comp=N,137nm,1.4s								
IGPR	**InterUniversit**	**2.27**	**212**	⇑*e*P		**Pn**	**Pn**	**13 44 43.5**	**+1.4**
IGPR	**InterUniversit**	**2.27**	**212**	*e*S		**Sn**	**Sn**	**13 45 09.3**	**-0.3**
IGPR	**InterUniversit**	**2.27**	**212**			**Pn**	**Pn**	**13 44 43.5**	**+1.4**
IGPR						**Sn**	**Sn**	**13 45 09.3**	**-0.3**
IGPR	**InterUniversit**	**2.27**	**212**	IAML				13 45 14.5	
	comp=E,124nm,0.2s								
IGPR				IAML				13 45 15.2	
	comp=N,120nm,0.2s								
AOPR	**Arecibo Observ**	**2.38**	**230**	⇑*e*P		**Pn**	**Pn**	**13 44 44.4**	**

baz=313
H11S1 WAKE ISLAND Hy 27.05 119 T T 14 23 52.7
baz=313
H11S2 WAKE ISLAND Hy 27.06 119 T T 14 23 47.0
baz=313
SONM Songino Array 29.78 308 P **P** **13 55 23.6 +1.3**
1.3nm,0.7s,baz=106,slow=9.3,SNR=4.9
1.3nm,0.7s
ZALV Zalesovo Beam 44.15 315 P **P** **13 57 25.3 +1.4**
0.7nm,0.6s,baz=93,slow=5.9,SNR=4.1
0.7nm,0.6s
MKAR Makanchi Array 46.02 305 P **P** **13 57 40.6 +1.7**
1.0nm,0.8s,baz=91,slow=9.6,SNR=11
1.0nm,0.8s
KURBB Kurchatov Arra 48.10 310 P **P** **13 57 56.7 +1.6**
2.5nm,0.7s,baz=86,slow=7.8,SNR=24
KURBB LR LR 14 17 57.0
comp=Z,227nm,20.4s,baz=165,slow=36
2.5nm,0.7s
ILAR Eielson Array 51.65 31 P **P** **13 58 24.7 +2.8**
0.5nm,0.9s,baz=268,slow=6.7,SNR=2.9
0.5nm,0.9s
BVAR Borovoye Array 52.80 314 P **P** **13 58 32.2 +1.7**
1.1nm,0.9s,baz=96,slow=9.1,SNR=4.8
1.1nm,0.9s
WRA Warramunga Arr 54.35 189 P **P** **13 58 44.1 +1.9**
0.6nm,0.6s,baz=4.2,slow=7.6,SNR=12
0.6nm,0.6s
FINES FINESS Array B 71.50 333 LR LR 14 34 03.7
comp=Z,175nm,18.4s,baz=226,slow=38
HFS Hagfors 76.82 336 LR LR 14 38 30.1
comp=Z,80nm,18.8s,baz=332,slow=38

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*SJA **10** 13:55:50.5±0.7,24°.23S×67°.21W,h201km±6km,ML3.6, MW3.6*
*GUC **10** 13:55:51.8±0.7,24°.26S×67°.24W,h188km±7km,ML3.9*
ISC 10 13:55:50.2±1.7,24°.21S±0°.04×67°.20W±0°.04, h198km±15km,n33,σ1§50/58,6C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AF01	**San Pedro de A**	**1.54**	**324**	*e*P		**Pn**	**13 56 25.9**	**+1.4**
AF01				*e*S		**Sn**	**13 56 50.1**	**-0.9**
SLA	**San Lorenzo**	**1.63**	**109**	*e*P		**Pn**	**13 56 26.0**	**+1.5**
SLA	**San Lorenzo**	**1.63**	**109**	⇓*i*P		**Pn**	**13 56 25.8**	**+0.7**
FSA	**Cafayete**	**2.19**	**150**	*e*P		**Pn**	**13 56 31.4**	**+0.5**
LVC	**Limon Verde**	**2.24**	**315**	*e*P		**Pn**	**13 56 32.7**	**+1.2**
LVC				*e*S		**Sn**	**13 57 03.8**	**+0.2**
LVC				IAML			13 57 05.3	
comp=Z,98nm,0.5s								
LVC	**Limon Verde**	**2.24**	**315**	⇑*i*P		**Pn**	**13 56 32.8**	**+1.2**
LVC				*e*S		**Sn**	**13 57 03.0**	**-0.6**
LVC				IAML			13 57 04.5	
comp=Z,736nm,0.4s								
PB15	**IPOC Station P**	**2.31**	**295**	*e*P		**Pn**	**13 56 33.4**	**+1.2**
PB15				*e*S		**Sn**	**13 57 04.7**	**0.0**
PB15	**IPOC Station P**	**2.31**	**295**	⇑*i*P		**Pn**	**13 56 33.3**	**+1.2**
PB15				*e*S		**Sn**	**13 57 03.8**	**-0.8**
GO02	**Mina Guanaco**	**2.37**	**246**	*e*P		**Pn**	**13 56 33.8**	**+0.9**
GO02				*e*S		**Sn**	**13 57 05.8**	**-0.4**
GO02	**Mina Guanaco**	**2.37**	**246**	⇑*i*P		**Pn**	**13 56 33.8**	**+0.9**
GO02				*e*S		**Sn**	**13 57 05.2**	**-0.9**
GO02				IAML			13 57 06.2	
comp=N,670nm,0.6s								
YJA	**Yavi**	**2.55**	**38**	*e*P		**Pn**	**13 56 36.9**	**+1.8**
YJA				*e*S		**Sn**	**13 57 06.3**	**-3.6**
YJA	**Yavi**	**2.55**	**38**	*e*P		**Pn**	**13 56 36.4**	**+1.4**
PB06	**IPOC Station P**	**2.64**	**304**	*e*P		**Pn**	**13 56 37.0**	**+1.2**
PB06				*e*S		**Sn**	**13 57 10.6**	**-0.7**
PB06				IAML			13 57 11.6	
comp=Z,211nm,0.1s								
PB06	**IPOC Station P**	**2.64**	**304**	⇑*i*P		**Pn**	**13 56 37.0**	**+1.2**
PB06				*e*S		**Sn**	**13 57 10.2**	**-1.1**
PB06				IAML			13 57 12.8	
comp=N,344nm,0.4s								
PB14	**IPOC Station P**	**2.95**	**261**	*e*P		**Pn**	**13 56 40.4**	**+0.9**
PB14				*e*S		**Sn**	**13 57 16.0**	**-2.0**
PB14				IAML			13 57 18.2	
comp=Z,88nm,0.4s								
PB14	**IPOC Station P**	**2.95**	**261**	*e*P		**Pn**	**13 56 39.9**	**+0.3**
PB14				*e*S		**Sn**	**13 57 15.9**	**-2.0**
PB14				IAML			13 57 17.7	
comp=E,90nm,0.5s								
PB09	**IPOC Station P**	**3.05**	**321**	*e*P		**Pn**	**13 56 42.4**	**+1.8**
PB09				*e*S		**Sn**	**13 57 20.2**	**+0.3**
PB09				IAML			13 57 20.5	
comp=Z,198nm,0.5s								
PB09	**IPOC Station P**	**3.05**	**321**	⇑*i*P		**Pn**	**13 56 42.3**	**+1.7**
PB09				*e*S		**Sn**	**13 57 19.6**	**-0.4**
PB09				IAML			13 57 20.9	
comp=N,238nm,0.8s								
AHML	**Horco Molle**	**3.07**	**147**	*e*P		**Pn**	**13 56 41.7**	**+1.1**
AHML				*e*S		**Sn**	**13 57 19.9**	**-0.2**
AHML	**Horco Molle**	**3.07**	**147**	*e*P		**Pn**	**13 56 41.4**	**+0.8**
AC02	**Maricunga**	**3.14**	**213**	*e*P		**Pn**	**13 56 45.8**	**+3.8**
AC02				*e*S		**Sn**	**13 57 18.7**	**-3.7**
PB10	**IPOC Station P**	**3.15**	**282**	*e*P		**Pn**	**13 56 42.7**	**+1.1**
PB10				*e*S		**Sn**	**13 57 21.0**	**-0.7**
PB10				IAML			13 57 22.7	
comp=Z,89nm,0.4s								
PB10	**IPOC Station P**	**3.15**	**282**	⇑*i*P		**Pn**	**13 56 42.5**	**+0.9**
PB10				*e*S		**Sn**	**13 57 19.2**	**-2.5**
PB10				IAML			13 57 25.6	
comp=E,90nm,0.5s								
PB04	**IPOC Station P**	**3.29**	**304**	*e*P		**Pn**	**13 56 44.6**	**+1.2**
PB04				*e*S		**Sn**	**13 57 24.6**	**-0.4**
PB04				IAML			13 57 27.9	
comp=Z,128nm,0.1s								
PB04	**IPOC Station P**	**3.29**	**304**	*e*P		**Pn**	**13 56 44.2**	**+0.8**
PB04				*e*S		**Sn**	**13 57 23.0**	**-2.0**
PB07	**IPOC Station P**	**3.50**	**314**	*e*P		**Pn**	**13 56 46.9**	**+0.9**
PB07				*e*S		**Sn**	**13 57 29.0**	**-0.5**
PB07				IAML			13 57 29.9	
comp=Z,111nm,0.4s								
PB01	**IPOC Station P**	**3.79**	**326**	*e*P		**Pn**	**13 56 50.3**	**+0.7**
PB01				IAML			13 57 36.9	
comp=Z,78nm,0.2s								
PB02	**IPOC Station P**	**3.80**	**319**	*e*P		**Pn**	**13 56 50.3**	**+0.7**
PB02				IAML			13 57 44.8	
comp=Z,138nm,0.4s								
PATCX	**Punta Patache**	**4.34**	**320**	*e*P		**Pn**	**13 56 57.1**	**+0.7**
PATCX				*e*S		**Sn**	**13 57 45.7**	**-2.6**
PATCX				IAML			13 58 00.4	
comp=Z,36nm,0.6s								
PB08	**IPOC Station P**	**4.43**	**336**	*e*P		**Pn**	**13 56 59.4**	**+1.6**
PB08				IAML			13 57 56.8	
comp=Z,23nm,0.6s								
TA01	**Diego Aracena**	**4.56**	**322**	*e*P		**Pn**	**13 56 59.2**	**+0.3**
TA01				*e*S		**Sn**	**13 57 50.3**	**-2.8**
TA01				IAML			13 57 55.3	
comp=Z,32nm,0.7s								
HMBC	**Humberstone**	**4.64**	**327**	*e*P		**Pn**	**13 57 00.7**	**+0.5**
HMBC				*e*S		**Sn**	**13 57 53.5**	**-1.7**
HMBC				IAML			13 57 59.4	
comp=Z,41nm,0.5s								
GO01	**Chusmiza**	**4.88**	**337**	*e*P		**Pn**	**13 57 05.2**	**+1.5**
GO01				*e*S		**Sn**	**13 58 01.4**	**0.0**

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*MOS **10** 14:08:34.7±0.9,36°.53N×71°.14E,h198km,mb5.0/73,Error ellipse: s-maj=4.2km s-min=2.9km az=99.6*
*NNC **10** 14:08:36.0±1.7,36°.75N×70°.81E,h182km±20km,mb4.7, mpv5.8,Error ellipse: s-maj=17.5km s-min=10.3km az=175.0*
*GCMT **10** 14:08:36.7±0.3,36°.51N±0°.02×70°.91E±0°.03,h210km±2km, MW5.0/119,Moment Tensor Solution. s41,c44; s119,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.98±.12; Mθθ-2.59±.17; Mφφ-1.39±.16; Mrθ-2.33±.13; Mθφ-1.20±.16; Mφr-0.99±.13; Best double couple: M₀4.44500×10¹⁶ NP1:φs237.00000°,δ64.26000°,λ.83.60000°. NP2:φs71.47000°, δ26.47000°,λ.103.01000°. Principal axes: T 3.5567, Plg70.0000°, Azm134.0000°; N -0.0650, Plg6.0000°, Azm240.0000°; P -3.4917, Plg19.0000°, Azm332.0000°;*
*NEIC **10** 14:08:36.56N×71°.06E,h220km,Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10¹⁶Nm; Mrr2.77; Mθθ-2.24; Mφφ-0.53; Mrθ-1.73; Mθφ-1.07; Mφr-1.34; Fault plane solution: M₀3.52000×10¹⁶ NP1: φs237.00000°,δ64.26000°,λ.83.60000°. NP2:φs71.47000°, δ26.47000°,λ.103.01000°. Principal axes: T 3.5567, Plg70.0000°, Azm134.0000°; N -0.0650, Plg6.0000°, Azm240.0000°; P -3.4917, Plg19.0000°, Azm332.0000°;*
*BJI **10** 14:08:36.4±0.0,36°.68N×71°.15E,h204km,mb5.2/74, mB4.8/36*
*NEIC **10** 14:08:36.7±2.1,36°.56N±0°.06×71°.06E±0°.09,h199km±4km, mb5.1/249,Mww5.0/15,Error ellipse: s-maj=10.7km s-min=8.6km az=118.0*
*NEIC **10** 14:08:36.5,36°.56N×71°.06E,h220km,Moment Tensor Solution. Duration: 1§5 Moment tensor: Scale 10¹⁶Nm; Mrr2.77; Mθθ-2.24; Mφφ-0.53; Mrθ-1.73; Mθφ-1.07; Mφr-1.34; Fault plane solution: M₀3.52000×10¹⁶ NP1: φs237.00000°,δ64.26000°,λ.83.60000°. NP2:φs71.47000°, δ26.47000°,λ.103.01000°. Principal axes: T 3.5567, Plg70.0000°, Azm134.0000°; N -0.0650, Plg6.0000°, Azm240.0000°; P -3.4917, Plg19.0000°, Azm332.0000°;*
ISC 10 14:08:36.1±0.2,36°.51N±0°.03×71°.06E±0°.02,h200km±1km, h200km:pP-P,n1335,σ1§42/1495,mb5.1/383,74C-59D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBL	**Kabul**	**2.56**	**220**	Pn		**Pn**	**14 09 20.9**	**0.0**
KBL	**Kabul**	**2.56**	**220**	P		**Pn**	**14 09 21.2**	**+0.2**
SNR=342								
KBL				S		**S**	**14 09 54.7**	**-0.5**
KBL	**Kabul**	**2.56**	**220**	PN		**Pn**	**14 09 21.1**	**+0.2**
SIMJ	**Simiganj**	**2.69**	**323**	Pn		**Pn**	**14 09 21.4**	**-0.8**
DRK	**Karamyk**	**3.02**	**11**			**Pn**	**14 09 26.4**	**+0.2**
DRK	**Karamyk**	**3.02**	**11**	PN		**Pn**	**14 09 26.4**	**+0.2**
BTK	**Batken**	**3.54**	**357**	Pn		**Pn**	**14 09 32.7**	**+0.4**
BTK	**Batken**	**3.54**	**357**	PN		**Pn**	**14 09 32.7**	**+0.4**
OHH	**Osh**	**4.23**	**18**	PN		**Pn**	**14 09 40.3**	**-0.4**
KSH	**Kashi**	**4.90**	**51**	P		Pn	14 09 44.4	-4.9
KSH				S		S	14 10 34.4	-12
KSH				smax		smax		
comp=N,7μm,0.7s								
KSH				smax		smax		
comp=E,6μm,0.5s								
JMU	**Jammu**	**4.94**	**139**	*e*P		**Pn**	**14 09 47.6**	**-2.0**
JMU				*e*S		**S**	**14 10 44.5**	**-2.6**
TRKS	**Terek-Say**	**5.01**	**1**	PN		**Pn**	**14 09 49.4**	**-1.3**
ARSB	**Arslanbob**	**5.03**	**17**			**Pn**	**14 09 49.9**	**-1.1**
ARSB	**Arslanbob**	**5.03**	**17**	PN		**Pn**	**14 09 49.9**	**-1.1**
THN	**Thein Dam**	**5.60**	**135**	*e*P		**Pn**	**14 09 57.2**	**-1.0**
THN				*e*S		**S**	**14 10 59.7**	**-2.9**
THN				IAML			14 11 02.3	
comp=E,5μm,0.5s								
THN				IAML			14 11 03.0	
comp=N,4μm,0.4s								
IUG	**luzhnay**	**5.68**	**352**	*e*P		**Pn**	**14 09 58.5**	**-0.8**
baz=352								
IUG	**luzhnay**	**5.68**	**352**	*e*PN		**Pn**	**14 09 58.4**	**-0.8**
ARLS	**Aral**	**5.91**	**24**	PN		**Pn**	**14 10 00.9**	**-1.3**
ARLS				pmax		pmax		
comp=Z,572nm,0.5s								
DHRM	**DHARAMSHALA**	**6.07**	**133**	*e*P		**Pn**	**14 10 04.0**	**-0.5**
DHRM				*e*S		**S**	**14 11 11.6**	**-2.5**
DHRM				IAML			14 11 14.3	
comp=E,6μm,0.4s								
UCH	**Uchtor**	**6.30**	**24**	P		**Pn**	**14 10 06.9**	**-0.7**
SNR=917								
DZA	**Taraz**	**6.37**	**2**	*e*P		**Pn**	**14 10 07.4**	**-0.8**
baz=1.3								
DZA	**Taraz**	**6.37**	**2**	*e*PN		**Pn**	**14 10 07.3**	**-0.8**
EKS2	**Erkin-Say**	**6.49**	**18**	P		**Pn**	**14 10 09.1**	**-0.6**
SNR=562								
BRLS	**Boroldaу**	**6.58**	**352**	⇓*i*P		**Pn**	**14 10 06.5**	**-4.2**
baz=350								
BRLS	**Boroldaу**	**6.58**	**352**	*d*iPN		**Pn**	**14 10 06.5**	**-4.2**
KK31	**Karatay Array**	**6.59**	**357**	⇓P		**Pn**	**14 10 09.9**	**-1.1**
comp=E,396nm,0.3s,baz=182,slow=12,SNR=3980								
KK31				⇓S		**S**	**14 11 19.7**	**-6.3**
comp=E,1μm,0.3s,baz=181,slow=20,SNR=21								
KK31	**Karatay Array**	**6.59**	**357**	Pn		**Pn**	**14 10 10.1**	**-0.9**
KK31	**Karatay Array**	**6.59**	**357**	PN		**Pn**	**14 10 10.1**	**-0.9**
KKAR	**Karatay Array**	**6.59**	**357**	Pn		**Pn**	**14 10 10.1**	**-0.9**
KKAR	**Karatay Array**	**6.59**	**357**	PN		**Pn**	**14 10 10.1**	**-0.9**
AAK	**Ala-Archa**	**6.67**	**22**	P		**Pn**	**14 10 11.7**	**-0.3**
SNR=338								
AAK	**Ala-Archa**	**6.67**	**22**	⇑P		**Pn**	**14 10 11.4**	**-0.6**
comp=E,515nm,0.5s								
AAK				⇓S		**S**	**14 11 24.4**	**-3.5**
comp=E,2μm,0.8s								
AAK	**Ala-Archa**	**6.67**	**22**	*i* P		**Pn**	**14 10 11.7**	**-0.3**
SNR=402								
AAK	**Ala-Archa**	**6.67**	**22**	P		**Pn**	**14 10 11.7**	**-0.3**
comp=E,848nm,0.5s,baz=203,slow=7.9,SNR=1683								
AAK				S		**S**	**14 11 24.7**	**-3.2**
comp=E,542nm,0.5s,baz=328,slow=21,SNR=18								
AAK	**Ala-Archa**	**6.67**	**22**	P		**Pn**	**14 10 11.8**	**-0.3**
AAK				S		**S**	**14 11 25.0**	**-2.9**
AAK	**Ala-Archa**	**6.67**	**22**	*d*iPN		**Pn**	**14 10 11.2**	**-0.8**
BHK	**Bhakra**	**6.75**	**137**	*e*P		**Pn**	**14 10 12.2**	**-0.9**
BHK				*e*S		**S**	**14 11 26.3**	**-3.7**
BHK				IAML			14 11 28.4	
comp=E,2μm,0.4s								
BHK				IAML			14 11 30.3	
comp=N,2μm,0.4s								
KBK	**Karagaybulak**	**6.83**	**25**	P		**Pn**	**14 10 13.9**	**-0.2**
SNR=672								
FRU1	**Bishkek**	**6.86**	**23**			**Pn**	**14 10 14.5**	**0.0**
FRU1	**Bishkek**	**6.86**	**23**	PN		**Pn**	**14 10 14.5**	**0.0**
ULHL	**Ulahol**	**6.99**	**33**	P		**Pn**	**14 10 15.1**	**-1.1**
SNR=179								
CHMS	**Chumysh**	**7.07**	**23**	P		**Pn**	**14 10 16.3**	**-0.9**
SNR=119								
CHMS	**Chumysh**	**7.07**	**23**	P		Pn	14 10 05.0	-12
comp=N,6μm,0.2s								
CHMS				⇑P			14 10 16.1	
comp=N,797nm,0.7s								
CHMS	**Chumysh**	**7.07**	**23**	PN		**Pn**	**14 10 16.6**	**-0.6**
USP	**Ospenovka**	**7.24**	**20**	P		**Pn**	**14 10 18.0**	**-1.4**
SNR=390								
TKM2	**Tokmak 2**	**7.29**	**27**	P		**Pn**	**14 10 19.6**	**-0.6**
SNR=2470								
TKM2	**Tokmak 2**	**7.29**	**27**	⇑P		**Pn**	**14 10 19.4**	**-0.8**
comp=N,1μm,0.6s								
TKM2	**Tokmak 2**	**7.29**	**27**	PN		**Pn**	**14 10 19.3**	**-0.8**
SMLA	**Simla**	**7.39**	**135**	*e*P		**Pn**	**14 10 20.6**	**-0.8**
SMLA				*e*S		**S**	**14 11 39.1**	**-5.9**
SMLA				IAML			14 11 44.5	
comp=N,2μm,0.2s								
SMLA				IAML			14 11 46.1	
comp=E,3μm,0.4s								
SGDS	**Sogindy**	**7.45**	**20**	⇓*i*P		**Pn**	**14 10 20.7**	**-1.4**
comp=E,50nm,0.5s,baz=20								
SGDS	**Sogindy**	**7.45**	**20**	*d*iPN		**Pn**	**14 10 20.7**	**-1.4**
SGDS				pmax		pmax		
comp=Z,50nm,0.5s								
HRA	**Herat**	**7.50**	**256**	Pn		**Pn**	**14 10 22.8**	**-0.2**
DGS	**Degeres**	**7.63**	**27**	Lg		Lg	14 11 44.2	
comp=Z,607nm,0.9s								
IZV	**Izvestkoviy**	**7.79**	**32**	P		**Pn**	**14 10 26.1**	**-0.5**
comp=Z,194nm,0.6s								
MTBS	**Maitube**	**7.79**	**30**	P		**Pn**	**14 10 26.2**	**-0.3**
comp=Z,458nm,0.4s								
TNSS	**Tian-Shan**	**7.94**	**33**	P		**Pn**	**14 10 27.7**	**-1.0**
comp=Z,183nm,0.4s								
TNSS	**Tian-Shan**	**7.94**	**33**	*e*P		**Pn**	**14 10 27.6**	**-1.1**
baz=33								
TNSS	**Tian-Shan**	**7.94**	**33**	*e*PN		**Pn**	**14 10 27.6**	**-1.1**
AAA	**Alma-Ata**	**8.06**	**32**	P		**Pn**	**14 10 30.5**	**+0.5**
comp=Z,524nm,1.1s								
MDOK	**Medeo**	**8.08**	**33**	⇑P		**Pn**	**14 10 29.4**	**-1.0**
comp=Z,216nm,0.6s								
MDOK				Pg			14 10 29.9	
comp=Z,259nm,0.7s								
MDOK	**Medeo**	**8.08**	**33**	*e*P		**Pn**	**14 10 29.6**	**-0.9**
baz=33								
MDOK	**Medeo**	**8.08**	**33**	*e*PN		**Pn**	**14 10 29.5**	**-0.9**
KNDC	**Almaty**	**8.09**	**32**	⇑P		**Pn**	**14 10 30.2**	**-0.2**
comp=Z,2μm,1.0s								
KNDC	**Almaty**	**8.09**	**32**	PN		**Pn**	**14 10 30.2**	**-0.2**
KKR	**Kurukshetra**	**8.12**	**142**	*e*P		**Pn**	**14 10 30.1**	**-0.8**
KOTS	**Kotyrbulak**	**8.16**	**33**	P		**Pn**	**14 10 31.2**	**-0.3**
comp=Z,263nm,0.7s								
KTBS	**Karatobe**	**8.38**	**29**	P		**Pn**	**14 10 32.5**	**-1.6**
comp=Z,73nm,0.9s								
DDI	**Dehra Dun**	**8.50**	**135**	*e*P		**Pn**	**14 10 35.2**	**-0.7**
DDI				*e*S		**S**	**14 12 05.8**	**-5.8**
DDI				IAML			14 12 08.2	
comp=N,3μm,0.6s								
DDI				IAML			14 12 08.7	
comp=E,2μm,0.5s								
CHKK	**Chushkaly**	**8.62**	**30**	P		**Pn**	**14 10 35.7**	**-1.6**
comp=E,127nm,0.7s								
CHKK	**Chushkaly**	**8.62**	**30**	*e*P		**Pn**	**14 10 35.9**	**-1.4**
baz=30								
CHKK	**Chushkaly**	**8.62**	**30**	*e*PN		**Pn**	**14 10 35.8**	**-1.4**
SATY	**Saty**	**8.64**	**39**	P		**Pn**	**14 10 36.4**	**-1.3**
comp=E,117nm,0.7s								
SATY	**Saty**	**8.64**	**39**	⇓*i*P		**Pn**	**14 10 36.3**	**-1.3**
baz=38								
SATY	**Saty**	**8.64**	**39**	*d*iPN		**Pn**	**14 10 36.3**	**-1.3**
ZHN	**Zhinishke**	**8.73**	**38**	P		**Pn**	**14 10 37.9**	**-1.0**
comp=E,84nm,0.5s								
ZHN	**Zhinishke**	**8.73**	**38**	*e*P		**Pn**	**14 10 37.6**	**-1.3**
baz=38								
ZHN	**Zhinishke**	**8.73**	**38**	*e*PN		**Pn**	**14 10 37.6**	**-1.3**
BTLS	**Baital**	**8.81**	**14**	P		**Pn**	**14 10 38.4**	**-1.3**
comp=E,110nm,0.6s								
BTLS	**Baital**	**8.81**	**14**	⇓*i*P		**Pn**	**14 10 38.5**	**-1.3**
comp=E,28nm,0.5s,baz=14								
BTLS	**Baital**	**8.81**	**14**	*d*iPN		**Pn**	**14 10 38.4**	**-1.3**
BTLS				pmax		pmax		
comp=Z,28nm,0.5s								
KURS	**Kuram**	**8.85**	**36**	P		**Pn**	**14 10 39.3**	**-0.9**
comp=Z,111nm,1.1s								
UZB	**Uzynbulak**	**9.02**	**40**	P		**Pn**	**14 10 41.1**	**-1.5**
comp=Z,76nm,0.9s								
UZB	**Uzynbulak**	**9.02**	**40**	*e*P		**Pn**	**14 10 41.0**	**-1.5**
baz=40								
UZB	**Uzynbulak**	**9.02**	**40**	*e*PN		**Pn**	**14 10 41.0**	**-1.6**
BHGR	**Bahadurgarh**	**9.24**	**146**	*e*S		S	14 12 19.2	-10
SHLS	**Shalkode**	**9.26**	**42**	P		**Pn**	**14 10 47.6**	**+1.9**
comp=Z,95nm,0.6s								
SHLS	**Shalkode**	**9.26**	**42**	*e*P		**Pn**	**14 10 47.4**	**+1.7**
baz=43								
SHLS	**Shalkode**	**9.26**	**42**	*e*P		**Pn**	**14 10 47.3**	**+1.7**
ARXS	**Arharly**	**9.26**	**32**	P		**Pn**	**14 10 43.8**	**-1.9**
comp=Z,197nm,0.8s								
ARXS	**Arharly**	**9.26**	**32**	*e*P		**Pn**	**14 10 43.7**	**-1.9**
NDI	**New Delhi**	**9.37**	**145**	*e*P		**Pn**	**14 10 45.0**	**-2.3**
NDI				*e*P		P	14 10 45.3	-11
NDI				*e*S		S	14 12 23.3	-9.4
PDGK	**Podgornoye**	**9.39**	**41**	P		**Pn**	**14 10 45.8**	**-1.7**
comp=Z,44nm,0.6s								
PDGK	**Podgornoye**	**9.39**	**41**	⇑P		**Pn**	**14 10 45.4**	**-2.0**
comp=Z,79nm,0.7s								
PDGK	**Podgornoye**	**9.39**	**41**	P		**Pn**	**14 10 45.4**	**-2.0**
PDGK				S		S	14 12 20.5	-12
BLB	**Baldybastay**	**9.46**	**34**	P		**Pn**	**14 10 46.3**	**-1.9**
comp=Z,221nm,0.6s								
AYAN	**Aya Nagar**	**9.50**	**146**	*e*P		**Pn**	**14 10 47.0**	**-1.9**
KUDL	**Kundal**	**9.52**	**150**	*e*P		**Pn**	**14 10 47.2**	**-2.0**
KUDL				*e*S		S	14 12 25.6	-10
BISR	**Bishrakh**	**9.57**	**144**	*e*P		**Pn**	**14 10 48.5**	**-1.2**
BISR				*e*S		**S**	**14 12 29.4**	**-7.7**
SONA	**Sohna**	**9.68**	**147**	*e*P		**Pn**	**14 10 49.1**	**-2.1**
SONA				⇑*ex*		x	14 12 28.3	
KTMS	**Ketmen**	**9.93**	**43**	P		**Pn**	**14 10 52.8**	**-1.7**
comp=Z,20nm,0.8s								
KNOS	**Konyrlen**	**9.98**	**36**	P		**Pn**	**14 10 53.4**	**-1.6**
comp=Z,59nm,0.7s								
TDK	**Taldyqorghan**	**10.14**	**31**	P		**Pn**	**14 10 55.7**	**-1.3**
comp=Z,172nm,0.9s								
TDK	**Taldyqorghan**	**10.14**	**31**	*e*P		**Pn**	**14 10 55.4**	**-1.7**
comp=Z,39nm,0.6s,baz=31								
TDK	**Taldyqorghan**	**10.14**	**31**	*e*P		**Pn**	**14 10 55.3**	**-1.7**
TDK				pmax		pmax		
comp=Z,39nm,0.6s								
PTH	**Pithoragarh**	**10.35**	**130**	*e*S		S	14 12 46.9	-9.3
GEYT	**Alibeck**	**10.42**	**282**	P		**Pn**	**14 10 57.9**	**-2.8**
comp=Z,64nm,0.4s,baz=156,slow=11,SNR=130								
GEYT				S		**S**	**14 12 53.0**	**-4.4**
comp=Z,151nm,0.5s,baz=148,slow=14,SNR=7.9								
GYA0	**ALIBECK ARRAY**	**10.42**	**282**	P		**Pn**	**14 10 57.6**	**-3.1**
GYA0				S		**S**	**14 12 51.6**	**-5.8**
GYA0B	**ALIBECK ARRAY**	**10.42**	**282**	⇑P		**Pn**	**14 10 57.7**	**-3.0**
GYA0B				⇑S		**S**	**14 12 51.7**	**-5.7**
GYA0B	**ALIBECK ARRAY**	**10.42**	**282**			**Pn**	**14 10 57.8**	**-2.9**
LGTI	**Lohaghat**	**10.44**	**130**	*ex*		**Pn**	**14 10 57.0**	**-3.9**
LGTI				*ex*		x	14 12 45.9	
LGTI				IAML			14 12 51.3	
comp=E,698nm,0.3s								
LGTI				IAML			14 12 51.6	
comp=N,564nm,0.5s								
AJM	**Ajmer**	**10.46**	**162**	*e*P		**Pn**	**14 10 58.9**	**-2.4**
AJM				IAML			14 12 53.4	
comp=E,308nm,0.1s								
AJM				IAML			14 12 55.6	
comp=N,382nm,0.6s								
KAPS	**Kapalarasan**	**10.77**	**33**	P		**Pn**	**14 11 04.0**	**-1.2**
comp=N,67nm,0.4s								
OTUK	**Ortayu**	**11.76**	**4**	P		**Pn**	**14 11 16.1**	**-1.6**
comp=N,66nm,1.0s								
BRCI	**Bahraich**	**12.61**	**132**	*e*P		**Pn**	**14 11 27.1**	**-1.5**
BRCI				*e*S		S	14 13 39.6	-10
JHNI	**Jhansi**	**12.74**	**148**	*e*P		**Pn**	**14 11 28.6**	**-1.7**
JHNI				*e*S		S	14 13 40.1	-12
JHNI				IAML			14 13 45.0	
comp=E,352nm,0.6s								
MAKZ	**Makanchi**	**13.12**	**35**	⇓P		**Pn**	**14 11 33.2

SHME Shamm 16.45 235 *i* P **P** **14 12 15.2 +0.2**
SNR=10.0
SHME Shamm 16.45 235 P **Pn** **14 12 15.5 -0.4**
SNR=5.9
SHME S **S** **14 15 13.9 -3.2**
BVA0 Borovoye Array 16.52 359 ⇓P **P** **14 12 15.1 -0.3**
comp=E,209nm,0.8s,baz=160,slow=12,SNR=695
BVA0 S **S** **14 15 14.7 -3.1**
comp=E,2.2nm,0.9s,baz=156,slow=16,SNR=6.9
BVA0 Borovoye Array 16.52 359 P **P** **14 12 15.1 -0.3**
BVA0 S **S** **14 15 14.7 -3.1**
BVAR Borovoye Array 16.52 359 P **P** **14 12 15.2 -0.2**
comp=E,178nm,0.5s,baz=154,slow=7.8,SNR=270
BVAR S **S** **14 15 14.1 -3.7**
comp=E,69nm,0.9s,baz=153,slow=20,SNR=3.4
BRVK Borovoye 16.55 358 P **P** **14 12 15.7 -0.1**
BRVK Borovoye 16.55 358 P **P** **14 12 16.2 +0.4**
BRVK S **S** **14 15 13.7 -4.8**
BRVK Borovoye 16.55 358 *ce* P **P** **14 12 15.6 -0.1**
BRVK pmax pmax
comp=Z,280nm,1.0s
AKL Akola 16.59 160 *e* S **S** **14 15 12.4 -7.5**
AKTO Aktyubinsk 16.79 330 P **Pn** **14 12 19.1 -0.5**
comp=Z,578nm,0.7s,baz=141,slow=8.2,SNR=1101
AKTO S **S** **14 15 20.1 -3.3**
comp=Z,19nm,0.4s,baz=3.5,slow=19,SNR=1.4
MDH Madha 16.87 233 *i* P **P** **14 12 18.9 -0.7**
SNR=7.5
MDH Madha 16.87 233 P **P** **14 12 18.8 -0.7**
MASF Masafi 16.91 233 P **Pn** **14 12 22.1 +0.8**
SNR=12
MASF S **S** **14 15 25.6 -0.6**
MSFE Esma-Masafi 16.92 233 *i* P **P** **14 12 19.5 -0.6**
SNR=12
WSAR Wadi Sarin 17.04 222 P **Pn** **14 12 22.2 -0.6**
comp=Z,30nm,0.6s,baz=69,slow=6.9,SNR=24
WSAR S **S** **14 15 27.9 -0.9**
comp=Z,4.8nm,0.7s,baz=202,slow=18,SNR=1.0
BIDO Bidbid 17.10 224 P **Pn** **14 12 23.8 +0.3**
UMQ Umm Al-Quwin 17.13 235 P **Pn** **14 12 25.6 +1.8**
UOSS Minazif 17.18 232 P **P** **14 12 23.4 +0.5**
UOSS Minazif 17.18 232 *i* P **P** **14 12 23.1 +0.1**
SNR=8.4
UOSS Minazif 17.18 232 P **P** **14 12 23.7 +0.7**
HATD Hatta, Dubai 17.31 232 P **P** **14 12 25.0 +0.6**
HATD Hatta, Dubai 17.31 232 P **Pn** **14 12 26.4 +0.3**
SNR=7.7
WBK Wadi Bani Khal 17.37 220 P **Pn** **14 12 27.3 +0.5**
SNR=6.3
WBK S **S** **14 15 39.5 +4.1**
ASHO Ashiyiah 17.46 232 *i* P **P** **14 12 26.8 +0.7**
SNR=28
ASHO Ashiyiah 17.46 232 P **Pn** **14 12 27.2 -0.6**
SNR=7.7
ASHO S **S** **14 15 40.8 +3.6**
GTK Tadong 17.47 117 ⇑ *eP* **Pn** **14 12 28.3 +0.3**
NAZ Nazwa, Dubai 17.50 233 P **P** **14 12 26.5 +0.1**
NAZ Nazwa, Dubai 17.50 233 P **Pn** **14 12 28.1 -0.1**
SMDO Samad 17.50 224 P **Pn** **14 12 27.8 -0.6**
SNR=11
HOQ Hoqain 17.52 226 P **P** **14 12 27.5 +0.9**
JLN Jalan Bani Buh 17.53 218 P **Pn** **14 12 28.4 -0.1**
SNR=15
SOHO SOHO 17.57 229 P **P** **14 12 25.3 -1.9**
SOHO SOHO 17.57 229 P **P** **14 12 26.6 -0.6**
FAQ Al Faqa, Dubai 17.71 233 *i* P **P** **14 12 28.8 0.0**
SNR=6.6
FAQ Al Faqa, Dubai 17.71 233 P **P** **14 12 29.5 +0.8**
ASUD Al Ashush, Dub 17.97 233 *i* P **P** **14 12 32.5 +1.0**
SNR=7.0
ASUD Al Ashush, Dub 17.97 233 P **Pn** **14 12 33.0 -0.7**
SNR=7.0
BOK Bokaro 18.00 131 *ex* **P** **14 12 31.6 -0.3**
JMDO Jabal Madar 18.03 222 P **Pn** **14 12 34.2 -0.3**
SNR=17
ALNE Al Ain 18.11 231 *i* P **P** **14 12 33.8 +0.7**
SNR=25
ALNE Al Ain 18.11 231 P **Pn** **14 12 34.5 -0.9**
SNR=9.3
ALNE S **S** **14 15 49.7 -0.4**
LSA Lhasa 18.14 106 P **Pn** **14 12 37.1 +1.0**
LSA pmax pmax
comp=E,85nm,0.8s
ARQ Araqi 18.17 228 P **Pn** **14 12 35.2 -0.9**
SNR=17
BSY Bisya 18.23 225 P **Pn** **14 12 36.3 -0.5**
SNR=24
AJN Ajban 18.23 234 *i* P **P** **14 12 34.2 -0.2**
SNR=11
AJN Ajban 18.23 234 P **P** **14 12 34.9 +0.5**
SNR=11
JHSG JHARSUGUGA 18.39 140 *ex* **P** **14 12 39.5 +3.4**
GOMU GeErMu 19.13 84 P **P** **14 12 45.3 +0.9**
GOMU pP Pn 14 12 50.3 +2.6
GOMU S **S** **14 16 03.9 -6.9**
GOMU pmax pmax
comp=Z,40nm,1.3s
MAK Makhachkala 19.19 297 *eP* **P** **14 12 44.6 0.0**
MAK *eS* **S** **14 16 11.9 +0.8**
MAK pmax pmax
comp=Z,532nm,1.2s
MAK MLR MLR
comp=Z,212nm,12.0s
MHTO MHTO 19.23 220 P **Pn** **14 12 47.1 -1.4**
SNR=12
JRN Qarnain Island 19.41 239 P **P** **14 12 46.7 -0.4**
MZWR Madinat Zayed 19.51 234 P **P** **14 12 47.3 -0.9**
MZWR S **S** **14 16 13.1 -4.6**
ZAA0 Zalesovo Array 19.88 24 ⇑P **P** **14 12 51.8 -0.1**
comp=Z,10nm,0.5s
ZALV Zalesovo Beam 19.88 24 P **P** **14 12 51.6 -0.3**
ZALV Zalesovo Beam 19.88 24 P **P** **14 12 52.0 +0.1**
comp=Z,94nm,0.4s,baz=221,slow=11,SNR=268
ZALV S **S** **14 16 21.0 -3.4**
comp=Z,5.8nm,0.5s,baz=11,slow=22,SNR=2.4
ZALV Zalesovo Beam 19.88 24 *i* P **P** **14 12 52.0 +0.1**
ZALV pmax pmax
comp=Z,133nm,0.5s
GHWR Ruwais 20.04 236 P **P** **14 12 54.4 +0.5**
GHWR S **S** **14 16 22.9 -5.1**
HYB Hyderabad 20.14 159 *eP* **P** **14 12 56.5 +1.4**
HYB IVmB_BB 14 12 58.4
comp=Z,1μm,0.9s
HYB *e* 14 13 19.7
HYB *ep* P **pP** **14 13 29.3 +0.8**
HYB *es* P **sP** **14 13 54.9 +1.0**
HYB *eS* **S** **14 16 30.9 +0.7**
HYB *e* 14 17 23.5
SHMA Al-Shehemyia 20.17 244 P **P** **14 12 55.0 -0.3**
SHMA S **S** **14 16 26.2 -4.4**
MZR Muzera 20.31 233 P **P** **14 12 56.4 -0.3**
MZR S **S** **14 16 28.2 -5.2**
DQM DQM 20.33 219 P **P** **14 12 58.1 +1.1**
SNR=5.1
SAKB Bahrain 20.41 245 P **P** **14 12 57.6 -0.2**
SAKB S **S** **14 16 31.8 -3.4**
TRNA Turayna 20.68 241 P **P** **14 12 59.2 -1.5**
TRNA S **S** **14 16 34.7 -5.6**
SLWR Sila 20.77 239 P **P** **14 12 59.9 -1.8**
SLWR S **S** **14 16 36.3 -5.8**
SHL Shillong 20.87 116 P **P** **14 13 03.2 +0.3**
SHL Shillong 20.87 116 *eP* **P** **14 13 03.0 +0.2**
SHL Shillong 20.87 116 P **P** **14 13 05.5 +2.6**
SNR=18
SHL Shillong 20.87 116 P **P** **14 13 03.2 +0.3**
KBD Kabd 20.92 256 P **P** **14 13 04.2 +1.0**
KBD S **S** **14 16 43.2 -1.5**
GNI Garni 20.93 288 P **P** **14 13 06.2 +2.8**
GNI Garni 20.93 288 P **P** **14 13 06.5 +3.1**
GNI Garni 20.93 288 P **P** **14 13 05.9 +2.4**
comp=Z,67nm,0.8s,baz=110,slow=2.4,SNR=30
comp=Z,67nm,0.8s
GNI Garni 20.93 288 *d* iP **P** **14 13 05.6 +2.2**
GNI pmax pmax
comp=Z,134nm,1.0s
GNI Garni 20.93 288 P **P** **14 13 06.3 +2.9**
comp=Z,154nm,1.3s,comp=Z,1μm
SMRA Abu-Samra 20.95 242 P **P** **14 13 02.3 -1.2**
SMRA S **S** **14 16 41.1 -4.1**
ZIRO ZIRO 21.26 108 *eP* **P** **14 13 07.5 +0.5**
ITAN ITANAGAR 21.36 109 *eP* **P** **14 13 09.1 +1.3**
SVE Sverdlovsk 21.49 344 *eP* **P** **14 13 09.3 +0.4**
SVE *eS* **S** **14 16 58.6 +4.8**
SVE pmax pmax
comp=Z,141nm,0.9s
ARU Arti 21.64 341 P **P** **14 13 10.6 +0.3**
ARU Arti 21.64 341 P **P** **14 13 10.8 +0.5**
comp=Z,79nm,0.5s,baz=150,slow=5.7,SNR=78
ARU S **S** **14 17 05.4 +9.4**
comp=Z,18nm,0.8s,baz=123,slow=23,SNR=1.1
comp=Z,79nm,0.5s
ARU Arti 21.64 341 *d* iP **P** **14 13 10.6 +0.3**
ARU *PP **pP** **14 13 41.3 -3.6**
ARU 14 13 50.1
ARU S **S** **14 16 59.6 +3.6**
ARU pmax pmax
comp=Z,170nm,1.3s
ARU Arti 21.64 341 P **P** **14 13 10.2 -0.1**
comp=Z,145nm,0.7s,comp=Z,1μm
NCK Nalchik 22.10 297 *i* P **P** **14 13 15.2 +0.1**
NCK pmax pmax
comp=Z,84nm,0.8s
KOHI KOHIMA 22.42 112 *eP* **P** **14 13 19.7 +1.3**
KBZ Khabaz 22.64 297 P **P** **14 13 20.7 +0.8**
comp=Z,14nm,0.8s,baz=101,slow=10,SNR=38
comp=Z,14nm,0.8s
GOF Gofitskoye 22.78 301 *ce* P **P** **14 13 23.2 +2.0**
IMP Imphal 22.81 114 *eP* **P** **14 13 24.2 +2.4**
SHA1 Shidzhatmaz 22.81 297 ⇑ *eP* **P** **14 13 23.5 +1.7**
GTA Gaotai 22.82 74 ⇑P **P** **14 13 23.6 +1.8**
GTA pP pP 14 14 03.6 +4.7
GTA sP sP 14 14 30.0 +5.3
GTA PcP **PcP** **14 17 06.5 +0.3**
GTA SS SS 14 18 21.4 -37
GTA pmax pmax
comp=Z,36nm,0.9s
GTA pmax pmax
comp=Z,280nm,9.2s
KIV Kislovodsk 22.82 298 ⇑P **P** **14 13 23.3 +1.6**
KIV Kislovodsk 22.82 298 P **P** **14 13 23.5 +1.7**
KIV Kislovodsk 22.82 298 P **P** **14 13 23.2 +1.4**
KIV Kislovodsk 22.82 298 P **P** **14 13 23.3 +1.6**
KIV Kislovodsk 22.82 298 *eP* **P** **14 13 23.0 +1.3**
KIV *eS* **S** **14 17 18.9 +3.2**
KIV pmax pmax
comp=Z,44nm,1.1s
KIV MLR MLR
comp=Z,101nm,14.0s
KIV Kislovodsk 22.82 298 P **P** **14 13 22.8 +1.1**
comp=Z,77nm,0.7s,comp=Z,1μm
LKP Lekhapani 22.89 107 *eP* **P** **14 13 24.7 +2.3**
BELG Belogornoye 22.91 321 P **P** **14 13 23.3 +1.1**
comp=Z,123nm,0.7s,baz=322,slow=0.4,SNR=32
BELG S **S** **14 17 18.4 +1.9**
comp=Z,19nm,0.7s,baz=119,slow=19,SNR=1.2
comp=Z,123nm,0.7s
BELG Belogornoye 22.91 321 *d* iP **P** **14 13 22.7 +0.5**
BELG pmax pmax
comp=Z,24nm,0.8s
SHAO Shalim 22.91 221 *i* P **P** **14 13 24.2 +1.6**
SNR=9.2
DOK Doka 23.24 224 P **P** **14 13 26.3 +0.7**
BCA Borcka 23.35 291 ⇓P **P** **14 13 28.9 +2.5**
DMTO DMTO 23.52 222 P **P** **14 13 29.2 +1.1**
WHFO Wadi Hawf 24.00 224 P **P** **14 13 32.9 +0.4**
RBK Rabkut 24.10 223 P **P** **14 13 33.9 +0.4**
LABN Labinsk 24.32 299 *eP* **P** **14 13 33.6 -1.6**
LABN *e*PP **pP** **14 14 08.5 -5.3**
LABN *eS* **S** **14 17 40.0 +0.6**
LABN pmax pmax
comp=Z,42nm,0.4s
ERBR Yeremizino-Bor 24.68 301 *eP* **P** **14 13 35.9 -2.5**
ERBR *e*PP **pP** **14 14 16.4 -1.1**
ERBR *eS* **S** **14 17 40.2 -4.8**
ERBR pmax pmax
comp=Z,28nm,0.3s
ABTO Aybut 24.72 224 P **P** **14 13 39.6 +0.5**
SNR=9.7
SOC Sochi 24.91 296 *eP* **P** **14 13 40.0 -0.5**
SOC *e*PP **pP** **14 14 16.6 -3.4**
SOC *e* 14 14 25.1
SOC *e*SP PP 14 14 38.8 -2.3
SOC *eS* **S** **14 17 50.3 +1.6**
SOC pmax pmax
comp=Z,30nm,0.8s
VRH Novokhopyorsk 25.53 314 *eP* **P** **14 13 46.6 +0.6**
VRH *e* 14 14 50.0
VRH pmax pmax
comp=Z,23nm,1.5s
RAYN Ar Rayn 25.55 247 P **P** **14 13 46.8 +0.3**
RAYN Ar Rayn 25.55 247 *i* P **P** **14 13 46.7 +0.1**
SNR=8.6
RAYN Ar Rayn 25.55 247 P **P** **14 13 46.9 +0.3**
RAYN S **S** **14 17 59.3 +0.1**
RAYN Ar Rayn 25.55 247 P **P** **14 13 47.0 +0.4**
ARPR Arapgir-MALATY 25.91 286 P **P** **14 13 48.0 -1.8**
ARPR IAmb IAmb 14 14 41.2
comp=Z,52nm,0.9s
TNCH TengChong 26.14 108 P **P** **14 13 53.5 +1.5**
TNCH pP pP 14 14 35.4 +1.8
TNCH sP sP 14 14 57.8 +0.4
TNCH S **S** **14 18 11.2 +2.5**
TNCH pmax pmax
comp=Z,53nm,0.6s
TNCH pmax pmax
comp=Z,110nm,4.1s
KIRV Kirov 26.25 334 ⇑ *eP* **P** **14 13 53.4 +1.1**
LZH Lanzhou 26.36 81 ⇑P **P** **14 13 55.7 +1.8**
LZH sP sP 14 14 58.8 -0.2
LZH PcP **PcP** **14 17 15.0 +0.8**
LZH pmax pmax
comp=Z,35nm,1.2s
ANN Anapa 26.67 299 *i* P **P** **14 13 55.9 -0.4**
ANN *e*PP **pP** **14 14 36.6 -0.2**
ANN *e* 14 14 49.3
ANN *eS* **S** **14 18 19.3 +2.9**
ANN *e*SS **sS** **14 19 27.7 -2.7**
ANN pmax pmax
comp=Z,40nm,0.6s
ZAK Zakamensk 26.95 49 *eP* **P** **14 13 59.2 +0.3**
ZAK pmax pmax
comp=Z,14nm,0.9s
VSR Storozhevoye 27.03 313 *eP* **P** **14 13 58.5 -0.9**
VSR *e*PP **pP** **14 14 38.7 -1.3**
VSR pmax pmax
comp=Z,60nm,1.4s
VORR Voronezh 27.17 314 *eP* **P** **14 14 01.2 +0.6**
VORR *e* 14 15 04.2
VORR pmax pmax
comp=Z,30nm,1.3s
LPSR Galich'ya Gora 27.68 316 *eP* **P** **14 14 05.0 -0.2**
LPSR pmax pmax
comp=Z,20nm,0.7s
CD2 Chengdu 27.68 92 P **P** **14 14 07.4 +1.8**
CD2 PcP **PcP** **14 17 17.0 -0.3**
CD2 S **S** **14 18 35.6 +2.8**
CD2 pmax pmax
comp=Z,70nm,0.9s
PZH PanZhiHua 27.89 102 P **P** **14 14 08.4 +0.8**
PZH PcP **PcP** **14 17 17.8 -0.1**
PZH ScP **ScP** **14 20 38.2 -1.4**
PZH PcS **PcS** **14 20 59.0 -1.4**
PZH ScS **ScS** **14 24 30.9 -1.6**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,130nm,6.9s
DIKM Dikmen 28.13 292 P **P** **14 14 10.8 +1.5**
comp=Z,15nm,0.8s,comp=Z,316nm
IRK Irkutsk 28.16 46 *eP* **P** **14 14 09.8 +0.3**
IRK *e* 14 14 50.1
IRK pmax pmax
comp=Z,41nm,1.5s
MNCI Minicoy 28.16 176 P **P** **14 14 10.8 +1.0**
SONM Songino Array 28.29 55 P **P** **14 14 11.2 +0.4**
SONM Songino Array 28.29 55 P **P** **14 14 12.2 +1.4**
comp=Z,20nm,0.8s,baz=258,slow=9.8,SNR=67
SONM pP **pP** **14 14 53.7 +1.0**
comp=Z,4.9nm,0.8s,baz=260,slow=9.2,SNR=2.1
comp=Z,20nm,0.8s
ULN Ulaanbaatar 28.73 55 P **P** **14 14 15.3 +0.5**
ULN Ulaanbaatar 28.73 55 P **P** **14 14 16.2 +1.4**
KMI Kunming 29.35 104 ⇑P **P** **14 14 21.4 +0.8**
KMI sP sP 14 15 25.8 -0.5
KMI sS sS 14 20 15.5 +1.8
KMI pmax pmax
comp=Z,21nm,0.8s
KMI pmax pmax
comp=Z,150nm,5.2s
MMAI Mount Meron Ar 29.40 274 P **P** **14 14 22.4 +1.7**
comp=Z,3.2nm,0.5s,baz=65,slow=10,SNR=7.6
MMAI PcP **PcP** **14 17 22.0 +0.4**
comp=Z,12nm,0.6s,baz=73,slow=5.1,SNR=15
comp=Z,3.2nm,0.5s
BR104 Keskin Array S 29.48 288 P **P** **14 14 22.6 +1.2**
comp=Z,17nm,0.7s,comp=Z,144nm
BR131 Keskin Array S 29.48 288 *i* P **P** **14 14 22.1 +0.6**
BRTR Keskin Array B 29.48 288 P **P** **14 14 22.0 +0.5**
BRTR Keskin Array B 29.48 288 P **P** **14 14 22.9 +1.4**
comp=Z,16nm,0.6s,baz=102,slow=9.0,SNR=62
BRTR pP **pP** **14 15 04.7 +2.3**
comp=Z,5.0nm,0.6s,baz=96,slow=9.1,SNR=2.5
BRTR PcP **PcP** **14 17 21.3 -0.4**
comp=Z,9.5nm,0.8s,baz=151,slow=3.9,SNR=7.1
comp=Z,16nm,0.6s
BRTR Keskin Array B 29.48 288 *ce* P **P** **14 14 22.8 +1.3**
BRTR pmax pmax
comp=Z,16nm,0.6s
HMDM Hanimaadhoo 29.66 176 P **P** **14 14 22.9 -0.2**
HMDM Hanimaadhoo 29.66 176 P **P** **14 14 25.3 +2.2**
MOS Moscow 29.68 321 *eP* **P** **14 14 21.8 -1.0**
MOS *e*PP **pP** **14 15 01.5 -2.5**
MOS *e* 14 15 23.6
MOS *eS* **S** **14 19 02.3 -1.1**
MOS *e*SS **sS** **14 20 17.6 -0.1**
MOS pmax pmax
comp=Z,44nm,0.7s
MOS pmax pmax
comp=Z,52nm,0.6s
OBN Obninsk 29.96 319 *d* iP **P** **14 14 26.1 +0.8**
OBN *e*SP **sP** **14 15 27.4 -2.2**
OBN *i* S **S** **14 19 08.3 +0.6**
OBN pmax pmax
comp=Z,95nm,1.0s
OBN MLR MLR
comp=Z,159nm,16.0s
CHTO Chiang Mai 30.18 118 P **P** **14 14 28.4 +0.7**
CHTO Chiang Mai 30.18 118 P **P** **14 14 28.4 +0.7**
CHTO pmax pmax
comp=Z,37nm,0.5s
CRAI Chiangrai 30.31 114 P **P** **14 14 30.1 +1.2**
PALK Pallekele 30.41 161 P **P** **14 14 31.2 +1.4**
PALK PcP **PcP** **14 17 24.5 +0.1**
PALK Pallekele 30.41 161 P **P** **14 14 30.7 +1.0**
comp=Z,78nm,0.7s,baz=87,slow=9.6,SNR=77
comp=Z,78nm,0.7s
PALK Pallekele 30.41 161 P **P** **14 14 31.1 +1.4**
PALK Pallekele 30.41 161 P **P** **14 14 31.4 +1.7**
PALK Pallekele 30.41 161 P **P** **14 14 31.1 +1.4**
PALK PcP **PcP** **14 17 23.3 -1.0**
CM31 Chiang Mai Arr 30.42 119 P **P** **14 14 30.0 +0.2**
CM31 IAmb IAmb 14 14 32.7
comp=Z,78nm,1.2s
CMAR Chiang Mai Arr 30.42 119 P **P** **14 14 30.6 +0.8**
comp=Z,36nm,0.9s,baz=301,slow=8.2,SNR=154
CMAR pP **pP** **14 15 11.4 -0.6**
comp=Z,10nm,0.6s,baz=306,slow=9.6,SNR=2.4
CMAR PcP **PcP** **14 17 21.9 -2.4**
comp=Z,8.7nm,0.8s,baz=294,slow=3.1,SNR=5.8
CMAR ScP **ScP** **14 20 44.9 -2.7**
comp=Z,2.0nm,0.7s,baz=287,slow=4.3,SNR=4.5
CMAR PKiKP **PKiKP** **14 24 53.4 -2.0**
comp=Z,0.6nm,0.6s,baz=306,slow=2.0,SNR=4.1
comp=Z,36nm,0.9s
BTO Baotou 30.57 70 *eP* **P** **14 14 31.5 +0.5**
BTO pP **pP** **14 15 13.2 +0.1**
BTO sP **sP** **14 15 36.7 -0.1**
BTO PP **PnPn** **14 15 39.2 -0.5**
BTO pmax pmax
comp=Z,96nm,1.0s
BTO pmax pmax
comp=Z,340nm,4.6s
XAN Xi'an 30.88 83 ⇑P **P** **14 14 34.7 +0.9**
XAN PcP **PcP** **14 17 25.4 0.0**
XAN pmax pmax
comp=Z,150nm,0.8s
XAN Xi'an 30.88 83 P **P** **14 14 34.5 +0.8**
XAN PcP **PcP** **14 17 25.5 +0.1**
EIL Elat 30.88 268 P **P** **14 14 35.9 +2.2**
comp=Z,8.2nm,0.8s,baz=22,slow=5.1,SNR=5.0
comp=Z,8.2nm,0.8s
PHRA Phrae 31.31 117 P **P** **14 14 38.4 +0.8**
PHRA PcP **PcP** **14 17 27.1 +0.4**
KLMR Klimovskoe 31.49 331 *eP* **P** **14 14 36.9 -1.8**
KLMR pmax pmax
comp=Z,52nm,1.1s
PBA Port Blair 31.54 136 P **P** **14 14 40.5 +0.9**
PBA Port Blair 31.54 136 P **P** **14 14 42.3 +2.7**
HHC Hu-ho-hao-te 31.71 70 *eP* **P** **14 14 42.6 +1.5**
HHC pmax pmax
comp=Z,20nm,0.9s
HHC pmax pmax
comp=Z,150nm,3.8s
HHC LR LR
comp=Z,130nm,11.5s
HHC LR LR
comp=Z,94nm,12.2s
HHC LR LR
comp=Z,100nm,11.1s
GYA Guiyang 31.82 98 ⇓P **P** **14 14 43.5 +1.4**
GYA pmax pmax
comp=Z,70nm,1.0s
PURM Purcari 32.10 301 ⇑P **P** **14 14 46.1 +2.0**
PURM Purcari 32.10 301 P **P** **14 14 45.4 +1.3**
comp=Z,134nm,0.8s,comp=Z,2μm
ENH Enshi 32.53 90 P **P** **14 14 49.8 +1.6**
ENH Enshi 32.53 90 P **P** **14 14 49.6 +1.4**
ELL Elmali 32.84 283 P **P** **14 14 52.1 +1.2**
ELL PcP **PcP** **14 17 31.2 +0.4**
MILM Milestii Mici 32.84 302 ⇓P **P** **14 14 51.7 +1.0**
MILM Milestii Mici 32.84 302 *i* P **P** **14 14 51.0 +0.3**
comp=Z,80nm,0.9s
MILM Milestii Mici 32.84 302 *i* P **P** **14 14 51.0 +0.3**
MILM *i* 14 15 56.0
MILM *i* 14 16 06.0
MILM pmax pmax
comp=Z,80nm,0.9s
AK09 Malin Array Si 32.92 309 P **P** **14 14 51.9 +0.6**
AKASG Malin Array Be 32.97 309 P **P** **14 14 52.2 +0.4**
comp=Z,8.3nm,0.5s,baz=81,slow=7.1,SNR=80
AKASG pP **pP** **14 15 34.8 +1.7**
comp=Z,35nm,0.7s,baz=81,slow=7.2,SNR=7.3
AKASG PcP **PcP** **14 17 29.3 -1.4**
comp=Z,6.9nm,0.7s,baz=76,slow=3.3,SNR=2.8
AKASG ScP **ScP** **14 20 53.7 -2.0**
comp=Z,1.7nm,0.6s,baz=80,slow=3.6,SNR=6.4
comp=Z,8.3nm,0.5s
AKBB Malin Array Si 32.97 309 P **P** **14 14 51.3 -0.5**
AKBB IAmb IAmb 14 16 09.9
comp=Z,37nm,0.8s
AKBB ScP **ScP** **14 20 54.4 -1.3**
AKBB Malin Array Si 32.97 309 P **P** **14 14 51.3 -0.5**
AKBB pmax pmax
comp=Z,37nm,0.8s
AKBB Malin Array Si 32.97 309 P **P** **14 14 52.0 +0.3**
KIEV Kiev 32.98 309 ⇓P **P** **14 14 52.4 +0.6**
KIEV Kiev 32.98 309 P **P** **14 14 52.3 +0.4**
KIEV IAmb IAmb 14 16 09.9
comp=Z,33nm,0.8s
KIEV Kiev 32.98 309 *i* P **P** **14 14 52.3 +0.6**
SNR=17
KIEV Kiev 32.98 309 P **P** **14 14 52.4 +0.6**
KIEV Kiev 32.98 309 P **P** **14 14 52.2 +0.4**
KIEV pP **pP** **14 15 34.6 +1.5**
KIEV sP **sP** **14 15 55.7 -0.6**
KIEV Kiev 32.98 309 P **P** **14 14 51.6 -0.2**
comp=Z,116nm,0.7s
SORM Soroca 33.24 304 ⇓P **P** **14 14 54.7 +0.7**
SORM Soroca 33.24 304 P **P** **14 14 54.7 +0.7**
SORM Soroca 33.24 304 P **P** **14 14 54.3 +0.3**
comp=Z,54nm,0.8s
CFR Carcaliu 33.27 299 ⇓P **P** **14 14 55.2 +0.7**
CFR Carcaliu 33.27 299 P **P** **14 14 55.1 +0.7**
CTYL Yalikoy Yolu 33.35 292 P **P** **14 14 55.9 +0.8**
comp=Z,27nm,0.7s,comp=Z,3μm
LYN LuoYang 33.57 81 ⇑P **P** **14 14 59.4 +2.3**
LYN pP pP 14 15 40.3 +0.6
LYN PcP **PcP** **14 17 32.5 -0.2**
LYN S **S** **14 20 08.8 +4.4**
LYN pmax pmax
comp=Z,140nm,0.7s
MI30 MI30,Zelenitsa 33.63 309 P **P** **14 14 57.6 +0.2**
LUBAR Lubar, Ukraine 33.80 307 P **P** **14 14 58.8 -0.1**

NDNU Novodnistrovsk 33.93 305 P **P** **14 15 00.7 +0.7**
MI28 Mi28,Pidlybu 33.98 309 P **P** **14 15 00.5 +0.1**
VRI Vrincioaia 34.26 300 ⇓P **P** **14 15 05.0 +2.1**
VRI Vrincioaia 34.26 300 P **P** **14 15 05.0 +2.1**
VRI Vrincioaia 34.26 300 P **P** **14 15 04.6 +1.6**
comp=Z,21nm,0.9s,comp=Z,2µm
PLOR5 Plostina Array 34.31 300 P **P** **14 15 05.3 +1.9**
comp=Z,37nm,0.9s
PLOR Plostina 34.32 300 ⇓P **P** **14 15 05.5 +2.1**
PLOR Plostina 34.32 300 P **P** **14 15 05.5 +2.1**
PLOR3 Plostina Array 34.32 300 P **P** **14 15 05.5 +2.0**
comp=Z,26nm,1.0s
TESR Tescani 34.32 301 ⇓P **P** **14 15 04.1 +0.7**
TESR Tescani 34.32 301 P **P** **14 15 04.3 +0.9**
comp=Z,29nm,0.8s
ARG Arkhangelos 34.36 283 P **P** **14 15 03.4 -0.5**
ARG IAmb IAmb 14 16 21.6
comp=Z,62nm,1.0s
ARG Arkhangelos 34.36 283 P **P** **14 15 03.4 -0.5**
ARG pmax pmax
comp=Z,62nm,1.0s
MNK Minsk 34.52 315 *i* P **P** **14 15 03.8 -1.2**
comp=E,11nm,0.8s
MNK *i* P **P** **14 15 03.8 -1.2**
comp=N,34nm,0.8s
MNK *i* P **P** **14 15 03.8 -1.2**
comp=Z,29nm,0.8s,baz=103
MNK *i* pP **pP** **14 15 45.3 -1.4**
MNK *i* PP **PP** **14 16 26.6 -0.8**
MNK *i* S **S** **14 20 17.6 -0.9**
MNK *i* sS **sS** **14 21 32.7 -0.9**
MNK *i* SS **SS** **14 22 56.4 +1.2**
MNK *i* LQ LQ 14 27 56.9
MNK *i* LR LR 14 29 31.6
MNK Minsk 34.52 315 *i* P **P** **14 15 03.8 -1.2**
MNK *i* *PP **pP** **14 15 45.2 -1.4**
MNK *i* 14 16 26.6
MNK *i* S **S** **14 20 17.6 -0.9**
MNK *i* *SS **sS** **14 21 32.6 -0.9**
MNK pmax pmax
comp=E,11nm,0.8s
MNK pmax pmax
comp=Z,29nm,0.8s
MNK pmax pmax
comp=N,34nm,0.8s
KMPD K-Podol'skiy 34.52 305 P **P** **14 15 05.5 +0.4**
KMPD P pP 14 15 05.7 -41
HORU Horodok 34.59 306 P **P** **14 15 06.6 +0.9**
PRAR RASCA 34.63 302 ⇓P **P** **14 15 06.9 +0.8**
COVR Voineasa-Covas 34.63 300 ⇑P **P** **14 15 08.4 +2.3**
HNS HongShan 34.66 75 ⇑P **P** **14 15 08.2 +1.8**
HNS sP **sP** **14 16 11.0 -1.9**
HNS PcP **PcP** **14 17 36.2 +0.4**
HNS S **S** **14 20 22.5 +1.5**
HNS pmax pmax
comp=N,43nm,1.0s
TURR Turia 34.76 300 ⇓P **P** **14 15 09.4 +2.2**
XLT XiLinHaoTe 34.81 64 *eP* **P** **14 15 07.4 -0.4**
XLT sP sP 14 16 11.1 -2.9
XLT pmax pmax
comp=N,21nm,1.0s
XLT pmax pmax
comp=N,92nm,4.5s
MLR Muntele Rosu 34.82 299 ⇑P **P** **14 15 10.4 +2.5**
MLR Muntele Rosu 34.82 299 IAmb IAmb 14 16 17.2
comp=Z,72nm,1.1s
MLR Muntele Rosu 34.82 299 P **P** **14 15 10.3 +2.5**
MLR Muntele Rosu 34.82 299 P **P** **14 15 10.1 +2.3**
comp=Z,55nm,0.9s
ELND Elena 35.01 295 ⇓P **P** **14 15 10.6 +1.2**
RNPP5 Staryi Chortor 35.14 309 P **P** **14 15 11.0 +0.7**
RNPP9 Sopachiv 35.16 310 P **P** **14 15 11.3 +0.8**
RNPP8 Varash 35.17 309 P **P** **14 15 11.4 +0.8**
DOPR Dopca 35.20 300 ⇓P **P** **14 15 12.9 +1.9**
NACGM Naroch 35.24 316 *eP* **P** **14 15 12.0 +0.8**
comp=Z,46nm,0.9s,baz=103
KARP Karpathos 35.29 282 P **P** **14 15 12.7 +0.9**
KARP PcP **PcP** **14 17 38.2 +0.5**
KARP Karpathos 35.29 282 P **P** **14 15 12.2 +0.3**
comp=Z,123nm,0.8s,comp=Z,891nm
BJT Baijiatuan 35.30 70 P **P** **14 15 13.5 +1.6**
BJT PcP **PcP** **14 17 38.1 +0.4**
BJI Beijing 35.31 70 P **P** **14 15 13.4 +1.5**
BJI PcP **PcP** **14 17 37.9 +0.3**
BJI pmax pmax
comp=Z,14nm,0.7s
BJI pmax pmax
comp=Z,37nm,3.9s
BOD Bodaibo 35.31 39 *eP* **P** **14 15 11.5 -0.2**
BOD pmax pmax
comp=Z,20nm,1.2s
BURAR Bucovina Array 35.32 303 ⇑P **P** **14 15 12.6 +0.6**
BURAR Bucovina Array 35.32 303 P **P** **14 15 13.1 +1.0**
BURAR Bucovina Array 35.32 303 P **P** **14 15 13.1 +1.0**
BURAR pmax pmax
comp=Z,17nm,0.7s
IDID Didziasalis 35.36 316 *eP* **P** **14 15 13.3 +1.2**
VOIR 35.45 299 ⇓P **P** **14 15 15.2 +2.0**
VOIR 35.45 299 P **P** **14 15 15.1 +2.0**
ATD Arta Tunnel 35.57 233 P **P** **14 15 16.8 +2.3**
ISAL Salakas 35.76 317 *eP* **P** **14 15 14.5 -1.0**
STNU Starunia 35.83 305 P **P** **14 15 17.3 +1.0**
JOF Joensuu 35.88 330 *eP* **P** **14 15 16.9 +0.4**
KAAM Kaadhehdhoo 35.88 177 P **P** **14 15 16.8 -0.2**
KAAM Kaadhehdhoo 35.88 177 P **P** **14 15 18.6 +1.5**
ARCR ARCALIA 35.90 302 ⇑P **P** **14 15 18.7 +1.8**
LVV L'vov 36.19 307 *eP* **P** **14 15 20.4 +1.1**
LVV *e**PP **pP** **14 16 02.2 +1.0**
LVV *e* 14 17 40.6
LVV *eS* **S** **14 20 47.7 +3.6**
LVV *e**SS **sS** **14 22 04.7 +5.1**
LVV pmax pmax
comp=Z,60nm,1.0s
APE Apeiranthos 36.20 285 ⇑P **P** **14 15 20.0 +0.4**
APE Apeiranthos 36.20 285 *i* P **P** **14 15 18.6 -1.0**
APE pmax pmax
comp=Z,27nm,0.6s
VSU Vasula 36.20 322 ⇑*eP* **P** **14 15 20.4 +1.1**
VSU pmax pmax
comp=Z,62nm,1.0s
MORS Morshin 36.25 305 P **P** **14 15 21.1 +1.3**
MORS Morshin 36.25 305 P **P** **14 15 21.1 +1.3**
WHN Wuhan 36.34 87 ⇑P **P** **14 15 22.2 +1.4**
WHN PcP **PcP** **14 17 40.6 -0.3**
WHN S **S** **14 20 46.8 0.0**
WHN pmax pmax
comp=Z,270nm,0.7s
SHIU Shidnytsya 36.60 306 P **P** **14 15 24.1 +1.3**
MARR Marisel-Cluj 36.75 301 ⇓P **P** **14 15 26.3 +2.0**
TIA Tai'an 36.82 76 P **P** **14 15 26.4 +1.6**
TIA pmax pmax
comp=Z,48nm,0.8s
ARBE Arbavere 36.87 323 *eP* **P** **14 15 25.9 +1.0**
DEV Deva 36.93 300 P **P** **14 15 28.6 +3.0**
PABE Paberze 36.94 316 *eP* **P** **14 15 27.7 +2.2**
MUKU Mukachevo 37.03 304 P **P** **14 15 28.1 +1.7**
DRGR 37.03 302 ⇑P **P** **14 15 28.7 +2.2**
DRGR 37.03 302 P **P** **14 15 28.7 +2.2**
KWP Kalwaria Pacla 37.04 306 *eP* **P** **14 15 29.1 +2.6**
KWP Kalwaria Pacla 37.04 306 IAmb IAmb 14 16 37.2
comp=Z,101nm,1.3s
KWP Kalwaria Pacla 37.04 306 P **P** **14 15 28.3 +1.8**
KWP Kalwaria Pacla 37.04 306 P **P** **14 15 28.3 +1.8**
comp=Z,49nm,0.8s
BERU Beregovo 37.05 304 P **P** **14 15 27.7 +1.1**
VSVD Vaisvydziai 37.05 317 *eP* **P** **14 15 28.3 +1.8**
SUW Suwalki 37.14 314 *eP* **P** **14 15 28.3 +1.0**
SUW Suwalki 37.14 314 *eP* **P** **14 15 28.5 +1.2**
IDI Anoyia 37.14 282 P **P** **14 15 27.7 0.0**
IDI IAmb IAmb 14 15 30.1
comp=Z,20nm,0.6s
UBPT Khong Chiam 37.19 116 IAmb IAmb 14 15 29.0
comp=Z,34nm,0.7s
HOLU Holmets 37.23 304 P **P** **14 15 29.5 +1.4**
BLKB Belogradchik 37.27 296 ⇑P **P** **14 15 29.6 +1.1**
KOLS Kolonicke sedl 37.31 305 *eP* **P** **14 15 30.3 +1.5**
KOLS *ePP* **PnPn** **14 17 02.7 +1.3**
KOLS Kolonicke sedl 37.31 305 *eP* **P** **14 15 30.3 +1.5**
KOLS pmax pmax
comp=Z,19nm,0.7s
LVZ Lovozero 37.46 338 P **P** **14 15 30.4 +0.6**
LVZ IAmb IAmb 14 16 14.1
comp=Z,37nm,0.7s
LVZ Lovozero 37.46 338 P **P** **14 15 30.7 +0.8**
LVZ Lovozero 37.46 338 P **P** **14 15 30.5 +0.6**
LVZ pP **pP** **14 16 13.2 +0.8**
LVZ Lovozero 37.46 338 P **P** **14 15 30.3 +0.4**
comp=Z,49nm,0.6s
SURR Surduc 37.48 300 ⇓P **P** **14 15 32.4 +2.1**
FIA1 FINESS Array S 37.50 326 P **P** **14 15 31.0 +0.9**
FINES FINESS Array B 37.50 326 P **P** **14 15 29.2 -0.9**
FINES FINESS Array B 37.50 326 P **P** **14 15 31.1 +0.9**
comp=Z,22nm,0.5s,baz=121,slow=8.4,SNR=177
FINES pP **pP** **14 16 13.8 +1.1**
comp=Z,23nm,0.6s,baz=111,slow=11,SNR=4.8
comp=Z,22nm,0.5s
APA Apatity 37.64 337 ⇓*i*P **P** **14 15 30.9 -0.4**
APA *i* *PP **pP** **14 16 14.3 +0.4**
APA pmax pmax
comp=Z,15nm,0.5s
APA MLR MLR
comp=Z,600nm,11.0s
MTSE Matsula 37.74 321 *eP* **P** **14 15 33.1 +0.9**
MDVR Moldovita 37.84 298 ⇓P **P** **14 15 34.3 +0.9**
BZS Buzias 37.85 300 ⇓P **P** **14 15 35.1 +1.8**
BZS Buzias 37.85 300 P **P** **14 15 35.1 +1.8**
MEF Metsahovi 37.88 324 *eP* **P** **14 15 34.1 +0.8**
LIT Litokhoron 37.91 291 P **P** **14 15 32.6 -1.3**
LIT Litokhoron 37.91 291 P **P** **14 15 32.6 -1.3**
LIT pmax pmax
comp=Z,9.0nm,0.7s
BOVS Bovan 37.97 296 ⇓P **P** **14 15 35.3 +0.9**
STHS Stebnicka Huta 37.99 306 *eP* **P** **14 15 34.3 -0.2**
STHS *ePP **PP** **14 17 05.4 -0.1**
STHS Stebnicka Huta 37.99 306 *eP* **P** **14 15 34.4 -0.1**
STHS pmax pmax
comp=Z,6.0nm,0.8s
SRIT Nakonsritamara 38.02 130 P **P** **14 15 35.1 +0.1**
SRIT IAmb IAmb 14 15 36.6
comp=Z,30nm,0.7s
AGG Agios Georgios 38.24 289 P **P** **14 15 35.5 -1.2**
AGG Agios Georgios 38.24 289 P **P** **14 15 35.5 -1.2**
AGG pmax pmax
comp=Z,13nm,1.0s
SLIT Slitere, Latvi 38.27 319 *eP* **P** **14 15 36.7 +0.1**
KEF Keuruu 38.29 327 *eP* **P** **14 15 37.6 +0.8**
KECS Kecovo 38.49 304 *ePP* PP 14 17 10.9 -0.1
NIE Niedzica 38.61 306 *eP* **P** **14 15 41.7 +2.1**
NIE Niedzica 38.61 306 P **P** **14 15 41.1 +1.5**
NIE Niedzica 38.61 306 P **P** **14 15 41.1 +1.5**
comp=Z,20nm,0.8s
PSZ Piszkesteto 38.91 303 ⇑P **P** **14 15 43.9 +1.6**
PSZ Piszkesteto 38.91 303 P **P** **14 15 43.8 +1.6**
OJC Ojcow 38.93 307 *eP* **P** **14 15 42.5 +0.2**
OJC Ojcow 38.93 307 P **P** **14 15 43.1 +0.8**
OJC Ojcow 38.93 307 P **P** **14 15 43.1 +0.8**
comp=Z,24nm,2.3s
OUL Oulu 38.99 331 P **P** **14 15 43.2 +0.7**
OUL pmax pmax
comp=Z,65nm,0.7s
LANS Liptovska Anna 39.15 305 *eP* **P** **14 15 45.4 +1.2**
LANS Liptovska Anna 39.15 305 *eP* **P** **14 15 45.4 +1.2**
LANS pmax pmax
comp=Z,3.0nm,0.6s
LHMI Lhok Sumawe 39.16 136 P **P** **14 15 45.7 +1.2**
LHMI Lhok Sumawe 39.16 136 P **P** **14 15 44.6 +0.1**
LHMI Lhok Sumawe 39.16 136 P **P** **14 15 46.2 +1.7**
comp=Z,398nm,0.5s,comp=Z,4µm
RAF Rauma 39.35 324 *eP* **P** **14 15 45.5 -0.1**
NJ2 Nanjing 39.42 82 ⇑*i*P **P** **14 15 48.0 +1.4**
NJ2 PcP **PcP** **14 17 50.4 0.0**
NJ2 pmax pmax
comp=Z,140nm,0.7s
VAF Ylistaro 39.54 328 *eP* **P** **14 15 47.9 +0.8**
VAF Ylistaro 39.54 328 P **P** **14 15 49.2 +2.1**
VAF pmax pmax
comp=Z,44nm,0.8s
VYHS Vyhne 39.59 304 *eP* **P** **14 15 49.3 +1.5**
VYHS Vyhne 39.59 304 *eP* **P** **14 15 49.3 +1.5**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
MLSI Meulaboh, Aceh 39.66 138 P **P** **14 15 48.1 -0.5**
comp=Z,177nm,0.7s
DL2 Dalian 39.66 71 P **P** **14 15 49.7 +1.2**
DL2 pmax pmax
comp=Z,140nm,0.6s
HKPS Hong Kong Po S 39.80 99 P **P** **14 15 49.1 -0.7**
HKPS IAmb IAmb 14 15 52.0
comp=Z,87nm,0.9s
AAL Aland 39.99 323 *eP* **P** **14 15 50.7 -0.2**
MAUC Maruska 40.22 306 *eP* **P** **14 15 55.0 +2.0**
VADS Vadso 40.32 339 *eP* **P** **14 15 54.6 +1.2**
JAVC Velka Javorina 40.34 305 *eP* **P** **14 15 55.8 +1.8**
JAVC *e* 14 16 39.1
JAVC *e* 14 21 23.1
MORC Moravsky Berou 40.39 306 ⇓P **P** **14 15 55.9 +1.5**
MORC Moravsky Berou 40.39 306 *eP* **P** **14 15 55.6 +1.2**
MORC *e* 14 16 38.6
MORC *e* 14 21 23.0
MORC Moravsky Berou 40.39 306 P **P** **14 15 55.9 +1.5**
GKP Gorka Klasztor 40.60 312 *eP* **P** **14 15 57.6 +1.7**
GKP Gorka Klasztor 40.60 312 *eP* **P** **14 15 56.7 +0.7**
GKP Gorka Klasztor 40.60 312 P **P** **14 15 57.7 +1.8**
KEV Kevo 40.81 338 P **P** **14 15 58.3 +0.9**
KEV IAmb IAmb 14 16 01.0
comp=Z,34nm,0.6s
KEV Kevo 40.81 338 P **P** **14 15 58.3 +0.9**
KEV pmax pmax
comp=Z,34nm,0.6s
KEV Kevo 40.81 338 P **P** **14 15 58.4 +1.0**
KEV pP **pP** **14 16 41.2 +0.4**
KEV sP **sP** **14 17 03.8 -0.2**
KEV PcP **PcP** **14 17 54.6 +0.5**
KRLC Kraliky 40.88 307 *eP* **P** **14 16 00.0 +1.7**
KRLC epP **pP** **14 16 43.0 +1.8**
KRLC Kraliky 40.88 307 *eP* **P** **14 16 00.0 +1.8**
KRLC *e*PP **pP** **14 16 43.0 +1.8**
KCSI Kotacane, Aceh 41.02 137 P **P** **14 15 58.8 -1.1**
comp=Z,116nm,0.5s,comp=Z,2µm
VRAC Vranov 41.03 306 *eP* **P** **14 16 01.0 +1.4**
VRAC *e* 14 16 44.7
VRAC *e* 14 21 25.4
VRAC Vranov 41.03 306 P **P** **14 15 59.3 -0.3**
comp=Z,10.0nm,0.7s,baz=79,slow=8.3,SNR=10.0
VRAC pP **pP** **14 16 44.7 +2.2**
comp=Z,28nm,0.8s,baz=90,slow=7.9,SNR=8.3
comp=Z,10.0nm,0.7s
UPP Uppsala 41.09 322 *eP* **P** **14 16 00.4 +0.6**
ARA0 ARCESS Array S 41.15 338 *eP* **P** **14 16 01.5 +1.2**
ARCES ARCESS Array B 41.15 338 P **P** **14 16 01.4 +1.2**
ARCES IAmb IAmb 14 16 03.4
comp=Z,55nm,0.6s
ARCES ARCESS Array B 41.15 338 P **P** **14 16 01.4 +1.2**
comp=Z,47nm,0.5s,baz=114,slow=7.4,SNR=379
ARCES pP **pP** **14 16 44.4 +0.8**
comp=Z,33nm,0.7s,baz=116,slow=8.4,SNR=5.4
comp=Z,47nm,0.5s
DPC Dobruska-Polom 41.16 307 *eP* **P** **14 16 02.4 +1.7**
DPC epP **pP** **14 16 46.0 +2.4**
DPC Dobruska-Polom 41.16 307 *eP* **P** **14 16 02.4 +1.7**
DPC *e*PP **pP** **14 16 46.0 +2.4**
DPC Dobruska-Polom 41.16 307 P **P** **14 16 01.9 +1.2**
comp=Z,21nm,0.7s
KRUC Moravsky 41.17 305 *eP* **P** **14 16 02.0 +1.3**
KRUC *e* 14 16 45.6
KRUC *e* 14 21 25.7
SNSI Sinabang, Aceh 41.18 140 P **P** **14 16 02.2 +1.1**
comp=Z,758nm,0.8s,comp=Z,6µm
KULM Kulim 41.25 132 P **P** **14 16 02.6 +0.9**
KULM PcP **PcP** **14 17 56.7 +0.1**
RONA Rosalia, Austr 41.34 303 *i* P **P** **14 16 02.8 +0.6**
comp=Z,3.2nm,1.0s
RONA epP **pP** **14 16 46.8 +1.8**
comp=Z,13nm,1.0s,SNR=5.1
RONA *e*ScP **ScP** **14 21 25.4 -1.8**
comp=Z,4.9nm,1.1s
VIKU Vikbolandet 41.35 320 *eP* **P** **14 16 02.4 +0.4**
UPC Upice 41.35 308 *eP* **P** **14 16 03.9 +1.7**
UPC Upice 41.35 308 *eP* **P** **14 16 03.9 +1.7**
CN2 Changchun 41.56 63 *eP* **P** **14 16 03.9 0.0**
CN2 pmax pmax
comp=Z,10.0nm,0.4s
BLEU Blekinge 41.59 316 *i* P **P** **14 16 03.2 -0.8**
CONA Conrad Observa 41.61 304 *eP* **P** **14 16 05.1 +0.7**
comp=Z,11nm,1.0s,SNR=9.2
CONA epP **pP** **14 16 49.4 +2.2**
comp=Z,22nm,0.9s,SNR=7.4
SSE Sheshan 41.62 82 P **P** **14 16 06.4 +1.8**
ARSA Arzberg 41.90 303 *eP* **P** **14 16 07.7 +1.0**
comp=Z,1.3nm,0.6s
ARSA *e*pP **pP** **14 16 51.5 +1.8**
comp=Z,5.4nm,0.8s
ARSA *e*ScP **ScP** **14 21 28.0 -1.4**
comp=Z,9.5nm,1.3s
ZEA Zeya 42.02 48 *eP* **P** **14 16 09.2 +1.7**
ZEA *e* 14 16 56.3
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=N,10.0nm,0.7s
ZEA pmax pmax
comp=Z,50nm,0.7s
BSD Bornholm Skovb 42.03 315 *eP* **P** **14 16 06.6 -0.9**
BSD Bornholm Skovb 42.03 315 *i* P **P** **14 16 07.0 -0.6**
BSD IAmb IAmb 14 16 08.0
comp=Z,20nm,0.8s
HEH HeiHe 42.20 53 *eP* **P** **14 16 10.0 +1.0**
HEH pP **pP** **14 16 56.7 +3.6**
HEH pmax pmax
comp=Z,190nm,0.9s
HEH pmax pmax
comp=Z,120nm,4.1s
HAMF Hammerfest 42.23 339 *eP* **P** **14 16 10.5 +1.5**
PERS Pernice 42.25 302 *eP* **P** **14 16 10.5 +0.9**
PERS *i* pP **pP** **14 16 54.3 +1.7**
PSI Prapat 42.26 136 P **P** **14 16 09.8 -0.2**
PSI Prapat 42.26 136 P **P** **14 16 09.9 -0.1**
PSI pmax pmax
comp=Z,91nm,0.6s
SOKA Soboth 42.30 302 *eP* **P** **14 16 11.1 +1.1**
comp=Z,12nm,1.2s,SNR=6.2
SOKA *e*pP **pP** **14 16 55.3 +2.3**
comp=Z,16nm,0.7s
SOKA *e*ScP **ScP** **14 21 30.0 -1.2**
comp=Z,9.2nm,1.3s
BOJS Bojanci 42.30 300 *eP* **P** **14 16 10.8 +0.9**
PRU Pruhonice 42.32 307 *eP* **P** **14 16 11.9 +1.9**
PRU Pruhonice 42.32 307 *eP* **P** **14 16 11.9 +1.9**
RPSI Rantau Prapat 42.34 136 P **P** **14 16 09.9 -0.6**
TIP Timpagrande 42.43 291 ⇑P **P** **14 16 11.5 +0.5**
TIP Timpagrande 42.43 291 P **P** **14 16 11.3 +0.2**
TIP Timpagrande 42.43 291 P **P** **14 16 11.6 +0.5**
comp=Z,10.0nm,0.9s
CKRC Cesky Krumlov 42.56 305 *eP* **P** **14 16 13.7 +1.7**
CKRC Cesky Krumlov 42.56 305 *eP* **P** **14 16 13.7 +1.7**
ZVC Zvikov 42.59 306 *eP* **P** **14 16 13.2 +1.0**
ZVC *e*pP **pP** **14 16 57.5 +2.2**
SGRT San Giovanni R 42.60 295 P **P** **14 16 13.3 +0.8**
GBRS Gornja Briga 42.61 300 *eP* **P** **14 16 13.8 +1.4**
BNX BinXian 42.65 59 P **P** **14 16 13.4 +0.7**
BNX pmax pmax
comp=Z,20nm,1.0s
BNX pmax pmax
comp=Z,51nm,3.8s
BRG Berggiesshubel 42.65 308 *i* P **P** **14 16 14.1 +1.4**
BRG Amp 14 16 14.9
comp=Z,14nm,0.7s
BRG pP **pP** **14 16 57.9 +2.0**
BRG Amp 14 16 58.7
comp=Z,30nm,0.8s
BRG sP **sP** **14 17 21.9 +3.2**
BRG Amp 14 17 23.3
comp=Z,11nm,0.8s
BRG ⇑SP S 14 21 31.5 -49
BRG Amp 14 21 33.1
comp=Z,11nm,1.1s
OBKA Obir 42.66 302 *eP* **P** **14 16 14.5 +1.6**
comp=Z,8.3nm,1.9s
OBKA *e*pP **pP** **14 16 58.3 +2.3**
comp=Z,9.2nm,0.9s
OBKA *e*ScP **ScP** **14 21 31.4 -1.2**
comp=Z,4.6nm,1.1s
DEL Delary 42.69 317 *eP* **P** **14 16 13.4 +0.6**
DEL Delary 42.69 317 *i* P **P** **14 16 13.0 +0.2**
MOA Molln 42.69 304 *eP* **P** **14 16 13.7 +0.7**
comp=Z,8.1nm,1.0s
MOA *e*pP **pP** **14 16 57.8 +1.5**
comp=Z,18nm,0.9s,SNR=6.0
LJU Ljubljana 42.73 301 *i* P **P** **14 16 15.0 +1.6**
LJU *e*pP **pP** **14 16 58.7 +2.2**
LJU *i* PP **PcP** **14 18 01.1 +0.1**
JETT Jettan, Norway 42.77 336 *eP* **P** **14 16 14.6 +1.3**
GSI Gunungsitoli 42.77 139 P **P** **14 16 15.3 +1.3**
GSI Gunungsitoli 42.77 139 P **P** **14 16 15.2 +1.3**
GSI Gunungsitoli 42.77 139 P **P** **14 16 15.2 +1.3**
comp=Z,758nm,0.6s,comp=Z,7µm
LUNU Lund 42.89 315 *i* P **P** **14 16 13.3 -1.1**
GERES GERESS Array B 42.96 305 P **P** **14 16 16.1 +0.8**
comp=Z,0.9nm,0.6s,baz=85,slow=6.8,SNR=4.8
GERES pP **pP** **14 17 00.3 +1.8**
comp=Z,4.5nm,0.7s,baz=64,slow=9.1,SNR=7.1
GERES PP **PP** **14 17 59.4 +0.3**
comp=Z,2.7nm,0.6s,baz=65,slow=9.9,SNR=3.7
GERES ScP **ScP** **14 21 30.3 -3.5**
comp=Z,3.8nm,1.0s,baz=56,slow=3.7,SNR=4.9
KHC Kasperske Hory 43.02 306 *eP* **P** **14 16 16.9 +1.3**
KHC *ep*P **pP** **14 17 01.1 +2.3**
KHC Kasperske Hory 43.02 306 *eP* **P** **14 16 16.9 +1.3**
KHC *e**PP **pP** **14 17 01.1 +2.3**
HFS Hagfors 43.09 322 P **P** **14 16 16.6 +0.7**
comp=Z,30nm,0.5s,baz=105,slow=9.0,SNR=110
HFS pP **pP** **14 17 00.4 +1.1**
comp=Z,55nm,0.6s,baz=96,slow=11,SNR=7.8
comp=Z,30nm,0.5s
BIOA Bad Ischl, Aus 43.13 304 *ep*P **pP** **14 17 00.9 +1.1**
comp=Z,7.5nm,0.7s
BIOA *e*ScP **ScP** **14 21 32.7 -1.7**
comp=Z,2.9nm,0.5s
BJUU Bjuv 43.14 316 *i* P **P** **14 16 16.6 +0.2**
CLL Collm 43.22 309 P **P** **14 16 18.4 +1.2**
CLL Collm 43.22 309 ⇓*i*P **P** **14 16 18.2 +1.0**
comp=Z,9.0nm,0.8s
CLL *i* pP **pP** **14 17 01.2 +0.7**
CLL *e*sP **sP** **14 17 24.0 +0.7**
CLL *e*PP **PcP** **14 18 03.0 +0.4**
CLL *e*PPP PPP 14 18 45.0
CLL *e*sPP 14 19 06.0
CLL *e*ScP **ScP** **14 21 34.0 -0.6**
comp=Z,14nm,1.3s
CLL *e*SS **ScS** **14 25 54.0 -1.2**
CLL Collm 43.22 309 *i* Sg **SKiKP** **14 28 27.3 +10**
CLL Collm 43.22 309 ⇓*i*P **P** **14 16 18.2 +1.0**
CLL *i* *PP **pP** **14 17 01.2 +0.7**
CLL pmax pmax
comp=Z,9.0nm,0.8s
CLL Collm 43.22 309 P **P** **14 16 17.9 +0.7**
comp=Z,12nm,0.7s
CADS Cadrg 43.25 301 *i* P **P** **14 16 18.1 +0.5**
CADS *i* pP **pP** **14 17 02.3 +1.5**
MYKA Terra Mystica 43.26 302 *ep*P pP 14 17 02.9 +2.0
comp=Z,10nm,0.8s
TRO Tromso 43.27 336 *eP* **P** **14 16 18.3 +0.9**
FABU Falkenberg 43.34 317 *i* P **P** **14 16 18.1 +0.1**
BORU Boraas 43.35 318 *i* P **P** **14 16 17.5 -0.6**
KBA Koelnbreinsper 43.40 303 *eP* **P** **14 16 20.1 +1.2**
comp=Z,4.6nm,0.6s
KBA *e*pP **pP** **14 17 03.9 +1.6**
comp=Z,9.8nm,0.8s
COP Copenhagen 43.47 315 *i* P **P** **14 16 19.3 +0.3**
COP IAmb IAmb 14 16 21.5
comp=Z,75nm,0.8s
MSEY Mahe Island 43.49 203 P **P** **14 16 20.3 +0.6**
MSEY Mahe Island 43.49 203 P **P** **14 16 19.4 -0.3**
MSEY Mahe Island 43.49 203 P **P** **14 16 20.8 +1.1**
MSEY Mahe Island 43.49 203 P **P** **14 16 20.3 +0.6**
MSEY pmax pmax
comp=Z,17nm,0.8s
LESA Schwarzleotal 43.80 303 *eP* **P** **14 16 22.5 +0.4**
comp=Z,3.9nm,0.4s
LESA *e*pP **pP** **14 17 06.8 +1.4**
comp=Z,6.6nm,0.6s
LESA *e*ScP **ScP** **14 21 35.6 -1.7**
comp=Z,11nm,1.2s
FAUS Fauske 43.81 332 *eP* **P** **14 16 22.8 +1.1**
MOR8 Moi Rana 43.83 331 *eP* **P** **14 16 22.1 +0.3**
INCN Inchon 43.84 71 P **P** **14 16 21.3 -1.0**
INCN IAmb IAmb 14 16 23.7
comp=Z,24nm,0.6s
INCN Inchon 43.84 71 P **P** **14 16 21.3 -1.0**
INCN pmax pmax
comp=Z,24nm,0.6s

YAK Yakutsk 43.93 35 *e*P **P** **14 16 22.6 0.0**
YAK *e**PP **pP** **14 17 09.0 +1.9**
YAK *e* 14 18 02.2
YAK *e*S **S** **14 22 37.8 -0.7**
YAK *e**SS **sS** **14 23 57.1 +1.2**
YAK pmax pmax
comp=Z,61nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.8s
YAK pmax pmax
comp=E,8.0nm,0.8s
YAK smax smax
comp=E,95nm,1.4s
YAK smax smax
comp=N,59nm,1.7s
YAK Yakutsk 43.93 35 P **P** **14 16 22.6 0.0**
STEI Steigen 43.98 333 *e*P **P** **14 16 24.1 +1.1**
ABTA Abfaltersbach 44.01 302 *e*P **P** **14 16 22.0 -1.7**
comp=N,1.4nm,0.5s
ABTA *e*pP **pP** **14 17 08.2 +1.1**
comp=N,3.8nm,0.7s
ABTA *e*ScP **ScP** **14 21 36.3 -1.8**
comp=N,7.6nm,1.1s
NC405 NORSAR Array S 44.16 323 P **P** **14 16 24.2 -0.3**
NC405 IAmb IAmb 14 16 27.3
comp=Z,61nm,0.9s
NC602 NORSAR Array S 44.21 323 P **P** **14 16 25.1 +0.2**
NC602 NORSAR Array S 44.21 323 *e*P **P** **14 16 25.1 +0.2**
NORES NORESS Array B 44.21 323 P **P** **14 16 29.0 +4.1**
STRU Stroemstad 44.26 320 *i*P **P** **14 16 23.8 -1.5**
PBSI Pulau Batu 44.29 139 P **P** **14 16 27.8 +1.7**
comp=Z,405nm,1.1s,comp=Z,3µm
MDJ Mudanjiang 44.35 61 P **P** **14 16 27.2 +0.9**
MDJ pmax pmax
comp=Z,10.0nm,0.7s
MDJ pmax pmax
comp=Z,160nm,6.9s
NB2 NORSAR Subarra 44.40 323 P **P** **14 16 26.5 0.0**
comp=Z,15nm,0.5s,baz=97,slow=7.9
NB2 PP **pP** **14 17 10.6 +0.6**
comp=Z,46nm,0.8s,baz=96,slow=8.6
NB2 NORSAR Subarra 44.40 323 P **P** **14 16 26.5 0.0**
baz=97,slow=7.9
NOA NORSAR Array B 44.40 323 P **P** **14 16 26.8 +0.3**
comp=Z,18nm,0.6s,baz=98,slow=7.6,SNR=71
NOA pP **pP** **14 17 10.7 +0.6**
comp=Z,30nm,0.7s,baz=96,slow=8.1,SNR=6.7
comp=Z,18nm,0.6s
KONS Konsvik 44.42 331 *e*P **P** **14 16 27.2 +0.7**
STOK Stokkvaagen 44.43 331 *e*P **P** **14 16 27.2 +0.6**
YHNB Yeheng 44.45 91 P **P** **14 16 29.2 +1.8**
YHNB IAmb IAmb 14 16 30.2
comp=Z,48nm,0.9s
TPUB Ta-pu 44.49 93 P **P** **14 16 28.9 +1.2**
NSS Namsos 44.51 328 *e*P **P** **14 16 27.4 +0.1**
SSLB Suanglung 44.52 92 P **P** **14 16 30.0 +2.1**
WTTA Wattenberg 44.53 303 *e*P **P** **14 16 28.5 +0.6**
comp=Z,6.0nm,1.0s
WTTA *e*pP **pP** **14 17 12.4 +1.0**
comp=Z,16nm,0.8s
WTTA *e*PcP **PcP** **14 18 06.9 -0.5**
comp=Z,11nm,0.6s
WTTA *e*ScP **ScP** **14 21 38.3 -2.1**
comp=Z,15nm,1.2s
NAO01 NORSAR Array S 44.54 323 P **P** **14 16 27.1 -0.5**
NAO01 ScP **ScP** **14 21 41.1 +1.3**
OSL Oslo 44.55 321 *e*P **P** **14 16 28.9 +1.3**
WATA Walderalm 44.56 303 *e*P **P** **14 16 28.6 +0.5**
comp=Z,3.9nm,0.8s
WATA *e*pP **pP** **14 17 12.4 +0.8**
comp=Z,13nm,0.8s
WATA *e*ScP **ScP** **14 21 38.5 -1.9**
comp=Z,15nm,1.2s
NC204 NORSAR Array S 44.64 323 IAmb IAmb 14 17 13.9
comp=Z,54nm,0.9s
LOF Lofoten 44.65 333 *e*P **P** **14 16 29.3 +1.0**
TJN Taejon 44.72 73 P **P** **14 16 29.4 +0.1**
TJN Taejon 44.72 73 P **P** **14 16 29.0 -0.3**
TJN Taejon 44.72 73 P **P** **14 16 29.0 -0.3**
TJN pmax pmax
comp=Z,103nm,0.5s
KS19 Wonju Array Si 44.77 71 P **P** **14 16 30.6 +0.9**
KSAR Wonju Array Be 44.80 71 P **P** **14 16 30.1 +0.1**
KSAR Wonju Array Be 44.80 71 P **P** **14 16 30.1 +0.1**
SQTA Sankt Quirin 44.82 303 *e*P **P** **14 16 30.8 +0.7**
comp=Z,3.9nm,0.7s
SQTA *e*pP **pP** **14 17 14.6 +0.9**
comp=Z,11nm,0.7s
SQTA *e*PcP **PcP** **14 18 07.5 -0.8**
comp=Z,13nm,0.7s
SQTA *e*ScP **ScP** **14 21 39.8 -1.7**
comp=Z,9.2nm,1.2s
KSRS Korea Array 44.83 71 P **P** **14 16 30.3 +0.2**
comp=Z,14nm,0.5s,baz=272,slow=7.1,SNR=101
KSRS PcP **PcP** **14 18 07.5 -0.9**
comp=Z,9.1nm,0.6s,baz=286,slow=3.5,SNR=8.8
comp=Z,14nm,0.5s
MOTA Moosalm 44.88 303 *e*P **P** **14 16 30.7 +0.1**
comp=Z,5.7nm,0.9s
MOTA *e*pP **pP** **14 17 14.9 +0.8**
comp=Z,16nm,0.8s
MOTA *e*ScP **ScP** **14 21 39.9 -1.9**
comp=Z,16nm,1.2s
YULB Yu-li 44.98 92 P **P** **14 16 31.7 +0.1**
YULB IAmb IAmb 14 16 34.9
comp=Z,61nm,0.8s
RETA Reutte 45.08 304 *e*P **P** **14 16 32.7 +0.6**
comp=Z,6.8nm,1.4s
RETA *e*pP **pP** **14 17 16.7 +0.9**
comp=Z,10nm,0.9s
RETA *e*ScP **ScP** **14 21 40.4 -2.1**
comp=Z,5.7nm,1.1s
KLR Kul'dur 45.10 54 *e*P **P** **14 16 30.2 -1.9**
KLR pmax pmax
comp=Z,25nm,0.8s
KONO Kongsberg 45.10 321 P **P** **14 16 31.4 -0.6**
KONO Kongsberg 45.10 321 *e*P **P** **14 16 32.5 +0.5**
KONO Kongsberg 45.10 321 P **P** **14 16 31.4 -0.6**
KONO pmax pmax
comp=Z,27nm,0.8s
FETA Feichten 45.18 303 *e*P **P** **14 16 33.6 +0.6**
comp=Z,1.5nm,0.4s
FETA *e*pP **pP** **14 17 16.7 +0.1**
comp=Z,8.7nm,0.7s
FETA *e*PcP **PcP** **14 18 09.4 -0.3**
comp=Z,15nm,0.7s
FETA *i* ScP **ScP** **14 21 41.6 -1.4**
comp=Z,14nm,1.0s
BJO1 Bjornoya 45.27 343 *e*P **P** **14 16 34.1 +1.1**
BKNI Bangkinang 45.48 136 P **P** **14 16 35.0 -0.5**
BKNI Bangkinang 45.48 136 P **P** **14 16 35.6 +0.1**
comp=Z,413nm,0.8s,comp=Z,5µm
DOMB Dombas 45.51 324 *e*P **P** **14 16 36.9 +1.6**
FUORN Ofenpass-Fuorn 45.56 303 P **P** **14 16 36.4 +0.2**
DAVA Damuels 45.71 304 *e*P **P** **14 16 37.5 +0.4**
comp=Z,12nm,0.5s,SNR=11
DAVA *e*pP **pP** **14 17 22.1 +1.2**
comp=Z,35nm,0.7s,SNR=5.5
DAVA *e*ScP **ScP** **14 21 43.8 -1.4**
comp=Z,12nm,1.2s
TIXI Tiksi 45.74 22 P **P** **14 16 37.2 +0.4**
TIXI IAmb IAmb 14 17 23.4
comp=Z,86nm,0.8s
TIXI Tiksi 45.74 22⇑ *e*P **P** **14 16 37.0 +0.2**
TIXI pmax pmax
comp=Z,42nm,0.6s
TIXI Tiksi 45.74 22 P **P** **14 16 37.2 +0.4**
TIXI pP **pP** **14 17 22.1 +0.9**
SISI Saibi 45.79 139 P **P** **14 16 38.9 +1.0**
comp=Z,290nm,0.8s
DAVOX Davos/Dischmat 45.79 303 P **P** **14 16 37.9 +0.1**
comp=Z,6.4nm,0.5s,baz=101,slow=5.9,SNR=10
DAVOX pP **pP** **14 17 22.6 +1.0**
comp=Z,20nm,0.6s,baz=143,slow=8.3,SNR=6.9
comp=Z,6.4nm,0.5s
SKAR Skarslia 45.80 322 *e*P **P** **14 16 38.8 +1.3**
MYKOM Kota Tinggi 45.95 131 P **P** **14 16 40.2 +1.0**
MYKOM IAmb IAmb 14 16 41.1
comp=Z,63nm,0.8s
USA0B Ussuriysk Arra 46.12 61 P **P** **14 16 39.5 -0.7**
USA0B Ussuriysk Arra 46.12 61 P **P** **14 16 39.5 -0.7**
USA0B pmax pmax
comp=Z,16nm,1.0s
USRK Ussuriysk Ar. 46.12 61 P **P** **14 16 39.4 -0.8**
USRK Ussuriysk Ar. 46.12 61 P **P** **14 16 40.1 -0.1**
comp=Z,11nm,0.7s,baz=277,slow=7.6,SNR=17
USRK PcP **PcP** **14 18 11.7 -1.1**
comp=Z,4.5nm,0.6s,baz=312,slow=3.9,SNR=6.0
comp=Z,11nm,0.7s
VLA Vladivostok 46.29 62 *i*P **P** **14 16 41.1 -0.4**
VLA pmax pmax
comp=Z,79nm,0.8s
SNART Snartemo 46.32 319 *e*P **P** **14 16 42.7 +1.2**
SNART Snartemo 46.32 319 *i*P **P** **14 16 42.0 +0.5**
LODK Lodwar 46.51 233 P **P** **14 16 45.5 +1.9**
MSSA Maissana 46.53 300 P **P** **14 16 42.7 -0.7**
BFO Black Forest 46.56 305 P **P** **14 16 44.0 +0.3**
BFO pP **pP** **14 17 28.2 +0.7**
BLS5 Blasjo 46.70 321 *e*P **P** **14 16 46.5 +2.0**
TPRI Tanjung Pinang 47.05 131 P **P** **14 16 48.5 +0.8**
CDF Champ du Feu 47.24 306 *e*P **P** **14 16 49.5 +0.6**
CDF pmax pmax
comp=Z,3.0nm,0.7s
BER Bergen 47.26 322 *e*P **P** **14 16 49.7 +1.0**
PGF Pioggiola 47.31 297 *e*P **P** **14 16 49.1 -0.4**
PGF pmax pmax
comp=Z,11nm,0.6s
ASK Askoy 47.33 322 *e*P **P** **14 16 50.3 +1.0**
ECH Echery 47.35 305 P **P** **14 19 51.8 +2.1**
ECH pP **pP** **14 17 34.2 +0.4**
FOO Floro 47.40 324 *e*P **P** **14 16 50.3 +0.6**
SPB2 Spitsbergen Ar 47.49 347 P **P** **14 16 52.2 +1.9**
SPB2 IAmb IAmb 14 18 19.2
comp=Z,60nm,1.2s
SPA0 Spitsbergen Ar 47.49 347 *e*P **P** **14 16 52.3 +2.0**
SPITS Spitsbergen Ar 47.49 347 P **P** **14 16 52.1 +1.7**
comp=Z,4.3nm,0.3s,baz=122,slow=11,SNR=64
SPITS pP **pP** **14 17 36.3 +1.3**
comp=Z,7.8nm,0.6s,baz=128,slow=12,SNR=2.0
comp=Z,4.3nm,0.3s
SPITS Spitsbergen Ar 47.49 347 P **P** **14 16 52.2 +1.9**
SPITS pmax pmax
comp=Z,74nm,1.4s
SENIN Lac Senin/Sane 47.62 303 P **P** **14 16 52.5 +0.5**
SENIN IAmb IAmb 14 17 37.7
comp=Z,93nm,0.8s
SENIN PcP **PcP** **14 18 17.9 -0.5**
SENIN ScP **ScP** **14 21 51.7 -1.6**
HINF Hinteralfeld 47.63 305 *e*P **P** **14 16 53.0 +1.1**
HINF pmax pmax
comp=Z,8.0nm,0.9s
MEM Membach 47.69 309 *d*P **P** **14 16 53.2 +0.9**
MEM *d*pP **pP** **14 17 35.7 -0.8**
WLF Walferdange 47.75 307 *d*P **P** **14 16 54.4 +1.7**
WLF *d*pP **pP** **14 17 38.7 +1.9**
VSL Villasalto 47.86 293 P **P** **14 16 53.9 +0.2**
GRNR Gornyy 47.86 51⇑ *i*P **P** **14 16 54.7 +1.1**
GRNR pmax pmax
comp=E,10.0nm,0.7s
GRNR pmax pmax
comp=Z,30nm,0.8s
GRNR MLR MLR
comp=E,50nm,14.0s
GRNR MLR MLR
comp=Z,120nm,14.0s
HAU Haudompre 47.93 305 *e*P **P** **14 16 54.5 +0.4**
HAU pmax pmax
comp=Z,8.0nm,0.8s
BSTI Sart Tilman 47.97 309 *d*pP pP 14 17 39.8 +1.1
SBF Sospel 48.09 299 *e*P **P** **14 16 55.3 -0.2**
SBF pmax pmax
comp=Z,21nm,0.7s
BCLA Clavier 48.17 308 *d*P **P** **14 16 56.8 +1.0**
BCLA *d*pP **pP** **14 17 38.9 -1.4**
BCLA *d*PcP **PcP** **14 18 19.5 -0.4**
LPLG La Plagne 48.18 302 *e*P **P** **14 16 57.1 +0.7**
LPG pmax pmax
comp=Z,4.0nm,0.3s
DSRI Dabo 48.19 132 P **P** **14 16 57.1 +0.7**
comp=Z,184nm,0.8s,comp=Z,2µm
LPL La Plagne 48.19 302 *e*P **P** **14 16 57.1 +0.7**
LPL pmax pmax
comp=Z,10.0nm,0.6s
RCHB Rochefort 48.26 308 *d*P **P** **14 16 57.7 +1.1**
RCHB *d*pP **pP** **14 17 42.0 +1.1**
BGES Gesves 48.31 308 *d*P **P** **14 16 58.3 +1.3**
BGES *d*pP **pP** **14 17 42.0 +0.7**
BNI Bardonecchia 48.33 301 P **P** **14 16 58.4 +1.0**
BNI Bardonecchia 48.33 301 P **P** **14 16 58.4 +1.0**
BNI pmax pmax
comp=Z,33nm,1.3s
MBDF Montbardon 48.34 301 *e*P **P** **14 16 57.5 0.0**
MBDF pmax pmax
comp=Z,11nm,0.6s
CABF La Chapelle 48.38 303 *e*P **P** **14 16 58.5 +0.8**
CABF pmax pmax
comp=Z,10.0nm,0.6s
BMRD Maredsous 48.52 308 *d*P **P** **14 17 00.1 +1.5**
BMRD *d*pP **pP** **14 17 45.0 +1.9**
GIVF Givet 48.52 308 *e*P **P** **14 17 00.8 +2.2**
GIVF pmax pmax
comp=Z,6.0nm,0.6s
JNU Nakatsue 48.54 75 P **P** **14 17 00.5 +1.4**
JNU Nakatsue 48.54 75 IAmb IAmb 14 17 01.1
comp=Z,44nm,0.8s
KBS Kingsbay 48.61 347 P **P** **14 17 00.3 +1.4**
KBS Kingsbay 48.61 347 *e*P **P** **14 17 00.7 +1.9**
KBS Kingsbay 48.61 347 P **P** **14 17 00.3 +1.4**
KBS pmax pmax
comp=Z,30nm,0.8s
KBS Kingsbay 48.61 347 P **P** **14 17 00.7 +1.9**
KBS pP **pP** **14 17 44.8 +1.0**
KBS sP **sP** **14 18 07.2 +0.6**
KBS Kingsbay 48.61 347 *i*P **P** **14 17 00.7 +1.9**
DOU Dourbes 48.67 308 *d*P **P** **14 17 00.4 +0.7**
DOU *d*pP **pP** **14 17 43.4 -0.7**
DOU *d*PcP **PcP** **14 18 20.3 -1.5**
KMBO Kilima Mbogo 48.88 228 P **P** **14 17 03.8 +1.8**
comp=Z,0.1nm,0.5s,baz=34,slow=24,SNR=35
ORIF Oris-en-Rattie 48.91 301 *e*P **P** **14 17 03.3 +1.5**
ORIF pmax pmax
comp=Z,5.0nm,0.6s
BAIF Baives 48.92 308 *e*P **P** **14 17 02.9 +1.3**
BAIF pmax pmax
comp=Z,15nm,0.9s
JOW Kunigami 49.02 84 P **P** **14 17 03.0 +0.3**
JOW Kunigami 49.02 84 P **P** **14 17 03.1 +0.3**
JOW IAmb IAmb 14 17 03.6
comp=Z,60nm,0.6s
KEST Kesra 49.08 289 P **P** **14 17 04.1 +1.0**
comp=Z,11nm,0.5s,baz=300,slow=0.5,SNR=15
KEST pP **pP** **14 17 49.6 +2.1**
comp=Z,12nm,0.7s,baz=291,slow=1.4,SNR=3.5
comp=Z,11nm,0.5s
KIBK Kibwezi 49.39 226 IAmb IAmb 14 17 08.3
comp=Z,69nm,0.7s
KIBK Kibwezi 49.39 226 P **P** **14 17 07.3 +1.6**
LOR Lormes 49.73 305 *e*P **P** **14 17 07.8 0.0**
LOR pmax pmax
comp=Z,15nm,1.5s
SSB Saint Sauveur 49.74 302 *e*P **P** **14 17 08.7 +0.7**
SSB Saint Sauveur 49.74 302 P **P** **14 17 08.9 +0.8**
SSB pP **pP** **14 17 53.7 +1.1**
VIVF Saint-Julien-l 49.76 301 *e*P **P** **14 17 08.3 +0.2**
VIVF pmax pmax
comp=Z,13nm,0.7s
SMF Signal de Mont 49.88 304 *e*P **P** **14 17 09.3 +0.3**
SMF pmax pmax
comp=Z,27nm,1.0s
AVF Avril sur Loir 50.18 304 *e*P **P** **14 17 11.4 +0.2**
AVF pmax pmax
comp=Z,12nm,0.6s
MNAI Manna 50.41 137 P **P** **14 17 12.3 -1.0**
MNAI Manna 50.41 137 P **P** **14 17 12.2 -1.1**
PPBI Pangkal Pinang 50.46 132 P **P** **14 17 13.8 +0.2**
comp=Z,107nm,1.0s,comp=Z,25µm
BGF Bois d'Agland 50.57 304 *e*P **P** **14 17 14.2 +0.1**
BGF pmax pmax
comp=Z,11nm,1.0s
CLF Chambon-Foret 50.60 306 P **P** **14 17 15.3 +1.0**
CLF pP **pP** **14 17 59.1 0.0**
JMN Monobe 50.65 73 P **P** **14 17 16.1 +1.2**
TCF Toulx Ste Croi 51.07 304 *e*P **P** **14 17 18.5 +0.6**
TCF pmax pmax
comp=Z,26nm,1.0s
CAF Calviac 51.53 302 *e*P **P** **14 17 22.1 +0.8**
CAF pmax pmax
comp=Z,8.0nm,0.8s
TYV Tymovskoe 51.72 50 *e*P **P** **14 17 22.8 +0.2**
TYV pmax pmax
comp=Z,14nm,0.7s
TYV pmax pmax
comp=Z,100nm,4.0s
RJF Les Rejaudoux 51.80 303 *e*P **P** **14 17 23.3 0.0**
RJF pmax pmax
comp=Z,19nm,1.3s
LDF La Druitiere 52.01 307 *e*P **P** **14 17 24.7 0.0**
LDF pmax pmax
comp=Z,12nm,0.8s
STKI Sintang 52.12 125 P **P** **14 17 27.5 +1.5**
comp=Z,74nm,1.0s
FLN La Foliniere 52.20 307 *e*P **P** **14 17 26.0 -0.1**
FLN pmax pmax
comp=Z,7.0nm,0.5s
KASI Kota Agung 52.23 136 P **P** **14 17 23.8 -2.9**
comp=Z,112nm,0.6s,comp=Z,2µm
EKA Eskdalemuir Ar 52.31 316 P **P** **14 17 26.7 -0.2**
comp=Z,2.2nm,0.3s,baz=75,slow=7.0,SNR=32
EKA pP **pP** **14 18 12.6 +0.6**
comp=Z,6.5nm,0.5s,baz=87,slow=7.2,SNR=5.6
comp=Z,2.2nm,0.3s
ESK Eskdalemuir 52.34 316 P **P** **14 17 27.7 +0.6**
ESK IAmb IAmb 14 17 41.1
comp=Z,60nm,1.6s
ESK Eskdalemuir 52.34 316 P **P** **14 17 27.7 +0.6**
ESK pmax pmax
comp=Z,60nm,1.6s
GRR Gorron 52.53 307 *e*P **P** **14 17 28.5 -0.1**
GRR pmax pmax
comp=Z,23nm,1.0s
MFF Saint Martin d 52.55 305 *e*P **P** **14 17 28.7 -0.1**
MFF pmax pmax
comp=Z,10.0nm,0.7s
MBAR Mbarara 52.55 235 P **P** **14 17 30.2 +0.8**
MBAR IAmb IAmb 14 17 31.1
comp=Z,48nm,0.8s
MBAR Mbarara 52.55 235⇑ *i*P **P** **14 17 30.1 +0.8**
MBAR IAmb IAmb 14 17 30.7
comp=Z,46nm,0.7s
MBAR Mbarara 52.55 235 P **P** **14 17 30.2 +0.8**
MBAR pmax pmax
comp=Z,48nm,0.8s
MBAR Mbarara 52.55 235 P **P** **14 17 30.1 +0.7**
MBAR pP **pP** **14 18 15.0 -0.2**
JGF Kuroka 52.61 70 P **P** **14 17 29.2 -0.3**
YSS Yuzh-Sakhalins 52.78 55 P **P** **14 17 31.2 +0.8**
YSS Yuzh-Sakhalins 52.78 55 P **P** **14 17 31.1 +0.8**
YSS IAmb IAmb 14 17 32.2
comp=Z,44nm,0.7s
YSS Yuzh-Sakhalins 52.78 55⇑ *e*P **P** **14 17 30.8 +0.4**
YSS pmax pmax
comp=Z,60nm,0.9s
YSS Yuzh-Sakhalins 52.78 55 P **P** **14 17 30.5 +0.1**
MAJO Matsushiro 52.90 68 P **P** **14 17 32.0 +0.5**
MAJO Matsushiro 52.90 68 P **P** **14 17 31.5 0.0**
MAJO Matsushiro 52.90 68 P **P** **14 17 31.5 0.0**
MAJO pmax pmax
comp=Z,21nm,0.9s
MAJO Matsushiro 52.90 68 P **P** **14 17 31.2 -0.3**
MAJO pP **pP** **14 18 15.6 -1.6**
MJAR Matsushiro Arr 52.90 69 P **P** **14 17 30.9 -0.7**
comp=Z,12nm,0.9s,baz=291,slow=9.3,SNR=21
MJAR pP **pP** **14 18 18.2 +1.0**
comp=Z,4.8nm,0.9s,baz=284,slow=8.8,SNR=2.5
comp=Z,12nm,0.9s
SGMF Saint Gilles 53.66 307 *e*P **P** **14 17 37.0 +0.2**
SGMF pmax pmax
comp=Z,62nm,1.6s
NOR Nord 53.80 350 *i*P **P** **14 17 38.3 +0.9**
NOR IAmb IAmb 14 17 40.0
comp=Z,4.5nm,0.5s
ETSF Etsaut 53.95 300 *e*P **P** **14 17 39.5 +0.4**
ETSF pmax pmax
comp=Z,13nm,0.4s
QUIF Quistinic 54.15 307 *e*P **P** **14 17 40.2 -0.1**
QUIF pmax pmax
comp=Z,7.0nm,0.6s
JMM Marumori 54.34 66 P **P** **14 17 41.8 -0.1**
JMM IAmb IAmb 14 17 42.8
comp=Z,36nm,0.6s
SEY Seymchan 54.38 34 *e*P **P** **14 17 41.4 -0.4**
SEY pmax pmax
comp=Z,15nm,0.8s
DAG Danmarks Havn 54.73 344 P **P** **14 17 44.8 +0.7**
DAG pmax pmax
comp=Z,18nm,0.9s
DAG Danmarks Havn 54.73 344 *i*P **P** **14 17 44.0 -0.1**
DAG IAmb IAmb 14 17 46.7
comp=Z,15nm,0.8s
MTKI Muara Teweh, K 55.16 122 P **P** **14 17 51.5 +3.5**
DBG Daneborg 55.59 341 *i*P **P** **14 17 51.0 +0.7**
DBG IAmb IAmb 14 17 53.4
comp=Z,8.8nm,0.6s
BBJI Bungbulang 55.60 134 P **P** **14 17 50.3 -0.9**
SCO Scoresbysund 57.06 336 *i*P **P** **14 18 02.0 +1.3**
SCO IAmb IAmb 14 18 04.2
comp=Z,8.9nm,0.8s
ESBB Sonseca Array 57.49 298 P **P** **14 18 03.6 -0.7**
ESDC Sonseca Array 57.49 298 P **P** **14 18 03.9 -0.4**
ESDC Sonseca Array 57.49 298 P **P** **14 18 04.5 +0.2**
comp=Z,6.5nm,0.6s,baz=57,slow=7.2,SNR=41
ESDC pP **pP** **14 18 50.8 +0.6**
comp=Z,9.1nm,0.9s,baz=60,slow=7.0,SNR=5.1
comp=Z,6.5nm,0.6s
TAM Tamanrasset 57.58 276 P **P** **14 18 05.6 +0.3**
TAM pmax pmax
comp=Z,9.0nm,1.1s
MPSI Mapaga 57.74 117 P **P** **14 18 07.3 +1.0**
comp=Z,112nm,1.0s,comp=Z,944nm
PAB San Pablo 57.82 298 P **P** **14 18 06.7 +0.1**
PAB pP **pP** **14 18 52.7 +0.2**
PAB PcP **PcP** **14 18 57.7 +0.8**
TOLI2 Tolitoli 57.85 116 P **P** **14 18 07.6 +0.6**
TOLI2 Tolitoli 57.85 116 IAmb IAmb 14 18 08.1
comp=Z,25nm,0.6s
BILL Bilibino 58.57 26 P **P** **14 18 12.3 +1.1**
BILL IAmb IAmb 14 19 00.3
comp=Z,40nm,0.9s
BILL Bilibino 58.57 26⇑ *e*P **P** **14 18 12.5 +1.2**
BILL pmax pmax
comp=Z,40nm,1.2s
BILL Bilibino 58.57 26 P **P** **14 18 12.3 +1.1**
BILL pP **PcP** **14 18 58.9 -0.3**
BORG Borgarnes 58.62 330 P **P** **14 18 12.3 +0.8**
comp=Z,17nm,0.7s,baz=105,slow=4.3,SNR=9.7
comp=Z,17nm,0.7s
ALE Alert 59.03 354 P **P** **14 18 15.3 +1.1**
ALE pP **PcP** **14 19 01.1 +0.2**
MVO Moncorvo 59.07 301 *e*P **P** **14 18 16.0 +0.8**
comp=Z,44nm,1.9s
MVO *e*LQ LQ 14 19 02.1
RER Riviere de l'E 59.16 197 P **P** **14 18 16.2 +0.3**
POLO Lamas de Olo 59.52 301 *e*P **P** **14 18 18.6 +0.3**
POLO *e*LQ LQ 14 19 05.7
PGAV Gavieira, Arco 59.61 302 *e*P **P** **14 18 19.6 +0.7**
PGAV *e*LQ LQ 14 19 05.9
ABPO Ambohimpanom 59.65 206 P **P** **14 18 20.4 +1.0**
ABPO IAmb IAmb 14 18 21.4
comp=Z,28nm,0.8s
ABPO Ambohimpanom 59.65 206 *e*P **P** **14 18 19.7 +0.3**
ABPO IAmb IAmb 14 18 20.8
comp=Z,27nm,0.7s
ABPO Ambohimpanom 59.65 206 P **P** **14 18 20.4 +1.0**
ABPO pmax pmax
comp=Z,28nm,0.8s
ABPO Ambohimpanom 59.65 206 P **P** **14 18 20.4 +1.0**
MTE Manteigas 59.73 300 *e*P **P** **14 18 20.8 +1.0**
comp=Z,52nm,1.7s
MTE *e*LQ LQ 14 19 07.4
GTOI Gorontalo 59.80 114 P **P** **14 18 19.3 -1.1**
comp=Z,42nm,0.9s,comp=Z,432nm
PVIS Viseu 59.85 300 *e*P **P** **14 18 21.4 +0.9**
PVIS *e*LQ LQ 14 19 07.6
PCBR Castelo Branco 59.91 299 *e*P **P** **14 18 21.9 +1.0**
comp=Z,36nm,2.2s
PCBR *e*LQ LQ 14 19 08.5
PEA0B Petropavlovsk- 59.92 44 P **P** **14 18 20.3 -0.5**
PEA0B IAmb IAmb 14 20 01.7
comp=Z,42nm,1.4s
PEA0B Petropavlovsk- 59.92 44 P **P** **14 18 20.3 -0.5**
PEA0B pmax pmax
comp=Z,42nm,1.4s
PETK Petropavlovsk- 59.92 44 P **P** **14 18 19.7 -1.1**
PETK Petropavlovsk- 59.92 44 P **P** **14 18 19.8 -1.0**
comp=Z,3.4nm,0.7s,baz=298,slow=3.9,SNR=21

PETK pP **pP** 14 19 08.4 +0.5
comp=Z,2.7nm,0.6s,baz=289,slow=2.5,SNR=2.9
comp=Z,3.4nm,0.7s
PMRV Marv??o 60.02 299 *e*P **P** 14 18 22.1 +0.4
comp=Z,26nm,1.9s
PMRV eLQ LQ 14 19 09.1
TTSI Tana Toraja 60.06 120 P **P** 14 18 22.0 -0.2
comp=Z,64nm,0.7s,comp=Z,565nm
PBAR Barrancos 60.29 297 *e*P **P** 14 18 24.0 +0.5
comp=Z,47nm,1.6s
PBAR eLQ LQ 14 19 11.0
PESTR Estremoz 60.40 298 *e*P **P** 14 18 25.2 +1.0
comp=Z,28nm,1.1s
PESTR eLQ LQ 14 19 11.6
PCAS Casmilo, Conde 60.54 300 *e*P **P** 14 18 25.6 +0.4
KMSI Cibinong 60.55 114 P **P** 14 18 26.3 +0.7
comp=Z,207nm,0.9s
PMTG Montargil 60.76 299 *e*P **P** 14 18 26.7 0.0
comp=Z,30nm,1.5s
EVO Evora 60.84 298 *e*P **P** 14 18 27.9 +0.7
comp=Z,26nm,1.7s
PBEJ Beja 60.95 298 *e*P **P** 14 18 28.2 +0.3
comp=Z,34nm,1.3s
PBEJ eLQ LQ 14 19 15.8
PSBE So Bento 60.97 299 *e*P **P** 14 18 29.4 +1.3
comp=Z,97nm,1.5s
SOEG Soedalen 61.00 335 *i* P **P** 14 18 28.5 +0.7
SOEG IAmb IAmb 14 18 31.0
comp=Z,15nm,0.5s
NEEM North Greenlan 61.03 348 *i* P **P** 14 18 28.5 +0.3
NEEM IAmb IAmb 14 18 32.0
comp=Z,25nm,0.6s
SUMG Summit 61.06 341 P **P** 14 18 29.9 +1.3
SUMG IAmb IAmb 14 19 19.6
comp=Z,36nm,0.6s
SUMG Summit 61.06 341 P **P** 14 18 29.9 +1.3
SUMG pmax pmax
comp=Z,36nm,0.6s
SUMG Summit 61.06 341 *i* P **P** 14 18 29.0 +0.4
SUMG IAmb IAmb 14 18 31.8
comp=Z,33nm,0.6s
PVAQ Vaqueiros 61.10 297 *e*P **P** 14 18 29.5 +0.5
comp=Z,29nm,1.6s
PVAQ eLQ LQ 14 19 16.5
PVAQ Vaqueiros 61.10 297 P **P** 14 18 28.4 -0.6
PCVE Castro Verde 61.24 297 *e*P **P** 14 18 32.0 +2.1
comp=Z,41nm,2.2s
MESJ Messejana 61.28 297 *e*P **P** 14 18 31.0 +0.8
comp=Z,44nm,1.3s
MESJ eLQ LQ 14 19 17.4
MESJ Messejana 61.28 297 *e*P **P** 14 18 30.9 +0.8
MESJ IAmb IAmb 14 18 34.1
comp=Z,16nm,1.2s
MESJ *e*pP **pP** 14 19 15.9 -0.6
MESJ Messejana 61.28 297 *e*P **P** 14 18 30.9 +0.8
MESJ *e**PP **pP** 14 19 15.9 -0.6
PBDV Barranco-do-Ve 61.33 297 *e*P **P** 14 18 32.8 +2.2
comp=Z,56nm,1.4s
PBDV eLQ LQ 14 19 19.4
PNCL Nicolau / Gran 61.38 298 *e*P **P** 14 18 31.7 +0.9
comp=Z,35nm,1.6s
PTEO Sao Teotonio 61.77 297 *e*P **P** 14 18 34.2 +0.8
VOI Vohitsoka 62.47 205⇑ *i*P **P** 14 18 39.4 +1.1
VOI Vohitsoka 62.47 205 P **P** 14 18 39.3 +1.1
PLAI Plampang 62.90 126 P **P** 14 18 40.3 -0.9
TNTI Ternate 62.95 111 P **P** 14 18 41.7 +0.2
TNTI Ternate 62.95 111 P **P** 14 18 41.3 -0.2
comp=Z,72nm,0.7s,comp=Z,1000nm
ICESG Greenland Ices 63.21 338 *i* P **P** 14 18 42.8 -0.1
ICESG IAmb IAmb 14 18 45.8
comp=Z,25nm,0.6s
SANI Sanana 63.80 114 P **P** 14 18 46.7 -0.3
SANI Sanana 63.80 114 P **P** 14 18 46.8 -0.3
comp=Z,78nm,0.8s,comp=Z,966nm
LBMI Labuha 63.98 112 P **P** 14 18 48.2 -0.1
comp=Z,84nm,0.6s,comp=Z,1µm
KULLO Kullorsuaq 64.07 346 *i* P **P** 14 18 48.4 +0.4
KULLO IAmb IAmb 14 18 50.0
comp=Z,17nm,0.5s
ANGG Ammassalik, Gr 64.42 334 *i* P **P** 14 18 50.6 +0.2
ANGG IAmb IAmb 14 18 52.9
comp=Z,30nm,0.6s
ISOG Isortoq, Green 64.93 334 *i* P **P** 14 18 52.8 -0.8
ISOG IAmb IAmb 14 18 55.0
comp=Z,12nm,0.7s
UPNV Upernavik 65.13 345 *i* P **P** 14 18 54.4 -0.4
UPNV IAmb IAmb 14 18 57.1
comp=Z,14nm,0.6s
FOMA Nahampoana Res 65.24 204 P **P** 14 18 57.4 +1.2
FOMA Nahampoana Res 65.24 204 P **P** 14 18 57.0 +0.9
EDFI Ende, Flores 65.44 123 P **P** 14 18 57.9 +0.1
comp=Z,26nm,0.6s
LSZ Lusaka 65.50 226 P **P** 14 18 58.6 +0.5
LSZ Lusaka 65.50 226 P **P** 14 18 58.9 +0.8
LSZ Lusaka 65.50 226 P **P** 14 18 58.6 +0.5
LSZ pmax pmax
comp=Z,50nm,0.7s
LSZ Lusaka 65.50 226 P **P** 14 18 58.6 +0.5
UMMG Uummannaq 65.68 342 *i* P **P** 14 18 58.8 +0.5
UMMG IAmb IAmb 14 19 00.4
comp=Z,8.1nm,0.5s
ILULI Ilulissat 66.40 341 P **P** 14 19 04.2 +1.2
ILULI Ilulissat 66.40 341 P **P** 14 19 04.2 +1.2
ILULI pmax pmax
comp=Z,51nm,0.5s
ILULI Ilulissat 66.40 341 *i* P **P** 14 19 02.7 -0.3
DY2G Dye2 66.79 337 *i* P **P** 14 19 06.6 +0.8
DY2G IAmb IAmb 14 19 08.4
comp=Z,44nm,0.5s
SWI Sorong 66.95 109 P **P** 14 19 06.8 -0.6
comp=Z,96nm,1.1s,comp=Z,1µm
A21K Barrow 67.29 15 P **P** 14 19 09.4 +0.8
baz=320
C16K Lisburne Hills 67.43 20 IAmb IAmb 14 19 10.9
comp=Z,45nm,0.8s
C16K Lisburne Hills 67.43 20 P **P** 14 19 10.0 +0.6
baz=314,SNR=6.6
B18K Kokolik River 67.57 18 P **P** 14 19 11.7 +1.3
baz=316,SNR=6.5
SFJD Kangerlussuaq 67.76 339 P **P** 14 19 12.0 +0.5
SFJD Kangerlussuaq 67.76 339 P **P** 14 19 11.4 -0.1
comp=Z,9.3nm,0.4s,baz=96,slow=6.1,SNR=22
SFJD pP **pP** 14 19 59.8 +0.5
comp=Z,12nm,0.7s,baz=32,slow=6.0,SNR=3.0
comp=Z,9.3nm,0.4s
SFJD Kangerlussuaq 67.76 339 P **P** 14 19 12.0 +0.5
SFJD pmax pmax
comp=Z,14nm,0.8s
SFJD Kangerlussuaq 67.76 339 P **P** 14 19 12.1 +0.5
SFJD pP **pP** 14 19 59.8 +0.5
SFJD sP **sP** 14 20 22.3 +1.0
SFJD Kangerlussuaq 67.76 339 *i* P **P** 14 19 11.0 -0.6
SFJD IAmb IAmb 14 19 13.2
comp=Z,13nm,0.5s
BATI Baumata 67.83 122 P **P** 14 19 12.5 -0.3
comp=Z,205nm,0.7s,comp=Z,2µm
C17K DeLong Mountai 67.86 19 P **P** 14 19 13.1 +0.8
baz=315,SNR=15
A22K Sinclair Lake 67.88 15 P **P** 14 19 13.2 +1.0
baz=321,SNR=10
SOEI Soe 67.92 122 P **P** 14 19 12.7 -0.8
SOEI Soe 67.92 122 P **P** 14 19 13.2 -0.3
comp=Z,118nm,0.8s
B20K Meade River 68.18 16 P **P** 14 19 15.0 +0.8
baz=320,SNR=9.8
RDOG Red Dog Mine 68.23 19 P **P** 14 19 14.6 0.0
baz=316
C18K Utukok River 68.24 18 IAmb IAmb 14 19 16.2
comp=Z,41nm,0.8s
C18K Utukok River 68.24 18 P **P** 14 19 15.3 +0.6
baz=317
C19K Lookout Ridge 68.30 17 P **P** 14 19 15.9 +0.9
baz=318,SNR=31
D17K Noatak River 68.44 19 P **P** 14 19 16.6 +0.7
baz=316,SNR=36
GAMB Gambell 68.47 25 P **P** 14 19 17.1 +1.1
baz=310
TNA Tin City 68.53 23 P **P** 14 19 17.2 +0.8
baz=312
B22K Teshekpuk Lake 68.72 15 IAmb IAmb 14 19 19.4
comp=Z,57nm,1.0s
B22K Teshekpuk Lake 68.72 15 P **P** 14 19 18.5 +1.0
baz=323
FAKI Fak Fak 69.04 110 P **P** 14 19 20.2 -0.1
FAKI Fak Fak 69.04 110 P **P** 14 19 20.5 +0.2
comp=Z,83nm,1.0s,comp=Z,866nm

B21K Ikpikpuk River 69.04 16 P **P** 14 19 20.6 +1.1
baz=322
F14K Arctic Creek 69.08 22 P **P** 14 19 21.0 +1.2
baz=314,SNR=13
D19K Kuna River 69.11 17 P **P** 14 19 20.9 +0.9
D19K Kuna River 69.11 17 P **P** 14 19 20.7 +0.7
baz=319
E17K Hotham Inlet 69.22 20 P **P** 14 19 21.3 +0.6
baz=317,SNR=22
E18K Tukpahlearik C 69.30 19 P **P** 14 19 21.9 +0.7
baz=318,SNR=54
D20K Etivluk River 69.30 17 P **P** 14 19 22.0 +0.8
baz=320,SNR=28
C21K Knifeblade Rid 69.37 16 P **P** 14 19 22.7 +1.1
baz=322,SNR=17
F15K North Star Dit 69.42 21 P **P** 14 19 23.2 +1.3
F15K North Star Dit 69.42 21 P **P** 14 19 23.0 +1.1
baz=315,SNR=33
C23K Itkillik River 69.69 14 P **P** 14 19 24.8 +1.4
C23K Itkillik River 69.69 14 P **P** 14 19 24.9 +1.4
baz=325,SNR=36
E20K Nigu River 69.76 17 P **P** 14 19 24.6 +0.6
baz=321,SNR=44
F17K Baldwin Pennin 69.85 20 IAmb IAmb 14 19 26.3
comp=Z,50nm,0.8s
F17K Baldwin Pennin 69.85 20 P **P** 14 19 25.6 +1.1
baz=317,SNR=28
ANM Nome 70.00 23 IAmb IAmb 14 19 27.7
comp=Z,24nm,0.9s
ANM Nome 70.00 23 P **P** 14 19 26.7 +1.2
baz=314,SNR=9.1
D22K Ayikyak River 70.05 15 IAmb IAmb 14 19 27.6
comp=Z,53nm,1.2s
D22K Ayikyak River 70.05 15 P **P** 14 19 26.7 +0.9
baz=324
G15K Niukluk 70.10 22 P **P** 14 19 26.8 +0.8
baz=315
E21K Killik River 70.12 16 P **P** 14 19 26.6 +0.5
baz=323
E19K Redstone River 70.13 18 P **P** 14 19 26.6 +0.4
baz=320,SNR=27
F18K Selawik 70.16 19 P **P** 14 19 26.9 +0.6
baz=319,SNR=29
C24K Franklin Bluff 70.16 14 P **P** 14 19 27.6 +1.2
baz=327
G16K Koyuk River 70.31 21 P **P** 14 19 28.4 +1.1
baz=317,SNR=16
D23K Nanushuk River 70.40 15 P **P** 14 19 28.8 +1.0
baz=325,SNR=27
F19K Shaleruckik Mo 70.47 18 IAmb IAmb 14 19 29.3
comp=Z,62nm,1.8s
F19K Shaleruckik Mo 70.47 18 P **P** 14 19 28.1 -0.1
baz=320,SNR=14
MOPA Mopani 70.47 218⇑ *i*P **P** 14 19 29.7 +0.8
MOPA IAmb IAmb 14 19 30.3
comp=Z,301nm,1.1s
MPHEP Siloam, Limpop 70.59 220⇑ *i*P **P** 14 19 30.2 +0.6
MPHEP IAmb IAmb 14 19 30.9
comp=Z,74nm,0.8s
D24K Happy Valley 70.62 14 IAmb IAmb 14 19 30.9
comp=Z,22nm,0.8s
D24K Happy Valley 70.62 14 P **P** 14 19 30.0 +0.9
baz=327
C26K Camden Bay 70.69 12 P **P** 14 19 31.2 +1.7
baz=330,SNR=23
G17K Kiwalik Mounta 70.71 20 P **P** 14 19 30.5 +0.8
baz=318,SNR=20
F20K Avaraart Lake 70.81 18 IAmb IAmb 14 19 31.4
comp=Z,33nm,1.4s
F20K Avaraart Lake 70.81 18 P **P** 14 19 30.5 +0.2
baz=322,SNR=22
E22K Anaktuvuk Pass 70.84 16 P **P** 14 19 31.1 +0.6
baz=325
H16K Elim 70.89 21 P **P** 14 19 31.9 +1.0
baz=317,SNR=13
TOLK Toolik Lake Re 70.90 15 P **P** 14 19 31.9 +1.0
baz=326,SNR=98
D25K Kavik River 70.94 13 IAmb IAmb 14 19 33.3
comp=Z,42nm,0.8s
D25K Kavik River 70.94 13 P **P** 14 19 32.3 +1.2
baz=329,SNR=42
G18K Tagagawik 70.96 19 P **P** 14 19 31.3 0.0
baz=320,SNR=9.8
C27K Jago River 71.15 12 P **P** 14 19 34.0 +1.6
baz=331,SNR=60
G19K Purcell Mounta 71.18 19 IAmb IAmb 14 19 33.9
comp=Z,43nm,0.7s
G19K Purcell Mounta 71.18 19 P **P** 14 19 33.1 +0.5
baz=321,SNR=39
A36M Sachs Harbour 71.19 5 P **P** 14 19 33.5 +1.1
baz=346,SNR=173
F21K Alatna River 71.21 17 IAmb IAmb 14 19 35.3
comp=Z,32nm,0.8s
F21K Alatna River 71.21 17 P **P** 14 19 33.5 +0.7
baz=323,SNR=46
F22K John River 71.28 16 P **P** 14 19 34.2 +1.0
baz=324
H17K Granite Mounta 71.34 20 P **P** 14 19 34.0 +0.4
H17K IAmb IAmb 14 19 35.3
comp=Z,46nm,1.3s
H17K Granite Mounta 71.34 20 P **P** 14 19 34.3 +0.8
baz=319
E23K Chanalar 71.38 15 P **P** 14 19 34.5 +0.7
baz=326
HOED Hoedspruit, Li 71.45 218⇑ *i*P **P** 14 19 35.4 +0.6
HOED IAmb IAmb 14 19 35.9
comp=Z,109nm,0.9s
GIRL Giralia 71.58 138 P **P** 14 19 34.6 -0.9
E24K Your Creek 71.59 15 IAmb IAmb 14 19 36.5
comp=Z,28nm,0.6s
E24K Your Creek 71.59 15 P **P** 14 19 36.1 +1.1
baz=327,SNR=42
H18K Honhosa River 71.61 20 P **P** 14 19 35.7 +0.6
baz=320
SAUI Saumlaki 71.68 115 P **P** 14 19 36.4 +0.1
G21K Allakaket 71.77 17 IAmb IAmb 14 19 37.1
comp=Z,27nm,0.8s
G21K Allakaket 71.77 17 P **P** 14 19 36.1 0.0
baz=324,SNR=24
H19K Roundabout Mou 71.83 19 IAmb IAmb 14 19 38.0
comp=Z,26nm,0.7s
H19K Roundabout Mou 71.83 19 P **P** 14 19 37.1 +0.7
baz=321,SNR=25
J14K Nanvaranak Lak 71.87 23 IAmb IAmb 14 19 38.8
comp=Z,38nm,1.1s
J14K Nanvaranak Lak 71.87 23 P **P** 14 19 37.9 +1.2
baz=316
I17K Unalakleet 71.91 21 IAmb IAmb 14 19 39.1
comp=Z,44nm,1.2s
I17K Unalakleet 71.91 21 P **P** 14 19 38.2 +1.3
baz=318,SNR=10
G22K Bettles 71.91 16 P **P** 14 19 37.3 +0.5
baz=325
D27M Malcolm River 71.94 11 P **P** 14 19 38.4 +1.3
baz=333,SNR=32
COLD Coldfoot 71.94 16 P **P** 14 19 38.0 +0.9
baz=326,SNR=46
K13K Kusilvak Mount 72.10 24 P **P** 14 19 39.0 +0.9
baz=316
E25K Arctic Village 72.13 14 P **P** 14 19 38.9 +0.7
E25K IAmb IAmb 14 19 39.5
comp=Z,18nm,0.6s
E25K Arctic Village 72.13 14 P **P** 14 19 38.9 +0.7
baz=330,SNR=28
IMAR Indian Mountai 72.14 18 P **P** 14 19 38.5 +0.2
F24K Squaw Lake 72.19 15 P **P** 14 19 39.4 +0.8
baz=328,SNR=18
D28M Stokes Point 72.21 11 P **P** 14 19 40.2 +1.7
baz=335,SNR=43
H20K Anotleneega Mo 72.26 18 P **P** 14 19 39.5 +0.5
baz=323,SNR=52
GCSA Galena City Sc 72.32 20 P **P** 14 19 40.2 +0.9
baz=321,SNR=20
WTBG Waterberg Wild 72.33 220⇑ *i*P **P** 14 19 40.0 -0.1
WTBG IAmb IAmb 14 19 40.6
comp=Z,50nm,0.7s
J16K Anvik River 72.39 22 IAmb IAmb 14 19 41.8
comp=Z,39nm,0.8s
J16K Anvik River 72.39 22 P **P** 14 19 40.9 +1.1
baz=319,SNR=20
G23K Bananza Creek 72.41 16 IAmb IAmb 14 19 41.7
comp=Z,23nm,0.9s
G23K Bananza Creek 72.41 16 P **P** 14 19 40.6 +0.7
baz=326,SNR=28
F25K Christian Rive 72.57 14 P **P** 14 19 42.2 +1.4
baz=330,SNR=42
LEPH Lephalale, Lim 72.61 221⇑ *i*P **P** 14 19 41.8 +0.1
LEPH IAmb IAmb 14 19 42.5
comp=Z,79nm,0.5s
H21K Melozitna Rive 72.64 18 IAmb IAmb 14 19 42.8
comp=Z,39nm,1.1s
H21K Melozitna Rive 72.64 18 P **P** 14 19 41.8 +0.6
baz=324,SNR=42
M11K Mekoryuk 72.67 26 P **P** 14 19 43.0 +1.5
baz=315
E28M Babbage River 72.74 11 IAmb IAmb 14 19 44.1
comp=Z,22nm,0.7s
E28M Babbage River 72.74 11 P **P** 14 19 43.2 +1.4
baz=335,SNR=52
J17K VABM Dome 72.75 21 P **P** 14 19 42.9 +0.9
baz=320,SNR=9.3
F26K Sheenjek River 72.77 13 P **P** 14 19 43.1 +1.2
baz=331,SNR=21
E27K Coleen River 72.78 12 IAmb IAmb 14 19 44.2
comp=Z,34nm,0.9s
E27K Coleen River 72.78 12 P **P** 14 19 43.4 +1.3
baz=333,SNR=48
H22K Ishtalitna Cre 72.78 17 P **P** 14 19 42.9 +0.8
baz=325
K15K Wolf Creek Mou 72.84 23 P **P** 14 19 44.0 +1.6
baz=318,SNR=5.9
BMAR Burnt Mountain 72.92 14 P **P** 14 19 44.4 +1.5
I20K Naaghedeneel 72.92 19 P **P** 14 19 43.9 +1.1
baz=323,SNR=14
G24K Hadweenzic Riv 72.97 15 IAmb IAmb 14 19 45.2
comp=Z,30nm,0.8s
G24K Hadweenzic Riv 72.97 15 P **P** 14 19 44.3 +1.1
baz=328,SNR=20
MTLB Matlabas, Limp 72.97 222⇑ *i*P **P** 14 19 44.2 +0.4
MTLB IAmb IAmb 14 19 44.5
comp=Z,73nm,0.5s
L14K Kuka Creek 73.18 24 IAmb IAmb 14 19 46.8
comp=Z,35nm,0.9s
L14K Kuka Creek 73.18 24 P **P** 14 19 45.8 +1.4
baz=317
E29M Blow River 73.19 11 IAmb IAmb 14 19 46.8
comp=Z,47nm,1.1s
E29M Blow River 73.19 11 P **P** 14 19 45.8 +1.4
baz=336,SNR=66
G25K Bearman Lake 73.20 14 P **P** 14 19 46.1 +1.6
baz=330,SNR=18
CRLN Carolina, Mapu 73.22 218⇑ *i*P **P** 14 19 46.1 +0.8
CRLN IAmb IAmb 14 19 46.6
comp=Z,64nm,0.6s
J19K Poorman 73.26 20 P **P** 14 19 45.9 +1.0
baz=322,SNR=44
H23K Yukon River 73.26 16 P **P** 14 19 46.2 +1.3
H23K IAmb IAmb 14 19 47.1
comp=Z,33nm,0.8s
H23K Yukon River 73.26 16 P **P** 14 19 46.2 +1.3
baz=327,SNR=40
L15K Ungalak Mounta 73.32 23 P **P** 14 19 46.5 +1.2
baz=318,SNR=6.6
RUST Rust De Winter 73.36 220⇑ *i*P **P** 14 19 46.9 +0.8
RUST IAmb IAmb 14 19 47.4
comp=Z,143nm,0.7s
J18K Innoko River 73.37 20 IAmb IAmb 14 19 47.2
comp=Z,34nm,0.8s
J18K Innoko River 73.37 20 P **P** 14 19 46.5 +0.9
baz=322
SMPI Sarmi 73.40 105 P **P** 14 19 46.8 +0.3
comp=Z,125nm,0.7s,comp=Z,1µm
G26K Porcupine Rive 73.49 14 P **P** 14 19 47.4 +1.2
baz=331,SNR=15
J20K Nowinta River 73.50 19 IAmb IAmb 14 19 48.1
comp=Z,40nm,0.7s
J20K Nowinta River 73.50 19 P **P** 14 19 47.3 +1.0
baz=324,SNR=38
K17K Iditarod 73.50 21 P **P** 14 19 47.5 +1.2
baz=320,SNR=27
MBWA Marble Bar 73.50 133 P **P** 14 19 46.8 0.0
MBWA Marble Bar 73.50 133 P **P** 14 19 46.8 0.0
MBWA IAmb IAmb 14 19 47.9
comp=Z,101nm,1.6s
MBWA Marble Bar 73.50 133 P **P** 14 19 46.9 0.0
POGA Pongola 73.54 216 P **P** 14 19 47.5 +0.6
POGA Pongola 73.54 216⇑ *i*P **P** 14 19 47.5 +0.6
POGA IAmb IAmb 14 19 48.0
comp=Z,128nm,0.7s
FYU Fort Yukon 73.54 14 IAmb IAmb 14 19 49.0
comp=Z,78nm,1.3s
F28M Old Crow 73.59 12 P **P** 14 19 47.9 +1.1
baz=334,SNR=36
H24K Noodor Dome 73.62 16 IAmb IAmb 14 19 49.1
comp=Z,24nm,0.8s
H24K Noodor Dome 73.62 16 P **P** 14 19 48.1 +1.1
baz=328,SNR=29
M13K Dall Lake 73.64 25 IAmb IAmb 14 19 50.1
comp=Z,56nm,1.0s
M13K Dall Lake 73.64 25 P **P** 14 19 49.0 +1.9
baz=317,SNR=6.5
MLY Manley 73.65 17 IAmb IAmb 14 19 48.8
comp=Z,29nm,1.1s
MLY Manley 73.65 17 P **P** 14 19 47.9 +0.7
baz=326,SNR=29
H25L Birch Creek 73.69 15 P **P** 14 19 48.7 +1.4
baz=330,SNR=18
NHAM Northam, North 73.72 221⇑ *i*P **P** 14 19 48.6 +0.4
NHAM IAmb IAmb 14 19 48.9
comp=Z,45nm,0.7s
M14K Bethel 73.86 24 P **P** 14 19 49.9 +1.5
baz=318,SNR=16
C36M Paulatuk 73.86 6 P **P** 14 19 48.7 +0.4
baz=347,SNR=340
I23K Minto, Yukon-K 73.88 17 P **P** 14 19 49.6 +1.2
I23K IAmb IAmb 14 19 50.4
comp=Z,35nm,0.9s
I23K Minto, Yukon-K 73.88 17 P **P** 14 19 49.4 +1.0
baz=327,SNR=28
INK Inuvik 73.88 9 P **P** 14 19 49.5 +1.1
baz=340,SNR=98
INK Inuvik 73.88 9 P **P** 14 19 49.3 +0.9
PSA00 Pilbara Seismi 73.89 133 P **P** 14 19 48.9 -0.2
L16K Owhat River 73.92 23 IAmb IAmb 14 19 51.1
comp=Z,42nm,0.9s
L16K Owhat River 73.92 23 P **P** 14 19 50.1 +1.4
baz=320,SNR=18
L17K Donlin 73.95 22 P **P** 14 19 50.4 +1.4
baz=321,SNR=12
NYAT Nyati, Northwe 73.96 220⇑ *i*P **P** 14 19 50.1 +0.6
NYAT IAmb IAmb 14 19 50.9
comp=Z,137nm,0.8s
G27K Doyon Strip 74.01 13 IAmb IAmb 14 19 51.5
comp=Z,35nm,0.7s
G27K Doyon Strip 74.01 13 P **P** 14 19 50.6 +1.4
baz=333,SNR=64
K20K Telida 74.18 19 P **P** 14 19 51.3 +1.0
baz=324,SNR=39
CHUM Lake Minchumin 74.21 18 P **P** 14 19 51.3 +0.9
baz=325,SNR=28
F30M Barrier River 74.22 10 P **P** 14 19 51.6 +1.2
baz=338,SNR=56
MDM Murphy Dome 74.29 16 IAmb IAmb 14 19 52.6
comp=Z,36nm,0.9s
M15K Kasigluk River 74.31 24 P **P** 14 19 52.3 +1.3
baz=319,SNR=9.7
HRAO HartRAO 74.32 220⇑ *i*P **P** 14 19 52.1 +0.4
POKR Poker Plat Res 74.33 16 P **P** 14 19 52.2 +1.0
baz=329,SNR=12
L18K Granite Mounta 74.36 21 IAmb IAmb 14 19 52.7
comp=Z,18nm,0.7s
L18K Granite Mounta 74.36 21 P **P** 14 19 52.2 +0.9
baz=322,SNR=12
BPAW Bear Paw Mtn. 74.37 18 IAmb IAmb 14 19 52.5
comp=Z,41nm,1.2s
BPAW Bear Paw Mtn. 74.37 18 P **P** 14 19 51.7 +0.3
baz=326,SNR=27
PRP Porcupine Dome 74.40 15 P **P** 14 19 52.6 +1.0
baz=330,SNR=12
NEA2 Nenana 74.41 17 P **P** 14 19 52.0 +0.4
baz=328,SNR=50
DRS Darwin Rock St 74.42 119 P **P** 14 19 52.2 -0.1
COLA College 74.45 16 P **P** 14 19 52.2 +0.5
COLA College 74.45 16 P **P** 14 19 52.4 +0.6
baz=328
COLA College 74.45 16 *e*P **P** 14 19 51.2 -0.5
COLA pmax pmax
comp=Z,66nm,0.8s
G29M Pine Creek 74.53 11 P **P** 14 19 53.2 +1.0
baz=336,SNR=20
H27K Steamboat Moun 74.55 13 P **P** 14 19 53.6 +1.2
baz=333,SNR=49
N14K Kuskokwak Cree 74.56 25 P **P** 14 19 53.8 +1.3
baz=318
M16K Timber Creek 74.61 23 P **P** 14 19 54.3 +1.5

baz=320
CAST Castle Rocks 74.65 19 P P 14 19 53.7 +0.7
baz=325,SNR=86
F31M Tsiigehtchic 74.67 10 P P 14 19 53.9 +0.9
baz=340,SNR=93
LBTB Lobatse 74.72 222 *eP* P 14 19 54.1 +0.1
NWCL Newcastle 74.73 217⇑ *iP* P 14 19 54.3 +0.3
NWCL IAmb IAmb 14 19 54.6
comp=Z,108nm,0.5s
G30M tAoh Zraii Nji 74.75 11 IAmb IAmb 14 19 55.6
comp=Z,40nm,0.8s
G30M tAoh Zraii Nji 74.75 11 P P 14 19 54.1 +0.6
baz=338,SNR=23
DBIC Dimbokro 74.75 267 P P 14 19 53.3 -1.0
DBIC IAmb IAmb 14 19 54.0
comp=Z,21nm,0.7s
DBIC Dimbokro 74.75 267 *eP* P 14 19 54.1 -0.2
DBIC Dimbokro 74.75 267 P P 14 19 53.2 -1.0
comp=Z,16nm,0.6s,baz=35,slow=6.6,SNR=29
comp=Z,16nm,0.6s
DBIC Dimbokro 74.75 267 P P 14 19 53.3 -1.0
DBIC pmax pmax
comp=Z,21nm,0.7s
ILAR Eielson Array 74.75 16 P P 14 19 52.9 -0.6
ILAR Eielson Array 74.75 16 P P 14 19 52.8 -0.8
comp=Z,17nm,0.9s,baz=319,slow=4.6,SNR=114
ILAR pP pP 14 20 42.1 -0.4
comp=Z,9.7nm,1.0s,baz=325,slow=4.6,SNR=5.2
comp=Z,17nm,0.9s
ILAR Eielson Array 74.75 16 P P 14 19 52.9 -0.6
M17K Holitna River 74.78 22 IAmb IAmb 14 19 56.4
comp=Z,55nm,0.9s
M17K Holitna River 74.78 22 P P 14 19 55.4 +1.7
baz=321,SNR=17
KTH Kantishna Hill 74.84 18 IAmb IAmb 14 19 55.4
comp=Z,48nm,0.8s
FITZ Fitzroy Crossi 74.86 127 P P 14 19 54.9 +0.1
MTN Manton Dam 74.86 119 P P 14 19 54.1 -0.8
N15K Kwethluk River 74.91 24 IAmb IAmb 14 19 57.2
comp=Z,44nm,1.1s
N15K Kwethluk River 74.91 24 P P 14 19 55.9 +1.4
baz=320,SNR=6.2
GENI Genyem 74.91 105 P P 14 19 55.4 +0.2
comp=Z,145nm,0.9s
L19K White Mountain 74.92 20 P P 14 19 55.5 +0.9
baz=323,SNR=14
L20K Farewell, AK 74.95 20 P P 14 19 55.6 +0.9
baz=324
TSUM Tsumeb 74.96 232 P P 14 19 55.9 +0.4
TSUM IAmb IAmb 14 19 56.8
comp=Z,46nm,0.7s
TSUM Tsumeb 74.96 232 *eP* P 14 19 54.1 -1.4
HDA Harding Lake 75.05 16 P P 14 19 54.5 -0.8
baz=329,SNR=14
PPLA Purkeypile 75.06 19 P P 14 19 55.7 +0.2
baz=325,SNR=11
I26K Coal Creek Min 75.06 14 P P 14 19 56.1 +0.8
baz=332
TRF Thorofare Moun 75.08 18 P P 14 19 55.4 -0.3
baz=327,SNR=5.8
G31M Satah River 75.08 10 IAmb IAmb 14 19 56.9
comp=Z,49nm,0.8s
G31M Satah River 75.08 10 P P 14 19 56.0 +0.7
baz=339,SNR=57
I27K Kandik River 75.09 13 P P 14 19 56.3 +0.8
baz=333,SNR=33
N16K Nishlik Lake 75.09 23 P P 14 19 57.3 +1.7
baz=320,SNR=11
H29M Whitestone 75.11 12 P P 14 19 56.7 +1.1
baz=336,SNR=63
MCK McKinley 75.17 17 P P 14 19 56.3 +0.3
baz=328,SNR=16
MCK McKinley 75.17 17 P P 14 19 56.0 0.0
M18K Stony River 75.19 21 P P 14 19 57.0 +1.0
baz=323,SNR=9.9
O14K Tigyukauivet M 75.21 25 P P 14 19 57.4 +1.2
baz=319
J25K Salcha River, 75.22 15 IAmb IAmb 14 19 57.2
comp=Z,26nm,0.9s
J25K Salcha River, 75.22 15 P P 14 19 56.2 -0.1
baz=330,SNR=31
EPYK Eagle Plains 75.23 11 P P 14 19 56.7 +0.4
baz=337,SNR=23
M19K Big River Lodg 75.27 20 P P 14 19 57.6 +1.0
baz=324
PRYS Parys 75.33 220⇑ *iP* P 14 19 57.6 +0.1
PRYS IAmb IAmb 14 19 58.1
comp=Z,63nm,0.9s
RND Reindeer 75.47 17 IAmb IAmb 14 19 58.2
comp=Z,22nm,0.8s
RND Reindeer 75.47 17 P P 14 19 57.3 -0.4
I28M Miner Creek 75.54 13 IAmb IAmb 14 19 59.5
comp=Z,39nm,0.7s
I28M Miner Creek 75.54 13 P P 14 19 58.6 +0.5
baz=335,SNR=70
N17K Nushagak Hills 75.55 22 P P 14 19 59.7 +1.6
baz=322,SNR=7.0
SVW2 Sparrevohn 75.58 21 P P 14 19 59.2 +0.9
M20K Styx River 75.64 20 P P 14 19 59.0 +0.2
baz=325
J26L Joseph Creek 75.69 15 IAmb IAmb 14 20 00.4
comp=Z,34nm,0.7s
J26L Joseph Creek 75.69 15 P P 14 19 59.6 +0.6
baz=332,SNR=42
KDU Kakadu 75.70 118 P P 14 19 58.8 -0.8
O15K Ungalikthiuk R 75.75 24 P P 14 20 00.4 +1.1
baz=320
N18K Kilae Creek 75.82 22 P P 14 20 00.9 +1.2
baz=323,SNR=5.0
K24K Donnelly Dome 75.83 16 P P 14 19 59.8 0.0
baz=330,SNR=15
I29M Ogilvie Camp, 75.91 12 IAmb IAmb 14 20 01.3
comp=Z,28nm,0.7s
I29M Ogilvie Camp, 75.91 12 P P 14 20 00.2 +0.1
baz=336,SNR=37
EGAK Eagle 75.92 14 P P 14 20 00.7 +0.5
baz=334,SNR=23
PMBG Pietermaritzbu 75.92 216⇑ *iP* P 14 20 01.5 +0.9
PMBG IAmb IAmb 14 20 01.9
comp=Z,60nm,0.7s
CUT Chulitna 75.96 18 P P 14 19 60.0 -0.5
baz=327
SKT Skwentna 75.99 19 IAmb IAmb 14 20 01.3
comp=Z,56nm,1.0s
SKT Skwentna 75.99 19 P P 14 20 00.3 -0.3
baz=326,SNR=39
O16K Kokwok River B 75.99 23 IAmb IAmb 14 20 03.2
comp=Z,46nm,1.0s
O16K Kokwok River B 75.99 23 P P 14 20 02.2 +1.6
baz=321,SNR=13
WAT1 Susitna Watana 76.03 18 P P 14 20 00.1 -0.7
baz=328
SCRK Sand Creek 76.07 15 IAmb IAmb 14 20 02.3
comp=Z,25nm,0.6s
SCRK Sand Creek 76.07 15 P P 14 20 01.7 +0.5
baz=332,SNR=38
DHY Denali Highway 76.10 17 P P 14 20 01.6 +0.1
baz=329,SNR=26
H31M Peel River 76.12 10 P P 14 20 01.9 +0.6
baz=339
N19K Bonanza Creek 76.12 21 P P 14 20 02.2 +0.7
baz=324
O17K Koliganek Bris 76.17 23 P P 14 20 02.7 +1.1
baz=322
SNKL Senekal, Frees 76.23 219⇑ *iP* P 14 20 02.8 +0.2
SNKL IAmb IAmb 14 20 03.4
comp=Z,162nm,0.5s
I30M Mount Dempster 76.35 12 IAmb IAmb 14 20 04.2
comp=Z,42nm,0.8s
I30M Mount Dempster 76.35 12 P P 14 20 03.3 +0.5
baz=338,SNR=76
K27K Chicken 76.42 14 IAmb IAmb 14 20 05.0
comp=Z,35nm,0.9s
K27K Chicken 76.42 14 P P 14 20 04.0 +1.0
baz=333
WAT6 Susitna Watana 76.44 17 P P 14 20 02.8 -0.5
baz=329,SNR=12
N20K Mount Spurr 76.45 20 P P 14 20 03.3 0.0
baz=326,SNR=6.8
P16K Nushagak River 76.47 24 P P 14 20 02.9 -0.4
baz=321
M22K Willow 76.55 19 P P 14 20 03.3 -0.4
baz=327,SNR=7.2
SUA Susitna One 76.63 19 P P 14 20 04.3 -0.1
baz=327,SNR=14
PAX Paxson 76.63 16 P P 14 20 04.5 +0.1
baz=331,SNR=28
O19K Port Alsworth 76.67 21 P P 14 20 05.3 +0.9
baz=324
O18K Koktuh Hills 76.68 22 IAmb IAmb 14 20 06.8
comp=Z,48nm,0.8s
O18K Koktuh Hills 76.68 22 P P 14 20 05.8 +1.2
baz=323
J29N Klondike Camp 76.75 13 P P 14 20 06.0 +1.1
baz=336,SNR=9.0
P17K Kwiguk River 76.83 23 P P 14 20 06.9 +1.6
baz=322,SNR=5.3
DAWY Dawson 76.90 13 P P 14 20 06.2 +0.5
baz=335,SNR=40
PMR Palmer 76.94 18 P P 14 20 06.2 +0.3
PMR Palmer 76.94 18 IAmb IAmb 14 20 06.8
comp=Z,24nm,1.0s
PMR Palmer 76.94 18 P P 14 20 05.8 -0.1
baz=328,SNR=10
SML Sawmill 76.96 18 P P 14 20 06.4 +0.3
baz=328,SNR=25
J30M Hart River 76.96 12 IAmb IAmb 14 20 08.0
comp=Z,24nm,0.8s
J30M Hart River 76.96 12 P P 14 20 07.1 +0.9
baz=338,SNR=44
L26K Log Cabin Wild 77.05 15 P P 14 20 07.2 +0.7
baz=332,SNR=6.9
P18K Big Mountain, 77.05 22 P P 14 20 07.2 +0.5
baz=323
M23K Glacier View 77.12 18 P P 14 20 07.0 +0.1
baz=329,SNR=20
MEEK Meekatharra 77.15 137 P P 14 20 06.4 -1.2
Q16K King Salmon 77.17 23 P P 14 20 08.4 +1.2
baz=322,SNR=7.1
SCM Sheep Creek Mo 77.18 18 P P 14 20 07.7 +0.3
baz=329,SNR=13
HARP HAARP 77.20 16 P P 14 20 08.7 +1.2
baz=331,SNR=33
RC01 Rabbit Creek A 77.21 19 IAmb IAmb 14 20 08.3
comp=Z,29nm,1.0s
RC01 Rabbit Creek A 77.21 19 P P 14 20 07.3 -0.1
baz=327
M24K Tolsona, Glenn 77.22 17 P P 14 20 08.8 +1.2
baz=330,SNR=17
UNV Unalaska Valle 77.22 31 P P 14 20 07.3 -0.3
comp=Z,17nm,1.1s
O20K Slope Mountain 77.26 21 P P 14 20 07.6 -0.2
baz=325
KNK Knik Glacier 77.26 18 P P 14 20 08.0 +0.2
baz=328,SNR=10
L27K Beaver Creek, 77.33 15 P P 14 20 09.3 +1.1
baz=333,SNR=47
BCAR Beaver Creek A 77.34 15 P P 14 20 09.2 +1.0
KSTD Kokstad 77.41 216 *eP* P 14 20 09.1 0.0
KSTD IAmb IAmb 14 20 10.0
comp=Z,23nm,0.9s
K29M Barlow Dome 77.44 13 IAmb IAmb 14 20 10.7
comp=Z,38nm,1.0s
K29M Barlow Dome 77.44 13 P P 14 20 09.7 +0.9
baz=337,SNR=57
M26K Nabesna, AK 77.68 15 P P 14 20 10.8 +0.7
baz=333,SNR=12
MORW Morawa 77.73 141 P P 14 20 10.2 -0.5
MORW Morawa 77.73 141 IAmb IAmb 14 20 11.8
comp=Z,84nm,1.6s
Q17K Contact Creek 77.75 23 P P 14 20 10.3 -0.3
baz=323
R16K Pilot Point 77.75 24 P P 14 20 10.0 -0.5
baz=322
WIN Windhoek 77.76 230 P P 14 20 11.9 +0.7
WIN pmax pmax
comp=Z,50nm,1.0s
BOSA Boshof 77.79 220 *eP* P 14 20 09.8 -1.4
BOSA Boshof 77.79 220 P P 14 20 10.9 -0.3
comp=Z,60nm,0.5s,baz=24,slow=4.0,SNR=212
comp=Z,60nm,0.5s
KLU Klutina 77.82 17 P P 14 20 10.3 -0.6
baz=330,SNR=16
MAYO Mayo, Yukon 77.94 12 P P 14 20 12.3 +0.8
baz=338,SNR=9.4
M27K Edge Creek, AK 77.95 15 IAmb IAmb 14 20 13.9
comp=Z,49nm,0.9s
M27K Edge Creek, AK 77.95 15 P P 14 20 12.8 +1.1
baz=334,SNR=53
L29M L29M 78.00 13 IAmb IAmb 14 20 14.0
comp=Z,41nm,1.1s
L29M L29M 78.00 13 P P 14 20 12.9 +1.1
baz=336,SNR=37
N25K Chitina, Valde 78.03 17 IAmb IAmb 14 20 14.0
comp=Z,65nm,1.7s
N25K Chitina, Valde 78.03 17 P P 14 20 12.8 +0.7
baz=331,SNR=8.3
GLI Glacier Island 78.06 18 P P 14 20 12.4 +0.2
baz=330
BRSE Bradley Lake S 78.07 20 P P 14 20 11.8 -0.5
baz=327
SEW Seward 78.12 19 P P 14 20 12.4 0.0
baz=328
Q20K Shuyak Island 78.54 22 P P 14 20 15.2 +0.4
baz=326
M29M Somme Creek 78.55 14 IAmb IAmb 14 20 17.2
comp=Z,24nm,0.8s
M29M Somme Creek 78.55 14 P P 14 20 16.2 +1.2
baz=336,SNR=26
MCARA McCarthy YSAT 78.58 16 P P 14 20 15.8 +0.8
baz=333,SNR=9.5
BMRM Bremner River 78.59 17 P P 14 20 15.9 +0.7
baz=332,SNR=14
VRDI Verde Repeater 78.62 16 IAmb IAmb 14 20 17.1
comp=Z,31nm,1.0s
EYAK Cordova Ski Ar 78.68 18 P P 14 20 16.7 +1.2
EYAK Cordova Ski Ar 78.68 18 P P 14 20 16.5 +1.0
baz=331,SNR=7.2
P23K Montague Islan 78.75 19 P P 14 20 16.6 +0.7
baz=329
YUK3 Moose Creek 78.77 15 P P 14 20 17.3 +1.0
baz=335,SNR=25
KDAK Kodiak Island 79.17 22 P P 14 20 18.7 +0.5
KDAK IAmb IAmb 14 20 19.6
comp=Z,51nm,0.8s
KDAK Kodiak Island 79.17 22 P P 14 20 18.7 +0.5
baz=326
KDAK Kodiak Island 79.17 22 P P 14 20 18.7 +0.5
KDAK pmax pmax
comp=Z,51nm,0.9s
HVD Gariep Dam 79.27 219⇑ *iP* P 14 20 19.2 0.0
HVD IAmb IAmb 14 20 20.0
comp=Z,119nm,1.5s
CTG Chitna Glacier 79.32 15 P P 14 20 20.3 +1.1
baz=334,SNR=15
BLDU Ballidu 79.32 141 P P 14 20 18.1 -1.3
YUK8 Steele Glacier 79.36 15 P P 14 20 20.3 +0.7
baz=335,SNR=7.7
OHAK Old Harbor 79.41 23 P P 14 20 20.5 +1.0
OHAK Old Harbor 79.41 23 IAmb IAmb 14 20 21.7
comp=Z,68nm,1.2s
OHAK Old Harbor 79.41 23 P P 14 20 20.1 +0.6
baz=325
M31M Drury Creek, Y 79.50 12 P P 14 20 20.6 +0.6
baz=340,SNR=28
YUK4 Talbot Arm 79.53 14 P P 14 20 21.2 +0.8
baz=336,SNR=30
FARO Faro, Yukon 79.64 11 P P 14 20 21.6 +0.8
baz=340,SNR=22
N30M Aishihik Lake 79.72 13 P P 14 20 22.3 +1.1
baz=337,SNR=14
O28M Mount Upton 79.74 15 P P 14 20 22.4 +0.7
baz=335,SNR=8.9
MESA MESA 79.89 16 P P 14 20 23.2 +0.8
baz=334
WRGLY Wrigley 79.92 7 IAmb IAmb 14 20 24.5
comp=Z,47nm,1.0s
WRGLY Wrigley 79.92 7 P P 14 20 23.5 +1.3
baz=346,SNR=9.3
N31M Braeburn, Yuko 79.93 13 P P 14 20 23.1 +0.7
baz=338,SNR=22
YUK6 Outpost Mounta 79.95 14 P P 14 20 23.8 +1.0
baz=336,SNR=10
KEIM Keimoes 80.16 223⇑ *iP* P 14 20 24.8 +0.8
KEIM IAmb IAmb 14 20 25.3
comp=Z,77nm,0.8s
MUN Mundaring 80.18 142 P P 14 20 23.0 -0.9
HYT Haines Junctio 80.23 14 IAmb IAmb 14 20 27.5
comp=Z,28nm,0.8s
HYT Haines Junctio 80.23 14 P P 14 20 25.1 +1.1
baz=337,SNR=46
O30N Mendenhall 80.54 13 P P 14 20 26.2 +0.5
O30N Mendenhall 80.54 13 P P 14 20 26.4 +0.7
baz=338,SNR=23
KLBR Kellerberrin 80.64 141 P P 14 20 25.2 -1.2
N32M Quiet Lake 80.70 12 P P 14 20 26.6 +0.1
baz=341
WHY Whitehorse 80.86 13 P P 14 20 27.4 0.0
baz=339,SNR=18
PNL Peninsula 80.91 15 P P 14 20 28.4 +0.8
PNL Peninsula 80.91 15 P P 14 20 28.6 +1.1
baz=336
P30M Million Dollar 80.98 14 P P 14 20 29.0 +1.0
baz=338
GRHM Grahamstown, E 81.01 217 P P 14 20 28.5 +0.2
GRHM IAmb IAmb 14 20 29.3
comp=Z,34nm,0.7s
GRHM Grahamstown, E 81.01 217⇑ *iP* P 14 20 28.6 +0.2
GRHM IAmb IAmb 14 20 29.1
comp=Z,34nm,0.7s
TGTN Hyland Airport 81.05 9 P P 14 20 29.8 +1.5
baz=344,SNR=15
GRAF Camdeboo Natio 81.12 219 *eP* P 14 20 29.7 +0.7
GRAF IAmb IAmb 14 20 30.3
comp=Z,81nm,1.4s
BFON Badsfontein, M 81.15 219⇑ *iP* P 14 20 30.0 +0.7
BFON IAmb IAmb 14 20 30.8
comp=Z,49nm,0.9s
YKA Yellowknife Ar 81.23 3 P P 14 20 29.3 +0.1
YKA Yellowknife Ar 81.23 3 P P 14 20 29.6 +0.4
comp=Z,20nm,0.7s,baz=348,slow=6.0,SNR=315
YKA pP pP 14 21 19.8 +1.0
comp=Z,11nm,0.7s,baz=349,slow=6.0,SNR=6.8
YKA PKKPbc PKKPbc 14 39 00.5 -2.7
comp=Z,0.9nm,0.6s,baz=169,slow=1.8,SNR=20
comp=Z,20nm,0.7s
P29M Windy Craggy 81.28 14 P P 14 20 30.1 +0.5
baz=337,SNR=6.6
NWAO Narrogin (SRO) 81.45 142 P P 14 20 29.5 -1.1
NWAO Narrogin (SRO) 81.45 142 P P 14 20 29.6 -1.1
NWAO Narrogin (SRO) 81.45 142 P P 14 20 29.5 -1.1
NWAO IAmb IAmb 14 20 30.3
comp=Z,22nm,0.7s
NWAO Narrogin (SRO) 81.45 142 P P 14 20 30.0 -0.6
NWAO Narrogin (SRO) 81.45 142 P P 14 20 29.5 -1.1
NWAO pmax pmax
comp=Z,22nm,0.7s
BRAK Brakfontein 81.54 220⇑ *iP* P 14 20 31.6 +0.4
BRAK IAmb IAmb 14 20 32.3
comp=Z,54nm,1.4s
WRKA Warakurna 81.60 130 P P 14 20 31.2 -0.5
P33M Teslin, Yukon 81.64 12 IAmb IAmb 14 20 32.7
comp=Z,42nm,0.9s
P33M Teslin, Yukon 81.64 12 P P 14 20 31.8 +0.3
baz=341,SNR=58
PLBC Pleasant Camp 81.71 14 P P 14 20 32.7 +0.9
baz=338,SNR=22
ROOI Rooidraai Farm 81.77 219⇑ *iP* P 14 20 33.2 +0.8
ROOI IAmb IAmb 14 20 34.5
comp=Z,25nm,0.6s
WB0 Warramunga Arr 81.87 122 P P 14 20 31.9 -1.2
SKAG Skagway 81.91 13 P P 14 20 33.9 +1.2
baz=339,SNR=10
WRA Warramunga Arr 81.96 122 P P 14 20 32.2 -1.4
WRA Warramunga Arr 81.96 122 P P 14 20 32.7 -0.9
comp=Z,65nm,0.7s,baz=324,slow=4.9,SNR=538
WRA PKKPbc PKKPbc 14 39 02.2 +0.5
comp=Z,2.6nm,0.7s,baz=127,slow=2.2,SNR=17
WRAB Tennant Creek 81.96 122 P P 14 20 32.9 -0.7
WRAB Tennant Creek 81.96 122 P P 14 20 32.9 -0.7
WRAB pmax pmax
comp=Z,116nm,1.0s
P32M Atlin 82.07 12 P P 14 20 34.3 +0.6
baz=340,SNR=9.5
SCHQ Schefferville 82.10 337 P P 14 20 33.2 -0.7
comp=Z,11nm,0.7s,baz=27,slow=4.9,SNR=18
comp=Z,11nm,0.7s
WR0 Warramunga Arr 82.11 122 P P 14 20 33.5 -0.9
GRAN Grantham 82.33 220⇑ *iP* P 14 20 36.2 +0.9
GRAN IAmb IAmb 14 20 36.6
comp=Z,30nm,0.6s
WTLY Watson Lake, Y 82.34 10 P P 14 20 35.9 +0.9
baz=344
FRAZ Fraserburg 82.43 221⇑ *iP* P 14 20 36.9 +0.9
FRAZ IAmb IAmb 14 20 37.2
comp=Z,63nm,0.9s
BUFB Buffelsbos 82.51 217 *eP* P 14 20 36.4 +0.3
BUFB IAmb IAmb 14 20 36.8
comp=Z,32nm,0.7s
KMBL Kambalda 82.62 138 P P 14 20 36.1 -0.7
R33M Jennings River 82.71 11 P P 14 20 37.9 +0.8
baz=342,SNR=16
R31K City Hall, Gus 82.81 14 P P 14 20 38.4 +1.0
baz=339
KOMG Komaggas 82.94 225⇑ *iP* P 14 20 39.2 +0.7
KOMG IAmb IAmb 14 20 39.7
comp=Z,38nm,0.8s
MERW Merweville 82.95 220⇑ *iP* P 14 20 39.3 +0.7
MERW IAmb IAmb 14 20 39.8
comp=Z,36nm,0.9s
CVNA Calvinia 82.96 222⇑ *iP* P 14 20 39.0 +0.3
CVNA IAmb IAmb 14 20 39.7
comp=Z,40nm,1.0s
SUR Sutherland 83.10 221 P P 14 20 40.2 +0.8
SUR IAmb IAmb 14 20 41.2
comp=Z,46nm,0.9s
SUR Sutherland 83.10 221 *eP* P 14 20 41.3 +1.9
SUR Sutherland 83.10 221 P P 14 20 40.3 +0.9
S31K Pelican 83.13 14 P P 14 20 39.9 +0.9
baz=338
R32K Eaglecrest 83.17 13 P P 14 20 40.7 +1.4
baz=340,SNR=5.0
DRLN Deer Lake 83.19 329 IAmb IAmb 14 20 41.4
comp=Z,35nm,1.0s
LIRD Liard River Hi 83.37 9 P P 14 20 41.4 +1.0
baz=346
DLBC Dease Lake 83.77 11 P P 14 20 42.6 +0.2
DLBC Dease Lake 83.77 11 P P 14 20 43.4 +0.9
baz=343,SNR=11
MATJ Matjiesfontein 83.91 221⇑ *iP* P 14 20 44.2 +0.8
MATJ IAmb IAmb 14 20 44.7
comp=Z,73nm,0.9s
S32K Killisnoo 83.91 14 P P 14 20 44.2 +1.1
baz=340,SNR=5.8
TOAD Toad River Com 84.02 8 P P 14 20 44.5 +0.9
baz=347,SNR=9.3
S34M Telegraph Cree 84.10 12 IAmb IAmb 14 20 46.4
comp=Z,37nm,0.9s
S34M Telegraph Cree 84.10 12 P P 14 20 45.3 +1.3
baz=342,SNR=24
SIT Sitka 84.15 14 P P 14 20 46.2 +1.9
baz=339
AS31 Alice Springs 84.22 125 P P 14 20 44.2 -1.0
AS31 IAmb IAmb 14 20 45.1
comp=Z,25nm,0.6s
ASAR Alice Springs 84.22 125 P P 14 20 44.5 -0.7
ASAR Alice Springs 84.22 125 P P 14 20 44.0 -1.2
comp=Z,76nm,0.6s,baz=310,slow=5.0,SNR=811
ASAR PKKPbc PKKPbc 14 38 57.0 +0.3
comp=Z,1.3nm,0.7s,baz=126,slow=2.8,SNR=14
ASAR PKPPKP P'P'df 14 46 59.4 -3.0
comp=Z,0.7nm,0.9s,baz=129,slow=2.9,SNR=5.4
comp=Z,76nm,0.6s
ASAR Alice Springs 84.22 125 P P 14 20 44.5 -0.7
FCC Fort Churchill 84.27 352 IAmb IAmb 14 20 46.8
comp=Z,23nm,0.8s
COEN Coen 84.36 112 P P 14 20 45.5 -0.5
COEN Coen 84.36 112 IAmb IAmb 14 20 46.0
comp=Z,28nm,0.8s
PRTV Porterville,We 84.55 222⇑ *iP* P 14 20 47.5 +1.0
PRTV IAmb IAmb 14 20 48.2
comp=Z,249nm,2.2s
BULU Kimbe 84.68 101 P P 14 20 46.6 -1.0
T35M Bob Quinn 85.13 12 P P 14 20 51.0 +1.7
baz=343,SNR=7.3
WRAK Wrangell Islan 85.31 13 P P 14 20 51.0 +0.9
baz=341
U33K Whale Pass 85.46 13 P P 14 20 52.1 +1.3
baz=341
FORT Forrest 85.64 134 P P 14 20 51.7 -0.3
QIS Mount Isa 86.03 119 P P 14 20 52.9 -1.3
V35K Ketchikan 86.48 13 P P 14 20 57.0 +1.2
baz=342
MTSU Mount Surprise 87.86 114 P P 14 21 02.6 -0.4
OOD Oodnadatta 88.22 127 P P 14 21 03.6 -0.9
MULG Mulgathing 88.90 130 P P 14 21 06.8 -0.8
FFC Flin Flon 88.93 356 P P 14 21 08.1 +0.6
FFC IAmb IAmb 14 21 09.1
comp=Z,30nm,0.8s
FFC Flin Flon 88.93 356 P P 14 21 08.1 +0.6
FFC pmax pmax
comp=Z,30nm,0.8s

BRLDA	**Berland Lookou**	**89.47**	**5**	IAmb	IAmb	14 21 12.3		
	comp=Z,36nm,1.3s							
CTAO	**Charters Tower**	**90.50**	**115**	P	**P**	**14 21 14.8**	**-0.5**	
CTAO	**Charters Tower**	**90.50**	**115**	P	**P**	**14 21 14.5**	**-0.9**	
CTAO	**Charters Tower**	**90.50**	**115**	P	**P**	**14 21 14.5**	**-0.9**	
CTAO				pmax	pmax			
	comp=Z,40nm,0.7s							
EDM	**Edmonton**	**90.55**	**3**	P	**P**	**14 21 15.4**	**+0.2**	
EDM	**Edmonton**	**90.55**	**3**	P	**P**	**14 21 15.4**	**+0.2**	
EDM				pmax	pmax			
	comp=Z,61nm,0.9s							
PKME	**Peaks-Kenny Pk**	**91.07**	**333**	P	**P**	**14 21 18.0**	**+0.4**	
	baz=31							
INKA	**Innaminka**	**91.51**	**124**	P	**P**	**14 21 18.8**	**-1.0**	
LCRK	**Leigh Creek**	**91.64**	**127**	P	**P**	**14 21 19.3**	**-1.1**	
BBOO	**Buckleboo**	**91.88**	**130**	P	**P**	**14 21 19.9**	**-1.5**	
ULM	**Lac du Bonnet**	**92.84**	**352**	IAmb	IAmb	14 21 26.5		
	comp=Z,19nm,0.8s							
ULM	**Lac du Bonnet**	**92.84**	**352**	P	**P**	**14 21 24.9**	**-0.8**	
	comp=Z,19nm,0.8s,baz=16,slow=4.5,SNR=22							
	comp=Z,19nm,0.8s							
LBNH	**Lisbon**	**92.89**	**334**	P	**P**	**14 21 26.5**	**+0.4**	
	baz=29							
LONY	**Lake Ozonia**	**93.45**	**336**	P	**P**	**14 21 28.7**	**0.0**	
	baz=27							
HTT	**Hallett**	**94.07**	**129**	P	**P**	**14 21 30.8**	**-0.8**	
HRV	**Adam Dziewonsk**	**94.28**	**333**	P	**P**	**14 21 32.7**	**+0.2**	
	baz=29							
EYMN	**Ely**	**94.48**	**348**	P	**P**	**14 21 33.1**	**-0.3**	
	baz=14							
L61B	**Northampton**	**94.73**	**334**	P	**P**	**14 21 34.4**	**-0.1**	
	baz=28							
STKA	**Stephens Creek**	**94.76**	**126**	P	**P**	**14 21 33.2**	**-1.5**	
STKA	**Stephens Creek**	**94.76**	**126**	P	**P**	**14 21 33.1**	**-1.6**	
	comp=Z,5.0nm,0.5s,baz=316,slow=6.0,SNR=10.0							
	comp=Z,5.0nm,0.5s							
AGMN	**Agassiz Nation**	**94.76**	**351**	IAmb	IAmb	14 21 35.6		
	comp=Z,15nm,0.8s							
AGMN	**Agassiz Nation**	**94.76**	**351**	P	**P**	**14 21 34.3**	**-0.3**	
	baz=10							
NEW	**Newport**	**95.28**	**5**	P	**P**	**14 21 36.5**	**-0.5**	
	baz=353							
DGMT	**Dagmar**	**95.28**	**357**	P	**P**	**14 21 36.8**	**-0.2**	
	baz=3.9							
MDND	**Maddock**	**95.60**	**354**	P	**P**	**14 21 38.6**	**+0.2**	
	baz=7.5							
EGMT	**Eagleton**	**95.83**	**1**	IAmb	IAmb	14 21 41.7		
	comp=Z,13nm,0.9s							
EGMT	**Eagleton**	**95.83**	**1**	P	**P**	**14 21 40.2**	**+0.6**	
	baz=359							
BINY	**Binghamton**	**96.08**	**336**	P	**P**	**14 21 40.7**	**0.0**	
	baz=26							
MSO	**Missoula**	**96.91**	**3**	P	**P**	**14 21 44.4**	**-0.2**	
	baz=356							
LAO	**LASA Array**	**97.14**	**358**	P	**P**	**14 21 45.0**	**-0.5**	
	baz=2.2							
CMSA	**Cobar Meteorol**	**97.24**	**124**	P	**P**	**14 21 43.9**	**-2.1**	
BOZ	**Bozeman (W)**	**98.23**	**2**	P	**P**	**14 21 49.4**	**-1.1**	
	baz=358							
PLID	**Pearl Lake**	**98.52**	**5**	IAmb	IAmb	14 21 56.2		
	comp=Z,14nm,1.9s							
RLMT	**Red Lodge**	**98.74**	**0**	P	**P**	**14 21 52.2**	**-0.7**	
	baz=360							
ECSD	**EROS Data Cent**	**99.35**	**351**	P	**Pdif**	**14 21 54.7**	**-0.7**	
	baz=10.0							
PDAR	**Pinedale Array**	**101.09**	**0**	P	**Pdif**	**14 22 04.0**	**+0.5**	
	comp=Z,0.7nm,0.6s,baz=12,slow=4.9,SNR=5.4							
PDAR				PKiKP	**PKiKP**	**14 26 26.8**	**-0.5**	
	comp=Z,0.9nm,0.5s,baz=93,slow=3.6,SNR=6.5							
PDAR				PKKPbc	**PKKPbc**	**14 38 11.1**	**-2.3**	
	comp=Z,0.8nm,0.7s,baz=152,slow=8.1,SNR=5.1							
NVAR	**Mina Array Bea**	**104.93**	**8**	PKiKP	**PKiKP**	**14 26 34.1**	**-0.3**	
	comp=Z,0.9nm,0.6s,baz=288,slow=0.9,SNR=7.5							
NVAR				PKKPbc	**PKKPbc**	**14 38 00.9**	**-1.2**	
	comp=Z,0.8nm,0.7s,baz=199,slow=5.2,SNR=6.8							
GMRC	**Granite Mounta**	**108.79**	**6**	P	**PKiKP**	**14 26 41.3**	**-0.3**	
	baz=354							
ANMO	**Albuquerque**	**108.87**	**358**	P	**PKiKP**	**14 26 41.7**	**-0.2**	
	baz=2.1							
121A	**Cookes Peak, D**	**111.30**	**359**	P	**PKiKP**	**14 26 45.6**	**-0.8**	
	baz=1.0							
MNTX	**Cornudas Mount**	**112.06**	**357**	P	**PKiKP**	**14 26 47.4**	**-0.3**	
	baz=3.1							
JCT	**Junction City**	**112.81**	**351**	P	**PKiKP**	**14 26 48.6**	**-0.6**	
	baz=8.0							
TXAR	**Lajitas Array**	**114.31**	**355**	PKiKP	PKPdf	14 26 52.2	+0.1	
	comp=Z,1.0nm,0.7s,baz=307,slow=0.8,SNR=8.4							
TXAR				PKKPbc	**PKKPbc**	**14 37 30.9**	**-1.0**	
	comp=Z,0.7nm,0.6s,baz=184,slow=6.4,SNR=8.0							
833A	**Chaparral WMA,**	**114.88**	**351**	P	**PKiKP**	**14 26 52.5**	**-0.7**	
	baz=8.4							
ITTB	**Itaituba**	**121.73**	**290**	*e*P	**PKPdf**	**14 27 06.0**	**-0.6**	
BDFB	**Brasilia**	**122.41**	**274**	PKP	**PKPdf**	**14 27 07.4**	**-0.6**	
	comp=Z,3.6nm,0.4s,baz=312,slow=1.7,SNR=5.1							
CMIG	**Matias Romero**	**125.06**	**344**	PKP	**PKPdf**	**14 27 11.9**	**-1.0**	
	comp=Z,1.7nm,0.6s,baz=37,slow=2.7,SNR=5.3							
VNDA	**Vanda**	**125.50**	**165**	PKPdf	**PKPdf**	**14 27 11.1**	**-0.9**	
VNDA	**Vanda**	**125.50**	**165**	PKP	**PKPdf**	**14 27 10.7**	**-1.3**	
	comp=Z,3.9nm,0.7s,baz=303,slow=3.9,SNR=22							
VNDA	**Vanda**	**125.50**	**165**	PKiKP	**PKPdf**	**14 27 11.1**	**-0.9**	
QSPA	**South Pole Qui**	**126.31**	**180**	PKP	**PKPdf**	**14 27 12.9**	**-0.9**	
	comp=Z,16nm,0.7s,baz=263,slow=0.6,SNR=59							
ITRB	**Iturama**	**126.46**	**271**	*e*P	**PKiKP**	**14 27 15.8**	**-0.2**	
SBA	**Scott Base**	**126.58**	**165**	PKPdf	**PKPdf**	**14 27 14.1**	**+0.1**	
SBA	**Scott Base**	**126.58**	**165**	PKiKP	**PKPdf**	**14 27 14.1**	**+0.1**	
PDRB	**Porto dos Gac**	**127.03**	**284**	*e*P	**PKPdf**	**14 27 16.5**	**-0.2**	
FRTB	**Fartura**	**127.63**	**267**	*e*P	**PKiKP**	**14 27 18.5**	**+0.2**	
ROSC	**El Rosal**	**127.66**	**314**	PKP	**PKPdf**	**14 27 18.1**	**-0.4**	
	comp=Z,42nm,0.7s,baz=114,slow=4.7,SNR=15							
TEFE	**Tefe**	**127.70**	**298**	*e*P	**PKPdf**	**14 27 17.4**	**-0.6**	
SALV	**Santo Antonio**	**128.69**	**279**	*e*P	**PKPdf**	**14 27 19.6**	**-0.3**	
LDASE	**Londrina, Braz**	**128.91**	**268**	*e*P	**PKiKP**	**14 27 21.1**	**+0.2**	
RVDE	**Rio Verde (Bra**	**129.79**	**275**	*e*P	**PKiKP**	**14 27 22.3**	**-0.3**	
TRCB	**Terra Rica**	**129.84**	**269**	*e*P	**PKiKP**	**14 27 22.3**	**-0.4**	
SAML	**Samuel**	**130.31**	**292**	PKPdf	**PKPdf**	**14 27 23.4**	**+0.4**	
SAML	**Samuel**	**130.31**	**292**	PKiKP	**PKPdf**	**14 27 23.4**	**+0.4**	
SAML	**Samuel**	**130.31**	**292**	*e*P	**PKPdf**	**14 27 23.2**	**+0.2**	
AQDB	**Aquidauana**	**131.15**	**274**	*e*P	**PKPdf**	**14 27 24.7**	**+0.3**	
PTLB	**Pontes e Lacer**	**131.16**	**282**	*e*P	**PKPdf**	**14 27 24.7**	**+0.2**	
BDQN	**Bodoquena, MS**	**131.98**	**275**	*e*P	**PKPdf**	**14 27 25.1**	**-0.8**	
ALGR	**Alto Alegre (B**	**132.86**	**263**	*e*P	**PKiKP**	**14 27 28.1**	**-0.6**	
CRSM	**Crissiumal (Br**	**133.12**	**265**	*e*P	**PKPdf**	**14 27 27.0**	**-0.9**	
ETMB	**Extrema**	**133.13**	**294**	*e*P	**PKPdf**	**14 27 28.5**	**+0.2**	
BBRB	**Robore, Bolivi**	**133.28**	**279**	*e*P	**PKPdf**	**14 27 27.9**	**-0.6**	
BBSD	**Serra de San D**	**133.31**	**281**	*e*P	**PKPdf**	**14 27 27.9**	**-0.7**	
UNIS	**Unistalda (Bra**	**134.60**	**263**	*e*P	**PKPdf**	**14 27 31.1**	**+0.4**	
RODS	**Rosario do Sul**	**135.21**	**262**	*e*P	**PKPdf**	**14 27 32.4**	**+0.6**	
CPUP	**Villa Florida**	**135.26**	**268**	PKP	**PKPdf**	**14 27 31.3**	**-0.7**	
	comp=Z,17nm,0.7s,baz=64,slow=1.8,SNR=34							
ITQB	**Itaqui**	**136.09**	**263**	*e*P	**PKPdf**	**14 27 33.4**	**0.0**	
PSAL	**Palomas, Salto**	**137.41**	**262**	*e*P	**PKPdf**	**14 27 35.8**	**0.0**	
TICA	**Tres Isletas**	**137.75**	**270**	*e*P	**PKPdf**	**14 27 37.0**	**+0.5**	
LPAZ	**La Paz**	**138.65**	**288**	PKP	**PKPdf**	**14 27 38.3**	**-0.9**	
	comp=Z,5.3nm,0.8s,baz=356,slow=4.1,SNR=13							
LPAZ	**La Paz**	**138.65**	**288**	*e*P	**PKPdf**	**14 27 39.2**	**-0.1**	
LVC	**Limon Verde**	**142.79**	**281**	*e*P	**PKPdf**	**14 27 46.2**	**-0.1**	
PB05	**IPOC Station P**	**143.94**	**281**	PKPdf	PKPab	14 27 45.6	-0.1	
LCO	**Las Campanas**	**147.15**	**272**		**PKPbc**	**14 27 56.5**	**+0.6**	
LCO	**Las Campanas**	**147.15**	**272**	PKP2	**PKPbc**	**14 27 56.5**	**+0.6**	
PLCA	**Paso Flores**	**149.88**	**250**	PKP	**PKPdf**	**14 27 57.1**	**-0.2**	
	comp=Z,10nm,1.2s,baz=69,slow=2.4,SNR=9.4							
PLCA				PKPbc	**PKPbc**	**14 28 02.2**	**-0.1**	
	comp=Z,43nm,0.7s,baz=119,slow=3.1,SNR=47							
PLCA	**Paso Flores**	**149.88**	**250**	*e*P	**PKPdf**	**14 27 57.6**	**+0.4**	
GO08	**Villa O'Higgin**	**150.91**	**234**		**PKiKP**	**14 28 04.8**	**-0.1**	

*NEIC **10** 14:11:59.4±1.3, 19°.24N±0°.01×155°.33W±0°.01, h10km±1km, Error ellipse: s-maj=3.1km s-min=2.3km az=140.0*
HVO 10 14:11:59.7±0.7, 19°.28N±0°.01×155°.32W±0°.02, h10km±4km, ML2.8/3, ML2.5/20(NEIC), Error ellipse: s-maj=2.7km s-min=1.2km az=135.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.01**	**35**		Pg	14 12 02.1	+0.4
HLP	**Hilina Pali**	**0.01**	**35**	IAML		14 12 04.0	
HLP	comp=N,3μm,0.3s			IAML		14 12 04.4	
	comp=E,3μm,0.2s						
HTC	**Hot Caves**	**0.09**	**239**		Pg	14 12 02.7	+0.4
PUH	**Pauahi**	**0.13**	**47**		Pg	14 12 02.8	-0.1
PUH	**Pauahi**	**0.13**	**47**	IAML		14 12 05.4	
PUH	comp=E,1μm,0.5s			IAML		14 12 06.7	
KNHH	**Kane Nui o Ham**	**0.17**	**56**		Pg	14 12 03.4	-0.1
STCH	**Steam Cracks**	**0.21**	**61**		Pg	14 12 03.9	-0.3
STCH	**Steam Cracks**	**0.21**	**61**	IAML		14 12 06.6	
STCH	comp=N,404nm,1.3s			IAML		14 12 10.4	
	comp=E,436nm,0.5s						
MLH	**Mauna Loa**	**0.22**	**343**		Pg	14 12 04.7	+0.2
MLH	**Mauna Loa**	**0.22**	**343**	IAML		14 12 06.7	
MLH	comp=N,842nm,1.1s			IAML		14 12 11.8	
	comp=E,672nm,0.4s						
JCUZ	**Jacuzzi**	**0.23**	**64**		Pg	14 12 04.3	-0.2
JCUZ	**Jacuzzi**	**0.23**	**64**	IAML		14 12 08.8	
JCUZ	comp=N,445nm,1.7s			IAML		14 12 08.8	
	comp=E,303nm,0.4s						
KHU	**Kahuku**	**0.28**	**263**		Pg	14 12 05.4	-0.2
KHU	**Kahuku**	**0.28**	**263**	IAML		14 12 10.5	
KHU	comp=N,686nm,0.3s			IAML		14 12 10.8	
	comp=E,1μm,0.4s						
MWH	**Moku'aweowe**	**0.33**	**307**	IAML		14 12 15.8	
	comp=N,542nm,0.6s						
HMH	**Humu'ula Sheep**	**0.35**	**334**		Pg	14 12 06.8	-0.1
HMH	**Humu'ula Sheep**	**0.35**	**334**	IAML		14 12 12.6	
HMH	comp=N,999nm,0.2s			IAML		14 12 12.7	
	comp=E,526nm,0.3s						
HUH	**Hualalai**	**0.63**	**309**	Pg	Pg	14 12 10.7	-1.4
HUH				IAML		14 12 24.1	
	comp=N,269nm,1.2s						
HUH				IAML		14 12 28.0	
	comp=E,254nm,0.4s						

*NEIC **10** 14:19:16.5±0.6, 19°.32N±0°.02×154°.80W±0°.03, h4km±9km, Error ellipse: s-maj=5.0km s-min=2.5km az=122.0*
HVO 10 14:19:18.8±2.0, 19°.48N±0°.01×154°.88W±0°.04, h3km±2km, ML2.6/7, ML2.4/14(NEIC), Error ellipse: s-maj=5.6km s-min=2.1km az=89.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.01**	**258**		Pg	14 19 20.5	+1.2
PHO	**Puu Honuaula**	**0.01**	**258**		Pg	14 19 19.7	+0.4
PAH	**Pahoa**	**0.06**	**280**		Pg	14 19 20.7	+0.6
JCUZ	**Jacuzzi**	**0.23**	**245**	Pg	Pg	14 19 22.0	-1.2
JCUZ	comp=E,366nm,0.8s			IAML		14 19 26.6	
NPOC	**North of Pu'u**	**0.23**	**247**	Pg	Pg	14 19 22.1	-1.1
NPOC	comp=E,388nm,1.5s			IAML		14 19 26.0	
NPOC	comp=N,415nm,0.6s			IAML		14 19 29.9	
HMH	**Humu'ula Sheep**	**0.58**	**282**	Pg	Pg	14 19 30.1	+0.2
HMH	comp=N,429nm,0.9s			IAML		14 19 44.7	
HMH	comp=E,454nm,0.8s			IAML		14 19 47.9	
MLOA	**Mauna Loa Obse**	**0.66**	**275**	Pg	Pg	14 19 31.3	-0.1
MLOA				IAML		14 19 49.2	
MLOA	comp=E,286nm,1.2s			IAML		14 19 51.2	
	comp=N,294nm,0.7s						
MWH	**Moku'aweowe**	**0.68**	**270**	Pg	Pg	14 19 30.9	-0.9
KHU	**Kahuku**	**0.73**	**251**	Pg	Pg	14 19 32.1	-0.7
KHU	comp=E,286nm,2.2s			IAML		14 19 58.2	

*PRU **10** 14:21:24.2, 50°.25N×12°.42E, h10km, West Bohemia Swarm*
WBNET 10 14:21:24.8, 50°.25N×12°.45E, h9km, Ml1.8, 4C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**185**	*e*SG	Sg	14 21 27.7	+0.1
NKC	**Novy Kostel**	**0.01**	**185**	⇓P	Pg	14 21 26.6	+0.1
NKC				S	Sg	14 21 27.8	+0.1
LBCW	**Luby**	**0.03**	**306**	⇓P	Pg	14 21 26.7	+0.1
LBCW				S	Sg	14 21 28.0	+0.2
STCW	**Studenec**	**0.05**	**76**	⇑P	Pg	14 21 26.8	+0.1
STCW				S	Sg	14 21 28.0	-0.1
VAC	**Vackov**	**0.05**	**254**	⇓P	Pg	14 21 26.8	+0.1
VAC				S	Sg	14 21 28.0	0.0
KVC	**Kvetna**	**0.06**	**135**	⇓P	Pg	14 21 26.9	+0.1
KVC				S	Sg	14 21 28.2	0.0
POCW	**Potky**	**0.07**	**348**	⇓P	Pg	14 21 27.1	+0.1
POCW				S	Sg	14 21 28.7	0.0
SKC	**Skalna**	**0.10**	**216**	⇑P	Pg	14 21 27.3	+0.1
SKC				S	Sg	14 21 29.0	0.0
KRCW	**Kraslice**	**0.10**	**32**	⇑P	Pg	14 21 27.3	0.0
KRCW				S	Sg	14 21 29.0	-0.1
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	14 21 27.9	0.0
KOCW				S	Sg	14 21 30.0	-0.1
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P	Pg	14 21 29.0	+0.1
ZHC				S	Sg	14 21 31.8	+0.1
TRCW	**Trojmez**	**0.20**	**286**	⇓P	Pg	14 21 29.0	0.0
TRCW				S	Sg	14 21 31.8	-0.1
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	14 21 29.6	+0.2
LACW				S	Sg	14 21 32.9	+0.3
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*SG	Sg	14 21 47.8	-0.4
RICC	**Richard**	**1.09**	**74**	*e*SG	Sb	14 22 00.2	0.0
CLL	**Collm**	**1.12**	**18**	*i* Pg	Pg	14 21 45.6	-0.6
CLL				*ex*	x	14 21 48.0	
CLL				*i* x	x	14 21 49.0	
CLL				*i* Sg	Sg	14 21 59.9	-0.9
	comp=Z,5.0nm,0.5s						
CLL				*i* x	x	14 22 02.0	
CLL				*i* x	x	14 22 04.6	
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pb	14 21 46.2	-0.5
BRG				Sg	Sg	14 22 01.0	-0.5
BRG				Amp		14 22 01.4	
	comp=Z,9.7nm,0.2s						
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG	Sb	14 22 07.0	-0.2
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sb	14 22 08.1	-0.1
PRU	**Pruhonice**	**1.37**	**100**	*e*	Sb	14 22 08.1	-0.1
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG	Sg	14 22 09.6	+0.3

*IDC **10** 14:21:30.3±4.9, 6°.55N×101°.46W, h0km, mb3.8/4, mbtmp3.8/4, MS3.6/6, Error ellipse: s-maj=308.3km s-min=46.7km az=95.0*
*NEIC **10** 14:21:33.9±1.7, 7°.0N±0°.1×101°.4W±0°.1, h10km±2km, mb4.2/18, Error ellipse: s-maj=29.8km s-min=10.4km az=234.0*
ISC 10 14:21:32.2±1.7, 6°.7N±0°.2×101°.4W±0°.1, h10km, n31, σ1ᵠ58/26, mb4.2/11, MS3.8/3, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**12.13**	**31**	LR	LR	14 28 19.6	
	comp=Z,138nm,20.3s,baz=176,slow=33						
MTO3	**Montecristo**	**14.09**	**56**	Pn	**Pn**	**14 24 52.5**	**+0.3**
PETF	**Flores**	**15.17**	**47**	P	**P**	**14 25 10.7**	**-1.1**
ZAIG	**Zacatecas**	**16.00**	**356**	P	**Pn**	**14 25 18.3**	**+0.6**
DUNO	**Dulce Nombre,**	**16.10**	**77**	Pn	**Pn**	**14 25 19.0**	**+0.2**
DUNO				IAmb	IAmb	14 25 56.1	
	comp=Z,20nm,1.0s						
SRBA	**San Rafael, Bu**	**18.05**	**81**		**P**	**14 25 44.2**	**+0.3**
BATAN	**Batan**	**18.16**	**78**		**Pn**	**14 25 45.2**	**+0.5**
TEIG	**Tepich**	**18.52**	**42**	LR	LR	14 32 10.4	
	comp=Z,630nm,21.9s,slow=34						
LPIG	**La Paz**	**19.28**	**335**	LR	LR	14 30 40.1	
	comp=Z,73nm,19.8s,baz=150,slow=28						
HPIG		**20.51**	**349**	P	**P**	**14 26 09.5**	**-1.3**
HPIG				IAmb	IAmb	14 26 10.9	
	comp=Z,3.7nm,0.5s						
TXAR	**Lajitas Array**	**22.59**	**355**	P	**P**	**14 26 31.9**	**-1.3**
TXAR	**Lajitas Array**	**22.59**	**355**	P	**P**	**14 26 32.8**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=184,slow=11,SNR=13						
	comp=Z,1.4nm,0.8s						
TX31	**Lajitas Ar. Si**	**22.60**	**355**	P	**P**	**14 26 31.9**	**-1.3**
HNDO	**Hondo**	**22.78**	**5**	P	**P**	**14 26 31.8**	**-3.2**
HNDO				IAmb	IAmb	14 26 40.8	
	comp=Z,7.5nm,0.9s						
SAND	**Sanderson**	**23.12**	**358**	P	**P**	**14 26 39.0**	**+0.4**
SAND				IAmb	IAmb	14 26 51.5	
	comp=Z,5.0nm,0.6s						
ALPN	**Alpine**	**23.62**	**355**	P	**P**	**14 26 44.0**	**+0.3**
ALPN				IAmb	IAmb	14 26 51.3	
	comp=Z,4.1nm,0.6s						
VHRN	**Van Horn**	**24.18**	**352**	P	**P**	**14 26 47.4**	**-1.6**
ABTX	**Abilene, Hawle**	**25.83**	**3**	P	**P**	**14 27 02.1**	**-1.7**
ABTX				IAmb	IAmb	14 27 36.4	
	comp=Z,5.9nm,0.6s						
121A	**Cookes Peak, D**	**26.36**	**348**	P	**P**	**14 27 06.2**	**-2.7**
121A				IAmb	IAmb	14 27 22.8	
	comp=Z,3.8nm,1.2s						
TUC	**Tucson**	**26.92**	**342**	P	**P**	**14 27 10.9**	**-2.9**
TUC				IAmb	IAmb	14 27 14.0	
	comp=Z,4.2nm,0.9s						
SDV	**Santo Domingo**	**30.57**	**84**	LR	LR	14 39 36.4	
	comp=Z,54nm,19.5s,baz=121,slow=36						
PDAR	**Pinedale Array**	**36.62**	**350**	P	**P**	**14 28 37.8**	**-1.2**
PDAR	**Pinedale Array**	**36.62**	**350**	P	**P**	**14 28 40.0**	**+1.0**
	comp=Z,2.5nm,0.9s,baz=169,slow=8.6,SNR=9.2						
	comp=Z,2.5nm,0.9s						
SCHQ	**Schefferville**	**55.40**	**24**	LR	LR	14 56 42.6	
	comp=Z,75nm,18.1s,baz=66,slow=38						
YKA	**Yellowknife Ar**	**56.50**	**353**	P	**P**	**14 31 16.1**	**+1.8**
	comp=Z,0.5nm,0.8s,baz=158,slow=6.7,SNR=6.5						
YKA				LR	LR	14 53 09.2	
	comp=Z,86nm,18.6s,baz=326,slow=34						
	comp=Z,0.5nm,0.8s						
K27K	**Chicken**	**64.14**	**341**	P	**P**	**14 32 09.3**	**+2.7**
IL31		**66.20**	**340**	P	**P**	**14 32 19.8**	**-0.1**
ILAR	**Eielson Array**	**66.20**	**340**	P	**P**	**14 32 20.9**	**+1.0**
	comp=Z,2.0nm,0.8s,baz=154,slow=4.9,SNR=21						
	comp=Z,2.0nm,0.8s						
A36M	**Sachs Harbour**	**66.85**	**352**	P	**P**	**14 32 24.7**	**+0.8**
E27K	**Coleen River**	**66.96**	**345**	P	**P**	**14 32 26.4**	**+1.7**
E27K				IAmb	IAmb	14 32 28.2	
	comp=Z,2.9nm,0.9s						
WRA	**Warramunga Arr**	**124.42**	**251**	PKP	**PKPdf**	**14 40 31.2**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=125,slow=2.3,SNR=1.9						

DJA 10 14:31:12.5±0.4, 7°.5S±5°×107°.5E±°, h10km, M4.1/10, mb4.7/1, MLv3.8/10, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KASI	**Kota Agung**	**1.12**	**341**	P	Pb	14 31 33.3	-0.7
SKJI	**Sukabumi**	**1.73**	**104**	P	Pn	14 31 42.9	+0.3
LWLI	**Liwa**	**1.76**	**333**	P	Pn	14 31 43.2	0.0
LWLI				S	Sn	14 32 04.7	-1.0
CBJI	**Citeko**	**1.98**	**85**	P	Pn	14 31 45.7	-0.3
CNJI	**Cibinong**	**2.35**	**108**	P	Pn	14 31 50.9	-0.3
LEM	**Lembang**	**2.74**	**95**	P	Pn	14 31 58.8	+2.1
MNAI	**Manna**	**2.92**	**319**	P	Pn	14 32 00.0	+0.9
CMJI	**Cimerak**	**3.74**	**109**	P	Pn	14 32 11.5	+1.1
UGM	**Wanagama**	**5.76**	**104**	P	Pn	14 32 38.2	0.0

*IDC **10** 14:41:25.5±0.9, 54°.87N×159°.90W, h0km, mb4.1/23, mbtmp4.1/26, ML3.9/3, MS3.4/6, Error ellipse: s-maj=24.0km s-min=12.9km az=169.0*
*NEIC **10** 14:41:27.8±1.6, 54°.64N±0°.04×159°.62W±0°.06, h10km±1km, mb4.2/23, ML4.1/22, ML4.0(AEIC), Error ellipse: s-maj=7.0km s-min=6.1km az=199.0*
*AEIC **10** 14:41:29.9±2.0, 54°.73N±0°.04×159°.70W±0°.06, h2km±5km, Error ellipse: s-maj=6.5km s-min=4.8km az=195.0*
ISC 10 14:41:27.7±2.1, 54°.70N±0°.06×159°.59W±0°.04, h17km±12km, n270, σ1ᵠ70/255, mb4.3/40, MS3.5/4, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.83**	**322**	P	**Pb**	**14 41 44.5**	**+0.8**
SDPT	**Sand Point**	**0.83**	**322**	Pg	**Pb**	**14 41 44.4**	**+0.8**
SDPT				IAML		14 41 59.2	
	comp=N,7μm,0.6s						
SDPT				IAML		14 42 00.2	
	comp=E,6μm,0.5s						
SDPT	**Sand Point**	**0.83**	**322**		**Sb**	**14 41 55.1**	**+0.7**
SDPT	**Sand Point**	**0.83**	**322**	P	**Pb**	**14 41 44.4**	**+0.8**
	baz=144						
SDPT				S	**Sb**	**14 41 54.9**	**+0.4**
	baz=144						
VNKR	**Veniaminof 5**	**1.34**	**5**		**Pn**	**14 41 53.1**	**+1.4**
PS1A	**Pavlof South-1**	**1.43**	**301**		**Pn**	**14 41 53.7**	**+0.9**
PS1A					**Sb**	**14 42 12.0**	**+0.2**
PVV	**Pavlof Volcano**	**1.44**	**299**		**Pn**	**14 41 53.6**	**+0.7**
PVV					**Sb**	**14 42 12.0**	**+0.1**
PS4A	**Pavlof South-4**	**1.46**	**297**		**Pn**	**14 41 53.9**	**+0.7**
PS4A					**Sg**	**14 42 12.0**	**-2.7**
VNWF	**Veniaminof 8**	**1.46**	**1**		**Pn**	**14 41 54.9**	**+1.6**
VNWF

O15K Ungalikthiuk R 4.49 358 Pn Pn 14 42 36.1 +1.3
O15K Ungalikthiuk R 4.49 358 P Pn 14 42 36.9 +2.0
baz=179
O14K Tigyukauivet M 4.66 349 Pn 14 42 38.6 +1.5
O14K Tigyukauivet M 4.66 349 IAML 14 44 14.6
comp=E,142nm,1.0s
O14K IAML 14 44 16.3
comp=N,173nm,0.9s
KAHC Katmai Hardscr 4.70 31 Pn 14 42 39.7 +1.9
KAHC Katmai Hardscr 4.70 31 P Pn 14 42 39.7 +1.9
baz=215
P17K Kvichak River 4.83 20 Pn 14 42 41.7 +2.2
O16K Kokwok River B 4.98 9 Pn Pn 14 42 43.6 +2.1
O16K Kokwok River B 4.98 9 P Pn 14 42 43.2 +1.7
baz=191
KDAK Kodiak Island 4.98 49 Pn Pn 14 42 42.5 +0.9
KDAK IAML 14 44 09.7
comp=N,152nm,1.0s
KDAK IAML 14 44 11.2
comp=N,115nm,0.7s
KDAK Kodiak Island 4.98 49 Pn Pn 14 42 42.2 +0.6
comp=N,3.1nm,0.3s,baz=223,slow=3.4,SNR=24
KDAK Sn Sn 14 43 36.8 -2.0
comp=N,4.7nm,0.3s,baz=345,slow=20,SNR=1.5
KDAK Lg Lg 14 44 06.9
comp=N,6.2nm,0.3s,baz=152,slow=24,SNR=4.8
KDAK LR LR 14 44 59.5
comp=N,314nm,19.9s,baz=234,slow=43
comp=N,8.3nm,0.4s
O17K Koliganek Bris 5.27 14 Pn 14 42 46.8 +1.3
O17K Koliganek Bris 5.27 14 P Pn 14 42 47.3 +1.8
baz=197
P18K Big Mountain, 5.28 25 Pn Pn 14 42 47.6 +2.0
Q19K Cape Douglas, 5.35 35 Pn Pn 14 42 49.5 +2.8
Q19K Cape Douglas, 5.35 35 P Pn 14 42 48.9 +2.2
baz=221
N14K Kuskokwak Cree 5.36 349 Pn 14 42 47.9 +1.1
N14K Kuskokwak Cree 5.36 349 P Pn 14 42 48.4 +1.6
baz=168
N15K Kwethluk River 5.49 357 Pn 14 42 50.9 +2.3
N15K Kwethluk River 5.49 357 P Pn 14 42 50.8 +2.1
baz=178
Q20K Shuyak Island 5.58 42 P Pn 14 42 52.0 +2.2
baz=229
SYI Shuyak Island 5.58 42 Pn Pn 14 42 51.4 +1.6
O18K Koktuh Hills 5.69 23 Pn 14 42 53.7 +2.4
O18K Koktuh Hills 5.69 23 P Pn 14 42 53.1 +1.8
baz=207
NIKH Nikolski High 5.75 256 P Pn 14 42 54.4 +2.3
NIKH Nikolski High 5.75 256 Pn 14 42 52.9 +0.8
N16K Nishlik Lake 5.81 4 Pn 14 42 54.5 +1.6
N16K Nishlik Lake 5.81 4 P Pn 14 42 55.0 +2.0
baz=185
N17K Nushagak Hills 5.99 11 Pn 14 42 56.8 +1.5
N17K Nushagak Hills 5.99 11 P Pn 14 42 56.9 +1.5
baz=194
M15K Kasigluk River 6.04 355 P Pn 14 42 57.4 +1.3
baz=175
M13K Dall Lake 6.08 342 Pn 14 42 58.6 +2.0
M13K Dall Lake 6.08 342 P Pn 14 42 58.2 +1.6
baz=160
M14K Bethel 6.20 349 Pn Pn 14 42 59.8 +1.5
M14K Bethel 6.20 349 P Pn 14 42 59.8 +1.5
baz=168
O19K Port Alsworth 6.20 25 P Pn 14 42 60.0 +1.7
baz=210
CLCO Concord Point, 6.31 256 Pn 14 43 01.3 +1.5
N18K Kilae Creek 6.32 17 Pn 14 43 03.0 +3.0
N18K Kilae Creek 6.32 17 P Pn 14 43 02.0 +2.0
baz=200
M16K Timber Creek 6.35 3 Pn 14 43 02.2 +1.8
IVE Iliamna Volcan 6.41 31 Pn 14 43 03.1 +1.9
SPIA Saint Paul Isl 6.48 297 Pn 14 43 04.4 +2.3
SPIA Saint Paul Isl 6.48 297 P Pn 14 43 03.3 +1.2
O20K Slope Mountain 6.58 32 Pn 14 43 05.6 +2.0
CNPM China Poot 6.64 40 Pn Pn 14 43 06.5 +2.1
N19K Bonanza Creek 6.71 22 Pn Pn 14 43 07.9 +2.5
M11K Mekoryuk 6.72 331 Pn 14 43 06.6 +1.2
M17K Holitna River 6.82 9 Pn 14 43 08.5 +1.7
RDWB Redoubt West 6.84 29 Pn 14 43 09.9 +2.6
RSO Redoubt South 6.85 30 Pn 14 43 10.4 +3.0
L14K Kuka Creek 6.86 347 Pn 14 43 08.5 +1.1
BRLK Bradley Lake 6.94 39 Pn 14 43 08.5 +0.1
L16K Owhat River 7.04 0 Pn Pn 14 43 11.1 +1.4
RDT Redoubt 7.04 30 Pn 14 43 11.4 +1.6
L15K Ungalak Mounta 7.07 353 Pn 14 43 10.9 +0.7
M18K Stony River 7.10 15 Pn 14 43 11.9 +1.3
L17K Donlin 7.49 5 Pn 14 43 17.1 +1.1
CAPN Captain Cook N 7.58 33 Pn Pn 14 43 19.1 +1.9
SPNN North Nagishla 7.62 26 Pn 14 43 20.6 +2.7
SPCP Crater Peak Br 7.68 28 Pn 14 43 21.1 +2.4
K15K Wolf Creek Mou 7.69 353 Pn 14 43 20.5 +1.8
SLKM Skilak Lake 7.69 37 Pn 14 43 21.3 +2.5
L18K Granite Mounta 7.70 10 Pn 14 43 20.5 +1.7
M19K Big River Lodg 7.73 19 Pn 14 43 21.5 +2.3
K13K Kusilvak Mount 7.73 342 Pn 14 43 20.4 +1.1
O22K Cooper Landing 7.85 38 Pn Pn 14 43 23.1 +2.2
L19K White Mountain 7.91 16 Pn Pn 14 43 23.6 +1.9
STLK Strandline Lak 7.96 28 Pn 14 43 24.7 +2.3
M20K Styx River 7.96 23 Pn 14 43 25.5 +2.9
K17K Iditarod 8.07 4 Pn 14 43 25.5 +1.6
SUA Susitna One 8.24 31 Pn 14 43 27.3 +0.9
RC01 Rabbit Creek A 8.28 35 Pn Pn 14 43 28.9 +2.1
J14K Nanvaranak Lak 8.33 347 Pn 14 43 28.2 +0.7
L20K Farewell, AK 8.35 19 Pn 14 43 29.5 +1.7
SKT Skwentna 8.44 27 Pn Pn 14 43 32.1 +3.1
P23K Montague Islan 8.46 46 Pn 14 43 31.3 +2.1
J16K Anvik River 8.63 357 Pn 14 43 33.0 +1.4
J17K VABM Dome 8.73 2 Pn Pn 14 43 34.0 +1.0
J18K Innoko River 8.92 8 Pn 14 43 37.1 +1.5
KNK Knik Glacier 8.94 37 Pn 14 43 36.5 +0.5
GHO Glory Hole Cre 9.04 34 Pn 14 43 37.7 +0.3
HIN Hinchinbrook I 9.05 46 Pn Pn 14 43 38.0 +0.6
ATKA Atka Island 9.07 260 P Pn 14 43 38.8 +1.2
ATKA Atka Island 9.07 260 Pn Pn 14 43 38.6 +1.0
PPLA Purkeypile 9.07 22 Pn 14 43 40.6 +2.9
GLI Glacier Island 9.10 42 Pn Pn 14 43 39.9 +1.9
K20K Telida 9.14 16 Pn 14 43 39.8 +1.2
I17K Unalakleet 9.24 357 Pn 14 43 41.0 +1.1
FID Port Fidalgo 9.26 44 Pn Pn 14 43 40.9 +0.6
SML Sawmill 9.26 35 Pn Pn 14 43 41.1 +0.8
EYAK Cordova Ski Ar 9.45 46 P Pn 14 43 44.5 +1.7
J19K Poorman 9.54 11 Pn Pn 14 43 45.6 +1.5
CAST Castle Rocks 9.56 21 Pn Pn 14 43 46.7 +2.4
SCM Sheep Creek Mo 9.63 37 Pn 14 43 46.4 +1.1
KAIM Kayak Island 9.73 51 Pn Pn 14 43 48.0 +1.4
WAT7 Susitna Watana 9.87 30 Pn 14 43 48.2 -0.5
J20K Nowinta River 9.90 14 Pn 14 43 51.4 +2.4
KLU Klutina 9.92 41 Pn 14 43 49.9 +0.6
KTH Kantishna Hill 9.93 23 Pn Pn 14 43 52.2 +2.8
TRF Thorofare Moun 9.99 25 Pn Pn 14 43 51.6 +1.2
H16K Elim 10.06 353 Pn 14 43 52.2 +1.1
M24K Tolsona, Glenn 10.22 38 Pn Pn 14 43 54.9 +1.5
ANM Nome 10.32 346 Pn 14 43 56.0 +1.3
RND Reindeer 10.32 28 Pn 14 43 55.7 +0.9
BPAW Bear Paw Mtn. 10.39 21 Pn Pn 14 43 55.4 -0.3
DHY Denali Highway 10.49 32 Pn 14 43 59.1 +1.8
N25K Chitina, Valde 10.50 43 Pn Pn 14 43 59.3 +2.0
H18K Honhosa River 10.51 3 Pn 14 43 58.9 +1.6
WAX Waxell Ridge 10.66 51 Pn Pn 14 44 00.8 +1.3
VRDI Verde Repeater 10.77 46 Pn Pn 14 44 02.9 +1.9
G16K Koyuk River 10.82 354 Pn Pn 14 44 03.3 +1.8
ISLE Juniper Island 10.96 50 Pn Pn 14 44 04.3 +0.8
H19K Roundabout Mou 10.98 7 Pn Pn 14 44 05.2 +1.5
NEA2 Nenana 11.24 24 Pn Pn 14 44 07.5 +0.1
MLY Manley 11.26 20 Pn Pn 14 44 10.6 +2.9
F15K North Star Dit 11.32 349 Pn 14 44 10.8 +2.4
BARN Barnard Glacie 11.45 49 Pn 14 44 11.7 +1.2
H21K Melozitna Rive 11.49 14 Pn Pn 14 44 12.5 +1.7
G19K Purcell Mounta 11.55 5 Pn Pn 14 44 14.2 +2.7
CTGM Chitina Glacie 11.56 50 Pn 14 44 13.9 +2.1
M26K Nabesna, AK 11.58 42 Pn Pn 14 44 13.5 +1.5
IMAR Indian Mountai 11.68 12 Pn 14 44 15.0 +1.7
MDM Murphy Dome 11.75 24 Pn Pn 14 44 14.6 +0.3
F17K Baldwin Pennin 11.81 357 Pn Pn 14 44 16.0 +0.9
L26K Log Cabin Wild 11.81 39 Pn Pn 14 44 17.6 +2.4
IL31 11.93 27 Pn 14 44 16.8 +0.1
ILAR Eielson Array 11.93 27 Pn Pn 14 44 14.4 -2.4
comp=N,0.4nm,0.3s,baz=218,slow=13,SNR=11
ILAR Sn Sn 14 46 25.8 -3.5
comp=N,0.1nm,0.3s,baz=218,slow=19,SNR=2.1
ILAR LR LR 14 49 04.8
comp=N,142nm,20.5s,baz=250,slow=39
G21K Allakaket 12.22 12 Pn Pn 14 44 22.1 +1.4
BCAR Beaver Creek A 12.41 40 Pn Pn 14 44 23.7 +0.3
F20K Avaraart Lake 12.53 7 Pn Pn 14 44 26.9 +2.0
E19K Redstone River 12.85 4 Pn 14 44 32.1 +2.7
K27K Chicken 12.88 36 Pn Pn 14 44 31.4 +1.7
F21K Alatna River 12.90 11 Pn Pn 14 44 33.0 +3.0
G23K Bananza Creek 12.91 17 Pn Pn 14 44 33.6 +3.5
S31K Pelican 13.34 66 Pn Pn 14 44 37.4 +1.3
M29M Somme Creek 13.43 46 Pn Pn 14 44 38.1 +0.8
D19K Kuna River 13.87 2 Pn 14 44 47.7 +4.6
O30N Mendenhall 13.90 55 Pn Pn 14 44 45.6 +1.9
E24K Your Creek 14.40 17 Pn Pn 14 44 54.2 +3.8
I28M Miner Creek 14.49 34 Pn Pn 14 44 52.8 +1.0
J30M Hart River 15.27 40 IAmb IAmb 14 45 12.4
comp=Z,15nm,0.8s
D24K Happy Valley 15.32 15 IAmb IAmb 14 45 08.9
comp=Z,12nm,0.8s
N32M Quiet Lake 15.42 55 IAmb IAmb 14 45 20.5
comp=Z,9.1nm,0.9s
H29M Whitestone 15.48 33 IAmb IAmb 14 45 19.1
comp=Z,10.0nm,0.7s
I30M Mount Dempster 15.58 38 Pn Pn 14 45 06.8 +0.4
I30M IAmb IAmb 14 45 18.3
comp=Z,14nm,0.7s
C23K Itkillik River 15.73 12 Pn Pn 14 45 10.6 +2.6
B22K Teshekpuk Lake 15.94 8 IAmb IAmb 14 45 21.9
comp=Z,15nm,1.0s
H31M Peel River 16.61 38 IAmb IAmb 14 45 24.8
comp=Z,18nm,0.9s
G30M tAoh Zrail Nji 16.62 33 P 14 45 23.4 +1.5
G30M IAmb IAmb 14 45 37.5
comp=Z,26nm,1.0s
DLBC Dease Lake 16.64 65 Pn Pn 14 45 21.0 +1.1
comp=Z,0.1nm,0.3s,baz=264,slow=9.2,SNR=1.9
comp=Z,0.8nm,0.5s
G31M Satah River 17.22 35 IAmb IAmb 14 45 42.9
comp=Z,30nm,1.3s
INK Inuvik 18.24 31 P Pn 14 45 38.9 -0.7
comp=Z,0.9nm,0.3s,baz=217,slow=10,SNR=35
comp=Z,3.8nm,0.5s
C36M Pauatuk 21.73 34 P P 14 46 17.7 +0.1
A36M Sachs Harbour 22.64 27 P P 14 46 26.2 -1.0
A36M IAmb IAmb 14 46 40.1
comp=Z,8.2nm,0.8s
E03A Lebam 24.04 95 P P 14 46 38.1 -3.5
YKA Yellowknife Ar 24.25 53 P P 14 46 43.5 +0.3
comp=Z,0.7nm,0.7s,baz=270,slow=8.4,SNR=12
comp=Z,0.7nm,0.7s
SEY Seymchan 25.62 308 P P 14 46 53.0 -2.7
comp=Z,1.3nm,0.3s,baz=110,slow=12,SNR=5.7
SEY LR LR 14 58 05.5
comp=Z,87nm,20.9s,baz=356,slow=39
comp=Z,1.3nm,0.3s
RES Resolute Bay 31.69 27 P P 14 47 50.2 +0.6
RES IAmb IAmb 14 48 05.4
comp=Z,1.9nm,0.8s
NVAR Mina Arroy Bea 32.16 103 P P 14 47 57.4 +2.9
comp=Z,0.3nm,0.5s,baz=311,slow=4.5,SNR=4.0
comp=Z,0.3nm,0.5s
KEKH Kekaha 32.67 180 P P 14 47 57.0 -1.7
EUNU Eureka 33.79 17 P P 14 48 07.8 -0.3
EUNU IAmb IAmb 14 48 13.5
comp=Z,2.6nm,0.9s
TIXI Tiksi 33.84 327 P P 14 48 06.8 -1.7
TIXI IAmb IAmb 14 48 09.0
comp=Z,6.9nm,1.4s
TIXI Tiksi 33.84 327 P P 14 48 07.3 -1.2
comp=Z,1.9nm,0.3s,baz=87,slow=9.4,SNR=7.1
comp=Z,1.9nm,0.3s
YAK Yakutsk 36.06 311 LR LR 15 04 17.4
comp=Z,80nm,19.4s,baz=56,slow=38
ULM Lac du Bonnet 37.88 70 LR LR 15 03 38.9
comp=Z,86nm,19.6s,baz=350,slow=35
ASAJ Asahikawa 38.04 278 P P 14 48 44.6 -0.2
comp=Z,2.1nm,0.5s,baz=65,slow=19,SNR=1.8
comp=Z,2.1nm,0.5s
NEEM North Greenlan 41.05 18 *i* P P 14 49 08.6 -1.2
NEEM IAmb IAmb 14 49 11.8
comp=Z,3.7nm,0.6s
H11N2 WAKE ISLAND Hy 43.18 229 T T 15 35 37.0
baz=28,slow=76
H11N3 WAKE ISLAND Hy 43.19 229 T T 15 35 37.4
baz=28,slow=76
H11N1 WAKE ISLAND Hy 43.20 229 T T 15 35 38.4
baz=28,slow=76
H11S1 WAKE ISLAND Hy 44.34 229 T T 15 37 03.9
baz=28,slow=76
H11S2 WAKE ISLAND Hy 44.36 229 T T 15 37 04.9
baz=28,slow=76
H11S3 WAKE ISLAND Hy 44.36 229 T T 15 37 05.2
baz=28,slow=76
MJAR Matsushiro Arr 45.51 273 P P 14 49 45.2 -0.8
comp=Z,1.7nm,0.5s,baz=41,slow=8.4,SNR=4.4
comp=Z,1.7nm,0.5s
DAG Danmarks Havn 46.48 12 *i* P P 14 49 51.4 -1.7
DAG IAmb IAmb 14 49 55.4
comp=Z,2.6nm,0.8s
SUMG Summit 46.69 21 *i* P P 14 49 55.4 +0.2
SUMG IAmb IAmb 14 49 58.6
comp=Z,3.8nm,0.8s
TXAR Lajitas Array 47.09 99 P P 14 49 59.8 +1.3
comp=Z,0.2nm,0.3s,baz=310,slow=4.2,SNR=2.9
comp=Z,0.2nm,0.3s
SPITS Spitsbergen Ar 47.36 1 P P 14 49 57.6 -2.3
comp=Z,11nm,1.1s,baz=39,slow=5.7,SNR=12
comp=Z,11nm,1.1s
ICESG Greenland Ices 49.01 24 *i* P P 14 50 09.3 -3.8
ICESG IAmb IAmb 14 50 14.6
comp=Z,7.0nm,0.5s
KSRS Korea Array 50.79 282 P P 14 50 25.2 -1.5
comp=Z,2.0nm,0.7s,baz=52,slow=6.5,SNR=6.7
comp=Z,2.0nm,0.7s
SONM Songino Array 54.95 305 P P 14 50 56.5 -0.9
comp=Z,3.0nm,0.7s,baz=46,slow=7.6,SNR=12
comp=Z,3.0nm,0.7s
ARCES ARCESS Array B 56.02 358 P P 14 51 03.4 -1.3
comp=Z,0.7nm,0.5s,baz=27,slow=6.2,SNR=11
comp=Z,0.7nm,0.5s
ZALV Zalesovo Beam 59.43 322 P P 14 51 27.9 -0.9
comp=Z,1.0nm,0.5s,baz=19,slow=6.4,SNR=5.3
comp=Z,1.0nm,0.5s
FINES FINESS Array B 64.12 357 P P 14 51 59.6 -0.6
comp=Z,1.9nm,0.8s,baz=3.9,slow=8.3,SNR=9.5
comp=Z,1.9nm,0.8s
KURBB Kurchatov Arra 64.38 323 P P 14 52 01.1 -1.0
comp=Z,0.5nm,0.3s,baz=22,slow=6.3,SNR=7.6
comp=Z,0.5nm,0.3s
NB2 NORSAR Subarra 64.38 5 P P 14 52 02.2 +0.1
comp=Z,1.4nm,0.6s,baz=355,slow=6.9
NOA NORSAR Array B 64.38 5 P P 14 52 02.1 +0.1
comp=Z,1.0nm,0.6s,baz=355,slow=6.7,SNR=5.1
comp=Z,1.0nm,0.6s
GTA Gaotai 64.39 302 *e*P P 14 52 02.9 +0.3
GTA sP sP 14 52 11.4 +1.2
GTA pmax pmax
comp=Z,4.0nm,1.1s
BVAR Borovoye Array 64.95 329 P P 14 52 04.5 -1.4
comp=Z,1.9nm,0.6s,baz=40,slow=6.8,SNR=12
comp=Z,1.9nm,0.6s
HFS Hagfors 65.39 4 P P 14 52 08.4 -0.3
comp=Z,2.4nm,0.5s,baz=20,slow=4.7,SNR=13
comp=Z,2.4nm,0.5s
MKAR Makanchi Array 66.19 319 P P 14 52 13.2 -0.9
comp=Z,0.8nm,0.5s,baz=47,slow=6.0,SNR=12
comp=Z,0.8nm,0.5s
WMQ Urumqi 66.45 313 *e*P P 14 52 15.8 0.0
WMQ pmax pmax
comp=Z,64nm,0.7s
EKA Eskdalemuir Ar 68.64 14 P P 14 52 29.4 +0.1
comp=Z,1.6nm,0.7s,baz=339,slow=6.5,SNR=4.5
comp=Z,1.6nm,0.7s
PPT2 Papeete2 72.50 170 *e*LR LR 15 14 41.1
comp=Z,45nm,25.8s
AKASG Malin Array Be 74.71 354 P P 14 53 05.2 -0.7
comp=Z,2.2nm,0.4s,baz=7.9,slow=5.8,SNR=13
comp=Z,2.2nm,0.4s
KSH Kashi 74.80 319 P P 14 53 10.5 +3.7
KSH pP sP 14 53 16.0 +1.5
KSH pmax pmax
comp=Z,8.0nm,0.7s
CONA Conrad Observa 77.68 3 *e*pP P 14 53 24.2 +1.2
comp=Z,2.7nm,0.9s
MOTA Moosalm 78.03 6 *e*pP P 14 53 25.9 +0.9
comp=Z,3.7nm,0.8s
WTTA Wattenberg 78.14 6 *e*pP P 14 53 26.6 +0.9
comp=Z,2.5nm,0.8s
SQTA Sankt Quirin 78.16 6 *e*pP P 14 53 26.7 +1.0
comp=Z,3.1nm,0.8s
FETA Feichten 78.33 7 *e*pP P 14 53 28.5 +1.8
comp=Z,3.1nm,0.9s
KBA Koelnbreinsper 78.42 5 *e*pP P 14 53 28.6 +1.4
comp=Z,2.2nm,0.7s
OBKA Obir 79.05 4 *e*pP P 14 53 32.0 +1.5
comp=Z,3.8nm,0.6s
CMAR Chiang Mai Arr 81.56 290 P P 14 53 44.2 -0.2
comp=Z,1.8nm,0.8s,baz=21,slow=5.6,SNR=12
comp=Z,1.8nm,0.8s
GEYT Alibeck 82.22 331 P P 14 53 48.0 +0.3
comp=Z,2.1nm,0.6s,baz=37,slow=7.4,SNR=5.5
comp=Z,2.1nm,0.6s
ROSC El Rosal 83.34 91 LR LR 15 36 41.2
comp=Z,24nm,18.4s,baz=241,slow=40
ESDC Sonseca Array 83.70 19 P P 14 53 55.8 +0.5
comp=Z,2.4nm,0.8s,baz=343,slow=5.0,SNR=12
comp=Z,2.4nm,0.8s
H03N2 Juan Fernandez 111.58 117 T T 17 01 01.4
baz=323,slow=77,SNR=6.2
H03N1 Juan Fernandez 111.59 117 T T 17 01 03.3
baz=323,slow=77,SNR=6.1
H03N3 Juan Fernandez 111.60 117 T T 17 01 03.3
baz=323,slow=77,SNR=11
QSPA South Pole Qui 144.47 180 PKP PKPab 15 01 00.4 +0.5
comp=Z,1.8nm,0.8s,baz=51,slow=1.5,SNR=7.9

*KRSC **10** 14:44:21.5±1.2,52.°11N×159.°82E,h48km±16km,Ml4.4*
*IDC **10** 14:44:23.3±5.6,54.°57N×156.°36E,h73km±48km,mb3.4/5,*
mbtmp3.7/5,Error ellipse: s-maj=50.6km s-min=24.7km
az=145.0
*MOS **10** 14:44:24.0±0.9,52.°17N×159.°66E,h44km,mb4.0/1,Error*
ellipse: s-maj=12.2km s-min=5.1km az=98.2

ISC 10 14:44:24.9±1.1,52.°16N±0.°05×159.°74E±0.°05,h50km,n67,
σ1§23/75,mb3.8/6,1D,Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.80	291	*e*P		Pn	14 44 38.0	-1.9
RUS				*e*S		Sn	14 44 48.6	-2.2
RUS	Russkaya	0.80	291	PN		Pn	14 44 38.0	-1.9
RUS				S		Sn	14 44 48.6	-2.2
SPN	Mys Shipunski	0.96	10	*e*P		Pn	14 44 40.7	-1.3
SPN				*e*S		Sn	14 44 54.5	-0.1
SPN	Mys Shipunski	0.96	10	PN		Pn	14 44 40.7	-1.3
SPN				S		Sn	14 44 54.5	-0.1
MTVR	Mutnovka	1.01	290	*i* P		Pn	14 44 41.6	-1.2
MTVR	Mutnovka	1.01	290	PN		Pn	14 44 41.6	-1.2
NLC	Nalytchevo	1.04	347	*e*P		Pn	14 44 41.0	-2.1
NLC				*e*S		Sn	14 44 55.2	-1.4
NLC	Nalytchevo	1.04	347	PN		Pn	14 44 41.0	-2.1
NLC				S		Sn	14 44 55.2	-1.4
DALK	Dalny	1.06	326	*e*P		Pn	14 44 41.9	-1.5
DALK				*e*S		Sn	14 44 56.8	-0.3
DALK	Dalny	1.06	326	PN		Pn	14 44 41.9	-1.5
DALK				S		Sn	14 44 56.8	-0.3
KDTR	Khodutka, Kamc	1.08	252	*i* P		Pn	14 44 42.1	-1.6
KDTR				*e*S		Sn	14 44 56.9	-0.7
KDTR	Khodutka, Kamc	1.08	252	PN		Pn	14 44 42.1	-1.6
KDTR				S		Sn	14 44 56.9	-0.7
PET	Petropavlovsk	1.09	323	*e*P		Pn	14 44 42.3	-1.5
PET				*e*S		Sn	14 44 57.0	-0.8
PET	Petropavlovsk	1.09	323	*i*/*e*PN		Pn	14 44 42.3	-1.5
PET				*i* S		Sn	14 44 56.8	-1.0
PET				pmax	pmax			
	comp=Z,300nm,0.4s							
PET				pmax	pmax			
	comp=Z,427nm,0.6s							
PET				smax	smax			
	comp=N,2μm,0.4s							
PET				smax	smax			
	comp=E,1μm,0.7s							
ASAK	Asacha	1.15	282	*i* P		Pn	14 44 44.1	-0.6
ASAK	Asacha	1.15	282	PN		Pn	14 44 44.1	-0.6
KRMR	Karymshinskiy	1.19	305	*e*P		Pn	14 44 44.1	-1.1
KRMR				*e*S		Sn	14 45 00.6	+0.4
KRMR	Karymshinskiy	1.19	305	PN		Pn	14 44 44.1	-1.1
KRMR				S		Sn	14 45 00.6	+0.4
UGLR	Uglovaya	1.19	333	*e*P		Pn	14 44 44.1	-1.2
UGLR	Uglovaya	1.19	333	PN		Pn	14 44 44.1	-1.2
SMAR	Somma	1.25	333	*e*P		Pn	14 44 44.8	-1.3
SMAR	Somma	1.25	333	PN		Pn	14 44 44.8	-1.3
AVH	Avacha	1.27	332	*e*P		Pn	14 44 45.3	-1.0
AVH	Avacha	1.27	332	PN		Pn	14 44 45.3	-1.0
KRER	Koryakskii	1.30	333	*e*P		Pn	14 44 45.9	-0.9
KRER	Koryakskii	1.30	333	PN		Pn	14 44 45.9	-0.9
KOK	Koryaka	1.32	330	*e*P		Pn	14 44 46.2	-0.8
KOK	Koryaka	1.32	330	PN		Pn	14 44 46.2	-0.8
KRX	Arik	1.38	332	*e*P		Pn	14 44 46.5	-1.3
KRX	Arik	1.38	332	PN		Pn	14 44 46.5	-1.3
PETK	Petropavlovsk-	1.57	308	P		Pn	14 44 48.9	-1.3
	comp=E,121nm,0.3s,baz=110,slow=20,SNR=964							
PETK				S		Sn	14 45 11.4	+2.0
	comp=E,115nm,0.4s,baz=122,slow=46,SNR=9.6							
PETK				LR		LR	14 45 13.7	
	comp=E,63nm,19.6s,baz=154,slow=30							
PETK	Petropavlovsk-	1.57	308	PN		Pn	14 44 48.9	-1.3
PETK				S		Sn	14 45 11.4	+2.0
APC	Apacha	1.75	297	*e*P		Pn	14 44 53.5	+0.8
APC				*e*S		Sn	14 45 16.8	+2.9
APC	Apacha	1.75	297	PN		Pn	14 44 53.5	+0.8
APC				S		Sn	14 45 16.8	+2.9
GNL	Ganaly	1.89	326	*e*P		Pn	14 44 54.7	0.0
GNL	Ganaly	1.89	326	PN		Pn	14 44 54.7	0.0
KII	Karymskiy	1.89	355	*e*P		Pn	14 44 55.3	+0.5
KII	Karymskiy	1.89	355	PN		Pn	14 44 55.3	+0.5
PAU	Pauzhetka	1.94	250	*e*P		Pn	14 44 55.9	+0.5
PAU	Pauzhetka	1.94	250	PN		Pn	14 44 55.9	+0.5
SKR	Severo-Kuril's	2.70	238	*e*P		Pn	14 45 04.8	-1.0
SKR				*e*S		Sn	14 45 37.9	+0.7
SKR	Severo-Kuril's	2.70	238	*e*PN		Pn	14 45 06.1	+0.3
SKR				*e*S		Sn	14 45 36.8	-0.4
SKR				pmax	pmax			
	comp=Z,66nm,0.6s							
SKR				smax	smax			
	comp=N,106nm,0.5s							
SKR				smax	smax			
	comp=E,386nm,0.5s							
TUMD	Tumrok D	3.08	7	*e*P		Pn	14 45 10.8	-0.2
TUMR	Tumrok	3.14	4	*e*P		Pn	14 45 12.9	+1.0
TUMR	Tumrok	3.14	4	PN		Pn	14 45 12.9	+1.0
KMNR	Kamenistaya	3.62	4	*e*P		Pn	14 45 20.2	+1.8
KMNR	Kamenistaya	3.62	4	PN		Pn	14 45 20.2	+1.8
BZP	Bezymyannyi-Pe	3.79	7	*e*P		Pn	14 45 20.8	-0.1
ESO	Esso	3.83	351	*e*P		Pn	14 45 22.3	+1.1
ESO	Esso	3.83	351	PN		Pn	14 45 22.3	+1.1
BZGR	Bezymyannyi-Gr	3.83	8	*e*P		Pn	14 45 23.9	+2.6
BZGR	Bezymyannyi-Gr	3.83	8	PN		Pn	14 45 23.9	+2.5
BZWR	Bezymyannyi-We	3.84	6	*e*P		Pn	14 45 21.8	+0.3
BZWR	Bezymyannyi-We	3.84	6	PN		Pn	14 45 21.8	+0.3
KLY	Klyuchi	4.20	7	*e*P		Pn	14 45 27.9	+1.6
KLY	Klyuchi	4.20	7	PN		Pn	14 45 27.9	+1.6
KBTR	Krutoberegovo	4.45	23	*e*P		Pn	14 45 29.3	-0.3
KBTR	Krutoberegovo	4.45	23	PN		Pn	14 45 29.3	-0.3
MJAR	Matsushiro Arr	21.80	233	P		P	14 49 12.3	-0.2
	comp=E,5.6nm,1.2s,baz=33,slow=7.7,SNR=2.6							
	comp=E,5.6nm,1.2s							
MJAR	Matsushiro Arr	21.80	233	P		P	14 49 12.3	-0.2
HHC	Hu-ho-hao-te	34.42	270	*e*P		P	14 51 11.4	+4.0
HHC				pmax	pmax			
	comp=Z,9.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,90nm,4.3s							
NVAR	Mina Array Bea	56.27	69	P		P	14 54 01.9	+1.6
	comp=Z,0.5nm,0.6s,baz=297,slow=8.0,SNR=3.9							
	comp=Z,0.5nm,0.6s							
PDAR	Pinedale Array	58.17	60	P		P	14 54 14.4	+0.7
	comp=Z,0.4nm,0.5s,baz=338,slow=6.8,SNR=3.7							
	comp=Z,0.4nm,0.5s							
TXAR	Lajitas Array	71.21	66	P		P	14 55 40.1	+1.6
	comp=Z,0.7nm,0.6s,baz=302,slow=5.2,SNR=6.3							
	comp=Z,0.7nm,0.6s							
TXAR	Lajitas Array	71.21	66	P		P	14 55 40.1	+1.5
ASAR	Alice Springs	78.81	204	P		P	14 56 24.4	+2.2
	comp=Z,0.2nm,0.7s,baz=18,slow=6.6,SNR=1.6							
	comp=Z,0.2nm,0.7s							
ASAR	Alice Springs	78.81	204	P		P	14 56 24.4	+2.2

IDC 10 15:00:58.4±25.0,6.°50N×101.°71W,h0km,mb3.4/3,
mbtmp3.4/3,Error ellipse: s-maj=967.9km

s-min=109.1km az=107.0, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**22.79**	**356**	P	P	15 06 02.3	-0.5
	0.5nm,0.8s,baz=172,slow=14,SNR=4.0						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**36.78**	**350**	P	P	15 08 08.7	+0.6
	0.5nm,0.8s,baz=168,slow=9.2,SNR=3.8						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**66.31**	**341**	P	P	15 11 48.3	-0.2
	0.7nm,0.8s,baz=161,slow=4.2,SNR=11						
	0.7nm,0.8s						

IDC 10 15:04:06.7±13.0, 7.50N×103.20W, h0km, mb3.5/4, mbtmp3.5/4, MS3.8/2, Error ellipse: s-maj=431.3km s-min=101.9km az=112.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**21.72**	**359**	P	P	15 08 59.3	-0.4
	0.7nm,0.9s,baz=190,slow=12,SNR=5.7						
	0.7nm,0.9s						
TKL	**Tuckaleechee C**	**33.20**	**30**	LR	LR	15 25 10.5	
	comp=Z,58nm,18.1s,baz=278,slow=38						
RPN	**Rapa Nui**	**34.93**	**190**	LR	LR	15 21 07.8	
	comp=Z,400nm,19.6s,baz=29,slow=29						
PDAR	**Pinedale Array**	**35.57**	**352**	P	P	15 11 06.6	+0.6
	1.9nm,1.0s,baz=165,slow=7.5,SNR=7.9						
	1.9nm,1.0s						
H03N2	**Juan Fernandez**	**46.79**	**152**	T	T	16 01 52.5	
	baz=312						
H03N1	**Juan Fernandez**	**46.80**	**152**	T	T	16 01 54.7	
	baz=312						
H03N3	**Juan Fernandez**	**46.80**	**152**	T	T	16 01 53.7	
	baz=312						
YKA	**Yellowknife Ar**	**55.52**	**354**	P	P	15 13 42.9	-0.4
	0.2nm,0.7s,baz=159,slow=7.0,SNR=2.7						
	0.2nm,0.7s						
ILAR	**Eielson Array**	**64.88**	**341**	P	P	15 14 47.4	-0.1
	0.9nm,0.8s,baz=159,slow=5.9,SNR=13						
	0.9nm,0.8s						
H11S2	**WAKE ISLAND Hy**	**87.75**	**288**	T	T	16 53 10.6	
	baz=100,slow=75,SNR=8.1						
H11S1	**WAKE ISLAND Hy**	**87.75**	**288**	T	T	16 53 11.2	
	baz=100,slow=75,SNR=7.7						
H11S3	**WAKE ISLAND Hy**	**87.76**	**288**	T	T	16 53 11.8	
	baz=100,slow=75,SNR=7.1						

*NEIC **10** 15:19:15.0±1.8, 19.42N±0.02×155.25W±0.01, h5km±1km, Error ellipse: s-maj=4.3km s-min=1.7km az=25.0*

HVO 10 15:19:15.0±0.9, 19.41N±0.02×155.282W±0.009, h1km±5km, ML2.8/3, ML2.0/22(NEIC), Error ellipse: s-maj=2.4km s-min=1.0km az=198.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**8**		Pg	15 19 15.3	0.0
OBL	**Observatory Le**	**0.01**	**351**		Pg	15 19 15.5	+0.1
RIM	**Rim**	**0.01**	**142**		Pg	15 19 15.6	+0.1
KKO	**Keanakako`i**	**0.02**	**116**		Pg	15 19 15.5	0.0
KKO				Sg	Sg	15 19 16.3	+0.5
WRMHI	**West Rim**	**0.02**	**274**		Pg	15 19 15.6	+0.1
SDHHI	**Sand Hill**	**0.02**	**216**		Pg	15 19 15.5	+0.1
SDHHI				Sg	Sg	15 19 16.3	+0.5
UWE	**Uwekahuna**	**0.02**	**327**	IAML		15 19 15.5	
	comp=N,7µm,0.7s						
UWE					Pg	15 19 15.7	+0.2
UWE				Sg	Sg	15 19 16.5	+0.6
UWB	**Uwekahuna B**	**0.02**	**11**		Pg	15 19 15.5	0.0
UWB				Sg	Sg	15 19 16.1	+0.3
BYL	**Byron's Ledge**	**0.02**	**72**		Pg	15 19 15.6	+0.1
BYL				IAML		15 19 15.7	
	comp=E,3µm,0.6s						
SBLHI	**Steaming Bluff**	**0.03**	**31**		Pg	15 19 15.8	+0.3
HATHI	**Halema`uma`u T**	**0.03**	**48**		Pg	15 19 15.8	+0.3
HATHI				IAML		15 19 15.8	
	comp=N,3µm,0.4s						
HATHI				IAML		15 19 16.1	
	comp=E,3µm,0.5s						
RSD	**Rainshed**	**0.06**	**4**		Pg	15 19 16.4	+0.3
PUH	**Pauahi**	**0.07**	**116**	IAML		15 19 16.7	
	comp=N,1µm,0.7s						
PUH	**Pauahi**	**0.07**	**116**		Pg	15 19 17.2	+0.8
HLP	**Hilina Pali**	**0.11**	**193**	Pg	Pg	15 19 17.9	+0.8
HLP				Sg	Sg	15 19 19.8	+1.3
MLH	**Mauna Loa**	**0.13**	**312**		Pg	15 19 18.4	+0.9
MLH				IAML		15 19 19.8	
	comp=N,680nm,0.9s						
MLH					Sg	15 19 21.4	+2.0
STCH	**Steam Cracks**	**0.15**	**98**		Pg	15 19 18.2	+0.3
STCH				Sg	Sg	15 19 20.2	+0.4
STCH				IAML		15 19 22.1	
	comp=N,515nm,0.8s						
STCH				IAML		15 19 23.0	
	comp=E,506nm,0.7s						
NPOC	**North of Pu`u**	**0.16**	**94**	Pg	Pg	15 19 18.7	+0.6
JCUZ	**Jacuzzi**	**0.17**	**97**	Pg	Pg	15 19 18.9	+0.6
HMH	**Humu`ula Sheep**	**0.27**	**316**	Pg	Pg	15 19 20.7	+0.4
HMH				IAML		15 19 24.5	
	comp=N,345nm,1.9s						
HMH				IAML		15 19 27.0	
	comp=E,235nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg	Pg	15 19 21.8	+0.9
MLOA				IAML		15 19 22.9	
	comp=N,302nm,1.0s						
MLOA				IAML		15 19 27.9	
	comp=E,250nm,0.9s						
MWH	**Moku`aweowe**	**0.31**	**285**	Pg	Pg	15 19 21.9	+1.0
KHU	**Kahuku**	**0.35**	**243**	Pg	Pg	15 19 21.5	-0.2

*PRU **10** 15:26:31.8, 50.25N×12.44E, h10km, West Bohemia Swarm*

WBNET 10 15:26:31.3, 50.25N×12.45E, h9km, Ml1.2, 4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**185**	⇓P	Pg	15 26 33.1	+0.1
NKC				S	Sg	15 26 34.3	+0.1
LBCW	**Luby**	**0.03**	**306**	⇓P	Pg	15 26 33.2	+0.1
LBCW				S	Sg	15 26 34.6	+0.2
STCW	**Studenec**	**0.05**	**76**	⇑P	Pg	15 26 33.3	0.0
STCW				S	Sg	15 26 34.6	-0.1
VAC	**Vackov**	**0.05**	**254**	⇓P	Pg	15 26 33.3	0.0
VAC				S	Sg	15 26 34.6	-0.1
KVC	**Kvetna**	**0.06**	**135**	⇓P	Pg	15 26 33.4	0.0
KVC				S	Sg	15 26 34.7	-0.1
POCW	**Potky**	**0.07**	**348**	⇑P	Pg	15 26 33.6	0.0
POCW				S	Sg	15 26 35.3	+0.1
SKC	**Skalna**	**0.10**	**216**	⇑P	Pg	15 26 33.8	+0.1
SKC				S	Sg	15 26 35.5	0.0
KRCW	**Kraslice**	**0.10**	**32**	⇑P	Pg	15 26 33.9	0.0
KRCW				S	Sg	15 26 35.7	0.0
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	15 26 34.5	0.0
KOCW				S	Sg	15 26 36.6	-0.1
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*SG	Sg	15 26 55.3	+0.6
	comp=Z,13nm,0.2s						
CLL	**Collm**	**1.12**	**18**	*i* Pg	Pb	15 26 52.1	-0.6
CLL				*i* x	x	15 26 53.3	
CLL				*i* x	x	15 26 55.5	
CLL				*e*Sg	Sn	15 27 08.0	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pb	15 26 52.8	-0.3
BRG	**Berggiesshubel**	**1.14**	**56**	Sg	Sn	15 27 09.0	0.0
BRG				Amp		15 27 09.1	
	comp=Z,7.4nm,0.2s						
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG	Sn	15 27 13.9	-0.1

WBNET 10 15:26:32.7, 50.25N×12.45E, h9km, Ml1.5, 5C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**185**	*e*SG	Sg	15 26 35.7	+0.1
	comp=Z,87nm,0.3s						
NKC	**Novy Kostel**	**0.01**	**185**	⇑P	Pg	15 26 34.5	+0.1
NKC				S	Sg	15 26 35.7	+0.1
LBCW	**Luby**	**0.03**	**306**	⇓P	Pg	15 26 34.6	+0.1
LBCW				S	Sg	15 26 36.0	+0.2
STCW	**Studenec**	**0.05**	**76**	⇑P	Pg	15 26 34.7	0.0
STCW				S	Sg	15 26 35.9	-0.1
VAC	**Vackov**	**0.05**	**254**	S	Sg	15 26 36.0	-0.1
KVC	**Kvetna**	**0.06**	**135**	⇓P	Pg	15 26 34.8	0.0
KVC				S	Sg	15 26 36.1	-0.1
POCW	**Potky**	**0.07**	**348**	⇑P	Pg	15 26 35.0	+0.1
POCW				S	Sg	15 26 36.7	+0.1
SKC	**Skalna**	**0.10**	**216**	⇑P	Pg	15 26 35.2	0.0
SKC				S	Sg	15 26 36.9	0.0
KRCW	**Kraslice**	**0.10**	**32**	⇑P	Pg	15 26 35.2	0.0
KRCW				S	Sg	15 26 37.0	-0.1
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	15 26 35.8	0.0
KOCW				S	Sg	15 26 37.9	-0.1
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pb	15 26 54.1	-0.4
BRG				Sg	Sg	15 27 07.5	-1.8
BRG				Amp		15 27 07.7	
	comp=Z,2.6nm,0.2s						

*IDC **10** 15:36:40.0±0.5, 36.24N×61.13E, h0km, mb4.5/29, mbtmp4.5/37, ML4.1/8, MS3.6/42, Error ellipse: s-maj=12.2km s-min=8.9km az=11.0*

*MOS **10** 15:36:40.7±1.2, 36.43N×61.23E, h11km, mb5.0/73, Error ellipse: s-maj=3.6km s-min=3.4km az=134.7*

*THR **10** 15:36:42.6±0.3, 36.30N×61.03E, h15km, ML4.9*

*NEIC **10** 15:36:42.5±1.5, 36.41N±0.05×61.16E±0.01, h10km±1km, mb4.8/196, Error ellipse: s-maj=9.2km s-min=2.8km az=174.0*

*TEH **10** 15:36:42.5, 36.32N×61.03E, h14km±38km, ML4.9*

*BJI **10** 15:36:43.2±0.0, 36.41N×61.49E, h10km, mb4.8/62, mB4.8/26, Ms4.3/30, Ms7 4.1/29*

*NNC **10** 15:36:47.8±1.0, 37.02N×61.54E, h0km, mb4.9, Error ellipse: s-maj=13.4km s-min=3.9km az=172.0*

ISC 10 15:36:42.9±0.7, 36.46N±0.03×61.12E±0.03, h15km±4km, n871, σ1s99/868, mb4.8/235, MS3.7/47, 41C-31D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMYA	**Miami**	**0.83**	**262**	Pg	**Pg**	**15 36 56.9**	**-2.2**
IKRD	**Kardeh**	**1.33**	**284**	Pg	**Pn**	**15 37 07.5**	**+0.3**
TBJM	**Torbat-e-JAM**	**1.35**	**209**	Pg	**Pn**	**15 37 05.0**	**-2.4**
IMOG	**Moghan**	**1.48**	**257**	Pg	**Pn**	**15 37 09.1**	**-0.2**
IMOG				Sg	**Sn**	**15 37 27.8**	**-0.7**
IPAY	**Payeh**	**1.71**	**270**	Pg	**Pb**	**15 37 13.5**	**-0.7**
IPAY				Sg	**Sg**	**15 37 37.2**	**-0.9**
TBHD	**Torbat heydari**	**1.85**	**236**	Pg	**Pn**	**15 37 15.0**	**+0.7**
IAKL	**Akhelmad**	**1.91**	**275**	Pn	**Pn**	**15 37 16.5**	**+1.3**
IEMG	**Emamgholi**	**2.20**	**297**	Pn	**Pb**	**15 37 21.2**	**-1.3**
HRA	**Herat**	**2.26**	**156**	Pn	**Pn**	**15 37 18.9**	**-1.0**
HRA				Sn	**Sn**	**15 37 45.7**	**-2.0**
ISFR	**Sfrayin**	**2.58**	**284**	Pn	**Pn**	**15 37 26.7**	**+2.3**
GEYT	**Alibeck**	**2.81**	**302**	Pn	**Pn**	**15 37 29.1**	**+1.7**
GEYT	**Alibeck**	**2.81**	**302**	Pn	**Pn**	**15 37 29.0**	**+1.7**
GEYT	**Alibeck**	**2.81**	**302**	Pn	**Pn**	**15 37 29.2**	**+1.9**
	16nm,0.3s,baz=142,slow=12,SNR=91						
GEYT				Lg	Lg	15 38 13.4	
	164nm,0.3s,baz=106,slow=21,SNR=2.3						
	68nm,0.5s						
GYA0	**ALIBECK ARRAY**	**2.81**	**302**	PN	**Pn**	**15 37 28.8**	**+1.5**
GYA0						15 38 13.9	
GYA0B	**ALIBECK ARRAY**	**2.81**	**302**	⇓Pn	**Pb**	**15 37 33.6**	**+0.8**
GYA0B				⇓Sn	**Sg**	**15 38 11.8**	**-1.7**
GYA0B	**ALIBECK ARRAY**	**2.81**	**302**	Pn	**Pn**	**15 37 29.0**	**+1.7**
SBZV	**Sabzevar**	**2.83**	**270**	Pn	**Pn**	**15 37 28.8**	**+1.0**
SHRT	**Shahrakht**	**2.89**	**194**	*e*Pn	**Pn**	**15 37 27.7**	**-0.7**
SHRT				IAML		15 38 11.2	
	comp=E,4µm,0.6s						
BJRD	**Bojnurd**	**3.22**	**294**	*e*Pn	**Pn**	**15 37 34.6**	**+1.6**
AFRZ	**Afriz**	**3.49**	**210**	Pn	**Pn**	**15 37 36.9**	**+0.2**
IDAH	**Dahanechah**	**3.85**	**196**	Pn	**Pn**	**15 37 41.2**	**-0.7**
ITEG	**Tejag**	**4.06**	**210**	Pn	**Pn**	**15 37 45.1**	**+0.5**
SHRO	**Shahrood**	**4.16**	**265**	*e*Pn	**Pn**	**15 37 46.6**	**+0.7**
MRVT	**Maraveh tapeh**	**4.20**	**288**	*e*Pn	**Pn**	**15 37 48.2**	**+1.8**
TABS	**Tabas**	**4.32**	**231**	*e*Pn	**Pn**	**15 37 47.9**	**-0.2**
TABS				IAML		15 39 04.5	
	comp=N,1µm,0.4s						
TKDS	**Koohdasht(Taba**	**4.34**	**230**	Pn	**Pn**	**15 37 48.6**	**+0.2**
IKOO	**Kooshah**	**4.39**	**204**	Pn	**Pn**	**15 37 49.6**	**+0.4**
TNSJ	**Nastanj**	**4.46**	**237**	Pn	**Pn**	**15 37 50.4**	**+0.4**
IMND	**Minoodasht**	**4.65**	**282**	Pn	**Pn**	**15 37 54.6**	**+2.0**
BSRN	**Basiran**	**4.78**	**201**	*e*Pn	**Pn**	**15 37 53.8**	**-0.7**
TPRV	**Parvadeh(Tabas**	**5.00**	**228**	Pn	**Pn**	**15 37 58.3**	**+0.8**
IGLO	**Ghaloghah**	**5.88**	**273**	Pn	**Pn**	**15 38 10.8**	**+1.2**
IANJ	**Anjilo**	**5.93**	**263**	Pn	**Pn**	**15 38 11.8**	**+1.4**
SIMJ	**Simiganj**	**6.64**	**68**	Pn	**Pn**	**15 38 20.0**	**0.0**
SIMJ				Sn	**Sn**	**15 39 33.7**	**-1.8**
ILAS	**Lasjerd**	**6.71**	**263**	Pn	**Pn**	**15 38 22.0**	**+0.9**
KBL	**Kabul**	**6.74**	**104**	Pn	**Pn**	**15 38 23.1**	**+1.6**
KBL	**Kabul**	**6.74**	**104**	Pn	**Pn**	**15 38 23.4**	**+1.9**
KBL	**Kabul**	**6.74**	**104**	PN	**Pn**	**15 38 23.1**	**+1.6**
YZKH	**Yazd**	**6.75**	**235**	*e*Pn	**Pn**	**15 38 21.5**	**0.0**
ZHSF	**Zahedan**	**6.83**	**183**	*e*Pn	**Pn**	**15 38 22.7**	**-0.1**
ANAR	**Anarak**	**6.90**	**244**	Pn	**Pn**	**15 38 24.0**	**+0.4**
ZHDN	**Zahedan**	**7.04**	**182**	Pn	**Pn**	**15 38 25.5**	**-0.1**
IPRN	**Peran**	**7.09**	**271**	Pn	**Pn**	**15 38 28.2**	**+2.0**
KHGB	**Koh Gabri**	**7.20**	**214**	Pn	**Pn**	**15 38 27.8**	**0.0**
CHMN	**Cheshme madani**	**7.23**	**206**	Pn	**Pn**	**15 38 28.4**	**0.0**
TVBK	**TV Kerman**	**7.42**	**211**	Pn	**Pn**	**15 38 31.4**	**+0.5**
KRBR	**Kerman**	**7.42**	**211**	*e*P	**Pn**	**15 38 30.7**	**-0.2**
DAMV	**Damavand**	**7.46**	**266**	*e*P	**Pn**	**15 38 31.8**	**+0.4**
ISFB	**Sefidab**	**7.55**	**256**	Pn	**Pn**	**15 38 32.7**	**+0.3**
KBAM	**BAM**	**7.64**	**198**	Pn	**Pn**	**15 38 33.7**	**0.0**
MZPU	**Pul - Mazandar**	**7.70**	**273**	Pn	**Pn**	**15 38 35.9**	**+1.3**
KRSH	**Karshahi**	**7.76**	**254**	Pn	**Pn**	**15 38 35.8**	**+0.3**
NASN	**Na'in**	**7.76**	**244**	*e*Pn	**Pn**	**15 38 36.0**	**+0.4**
IVRN	**Varamin**	**7.78**	**262**	Pn	**Pn**	**15 38 35.9**	**+0.3**
IZEF	**Zefreh**	**8.07**	**246**	Pn	**Pn**	**15 38 40.3**	**+0.6**
CHTH	**Charan**	**8.10**	**269**	*e*P	**Pn**	**15 38 41.4**	**+1.2**
GHVR	**GHOM**	**8.26**	**259**	*e*P	**Pn**	**15 38 43.5**	**+1.3**
IQOM	**Qom**	**8.34**	**262**	Pn	**Pn**	**15 38 43.6**	**+0.1**
QAMS	**Qamsar**	**8.42**	**254**	Pn	**Pn**	**15 38 44.8**	**+0.2**
BTK	**Batken**	**8.43**	**62**	Pn	**Pn**	**15 38 45.9**	**+1.4**
BTK				Sn	**Sn**	**15 40 17.1**	**-2.4**
BTK	**Batken**	**8.43**	**62**	P	**Pn**	**15 38 45.9**	**+1.4**
BTK						15 40 17.1	
IRAM	**Ramesheh**	**8.60**	**240**	Pn	**Pn**	**15 38 47.7**	**+0.7**
IUG	**Iuzhnay**	**8.94**	**48**	*e*P	**Pn**	**15 38 52.1**	**+0.5**
	baz=48						
IUG	**Iuzhnay**	**8.94**	**48**	*e*Pn	**Pn**	**15 38 52.0**	**+0.5**
DRK	**Karamyk**	**8.96**	**67**	Pn	**Pn**	**15 38 51.4**	**-0.6**
DRK				Sn	**Sn**	**15 40 31.0**	**-1.7**
DRK	**Karamyk**	**8.96**	**67**	P	**Pn**	**15 38 53.2**	**+1.2**
DRK				S	**Sn**	**15 40 31.0**	**-1.7**
GIDE	**GILAN DEYLAMAN**	**9.02**	**276**	*e*Pn	**Pn**	**15 38 53.7**	**+1.0**
SRVN	**Saravan**	**9.09**	**173**	Pn	**Pn**	**15 38 55.1**	**+1.4**
ASAO	**Ashtian**	**9.25**	**261**	*e*P	**Pn**	**15 38 56.4**	**+0.5**
BRLS	**Borolday**	**9.38**	**43**	*e*P	**Pn**	**15 38 53.5**	**-4.1**
	baz=44						
BRLS	**Borolday**	**9.38**	**43**	*e*P	**Pn**	**15 38 54.2**	**-3.3**
KHMZ	**Khomeyn**	**9.54**	**257**	*e*P	**Pn**	**15 39 00.5**	**+0.6**
KK31	**Karatay Array**	**9.81**	**45**	Pn	**Pn**	**15 39 02.1**	**-1.3**
	comp=N,8.0nm,0.5s,baz=231,slow=13,SNR=52						
KK31				⇓Sn	**Sn**	**15 40 46.5**	**-6.6**
	comp=N,57nm,0.7s,baz=234,slow=26,SNR=4.9						
KK31				⇑Lg	Lg	15 41 41.6	
	comp=N,94nm,0.7s						
KK31	**Karatay Array**	**9.81**	**45**	Pn	**Pn**	**15 39 02.9**	**-0.4**
KK31				Sn	**Sn**	**15 40 50.2**	**-3.0**
KK31	**Karatay Array**	**9.81**	**45**	*i* P	**Pn**	**15 39 03.1**	**-0.2**
KK31				*e*		15 40 49.7	
KKAR	**Karatay Array**	**9.81**	**45**	Pn	**Pn**	**15 39 02.9**	**-0.5**
KKAR				Sn	**Sn**	**15 40 51.2**	**-2.0**
KKAR	**Karatay Array**	**9.81**	**45**	P	**Pn**	**15 39 02.9**	**-0.5**
KKAR						15 40 51.2	
BNDS	**Bandar-Abbas**	**9.96**	**206**	*e*P	**Pn**	**15 39 05.0**	**-0.6**
ZNJK	**Zanjan**	**10.01**	**275**	*e*P	**Pn**	**15 39 07.6**	**+1.3**
LKRN	**Lenkeran, Azer**	**10.05**	**287**	P	**Pn**	**15 39 07.4**	**+0.7**
NIL	**Nilore**	**10.33**	**102**		**Pn**	**15 39 10.6**	**0.0**
NIL	**Nilore**	**10.33**	**102**	P	**Pn**	**15 39 10.6**	**0.0**
ARSB	**Arslanbob**	**10.44**	**59**		**Pn**	**15 39 11.6**	**-0.5**
ARSB				Sn	**Sn**	**15 41 04.4**	**-4.5**
ARSB	**Arslanbob**	**10.44**	**59**	P	**Pn**	**15 39 11.6**	**-0.5**
ARSB				S	**Sn**	**15 41 04.4**	**-4.5**
GRMI	**Germi**	**10.75**	**287**	*e*Pn	**Pn**	**15 39 15.5**	**-0.9**
ISRB	**Sarab**	**10.83**	**281**	Pn	**Pn**	**15 39 18.6**	**+1.1**
EKS2	**Erkin-Say**	**11.56**	**54**	P	**Pn**	**15 39 28.2**	**+0.7**
	SNR=46						
SEKA	**Sheki**	**11.85**	**298**	P	**Pn**	**15 39 31.4**	**+0.1**
UCH	**Uchtor**	**11.86**	**57**	P	**Pn**	**15 39 32.0**	**+0.2**
	SNR=14						
JMU	**Jammu**	**11.95**	**104**	*e*P	**Pn**	**15 39 32.6**	**-0.1**
AAK	**Ala-Archa**	**12.02**	**55**	P	**Pn**	**15 39 34.6**	**+0.9**
	SNR=52						
AAK	**Ala-Archa**	**12.02**	**55**	⇓Pn	**Pn**	**15 39 34.1**	**+0.3**
	comp=N,35nm,0.6s						
AAK				⇓Sn	**Sn**	**15 41 42.8**	**-4.8**
	comp=N,120nm,0.7s						
AAK	**Ala-Archa**	**12.02**	**55**	Pn	**Pn**	**15 39 33.7**	**-0.1**
AAK	**Ala-Archa**	**12.02**	**55**	Pn	**Pn**	**15 39 33.2**	**-0.5**
	comp=N,6.2nm,0.3s,baz=241,slow=7.1,SNR=46						
AAK				Sn	**Sn**	**15 41 46.4**	**-1.2**
	comp=N,3.7nm,0.3s,baz=318,slow=20,SNR=6.8						
	comp=N,21nm,0.4s						
AAK	**Ala-Archa**	**12.02**	**55**	*ce*P	**Pn**	**15 39 34.4**	**+0.6**
AAK				pmax	pmax		
	comp=Z,35nm,0.8s						
KSH	**Kashi**	**12.11**	**71**	P	Pn	15 39 29.6	-5.4
KSH				S	Sn	15 41 35.8	-14
KSH				pmax	pmax		
	comp=Z,56nm,0.6s						
FRU1	**Bishkek**	**12.19**	**55**		**Pn**	**15 39 36.8**	**+0.8**
FRU1	**Bishkek**	**12.19**	**55**	P	**Pn**	**15 39 36.8**	**+0.8**
UOSS	**Minazif**	**12.23**	**202**		**Pn**	**15 39 34.1**	**-2.4**
GANJ	**Ganja**	**12.31**	**294**	P	**Pn**	**15 39 38.7**	**+1.0**
MAK	**Makhachkala**	**12.33**	**306**	*e*P	**Pn**	**15 39 33.7**	**-4.1**
MAK				pmax	pmax		
	comp=Z,677nm,1.6s						
MAK				MLR	MLR		
	comp=Z,143nm,13.0s						
KBK	**Karagaybulak**	**12.33**	**56**	P	**Pn**	**15 39 38.7**	**+0.7**
	SNR=79						
CHMS	**Chumysh**	**12.35**	**54**	P	**Pn**	**15 39 37.8**	**-0.4**
	SNR=11						
CHMS	**Chumysh**	**12.35**	**54**	⇑Pn	**Pn**	**15 39 37.4**	**-0.8**
	comp=Z,28nm,0.8s						
CHMS				⇑Sn	**Sn**	**15 41 50.5**	**-5.1**
	comp=Z,113nm,0.7s						
CHMS	**Chumysh**	**12.35**	**54**	P	**Pn**	**15 39 37.4**	**-0.8**
CHMS				S	**Sn**	**15 41 50.5**	**-5.1**
ZKTA	**Zakatala**	**12.40**	**299**	P	**Pn**	**15 39 39.9**	**+1.1**
SGDS	**Sogindy**	**12.49**	**52**	*e*P	**Pn**	**15 39 39.9**	**-0.2**
	baz=52						
SGDS	**Sogindy**	**12.49**	**52**	*e*P	**Pn**	**15 39 39.9**	**-0.2**
THN	**Thein Dam**	**12.70**	**104**	*e*P	**Pn**	**15 39 42.5**	**-0.4**
THN				IAmb	IAmb	15 39 47.7	
	comp=Z,27nm,0.9s						
AB31	**Akbulak array**	**12.82**	**357**	Pn	**Pn**	**15 39 42.1**	**-2.4**
	comp=Z,25nm,0.8s,baz=197,slow=13,SNR=52						
AB31				⇑Sn	**Sn**	**15 42 05.3**	**-1.6**
	comp=Z,23nm,0.6s,baz=38,slow=41,SNR=4.4						
AB31	**Akbulak array**	**12.82**	**357**	*e*P	**Pn**	**15 39 42.1**	**-2.4**
ABKAR	**Akbulak array**	**12.82**	**357**	Pn	**Pn**	**15 39 42.0**	**-2.5**
ABKAR	**Akbulak array**	**12.82**	**357**	Pn	**Pn**	**15 39 42.4**	**-2.1**
TKM2	**Tokmak 2**	**12.87**	**55**	P	**Pn**	**15 39 45.7**	**+0.2**
	SNR=64						
TKM2	**Tokmak 2**	**12.87**	**55**	⇓Pn	**Pn**	**15 39 44.3**	**-1.2**
	comp=Z,28nm,0.7s						
TKM2				⇓Sn	**Sn**	**15 42 04.6**	**-4.0**
	comp=Z,57nm,0.8s						
TKM2				⇑Lg	Lg	15 43 20.2	
	comp=Z,58nm,0.9s						
TKM2	**Tokmak 2**	**12.87**	**55**	P	**Pn**	**15 39 44.2**	**-1.2**
TKM2						15 42 01.6	
BOOM	**Boomskoye usch**	**12.93**	**58**	Pn	**Pn**	**15 39 46.4**	**+0.2**
BOOM	**Boomskoye usch**	**12.93**	**58**	P	**Pn**	**15 39 46.4**	**+0.2**
BTLS	**Baital**	**13.01**	**45**	*e*P	**Pn**	**15 39 47.4**	**+0.3**
	baz=45						
BTLS	**Baital**	**13.01**	**45**	*e*P	**Pn**	**15 39 47.3**	**+0.3**
ULHL	**Ulahol**	**13.04**	**59**	P	**Pn**	**15 39 49.1**	**+1.3**
	SNR=18						
DHRM	**DHARAMSHALA**	**13.22**	**104**	*e*P	**Pn**	**15 39 49.5**	**-0.8**
DHRM				IAmb	IAmb	15 40 02.0	
	comp=Z,42nm,0.5s						
WSAR	**Wadi Sarin**	**13.35**	**190**	Pn	**Pn**	**15 39 48.1**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=55,slow=13,SNR=1.7						
WSAR				LR	LR	15 45 56.9	
	comp=Z,107nm,21.3s,baz=9.0,slow=42						
	comp=Z,3.6nm,0.8s						
GNI	**Garni**	**13.38**	**291**		**Pn**	**15 39 52.5**	**+0.1**
GNI	**Garni**	**13.38**	**291**	Pn	**Pn**	**15 39 55.3**	**+3.0**
	comp=Z,0.5nm,0.3s,baz=138,slow=14,SNR=2.5						
GNI				LR	LR	15 46 46.4	
	comp=Z,185nm,18.3s,baz=103,slow=45						
	comp=Z,5.3nm,0.6s				

KIV pmax pmax
comp=Z,15nm,1.1s
KIV MLR MLR
comp=Z,87nm,13.0s
KIV Kislovodsk 15.93 304 P **Pn** 15 40 24.3 -2.2
GOF Gofitskoye 16.14 308 *ce*P **P** 15 40 38.2 +5.9
MARD Mardin 16.30 279 Pn **Pn** 15 40 30.5 -0.8
KOPT Kop Dagi 16.59 289 Pn **Pn** 15 40 35.2 +0.1
KTUT Trabzon 17.26 292 ⇑P **P** 15 40 46.8 +2.1
PTH Pithoragarh 17.42 108 *e*P **Pn** 15 40 44.5 -1.0
LGTI Lohaghat 17.49 108 *e*P **Pn** 15 40 44.4 -1.9
LGTI IAmb IAmb 15 40 48.0
comp=Z,25nm,0.8s
LABN Labinsk 17.49 304 *e*P **Pn** 15 40 43.2 -3.0
LABN *e*S **Sn** 15 43 58.6 -2.0
LABN pmax pmax
comp=Z,15nm,0.2s
BVA0 Borovoye Array 17.80 19 ⇓Pn **Pn** 15 40 49.4 -0.5
comp=Z,31nm,0.6s,baz=202,slow=9.4,SNR=28
BVA0 ⇑Sn **Sn** 15 43 59.6 -8.3
comp=Z,23nm,0.7s,baz=205,slow=24,SNR=4.7
BVA0 Borovoye Array 17.80 19 *i*P **Pn** 15 40 49.3 -0.5
BVA0 *i* 15 43 59.6
BVAR Borovoye Array 17.80 19 P **Pn** 15 40 48.6 -1.3
comp=Z,14nm,0.6s,baz=190,slow=11,SNR=23
BVAR S **Sn** 15 43 59.4 -8.5
comp=Z,12nm,0.6s,baz=205,slow=19,SNR=4.1
BVAR LR LR 15 47 26.8
comp=Z,174nm,19.0s,baz=215,slow=36
BRVK Borovoye 17.80 18 ⇑Pn **Pn** 15 40 49.2 -0.7
comp=Z,27nm,0.6s
BRVK ⇓Sn **Sn** 15 43 59.2 -8.7
comp=Z,50nm,0.8s
BRVK Borovoye 17.80 18 Pn **Pn** 15 40 48.6 -1.3
BRVK Borovoye 17.80 18 *i*P **Pn** 15 40 48.6 -1.3
SOC Sochi 17.84 300 *e*P **Pn** 15 40 48.0 -2.5
SOC *e* 15 44 06.4
SOC pmax pmax
comp=Z,5.0nm,1.0s
SOC MLR MLR
comp=Z,74nm,17.0s
ERBR Yeremizino-Bor 18.06 307 *e*P **Pn** 15 40 49.5 -3.6
ERBR *e*S **Sn** 15 44 11.2 -3.0
ERBR pmax pmax
comp=Z,12nm,0.9s
ARPR Arapgir-MALATY 18.20 285 P **P** 15 40 55.9 +0.6
JHNI Jhansi 18.50 121 *e*P **Pn** 15 40 59.1 +0.4
JHNI IAmb IAmb 15 41 00.2
comp=Z,65nm,0.8s
BELG Belogornoye 18.57 333 P **P** 15 40 59.0 0.0
comp=Z,4.4nm,0.3s,baz=164,slow=0.6,SNR=15
BELG S **Sn** 15 44 16.4 -10
comp=Z,14nm,0.8s,baz=342,slow=20,SNR=1.4
BELG LR LR 15 50 32.9
comp=Z,96nm,21.1s,baz=187,slow=44
comp=Z,47nm,0.8s
BELG Belogornoye 18.57 333 *i*P **Pn** 15 40 59.7 +0.4
BELG pmax pmax
comp=Z,25nm,0.9s
MAKZ Makanchi 18.65 50 ⇑Pn **P** 15 40 58.6 -1.5
comp=Z,18nm,0.8s
MAKZ Makanchi 18.65 50 P **P** 15 40 58.2 -1.9
MAKZ Makanchi 18.65 50 P **P** 15 40 59.7 -0.4
RAYN Ar Rayn 18.65 231 P **P** 15 40 58.1 -2.2
RAYN Ar Rayn 18.65 231 P **P** 15 41 00.3 0.0
MK31 Makanchi Array 18.84 50 Pn **P** 15 41 01.7 -0.5
comp=Z,8.9nm,0.6s,baz=243,slow=7.6,SNR=166
MK31 Makanchi Array 18.84 50 P **P** 15 41 01.0 -1.2
MK31 Makanchi Array 18.84 50 *i*P **P** 15 41 01.7 -0.5
MKAR Makanchi Array 18.84 50 P **P** 15 41 01.4 -0.7
MKAR Makanchi Array 18.84 50 P **P** 15 41 01.1 -1.1
comp=Z,0.4nm,0.3s,baz=254,slow=8.7,SNR=37
MKAR S **Sn** 15 44 25.2 -8.1
comp=Z,2.1nm,0.7s,baz=250,slow=19,SNR=1.4
MKAR LR LR 15 49 02.7
comp=Z,169nm,19.4s,baz=258,slow=39
comp=Z,4.0nm,0.7s
MKAR Makanchi Array 18.84 50 P **P** 15 41 01.5 -0.7
KURBB Kurchatov Arra 18.90 36 P **Pn** 15 41 03.0 -0.4
comp=Z,0.1nm,0.3s,baz=232,slow=12,SNR=28
KURBB S **Sn** 15 44 28.5 -6.0
comp=Z,1.1nm,0.6s,baz=75,slow=34,SNR=1.5
KURBB LR LR 15 48 13.1
comp=Z,133nm,18.4s,baz=172,slow=36
comp=Z,7.2nm,0.9s
KURK Kurchatov 19.00 36 ⇑Pn **P** 15 41 04.0 +0.1
comp=Z,23nm,1.3s
KURK Kurchatov 19.00 36 P **P** 15 41 03.7 -0.2
KURK Kurchatov 19.00 36 P **P** 15 41 03.9 +0.1
GAZ Gaziantep 19.15 279 **Pn** 15 41 06.5 -0.1
BHPL Bhopal 19.29 129 *e*P **P** 15 41 06.8 -0.5
BHPL IAmb IAmb 15 41 13.1
comp=Z,40nm,1.2s
TOKA Tokat 19.68 289 P **P** 15 41 11.3 -0.1
ANN Anapa 19.77 302 *e*P **P** 15 41 11.0 -1.2
ANN *e*S **S** 15 44 51.3 -3.2
ANN pmax pmax
comp=Z,5.0nm,0.5s
ANN MLR MLR
comp=Z,183nm,10.0s
ARU Arti 20.05 356 P **P** 15 41 15.6 +0.3
ARU IAmb IAmb 15 41 28.0
comp=Z,24nm,0.6s
ARU Arti 20.05 356 P Pn 15 41 16.4 -0.7
comp=Z,14nm,0.7s,baz=165,slow=7.0,SNR=17
ARU S **S** 15 44 51.8 -8.2
comp=Z,3.5nm,0.5s,baz=336,slow=19,SNR=1.3
ARU LR LR 15 48 59.4
comp=Z,127nm,19.8s,baz=26,slow=36
comp=Z,14nm,0.7s
ARU Arti 20.05 356 *d i*P **P** 15 41 15.8 +0.5
ARU 15 41 29.2
ARU S Sn 15 45 03.0 +0.8
ARU SS **SnSn** 15 45 20.2 +3.5
ARU pmax pmax
comp=Z,14nm,0.8s
ARU MLR MLR
comp=Z,481nm,14.0s
ARU Arti 20.05 356 P Pn 15 41 17.0 -0.1
comp=Z,35nm,0.6s
BNN Bunyan 20.14 284 **P** 15 41 17.0 +0.5
VRH Novokhopyorsk 20.23 323 *e*P **P** 15 41 17.7 +0.4
VRH pmax pmax
comp=Z,60nm,0.7s
SVE Sverdlovsk 20.38 359 *e*P Pn 15 41 22.1 +1.2
SVE *e*S **S** 15 45 07.2 +0.7
SVE MLR MLR
comp=Z,517nm,9.0s
DIKM Dikmen 20.71 292 ⇑P Pn 15 41 25.4 +0.5
DIKM Dikmen 20.71 292 P Pn 15 41 25.0 +0.1
AKL Akola 20.96 134 *e*P Pn 15 41 28.2 +0.2
AKL IAmb IAmb 15 41 29.3
comp=Z,39nm,0.2s
VORD Divnogorie 21.32 320 *e*P **P** 15 41 29.4 +0.4
VORD pmax pmax
comp=Z,40nm,1.0s
MMAI Mount Meron Ar 21.39 268 P **P** 15 41 29.1 -1.0
comp=Z,4.2nm,0.7s,baz=112,slow=1.6,SNR=3.0
MMAI LR LR 15 50 56.5
comp=Z,201nm,19.5s,baz=20,slow=40
comp=Z,4.2nm,0.7s
BALJ Balqa 21.48 266 P **P** 15 41 31.8 +0.8
VSR Storozhevoye 21.52 320 *e*P **P** 15 41 31.8 +0.6
VSR pmax pmax
comp=Z,50nm,1.0s
WMQ Urumqi 21.55 62 *e*P **P** 15 41 33.1 +1.5
WMQ pmax pmax
comp=Z,29nm,0.7s
WMQ pmax pmax
comp=Z,94nm,4.5s
WMQ LR LR
comp=Z,700nm,13.1s
WMQ LR LR
comp=Z,530nm,13.5s
WMQ LR LR
comp=Z,170nm,16.5s
VORR Voronezh 21.77 321 *e*P **P** 15 41 34.3 +0.5
VORR pmax pmax
comp=Z,33nm,1.4s
GHAJ Ghor Haditha 21.80 264 P **P** 15 41 34.2 -0.1
ILGA Ilgaz 21.82 291 P **P** 15 41 34.7 0.0
ILGA IAmb IAmb 15 41 49.5
comp=Z,43nm,0.9s
BR131 Keskin Array S 21.84 287 P **P** 15 41 35.6 +0.8
BR131 Keskin Array S 21.84 287 *i*P **P** 15 41 35.8 +0.9
BRTR Keskin Array B 21.84 287 P **P** 15 41 35.7 +0.7
BRTR Keskin Array B 21.84 287 P **P** 15 41 36.5 +1.6
comp=Z,39nm,0.8s,baz=101,slow=8.6,SNR=65
comp=Z,39nm,0.8s
SIM Simferopol' 22.08 301 *e*P **P** 15 41 39.9 +2.6
SIM pmax pmax
comp=Z,200nm,1.4s
LPSR Galich'ya Gora 22.46 323 *e*P **P** 15 41 41.4 +0.2
LPSR pmax pmax
comp=Z,40nm,0.8s
ANTO Ankara 22.49 287 P **P** 15 41 42.3 +0.5
ANTO Ankara 22.49 287 P **P** 15 41 42.3 +0.5
ANTO pmax pmax
comp=Z,26nm,1.1s
ANTO Ankara 22.49 287 P **P** 15 41 43.3 +1.5
comp=Z,13nm,1.0s
BR231 Keskin MP Arra 22.51 287 P **P** 15 41 43.1 +1.1
BR231 IAmb IAmb 15 41 47.7
comp=Z,47nm,1.4s
CSS Mathiatis 22.59 274 P **P** 15 41 43.4 +0.6
EIL Elat 22.91 260 LR LR 15 52 28.5
comp=Z,178nm,18.0s,baz=70,slow=42
KIRV Kirov 23.44 345 ⇑*e*P **P** 15 41 53.3 +2.0
MDUB Mudurnu 23.71 289 P **P** 15 41 55.4 +1.1
ZAA0 Zalesovo Array 23.99 36 ⇓P **P** 15 41 57.3 +0.6
comp=Z,2.3nm,0.7s
ZAA0 Zalesovo Array 23.99 36 P **P** 15 41 57.5 +0.8
ZAA0 IAmb IAmb 15 42 18.4
comp=Z,19nm,0.9s
ZALV Zalesovo Beam 23.99 36 P **P** 15 41 57.5 +0.8
ZALV Zalesovo Beam 23.99 36 P **P** 15 41 58.2 +1.5
comp=Z,9.0nm,0.5s,baz=240,slow=9.0,SNR=54
ZALV S **S** 15 46 18.7 +5.8
comp=Z,1.6nm,0.8s,baz=243,slow=19,SNR=1.9
ZALV LR LR 15 50 58.6
comp=Z,89nm,21.4s,baz=227,slow=36
comp=Z,9.0nm,0.5s
BORA Eskisehir 24.29 287 P **P** 15 42 00.8 +1.0
ISP Isparta 24.38 282 P **P** 15 42 02.2 +1.6
ISP IAmb IAmb 15 42 07.6
comp=Z,32nm,0.8s
ISP Isparta 24.38 282 *ce*P **P** 15 42 01.8 +1.2
ISP pmax pmax
comp=Z,24nm,0.6s
JHSG JHARSUGUGA 24.54 120 *e*P **P** 15 42 00.7 -1.3
NE56 Odesa 24.67 304 P **P** 15 42 03.9 +0.9
ELL Elmali 25.01 280 P **P** 15 42 07.1 +0.8
ELL Elmali 25.01 280 P **P** 15 42 07.1 +0.8
ELL pmax pmax
comp=Z,159nm,0.8s
MOS Moscow 25.03 328 *e*P **P** 15 42 05.8 -0.3
MOS *e* 15 42 42.7
MOS *e*S **S** 15 46 33.6 +4.1
MOS *e*SS **SnSn** 15 47 33.1 +15
OBN Obninsk 25.10 326 ⇑P **P** 15 42 10.7 +3.9
OBN Obninsk 25.10 326 P **P** 15 42 09.0 +2.2
OBN Obninsk 25.10 326 LR LR 15 54 30.8
comp=Z,213nm,18.5s,baz=198,slow=42
OBN Obninsk 25.10 326 ⇓*e*P **P** 15 42 08.8 +2.1
OBN *e**PP **pP** 15 42 11.7 +0.3
OBN *i **SP **sP** 15 42 14.8 +1.5
OBN *e*SSS SSS 15 47 35.5
OBN pmax pmax
comp=Z,94nm,1.3s
OBN MLR MLR
comp=Z,251nm,17.0s
OBN Obninsk 25.10 326 P **P** 15 42 09.3 +2.6
comp=Z,109nm,0.9s
ISK Istanbul-Kandi 25.34 290 P **P** 15 42 11.6 +2.5
ISK pmax pmax
comp=Z,50nm,1.1s
KLYT Kilyos 25.35 291 P **P** 15 42 10.7 +1.5
comp=Z,47nm,1.1s
CTYL Yalikoy Yolu 25.92 291 P **P** 15 42 15.6 +1.2
comp=Z,24nm,0.9s,comp=Z,2µm
LSA Lhasa 25.98 96 P **P** 15 42 16.3 +0.7
LSA Lhasa 25.98 96 P **P** 15 42 16.3 +0.7
LSA pmax pmax
comp=Z,57nm,0.9s
TPGR Topolog 26.05 299 ⇑P **P** 15 42 17.8 +2.2
MILM Milestii Mici 26.12 304 ⇑P **P** 15 42 18.2 +2.1
MILM Milestii Mici 26.12 304 *e*P **P** 15 42 17.0 +0.9
comp=Z,40nm,0.8s
MILM Milestii Mici 26.12 304 P **P** 15 42 18.2 +2.1
EDC Edincik 26.26 289 P **P** 15 42 19.5 +2.0
BALB Balikesir 26.29 287 P **P** 15 42 19.4 +1.7
CFR Carcaliu 26.29 300 ⇓P **P** 15 42 19.0 +1.3
CFR Carcaliu 26.29 300 P **P** 15 42 18.9 +1.3
ARG Arkhangelos 26.51 279 P **P** 15 42 21.3 +1.5
ARG IAmb IAmb 15 42 24.9
comp=Z,29nm,1.0s
ARG Arkhangelos 26.51 279 P **P** 15 42 21.3 +1.5
ARG pmax pmax
comp=Z,29nm,1.0s
SORM Soroca 26.70 306 ⇑P **P** 15 42 22.6 +1.3
SORM Soroca 26.70 306 P **P** 15 42 22.6 +1.3
SORM Soroca 26.70 306 P **P** 15 42 21.5 +0.2
comp=Z,21nm,0.9s
AK09 Malin Array Si 26.83 312 P **P** 15 42 23.8 +1.4
AK10 Malin Array Si 26.84 312 P **P** 15 42 23.9 +1.3
AKASG Malin Array Be 26.89 312 P **P** 15 42 24.2 +1.2
comp=Z,13nm,0.9s,baz=105,slow=7.6,SNR=72
AKASG PcP **PcP** 15 45 44.8 -0.2
comp=Z,0.5nm,0.2s,baz=83,slow=2.8,SNR=4.2
AKASG LR LR 15 55 31.1
comp=Z,138nm,20.2s,baz=240,slow=42
comp=Z,13nm,0.9s
AKBB Malin Array Si 26.89 312 P **P** 15 42 23.8 +0.8
AKBB Malin Array Si 26.89 312 P **P** 15 42 23.8 +0.8
AKBB pmax pmax
comp=Z,39nm,1.1s
AKBB Malin Array Si 26.89 312 P **P** 15 42 24.4 +1.4
KIEV Kiev 26.90 312 P **P** 15 42 23.9 +0.8
KIEV IAmb IAmb 15 42 25.6
comp=Z,38nm,1.1s
KIEV Kiev 26.90 312 P **P** 15 42 23.9 +0.8
KIEV pmax pmax
comp=Z,38nm,1.1s
KIEV Kiev 26.90 312 P **P** 15 42 24.5 +1.4
comp=Z,138nm,1.0s
GOMU GeErMu 27.07 80 P **P** 15 42 27.4 +2.1
GOMU pP sP 15 42 32.5 +0.7
GOMU sP pP 15 42 33.7 +3.8
GOMU pmax pmax
comp=Z,58nm,1.0s
GOMU LR LR
comp=Z,230nm,12.3s
GOMU LR LR
comp=Z,260nm,13.5s
GOMU LR LR
comp=Z,400nm,14.0s
BISRR Bisoca 27.34 300 ⇑P **P** 15 42 30.2 +3.0
VRI Vrincioaia 27.36 301 ⇑P **P** 15 42 29.9 +2.5
VRI Vrincioaia 27.36 301 P **P** 15 42 29.9 +2.5
VRI Vrincioaia 27.36 301 P **P** 15 42 30.2 +2.8
comp=Z,17nm,1.1s
PLOR5 Plostina Array 27.41 301 P **P** 15 42 30.7 +2.9
comp=Z,21nm,0.8s
KARP Karpathos 27.41 278 P **P** 15 42 28.3 +0.4
KARP IAmb IAmb 15 42 35.5
comp=Z,24nm,0.8s
KARP Karpathos 27.41 278 P **P** 15 42 28.5 +0.6
comp=Z,36nm,1.1s
PLOR Plostina 27.42 301 ⇑P **P** 15 42 31.5 +3.5
PLOR Plostina 27.42 301 P **P** 15 42 31.4 +3.5
PLOR3 Plostina Array 27.42 301 P **P** 15 42 30.8 +2.9
comp=Z,17nm,1.1s
NDNU Novodnistrovsk 27.45 307 P **P** 15 42 29.7 +1.7
EZN Ezine 27.47 288 P **P** 15 42 30.2 +1.9
EZN Ezine 27.47 288 P **P** 15 42 30.2 +1.9
comp=Z,21nm,1.1s
TESR Tescani 27.51 302 ⇓P **P** 15 42 31.4 +2.7
TESR Tescani 27.51 302 P **P** 15 42 30.3 +1.6
comp=Z,16nm,1.3s
LUBAR Lubar, Ukraine 27.54 310 P **P** 15 42 30.1 +1.2
MI29 MI29, Kamyanyy 27.63 311 P **P** 15 42 31.1 +1.4
COVR Voineasa-Covas 27.73 301 ⇑P **P** 15 42 33.3 +2.6
ELND Elena 27.74 294 ⇑P **P** 15 42 33.2 +2.4
MLR Muntele Rosu 27.86 300 ⇑P **P** 15 42 35.3 +3.3
MLR Muntele Rosu 27.86 300 P **P** 15 42 34.1 +2.1
MLR IAmb IAmb 15 42 40.8
comp=Z,19nm,1.0s
MLR Muntele Rosu 27.86 300 P **P** 15 42 35.3 +3.3
MLR Muntele Rosu 27.86 300 P **P** 15 42 35.0 +3.0
comp=Z,19nm,1.5s
RDO Rodhopi 28.00 291 P **P** 15 42 34.7 +1.6
RDO IAmb IAmb 15 42 40.5
comp=Z,30nm,1.5s
KLMR Klimovskoe 28.01 337 *e*P **P** 15 42 31.5 -1.5
KLMR pmax pmax
comp=Z,14nm,1.5s
KMPD K-Podol'skiy 28.02 306 P **P** 15 42 34.3 +1.1
DOPR Dopca 28.30 301 ⇑P **P** 15 42 38.9 +3.0
SHL Shillong 28.40 104 P **P** 15 42 35.6 -1.4
SHL Shillong 28.40 104 P **P** 15 42 35.6 -1.4
VOIR 28.48 300 ⇑P **P** 15 42 40.1 +2.6
VOIR 28.48 300 P **P** 15 42 40.1 +2.6
BURAR Bucovina Array 28.66 304 P **P** 15 42 39.8 +0.8
BURAR Bucovina Array 28.66 304 P **P** 15 42 39.8 +0.8
BURAR pmax pmax
comp=Z,6.0nm,0.7s
BUR08 Bucovina Ar. S 28.68 304 P **P** 15 42 39.9 +0.8
RNPP5 Staryi Chortor 29.06 312 P **P** 15 42 44.1 +1.7
RNPP8 Varash 29.11 312 P **P** 15 42 44.5 +1.7
RNPP9 Sopachiv 29.11 312 P **P** 15 42 44.8 +1.9
ATD Arta Tunnel 29.80 218 LR LR 15 55 04.4
comp=Z,5.7nm,19.0s,baz=355,slow=37
MORS Morshin 29.80 307 P **P** 15 42 51.7 +2.7
MORS Morshin 29.80 307 P **P** 15 42 51.7 +2.7
NACGM Naroch 29.83 319 *e*P **P** 15 42 48.5 -0.7
comp=Z,31nm,0.9s,baz=113
MARR Marisel-Cluj 29.95 302 ⇓P **P** 15 42 53.3 +2.9
KOD Kodaikanal 30.02 146 *e*P **P** 15 42 52.2 +0.7
KOD IAmb IAmb 15 42 53.2
comp=Z,14nm,1.0s
MNCI Minicoy 30.08 156 P **P** 15 42 50.9 -0.9
TRSU Trosnyk 30.24 305 P **P** 15 42 55.9 +3.0
MUKU Mukachevo 30.47 305 P **P** 15 42 57.5 +2.6
GTA Gaotai 30.50 73 P **P** 15 42 57.7 +2.2
GTA sP sP 15 43 05.7 +3.6
GTA pmax pmax
comp=Z,9.0nm,0.9s
GTA LR LR
comp=Z,170nm,15.1s
GTA LR LR
comp=Z,250nm,14.7s
GTA LR LR
comp=Z,250nm,14.3s
AGG Agios Georgios 30.63 287 P **P** 15 42 57.5 +1.1
AGG Agios Georgios 30.63 287 P **P** 15 42 57.6 +1.1
AGG pmax pmax
comp=Z,5.0nm,0.9s
HOLU Holmets 30.68 305 P **P** 15 42 59.2 +2.4
KOLS Kolonicke sedl 30.82 306 *e*P **P** 15 43 00.7 +2.7
KOLS Kolonicke sedl 30.82 306 *e*P **P** 15 43 00.7 +2.7
KOLS pmax pmax
comp=Z,8.0nm,0.8s
BZS Buzias 30.90 300 ⇑P **P** 15 43 01.6 +2.7
BZS Buzias 30.90 300 P **P** 15 43 01.5 +2.7
VSU Vasula 31.46 325 *i*P **P** 15 43 02.7 -0.8
VSU pmax pmax
comp=Z,16nm,1.0s
SUW Suwalki 31.48 316 P **P** 15 43 04.5 +0.8
SUW Suwalki 31.48 316 P **P** 15 43 04.5 +0.8
SUW pmax pmax
comp=Z,30nm,1.0s
PABE Paberze 31.55 319 P **P** 15 43 05.4 +1.0
STHS Stebnicka Huta 31.56 307 *e*P **P** 15 43 06.3 +1.7
STHS Stebnicka Huta 31.56 307 *e*P **P** 15 43 06.3 +1.7
STHS pmax pmax
comp=Z,2.0nm,0.5s
NIE Niedzica 32.17 307 P **P** 15 43 12.6 +2.7
NIE Niedzica 32.17 307 P **P** 15 43 12.6 +2.7
comp=Z,11nm,1.3s
PUK Puka 32.18 293 P **P** 15 43 10.0 -0.1
PUK IAmb IAmb 15 44 02.3
comp=Z,13nm,1.4s
PSZ Piszkesteto 32.26 304 P **P** 15 43 10.4 -0.4
PSZ IAmb IAmb 15 43 19.1
comp=Z,13nm,1.0s
PSZ Piszkesteto 32.26 304 P **P** 15 43 10.4 -0.4
PSZ pmax pmax
comp=Z,13nm,1.0s
OJC Ojcow 32.61 308 P **P** 15 43 14.2 +0.5
OJC IAmb IAmb 15 43 17.0
comp=Z,16nm,1.0s
OJC Ojcow 32.61 308 P **P** 15 43 14.2 +0.5
OJC pmax pmax
comp=Z,16nm,1.0s
OJC Ojcow 32.61 308 P **P** 15 43 15.8 +2.0
comp=Z,17nm,1.1s
LANS Liptovska Anna 32.67 306 *e*P **P** 15 43 17.5 +3.1
LANS Liptovska Anna 32.67 306 *e*P **P** 15 43 17.5 +3.1
LANS pmax pmax
comp=Z,4.0nm,0.9s
VYHS Vyhne 33.02 305 *e*P **P** 15 43 19.9 +2.5
VYHS Vyhne 33.02 305 *e*P **P** 15 43 19.9 +2.5
VYHS pmax pmax
comp=Z,14nm,1.2s
ZAK Zakamensk 33.16 52 *e*P **P** 15 43 19.7 +1.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s
FIA1 FINESS Array S 33.28 330 P **P** 15 43 20.0 +0.6
FINES FINESS Array B 33.28 330 P **P** 15 43 21.1 +1.7
comp=Z,3.6nm,0.6s,baz=114,slow=9.2,SNR=14
FINES LR LR 15 59 42.5
comp=Z,192nm,18.7s,baz=121,slow=41
comp=Z,3.6nm,0.6s
JAVC Velka Javorina 33.82 305 *e*P **P** 15 43 27.4 +3.0
TNCH TengChong 33.91 99 ⇑P **P** 15 43 26.7 +1.2
TNCH pmax pmax
comp=Z,39nm,0.9s
TNCH pmax pmax
comp=Z,79nm,3.5s
MORC Moravsky Berou 33.99 307 P **P** 15 43 26.4 +0.5
MORC IAmb IAmb 15 43 29.5
comp=Z,11nm,0.9s
MORC Moravsky Berou 33.99 307 *e*P **P** 15 43 28.1 +2.2
MORC Moravsky Berou 33.99 307 P **P** 15 43 26.4 +0.5
MORC pmax pmax
comp=Z,11nm,0.9s
MODS Modra-Piesok 34.04 304 *e*P **P** 15 43 29.0 +2.7
MODS Modra-Piesok 34.04 304 *e*P **P** 15 43 29.0 +2.7
MODS pmax pmax
comp=Z,42nm,1.3s
PALK Pallekele 34.11 144 LR LR 15 57 23.5
comp=Z,101nm,20.1s,baz=90,slow=37
LZH Lanzhou 34.24 78 *e*P **P** 15 43 30.2 +1.9
LZH sP sP 15 43 36.8 +1.9
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,350nm,13.1s
LZH LR LR
comp=Z,180nm,12.4s
LZH LR LR
comp=Z,310nm,15.1s
KRLC Kraliky 34.51 307 *e*P **P** 15 43 33.1 +2.7
KRLC Kraliky 34.51 307 *e*P **P** 15 43 33.1 +2.7
VRAC Vranov 34.56 306 *e*P **P** 15 43 33.0 +2.2
RONA Rosalia, Austr 34.66 303 *e*P **P** 15 43 33.5 +1.8
comp=Z,3.7nm,0.8s
RONA *e*PcP **PcP** 15 46 06.2 +0.6
comp=Z,3.7nm,1.2s
KRUC Moravsky 34.67 306 *e*P **P** 15 43 33.9 +2.2
DPC Dobruska-Polom 34.84 308 *e*P **P** 15 43 36.1 +2.9
DPC Dobruska-Polom 34.84 308 *e*P **P** 15 43 36.1 +2.9
DPC Dobruska-Polom 34.84 308 P **P** 15 43 35.7 +2.5
comp=Z,15nm,1.2s
LVZ Lovozero 34.84 343 P **P** 15 43 33.0 0.0
LVZ Lovozero 34.84 343 *i*P **P** 15 43 32.7 -0.3
LVZ pmax pmax
comp=Z,31nm,1.5s
APA Apatity 34.89 342 ⇓*i*P **P** 15 43 34.0 +0.7
APA pmax pmax
comp=Z,10.0nm,0.9s
APA MLR MLR
comp=Z,500nm,11.0s
TIP Timpagrande 34.89 288 P **P** 15 43 33.6 -0.2
OSTC Ostas 34.93 308 *e*P **P** 15 43 36.9 +3.0
OSTC Ostas 34.93 308 *e*P **P** 15 43 36.9 +3.0
CONA Conrad Observa 34.96 304 *e*P **P** 15 43 36.0 +1.6
comp=Z,4.7nm,0.9s
SONM Songino Array 34.97 57 P **P** 15 43 35.4 +1.0
SONM Songino Array 34.97 57 P **P** 15 43 36.0 +1.5
comp=Z,3.2nm,0.9s,baz=269,slow=10,SNR=19
SONM PcP **PcP** 15 46 06.8 +0.2
comp=Z,1.7nm,0.7s,baz=230,slow=4.8,SNR=5.1
SONM LR LR 15 59 58.3

comp=Z,149nm,18.2s,baz=284,slow=40
comp=Z,3.2nm,0.9s
CHVC Chvalec 35.03 308 *e*P **P 15 43 38.0 +3.2**
CHVC Chvalec 35.03 308 *e*P **P 15 43 38.0 +3.2**
UPC Upice 35.05 308 *e*P **P 15 43 38.2 +3.2**
UPC Upice 35.05 308 *e*P **P 15 43 38.2 +3.2**
ARSA Arzberg 35.17 302 *e*P **P 15 43 38.4 +2.3**
comp=Z,8.3nm,0.8s,SNR=6.9
ARSA *e*PcP **PcP 15 46 07.9 +0.9**
comp=Z,3.8nm,0.9s
GROS Grobnik 35.18 301 *e*P **P 15 43 37.8 +1.6**
CRES Cresnjev 35.22 300 *i* P **P 15 43 38.6 +2.1**
ULN Ulaanbaatar 35.41 57 P **P 15 43 39.6 +1.3**
ULN IAmb IAmb 15 43 41.5
comp=Z,12nm,1.0s
ULN Ulaanbaatar 35.41 57 P **P 15 43 39.6 +1.3**
ULN pmax pmax
comp=Z,12nm,1.0s
PERS Pernice 35.45 301 *e*P **P 15 43 40.3 +1.8**
CUC Castrocucco 35.48 290 P **P 15 43 38.9 +0.1**
SOKA Soboth 35.51 301 *e*P **P 15 43 41.2 +2.1**
comp=Z,7.5nm,1.1s
SOKA *e*PcP **PcP 15 46 08.7 +0.6**
comp=Z,4.2nm,0.8s
CD2 Chengdu 35.69 86 P **P 15 43 42.4 +1.6**
CD2 pmax pmax
comp=Z,20nm,0.7s
CEL Celeste 35.72 287 P **P 15 43 41.2 +0.2**
CEL IAmb IAmb 15 43 48.4
comp=Z,9.6nm,0.9s
PZH PanZhiHua 35.81 94 P **P 15 43 42.7 +0.8**
PZH pmax pmax
comp=Z,30nm,1.1s
PZH pmax pmax
comp=Z,90nm,4.8s
OBKA Obir 35.84 301 *e*P **P 15 43 44.1 +2.1**
comp=Z,8.4nm,1.3s
OBKA *e*PcP **PcP 15 46 10.7 +1.6**
comp=Z,4.2nm,1.5s
MOA Molln 36.04 303 *e*P **P 15 43 45.0 +1.6**
comp=Z,2.7nm,0.7s
ZVC Zvikov 36.14 306 *e*P **P 15 43 46.8 +2.5**
RICC Richard 36.27 308 *e*P **P 15 43 48.7 +3.3**
BRG Berggiesshubel 36.40 308 *i* P **P 15 43 49.0 +2.5**
BRG Amp 15 43 50.1
comp=Z,16nm,0.9s
GEC2 GERESS Array S 36.44 305 P **P 15 43 47.5 +0.5**
GERES GERESS Array B 36.44 305 P **P 15 43 47.2 +0.2**
GERES GERESS Array B 36.44 305 P **P 15 43 48.2 +1.2**
comp=Z,1.3nm,0.6s,baz=111,slow=7.3,SNR=5.2
GERES PcP **PcP 15 46 11.1 +0.3**
comp=Z,2.4nm,0.7s,baz=132,slow=2.0,SNR=6.5
comp=Z,1.3nm,0.6s
BIOA Bad Ischl, Aus 36.46 303 *e*P **P 15 43 48.8 +1.7**
comp=Z,6.7nm,1.0s
BIOA *e*PcP **PcP 15 46 11.2 +0.3**
comp=Z,3.9nm,1.0s
SABO M.te Sabotino 36.51 300 P **P 15 43 47.4 -0.3**
SABO IAmb IAmb 15 43 50.2
comp=Z,21nm,1.2s
PRED Cave del Predi 36.52 301 P **P 15 43 47.7 -0.1**
PRED PcP **PcP 15 46 11.0 -0.1**
KHC Kasperske Hory 36.53 305 P **P 15 43 48.8 +1.1**
KHC Kasperske Hory 36.53 305 *e*P **P 15 43 51.6 +3.9**
KHC Kasperske Hory 36.53 305 *e*P **P 15 43 51.6 +3.9**
KHC Kasperske Hory 36.53 305 P **P 15 43 49.1 +1.4**
comp=Z,6.6nm,1.9s
KBA Koelnbreinsper 36.66 302 *e*P **P 15 43 51.2 +2.2**
comp=Z,12nm,1.3s,SNR=7.6
KBA *e*PcP **PcP 15 46 15.3 +3.7**
comp=Z,1.9nm,0.5s
KBA Koelnbreinsper 36.66 302 P **P 15 43 50.6 +1.6**
HSKC Hora Svate Kat 36.70 308 *e*P **P 15 43 52.2 +3.1**
GUMA Gualdo di Mace 36.91 295 P **P 15 43 51.4 +0.3**
GUMA IAmb IAmb 15 44 38.8
comp=Z,7.6nm,0.8s
CLL Collm 37.02 309 P **P 15 43 53.0 +1.2**
CLL Collm 37.02 309 *i* P **P 15 43 54.0 +2.2**
comp=Z,8.0nm,0.9s
CLL *i* x x 15 44 02.7
CLL Collm 37.02 309 *i* P **P 15 43 54.0 +2.2**
CLL pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 37.02 309 P **P 15 43 53.5 +1.7**
comp=Z,9.4nm,0.9s
FDMO Fiordimonte 37.10 295 P **P 15 43 51.8 -0.8**
NRCA Norcia 37.10 295 P **P 15 43 53.9 +1.2**
LESA Schwarzleotal 37.11 303 *e*P **P 15 43 54.5 +1.8**
comp=Z,18nm,0.9s
LESA *e*PcP **PcP 15 46 12.9 0.0**
comp=Z,2.7nm,0.6s
STAL STALIGIAL 37.12 301 P **P 15 43 52.8 0.0**
RAFF Raffo Rosso 37.13 286 P **P 15 43 53.9 +1.0**
KMI Kunming 37.24 96 ⇑P **P 15 43 55.0 +0.8**
KMI pP sP 15 44 00.4 -0.4
KMI LR LR
comp=Z,180nm,22.4s
KMI LR LR
comp=Z,120nm,18.2s
KMI LR LR
comp=Z,170nm,15.6s
ABTA Abfaltersbach 37.24 302 *e*P **P 15 43 55.5 +1.6**
comp=Z,3.3nm,0.7s
CIMO Cimolais 37.30 301 P **P 15 43 54.4 +0.1**
CIMO IAmb IAmb 15 43 56.9
comp=Z,5.9nm,0.9s
CHTO Chiang Mai 37.55 108 P **P 15 43 55.8 -0.8**
CHTO Chiang Mai 37.55 108 P **P 15 43 55.8 -0.8**
CHTO pmax pmax
comp=Z,31nm,0.9s
CM31 Chiang Mai Arr 37.75 108 P **P 15 43 58.2 -0.2**
CMAR Chiang Mai Arr 37.75 108 P **P 15 43 58.1 -0.3**
CMAR **PcP 15 46 15.0 -0.2**
CMAR Chiang Mai Arr 37.75 108 P **P 15 43 58.3 -0.1**
comp=Z,23nm,0.8s,baz=300,slow=8.4,SNR=161
CMAR PcP **PcP 15 46 15.5 +0.3**
comp=Z,4.5nm,0.9s,baz=289,slow=4.6,SNR=5.0
CMAR LR LR 16 02 02.6
comp=Z,56nm,18.2s,baz=205,slow=40
comp=Z,23nm,0.8s
WTTA Wattenberg 37.82 302 *e*P **P 15 43 59.9 +1.0**
comp=Z,8.0nm,1.0s,SNR=6.7
WTTA *e*PcP **PcP 15 46 15.8 +0.6**
comp=Z,2.7nm,0.5s
CRAI Chiangrai 37.85 104 P **P 15 43 58.9 -0.3**
CRAI IAmb IAmb 15 43 59.9
comp=Z,12nm,0.8s
WATA Walderalm 37.86 303 *e*P **P 15 44 00.0 +0.9**
comp=Z,12nm,1.4s
WATA *e*PcP **PcP 15 46 15.9 +0.7**
comp=Z,3.5nm,0.8s
CTI Castel Tesino 37.87 300 P **P 15 43 58.8 -0.4**
CTI Castel Tesino 37.87 300 P **P 15 43 58.8 -0.4**
CTI pmax pmax
comp=Z,12nm,1.2s
TEOL Teolo 37.90 299 P **P 15 43 58.8 -0.5**
TEOL IAmb IAmb 15 45 09.8
comp=Z,10nm,0.8s
GRA1 Grafenberg Arr 38.08 306 P **P 15 44 01.3 +0.5**
GRA1 IAmb IAmb 15 44 05.5
comp=Z,16nm,1.2s
GRF Grafenberg Arr 38.08 306 P **P 15 44 01.3 +0.5**
GRF pmax pmax
comp=Z,16nm,1.2s
GRFO Grafenberg 38.08 306 P **P 15 44 00.6 -0.2**
GRFO IAmb IAmb 15 44 05.4
comp=Z,16nm,1.2s
GRFO Grafenberg 38.08 306 P **P 15 44 00.6 -0.2**
GRFO pmax pmax
comp=Z,16nm,1.2s
KEV Kevo 38.09 342 P **P 15 44 02.1 +1.5**
KEV Kevo 38.09 342 P **P 15 44 02.1 +1.5**
KEV pmax pmax
comp=Z,129nm,2.0s
SQTA Sankt Quirin 38.11 302 *e*P **P 15 44 02.2 +0.9**
comp=Z,5.1nm,0.7s
SQTA *e*PcP **PcP 15 46 16.7 +0.6**
comp=Z,5.2nm,0.5s
MOTA Moosalm 38.18 303 *e*P **P 15 44 02.6 +0.7**
comp=Z,4.2nm,0.8s
MOTA *e*PcP **PcP 15 46 16.7 +0.4**
comp=Z,4.4nm,0.6s
HFS Hagfors 38.26 323 P **P 15 44 03.2 +1.1**
comp=Z,2.7nm,0.5s,baz=120,slow=10,SNR=13
HFS LR LR 16 01 48.5
comp=Z,296nm,19.2s,baz=358,slow=39
comp=Z,2.7nm,0.5s
ARCES ARCESS Array B 38.34 341 P **P 15 44 03.6 +0.8**
ARCES IAmb IAmb 15 44 25.5
comp=Z,54nm,2.0s
ARCES ARCESS Array B 38.34 341 P **P 15 44 03.6 +0.8**
comp=Z,5.6nm,0.9s,baz=113,slow=8.5,SNR=8.3
ARCES LR LR 16 01 26.0
comp=Z,98nm,18.8s,baz=201,slow=38
comp=Z,5.6nm,0.9s
OSSC Osservatorio P 38.38 296 P **P 15 44 03.7 +0.3**
OSSC IAmb IAmb 15 44 06.0
comp=Z,22nm,1.4s
RETA Reutte 38.41 303 *e*P **P 15 44 04.5 +0.8**
comp=Z,4.0nm,0.9s
RETA *e*PcP **PcP 15 46 17.5 +0.6**
comp=Z,2.9nm,0.5s
FETA Feichten 38.45 302 *e*P **P 15 44 05.1 +0.9**
comp=Z,8.7nm,1.0s,SNR=6.7
FETA *e*PcP **PcP 15 46 18.0 +0.9**
comp=Z,5.5nm,0.8s
ZCCA Zocca 38.48 298 P **P 15 44 05.0 +0.7**
ZCCA IAmb IAmb 15 44 14.8
comp=Z,29nm,1.3s
PHRA Phrae 38.72 107 P **P 15 44 06.0 -0.5**
FUORN Ofenpass-Fuorn 38.79 301 P **P 15 44 08.1 +1.0**
XAN Xi'an 38.80 79 ⇑P **P 15 44 08.4 +1.3**
XAN pmax pmax
comp=Z,25nm,1.0s
XAN LR LR
comp=Z,560nm,18.6s
XAN LR LR
comp=Z,320nm,17.9s
XAN LR LR
comp=Z,290nm,13.7s
DAVA Damuels 39.02 303 *e*P **P 15 44 10.0 +1.1**
comp=Z,11nm,1.0s,SNR=6.4
DAVA *e*PcP **PcP 15 46 19.8 +0.9**
comp=Z,4.7nm,0.8s
DAVOX Davos/Dischmat 39.05 302 LR LR 16 02 34.4
comp=Z,50nm,18.5s,baz=58,slow=40
HHC Hu-ho-hao-te 39.20 68 *e*P **P 15 44 09.9 -0.5**
HHC pmax pmax
comp=Z,21nm,0.8s
HHC pmax pmax
comp=Z,55nm,4.3s
HHC LR LR
comp=Z,110nm,17.6s
HHC LR LR
comp=Z,230nm,17.6s
HHC LR LR
comp=Z,210nm,17.6s
STU Stuttgart 39.41 305 P **P 15 44 12.3 +0.3**
STU IAmb IAmb 15 44 14.8
comp=Z,56nm,1.7s
STU Stuttgart 39.41 305 P **P 15 44 12.3 +0.3**
STU pmax pmax
comp=Z,56nm,1.7s
TUE Stuetta 39.43 301 P **P 15 44 12.9 +0.5**
NC602 NORSAR Array S 39.45 324 P **P 15 44 11.7 -0.5**
NORES NORESS Array B 39.45 324 P **P 15 44 13.2 +1.0**
NC405 NORSAR Array S 39.47 325 P **P 15 44 12.9 +0.5**
MSSA Maissana 39.52 298 P **P 15 44 13.2 +0.1**
NB201 NORSAR Array S 39.65 324 P **P 15 44 14.4 +0.5**
NB201 PP **PP 15 45 42.4 -2.4**
NB201 IAmb IAmb 15 45 44.5
comp=Z,35nm,1.5s
NC303 NORSAR Array S 39.66 325 P **P 15 44 14.5 +0.5**
NC303 PP **PP 15 45 42.6 -2.3**
NB2 NORSAR Subarra 39.69 324 P **P 15 44 14.9 +0.7**
comp=Z,3.4nm,0.6s,baz=105,slow=8.6
NB2 NORSAR Subarra 39.69 324 P **P 15 44 13.1 -1.1**
NOA NORSAR Array B 39.69 324 P **P 15 44 15.1 +0.9**
comp=Z,4.1nm,0.8s,baz=107,slow=7.9,SNR=12
NOA PP **PnPn 15 45 48.9 +0.6**
comp=Z,0.9nm,0.7s,baz=103,slow=9.5,SNR=3.8
NOA LR LR 16 02 54.2
comp=Z,148nm,18.8s,baz=285,slow=40
comp=Z,4.1nm,0.8s
NAO01 NORSAR Array S 39.79 324 P **P 15 44 16.3 +1.3**
NAO01 IAmb IAmb 15 44 43.0
comp=Z,28nm,1.6s
NBO00 NORSAR Array S 39.89 324 P **P 15 44 16.2 +0.4**
NBO00 IAmb IAmb 15 44 17.9
comp=Z,46nm,1.6s
BFO Black Forest 40.01 304 P **P 15 44 17.4 +0.4**
BFO Black Forest 40.01 304 P **P 15 44 17.4 +0.4**
BFO pmax pmax
comp=Z,9.0nm,1.1s
SLVN Son La 40.04 100 P **P 15 44 17.2 -0.4**
SLVN IAmb IAmb 15 44 19.7
comp=Z,18nm,0.9s
PGF Pioggiola 40.15 295 *e*P **P 15 44 18.8 +0.5**
PGF pmax pmax
comp=Z,11nm,1.0s
LODK Lodwar 40.55 222 P **P 15 44 20.5 -1.3**
ECH Echery 40.79 304 P **P 15 44 23.5 0.0**
ECH IAmb IAmb 15 44 25.8
comp=Z,25nm,1.5s
ECH Echery 40.79 304 P **P 15 44 23.5 0.0**
ECH pmax pmax
comp=Z,25nm,1.5s
SENIN Lac Senin/Sane 40.85 301 P **P 15 44 24.3 +0.1**
MSEY Mahe Island 41.26 189 P **P 15 44 25.8 -1.8**
MSEY IAmb IAmb 15 44 46.9
comp=Z,37nm,1.4s
MSEY Mahe Island 41.26 189 P **P 15 44 25.8 -1.8**
MSEY pmax pmax
comp=Z,37nm,1.4s
LPG La Plagne 41.33 300 *e*P **P 15 44 28.9 +0.6**
LPG pmax pmax
comp=Z,6.0nm,0.8s
LPL La Plagne 41.34 300 *e*P **P 15 44 28.9 +0.6**
LPL pmax pmax
comp=Z,10.0nm,1.0s
BTNL Ternell 41.35 308 *d*P **P 15 44 30.8 +2.8**
HAU Haudompre 41.35 304 *e*P **P 15 44 28.6 +0.5**
HAU pmax pmax
comp=Z,11nm,1.0s
WLF Walferdange 41.37 306 P **P 15 44 28.3 +0.1**
WLF IAmb IAmb 15 44 32.2
comp=Z,21nm,1.1s
WLF Walferdange 41.37 306 *d*P **P 15 44 31.3 +3.1**
WLF Walferdange 41.37 306 P **P 15 44 28.3 +0.1**
KEST Kesra 41.42 285 IAmb IAmb 15 44 32.2
comp=Z,15nm,1.0s
KEST Kesra 41.42 285 P **P 15 44 30.1 +1.2**
comp=Z,7.5nm,0.7s,baz=245,slow=1.8,SNR=7.5
comp=Z,7.5nm,0.7s
MEM Membach 41.43 308 *d*P **P 15 44 31.3 +2.7**
BNI Bardonecchia 41.44 299 P **P 15 44 28.6 -0.4**
BNI Bardonecchia 41.44 299 P **P 15 44 28.6 -0.4**
BNI pmax pmax
comp=Z,11nm,1.1s
LYN LuoYang 41.44 77 *e*P **P 15 44 31.0 +2.1**
LYN pmax pmax
comp=Z,30nm,0.8s
TATN Tataouine 41.48 280 P **P 15 44 29.5 +0.2**
TATN IAmb IAmb 15 44 31.9
comp=Z,20nm,0.9s
BCLA Clavier 41.88 308 *d*P **P 15 44 34.7 +2.3**
BCLA *d*PcP **PcP 15 46 28.2 +0.3**
RCHB Rochefort 41.94 307 *d*P **P 15 44 35.7 +2.8**
BGES Gesves 42.02 308 *d*P **P 15 44 34.3 +0.8**
GIVF Givet 42.21 307 *e*P **P 15 44 37.1 +2.1**
GIVF pmax pmax
comp=Z,11nm,0.9s
BMRD Maredsous 42.23 307 *d*P **P 15 44 38.0 +2.8**
DOU Dourbes 42.35 307 *d*P **P 15 44 38.8 +2.6**
DOU *d*PcP **PcP 15 46 30.4 +1.0**
HNS HongShan 42.36 72 ⇓P **P 15 44 38.8 +2.4**
HNS S **S 15 50 59.9 +2.8**
HNS pmax pmax
comp=Z,11nm,1.0s
HNS LR LR
comp=Z,240nm,14.2s
HNS LR LR
comp=Z,260nm,12.7s
BJI Beijing 42.81 68 P **P 15 44 41.7 +1.7**
BJI pmax pmax
comp=Z,6.0nm,0.6s
BJI pmax pmax
comp=Z,30nm,5.2s
BJI LR LR
comp=Z,89nm,13.6s
BJI LR LR
comp=Z,70nm,17.6s
BJI LR LR
comp=Z,83nm,14.9s
BJT Baijiatuao 42.81 68 P **P 15 44 40.9 +0.9**
BJT Baijiatuao 42.81 68 P **P 15 44 40.9 +0.9**
BJT pmax pmax
comp=Z,8.0nm,0.6s
SSB Saint Sauveur 42.90 300 P **P 15 44 40.6 -0.2**
SSB IAmb IAmb 15 44 43.2
comp=Z,23nm,1.0s
SSB Saint Sauveur 42.90 300 P **P 15 44 40.6 -0.2**
SSB pmax pmax
comp=Z,23nm,1.0s
LOR Lormes 43.10 303 *e*P **P 15 44 42.8 +0.5**
LOR pmax pmax
comp=Z,8.0nm,0.9s
AVF Avril sur Loir 43.51 302 *e*P **P 15 44 46.5 +0.9**
AVF pmax pmax
comp=Z,30nm,0.9s
WHN Wuhan 44.31 82 ⇑P **P 15 44 54.0 +1.7**
TCF Toulx Ste Croi 44.36 302 *e*P **P 15 44 53.7 +1.2**
TCF pmax pmax
comp=Z,20nm,1.1s
TIA Tai'an 44.56 73 P **P 15 44 56.4 +2.2**
TIA pmax pmax
comp=Z,8.0nm,0.6s
CAF Calviac 44.69 300 *e*P **P 15 44 56.3 +1.1**
CAF pmax pmax
comp=Z,13nm,0.8s
FLN La Foliniere 45.79 306 *e*P **P 15 45 04.4 +0.6**
FLN pmax pmax
comp=Z,11nm,0.7s
SPITS Spitsbergen Ar 45.81 348 P **P 15 45 04.4 +0.7**
comp=Z,2.5nm,0.7s,baz=93,slow=12,SNR=1.6
comp=Z,2.5nm,0.7s
MFF Saint Martin d 45.91 303 *e*P **P 15 45 05.2 +0.4**
MFF pmax pmax
comp=Z,7.0nm,0.9s
GRR Gorron 46.09 305 *e*P **P 15 45 06.8 +0.6**
GRR pmax pmax
comp=Z,15nm,0.8s
MBAR Mbarara 46.43 224 P **P 15 45 08.3 -1.1**
MBAR IAmb IAmb 15 45 09.5
comp=Z,7.6nm,0.8s
MBAR Mbarara 46.43 224 LR LR 16 07 19.6
comp=Z,66nm,19.5s,baz=30,slow=40
MBAR Mbarara 46.43 224 P **P 15 45 08.3 -1.1**
MBAR pmax pmax
comp=Z,8.0nm,0.9s
EKA Eskdalemuir Ar 46.73 315 P **P 15 45 12.2 +1.2**
comp=Z,12nm,0.8s,baz=94,slow=7.9,SNR=32
comp=Z,12nm,0.8s
ETSF Etsaut 46.97 298 *e*P **P 15 45 13.5 +0.2**
ETSF pmax pmax
comp=Z,3.0nm,0.6s
SGMF Saint Gilles 47.23 305 *e*P **P 15 45 16.2 +1.1**
SGMF pmax pmax
comp=Z,21nm,0.8s
NJ2 Nanjing 47.32 78 *e*P **P 15 45 16.6 +0.6**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
QUIF Quistinic 47.70 305 *e*P **P 15 45 19.6 +0.9**
QUIF pmax pmax
comp=Z,56nm,1.3s
ZEA Zeya 47.95 47 *e*P **P 15 45 23.5 +2.9**
ZEA MLR MLR
comp=Z,100nm,16.0s
HEH HeiHe 48.57 52 *e*P **P 15 45 27.0 +1.6**
HEH pmax pmax
comp=Z,19nm,0.8s
HEH LR LR
comp=Z,220nm,11.0s
HEH LR LR
comp=Z,520nm,13.6s
HEH LR LR
comp=Z,790nm,13.8s
YAK Yakutsk 48.65 36 LR LR 16 07 10.7
comp=Z,58nm,18.3s,baz=304,slow=38
YAK Yakutsk 48.65 36 *e*P **P 15 45 27.6 +1.8**
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,2.0nm,0.9s
YAK pmax pmax
comp=E,7.0nm,1.1s
TIXI Tiksi 48.86 23 P **P 15 45 27.8 +0.5**
TIXI Tiksi 48.86 23 LR LR 16 06 33.6
comp=E,69nm,20.7s,baz=284,slow=37
TIXI Tiksi 48.86 23 ⇑*e*P **P 15 45 29.3 +2.0**
TIXI pmax pmax
comp=Z,5.0nm,0.4s
TAM Tamanrasset 49.59 270 P **P 15 45 37.1 +3.3**
TAM pmax pmax
comp=Z,4.0nm,1.1s
ESDC Sonseca Array 50.33 295 P **P 15 45 38.1 -1.0**
comp=Z,2.5nm,0.8s,baz=68,slow=8.1,SNR=14
ESDC PcP **PcP 15 46 58.2 +0.5**
comp=Z,2.2nm,0.8s,baz=46,slow=3.7,SNR=8.5
comp=Z,2.5nm,0.8s
MDJ Mudanjiang 51.29 58 P **P 15 45 49.3 +3.1**
MDJ pmax pmax
comp=Z,10.0nm,1.4s
MDJ pmax pmax
comp=Z,150nm,5.2s
KLR Kul'dur 51.53 52 LR LR 16 10 06.4
comp=Z,75nm,19.1s,baz=276,slow=39
KLR Kul'dur 51.53 52 *e*P **P 15 45 48.4 +0.5**
KLR pmax pmax
comp=Z,6.0nm,0.8s
KSAR Wonju Array Be 52.31 68 P **P 15 45 54.2 +0.3**
KSAR PcP **PcP 15 47 02.9 -2.1**
KSAR Wonju Array Be 52.31 68 P **P 15 45 54.2 +0.3**
KSRS Korea Array 52.34 68 P **P 15 45 54.5 +0.4**
comp=Z,6.1nm,0.8s,baz=280,slow=7.3,SNR=23
KSRS LR LR 16 09 42.5
comp=Z,59nm,19.0s,baz=310,slow=38
comp=Z,6.1nm,0.8s
MYKOM Kota Tinggi 52.39 121 P **P 15 45 53.3 -1.4**
MYKOM IAmb IAmb 15 45 54.7
comp=Z,13nm,0.8s
DAG Danmarks Havn 52.50 343 P **P 15 45 59.5 +4.7**
DAG pmax pmax
comp=Z,9.0nm,1.3s
DAG Danmarks Havn 52.50 343 *i* P **P 15 45 55.0 +0.2**
DAG IAmb IAmb 15 45 57.6
comp=Z,3.3nm,0.8s
USRK Ussuriysk Ar. 53.05 58 P **P 15 45 59.8 +0.5**
comp=Z,2.7nm,0.6s,baz=291,slow=10.0,SNR=7.4
comp=Z,2.7nm,0.6s
BORG Borgarnes 54.56 329 LR LR 16 13 32.1
comp=Z,119nm,18.5s,baz=76,slow=40
JNU Nakatsue 56.23 71 P **P 15 46 23.2 +0.6**
comp=Z,9.2nm,1.0s,baz=220,slow=1.7,SNR=3.7
JNU LR LR 16 12 42.9
comp=Z,35nm,18.3s,baz=3.0,slow=38
comp=Z,9.2nm,1.0s
SBUM Sibu 57.93 113 P **P 15 46 33.5 -1.3**
SBUM PcP **PcP 15 47 26.1 -0.8**
SUMG Summit 58.41 340 *i* P **P 15 46 39.3 +1.4**
SUMG IAmb IAmb 15 46 45.2
comp=Z,3.3nm,0.7s
SEY Seymchan 58.80 32 LR LR 16 12 57.7
comp=Z,50nm,19.1s,baz=310,slow=37
SEY Seymchan 58.80 32 *e*P **P 15 46 41.0 +0.8**
SEY pmax pmax
comp=Z,7.0nm,1.0s
MA2 Magadan 59.21 36 LR LR 16 12 17.2
comp=Z,19nm,18.3s,baz=140,slow=36
YSS Yuzh-Sakhalins 59.24 52 P **P 15 46 44.7 +1.2**
YSS Yuzh-Sakhalins 59.24 52 P **P 15 46 43.5 0.0**
YSS Yuzh-Sakhalins 59.24 52 ⇓*e*P **P 15 46 44.9 +1.4**
YSS pmax pmax
comp=Z,20nm,0.9s
NEEM North Greenlan 59.29 346 *i* P P 15 46 49.2 +5.5
NEEM IAmb IAmb 15 46 51.1
comp=Z,4.6nm,0.9s
JGF Kuroka 60.05 66 P **P 15 46 49.4 0.0**
LSZ Lusaka 60.12 217 LR LR 16 16 44.9
comp=Z,52nm,18.0s,baz=224,slow=40
ASAJ Asahikawa 60.23 55 LR LR 16 14 28.3
comp=Z,37nm,18.9s,baz=32,slow=38
MJAR Matsushiro Arr 60.27 65 P **P 15 46 50.4 -0.4**
comp=Z,3.1nm,1.0s,baz=310,slow=9.4,SNR=5.6
MJAR LR LR 16 14 04.4
comp=Z,56nm,18.5s,baz=298,slow=37
comp=Z,3.1nm,1.0s
BILL Bilibino 62.03 24 P **P 15 47 03.0 +0.8**

BILL IAmb IAmb 15 47 05.5
comp=Z,8.1nm,0.8s
BILL Bilibino 62.03 24⇑ *e*P P 15 47 05.1 +2.9
BILL pmax pmax
comp=Z,10.0nm,1.2s
SFJD Kangerlussuaq 64.74 336 LR LR 16 15 47.1
comp=Z,57nm,18.6s,baz=64,slow=36
MPSI Mapaga 65.08 109 P P **15 47 23.6 +0.5**
comp=Z,51nm,0.9s,comp=Z,405nm
DAV Davao City (W) 65.33 100 P P **15 47 24.3 -0.5**
comp=Z,214nm,0.5s,baz=55,slow=1.7,SNR=3.6
PETK Petropavlovsk- 65.39 41 P P **15 47 23.8 -0.8**
comp=Z,2.9nm,0.9s,baz=40,slow=2.5,SNR=4.6
comp=Z,2.9nm,0.9s
PET Petropavlovsk 65.94 41⇑ *e*P P 15 47 27.4 -0.7
PET pmax pmax
comp=Z,14nm,1.2s
DBIC Dimbokro 66.78 261 P P **15 47 32.9 -1.2**
comp=Z,10nm,0.9s,baz=55,slow=11,SNR=5.1
comp=Z,10nm,0.9s
KIC Kosan Boka 66.87 261⇑ *i*P P 15 47 34.2 -0.5
comp=Z,22nm,0.7s
TIC Toumodi 66.92 261⇑ *i*P P 15 47 34.5 -0.5
comp=Z,3.8nm,0.2s
LIC Lamto 67.18 261⇑ *i*P P 15 47 36.0 -0.6
comp=Z,36nm,0.7s
RES Resolute Bay 68.00 353 LR LR 16 19 50.7
comp=Z,24nm,19.7s,baz=330,slow=38
BKSI Bulukumba 68.97 114 P P **15 47 46.8 -1.0**
comp=Z,27nm,1.2s
TSUM Tsumeb 68.97 224 P P **15 47 46.7 -1.1**
TSUM IAmb IAmb 15 47 47.7
comp=Z,7.6nm,0.8s
TSUM Tsumeb 68.97 224 LR LR 16 21 07.2
comp=Z,66nm,18.6s,baz=114,slow=39
LBTB Lobatse 69.73 214 P P **15 47 50.6 -1.7**
LBTB Lobatse 69.73 214 LR LR 16 20 09.8
comp=Z,86nm,18.4s,baz=200,slow=38
LBTB Lobatse 69.73 214 P P **15 47 50.6 -1.7**
LBTB pmax pmax
comp=Z,12nm,0.9s
B18K Kokolik River 69.88 15 P P **15 47 54.5 +1.8**
baz=324
C16K Lisburne Hills 69.98 17 P P **15 47 55.3 +2.0**
baz=322
B20K Meade River 70.25 13 P P **15 47 56.5 +1.6**
baz=328
C17K DeLong Mountai 70.31 16 P P **15 47 57.3 +2.0**
baz=323
C19K Lookout Ridge 70.55 14 P P **15 47 59.0 +2.2**
baz=326
TNTI Ternate 70.57 104 P P **15 47 58.1 +0.4**
TNTI Ternate 70.57 104 P P **15 47 56.4 -1.3**
C18K Utukok River 70.59 15 P P **15 47 58.2 +1.0**
C18K Utukok River 70.59 15 P P **15 47 59.0 +1.9**
baz=325,SNR=5.3
B22K Teshekpuk Lake 70.61 12 P P **15 47 59.0 +2.0**
baz=331,SNR=5.5
RDOG Red Dog Mine 70.71 16 P P **15 47 59.4 +1.6**
baz=324
D17K Noatak River 70.96 16 P P **15 48 00.9 +1.7**
baz=324,SNR=11
B21K Ikpikpuk River 71.04 12 P P **15 48 01.8 +2.2**
baz=330,SNR=5.0
D19K Kuna River 71.35 14 P P **15 48 03.4 +1.7**
baz=327
C21K Knifeblade Rid 71.41 13 P P **15 48 03.7 +1.6**
baz=330
TNA Tin City 71.45 19 P P **15 48 04.2 +2.0**
baz=320
D20K Etivluk River 71.46 14 P P **15 48 04.2 +1.8**
baz=329
C23K Itkillik River 71.51 11 P P **15 48 03.7 +1.2**
C23K Itkillik River 71.51 11 P P **15 48 04.8 +2.3**
baz=333,SNR=7.5
GAMB Gambell 71.72 22 P P **15 48 05.7 +1.9**
baz=317
E18K Tukpahlearik C 71.73 16 P P **15 48 05.5 +1.6**
E18K IAmb IAmb 15 48 06.8
comp=Z,9.7nm,0.8s
E18K Tukpahlearik C 71.73 16 P P **15 48 05.7 +1.8**
baz=326,SNR=6.0
E17K Hotham Inlet 71.74 16 P P **15 48 05.7 +1.8**
baz=325
A36M Sachs Harbour 71.76 2 P P **15 48 05.8 +1.8**
baz=355,SNR=17
C24K Franklin Bluff 71.90 11 P P **15 48 07.0 +2.2**
baz=335,SNR=5.8
E20K Nigu River 71.93 14 P P **15 48 06.9 +1.7**
baz=329
F14K Arctic Creek 71.94 19 P P **15 48 07.0 +1.8**
baz=321
WIN Windhoek 71.94 223 IAmb IAmb 15 48 06.6
comp=Z,8.2nm,0.7s
D22K Ayikyak River 72.02 12 IAmb IAmb 15 48 09.3
comp=Z,8.1nm,1.1s
D22K Ayikyak River 72.02 12 P P **15 48 07.7 +2.0**
baz=332,SNR=5.5
F15K North Star Dit 72.18 18 IAmb IAmb 15 48 09.9
comp=Z,11nm,0.9s
F15K North Star Dit 72.18 18 P P **15 48 08.6 +1.9**
baz=323,SNR=5.7
E21K Killik River 72.18 13 IAmb IAmb 15 48 09.5
comp=Z,9.3nm,1.1s
E21K Killik River 72.18 13 P P **15 48 08.5 +1.8**
baz=331
C26K Camden Bay 72.24 9 P P **15 48 08.7 +1.8**
baz=338
D23K Nanushuk River 72.28 12 P P **15 48 09.4 +2.2**
baz=334
D24K Happy Valley 72.40 11 IAmb IAmb 15 48 10.9
comp=Z,6.4nm,0.8s
D24K Happy Valley 72.40 11 P P **15 48 10.0 +2.1**
baz=335
F17K Baldwin Pennin 72.40 17 P P **15 48 10.0 +2.1**
baz=325,SNR=6.1
E19K Redstone River 72.41 15 IAmb IAmb 15 48 10.7
comp=Z,8.0nm,0.9s
E19K Redstone River 72.41 15 P P **15 48 09.8 +1.7**
baz=328
D25K Kavik River 72.60 10 P P **15 48 10.7 +1.5**
D25K IAmb IAmb 15 48 12.9
comp=Z,12nm,1.0s
D25K Kavik River 72.60 10 P P **15 48 11.4 +2.3**
baz=337,SNR=6.3
F18K Selawik 72.63 16 P P **15 48 10.7 +1.4**
baz=326,SNR=6.5
C27K Jago River 72.67 9 P P **15 48 12.2 +2.7**
baz=339,SNR=12
TOLK Toolik Lake Re 72.75 11 P P **15 48 12.3 +2.3**
baz=334,SNR=12
E22K Anaktuvuk Pass 72.83 12 IAmb IAmb 15 48 13.2
comp=Z,5.9nm,0.7s
E22K Anaktuvuk Pass 72.83 12 P P **15 48 12.5 +1.9**
baz=333
F19K Shaleruckik Mo 72.83 15 P P **15 48 12.5 +2.0**
baz=328
ANM Nome 72.90 19 P P **15 48 13.1 +2.2**
baz=322
G15K Niukluk 72.91 18 P P **15 48 12.9 +1.9**
baz=323
BOSA Boshof 72.99 213 P P **15 48 10.1 -1.9**
BOSA IAmb IAmb 15 48 11.2
comp=Z,9.1nm,0.9s
BOSA Boshof 72.99 213 P P **15 48 09.7 -2.3**
comp=Z,10.0nm,1.0s,baz=75,slow=4.2,SNR=9.3
comp=Z,10.0nm,1.0s
BOSA Boshof 72.99 213 P P **15 48 10.1 -1.9**
BOSA pmax pmax
comp=Z,9.0nm,0.9s
G16K Koyuk River 73.00 18 P P **15 48 13.4 +1.8**
baz=324
F20K Avaraart Lake 73.07 14 P P **15 48 13.2 +1.3**
baz=330
E23K Chandalar 73.27 12 P P **15 48 15.4 +2.2**
baz=334
G17K Kiwalik Mounta 73.32 17 P P **15 48 14.9 +1.5**
baz=326
F22K John River 73.33 13 P P **15 48 15.6 +2.2**
baz=332
F21K Alatna River 73.35 13 P P **15 48 15.2 +1.6**
baz=331,SNR=6.0
D27M Malcolm River 73.35 8 P P **15 48 15.1 +1.4**
D27M Malcolm River 73.35 8 P P **15 48 15.6 +1.9**
baz=342
E24K Your Creek 73.43 11 IAmb IAmb 15 48 17.8
comp=Z,13nm,1.3s
E24K Your Creek 73.43 11 P P **15 48 16.4 +2.2**
baz=335,SNR=7.2
G18K Tagagawik 73.44 16 P P **15 48 16.5 +2.4**
baz=327
D28M Stokes Point 73.51 7 P P **15 48 16.8 +2.4**
baz=343,SNR=5.3
G19K Purcell Mounta 73.57 15 IAmb IAmb 15 48 17.1
comp=Z,7.0nm,0.7s
G19K Purcell Mounta 73.57 15 P P **15 48 16.7 +1.8**
baz=329,SNR=9.2
H16K Elim 73.65 18 P P **15 48 17.1 +1.7**
baz=325
E25K Arctic Village 73.83 10 IAmb IAmb 15 48 19.8
comp=Z,9.7nm,0.9s
E25K Arctic Village 73.83 10 P P **15 48 18.4 +2.0**
baz=338,SNR=14
COLD Coldfoot 73.93 12 P P **15 48 19.1 +2.2**
baz=334
H17K Granite Mounta 73.96 17 IAmb IAmb 15 48 20.0
comp=Z,6.8nm,0.9s
H17K Granite Mounta 73.96 17 P P **15 48 18.8 +1.6**
baz=327
G21K Allakaket 73.97 14 IAmb IAmb 15 48 20.1
comp=Z,21nm,1.7s
G21K Allakaket 73.97 14 P P **15 48 18.7 +1.5**
baz=332
G22K Bettles 73.97 13 P P **15 48 19.3 +2.1**
baz=333
F24K Squaw Lake 74.04 11 P P **15 48 19.1 +1.4**
baz=336
E28M Babbage River 74.12 8 P P **15 48 18.8 +0.7**
E28M Babbage River 74.12 8 P P **15 48 19.8 +1.7**
baz=343,SNR=7.6
H18K Honhosa River 74.14 16 IAmb IAmb 15 48 21.0
comp=Z,9.8nm,1.1s
H18K Honhosa River 74.14 16 P P **15 48 19.7 +1.4**
baz=328
H19K Roundabout Mou 74.23 15 P P **15 48 20.6 +1.9**
baz=329
E27K Coleen River 74.29 9 IAmb IAmb 15 48 22.7
comp=Z,8.7nm,0.9s
E27K Coleen River 74.29 9 P P **15 48 21.4 +2.3**
baz=341,SNR=11
F25K Christian Rive 74.31 10 P P **15 48 21.9 +2.7**
baz=338,SNR=13
IMAR Indian Mountai 74.39 14 P P **15 48 20.4 +0.7**
F26K Sheenjek River 74.42 10 P P **15 48 22.3 +2.4**
baz=339,SNR=6.3
G23K Bananza Creek 74.42 12 P P **15 48 22.0 +2.1**
baz=334
C36M Paulatuk 74.44 2 IAmb IAmb 15 48 21.8
comp=Z,18nm,1.2s
C36M Paulatuk 74.44 2 P P **15 48 21.0 +1.2**
baz=356,SNR=6.2
E29M Blow River 74.50 7 IAmb IAmb 15 48 23.7
comp=Z,8.8nm,1.0s
E29M Blow River 74.50 7 P P **15 48 22.2 +1.9**
baz=344,SNR=12
H20K Anotleneega Mo 74.59 15 P P **15 48 22.6 +1.7**
baz=330,SNR=5.2
BMAR Burnt Mountain 74.61 10 P P **15 48 22.2 +1.2**
SWI Sorong 74.63 103 P P **15 48 21.5 -0.4**
comp=Z,19nm,1.2s
I17K Unalakleet 74.65 18 P P **15 48 23.3 +2.1**
baz=326
J14K Nanvaranak Lak 74.85 20 P P **15 48 24.4 +2.1**
baz=324
G24K Hadweenzic Riv 74.86 11 P P **15 48 24.8 +2.4**
baz=336
H21K Melozitna Rive 74.86 14 IAmb IAmb 15 48 25.4
comp=Z,8.7nm,1.0s
H21K Melozitna Rive 74.86 14 P P **15 48 24.6 +2.2**
baz=332,SNR=6.0
H22K Ishtalitna Cre 74.92 13 P P **15 48 25.0 +2.2**
baz=333
INK Inuvik 74.97 6 IAmb IAmb 15 48 25.8
comp=Z,6.3nm,0.9s
INK Inuvik 74.97 6 P P **15 48 24.9 +1.9**
baz=348,SNR=7.9
INK Inuvik 74.97 6 P P **15 48 24.4 +1.4**
G25K Bearman Lake 75.01 11 P P **15 48 25.5 +2.3**
baz=338
F28M Old Crow 75.03 8 IAmb IAmb 15 48 26.7
comp=Z,8.9nm,1.1s
F28M Old Crow 75.03 8 P P **15 48 25.6 +2.2**
baz=343,SNR=9.0
J16K Anvik River 75.18 18 P P **15 48 25.4 +1.1**
J16K IAmb IAmb 15 48 27.6
comp=Z,11nm,0.8s
J16K Anvik River 75.18 18 P P **15 48 26.1 +1.8**
baz=326,SNR=6.7
K13K Kusilvak Mount 75.20 21 P P **15 48 26.1 +1.7**
baz=323
I20K Naaghedeneel 75.29 15 P P **15 48 26.6 +1.7**
baz=331
H23K Yukon River 75.31 13 IAmb IAmb 15 48 28.8
comp=Z,8.7nm,1.1s
H23K Yukon River 75.31 13 P P **15 48 27.1 +2.0**
baz=335,SNR=7.6
J17K VABM Dome 75.46 17 IAmb IAmb 15 48 28.9
comp=Z,9.7nm,1.1s
J17K VABM Dome 75.46 17 P P **15 48 27.5 +1.6**
baz=328
F30M Barrier River 75.46 7 P P **15 48 27.6 +1.8**
baz=346,SNR=7.2
H25L Birch Creek 75.51 11 P P **15 48 27.9 +1.7**
baz=338
H24K Noodor Dome 75.58 12 P P **15 48 29.0 +2.3**
baz=336
G27K Doyon Strip 75.59 9 P P **15 48 28.9 +2.2**
baz=341,SNR=6.7
J19K Poorman 75.74 16 P P **15 48 29.2 +1.7**
baz=330
K15K Wolf Creek Mou 75.76 19 P P **15 48 29.4 +1.8**
baz=326
F31M Tsiigehtchic 75.81 6 P P **15 48 28.5 +0.7**
F31M Tsiigehtchic 75.81 6 P P **15 48 29.8 +2.0**
baz=348,SNR=13
MLY Manley 75.81 13 IAmb IAmb 15 48 31.2
comp=Z,9.0nm,1.1s
MLY Manley 75.81 13 P P **15 48 30.3 +2.3**
baz=334,SNR=6.4
J20K Nowinta River 75.90 15 IAmb IAmb 15 48 31.5
comp=Z,6.3nm,0.8s
J20K Nowinta River 75.90 15 P P **15 48 30.2 +1.8**
baz=331
G29M Pine Creek 75.92 8 P P **15 48 30.5 +2.0**
baz=344
J18K Innoko River 75.96 16 P P **15 48 29.3 +0.5**
J18K IAmb IAmb 15 48 31.8
comp=Z,11nm,1.1s
J18K Innoko River 75.96 16 P P **15 48 30.6 +1.9**
baz=329,SNR=6.0
I23K Minto, Yukon-K 75.96 13 P P **15 48 30.8 +2.1**
baz=335,SNR=5.4
G30M tAoh Zraii Nji 76.03 7 IAmb IAmb 15 48 31.9
comp=Z,11nm,1.1s
G30M tAoh Zraii Nji 76.03 7 P P **15 48 31.0 +1.8**
baz=346
H27K Steamboat Moun 76.16 9 P P **15 48 32.7 +2.8**
baz=341,SNR=6.1
K17K Iditarod 76.23 18 P P **15 48 32.4 +2.1**
baz=328,SNR=6.9
L14K Kuka Creek 76.24 20 P P **15 48 32.7 +2.4**
baz=325
PRP Porcupine Dome 76.26 11 P P **15 48 33.3 +2.6**
baz=338
G31M Satah River 76.27 6 P P **15 48 30.6 +0.2**
G31M IAmb IAmb 15 48 37.6
comp=Z,9.9nm,1.1s
G31M Satah River 76.27 6 P P **15 48 32.2 +1.8**
baz=347,SNR=6.4
L15K Ungalak Mounta 76.29 19 P P **15 48 32.7 +2.1**
baz=326
POKR Poker Plat Res 76.32 12 P P **15 48 32.9 +2.1**
baz=337
MDM Murphy Dome 76.33 12 IAmb IAmb 15 48 34.7
comp=Z,12nm,1.1s
COLA College 76.47 12 P P **15 48 33.7 +2.1**
baz=336
COLA College 76.47 12 *i* P P **15 48 32.0 +0.4**
COLA pmax pmax
comp=Z,8.0nm,0.9s
NEA2 Nenana 76.52 13 IAmb IAmb 15 48 34.6
comp=Z,8.9nm,0.9s
NEA2 Nenana 76.52 13 P P **15 48 33.7 +1.8**
baz=335,SNR=7.3
CHUM Lake Minchumin 76.54 15 P P **15 48 34.3 +2.3**
baz=333,SNR=6.5
H29M Whitestone 76.55 8 IAmb IAmb 15 48 35.2
comp=Z,16nm,1.4s
H29M Whitestone 76.55 8 P P **15 48 34.0 +1.9**
baz=344,SNR=6.8
EPYK Eagle Plains 76.58 7 P P **15 48 33.6 +1.3**
baz=345
BPAW Bear Paw Mtn. 76.61 14 IAmb IAmb 15 48 40.0
comp=Z,10nm,1.2s
BPAW Bear Paw Mtn. 76.61 14 P P **15 48 34.4 +2.0**
baz=334
K20K Telida 76.64 15 IAmb IAmb 15 48 35.8
comp=Z,9.0nm,0.9s
K20K Telida 76.64 15 P P **15 48 34.6 +2.0**
baz=332
L17K Donlin 76.72 18 P P **15 48 35.1 +2.0**
baz=328
ILAR Eielson Array 76.73 12 P P **15 48 33.7 +0.6**
comp=Z,2.5nm,1.0s,baz=335,slow=4.4,SNR=11
comp=Z,2.5nm,1.0s
I27K Kandik River 76.74 9 P P **15 48 35.4 +2.2**
baz=341
L16K Owhat River 76.79 19 IAmb IAmb 15 48 37.0
comp=Z,9.5nm,0.9s
L16K Owhat River 76.79 19 P P **15 48 35.5 +2.0**
baz=327
I26K Coal Creek Min 76.81 10 P P **15 48 35.5 +1.9**
baz=340
M14K Bethel 76.92 20 P P **15 48 36.5 +2.2**
baz=326
CAST Castle Rocks 77.00 15 P P **15 48 36.6 +1.9**
baz=333,SNR=16
L18K Granite Mounta 77.04 17 P P **15 48 36.4 +1.5**
baz=330
HDA Harding Lake 77.06 12 P P **15 48 36.2 +1.2**
baz=337
GUMO Guam 77.08 83 LR LR 16 26 34.9
comp=Z,31nm,18.6s,baz=114,slow=39
I28M Miner Creek 77.10 9 P P **15 48 36.7 +1.3**
baz=343,SNR=6.6
KTH Kantishna Hill 77.11 14 P P **15 48 36.3 +0.9**
KTH IAmb IAmb 15 48 38.2
comp=Z,9.9nm,1.0s
J25K Salcha River, 77.13 11 P P **15 48 36.9 +1.5**
baz=338
MCK McKinley 77.33 13 P P **15 48 38.3 +1.7**
baz=336
TRF Thorofare Moun 77.33 14 P P **15 48 38.3 +1.5**
baz=334
H31M Peel River 77.36 6 IAmb IAmb 15 48 38.8
comp=Z,4.5nm,0.8s
H31M Peel River 77.36 6 P P **15 48 38.9 +2.2**
baz=347
I29M Ogilvie Camp, 77.38 8 IAmb IAmb 15 48 39.4
comp=Z,11nm,1.2s
I29M Ogilvie Camp, 77.38 8 P P **15 48 38.4 +1.5**
baz=344
PPLA Purkeypile 77.45 15 P P **15 48 38.8 +1.5**
baz=333
L20K Farewell, AK 77.46 16 P P **15 48 39.0 +1.7**
baz=332
L19K White Mountain 77.50 16 P P **15 48 39.3 +1.8**
baz=331
M16K Timber Creek 77.50 19 P P **15 48 39.4 +1.8**
baz=328
J26L Joseph Creek 77.51 11 IAmb IAmb 15 48 40.4
comp=Z,9.9nm,0.8s
J26L Joseph Creek 77.51 11 P P **15 48 39.2 +1.5**
baz=340,SNR=6.1
M17K Holitna River 77.56 18 P P **15 48 39.9 +2.1**
baz=329
EGAK Eagle 77.59 10 P P **15 48 39.6 +1.7**
baz=342
RND Reindeer 77.64 13 P P **15 48 38.9 +0.6**
RND IAmb IAmb 15 48 40.3
comp=Z,8.4nm,1.0s
RND Reindeer 77.64 13 P P **15 48 38.9 +0.6**
RND pmax pmax
comp=Z,9.0nm,1.0s
I30M Mount Dempster 77.73 7 IAmb IAmb 15 48 41.4
comp=Z,5.2nm,0.8s
I30M Mount Dempster 77.73 7 P P **15 48 40.7 +1.8**
baz=346,SNR=8.4
K24K Donnelly Dome 77.81 12 P P **15 48 41.1 +1.8**
baz=338
M18K Stony River 77.88 17 P P **15 48 41.7 +2.1**
baz=330
SCRK Sand Creek 77.94 11 IAmb IAmb 15 48 43.3
comp=Z,9.0nm,1.0s
SCRK Sand Creek 77.94 11 P P **15 48 42.0 +1.9**
baz=340,SNR=6.3
N16K Nishlik Lake 78.02 19 P P **15 48 42.5 +2.0**
baz=328
K27K Chicken 78.17 10 IAmb IAmb 15 48 44.7
comp=Z,12nm,1.1s
K27K Chicken 78.17 10 P P **15 48 44.0 +2.8**
baz=341
DHY Denali Highway 78.21 13 P P **15 48 43.9 +2.2**
baz=337
WAT1 Susitna Watana 78.22 13 P P **15 48 43.7 +2.2**
baz=336
CUT Chultina 78.28 14 P P **15 48 43.3 +1.6**
baz=335
J30M Hart River 78.36 8 IAmb IAmb 15 48 50.3
comp=Z,24nm,1.8s
J30M Hart River 78.36 8 P P **15 48 44.3 +1.8**
baz=346
SKT Skwentna 78.41 15 IAmb IAmb 15 48 44.8
comp=Z,12nm,1.0s
SKT Skwentna 78.41 15 P P **15 48 44.1 +1.5**
baz=334,SNR=8.7
DAWY Dawson 78.50 9 P P **15 48 44.4 +1.3**
DAWY IAmb IAmb 15 48 46.0
comp=Z,9.6nm,1.0s
DAWY Dawson 78.50 9 P P **15 48 44.9 +1.8**
baz=343,SNR=6.6
N18K Kilae Creek 78.57 18 P P **15 48 44.7 +1.2**
baz=330
WAT6 Susitna Watana 78.60 13 P P **15 48 45.2 +1.4**
baz=337
PAX Paxson 78.64 12 P P **15 48 45.5 +1.5**
baz=338
SCHQ Schefferville 78.71 332 P P **15 48 45.3 +0.9**
comp=Z,4.0nm,0.7s,baz=9.5,slow=3.9,SNR=5.6
SCHQ LR LR 16 25 38.5
comp=Z,42nm,18.5s,baz=51,slow=37
comp=Z,4.0nm,0.7s
N19K Bonanza Creek 78.79 17 P P **15 48 46.5 +1.7**
baz=331
L26K Log Cabin Wild 78.93 11 IAmb IAmb 15 48 53.8
comp=Z,11nm,1.4s
L26K Log Cabin Wild 78.93 11 P P **15 48 47.6 +2.2**
baz=340
K29M Barlow Dome 78.94 8 IAmb IAmb 15 48 48.6
comp=Z,5.6nm,0.8s
K29M Barlow Dome 78.94 8 P P **15 48 47.5 +1.9**
baz=345,SNR=7.9
SUA Susitna One 79.03 15 P P **15 48 48.0 +1.8**
baz=334
L27K Beaver Creek, 79.13 10 P P **15 48 48.0 +1.5**
baz=341
BCAR Beaver Creek A 79.13 10 P P **15 48 47.8 +1.2**
SML Sawmill 79.20 14 IAmb IAmb 15 48 54.5
comp=Z,9.6nm,0.8s
SML Sawmill 79.20 14 P P **15 48 48.3 +1.3**
baz=336
HARP HAARP 79.23 12 P P **15 48 48.7 +1.6**
baz=339
PMR Palmer 79.25 14 P P **15 48 49.3 +2.2**
baz=336
M24K Tolsona, Glenn 79.33 13 P P **15 48 49.9 +2.2**
baz=338,SNR=5.3
M23K Glacier View 79.33 13 P P **15 48 49.5 +1.8**
baz=337
SCM Sheep Creek Mo 79.37 13 P P **15 48 49.4 +1.5**
baz=337
O19K Port Alsworth 79.37 17 P P **15 48 49.3 +1.5**
baz=332
O18K Koktuh Hills 79.46 18 P P **15 48 50.4 +2.0**
baz=331
KNK Knik Glacier 79.54 14 IAmb IAmb 15 48 51.8
comp=Z,10nm,1.0s
KNK Knik Glacier 79.54 14 P P **15 48 50.6 +1.8**
baz=336
M26K Nabesna, AK 79.58 11 P P **15 48 50.9 +1.9**
baz=340
L29M L29M 79.58 9 P P **15 48 50.3 +1.3**
L29M IAmb IAmb 15 48 57.4
comp=Z,20nm,1.6s

L29M	**L29M**	**79.58**	**9**	P		**P**	**15 48 51.5**	**+2.5**
	baz=344,SNR=5.7							
RC01	**Rabbit Creek A**	**79.58**	**15**	P		**P**	**15 48 51.5**	**+2.5**
	baz=335							
M27K	**Edge Creek, AK**	**79.79**	**11**	IAmb		IAmb	15 48 53.9	
	comp=Z,12nm,1.0s							
M27K	**Edge Creek, AK**	**79.79**	**11**	P		**P**	**15 48 52.2**	**+1.9**
	baz=341,SNR=8.2							
P18K	**Big Mountain,**	**79.86**	**18**	P		**P**	**15 48 52.1**	**+1.5**
	baz=331							
KLU	**Klutina**	**79.94**	**13**	IAmb		IAmb	15 48 54.5	
	comp=Z,16nm,1.4s							
KLU	**Klutina**	**79.94**	**13**	P		**P**	**15 48 53.6**	**+2.5**
	baz=338							
N25K	**Chitina, Valde**	**80.07**	**12**	P		**P**	**15 48 54.1**	**+2.4**
	baz=339							
M29M	**Somme Creek**	**80.18**	**9**	P		**P**	**15 48 54.6**	**+2.3**
	baz=344							
SEW	**Seward**	**80.54**	**15**	P		**P**	**15 48 55.5**	**+1.4**
	baz=335							
YUK3	**Moose Creek**	**80.55**	**10**	P		**P**	**15 48 56.4**	**+1.9**
	baz=342,SNR=8.2							
WRGLY	**Wrigley**	**80.58**	**2**	P		**P**	**15 48 56.5**	**+2.1**
	baz=356							
BMRM	**Bremner River**	**80.66**	**12**	P		**P**	**15 48 57.0**	**+2.1**
	baz=339							
M31M	**Drury Creek, Y**	**80.88**	**7**	P		**P**	**15 48 57.9**	**+1.9**
	baz=347							
P23K	**Montague Islan**	**81.05**	**14**	P		**P**	**15 48 59.2**	**+2.3**
	baz=337							
CTG	**Chitna Glacier**	**81.20**	**11**	P		**P**	**15 48 59.7**	**+1.9**
	baz=342							
SMPI	**Sarmi**	**81.21**	**99**	P		**P**	**15 48 55.6**	**-2.9**
	comp=Z,21nm,0.8s							
YUK4	**Talbot Arm**	**81.22**	**9**	P		**P**	**15 48 59.8**	**+1.7**
	baz=344,SNR=5.3							
N30M	**Aishikik Lake**	**81.31**	**9**	P		**P**	**15 49 00.4**	**+2.1**
	baz=345							
YKA	**Yellowknife Ar**	**81.33**	**358**	P		**P**	**15 48 59.1**	**+0.8**
YKA	**Yellowknife Ar**	**81.33**	**358**	P		**P**	**15 48 59.3**	**+1.0**
	comp=Z,3.0nm,0.8s,baz=358,slow=6.5,SNR=43							
YKA				LR		LR	16 26 57.4	
	comp=Z,32nm,19.9s,baz=280,slow=37							
	comp=Z,3.0nm,0.8s							
YUK6	**Outpost Mounta**	**81.64**	**9**	P		**P**	**15 49 02.3**	**+2.0**
	baz=344							
HYT	**Haines Junctio**	**81.87**	**9**	IAmb		IAmb	15 49 04.8	
	comp=Z,11nm,1.1s							
HYT	**Haines Junctio**	**81.87**	**9**	P		**P**	**15 49 03.8**	**+2.4**
	baz=345,SNR=5.7							
N32M	**Quiet Lake**	**82.05**	**7**	P		**P**	**15 49 03.6**	**+1.4**
	baz=348							
TGTN	**Hyland Airport**	**82.06**	**5**	P		**P**	**15 49 04.1**	**+1.7**
	baz=352							
O30N	**Mendenhall**	**82.09**	**8**	P		**P**	**15 49 04.0**	**+1.5**
	baz=346							
PNL	**Peninsula**	**82.73**	**10**	P		**P**	**15 49 07.7**	**+1.9**
	baz=343							
GENI	**Genyem**	**82.74**	**99**	P		**P**	**15 49 07.5**	**+1.0**
GENI	**Genyem**	**82.74**	**99**	P		**P**	**15 49 07.2**	**+0.7**
	comp=Z,47nm,1.0s							
CHIR	**Chirikof Islan**	**82.89**	**20**	P		**P**	**15 49 08.3**	**+1.6**
	baz=331							
FCC	**Fort Churchill**	**82.90**	**347**	P		**P**	**15 49 07.2**	**+0.6**
FCC				IAmb		IAmb	15 49 08.9	
	comp=Z,7.4nm,1.1s							
FCC	**Fort Churchill**	**82.90**	**347**	P		**P**	**15 49 07.2**	**+0.6**
FCC				pmax		pmax		
	comp=Z,7.0nm,1.1s							
P33M	**Teslin, Yukon**	**83.00**	**7**	P		**P**	**15 49 08.9**	**+1.7**
	baz=349							
PLBC	**Pleasant Camp**	**83.34**	**9**	P		**P**	**15 49 10.8**	**+1.9**
	baz=346							
P32M	**Atlin**	**83.52**	**8**	P		**P**	**15 49 11.5**	**+1.6**
	baz=348							
R33M	**Jennings River**	**83.97**	**6**	P		**P**	**15 49 14.1**	**+1.7**
	baz=350							
TOAD	**Toad River Com**	**84.90**	**3**	P		**P**	**15 49 19.1**	**+2.2**
	baz=355							
DLBC	**Dease Lake**	**85.00**	**6**	P		**P**	**15 49 19.5**	**+2.0**
	baz=351							
S34M	**Telegraph Cree**	**85.42**	**7**	P		**P**	**15 49 21.7**	**+2.2**
	baz=350							
S32K	**Killisnoo**	**85.50**	**8**	P		**P**	**15 49 22.0**	**+2.1**
	baz=347							
T35M	**Bob Quinn**	**86.42**	**6**	P		**P**	**15 49 26.4**	**+1.9**
	baz=351							
CRAG	**Craig**	**87.63**	**8**	P		**P**	**15 49 32.4**	**+2.1**
	baz=348							
FFC	**Flin Flon**	**88.02**	**350**	P		**P**	**15 49 32.7**	**+0.4**
FFC				IAmb		IAmb	15 49 34.6	
	comp=Z,7.4nm,1.1s							
FFC	**Flin Flon**	**88.02**	**350**	P		**P**	**15 49 32.7**	**+0.4**
FFC				pmax		pmax		
	comp=Z,7.0nm,1.2s							
WB0	**Warramunga Arr**	**88.88**	**116**	P		**P**	**15 49 35.5**	**-1.3**
WRA	**Warramunga Arr**	**88.95**	**116**	P		**P**	**15 49 35.8**	**-1.3**
WRA	**Warramunga Arr**	**88.95**	**116**	P		**P**	**15 49 35.5**	**-1.6**
	comp=Z,5.9nm,0.8s,baz=319,slow=4.4,SNR=33							
	comp=Z,5.9nm,0.8s							
WRA	**Warramunga Arr**	**88.95**	**116**	P		**P**	**15 49 35.8**	**-1.3**
WRAB	**Tennant Creek**	**88.95**	**116**	*i* P		**P**	**15 49 33.7**	**-3.4**
WRAB				pmax		pmax		
	comp=Z,8.0nm,1.0s							
WR0	**Warramunga Arr**	**89.10**	**116**	P		**P**	**15 49 36.5**	**-1.3**
WR0				IAmb		IAmb	15 49 37.9	
	comp=Z,9.0nm,1.0s							
ASAR	**Alice Springs**	**91.00**	**119**	P		**P**	**15 49 44.8**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=313,slow=5.3,SNR=14							
	comp=Z,1.6nm,0.8s							
ULM	**Lac du Bonnet**	**91.30**	**345**	P		**P**	**15 49 47.5**	**-0.2**
ULM	**Lac du Bonnet**	**91.30**	**345**	P		**P**	**15 49 47.2**	**-0.5**
	comp=Z,7.8nm,0.9s,baz=42,slow=5.4,SNR=6.6							
	comp=Z,7.8nm,0.9s							
ULM	**Lac du Bonnet**	**91.30**	**345**	P		**P**	**15 49 47.5**	**-0.2**
ULM				pmax		pmax		
	comp=Z,9.0nm,0.9s							
BBB	**Bella Bella**	**91.36**	**6**	LR		LR	16 39 49.7	
	comp=Z,45nm,18.1s,baz=341,slow=41							
QSPA	**South Pole Qui**	**126.27**	**180**	PKP		**PKPdf**	**15 55 42.8**	**-1.2**
	comp=Z,5.2nm,0.9s,baz=223,slow=0.9,SNR=8.8							
CPUP	**Villa Florida**	**127.28**	**263**	PKP		**PKPdf**	**15 55 46.1**	**-0.9**
	comp=Z,2.8nm,0.7s,baz=25,slow=4.1,SNR=5.3							
LPAZ	**La Paz**	**130.90**	**280**	PKP		**PKPdf**	**15 55 54.2**	**-0.7**
	comp=Z,2.0nm,0.9s,baz=96,slow=2.3,SNR=5.2							
LPAZ	**La Paz**	**130.90**	**280**	*e*P		**PKPdf**	**15 55 55.4**	**+0.4**
PLCA	**Paso Flores**	**142.36**	**248**	PKP		**PKPdf**	**15 56 14.3**	**-0.5**
	comp=Z,6.2nm,1.0s,baz=346,slow=1.2,SNR=11							
TBI	**Tubuai**	**150.58**	**72**	*e*LR		LR	16 46 20.0	
	comp=Z,253nm,30.2s							

*PRU **10** 15:41:24.2,50°.26N×12°.42E,h10km, West Bohemia Swarm*

WBNET 10 15:41:25.0,50°.25N×12°.45E,h9km,MI1.3,3C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**182**	*e*SG	Sg	15 41 27.8	0.0
	comp=Z,27nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**182**	P	Pg	15 41 26.8	+0.1
NKC				S	Sg	15 41 27.9	+0.1
LBCW	**Luby**	**0.03**	**302**	⇓P	Pg	15 41 26.9	+0.1
LBCW				S	Sg	15 41 28.1	+0.2
STCW	**Studenec**	**0.05**	**80**	⇑P	Pg	15 41 26.9	+0.1
STCW				S	Sg	15 41 28.1	-0.1
VAC	**Vackov**	**0.05**	**251**	⇓P	Pg	15 41 26.9	+0.1
VAC				S	Sg	15 41 28.2	0.0
KVC	**Kvetna**	**0.06**	**137**	⇓P	Pg	15 41 27.1	+0.1
KVC				S	Sg	15 41 28.4	0.0
POCW	**Potky**	**0.07**	**348**	⇓P	Pg	15 41 27.3	+0.1
POCW				S	Sg	15 41 28.8	+0.1
KRCW	**Kraslice**	**0.10**	**33**	⇑P	Pg	15 41 27.5	0.0
KRCW				S	Sg	15 41 29.2	-0.1
SKC	**Skalna**	**0.10**	**215**	⇑P	Pg	15 41 27.6	+0.1
SKC				S	Sg	15 41 29.2	0.0
KOCW	**Kopaniny**	**0.14**	**276**	⇓P	Pg	15 41 28.1	0.0
KOCW				S	Sg	15 41 30.2	-0.1
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*SG	Sg	15 41 48.0	-0.4
	comp=Z,3.5nm,0.2s						
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	15 41 45.7	-0.7
CLL				*i* x	x	15 41 47.8	
CLL				*i* Sg	Sg	15 42 00.4	-0.5
	comp=Z,2.0nm,0.7s						
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG	Sn	15 42 07.8	-0.1

*NEIC **10** 15:42:39.7±2.6,27°.47S±0°.06×67°.42W±0°.10,h170km±7km, mb4.4/6, Error ellipse: s-maj=12.4km s-min=8.9km az=98.0*

*SJA **10** 15:42:40.0±1.2,27°.42S×67°.37W,h160km±9km, ML4.0, MW4.2*

*IDC **10** 15:42:41.5±1.9,27°.33S×67°.09W,h133km±19km, mb4.1/5, mbtmp4.3/10, MS2.9/3, Error ellipse: s-maj=22.2km s-min=16.0km az=84.0*

*GUC **10** 15:42:42.0±0.4,27°.42S×67°.54W,h149km±3km, ML4.1*

*VAO **10** 15:42:45.4±0.7,27°.11S×67°.12W,h158km±4km, mb4.4*

ISC 10 15:42:40.6±0.6,27°.39S±0°.04×67°.40W±0°.03,h146km±7km, n160,σ1§59/188,mb4.3/5,Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCA	**Vinchina**	**1.51**	**208**	*e*P	**Pn**	**15 43 11.8**	**+1.6**
VCA				*e*S	**Sn**	**15 43 34.5**	**+1.6**
VCA				IAML		15 43 36.0	
	comp=Z,2μm,0.3s						
VCA	**Vinchina**	**1.51**	**208**	*e*P	**Pn**	**15 43 11.6**	**+1.4**
VCA				*i* S	**Sn**	**15 43 34.5**	**+1.6**
VCA				IAML		15 43 37.4	
	comp=E,2μm,0.2s						
AC02	**Maricunga**	**1.64**	**289**	Pn	**Pn**	**15 43 13.5**	**+1.7**
AC02				Sn	**Sn**	**15 43 37.1**	**+1.4**
AC02	**Maricunga**	**1.64**	**289**	*e*P	**Pn**	**15 43 13.0**	**+1.1**
AC02				IAML		15 43 46.3	
	comp=Z,403nm,0.7s						
AC02	**Maricunga**	**1.64**	**289**	*e*P	**Pn**	**15 43 13.6**	**+1.7**
AC02				*i* S	**Sn**	**15 43 37.6**	**+1.9**
CYA	**Choya**	**1.76**	**127**	*e*P	**Pn**	**15 43 13.4**	**+0.6**
CYA				*e*S	**Sn**	**15 43 37.1**	**-0.3**
CYA				IAML		15 43 38.3	
	comp=Z,237nm,1.3s						
CYA	**Choya**	**1.76**	**127**	*e*P	**Pn**	**15 43 13.2**	**+0.5**
CYA				*i* S	**Sn**	**15 43 36.2**	**-1.2**
FSA	**Cafayete**	**1.80**	**45**	*e*P	**Pn**	**15 43 14.7**	**+1.3**
FSA				*e*S	**Sn**	**15 43 41.1**	**+2.5**
AHML	**Horco Molle**	**1.94**	**72**	*e*P	**Pn**	**15 43 15.4**	**+0.6**
AHML				*i* S	**Sn**	**15 43 41.0**	**-0.1**
AHML				IAML		15 43 43.3	
	comp=E,411nm,0.8s						
AGUA	**GUANDACOL**	**2.29**	**204**	*e*P	**Pn**	**15 43 20.1**	**+0.9**
AGUA				IAML		15 43 50.2	
	comp=Z,1μm,1.0s						
GUSE	**Guasayan**	**2.32**	**103**	*e*P	**Pn**	**15 43 19.7**	**+0.3**
GUSE				*e*S	**Sn**	**15 43 48.8**	**-0.3**
GO03	**Copiap**	**2.52**	**265**		**Pn**	**15 43 22.4**	**+0.5**
GO03				Sn	**Sn**	**15 43 53.3**	**-0.3**
GO03	**Copiap**	**2.52**	**265**	*e*P	**Pn**	**15 43 22.6**	**+0.7**
GO03				*e*S	**Sn**	**15 43 54.4**	**+0.7**
GO03	**Copiap**	**2.52**	**265**	*e*P	**Pn**	**15 43 22.4**	**+0.5**
GO03				*i* S	**Sn**	**15 43 53.4**	**-0.3**
AC06	**Mina Casimiro**	**2.62**	**270**	Pn	**Pn**	**15 43 23.5**	**+0.4**
AC06				Sn	**Sn**	**15 43 54.6**	**-1.3**
AC06	**Mina Casimiro**	**2.62**	**270**	*e*P	**Pn**	**15 43 23.5**	**+0.4**
AC06				*i* S	**Sn**	**15 43 55.2**	**-0.6**
AC06				IAML		15 43 55.9	
	comp=N,1μm,0.7s						
AC05	**El Transito**	**2.92**	**240**	Pn	**Pn**	**15 43 27.6**	**+0.7**
AC05				Sn	**Sn**	**15 44 02.5**	**-0.1**
AC05	**El Transito**	**2.92**	**240**	*e*P	**Pn**	**15 43 28.2**	**+1.3**
AC05				IAML		15 44 06.5	
	comp=Z,324nm,0.7s						
AC05	**El Transito**	**2.92**	**240**	*e*P	**Pn**	**15 43 27.4**	**+0.5**
AC05				*i* S	**Sn**	**15 44 02.5**	**-0.1**
AC05				IAML		15 44 05.4	
	comp=N,722nm,0.5s						
GO02	**Mina Guanaco**	**2.97**	**318**	Pn	**Pn**	**15 43 29.5**	**+1.8**
GO02				Sn	**Sn**	**15 44 05.2**	**+1.2**
GO02	**Mina Guanaco**	**2.97**	**318**	*e*P	**Pn**	**15 43 28.8**	**+1.1**
GO02	**Mina Guanaco**	**2.97**	**318**	*e*P	**Pn**	**15 43 29.4**	**+1.7**
GO02				*i* S	**Sn**	**15 44 05.9**	**+1.9**
GO02				IAML		15 44 07.4	
	comp=E,320nm,0.7s						
AC01	**Pan de Azucar**	**3.12**	**293**		**Pn**	**15 43 29.9**	**+0.6**
AC01				Sn	**Sn**	**15 44 05.1**	**-1.8**
AC01	**Pan de Azucar**	**3.12**	**293**	*e*P	**Pn**	**15 43 30.1**	**+0.8**
AC01				IAML		15 44 16.7	
	comp=Z,234nm,0.8s						
AC01	**Pan de Azucar**	**3.12**	**293**	*e*P	**Pn**	**15 43 29.9**	**+0.6**
ACDV	**Cuesta del Vie**	**3.15**	**208**	*e*P	**Pn**	**15 43 31.2**	**+1.3**
ACDV				IAML		15 44 10.9	
	comp=Z,293nm,1.1s						
SLA	**San Lorenzo**	**3.16**	**33**	*e*P	**Pn**	**15 43 31.4**	**+1.3**
SLA				IAML		15 44 12.8	
	comp=Z,230nm,1.3s						
AVFE	**Valle Fertil**	**3.25**	**181**	*e*P	**Pn**	**15 43 31.7**	**+0.6**
AVFE				IAML		15 44 16.1	
	comp=Z,281nm,0.3s						
AROD	**Rodeo**	**3.31**	**213**	*e*P	**Pn**	**15 43 33.4**	**+1.4**
LCO	**Las Campanas**	**3.33**	**240**	Pn	**Pn**	**15 43 32.1**	**-0.1**
LCO				Sn	**Sn**	**15 44 10.6**	**-1.6**
LCO	**Las Campanas**	**3.33**	**240**	*e*P	**Pn**	**15 43 32.5**	**+0.2**
LCO				IAML		15 44 12.7	
	comp=Z,2μm,1.0s						
LCO	**Las Campanas**	**3.33**	**240**	*e*P	**Pn**	**15 43 32.4**	**+0.2**
LCO				*i* S	**Sn**	**15 44 11.9**	**-0.3**
AC04	**Llanos de Chal**	**3.35**	**255**	Pn	**Pn**	**15 43 32.0**	**-0.3**
AC04				Sn	**Sn**	**15 44 10.4**	**-1.9**
AC04	**Llanos de Chal**	**3.35**	**255**	*e*P	**Pn**	**15 43 32.3**	**0.0**
AC04				*i* S	**Sn**	**15 44 11.5**	**-0.9**
CO01	**Juntas del Tor**	**3.50**	**222**		**Pn**	**15 43 35.6**	**+1.3**
CO01	**Juntas del Tor**	**3.50**	**222**	*e*P	**Pn**	**15 43 35.5**	**+1.1**
CO01				IAML		15 44 22.6	
	comp=Z,117nm,1.0s						
CO01	**Juntas del Tor**	**3.50**	**222**	*e*P	**Pn**	**15 43 35.9**	**+1.5**
CO01				*i* S	**Sn**	**15 44 16.6**	**+0.5**
ACCO	**Cerro Coronel**	**3.50**	**204**	*e*P	**Pn**	**15 43 35.5**	**+1.0**
ACCO				IAML		15 44 18.5	
	comp=Z,635nm,0.3s						
PB14	**IPOC Station P**	**3.86**	**315**	Pn	**Pn**	**15 43 40.2**	**+1.0**
PB14	**IPOC Station P**	**3.86**	**315**	*e*P	**Pn**	**15 43 40.9**	**+1.6**
GO04	**Tololo Observa**	**4.07**	**226**		**Pn**	**15 43 41.4**	**-0.5**
GO04	**Tololo Observa**	**4.07**	**226**	*e*P	**Pn**	**15 43 41.6**	**-0.3**
GO04				*i* S	**Sn**	**15 44 29.5**	**0.0**
CO05	**La Serena**	**4.21**	**232**		**Pn**	**15 43 42.2**	**-1.2**
ZON	**Zonda**	**4.29**	**195**		**Pn**	**15 43 44.3**	**-0.3**
AF01	**San Pedro de A**	**4.48**	**351**	Pn	**Pn**	**15 43 47.7**	**+0.3**
CO03	**El Pedregal**	**4.48**	**219**	Pn	**Pn**	**15 43 46.8**	**-0.3**
CO03	**El Pedregal**	**4.48**	**219**	*e*P	**Pn**	**15 43 47.0**	**-0.1**
CO03				*i* S	**Sn**	**15 44 38.4**	**-0.5**
PB15	**IPOC Station P**	**4.57**	**335**		**Pn**	**15 43 49.6**	**+1.1**
RTLS	**Leoncito**	**4.69**	**200**	*e*P	**Pn**	**15 43 50.6**	**+0.5**
RTLS				IAML		15 44 46.0	
	comp=Z,264nm,0.2s						
PB10	**IPOC Station P**	**4.80**	**323**		**Pn**	**15 43 51.7**	**+0.3**
CO02	**Combarbal**	**4.93**	**219**		**Pn**	**15 43 50.9**	**-2.2**
CO02	**Combarbal**	**4.93**	**219**	*e*P	**Pn**	**15 43 52.1**	**-1.0**
CO02				*i* S	**Sn**	**15 44 48.4**	**-1.2**
CO06	**Fray Jorge**	**4.94**	**228**		**Pn**	**15 43 51.1**	**-2.0**
LVC	**Limon Verde**	**4.96**	**344**	Pn	**Pn**	**15 43 54.6**	**+0.8**
LVC	**Limon Verde**	**4.96**	**344**	P	**Pn**	**15 43 55.6**	**+1.8**
	comp=Z,64nm,0.5s,baz=175,slow=8.0,SNR=78						
LVC				S	**Sn**	**15 44 51.5**	**+0.8**
	comp=Z,53nm,0.6s,baz=288,slow=20,SNR=31						
LVC				LR	LR	15 46 25.6	
	comp=Z,113nm,20.6s,baz=110,slow=45						
LVC	**Limon Verde**	**4.96**	**344**	*e*P	**Pn**	**15 43 55.6**	**+1.8**
LVC				*e*S	**Sn**	**15 44 50.8**	**+0.1**
PB06	**IPOC Station P**	**5.07**	**337**		**Pn**	**15 43 55.8**	**+0.9**
PB05	**IPOC Station P**	**5.18**	**330**	Pn	**Pn**	**15 43 57.0**	**+0.4**
PB04	**IPOC Station P**	**5.62**	**333**	Pn	**Pn**	**15 44 02.2**	**-0.3**
PB09	**IPOC Station P**	**5.82**	**343**		**Pn**	**15 44 06.0**	**+0.9**
VA03	**San Esteban**	**6.01**	**206**		**Pn**	**15 44 06.5**	**-0.9**
PB07	**IPOC Station P**	**6.08**	**338**		**Pn**	**15 44 07.7**	**-0.9**
VA06	**Catapilco**	**6.16**	**212**	Pn	**Pn**	**15 44 06.9**	**-2.4**
TICA	**Tres Isletas**	**6.35**	**83**	*e*S	**Sn**	**15 45 22.3**	**-1.0**
PEL	**Peldehue**	**6.39**	**206**		**Pn**	**15 44 11.1**	**-1.4**
MT08	**Bocatoma Ro**	**6.44**	**200**		**Pn**	**15 44 13.1**	**-0.2**
PB02	**IPOC Station P**	**6.46**	**339**		**Pn**	**15 44 13.5**	**-0.1**
MT16	**CCHEN**	**6.59**	**203**	Pn	**Pn**	**15 44 13.8**	**-1.3**
PB01	**IPOC Station P**	**6.60**	**343**	Pn	**Pn**	**15 44 15.2**	**-0.3**
MT05	**Renca**	**6.64**	**205**	Pn	**Pn**	**15 44 14.8**	**-0.9**
MT02	**Curacav**	**6.68**	**208**		**Pn**	**15 44 13.7**	**-2.6**
VA01	**Torpederas**	**6.71**	**212**		**Pn**	**15 44 13.1**	**-3.5**
MT13	**San Alfonso**	**6.80**	**201**		**Pn**	**15 44 16.9**	**-1.1**
LMEL	**Las Melosas**	**6.87**	**200**		**Pn**	**15 44 17.9**	**-1.1**
PATCX	**Punta Patache**	**7.01**	**338**		**Pn**	**15 44 19.3**	**-1.6**
MT09	**Talagante**	**7.07**	**205**		**Pn**	**15 44 18.8**	**-2.9**
BO04	**La Punta**	**7.13**	**202**		**Pn**	**15 44 20.5**	**-1.9**
VA05	**Santo Domingo**	**7.22**	**209**		**Pn**	**15 44 19.4**	**-4.1**
MT01	**Popeta**	**7.25**	**206**		**Pn**	**15 44 20.8**	**-3.2**
TA01	**Diego Aracena**	**7.26**	**339**	Pn	**Pn**	**15 44 22.2**	**-1.9**
PB08	**IPOC Station P**	**7.40**	**347**		**Pn**	**15 44 25.6**	**-0.8**
TA02	**Huaiquique**	**7.52**	**340**	Pn	**Pn**	**15 44 26.8**	**-0.8**
BO01	**Tunca**	**7.66**	**203**	Pn	**Pn**	**15 44 26.4**	**-3.0**
GO01	**Chusmiza**	**7.86**	**348**	Pn	**Pn**	**15 44 31.7**	**-1.0**
PB11	**IPOC Station P**	**7.87**	**344**	Pn	**Pn**	**15 44 31.7**	**-0.9**
BO02	**Sierra Bellavi**	**7.92**	**201**	Pn	**Pn**	**15 44 30.9**	**-2.1**
GO05	**Huala**	**8.52**	**206**	Pn	**Pn**	**15 44 36.8**	**-4.1**
ML02	**Panimavida**	**9.02**	**201**	Pn	**Pn**	**15 44 43.4**	**-4.1**
CPUP	**Villa Florida**	**9.06**	**86**	Pn	**Pn**	**15 44 44.0**	**-4.1**
CPUP	**Villa Florida**	**9.06**	**86**	P	**Pn**	**15 44 45.2**	**-2.9**
	comp=Z,3.7nm,0.9s,baz=274,slow=11,SNR=5.4						
CPUP				LR	LR	15 47 52.1	
	comp=Z,36nm,20.0s,baz=200,slow=35						
PB12	**IPOC Station P**	**9.14**	**342**	Pn	**Pn**	**15 44 46.4**	**-3.1**
ITQB	**Itaqui**	**9.75**	**106**	Pn	**Pn**	**15 44 53.7**	**-3.6**
ITQB	**Itaqui**	**9.75**	**106**	*e*P	**Pn**	**15 44 59.3**	**+2.0**
PB18	**Visviri**	**9.95**	**348**	Pn	**Pn**	**15 44 57.8**	**-2.7**
SJPY	**San Joaquin**	**10.42**	**79**	*e*P	**Pn**	**15 45 09.1**	**+2.8**
BI05	**Punta Hualpn**	**10.54**	**206**	Pn	**Pn**	**15 45 04.0**	**-3.7**
TBOT	**Tacuaremb**	**10.86**	**116**	*e*P	**Pn**	**15 45 14.5**	**+2.5**
UNIS	**Unistalda (Bra**	**11.00**	**102**	*e*P	**Pn**	**15 45 14.8**	**+0.9**
LPAZ	**La Paz**	**11.07**	**356**		**Pn**	**15 45 13.4**	**-2.1**
LPAZ	**La Paz**	**11.07**	**356**	P	**Pn**	**15 45 16.4**	**+0.9**
	comp=Z,1.3nm,0.5s,baz=143,slow=8.9,SNR=4.8						
LPAZ				LR	LR	15 50 39.2	
	comp=Z,149nm,20.9s,baz=121,slow=43						
LPAZ	**La Paz**	**11.07**	**356**	*e*P	**Pn**	**15 45 16.8**	**+1.3**
BBRB	**Robore, Bolivi**	**11.46**	**39**	*e*P	**Pn**	**15 45 18.4**	**-1.6**
TRQA	**Tornquist**	**11.57**	**158**	Pn	**Pn**	**15 45 18.5**	**-2.8**
BBSD	**Serra de San D**	**11.94**	**33**	*e*P	**Pn**	**15 45 25.7**	**-0.6**
BDQN	**Bodoquena, MS**	**11.94**	**57**	*e*P	**Pn**	**15 45 26.1**	**-0.2**
AMBA	**Amambai (Brazi**	**12.09**	**71**	*e*P	**Pn**	**15 45 29.6**	**+1.4**
AQDB	**Aquidauana**	**12.72**	**60**	Pn	**Pn**	**15 45 34.7**	**-1.7**
AQDB	**Aquidauana**	**12.72**	**60**	*e*P	**Pn**	**15 45 36.0**	**-0.4**
PLTB	**Pedras Altas**	**12.77**	**113**	Pn	**Pn**	**15 45 33.0**	**-4.0**
SIV	**San Ignacio**	**12.78**	**29**	P	**Pn**	**15 45 35.4**	**-1.7**
	comp=Z,3.1nm,0.7s,baz=205,slow=8.3,SNR=13						
PLCA	**Paso Flores**	**13.56**	**190**		**Pn**	**15 45 45.3**	**-1.8**
PLCA	**Paso Flores**	**13.56**	**190**	P	**P**	**15 45 51.2**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=359,slow=14,SNR=6.6						
ITAB	**Concordia**	**13.58**	**93**	Pn	**Pn**	**15 45 45.9**	**-1.4**
LL04	**Puerto Octay**	**14.10**	**196**	Pn	**Pn**	**15 45 50.6**	**-3.2**
TRCB	**Terra Rica**	**14.14**	**74**		**Pn**	**15 45 53.0**	**-1.6**
TRCB	**Terra Rica**	**14.14**	**74**	*e*P	**P**	**15 45 55.5**	**-2.2**
PTLB	**Pontes e Lacer**	**14.15**	**35**	Pn	**Pn**	**15 45 53.1**	**-1.6**
PTLB	**Pontes e Lacer**	**14.15**	**35**	*e*P	**Pn**	**15 45 52.8**	**-1.8**
RVDE	**Rio Verde (Bra**	**14.15**	**57**	*e*P	**Pn**	**15 45 54.0**	**-0.7**
LDASE	**Londrina, Braz**	**15.24**	**78**	*e*P	**P**	**15 46 08.9**	**-1.0**
LL01	**San Ignacio de**	**15.50**	**194**	P	**Pn**	**15 46 09.1**	**-2.1**
LL01				IAmb	IAmb	15 46 15.3	
	comp=Z,25nm,1.2s						
SALV	**Santo Antonio**	**15.77**	**46**	*e*P	**Pn**	**15 46 14.0**	**-0.9**
PCMB	**Pacaembu**	**15.78**	**72**	*e*P	**P**	**15 46 16.0**	**+0.3**
VILB	**Vilhena**	**15.87**	**27**	P	**Pn**	**15 46 13.5**	**-2.6**
VILB				IAmb	IAmb	15 46 27.8	
	comp=Z,15nm,0.7s						
VILB	**Vilhena**	**15.87**	**27**	*e*P	**Pn**	**15 46 16.3**	**+0.2**
TER01	**T

207nm,0.3s,baz=173,slow=6.3,SNR=5.0
TGY S **Sn** **15 45 44.0 +1.3**
367nm,0.5s,baz=310,slow=23,SNR=8.1
TGY Tagaytay City 0.82 15 *e*P **Pn** **15 45 23.6 +3.4**
TGY *e*S **Sn** **15 45 44.7 +2.0**
LQP Lukban 1.13 44 *e*P **Pn** **15 45 24.5 +2.0**
GQP Guinayangan 1.78 70 *i*P **Pn** **15 45 29.6 +1.7**
RCP Roxas 2.63 131 *e*P Pn 15 45 41.5 +4.6
CMAR Chiang Mai Arr 21.56 287 P **P** **15 49 26.9 +1.4**
1.9nm,0.9s,baz=99,slow=7.6,SNR=8.3
1.9nm,0.9s
WRA Warramunga Arr 35.65 158 P **P** **15 51 29.3 -1.4**
0.6nm,0.6s,baz=336,slow=9.7,SNR=11
0.6nm,0.6s
SONM Songino Array 36.44 344 P **P** **15 51 35.9 -1.3**
0.4nm,0.5s,baz=168,slow=7.4,SNR=2.4
0.4nm,0.5s
ASAR Alice Springs 38.94 161 P **P** **15 51 59.1 +0.9**
0.4nm,0.4s,baz=337,slow=8.1,SNR=4.6
0.4nm,0.4s
MKAR Makanchi Array 46.36 324 P **P** **15 52 57.2 -0.5**
0.6nm,0.9s,baz=99,slow=9.1,SNR=2.2
0.6nm,0.9s
ZALV Zalesovo Beam 49.42 333 P **P** **15 53 19.7 -1.3**
0.4nm,0.3s,baz=127,slow=7.6,SNR=2.2
0.4nm,0.3s
KURBB Kurchatov Arra 50.53 326 P **P** **15 53 29.2 -0.2**
0.3nm,0.5s,baz=115,slow=9.2,SNR=5.9
0.3nm,0.5s
ARCES ARCESS Array B 79.46 339 P **P** **15 56 33.5 -1.9**
0.5nm,0.4s,baz=83,slow=7.0,SNR=13
0.5nm,0.4s
SPITS Spitsbergen Ar 79.98 348 P **P** **15 56 36.9 -1.2**
6.4nm,0.9s,baz=98,slow=10,SNR=5.5
6.4nm,0.9s
FINES FINESS Array B 80.64 331 P **P** **15 56 40.6 -1.2**
0.6nm,0.5s,baz=60,slow=4.6,SNR=6.3
0.6nm,0.5s

*IDC **10** 16:07:07.3±3.3,36°27N×70°89E,h160km±29km, mb3.2/8, mbtmp3.7/14, Error ellipse: s-maj=26.7km s-min=18.9km az=29.0*
*NNC **10** 16:07:14.7±2.4,36°91N×70°73E,h184km±36km, mb2.9, mpv3.9, Error ellipse: s-maj=22.7km s-min=14.7km az=33.0*

ISC 10 16:07:09.6±0.7, 36°50N±0°06×70°83E±0°06, h188km, n28, σ2°20/39, mb3.5/7, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
THN	**Thein Dam**	**5.72**	**134**	*e*P		**Pn**	**16 08 34.6**	**+1.6**
THN				*e*S		**Sn**	**16 09 36.1**	**-2.7**
DHRM	**DHARAMSHALA**	**6.20**	**132**	*e*P		**Pn**	**16 08 40.9**	**+1.4**
DHRM				*e*S		**Sn**	**16 09 48.6**	**-1.8**
DHRM				IAML			16 09 51.0	
	comp=E,127nm,0.5s							
DHRM				IAML			16 09 51.2	
	comp=E,147nm,0.1s							
KK31	**Karatay Array**	**6.60**	**358**	P		**Pn**	**16 08 44.9**	**+0.5**
	comp=E,2.9nm,0.3s,baz=191,slow=19,SNR=68							
KK31				⇓S		**Sn**	**16 09 55.4**	**-4.1**
	comp=E,6.6nm,0.3s,baz=182,slow=21,SNR=22							
AAK	**Ala-Archa**	**6.75**	**24**	⇑P		**Pn**	**16 08 47.4**	**+0.9**
	comp=E,2.7nm,0.3s							
AAK				⇑S		**Sn**	**16 10 01.3**	**-1.9**
	comp=E,17nm,0.7s							
AAK	**Ala-Archa**	**6.75**	**24**	P		**Pn**	**16 08 47.6**	**+1.1**
	comp=E,4.9nm,0.3s,baz=174,slow=2.6,SNR=33							
AAK				S		**Sn**	**16 10 01.1**	**-2.1**
	comp=E,12nm,0.7s,baz=135,slow=22,SNR=22							
BHK	**Bhakra**	**6.87**	**136**	*e*P		**Pn**	**16 08 48.5**	**+0.4**
BHK				*e*S		**Sn**	**16 10 03.6**	**-2.4**
CHMS	**Chumysh**	**7.16**	**24**	⇓P		**Pn**	**16 08 51.9**	**+0.2**
	comp=E,7.9nm,0.8s							
CHMS				⇓S		**Sn**	**16 10 09.9**	**-2.8**
	comp=E,12nm,1.0s							
TKM2	**Tokmak 2**	**7.39**	**28**	⇑P		**Pn**	**16 08 55.4**	**+0.5**
	comp=E,7.2nm,0.5s							
SMLA	**Simla**	**7.51**	**134**	*e*P		**Pn**	**16 08 57.0**	**+0.5**
SMLA				IAML			16 10 20.4	
	comp=E,62nm,0.3s							
SMLA				IAML			16 10 21.7	
	comp=N,52nm,0.3s							
KLP	**Kalpa**	**7.90**	**127**	*e*P		**Pn**	**16 09 00.8**	**-1.1**
KLP				*e*S		**Sn**	**16 10 24.6**	**-6.3**
NDI	**New Delhi**	**9.47**	**144**	*e*P		**Pn**	**16 09 22.2**	**+0.1**
KUDL	**Kundal**	**9.61**	**149**	*e*P		**Pn**	**16 09 23.2**	**-0.6**
GEYT	**Alibeck**	**10.24**	**282**	P		**Pn**	**16 09 31.2**	**-0.9**
	comp=N,0.7nm,0.4s,baz=111,slow=7.9,SNR=2.2							
GEYT				S		**Sn**	**16 11 23.1**	**-3.1**
	comp=N,1.7nm,0.5s,baz=67,slow=36,SNR=2.4							
AJM	**Ajmer**	**10.50**	**161**	*e*P		**Pn**	**16 09 36.4**	**+0.8**
MKAR	**Makanchi Array**	**13.37**	**36**	P		**Pn**	**16 10 12.7**	**+0.8**
	comp=N,0.5nm,0.6s,baz=205,slow=10,SNR=4.9							
AB31	**Akbulak array**	**15.02**	**331**	P		**Pn**	**16 10 32.7**	**+0.4**
	comp=N,3.3nm,0.6s,baz=146,slow=12,SNR=32							
AB31				⇓S		**Sn**	**16 13 14.1**	**-5.9**
	comp=N,1.7nm,0.7s,baz=148,slow=24,SNR=11							
KURBB	**Kurchatov Arra**	**15.16**	**19**	P		**P**	**16 10 35.4**	**+0.6**
	comp=N,0.2nm,0.3s,baz=185,slow=9.4,SNR=2.4							
BVA0	**Borovoye Array**	**16.53**	**359**	P		**Pn**	**16 10 52.3**	**+1.8**
	comp=N,0.2nm,0.5s,baz=168,slow=9.2,SNR=13							
BVAR	**Borovoye Array**	**16.53**	**359**	P		**Pn**	**16 10 51.1**	**+0.5**
	comp=N,1.8nm,0.5s,baz=162,slow=10,SNR=13							
AKTO	**Aktyubinsk**	**16.71**	**330**	P		**Pn**	**16 10 53.6**	**+0.7**
	comp=N,6.0nm,0.5s,baz=146,slow=9.1,SNR=10							
AKTO				S		**Sn**	**16 13 59.5**	**-1.0**
	comp=N,0.5nm,0.3s,baz=25,slow=17,SNR=1.6							
ZALV	**Zalesovo Beam**	**19.97**	**25**	P		**P**	**16 11 27.6**	**+0.4**
	comp=N,1.0nm,0.5s,baz=218,slow=12,SNR=5.8							
	comp=N,1.0nm,0.5s							
SONM	**Songino Array**	**28.45**	**55**	P		**P**	**16 12 48.5**	**+1.6**
	comp=N,0.3nm,0.4s,baz=248,slow=7.6,SNR=2.5							
	comp=N,0.3nm,0.4s							
FINES	**FINESS Array B**	**37.41**	**326**	P		**P**	**16 14 06.3**	**+2.2**
	comp=N,1.2nm,0.9s,baz=119,slow=11,SNR=2.3							
	comp=N,1.2nm,0.9s							
ARCES	**ARCESS Array B**	**41.09**	**338**	P		**P**	**16 14 37.3**	**+2.8**
	comp=N,0.7nm,0.8s,baz=125,slow=7.9,SNR=1.0							
	comp=N,0.7nm,0.8s							
HFS	**Hagfors**	**42.98**	**322**	P		**P**	**16 14 51.8**	**+1.9**
	comp=N,1.0nm,0.7s,baz=94,slow=15,SNR=1.7							
	comp=N,1.0nm,0.7s							
YKA	**Yellowknife Ar**	**81.25**	**3**	P		**P**	**16 19 06.3**	**+2.2**
	comp=N,0.1nm,0.5s,baz=347,slow=6.3,SNR=4.4							
	comp=N,0.1nm,0.5s							
WRA	**Warramunga Arr**	**82.10**	**122**	P		**P**	**16 19 09.2**	**-0.1**
	comp=N,0.8nm,0.5s,baz=324,slow=5.0,SNR=15							
	comp=N,0.8nm,0.5s							
ASAR	**Alice Springs**	**84.36**	**125**	P		**P**	**16 19 20.9**	**+0.1**
	comp=N,1.0nm,0.6s,baz=312,slow=4.8,SNR=29							
	comp=N,1.0nm,0.6s							

WBNET 10 16:07:51.4,50°25N×12°45E,h9km, Ml1.3,7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NKC	**Novy Kostel**	**0.01**	**185**	⇑P		Pg	16 07 53.2	+0.1
NKC				S		Sg	16 07 54.3	+0.1
LBCW	**Luby**	**0.03**	**306**	⇑P		Pg	16 07 53.3	+0.1
LBCW				S		Sg	16 07 54.5	+0.2
STCW	**Studenec**	**0.05**	**76**	⇑P		Pg	16 07 53.3	+0.1
STCW				S		Sg	16 07 54.5	-0.1
VAC	**Vackov**	**0.05**	**254**	⇓P		Pg	16 07 53.4	+0.1
VAC				S		Sg	16 07 54.6	0.0
KVC	**Kvetna**	**0.06**	**135**	⇓P		Pg	16 07 53.5	+0.1
KVC				S		Sg	16 07 54.7	0.0
POCW	**Potky**	**0.07**	**348**	⇑P		Pg	16 07 53.7	+0.1
POCW				S		Sg	16 07 55.2	+0.1
SKC	**Skalna**	**0.10**	**216**	⇑P		Pg	16 07 53.9	+0.1
SKC				S		Sg	16 07 55.6	0.0
KRCW	**Kraslice**	**0.10**	**32**	⇑P		Pg	16 07 54.0	0.0
KRCW				S		Sg	16 07 55.7	0.0
KOCW	**Kopaniny**	**0.14**	**277**	⇓P		Pg	16 07 54.6	0.0
KOCW				S		Sg	16 07 56.6	-0.1
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P		Pg	16 07 55.6	+0.1
ZHC				S		Sg	16 07 58.4	+0.1
TRCW	**Trojmez**	**0.20**	**286**	⇓P		Pg	16 07 55.6	0.0
TRCW				S		Sg	16 07 58.5	0.0
LACW	**Lazy**	**0.23**	**150**	⇓P		Pg	16 07 56.3	+0.2
LACW				S		Sg	16 07 59.5	+0.3

*BGR **10** 16:07:56.8±0.2,50°25N×12°45E,h11km±1km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=97.0*
*PRU **10** 16:07:56.5,50°25N×12°45E,h10km, West Bohemia Swarm-felt*
*VIE **10** 16:07:56.8±0.2,50°20N×12°37E,h6km, mb2.1/2, ml2.7/6, Error ellipse: s-maj=3.7km s-min=2.0km az=45.0*
*CLL **10** 16:07:57.5±0.3,50°25N×12°44E,h8km, ML2.3*

WBNET 10 16:07:57.1,50°25N×12°45E,h9km, Ml2.4,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NKC	**Novy Kostel**	**0.02**	**176**	*i* Pg		Pg	16 07 58.9	+0.1
NKC				*i* Sg		Sg	16 08 00.1	+0.1
NKC				IAML			16 08 00.2	
	comp=E,2µm,0.2s							
NKC	**Novy Kostel**	**0.02**	**176**	*e*SG		Sg	16 07 59.9	-0.1
	comp=E,916nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**176**	*i* Pg		Pg	16 07 58.9	+0.1
NKC				*i* Sg		Sg	16 08 00.1	+0.1
	comp=E,2µm,0.2s							
NKC	**Novy Kostel**	**0.02**	**176**	⇑P		Pg	16 07 58.9	+0.1
NKC				S		Sg	16 08 00.1	+0.1
LBCW	**Luby**	**0.03**	**302**	⇓P		Pg	16 07 59.0	+0.1
LBCW				S		Sg	16 08 00.3	+0.2
STCW	**Studenec**	**0.05**	**81**	*i* Pg		Pg	16 07 59.1	0.0
STCW				*i* Sg		Sg	16 08 00.3	-0.1
STCW	**Studenec**	**0.05**	**81**	*i* Pg		Pg	16 07 59.1	0.0
STCW				*i* Sg		Sg	16 08 00.3	-0.1
STCW	**Studenec**	**0.05**	**81**	⇑P		Pg	16 07 59.1	0.0
STCW				S		Sg	16 08 00.3	-0.1
VAC	**Vackov**	**0.05**	**249**	*i* Pg		Pg	16 07 59.1	+0.1
VAC				*i* Sg		Sg	16 08 00.3	0.0
VAC	**Vackov**	**0.05**	**249**	⇓P		Pg	16 07 59.1	+0.1
VAC				S		Sg	16 08 00.3	0.0
WERN	**Wernitzgruen**	**0.06**	**308**	*i* Pg		Pg	16 07 59.2	+0.1
WERN				*i* Sg		Sg	16 08 00.7	+0.1
WERN				IAML			16 08 00.8	
	comp=E,3µm,0.2s							
WERN	**Wernitzgruen**	**0.06**	**308**	*i* Pg		Pg	16 07 59.2	+0.1
WERN				*i* Sg		Sg	16 08 00.7	+0.1
	comp=E,3µm,0.2s							
KVC	**Kvetna**	**0.06**	**136**	*e*Pg		Pg	16 07 59.2	0.0
KVC				*i* Sg		Sg	16 08 00.5	-0.1
KVC	**Kvetna**	**0.06**	**136**	⇓P		Pg	16 07 59.2	0.0
KVC				S		Sg	16 08 00.6	-0.1
POCW	**Potky**	**0.07**	**350**	⇓P		Pg	16 07 59.4	+0.1
POCW				S		Sg	16 08 00.9	+0.1
ROHR	**Rohrbach**	**0.09**	**258**	*i* Pg		Pg	16 07 59.5	0.0
ROHR				*i* Sg		Sg	16 08 01.0	-0.1
ROHR				IAML			16 08 01.1	
	comp=E,3µm,0.1s							
ROHR	**Rohrbach**	**0.09**	**258**	*i* Pg		Pg	16 07 59.5	0.0
ROHR				*i* Sg		Sg	16 08 01.0	-0.1
	comp=E,3µm,0.1s							
KRCW	**Kraslice**	**0.10**	**34**	⇑P		Pg	16 07 59.6	0.0
KRCW				S		Sg	16 08 01.3	-0.1
SKC	**Skalna**	**0.10**	**214**	⇑P		Pg	16 07 59.7	+0.1
SKC				S		Sg	16 08 01.4	+0.1
GUNZ	**Gunzen**	**0.13**	**327**	*i* Pg		Pg	16 08 00.3	+0.1
GUNZ				*i* Sg		Sg	16 08 02.3	0.0
GUNZ				IAML			16 08 02.8	
	comp=E,529nm,0.2s							
GUNZ	**Gunzen**	**0.13**	**327**	*i* Pg		Pg	16 08 00.3	+0.1
GUNZ				*i* Sg		Sg	16 08 02.3	0.0
	comp=E,529nm,0.2s							
KOCW	**Kopaniny**	**0.14**	**276**	⇓P		Pg	16 08 00.3	+0.1
KOCW				S		Sg	16 08 02.3	0.0
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg		Pg	16 08 00.7	0.0
MULD				*i* Sg		Sg	16 08 02.9	-0.2
MULD				IAML			16 08 03.1	
	comp=E,893nm,0.1s							
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg		Pg	16 08 00.7	0.0
MULD				*i* Sg		Sg	16 08 02.9	-0.2
	comp=E,893nm,0.1s							
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg		Pg	16 08 00.6	0.0
TANN				*i* Sg		Sg	16 08 02.9	-0.3
TANN				IAML			16 08 03.4	
	comp=N,1µm,0.2s							
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg		Pg	16 08 00.6	0.0
TANN				*i* Sg		Sg	16 08 02.9	-0.3
	comp=N,1µm,0.2s							
TRCW	**Trojmez**	**0.20**	**285**	⇓P		Pg	16 08 01.3	0.0
TRCW				S		Sg	16 08 04.1	0.0
ZHC	**Zelena Hora**	**0.20**	**206**	⇑P		Pg	16 08 01.4	+0.1
ZHC				S		Sg	16 08 04.2	+0.1
WERD	**Werda**	**0.21**	**336**	*i* Pg		Pg	16 08 01.6	0.0
WERD				*i* Sg		Sg	16 08 04.4	-0.2
WERD				IAML			16 08 04.5	
	comp=E,204nm,0.3s							
WERD	**Werda**	**0.21**	**336**	*i* Pg		Pg	16 08 01.6	0.0
WERD				*i* Sg		Sg	16 08 04.4	-0.2
	comp=E,204nm,0.3s							
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg		Pg	16 08 01.6	0.0
TRIB				*i* Sg		Sg	16 08 04.6	-0.1
TRIB				IAML			16 08 04.9	
	comp=N,132nm,0.2s							
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg		Pg	16 08 01.6	0.0
TRIB				*i* Sg		Sg	16 08 04.6	-0.1
	comp=N,132nm,0.2s							
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg		Pg	16 08 01.8	-0.1
VIEL				*i* Sg		Sg	16 08 04.8	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg		Pg	16 08 01.8	-0.1
VIEL				*i* Sg		Sg	16 08 04.8	-0.2
LACW	**Lazy**	**0.23**	**150**	*i* Pg		Pg	16 08 02.0	+0.1
LACW				*i* Sg		Sg	16 08 05.2	+0.2
LACW	**Lazy**	**0.23**	**150**	*i* Pg		Pg	16 08 02.0	+0.1
LACW				*i* Sg		Sg	16 08 05.2	+0.2
LACW	**Lazy**	**0.23**	**150**	⇓P		Pg	16 08 02.0	+0.1
LACW				S		Sg	16 08 05.3	+0.2
PLN	**Plauen**	**0.30**	**322**	*i* Pg		Pg	16 08 03.0	-0.1
PLN				*e*Sg		Sg	16 08 07.0	-0.1
PLN				IAML			16 08 07.1	
	comp=E,136nm,0.2s							
PLN	**Plauen**	**0.30**	**322**	*i* Pg		Pg	16 08 03.0	-0.1
PLN				*e*Sg		Sg	16 08 07.0	-0.1
	comp=E,136nm,0.2s							
MANZ	**Manzenberg**	**0.34**	**219**	*e*Pg		Pg	16 08 03.8	-0.1
MANZ				*e*Sg		Sg	16 08 08.4	-0.1
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		Pg	16 08 05.4	-0.1
SCHF				*i* Sg		Sg	16 08 11.1	-0.1
SCHF				IAML			16 08 11.6	
	comp=E,266nm,0.3s							
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		Pg	16 08 05.4	-0.1
SCHF				*i* Sg		Sg	16 08 11.1	-0.1
	comp=E,266nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg		Pg	16 08 06.0	-0.2
GRZ1				*i* Sg		Sg	16 08 11.8	-0.5
GRZ1				IAML			16 08 14.2	
	comp=N,115nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg		Pg	16 08 06.0	-0.2
GRZ1				*i* Sg		Sg	16 08 11.8	-0.5
	comp=N,115nm,0.3s							
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Pg		Pg	16 08 06.8	-0.2
ROTZ				*e*Sg		Sg	16 08 13.5	-0.2
MOX	**Moxa**	**0.66**	**307**	*e*Pg		Pg	16 08 09.7	-0.2
MOX				*e*Sg		Sg	16 08 18.4	-0.2
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*PG		Pg	16 08 10.8	-0.3
HSKC				*e*SG		Sg	16 08 20.2	-0.3
	comp=N,77nm,0.3s							
FBE	**Freiberg**	**0.89**	**40**	*e*Pg		Pg	16 08 13.9	-0.2
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg		Pg	16 08 15.5	-0.3
GRF				*e*Sg		Sg	16 08 27.9	-0.5
CLL	**Collm**	**1.11**	**18**	*i* Pg		Pg	16 08 17.7	-0.8
CLL				*i* x		x	16 08 19.6	
CLL				*i* x		x	16 08 21.3	
CLL				*i* Sg		Sg	16 08 32.3	-0.7
	comp=Z,35nm,0.4s							
CLL				*i* x		x	16 08 36.4	
CLL	**Collm**	**1.11**	**18**	*e*Pg		Pg	16 08 17.9	-0.6
CLL				*e*Sg		Sg	16 08 32.5	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**	Pg		Pb	16 08 18.2	-0.8
BRG				Sg		Sg	16 08 32.9	-0.9
BRG				Amp			16 08 35.2	
	comp=Z,39nm,0.3s							
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg		Pb	16 08 18.5	-0.5
BRG				*e*Sg		Sg	16 08 33.1	-0.7
WET	**Wettzell**	**1.14**	**166**	*e*Pg		Pg	16 08 18.4	-0.7
WET				*e*Sg		Sg	16 08 32.9	-1.0
PRA	**Prague**	**1.29**	**97**	*e*SG		Sb	16 08 37.8	-0.4
	comp=Z,14nm,0.3s							
KHC	**Kasperske Hory**	**1.34**	**146**	*e*PG		Pn	16 08 21.3	-0.8
KHC				*e*SG		Sb	16 08 38.4	-1.4
	comp=Z,24nm,0.2s							
PRU	**Pruhonice**	**1.38**	**100**	*e*SG		Sb	16 08 40.2	-0.5
	comp=Z,24nm,0.2s							
PRU	**Pruhonice**	**1.38**	**100**	*e*Pg		Pn	16 08 22.3	-0.2
PRU				*e*Sg		Sb	16 08 40.6	-0.1
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG		Sg	16 08 41.5	-0.2
	comp=Z,53nm,0.4s							
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Sg		Sn	16 08 47.6	+0.4
CKRC	**Cesky Krumlov**	**1.88**	**139**	*e*SG		Sb	16 08 54.7	-0.5
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG		Sb	16 09 13.8	+1.1
MOA	**Molln**	**2.69**	**153**	Pn		Pn	16 08 40.4	-0.2
	comp=Z,0.1nm,0.1s							
KRUC	**Moravsky**	**2.83**	**113**	*e*PN		Pn	16 08 42.1	-0.4
KRUC				*e*SG		Sb	16 09 25.2	+2.7
LESA	**Schwarzleotal**	**2.83**	**177**	*e*Pg		Pg	16 08 50.8	-0.6
	comp=Z,0.6nm,0.2s							
VRAC	**Vranov**	**2.85**	**108**	*e*PN		Pn	16 08 42.3	-0.5
VRAC				*e*SG		Sb	16 09 25.3	+2.2
RETA	**Reutte**	**2.98**	**203**	Pg		Pg	16 08 53.7	-0.6
	comp=Z,0.8nm,0.2s							
MOTA	**Moosalm**	**3.04**	**197**	Pn		Pn	16 08 45.2	-0.3
	comp=Z,0.2nm,0.2s							
SQTA	**Sankt Quirin**	**3.14**	**196**	Pg		Pg	16 08 56.5	-0.9
	comp=Z,2.5nm,0.3s							
CONA	**Conrad Observa**	**3.23**	**135**	*e*Pg		Pg	16 08 57.5	-1.6
	comp=Z,0.8nm,0.2s							
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG		Sg	16 09 40.3	-3.5
JAVC	**Velka Javorina**	**3.68**	**110**	*e*SG		Sg	16 09 53.1	-2.0

*BGR **10** 16:11:55.6±0.2,50°24N×12°45E,h11km±1km, ML1.9/6, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
*PRU **10** 16:11:55.3,50°25N×12°43E,h10km, West Bohemia Swarm*
*CLL **10** 16:11:56.3±0.3,50°25N×12°44E,h8km, ML2.0*

WBNET 10 16:11:56.0,50°25N×12°45E,h9km, Ml2.2,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
NKC	**Novy Kostel**	**0.01**	**175**	*i* Pg		Pg	16 11 57.8	+0.1
NKC				*i* Sg		Sg	16 11 58.9	+0.1
NKC				IAML			16 11 59.0	
	comp=E,1µm,0.2s							
NKC	**Novy Kostel**	**0.01**	**175**	*e*SG		Sg	16 11 58.7	-0.1
	comp=E,349nm,0.2s							
NKC	**Novy Kostel**	**0.01**	**175**	*i* Pg		Pg	16 11 57.8	+0.1
NKC				*i* Sg		Sg	16 11 58.9	+0.1
	comp=E,1µm,0.2s							
NKC	**Novy Kostel**	**0.01**	**175**	⇑P		Pg	16 11 57.8	+0.1
NKC				S		Sg	16 11 58.9	+0.1
LBCW	**Luby**	**0.03**	**309**	⇓P		Pg	16 11 57.8	+0.1
LBCW				S		Sg	16 11 59.2	+0.2
VAC	**Vackov**	**0.05**	**253**	*i* Pg		Pg	16 11 57.9	+0.1
VAC				*i* Sg		Sg	16 11 59.2	0.0
VAC	**Vackov**	**0.05**	**253**	⇓P		Pg	16 11 57.9	+0.1
VAC				S		Sg	16 11 59.2	0.0
STCW	**Studenec**	**0.05**	**77**	*i* Pg		Pg	16 11 57.9	0.0
STCW				*i* Sg		Sg	16 11 59.1	-0.1
STCW	**Studenec**	**0.05**	**77**	*i* Pg		Pg	16 11 57.9	0.0
STCW				*i* Sg		Sg	16 11 59.1	-0.1
STCW	**Studenec**	**0.05**	**77**	⇑P		Pg	16 11 57.9	0.0
STCW				S		Sg	16 11 59.1	-0.1
WERN	**Wernitzgruen**	**0.06**	**311**	*i* Pg		Pg	16 11 58.1	+0.1
WERN				*i* Sg		Sg	16 11 59.5	+0.1
WERN				IAML			16 11 59.7	
	comp=E,2µm,0.2s							
WERN	**Wernitzgruen**	**0.06**	**311**	*i* Pg		Pg	16 11 58.1	+0.1
WERN				*i* Sg		Sg	16 11 59.5	+0.1
	comp=E,2µm,0.2s							
KVC	**Kvetna**	**0.06**	**133**	*i* Pg		Pg	16 11 58.0	0.0
KVC				*i* Sg		Sg	16 11 59.3	-0.1
KVC	**Kvetna**	**0.06**	**133**	⇓P		Pg	16 11 58.0	0.0
KVC				S		Sg	16 11 59.3	-0.1
POCW	**Potky**	**0.07**	**350**	⇓P		Pg	16 11 58.3	+0.1
POCW				S		Sg	16 11 59.9	+0.1
ROHR	**Rohrbach**	**0.08**	**261**	*i* Pg		Pg	16 11 58.3	0.0
ROHR				*i* Sg		Sg	16 11 59.8	-0.1
ROHR				IAML			16 11 60.0	
	comp=E,2µm,0.1s							
ROHR	**Rohrbach**	**0.08**	**261**	*i* Pg		Pg	16 11 58.3	0.0
ROHR				*i* Sg		Sg	16 11 59.8	-0.1
	comp=E,2µm,0.1s							
SKC	**Skalna**	**0.10**	**215**	⇑P		Pg	16 11 58.5	+0.1
SKC				S		Sg	16 12 00.2	0.0
KRCW	**Kraslice**	**0.10**	**33**	⇑P		Pg	16 11 58.5	0.0
KRCW				S		Sg	16 12 00.2	-0.1
GUNZ	**Gunzen**	**0.14**	**328**	*i* Pg		Pg	16 11 59.2	+0.1
GUNZ				*i* Sg		Sg	16 12 01.2	0.0
GUNZ				IAML			16 12 01.

ROTZ					*e*Sg	Sg	16 12 12.2	-0.2	
MOX	**Moxa**	**0.66**	**307**		*e*Pg	Pg	16 12 08.5	-0.3	
MOX					*e*Sg	Sg	16 12 17.3	-0.1	
HSKC	**Hora Svate Kat**	**0.73**		**60**	*e*PG	Pg	16 12 09.6	-0.4	
HSKC					*e*SG	Sg	16 12 19.0	-0.4	
	comp=E,45nm,0.2s								
FBE	**Freiberg**	**0.89**		**40**	*e*Pg	Pg	16 12 12.8	-0.2	
FBE					*e*Sg	Sg	16 12 24.1	-0.6	
GRF	**Grafenberg Arr**	**0.97**	**235**		*e*Pg	Pg	16 12 14.2	-0.3	
GRF					*e*Sg	Sg	16 12 26.6	-0.5	
RICC	**Richard**	**1.10**		**74**	*e*SG	Sg	16 12 30.8	-0.5	
	comp=E,30nm,0.4s								
CLL	**Collm**	**1.12**		**18**	*i* Pg	Pg	16 12 16.7	-0.8	
CLL					*i* x	x	16 12 18.4		
CLL					*i* x	x	16 12 20.3		
CLL					*i* Sg	Sg	16 12 31.2	-0.8	
	comp=Z,15nm,0.5s								
CLL					*ex*	x	16 12 35.0		
CLL	**Collm**	**1.12**		**18**	*i* Sg	Sn	16 12 42.7	+9.4	
CLL	**Collm**	**1.12**		**18**	*e*Pg	Pg	16 12 16.8	-0.6	
CLL					*e*Sg	Sg	16 12 31.3	-0.6	
WET	**Wettzell**	**1.14**	**166**		*e*Pg	Pg	16 12 17.6	-0.2	
WET					*e*Sg	Sg	16 12 31.7	-0.9	
BRG	**Berggiesshubel**	**1.14**		**56**	Pg	Pb	16 12 17.4	-0.5	
BRG					Sg	Sg	16 12 31.9	-0.9	
BRG					Amp		16 12 32.6		
	comp=Z,26nm,0.2s								
BRG	**Berggiesshubel**	**1.14**		**56**	*e*Pg	Pb	16 12 17.3	-0.5	
BRG					*e*Sg	Sg	16 12 32.0	-0.7	
KHC	**Kasperske Hory**	**1.34**	**146**		*e*SG	Sb	16 12 37.3	-1.2	
	comp=Z,10nm,0.3s								
PRU	**Pruhonice**	**1.37**	**100**		*e*SG	Sb	16 12 39.4	-0.1	
	comp=Z,9.1nm,0.1s								
PRU	**Pruhonice**	**1.37**	**100**		*e*Pn	Pn	16 12 21.0	-0.3	
PRU					*e*Sg	Sb	16 12 39.5	0.0	
PVCC	**Panska Ves**	**1.39**		**78**	*e*SG	Sg	16 12 40.3	-0.3	
	comp=Z,26nm,0.4s								
GEC2	**GERESS Array S**	**1.62**	**149**		*e*Pn	Pn	16 12 21.8	-3.1	
GEC2					*e*Sg	Sn	16 12 46.1	+0.1	
DPC	**Dobruska-Polom**	**2.49**		**86**	*e*SG	Sb	16 13 12.6	+1.0	
KRUC	**Moravsky**	**2.83**	**113**		*e*SG	Sb	16 13 23.5	+2.2	
VRAC	**Vranov**	**2.85**	**108**		*e*SG	Sb	16 13 24.0	+2.1	
MORC	**Moravsky Berou**	**3.32**		**96**	*e*SG	Sb	16 13 38.7	+3.1	

WBNET 10 16:12:13.9, 50.25N × 12.45E, h9km, Ml1.9, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**178**	⇑P	Pg	16 12 15.7	+0.1
NKC				S	Sg	16 12 16.9	+0.1
LBCW	**Luby**	**0.03**	**308**	⇓P	Pg	16 12 15.8	+0.1
LBCW				S	Sg	16 12 17.1	+0.2
VAC	**Vackov**	**0.05**	**253**	⇓P	Pg	16 12 15.9	+0.1
VAC				S	Sg	16 12 17.1	0.0
STCW	**Studenec**	**0.05**	**77**	⇑P	Pg	16 12 15.9	0.0
STCW				S	Sg	16 12 17.1	-0.1
KVC	**Kvetna**	**0.06**	**134**	⇓P	Pg	16 12 16.0	0.0
KVC				S	Sg	16 12 17.3	-0.1
POCW	**Potky**	**0.07**	**350**	⇓P	Pg	16 12 16.3	+0.1
POCW				S	Sg	16 12 17.8	+0.1
SKC	**Skalna**	**0.10**	**215**	⇑P	Pg	16 12 16.4	+0.1
SKC				S	Sg	16 12 18.1	0.0
KRCW	**Kraslice**	**0.10**		**33**	⇑P	Pg	16 12 16.5	0.0
KRCW				S	Sg	16 12 18.2	-0.1
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	16 12 17.1	0.0
KOCW				S	Sg	16 12 19.2	0.0
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P	Pg	16 12 18.1	+0.1
ZHC				S	Sg	16 12 20.9	+0.1
TRCW	**Trojmez**	**0.20**	**286**	⇓P	Pg	16 12 18.1	0.0
TRCW				S	Sg	16 12 21.0	0.0
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	16 12 18.7	+0.1
LACW				S	Sg	16 12 22.0	+0.2

*HVO **10** 16:14:48.0±1.2, 19°.44N±0°.01 × 154°.84W±0°.03, h-0km±9km, ML2.8/17, ML2.8/28(NEIC), Error ellipse: s-maj=4.6km s-min=1.4km az=109.0*

NEIC 10 16:14:47.9±1.4, 19°.38N±0°.02 × 154°.78W±0°.03, h5km±2km, Error ellipse: s-maj=4.8km s-min=3.0km az=281.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.14**	**316**		Pg	16 14 50.5	-0.3
PAH	**Pahoa**	**0.19**	**307**		Pg	16 14 51.5	-0.2
JOKA	**Jonika Flow**	**0.21**	**285**		Pg	16 14 52.2	+0.1
JOKA					Sg	16 14 55.4	+0.5
JCUZ	**Jacuzzi**	**0.30**	**271**	Pg	Pg	16 14 54.0	+0.3
NPOC	**North of Pu'u**	**0.31**	**273**	Pg	Pg	16 14 53.8	-0.1
NPOC				IAML		16 15 00.9	
	comp=E,750nm,0.9s						
NPOC				IAML		16 15 01.3	
	comp=N,637nm,1.0s						
STCH	**Steam Cracks**	**0.32**	**271**	Pg	Pg	16 14 54.4	+0.2
PUH	**Pauahi**	**0.41**	**269**		Pg	16 14 56.3	+0.5
PUH	**Pauahi**	**0.41**	**269**	IAML		16 14 57.5	
PUH	comp=E,829nm,1.0s			IAML		16 15 00.7	
	comp=N,2µm,1.1s						
RSD	**Rainshed**	**0.47**	**280**	Pg	Pg	16 14 56.6	-0.4
RSD				IAML		16 15 05.1	
	comp=E,2µm,0.9s						
RSD				IAML		16 15 07.1	
	comp=N,1µm,0.8s						
HLP	**Hilina Pali**	**0.50**	**261**		Pg	16 14 58.1	+0.5
HLP	**Hilina Pali**	**0.50**	**261**	IAML		16 15 12.5	
	comp=E,1µm,1.0s						
MLH	**Mauna Loa**	**0.58**	**281**		Pg	16 14 58.6	-0.5
MLH				IAML		16 15 08.8	
	comp=N,879nm,0.7s						
MLH				IAML		16 15 16.2	
	comp=E,819nm,0.9s						
HTC	**Hot Caves**	**0.60**	**256**		Pg	16 14 59.6	+0.2
HMH	**Humu'ula Sheep**	**0.69**	**289**		Pg	16 15 00.5	-0.7
MWH	**Moku'aweowe**	**0.77**	**278**	Pg	Pg	16 15 01.4	-1.4
KHU	**Kahuku**	**0.80**	**261**	Pg	Pg	16 15 01.8	-1.3
KHU				IAML		16 15 24.9	
	comp=N,495nm,0.9s						
KHU				IAML		16 15 26.9	
	comp=E,329nm,1.8s						
ALEP	**Alea Permanent**	**0.83**	**281**		Pg	16 15 02.8	-1.0
ALEP					Sg	16 15 15.1	+0.5
HUH	**Hualalai**	**1.04**	**287**	Pg	Pg	16 15 07.2	-0.6
HPAH	**Hawaii Prepara**	**1.08**	**307**		Pg	16 15 06.9	-1.6
HPAH				IAML		16 15 36.3	
	comp=N,244nm,1.0s						
HPAH				IAML		16 15 44.1	
	comp=E,357nm,0.9s						

*NEIC **10** 16:17:22.9±0.6, 19°.48N±0°.07 × 155°.10W±0°.04, h32km±10km, ML3.2/42, ML2.6/4(HVO), Error ellipse: s-maj=10.4km s-min=6.1km az=180.0*

HVO 10 16:17:24.6±0.7, 19°.50N±0°.04 × 155°.10W±0°.03, h21km±4km, Error ellipse: s-maj=7.0km s-min=3.7km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPOC	**North of Pu'u**	**0.10**	**186**	Pg	Pb	16 17 28.5	-2.8
NPOC					Sb	16 17 31.1	-5.1
NPOC				IAML		16 17 31.5	
	comp=E,4µm,0.1s						
NPOC				IAML		16 17 31.7	
	comp=N,4µm,0.2s						
JOKA	**Jonika Flow**	**0.11**	**125**		Pb	16 17 28.6	-2.6
JCUZ	**Jacuzzi**	**0.11**	**182**	Pg	Pb	16 17 28.7	-2.5
JCUZ				IAML		16 17 31.6	
	comp=E,3µm,0.3s						
JCUZ				IAML		16 17 31.7	
	comp=N,4µm,0.2s						
STCH	**Steam Cracks**	**0.11**	**193**	Pg	Pb	16 17 28.6	-2.6
STCH				IAML		16 17 31.7	
	comp=E,3µm,0.1s						
STCH				IAML		16 17 31.7	
	comp=N,2µm,0.1s						
KNHH	**Kane Nui o Ham**	**0.14**	**210**		Pb	16 17 28.8	-2.2
PAH	**Pahoa**	**0.14**	**90**		Pb	16 17 29.2	-1.6
PUH	**Pauahi**	**0.17**	**223**		Pb	16 17 29.1	-1.6
PUH	**Pauahi**	**0.17**	**223**	IAML		16 17 32.5	
	comp=E,3µm,0.1s						
PUH				IAML		16 17 39.8	
	comp=N,2µm,0.7s						
HATHI	**Halema'uma'u T**	**0.17**	**245**		Pb	16 17 29.2	-1.5
HATHI	**Halema'uma'u T**	**0.17**	**245**	IAML		16 17 31.4	
	comp=N,5µm,0.9s						
HATHI				IAML		16 17 36.2	
	comp=E,7µm,0.9s						
RSD	**Rainshed**	**0.17**	**259**		Pb	16 17 29.4	-1.3
RSD				IAML		16 17 34.0	
	comp=N,2µm,0.5s						
BYL	**Byron's Ledge**	**0.17**	**241**	Pg	Pb	16 17 29.1	-1.6
BYL				IAML		16 17 30.6	
	comp=N,4µm,0.8s						
BYL				IAML		16 17 34.1	
	comp=E,5µm,0.6s						
SBLHI	**Steaming Bluff**	**0.17**	**247**	Pg	Pb	16 17 29.2	-1.5
SBLHI				IAML		16 17 30.7	
	comp=N,4µm,0.7s						
SBLHI				IAML		16 17 37.8	
	comp=E,5µm,0.5s						
UWB	**Uwekahuna B**	**0.18**	**247**	Pg	Pb	16 17 29.3	-1.4
UWB				IAML		16 17 32.3	
	comp=N,3µm,0.4s						
UWB				IAML		16 17 33.7	
	comp=E,2µm,0.8s						
KKO	**Keanakako`i**	**0.19**	**238**		Pb	16 17 29.4	-1.3
KKO	**Keanakako`i**	**0.19**	**238**	IAML		16 17 33.4	
	comp=E,5µm,0.9s						
KKO				IAML		16 17 34.5	
	comp=N,7µm,0.8s						
OBL	**Observatory Le**	**0.19**	**246**	Pg	Pb	16 17 29.4	-1.3
RIM	**Rim**	**0.20**	**239**		Pb	16 17 29.5	-1.2
RIM	**Rim**	**0.20**	**239**	IAML		16 17 34.7	
	comp=N,7µm,0.8s						
RIM				IAML		16 17 35.5	
	comp=E,5µm,0.7s						
UWE	**Uwekahuna**	**0.20**	**248**		Pb	16 17 29.5	-1.2
UWE	**Uwekahuna**	**0.20**	**248**	IAML		16 17 33.3	
	comp=E,12µm,0.5s						
UWE				IAML		16 17 36.9	
	comp=N,9µm,0.7s						
WRMHI	**West Rim**	**0.21**	**245**		Pb	16 17 29.6	-1.1
WRMHI	**West Rim**	**0.21**	**245**	IAML		16 17 34.1	
	comp=N,10µm,0.6s						
WRMHI				IAML		16 17 41.2	
	comp=E,13µm,0.5s						
MLH	**Mauna Loa**	**0.27**	**270**		Pb	16 17 30.6	-0.7
MLH					Sb	16 17 35.1	-0.8
MLH	**Mauna Loa**	**0.27**	**270**	IAML		16 17 35.2	
	comp=E,819nm,0.4s						
MLH				IAML		16 17 35.5	
	comp=N,2µm,0.2s						
HLP	**Hilina Pali**	**0.28**	**225**		Sb	16 17 34.9	-0.8
HLP	**Hilina Pali**	**0.28**	**225**		Pb	16 17 30.4	-0.7
HLP				IAML		16 17 43.5	
	comp=E,1µm,0.8s						
HLP	**Hilina Pali**	**0.28**	**225**	IAML		16 17 32.6	
	comp=N,1µm,0.8s						
HMH	**Humu'ula Sheep**	**0.38**	**286**		Pb	16 17 32.2	-0.6
HMH	**Humu'ula Sheep**	**0.38**	**286**		Sb	16 17 37.8	-0.4
HMH				IAML		16 17 40.6	
	comp=N,533nm,0.5s						
HMH				IAML		16 17 42.4	
	comp=E,374nm,0.5s						
HTC	**Hot Caves**	**0.38**	**228**		Pb	16 17 31.9	-0.8
MLOA	**Mauna Loa Obse**	**0.45**	**275**		Pb	16 17 33.1	-1.0
MWH	**Moku'aweowe**	**0.47**	**269**		Pb	16 17 33.2	-1.3
MWH	**Moku'aweowe**	**0.47**	**269**	IAML		16 17 44.8	
	comp=N,808nm,0.8s						
MWH				IAML		16 17 50.9	
	comp=E,765nm,0.8s						
POHA	**Pohakuloa**	**0.48**	**302**		Sb	16 17 39.5	-1.8
ALEP	**Alea Permanent**	**0.52**	**275**		Pb	16 17 33.8	-1.5
KHU	**Kahuku**	**0.55**	**243**		Pb	16 17 33.8	-1.9
HUH	**Hualalai**	**0.72**	**285**		Pb	16 17 37.1	-1.6
HUH					Sb	16 17 46.5	-1.7
MHA	**Mahukona**	**1.02**	**312**		Pb	16 17 41.6	-2.0
HLK	**Haleakala**	**1.66**	**319**	Pn	Pn	16 17 50.5	-2.1
HON	**Honolulu**	**3.27**	**304**	Pn	Pn	16 18 12.0	-2.7
KEKH	**Kekaha**	**4.98**	**301**	Pn	Pn	16 18 36.2	-1.9

*IDC **10** 16:24:55.7±1.2, 38°.62N × 74°.94E, h0km, mb3.6/10, mbtmp3.6/17, ML3.1/7, MS3.1/4, Error ellipse: s-maj=20.2km s-min=19.5km az=93.0*

*SOME **10** 16:24:59.2, 38°.92N × 75°.20E, h5km*

*NNC **10** 16:25:03.2±1.1, 39°.02N × 75°.18E, h0km, mb4.4, mpv4.1, Error ellipse: s-maj=8.5km s-min=6.0km az=161.0*

ISC 10 16:24:57.2±0.9, 38°.56N±0°.06 × 75°.16E±0°.04, h10km, n74, σ2s 21/98, mb3.6/10, 10C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**3.70**	**353**	P	**Pn**	**16 25 57.1**	**+2.2**
	SNR=17						
ULHL	**Ulahol**	**3.78**	**12**	P	**Pn**	**16 25 59.0**	**+3.2**
	SNR=69						
KBK	**Karagaybulak**	**4.10**	**358**	P	**Pn**	**16 26 03.2**	**+3.1**
	SNR=12						
AAK	**Ala-Archa**	**4.11**	**353**	P	**Pn**	**16 26 02.6**	**+2.4**
	SNR=21						
AAK	**Ala-Archa**	**4.11**	**353**	⇓Pn	**Pn**	**16 26 02.4**	**+2.2**
	7.2nm,0.5s						
AAK				⇓Pg	**Pb**	**16 26 09.8**	**+0.1**
	28nm,0.6s						
AAK				Lg	Lg	16 27 01.8	
AAK	**Ala-Archa**	**4.11**	**353**	Pn	**Pn**	**16 26 00.9**	**+0.7**
	2.6nm,0.3s,baz=176,slow=9.4,SNR=36						
AAK				Sn	**Sn**	**16 26 46.4**	**-2.1**
	0.3nm,0.3s,baz=36,slow=19,SNR=1.6						
AAK				Lg	Lg	16 27 04.9	
	2.7nm,0.3s,baz=306,slow=19,SNR=2.3 11nm,0.5s						
EKS2	**Erkin-Say**	**4.23**	**346**	P	**Pn**	**16 26 04.5**	**+2.6**
	SNR=6.6						
TKM2	**Tokmak 2**	**4.38**	**4**	P	**Pn**	**16 26 06.8**	**+2.9**
	SNR=41						
TKM2	**Tokmak 2**	**4.38**	**4**	⇑Pn	**Pn**	**16 26 06.1**	**+2.2**
	11nm,0.3s						
TKM2				⇑Pg	**Pb**	**16 26 14.9**	**+0.6**
	31nm,0.6s						
TKM2				⇓Lg	Lg	16 27 07.3	
	42nm,0.7s						
MRKS	**Merke**	**4.44**	**341**	Pg	**Pb**	**16 26 15.5**	**+0.3**
	22nm,1.6s						
MRKS				Lg	Lg	16 27 10.8	
	24nm,0.3s						
MRKS	**Merke**	**4.44**	**341**	*e*P	**Pb**	**16 26 15.5**	**+0.3**
	22nm,1.6s						
MRKS				*e*S	**Sb**	**16 27 10.8**	**+1.9**
	24nm,0.3s						
CHMS	**Chumysh**	**4.45**	**356**	P	**Pn**	**16 26 07.2**	**+2.4**
	SNR=13						
CHMS	**Chumysh**	**4.45**	**356**	⇑Pn	**Pn**	**16 26 06.9**	**+2.1**
	8.9nm,0.5s						
CHMS				⇑Pg	**Pb**	**16 26 16.3**	**+0.8**
	16nm,0.5s						
CHMS				⇑Lg	Lg	16 27 12.4	
	48nm,0.9s						
KST	**Kastek**	**4.53**	**8**	Pg	**Pb**	**16 26 16.6**	**-0.2**
	19nm,0.1s						
KST				Lg	Lg	16 27 12.7	
	104nm,0.8s						
KST	**Kastek**	**4.53**	**8**	*e*P	**Pb**	**16 26 16.6**	**-0.2**
	19nm,0.1s						
KST				*e*S	**Sb**	**16 27 12.7**	**+1.2**
	104nm,0.8s						
IZV	**Izvestkoviy**	**4.61**	**13**	Pg	**Pb**	**16 26 18.0**	**-0.3**
	29nm,0.8s						
IZV				Lg	Lg	16 27 14.7	
	65nm,0.4s						
IZV	**Izvestkoviy**	**4.61**	**13**	*e*P	**Pb**	**16 26 18.0**	**-0.3**
	29nm,0.8s						
IZV				*e*S	**Sb**	**16 27 14.7**	**+0.7**
	65nm,0.4s						
MTBS	**Maitube**	**4.67**	**12**	Pg	**Pb**	**16 26 19.4**	**+0.2**
	27nm,0.3s						
MTBS				Lg	Lg	16 27 17.2	
	34nm,0.7s						
MTBS	**Maitube**	**4.67**	**12**	*e*P	**Pb**	**16 26 19.4**	**+0.2**
	27nm,0.3s						
MTBS				*e*S	**Sb**	**16 27 17.2**	**+1.6**
	34nm,0.7s						
TNSS	**Tian-Shan**	**4.68**	**16**	Pg	**Pb**	**16 26 19.2**	**-0.3**
	25nm,0.2s						
TNSS				Lg	Lg	16 27 16.7	
	25nm,2.1s						
TNSS	**Tian-Shan**	**4.68**	**16**	*e*P	**Pb**	**16 26 19.2**	**-0.3**
	25nm,0.2s						
TNSS				*e*S	**Sb**	**16 27 16.7**	**+0.6**
	25nm,2.1s						
DGS	**Degeres**	**4.71**	**5**	Pg	**Pb**	**16 26 20.4**	**+0.5**
	114nm,0.6s						
DGS				Lg	Lg	16 27 19.0	
	40nm,1.7s						
DGS	**Degeres**	**4.71**	**5**	*e*P	**Pb**	**16 26 20.4**	**+0.5**
	114nm,0.6s						
DGS				*e*S	**Sb**	**16 27 19.0**	**+2.4**
	40nm,1.7s						
USP	**Ospenovka**	**4.73**	**354**	P	**Pb**	**16 26 21.6**	**+1.3**
	SNR=12						
MDOK	**Medeo**	**4.82**	**17**	Pn	**Pn**	**16 26 12.1**	**+2.1**
	6.0nm,0.8s						
MDOK				Pg	**Pb**	**16 26 21.8**	**0.0**
	21nm,1.8s						
MDOK				⇓Pg	Pg	16 26 22.1	-7.5
	26nm,0.6s						
MDOK				Lg	Lg	16 27 21.2	
	74nm,1.0s						
MDOK				Lg	Lg	16 27 21.2	
	44nm,2.5s						
MDOK	**Medeo**	**4.82**	**17**	*e*P	**Pb**	**16 26 21.8**	**0.0**
	21nm,1.8s						
MDOK				*e*S	**Sb**	**16 27 21.2**	**+1.3**
	44nm,2.5s						
KNDC	**Almaty**	**4.86**	**16**	⇑Pg	**Pb**	**16 26 26.2**	**+3.9**
	56nm,0.5s						
KNDC				⇓Lg	Lg	16 27 25.5	
	124nm,0.8s						
KOTS	**Kotyrbulak**	**4.90**	**17**	Pg	**Pb**	**16 26 23.1**	**-0.1**
	33nm,1.2s						
KOTS				Lg	Lg	16 27 23.4	
	73nm,0.2s						
KOTS	**Kotyrbulak**	**4.90**	**17**	*e*P	**Pb**	**16 26 23.1**	**-0.1**
	33nm,1.2s						
KOTS				*e*S	**Sb**	**16 27 23.4**	**+1.0**
	73nm,0.2s						
SGDS	**Sogindy**	**4.91**	**356**	Pg	**Pb**	**16 26 24.3**	**+1.0**
	30nm,0.7s						
SGDS				Lg	Lg	16 27 25.8	
	27nm,1.6s						
SATY	**Saty**	**5.13**	**28**	Pg	**Pb**	**16 26 28.4**	**+1.2**
	30nm,0.5s						
SATY				Lg	Lg	16 27 32.4	
	64nm,1.0s						
SATY	**Saty**	**5.13**	**28**	*e*P	**Pb**	**16 26 28.4**	**+1.2**
	30nm,0.5s						
SATY				*e*S	**Sb**	**16 27 32.4**	**+3.6**
	64nm,1.0s						
KRBS	**Karabastau**	**5.15**	**4**	Pg	**Pb**	**16 26 27.9**	**+0.4**
	22nm,0.4s						
KRBS				Lg	Lg	16 27 32.0	
	35nm,1.1s						
KRBS	**Karabastau**	**5.15**	**4**	*e*P	**Pb**	**16 26 27.9**	**+0.4**
	22nm,0.4s						
KRBS				*e*S	**Sb**	**16 27 32.0**	**+2.6**
	35nm,1.1s						
DZA	**Taraz**	**5.22**	**327**	Pg	**Pb**	**16 26 30.6**	**+2.1**
	50nm,0.3s						
DZA				Lg	Lg	16 27 36.5	
	53nm,0.2s						
DZA	**Taraz**	**5.22**	**327**	*e*P	**Pb**	**16 26 30.6**	**+2.1**
	50nm,0.3s						
DZA				*e*S	**Sb**	**16 27 36.5**	**+5.3**
	53nm,0.2s						
KTBS	**Karatobe**	**5.28**	**12**	Pg	**Pb**	**16 26 30.0**	**+0.4**
	16nm,0.5s						
KTBS				Lg	Lg	16 27 35.5	
	29nm,1.1s						
KTBS	**Karatobe**	**5.28**	**12**	*e*P	**Pb**	**16 26 30.0**	**+0.4**
	16nm,0.5s						
KTBS				*e*S	**Sb**	**16 27 35.5**	**+2.5**
	29nm,1.1s						
IUG	**Iuzhnay**	**5.31**	**314**	Pg	**Pb**	**16 26 33.9**	**+3.8**
	97nm,0.7s						
IUG				Lg	Lg	16 27 42.1	
	47nm,1.4s						
IUG	**Iuzhnay**	**5.31**	**314**	*e*P	**Pb**	**16 26 33.9**	**+3.8**
	97nm,0.7s						
IUG				*e*S	**Sg**	**16 27 42.0**	**-5.6**
	47nm,1.4s						
KURS	**Kuram**	**5.43**	**24**	Pg	**Pb**	**16 26 33.5**	**+1.3**
	17nm,1.2s						
KURS				Lg	Lg	16 27 41.5	
	18nm,1.5s						
KURS	**Kuram**	**5.43**	**24**	*e*P	**Pb**	**16 26 33.5**	**+1.3**
	17nm,1.2s						
KURS				*e*S	**Sb**	**16 27 41.5**	**+4.1**
	18nm,1.5s						
UZB	**Uzynbulak**	**5.44**	**31**	Pg	**Pb**	**16 26 34.3**	**+1.8**
	22nm,0.4s						
UZB				Lg	Lg	16 27 42.7	
	28nm,0.9s						
UZB	**Uzynbulak**	**5.44**	**31**	*e*P	**Pb**	**16 26 34.3**	**+1.8**
	22nm,0.4s						
UZB				*e*S	**Sb**	**16 27 42.7**	**+4.9**
	28nm,0.9s						
CHKK	**Chushkaly**	**5.47**	**14**	Pg	**Pb**	**16 26 32.8**	**-0.1**
	20nm,0.6s						
CHKK				Lg	Lg	16 27 40.4	
	25nm,1.5s						
CHKK	**Chushkaly**	**5.47**	**14**	*e*P	**Pb**	**16 26 32.8**	**-0.1**
	20nm,0.6s						
CHKK				*e*S	**Sb**	**16 27 40.4**	**+1.9**
	25nm,1.5s						
KK31	**Karatay Array**	**5.75**	**324**	Pn	**Pn**	**16 26 24.3**	**+1.7**
	1.7nm,0.3s,baz=306,slow=23,SNR=37						
KK31				⇑Pg	**Pb**	**16 26 40.6**	**+3.0**
	19nm,0.9s,baz=131,slow=16,SNR=9.8						
KK31				⇑Sn	**Sn**	**16 27 29.8**	**+1.2**
	3.4nm,0.5s,baz=119,slow=28,SNR=4.5						
KK31				⇓Lg	Lg	16 27 53.7	
	7.0nm,0.6s,baz=119,slow=28,SNR=4.5						
PDGK	**Podgornoye**	**5.79**	**33**	Pg	**Pb**	**16 26 41.0**	**+2.7**
	7.8nm,1.1s						
PDGK				Lg	Lg	16 27 54.3	
	18nm,0.7s						
PDGK	**Podgornoye**	**5.79**	**33**	⇑Pn	**Pn**	**16 26 24.9**	**+1.7**
	6.9nm,0.7s						
PDGK				⇓Pg	**Pb**	**16 26 41.7**	**+3.4**
	23nm,1.0s						
PDGK				⇑Lg	Lg	16 27 55.3	
	60nm,1.1s						
BRLS	**Boroldaу**	**6.02**	**320**	Pg	**Pb**	**16 26 44.5**	**+2.3**
	3.5nm,0.3s						
BRLS				Lg	Lg	16 28 00.3	
	9.4nm,1.2s						
BRLS	**Boroldaу**	**6.02**	**320**	*e*P	**Pb**	**16 26 44.5**	**+2.3**
	3.5nm,0.3s						
BRLS				*e*S	**Sb**	**16 28 00.3**	**+6.0**
	9.4nm,1.2s						
BTLS	**Baital**	**6.53**	**353**	Pg	**Pb**	**16 26 55.1**	**+4.2**
	3.8nm,0.6s						
BTLS				Lg	Lg	16 28 18.8	
	11nm,0.8s						
BTLS	**Baital**	**6.53**	**353**	*e*P	**Pb**	**16 26 55.1**	**+4.2**
	3.8nm,0.6s						
BTLS				*e*S	Sb	16 28 18.9	+10
	11nm,0.8s						
MK31	**Makanchi Array**	**9.76**	**30**	Pn	**Pn**	**16 27 18.6**	**+0.9**
	2.0

ZALV					LR		LR	16 35 54.6		
	comp=E,76nm,19.4s,baz=318,slow=39 1.1nm,0.5s									
AKTO	**Aktyubinsk**	**17.00**	**320**		Pn		**Pn**	**16 28 51.1**	**-3.8**	
	0.3nm,0.3s,baz=113,slow=12,SNR=2.6 0.6nm,0.3s									
ARU	**Arti**	**21.01**	**334**		P		**P**	**16 29 39.3**	**-1.4**	
	1.1nm,0.3s,baz=108,slow=19,SNR=1.4 1.1nm,0.3s									
SONM	**Songino Array**	**24.45**	**58**		P		**P**	**16 30 17.7**	**+1.4**	
	0.9nm,0.7s,baz=255,slow=10.0,SNR=7.0									
SONM					LR		LR	16 41 21.9		
	comp=Z,60nm,19.4s,baz=312,slow=40 0.9nm,0.7s									
BRTR	**Keskin Array B**	**32.02**	**285**		P		**P**	**16 31 23.0**	**-0.9**	
	0.9nm,0.8s,baz=98,slow=6.0,SNR=2.5 0.9nm,0.8s									
FINES	**FINESS Array B**	**37.71**	**324**		P		**P**	**16 32 10.8**	**-1.8**	
	1.3nm,0.9s,baz=101,slow=9.9,SNR=9.1 1.3nm,0.9s									
ARCES	**ARCESS Array B**	**40.57**	**336**		P		**P**	**16 32 34.4**	**-2.1**	
	1.2nm,1.0s,baz=106,slow=8.9,SNR=7.9 1.2nm,1.0s									
KSRS	**Korea Array**	**41.12**	**74**		LR		LR	16 52 08.3		
	comp=Z,25nm,18.4s,baz=310,slow=40									
HFS	**Hagfors**	**43.54**	**320**		P		**P**	**16 32 59.9**	**-0.9**	
	1.2nm,0.5s,baz=79,slow=7.7,SNR=4.6 1.2nm,0.5s									
NB2	**NORSAR Subarra**	**44.78**	**322**		P		**P**	**16 33 11.7**	**+1.0**	
	comp=Z,2.2nm,0.8s,baz=90,slow=7.9									
NOA	**NORSAR Array B**	**44.78**	**322**		P		**P**	**16 33 09.3**	**-1.4**	
	comp=Z,0.7nm,0.6s,baz=91,slow=7.9,SNR=4.0 comp=Z,0.7nm,0.6s									
ILAR	**Eielson Array**	**71.86**	**18**		P		**P**	**16 36 19.8**	**-0.1**	
	comp=Z,0.5nm,1.0s,baz=310,slow=4.2,SNR=2.5 comp=Z,0.5nm,1.0s									
YKA	**Yellowknife Ar**	**78.99**	**5**		P		**P**	**16 37 01.7**	**+0.9**	
	comp=Z,0.3nm,0.6s,baz=346,slow=6.2,SNR=3.7 comp=Z,0.3nm,0.6s									
ASAR	**Alice Springs**	**82.81**	**128**		P		**P**	**16 37 22.6**	**+0.9**	
	comp=Z,0.4nm,0.9s,baz=311,slow=4.2,SNR=2.0 comp=Z,0.4nm,0.9s									

*PRU **10** 16:40:50.7,50˚.25N×12˚.44E,h10km, West Bohemia Swarm*
*CLL **10** 16:40:52.1±0.3,50˚.25N×12˚.45E,h8km±1km,ML1.8*
WBNET 10 16:40:52.3,50˚.25N×12˚.45E,h9km,MI1.7,19C-15D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**180**	*i*	Pg	Pg	16 40 53.5	-0.4
NKC				*i*	Sg	Sg	16 40 54.6	-0.5
NKC					IAML		16 40 54.7	
	comp=E,462nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**180**	*e*	SG	Sg	16 40 54.2	-0.8
	comp=E,265nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**180**	⇑	P	Pg	16 40 53.2	-0.7
NKC					S	Sg	16 40 54.3	-0.8
NKC	**Novy Kostel**	**0.02**	**180**	⇑	P	Pg	16 40 53.5	-0.4
NKC					S	Sg	16 40 54.6	-0.5
NKC	**Novy Kostel**	**0.02**	**180**	⇑	P	Pg	16 40 53.9	0.0
LBCW	**Luby**	**0.03**	**302**	⇑	P	Pg	16 40 53.2	-0.7
LBCW					S	Sg	16 40 54.5	-0.7
LBCW	**Luby**	**0.03**	**302**	⇓	P	Pg	16 40 53.6	-0.4
LBCW					S	Sg	16 40 54.9	-0.3
LBCW	**Luby**	**0.03**	**302**		S	Sg	16 40 55.4	+0.2
STCW	**Studenec**	**0.05**	**80**	*i*	Pg	Pg	16 40 53.6	-0.5
STCW				*i*	Sg	Sg	16 40 54.9	-0.6
STCW	**Studenec**	**0.05**	**80**	⇑	P	Pg	16 40 53.3	-0.8
STCW					S	Sg	16 40 54.5	-0.9
STCW	**Studenec**	**0.05**	**80**	⇑	P	Pg	16 40 53.7	-0.5
STCW					S	Sg	16 40 54.9	-0.6
STCW	**Studenec**	**0.05**	**80**	⇑	P	Pg	16 40 54.2	+0.1
STCW					S	Sg	16 40 55.4	-0.1
VAC	**Vackov**	**0.05**	**250**	*i*	Pg	Pg	16 40 53.7	-0.5
VAC				*i*	Sg	Sg	16 40 54.9	-0.6
VAC	**Vackov**	**0.05**	**250**	⇓	P	Pg	16 40 53.3	-0.8
VAC					S	Sg	16 40 54.6	-0.9
VAC	**Vackov**	**0.05**	**250**	⇓	P	Pg	16 40 53.7	-0.5
VAC					S	Sg	16 40 54.9	-0.6
VAC	**Vackov**	**0.05**	**250**	⇓	P	Pg	16 40 54.2	+0.1
VAC					S	Sg	16 40 55.4	0.0
WERN	**Wernitzgruen**	**0.06**	**308**	*i*	Pg	Pg	16 40 53.9	-0.4
WERN				*i*	Sg	Sg	16 40 55.2	-0.5
WERN					IAML		16 40 55.4	
	comp=E,1μm,0.2s							
KVC	**Kvetna**	**0.06**	**136**	*i*	Pg	Pg	16 40 53.8	-0.5
KVC				*i*	Sg	Sg	16 40 54.9	-0.8
KVC	**Kvetna**	**0.06**	**136**	⇓	P	Pg	16 40 53.5	-0.8
KVC					S	Sg	16 40 54.8	-0.9
KVC	**Kvetna**	**0.06**	**136**	⇓	P	Pg	16 40 53.8	-0.5
KVC					S	Sg	16 40 55.1	-0.6
KVC	**Kvetna**	**0.06**	**136**	⇓	P	Pg	16 40 54.3	+0.1
POCW	**Potky**	**0.07**	**349**	⇑	P	Pg	16 40 53.7	-0.7
POCW					S	Sg	16 40 54.0	-0.8
POCW	**Potky**	**0.07**	**349**	⇑	P	Pg	16 40 54.0	-0.4
POCW					S	Sg	16 40 55.5	-0.4
POCW	**Potky**	**0.07**	**349**	⇑	P	Pg	16 40 54.6	+0.1
POCW					S	Sg	16 40 56.1	+0.1
ROHR	**Rohrbach**	**0.09**	**259**	*i*	Pg	Pg	16 40 54.1	-0.5
ROHR				*i*	Sg	Sg	16 40 55.6	-0.7
ROHR					IAML		16 40 55.7	
	comp=E,581nm,0.2s							
KRCW	**Kraslice**	**0.10**	**33**	⇑	P	Pg	16 40 53.9	-0.8
KRCW					S	Sg	16 40 55.6	-0.9
KRCW	**Kraslice**	**0.10**	**33**	⇑	P	Pg	16 40 54.3	-0.5
KRCW					S	Sg	16 40 55.9	-0.6
KRCW	**Kraslice**	**0.10**	**33**	⇑	P	Pg	16 40 54.8	0.0
KRCW					S	Sg	16 40 56.5	0.0
SKC	**Skalna**	**0.10**	**215**	⇑	P	Pg	16 40 53.9	-0.8
SKC					S	Sg	16 40 55.7	-0.8
SKC	**Skalna**	**0.10**	**215**	⇑	P	Pg	16 40 54.3	-0.4
SKC					S	Sg	16 40 56.0	-0.5
SKC	**Skalna**	**0.10**	**215**	⇑	P	Pg	16 40 54.8	+0.1
SKC					S	Sg	16 40 56.5	+0.1
GUNZ	**Gunzen**	**0.14**	**327**	*i*	Pg	Pg	16 40 54.9	-0.4
GUNZ				*i*			16 40 55.4	
GUNZ				*e*	Sg	Sg	16 40 56.8	-0.6
GUNZ					IAML		16 40 57.0	
	comp=E,233nm,0.4s							
KOCW	**Kopaniny**	**0.14**	**276**	⇓	P	Pg	16 40 54.5	-0.8
KOCW					S	Sg	16 40 56.6	-0.9
KOCW	**Kopaniny**	**0.14**	**276**	⇓	P	Pg	16 40 54.9	-0.5
KOCW					S	Sg	16 40 56.9	-0.6
KOCW	**Kopaniny**	**0.14**	**276**	⇓	P	Pg	16 40 55.4	0.0
KOCW					S	Sg	16 40 57.5	0.0
MULD	**Muldenberg**	**0.16**	**350**	*i*	Pg	Pg	16 40 55.3	-0.5
MULD				*i*	Sg	Sg	16 40 57.5	-0.7
MULD					IAML		16 40 57.7	
	comp=E,265nm,0.1s							
TANN	**Tannenbergstha**	**0.16**	**3**	*i*	Pg	Pg	16 40 55.2	-0.6
TANN				*i*	Sg	Sg	16 40 57.5	-0.7
TANN					IAML		16 40 58.0	
	comp=N,382nm,0.2s							
TRCW	**Trojmez**	**0.20**	**285**	⇓	P	Pg	16 40 55.6	-0.8
TRCW					S	Sg	16 40 58.4	-0.8
TRCW	**Trojmez**	**0.20**	**285**	⇓	P	Pg	16 40 55.9	-0.5
TRCW					S	Sg	16 40 58.7	-0.5
TRCW	**Trojmez**	**0.20**	**285**	⇓	P	Pg	16 40 56.5	0.0
TRCW					S	Sg	16 40 59.3	0.0
ZHC	**Zelena Hora**	**0.20**	**206**	⇑	P	Pg	16 40 55.2	-0.8
ZHC					S	Sg	16 40 58.5	-0.8
ZHC	**Zelena Hora**	**0.20**	**206**	⇑	P	Pg	16 40 56.0	-0.4
ZHC					S	Sg	16 40 58.8	-0.4
ZHC	**Zelena Hora**	**0.20**	**206**	⇑	P	Pg	16 40 56.5	+0.1
ZHC					S	Sg	16 40 59.4	+0.1
WERD	**Werda**	**0.22**	**335**	*i*	Pg	Pg	16 40 56.2	-0.5
WERD				*e*	Sg	Sg	16 40 59.0	-0.7
WERD					IAML		16 40 59.1	
	comp=E,88nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**297**	*i*	Pg	Pg	16 40 56.3	-0.6
TRIB				*e*	Sg	Sg	16 40 59.7	-0.2
TRIB					IAML		16 40 59.9	
	comp=E,52nm,0.2s							
LACW	**Lazy**	**0.23**	**150**	*i*	Pg	Pg	16 40 56.6	-0.4
LACW				*i*	Sg	Sg	16 40 59.7	-0.5
LACW	**Lazy**	**0.23**	**150**	⇓	P	Pg	16 40 56.3	-0.7
LACW					S	Sg	16 40 59.6	-0.5
LACW	**Lazy**	**0.23**	**150**	⇓	P	Pg	16 40 56.6	-0.3
LACW					S	Sg	16 40 59.9	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**254**	*e*	Pg	Pg	16 40 56.4	-0.6
VIEL				*i*	Sg	Sg	16 40 59.5	-0.7
PLN	**Plauen**	**0.30**	**322**	*e*	Pg	Pg	16 40 57.6	-0.6
PLN				*i*	Sg	Sg	16 41 01.6	-0.6
PLN					IAML		16 41 01.8	
	comp=E,72nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**356**	*i*	Pg	Pg	16 40 60.0	-0.7
SCHF				*e*	Sg	Sg	16 41 05.7	-0.6
SCHF					IAML		16 41 05.9	
	comp=E,102nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*e*	Pg		16 41 00.7	-0.7
GRZ1				*i*	Sg		16 41 06.5	-0.9
GRZ1					IAML		16 41 07.7	
	comp=E,41nm,0.4s							
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*	SG	Sg	16 41 14.5	-1.2
	comp=E,22nm,0.2s							
CLL	**Collm**	**1.11**	**18**	*i*	Pg		16 41 12.5	-1.2
CLL				*i*	Sg		16 41 27.0	-1.2
	comp=Z,9.0nm,0.5s							
CLL				*i*	x	x	16 41 31.3	
BRG	**Berggiesshubel**	**1.14**	**56**		Pg	Pg	16 41 12.9	-1.3
BRG					Sg	Sg	16 41 27.5	-1.4
BRG					Amp		16 41 29.7	
	comp=Z,12nm,0.3s							
KHC	**Kasperske Hory**	**1.34**	**146**	*e*	SG	Sb	16 41 33.8	-1.1
	comp=Z,5.4nm,0.2s							
PRU	**Pruhonice**	**1.37**	**100**	*e*	SG	Sb	16 41 35.1	-0.7
	comp=Z,6.8nm,0.3s							
CKRC	**Cesky Krumlov**	**1.88**	**139**	*e*	SG	Sn	16 41 49.2	+0.8

*IDC **10** 16:46:37.7±1.0,2˚.19N×96˚.68E,h0km,mb4.3/13, mbtmp4.3/14,ML4.4/1,MS3.4/7,Error ellipse: s-maj=35.6km s-min=16.6km az=52.0*
*DJA **10** 16:46:42.2±0.6,2˚N±3˚×9˚7E±˚,h42km±11km,M4.6/12, mb4.9/2,mB5.0/1,MLv4.5/12,Mw(mB)4.3/1*
*NEIC **10** 16:46:42.7±0.8,2˚.20N±0˚.03×96˚.7E±0˚.1,h29km±6km, mb4.5/49,Error ellipse: s-maj=16.6km s-min=2.1km az=75.0*
ISC 10 16:46:41.7±0.5,2˚.15N±0˚.05×96˚.69E±0˚.06,h28km,n108, σ0s97/96,mb4.5/44,MS3.5/6,2C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SNSI	**Sinabang, Aceh**	**0.44**	**305**	*i*	P	**Pn**	**16 46 52.9**	**+0.7**
SNSI				*i*	S	**Sn**	**16 47 00.5**	**+1.3**
GSI	**Gunungsitoli**	**1.22**	**134**	*i*	Pn	**Pb**	**16 47 04.1**	**-0.1**
GSI				*i*	Sn	**Sb**	**16 47 19.4**	**-0.3**
GSI	**Gunungsitoli**	**1.22**	**134**	*i*	P	**Pb**	**16 47 04.1**	**-0.1**
KCSI	**Kotacane, Aceh**	**1.74**	**38**	*i*	P	**Pn**	**16 47 11.2**	**+1.2**
KCSI				*i*	S	**Sb**	**16 47 34.3**	**-0.1**
MLSI	**Meulaboh, Aceh**	**2.12**	**352**	*i*	P	**Pn**	**16 47 15.4**	**+0.1**
PBSI	**Pulau Batu**	**2.71**	**144**	*i*	P	**Pn**	**16 47 25.4**	**+2.0**
LHMI	**Lhok Sumawe**	**3.07**	**5**	*i*	Pn	**Pn**	**16 47 29.4**	**+1.1**
LHMI	**Lhok Sumawe**	**3.07**	**5**	*i*	P	**Pn**	**16 47 29.2**	**+0.9**
SISI	**Saibi**	**4.21**	**145**	*i*	P	**Pn**	**16 47 43.8**	**-0.2**
PDSI	**Padang**	**4.85**	**129**	*i*	P	**Pn**	**16 47 53.6**	**+0.8**
KULM	**Kulim**	**5.03**	**52**			**Pn**	**16 47 56.5**	**+1.1**
SRIT	**Nakonsritamara**	**7.03**	**24**		Pn	**Pn**	**16 48 21.6**	**-1.1**
MYKOM	**Kota Tinggi**	**7.17**	**93**			**Pn**	**16 48 24.3**	**-0.4**
MNAI	**Manna**	**9.01**	**136**		Pn	**Pn**	**16 48 50.5**	**+0.5**
SBUM	**Sibu**	**15.52**	**89**		Pn	**Pn**	**16 50 18.7**	**-0.1**
UBPT	**Khong Chiam**	**15.66**	**33**			**Pn**	**16 50 21.7**	**+1.2**
CM31	**Chiang Mai Arr**	**16.35**	**8**			**Pn**	**16 50 29.1**	**-0.3**
CMAR	**Chiang Mai Arr**	**16.35**	**8**		Pn	**Pn**	**16 50 29.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**16.35**	**8**		Pn	**Pn**	**16 50 29.2**	**-0.2**
	0.5nm,0.3s,baz=197,slow=11,SNR=75							
CMAR					LR	LR	16 56 49.8	
	comp=Z,93nm,20.8s,baz=200,slow=38 10nm,0.8s							
PHRA	**Phrae**	**16.61**	**12**			**Pn**	**16 50 32.9**	**+0.2**
CHTO	**Chiang Mai**	**16.70**	**7**			**Pn**	**16 50 33.4**	**-0.5**
PALK	**Pallekele**	**16.72**	**288**		LR	LR	16 56 33.8	
	comp=Z,133nm,19.9s,baz=216,slow=36							
CRAI	**Chiangrai**	**18.32**	**11**			**P**	**16 50 53.5**	**-0.4**
SLVN	**Son La**	**20.32**	**20**		P	**P**	**16 51 14.9**	**-0.9**
BKB	**Balikpapan**	**20.49**	**99**		P	**P**	**16 51 17.3**	**-0.3**
QIZ	**Qiongzhong**	**21.15**	**37**		P	**P**	**16 51 26.4**	**+1.7**
QIZ					S	Sn	16 55 22.9	-3.1
QIZ					LR	LR		
	comp=N,240nm,12.6s							
QIZ					LR	LR		
	comp=E,230nm,12.0s							
QIZ					LR	LR		
	comp=Z,200nm,10.7s							
TNCH	**TengChong**	**22.81**	**4**		P	**P**	**16 51 42.8**	**+0.1**
TNCH					pmax	pmax		
	comp=Z,14nm,0.9s							
KMI	**Kunming**	**23.57**	**14**	⇓	P	**P**	**16 51 51.4**	**+1.1**
KMI					pmax	pmax		
	comp=Z,15nm,1.0s							
SHL	**Shillong**	**23.73**	**349**		P	**P**	**16 51 49.2**	**-2.7**
SHL					IAmb	IAmb	16 51 52.7	
	comp=Z,23nm,1.0s							
TOLI2	**Tolitoli**	**24.11**	**92**		P	**P**	**16 51 54.8**	**-0.5**
PZH	**PanZhiHua**	**24.69**	**11**		P	**P**	**16 52 00.9**	**+0.3**
PZH					pmax	pmax		
	comp=Z,10.0nm,1.0s							
PZH					pmax	pmax		
	comp=Z,120nm,5.2s							
H08S2	**Diego Garcia H**	**26.03**	**248**		T	T	17 19 07.1	
	baz=68,slow=76,SNR=600							
H08S3	**Diego Garcia H**	**26.03**	**248**		T	T	17 19 03.8	
	baz=68,slow=76,SNR=620							
H08S1	**Diego Garcia H**	**26.04**	**248**		T	T	17 19 08.4	
	baz=68,slow=76,SNR=474							
LSA	**Lhasa**	**27.90**	**350**		P	**P**	**16 52 29.1**	**-0.9**
LSA					IAmb	IAmb	16 52 32.0	
	comp=Z,5.7nm,0.6s							
GOMU	**GeErMu**	**33.92**	**357**		P	**P**	**16 53 23.5**	**+0.6**
GOMU					pP	pP	16 53 27.6	-3.4
GOMU					sP	sP	16 53 30.4	-4.1
GOMU					pmax	pmax		
	comp=Z,9.0nm,0.9s							
FITZ	**Fitzroy Crossi**	**34.90**	**126**		P	**P**	**16 53 30.2**	**-0.9**
NJ2	**Nanjing**	**36.34**	**33**	*e*	P	**P**	**16 53 46.9**	**+3.6**
NJ2					pmax	pmax		
	comp=Z,6.0nm,0.5s							
GTA	**Gaotai**	**37.19**	**4**	⇑	P	**P**	**16 53 50.4**	**-0.2**
GTA					sP	pP	16 54 00.4	+1.5
GTA					pmax	pmax		
	comp=Z,17nm,0.8s							
HNS	**HongShan**	**38.80**	**23**	⇑	P	**P**	**16 54 05.3**	**+1.3**
H01W3	**Cape Leeuwin H**	**40.31**	**158**		T	T	17 37 01.8	
	baz=334,slow=76,SNR=14							
H01W2	**Cape Leeuwin H**	**40.33**	**158**		T	T	17 37 06.2	
	baz=334,slow=76,SNR=14							
H01W1	**Cape Leeuwin H**	**40.33**	**158**		T	T	17 37 08.0	
	baz=334,slow=76,SNR=14							
HHC	**Hu-ho-hao-te**	**40.80**	**17**	*e*	P	**P**	**16 54 25.4**	**+4.6**
HHC					pmax	pmax		
	comp=Z,8.0nm,0.7s							
HHC					pmax	pmax		
	comp=Z,68nm,4.7s							
BJT	**Baijiatuau**	**41.63**	**23**		P	**P**	**16 54 28.7**	**+1.2**
BJT					IAmb	IAmb	16 54 29.8	
	comp=Z,5.4nm,0.6s							
BJI	**Beijing**	**41.66**	**23**		P	**P**	**16 54 29.0**	**+1.3**
BJI					pP	**pP**	**16 54 34.9**	**-1.1**
BJI					pmax	pmax		
	comp=Z,4.0nm,0.7s							
BJI					pmax	pmax		
	comp=Z,52nm,4.2s							
WMQ	**Urumqi**	**42.25**	**350**	*e*	P	**P**	**16 54 33.5**	**+0.9**
WMQ					pmax	pmax		
	comp=Z,16nm,0.7s							
TARG	**Taragay, Kyrgy**	**42.91**	**339**		P	**P**	**16 54 38.8**	**+0.4**
TARG					IAmb	IAmb	16 54 42.2	
	comp=Z,15nm,1.1s							
WB0	**Warramunga Arr**	**42.94**	**122**		P	**P**	**16 54 38.3**	**-0.3**
WB0					IAmb	IAmb	16 54 40.0	
	comp=Z,13nm,1.4s							
WRA	**Warramunga Arr**	**42.97**	**123**		P	**P**	**16 54 39.2**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=301,slow=9.2,SNR=12 comp=Z,3.1nm,0.9s							
WB2	**Warramunga Arr**	**42.98**	**123**		P	**P**	**16 54 39.2**	**+0.3**
WB2					IAmb	IAmb	16 55 02.8	
	comp=Z,18nm,1.4s							
WR0	**Warramunga Arr**	**43.15**	**122**		P	**P**	**16 54 39.9**	**-0.3**
WR0					IAmb	IAmb	16 54 41.6	
	comp=Z,8.3nm,0.9s							
BOOM	**Boomskoye usch**	**44.25**	**338**		P	**P**	**16 54 49.1**	**+0.2**
BOOM					IAmb	IAmb	16 54 52.5	
	comp=Z,9.5nm,1.2s							
SIMJ	**Simiganj**	**44.27**	**329**		P	**P**	**16 54 48.9**	**-0.2**
TJN	**Taejon**	**44.30**	**36**		P	**P**	**16 54 48.5**	**-0.7**
FORT	**Forrest**	**44.33**	**140**		P	**P**	**16 54 51.3**	**+1.8**
AS31	**Alice Springs**	**44.38**	**128**		P	**P**	**16 54 50.1**	**+0.1**
ASAR	**Alice Springs**	**44.38**	**128**		P	**P**	**16 54 50.1**	**+0.1**
ASAR	**Alice Springs**	**44.38**	**128**		P	**P**	**16 54 50.8**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=300,slow=8.0,SNR=35							
ASAR					PcP	**PP**	**16 56 34.1**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=305,slow=3.6,SNR=2.1 comp=Z,2.4nm,0.9s							
BTK	**Batken**	**44.44**	**331**		P	**P**	**16 54 50.1**	**-0.2**
BTK					IAmb	IAmb	16 54 53.0	
	comp=Z,15nm,1.4s							
JNU	**Nakatsue**	**44.44**	**42**		P	**P**	**16 54 50.6**	**+0.1**
JNU					IAmb	IAmb	16 55 27.0	
	comp=Z,17nm,1.3s							
ARSB	**Arslanbob**	**44.46**	**334**		P	**P**	**16 54 50.4**	**-0.2**
AAK	**Ala-Archa**	**44.93**	**337**		P	**P**	**16 54 54.0**	**-0.4**
KS19	**Wonju Array Si**	**45.37**	**35**		P	**P**	**16 54 57.1**	**-0.6**
KSRS	**Korea Array**	**45.37**	**35**		P	**P**	**16 54 56.9**	**-0.8**
	comp=Z,2.9nm,0.8s,baz=225,slow=9.4,SNR=11							
KSRS					LR	LR	17 15 14.9	
	comp=Z,43nm,19.0s,baz=190,slow=38 comp=Z,2.9nm,0.8s							
MK31	**Makanchi Array**	**46.20**	**346**		P	**P**	**16 55 04.3**	**+0.1**
MK31					IAmb	IAmb	16 55 05.5	
	comp=Z,5.9nm,0.7s							
MKAR	**Makanchi Array**	**46.20**	**346**		P	**P**	**16 55 04.4**	**+0.2**
MKAR	**Makanchi Array**	**46.20**	**346**		P	**P**	**16 55 04.6**	**+0.4**
	comp=Z,9.2nm,0.7s,baz=162,slow=7.8,SNR=115 comp=Z,9.2nm,0.7s							
SONM	**Songino Array**	**46.27**	**9**		P	**P**	**16 55 04.9**	**+0.1**
SONM					IAmb	IAmb	16 55 06.8	
	comp=Z,5.3nm,0.9s							
SONM	**Songino Array**	**46.27**	**9**		P	**P**	**16 55 04.8**	**0.0**
	comp=Z,9.2nm,1.0s,baz=191,slow=9.0,SNR=29 comp=Z,9.2nm,1.0s							
MAKZ	**Makanchi**	**46.29**	**346**		P	**P**	**16 55 05.0**	**+0.1**
MAKZ					IAmb	IAmb	16 55 06.4	
	comp=Z,8.1nm,0.8s							
JMN	**Monobe**	**46.84**	**44**		P	**P**	**16 55 08.7**	**-0.7**
KK31	**Karatay Array**	**46.98**	**334**		P	**P**	**16 55 10.5**	**+0.1**
KK31					IAmb	IAmb	16 55 12.2	
	comp=Z,3.7nm,1.1s							
KKAR	**Karatay Array**	**46.98**	**334**		P	**P**	**16 55 10.5**	**+0.2**
KKAR					IAmb	IAmb	16 55 12.2	
	comp=Z,3.6nm,1.1s							
COEN	**Coen**	**48.77**	**111**		P	**P**	**16 55 23.2**	**-1.4**
GEYT	**Alibeck**	**50.16**	**320**		P	**P**	**16 55 34.5**	**-0.4**
GEYT					IAmb	IAmb	16 55 41.8	
	comp=Z,3.2nm,0.8s							
GEYT	**Alibeck**	**50.16**	**320**		P	**P**	**16 55 36.0**	**+1.0**
	comp=Z,1.5nm,0.6s,baz=208,slow=8.2,SNR=5.1 comp=Z,1.5nm,0.6s							
JGF	**Kuroka**	**50.26**	**44**		P	**P**	**16 55 35.1**	**-0.6**
JGF					IAmb	IAmb	16 55 36.6	
	comp=Z,6.5nm,0.8s							
KURBB	**Kurchatov Arra**	**50.68**	**345**		P	**P**	**16 55 38.9**	**+0.3**
	comp=Z,5.5nm,0.6s,baz=166,slow=7.0,SNR=61 comp=Z,5.5nm,0.6s							
KURK	**Kurchatov**	**50.75**	**345**		P	**P**	**16 55 38.9**	**-0.1**
KURK					IAmb	IAmb	16 55 42.2	
	comp=Z,5.1nm,0.8s							
MDJ	**Mudanjiang**	**51.29**	**30**		P	**P**	**16 55 45.0**	**+1.7**
MDJ					pmax	pmax		
	comp=Z,6.0nm,0.8s							
MDJ					pmax	pmax		
	comp=Z,110nm,4.5s							
MJAR	**Matsushiro Arr**	**51.34**	**43**		LR	LR	17 19 31.7	
	comp=Z,32nm,18.1s,baz=261,slow=38							
USA0B	**Ussuriysk Arra**	**52.23**	**32**		P	**P**	**16 55 50.2**	**-0.1**
USA0B					IAmb	IAmb	16 55 53.2	
	comp=Z,7.9nm,1.1s							
USRK	**Ussuriysk Ar.**	**52.23**	**32**		P	**P**	**16 55 50.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**52.23**	**32**		P	**P**	**16 55 50.0**	**-0.3**
	comp=Z,2.8nm,0.8s,baz=243,slow=5.8,SNR=14 comp=Z,2.8nm,0.8s							
ZAA0	**Zalesovo Array**	**52.54**	**351**		P	**P**	**16 55 52.5**	**+0.1**
ZALV	**Zalesovo Beam**	**52.54**	**351**		P	**P**	**16 55 52.5**	**0.0**
ZALV	**Zalesovo Beam**	**52.54**	**351**		P	**P**	**16 55 53.0**	**+0.6**
	comp=Z,11nm,0.6s,baz=181,slow=6.4,SNR=58 comp=Z,11nm,0.6s							
HEH	**HeiHe**	**54.55**	**24**	*e*	P	**P**	**16 56 06.8**	**-0.4**
HEH					pmax	pmax		
	comp=Z,4.0nm,1.1s							
HEH					pmax	pmax		
	comp=Z,90nm,4.5s					

AYUS	**`Aynunah**	**1.24**	**142**	S	**Sb**	**16 52 57.1**	**-1.0**
AYUS	**`Aynunah**	**1.24**	**142**	P	**Pn**	**16 52 41.0**	**-0.9**
PRNI	**Paran**	**1.29**	**24**	P	**Pn**	**16 52 42.2**	**-0.3**
PRNI				S	**Sn**	**16 53 00.8**	**+0.9**
PRNI	**Paran**	**1.29**	**24**	S	**Sn**	**16 52 59.7**	**-0.2**
PRNI	**Paran**	**1.29**	**24**	P	**Pn**	**16 52 42.1**	**-0.4**
KRABS	**KRABS**	**1.30**	**145**	P	**Pn**	**16 52 41.8**	**-0.9**
KRABS	**KRABS**	**1.30**	**145**	S	**Sb**	**16 52 58.7**	**-1.1**
ZFRI	**Zfri**	**1.53**	**26**	P	**Pn**	**16 52 46.5**	**+0.6**
ZFRI	**Zfri**	**1.53**	**26**	S	**Sg**	**16 53 06.9**	**-0.9**
ZFRI	**Zfri**	**1.53**	**26**	P	**Pn**	**16 52 46.1**	**+0.3**
HSNJ	**Maan**	**1.55**	**46**	P	**Pg**	**16 52 48.8**	**+0.5**
HSNJ				S	**Sg**	**16 53 07.9**	**-0.6**
WTBKS	**WTBKS**	**1.71**	**129**	P	**Pn**	**16 52 48.0**	**-0.4**
KZIT	**Kziot**	**1.73**	**360**	P	**Pn**	**16 52 49.8**	**+1.2**
KZIT	**Kziot**	**1.73**	**360**	S	**Sb**	**16 53 12.8**	**+0.7**
KZIT	**Kziot**	**1.73**	**360**	P	**Pn**	**16 52 49.2**	**+0.7**
NDEBA	**Dheba**	**2.03**	**147**	P	**Pn**	**16 52 52.1**	**-0.6**
LISJ	**El Lisan**	**2.26**	**24**	P	**Pb**	**16 52 59.4**	**0.0**
YTIR	**Yattir**	**2.27**	**16**	P	**Pb**	**16 52 58.9**	**-0.7**
YTIR	**Yattir**	**2.27**	**16**	P	**Pn**	**16 52 56.7**	**+0.6**
YTIR	**Yattir**	**2.27**	**16**	S	**Sn**	**16 53 24.7**	**+0.5**
MSBI	**Mazada**	**2.29**	**21**	P	**Pb**	**16 52 59.4**	**-0.4**
MSBI	**Mazada**	**2.29**	**21**	P	**Pn**	**16 52 56.6**	**+0.4**
MSBI	**Mazada**	**2.29**	**21**	S	**Sn**	**16 53 24.4**	**0.0**
GHAJ	**Ghor Haditha**	**2.35**	**25**	P	**Pb**	**16 53 00.0**	**-0.9**
GHAJ	**Ghor Haditha**	**2.35**	**25**	P	**Pn**	**16 52 57.8**	**+0.7**
GHAJ	**Ghor Haditha**	**2.35**	**25**	S	**Sn**	**16 53 26.7**	**+0.6**
DSI	**Dead Sea**	**2.53**	**19**	P	**Pn**	**16 53 00.5**	**+0.8**
DSI	**Dead Sea**	**2.53**	**19**	S	**Sn**	**16 53 31.3**	**+0.7**
DSI	**Dead Sea**	**2.53**	**19**	P	**Pn**	**16 52 60.0**	**+0.3**
HMDT	**Nahal Hemdat**	**3.22**	**17**	P	**Pn**	**16 53 09.7**	**+0.6**
HMDT	**Nahal Hemdat**	**3.22**	**17**	S	**Sn**	**16 53 48.6**	**+1.1**

*TRN **10** 16:58:00.6, 10˚.74N×62˚.34W, h76km, MD3.1, Paria peninsula.*

*FUNV **10** 16:58:00.8, 10˚.69N×62˚.29W, h74km, MW3.7*

ISC 10 16:57:58.5±1.5, 10˚.69N±0˚.05×62˚.35W±0˚.04, h100km±14km, n19, σ1§66/32, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CRUV	**Carupano**	**0.87**	**269**	*eP*		**Pn**	**16 58 17.7**	**+0.1**
CRUV				*eS*		**Sn**	**16 58 30.6**	**-1.3**
CRUV	**Carupano**	**0.87**	**269**	*eP*		**Pn**	**16 58 18.6**	**+1.1**
TRN	**Trinidad (W)**	**0.93**	**93**	*eP*		**Pn**	**16 58 18.6**	**+0.4**
TRN				*eS*		**Sn**	**16 58 31.2**	**-1.8**
TBH	**Brigand Hill**	**1.28**	**99**	*eP*		**Pn**	**16 58 23.7**	**+1.6**
TBH				*eS*		**Sn**	**16 58 42.4**	**+2.4**
GRFF	**Grenada Fort F**	**1.48**	**24**	*eP*		**Pn**	**16 58 24.8**	**+0.2**
GRFF				*eS*		**Sn**	**16 58 42.2**	**-2.0**
GRGR	**Grenville**	**1.59**	**25**	*eP*		**Pn**	**16 58 26.5**	**+0.6**
GRGR				*eS*		**Sn**	**16 58 45.5**	**-1.2**
GRW	**Mount Saint Ca**	**1.61**	**25**	*eP*		**Pn**	**16 58 27.7**	**+1.5**
GRW				*eS*		**Sn**	**16 58 47.0**	**-0.2**
GRHS	**Sauteurs**	**1.67**	**24**	*eP*		**Pn**	**16 58 27.6**	**+0.6**
GRHS				*eS*		**Sn**	**16 58 46.9**	**-1.6**
GRIC	**Isle de Caille**	**1.75**	**25**	*eP*		**Pn**	**16 58 28.1**	**+0.2**
GRIC				*eS*		**Sn**	**16 58 48.9**	**-1.5**
GRSS	**Sisters**	**1.75**	**24**	*eP*		**Pn**	**16 58 29.2**	**+1.3**
GRSS				*eS*		**Sn**	**16 58 50.1**	**-0.2**
CUMV	**Cumana_UDO**	**1.83**	**262**	*eP*		**Pn**	**16 58 29.8**	**+0.9**
GCMP	**Grenada, Carri**	**2.00**	**27**	*eP*		**Pn**	**16 58 32.0**	**+0.9**
GCMP				*eS*		**Sn**	**16 58 55.0**	**-0.9**
PCRV	**Puerto La Cruz**	**2.31**	**257**	*eP*		**Pn**	**16 58 37.0**	**+1.8**
PCRV				*eS*		**Sn**	**16 59 02.8**	**-0.4**
PCRV	**Puerto La Cruz**	**2.31**	**257**	*eP*		**Pn**	**16 58 38.2**	**+3.0**
PCRV				*eS*		**Sn**	**16 59 03.5**	**+0.3**
MERV	**Las Mercedes**	**4.14**	**250**	*eS*		**Sn**	**16 59 46.0**	**-1.1**
LUEV	**Luepa**	**4.90**	**170**	*eS*		**Sn**	**17 00 01.9**	**-3.7**
CACV	**CAICARA DEL OR**	**5.17**	**233**	*eP*		Pn	16 59 10.1	-3.5
CACV				*eS*		Sn	17 00 01.1	-11
BAUV	**El Baul**	**5.87**	**253**	*eP*		**Pn**	**16 59 23.7**	**+0.6**
BAUV				*eS*		**Sn**	**17 00 25.6**	**-3.6**
BAUV	**El Baul**	**5.87**	**253**	*eP*		**Pn**	**16 59 25.0**	**+1.9**
BAUV				*eS*		**Sn**	**17 00 28.1**	**-1.0**

*IDC **10** 17:07:30.3±0.9, 8˚.94S×108˚.51W, h0km, mb3.7/8, mbtmp3.7/8, MS4.0/39, Error ellipse: s-maj=36.1km s-min=23.5km az=65.0*

*NEIC **10** 17:07:39.3±1.3, 9˚.10S±0˚.05×108˚.7W±0˚.2, h10km±2km, mb4.6/85, Error ellipse: s-maj=27.2km s-min=8.2km az=275.0*

*GCMT **10** 17:07:41.3±0.3, 9˚.12S±0˚.02×108˚.41W±0˚.02, h17km±1km, MW4.9/90, Moment Tensor Solution. s26,c29; s90,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.41±.12; $M_{\theta\theta}$2.58±.10; $M_{\phi\phi}$-2.18±.10; $M_{r\theta}$0.76±.25; $M_{r\phi}$0.79±.08; $M_{\theta\phi}$-1.57±.35; Best double couple: M=3.04600×10^{16} NP1:φ303.00000°, δ77.00000°, λ-30.00000°. NP2: φ=40.00000°, δ61.00000°, λ-165.00000°. Principal axes: T 2.8020, Plg11.0000°, Azm354.0000°; N 0.4810, Plg57.0000°, Azm102.0000°; P -3.2900, Plg30.0000°, Azm258.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 17:07:37.5±1.0, 9˚.2S±0˚.1×108˚.8W±0˚.2, h10km, n132, σ1§25/73, mb4.6/51, MS4.0/38, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RPN	**Rapa Nui**	**17.84**	**182**	LR		LR	17 16 55.5	
	comp=Z,782nm,20.6s,baz=326,slow=31							
CMIG	**Matias Romero**	**29.53**	**28**	LR		LR	17 22 58.5	
	comp=Z,243nm,19.5s,baz=186,slow=32							
ATAH	**Atahualpa**	**30.16**	**88**	LR		LR	17 22 40.1	
	comp=Z,381nm,19.7s,baz=257,slow=30							
MTO3	**Montecristo**	**30.36**	**40**	P		**P**	**17 13 49.6**	**-0.4**
MTO3				IAmb		IAmb	17 14 17.5	
	comp=Z,7.7nm,1.1s							
JTS	**Las Juntas de**	**30.63**	**51**	LR		LR	17 22 48.9	
	comp=Z,295nm,21.7s,baz=222,slow=30							
CHSH	**Refugio Sur-Vo**	**30.74**	**77**	L		**P**	**17 13 53.9**	**0.0**
NNA	**Nana**	**31.52**	**98**	LR		LR	17 23 00.4	
	comp=Z,257nm,21.5s,baz=272,slow=30							
ACON	**Acoyapa**	**31.52**	**49**	P		**P**	**17 14 00.9**	**+0.8**
ZAIG	**Zacatecas**	**32.35**	**11**	P		**P**	**17 14 07.9**	**+0.2**
ZAIG				IAmb		IAmb	17 14 15.9	
	comp=Z,4.6nm,0.8s							
LPIG	**La Paz**	**33.13**	**357**	LR		LR	17 24 25.3	
	comp=Z,281nm,19.8s,baz=192,slow=31							
TEIG	**Tepich**	**35.54**	**34**	LR		LR	17 27 03.4	
	comp=Z,703nm,20.1s,slow=33							
CZSB	**Cruzeiro do Su**	**35.72**	**90**	P		**P**	**17 14 36.5**	**-0.2**
HPIG		**36.05**	**5**	P		**P**	**17 14 40.4**	**+0.8**
H03N2	**Juan Fernandez**	**36.58**	**136**	T		T	17 53 13.9	
	baz=308,slow=77							
H03N1	**Juan Fernandez**	**36.59**	**136**	T		T	17 53 18.3	
	baz=308,slow=77							
H03N3	**Juan Fernandez**	**36.59**	**136**	T		T	17 53 18.4	
	baz=308,slow=77							
ROSC	**El Rosal**	**37.09**	**69**	LR		LR	17 26 59.1	
	comp=Z,159nm,21.5s,baz=256,slow=32							
833A	**Chaparral WMA,**	**38.40**	**13**	P		**P**	**17 14 58.3**	**-0.9**
833A				IAmb		IAmb	17 15 06.8	
	comp=Z,11nm,0.9s							
TXAR	**Lajitas Array**	**38.63**	**7**	LR		LR	17 28 03.5	
	comp=Z,118nm,19.1s,baz=178,slow=32							
ALPN	**Alpine**	**39.66**	**7**	P		**P**	**17 15 09.5**	**-0.5**
LPAZ	**La Paz**	**40.22**	**104**	P		**P**	**17 15 15.8**	**+0.3**
LPAZ	**La Paz**	**40.22**	**104**	P		P	17 15 07.7	-7.8
	comp=Z,0.7nm,0.7s,baz=272,slow=8.0,SNR=2.3							
LPAZ				LR		LR	17 28 12.7	
	comp=Z,122nm,18.1s,baz=266,slow=31							
	comp=Z,0.7nm,0.7s							
PPT	**Papeete**	**40.46**	**254**	LR		LR	17 26 12.2	
	comp=Z,28nm,21.2s,baz=117,slow=28							
LVC	**Limon Verde**	**40.47**	**114**	LR		LR	17 28 46.2	
	comp=Z,69nm,18.8s,baz=266,slow=32							
SDV	**Santo Domingo**	**42.04**	**66**	LR		LR	17 30 54.5	
	comp=Z,86nm,21.6s,baz=274,slow=34							
ABTX	**Abilene, Hawle**	**42.50**	**11**	P		**P**	**17 15 32.8**	**-0.4**
ABTX				IAmb		IAmb	17 15 44.2	
	comp=Z,14nm,1.2s							
POST	**Post**	**42.60**	**9**	P		**P**	**17 15 34.0**	**0.0**
PLPT	**Palo Pinto**	**42.96**	**13**	P		**P**	**17 15 37.0**	**+0.1**
PLPT				IAmb		IAmb	17 15 48.9	
	comp=Z,16nm,1.1s							
BO02	**Sierra Bellavi**	**43.08**	**132**	P		**P**	**17 15 39.2**	**+1.2**
LMEL	**Las Melosas**	**43.09**	**131**	P		**P**	**17 15 39.6**	**+1.4**
LMEL				IAmb		IAmb	17 15 51.8	
	comp=Z,8.7nm,1.0s							
PFO	**Pinyon Flats O**	**43.20**	**351**	LR		LR	17 29 22.6	
	comp=Z,174nm,18.1s,baz=199,slow=30							
WTFS	**Witchita Falls**	**43.84**	**12**	P		**P**	**17 15 43.8**	**-0.2**
WTFS				IAmb		IAmb	17 15 45.6	
	comp=Z,13nm,0.9s							
ANMO	**Albuquerque**	**43.96**	**3**	P		**P**	**17 15 45.6**	**+0.4**
ANMO	**Albuquerque**	**43.96**	**3**	LR		LR	17 31 31.9	
	comp=Z,191nm,18.1s,baz=298,slow=33							
LOOK	**Love County**	**44.35**	**14**	P		**P**	**17 15 47.5**	**-0.6**
SMWD	**Samnorwood**	**44.80**	**10**	P		**P**	**17 15 52.3**	**+0.6**
SMWD				IAmb		IAmb	17 16 00.2	
	comp=Z,6.7nm,0.7s							
GO06	**Curarrehue**	**44.96**	**138**	P		**P**	**17 15 53.6**	**+0.5**
GO06				IAmb		IAmb	17 15 57.6	
	comp=Z,7.9nm,1.1s							
SAML	**Samuel**	**45.02**	**93**	P		**P**	**17 15 53.1**	**-0.7**
SAML				IAmb		IAmb	17 15 58.7	
	comp=Z,5.7nm,0.9s							
CSTR	**Hydro, Custer**	**45.62**	**12**	P		**P**	**17 15 58.4**	**+0.2**
MIAR	**Mount Ida**	**45.84**	**18**	P		**P**	**17 16 00.0**	**+0.1**
SHPR	**Sheep Range**	**45.86**	**353**	P		**P**	**17 16 01.5**	**+1.3**
PLCA	**Paso Flores**	**46.17**	**139**	LR		LR	17 30 37.0	
	comp=Z,98nm,18.3s,baz=306,slow=30							
WCT	**Wildcat Mounta**	**46.34**	**351**	P		**P**	**17 16 04.8**	**+0.9**
WCT				IAmb		IAmb	17 16 41.9	
	comp=Z,3.4nm,0.7s							
UALR	**University of**	**46.43**	**19**	P		**P**	**17 16 04.5**	**-0.1**
OK048	**Pawnee Station**	**46.73**	**13**	P		**P**	**17 16 06.8**	**0.0**
SDCO	**Great Sand Dun**	**46.80**	**4**	P		**P**	**17 16 10.0**	**+2.2**
WHAR	**Wooly Hollow**	**46.92**	**19**	P		**P**	**17 16 08.7**	**+0.3**
SIV	**San Ignacio**	**46.98**	**103**	LR		LR	17 33 40.1	
	comp=Z,81nm,20.1s,baz=296,slow=34							
T35A	**Sooner Cattle**	**47.30**	**13**	P		**P**	**17 16 11.1**	**-0.3**
HHAR	**Hobbs**	**47.35**	**16**	P		**P**	**17 16 11.3**	**-0.5**
HHAR				IAmb		IAmb	17 16 12.5	
	comp=Z,5.4nm,1.0s							
FCAR	**Ozark Folk Cen**	**47.53**	**18**	P		**P**	**17 16 12.9**	**-0.2**
FCAR				IAmb		IAmb	17 16 23.8	
	comp=Z,3.5nm,0.7s							
LCAR	**Lake Charles**	**48.00**	**19**	P		**P**	**17 16 15.2**	**-1.6**
Q24A	**Divide**	**48.04**	**4**	P		**P**	**17 16 17.4**	**-0.1**
SRU	**San Rafael Swe**	**48.09**	**358**	P		**P**	**17 16 17.1**	**-0.6**
PLAL	**Pickwick Lake**	**48.12**	**23**	P		**P**	**17 16 17.0**	**-0.7**
NVAR	**Mina Array Bea**	**48.21**	**350**	P		**P**	**17 16 19.4**	**+0.8**
NVAR	**Mina Array Bea**	**48.21**	**350**	P		P	17 16 11.8	-6.9
	comp=Z,0.2nm,0.5s,baz=174,slow=10.0,SNR=1.7							
NVAR				LR		LR	17 32 19.8	
	comp=Z,215nm,19.9s,baz=140,slow=31							
	comp=Z,0.2nm,0.5s							
RYN	**Ryan**	**48.44**	**350**	P		**P**	**17 16 21.4**	**+1.1**
RYN				IAmb		IAmb	17 16 49.1	
	comp=Z,10nm,1.3s							
P18A	**Preston Nutter**	**48.60**	**359**	P		**P**	**17 16 21.6**	**-0.1**
P18A				IAmb		IAmb	17 16 24.5	
	comp=Z,6.2nm,1.3s							
MGMO	**Mountain Grove**	**48.65**	**18**	P		**P**	**17 16 22.0**	**+0.1**
MGMO				IAmb		IAmb	17 16 28.4	
	comp=Z,6.3nm,0.8s							
PTLB	**Pontes e Lacer**	**48.82**	**102**	P		**P**	**17 16 23.7**	**+0.2**
PTLB				IAmb		IAmb	17 17 00.4	
	comp=Z,6.2nm,1.3s							
ISCO	**Idaho Springs**	**48.84**	**3**	P		**P**	**17 16 24.4**	**+0.7**
T42A	**Van Buren**	**48.90**	**19**	P		**P**	**17 16 25.2**	**+1.5**
CCM	**Cathedral Cave**	**49.79**	**18**			**P**	**17 16 30.0**	**-0.6**
CCM				IAmb		IAmb	17 16 36.9	
	comp=Z,10nm,0.9s							
RAR	**Rarotonga**	**50.42**	**250**	LR		LR	17 32 54.1	
	comp=Z,119nm,21.2s,baz=118,slow=30							
TKL	**Tuckaleechee C**	**50.48**	**27**	P		P	17 16 29.1	-6.7
	comp=Z,0.6nm,0.4s,baz=190,slow=12,SNR=1.5							
TKL				LR		LR	17 35 55.2	
	comp=Z,58nm,21.8s,baz=214,slow=34							
	comp=Z,0.6nm,0.4s							
V53A	**Saluda**	**50.92**	**27**	P		**P**	**17 16 39.4**	**+0.2**
V53A				IAmb		IAmb	17 16 39.8	
	comp=Z,11nm,1.1s							
CPUP	**Villa Florida**	**51.53**	**116**	P		P	17 16 37.8	-6.2
	comp=Z,1.0nm,0.7s,baz=285,slow=14,SNR=1.5							
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**51.72**	**359**	P		P	17 16 37.2	-8.1
	comp=Z,0.5nm,0.3s,baz=199,slow=5.3,SNR=2.6							
PDAR				LR		LR	17 36 02.8	
	comp=Z,159nm,18.4s,baz=183,slow=33							
	comp=Z,0.5nm,0.3s							
YBH	**Yreka Blue Hor**	**52.27**	**347**	LR		LR	17 34 12.6	
	comp=Z,186nm,18.8s,baz=166,slow=31							
FXWY	**Fox Creek**	**52.63**	**358**	P		**P**	**17 16 52.3**	**+0.3**
MOOW	**Moose Ponds**	**52.73**	**358**	P		**P**	**17 16 52.3**	**-0.5**
MFID	**Camas Ranch**	**52.76**	**354**	P		**P**	**17 16 52.2**	**-0.6**
MFID				IAmb		IAmb	17 16 55.7	
	comp=Z,7.4nm,1.1s							
IMW	**Indian Meadow**	**52.88**	**358**	P		**P**	**17 16 54.3**	**+0.3**
IMW				IAmb		IAmb	17 16 56.0	
	comp=Z,13nm,1.5s							
FLWY	**Flagg Ranch**	**53.06**	**358**	IAmb		IAmb	17 17 07.3	
	comp=Z,13nm,1.2s							
NEW	**Newport**	**57.69**	**353**	LR		LR	17 38 20.1	
	comp=Z,160nm,18.2s,baz=192,slow=32							
MDP	**Montagnes des**	**57.74**	**78**	LR		LR	17 40 26.8	
	comp=Z,114nm,18.2s,baz=230,slow=34							
BDFB	**Brasilia**	**59.54**	**103**	LR		LR	17 40 49.0	
	comp=Z,143nm,19.3s,baz=316,slow=34							
SADO	**Sadowa**	**60.02**	**24**	LR		LR	17 44 55.1	
	comp=Z,51nm,18.0s,baz=202,slow=38							
ULM	**Lac du Bonnet**	**60.27**	**10**	LR		LR	17 40 13.2	
	comp=Z,128nm,21.2s,baz=206,slow=33							
BBB	**Bella Bella**	**63.36**	**347**	LR		LR	17 40 34.2	
	comp=Z,66nm,18.1s,baz=201,slow=31							
PMSA	**Palmer Station**	**63.64**	**160**	LR		LR	17 38 06.9	
	comp=Z,169nm,21.8s,baz=258,slow=29							
RAO	**Raoul Island**	**67.38**	**242**	LR		LR	17 40 11.2	
	comp=Z,129nm,20.3s,baz=98,slow=29							
FCC	**Fort Churchill**	**68.77**	**8**	P		**P**	**17 18 41.5**	**0.0**
DLBC	**Dease Lake**	**69.58**	**348**	LR		LR	17 45 51.8	
	comp=Z,115nm,18.4s,baz=131,slow=33							
YKA	**Yellowknife Ar**	**71.62**	**357**	P		P	17 18 50.0	-8.8
	comp=Z,0.3nm,0.8s,baz=170,slow=4.4,SNR=4.5							
YKA				LR		LR	17 47 10.3	
	comp=Z,45nm,20.2s,baz=303,slow=33							
	comp=Z,0.3nm,0.8s							
RCBR	**Riachuelo**	**72.24**	**93**	LR		LR	17 49 57.8	
	comp=Z,123nm,18.0s,baz=155,slow=35							
SCHQ	**Schefferville**	**72.83**	**24**	LR		LR	17 51 15.4	
	comp=Z,65nm,18.1s,baz=80,slow=36							
MMPY	**Sheldon Lake,**	**73.68**	**349**	IAmb		IAmb	17 19 29.0	
	comp=Z,4.8nm,1.0s							
KDAK	**Kodiak Island**	**75.66**	**338**	LR		LR	17 45 55.2	
	comp=Z,155nm,18.1s,baz=163,slow=30							
K29M	**Barlow Dome**	**76.04**	**347**	P		**P**	**17 19 27.0**	**+2.1**
K29M				IAmb		IAmb	17 19 27.7	
	comp=Z,5.4nm,1.1s							
BCAR	**Beaver Creek A**	**76.37**	**345**	P		**P**	**17 19 28.1**	**+1.3**
L27K	**Beaver Creek,**	**76.38**	**345**	P		**P**	**17 19 28.4**	**+1.5**
L27K				IAmb		IAmb	17 19 43.1	
	comp=Z,11nm,1.5s							
DAWY	**Dawson**	**76.64**	**347**	P		**P**	**17 19 28.9**	**+0.6**
DAWY				IAmb		IAmb	17 19 51.1	
	comp=Z,8.3nm,1.4s							
I30M	**Mount Dempster**	**77.02**	**348**	P		**P**	**17 19 30.9**	**+0.4**
I30M				IAmb		IAmb	17 19 38.5	
	comp=Z,6.5nm,1.4s							
K27K	**Chicken**	**77.25**	**346**	P		**P**	**17 19 33.3**	**+1.6**
K27K				IAmb		IAmb	17 20 14.9	
	comp=Z,6.3nm,1.2s							
SCRK	**Sand Creek**	**77.68**	**345**	P		**P**	**17 19 35.5**	**+1.3**
SCRK				IAmb		IAmb	17 20 12.6	
	comp=Z,8.5nm,1.4s							
I28M	**Miner Creek**	**77.95**	**347**	P		**P**	**17 19 35.4**	**-0.3**
I28M				IAmb		IAmb	17 19 45.0	
	comp=Z,6.0nm,1.1s							
J26L	**Joseph Creek**	**78.01**	**345**	P		**P**	**17 19 37.7**	**+1.7**
EPYK	**Eagle Plains**	**78.10**	**349**	P		**P**	**17 19 35.8**	**-0.6**
G31M	**Satah River**	**78.15**	**350**	P		**P**	**17 19 37.8**	**+1.2**
G31M				IAmb		IAmb	17 19 39.5	
	comp=Z,6.7nm,1.2s							
H29M	**Whitestone**	**78.29**	**348**	P		**P**	**17 19 38.6**	**+1.2**
H29M				IAmb		IAmb	17 19 46.9	
	comp=Z,8.0nm,1.1s							
F31M	**Tsiigehtchic**	**78.53**	**350**	P		**P**	**17 19 39.7**	**+1.1**
F31M				IAmb		IAmb	17 19 40.8	
	comp=Z,8.4nm,1.3s							
J25K	**Salcha River,**	**78.56**	**345**	P		**P**	**17 19 40.2**	**+1.2**
I26K	**Coal Creek Min**	**78.57**	**346**	P		**P**	**17 19 39.5**	**+0.5**
FRB	**Frobisher Bay**	**78.88**	**17**	LR		LR	17 52 50.5	
	comp=Z,172nm,18.1s,baz=211,slow=35							
IL31		**79.08**	**344**	P		**P**	**17 19 43.3**	**+1.5**
IL31				IAmb		IAmb	17 19 49.1	
	comp=Z,6.7nm,1.2s							
ILAR	**Eielson Array**	**79.08**	**344**	P		**P**	**17 19 42.5**	**+0.7**
ILAR	**Eielson Array**	**79.08**	**344**	P		P	17 19 34.9	-6.9
	comp=Z,0.3nm,0.6s,baz=166,slow=5.4,SNR=2.0							
	comp=Z,0.3nm,0.6s							
WRH	**Wood River Hil**	**79.17**	**344**	IAmb		IAmb	17 19 51.6	
	comp=Z,7.2nm,1.0s							
INK	**Inuvik**	**79.29**	**351**	IAmb		IAmb	17 19 45.4	
	comp=Z,6.0nm,1.1s							
INK	**Inuvik**	**79.29**	**351**	LR		LR	17 50 50.6	
	comp=Z,125nm,21.6s,baz=178,slow=33							
NEA2	**Nenana**	**79.54**	**344**	IAmb		IAmb	17 19 52.4	
	comp=Z,4.8nm,1.0s							
CAST	**Castle Rocks**	**79.55**	**342**	IAmb		IAmb	17 19 52.4	
	comp=Z,9.1nm,1.1s							
I23K	**Minto, Yukon-K**	**80.04**	**344**	IAmb		IAmb	17 20 08.8	
	comp=Z,6.5nm,1.2s							
K20K	**Telida**	**80.13**	**341**	IAmb		IAmb	17 19 49.8	
	comp=Z,10.0nm,1.1s							
BMAR	**Burnt Mountain**	**80.64**	**347**	P		**P**	**17 19 51.3**	**+1.1**
QSPA	**South Pole Qui**	**80.88**	**180**	P		P	17 19 47.1	-4.7
	comp=Z,2.3nm,0.8s,baz=90,slow=1.7,SNR=7.4							
QSPA				LR		LR	17 48 52.3	
	comp=Z,114nm,20.3s,baz=116,slow=31							
	comp=Z,2.3nm,0.8s							
G21K	**Allakaket**	**82.21**	**343**	P		**P**	**17 20 00.4**	**+1.9**
G21K				IAmb		IAmb	17 20 01.6	
	comp=Z,5.8nm,1.1s							
F21K	**Alatna River**	**82.71**	**344**	IAmb		IAmb	17 20 04.7	
	comp=Z,5.2nm,1.1s							
F20K	**Avaraart Lake**	**83.21**	**343**	IAmb		IAmb	17 20 12.6	
	comp=Z,5.3nm,1.1s							
G18K	**Tagagawik**	**83.31**	**342**	P		**P**	**17 20 07.0**	**+2.8**
RES	**Resolute Bay**	**84.17**	**4**	LR		LR	17 55 35.7	
	comp=Z,141nm,18.1s,baz=178,slow=34							
H11S2	**WAKE ISLAND Hy**	**87.72**	**289**	T		T	18 57 52.9	
	baz=101,slow=75,SNR=96							
H11S1	**WAKE ISLAND Hy**	**87.73**	**289**	T		T	18 57 53.4	
	baz=101,slow=75,SNR=87							
H11S3	**WAKE ISLAND Hy**	**87.74**	**289**	T		T	18 57 44.5	
	baz=101,slow=75,SNR=78							
H11N3	**WAKE ISLAND Hy**	**87.76**	**290**	T		T	18 57 48.1	
	baz=101,slow=74,SNR=32							
H11N2	**WAKE ISLAND Hy**	**87.77**	**290**	T		T	18 57 53.8	
	baz=101,slow=74,SNR=30							
H11N1	**WAKE ISLAND Hy**	**87.77**	**290**	T		T	18 57 56.9	
	baz=101,slow=74							
MKAR	**Makanchi Array**	**141.37**	**348**	PKP		**PKPdf**	**17 27 03.2**	**-5.8**
	comp=Z,0.3nm,0.7s,baz=7.5,slow=1.7,SNR=2.9							
GEYT	**Alibeck**	**149.06**	**20**	PKPbc		**PKPdf**	**17 27 19.1**	**-3.4**
	comp=Z,0.6nm,0.5s,baz=263,slow=11,SNR=1.9							
CMAR	**Uiang Mai Arr**	**151.58**	**292**	PKPbc		**PKPdf**	**17 27 28.4**	**+1.6**
	comp=Z,1.0nm,0.8s,baz=70,slow=1.1,SNR=8.4							
CMAR				PKPab		**sPKPbc**	**17 27 37.2**	**+1.0**
	comp=Z,1.9nm,0.8s,baz=61,slow=0.9,SNR=11							

*NEIC **10** 17:15:13.7±1.6, 47˚.58N±0˚.03×92˚.71W±0˚.03, h0km±2km, mb_Lg3.0/25, ML2.9/6, mb_Lg2.9(OTT), Error ellipse: s-maj=4.7km s-min=3.6km az=170.0*

*OTT **10** 17:15:14.2±0.1, 47˚.55N×92˚.

L40A	**Anamosa**	**5.60**	**169**	Pn	**Pn**	17 16 38.2	+1.4
L40A				IAmb_Lg		17 18 10.0	
	comp=Z,25nm,0.9s						
P43A	**Skaggs, Pawnee**	**8.25**	**163**	IAmb_Lg		17 19 35.5	
	comp=Z,15nm,0.8s						

*DJA **10** 17:32:37.1±0.5,7˚S±4˚×12˚9E±˚, h210km±15km, M4.2/13, mb4.1/7, mB4.6/5, MLv4.4/13, Mw(mB)3.9/5*
*IDC **10** 17:32:44.7±6.7, 7.˙58S×128.˙70E, h226km±65km, mb3.2/4, mbtmp4.0/6, Error ellipse: s-maj=71.4km s-min=17.5km az=55.0*
ISC 10 17:32:37.6±0.7,**7.˙25S**±0.˙07×**129.˙18E**±0.˙07,**h150**km,**n35,** σ2**9**22/36,**mb3.5/4,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.22**	**109**	P	**Pn**	**17 33 16.0**	**+0.6**
SAUI	**Saumlaki**	**2.22**	**109**	P	**Pn**	**17 33 17.5**	**+2.1**
FAKI	**Fak Fak**	**5.27**	**36**	P	**Pn**	**17 33 52.9**	**-1.8**
FAKI	**Fak Fak**	**5.27**	**36**	P	**Pn**	**17 33 52.7**	**-2.0**
	17nm,1.1s,777nm0.2nm						
DRS	**Darwin Rock St**	**5.42**	**162**	P	**Pn**	**17 33 58.4**	**+1.7**
SOEI	**Soe**	**5.46**	**243**	P	**Pn**	**17 33 58.3**	**+1.0**
SOEI	**Soe**	**5.46**	**243**	P	**Pn**	**17 33 59.0**	**+1.7**
	59nm,0.6s,1μm0.4nm						
KMPI	**Kaimana, Papua**	**5.74**	**52**	P	**Pn**	**17 34 01.0**	**+0.1**
	71nm,0.8s,1μm0.7nm						
MTN	**Manton Dam**	**5.88**	**161**	P	**Pn**	**17 34 03.8**	**+1.0**
BATI	**Baumata**	**6.20**	**241**	P	**Pn**	**17 34 07.5**	**+0.5**
	48nm,0.5s,baz=109,slow=3.9,SNR=19						
BATI				S	**Sn**	**17 35 13.8**	**-3.1**
	40nm,0.3s,baz=90,slow=3.8,SNR=5.8						
BATI	**Baumata**	**6.20**	**241**	P	**Pn**	**17 34 08.6**	**+1.6**
	72nm,0.7s,0.5nm						
KDU	**Kakadu**	**6.30**	**149**	P	**Pn**	**17 34 09.2**	**+0.8**
SWI	**Sorong**	**6.67**	**18**	P	**Pn**	**17 34 11.5**	**-1.8**
	5.9nm,1.3s,0.1nm						
LBMI	**Labuha**	**6.78**	**346**	P	**Pn**	**17 34 16.8**	**+2.1**
	30nm,0.8s,0.1nm						
EDFI	**Ende, Flores**	**7.57**	**258**	P	**Pn**	**17 34 27.8**	**+2.4**
	12nm,1.0s,0.1nm						
PLAI	**Plampang**	**11.40**	**261**	P	**Pn**	**17 35 14.9**	**-1.3**
WRA	**Warramunga Arr**	**13.58**	**159**	P	Pn	17 35 41.1	-3.1
	4.1nm,0.3s,baz=322,slow=14,SNR=43						
WRA				S	Sn	17 38 05.7	-9.0
	7.2nm,0.5s,baz=333,slow=23,SNR=7.8						
JAGI	**Jajag, Banyuwa**	**14.94**	**264**	P	**Pn**	**17 36 01.7**	**+0.3**
	37nm,1.2s						
COEN	**Coen**	**15.28**	**117**	P	**P**	**17 36 08.0**	**+0.9**
QIS	**Mount Isa**	**16.64**	**144**	P	**P**	**17 36 23.1**	**+1.0**
ASAR	**Alice Springs**	**16.95**	**165**	P	**P**	**17 36 25.0**	**-0.4**
	6.1nm,0.7s,baz=338,slow=9.9,SNR=98						
ASAR				S	**S**	**17 39 26.5**	**-8.0**
	0.9nm,0.4s,baz=352,slow=26,SNR=4.3						
WRKA	**Warakurna**	**17.71**	**183**	P	**P**	**17 36 35.4**	**+1.6**
MTSU	**Mount Surprise**	**18.29**	**128**	P	**P**	**17 36 41.9**	**+1.7**
OOD	**Oodnadatta**	**21.35**	**164**	P	**P**	**17 37 13.8**	**+0.8**
INKA	**Innaminka**	**23.14**	**153**	P	**P**	**17 37 32.7**	**+2.0**
MULG	**Mulgathing**	**23.37**	**169**	P	**P**	**17 37 34.6**	**+1.8**
QLP	**Quilpie**	**23.98**	**145**	P	**P**	**17 37 41.2**	**+2.8**
LCRK	**Leigh Creek**	**24.59**	**161**	P	**P**	**17 37 46.7**	**+2.8**
BBOO	**Buckleboo**	**26.23**	**167**	P	**P**	**17 38 01.3**	**+2.6**
STKA	**Stephens Creek**	**27.10**	**156**	P	**P**	**17 38 08.5**	**+2.0**
STKA	**Stephens Creek**	**27.10**	**156**	P	**P**	**17 38 07.0**	**+0.4**
	4.1nm,0.9s,baz=340,slow=9.7,SNR=4.5						
	4.1nm,0.9s						
ARPS	**Mount Arapiles**	**31.57**	**160**	P	**P**	**17 38 47.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**39.27**	**311**	P	**P**	**17 39 51.4**	**-0.6**
	0.7nm,0.8s,baz=142,slow=7.0,SNR=5.7						
	0.7nm,0.8s						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**17 43 19.5**	**-1.1**
	0.4nm,0.6s,baz=130,slow=7.8,SNR=3.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**72.30**	**329**	P	**P**	**17 43 44.8**	**-1.8**
	0.3nm,0.5s,baz=126,slow=6.2,SNR=2.2						
	0.3nm,0.5s						

*NNC **10** 17:35:40.4±6.8, 36˚.56N×78˚.54E, h0km, mb4.3, mpv4.0, Error ellipse: s-maj=84.1km s-min=38.8km az=46.0*
*IDC **10** 17:35:42.1±1.6, 36˚.82N×79˚.19E, h0km, mb3.6/4, mbtmp3.4/10, ML3.0/6, MS3.6/1, Error ellipse: s-maj=34.9km s-min=20.0km az=59.0*
ISC 10 17:35:43.5±1.4,**36˚.8N**±0˚.1×**79˚.3E**±0˚.1,**h10**km,**n19,** σ1**9**77/20,**mb3.5/3,3C-5D,Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PDGK	**Podgornoye**	**6.53**	**1**	⇑Pn	**Pn**	**17 37 22.1**	**+2.4**
	3.2nm,0.3s						
MDOK	**Medeo**	**6.60**	**345**	⇑Lg	Lg	17 39 14.5	
	15nm,0.6s						
TKM2	**Tokmak 2**	**6.76**	**336**	⇓Pg	**Pb**	**17 37 39.9**	**-1.3**
	4.7nm,0.6s						
TKM2				⇓Lg	Lg	17 39 17.3	
	7.9nm,0.7s						
AAK	**Ala-Archa**	**6.93**	**329**	⇓Pg	**Pb**	**17 37 47.5**	**+3.4**
	11nm,0.7s						
AAK				⇑Lg	Lg	17 39 16.2	
	21nm,0.9s						
AAK	**Ala-Archa**	**6.93**	**329**	Pn	**Pn**	**17 37 27.5**	**+2.3**
	0.2nm,0.3s,baz=172,slow=14,SNR=1.8						
AAK				Pg	**Pb**	**17 37 45.5**	**+1.5**
	1.5nm,0.3s,baz=169,slow=14,SNR=19						
AAK				Sn	**Sn**	**17 38 44.9**	**+0.7**
	0.6nm,0.3s,baz=39,slow=6.5,SNR=1.6						
AAK				Lg	Lg	17 39 16.3	
	1.0nm,0.3s,baz=44,slow=20,SNR=3.8						
	0.5nm,0.5s						
CHMS	**Chumysh**	**7.13**	**332**	⇓Pg	**Pb**	**17 37 47.0**	**-0.4**
	8.0nm,0.8s						
CHMS				⇓Lg	Lg	17 39 25.3	
	10nm,0.8s						
MRKS	**Merke**	**7.58**	**324**	Pg	**Pb**	**17 37 57.8**	**+2.7**
	3.7nm,0.4s						
MRKS				Lg	Lg	17 39 35.9	
	9.5nm,0.2s						
IUG	**Iuzhnay**	**8.96**	**309**	Pg	**Pn**	**17 37 51.2**	**-1.8**
	4.7nm,0.6s						
IUG				Lg	Lg	17 39 24.0	
	11nm,1.4s						
BRLS	**Borolday**	**9.59**	**313**	Pg	**Pn**	**17 37 59.2**	**-2.4**
	0.9nm,1.8s						
BRLS				Lg	Lg	17 39 38.3	
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**10.23**	**11**	Pn	**Pn**	**17 38 11.7**	**+1.3**
	0.3nm,0.3s,baz=195,slow=14,SNR=20						
MKAR				Sn	**Sn**	**17 40 04.7**	**-0.5**
	1.2nm,0.3s,baz=196,slow=25,SNR=12						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**13.84**	**358**	Pn	**Pn**	**17 38 59.9**	**+0.4**
	0.1nm,0.3s,baz=189,slow=9.8,SNR=2.5						
	0.2nm,0.3s						
GEYT	**Alibeck**	**16.91**	**280**	Pn	**Pn**	**17 39 40.6**	**+0.4**
	0.2nm,0.3s,baz=98,slow=21,SNR=2.9						
	0.4nm,0.4s						
BVAR	**Borovoye Array**	**17.40**	**342**	P	Pn	**17 39 45.5**	**-0.7**
	baz=148,slow=11,SNR=1.7						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**17.57**	**11**	P	**Pn**	**17 39 48.1**	**-0.2**
	0.1nm,0.3s,baz=201,slow=12,SNR=1.6						
	0.3nm,0.4s						
AKTO	**Aktyubinsk**	**20.50**	**318**	P	**P**	**17 40 20.6**	**-1.0**
	0.9nm,0.4s,baz=124,slow=6.2,SNR=1.7						
	0.9nm,0.4s						
CMAR	**Chiang Mai Arr**	**25.11**	**131**	P	**P**	**17 41 09.8**	**+1.3**
	0.7nm,0.8s,baz=312,slow=11,SNR=4.8						
	0.7nm,0.8s						
FINES	**FINESS Array B**	**41.09**	**324**	P	**P**	**17 43 26.0**	**-1.1**
	0.8nm,0.9s,baz=98,slow=10.0,SNR=1.6						
	0.8nm,0.9s						
ARCES	**ARCESS Array B**	**43.55**	**336**	P	**P**	**17 43 45.3**	**-1.6**
	1.2nm,1.0s,baz=109,slow=8.1,SNR=1.3						
	1.2nm,1.0s						
SPITS	**Spitsbergen Ar**	**48.80**	**346**	LR	LR	18 09 17.8	
	comp=Z,64nm,19.2s,baz=237,slow=41						

*IDC **10** 17:46:21.9±3.7, 4˚.49N×95˚.07E, h0km, mb3.6/2, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=135.7km s-min=32.0km az=66.0*
*DJA **10** 17:46:26.7±2.3, 5˚N±6˚×9˚6E±1˚9, h10km, M3.6/4, MLv3.6/4*
ISC 10 17:46:25.9±1.4,**5˚.34N**±0˚.08×**95˚.7E**±0˚.1,**h10**km,**n9,** σ2**9**91/9,**Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**1.30**	**95**	P	**Pn**	**17 46 48.9**	**-1.2**
LHMI				S	**Sn**	**17 47 10.0**	**+2.4**
MLSI	**Meulaboh, Aceh**	**1.31**	**145**	P	**Pn**	**17 46 48.5**	**-1.7**
MLSI				S	**Sb**	**17 47 07.2**	**-0.2**
KCSI	**Kotacane, Aceh**	**2.78**	**130**	P	**Pn**	**17 47 13.1**	**+2.5**
CMAR	**Chiang Mai Arr**	**13.43**	**14**	Pn	**P**	**17 49 46.9**	**+0.7**
	0.1nm,0.3s,baz=204,slow=11,SNR=7.3						
CMAR				Sn	**S**	**17 52 26.5**	**-3.6**
	0.1nm,0.3s,baz=29,slow=15,SNR=4.1						
	0.8nm,0.7s						
ASAR	**Alice Springs**	**47.16**	**129**	P	**P**	**17 54 55.8**	**-3.1**
	0.3nm,0.4s,baz=300,slow=7.7,SNR=14						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**49.26**	**352**	P	**P**	**17 55 17.9**	**+3.3**
	0.4nm,0.5s,baz=150,slow=6.1,SNR=1.7						
	0.4nm,0.5s						
H04N2	**CROZET ISLANDS**	**64.36**	**212**	T	T	19 06 23.8	
	baz=49						
H04N1	**CROZET ISLANDS**	**64.37**	**212**	T	T	19 06 24.2	
	baz=49						
H04N3	**CROZET ISLANDS**	**64.38**	**212**	T	T	19 06 21.2	
	baz=49						

DJA 10 18:01:57.8±1.3,**7˚S**±11˚×**10˚5E**±˚,**h17**km±9km,**M3.8/6, MLv3.8/6,Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**1.20**	**47**	P	Pb	18 02 20.3	+0.2
SBJI	**Serang**	**1.20**	**47**	P	Pb	18 02 20.1	0.0
SKJI	**Sukabumi**	**1.31**	**93**	P	Pn	18 02 21.1	-0.2
SKJI	**Sukabumi**	**1.31**	**93**	P	Pn	18 02 21.0	-0.3
KASI	**Kota Agung**	**1.59**	**332**	P	Pn	18 02 24.0	-1.2
KASI	**Kota Agung**	**1.59**	**332**	P	Pn	18 02 23.4	-1.8
KASI				S	Sn	18 02 42.3	-3.0
CNJI	**Cibinong**	**1.91**	**101**	P	Sn	18 02 55.8	+2.5
CNJI	**Cibinong**	**1.91**	**101**	P	Pn	18 02 29.7	+0.1
CNJI				S	Sn	18 02 53.4	+0.1
LWLI	**Liwa**	**2.24**	**328**	P	Pb	18 02 36.7	-1.3
LWLI	**Liwa**	**2.24**	**328**	P	Pn	18 02 35.2	+0.9
LWLI				S	Sn	18 03 02.6	+1.0
LEM	**Lembang**	**2.36**	**87**	P	Pn	18 02 36.3	+0.3
KPJI	**Karang Pucung**	**3.68**	**96**	P	Pn	18 02 54.5	+0.5

*MAN **10** 18:02:28.7, 6˚.92N×123˚.98E, h548km, mb6.2, ML5.3, MS5.9*
*MOS **10** 18:02:28.6±0.9, 6˚.92N×123˚.83E, h552km, mb5.6/57, Error ellipse: s-maj=7.0km s-min=4.0km az=113.2*
*NEIC **10** 18:02:29.0±2.4, 6˚.87N±0˚.08×123˚.76E±0˚.06, h535km±1km, mb5.5/358, Mwb5.9/30, Mww5.9/66, Error ellipse: s-maj=13.7km s-min=10.2km az=179.0, Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}=2.90; $M_{\theta\theta}$-1.59; $M_{\phi\phi}$4.49; $M_{r\theta}$1.88; $M_{\theta\phi}$3.06; $M_{\phi r}$-6.09; Fault plane solution: M_o8.09000×10^{17} NP1:ϕ_s348.84000°, δ77.57000°, λ-119.94000°. NP2:ϕ_s238.34000°, δ32.19000°, λ-23.84000°. Principal axes: T 8.2505, Plg26.0000°, Azm102.0000°; N -0.3249, Plg29.0000°, Azm356.0000°; P -7.9256, Plg49.0000°, Azm227.0000°;*
*GCMT **10** 18:02:29.0±0.1, 6˚.95N±0˚.01×123˚.70E±0˚.01, h543km, MW5.9/152, Moment Tensor Solution. s152,c324; s99,c111; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.47±.06; $M_{\theta\theta}$-1.13±.08; $M_{\phi\phi}$4.60±.09; $M_{r\theta}$2.05±.08; $M_{\theta\phi}$3.52±.08; $M_{\phi r}$-5.95±.08; Best double couple: M_o8.32100×10^{17} NP1:ϕ_s351.00000°, δ75.00000°, λ-122.00000°. NP2:ϕ_s239.00000°, δ34.00000°, λ-26.00000°. Principal axes: T 8.2900, Plg24.0000°, Azm105.0000°; N 0.0600, Plg30.0000°, Azm0.0000°; P -8.3510, Plg50.0000°, Azm227.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s. Triangular moment-rate function*
*IPGP **10** 18:02:29.0, 6˚.88N×123˚.82E, h547km, MW5.9, Fault plane solution: NP1:ϕ_s351.00000°, δ72.00000°, λ-121.00000°. NP2:ϕ_s234.00000°, δ35.00000°, λ-31.00000°.*
*NEIC **10** 18:02:29.5, 6˚.91N×123˚.81E, h550km*
*NEIC **10** 18:02:29.5, 6˚.81N×123˚.91E, h550km, Moment Tensor Solution. Duration: 4s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-3.71; $M_{\theta\theta}$-1.20; $M_{\phi\phi}$4.91; $M_{r\theta}$2.11; $M_{\theta\phi}$3.71; $M_{\phi r}$-5.85; Fault plane solution: M_o8.49000×10^{17} NP1: ϕ_s351.63000°, δ74.34000°, λ-122.79000°. NP2: ϕ_s238.90000°, δ35.96000°, λ-27.36000°. Principal axes: T 8.4933, Plg22.0000°, Azm106.0000°; N -0.0065, Plg31.0000°, Azm1.0000°; P -8.4868, Plg50.0000°, Azm225.0000°;*
*NEIC **10** 18:02:29.9, 6˚.88N×123˚.81E, h546km*
*BJI **10** 18:02:29.4±0.0, 6˚.76N×123˚.96E, h580km, mb5.2/94, mB5.0/52*
*DJA **10** 18:02:29.5±0.2, 7˚N±2˚×12˚4E±˚, h546km±3km, M5.7/110, mB6.1/107, mb6.0/110, MLv6.2/10, Mw(mB)5.8/107, MwMwp5.4/50, Mwp5.5/50*
*IDC **10** 18:02:30.2±0.3, 6˚.95N×123˚.92E, h558km±3km, mb5.0/41, mbtmp5.9/41, Error ellipse: s-maj=7.3km s-min=4.1km az=62.0*
ISC 10 18:02:29.6±0.2,**6˚.86N**±0˚.02×**123˚.85E**±0˚.03,**h555**km±1km, **h557km:pP-P,n1784,** σ1**9**41/2040,**mb5.5**/366,**114C-138D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKMP	**Bagumbayan, Su**	**0.77**	**116**	*e*P	**P**	**18 03 35.3**	**-0.7**
SKMP				*i* S	**S**	**18 04 27.4**	**-2.4**
PICP	**Pikit**	**0.85**	**77**	⇓*i*P	**P**	**18 03 35.5**	**-0.6**
PICP				*e*S	**S**	**18 04 27.4**	**-2.7**
PAGZ	**Pagadian**	**1.08**	**335**	⇓*e*P	**P**	**18 03 36.0**	**-0.6**
KCP	**Kidapawan**	**1.24**	**83**	⇓*i*P	**P**	**18 03 36.1**	**-1.0**
KCP				*i* S	S	18 03 49.2	-43
BLNP	**Bacolod Lanao**	**1.30**	**8**	⇓*i*P	**P**	**18 03 36.9**	**-0.4**
BLNP				*i* S	**S**	**18 04 30.8**	**-1.3**
GSPH	**General Santos**	**1.34**	**125**	⇓*i*P	**P**	**18 03 36.7**	**-0.8**
GSPH				*i* S	**S**	**18 04 27.4**	**-5.2**
BUKP	**Musuan**	**1.57**	**50**	⇓*e*P	**P**	**18 03 37.6**	**-0.5**
DAV	**Davao City (W)**	**1.73**	**83**	P	**P**	**18 03 38.3**	**-0.4**
DAV	**Davao City (W)**	**1.73**	**83**	P	**P**	**18 03 37.7**	**-1.0**
DAV	**Davao City (W)**	**1.73**	**83**	P	**P**	**18 03 38.0**	**-0.7**
	26μm,0.7s,baz=269,slow=8.0,SNR=934						
DAV				S	**S**	**18 04 34.2**	**-0.6**
	6μm,0.7s,baz=266,slow=19,SNR=1.2						
DAV	**Davao City (W)**	**1.73**	**83**	⇓*i*P	**P**	**18 03 36.0**	**-2.7**
DAV	**Davao City (W)**	**1.73**	**83**	P	**P**	**18 03 38.1**	**-0.6**
ZCP	**Zamboanga City**	**1.76**	**272**	⇑*i*P	**P**	**18 03 38.0**	**-0.8**
ZCP				*i* S	**S**	**18 04 32.3**	**-2.7**
DCPH	**Dipolog City**	**1.78**	**344**	⇓*i*P	**P**	**18 03 38.0**	**-0.8**
DCPH				*i* S	**S**	**18 04 32.0**	**-3.1**
CGP	**Cagayan de Oro**	**1.79**	**28**	⇓*e*P	**P**	**18 03 38.2**	**-0.7**
DDMP	**Don Marcelino,**	**2.00**	**112**	⇓*e*P	**P**	**18 03 37.6**	**-2.2**
DDMP				*e*S	**S**	**18 04 33.2**	**-3.6**
LSIP	**Lazi, Siquijor**	**2.27**	**355**	⇓*i*P	**P**	**18 03 38.9**	**-2.1**
LSIP				*i* S	**S**	**18 04 34.4**	**-4.7**
LSIP	**Lazi, Siquijor**	**2.27**	**355**	⇓*e*P	**P**	**18 03 39.1**	**-1.9**
LSIP				*e*S	**S**	**18 04 34.4**	**-4.7**
MATI	**Mati**	**2.40**	**88**	⇓*i*P	**P**	**18 03 39.5**	**-2.2**
MATI				*e*S	**S**	**18 04 36.1**	**-4.1**
TASP	**Talacogon, Agu**	**2.51**	**51**	⇓*i*P	**P**	**18 03 42.0**	**-0.2**
TASP				*e*S	**S**	**18 04 40.4**	**-0.9**
TASP	**Talacogon, Agu**	**2.51**	**51**	⇓*e*P	**P**	**18 03 42.4**	**+0.1**
SNPH	**Sibulan**	**2.54**	**346**	⇓*i*P	**P**	**18 03 40.4**	**-2.1**
SNPH				*i* S	**S**	**18 04 38.1**	**-3.7**
CDOP	**Cateel, Davao**	**2.73**	**70**	⇓*i*P	**P**	**18 03 41.7**	**-1.7**
CDOP				*e*S	**S**	**18 04 39.2**	**-4.3**
CDOP	**Cateel, Davao**	**2.73**	**70**	⇓*e*P	**P**	**18 03 41.8**	**-1.7**
CDOP				*i* S	**S**	**18 04 41.1**	**-2.4**
GHBP	**Garcia Hernand**	**2.79**	**10**	⇓*i*P	**P**	**18 03 42.5**	**-1.3**
GHBP				*e*S	**S**	**18 04 41.4**	**-2.8**
GHBP	**Garcia Hernand**	**2.79**	**10**	⇓*e*P	**P**	**18 03 42.9**	**-0.9**
GHBP				*e*S	**S**	**18 04 42.7**	**-1.6**
TBP	**Tagbilaran**	**2.81**	**0**	⇓*i*P	**P**	**18 03 42.7**	**-1.2**
TBP				*i* S	**S**	**18 04 40.9**	**-3.5**
BIPH	**Bislig**	**2.82**	**62**	⇓*i*P	**P**	**18 03 42.3**	**-1.7**
BIPH				*e*S	**S**	**18 04 40.0**	**-4.5**
DACP	**Dalaguete, Ceb**	**2.91**	**354**	⇓*i*P	**P**	**18 03 43.1**	**-1.4**
DACP				*e*S	**S**	**18 04 42.1**	**-3.4**
CNOP	**Candoni, Negro**	**3.18**	**338**	⇑*e*P	**P**	**18 03 43.7**	**-2.4**
CNOP				*i* S	**S**	**18 04 42.9**	**-5.6**
CNOP	**Candoni, Negro**	**3.18**	**338**	⇑*e*P	**S**	**18 03 43.8**	**-2.4**
CNOP				*i* S	**S**	**18 04 45.6**	**-2.9**
TABP	**Talibon, Bohol**	**3.24**	**8**	⇓*i*P	**S**	**18 03 45.4**	**-1.2**
TABP				*i* S	**S**	**18 04 46.5**	**-2.8**
TABP	**Talibon, Bohol**	**3.24**	**8**	⇓*e*P	**S**	**18 03 45.6**	**-0.9**
TABP				*i* S	**S**	**18 04 47.6**	**-1.7**
GNOP	**Guihulngan Cit**	**3.39**	**350**	⇑*e*P	**S**	**18 03 46.2**	**-1.5**
GNOP				*i* S	**S**	**18 04 48.1**	**-3.1**
MSLP	**Maasin**	**3.40**	**17**	⇓*e*P	**S**	**18 03 46.6**	**-1.0**
LLP	**Lapu-Lapu**	**3.44**	**2**	⇓*i*P	**S**	**18 03 47.1**	**-0.8**
LLP				*i* S	**S**	**18 04 49.4**	**-2.2**
SGSI	**Sangihe**	**3.57**	**152**	P	**P**	**18 03 46.7**	**-2.1**
GLSP	**General Luna,**	**3.68**	**38**	⇓*e*P	**P**	**18 03 47.5**	**-1.9**
GLSP				*e*S	**S**	**18 04 49.6**	**-5.0**
SFCP	**San Francisco,**	**3.79**	**8**	⇓*i*P	**S**	**18 03 49.5**	**-0.8**
SFCP				*i* S	**S**	**18 04 54.6**	**-1.4**
LDIP	**Loreto**	**3.92**	**26**	⇓*i*P	**S**	**18 03 49.5**	**-1.8**
LDIP				*e*S	**S**	**18 04 54.5**	**-3.3**
CADP	**Cadiz City**	**4.07**	**352**	⇓*i*P	**S**	**18 03 51.8**	**-0.6**
CADP				*e*S	**S**	**18 04 58.0**	**-1.8**
OCLP	**Ormoc**	**4.23**	**10**	*e*P	**S**	**18 03 52.2**	**-1.4**
OCLP				*e*S	**S**	**18 05 00.7**	**-1.3**
MECP	**Medelin, Cebu**	**4.27**	**2**	⇓*i*P	**S**	**18 03 53.2**	**-0.6**
MECP				*i* S	**S**	**18 05 01.8**	**-0.8**
JAP	**San Jose, Anti**	**4.29**	**334**	⇑*e*P	**S**	**18 03 53.5**	**-0.6**
JAP				*e*S	**S**	**18 04 57.1**	**-5.8**
PLP	**Palo**	**4.42**	**15**	⇓*e*P	**S**	**18 03 54.5**	**-0.5**
PLP				*i* S	**S**	**18 05 03.0**	**-1.7**
BTTP	**Bongao, Tawi-T**	**4.45**	**246**	⇑*i*P	**S**	**18 03 55.6**	**+0.3**
BTTP				*i* S	**S**	**18 05 04.3**	**-0.8**
RCP	**Roxas**	**4.79**	**347**	⇑*e*P	**S**	**18 03 56.2**	**-1.8**
BESP	**Borongan**	**4.96**	**18**	*e*P	**S**	**18 03 57.7**	**-1.7**
BESP				*e*S	**S**	**18 05 07.5**	**-5.3**
IBAJ	**Ibajay, Aklan**	**5.19**	**342**	⇓*i*P	**S**	**18 04 00.7**	**-0.7**
IBAJ				*i* S	**S**	**18 05 13.7**	**-2.6**
MMPH	**Masbate**	**5.47**	**358**	⇓*i*P	**S**	**18 04 03.4**	**-0.3**
MMPH				*i* S	**S**	**18 05 19.5**	**-1.1**
OTRP	**Odiongan**	**5.75**	**342**	⇑*i*P	**S**	**18 04 05.9**	**-0.4**
OTRP				*e*S	**S**	**18 05 23.3**	**-2.0**
ENPP	**El Nido**	**6.14**	**315**	⇓*i*P	**S**	**18 04 09.7**	**0.0**
ENPP				*e*S	**S**	**18 05 30.7**	**-0.9**
GTOI	**Gorontalo**	**6.24**	**188**	P	**P**	**18 04 09.5**	**-1.2**
	492nm,0.8s,4μm781nm1.7nm						
KMSI	**Cibinong**	**6.25**	**179**	P	**P**	**18 04 11.5**	**+0.7**
	3μm,1.3s,32μm3μm22nm						
BATP	**Bataraza**	**6.29**	**288**	⇑*i*P	**P**	**18 04 11.1**	**0.0**
BATP				*e*S	**S**	**18 05 35.0**	**+0.8**
TOLI2	**Tolitoli**	**6.48**	**208**	P	**P**	**18 04 13.2**	**+0.3**
TOLI2	**Tolitoli**	**6.48**	**208**	P	**P**	**18 04 12.7**	**-0.2**
PVCP	**Virac**	**6.70**	**3**	⇓*i*P	**P**	**18 04 13.3**	**-1.6**
PVCP				*e*S	**S**	**18 05 35.4**	**-5.7**
SCSP	**San Jose Seism**	**6.76**	**357**	⇓*i*P	**S**	**18 04 15.1**	**-0.3**
SCSP				*i* S	**S**	**18 05 40.8**	**-1.3**
TNTI	**Ternate**	**7.00**	**150**	P	**P**	**18 04 17.1**	**-0.7**
TNTI	**Ternate**	**7.00**	**150**	P	**P**	**18 04 16.5**	**-1.3**
TNTI	**Ternate**	**7.00**	**150**	P	**P**	**18 04 16.8**	**-1.0**
	2μm,0.9s,13μm4μm11nm						
GQP	**Guinayangan**	**7.13**	**349**	⇑*i*P	**P**	**18 04 18.2**	**-0.8**
GQP				*e*S	**S**	**18 05 43.0**	**-5.7**
PGP	**Puerto Galera**	**7.19**	**337**	⇑*i*P	P	18 04 12.8	-6.7
PGP				*i* S	S	18 04 27.8	-82
JCNP	**Jose Panganiba**	**7.47**	**351**	*e*P	**P**	**18 04 21.2**	**-1.0**
JCNP				*i* S	**S**	**18 05 50.9**	**-3.6**
JCNP	**Jose Panganiba**	**7.47**	**351**	⇓*e*P	**P**	**18 04 21.3**	**-1.0**
JCNP				*i* S	S	18 05 05.5	-49
LQP	**Lukban**	**7.55**	**343**	⇑*i*P	**P**	**18 04 22.4**	**-0.9**
LQP				*i* S	**S**	**18 05 56.7**	**+0.3**
MPSI	**Mapaga**	**7.58**	**211**	P	**P**	**18 04 24.0**	**+0.5**
	1μm,1.4s,15μm3μm6.5nm						
LUBP	**Lubang**	**7.69**	**333**	⇑*i*P	**P**	**18 04 24.4**	**0.0**
LUBP				*e*S	**S**	**18 05 54.2**	**-4.4**
LUBP	**Lubang**	**7.69**	**333**	⇑*i*P	**P**	**18 04 24.7**	**+0.2**
LUBP				*e*S	**S**	**18 05 56.8**	**-1.7**
LBLP	**Los Banos, Lag**	**7.70**	**341**	⇑*i*P	**P**	**18 04 23.8**	**-0.8**
LBLP				*e*S	**S**	**18 05 57.1**	**-1.6**
TGY	**Tagaytay City**	**7.74**	**339**	P	**P**	**

BBPB Basco Batanes 13.62 352⇑ eP P 18 05 22.1 -2.7
BBPB eS **S 18 07 41.3 -7.7**
BBP Basco 13.62 352⇓ eP P 18 05 27.2 +2.4
STKI Sintang 14.06 242 P P 18 05 30.1 +0.6
1µm,1.5s,16µm5µm
KMPI Kaimana, Papua 14.36 136 P P 18 05 32.5 0.0
8µm,0.8s,65µm13µm
KSM Kuching 14.52 249 P P 18 05 35.4 +1.2
KSM Kuching 14.52 249 P P 18 05 34.1 -0.1
MMRI Maumere 15.48 186 P P 18 05 45.5 +1.6
MMRI Maumere 15.48 186 P P 18 05 42.8 -1.1
MMRI Maumere 15.48 186 P P 18 05 43.9 0.0
5µm,1.0s,51µm11µm
EDFI Ende, Flores 15.66 188 P P 18 05 45.0 -0.8
3µm,0.9s,36µm11µm
DLV T Lat 15.97 290 P P 18 05 49.9 +1.0
DLV T Lat 15.97 290 P P 18 05 48.8 -0.1
TWGBT Beinan 16.09 351 P P 18 05 48.3 -1.4
TWG Pinlang 16.09 351 P P 18 05 46.6 -3.1
SAUI Saumlaki 16.51 153 P P 18 05 54.7 +0.9
SAUI Saumlaki 16.51 153 P P 18 05 53.2 -0.6
SAUI Saumlaki 16.51 153 P P 18 05 53.5 -0.3
4µm,0.8s,42µm
SOEI Soe 16.51 179 P P 18 05 54.4 +0.5
SOEI Soe 16.51 179 P P 18 05 53.0 -0.9
SOEI Soe 16.51 179 P P 18 05 49.8 -4.1
SOEI Soe 16.51 179 P P 18 05 53.6 -0.3
2µm,0.8s,20µm
YULB Yu-li 16.62 352 P P 18 05 51.0 -3.6
TPUB Ta-pu 16.64 350 P P 18 05 54.6 -0.2
TPUB Ta-pu 16.64 350 P P 18 05 53.5 -1.2
PLAI Plampang 16.72 201 P P 18 05 56.1 +0.5
PLAI Plampang 16.72 201 P P 18 05 55.1 -0.5
5µm,1.1s,55µm13µm
BATI Baumata 16.96 181 P P 18 05 57.9 +0.1
4µm,0.6s,baz=7.9,slow=4.3,SNR=395
BATI S **S 18 08 47.1 -0.4**
1µm,1.0s,baz=0.0,slow=20,SNR=14
BATI ScP **ScP 18 12 54.9 +1.8**
75nm,0.6s,baz=5.8,slow=2.7,SNR=5.2
BATI ScS **ScS 18 16 32.1 -1.4**
175nm,0.7s,baz=327,slow=2.2,SNR=4.1
BATI Baumata 16.96 181 P P 18 05 57.6 -0.2
5µm,0.9s,41µm5µm
TWSI Taliwang, Sumb 16.98 204 P P 18 05 57.4 -0.6
3µm,1.3s,33µm10µm
SSLB Suanglung 17.06 351 P P 18 05 58.4 -0.2
SSLB Suanglung 17.06 351 P P 18 05 56.7 -1.9
SRBI Singaraja 17.16 210 P P 18 05 58.6 -1.0
1µm,1.0s,10µm7µm
SMPI Sarmi 17.25 120 P P 18 06 01.6 +1.2
8µm,1.9s,117µm
BASI Baing, Sumba 17.28 191 P P 18 05 58.0 -2.7
2µm,0.4s,34µm5µm
NACB Ninganchiao 17.35 353 P P 18 06 01.3 +0.1
NACB Ninganchiao 17.35 353 P P 18 05 59.3 -1.9
ABJI Asem Bagus 17.43 214 P P 18 06 01.4 -0.7
939nm,1.0s,9µm8µm
YOJ Yonaguni jima 17.52 357 P P 18 06 04.3 +1.6
YOJ Yonaguni jima 17.52 357 P P 18 06 02.4 -0.3
YOJ Yonaguni jima 17.52 357 P P 18 06 02.4 -0.3
DNP Denpasar 17.67 209 P P 18 06 05.9 +1.6
2µm,1.1s,42µm
BLJI Banyuglugur 17.75 215 P P 18 06 04.2 -0.8
730nm,1.0s,6µm8µm
GRJI Gresik 17.77 220 P P 18 06 05.7 +0.5
3µm,1.0s,28µm13µm
YHNB Yeheng 17.86 353 P P 18 06 06.1 +0.1
YHNB Yeheng 17.86 353 P P 18 06 05.1 -0.9
JMJ Miyako jima 2 17.91 4 P P 18 06 07.9 +1.6
HKPS Hong Kong Po S 17.96 330 P P 18 06 08.2 +1.4
HKPS Hong Kong Po S 17.96 330 P P 18 06 05.5 -1.4
JAGI Jajag, Banyuwa 18.04 213 P P 18 06 08.4 +0.7
JAGI Jajag, Banyuwa 18.04 213 P P 18 06 07.0 -0.7
JAGI Jajag, Banyuwa 18.04 213 P P 18 06 07.0 -0.7
4µm,1.2s,31µm11µm
TATO Taipei 18.15 353 P P 18 06 09.3 +0.8
TATO Taipei 18.15 353 P P 18 06 07.7 -0.8
TATO Taipei 18.15 353 P P 18 06 07.3 -1.2
TATO S **S 18 09 06.3 -0.4**
QIZ Qiongzhong 18.21 313 P P 18 06 10.2 +1.0
QIZ Qiongzhong 18.21 313 P P 18 06 10.5 +1.3
QIZ sP **sP 18 08 24.9 -3.0**
QIZ S **S 18 09 08.3 +0.4**
QIZ pmax pmax
comp=Z,3µm,5.6s
QZH Quanzhou 18.67 345⇑ *i*P **P 18 06 14.0 +0.7**
QZH sP **sP 18 08 32.6 -0.3**
QZH S **S 18 09 16.2 +1.1**
QZH ScS **ScS 18 16 35.8 -2.7**
QZH pmax pmax
comp=Z,370nm,0.9s
QZH pmax pmax
comp=Z,2µm,2.8s
NGJI Ngawi 18.77 221 P P 18 06 15.9 +1.5
1µm,1.1s,18µm12µm
GENI Genyem 18.80 119 P P 18 06 16.8 +2.1
GENI Genyem 18.80 119 P P 18 06 16.1 +1.4
22µm,1.1s,185µm23µm
GZH Guangzhou 19.04 329 P P 18 06 20.4 +3.8
GZH sP **sP 18 08 38.0 +1.0**
GZH S **S 18 09 29.0 +7.9**
GZH pmax pmax
comp=Z,530nm,0.9s
PWJI Pagerwojo 19.05 219 P P 18 06 16.5 -0.4
822nm,1.9s,12µm
SMRI Semarang 19.23 224 P P 18 06 19.6 +1.0
SMRI Semarang 19.23 224 P P 18 06 19.4 +0.8
SMRI Semarang 19.23 224 P P 18 06 19.8 +1.2
3µm,1.0s,20µm14µm
JAY Jayapura 19.23 118 P P 18 06 19.2 +0.6
3µm,0.8s,27µm9µm
UGM Wanagama 19.80 222 P P 18 06 25.2 +1.5
UGM Wanagama 19.80 222 P P 18 06 23.6 -0.1
1µm,1.1s,10µm8µm
PPBI Pangkal Pinang 19.82 244 P P 18 06 24.1 +0.2
299nm,1.8s,7µm5µm
UBPT Khong Chiam 19.86 296 P P 18 06 25.0 +0.7
YOGI Yogyakarta 19.88 223 P P 18 06 24.8 +0.3
745nm,1.0s,10µm
JMZ Minamidaito 2 20.12 20 P P 18 06 28.2 +1.7
TPRI Tanjung Pinang 20.15 254 P P 18 06 27.6 +0.7
424nm,1.4s,5µm4µm
JOW Kunigami 20.30 11 P P 18 06 27.9 -0.2
144nm,0.6s,baz=202,slow=9.6,SNR=8.4
JOW ScP **ScP 18 13 00.9 +0.5**
47nm,0.9s,baz=207,slow=4.5,SNR=4.0
144nm,0.6s
DRS Darwin Rock St 20.41 160 P P 18 06 29.6 +0.4
JCJI Jatiwangi 20.43 230 P P 18 06 32.0 +2.6
3µm,1.3s,34µm
KPJI Karang Pucung 20.50 227 P P 18 06 30.6 +0.6
976nm,0.8s,14µm
DSRI Dabo 20.56 250 P P 18 06 31.1 +0.5
568nm,0.8s,7µm4µm
MTN Manton Dam 20.87 160 P P 18 06 33.0 -0.3
baz=21,SNR=162
MTN Manton Dam 20.87 160 P P 18 06 33.2 -0.2
MTN Manton Dam 20.87 160 P P 18 06 32.8 -0.6
TABU Tabubil 21.12 124 P P 18 06 36.8 +1.1
LEM Lembang 21.14 230 P P 18 06 37.6 +1.6
1µm,0.9s,baz=52,slow=10,SNR=129
LEM ScP **ScP 18 13 02.9 -0.1**
108nm,1.0s,baz=84,slow=10,SNR=4.1
LEM ScS **ScS 18 16 47.5 -0.4**
28nm,0.8s,baz=352,slow=20,SNR=3.5
1µm,0.9s
CMJI Cimerak 21.15 227 P P 18 06 33.7 -2.2
750nm,0.8s,7µm5µm
KDU Kakadu 21.23 156 P P 18 06 36.2 -0.4
baz=21,SNR=75
KDU Kakadu 21.23 156 P P 18 06 36.1 -0.5
PMBI Palembang 21.38 244 P P 18 06 39.4 +1.4
PMBI Palembang 21.38 244 P P 18 06 38.6 +0.6
532nm,1.0s,7µm5µm
TNG Tangerang 21.50 233 P P 18 06 39.4 +0.3
946nm,0.9s,15µm
TNG P P 18 06 39.7 +0.6
1µm,0.9s,22µm
BBJI Bungbulang 21.53 229 P P 18 06 39.2 -0.2
GUMO Guam 21.73 70 P P 18 06 41.1 0.0
GUMO Guam 21.73 70 P P 18 06 40.5 -0.6
GUMO Guam 21.73 70 P P 18 06 40.7 -0.5
364nm,0.3s,baz=232,slow=1.5,SNR=89
GUMO S **S 18 10 01.5 -2.6**
41nm,0.4s,baz=307,slow=20,SNR=1.8
GUMO ScP **ScP 18 13 02.7 -1.5**
93nm,0.8s,baz=225,slow=5.7,SNR=5.9
GUMO ScS **ScS 18 16 48.9 -0.8**
64nm,0.8s,baz=0.6,slow=18,SNR=5.7
364nm,0.3s
JMBI JAMBI 21.86 248 P P 18 06 44.6 +2.3
2µm,1.1s,20µm103µm
BLSI Bandar Lampung 22.19 237 P P 18 06 47.2 +2.0
2µm,1.0s,21µm
GULI GuiLin 22.40 326 P P 18 06 56.8 +10
GULI S S 18 10 28.3 +14
GULI pmax pmax
comp=Z,50nm,0.9s
GULI LR LR
comp=N,3µm,10.8s
GULI LR LR
comp=E,2µm,10.8s
GULI LR LR
comp=Z,2µm,17.4s
MMPI Merauke 22.44 132 P P 18 06 47.5 0.0
comp=Z,3µm,0.7s,comp=Z,32µm
CNSH ChangSha 23.59 335 ⇓P **P 18 06 59.0 +1.5**
CNSH S **S 18 10 40.2 +7.1**
MNAI Manna 23.64 242 P P 18 06 58.8 +0.6
MNAI Manna 23.64 242 P P 18 06 58.0 -0.3
MNAI Manna 23.64 242 P P 18 06 58.5 +0.3
comp=Z,510nm,0.5s,comp=Z,10µm
BKNI Bangkinang 23.66 255 P P 18 07 00.3 +1.9
BKNI Bangkinang 23.66 255 P P 18 06 55.1 -3.3
BKNI Bangkinang 23.66 255 P P 18 06 58.7 +0.3
comp=Z,878nm,1.2s,comp=Z,8µmcomp=Z,3µm
SRIT Nakonsritamara 24.08 276 P P 18 07 04.1 +2.0
SSE Sheshan 24.24 354 P P 18 07 04.8 +1.6
SSE S **S 18 10 45.0 +1.8**
SSE pmax pmax
comp=Z,9.0nm,0.7s
SSE pmax pmax
comp=Z,110nm,3.2s
PDSI Padang 24.58 253 P P 18 07 05.7 -0.9
comp=Z,491nm,0.6s,comp=Z,11µmcomp=Z,3µm
FITZ Fitzroy Crossi 24.86 176 P P 18 07 09.2 +0.4
baz=25,SNR=224
FITZ Fitzroy Crossi 24.86 176 P P 18 07 09.3 +0.4
FITZ Fitzroy Crossi 24.86 176 P P 18 07 08.4 -0.5
XMIS Christmas Isla 25.00 227 P P 18 07 11.3 +1.1
XMIS Christmas Isla 25.00 227 P P 18 07 08.7 -1.6
MANU Manus Island 25.09 110 P P 18 07 12.6 +1.6
MANU Manus Island 25.09 110 P P 18 07 11.8 +0.7
PSI Prapat 25.15 262 P P 18 07 13.1 +1.3
WHN Wuhan 25.19 340 ⇑P **P 18 07 13.5 +1.9**
WHN PcP **PcP 18 10 27.4 +1.0**
WHN S **S 18 11 01.3 +3.2**
WHN ScP **ScP 18 13 13.7 +0.3**
WHN ScS **ScS 18 17 03.2 +0.2**
WHN pmax pmax
comp=Z,250nm,1.2s
WHN pmax pmax
comp=Z,2µm,4.6s
GYA Guiyang 25.45 322 ⇓P **P 18 07 16.2 +2.0**
GYA S **S 18 11 03.0 +0.4**
GYA pmax pmax
comp=Z,62nm,0.8s
GYA pmax pmax
comp=Z,260nm,5.1s
NJ2 Nanjing 25.49 350 ⇓ *i*P **P 18 07 16.3 +2.0**
NJ2 PcP **PcP 18 10 28.1 +1.1**
NJ2 S **S 18 11 02.5 -0.3**
NJ2 ScP **ScP 18 13 14.9 +0.7**
NJ2 PcS **PcS 18 14 01.0 -7.3**
NJ2 ScS **ScS 18 17 05.9 +1.6**
NJ2 pmax pmax
comp=Z,18nm,0.5s
NJ2 pmax pmax
comp=Z,300nm,4.1s
PPSI Pulau Pagai 25.64 249 P P 18 07 15.6 -0.3
comp=Z,1µm,0.9s,comp=Z,15µm
PHRA Phrae 25.74 299 P P 18 07 17.7 +1.0
SISI Saibi 26.01 253 P P 18 07 18.1 -1.1
comp=Z,3µm,1.0s,comp=Z,34µm
KCSI Kotacane, Aceh 26.18 264 P P 18 07 20.1 -0.5
comp=Z,1µm,1.0s,comp=Z,13µm
PBSI Pulau Batu 26.41 256 P P 18 07 22.0 -0.7
comp=Z,434nm,1.4s,comp=Z,5µm
JCJ Chichijima 26.62 39 P P 18 07 23.7 -0.6
GSI Gunungsitoli 26.77 259 P P 18 07 26.2 +0.3
GSI Gunungsitoli 26.77 259 P P 18 07 25.4 -0.5
comp=Z,4µm,0.8s,comp=Z,34µm
LHMI Lhok Sumawe 26.80 268 P P 18 07 28.1 +2.0
LHMI Lhok Sumawe 26.80 268 P P 18 07 27.7 +1.6
comp=Z,1µm,0.7s,comp=Z,15µmcomp=Z,4µm
CMAR Chiang Mai Arr 26.85 298 P P 18 07 27.3 +0.8
CMAR Chiang Mai Arr 26.85 298 P P 18 07 28.0 +1.5
comp=Z,64nm,0.8s,baz=110,slow=7.0,SNR=364
CMAR PcP **PcP 18 10 32.0 +1.4**
comp=Z,35nm,0.8s,baz=116,slow=2.1,SNR=11
CMAR S **S 18 11 26.4 +1.9**
comp=Z,13nm,1.1s,baz=101,slow=14,SNR=4.3
CMAR ScP **ScP 18 13 19.6 +1.0**
comp=Z,65nm,1.0s,baz=106,slow=1.6,SNR=23
CMAR PKiKP **PKiKP 18 18 07.7 -0.1**
comp=Z,5.2nm,0.8s,baz=260,slow=0.9,SNR=8.3
CMAR P3KP 18 40 46.8
comp=Z,0.5nm,0.7s,baz=261,slow=3.4,SNR=4.3
comp=Z,64nm,0.8s
ENH Enshi 26.91 332 P P 18 07 28.5 +1.6
ENH Enshi 26.91 332 P P 18 07 27.1 +0.2
ENH ScP **ScP 18 13 18.0 -0.5**
JNU Nakatsue 26.93 13 P P 18 07 27.6 +0.6
JNU Nakatsue 26.93 13 ScP **ScP 18 13 18.8 +0.2**
comp=Z,56nm,0.8s,baz=198,slow=3.2,SNR=10
CHTO Chiang Mai 26.98 298 P P 18 07 28.5 +0.8
CHTO Chiang Mai 26.98 298 P P 18 07 28.5 +0.8
KMI Kunming 27.15 314 ⇑P **P 18 07 31.5 +2.2**
KMI PcP **PcP 18 10 32.8 +1.3**
KMI S **S 18 11 32.2 +2.7**
KMI ScP **ScP 18 13 20.1 +0.4**
KMI ScS **ScS 18 17 12.8 +0.3**
KMI pmax pmax
comp=Z,54nm,0.7s
MLSI Meulaboh, Aceh 27.43 266 P P 18 07 30.9 -0.7
comp=Z,677nm,0.7s,comp=Z,8µm
SNSI Sinabang, Aceh 27.78 262 P P 18 07 34.9 +0.2
comp=Z,1µm,1.2s,comp=Z,10µm
MBWA Marble Bar 28.14 188 P P 18 07 37.5 -0.2
MBWA Marble Bar 28.14 188 P P 18 07 37.2 -0.5
MBWA Marble Bar 28.14 188 P P 18 07 37.2 -0.5
COEN Coen 28.21 137 P P 18 07 37.8 -0.6
baz=28,SNR=739
COEN Coen 28.21 137 P P 18 07 37.8 -0.6
COEN Coen 28.21 137 P P 18 07 37.4 -1.0
PMG Port Moresby 28.30 125 P P 18 07 38.8 -0.3
comp=Z,724nm,0.8s,baz=322,slow=7.1
PMG S **S 18 11 46.4 -0.8**
comp=Z,28nm,0.8s,baz=315,slow=20,SNR=1.6
PMG ScP **ScP 18 13 23.6 +0.5**
comp=Z,39nm,0.7s,baz=304,slow=3.6,SNR=3.6
comp=Z,724nm,0.8s
JMN Monobe 28.30 18 P P 18 07 39.6 +0.6
PSA00 Pilbara Seismi 28.53 188 P P 18 07 41.0 -0.1
PSA00 Pilbara Seismi 28.53 188 P P 18 07 40.4 -0.7
PSA00 Pilbara Seismi 28.53 188 P P 18 07 39.7 -1.4
WRAB Tennant Creek 28.56 159 P P 18 07 41.0 -0.4
WRAB Tennant Creek 28.56 159 P P 18 07 41.0 -0.4
WRA Warramunga Arr 28.57 159 P P 18 07 41.2 -0.3
comp=Z,159nm,0.7s,baz=336,slow=9.7,SNR=210
WRA PcP **PcP 18 10 35.1 +0.3**
comp=Z,64nm,0.6s,baz=336,slow=3.0,SNR=7.7
WRA S **S 18 11 49.5 -1.7**
comp=Z,187nm,1.2s,baz=333,slow=15,SNR=9.3
WRA ScP **ScP 18 13 23.9 +0.1**
comp=Z,297nm,0.6s,baz=342,slow=3.2,SNR=37
WRA ScS **ScS 18 17 15.7 -2.9**
comp=Z,63nm,1.2s,baz=337,slow=3.7,SNR=9.4
WRA PKiKP **PKiKP 18 18 08.1 -0.7**
comp=Z,2.3nm,0.5s,baz=320,slow=1.4,SNR=1.0
WRA P3KPbc 18 39 38.1
comp=Z,1.6nm,0.7s,baz=159,slow=3.7,SNR=7.5
comp=Z,159nm,0.7s
PZH PanZhiHua 28.71 315 P P 18 07 43.8 +1.0
PZH S **S 18 11 53.3 -0.2**
PZH ScP **ScP 18 13 24.7 +0.3**
PZH PcS **PcS 18 14 17.8 -1.1**
PZH ScS **ScS 18 17 17.9 -1.6**
PZH pmax pmax
comp=Z,40nm,0.7s
PZH pmax pmax
comp=Z,1µm,6.5s
LYN LuoYang 29.49 341 *e*P **P 18 07 50.5 +1.3**
LYN PcP **PcP 18 10 38.3 +1.4**
LYN S **S 18 12 06.9 +1.9**
LYN ScP **ScP 18 13 27.2 +0.7**
LYN pmax pmax
comp=Z,80nm,0.6s
LYN pmax pmax
comp=Z,180nm,4.0s
TJN Taejon 29.55 6 P P 18 07 48.1 -1.6
TJN Taejon 29.55 6 P P 18 07 48.1 -1.6
TJN pmax pmax
comp=Z,498nm,1.1s
TIA Tai'an 29.85 349 P P 18 07 53.3 +0.9
TIA sP **PcP 18 10 38.3 +0.4**
TIA S **S 18 12 11.4 +0.7**
TIA ScS **ScS 18 17 25.9 +1.6**
TIA pmax pmax
comp=Z,14nm,0.8s
TNCH TengChong 30.22 310 ⇓ *i*P **P 18 07 57.0 +1.1**
TNCH PcP **PcP 18 10 40.5 +1.2**
TNCH S **S 18 12 19.7 +2.8**
TNCH ScP **ScP 18 13 30.1 +0.7**
TNCH ScS **ScS 18 17 27.6 +0.7**
TNCH pmax pmax
comp=Z,30nm,0.9s
TNCH pmax pmax
comp=Z,160nm,5.0s
RABL Rabaul 30.32 110 P P 18 07 58.7 +1.9
RABL Rabaul 30.32 110 P P 18 07 58.1 +1.3
XAN Xi'an 30.36 335 ⇑P **P 18 07 57.7 +0.8**
XAN PcP **PcP 18 10 40.0 +0.6**
XAN S **S 18 12 18.7 0.0**
XAN ScP **ScP 18 13 29.9 +0.4**
XAN ScS **ScS 18 17 25.4 -1.6**
XAN pmax pmax
comp=Z,150nm,0.8s
XAN pmax pmax
comp=Z,290nm,6.2s
XAN Xi'an 30.36 335 P P 18 07 57.3 +0.5
XAN PcP **PcP 18 10 39.8 +0.5**
XAN ScP **ScP 18 13 29.6 0.0**
CD2 Chengdu 30.44 324 P P 18 07 58.4 +0.8
CD2 S **S 18 12 20.4 +0.5**
CD2 ScP **ScP 18 13 30.0 +0.1**
CD2 ScS **ScS 18 17 25.5 -2.0**
CD2 pmax pmax
comp=Z,40nm,0.7s
CD2 pmax pmax
comp=Z,150nm,3.6s
INCN Inchon 30.59 4 PcP **18 10 40.7 +0.8**
KSAR Wonju Array Be 30.66 6 P P 18 07 59.3 0.0
KSAR Wonju Array Be 30.66 6 P P 18 07 59.3 0.0
JSG Sagara 30.68 24 P P 18 08 00.3 +0.9
KSRS Korea Array 30.68 6 P P 18 08 00.6 +1.2
comp=Z,18nm,0.7s,baz=188,slow=10.0,SNR=70
KSRS PcP **PcP 18 10 40.9 +0.9**
comp=Z,18nm,0.7s,baz=184,slow=2.7,SNR=11
KSRS ScP **ScP 18 13 31.2 +0.9**
comp=Z,73nm,0.8s,baz=191,slow=3.4,SNR=43
KSRS PKiKP **PKiKP 18 18 09.1 -0.6**
comp=Z,1.9nm,0.7s,baz=242,slow=0.4,SNR=5.5
KSRS P3KPbc 18 39 30.1
comp=Z,3.8nm,0.8s,baz=2.7,slow=4.5,SNR=15
KS19 Wonju Array Si 30.72 6 IAmb IAmb 18 09 33.3
comp=Z,313nm,1.9s
GIRL Giralia 30.80 198 P P 18 08 01.9 +1.2
baz=31,SNR=220
GIRL Giralia 30.80 198 P P 18 08 02.1 +1.5
PBA Port Blair 31.05 281 *e*P **P 18 08 02.6 -0.3**
PBA IAmb IAmb 18 08 15.2
comp=Z,163nm,1.0s
JGF Kuroka 31.18 22 IAmb IAmb 18 09 33.9
comp=Z,163nm,1.4s
QIS Mount Isa 31.34 151 P P 18 08 05.8 +0.4
baz=32,SNR=308
QIS Mount Isa 31.34 151 P P 18 08 05.8 +0.4
HNS HongShan 31.52 346 ⇓P **P 18 08 02.4 +1.6**
HNS PcP **sP 18 10 43.4 +0.3**
HNS S **S 18 12 36.9 +0.8**
HNS ScP **ScP 18 13 34.2 +1.0**
HNS ScS **ScS 18 17 33.4 +0.9**
HNS pmax pmax
comp=Z,29nm,0.7s
AS31 Alice Springs 31.89 162 IAmb IAmb 18 08 13.0
comp=Z,58nm,0.6s
ASAR Alice Springs 31.89 162 P P 18 08 10.5 +0.4
ASAR Alice Springs 31.89 162 P P 18 08 10.8 +0.7
comp=Z,83nm,0.4s,baz=341,slow=6.4,SNR=5030
ASAR PcP **PcP 18 10 44.1 +0.4**
comp=Z,88nm,0.6s,baz=347,slow=2.9,SNR=15
ASAR S **S 18 12 41.0 -1.3**
comp=Z,330nm,0.9s,baz=349,slow=24,SNR=48
ASAR ScP **ScP 18 13 34.8 0.0**
comp=Z,77nm,0.6s,baz=342,slow=3.1,SNR=9.9
ASAR ScS **ScS 18 17 32.7 -2.4**
comp=Z,16nm,1.0s,baz=332,slow=3.7,SNR=4.0
ASAR P3KPbc 18 39 25.6
comp=Z,0.9nm,0.6s,baz=160,slow=3.9,SNR=15
comp=Z,83nm,0.4s
DL2 Dalian 31.96 357 P P 18 08 11.3 +0.9
DL2 S **S 18 12 42.0 -0.9**
DL2 ScP **ScP 18 13 35.2 +0.5**
DL2 pmax pmax
comp=Z,66nm,0.5s
WRKA Warakurna 32.00 172 P P 18 08 11.8 +0.8
baz=32,SNR=486
WRKA Warakurna 32.00 172 P P 18 08 12.0 +1.0
MTSU Mount Surprise 32.02 141 P P 18 08 11.5 +0.4
baz=32,SNR=248
MTSU Mount Surprise 32.02 141 P P 18 08 11.6 +0.4
MJAR Matsushiro Arr 32.33 22 P P 18 08 12.2 -1.4
comp=Z,61nm,0.7s,baz=195,slow=9.1,SNR=141
MJAR PcP **PcP 18 10 45.9 +1.2**
comp=Z,24nm,0.8s,baz=197,slow=3.5,SNR=5.9
MJAR S **S 18 12 45.0 -3.6**
comp=Z,40nm,1.0s,baz=198,slow=17,SNR=13
MJAR ScP **ScP 18 13 37.1 +1.0**
comp=Z,143nm,0.9s,baz=193,slow=3.9,SNR=30
MJAR P3KPbc 18 39 24.5
comp=Z,3.3nm,0.9s,baz=20,slow=4.0,SNR=6.9
comp=Z,61nm,0.7s
MAJO Matsushiro 32.33 22 P P 18 08 13.2 -0.4
MAJO Matsushiro 32.33 22 P P 18 08 12.2 -1.3
MAJO IAmb IAmb 18 08 14.9
comp=Z,90nm,0.8s
MAJO Matsushiro 32.33 22 P P 18 08 12.3 -1.3
MAJO pmax pmax
comp=Z,90nm,0.9s
MAJO Matsushiro 32.33 22 P P 18 08 12.5 -1.0
MAJO PcP **PcP 18 10 45.6 +1.0**
MAJO ScP **ScP 18 13 36.9 +0.8**
MJB9 Matsu-Tunnel 32.33 22 IAmb IAmb 18 08 15.9
comp=Z,87nm,0.8s
COCO West Island 32.86 235 P P 18 08 17.2 -1.1
COCO West Island 32.86 235 P P 18 08 17.1 -1.1
COCO West Island 32.86 235 P P 18 08 17.2 -1.1
COCO pmax pmax
comp=Z,2µm,1.1s
COCO West Island 32.86 235 P P 18 08 17.1 -1.1
JSD Sado 33.68 21 P P 18 08 24.0 -0.9
MEEK Meekatharra 33.69 188 P P 18 08 25.4 +0.3
baz=34,SNR=1000
MEEK Meekatharra 33.69 188 P P 18 08 25.5 +0.3
BJT Baijiatuau 33.73 349 P P 18 08 25.9 +0.6
BJT pP **pP 18 09 58.9 +0.7**
BJT PcP **PcP 18 10 49.7 +1.2**
BJT ScP **ScP 18 13 41.7 +0.7**
IMP Imphal 33.73 305 *e*P **P 18 08 25.5 -0.1**
IMP IAmb IAmb 18 08 26.7
comp=Z,131nm,0.7s
BJI Beijing 33.74 349 P P 18 08 26.1 +0.7
BJI PcP **PcP 18 10 49.9 +1.3**
BJI S **S 18 13 09.8 -0.1**
BJI ScP **ScP 18 13 42.1 +1.1**
BJI SS **SS 18 16 28.1 +5.1**
BJI ScS **ScS 18 17 45.5 +1.4**
BJI pmax pmax
comp=Z,17nm,0.6s
KOHI KOHIMA 34.01 307 *e*P **P 18 08 28.0 0.0**
KOHI IAmb IAmb 18 08 30.8
comp=Z,122nm,0.6s

PATS	**Pohnpei**	**34.22**	**88**		P	**P**	**18 08 30.9**	**+1.1**
	baz=34,SNR=68								
PATS	**Pohnpei**	**34.22**	**88**		P	**P**	**18 08 30.7**	**+0.9**
LZH	**Lanzhou**	**34.37**	**331**		P	**P**	**18 08 33.0**	**+2.0**
LZH					sP	sP	18 11 09.2	+0.8
LZH					S	**S**	**18 13 21.4**	**+1.5**
LZH					ScP	**ScP**	**18 13 44.4**	**+0.8**
LZH					ScS	**ScS**	**18 17 47.9**	**-0.3**
LZH					pmax	pmax			
	comp=Z,89nm,1.3s								
JORH	**JORHAT**	**34.39**	**309**	*eP*		**P**	**18 08 31.8**	**+0.7**
TV1H	**Townsville Har**	**34.42**	**139**		P	**P**	**18 08 32.3**	**+0.9**
JMM	**Marumori**	**34.49**	**24**		P	**P**	**18 08 31.9**	**+0.2**
CTAO	**Charters Tower**	**34.69**	**141**		P	**P**	**18 08 34.5**	**+0.9**
CTAO	**Charters Tower**	**34.69**	**141**		P	**P**	**18 08 34.3**	**+0.7**
CTAO	**Charters Tower**	**34.69**	**141**		P	**P**	**18 08 34.3**	**+0.7**
CTAO					pmax	pmax			
	comp=Z,544nm,1.1s								
CTAO	**Charters Tower**	**34.69**	**141**	⇑	P	**P**	**18 08 34.7**	**+1.0**
CTAO					pP	**pwP**	**18 10 08.5**	**-1.7**
CTAO					ScP	**ScP**	**18 13 45.8**	**+1.0**
SNY	**Shenyang**	**34.82**	**360**	⇑	P	**P**	**18 08 34.9**	**+0.5**
SNY					S	**S**	**18 13 26.0**	**0.0**
SNY					ScS	**ScS**	**18 17 51.2**	**+1.3**
SNY					pmax	pmax			
	comp=Z,13nm,0.8s								
ITAN	**ITANAGAR**	**35.00**	**309**	*eP*		**P**	**18 08 37.4**	**+1.3**
ITAN					IAmb	IAmb	18 08 38.5		
	comp=Z,452nm,0.7s								
ZIRO	**ZIRO**	**35.09**	**309**	*eP*		**P**	**18 08 38.2**	**+1.1**
ZIRO					IAmb	IAmb	18 08 39.5		
	comp=Z,268nm,0.4s								
HHC	**Hu-ho-hao-te**	**35.58**	**344**	*eP*		**P**	**18 08 41.7**	**+0.9**
HHC					S	**S**	**18 13 39.0**	**+1.3**
HHC					pmax	pmax			
	comp=Z,13nm,0.8s								
HHC					pmax	pmax			
	comp=Z,120nm,3.8s								
SHL	**Shillong**	**35.73**	**305**		IAmb	IAmb	18 08 44.3		
	comp=Z,1µm,0.6s								
SHL	**Shillong**	**35.73**	**305**	*eP*		**P**	**18 08 42.9**	**+0.5**
SHL					IAmb	IAmb	18 08 44.4		
	comp=Z,805nm,0.6s								
SHL	**Shillong**	**35.73**	**305**		P	**P**	**18 08 42.9**	**+0.5**
BTO	**Baotou**	**35.80**	**342**	*eP*		**P**	**18 08 46.0**	**+3.3**
BTO					PP	**PP**	**18 10 26.4**	**-0.9**
BTO					sS	**sS**	**18 16 38.7**	**+3.6**
BTO					pmax	pmax			
	comp=Z,22nm,0.9s								
BTO					pmax	pmax			
	comp=Z,370nm,6.7s								
MSHR	**Mys Shultsa**	**36.16**	**9**	⇑	*eP*	**P**	**18 08 45.6**	**+0.2**
MSHR					pmax	pmax			
	comp=Z,29nm,1.2s								
PSTR	**Posyet**	**36.17**	**9**	*i*	P	**P**	**18 08 45.3**	**-0.2**
OOD	**Oodnadatta**	**36.30**	**162**		P	**P**	**18 08 47.7**	**+0.8**
MORW	**Morawa**	**36.50**	**192**		P	**P**	**18 08 49.0**	**+0.5**
	baz=37,SNR=645								
MORW	**Morawa**	**36.50**	**192**		P	**P**	**18 08 48.9**	**+0.4**
VLA	**Vladivostok**	**36.80**	**10**	*i*	P	**P**	**18 08 50.2**	**-0.5**
VLA					pmax	pmax			
	comp=Z,41nm,0.8s								
CN2	**Changchun**	**36.82**	**2**	*e*	P	**P**	**18 08 50.6**	**-0.3**
CN2				*e*	S	**S**	**18 13 51.7**	**-4.2**
CN2					pmax	pmax			
	comp=Z,10.0nm,0.4s								
CN2					pmax	pmax			
	comp=Z,100nm,4.0s								
JTM	**Tenmabayashi**	**37.12**	**22**		P	**P**	**18 08 54.4**	**+1.0**
XLT	**XiLinHaoTe**	**37.52**	**351**	*eP*		**P**	**18 08 57.0**	**+0.3**
XLT					PP	**PP**	**18 10 42.4**	**+2.0**
XLT					PcP	**PcP**	**18 10 56.1**	**-4.0**
XLT					S	**S**	**18 14 04.7**	**-1.7**
XLT					ScS	**ScS**	**18 18 05.2**	**-0.2**
XLT					pmax	pmax			
	comp=Z,37nm,1.1s								
XLT					pmax	pmax			
	comp=Z,82nm,3.8s								
FORT	**Forrest**	**37.64**	**174**		P	**P**	**18 08 58.7**	**+0.9**
	baz=38,SNR=617								
FORT	**Forrest**	**37.64**	**174**		P	**P**	**18 08 58.9**	**+1.1**
USA0B	**Ussuriysk Arra**	**37.87**	**10**		IAmb	IAmb	18 10 36.7		
	comp=Z,176nm,1.6s								
USRK	**Ussuriysk Ar.**	**37.87**	**10**		P	**P**	**18 08 59.6**	**+0.1**
USRK	**Ussuriysk Ar.**	**37.87**	**10**		P	**P**	**18 08 59.8**	**+0.4**
	comp=Z,24nm,0.7s,baz=192,slow=7.1,SNR=35								
USRK					pP	**pP**	**18 10 35.6**	**+0.5**
	comp=Z,39nm,0.7s,baz=186,slow=9.6,SNR=4.0								
USRK					PcP	**PcP**	**18 11 01.3**	**+0.2**
	comp=Z,19nm,0.6s,baz=208,slow=3.5,SNR=5.1								
USRK					ScP	**ScP**	**18 13 56.9**	**+0.7**
	comp=Z,27nm,0.8s,baz=219,slow=1.8,SNR=14								
	comp=Z,24nm,0.7s								
BLDU	**Ballidu**	**37.89**	**190**		P	**P**	**18 08 59.7**	**-0.1**
	baz=38,SNR=45								
BLDU	**Ballidu**	**37.89**	**190**		P	**P**	**18 09 00.3**	**+0.5**
MDJ	**Mudanjiang**	**37.94**	**7**		P	**P**	**18 09 01.1**	**+1.1**
MDJ	**Mudanjiang**	**37.94**	**7**		P	**P**	**18 09 01.2**	**+1.2**
MDJ					ScP	**ScP**	**18 13 57.1**	**+0.6**
MDJ					S	**S**	**18 14 13.2**	**+0.8**
MDJ					sS	sS	18 17 07.6	-0.5
MDJ					ScS	**ScS**	**18 18 08.4**	**+0.8**
MDJ					pmax	pmax			
	comp=Z,62nm,0.5s								
MDJ					pmax	pmax			
	comp=Z,160nm,4.1s								
MDJ	**Mudanjiang**	**37.94**	**7**		IAmb	IAmb	18 10 42.5		
	comp=Z,71nm,1.1s								
MDJ					ScP	**ScP**	**18 13 56.6**	**+0.2**
KMBL	**Kambalda**	**38.06**	**183**		P	**P**	**18 09 01.8**	**+0.6**
	baz=38,SNR=1000								
KMBL	**Kambalda**	**38.06**	**183**		P	**P**	**18 09 01.8**	**+0.6**
INKA	**Innaminka**	**38.08**	**155**		P	**P**	**18 09 03.2**	**+1.8**
MULG	**Mulgathing**	**38.21**	**166**		P	**P**	**18 09 03.1**	**+0.7**
LSA	**Lhasa**	**38.23**	**311**		P	**P**	**18 09 04.9**	**+1.7**
LSA					S	**S**	**18 14 19.8**	**+1.7**
LSA					pmax	pmax			
	comp=Z,110nm,1.2s								
LSA	**Lhasa**	**38.23**	**311**		P	**P**	**18 09 05.1**	**+1.9**
LSA	**Lhasa**	**38.23**	**311**		P	**P**	**18 09 05.4**	**+2.2**
LSA					pP	**pP**	**18 10 40.1**	**+0.9**
LSA					PcP	**PcP**	**18 11 04.6**	**+1.4**
LSA					ScP	**ScP**	**18 13 58.9**	**+0.4**
KLBR	**Kellerberrin**	**38.68**	**188**		P	**P**	**18 09 06.6**	**+0.4**
	baz=39,SNR=850								
KLBR	**Kellerberrin**	**38.68**	**188**		P	**P**	**18 09 06.8**	**+0.6**
QLP	**Quilpie**	**38.68**	**150**		P	**P**	**18 09 06.9**	**+0.6**
	baz=39,SNR=185								
QLP	**Quilpie**	**38.68**	**150**		P	**P**	**18 09 06.9**	**+0.6**
BNX	**BinXian**	**38.85**	**4**	⇓	P	**P**	**18 09 09.2**	**+1.8**
BNX					PP	**PP**	**18 10 56.6**	**+2.2**
BNX					S	**S**	**18 14 30.2**	**+4.4**
BNX					sS	**sS**	**18 17 22.6**	**+0.3**
BNX					pmax	pmax			
	comp=Z,33nm,0.8s								
BNX					pmax	pmax			
	comp=Z,100nm,4.7s								
GTA	**Gaotai**	**38.96**	**330**	⇓	P	**P**	**18 09 09.8**	**+1.3**
GTA					PcP	**PcP**	**18 11 05.4**	**+0.6**
GTA					ScP	**ScP**	**18 14 01.4**	**+0.7**
GTA					S	**S**	**18 14 27.9**	**+0.1**
GTA					ScS	**ScS**	**18 18 12.2**	**-2.0**
GTA					pmax	pmax			
	comp=Z,41nm,1.4s								
ERM	**Erimo**	**38.97**	**23**		P	**P**	**18 09 09.9**	**+1.5**
ERM	**Erimo**	**38.97**	**23**		P	**P**	**18 09 09.0**	**+0.6**
ERM					IAmb	IAmb	18 09 12.4		
	comp=Z,90nm,0.8s								
ERM	**Erimo**	**38.97**	**23**	*ce*	*eP*	**P**	**18 09 08.4**	**0.0**
ERM					pmax	pmax			
	comp=Z,98nm,0.7s								
ERM	**Erimo**	**38.97**	**23**		P	**P**	**18 09 09.5**	**+1.1**
JEM	**Erimo**	**38.97**	**23**		P	**P**	**18 09 09.9**	**+1.5**
GTK	**Tadong**	**39.13**	**306**	*eP*		**P**	**18 09 11.6**	**+1.4**
GTK					IAmb	IAmb	18 09 13.0		
	comp=Z,596nm,1.1s								
MUN	**Mundaring**	**39.30**	**190**		P	**P**	**18 09 11.7**	**+0.4**
	baz=40,SNR=246								
MUN	**Mundaring**	**39.30**	**190**		P	**P**	**18 09 11.8**	**+0.6**
MTKN	**Mount Kenneth**	**39.34**	**191**		P	**P**	**18 09 12.8**	**+1.3**
HNR	**Honiara**	**39.44**	**114**		P	**P**	**18 09 13.0**	**+0.3**
HNR	**Honiara**	**39.44**	**114**		P	**P**	**18 09 11.7**	**-1.0**
HNR	**Honiara**	**39.44**	**114**		P	**P**	**18 09 11.7**	**-1.0**
HNR					pmax	pmax			
	comp=Z,1µm,0.7s								
GOMU	**GeErMu**	**39.46**	**322**		P	**P**	**18 09 14.9**	**+1.9**
GOMU					S	**S**	**18 14 29.9**	**-5.9**
GOMU					pmax	pmax			
	comp=Z,75nm,1.1s								
LCRK	**Leigh Creek**	**39.57**	**160**		P	**P**	**18 09 14.5**	**+1.1**
TEY	**Ternei**	**39.62**	**14**	⇓	*eP*	**P**	**18 09 14.2**	**+0.7**
TEY					pmax	pmax			
	comp=N,100nm,0.7s								
TEY					pmax	pmax			
	comp=E,60nm,0.7s								
RK1H	**Rockhampton Ha**	**39.77**	**140**		P	**P**	**18 09 16.0**	**+0.9**
NWAO	**Narrogin (SRO)**	**40.06**	**189**		P	**P**	**18 09 18.1**	**+0.8**
	baz=40,SNR=835								
NWAO					P	**P**	**18 09 18.1**	**+0.8**
	baz=40,SNR=835								
NWAO	**Narrogin (SRO)**	**40.06**	**189**		P	**P**	**18 09 18.0**	**+0.7**
NWAO	**Narrogin (SRO)**	**40.06**	**189**		P	**P**	**18 09 17.4**	**+0.1**
NWAO	**Narrogin (SRO)**	**40.06**	**189**		P	**P**	**18 09 18.2**	**+0.8**
NWAO					S	**S**	**18 14 43.8**	**0.0**
NWAO	**Narrogin (SRO)**	**40.06**	**189**		P	**P**	**18 09 17.4**	**+0.1**
NWAO					pmax	pmax			
	comp=Z,1µm,0.7s								
NWAO	**Narrogin (SRO)**	**40.06**	**189**	⇓	P	**P**	**18 09 18.2**	**+0.8**
BOK	**Bokaro**	**40.12**	**299**	*eP*		**P**	**18 09 19.4**	**+1.4**
BOK					IAmb	IAmb	18 09 20.9		
	comp=Z,209nm,0.9s								
ASAJ	**Asahikawa**	**40.58**	**21**		P	**P**	**18 09 21.7**	**+0.5**
ASAJ					pmax	pmax			
	comp=Z,125nm,0.7s								
JKA	**Kamikawa-asahi**	**40.58**	**21**		P	**P**	**18 09 21.7**	**+0.5**
JKA					IAmb	IAmb	18 09 23.1		
	comp=Z,125nm,0.7s								
VIS	**Vishakhapatnam**	**40.94**	**289**	*eP*		**P**	**18 09 25.9**	**+1.3**
RMQ	**Roma**	**41.02**	**145**		P	**P**	**18 09 24.9**	**-0.2**
	baz=41,SNR=7.6								
BBOO	**Buckleboo**	**41.13**	**164**		P	**P**	**18 09 26.7**	**+0.9**
	baz=41,SNR=353								
BBOO	**Buckleboo**	**41.13**	**164**		P	**P**	**18 09 26.5**	**+0.7**
BBOO	**Buckleboo**	**41.13**	**164**		P	**P**	**18 09 26.5**	**+0.7**
JHSG	**JHARSUGUGA**	**41.40**	**295**	*eP*		**P**	**18 09 29.6**	**+1.4**
JHSG					IAmb	IAmb	18 09 30.9		
	comp=Z,638nm,0.9s								
EIDS	**Eidsvold**	**41.57**	**141**		P	**P**	**18 09 29.9**	**+0.4**
	baz=42,SNR=341								
EIDS	**Eidsvold**	**41.57**	**141**		P	**P**	**18 09 29.8**	**+0.4**
EIDS	**Eidsvold**	**41.57**	**141**		P	**P**	**18 09 29.4**	**0.0**
WHYH	**Whyalla**	**41.77**	**163**		P	**P**	**18 09 32.0**	**+1.2**
PTPS	**Port Pirie**	**42.02**	**162**		P	**P**	**18 09 34.2**	**+1.4**
STKA	**Stephens Creek**	**42.08**	**157**		P	**P**	**18 09 34.4**	**+1.1**
	baz=42,SNR=130								
STKA	**Stephens Creek**	**42.08**	**157**		P	**P**	**18 09 34.2**	**+0.9**
STKA	**Stephens Creek**	**42.08**	**157**		P	**P**	**18 09 34.0**	**+0.6**
STKA	**Stephens Creek**	**42.08**	**157**		P	**P**	**18 09 34.4**	**+1.1**
	comp=Z,215nm,0.7s,baz=332,slow=9.1,SNR=228								
STKA					pP	**PcP**	**18 11 14.8**	**-0.3**
	comp=Z,52nm,0.7s,baz=335,slow=7.5,SNR=3.4								
STKA					ScP	**ScP**	**18 14 13.8**	**+0.8**
	comp=Z,52nm,1.0s,baz=343,slow=6.0,SNR=4.0								
STKA					S	**S**	**18 15 12.7**	**-0.3**
	comp=Z,53nm,0.8s,baz=229,slow=19,SNR=17								
	comp=Z,215nm,0.7s								
HIA	**Hailar**	**42.40**	**356**		ScP	**ScP**	**18 14 14.6**	**+0.6**
HIA	**Hailar**	**42.40**	**356**		P	**P**	**18 09 36.5**	**+0.9**
HIA					pP	**pP**	**18 11 13.8**	**-0.5**
HIA					PcP	**PcP**	**18 11 16.9**	**+1.0**
HIA					ScP	**ScP**	**18 14 15.5**	**+1.5**
H01W3	**Cape Leeuwin H**	**42.52**	**192**		P	**P**	**18 09 38.8**	**+2.4**
	baz=25,slow=6.6,SNR=19								
H01W1	**Cape Leeuwin H**	**42.53**	**192**		P	**P**	**18 09 38.8**	**+2.3**
	baz=25,slow=6.6,SNR=25								
H01W2	**Cape Leeuwin H**	**42.53**	**192**		P	**P**	**18 09 38.9**	**+2.4**
	baz=25,slow=6.6,SNR=28								
HTT	**Hallett**	**42.55**	**161**		P	**P**	**18 09 38.4**	**+1.3**
	baz=43,SNR=210								
HTT	**Hallett**	**42.55**	**161**		P	**P**	**18 09 38.3**	**+1.3**
KLR	**Kul'dur**	**42.75**	**8**		PKP2ab		18 42 36.4		
	comp=Z,1.9nm,0.9s,baz=31,slow=4.6,SNR=4.8								
KLR	**Kul'dur**	**42.75**	**8**	*eP*		**P**	**18 09 37.5**	**-0.8**
KLR					pmax	pmax			
	comp=Z,17nm,0.7s								
PALK	**Pallekele**	**42.81**	**273**		P	**P**	**18 09 39.9**	**+0.5**
PALK					IAmb	IAmb	18 09 41.9		
	comp=Z,440nm,1.6s								
PALK	**Pallekele**	**42.81**	**273**		P	**P**	**18 09 40.5**	**+1.1**
PALK					S	**S**	**18 15 25.3**	**+1.2**
PALK	**Pallekele**	**42.81**	**273**		P	**P**	**18 09 39.9**	**+0.5**
PALK					pmax	pmax			
	comp=Z,439nm,1.6s								
PALK	**Pallekele**	**42.81**	**273**		P	**P**	**18 09 40.3**	**+0.9**
PALK					pP	**pP**	**18 11 17.7**	**0.0**
PALK					ScP	**ScP**	**18 14 17.4**	**+1.0**
MALK	**Mahakanadarawa**	**42.93**	**275**		P	**P**	**18 09 39.0**	**-1.3**
YSS	**Yuzh-Sakhalins**	**43.12**	**19**		P	**P**	**18 09 41.8**	**+0.6**
YSS	**Yuzh-Sakhalins**	**43.12**	**19**		P	**P**	**18 09 41.0**	**-0.2**
YSS	**Yuzh-Sakhalins**	**43.12**	**19**	*ce*	*eP*	**P**	**18 09 41.4**	**+0.2**
YSS					*e**PP	**PcP**	**18 11 19.1**	**+0.8**
YSS					*eS*	**S**	**18 15 24.3**	**-3.0**
YSS					*e*		18 18 24.0		
YSS					pmax	pmax			
	comp=Z,200nm,3.8s								
YSS					pmax	pmax			
	comp=Z,50nm,0.7s								
YSS					smax	smax			
	comp=N,300nm,8.8s								
YSS					smax	smax			
	comp=E,400nm,8.3s								
YSS	**Yuzh-Sakhalins**	**43.12**	**19**		P	**P**	**18 09 41.2**	**0.0**
YSS					pP	**pP**	**18 11 19.3**	**-0.9**
YSS					ScP	**ScP**	**18 14 18.6**	**+1.7**
H11S3	**WAKE ISLAND Hy**	**43.25**	**70**		P	**P**	**18 09 43.6**	**+1.1**
	baz=244,slow=5.6,SNR=20								
H11S1	**WAKE ISLAND Hy**	**43.27**	**70**		P	**P**	**18 09 43.5**	**+0.9**
	baz=244,slow=5.6,SNR=14								
H11S2	**WAKE ISLAND Hy**	**43.27**	**70**		P	**P**	**18 09 43.7**	**+1.0**
	baz=244,slow=5.6,SNR=14								
VJD	**Vijayawada**	**43.29**	**287**	*eP*		**P**	**18 09 45.1**	**+2.1**
ULN	**Ulaanbaatar**	**43.30**	**344**		P	**P**	**18 09 43.5**	**+0.7**
ULN					IAmb	IAmb	18 09 45.0		
	comp=Z,149nm,1.3s								
ULN	**Ulaanbaatar**	**43.30**	**344**		P	**P**	**18 09 43.7**	**+0.9**
ULN					S	**S**	**18 15 30.2**	**0.0**
ULN	**Ulaanbaatar**	**43.30**	**344**		P	**P**	**18 09 43.5**	**+0.7**
ULN					pmax	pmax			
	comp=Z,149nm,1.3s								
ULN	**Ulaanbaatar**	**43.30**	**344**		P	**P**	**18 09 43.9**	**+1.1**
ULN					PcP	**PcP**	**18 11 19.3**	**+0.1**
ULN					ScP	**ScP**	**18 14 18.0**	**+0.2**
KWJN	**Gagan, Kwajale**	**43.31**	**84**		P	**P**	**18 09 45.1**	**+1.9**
MDRS	**Chennai**	**43.34**	**282**	*eP*		**P**	**18 09 45.2**	**+1.7**
HEH	**HeiHe**	**43.35**	**3**	*eP*		**P**	**18 09 43.6**	**+0.7**
HEH					ScP	**ScP**	**18 14 18.4**	**+0.6**
HEH					S	**S**	**18 15 29.9**	**-0.7**
HEH					pmax	pmax			
	comp=Z,42nm,0.6s								
HEH					pmax	pmax			
	comp=Z,140nm,4.3s								
WAKE	**Wake Island**	**43.36**	**69**		P	**P**	**18 09 45.1**	**+1.6**
WAKE	**Wake Island**	**43.36**	**69**		P	**P**	**18 09 44.3**	**+0.7**
SONM	**Songino Array**	**43.46**	**343**		P	**P**	**18 09 44.4**	**+0.4**
SONM	**Songino Array**	**43.46**	**343**		P	**P**	**18 09 44.8**	**+0.8**
	comp=Z,38nm,0.8s,baz=160,slow=8.8,SNR=152								
SONM					PcP	**PcP**	**18 11 19.8**	**+0.2**
	comp=Z,37nm,0.8s,baz=159,slow=3.4,SNR=9.4								
SONM					ScP	**ScP**	**18 14 18.6**	**+0.1**
	comp=Z,8.7nm,0.6s,baz=155,slow=4.2,SNR=3.9								
	comp=Z,38nm,0.8s								
CMSA	**Cobar Meteorol**	**43.52**	**153**		P	**P**	**18 09 46.2**	**+1.6**
	baz=44,SNR=257								
CMSA	**Cobar Meteorol**	**43.52**	**153**		P	**P**	**18 09 45.9**	**+1.4**
H11N1	**WAKE ISLAND Hy**	**43.66**	**69**		P	**P**	**18 09 46.7**	**+1.1**
	baz=250,slow=10,SNR=34								
H11N2	**WAKE ISLAND Hy**	**43.67**	**69**		P	**P**	**18 09 46.9**	**+1.2**
	baz=250,slow=10,SNR=25								
H11N3	**WAKE ISLAND Hy**	**43.68**	**69**		P	**P**	**18 09 47.0**	**+1.2**
	baz=250,slow=10,SNR=41								
GHSS	**Government Hou**	**43.83**	**162**		P	**P**	**18 09 48.4**	**+1.5**
ALBI	**Aliahabad**	**44.12**	**299**	*eP*		**P**	**18 09 50.1**	**+0.8**
UGL	**Uglegorsk**	**44.80**	**17**	*eP*		**P**	**18 09 55.1**	**+1.0**
UGL				*e*			18 11 25.7		
UGL				*eS*		**S**	**18 15 51.1**	**+0.1**
UGL				*e*			18 18 50.5		
UGL					pmax	pmax			
	comp=Z,340nm,2.0s								
UGL					pmax	pmax			
	comp=Z,180nm,0.8s								
UGL					pmax	pmax			
	comp=Z,830nm,2.5s								
UGL					pmax	pmax			
	comp=Z,180nm,1.2s								
UGL					smax	smax			
	comp=N,1µm,7.0s								
UGL					smax	smax			
	comp=E,1µm,7.0s								
GRNR	**Gornyy**	**45.00**	**11**	⇑	*iP*	**P**	**18 09 56.5**	**+0.8**
GRNR					*e*		18 11 28.9		
GRNR					pmax	pmax			
	comp=N,6.0nm,1.0s								
GRNR					pmax	pmax			
	comp=Z,10.0nm,1.2s								
GRNR					MLR	MLR			
	comp=Z,260nm,15.0s								
BRCI	**Bahraich**	**45.01**	**302**	*eP*		**P**	**18 09 57.7**	**+1.5**
HYB	**Hyderabad**	**45.40**	**288**	⇓	*eP*	**P**	**18 10 00.1**	**+0.8**
HYB					IVmB_BB		18 10 00.7		
	comp=Z,3µm,1.0s								
HYB					*e*PcP	**PcP**	**18 11 27.2**	**+0.3**
HYB					*e*pP	**pP**	**18 11 38.3**	**-1.1**
HYB					*e*PP	**PP**	**18 11 53.6**	**-1.4**
HYB					*e*sP	**sP**	**18 12 37.0**	**-3.9**
HYB					*e*S	**S**	**18 16 01.0**	**+0.4**
HYB					*e*ScS	**ScS**	**18 18 53.5**	**-1.6**
HYB					*e*SS	**SS**	**18 19 35.7**	**+1.7**
ARMA	**Armidale**	**45.65**	**146**		P	**P**	**18 10 03.2**	**+2.1**
	baz=46,SNR=116								
ARMA	**Armidale**	**45.65**	**146**		P	**P**	**18 10 02.8**	**+1.7**
ARMA	**Armidale**	**45.65**	**146**		P	**P**	**18 10 02.8**	**+1.7**
CIT	**Chita**	**45.81**	**351**	*eP*		**P**	**18 10 03.4**	**+1.5**
CIT					pmax	pmax			
	comp=Z,182nm,1.6s								
KOD	**Kodaikanal**	**45.96**	**278**	*eP*		**P**	**18 10 04.8**	**+0.8**
KOD					IAmb	IAmb	18 10 06.3		
	comp=Z,121nm,0.8s								
TRD	**Trivandrum**	**46.48**	**275**	*eP*		**P**	**18 10 08.3**	**+0.8**
ARPS	**Mount Arapiles**	**46.56**	**160**		P	**P**	**18 10 08.7**	**+1.0**
	baz=47,SNR=45								
ARPS	**Mount Arapiles**	**46.56**	**160**		P	**P**	**18 10 08.7**	**+1.0**
TYV	**Tymovskoe**	**46.57**	**16**	*eP*		**P**	**18 10 07.9**	**+0.3**
TYV				*eS*		**S**	**18 16 16.8**	**+1.0**
TYV					pmax	pmax			
	comp=Z,15nm,0.8s								
TYV					pmax	pmax			
	comp=Z,200nm,3.1s								
TYV					smax	smax			
	comp=N,400nm,5.2s								
TYV					smax	smax			
	comp=E,400nm,5.2s								
ZAK	**Zakamensk**	**46.66**	**342**	*eP*		**P**	**18 10 08.5**	**+0.1**
ZAK					pmax	pmax			
	comp=Z,23nm,1.1s								
LGTI	**Lohaghat**	**46.75**	**304**	*eP*		**P**	**18 10 10.0**	**+0.7**
LGTI					IAmb	IAmb	18 10 11.4		
	comp=Z,157nm,0.9s								
PTH	**Pithoragarh**	**46.81**	**304**	*eP*		**P**	**18 10 09.9**	**-0.1**
ZEA	**Zeya**	**46.82**	**3**	*eP*		**P**	**18 10 09.7**	**+0.3**
ZEA				*e**PP		**pP**	**18 11 50.5**	**-0.5**
ZEA				*eS*		**S**	**18 16 17.0**	**-2.2**
ZEA				*e**SS		**ScS**	**18 19 03.2**	**+0.1**
ZEA					pmax	pmax			
	comp=Z,100nm,2.9s								
ZEA					pmax	pmax			
	comp=Z,20nm,0.7s								
ZEA					smax	smax			
	comp=E,200nm,7.9s								
ZEA					MLR	MLR			
	comp=Z,300nm,16.0s								
JHNI	**Jhansi**	**47.00**	**299**	*eP*		**P**	**18 10 10.7**	**-0.7**
JHNI					IAmb	IAmb	18 10 12.1		
	comp=Z,283nm,0.9s								
YNG	**Young**	**47.07**	**152**		P	**P**	**18 10 13.2**	**+1.6**
	baz=47,SNR=6.6								
YNG	**Young**	**47.07**	**152**		P	**P**	**18 10 12.9**	**+1.2**
AKL	**Akola**	**47.34**	**292**	*eP*		**P**	**18 10 14.7**	**+0.8**
AKL					IAmb	IAmb	18 10 16.2		
	comp=Z,385nm,0.8s								
BHPL	**Bhopal**	**47.46**	**295**	*eP*		**P**	**18 10 15.2**	**+0.3**
BHPL					IAmb	IAmb	18 10 16.6		
	comp=Z,300nm,0.9s								
NTLH	**Newcastle Hard**	**47.59**	**148**		P	**P**	**18 10 17.4**	**+1.8**
SYDH	**Sydney Hard Ro**	**47.77**	**149**		P	**P**	**18 10 18.0**	**+1.1**
BRAT	**Ballarat**	**48.00**	**158**		P	**P**	**18 10 20.0**	**+1.5**
IRK	**Irkutsk**	**48.02**	**344**	*eP*		**P**	**18 10 17.1**	**-1.4**
IRK				*eS*		**S**	**18 16 36.6**	**+0.8**
IRK					pmax	pmax			
	comp=Z,146nm,2.2s								
RIV	**Riverview**	**48.04**	**149**		P	**P**	**18 10 21.3**	**+2.5**
	baz=48,SNR=20								
RIV	**Riverview**	**48.04**	**149**		P	**P**	**18 10 20.9**	**+2.0**
KOUNC	**Koumac, New Ca**	**48.18**	**125**		P	**P**	**18 10 22.3**	**+2.1**
CAN	**Canberra**	**48.19**	**152**		P	**P**	**18 10 21.9**	**+1.8**
CAN	**Canberra**	**48.19**	**152**		P	**P**	**18 10 21.8**	**+1.8**
CAN					PcP	**PcP**	**18 11 38.1**	**+1.5**
CAN					PP	**PP**	**18 12 21.1**	**+1.1**
CAN	

DHRM DHARAMSHALA 50.88 306 *e*P P 18 10 40.7 +0.5
DHRM IAmb IAmb 18 10 43.1
comp=Z,370nm,0.8s
KAAM Kaadhehdhoo 51.11 265 P P 18 10 42.0 +0.2
KAAM Kaadhehdhoo 51.11 265 P P 18 10 42.3 +0.5
SNR=6.4
OUENC Ouen Island, N 51.17 126 P P 18 10 44.0 +1.9
SKR Severo-Kuril's 51.27 26‖ *e*P P 18 10 40.9 -1.4
BOD Bodaibo 51.40 353 *e*P P 18 10 43.6 +0.4
BOD pmax pmax
comp=Z,84nm,1.1s
THN Thein Dam 51.41 306 *e*P P 18 10 44.3 +0.6
MARNC Mare, Loyalty 51.69 124 P P 18 10 47.4 +1.6
PINNC Pines Island, 51.75 126 P P 18 10 48.2 +1.9
JMU Jammu 52.15 306 *e*P P 18 10 50.8 +1.8
ZSN Zaisan 52.34 327⇓ *i*P P 18 10 51.1 +0.9
baz=327
ZSN Zaisan 52.34 327 *d i*P P 18 10 51.0 +0.9
GLAD Gladstone 52.53 157 P P 18 10 52.8 +1.3
SHLS Shalkode 53.12 320⇓ *i*P P 18 10 55.3 -0.6
baz=320
SHLS Shalkode 53.12 320 *d i*P P 18 10 55.3 -0.6
DGAR Diego Garcia 53.19 255 P P 18 10 56.0 -0.7
DGAR Diego Garcia 53.19 255 P P 18 10 56.4 -0.3
DGAR Diego Garcia 53.19 255 *ce*P P 18 10 56.8 +0.1
DGAR pmax pmax
comp=Z,2µm,1.7s
DGAR Diego Garcia 53.19 255 P P 18 10 56.2 -0.5
H08S2 Diego Garcia H 53.20 255 P P 18 10 56.6 +0.1
baz=40,slow=8.7,SNR=33
H08S3 Diego Garcia H 53.21 255 P P 18 10 56.3 -0.3
baz=40,slow=8.7,SNR=21
H08S1 Diego Garcia H 53.22 255 P P 18 10 56.6 0.0
baz=40,slow=8.7,SNR=34
MK31 Makanchi Array 53.36 325 IAmb IAmb 18 10 59.6
comp=Z,158nm,0.9s
MKAR Makanchi Array 53.36 325 P P 18 10 57.9 +0.5
MKAR Makanchi Array 53.36 325 P P 18 10 58.4 +0.9
comp=Z,148nm,0.7s,baz=125,slow=8.3,SNR=1540
MKAR PcP PcP 18 11 55.2 -0.6
comp=Z,46nm,0.6s,baz=126,slow=5.2,SNR=7.5
MKAR ScP ScP 18 14 59.9 -0.7
comp=Z,15nm,0.8s,baz=123,slow=5.1,SNR=3.4
MKAR S S 18 17 49.4 +1.4
comp=Z,6.4nm,0.8s,baz=129,slow=11,SNR=3.8
MKAR PKPPKP P'P'df 18 41 01.3 -8.3
comp=Z,2.0nm,0.8s,baz=289,slow=3.7,SNR=8.3
MKAR P4KPbc 18 48 13.0
comp=Z,1.7nm,0.7s,baz=113,slow=5.0,SNR=19
comp=Z,148nm,0.7s
UZB Uzynbulak 53.39 320⇓ *i*P P 18 10 59.0 +1.0
baz=320
UZB Uzynbulak 53.39 320 *d i*P P 18 10 58.9 +1.0
MOO Moorlands 53.49 159 P P 18 11 00.1 +1.8
baz=54,SNR=4.7
MOO Moorlands 53.49 159 P P 18 10 59.5 +1.2
MAKZ Makanchi 53.55 325 P P 18 10 59.5 +0.7
MAKZ IAmb IAmb 18 11 00.9
comp=Z,301nm,1.1s
MAKZ Makanchi 53.55 325 P P 18 10 59.5 +0.7
MAKZ pmax pmax
comp=Z,301nm,1.1s
MAKZ Makanchi 53.55 325 ⇓P P 18 10 59.8 +1.0
MAKZ PcP PcP 18 11 57.0 +0.4
MAKZ pP pP 18 12 43.0 -1.1
PEA0B Petropavlovsk- 53.71 25 IAmb IAmb 18 11 02.0
comp=Z,106nm,0.8s
PETK Petropavlovsk- 53.71 25 P P 18 10 59.8 0.0
comp=Z,61nm,0.6s,baz=204,slow=3.7,SNR=285
PETK PcP PcP 18 11 57.5 +0.5
comp=Z,14nm,0.7s,baz=238,slow=2.9,SNR=1.3
PETK pP pP 18 12 44.6 -1.0
comp=Z,90nm,1.1s,baz=205,slow=3.0,SNR=6.1
PETK ScP ScP 18 15 02.4 +0.4
comp=Z,36nm,0.8s,baz=186,slow=4.3,SNR=7.9
comp=Z,61nm,0.6s
SATY Saty 53.74 320 *e*P P 18 11 01.6 +1.2
baz=320
SATY Saty 53.74 320 *e*P P 18 11 01.5 +1.2
ZHN Zhinishke 53.78 320 *e*P P 18 11 01.8 +1.1
baz=320
ZHN Zhinishke 53.78 320 *e*P P 18 11 01.7 +1.1
KSH Kashi 53.81 315 P P 18 11 03.3 +2.4
KSH PcP PcP 18 11 59.3 +1.4
KSH pP pwP 18 12 48.7 +0.4
KSH S S 18 17 59.5 +5.1
KSH ScS ScS 18 19 53.6 +1.0
KSH pmax pmax
comp=Z,130nm,1.2s
PET Petropavlovsk 54.05 25 P P 18 11 03.2 +1.1
PET Petropavlovsk 54.05 25 P P 18 11 02.6 +0.5
PET IAmb IAmb 18 11 04.1
comp=Z,514nm,1.6s
PET Petropavlovsk 54.05 25α *i*P P 18 11 02.8 +0.7
PET *e**PP pP 18 12 47.7 -0.4
PET *e**SP sP 18 13 48.8 +0.4
PET *i* S S 18 17 57.9 +1.2
PET *e* 18 19 51.4
PET *e**SS sS 18 21 07.1 +0.2
PET pmax pmax
comp=Z,500nm,4.2s
PET pmax pmax
comp=Z,204nm,1.5s
PET pmax pmax
comp=Z,200nm,7.3s
PET MLR MLR
comp=Z,200nm,16.0s
PET Petropavlovsk 54.05 25 P P 18 11 02.9 +0.7
PET pP pP 18 12 47.0 -1.1
PET ScP ScP 18 15 04.1 +0.7
BHUJ Bhuj 54.49 294 *e*P P 18 11 06.9 +1.2
BHUJ IAmb IAmb 18 11 08.6
comp=Z,367nm,1.1s
ARXS Arharly 54.67 321 *e*P P 18 11 07.2 +0.4
MDOK Medeo 54.67 319 *i*P P 18 11 08.2 +1.3
baz=319
MDOK Medeo 54.67 319 *i*P P 18 11 08.2 +1.3
TNSS Tian-Shan 54.68 319 *e*P P 18 11 08.2 +0.9
baz=319
TNSS Tian-Shan 54.68 319 *e*P P 18 11 08.2 +0.9
TDK Taldyqorghan 54.70 322⇓ *i*P P 18 11 08.0 +1.1
comp=Z,163nm,0.7s,baz=322
TDK Taldyqorghan 54.70 322 *d i*P P 18 11 08.0 +1.1
TDK pmax pmax
comp=Z,163nm,0.7s
AAA Alma-Ata 54.78 319 *e*P P 18 11 08.9 +1.4
comp=Z,156nm,0.7s,baz=319
AAA Alma-Ata 54.78 319 *e*P P 18 11 08.9 +1.4
AAA pmax pmax
comp=Z,156nm,0.7s
ULHL Ulahol 54.79 318 P P 18 11 09.1 +1.3
SNR=71
CHKK Chushkaly 55.03 320 *e*P P 18 11 10.1 +0.8
baz=320
CHKK Chushkaly 55.03 320 *e*P P 18 11 10.0 +0.8
BOOM Boomskoye usch 55.10 318 IAmb IAmb 18 11 12.4
comp=Z,235nm,1.5s
YAK Yakutsk 55.22 3 P P 18 11 10.4 +0.3
YAK IAmb IAmb 18 12 57.8
comp=Z,332nm,1.1s
YAK Yakutsk 55.22 3 *e*P P 18 11 10.6 +0.5
YAK *e**PP pP 18 12 55.3 -1.4
YAK *e*S S 18 18 13.0 +1.3
YAK *e* 18 19 57.7
YAK pmax pmax
comp=Z,104nm,0.7s
YAK pmax pmax
comp=N,15nm,0.9s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK smax smax
comp=N,293nm,1.5s
YAK smax smax
comp=E,189nm,1.7s
YAK Yakutsk 55.22 3 P P 18 11 10.5 +0.3
YAK pP pP 18 12 55.2 -1.4
YAK ScP ScP 18 15 09.6 +1.3
NFK Norfolk Island 55.45 132 P P 18 11 12.8 +0.4
baz=56,SNR=8.0
TKM2 Tokmak 2 55.51 318 P P 18 11 14.1 +1.2
SNR=187
KBK Karagaybulak 55.83 318 P P 18 11 16.6 +1.6
SNR=93
UCH Uchtor 55.94 317 P P 18 11 17.8 +1.7
SNR=266

CHMS Chumysh 56.11 318 P P 18 11 17.7 +1.0
SNR=50
AAK Ala-Archa 56.12 318 P P 18 11 18.4 +1.3
SNR=35
AAK Ala-Archa 56.12 318 P P 18 11 17.9 +0.9
AAK Ala-Archa 56.12 318 *i*P P 18 11 18.5 +1.4
SNR=40
AAK Ala-Archa 56.12 318 P P 18 11 18.4 +1.3
comp=E,41nm,0.9s,baz=118,slow=7.8,SNR=96
AAK PcP PcP 18 12 07.7 +0.8
comp=E,30nm,0.7s,baz=135,slow=8.6,SNR=7.6
AAK S S 18 18 24.6 +0.2
comp=E,1.2nm,0.6s,baz=117,slow=4.5,SNR=1.1
comp=E,41nm,0.9s
AAK Ala-Archa 56.12 318 P P 18 11 18.2 +1.2
AAK Ala-Archa 56.12 318 *ce*P P 18 11 18.2 +1.2
AAK pmax pmax
comp=Z,171nm,1.7s
AAK Ala-Archa 56.12 318 P P 18 11 18.3 +1.3
AAK PcP PcP 18 12 07.4 +0.5
AAK pP pP 18 13 04.1 +0.4
SGDS Sogindy 56.38 319⇓ *i*P P 18 11 19.3 +0.6
baz=318
SGDS Sogindy 56.38 319 *d i*P P 18 11 19.2 +0.6
USP Ospenovka 56.39 318 P P 18 11 19.8 +1.1
SNR=253
MA2 Magadan 56.45 16 P P 18 11 20.2 +1.5
MA2 Magadan 56.45 16 P P 18 11 19.6 +1.0
MA2 Magadan 56.45 16‖ *e*P P 18 11 20.4 +1.7
MA2 pmax pmax
comp=Z,69nm,0.8s
MA2 Magadan 56.45 16 P P 18 11 19.6 +1.0
MA2 PcP PcP 18 12 08.4 +0.9
MA2 pP pP 18 13 04.8 -1.3
MA2 ScP ScP 18 15 15.0 +1.2
MA2 Magadan 56.45 16 P P 18 11 19.8 +1.1
comp=Z,112nm,0.9s
ZAA0 Zalesovo Array 56.52 333 IAmb IAmb 18 11 20.4
comp=Z,302nm,1.4s
ZALV Zalesovo Beam 56.52 333 P P 18 11 18.7 -0.6
ZALV Zalesovo Beam 56.52 333 P P 18 11 19.1 -0.1
comp=Z,69nm,0.6s,baz=127,slow=6.4,SNR=254
ZALV PcP PcP 18 12 06.9 -1.0
comp=Z,14nm,0.5s,baz=146,slow=3.3,SNR=3.9
ZALV S S 18 18 27.1 -1.5
comp=Z,9.8nm,0.9s,baz=131,slow=17,SNR=4.5
ZALV PKPPKP P'P'df 18 41 03.6 -0.8
comp=Z,1.3nm,0.6s,baz=274,slow=2.3,SNR=4.3
ZALV PKP2bc 18 41 16.0
comp=Z,7.2nm,1.0s,baz=300,slow=2.8,SNR=11
comp=Z,69nm,0.6s
EKS2 Erkin-Say 56.62 317 P P 18 11 21.8 +1.4
SNR=5.5
FUNA Funafuti 57.26 105 P P 18 11 26.7 +1.7
FUNA Funafuti 57.26 105 P P 18 11 26.7 +1.7
KBL Kabul 57.35 307 P P 18 11 26.0 +0.3
KBL IAmb IAmb 18 11 27.4
comp=Z,171nm,0.8s
KBL Kabul 57.35 307 P P 18 11 26.5 +0.8
SNR=85
KBL P P 18 11 26.5 +0.8
SNR=85
KBL S S 18 18 39.9 -0.7
KBL S S 18 18 39.9 -0.7
KBL Kabul 57.35 307 P P 18 11 26.0 +0.3
KBL pmax pmax
comp=Z,171nm,0.8s
BTLS Baital 57.45 320⇓ *i*P P 18 11 26.4 +0.5
baz=320
BTLS Baital 57.45 320 *d i*P P 18 11 26.3 +0.5
KURBB Kurchatov Arra 57.57 328 P P 18 11 27.1 +0.6
comp=Z,321nm,0.7s,baz=127,slow=6.3,SNR=2059
KURBB pP pP 18 13 14.2 +0.3
comp=Z,13nm,0.7s,baz=124,slow=5.6,SNR=1.3
KURBB S S 18 18 41.5 -0.8
comp=Z,1.9nm,0.2s,baz=131,slow=9.9,SNR=4.1
comp=Z,321nm,0.7s
KURK Kurchatov 57.58 328 P P 18 11 27.0 +0.4
KURK Kurchatov 57.58 328 P P 18 11 26.7 +0.1
KURK S S 18 18 42.6 +0.2
KURK Kurchatov 57.58 328 P P 18 11 27.1 +0.6
KURK *PP pP 18 13 14.2 +0.3
KURK S S 18 18 41.5 -0.8
KURK Kurchatov 57.58 328 ⇓P P 18 11 27.3 +0.8
KURK pP pP 18 13 13.6 -0.3
BTK Batken 57.70 313 IAmb IAmb 18 11 30.1
comp=Z,638nm,1.5s
DZA Taraz 58.36 317 *e*P P 18 11 33.0 +0.9
baz=317
DZA Taraz 58.36 317 *e*P P 18 11 33.0 +0.9
SIMJ Simiganj 58.56 311 P P 18 11 34.1 +0.4
SIMJ PcP PcP 18 12 17.4 +0.8
MSVF Nonsavu 58.83 115 P P 18 11 38.1 +2.4
MSVF Nonsavu 58.83 115 P P 18 11 37.2 +1.5
MSVF Nonsavu 58.83 115 P P 18 11 37.2 +1.5
MSVF pmax pmax
comp=Z,446nm,1.0s
MSVF Nonsavu 58.83 115 P P 18 11 37.9 +2.2
MSVF ScP ScP 18 15 27.6 +2.3
IUG luzhnay 58.98 316⇓ *i*P P 18 11 37.5 +1.1
comp=Z,208nm,0.8s,baz=316
IUG luzhnay 58.98 316 *d i*P P 18 11 37.5 +1.1
IUG pmax pmax
comp=Z,208nm,0.8s
KK31 Karatay Array 59.00 317 IAmb IAmb 18 11 38.3
comp=Z,236nm,1.0s
KKAR Karatay Array 59.00 317 IAmb IAmb 18 11 38.3
comp=Z,235nm,1.0s
MIDW Midway 59.34 61 P P 18 11 40.1 +1.2
MIDW Midway 59.34 61 P P 18 11 39.6 +0.8
MIDW IAmb IAmb 18 11 40.9
comp=Z,482nm,1.1s
MIDW Midway 59.34 61 P P 18 11 39.7 +0.8
BRLS Boroldaу 59.43 316⇓ *i*P P 18 11 40.1 +0.8
baz=316
BRLS Boroldaу 59.43 316 *d i*P P 18 11 40.1 +0.8
SEY Seymchan 59.70 15 *e*P P 18 11 40.8 +0.2
SEY pmax pmax
comp=Z,30nm,0.9s
TAVE Taveuni 60.35 114 P P 18 11 47.3 +1.6
BRZS Berezniki 60.49 325⇓ *i*P P 18 11 46.9 +0.8
baz=325
BRZS Berezniki 60.49 325 *d i*P P 18 11 46.9 +0.8
NGCH Negor - Chabah 62.45 295 P P 18 12 00.6 +1.3
SNR=6.2
HRA Herat 62.79 305 P P 18 12 01.6 0.0
HRA IAmb IAmb 18 12 03.4
comp=Z,144nm,0.9s
OUZ Omahuta 62.80 135 P P 18 12 03.9 +2.5
BVAR Borovoye Array 63.15 327 P P 18 12 03.8 +0.5
comp=Z,304nm,0.8s,baz=120,slow=8.5,SNR=1187
BVAR S S 18 19 52.2 +0.6
comp=Z,13nm,1.1s,baz=106,slow=15,SNR=6.9
BVAR PKPPKP P'P'df 18 40 50.4 -4.0
comp=Z,1.5nm,0.8s,baz=298,slow=3.1,SNR=5.0
comp=Z,304nm,0.8s
BRVK Borovoye 63.22 327 P P 18 12 04.0 +0.2
BRVK Borovoye 63.22 327 P P 18 12 04.4 +0.6
BRVK S S 18 19 52.0 -0.4
BRVK Borovoye 63.22 327 *ce*P P 18 12 04.2 +0.4
BRVK pmax pmax
comp=Z,735nm,1.3s
BRVK Borovoye 63.22 327⇓P P 18 12 04.5 +0.7
AMKA Amchitka 63.55 35 P P 18 12 05.4 -0.5
WBK Wadi Bani Khal 64.22 292 P P 18 12 10.6 -0.2
SNR=19
WSAR Wadi Sarin 64.57 292 P P 18 12 12.9 -0.1
comp=Z,56nm,0.6s,baz=116,slow=8.0,SNR=76
comp=Z,56nm,0.6s
TIXI Tiksi 64.79 2 P P 18 12 12.5 -0.9
TIXI IAmb IAmb 18 12 14.1
comp=Z,73nm,0.6s
TIXI Tiksi 64.79 2 PKPPKP 18 40 51.2
comp=Z,7.7nm,0.9s,baz=59,slow=3.1,SNR=22
TIXI Tiksi 64.79 2‖ *e*P P 18 12 12.8 -0.6
TIXI pmax pmax
comp=Z,86nm,0.8s
TIXI Tiksi 64.79 2 P P 18 12 12.9 -0.5
TIXI pP pP 18 14 03.0 -2.0
JCZ Jackson Bay 64.89 146 P P 18 12 16.8 +2.2
DCZ Deep Cove 64.90 148 P P 18 12 15.2 +0.7
DCZ IAmb IAmb 18 12 16.6
comp=Z,182nm,0.9s
JMDO Jabal Madar 65.01 291 P P 18 12 15.6 -0.2
SNR=33

JMDO P P 18 12 15.6 -0.2
SNR=33
BIDO Bidbid 65.05 293 P P 18 12 16.3 +0.3
SNR=37
KUZ Kuaotunu 65.06 136 P P 18 12 17.9 +2.2
MHTO MHTO 65.07 290 P P 18 12 16.0 -0.1
SNR=43
MHTO S S 18 20 13.6 -2.2
SMDO Samad 65.09 292 P P 18 12 16.1 -0.3
SNR=25
SMDO P P 18 12 16.1 -0.3
SNR=25
ROCAM Rodrigues Isla 65.10 245 P P 18 12 16.5 +0.2
PYZ Puysegur Point 65.12 149 IAmb IAmb 18 12 18.1
comp=Z,183nm,1.0s
FOZ Fox Glacier 65.14 145 IAmb IAmb 18 12 18.0
comp=Z,70nm,0.8s
QRZ Quartz Range 65.15 141 P P 18 12 18.1 +1.9
QRZ Quartz Range 65.15 141 P P 18 12 17.8 +1.6
DSZ Denniston Nort 65.24 142 IAmb IAmb 18 12 20.2
comp=Z,182nm,1.2s
DSZ Denniston Nort 65.24 142 P P 18 12 18.0 +1.2
MLZ Mavora Lakes 65.35 147 P P 18 12 17.8 +0.4
MLZ IAmb IAmb 18 12 19.0
comp=Z,71nm,0.9s
HIZ Hauiti 65.39 138 P P 18 12 20.1 +2.4
WVZ Waitaha Valley 65.39 144 P P 18 12 18.3 +0.7
TOZ Tahuroa Road 65.41 137 IAmb IAmb 18 12 21.2
comp=Z,228nm,1.0s
JASK Jask - Hormozg 65.44 295 P P 18 12 19.5 +1.1
SNR=13
DQM DQM 65.44 289 P P 18 12 19.2 +0.7
SNR=61
WKZ Wanaka 65.50 146 IAmb IAmb 18 14 47.9
comp=Z,163nm,1.4s
TKNZ Takaka Hill 65.54 141 P P 18 12 13.4 -5.3
INZ Inchbonnie 65.60 143 IAmb IAmb 18 12 21.7
comp=Z,134nm,0.9s
INZ Inchbonnie 65.60 143 P P 18 12 19.5 +0.6
WHZ Wether Hill Ro 65.60 148 IAmb IAmb 18 12 20.3
comp=Z,91nm,1.0s
MRNZ Matariki Terra 65.62 141 P P 18 12 19.9 +0.7
JOHN Johnston Islan 65.70 75 P P 18 12 21.2 +1.0
JOHN Johnston Islan 65.70 75 P P 18 12 21.2 +1.0
JOHN Johnston Islan 65.70 75 P P 18 12 21.7 +1.6
HOQ Hoqain 65.80 293 P P 18 12 20.7 0.0
SNR=30
HOQ P P 18 12 20.7 0.0
SNR=30
NNZ Nelson 65.91 141 IAmb IAmb 18 12 22.6
comp=Z,177nm,0.8s
NNZ Nelson 65.91 141 P P 18 12 21.2 +0.3
RPZ Rata Peaks 65.96 144 P P 18 12 22.3 +1.1
RPZ Rata Peaks 65.96 144 P P 18 12 22.4 +1.1
DUWZ D'Urville Isla 66.02 140 P P 18 12 22.5 +0.9
LTZ Lake Taylor 66.12 143 IAmb IAmb 18 12 24.2
comp=Z,201nm,0.9s
LTZ Lake Taylor 66.12 143 P P 18 12 22.9 +0.6
OXZ Oxford 66.30 144 IAmb IAmb 18 12 24.5
comp=Z,162nm,0.7s
TUWZ Tuamarina 66.38 141 P P 18 12 24.0 +0.1
TCW Tory Channel 66.46 141 P P 18 12 24.6 +0.3
BSWZ Blackbirch Sta 66.49 141 P P 18 12 24.6 0.0
ARQ Araqi 66.51 292 P P 18 12 25.2 +0.1
SNR=14
ODZ Otahua Downs 66.54 146 P P 18 12 25.8 +1.1
SOHO SOHO 66.54 293 *i*P P 18 12 24.9 -0.4
SNR=54
SOHO SOHO 66.54 293 P P 18 12 24.8 -0.4
SYZ Scrubby Hill 66.65 148 P P 18 12 26.2 +0.8
KHZ Kahutara 66.68 142 P P 18 12 26.0 +0.3
KHZ Kahutara 66.68 142 IAmb IAmb 18 12 26.4
comp=Z,101nm,0.6s
KHZ Kahutara 66.68 142 P P 18 12 21.3 -4.4
GEYT Alibeck 66.71 308 P P 18 12 27.0 +0.9
GEYT Alibeck 66.71 308 P P 18 12 27.4 +1.3
comp=Z,207nm,0.9s,baz=104,slow=6.1,SNR=438
GEYT pP pP 18 14 18.2 +0.7
comp=Z,9.7nm,0.8s,baz=84,slow=4.5,SNR=1.2
GEYT S S 18 20 36.0 +1.2
comp=Z,0.7nm,0.4s,baz=117,slow=5.2,SNR=1.6
comp=Z,207nm,0.9s
CMWZ Cape Campbell 66.72 141 P P 18 12 16.0 -10
URZ Urewera 66.78 137 P P 18 12 27.3 +0.9
SNZO South Karori 66.79 141 P P 18 12 26.6 +0.2
SNZO South Karori 66.79 141 P P 18 12 25.9 -0.4
SNZO South Karori 66.79 141 P P 18 12 26.0 -0.4
MDH Madha 66.81 294 *i*P P 18 12 25.9 -1.0
SNR=8.5
MDH Madha 66.81 294 P P 18 12 26.0 -1.0
BKZ Black Stump Fm 66.82 138 P P 18 12 27.6 +0.9
BANOM Banah 66.85 295 P P 18 12 27.8 +0.6
UOSS Minazif 66.88 294 P P 18 12 26.9 -0.4
UOSS IAmb IAmb 18 12 28.2
comp=Z,73nm,0.6s
UOSS Minazif 66.88 294 *i*P P 18 12 26.9 -0.4
SNR=20
UOSS Minazif 66.88 294 P P 18 12 26.6 -0.8
UOSS Minazif 66.88 294 P P 18 12 27.0 -0.4
UOSS PcP PcP 18 12 50.5 -0.5
MQZ McQueen's Vall 66.89 144 IAmb IAmb 18 12 29.9
comp=Z,309nm,1.4s
HATD Hatta, Dubai 66.94 294 *i*P P 18 12 27.8 0.0
SNR=52
HATD Hatta, Dubai 66.94 294 P P 18 12 27.7 0.0
SNR=18
MSFE Esma-Masafi 66.94 295 *i*P P 18 12 28.2 +0.4
SNR=24
MASF Masafi 66.94 295 P P 18 12 28.1 +0.3
SNR=11
BHW Baring Head 66.95 141 IAmb IAmb 18 12 27.9
comp=Z,191nm,0.8s
MRZ Mangatainoka R 67.00 140 IAmb IAmb 18 12 28.7
comp=Z,138nm,0.9s
ASHO Ashiyiah 67.00 294 *i*P P 18 12 28.3 +0.2
SNR=57
ASHO Ashiyiah 67.00 294 P P 18 12 28.1 0.0
SNR=20
SHME Shamm 67.00 295 *i*P P 18 12 28.6 +0.6
SNR=30
SHME Shamm 67.00 295 P P 18 12 28.4 +0.3
SNR=12
SHME P P 18 12 28.4 +0.3
SNR=12
SHAO Shalim 67.23 287 *i*P P 18 12 30.5 +0.9
SNR=67
SHAO Shalim 67.23 287 P P 18 12 30.6 +1.0
SNR=24
ALNE Al Ain 67.25 293 *i*P P 18 12 30.3 +0.6
SNR=175
ALNE Al Ain 67.25 293 P P 18 12 30.2 +0.5
SNR=54
MXZ Matakaoa Point 67.26 135 P P 18 12 30.2 +0.9
BILL Bilibino 67.31 16 P P 18 12 28.9 -0.2
BILL IAmb IAmb 18 14 22.0
comp=Z,229nm,1.4s
BILL Bilibino 67.31 16 *i*P P 18 12 29.1 0.0
BILL pmax pmax
comp=Z,16nm,1.0s
BILL Bilibino 67.31 16 P P 18 12 29.3 +0.2
BILL pP pP 18 14 19.4 -2.6
NAZ Nazwa, Dubai 67.37 294 *i*P P 18 12 31.0 +0.6
SNR=19
NAZ Nazwa, Dubai 67.37 294 P P 18 12 30.4 0.0
SNR=12
NAZ P P 18 12 30.4 0.0
SNR=12
UMQ Umm Al-Quwin 67.40 295 *i*P P 18 12 32.2 +1.7
SNR=11
UMQ Umm Al-Quwin 67.40 295 P P 18 12 32.6 +2.1
SNR=7.2
FAQ Al Faqa, Dubai 67.42 294 *i*P P 18 12 30.7 0.0
SNR=31
FAQ Al Faqa, Dubai 67.42 294 P P 18 12 30.7 0.0
SNR=11
BFZ Birch Farm 67.44 139 P P 18 12 31.1 +0.7
ATKA Atka Island 67.61 36 P P 18 12 31.9 +0.7
ATKA Atka Island 67.61 36 IAmb IAmb 18 12 32.5
comp=Z,264nm,1.0s
ASUD Al Ashush, Dub 67.66 294 *i*P P 18 12 33.0 +0.9
SNR=38
ASUD Al Ashush, Dub 67.66 294 P P 18 12 32.8 +0.7
SNR=16
DMTO DMTO 67.88 286 P P 18 12 34.1 +0.5
SNR=11
DMTO P P 18 12 34.1 +0.5

SNR=11
ABKAR Akbulak array 67.92 321 P P 18 12 33.4 +0.1
ABKAR Akbulak array 67.92 321 IAmb IAmb 18 12 34.9
comp=Z,293nm,0.8s
AJN Ajban 67.97 294 *i* P **P 18 12 34.2 +0.2**
SNR=35
AJN Ajban 67.97 294 P **P 18 12 34.4 +0.4**
SNR=13
AJN P **P 18 12 34.4 +0.4**
SNR=13
RBK Rabkut 68.59 286 P **P 18 12 38.1 +0.2**
SNR=35
DOK Doka 68.65 287 P **P 18 12 38.3 +0.1**
SNR=56
WHFO Wadi Hawf 68.99 286 P **P 18 12 40.2 -0.2**
SNR=46
MSEY Mahe Island 69.19 262 P **P 18 12 40.9 -0.8**
MSEY IAmb IAmb 18 12 42.8
comp=Z,347nm,1.3s
MSEY Mahe Island 69.19 262 *i* P **P 18 12 41.5 -0.2**
SNR=20
MSEY Mahe Island 69.19 262 P **P 18 12 40.9 -0.8**
MSEY pmax pmax
comp=Z,347nm,1.3s
MSEY Mahe Island 69.19 262 P **P 18 12 41.4 -0.2**
MZR Muzera 69.30 292 *i* P **P 18 12 42.9 +0.9**
SNR=374
MZR Muzera 69.30 292 P **P 18 12 43.0 +0.9**
SNR=104
AKTO Aktyubinsk 69.44 321 P **P 18 12 43.0 +0.6**
comp=Z,358nm,0.7s,baz=99,slow=9.9,SNR=1206
AKTO S **S 18 21 05.6 -0.2**
comp=Z,5.2nm,0.9s,baz=36,slow=15,SNR=29
comp=Z,358nm,0.7s
ABTO Aybut 69.45 286 P **P 18 12 43.3 +0.2**
SNR=55
SVE Sverdlovsk 69.81 328*c* *i* P **P 18 12 44.9 +0.5**
SVE *i* S **S 18 21 08.4 -1.4**
SVE pmax pmax
comp=Z,549nm,0.9s
GHWR Ruwais 69.87 293 P **P 18 12 46.2 +0.7**
JRN Qarnain Island 69.92 294 P **P 18 12 46.0 +0.3**
SNR=23
NIUE Niue 70.12 113 P **P 18 12 47.1 +0.1**
baz=70,SNR=4.8
NIUE Niue 70.12 113 P **P 18 12 49.4 +2.4**
NIUE Niue 70.12 113 P **P 18 12 47.8 +0.8**
ARU Arti 70.77 328 P **P 18 12 49.6 -0.5**
ARU Arti 70.77 328 P **P 18 12 49.9 -0.2**
comp=Z,300nm,0.7s,baz=108,slow=5.7,SNR=560
ARU S **S 18 21 18.1 -2.6**
comp=Z,13nm,0.9s,baz=114,slow=20,SNR=24
comp=Z,300nm,0.7s
ARU Arti 70.77 328*d* *i* P **P 18 12 49.8 -0.3**
ARU pmax pmax
comp=Z,358nm,0.7s
ARU Arti 70.77 328 P **P 18 12 49.9 -0.2**
ARU Arti 70.77 328 P **P 18 12 49.6 -0.5**
comp=Z,534nm,0.8s,comp=Z,4µm
NIKH Nikolski High 70.96 36 P **P 18 12 51.6 +0.3**
SLWR Sila 70.96 293 P **P 18 12 52.5 +0.7**
SPIA Saint Paul Isl 71.32 32 P **P 18 12 55.1 +1.8**
SPIA Saint Paul Isl 71.32 32 P **P 18 12 54.3 +1.1**
baz=253
TRNA Turayna 71.41 294 P **P 18 12 54.9 +0.4**
SNR=15
P08K Saint George I 71.52 32 P **P 18 12 55.7 +1.3**
baz=254
SHMA Al-Shehemyia 71.65 295 P **P 18 12 56.4 +0.5**
SNR=14
SMRA Abu-Samra 71.76 294 P **P 18 12 57.0 +0.5**
SNR=26
SAKB Bahrain 72.04 295 P **P 18 12 58.7 +0.6**
RER Riviere de l'E 72.36 245 P **P 18 12 59.5 -0.7**
RER IAmb IAmb 18 13 01.7
comp=Z,245nm,1.0s
RER Riviere de l'E 72.36 245 P **P 18 13 00.4 +0.3**
UNV Unalaska Valle 72.53 36 P **P 18 13 00.5 +0.1**
UNV Unalaska Valle 72.53 36 P **P 18 13 00.7 +0.3**
baz=258,SNR=21
GAMB Gambell 72.75 25 P **P 18 13 02.4 +1.0**
baz=250
CASY Casey 73.60 186 P **P 18 13 06.1 0.0**
M11K Mekoryuk 74.21 29 P **P 18 13 11.0 +1.2**
baz=256
FALS False Pass 74.50 35 P **P 18 13 11.5 0.0**
baz=260,SNR=9.0
KBD Kabd 74.61 298 P **P 18 13 13.0 +0.2**
TNA Tin City 74.86 24 P **P 18 13 13.9 +0.5**
baz=253
K13K Kusilvak Mount 75.31 28 P **P 18 13 17.1 +1.1**
baz=257,SNR=18
MAK Makhachkala 75.36 313*c* *i* P **P 18 13 17.1 +0.5**
MAK *e**PP **pP 18 15 10.2 -1.2**
MAK *e**SP **sP 18 16 06.8 -1.4**
MAK *e* 18 16 12.4
MAK *e*PPP PPP 18 18 06.2
MAK *e*S **S 18 22 12.7 +0.9**
MAK pmax pmax
comp=Z,609nm,1.6s
S12K Black Hills 75.41 34 P **P 18 13 16.7 0.0**
baz=261
F14K Arctic Creek 75.47 24 P **P 18 13 18.2 +1.4**
baz=254,SNR=17
M13K Dall Lake 75.60 29 P **P 18 13 19.0 +1.4**
baz=258
ANM Nome 75.63 25 P **P 18 13 18.6 +0.9**
baz=256,SNR=8.1
J14K Nanvaranak Lak 75.99 27 P **P 18 13 20.7 +1.0**
baz=258
KIRV Kirov 76.07 329 P **P 18 13 20.4 +0.2**
comp=Z,463nm,0.7s,baz=98,slow=0.9,SNR=217
KIRV pP **pwP 18 15 18.7 -1.0**
comp=Z,48nm,0.8s,baz=99,slow=4.2,SNR=3.1
KIRV S **S 18 22 15.9 -2.9**
comp=Z,10nm,0.7s,baz=139,slow=20,SNR=31
comp=Z,463nm,0.7s
KIRV Kirov 76.07 329 *i* P **P 18 13 20.1 -0.1**
L14K Kuka Creek 76.10 28 P **P 18 13 21.7 +1.4**
baz=259
BELG Belogornoye 76.19 322 P **P 18 13 21.1 +0.1**
comp=Z,830nm,0.9s,baz=150,slow=8.1,SNR=266
BELG S **S 18 22 17.2 -3.1**
comp=Z,28nm,1.1s,baz=51,slow=20,SNR=17
comp=Z,830nm,0.9s
BELG Belogornoye 76.19 322*d* *i* P **P 18 13 20.5 -0.5**
BELG pmax pmax
comp=Z,171nm,0.9s
F15K North Star Dit 76.21 24 P **P 18 13 22.2 +1.3**
baz=256,SNR=13
SDPT Sand Point 76.25 35 P **P 18 13 21.3 0.0**
SDPT Sand Point 76.25 35 P **P 18 13 21.1 -0.1**
baz=262,SNR=5.7
G15K Niukluk 76.29 25 P **P 18 13 22.0 +0.7**
baz=257,SNR=15
N14K Kuskokwak Cree 76.32 30 P **P 18 13 22.6 +1.0**
baz=260,SNR=13
M14K Bethel 76.34 29 IAmb IAmb 18 13 23.8
comp=Z,66nm,0.8s
M14K Bethel 76.34 29 P **P 18 13 22.9 +1.2**
baz=260,SNR=16
O14K Tigyukauivet M 76.42 31 IAmb IAmb 18 13 24.0
comp=Z,78nm,0.8s
O14K Tigyukauivet M 76.42 31 P **P 18 13 23.1 +1.0**
baz=260
OPA Opana 76.51 69 P **P 18 13 25.1 +1.7**
OPA IAmb IAmb 18 13 26.6
comp=Z,324nm,1.1s
OPA Opana 76.51 69 P **P 18 13 25.1 +1.7**
OPA pmax pmax
comp=Z,325nm,1.1s
KIP Kipapa 76.51 70 P **P 18 13 24.7 +1.3**
KIP IAmb IAmb 18 13 26.5
comp=Z,197nm,0.8s
KIP Kipapa 76.51 70 P **P 18 13 24.7 +1.3**
KIP pmax pmax
comp=Z,197nm,0.8s
C16K Lisburne Hills 76.61 21 IAmb IAmb 18 15 21.2
comp=Z,155nm,1.4s
C16K Lisburne Hills 76.61 21 P **P 18 13 23.9 +1.0**
baz=255
RAYN Ar Rayn 76.63 292 P **P 18 13 23.6 -0.5**
RAYN Ar Rayn 76.63 292 *i* P **P 18 13 24.6 +0.4**
SNR=719
RAYN Ar Rayn 76.63 292 P **P 18 13 24.6 +0.4**
RAYN Ar Rayn 76.63 292 P **P 18 13 23.6 -0.5**
RAYN pmax pmax
comp=Z,663nm,0.8s
L15K Ungalak Mounta 76.73 28 P **P 18 13 24.8 +1.0**
baz=260,SNR=11
K15K Wolf Creek Mou 76.82 28 P **P 18 13 25.8 +1.5**
baz=260,SNR=12
S14K Fog Glacier 76.89 34 P **P 18 13 26.6 +1.6**
baz=263
M15K Kasigluk River 76.94 29 P **P 18 13 25.6 +0.6**
baz=261,SNR=19
H16K Elim 76.96 25 P **P 18 13 25.8 +0.8**
baz=258,SNR=25
G16K Koyuk River 77.07 24 P **P 18 13 26.6 +1.1**
baz=258,SNR=15
O15K Ungalikthiuk R 77.14 31 P **P 18 13 26.7 +0.6**
baz=262,SNR=6.4
N15K Kwethluk River 77.15 30 IAmb IAmb 18 13 28.4
comp=Z,79nm,0.8s
N15K Kwethluk River 77.15 30 P **P 18 13 27.6 +1.4**
baz=261,SNR=14
GNI Garni 77.29 310 P **P 18 13 28.5 +1.0**
GNI IAmb IAmb 18 13 38.3
comp=Z,220nm,1.0s
GNI Garni 77.29 310 P **P 18 13 29.0 +1.4**
GNI Garni 77.29 310 P **P 18 13 28.9 +1.4**
comp=Z,95nm,0.9s,baz=127,slow=20,SNR=75
GNI S **S 18 22 30.8 -2.0**
comp=Z,2.8nm,0.4s,baz=96,slow=16,SNR=3.2
comp=Z,95nm,0.9s
GNI Garni 77.29 310 P **P 18 13 28.7 +1.2**
GNI Garni 77.29 310*d* *i* P **P 18 13 27.4 -0.1**
GNI pmax pmax
comp=Z,429nm,1.6s
GNI Garni 77.29 310 P **P 18 13 28.8 +1.2**
comp=Z,237nm,1.0s,comp=Z,3µm
D17K Noatak River 77.29 22 P **P 18 13 28.3 +1.6**
baz=257,SNR=23
J16K Anvik River 77.42 27 P **P 18 13 28.8 +1.3**
baz=260,SNR=21
C17K DeLong Mountai 77.43 21 P **P 18 13 28.6 +1.0**
baz=257,SNR=7.7
RDOG Red Dog Mine 77.43 22 IAmb IAmb 18 15 25.6
comp=Z,175nm,1.6s
RDOG Red Dog Mine 77.43 22 P **P 18 13 28.4 +0.9**
baz=257
I17K Unalakleet 77.48 26 P **P 18 13 29.6 +1.7**
baz=260,SNR=12
CHGN Chignik 77.52 34 IAmb IAmb 18 14 14.4
comp=Z,231nm,0.9s
CHGN Chignik 77.52 34 P **P 18 13 27.9 -0.3**
baz=264
E17K Hotham Inlet 77.63 23 P **P 18 13 29.8 +1.3**
baz=258,SNR=11
L16K Owhat River 77.68 28 P **P 18 13 30.3 +1.3**
baz=262,SNR=29
F17K Baldwin Pennin 77.72 23 P **P 18 13 30.5 +1.4**
baz=259,SNR=8.6
G17K Kiwalik Mounta 77.79 24 P **P 18 13 30.9 +1.4**
baz=260,SNR=24
M16K Timber Creek 77.83 29 P **P 18 13 31.1 +1.3**
baz=262
N16K Nishlik Lake 77.85 30 P **P 18 13 31.6 +1.7**
baz=262,SNR=22
H17K Granite Mounta 78.00 25 P **P 18 13 32.3 +1.6**
baz=260
KHLH Kahului Airpor 78.02 70 IAmb IAmb 18 13 35.4
comp=Z,307nm,1.1s
O16K Kokwok River B 78.07 31 P **P 18 13 32.2 +1.1**
baz=263,SNR=17
J17K VABM Dome 78.11 27 P **P 18 13 32.6 +1.4**
baz=262,SNR=17
R16K Pilot Point 78.12 33 P **P 18 13 32.6 +1.2**
baz=264
B18K Kokolik River 78.12 20 P **P 18 13 32.7 +1.6**
baz=258,SNR=7.7
E18K Tukpahlearik C 78.16 22 P **P 18 13 32.9 +1.4**
baz=259
C18K Utukok River 78.18 21 IAmb IAmb 18 15 29.7
comp=Z,253nm,2.0s
C18K Utukok River 78.18 21 P **P 18 13 32.9 +1.3**
baz=258,SNR=20
HLK Haleakala 78.19 70 P **P 18 13 34.8 +2.0**
NCK Nalchik 78.24 313 *i* P **P 18 13 32.2 -0.2**
NCK pmax pmax
comp=Z,187nm,0.8s
L17K Donlin 78.29 28 P **P 18 13 34.0 +1.8**
baz=262,SNR=22
K17K Iditarod 78.37 27 P **P 18 13 34.4 +1.8**
baz=262
F18K Selawik 78.38 23 P **P 18 13 33.6 +1.0**
baz=260,SNR=11
A19K Wainwright 78.54 20 P **P 18 13 34.2 +0.8**
baz=258
XMAS Kiritimati 78.55 89 P **P 18 13 37.3 +2.7**
XMAS Kiritimati 78.55 89 P **P 18 13 36.6 +2.0**
XMAS IAmb IAmb 18 13 38.3
comp=Z,351nm,1.1s
O17K Koliganek Bris 78.60 30 P **P 18 13 35.1 +1.3**
baz=264
M17K Holitna River 78.61 29 P **P 18 13 35.4 +1.4**
baz=263,SNR=9.1
N17K Nushagak Hills 78.63 30 P **P 18 13 35.6 +1.5**
baz=264,SNR=11
G18K Tagagawik 78.67 24 P **P 18 13 35.0 +0.8**
baz=261,SNR=21
H18K Honhosa River 78.68 25 P **P 18 13 35.2 +0.9**
baz=262
GOF Gofitskoye 78.69 314*d* *i* P **P 18 13 35.2 +0.5**
GOF *e*S **S 18 22 46.5 -0.4**
KBZ Khabaz 78.76 313 P **P 18 13 35.5 +0.5**
comp=Z,105nm,1.0s,baz=98,slow=8.1,SNR=160
KBZ S **S 18 22 48.0 +0.4**
comp=Z,26nm,1.2s,baz=38,slow=20,SNR=26
comp=Z,105nm,1.0s
C19K Lookout Ridge 78.84 21 IAmb IAmb 18 15 34.9
comp=Z,255nm,1.6s
C19K Lookout Ridge 78.84 21 P **P 18 13 36.7 +1.6**
baz=260,SNR=19
P17K Kvichak River 78.87 31 P **P 18 13 36.5 +1.2**
baz=265
KIV Kislovodsk 78.91 313 ⇑P **P 18 13 36.8 +0.7**
KIV Kislovodsk 78.91 313 P **P 18 13 35.9 -0.2**
KIV IAmb IAmb 18 13 38.6
comp=Z,244nm,0.9s
KIV Kislovodsk 78.91 313 *i* P **P 18 13 36.4 +0.3**
SNR=76
KIV Kislovodsk 78.91 313 P **P 18 13 36.4 +0.3**
KIV Kislovodsk 78.91 313 *e*P **P 18 13 35.6 -0.5**
KIV *e**PP **pP 18 15 34.4 +2.1**
KIV *e*S **S 18 22 48.7 -0.8**
KIV *e*SSS SSS 18 31 44.2
KIV pmax pmax
comp=Z,102nm,3.2s
KIV pmax pmax
comp=Z,217nm,1.0s
KIV MLR MLR
comp=Z,222nm,19.0s
KIV Kislovodsk 78.91 313 P **P 18 13 36.2 +0.1**
comp=Z,266nm,1.2s,comp=Z,3µm
CHIR Chirikof Islan 79.04 35 P **P 18 13 37.5 +1.2**
baz=266
L18K Granite Mounta 79.05 28 P **P 18 13 38.1 +1.8**
baz=264,SNR=24
Q17K Contact Creek 79.08 32 P **P 18 13 36.5 -0.1**
baz=265,SNR=5.8
F19K Shaleruckik Mo 79.16 23 P **P 18 13 37.6 +0.9**
baz=262,SNR=8.3
J18K Innoko River 79.18 27 P **P 18 13 38.0 +1.0**
baz=264,SNR=27
GCSA Galena City Sc 79.25 25 P **P 18 13 38.6 +1.4**
baz=263,SNR=22
D19K Kuna River 79.27 22 P **P 18 13 38.5 +1.1**
baz=261
N18K Kilae Creek 79.28 30 P **P 18 13 39.0 +1.4**
baz=265,SNR=11
G19K Purcell Mounta 79.34 24 P **P 18 13 39.1 +1.3**
baz=263,SNR=33
M18K Stony River 79.39 29 P **P 18 13 39.5 +1.4**
baz=265,SNR=44
E19K Redstone River 79.45 23 P **P 18 13 39.8 +1.5**
baz=262
P18K Big Mountain, 79.51 31 P **P 18 13 39.3 +0.5**
baz=266
H19K Roundabout Mou 79.52 25 IAmb IAmb 18 13 41.4
comp=Z,110nm,1.1s
H19K Roundabout Mou 79.52 25 P **P 18 13 40.4 +1.7**
baz=264,SNR=60
O18K Koktuh Hills 79.55 30 IAmb IAmb 18 13 41.4
comp=Z,112nm,0.7s
O18K Koktuh Hills 79.55 30 P **P 18 13 40.4 +1.4**
baz=266,SNR=15
BCA Borcka 79.67 311 ⇑P **P 18 13 41.0 +1.0**
ABPO Ambohimpanom 79.69 249 P **P 18 13 39.6 -1.1**
ABPO IAmb IAmb 18 13 41.7
comp=Z,148nm,1.0s
ABPO Ambohimpanom 79.69 249 P **P 18 13 39.6 -1.1**
ABPO pmax pmax
comp=Z,148nm,1.0s
J19K Poorman 79.72 26 P **P 18 13 41.3 +1.5**
baz=265,SNR=45
VRH Novokhopyorsk 79.75 321 *e*P **P 18 13 39.6 -0.6**
VRH *e**PP **pP 18 15 36.3 -0.6**
VRH *e*S **S 18 22 53.4 -4.2**
VRH pmax pmax
comp=Z,362nm,1.4s
VRH smax smax
comp=N,1.0nm,1.5s
B20K Meade River 79.83 20 P **P 18 13 41.7 +1.5**
baz=262
D20K Etivluk River 79.84 21 P **P 18 13 41.6 +1.2**
baz=263
ATD Arta Tunnel 79.87 280 IAmb IAmb 18 13 44.6
comp=Z,281nm,1.0s
ATD Arta Tunnel 79.87 280 *e*P **P 18 13 39.7 -1.9**
ATD *e*S **S 18 23 03.1 +2.7**
SII Sitkinak Islan 79.89 34 P **P 18 13 41.5 +0.7**
baz=267
RAR Rarotonga 79.89 113 P **P 18 13 43.3 +1.8**
RAR Rarotonga 79.89 113 P **P 18 13 43.3 +1.8**
RAR IAmb IAmb 18 13 43.9
comp=Z,130nm,1.0s
RAR Rarotonga 79.89 113 P **P 18 13 43.3 +1.8**
RAR pmax pmax
comp=Z,130nm,1.0s
L19K White Mountain 79.91 28 P **P 18 13 42.5 +1.6**
baz=266,SNR=23
E20K Nigu River 79.94 22 P **P 18 13 42.3 +1.3**
baz=263
N19K Bonanza Creek 79.98 30 IAmb IAmb 18 13 45.4
comp=Z,98nm,0.8s
N19K Bonanza Creek 79.98 30 P **P 18 13 43.1 +1.7**
baz=266,SNR=33
F20K Avaraart Lake 79.98 23 P **P 18 13 42.7 +1.7**
baz=264,SNR=29
O19K Port Alsworth 80.02 30 P **P 18 13 42.2 +0.9**
baz=266
M19K Big River Lodg 80.10 28 P **P 18 13 43.5 +1.6**
baz=266
H20K Anotleneega Mo 80.17 25 P **P 18 13 43.7 +1.6**
baz=265,SNR=47
A21K Barrow 80.19 19 P **P 18 13 43.5 +1.4**
baz=262
I20K Naaghedeneel 80.28 25 IAmb IAmb 18 13 45.5
comp=Z,84nm,0.9s
I20K Naaghedeneel 80.28 25 P **P 18 13 44.3 +1.7**
baz=266,SNR=28
Q19K Cape Douglas, 80.29 31 P **P 18 13 43.0 +0.1**
baz=267
LABN Labinsk 80.33 314 *e*P **P 18 13 43.8 +0.4**
LABN *e**PP **pP 18 15 42.6 +2.5**
LABN *e*S **S 18 23 05.3 +1.5**
LABN pmax pmax
comp=Z,167nm,0.9s
K20K Telida 80.35 27 IAmb IAmb 18 13 45.9
comp=Z,142nm,1.5s
K20K Telida 80.35 27 P **P 18 13 44.7 +1.6**
baz=266
J20K Nowinta River 80.38 26 P **P 18 13 44.9 +1.7**
baz=266,SNR=36
L20K Farewell, AK 80.38 28 P **P 18 13 44.9 +1.6**
baz=266
OHAK Old Harbor 80.41 33 IAmb IAmb 18 13 45.3
comp=Z,73nm,0.8s
OHAK Old Harbor 80.41 33 P **P 18 13 44.2 +0.8**
baz=268
ERBR Yeremizino-Bor 80.50 315 *e*P **P 18 13 44.6 +0.4**
ERBR *e**PP **pwP 18 15 46.0 -1.3**
ERBR *e*S **S 18 23 05.4 -0.1**
ERBR pmax pmax
comp=Z,368nm,0.9s
P19K Oil Pt 80.54 31 P **P 18 13 44.9 +0.8**
baz=267
C21K Knifeblade Rid 80.55 21 P **P 18 13 45.7 +1.6**
baz=264,SNR=12
VOI Vohitsoka 80.64 247 P **P 18 13 45.0 -0.6**
B21K Ikpikpuk River 80.66 21 IAmb IAmb 18 13 48.3
comp=Z,63nm,0.7s
B21K Ikpikpuk River 80.66 21 P **P 18 13 46.1 +1.6**
baz=264,SNR=43
A22K Sinclair Lake 80.68 19 P **P 18 13 46.2 +1.6**
baz=264,SNR=11
IMAR Indian Mountai 80.68 24 P **P 18 13 45.4 +0.6**
M20K Styx River 80.70 28 IAmb IAmb 18 13 47.6
comp=Z,107nm,0.9s
M20K Styx River 80.70 28 P **P 18 13 46.7 +1.6**
baz=267
E21K Killik River 80.78 22 P **P 18 13 46.6 +1.3**
baz=265
KDAK Kodiak Island 80.81 33 P **P 18 13 46.4 +0.9**
KDAK IAmb IAmb 18 13 47.4
comp=Z,90nm,0.8s
KDAK Kodiak Island 80.81 33 P **P 18 13 46.4 +0.9**
baz=268
KDAK Kodiak Island 80.81 33 P **P 18 13 46.4 +0.9**
KDAK pmax pmax
comp=Z,91nm,0.8s
G21K Allakaket 80.81 24 P **P 18 13 46.6 +1.1**
baz=266
O20K Slope Mountain 80.86 30 P **P 18 13 45.8 -0.1**
baz=268
F21K Alatna River 80.87 23 P **P 18 13 46.7 +0.9**
baz=266,SNR=9.9
Q20K Shuyak Island 80.93 32 P **P 18 13 46.7 +0.5**
baz=268
SYI Shuyak Island 80.93 32 IAmb IAmb 18 13 48.7
comp=Z,83nm,0.8s
H21K Melozitna Rive 81.04 25 P **P 18 13 48.3 +1.6**
baz=267,SNR=33
SOC Sochi 81.06 313 *e*P **P 18 13 45.3 -1.9**
SOC *e**PP **pwP 18 15 48.3 -2.4**
SOC *e* 18 17 00.8
SOC *e*PPP PPP 18 19 00.2
SOC *e*S **S 18 23 08.1 -3.2**
SOC *e*SSS SSS 18 32 18.3
SOC pmax pmax
comp=Z,84nm,0.8s
KTUT Trabzon 81.08 310 ⇑P **P 18 13 48.3 +1.0**
FOMA Nahampoana Res 81.09 243 IAmb IAmb 18 13 48.9
comp=Z,204nm,0.9s
FOMA Nahampoana Res 81.09 243 P **P 18 13 47.7 0.0**
SNR=6.3
N20K Mount Spurr 81.11 29 P **P 18 13 47.6 +0.5**
baz=268,SNR=31
B22K Teshekpuk Lake 81.13 20 IAmb IAmb 18 13 50.4
comp=Z,85nm,1.0s
B22K Teshekpuk Lake 81.13 20 P **P 18 13 48.1 +1.2**
baz=266,SNR=29
CHUM Lake Minchumin 81.17 26 P **P 18 13 48.7 +1.4**
baz=268,SNR=70
PPLA Purkeypile 81.18 27 P **P 18 13 48.6 +1.1**
baz=269,SNR=19
CAST Castle Rocks 81.25 27 IAmb IAmb 18 13 49.9
comp=Z,92nm,1.1s
CAST Castle Rocks 81.25 27 P **P 18 13 48.9 +1.1**
baz=268,SNR=62
VORD Divnogorie 81.28 320 *e*P **P 18 13 47.3 -0.8**
VORD pmax pmax
comp=Z,210nm,0.8s
D22K Ayikyak River 81.28 21 IAmb IAmb 18 15 47.6
comp=Z,133nm,1.8s
D22K Ayikyak River 81.28 21 P **P 18 13 49.7 +1.8**
baz=266,SNR=27
VORR Voronezh 81.34 321 *e*P **P 18 13 47.4 -1.0**
VORR *e**PP **pwP 18 15 49.1 -2.0**
VORR *e*S **S 18 23 09.6 -4.1**
VORR pmax pmax
comp=Z,482nm,1.6s
HOM Homer 81.35 31 P **P 18 13 48.7 +0.5**
baz=269
VSR Storozhevoye 81.36 321 *e*P **P 18 13 47.3 -1.2**
VSR pmax pmax
comp=Z,530nm,1.7s
F22K John River 81.39 23 P **P 18 13 50.2 +1.7**
baz=267,SNR=39
SKT Skwentna 81.46 28 IAmb IAmb 18 13 49.8
comp=Z,80nm,1.1s

SKT **Skwentna** 81.46 28 P P 18 13 48.9 +0.1
baz=269,SNR=33
LPSR **Galich'ya Gora** 81.51 322 eP P 18 13 48.9 -0.3
LPSR pmax pmax
comp=Z,350nm,0.8s
CNPM **China Poot** 81.55 31 IAmb IAmb 18 13 52.1
comp=Z,138nm,0.8s
E22K **Anaktuvuk Pass** 81.56 22 P P 18 13 50.8 +1.5
baz=267
CAPN **Captain Cook N** 81.61 30 P P 18 13 50.9 +1.3
baz=269
G22K **Bettles** 81.63 23 P P 18 13 50.7 +1.2
baz=268
H22K **Ishtalitna Cre** 81.64 24 P P 18 13 51.3 +1.6
baz=268
BRLK **Bradley Lake** 81.73 31 IAmb IAmb 18 13 51.4
comp=Z,171nm,0.8s
BPAW **Bear Paw Mtn.** 81.76 26 IAmb IAmb 18 13 52.4
comp=Z,87nm,0.8s
BPAW **Bear Paw Mtn.** 81.76 26 P P 18 13 51.5 +1.1
baz=269,SNR=104
KTH **Kantishna Hill** 81.77 27 IAmb IAmb 18 13 55.0
comp=Z,95nm,1.1s
BRSE **Bradley Lake S** 81.80 31 P P 18 13 51.0 +0.3
baz=270,SNR=32
SUA **Susitna One** 81.82 29 IAmb IAmb 18 13 52.4
comp=Z,107nm,0.9s
SUA **Susitna One** 81.82 29 P P 18 13 50.8 0.0
baz=269,SNR=52
MLY **Manley** 81.89 25 IAmb IAmb 18 13 54.7
comp=Z,68nm,0.8s
MLY **Manley** 81.89 25 P P 18 13 52.3 +1.3
baz=269,SNR=97
ADZR **Andozero** 81.93 334 eP P 18 13 48.8 -2.3
ADZR *PP pP 18 15 49.1 -0.5
ADZR eS SKSac 18 23 12.9 -5.4
ADZR pmax pmax
comp=Z,155nm,1.0s
D23K **Nanushuk River** 82.01 21 P P 18 13 53.3 +1.8
baz=268
CUT **Chulitna** 82.06 28 IAmb IAmb 18 13 56.2
comp=Z,505nm,1.8s
CUT **Chulitna** 82.06 28 P P 18 13 53.0 +1.1
baz=270,SNR=10
TRF **Thorofare Moun** 82.06 27 IAmb IAmb 18 13 55.1
comp=Z,96nm,1.0s
TRF **Thorofare Moun** 82.06 27 P P 18 13 52.4 +0.3
baz=270,SNR=40
C23K **Itkillik River** 82.06 20 IAmb IAmb 18 14 08.2
comp=Z,98nm,1.0s
C23K **Itkillik River** 82.06 20 P P 18 13 53.4 +1.6
baz=268,SNR=40
M22K **Willow** 82.12 29 IAmb IAmb 18 13 53.7
comp=Z,204nm,0.9s
M22K **Willow** 82.12 29 P P 18 13 52.0 -0.1
baz=270,SNR=21
COLD **Coldfoot** 82.15 23 P P 18 13 54.1 +1.9
baz=269,SNR=32
G23K **Bananza Creek** 82.21 24 P P 18 13 54.5 +1.9
baz=269,SNR=34
MOS **Moscow** 82.25 325 eP P 18 13 51.9 -1.0
MOS e*PP pP 18 15 51.8 +1.2
MOS e 18 17 12.2
MOS eS SKSac 18 23 16.7 -4.0
MOS e 18 24 16.1
MOS pmax pmax
comp=Z,1µm,1.7s
MOS pmax pmax
comp=Z,703nm,1.5s
MOS pmax pmax
comp=N,200nm,1.2s
MOS pmax pmax
comp=E,100nm,1.0s
MOS pmax pmax
comp=N,158nm,1.2s
MOS pmax pmax
comp=E,155nm,1.1s
MOS smax smax
comp=N,600nm,1.4s
MOS smax smax
comp=E,200nm,1.3s
RC01 **Rabbit Creek A** 82.31 29 IAmb IAmb 18 13 54.2
comp=Z,73nm,1.0s
RC01 **Rabbit Creek A** 82.31 29 P P 18 13 53.2 +0.1
baz=270,SNR=12
O22K **Cooper Landing** 82.31 30 IAmb IAmb 18 13 56.5
comp=Z,118nm,0.6s
O22K **Cooper Landing** 82.31 30 P P 18 13 53.4 +0.2
baz=270
E23K **Chandalar** 82.39 22 P P 18 13 55.4 +1.8
baz=269
H23K **Yukon River** 82.40 25 P P 18 13 55.2 +1.6
baz=270,SNR=57
TOLK **Toolik Lake Re** 82.41 22 IAmb IAmb 18 13 57.2
comp=Z,59nm,0.6s
TOLK **Toolik Lake Re** 82.41 22 P P 18 13 55.5 +1.9
baz=269,SNR=72
BWN **Browne** 82.43 26 IAmb IAmb 18 13 58.4
comp=Z,128nm,1.0s
SEW **Seward** 82.45 30 P P 18 13 54.1 +0.2
baz=271,SNR=6.7
I23K **Minto, Yukon-K** 82.47 25 IAmb IAmb 18 13 57.0
comp=Z,332nm,1.7s
I23K **Minto, Yukon-K** 82.47 25 P P 18 13 55.0 +1.2
baz=270,SNR=97
PMR **Palmer** 82.59 29 P P 18 13 55.5 +1.0
baz=271,SNR=7.3
NEA2 **Nenana** 82.60 26 P P 18 13 54.8 +0.2
baz=270,SNR=37
MCK **McKinley** 82.66 27 P P 18 13 55.3 +0.4
baz=271,SNR=108
ANN **Anapa** 82.67 314 eP P 18 13 54.7 -0.6
ANN e*PP pwP 18 15 56.7 -2.8
ANN eS SKSac 18 23 20.8 -3.1
ANN pmax pmax
comp=Z,661nm,0.9s
H04N2 **CROZET ISLANDS** 82.68 222 P P 18 13 57.6 +2.6
baz=76,slow=4.4,SNR=30
D24K **Happy Valley** 82.68 21 IAmb IAmb 18 13 59.3
comp=Z,92nm,0.7s
D24K **Happy Valley** 82.68 21 P P 18 13 56.7 +1.8
baz=270
H04N1 **CROZET ISLANDS** 82.69 222 P P 18 13 57.6 +2.5
baz=76,slow=4.4,SNR=12
H04N3 **CROZET ISLANDS** 82.70 222 P P 18 13 57.5 +2.4
baz=76,slow=4.4,SNR=14
RND **Reindeer** 82.70 27 IAmb IAmb 18 13 56.2
comp=Z,85nm,0.6s
C24K **Franklin Bluff** 82.72 21 P P 18 13 56.6 +1.5
baz=270
E24K **Your Creek** 82.81 22 P P 18 13 57.2 +1.5
baz=270,SNR=48
H04S1 **CROZET ISLANDS** 82.81 221 P P 18 13 57.4 +1.7
SNR=4.6
H04S3 **CROZET ISLANDS** 82.83 221 P P 18 13 57.3 +1.6
SNR=8.9
H04S2 **CROZET ISLANDS** 82.83 221 P P 18 13 57.6 +1.8
SNR=7.6
WAT1 **Susitna Watana** 82.85 28 P P 18 13 56.1 +0.2
baz=271
OBN **Obninsk** 82.86 325 P P 18 13 55.7 -0.3
OBN **Obninsk** 82.86 325 P P 18 13 56.1 +0.1
comp=Z,331nm,0.9s,baz=88,slow=4.1,SNR=155
OBN S SKSac 18 23 21.8 -2.9
comp=Z,4.6nm,0.3s,baz=78,slow=20,SNR=8.5
comp=Z,331nm,0.9s
OBN **Obninsk** 82.86 325 d iP P 18 13 55.9 -0.1
OBN e*PP pwP 18 15 58.5 -0.7
OBN e*SP sP 18 16 51.0 +1.2
OBN i S SKSac 18 23 21.1 -3.6
OBN i SS SS 18 29 06.1 -1.7
OBN pmax pmax
comp=Z,714nm,1.1s
OBN **Obninsk** 82.86 325 P P 18 13 55.9 -0.1
comp=Z,651nm,1.2s,comp=Z,6µm
KNK **Knik Glacier** 82.92 29 IAmb IAmb 18 13 58.0
comp=Z,64nm,0.8s
KNK **Knik Glacier** 82.92 29 P P 18 13 56.7 +0.4
baz=271,SNR=22
SML **Sawmill** 82.97 29 IAmb IAmb 18 13 58.1
comp=Z,71nm,0.8s
SML **Sawmill** 82.97 29 P P 18 13 56.9 +0.3
baz=271,SNR=30
F24K **Squaw Lake** 83.04 23 P P 18 13 58.6 +1.8
baz=271,SNR=48
H24K **Noodor Dome** 83.08 24 P P 18 13 58.6 +1.5
baz=271,SNR=54

COLA **College** 83.11 25 P P 18 13 58.8 +1.7
COLA **College** 83.11 25 ⇑P P 18 13 57.9 +0.8
CCB **Clear Creek Bu** 83.14 26 IAmb IAmb 18 13 58.8
comp=Z,123nm,1.5s
G24K **Hadweenzic Riv** 83.22 24 P P 18 13 59.1 +1.4
baz=272,SNR=17
WAT6 **Susitna Watana** 83.23 28 P P 18 13 58.5 +0.5
baz=272,SNR=33
M23K **Glacier View** 83.26 29 P P 18 13 58.2 +0.3
baz=272,SNR=14
POKR **Poker Plat Res** 83.29 25 P P 18 13 58.0 0.0
baz=272,SNR=8.1
DHY **Denali Highway** 83.38 27 P P 18 13 58.9 +0.2
baz=272,SNR=16
LVZ **Lovozero** 83.39 338 P P 18 13 57.3 -1.2
LVZ IAmb IAmb 18 14 00.3
comp=Z,465nm,2.0s
LVZ **Lovozero** 83.39 338 i P P 18 13 56.9 -1.6
LVZ pmax pmax
comp=Z,181nm,1.9s
LVZ **Lovozero** 83.39 338 P P 18 13 57.8 -0.7
comp=Z,107nm,0.9s,comp=Z,1µm
SCM **Sheep Creek Mo** 83.45 29 P P 18 13 59.5 +0.5
baz=272,SNR=12
P23K **Montague Islan** 83.48 30 P P 18 13 59.9 +0.8
baz=272
HDA **Harding Lake** 83.52 26 P P 18 13 58.9 -0.3
baz=272,SNR=39
ILAR **Eielson Array** 83.53 26 P P 18 13 57.4 -1.9
ILAR **Eielson Array** 83.53 26 P P 18 13 58.1 -1.1
comp=Z,6.9nm,0.5s,baz=263,slow=3.8,SNR=99
ILAR pP pP 18 15 58.3 0.0
comp=Z,9.5nm,0.8s,baz=248,slow=6.6,SNR=5.9
ILAR S SKSac 18 23 25.7 -3.0
comp=Z,1.7nm,1.0s,baz=272,slow=6.2,SNR=2.1
ILAR PKKP PKKPdf 18 32 05.1 -0.7
comp=Z,0.9nm,0.7s,baz=14,slow=0.5,SNR=4.2
ILAR PKKPbc PKKPbc 18 32 12.9 -3.2
comp=Z,5.9nm,0.9s,baz=84,slow=1.3,SNR=4.7
ILAR SKKPbc SKKPbc 18 34 57.2 -3.0
comp=Z,0.5nm,0.4s,baz=119,slow=2.2,SNR=4.2
ILAR PKPPKP P'P'df 18 40 16.1 -2.4
comp=Z,2.1nm,1.0s,baz=146,slow=1.9,SNR=7.3
comp=Z,6.9nm,0.5s
D25K **Kavik River** 83.55 21 P P 18 14 00.7 +1.4
baz=272,SNR=23
GLI **Glacier Island** 83.60 29 IAmb IAmb 18 14 01.2
comp=Z,46nm,0.6s
GLI **Glacier Island** 83.60 29 P P 18 14 00.2 +0.5
baz=273
G25K **Bearman Lake** 83.77 24 P P 18 14 01.7 +1.4
baz=273,SNR=17
APA **Apatity** 83.88 337 ⇓i P P 18 13 58.8 -2.0
APA i PPP PPP 18 19 32.0
APA i S SKSac 18 23 31.0 +0.3
APA i SS SS 18 29 23.0 +1.0
APA pmax pmax
comp=Z,33nm,0.7s
E25K **Arctic Village** 83.90 22 IAmb IAmb 18 16 09.6
comp=Z,117nm,1.6s
E25K **Arctic Village** 83.90 22 P P 18 14 02.6 +1.6
baz=273,SNR=20
F25K **Christian Rive** 83.90 23 P P 18 14 02.4 +1.3
baz=273,SNR=18
H25L **Birch Creek** 83.91 24 P P 18 14 03.0 +2.0
baz=273,SNR=34
M24K **Tolsona, Glenn** 83.98 28 IAmb IAmb 18 16 04.5
comp=Z,333nm,1.9s
M24K **Tolsona, Glenn** 83.98 28 P P 18 14 02.5 +1.0
baz=273,SNR=8.4
C26K **Camden Bay** 84.03 20 P P 18 14 03.6 +2.0
baz=274,SNR=21
K24K **Donnelly Dome** 84.06 27 P P 18 14 02.5 +0.5
baz=274,SNR=7.5
PRP **Porcupine Dome** 84.07 25 P P 18 14 02.5 +0.4
baz=274
FKH **Fakeheh** 84.07 304 eP P 18 14 03.8 +1.1
FYU **Fort Yukon** 84.12 24 IAmb IAmb 18 16 24.2
comp=Z,141nm,1.7s
KLU **Klutina** 84.13 29 P P 18 14 02.7 +0.3
baz=274,SNR=9.6
J25K **Salcha River,** 84.19 26 P P 18 14 02.1 -0.5
baz=274,SNR=28
BEIL **Beino** 84.24 304 eP P 18 14 04.5 +1.1
PAX **Paxson** 84.25 27 P P 18 14 03.2 +0.3
baz=274,SNR=16
EYAK **Cordova Ski Ar** 84.28 30 P P 18 14 03.6 +0.6
baz=274
BMAR **Burnt Mountain** 84.32 23 P P 18 14 04.2 +1.1
HARP **HAARP** 84.44 28 P P 18 14 04.7 +0.9
baz=274
DIKM **Dikmen** 84.44 311 ⇓P P 18 14 04.5 +0.3
HWQ **Hawqa** 84.45 304 eP P 18 14 05.1 +0.5
F26K **Sheenjek River** 84.47 23 P P 18 14 04.9 +1.1
baz=275,SNR=17
C27K **Jago River** 84.47 21 P P 18 14 05.2 +1.5
baz=275,SNR=76
ZAHL **Zahle** 84.54 303 eP P 18 14 06.1 +1.1
RCY **Rachaya** 84.61 303 eP P 18 14 06.1 +0.8
G26K **Porcupine Rive** 84.67 23 P P 18 14 05.7 +0.9
baz=275,SNR=23
BHL **Bhannes** 84.72 303 eP P 18 14 06.6 +0.7
N25K **Chitina, Valde** 84.76 29 P P 18 14 06.1 +0.7
baz=275,SNR=9.4
BMRM **Bremner River** 84.81 29 P P 18 14 06.1 +0.4
baz=275,SNR=8.7
DQRL **Deir Qamar** 84.81 303 eP P 18 14 07.3 +1.0
SCRK **Sand Creek** 84.84 26 P P 18 14 06.1 +0.3
baz=275,SNR=22
J26L **Joseph Creek** 84.98 26 P P 18 14 06.9 +0.4
baz=275,SNR=33
KAIM **Kayak Island** 84.99 30 P P 18 14 06.7 +0.2
baz=275
MMAI **Mount Meron Ar** 85.01 303 P P 18 14 08.2 +1.0
comp=Z,138nm,1.0s,baz=89,slow=5.9,SNR=73
comp=Z,138nm,1.0s
SIM **Simferopol'** 85.02 315 κeP P 18 14 06.7 -0.2
SIM eS S 18 23 48.0 -2.2
SIM pmax pmax
comp=Z,316nm,1.4s
I26K **Coal Creek Min** 85.07 25 P P 18 14 07.2 +0.4
baz=276
JOF **Joensuu** 85.10 333 eP P 18 14 06.8 -0.1
VADS **Vadso** 85.13 340 eP P 18 14 06.5 -0.4
L26K **Log Cabin Wild** 85.21 27 P P 18 14 08.3 +0.8
baz=276
E27K **Coleen River** 85.38 22 P P 18 14 09.5 +1.2
baz=277,SNR=28
M26K **Nabesna, AK** 85.44 28 P P 18 14 09.7 +1.0
baz=276,SNR=9.8
D27M **Malcolm River** 85.48 21 P P 18 14 10.5 +1.8
baz=277,SNR=35
G27K **Doyon Strip** 85.52 23 P P 18 14 10.0 +1.1
baz=277,SNR=19
MCARA **McCarthy VSAT** 85.53 29 IAmb IAmb 18 16 10.8
comp=Z,120nm,1.7s
MCARA **McCarthy VSAT** 85.53 29 P P 18 14 09.8 +0.7
baz=276,SNR=5.3
H27K **Steamboat Moun** 85.64 24 P P 18 14 10.9 +1.3
baz=277,SNR=30
K27K **Chicken** 85.67 26 P P 18 14 11.0 +1.3
baz=277
I27K **Kandik River** 85.68 25 P P 18 14 11.2 +1.4
baz=277,SNR=75
MAW **Mawson** 85.70 200 P P 18 14 09.9 +0.3
comp=Z,108nm,0.9s,baz=58,slow=8.4,SNR=113
MAW S SKSac 18 23 40.7 -1.1
comp=Z,9.4nm,1.1s,baz=49,slow=20,SNR=4.3
MAW PKKPbc PKKPdf 18 32 06.9 +3.7
comp=Z,1.8nm,0.5s,baz=278,slow=2.6,SNR=4.5
MAW PKPPKP P'P'df 18 40 11.3 -1.9
comp=Z,4.4nm,0.9s,baz=275,slow=6.3,SNR=4.8
comp=Z,108nm,0.9s
WAX **Waxell Ridge** 85.71 30 IAmb IAmb 18 16 11.9
comp=Z,75nm,1.1s
BR131 **Keskin Array S** 85.83 309 IAmb IAmb 18 14 12.5
comp=Z,93nm,0.8s
BR131 **Keskin Array S** 85.83 309 i P P 18 14 10.1 -1.0
BRTR **Keskin Array B** 85.83 309 P P 18 14 10.2 -0.9
BRTR **Keskin Array B** 85.83 309 P P 18 14 10.4 -0.7
comp=Z,68nm,0.8s,baz=115,slow=5.1,SNR=266
BRTR PKKPbc PKKPbc 18 32 08.7 -1.2
comp=Z,0.4nm,0.5s,baz=223,slow=2.7,SNR=4.6
comp=Z,68nm,0.8s
BR106 **Keskin Array S** 85.84 309 P P 18 14 10.4 -0.8
comp=Z,86nm,0.9s,comp=Z,563nm
BR105 **Keskin Array S** 85.84 309 P P 18 14 10.6 -0.6
comp=Z,107nm,0.9s,comp=Z,722nm
L27K **Beaver Creek,** 85.90 27 P P 18 14 12.1 +1.3
baz=277,SNR=18
PUL **Pulkovo** 85.90 330 i P P 18 14 09.8 -1.0
PUL pmax pmax
comp=Z,117nm,0.4s
BCAR **Beaver Creek A** 85.92 27 P P 18 14 11.5 +0.6
ISLE **Juniper Island** 85.95 30 IAmb IAmb 18 16 12.8
comp=Z,79nm,1.2s
M27K **Edge Creek, AK** 85.96 28 P P 18 14 11.9 +0.7
baz=277,SNR=6.0
EGAK **Eagle** 85.97 25 P P 18 14 11.4 +0.4
baz=278,SNR=8.0
KEV **Kevo** 85.98 340 P P 18 14 09.7 -1.3
KEV IAmb IAmb 18 16 20.3
comp=Z,57nm,0.9s
KEV **Kevo** 85.98 340 P P 18 14 09.7 -1.3
KEV pmax pmax
comp=Z,57nm,0.9s
E28M **Babbage River** 86.08 21 IAmb IAmb 18 16 13.7
comp=Z,53nm,1.1s
E28M **Babbage River** 86.08 21 P P 18 14 12.3 +0.8
baz=279,SNR=39
F28M **Old Crow** 86.10 22 IAmb IAmb 18 16 13.7
comp=Z,55nm,0.9s
F28M **Old Crow** 86.10 22 P P 18 14 12.1 +0.5
baz=278,SNR=38
KIBK **Kibwezi** 86.11 267 IAmb IAmb 18 14 15.1
comp=Z,159nm,1.0s
KIBK **Kibwezi** 86.11 267 P P 18 14 10.9 -2.0
KIBK **Kibwezi** 86.11 267 P P 18 14 13.6 +0.6
SNR=36
MESA **MESA** 86.19 30 P P 18 14 12.5 0.0
baz=277
BARN **Barnard Glacie** 86.22 29 IAmb IAmb 18 16 14.8
comp=Z,90nm,1.1s
D28M **Stokes Point** 86.25 21 P P 18 14 13.0 +0.7
baz=279,SNR=7.4
CTG **Chitna Glacier** 86.39 29 P P 18 14 14.3 +1.0
baz=278,SNR=25
CTGM **Chitina Glacie** 86.39 29 IAmb IAmb 18 16 16.4
comp=Z,150nm,1.1s
I28M **Miner Creek** 86.39 25 IAmb IAmb 18 16 16.1
comp=Z,78nm,0.8s
I28M **Miner Creek** 86.39 25 P P 18 14 14.2 +1.0
baz=279,SNR=60
ANTO **Ankara** 86.46 310 ⇓P P 18 14 14.5 +0.5
ANTO **Ankara** 86.46 310 P P 18 14 13.3 -0.7
ANTO IAmb IAmb 18 14 14.9
comp=Z,76nm,0.9s
ANTO **Ankara** 86.46 310 P P 18 14 13.7 -0.4
ANTO **Ankara** 86.46 310 ⇓P P 18 14 14.5 +0.5
ANTO **Ankara** 86.46 310 P P 18 14 13.4 -0.7
comp=Z,49nm,1.1s,comp=Z,587nm
BR231 **Keskin MP Arra** 86.48 310 IAmb IAmb 18 14 15.0
comp=Z,62nm,0.9s
ARA0 **ARCESS Array S** 86.53 340 eP P 18 14 13.2 -0.5
ARCES **ARCESS Array B** 86.53 340 P P 18 14 12.5 -1.1
ARCES IAmb IAmb 18 16 23.4
comp=Z,80nm,0.8s
ARCES **ARCESS Array B** 86.53 340 P P 18 14 12.6 -1.1
comp=Z,48nm,0.7s,baz=78,slow=5.9,SNR=145
ARCES S SKSac 18 23 44.3 -2.9
comp=Z,3.2nm,0.8s,baz=96,slow=9.2,SNR=4.1
ARCES PKKPbc PKKPbc 18 32 06.2 -3.0
comp=Z,1.9nm,0.6s,baz=270,slow=2.6,SNR=7.4
comp=Z,48nm,0.7s
CSS **Mathiatis** 86.54 305 IAmb IAmb 18 14 15.6
comp=Z,83nm,0.8s
CSS **Mathiatis** 86.54 305 P P 18 14 14.7 +0.2
comp=Z,119nm,0.8s,comp=Z,2µm
LOGN **Logan Glacier** 86.57 29 IAmb IAmb 18 16 17.3
comp=Z,76nm,1.1s
YUK3 **Moose Creek** 86.70 28 P P 18 14 15.4 +0.5
baz=278
E29M **Blow River** 86.71 22 IAmb IAmb 18 16 16.5
comp=Z,115nm,1.8s
E29M **Blow River** 86.71 22 P P 18 14 14.9 +0.4
baz=280,SNR=11
KMBO **Kilima Mbogo** 86.75 268 P P 18 14 17.1 +0.9
comp=Z,0.4nm,0.9s,baz=73,slow=20,SNR=38
DAWY **Dawson** 86.84 26 IAmb IAmb 18 16 17.1
comp=Z,79nm,1.5s
DAWY **Dawson** 86.84 26 P P 18 14 15.4 +0.2
baz=279
SPB2 **Spitsbergen Ar** 86.86 349 IAmb IAmb 18 14 15.8
comp=Z,99nm,0.8s
SPB2 pP 18 16 12.2 -3.6
SPA0 **Spitsbergen Ar** 86.87 349 eP P 18 14 15.1 -0.1
SPITS **Spitsbergen Ar** 86.87 349 P P 18 14 15.0 -0.1
comp=Z,77nm,0.7s,baz=79,slow=10,SNR=205
SPITS pP pP 18 16 17.0 +1.2
comp=Z,47nm,0.8s,baz=88,slow=4.6,SNR=6.6
SPITS PKKPbc PKKPbc 18 32 05.9 -2.7
comp=Z,7.6nm,0.8s,baz=163,slow=1.5,SNR=9.6
comp=Z,77nm,0.7s
VNDA **Vanda** 86.89 172 IAmb IAmb 18 14 16.9
comp=Z,112nm,0.8s
VNDA **Vanda** 86.89 172 P P 18 14 15.8 +0.7
comp=Z,101nm,0.7s,baz=321,slow=8.1,SNR=625
VNDA PKKPbc PKKPbc 18 32 06.8 -1.9
comp=Z,4.8nm,0.8s,baz=201,slow=3.0,SNR=18
comp=Z,101nm,0.7s
H29M **Whitestone** 86.91 24 P P 18 14 16.2 +0.8
baz=280,SNR=19
G29M **Pine Creek** 86.92 23 IAmb IAmb 18 16 18.4
comp=Z,94nm,0.9s
G29M **Pine Creek** 86.92 23 P P 18 14 16.4 +0.9
baz=280,SNR=9.2
HAMF **Hammerfest** 86.93 341 eP P 18 14 14.5 -1.0
O28M **Mount Upton** 86.97 29 P P 18 14 16.9 +0.6
baz=279,SNR=14
I29M **Ogilvie Camp,** 87.08 25 IAmb IAmb 18 16 18.2
comp=Z,254nm,1.7s
I29M **Ogilvie Camp,** 87.08 25 P P 18 14 16.7 +0.4
baz=280,SNR=28
YUK8 **Steele Glacier** 87.10 29 P P 18 14 17.7 +0.9
baz=279,SNR=14
J29N **Klondike Camp** 87.28 25 IAmb IAmb 18 16 19.9
comp=Z,158nm,1.5s
J29N **Klondike Camp** 87.28 25 P P 18 14 18.5 +1.2
baz=280,SNR=6.1
HSPB **Hornsund (broa** 87.42 348 eP P 18 14 17.2 -0.5
HSPB **Hornsund (broa** 87.42 348 eP P 18 14 17.6 0.0
KBS **Kingsbay** 87.43 350 eP P 18 14 17.4 -0.3
KBS **Kingsbay** 87.43 350 i P P 18 14 16.4 -1.3
M29M **Somme Creek** 87.52 27 IAmb IAmb 18 16 22.4
comp=Z,65nm,1.3s
M29M **Somme Creek** 87.52 27 P P 18 14 19.7 +1.2
baz=280,SNR=21
EPYK **Eagle Plains** 87.53 23 P P 18 14 18.8 +0.3
baz=281,SNR=12
PNL **Peninsula** 87.54 30 P P 18 14 19.9 +1.3
PNL **Peninsula** 87.54 30 P P 18 14 19.3 +0.7
baz=279
L29M **L29M** 87.55 27 IAmb IAmb 18 16 21.4
comp=Z,142nm,1.4s
L29M **L29M** 87.55 27 P P 18 14 19.8 +1.2
baz=280,SNR=17
G30M **tAoh Zraii Nji** 87.61 23 IAmb IAmb 18 16 20.2
comp=Z,287nm,1.9s
G30M **tAoh Zraii Nji** 87.61 23 P P 18 14 19.6 +0.8
baz=282
YUK4 **Talbot Arm** 87.62 29 P P 18 14 20.1 +0.9
baz=280,SNR=8.6
F30M **Barrier River** 87.64 22 P P 18 14 19.4 +0.5
baz=282,SNR=12
AKASG **Malin Array Be** 87.67 321 P P 18 14 18.2 -1.1
comp=Z,42nm,0.9s,baz=71,slow=4.3,SNR=130
AKASG pP pP 18 16 21.8 +2.8
comp=Z,11nm,1.1s,baz=74,slow=4.2,SNR=3.1
AKASG PKIKP PKiKP 18 19 18.3 -0.1
comp=Z,1.6nm,0.6s,baz=72,slow=2.4,SNR=4.2
AKASG PKKPbc PKKPbc 18 32 02.4 -3.4
comp=Z,0.7nm,0.5s,baz=268,slow=3.0,SNR=4.5
AKASG SKKPbc SKKPbc 18 34 47.9 -2.6
comp=Z,2.4nm,0.6s,baz=272,slow=2.9,SNR=13
comp=Z,42nm,0.9s
KIEV **Kiev** 87.68 321 ⇑P P 18 14 18.9 -0.5
KIEV **Kiev** 87.68 321 P P 18 14 18.2 -1.2
KIEV IAmb IAmb 18 19.7
comp=Z,100nm,1.1s
KIEV **Kiev** 87.68 321 i P P 18 14 18.4 -1.0
SNR=52
KIEV **Kiev** 87.68 321 ⇑P P 18 14 18.9 -0.5
KIEV **Kiev** 87.68 321 P P 18 14 18.2 -1.2
comp=Z,302nm,1.2s,comp=Z,4µm

K29M	Barlow Dome	87.69	26	IAmb	IAmb	18 16 22.8													
	comp=Z,61nm,1.3s																		
K29M	Barlow Dome	87.69	26	P	P	18 14 20.0	+0.6												
	baz=281,SNR=17																		
FINES	FINESS Array B	87.73	332	P	P	18 14 17.8	-1.5												
FINES	FINESS Array B	87.73	332	P	P	18 14 18.7	-0.7												
	comp=Z,58nm,0.8s,baz=77,slow=6.1,SNR=201																		
FINES				PKiKP	PKiKP	18 19 18.6	+0.4												
	comp=Z,2.9nm,0.6s,baz=106,slow=4.6,SNR=2.4																		
FINES				S	SKSac	18 23 51.3	-3.2												
	comp=Z,1.7nm,0.9s,baz=101,slow=7.2,SNR=1.5																		
FINES				PKKPbc	PKKPbc	18 32 03.9	-2.1												
	comp=Z,1.7nm,0.6s,baz=264,slow=2.5,SNR=6.5																		
FINES				SKKPbc	SKKPbc	18 34 49.2	-1.6												
	comp=Z,2.3nm,0.7s,baz=288,slow=1.3,SNR=5.9																		
	comp=Z,58nm,0.8s																		
PURM	Purcari	87.80	316	⇓P	P	18 14 20.1	0.0												
SBA	Scott Base	87.82	172	P	P	18 14 20.5	+1.1												
SBA				IAmb	IAmb	18 14 22.7													
	comp=Z,252nm,1.6s																		
SBA	Scott Base	87.82	172	P	P	18 14 20.5	+1.1												
YUK6	Outpost Mounta	87.83	29	P	P	18 14 20.9	+0.7												
	baz=280																		
I30M	Mount Dempster	87.90	25	IAmb	IAmb	18 16 22.2													
	comp=Z,64nm,1.2s																		
I30M	Mount Dempster	87.90	25	P	P	18 14 20.9	+0.5												
	baz=282,SNR=18																		
VSU	Vasula	87.92	329	*i* P	P	18 14 19.8	-0.5												
VSU				pmax	pmax														
	comp=Z,75nm,1.0s																		
MNK	Minsk	87.92	325	*i* P	P	18 14 20.4	0.0												
MNK				*i* *PP	pP	18 16 22.1	+2.0												
MNK				*i* PPP	PPP	18 19 57.7													
MNK				*i* S	SKSac	18 23 55.6	-0.3												
MNK				*i* SS	SS	18 30 22.8	+1.7												
MNK				*i* SSS	SSS	18 34 04.6													
MNK				pmax	pmax														
	comp=Z,173nm,0.9s																		
MNK				pmax	pmax														
	comp=E,35nm,1.0s																		
MNK				pmax	pmax														
	comp=N,29nm,0.9s																		
J30M	Hart River	88.06	25	IAmb	IAmb	18 16 23.4													
	comp=Z,138nm,1.6s																		
J30M	Hart River	88.06	25	P	P	18 14 22.0	+0.9												
	baz=282,SNR=16																		
LODK	Lodwar	88.09	273	IAmb	IAmb	18 14 24.3													
	comp=Z,132nm,1.6s																		
LODK	Lodwar	88.09	273	P	P	18 14 22.7	+0.5												
LODK	Lodwar	88.09	273	*e*P	P	18 14 11.1	-11												
LODK				*e*S	SKSac	18 23 56.2	-2.6												
ARBE	Arbavere	88.13	330	*e*P	P	18 14 21.1	-0.1												
KEF	Keuruu	88.16	332	*e*P	P	18 14 20.8	-0.6												
HYT	Haines Junctio	88.26	29	P	P	18 14 23.0	+0.9												
	baz=281,SNR=31																		
JETT	Jettan, Norway	88.28	340	*e*P	P	18 14 21.6	-0.2												
INK	Inuvik	88.31	21	IAmb	IAmb	18 16 24.9													
	comp=Z,90nm,1.4s																		
INK	Inuvik	88.31	21	P	P	18 14 22.4	+0.5												
	baz=284,SNR=10																		
N30M	Aishikik Lake	88.34	28	P	P	18 14 23.2	+0.9												
	baz=281,SNR=17																		
G31M	Satah River	88.37	23	IAmb	IAmb	18 16 24.8													
	comp=Z,79nm,1.2s																		
G31M	Satah River	88.37	23	P	P	18 14 22.3	0.0												
	baz=284,SNR=9.6																		
P29M	Windy Craggy	88.37	30	IAmb	IAmb	18 16 28.0													
	comp=Z,88nm,1.2s																		
P29M	Windy Craggy	88.37	30	P	P	18 14 23.2	+0.7												
	baz=281,SNR=21																		
F31M	Tsiigehtchic	88.44	22	IAmb	IAmb	18 16 25.2													
	comp=Z,90nm,1.2s																		
F31M	Tsiigehtchic	88.44	22	P	P	18 14 22.4	-0.1												
	baz=284,SNR=6.4																		
IDID	Didziasalis	88.44	325	*e*P	P	18 14 23.3	+0.5												
MAYO	Mayo, Yukon	88.45	26	P	P	18 14 23.2	+0.4												
	baz=282																		
MILM	Milestii Mici	88.47	317	⇓P	P	18 14 22.5	-0.7												
MILM	Milestii Mici	88.47	317	⇓*i*P	P	18 14 21.0	-2.2												
	comp=Z,170nm,1.5s																		
MILM				*e*pP	pwP	18 16 27.0	-1.3												
MILM				*i* S	S	18 24 18.0	-4.5												
	comp=Z,450nm,2.2s																		
MILM	Milestii Mici	88.47	317	⇓P	P	18 14 22.5	-0.7												
SORM	Soroca	88.60	318	⇓P	P	18 14 23.0	-0.8												
SORM	Soroca	88.60	318	⇓P	P	18 14 23.0	-0.8												
SORM	Soroca	88.60	318	P	P	18 14 22.8	-0.9												
	comp=Z,78nm,1.4s,comp=Z,893nm																		
H31M	Peel River	88.60	24	IAmb	IAmb	18 16 25.3													
	comp=Z,81nm,1.1s																		
H31M	Peel River	88.60	24	P	P	18 14 23.8	+0.4												
	baz=284,SNR=8.3																		
P30M	Million Dollar	88.67	30	P	P	18 14 24.5	+0.6												
	baz=281																		
TLCR		88.72	315	⇓P	P	18 14 24.0	-0.4												
TLCR		88.72	315	⇓P	P	18 14 24.0	-0.4												
ISAL	Salakas	88.74	326	*e*P	P	18 14 25.2	+0.9												
TRO	Tromso	88.76	340	*e*P	P	18 14 23.0	-1.0												
MEF	Metsahovi	88.77	330	*e*P	P	18 14 23.8	-0.4												
PPT	Papeete	88.80	108	P	P	18 14 26.2	+0.9												
	comp=Z,54nm,0.9s,baz=286,slow=3.1,SNR=10																		
	comp=Z,54nm,0.9s																		
PPT2	Papeete2	88.80	108	*e*P	P	18 14 21.8	-3.6												
	comp=Z,84nm,28.2s																		
PPT2	Papeete2	88.80	108	*e*P	P	18 14 25.8	+0.4												
	comp=Z,133nm,1.2s																		
PPT2				*e*pP	pP	18 16 17.7	-8.2												
	comp=Z,192nm,28.0s																		
PPT2				*e*S	S	18 24 24.6	-2.2												
	comp=Z,716nm,26.5s																		
PAE	Paea	88.81	108	*e*P	P	18 14 25.6	+0.3												
	comp=Z,73nm,1.5s																		
PPTF	Pamatai, Papee	88.81	108	IAmb	IAmb	18 14 32.0													
	comp=Z,108nm,0.9s																		
N31M	Braeburn, Yuko	88.95	28	IAmb	IAmb	18 16 27.9													
	comp=Z,68nm,1.1s																		
N31M	Braeburn, Yuko	88.95	28	P	P	18 14 26.1	+0.9												
	baz=282,SNR=14																		
O30N	Mendenhall	88.95	29	P	P	18 14 26.0	+0.7												
	baz=282,SNR=9.4																		
VAF	Vilstaro	88.97	333	*e*P	P	18 14 24.9	-0.3												
TPGR	Topolog	89.05	315	⇑P	P	18 14 26.0	+0.1												
PLBC	Pleasant Camp	89.09	30	P	P	18 14 26.5	+0.7												
	baz=282																		
VLDR	Vladesti	89.13	316	⇓P	P	18 14 26.5	+0.2												
TVO	Taravao	89.14	108	*e*P	P	18 14 30.2	+3.3												
	comp=Z,37nm,0.8s																		
CFR	Carcaliu	89.20	315	⇑P	P	18 14 26.5	-0.1												
VASR	Vaslui	89.21	317	⇓P	P	18 14 26.7	+0.1												
SCTR	Scanteiesti	89.22	316	⇓P	P	18 14 27.0	+0.3												
VARL	Varlezi	89.28	316	⇑P	P	18 14 27.5	+0.6												
TLBR	Topalu	89.36	315	⇓P	P	18 14 27.3	0.0												
MTSE	Matsula	89.37	329	*e*P	P	18 14 26.5	-0.5												
BIR	Birlad	89.38	316	⇓P	P	18 14 27.7	+0.3												
BIR	Birlad	89.38	316	P	P	18 14 27.7	+0.3												
SLCR	Slobozia Conac	89.39	316	⇑P	P	18 14 27.9	+0.4												
IZVR	Izvoarele	89.40	316	⇑P	P	18 14 28.2	+0.7												
HARR	Harsova	89.42	315	⇑P	P	18 14 27.7	+0.1												
HARR	Harsova	89.42	315	⇑P	P	18 14 27.7	+0.1												
M31M	Drury Creek, Y	89.43	27	P	P	18 14 27.7	+0.3												
	baz=284,SNR=16																		
PSN	Preselentsi	89.43	314	*i* P	P	18 14 27.1	-0.6												
S31K	Pelican	89.47	32	P	P	18 14 28.4	+0.8												
	baz=282																		
WHY	Whitehorse	89.56	29	IAmb	IAmb	18 16 30.8													
	comp=Z,124nm,1.5s																		
WHY	Whitehorse	89.56	29	P	P	18 14 28.9	+0.8												
	baz=283,SNR=31																		
SKAG	Skagway	89.61	30	IAmb	IAmb	18 14 30.3													
	comp=Z,28nm,0.9s																		
SKAG	Skagway	89.61	30	P	P	18 14 29.5	+1.3												
	baz=283,SNR=8.8																		
CTYL	Yalikoy Yolu	89.65	312	P	P	18 14 27.7	-1.1												
	comp=Z,125nm,1.2s,comp=Z,3µm																		
TBI	Tubuai	89.66	113	*e*P	P	18 14 25.6	-3.6												
	comp=Z,221nm,46.8s																		
TBI	Tubuai	89.66	113	*e*P	P	18 14 30.9	+1.7												
	comp=Z,337nm,1.1s																		
TBI				*e*pP	pP	18 16 26.5	-3.3												
	comp=Z,478nm,28.0s																		
TBI				*e*S	S	18 24 29.0	-5.2												
	comp=Z,3µm,29.2s																		
TBI				*e*SS	SS	18 30 48.2	+0.2												
	comp=Z,3µm,28.2s																		
TBI				*e*SS	SS	18 30 48.4	+0.4												
	comp=Z,1µm,32.8s																		

NOR	Nord	89.73	355	*i* P	P	18 14 26.3	-2.0												
NOR				IAmb	IAmb	18 14 29.5													
	comp=Z,30nm,0.7s																		
PANC	Panciu	89.77	316	⇑P	P	18 14 30.2	+1.0												
A36M	Sachs Harbour	89.85	17	IAmb	IAmb	18 16 32.0													
	comp=Z,114nm,1.3s																		
A36M	Sachs Harbour	89.85	17	P	P	18 14 29.8	+0.7												
	baz=292																		
ODBI	Odobesti	89.85	316	⇑P	P	18 14 31.2	+1.6												
RAF	Rauma	89.86	332	*e*P	P	18 14 28.9	-0.4												
VSVD	Vaisvydziai	89.88	326	*e*P	P	18 14 29.6	+0.1												
FARO	Faro, Yukon	89.90	27	IAmb	IAmb	18 16 32.2													
	comp=Z,96nm,1.2s																		
FARO	Faro, Yukon	89.90	27	P	P	18 14 30.0	+0.5												
	baz=285,SNR=39																		
PABE	Paberze	89.96	326	*e*P	P	18 14 29.7	-0.1												
GRER		89.97	316	⇑P	P	18 14 32.3	+2.1												
TESR	Tescani	90.00	317	⇑P	P	18 14 30.6	+0.2												
PRD	Provadia	90.03	313	*i* P	P	18 14 30.3	-0.2												
PGOR	Pogoanele	90.05	315	⇑P	P	18 14 31.6	+1.1												
VRI	Vrincioaia	90.06	316	⇑P	P	18 14 30.6	-0.1												
VRI	Vrincioaia	90.06	316	⇑P	P	18 14 30.6	-0.1												
VRI	Vrincioaia	90.06	316	P	P	18 14 30.7	+0.1												
	comp=Z,134nm,1.3s,comp=Z,2µm																		
SPBR	Spulber	90.07	316	⇑P	P	18 14 31.4	+0.8												
PMOR	Pomariorio Ree	90.08	105	*e*P	P	18 14 33.1	+1.9												
	comp=Z,212nm,1.1s																		
PLOR5	Plostina Array	90.11	316	P	P	18 14 30.8	-0.1												
	comp=Z,54nm,0.9s																		
NEF	NEVSHA	90.11	313	*i* P	P	18 14 30.3	-0.6												
PLOR	Plostina	90.12	316	⇑P	P	18 14 31.4	+0.5												
PLOR3	Plostina Array	90.12	316	P	P	18 14 30.8	-0.1												
	comp=Z,68nm,1.1s																		
BISRR	Bisoca	90.13	316	⇓P	P	18 14 32.1	+1.1												
SIT	Sitka	90.14	32	P	P	18 14 31.7	+1.0												
	baz=283																		
R32K	Eaglecrest	90.29	31		pP	18 16 31.3	-2.1												
R32K	Eaglecrest	90.29	31	P	P	18 14 32.4	+1.0												
	baz=284,SNR=8.1																		
N32M	Quiet Lake	90.29	28	IAmb	IAmb	18 16 34.7													
	comp=Z,57nm,0.9s																		
N32M	Quiet Lake	90.29	28	P	P	18 14 32.2	+0.8												
	baz=285																		
ISR	Istrita	90.32	315	⇓P	P	18 14 32.4	+0.5												
JIS	Juneau Island	90.36	31	IAmb	IAmb	18 14 33.8													
	comp=Z,35nm,1.2s																		
VAH	Vaihoa	90.36	105	*e*P	P	18 14 35.5	+3.0												
	comp=Z,43nm,0.9s																		
P32M	Atlin	90.38	30	P	P	18 14 33.0	+1.1												
	baz=284,SNR=6.3																		
COVR	Voineasa-Covas	90.42	316	⇑P	P	18 14 32.3	-0.1												
NEHR	Nehoiu	90.44	316	⇑P	P	18 14 33.1	+0.7												
S32K	Killisnoo	90.45	32	P	P	18 14 32.6	+0.5												
	baz=284																		
TURR	Turia	90.52	316	⇑P	P	18 14 33.4	+0.7												
STEI	Steigen	90.56	339	*e*P	P	18 14 31.6	-0.8												
SULR		90.60	315	⇑P	P	18 14 33.8	+0.7												
RAZG	Razgrad	90.61	314	⇑P	P	18 14 33.3	+0.1												
P33M	Teslin, Yukon	90.66	29	P	P	18 14 34.0	+0.8												
	baz=285,SNR=12																		
MLR	Muntele Rosu	90.67	316	⇑P	P	18 14 33.8	+0.2												
MLR	Muntele Rosu	90.67	316	IAmb	IAmb	18 14 34.7													
	comp=Z,108nm,1.1s																		
MLR	Muntele Rosu	90.67	316	S	SKSac	18 24 10.8	-1.7												
	comp=Z,4.2nm,0.8s,baz=135,slow=20,SNR=3.0																		
MLR				PKKPbc	PKKPbc	18 31 58.2	-0.3												
	comp=Z,1.8nm,0.6s,baz=146,slow=3.6,SNR=5.0																		
MLR				SKKPbc	SKKPbc	18 34 43.1	-0.5												
	comp=Z,4.3nm,0.7s,baz=180,slow=5.1,SNR=8.9																		
MLR	Muntele Rosu	90.67	316	⇓P	P	18 14 34.1	+0.5												
MLR	Muntele Rosu	90.67	316	⇓P	P	18 14 34.1	+0.5												
MLR	Muntele Rosu	90.67	316	P	P	18 14 33.3	-0.3												
	comp=Z,102nm,1.3s,comp=Z,1µm																		
OZUR		90.67	316	⇑P	P	18 14 33.8	+0.3												
SUW	Suwalki	90.72	325	*e*P	P	18 14 33.4	-0.1												
SUW	Suwalki	90.72	325	*e*P	P	18 14 33.6	+0.2												
MMPY	Sheldon Lake,	90.73	27	IAmb	IAmb	18 16 36.5													
	comp=Z,151nm,1.8s																		
MMPY	Sheldon Lake,	90.73	27	P	P	18 14 34.2	+0.8												
	baz=286,SNR=23																		
FAUS	Fauske	90.73	338	*e*P	P	18 14 32.0	-1.1												
BOSR	Bodos	90.76	316	⇓P	P	18 14 29.0	-4.8												
BURAR	Bucovina Array	90.77	318	⇑P	P	18 14 34.5	+0.5												
BURAR	Bucovina Array	90.77	318	P	P	18 14 33.7	-0.3												
BURAR				IAmb	IAmb	18 14 35.6													
	comp=Z,70nm,1.1s																		
BURAR	Bucovina Array	90.77	318	⇑P	P	18 14 34.5	+0.5												
BUR08	Bucovina Ar. S	90.77	318	IAmb	IAmb	18 14 35.3													
	comp=Z,71nm,1.1s																		
JMB	Yambol	90.78	313	*i* P	P	18 14 33.2	-0.8												
SGRR	Singureni	90.88	315	⇑P	P	18 14 31.1	-3.3												
AAL	Aland	90.92	331	*e*P	P	18 14 32.8	-1.4												
DOPR	Dopca	90.96	316	⇑P	P	18 14 35.1	+0.3												
PBUR	Paburge	90.97	327	*e*P	P	18 14 34.8	+0.3												
SZH	Strazhitsa	91.05	314	*i* P	P	18 14 34.5	-0.7												
LVV	L'vov	91.10	320	*e*P	P	18 14 34.4	-0.9												
LVV				*e*		18 24 12.0													
LVV				*e*S	S	18 24 42.0	-4.1												
LVV				pmax	pmax														
	comp=Z,80nm,1.5s																		
ELND	Elena	91.18	313	⇑P	P	18 14 36.0	+0.1												
C36M	Paulatuk	91.23	19	IAmb	IAmb	18 16 39.4													
	comp=Z,52nm,0.8s																		
C36M	Paulatuk	91.23	19	P	P	18 14 35.7	+0.2												
	baz=293,SNR=18																		
VOIR		91.30	316	⇑P	P	18 14 35.5	-0.9												
VOIR		91.30	316	⇑P	P	18 14 35.5	-0.9												
VOIR		91.30	316	P	P	18 14 35.7	-0.7												
	comp=Z,19nm,1.8s,comp=Z,486nm																		
COPA	Copaceanca	91.43	315	⇑P	P	18 14 36.8	-0.1												
ARCR	ARCALIA	91.45	318	⇓P	P	18 14 38.2	+1.2												
KARP	Karpathos	91.47	306	P	P	18 14 37.0	-0.4												
	comp=Z,194nm,1.3s,comp=Z,2µm																		
MORS	Moi Rana	91.47	337	*e*P	P	18 14 34.7	-1.9												
STFAR	Stefanesti-Arg	91.47	315	⇓P	P	18 14 36.8	-0.3												
HUMR	Humele	91.52	315	⇑P	P	18 14 36.8	-0.5												
U33K	Whale Pass	91.55	33	P	P	18 14 37.8	+0.6												
	baz=285																		
DIM	Dimitrovgrad	91.56	312	*i* P	P	18 14 37.0	-0.6												
CRAG	Craig	91.72	34	P	P	18 14 39.3	+1.3												
CRAG	Craig	91.72	34	P	P	18 14 38.0	+0.1												
	baz=285																		
RDO	Rodhopi	91.75	312	IAmb	IAmb	18 14 38.5													
	comp=Z,45nm,1.0s																		
R33M	Jennings River	91.78	30	P	P	18 14 39.1	+0.7												
	baz=287,SNR=13																		
WRAK	Wrangell Islan	91.89	33	IAmb	IAmb	18 14 41.1													
	comp=Z,30nm,0.8s																		
WRAK	Wrangell Islan	91.89	33	P	P	18 14 39.6	+0.8												
	baz=285,SNR=8.0																		
BMR	Baia Mare	91.90	318	⇓P	P	18 14 39.7	+0.7												
BMR	Baia Mare	91.90	318	⇓P	P	18 14 39.7	+0.7												
KWP	Kalwaria Pacla	91.98	320	*e*P	P	18 14 39.8	+0.4												
CBBR	Cluj-Babes-Bol	92.05	317	⇓P	P	18 14 37.3	-2.4												
S34M	Telegraph Cree	92.12	31	P	P	18 14 40.6	+0.8												
	baz=286,SNR=6.0																		
PLD	Plovdiv	92.14	313	*i* P	P	18 14 39.4	-0.9												
UPP	Uppsala	92.15	331	*e*P	P	18 14 39.5	-0.4												
LOT	Lotru	92.18	316	⇑P	P	18 14 40.7	+0.2												
RZN	Rozhen	92.24	312	*i* P	P	18 14 39.9	-1.1												
MARR	Marisel-Cluj	92.36	317	⇓P	P	18 14 41.7	+0.4												
TGTN	Hyland Airport	92.40	27	P	P	18 14 42.1	+0.9												
	baz=289,SNR=15																		
KOLS	Kolonicke sedl	92.42	320	*e*P	P	18 14 41.7	+0.3												
KOLS	Kolonicke sedl	92.42	320	*e*P	P	18 14 41.7	+0.3												
KOLS				pmax	pmax														
	comp=Z,16nm,1.0s																		
PGB	Panagyurishte	92.49	313	*i* P	P	18 14 41.1	-0.8												
APE	Apeiranthos	92.50	308	⇑P	P	18 14 40.5	-1.6												
APE	Apeiranthos	92.50	308	⇑P	P	18 14 40.5	-1.6												
DLBC	Dease Lake	92.53	30	P	P	18 14 42.8	+1.0												
	baz=287,SNR=8.6																		
V35K	Ketchikan	92.58	34	P	P	18 14 42.3	+0.3												
	baz=286																		
DRGR		92.61	318	⇑P	P	18 14 42.7	+0.3												
DRGR		92.61	318	⇑P	P	18 14 42.7

KONO Kongsberg 96.02 332 *e*P **P** 18 14 56.9 -0.6
KONO Kongsberg 96.02 332 P **P** 18 14 55.9 -1.6
KONO pmax pmax
comp=Z,11nm,0.8s
PDG Podgorica 96.05 314 *e*P **P** 18 14 57.0 -1.0
AKN Aaknes 96.06 335 *e*P **P** 18 14 56.9 -0.8
UPM Unac-Piva 96.10 315 *e*P **P** 18 14 56.2 -2.3
KRUC Moravsky 96.11 321 *e*P **P** 18 14 58.3 +0.1
KRUC *e* 18 17 07.7
SKAR Skarslia 96.17 333 *e*P **P** 18 14 58.2 0.0
BRY Bratogost 96.44 315 *e*P **P** 18 14 58.7 -1.3
RUE Ruedersdorf 96.57 325 *e*P **P** 18 15 01.1 +1.0
RONA Rosalia, Austr 96.59 320 *i* Pdiff **P** 18 15 00.1 -0.3
comp=Z,12nm,1.3s
RONA *e*PP **PP** 18 19 06.4 +2.5
comp=Z,7.1nm,0.9s
RONA *e*PKKP **PKKPdf** 18 31 42.3 -0.6
comp=Z,1.9nm,0.6s
RONA *e*SKKP 18 34 28.7
comp=Z,3.1nm,0.7s
RONA Rosalia, Austr 96.59 320 *e*P pP 18 17 10.2 +8.6
comp=Z,14nm,1.7s
QSPA South Pole Qui 96.75 180 P **P** 18 15 00.6 -0.1
QSPA lAmb lAmb 18 15 02.4
comp=Z,46nm,1.2s
QSPA South Pole Qui 96.75 180 P **P** 18 15 00.7 0.0
comp=Z,18nm,0.8s,baz=318,slow=2.4,SNR=36
QSPA S **SKSac** 18 24 42.1 -1.8
comp=Z,17nm,1.0s,baz=32,slow=19,SNR=27
QSPA PKKPbc **PKKPbc** 18 31 41.2 -2.9
comp=Z,6.2nm,0.7s,baz=199,slow=2.2,SNR=17
comp=Z,18nm,0.8s
CONA Conrad Observa 96.80 320 *e*Pdiff **P** 18 15 01.1 -0.3
comp=Z,13nm,1.2s,SNR=10
CONA *e*PP **PP** 18 19 08.3 +2.8
comp=Z,15nm,1.1s
CONA *e*PKKP **PKKPdf** 18 31 41.8 -0.7
comp=Z,3.0nm,0.6s
CONA *e*SKKP 18 34 28.2
comp=Z,2.9nm,0.7s
CONA Conrad Observa 96.80 320 *e*P pP 18 17 12.6 +10
comp=Z,27nm,1.8s,SNR=8.9
GOPC GO Pecny, Ondr 96.84 322 *e*P **P** 18 15 02.0 +0.6
GOPC GO Pecny, Ondr 96.84 322 *e*P **P** 18 15 02.0 +0.6
BLY Banja Luka 96.87 317 ǁ *i*P **P** 18 15 01.4 -0.3
HYA Hoyanger 96.87 334 *e*P **P** 18 15 01.0 -0.2
PRU Pruhonice 96.96 322 *e*P **P** 18 15 02.7 +0.8
PRU Pruhonice 96.96 322 *e*P **P** 18 15 02.7 +0.8
A051A Mrakovica 96.98 317 ǁ *i*P **P** 18 15 01.7 -0.6
KOGS Kog 97.00 318 *e*Pdiff **P** 18 15 01.9 -0.3
MGRS Mrkonjic Grad 97.03 316 *e*P **P** 18 15 02.1 -0.3
LSZ Lusaka 97.21 255 P **P** 18 15 02.2 -1.8
LSZ Lusaka 97.21 255 P **P** 18 15 02.9 -1.0
LSZ Lusaka 97.21 255 P **P** 18 15 02.2 -1.8
LSZ pmax pmax
comp=Z,53nm,0.9s
ARSA Arzberg 97.22 319 *e*Pdiff Pdif 18 15 02.9 -0.3
comp=Z,12nm,1.1s,SNR=12
ARSA *e*PKKP **PKKPbc** 18 31 40.7 -0.7
comp=Z,1.5nm,0.6s
ARSA *e*SKKP 18 34 27.3
comp=Z,3.1nm,0.6s
ARSA Arzberg 97.22 319 *e*P pP 18 17 13.0 +8.6
comp=Z,17nm,1.6s
ZVC Zvikov 97.36 322 *e*P Pdif 18 15 03.7 0.0
A050A Klekovaca 97.39 316 *e*P Pdif 18 15 03.7 -0.4
CLL Collm 97.43 324 lAmb lAmb 18 15 05.2
comp=Z,48nm,1.4s
CLL Collm 97.43 324 *i* Pdif Pdif 18 15 04.0 0.0
comp=Z,51nm,1.5s
CLL *e*pP pwP 18 17 10.0 +0.3
CLL *e*sP sP 18 18 06.0 +5.6
CLL *e*PP **PP** 18 19 06.0 -4.0
CLL *e*sPP 18 21 54.0
CLL *e*SKSac **SKSac** 18 24 47.0 -0.9
CLL *e*Sdif **ScS** 18 25 37.0 -3.5
CLL *e*SP **SP** 18 27 00.0 -7.6
CLL *e*sSKKSac 18 28 59.0
CLL *e*SS **SS** 18 32 36.0 +0.6
CLL *i* SKKPbc **SKKPbc** 18 34 27.0 -0.4
comp=Z,5.0nm,0.8s
CLL *e*sSS 18 35 36.0
CLL *e*x x 18 38 42.0
CLL *e*PKPPKPdf **P'P'df** 18 39 49.0 -4.1
CLL Collm 97.43 324 *i* P Pdif 18 15 04.0 0.0
CLL *e**PP pwP 18 17 10.0 +0.3
CLL *e*S **ScS** 18 25 37.0 -3.5
CLL pmax pmax
comp=Z,51nm,1.5s
CKRC Cesky Krumlov 97.49 321 *e*P **P** 18 15 05.0 +0.6
CKRC Cesky Krumlov 97.49 321 *e*P **P** 18 15 05.0 +0.6
BLSS Blasjo 97.56 333 *e*P Pdif 18 15 04.1 -0.4
BER Bergen 97.61 334 *e*P Pdif 18 15 04.3 -0.2
ASK Askoy 97.62 334 *e*P Pdif 18 15 04.1 -0.5
CRES Cresnjev 97.71 318 *e*Pdiff Pdif 18 15 05.2 -0.2
CRES Cresnjev 97.71 318 ǁ *i*P Pdif 18 15 04.9 -0.5
SOKA Soboth 97.72 319 *e*Pdiff Pdif 18 15 05.0 -0.5
comp=Z,16nm,1.1s,SNR=13
SOKA *e*PP **PP** 18 19 15.2 +2.7
comp=Z,6.6nm,1.1s
SOKA *e*PKKP **PKKPbc** 18 31 39.0 -1.1
comp=Z,1.9nm,0.6s
SOKA *e*SKKP 18 34 26.2
comp=Z,4.3nm,0.9s
SOKA Soboth 97.72 319 *e*P pP 18 17 16.7 +10
comp=Z,10.0nm,1.3s,SNR=5.9
YKA Yellowknife Ar 97.82 24 P **P** 18 15 05.7 +0.2
comp=Z,2.1nm,0.8s,baz=304,slow=5.2,SNR=25
YKA pP **pP** 18 17 06.4 -1.4
comp=Z,9.0nm,0.9s,baz=306,slow=5.1,SNR=9.7
YKA PKiKP **PKiKP** 18 19 35.8 +0.3
comp=Z,0.6nm,0.5s,baz=315,slow=2.4,SNR=8.4
YKA S **SKSac** 18 24 47.9 -1.5
comp=Z,1.4nm,0.9s,baz=315,slow=5.6,SNR=5.1
YKA PKKPbc **PKKPbc** 18 31 36.7 -3.6
comp=Z,10nm,0.6s,baz=115,slow=2.2,SNR=48
YKA SKKP 18 34 22.9
comp=Z,1.5nm,0.6s,baz=116,slow=1.9,SNR=12
comp=Z,2.1nm,0.8s
MOA Molln 97.84 320 *e*Pdiff **P** 18 15 06.0 0.0
comp=Z,29nm,0.9s,SNR=16
MOA *e*PKKP **PKKPbc** 18 31 38.8 -1.0
comp=Z,2.0nm,0.5s
MOA *e*SKKP 18 34 25.7
comp=Z,6.5nm,0.9s
MOA Molln 97.84 320 *e*P pP 18 17 16.8 +10
comp=Z,28nm,1.2s,SNR=7.7
KHC Kasperske Hory 97.84 322 *e*P Pdif 18 15 05.9 -0.1
KHC Kasperske Hory 97.84 322 *e*P Pdif 18 15 05.9 -0.1
GERES GERESS Array B 97.86 321 P Pdif 18 15 06.0 -0.1
comp=Z,8.8nm,0.9s,baz=66,slow=5.5,SNR=38
GERES PKiKP **PKiKP** 18 19 37.5 +1.4
comp=Z,1.3nm,0.6s,baz=48,slow=1.5,SNR=4.7
GERES S **SKSac** 18 24 49.7 -0.7
comp=Z,0.1nm,0.3s,baz=70,slow=6.4,SNR=1.1
GERES PKKPbc **PKKPbc** 18 31 38.3 -1.6
comp=Z,1.1nm,0.6s,baz=228,slow=1.2,SNR=5.1
GERES SKKPbc **SKKPbc** 18 34 25.2 -1.2
comp=Z,1.7nm,0.7s,baz=238,slow=1.9,SNR=6.1
comp=Z,8.8nm,0.9s
BOJS Bojanci 97.95 318 *e*Pdiff **P** 18 15 06.5 0.0
BOJS Bojanci 97.95 318 ǁ *i*P Pdif 18 15 06.0 -0.4
OBKA Obir 98.09 319 *e*Pdiff Pdif 18 15 06.8 -0.4
comp=Z,15nm,1.1s,SNR=8.6
OBKA *e*PP **PP** 18 19 18.1 +2.8
comp=Z,17nm,1.4s
OBKA *e*SKKP 18 34 25.4
comp=Z,5.1nm,0.8s
OBKA Obir 98.09 319 *e*P pP 18 17 18.0 +10
comp=Z,11nm,1.7s
OBKA Obir 98.09 319 ǁ *i*P Pdif 18 15 06.4 -0.8
NKC Novy Kostel 98.14 323 *e*P **P** 18 15 07.6 +0.3
NKC Novy Kostel 98.14 323 *e*P **P** 18 15 07.6 +0.3
NKC smax smax
comp=N,64nm,0.2s
BIOA Bad Ischl, Aus 98.29 320 *e*Pdiff Pdif 18 15 07.7 -0.3
comp=N,14nm,1.1s,SNR=8.5
BIOA *e*PKKP **PKKPbc** 18 31 37.7 -0.9
comp=N,3.4nm,0.7s
BIOA *i* SKKP 18 34 24.4
comp=N,7.7nm,1.0s
BIOA Bad Ischl, Aus 98.29 320 *e*P pP 18 17 18.6 +9.3
comp=N,16nm,1.2s
GBAS Gorenja Brezov 98.35 318 *i* Pdiff Pdif 18 15 07.8 -0.4
CEY Cerknica 98.42 318 ǁ *i*P Pdif 18 15 07.8 -0.8

MYKA Terra Mystica 98.65 319 *e*Pdiff Pdif 18 15 08.2 -1.4
comp=N,5.4nm,1.1s
MYKA *e*PKKP **PKKPbc** 18 31 36.9 -0.7
comp=N,3.5nm,0.8s
MYKA *e*SKKP 18 34 23.6
comp=N,5.1nm,0.9s
MYKA Terra Mystica 98.65 319 *e*P pP 18 17 20.2 +9.3
comp=N,6.2nm,1.1s
VOJS Vojsko 98.69 319 *i* Pdiff Pdif 18 15 08.9 -1.0
KBA Koelnbreinsper 98.69 320 *e*Pdiff Pdif 18 15 09.1 -0.8
comp=N,12nm,1.1s,SNR=8.3
KBA *e*PP **PP** 18 19 23.0 +3.2
comp=N,13nm,1.3s
KBA SKS **SKSac** 18 24 55.9 +1.2
comp=N,5.1nm,1.3s
KBA Koelnbreinsper 98.69 320 *e*P pP 18 17 20.4 +9.2
comp=N,5.8nm,1.1s
KULLO Kullorsuaq 98.70 0 *i* P Pdif 18 15 08.0 -1.1
KULLO lAmb lAmb 18 15 10.1
comp=Z,8.0nm,0.8s
TIP Timpagrande 98.75 311 ⇑P Pdif 18 15 10.3 0.0
LESA Schwarzleotal 99.00 320 *e*Pdiff Pdif 18 15 10.7 -0.5
comp=Z,14nm,0.9s
LESA *e*SKS **SKSac** 18 24 54.2 -1.8
comp=Z,7.4nm,1.2s
LESA *e*PKKP **PKKPbc** 18 31 36.1 -0.6
comp=Z,3.7nm,0.5s
LESA *e*SKKP 18 34 23.0
comp=Z,7.3nm,0.8s
LESA Schwarzleotal 99.00 320 *e*P pP 18 17 21.8 +9.2
comp=Z,16nm,1.2s
ABTA Abfaltersbach 99.34 320 *e*Pdiff **Pdif** 18 15 11.5 -1.2
comp=Z,19nm,1.2s,SNR=8.5
ABTA *e*PKiKP **PKiKP** 18 19 39.5 +0.7
comp=Z,4.1nm,0.7s
ABTA *i* PKKP **PKKPbc** 18 31 35.2 -0.4
comp=Z,4.8nm,0.8s
ABTA *e*SKKP 18 34 22.2
comp=Z,6.2nm,1.0s
ABTA Abfaltersbach 99.34 320 *e*P pP 18 17 22.6 +8.5
comp=Z,15nm,1.4s,SNR=6.4
WTTA Wattenberg 99.71 320 *i* Pdiff **Pdif** 18 15 13.9 -0.6
comp=Z,25nm,0.9s,SNR=13
WTTA *e*PP **PP** 18 19 30.3 +2.8
comp=Z,10nm,0.8s
WTTA *e*SKS **SKSac** 18 24 59.9 +0.1
comp=Z,3.5nm,0.7s
WTTA *e*PKKP **PKKPbc** 18 31 34.4 -0.4
comp=Z,2.1nm,0.6s
WTTA *e*SKKP 18 34 20.8
comp=Z,3.8nm,1.2s
WTTA Wattenberg 99.71 320 *e*Pdiff 18 17 25.1
comp=Z,31nm,1.6s,SNR=7.2
WATA Walderalm 99.73 320 *e*Pdiff **Pdif** 18 15 13.9 -0.6
comp=Z,18nm,1.0s,SNR=7.7
WATA *e*SKKP 18 34 21.5
comp=Z,6.4nm,1.1s
WATA Walderalm 99.73 320 *e*Pdiff 18 17 24.9
comp=Z,23nm,1.4s,SNR=7.3
ELIB Princess Elisa 99.74 198 *d*Pdif **Pdif** 18 15 15.1 +1.1
comp=Z,31nm,1.0s
SQTA Sankt Quirin 100.00 320 *i* Pdiff **Pdif** 18 15 15.2 -0.5
comp=Z,19nm,0.9s,SNR=12
SQTA *e*PP **PP** 18 19 34.2 +4.6
comp=Z,22nm,1.3s
SQTA *e*SKS **SKSac** 18 24 59.6 -1.4
comp=Z,11nm,1.5s
SQTA *i* PKKP **PKKPbc** 18 31 33.6 -0.3
comp=Z,4.0nm,0.6s
SQTA *e*SKKP 18 34 20.2
comp=Z,4.7nm,0.7s
SQTA Sankt Quirin 100.00 320 *e*Pdiff 18 17 26.2
comp=Z,21nm,1.4s,SNR=6.4
MOTA Moosalm 100.02 320 *i* Pdiff **Pdif** 18 15 15.2 -0.6
comp=Z,20nm,0.9s,SNR=9.1
MOTA *e*PP **PP** 18 19 33.1 +3.4
comp=Z,10nm,0.9s
MOTA *e*SKS **SKSac** 18 25 00.7 -0.6
comp=Z,9.7nm,1.0s
MOTA *e*PKKP **PKKPbc** 18 31 33.2 -0.7
comp=Z,3.3nm,0.6s
MOTA *e*SKKP 18 34 20.1
comp=Z,6.5nm,0.8s
MOTA Moosalm 100.02 320 *e*Pdiff 18 17 26.1
comp=Z,25nm,2.0s,SNR=6.0
RETA Reutte 100.18 321 *e*Pdiff **Pdif** 18 15 16.0 -0.4
comp=Z,7.4nm,1.2s
RETA *e*PP **PP** 18 19 34.5 +3.6
comp=Z,18nm,1.4s
RETA *e*SKS **SKSac** 18 25 00.6 -1.3
comp=Z,12nm,1.3s
RETA Reutte 100.18 321 *e*Pdiff 18 17 28.8
comp=Z,10nm,1.4s
GNW Green Mountain 100.31 39 pP 18 17 15.7 -4.3
FETA Feichten 100.38 320 *e*Pdiff **Pdif** 18 15 17.0 -0.4
comp=Z,17nm,1.0s,SNR=9.5
FETA *e*PP **PP** 18 19 35.2 +2.8
comp=Z,9.2nm,1.0s
FETA *e*SKS **SKSac** 18 25 03.4 +0.4
comp=Z,11nm,1.1s
FETA *e*PKKP **PKKPbc** 18 31 32.6 -0.3
comp=Z,7.0nm,1.2s
FETA *e*SKKP 18 34 19.8
comp=Z,12nm,0.9s
FETA Feichten 100.38 320 *e*Pdiff 18 17 26.9
comp=Z,12nm,1.2s
BOSA Boshof 100.77 242 P **Pdif** 18 15 20.0 +0.5
comp=Z,7.2nm,0.9s,baz=89,slow=6.3,SNR=8.8
BOSA PKKPbc **PKKPbc** 18 31 31.9 +1.0
comp=Z,1.7nm,0.5s,baz=298,slow=1.5,SNR=7.7
DAVA Damuels 100.81 321 *e*Pdiff **Pdif** 18 15 18.7 -0.6
comp=Z,6.3nm,1.0s
DAVA *e*SKS **SKSac** 18 25 06.1 +1.1
comp=Z,7.3nm,1.1s
DAVA *e*SKKP 18 34 18.7
comp=Z,7.8nm,0.9s
DAVA Damuels 100.81 321 *e*Pdiff 18 17 29.8
comp=Z,14nm,1.3s
DAVOX Davos/Dischmat 101.01 320 S **SKSac** 18 25 04.5 -1.5
comp=Z,6.1nm,0.9s,baz=27,slow=14,SNR=6.0
DAVOX SKKPbc **SKKPbc** 18 34 17.7 -0.7
comp=Z,5.3nm,0.7s,baz=297,slow=4.5,SNR=7.2
BTNL Ternell 101.71 325 *d*Pdif **Pdif** 18 15 23.2 +0.1
MEM Membach 101.77 325 *d*Pdif **Pdif** 18 15 23.7 +0.4
comp=Z,9.6nm,1.4s
BSTI Sart Tilman 102.03 325 *d*Pdif **Pdif** 18 15 25.1 +0.6
WLF Walferdange 102.10 324 *d*Pdif **Pdif** 18 15 26.2 +1.3
BCLA Clavier 102.26 325 *d*Pdif **Pdif** 18 15 26.2 +0.7
comp=Z,5.8nm,1.4s
BGES Gesves 102.39 325 *d*Pdif **Pdif** 18 15 26.6 +0.5
RCHB Rochefort 102.42 325 *d*Pdif **Pdif** 18 15 26.8 +0.6
BMRD Maredsous 102.61 325 *d*Pdif **Pdif** 18 15 27.4 +0.3
DOU Dourbes 102.81 325 *d*Pdif **Pdif** 18 15 28.1 +0.2
NEW Newport 103.51 37 P **Pdif** 18 15 31.2 0.0
baz=297
EKA Eskdalemuir Ar 104.13 332 Pdiff **Pdif** 18 15 33.4 -0.3
comp=Z,1.8nm,0.7s,baz=70,slow=4.6,SNR=5.6
EKA PKiKP **PKiKP** 18 19 48.0 +0.9
comp=Z,1.6nm,0.7s,baz=21,slow=2.7,SNR=6.4
EKA PKKPbc **PKKPbc** 18 31 20.3 -1.9
comp=Z,3.4nm,0.5s,baz=238,slow=2.8,SNR=23
EKA SKKPbc SKKPbc 18 34 08.9 -1.4
comp=Z,1.4nm,0.6s,baz=240,slow=3.0,SNR=4.8
KEST Kesra 105.43 310 PKiKP **PKiKP** 18 19 51.2 +0.9
comp=Z,10nm,1.1s,baz=106,slow=3.9,SNR=4.1
MSO Missoula 106.09 37 P **PKiKP** 18 19 51.9 +0.6
baz=299
NVAR Mina Array Bea 106.91 47 Pdiff **Pdif** 18 15 47.5 +0.7
comp=Z,1.8nm,0.8s,baz=269,slow=5.4,SNR=9.9
NVAR PKiKP **PKiKP** 18 19 54.7 +1.6
comp=Z,2.5nm,0.8s,baz=302,slow=2.0,SNR=4.6
NVAR PKKPbc **PKKPbc** 18 31 12.7 -0.8
comp=Z,8.7nm,0.7s,baz=131,slow=3.8,SNR=38
NVAR PKKPab **PKKPab** 18 31 28.8 -2.2
comp=Z,9.3nm,0.8s,baz=131,slow=4.9,SNR=15
HLID Hailey 107.35 40 P **PKiKP** 18 19 54.1 +0.4
baz=298
SBC Santa Barbara 107.37 51 P **PKiKP** 18 19 54.2 +0.4
baz=292
SNAA Sanae 107.47 195 ⇑PP **PP** 18 20 19.5 -4.2
comp=Z,415nm,1.0s
SNAA Sanae 107.47 195 PKKPbc PKKPbc 18 31 09.8 -2.7
comp=Z,4.0nm,0.5s,baz=324,slow=14,SNR=5.6
CWC Cottonwood Cre 107.86 48 P **PKiKP** 18 19 55.0 +0.1
baz=293
EGMT Eagleton 107.91 35 P **PKiKP** 18 19 55.5 +0.9
baz=303,SNR=11
BOZ Bozeman (W) 108.09 37 P **PKiKP** 18 19 56.7 +1.6
baz=301
MPMC Manual Prospec 108.44 49 P **PKiKP** 18 19 56.7 +0.6
baz=294
LRMC Laurel Mtn Rad 108.53 49 P **PKiKP** 18 19 56.8 +0.7
baz=293
FURC Furnace Creek, 108.75 48 P **PKiKP** 18 19 57.1 +0.8
baz=294
R11B Troy Canyon, C 108.89 46 P **PKiKP** 18 19 56.7 -0.1
baz=296
VNA2 Neumayer--Watz 109.10 195 ⇑PKiKP **PKiKP** 18 19 56.4 +0.4
comp=Z,42nm,0.6s,baz=126,slow=1.4
SHOC Shoshone, Teco 109.41 48 P **PKiKP** 18 19 58.9 +1.3
baz=294
VNA3 Neumayer Olymp 109.48 194 ⇑PKiKP **PKiKP** 18 19 55.0 -1.7
comp=Z,34nm,0.6s
VNA1 Neumayer--Stat 109.50 195 ⇑PKiKP **PKiKP** 18 19 57.3 +0.6
comp=Z,26nm,0.9s
RLMT Red Lodge 109.76 37 P **PKiKP** 18 19 59.2 +0.9
baz=303
HEC Hector,Ludlow 109.80 49 P **PKiKP** 18 19 60.0 +1.5
baz=294
TUQ Turquoise Moun 109.86 49 P **PKiKP** 18 19 59.8 +1.1
baz=294
DUG Dugway, Tooele 109.98 43 P **PKiKP** 18 19 59.8 +1.1
baz=298
PFO Pinyon Flats O 110.19 51 P **PKiKP** 18 19 59.2 -0.1
baz=293
TPFO Pinon Flats 110.19 51 P **PKiKP** 18 19 59.2 -0.1
baz=293
GMRC Granite Mounta 110.32 49 P **PKiKP** 18 20 00.7 +1.1
baz=294
BELC Belle Mtn. Jos 110.39 50 P **PKiKP** 18 20 00.8 +1.1
baz=294
MONP2 Monument Peak 110.50 51 P **PKiKP** 18 20 00.1 +0.1
baz=293
LAO LASA Array 110.65 34 P **PKiKP** 18 20 01.2 +1.5
baz=306
BW06 Boulder Array 110.83 39 P **PKiKP** 18 20 00.9 +0.5
baz=302,SNR=5.5
PDAR Pinedale Array 110.83 39 PKiKP **PKiKP** 18 20 00.9 +0.4
comp=Z,2.1nm,0.5s,baz=332,slow=1.5,SNR=9.4
PDAR PKKPbc **PKKPbc** 18 30 59.1 -2.3
comp=Z,4.1nm,0.7s,baz=116,slow=4.1,SNR=18
PDAR PKKPab **PKKPab** 18 31 11.2 -2.4
comp=Z,16nm,0.8s,baz=119,slow=5.6,SNR=36
IKP In-Ko-Pah, Jac 110.83 51 P **PKiKP** 18 20 00.9 +0.4
baz=293
BC3 Big Chuckawall 110.94 50 P **PKiKP** 18 20 01.1 +0.4
baz=294
SWSC Sam W. Stewart 110.96 51 P **PKiKP** 18 20 01.6 +1.0
baz=294
IRM Iron Mountain 110.97 50 P **PKiKP** 18 20 01.7 +1.1
baz=294
ECHE Chera 111.27 317 PKP **PKiKP** 18 20 02.0 +0.9
ETOB Tobarra 112.12 316 PKP **PKiKP** 18 20 03.0 +0.2
K22A Casper 112.78 38 P **PKiKP** 18 20 04.5 +0.5
baz=304
O20A White River Ci 113.05 41 P **PKiKP** 18 20 05.5 +0.8
baz=302
WUAZ Wupatki 113.17 47 P **PKiKP** 18 20 06.1 +1.1
baz=298
ESDC Sonseca Array 113.22 318 PKiKP **PKiKP** 18 20 05.3 +0.5
comp=Z,1.6nm,0.8s,baz=31,slow=1.7,SNR=9.0
ESDC PKKPbc **PKKPbc** 18 30 54.2 +0.9
comp=Z,0.4nm,0.6s,baz=242,slow=3.8,SNR=5.0
ESDC PKKPab **PKKPab** 18 31 03.1 +0.3
comp=Z,0.6nm,0.7s,baz=231,slow=4.5,SNR=4.0
ESDC SKKPbc SKKPbc 18 33 43.2 -1.1
comp=Z,2.1nm,0.7s,baz=255,slow=2.4,SNR=7.7
RSSD Black Hills 113.41 36 P **PKiKP** 18 20 05.8 +0.6
baz=307
MDND Maddock 113.44 30 P **PKiKP** 18 20 05.6 +0.6
baz=312
ULM Lac du Bonnet 113.53 27 PKiKP **PKiKP** 18 20 05.2 +0.1
comp=Z,15nm,0.6s,baz=322,slow=1.7,SNR=27
ULM PKKPbc **PKKPbc** 18 30 50.3 -2.3
comp=Z,8.2nm,0.7s,baz=125,slow=4.7,SNR=9.5
ULM SKKPbc SKKPbc 18 33 41.3 -2.3
comp=Z,3.0nm,0.6s,baz=162,slow=3.2,SNR=4.1
N23A Red Feather La 114.11 39 P **PKiKP** 18 20 07.5 +0.7
baz=304
MVO Moncorvo 114.38 321 *e*PKP **PKiKP** 18 20 08.1 +1.1
MVCO Mesa Verde 114.38 44 P **PKiKP** 18 20 08.2 +0.9
baz=300
W18A Petrified Fore 114.54 46 P **PKiKP** 18 20 09.1 +1.5
baz=299
PGAV Gavieira, Arco 114.68 322 *e*PKP **PKiKP** 18 20 08.1 +0.5
POLO Lamas de Olo 114.73 322 *e*PKP **PKiKP** 18 20 08.5 +0.8
PVRL Vila Real 114.74 322 *e*PKP **PKiKP** 18 20 08.5 +0.8
ISCO Idaho Springs 114.93 40 P **PKiKP** 18 20 09.5 +1.1
baz=304
AGMN Agassiz Nation 114.94 28 PKPdf 18 20 05.6 -2.2
AGMN Agassiz Nation 114.94 28 P **PKiKP** 18 20 08.0 +0.2
baz=316
MTE Manteigas 115.13 321 *e*PKP **PKiKP** 18 20 09.4 +0.9
MTE Manteigas 115.13 321 **PKiKP** 18 20 08.9 +0.4
PVIS Viseu 115.17 321 *e*PKP **PKiKP** 18 20 09.3 +0.8
PCBR Castelo Branco 115.41 320 *e*PKP **PKiKP** 18 20 09.7 +0.8
PMRV Marv??o 115.59 320 *e*PKP **PKiKP** 18 20 09.9 +0.6
Q24A Divide 115.69 41 P **PKiKP** 18 20 10.9 +0.9
baz=304
PCAS Casmilo, Conde 115.93 321 *e*PKP **PKiKP** 18 20 10.1 +0.1
PESTR Estremoz 116.03 319 *e*PKP **PKiKP** 18 20 10.7 +0.5
SUSD Miller 116.04 33 P **PKiKP** 18 20 10.4 +0.3
baz=312
PBAR Barrancos 116.05 318 *e*PKP **PKiKP** 18 20 11.0 +0.8
SDCO Great Sand Dun 116.13 42 P **PKiKP** 18 20 12.2 +1.4
baz=303,SNR=7.2
PMTG Montargil 116.32 320 *e*PKP **PKiKP** 18 20 11.0 +0.3
PSBE So Bento 116.43 321 *e*PKP **PKiKP** 18 20 11.9 +0.9
EVO Evora 116.49 319 *e*PKP **PKiKP** 18 20 11.8 +0.7
PBEJ Beja 116.68 319 *e*PKP **PKiKP** 18 20 12.3 +0.8
PVAQ Vaqueiros 116.92 318 *e*PKP **PKiKP** 18 20 12.8 +0.9
ANMO Albuquerque 116.96 45 **PKiKP** 18 20 12.9 +0.5
ANMO Albuquerque 116.96 45 P **PKiKP** 18 20 13.9 +1.5
baz=301
ANMO Albuquerque 116.96 45 PKiKP **PKiKP** 18 20 12.9 +0.5
PCVE Castro Verde 117.01 318 *e*PKP **PKiKP** 18 20 12.9 +0.8
MESJ Messejana 117.01 319 *e*PKP **PKiKP** 18 20 13.0 +0.9
MESJ Messejana 117.01 319 *e*PKPdf **PKiKP** 18 20 12.6 +0.5
PNCL Nicolau J Gran 117.06 319 *e*PKP **PKiKP** 18 20 13.0 +0.8
Y22D IRIS PASSCAL I 117.07 46 P **PKPdf** 18 20 12.5 -0.1
baz=300
Y22F Passcal Instru 117.07 46 P **PKiKP** 18 20 12.6 +0.1
baz=300
LIS Lisbon 117.11 320 *e*PKPdf **PKiKP** 18 20 12.8 +0.6
PBDV Barranco-do-Ve 117.16 318 *e*PKP **PKiKP** 18 20 13.9 +1.5
EYMN Ely 117.17 26 P **PKiKP** 18 20 12.5 +0.4
baz=320
T25A Trinidad 117.19 42 P **PKiKP** 18 20 14.2 +1.4
baz=304,SNR=15
121A Cookes Peak, D 117.20 48 P **PKiKP** 18 20 14.1 +1.2
baz=299
KSCO Kaye Shedlock' 117.28 39 P **PKiKP** 18 20 13.6 +0.8
baz=306
PTEO Sao Teotonio 117.51 319 *e*PKP **PKiKP** 18 20 14.0 +0.9
MORF Marmelete 117.60 318 *e*PKP **PKiKP** 18 20 14.4 +1.1
MORF Marmelete 117.60 318 *e*PKPdf **PKiKP** 18 20 13.8 +0.5
ECSD EROS Data Cent 117.77 32 P **PKiKP** 18 20 13.5 +0.1
baz=313
PFVI Vila Bisbo 117.81 318 *e*PKP **PKiKP** 18 20 14.5 +0.8
SCHQ Schefferville 117.89 7 PKP **PKiKP** 18 20 14.0 +0.7
comp=Z,25nm,0.6s,baz=347,slow=2.0,SNR=55
SCHQ PKKPbc **PKKPbc** 18 30 34.5 -3.5
comp=Z,11nm,0.7s,baz=167,slow=3.7,SNR=12
SCHQ SKKPbc SKKPbc 18 33 27.2 -3.4
comp=Z,3.1nm,0.7s,baz=207,slow=2.3,SNR=4.0
BGNE Belgrade 118.48 35 P **PKiKP** 18 20 15.2 +0.3
baz=311
SPMN Marine on St. 118.62 29 P **PKiKP** 18 20 15.1 +0.1
baz=318
AVE Averroes 118.92 314 **PKPdf** 18 20 15.7 -0.2
CBKS Cedar Bluff 119.20 38 P **PKPdf** 18 20 16.2 -0.2
baz=309
MNTX Cornudas Mount 119.38 48 P **PKiKP** 18 20 17.8 +0.9
baz=300
MSTX Muleshoe 120.05 44 P **PKiKP** 18 20 19.2 +0.9
baz=304
AMTX Amarillo 120.28 43 P **PKiKP** 18 20 18.9 +0.2
baz=305
SCIA State Center 120.83 32 P **PKiKP** 18 20 19.6 +0.1
baz=316
KSU1 Kansas State U 120.89 36 P **PKiKP** 18 20 19.8 +0.1
baz=312
JFWS Jewell Farm 121.57 29 P **PKPdf** 18 20 20.4 -0.4
baz=319
TXAR Lajitas Array 121.85 49 **PKiKP** 18 20 22.1 +0.1

TXAR Lajitas Array 121.85 49 PKP **PKiKP 18 20 22.4 +0.4**
comp=Z,4.7nm,0.8s,baz=259,slow=0.9,SNR=25
TXAR PP **PP 18 22 01.9 -2.5**
comp=Z,2.8nm,1.0s,baz=289,slow=5.5,SNR=4.5
TXAR PKKPbc **PKKPbc 18 30 21.6 -1.3**
comp=Z,6.8nm,0.8s,baz=139,slow=4.8,SNR=31
TXAR SKKPbc SKKPbc 18 33 16.0 -1.3
comp=Z,0.3nm,0.2s,baz=111,slow=4.9,SNR=12
PMSA Palmer Station 121.92 176 PKP **PKiKP 18 20 21.5 +0.7**
comp=Z,22nm,0.6s,baz=166,slow=19,SNR=4.1
PMSA SKS **SKSdf 18 26 40.8 +0.9**
comp=Z,44nm,1.0s,baz=183,slow=5.2,SNR=4.3
WMOK Wichita Mounta 122.30 41 P **PKiKP 18 20 22.7 0.0**
baz=308,SNR=21
GLMI Grayling 122.53 24 P **PKiKP 18 20 22.9 +0.1**
baz=326
ABTX Abilene, Hawle 122.97 44 P **PKiKP 18 20 24.1 +0.1**
baz=306
L44A Lake County Fo 123.24 28 P **PKPdf 18 20 23.9 0.0**
baz=322
TUL3 Leonard 123.47 38 P **PKPdf 18 20 24.6 0.0**
baz=311
HDIL Hopedale 123.82 30 P **PKPdf 18 20 25.0 -0.1**
baz=319
JCT Junction City 124.08 46 P **PKiKP 18 20 26.4 +0.1**
baz=304
CCM Cathedral Cave 124.65 33 PKPdf 18 20 25.6 -1.2
CCM Cathedral Cave 124.65 33 P **PKiKP 18 20 27.0 -0.1**
baz=316
CCM Cathedral Cave 124.65 33 PKIKP **PKPdf 18 20 25.6 -1.2**
WHTX Lake Whitney, 124.84 43 P **PKiKP 18 20 27.9 +0.3**
baz=307
SFIN Lafayette 125.03 29 P **PKiKP 18 20 27.7 -0.1**
baz=322
PMPS Porto Santo 125.17 319 *e*PKP **PKiKP 18 20 29.0 +0.7**
435B Jarrell 125.47 44 P **PKiKP 18 20 29.2 +0.2**
baz=306
833A Chaparral WMA, 125.57 48 P **PKiKP 18 20 29.7 +0.4**
baz=304
MIAR Mount Ida 125.73 38 P **PKiKP 18 20 29.3 -0.1**
baz=312
PMAR Madeira 125.76 319 *e*PKP **PKiKP 18 20 31.4 +1.7**
PMOZ Porto Moniz, M 125.88 319 *e*PKP **PKiKP 18 20 30.8 +0.9**
O48B Farmland 126.03 27 P **PKPdf 18 20 29.4 +0.1**
baz=324
LONY Lake Ozonia 126.13 16 P **PKPdf 18 20 29.6 +0.2**
baz=337
ERPA Erie 126.61 22 P **PKPdf 18 20 30.6 +0.2**
baz=330
PKME Peaks-Kenny Pk 126.79 12 P **PKiKP 18 20 31.0 -0.2**
baz=344
P49A Miami Univ. Ec 126.81 28 P **PKPdf 18 20 30.8 0.0**
baz=324
M53A WI Miller and 126.94 23 P **PKPdf 18 20 30.9 -0.2**
baz=329
ACSO Alum Creek Sta 127.01 26 P **PKPdf 18 20 31.4 +0.2**
baz=326
KIC Kosan Boka 127.05 283 ⇓*i*PKIKP **PKPdf 18 20 32.0 0.0**
comp=Z,174nm,0.7s
DBIC Dimbokro 127.09 284 PKP **PKiKP 18 20 32.4 -0.2**
comp=Z,55nm,0.7s,baz=70,slow=2.8,SNR=42
DBIC PP **PP 18 22 39.9 +0.3**
comp=Z,28nm,0.8s,baz=73,slow=9.1,SNR=5.5
DBIC PKKPab PKKPdf 18 30 03.4 -42
comp=Z,3.8nm,0.8s,baz=245,slow=2.4,SNR=4.7
WCI Wyandotte Cave 127.09 30 P **PKiKP 18 20 32.0 0.0**
WCI Wyandotte Cave 127.09 30 P **PKiKP 18 20 31.8 -0.2**
baz=322
WCI Wyandotte Cave 127.09 30 PKIKP **PKiKP 18 20 32.0 0.0**
HKT Hockley 127.18 44 PKiKP 18 20 32.0 -0.3
HKT Hockley 127.18 44 PKIKP **PKiKP 18 20 32.0 -0.3**
LBNH Lisbon 127.18 14 P **PKiKP 18 20 31.8 -0.2**
baz=340,SNR=7.3
TIC Toumodi 127.25 284 ⇓*i*PKIKP **PKPdf 18 20 32.3 -0.1**
comp=Z,32nm,0.4s
LIC Lamto 127.36 283 ⇓*i*PKIKP **PKPdf 18 20 32.5 -0.1**
comp=Z,238nm,0.8s
O53A New Philadelph 127.74 24 P **PKPdf 18 20 32.6 0.0**
baz=328
P52A Corning 127.87 25 P **PKPdf 18 20 33.0 +0.1**
baz=327
WVT Waverly 127.91 33 PKPdf 18 20 32.8 -0.3
WVT Waverly 127.91 33 P **PKiKP 18 20 33.4 -0.3**
baz=319
WVT Waverly 127.91 33 PKIKP **PKPdf 18 20 32.8 -0.3**
BINY Binghamton 127.92 19 P **PKiKP 18 20 33.4 -0.2**
baz=335
OXF Oxford 128.22 35 P **PKPdf 18 20 33.8 +0.1**
baz=316
L61B Northampton 128.66 16 P **PKPdf 18 20 34.6 +0.3**
baz=339
SSPA Standing Stone 128.68 21 PKPdf 18 20 34.0 -0.3
SSPA Standing Stone 128.68 21 P **PKPdf 18 20 34.5 +0.2**
baz=332
MCWV Mont Chateau 128.79 23 P **PKiKP 18 20 35.1 -0.3**
baz=329
HRV Adam Dziewonsk 128.90 15 PKiKP 18 20 35.9 +0.4
HRV Adam Dziewonsk 128.90 15 P **PKPdf 18 20 34.9 +0.1**
baz=340
HRV Adam Dziewonsk 128.90 15 PKIKP **PKiKP 18 20 35.9 +0.4**
PAL Palisades 129.65 17 P **PKiKP 18 20 36.8 -0.2**
baz=337
TZTN Tazewell 129.76 29 P **PKiKP 18 20 37.3 -0.1**
baz=324
BLA Blacksburg 130.63 26 P **PKiKP 18 20 38.8 -0.4**
baz=328
LRAL Lakeview Retre 130.67 35 P **PKiKP 18 20 38.9 -0.5**
baz=318,SNR=10
CBN Corbin Frederi 131.00 22 P **PKiKP 18 20 39.8 0.0**
baz=332
USHA Ushuaia 131.16 171 PKP **PKiKP 18 20 40.0 +0.4**
comp=Z,61nm,0.7s,baz=171,slow=1.9,SNR=5.9
USHA SKPbc **SKPab 18 23 12.9 +0.2**
comp=Z,151nm,0.9s,baz=184,slow=3.6,SNR=11
MG03 Isla Dawson 131.74 169 PKPdf 18 20 40.2 +0.5
KMSC Kings Mountain 131.94 28 P **PKiKP 18 20 41.6 -0.2**
baz=326,SNR=7.7
BRAL Brewton 132.01 36 P **PKiKP 18 20 42.2 +0.2**
baz=317
GOGA Godfrey 132.29 31 P **PKiKP 18 20 42.4 -0.2**
baz=322
TIGA Tifton 133.76 33 P **PKPdf 18 20 44.9 +0.7**
baz=321
CMIG Matias Romero 134.92 58 SKPbc **SKPbc 18 23 26.0 +0.5**
comp=Z,134nm,0.9s,baz=305,slow=3.1,SNR=56
DWPF Disney Wildern 137.52 34 P **PKPdf 18 20 52.3 +1.0**
baz=321
PLCA Paso Flores 143.90 161 PKP **PKPdf 18 21 03.1 +0.7**
comp=Z,229nm,0.8s,baz=221,slow=3.9,SNR=494
PLCA Paso Flores 143.90 161 *e*P PKPbc 18 21 01.7 0.0
GO06 Curarrehue 144.63 159 PKPbc 18 21 04.3 +0.2
H03S2 Juan Fernandez 145.88 145 PKPbc **PKPbc 18 21 07.0 -0.3**
baz=334,slow=7.5,SNR=8.3
H03S1 Juan Fernandez 145.88 145 PKPbc **PKPbc 18 21 07.2 -0.1**
baz=334,slow=7.5,SNR=5.7
H03S3 Juan Fernandez 145.89 145 PKPbc **PKPbc 18 21 07.3 -0.1**
baz=334,slow=7.5,SNR=6.1
H03N3 Juan Fernandez 146.15 144 PKPbc **PKPbc 18 21 07.7 -0.5**
baz=165,slow=17,SNR=9.5
H03N2 Juan Fernandez 146.16 144 PKPbc **PKPbc 18 21 08.1 -0.1**
baz=165,slow=17,SNR=14
H03N1 Juan Fernandez 146.17 144 PKPbc **PKPbc 18 21 07.7 -0.5**
baz=165,slow=17,SNR=15
JTS Las Juntas de 146.64 60 PKPdf 18 21 07.6 -0.1
JTS Las Juntas de 146.64 60 PKPbc **PKPdf 18 21 08.7 +0.9**
comp=Z,39nm,0.4s,baz=306,slow=2.7,SNR=10
JTS pPKPbc **pPKPdf 18 23 17.1 -0.8**
comp=Z,6.2nm,0.3s,baz=330,slow=2.3,SNR=2.2
TRQA Tornquist 148.50 171 PKPdf 18 21 09.8 -0.3
TRQA Tornquist 148.50 171 PKHKP PKPpre 18 21 09.9
CELP Cerrillos 153.17 22 PKiKP 18 21 25.9 +0.1
LCO Las Campanas 154.04 150 PKPdf 18 21 19.2 +0.1
LCO Las Campanas 154.04 150 PKIKP **PKPdf 18 21 19.2 +0.1**
PLTB Pedras Altas 155.11 185 *e*P **PKPdf 18 21 19.0 -1.1**
TBOT Tacuaremb 155.30 180 *e*P **PKPdf 18 21 17.9 -2.4**
PSAL Palomas, Salto 155.87 177 *e*P **PKPdf 18 21 20.7 -0.4**
RODS Rosario do Sul 156.62 182 *e*P **PKPdf 18 21 21.2 -0.9**
ITQB Itaqui 157.31 179 *e*P **PKPdf 18 21 22.3 -0.6**
UNIS Unistalda (Bra 157.89 183 *e*P **PKPdf 18 21 23.1 -0.7**
ATAH Atahualpa 157.92 92 PKP **PKPdf 18 21 26.2 +1.5**
comp=Z,42nm,1.0s,baz=237,slow=1.3,SNR=21
ATAH PKPab **PKPab 18 22 03.4 +1.9**
comp=Z,35nm,0.8s,baz=243,slow=4.5,SNR=8.6
ATAH SKP 18 24 05.5
comp=Z,18nm,0.9s,baz=270,slow=2.0,SNR=5.6
ALGR Alto Alegre (B 157.98 187 *e*P **PKPdf 18 21 22.2 -1.7**
ROSC El Rosal 158.46 58 PKP **PKPdf 18 21 26.5 +1.2**
comp=Z,30nm,0.8s,baz=311,slow=19,SNR=9.7
SDV Santo Domingo 158.72 43 PKPdf 18 21 24.8 -0.6
SDV Santo Domingo 158.72 43 *e*P **PKPdf 18 21 24.3 -1.1**
NNA Nana 158.97 106 PKP **PKPdf 18 21 26.9 +1.4**
comp=Z,13nm,0.7s,baz=261,slow=3.5,SNR=6.5
NNA PKPab **PKPab 18 22 07.4 +1.9**
comp=Z,31nm,0.8s,baz=276,slow=5.3,SNR=9.2
ITAB Concordia 159.38 190 *e*P **PKPdf 18 21 26.0 +0.5**
CRSM Crissiumal (Br 159.38 185 *e*P **PKPdf 18 21 24.6 -0.9**
RCBR Riachuelo 159.84 272 PKPab 18 22 09.4 0.0
RCBR Riachuelo 159.84 272 PKP2 **PKPab 18 22 09.4 0.0**
RCBR Riachuelo 159.84 272 *e*P **PKPdf 18 21 25.0 -1.4**
NBCA Caruaru-PE 159.99 265 *e*P **PKPdf 18 21 24.3 -2.4**
LVC Limon Verde 160.09 143 PKP **PKPdf 18 21 28.4 +1.5**
comp=Z,12nm,0.8s,baz=258,slow=1.7,SNR=10
LVC PKPab **PKPab 18 22 11.9 +1.4**
comp=Z,14nm,0.6s,baz=246,slow=6.2,SNR=6.8
LVC Limon Verde 160.09 143 *e*P **PKPdf 18 21 25.4 -1.5**
NBAN Anadia - AL 160.13 261 *e*P **PKPdf 18 21 25.6 -1.1**
TICA Tres Isletas 160.17 169 *e*P **PKPdf 18 21 25.4 -1.0**
CPUP Villa Florida 160.61 177 PKP **PKPdf 18 21 27.4 +0.5**
comp=Z,26nm,0.8s,baz=192,slow=0.3,SNR=50
CPUP PKPab **PKPab 18 22 12.9 +0.9**
comp=Z,42nm,0.9s,baz=180,slow=6.1,SNR=15
CPUP PP **PP 18 25 56.4 +1.3**
comp=Z,18nm,1.0s,baz=188,slow=4.8,SNR=4.6
LPAZ La Paz 165.00 130 PKP **PKPdf 18 21 33.4 +1.4**
comp=Z,38nm,0.9s,baz=180,slow=1.0,SNR=106
LPAZ PKPab **PKPab 18 22 34.7 +2.2**
comp=Z,39nm,0.8s,baz=239,slow=2.1,SNR=14
BDFB Brasilia 168.18 222 PKPdf 18 21 33.2 -0.7
BDFB Brasilia 168.18 222 PKP **PKPdf 18 21 34.2 +0.3**
comp=Z,24nm,0.9s,baz=124,slow=1.7,SNR=19
BDFB PKPab **PKPab 18 22 46.2 +0.2**
comp=Z,45nm,0.9s,baz=133,slow=3.6,SNR=18
BDFB PP **PP 18 26 38.6 +3.3**
comp=Z,22nm,1.1s,baz=139,slow=11,SNR=5.3
SIV San Ignacio 169.73 152 PKP **PKPdf 18 21 35.1 +0.4**
comp=Z,27nm,0.9s,baz=213,slow=0.8,SNR=77
SIV PKPab **PKPab 18 22 53.3 +0.7**
comp=Z,12nm,0.7s,baz=180,slow=6.8,SNR=10.9
SIV PP **PP 18 26 42.8 +0.4**
comp=Z,8.9nm,0.8s,baz=218,slow=5.9,SNR=5.5
SAML Samuel 172.74 107 PKPdf 18 21 36.0 -0.2
SAML Samuel 172.74 107 PKIKP **PKPdf 18 21 36.0 -0.2**

JMA 10 18:04:40.4±0.2, 28.1°N±0.3°×128.0°E±0.5, h15km±2km, MV2.9/7, NW OFF OKINAWAJIMA IS, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.87**	**146**		*e*P		Pb	18 04 56.8	-0.5
JTK	**Tokunoshima**	**0.87**	**110**		*e*S		Sb	18 05 08.1	-0.7
JAMN	**Amaminishikomi**	**1.03**	**81**		*e*P		Pb	18 04 59.5	-0.5
JAMN					*e*S		Sb	18 05 13.1	-0.1
JIH	**Iheya**	**1.05**	**183**		*e*S		Sb	18 05 13.4	-0.5
JYRO	**Yoronjima**	**1.12**	**160**		*e*P		Pb	18 05 01.0	-0.5
JYRO					*e*S		Sb	18 05 16.2	+0.2
JOW	**Kunigami**	**1.27**	**170**		*e*P		Pn	18 05 03.4	-0.3
JOW					*e*S		Sb	18 05 19.9	-0.3

WBNET 10 18:13:31.3, 50.25N×12.45E, h9km, Ml0.6, 3C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**183**	⇓	P		Pg	18 13 33.0	+0.1
NKC					S		Sg	18 13 34.2	+0.1
LBCW	**Luby**	**0.03**	**308**	⇓	P		Pg	18 13 33.1	+0.1
LBCW					S		Sg	18 13 34.5	+0.2
STCW	**Studenec**	**0.05**	**75**	⇑	P		Pg	18 13 33.2	0.0
STCW					S		Sg	18 13 34.4	-0.1
VAC	**Vackov**	**0.05**	**255**	⇓	P		Pg	18 13 33.2	0.0
VAC					S		Sg	18 13 34.5	0.0
KVC	**Kvetna**	**0.06**	**134**	⇓	P		Pg	18 13 33.3	0.0
KVC					S		Sg	18 13 34.6	0.0
POCW	**Potky**	**0.07**	**349**	⇓	P		Pg	18 13 33.6	+0.1
POCW					S		Sg	18 13 35.2	+0.1
SKC	**Skalna**	**0.10**	**216**	⇑	P		Pg	18 13 33.7	0.0
SKC					S		Sg	18 13 35.4	0.0
KRCW	**Kraslice**	**0.10**	**32**	⇑	P		Pg	18 13 33.8	0.0
KRCW					S		Sg	18 13 35.5	-0.1
KOCW	**Kopaniny**	**0.14**	**278**	⇓	P		Pg	18 13 34.4	0.0
KOCW					S		Sg	18 13 36.5	-0.1

*PRU **10** 18:13:35.9, 50.26N×12.44E, h10km, West Bohemia Swarm*

WBNET 10 18:13:36.6, 50.26N×12.45E, h9km, Ml1.4, 5C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**180**	*e*	SG		Sg	18 13 39.5	+0.1
comp=Z,44nm,0.2s									
NKC	**Novy Kostel**	**0.02**	**180**	⇑	P		Pg	18 13 38.3	+0.1
NKC					S		Sg	18 13 39.5	+0.1
LBCW	**Luby**	**0.03**	**295**	⇓	P		Pg	18 13 38.4	+0.1
LBCW					S		Sg	18 13 39.7	+0.2
STCW	**Studenec**	**0.05**	**85**	⇑	P		Pg	18 13 38.5	+0.1
STCW					S		Sg	18 13 39.7	-0.1
VAC	**Vackov**	**0.05**	**246**	⇓	P		Pg	18 13 38.5	+0.1
VAC					S		Sg	18 13 39.8	0.0
KVC	**Kvetna**	**0.07**	**139**	⇓	P		Pg	18 13 38.6	0.0
KVC					S		Sg	18 13 40.0	-0.1
POCW	**Potky**	**0.07**	**348**	⇑	P		Pg	18 13 38.8	+0.1
POCW					S		Sg	18 13 40.3	+0.1
KRCW	**Kraslice**	**0.09**	**35**	⇑	P		Pg	18 13 39.0	0.0
KRCW					S		Sg	18 13 40.7	-0.1
SKC	**Skalna**	**0.10**	**213**	⇑	P		Pg	18 13 39.1	+0.1
SKC					S		Sg	18 13 40.9	0.0
KOCW	**Kopaniny**	**0.14**	**274**	⇓	P		Pg	18 13 39.7	0.0
KOCW					S		Sg	18 13 41.7	-0.1
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*	SG		Sg	18 13 59.5	-0.4
comp=Z,4.1nm,0.2s									
CLL	**Collm**	**1.11**	**18**	*i*	Pg		Pg	18 13 57.2	-0.7
CLL				*i*	Sg		Sg	18 14 11.8	-0.5

*IDC **10** 18:24:27.9±1.1, 27.94N×127.75E, h0km, mb3.5/5, mbtmp3.6/6, ML3.1/1, Error ellipse: s-maj=48.3km s-min=17.0km az=67.0*
*JMA **10** 18:24:27.1±0.3, 28.1°N±0.6°×128.1°E±0.8, h20km±3km, MV3.5/11, NW OFF OKINAWAJIMA IS*
*NIED **10** 18:24:27.1, 28.12N×128.05E, h20km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr=0.86; Mθθ6.57; Mφφ-5.71; Mrθ2.83; Mθφ5.89; Mφr-0.88; Fault plane solution: M0 9.01000×1014 NP1: φs293.00000°, δ89.00000°, λ-19.00000°. NP2:φs23.00000°, δ71.00000°, λ-179.00000°.*

ISC 10 18:24:27.7±1.9, 28.03N±0.05°×128.12E±0.06, h3km±13km, n16, σ1°41/24, mb3.4/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JOKE	**Okinoerabujima**	**0.77**	**149**		P		**Pb**	**18 24 43.8**	**0.0**
JOKE					*e*S		**Sb**	**18 24 55.5**	**+0.8**
JTK	**Tokunoshima**	**0.77**	**108**		P		**Pg**	**18 24 43.0**	**+0.5**
JTK					*e*S		**Sb**	**18 24 54.6**	**0.0**
JAMN	**Amaminishikomi**	**0.96**	**77**		P		**Pg**	**18 24 45.5**	**-0.6**
JAMN					*e*S		**Sg**	**18 24 58.8**	**+0.3**
JIH	**Iheya**	**0.99**	**188**		*e*P		**Pg**	**18 24 46.8**	**0.0**
JIH					*e*S		**Sb**	**18 25 00.8**	**-0.2**
JYRO	**Yoronjima**	**1.04**	**163**		P		**Pg**	**18 24 47.6**	**-0.1**
JYRO					*e*S		**Sb**	**18 25 02.2**	**0.0**
JOW	**Kunigami**	**1.20**	**173**		Pn		**Pg**	**18 24 50.4**	**-0.3**
96nm,0.3s,baz=350,slow=16,SNR=27									
JOW					Sn		**Sb**	**18 25 06.9**	**0.0**
111nm,0.3s,baz=232,slow=20,SNR=20									
JOW	**Kunigami**	**1.20**	**173**		P		**Pg**	**18 24 50.1**	**-0.6**
JOW					*e*S		**Sb**	**18 25 06.8**	**-0.1**
JAM	**Amami Oshima**	**1.37**	**73**		*e*P		**Pn**	**18 24 52.5**	**-1.1**
JTAJ	**Takarajima**	**1.48**	**40**		*e*P		**Pn**	**18 24 52.3**	**-2.8**
JNTH	**Nagotoyohara**	**1.50**	**183**		*e*P		**Pn**	**18 24 55.5**	**0.0**
JNTH					*e*S		**Sb**	**18 25 15.2**	**-0.5**
JNU	**Nakatsue**	**5.61**	**24**		Pn		**Pn**	**18 25 56.3**	**+4.3**
0.6nm,0.3s,baz=211,slow=5.9,SNR=19									
26nm,0.9s									
SONM	**Songino Array**	**26.01**	**325**		P		**P**	**18 30 02.2**	**+0.3**
1.1nm,0.8s,baz=138,slow=11,SNR=4.3									
1.1nm,0.8s									
MKAR Makanchi Array 40.28 310 P **P 18 32 04.4 -1.6**
0.5nm,0.8s,baz=96,slow=8.9,SNR=2.9
0.5nm,0.8s
KURBB Kurchatov Arra 43.50 315 P **P 18 32 30.2 -2.0**
0.2nm,0.4s,baz=101,slow=9.4,SNR=2.1
0.2nm,0.4s
WRA Warramunga Arr 48.06 172 P **P 18 33 09.6 +1.1**
0.4nm,0.6s,baz=356,slow=8.2,SNR=5.0
0.4nm,0.6s
ASAR Alice Springs 51.69 173 P **P 18 33 37.8 +1.6**
0.4nm,0.8s,baz=356,slow=10,SNR=5.1
0.4nm,0.8s

*PRU **10** 18:27:10.3, 50.26N×12.43E, h10km, West Bohemia Swarm*

WBNET 10 18:27:11.0, 50.25N×12.45E, h9km, Ml1.5, 4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**183**	*e*	PG		Pg	18 27 12.5	-0.1
NKC				*e*	SG		Sg	18 27 13.8	+0.1
comp=Z,64nm,0.2s									
NKC	**Novy Kostel**	**0.02**	**183**	⇑	P		Pg	18 27 12.7	+0.1
NKC					S		Sg	18 27 13.8	+0.1
NKC	**Novy Kostel**	**0.02**	**183**	*e*			Sg	18 27 13.8	+0.1
LBCW	**Luby**	**0.03**	**305**	⇓	P		Pg	18 27 12.8	+0.1
LBCW					S		Sg	18 27 14.1	+0.2
STCW	**Studenec**	**0.05**	**77**	⇑	P		Pg	18 27 12.9	0.0
STCW					S		Sg	18 27 14.1	-0.1
VAC	**Vackov**	**0.05**	**253**	⇓	P		Pg	18 27 12.9	0.0
VAC					S		Sg	18 27 14.1	0.0
KVC	**Kvetna**	**0.06**	**135**	⇓	P		Pg	18 27 13.0	0.0
KVC					S		Sg	18 27 14.3	-0.1
POCW	**Potky**	**0.07**	**349**	⇓	P		Pg	18 27 13.2	+0.1
POCW					S		Sg	18 27 14.8	+0.1
SKC	**Skalna**	**0.10**	**215**	⇑	P		Pg	18 27 13.4	+0.1
SKC					S		Sg	18 27 15.1	0.0
KRCW	**Kraslice**	**0.10**	**32**	⇑	P		Pg	18 27 13.5	0.0
KRCW					S		Sg	18 27 15.2	-0.1
KOCW	**Kopaniny**	**0.14**	**277**	⇓	P		Pg	18 27 14.1	0.0
KOCW					S		Sg	18 27 16.1	-0.1
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*	SG		Sg	18 27 34.0	-0.3
comp=Z,9.5nm,0.3s									
CLL	**Collm**	**1.12**	**18**	*i*	Pg		Pg	18 27 31.8	-0.6
CLL				*i*	Sg		Sg	18 27 46.4	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**		Pg		Pg	18 27 32.3	-0.5
BRG					Sg		Sg	18 27 47.1	-0.5
BRG					Amp			18 27 47.4	
comp=Z,5.7nm,0.2s									

*BGR **10** 18:27:36.7±0.2, 50.25N×12.45E, h11km±1km, ML2.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=101.0*
*PRU **10** 18:27:36.4, 50.25N×12.45E, h10km, West Bohemia Swarm*
*VIE **10** 18:27:36.9±0.3, 50.24N×12.40E, h10km, mb2.3/2, ml2.5/5, Error ellipse: s-maj=7.8km s-min=2.5km az=39.0*
*CLL **10** 18:27:37.4±0.3, 50.25N×12.44E, h8km, ML2.0*

WBNET 10 18:27:37.1, 50.25N×12.45E, h9km, Ml2.2, 4C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**176**	*i*	Pg		Pg	18 27 38.9	+0.1
NKC				*i*	Sg		Sg	18 27 40.0	+0.1
NKC					IAML			18 27 40.1	
comp=E,1μm,0.2s									
NKC	**Novy Kostel**	**0.02**	**176**	*e*	PG		Pg	18 27 38.8	+0.1
NKC				*e*	SG		Sg	18 27 39.8	0.0
comp=E,398nm,0.2s									
NKC	**Novy Kostel**	**0.02**	**176**	*i*	Pg		Pg	18 27 38.9	+0.1
NKC				*i*	Sg		Sg	18 27 40.0	+0.1
comp=E,1μm,0.2s									
NKC	**Novy Kostel**	**0.02**	**176**	⇓	P		Pg	18 27 38.8	+0.1
NKC					S		Sg	18 27 40.0	+0.1
LBCW	**Luby**	**0.03**	**307**	⇓	P		Pg	18 27 38.9	+0.1
LBCW					S		Sg	18 27 40.2	+0.2
VAC	**Vackov**	**0.05**	**252**	*i*	Pg		Pg	18 27 39.0	+0.1
VAC				*i*	Sg		Sg	18 27 40.3	0.0
VAC	**Vackov**	**0.05**	**252**	⇓	P		Pg	18 27 39.0	+0.1
VAC					S		Sg	18 27 40.3	0.0
STCW	**Studenec**	**0.05**	**78**	*i*	Pg		Pg	18 27 39.0	0.0
STCW				*i*	Sg		Sg	18 27 40.2	-0.1
STCW	**Studenec**	**0.05**	**78**	*i*	Pg		Pg	18 27 39.0	0.0
STCW				*i*	Sg		Sg	18 27 40.2	-0.1
STCW	**Studenec**	**0.05**	**78**	⇑	P		Pg	18 27 39.0	0.0
STCW					S		Sg	18 27 40.2	-0.1
WERN	**Wernitzgruen**	**0.06**	**311**	*i*	Pg		Pg	18 27 39.2	+0.1
WERN				*i*	Sg		Sg	18 27 40.6	+0.1
WERN					IAML			18 27 40.8	
comp=E,2μm,0.2s									
WERN	**Wernitzgruen**	**0.06**	**311**	*i*	Pg		Pg	18 27 39.2	+0.1
WERN				*i*	Sg		Sg	18 27 40.6	+0.1
comp=E,2μm,0.2s									
KVC	**Kvetna**	**0.06**	**134**	*i*	Pg		Pg	18 27 39.1	0.0
KVC				*i*	Sg		Sg	18 27 40.4	-0.1
KVC	**Kvetna**	**0.06**	**134**	⇓	P		Pg	18 27 39.1	0.0
KVC					S		Sg	18 27 40.4	-0.1
POCW	**Potky**	**0.07**	**350**	⇓	P		Pg	18 27 39.4	+0.1
POCW					S		Sg	18 27 40.9	+0.1
ROHR	**Rohrbach**	**0.08**	**260**	*i*	Pg		Pg	18 27 39.4	0.0
ROHR				*i*	Sg		Sg	18 27 40.9	-0.1
ROHR					IAML			18 27 41.1	
comp=E,2μm,0.2s									
ROHR	**Rohrbach**	**0.08**	**260**	*i*	Pg		Pg	18 27 39.4	0.0
ROHR				*i*	Sg		Sg	18 27 40.9	-0.1
comp=E,2μm,0.2s									
SKC	**Skalna**	**0.10**	**215**	⇑	P		Pg	18 27 39.6	+0.1
SKC					S		Sg	18 27 41.3	+0.1
KRCW	**Kraslice**	**0.10**	**33**	⇑	P		Pg	18 27 39.6	0.0
KRCW					S		Sg	18 27 41.3	-0.1
GUNZ	**Gunzen**	**0.14**	**327**	*i*	Pg		Pg	18 27 40.3	+0.1
GUNZ				*i*	Sg		Sg	18 27 42.3	0.0
GUNZ					IAML			18 27 42.6	
comp=N,278nm,0.2s									
GUNZ	**Gunzen**	**0.14**	**327**	*i*	Pg		Pg	18 27 40.3	+0.1
GUNZ				*i*	Sg		Sg	18 27 42.3	0.0
comp=N,278nm,0.2s									
KOCW	**Kopaniny**	**0.14**	**277**	⇓	P		Pg	18 27 40.2	+0.1
KOCW					S		Sg	18 27 42.3	0.0
MULD	**Muldenberg**	**0.17**	**351**	*i*	Pg		Pg	18 27 40.6	0.0
MULD				*i*	Sg		Sg	18 27 42.9	-0.2
MULD					IAML			18 27 43.1	
comp=E,393nm,0.2s									
MULD	**Muldenberg**	**0.17**	**351**	*i*	Pg		Pg	18 27 40.6	0.0
MULD				*i*	Sg		Sg	18 27 42.9	-0.2
comp=E,393nm,0.2s									
TANN	**Tannenbergstha**	**0.17**	**3**	*i*	Pg		Pg	18 27 40.6	-0.1
TANN				*i*	Sg		Sg	18 27 42.9	-0.2
TANN					IAML			18 27 43.5	
comp=N,632nm,0.2s									
TANN	**Tannenbergstha**	**0.17**	**3**	*i*	Pg		Pg	18 27 40.6	-0.1
TANN				*i*	Sg		Sg	18 27

VIEL	**Selb-Vielitz**	**0.23**	**254**	*i* Pg	Pg	18 27 41.7	-0.1		
VIEL				*i* Sg	Sg	18 27 44.8	-0.1		
PLN	**Plauen**	**0.30**	**322**	*i* Pg	Pg	18 27 43.0	-0.1		
PLN				*i* Sg	Sg	18 27 47.0	-0.1		
PLN				IAML		18 27 47.2			
	comp=E,92nm,0.2s								
PLN	**Plauen**	**0.30**	**322**	*i* Pg	Pg	18 27 43.0	-0.1		
PLN				*i* Sg	Sg	18 27 47.0	-0.1		
	comp=E,92nm,0.2s								
MANZ	**Manzenberg**	**0.34**	**220**	*e*Pg	Pg	18 27 43.7	-0.1		
MANZ				*e*Sg	Sg	18 27 48.2	-0.2		
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	18 27 45.3	-0.2		
SCHF				*i* Sg	Sg	18 27 51.1	-0.1		
SCHF				IAML		18 27 51.6			
	comp=E,146nm,0.3s								
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	18 27 45.3	-0.2		
SCHF				*i* Sg	Sg	18 27 51.1	-0.1		
	comp=E,146nm,0.3s								
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	18 27 46.0	-0.2		
GRZ1				*i* Sg	Sg	18 27 51.9	-0.5		
GRZ1				IAML		18 27 53.1			
	comp=E,78nm,0.4s								
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	18 27 46.0	-0.2		
GRZ1				*i* Sg	Sg	18 27 51.9	-0.5		
	comp=E,78nm,0.4s								
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Pg	Pg	18 27 46.7	-0.2		
ROTZ				*e*Sg	Sg	18 27 53.4	-0.2		
MOX	**Moxa**	**0.66**	**307**	*e*Pg	Pg	18 27 49.6	-0.3		
MOX				*e*Sg	Sg	18 27 58.5	-0.1		
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*PG	Pg	18 27 50.6	-0.5		
HSKC				*e*SG	Sg	18 28 00.1	-0.4		
	comp=E,49nm,0.2s								
FBE	**Freiberg**	**0.89**	**40**	*e*Pg	Pg	18 27 54.0	-0.2		
FBE				*e*Sg	Sg	18 28 05.2	-0.6		
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	18 27 55.5	-0.2		
GRF				*e*Sg	Sg	18 28 07.7	-0.6		
RICC	**Richard**	**1.10**	**74**	*e*SG	Sg	18 28 12.1	-0.3		
	comp=E,31nm,0.3s								
CLL	**Collm**	**1.12**	**18**	*i* Pg	Pg	18 27 57.7	-0.9		
CLL				*i* x	x	18 27 59.9			
CLL				*i* x	x	18 28 01.3			
CLL				*i* Sg	Sg	18 28 12.1	-1.0		
	comp=Z,17nm,0.5s								
CLL				*i* x	x	18 28 16.5			
CLL	**Collm**	**1.12**	**18**	*e*Pg	Pg	18 27 57.9	-0.6		
CLL				*e*Sg	Sg	18 28 12.5	-0.5		
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	18 27 58.5	-0.5		
BRG				Sg	Sg	18 28 13.0	-0.8		
BRG				Amp		18 28 15.2			
	comp=Z,30nm,0.3s								
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	Pg	18 27 58.5	-0.5		
BRG				*e*Sg	Sg	18 28 13.3	-0.5		
WET	**Wettzell**	**1.14**	**166**	*e*Pg	Pg	18 27 58.3	-0.7		
WET				*e*Sg	Sg	18 28 12.7	-1.1		
PRA	**Prague**	**1.29**	**97**	*e*SG	Sb	18 28 17.8	-0.4		
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG	Sb	18 28 18.4	-1.3		
	comp=Z,14nm,0.3s								
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sb	18 28 20.3	-0.3		
	comp=Z,13nm,0.3s								
PRU	**Pruhonice**	**1.37**	**100**	*e*Sg	Sb	18 28 20.6	-0.1		
PRU	**Pruhonice**	**1.37**	**100**	*e*	Sg	18 28 20.3	-1.0		
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Sg	Sn	18 28 27.3	+0.1		
CKRC	**Cesky Krumlov**	**1.88**	**139**	*e*SG	Sb	18 28 34.6	-0.5		
UPC	**Upice**	**2.30**	**82**	*e*SG	Sb	18 28 48.5	+1.3		
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG	Sb	18 28 53.8	+1.1		
	comp=Z,6.7nm,0.4s								
MOA	**Molln**	**2.68**	**153**	*e*Pn	Pn	18 28 22.1	+1.6		
	comp=Z,0.1nm,0.1s								
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	Pn	18 28 21.9	-0.6		
KRUC				*e*SG	Sb	18 29 04.3	+1.8		
WTTA	**Wattenberg**	**3.04**	**190**	*e*Pn	Pn	18 28 25.1	-0.4		
	comp=Z,0.2nm,0.1s								
MOTA	**Moosalm**	**3.04**	**197**	Pg	Pg	18 28 34.2	-1.1		
	comp=Z,0.4nm,0.1s								
SQTA	**Sankt Quirin**	**3.14**	**196**	Pg	Pg	18 28 36.1	-1.1		
	comp=Z,1.9nm,0.3s								
CONA	**Conrad Observa**	**3.23**	**135**	Pg	Pg	18 28 37.3	-1.7		
	comp=Z,0.8nm,0.3s								
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG	Sg	18 29 20.4	-3.3		

IDC ***10*** *18:36:35.0±0.7, 8°.33N×103°.88W, h0km, mb4.5/15, mbtmp4.5/17, ML3.9/2, MS4.5/58, Error ellipse: s-maj=28.7km s-min=13.7km az=62.0*

NEIC ***10*** *18:36:36.7±2.0, 8°.27N±0°.10×104°.0W±0°.1, h10km±1km, mb5.0/439, Error ellipse: s-maj=20.4km s-min=15.6km az=241.0*

GCMT ***10*** *18:36:38.7±0.2, 8°.48N±0°.01×103°.76W±0°.01, h12km, MW5.2/127, Moment Tensor Solution. s75,c98; s127,c218; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr=1.22±.15; Mθθ2.16±.14; Mϕϕ-0.94±.17; Mrθ-0.39±.39; Mrϕ-7.85±.11; Mθϕ1.19±.39; Best double couple: M₀8.09400×10¹⁶ NP1:ϕs174.00000°, δ90.00000°, λ-9.00000°. NP2:ϕs264.00000°, δ81.00000°, λ-180.00000°. Principal axes: T 8.7240, Plg6.0000°, Azm220.0000°; N -1.2590, Plg81.0000°, Azm354.0000°; P -7.4650, Plg6.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 10 18:36:36.1±0.5, 8°.29N±0°.07×104°.03W±0°.08, h10km, n702, σ0s87/462, mb5.0/210, MS4.5/58, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLIG	**Tlapa**	**10.64**	**29**		**Pn**	**18 39 10.3**	**+1.5**
MOIG	**Morelia**	**11.65**	**13**	Pn	**Pn**	**18 39 24.2**	**+1.4**
CMIG	**Matias Romero**	**12.49**	**45**	Pn	**Pn**	**18 39 32.2**	**-1.9**
	0.8nm,0.3s,baz=219,slow=14,SNR=9.1						
CMIG				LR	LR	18 43 07.3	
	comp=Z,7μm,21.3s,baz=183,slow=32 10nm,0.9s						
CCIG	**Comitan**	**14.07**	**55**		**Pn**	**18 39 54.7**	**-1.2**
ZAIG	**Zacatecas**	**14.47**	**5**	Pn	**Pn**	**18 40 03.5**	**+2.2**
MTO3	**Montecristo**	**15.61**	**66**	Pn	Pn	18 40 11.4	-5.2
ESQI	**Esquipulas**	**15.69**	**65**	P	**Pn**	**18 40 16.2**	**-1.3**
PETF	**Flores**	**16.26**	**57**		**Pn**	**18 40 25.9**	**+1.2**
PETF				IAmb	IAmb	18 40 30.2	
	comp=Z,124nm,1.1s						
SLBS	**Sierra La Lagu**	**16.32**	**340**	P	**Pn**	**18 40 25.0**	**-0.6**
LPIG	**La Paz**	**16.83**	**340**	LR	LR	18 45 27.0	
	comp=Z,3μm,19.4s,baz=163,slow=32						
CRIN	**San Cristobal**	**17.26**	**74**	P	**Pn**	**18 40 37.7**	**+0.2**
CRIN				IAmb	IAmb	18 40 47.1	
	comp=Z,146nm,1.1s						
TGUH	**Tegucigalpa,Un**	**17.41**	**69**	P	**Pn**	**18 40 38.9**	**-0.5**
CNGN	**Cerro Negro**	**17.55**	**75**		**Pn**	**18 40 40.1**	**-1.0**
CNGN				IAmb	IAmb	18 40 48.2	
	comp=Z,199nm,1.5s						
ORTG	**Ortega, Santa**	**18.45**	**82**	P	**Pn**	**18 40 53.8**	**+1.6**
HPIG		**18.61**	**355**	P	**P**	**18 40 55.7**	**+1.7**
HPIG				IAmb	IAmb	18 41 00.3	
	comp=Z,283nm,1.9s						
ACON	**Acoyapa**	**18.92**	**77**	P	**P**	**18 40 56.2**	**-1.1**
JTS	**Las Juntas de**	**18.94**	**82**		**P**	**18 40 57.1**	**-0.4**
JTS				IAmb	IAmb	18 41 06.4	
	comp=Z,166nm,1.9s						
JTS	**Las Juntas de**	**18.94**	**82**	P	**P**	**18 40 56.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=276,slow=16,SNR=1.9 comp=Z,2.6nm,0.3s						
JACO	**JACO, Garabito**	**19.19**	**84**	P	**P**	**18 40 59.7**	**-0.5**
SOCE	**Pocosol**	**19.27**	**82**	P	**P**	**18 41 02.5**	**+1.3**
SOCE				IAmb	IAmb	18 41 08.2	
	comp=Z,200nm,1.9s						
TEIG	**Tepich**	**19.32**	**50**	P	**P**	**18 41 03.0**	**+1.4**
TEIG	**Tepich**	**19.32**	**50**	LR	LR	18 47 22.4	
	comp=Z,25μm,21.6s,slow=34						
HBVL	**Hebbronville**	**19.36**	**15**	Pn	**P**	**18 41 03.1**	**+1.2**
HBVL				IAmb	IAmb	18 41 14.0	
	comp=Z,82nm,1.1s						
COVE	**Coope Vega, Sa**	**19.51**	**81**	P	**P**	**18 41 04.8**	**+1.0**
HDC	**Heredia**	**19.74**	**84**	P	**P**	**18 41 05.5**	**-0.8**
ESPN	**Las Esperanzas**	**19.80**	**77**	P	**P**	**18 41 06.9**	**0.0**
LCR2	**La Lucha 2**	**19.83**	**84**		**P**	**18 41 07.7**	**+0.2**
PEZE	**Perez Zeledon,**	**20.14**	**85**	P	**P**	**18 41 08.8**	**-2.0**
833A	**Chaparral WMA,**	**20.40**	**12**	P	**P**	**18 41 14.5**	**+1.2**
833A				IAmb	IAmb	18 41 17.5	
	comp=Z,72nm,1.1s						
833A	**Chaparral WMA,** baz=193	**20.40**	**12**	P	**P**	**18 41 14.6**	**+1.2**
SRBA	**San Rafael, Bu**	**20.45**	**86**	P	**P**	**18 41 13.3**	**-0.9**
SRIG	**Santa Rosalia**	**20.46**	**339**	P	**P**	**18 41 13.2**	**-0.7**
BATAN	**Batan**	**20.47**	**83**	P	**P**	**18 41 13.3**	**-0.9**
BATAN				IAmb	IAmb	18 41 30.9	
	comp=Z,183nm,1.5s						
CDITO	**Canoas**	**20.93**	**88**	P	**P**	**18 41 19.3**	**0.0**
TX31	**Lajitas Ar. Si**	**20.94**	**1**		**P**	**18 41 20.3**	**+1.1**
TXAR	**Lajitas Array**	**20.94**	**1**	P	**P**	**18 41 20.1**	**+0.9**
TXAR	**Lajitas Array**	**20.94**	**1**	P	**P**	**18 41 20.5**	**+1.3**
	comp=Z,10nm,0.8s,baz=184,slow=12,SNR=88						
TXAR				LR	LR	18 48 52.9	
	comp=Z,3μm,18.2s,baz=179,slow=35 comp=Z,10nm,0.8s						
BRU2	**Volcan**	**21.11**	**87**	P	**P**	**18 41 21.4**	**+0.1**
BRU2				IAmb	IAmb	18 41 31.4	
	comp=Z,174nm,1.5s						
DRIO	**Del Rio**	**21.27**	**8**	P	**P**	**18 41 23.4**	**+0.7**
735A	**Kenedy**	**21.28**	**15**	P	**P**	**18 41 23.6**	**+0.8**
EF01	**Eagle Ford 01**	**21.40**	**14**	P	**P**	**18 41 22.6**	**-1.5**
EF01				IAmb	IAmb	18 41 35.2	
	comp=Z,61nm,1.1s						
HNDO	**Hondo**	**21.60**	**11**	P	**P**	**18 41 27.0**	**+0.7**
HNDO				IAmb	IAmb	18 41 31.6	
	comp=Z,102nm,1.1s						
SAND	**Sanderson**	**21.63**	**5**	IAmb	IAmb	18 41 31.4	
	comp=Z,66nm,1.1s						
ALPN	**Alpine**	**21.98**	**1**	IAmb	IAmb	18 41 35.9	
	comp=Z,52nm,1.1s						
VHRN	**Van Horn**	**22.40**	**358**	IAmb	IAmb	18 41 39.6	
	comp=Z,57nm,1.1s						
JCT	**Junction City**	**22.43**	**10**	P	**P**	**18 41 35.3**	**+0.1**
JCT				IAmb	IAmb	18 41 39.8	
	comp=Z,61nm,1.0s						
JCT	**Junction City** baz=191,SNR=17	**22.43**	**10**	P	**P**	**18 41 36.5**	**+1.3**
OZNA	**Ozona**	**22.68**	**6**	P	**P**	**18 41 38.1**	**+0.2**
OZNA				IAmb	IAmb	18 41 47.5	
	comp=Z,140nm,1.8s						
HKT	**Hockley**	**22.88**	**19**	P	**P**	**18 41 40.3**	**+0.4**
HKT				IAmb	IAmb	18 41 42.6	
	comp=Z,140nm,1.7s						
MNHN	**Monahans**	**22.97**	**3**	IAmb	IAmb	18 41 44.2	
	comp=Z,44nm,1.0s						
PECS	**Pecos**	**22.97**	**0**	IAmb	IAmb	18 41 44.6	
	comp=Z,66nm,1.8s						
435B	**Jarrell** baz=196	**23.18**	**14**	P	**P**	**18 41 43.5**	**+0.5**
MNTX	**Cornudas Mount** baz=177,SNR=57	**23.33**	**357**	P	**P**	**18 41 45.4**	**+0.8**
BRDY	**Brady**	**23.36**	**11**	P	**P**	**18 41 44.2**	**-0.7**
BRDY				IAmb	IAmb	18 41 46.9	
	comp=Z,30nm,0.8s						
SGCY	**Sterling City**	**23.66**	**6**	P	**P**	**18 41 47.0**	**-0.9**
ODSA	**Odessa**	**23.75**	**3**	IAmb	IAmb	18 41 58.1	
	comp=Z,46nm,1.0s						
WHTX	**Lake Whitney,**	**24.36**	**14**	IAmb	IAmb	18 41 57.2	
	comp=Z,64nm,1.1s						
WHTX	**Lake Whitney,** baz=196,SNR=6.9	**24.36**	**14**	P	**P**	**18 41 54.6**	**+0.2**
121A	**Cookes Peak, D** baz=171,SNR=22	**24.37**	**352**	P	**P**	**18 41 56.0**	**+1.3**
ABTX	**Abiline, Hawle** baz=190,SNR=13	**24.55**	**9**	P	**P**	**18 41 56.1**	**-0.2**
TUC	**Tucson**	**24.71**	**346**	P	**P**	**18 41 58.3**	**+0.7**
TUC				IAmb	IAmb	18 42 01.0	
	comp=Z,44nm,1.1s						
TUC	**Tucson** baz=164	**24.71**	**346**	P	**P**	**18 41 58.6**	**+0.9**
PIX	**Pinacate**	**24.76**	**341**	P	**P**	**18 41 58.4**	**+0.4**
PIX				IAmb	IAmb	18 42 01.2	
	comp=Z,39nm,1.1s						
SFX	**San Felipe**	**24.78**	**337**	P	**P**	**18 41 58.4**	**+0.2**
SOR	**Soroa**	**24.81**	**52**	P	**P**	**18 41 59.0**	**+0.4**
SOR				IAmb	IAmb	18 42 11.4	
	comp=Z,77nm,1.6s						
SN07	**Snyder 07**	**24.85**	**6**	IAmb	IAmb	18 42 01.6	
	comp=Z,23nm,0.8s						
214A	**Organ Pipe Nat**	**24.92**	**342**	IAmb	IAmb	18 42 02.9	
	comp=Z,33nm,1.1s						
214A	**Organ Pipe Nat** baz=159,SNR=9.6	**24.92**	**342**	P	**P**	**18 41 59.9**	**+0.4**
NATX	**Nacogdoches** baz=202	**24.93**	**19**	P	**P**	**18 41 59.5**	**-0.1**
FW06	**Azle**	**25.29**	**13**	IAmb	IAmb	18 42 04.6	
	comp=Z,40nm,0.9s						
TREL	**Terrell**	**25.41**	**16**	P	**P**	**18 42 04.0**	**+0.1**
Z35A	**Perchaven, San**	**25.70**	**13**	P	**P**	**18 42 06.2**	**-0.3**
113A	**Mohawk Valley,**	**25.98**	**341**	IAmb	IAmb	18 42 13.3	
	comp=Z,42nm,1.0s						
Z38A	**Mt. Pleasant**	**26.22**	**17**	P	**P**	**18 42 11.1**	**-0.1**
Z38A				IAmb	IAmb	18 42 13.6	
	comp=Z,37nm,0.9s						
LOOK	**Love County**	**26.35**	**13**	IAmb	IAmb	18 42 14.6	
	comp=Z,53nm,1.3s						
AMTX	**Amarillo**	**26.56**	**4**	IAmb	IAmb	18 42 16.9	
	comp=Z,33nm,0.8s						
AMTX	**Amarillo** baz=185	**26.56**	**4**	P	**P**	**18 42 14.6**	**+0.2**
ANMO	**Albuquerque**	**26.62**	**356**		**P**	**18 42 15.6**	**+0.4**
ANMO				IAmb	IAmb	18 42 17.6	
	comp=Z,47nm,1.9s						
ANMO	**Albuquerque** baz=175	**26.62**	**356**	P	**P**	**18 42 15.8**	**+0.7**
ANMO	**Albuquerque**	**26.62**	**356**	P	**P**	**18 42 16.0**	**+0.8**
	comp=Z,5.7nm,0.9s,baz=171,slow=13,SNR=14						
ANMO				LR	LR	18 51 18.5	
	comp=Z,970nm,18.6s,baz=268,slow=33 comp=Z,5.7nm,0.9s						
IKP	**In-Ko-Pah, Jac** baz=153	**26.70**	**337**	P	**P**	**18 42 16.7**	**+0.9**
WMOK	**Wichita Mounta** baz=192	**26.76**	**10**	P	**P**	**18 42 17.1**	**+0.9**
SWSC	**Sam W. Stewart** baz=154	**26.85**	**338**	P	**P**	**18 42 18.2**	**+1.3**
SMWD	**Samnorwood**	**26.91**	**7**	IAmb	IAmb	18 42 21.0	
	comp=Z,27nm,0.9s						
VBMS	**Vicksburg** baz=210	**26.92**	**26**	P	**P**	**18 42 19.1**	**+1.6**
BAR	**Barrett**	**26.95**	**336**	IAmb	IAmb	18 42 20.7	
	comp=Z,27nm,1.1s						
MONP2	**Monument Peak** baz=152,SNR=12	**27.04**	**337**	P	**P**	**18 42 19.9**	**+1.0**
W18A	**Petrified Fore** baz=168	**27.21**	**350**	P	**P**	**18 42 21.8**	**+1.4**
BC3	**Big Chuckawall** baz=155,SNR=8.2	**27.36**	**339**	P	**P**	**18 42 23.1**	**+1.5**
X37A	**Clayton**	**27.36**	**16**	IAmb	IAmb	18 42 23.4	
	comp=Z,21nm,0.9s						
PDMCI	**Parker Dam,Lak** baz=158,SNR=5.7	**27.51**	**342**	P	**P**	**18 42 24.1**	**+1.3**
W35A	**Tecumseh**	**27.53**	**13**	IAmb	IAmb	18 42 24.6	
	comp=Z,36nm,1.1s						
TPFO	**Pinon Flats** baz=153,SNR=6.2	**27.68**	**337**	P	**P**	**18 42 26.2**	**+1.6**
PFO	**Pinyon Flats O**	**27.69**	**337**	P	**P**	**18 42 25.7**	**+1.1**
PFO				IAmb	IAmb	18 42 27.5	
	comp=Z,33nm,1.1s						
PFO	**Pinyon Flats O** baz=153,SNR=5.4	**27.69**	**337**	P	**P**	**18 42 26.1**	**+1.5**
PFO	**Pinyon Flats O**	**27.69**	**337**	P	**P**	**18 42 26.1**	**+1.5**
	comp=Z,21nm,0.9s,baz=153,slow=11,SNR=17						
PFO				LR	LR	18 51 41.0	
	comp=Z,1μm,19.5s,baz=150,slow=33 comp=Z,21nm,0.9s						
IRM	**Iron Mountain** baz=156,SNR=19	**27.70**	**340**	P	**P**	**18 42 26.3**	**+1.6**
MIAR	**Mount Ida**	**27.84**	**19**	IAmb	IAmb	18 42 27.8	
	comp=Z,37nm,1.1s						
MIAR	**Mount Ida** baz=202,SNR=16	**27.84**	**19**	P	**P**	**18 42 25.1**	**-0.7**
BELC	**Belle Mtn. Jos** baz=154,SNR=11	**27.86**	**338**	P	**P**	**18 42 27.5**	**+1.3**
WUAZ	**Wupatki**	**27.92**	**347**	IAmb	IAmb	18 42 29.5	
	comp=Z,25nm,1.0s						
WUAZ	**Wupatki** baz=164,SNR=6.0	**27.92**	**347**	P	**P**	**18 42 27.7**	**+0.9**
MURC	**Murrieta** baz=151	**27.97**	**336**	P	**P**	**18 42 27.9**	**+0.9**
SCI2	**San Clemente I** baz=148	**28.00**	**333**	P	**P**	**18 42 28.8**	**+1.5**
DEOK	**Depew**	**28.28**	**13**	IAmb	IAmb	18 42 31.8	
	comp=Z,27nm,1.0s						
OK052	**Battle Ridge R**	**28.36**	**12**	IAmb	IAmb	18 42 33.1	
	comp=Z,36nm,1.1s						
GMRC	**Granite Mounta** baz=155,SNR=11	**28.45**	**340**	P	**P**	**18 42 32.4**	**+1.0**
TUL3	**Leonard** baz=197	**28.51**	**14**	P	**P**	**18 42 31.3**	**-0.4**
BFSC	**Mount Baldy Ra** baz=151,SNR=7.7	**28.71**	**336**	P	**P**	**18 42 34.9**	**+1.1**
T25A	**Trinidad**	**28.72**	**359**	IAmb	IAmb	18 42 36.0	
	comp=Z,75nm,1.6s						
T25A	**Trinidad** baz=179,SNR=14	**28.72**	**359**	P	**P**	**18 42 34.6**	**+0.7**
HEC	**Hector,Ludlow** baz=154,SNR=6.1	**28.73**	**339**	P	**P**	**18 42 35.3**	**+1.5**
OK048	**Pawnee Station**	**28.73**	**12**	IAmb	IAmb	18 42 36.0	
	comp=Z,20nm,0.9s						
WHAR	**Wooly Hollow**	**28.95**	**20**	IAmb	IAmb	18 42 37.5	
	comp=Z,42nm,1.1s						
DECC	**Green Verdugo** baz=150	**29.00**	**335**	P	**P**	**18 42 37.0**	**+0.8**
BLOK	**Blackwell**	**29.01**	**11**	IAmb	IAmb	18 42 37.9	
	comp=Z,26nm,1.0s						
DWPF	**Disney Wildern** baz=231	**29.05**	**44**	P	**P**	**18 42 37.3**	**+0.6**
MVCO	**Mesa Verde**	**29.07**	**353**	IAmb	IAmb	18 42 39.2	
	comp=Z,44nm,1.2s						
MVCO	**Mesa Verde** baz=171,SNR=12	**29.07**	**353**	P	**P**	**18 42 37.4**	**+0.3**
TUQ	**Turquoise Moun** baz=155	**29.13**	**340**	P	**P**	**18 42 38.9**	**+1.4**
LRAL	**Lakeview Retre** baz=216	**29.24**	**30**	P	**P**	**18 42 40.0**	**+1.7**
T35A	**Sooner Cattle**	**29.31**	**12**	IAmb	IAmb	18 42 40.2	
	comp=Z,28nm,1.1s						
GSC	**Goldstone, Bar**	**29.32**	**338**	IAmb	IAmb	18 42 42.2	
	comp=Z,17nm,0.9s						
GSC	**Goldstone, Bar** baz=154,SNR=6.7	**29.32**	**338**	P	**P**	**18 42 41.1**	**+2.0**
SDCO	**Great Sand Dun**	**29.36**	**358**	IAmb	IAmb	18 42 42.0	
	comp=Z,41nm,1.7s						
SDCO	**Great Sand Dun** baz=177,SNR=7.3	**29.36**	**358**	P	**P**	**18 42 40.7**	**+1.1**
EDW2	**Edwards Air Fo** baz=151	**29.41**	**336**	P	**P**	**18 42 41.3**	**+1.4**
OSI	**Osito Audit: C** baz=149	**29.47**	**335**	P	**P**	**18 42 41.0**	**+0.5**
FCAR	**Ozark Folk Cen**	**29.55**	**20**	IAmb	IAmb	18 42 54.1	
	comp=Z,27nm,1.5s						
CCAC	**Calif City Air**	**29.65**	**336**	IAmb	IAmb	18 42 47.8	
	comp=Z,27nm,0.8s						
SHOC	**Shoshone, Teco** baz=155	**29.67**	**340**	P	**P**	**18 42 43.5**	**+1.3**
KNB	**Kanab**	**29.69**	**346**	IAmb	IAmb	18 42 45.4	
	comp=Z,24nm,1.0s						
ROSC	**El Rosal**	**29.71**	**95**	LR	LR	18 51 39.9	
	comp=Z,1μm,19.9s,baz=284,slow=31						
SBC	**Santa Barbara** baz=148	**29.76**	**333**	P	**P**	**18 42 43.8**	**+0.9**
ATAH	**Atahualpa**	**29.80**	**120**	LR	LR	18 52 10.3	
	comp=Z,2μm,21.5s,baz=306,slow=32						
LRMC	**Laurel Mtn Rad** baz=152	**29.81**	**337**	P	**P**	**18 42 44.9**	**+1.4**
TIGA	**Tifton** baz=224	**29.89**	**37**	P	**P**	**18 42 44.1**	**0.0**
ARVC	**Arvin** baz=150	**29.96**	**335**	P	**P**	**18 42 45.3**	**+0.6**
GWY	**Greenwater Val**	**30.07**	**339**	IAmb	IAmb	18 42 48.5	
	comp=Z,18nm,1.0s						
PKM	**Mcpherson Peak** baz=148	**30.18**	**334**	P	**P**	**18 42 47.3**	**+0.5**
MPMC	**Manual Prospec** baz=153,SNR=14	**30.25**	**338**	P	**P**	**18 42 48.7**	**+1.2**
FURC	**Furnace Creek,** baz=154	**30.39**	**339**	P	**P**	**18 42 49.4**	**+1.1**
Q24A	**Divide** baz=178	**30.56**	**358**	P	**P**	**18 42 50.6**	**+0.3**
WCT	**Wildcat Mounta**	**30.60**	**340**	IAmb	IAmb	18 42 53.9	
	comp=Z,27nm,1.0s						
KSCO	**Kaye Shedlock'**	**30.61**	**2**	IAmb	IAmb	18 42 53.4	
	comp=Z,37nm,1.0s						
KSCO	**Kaye Shedlock'** baz=183,SNR=5.4	**30.61**	**2**	P	**P**	**18 42 50.8**	**+0.2**
SMMC	**Simmler** baz=148	**30.61**	**334**	P	**P**	**18 42 51.8**	**+1.3**
CBKS	**Cedar Bluff**	**30.64**	**7**	IAmb	IAmb	18 42 53.5	
	comp=Z,18nm,1.0s						
CBKS	**Cedar Bluff** baz=188	**30.64**	**7**	P	**P**	**18 42 51.0**	**+0.3**
CWC	**Cottonwood Cre** baz=152	**30.81**	**338**	P	**P**	**18 42 53.0**	**+0.7**
SMCO	**Snowmass**	**30.87**	**356**	IAmb	IAmb	18 43 04.0	
	comp=Z,17nm,1.0s						
255A	**Hazlehurst**	**30.90**	**37**	IAmb	IAmb	18 42 54.1	
	comp=Z,28nm,1.0s						
PBMO	**Poplar Bluff**	**30.94**	**22**	IAmb	IAmb	18 42 55.1	
	comp=Z,14nm,0.8s						
MVU	**Marysvale**	**30.97**	**347**	IAmb	IAmb	18 42 56.2	
	comp=Z,29nm,1.0s						
GRAC	**Grapevine Rang** baz=154	**31.04**	**339**	P	**P**	**18 42 55.5**	**+1.3**
S11A	**Rachel**	**31.09**	**342**	IAmb	IAmb	18 42 59.8	
	comp=Z,47nm,1.5s						
SRU	**San Rafael Swe**	**31.24**	**350**	IAmb	IAmb	18 42 58.8	
	comp=Z,43nm,1.5s						
KSU1	**Kansas State U**	**31.40**	**11**	IAmb	IAmb	18 42 59.2	
	comp=Z,18nm,0.9s						
KSU1	**Kansas State U** baz=194	**31.40**	**11**	P	**P**	**18 42 57.3**	**0.0**
GOGA	**Godfrey** baz=222	**31.40**	**34**	P	**P**	**18 42 57.5**	**+0.1**
ISCO	**Idaho Springs** baz=177,SNR=8.3	**31.41**	**358**	P	**P**	**18 42 58.3**	**+0.5**
WVT	**Waverly** baz=212	**31.41**	**26**	P	**P**	**18 42 57.7**	**+0.2**
DSP	**Deep Springs**	**31.59**	**339**	IAmb	IAmb	18 43 02.5	
	comp=Z,20nm,1.1s						
R11B	**Troy Canyon, C** baz=158,SNR=9.4	**31.69**	**343**	P	**P**	**18 43 01.4**	**+1.3**
P18A	**Preston Nutter**	**31.70**	**351**	IAmb	IAmb	18 43 03.0	
	comp=Z,19nm,1.2s						
CCM	**Cathedral Cave**	**31.81**	**19**	P	P	18

V53A **Saluda** 33.45 32 IAmb IAmb 18 43 17.1
comp=Z,41nm,1.6s
BGU **Big Grassy Mou** 33.47 348 IAmb IAmb 18 43 18.7
comp=Z,29nm,1.4s
T50A **Nancy** 33.49 28 IAmb IAmb 18 43 16.3
comp=Z,28nm,1.5s
PNTR **Pine Nut** 33.70 338 IAmb IAmb 18 43 21.3
comp=Z,17nm,1.0s
NNA **Nana** 33.72 126 LR LR 18 53 55.8
comp=Z,672nm,18.3s,baz=332,slow=31
SPUT **South Promonto** 33.72 349 IAmb IAmb 18 43 20.7
comp=Z,28nm,1.1s
ELK **Elko** 33.83 345 LR LR 18 55 44.9
comp=Z,448nm,18.1s,slow=34
WCI **Wyandotte Cave** 33.84 26 P **P** **18 43 19.4 +0.7**
baz=213
KMSC **Kings Mountain** 33.87 35 IAmb IAmb 18 43 19.9
comp=Z,17nm,1.1s
KMSC **Kings Mountain** 33.87 35 P **P** **18 43 19.5 +0.5**
baz=223
MPK **Martis Peak** 34.05 338 IAmb IAmb 18 43 24.5
comp=Z,32nm,1.2s
BMN **Battle Mountai** 34.10 342 IAmb IAmb 18 43 24.0
comp=Z,20nm,1.1s
PAHR **Pah Rah Range** 34.17 339 IAmb IAmb 18 43 25.2
comp=Z,17nm,1.1s
K22A **Casper** 34.30 357 IAmb IAmb 18 43 32.1
comp=Z,19nm,0.9s
K22A **Casper** 34.30 357 P **P** **18 43 23.6 +0.7**
baz=176
V55A **Taylorsville** 34.45 34 IAmb IAmb 18 43 41.2
comp=Z,20nm,0.6s
U54A **Nelsons Funny** 34.62 32 IAmb IAmb 18 43 31.6
comp=Z,36nm,1.2s
BW06 **Boulder Array** 34.68 353 P **P** **18 43 26.9 +0.6**
baz=170,SNR=17
PD31 **Pinedale Array** 34.68 353 IAmb IAmb 18 43 28.4
comp=Z,42nm,1.1s
PDAR **Pinedale Array** 34.68 353 P **P** **18 43 26.3 0.0**
PDAR **Pinedale Array** 34.68 353 P **P** **18 43 26.7 +0.5**
comp=Z,18nm,1.0s,baz=168,slow=8.9,SNR=49
PDAR LR LR 18 58 13.2
comp=Z,745nm,19.1s,baz=184,slow=38
comp=Z,18nm,1.0s
HDIL **Hopedale** 34.71 20 P **P** **18 43 25.5 -0.8**
baz=206
SCIA **State Center** 34.82 14 P **P** **18 43 26.1 -1.1**
baz=199
ORV **Oroville** 34.84 336 IAmb IAmb 18 43 31.1
comp=Z,32nm,1.2s
AHID **Auburn Hatcher** 34.90 351 IAmb IAmb 18 43 30.1
comp=Z,24nm,1.1s
CZSB **Cruzeiro do Su** 35.05 116 *eP* P 18 43 26.1 -3.4
U56A **King** 35.27 34 IAmb IAmb 18 43 37.3
comp=Z,45nm,1.4s
SFIN **Lafayette** 35.35 23 P **P** **18 43 31.2 -0.5**
baz=210
L40A **Anamosa** 35.49 17 IAmb IAmb 18 43 33.7
comp=Z,20nm,0.8s
SNOW **Snow King Moun** 35.53 352 IAmb IAmb 18 43 35.9
comp=Z,43nm,1.4s
RPN **Rapa Nui** 35.58 188 LR LR 18 54 34.7
comp=Z,985nm,21.3s,baz=341,slow=30
V58A **Windy Hill, Pi** 35.60 36 IAmb IAmb 18 43 40.5
comp=Z,26nm,1.0s
P49A **Miami Univ. Ec** 35.60 26 IAmb IAmb 18 43 38.7
comp=Z,39nm,1.4s
P49A **Miami Univ. Ec** 35.60 26 P **P** **18 43 32.3 -1.6**
baz=214
LOHW **Long Hollow** 35.65 352 IAmb IAmb 18 43 36.7
comp=Z,31nm,1.2s
RSSD **Black Hills** 35.69 360 P **P** **18 43 34.9 0.0**
RSSD IAmb IAmb 18 43 36.9
comp=Z,47nm,1.8s
RSSD **Black Hills** 35.69 360 P **P** **18 43 35.1 +0.1**
baz=180
Q51A **Peebles** 35.81 28 IAmb IAmb 18 43 36.9
comp=Z,27nm,1.2s
BLA **Blacksburg** 35.88 33 P **P** **18 43 35.9 -0.5**
baz=222
ECSD **EROS Data Cent** 35.90 9 IAmb IAmb 18 43 37.1
comp=Z,26nm,1.5s
ECSD **EROS Data Cent** 35.90 9 P **P** **18 43 35.5 -1.0**
baz=192,SNR=5.6
IMW **Indian Meadow** 35.98 351 IAmb IAmb 18 43 39.5
comp=Z,42nm,1.8s
O48B **Farmland** 36.02 25 IAmb IAmb 18 43 37.9
comp=Z,20nm,1.1s
O48B **Farmland** 36.02 25 P **P** **18 43 37.3 -0.2**
baz=213
FLWY **Flagg Ranch** 36.13 352 IAmb IAmb 18 43 42.7
comp=Z,31nm,0.9s
HLID **Hailey** 36.29 347 P **P** **18 43 41.6 +1.6**
baz=162,SNR=14
T57A **Hurt** 36.37 34 IAmb IAmb 18 43 41.7
comp=Z,26nm,1.2s
H17A **Grant Village** 36.42 352 P **P** **18 43 43.0 +1.8**
baz=169,SNR=6.5
JFWS **Jewell Farm** 36.55 17 P **P** **18 43 42.6 +0.6**
baz=203
I37A **Lemond, Waseca** 36.78 13 IAmb IAmb 18 43 45.0
comp=Z,31nm,0.8s
R55A **Marlinton** 36.83 32 IAmb IAmb 18 43 45.9
comp=Z,66nm,1.9s
P52A **Corning** 36.86 29 IAmb IAmb 18 43 46.2
comp=Z,26nm,1.2s
P52A **Corning** 36.86 29 P **P** **18 43 44.8 +0.1**
baz=218
ACSO **Alum Creek Sta** 36.94 27 P **P** **18 43 45.5 +0.1**
baz=216
K43A **Burlington** 36.96 19 IAmb IAmb 18 43 46.7
comp=Z,21nm,0.8s
RLMT **Red Lodge** 36.97 354 P **P** **18 43 45.3 -0.6**
baz=171
Q54A **Coxs Mills** 36.99 31 IAmb IAmb 18 43 47.0
comp=Z,78nm,1.8s
S57A **Dark Hollow, R** 37.08 34 IAmb IAmb 18 43 52.6
comp=Z,35nm,1.1s
YBH **Yreka Blue Hor** 37.18 337 LR LR 18 56 44.1
comp=Z,701nm,19.5s,baz=162,slow=32
T59A **Double "B" Far** 37.32 36 IAmb IAmb 18 43 54.5
comp=Z,62nm,1.5s
I40A **Norwalk** 37.35 16 IAmb IAmb 18 43 50.4
comp=Z,25nm,0.8s
K05A **Summer Lake** 37.37 339 IAmb IAmb 18 43 52.5
comp=Z,32nm,1.0s
O52A **Adamsville** 37.38 29 IAmb IAmb 18 43 54.4
comp=Z,36nm,1.4s
L48A **N Adams** 37.73 24 IAmb IAmb 18 43 53.1
comp=Z,31nm,0.9s
KSXB **Camp Six Broad** 37.73 336 IAmb IAmb 18 43 56.6
comp=Z,34nm,0.9s
BOZ **Bozeman (W)** 37.74 351 IAmb IAmb 18 43 54.9
comp=Z,55nm,1.8s
BOZ **Bozeman (W)** 37.74 351 P **P** **18 43 52.7 +0.4**
baz=168,SNR=13
O53A **New Philadelph** 37.78 29 P **P** **18 43 51.1 -1.4**
baz=219
I42A **Draeger Farm,** 37.84 18 IAmb IAmb 18 43 53.9
comp=Z,27nm,0.9s
L02F **Cave Junction** 37.85 336 IAmb IAmb 18 43 56.0
comp=Z,21nm,1.1s
J05D **Fort Rock, OR** 37.98 339 IAmb IAmb 18 43 57.4
comp=Z,37nm,0.9s
MCWV **Mont Chateau** 38.00 31 P **P** **18 43 53.2 -1.2**
baz=221
PLID **Pearl Lake** 38.10 346 IAmb IAmb 18 43 57.3
comp=Z,33nm,1.2s
CBN **Corbin Frederi** 38.28 35 P **P** **18 43 56.7 0.0**
baz=226
LAO **LASA Array** 38.31 358 P **P** **18 43 56.9 -0.1**
baz=176
PINE **Pine Mountain** 38.33 340 IAmb IAmb 18 44 00.4
comp=Z,41nm,0.9s
AAM **Ann Arbor** 38.34 25 P **P** **18 43 57.1 -0.1**
baz=214
J47A **Sunmer** 38.67 23 IAmb IAmb 18 44 01.1
comp=Z,32nm,0.8s
J01E **Myrtle Point** 38.87 337 IAmb IAmb 18 44 08.1
comp=Z,45nm,0.9s
PCRV **Puerto La Cruz** 38.92 84 LR LR 18 59 53.3
comp=Z,352nm,18.8s,slow=36
M53A **WI Miller and** 38.96 28 P **P** **18 44 02.0 -0.5**
baz=218
MSO **Missoula** 39.33 349 P **P** **18 44 05.5 -0.1**
baz=164,SNR=7.7
BUCK **Buck Mountain** 39.40 338 IAmb IAmb 18 44 08.6
comp=Z,56nm,1.0s

H04A **Detroit Lake** 39.53 340 IAmb IAmb 18 44 09.4
comp=Z,39nm,1.0s
SSPA **Standing Stone** 39.73 32 P **P** **18 44 07.6 -1.3**
SSPA **Standing Stone** 39.73 32 P **P** **18 44 07.7 -1.3**
baz=223
G05A **Wamic** 39.74 341 IAmb IAmb 18 44 11.6
comp=Z,32nm,1.0s
ERPA **Erie** 39.81 28 P **P** **18 44 08.2 -1.4**
baz=219
EGMT **Eagleton** 39.90 354 IAmb IAmb 18 44 18.5
comp=Z,34nm,1.0s
EGMT **Eagleton** 39.90 354 P **P** **18 44 09.8 -0.5**
baz=171,SNR=16
HOOD **Mount Hood Mea** 39.92 341 IAmb IAmb 18 44 13.1
comp=Z,36nm,1.0s
DGMT **Dagmar** 40.05 360 P **P** **18 44 10.6 -0.8**
baz=180
HAWA **Hanford** 40.23 343 IAmb IAmb 18 44 15.5
comp=Z,32nm,1.1s
AGMN **Agassiz Nation** 40.47 8 IAmb IAmb 18 44 22.2
comp=Z,44nm,0.8s
AGMN **Agassiz Nation** 40.47 8 P **P** **18 44 14.5 -0.4**
baz=192,SNR=22
D08A **Wollman Farm,** 40.67 344 IAmb IAmb 18 44 18.4
comp=Z,24nm,0.9s
EYMN **Ely** 40.93 13 P **P** **18 44 17.5 -1.2**
EYMN **Ely** 40.93 13 P P 18 44 17.1 -1.6
baz=199
TEFE **Tefe** 41.01 105 *eP* **P** **18 44 19.5 -0.3**
LON **Longmire** 41.23 341 IAmb IAmb 18 44 24.1
comp=Z,28nm,0.8s
NEW **Newport** 41.35 347 IAmb IAmb 18 44 23.9
comp=Z,29nm,0.9s
NEW **Newport** 41.35 347 P **P** **18 44 22.0 -0.3**
baz=160,SNR=13
NEW **Newport** 41.35 347 LR LR 19 00 20.1
comp=Z,326nm,21.9s,baz=168,slow=34
E03A **Lebam** 41.63 340 IAmb IAmb 18 44 27.6
comp=Z,56nm,1.1s
ETMB **Extrema** 41.73 115 P P 18 44 23.9 -1.9
ETMB **Extrema** 41.73 115 *eP* **P** **18 44 24.2 -1.6**
BINY **Binghamton** 41.85 32 P **P** **18 44 25.1 -1.3**
baz=224,SNR=5.3
PAL **Palisades** 42.14 34 P **P** **18 44 28.0 -0.8**
baz=228
SADO **Sadowa** 42.27 26 LR LR 19 02 56.1
comp=Z,229nm,20.7s,baz=226,slow=38
GNW **Green Mountain** 42.28 341 P **P** **18 44 30.0 +0.2**
ULM **Lac du Bonnet** 42.38 8 P **P** **18 44 29.4 -1.1**
comp=Z,8.8nm,0.8s,baz=194,slow=12,SNR=9.7
ULM LR LR 19 01 57.1
comp=Z,935nm,20.9s,baz=200,slow=36
comp=Z,8.8nm,0.8s
LPAZ **La Paz** 43.12 125 P **P** **18 44 37.2 -0.5**
LPAZ **La Paz** 43.12 125 P **P** **18 44 37.6 -0.1**
comp=Z,4.4nm,0.6s,baz=304,slow=6.9,SNR=16
LPAZ LR LR 19 00 12.7
comp=Z,401nm,18.8s,baz=316,slow=33
comp=Z,4.4nm,0.6s
LPAZ **La Paz** 43.12 125 *eP* P 18 44 35.5 -2.1
PGC **Sidney** 43.43 341 P **P** **18 44 39.3 +0.2**
PGC IAmb IAmb 18 44 49.0
comp=Z,21nm,0.9s
BOAV **Boa Vista** 43.69 95 *eP* **P** **18 44 41.1 -0.6**
CLRS **Cowichan Lake** 43.80 341 IAmb IAmb 18 44 44.4
comp=Z,41nm,1.0s
SAML **Samuel** 44.15 112 P P 18 44 43.3 -2.1
SAML IAmb IAmb 18 44 50.0
comp=Z,39nm,1.7s
SAML **Samuel** 44.15 112 *eP* **P** **18 44 44.0 -1.4**
LONY **Lake Ozonia** 44.30 30 P **P** **18 44 44.6 -1.5**
baz=224
CBB **Campbell River** 45.25 341 P **P** **18 44 55.6 +1.9**
LVC **Limon Verde** 46.11 132 LR LR 18 59 36.9
comp=Z,776nm,21.7s,baz=305,slow=30
FFC **Flin Flon** 46.34 2 P **P** **18 45 01.4 -0.8**
PKME **Peaks-Kenny Pk** 47.49 33 P **P** **18 45 10.1 -1.2**
baz=230
H03N2 **Juan Fernandez** 47.87 151 T T 19 36 32.4
baz=328,slow=78,SNR=54
H03N1 **Juan Fernandez** 47.88 151 T T 19 36 33.4
baz=328,slow=78,SNR=51
H03N3 **Juan Fernandez** 47.89 151 T T 19 36 27.3
baz=328,slow=78,SNR=46
BBB **Bella Bella** 48.00 340 LR LR 19 03 27.2
comp=Z,528nm,19.5s,baz=164,slow=34
E62A **Clayton Lake** 48.25 32 IAmb IAmb 18 45 18.8
comp=Z,23nm,1.1s
VILB **Vilhena** 48.39 115 *eP* **P** **18 45 18.4 -0.4**
LMQ **La Malbaie** 48.46 30 P **P** **18 45 17.8 -1.1**
LMQ IAmb IAmb 18 45 30.0
comp=Z,24nm,1.2s
SIV **San Ignacio** 48.90 120 LR LR 19 04 40.6
comp=Z,1µm,18.0s,baz=302,slow=34
AC05 **El Transito** 49.22 140 P **P** **18 45 25.1 0.0**
AC05 IAmb IAmb 18 45 35.1
comp=Z,14nm,0.8s
ITTB **Itaituba** 49.78 103 *eP* P 18 45 27.1 -2.3
BBSD **Serra de San D** 49.83 121 *eP* **P** **18 45 28.7 -1.1**
PTLB **Pontes e Lacer** 50.35 118 P **P** **18 45 32.8 -0.8**
PTLB **Pontes e Lacer** 50.35 118 *eP* **P** **18 45 33.7 0.0**
CO03 **El Pedregal** 50.35 142 P **P** **18 45 34.9 +1.3**
NPGB **Novo Progresso** 50.86 106 *eP* **P** **18 45 36.6 -1.1**
FCC **Fort Churchill** 50.93 7 IAmb IAmb 18 45 38.7
comp=Z,25nm,1.2s
BBRB **Robore, Bolivi** 51.01 121 *eP* **P** **18 45 37.9 -0.8**
MDP **Montagnes des** 51.11 90 LR LR 19 07 15.7
comp=Z,359nm,18.8s,baz=264,slow=36
V35K **Ketchikan** 51.77 340 P **P** **18 45 43.5 -0.2**
baz=144
PPT **Papeete** 51.81 240 LR LR 19 02 10.1
comp=Z,561nm,18.3s,baz=46,slow=30
T35M **Bob Quinn** 52.70 342 P **P** **18 45 50.1 -0.6**
baz=147
TOAD **Toad River Com** 52.99 346 P **P** **18 45 53.2 +0.4**
baz=153,SNR=9.9
LIRD **Liard River Hi** 53.69 346 P **P** **18 45 57.9 -0.1**
baz=152
S34M **Telegraph Cree** 53.74 342 P **P** **18 45 57.8 -0.6**
baz=146
DLBC **Dease Lake** 53.86 343 IAmb IAmb 18 46 01.7
comp=Z,19nm,0.9s
DLBC **Dease Lake** 53.86 343 P **P** **18 45 59.2 -0.1**
baz=148,SNR=14
DLBC **Dease Lake** 53.86 343 LR LR 19 08 14.1
comp=Z,595nm,18.8s,baz=134,slow=35
KOTAN **Kotaneelee Air** 53.88 348 P **P** **18 45 59.7 +0.4**
baz=155,SNR=8.6
SIT **Sitka** 54.41 340 P **P** **18 46 03.9 +0.8**
baz=141
S32K **Killisnoo** 54.47 340 P **P** **18 46 03.8 +0.2**
S32K **Killisnoo** 54.47 340 P **P** **18 46 04.4 +0.8**
baz=142
YKA **Yellowknife Ar** 54.65 354 P **P** **18 46 03.6 -1.3**
YKA **Yellowknife Ar** 54.65 354 P **P** **18 46 04.1 -0.8**
comp=Z,4.1nm,0.9s,baz=164,slow=6.9,SNR=56
YKA PcP **PcP** **18 47 07.0 -0.7**
comp=Z,2.1nm,0.8s,baz=159,slow=3.0,SNR=7.9
YKA LR LR 19 07 29.1
comp=Z,628nm,20.0s,baz=171,slow=34
comp=Z,4.1nm,0.9s
R33M **Jennings River** 54.93 344 IAmb IAmb 18 46 09.4
comp=Z,19nm,1.0s
R33M **Jennings River** 54.93 344 P **P** **18 46 08.2 +1.0**
baz=147,SNR=14
WTLY **Watson Lake, Y** 54.97 345 P **P** **18 46 08.4 +1.1**
baz=150,SNR=6.7
SCHQ **Schefville** 55.05 25 IAmb IAmb 18 46 18.1
comp=Z,23nm,1.2s
SCHQ **Schefferville** 55.05 25 P **P** **18 46 06.3 -1.6**
comp=Z,6.3nm,1.0s,baz=244,slow=12,SNR=4.0
SCHQ LR LR 19 11 26.9
comp=Z,582nm,19.2s,baz=232,slow=38
comp=Z,6.3nm,1.0s
R32K **Eaglecrest** 55.09 341 P **P** **18 46 09.1 +1.0**
baz=142
S31K **Pelican** 55.42 340 P **P** **18 46 10.9 +0.4**
baz=140
AQDB **Aquidauana** 55.45 122 *eP* **P** **18 46 11.9 +0.6**
P32M **Atlin** 55.89 342 IAmb IAmb 18 46 16.0
comp=Z,14nm,1.1s
P32M **Atlin** 55.89 342 P **P** **18 46 14.7 +0.7**
baz=144,SNR=6.6
TGTN **Hyland Airport** 56.07 346 P **P** **18 46 15.9 +0.7**
baz=151,SNR=14
P33M **Teslin, Yukon** 56.14 343 P **P** **18 46 16.4 +0.6**
baz=145,SNR=6.9

SNDB **Serra Nova Dou** 56.16 110 *eP* **P** **18 46 17.0 +0.4**
SKAG **Skagway** 56.29 341 P **P** **18 46 17.6 +0.9**
baz=142
WRGLY **Wrigley** 56.61 350 P **P** **18 46 19.4 +0.5**
baz=157
PLBC **Pleasant Camp** 56.62 341 P **P** **18 46 19.9 +0.8**
baz=141,SNR=10
CPUP **Villa Florida** 56.91 129 IAmb IAmb 18 46 27.8
comp=Z,11nm,0.8s
CPUP **Villa Florida** 56.91 129 P **P** **18 46 22.1 +0.4**
comp=Z,4.7nm,0.9s,baz=304,slow=11,SNR=6.5
comp=Z,4.7nm,0.9s
ARAG **Araguaiana, MT** 56.95 115 *eP* **P** **18 46 21.5 -0.6**
N32M **Quiet Lake** 56.98 344 P **P** **18 46 23.0 +1.3**
baz=145
WHY **Whitehorse** 57.10 342 P **P** **18 46 23.2 +0.6**
baz=143
P29M **Windy Craggy** 57.20 340 P **P** **18 46 24.1 +0.9**
baz=139
P30M **Million Dollar** 57.32 341 P **P** **18 46 25.2 +1.1**
baz=140,SNR=7.4
O30N **Mendenhall** 57.56 342 IAmb IAmb 18 46 28.0
comp=Z,17nm,0.9s
O30N **Mendenhall** 57.56 342 P **P** **18 46 26.3 +0.5**
baz=142,SNR=14
PLCA **Paso Flores** 57.71 150 P **P** **18 46 27.4 +0.2**
comp=Z,1.4nm,1.0s,baz=307,slow=15,SNR=2.0
PLCA LR LR 19 05 39.3
comp=Z,618nm,19.9s,baz=306,slow=30
comp=Z,1.4nm,1.0s
MMPY **Sheldon Lake,** 57.73 346 P **P** **18 46 28.1 +1.1**
baz=148,SNR=38
PNL **Peninsula** 57.79 340 P **P** **18 46 28.6 +1.2**
baz=137
FARO **Faro, Yukon** 57.95 344 P **P** **18 46 29.6 +1.1**
baz=145,SNR=8.8
N31M **Braeburn, Yuko** 58.03 343 P **P** **18 46 30.2 +1.1**
baz=142,SNR=17
HYT **Haines Junctio** 58.04 341 P **P** **18 46 30.2 +1.0**
baz=140,SNR=6.4
M31M **Drury Creek, Y** 58.21 344 IAmb IAmb 18 46 32.3
comp=Z,11nm,1.0s
M31M **Drury Creek, Y** 58.21 344 P **P** **18 46 31.2 +0.9**
baz=144,SNR=8.3
N30M **Aishikik Lake** 58.40 342 IAmb IAmb 18 46 34.0
comp=Z,18nm,0.9s
N30M **Aishikik Lake** 58.40 342 P **P** **18 46 32.4 +0.7**
baz=141,SNR=18
YUK6 **Outpost Mounta** 58.40 341 P **P** **18 46 33.3 +1.4**
baz=139
SMTB **Santa Maria do** 58.76 106 *eP* **P** **18 46 36.1 +1.1**
YUK4 **Talbot Arm** 58.80 341 P **P** **18 46 36.2 +1.6**
baz=139,SNR=14
O28M **Mount Upton** 58.87 340 P **P** **18 46 36.3 +1.0**
baz=137
MESA **MESA** 59.05 339 P **P** **18 46 36.8 +0.4**
baz=135
YUK8 **Steele Glacier** 59.11 341 P **P** **18 46 38.0 +1.1**
baz=138,SNR=12
PSAL **Palomas, Salto** 59.22 134 *eP* **P** **18 46 40.8 +3.0**
CTGM **Chitina Glacie** 59.40 340 IAmb IAmb 18 46 41.1
comp=Z,14nm,1.1s
CTG **Chitna Glacier** 59.40 340 P **P** **18 46 40.0 +1.3**
baz=136
M29M **Somme Creek** 59.57 342 IAmb IAmb 18 46 42.0
comp=Z,14nm,0.9s
M29M **Somme Creek** 59.57 342 P **P** **18 46 40.5 +0.6**
baz=140,SNR=18
BARN **Barnard Glacie** 59.58 340 IAmb IAmb 18 46 41.6
comp=Z,9.9nm,1.1s
YUK3 **Moose Creek** 59.70 341 P **P** **18 46 41.7 +0.9**
baz=137
L29M **L29M** 59.98 343 P **P** **18 46 43.5 +0.8**
baz=140,SNR=49
MCARA **McCarthy VSAT** 60.27 340 IAmb IAmb 18 46 46.9
comp=Z,21nm,1.0s
MCARA **McCarthy VSAT** 60.27 340 P **P** **18 46 45.6 +1.1**
baz=134
VRDI **Verde Repeater** 60.31 339 IAmb IAmb 18 46 47.1
comp=Z,12nm,0.9s
BDFB **Brasilia** 60.36 113 P **P** **18 46 45.6 -0.4**
BDFB IAmb IAmb 18 46 50.7
comp=Z,17nm,1.2s
BDFB **Brasilia** 60.36 113 P **P** **18 46 45.7 -0.4**
comp=Z,3.7nm,0.5s,baz=299,slow=7.4,SNR=6.8
BDFB LR LR 19 11 51.0
comp=Z,590nm,18.1s,baz=315,slow=35
comp=Z,3.7nm,0.5s
K29M **Barlow Dome** 60.38 344 IAmb IAmb 18 46 47.1
comp=Z,16nm,1.1s
K29M **Barlow Dome** 60.38 344 P **P** **18 46 45.6 +0.2**
baz=141,SNR=13
BMRM **Bremner River** 60.55 339 P **P** **18 46 47.5 +1.0**
baz=132,SNR=5.8
M27K **Edge Creek, AK** 60.58 341 IAmb IAmb 18 46 48.8
comp=Z,15nm,0.9s
M27K **Edge Creek, AK** 60.58 341 P **P** **18 46 47.7 +0.9**
baz=136,SNR=11
GLB **Gilahina Butte** 60.59 339 IAmb IAmb 18 46 48.9
comp=Z,16nm,0.9s
RODS **Rosario do Sul** 60.59 132 *eP* **P** **18 46 47.8 +0.6**
RODS *epP* pwP 18 47 08.3 +15
J30M **Hart River** 60.64 345 IAmb IAmb 18 46 48.8
comp=Z,26nm,1.9s
J30M **Hart River** 60.64 345 P **P** **18 46 48.8 +1.6**
baz=143
EYAK **Cordova Ski Ar** 60.69 338 P **P** **18 46 48.2 +0.8**
baz=131
TBOT **Tacuaremb** 60.75 133 *eP* **P** **18 46 51.4 +3.1**
FRB **Frobisher Bay** 60.88 17 LR LR 19 15 28.5
comp=Z,316nm,18.8s,baz=212,slow=38
N25K **Chitina, Valde** 60.98 339 P **P** **18 46 50.1 +0.6**
baz=133,SNR=9.0
M26K **Nabesna, AK** 60.98 340 IAmb IAmb 18 46 51.2
comp=Z,16nm,0.9s
M26K **Nabesna, AK** 60.98 340 P **P** **18 46 50.1 +0.6**
baz=135,SNR=12
J29N **Klondike Camp** 61.05 344 IAmb IAmb 18 47 00.8
comp=Z,12nm,1.1s
J29N **Klondike Camp** 61.05 344 P **P** **18 46 50.5 +0.6**
baz=141
BCAR **Beaver Creek A** 61.06 341 P **P** **18 46 50.3 +0.3**
L27K **Beaver Creek,** 61.07 341 IAmb IAmb 18 46 51.8
comp=Z,12nm,0.9s
L27K **Beaver Creek,** 61.07 341 P **P** **18 46 50.3 +0.2**
baz=136,SNR=13
DAWY **Dawson** 61.08 343 IAmb IAmb 18 46 51.4
comp=Z,19nm,1.0s
DAWY **Dawson** 61.08 343 P **P** **18 46 50.9 +0.8**
baz=139,SNR=9.9
H31M **Peel River** 61.14 346 P **P** **18 46 50.3 -0.1**
baz=145,SNR=22
I30M **Mount Dempster** 61.17 345 IAmb IAmb 18 46 51.7
comp=Z,11nm,1.1s
I30M **Mount Dempster** 61.17 345 P **P** **18 46 50.0 -0.7**
baz=143,SNR=9.8
KLU **Klutina** 61.37 339 P **P** **18 46 52.8 +0.7**
baz=131,SNR=8.5
GLI **Glacier Island** 61.41 338 P **P** **18 46 53.1 +0.8**
baz=130
L26K **Log Cabin Wild** 61.53 341 IAmb IAmb 18 46 54.2
comp=Z,16nm,1.4s
L26K **Log Cabin Wild** 61.53 341 P **P** **18 46 53.7 +0.5**
baz=134
MENT **Mentasta** 61.59 341 IAmb IAmb 18 47 01.9
comp=Z,10nm,0.9s
HARP **HAARP** 61.71 340 P **P** **18 46 54.9 +0.6**
baz=132
SEW **Seward** 61.84 336 P **P** **18 46 55.1 -0.1**
baz=127
KDAK **Kodiak Island** 61.84 333 P **P** **18 46 55.1 -0.2**
baz=123
KDAK **Kodiak Island** 61.84 333 LR LR 19 08 48.6
comp=Z,287nm,18.6s,baz=162,slow=31
K27K **Chicken** 61.85 342 P **P** **18 46 56.3 +1.1**
baz=136
OHAK **Old Harbor** 61.86 332 P **P** **18 46 55.1 -0.3**
baz=122
M24K **Tolsona, Glenn** 61.87 339 P **P** **18 46 55.5 +0.1**
baz=131
SII **Sitkinak Islan** 61.94 331 P **P** **18 46 55.8 -0.2**
baz=121
G31M **Satah River** 62.05 347 IAmb IAmb 18 46 58.7
comp=Z,13nm,1.0s
G31M **Satah River** 62.05 347 P **P** **18 46 56.2 -0.3**
baz=146,SNR=12
RAR **Rarotonga** 62.07 241 LR LR 19 06 03.2
comp=Z,303nm,19.0s,baz=97,slow=28

SCM	Sheep Creek Mo	62.10	338	P	P	18 46 56.0	-1.0
	baz=130						
EGAK	Eagle	62.13	343	IAmb	IAmb	18 46 58.3	
	comp=Z,16nm,0.9s						
EGAK	Eagle	62.13	343	P	P	18 46 57.2	+0.2
	baz=138,SNR=17						
BRSE	Bradley Lake S	62.15	335	P	P	18 46 56.9	-0.4
	baz=126						
EPYK	Eagle Plains	62.17	346	P	P	18 46 57.2	-0.2
	baz=143,SNR=8.5						
PAX	Paxson	62.20	340	P	P	18 46 57.5	-0.2
	baz=132						
Q20K	Shuyak Island	62.21	334	P	P	18 46 57.7	0.0
	baz=123						
KNK	Knik Glacier	62.26	338	P	P	18 46 57.9	-0.1
	baz=128						
CHIR	Chirikof Islan	62.27	330	P	P	18 46 57.9	-0.3
	baz=119						
I28M	Miner Creek	62.28	344	P	P	18 46 57.4	-0.8
	baz=139,SNR=9.2						
F31M	Tsiigehtchic	62.37	348	P	P	18 46 57.9	-0.7
	baz=146,SNR=12						
C36M	Paulatuk	62.37	352	P	P	18 46 57.7	-0.9
	baz=158,SNR=6.0						
SCRK	Sand Creek	62.41	341	IAmb	IAmb	18 47 01.6	
	comp=Z,12nm,0.8s						
SCRK	Sand Creek	62.41	341	P	P	18 46 59.4	+0.3
	baz=134,SNR=15						
SML	Sawmill	62.45	338	P	P	18 46 59.0	-0.4
	baz=129,SNR=14						
H29M	Whitestone	62.46	345	IAmb	IAmb	18 47 00.3	
	comp=Z,17nm,0.9s						
H29M	Whitestone	62.46	345	P	P	18 46 59.3	0.0
	baz=141,SNR=16						
G30M	tAoh Zraii Nji	62.54	346	IAmb	IAmb	18 47 31.1	
	comp=Z,11nm,1.1s						
G30M	tAoh Zraii Nji	62.54	346	P	P	18 46 59.3	-0.6
	baz=144						
RC01	Rabbit Creek A	62.55	337	P	P	18 47 00.5	+0.6
	baz=127						
PMR	Palmer	62.62	338	P	P	18 46 59.9	-0.5
	baz=128						
J26L	Joseph Creek	62.64	342	IAmb	IAmb	18 47 02.2	
	comp=Z,13nm,0.9s						
J26L	Joseph Creek	62.64	342	P	P	18 47 00.6	-0.1
	baz=135,SNR=18						
WAT6	Susitna Watana	62.73	339	P	P	18 47 01.1	-0.2
	baz=130,SNR=22						
K24K	Donnelly Dome	62.87	341	P	P	18 47 02.3	+0.2
	baz=132						
I27K	Kandik River	62.87	343	P	P	18 47 01.9	-0.2
	baz=137,SNR=17						
CAPN	Captain Cook N	62.91	336	P	P	18 47 02.4	0.0
	baz=126						
G29M	Pine Creek	62.92	346	P	P	18 47 02.7	+0.3
	baz=142,SNR=17						
DHY	Denali Highway	62.92	339	IAmb	IAmb	18 47 03.5	
	comp=Z,13nm,0.9s						
DHY	Denali Highway	62.92	339	P	P	18 47 02.2	-0.4
	baz=130,SNR=7.7						
Q19K	Cape Douglas,	62.93	334	P	P	18 47 02.3	-0.3
	baz=122						
F30M	Barrier River	62.95	347	P	P	18 47 02.2	-0.3
	baz=144,SNR=19						
INK	Inuvik	63.05	348	P	P	18 47 03.0	-0.1
	baz=147,SNR=35						
INK	Inuvik	63.05	348	LR	LR	19 15 02.1	
	comp=Z,286nm,18.4s,baz=171,slow=37						
M22K	Willow	63.09	337	P	P	18 47 03.3	-0.2
	baz=127						
I26K	Coal Creek Min	63.09	343	IAmb	IAmb	18 47 04.7	
	comp=Z,15nm,0.9s						
I26K	Coal Creek Min	63.09	343	P	P	18 47 03.5	0.0
	baz=136						
O20K	Slope Mountain	63.12	335	P	P	18 47 03.7	-0.2
	baz=124						
P19K	Oil Pt	63.14	334	P	P	18 47 03.7	-0.3
	baz=123						
SUA	Susitna One	63.16	337	P	P	18 47 04.1	-0.1
	baz=126,SNR=9.3						
WAT1	Susitna Watana	63.18	339	P	P	18 47 03.1	-1.1
	baz=129						
J25K	Salcha River,	63.28	341	IAmb	IAmb	18 47 17.0	
	comp=Z,13nm,1.0s						
J25K	Salcha River,	63.28	341	P	P	18 47 04.4	-0.5
	baz=133,SNR=7.9						
H27K	Steamboat Moun	63.31	344	P	P	18 47 05.4	+0.4
	baz=138,SNR=60						
JANB	Januaria	63.57	111	*eP*	P	18 47 09.6	+2.0
N20K	Mount Spurr	63.58	336	P	P	18 47 07.0	+0.1
	baz=125						
HDA	Harding Lake	63.65	341	P	P	18 47 06.8	-0.5
	baz=131,SNR=5.7						
SKT	Skwentna	63.77	337	IAmb	IAmb	18 47 09.3	
	comp=Z,14nm,1.0s						
SKT	Skwentna	63.77	337	P	P	18 47 08.0	-0.1
	baz=126,SNR=6.8						
G27K	Doyon Strip	63.77	344	IAmb	IAmb	18 47 11.1	
	comp=Z,7.4nm,0.9s						
G27K	Doyon Strip	63.77	344	P	P	18 47 08.3	+0.2
	baz=138,SNR=9.8						
P18K	Big Mountain,	63.87	334	P	P	18 47 08.2	-0.6
	baz=121						
ILAR	Eielson Array	63.87	341	P	P	18 47 08.4	-0.3
	comp=Z,19nm,0.8s,baz=154,slow=5.1,SNR=4.5						
ILAR				LR	LR	19 12 49.8	
	comp=Z,156nm,18.7s,baz=124,slow=34						
	comp=Z,19nm,0.8s						
MCK	McKinley	63.88	340	P	P	18 47 08.8	-0.1
	baz=129,SNR=7.6						
F28M	Old Crow	63.92	346	P	P	18 47 08.9	0.0
	baz=140,SNR=21						
PRP	Porcupine Dome	63.95	342	P	P	18 47 09.2	-0.2
	baz=133,SNR=16						
R16K	Pilot Point	64.05	331	P	P	18 47 09.3	-0.7
	baz=118						
E29M	Blow River	64.06	347	IAmb	IAmb	18 47 10.8	
	comp=Z,17nm,0.9s						
E29M	Blow River	64.06	347	P	P	18 47 09.8	-0.1
	baz=142,SNR=18						
WRH	Wood River Hil	64.07	340	IAmb	IAmb	18 47 11.7	
	comp=Z,13nm,0.9s						
O18K	Koktuh Hills	64.10	334	P	P	18 47 09.8	-0.4
	baz=121						
TRF	Thorofare Moun	64.19	339	IAmb	IAmb	18 47 11.9	
	comp=Z,18nm,1.0s						
TRF	Thorofare Moun	64.19	339	P	P	18 47 10.3	-0.7
	baz=127						
POKR	Poker Plat Res	64.28	341	IAmb	IAmb	18 47 12.2	
	comp=Z,12nm,0.9s						
POKR	Poker Plat Res	64.28	341	P	P	18 47 10.9	-0.4
	baz=131						
N19K	Bonanza Creek	64.30	335	P	P	18 47 11.0	-0.7
	baz=122						
M20K	Styx River	64.33	337	P	P	18 47 11.4	-0.4
	baz=124						
MDM	Murphy Dome	64.43	341	IAmb	IAmb	18 47 14.0	
	comp=Z,11nm,0.9s						
S14K	Fog Glacier	64.45	329	P	P	18 47 12.7	-0.1
	baz=115						
G26K	Porcupine Rive	64.45	344	P	P	18 47 12.3	-0.1
	baz=136						
NEA2	Nenana	64.47	340	P	P	18 47 11.8	-0.8
	baz=129,SNR=28						
SDPT	Sand Point	64.53	328	P	P	18 47 13.1	-0.1
	baz=114						
PPLA	Purkeypile	64.55	338	P	P	18 47 13.0	-0.4
	baz=125,SNR=11						
H25L	Birch Creek	64.55	343	P	P	18 47 12.7	-0.4
	baz=133,SNR=9.3						
E28M	Babbage River	64.60	346	P	P	18 47 12.9	-0.5
	baz=140,SNR=39						
E27K	Coleen River	64.78	345	P	P	18 47 14.5	-0.1
	baz=138,SNR=33						
CAST	Castle Rocks	64.81	338	P	P	18 47 14.4	-0.6
	baz=126,SNR=16						
N18K	Kilae Creek	64.81	335	P	P	18 47 14.6	-0.4
	baz=121,SNR=5.0						
BPAW	Bear Paw Mtn.	64.83	339	IAmb	IAmb	18 47 27.9	
	comp=Z,7.1nm,0.8s						
BPAW	Bear Paw Mtn.	64.83	339	P	P	18 47 14.5	-0.5
	baz=127						
M19K	Big River Lodg	64.84	336	IAmb	IAmb	18 47 17.1	
	comp=Z,15nm,0.8s						
M19K	Big River Lodg	64.84	336	P	P	18 47 14.5	-0.6
	baz=123						
O17K	Koliganek Bris	64.88	333	P	P	18 47 14.8	-0.6
	baz=119						
H24K	Noodor Dome	64.89	342	P	P	18 47 15.0	-0.4
	baz=131,SNR=21						
I23K	Minto, Yukon-K	64.92	341	P	P	18 47 15.3	-0.2
	baz=129,SNR=18						
L20K	Farewell, AK	64.96	337	P	P	18 47 14.9	-0.9
	baz=123						
A36M	Sachs Harbour	64.97	353	P	P	18 47 14.7	-1.0
	baz=157,SNR=46						
G25K	Bearman Lake	64.98	343	P	P	18 47 15.8	-0.1
	baz=133,SNR=9.4						
D28M	Stokes Point	64.99	347	P	P	18 47 15.3	-0.6
	baz=142,SNR=13						
BMAR	Burnt Mountain	65.01	344	P	P	18 47 15.7	-0.5
F26K	Sheenjek River	65.08	344	P	P	18 47 16.1	-0.5
	baz=135,SNR=22						
CHUM	Lake Minchumin	65.17	339	P	P	18 47 16.3	-0.8
	baz=126,SNR=9.2						
L19K	White Mountain	65.18	336	P	P	18 47 17.4	+0.1
L19K				IAmb	IAmb	18 47 18.1	
	comp=Z,12nm,1.1s						
L19K	White Mountain	65.18	336	P	P	18 47 16.7	-0.6
	baz=122						
M18K	Stony River	65.20	335	P	P	18 47 16.6	-0.8
	baz=121						
O16K	Kokwok River B	65.24	333	P	P	18 47 17.5	-0.2
	baz=118						
N17K	Nushagak Hills	65.29	334	P	P	18 47 18.0	-0.1
	baz=119						
MLY	Manley	65.31	340	P	P	18 47 17.5	-0.7
	baz=128,SNR=17						
G24K	Hadweenzic Riv	65.34	342	P	P	18 47 17.7	-0.6
	baz=132,SNR=9.0						
H23K	Yukon River	65.41	341	IAmb	IAmb	18 47 20.7	
	comp=Z,9.5nm,0.8s						
H23K	Yukon River	65.41	341	P	P	18 47 18.2	-0.5
	baz=129,SNR=11						
F25K	Christian Rive	65.42	344	P	P	18 47 18.8	-0.1
	baz=134,SNR=30						
D27M	Malcolm River	65.43	346	P	P	18 47 18.3	-0.6
	baz=139,SNR=32						
K20K	Telida	65.52	338	P	P	18 47 18.8	-0.7
	baz=124						
E25K	Arctic Village	65.77	344	IAmb	IAmb	18 47 22.5	
	comp=Z,13nm,1.0s						
E25K	Arctic Village	65.77	344	P	P	18 47 21.3	+0.3
	baz=134,SNR=13						
M17K	Holitna River	65.83	335	P	P	18 47 21.4	-0.1
	baz=120						
O15K	Ungalikthiuk R	65.84	332	P	P	18 47 21.4	-0.2
	baz=116						
FALS	False Pass	65.90	327	P	P	18 47 21.7	-0.3
	baz=111						
L18K	Granite Mounta	65.93	336	P	P	18 47 21.4	-0.7
	baz=120						
N16K	Nishlik Lake	65.95	334	P	P	18 47 22.6	+0.2
	baz=118						
J20K	Nowinta River	66.00	338	P	P	18 47 21.9	-0.7
	baz=124,SNR=24						
F24K	Squaw Lake	66.00	343	IAmb	IAmb	18 47 25.2	
	comp=Z,8.7nm,0.9s						
F24K	Squaw Lake	66.00	343	P	P	18 47 22.6	0.0
	baz=131,SNR=9.7						
H22K	Ishtalitna Cre	66.05	341	P	P	18 47 22.1	-0.7
	baz=127						
G23K	Bananza Creek	66.12	342	IAmb	IAmb	18 47 24.7	
	comp=Z,8.1nm,0.8s						
G23K	Bananza Creek	66.12	342	P	P	18 47 22.9	-0.4
	baz=129,SNR=11						
M16K	Timber Creek	66.29	334	P	P	18 47 22.9	-1.6
	baz=118						
C27K	Jago River	66.36	346	P	P	18 47 24.0	-0.8
	baz=136,SNR=24						
H21K	Melozitna Rive	66.38	340	P	P	18 47 24.4	-0.6
	baz=126,SNR=26						
N15K	Kwethluk River	66.40	333	P	P	18 47 24.3	-0.9
	baz=116						
J19K	Poorman	66.44	338	IAmb	IAmb	18 47 25.8	
	comp=Z,16nm,1.2s						
J19K	Poorman	66.44	338	P	P	18 47 24.4	-1.0
	baz=122						
I20K	Naaghedeneel	66.47	339	P	P	18 47 25.0	-0.5
	baz=124,SNR=8.9						
COLD	Coldfoot	66.50	342	P	P	18 47 25.8	+0.1
	baz=129,SNR=7.1						
O14K	Tigyukauivet M	66.54	332	P	P	18 47 25.3	-0.8
	baz=115						
E24K	Your Creek	66.54	343	IAmb	IAmb	18 47 27.5	
	comp=Z,15nm,1.0s						
E24K	Your Creek	66.54	343	P	P	18 47 25.8	-0.2
	baz=131,SNR=16						
L17K	Donlin	66.55	335	P	P	18 47 25.7	-0.4
	baz=119						
RES	Resolute Bay	66.56	3	P	P	18 47 24.4	-1.5
RES	Resolute Bay	66.56	3	LR	LR	19 16 03.0	
	comp=Z,424nm,19.1s,baz=193,slow=36						
J18K	Innoko River	66.58	337	IAmb	IAmb	18 47 38.1	
	comp=Z,13nm,0.9s						
J18K	Innoko River	66.58	337	P	P	18 47 25.5	-0.8
	baz=121,SNR=10						
G22K	Bettles	66.71	342	P	P	18 47 26.6	-0.4
	baz=128						
D25K	Kavik River	66.81	345	P	P	18 47 27.5	-0.3
	baz=134,SNR=67						
K17K	Iditarod	66.83	336	P	P	18 47 27.4	-0.5
	baz=119						
L16K	Owhat River	66.83	335	P	P	18 47 27.6	-0.3
	baz=118						
E23K	Chandalar	66.86	343	P	P	18 47 28.2	+0.1
	baz=130						
C26K	Camden Bay	66.87	346	P	P	18 47 28.2	+0.3
	baz=135,SNR=12						
IMAR	Indian Mountai	66.88	340	P	P	18 47 27.3	-0.9
M15K	Kasigluk River	66.90	333	P	P	18 47 27.9	-0.5
	baz=116						
H20K	Anotleneega Mo	66.99	339	P	P	18 47 28.6	-0.3
	baz=124,SNR=7.6						
N14K	Kuskokwak Cree	67.02	332	P	P	18 47 27.8	-1.2
	baz=115						
G21K	Allakaket	67.11	341	P	P	18 47 28.9	-0.8
	baz=125						
TOLK	Toolik Lake Re	67.22	344	P	P	18 47 30.6	+0.2
	baz=130,SNR=27						
UNV	Unalaska Valle	67.27	325	P	P	18 47 30.6	-0.2
	baz=108						
F22K	John River	67.28	342	P	P	18 47 30.8	+0.1
	baz=127,SNR=20						
D24K	Happy Valley	67.35	344	IAmb	IAmb	18 47 31.7	
	comp=Z,15nm,1.0s						
D24K	Happy Valley	67.35	344	P	P	18 47 31.1	+0.1
	baz=131						
J17K	VABM Dome	67.47	336	IAmb	IAmb	18 47 33.1	
	comp=Z,8.0nm,0.9s						
J17K	VABM Dome	67.47	336	P	P	18 47 31.5	-0.4
	baz=119,SNR=5.5						
M14K	Bethel	67.49	333	P	P	18 47 31.6	-0.4
	baz=115						
F21K	Alatna River	67.51	341	IAmb	IAmb	18 47 33.6	
	comp=Z,14nm,1.0s						
F21K	Alatna River	67.51	341	P	P	18 47 32.4	+0.2
	baz=126,SNR=10						
E22K	Anaktuvuk Pass	67.55	343	IAmb	IAmb	18 47 33.5	
	comp=Z,17nm,0.9s						
E22K	Anaktuvuk Pass	67.55	343	P	P	18 47 32.3	-0.2
	baz=128						
H19K	Roundabout Mou	67.56	339	IAmb	IAmb	18 47 40.3	
	comp=Z,7.7nm,0.9s						
H19K	Roundabout Mou	67.56	339	P	P	18 47 31.8	-0.6
	baz=122						
L15K	Ungalak Mounta	67.68	334	P	P	18 47 33.0	-0.2
	baz=116						
C24K	Franklin Bluff	67.69	345	P	P	18 47 32.9	-0.3
	baz=131						
D23K	Nanushuk River	67.74	344	P	P	18 47 34.3	+0.7
	baz=129						
K15K	Wolf Creek Mou	67.97	335	P	P	18 47 35.4	+0.4
	baz=116,SNR=6.0						
M13K	Dall Lake	67.98	333	P	P	18 47 35.8	+0.7
	baz=113						
J16K	Anvik River	68.03	336	P	P	18 47 35.6	+0.1
	baz=117,SNR=7.9						
L14K	Kuka Creek	68.06	334	P	P	18 47 34.9	-0.8
	baz=114						
H18K	Honhosa River	68.06	338	P	P	18 47 35.4	-0.3
	baz=120						
G19K	Purcell Mounta	68.11	339	IAmb	IAmb	18 47 36.8	
	comp=Z,12nm,0.9s						
G19K	Purcell Mounta	68.11	339	P	P	18 47 35.7	-0.2
	baz=122,SNR=13						
F20K	Avaraart Lake	68.14	341	P	P	18 47 36.1	+0.1
	baz=123,SNR=20						
GUA01	Guaratinga, BA	68.16	112	*eP*	P	18 47 39.1	+2.0
D22K	Ayikyak River	68.25	343	P	P	18 47 37.3	+0.5
	baz=127,SNR=10						
C23K	Itkillik River	68.27	344	P	P	18 47 37.1	+0.2
	baz=129,SNR=19						
I17K	Unalakleet	68.34	337	P	P	18 47 36.8	-0.6
	baz=117						
NIKH	Nikolski High	68.36	324	P	P	18 47 37.5	-0.2
	baz=106						
E21K	Killik River	68.38	342	P	P	18 47 37.4	-0.2
	baz=125						
H17K	Granite Mounta	68.53	338	P	P	18 47 39.0	+0.4
	baz=118						
G18K	Tagagawik	68.53	339	IAmb	IAmb	18 47 40.3	
	comp=Z,17nm,1.1s						
G18K	Tagagawik	68.53	339	P	P	18 47 38.6	-0.1
	baz=120,SNR=9.5						
SFJD	Kangerlussuaq	68.68	20	LR	LR	19 18 47.9	
	comp=Z,307nm,19.3s,baz=241,slow=37						
F19K	Shaleruckik Mo	68.71	340	P	P	18 47 39.3	-0.3
	baz=121,SNR=15						
E19K	Redstone River	68.85	341	P	P	18 47 40.6	0.0
	baz=122						
E20K	Nigu River	68.95	342	P	P	18 47 41.2	-0.1
	baz=123						
J14K	Nanvaranak Lak	69.01	335	P	P	18 47 41.5	-0.1
	baz=114						
C21K	Knifeblade Rid	69.03	343	P	P	18 47 42.0	+0.4
	baz=125,SNR=7.8						
G17K	Kiwalik Mounta	69.07	338	P	P	18 47 42.4	+0.5
	baz=118,SNR=7.2						
K13K	Kusilvak Mount	69.16	334	P	P	18 47 42.4	-0.1
	baz=113						
F18K	Selawik	69.24	339	P	P	18 47 43.1	+0.2
	baz=119						
B21K	Ikpikpuk River	69.25	343	P	P	18 47 42.9	-0.1
	baz=125,SNR=7.3						
H16K	Elim	69.28	337	P	P	18 47 43.1	-0.1
	baz=116						
M11K	Mekoryuk	69.28	332	P	P	18 47 43.4	+0.1
	baz=111						
D20K	Etivluk River	69.33	342	P	P	18 47 43.0	-0.6
	baz=123						
B22K	Teshekpuk Lake	69.34	344	P	P	18 47 43.4	-0.1
	baz=127						
RCBR	Riachuelo	69.37	99	LR	LR	19 17 11.9	
	comp=Z,457nm,18.9s,baz=156,slow=35						
G16K	Koyuk River	69.65	338	IAmb	IAmb	18 47 47.3	
	comp=Z,16nm,1.1s						
G16K	Koyuk River	69.65	338	P	P	18 47 45.7	+0.2
	baz=116,SNR=5.7						
D19K	Kuna River	69.68	341	P	P	18 47 45.4	-0.3
	baz=121						
F17K	Baldwin Pennin	69.72	339	P	P	18 47 46.1	+0.2
	baz=118,SNR=9.2						
P08K	Saint George I	69.75	328	P	P	18 47 45.7	-0.5
	baz=106						
E18K	Tukpahlearik C	69.96	340	P	P	18 47 47.2	-0.2
	baz=118						
G15K	Niukluk	70.13	337	P	P	18 47 48.9	+0.5
	baz=114						
B20K	Meade River	70.20	343	P	P	18 47 48.6	-0.2
	baz=123						
E17K	Hotham Inlet	70.22	339	P	P	18 47 49.1	+0.1
	baz=117,SNR=15						
C19K	Lookout Ridge	70.46	342	IAmb	IAmb	18 48 12.6	
	comp=Z,23nm,1.1s						
C19K	Lookout Ridge	70.46	342	P	P	18 47 50.6	+0.1
	baz=120						
ANM	Nome	70.48	336	P	P	18 47 50.8	+0.2
	baz=113						
F15K	North Star Dit	70.65	338	IAmb	IAmb	18 47 53.5	
	comp=Z,11nm,1.1s						
F15K	North Star Dit	70.65	338	P	P	18 47 52.1	+0.4
	baz=114						
C18K	Utukok River	70.74	341	P	P	18 47 52.0	-0.2
	baz=118						
D17K	Noatak River	70.93	340	P	P	18 47 53.4	+0.1
	baz=116						
RDOG	Red Dog Mine	71.03	340	P	P	18 47 54.0	0.0
	baz=116						
F14K	Arctic Creek	71.20	337	P	P	18 47 55.2	+0.2
	baz=112						
B18K	Kokolik River	71.27	342	P	P	18 47 56.0	+0.6
	baz=118						
C17K	DeLong Mountai	71.31	340	P	P	18 47 55.7	0.0
	baz=116						
A19K	Wainwright	71.45	342	P	P	18 47 56.3	-0.1
	baz=110						
TNA	Tin City	71.85	337	P	P	18 47 59.2	+0.3
	baz=111						
C16K	Lisburne Hills	71.95	340	IAmb	IAmb	18 48 01.7	
	comp=Z,21nm,0.9s						
C16K	Lisburne Hills	71.95	340	P	P	18 47 60.0	+0.5
	baz=114						
GAMB	Gambell	72.82	335	P	P	18 48 05.1	+0.4
	baz=107						
SHEM	Shemya Is, Ala	78.53	322	LR	LR	19 16 31.2	
	comp=Z,283nm,19.2s,baz=113,slow=30						
BORG	Borgarnes	79.44	26	LR	LR	19 24 22.8	
	comp=Z,383nm,18.2s,baz=290,slow=36						
RAO	Raoul Island	80.19	238	LR	LR	19 15 16.6	
	comp=Z,262nm,19.4s,baz=103,slow=29						
BILL	Bilibino	82.26	338	P	P	18 48 57.4	0.0
JMIC	Jan Mayen	84.03	19	LR	LR	19 27 43.2	
	comp=Z,284nm,18.1s,baz=272,slow=37						
URZ	Urewera	86.43	231	LR	LR	19 18 58.0	
	comp=Z,289nm,21.1s,baz=186,slow=29						
SPITS	Spitsbergen Ar	87.89	10	LR	LR	19 29 04.4	
	comp=Z,568nm,20.2s,baz=271,slow=36						
PETK	Petropavlovsk-	88.37	323	LR	LR	19 22 37.5	
	comp=Z,88nm,20.8s,baz=95,slow=31						
EKA	Eskdalemuir Ar	89.38	34	P	P	18 49 34.5	+1.6
	comp=Z,1.6nm,1.0s,baz=285,slow=8.7,SNR=1.6						
	comp=Z,1.6nm,1.0s						
MA2	Magadan	90.50	331	LR	LR	19 24 59.3	
	comp=Z,293nm,19.5s,baz=100,slow=32						
RPZ	Rata Peaks	92.00	226	LR	LR	19 24 55.9	
	comp=Z,359nm,18.0s,baz=121,slow=32						
ESDC	Sonseca Array	92.44	50	P	P	18 49 48.1	+0.5
	comp=Z,0.3nm,0.8s,baz=275,slow=3.2,SNR=1.3						
ESDC				LR	LR	19 29 50.1	
	comp=Z,180nm,18.3s,baz=300,slow=35						
	comp=Z,0.3nm,0.8s						
DZM	Mont Dzumac	92.63	248	LR	LR	19 24 54.3	
	comp=Z,217nm,18.7s,baz=96,slow=31						
TIXI	Tiksi	93.05	345	P	P	18 49 48.5	-1.1
MDT	Midelt	93.40	56	LR	LR	19 25 44.0	
	comp=Z,236nm,21.0s,baz=337,slow=32						
NOA	NORSAR Array B	94.61	26	LR	LR	19 31 50.1	
	comp=Z,197nm,19.9s,baz=280,slow=35						
ARCES	ARCESS Array B	95.02	16	LR	LR	19 32 25.9	
	comp=Z,157nm,20.7s,baz=288,slow=35						
HFS	Hagfors	96.11	26	LR	LR	19 32 12.7	
	comp=Z,332nm,20.7s,baz=310,slow=35						
DBIC	Dimbokro	98.06	82	LR	LR	19 31 30.9	
	comp=Z,158nm,20.5s,baz=294,slow=34						
QSPA	South Pole Qui	98.26	180	LR	LR	19 26 59.2	
	comp=Z,246nm,20.4s,baz=122,slow=31						
YAK	Yakutsk	98.62	337	LR	LR	19 34 54.1	
	comp=Z,98nm,18.7s,baz=40,slow=36						
VNDA	Vanda	98.93	193	LR	LR	19 25 46.1	
	comp=Z,189nm,20.6s,baz=106,slow=30						
CLL	Collm	99.84	35	*i* Sg	SKiKP	18 58 22.0	-2.5
DAVOX	Davos/Dischmat	99.88	40	LR	LR	19 30 41.2	
	comp=Z,179nm,21.7s,baz=296,slow=32						
BRTR	Keskin Array B	118.24	36	PKP	PKPdf	18 55 22.9	-1.4
	comp=Z,0.3nm,0.7s,baz=276,slow=4.2,SNR=2.4						
BVAR	Borovoye Array	118.74	4	PKP	PKPdf	18 55 24.3	-0.3
	comp=Z,0.4nm,0.5s,baz=5.7,slow=2.9,SNR=3.6						
HHC	Hu-ho-hao-te	121

MK31	**Makanchi Array**	**124.87**	**355**			**PKPdf**	18 55 35.2	**-1.4**
MKAR	**Makanchi Array**	**124.87**	**355**	PKhKP		PKPpre	18 55 34.9	
	comp=Z,0.9nm,0.9s,baz=14,slow=2.0,SNR=7.2							
MKAR				PKP		**PKPdf**	18 55 37.2	**+0.5**
	comp=Z,1.3nm,0.8s,baz=17,slow=1.3,SNR=5.5							
MAKZ	**Makanchi**	**124.89**	**355**			**PKPdf**	18 55 34.5	**-2.2**
WMQ	**Urumqi**	**127.06**	**349**	*e*P		**PKPdf**	18 55 40.2	**-0.8**
WMQ				LR		LR		
	comp=Z,330nm,21.5s							
GEYT	**Alibeck**	**131.09**	**19**	PKP		**PKPdf**	18 55 49.3	**+0.5**
	comp=Z,1.4nm,0.8s,baz=328,slow=5.1,SNR=2.9							
KSH	**Kashi**	**132.44**	**360**	PKP		**PKPdf**	18 55 55.5	**+4.1**
PZH	**PanZhiHua**	**137.31**	**325**	PKP		**PKPdf**	18 56 00.5	**-0.4**
CHTO	**Chiang Mai**	**144.80**	**320**			**PKPab**	18 56 12.5	**-0.8**
CMAR	**Chiang Mai Arr**	**145.06**	**320**			**PKPbc**	18 56 12.2	**-1.9**
CMAR	**Chiang Mai Arr**	**145.06**	**320**	PKPbc		**PKPbc**	18 56 14.2	**+0.1**
	comp=Z,2.8nm,0.9s,baz=20,slow=3.2,SNR=11							

PRU ***10*** *18:49:45.4,50.˚26N×12.˚42E,h10km, West Bohemia Swarm*
BGR ***10*** *18:49:45.9±0.2,50.˚25N×12.˚44E,h10km,ML1.9/7, Error ellipse: s-maj=2.2km s-min=1.1km az=87.0*
VIE ***10*** *18:49:47.0±0.4,50.˚16N×12.˚39E,h10km,mb2.2/2,ml2.6/6, Error ellipse: s-maj=6.0km s-min=2.8km az=81.0*
CLL ***10*** *18:49:46.5±0.3,50.˚26N×12.˚44E,h8km,ML2.1*

WBNET 10 18:49:46.2,50.˚25N×12.˚45E,h9km,Ml2.1,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**177**	*i* Pg	Pg	18 49 47.9	+0.1
NKC				*i* Sg	Sg	18 49 49.0	+0.1
NKC				IAML		18 49 49.2	
	comp=E,767nm,0.1s						
NKC	**Novy Kostel**	**0.02**	**177**	*e*SG	Sg	18 49 49.0	+0.1
	comp=E,307nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**177**	*i* Pg	Pg	18 49 47.9	+0.1
NKC				*i* Sg	Sg	18 49 49.0	+0.1
	comp=E,767nm,0.1s						
NKC	**Novy Kostel**	**0.02**	**177**	⇑P	Pg	18 49 47.9	+0.1
NKC				S	Sg	18 49 49.1	+0.1
LBCW	**Luby**	**0.03**	**300**	⇓P	Pg	18 49 48.0	+0.1
LBCW				S	Sg	18 49 49.3	+0.2
STCW	**Studenec**	**0.05**	**83**	*i* Pg	Pg	18 49 48.1	0.0
STCW				*i* Sg	Sg	18 49 49.3	-0.1
STCW	**Studenec**	**0.05**	**83**	*i* Pg	Pg	18 49 48.1	0.0
STCW				*i* Sg	Sg	18 49 49.3	-0.1
STCW	**Studenec**	**0.05**	**83**	⇑P	Pg	18 49 48.1	0.0
STCW				S	Sg	18 49 49.3	-0.1
VAC	**Vackov**	**0.05**	**248**	*i* Pg	Pg	18 49 48.1	+0.1
VAC				*i* Sg	Sg	18 49 49.3	0.0
VAC	**Vackov**	**0.05**	**248**	⇓P	Pg	18 49 48.1	+0.1
VAC				S	Sg	18 49 49.3	0.0
WERN	**Wernitzgruen**	**0.06**	**308**	*i* Pg	Pg	18 49 48.2	+0.1
WERN				*i* Sg	Sg	18 49 49.6	+0.1
WERN				IAML		18 49 49.8	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**308**	*i* Pg	Pg	18 49 48.2	+0.1
WERN				*i* Sg	Sg	18 49 49.6	+0.1
	comp=E,1μm,0.2s						
KVC	**Kvetna**	**0.07**	**137**	*i* Pg	Pg	18 49 48.2	0.0
KVC				*i* Sg	Sg	18 49 49.5	-0.1
KVC	**Kvetna**	**0.07**	**137**	⇓P	Pg	18 49 48.2	0.0
KVC				S	Sg	18 49 49.6	-0.1
POCW	**Potky**	**0.07**	**350**	⇓P	Pg	18 49 48.4	+0.1
POCW				S	Sg	18 49 49.9	+0.1
ROHR	**Rohrbach**	**0.09**	**257**	*i* Pg	Pg	18 49 48.5	0.0
ROHR				*i* Sg	Sg	18 49 50.0	-0.1
ROHR				IAML		18 49 50.1	
	comp=E,1μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**257**	*i* Pg	Pg	18 49 48.5	0.0
ROHR				*i* Sg	Sg	18 49 50.0	-0.1
	comp=E,1μm,0.1s						
KRCW	**Kraslice**	**0.10**	**34**	⇑P	Pg	18 49 48.6	0.0
KRCW				S	Sg	18 49 50.3	-0.1
SKC	**Skalna**	**0.10**	**213**	⇑P	Pg	18 49 48.7	+0.1
SKC				S	Sg	18 49 50.4	+0.1
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Pg	18 49 49.3	+0.1
GUNZ				*i* Sg	Sg	18 49 51.2	0.0
GUNZ				IAML		18 49 51.5	
	comp=N,346nm,0.1s						
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Pg	18 49 49.3	+0.1
GUNZ				*i* Sg	Sg	18 49 51.2	0.0
	comp=N,346nm,0.1s						
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Sg	18 49 51.5	+0.2
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Sg	18 49 51.5	+0.2
KOCW	**Kopaniny**	**0.14**	**275**	⇓P	Pg	18 49 49.3	0.0
KOCW				S	Sg	18 49 51.3	0.0
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg	Pg	18 49 49.6	0.0
MULD				*i* Sg	Sg	18 49 51.9	-0.2
	comp=N,472nm,0.2s						
MULD	**Muldenberg**	**0.16**	**350**	*e*Pg	Sg	18 49 51.9	-0.2
MULD	**Muldenberg**	**0.16**	**350**	*e*Pg	Sg	18 49 51.9	-0.2
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	18 49 49.6	-0.1
TANN				*i* Sg	Sg	18 49 51.9	-0.2
TANN				IAML		18 49 52.4	
	comp=N,702nm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	18 49 49.6	-0.1
TANN				*i* Sg	Sg	18 49 51.9	-0.2
	comp=N,702nm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Sg	18 49 51.8	-0.3
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Sg	18 49 51.8	-0.3
TRCW	**Trojmez**	**0.20**	**285**	⇓P	Pg	18 49 50.3	0.0
TRCW				S	Sg	18 49 53.2	+0.1
ZHC	**Zelena Hora**	**0.20**	**206**	⇑P	Pg	18 49 50.4	+0.1
ZHC				S	Sg	18 49 53.3	+0.1
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	18 49 50.5	0.0
WERD				*i* Sg	Sg	18 49 53.3	-0.2
WERD				IAML		18 49 53.5	
	comp=E,115nm,0.1s						
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	18 49 50.5	0.0
WERD				*i* Sg	Sg	18 49 53.3	-0.2
	comp=E,115nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg	Pg	18 49 50.6	-0.1
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg	Pg	18 49 50.6	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg	Pg	18 49 50.8	-0.1
VIEL				*i* Sg	Sg	18 49 53.9	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg	Pg	18 49 50.8	-0.1
VIEL				*i* Sg	Sg	18 49 53.9	-0.1
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	18 49 51.0	+0.1
LACW				*i* Sg	Sg	18 49 54.4	+0.3
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	18 49 51.0	+0.1
LACW				*i* Sg	Sg	18 49 54.4	+0.3
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	18 49 51.0	+0.1
LACW				S	Sg	18 49 54.4	+0.3
PLN	**Plauen**	**0.30**	**322**	*i* Pg	Pg	18 49 52.0	-0.1
PLN				*e*Sg	Sg	18 49 56.0	-0.1
PLN				IAML		18 49 56.1	
	comp=E,76nm,0.1s						
PLN	**Plauen**	**0.30**	**322**	*i* Pg	Pg	18 49 52.0	-0.1
PLN				*e*Sg	Sg	18 49 56.0	-0.1
	comp=E,76nm,0.1s						
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	18 49 54.3	-0.2
SCHF				*i* Sg	Sg	18 50 00.0	-0.1
SCHF				IAML		18 50 00.5	
	comp=E,128nm,0.3s						
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	18 49 54.3	-0.2
SCHF				*i* Sg	Sg	18 50 00.0	-0.1
	comp=E,128nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	18 49 54.9	-0.3
GRZ1				*e*Sg	Sg	18 50 00.8	-0.5
GRZ1				IAML		18 50 04.6	
	comp=E,149nm,0.5s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	18 49 54.9	-0.3
GRZ1				*e*Sg	Sg	18 50 00.8	-0.5
	comp=E,149nm,0.5s						
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Sg	Sg	18 50 02.6	-0.1
MOX	**Moxa**	**0.66**	**307**	*e*Pg	Pg	18 49 58.7	-0.3
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*SG	Sg	18 50 09.2	-0.4
	comp=E,26nm,0.2s						
FBE	**Freiberg**	**0.89**	**41**	*e*Pg	Pg	18 50 03.0	-0.2
FBE				*e*Sg	Sg	18 50 14.4	-0.3
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	18 50 04.5	-0.3
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	18 50 06.8	-0.8
CLL				*i* Sg	Sg	18 50 21.9	-0.1
	comp=Z,14nm,0.5s						
CLL				*i* x	x	18 50 23.2	
CLL	**Collm**	**1.11**	**18**	*e*Pg	Pg	18 50 06.9	-0.6
CLL				*e*Sg	Sb	18 50 22.2	-0.1
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	18 50 07.5	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	Pg	18 50 07.5	-0.6
WET	**Wettzell**	**1.15**	**166**	*e*Sg	Sg	18 50 22.6	-0.4
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG	Sn	18 50 29.1	-0.1
PRU	**Pruhonice**	**1.38**	**100**	*e*SG	Sn	18 50 29.9	0.0
PRU	**Pruhonice**	**1.38**	**100**	*e*Pg	Pn	18 50 11.7	+0.1
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Sg	Sg	18 50 37.9	-0.6
MOA	**Molln**	**2.69**	**153**	*e*Pn	Pn	18 50 29.5	-0.1
	comp=Z,0.1nm,0.1s						
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	Pn	18 50 31.4	-0.2
KRUC				*e*SG	Sb	18 51 14.1	+2.5
LESA	**Schwarzleotal**	**2.83**	**177**	Pn	Pn	18 50 30.5	-1.2
	comp=Z,0.3nm,0.2s						
VRAC	**Vranov**	**2.85**	**108**	*e*PN	Pn	18 50 31.4	-0.5
VRAC				*e*SG	Sb	18 51 14.1	+1.9
WATA	**Walderalm**	**2.98**	**191**	*e*Pn	Pn	18 50 34.0	+0.3
	comp=Z,0.6nm,0.3s						
MOTA	**Moosalm**	**3.04**	**197**	Pn	Pn	18 50 33.6	-1.0
	comp=Z,0.1nm,0.2s						
SQTA	**Sankt Quirin**	**3.14**	**196**	Pg	Pg	18 50 45.3	-1.1
	comp=Z,1.7nm,0.2s						
CONA	**Conrad Observa**	**3.23**	**135**	*i* Pn	Pn	18 50 38.2	+1.0
	comp=Z,0.1nm,0.1s						
CONA				*e*Pg	Pg	18 50 48.7	+0.6
	comp=Z,2.1nm,0.4s						

LDG ***10*** *18:49:47.2±0.3,50.˚40N×12.˚27E,h2km, Ml2.7/3,Error ellipse: s-maj=19.7km s-min=5.3km az=152.0*
PRU ***10*** *18:49:47.2,50.˚26N×12.˚43E,h10km, West Bohemia Swarm*
BGR ***10*** *18:49:48.0±0.2,50.˚25N×12.˚45E,h10km,ML2.3/6,Error ellipse: s-maj=2.2km s-min=1.1km az=87.0*
CLL ***10*** *18:49:48.7±0.3,50.˚26N×12.˚44E,h8km,ML2.3*

WBNET 10 18:49:48.4,50.˚25N×12.˚45E,h9km,Ml2.3,6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**186**	*i* Pg	Pg	18 49 50.1	+0.1
NKC				*i* Sg	Sg	18 49 51.2	+0.1
NKC				IAML		18 49 51.4	
	comp=E,1μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**186**	*e*SG	Sg	18 49 51.2	+0.1
	comp=E,956nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**186**	*i* Pg	Pg	18 49 50.1	+0.1
NKC				*i* Sg	Sg	18 49 51.2	+0.1
	comp=E,1μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**186**	⇑P	Pg	18 49 50.1	+0.1
NKC				S	Sg	18 49 51.3	+0.1
LBCW	**Luby**	**0.03**	**300**	⇓P	Pg	18 49 50.2	+0.1
LBCW				S	Sg	18 49 51.5	+0.2
STCW	**Studenec**	**0.04**	**80**	*i* Pg	Pg	18 49 50.3	+0.1
STCW				*i* Sg	Sg	18 49 51.5	-0.1
STCW	**Studenec**	**0.04**	**80**	*i* Pg	Pg	18 49 50.3	+0.1
STCW				*i* Sg	Sg	18 49 51.5	-0.1
STCW	**Studenec**	**0.04**	**80**	⇑P	Pg	18 49 50.3	+0.1
STCW				S	Sg	18 49 51.5	-0.1
VAC	**Vackov**	**0.05**	**251**	*i* Pg	Pg	18 49 50.4	+0.1
VAC				*i* Sg	Sg	18 49 51.5	-0.1
VAC	**Vackov**	**0.05**	**251**	⇓P	Pg	18 49 50.3	+0.1
VAC				S	Sg	18 49 51.5	-0.1
WERN	**Wernitzgruen**	**0.06**	**307**	*i* Pg	Pg	18 49 50.5	+0.1
WERN				*i* Sg	Sg	18 49 51.9	0.0
WERN				IAML		18 49 52.0	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**307**	*i* Pg	Pg	18 49 50.5	+0.1
WERN				*i* Sg	Sg	18 49 51.9	0.0
	comp=E,2μm,0.2s						
KVC	**Kvetna**	**0.06**	**138**	*i* Pg	Pg	18 49 50.4	+0.1
KVC				*i* Sg	Sg	18 49 51.7	0.0
KVC	**Kvetna**	**0.06**	**138**	⇓P	Pg	18 49 50.4	+0.1
KVC				S	Sg	18 49 51.8	0.0
POCW	**Potky**	**0.07**	**347**	⇑P	Pg	18 49 50.6	+0.1
POCW				S	Sg	18 49 52.1	+0.1
ROHR	**Rohrbach**	**0.09**	**259**	*i* Sg	Sg	18 49 52.2	-0.2
ROHR				IAML		18 49 52.3	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**259**	*i* Sg	Sg	18 49 52.2	-0.2
	comp=E,2μm,0.1s						
KRCW	**Kraslice**	**0.10**	**32**	⇑P	Pg	18 49 50.8	0.0
KRCW				S	Sg	18 49 52.5	-0.1
SKC	**Skalna**	**0.10**	**215**	⇑P	Pg	18 49 50.9	+0.1
SKC				S	Sg	18 49 52.7	+0.1
GUNZ	**Gunzen**	**0.14**	**326**	*i* Sg	Sg	18 49 53.5	-0.1
GUNZ				IAML		18 49 53.9	
	comp=E,513nm,0.2s						
GUNZ	**Gunzen**	**0.14**	**326**	*i* Sg	Sg	18 49 53.5	-0.1
	comp=E,513nm,0.2s						
KOCW	**Kopaniny**	**0.14**	**276**	⇓P	Pg	18 49 51.5	0.0
KOCW				S	Sg	18 49 53.5	-0.1
MULD	**Muldenberg**	**0.16**	**349**	*i* Sg	Sg	18 49 54.1	-0.2
MULD				IAML		18 49 54.3	
	comp=E,842nm,0.1s						
MULD	**Muldenberg**	**0.16**	**349**	*i* Sg	Sg	18 49 54.1	-0.2
	comp=E,842nm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**2**	*e*Sg	Sg	18 49 54.1	-0.3
TANN				IAML		18 49 54.6	
	comp=N,2μm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**2**	*e*Sg	Sg	18 49 54.1	-0.3
	comp=N,2μm,0.2s						
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P	Pg	18 49 52.6	+0.1
ZHC				S	Sg	18 49 55.4	+0.1
TRCW	**Trojmez**	**0.20**	**285**	⇓P	Pg	18 49 52.5	0.0
TRCW				S	Sg	18 49 55.3	-0.1
WERD	**Werda**	**0.22**	**335**	*i* Pg	Pg	18 49 52.7	-0.1
WERD				*e*Sg	Sg	18 49 55.6	-0.2
WERD				IAML		18 49 56.1	
	comp=N,201nm,0.3s						
WERD	**Werda**	**0.22**	**335**	*i* Pg	Pg	18 49 52.7	-0.1
WERD				*e*Sg	Sg	18 49 55.6	-0.2
	comp=N,201nm,0.3s						
TRIB	**Obertriebel**	**0.23**	**297**	*i* Pg	Pg	18 49 52.9	-0.1
TRIB				*i* Sg	Sg	18 49 55.8	-0.2
TRIB				IAML		18 49 56.6	
	comp=E,230nm,0.5s						
TRIB	**Obertriebel**	**0.23**	**297**	*i* Pg	Pg	18 49 52.9	-0.1
TRIB				*i* Sg	Sg	18 49 55.8	-0.2
	comp=E,230nm,0.5s						
LACW	**Lazy**	**0.23**	**151**	*i* Pg	Pg	18 49 53.2	+0.2
LACW				*i* Sg	Sg	18 49 56.5	+0.3
LACW	**Lazy**	**0.23**	**151**	*i* Pg	Pg	18 49 53.2	+0.2
LACW				*i* Sg	Sg	18 49 56.5	+0.3
LACW	**Lazy**	**0.23**	**151**	⇓P	Pg	18 49 53.2	+0.2
LACW				S	Sg	18 49 56.5	+0.4
VIEL	**Selb-Vielitz**	**0.23**	**254**	*i* Pg	Pg	18 49 53.0	-0.1
VIEL				*i* Sg	Sg	18 49 56.1	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**254**	*i* Pg	Pg	18 49 53.0	-0.1
VIEL				*i* Sg	Sg	18 49 56.1	-0.2
PLN	**Plauen**	**0.30**	**321**	*i* Pg	Pg	18 49 54.2	-0.2
PLN				*e*Sg	Sg	18 49 58.2	-0.2
PLN	**Plauen**	**0.30**	**321**	*i* Pg	Pg	18 49 54.2	-0.2
PLN				*e*Sg	Sg	18 49 58.2	-0.2
	comp=E,93nm,0.2s						
MANZ	**Manzenberg**	**0.34**	**220**	*e*Sg	Sg	18 49 59.7	0.0
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	18 49 56.5	-0.2
SCHF				*i* Sg	Sg	18 50 02.3	-0.1
SCHF				IAML		18 50 02.7	
	comp=E,314nm,0.3s						
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	18 49 56.5	-0.2
SCHF				*i* Sg	Sg	18 50 02.3	-0.1
	comp=E,314nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	18 49 57.2	-0.2
GRZ1				*e*Sg	Sg	18 50 03.0	-0.5
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	18 49 57.2	-0.2
GRZ1				*e*Sg	Sg	18 50 03.0	-0.5
	comp=E,150nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Sg	Sg	18 50 04.8	-0.1
MOX	**Moxa**	**0.66**	**307**	*e*Sg	Sg	18 50 10.6	+0.7
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*SG	Sg	18 50 11.4	-0.3
	comp=E,83nm,0.2s						
FBE	**Freiberg**	**0.88**	**40**	*e*Sg	Sg	18 50 17.1	+0.3
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Sg	Sg	18 50 19.2	-0.4
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	18 50 08.8	-0.9
CLL				*i* x	x	18 50 11.1	
CLL				*i* x	x	18 50 12.4	
CLL				*i* Sg	Sg	18 50 23.9	-0.3
	comp=Z,43nm,0.6s						
CLL				*i* x	x	18 50 25.4	
CLL				*i* x	x	18 50 27.7	
CLL	**Collm**	**1.11**	**18**	*e*Pg	Pg	18 50 09.1	-0.7
CLL				*e*Sg	Sb	18 50 24.4	0.0
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	18 50 09.7	-0.4
BRG				Sg	Sg	18 50 22.5	-2.4
BRG				Amp		18 50 22.7	
	comp=Z,20nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**56**	Sg	Sg	18 50 24.6	-0.3
BRG				Amp		18 50 24.9	
	comp=Z,38nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Sg	Sg	18 50 24.6	-0.3
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Sg	Sg	18 50 22.6	-2.3
WET	**Wettzell**	**1.14**	**166**	*e*Pg	Pg	18 50 09.7	-0.6
WET				*e*Sg	Sg	18 50 24.9	-0.2
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	Sn	18 50 32.0	+0.1
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Sg	Sb	18 50 39.3	+0.1
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG	Sb	18 51 29.2	+1.3
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pn	Pn	18 50 45.1	-2.8
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pg	Pb	18 50 58.0	+1.5
CDF				*e*Sg	Sb	18 51 46.3	+3.0
	comp=Z,3.7nm,0.3s						
HINF	**Hinteralfeld**	**4.42**	**239**	*e*Pg	Pg	18 51 10.1	-2.8
HINF				*e*Sg	Sg	18 52 05.5	-4.5
	comp=Z,3.5nm,0.3s						
HAU	**Haudompre**	**4.59**	**243**	*e*Pn	Pn	18 50 55.3	-2.7
HAU	**Haudompre**	**4.59**	**243**	*e*Pg	Pb	18 51 11.7	+2.6
HAU				*e*Sg	Sb	18 52 08.3	+3.8
	comp=Z,3.2nm,0.3s						
PAGF	**Fort de Pagny**	**4.71**	**251**	*e*Pg	Pb	18 51 13.1	+2.1
PAGF				*e*Sg	Sb	18 52 13.2	+5.4

IDC ***10*** *18:52:10.2±2.9,43.˚18N×105.˚15W,h0km,mb2.9/1, mbtmp3.2/3,ML3.0/2,Error ellipse: s-maj=53.9km s-min=10.6km az=155.0*
NEIC ***10*** *18:52:11.5±1.2,43.˚64N±0.˚07×105.˚3W±0.˚1,h0km±1km, ML3.2/84, Error ellipse: s-maj=17.5km s-min=5.4km az=309.0*

ISC 10 18:52:12.5±0.9,43.˚67N±0.˚04×105.˚44W±0.˚04,h0km,n54, σ1°43/51,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**1.11**	**66**	Pn	**Pb**	**18 52 34.4**	**-0.4**
K22A	**Casper**	**1.29**	**218**	Pg	**Pg**	**18 52 36.9**	**-0.4**
PHWY	**Pilot Hill**	**2.37**	**180**	Pn	**Pn**	**18 52 53.6**	**+0.7**
PHWY				IAML		18 53 36.2	
	108nm,0.8s						
RWWY	**Rawlins**	**2.37**	**214**	Pn	**Pn**	**18 52 53.6**	**+0.7**
RWWY				IAML		18 53 34.0	
	146nm,0.8s						
RWWY				IAML		18 53 34.8	
	192nm,0.9s						
N23A	**Red Feather La**	**2.80**	**188**	Pn	**Pn**	**18 52 59.7**	**+0.9**
N23A					**Sn**	**18 53 35.1**	**+1.7**
N23A				IAML		18 53 44.4	
	comp=N,132nm,0.8s						
N23A				IAML		18 53 53.2	
	comp=E,80nm,0.9s						
LAO	**LASA Array**	**3.06**	**350**		**Pn**	**18 53 00.8**	**-1.5**
LAO				IAML		18 54 20.6	
	comp=E,74nm,1.2s						
RLMT	**Red Lodge**	**3.10**	**299**	Pn	**Pn**	**18 53 03.2**	**+0.3**
RLMT				IAML		18 54 07.7	
	comp=E,49nm,0.8s						
RLMT				IAML		18 54 16.2	
	comp=E,46nm,2.8s						
PD31	**Pinedale Array**	**3.14**	**255**	Pn	**Pn**	**18 53 05.9**	**+2.4**
PDAR	**Pinedale Array**	**3.14**	**255**	Pn	**Pn**	**18 53 05.3**	**+1.8**
PDAR	**Pinedale Array**	**3.14**	**255**	Pn	**Pn**	**18 53 06.0**	**+2.5**
	comp=E,1.0nm,0.3s,baz=78,slow=17,SNR=10						
PDAR				Lg	Lg	18 53 51.0	
	comp=E,7.7nm,0.3s,baz=75,slow=35,SNR=6.6						
	comp=E,1.4nm,0.4s						
BRIGG	**Briggsdale**	**3.20**	**164**		**Pb**	**18 53 11.6**	**+1.2**
YMP	**Mirror Lake Pl**	**3.55**	**289**		**Pn**	**18 53 12.0**	**+2.8**
LKWY	**Lake**	**3.68**	**286**		**Pn**	**18 53 09.7**	**-1.2**
LKWY				IAML		18 53 38.2	
	comp=E,42nm,0.8s						
OGNE	**Ogallala**	**3.72**	**136**	Pn	**Pn**	**18 53 09.6**	**-1.7**
LOHW	**Long Hollow**	**3.75**	**271**		**Pb**	**18 53 20.1**	**+0.5**
H17A	**Grant Village**	**3.77**	**283**		**Pn**	**18 53 13.7**	**+1.5**
FLWY	**Flagg Ranch**	**3.82**	**278**	Pn	**Pb**	**18 53 21.6**	**+0.7**
FLWY				IAML		18 53 38.8	
	comp=E,43nm,1.4s						
FLWY				IAML		18 54 33.0	
	comp=E,39nm,2.6s						
MOOW	**Moose Ponds**	**3.84**	**273**	Pn	**Pn**	**18 53 14.5**	**+1.4**
SNOW	**

*VIE **10** 19:01:05.5±0.2,50˚.25N×12˚.43E,h10km,mb2.2/2,ml2.6/4, Error ellipse: s-maj=4.7km s-min=1.3km az=40.0*
*BGR **10** 19:01:05.5±0.2,50˚.25N×12˚.45E,h11km±1km,ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
*PRU **10** 19:01:05.2,50˚.26N×12˚.45E,h10km, West Bohemia Swarm*
*CLL **10** 19:01:06.2±0.3,50˚.26N×12˚.44E,h8km, ML2.1*
*WBNET **10** 19:01:06.3,50˚.26N×12˚.45E,h9km,Ml2.3*
*LDG **10** 19:01:07.3±0.6,50˚.25N×12˚.45E,h11km,Ml2.7/5,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*

ISC 10 19:01:05.5±0.8,50˚.25N±0˚.01×12˚.43E±0˚.01,h12km±2km, n119,σ0⁘70/220,13C-11D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**322**	⇑P	**Pg**	**19 01 07.7**	**-0.1**
LBCW				S	**Sg**	**19 01 09.0**	**-0.4**
LBCW	**Luby**	**0.02**	**322**	⇓P	**Pg**	**19 01 08.2**	**+0.4**
LBCW				S	**Sg**	**19 01 09.5**	**+0.1**
NKC	**Novy Kostel**	**0.02**	**148**	*e*Pg	**Pg**	**19 01 07.6**	**-0.1**
NKC				*e*SG	**Sg**	**19 01 08.8**	**-0.5**
NKC				IAML		19 01 08.9	
	comp=E,1μm,0.1s						
NKC	**Novy Kostel**	**0.02**	**148**	*e*Pg	**Pg**	**19 01 08.2**	**+0.5**
NKC				*i* Sg	**Sg**	**19 01 09.2**	**-0.1**
NKC				IAML		19 01 09.4	
	comp=E,905nm,0.1s						
NKC	**Novy Kostel**	**0.02**	**148**	*e*PG	**Pg**	**19 01 07.7**	**-0.1**
NKC				*e*SG	**Sg**	**19 01 08.8**	**-0.5**
	comp=E,607nm,0.3s						
NKC	**Novy Kostel**	**0.02**	**148**	*e*Pg	**Pg**	**19 01 07.6**	**-0.1**
NKC				*i* Sg	**Sg**	**19 01 08.8**	**-0.5**
	comp=E,1μm,0.1s						
NKC	**Novy Kostel**	**0.02**	**148**	*e*Pg	**Pg**	**19 01 08.2**	**+0.5**
NKC				*i* Sg	**Sg**	**19 01 09.2**	**-0.1**
	comp=E,905nm,0.1s						
NKC	**Novy Kostel**	**0.02**	**148**	⇑P	**Pg**	**19 01 07.6**	**-0.1**
NKC				S	**Sg**	**19 01 08.8**	**-0.5**
NKC	**Novy Kostel**	**0.02**	**148**	⇓P	**Pg**	**19 01 08.1**	**+0.4**
NKC				S	**Sg**	**19 01 09.3**	**-0.1**
VAC	**Vackov**	**0.04**	**246**	*i* Pg	**Pg**	**19 01 07.8**	**-0.1**
VAC				*i* Sg	**Sg**	**19 01 09.1**	**-0.5**
VAC	**Vackov**	**0.04**	**246**	*i* Pg	**Pg**	**19 01 08.3**	**+0.4**
VAC				*i* Sg	**Sg**	**19 01 09.5**	**0.0**
VAC	**Vackov**	**0.04**	**246**	⇑P	**Pg**	**19 01 07.8**	**-0.1**
VAC				S	**Sg**	**19 01 09.1**	**-0.5**
VAC	**Vackov**	**0.04**	**246**	⇓P	**Pg**	**19 01 08.3**	**+0.4**
VAC				S	**Sg**	**19 01 09.5**	**0.0**
WERN	**Wernitzgruen**	**0.05**	**317**	*i* Pg	**Pg**	**19 01 07.9**	**0.0**
WERN				*i* Sg	**Sg**	**19 01 09.3**	**-0.4**
WERN				IAML		19 01 09.5	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**317**	*i* Pg	**Pg**	**19 01 08.4**	**+0.4**
WERN				*i* Sg	**Sg**	**19 01 09.8**	**+0.1**
WERN				IAML		19 01 09.9	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**317**	*i* Pg	**Pg**	**19 01 07.9**	**0.0**
WERN				*i* Sg	**Sg**	**19 01 09.3**	**-0.4**
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**317**	*i* Pg	**Pg**	**19 01 08.4**	**+0.4**
WERN				*i* Sg	**Sg**	**19 01 09.8**	**+0.1**
	comp=E,1μm,0.2s						
STCW	**Studenec**	**0.06**	**81**	*i* Pg	**Pg**	**19 01 07.8**	**-0.3**
STCW				*i* Sg	**Sg**	**19 01 09.0**	**-0.8**
STCW	**Studenec**	**0.06**	**81**	*i* Pg	**Pg**	**19 01 08.2**	**+0.2**
STCW				*i* Sg	**Sg**	**19 01 09.5**	**-0.4**
STCW	**Studenec**	**0.06**	**81**	*i* Pg	**Pg**	**19 01 07.8**	**-0.3**
STCW				*i* Sg	**Sg**	**19 01 09.0**	**-0.8**
STCW	**Studenec**	**0.06**	**81**	*i* Pg	**Pg**	**19 01 08.2**	**+0.2**
STCW				*i* Sg	**Sg**	**19 01 09.5**	**-0.4**
STCW	**Studenec**	**0.06**	**81**	⇑P	**Pg**	**19 01 07.8**	**-0.3**
STCW				S	**Sg**	**19 01 09.0**	**-0.8**
STCW	**Studenec**	**0.06**	**81**	⇑P	**Pg**	**19 01 08.2**	**+0.2**
STCW				S	**Sg**	**19 01 09.5**	**-0.4**
KVC	**Kvetna**	**0.07**	**129**	*i* Pg	**Pg**	**19 01 07.9**	**-0.2**
KVC				*i* Sg	**Sg**	**19 01 09.3**	**-0.7**
KVC	**Kvetna**	**0.07**	**129**	*i* Pg	**Pg**	**19 01 08.4**	**+0.3**
KVC				*e*Sg	**Sg**	**19 01 09.7**	**-0.3**
KVC	**Kvetna**	**0.07**	**129**	⇓P	**Pg**	**19 01 07.9**	**-0.2**
KVC				S	**Sg**	**19 01 09.3**	**-0.7**
KVC	**Kvetna**	**0.07**	**129**	⇓P	**Pg**	**19 01 08.4**	**+0.3**
POCW	**Potky**	**0.07**	**358**	⇑P	**Pg**	**19 01 08.1**	**-0.1**
POCW				S	**Sg**	**19 01 09.6**	**-0.5**
POCW	**Potky**	**0.07**	**358**	⇓P	**Pg**	**19 01 08.6**	**+0.4**
POCW				S	**Sg**	**19 01 10.1**	**0.0**
ROHR	**Rohrbach**	**0.07**	**258**	*i* Pg	**Pg**	**19 01 08.2**	**0.0**
ROHR				*i* Sg	**Sg**	**19 01 09.7**	**-0.4**
ROHR				IAML		19 01 09.8	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.07**	**258**	*i* Pg	**Pg**	**19 01 08.7**	**+0.5**
ROHR				*i* Sg	**Sg**	**19 01 10.2**	**+0.1**
ROHR				IAML		19 01 10.3	
	comp=E,1μm,0.2s						
ROHR	**Rohrbach**	**0.07**	**258**	*i* Pg	**Pg**	**19 01 08.2**	**0.0**
ROHR				*i* Sg	**Sg**	**19 01 09.7**	**-0.4**
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.07**	**258**	*i* Pg	**Pg**	**19 01 08.7**	**+0.5**
ROHR				*i* Sg	**Sg**	**19 01 10.2**	**+0.1**
	comp=E,1μm,0.2s						
SKC	**Skalna**	**0.09**	**209**	⇑P	**Pg**	**19 01 08.4**	**+0.1**
SKC				S	**Sg**	**19 01 10.2**	**-0.2**
SKC	**Skalna**	**0.09**	**209**	⇑P	**Pg**	**19 01 08.9**	**+0.6**
SKC				S	**Sg**	**19 01 10.6**	**+0.3**
KRCW	**Kraslice**	**0.10**	**38**	⇑P	**Pg**	**19 01 08.3**	**-0.2**
KRCW				S	**Sg**	**19 01 10.0**	**-0.8**
KRCW	**Kraslice**	**0.10**	**38**	⇑P	**Pg**	**19 01 08.8**	**+0.3**
KRCW				S	**Sg**	**19 01 10.4**	**-0.3**
KOCW	**Kopaniny**	**0.13**	**277**	⇓P	**Pg**	**19 01 09.0**	**+0.1**
KOCW				S	**Sg**	**19 01 11.0**	**-0.2**
KOCW	**Kopaniny**	**0.13**	**277**	⇓P	**Pg**	**19 01 09.4**	**+0.6**
KOCW				S	**Sg**	**19 01 11.5**	**+0.3**
GUNZ	**Gunzen**	**0.13**	**331**	*i* Pg	**Pg**	**19 01 09.0**	**+0.1**
GUNZ				*i* Sg	**Sg**	**19 01 10.9**	**-0.4**
GUNZ				IAML		19 01 11.4	
	comp=E,375nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**331**	*i* Pg	**Pg**	**19 01 09.4**	**+0.6**
GUNZ				IAML		19 01 11.9	
	comp=E,328nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**331**	*i* Pg	**Pg**	**19 01 09.0**	**+0.1**
GUNZ				*i* Sg	**Sg**	**19 01 10.9**	**-0.4**
	comp=E,375nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**331**	*i* Pg	**Pg**	**19 01 09.4**	**+0.6**
MULD	**Muldenberg**	**0.16**	**354**	*i* Pg	**Pg**	**19 01 09.3**	**0.0**
MULD				*i* Sg	**Sg**	**19 01 11.5**	**-0.5**
MULD				IAML		19 01 11.7	
	comp=E,649nm,0.1s						
MULD	**Muldenberg**	**0.16**	**354**	*i* Pg	**Pg**	**19 01 09.8**	**+0.4**
MULD				*e*Sg	**Sg**	**19 01 12.0**	**0.0**
MULD				IAML		19 01 12.2	
	comp=E,633nm,0.1s						
MULD	**Muldenberg**	**0.16**	**354**	*i* Pg	**Pg**	**19 01 09.3**	**0.0**
MULD				*i* Sg	**Sg**	**19 01 11.5**	**-0.5**
	comp=E,649nm,0.1s						
MULD	**Muldenberg**	**0.16**	**354**	*i* Pg	**Pg**	**19 01 09.8**	**+0.4**
MULD				*e*Sg	**Sg**	**19 01 12.0**	**0.0**
	comp=E,633nm,0.1s						
TANN	**Tannenbergstha**	**0.17**	**7**	*i* Pg	**Pg**	**19 01 09.3**	**-0.2**
TANN				*e*Sg	**Sg**	**19 01 11.5**	**-0.6**
TANN				IAML		19 01 12.1	
	comp=N,1μm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**7**	*i* Pg	**Pg**	**19 01 09.8**	**+0.3**
TANN				*e*Sg	**Sg**	**19 01 12.1**	**-0.1**
TANN				IAML		19 01 12.5	
	comp=N,922nm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**7**	*i* Pg	**Pg**	**19 01 09.3**	**-0.2**
TANN				*e*Sg	**Sg**	**19 01 11.5**	**-0.6**
	comp=N,1μm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**7**	*i* Pg	**Pg**	**19 01 09.8**	**+0.3**
TANN				*e*Sg	**Sg**	**19 01 12.1**	**-0.1**
	comp=N,922nm,0.2s						
TRCW	**Trojmez**	**0.19**	**286**	⇓P	**Pg**	**19 01 10.0**	**+0.2**
TRCW				S	**Sg**	**19 01 12.8**	**+0.1**
TRCW	**Trojmez**	**0.19**	**286**	⇓P	**Pg**	**19 01 10.5**	**+0.7**
TRCW				S	**Sg**	**19 01 13.3**	**+0.6**
ZHC	**Zelena Hora**	**0.20**	**204**	⇑P	**Pg**	**19 01 10.1**	**+0.3**
ZHC				S	**Sg**	**19 01 13.0**	**+0.1**
ZHC	**Zelena Hora**	**0.20**	**204**	⇑P	**Pg**	**19 01 10.6**	**+0.7**
ZHC				S	**Sg**	**19 01 13.5**	**+0.6**
WERD	**Werda**	**0.21**	**338**	*i* Pg	**Pg**	**19 01 10.2**	**+0.1**
WERD				*i* Sg	**Sg**	**19 01 13.0**	**-0.3**
WERD				IAML		19 01 13.2	
	comp=E,126nm,0.1s						
WERD	**Werda**	**0.21**	**338**	*i* Pg	**Pg**	**19 01 10.7**	**+0.5**
WERD				*e*Sg	**Sg**	**19 01 13.5**	**+0.1**
WERD				IAML		19 01 13.6	
	comp=E,179nm,0.3s						
WERD	**Werda**	**0.21**	**338**	*i* Pg	**Pg**	**19 01 10.2**	**+0.1**
WERD				*i* Sg	**Sg**	**19 01 13.0**	**-0.3**
	comp=E,126nm,0.1s						
WERD	**Werda**	**0.21**	**338**	*i* Pg	**Pg**	**19 01 10.7**	**+0.5**
WERD				*e*Sg	**Sg**	**19 01 13.5**	**+0.1**
	comp=E,179nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**298**	*i* Pg	**Pg**	**19 01 10.3**	**+0.1**
TRIB				*i* Sg	**Sg**	**19 01 13.3**	**0.0**
TRIB				IAML		19 01 13.6	
	comp=N,134nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**298**	*i* Pg	**Pg**	**19 01 10.8**	**+0.6**
TRIB				*i* Sg	**Sg**	**19 01 13.8**	**+0.4**
TRIB				IAML		19 01 14.1	
	comp=N,173nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**298**	*i* Pg	**Pg**	**19 01 10.3**	**+0.1**
TRIB				*i* Sg	**Sg**	**19 01 13.3**	**0.0**
	comp=N,134nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**298**	*i* Pg	**Pg**	**19 01 10.8**	**+0.6**
TRIB				*i* Sg	**Sg**	**19 01 13.8**	**+0.4**
	comp=N,173nm,0.3s						
VIEL	**Selb-Vielitz**	**0.22**	**253**	*i* Pg	**Pg**	**19 01 10.5**	**+0.2**
VIEL				*e*Sg	**Sg**	**19 01 13.6**	**+0.1**
VIEL	**Selb-Vielitz**	**0.22**	**253**	*i* Pg	**Pg**	**19 01 10.9**	**+0.7**
VIEL				*i* Sg	**Sg**	**19 01 14.1**	**+0.6**
VIEL	**Selb-Vielitz**	**0.22**	**253**	*i* Pg	**Pg**	**19 01 10.5**	**+0.2**
VIEL				*e*Sg	**Sg**	**19 01 13.6**	**+0.1**
VIEL	**Selb-Vielitz**	**0.22**	**253**	*i* Pg	**Pg**	**19 01 10.9**	**+0.7**
VIEL				*i* Sg	**Sg**	**19 01 14.1**	**+0.6**
LACW	**Lazy**	**0.24**	**148**	*i* Pg	**Pg**	**19 01 10.7**	**+0.2**
LACW				*i* Sg	**Sg**	**19 01 14.1**	**+0.1**
LACW	**Lazy**	**0.24**	**148**	*i* Pg	**Pg**	**19 01 11.2**	**+0.6**
LACW				*e*Sg	**Sg**	**19 01 14.7**	**+0.7**
LACW	**Lazy**	**0.24**	**148**	*i* Pg	**Pg**	**19 01 10.7**	**+0.2**
LACW				*i* Sg	**Sg**	**19 01 14.1**	**+0.1**
LACW	**Lazy**	**0.24**	**148**	*i* Pg	**Pg**	**19 01 11.2**	**+0.6**
LACW				*e*Sg	**Sg**	**19 01 14.7**	**+0.7**
LACW	**Lazy**	**0.24**	**148**	⇓P	**Pg**	**19 01 10.7**	**+0.2**
LACW				S	**Sg**	**19 01 14.0**	**+0.1**
LACW	**Lazy**	**0.24**	**148**	⇑P	**Pg**	**19 01 11.2**	**+0.6**
PLN	**Plauen**	**0.29**	**323**	*i* Pg	**Pg**	**19 01 11.7**	**+0.1**
PLN				*e*Sg	**Sg**	**19 01 15.7**	**+0.1**
PLN				IAML		19 01 15.8	
	comp=E,87nm,0.2s						
PLN	**Plauen**	**0.29**	**323**	*i* Pg	**Pg**	**19 01 12.2**	**+0.6**
PLN				*i* Sg	**Sg**	**19 01 16.2**	**+0.6**
PLN				IAML		19 01 16.2	
	comp=E,88nm,0.1s						
PLN	**Plauen**	**0.29**	**323**	*i* Pg	**Pg**	**19 01 11.7**	**+0.1**
PLN				*e*Sg	**Sg**	**19 01 15.7**	**+0.1**
	comp=E,87nm,0.2s						
PLN	**Plauen**	**0.29**	**323**	*i* Pg	**Pg**	**19 01 12.2**	**+0.6**
PLN				*i* Sg	**Sg**	**19 01 16.2**	**+0.6**
	comp=E,88nm,0.1s						
MANZ	**Manzenberg**	**0.34**	**218**	*e*Pg	**Pg**	**19 01 12.6**	**+0.2**
MANZ				*e*Sg	**Sg**	**19 01 17.2**	**+0.3**
SCHF	**Schoenfels**	**0.43**	**358**	*i* Pg	**Pg**	**19 01 14.0**	**0.0**
SCHF				*i* Sg	**Sg**	**19 01 19.7**	**-0.1**
SCHF				IAML		19 01 19.9	
	comp=E,162nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**358**	*e*Pg	**Pg**	**19 01 14.6**	**+0.6**
SCHF				*i* Sg	**Sg**	**19 01 20.2**	**+0.4**
SCHF				IAML		19 01 20.7	
	comp=E,164nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**358**	*i* Pg	**Pg**	**19 01 14.0**	**0.0**
SCHF				*i* Sg	**Sg**	**19 01 19.7**	**-0.1**
	comp=E,162nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**358**	*e*Pg	**Pg**	**19 01 14.6**	**+0.6**
SCHF				*i* Sg	**Sg**	**19 01 20.2**	**+0.4**
	comp=E,164nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**343**	*i* Pg	**Pg**	**19 01 14.6**	**0.0**
GRZ1				*e*Sg	**Sg**	**19 01 20.5**	**-0.3**
GRZ1				IAML		19 01 21.5	
	comp=N,58nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**343**	*e*Pg	**Pg**	**19 01 15.1**	**+0.4**
GRZ1				*e*Sg	**Sg**	**19 01 21.1**	**+0.2**
GRZ1				IAML		19 01 22.5	
	comp=E,114nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**343**	*i* Pg	**Pg**	**19 01 14.6**	**0.0**
GRZ1				*e*Sg	**Sg**	**19 01 20.5**	**-0.3**
	comp=E,58nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**343**	*e*Pg	**Pg**	**19 01 15.1**	**+0.4**
GRZ1				*e*Sg	**Sg**	**19 01 21.1**	**+0.2**
	comp=E,114nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.51**	**197**	*e*Pg	**Pg**	**19 01 15.6**	**+0.1**
ROTZ				*e*Sg	**Sg**	**19 01 22.3**	**+0.1**
MOX	**Moxa**	**0.65**	**307**	*e*Pg	**Pg**	**19 01 18.4**	**+0.1**
MOX				*e*Sg	**Sg**	**19 01 27.1**	**+0.2**
HSKC	**Hora Svate Kat**	**0.73**	**60**	*e*PG	**Pg**	**19 01 19.5**	**-0.2**
HSKC				*e*SG	**Sg**	**19 01 28.8**	**-0.6**
FBE	**Freiberg**	**0.89**	**41**	*e*Pg	**Pg**	**19 01 22.6**	**-0.2**
FBE				*e*Sg	**Sg**	**19 01 34.0**	**-0.4**
GRF	**Grafenberg Arr**	**0.96**	**235**	*e*Pg	**Pg**	**19 01 24.1**	**+0.1**
GRF				*e*Sg	**Sg**	**19 01 36.5**	**0.0**
RICC	**Richard**	**1.11**	**74**	*e*SG	**Sg**	**19 01 40.8**	**-0.4**
	comp=E,43nm,0.3s						
CLL	**Collm**	**1.12**	**19**	*i* Pg	**Pb**	**19 01 26.3**	**-0.5**
CLL				*i* x	x	19 01 28.5	
CLL				*i* x	x	19 01 30.0	
CLL				*i* Sg	**Sg**	**19 01 41.0**	**-0.6**
	comp=Z,27nm,0.4s						
CLL				*i* x	x	19 01 45.2	
CLL	**Collm**	**1.12**	**19**	*e*Pg	**Pb**	**19 01 26.6**	**-0.2**
CLL				*e*Sg	**Sg**	**19 01 41.0**	**-0.6**
WET	**Wettzell**	**1.15**	**165**	*e*Pg	**Pb**	**19 01 27.2**	**-0.1**
WET				*e*Sg	**Sb**	**19 01 42.1**	**+0.1**
BRG	**Berggiesshubel**	**1.15**	**57**	Pg	**Pb**	**19 01 27.2**	**-0.1**
BRG				Sg	**Sb**	**19 01 41.7**	**-0.5**
BRG				Amp		19 01 43.0	
	comp=Z,32nm,0.2s						
BRG	**Berggiesshubel**	**1.15**	**57**	*e*Pg	**Pb**	**19 01 27.2**	**-0.1**
BRG				*e*Sg	**Sb**	**19 01 41.9**	**-0.3**
PRA	**Prague**	**1.30**	**97**	*e*SG	**Sb**	**19 01 46.7**	**+0.2**
	comp=E,13nm,0.2s						
KHC	**Kasperske Hory**	**1.35**	**146**	*e*SG	**Sb**	**19 01 47.5**	**-0.4**
	comp=E,16nm,0.2s						
PRU	**Pruhonice**	**1.38**	**100**	*e*SG	**Sb**	**19 01 48.9**	**0.0**
	comp=E,19nm,0.2s						
PRU	**Pruhonice**	**1.38**	**100**	*e*Pn	**Pn**	**19 01 31.1**	**+0.4**
PRU				*e*Sg	**Sb**	**19 01 49.1**	**+0.2**
PVCC	**Panska Ves**	**1.40**	**78**	*e*SG	**Sg**	**19 01 50.5**	**0.0**
	comp=Z,34nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.56**	**102**	*e*SG	**Sb**	**19 01 54.4**	**+0.5**
	comp=Z,13nm,0.3s						
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Pn	**Pn**	**19 01 34.3**	**+0.1**
GEC2				*e*Sg	**Sn**	**19 01 55.8**	**+0.7**
UPC	**Upice**	**2.31**	**82**	*e*SG	**Sb**	**19 02 17.5**	**+2.0**
	comp=Z,13nm,0.6s						
DPC	**Dobruska-Polom**	**2.50**	**86**	*e*SG	**Sb**	**19 02 22.7**	**+1.7**
	comp=Z,8.2nm,0.5s						
MOA	**Molln**	**2.69**	**153**	Pn	**Pn**	**19 01 49.1**	**+0.5**
	comp=Z,0.2nm,0.1s						
LESA	**Schwarzleotal**	**2.83**	**177**	Pg	**Pg**	**19 02 00.1**	**+0.2**
	comp=Z,0.5nm,0.3s						
KRUC	**Moravsky**	**2.84**	**113**	*e*PN	**Pn**	**19 01 50.8**	**+0.2**
KRUC				*e*SG	**Sb**	**19 02 33.8**	**+3.1**
VRAC	**Vranov**	**2.86**	**108**	*e*PN	**Pn**	**19 01 51.0**	**+0.1**
VRAC				*e*SG	**Sb**	**19 02 34.0**	**+2.7**
MOTA	**Moosalm**	**3.04**	**197**	*i* Pn	**Pn**	**19 01 54.5**	**+0.9**
	comp=Z,0.2nm,0.2s						
CONA	**Conrad Observa**	**3.24**	**135**	*i* Pn	**Pn**	**19 01 56.4**	**+0.2**
	comp=Z,0.1nm,0.2s						
CONA				Pg	**Pg**	**19 02 06.2**	**-1.3**
	comp=Z,1.6nm,0.4s						
MORC	**Moravsky Berou**	**3.33**	**96**	*e*SG	**Sb**	**19 02 49.1**	**+4.1**
CDF	**Champ du Feu**	**3.84**	**243**	*e*Pn	**Pn**	**19 02 05.3**	**+0.8**
CDF	**Champ du Feu**	**3.84**	**243**	*e*Pg	**Pg**	**19 02 18.8**	**-0.3**
CDF				*e*Sn	**Sn**	**19 02 47.3**	**-2.3**
CDF				*e*Sg	**Sg**	**19 03 06.1**	**-2.7**
	comp=Z,3.3nm,0.3s						
HINF	**Hinteralfeld**	**4.40**	**239**	*e*Pg	**Pg**	**19 02 28.5**	**-1.3**
HINF				*e*Sg	**Sg**	**19 03 24.7**	**-2.2**
	comp=Z,2.3nm,0.3s						
HAU	**Haudompre**	**4.58**	**243**	*e*Pn	**Pn**	**19 02 15.1**	**+0.5**
HAU	**Haudompre**	**4.58**	**243**	*e*Pg	**Pg**	**19 02 32.5**	**-0.8**
HAU				*e*Sg	**Sg**	**19 03 31.3**	**-1.3**
	comp=Z,3.9nm,0.4s						
LOR	**Lormes**	**6.40**	**246**	*e*Sg	**Sg**	**19 04 27.3**	**-3.7**

*IDC **10** 19:01:14.7±1.6,5˚.88S×105˚.37E,h0km,mb3.7/6, mbtmp3.7/7,ML3.3/1,MS4.1/6,Error ellipse: s-maj=97.7km s-min=19.4km az=44.0*
*DJA **10** 19:01:15.4±1.3,7˚S±10˚×10˚5E±˚,h10km±8km,M3.9/6, MLv3.9/6*

ISC 10 19:01:21.1±0.8,5˚.7S±0˚.2×105˚.73E±0˚.10,h35km,n29, σ1⁘47/12,mb3.7/6,MS4.1/6,Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBJI	**Serang**	**0.59**	**137**	P	**Pn**	**19 01 33.1**	**+0.1**
KASI	**Kota Agung**	**1.23**	**277**	P	**Pn**	**19 01 40.4**	**-1.4**
KASI				S	**Sn**	**19 01 59.3**	**+2.1**
SKJI	**Sukabumi**	**1.55**	**148**	P	Pn	19 01 38.1	-8.1
LWLI	**Liwa**	**1.79**	**292**	P	**Pn**	**19 01 51.6**	**+2.1**
CNJI	**Cibinong**	**2.14**	**139**	P	Pn	19 01 46.5	-7.7
LEM	**Lembang**	**2.20**	**121**	Pn	**Pn**	**19 01 55.7**	**+0.5**
	7.3nm,0.3s,baz=292,slow=19,SNR=31						
	131nm,0.8s						
LEM	**Lembang**	**2.20**	**121**	P	**Pn**	**19 01 56.3**	**+1.0**
H01W3	**Cape Leeuwin H**	**30.08**	**166**	T	T	19 37 37.0	
	baz=345,slow=76,SNR=4.4						
H01W1	**Cape Leeuwin H**	**30.09**	**166**	T	T	19 37 37.2	
	baz=345,slow=76,SNR=5.7						
H01W2	**Cape Leeuwin H**	**30.09**	**166**	T	T	19 37 37.7	
	baz=345,slow=76,SNR=5.2						
WRA	**Warramunga Arr**	**31.22**	**120**	P	**P**	**19 07 38.3**	**+0.8**
	1.0nm,0.9s,baz=290,slow=10,SNR=4.8						
	1.0nm,0.9s						
ASAR	**Alice Springs**	**32.48**	**126**	P	**P**	**19 07 48.1**	**-0.5**
	0.4nm,0.9s,baz=297,slow=8.2,SNR=5.2						
	0.4nm,0.9s						
H08S2	**Diego Garcia H**	**33.06**	**265**	T	T	19 41 51.5	
	baz=90,slow=76,SNR=29						
H08S3	**Diego Garcia H**	**33.07**	**265**	T	T	19 42 02.4	
	baz=90,slow=76,SNR=36						
H08S1	**Diego Carcia H**	**33.08**	**265**	T	T	19 42 03.8	
	baz=90,slow=76,SNR=37						
STKA	**Stephens Creek**	**42.46**	**132**	P	**P**	**19 09 13.2**	**+0.3**
	2.4nm,0.7s,baz=297,slow=11,SNR=4.7						
	2.4nm,0.7s						
JCJ	**Chichijima**	**48.01**	**45**	LR	LR	19 29 10.7	
	comp=Z,162nm,21.6s,baz=106,slow=35						
JHJ	**Hachijo jima 2**	**50.33**	**38**	LR	LR	19 31 34.7	
	comp=Z,248nm,20.3s,baz=86,slow=36						
MKAR	**Makanchi Array**	**56.23**	**341**	P	**P**	**19 10 56.2**	**-1.6**
	0.2nm,0.5s,baz=151,slow=8.5,SNR=3.6						
	0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**61.45**	**220**	T	T	20 16 47.9	
	baz=67,slow=75,SNR=42						
H04N1	**CROZET ISLANDS**	**61.46**	**220**	T	T	20 16 49.1	
	baz=67,slow=75,SNR=49						
H04N3	**CROZET ISLANDS**	**61.46**	**220**	T	T	20 16 48.5	
	baz=67,slow=75,SNR=42						
BVAR	**Borovoye Array**	**65.67**	**337**	P	**P**	**19 12 02.8**	**+1.0**
	0.5nm,0.7s,baz=160,slow=8.9,SNR=2.8						
	0.5nm,0.7s						
AKTO	**Aktyubinsk**	**69.35**	**330**	LR	LR	19 46 14.4	
	comp=Z,291nm,21.1s,baz=273,slow=39						
GNI	**Garni**	**72.13**	**315**	LR	LR	19 47 59.5	
	comp=Z,149nm,20.3s,baz=332,slow=39						
EIL	**Elat**	**76.30**	**302**	LR	LR	19 46 48.1	
	comp=Z,63nm,21.8s,baz=278,slow=36						
MMAI	**Mount Meron Ar**	**76.81**	**306**	LR	LR	19 48 46.4	
	comp=Z,53nm,19.6s,baz=262,slow=37						
BRTR	**Keskin Array B**	**80.01**	**312**	P	**P**	**19 13 25.6**	**-1.8**
	0.6nm,0.5s,baz=110,slow=5.5,SNR=2.7						
	0.6nm,0.5s						
TXAR	**Lajitas Array**	**143.61**	**46**	PKP	PKPab	19 20 50.9	+1.2
	0.8nm,0.7s,baz=294,slow=0.9,SNR=5.4						

	comp=Z,0.6nm,0.6s,baz=54,slow=7.0,SNR=6.6						
	comp=Z,0.6nm,0.6s						
TIXI	**Tiksi**	**42.55**	**354**	P	**P**	**19 10 58.0**	**0.0**
MTN	**Manton Dam**	**43.70**	**196**	P	**P**	**19 11 06.8**	**-1.1**
ZAA0	**Zalesovo Array**	**47.50**	**318**	P	**P**	**19 11 36.9**	**-0.6**
ZAA0				IAmb	IAmb	19 11 40.5	
	comp=Z,2.3nm,0.8s						
ZALV	**Zalesovo Beam**	**47.50**	**318**	P	**P**	**19 11 37.4**	**-0.2**
ZALV	**Zalesovo Beam**	**47.50**	**318**	P	**P**	**19 11 38.0**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=90,slow=7.2,SNR=7.8						
ZALV				PcP	**PcP**	**19 13 07.2**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=98,slow=4.4,SNR=2.4						
	comp=Z,1.6nm,0.6s						
MK31	**Makanchi Array**	**48.81**	**308**	P	**P**	**19 11 47.5**	**-0.4**
MK31				IAmb	IAmb	19 11 49.5	
	comp=Z,2.7nm,0.8s						
MKAR	**Makanchi Array**	**48.81**	**308**	P	**P**	**19 11 46.8**	**-1.0**
MKAR	**Makanchi Array**	**48.81**	**308**	P	**P**	**19 11 48.3**	**+0.4**
	comp=Z,2.3nm,0.7s,baz=90,slow=8.8,SNR=23						
	comp=Z,2.3nm,0.7s						
MAKZ	**Makanchi**	**49.03**	**308**	P	**P**	**19 11 49.6**	**+0.1**
MAKZ				IAmb	IAmb	19 11 51.1	
	comp=Z,8.7nm,1.4s						
WB0	**Warramunga Arr**	**49.84**	**190**	P	**P**	**19 11 54.8**	**-1.0**
WR0	**Warramunga Arr**	**50.00**	**189**	IAmb	IAmb	19 11 57.0	
	comp=Z,4.4nm,0.7s						
WB2	**Warramunga Arr**	**50.02**	**190**	P	**P**	**19 11 56.4**	**-0.7**
WB2				IAmb	IAmb	19 12 07.1	
	comp=Z,9.5nm,1.2s						
WRA	**Warramunga Arr**	**50.02**	**190**	P	**P**	**19 11 56.1**	**-1.1**
WRA	**Warramunga Arr**	**50.02**	**190**	P	**P**	**19 11 56.4**	**-0.8**
	comp=Z,5.7nm,0.6s,baz=7.6,slow=7.9,SNR=58						
WRA				PcP	**PcP**	**19 13 17.2**	**+0.3**
	comp=Z,1.0nm,0.7s,baz=5.4,slow=3.6,SNR=2.1						
	comp=Z,5.7nm,0.6s						
KURK	**Kurchatov**	**51.15**	**313**	P	**P**	**19 12 05.2**	**-0.2**
KURBB	**Kurchatov Arra**	**51.20**	**313**	P	**P**	**19 12 06.3**	**+0.5**
	comp=Z,7.0nm,0.7s,baz=90,slow=7.5,SNR=29						
	comp=Z,7.0nm,0.7s						
F20K	**Avaraart Lake**	**52.10**	**26**	P	**P**	**19 12 13.6**	**+1.3**
F20K				IAmb	IAmb	19 12 21.4	
	comp=Z,6.2nm,1.4s						
B21K	**Ikpikpuk River**	**53.11**	**23**	P	**P**	**19 12 20.9**	**+1.2**
B21K				IAmb	IAmb	19 12 24.9	
	comp=Z,6.5nm,1.1s						
AS31	**Alice Springs**	**53.74**	**189**		**P**	**19 12 23.9**	**-1.0**
ASAR	**Alice Springs**	**53.74**	**189**	P	**P**	**19 12 24.2**	**-0.7**
ASAR	**Alice Springs**	**53.74**	**189**	P	**P**	**19 12 23.9**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=6.0,slow=6.0,SNR=34						
ASAR				PcP	**PcP**	**19 13 32.1**	**+1.3**
	comp=Z,0.7nm,0.9s,baz=16,slow=4.3,SNR=1.9						
	comp=Z,1.0nm,0.4s						
BOOM	**Boomskoye usch**	**53.74**	**303**	P	**P**	**19 12 25.2**	**+0.2**
E22K	**Anaktuvuk Pass**	**53.79**	**25**	P	**P**	**19 12 25.1**	**+0.3**
E22K				IAmb	IAmb	19 12 44.8	
	comp=Z,2.9nm,0.9s						
C23K	**Itkillik River**	**54.52**	**23**	P	**P**	**19 12 31.7**	**+1.7**
C23K				IAmb	IAmb	19 12 37.3	
	comp=Z,10nm,1.2s						
F24K	**Squaw Lake**	**55.17**	**26**	P	**P**	**19 12 35.5**	**+0.6**
ILAR	**Eielson Array**	**55.36**	**29**	P	**P**	**19 12 36.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=260,slow=6.9,SNR=4.3						
	comp=Z,0.6nm,0.7s						
EIDS	**Eidsvold**	**55.50**	**170**	P	**P**	**19 12 38.3**	**+0.8**
BVAR	**Borovoye Array**	**56.10**	**316**	P	**P**	**19 12 42.2**	**+0.5**
	comp=Z,3.1nm,0.5s,baz=88,slow=7.6,SNR=20						
	comp=Z,3.1nm,0.5s						
BRVK	**Borovoye**	**56.16**	**316**		**P**	**19 12 43.4**	**+1.3**
BRVK				IAmb	IAmb	19 12 58.7	
	comp=Z,4.0nm,0.8s						
BMAR	**Burnt Mountain**	**56.44**	**26**	P	**P**	**19 12 46.3**	**+2.3**
SCRK	**Sand Creek**	**56.60**	**30**	P	**P**	**19 12 45.7**	**+0.5**
KK31	**Karatay Array**	**57.56**	**305**	P	**P**	**19 12 52.4**	**+0.1**
E27K	**Coleen River**	**57.59**	**25**	P	**P**	**19 12 53.0**	**+0.9**
E27K				IAmb	IAmb	19 12 56.5	
	comp=Z,6.9nm,1.5s						
E28M	**Babbage River**	**58.35**	**25**	P	**P**	**19 12 58.5**	**+1.0**
E28M				IAmb	IAmb	19 13 11.7	
	comp=Z,2.5nm,0.8s						
EPYK	**Eagle Plains**	**59.56**	**28**	P	**P**	**19 13 07.3**	**+1.5**
EPYK				IAmb	IAmb	19 13 19.5	
	comp=Z,4.9nm,0.8s						
I30M	**Mount Dempster**	**59.81**	**29**	P	**P**	**19 13 08.8**	**+1.1**
I30M				IAmb	IAmb	19 13 23.1	
	comp=Z,6.6nm,1.4s						
G31M	**Satah River**	**60.47**	**27**	P	**P**	**19 13 12.9**	**+0.9**
G31M				IAmb	IAmb	19 13 34.5	
	comp=Z,8.1nm,1.4s						
INK	**Inuvik**	**60.59**	**25**	P	**P**	**19 13 13.6**	**+0.8**
INK				IAmb	IAmb	19 13 41.6	
	comp=Z,5.0nm,1.4s						
INK	**Inuvik**	**60.59**	**25**	P	**P**	**19 13 13.9**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=292,slow=4.2,SNR=5.1						
	comp=Z,0.9nm,0.5s						
STKA	**Stephens Creek**	**61.33**	**181**	P	**P**	**19 13 16.6**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=356,slow=13,SNR=4.2						
	comp=Z,1.8nm,0.7s						
FORT	**Forrest**	**61.72**	**194**	P	**P**	**19 13 20.3**	**-0.5**
ARU	**Arti**	**62.33**	**321**	P	**P**	**19 13 24.3**	**-0.5**
ARU	**Arti**	**62.33**	**321**	P	**P**	**19 13 24.8**	**+0.1**
	comp=Z,3.9nm,0.6s,baz=83,slow=8.6,SNR=7.5						
ARU				LR	LR	19 44 16.3	
	comp=Z,232nm,19.1s,baz=342,slow=40						
	comp=Z,3.9nm,0.6s						
ABKAR	**Akbulak array**	**63.25**	**313**	P	**P**	**19 13 31.5**	**+0.4**
AKTO	**Aktyubinsk**	**64.14**	**315**	P	**P**	**19 13 36.2**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=79,slow=12,SNR=5.3						
	comp=Z,2.0nm,0.7s						
GEYT	**Alibeck**	**68.08**	**302**	P	**P**	**19 14 03.4**	**+1.0**
GEYT	**Alibeck**	**68.08**	**302**	P	**P**	**19 14 02.2**	**-0.3**
	comp=Z,3.3nm,0.8s,baz=59,slow=3.7,SNR=9.1						
	comp=Z,3.3nm,0.8s						
YKA	**Yellowknife Ar**	**69.78**	**29**	P	**P**	**19 14 13.0**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=294,slow=6.4,SNR=6.0						
	comp=Z,0.8nm,0.9s						
ARCES	**ARCESS Array B**	**71.02**	**341**	P	**P**	**19 14 20.7**	**+0.7**
ARCES				IAmb	IAmb	19 14 55.7	
	comp=Z,5.1nm,1.1s						
ARCES	**ARCESS Array B**	**71.02**	**341**	P	**P**	**19 14 20.9**	**+1.0**
	comp=Z,1.7nm,0.8s,baz=52,slow=8.1,SNR=3.7						
	comp=Z,1.7nm,0.8s						
NEW	**Newport**	**74.92**	**43**	LR	LR	19 43 46.1	
	comp=Z,29nm,19.7s,baz=34,slow=33						
FINES	**FINESS Array B**	**75.55**	**334**	P	**P**	**19 14 47.3**	**+0.5**
	comp=Z,1.2nm,0.6s,baz=58,slow=5.2,SNR=13						
	comp=Z,1.2nm,0.6s						
KBZ	**Khibaz**	**76.20**	**313**	P	**P**	**19 14 52.1**	**+1.2**
	comp=Z,3.5nm,0.8s,baz=81,slow=6.6,SNR=7.6						
	comp=Z,3.5nm,0.8s						
AKASG	**Malin Array Be**	**80.47**	**324**	P	**P**	**19 15 14.3**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=51,slow=5.2,SNR=7.3						
	comp=Z,0.6nm,0.4s						
HFS	**Hagfors**	**80.97**	**337**	P	**P**	**19 15 16.8**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=72,slow=4.7,SNR=6.1						
	comp=Z,2.4nm,0.8s						
NOA	**NORSAR Array B**	**81.13**	**338**	P	**P**	**19 15 18.2**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=39,slow=5.0,SNR=3.9						
	comp=Z,1.4nm,0.9s						
PSUT	**Pine Spring**	**81.81**	**50**	P	**P**	**19 15 23.3**	**+1.3**
PSUT				IAmb	IAmb	19 15 31.0	
	comp=Z,4.5nm,0.6s						
RAYN	**Ar Rayn**	**84.09**	**294**	P	**P**	**19 15 33.8**	**0.0**
BRTR	**Keskin Array B**	**84.20**	**313**	P	**P**	**19 15 32.2**	**-2.1**
BRTR	**Keskin Array B**	**84.20**	**313**	P	**P**	**19 15 34.2**	**0.0**
	comp=Z,3.6nm,0.9s,baz=89,slow=5.2,SNR=12						
	comp=Z,3.6nm,0.9s						
MMAI	**Mount Meron Ar**	**86.74**	**306**	P	**P**	**19 15 48.3**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=82,slow=5.1,SNR=2.6						
	comp=Z,0.5nm,0.3s						
CLL	**Collm**	**87.72**	**331**	*i* P	**P**	**19 15 51.7**	**+0.5**
TXAR	**Lajitas Array**	**93.98**	**53**	P	**P**	**19 16 22.5**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=312,slow=3.3,SNR=7.2						
	comp=Z,0.7nm,0.7s						
QSPA	**South Pole Qui**	**119.55**	**180**	PKP	**PKPdf**	**19 21 51.2**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=292,slow=3.5,SNR=7.3						

*IDC **10** 19:07:33.6±3.3,56˚.08N×149˚.28W,h0km,mb3.4/1, mbtmp3.2/4,ML2.9/3, Error ellipse: s-maj=47.1km s-min=37.1km az=159.0*
*NEIC **10** 19:07:35.0±1.1,56˚.31N±0˚.08×149˚.4W±0˚.1,h10km±2km, ML3.3/40,ML3.2(AEIC), Error ellipse: s-maj=13.9km s-min=9.3km az=168.0*
*AEIC **10** 19:07:38.6±1.6,56˚.19N±0˚.10×149˚.4W±0˚.1,h10km±8km, Error ellipse: s-maj=14.0km s-min=8.5km az=176.0*
ISC 10 19:07:35.7±1.5,**56˚.4N**±0˚.1×**149˚.35W**±0˚.06,**h10km**,**n132,**
σ0$: **89**/132, **Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.25**	**310**		**Pn**	**19 08 13.2**	**+0.3**
KDAK	**Kodiak Island**	**2.25**	**310**		**Sn**	**19 08 40.0**	**-0.7**
KDAK	**Kodiak Island**	**2.25**	**310**	S	**Sn**	**19 08 40.0**	**-0.7**
	baz=129						
KDAK	**Kodiak Island**	**2.25**	**310**	Pn	**Pn**	**19 08 13.2**	**+0.3**
	3.6nm,0.3s,baz=136,slow=4.2,SNR=42						
KDAK				Sn	**Sn**	**19 08 40.1**	**-0.6**
	4.7nm,0.3s,baz=66,slow=19,SNR=4.3						
	16nm,0.5s						
OHAK	**Old Harbor**	**2.32**	**293**		**Pn**	**19 08 13.4**	**-0.4**
OHAK					**Sn**	**19 08 40.0**	**-2.4**
OHAK	**Old Harbor**	**2.32**	**293**	P	**Pn**	**19 08 13.4**	**-0.4**
	baz=111						
OHAK				S	**Sn**	**19 08 40.0**	**-2.4**
	baz=111						
Q20K	**Shuyak Island**	**2.77**	**325**	P	**Pn**	**19 08 20.6**	**+0.6**
	baz=143						
Q20K				S	**Sn**	**19 08 53.9**	**+0.5**
	baz=143						
SYI	**Shuyak Island**	**2.77**	**325**		**Pn**	**19 08 20.4**	**+0.5**
SYI					**Sn**	**19 08 53.9**	**+0.5**
SYI	**Shuyak Island**	**2.77**	**325**	IAML		19 09 00.7	
	comp=E,50nm,0.5s						
CNPM	**China Poot**	**3.30**	**343**		**Pn**	**19 08 27.7**	**+0.3**
CNPM					**Sn**	**19 09 07.2**	**+0.5**
CNPM	**China Poot**	**3.30**	**343**	IAML		19 09 11.1	
	comp=E,32nm,0.9s						
Q19K	**Cape Douglas,**	**3.44**	**320**	Pn	**Pn**	**19 08 30.0**	**+0.8**
BRSE	**Bradley Lake S**	**3.44**	**348**		**Pn**	**19 08 29.4**	**+0.1**
BRSE	**Bradley Lake S**	**3.44**	**348**	P	**Pn**	**19 08 29.6**	**+0.2**
	baz=167						
Q23K	**Middleton Isla**	**3.44**	**26**		**Pn**	**19 08 29.1**	**-0.2**
Q23K	**Middleton Isla**	**3.44**	**26**	IAML		19 09 12.7	
	comp=N,106nm,1.1s						
Q23K				IAML		19 10 07.7	
	comp=E,95nm,1.1s						
BRLK	**Bradley Lake**	**3.48**	**347**		**Pn**	**19 08 29.1**	**-0.8**
BRLK				IAML		19 09 16.1	
	comp=E,38nm,0.7s						
BRLK				IAML		19 09 17.0	
	comp=N,48nm,0.4s						
CHIR	**Chirikof Islan**	**3.56**	**263**	Pn	**Pn**	**19 08 29.6**	**-1.3**
SEW	**Seward**	**3.73**	**359**		**Pn**	**19 08 33.0**	**-0.2**
P23K	**Montague Islan**	**3.76**	**15**		**Pn**	**19 08 33.7**	**0.0**
P23K					**Sn**	**19 09 16.0**	**-2.0**
P19K	**Oil Pt**	**3.87**	**329**	Pn	**Pn**	**19 08 35.6**	**+0.4**
P19K				IAML		19 09 12.6	
	comp=E,61nm,0.9s						
P19K				IAML		19 10 01.8	
	comp=N,53nm,1.0s						
Q20K	**Slope Mountain**	**4.09**	**336**		**Pn**	**19 08 38.1**	**-0.1**
Q22K	**Cooper Landing**	**4.11**	**357**	Pn	**Pn**	**19 08 38.7**	**+0.3**
IVE	**Iliamna Volcan**	**4.12**	**333**		**Pn**	**19 08 38.5**	**-0.2**
SLKM	**Skilak Lake**	**4.16**	**354**		**Pn**	**19 08 39.2**	**+0.1**
HIN	**Hinchinbrook I**	**4.29**	**19**	Pn	**Pn**	**19 08 41.0**	**0.0**
HIN				IAML		19 10 11.6	
	comp=E,45nm,1.1s						
KAIM	**Kayak Island**	**4.41**	**34**	Pn	**Pn**	**19 08 42.8**	**+0.3**
KAIM				IAML		19 09 32.8	
	comp=N,56nm,1.0s						
RSO	**Redoubt South**	**4.46**	**338**	Pn	Pn	19 08 41.5	-1.9
RDT	**Redoubt**	**4.49**	**340**		**Pn**	**19 08 43.4**	**-0.4**
EYAK	**Cordova Ski Ar**	**4.58**	**23**		**Pn**	**19 08 45.0**	**+0.2**
FID	**Port Fidalgo**	**4.63**	**18**	Pn	**Pn**	**19 08 45.3**	**-0.3**
FID				IAML		19 09 41.5	
	comp=E,34nm,1.2s						
FID				IAML		19 09 44.6	
	comp=N,26nm,0.8s						
GLI	**Glacier Island**	**4.66**	**14**	Pn	**Pn**	**19 08 45.7**	**-0.3**
GLI				IAML		19 09 49.0	
	comp=N,29nm,1.2s						
GLI				IAML		19 09 57.0	
	comp=E,29nm,1.2s						
O18K	**Koktuh Hills**	**4.66**	**321**	Pn	**Pn**	**19 08 45.0**	**-1.0**
O18K				IAML		19 09 54.2	
	comp=N,17nm,1.0s						
HMT	**Hamilton**	**4.78**	**32**	Pn	Pn	19 08 45.7	-2.0
GOAT	**Goat Mountain**	**4.85**	**28**		**Pn**	**19 08 49.5**	**+0.8**
N20K	**Mount Spurr**	**5.05**	**344**	P	**Pn**	**19 08 52.2**	**+0.8**
	baz=162						
SPCR	**Spurr Chakacha**	**5.05**	**344**		**Pn**	**19 08 51.4**	**-0.1**
KNK	**Knik Glacier**	**5.06**	**5**	Pn	**Pn**	**19 08 50.8**	**-0.8**
KNK				IAML		19 09 59.7	
	comp=N,13nm,1.0s						
KNK				IAML		19 10 06.3	
	comp=E,18nm,1.1s						
SPCG	**Spurr Capps Gl**	**5.11**	**345**		**Pn**	**19 08 52.5**	**+0.2**
SUA	**Susitna One**	**5.14**	**353**	Pn	**Pn**	**19 08 52.8**	**+0.1**
SUA				IAML		19 09 54.0	
	comp=N,9.2nm,0.9s						
KHIT	**Khitrov Hills**	**5.18**	**36**		**Pn**	**19 08 53.2**	**0.0**
N19K	**Bonanza Creek**	**5.18**	**331**		**Pn**	**19 08 53.2**	**-0.1**
N19K	**Bonanza Creek**	**5.18**	**331**	P	**Pn**	**19 08 54.0**	**+0.7**
	baz=147						
BMRM	**Bremner River**	**5.22**	**26**		**Pn**	**19 08 54.0**	**+0.3**
STLK	**Strandline Lak**	**5.28**	**347**		**Pn**	**19 08 54.9**	**+0.3**
SPNN	**North Nagishla**	**5.29**	**342**		**Pn**	**19 08 54.8**	**+0.1**
WAX	**Waxell Ridge**	**5.32**	**37**		**Pn**	**19 08 55.4**	**+0.3**
WAX				IAML		19 09 54.5	
	comp=N,32nm,0.3s						
WAX				IAML		19 09 56.5	
	comp=E,30nm,0.5s						
GHO	**Glory Hole Cre**	**5.41**	**2**		**Pn**	**19 08 57.5**	**+1.1**
KLU	**Klutina**	**5.42**	**18**		**Pn**	**19 08 57.4**	**+1.0**
KLU	**Klutina**	**5.42**	**18**	P	**Pn**	**19 08 57.5**	**+1.0**
	baz=200						
MESA	**MESA**	**5.45**	**43**	Pn	**Pn**	**19 08 57.8**	**+0.8**
SML	**Sawmill**	**5.46**	**5**	Pn	**Pn**	**19 08 57.7**	**+0.6**
N18K	**Kilae Creek**	**5.50**	**324**	Pn	**Pn**	**19 08 57.8**	**+0.2**
SCM	**Sheep Creek Mo**	**5.56**	**10**	Pn	**Pn**	**19 08 58.8**	**+0.3**
ISLE	**Juniper Island**	**5.60**	**38**	Pn	**Pn**	**19 08 59.1**	**0.0**
O16K	**Kokwok River B**	**5.65**	**308**	Pn	**Pn**	**19 09 00.5**	**+0.9**
SKT	**Skwentna**	**5.72**	**350**	Pn	**Pn**	**19 09 01.2**	**+0.6**
VRDI	**Vera Repeater**	**5.74**	**30**	Pn	**Pn**	**19 09 01.7**	**+0.7**
N25K	**Chitina, Valde**	**5.78**	**23**	Pn	**Pn**	**19 09 01.9**	**+0.5**
GLB	**Gilahina Butte**	**5.82**	**27**		**Pn**	**19 09 02.5**	**+0.5**
KIAG	**Kiagna River**	**5.83**	**36**		**Pn**	**19 09 02.4**	**+0.1**
N17K	**Nushagak Hills**	**5.84**	**319**	Pn	**Pn**	**19 09 02.4**	**+0.2**
M20K	**Styx River**	**5.84**	**342**	Pn	**Pn**	**19 09 02.5**	**+0.2**
MCARA	**McCarthy VSAT**	**5.99**	**31**		**Pn**	**19 09 05.3**	**+1.1**
PTPK	**Patty Peak**	**6.00**	**34**		**Pn**	**19 09 05.1**	**+0.6**
M19K	**Big River Lodg**	**6.11**	**337**	Pn	**Pn**	**19 09 06.4**	**+0.5**
M18K	**Stony River**	**6.11**	**329**		**Pn**	**19 09 05.7**	**-0.3**
M18K	**Stony River**	**6.11**	**329**	P	**Pn**	**19 09 06.0**	**+0.1**
	baz=144						
BARN	**Barnard Glacie**	**6.16**	**37**		**Pn**	**19 09 06.9**	**+0.1**
CTGM	**Chitina Glacie**	**6.21**	**39**	Pn	**Pn**	**19 09 07.2**	**-0.2**
PNL	**Peninsula**	**6.23**	**54**		**Pn**	**19 09 07.6**	**0.0**
PNL	**Peninsula**	**6.23**	**54**	P	**Pn**	**19 09 07.8**	**+0.2**
	baz=242						
LOGN	**Logan Glacier**	**6.23**	**41**	Pn	**Pn**	**19 09 07.5**	**-0.2**
BCPM	**Bancas Point**	**6.26**	**51**		**Pn**	**19 09 08.0**	**+0.1**
L19K	**White Mountain**	**6.46**	**336**	Pn	**Pn**	**19 09 11.2**	**+0.5**
O28M	**Mount Upton**	**6.50**	**44**		**Pn**	**19 09 11.6**	**+0.1**
M17K	**Holitna River**	**6.54**	**324**	Pn	**Pn**	**19 09 12.3**	**+0.5**
N15K	**Kwethluk River**	**6.81**	**308**	Pn	**Pn**	**19 09 16.3**	**+0.8**
M16K	**Timber Creek**	**6.83**	**317**	Pn	**Pn**	**19 09 16.9**	**+1.2**
L18K	**Granite Mounta**	**6.95**	**330**	Pn	**Pn**	**19 09 17.3**	**-0.1**
P29M	**Windy Craggy**	**6.97**	**57**	Pn	**Pn**	**19 09 17.5**	**-0.2**
P29M	**Windy Craggy**	**6.97**	**57**	P	**Pn**	**19 09 17.6**	**-0.2**
	baz=247						
RND	**Reindeer**	**7.05**	**2**		**Pn**	**19 09 20.0**	**+1.2**
M27K	**Edge Creek, AK**	**7.10**	**29**	Pn	**Pn**	**19 09 20.8**	**+1.2**
CAST	**Castle Rocks**	**7.18**	**350**		**Pn**	**19 09 21.0**	**+0.4**
CAST	**Castle Rocks**	**7.18**	**350**	P	**Pn**	**19 09 23.5**	**+2.9**
	baz=168						
KTH	**Kantishna Hill**	**7.23**	**354**	Pn	**Pn**	**19 09 21.8**	**+0.5**
S31K	**Pelican**	**7.31**	**72**		**Pn**	**19 09 20.5**	**-1.8**
S31K	**Pelican**	**7.31**	**72**	P	**Pn**	**19 09 20.5**	**-1.8**
	baz=262						
YUK6	**Outpost Mounta**	**7.32**	**47**	P	**Pn**	**19 09 24.1**	**+1.3**
	baz=236						
K20K	**Telida**	**7.38**	**343**	Pn	Pn	19 09 21.7	-1.7
YUK4	**Talbot Arm**	**7.45**	**44**	P	**Pn**	**19 09 27.3**	**+2.9**
	baz=232						
L16K	**Owhat River**	**7.46**	**320**	Pn	**Pn**	**19 09 23.1**	**-1.2**
HYT	**Haines Junctio**	**7.62**	**49**	Pn	**Pn**	**19 09 26.4**	**-0.3**
L27K	**Beaver Creek,**	**7.69**	**26**	Pn	**Pn**	**19 09 27.6**	**0.0**
BPAW	**Bear Paw Mtn.**	**7.78**	**355**	P	**Pn**	**19 09 29.5**	**+0.7**
	baz=173						
J18K	**Innoko River**	**8.00**	**336**	Pn	**Pn**	**19 09 30.9**	**-0.9**
N30M	**Aishikik Lake**	**8.12**	**46**	P	**Pn**	**19 09 34.0**	**+0.4**
	baz=236						
HDA	**Harding Lake**	**8.13**	**7**	Pn	**Pn**	**19 09 34.0**	**+0.3**
S32K	**Killisnoo**	**8.16**	**76**		Pn	19 09 31.9	-2.0
S32K	**Killisnoo**	**8.16**	**76**	P	Pn	19 09 31.9	-2.0
	baz=268						
J20K	**Nowinta River**	**8.17**	**345**		**Pn**	**19 09 34.4**	**+0.3**
M29M	**Somme Creek**	**8.22**	**38**	Pn	**Pn**	**19 09 36.1**	**+1.1**
NEA2	**Nenana**	**8.23**	**1**	Pn	**Pn**	**19 09 36.5**	**+1.5**
J19K	**Poorman**	**8.24**	**340**	Pn	**Pn**	**19 09 34.7**	**-0.4**
R32K	**Eaglecrest**	**8.25**	**71**	Pn	**Pn**	**19 09 34.6**	**-0.6**
JIS	**Juneau Island**	**8.32**	**71**	Pn	**Pn**	**19 09 34.3**	**-1.8**
CCB	**Clear Creek Bu**	**8.32**	**5**	Pn	**Pn**	**19 09 36.0**	**-0.2**
ILAR	**Eielson Array**	**8.50**	**7**	Pn	**Pn**	**19 09 39.6**	**+0.9**
ILAR	**Eielson Array**	**8.50**	**7**	Pn	**Pn**	**19 09 40.3**	**+1.7**
	comp=E,0.1nm,0.3s,baz=188,slow=12,SNR=4.3						
ILAR				Sn	**Sn**	**19 11 11.8**	**-2.7**
	comp=E,0.1nm,0.3s,baz=188,slow=19,SNR=2.8						
	comp=E,0.3nm,0.4s						
L14K	**Kuka Creek**	**8.50**	**311**	Pn	**Pn**	**19 09 39.8**	**+1.2**
J17K	**VABM Dome**	**8.55**	**329**	Pn	**Pn**	**19 09 38.9**	**-0.5**
K15K	**Wolf Creek Mou**	**8.58**	**319**	Pn	**Pn**	**19 09 40.2**	**+0.5**
MDM	**Murphy Dome**	**8.62**	**3**	Pn	**Pn**	**19 09 39.3**	**-1.0**
J26L	**Joseph Creek**	**8.62**	**17**	Pn	**Pn**	**19 09 40.9**	**+0.5**
WHY	**Whitehorse**	**8.69**	**55**	Pn	**Pn**	**19 09 41.9**	**+0.5**
L29M	**L29M**	**8.79**	**35**	Pn	**Pn**	**19 09 44.3**	**+1.6**
P32M	**Atlin**	**8.90**	**62**	Pn	**Pn**	**19 09 44.0**	**-0.3**
J16K	**Anvik River**	**8.93**	**325**	Pn	**Pn**	**19 09 44.6**	**+0.1**
H21K	**Melozitna Rive**	**9.45**	**351**	Pn	**Pn**	**19 09 51.4**	**-0.2**
H21K	**Melozitna Rive**	**9.45**	**351**	P	**Pn**	**19 09 53.4**	**+1.8**
	baz=168						
P33M	**Teslin, Yukon**	**9.50**	**59**	Pn	**Pn**	**19 09 52.4**	**-0.1**
H24K	**Noodor Dome**	**9.51**	**4**	Pn	**Pn**	**19 09 53.0**	**+0.4**
K29M	**Barlow Dome**	**9.51**	**33**	Pn	**Pn**	**19 09 53.1**	**+0.5**
M31M	**Drury Creek, Y**	**9.61**	**47**	Pn	**Pn**	**19 09 54.9**	**+1.1**
K13K	**Kusilvak Mount**	**9.61**	**312**	Pn	**Pn**	**19 09 55.0**	**+1.2**
IMAR	**Indian Mountai**	**9.86**	**349**	Pn	**Pn**	**19 09 57.1**	**-0.1**
R33M	**Jennings River**	**10.23**	**65**	Pn	**Pn**	**19 10 02.3**	**-0.2**
J30M	**Hart River**	**10.40**	**33**	Pn	**Pn**	**19 10 05.5**	**+0.7**
E21K	**Killik River**	**12.28**	**352**	Pn	**Pn**	**19 10 31.6**	**+1.2**
YKA	**Yellowknife Ar**	**18.51**	**56**	P	**P**	**19 11 52.0**	**+0.3**
	baz=263,slow=9.9,SNR=3.5						
	comp=E,0.4nm,0.8s						
MKAR	**Makanchi Array**	**68.48**	**325**	P	**P**	**19 18 38.8**	**+1.1**
	comp=E,0.2nm,0.4s,baz=42,slow=4.9,SNR=3.2						
	comp=E,0.2nm,0.4s						

*IDC **10** 19:10:59.9±2.0, 1˚.10N×126˚.31E, h0km, mb3.5/4, mbtmp3.5/4, MS3.1/1, Error ellipse: s-maj=234.6km s-min=21.1km az=66.0*
*DJA **10** 19:11:05.4±0.4, 1˚.1N±5˚×12˚.6E±˚, h10km, M3.4/7, MLv3.4/7*
ISC 10 19:11:06.8±1.2,**1˚.0N**±0˚.1×**126˚.18E**±0˚.06,**h44km**,**n9,**
σ1$: **62**/**9**, **mb3.6**/4, **Northern Molucca Sea**

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

comp=E,2µm,0.2s
NKC Novy Kostel 0.02 211 *e*SG **Sg** **19 22 23.8 -0.3**
comp=E,703nm,0.2s
NKC Novy Kostel 0.02 211 *i* Pg **Pg** **19 22 22.8 +0.1**
NKC *i* Sg **Sg** **19 22 23.9 -0.3**
comp=E,2µm,0.2s
NKC Novy Kostel 0.02 211 ⇑P **Pg** **19 22 22.7 +0.1**
NKC S **Sg** **19 22 23.9 -0.3**
LBCW Luby 0.04 295 ⇓P **Pg** **19 22 22.8 0.0**
LBCW S **Sg** **19 22 24.1 -0.3**
STCW Studenec 0.04 76 *i* Pg **Pg** **19 22 22.9 +0.1**
STCW *i* Sg **Sg** **19 22 24.1 -0.3**
STCW Studenec 0.04 76 *i* Pg **Pg** **19 22 22.9 +0.1**
STCW *i* Sg **Sg** **19 22 24.1 -0.3**
STCW Studenec 0.04 76 ⇑P **Pg** **19 22 22.8 +0.1**
STCW S **Sg** **19 22 24.1 -0.3**
KVC Kvetna 0.06 143 *i* Pg **Pg** **19 22 23.0 +0.1**
KVC *i* Sg **Sg** **19 22 24.3 -0.3**
KVC Kvetna 0.06 143 ⇓P **Pg** **19 22 23.0 +0.1**
KVC S **Sg** **19 22 24.3 -0.3**
VAC Vackov 0.06 255 *i* Pg **Pg** **19 22 22.9 0.0**
VAC *i* Sg **Sg** **19 22 24.1 -0.5**
VAC Vackov 0.06 255 ⇓P **Pg** **19 22 22.9 0.0**
VAC S **Sg** **19 22 24.1 -0.5**
WERN Wernitzgruen 0.07 304 *i* Pg **Pg** **19 22 23.0 0.0**
WERN *i* Sg **Sg** **19 22 24.4 -0.4**
WERN IAML 19 22 24.6
comp=E,2µm,0.2s
WERN Wernitzgruen 0.07 304 *i* Pg **Pg** **19 22 23.0 0.0**
WERN *i* Sg **Sg** **19 22 24.4 -0.4**
comp=E,2µm,0.2s
POCW Potky 0.07 341 ⇑P **Pg** **19 22 23.2 +0.1**
POCW S **Sg** **19 22 24.7 -0.3**
KRCW Kraslice 0.09 28 ⇑P **Pg** **19 22 23.4 +0.1**
KRCW S **Sg** **19 22 25.1 -0.3**
ROHR Rohrbach 0.10 261 *i* Pg **Pg** **19 22 23.2 -0.1**
ROHR *i* Sg **Sg** **19 22 24.8 -0.6**
ROHR IAML 19 22 24.9
comp=E,3µm,0.1s
ROHR Rohrbach 0.10 261 *i* Pg **Pg** **19 22 23.2 -0.1**
ROHR *i* Sg **Sg** **19 22 24.8 -0.6**
comp=E,3µm,0.1s
SKC Skalna 0.10 219 ⇑P **Pg** **19 22 23.4 +0.1**
SKC S **Sg** **19 22 25.2 -0.3**
GUNZ Gunzen 0.14 323 *i* Pg **Pg** **19 22 24.0 +0.1**
GUNZ *i* Sg **Sg** **19 22 26.1 -0.4**
GUNZ IAML 19 22 26.2
comp=E,611nm,0.3s
GUNZ Gunzen 0.14 323 *i* Pg **Pg** **19 22 24.0 +0.1**
GUNZ *i* Sg **Sg** **19 22 26.1 -0.4**
comp=E,611nm,0.3s
KOCW Kopaniny 0.15 276 ⇓P **Pg** **19 22 24.0 0.0**
KOCW S **Sg** **19 22 26.1 -0.4**
TANN Tannenbergstha 0.17 360 *i* Pg **Pg** **19 22 24.4 +0.1**
TANN *i* Sg **Sg** **19 22 26.7 -0.3**
TANN IAML 19 22 27.2
comp=N,1µm,0.2s
TANN Tannenbergstha 0.17 360 *i* Pg **Pg** **19 22 24.4 +0.1**
TANN *i* Sg **Sg** **19 22 26.7 -0.3**
comp=N,1µm,0.2s
MULD Muldenberg 0.17 347 *i* Pg **Pg** **19 22 24.4 +0.1**
MULD *i* Sg **Sg** **19 22 26.7 -0.3**
MULD IAML 19 22 26.9
comp=E,756nm,0.2s
MULD Muldenberg 0.17 347 *i* Pg **Pg** **19 22 24.4 +0.1**
MULD *i* Sg **Sg** **19 22 26.7 -0.3**
comp=E,756nm,0.2s
ZHC Zelena Hora 0.21 209 ⇑P **Pg** **19 22 25.1 +0.2**
ZHC S **Sg** **19 22 28.0 0.0**
TRCW Trojmez 0.21 285 ⇓P **Pg** **19 22 25.1 0.0**
TRCW S **Sg** **19 22 27.9 -0.3**
WERD Werda 0.22 333 *i* Pg **Pg** **19 22 25.3 +0.1**
WERD *i* Sg **Sg** **19 22 28.1 -0.4**
WERD IAML 19 22 28.6
comp=E,178nm,0.2s
WERD Werda 0.22 333 *i* Pg **Pg** **19 22 25.3 +0.1**
WERD *i* Sg **Sg** **19 22 28.1 -0.4**
comp=E,178nm,0.2s
LACW Lazy 0.23 152 *i* Pg **Pg** **19 22 25.7 +0.5**
LACW *i* Sg **Sg** **19 22 29.0 +0.5**
LACW Lazy 0.23 152 *i* Pg **Pg** **19 22 25.7 +0.5**
LACW *i* Sg **Sg** **19 22 29.0 +0.5**
LACW Lazy 0.23 152 ⇓P **Pg** **19 22 25.7 +0.5**
LACW S **Sg** **19 22 29.0 +0.5**
TRIB Obertriebel 0.23 296 *i* Pg **Pg** **19 22 25.4 0.0**
TRIB *i* Sg **Sg** **19 22 28.5 -0.2**
TRIB IAML 19 22 29.1
comp=E,116nm,0.1s
TRIB Obertriebel 0.23 296 *i* Pg **Pg** **19 22 25.4 0.0**
TRIB *i* Sg **Sg** **19 22 28.5 -0.2**
comp=E,116nm,0.1s
VIEL Selb-Vielitz 0.24 255 *i* Pg **Pg** **19 22 25.5 0.0**
VIEL *i* Sg **Sg** **19 22 28.6 -0.4**
VIEL Selb-Vielitz 0.24 255 *i* Pg **Pg** **19 22 25.5 0.0**
VIEL *i* Sg **Sg** **19 22 28.6 -0.4**
PLN Plauen 0.31 320 *i* Pg **Pg** **19 22 26.7 0.0**
PLN *e*Sg **Sg** **19 22 30.7 -0.2**
PLN IAML 19 22 30.9
comp=E,182nm,0.2s
PLN Plauen 0.31 320 *i* Pg **Pg** **19 22 26.7 0.0**
PLN *e*Sg **Sg** **19 22 30.7 -0.2**
comp=E,182nm,0.2s
MANZ Manzenberg 0.35 221 *e*Pg **Pg** **19 22 27.6 +0.1**
MANZ *e*Sg **Sg** **19 22 32.1 -0.1**
SCHF Schoenfels 0.43 355 *i* Pg **Pg** **19 22 29.1 +0.1**
SCHF *i* Sg **Sg** **19 22 34.8 +0.1**
SCHF IAML 19 22 35.3
comp=E,248nm,0.3s
SCHF Schoenfels 0.43 355 *i* Pg **Pg** **19 22 29.1 +0.1**
SCHF *i* Sg **Sg** **19 22 34.8 +0.1**
comp=E,248nm,0.3s
GRZ1 Mausoleum Wald 0.47 341 *i* Pg **Pg** **19 22 29.7 0.0**
GRZ1 *i* Sg **Sg** **19 22 35.6 -0.3**
GRZ1 IAML 19 22 36.9
comp=E,90nm,0.2s
GRZ1 Mausoleum Wald 0.47 341 *i* Pg **Pg** **19 22 29.7 0.0**
GRZ1 *i* Sg **Sg** **19 22 35.6 -0.3**
comp=E,90nm,0.2s
ROTZ Rotzenmuhle 0.51 199 *e*Pg **Pg** **19 22 30.6 +0.1**
ROTZ *e*Sg **Sg** **19 22 37.1 -0.1**
MOX Moxa 0.67 306 *e*Pg **Pg** **19 22 33.4 -0.1**
FBE Freiberg 0.88 40 *e*Pg **Pg** **19 22 37.7 +0.3**
GRF Grafenberg Arr 0.98 236 *e*Pg **Pg** **19 22 39.2 -0.1**
GRF *e*Sg **Sg** **19 22 51.5 -0.5**
CLL Collm 1.11 18 *i* Pg **Pb** **19 22 41.6 0.0**
CLL *i* x x 19 22 43.6
CLL *i* x x 19 22 45.2
comp=Z,38nm,0.8s
CLL *i* Sg **Sb** **19 22 56.6 +0.6**
comp=Z,38nm,0.8s
CLL *i* x x 19 23 00.1
CLL Collm 1.11 18 *e*Pg **Pb** **19 22 41.6 0.0**
CLL *e*Sg **Sg** **19 22 57.0 +0.7**
BRG Berggiesshubel 1.13 56 Pg **Pb** **19 22 42.2 +0.3**
BRG Berggiesshubel 1.13 56 *e*Pg **Pb** **19 22 42.2 +0.3**
BRG *e*Sg **Sb** **19 22 57.1 +0.6**
BRG Berggiesshubel 1.13 56 Sg **Sb** **19 22 56.7 +0.2**
BRG Amp 19 22 57.4
comp=Z,51nm,0.2s
WET Wettzell 1.14 166 *e*Pg **Pb** **19 22 42.2 +0.1**
WET *e*Sg **Sb** **19 22 57.3 +0.5**
KHC Kasperske Hory 1.33 147 *e*SG **Sb** **19 23 03.1 +0.7**
comp=Z,22nm,0.3s
PRU Pruhonice 1.36 100 *e*SG **Sb** **19 23 03.6 +0.4**
comp=Z,15nm,0.2s
PRU Pruhonice 1.36 100 *e*Sg **Sb** **19 23 04.0 +0.8**
GEC2 GERESS Array S 1.62 150 *e*Pn **Pn** **19 22 48.1 -0.8**
GEC2 *e*Sg **Sn** **19 23 10.9 +1.2**
KRUC Moravsky 2.82 113 *e*PN **Pn** **19 23 05.6 +0.4**
KRUC *e*SG **Sg** **19 23 48.8 -2.1**
VRAC Vranov 2.84 108 *e*PN **Pn** **19 23 06.2 +0.7**
VRAC *e*SG **Sb** **19 23 49.0 +3.3**
NAST IGS Nastaetten 2.96 271 *e*Pn **Pn** **19 23 08.6 +1.4**
BGG Burgeitz 3.29 271 *e*Pn **Pn** **19 23 13.2 +1.4**
MORC Moravsky Berou 3.31 96 *e*PN **Pn** **19 23 12.4 +0.3**
MORC *e*SG **Sb** **19 24 03.7 +4.4**
JAVC Velka Javorina 3.67 110 *e*SG **Sg** **19 24 16.5 -1.5**
MODS Modra-Piesok 3.67 119 *e*SN **Sn** **19 23 52.1 -8.0**
MODS *e*SG **Sg** **19 24 18.0 -0.1**
ZST Bratislava 3.67 122 *e*SG **Sg** **19 24 18.1 -0.1**

*BGR **10** 19:22:29.7±0.2, 50°.25N×12°.44E, h10km±1km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=94.0*
*PRU **10** 19:22:29.4, 50°.24N×12°.47E, h10km, West Bohemia Swarm-felt*
*VIE **10** 19:22:29.3±0.2, 50°.21N×12°.38E, h10km, mb2.2/8, ml2.9/11, Error ellipse: s-maj=4.3km s-min=2.0km az=44.0*
*WBNET **10** 19:22:29.9, 50°.25N×12°.45E, h9km, Ml2.7*
*CLL **10** 19:22:30.2±0.3, 50°.25N×12°.44E, h8km, ML2.6*
*LDG **10** 19:22:42.5±0.5, 49°.47N×11°.97E, h2km, Ml2.9/7, Error ellipse: s-maj=29.7km s-min=7.9km az=162.0*
ISC 10 19:22:29.7±0.7, 50°.25N±0°.01×12°.47E±0°.02, h12km±3km, n86, σ1s40/143, 4C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**225**	*i* Pg	**Pg**	**19 22 31.6**	**-0.2**
NKC				*i* Sg	**Sg**	**19 22 32.8**	**-0.5**
NKC				IAML		19 22 32.9	
	comp=E,5µm,0.2s						
NKC	**Novy Kostel**	**0.02**	**225**	*e*SG	**Sg**	**19 22 32.6**	**-0.7**
	comp=E,2µm,0.2s						
NKC	**Novy Kostel**	**0.02**	**225**	*i* Pg	**Pg**	**19 22 31.6**	**-0.2**
NKC				*i* Sg	**Sg**	**19 22 32.8**	**-0.5**
	comp=E,5µm,0.2s						
NKC	**Novy Kostel**	**0.02**	**225**	⇓P	**Pg**	**19 22 31.7**	**-0.2**
NKC				S	**Sg**	**19 22 32.8**	**-0.5**
STCW	**Studenec**	**0.04**	**68**	*i* Pg	**Pg**	**19 22 31.8**	**-0.2**
STCW				*i* Sg	**Sg**	**19 22 33.0**	**-0.5**
STCW	**Studenec**	**0.04**	**68**	*i* Pg	**Pg**	**19 22 31.8**	**-0.2**
STCW				*i* Sg	**Sg**	**19 22 33.0**	**-0.5**
STCW	**Studenec**	**0.04**	**68**	⇑P	**Pg**	**19 22 31.8**	**-0.2**
STCW				S	**Sg**	**19 22 33.1**	**-0.5**
LBCW	**Luby**	**0.04**	**300**	⇓P	**Pg**	**19 22 31.7**	**-0.3**
LBCW				S	**Sg**	**19 22 33.1**	**-0.6**
KVC	**Kvetna**	**0.05**	**142**	*i* Pg	**Pg**	**19 22 31.9**	**-0.1**
KVC				*i* Sg	**Sg**	**19 22 33.3**	**-0.4**
KVC	**Kvetna**	**0.05**	**142**	⇓P	**Pg**	**19 22 31.9**	**-0.1**
KVC				S	**Sg**	**19 22 33.3**	**-0.4**
VAC	**Vackov**	**0.06**	**260**	*e*Pg	**Pg**	**19 22 31.8**	**-0.3**
VAC				*i* Sg	**Sg**	**19 22 33.1**	**-0.8**
VAC	**Vackov**	**0.06**	**260**	⇓P	**Pg**	**19 22 31.8**	**-0.3**
VAC				S	**Sg**	**19 22 33.1**	**-0.8**
WERN	**Wernitzgruen**	**0.07**	**306**	*i* Pg	**Pg**	**19 22 32.0**	**-0.3**
WERN				*i* Sg	**Sg**	**19 22 33.4**	**-0.7**
WERN				IAML		19 22 33.5	
	comp=E,7µm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**306**	*i* Pg	**Pg**	**19 22 32.0**	**-0.3**
WERN				*i* Sg	**Sg**	**19 22 33.4**	**-0.7**
	comp=E,7µm,0.2s						
POCW	**Potky**	**0.08**	**341**	⇓P	**Pg**	**19 22 32.1**	**-0.2**
POCW				S	**Sg**	**19 22 33.7**	**-0.6**
KRCW	**Kraslice**	**0.10**	**25**	⇑P	**Pg**	**19 22 32.4**	**-0.2**
KRCW				S	**Sg**	**19 22 34.1**	**-0.6**
ROHR	**Rohrbach**	**0.10**	**264**	*e*Pg	**Pg**	**19 22 32.2**	**-0.3**
ROHR				*i* Sg	**Sg**	**19 22 33.7**	**-0.9**
ROHR				IAML		19 22 33.9	
	comp=E,7µm,0.1s						
ROHR	**Rohrbach**	**0.10**	**264**	*e*Pg	**Pg**	**19 22 32.2**	**-0.3**
ROHR				*i* Sg	**Sg**	**19 22 33.7**	**-0.9**
	comp=E,7µm,0.1s						
SKC	**Skalna**	**0.10**	**222**	⇑P	**Pg**	**19 22 32.4**	**-0.2**
SKC				S	**Sg**	**19 22 34.1**	**-0.5**
GUNZ	**Gunzen**	**0.15**	**324**	*i* Pg	**Pg**	**19 22 33.0**	**-0.2**
GUNZ				*i* Sg	**Sg**	**19 22 35.0**	**-0.7**
GUNZ				IAML		19 22 35.5	
	comp=E,1µm,0.3s						
GUNZ	**Gunzen**	**0.15**	**324**	*i* Pg	**Pg**	**19 22 33.0**	**-0.2**
GUNZ				*i* Sg	**Sg**	**19 22 35.0**	**-0.7**
	comp=E,1µm,0.3s						
KOCW	**Kopaniny**	**0.15**	**278**	⇓P	**Pg**	**19 22 33.0**	**-0.3**
KOCW				S	**Sg**	**19 22 35.1**	**-0.8**
TANN	**Tannenbergstha**	**0.17**	**359**	*i* Pg	**Pg**	**19 22 33.3**	**-0.3**
TANN				*e*Sg	**Sg**	**19 22 35.6**	**-0.8**
TANN				IAML		19 22 36.2	
	comp=N,3µm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**359**	*i* Pg	**Pg**	**19 22 33.3**	**-0.3**
TANN				*e*Sg	**Sg**	**19 22 35.6**	**-0.8**
	comp=N,3µm,0.2s						
MULD	**Muldenberg**	**0.17**	**346**	*i* Pg	**Pg**	**19 22 33.4**	**-0.3**
MULD				*i* Sg	**Sg**	**19 22 35.6**	**-0.7**
MULD				IAML		19 22 35.8	
	comp=E,2µm,0.2s						
MULD	**Muldenberg**	**0.17**	**346**	*i* Pg	**Pg**	**19 22 33.4**	**-0.3**
MULD				*i* Sg	**Sg**	**19 22 35.6**	**-0.7**
	comp=E,2µm,0.2s						
ZHC	**Zelena Hora**	**0.20**	**210**	⇑P	**Pg**	**19 22 34.1**	**0.0**
ZHC				S	**Sg**	**19 22 37.0**	**-0.2**
TRCW	**Trojmez**	**0.21**	**286**	⇓P	**Pg**	**19 22 34.0**	**-0.3**
TRCW				S	**Sg**	**19 22 36.8**	**-0.6**
LACW	**Lazy**	**0.22**	**152**	*i* Pg	**Pg**	**19 22 34.7**	**+0.3**
LACW				*i* Sg	**Sg**	**19 22 37.9**	**+0.3**
LACW	**Lazy**	**0.22**	**152**	*i* Pg	**Pg**	**19 22 34.7**	**+0.3**
LACW				*i* Sg	**Sg**	**19 22 37.9**	**+0.3**
LACW	**Lazy**	**0.22**	**152**	⇓P	**Pg**	**19 22 34.7**	**+0.3**
LACW				S	**Sg**	**19 22 38.0**	**+0.3**
WERD	**Werda**	**0.23**	**333**	*i* Pg	**Pg**	**19 22 34.3**	**-0.3**
WERD				*i* Sg	**Sg**	**19 22 37.1**	**-0.7**
WERD				IAML		19 22 37.3	
	comp=E,350nm,0.3s						
WERD	**Werda**	**0.23**	**333**	*i* Pg	**Pg**	**19 22 34.3**	**-0.3**
WERD				*i* Sg	**Sg**	**19 22 37.1**	**-0.7**
	comp=E,350nm,0.3s						
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg	**Pg**	**19 22 34.4**	**-0.4**
TRIB				*i* Sg	**Sg**	**19 22 37.4**	**-0.7**
TRIB				IAML		19 22 37.6	
	comp=N,374nm,0.3s						
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg	**Pg**	**19 22 34.4**	**-0.4**
TRIB				*i* Sg	**Sg**	**19 22 37.4**	**-0.7**
	comp=N,374nm,0.3s						
VIEL	**Selb-Vielitz**	**0.24**	**256**	*e*Pg	**Pg**	**19 22 34.5**	**-0.3**
VIEL				*i* Sg	**Sg**	**19 22 37.6**	**-0.7**
VIEL	**Selb-Vielitz**	**0.24**	**256**	*e*Pg	**Pg**	**19 22 34.5**	**-0.3**
VIEL				*i* Sg	**Sg**	**19 22 37.6**	**-0.7**
PLN	**Plauen**	**0.31**	**321**	*e*Pg	**Pg**	**19 22 35.8**	**-0.3**
PLN				*i* Sg	**Sg**	**19 22 39.8**	**-0.5**
PLN				IAML		19 22 39.9	
	comp=E,247nm,0.1s						
PLN	**Plauen**	**0.31**	**321**	*e*Pg	**Pg**	**19 22 35.8**	**-0.3**
PLN				*i* Sg	**Sg**	**19 22 39.8**	**-0.5**
	comp=E,247nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**222**	*e*Pg	**Pg**	**19 22 36.5**	**-0.3**
MANZ				*e*Sg	**Sg**	**19 22 41.2**	**-0.2**
SCHF	**Schoenfels**	**0.43**	**355**	*e*Pg	**Pg**	**19 22 38.2**	**-0.2**
SCHF				*i* Sg	**Sg**	**19 22 43.8**	**-0.3**
SCHF				IAML		19 22 44.3	
	comp=E,486nm,0.3s						
SCHF	**Schoenfels**	**0.43**	**355**	*e*Pg	**Pg**	**19 22 38.2**	**-0.2**
SCHF				*i* Sg	**Sg**	**19 22 43.8**	**-0.3**
	comp=E,486nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.47**	**341**	*e*Pg	**Pg**	**19 22 38.8**	**-0.3**
GRZ1				*e*Sg	**Sg**	**19 22 44.6**	**-0.7**
GRZ1				IAML		19 22 47.0	
	comp=N,223nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.47**	**341**	*e*Pg	**Pg**	**19 22 38.8**	**-0.3**
GRZ1				*e*Sg	**Sg**	**19 22 44.6**	**-0.7**
	comp=N,223nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.51**	**199**	*e*Sg	**Sg**	**19 22 46.2**	**-0.1**
MOX	**Moxa**	**0.68**	**307**	*e*Pg	**Pg**	**19 22 42.3**	**-0.6**
MOX				*e*Sg	**Sg**	**19 22 51.1**	**-0.6**
MOX	**Moxa**	**0.68**	**307**	*e*Sg	Sg	19 22 42.3	-9.4
HSKC	**Hora Svate Kat**	**0.72**	**59**	*e*SG	Sg	19 22 43.6	-9.4
	comp=N,114nm,0.2s						
HSKC	**Hora Svate Kat**	**0.72**	**59**	*e*PG	**Pg**	**19 22 43.4**	**-0.2**
HSKC				*e*SG	**Sg**	**19 22 52.9**	**-0.1**
	comp=N,165nm,0.2s						
FBE	**Freiberg**	**0.88**	**40**	*e*Pg	**Pg**	**19 22 46.5**	**-0.2**
FBE				*e*Sg	**Sb**	**19 22 58.8**	**0.0**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg	**Pg**	**19 22 48.2**	**-0.4**
CLL	**Collm**	**1.12**	**18**	*i* Pg	**Pb**	**19 22 50.5**	**-0.5**
CLL				*i* x	x	19 22 52.6	
CLL				*i* x	x	19 22 54.1	
CLL				*i* Sg	**Sb**	**19 23 05.7**	**+0.2**
	comp=Z,79nm,0.6s						
CLL				*i* x	x	19 23 09.2	
CLL	**Collm**	**1.12**	**18**	*e*Pg	**Pb**	**19 22 50.6**	**-0.4**
CLL				*e*Sg	**Sg**	**19 23 06.0**	**+0.2**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg	**Pb**	**19 22 51.2**	**-0.1**
BRG	**Berggiesshubel**	**1.13**	**56**	Sg	**Sb**	**19 23 06.0**	**0.0**
BRG				Amp		19 23 07.9	
	comp=Z,85nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg	**Pb**	**19 22 51.2**	**-0.1**
BRG				*e*Sg	**Sb**	**19 23 06.0**	**0.0**
WET	**Wettzell**	**1.13**	**166**	*e*Pg	**Pg**	**19 22 51.5**	**-0.1**
WET				*e*Sg	**Sg**	**19 23 06.2**	**-0.1**
PRA	**Prague**	**1.28**	**97**	*e*SG	**Sn**	**19 23 10.6**	**+0.1**
KHC	**Kasperske Hory**	**1.33**	**147**	*e*SG	**Sn**	**19 23 12.2**	**+0.4**
	comp=Z,47nm,0.3s						
PRU	**Pruhonice**	**1.36**	**100**	*e*SG	**Sb**	**19 23 12.6**	**+0.1**
	comp=Z,52nm,0.3s						
PRU	**Pruhonice**	**1.36**	**100**	*e*Pn	**Pn**	**19 22 54.9**	**+0.3**
PRU				*e*Sg	**Sg**	**19 23 13.5**	**-0.1**
GEC2	**GERESS Array S**	**1.62**	**150**	*e*Pn	**Pn**	**19 22 59.6**	**0.0**
GEC2				*e*Sg	**Sb**	**19 23 20.3**	**+0.4**
UPC	**Upice**	**2.29**	**82**	*e*SG	**Sb**	**19 23 41.2**	**+2.1**
	comp=Z,41nm,0.5s						
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	Sg	**19 23 47.3**	**-1.9**
	comp=Z,21nm,0.4s						
BIOA	**Bad Ischl, Aus**	**2.67**	**163**	Pn	**Pn**	**19 23 10.7**	**-2.0**
	comp=Z,0.8nm,0.2s						
MOA	**Molln**	**2.67**	**153**	*e*Pn	**Pn**	**19 23 11.8**	**-0.9**
	comp=Z,0.2nm,0.1s						
LESA	**Schwarzleotal**	**2.83**	**177**	*e*Pn	**Pn**	**19 23 13.3**	**-1.5**
	comp=Z,1.0nm,0.2s						
RETA	**Reutte**	**2.98**	**203**	*e*Pn	**Pn**	**19 23 14.9**	**-2.1**
	comp=Z,0.4nm,0.2s						
MOTA	**Moosalm**	**3.04**	**198**	Pn	**Pn**	**19 23 15.7**	**-2.1**
	comp=Z,0.2nm,0.1s						
SQTA	**Sankt Quirin**	**3.14**	**196**	*e*Pn	**Pn**	**19 23 17.9**	**-1.2**
	comp=Z,1.6nm,0.2s						
CONA	**Conrad Observa**	**3.22**	**135**	*e*Pn	**Pn**	**19 23 20.6**	**+0.4**
	comp=Z,1.0nm,0.3s						
CONA				Pg	**Pg**	**19 23 30.2**	**-1.2**
	comp=Z,5.2nm,0.5s						
KBA	**Koelnbreinsper**	**3.22**	**169**	*e*Pn	**Pn**	**19 23 19.2**	**-1.1**
	comp=Z,0.2nm,0.2s						
FETA	**Feichten**	**3.43**	**200**	*e*Pn	**Pn**	**19 23 20.6**	**-2.6**
	comp=Z,0.1nm,0.2s						
ABTA	**Abfaltersbach**	**3.50**	**179**	*e*Pn	**Pn**	**19 23 22.8**	**-1.3**
	comp=Z,0.7nm,0.3s						
RONA	**Rosalia, Austr**	**3.58**	**134**	*e*Pn	**Pn**	**19 23 26.6**	**+1.3**
	comp=Z,1.6nm,0.4s						
CDF	**Champ du Feu**	**3.86**	**244**	*e*Pg	**Pg**	**19 23 42.8**	**-0.8**
CDF				*e*Sg	**Sb**	**19 24 23.8**	**-0.7**
	comp=Z,9.7nm,0.4s						
HINF	**Hinteralfeld**	**4.42**	**239**	*e*Pn	**Pn**	**19 23 38.7**	**+2.0**
HINF	**Hinteralfeld**	**4.42**	**239**	*e*Pg	**Pg**	**19 23 53.1**	**-1.3**
HINF				*e*Sg	**Sb**	**19 24 38.6**	**-2.0**
	comp=Z,6.6nm,0.3s						
HAU	**Haudompre**	**4.60**	**243**	*e*Pn	**Pn**	**19 23 42.8**	**+3.7**
HAU	**Haudompre**	**4.60**	**243**	*e*Pg	**Pg**	**19 23 57.0**	**-0.8**
HAU				*e*Sg	**Sb**	**19 24 48.4**	**+2.6**
	comp=Z,6.7nm,0.3s						
PAGF	**Fort de Pagny**	**4.72**	**252**	*e*Pg	**Pg**	**19 24 00.1**	**+0.1**
PAGF				*e*Sg	**Sg**	**19 24 55.3**	**-5.8**
	comp=Z,13nm,0.6s						
LOR	**Lormes**	**6.42**	**246**	*e*Pn	**Pn**	**19 24 07.7**	**+3.5**
LOR	**Lormes**	**6.42**	**246**	*e*Pg	**Pg**	**19 24 30.9**	**-1.8**
LOR				*e*Sg	**Sb**	**19 25 45.8**	**+7.7**
	comp=Z,3.1nm,0.5s						
SSF	**Saint Saulge**	**6.74**	**245**	*e*Pn	**Pn**	**19 24 12.0**	**+3.6**
SSF	**Saint Saulge**	**6.74**	**245**	*e*Pg	**Pg**	**19 24 36.0**	**-2.6**
SMF	**Signal de Mont**	**6.77**	**241**	*e*Pg	**Pg**	**19 24 35.1**	**-4.2**
SMF				*e*Sg	**Sb**	**19 25 54.2**	**+6.0**
	comp=Z,6.1nm,0.6s						

IDC 10 19:34:19.0±2.5, 7°.80N×104°.12W, h0km, mb3.3/4, mbtmp3.3/4, MS3.4/1, Error ellipse: s-maj=197.3km s-min=35.2km az=91.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
TXAR	**Lajitas Array**	**21.43**	**1**	P	P	19 39 08.3	-0.5
	0.3nm,0.7s,baz=174,slow=9.7,SNR=3.9						
TXAR				LR	LR	19 46 41.0	
	comp=Z,94nm,19.5s,baz=358,slow=35 0.3nm,0.7s						
PDAR	**Pinedale Array**	**35.16**	**353**	P	P	19 41 16.1	+1.3
	0.5nm,0.7s,baz=164,slow=10.0,SNR=4.5 0.5nm,0.7s						
H03N2	**Juan Fernandez**	**47.48**	**151**	T	T	20 34 23.8	
	baz=327,slow=77,SNR=4.8						
H03N1	**Juan Fernandez**	**47.49**	**151**	T	T	20 34 17.4	
	baz=327,slow=77,SNR=5.4						
H03N3	**Juan Fernandez**	**47.50**	**151**	T	T	20 33 52.7	
	baz=327,slow=77,SNR=5.3						
YKA	**Yellowknife Ar**	**55.13**	**354**	P	P	19 43 51.8	-1.0
	0.1nm,0.5s,baz=169,slow=6.9,SNR=2.0 0.1nm,0.5s						
ILAR	**Eielson Array**	**64.31**	**341**	P	P	19 44 55.9	-0.1
	0.9nm,0.6s,baz=147,slow=5.1,SNR=7.2 0.9nm,0.6s						
VNDA	**Vanda**	**98.44**	**193**	P	P	19 47 58.5	-0.1
	1.1nm,0.6s,baz=94,slow=19,SNR=9.2						

*UCR **10** 19:34:28.3±0.8, 9°.26N×83°.69W, h31km±1km, MW3.5*
*UPA **10** 19:34:29.5±2.1, 9°.26N×83°.66W, h21km±35km, MW3.2*
ISC 10 19:34:28.8±0.9, 9°.28N±0°.03×83°.66W±0°.03, h26km±5km, n37, σ0s73/54, 1C-14D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op ISC	h m s	ISC
PEZE	**Perez Zeledon,**	**0.11**	**350**	⇓P	**Pb**	**19 34 33.7**	**-0.2**
PEZE				*e*S	**Sb**	**19 34 37.9**	**+0.6**
ZELE	**Perez Zeledon**	**0.11**	**334**	⇓P	**Pb**	**19 34 33.9**	**0.0**
ZELE				*e*S	**Sb**	**19 34 38.1**	**+0.9**
OCHAL	**Ojochal**	**0.18**	**176**	⇑P	**Pb**	**19 34 33.9**	**-0.5**
OCHAL				*e*S	**Sb**	**19 34 38.3**	**+0.1**
BUS1	**Rivas**	**0.29**	**343**	⇓P	**Pb**	**19 34 35.8**	**-0.4**
BUS1				*e*S	**Sb**	**19 34 41.7**	**+0.5**
CDM	**Cerro de Muert**	**0.29**	**340**	⇓P	**Pb**	**19 34 35.8**	**-0.5**
CDM				*e*S	**Sb**	**19 34 41.7**	**+0.4**
SRBA	**San Rafael, Bu**	**0.30**	**98**	⇓P	**Pb**	**19 34 35.7**	**-0.4**
SRBA				*e*S	**Sb**	**19 34 41.3**	**+0.3**
EDPN	**Palmar Norte**	**0.37**	**147**	*e*P	**Pb**

σ2§09/24, **mb3.9/8, Sunda Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBJI	**Serang**	**0.66**	**65**	P	**Pb**	**19 43 17.4**	**-0.5**
SBJI				S	**Sb**	**19 43 25.6**	**-1.6**
SKJI	**Sukabumi**	**1.19**	**120**	P	**Pb**	**19 43 26.2**	**-0.7**
SKJI				S	**Sn**	**19 43 43.3**	**+0.1**
KASI	**Kota Agung**	**1.34**	**310**	P	**Pn**	**19 43 28.8**	**-0.3**
KASI				S	**Sb**	**19 43 47.4**	**+0.6**
CNJI	**Cibinong**	**1.83**	**120**	P	**Pn**	**19 43 34.5**	**-1.3**
CNJI				S	**Sn**	**19 43 58.5**	**-0.5**
LWLI	**Liwa**	**2.00**	**313**	P	**Pn**	**19 43 39.2**	**+0.9**
LWLI				S	**Sn**	**19 44 04.3**	**+0.8**
LEM	**Lembang**	**2.12**	**102**	Pn	**Pb**	**19 43 43.4**	**+0.4**
	11nm,0.3s,baz=284,slow=16,SNR=36						
LEM				Sn	**Sg**	**19 44 17.9**	**+5.4**
	7.1nm,0.3s,baz=306,slow=19,SNR=1.7						
	172nm,0.8s						
LEM	**Lembang**	**2.12**	**102**	P	**Pb**	**19 43 43.5**	**+0.6**
CMJI	**Cimerak**	**3.21**	**116**	P	**Pn**	**19 43 55.1**	**+0.3**
MNAI	**Manna**	**3.26**	**308**	P	**Pn**	**19 43 58.3**	**+2.7**
KPJI	**Karang Pucung**	**3.50**	**106**	P	**Pb**	**19 44 04.4**	**-2.0**
WRA	**Warramunga Arr**	**31.04**	**118**	P	**P**	**19 49 25.9**	**+3.3**
	0.6nm,0.4s,baz=290,slow=10,SNR=7.0						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**32.23**	**125**	P	**P**	**19 49 36.4**	**+3.3**
	0.2nm,0.3s,baz=301,slow=8.5,SNR=7.6						
	0.2nm,0.3s						
H08S2	**Diego Garcia H**	**32.80**	**266**	T	T	20 23 35.1	
	baz=90,slow=76,SNR=67						
H08S3	**Diego Garcia H**	**32.81**	**266**	T	T	20 23 49.2	
	baz=90,slow=76,SNR=78						
H08S1	**Diego Garcia H**	**32.82**	**266**	T	T	20 23 42.4	
	baz=90,slow=76,SNR=44						
STKA	**Stephens Creek**	**42.13**	**132**	P	**P**	**19 50 56.7**	**-0.3**
	1.3nm,0.5s,baz=311,slow=11,SNR=3.4						
	1.3nm,0.5s						
KSRS	**Korea Array**	**48.38**	**24**	P	**P**	**19 51 47.1**	**+0.7**
	0.6nm,0.5s,baz=224,slow=9.6,SNR=2.0						
	0.6nm,0.5s						
USRK	**Ussuriysk Ar.**	**55.74**	**23**	P	**P**	**19 52 40.3**	**-0.8**
	1.7nm,0.6s,baz=208,slow=5.9,SNR=2.8						
	1.7nm,0.6s						
MKAR	**Makanchi Array**	**56.84**	**341**	P	P	19 52 43.9	-5.1
	0.3nm,0.6s,baz=149,slow=8.4,SNR=4.8						
	0.3nm,0.6s						
H04N2	**CROZET ISLANDS**	**60.77**	**220**	T	T	20 58 43.5	
	baz=67,slow=75,SNR=55						
H04N1	**CROZET ISLANDS**	**60.78**	**220**	T	T	20 58 37.9	
	baz=67,slow=75,SNR=56						
H04N3	**CROZET ISLANDS**	**60.79**	**220**	T	T	20 58 42.5	
	baz=67,slow=75,SNR=47						
KURBB	**Kurchatov Arra**	**61.40**	**341**	P	**P**	**19 53 17.4**	**-3.1**
	0.3nm,0.6s,baz=153,slow=6.4,SNR=3.1						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**80.34**	**312**	P	**P**	**19 55 13.0**	**-3.2**
	0.9nm,0.7s,baz=125,slow=7.5,SNR=5.2						
	0.9nm,0.7s						
TXAR	**Lajitas Array**	**144.25**	**47**	PKP	**PKPab**	**20 02 38.8**	**-0.5**
	0.7nm,0.7s,baz=300,slow=0.7,SNR=9.6						

*IDC **10** 19:48:34.3±1.1, 17.°99N×66.°02W, h0km, mb3.8/8, mbtmp3.9/10, ML3.6/2, Error ellipse: s-maj=27.9km s-min=25.5km az=147.0*

*NEIC **10** 19:48:34.7±1.6, 17.°86N±0.°02×66.°04W±0.°03, h10km±1km, mb4.0/1, ML4.3/33, Md3.9/13(RSPR), Error ellipse: s-maj=4.7km s-min=3.7km az=123.0*

*RSPR **10** 19:48:36.2, 17.°93N×66.°01W, h13km, MD3.9/13*

*OSPL **10** 19:48:39.6±4.2, 17.°99N×66.°15W, h0km±33km, ML4.1*

ISC 10 19:48:35.3±0.8, 17.°87N±0.°04×66.°03W±0.°02, h16km±5km, n91, σ1§45/97, mb3.9/9, 15C-1d, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGPR	**InterUniversit**	**0.12**	**322**	*eP*	**Pg**	**19 48 39.3**	**+0.3**
IGPR	**InterUniversit**	**0.12**	**322**	*eS*	**Sg**	**19 48 41.7**	**+0.4**
IGPR	**InterUniversit**	**0.12**	**322**		**Pg**	**19 48 39.0**	**+0.1**
IGPR				Sg	**Sg**	**19 48 41.6**	**+0.3**
HUMP	**Col San Antoni**	**0.32**	**32**	*eP*	**Pb**	**19 48 41.8**	**-0.9**
HUMP	**Col San Antoni**	**0.32**	**32**	*eS*	**Sb**	**19 48 46.0**	**-1.7**
HUMP	**Col San Antoni**	**0.32**	**32**		**Pb**	**19 48 41.5**	**-1.2**
HUMP				IAML		19 48 46.3	
	comp=E,47μm,0.5s						
HUMP				IAML		19 48 46.3	
	comp=N,39μm,0.4s						
GCPR	**Guaynabo City**	**0.44**	**353**	*eP*	**Pb**	**19 48 44.0**	**-0.8**
GCPR	**Guaynabo City**	**0.44**	**353**	*eS*	**Sb**	**19 48 49.6**	**-1.5**
GCPR	**Guaynabo City**	**0.44**	**353**		**Pb**	**19 48 43.6**	**-1.1**
GCPR				IAML		19 48 50.0	
	comp=E,31μm,0.6s						
GCPR	**Guaynabo City**	**0.44**	**353**		**Sb**	**19 48 49.6**	**-1.5**
CELP	**Cerrillos**	**0.56**	**292**	*eP*	**Pb**	**19 48 46.5**	**-0.3**
CELP	**Cerrillos**	**0.56**	**292**	*eS*	**Sb**	**19 48 54.3**	**-0.3**
CELP	**Cerrillos**	**0.56**	**292**	Pg	**Pb**	**19 48 46.1**	**-0.7**
CELP				Sg	**Sb**	**19 48 53.7**	**-1.0**
CELP				IAML		19 48 54.6	
	comp=E,14μm,0.4s						
OBIP	**Obispado Ponce**	**0.58**	**288**	*eP*	**Pb**	**19 48 46.8**	**-0.2**
OBIP	**Obispado Ponce**	**0.58**	**288**	*eS*	**Sb**	**19 48 54.8**	**-0.3**
OBIP	**Obispado Ponce**	**0.58**	**288**		**Pb**	**19 48 46.7**	**-0.4**
OBIP	**Obispado Ponce**	**0.58**	**288**		**Sb**	**19 48 54.8**	**-0.3**
UUPR	**Utuado, UPR, P**	**0.76**	**300**	*eP*	**Pb**	**19 48 49.4**	**-0.8**
UUPR	**Utuado, UPR, P**	**0.76**	**300**	*eS*	**Sb**	**19 48 59.8**	**-0.6**
UUPR	**Utuado, UPR, P**	**0.76**	**300**		**Pb**	**19 48 49.3**	**-0.9**
UUPR	**Utuado, UPR, P**	**0.76**	**300**		**Sb**	**19 48 59.8**	**-0.6**
EMPR	**Esperanza - Ma**	**0.77**	**322**	*eP*	**Pn**	**19 48 50.0**	**-1.5**
EMPR	**Esperanza - Ma**	**0.77**	**322**	*eS*	**Sb**	**19 48 59.7**	**-0.9**
EMPR	**Esperanza - Ma**	**0.77**	**322**	Pg	**Pb**	**19 48 49.6**	**-0.7**
EMPR				IAML		19 49 01.1	
	comp=E,12μm,0.5s						
EMPR				IAML		19 49 06.1	
	comp=N,9μm,0.5s						
EMPR	**Esperanza - Ma**	**0.77**	**322**		**Sb**	**19 48 59.7**	**-0.9**
GBPR	**Guanica, Bosqu**	**0.82**	**278**	*eP*	**Pn**	**19 48 51.9**	**-0.2**
GBPR	**Guanica, Bosqu**	**0.82**	**278**	*eS*	**Sb**	**19 49 02.9**	**+0.9**
GBPR	**Guanica, Bosqu**	**0.82**	**278**		**Pn**	**19 48 51.9**	**-0.2**
GBPR					**Sb**	**19 49 02.9**	**+0.9**
AOPR	**Arecibo Observ**	**0.84**	**305**	*eP*	**Pb**	**19 48 50.7**	**-0.9**
AOPR	**Arecibo Observ**	**0.84**	**305**		**Pb**	**19 48 50.5**	**-1.1**
AOPR	**Arecibo Observ**	**0.84**	**305**		**Sb**	**19 49 01.4**	**-1.2**
AOPR	**Arecibo Observ**	**0.84**	**305**	*eP*	**Pb**	**19 48 50.6**	**-0.9**
AOPR				*eS*	**Sb**	**19 49 01.5**	**-1.1**
MLPR	**Magueyes Islan**	**0.97**	**276**	*eP*	**Pn**	**19 48 53.9**	**-0.4**
MLPR	**Magueyes Islan**	**0.97**	**276**	*eS*	**Sn**	**19 49 08.0**	**+0.2**
MLPR	**Magueyes Islan**	**0.97**	**276**	Pg	**Pb**	**19 48 53.7**	**-0.1**
MLPR				IAML		19 49 10.2	
	comp=E,6μm,0.6s						
MLPR				IAML		19 49 10.5	
	comp=N,7μm,0.5s						
MLPR	**Magueyes Islan**	**0.97**	**276**		**Sn**	**19 49 08.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.04**	**278**	*eP*	**Pn**	**19 48 54.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.04**	**278**		**Pn**	**19 48 54.8**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.04**	**278**		**Sb**	**19 49 08.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.04**	**278**	*i* P	**Pn**	**19 49 55.5**	**+0.3**
CRPR				*eS*	**Sb**	**19 49 08.1**	**-0.2**
CRPR				IAML		19 49 13.9	
	comp=E,6μm,0.6s						
LSP	**Las Mesas**	**1.05**	**287**	*eP*	**Pn**	**19 48 55.1**	**-0.4**
LSP	**Las Mesas**	**1.05**	**287**	*eS*	**Sn**	**19 49 09.7**	**-0.1**
LSP	**Las Mesas**	**1.05**	**287**		**Pn**	**19 48 55.1**	**-0.4**
LSP					**Sn**	**19 49 09.7**	**-0.1**
PRSN	**Puerto Rico Se**	**1.12**	**288**	*eP*	**Pn**	**19 48 56.2**	**-0.1**
PRSN	**Puerto Rico Se**	**1.12**	**288**	*eS*	**Sn**	**19 49 11.6**	**+0.2**
PRSN	**Puerto Rico Se**	**1.12**	**288**		**Pb**	**19 48 55.7**	**-0.6**
PRSN				IAML		19 49 19.7	
	comp=E,7μm,0.3s						
PRSN				IAML		19 49 20.1	
	comp=N,10μm,0.3s						
PRSN	**Puerto Rico Se**	**1.12**	**288**		**Sn**	**19 49 11.6**	**+0.2**
AGPR	**Aguadilla, PR**	**1.19**	**300**		**Pg**	**19 48 55.9**	**-2.4**
AGPR				IAML		19 49 17.4	
	comp=E,8μm,0.4s						
AGPR				IAML		19 49 17.5	
	comp=N,7μm,0.8s						
PCDR	**Punta Cana, DR**	**2.33**	**286**	*eP*	**Pb**	**19 49 17.0**	**+0.1**
PCDR	**Punta Cana, DR**	**2.33**	**286**	*eS*	**Sg**	**19 49 47.8**	**-2.5**
PCDR	**Punta Cana, DR**	**2.33**	**286**		**Pn**	**19 49 12.7**	**-0.2**
PCDR				IAML		19 50 03.7	
	comp=N,1μm,1.1s						
PCDR	**Punta Cana, DR**	**2.33**	**286**		**Sg**	**19 49 47.8**	**-2.5**
PCDR	**Punta Cana, DR**	**2.33**	**286**	*i* P	**Pb**	**19 49 16.4**	**-0.5**
PCDR				*eS*	**Sn**	**19 49 41.6**	**+0.3**
PCDR				IAML		19 49 55.6	
	comp=Z,1μm,0.6s						
SMRT	**St. Maarten**	**2.82**	**86**		**Pn**	**19 49 19.9**	**+0.1**
SMRT				IAML		19 49 55.4	
	comp=E,1μm,0.3s						
SMRT				IAML		19 50 15.1	
	comp=N,904nm,0.5s						
SEUS	**St. Eustatius**	**2.93**	**97**	Pn	**Pn**	**19 49 20.8**	**-0.5**
SEUS				IAML		19 50 26.8	
	comp=N,676nm,0.5s						
SDD	**Santo Domingo**	**3.74**	**280**	Pn	**Pn**	**19 49 30.0**	**-2.4**
SDD				IAML		19 50 56.3	
	comp=E,698nm,1.0s						
MBFL	**Flemmings, Mon**	**3.81**	**106**	*eP*	**Pn**	**19 49 33.8**	**+0.4**
MBFL				*ex*	x	19 50 15.0	
ANBD	**Bethesda, Anti**	**4.15**	**101**	*eP*	**Pn**	**19 49 38.4**	**+0.3**
TBG	**Guadaloupe-3**	**4.65**	**115**	*eP*	**Pn**	**19 49 44.2**	**-0.7**
TBG				*ex*	x	19 50 35.5	
SC01	**Santiago de lo**	**4.72**	**290**	Pn	**Pn**	**19 49 45.4**	**-0.5**
H05N1	**Guadeloupe/Mar**	**5.00**	**107**	Pn	**Pn**	**19 49 49.8**	**+0.1**
H05N1				Sn	**Sn**	**19 50 44.1**	**-3.1**
PODR	**Polo**	**5.01**	**274**	*i* P	**Pn**	**19 49 52.5**	**+2.5**
SDDR	**Presa de Saban**	**5.12**	**283**	*i* P	Pn	19 49 56.8	+5.5
SDDR	**Presa de Saban**	**5.12**	**283**	*eS*	**Sb**	**19 50 58.4**	**-7.4**
SDDR	**Presa de Saban**	**5.12**	**283**	Pn	Pn	19 49 56.4	+5.0
SDDR	**Presa de Saban**	**5.12**	**283**	*i* P	Pn	19 49 56.8	+5.5
SDDR				IAML		19 51 22.2	
	comp=Z,81nm,0.9s						
SDDR	**Presa de Saban**	**5.12**	**283**	*eP*	Pn	19 49 56.8	+5.5
SDDR				*eS*	**Sb**	**19 51 03.3**	**-2.5**
SVN	**Savane Anatole**	**5.55**	**122**	*eP*	**Pn**	**19 49 57.2**	**-0.2**
SVN				*ex*	x	19 50 55.5	
FDF	**Fort de France**	**5.62**	**123**		**Pn**	**19 49 57.6**	**-0.7**
GRTK	**Grand Turk**	**6.02**	**308**	Pn	**Pn**	**19 50 03.5**	**-0.2**
GRTK	**Grand Turk**	**6.02**	**308**	*i* P	**Pn**	**19 50 03.6**	**-0.2**
GRTK				IAML		19 51 15.9	
	comp=Z,78nm,2.0s						
GRTK				⇑ *i*		19 52 41.6	
H05S1	**Guadeloupe/Mar**	**6.05**	**124**	Pn	**Pn**	**19 50 04.2**	**+0.1**
SLBI	**Saint Lucia, B**	**6.18**	**127**	*eP*	**Pn**	**19 50 05.0**	**-1.0**
SLBI				*ex*	x	19 51 08.3	
HATO	**Hato, Curacao**	**6.32**	**207**	Pn	**Pn**	**19 50 06.4**	**-1.5**
AUA1	**Aruba**	**6.57**	**216**	Pn	**Pn**	**19 50 09.3**	**-2.1**
GRGR	**Grenville**	**7.10**	**143**	Pn	**Pn**	**19 50 17.1**	**-1.4**
PCRV	**Puerto La Cruz**	**7.76**	**170**	Pn	**Pn**	**19 50 30.3**	**+2.5**
	comp=Z,1.4nm,0.3s,baz=272,slow=1.9,SNR=6.2						
PCRV				Sn	**Sn**	**19 51 51.4**	**-4.1**
	comp=Z,2.2nm,0.3s,baz=45,slow=10.0,SNR=7.7						
	comp=Z,12nm,1.0s						
BAUV	**El Baul**	**9.08**	**193**	Pn	**Pn**	**19 50 45.3**	**-0.6**
SDV	**Santo Domingo**	**9.99**	**207**	Pn	**Pn**	**19 50 58.5**	**+0.1**
SDV	**Santo Domingo**	**9.99**	**207**	Pn	**Pn**	**19 51 01.0**	**+2.6**
	comp=Z,2.5nm,0.3s,baz=336,slow=12,SNR=4.8						
SDV				Sn	Sn	19 52 43.1	-7.3
	comp=Z,1.3nm,0.3s,baz=7.1,slow=16,SNR=2.3						
	comp=Z,6.8nm,0.5s						
RUSC	**La Rusia**	**13.75**	**211**	Pn	**Pn**	**19 51 48.4**	**-1.8**
TXAR	**Lajitas Array**	**36.18**	**295**	P	**P**	**19 55 39.2**	**+1.7**
TXAR	**Lajitas Array**	**36.18**	**295**	P	**P**	**19 55 38.9**	**+1.5**
	comp=Z,1.2nm,0.4s,baz=110,slow=10,SNR=16						
	comp=Z,1.2nm,0.4s						
TX31	**Lajitas Ar. Si**	**36.18**	**295**	P	**P**	**19 55 38.8**	**+1.3**
TX31				IAmb	IAmb	19 56 18.1	
	comp=Z,2.5nm,1.1s						
NVAR	**Mina Array Bea**	**49.73**	**305**	P	**P**	**19 57 27.2**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=96,slow=8.3,SNR=1.8						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**55.76**	**335**	P	**P**	**19 58 11.5**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=109,slow=7.2,SNR=7.8						
	comp=Z,0.6nm,0.7s						
ESDC	**Sonseca Array**	**57.44**	**54**	P	**P**	**19 58 25.1**	**+1.6**
	comp=Z,0.6nm,0.8s,baz=264,slow=8.1,SNR=2.5						
	comp=Z,0.6nm,0.8s						
EKA	**Eskdalemuir Ar**	**60.10**	**36**	P	**P**	**19 58 43.5**	**+1.7**
	comp=Z,2.6nm,1.1s,baz=245,slow=8.5,SNR=2.1						
	comp=Z,2.6nm,1.1s						
ILAR	**Eielson Array**	**70.10**	**333**	P	**P**	**19 59 49.3**	**+2.7**
	comp=Z,0.2nm,0.5s,baz=104,slow=4.2,SNR=1.9						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**73.95**	**21**	P	**P**	**20 00 09.0**	**-0.5**
	comp=Z,1.8nm,1.0s,baz=281,slow=6.3,SNR=5.4						
	comp=Z,1.8nm,1.0s						
FINES	**FINESS Array B**	**75.48**	**30**	P	**P**	**20 00 19.6**	**+1.1**
	comp=Z,1.2nm,0.9s,baz=275,slow=5.0,SNR=1.4						
	comp=Z,1.2nm,0.9s						

*IDC **10** 20:00:32.2±0.7, 21.°64S×68.°07W, h118km±7km, mb3.8/7, mbtmp4.2/12, MS3.0/1, Error ellipse: s-maj=14.3km s-min=9.9km az=113.0*

*NEIC **10** 20:00:32.3±1.6, 21.°71S±0.°06×68.°37W±0.°09, h147km±7km, mb4.5/13, Error ellipse: s-maj=11.7km s-min=7.9km az=79.0*

*GUC **10** 20:00:33.4±0.7, 21.°67S×68.°46W, h152km±5km, ML4.3*

*SJA **10** 20:00:33.2±0.9, 21.°76S×68.°21W, h100km, ML4.2, MW4.1*

*VAO **10** 20:00:34.1±0.2, 21.°72S×67.°77W, h86km±3km, mb4.8*

ISC 10 20:00:31.0±0.5, 21.°69S±0.°03×68.°11W±0.°04, h124km±5km, n126, σ1§75/175, mb4.3/9, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.06**	**264**		**Pn**	**20 00 55.6**	**+1.5**
PB09	**IPOC Station P**	**1.06**	**264**	*eP*	**Pn**	**20 00 56.1**	**+2.0**
PB09				*i* S	**Sn**	**20 01 13.6**	**+1.9**
LVC	**Limon Verde**	**1.18**	**219**	Pn	**Pn**	**20 00 57.4**	**+1.9**
LVC	**Limon Verde**	**1.18**	**219**	*eP*	**Pn**	**20 00 57.6**	**+2.1**
LVC				*eS*	**Sn**	**20 01 16.3**	**+2.1**
LVC				IAML		20 01 17.1	
	comp=Z,1μm,0.5s						
LVC	**Limon Verde**	**1.18**	**219**	P	**Pn**	**20 00 57.8**	**+2.2**
	comp=Z,487nm,0.3s,baz=4.3,slow=7.8,SNR=854						
LVC				S	**Sn**	**20 01 15.5**	**+1.3**
	comp=Z,748nm,0.4s,baz=250,slow=17,SNR=15						
LVC	**Limon Verde**	**1.18**	**219**	*eP*	**Pn**	**20 00 57.6**	**+2.1**
LVC				*i* S	**Sn**	**20 01 15.5**	**+1.3**
LVC	**Limon Verde**	**1.18**	**219**	*eP*	**Pn**	**20 00 57.6**	**+2.1**
LVC				*eS*	**Sn**	**20 01 15.7**	**+1.5**
AF01	**San Pedro de A**	**1.26**	**183**		**Pn**	**20 01 00.3**	**+4.0**
PB01	**IPOC Station P**	**1.44**	**296**	Pn	**Pn**	**20 00 58.8**	**+0.7**
PB01	**IPOC Station P**	**1.44**	**296**	*eP*	**Pn**	**20 00 59.1**	**+1.1**
PB01				*eS*	**Sn**	**20 01 19.0**	**+0.3**
PB01				IAML		20 01 20.7	
	comp=Z,1μm,0.1s						
PB01	**IPOC Station P**	**1.44**	**296**	*eP*	**Pn**	**20 00 59.3**	**+1.2**
PB01				*i* S	**Sn**	**20 01 18.8**	**+0.1**
PB01				IAML		20 01 20.3	
	comp=E,4μm,0.4s						
PB07	**IPOC Station P**	**1.65**	**268**		**Pn**	**20 01 00.8**	**+0.1**
PB07				Sn	**Sn**	**20 01 21.4**	**-1.8**
PB07	**IPOC Station P**	**1.65**	**268**	*eP*	**Pn**	**20 01 01.4**	**+0.7**
PB07				*eS*	**Sn**	**20 01 22.7**	**-0.6**
PB07				IAML		20 01 23.7	
	comp=Z,6μm,0.3s						
PB07	**IPOC Station P**	**1.65**	**268**	*eP*	**Pn**	**20 01 01.4**	**+0.7**
PB07				*i* S	**Sn**	**20 01 22.5**	**-0.8**
PB07				IAML		20 01 23.3	
	comp=N,7μm,0.4s						
PB06	**IPOC Station P**	**1.69**	**233**		**Pn**	**20 01 02.5**	**+1.4**
PB06				Sn	**Sn**	**20 01 23.6**	**-0.4**
PB06	**IPOC Station P**	**1.69**	**233**	*eP*	**Pn**	**20 01 02.2**	**+1.1**
PB06				*eS*	**Sn**	**20 01 25.0**	**+0.9**
PB06				IAML		20 01 25.8	
	comp=Z,2μm,1.0s						
PB06	**IPOC Station P**	**1.69**	**233**	*eP*	**Pn**	**20 01 02.6**	**+1.4**
PB06				*i* S	**Sn**	**20 01 24.3**	**+0.3**
PB06				IAML		20 01 25.6	
	comp=N,4μm,0.4s						
PB02	**IPOC Station P**	**1.71**	**282**		**Pn**	**20 01 01.4**	**+0.2**
PB02	**IPOC Station P**	**1.71**	**282**	*eP*	**Pn**	**20 01 01.4**	**+0.2**
PB02				*eS*	**Sn**	**20 01 23.7**	**-0.5**
PB02				IAML		20 01 30.4	
	comp=Z,5μm,0.4s						
PB02	**IPOC Station P**	**1.71**	**282**	*eP*	**Pn**	**20 01 01.9**	**+0.7**
PB02				*i* S	**Sn**	**20 01 23.6**	**-0.7**
PB08	**IPOC Station P**	**1.82**	**327**		**Pn**	**20 01 05.2**	**+2.2**
PB08	**IPOC Station P**	**1.82**	**327**	*eP*	**Pn**	**20 01 05.2**	**+2.2**
PB08				*eS*	**Sn**	**20 01 29.4**	**+2.1**
PB08				IAML		20 01 31.3	
	comp=Z,1μm,0.5s						
PB08	**IPOC Station P**	**1.82**	**327**	*eP*	**Pn**	**20 01 05.6**	**+2.7**
PB08				*i* S	**Sn**	**20 01 29.4**	**+2.1**
PB08				IAML		20 01 32.5	
	comp=E,2μm,0.5s						
PB15	**IPOC Station P**	**1.97**	**220**		**Pn**	**20 01 05.9**	**+1.4**
PB15	**IPOC Station P**	**1.97**	**220**	*eP*	**Pn**	**20 01 06.2**	**+1.7**
PB15				*i* S	**Sn**	**20 01 31.9**	**+1.8**
PB04	**IPOC Station P**	**2.00**	**251**	Pn	**Pn**	**20 01 05.3**	**+0.5**
PB04	**IPOC Station P**	**2.00**	**251**	*eP*	**Pn**	**20 01 04.4**	**-0.4**
PB04				*eS*	**Sn**	**20 01 30.1**	**-0.6**
PB04				IAML		20 01 32.0	
	comp=Z,2μm,0.4s						
PB04	**IPOC Station P**	**2.00**	**251**	*eP*	**Pn**	**20 01 05.3**	**+0.5**
PB04				*i* S	**Sn**	**20 01 29.1**	**-1.6**
PB04				IAML		20 01 32.7	
	comp=N,3μm,0.6s						
PATCX	**Punta Patache**	**2.09**	**294**		**Pn**	**20 01 05.9**	**0.0**
PATCX	**Punta Patache**	**2.09**	**294**	*eP*	**Pn**	**20 01 06.3**	**+0.4**
PATCX				*eS*	**Sn**	**20 01 31.6**	**-1.0**
PATCX				IAML		20 01 33.1	
	comp=Z,2μm,0.4s						
PATCX	**Punta Patache**	**2.09**	**294**	*eP*	**Pn**	**20 01 06.5**	**+0.6**
PATCX				*i* S	**Sn**	**20 01 31.2**	**-1.4**
PATCX				IAML		20 01 33.5	
	comp=N,4μm,0.3s						
HMBC	**Humberstone**	**2.18**	**310**	*eP*	**Pn**	**20 01 07.5**	**+0.5**
HMBC				*i* S	**Sn**	**20 01 33.5**	**-1.1**
TA01	**Diego Aracena**	**2.23**	**300**		**Pn**	**20 01 07.4**	**-0.1**
TA01	**Diego Aracena**	**2.23**	**300**	*eP*	**Pn**	**20 01 07.7**	**+0.1**
TA01				*i* S	**Sn**	**20 01 33.8**	**-1.9**
TA01				IAML		20 01 36.3	
	comp=E,2μm,0.4s						
GO01	**Chusmiza**	**2.25**	**333**		**Pn**	**20 01 10.3**	**+2.0**
GO01	**Chusmiza**	**2.25**	**333**	*eP*	**Pn**	**20 01 10.5**	**+2.2**
GO01				*i* S	**Sn**	**20 01 38.6**	**+1.7**
GO01				IAML		20 01 41.4	
	comp=N,2μm,0.3s						
TA02	**Huaiquique**	**2.36**	**306**		**Pn**	**20 01 09.0**	**-0.2**
TA02	**Huaiquique**	**2.36**	**306**	*eP*	**Pn**	**20 01 09.2**	**+0.1**
TA02				*i* S	**Sn**	**20 01 36.6**	**-1.9**
PB11	**IPOC Station P**	**2.40**	**323**	Pn	**Pn**	**20 01 10.6**	**+0.7**
PB11	**IPOC Station P**	**2.40**	**323**	*eP*	**Pn**	**20 01 10.9**	**+0.9**
PB11				*i* S	**Sn**	**20 01 39.5**	**-0.3**
PB10	**IPOC Station P**	**2.90**	**231**		**Pn**	**20 01 15.7**	**-0.4**
PB14	**IPOC Station P**	**3.61**	**215**	Pn	**Pn**	**20 01 25.6**	**-0.1**
PB12	**IPOC Station P**	**3.70**	**325**	Pn	**Pn**	**20 01 26.1**	**-0.8**
GO02	**Mina Guanaco**	**3.71**	**201**	Pn	**Pn**	**20 01 27.9**	**+0.7**
GO02	**Mina Guanaco**	**3.71**	**201**	*eP*	**Pn**	**20 01 28.2**	**+1.1**
GO02				*i* S	**Sn**	**20 02 10.2**	**-0.4**
AP01	**Chacalluta**	**3.91**	**327**	Pn	**Pn**	**20 01 29.4**	**-0.1**
AC01	**Pan de Azucar**	**4.99**	**207**	Pn	**Pn**	**20 01 42.9**	**-0.9**
AC02	**Maricunga**	**5.21**	**190**	Pn	**Pn**	**20 01 48.3**	**+1.0**
LPAZ	**La Paz**	**5.37**	**360**	Pn	**Pn**	**20 01 52.8**	**+3.2**
LPAZ	**La Paz**	**5.37**	**360**	P	**Pn**	**20 01 51.9**	**+2.2**
	comp=N,9.0nm,0.4s,baz=190,slow=1.1,SNR=45						
LPAZ				S	**Sn**	**20 02 51.1**	**+0.3**
	comp=N,11nm,0.9s,baz=231,slow=17,SNR=4.2						
LPAZ	**La Paz**	**5.37**	**360**	*eP*	**Pn**	**20 01 53.3**	**+3.7**
LPAZ				*eS*	**Sn**	**20 02 53.6**	**+2.8**
AC06	**Mina Casimiro**	**6.00**	**199**	Pn	**Pn**	**20 01 55.9**	**-1.6**
GO03	**Copiap**	**6.19**	**198**	Pn	**Pn**	**20 01 59.1**	**-1.0**
AC04	**Llanos de Chal**	**7.02**	**202**	Pn	**Pn**	**20 02 07.9**	**-3.4**
AC05	**El Transito**	**7.38**	**195**	Pn	**Pn**	**20 02 14.4**	**-1.8**
LCO	**Las Campanas**	**7.66**	**197**	Pn	**Pn**	**20 02 17.

comp=Z,6.4nm,1.1s
PDAR Pinedale Array 74.65 330 P **P** **20 11 58.1 +1.2**
comp=Z,0.2nm,0.4s,baz=169,slow=7.2,SNR=2.3
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 76.10 322 P **P** **20 12 07.3 +1.9**
comp=Z,0.5nm,0.7s,baz=151,slow=8.3,SNR=4.5
comp=Z,0.5nm,0.7s
HUMO Hull Mountain 81.52 322 P **P** **20 12 32.1 -2.5**
BOSA Boshof 82.70 118 P **P** **20 12 39.8 -1.7**
BOSA IAmb IAmb 20 13 04.1
comp=Z,16nm,1.5s
BOSA Boshof 82.70 118 P **P** **20 12 43.1 +1.7**
comp=Z,1.0nm,0.4s,baz=277,slow=2.4,SNR=3.6
comp=Z,1.0nm,0.4s
FCC Fort Churchill 82.99 347 P **P** **20 12 39.6 -2.2**
LTY Liberty 83.33 327 P **P** **20 12 39.7 -4.4**
LTY IAmb IAmb 20 13 21.0
comp=Z,8.0nm,1.3s
YKAB2 New Yellowknif 91.56 340 P **P** **20 13 23.9 +0.7**
YKA Yellowknife Ar 91.61 340 P **P** **20 13 24.3 +0.9**
YKA Yellowknife Ar 91.61 340 P **P** **20 13 24.7 +1.2**
comp=Z,1.7nm,0.6s,baz=129,slow=4.0,SNR=33
comp=Z,1.7nm,0.6s
ZALV Zalesovo Beam 141.80 26 PKP **PKiKP** **20 19 51.1 +0.5**
comp=Z,0.5nm,0.3s,baz=336,slow=3.3,SNR=3.9
MKAR Makanchi Array 145.34 37 PKPbc **PKiKP** **20 19 56.5 -1.7**
comp=Z,0.6nm,0.7s,baz=336,slow=2.7,SNR=3.8

IDC ***10*** *20:01:49.9± 1.3, 28.˚34N × 87.˚47E, h0km, mb4.1/21, mbtmp4.1/24, ML3.6/3, Error ellipse: s-maj=30.6km s-min=19.8km az=5.0*

NEIC ***10*** *20:01:51.6± 1.4, 28.˚45N ± 0.˙08 × 87.˚42E ± 0.˙08, h5km ± 5km, mb4.4/51, Error ellipse: s-maj=13.2km s-min=7.5km az=138.0*

MOS ***10*** *20:01:52.9± 1.3, 28.˚51N × 87.˚36E, h27km, mb4.7/13, Error ellipse: s-maj=10.8km s-min=5.7km az=118.6*

BJI ***10*** *20:01:52.7± 0.0, 28.˚50N × 87.˚51E, h8km, mb4.2/36, mB4.7/13, Ms3.9/11, Ms7 3.6/10*

NDI ***10*** *20:01:53.7± 3.8, 28.˚34N × 87.˚44E, h5km, ML4.0, MW4.0, mb4.4(NEIC)*

DMN ***10*** *20:01:53.4± 0.3, 28.˚43N × 87.˚42E, h10km, Ml4.9/11, Error ellipse: s-maj=5.2km s-min=2.7km az=37.0*

ISC 10 20:01:52.4± 1.1, **28.˚44N**± 0.˙03 × **87.˚49E**± 0.˙02, **h15**km ± 7km, **n187**, σ **1§70**/209, **mb4.3**/60, **5C, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAPN	**Taplejung**	**1.11**	**170**	*e*Pg	**Pg**	**20 02 12.7**	**-1.1**
TAPN				*e*Sg	**Sb**	**20 02 28.1**	**+0.3**
	975nm,0.2s						
JIRN	**Jiri**	**1.39**	**236**	*e*Pg	**Pb**	**20 02 18.6**	**+0.4**
JIRN				*e*Sg	**Sg**	**20 02 35.9**	**-1.3**
	3µm,0.3s						
GTK	**Tadong**	**1.49**	**138**	*e*P	**Pg**	**20 02 19.3**	**-1.8**
GTK				*e*S	**Sn**	**20 02 38.9**	**+0.7**
GTK				IAML		20 02 40.6	
	comp=E,1µm,0.4s						
GTK				IAML		20 02 48.2	
	comp=E,1µm,0.3s						
GUN	**Gumba**	**1.51**	**250**	*e*Pg	**Pg**	**20 02 21.1**	**-0.4**
GUN				*e*Sg	**Sg**	**20 02 40.6**	**-0.7**
	comp=E,5µm,0.5s						
ODAN	**Odare**	**1.58**	**183**	*e*Pg	**Pg**	**20 02 23.2**	**+0.4**
ODAN				*e*Sg	**Sg**	**20 02 42.4**	**-0.9**
	comp=E,4µm,0.7s						
RAMN	**Ramite**	**1.68**	**208**	*e*Pg	**Pg**	**20 02 24.2**	**-0.5**
RAMN				*e*Sg	**Sb**	**20 02 45.6**	**+1.3**
	comp=E,7µm,0.9s						
SLGI	**Shiliguri**	**1.92**	**154**	*e*P	**Pb**	**20 02 25.8**	**-1.4**
PKI	**Pulchoki**	**2.03**	**245**	*e*Pg	**Pg**	**20 02 30.7**	**-0.7**
PKI				*e*Sg	**Sb**	**20 02 56.0**	**+1.6**
	comp=E,2µm,0.6s						
PKIN	**Phulchoki**	**2.04**	**245**	*e*Pg	**Pg**	**20 02 30.7**	**-0.8**
PKIN				*e*Sg	**Sb**	**20 02 56.2**	**+1.6**
	comp=E,3µm,0.6s						
KKN	**Kakani**	**2.05**	**252**	*e*Pg	**Pg**	**20 02 31.0**	**-0.8**
KKN				*e*Sg	**Sb**	**20 02 56.3**	**+1.3**
	comp=E,4µm,0.6s						
DMN	**Daman**	**2.26**	**249**	*e*Pg	**Pg**	**20 02 34.4**	**-1.4**
DMN				*e*Sg	**Sb**	**20 03 02.3**	**+1.3**
	comp=E,5µm,0.9s						
GKN	**Gorkha**	**2.55**	**261**	*e*Pg	**Pb**	**20 02 39.5**	**+1.5**
GKN				*e*Sg	**Sb**	**20 03 12.3**	**+3.1**
	comp=E,3µm,0.4s						
DANN	**Dangsing**	**3.28**	**269**	*e*Pg	**Pg**	**20 02 53.1**	**-2.2**
VLK	**Valmikinagar**	**3.39**	**252**	IAML		20 03 48.9	
	comp=E,950nm,0.5s						
VLK				IAML		20 03 49.3	
	comp=N,2µm,0.7s						
LSA	**Lhasa**	**3.44**	**68**	Pn	**Pb**	**20 02 51.3**	**-2.1**
LSA	**Lhasa**	**3.44**	**68**	Pn	**Pn**	**20 02 48.4**	**+2.5**
LSA	**Lhasa**	**3.44**	**68**	P	**Pn**	**20 02 48.4**	**+2.5**
KOLN	**Koldanda**	**3.50**	**260**	*e*Pg	**Pg**	**20 02 57.0**	**-2.4**
KOLN				*e*Sg	**Sg**	**20 03 42.4**	**-2.4**
	comp=N,2µm,0.7s						
PYUN	**Piuthan**	**3.98**	**266**	*e*Pg	**Pg**	**20 03 06.7**	**-1.9**
BOK	**Bokaro**	**4.85**	**198**	*e*S	**Sn**	**20 03 59.0**	**-1.7**
SHL	**Shillong**	**4.86**	**125**	Pn	**Pn**	**20 03 01.5**	**-3.6**
SHL	**Shillong**	**4.86**	**125**	*e*P	**Pn**	**20 03 06.2**	**+1.0**
SHL				*e*S	**Sn**	**20 04 04.4**	**+3.1**
SHL				IAML		20 04 23.0	
	comp=E,228nm,1.1s						
SHL				IAML		20 04 25.7	
	comp=N,244nm,0.8s						
SHL	**Shillong**	**4.86**	**125**	P	**Pn**	**20 03 01.5**	**-3.6**
ITAN	**ITANAGAR**	**5.67**	**102**	*e*P	**Pn**	**20 03 18.6**	**+2.4**
ITAN				IAML		20 04 56.9	
	comp=E,663nm,0.8s						
ITAN				IAML		20 05 02.5	
	comp=E,464nm,0.6s						
ZIRO	**ZIRO**	**5.70**	**98**	*e*P	**Pn**	**20 03 19.0**	**+2.3**
ALBI	**Allahabad**	**5.95**	**240**	*e*P	**Pn**	**20 03 22.8**	**+2.8**
LGTI	**Lohaghat**	**6.42**	**281**	*e*P	**Pn**	**20 03 30.3**	**+3.9**
LGTI				*e*S	**Sn**	**20 04 43.7**	**+4.2**
PTH	**Pithoragarh**	**6.46**	**282**	*e*P	**Pn**	**20 03 29.4**	**+2.2**
KOHI	**KOHIMA**	**6.50**	**113**	*e*P	**Pn**	**20 03 29.2**	**+1.6**
KOHI				*e*S	**Sn**	**20 04 40.6**	**-1.0**
KOHI				IAML		20 04 49.8	
	comp=E,277nm,0.8s						
KOHI				IAML		20 04 53.8	
	comp=E,128nm,0.8s						
IMP	**Imphal**	**6.81**	**120**	*e*P	**Pn**	**20 03 34.2**	**+2.3**
IMP				*e*S	**Sn**	**20 04 47.2**	**-1.9**
JHSG	**JHARSUGUGA**	**7.46**	**208**	*e*P	**Pn**	**20 03 44.3**	**+3.7**
JHSG				*e*S	**Sn**	**20 05 02.2**	**-2.8**
JHSG				IAML		20 05 10.2	
	comp=E,320nm,0.8s						
JHSG				IAML		20 05 10.7	
	comp=N,139nm,0.6s						
LKP	**Lekhapani**	**7.48**	**97**	*e*P	**Pn**	**20 03 42.7**	**+1.8**
LKP				*e*S	**Sn**	**20 05 04.0**	**-1.6**
LKP				IAML		20 05 09.3	
	comp=E,107nm,1.0s						
LKP				IAML		20 05 19.8	
	comp=E,110nm,0.7s						
JHNI	**Jhansi**	**8.52**	**252**	*e*P	**Pn**	**20 03 54.9**	**-0.3**
JHNI				*e*S	Sn	20 05 22.7	-8.4
JHNI				IAML		20 05 31.0	
	comp=N,66nm,1.0s						
JHNI				IAML		20 05 34.9	
	comp=E,35nm,0.5s						
SMLA	**Simla**	**9.36**	**289**	*e*P	**Pn**	**20 04 08.3**	**+1.6**
KUDL	**Kundal**	**9.70**	**271**	*e*P	**Pn**	**20 04 10.6**	**-0.8**
GOMU	**GeErMu**	**9.91**	**37**	P	**Pn**	**20 04 18.5**	**+3.9**
GOMU				pP		20 04 21.8	
GOMU				sP		20 04 25.3	
GOMU				pmax	pmax		
	comp=E,5.0nm,0.7s						
GOMU				LR	LR		
	comp=E,460nm,12.1s						
GOMU				LR	LR		
	comp=E,290nm,11.1s						
GOMU				LR	LR		
	comp=E,850nm,15.9s						
BHK	**Bhakra**	**10.05**	**290**	*e*P	**Pn**	**20 04 17.4**	**+1.2**
DHRM	**DHARAMSHALA**	**10.38**	**294**	*e*P	**Pn**	**20 04 22.6**	**+1.7**
TNCH	**TengChong**	**10.43**	**106**	P	**Pn**	**20 04 24.2**	**+2.5**
TNCH				pP		20 04 26.8	
TNCH				S	**Sn**	**20 06 17.3**	**-1.1**
TNCH				pmax	pmax		
	comp=E,6.0nm,1.0s						
TNCH				pmax	pmax		
	comp=E,72nm,5.2s						
TNCH				LR	LR		
	comp=E,340nm,9.5s						
TNCH				LR	LR		
	comp=E,130nm,6.4s						
TNCH				LR	LR		
	comp=E,210nm,9.2s						
BHPL	**Bhopal**	**10.44**	**243**	*e*P	**Pn**	**20 04 20.9**	**-0.6**
BHPL				*e*S	Sn	20 06 09.9	-8.4
BHPL				IAML		20 06 17.5	
	comp=E,77nm,0.4s						
BHPL				IAML		20 06 22.1	
	comp=N,68nm,0.7s						
THN	**Thein Dam**	**10.91**	**294**	*e*P	**Pn**	**20 04 29.5**	**+1.6**
THN				*e*S	**Sn**	**20 06 25.7**	**-4.0**
THN				IAML		20 06 36.5	
	comp=E,21nm,0.8s						
THN				IAML		20 06 39.3	
	comp=N,17nm,1.1s						
AJM	**Ajmer**	**11.57**	**263**	*e*P	**Pn**	**20 04 35.6**	**-1.5**
AJM				*ex*	x	20 06 33.6	
AJM				IAML		20 06 41.4	
	comp=E,18nm,0.7s						
AJM				IAML		20 06 41.8	
	comp=N,23nm,0.8s						
AKL	**Akola**	**12.25**	**233**	*e*P	**Pn**	**20 04 45.4**	**-1.0**
AKL				*e*S	Sn	20 06 53.1	-10
HYB	**Hyderabad**	**13.71**	**219**	*e*P	**Pn**	**20 05 05.8**	**-0.5**
KMI	**Kunming**	**14.02**	**100**	⇑P	**Pn**	**20 05 09.4**	**-1.4**
KMI				pmax	pmax		
	comp=N,6.0nm,1.3s						
KMI				LR	LR		
	comp=N,260nm,12.8s						
KMI				LR	LR		
	comp=N,220nm,14.1s						
KMI				LR	LR		
	comp=N,190nm,10.7s						
CHTO	**Chiang Mai**	**14.21**	**130**		**Pn**	**20 05 14.2**	**+1.1**
CHTO	**Chiang Mai**	**14.21**	**130**	P	**Pn**	**20 05 14.3**	**+1.1**
CRAI	**Chiangrai**	**14.30**	**122**	Pn	**Pn**	**20 05 14.1**	**-0.4**
CM31	**Chiang Mai Arr**	**14.46**	**131**		**Pn**	**20 05 14.9**	**-1.7**
CMAR	**Chiang Mai Arr**	**14.46**	**131**	Pn	**Pn**	**20 05 17.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**14.46**	**131**	Pn	**Pn**	**20 05 14.9**	**-1.6**
	comp=N,0.1nm,0.3s,baz=309,slow=13,SNR=11						
	comp=N,1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**14.46**	**131**	P	**Pn**	**20 05 17.6**	**+1.0**
KSH	**Kashi**	**14.59**	**322**	P	**Pn**	**20 05 18.0**	**-0.3**
KSH				pP	P	20 05 21.5	-3.3
KSH				PP	**PnPn**	**20 05 29.8**	**+3.5**
KSH				S	**Sn**	**20 07 53.8**	**-6.0**
KSH				pmax	pmax		
	comp=N,9.0nm,0.8s						
GTA	**Gaotai**	**14.96**	**40**	*e*P	**Pn**	**20 05 23.0**	**-0.5**
GTA				sP	P	20 05 29.8	+0.8
GTA				pmax	pmax		
	comp=N,2.0nm,0.8s						
WMQ	**Urumqi**	**15.35**	**1**	*e*P	**Pn**	**20 05 29.6**	**+1.1**
LZH	**Lanzhou**	**15.78**	**57**	*e*P	**P**	**20 05 37.6**	**-0.5**
LZH				pP	sP	20 05 42.0	-4.3
LZH				pmax	pmax		
	comp=N,12nm,1.2s						
LZH				LR	LR		
	comp=N,270nm,11.0s						
LZH				LR	LR		
	comp=N,290nm,11.0s						
LZH				LR	LR		
	comp=N,280nm,11.0s						
KAD	**Karad**	**16.51**	**231**	*e*P	**Pn**	**20 05 41.3**	**-2.3**
BOOM	**Boomskoye usch**	**16.85**	**329**		**Pn**	**20 05 44.9**	**-3.0**
BOOM				IAmb	IAmb	20 05 57.0	
	comp=Z,28nm,1.3s						
BOOM	**Boomskoye usch**	**16.85**	**329**	P	**Pn**	**20 05 44.9**	**-3.0**
BOOM				pmax	pmax		
	comp=Z,28nm,1.3s						
KBL	**Kabul**	**16.86**	**296**		**Pn**	**20 05 44.3**	**-3.7**
KBL	**Kabul**	**16.86**	**296**	P	**Pn**	**20 05 44.3**	**-3.7**
KBL				pmax	pmax		
	comp=Z,14nm,1.0s						
AAK	**Ala-Archa**	**17.64**	**327**		**Pn**	**20 05 56.0**	**-1.8**
AAK	**Ala-Archa**	**17.64**	**327**	P	**P**	**20 05 59.2**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=148,slow=13,SNR=3.1						
	comp=Z,0.6nm,0.3s						
AAK	**Ala-Archa**	**17.64**	**327**	*i* P	**P**	**20 06 01.2**	**+2.5**
BTK	**Batken**	**17.97**	**314**	Pn	**Pn**	**20 05 59.4**	**-2.3**
BTK	**Batken**	**17.97**	**314**	P	**Pn**	**20 05 59.4**	**-2.3**
BTK				pmax	pmax		
	comp=Z,19nm,1.2s						
MK31	**Makanchi Array**	**18.77**	**349**	P	**P**	**20 06 09.1**	**-1.8**
MK31	**Makanchi Array**	**18.77**	**349**	P	**P**	**20 06 09.1**	**-1.8**
MK31				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MKAR	**Makanchi Array**	**18.77**	**349**	P	**P**	**20 06 10.4**	**-0.4**
MKAR	**Makanchi Array**	**18.77**	**349**	P	**P**	**20 06 11.3**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=162,slow=12,SNR=25						
	comp=Z,2.7nm,0.8s						
MAKZ	**Makanchi**	**18.84**	**348**	P	**P**	**20 06 10.4**	**-1.2**
MAKZ	**Makanchi**	**18.84**	**348**	P	**P**	**20 06 10.4**	**-1.2**
MAKZ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
ENH	**Enshi**	**19.26**	**79**		**Pn**	**20 06 17.5**	**0.0**
KK31	**Karatay Array**	**20.03**	**321**	P	**P**	**20 06 23.1**	**-1.7**
KK31	**Karatay Array**	**20.03**	**321**	P	**P**	**20 06 23.1**	**-1.7**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.9s						
KKAR	**Karatay Array**	**20.03**	**321**	P	**P**	**20 06 22.9**	**-1.9**
KKAR	**Karatay Array**	**20.03**	**321**	P	**P**	**20 06 22.9**	**-1.9**
KKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
UBPT	**Khong Chiam**	**21.18**	**124**	P	**P**	**20 06 38.0**	**+0.7**
UBPT				IAmb	IAmb	20 06 39.0	
	comp=Z,15nm,0.8s						
QIZ	**Qiongzhong**	**22.48**	**110**	P	**P**	**20 06 52.5**	**+1.2**
QIZ				S	**S**	**20 11 00.1**	**+2.5**
QIZ				LR	LR		
	comp=Z,170nm,11.8s						
QIZ				LR	LR		
	comp=Z,230nm,11.8s						
QIZ				LR	LR		
	comp=Z,220nm,11.8s						
SRIT	**Nakonsritamara**	**22.81**	**148**	P	**P**	**20 06 53.9**	**-0.9**
SRIT				IAmb	IAmb	20 07 06.8	
	comp=Z,18nm,1.2s						
KURBB	**Kurchatov Arra**	**23.17**	**345**	P	**P**	**20 06 59.2**	**+1.0**
	comp=Z,6.7nm,0.7s,baz=166,slow=9.2,SNR=48						
	comp=Z,6.7nm,0.7s						
KURK	**Kurchatov**	**23.23**	**346**	P	**P**	**20 06 59.5**	**+0.6**
KURK				IAmb	IAmb	20 07 05.0	
	comp=Z,24nm,1.1s						
KURK	**Kurchatov**	**23.23**	**346**	P	**P**	**20 06 59.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,24nm,1.1s						
HHC	**Hu-ho-hao-te**	**23.27**	**52**	*e*P	**P**	**20 07 00.4**	**+0.9**
HHC				S	S	20 11 01.7	-10
HHC				pmax	pmax		
	comp=Z,12nm,0.6s						
HHC				pmax	pmax		
	comp=Z,74nm,4.7s						
HHC				LR	LR		
	comp=Z,220nm,15.8s						
HHC				LR	LR		
	comp=Z,200nm,15.3s						
HHC				LR	LR		
	comp=Z,160nm,14.9s						
SONM	**Songino Array**	**24.30**	**32**	P	**P**	**20 07 08.6**	**-0.8**
SONM	**Songino Array**	**24.30**	**32**	P	**P**	**20 07 09.9**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=224,slow=11,SNR=5.8						
	comp=Z,2.0nm,0.7s						
ULN	**Ulaanbaatar**	**24.63**	**33**	P	**P**	**20 07 12.8**	**+0.4**
ULN				IAmb	IAmb	20 07 19.1	
	comp=Z,6.2nm,1.1s						
ULN	**Ulaanbaatar**	**24.63**	**33**	P	**P**	**20 07 12.8**	**+0.4**
ULN				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ZAA0	**Zalesovo Array**	**25.56**	**356**	P	**P**	**20 07 19.2**	**-1.3**
ZAA0				IAmb	IAmb	20 07 22.5	
	comp=Z,5.0nm,0.8s						
ZALV	**Zalesovo Beam**	**25.56**	**356**	P	**P**	**20 07 20.7**	**+0.3**
ZALV	**Zalesovo Beam**	**25.56**	**356**	P	**P**	**20 07 21.4**	**+0.9**
	comp=Z,4.4nm,0.7s,baz=185,slow=10,SNR=22						
	comp=Z,4.4nm,0.7s						
ZALV	**Zalesovo Beam**	**25.56**	**356**	*e*P	**P**	**20 07 21.4**	**+0.9**
ZALV				pmax	pmax		
	comp=Z,5.0nm,0.7s						
GEYT	**Alibeck**	**26.25**	**299**	P	**P**	**20 07 24.7**	**-2.3**
GEYT	**Alibeck**	**26.25**	**299**	P	**P**	**20 07 26.8**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=94,slow=16,SNR=3.5						
	comp=Z,1.4nm,0.8s						
BVAR	**Borovoye Array**	**27.62**	**337**	P	**P**	**20 07 39.6**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=134,slow=8.5,SNR=4.7						
	comp=Z,0.6nm,0.5s						
BRVK	**Borovoye**	**27.68**	**337**	P	**P**	**20 07 41.8**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,3.0nm,1.2s						
ABKAR	**Akbulak array**	**29.59**	**322**	P	**P**	**20 07 57.4**	**+0.7**
ARU	**Arti**	**34.70**	**332**	P	**P**	**20 08 42.4**	**+1.0**
ARU				IAmb	IAmb	20 08 47.0	
	comp=Z,4.6nm,0.7s						
ARU	**Arti**	**34.70**	**332**	*c i* P	**P**	**20 08 42.6**	**+1.2**
ARU						20 10 00.9	
ARU				S	S	20 14 03.6	-7.0
ARU				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSRS	**Korea Array**	**34.88**	**64**	P	**P**	**20 08 44.9**	**+1.7**
	comp=Z,0.8nm,0.5s,baz=263,slow=8.3,SNR=2.3						
	comp=Z,0.8nm,0.5s						
GNI	**Garni**	**36.87**	**300**	*c* eP	**P**	**20 09 01.6**	**+1.2**
GNI				pmax	pmax		
	comp=Z,6.0nm,1.3s						
HEH	**HeiHe**	**37.17**	**43**	*e*P	**P**	**20 09 03.6**	**+0.9**
HEH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,170nm,5.4s						
NCK	**Nalchik**	**38.11**	**305**	*e*P	**P**	**20 09 11.8**	**+1.1**
NCK				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ZEA	**Zeya**	**38.44**	**38**	*e*P	**P**	**20 09 14.9**	**+1.6**
KBZ	**Khabaz**	**38.65**	**305**	P	**P**	**20 09 14.7**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=114,slow=11,SNR=4.0						
	comp=Z,1.5nm,0.8s						
KIV	**Kislovodsk**	**38.83**	**306**	*e*P	**P**	**20 09 20.3**	**+3.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KLR	**Kul'dur**	**39.54**	**46**	*e*P	**P**	**20 09 22.1**	**-0.5**
KLR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KIRV	**Kirov**	**39.94**	**330**	*i* P	**P**	**20 09 25.7**	**0.0**
OBN	**Obninsk**	**45.03**	**321**	⇑*e*P	**P**	**20 10 10.6**	**+3.4**
OBN				*e*S	**S**	**20 16 39.0**	**-6.2**
OBN				pmax	pmax		
	comp=Z,23nm,1.7s						
ELL	**Elmali**	**48.59**	**295**	P	**P**	**20 10 36.0**	**+0.5**
ELL	**Elmali**	**48.59**	**295**	P	**P**	**20 10 36.0**	**+0.5**
ELL				pmax	pmax		
	comp=Z,23nm,0.9s						
AKASG	**Malin Array Be**	**48.68**	**314**	P	**P**	**20 10 35.9**	**0.0**
	comp=Z,0.9nm,0.6s,baz=78,slow=7.4,SNR=9.2						
	comp=Z,0.9nm,0.6s						
KIEV	**Kiev**	**48.69**	**314**	P	**P**	**20 10 35.6**	**-0.3**
KIEV				IAmb	IAmb	20 10 37.5	
	comp=Z,3.9nm,0.7s						
KIEV	**Kiev**	**48.69**	**314**	P	**P**	**20 10 35.6**	**-0.3**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
TIXI	**Tiksi**	**48.80**	**16**	P	**P**	**20 10 36.1**	**-0.3**
TIXI				IAmb	IAmb	20 10 37.3	
	comp=Z,3.4nm,0.6s						
TIXI	**Tiksi**	**48.80**	**16**	⇑*e*P	**P**	**20 10 35.6**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s						
JOF	**Joensuu**	**49.78**	**330**	*e*P	**P**	**20 10 44.9**	**+0.8**
MLR	**Muntele Rosu**	**50.80**	**307**	P	**P**	**20 10 52.7**	**+0.4**
MLR				IAmb	IAmb	20 11 02.9	
	comp=Z,6.3nm,0.9s						
MLR	**Muntele Rosu**	**50.80**	**307**	P	**P**	**20 10 53.1**	**+0.8**
	comp=Z,5.5nm,0.8s,baz=134,slow=5.5,SNR=10						
	comp=Z,5.5nm,0.8s						
BURAR	**Bucovina Array**	**51.23**	**310**	P	**P**	**20 10 56.3**	**+0.9**
BUR08	**Bucovina Ar. S**	**51.24**	**310**	P	**P**	**20 10 55.1**	**-0.5**
BUR08				IAmb	IAmb	20 10 59.8	
	comp=Z,6.3nm,1.4s						
FIA1	**FINESS Array S**	**51.83**	**328**	P	**P**	**20 11 00.5**	**+1.0**
FIA1				IAmb	IAmb	20 11 31.3	
	comp=Z,8.6nm,1.0s						
FINES	**FINESS Array B**	**51.83**	**328**	P	**P**	**20 11 00.5**	**+1.0**
FINES	**FINESS Array B**	**51.83**	**328**	P	**P**	**20 11 00.2**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=106,slow=7.6,SNR=41						
	comp=Z,1.9nm,0.4s						
PABE	**Paberze**	**52.19**	**320**	P	**P**	**20 11 02.5**	**+0.2**
PABE	**Paberze**	**52.19**	**320**	*e*P	**P**	**20 11 03.5**	**+1.2**
MEF	**Metsahovi**	**52.44**	**326**	*e*P	**P**	**20 11 08.5**	**+4.4**
KEF	**Keuruu**	**52.52**	**328**	*e*P	**P**	**20 11 05.0**	**+0.3**
MTSE	**Matsula**	**52.55**	**324**	*e*P	**P**	**20 11 08.5**	**+3.6**
KWP	**Kalwaria Pacla**	**52.84**	**312**		**P**	**20 11 09.2**	**+1.9**
KWP				IAmb	IAmb	20 11 10.7	
	comp=Z,6.3nm,0.8s						
KWP	**Kalwaria Pacla**	**52.84**	**312**	P	**P**	**20 11 09.2**	**+1.9**
KWP				pmax	pmax		
	comp=Z,6.0nm,0.8s						
KEV	**Kevo**	**53.47**	**338**	P	**P**	**20 11 12.1**	**+0.5**
KEV	**Kevo**	**53.47**	**338**	P	**P**	**20 11 12.1**	**+0.5**
KEV				pmax	pmax		
	comp=Z,19nm,1.5s						
VAF	**Ylistaro**	**53.66**	**329**	*e*P	**P**	**20 11 13.6**	**+0.6**
ARCES	**ARCESS Array B**	**53.91**	**337**	P	**P**	**20 11 15.5**	**+0.7**
ARCES				IAmb	IAmb	20 11 36.5	
	comp=Z,11nm,1.4s						
ARCES	**ARCESS Array B**	**53.91**	**337**	P	**P**	**20 11 15.6**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=112,slow=8.5,SNR=24						
	comp=Z,2.1nm,0.6s						
AGG	**Agios Georgios**	**54.17**	**299**	P	**P**	**20 11 17.0**	**-0.2**
AGG				IAmb	IAmb	20 11 17.8	
	comp=Z,5.2nm,0.9s						
AGG	**Agios Georgios**	**54.17**	**299**	P	**P**	**20 11 17.0**	**-0.2**
AGG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
PSZ	**Piszkesteto**	**54.80**	**310**	P	**P**	**20 11 21.4**	**-0.3**
PSZ				IAmb	IAmb	20 11 53.9	
	comp=Z,3.5nm,1.0s						
PSZ	**Piszkesteto**	**54.80**	**310**	P	**P**	**20 11 21.4**	**-0.3**
PSZ				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VRAC	**Vranov**	**56.84**	**312**	P	**P**	**20 11 35.5**	**-0.8**
	comp=Z,2.2nm,0.6s,baz=60,slow=8.1,SNR=3.7						
	comp=Z,2.2nm,0.6s						
CONA	**Conrad Observa**	**57.49**	**311**	*e*P	**P**	**20 11 41.9**	**+0.9**
	comp=Z,2.2nm,0.7s						
HFS	**Hagfors**	**57.77**	**325**	P	**P**	**20 11 42.9**	**+0.2**
	comp=Z,2.6nm,0.7s,baz=90,slow=6

F17K	**Baldwin Pennin**	**72.21**	**23**	P	**P**	**20 13 17.3**	**+0.9**
E19K	**Redstone River**	**73.01**	**21**	P	**P**	**20 13 22.1**	**+0.9**
E19K				IAmb	IAmb	20 13 56.9	
	comp=Z,7.4nm,1.4s						
ESDC	**Sonseca Array**	**73.49**	**306**	P	**P**	**20 13 25.1**	**+0.4**
	comp=Z,1.6nm,0.9s,baz=50,slow=6.5,SNR=8.4						
	comp=Z,1.6nm,0.9s						
C23K	**Itkillik River**	**73.56**	**18**	P	**P**	**20 13 24.5**	**+0.2**
C23K				IAmb	IAmb	20 13 25.7	
	comp=Z,2.4nm,1.0s						
E24K	**Your Creek**	**75.28**	**19**	P	**P**	**20 13 35.6**	**+1.1**
E24K				IAmb	IAmb	20 13 36.0	
	comp=Z,4.6nm,1.1s						
BMAR	**Burnt Mountain**	**76.81**	**18**	P	**P**	**20 13 44.1**	**+0.9**
CAST	**Castle Rocks**	**77.14**	**23**	P	**P**	**20 13 45.1**	**0.0**
CAST				IAmb	IAmb	20 13 50.2	
	comp=Z,2.3nm,0.9s						
E28M	**Babbage River**	**77.26**	**16**	P	**P**	**20 13 46.4**	**+0.7**
E28M				IAmb	IAmb	20 13 47.2	
	comp=Z,3.6nm,1.1s						
E29M	**Blow River**	**77.82**	**16**	P	**P**	**20 13 49.0**	**+0.2**
E29M				IAmb	IAmb	20 14 02.5	
	comp=Z,6.0nm,1.4s						
ILAR	**Eielson Array**	**77.98**	**21**	P	**P**	**20 13 49.8**	**0.0**
ILAR	**Eielson Array**	**77.98**	**21**	P	**P**	**20 13 49.3**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=294,slow=4.4,SNR=7.2						
	comp=Z,1.2nm,1.0s						
ILAR	**Eielson Array**	**77.98**	**21**	*e*P	**P**	**20 13 49.7**	**0.0**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
INK	**Inuvik**	**78.88**	**14**	P	**P**	**20 13 55.1**	**+0.5**
INK				IAmb	IAmb	20 13 55.5	
	comp=Z,2.5nm,0.9s						
INK	**Inuvik**	**78.88**	**14**	P	**P**	**20 13 55.1**	**+0.5**
INK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
L27K	**Beaver Creek,**	**80.77**	**20**	P	**P**	**20 14 06.5**	**+1.5**
L27K				IAmb	IAmb	20 14 07.1	
	comp=Z,2.9nm,1.0s						
BCAR	**Beaver Creek A**	**80.78**	**20**	P	**P**	**20 14 06.3**	**+1.2**
K29M	**Barlow Dome**	**81.44**	**18**	P	**P**	**20 14 09.0**	**+0.3**
K29M				IAmb	IAmb	20 14 13.8	
	comp=Z,3.8nm,0.8s						
YKA	**Yellowknife Ar**	**87.66**	**10**	P	**P**	**20 14 39.9**	**-0.1**
	comp=Z,0.6nm,0.8s,baz=336,slow=4.7,SNR=5.9						
	comp=Z,0.6nm,0.8s						
TXAR	**Lajitas Array**	**121.57**	**11**	PKP	**PKPdf**	**20 20 45.6**	**-0.4**
	comp=Z,0.3nm,0.8s,baz=278,slow=0.5,SNR=3.1						
VILB	**Vilhena**	**146.21**	**290**	PKPdf	**PKPdf**	**20 21 30.3**	**-1.7**
SAML	**Samuel**	**146.28**	**299**	PKPdf	**PKPdf**	**20 21 31.6**	**-0.5**
SAML	**Samuel**	**146.28**	**299**	PKP2	**PKPdf**	**20 21 31.6**	**-0.5**
PTLB	**Pontes e Lacer**	**146.57**	**286**	PKPbc	**PKPbc**	**20 21 34.3**	**+0.4**

NOU 10 20:05:39.4,19°46S×169°30E,h0^{km},MLv4.3/10,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.34**	**236**	P	Pg	20 06 44.6	+20
LIFNC	**LIFOU**	**2.34**	**236**	P	Pn	20 06 18.5	-0.6
MARNC	**Mare, Loyalty**	**2.34**	**210**	P	Pn	20 06 18.8	-0.3
PINNC	**Pines Island,**	**3.58**	**209**	P	Pn	20 06 36.3	+0.1
DZM	**Mont Dzumac**	**3.73**	**225**	P	Pn	20 06 38.2	-0.1
DZM	**Mont Dzumac**	**3.73**	**225**	P	Pn	20 06 37.8	-0.5
OUENC	**Ouen Island, N**	**3.73**	**218**	P	Pn	20 06 38.5	+0.2
NOUC	**Port Laguerre**	**3.84**	**226**	P	Pn	20 06 40.1	+0.3
NOUC	**Port Laguerre**	**3.84**	**226**	P	Pn	20 06 40.0	+0.2
ONTNC	**Ouen Toro**	**3.89**	**223**	P	Pn	20 06 40.6	+0.2
ONTNC	**Ouen Toro**	**3.89**	**223**	P	Pn	20 06 40.4	0.0
KOUNC	**Koumac, New Ca**	**4.84**	**256**	P	Pn	20 06 53.6	+0.1

BJI ***10*** *20:06:19.9±0.0,5.°35N×126.°63E,h108^{km},mb4.6/41, mB4.9/16*
MAN ***10*** *20:06:21.3,5.°54N×126.°65E,h79^{km},mb5.6,ML4.6,MS5.0*
NEIC ***10*** *20:06:23.8±2.6,5.°68N±0.°07×126.°4E±0.°1,h100^{km}±5^{km}, mb4.6/89,Error ellipse: s-maj=15.2km s-min=8.4km az=67.0*
IDC ***10*** *20:06:24.1±0.9,5.°66N×126.°23E,h108^{km}±6^{km},mb4.2/33, mbtmp4.6/35,MS3.3/8,Error ellipse: s-maj=17.6km s-min=8.1km az=70.0*
DJA ***10*** *20:06:25.1±0.5,6.°N±4.°×12.°7E±.°,h86^{km}±6^{km},M4.9/16, mb5.1/16,mB5.2/12,MLv5.2/11,Mw(mB)4.6/12*

ISC 10 20:06:24.0±0.6,5.°61N±0.°03×126.°42E±0.°04,h110^{km}±5^{km}, n568,σ1°59/585,mb4.5/79,32C-18D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.86**	**305**	⇓*e*P	**Pn**	**20 06 41.9**	**-2.0**
DDMP				*e*S	**Sn**	**20 06 55.1**	**-3.7**
MATI	**Mati**	**1.33**	**353**	⇑*e*P	**Pn**	**20 06 47.1**	**-1.8**
MATI				*e*S	**Sn**	**20 07 06.2**	**-1.6**
GSPH	**General Santos**	**1.54**	**288**	⇓*i*P	**Pn**	**20 06 49.1**	**-2.4**
GSPH				*i* S	**Sn**	**20 07 09.4**	**-2.9**
DAV	**Davao City (W)**	**1.67**	**330**	P	**Pn**	**20 06 54.2**	**+1.2**
DAV	**Davao City (W)**	**1.67**	**330**		**Pn**	**20 06 51.8**	**-1.2**
DAV	**Davao City (W)**	**1.67**	**330**	P	**Pn**	**20 06 52.6**	**-0.4**
	1μm,0.5s,baz=55,slow=1.0,SNR=16						
DAV				S	**Sn**	**20 07 12.0**	**-3.0**
	3μm,0.5s,baz=116,slow=2.6,SNR=12						
DAV				LR	LR	20 07 22.8	
	comp=Z,332nm,20.3s,baz=278,slow=38						
DAV	**Davao City (W)**	**1.67**	**330**	P	**Pn**	**20 06 55.0**	**+2.0**
KCP	**Kidapawan**	**1.92**	**316**	⇑*i*P	**Pn**	**20 06 55.1**	**-1.0**
KCP				*i* S	**Sn**	**20 07 17.3**	**-3.2**
SKMP	**Bagumbayan, Su**	**2.08**	**296**	⇓*e*P	**Pn**	**20 06 57.2**	**-0.9**
SKMP				*e*S	**Sn**	**20 07 25.4**	**+1.4**
SGSI	**Sangihe**	**2.11**	**205**	P	**Pn**	**20 07 00.0**	**+1.5**
CDOP	**Cateel, Davao**	**2.16**	**0**	⇑*e*P	**Pn**	**20 06 56.8**	**-2.2**
CDOP				*e*S	**Sn**	**20 07 23.5**	**-2.4**
CDOP	**Cateel, Davao**	**2.16**	**0**	⇑*e*P	**Pn**	**20 06 57.3**	**-1.8**
CDOP				*i* S	**Sn**	**20 07 28.3**	**+2.4**
PICP	**Pikit**	**2.25**	**310**	⇓*e*P	**Pn**	**20 06 59.6**	**-0.7**
PICP				*e*S	**Sn**	**20 07 29.5**	**+1.4**
BIPH	**Bislig**	**2.55**	**359**	⇑*i*P	**Pn**	**20 07 02.2**	**-2.1**
BIPH				*i* S	**Sn**	**20 07 35.8**	**+0.7**
TASP	**Talacogon, Agu**	**2.88**	**348**	⇑*e*P	**Pn**	**20 07 09.4**	**+0.8**
TASP				*e*S	**Sn**	**20 07 47.2**	**+4.3**
TASP	**Talacogon, Agu**	**2.88**	**348**	⇓*e*P	**Pn**	**20 07 10.7**	**+2.2**
TASP				*e*S	Sn	20 07 52.2	+9.4
CGP	**Cagayan de Oro**	**3.30**	**329**	⇓*i*P	**Pn**	**20 07 14.8**	**+0.7**
CGP				*i* S	**Sn**	**20 07 56.0**	**+3.2**
BLNP	**Bacolod Lanao**	**3.46**	**317**	⇓*e*P	**Pn**	**20 07 17.9**	**+1.6**
BLNP				*e*S	**Sn**	**20 07 59.4**	**+2.7**
GLSP	**General Luna,**	**4.15**	**356**	⇓*e*P	**Pn**	**20 07 25.7**	**+0.2**
GLSP				*e*S	**Sn**	**20 08 16.5**	**+3.3**
DCPH	**Dipolog City**	**4.24**	**314**	⇓*i*P	**Pn**	**20 07 28.6**	**+2.0**
DCPH				*i* S	**Sn**	**20 08 23.4**	**+8.1**
LSIP	**Lazi, Siquijor**	**4.46**	**322**	⇓*e*P	**Pn**	**20 07 30.6**	**+1.1**
LSIP				*e*S	**Sn**	**20 08 23.4**	**+2.9**
LSIP	**Lazi, Siquijor**	**4.46**	**322**	⇑*e*P	**Pn**	**20 07 31.3**	**+1.7**
GHBP	**Garcia Hernand**	**4.50**	**333**	⇑*e*P	**Pn**	**20 07 30.9**	**+0.7**
GHBP				*e*S	**Sn**	**20 08 24.1**	**+2.6**
GHBP	**Garcia Hernand**	**4.50**	**333**	⇑*e*P	**Pn**	**20 07 31.7**	**+1.5**
ZCP	**Zamboanga City**	**4.52**	**287**	⇑*i*P	**Pn**	**20 07 30.6**	**+0.2**
ZCP				*i* S	**Sn**	**20 08 20.7**	**-1.3**
MSLP	**Maasin**	**4.75**	**341**	⇑*e*P	**Pn**	**20 07 34.4**	**+0.9**
TBP	**Tagbilaran**	**4.78**	**328**	⇓*e*P	**Pn**	**20 07 34.5**	**+0.6**
TBP				*e*S	Sn	20 08 07.7	-21
LDIP	**Loreto**	**4.82**	**350**	⇑*e*P	**Pn**	**20 07 34.7**	**+0.2**
LDIP				*e*S	**Sn**	**20 08 31.1**	**+1.9**
SNPH	**Sibulan**	**4.87**	**320**	⇑*e*P	**Pn**	**20 07 37.1**	**+1.9**
SNPH				*e*S	**Sn**	**20 08 32.2**	**+1.6**
TNTI	**Ternate**	**4.90**	**169**	P	**Pn**	**20 07 35.7**	**+0.1**
TNTI	**Ternate**	**4.90**	**169**		**Pn**	**20 07 34.9**	**-0.7**
TNTI	**Ternate**	**4.90**	**169**	P	**Pn**	**20 07 35.6**	**0.0**
TNTI				S	**Sn**	**20 08 31.4**	**+0.2**
TABP	**Talibon, Bohol**	**4.91**	**335**	⇑*e*P	**Pn**	**20 07 35.7**	**+0.1**
TABP				*e*S	**Sn**	**20 08 32.8**	**+1.4**
TABP	**Talibon, Bohol**	**4.91**	**335**	⇑*e*P	**Pn**	**20 07 35.8**	**+0.2**
DACP	**Dalaguete, Ceb**	**5.03**	**325**	⇑*e*P	**Pn**	**20 07 38.6**	**+1.3**
DACP				*e*S	**Sn**	**20 08 38.2**	**+3.9**
LLP	**Lapu-Lapu**	**5.27**	**333**	⇓*e*P	**Pn**	**20 07 40.3**	**-0.3**
LLP				*e*S	**Sn**	**20 08 42.8**	**+2.7**
SFCP	**San Francisco,**	**5.39**	**338**	⇑*e*P	**Pn**	**20 07 42.8**	**+0.5**
SFCP				*e*S	**Sn**	**20 08 47.3**	**+4.2**
GNOP	**Guihulngan Cit**	**5.55**	**326**	⇓*e*P	**Pn**	**20 07 45.3**	**+0.8**
GNOP				*e*S	**Sn**	**20 08 51.5**	**+4.4**
KMSI	**Cibinong**	**5.57**	**206**	P	**Pn**	**20 07 46.5**	**+1.9**
	704nm,0.9s,6μm3.0nm						

CNOP	**Candoni, Negro**	**5.62**	**318**	⇑*e*P	**Pn**	**20 07 46.8**	**+1.5**
CNOP				*e*S	**Sn**	**20 08 53.6**	**+5.0**
OCLP	**Ormoc**	**5.69**	**342**	⇑*e*P	**Pn**	**20 07 47.6**	**+1.4**
OCLP				*e*S	**Sn**	**20 08 52.9**	**+2.5**
PLP	**Palo**	**5.70**	**346**	⇓*e*P	**Pn**	**20 07 46.9**	**+0.6**
PLP				*e*S	**Sn**	**20 08 48.9**	**-1.6**
GTOI	**Gorontalo**	**6.00**	**215**	P	**Pn**	**20 07 51.3**	**+0.8**
	235nm,0.7s,2μm0.7nm						
MECP	**Medelin, Cebu**	**6.02**	**336**	⇑*e*P	**Pn**	**20 07 52.5**	**+1.8**
MECP				*e*S	**Sn**	**20 09 02.1**	**+3.8**
BESP	**Borongan**	**6.03**	**351**	⇑*e*P	**Pn**	**20 07 51.2**	**+0.3**
BESP				*e*S	**Sn**	**20 09 02.2**	**+3.7**
CADP	**Cadiz City**	**6.12**	**330**	⇑*e*P	**Pn**	**20 07 53.0**	**+1.0**
CADP				*e*S	**Sn**	**20 09 05.1**	**+4.5**
LBMI	**Labuha**	**6.30**	**170**	P	**Pn**	**20 07 54.9**	**+0.3**
	256nm,0.6s,4μm1.8nm						
BTTP	**Bongao, Tawi-T**	**6.66**	**265**	⇓*e*P	**Pn**	**20 07 58.8**	**-0.5**
BTTP				*e*S	**Sn**	**20 09 12.4**	**-1.4**
JAP	**San Jose, Anti**	**6.76**	**319**	⇑*e*P	**Pn**	**20 08 03.8**	**+3.1**
RCP	**Roxas**	**6.94**	**329**	⇓*e*P	**Pn**	**20 08 05.2**	**+2.0**
TOLI2	**Tolitoli**	**7.19**	**232**	P	**Pn**	**20 08 07.2**	**+0.6**
TOLI2	**Tolitoli**	**7.19**	**232**		**Pn**	**20 08 06.3**	**-0.4**
TOLI2				Sn	**Sn**	**20 09 20.7**	**-6.1**
LUWI	**Luwuk**	**7.55**	**209**	P	**Pn**	**20 08 14.8**	**+3.3**
LUWI	**Luwuk**	**7.55**	**209**	Pn	**Pn**	**20 08 13.1**	**+1.6**
LUWI	**Luwuk**	**7.55**	**209**	P	**Pn**	**20 08 14.6**	**+3.1**
	481nm,0.9s,4μm1.5nm						
SANI	**Sanana**	**7.62**	**183**	P	**Pn**	**20 08 09.3**	**-3.2**
OTRP	**Odiongan**	**7.99**	**327**	⇑*e*P	**Pn**	**20 08 20.8**	**+3.4**
SWI	**Sorong**	**8.04**	**143**	P	**Pn**	**20 08 18.6**	**+0.4**
	51nm,0.9s,739nm0.2nm						
PVCP	**Virac**	**8.24**	**344**	⇑*e*P	**Pn**	**20 08 24.2**	**+3.4**
PVCP				*e*S	**Sn**	**20 09 58.0**	**+5.7**
MPSI	**Mapaga**	**8.36**	**231**	P	**Pn**	**20 08 24.7**	**+2.2**
	35nm,0.7s						
ENPP	**El Nido**	**8.88**	**309**	⇑*e*P	**Pn**	**20 08 30.9**	**+1.4**
LQP	**Lukban**	**9.72**	**331**	⇓*e*P	**Pn**	**20 08 45.8**	**+4.7**
LBLP	**Los Banos, Lag**	**9.92**	**329**	⇓*e*P	Pn	20 08 49.0	+5.3
LUBP	**Lubang**	**10.11**	**323**	⇑*e*P	**Pn**	**20 08 49.9**	**+3.7**
FAKI	**Fak Fak**	**10.28**	**145**	P	**Pn**	**20 08 48.6**	**0.0**
FAKI	**Fak Fak**	**10.28**	**145**	Pn	**Pn**	**20 08 49.6**	**+1.1**
RTBP	**Dona Remedios**	**10.69**	**331**	⇑*e*P	**Pn**	**20 08 57.9**	**+3.9**
TTSI	**Tana Toraja**	**10.84**	**218**	P	**Pn**	**20 08 59.4**	**+3.3**
	254nm,1.1s,2μm						
CAAP	**Casiguran, Aur**	**11.37**	**338**	⇑*e*P	**Pn**	**20 09 05.3**	**+2.1**
IBZP	**Iba, Zambales**	**11.58**	**328**	⇑*e*P	**Pn**	**20 09 09.8**	**+3.8**
KAPI	**Kappang**	**12.48**	**212**	Pn	**Pn**	**20 09 18.4**	**+0.5**
KAPI	**Kappang**	**12.48**	**212**	P	**Pn**	**20 09 18.1**	**+0.1**
	106nm,0.8s,baz=17,slow=6.7,SNR=30						
KAPI				LR	LR	20 14 36.6	
	comp=Z,125nm,18.2s,baz=32,slow=40						
BKSI	**Bulukumba**	**12.55**	**210**	P	**Pn**	**20 09 19.6**	**+0.7**
SAMP	**Sagada Mountai**	**12.61**	**335**	*e*P	**P**	**20 09 27.1**	**+0.5**
MTKI	**Muara Teweh, K**	**13.23**	**241**	P	**P**	**20 09 34.1**	**+0.6**
	117nm,1.0s						
SBUM	**Sibu**	**14.51**	**258**	P	**P**	**20 09 47.5**	**-0.2**
MMRI	**Maumere**	**14.76**	**196**	P	**Pn**	**20 09 49.1**	**+1.7**
MMRI	**Maumere**	**14.76**	**196**	Pn	**Pn**	**20 09 49.0**	**+1.7**
EDFI	**Ende, Flores**	**15.03**	**198**	P	**P**	**20 09 55.5**	**+1.9**
	71nm,0.7s,968nm						
SOEI	**Soe**	**15.42**	**188**	P	**P**	**20 09 57.8**	**-0.1**
SOEI	**Soe**	**15.42**	**188**	P	**P**	**20 09 57.6**	**-0.3**
SOEI	**Soe**	**15.42**	**188**	P	**Pn**	**20 09 57.4**	**+1.6**
	69nm,0.8s						
STKI	**Sintang**	**15.91**	**250**	P	**P**	**20 10 07.7**	**+4.4**
	35nm,0.9s,2μm						
BATI	**Baumata**	**15.96**	**190**	P	**Pn**	**20 10 03.6**	**+1.2**
	90nm,0.6s,baz=359,slow=1.0,SNR=15						
BATI	**Baumata**	**15.96**	**190**	P	**P**	**20 10 04.9**	**+1.1**
	145nm,0.6s,2μm						
GENI	**Genyem**	**15.96**	**120**	P	**P**	**20 10 09.7**	**+5.8**
KSM	**Kuching**	**16.60**	**256**		**Pn**	**20 10 10.5**	**+0.1**
KSM				IAmb	IAmb	20 10 15.9	
	comp=Z,50nm,1.0s						
PLAI	**Plampang**	**16.74**	**211**	P	**Pn**	**20 10 12.6**	**+0.6**
PLAI	**Plampang**	**16.74**	**211**	P	**P**	**20 10 16.3**	**+3.9**
	comp=Z,68nm,0.8s						
YULB	**Yu-li**	**18.35**	**345**	P	**Pn**	**20 10 32.4**	**+0.9**
YULB	**Yu-li**	**18.35**	**345**	P	**P**	**20 10 30.0**	**-0.2**
TPUB	**Ta-pu**	**18.45**	**343**	P	**P**	**20 10 31.4**	**+0.2**
TPUB				IAmb	IAmb	20 11 15.1	
	comp=Z,70nm,1.3s						
DRS	**Darwin Rock St**	**18.47**	**166**	P	**P**	**20 10 32.6**	**+1.1**
JAGI	**Jajag, Banyuwa**	**18.59**	**221**	P	**Pn**	**20 10 35.8**	**+1.5**
JAGI	**Jajag, Banyuwa**	**18.59**	**221**	P	**P**	**20 10 33.3**	**+0.5**
JAGI				IAmb	IAmb	20 10 40.4	
	comp=Z,42nm,0.9s						
DLV	**T Lat**	**18.80**	**291**	P	**Pn**	**20 10 38.7**	**+1.6**
DLV	**T Lat**	**18.80**	**291**	P	**P**	**20 10 35.2**	**-0.1**
MTN	**Manton Dam**	**18.93**	**166**	P	**P**	**20 10 37.8**	**+1.4**
	baz=19,SNR=3.9						
MTN	**Manton Dam**	**18.93**	**166**	P	**P**	**20 10 36.0**	**-0.5**
KDU	**Kakadu**	**19.15**	**162**	P	**P**	**20 10 39.7**	**+0.9**
	baz=19,SNR=49						
KDU	**Kakadu**	**19.15**	**162**	P	**P**	**20 10 40.4**	**+1.5**
YHNB	**Yeheng**	**19.56**	**346**	P	**Pn**	**20 10 45.5**	**-0.2**
YHNB	**Yeheng**	**19.56**	**346**	P	**P**	**20 10 41.9**	**-1.4**
YHNB				IAmb	IAmb	20 11 00.0	
	comp=Z,37nm,1.2s						
UGM	**Wanagama**	**20.79**	**230**	P	Pn	20 11 00.1	0.0
UBPT	**Khong Chiam**	**22.71**	**297**	P	**P**	**20 11 16.9**	**+0.1**
MYKOM	**Kota Tinggi**	**22.84**	**261**	P	**P**	**20 11 17.7**	**-0.4**
MYKOM				IAmb	IAmb	20 11 48.6	
	comp=Z,30nm,1.1s						
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P	**P**	**20 11 25.9**	**+1.1**
	baz=24,SNR=15						
FITZ	**Fitzroy Crossi**	**23.57**	**182**	P	**P**	**20 11 25.3**	**+0.4**
COEN	**Coen**	**25.58**	**140**	P	**P**	**20 11 42.8**	**-0.4**
	baz=26,SNR=23						
COEN	**Coen**	**25.58**	**140**	P	**P**	**20 11 43.7**	**+0.6**
COEN	**Coen**	**25.58**	**140**	P	**P**	**20 11 43.1**	**0.0**
COEN				IAmb	IAmb	20 11 46.4	
	comp=Z,12nm,0.6s						
WB0	**Warramunga Arr**	**26.41**	**163**	P	**P**	**20 11 49.7**	**-0.9**
WRA	**Warramunga Arr**	**26.56**	**163**	P	**P**	**20 11 52.1**	**+0.2**
	comp=Z,4.9nm,0.5s,baz=339,slow=10,SNR=58						
WRA				ScP	**ScP**	**20 18 46.2**	**+2.2**
	comp=Z,1.4nm,0.7s,baz=335,slow=3.1,SNR=4.7						
	comp=Z,4.9nm,0.5s						
WR0	**Warramunga Arr**	**26.64**	**163**	IAmb	IAmb	20 12 25.9	
	comp=Z,17nm,0.7s						
NJ2	**Nanjing**	**27.24**	**346**	*e*P	**P**	**20 12 01.0**	**+3.2**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
MBWA	**Marble Bar**	**27.41**	**194**	P	**P**	**20 12 00.1**	**+0.7**
MBWA	**Marble Bar**	**27.41**	**194**	P	**P**	**20 11 59.6**	**+0.2**
MBWA				IAmb	IAmb	20 12 04.2	
	comp=Z,17nm,0.9s						
PSA00	**Pilbara Seismi**	**27.78**	**193**	P	**P**	**20 12 04.2**	**+1.5**
PSA00	**Pilbara Seismi**	**27.78**	**193**	IAmb	IAmb	20 12 04.1	
	comp=Z,22nm,0.9s						
QIS	**Mount Isa**	**29.05**	**154**	P	**P**	**20 12 15.1**	**+1.0**
	baz=29,SNR=44						
QIS	**Mount Isa**	**29.05**	**154**	P	**P**	**20 12 15.5**	**+1.4**
CRAI	**Chiangrai**	**29.18**	**302**		**PcP**	**20 15 21.3**	**+1.0**
MTSU	**Mount Surprise**	**29.47**	**144**	P	**P**	**20 12 15.8**	**-2.0**
	baz=30,SNR=7.4						
CM31	**Chiang Mai Arr**	**29.69**	**298**	P	**P**	**20 12 20.2**	**+0.3**
CMAR	**Chiang Mai Arr**	**29.69**	**298**	ScP	**ScP**	**20 18 54.6**	**+0.9**
CMAR	**Chiang Mai Arr**	**29.69**	**298**	P	**P**	**20 12 18.7**	**-1.2**
	comp=Z,1.7nm,0.7s,baz=116,slow=7.5,SNR=17						
CMAR				PcP	**PcP**	**20 15 22.1**	**+0.5**
	comp=Z,1.1nm,0.7s,baz=107,slow=1.3,SNR=6.3						
CMAR				ScP	**ScP**	**20 18 55.0**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=125,slow=1.7,SNR=6.3						
CMAR				LR	LR	20 24 46.4	
	comp=Z,44nm,18.9s,baz=250,slow=37						
	comp=Z,1.7nm,0.7s						
CHTO	**Chiang Mai**	**29.83**	**299**	P	**P**	**20 12 20.4**	**-0.6**
AS31	**Alice Springs**	**30.00**	**166**	IAmb	IAmb	20 12 25.0	
	comp=Z,7.7nm,0.4s						
ASAR	**Alice Springs**	**30.00**	**166**	P	**P**	**20 12 22.6**	**0.0**
ASAR					**PcP**	**20 15 22.4**	**+0.1**
ASAR	**Alice Springs**	**30.00**	**166**	P	**P**	**20 12 23.1**	**+0.6**
	comp=Z,13nm,0.4s,baz=341,slow=7.1,SNR=129						
ASAR				PcP	**PcP**	**20 15 23.4**	**+1.1**
	comp=Z,5.3nm,0.6s,baz=348,slow=2.3,SNR=12						
ASAR				ScP	**ScP**	**20 18 57.1**	**+2.5**
	comp=Z,0.9nm,0.6s,baz=347,slow=2.7,SNR=6.6						
	comp=Z,13nm,0.4s						
JHJ	**Hachijo jima 2**	**30.06**	**23**	LR	LR	20 22 19.5	
	comp=Z,25nm,22.0s,baz=266,slow=32						
GIRL	**Giralia**	**30.51**	**203**	P	**P**	**20 12 28.6**	**+1.7**
	baz=31,SNR=4.0						

GIRL	**Giralia**	**30.51**	**203**	P	**P**	**20 12 28.8**	**+1.9**
WRKA	**Warakurna**	**30.52**	**177**	P	**P**	**20 12 27.9**	**+0.8**
	baz=31,SNR=41						
WRKA	**Warakurna**	**30.52**	**177**	P	**P**	**20 12 28.2**	**+1.1**
PZH	**PanZhiHua**	**31.40**	**314**	P	**P**	**20 12 36.4**	**+1.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,120nm,5.5s						
KSRS	**Korea Array**	**31.72**	**2**	P	**P**	**20 12 38.0**	**+0.6**
	comp=Z,1.2nm,0.6s,baz=187,slow=9.9,SNR=5.7						
KSRS				PcP	**PcP**	**20 15 27.9**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=189,slow=1.9,SNR=8.9						
KSRS				LR	LR	20 25 58.5	
	comp=Z,22nm,21.3s,baz=245,slow=37						
	comp=Z,1.2nm,0.6s						
CTAO	**Charters Tower**	**32.13**	**143**	P	**P**	**20 12 43.9**	**+2.6**
CTAO	**Charters Tower**	**32.13**	**143**	P	**P**	**20 12 39.7**	**-1.6**
CTAO				IAmb	IAmb	20 12 51.5	
	comp=Z,6.9nm,0.7s						
XAN	**Xi'an**	**32.61**	**332**	⇓P	**P**	**20 12 44.9**	**-0.5**
XAN				pP	pP	20 13 08.3	-0.8
XAN				pmax	pmax		
	comp=Z,11nm,1.0s						
MJAR	**Matsushiro Arr**	**32.62**	**18**	P	**P**	**20 12 44.8**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=183,slow=8.3,SNR=4.2						
MJAR				PcP	**PcP**	**20 15 30.3**	**+1.2**
	comp=Z,1.1nm,0.6s,baz=165,slow=2.7,SNR=4.8						
	comp=Z,1.1nm,0.6s						
MEEK	**Meekatharra**	**32.94**	**193**	P	**P**	**20 12 48.5**	**+0.3**
	baz=33,SNR=8.9						
MEEK	**Meekatharra**	**32.94**	**193**	P	**P**	**20 12 48.7**	**+0.4**
HNS	**HongShan**	**33.40**	**343**	⇑P	**P**	**20 12 53.1**	**+1.0**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
OOD	**Oodnadatta**	**34.40**	**165**	P	**P**	**20 13 01.8**	**+1.0**
BJI	**Beijing**	**35.50**	**346**	P	**P**	**20 13 10.5**	**+0.4**
BJI				pP	**pP**	**20 13 33.2**	**-1.4**
BJI				pmax	pmax		
	comp=Z,6.0nm,0.9s						
BJI				pmax	pmax		
	comp=Z,35nm,4.5s						
MORW	**Morawa**	**35.90**	**196**	P	**P**	**20 13 14.2**	**+0.5**
	baz=36,SNR=5.0						
MORW	**Morawa**	**35.90**	**196**	P	**P**	**20 13 14.3**	**+0.6**
MORW	**Morawa**	**35.90**	**196**	P	**P**	**20 13 13.9**	**+0.1**
MORW				IAmb	IAmb	20 13 15.1	
	comp=Z,8.8nm,0.8s						
INKA	**Innaminka**	**35.93**	**158**	P	**P**	**20 13 15.4**	**+1.4**
FORT	**Forrest**	**36.22**	**178**	P	**P**	**20 13 17.4**	**+1.0**
	baz=36,SNR=24						
FORT	**Forrest**	**36.22**	**178**	P	**P

TOO Toolangi 46.49 159 P P 20 14 42.9 +2.6
DZM Mont Dzumac 47.88 126 P P 20 14 52.9 +1.5
DZM Mont Dzumac 47.88 126 P P 20 14 52.1 +0.7
DZM Mont Dzumac 47.88 126 P P 20 14 52.5 +1.1
comp=Z,14nm,0.7s,baz=294,slow=12,SNR=13
comp=Z,14nm,0.7s
PETK Petropavlovsk- 53.82 23 P P 20 15 36.3 +0.9
comp=Z,3.6nm,0.7s,baz=196,slow=5.2,SNR=8.9
comp=Z,3.6nm,0.7s
MK31 Makanchi Array 55.85 325 P P 20 15 49.4 -0.8
MK31 ScP ScP 20 20 33.5 -3.3
MKAR Makanchi Array 55.85 325 P P 20 15 49.5 -0.6
MKAR ScP ScP 20 20 34.0 -2.8
MKAR Makanchi Array 55.85 325 P P 20 15 49.6 -0.6
comp=Z,3.7nm,0.4s,baz=119,slow=7.3,SNR=113
MKAR LR LR 20 40 55.8
comp=Z,104nm,18.5s,baz=349,slow=37
comp=Z,3.7nm,0.4s
MAKZ Makanchi 56.04 325 P P 20 15 50.1 -1.4
MAKZ IAmb IAmb 20 16 17.5
comp=Z,5.1nm,1.1s
YAK Yakutsk 56.35 2 P P 20 15 53.0 -0.3
AAK Ala-Archa 58.77 317 P P 20 16 09.7 -1.3
AAK Ala-Archa 58.77 317 P P 20 16 10.4 -0.6
comp=Z,0.8nm,0.4s,baz=138,slow=7.8,SNR=4.2
comp=Z,0.8nm,0.4s
ZALV Zalesovo Beam 58.78 333 P P 20 16 06.2 -4.3
ZALV Zalesovo Beam 58.78 333 P P 20 16 09.1 -1.4
comp=Z,1.1nm,0.3s,baz=122,slow=7.4,SNR=11
ZALV LR LR 20 43 19.7
comp=Z,56nm,18.5s,baz=266,slow=38
comp=Z,1.1nm,0.3s
KURBB Kurchatov Arra 60.00 327 P P 20 16 18.2 -0.8
comp=Z,4.5nm,0.5s,baz=128,slow=6.5,SNR=51
comp=Z,4.5nm,0.5s
KURK Kurchatov 60.00 327 P P 20 16 17.5 -1.5
KBL Kabul 60.15 307 P P 20 16 18.5 -2.1
KBL IAmb IAmb 20 16 55.8
comp=Z,5.1nm,0.7s
BTK Batken 60.41 313 P P 20 16 21.8 -0.4
BTK IAmb IAmb 20 16 33.5
comp=Z,9.7nm,1.4s
KK31 Karatay Array 61.66 316 P P 20 16 26.5 -4.0
KKAR Karatay Array 61.66 316 P P 20 16 26.9 -3.6
BVAR Borovoye Array 65.59 327 P P 20 16 55.4 -0.6
comp=Z,1.9nm,0.4s,baz=104,slow=4.1,SNR=17
comp=Z,1.9nm,0.4s
BRVK Borovoye 65.66 327 P P 20 16 53.4 -3.1
BRVK IAmb IAmb 20 17 23.3
comp=Z,9.7nm,1.0s
TIXI Tiksi 65.97 1 P P 20 16 56.8 -1.3
TIXI IAmb IAmb 20 16 59.7
comp=Z,5.9nm,0.7s
GEYT Alibeck 69.49 308 P P 20 17 19.6 -1.4
comp=Z,1.5nm,0.8s,baz=82,slow=10,SNR=2.9
comp=Z,1.5nm,0.8s
NIKH Nikolski High 70.46 35 P P 20 17 26.2 -0.3
baz=253
ABKAR Akbulak array 70.51 320 P P 20 17 25.4 -1.5
ABKAR Akbulak array 70.51 320 IAmb IAmb 20 17 26.8
comp=Z,3.1nm,0.8s
SPIA Saint Paul Isl 71.05 31 P P 20 17 29.1 -0.9
baz=250
P08K Saint George I 71.22 32 P P 20 17 30.5 -0.4
baz=251
AKTO Aktyubinsk 72.00 321 P P 20 17 35.0 -1.0
comp=Z,3.3nm,0.5s,baz=107,slow=7.2,SNR=13
comp=Z,3.3nm,0.5s
UNV Unalaska Valle 72.06 35 P P 20 17 36.5 +0.4
baz=254
CASY Casey 72.64 187 P P 20 17 40.1 +0.8
CASY IAmb IAmb 20 17 41.9
comp=Z,15nm,1.0s
GAMB Gambell 72.81 24 P P 20 17 40.9 +0.6
baz=247
ARU Arti 73.19 327 P P 20 17 41.0 -1.8
ARU IAmb IAmb 20 18 08.8
comp=Z,5.7nm,0.7s
M11K Mekoryuk 74.07 28 P P 20 17 47.8 0.0
baz=253
TNA Tin City 74.98 23 P P 20 17 53.4 +0.4
baz=250
K13K Kusilvak Mount 75.23 27 P P 20 17 54.9 +0.4
baz=254
M13K Dall Lake 75.44 29 P P 20 17 55.9 +0.2
baz=255
F14K Arctic Creek 75.58 23 P P 20 17 56.7 +0.3
baz=251
ANM Nome 75.69 24 P P 20 17 57.7 +0.6
baz=253
SDPT Sand Point 75.82 34 P P 20 17 58.1 +0.1
baz=259
J14K Nanvaranak Lak 75.95 26 P P 20 17 58.9 +0.4
baz=255
L14K Kuka Creek 75.98 28 P P 20 17 59.1 +0.4
baz=256
N14K Kuskokwak Cree 76.13 30 P P 20 17 59.2 -0.5
baz=257
M14K Bethel 76.18 29 P P 20 18 00.4 +0.5
baz=257
O14K Tigyukauivet M 76.19 30 P P 20 18 00.4 +0.4
baz=258
F15K North Star Dit 76.32 23 P P 20 18 00.8 +0.1
baz=253
G15K Niukluk 76.36 24 P P 20 18 00.8 -0.1
baz=254
S14K Fog Glacier 76.50 33 P P 20 18 01.8 -0.1
baz=260
L15K Ungalak Mounta 76.62 28 P P 20 18 02.6 +0.2
baz=257
K15K Wolf Creek Mou 76.74 27 P P 20 18 03.6 +0.5
baz=257
M15K Kasigluk River 76.78 29 P P 20 18 03.3 0.0
baz=258
C16K Lisburne Hills 76.84 21 P P 20 18 03.7 +0.1
baz=252
O15K Ungalikthiuk R 76.90 31 P P 20 18 03.8 -0.2
baz=259
N15K Kwethluk River 76.96 29 P P 20 18 04.0 -0.4
baz=258
H16K Elim 77.00 25 P P 20 18 04.5 0.0
baz=256
CHGN Chignik 77.13 34 P P 20 18 05.5 +0.1
baz=261
G16K Koyuk River 77.15 24 P P 20 18 06.0 +0.7
baz=255
J16K Anvik River 77.39 26 P P 20 18 06.3 -0.4
baz=257
I17K Unalakleet 77.48 26 P P 20 18 07.3 +0.1
baz=257
D17K Noatak River 77.49 22 P P 20 18 06.2 -1.0
baz=254
L16K Owhat River 77.56 28 P P 20 18 07.2 -0.5
baz=259
RDOG Red Dog Mine 77.65 21 P P 20 18 07.9 -0.2
baz=254
N16K Nishlik Lake 77.67 29 P P 20 18 08.0 -0.4
baz=260
C17K DeLong Mountai 77.67 21 P P 20 18 08.6 +0.4
baz=254
M16K Timber Creek 77.68 29 P P 20 18 08.5 +0.1
baz=259
R16K Pilot Point 77.78 32 P P 20 18 08.8 -0.2
baz=261
E17K Hotham Inlet 77.79 22 P P 20 18 09.1 +0.3
baz=255
P16K Nushagak River 77.80 31 P P 20 18 09.8 +0.7
baz=260
O16K Kokwok River B 77.84 30 P P 20 18 09.0 -0.3
baz=260
F17K Baldwin Pennin 77.85 23 P P 20 18 09.7 +0.5
baz=256
G17K Kiwalik Mounta 77.87 24 P P 20 18 09.4 +0.1
baz=257
H17K Granite Mounta 78.04 25 P P 20 18 10.3 0.0
baz=258
J17K VABM Dome 78.08 26 P P 20 18 10.6 +0.1
baz=259
L17K Donlin 78.19 28 P P 20 18 11.4 +0.3
baz=260
K17K Iditarod 78.30 27 P P 20 18 12.1 +0.4
baz=260
E18K Tukpahlearik C 78.34 22 P P 20 18 12.1 +0.2
baz=256
O17K Koliganek Bris 78.37 30 P P 20 18 12.2 0.0
baz=261
C18K Utukok River 78.42 21 P P 20 18 12.6 +0.2
baz=256
N17K Nushagak Hills 78.45 29 P P 20 18 12.6 0.0
baz=261
KIRV Kirov 78.47 329 P P 20 18 11.7 -1.0
comp=Z,8.6nm,0.5s,baz=92,slow=1.2,SNR=5.2
comp=Z,8.6nm,0.5s
F18K Selawik 78.51 23 P P 20 18 12.8 0.0
baz=257
CHIR Chirikof Islan 78.61 34 P P 20 18 13.8 +0.2
baz=263
H18K Honhosa River 78.73 25 P P 20 18 14.4 +0.3
baz=259
BELG Belogornoye 78.74 322 P P 20 18 12.5 -1.9
comp=Z,4.8nm,0.6s,baz=88,slow=4.5,SNR=7.9
comp=Z,4.8nm,0.6s
G18K Tagagawik 78.76 24 P P 20 18 14.2 -0.1
baz=258
Q17K Contact Creek 78.78 32 P P 20 18 14.1 -0.5
baz=262
L18K Granite Mounta 78.95 28 P P 20 18 15.2 -0.1
baz=261
C19K Lookout Ridge 79.09 21 P P 20 18 16.2 +0.2
baz=257
N18K Kilae Creek 79.10 29 P P 20 18 16.1 -0.2
baz=262
M18K Stony River 79.25 29 P P 20 18 17.2 +0.2
baz=262
GCSA Galena City Sc 79.28 25 P P 20 18 17.5 +0.4
baz=260
F19K Shaleruckik Mo 79.29 23 P P 20 18 17.2 +0.1
baz=259
O18K Koktuh Hills 79.33 30 P P 20 18 17.3 -0.2
baz=263
G19K Purcell Mounta 79.44 24 P P 20 18 17.9 -0.1
baz=260
RAYN Ar Rayn 79.47 293 P P 20 18 17.3 -1.8
D19K Kuna River 79.49 21 P P 20 18 18.6 +0.4
baz=258
H19K Roundabout Mou 79.59 24 IAmb IAmb 20 18 23.9
comp=Z,6.7nm,0.8s
H19K Roundabout Mou 79.59 24 P P 20 18 19.3 +0.5
baz=261
E19K Redstone River 79.61 22 P P 20 18 18.1 -0.7
baz=260
J19K Poorman 79.70 26 P P 20 18 19.2 -0.2
baz=262
L19K White Mountain 79.80 28 P P 20 18 20.7 +0.7
baz=263
N19K Bonanza Creek 79.80 29 P P 20 18 19.7 -0.4
baz=263
M19K Big River Lodg 79.98 28 P P 20 18 21.4 +0.4
baz=263
Q19K Cape Douglas, 80.02 31 P P 20 18 21.4 +0.1
baz=264
OHAK Old Harbor 80.05 33 P P 20 18 21.3 0.0
baz=265
D20K Etivluk River 80.07 21 P P 20 18 20.9 -0.4
baz=260
B20K Meade River 80.12 20 P P 20 18 21.4 -0.1
baz=259
F20K Avaraart Lake 80.12 23 P P 20 18 21.8 +0.2
baz=261
E20K Nigu River 80.14 22 P P 20 18 21.7 -0.1
baz=260
H20K Anotleneega Mo 80.23 25 P P 20 18 22.8 +0.6
baz=262
L20K Farewell, AK 80.28 28 P P 20 18 23.5 +0.8
baz=264
P19K Oil Pt 80.30 31 P P 20 18 23.6 +0.8
baz=265
K20K Telida 80.30 27 P P 20 18 23.2 +0.5
baz=263
J20K Nowinta River 80.37 26 P P 20 18 23.4 +0.4
baz=263
KDAK Kodiak Island 80.47 32 P P 20 18 24.4 +0.7
baz=265
A21K Barrow 80.54 19 P P 20 18 25.0 +1.2
baz=260
M20K Styx River 80.57 28 P P 20 18 25.0 +0.8
baz=264
C21K Knifeblade Rid 80.80 21 P P 20 18 25.6 +0.5
baz=262
G21K Allakaket 80.92 24 P P 20 18 26.4 +0.6
baz=263
B21K Ikpikpuk River 80.92 20 P P 20 18 25.8 0.0
baz=262,SNR=5.2
N20K Mount Spurr 80.95 29 P P 20 18 26.6 +0.4
baz=265
E21K Killik River 80.99 22 P P 20 18 26.4 +0.2
baz=262
A22K Sinclair Lake 81.01 19 P P 20 18 26.9 +0.7
baz=261
F21K Alatna River 81.02 23 P P 20 18 26.8 +0.4
baz=263
PPLA Purkeypile 81.10 27 P P 20 18 28.0 +0.9
baz=265
H21K Melozitna Rive 81.11 24 IAmb IAmb 20 18 53.6
comp=Z,14nm,1.4s
H21K Melozitna Rive 81.11 24 P P 20 18 27.7 +0.8
baz=264
CAST Castle Rocks 81.20 27 IAmb IAmb 20 18 29.1
comp=Z,7.0nm,0.8s
CAST Castle Rocks 81.20 27 P P 20 18 28.5 +1.0
baz=265
SKT Skwentna 81.33 28 P P 20 18 29.0 +0.8
baz=266
CAPN Captain Cook N 81.43 29 P P 20 18 29.1 +0.5
baz=266
B22K Teshekpuk Lake 81.43 20 P P 20 18 29.9 +1.5
baz=263
KBZ Khabaz 81.47 313 P P 20 18 29.1 -0.1
comp=Z,1.8nm,0.8s,baz=79,slow=5.2,SNR=3.8
comp=Z,1.8nm,0.8s
D22K Ayikyak River 81.51 21 P P 20 18 29.4 +0.4
baz=264
F22K John River 81.55 23 P P 20 18 29.0 -0.2
baz=264,SNR=6.9
BRSE Bradley Lake S 81.57 31 P P 20 18 29.6 +0.1
baz=267
KIV Kislovodsk 81.63 313 P P 20 18 31.0 +0.8
SUA Susitna One 81.67 29 P P 20 18 30.0 -0.1
baz=266
H22K Ishtalitna Cre 81.72 24 P P 20 18 30.0 -0.1
baz=265
BPAW Bear Paw Mtn. 81.74 26 P P 20 18 30.7 +0.4
baz=266
E22K Anaktuvuk Pass 81.75 22 P P 20 18 30.5 +0.2
baz=264
G22K Bettles 81.75 23 P P 20 18 30.2 0.0
baz=265
TRF Thorofare Moun 82.00 27 P P 20 18 31.9 0.0
baz=267
O22K Cooper Landing 82.11 30 P P 20 18 32.4 +0.2
baz=268
RC01 Rabbit Creek A 82.14 29 P P 20 18 32.2 -0.2
baz=267
SEW Seward 82.23 30 P P 20 18 33.2 +0.4
baz=268
D23K Nanushuk River 82.24 21 P P 20 18 33.3 +0.6
baz=265
COLD Coldfoot 82.29 23 P P 20 18 33.6 +0.5
baz=266,SNR=9.4
G23K Bananza Creek 82.32 23 P P 20 18 34.2 +0.9
G23K Bananza Creek 82.32 23 P P 20 18 33.8 +0.5
baz=266,SNR=5.9
C23K Itkillik River 82.33 20 P P 20 18 33.3 +0.1
baz=265,SNR=8.1
H23K Yukon River 82.46 24 IAmb IAmb 20 18 36.7
comp=Z,4.3nm,0.7s
H23K Yukon River 82.46 24 P P 20 18 34.1 +0.1
baz=267,SNR=6.1
I23K Minto, Yukon-K 82.50 25 IAmb IAmb 20 18 36.6
comp=Z,5.9nm,0.7s
I23K Minto, Yukon-K 82.50 25 P P 20 18 34.3 +0.2
baz=267,SNR=5.3
E23K Chandalar 82.56 22 P P 20 18 34.4 -0.2
baz=267
NEA2 Nenana 82.60 26 P P 20 18 34.7 0.0
baz=268
TOLK Toolik Lake Re 82.62 22 IAmb IAmb 20 18 37.2
comp=Z,5.0nm,0.7s
TOLK Toolik Lake Re 82.62 22 P P 20 18 34.9 +0.1
baz=266,SNR=6.5
MCK McKinley 82.62 27 P P 20 18 35.3 +0.4
baz=268
WAT1 Susitna Watana 82.76 27 P P 20 18 35.6 -0.1
baz=268
KNK Knik Glacier 82.77 29 P P 20 18 35.7 0.0
baz=268
SML Sawmill 82.84 28 P P 20 18 35.3 -0.8
baz=268
D24K Happy Valley 82.92 21 P P 20 18 36.2 -0.1
baz=267,SNR=9.9
E24K Your Creek 82.99 22 P P 20 18 36.7 -0.1
baz=268
M23K Glacier View 83.12 29 P P 20 18 37.4 -0.1
baz=269
WAT6 Susitna Watana 83.13 28 P P 20 18 37.2 -0.5
baz=269
COLA College 83.13 25 P P 20 18 37.3 -0.1
baz=269
CCB Clear Creek Bu 83.15 26 IAmb IAmb 20 18 38.3
comp=Z,12nm,1.2s
H24K Noodor Dome 83.15 24 IAmb IAmb 20 18 40.4
comp=Z,7.5nm,0.8s
H24K Noodor Dome 83.15 24 P P 20 18 37.9 +0.3
baz=268,SNR=7.6
F24K Squaw Lake 83.20 23 P P 20 18 38.3 +0.5
baz=268
P23K Montague Islan 83.26 30 P P 20 18 38.9 +0.7
baz=270
DHY Denali Highway 83.31 27 P P 20 18 38.2 -0.4
baz=269
SCM Sheep Creek Mo 83.31 28 P P 20 18 38.0 -0.6
baz=269
POKR Poker Plat Res 83.32 25 P P 20 18 38.5 +0.1
baz=269
G24K Hadweenzic Riv 83.33 24 IAmb IAmb 20 18 41.1
comp=Z,8.9nm,0.9s
G24K Hadweenzic Riv 83.33 24 P P 20 18 38.5 0.0
baz=269,SNR=7.4
GLI Glacier Island 83.42 29 P P 20 18 40.0 +0.9
baz=270
HDA Harding Lake 83.51 26 IAmb IAmb 20 18 39.8
comp=Z,5.2nm,0.6s
HDA Harding Lake 83.51 26 P P 20 18 39.6 +0.1
baz=270
IL31 83.54 26 IAmb IAmb 20 19 03.8
comp=Z,10nm,1.5s
ILAR Eielson Array 83.54 26 P P 20 18 39.0 -0.6
comp=Z,1.6nm,0.6s,baz=248,slow=5.5,SNR=20
comp=Z,1.6nm,0.6s
Q23K Middleton Isla 83.79 31 P P 20 18 41.4 +0.5
baz=271
D25K Kavik River 83.79 21 P P 20 18 41.0 +0.2
baz=269
M24K Tolsona, Glenn 83.86 28 P P 20 18 40.9 -0.4
baz=270
G25K Bearman Lake 83.88 23 P P 20 18 41.1 -0.1
baz=270
KLU Klutina 83.98 29 P P 20 18 41.5 -0.5
baz=271
H25L Birch Creek 83.99 24 P P 20 18 42.3 +0.5
baz=270,SNR=5.4
F25K Christian Rive 84.06 23 P P 20 18 42.8 +0.5
baz=270,SNR=5.8
E25K Arctic Village 84.08 22 IAmb IAmb 20 19 16.3
comp=Z,11nm,1.2s
E25K Arctic Village 84.08 22 P P 20 18 42.8 +0.4
baz=270,SNR=6.7
PRP Porcupine Dome 84.12 25 IAmb IAmb 20 18 59.2
comp=Z,7.8nm,1.4s
PRP Porcupine Dome 84.12 25 P P 20 18 43.2 +0.5
baz=271
PAX Paxson 84.18 27 P P 20 18 43.5 +0.5
baz=271
J25K Salcha River, 84.20 26 P P 20 18 41.4 -1.6
J25K IAmb IAmb 20 18 44.0
comp=Z,4.3nm,0.8s
J25K Salcha River, 84.20 26 P P 20 18 42.7 -0.3
baz=271
C26K Camden Bay 84.31 20 P P 20 18 43.7 +0.4
baz=271
HARP HAARP 84.33 28 P P 20 18 43.4 -0.2
baz=271
BMAR Burnt Mountain 84.47 23 P P 20 18 45.3 +1.0
N25K Chitina, Valde 84.61 29 P P 20 18 45.3 +0.1
baz=272
F26K Sheenjek River 84.63 23 P P 20 18 45.5 +0.4
baz=272
BMRM Bremner River 84.63 29 P P 20 18 45.0 -0.2
baz=272
C27K Jago River 84.73 21 P P 20 18 46.1 +0.6
baz=272,SNR=9.0
G26K Porcupine Rive 84.79 23 P P 20 18 45.8 0.0
baz=272
SCRK Sand Creek 84.82 26 P P 20 18 46.2 0.0
baz=272
J26L Joseph Creek 84.98 26 P P 20 18 47.3 +0.3
baz=272
I26K Coal Creek Min 85.12 25 P P 20 18 47.7 +0.2
baz=273
VNDA Vanda 85.32 173 P P 20 18 48.7 +0.4
VNDA IAmb IAmb 20 18 50.2
comp=Z,11nm,1.4s
VNDA Vanda 85.32 173 P P 20 18 49.3 +1.1
comp=Z,3.1nm,0.5s,baz=317,slow=7.2,SNR=26
comp=Z,3.1nm,0.5s
M26K Nabesna, AK 85.34 28 P P 20 18 48.7 -0.1
baz=273
MCARA McCarthy VSAT 85.38 29 P P 20 18 47.8 -1.1
baz=273
MAW Mawson 85.41 200 P P 20 18 49.4 +0.6
comp=Z,3.4nm,0.7s,baz=30,slow=3.3,SNR=5.8
comp=Z,3.4nm,0.7s
E27K Coleen River 85.57 22 IAmb IAmb 20 19 16.8
comp=Z,5.6nm,0.9s
E27K Coleen River 85.57 22 P P 20 18 48.4 -1.4
baz=274
G27K Doyon Strip 85.64 23 P P 20 18 49.2 -0.9
baz=274
K27K Chicken 85.65 26 P P 20 18 50.2 0.0
baz=274
D27M Malcolm River 85.72 21 P P 20 18 50.8 +0.2
baz=274
H27K Steamboat Moun 85.73 24 P P 20 18 51.1 +0.5
baz=274,SNR=6.0
I27K Kandik River 85.74 25 P P 20 18 50.8 +0.1
baz=274
L27K Beaver Creek, 85.83 27 P P 20 18 52.3 +1.1
baz=274
M27K Edge Creek, AK 85.86 28 P P 20 18 51.4 -0.1
baz=274
MESA MESA 85.98 30 P P 20 18 51.4 -0.8
baz=274
EGAK Eagle 86.00 25 P P 20 18 52.0 +0.2
baz=275
CTG Chitna Glacier 86.22 29 P P 20 18 53.0 -0.2
baz=275
F28M Old Crow 86.27 23 IAmb IAmb 20 18 55.5
comp=Z,6.8nm,0.8s
F28M Old Crow 86.27 23 P P 20 18 53.1 -0.1
baz=276
E28M Babbage River 86.29 22 IAmb IAmb 20 18 55.4
comp=Z,3.4nm,0.7s
E28M Babbage River 86.29 22 P P 20 18 54.0 +0.7
baz=276
I28M Miner Creek 86.45 25 P P 20 18 55.0 +0.8
baz=276
D28M Stokes Point 86.50 21 P P 20 18 55.3 +1.0
baz=277
YUK3 Moose Creek 86.57 28 P P 20 18 55.1 0.0
baz=276
O28M Mount Upton 86.80 29 P P 20 18 56.8 +0.5
baz=276
E29M Blow River 86.92 22 P P 20 18 57.3 +1.0
baz=277
YUK8 Steele Glacier 86.95 29 P P 20 18 56.9 -0.1
baz=276
H29M Whitestone 87.01 24 P P 20 18 57.3 +0.5
baz=277
G29M Pine Creek 87.06 23 IAmb IAmb 20 18 58.4
comp=Z,7.2nm,0.9s
G29M Pine Creek 87.06 23 P P 20 18 57.4 +0.4
baz=277
I29M Ogilvie Camp, 87.14 25 P P 20 18 58.1 +0.6
baz=277
PNL Peninsula 87.31 30 P P 20 18 58.5 +0.1
baz=276
M29M Somme Creek 87.43 28 P P 20 18 59.5 +0.4
baz=277
YUK4 Talbot Arm 87.48 29 P P 20 19 00.5 +1.0
baz=277
L29M L29M 87.50 27 P P 20 18 59.8 +0.5
baz=278
EPYK Eagle Plains 87.65 24 P P 20 19 01.1 +1.1
baz=279

K29M	**Barlow Dome**	87.67	26	P		P		20 19 00.4	+0.2
	baz=278								
G30M	**tAoh Zraii Nji**	87.75	23	P		P		20 19 00.7	+0.3
	baz=279								
F30M	**Barrier River**	87.82	22	P		P		20 18 59.7	-0.9
	baz=279								
I30M	**Mount Dempster**	87.96	25	P		P		20 19 02.3	+0.7
	baz=279								
J30M	**Hart River**	88.08	25	P		P		20 19 01.9	-0.2
	baz=279								
HYT	**Haines Junctio**	88.10	29	P		P		20 19 01.2	-1.1
	baz=278								
P29M	**Windy Craggy**	88.15	30	P		P		20 19 00.5	-1.9
	baz=278								
N30M	**Aishikik Lake**	88.21	29	P		P		20 19 02.0	-0.8
	baz=278								
P30M	**Million Dollar**	88.47	30	P		P		20 19 03.0	-0.9
	baz=279								
G31M	**Satah River**	88.52	23	P		P		20 19 02.9	-1.0
	baz=281								
INK	**Inuvik**	88.53	21	P		P		20 19 02.6	-1.3
	baz=282								
SPA1	**Spitsbergen Ar**	88.58	349	P		P		20 19 03.4	-0.7
SPB2	**Spitsbergen Ar**	88.58	349	P		P		20 19 04.0	-0.1
SPA0	**Spitsbergen Ar**	88.58	349	*eP*		P		20 19 05.1	+0.9
SPITS	**Spitsbergen Ar**	88.58	349	P		P		20 19 03.9	-0.2
	comp=Z,5.1nm,0.5s,baz=95,slow=8.5,SNR=55								
	comp=Z,5.1nm,0.5s								
ARA0	**ARCESS Array S**	88.59	340	*eP*		P		20 19 04.2	-0.1
ARCES	**ARCESS Array B**	88.59	340	P		P		20 19 03.7	-0.6
ARCES	**ARCESS Array B**	88.59	340	P		P		20 19 04.0	-0.3
	comp=Z,9.7nm,0.7s,baz=81,slow=6.4,SNR=62								
	comp=Z,9.7nm,0.7s								
BRTR	**Keskin Array B**	88.59	310	P		P		20 19 03.5	-1.6
	comp=Z,1.4nm,0.6s,baz=122,slow=5.4,SNR=6.6								
	comp=Z,1.4nm,0.6s								
F31M	**Tsiigehtchic**	88.62	22	P		P		20 19 03.1	-1.3
	baz=281								
H31M	**Peel River**	88.70	24	P		P		20 19 04.3	-0.6
	baz=281								
O30N	**Mendenhall**	88.80	29	P		P		20 19 04.4	-1.1
	baz=279								
N31M	**Braeburn, Yuko**	88.83	28	P		P		20 19 04.4	-1.2
	baz=280								
HAMF	**Hammerfest**	88.94	341	*eP*		P		20 19 05.5	-0.4
S31K	**Pelican**	89.17	32	P		P		20 19 06.6	-0.5
	baz=279								
SIT	**Sitka**	89.81	33	P		P		20 19 09.5	-0.7
	baz=280								
FINES	**FINESS Array B**	90.04	332	P		P		20 19 10.6	-0.6
	comp=Z,1.4nm,0.4s,baz=59,slow=4.6,SNR=45								
	comp=Z,1.4nm,0.4s								
S32K	**Killisnoo**	90.14	32	P		P		20 19 11.3	-0.4
	baz=281								
N32M	**Quiet Lake**	90.17	28	P		P		20 19 10.8	-1.1
	baz=282								
P32M	**Atlin**	90.17	30	P		P		20 19 10.8	-1.1
	baz=281								
AKASG	**Malin Array Be**	90.25	321	P		P		20 19 11.0	-1.4
	comp=Z,0.3nm,0.3s,baz=64,slow=4.9,SNR=4.1								
	comp=Z,0.3nm,0.3s								
JETT	**Jettan, Norway**	90.31	340	*eP*		P		20 19 12.3	0.0
P33M	**Teslin, Yukon**	90.49	29	P		P		20 19 12.6	-0.9
	baz=282								
MMPY	**Sheldon Lake,**	90.69	27	P		P		20 19 13.0	-1.3
	baz=284								
TRO	**Tromso**	90.79	340	*eP*		P		20 19 13.7	-0.7
U33K	**Whale Pass**	91.18	33	P		P		20 19 16.4	-0.1
	baz=282								
CRAG	**Craig**	91.31	34	P		P		20 19 16.7	-0.5
	baz=282								
C36M	**Paulatuk**	91.55	20	IAmb		IAmb		20 19 22.7	
	comp=Z,2.3nm,0.7s								
DLBC	**Dease Lake**	92.29	31	P		P		20 19 21.5	-0.3
	baz=285								
WTLY	**Watson Lake, Y**	92.47	29	P		P		20 19 22.4	-0.1
	baz=286								
MLR	**Muntele Rosu**	93.34	316	P		P		20 19 26.1	-0.9
	comp=Z,2.0nm,0.6s,baz=297,slow=2.3,SNR=7.0								
	comp=Z,2.0nm,0.6s								
DAG	**Danmarks Havn**	95.36	352	*i* P		P		20 19 34.0	-1.4
QSPA	**South Pole Qui**	95.51	180	P		P		20 19 37.6	+1.2
	comp=Z,1.8nm,0.9s,baz=333,slow=9.0,SNR=10.0								
	comp=Z,1.8nm,0.9s								
HFS	**Hagfors**	96.22	332	P		P		20 19 38.5	-1.2
	comp=Z,0.8nm,0.5s,baz=108,slow=4.7,SNR=6.1								
	comp=Z,0.8nm,0.5s								
NOA	**NORSAR Array B**	96.97	334	P		P		20 19 41.7	-1.4
	comp=Z,0.7nm,0.6s,baz=66,slow=4.6,SNR=3.2								
	comp=Z,0.7nm,0.6s								
YKA	**Yellowknife Ar**	97.92	24	P		P		20 19 47.2	-0.1
	comp=Z,0.6nm,0.7s,baz=305,slow=5.0,SNR=9.2								
	comp=Z,0.6nm,0.7s								
NEW	**Newport**	102.94	38	P		Pdif		20 20 08.7	-1.4
	baz=294								
MSO	**Missoula**	105.50	38	P		PKiKP		20 24 33.9	-0.6
	baz=296								
ARVC	**Arvin**	106.61	51	P		PKiKP		20 24 34.8	-2.0
	baz=290								
GRAC	**Grapevine Rang**	107.08	49	P		PKiKP		20 24 36.1	-1.6
	baz=291								
DECC	**Green Verdugo**	107.28	52	P		PKiKP		20 24 37.2	-0.9
	baz=290								
MPMC	**Manual Prospec**	107.32	50	P		PKiKP		20 24 37.3	-1.1
	baz=291								
EDW2	**Edwards Air Fo**	107.34	51	P		PKiKP		20 24 36.6	-1.6
	baz=290								
EGMT	**Eagleton**	107.45	36	P		PKiKP		20 24 37.0	-1.1
	baz=300								
BOZ	**Bozeman (W)**	107.49	39	P		PKiKP		20 24 36.8	-1.5
	baz=298								
R11B	**Troy Canyon, C**	107.89	47	P		PKiKP		20 24 37.8	-1.6
	baz=293								
H17A	**Grant Village**	108.71	39	P		PKiKP		20 24 39.1	-1.7
	baz=298								
TUQ	**Turquoise Moun**	108.73	50	P		PKiKP		20 24 38.8	-2.2
	baz=292								
PFO	**Pinyon Flats O**	108.97	52	P		PKiKP		20 24 38.9	-2.5
	baz=291								
TPFO	**Pinon Flats**	108.97	52	P		PKiKP		20 24 38.1	-3.3
	baz=291								
DUG	**Dugway, Tooele**	109.11	44	P		PKiKP		20 24 38.0	-3.5
	baz=295								
GMRC	**Granite Mounta**	109.17	50	P		PKiKP		20 24 37.9	-3.9
	baz=292								
RLMT	**Red Lodge**	109.18	38	P		PKiKP		20 24 38.6	-3.0
	baz=300								
MONP2	**Monument Peak**	109.25	52	P		PKiKP		20 24 37.9	-4.2
	baz=290								
IKP	**In-Ko-Pah, Jac**	109.58	53	P		PKiKP		20 24 38.2	-4.3
	baz=291								
SWSC	**Sam W. Stewart**	109.72	52	P		PKiKP		20 24 38.9	-3.7
	baz=291								
BC3	**Big Chuckawall**	109.74	51	P		PKiKP		20 24 39.6	-3.3
	baz=291								
IRM	**Iron Mountain**	109.79	51	P		PKiKP		20 24 40.0	-2.8
	baz=292								
WUAZ	**Wupatki**	112.11	48	P		PKiKP		20 24 45.1	-2.2
	baz=295								
O20A	**White River Ci**	112.27	43	P		PKiKP		20 24 45.5	-2.0
	baz=299								
214A	**Organ Pipe Nat**	112.43	52	P		PKiKP		20 24 46.4	-1.5
	baz=292								
TUC	**Tucson**	113.88	51	P		PKiKP		20 24 49.0	-1.7
	baz=294								
ISCO	**Idaho Springs**	114.19	42	P		PKPdf		20 24 49.7	-1.7
	baz=301								
AGMN	**Agassiz Nation**	114.79	30	P		PKiKP		20 24 50.4	-1.5
	baz=313								
Q24A	**Divide**	114.92	42	P		PKiKP		20 24 51.2	-1.6
	baz=301								
SDCO	**Great Sand Dun**	115.30	44	P		PKiKP		20 24 51.5	-2.1
	baz=300								
SUSD	**Miller**	115.65	34	P		PKiKP		20 24 51.9	-1.8
	baz=308								
ANMO	**Albuquerque**	115.97	47	P		PKPdf		20 24 53.1	-1.7
	baz=298								
121A	**Cookes Peak, D**	116.08	50	P		PKPdf		20 24 53.5	-1.6
	baz=296								
T25A	**Trinidad**	116.35	44	P		PKPdf		20 24 53.3	-2.2
	baz=301								
EYMN	**Ely**	117.12	28	P		PKPdf		20 24 55.0	-1.4
	baz=317								
ECSD	**EROS Data Cent**	117.41	34	P		PKPdf		20 24 55.3	-1.8
	baz=310								
MNTX	**Cornudas Mount**	118.28	50	P		PKPdf		20 24 57.4	-1.7
	baz=298								
SCHQ	**Schefferville**	118.77	9	PKP		PKiKP		20 24 60.0	+0.5
	comp=Z,4.1nm,0.6s,baz=262,slow=1.2,SNR=4.1								

AMTX	**Amarillo**	119.41	45	P		PKPdf		20 24 59.4	-2.0
	baz=302								
KSU1	**Kansas State U**	120.33	38	P		PKPdf		20 25 00.6	-2.2
	baz=308								
SCIA	**State Center**	120.49	34	P		PKPdf		20 25 00.6	-2.5
	baz=313								
TXAR	**Lajitas Array**	120.68	51	PKP		PKiKP		20 25 04.9	+0.9
	comp=Z,0.5nm,0.7s,baz=130,slow=0.9,SNR=7.6								
JFWS	**Jewell Farm**	121.37	31	P		PKPdf		20 25 02.4	-2.4
	baz=316								
GLMI	**Grayling**	122.59	26	P		PKPdf		20 25 04.8	-2.2
	baz=323								
JCT	**Junction City**	123.05	48	P		PKPdf		20 25 06.3	-2.0
	baz=301								
HDIL	**Hopedale**	123.56	32	P		PKPdf		20 25 07.0	-2.0
	baz=316								
WHTX	**Lake Whitney,**	123.94	45	P		PKPdf		20 25 08.2	-1.8
	baz=304								
CCM	**Cathedral Cave**	124.21	36	P		PKPdf		20 25 08.3	-2.0
	baz=313								
833A	**Chaparral WMA,**	124.45	50	P		PKPdf		20 25 08.2	-2.8
	baz=300								
SFIN	**Lafayette**	124.83	31	P		PKPdf		20 25 08.8	-2.6
	baz=318								
MIAR	**Mount Ida**	125.06	40	P		PKPdf		20 25 09.5	-2.6
	baz=309								
O48B	**Farmland**	125.90	30	P		PKPdf		20 25 11.7	-1.7
	baz=320								
LONY	**Lake Ozonia**	126.55	19	P		PKPdf		20 25 12.6	-2.0
	baz=334								
P49A	**Miami Univ. Ec**	126.67	30	P		PKPdf		20 25 13.5	-1.5
	baz=320								
WCI	**Wyandotte Cave**	126.84	32	P		PKPdf		20 25 13.9	-1.5
	baz=318								
PKME	**Peaks-Kenny Pk**	127.43	14	P		PKPdf		20 25 14.5	-1.7
	baz=340								
WVT	**Waverly**	127.51	35	P		PKPdf		20 25 13.9	-2.8
	baz=315								
O53A	**New Philadelph**	127.76	27	P		PKPdf		20 25 14.5	-2.6
	baz=324								
SSPA	**Standing Stone**	128.84	24	P		PKPdf		20 25 16.5	-2.6
	baz=328								
L61B	**Northampton**	129.10	18	P		PKPdf		20 25 16.6	-2.9
	baz=335								
HRV	**Adam Dziewonsk**	129.39	17	P		PKPdf		20 25 16.7	-3.3
	baz=337								
TZTN	**Tazewell**	129.55	31	P		PKPdf		20 25 19.1	-1.4
	baz=320								
DBIC	**Dimbokro**	129.87	283	PKP		PKiKP		20 25 23.9	+1.4
	comp=Z,4.9nm,0.9s,baz=132,slow=3.8,SNR=3.9								
LRAL	**Lakeview Retre**	130.17	37	P		PKPdf		20 25 20.7	-1.2
	baz=314								
GOGA	**Godfrey**	131.95	34	P		PKPdf		20 25 23.3	-1.9
	baz=318								
PLCA	**Paso Flores**	141.86	159	PKhKP		PKPpre		20 25 40.1	
	comp=Z,3.0nm,0.7s,baz=253,slow=3.7,SNR=6.7								
LCR2	**La Lucha 2**	146.06	63			PKPdf		20 25 49.6	-2.0
TRQA	**Tornquist**	146.81	168			PKPbc		20 25 54.7	+0.8
BO02	**Sierra Bellavi**	146.89	154			PKPbc		20 25 54.2	-0.1
BO01	**Tunca**	147.09	153			PKPbc		20 25 55.3	+0.6
LCO	**Las Campanas**	151.64	147			PKiKP		20 26 08.0	+1.0
AC05	**El Transito**	152.01	148			PKiKP		20 26 08.6	+1.0
LPAZ	**La Paz**	162.22	128	PKPab		PKPab		20 27 03.7	+1.9
	comp=Z,0.9nm,0.5s,baz=243,slow=2.3,SNR=5.1								

TAP 10 20:14:46.2, 22.54N×120.93E, h7km, ML1.4, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
ECL	**Taimali**	**0.07**	**24**	P		Pg		20 14 48.3	+0.3
	baz=30								
ECL				S		Sg		20 14 49.7	+0.4
	baz=30								
EAST	**Anshuo**	**0.17**	**205**	*e*P		Pg		20 14 50.1	+0.5
	baz=203								
EAST				*e*S		Sg		20 14 52.3	+0.2
	baz=203								
TAW	**Tawu**	**0.18**	**189**	*e*P		Pg		20 14 49.4	-0.5
	baz=187								
TAW				*e*S		Sg		20 14 53.0	+0.6
	baz=187								
TAWH	**Dawu Township**	**0.20**	**190**	*e*P		Pg		20 14 50.6	+0.4
	baz=191								
TAWH				*e*S		Sg		20 14 53.6	+0.7
	baz=191								
MASBT	**Mashibuluo**	**0.28**	**285**	P		Pg		20 14 52.3	+0.5
	baz=284								
MASBT				S		Sg		20 14 56.1	+0.6
	baz=284								
TWG	**Pinlang**	**0.31**	**26**	*e*P		Pg		20 14 52.6	+0.2
	baz=22								
TWG				*e*S		Sg		20 14 56.7	+0.1
	baz=22								
TWGBT	**Beinan**	**0.31**	**27**	*e*P		Pg		20 14 52.6	+0.3
	baz=22								
TWGBT				*e*S		Sg		20 14 56.6	+0.1
	baz=22								
SCZT	**Fangliau**	**0.33**	**240**	P		Pg		20 14 53.1	+0.5
	baz=239								
SCZT				*e*S		Sg		20 14 58.2	+1.2
	baz=239								
SSD	**Sandimen**	**0.34**	**308**	P		Pg		20 14 53.2	+0.3
	baz=315								
SSD				*e*S		Sg		20 14 57.7	+0.3
	baz=315								
SLGT	**Liugui**	**0.52**	**331**	*e*S		Sg		20 15 02.8	-0.4
	baz=328								
SCST	**Cishan**	**0.53**	**311**	*e*S		Sb		20 15 05.6	-0.1
	baz=317								
ELDTW	**Lidau**	**0.65**	**7**	*e*P		Pg		20 14 58.9	+0.1
	baz=14								
ELDTW				*e*S		Sg		20 15 06.7	-0.7
	baz=14								
FULB	**Fuli**	**0.74**	**27**	*e*P		Pg		20 15 00.8	+0.3
	baz=15								
FULB				*e*S		Sb		20 15 11.9	+0.1
	baz=15								
YULB	**Yu-li**	**0.92**	**22**	*e*P		Pg		20 15 02.9	-1.0
	baz=20								
YULB				*e*S		Sg		20 15 14.4	-1.4
	baz=20								

TAP 10 20:14:50.6, 23.14N×120.65E, h7km, ML0.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
SGST	**Jiashian**	**0.09**	**226**	*e*P		Pg		20 14 52.9	+0.2
	baz=222								
SGST				*e*S		Sg		20 14 55.3	+1.1
	baz=222								
STYT	**Tauyuan**	**0.10**	**79**	*e*P		Pg		20 14 53.5	+0.7
	baz=81								
STYT				*e*S		Sg		20 14 55.7	+1.2
	baz=81								
WTP	**Ta-pu**	**0.11**	**341**	*e*P		Pg		20 14 53.4	+0.4
	baz=345								
WTP				*e*S		Sg		20 14 55.5	+0.8
	baz=345								
STYH	**Taoyuan**	**0.12**	**77**	*e*P		Pg		20 14 53.5	+0.4
	baz=77								
STYH				*e*S		Sg		20 14 55.8	+1.0
	baz=77								
CHN1	**Nanshi**	**0.12**	**290**	*e*P		Pg		20 14 54.2	+1.0
	baz=291								
CHN1				*e*S		Sg		20 14 56.9	+1.8
	baz=291								
SLGT	**Liugui**	**0.15**	**182**	*e*P		Pg		20 14 55.0	+1.3
	baz=174								
SLGT				*e*S		Sg		20 14 56.6	+0.8
	baz=174								
SLGT	**Liugui**	**0.15**	**182**	*e*P		Sg		20 14 56.6	+0.8
	baz=328								
TPUB	**Ta-pu**	**0.16**	**352**	*e*P		Pg		20 14 54.4	+0.5
	baz=352								
TPUB				*e*S		Sg		20 14 57.0	+0.9
	baz=352								
SNST	**Tainan City**	**0.16**	**298**	*e*P		Pg		20 14 55.0	+1.1
	baz=298								
SNST				*e*S		Sg		20 14 58.2	+2.0
	baz=298								
TWK	**Hsinying**	**0.20**	**309**	*e*P		Pg		20 14 55.4	+0.9
	baz=311								
TWK				*e*S		Sg		20 14 59.2	+2.0
	baz=311								
SCST	**Cishan**	**0.30**	**210**	*e*P		Pb		20 14 57.8	-0.5
	baz=200								
SCST	**Cishan**	**0.30**	**210**	*e*P		Pb		20 14 57.8	-0.5

	baz=317								
SCLT	**Jiali**	**0.42**	**274**	*e*P		Pb		20 15 00.3	-0.2
	baz=275								
SCLT				*e*S		Sb		20 15 07.4	+0.3
	baz=275								

LJU 10 20:16:40.5, 46.07N×14.19E, h13km, ML0.3, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
CRNS	**Crni Vrh**	**0.05**	**78**	*i* Pg		Pg		20 16 43.1	+0.1
CRNS				*i* Sg		Sg		20 16 44.9	0.0
CRNS				IAML				20 16 45.3	
	comp=Z,14nm,0.1s								
JAVS	**Javornik**	**0.20**	**206**	*i* Pg		Pg		20 16 45.1	+0.1
JAVS				*i* Sg		Sg		20 16 48.5	+0.5
JAVS				IAML				20 16 50.1	
	comp=Z,1.0nm,0.1s								
VOJS	**Vojsko**	**0.21**	**260**	*i* Pg		Pg		20 16 45.3	+0.1
VOJS				*i* Sg		Sg		20 16 49.1	+0.7
VOJS				IAML				20 16 49.4	
	comp=Z,3.1nm,0.1s								
GBAS	**Gorenja Brezov**	**0.22**	**127**	*i* Pg		Pg		20 16 45.4	0.0
GBAS				*i* Sg		Sg		20 16 48.8	+0.2
GBAS				IAML				20 16 50.1	
	comp=Z,0.9nm,0.1s								
GORS	**Gorjuse**	**0.28**	**332**	*i* Pg		Pg		20 16 46.6	+0.2
GORS				*i* Sg		Sg		20 16 50.8	+0.4
GORS				IAML				20 16 51.3	
	comp=Z,1.9nm,0.1s								
MOZS	**Mozjanca**	**0.29**	**38**	*i* Pg		Pg		20 16 47.0	+0.5
MOZS				IAML				20 16 52.2	
	comp=Z,1.8nm,0.1s								
CADS	**Cadrg**	**0.35**	**297**	*i* Pg		Pg		20 16 47.5	-0.1
CADS				*i* Sg		Sg		20 16 52.7	+0.3
CADS				IAML				20 16 54.3	
	comp=Z,0.6nm,0.1s								
CEY	**Cerknica**	**0.37**	**153**	*e*Sg		Sg		20 16 53.6	+0.7
CEY				IAML				20 16 55.4	
	comp=Z,1.1nm,0.1s								
CLL	**Collm**	**5.30**	**352**	*i* Sg		Sg		20 19 27.3	-3.2

VIE 10 20:17:15.7±0.2, 46.09N×14.22E, h13km±3km, mb1.4/2, ml1.8/6, 2C, Error ellipse: s-maj=1.0km s-min=0.7km az=24.0, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
DRE	**Drenchia**	**0.41**	**283**	*e*Pg		Pg		20 17 23.4	-0.5
DRE				*e*Sg		Sg		20 17 29.4	0.0
SABO	**M.te Sabotino**	**0.44**	**256**	*e*Pg		Pg		20 17 23.6	-0.9
SABO				*e*Sg		Sg		20 17 29.4	-1.0
OBKA	**Obir**	**0.48**	**28**	*e*Pg		Pb		20 17 25.7	-0.4
	4.3nm,0.2s,SNR=19								
OBKA				*e*Sg		Sg		20 17 32.4	+0.7
	9.6nm,0.2s								
PRED	**Cave del Predi**	**0.58**	**309**	*e*Pg		Pg		20 17 26.7	-0.3
PRED				*e*Sg		Sg		20 17 35.0	+0.3
COLI	**Coloredo**	**0.59**	**275**	*e*Pg		Pg		20 17 26.7	-0.5
COLI				*e*Sg		Sb		20 17 35.7	-0.4
LSR	**Lussari**	**0.62**	**309**	*e*Pg		Pg		20 17 27.8	-0.1
LSR				*e*Sg		Sb		20 17 37.1	-0.1
ACOM	**Acomizza, Ital**	**0.67**	**314**	*e*Pg		Pg		20 17 29.1	+0.3
VINO	**Villanova**	**0.67**	**285**	*e*Pg		Pg		20 17 28.2	-0.6
MYKA	**Terra Mystica**	**0.68**	**324**	*e*Pg		Pg		20 17 29.0	+0.2
	0.3nm,0.1s								
MYKA				*e*Sg		Sg		20 17 38.0	+0.2
	3.9nm,0.1s,SNR=13								
BAD	**Bernadia**	**0.69**	**283**	*e*Pg		Pg		20 17 28.1	-1.1
RIY	**Rijeka**	**0.78**	**166**	*e*Pg		Pb		20 17 31.5	+0.4
RIY				Sg		Sg		20 17 40.5	-0.6
BOO	**Bordano**	**0.81**	**287**	*e*Pg		Pg		20 17 30.6	-0.8
SOKA	**Soboth**	**0.82**	**43**	*i* Pg		Pb		20 17 31.8	-0.1
	0.2nm,0.1s								
SOKA				*e*Sg		Sg		20 17 42.4	0.0
	5.9nm,0.3s								
MPRI	**Monte Prat**	**0.87**	**281**	*e*Pg		Pg		20 17 31.5	-1.0
PLRO	**Paularo**	**0.88**	**302**	*e*Pg		Pg		20 17 32.6	-0.1
OZLJ	**Ozalj**	**0.99**	**118**	*e*Pg		Pn		20 17 35.1	-0.2
OZLJ				Sg		Sb		20 17 46.8	-0.9
SMRN	**Sveta Marina**	**1.05**	**182**	*e*Pg		Pn		20 17 36.5	+0.3
SMRN				Sg		Sg		20 17 49.9	+0.3
KBA	**Koelnbreinsper**	**1.16**	**329**	*e*Pg		Pn		20 17 37.9	+0.1
	0.1nm,0.1s								
KBA				Sg		Sn		20 17 53.8	+0.1
	2.6nm,0.3s,SNR=5.9								
BRJN	**Brijuni**	**1.23**	**196**	*e*Pg		Pg		20 17 39.0	-0.2
BRJN				Sg		Sn		20 17 55.0	0.0
PTJ	**Puntijarka**	**1.23**	**98**	*e*Pg		Pg		20 17 39.6	+0.2
PTJ				Sg		Sg		20 17 56.0	+0.5
ABTA	**Abfaltersbach**	**1.35**	**300**	*e*Pg		Pg		20 17 42.1	+0.4
	0.6nm,0.1s,SNR=4.1								
ABTA				*e*Sg		Sg		20 18 01.0	+1.7
	1.5nm,0.2s								
RABC	**Rab**	**1.39**	**163**	*e*Pg		Pg		20 17 42.8	+0.4
RABC				Sg		Sb		20 17 59.7	+0.5
ARSA	**Arzberg**	**1.47**	**37**	*e*Pg		Pg		20 17 44.2	+0.2
	0.3nm,0.1s								
ARSA				Sn		Sb		20 18 02.2	+0.6
	0.8nm,0.2s								
PLIT	**Plitvice**	**1.56**	**140**	*e*Pg		Pg		20 17 45.9	+0.2
PLIT				Sg		Sb		20 18 04.3	+0.2
NVLJ	**Novalja**	**1.59**	**163**	*e*Pn		Pb		20 17 45.4	+0.5
NVLJ				Sg		Sg		20 18 06.8	0.0
VIRC	**Vir**	**1.89**	**161**	*e*Pn		Pb		20

Error ellipse: s-maj=2.2km s-min=1.1km az=100.0

WBNET 10 20:31:49.6, 50˚25N × 12˚45E, h8km, Ml2.0, 7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**174**	*i* Pg	Pg	20 31 51.3	+0.1
NKC				*i* Sg	Sg	20 31 52.4	+0.1
NKC				IAML		20 31 52.6	
	comp=N,910nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**174**	*e*PG	Pg	20 31 51.3	+0.1
NKC				*e*SG	Sg	20 31 52.5	+0.2
	comp=N,623nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**174**	*i* Pg	Pg	20 31 51.3	+0.1
NKC				*i* Sg	Sg	20 31 52.4	+0.1
	comp=N,910nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**174**	⇑P	Pg	20 31 51.3	+0.1
NKC				S	Sg	20 31 52.4	+0.1
LBCW	**Luby**	**0.03**	**306**	⇑P	Pg	20 31 51.4	+0.1
LBCW				S	Sg	20 31 52.6	+0.2
VAC	**Vackov**	**0.05**	**251**	*i* Pg	Pg	20 31 51.5	+0.1
VAC				*i* Sg	Sg	20 31 52.7	0.0
VAC	**Vackov**	**0.05**	**251**	⇓P	Pg	20 31 51.5	+0.1
VAC				S	Sg	20 31 52.7	0.0
STCW	**Studenec**	**0.05**	**79**	*i* Pg	Pg	20 31 51.5	0.0
STCW				*i* Sg	Sg	20 31 52.6	-0.1
STCW	**Studenec**	**0.05**	**79**	*i* Pg	Pg	20 31 51.5	0.0
STCW				*i* Sg	Sg	20 31 52.6	-0.1
STCW	**Studenec**	**0.05**	**79**	⇑P	Pg	20 31 51.5	+0.1
STCW				S	Sg	20 31 52.6	-0.1
WERN	**Wernitzgruen**	**0.06**	**310**	*i* Pg	Pg	20 31 51.6	+0.1
WERN				*i* Sg	Sg	20 31 53.0	+0.1
WERN				IAML		20 31 53.1	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**310**	*i* Pg	Pg	20 31 51.6	+0.1
WERN				*i* Sg	Sg	20 31 53.0	+0.1
	comp=E,1μm,0.2s						
KVC	**Kvetna**	**0.06**	**134**	*i* Pg	Pg	20 31 51.6	0.0
KVC				*i* Sg	Sg	20 31 52.9	-0.1
KVC	**Kvetna**	**0.06**	**134**	⇓P	Pg	20 31 51.6	+0.1
KVC				S	Sg	20 31 52.9	-0.1
POCW	**Potky**	**0.07**	**351**	⇑P	Pg	20 31 51.8	+0.1
POCW				S	Sg	20 31 53.3	+0.1
ROHR	**Rohrbach**	**0.08**	**259**	*i* Pg	Pg	20 31 51.9	0.0
ROHR				*i* Sg	Sg	20 31 53.3	-0.1
ROHR				IAML		20 31 53.5	
	comp=E,586nm,0.2s						
ROHR	**Rohrbach**	**0.08**	**259**	*i* Pg	Pg	20 31 51.9	0.0
ROHR				*i* Sg	Sg	20 31 53.3	-0.1
	comp=E,586nm,0.2s						
SKC	**Skalna**	**0.10**	**214**	⇑P	Pg	20 31 52.1	+0.1
SKC				S	Sg	20 31 53.7	+0.1
KRCW	**Kraslice**	**0.10**	**34**	⇑P	Pg	20 31 52.1	0.0
KRCW				S	Sg	20 31 53.7	-0.1
GUNZ	**Gunzen**	**0.14**	**327**	*i* Pg	Pg	20 31 52.7	+0.1
GUNZ				*i* Sg	Sg	20 31 54.7	0.0
GUNZ				IAML		20 31 55.0	
	comp=N,296nm,0.2s						
GUNZ	**Gunzen**	**0.14**	**327**	*i* Pg	Pg	20 31 52.7	+0.1
GUNZ				*i* Sg	Sg	20 31 54.7	0.0
	comp=N,296nm,0.2s						
KOCW	**Kopaniny**	**0.14**	**276**	⇓P	Pg	20 31 52.7	+0.1
KOCW				S	Sg	20 31 54.7	0.0
MULD	**Muldenberg**	**0.16**	**351**	*i* Pg	Pg	20 31 53.2	+0.1
MULD				*i* Sg	Sg	20 31 55.3	-0.2
MULD				IAML		20 31 55.5	
	comp=E,308nm,0.2s						
MULD	**Muldenberg**	**0.16**	**351**	*i* Pg	Pg	20 31 53.2	+0.1
MULD				*i* Sg	Sg	20 31 55.3	-0.2
	comp=E,308nm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**4**	*i* Pg	Pg	20 31 53.1	0.0
TANN				*i* Sg	Sg	20 31 55.3	-0.2
TANN	**Tannenbergstha**	**0.17**	**4**	*i* Pg	Pg	20 31 53.1	0.0
TANN				*i* Sg	Sg	20 31 55.3	-0.2
	comp=E,459nm,0.2s						
TRCW	**Trojmez**	**0.20**	**286**	⇓P	Pg	20 31 53.8	+0.1
TRCW				S	Sg	20 31 56.5	0.0
ZHC	**Zelena Hora**	**0.20**	**206**	⇑P	Pg	20 31 53.8	+0.1
ZHC				S	Sg	20 31 56.6	+0.1
WERD	**Werda**	**0.22**	**336**	*i* Pg	Pg	20 31 54.0	0.0
WERD				IAML		20 31 58.0	
	comp=E,123nm,0.3s						
WERD	**Werda**	**0.22**	**336**	*i* Pg	Pg	20 31 54.0	0.0
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg	Pg	20 31 54.1	0.0
TRIB	**Obertriebel**	**0.22**	**297**	*i* Pg	Pg	20 31 54.1	0.0
VIEL	**Selb-Vielitz**	**0.23**	**254**	*e*Pg	Pg	20 31 54.2	0.0
VIEL	**Selb-Vielitz**	**0.23**	**254**	*e*Pg	Pg	20 31 54.2	0.0
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	20 31 54.4	+0.2
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	20 31 54.4	+0.2
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	20 31 54.4	+0.2
PLN	**Plauen**	**0.30**	**322**	*i* Pg	Pg	20 31 55.5	0.0
PLN				*i* Sg	Sg	20 31 59.5	-0.1
PLN				IAML		20 31 59.6	
	comp=E,110nm,0.1s						
PLN	**Plauen**	**0.30**	**322**	*i* Pg	Pg	20 31 55.5	0.0
PLN				*i* Sg	Sg	20 31 59.5	-0.1
	comp=E,110nm,0.1s						
MANZ	**Manzenberg**	**0.34**	**220**	*e*Pg	Pg	20 31 56.2	-0.1
MANZ				*e*Sg	Sg	20 32 00.6	-0.3
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	20 31 57.8	-0.1
SCHF				*i* Sg	Sg	20 32 03.5	-0.1
SCHF				IAML		20 32 03.8	
	comp=E,164nm,0.3s						
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	20 31 57.8	-0.1
SCHF				*i* Sg	Sg	20 32 03.5	-0.1
	comp=E,164nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	20 31 58.5	-0.2
GRZ1				*i* Sg	Sg	20 32 04.4	-0.4
GRZ1				IAML		20 32 05.6	
	comp=E,50nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	20 31 58.5	-0.2
GRZ1				*i* Sg	Sg	20 32 04.4	-0.4
	comp=E,50nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Pg	Pg	20 31 59.3	-0.2
ROTZ				*e*Sg	Sg	20 32 06.0	-0.1
MOX	**Moxa**	**0.66**	**307**	*e*Pg	Pg	20 32 02.1	-0.2
MOX				*e*Sg	Sg	20 32 11.0	0.0
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*SG	Sg	20 32 12.7	-0.3
	comp=E,42nm,0.2s						
FBE	**Freiberg**	**0.89**	**40**	*e*Pg	Pg	20 32 06.3	-0.4
FBE				*e*Sg	Sg	20 32 17.6	-0.6
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	20 32 08.0	-0.2
GRF				*e*Sg	Sg	20 32 20.3	-0.4
CLL	**Collm**	**1.12**	**18**	*i* Pg	Pg	20 32 10.3	-0.7
CLL				*i* Sg	Sg	20 32 24.9	-0.6
	comp=Z,15nm,0.7s						
CLL	**Collm**	**1.12**	**18**	*e*Pg	Pg	20 32 10.4	-0.6
CLL				*e*Sg	Sg	20 32 24.9	-0.6
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	20 32 11.0	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**	Sg	Sn	20 32 28.6	+1.0
BRG				Amp		20 32 29.1	
	comp=Z,18nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	Pg	20 32 11.0	-0.5
WET	**Wettzell**	**1.14**	**166**	*e*Pg	Pg	20 32 10.9	-0.6
WET				*e*Sg	Sg	20 32 25.2	-1.1
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG	Sb	20 32 31.6	-0.6
	comp=Z,14nm,0.2s						
PRU	**Pruhonice**	**1.38**	**100**	*e*SG	Sb	20 32 32.9	-0.3
	comp=Z,5.4nm,0.2s						
PRU	**Pruhonice**	**1.38**	**100**	*e*Pg	Pn	20 32 14.9	-0.1
PRU				*e*Sg	Sb	20 32 33.3	+0.1
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Pn	Pn	20 32 18.7	+0.1
GEC2				*e*Sg	Sn	20 32 39.1	-0.6
CKRC	**Cesky Krumlov**	**1.88**	**139**	*e*SG	Sn	20 32 46.7	+0.9
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	Pn	20 32 34.8	-0.2
KRUC				*e*SG	Sb	20 33 17.6	+2.6
VRAC	**Vranov**	**2.85**	**108**	*e*PN	Pn	20 32 35.0	-0.3
VRAC				*e*SG	Sb	20 33 18.1	+2.5

*CLL **10** 20:31:53.0±0.3, 50˚25N × 12˚44E, h7km, Ml1.9*

WBNET 10 20:31:52.6, 50˚25N × 12˚44E, h8km, Ml2.0, 5C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**171**	*i* Pg	Pg	20 31 54.2	+0.1
NKC				*i* Sg	Sg	20 31 55.3	+0.1
NKC				IAML		20 31 55.4	
	comp=E,893nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**171**	⇑P	Pg	20 31 54.2	+0.1
NKC				S	Sg	20 31 55.3	+0.1
LBCW	**Luby**	**0.03**	**309**	⇓P	Pg	20 31 54.3	+0.1
LBCW				S	Sg	20 31 55.5	+0.2
VAC	**Vackov**	**0.05**	**252**	*i* Pg	Pg	20 31 54.4	+0.1
VAC				*i* Sg	Sg	20 31 55.6	0.0
VAC	**Vackov**	**0.05**	**252**	⇓P	Pg	20 31 54.4	+0.1
VAC				S	Sg	20 31 55.6	0.0
STCW	**Studenec**	**0.05**	**78**	*i* Pg	Pg	20 31 54.4	0.0
STCW				*i* Sg	Sg	20 31 55.6	-0.1
STCW	**Studenec**	**0.05**	**78**	⇑P	Pg	20 31 54.4	0.0
STCW				S	Sg	20 31 55.6	-0.1
WERN	**Wernitzgruen**	**0.06**	**311**	*i* Pg	Pg	20 31 54.6	+0.1
WERN				*i* Sg	Sg	20 31 56.0	+0.1
WERN				IAML		20 31 56.1	
	comp=E,1μm,0.2s						
KVC	**Kvetna**	**0.06**	**133**	*e*Pg	Pg	20 31 54.5	0.0
KVC				*e*Sg	Sg	20 31 55.8	-0.1
KVC	**Kvetna**	**0.06**	**133**	⇓P	Pg	20 31 54.5	+0.1
KVC				S	Sg	20 31 55.8	-0.1
POCW	**Potky**	**0.07**	**351**	⇑P	Pg	20 31 54.8	+0.1
POCW				S	Sg	20 31 56.3	+0.1
ROHR	**Rohrbach**	**0.08**	**260**	*i* Sg	Sg	20 31 56.3	-0.1
ROHR				IAML		20 31 56.4	
	comp=E,537nm,0.2s						
SKC	**Skalna**	**0.10**	**214**	⇑P	Pg	20 31 55.0	+0.1
SKC				S	Sg	20 31 56.7	+0.1
KRCW	**Kraslice**	**0.10**	**34**	⇑P	Pg	20 31 55.1	0.0
KRCW				S	Sg	20 31 56.7	-0.1
GUNZ	**Gunzen**	**0.14**	**328**	*i* Pg	Pg	20 31 55.7	+0.2
GUNZ				*i* Sg	Sg	20 31 57.7	0.0
GUNZ				IAML		20 31 58.2	
	comp=E,288nm,0.3s						
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	20 31 55.6	+0.1
KOCW				S	Sg	20 31 57.6	0.0
MULD	**Muldenberg**	**0.17**	**351**	*e*Pg	Pg	20 31 56.1	+0.1
MULD				*i* Sg	Sg	20 31 58.3	-0.1
MULD				IAML		20 31 59.0	
	comp=N,246nm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**4**	*e*Pg	Pg	20 31 56.1	0.0
TANN				*i* Sg	Sg	20 31 58.3	-0.2
TANN				IAML		20 31 58.9	
	comp=N,388nm,0.3s						
TRCW	**Trojmez**	**0.20**	**286**	S	Sg	20 31 59.5	+0.1
ZHC	**Zelena Hora**	**0.20**	**206**	S	Sg	20 31 59.5	+0.1
WERD	**Werda**	**0.22**	**336**	*e*Pg	Pg	20 31 57.0	0.0
WERD				*e*Sg	Sg	20 31 59.8	-0.2
WERD				IAML		20 31 59.9	
	comp=E,112nm,0.2s						
WERD	**Werda**	**0.22**	**336**	*i* Sg	Pg	20 31 56.8	-0.2
WERD	**Werda**	**0.22**	**336**	*i* Sg	Pg	20 31 56.8	-0.2
	comp=E,123nm,0.3s						
TRIB	**Obertriebel**	**0.22**	**298**	*i* Pg	Pg	20 31 57.0	0.0
TRIB				*e*Sg	Sg	20 32 00.0	-0.1
TRIB				IAML		20 32 00.7	
	comp=E,95nm,0.4s						
TRIB	**Obertriebel**	**0.22**	**298**	*i* Sg	Pg	20 31 57.0	0.0
	comp=E,83nm,0.3s						
TRIB	**Obertriebel**	**0.22**	**298**	*i* Sg	Pg	20 31 57.0	0.0
VIEL	**Selb-Vielitz**	**0.23**	**254**	*i* Pg	Pg	20 31 57.3	+0.1
VIEL				*i* Sg	Sg	20 32 00.2	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**254**	*i* Sg	Pg	20 31 57.2	+0.1
VIEL	**Selb-Vielitz**	**0.23**	**254**	*i* Sg	Pg	20 31 57.2	+0.1
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	20 31 57.3	+0.1
LACW				*i* Sg	Sg	20 32 00.7	+0.3
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	20 31 57.4	+0.2
LACW				S	Sg	20 32 00.6	+0.3
LACW	**Lazy**	**0.23**	**150**	*i* Sg	Pg	20 31 57.5	+0.3
LACW	**Lazy**	**0.23**	**150**	*i* Sg	Pg	20 31 57.5	+0.3
PLN	**Plauen**	**0.30**	**322**	*i* Pg	Pg	20 31 58.5	0.0
PLN				*e*Sg	Sg	20 32 02.4	-0.1
PLN				IAML		20 32 02.6	
	comp=E,80nm,0.2s						
SCHF	**Schoenfels**	**0.43**	**357**	*e*Pg	Pg	20 32 00.8	-0.1
SCHF				*i* Sg	Sg	20 32 06.5	-0.1
SCHF				IAML		20 32 06.8	
	comp=E,179nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	20 32 01.5	-0.1
GRZ1				*e*Sg	Sg	20 32 07.5	-0.3
GRZ1				IAML		20 32 08.6	
	comp=E,65nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	20 32 13.9	-0.5
BRG				Sg	Sg	20 32 25.4	-3.9
BRG				Amp		20 32 26.1	
	comp=Z,19nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Sg	Sg	20 32 25.7	-3.6
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG	Sb	20 33 32.4	+0.1

ROM 10 20:39:10.2±0.1, 43˚028N±0˚002 × 13˚055E±0˚003, h6km, ML1.3/32, 4C-4D, Error ellipse: s-maj=0.2km s-min=0.1km az=219.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.03**	**71**	P	Pg	20 39 11.5	+0.1
FDMO				S	Sg	20 39 12.4	0.0
T1219	**Muccia, Frazio**	**0.04**	**308**	P	Pg	20 39 11.7	+0.1
T1219				S	Sg	20 39 12.8	+0.1
T1219				AML	AML		
	comp=N,2650μm,0.2s						
T1219				AML	AML		
	comp=E,2295μm,0.3s						
T1219				AML	AML		
	comp=N,2650μm,1.8s						
T1219				AML	AML		
	comp=E,2295μm,1.7s						
T1220	**Camerino, Fraz**	**0.09**	**17**	⇓P	Pg	20 39 12.5	+0.3
T1220				S	Sg	20 39 14.2	+0.6
T1220				AML	AML		
	comp=N,666μm,0.5s						
T1220				AML	AML		
	comp=N,1410μm,0.5s						
T1220				AML	AML		
	comp=E,777μm,0.3s						
T1220				AML	AML		
	comp=E,1505μm,0.3s						
MML1	**Montelago di S**	**0.10**	**324**	⇓P	Pg	20 39 12.8	+0.2
MML1				S	Sg	20 39 14.7	+0.6
MML1				AML	AML		
	comp=E,324μm,0.4s						
MML1				AML	AML		
	comp=N,356μm,0.2s						
MML1				AML	AML		
	comp=N,356μm,1.8s						
MML1				AML	AML		
	comp=E,324μm,1.6s						
CESI	**CESI - Serrava**	**0.11**	**258**	⇑P	Pg	20 39 13.1	+0.4
CESI				S	Sg	20 39 15.2	+0.9
CESI				AML	AML		
	comp=E,229μm,0.5s						
CESI				AML	AML		
	comp=N,292μm,1.6s						
CESI				AML	AML		
	comp=N,292μm,0.4s						
CSP1	**Cessapalombo**	**0.13**	**60**	⇑P	Pg	20 39 13.2	+0.3
CSP1				S	Sg	20 39 15.6	+0.8
CSP1				AML	AML		
	comp=E,226μm,0.5s						
CSP1				AML	AML		
	comp=N,97μm,1.1s						
CSP1				AML	AML		
	comp=N,98μm,1.1s						
CSP1				AML	AML		
	comp=E,226μm,1.5s						
CSP1				AML	AML		
	comp=N,98μm,0.9s						
MC2	**Monte Cornacci**	**0.15**	**139**	P	Pg	20 39 14.1	+0.7
MC2				S	Sg	20 39 16.9	+1.4
PF6	**Pievefavera**	**0.16**	**40**	⇓P	Pg	20 39 13.6	+0.2
PF6				S	Sg	20 39 16.3	+0.7
NRCA	**Norcia**	**0.20**	**167**	⇓P	Pg	20 39 14.6	+0.5
NRCA				S	Sg	20 39 18.1	+1.3
NRCA				AML	AML		
	comp=E,382μm,0.5s						
NRCA				AML	AML		
	comp=N,372μm,0.5s						
NRCA				AML	AML		
	comp=N,372μm,1.5s						
T1221	**Campello sul C**	**0.23**	**222**	⇑P	Pg	20 39 15.2	+0.6
T1221				S	Sg	20 39 19.1	+1.4
MMO1	**Montemonaco**	**0.24**	**123**	⇑P	Pg	20 39 15.3	+0.4
MMO1				S	Sg	20 39 19.4	+1.4

*BGR **10** 20:41:04.8±0.2, 50˚25N × 12˚45E, h10km±2km, ML2.0/7,*

Error ellipse: s-maj=2.2km s-min=1.1km az=97.0
*CLL **10** 20:41:05.4±0.3, 50˚26N × 12˚44E, h7km, ML2.1*
*LDG **10** 20:41:06.1±0.2, 50˚25N × 12˚45E, h11km, Ml2.8/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*VIE **10** 20:41:06.7±0.3, 50˚27N × 12˚68E, h10km, mb2.4/2, ml2.8/6, Error ellipse: s-maj=5.8km s-min=2.1km az=33.0*

WBNET 10 20:41:05.1, 50˚26N × 12˚44E, h8km, Ml2.1, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**173**	*i* Pg	Pg	20 41 06.8	+0.1
NKC				*i* Sg	Sg	20 41 07.9	+0.1
NKC				IAML		20 41 08.2	
	comp=N,922nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**173**	*i* Pg	Pg	20 41 06.8	+0.1
NKC				*i* Sg	Sg	20 41 07.9	+0.1
	comp=N,922nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**173**	⇑P	Pg	20 41 06.8	+0.1
NKC				S	Sg	20 41 07.9	+0.1
LBCW	**Luby**	**0.02**	**297**	⇓P	Pg	20 41 06.9	+0.2
LBCW				S	Sg	20 41 08.1	+0.2
VAC	**Vackov**	**0.05**	**245**	*i* Pg	Pg	20 41 07.0	+0.1
VAC				*i* Sg	Sg	20 41 08.2	0.0
VAC	**Vackov**	**0.05**	**245**	⇓P	Pg	20 41 07.0	+0.1
VAC				S	Sg	20 41 08.2	0.0
STCW	**Studenec**	**0.05**	**85**	*i* Pg	Pg	20 41 07.0	+0.1
STCW				*i* Sg	Sg	20 41 08.1	-0.1
STCW	**Studenec**	**0.05**	**85**	*i* Pg	Pg	20 41 07.0	+0.1
STCW				*i* Sg	Sg	20 41 08.1	-0.1
STCW	**Studenec**	**0.05**	**85**	⇑P	Pg	20 41 07.0	+0.1
STCW				S	Sg	20 41 08.1	-0.1
WERN	**Wernitzgruen**	**0.05**	**307**	*i* Pg	Pg	20 41 07.1	+0.1
WERN				*i* Sg	Sg	20 41 08.4	+0.1
WERN				IAML		20 41 08.6	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**307**	*i* Pg	Pg	20 41 07.1	+0.1
WERN				*i* Sg	Sg	20 41 08.4	+0.1
	comp=E,2μm,0.2s						
POCW	**Potky**	**0.07**	**350**	⇑P	Pg	20 41 07.2	+0.1
POCW				S	Sg	20 41 08.7	+0.1
KVC	**Kvetna**	**0.07**	**137**	*i* Pg	Pg	20 41 07.1	+0.1
KVC				*e*Sg	Sg	20 41 08.4	-0.1
KVC	**Kvetna**	**0.07**	**137**	⇓P	Pg	20 41 07.1	+0.1
KVC				S	Sg	20 41 08.5	-0.1
ROHR	**Rohrbach**	**0.08**	**256**	*i* Pg	Pg	20 41 07.3	0.0
ROHR				*i* Sg	Sg	20 41 08.8	-0.1
ROHR				IAML		20 41 09.0	
	comp=E,837nm,0.1s						
ROHR	**Rohrbach**	**0.08**	**256**	*i* Pg	Pg	20 41 07.3	0.0
ROHR				*i* Sg	Sg	20 41 08.8	-0.1
	comp=E,837nm,0.1s						
KRCW	**Kraslice**	**0.10**	**36**	⇑P	Pg	20 41 07.5	0.0
KRCW				S	Sg	20 41 09.1	-0.1
SKC	**Skalna**	**0.10**	**212**	⇑P	Pg	20 41 07.6	+0.1
SKC				S	Sg	20 41 09.3	+0.1
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Pg	20 41 08.1	+0.1
GUNZ				*i* Sg	Sg	20 41 10.1	0.0
GUNZ				IAML		20 41 10.5	
	comp=E,423nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Pg	20 41 08.1	+0.1
GUNZ				*i* Sg	Sg	20 41 10.1	0.0
	comp=E,423nm,0.2s						
KOCW	**Kopaniny**	**0.14**	**274**	⇓P	Pg	20 41 08.1	+0.1
KOCW				S	Sg	20 41 10.2	0.0
MULD	**Muldenberg**	**0.16**	**351**	*i* Pg	Pg	20 41 08.5	0.0
MULD				*i* Sg	Sg	20 41 10.7	-0.2
MULD				IAML		20 41 10.8	
	comp=E,443nm,0.1s						
MULD	**Muldenberg**	**0.16**	**351**	*i* Pg	Pg	20 41 08.5	0.0
MULD				*i* Sg	Sg	20 41 10.7	-0.2
	comp=E,443nm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	20 41 08.5	0.0
TANN				*i* Sg	Sg	20 41 10.7	-0.2
TANN				IAML		20 41 11.2	
	comp=N,791nm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	20 41 08.5	0.0
TANN				*i* Sg	Sg	20 41 10.7	-0.2
	comp=N,791nm,0.2s						
TRCW	**Trojmez**	**0.20**	**284**	⇓P	Pg	20 41 09.2	+0.1
TRCW				S	Sg	20 41 11.9	0.0
ZHC	**Zelena Hora**	**0.20**	**205**	⇑P	Pg	20 41 09.4	+0.1
ZHC				S	Sg	20 41 12.2	+0.1
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	20 41 09.4	0.0
WERD				*e*Sg	Sg	20 41 12.2	-0.2
WERD				IAML		20 41 12.3	
	comp=E,135nm,0.1s						
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	20 41 09.4	0.0
WERD				*e*Sg	Sg	20 41 12.2	-0.2
	comp=E,135nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**296**	*i* Pg	Pg	20 41 09.5	0.0
TRIB				*i* Sg	Sg	20 41 12.5	-0.1
TRIB				IAML		20 41 12.8	
	comp=N,89nm,0.2s						
TRIB	**Obertriebel**	**0.22**	**296**	*i* Pg	Pg	20 41 09.5	0.0
TRIB				*i* Sg	Sg	20 41 12.5	-0.1
	comp=N,89nm,0.2s						
VIEL	**Selb-Vielitz**	**0.23**	**253**	*e*Pg	Pg	20 41 09.7	-0.1
VIEL				*i* Sg	Sg	20 41 12.8	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**253**	*e*Pg	Pg	20 41 09.7	-0.1
VIEL				*i* Sg	Sg	20 41 12.8	-0.1
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	20 41 10.0	+0.1
LACW				*i* Sg	Sg	20 41 13.3	+0.3
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	20 41 10.0	+0.1
LACW				*i* Sg	Sg	20 41 13.3	+0.3
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	20 41 10.0	+0.2
LACW				S	Sg	20 41 13.3	+0.3

JAVC	**Velka Javorina**	**3.68**	**110**	*e*SG	Sg	20 43 04.7	+1.6
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pg	Pg	20 42 19.3	+0.5
CDF				*e*Sg	Sg	20 43 07.5	-1.1
	comp=Z,5.5nm,0.3s						
HINF	**Hinteralfeld**	**4.41**	**239**	*e*Pg	Pg	20 42 28.2	-1.4
HINF				*e*Sg	Sg	20 43 24.6	-2.1
	comp=Z,5.7nm,0.3s						
VYHS	**Vyhne**	**4.53**	**110**	*e*PN	Pn	20 42 12.4	-1.5
VYHS				*e*SG	Sg	20 43 30.4	-0.1
HAU	**Haudompre**	**4.59**	**243**	*e*Pg	Pg	20 42 31.2	-1.8
HAU				*e*Sg	Sg	20 43 29.0	-3.4
	comp=Z,5.3nm,0.3s						
PAGF	**Fort de Pagny**	**4.71**	**251**	*e*Sg	Sg	20 43 31.9	-4.2
	comp=Z,4.3nm,0.5s						
CABF	**La Chapelle**	**5.58**	**232**	*e*Pg	Pg	20 42 48.5	-3.5
CABF				*e*Sg	Sg	20 44 00.4	-3.9
	comp=Z,1.2nm,0.4s						
LOR	**Lormes**	**6.41**	**246**	*e*Sg	Sg	20 44 26.9	-3.9
	comp=Z,2.1nm,0.4s						

BGR ***10*** *20:41:09.8±0.2,50˚.25N×12˚.45E,h10km±1km,ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
PRU ***10*** *20:41:09.6,50˚.21N×12˚.43E,h10km, West Bohemia Swarm-felt*
CLL ***10*** *20:41:10.4±0.3,50˚.26N×12˚.44E,h8km,ML2.5*
WBNET 10 20:41:10.1,50˚.25N×12˚.45E,h9km,Ml2.6,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**177**	*i* Pg	Pg	20 41 11.8	+0.1
NKC				*i* Sg	Sg	20 41 12.9	+0.1
NKC				IAML		20 41 13.1	
	comp=E,3μm,0.1s						
NKC	**Novy Kostel**	**0.02**	**177**	*e*SG	Sg	20 41 12.8	-0.1
	comp=E,1μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**177**	*i* Pg	Pg	20 41 11.8	+0.1
NKC				*i* Sg	Sg	20 41 12.9	+0.1
	comp=E,3μm,0.1s						
NKC	**Novy Kostel**	**0.02**	**177**	⇑P	Pg	20 41 11.8	+0.1
NKC				S	Sg	20 41 13.0	+0.1
LBCW	**Luby**	**0.03**	**298**	⇓P	Pg	20 41 11.9	+0.1
LBCW				S	Sg	20 41 13.2	+0.2
STCW	**Studenec**	**0.05**	**84**	*i* Pg	Pg	20 41 12.0	0.0
STCW				*i* Sg	Sg	20 41 13.2	-0.1
STCW	**Studenec**	**0.05**	**84**	*i* Pg	Pg	20 41 12.0	0.0
STCW				*i* Sg	Sg	20 41 13.2	-0.1
STCW	**Studenec**	**0.05**	**84**	⇑P	Pg	20 41 12.0	0.0
STCW				S	Sg	20 41 13.2	-0.1
VAC	**Vackov**	**0.05**	**246**	*i* Pg	Pg	20 41 12.0	+0.1
VAC				*i* Sg	Sg	20 41 13.2	0.0
VAC	**Vackov**	**0.05**	**246**	⇓P	Pg	20 41 12.0	+0.1
VAC				S	Sg	20 41 13.3	0.0
WERN	**Wernitzgruen**	**0.06**	**307**	*i* Pg	Pg	20 41 12.1	+0.1
WERN				*i* Sg	Sg	20 41 13.5	+0.1
WERN				IAML		20 41 13.7	
	comp=E,5μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**307**	*i* Pg	Pg	20 41 12.1	+0.1
WERN				*i* Sg	Sg	20 41 13.5	+0.1
	comp=E,5μm,0.2s						
KVC	**Kvetna**	**0.07**	**137**	*i* Pg	Pg	20 41 12.1	0.0
KVC				*e*Sg	Sg	20 41 13.5	-0.1
KVC	**Kvetna**	**0.07**	**137**	⇓P	Pg	20 41 12.1	0.0
KVC				S	Sg	20 41 13.5	-0.1
POCW	**Potky**	**0.07**	**350**	⇓P	Pg	20 41 12.3	+0.1
POCW				S	Sg	20 41 13.8	+0.1
ROHR	**Rohrbach**	**0.09**	**257**	*i* Pg	Pg	20 41 12.4	0.0
ROHR				*i* Sg	Sg	20 41 13.9	-0.1
ROHR				IAML		20 41 14.0	
	comp=E,4μm,0.2s						
ROHR	**Rohrbach**	**0.09**	**257**	*i* Pg	Pg	20 41 12.4	0.0
ROHR				*i* Sg	Sg	20 41 13.9	-0.1
	comp=E,4μm,0.2s						
KRCW	**Kraslice**	**0.10**	**35**	⇑P	Pg	20 41 12.5	0.0
KRCW				S	Sg	20 41 14.2	-0.1
SKC	**Skalna**	**0.10**	**213**	⇑P	Pg	20 41 12.6	+0.1
SKC				S	Sg	20 41 14.3	+0.1
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Pg	20 41 13.2	+0.1
GUNZ				*i* Sg	Sg	20 41 15.1	0.0
GUNZ				IAML		20 41 15.6	
	comp=E,882nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**326**	*i* Pg	Pg	20 41 13.2	+0.1
GUNZ				*i* Sg	Sg	20 41 15.1	0.0
	comp=E,882nm,0.2s						
KOCW	**Kopaniny**	**0.14**	**275**	⇓P	Pg	20 41 13.2	+0.1
KOCW				S	Sg	20 41 15.2	0.0
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg	Pg	20 41 13.5	0.0
MULD				*i* Sg	Sg	20 41 15.8	-0.2
MULD				*e*Sg	Sg	20 41 15.8	-0.2
MULD				IAML		20 41 15.9	
	comp=E,2μm,0.1s						
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg	Pg	20 41 13.5	0.0
MULD				*i* Sg	Sg	20 41 15.8	-0.2
	comp=E,2μm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	20 41 13.5	-0.1
TANN				*i* Sg	Sg	20 41 15.7	-0.3
TANN				IAML		20 41 16.3	
	comp=N,3μm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	20 41 13.5	-0.1
TANN				*i* Sg	Sg	20 41 15.7	-0.3
	comp=N,3μm,0.2s						
TRCW	**Trojmez**	**0.20**	**284**	⇓P	Pg	20 41 14.2	0.0
TRCW				S	Sg	20 41 17.0	0.0
ZHC	**Zelena Hora**	**0.20**	**206**	⇑P	Pg	20 41 14.3	+0.1
ZHC				S	Sg	20 41 17.2	+0.1
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	20 41 14.4	0.0
WERD				*i* Sg	Sg	20 41 17.2	-0.2
WERD				IAML		20 41 17.4	
	comp=E,382nm,0.1s						
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	20 41 14.4	0.0
WERD				*i* Sg	Sg	20 41 17.2	-0.2
	comp=E,382nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**296**	*i* Pg	Pg	20 41 14.5	0.0
TRIB				*i* Sg	Sg	20 41 17.5	-0.1
TRIB				IAML		20 41 17.8	
	comp=N,308nm,0.3s						
TRIB	**Obertriebel**	**0.22**	**296**	*i* Pg	Pg	20 41 14.5	0.0
TRIB				*i* Sg	Sg	20 41 17.5	-0.1
	comp=N,308nm,0.3s						
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg	Pg	20 41 14.7	-0.1
VIEL				*i* Sg	Sg	20 41 17.8	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**253**	*i* Pg	Pg	20 41 14.7	-0.1
VIEL				*i* Sg	Sg	20 41 17.8	-0.1
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	20 41 14.9	+0.1
LACW				*i* Sg	Sg	20 41 18.2	+0.2
LACW	**Lazy**	**0.23**	**150**	*i* Pg	Pg	20 41 14.9	+0.1
LACW				*i* Sg	Sg	20 41 18.2	+0.2
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	20 41 14.9	+0.1
LACW				S	Sg	20 41 18.2	+0.2
PLN	**Plauen**	**0.30**	**321**	*i* Pg	Pg	20 41 15.9	0.0
PLN				*i* Sg	Sg	20 41 19.9	0.0
PLN				IAML		20 41 20.0	
	comp=E,244nm,0.2s						
PLN	**Plauen**	**0.30**	**321**	*i* Pg	Pg	20 41 15.9	0.0
PLN				*i* Sg	Sg	20 41 19.9	0.0
	comp=E,244nm,0.2s						
MANZ	**Manzenberg**	**0.34**	**219**	*e*Sg	Sg	20 41 21.4	0.0
SCHF	**Schoenfels**	**0.42**	**356**	*e*Pg	Pg	20 41 18.3	-0.1
SCHF				*i* Sg	Sg	20 41 23.9	-0.1
SCHF				IAML		20 41 24.4	
	comp=E,482nm,0.3s						
SCHF	**Schoenfels**	**0.42**	**356**	*e*Pg	Pg	20 41 18.3	-0.1
SCHF				*i* Sg	Sg	20 41 23.9	-0.1
	comp=E,482nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	20 41 18.8	-0.2
GRZ1				*i* Sg	Sg	20 41 24.7	-0.4
GRZ1				IAML		20 41 26.7	
	comp=E,176nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	20 41 18.8	-0.2
GRZ1				*i* Sg	Sg	20 41 24.7	-0.4
	comp=E,176nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Pg	Pg	20 41 19.8	-0.2
ROTZ				*e*Sg	Sg	20 41 26.5	-0.2
MOX	**Moxa**	**0.66**	**307**	*e*Pg	Pg	20 41 22.1	-0.3
MOX				*e*Sg	Sg	20 41 31.5	+0.1
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*PG	Pg	20 41 23.7	-0.3
HSKC				*e*SG	Sb	20 41 35.1	+0.2
	comp=E,83nm,0.3s						
FBE	**Freiberg**	**0.88**	**41**	*e*Pg	Pg	20 41 26.8	-0.2
FBE				*e*Sg	Sg	20 41 38.3	-0.3
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	20 41 28.7	0.0
GRF				*e*Sg	Sg	20 41 41.5	+0.2
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	20 41 30.7	-0.7
CLL				*i* x	x	20 41 32.7	
CLL				*i* x	x	20 41 34.2	
CLL				*i* Sg	Sg	20 41 45.6	-0.3
	comp=Z,60nm,0.4s						
CLL				*i* x	x	20 41 49.2	
CLL	**Collm**	**1.11**	**18**	*e*Pg	Pg	20 41 30.8	-0.6
CLL				*e*Sg	Sg	20 41 45.5	-0.3
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	20 41 31.4	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**	Sg	Sg	20 41 45.8	-0.8
BRG				Amp		20 41 46.5	
	comp=Z,60nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	Pg	20 41 31.3	-0.6
BRG				*e*Sg	Sg	20 41 46.2	-0.5
WET	**Wettzell**	**1.15**	**166**	*e*Pg	Pg	20 41 31.5	-0.6
WET				*e*Sg	Sg	20 41 46.3	-0.6
KHC	**Kasperske Hory**	**1.34**	**146**	*e*SG	Sb	20 41 51.2	-1.5
	comp=Z,36nm,0.3s						
PRU	**Pruhonice**	**1.38**	**100**	*e*SG	Sb	20 41 53.0	-0.6
	comp=Z,42nm,0.2s						
PRU	**Pruhonice**	**1.38**	**100**	*e*Pg	Pn	20 41 35.5	+0.1
PRU				*e*Sg	Sb	20 41 53.6	0.0
GEC2	**GERESS Array S**	**1.63**	**149**	*e*Sg	Sb	20 42 00.8	-0.3
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	Pn	20 41 54.8	-0.6
KRUC				*e*SG	Sb	20 42 38.0	+2.5
VRAC	**Vranov**	**2.85**	**108**	*e*PN	Pn	20 41 55.0	-0.7
VRAC				*e*SG	Sb	20 42 38.2	+2.2
MORC	**Moravsky Berou**	**3.32**	**96**	*e*PN	Pn	20 42 01.5	-0.7
MORC				*e*SG	Sg	20 42 53.3	-3.4
MODS	**Modra-Piesok**	**3.68**	**119**	*e*PG	Pb	20 42 15.6	+0.4
MODS				*e*SG	Sb	20 43 01.8	+1.9
ZST	**Bratislava**	**3.68**	**122**	*e*PG	Pb	20 42 15.3	+0.1
ZST				*e*SN	Sn	20 42 32.7	-18
ZST				*e*SG	Sb	20 43 03.9	+4.0

WEL 10 20:52:46.1±0.5,39˚.5S±2˚×17˚.7E±˚,h29km±4km,M3.5/17, ML3.8/17,MLv3.5/17,Error ellipse: s-maj=0.0km s-min=0.0km az=124.0,confirmed,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNGZ	**Shannon Statio**	**0.11**	**202**	P	Pn	20 52 52.4	+0.4
SNGZ				S	Sb	20 52 57.5	+2.5
RAGZ	**Rawiri**	**0.18**	**6**	P	Pn	20 52 53.3	+0.2
RAGZ				S	Sb	20 52 59.0	+2.8
RIGZ	**Rimuhau**	**0.29**	**95**	P	Pn	20 52 54.5	0.0
RIGZ				S	Sn	20 53 01.8	+1.9
RTZ	**Ruatahuna**	**0.33**	**281**	P	Pn	20 52 54.8	-0.3
RTZ				S	Sn	20 53 01.7	+0.8
RAHZ	**Arahi**	**0.34**	**225**	P	Pn	20 52 54.8	-0.4
RAHZ				S	Sn	20 53 01.9	+0.9
MWZ	**Matawai**	**0.36**	**17**	P	Pn	20 52 55.3	-0.2
MWZ				S	Sn	20 53 02.8	+1.2
KNZ	**Kokohu**	**0.41**	**147**	P	Pb	20 52 55.4	+0.4
KNZ				S	Sn	20 53 03.2	+0.6
WHHZ	**Waihua**	**0.41**	**197**	P	Pn	20 52 56.0	-0.2
WHHZ				S	Sn	20 53 04.7	+1.8
TKGZ	**Te Karaka**	**0.43**	**56**	P	Pn	20 52 56.5	+0.2
TKGZ				S	Sn	20 53 05.4	+2.1
PRGZ	**Paritu Road**	**0.45**	**122**	P	Pb	20 52 56.2	+0.4
MTHZ	**Maungataniwha**	**0.46**	**248**	P	Pn	20 52 56.5	-0.4
MTHZ				S	Sn	20 53 05.0	+0.9
URZ	**Urewera**	**0.47**	**332**	P	Pn	20 52 56.8	-0.1
URZ				S	Sn	20 53 05.4	+1.1
MUGZ	**Murupara**	**0.53**	**292**	P	Pn	20 52 57.6	-0.1
MUGZ				S	Sn	20 53 06.5	+0.8
NMHZ	**Naumai**	**0.62**	**227**	P	Pn	20 52 59.2	+0.2
NMHZ				S	Sn	20 53 10.0	+2.0
MHGZ	**Mahia Peninsul**	**0.62**	**140**	P	Pb	20 52 58.6	+0.1
ARHZ	**Aropaoanui**	**0.66**	**208**	P	Pn	20 52 59.6	+0.1
ARHZ				S	Sn	20 53 11.1	+2.1
CNGZ	**Carnagh Statio**	**0.67**	**73**	P	Pn	20 52 59.5	-0.1
TWGZ	**Tauwhareparae**	**0.68**	**43**	P	Pn	20 53 00.3	+0.4
RUGZ	**Raukumara Rang**	**0.75**	**18**	P	Pn	20 53 01.0	+0.2
RUGZ				S	Sn	20 53 12.7	+1.4
RRRZ	**Republican Roa**	**0.77**	**296**	P	Pn	20 53 01.4	+0.3
MRHZ	**Matea Rd**	**0.78**	**258**	P	Pn	20 53 01.6	+0.4
PRRZ	**Plateau Road**	**0.80**	**283**	P	Pb	20 53 01.8	+0.3
TARZ	**Mount Tarawera**	**0.82**	**302**	P	Pb	20 53 02.3	+0.3
ALRZ	**Allen Road**	**0.83**	**278**	P	Pb	20 53 03.1	+1.1
BKZ	**Black Stump Fm**	**0.85**	**235**	P	Pb	20 53 02.5	+0.1
WHRZ	**Whale Island**	**0.89**	**338**	P	Pb	20 53 03.3	+0.4
MARZ	**Manawahe**	**0.89**	**321**	P	Pb	20 53 04.2	+1.1
MKRZ	**Makatiti**	**0.91**	**306**	P	Pb	20 53 05.0	+1.7
PUZ	**Puketiti**	**0.91**	**49**	P	Pn	20 53 02.6	-0.4
HRRZ	**Handcock Road**	**0.92**	**288**	P	Pn	20 53 03.5	0.0
MCHZ	**McNeill Hill**	**0.94**	**215**	P	Pn	20 53 03.5	-0.1
PKGZ	**Pakihiroa**	**0.96**	**35**	P	Pn	20 53 03.9	-0.2
HAZ	**Te Kaha**	**0.97**	**19**	P	Pn	20 53 04.6	+0.2
HSRZ	**Hossack Road**	**0.97**	**292**	P	Pb	20 53 04.4	0.0
OMRZ	**Omania**	**0.98**	**305**	P	Pn	20 53 04.1	+0.1
CKHZ	**Cape Kidnapper**	**1.01**	**194**	P	Pn	20 53 03.4	-1.0
KWHZ	**Kaweka Forest**	**1.06**	**225**	P	Pn	20 53 05.0	-0.1
OPRZ	**Ohinepanea**	**1.06**	**321**	P	Pn	20 53 04.9	-0.1
WHTZ	**Whakaora**	**1.12**	**270**	P	Pb	20 53 06.6	-0.4
WMGZ	**Waiomatatini S**	**1.18**	**43**	P	Pn	20 53 06.4	-0.2
KAHZ	**Kahuranaki**	**1.18**	**200**	P	Pn	20 53 05.8	-1.0
RITZ	**Rihia Road**	**1.23**	**256**	P	Pn	20 53 07.7	+0.3
KUTZ	**Kaahu Road**	**1.24**	**278**	P	Pn	20 53 07.8	+0.2
KRHZ	**Kereru**	**1.25**	**219**	P	Pn	20 53 06.9	-0.8
RATZ	**Rangitukua**	**1.28**	**261**	P	Pn	20 53 08.4	+0.3
BHHZ	**Black Hill Sta**	**1.31**	**232**	P	Pn	20 53 08.4	-0.1
MXZ	**Matakaoa Point**	**1.33**	**33**	P	Pn	20 53 09.0	+0.2
KATZ	**Kakaramea**	**1.36**	**257**	P	Pn	20 53 09.5	+0.2
TMVZ	**Te Maari**	**1.39**	**251**	P	Pn	20 53 09.6	-0.1
ETVZ	**East Tongariro**	**1.39**	**250**	P	Pn	20 53 09.5	-0.2
NTVZ	**North Tongarir**	**1.40**	**252**	P	Pn	20 53 10.0	+0.2
PXZ	**Pawanui**	**1.41**	**197**	P	Pn	20 53 07.9	-2.0
KRVZ	**Karewarewa**	**1.43**	**253**	P	Pn	20 53 10.1	-0.1
OTVZ	**Oturere**	**1.43**	**250**	P	Pn	20 53 10.3	0.0
SNVZ	**South Ngauruho**	**1.46**	**249**	P	Pn	20 53 10.5	-0.1
NNVZ	**North Ngauruho**	**1.46**	**251**	P	Pn	20 53 11.3	+0.7
MOVZ	**Moawhango**	**1.47**	**240**	P	Pn	20 53 11.1	+0.4
WTVZ	**West Tongariro**	**1.47**	**252**	P	Pn	20 53 10.7	-0.1
NGZ	**Ngauruhoe**	**1.48**	**250**	P	Pn	20 53 10.8	-0.2
WHVZ	**Whangaehu Hut**	**1.53**	**246**	P	Pn	20 53 12.4	+0.7
COVZ	**Chateau Observ**	**1.53**	**250**	P	Pb	20 53 12.8	-1.1
WNVZ	**Wahianoa**	**1.54**	**245**	P	Pn	20 53 11.7	-0.1
PNHZ	**Pukenui**	**1.54**	**217**	P	Pn	20 53 10.4	-1.3
MAVZ	**Matarangi**	**1.54**	**247**	P	Pb	20 53 13.4	-0.8
FWVZ	**Far West T-bar**	**1.54**	**248**	P	Pn	20 53 12.7	+0.8
TRVZ	**Turoa**	**1.56**	**246**	P	Pb	20 53 13.4	-1.1
WPHZ	**Waipukurau**	**1.57**	**208**	P	Pn	20 53 10.6	-1.5
TWVZ	**Taurewa**	**1.57**	**255**	P	Pn	20 53 12.4	+0.2
PRHZ	**Porangahau**	**1.69**	**200**	P	Pn	20 53 11.6	-2.1
TSZ	**Takapari Road**	**1.77**	**218**	P	Pn	20 53 13.3	-1.5
DVHZ	**Dannevirke**	**1.87**	**210**	P	Pn	20 53 14.1	-2.2
ANWZ	**Angora Road**	**1.91**	**201**	P	Pn	20 53 14.4	-2.4
HIZ	**Hauiti**	**1.99**	**274**	P	Pn	20 53 18.7	+0.8
VRZ	**Vera Road**	**2.10**	**257**	P	Pn	20 53 20.2	+0.8
POWZ	**Post Office Ro**	**2.12**	**216**	P	Pn	20 53 17.7	-2.0
WAZ	**Wanganui**	**2.15**	**239**	P	Pn	20 53 20.7	+0.6
PRWZ	**Pori Road**	**2.17**	**210**	P	Pn	20 53 18.2	-2.1
BFZ	**Birch Farm**	**2.19**	**203**	P	Pn	20 53 17.8	-2.7
CPWZ	**Castlepoint**	**2.41**	**202**	P	Pn	20 53 21.6	-2.0
MRZ	**Mangatainoka R**	**2.42**	**215**	P	Pn	20 53 21.0	-2.7
NEZ	**North Egmont**	**2.63**	**256**	P	Pn	20 53 29.5	+2.8
HOWZ	**Holdsworth Sta**	**2.65**	**213**	P	Pn	20 53 23.6	-3.3
TMWZ	**Te Maipa**	**2.69**	**205**	P	Pn	20 53 24.1	-3.3
OGWZ	**Otaki Gorge**	**2.74**	**218**	P	Pn	20 53 25.0	-3.1
MTW	**Mount Morrison**	**2.87**	**210**	P	Pn	20 53 26.2	-3.7
KIW	**Kapiti Island**	**2.90**	**220**	P	Pn	20 53 27.6	-2.7
CAW	**Cannon Point**	**3.01**	**216**	P	Pn	20 53 28.4	-3.5
TRWZ	**Traveller**	**3.01**	**205**	P	Pn	20 53 28.0	-3.9
PAWZ	**Paruwai Farm**	**3.09**	**209**	P	Pn	20 53 29.5	-3.5
DUWZ	**D'Urville Isla**	**3.41**	**231**	P	Pn	20 53 35.4	-2.0
TCW	**Tory Channel**	**3.48**	**222**	P	Pn	20 53 34.7	-3.6
MRNZ	**Matariki Terra**	**4.47**	**231**	P	Pn	20 53 48.9	-3.0
THZ	**Tophouse**	**4.61**	**227**	P	Pn	20 53 50.4	-3.5
KHZ	**Kahutara**	**4.75**	**217**	P	Pn	20 53 52.6	-3.1

IDC ***10*** *20:55:54.5±1.6,0˚.69N×125˚.61E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=175.2km s-min=22.7km az=65.0*
DJA ***10*** *20:55:59.3±0.4,1˚.1N±7˚×12˚.6E±˚,h10km,M3.5/6,MLv3.5/6*
ISC 10 20:55:56.8±1.1,1˚.0N±0˚.1×126˚.12E±0˚.06,h10km,n8, σ1§79/10,mb3.6/4,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.27**	**101**	P	Pn	20 56 22.5	+1.9
LBMI	**Labuha**	**2.15**	**140**	P	Pn	20 56 34.1	+1.4
KMSI	**Cibinong**	**2.19**	**258**	P	Pn	20 56 34.2	+1.0
KMSI				S	Sn	20 57 02.5	+2.2
GTOI	**Gorontalo**	**3.13**	**263**	P	Pb	20 56 52.2	-0.4
GTOI				S	Sb	20 57 31.2	+0.3
WRA	**Warramunga Arr**	**22.34**	**159**	P	P	21 00 53.3	-1.7
	0.8nm,0.6s,baz=336,slow=11,SNR=7.0 0.8nm,0.6s						
ASAR	**Alice Springs**	**25.68**	**163**	P	P	21 01 24.5	-2.6
	0.4nm,0.5s,baz=343,slow=9.0,SNR=2.5 0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.44**	**326**	P	P	21 05 59.4	-0.4
	0.3nm,0.4s,baz=116,slow=7.6,SNR=5.2 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.70**	**328**	P	P	21 06 27.6	-0.8
	0.6nm,0.8s,baz=125,slow=6.2,SNR=7.7 0.6nm,0.8s						

IDC ***10*** *21:12:51.5±1.1,14˚.52S×166˚.82E,h0km,mb3.9/5, mbtmp3.9/6,ML3.5/1,MS3.4/1,Error ellipse: s-maj=37.3km s-min=23.7km az=101.0*
NEIC ***10*** *21:12:57.3±1.2,14˚.55S±0˚.03×166˚.7E±0˚.2,h35km±2km, mb4.5/6,Error ellipse: s-maj=30.4km s-min=4.8km az=88.0*
ISC 10 21:12:56.2±0.9,14˚.54S±0˚.09×166˚.7E±0˚.2,h28km,n20, σ1§07/21,mb4.4/9,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**6.22**	**175**	Pn	Pn	21 14 25.2	-1.0
KOUNC	**Koumac, New Ca**	**6.41**	**201**	Pn	Pn	21 14 28.8	+0.1
DZM	**Mont Dzumac**	**7.49**	**182**	Pn	Pn	21 14 44.0	+0.3
DZM	**Mont Dzumac**	**7.49**	**182**	Pn	Pn	21 14 44.8	+1.0
	0.7nm,0.3s,baz=35,slow=14,SNR=2.1						
DZM				Sn	Sn	21 16 07.8	-0.1
	0.6nm,0.3s,baz=234,slow=23,SNR=1.6						
DZM				LR	LR	21 17 07.0	
	comp=Z,235nm,18.8s,baz=39,slow=34 2.9nm,0.3s						
ONTNC	**Ouen Toro**	**7.73**	**182**	Pn	Pn	21 14 47.8	+0.9
OUENC	**Ouen Island, N**	**7.84**	**179**	Pn	Pn	21 14 48.1	-0.3
WB0	**Warramunga Arr**	**31.28**	**256**	P	P	21 19 10.8	-3.3
WRA	**Warramunga Arr**	**31.34**	**256**	P	P	21 19 14.7	+0.1
	0.8nm,0.8s,baz=82,slow=7.0,SNR=3.3 0.8nm,0.8s						
ASAR	**Alice Springs**	**32.23**	**249**	P	P	21 19 22.7	+0.3
	0.5nm,0.6s,baz=74,slow=9.7,SNR=8.4 0.5nm,0.6s						
BBOO	**Buckleboo**	**33.27**	**232**	P	P	21 19 32.7	+1.4
BBOO				IAmb	IAmb	21 19 38.4	
	comp=Z,13nm,1.1s						
FITZ	**Fitzroy Crossi**	**39.52**	**259**	P	P	21 20 23.6	-1.3
MJAR	**Matsushiro Arr**	**57.49**	**333**	P	P	21 22 43.6	+0.7
	comp=Z,1.1nm,0.8s,baz=176,slow=8.2,SNR=3.0 comp=Z,1.1nm,0.8s						
QSPA	**South Pole Qui**	**75.48**	**180**	P	P	21 24 37.5	-0.1
QSPA	**South Pole Qui**	**75.48**	**180**	P	P	21 24 37.7	0.0
	comp=Z,1.1nm,0.7s,baz=16,slow=1.3,SNR=6.9 comp=Z,1.1nm,0.7s						
IL31		**86.52**	**18**	P	P	21 25 35.8	-0.2
IL31				IAmb	IAmb	21 25 38.9	
	comp=Z,1.7nm,0.7s						
ILAR	**Eielson Array**	**86.52**	**18**	P	P	21 25 35.6	-0.5
ILAR	**Eielson Array**	**86.52**	**18**	P	P	21 25 35.5	-0.7
	comp=Z,1.8nm,0.7s,baz=239,slow=5.3,SNR=22 comp=Z,1.8nm,0.7s						
D19K	**Kuna River**	**86.56**	**12**	P	P	21 25 36.9	+0.6
D19K				IAmb	IAmb	21 25 54.9	
	comp=Z,3.4nm,1.1s						
F21K	**

DNIZ	Denizli-Tavas-	3.41	29	P		Pb		21 18 25.4	-2.1		
DNIZ				*i* AML		AML		21 19 17.0			
	comp=N,37nm,0.3s										
DNIZ				*i* AML		AML		21 19 19.0			
	comp=N,27nm,0.4s										
IZMR	zmir-demi	3.57	12	P		Pb		21 18 27.6	-2.7		
ZEYE	Izmir, Urla-Ze	3.61	354	P		Pn		21 18 26.0	+3.4		
ZEYE				*i* AML		AML		21 19 18.0			
	comp=N,13nm,1.3s										
KIRA	zmir-Kiraz	3.73	17	P		Pb		21 18 29.4	-3.6		
CSS	Mathiatis	5.23	85	P		Pn		21 18 48.3	+3.4		
MMAI	Mount Meron Ar	7.19	101	Pn		Pn		21 19 13.7	+1.9		
	comp=N,0.6nm,0.3s,baz=273,slow=12,SNR=2.0										
MMAI				Sn		Sn		21 20 31.5	-1.4		
	comp=N,3.2nm,0.3s,baz=275,slow=20,SNR=3.2 comp=N,0.5nm,0.3s										
KZIT	Kziot	7.26	119	P		Pn		21 19 11.4	-1.4		
KZIT	Kziot	7.26	119	S		Sn		21 20 26.6	-8.1		
AMAZ	Amatzia	7.34	113	P		Pn		21 19 15.4	+1.6		
GEM	Giv'at Ha'Em	7.35	99	P		Pn		21 19 15.0	+1.0		
NATI	Neve Ativ	7.40	98	P		Pn		21 19 16.0	+1.4		
HMDT	Nahal Hemdat	7.52	106	S		Sn		21 20 37.6	-3.4		
HMDT	Nahal Hemdat	7.52	106	P		Pn		21 19 17.3	+1.0		
YTIR	Yattir	7.57	113	P		Pn		21 19 17.1	0.0		
YTIR	Yattir	7.57	113	S		Sn		21 20 36.9	-5.4		
UJAP	Al Uja	7.58	108	P		Pn		21 19 17.7	+0.5		
DSI	Dead Sea	7.68	111	P		Pn		21 19 18.4	-0.1		
DSI	Dead Sea	7.68	111	S		Sn		21 20 39.5	-5.4		
MSBI	Mazada	7.78	113	P		Pn		21 19 19.8	+0.1		
MSBI	Mazada	7.78	113	S		Sn		21 20 41.7	-5.5		
GHAJ	Ghor Haditha	7.94	112	P		Pn		21 19 22.0	-0.1		
KRMI	Paran Flat	7.95	122	P		Pn		21 19 21.4	-0.8		
KRMI	Paran Flat	7.95	122	S		Sn		21 20 43.6	-7.9		
PRNI	Paran	8.01	120	P		Pn		21 19 22.7	-0.4		
PRNI	Paran	8.01	120	S		Sn		21 20 46.2	-6.8		
HRFI	Mount Harif	8.21	122	S		Sn		21 20 50.7	-7.3		
HRFI	Mount Harif	8.21	122	P		Pn		21 19 25.9	0.0		
EIL	Elat	8.37	124	Pn		Pn		21 19 28.0	0.0		
	comp=N,0.4nm,0.3s,baz=317,slow=3.3,SNR=11										
EIL				Sn		Sn		21 20 52.5	-9.5		
	comp=N,1.3nm,0.3s,baz=242,slow=5.9,SNR=6.9 comp=N,0.9nm,0.3s										
EIL	Elat	8.37	124	P		Pn		21 19 26.9	-1.2		
EIL	Elat	8.37	124	S		Sn		21 20 52.9	-9.0		
AKASG	Malin Array Be	16.13	5	Pn		P		21 21 16.6	+0.2		
	comp=N,1.1nm,0.3s,baz=191,slow=11,SNR=6.1										
ESDC	Sonseca Array	25.10	291	P		P		21 22 49.4	-1.9		
	comp=N,0.3nm,0.6s,baz=82,slow=9.2,SNR=5.0 comp=N,0.3nm,0.6s										
FINES	FINESS Array B	26.83	359	P		P		21 23 07.0	+0.5		
	comp=N,0.5nm,0.5s,baz=172,slow=11,SNR=4.9 comp=N,0.5nm,0.5s										
HFS	Hagfors	26.94	345	P		P		21 23 07.7	+0.2		
	comp=N,0.6nm,0.3s,baz=138,slow=13,SNR=1.9 comp=N,0.6nm,0.3s										
EKA	Eskdalemuir Ar	29.34	324	P		P		21 23 27.0	-2.0		
	comp=N,0.2nm,0.4s,baz=131,slow=10,SNR=2.7 comp=N,0.2nm,0.4s										
ARCES	ARCESS Array B	34.96	359	P		P		21 24 17.2	-0.9		
	comp=N,0.8nm,0.9s,baz=170,slow=8.1,SNR=5.0 comp=N,0.8nm,0.9s										
AAK	Ala-Archa	37.54	63	LR		LR		21 42 25.0			
	comp=N,54nm,18.7s,baz=341,slow=40										
KURBB	Kurchatov Arra	40.28	50	P		P		21 25 05.5	+2.2		
	comp=N,0.1nm,0.4s,baz=277,slow=8.2,SNR=4.4 comp=N,0.1nm,0.4s										
MKAR	Makanchi Array	42.81	56	P		P		21 25 26.5	+2.4		
	comp=N,0.3nm,0.6s,baz=273,slow=6.4,SNR=5.3 comp=N,0.3nm,0.6s										
SPITS	Spitsbergen Ar	43.88	357	P		P		21 25 32.8	+0.4		
	comp=N,6.8nm,1.0s,baz=147,slow=11,SNR=5.8 comp=N,6.8nm,1.0s										
ZALV	Zalesovo Beam	44.28	46	P		P		21 25 38.2	+2.4		
	comp=N,0.3nm,0.3s,baz=251,slow=8.1,SNR=2.3 comp=N,0.3nm,0.3s										

BJI ***10*** *22:15:39.1±0.0,22.07S×179.04W,h598km,mb5.0/52, mB4.9/32*

NOU ***10*** *22:15:40.4,22.31S×179.40W,h601km,mb5.2/88,South of Fiji Islands*

NEIC ***10*** *22:15:40.7±1.5,22.28S±0.08×179.53W±0.09, h587km±5km,mb5.0/395,Mww5.2/6,Error ellipse: s-maj=12.7km s-min=12.1km az=57.0*

MOS ***10*** *22:15:40.1±1.3,22.28S×179.57W,h596km,mb5.0/32, Error ellipse: s-maj=9.9km s-min=8.8km az=81.9*

NEIC ***10*** *22:15:40.7,22.29S×179.53W,h590km*

NEIC ***10*** *22:15:40.7,22.39S×179.42W,h590km,Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16Nm; Mrr7.05; Mθθ-3.94; Mφφ-3.12; Mrθ-0.14; Mθφ-1.92; Mφr-5.13; Fault plane solution: M07.88000×10^16 NP1: φs204.65000°,δ63.73000°,λ73.10000°. NP2:φs59.11000°, δ30.91000°,λ120.49000°. Principal axes: T 9.2214, Plg67.0000°, Azm83.0000°; N -2.6800, Plg15.0000°, Azm212.0000°; P -6.5414, Plg17.0000°, Azm307.0000°;*

IDC ***10*** *22:15:40.8±0.4,22.26S×179.61W,h593km±3km,mb4.4/32, mbtmp5.4/33 Error ellipse: s-maj=8.7km s-min=7.5km az=168.0*

GCMT ***10*** *22:15:44.7±0.2,22.50S±0.03×179.51W±0.03, h614km±2km,MW5.3/86,Moment Tensor Solution. s86,c126; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.58±.03; Mθθ-0.27±.04; Mφφ-0.31±.04; Mrθ-0.64±.04; Mθφ-0.31±.04; Mφr-0.68±.04; Best double couple: M01.11000×10^17 NP1:φs223.00000°,δ74.00000°, λ90.00000°. NP2:φs43.00000°,δ16.00000°,λ90.00000°. Principal axes: T 1.0990, Plg61.0000°, Azm133.0000°; N 0.0220, Plg0.0000°, Azm43.0000°; P -1.1210, Plg29.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 10 22:15:41.1±0.3, 22.32S±0.04×179.49W±0.04, h603km±2km, h604km; pP-P, n1367, σ1s17/1399, mb5.0/284, 91C-68D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	Nonsavu	5.11	333	P		P	22 17 15.3	0.0
MSVF	Nonsavu	5.11	333	P		P	22 17 15.3	0.0
MSVF	Nonsavu	5.11	333	P		P	22 17 15.3	0.0
TAVE	Taveuni	5.59	356	P		P	22 17 19.2	+0.1
YSA	Yasawairara	6.24	333	P		P	22 17 24.4	-0.1
RAO	Raoul Island	7.05	169	P		P	22 17 30.8	-0.7
RAO	Raoul Island	7.05	169	P		P	22 17 30.5	-1.1
RAO	Raoul Island	7.05	169	P		P	22 17 30.6	-0.9
	4μm,0.3s,baz=329,slow=2.1,SNR=30							
RAO				S		S	22 18 52.6	-9.4
	340nm,0.3s,baz=71,slow=21,SNR=1.1							
RAO	Raoul Island	7.05	169	P		P	22 17 30.5	-1.1
NIUE	Niue	9.51	72	P		P	22 17 54.5	-0.6
	baz=9.5,SNR=18							
NIUE	Niue	9.51	72	P		P	22 17 54.6	-0.6
NIUE	Niue	9.51	72	P		P	22 17 54.5	-0.6
AFI	Afiamalu	11.12	43	P		P	22 18 08.2	-3.0
AFI	Afiamalu	11.12	43	P		P	22 18 08.2	-3.0
MARNC	Mare, Loyalty	11.62	272	P		P	22 18 15.5	-0.5
MARNC	Mare, Loyalty	11.62	272	P		P	22 18 15.3	-0.7
PINNC	Pines Island,	12.09	266	P		P	22 18 20.0	-0.7
PINNC	Pines Island,	12.09	266	P		P	22 18 20.1	-0.6
LIFNC	LIFOU	12.45	275	P		P	22 18 22.8	-1.5
LIFNC	LIFOU	12.45	275	P		P	22 18 22.8	-1.5
OUENC	Ouen Island, N	12.65	267	P		P	22 18 25.6	-0.8
OUENC	Ouen Island, N	12.65	267	P		P	22 18 25.6	-0.8
ONTNC	Ouen Toro	13.01	267	P		P	22 18 29.2	-0.8
ONTNC	Ouen Toro	13.01	267	P		P	22 18 29.1	-0.9
DZM	Mont Dzumac	13.04	268	P		P	22 18 29.4	-1.0
DZM	Mont Dzumac	13.04	268	*e*Pn		P	22 18 29.1	-1.3
	348nm,0.8s							
DZM				*e*Sn		S	22 20 48.3	-1.1
	182nm,1.4s							
DZM	Mont Dzumac	13.04	268	P		P	22 18 29.4	-1.0
	168nm,0.5s,baz=89,slow=16,SNR=22							
NFK	Norfolk Island	13.16	237	P		P	22 18 32.5	+1.1
	baz=13,SNR=3.2							
NOUC	Port Laguerre	13.17	268	P		P	22 18 30.5	-1.1
FUNA	Funafuti	13.77	355	P		P	22 18 36.0	-1.8
FUNA	Funafuti	13.77	355	P		P	22 18 35.8	-2.0
OUZ	Omahuta	14.21	204	P		P	22 18 43.2	+1.5
KUZ	Kuaotunu	14.97	195	P		P	22 18 49.5	+0.9
KOUNC	Koumac, New Ca	15.21	274	P		P	22 18 51.5	+0.3
KOUNC	Koumac, New Ca	15.21	274	P		P	22 18 51.4	+0.3
MXZ	Matakaoa Point	15.31	187	P		P	22 18 51.5	-0.3
MXZ	Matakaoa Point	15.31	187	P		P	22 18 50.2	-1.6
WHRZ	Whale Island	15.79	190	P		P	22 18 56.2	+0.1
RUGZ	Raukumara Rang	15.79	188	P		P	22 18 54.6	-1.7
TGRZ	Tauranga	15.79	192	P		P	22 18 56.4	+0.3
PUZ	Puketiti	15.82	187	P		P	22 18 55.1	-1.4
OPRZ	Ohinepanea	15.85	192	P		P	22 18 57.5	+0.8
TWGZ	Tauwhareparae	15.96	187	P		P	22 18 57.0	-0.8
TOZ	Tahuroa Road	15.96	195	P		P	22 18 59.1	+1.4
TOZ	Tahuroa Road	15.96	195	P		P	22 18 59.4	+1.7
KMRZ	Kaimai	15.97	193	P		P	22 18 59.7	+1.8
KARZ	Kaharoa	16.08	192	P		P	22 18 59.5	+0.7
OMRZ	Omania	16.14	192	P		P	22 18 59.9	+0.6
URZ	Urewera	16.16	190	P		P	22 18 56.5	-3.0
URZ	Urewera	16.16	190	P		P	22 18 56.4	-3.0
	139nm,0.6s,baz=102,slow=4.8,SNR=49							
URZ				S		S	22 21 34.8	-6.3
	107nm,0.5s,baz=240,slow=23,SNR=25							
URZ	Urewera	16.16	190	P		P	22 18 56.4	-3.0
MWZ	Matawai	16.17	188	P		P	22 18 57.5	-2.2
TKGZ	Te Karaka	16.23	188	P		P	22 18 59.6	-0.5
CNGZ	Carnagh Statio	16.24	186	P		P	22 18 59.4	-0.9
TARZ	Mount Tarawera	16.24	191	P		P	22 19 00.4	0.0
RRRZ	Republican Roa	16.34	191	P		P	22 19 01.3	+0.1
RAGZ	Rawiri	16.34	189	P		P	22 19 00.6	-0.7
HSRZ	Hossack Road	16.36	192	P		P	22 19 02.6	+1.2
GRRZ	Galatos Road	16.42	192	P		P	22 19 03.3	+1.3
MUGZ	Murupara	16.43	190	P		P	22 19 00.8	-1.2
HRRZ	Handcock Road	16.43	192	P		P	22 19 02.1	0.0
RIGZ	Rimu	16.51	188	P		P	22 19 02.2	-0.6
PRRZ	Plateau Road	16.51	191	P		P	22 19 02.1	-0.7
RTZ	Ruatahuna	16.53	190	P		P	22 19 01.0	-2.0
RTZ	Ruatahuna	16.53	190	P		P	22 19 01.2	-1.8
WPRZ	Whakapapatarin	16.58	192	P		P	22 19 04.1	+0.7
KUTZ	Kaahu Road	16.62	193	P		P	22 19 04.5	+0.7
SNGZ	Shannon Statio	16.64	189	P		P	22 19 02.0	-1.9
PRGZ	Paritu Road	16.71	187	P		P	22 19 05.1	+0.6
MTHZ	Maungataniwha	16.78	190	P		P	22 19 04.0	-1.3
RAHZ	Arahi	16.80	189	P		P	22 19 04.6	-0.9
KNZ	Kokohu	16.83	188	P		P	22 19 04.7	-1.0
MRHZ	Matea Rd	16.83	191	P		P	22 19 03.9	-1.8
WATZ	Wairara	16.84	193	P		P	22 19 06.0	+0.2
HIZ	Hauiti	16.86	195	P		P	22 19 04.7	-1.2
HIZ	Hauiti	16.86	195	P		P	22 19 07.1	+1.1
HIZ	Hauiti	16.86	195	P		P	22 19 07.7	+1.7
MHGZ	Mahia Peninsul	16.93	187	P		P	22 19 05.8	-0.8
RATZ	Rangitukua	16.99	193	P		P	22 19 06.3	-0.9
NMHZ	Naumai	17.02	190	P		P	22 19 06.6	-1.0
KATZ	Kakaramea	17.11	193	P		P	22 19 09.5	+1.1
BKZ	Black Stump Fm	17.14	191	P		P	22 19 06.4	-2.2
BKZ	Black Stump Fm	17.14	191	P		P	22 19 06.6	-2.0
BKZ	Black Stump Fm	17.14	191	P		P	22 19 06.5	-2.2
ARHZ	Aropaoanui	17.16	189	P		P	22 19 07.7	-1.0
NTVZ	North Tongarir	17.23	193	P		P	22 19 08.5	-1.0
KRVZ	Karewarewa	17.24	193	P		P	22 19 08.7	-0.8
TMVZ	Te Maari	17.24	193	P		P	22 19 08.4	-1.2
TWVZ	Taurewa	17.26	193	P		P	22 19 09.3	-0.4
ETVZ	East Tongariro	17.26	193	P		P	22 19 08.6	-1.1
WTVZ	West Tongariro	17.27	193	P		P	22 19 08.6	-1.2
NNVZ	North Ngauruho	17.28	193	P		P	22 19 10.1	+0.1
OTVZ	Oturere	17.30	193	P		P	22 19 09.3	-0.9
NGZ	Ngauruhoe	17.32	193	P		P	22 19 10.6	+0.3
SNVZ	South Ngauruho	17.32	193	P		P	22 19 10.1	-0.3
COVZ	Chateau Observ	17.36	193	P		P	22 19 09.9	-0.7
MCHZ	McNeill Hill	17.38	190	P		P	22 19 09.2	-1.6
KWHZ	Kaweka Forest	17.41	191	P		P	22 19 08.6	-2.4
FWVZ	Far West T-bar	17.41	193	P		P	22 19 11.1	-0.1
MAVZ	Matarangi	17.42	193	P		P	22 19 11.8	+0.3
WHVZ	Whangaehu Hut	17.43	193	P		P	22 19 11.0	-0.4
VRZ	Vera Road	17.46	195	P		P	22 19 12.8	+1.4
MOVZ	Moawhango	17.52	192	P		P	22 19 10.0	-2.0
CKHZ	Cape Kidnapper	17.53	189	P		P	22 19 11.3	-0.7
BHHZ	Black Hill Sta	17.54	191	P		P	22 19 09.0	-3.2
KRHZ	Kereru	17.63	191	P		P	22 19 12.0	-1.1
KAHZ	Kahuranaki	17.70	189	P		P	22 19 12.3	-1.4
PKE	Pukeiti	17.72	197	P		P	22 19 17.4	+3.5
NEZ	North Egmont	17.77	197	P		P	22 19 18.3	+3.9
KHEZ	Kahui Hut	17.81	197	P		P	22 19 13.4	-1.3
KHEZ	Kahui Hut	17.81	197	P		P	22 19 18.4	+3.6
LREZ	Lake Rotokare	17.87	196	P		P	22 19 15.6	+0.4
PNHZ	Pukenui	17.92	191	P		P	22 19 13.8	-1.9
PXZ	Pawanui	17.93	189	P		P	22 19 14.5	-1.2
WPHZ	Waipaiurau	18.03	190	P		P	22 19 16.6	0.0
TSZ	Takapari Road	18.11	191	P		P	22 19 16.0	-1.4
PRHZ	Porangahau	18.20	190	P		P	22 19 17.8	-0.4
DVHZ	Dannevirke	18.30	191	P		P	22 19 17.4	-1.7
RAR	Rarotonga	18.34	90	P		P	22 19 19.0	-0.7
	14nm,0.7s,baz=207,slow=6.8,SNR=1.7							
BFZ	Birch Farm	18.66	190	P		P	22 19 20.7	-1.6
BFZ	Birch Farm	18.66	190	P		P	22 19 20.8	-1.6
MRZ	Mangatainoka R	18.76	192	P		P	22 19 21.2	-2.1
MRZ	Mangatainoka R	18.76	192	P		P	22 19 20.6	-2.6
SNZO	South Karori	19.56	193	P		P	22 19 29.1	-1.4
SNZO	South Karori	19.56	193	P		P	22 19 29.0	-1.4
QRZ	Quartz Range	19.65	198	P		P	22 19 31.6	+0.3
QRZ	Quartz Range	19.65	198	P		P	22 19 31.0	-0.3
NNZ	Nelson	19.78	196	P		P	22 19 32.0	-0.5
CMWZ	Cape Campbell	20.09	194	P		P	22 19 34.0	-0.9
BSWZ	Blackbirch Sta	20.13	195	P		P	22 19 35.8	+0.2
THZ	Tophouse	20.42	196	P		P	22 19 37.4	-0.9
DSZ	Denniston Nort	20.71	199	P		P	22 19 40.6	-0.3
KHZ	Kahutara	20.88	195	P		P	22 19 40.4	-1.9
KHZ	Kahutara	20.88	195	P		P	22 19 40.8	-1.4
CTZ	Chatham Island	21.49	174	P		P	22 19 48.3	+0.5
AMCZ	Amberley	21.81	196	P		P	22 19 49.5	-1.1
OXZ	Oxford	22.11	197	P		P	22 19 51.8	-1.5
MQZ	McQueen's Vall	22.30	195	P		P	22 19 53.8	-1.2
RPZ	Rata Peaks	22.74	198	P		P	22 19 58.9	0.0
RPZ	Rata Peaks	22.74	198	P		P	22 19 58.1	-0.8
FOZ	Fox Glacier	22.95	200	P		P	22 19 59.9	-0.8
HNR	Honiara	23.53	300	P		P	22 20 07.4	+1.1
LBZ	Lake Benmore	23.60	199	P		P	22 20 05.2	-1.3
JCZ	Jackson Bay	23.77	201	P		P	22 20 07.9	-0.2
ODZ	Otahua Downs	24.07	197	P		P	22 20 10.0	-0.7
ODZ	Otahua Downs	24.07	197	P		P	22 20 09.5	-1.2
WKZ	Wanaka	24.36	200	P		P	22 20 12.1	-0.5
TARA	Tarawa	24.66	342	P		P	22 20 16.1	-0.2
TARA	Tarawa	24.66	342	P		P	22 20 15.6	-0.7
GC1S	Gold Coast 1 S	25.08	251	P		P	22 20 21.7	+1.9
MLZ	Mavora Lakes	25.13	201	P		P	22 20 19.9	-0.2
AUWSH	Wavell State H	25.41	253	P		P	22 20 24.3	+1.5
DCZ	Deep Cove	25.55	202	P		P	22 20 23.1	-0.6
SYZ	Scrubby Hill	25.86	198	P		P	22 20 26.1	-0.3
GD1S	Gladstone Soft	27.02	261	P		P	22 20 38.2	+1.3
ARMA	Armidale	27.05	247	P		P	22 20 38.8	+1.5
	baz=27,SNR=85							
ARMA	Armidale	27.05	247	P		P	22 20 38.7	+1.4
ARMA	Armidale	27.05	247	P		P	22 20 38.8	+1.5
EIDS	Eidsvold	27.07	258	P		P	22 20 37.6	+0.3
	baz=27,SNR=49							
EIDS	Eidsvold	27.07	258	P		P	22 20 37.5	+0.2
NTLH	Newcastle Hard	27.54	241	P		P	22 20 43.4	+2.1
RK1H	Rockhampton Ha	27.66	262	P		P	22 20 42.6	+0.1
TBI	Tubuai	27.67	98	*e*P		P	22 20 41.1	-1.5
	392nm,46.0s							
TBI				*ep*P		pP	22 22 17.2	+1.8
	654nm,40.5s							
TBI				*e*S		S	22 24 48.4	+4.6
	808nm,32.0s							
TBI				*es*S		sS	22 27 24.6	-16
	630nm,29.2s							
PAE	Paea	28.46	86	*e*P		P	22 20 52.1	+2.6
	42nm,1.4s							
PPT2	Papeete2	28.48	86	*ep*P		pP	22 22 27.7	+4.7
	122nm,26.2s							
PPT2				*e*S		S	22 24 55.8	-0.8
	134nm,26.5s							
PPT2				*es*S		sS	22 27 38.5	-16
	260nm,29.5s							
PPT	Papeete	28.48	86	P		P	22 20 50.2	+0.5
	38nm,0.7s,baz=89,slow=12,SNR=4.8 38nm,0.7s							
PPTF	Pamatai, Papee	28.49	86	P		P	22 20 50.7	+0.8
SYDH	Sydney Hard Ro	28.55	240	P		P	22 20 51.6	+1.6
TVO	Taravao	28.73	86	*e*P		P	22 20 52.5	+0.5
	15nm,0.7s							
RMQ	Roma	29.17	255	P		P	22 20 56.8	+1.1
	baz=29,SNR=7.8							
RMQ	Roma	29.17	255	P		P	22 20 55.9	+0.3
CNB	Canberra Magne	30.08	238	P		P	22 21 04.8	+1.4
	baz=30,SNR=20							
CNB	Canberra Magne	30.08	238	P		P	22 21 04.7	+1.4
CAN	Canberra	30.36	238	P		P	22 21 07.2	+1.4
CAN	Canberra	30.36	238	P		P	22 21 06.9	+1.1
CAN				IAmb		IAmb	22 21 07.9	
	comp=Z,45nm,0.9s							
CAN	Canberra	30.36	238	P		P	22 21 06.9	+1.1
CAN				pmax		pmax		
	comp=Z,45nm,0.9s							
CAN	Canberra	30.36	238	P		P	22 21 06.8	+1.1
CAN				ScP		ScP	22 26 35.0	+2.8
YNG	Young	30.57	240	P		P	22 21 08.9	+1.5
	baz=31,SNR=6.7							
YNG	Young	30.57	240	P		P	22 21 08.5	+1.0
PMOR	Pomariorio Ree	30.76	82	*e*P		P	22 21 09.4	+0.1
	comp=Z,125nm,0.9s							
VAH	Vaihoa	30.93	82	*e*P		P	22 21 10.6	-0.2
	comp=Z,56nm,0.9s							
TV1H	Townsville Har	31.63	269	P		P	22 21 16.7	0.0
CTAO	Charters Tower	31.98	268	P		P	22 21 19.7	0.0
CTAO	Charters Tower	31.98	268	P		P	22 21 20.0	+0.3
CTAO	Charters Tower	31.98	268	P		P	22 21 20.0	+0.3
CTAO				pmax		pmax		
	comp=Z,230nm,0.6s							
CTAO	Charters Tower	31.98	268	||P	P	22 21 20.0	+0.3
CTAO				PcP		PcP	22 23 50.6	-0.2
CTAO				ScP		ScP	22 26 40.8	+2.8
CMSA	Cobar Meteorol	32.26	246	P		P	22 21 22.6	+0.7
	baz=32,SNR=113							
CMSA	Cobar Meteorol	32.26	246	P		P	22 21 22.3	+0.4
QLP	Quilpie	33.23	255	P		P	22 21 30.5	+0.4
	baz=33,SNR=31							
QLP	Quilpie	33.23	255	P		P	22 21 30.2	+0.1
TOO	Toolangi	33.72	235	P		P	22 21 34.9	+0.9
	baz=34,SNR=10							
TOO	Toolangi	33.72	235	P		P	22 21 33.9	-0.2
TOO	Toolangi	33.72	235	P		P	22 21 33.9	-0.2
MTSU	Mount Surprise	34.17	270	P		P	22 21 38.2	+0.1
	baz=34,SNR=195							
MTSU	Mount Surprise	34.17	270	P		P	22 21 38.0	-0.1
TAU	Tasmania Unive	34.37	225	P		P	22 21 39.7	+0.4
TAU	Tasmania Unive	34.37	225	P		P	22 21 39.7	+0.4
TAU				pmax		pmax		
	comp=Z,264nm,1.7s							
PMG	Port Moresby	34.46	287	P		P	22 21 40.4	-0.1
	comp=Z,427nm,0.8s,baz=85,slow=5.5,SNR=107 comp=Z,427nm,0.8s							
STKA	Stephens Creek	35.77	246	P		P	22 21 51.9	+0.7
	baz=36,SNR=35							
STKA	Stephens Creek	35.77	246	P		P	22 21 51.8	+0.7
STKA	Stephens Creek	35.77	246	P		P	22 21 51.9	+0.7
STKA	Stephens Creek	35.77	246	P		P	22 21 51.9	+0.7
	comp=Z,30nm,0.6s,baz=93,slow=10,SNR=56							
STKA				ScP		ScP	22 26 53.1	+1.8
	comp=Z,10nm,0.7s,baz=28,slow=4.7,SNR=6.0 comp=Z,30nm,0.6s							
STKA	Stephens Creek	35.77	246	P		P	22 21 51.9	+0.7
STKA				pmax		pmax		
	comp=Z,12nm,1.1s							
PATS	Pohnpei	36.23	321	P		P	22 21 55.4	+0.3
	baz=36,SNR=20							
PATS	Pohnpei	36.23	321	P		P	22 21 55.3	+0.3
PATS	Pohnpei	36.23	321	P		P	22 21 55.3	+0.3
INKA	Innaminka	36.33	253	P		P	22 21 56.8	+1.1
COEN	Coen	36.37	277	P		P	22 21 56.5	+0.3
	baz=36,SNR=30							
COEN	Coen	36.37	277	P		P	22 21 56.4	+0.2
COEN	Coen	36.37	277	P		P	22 21 56.3	0.0
MANU	Manus Island	37.98	297	P		P	22 22 09.0	-0.4
MANU	Manus Island	37.98	297	P		P	22 22 08.0	-1.4
QIS	Mount Isa	38.04	265	P		P	22 22 09.3	-0.6
	baz=38,SNR=33							
QIS	Mount Isa	38.04	265	P		P	22 22 09.2	-0.6
HTT	Hallett	38.17	244	P		P	22 22 11.1	+0.3
	baz=38,SNR=8.8							
HTT	Hallett	38.17	244	P		P	22 22 11.2	+0.4
LCRK	Leigh Creek	38.57	249	P		P	22 22 14

PSA00 IAmb IAmb 22 24 24.2
comp=Z,72nm,1.0s
SBA Scott Base 55.98 183 P **P** **22 24 25.4 +2.4**
SBA IAmb IAmb 22 24 27.4
comp=Z,130nm,1.1s
SBA Scott Base 55.98 183 P **P** **22 24 25.5 +2.4**
SBA pmax pmax
comp=Z,130nm,1.1s
SBA Scott Base 55.98 183 ⇑P **P** **22 24 26.1 +3.0**
VNDA Vanda 55.99 185 P **P** **22 24 25.3 +2.1**
VNDA IAmb IAmb 22 24 26.3
comp=Z,41nm,0.7s
VNDA Vanda 55.99 185 P **P** **22 24 25.3 +2.1**
comp=Z,35nm,0.7s,baz=359,slow=7.8,SNR=222
comp=Z,35nm,0.7s
VNDA Vanda 55.99 185 P **P** **22 24 25.3 +2.1**
VNDA pmax pmax
comp=Z,41nm,0.7s
VNDA Vanda 55.99 185 ⇑P **P** **22 24 25.4 +2.2**
VNDA PcP **PcP** **22 25 13.6 +1.1**
MEEK Meekatharra 56.03 252 P **P** **22 24 23.6 -0.7**
baz=56,SNR=12
MEEK Meekatharra 56.03 252 P **P** **22 24 23.7 -0.7**
KLBR Kellerberrin 56.05 246 P **P** **22 24 24.3 -0.1**
baz=56,SNR=18
KLBR Kellerberrin 56.05 246 P **P** **22 24 24.1 -0.3**
MBWA Marble Bar 56.12 259 P **P** **22 24 24.5 -0.6**
MBWA Marble Bar 56.12 259 P **P** **22 24 24.4 -0.6**
MBWA IAmb IAmb 22 24 25.5
comp=Z,68nm,0.8s
MBWA Marble Bar 56.12 259 ⇓P **P** **22 24 24.6 -0.6**
MBWA pP **pP** **22 26 17.1 -0.5**
NWAO Narrogin (SRO) 56.33 245 P **P** **22 24 26.4 +0.1**
baz=56,SNR=13
NWAO P **P** **22 24 26.4 +0.1**
baz=56,SNR=13
NWAO Narrogin (SRO) 56.33 245 P **P** **22 24 26.2 -0.1**
NWAO Narrogin (SRO) 56.33 245 P **P** **22 24 26.2 -0.1**
NWAO Narrogin (SRO) 56.33 245 P **P** **22 24 26.3 -0.1**
NWAO pmax pmax
comp=Z,54nm,1.5s
NWAO Narrogin (SRO) 56.33 245 P **P** **22 24 26.4 +0.1**
SANI Sanana 56.60 283 P **P** **22 24 27.6 -0.8**
SANI Sanana 56.60 283 P **P** **22 24 27.4 -1.0**
comp=Z,143nm,0.9s,comp=Z,1µm
TNTI Ternate 56.61 287 **P** **22 24 28.1 -0.4**
TNTI IAmb IAmb 22 24 29.2
comp=Z,139nm,1.0s
TNTI Ternate 56.61 287 P **P** **22 24 28.1 -0.4**
BLDU Ballidu 57.06 247 P **P** **22 24 31.2 -0.2**
baz=57,SNR=53
BLDU Ballidu 57.06 247 P **P** **22 24 31.2 -0.2**
MUN Mundaring 57.30 246 P **P** **22 24 33.4 +0.4**
baz=57,SNR=5.5
MUN Mundaring 57.30 246 P **P** **22 24 32.9 -0.1**
MMRI Maumere 57.47 274 P **P** **22 24 34.0 -0.4**
MMRI Maumere 57.47 274 P **P** **22 24 33.9 -0.4**
MORW Morawa 57.87 249 P **P** **22 24 36.6 -0.2**
baz=58,SNR=26
MORW Morawa 57.87 249 P **P** **22 24 36.9 0.0**
EDFI Ende, Flores 57.93 274 P **P** **22 24 36.8 -0.8**
comp=Z,158nm,0.9s,comp=Z,2µm
LUWI Luwuk 59.94 282 P **P** **22 24 50.8 -0.1**
LUWI IAmb IAmb 22 24 52.0
comp=Z,144nm,1.0s
LUWI Luwuk 59.94 282 P **P** **22 24 51.2 +0.4**
comp=Z,162nm,1.0s,comp=Z,1µm
CCD Concordia, Ant 60.37 194 ⇑P **P** **22 24 54.5 +1.3**
GTOI Gorontalo 60.44 284 P **P** **22 24 54.4 +0.2**
comp=Z,63nm,0.8s,comp=Z,452nm
BKSI Bulukumba 60.64 277 P **P** **22 24 54.6 -0.8**
comp=Z,92nm,0.7s,comp=Z,755nm
GIRL Giralia 60.75 256 P **P** **22 24 57.2 +1.2**
baz=61,SNR=11
GIRL Giralia 60.75 256 P **P** **22 24 56.8 +0.8**
KAPI Kappang 61.09 277 P **P** **22 24 57.8 -0.7**
KAPI Kappang 61.09 277 eP **P** **22 24 57.4 -1.0**
KAPI pmax pmax
comp=Z,70nm,2.0s
DAV Davao City (W) 61.19 292 P **P** **22 24 58.7 -0.3**
DAV Davao City (W) 61.19 292 P **P** **22 24 58.9 -0.2**
comp=Z,116nm,0.3s,baz=71,slow=2.1,SNR=6.7
comp=Z,116nm,0.3s
PLAI Plampang 61.52 272 P **P** **22 25 01.1 -0.2**
PLAI Plampang 61.52 272 P **P** **22 25 00.8 -0.5**
comp=Z,220nm,0.9s,comp=Z,2µm
CASY Casey 61.74 206 P **P** **22 25 02.1 +0.4**
CASY IAmb IAmb 22 25 03.2
comp=Z,76nm,0.9s
CASY Casey 61.74 206 ⇑P **P** **22 25 02.1 +0.4**
TOLI2 Tolitoli 62.65 284 P **P** **22 25 07.4 -1.2**
TOLI2 IAmb IAmb 22 25 08.8
comp=Z,78nm,1.0s
MPSI Mapaga 63.12 282 P **P** **22 25 10.6 -0.9**
comp=Z,118nm,0.9s,comp=Z,970nm
SRBI Singaraja 64.16 272 P **P** **22 25 17.8 -0.3**
comp=Z,117nm,0.9s
JAGI Jajag, Banyuwa 65.00 271 P **P** **22 25 21.3 -2.2**
JAGI IAmb IAmb 22 25 23.1
comp=Z,68nm,0.9s
JAGI Jajag, Banyuwa 65.00 271 P **P** **22 25 22.9 -0.6**
comp=Z,84nm,0.9s
BLJI Banyuglugur 65.78 271 P **P** **22 25 28.0 -0.2**
comp=Z,145nm,0.7s
GRJI Gresik 67.11 272 P **P** **22 25 37.2 +0.8**
comp=Z,459nm,1.0s
PWJI Pagerwojo 67.34 270 P **P** **22 25 37.7 -0.1**
comp=Z,103nm,0.7s
QSPA South Pole Qui 67.76 180 P **P** **22 25 41.1 +1.4**
QSPA IAmb IAmb 22 25 42.1
comp=Z,237nm,0.9s
QSPA South Pole Qui 67.76 180 P **P** **22 25 41.1 +1.4**
comp=Z,191nm,0.8s,baz=36,slow=2.6,SNR=929
comp=Z,191nm,0.8s
QSPA South Pole Qui 67.76 180 ⇑P **P** **22 25 41.1 +1.4**
QSPA pP **pP** **22 27 41.4 +1.6**
UGM Wanagama 68.56 270 P **P** **22 25 45.2 -0.2**
KPJI Karang Pucung 70.24 270 P **P** **22 25 55.1 -0.2**
comp=Z,92nm,0.7s
JOW Kunigami 70.29 311 P **P** **22 25 55.9 +0.6**
JOW Kunigami 70.29 311 P **P** **22 25 55.8 +0.5**
comp=Z,66nm,0.7s,baz=149,slow=8.8,SNR=11
comp=Z,66nm,0.7s
JMM Marumori 70.55 328 IAmb IAmb 22 25 57.9
comp=Z,65nm,1.1s
STKI Sintang 70.68 278 P **P** **22 25 58.4 +0.5**
comp=Z,84nm,0.9s,comp=Z,8µm
MJAR Matsushiro Arr 70.87 325 P **P** **22 25 58.1 -0.4**
comp=Z,24nm,0.8s,baz=158,slow=5.6,SNR=55
comp=Z,24nm,0.8s
MAJO Matsushiro 70.87 325 P **P** **22 25 58.8 +0.3**
MAJO IAmb IAmb 22 25 59.3
comp=Z,33nm,0.8s
MAJO Matsushiro 70.87 325 P **P** **22 25 58.8 +0.3**
MAJO pmax pmax
comp=Z,33nm,0.9s
MAJO Matsushiro 70.87 325 P **P** **22 25 58.5 0.0**
MJB9 Matsu-Tunnel 70.88 325 P **P** **22 25 59.5 +1.0**
MJB9 IAmb IAmb 22 26 00.3
comp=Z,32nm,0.8s
SBUM Sibu 70.97 281 P **P** **22 26 00.0 +0.5**
JMN Monobe 71.26 320 IAmb IAmb 22 26 02.8
comp=Z,96nm,1.3s
KSM Kuching 72.31 279 pwP 22 28 08.8 -5.3
JNU Nakatsue 72.67 318 P **P** **22 26 08.6 -0.4**
JNU IAmb IAmb 22 26 10.3
comp=Z,55nm,1.1s
JNU Nakatsue 72.67 318 P **P** **22 26 08.3 -0.7**
comp=Z,31nm,1.0s,baz=117,slow=4.6,SNR=13
comp=Z,31nm,1.0s
JTM Tenmabayashi 72.70 330 P **P** **22 26 09.1 +0.2**
YULB Yu-li 73.36 305 IAmb IAmb 22 26 21.4
comp=Z,23nm,0.6s
YHNB Yeheng 74.01 306 IAmb IAmb 22 26 17.6
comp=Z,72nm,1.0s
TATO Taipei 74.10 306 P **P** **22 26 17.2 0.0**
ATKA Atka Island 74.34 3 P **P** **22 26 17.5 -0.4**
JKA Kamikawa-asahi 74.67 333 P **P** **22 26 21.3 +1.3**
JKA IAmb IAmb 22 26 22.4
comp=Z,38nm,0.7s
ASAJ Asahikawa 74.68 333 P **P** **22 26 21.4 +1.3**
comp=Z,34nm,0.8s,baz=230,slow=4.9,SNR=21
comp=Z,34nm,0.8s
ASAJ Asahikawa 74.68 333 P **P** **22 26 21.3 +1.3**
ASAJ pmax pmax
comp=Z,38nm,0.7s

NIKH Nikolski High 75.54 7 P **P** **22 26 24.3 -0.3**
baz=190
UNV Unalaska Valle 76.67 8 P **P** **22 26 30.4 -0.4**
baz=192
YSS Yuzh-Sakhalins 76.91 334 P **P** **22 26 33.6 +1.4**
YSS IAmb IAmb 22 26 34.8
comp=Z,36nm,0.6s
YSS Yuzh-Sakhalins 76.91 334 eP **P** **22 26 33.3 +1.1**
YSS eS **S** **22 35 34.7 +2.7**
YSS pmax pmax
comp=Z,50nm,0.6s
YSS pmax pmax
comp=Z,100nm,5.5s
YSS smax smax
comp=N,200nm,7.2s
TJN Taejon 76.98 318 P **P** **22 26 33.2 +0.3**
TJN IAmb IAmb 22 26 35.6
comp=Z,82nm,0.8s
TJN Taejon 76.98 318 P **P** **22 26 33.2 +0.3**
TJN pmax pmax
comp=Z,82nm,0.8s
KSRS Korea Array 77.35 320 P **P** **22 26 35.0 +0.2**
comp=Z,7.2nm,0.8s,baz=132,slow=5.9,SNR=27
comp=Z,7.2nm,0.8s
KSAR Wonju Array Be 77.36 320 P **P** **22 26 35.5 +0.6**
KSAR Wonju Array Be 77.36 320 P **P** **22 26 35.5 +0.6**
PET Petropavlovsk 77.39 347 P **P** **22 26 34.7 0.0**
PET IAmb IAmb 22 26 35.0
comp=Z,25nm,0.5s
PET Petropavlovsk 77.39 347 eP **P** **22 26 34.5 -0.2**
PET e*PP **pP** **22 28 39.7 +0.2**
PET eS **S** **22 35 38.4 +1.6**
PET pmax pmax
comp=Z,36nm,0.5s
PET Petropavlovsk 77.39 347 P **P** **22 26 34.1 -0.6**
comp=Z,31nm,1.8s
KS19 Wonju Array Si 77.41 320 P **P** **22 26 35.7 +0.5**
PEA0B Petropavlovsk- 77.68 346 IAmb IAmb 22 26 37.5
comp=Z,47nm,0.8s
PEA0B pwP 22 28 43.1 +1.7
PETK Petropavlovsk- 77.68 346 P **P** **22 26 36.1 -0.2**
PETK **pP** **22 28 42.3 +0.9**
PETK Petropavlovsk- 77.68 346 P **P** **22 26 35.8 -0.5**
comp=Z,38nm,0.7s,baz=123,slow=6.7,SNR=87
PETK pP **pP** **22 28 39.9 -1.6**
comp=Z,9.8nm,0.9s,baz=137,slow=7.6,SNR=7.7
comp=Z,38nm,0.7s
BELA Belgrano 2 77.94 173 P **P** **22 26 37.8 +0.3**
FALS False Pass 78.08 9 P **P** **22 26 39.0 +0.6**
baz=195
INCN Inchon 78.14 319 P **P** **22 26 39.8 +0.6**
INCN IAmb IAmb 22 26 41.1
comp=Z,40nm,1.1s
INCN Inchon 78.14 319 P **P** **22 26 39.8 +0.6**
INCN pmax pmax
comp=Z,40nm,1.1s
DLV T Lat 78.35 288 P **P** **22 26 40.9 -0.1**
MYKOM **Kota Tinggi 78.36 277** P **P** **22 26 40.9 0.0**
MSHR Mys Shultsa 78.99 325 *i* P **P** **22 26 43.1 -0.4**
S12K Black Hills 79.11 10 P **P** **22 26 45.0 +1.2**
baz=196
MAW Mawson 79.39 200 P **P** **22 26 46.1 +0.9**
comp=Z,40nm,0.6s,baz=134,slow=5.9,SNR=94
comp=Z,40nm,0.6s
USA0B Ussuriysk Arra 79.70 327 P **P** **22 26 47.5 +0.3**
USA0B Ussuriysk Arra 79.70 327 P **P** **22 26 47.5 +0.3**
USA0B pmax pmax
comp=Z,38nm,1.1s
USRK Ussuriysk Ar. 79.70 327 P **P** **22 26 48.1 +0.9**
USRK Ussuriysk Ar. 79.70 327 P **P** **22 26 48.0 +0.8**
comp=Z,16nm,0.8s,baz=123,slow=3.4,SNR=46
USRK pP **pP** **22 28 53.2 +0.8**
comp=Z,2.8nm,0.9s,baz=164,slow=2.6,SNR=4.2
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 79.70 327 P **P** **22 26 48.1 +0.9**
NJ2 Nanjing 79.99 311 eP **P** **22 26 50.3 +1.3**
NJ2 pmax pmax
comp=Z,30nm,0.7s
SBC Santa Barbara 80.05 46 P **P** **22 26 49.5 +0.2**
baz=234
S14K Fog Glacier 80.09 11 P **P** **22 26 50.0 +0.9**
baz=199
TYV Tymovskoe 80.14 337 eP **P** **22 26 50.4 +1.1**
TYV pmax pmax
comp=Z,23nm,0.8s
PMSA Palmer Station 80.17 157 P **P** **22 26 50.2 +0.8**
PMSA IAmb IAmb 22 26 51.6
comp=Z,77nm,0.8s
PKM Mcpherson Peak 80.25 46 P **P** **22 26 49.9 -0.6**
baz=234
CHGN Chignik 80.32 12 P **P** **22 26 51.5 +1.5**
baz=200
CIS Catalina Islan 80.34 48 P **P** **22 26 50.6 -0.2**
baz=235
SMMC Simmler 80.38 46 P **P** **22 26 50.4 -0.6**
baz=234
CHIR Chirikof Islan 80.43 13 P **P** **22 26 51.3 +0.6**
baz=202
KCPM Cahto Peak 80.77 40 P **P** **22 26 54.2 +1.1**
KMPM Mount Pierce 80.91 40 P **P** **22 26 55.3 +1.6**
KMPM IAmb IAmb 22 26 57.3
comp=Z,71nm,1.0s
CBX Cerro Bola 80.95 50 P **P** **22 26 55.2 +1.1**
CBX IAmb IAmb 22 26 57.1
comp=Z,57nm,1.4s
109C Camp Elliot, M 80.96 49 P **P** **22 26 54.6 +0.6**
109C IAmb IAmb 22 26 56.7
comp=Z,59nm,1.6s
109C Camp Elliot, M 80.96 49 P **P** **22 26 54.1 +0.1**
baz=236
KMRM Mail Ridge 81.03 40 P **P** **22 26 55.0 +0.7**
ARVC Arvin 81.04 46 P **P** **22 26 54.8 +0.4**
baz=235
ELS Elsinore Mount 81.16 48 P **P** **22 26 55.3 +0.2**
MDJ Mudanjiang 81.22 326 P **P** **22 26 56.3 +1.2**
MDJ pP pwP 22 29 03.4 -1.8
MDJ PP **PP** **22 30 10.8 -1.6**
MDJ S **SKSac** **22 36 19.8 +2.6**
MDJ SS **SS** **22 41 51.7 +0.8**
MDJ pmax pmax
comp=Z,39nm,0.8s
MDJ pmax pmax
comp=Z,100nm,4.1s
MDJ Mudanjiang 81.22 326 IAmb IAmb 22 26 57.1
comp=Z,27nm,0.8s
VES Vestal, Richgr 81.28 46 P **P** **22 26 56.2 +0.6**
baz=234
ESJX Sierra Juarez 81.29 50 P **P** **22 26 56.4 +0.5**
MURC Murrieta 81.29 48 P **P** **22 26 56.1 +0.4**
baz=236
BFSC Mount Baldy Ra 81.33 48 P **P** **22 26 55.8 -0.3**
baz=236
SII Sitkinak Islan 81.42 14 P **P** **22 26 56.5 +0.6**
baz=204
KHMM Horse Mountain 81.43 39 P **P** **22 26 58.0 +1.6**
KHMM IAmb IAmb 22 26 59.4
comp=Z,32nm,0.9s
MONP2 Monument Peak 81.44 49 P **P** **22 26 56.1 -0.7**
baz=236,SNR=11
EDW2 Edwards Air Fo 81.47 47 P **P** **22 26 56.8 +0.2**
baz=235,SNR=6.6
IKP In-Ko-Pah, Jac 81.53 50 P **P** **22 26 57.0 -0.1**
baz=237,SNR=6.3
SLBS Sierra La Lagu 81.61 60 P **P** **22 26 58.8 +1.1**
SLBS IAmb IAmb 22 27 00.4
comp=Z,28nm,0.8s
YUH Yuha Desert 81.66 50 IAmb IAmb 22 27 00.0
comp=Z,37nm,1.3s
KRMB Red Mountain 81.74 39 P **P** **22 26 58.8 +0.9**
KRMB IAmb IAmb 22 27 00.9
comp=Z,42nm,1.1s
PFO Pinyon Flats O 81.81 49 P **P** **22 26 59.5 +1.0**
PFO Pinyon Flats O 81.81 49 P **P** **22 26 58.2 -0.3**
baz=236
PFO Pinyon Flats O 81.81 49 P **P** **22 26 59.5 +1.0**
comp=Z,1.4nm,0.2s,baz=252,slow=2.0,SNR=5.1
comp=Z,1.4nm,0.2s
PFO Pinyon Flats O 81.81 49 P **P** **22 26 59.5 +1.0**
PFO pmax pmax
comp=Z,32nm,1.6s
TPFO Pinon Flats 81.81 49 P **P** **22 26 58.1 -0.4**
baz=236
PMD Palm Desert 81.89 49 P **P** **22 26 59.6 +0.9**
SWSC Sam W. Stewart 81.91 50 P **P** **22 26 58.7 -0.2**
baz=237,SNR=6.9
AFDM Forest Hills D 81.91 42 P **P** **22 26 59.9 +1.1**

ORV Oroville 81.95 41 P **P** **22 26 59.8 +0.9**
ORV Oroville 81.95 41 P **P** **22 26 59.8 +0.9**
ORV pmax pmax
comp=Z,20nm,0.9s
KSXB Camp Six Broad 81.95 39 P **P** **22 27 00.3 +1.4**
KSXB IAmb IAmb 22 27 01.9
comp=Z,39nm,1.1s
IPM Ipoh 82.00 278 P **P** **22 26 59.8 0.0**
IPM IAmb IAmb 22 27 01.1
comp=Z,37nm,0.6s
LRMC Laurel Mtn Rad 82.01 47 P **P** **22 26 59.6 +0.1**
baz=235
CWC Cottonwood Cre 82.29 46 P **P** **22 27 01.5 +0.5**
baz=235
L02F Cave Junction 82.31 38 P **P** **22 27 01.7 +1.1**
MDPB Devils Postpil 82.33 44 P **P** **22 27 02.4 +1.2**
BELC Belle Mtn. Jos 82.34 49 P **P** **22 27 01.4 +0.2**
baz=237,SNR=6.7
WHN Wuhan 82.42 307 P **P** **22 27 01.7 +0.3**
UBPT Khong Chiam 82.43 290 P **P** **22 27 02.3 +0.5**
EMB Emerald Bay 82.47 43 P **P** **22 27 01.9 +0.1**
EMB IAmb IAmb 22 27 04.2
comp=Z,69nm,1.7s
MPMC Manual Prospec 82.47 46 P **P** **22 27 02.1 +0.2**
baz=236,SNR=16
GSC Goldstone, Bar 82.51 47 P **P** **22 27 02.5 +0.6**
baz=236,SNR=8.7
BC3 Big Chuckawall 82.53 49 P **P** **22 27 02.7 +0.6**
baz=237
TIN Tinemaha, Big 82.55 45 P **P** **22 27 03.1 +1.0**
baz=235
HEC Hector,Ludlow 82.57 48 P **P** **22 27 02.7 +0.4**
baz=236,SNR=11
YBH Yreka Blue Hor 82.57 39 P **P** **22 27 03.9 +1.8**
YBH Yreka Blue Hor 82.57 39 P **P** **22 27 03.3 +1.2**
comp=Z,14nm,0.7s,baz=179,slow=2.9,SNR=29
comp=Z,14nm,0.7s
YBH Yreka Blue Hor 82.57 39 P **P** **22 27 03.9 +1.8**
YBH pmax pmax
comp=Z,19nm,0.9s
WAKR Walker 82.61 43 IAmb IAmb 22 27 05.0
comp=Z,31nm,0.9s
K02D Willamette Mer 82.62 38 P **P** **22 27 04.1 +1.8**
K02D IAmb IAmb 22 27 05.1
comp=Z,35nm,1.2s
Q17K Contact Creek 82.64 12 P **P** **22 27 02.6 +0.5**
baz=202
O14K Tigyukauivet M 82.65 9 P **P** **22 27 02.7 +0.8**
baz=197
MG05 Puerto Natales 82.70 143 P **P** **22 27 03.4 +0.8**
MG05 IAmb IAmb 22 27 05.0
comp=Z,61nm,0.8s
J01E Myrtle Point 82.77 37 P **P** **22 27 02.3 -0.6**
J01E IAmb IAmb 22 27 05.5
comp=Z,30nm,0.8s
O15K Ungalikthiuk R 82.80 10 P **P** **22 27 03.3 +0.7**
baz=198
QSM Queen of Sheba 82.83 47 P **P** **22 27 04.2 +0.7**
PIX Pinacate 82.84 52 P **P** **22 27 05.1 +1.5**
PNTR Pine Nut 82.85 43 P **P** **22 27 05.2 +1.5**
PNTR IAmb IAmb 22 27 06.0
comp=Z,52nm,0.8s
DSP Deep Springs 82.90 45 P **P** **22 27 04.9 +1.2**
KDAK Kodiak Island 82.90 14 P **P** **22 27 04.3 +1.1**
baz=205
CN2 Changchun 82.90 323 eP **P** **22 27 04.0 +0.4**
CN2 pmax pmax
comp=Z,20nm,0.6s
P16K Nushagak River 82.97 11 P **P** **22 27 04.5 +1.0**
baz=200
HUMO Hull Mountain 82.97 38 P **P** **22 27 05.5 +1.5**
HUMO IAmb IAmb 22 27 07.0
comp=Z,53nm,1.3s
GMRC Granite Mounta 83.00 48 P **P** **22 27 04.6 +0.1**
baz=237,SNR=11
YERR Yerington 83.02 43 IAmb IAmb 22 27 06.6
comp=Z,26nm,0.6s
IRM Iron Mountain 83.02 49 P **P** **22 27 04.6 +0.1**
baz=237,SNR=8.3
LHV Little Huntoon 83.06 44 P **P** **22 27 05.7 +1.2**
GRAC Grapevine Rang 83.08 45 P **P** **22 27 05.1 +0.4**
GRAC IAmb IAmb 22 27 07.2
comp=Z,33nm,1.0s
GRAC Grapevine Rang 83.08 45 P **P** **22 27 05.4 +0.7**
baz=236,SNR=5.7
GWY Greenwater Val 83.09 46 P **P** **22 27 06.0 +1.1**
L04D Klamath Falls 83.11 39 P **P** **22 27 06.4 +1.5**
L04D IAmb IAmb 22 27 07.2
comp=Z,37nm,1.0s
M11K Mekoryuk 83.11 7 P **P** **22 27 05.3 +1.2**
baz=192
FURC Furnace Creek, 83.12 46 P **P** **22 27 04.6 -0.1**
baz=236
BNX BinXian 83.12 326 ⇑P **P** **22 27 05.2 +0.6**
BNX pmax pmax
comp=Z,52nm,0.8s
BNX pmax pmax
comp=Z,110nm,4.4s
DBO Dodson Butte 83.13 38 P **P** **22 27 06.2 +1.3**
TUQ Turquoise Moun 83.18 47 P **P** **22 27 05.3 -0.1**
baz=237
SHOC Shoshone, Teco 83.20 47 P **P** **22 27 05.5 +0.2**
baz=236
N14K Kuskokwak Cree 83.23 9 P **P** **22 27 05.1 +0.4**
baz=197
BLYC Blythe 83.24 49 P **P** **22 27 06.3 +0.8**
BLYC IAmb IAmb 22 27 08.1
comp=Z,66nm,1.6s
113A Mohawk Valley, 83.26 51 P **P** **22 27 06.4 +0.8**
NVAR Mina Array Bea 83.29 44 P **P** **22 27 06.9 +0.9**
comp=Z,16nm,0.9s,baz=223,slow=8.4,SNR=54
comp=Z,16nm,0.9s
KLR Kul'dur 83.39 330 P **P** **22 27 07.0 +1.1**
comp=Z,7.0nm,0.8s,baz=94,slow=5.0,SNR=31
comp=Z,7.0nm,0.8s
KLR Kul'dur 83.39 330 eP **P** **22 27 05.4 -0.5**
KLR pmax pmax
comp=Z,13nm,1.0s
P17K Kvichak River 83.41 12 P **P** **22 27 06.3 +0.7**
baz=201
HSIG 83.42 55 IAmb IAmb 22 27 08.8
comp=Z,30nm,0.7s
I03D Drain, OR 83.44 37 P **P** **22 27 07.1 +0.9**
I03D IAmb IAmb 22 27 08.6
comp=Z,23nm,0.6s
WCT Wildcat Mounta 83.46 46 P **P** **22 27 07.4 +0.8**
MZP Montezuma Peak 83.47 45 P **P** **22 27 07.0 +0.1**
M13K Dall Lake 83.47 8 P **P** **22 27 06.9 +0.9**
baz=195
O16K Kokwok River B 83.48 11 P **P** **22 27 05.8 -0.2**
baz=200
TIA Tai'an 83.49 313 P **P** **22 27 07.4 +0.7**
TIA S **SKSac** **22 36 32.0 -0.3**
TIA pmax pmax
comp=Z,28nm,1.0s
TIA pmax pmax
comp=Z,100nm,4.9s
214A Organ Pipe Nat 83.52 52 P **P** **22 27 08.2 +1.1**
214A Organ Pipe Nat 83.52 52 P **P** **22 27 06.8 -0.2**
baz=239
Q20K Shuyak Island 83.70 14 P **P** **22 27 07.5 +0.4**
baz=205
N15K Kwethluk River 83.70 10 P **P** **22 27 07.7 +0.6**
N15K Kwethluk River 83.70 10 P **P** **22 27 07.3 +0.2**
baz=198
Q19K Cape Douglas, 83.72 13 P **P** **22 27 07.6 +0.3**
baz=204
MG01 Puerto William 83.72 147 P **P** **22 27 08.3 +0.7**
KVN Kaiserville 83.78 43 P **P** **22 27 09.0 +0.7**
KVN Kaiserville 83.78 43 P **P** **22 27 09.0 +0.7**
KVN pmax pmax
comp=Z,11nm,0.8s
TPH Tonopah 83.78 45 P **P** **22 27 08.9 +0.5**
TPH Tonopah 83.78 45 P **P** **22 27 08.9 +0.5**
TPH pmax pmax
comp=Z,120nm,1.1s
PDMCI Parker Dam,Lak 83.80 49 P **P** **22 27 08.0 -0.3**
baz=238,SNR=16
O17K Koliganek Bris 83.83 11 P **P** **22 27 08.5 +0.8**
baz=201
BUCK Buck Mountain 83.95 37 P **P** **22 27 10.5 +1.6**
BUCK IAmb IAmb 22 27 11.5
comp=Z,56nm,1.1s
GSI Gunungsitoli 83.96 274 IAmb IAmb 22 27 11.6
comp=Z,74nm,1.2s
M14K Bethel 83.99 9 P **P** **22 27 09.6 +1.1**

baz=196
I04A Tendick Farm, 84.02 38 P **P** **22 27 09.2 0.0**
V12A Nelson 84.07 48 P **P** **22 27 10.1 +0.4**
M15K Kasigluk River 84.11 9 P **P** **22 27 10.0 +0.9**
baz=198
GO08 Villa O'Higgin 84.13 140 P **P** **22 27 10.8 +1.1**
GO08 lAmb lAmb 22 27 12.6
comp=Z,38nm,1.0s
N16K Nishlik Lake 84.20 10 P **P** **22 27 10.9 +1.3**
baz=199,SNR=6.0
WTNK Soaring Height 84.21 47 P **P** **22 27 11.0 +0.7**
K05A Summer Lake 84.24 39 lAmb lAmb 22 27 13.1
comp=Z,48nm,1.2s
O18K Koktuh Hills 84.25 12 P **P** **22 27 10.0 +0.1**
O18K lAmb lAmb 22 27 10.9
comp=Z,58nm,0.9s
O18K Koktuh Hills 84.25 12 P **P** **22 27 10.5 +0.6**
baz=202
SHPR Sheep Range 84.28 47 P **P** **22 27 11.6 +0.8**
H04D Lebanon 84.30 37 P **P** **22 27 11.7 +1.2**
H04D lAmb lAmb 22 28 03.7
comp=Z,46nm,1.4s
J05D Fort Rock, OR 84.38 39 P **P** **22 27 11.8 +0.7**
J05D lAmb lAmb 22 27 13.6
comp=Z,66nm,1.2s
W13A Hualapai Mount 84.40 49 P **P** **22 27 11.9 +0.4**
L14K Kuka Creek 84.46 8 lAmb lAmb 22 30 26.8
comp=Z,61nm,1.9s
L14K Kuka Creek 84.46 8 P **P** **22 27 12.0 +1.2**
baz=196
N17K Nushagak Hills 84.52 11 P **P** **22 27 11.7 +0.6**
baz=201
AY03 Cochrane 84.66 139 P **P** **22 27 14.2 +1.8**
AY03 lAmb lAmb 22 27 15.2
comp=Z,33nm,0.9s
ELIB Princess Elisa 84.69 187 *d*P **P** **22 27 12.2 +0.1**
comp=Z,101nm,0.9s
ELIB *d*S **S** **22 36 48.1 -2.0**
M16K Timber Creek 84.69 10 P **P** **22 27 12.7 +0.7**
baz=199
H04A Detroit Lake 84.70 37 P **P** **22 27 13.7 +1.2**
H04A lAmb lAmb 22 27 14.3
comp=Z,25nm,1.1s
O19K Port Alsworth 84.74 12 P **P** **22 27 12.4 +0.2**
baz=203
CNPM China Poot 84.78 14 P **P** **22 27 12.6 +0.1**
K13K Kusilvak Mount 84.79 7 P **P** **22 27 13.8 +1.3**
K13K lAmb lAmb 22 30 02.8
comp=Z,53nm,1.9s
K13K Kusilvak Mount 84.79 7 P **P** **22 27 12.8 +0.4**
baz=194
PRN Pahroc Range 84.85 46 P **P** **22 27 15.0 +1.5**
PINE Pine Mountain 84.86 38 lAmb lAmb 22 27 16.1
comp=Z,90nm,1.5s
N18K Kilae Creek 84.89 11 P **P** **22 27 12.8 -0.2**
N18K lAmb lAmb 22 27 32.1
comp=Z,64nm,1.8s
SRIT Nakonsritamara 84.92 281 P **P** **22 27 15.2 +1.0**
SRIT lAmb lAmb 22 27 16.5
comp=Z,26nm,0.7s
RADR Rader Ridge 84.92 35 P **P** **22 27 15.1 +1.6**
L15K Ungalak Mounta 84.94 9 P **P** **22 27 13.7 +0.6**
baz=197,SNR=7.2
O20K Slope Mountain 84.98 13 P **P** **22 27 14.2 +0.7**
baz=205
R11B Troy Canyon, C 85.01 45 P **P** **22 27 13.8 -0.5**
baz=236
BRSE Bradley Lake S 85.09 14 P **P** **22 27 13.5 -0.4**
baz=207
BMN Battle Mountai 85.12 43 lAmb lAmb 22 28 05.2
comp=Z,30nm,0.9s
E03A Lebam 85.13 35 P **P** **22 27 15.8 +1.4**
E03A lAmb lAmb 22 27 18.3
comp=Z,40nm,1.1s
MA2 Magadan 85.17 345⇑ *e*P **P** **22 27 15.3 +1.0**
MA2 pmax pmax
comp=Z,71nm,2.5s
TUC Tucson 85.18 52 P **P** **22 27 17.1 +2.0**
TUC lAmb lAmb 22 27 18.2
comp=Z,29nm,0.9s
TUC Tucson 85.18 52 P **P** **22 27 14.0 -1.2**
baz=240
TUC Tucson 85.18 52 P **P** **22 27 17.1 +2.0**
TUC pmax pmax
comp=Z,29nm,0.9s
L16K Owhat River 85.26 9 P **P** **22 27 15.6 +0.9**
L16K lAmb lAmb 22 29 53.1
comp=Z,53nm,1.9s
L16K Owhat River 85.26 9 P **P** **22 27 14.4 -0.3**
baz=199
N19K Bonanza Creek 85.28 12 P **P** **22 27 14.5 -0.5**
N19K lAmb lAmb 22 30 20.8
comp=Z,46nm,1.6s
N19K Bonanza Creek 85.28 12 P **P** **22 27 14.7 -0.3**
baz=203
M17K Holitna River 85.30 10 P **P** **22 27 16.3 +1.4**
M17K lAmb lAmb 22 27 23.1
comp=Z,104nm,1.9s
M17K Holitna River 85.30 10 P **P** **22 27 14.6 -0.2**
baz=200
F04A Amboy 85.36 36 P **P** **22 27 15.9 +0.4**
F04A lAmb lAmb 22 27 17.7
comp=Z,52nm,1.4s
WVOR Wild Horse Val 85.41 40 P **P** **22 27 16.9 +0.9**
WVOR Wild Horse Val 85.41 40 P **P** **22 27 16.9 +0.9**
WVOR pmax pmax
comp=Z,21nm,1.1s
K15K Wolf Creek Mou 85.53 8 lAmb lAmb 22 29 30.1
comp=Z,84nm,1.6s
K15K Wolf Creek Mou 85.53 8 P **P** **22 27 16.0 0.0**
baz=197
M18K Stony River 85.66 11 P **P** **22 27 16.2 -0.4**
baz=202
J14K Nanvaranak Lak 85.72 7 P **P** **22 27 15.1 -1.7**
baz=195
COYC Coyhaique 85.75 138 P **P** **22 27 18.9 +1.3**
HNS HongShan 85.76 313 ⇓P **P** **22 27 18.8 +1.2**
HNS pmax pmax
comp=Z,24nm,0.8s
X16A Lo Mia Camp, P 85.77 50 P **P** **22 27 19.6 +1.5**
LYN LuoYang 85.84 310 *e*P **P** **22 27 19.5 +1.4**
LYN pmax pmax
comp=Z,35nm,0.9s
LYN pmax pmax
comp=Z,170nm,5.1s
L17K Donlin 85.85 10 P **P** **22 27 15.5 -1.9**
baz=200
LCMT Little Creek M 85.85 47 P **P** **22 27 19.4 +1.1**
I07A Izee 85.86 39 P **P** **22 27 19.2 +1.0**
I07A lAmb lAmb 22 27 20.6
comp=Z,23nm,1.0s
Q23K Middleton Isla 85.88 16 P **P** **22 27 16.0 -1.6**
baz=210
TROLL Troll, Antarti 85.91 181 ⇑P **P** **22 27 18.0 0.0**
comp=Z,3um,0.4s
CAPN Captain Cook N 85.92 14 P **P** **22 27 16.4 -1.4**
baz=206
ENH Enshi 85.92 305 P **P** **22 27 19.5 +0.8**
ENH lAmb lAmb 22 27 20.7
comp=Z,54nm,1.0s
O22K Cooper Landing 85.98 14 P **P** **22 27 17.0 -1.2**
baz=207
GAMB Gambell 86.02 3 P **P** **22 27 17.5 -0.7**
baz=187
J08A Circle Bar Ran 86.04 40 P **P** **22 27 19.7 +0.7**
J08A lAmb lAmb 22 27 21.3
comp=Z,48nm,1.3s
N20K Mount Spurr 86.09 13 P **P** **22 27 18.3 -0.5**
baz=205
HEH HeiHe 86.13 329 *e*P **P** **22 27 19.5 +0.4**
HEH pmax pmax
comp=Z,36nm,0.6s
HEH pmax pmax
comp=Z,81nm,3.9s
KNB Kanab 86.14 47 P **P** **22 27 20.3 +0.6**
KNB lAmb lAmb 22 27 22.3
comp=Z,23nm,1.3s
KNB Kanab 86.14 47 P **P** **22 27 20.3 +0.6**
KNB pmax pmax
comp=Z,23nm,1.3s
GNW Green Mountain 86.17 35 lAmb lAmb 22 27 21.6
comp=Z,68nm,1.8s
L18K Granite Mounta 86.19 10 lAmb lAmb 22 29 58.1
comp=Z,68nm,1.9s
L18K Granite Mounta 86.19 10 P **P** **22 27 18.4 -0.7**
baz=201

U15A North Rim 86.20 48 P **P** **22 27 20.7 +0.5**
U15A lAmb lAmb 22 27 22.7
comp=Z,30nm,0.9s
BJT Baijiatuau 86.21 316 lAmb lAmb 22 27 21.5
comp=Z,12nm,0.7s
BJT Baijiatuau 86.21 316 P **P** **22 27 20.3 +0.6**
BJI Beijing 86.22 316 P **P** **22 27 20.7 +1.0**
BJI pmax pmax
comp=Z,9.0nm,0.7s
BJI pmax pmax
comp=Z,65nm,4.4s
SNAA Sanae 86.23 179 P **P** **22 27 18.9 -0.6**
SNAA lAmb lAmb 22 27 19.5
comp=Z,21nm,0.6s
SNAA Sanae 86.23 179 ⇑P **P** **22 27 18.9 -0.6**
comp=Z,366nm,0.5s
SNAA Sanae 86.23 179 P **P** **22 27 19.0 -0.4**
comp=Z,16nm,0.6s,baz=207,slow=7.0,SNR=20
comp=Z,16nm,0.6s
SNAA Sanae 86.23 179 P **P** **22 27 18.9 -0.6**
SNAA pmax pmax
comp=Z,21nm,0.6s
M19K Big River Lodg 86.30 12 P **P** **22 27 18.5 -1.2**
baz=203
GYA Guiyang 86.35 300 ⇑P **P** **22 27 22.0 +1.1**
GYA pmax pmax
comp=Z,17nm,1.0s
SLVN Son La 86.36 295 P **P** **22 27 21.6 +0.6**
D05A Enumclaw 86.37 35 P **P** **22 27 21.8 +1.5**
D05A lAmb lAmb 22 27 23.1
comp=Z,53nm,1.1s
WUAZ Wupatki 86.37 49 P **P** **22 27 21.5 +0.7**
WUAZ Wupatki 86.37 49 P **P** **22 27 19.9 -1.0**
baz=239
K17K Iditarod 86.40 10 P **P** **22 27 19.1 -0.9**
baz=200
VNA3 Neumayer Olymp 86.42 177 ⇑P **P** **22 27 19.6 -0.7**
comp=Z,69nm,0.6s
L19K White Mountain 86.48 11 lAmb lAmb 22 27 21.7
comp=Z,19nm,0.7s
L19K White Mountain 86.48 11 P **P** **22 27 20.1 -0.4**
baz=203,SNR=7.5
RC01 Rabbit Creek A 86.52 14 P **P** **22 27 20.6 -0.1**
RC01 lAmb lAmb 22 27 21.5
comp=Z,35nm,1.0s
RC01 Rabbit Creek A 86.52 14 P **P** **22 27 19.0 -1.7**
baz=207
M20K Styx River 86.53 12 P **P** **22 27 19.5 -1.3**
baz=204
PGC Sidney 86.53 33 P **P** **22 27 21.2 +0.3**
PGC lAmb lAmb 22 27 23.2
comp=Z,36nm,1.3s
ELK Elko 86.55 43 P **P** **22 27 21.9 +0.3**
HPIG 86.55 59 P **P** **22 27 22.3 +0.4**
HPIG lAmb lAmb 22 27 24.1
comp=Z,18nm,0.8s
DUN6 Lazy B Ranch 86.55 53 P **P** **22 27 22.8 +1.1**
J16K Anvik River 86.60 8 lAmb lAmb 22 29 35.7
comp=Z,28nm,1.2s
J16K Anvik River 86.60 8 P **P** **22 27 20.1 -0.9**
baz=198
SUA Susitna One 86.63 13 P **P** **22 27 20.0 -1.4**
baz=206,SNR=7.4
BBB Bella Bella 86.65 29 P **P** **22 27 22.9 +1.4**
comp=Z,12nm,0.7s,baz=212,slow=4.8,SNR=5.1
comp=Z,12nm,0.7s
PKCU Pink Cliffs 86.71 47 lAmb lAmb 22 27 25.7
comp=Z,38nm,1.0s
KAIM Kayak Island 86.82 17 P **P** **22 27 21.2 -0.9**
baz=212
NVL N'lazarevskaya 86.83 184⇓ *i*P **P** **22 27 20.9 -1.3**
NVL pmax pmax
comp=Z,104nm,0.8s
VNA2 Neumayer--Watz 86.85 177 ⇑P **P** **22 27 22.2 0.0**
comp=Z,68nm,0.6s,baz=180,slow=5.3
X18A Snowflake 86.89 51 P **P** **22 27 23.9 +0.6**
G08A Pilot Rock 86.89 38 lAmb lAmb 22 27 25.2
comp=Z,44nm,1.2s
MXC Moxie City 86.92 36 P **P** **22 27 23.4 +0.5**
MXC lAmb lAmb 22 27 25.1
comp=Z,20nm,0.8s
J17K VABM Dome 86.93 9 P **P** **22 27 22.4 -0.1**
baz=199
L20K Farewell, AK 86.93 12 P **P** **22 27 22.9 +0.2**
baz=204
CRAG Craig 86.93 24 P **P** **22 27 22.1 -0.6**
baz=222
SKT Skwentna 86.93 13 P **P** **22 27 21.6 -1.0**
baz=206
GLI Glacier Island 86.95 15 P **P** **22 27 22.3 -0.4**
GLI Glacier Island 86.95 15 P **P** **22 27 21.8 -0.9**
baz=210
EYAK Cordova Ski Ar 87.00 16 P **P** **22 27 22.1 -0.9**
baz=211
LL02 Futaleuf 87.00 136 P **P** **22 27 24.9 +1.3**
LL01 San Ignacio de 87.02 135 P **P** **22 27 24.5 +0.9**
LL01 lAmb lAmb 22 27 26.1
comp=Z,34nm,1.1s
M22K Willow 87.03 14 P **P** **22 27 22.9 -0.1**
M22K lAmb lAmb 22 27 24.1
comp=Z,42nm,0.8s
M22K Willow 87.03 14 P **P** **22 27 22.3 -0.7**
baz=207
VNA1 Neumayer--Stat 87.08 177 ⇑P **P** **22 27 23.4 0.0**
comp=Z,85nm,0.9s
PMR Palmer 87.10 14 P **P** **22 27 23.6 +0.2**
PMR Palmer 87.10 14 P **P** **22 27 22.9 -0.5**
baz=208
PMR Palmer 87.10 14 P **P** **22 27 23.6 +0.2**
PMR pmax pmax
comp=Z,2.0nm,0.8s
MTPU Mount Pierson 87.11 47 P **P** **22 27 26.0 +1.5**
LTY Liberty 87.12 36 P **P** **22 27 24.1 +0.1**
LTY lAmb lAmb 22 27 25.7
comp=Z,24nm,1.0s
I17K Unalakleet 87.17 8 P **P** **22 27 23.3 -0.3**
baz=197
HAWA Hanford 87.22 37 P **P** **22 27 25.3 +1.0**
HAWA lAmb lAmb 22 27 26.6
comp=Z,32nm,0.9s
TCRU Three Creeks R 87.23 46 P **P** **22 27 26.0 +1.1**
TCRU lAmb lAmb 22 30 44.2
comp=Z,16nm,0.4s
ZAIG Zacatecas 87.24 64 P **P** **22 27 26.8 +1.4**
ZAIG lAmb lAmb 22 27 28.3
comp=Z,20nm,1.0s
SIT Sitka 87.32 22 P **P** **22 27 24.1 -0.4**
baz=220
MVU Marysvale 87.33 46 P **P** **22 27 26.9 +1.5**
W18A Petrified Fore 87.33 50 P **P** **22 27 26.4 +1.0**
W18A lAmb lAmb 22 27 27.7
comp=Z,27nm,1.3s
W18A Petrified Fore 87.33 50 P **P** **22 27 24.0 -1.4**
baz=240
J18K Innoko River 87.35 10 P **P** **22 27 24.6 +0.1**
J18K lAmb lAmb 22 27 25.6
comp=Z,15nm,0.7s
J18K Innoko River 87.35 10 P **P** **22 27 24.0 -0.5**
baz=201
U33K Whale Pass 87.41 24 lAmb lAmb 22 27 27.8
comp=Z,42nm,1.2s
U33K Whale Pass 87.41 24 P **P** **22 27 24.5 -0.4**
baz=222
V35K Ketchikan 87.41 25 P **P** **22 27 25.9 +0.9**
V35K lAmb lAmb 22 27 27.3
comp=Z,28nm,1.2s
V35K Ketchikan 87.41 25 P **P** **22 27 24.7 -0.2**
baz=223
TIY Taiyuan 87.47 313 *e*P **P** **22 27 27.0 +1.2**
SML Sawmill 87.47 14 lAmb lAmb 22 28 15.2
comp=Z,32nm,1.3s
SML Sawmill 87.47 14 P **P** **22 27 25.0 -0.2**
baz=209
DIV Divide 87.49 16 P **P** **22 27 25.2 -0.1**
DIV lAmb lAmb 22 27 26.6
comp=Z,16nm,0.8s
121A Cookes Peak, D 87.50 53 P **P** **22 27 27.7 +1.5**
121A lAmb lAmb 22 27 29.2
comp=Z,17nm,1.0s
121A Cookes Peak, D 87.50 53 P **P** **22 27 24.6 -1.7**
baz=242
CUT Chulitna 87.58 13 P **P** **22 27 25.0 -0.6**
baz=207,SNR=6.3
LL03 Petrohue 87.59 134 P **P** **22 27 26.8 +0.4**
M23K Glacier View 87.60 14 P **P** **22 27 25.6 -0.1**
baz=209

PPLA Purkeypile 87.63 12 P **P** **22 27 25.0 -1.1**
baz=205
BMRM Bremner River 87.65 16 P **P** **22 27 26.0 -0.1**
BMRM lAmb lAmb 22 27 27.1
comp=Z,22nm,0.6s
BMRM Bremner River 87.65 16 P **P** **22 27 25.4 -0.6**
baz=212,SNR=5.8
MFID Camas Ranch 87.66 41 lAmb lAmb 22 27 28.8
comp=Z,28nm,1.0s
H16K Elim 87.70 7 P **P** **22 27 26.0 -0.1**
baz=196
K20K Telida 87.70 11 lAmb lAmb 22 27 27.0
comp=Z,13nm,0.6s
K20K Telida 87.70 11 P **P** **22 27 26.6 +0.4**
baz=203,SNR=6.9
S31K Pelican 87.70 21 P **P** **22 27 25.8 -0.5**
baz=219
MESA MESA 87.71 18 P **P** **22 27 26.1 -0.4**
baz=214
SCM Sheep Creek Mo 87.73 15 P **P** **22 27 26.2 -0.2**
baz=210,SNR=12
KLU Klutina 87.77 15 P **P** **22 27 26.6 0.0**
baz=211
DUG Dugway, Tooele 87.81 45 P **P** **22 27 26.8 -0.7**
baz=238
SEY Seymchan 87.83 348 *e*P **P** **22 27 24.8 -2.0**
SEY pmax pmax
comp=Z,17nm,0.9s
G15K Niukluk 87.84 7 P **P** **22 27 26.0 -0.8**
baz=194
S32K Killisnoo 87.90 22 P **P** **22 27 27.1 0.0**
baz=221
WRAK Wrangell Islan 87.93 24 lAmb lAmb 22 27 29.6
comp=Z,16nm,0.9s
WRAK Wrangell Islan 87.93 24 P **P** **22 27 27.0 -0.3**
baz=223
J19K Poorman 88.03 10 lAmb lAmb 22 27 28.8
comp=Z,8.8nm,0.6s
J19K Poorman 88.03 10 P **P** **22 27 27.4 -0.3**
baz=202,SNR=5.3
PNL Peninsula 88.04 19 P **P** **22 27 27.3 -0.6**
baz=217
TNA Tin City 88.05 5 P **P** **22 27 27.1 -0.6**
baz=191
BGU Big Grassy Mou 88.06 44 P **P** **22 27 29.5 +0.9**
F14K Arctic Creek 88.09 5 P **P** **22 27 27.1 -0.8**
baz=192
EPT El Paso 88.11 55 P **P** **22 27 29.7 +0.7**
CAST Castle Rocks 88.13 12 lAmb lAmb 22 27 28.1
comp=Z,27nm,0.6s
CAST Castle Rocks 88.13 12 P **P** **22 27 27.2 -0.9**
baz=205,SNR=18
XAN Xi'an 88.14 308 ⇓P **P** **22 27 30.0 +1.0**
XAN S **S** **22 37 27.5 +3.9**
XAN pmax pmax
comp=Z,43nm,0.8s
NLU North Lily Min 88.17 45 P **P** **22 27 29.4 +0.2**
VRDI Verde Repeater 88.17 17 P **P** **22 27 28.8 +0.1**
VRDI lAmb lAmb 22 27 30.4
comp=Z,23nm,1.2s
N25K Chitina, Valde 88.20 16 lAmb lAmb 22 27 29.9
comp=Z,17nm,0.8s
N25K Chitina, Valde 88.20 16 P **P** **22 27 27.3 -1.4**
baz=212,SNR=7.2
M24K Tolsona, Glenn 88.24 15 lAmb lAmb 22 27 30.9
comp=Z,23nm,0.9s
M24K Tolsona, Glenn 88.24 15 P **P** **22 27 28.8 0.0**
baz=211
Q16A Castle Valley 88.24 46 lAmb lAmb 22 27 33.1
comp=Z,38nm,1.3s
GLB Gilahina Butte 88.26 16 lAmb lAmb 22 27 30.3
comp=Z,12nm,0.8s
H17K Granite Mounta 88.28 8 P **P** **22 27 28.2 -0.6**
baz=198
F10A Beach Ranch, E 88.28 38 lAmb lAmb 22 27 30.9
comp=Z,24nm,0.8s
WAT6 Susitna Watana 88.29 14 P **P** **22 27 28.8 -0.3**
baz=209,SNR=5.7
PHRA Phrae 88.33 291 P **P** **22 27 31.0 +0.9**
WAT1 Susitna Watana 88.33 14 P **P** **22 27 28.7 -0.5**
baz=208
LR03 Panguipulli 88.33 132 P **P** **22 27 30.9 +1.0**
XLT XiLinHaoTe 88.39 319 *e*P **P** **22 27 30.1 +0.1**
XLT pP pP 22 29 35.8 -2.8
XLT sP sP 22 30 39.2 +0.9
XLT SKS **SKSac** **22 36 58.9 -3.1**
XLT S **S** **22 37 25.7 +0.1**
XLT pmax pmax
comp=Z,12nm,0.7s
XLT pmax pmax
comp=Z,62nm,4.9s
TMUT Trail Mountain 88.41 46 P **P** **22 27 31.1 +0.6**
TMUT lAmb lAmb 22 27 33.1
comp=Z,34nm,1.0s
G16K Koyuk River 88.42 7 P **P** **22 27 29.2 -0.2**
baz=196
MCARA McCarthy VSAT 88.42 17 lAmb lAmb 22 27 31.5
comp=Z,29nm,1.0s
MCARA McCarthy VSAT 88.42 17 P **P** **22 27 28.4 -1.2**
baz=213,SNR=5.2
J20K Nowinta River 88.44 11 lAmb lAmb 22 27 30.9
comp=Z,34nm,1.5s
J20K Nowinta River 88.44 11 P **P** **22 27 29.1 -0.5**
baz=203,SNR=6.5
F15K North Star Dit 88.48 6 P **P** **22 27 29.0 -0.7**
baz=194
KTH Kantishna Hill 88.48 12 lAmb lAmb 22 27 30.5
comp=Z,17nm,0.8s
PLID Pearl Lake 88.49 39 P **P** **22 27 30.8 +0.2**
PLID lAmb lAmb 22 27 32.3
comp=Z,32nm,1.4s
MPU Maple Canyon 88.49 45 P **P** **22 27 31.6 +0.9**
MPU lAmb lAmb 22 27 33.0
comp=Z,13nm,1.0s
TLIG Tlapa 88.50 70 P **P** **22 27 31.8 +0.7**
TLIG lAmb lAmb 22 27 33.9
comp=Z,20nm,0.8s
B08A Colville Reser 88.51 35 P **P** **22 27 29.6 -0.8**
CHUM Lake Minchumin 88.51 12 P **P** **22 27 29.4 -0.5**
baz=205,SNR=6.2
LOGN Logan Glacier 88.51 18 lAmb lAmb 22 27 31.5
comp=Z,14nm,0.7s
TRF Thorofare Moun 88.51 13 P **P** **22 27 29.3 -0.9**
baz=207,SNR=11
BARN Barnard Glacie 88.52 17 P **P** **22 27 31.0 +0.7**
BARN lAmb lAmb 22 27 32.2
comp=Z,19nm,0.9s
P29M Windy Craggy 88.52 20 P **P** **22 27 29.9 -0.2**
baz=218
CTG Chitna Glacier 88.53 18 P **P** **22 27 29.8 -0.5**
baz=215,SNR=7.3
CTGM Chitina Glacie 88.53 18 lAmb lAmb 22 27 32.1
comp=Z,20nm,0.9s
GCSA Galena City Sc 88.53 9 P **P** **22 27 29.0 -0.9**
baz=201
ZEA Zeya 88.55 332 *e*P **P** **22 27 31.5 +1.2**
ZEA *e* 22 29 45.5
HLID Hailey 88.60 41 lAmb lAmb 22 27 33.4
comp=Z,14nm,0.8s
HLID Hailey 88.60 41 P **P** **22 27 30.3 -0.7**
baz=237,SNR=22
SPUT South Promonto 88.63 44 P **P** **22 27 31.7 +0.4**
SPUT lAmb lAmb 22 27 33.4
comp=Z,26nm,1.0s
SBM South Baldy 88.63 52 P **P** **22 27 32.9 +1.1**
HVU Hansel Valley 88.67 43 lAmb lAmb 22 27 33.5
comp=Z,22nm,0.9s
H18K Honhosa River 88.69 9 P **P** **22 27 30.3 -0.4**
baz=200
O28M Mount Upton 88.69 18 P **P** **22 27 30.7 -0.5**
baz=216,SNR=7.2
G17K Kiwalik Mounta 88.72 8 P **P** **22 27 31.6 +0.7**
baz=197,SNR=5.2
HARP HAARP 88.73 15 P **P** **22 27 30.8 -0.3**
baz=212
C09A Chrisman Ranch 88.75 36 P **P** **22 27 32.2 +0.8**
C09A lAmb lAmb 22 27 33.2
comp=Z,9.0nm,0.7s
CTU Camp Tracy 88.76 45 lAmb lAmb 22 27 33.9
comp=Z,19nm,1.0s
RND Reindeer 88.77 13 lAmb lAmb 22 27 32.3
comp=Z,29nm,0.8s
RND Reindeer 88.77 13 P **P** **22 27 30.8 -0.4**
SRU San Rafael Swe 88.77 47 P **P** **22 27 32.8 +0.8**
SRU San Rafael Swe 88.77 47 P **P** **22 27 32.8 +0.8**
SRU pmax pmax
comp=Z,33nm,0.9s

DHY	**Denali Highway**	**88.80**	**14**	P	**P**	**22 27 31.1**	**-0.4**	
	baz=210							
P17A	**Butcher Ranch,**	**88.81**	**46**	IAmb	IAmb	22 27 34.5		
	comp=Z,22nm,1.0s							
VHRN	**Van Horn**	**88.82**	**56**	IAmb	IAmb	22 27 34.9		
	comp=Z,21nm,0.7s							
PLBC	**Pleasant Camp**	**88.82**	**20**	P	**P**	**22 27 31.7**	**+0.3**	
	baz=219							
Y22D	**IRIS PASSCAL I**	**88.87**	**52**	P	**P**	**22 27 33.2**	**+0.6**	
	baz=242							
Y22F	**Passcal Instru**	**88.87**	**52**	P	**P**	**22 27 33.2**	**+0.6**	
	baz=242							
CRAI	**Chiangrai**	**88.90**	**292**	P	**P**	**22 27 32.9**	**+0.1**	
JLU	**Jordanelle**	**88.91**	**45**	IAmb	IAmb	22 27 34.8		
	comp=Z,44nm,1.7s							
MNTX	**Cornudas Mount**	**88.92**	**55**	P	**P**	**22 27 33.2**	**+0.5**	
MNTX	**Cornudas Mount**	**88.92**	**55**	P	**P**	**22 27 32.0**	**-0.6**	
	baz=243							
KMI	**Kunming**	**88.95**	**298**	⇓P	**P**	**22 27 34.7**	**+1.5**	
KMI				pmax	pmax			
	comp=Z,16nm,1.2s							
CRNM	**Carthage**	**88.95**	**53**	P	**P**	**22 27 33.7**	**+0.8**	
GO06	**Curarrehue**	**88.95**	**133**	P	**P**	**22 27 33.5**	**+0.6**	
BPAW	**Bear Paw Mtn.**	**88.96**	**12**	P	**P**	**22 27 32.4**	**+0.3**	
	baz=206							
I20K	**Naaghedeneel**	**88.96**	**10**	P	**P**	**22 27 32.3**	**+0.3**	
	baz=203							
PLCA	**Paso Flores**	**89.02**	**134**	P	**P**	**22 27 34.4**	**+1.2**	
PLCA				IAmb	IAmb	22 27 35.7		
	comp=Z,30nm,0.8s							
PLCA	**Paso Flores**	**89.02**	**134**	P	**P**	**22 27 34.6**	**+1.5**	
	comp=Z,23nm,0.8s,baz=232,slow=5.3,SNR=52							
	comp=Z,23nm,0.8s							
PLCA	**Paso Flores**	**89.02**	**134**	P	**P**	**22 27 34.4**	**+1.2**	
PLCA				pmax	pmax			
	comp=Z,30nm,0.9s							
MCK	**McKinley**	**89.04**	**13**	P	**P**	**22 27 32.3**	**-0.2**	
MCK				IAmb	IAmb	22 27 34.2		
	comp=Z,14nm,0.9s							
MCK	**McKinley**	**89.04**	**13**	P	**P**	**22 27 32.2**	**-0.2**	
	baz=208,SNR=6.4							
MCK	**McKinley**	**89.04**	**13**	P	**P**	**22 27 32.3**	**-0.2**	
MCK				pmax	pmax			
	comp=Z,14nm,0.9s							
BNM	**Barren Site**	**89.12**	**52**	P	**P**	**22 27 33.8**	**0.0**	
T35M	**Bob Quinn**	**89.14**	**25**	P	**P**	**22 27 33.2**	**+0.1**	
	baz=224							
P30M	**Million Dollar**	**89.15**	**20**	P	**P**	**22 27 32.4**	**-0.6**	
	baz=219							
PAX	**Paxson**	**89.15**	**15**	P	**P**	**22 27 33.1**	**+0.1**	
	baz=211							
SKAG	**Skagway**	**89.16**	**21**	P	**P**	**22 27 32.7**	**-0.3**	
	baz=220							
TX31	**Lajitas Ar. Si**	**89.19**	**58**	IAmb	IAmb	22 27 36.9		
	comp=Z,35nm,1.1s							
TXAR	**Lajitas Array**	**89.19**	**58**	P	**P**	**22 27 35.5**	**+1.5**	
	comp=Z,16nm,0.9s,baz=214,slow=5.6,SNR=137							
TXAR				pP	**pP**	**22 29 44.2**	**+0.9**	
	comp=Z,0.9nm,0.9s,baz=211,slow=6.9,SNR=2.8							
TXAR				PKKPbc	**PKKPbc**	**22 45 08.5**	**+1.0**	
	comp=Z,0.8nm,0.7s,baz=83,slow=3.9,SNR=9.4							
	comp=Z,16nm,0.9s							
TXAR	**Lajitas Array**	**89.19**	**58**	P	**P**	**22 27 35.4**	**+1.3**	
P18A	**Preston Nutter**	**89.22**	**46**	P	**P**	**22 27 35.0**	**+0.8**	
P18A				IAmb	IAmb	22 27 36.2		
	comp=Z,15nm,0.9s							
MVCO	**Mesa Verde**	**89.23**	**49**	P	**P**	**22 27 32.8**	**-1.4**	
	baz=241							
YUK8	**Steele Glacier**	**89.23**	**18**	P	**P**	**22 27 33.6**	**-0.1**	
	baz=216,SNR=7.6							
M26K	**Nabesna, AK**	**89.28**	**16**	IAmb	IAmb	22 27 35.5		
	comp=Z,13nm,1.1s							
M26K	**Nabesna, AK**	**89.28**	**16**	P	**P**	**22 27 33.5**	**-0.1**	
	baz=213,SNR=5.6							
H19K	**Roundabout Mou**	**89.33**	**9**	IAmb	IAmb	22 27 35.2		
	comp=Z,23nm,1.3s							
H19K	**Roundabout Mou**	**89.33**	**9**	P	**P**	**22 27 33.4**	**-0.3**	
	baz=201,SNR=7.0							
HWUT	**Hardware Ranch**	**89.35**	**44**	IAmb	IAmb	22 27 36.2		
	comp=Z,14nm,0.8s							
G18K	**Tagagawik**	**89.36**	**8**	P	**P**	**22 27 34.0**	**+0.1**	
	baz=199							
YUK6	**Outpost Mounta**	**89.37**	**19**	P	**P**	**22 27 33.0**	**-1.3**	
	baz=218							
CM31	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**22 27 36.5**	**+1.3**	
CM31				IAmb	IAmb	22 27 38.2		
	comp=Z,34nm,1.0s							
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**22 27 36.9**	**+1.7**	
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**22 27 37.1**	**+1.9**	
	comp=Z,17nm,0.8s,baz=135,slow=3.2,SNR=109							
CMAR				pP	**pP**	**22 29 44.0**	**0.0**	
	comp=Z,1.0nm,0.6s,baz=120,slow=3.2,SNR=3.0							
CMAR				PP	**PP**	**22 31 11.8**	**-6.3**	
	comp=Z,3.1nm,0.8s,baz=131,slow=6.1,SNR=4.3							
CMAR				PKKPbc	**PKKPbc**	**22 45 07.4**	**+0.9**	
	comp=Z,3.0nm,0.5s,baz=281,slow=4.3,SNR=12							
	comp=Z,17nm,0.8s							
CMAR	**Chiang Mai Arr**	**89.42**	**290**	P	**P**	**22 27 36.9**	**+1.7**	
YUK3	**Moose Creek**	**89.44**	**17**	P	**P**	**22 27 33.4**	**-1.1**	
	baz=216,SNR=9.8							
PV18	**Skein Mesa, Pa**	**89.44**	**48**	P	**P**	**22 27 35.2**	**0.0**	
PV18				IAmb	IAmb	22 30 21.7		
	comp=Z,22nm,1.1s							
PV16	**Nyswonger Mesa**	**89.47**	**48**	P	**P**	**22 27 36.0**	**+0.7**	
S34M	**Telegraph Cree**	**89.47**	**24**	IAmb	IAmb	22 27 36.7		
	comp=Z,11nm,0.8s							
S34M	**Telegraph Cree**	**89.47**	**24**	P	**P**	**22 27 34.0**	**-0.5**	
	baz=224,SNR=6.4							
PV23	**Carpenter Ridg**	**89.47**	**48**	P	**P**	**22 27 35.9**	**+0.5**	
PV23				IAmb	IAmb	22 27 37.7		
	comp=Z,21nm,0.8s							
M27K	**Edge Creek, AK**	**89.53**	**17**	IAmb	IAmb	22 27 37.0		
	comp=Z,56nm,1.8s							
M27K	**Edge Creek, AK**	**89.53**	**17**	P	**P**	**22 27 34.3**	**-0.6**	
	baz=214,SNR=7.4							
HYT	**Haines Junctio**	**89.53**	**19**	P	**P**	**22 27 34.1**	**-0.8**	
	baz=218							
H20K	**Anotleneega Mo**	**89.54**	**10**	P	**P**	**22 27 34.3**	**-0.3**	
	baz=203,SNR=7.4							
F17K	**Baldwin Pennin**	**89.55**	**7**	P	**P**	**22 27 34.5**	**-0.1**	
	baz=197							
CHTO	**Chiang Mai**	**89.57**	**290**	P	**P**	**22 27 36.8**	**+0.9**	
CHTO	**Chiang Mai**	**89.57**	**290**	P	**P**	**22 27 36.8**	**+0.9**	
CHTO				pmax	pmax			
	comp=Z,32nm,0.8s							
YUK4	**Talbot Arm**	**89.61**	**18**	P	**P**	**22 27 34.9**	**-0.4**	
	baz=217							
ANMO	**Albuquerque**	**89.61**	**52**	P	**P**	**22 27 37.0**	**+1.0**	
ANMO				IAmb	IAmb	22 27 38.0		
	comp=Z,17nm,0.9s							
ANMO	**Albuquerque**	**89.61**	**52**	P	**P**	**22 27 34.4**	**-1.6**	
	baz=242							
ANMO	**Albuquerque**	**89.61**	**52**	P	**P**	**22 27 37.0**	**+1.0**	
	comp=Z,13nm,0.9s,baz=319,slow=4.8,SNR=33							
ANMO				pP	**pP**	**22 29 45.7**	**+0.4**	
	comp=Z,0.7nm,0.7s,baz=256,slow=4.2,SNR=1.8							
	comp=Z,13nm,0.9s							
ANMO	**Albuquerque**	**89.61**	**52**	P	**P**	**22 27 37.0**	**+1.0**	
ANMO				pmax	pmax			
	comp=Z,17nm,1.0s							
HHC	**Hu-ho-hao-te**	**89.64**	**315**	*e*P	**P**	**22 27 37.1**	**+1.2**	
HHC				SKS	**SKSac**	**22 37 06.8**	**-2.6**	
HHC				S	**S**	**22 37 38.1**	**+1.1**	
HHC				pmax	pmax			
	comp=Z,75nm,4.2s							
NEW	**Newport**	**89.65**	**36**	P	**P**	**22 27 34.8**	**-0.9**	
	baz=235							
L26K	**Log Cabin Wild**	**89.71**	**16**	P	**P**	**22 27 35.1**	**-0.4**	
	baz=213							
I21K	**Tanana**	**89.75**	**11**	IAmb	IAmb	22 27 36.7		
	comp=Z,12nm,0.9s							
I21K	**Tanana**	**89.75**	**11**	P	**P**	**22 27 35.1**	**-0.5**	
	baz=205							
NEA2	**Nenana**	**89.78**	**13**	P	**P**	**22 27 34.5**	**-1.3**	
	baz=208							
K24K	**Donnelly Dome**	**89.80**	**14**	P	**P**	**22 27 35.1**	**-0.9**	
	baz=211							
P32M	**Atlin**	**89.80**	**21**	P	**P**	**22 27 35.3**	**-0.8**	
	baz=222							
G19K	**Purcell Mounta**	**89.81**	**9**	IAmb	IAmb	22 27 37.4		
	comp=Z,15nm,1.2s							
G19K	**Purcell Mounta**	**89.81**	**9**	P	**P**	**22 27 34.8**	**-1.1**	
	baz=201,SNR=7.0							
WRH	**Wood River Hil**	**89.87**	**13**	IAmb	IAmb	22 27 37.0		
	comp=Z,12nm,0.8s							
WRH					pwP	22 29 47.8	+1.8	
F18K	**Selawik**	**89.90**	**8**	P	**P**	**22 27 35.5**	**-0.7**	
	baz=198							
GDL2	**Guadalupe Moun**	**89.92**	**55**	P	**P**	**22 27 38.1**	**+0.7**	
O30N	**Mendenhall**	**89.92**	**20**	P	**P**	**22 27 35.8**	**-0.8**	
	baz=220							
H21K	**Melozitna Rive**	**90.04**	**11**	P	**P**	**22 27 36.6**	**-0.4**	
	baz=205,SNR=6.4							
HDA	**Harding Lake**	**90.06**	**14**	IAmb	IAmb	22 27 37.7		
	comp=Z,8.0nm,0.7s							
HDA	**Harding Lake**	**90.06**	**14**	P	**P**	**22 27 36.3**	**-0.8**	
	baz=210,SNR=8.1							
CCB	**Clear Creek Bu**	**90.08**	**13**	IAmb	IAmb	22 27 37.3		
	comp=Z,12nm,0.9s							
E17K	**Hotham Inlet**	**90.10**	**7**	P	**P**	**22 27 36.6**	**-0.6**	
	baz=196,SNR=8.3							
L27K	**Beaver Creek,**	**90.13**	**16**	P	**P**	**22 27 36.6**	**-0.9**	
	baz=214							
N30M	**Aishikik Lake**	**90.16**	**19**	P	**P**	**22 27 36.8**	**-0.9**	
	baz=219							
I23K	**Minto, Yukon-K**	**90.21**	**12**	IAmb	IAmb	22 30 50.2		
	comp=Z,30nm,1.9s							
I23K	**Minto, Yukon-K**	**90.21**	**12**	P	**P**	**22 27 37.2**	**-0.5**	
	baz=208							
WHY	**Whitehorse**	**90.22**	**20**	P	**P**	**22 27 37.4**	**-0.7**	
	baz=221							
AHID	**Auburn Hatcher**	**90.24**	**43**	IAmb	IAmb	22 27 41.4		
	comp=Z,21nm,0.9s							
DLBC	**Dease Lake**	**90.26**	**24**	P	**P**	**22 27 37.6**	**-0.6**	
	baz=225							
DLBC	**Dease Lake**	**90.26**	**24**	P	**P**	**22 27 39.0**	**+0.7**	
	comp=Z,4.5nm,0.8s,baz=219,slow=8.1,SNR=4.8							
	comp=Z,4.5nm,0.8s							
COLA	**College**	**90.27**	**13**	P	**P**	**22 27 37.3**	**-0.8**	
	baz=209							
COLA	**College**	**90.27**	**13**	P	**P**	**22 27 35.0**	**-3.0**	
COLA				pmax	pmax			
	comp=Z,27nm,1.5s							
PZH	**PanZhiHua**	**90.34**	**298**	P	**P**	**22 27 40.3**	**+0.8**	
PZH				pmax	pmax			
	comp=Z,20nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							
SCRK	**Sand Creek**	**90.36**	**15**	P	**P**	**22 27 38.0**	**-0.7**	
	baz=212,SNR=5.5							
F19K	**Shaleruckik Mo**	**90.36**	**8**	P	**P**	**22 27 37.7**	**-0.7**	
	baz=200,SNR=8.1							
IL31		**90.39**	**13**	IAmb	IAmb	22 27 39.2		
	comp=Z,32nm,1.8s							
ILAR	**Eielson Array**	**90.39**	**13**	P	**P**	**22 27 38.0**	**-0.6**	
ILAR					**pP**	**22 29 49.2**	**+0.8**	
ILAR	**Eielson Array**	**90.39**	**13**	P	**P**	**22 27 38.0**	**-0.6**	
	comp=Z,2.1nm,0.6s,baz=228,slow=4.0,SNR=25							
ILAR				pP	**pP**	**22 29 48.5**	**0.0**	
	comp=Z,1.9nm,0.9s,baz=226,slow=6.2,SNR=6.3							
ILAR				PKKPbc	**PKKPdf**	**22 45 02.8**	**+0.7**	
	comp=Z,0.5nm,0.5s,baz=328,slow=2.4,SNR=6.6							
	comp=Z,2.1nm,0.6s							
H22K	**Ishtalitna Cre**	**90.50**	**11**	P	**P**	**22 27 38.5**	**-0.6**	
	baz=206							
M29M	**Somme Creek**	**90.53**	**18**	P	**P**	**22 27 38.8**	**-0.7**	
	baz=217,SNR=7.6							
BTO	**Baotou**	**90.53**	**314**	*e*P	**P**	**22 27 42.3**	**+2.3**	
BTO				pP	**pwP**	**22 29 52.9**	**-1.1**	
BTO				sP	**sP**	**22 30 51.6**	**+3.0**	
BTO				PP	**PP**	**22 31 31.5**	**+5.0**	
BTO				S	**S**	**22 37 40.9**	**-4.1**	
BTO				sS	**sS**	**22 41 38.2**	**+1.9**	
BTO				SS	**SS**	**22 44 12.2**	**+6.3**	
BTO				pmax	pmax			
	comp=Z,38nm,1.3s							
BTO				pmax	pmax			
	comp=Z,110nm,6.0s							
P33M	**Teslin, Yukon**	**90.56**	**21**	P	**P**	**22 27 39.7**	**+0.1**	
	baz=222							
E18K	**Tukpahlearik C**	**90.57**	**7**	IAmb	IAmb	22 27 40.4		
	comp=Z,9.4nm,0.8s							
E18K	**Tukpahlearik C**	**90.57**	**7**	P	**P**	**22 27 38.5**	**-0.9**	
	baz=198,SNR=6.8							
D17K	**Noatak River**	**90.57**	**6**	P	**P**	**22 27 38.7**	**-0.6**	
	baz=195							
N31M	**Braeburn, Yuko**	**90.57**	**19**	P	**P**	**22 27 38.9**	**-0.7**	
	baz=220							
POKR	**Poker Plat Res**	**90.57**	**13**	P	**P**	**22 27 39.4**	**0.0**	
	baz=209							
J25K	**Salcha River,**	**90.58**	**14**	P	**P**	**22 27 39.0**	**-0.6**	
	baz=211,SNR=6.7							
R33M	**Jennings River**	**90.60**	**23**	IAmb	IAmb	22 27 42.6		
	comp=Z,18nm,1.6s							
R33M	**Jennings River**	**90.60**	**23**	P	**P**	**22 27 39.7**	**-0.2**	
	baz=224							
MSO	**Missoula**	**90.65**	**39**	P	**P**	**22 27 39.8**	**-0.6**	
	baz=237							
SAND	**Sanderson**	**90.67**	**58**	IAmb	IAmb	22 27 42.6		
	comp=Z,16nm,1.0s							
BILL	**Bilibino**	**90.70**	**355**	P	**P**	**22 27 40.5**	**+0.5**	
BILL				IAmb	IAmb	22 27 41.3		
	comp=Z,20nm,1.2s							
BILL	**Bilibino**	**90.70**	**355**	⇑eP	**P**	**22 27 40.5**	**+0.5**	
BILL				pmax	pmax			
	comp=Z,11nm,0.7s							
G21K	**Allakaket**	**90.70**	**10**	IAmb	IAmb	22 27 41.4		
	comp=Z,7.7nm,0.8s							
G21K	**Allakaket**	**90.70**	**10**	P	**P**	**22 27 39.1**	**-0.9**	
	baz=204							
TPAW	**Teton Pass**	**90.70**	**43**	IAmb	IAmb	22 27 43.1		
	comp=Z,10nm,0.9s							
H23K	**Yukon River**	**90.78**	**12**	P	**P**	**22 27 39.5**	**-1.0**	
	baz=208							
O20A	**White River Ci**	**90.81**	**47**	IAmb	IAmb	22 27 43.2		
	comp=Z,14nm,0.8s							
O20A	**White River Ci**	**90.81**	**47**	P	**P**	**22 27 39.8**	**-1.7**	
	baz=241							
F20K	**Avaraart Lake**	**90.86**	**9**	P	**P**	**22 27 40.1**	**-0.5**	
	baz=202,SNR=7.0							
K27K	**Chicken**	**90.87**	**16**	IAmb	IAmb	22 27 42.8		
	comp=Z,15nm,1.4s							
K27K	**Chicken**	**90.87**	**16**	P	**P**	**22 27 40.8**	**-0.1**	
	baz=214							
J26L	**Joseph Creek**	**90.90**	**15**	IAmb	IAmb	22 27 42.5		
	comp=Z,7.6nm,0.8s							
J26L					pwP	22 29 54.3	+3.2	
J26L	**Joseph Creek**	**90.90**	**15**	P	**P**	**22 27 40.7**	**-0.4**	
	baz=213,SNR=10							
IMW	**Indian Meadow**	**90.92**	**42**	IAmb	IAmb	22 27 44.1		
	comp=Z,20nm,1.3s							
C16K	**Lisunne Hills**	**90.92**	**5**	P	**P**	**22 27 40.5**	**-0.4**	
	baz=193							
RDOG	**Red Dog Mine**	**90.93**	**6**	P	**P**	**22 27 40.1**	**-0.9**	
	baz=195							
LOHW	**Long Hollow**	**90.98**	**43**	IAmb	IAmb	22 27 44.2		
	comp=Z,13nm,1.4s							
E19K	**Redstone River**	**91.03**	**8**	IAmb	IAmb	22 27 43.0		
	comp=Z,20nm,1.2s							
E19K	**Redstone River**	**91.03**	**8**	P	**P**	**22 27 40.8**	**-0.7**	
	baz=201,SNR=12							
H24K	**Noodor Dome**	**91.11**	**12**	P	**P**	**22 27 41.1**	**-0.9**	
	baz=209							
L29M	**L29M**	**91.16**	**17**	IAmb	IAmb	22 27 43.9		
	comp=Z,8.5nm,0.8s							
L29M	**L29M**	**91.16**	**17**	P	**P**	**22 27 41.3**	**-1.0**	
	baz=218,SNR=11							
FLWY	**Flagg Ranch**	**91.16**	**42**	IAmb	IAmb	22 28 40.7		
	comp=Z,9.3nm,0.9s							
N32M	**Quiet Lake**	**91.17**	**21**	P	**P**	**22 27 42.3**	**-0.1**	
	baz=222							
SMCO	**Snowmass**	**91.22**	**48**	IAmb	IAmb	22 27 45.3		
	comp=Z,10nm,0.9s							
BW06	**Boulder Array**	**91.23**	**44**	P	**P**	**22 27 42.7**	**-0.6**	
	baz=240							
PDAR	**Pinedale Array**	**91.23**	**44**	P	**P**	**22 27 43.4**	**+0.1**	
PDAR	**Pinedale Array**	**91.23**	**44**	P	**P**	**22 27 43.9**	**+0.5**	
	comp=Z,5.6nm,0.8s,baz=204,slow=3.3,SNR=38							
PDAR				pP	**pP**	**22 29 53.2**	**+0.4**	
	comp=Z,0.7nm,0.8s,baz=224,slow=4.1,SNR=3.0							
PDAR				PKKPbc	**PKKPbc**	**22 45 02.3**	**-0.9**	
	comp=Z,0.9nm,0.7s,baz=79,slow=3.2,SNR=6.2							
	comp=Z,5.6nm,0.8s							
C17K	**DeLong Mountai**	**91.31**	**6**	P	**P**	**22 27 42.9**	**+0.1**	
	baz=195							
PRP	**Porcupine Dome**	**91.33**	**13**	P	**P**	**22 27 43.0**	**-0.1**	
	baz=211,SNR=5.5							
F21K	**Alatna River**	**91.36**	**10**	P	**P**	**22 27 42.1**	**-1.0**	
	baz=204							
BOZ	**Bozeman (W)**	**91.36**	**41**	P	**P**	**22 27 43.3**	**-0.5**	
	baz=239,SNR=10							
H17A	**Grant Village**	**91.40**	**42**	P	**P**	**22 27 43.2**	**-0.9**	
	baz=240							
G22K	**Bettles**	**91.41**	**11**	P	**P**	**22 27 43.9**	**+0.7**	
	baz=206							
G23K	**Bananza Creek**	**91.48**	**11**	P	**P**	**22 27 43.7**	**0.0**	
	baz=207							
M31M	**Drury Creek, Y**	**91.55**	**19**	P	**P**	**22 27 43.2**	**-0.9**	
	baz=221							
DAWY	**Dawson**	**91.58**	**16**	IAmb	IAmb	22 27 45.2		
	comp=Z,6.8nm,0.6s							
DAWY	**Dawson**	**91.58**	**16**	P	**P**	**22 27 43.1**	**-1.1**	
	baz=217							
SDCO	**Great Sand Dun**	**91.58**	**50**	P	**P**	**22 27 43.8**	**-1.3**	
	baz=243							
I26K	**Coal Creek Min**	**91.67**	**14**	P	**P**	**22 27 43.5**	**-1.0**	
	baz=213							
C18K	**Utukok River**	**91.68**	**7**	P	**P**	**22 27 43.8**	**-0.8**	
	baz=197							
BO01	**Tunca**	**91.69**	**128**	IAmb	IAmb	22 27 46.8		
	comp=Z,16nm,0.8s							
EGAK	**Eagle**	**91.71**	**15**	P	**P**	**22 27 44.4**	**-0.3**	
	baz=215							
F22K	**John River**	**91.83**	**10**	P	**P**	**22 27 44.9**	**-0.3**	
	baz=205							
OZNA	**Ozona**	**91.86**	**57**	IAmb	IAmb	22 27 48.0		
	comp=Z,19nm,1.4s							
D19K	**Kuna River**	**91.89**	**8**	P	**P**	**22 27 44.7**	**-0.8**	
	baz=200							
FARO	**Faro, Yukon**	**91.89**	**20**	P	**P**	**22 27 45.6**	**-0.1**	
	baz=222							
K29M	**Barlow Dome**	**91.91**	**17**	P	**P**	**22 27 44.6**	**-1.2**	
	baz=218,SNR=5.9							
H25L	**Birch Creek**	**91.91**	**13**	P	**P**	**22 27 44.3**	**-1.2**	
	baz=211							
COLD	**Coldfoot**	**91.91**	**11**	P	**P**	**22 27 44.1**	**-1.5**	
	baz=207							
E20K	**Nigu River**	**91.92**	**8**	P	**P**	**22 27 42.8**	**-2.9**	
	baz=202							
G24K	**Hadweenzic Riv**	**91.95**	**12**	P	**P**	**22 27 43.7**	**-2.1**	
	baz=209							
MT09	**Talagante**	**92.05**	**128**	IAmb	IAmb	22 27 48.6		
	comp=Z,26nm,1.0s							
T25A	**Trinidad**	**92.08**	**51**	IAmb	IAmb	22 27 48.8		
	comp=Z,12nm,0.8s							
T25A	**Trinidad**	**92.08**	**51**	P	**P**	**22 27 44.2**	**-3.2**	
	baz=244							
833A	**Chaparral WMA,**	**92.16**	**60**	IAmb	IAmb	22 27 49.5		
	comp=Z,20nm,0.8s							
833A	**Chaparral WMA,**	**92.16**	**60**	P	**P**	**22 27 45.8**	**-1.9**	
	baz=246							
MT02	**Curacav**	**92.19**	**127**	IAmb	IAmb	22 27 51.5		
	comp=Z,18nm,0.8s							
J29N	**Klondike Camp**	**92.20**	**17**	IAmb	IAmb	22 27 48.6		
	comp=Z,9.0nm,0.7s							
J29N	**Klondike Camp**	**92.20**	**17**	P	**P**	**22 27 46.6**	**-0.5**	
	baz=218							
BO04	**La Punta**	**92.23**	**128**	IAmb	IAmb	22 27 50.3		
	comp=Z,14nm,0.8s							
G25K	**Bearman Lake**	**92.28**	**13**	P	**P**	**22 27 46.8**	**-0.5**	
	baz=211							
I27K	**Kandik River**	**92.28**	**15**	P	**P**	**22 27 47.7**	**+0.3**	
	baz=215							
D20K	**Etivluk River**	**92.29**	**8**	P	**P**	**22 27 47.5**	**+0.1**	
	baz=201							
C19K	**Lookout Ridge**	**92.29**	**7**	P	**P**	**22 27 47.1**	**-0.3**	
	baz=198							
B18K	**Kokolik River**	**92.31**	**6**	P	**P**	**22 27 47.9**	**+0.5**	
	baz=196							
TOAD	**Toad River Com**	**92.37**	**25**	P	**P**	**22 27 48.3**	**+0.4**	
	baz=229							
Q24A	**Divide**	**92.38**	**49**	IAmb	IAmb	22 27 50.6		
	comp=Z,8.8nm,0.9s							
Q24A	**Divide**	**92.38**	**49**	P	**P**	**22 27 48.0**	**-0.8**	
	baz=243							
TNCH	**TengChong**	**92.40**	**296**	*e*P	**P**	**22 27 50.3**	**+1.2**	
TNCH				SKS	**SKSac**	**22 37 27.7**	**+2.1**	
TNCH				S	**ScS**	**22 38 06.9**	**+3.6**	
TNCH				pmax	pmax			
	comp=Z,9.0nm,1.1s							
TNCH				pmax	pmax			
	comp=Z,75nm,4.8s							
E21K	**Killik River**	**92.40**	**9**	P	**P**	**22 27 48.8**	**+0.9**	
	baz=204							
ISCO	**Idaho Springs**	**92.44**	**48**	P	**P**	**22 27 48.4**	**-0.7**	
	baz=243							
E22K	**Anaktuvuk Pass**	**92.46**	**10**	P	**P**	**22 27 48.9**	**+0.8**	
	baz=206							
POST	**Post**	**92.47**	**55**	IAmb	IAmb	22 27 50.1		
	comp=Z,19nm,1.3s							
I28M	**Miner Creek**	**92.56**	**15**	IAmb	IAmb	22 27 50.6		
	comp=Z,32nm,2.0s							
I28M	**Miner Creek**	**92.56**	**15**	P	**P**	**22 27 48.9**	**+0.2**	
	baz=216,SNR=5.5							
RLMT	**Red Lodge**	**92.57**	**42**	P	**P**	**22 27 49.2**	**-0.2**	
	baz=241							
F24K	**Squaw Lake**	**92.59**	**12**	P	**P**	**22 27 48.6**	**-0.2**	
	baz=209							
LMEL	**Las Melosas**	**92.59**	**128**	IAmb	IAmb	22 27 55.4		
	comp=Z,12nm,0.8s							
N23A	**Red Feather La**	**92.71**	**47**	P	**P**	**22 27 49.9**	**-0.3**	
	baz=243							
JCT	**Junction City**	**92.72**	**58**	P	**P**	**22 27 50.0**	**-0.2**	
	baz=246							
E23K	**Chandalar**	**92.76**	**11**	P	**P**	**22 27 50.4**	**+0.8**	
	baz=208							
LZH	**Lanzhou**	**92.78**	**308**	⇑P	**P**	**22 27 52.1**	**+1.6**	
LZH				sP	sP	22 31 01.5	+2.4	
LZH				SKS	**SKSac**	**22 37 27.5**	**+0.3**	
LZH				S	**ScS**	**22 38 13.6**	**+7.7**	
LZH				pmax	pmax			
	comp=Z,25nm,1.3s							
J30M	**Hart River**	**92.81**	**17**	P	**P**	**22 27 50.6**	**+0.7**	
	baz=219							
H27K	**Steamboat Moun**	**92.82**	**14**	P	**P**	**22 27 49.9**	**+0.1**	
	baz=215							
MMPY	**Sheldon Lake,**	**92.84**	**20**	P	**P**	**22 27 50.6**	**+0.6**	
	baz=224							
BRLDA	**Berland Lookou**	**92.85**	**31**	IAmb	IAmb	22 30 07.8		
	comp=Z,27n

baz=211
H29M Whitestone 93.57 15 IAmb IAmb 22 27 54.1
comp=Z,6.7nm,0.8s
H29M Whitestone 93.57 15 P **P** **22 27 53.4 +0.2**
baz=218
APMT Aspermont 93.63 56 IAmb IAmb 22 27 55.4
comp=Z,12nm,0.7s
KOTAN Kotaneelee Air 93.66 24 P **P** **22 27 53.8 0.0**
baz=230
BRDY Brady 93.67 58 IAmb IAmb 22 27 55.9
comp=Z,8.8nm,1.3s
EGMT Eagleton 93.70 39 P **P** **22 27 53.0 -1.3**
baz=240
ABTX Abilene, Hawle 93.71 56 P **P** **22 27 53.2 -1.6**
baz=246
D24K Happy Valley 93.86 11 P **P** **22 27 54.3 -0.1**
baz=208
EPYK Eagle Plains 94.10 16 IAmb IAmb 22 27 56.3
comp=Z,5.6nm,0.7s
EPYK Eagle Plains 94.10 16 P **P** **22 27 55.1 -0.5**
baz=219,SNR=5.8
C23K Itkillik River 94.18 10 P **P** **22 27 55.2 -0.7**
baz=207
G29M Pine Creek 94.20 15 P **P** **22 27 55.6 -0.5**
baz=218
B22K Teshekpuk Lake 94.23 9 P **P** **22 27 55.7 -0.3**
baz=204
H31M Peel River 94.29 17 P **P** **22 27 56.8 +0.3**
baz=221
F28M Old Crow 94.33 14 P **P** **22 27 56.0 -0.6**
baz=216
E27K Coleen River 94.42 13 P **P** **22 27 56.4 -0.6**
baz=215
D25K Kavik River 94.44 11 P **P** **22 27 57.0 -0.1**
baz=210
LCO Las Campanas 94.53 124 P **P** **22 27 59.9 +1.0**
LCO Las Campanas 94.53 124 P **P** **22 27 59.9 +1.0**
LCO pmax pmax
comp=Z,17nm,0.8s
A22K Sinclair Lake 94.64 8 P **P** **22 27 57.5 -0.4**
baz=203
G30M tAoh Zraii Nji 94.70 16 IAmb IAmb 22 27 58.9
G30M comp=Z,9.1nm,0.8s pwP 22 30 10.3 -0.4
G30M tAoh Zraii Nji 94.70 16 P **P** **22 27 57.7 -0.7**
baz=220
G31M Satah River 95.15 16 IAmb IAmb 22 30 16.2
comp=Z,7.4nm,0.9s
G31M Satah River 95.15 16 P **P** **22 27 59.6 -0.8**
baz=221
C27K Jago River 95.19 12 P **P** **22 27 59.5 -1.0**
baz=213
E28M Babbage River 95.21 14 IAmb IAmb 22 28 01.5
comp=Z,3.6nm,0.6s
E28M Babbage River 95.21 14 P **P** **22 28 00.0 -0.5**
baz=217
C26K Camden Bay 95.22 11 P **P** **22 28 00.1 -0.5**
baz=212
F30M Barrier River 95.29 15 P **P** **22 27 59.8 -1.2**
baz=220
E29M Blow River 95.40 14 P **P** **22 28 01.2 -0.3**
baz=218
RSSD Black Hills 95.42 44 P **P** **22 28 02.7 +0.3**
RSSD IAmb IAmb 22 28 03.8
comp=Z,6.1nm,0.9s
RSSD Black Hills 95.42 44 P **P** **22 28 01.0 -1.4**
baz=244
RSSD Black Hills 95.42 44 P **P** **22 28 02.7 +0.3**
RSSD pmax pmax
comp=Z,6.0nm,0.9s
D27M Malcolm River 95.42 13 P **P** **22 28 00.7 -0.9**
baz=215
ULN Ulaanbaatar 95.83 320 P **P** **22 28 05.7 +1.6**
ULN Ulaanbaatar 95.83 320 P **P** **22 28 05.7 +1.6**
ULN pmax pmax
comp=Z,5.0nm,1.1s
D28M Stokes Point 95.96 13 P **P** **22 28 02.9 -1.0**
baz=217
SONM Songino Array 96.22 319 P **P** **22 28 05.2 -0.5**
comp=Z,0.6nm,0.5s,baz=108,slow=4.7,SNR=3.4
SONM pP **pP** **22 30 16.2 +0.8**
comp=Z,2.0nm,1.1s,baz=90,slow=3.3,SNR=3.1
SONM PP PP 22 32 01.5 -8.4
comp=Z,2.3nm,1.1s,baz=111,slow=6.5,SNR=5.3
SONM PKKPbc **PKKPbc** **22 44 49.2 -1.1**
comp=Z,1.9nm,0.5s,baz=273,slow=3.0,SNR=12
SONM PKKPab PKKPab 22 45 24.9
comp=Z,2.3nm,1.1s,baz=293,slow=4.4,SNR=7.6
comp=Z,0.6nm,0.5s
INK Inuvik 96.38 16 P **P** **22 28 05.5 -0.3**
baz=222
GTA Gaotai 97.05 310 *e*P **P** **22 28 10.6 +0.9**
GTA pP pP 22 30 21.1 +1.7
GTA PP **PP** **22 32 17.2 +0.7**
GTA SKS **SKSac** **22 37 47.3 -2.1**
GTA pmax pmax
comp=Z,5.0nm,1.5s
YKA Yellowknife Ar 98.73 25 P **P** **22 28 16.6 +0.1**
comp=Z,0.6nm,0.8s,baz=253,slow=4.5,SNR=7.8
YKA pP **pP** **22 30 27.6 +0.4**
comp=Z,0.8nm,0.9s,baz=250,slow=4.6,SNR=3.7
YKA PP **PP** **22 32 24.4 -3.9**
comp=Z,0.5nm,0.9s,baz=248,slow=6.9,SNR=4.2
YKA PKKPbc **PKKPbc** **22 44 41.0 -2.7**
comp=Z,0.5nm,0.4s,baz=24,slow=2.7,SNR=11
YKA PKKPab PKKPab 22 45 11.1
comp=Z,0.8nm,0.8s,baz=46,slow=5.2,SNR=9.0
comp=Z,0.6nm,0.8s
A36M Sachs Harbour 100.98 15 P **Pdif** **22 28 25.1 -1.1**
baz=230
LPAZ La Paz 102.63 114 P **Pdif** **22 28 38.0 +2.3**
comp=Z,1.3nm,0.7s,baz=246,slow=2.0,SNR=3.7
LPAZ PP **PKiKP** **22 32 55.6 +2.8**
comp=Z,1.3nm,0.9s,baz=213,slow=11,SNR=4.3
GOGA Godfrey 106.75 60 P **PKiKP** **22 32 56.8 -2.3**
baz=254
P52A Corning 109.35 54 P **PKiKP** **22 33 01.8 -2.1**
baz=257
BLA Blacksburg 110.11 57 P **PKiKP** **22 33 03.8 -1.6**
baz=257
ZALV Zalesovo Beam 111.03 321 PKiKP **PKiKP** **22 33 05.2 -1.4**
comp=Z,3.5nm,0.5s,baz=124,slow=0.3,SNR=19
ZALV PKKPbc **PKKPbc** **22 44 05.2 -1.3**
comp=Z,0.9nm,0.5s,baz=276,slow=4.0,SNR=4.1
MKAR Makanchi Array 111.43 313 Pdiff **Pdif** **22 29 14.8 +1.4**
comp=Z,0.4nm,0.6s,baz=81,slow=5.4,SNR=5.5
MKAR PKiKP **PKiKP** **22 33 06.7 -0.9**
comp=Z,2.3nm,0.4s,baz=191,slow=1.1,SNR=56
MKAR PP **PP** **22 33 57.0 -3.8**
comp=Z,1.7nm,0.9s,baz=91,slow=7.2,SNR=4.8
MKAR PKKPbc **PKKPbc** **22 44 04.7 -0.5**
comp=Z,3.9nm,0.7s,baz=275,slow=3.8,SNR=32
MKAR PKKPab **PKKPab** **22 44 16.1 +1.0**
comp=Z,3.7nm,0.8s,baz=289,slow=3.7,SNR=14
SSPA Standing Stone 112.74 54 P **PKiKP** **22 33 08.6 -1.7**
baz=260
BINY Binghamton 114.41 53 P PKPdf 22 33 11.6 -1.8
baz=261
KURBB Kurchatov Arra 114.42 317 PKP PKPdf 22 33 12.1 -1.1
comp=Z,4.3nm,0.6s,baz=109,slow=1.7,SNR=58
KURBB PKKPbc **PKKPbc** **22 43 54.4 -0.8**
comp=Z,2.1nm,0.6s,baz=276,slow=4.1,SNR=15
KURBB PKKPab **PKKPab** **22 44 02.8 +1.1**
comp=Z,3.5nm,0.7s,baz=276,slow=5.1,SNR=16
KSH Kashi 114.78 304 PKP **PKiKP** **22 33 14.6 +0.2**
KSH PP **PP** **22 34 26.4 +1.8**
LONY Lake Ozonia 115.74 50 P **PKPdf** **22 33 14.6 -1.4**
baz=264
PAL Palisades 115.78 54 P **PKPdf** **22 33 14.9 -1.2**
baz=262
AAK Ala-Archa 116.32 308 PKPdf **PKPdf** **22 33 16.6 -0.7**
AAK Ala-Archa 116.32 308 PKPdf **PKPdf** **22 33 16.4 -0.9**
AAK Ala-Archa 116.32 308 PKKPbc PKKPbc 22 43 48.7 -0.1
comp=Z,9.0nm,0.7s,baz=231,slow=2.8,SNR=27
AAK Ala-Archa 116.32 308*c* *i*PKiKP **PKiKP** **22 33 17.6 +0.3**
AAK pmax pmax
comp=Z,7.0nm,2.5s
L61B Northampton 116.88 53 P **PKPdf** **22 33 16.3 -1.8**
baz=264
LBNH Lisbon 117.60 51 P **PKPdf** **22 33 18.0 -1.5**
baz=265
HRV Adam Dziewonsk 117.71 53 P **PKPdf** **22 33 17.8 -2.0**
baz=264
OPO Ambohidratompo 118.89 232 PKP **PKPdf** **22 33 22.6 -0.4**
comp=Z,6.0nm,0.5s,baz=79,slow=2.3,SNR=8.6
BDFB Brasilia 119.32 124 PKPdf **PKPdf** **22 33 23.4 -0.3**
BDFB Brasilia 119.32 124 PKP **PKPdf** **22 33 22.9 -0.9**
comp=Z,7.7nm,0.8s,baz=204,slow=1.4,SNR=12

BDFB Brasilia 119.32 124 PKIKP **PKPdf** **22 33 23.5 -0.3**
KBL Kabul 119.53 298 PKPdf **PKiKP** **22 33 24.1 +0.2**
KBL Kabul 119.53 298 PKIKP **PKiKP** **22 33 24.1 +0.2**
PKME Peaks-Kenny Pk 119.54 50 P **PKPdf** **22 33 21.4 -1.8**
baz=267
BVAR Borovoye Array 119.56 319 PKP **PKPdf** **22 33 22.4 -0.5**
comp=Z,14nm,0.3s,baz=107,slow=1.8,SNR=77
BVAR PP **PP** **22 34 55.3 -1.3**
comp=Z,3.0nm,0.8s,baz=77,slow=7.6,SNR=4.6
BVAR PKKPbc **PKKPbc** **22 43 37.0 -0.5**
comp=Z,2.1nm,0.7s,baz=296,slow=2.4,SNR=9.2
BRVK Borovoye 119.62 319 PKPdf **PKPdf** **22 33 22.6 -0.5**
BRVK Borovoye 119.62 319*c* *i*PKIKP **PKPdf** **22 33 22.4 -0.7**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
NEEM North Greenlan 119.62 11 *i* P **PKPdf** **22 33 20.4 -2.4**
KULLO Kullorsuaq 119.74 15 *i* P **PKPdf** **22 33 21.3 -1.4**
MSEY Mahe Island 119.95 250 PKiKP **PKiKP** **22 33 25.2 +0.1**
SIMJ Simiganj 120.04 303 **PKPdf** **22 33 24.4 -0.2**
UPNV Upernavik 120.80 17 *i* P **PKPdf** **22 33 23.5 -1.3**
SCHQ Schefferville 120.95 39 PKP **PKPdf** **22 33 24.4 -1.2**
comp=Z,2.3nm,0.6s,baz=280,slow=4.5,SNR=7.1
SCHQ PKKPbc **PKKPbc** **22 43 31.1 -1.4**
comp=Z,4.0nm,0.9s,baz=86,slow=1.8,SNR=4.0
NUUG Nuugaatsiaq 122.17 18 *i* P **PKPdf** **22 33 26.0 -1.5**
SUR Sutherland 122.25 200 PKPdf **PKiKP** **22 33 29.6 +0.1**
LMN Caledonia Moun 122.70 49 PKPdf **PKPdf** **22 33 28.8 -0.5**
SPA0 Spitsbergen Ar 123.58 356 *e*P **PKPdf** **22 33 29.7 -0.4**
SPITS Spitsbergen Ar 123.58 356 PKP **PKPdf** **22 33 29.6 -0.5**
comp=Z,15nm,0.6s,baz=98,slow=5.1,SNR=62
SPITS PKKPbc **PKKPab** **22 43 21.4 +0.5**
comp=Z,6.2nm,0.6s,baz=176,slow=5.8,SNR=25
SPITS Spitsbergen Ar 123.58 356 PKIKP **PKPdf** **22 33 29.9 -0.2**
ILULI Ilulissat 123.91 20 *i* P **PKPdf** **22 33 29.6 -1.3**
BOSA Boshof 124.02 206 PKP **PKiKP** **22 33 33.1 +0.1**
comp=Z,7.0nm,0.7s,baz=148,slow=1.9,SNR=18
BOSA PKKPbc **PKKPbc** **22 43 20.4 -1.2**
comp=Z,1.8nm,0.6s,baz=325,slow=4.3,SNR=9.3
DAG Danmarks Havn 124.67 5 *i* P **PKPdf** **22 33 29.3 -2.8**
SFJD Kangerlussuaq 125.14 22 *i* P **PKPdf** **22 33 32.1 -1.1**
SUMG Summit 125.23 13 PKPdf **PKPdf** **22 33 34.0 +0.1**
SUMG Summit 125.23 13 PKIKP **PKPdf** **22 33 34.0 +0.1**
SUMG Summit 125.23 13 *i* P **PKPdf** **22 33 31.1 -2.7**
ARU Arti 125.89 324 PKPdf **PKPdf** **22 33 34.1 -0.9**
ARU Arti 125.89 324 PKKPbc PKKPbc 22 43 13.0 -0.7
comp=Z,9.2nm,0.7s,baz=243,slow=3.4,SNR=16
ARU Arti 125.89 324*c* *i*PKIKP **PKPdf** **22 33 35.0 0.0**
ARU pmax pmax
comp=Z,10.0nm,0.5s
ABKAR Akbulak array 126.43 315 PKPdf **PKPdf** **22 33 35.9 -0.4**
DBG Daneborg 126.80 7 *i* P **PKPdf** **22 33 35.4 -0.9**
DY2G Dye2 126.89 21 *i* P **PKPdf** **22 33 36.1 -0.9**
ICESG Greenland Ices 127.33 17 *i* P **PKPdf** **22 33 36.6 -1.3**
GEYT Alibeck 128.57 301 PKPdf **PKiKP** **22 33 41.2 -0.3**
GEYT Alibeck 128.57 301 PKP **PKPdf** **22 33 40.9 +0.1**
comp=Z,4.3nm,0.6s,baz=86,slow=6.4,SNR=8.6
GEYT PP **PP** **22 35 53.2 -3.3**
comp=Z,4.4nm,1.0s,baz=202,slow=2.7,SNR=7.8
GEYT SKPbc SKiKP 22 36 06.4 -15
comp=Z,8.3nm,0.9s,baz=107,slow=1.5,SNR=13
GEYT Alibeck 128.57 301 PKIKP **PKiKP** **22 33 41.2 -0.3**
SOHO SOHO 128.78 284 PKPdf **PKPdf** **22 33 40.8 -0.7**
UOSS Minazif 129.21 285 *i* PKPdf **PKPdf** **22 33 41.6 -0.7**
SNR=7.9
HATD Hatta, Dubai 129.25 284 PKPdf **PKPdf** **22 33 42.1 -0.4**
ASHO Ashiyiah 129.30 284 *i* PKPdf **PKPdf** **22 33 41.8 -0.7**
SNR=7.2
MSFE Esma-Masafi 129.31 285 *i* PKiKP **PKPdf** **22 33 42.9 +0.4**
SNR=5.9
SHME Shamm 129.43 286 PKPdf **PKPdf** **22 33 42.4 -0.3**
ALNE Al Ain 129.47 283 *i* PKPdf **PKPdf** **22 33 41.4 -1.5**
SNR=6.2
NAZ Nazwa, Dubai 129.70 285 *i* PKPdf **PKPdf** **22 33 43.2 0.0**
SNR=7.9
FAQ Al Faqa, Dubai 129.73 284 *i* PKPdf **PKPdf** **22 33 42.5 -0.8**
SNR=11
HAMF Hammerfest 129.78 350 *e*P **PKPdf** **22 33 40.9 -1.1**
KIRV Kirov 129.82 329 *i* PKIKP **PKPdf** **22 33 40.6 -1.8**
ASUD Al Ashush, Dub 129.94 284 *i* PKPdf **PKPdf** **22 33 43.4 -0.3**
SNR=9.8
ARA0 ARCESS Array S 130.44 349 *e*P **PKPdf** **22 33 42.6 -0.7**
ARCES ARCESS Array B 130.44 349 PKPdf **PKPdf** **22 33 42.8 -0.6**
ARCES ARCESS Array B 130.44 349 PKhKP PKPpre 22 33 26.1
comp=Z,0.4nm,0.6s,baz=13,slow=4.7,SNR=4.8
ARCES PKP **PKPdf** **22 33 42.9 -0.4**
comp=Z,7.5nm,0.6s,baz=30,slow=1.4,SNR=40
ARCES SKPbc **SKPab** **22 36 12.5 +0.6**
comp=Z,30nm,1.0s,baz=27,slow=5.6,SNR=33
ARCES PKKPbc PKKPbc 22 42 56.7
comp=Z,0.5nm,0.7s,baz=159,slow=2.7,SNR=3.8
ARCES PKKP **PKKPdf** **22 43 43.0 -3.4**
comp=Z,0.6nm,0.4s,baz=205,slow=3.2,SNR=13
ARCES ARCESS Array B 130.44 349 PKIKP **PKPdf** **22 33 42.8 -0.6**
MZR Muzera 131.34 282 *i* PKiKP **PKPdf** **22 33 46.6 +0.2**
SNR=5.6
TRO Tromso 131.39 352 *e*P **PKPdf** **22 33 45.4 +0.3**
LSZ Lusaka 133.84 218 PKPdf **PKPdf** **22 33 51.6 +0.1**
LSZ Lusaka 133.84 218 PKIKP **PKPdf** **22 33 51.6 +0.1**
TSUM Tsumeb 135.49 203 PKPdf **PKPdf** **22 33 54.4 -0.2**
KIBK Kibwezi 135.92 241 PKPdf **PKPdf** **22 33 56.2 +0.7**
FINES FINESS Array B 137.09 342 PKPre 22 33 45.4
FINES FINESS Array B 137.09 342 PKhKP PKPpre 22 33 43.9
comp=Z,1.9nm,0.5s,baz=74,slow=4.3,SNR=20
FINES PKP **PKPdf** **22 33 55.4 -0.6**
comp=Z,4.2nm,0.5s,baz=95,slow=3.6,SNR=9.0
FINES SKPbc **SKPbc** **22 36 34.1 +0.9**
comp=Z,15nm,0.8s,baz=58,slow=4.7,SNR=20
FINES FINESS Array B 137.09 342 PKHKP PKPpre 22 33 45.4
OBN Obninsk 137.66 330 *e*PKIKP **PKPdf** **22 33 56.7 -0.5**
OBN pmax pmax
comp=Z,17nm,1.4s
RAYN Ar Rayn 138.67 281 PKPpre 22 33 51.7
RAYN Ar Rayn 138.67 281 PKHKP PKPpre 22 33 51.7
GNI Garni 138.68 306 **PKPdf** **22 34 00.9 +1.1**
GNI Garni 138.68 306 PKIKP **PKPdf** **22 34 00.9 +1.1**
KIV Kislovodsk 139.18 312 *e*PKIKP **PKPdf** **22 33 58.3 -2.2**
KIV pmax pmax
comp=Z,5.0nm,1.1s
DOMB Dombas 139.87 354 *e*P **PKPdf** **22 33 54.5 -6.5**
AKN Aaknes 139.91 355 *e*P **PKPdf** **22 33 56.5 -4.7**
ERBR Yeremizino-Bor 140.05 316 *i* PKIKP **PKiKP** **22 34 03.3 -1.2**
ERBR pmax pmax
comp=Z,17nm,1.0s
LABN Labinsk 140.28 314 *i* PKIKP **PKPdf** **22 34 03.5 +1.2**
LABN pmax pmax
comp=Z,13nm,0.4s
NB2 NORSAR Subarra 140.59 352 PKPdf **PKPdf** **22 33 56.2 -6.2**
comp=Z,1.4nm,0.4s,baz=31,slow=1.9
NB2 SKPa 22 36 43.9
comp=Z,6.4nm,0.8s,baz=14,slow=2.6
NB2 NORSAR Subarra 140.59 352 PKPdf **PKPdf** **22 33 56.2 -6.2**
baz=31,slow=1.9
NOA NORSAR Array B 140.59 352 PKhKP PKPpre 22 33 56.8
comp=Z,2.1nm,0.5s,baz=9.9,slow=3.1,SNR=17
NOA SKPbc **SKPbc** **22 36 42.3 -0.5**
comp=Z,16nm,1.0s,baz=15,slow=4.2,SNR=18
BCA Borcka 140.67 309 P **PKPdf** **22 33 58.1 -5.0**
NC602 NORSAR Array S 140.84 351 *e*P **PKPdf** **22 33 57.8 -5.0**
HFS Hagfors 141.09 350 PKhKP PKPpre 22 33 57.7
comp=Z,19nm,0.4s,baz=72,slow=4.8,SNR=201
HFS SKPbc **SKPbc** **22 36 44.7 +0.6**
comp=Z,18nm,0.8s,baz=180,slow=0.1,SNR=20
SKAR Skarsfia 141.28 354 *e*P **PKPdf** **22 33 59.4 -4.3**
SHEL Horse Pasture 141.47 170 **PKPdf** **22 34 02.6 -2.8**
SHEL Horse Pasture 141.47 170 PKIKP **PKPdf** **22 34 02.6 -2.8**
ASK Askoy 141.72 352 *e*P **PKPdf** **22 34 00.7 -3.6**
OSL Oslo 141.72 352 *e*P **PKPdf** **22 34 00.4 -4.0**
BER Bergen 141.81 356 *e*P **PKPdf** **22 34 00.9 -3.6**
MNK Minsk 141.84 334 *i* PKHKP PKPpre 22 34 01.7
MNK *i* 22 37 12.9
MNK *i* PPP PPP 22 40 29.5
MNK *i* SS SS 22 55 01.6 -0.8
MNK pmax pmax
comp=Z,7.0nm,0.6s
MNK pmax pmax
comp=N,10.0nm,1.1s
MNK pmax pmax
comp=E,3.0nm,0.8s
KONO Kongsberg 142.15 352 PKPpre 22 34 01.9
KONO Kongsberg 142.15 352 *e*P **PKPdf** **22 34 02.6 -2.5**
KONO Kongsberg 142.15 352 PKHKP PKPpre 22 34 01.9
ANN Anapa 142.39 316 *i* PKHKP PKPpre 22 34 02.3
ANN pmax pmax
comp=Z,16nm,0.7s

BLS5 Blasjo 142.69 355 *e*P **PKPdf** **22 34 03.9 -2.3**
MBAR Mbarara 142.76 236 **PKPdf** **22 34 06.4 -1.5**
MBAR Mbarara 142.76 236 PKIKP **PKPdf** **22 34 06.4 -1.5**
KMY Karmoy 142.98 356 *e*P **PKPdf** **22 34 03.4 -3.2**
SNART Snartemo 143.69 354 *e*P PKPab 22 34 07.2 +0.1
BIGH Upper Bighouse 143.72 4 *e*P PKPbc 22 34 06.7 -0.4
LEWI Lewis, Hebride 143.81 7 *e*P PKPbc 22 34 06.7 -0.8
AKASG Malin Array Be 143.88 329 PKP PKPbc 22 34 07.1 -0.8
comp=Z,20nm,0.4s,baz=43,slow=4.0,SNR=132
AKASG SKPbc **SKPbc** **22 36 51.7 +0.6**
comp=Z,19nm,0.8s,baz=44,slow=2.4,SNR=25
AKASG SKPab SKiKP 22 37 10.8 +19
comp=Z,3.5nm,0.7s,baz=44,slow=3.9,SNR=5.1
KIEV Kiev 143.90 329 ⇓P PKPbc 22 34 07.4 -0.6
KIEV Kiev 143.90 329 PKPbc 22 34 07.1 -0.9
KIEV Kiev 143.90 329 ⇓PKIKP PKPbc 22 34 07.4 -0.5
SUW Suwalki 144.00 337 *e*PKP PKPbc 22 34 08.2 0.0
MCD Coleburn Disti 144.67 4 *e*P **PKPdf** **22 34 08.7 -0.9**
KPL Plockton 144.73 6 *e*P **PKPdf** **22 34 09.8 +0.1**
DIKM Dikmen 145.10 312 ⇑P **PKPbc** **22 34 12.5 +0.6**
GAZ Gaziantep 145.10 303 PKPdf **PKPbc** **22 34 11.9 -0.3**
MUD Monsted U'grnd 145.31 352 *i* P **PKPdf** **22 34 11.2 +0.5**
DRUM Mains of Drumt 145.37 3 *e*P **PKPbc** **22 34 11.6 -0.6**
COP Copenhagen 145.51 348 *i* P **PKPdf** **22 34 11.4 +0.3**
BSD Bornholm Skovb 145.52 345 *i* P **PKPdf** **22 34 11.8 +0.7**
INVG Invergeldie, C 145.76 5 *e*P **PKPbc** **22 34 12.5 -0.8**
LAWE Loch Awe, Argy 145.82 6 *e*P **PKPdf** **22 34 12.4 +0.9**
SORM Soroca 145.98 326 ⇑P **PKPbc** **22 34 14.0 -0.2**
SORM Soroca 145.98 326 ⇑PKIKP **PKPbc** **22 34 14.0 -0.2**
PURM Purcari 146.13 323 ⇓P **PKPbc** **22 34 15.2 +0.5**
PGBU Glenifferbraes 146.34 5 *e*P **PKPbc** **22 34 14.1 -0.8**
MILM Milestii Mici 146.49 324 ⇓P **PKPbc** **22 34 15.4 -0.2**
MILM Milestii Mici 146.49 324 ⇑*i*P **PKPbc** **22 34 15.0 -0.6**
comp=Z,54nm,0.7s
MILM Milestii Mici 146.49 324 *i* PKIKP **PKPbc** **22 34 15.0 -0.6**
MILM pmax pmax
comp=Z,54nm,0.7s
GKP Gorka Klasztor 146.56 342 *e*PKP **PKPbc** **22 34 15.7 +0.1**
ASCN Ascension 146.59 152 PKPab **PKiKP** **22 34 18.4 -0.5**
BEL Belsk 146.62 337 *e*PKP **PKPbc** **22 34 15.6 +0.8**
LVV L'vov 146.89 332 *e*PKIKP **PKPbc** **22 34 16.2 -0.4**
EKA Eskdalemuir Ar 146.91 4 PKPbc **PKPbc** **22 34 16.1 -0.4**
comp=Z,6.8nm,0.4s,baz=358,slow=2.3,SNR=86
EKA pPKPbc **pPKPdf** **22 36 31.3 -1.1**
comp=Z,2.0nm,0.7s,baz=338,slow=1.7,SNR=4.0
ESK Eskdalemuir 146.93 4 *e*P **PKPbc** **22 34 16.0 -0.5**
BRTR Keskin Array B 146.97 309 PKPdf **PKPdf** **22 34 13.1 -1.2**
BRTR Keskin Array B 146.97 309 PKPbc **PKPbc** **22 34 17.0 -0.4**
comp=Z,9.2nm,0.6s,baz=140,slow=5.0,SNR=73
BRTR pPKPbc **pPKPdf** **22 36 30.6 -2.2**
comp=Z,3.3nm,0.9s,baz=45,slow=0.2,SNR=4.5
BRTR Keskin Array B 146.97 309 PKHKP PKPpre 22 34 13.1
NEWG New Galloway 147.05 5 *e*P **PKPbc** **22 34 16.1 -0.7**
LEOM Leova 147.07 324 ⇑P **PKPbc** **22 34 17.5 +0.4**
LEOM Leova 147.07 324 PKP2 **PKPbc** **22 34 17.5 +0.4**
VASR Vaslui 147.21 324 ⇑P **PKPbc** **22 34 17.9 +0.3**
GAL1 Galloway 147.26 6 *e*P **PKPbc** **22 34 17.0 -0.4**
MMAI Mount Meron Ar 147.45 297 PKPbc **PKiKP** **22 34 19.6 -0.6**
comp=Z,30nm,0.4s,baz=76,slow=7.0,SNR=126
MMAI pPKPbc **pPKPdf** **22 36 32.8 -0.8**
comp=Z,5.2nm,0.8s,baz=71,slow=5.4,SNR=4.3
EDMD Edmundbyers 147.48 3 *e*P **PKPbc** **22 34 16.8 -1.2**
ANTO Ankara 147.52 310 **PKPbc** **22 34 18.9 +0.2**
ANTO Ankara 147.52 310 PKP2 **PKPbc** **22 34 18.9 +0.2**
BIR Birlad 147.53 324 ⇑P **PKiKP** **22 34 20.6 +0.7**
BIR Birlad 147.53 324 ⇑PKP2 **PKiKP** **22 34 20.6 +0.7**
VLDR Vladesti 147.54 323 ⇑P **PKiKP** **22 34 19.2 -0.7**
PRAR RASCA 147.57 327 ⇓P **PKPbc** **22 34 18.8 +0.3**
KWP Kalwaria Pacla 147.60 333 *e*PKP **PKiKP** **22 34 19.4 -0.6**
GHRR 147.78 324 ⇓P **PKiKP** **22 34 20.3 -0.1**
NEGRR Negrea 147.84 323 ⇓P **PKiKP** **22 34 20.1 -0.4**
IOMK Kirk Michael 147.87 6 *e*P **PKPbc** **22 34 18.4 -0.6**
TESR Tescani 147.91 325 ⇓P **PKPbc** **22 34 19.7 +0.3**
BURAR Bucovina Array 147.91 328 ⇑P **PKiKP** **22 34 20.3 -0.5**
BURAR Bucovina Array 147.91 328 PKPdf **PKPdf** **22 34 16.7 +1.2**
BURAR Bucovina Array 147.91 328 ⇑PKP2 **PKiKP** **22 34 20.3 -0.5**
CFR Carcaliu 147.91 322 ⇓P **PKPbc** **22 34 19.8 +0.4**
CFR Carcaliu 147.91 322 ⇓PKP2 **PKPbc** **22 34 19.8 +0.4**
GDLE Glaisdale, N Y 147.93 1 *e*P **PKPbc** **22 34 18.6 -0.5**
TPGR Topolog 147.93 321 ⇓P **PKiKP** **22 34 20.2 -0.6**
PANC Panciu 148.04 324 ⇑P **PKiKP** **22 34 20.6 -0.3**
ODBI Odobesti 148.16 324 ⇑P **PKiKP** **22 34 21.3 +0.1**
VRI Vrincioaia 148.27 324 ⇑P **PKiKP** **22 34 20.7 +0.4**
VRI Vrincioaia 148.27 324 ⇑PKP2 **PKiKP** **22 34 20.7 +0.4**
OJC Ojcow 148.30 336 *e*PKP **PKPbc** **22 34 20.5 +0.3**
HARR Harsova 148.31 321 ⇓P **PKPbc** **22 34 20.9 +0.5**
HARR Harsova 148.31 321 ⇓PKP2 **PKPbc** **22 34 20.9 +0.5**
KOLS Kolonicke sedl 148.31 332 *e*PKP **PKiKP** **22 34 21.3 -0.2**
KOLS *e* 22 34 25.9
KOLS *e* 22 36 47.8
KOLS Kolonicke sedl 148.31 332 *e*PKP2 **PKiKP** **22 34 21.3 -0.2**
MFTR Murfatlar 148.32 320 ⇓P **PKiKP** **22 34 21.4 -0.2**
PLOR Plostina 148.32 324 ⇑P **PKPbc** **22 34 20.7 +0.2**
PLOR Plostina 148.32 324 ⇑PKP2 **PKPbc** **22 34 20.7 +0.2**
SPBR Spulber 148.33 324 ⇓P **PKPbc** **22 34 20.9 +0.5**
HPK Haverah Park 148.37 2 *e*P **PKPbc** **22 34 20.1 -0.2**
JOSR Joseni 148.37 326 ⇑P **PKiKP** **22 34 21.7 0.0**
STHS Stebnicka Huta 148.37 334 *e*PKP **PKPbc** **22 34 20.5 0.0**
STHS *e* 22 36 43.4
STHS Stebnicka Huta 148.37 334 *e*PKHKP PKPpre 22 34 20.5
MANR Mangalia 148.42 319 ⇑P **PKiKP** **22 34 21.8 0.0**
TURR Turia 148.53 325 ⇑P **PKiKP** **22 34 21.8 -0.2**
COVR Voineasa-Covas 148.57 324 ⇓P **PKPbc** **22 34 21.1 0.0**
OZUR 148.63 325 ⇑P **PKiKP** **22 34 21.9 -0.3**
CRVS Cervenica-Dubn 148.68 333 *e*PKP **PKiKP** **22 34 21.9 -0.3**
CRVS Cervenica-Dubn 148.68 333 *e*PKP2 **PKiKP** **22 34 21.9 -0.3**
BMR Baia Mare 148.69 329 ⇓P **PKPbc** **22 34 21.7 +0.4**
BMR Baia Mare 148.69 329 ⇓PKHKP PKPpre 22 34 21.7
ARCR ARCALIA 148.70 328 ⇓P **PKiKP** **22 34 22.1 -0.2**
BOSR Bodos 148.71 325 ⇓P **PKiKP** **22 34 22.3 -0.1**
ICOR Ion Corvin 148.72 321 ⇓P **PKiKP** **22 34 22.3 -0.1**
WPS Cemaes, Angles 148.73 6 *e*P **PKPdf** **22 34 18.8 +2.3**
NIE Niedzica 148.75 335 *e*PKP **PKiKP** **22 34 22.4 +0.1**
NEHR Nehoiu 148.78 324 ⇓P **PKPbc** **22 34 22.0 +0.3**
PSN Preselentsi 148.79 319 *e*P **PKPbc** **22 34 21.9 +0.3**
ISR Istrita 148.84 323 ⇑P **PKiKP** **22 34 22.6 -0.1**
ISR Istrita 148.84 323 ⇑PKP2 **PKiKP** **22 34 22.6 -0.1**
LMK Market Rasen 148.90 1 *e*P **PKPbc** **22 34 20.7 -0.8**
LBWR Ladybower, Pea 148.92 3 *e*P **PKPbc** **22 34 21.0 -0.6**
MLR Muntele Rosu 148.94 324 ⇑P **PKPbc** **22 34 22.3 +0.2**
MLR Muntele Rosu 148.94 324 ⇑PKHKP PKPpre 22 34 22.3
STNC Stoke 149.20 3 *e*P **PKPbc** **22 34 22.2 -0.1**
OKC Ostrava-Krasne 149.22 337 ⇑*e*PKP **PKPbc** **22 34 22.8 +0.4**
OKC Ostrava-Krasne 149.22 337 *e*PKHKP PKPpre 22 34 22.8
OSTC Ostas 149.25 340 ⇑*e*PKP **PKiKP** **22 34 23.3 0.0**
OSTC *ep*PKP **pPKPab** **22 36 44.3 +2.8**
OSTC Ostas 149.25 340 *e*PKHKP PKPpre 22 34 23.3
CHVC Chvalec 149.27 340 ⇑*e*PKP **PKiKP** **22 34 23.2 -0.2**
CHVC Chvalec 149.27 340 *e*PKHKP PKPpre 22 34 23.2
SULR 149.27 323 ⇑P **PKiKP** **22 34 23.3 -0.2**
LANS Liptovska Anna 149.29 335 *e*PKP **PKiKP** **22 34 24.1 +0.6**
LANS *e* 22 34 29.8
LANS *e* 22 36 47.9
LANS Liptovska Anna 149.29 335 *e*PKP2 **PKiKP** **22 34 24.1 +0.6**
CBBR Cluj-Babes-Bol 149.31 328 ⇓P **PKPdf** **22 34 19.9 +2.3**
CJR Cluj-Napoca 149.33 328 ⇓P **PKiKP** **22 34 23.3 -0.3**
CJR Cluj-Napoca 149.

MORC				*e*		22 36 46.3			
MORC	**Moravsky Berou**	**149.48**	**338**	⇑PKHKP	PKPpre	22 34 23.6			
KRLC	**Kraliky**	**149.48**	**339**	⇑*e*PKP	**PKiKP**	**22 34 23.8**	**-0.1**		
KRLC	**Kraliky**	**149.48**	**339**	*e*PKHKP	PKPpre	22 34 23.8			
PRD	**Provadia**	**149.50**	**319**	*e*P	**PKPbc**	**22 34 23.4**	**+0.1**		
NEF	**NEVSHA**	**149.52**	**320**	*e*P	**PKPbc**	**22 34 23.4**	**0.0**		
MARR	**Marisel-Cluj**	**149.59**	**328**	⇓P	**PKPbc**	**22 34 23.8**	**+0.2**		
CWF	**Charnwood Fore**	**149.60**	**2**	*e*P	**PKPbc**	**22 34 22.5**	**-0.7**		
DRGR		**149.70**	**329**	⇑P	**PKPbc**	**22 34 23.7**	**-0.2**		
DRGR		**149.70**	**329**	PKHKP	PKPpre	22 34 23.7			
MAUC	**Maruska**	**149.72**	**337**	⇑*e*PKP	**PKiKP**	**22 34 24.6**	**+0.2**		
HLM1	**Long Mynd**	**149.74**	**4**	*e*P	**PKPbc**	**22 34 22.6**	**-1.0**		
PVCC	**Panska Ves**	**149.76**	**342**	⇑*e*PKP	**PKiKP**	**22 34 24.6**	**+0.2**		
PVCC	**Panska Ves**	**149.76**	**342**	*e*PKHKP	PKPpre	22 34 24.6			
RAZG	**Razgrad**	**149.80**	**321**	⇓P	**PKPbc**	**22 34 24.3**	**+0.2**		
RICC	**Richard**	**149.88**	**343**	⇑*e*PKP	**PKiKP**	**22 34 24.7**	**+0.1**		
HSKC	**Hora Svate Kat**	**150.00**	**343**	⇑*e*PKP	**PKiKP**	**22 34 24.8**	**-0.1**		
VYHS	**Vyhne**	**150.07**	**335**	*e*PKP	**PKPbc**	**22 34 24.8**	**+0.3**		
VYHS				*e*		22 34 33.6			
VYHS				*e*		22 36 46.0			
VYHS	**Vyhne**	**150.07**	**335**	*e*PKIKP	**PKPbc**	**22 34 24.8**	**+0.3**		
VYHS				*e*		22 34 33.6			
HUMR	**Humele**	**150.08**	**324**	⇑P	**PKPbc**	**22 34 24.7**	**+0.1**		
PSZ	**Piszkesteto**	**150.10**	**333**	⇑P	**PKPbc**	**22 34 23.6**	**-1.1**		
PSZ	**Piszkesteto**	**150.10**	**333**	⇑PKIKP	**PKPbc**	**22 34 23.6**	**-1.1**		
LOT	**Lotru**	**150.12**	**326**	⇓P	**PKPbc**	**22 34 24.5**	**-0.4**		
RSBS	**Rosebush, Pemb**	**150.14**	**7**	*e*P	**PKPbc**	**22 34 23.8**	**-0.7**		
VRAC	**Vranov**	**150.20**	**339**	*e*PKP	**PKPbc**	**22 34 25.0**	**+0.2**		
VRAC				*e*		22 36 47.0			
JAVC	**Velka Javorina**	**150.21**	**337**	*e*PKP	**PKiKP**	**22 34 26.2**	**+0.8**		
JAVC				*e*		22 36 46.2			
PRA	**Prague**	**150.21**	**342**	⇑*e*PKP	**PKiKP**	**22 34 25.4**	**+0.1**		
PRA	**Prague**	**150.21**	**342**	*e*PKIKP	**PKiKP**	**22 34 25.4**	**+0.1**		
MCH1	**Michaelchurch**	**150.25**	**4**	*e*P	**PKPbc**	**22 34 24.0**	**-0.8**		
PRU	**Pruhonice**	**150.25**	**342**	⇑*e*PKP	**PKiKP**	**22 34 25.4**	**0.0**		
PRU				*e*PKPAB	**PKPab**	**22 34 34.3**	**+0.5**		
PRU				*ep*PKP	**pPKPbc**	**22 36 42.2**	**+0.2**		
PRU	**Pruhonice**	**150.25**	**342**	*e*PKIKP	**PKiKP**	**22 34 25.4**	**0.0**		
PRU				*e*		22 34 34.3			
PRU				*e*		22 36 42.2			
SZH	**Strazhitsa**	**150.29**	**321**	*e*P	**PKPbc**	**22 34 25.0**	**-0.2**		
ZIMR		**150.41**	**322**	⇑P	**PKiKP**	**22 34 25.9**	**0.0**		
ZIMR		**150.41**	**322**	⇑PKIKP	**PKiKP**	**22 34 25.9**	**0.0**		
JMB	**Yambol**	**150.41**	**319**	*e*P	**PKPbc**	**22 34 25.1**	**-0.4**		
MONM	**Monmouth**	**150.42**	**4**	*e*P	**PKPbc**	**22 34 24.6**	**-0.5**		
KRUC	**Moravsky**	**150.48**	**339**	*e*PKP	**PKPbc**	**22 34 25.5**	**+0.1**		
KRUC				*e*		22 36 46.1			
ELND	**Elena**	**150.55**	**320**	⇑P	**PKPbc**	**22 34 25.9**	**+0.1**		
TREC	**Trest**	**150.58**	**340**	⇑*e*PKP	**PKPbc**	**22 34 25.9**	**+0.2**		
TREC	**Trest**	**150.58**	**340**	*e*PKIKP	**PKPbc**	**22 34 25.9**	**+0.2**		
SIRR	**Siria**	**150.58**	**329**	⇑P	**PKiKP**	**22 34 26.1**	**-0.1**		
NKC	**Novy Kostel**	**150.60**	**344**	⇑*e*PKP	**PKiKP**	**22 34 26.3**	**+0.2**		
NKC	**Novy Kostel**	**150.60**	**344**	*e*PKIKP	**PKiKP**	**22 34 26.3**	**+0.2**		
GZR	**Gura Zlata**	**150.66**	**327**	⇑P	**PKPbc**	**22 34 25.7**	**-0.4**		
GZR	**Gura Zlata**	**150.66**	**327**	⇑PKIKP	**PKPbc**	**22 34 25.7**	**-0.4**		
SURR	**Surduc**	**150.73**	**328**	⇑P	**PKPbc**	**22 34 25.9**	**-0.2**		
VLAD	**Vladila**	**150.73**	**323**	⇑P	**PKiKP**	**22 34 26.6**	**0.0**		
MODS	**Modra-Piesok**	**150.75**	**337**	*e*PKP	**PKiKP**	**22 34 26.7**	**+0.2**		
MODS				*e*		22 34 37.2			
MODS	**Modra-Piesok**	**150.75**	**337**	*e*PKIKP	**PKiKP**	**22 34 26.7**	**+0.2**		
MODS				*e*		22 34 37.2			
SWN1	**Swindon**	**150.80**	**3**	*e*P	**PKPbc**	**22 34 25.4**	**-0.6**		
SRO	**Srobarova**	**150.83**	**335**	*e*PKP	**PKiKP**	**22 34 26.6**	**0.0**		
SRO	**Srobarova**	**150.83**	**335**	*e*PKIKP	**PKiKP**	**22 34 26.6**	**0.0**		
ZVC	**Zvikov**	**150.85**	**342**	*e*PKPDF	**PKPdf**	**22 34 20.7**	**+0.8**		
ZVC				⇑*e*PKP	**PKiKP**	**22 34 26.6**	**0.0**		
ZVC				*e*PKPAB	**PKPab**	**22 34 34.3**	**+0.9**		
SRE	**Strehaia**	**150.94**	**325**	⇓P	**PKiKP**	**22 34 27.4**	**+0.4**		
SRE	**Strehaia**	**150.94**	**325**	PKIKP	**PKiKP**	**22 34 27.4**	**+0.4**		
WOL	**Wolverton**	**151.03**	**2**	*e*P	**PKPbc**	**22 34 26.3**	**-0.2**		
BZS	**Buzias**	**151.07**	**329**	⇓P	**PKPbc**	**22 34 25.8**	**-1.1**		
BZS	**Buzias**	**151.07**	**329**	⇓PKIKP	**PKPbc**	**22 34 25.8**	**-1.1**		
HERR	**Herculane**	**151.20**	**327**	⇑P	**PKPbc**	**22 34 27.1**	**-0.1**		
DIM	**Dimitrovgrad**	**151.24**	**319**	*e*P	**PKPbc**	**22 34 27.5**	**+0.1**		
KHC	**Kasperske Hory**	**151.30**	**342**	PKPdf	**PKPdf**	**22 34 20.9**	**+0.2**		
KHC					**PKiKP**	**22 34 27.6**	**0.0**		
KHC	**Kasperske Hory**	**151.30**	**342**	*e*PKPDF	**PKPdf**	**22 34 20.9**	**+0.2**		
KHC				⇑*e*PKP	**PKiKP**	**22 34 27.7**	**0.0**		
KHC				*e*PKPAB	**PKPab**	**22 34 39.0**	**+0.7**		
KHC				*ep*PKP	**pPKPbc**	**22 36 44.4**	**-0.3**		
KHC	**Kasperske Hory**	**151.30**	**342**	*e*PKIKP	**PKPdf**	**22 34 20.9**	**+0.2**		
KHC				*e*		22 34 39.0			
CKRC	**Cesky Krumlov**	**151.36**	**341**	*e*PKPDF	**PKPdf**	**22 34 21.7**	**+0.9**		
CKRC				⇑*e*PKP	**PKiKP**	**22 34 27.9**	**+0.1**		
CKRC				*e*PKPAB	**PKPab**	**22 34 39.1**	**+0.5**		
CKRC	**Cesky Krumlov**	**151.36**	**341**	*e*PKIKP	**PKPdf**	**22 34 21.7**	**+0.9**		
CKRC				*e*		22 34 39.1			
GRA1	**Grafenberg Arr**	**151.40**	**345**	PKPdf	**PKPdf**	**22 34 21.5**	**+0.7**		
GRF	**Grafenberg Arr**	**151.40**	**345**	PKIKP	**PKPdf**	**22 34 21.5**	**+0.7**		
GRFO	**Grafenberg**	**151.40**	**345**		**PKPab**	**22 34 39.7**	**+1.0**		
MEM	**Membach**	**151.43**	**353**	*d*PKP	**PKPbc**	**22 34 27.1**	**-0.4**		
MEM				*dp*PKP	**pPKPab**	**22 36 48.5**	**-1.9**		
BTNL	**Ternell**	**151.44**	**353**	*d*PKPdf	**PKPdf**	**22 34 20.7**	**-0.1**		
BTNL				*d*PKiKP	**PKPbc**	**22 34 27.4**	**-0.2**		
BTNL				*dp*PKP	**pPKPab**	**22 36 49.5**	**-1.0**		
VALD	**Valchedram**	**151.47**	**324**	*e*P	**PKPbc**	**22 34 27.9**	**+0.1**		
HMNX	**Herstmonceux**	**151.50**	**0**	*e*P	**PKPbc**	**22 34 27.8**	**+0.1**		
BSTI	**Sart Tilman**	**151.51**	**353**	*d*PKiKP	**PKPbc**	**22 34 27.7**	**0.0**		
BSTI				*dp*PKP	**pPKPbc**	**22 36 45.2**	**-0.3**		
SBD	**Saint Breward**	**151.51**	**7**	*e*P	**PKPbc**	**22 34 27.0**	**-0.7**		
MPEP	**Malo Peshtene**	**151.51**	**323**	*e*P	**PKPbc**	**22 34 27.9**	**-0.1**		
GEC2	**GERESS Array S**	**151.52**	**342**	PKPbc	**PKPbc**	**22 34 28.3**	**+0.1**		
GERES	**GERESS Array B**	**151.52**	**342**		**PKPdf**	**22 34 20.7**	**-0.4**		
GERES				PKPbc	**PKiKP**	**22 34 28.1**	**-0.1**		
GERES	**GERESS Array B**	**151.52**	**342**	PKPbc	**PKPbc**	**22 34 27.9**	**0.0**		
GERES	comp=Z,5.9nm,0.5s,baz=24,slow=2.8,SNR=40			PKPab	**PKPab**	**22 34 39.5**	**+0.1**		
GERES	comp=Z,2.7nm,0.6s,baz=14,slow=2.8,SNR=6.5			pPKPbc	**pPKPbc**	**22 36 42.9**	**-2.4**		
GERES	comp=Z,3.3nm,0.9s,baz=50,slow=2.1,SNR=6.5 **GERESS Array B**	**151.52**	**342**	PKIKP	**PKiKP**	**22 34 28.1**	**-0.1**		
MDVR	**Moldovita**	**151.63**	**327**	⇑P	**PKPbc**	**22 34 28.2**	**0.0**		
KDZ	**Kurdzhali**	**151.63**	**319**	*e*P	**PKPbc**	**22 34 27.6**	**-0.7**		
CONA	**Conrad Observa**	**151.64**	**338**	*e*PKP	**PKPbc**	**22 34 28.3**	**+0.1**		
CONA	comp=Z,14nm,0.7s,SNR=11			*i* PKP	**PKPab**	**22 34 40.8**	**+0.9**		
CONA	comp=Z,8.1nm,0.7s			*ep*PKP	**pPKPbc**	**22 36 45.6**	**+0.1**		
RONA	comp=Z,21nm,1.3s **Rosalia, Austr**	**151.68**	**337**	*e*PKP	**PKiKP**	**22 34 28.4**	**-0.1**		
RONA	comp=Z,21nm,0.5s,SNR=12			*ep*PKP	**pPKPbc**	**22 36 45.6**	**+0.1**		
BHOU	comp=Z,24nm,1.1s,SNR=6.5 **Houvegnez**	**151.69**	**353**	*d*PKiKP	**PKiKP**	**22 34 28.3**	**-0.1**		
BHOU				*d*PKPab	**PKPab**	**22 34 39.4**	**-0.4**		
BHOU				*dp*PKP	**pPKPab**	**22 36 50.4**	**-1.2**		
BCLA	**Clavier**	**151.70**	**354**	*d*PKPbc	**PKPbc**	**22 34 27.4**	**-0.7**		
BCLA				*d*PKP	**PKPab**	**22 34 39.7**	**-0.2**		
BGES	**Gesves**	**151.76**	**354**	*d*PKPdf	**PKPdf**	**22 34 21.2**	**-0.1**		
BGES				*d*PKPbc	**PKPbc**	**22 34 27.7**	**-0.6**		
BGES				*d*PKPab	**PKPab**	**22 34 39.6**	**-0.5**		
BGES				*dp*PKP	**pPKPdf**	**22 36 41.8**	**+1.4**		
CCA1	**Carnmenellis**	**151.82**	**8**	*e*P	**PKPbc**	**22 34 27.8**	**-0.6**		
BMRD	**Maredsous**	**151.87**	**354**	*d*PKiKP	**PKPbc**	**22 34 28.2**	**-0.3**		
BMRD				*dp*PKP	**pPKPab**	**22 36 50.4**	**-1.9**		
RZN	**Rozhen**	**151.96**	**319**	*e*P	**PKPbc**	**22 34 28.6**	**-0.7**		
RCHB	**Rochefort**	**151.97**	**354**	*d*PKPdf	**PKPdf**	**22 34 21.1**	**-0.5**		
RCHB				*d*PKiKP	**PKPbc**	**22 34 28.7**	**0.0**		
RCHB				*dp*PKP	**pPKPab**	**22 36 50.6**	**-2.1**		
MORH	**Mrgy, Hungar**	**151.97**	**333**	⇑P	**PKPbc**	**22 34 28.7**	**-0.1**		
DOU	**Dourbes**	**152.09**	**354**	*d*PKPdf	**PKPdf**	**22 34 21.2**	**-0.6**		
DOU				*d*PKPbc	**PKPbc**	**22 34 29.1**	**+0.1**		
DOU				*d*PKP	**PKPab**	**22 34 41.5**	**0.0**		
DOU				*dp*PKP	**pPKPbc**	**22 36 46.2**	**-0.7**		
MOA	**Molln**	**152.24**	**340**	*e*PKP	**PKPbc**	**22 34 29.0**	**-0.4**		
MOA	comp=Z,4.7nm,0.6s			*e*PKP	**PKPab**	**22 34 43.1**	**+0.8**		
MOA	comp=Z,8.1nm,1.1s			*ep*PKP	**pPKPbc**	**22 36 46.5**	**-0.4**		
FRGS	comp=Z,10nm,1.0s **Fruska Gora**	**152.27**	**330**	⇑P	**PKPbc**	**22 34 29.6**	**-0.1**		
VTS	**Vitosha**	**152.27**	**322**	*e*P	**PKPbc**	**22 34 29.5**	**-0.4**		
ARSA	**Arzberg**	**152.34**	**338**	*e*PKP	**PKPbc**	**22 34 28.8**	**-0.9**		
ARSA	comp=Z,5.7nm,1.2s			*e*PKP	**PKPab**	**22 34 43.2**	**+0.5**		
ARSA	comp=Z,2.2nm,0.6s			*ep*PKP	**pPKPdf**	**22 36 41.7**	**+0.2**		
WLF	comp=Z,6.8nm,1.2s **Walferdange**	**152.34**	**352**	*d*PKiKP	**PKPbc**	**22 34 29.3**	**-0.3**		
WLF				*dp*PKP	**pPKPbc**	**22 36 47.8**	**+0.2**		
BOVS	**Bovan**	**152.43**	**325**	⇑P	**PKPbc**	**22 34 29.2**	**-0.7**		
BIOA	**Bad Ischl, Aus**	**152.57**	**341**	*i* PKP	**PKPbc**	**22 34 29.7**	**-0.5**		
BIOA	comp=Z,5.8nm,0.9s			*e*PKP	**PKPab**	**22 34 44.4**	**+0.6**		
BIOA	comp=Z,22nm,1.2s			*ep*PKP	**pPKPdf**	**22 36 42.0**	**+0.1**		
MMB	comp=Z,17nm,1.3s,SNR=5.9 **Musomishta**	**152.64**	**320**	*e*P	**PKPbc**	**22 34 29.7**	**-0.9**		
KKB	**Krupnik**	**152.82**	**321**	*e*P	**PKPbc**	**22 34 30.5**	**-0.4**		
SOKA	**Soboth**	**153.00**	**338**	*i* PKP	**PKPdf**	**22 34 22.4**	**-0.9**		
SOKA	comp=Z,5.0nm,1.4s			*i* PKP	**PKPbc**	**22 34 30.4**	**-0.8**		
SOKA	comp=Z,4.8nm,0.8s			*e*PKP	**PKPab**	**22 34 45.8**	**+0.1**		
SOKA	comp=Z,7.5nm,1.1s			*ep*PKP	**pPKPdf**	**22 36 43.4**	**+0.9**		
JSA	comp=Z,16nm,1.1s,SNR=7.5 **Saint Aubin**	**153.10**	**4**	*e*P	**PKPbc**	**22 34 30.1**	**-1.1**		
LESA	**Schwarzleotal**	**153.10**	**342**	*e*PKP	**PKPdf**	**22 34 22.5**	**-0.9**		
LESA	comp=Z,6.8nm,1.1s			*i* PKP	**PKPbc**	**22 34 31.2**	**-0.2**		
LESA	comp=Z,2.8nm,0.4s			*e*PKP	**PKPab**	**22 34 46.6**	**+0.5**		
LESA	comp=Z,3.9nm,0.6s			*ep*PKP	**pPKPbc**	**22 36 47.6**	**-1.4**		
KBA	comp=Z,9.8nm,1.1s **Koelnbreinsper**	**153.21**	**340**	*i* PKP	**PKPbc**	**22 34 31.3**	**-0.5**		
KBA	comp=Z,7.0nm,1.0s			*e*PKP	**PKPab**	**22 34 47.4**	**+0.7**		
KBA	comp=Z,5.4nm,0.5s			*ep*PKP	**pPKPbc**	**22 36 47.6**	**-1.8**		
BFO	comp=Z,11nm,1.0s **Black Forest**	**153.30**	**348**		**PKPbc**	**22 34 31.5**	**-0.2**		
BFO				PKPab	**PKPab**	**22 34 46.9**	**0.0**		
BFO	**Black Forest**	**153.30**	**348**	PKIKP	**PKPbc**	**22 34 31.5**	**-0.2**		
BFO						22 34 46.9			
OBKA	**Obir**	**153.31**	**338**	*e*PKP	**PKPab**	**22 34 46.5**	**-0.5**		
OBKA	comp=Z,6.1nm,1.2s			*ep*PKP	**pPKPdf**	**22 36 43.7**	**+0.7**		
GCIS	comp=Z,11nm,1.3s **Gornji Cirnik**	**153.47**	**336**	*e*PKPdf	**PKPdf**	**22 34 23.3**	**-0.6**		
GCIS				*e*PKPbc	**PKPbc**	**22 34 31.8**	**-0.3**		
VAY	**Valandovo**	**153.48**	**321**	*i* P	**PKPab**	**22 34 48.5**	**+0.7**		
WATA	**Walderalm**	**153.49**	**343**	*e*PKP	**PKPdf**	**22 34 23.4**	**-0.7**		
WATA	comp=Z,3.3nm,0.8s			*e*PKP	**PKPbc**	**22 34 31.8**	**-0.5**		
WATA	comp=Z,4.1nm,0.5s			*e*PKP	**PKPab**	**22 34 48.1**	**+0.3**		
WATA	comp=Z,8.0nm,0.5s,SNR=4.4			*i* pPKP	**pPKPdf**	**22 36 46.5**	**+3.1**		
MYKA	comp=Z,15nm,1.1s,SNR=6.0 **Terra Mystica**	**153.51**	**339**	*i* PKP	**PKPbc**	**22 34 31.3**	**-1.0**		
MYKA	comp=Z,5.2nm,0.6s			*e*PKP	**PKPab**	**22 34 47.3**	**-0.6**		
MYKA	comp=Z,5.1nm,0.8s			*ep*PKP	**pPKPbc**	**22 36 47.9**	**-2.0**		
LEGS	comp=Z,9.8nm,1.1s **Legarje**	**153.52**	**336**	*i* pPKPbc	**PKPab**	**22 34 47.9**	**0.0**		
WTTA	**Wattenberg**	**153.54**	**343**	*e*PKP	**PKPdf**	**22 34 23.7**	**-0.5**		
WTTA	comp=Z,5.8nm,0.9s			*e*PKP	**PKPbc**	**22 34 32.1**	**-0.4**		
WTTA	comp=Z,5.1nm,0.5s			*i* PKP	**PKPab**	**22 34 48.6**	**+0.4**		
WTTA	comp=Z,17nm,0.5s,SNR=7.1			*i* pPKP	**pPKPdf**	**22 36 45.8**	**+2.2**		
RETA	comp=Z,17nm,0.9s,SNR=6.1 **Reutte**	**153.56**	**344**	*i* PKP	**PKPab**	**22 34 48.3**	**+0.3**		
RETA	comp=Z,4.7nm,0.5s,SNR=6.3			*ep*PKP	**pPKPbc**	**22 36 49.1**	**-1.1**		
MOTA	comp=Z,6.9nm,1.0s **Moosalm**	**153.61**	**344**	*e*PKP	**PKPdf**	**22 34 23.5**	**-0.7**		
MOTA	comp=Z,6.5nm,0.8s			*i* PKP	**PKPab**	**22 34 48.5**	**+0.1**		
MOTA	comp=Z,14nm,0.9s			*i* pPKP	**pPKPbc**	**22 36 47.3**	**-3.1**		
SQTA	comp=Z,17nm,1.3s,SNR=6.0 **Sankt Quirin**	**153.70**	**343**	*i* PKP	**PKPdf**	**22 34 23.8**	**-0.5**		
SQTA	comp=Z,6.4nm,0.8s			*e*PKP	**PKPbc**	**22 34 32.3**	**-0.4**		
SQTA	comp=Z,3.4nm,0.5s			*e*PKP	**PKPab**	**22 34 48.9**	**+0.2**		
SQTA	comp=Z,9.8nm,0.8s			*ep*PKP	**pPKPbc**	**22 36 49.3**	**-1.3**		
SKO	comp=Z,20nm,1.3s **Skopje**	**153.70**	**323**	*i* P	**PKPab**	**22 34 50.0**	**+1.2**		
LJU	**Ljubljana**	**153.72**	**338**	*e*PKPdf	**PKPdf**	**22 34 23.8**	**-0.5**		
LJU				*i* PKPbc	**PKPbc**	**22 34 32.4**	**-0.3**		
LJU				*ep*PKPbc	**PKPab**	**22 34 48.5**	**-0.2**		
ABTA	**Abfaltersbach**	**153.76**	**341**	*e*PKP	**PKPdf**	**22 34 23.3**	**-1.1**		
ABTA	comp=Z,9.5nm,1.0s			*e*PKP	**PKPbc**	**22 34 31.8**	**-1.0**		
ABTA	comp=Z,8.6nm,0.6s,SNR=7.6			*e*PKP	**PKPab**	**22 34 48.5**	**-0.5**		
ABTA	comp=Z,10nm,0.6s,SNR=5.4			*ep*PKP	**pPKPdf**	**22 36 46.6**	**+2.8**		
GBAS	comp=Z,17nm,1.1s,SNR=5.3 **Gorenja Brezov**	**153.85**	**338**	*e*PKPdf	**PKPdf**	**22 34 23.9**	**-0.6**		
GBAS				*i* PKPbc	**PKPbc**	**22 34 32.5**	**-0.4**		
DAVA	**Damuels**	**153.97**	**345**	*e*PKP	**PKPdf**	**22 34 24.5**	**-0.3**		
DAVA	comp=Z,3.8nm,0.8s			*e*PKP	**PKPab**	**22 34 50.0**	**+0.1**		
DAVA	comp=Z,9.2nm,0.6s			*ep*PKP	**pPKPbc**	**22 36 50.8**	**-0.3**		
FETA	comp=Z,19nm,1.4s **Feichten**	**154.01**	**344**	*e*PKP	**PKPdf**	**22 34 24.1**	**-0.7**		
FETA	comp=Z,10nm,0.8s,SNR=6.6			*e*PKP	**PKPab**	**22 34 50.3**	**+0.3**		
FETA	comp=Z,4.9nm,0.7s			*ep*PKP	**pPKPbc**	**22 36 49.3**	**-2.0**		
OHR	comp=Z,15nm,1.1s **Ohrid**	**154.63**	**322**	*i* P	**PKPab**	**22 34 53.7**	**+0.8**		
MVO	**Moncorvo**	**160.16**	**17**	*e*PKP	**PKPdf**	**22 34 33.3**	**+0.8**		
PCBR	**Castelo Branco**	**161.25**	**19**	*e*PKP	**PKPdf**	**22 34 34.0**	**+0.4**		
EVO	**Evora**	**162.26**	**22**	*e*PKP	**PKPdf**	**22 34 35.5**	**+0.8**		
ESDC	**Sonseca Array**	**162.28**	**11**	PKPab	**PKPab**	**22 35 25.8**	**-0.4**		
ESDC	**Sonseca Array**	**162.28**	**11**	PKP	**PKPdf**	**22 34 36.2**	**+1.4**		
ESDC	comp=Z,0.7nm,0.9s,baz=342,slow=3.7,SNR=4.2			PKPab	**PKPab**	**22 35 26.1**	**0.0**		
PNCL	comp=Z,1.7nm,0.6s,baz=343,slow=4.7,SNR=15 **Nicolau / Gran**	**162.44**	**24**	*e*PKP	**PKPdf**	**22 34 35.6**	**+0.7**		
PBEJ	**Beja**	**162.76**	**23**	*e*PKP	**PKPdf**	**22 34 36.3**	**+1.1**		
MESJ	**Messejana**	**162.80**	**24**	*e*PKP	**PKPdf**	**22 34 36.1**	**+0.9**		
MESJ	**Messejana**	**162.80**	**24**	*e*PKPdf	**PKPdf**	**22 34 34.5**	**-0.7**		
PCVE	**Castro Verde**	**163.05**	**24**	*e*PKP	**PKPdf**	**22 34 36.5**	**+1.0**		
MORF	**Marmelete**	**163.09**	**26**	*e*PKP	**PKPdf**	**22 34 37.0**	**+1.4**		
MORF	**Marmelete**	**163.09**	**26**	*e*PKPdf	**PKPdf**	**22 34 34.9**	**-0.7**		
LIC	**Lamto**	**163.13**	**161**	⇑*i*PKIKP	**PKPdf**	**22 34 35.6**	**-0.6**		
LIC	comp=Z,41nm,0.7s **Lamto**	**163.13**	**161**	⇓*i*PKP1	**PKPab**	**22 35 31.4**	**+1.0**		
KIC	comp=Z,152nm,0.7s **Kosan Boka**	**163.35**	**161**	⇑*i*PKIKP	**PKPdf**	**22 34 35.8**	**-0.7**		
KIC	comp=Z,33nm,0.7s **Kosan Boka**	**163.35**	**161**	⇑*i*PKP1	**PKPab**	**22 35 32.1**	**+0.8**		
TIC	comp=Z,130nm,0.7s **Toumodi**	**163.53**	**160**	⇑*i*PKIKP	**PKPdf**	**22 34 36.0**	**-0.6**		
TIC	comp=Z,34nm,0.7s **Toumodi**	**163.53**	**160**	⇑*i*PKP1	**PKPab**	**22 35 32.9**	**+0.8**		
DBIC	comp=Z,32nm,0.5s **Dimbokro**	**163.60**	**161**	PKP	**PKPdf**	**22 34 36.2**	**-0.5**		
DBIC	comp=Z,12nm,0.5s,baz=187,slow=0.6,SNR=20			PKPab	**PKPab**	**22 35 33.5**	**+1.0**		
KEST	comp=Z,40nm,0.9s,baz=187,slow=4.8,SNR=18 **Kesra**	**164.57**	**332**	PKPab	**PKPab**	**22 35 36.0**	**-0.4**		
MDT	comp=Z,4.6nm,0.8s,baz=22,slow=1.8,SNR=5.3 **Midelt**	**168.60**	**22**	PKP	**PKPdf**	**22 34 40.5**	**+0.4**		
MDT	comp=Z,6.7nm,1.0s,baz=254,slow=0.7,SNR=9.6			PKPab	**PKPab**	**22 35 54.9**	**+0.5**		
TAM	comp=Z,5.3nm,0.9s,baz=346,slow=4.1,SNR=6.1 **Tamanrasset**	**175.34**	**277**		**PKPdf**	**22 34 43.9**	**+0.4**		
TAM	**Tamanrasset**	**175.34**	**277**	PKIKP	**PKPdf**	**22 34 43.9**	**+0.4**		

VIE ***10*** *22:24:51.0±0.3,50°.18N×12°.39E,h10km,mb2.2/4,ml2.8/8, Error ellipse: s-maj=4.0km s-min=2.2km az=65.0*
BGR ***10*** *22:24:51.3±0.2,50°.25N×12°.45E,h11km±1km,ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
PRU ***10*** *22:24:51.3,50°.23N×12°.50E,h10km, West Bohemia Swarm*
CLL ***10*** *22:24:51.9±0.3,50°.26N×12°.44E,h8km,ML2.4*
WBNET ***10*** *22:24:51.6,50°.25N×12°.45E,h9km,Ml2.5*
LDG ***10*** *22:25:25.9±0.9,49°.64N×10°.84E,h25km,Ml2.5/4, Error ellipse: s-maj=99.7km s-min=14.0km az=154.0*
ISC 10 22:24:51.3±0.7,50°.25N±0°.01×12°.46E±0°.02,h13km±3km, n79,σ1s17/146,4C-8D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**194**	*i* Pg	**Pg**		**22 24 53.4**	**-0.2**
NKC				*i* Sg	**Sg**		**22 24 54.6**	**-0.6**
NKC				IAML			22 24 54.7	
NKC	comp=E,2µm,0.3s **Novy Kostel**	**0.02**	**194**	*e*PG	**Pg**		**22 24 53.9**	**+0.3**
NKC				*e*SG	**Sg**		**22 24 54.6**	**-0.6**
NKC	comp=E,709nm,0.3s **Novy Kostel**	**0.02**	**194**	*i* Pg	**Pg**		**22 24 53.4**	**-0.2**
NKC				*i* Sg	**Sg**		**22 24 54.6**	**-0.6**
NKC	comp=E,2µm,0.3s **Novy Kostel**	**0.02**	**194**	⇓P	**Pg**		**22 24 53.4**	**-0.2**
NKC				S	**Sg**		**22 24 54.6**	**-0.6**
LBCW	**Luby**	**0.03**	**298**	⇓P	**Pg**		**22 24 53.5**	**-0.2**
LBCW				S	**Sg**		**22 24 54.8**	**-0.6**
STCW	**Studenec**	**0.04**	**79**	*i* Pg	**Pg**		**22 24 53.6**	**-0.2**
STCW				*i* Sg	**Sg**		**22 24 54.8**	**-0.7**
KVC	**Kvetna**	**0.06**	**139**	*i* Pg	**Pg**		**22 24 53.7**	**-0.2**
KVC				*i* Sg	**Sg**		**22 24 55.1**	**-0.7**
KVC	**Kvetna**	**0.06**	**139**	⇓P	**Pg**		**22 24 53.7**	**-0.2**
KVC				S	**Sg**		**22 24 55.1**	**-0.7**
WERN	**Wernitzgruen**	**0.06**	**306**	*i* Pg	**Pg**		**22 24 53.7**	**-0.2**
WERN				*i*			22 24 54.8	
WERN				*i* Sg	**Sg**		**22 24 55.2**	**-0.7**
WERN				IAML			22 24 55.3	
WERN	comp=E,3µm,0.2s **Wernitzgruen**	**0.06**	**306**	*i* Pg	**Pg**		**22 24 53.7**	**-0.2**
WERN				*i* Sg	**Sg**		**22 24 55.2**	**-0.7**
POCW	comp=E,3µm,0.2s **Potky**	**0.07**	**346**	⇓P	**Pg**		**22 24 53.9**	**-0.2**
POCW				S	**Sg**		**22 24 55.4**	**-0.6**
ROHR	**Rohrbach**	**0.09**	**259**	*i* Pg	**Pg**		**22 24 54.0**	**-0.3**
ROHR				*i* Sg	**Sg**		**22 24 55.5**	**-0.8**

PVCC	**Panska Ves**	**1.38**	**78**	*e*SG		**Sg**	**22 25 35.6**	**-0.2**
	comp=Z,80nm,0.2s								
GEC2	**GERESS Array S**	**1.62**	**150**	*e*Pn		**Pn**	**22 25 20.0**	**+0.2**
GEC2				*e*Sg		**Sb**	**22 25 41.8**	**+0.2**
CKRC	**Cesky Krumlov**	**1.87**	**139**	*e*SG		**Sb**	**22 25 49.5**	**+0.8**
	comp=Z,13nm,0.2s								
TREC	**Trest**	**2.19**	**115**	*e*SG		**Sb**	**22 25 58.6**	**+0.9**
	comp=Z,16nm,0.2s								
UPC	**Upice**	**2.29**	**82**	*e*SG		**Sb**	**22 26 03.0**	**+2.2**
	comp=Z,14nm,0.5s								
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG		**Sb**	**22 26 08.2**	**+1.9**
	comp=Z,9.8nm,0.3s								
BIOA	**Bad Ischl, Aus**	**2.68**	**163**	*e*Pg		**Pb**	**22 25 40.5**	**+1.4**
	comp=Z,1.7nm,0.3s								
BIOA				*e*Sg		**Sg**	**22 26 15.3**	**-2.0**
	comp=Z,13nm,0.5s								
MOA	**Molln**	**2.68**	**153**	*e*Pn		**Pn**	**22 25 34.4**	**+0.2**
	comp=Z,0.1nm,0.1s								
MOA				*e*Sn		**Sn**	**22 26 07.3**	**+0.7**
	comp=Z,0.8nm,0.2s								
KRLC	**Kraliky**	**2.79**	**92**	*e*SG		**Sg**	**22 26 19.0**	**-1.8**
	comp=Z,8.0nm,0.6s								
LESA	**Schwarzleotal**	**2.83**	**177**	*e*Pg		**Pb**	**22 25 43.7**	**+1.9**
	comp=Z,0.2nm,0.1s								
LESA				*e*Sg		**Sg**	**22 26 20.6**	**-1.7**
	comp=Z,8.3nm,0.5s								
WATA	**Walderalm**	**2.98**	**192**	*e*Pn		**Pn**	**22 25 36.8**	**-1.6**
	comp=Z,0.3nm,0.3s								
WATA				*e*Sn		**Sn**	**22 26 12.9**	**-1.1**
	comp=Z,3.5nm,0.3s								
RETA	**Reutte**	**2.98**	**203**	*e*Pn		**Pn**	**22 25 37.7**	**-0.7**
	comp=Z,0.3nm,0.2s								
RETA				*e*Sn		**Sn**	**22 26 13.2**	**-0.9**
	comp=Z,1.4nm,0.3s								
WTTA	**Wattenberg**	**3.04**	**191**	*e*Pn		**Pn**	**22 25 38.6**	**-0.6**
	comp=Z,0.2nm,0.1s								
WTTA				*e*Sn		**Sn**	**22 26 15.8**	**+0.2**
	comp=Z,1.1nm,0.2s								
MOTA	**Moosalm**	**3.04**	**198**	*e*Pn		**Pn**	**22 25 38.6**	**-0.7**
	comp=Z,0.1nm,0.1s								
MOTA				*e*Sn		**Sn**	**22 26 15.7**	**0.0**
	comp=Z,0.5nm,0.2s								
CONA	**Conrad Observa**	**3.23**	**135**	*e*Pn		**Pn**	**22 25 42.4**	**+0.6**
	comp=Z,0.3nm,0.2s								
CONA				*e*Sn		**Sn**	**22 26 21.4**	**+1.3**
	comp=Z,0.5nm,0.2s								
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG		**Sg**	**22 26 34.9**	**-2.9**
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pn		**Pg**	**22 26 04.3**	**-0.8**
CDF				*e*Sg		**Sb**	**22 26 49.1**	**+3.3**
	comp=Z,4.3nm,0.4s								
HINF	**Hinteralfeld**	**4.42**	**239**	*e*Pn		**Pg**	**22 26 13.1**	**-2.8**
HINF				*e*Sg		**Sb**	**22 27 07.1**	**+5.2**
	comp=Z,2.8nm,0.3s								
HAU	**Haudompre**	**4.60**	**243**	*e*Pn		**Pg**	**22 26 16.2**	**-3.1**
HAU				*e*Sg		**Sb**	**22 27 11.7**	**+4.6**
	comp=Z,3.7nm,0.3s								
LOR	**Lormes**	**6.42**	**246**	*e*Sg		**Sg**	**22 28 09.6**	**-7.6**

NEIC ***10*** *22:37:28.8±0.4, 19˚.40N±0˚.02×155˚.04W±0˚.03, h6km±2km, Error ellipse: s-maj=5.6km s-min=1.2km az=128.0*

HVO 10 22:37:27.1±0.8, 19˚.37N±0˚.02×154˚.94W±0˚.04, h2km±9km, Md2.3/10, ML2.7/18(NEIC), Error ellipse: s-maj=5.8km s-min=1.8km az=120.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.09**	**313**		Pg	22 37 29.6	+0.8
PAH	**Pahoa**	**0.12**	**355**		Pg	22 37 32.6	+3.1
JCUZ	**Jacuzzi**	**0.16**	**274**		Pg	22 37 30.5	+0.3
NPOC	**North of Pu'u**	**0.17**	**277**		Pg	22 37 30.6	+0.2
NPOC				IAML		22 37 33.4	
	comp=E,748nm,0.2s						
STCH	**Steam Cracks**	**0.18**	**274**		Pg	22 37 30.6	0.0
STCH				IAML		22 37 33.7	
	comp=E,1μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.22**	**271**		Pg	22 37 31.6	+0.3
HLP	**Hilina Pali**	**0.36**	**258**		Pg	22 37 33.0	-1.0
MLH	**Mauna Loa**	**0.44**	**286**		Pg	22 37 35.3	-0.3
MLH				IAML		22 37 38.9	
	comp=E,762nm,0.8s						
HTC	**Hot Caves**	**0.46**	**253**		Pg	22 37 36.2	+0.4
HMH	**Humu'ula Sheep**	**0.56**	**294**	IAML		22 37 46.5	
	comp=E,554nm,0.9s						
KHU	**Kahuku**	**0.65**	**259**	IAML		22 37 55.3	
	comp=E,441nm,0.9s						
KHU				IAML		22 37 56.5	
	comp=N,308nm,1.5s						
POHA	**Pohakuloa**	**0.68**	**304**	Pg	Pg	22 37 40.0	-0.2
POHA				IAML		22 37 47.9	
	comp=N,308nm,0.8s						
POHA				IAML		22 37 52.7	
	comp=N,318nm,0.6s						
HUH	**Hualalai**	**0.90**	**290**	Pg	Pg	22 37 44.7	+0.2
HUH				IAML		22 38 09.4	
	comp=E,304nm,0.5s						
HUH				IAML		22 38 16.3	
	comp=N,306nm,0.6s						

MOS ***10*** *22:52:10.7±0.8, 3˚.54N×126˚.91E, h58km, mb5.0/36, Error ellipse: s-maj=11.7km s-min=5.5km az=116.1*

NEIC ***10*** *22:52:11.2±2.6, 3˚.46N±0˚.04×126˚.93E±0˚.07, h35km±1km, mb5.0/114, Error ellipse: s-maj=12.7km s-min=7.2km az=267.0*

GCMT ***10*** *22:52:13.2±0.5, 3˚.54N±0˚.02×127˚.10E±0˚.03, h73km±6km, MW4.8/71, Moment Tensor Solution. s12,c16; s71,c95; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.05±.14; Mθθ 1.46±.12; Mϕϕ-1.41±.14; Mrθ-0.32±.07; Mrϕ-0.66±.11; Mθϕ 1.18±.08; Best double couple: M☉1.97600×10^16 NP1: ϕs 147.00000°, δ85.00000°, λ-36.00000°. NP2: ϕs 241.00000°, δ54.00000°, λ-174.00000°. Principal axes: T 1.8130, Plg20.0000°, Azm199.0000°; N 0.3290, Plg54.0000°, Azm320.0000°; P -2.1390, Plg28.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***10*** *22:52:14.6±1.6, 3˚.51N×126˚.91E, h73km±14km, mb4.2/31, mbtmp4.5/34, MS3.6/37 Error ellipse: s-maj=16.7km s-min=7.8km az=84.0*

DJA ***10*** *22:52:14.4±0.2, 4˚N±2˚×12˚7E±˚, h53km±2km, M5.0/40, mb5.1/40, mB5.5/19, MLv5.1/13, Mw4.7/13, Mw(mB)4.9/19, MwMwp5.5/1, Mwp5.6/1*

ISC 10 22:52:12.8±0.4, 3˚.50N±0˚.03×126˚.96E±0˚.04, h55km±3km, h55km: pP-P, n625, σ1s29/592, mb4.9/131, MS3.6/41, 15C-6D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.44**	**278**	P	**Pn**	**22 52 38.0**	**+1.4**
SGSI				S	**Sn**	**22 52 56.5**	**+2.0**
TNTI	**Ternate**	**2.74**	**171**	Pn	**Pn**	**22 52 55.2**	**+0.9**
TNTI	**Ternate**	**2.74**	**171**	P	**Pn**	**22 52 56.7**	**+2.4**
GSPH	**General Santos**	**3.26**	**322**	⇑*i*P	**Pn**	**22 53 01.7**	**0.0**
GSPH				*i* S	**Sn**	**22 53 39.3**	**0.0**
DAV	**Davao City (W)**	**3.81**	**339**		**Pn**	**22 53 11.8**	**+2.8**
DAV	**Davao City (W)**	**3.81**	**339**	P	**Pn**	**22 53 11.9**	**+2.9**
	230nm,0.5s,baz=70,slow=1.5,SNR=8.2						
DAV				S	**Sn**	**22 53 53.7**	**+1.2**
	406nm,0.6s,baz=334,slow=23,SNR=2.5						
DAV				LR	LR	22 55 02.7	
	comp=Z,666nm,18.8s,baz=215,slow=45						
KCP	**Kidapawan**	**3.96**	**332**	⇑*e*P	**Pn**	**22 53 12.4**	**+1.3**
KCP				*i* S	**Sn**	**22 53 57.0**	**+0.7**
LBMI	**Labuha**	**4.14**	**172**	P	**Pn**	**22 53 15.9**	**+2.3**
KMSI	**Cibinong**	**4.16**	**226**	P	**Pn**	**22 53 17.6**	**+3.8**
CDOP	**Cateel, Davao**	**4.29**	**353**	⇑*e*P	**Pn**	**22 53 16.9**	**+1.3**
BIPH	**Bislig**	**4.70**	**353**	⇓*e*P	**Pn**	**22 53 20.8**	**-0.4**
BIPH				*i* S	**Sn**	**22 54 15.7**	**+1.3**
GTOI	**Gorontalo**	**4.86**	**234**	P	**Pn**	**22 53 26.1**	**+2.6**
TASP	**Talacogon, Agu**	**5.05**	**347**	⇑*e*P	Pn	22 53 30.9	+4.8
TASP				eS	Sn	22 54 33.1	+10
CGP	**Cagayan de Oro**	**5.42**	**336**	⇓*e*P	Pn	22 53 41.7	+11
CGP				eS	**Sn**	**22 54 37.5**	**+5.4**
SANI	**Sanana**	**5.59**	**190**	P	**Pn**	**22 53 33.3**	**-0.2**
SANI	**Sanana**	**5.59**	**190**	P	**Pn**	**22 53 32.9**	**-0.6**
	139nm,0.8s,6μm,0.9nm						
SWI	**Sorong**	**6.10**	**135**	P	**Pn**	**22 53 42.1**	**+1.7**
	227nm,1.0s,3μm,0.9nm						
SWI	**Sorong**	**6.10**	**135**	P	**Pn**	**22 53 42.3**	**+1.9**
SWI				pmax	pmax		
	comp=Z,220nm,1.0s						

LUWI	**Luwuk**	**6.15**	**223**	Pn		**Pn**	**22 53 44.9**	**+3.8**
LUWI	**Luwuk**	**6.15**	**223**	P		**Pn**	**22 53 45.7**	**+4.6**
	comp=Z,789nm,0.9s,comp=Z,7μmcomp=Z,2.6nm								
TOLI2	**Tolitoli**	**6.61**	**249**	P		**Pn**	**22 53 49.4**	**+1.9**
TOLI2	**Tolitoli**	**6.61**	**249**	Pn		**Pn**	**22 53 47.9**	**+0.5**
TBP	**Tagbilaran**	**6.88**	**334**	*e*P		Pn	22 53 57.5	+6.3
TABP	**Talibon, Bohol**	**7.05**	**338**	⇑*e*P		**Pn**	**22 53 55.5**	**+2.0**
LLP	**Lapu-Lapu**	**7.40**	**336**	*e*P		**Pn**	**22 53 58.7**	**+0.4**
LLP				eS		**Sn**	**22 55 19.0**	**-1.9**
MPSI	**Mapaga**	**7.72**	**246**	P		**Pn**	**22 54 05.4**	**+2.7**
	comp=Z,86nm,0.7s,comp=Z,1μmcomp=Z,0.3nm								
PLP	**Palo**	**7.87**	**346**	⇓*e*P		Pn	22 54 12.8	+8.1
FAKI	**Fak Fak**	**8.28**	**140**	Pn		**Pn**	**22 54 11.7**	**+1.4**
FAKI	**Fak Fak**	**8.28**	**140**	P		**Pn**	**22 54 13.1**	**+2.8**
	comp=Z,164nm,0.9s,comp=Z,2μm								
RCP	**Roxas**	**9.04**	**333**	⇑*e*P		Pn	22 54 27.9	+7.3
TTSI	**Tana Toraja**	**9.65**	**228**	P		**Pn**	**22 54 31.3**	**+2.2**
	comp=Z,165nm,1.0s,comp=Z,3μm								
BBSI	**Bau Bau**	**9.94**	**206**	P		**Pn**	**22 54 35.4**	**+2.3**
	comp=Z,241nm,0.9s,comp=Z,2μm								
KAPI	**Kappang**	**11.11**	**220**	P		**Pn**	**22 54 50.4**	**+1.4**
	comp=Z,29nm,0.7s,baz=24,slow=9.0,SNR=12								
KAPI				S		**Sn**	**22 56 53.1**	**+1.4**
	comp=Z,5.2nm,0.3s,baz=171,slow=6.3,SNR=1.6								
BKSI	**Bulukumba**	**11.11**	**218**	P		**Pn**	**22 54 50.2**	**+1.2**
	comp=Z,50nm,0.8s,comp=Z,449nm								
TGY	**Tagaytay City**	**12.10**	**331**	LR		LR	23 00 22.8		
	comp=Z,238nm,20.0s,baz=132,slow=40								
MTKI	**Muara Teweh, K**	**12.84**	**250**	P		**Pn**	**22 55 15.1**	**+2.4**
	comp=Z,214nm,0.9s								
MMRI	**Maumere**	**12.94**	**201**	P		**P**	**22 55 24.7**	**+1.7**
SMPI	**Sarmi**	**12.95**	**115**	P		**Pn**	**22 55 16.5**	**+2.4**
	comp=Z,63nm,1.4s								
EDFI	**Ende, Flores**	**13.25**	**203**	P		**Pn**	**22 55 19.5**	**+1.1**
	comp=Z,75nm,0.9s,comp=Z,823nm								
SOEI	**Soe**	**13.43**	**191**	P		**Pn**	**22 55 22.9**	**+2.0**
SOEI	**Soe**	**13.43**	**191**	Pn		**Pn**	**22 55 22.6**	**+1.6**
SOEI	**Soe**	**13.43**	**191**	P		**Pn**	**22 55 22.5**	**+1.6**
	comp=Z,108nm,0.9s								
BATI	**Baumata**	**14.00**	**194**	P		**Pn**	**22 55 31.8**	**+3.2**
	comp=Z,40nm,0.7s,baz=351,slow=1.9,SNR=4.5								
GENI	**Genyem**	**14.52**	**114**	P		**P**	**22 55 41.6**	**+1.0**
SBUM	**Sibu**	**14.76**	**266**	P		**P**	**22 55 41.0**	**-2.3**
JAY	**Jayapura**	**14.98**	**113**	P		**P**	**22 55 45.8**	**0.0**
	comp=Z,104nm,1.1s,comp=Z,1μm								
JAY	**Jayapura**	**14.98**	**113**	P		**P**	**22 55 46.0**	**+0.2**
JAY				pmax		pmax			
	comp=Z,104nm,0.9s								
PLAI	**Plampang**	**15.29**	**217**	P		**P**	**22 55 47.4**	**-1.7**
PLAI	**Plampang**	**15.29**	**217**	P		**P**	**22 55 47.7**	**-1.4**
	comp=Z,375nm,1.0s,comp=Z,3μm								
STKI	**Sintang**	**15.84**	**258**	P		**P**	**22 55 55.3**	**0.0**
	comp=Z,44nm,0.7s,comp=Z,1μm								
DRS	**Darwin Rock St**	**16.30**	**166**	P		**P**	**22 55 59.5**	**-0.8**
SRBI	**Singaraja**	**16.42**	**225**	P		**P**	**22 56 01.1**	**-0.6**
	comp=Z,245nm,1.1s,comp=Z,2μm								
MTN	**Manton Dam**	**16.75**	**166**	P		**Pn**	**22 56 02.9**	**-0.9**
	baz=17,SNR=14								
MTN	**Manton Dam**	**16.75**	**166**			**Pn**	**22 56 03.0**	**-0.9**
KSM	**Kuching**	**16.76**	**264**	P		**P**	**22 56 04.8**	**-0.6**
KDU	**Kakadu**	**16.98**	**161**	P		**Pn**	**22 56 05.4**	**-1.3**
	baz=17,SNR=5.2								
BLJI	**Banyuglugur**	**17.39**	**230**	P		**P**	**22 56 12.7**	**+0.2**
	comp=Z,88nm,0.8s,comp=Z,2μm								
JAGI	**Jajag, Banyuwa**	**17.45**	**227**	P		**P**	**22 56 16.0**	**+2.9**
JAGI	**Jajag, Banyuwa**	**17.45**	**227**			**Pn**	**22 56 11.8**	**-0.8**
JAGI					IAmb	IAmb	22 56 15.9		
	comp=Z,81nm,1.0s								
JAGI	**Jajag, Banyuwa**	**17.45**	**227**	P		**P**	**22 56 14.7**	**+1.6**
	comp=Z,91nm,2.0s								
UGM	**Wanagama**	**19.93**	**235**	Pn		**Pn**	**22 56 42.4**	**-0.1**
DLV	**T Lat**	**20.12**	**296**	P		**P**	**22 56 43.4**	**+0.8**
GUMO	**Guam**	**20.33**	**59**	LR		LR	23 03 21.7		
	comp=Z,218nm,20.7s,baz=258,slow=33								
KPJI	**Karang Pucung**	**20.96**	**239**	P		**P**	**22 56 52.0**	**+0.5**
	comp=Z,67nm,1.0s								
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P		**P**	**22 56 56.4**	**-0.8**
	baz=22,SNR=7.9								
FITZ	**Fitzroy Crossi**	**21.50**	**183**	P		**P**	**22 56 56.9**	**-0.2**
YHNB	**Yeheng**	**21.73**	**346**	P		**P**	**22 56 60.0**	**+0.3**
LEM	**Lembang**	**21.86**	**242**	P		**P**	**22 57 01.2**	**-0.1**
	comp=Z,31nm,0.6s,baz=48,slow=11,SNR=5.8								
LEM					LR	LR	23 07 10.6		
	comp=Z,191nm,18.4s,baz=10,slow=41								
	comp=Z,31nm,0.6s								
BBJI	**Bungbulang**	**22.13**	**241**	P		**P**	**22 57 06.1**	**+2.0**
	comp=Z,60nm,0.8s								
CBJI	**Citeko**	**22.36**	**244**	P		**P**	**22 57 06.9**	**+0.3**
	comp=Z,54nm,0.5s								
QIZ	**Qiongzhong**	**22.77**	**314**	P		**P**	**22 57 09.3**	**-1.5**
QIZ				S		**S**	**23 01 17.5**	**+1.6**
QIZ				LR		LR			
	comp=Z,300nm,13.5s								
QIZ				LR		LR			
	comp=Z,160nm,11.4s								
QIZ				LR		LR			
	comp=Z,190nm,24.2s								
MYKOM	**Kota Tinggi**	**23.15**	**266**	P		**P**	**22 57 14.3**	**-0.4**
JOW	**Kunigami**	**23.24**	**3**	P		**P**	**22 57 16.1**	**+0.6**
JOW	**Kunigami**	**23.24**	**3**	LR		LR	23 08 51.2		
	comp=Z,46nm,18.8s,baz=348,slow=43								
COEN	**Coen**	**23.65**	**137**	P		**P**	**22 57 18.2**	**-1.2**
	baz=24,SNR=4.2								
COEN	**Coen**	**23.65**	**137**	P		**P**	**22 57 18.9**	**-0.5**
COEN	**Coen**	**23.65**	**137**	P		**P**	**22 57 17.1**	**-2.4**
COEN					IAmb	IAmb	22 57 19.0		
	comp=Z,37nm,1.1s								
PMG	**Port Moresby**	**23.86**	**123**	LR		LR	23 07 37.0		
	comp=Z,212nm,19.4s,baz=310,slow=39								
KASI	**Kota Agung**	**24.16**	**248**	P		**P**	**22 57 25.8**	**+1.7**
	comp=Z,99nm,1.0s								
UBPT	**Khong Chiam**	**24.19**	**300**	P		**P**	**22 57 22.3**	**-2.0**
UBPT					IAmb	IAmb	22 57 24.3		
	comp=Z,40nm,1.3s								
WB0	**Warramunga Arr**	**24.24**	**163**	P		**P**	**22 57 24.5**	**-0.4**
WB0					IAmb	IAmb	22 57 42.4		
	comp=Z,40nm,0.7s								
WRAB	**Tennant Creek**	**24.39**	**163**	P		**P**	**22 57 25.3**	**-0.8**
WRAB					IAmb	IAmb	22 57 36.9		
	comp=Z,48nm,0.9s								
WRAB	**Tennant Creek**	**24.39**	**163**	P		**P**	**22 57 25.3**	**-0.8**
WRAB					pmax	pmax			
	comp=Z,47nm,1.0s								
LWLI	**Liwa**	**24.39**	**250**	P		**P**	**22 57 27.3**	**+0.9**
	comp=Z,142nm,0.9s								
WRA	**Warramunga Arr**	**24.39**	**163**			**P**	**22 57 25.1**	**-1.1**
WRA	**Warramunga Arr**	**24.39**	**163**	P		**P**	**22 57 26.1**	**-0.1**
	comp=Z,21nm,0.8s,baz=343,slow=10,SNR=65								
WRA					S	**S**	**23 01 38.0**	**-4.3**
	comp=Z,2.0nm,1.0s,baz=340,slow=15,SNR=3.9								
	comp=Z,21nm,0.8s								
WRA	**Warramunga Arr**	**24.39**	**163**	P		**P**	**22 57 25.1**	**-1.1**
WB2	**Warramunga Arr**	**24.40**	**163**		IAmb	IAmb	22 57 37.0		
	comp=Z,48nm,0.8s								
WR0	**Warramunga Arr**	**24.47**	**163**	P		**P**	**22 57 26.3**	**-0.5**
WR0					IAmb	IAmb	22 57 50.1		
	comp=Z,35nm,1.1s								
MBWA	**Marble Bar**	**25.51**	**196**	P		**P**	**22 57 35.9**	**-0.3**
PSA00	**Pilbara Seismi**	**25.87**	**195**	P		**P**	**22 57 40.5**	**+0.9**
	comp=Z,44nm,0.9s								
PSA00	**Pilbara Seismi**	**25.87**	**195**	P		**P**	**22 57 40.0**	**+0.5**
PSA00					IAmb	IAmb	22 57 41.1		
	comp=Z,30nm,0.8s								
QIS	**Mount Isa**	**26.93**	**153**	P		**P**	**22 57 49.3**	**+0.1**
	baz=27,SNR=20								
QIS	**Mount Isa**	**26.93**	**153**	P		**P**	**22 57 50.1**	**+0.9**
MTSU	**Mount Surprise**	**27.47**	**142**	P		**P**	**22 57 54.5**	**+0.4**
	baz=28,SNR=6.3								
JCJ	**Chichijima**	**27.62**	**30**	LR		LR	23 06 47.1		
	comp=Z,200nm,20.7s,baz=98,slow=32								
AS31	**Alice Springs**	**27.83**	**166**	P		**P**	**22 57 58.8**	**+1.6**
ASAR	**Alice Springs**	**27.83**	**166**	P		**P**	**22 57 56.3**	**-0.9**
ASAR	**Alice Springs**	**27.83**	**166**	P		**P**	**22 57 57.6**	**+0.3**
	comp=Z,1.7nm,0.4s,baz=350,slow=7.9,SNR=15								
ASAR					S	**S**	**23 02 37.6**	**+0.9**
	comp=Z,1.4nm,1.0s,baz=350,slow=21,SNR=4.0								
	comp=Z,1.7nm,0.4s								
ASAR	**Alice Springs**	**27.83**	**166**	P		**P**	**22 57 56.3**	**-0.9**
WRKA	**Warakurna**	**28.39**	**177**	P		**P**	**22 58 02.8**	**+0.6**
	baz=28,SNR=28								
NJ2	**Nanjing**	**29.41**	**346**	*e*P		**P**	**22 58 12.1**	**+1.0**
NJ2					pmax	pmax			
	comp=Z,5.0nm,0.5s								
JNU	**Nakatsue**	**29.70**	**7**	P		**P**	**22 58 12.7**	**-1.1**
	comp=Z,7.4nm,0.9s,baz=129,slow=7.3,SNR=5.4								
JNU					LR	LR	23 13 12.5		

	comp=Z,25nm,19.5s,baz=186,slow=42								
	comp=Z,7.4nm,0.9s								
PHRA	**Phrae**	**30.11**	**302**	P		**P**	**22 58 16.6**	**-0.9**
CTAO	**Charters Tower**	**30.14**	**142**	P		**P**	**22 58 16.9**	**-0.8**
CTAO					IAmb	IAmb	22 58 23.8		
	comp=Z,24nm,1.1s								
CTAO	**Charters Tower**	**30.14**	**142**	P		**P**	**22 58 16.9**	**-0.8**
CTAO					pmax	pmax			
	comp=Z,24nm,1.1s								
CTAO	**Charters Tower**	**30.14**	**142**	P		**P**	**22 58 18.4**	**+0.7**
CTAO					sP	**pwP**	**22 58 33.7**	**0.0**
CRAI	**Chiangrai**	**30.79**	**305**	P		**P**	**22 58 23.0**	**-0.5**
MEEK	**Meekatharra**	**31.02**	**195**	P		**P**	**22 58 25.8**	**+0.3**
	baz=31,SNR=7.1								
CMAR	**Chiang Mai Arr**	**31.19**	**301**	P		**P**	**22 58 26.6**	**-0.5**
	comp=Z,5.8nm,0.9s,baz=112,slow=7.3,SNR=19								
CMAR					ScP	**ScP**	**23 04 59.1**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=134,slow=1.7,SNR=8.0								
CMAR					LR	LR	23 13 00.1		
	comp=Z,50nm,20.4s,baz=105,slow=40								
	comp=Z,5.8nm,0.9s								
CMAR	**Chiang Mai Arr**	**31.19**	**301**	*ce*P		**P**	**22 58 26.6**	**-0.5**
CMAR					pmax	pmax			
	comp=Z,4.0nm,0.8s								
CHTO	**Chiang Mai**	**31.34**	**301**	P		**P**	**22 58 27.3**	**-1.1**
CHTO	**Chiang Mai**	**31.34**	**301**	P		**P**	**22 58 27.3**	**-1.1**
CHTO					pmax	pmax			
	comp=Z,12nm,1.1s								
ENH	**Enshi**	**31.34**	**330**	P		**P**	**22 58 27.4**	**-0.9**
JHJ	**Hachijo jima 2**	**31.82**	**21**	LR		LR	23 10 07.3		
	comp=Z,101nm,19.9s,baz=253,slow=34								
OOD	**Oodnadatta**	**32.23**	**165**	P		**P**	**22 58 36.6**	**+0.6**
PZH	**PanZhiHua**	**33.27**	**316**	P		**P**	**22 58 46.9**	**+1.5**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.6s								
PZH					pmax	pmax			
	comp=Z,100nm,5.9s								
LYN	**LuoYang**	**33.71**	**338**	*e*P		P	22 58 57.6	+8.7
LYN					sP	pP	22 59 05.6	+3.0
LYN					pmax	pmax			
	comp=Z,20nm,0.6s								
LYN					pmax	pmax			
	comp=Z,160nm,4.0s								
KSAR	**Wonju Array Be**	**33.80**	**1**	P		**P**	**22 58 48.8**	**-0.8**
KSAR	**Wonju Array Be**	**33.80**	**1**	P		**P**	**22 58 48.8**	**-0.8**
TIA	**Tai'an**	**33.80**	**346**	P		P	22 58 58.7	+9.0
TIA					pmax	pmax			
	comp=Z,9.0nm,0.9s								
KSRS	**Korea Array**	**33.81**	**1**	P		**P**	**22 58 49.6**	**-0.1**
	comp=Z,5.0nm,0.9s,baz=179,slow=10.0,SNR=16								
KSRS					PcP	**PcP**	**23 01 28.8**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=210,slow=3.5,SNR=4.5								
KSRS					LR	LR	23 15 02.5		
	comp=Z,38nm,18.8s,baz=180,slow=40								
	comp=Z,5.0nm,0.9s								
MORW	**Morawa**	**34.03**	**197**	P		**P**	**22 58 52.1**	**+0.4**
	baz=34,SNR=3.4								
MORW	**Morawa**	**34.03**	**197**	P		**P**	**22 58 51.8**	**0.0**
MORW					IAmb	IAmb	22 58 56.1		
	comp=Z,47nm,1.6s								
FORT	**Forrest**	**34.10**	**178**	P		**P**	**22 58 52.6**	**+0.3**
MAJO	**Matsushiro**	**34.48**	**16**	*i* P		**P**	**22 58 55.2**	**-0.4**
MAJO					pmax	pmax			
	comp=Z,11nm,1.2s								
MJAR	**Matsushiro Arr**	**34.48**	**16**	P		**P**	**22 58 55.0**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=179,slow=9.6,SNR=6.0								
MJAR					PcP	**PcP**	**23 01 30.8**	**+0.9**
	comp=Z,3.0nm,0.6s,baz=180,slow=2.8,SNR=8.3								
MJAR					LR	LR	23 11 12.8		
	comp=Z,170nm,20.9s,baz=208,slow=33								
	comp=Z,1.3nm,0.6s								
XAN	**Xi'an**	**34.73**	**333**	⇑P		**P**	**

ARMA IAmb IAmb 22 59 54.6
comp=Z,32nm,0.8s
XLT XiLinHaoTe 41.37 348 *e*P P 23 00 00.6 +6.9
XLT pP pP 23 00 06.2 -1.6
XLT sP sP 23 00 07.6 -6.6
XLT PP **PnPn** **23 01 40.3 +5.2**
XLT pmax pmax
comp=Z,18nm,0.7s
XLT pmax pmax
comp=Z,70nm,5.9s
H11S3 WAKE ISLAND Hy 41.62 66 T T 23 43 25.5
baz=253,slow=75,SNR=12
H11S2 WAKE ISLAND Hy 41.63 66 T T 23 43 10.7
baz=253,slow=75,SNR=12
H11S1 WAKE ISLAND Hy 41.63 66 T T 23 43 17.0
baz=253,slow=75,SNR=7.4
ASAJ Asahikawa 42.75 17 P **P** **23 00 04.2 -0.5**
comp=Z,10.0nm,0.8s,baz=231,slow=8.4,SNR=5.5
ASAJ LR LR 23 16 03.5
comp=Z,96nm,21.9s,baz=202,slow=33
comp=Z,10.0nm,0.8s
LSA Lhasa 42.77 311 P **P** **23 00 05.2 -0.5**
LSA Lhasa 42.77 311 P **P** **23 00 05.2 -0.5**
LSA pmax pmax
comp=Z,11nm,1.0s
CAN Canberra 43.80 154 P **P** **23 00 14.8 +1.4**
KLR Kul'dur 45.75 4 P **P** **23 00 27.9 -0.8**
comp=Z,4.5nm,0.8s,baz=209,slow=4.7,SNR=14
KLR LR LR 23 23 38.4
comp=Z,40nm,18.6s,baz=228,slow=41
comp=Z,4.5nm,0.8s
KLR Kul'dur 45.75 4 *e*P **P** **23 00 26.9 -1.8**
KLR pmax pmax
comp=Z,5.0nm,0.9s
NOUC Port Laguerre 46.11 125 P **P** **23 00 31.1 -0.8**
PALK Pallekele 46.19 277 LR LR 23 20 16.9
comp=Z,63nm,20.9s,baz=207,slow=36
DZM Mont Dzumac 46.21 125 *e*P **P** **23 00 32.8 -0.1**
comp=Z,52nm,1.1s
DZM Mont Dzumac 46.21 125 P **P** **23 00 33.4 +0.5**
DZM IAmb IAmb 23 00 35.0
comp=Z,18nm,0.8s
DZM Mont Dzumac 46.21 125 LR LR 23 19 42.6
comp=Z,132nm,18.2s,baz=39,slow=36
DZM Mont Dzumac 46.21 125 P **P** **23 00 33.2 +0.3**
HEH HeiHe 46.59 0 *e*P **P** **23 00 34.8 -0.5**
HEH pmax pmax
comp=Z,10.0nm,1.0s
HEH pmax pmax
comp=Z,76nm,5.7s
HEH LR LR
comp=Z,98nm,11.5s
HEH LR LR
comp=Z,290nm,11.5s
HEH LR LR
comp=Z,210nm,12.3s
OUENC Ouen Island, N 46.70 125 P **P** **23 00 37.6 +1.0**
ULN Ulaanbaatar 47.41 342‖ *e*P **P** **23 00 42.9 +1.0**
ULN pmax pmax
comp=Z,5.0nm,1.0s
ULN Ulaanbaatar 47.41 342 P **P** **23 00 42.6 +0.6**
ULN sP **pP** **23 00 57.8 +1.5**
SONM Songino Array 47.59 341 P **P** **23 00 44.1 +0.8**
SONM Songino Array 47.59 341 P **P** **23 00 43.0 -0.2**
comp=Z,2.1nm,0.7s,baz=157,slow=8.5,SNR=14
SONM PP **PP** **23 02 36.7 +1.4**
comp=Z,1.7nm,0.9s,baz=145,slow=7.7,SNR=4.2
comp=Z,2.1nm,0.7s
SONM Songino Array 47.59 341 P **P** **23 00 44.1 +0.8**
SONM pmax pmax
comp=Z,10.0nm,1.2s
HYB Hyderabad 49.41 290 *e*P **P** **23 00 56.8 -0.8**
ZEA Zeya 50.08 0 *i*P **P** **23 01 00.9 -1.2**
WMQ Urumqi 53.05 325 *e*P **P** **23 01 26.5 +2.0**
MSVF Nonsavu 54.61 115 *i*P **P** **23 01 36.8 +0.5**
MSVF pmax pmax
comp=Z,43nm,1.2s
MSVF Nonsavu 54.61 115 P **P** **23 01 37.6 +1.3**
PETK Petropavlovsk- 55.56 22 P **P** **23 01 42.0 -0.6**
PETK Petropavlovsk- 55.56 22 P **P** **23 01 42.1 -0.4**
comp=Z,13nm,0.7s,baz=194,slow=3.2,SNR=12
PETK LR LR 23 22 25.5
comp=Z,27nm,21.8s,baz=219,slow=33
comp=Z,13nm,0.7s
PETK Petropavlovsk- 55.56 22 P **P** **23 01 42.0 -0.6**
PET Petropavlovsk 55.85 23‖ *e*P **P** **23 01 45.5 +0.9**
PET pmax pmax
comp=Z,12nm,1.2s
ZSN Zaisan 56.83 327 *e*P **P** **23 01 49.4 -2.3**
baz=327
ZSN Zaisan 56.83 327 *e*P **P** **23 01 49.4 -2.3**
SHLS Shalkode 57.67 320 *e*P **P** **23 01 55.1 -2.8**
baz=320
SHLS Shalkode 57.67 320 *e*P **P** **23 01 55.1 -2.8**
MK31 Makanchi Array 57.88 325‖ *e*P **P** **23 01 59.0 -0.1**
MKAR Makanchi Array 57.88 325 P **P** **23 01 58.4 -0.7**
comp=Z,2.4nm,0.5s,baz=120,slow=8.2,SNR=7.3
MKAR LR LR 23 28 35.4
comp=Z,84nm,19.2s,baz=78,slow=38
comp=Z,2.4nm,0.5s
UZB Uzynbulak 57.95 320 *e*P **P** **23 01 58.6 -1.3**
baz=320
UZB Uzynbulak 57.95 320 *e*P **P** **23 01 58.5 -1.3**
MAKZ Makanchi 58.06 325 P **P** **23 01 60.0 -0.5**
MAKZ IAmb IAmb 23 02 25.4
comp=Z,10nm,1.0s
MAKZ Makanchi 58.06 325 P **P** **23 02 00.0 -0.5**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
MAKZ Makanchi 58.06 325 P **P** **23 01 59.3 -1.2**
SATY Saty 58.30 320 *e*P **P** **23 02 01.1 -1.3**
baz=320
SATY Saty 58.30 320 *e*P **P** **23 02 01.0 -1.3**
ZHN Zhinishke 58.34 320 *e*P **P** **23 02 01.5 -1.0**
baz=320
ZHN Zhinishke 58.34 320 *e*P **P** **23 02 01.5 -1.0**
KSH Kashi 58.37 315 P P 23 02 07.9 +5.0
YAK Yakutsk 58.44 2 P **P** **23 02 02.6 -0.1**
comp=Z,22nm,0.7s,baz=302,slow=0.9,SNR=6.0
YAK LR LR 23 25 29.0
comp=Z,28nm,21.2s,baz=165,slow=34
comp=Z,22nm,0.7s
YAK Yakutsk 58.44 2 *e*P **P** **23 02 03.1 +0.4**
YAK pmax pmax
comp=Z,24nm,0.9s
YAK pmax pmax
comp=N,7.0nm,0.9s
MA2 Magadan 58.88 14 LR LR 23 26 22.1
comp=N,27nm,21.7s,baz=145,slow=35
MDOK Medeo 59.23 319 *e*P **P** **23 02 08.1 -0.7**
baz=319
MDOK Medeo 59.23 319 *e*P **P** **23 02 08.0 -0.7**
TNSS Tian-Shan 59.24 319 *e*P **P** **23 02 07.7 -1.5**
baz=319
TNSS Tian-Shan 59.24 319 *e*P **P** **23 02 07.6 -1.5**
TDK Taldyqorghan 59.24 322 *e*P **P** **23 02 07.5 -1.2**
comp=N,6.1nm,0.6s,baz=322
TDK Taldyqorghan 59.24 322 *e*P **P** **23 02 07.4 -1.2**
TDK pmax pmax
comp=Z,6.0nm,0.6s
AAA Alma-Ata 59.34 319 *e*P **P** **23 02 08.5 -0.9**
comp=Z,5.1nm,0.7s,baz=319
AAA Alma-Ata 59.34 319 *e*P **P** **23 02 08.5 -0.9**
AAA pmax pmax
comp=Z,5.0nm,0.7s
CHKK Chushkaly 59.59 320 *e*P **P** **23 02 10.0 -1.1**
baz=320
CHKK Chushkaly 59.59 320 *e*P **P** **23 02 10.0 -1.1**
AAK Ala-Archa 60.69 318 LR LR 23 32 18.7
comp=Z,80nm,18.0s,baz=94,slow=40
ZAA0 Zalesovo Array 60.90 333 P **P** **23 02 18.0 -1.8**
ZALV Zalesovo Beam 60.90 333 P **P** **23 02 18.9 -0.9**
ZALV Zalesovo Beam 60.90 333 P **P** **23 02 18.4 -1.4**
comp=Z,1.2nm,0.6s,baz=140,slow=7.7,SNR=5.6
comp=Z,1.2nm,0.6s
ZALV Zalesovo Beam 60.90 333 *i*P **P** **23 02 18.8 -0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
TUWZ Tuamarina 61.83 141 P **P** **23 02 26.3 0.0**
KBL Kabul 61.85 308 P **P** **23 02 25.0 -1.9**
KBL Kabul 61.85 308 P **P** **23 02 25.0 -1.9**
KBL pmax pmax
comp=Z,3.0nm,0.8s
BTLS Baital 62.00 320 *e*P **P** **23 02 26.1 -1.3**
baz=320
BTLS Baital 62.00 320 *e*P **P** **23 02 26.1 -1.3**

KURBB Kurchatov Arra 62.06 327 P **P** **23 02 26.9 -0.8**
comp=Z,4.7nm,0.7s,baz=126,slow=6.3,SNR=46
comp=Z,4.7nm,0.7s
KURK Kurchatov 62.06 327 P **P** **23 02 26.8 -0.8**
KURK IAmb IAmb 23 02 39.4
comp=Z,11nm,0.7s
KURK Kurchatov 62.06 327 P **P** **23 02 26.8 -0.8**
KURK pmax pmax
comp=Z,11nm,0.7s
KURK Kurchatov 62.06 327 P **P** **23 02 26.9 -0.8**
SEY Seymchan 62.21 13 P **P** **23 02 28.8 +0.3**
comp=Z,2.9nm,0.2s,baz=229,slow=6.8,SNR=9.5
SEY LR LR 23 26 29.9
comp=Z,38nm,21.7s,baz=154,slow=33
comp=Z,2.9nm,0.2s
SEY Seymchan 62.21 13 *e*P **P** **23 02 27.4 -1.0**
SEY pmax pmax
comp=Z,12nm,1.1s
URZ Urewera 62.22 137 LR LR 23 30 17.4
comp=Z,96nm,18.1s,baz=26,slow=37
BTK Batken 62.25 314 P **P** **23 02 28.7 -0.6**
BKZ Black Stump Fm 62.26 138 P **P** **23 02 29.0 -0.3**
RTZ Ruatahuna 62.30 137 P **P** **23 02 30.1 +0.4**
DZA Taraz 62.92 317 *e*P **P** **23 02 33.3 -0.4**
baz=317
DZA Taraz 62.92 317 *e*P **P** **23 02 33.2 -0.4**
SIMJ Simiganj 63.10 312 P **P** **23 02 34.6 -0.5**
SIMJ pP **pP** **23 02 45.4 -4.3**
IUG Iuzhnay 63.54 316 *e*P **P** **23 02 36.7 -1.2**
comp=Z,5.2nm,0.7s,baz=316
IUG Iuzhnay 63.54 316 *e*P **P** **23 02 36.7 -1.2**
IUG pmax pmax
comp=Z,5.0nm,0.7s
KK31 Karatay Array 63.56 317 P **P** **23 02 36.6 -1.2**
KK31 Karatay Array 63.56 317 P **P** **23 02 36.7 -1.2**
KK31 pmax pmax
comp=Z,5.0nm,1.1s
KKAR Karatay Array 63.56 317 P **P** **23 02 37.1 -0.8**
KKAR Karatay Array 63.56 317 P **P** **23 02 37.1 -0.8**
KKAR pmax pmax
comp=Z,5.0nm,1.1s
CHM Chimkent 63.90 316 *e*P **P** **23 02 39.6 -0.6**
baz=316
CHM Chimkent 63.90 316 *e*P **P** **23 02 39.5 -0.6**
BRZS Berezniki 65.01 325 *e*P **P** **23 02 45.9 -1.4**
baz=325
BRZS Berezniki 65.01 325 *e*P **P** **23 02 45.8 -1.4**
BVAR Borovoye Array 67.64 327 P **P** **23 03 03.5 -0.5**
comp=Z,4.2nm,0.7s,baz=138,slow=9.6,SNR=25
comp=Z,4.2nm,0.7s
BRVK Borovoye 67.71 327 P **P** **23 03 04.1 -0.3**
BRVK IAmb IAmb 23 03 28.7
comp=Z,8.3nm,0.8s
BRVK Borovoye 67.71 327 *ce*P **P** **23 03 04.0 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,1.0s
BRVK Borovoye 67.71 327 P **P** **23 03 04.0 -0.4**
BRVK pP **pP** **23 03 14.9 -4.5**
TIXI Tiksi 68.07 1 P **P** **23 03 05.3 -0.9**
TIXI Tiksi 68.07 1 LR LR 23 33 29.9
comp=Z,38nm,21.0s,baz=184,slow=36
TIXI Tiksi 68.07 1‖ *e*P **P** **23 03 05.9 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 68.07 1 P **P** **23 03 06.0 -0.3**
BILL Bilibino 69.72 15‖ *e*P **P** **23 03 16.7 +0.1**
BILL pmax pmax
comp=Z,11nm,2.5s
DRV Dumont d'Urvil 70.62 175 P **P** **23 03 26.4 +4.3**
DRV sP **sP** **23 03 42.1 -0.5**
GEYT Alibeck 71.22 309 P **P** **23 03 25.8 -0.7**
GEYT Alibeck 71.22 309 P **P** **23 03 25.8 -0.7**
comp=Z,2.1nm,0.7s,baz=177,slow=5.6,SNR=6.1
GEYT LR LR 23 38 45.3
comp=Z,69nm,19.8s,baz=27,slow=39
comp=Z,2.1nm,0.7s
GEYT Alibeck 71.22 309 P **P** **23 03 25.8 -0.7**
GEYT pmax pmax
comp=Z,7.0nm,1.1s
NIKH Nikolski High 71.87 35 P **P** **23 03 29.8 -0.2**
baz=251
ABKAR Akbulak array 72.48 321 P **P** **23 03 32.6 -1.0**
SPIA Saint Paul Isl 72.58 31 P **P** **23 03 33.9 -0.2**
baz=248
P08K Saint George I 72.73 31 P **P** **23 03 34.9 -0.1**
baz=249
UNV Unalaska Valle 73.48 35 P **P** **23 03 39.6 +0.1**
baz=253
AKTO Aktyubinsk 73.98 322 LR LR 23 37 38.0
comp=Z,89nm,19.1s,baz=89,slow=37
SVE Sverdlovsk 74.28 328 *e*P **P** **23 03 43.8 -0.3**
SVE pmax pmax
comp=Z,23nm,1.1s
GAMB Gambell 74.52 24 P **P** **23 03 44.9 -0.4**
baz=245
ARU Arti 75.26 328 P **P** **23 03 49.2 -0.6**
ARU IAmb IAmb 23 03 49.8
comp=Z,12nm,0.8s
ARU Arti 75.26 328 *d*/*i*P **P** **23 03 49.2 -0.6**
ARU 23 04 02.2
ARU S **S** **23 13 28.6 +3.9**
ARU SS **SS** **23 18 13.6 -1.7**
ARU pmax pmax
comp=Z,14nm,0.8s
ARU Arti 75.26 328 P **P** **23 03 48.7 -1.1**
comp=Z,18nm,0.8s
FALS False Pass 75.50 34 P **P** **23 03 50.3 -0.8**
baz=255
M11K Mekoryuk 75.67 28 P **P** **23 03 51.6 -0.4**
baz=251
S12K Black Hills 76.46 33 P **P** **23 03 55.9 -0.8**
baz=256
TNA Tin City 76.71 23 P **P** **23 03 57.7 -0.2**
baz=248
K13K Kusilvak Mount 76.86 27 IAmb IAmb 23 04 00.7
comp=Z,18nm,1.1s
K13K Kusilvak Mount 76.86 27 P **P** **23 03 59.1 +0.3**
baz=252,SNR=6.1
M13K Dall Lake 77.03 29 P **P** **23 03 59.3 -0.4**
baz=254
SDPT Sand Point 77.26 34 P **P** **23 04 01.3 +0.2**
baz=258
F14K Arctic Creek 77.31 23 P **P** **23 04 01.7 +0.5**
baz=250
ANM Nome 77.38 24 P **P** **23 04 02.1 +0.4**
baz=251
L14K Kuka Creek 77.59 28 P **P** **23 04 03.2 +0.3**
baz=254,SNR=6.5
J14K Nanvaranak Lak 77.60 26 P **P** **23 04 03.5 +0.7**
baz=253
N14K Kuskokwak Cree 77.70 29 P **P** **23 04 03.3 -0.2**
baz=255
O14K Tigyukauivet M 77.74 30 P **P** **23 04 03.4 -0.3**
baz=256
M14K Bethel 77.78 28 P **P** **23 04 03.6 -0.3**
baz=255
S14K Fog Glacier 77.97 33 P **P** **23 04 05.2 0.0**
baz=258
F15K North Star Dit 78.04 23 P **P** **23 04 05.8 +0.4**
baz=252
G15K Niukluk 78.06 24 P **P** **23 04 06.0 +0.6**
baz=252
L15K Ungalak Mounta 78.24 28 P **P** **23 04 06.7 +0.3**
baz=255
M15K Kasigluk River 78.37 29 P **P** **23 04 07.6 +0.4**
baz=256
K15K Wolf Creek Mou 78.38 27 IAmb IAmb 23 04 09.8
comp=Z,14nm,0.9s
K15K Wolf Creek Mou 78.38 27 P **P** **23 04 07.3 0.0**
baz=255
O15K Ungalikthiuk R 78.44 30 P **P** **23 04 07.6 0.0**
baz=257
N15K Kwethluk River 78.53 29 P **P** **23 04 08.3 +0.1**
N15K Kwethluk River 78.53 29 P **P** **23 04 07.9 -0.3**
baz=257
CHGN Chignik 78.59 33 P **P** **23 04 08.8 +0.3**
baz=259
C16K Lisburne Hills 78.62 21 P **P** **23 04 08.9 +0.4**
baz=250
H16K Elim 78.69 25 P **P** **23 04 09.0 +0.1**
baz=254
G16K Koyuk River 78.86 24 P **P** **23 04 09.3 -0.5**
G16K IAmb IAmb 23 04 11.3
comp=Z,28nm,1.6s
G16K Koyuk River 78.86 24 P **P** **23 04 10.2 +0.3**
baz=254

J16K Anvik River 79.04 26 P **P** **23 04 11.2 +0.4**
baz=256,SNR=5.5
I17K Unalakleet 79.15 25 IAmb IAmb 23 04 14.3
comp=Z,38nm,1.6s
I17K Unalakleet 79.15 25 P **P** **23 04 12.0 +0.5**
baz=256
L16K Owhat River 79.18 28 IAmb IAmb 23 04 13.4
comp=Z,29nm,1.4s
L16K Owhat River 79.18 28 P **P** **23 04 11.8 +0.1**
baz=257
N16K Nishlik Lake 79.24 29 P **P** **23 04 12.2 +0.2**
baz=258
D17K Noatak River 79.25 21 P **P** **23 04 11.8 -0.1**
baz=253
M16K Timber Creek 79.27 28 P **P** **23 04 12.3 +0.1**
baz=258
R16K Pilot Point 79.28 32 P **P** **23 04 12.0 -0.3**
baz=260
P16K Nushagak River 79.34 31 P **P** **23 04 12.8 +0.2**
baz=259
O16K Kokwok River B 79.40 30 P **P** **23 04 12.3 -0.6**
baz=259
RDOG Red Dog Mine 79.42 21 IAmb IAmb 23 04 13.9
comp=Z,44nm,1.8s
RDOG Red Dog Mine 79.42 21 P **P** **23 04 12.7 -0.1**
baz=253
C17K DeLong Mountai 79.45 21 P **P** **23 04 12.6 -0.5**
baz=252
E17K Hotham Inlet 79.54 22 P **P** **23 04 13.0 -0.4**
baz=254
G17K Kiwalik Mounta 79.57 24 P **P** **23 04 13.6 -0.2**
baz=255,SNR=6.8
F17K Baldwin Pennin 79.58 23 IAmb IAmb 23 04 15.8
comp=Z,7.8nm,0.7s
F17K Baldwin Pennin 79.58 23 P **P** **23 04 13.2 -0.5**
baz=255
J17K VABM Dome 79.73 26 IAmb IAmb 23 04 30.2
comp=Z,20nm,1.2s
J17K VABM Dome 79.73 26 P **P** **23 04 14.3 -0.3**
baz=257
H17K Granite Mounta 79.73 24 P **P** **23 04 14.7 +0.1**
baz=256
L17K Donlin 79.81 27 P **P** **23 04 15.0 -0.1**
baz=258
O17K Koliganek Bris 79.93 30 P **P** **23 04 16.1 +0.3**
baz=260
K17K Iditarod 79.93 27 P **P** **23 04 15.6 -0.1**
baz=258
N17K Nushagak Hills 80.02 29 P **P** **23 04 16.4 +0.2**
baz=259
CHIR Chirikof Islan 80.05 34 P **P** **23 04 16.4 -0.1**
baz=262
E18K Tukpahlearik C 80.08 22 IAmb IAmb 23 04 19.2
comp=Z,13nm,0.8s
E18K Tukpahlearik C 80.08 22 P **P** **23 04 16.9 +0.4**
baz=255,SNR=10
P17K Kvichak River 80.16 31 P **P** **23 04 16.7 -0.3**
baz=260
C18K Utukok River 80.20 21 P **P** **23 04 17.1 -0.1**
baz=254
F18K Selawik 80.24 23 P **P** **23 04 17.0 -0.3**
baz=256
H18K Honhosa River 80.42 24 P **P** **23 04 18.2 -0.2**
baz=258
G18K Tagagawik 80.47 24 IAmb IAmb 23 04 41.0
comp=Z,36nm,2.0s
G18K Tagagawik 80.47 24 P **P** **23 04 18.5 -0.1**
baz=257
KIRV Kirov 80.54 329‖ *e*P **P** **23 04 19.3 +0.3**
L18K Granite Mounta 80.57 27 P **P** **23 04 19.2 0.0**
baz=260
N18K Kilae Creek 80.68 29 P **P** **23 04 19.5 -0.3**
baz=260
BELG Belogornoye 80.73 322 *i*P **P** **23 04 20.1 -0.1**
BELG pmax pmax
comp=Z,5.0nm,0.9s
RAYN Ar Rayn 80.78 293 P **P** **23 04 20.4 -0.8**
RAYN Ar Rayn 80.78 293 P **P** **23 04 20.4 -0.8**
RAYN pmax pmax
comp=Z,5.0nm,0.8s
J18K Innoko River 80.79 26 P **P** **23 04 19.9 -0.5**
baz=259
P18K Big Mountain, 80.80 30 P **P** **23 04 20.4 -0.1**
baz=261
M18K Stony River 80.84 28 P **P** **23 04 20.5 -0.1**
baz=260
C19K Lookout Ridge 80.88 20 P **P** **23 04 21.9 +1.1**
C19K Lookout Ridge 80.88 20 P **P** **23 04 20.8 0.0**
baz=256
O18K Koktuh Hills 80.88 30 P **P** **23 04 21.2 +0.2**
baz=261
SII Sitkinak Islan 80.95 33 P **P** **23 04 21.5 +0.2**
baz=263
GCSA Galena City Sc 80.96 25 P **P** **23 04 21.1 0.0**
baz=259
F19K Shaleruckik Mo 81.02 23 P **P** **23 04 21.7 +0.2**
baz=258
G19K Purcell Mounta 81.15 24 P **P** **23 04 22.4 +0.2**
baz=258,SNR=9.5
D19K Kuna River 81.26 21 IAmb IAmb 23 04 24.9
comp=Z,12nm,0.7s
D19K Kuna River 81.26 21 P **P** **23 04 22.6 -0.2**
baz=257
H19K Roundabout Mou 81.29 24 P **P** **23 04 23.2 +0.3**
baz=259,SNR=7.3
E19K Redstone River 81.36 22 IAmb IAmb 23 04 34.9
comp=Z,18nm,1.0s
E19K Redstone River 81.36 22 P **P** **23 04 23.4 +0.1**
baz=258,SNR=11
J19K Poorman 81.36 26 P **P** **23 04 23.5 +0.1**
baz=260
N19K Bonanza Creek 81.38 29 P **P** **23 04 23.1 -0.5**
baz=262
L19K White Mountain 81.41 28 P **P** **23 04 23.4 -0.3**
baz=261
M19K Big River Lodg 81.58 28 P **P** **23 04 24.5 -0.1**
baz=262
GNI Garni 81.81 310 LR LR 23 47 08.9
comp=Z,24nm,18.5s,baz=28,slow=40
D20K Etivluk River 81.84 21 P **P** **23 04 25.4 -0.4**
baz=259,SNR=6.9
F20K Avaraart Lake 81.86 23 P **P** **23 04 25.5 -0.4**
baz=260,SNR=7.5
L20K Farewell, AK 81.90 27 P **P** **23 04 26.2 -0.1**
baz=262
E20K Nigu River 81.91 21 P **P** **23 04 26.1 -0.1**
baz=259,SNR=15
B20K Meade River 81.92 20 P **P** **23 04 26.1 -0.1**
baz=258
H20K Anotleneega Mo 81.92 24 P **P** **23 04 26.3 0.0**
baz=261,SNR=5.8
K20K Telida 81.94 27 P **P** **23 04 26.3 -0.2**
baz=262
KDAK Kodiak Island 81.96 32 P **P** **23 04 26.4 -0.2**
baz=264
KDAK Kodiak Island 81.96 32 LR LR 23 35 22.9
comp=Z,104nm,20.1s,baz=242,slow=32
J20K Nowinta River 82.03 26 P **P** **23 04 27.0 +0.1**
J20K Nowinta River 82.03 26 P **P** **23 04 27.0 +0.1**
baz=262,SNR=8.3
M20K Styx River 82.17 28 P **P** **23 04 28.5 +0.7**
M20K IAmb IAmb 23 04 30.4
comp=Z,14nm,0.8s
M20K Styx River 82.17 28 P **P** **23 04 27.4 -0.4**
baz=263,SNR=7.2
IMAR Indian Mountai 82.46 24 P **P** **23 04 29.7 +0.6**
N20K Mount Spurr 82.53 29 P **P** **23 04 29.4 -0.3**
baz=264
C21K Knifeblade Rid 82.57 21 P **P** **23 04 29.8 +0.2**
baz=260
G21K Allakaket 82.64 23 IAmb IAmb 23 04 33.0
comp=Z,33nm,1.7s
G21K Allakaket 82.64 23 P **P** **23 04 29.9 -0.1**
baz=262
HOM Homer 82.65 30 P **P** **23 04 30.3 +0.1**
baz=264
B21K Ikpikpuk River 82.71 20 P **P** **23 04 30.6 +0.3**
baz=260,SNR=6.4
PPLA Purkeypile 82.73 27 P **P** **23 04 30.5 -0.2**
baz=263
E21K Killik River 82.75 21 P **P** **23 04 28.2 -2.4**
E21K IAmb IAmb 23 04 33.1
comp=Z,9.7nm,0.8s
E21K Killik River 82.75 21 P **P** **23 04 30.3 -0.3**
baz=261
F21K Alatna River 82.75 23 P **P** **23 04 30.6 0.0**
baz=262
CHUM Lake Minchumin 82.79 26 P **P** **23 04 30.4 -0.5**

baz=263
H21K **Melozitna Rive** 82.80 24 P P 23 04 31.0 +0.1
baz=262,SNR=7.3
A22K **Sinclair Lake** 82.83 19 P P 23 04 30.9 0.0
baz=260
CAST **Castle Rocks** 82.84 27 IAmb IAmb 23 04 42.0
comp=Z,9.1nm,1.0s
CAST **Castle Rocks** 82.84 27 P P 23 04 30.8 -0.3
baz=264,SNR=5.4
SKT **Skwentna** 82.94 28 P P 23 04 30.9 -0.8
baz=264
CAPN **Captain Cook N** 83.00 29 P P 23 04 32.0 +0.1
baz=265
I21K **Tanana** 83.08 25 IAmb IAmb 23 04 44.4
comp=Z,13nm,0.9s
I21K **Tanana** 83.08 25 P P 23 04 32.5 +0.1
baz=263
BRSE **Bradley Lake S** 83.11 30 P P 23 04 32.5 -0.1
baz=265
VNDA **Vanda** 83.17 173 P P 23 04 32.8 +0.3
comp=Z,0.8nm,0.8s,baz=319,slow=8.2,SNR=5.2
comp=Z,0.8nm,0.8s
B22K **Teshekpuk Lake** 83.23 20 P P 23 04 33.2 +0.2
baz=261
SUA **Susitna One** 83.26 29 P P 23 04 32.4 -1.0
baz=265
D22K **Ayikyak River** 83.28 21 P P 23 04 32.8 -0.6
baz=262
F22K **John River** 83.29 22 P P 23 04 32.5 -0.9
baz=263,SNR=6.1
KTH **Kantishna Hill** 83.37 27 IAmb IAmb 23 04 36.6
comp=Z,26nm,1.4s
BPAW **Bear Paw Mtn.** 83.39 26 IAmb IAmb 23 04 36.5
comp=Z,11nm,1.0s
BPAW **Bear Paw Mtn.** 83.39 26 P P 23 04 33.4 -0.7
baz=264,SNR=6.7
H22K **Ishtalitna Cre** 83.42 24 P P 23 04 33.8 -0.3
baz=264
KIV **Kislovodsk** 83.47 314 eP P 23 04 32.2 -2.7
KIV pmax pmax
comp=Z,4.0nm,1.1s
G22K **Bettles** 83.48 23 P P 23 04 34.0 -0.3
baz=264
E22K **Anaktuvuk Pass** 83.50 22 IAmb IAmb 23 04 36.6
comp=Z,7.5nm,0.8s
E22K **Anaktuvuk Pass** 83.50 22 P P 23 04 34.2 -0.3
baz=263
M22K **Willow** 83.58 28 P P 23 04 34.4 -0.5
baz=265
TRF **Thorofare Moun** 83.64 27 IAmb IAmb 23 04 45.4
comp=Z,14nm,1.0s
TRF **Thorofare Moun** 83.64 27 P P 23 04 34.6 -0.8
baz=265
RC01 **Rabbit Creek A** 83.71 29 P P 23 04 34.6 -1.0
baz=266
SEW **Seward** 83.78 30 P P 23 04 35.1 -0.9
baz=266
GURO **Guroymak-BITLI** 83.87 308 P P 23 04 37.6 +0.4
GURO IAmb IAmb 23 05 01.9
comp=Z,8.1nm,0.9s
D23K **Nanushuk River** 84.01 21 P P 23 04 36.5 -0.5
baz=264,SNR=5.9
COLD **Coldfoot** 84.02 23 P P 23 04 31.7 -5.4
COLD IAmb IAmb 23 04 54.0
comp=Z,13nm,0.9s
COLD **Coldfoot** 84.02 23 P P 23 04 36.1 -1.0
baz=265,SNR=12
G23K **Bananza Creek** 84.04 23 P P 23 04 37.9 +0.6
G23K IAmb IAmb 23 04 54.2
comp=Z,15nm,0.9s
G23K **Bananza Creek** 84.04 23 P P 23 04 36.3 -1.0
baz=265,SNR=9.1
C23K **Itkillik River** 84.12 20 IAmb IAmb 23 04 39.4
comp=Z,16nm,0.9s
C23K **Itkillik River** 84.12 20 P P 23 04 37.2 -0.4
baz=264,SNR=5.3
H23K **Yukon River** 84.16 24 IAmb IAmb 23 04 49.6
comp=Z,12nm,0.8s
H23K **Yukon River** 84.16 24 P P 23 04 37.2 -0.6
baz=266,SNR=8.5
I23K **Minto, Yukon-K** 84.18 25 P P 23 04 37.3 -0.7
baz=266,SNR=5.7
NEA2 **Nenana** 84.27 26 P P 23 04 37.0 -1.4
baz=266
MCK **McKinley** 84.27 26 P P 23 04 36.3 -2.2
MCK **McKinley** 84.27 26 P P 23 04 37.6 -0.9
baz=266
MCK **McKinley** 84.27 26 P P 23 04 36.3 -2.2
MCK pmax pmax
comp=Z,54nm,1.6s
RND **Reindeer** 84.28 27 IAmb IAmb 23 04 53.1
comp=Z,14nm,1.0s
RND **Reindeer** 84.28 27 P P 23 04 37.5 -1.1
VRH **Novokhopyorsk** 84.31 321 eP P 23 04 37.7 -1.2
VRH pmax pmax
comp=Z,18nm,1.6s
E23K **Chandalar** 84.31 22 P P 23 04 37.3 -1.4
baz=265
TOLK **Toolik Lake Re** 84.38 21 IAmb IAmb 23 04 55.8
comp=Z,15nm,1.0s
TOLK **Toolik Lake Re** 84.38 21 P P 23 04 38.1 -0.8
baz=265,SNR=9.0
WAT1 **Susitna Watana** 84.39 27 P P 23 04 38.4 -0.7
baz=267
SML **Sawmill** 84.43 28 P P 23 04 38.5 -0.9
baz=267
D24K **Happy Valley** 84.69 21 P P 23 04 41.8 +1.3
D24K **Happy Valley** 84.69 21 P P 23 04 40.3 -0.2
baz=266
M23K **Glacier View** 84.72 28 P P 23 04 40.2 -0.6
baz=268
E24K **Your Creek** 84.74 22 P P 23 04 40.2 -0.7
baz=266
WAT6 **Susitna Watana** 84.75 28 P P 23 04 40.2 -0.9
baz=267
C24K **Franklin Bluff** 84.77 20 P P 23 04 40.1 -0.7
baz=266
P23K **Montague Islan** 84.81 30 P P 23 04 40.9 -0.4
baz=268
CCB **Clear Creek Bu** 84.81 26 IAmb IAmb 23 04 51.1
comp=Z,12nm,1.2s
PPT **Papeete** 84.82 108 LR LR 23 37 12.1
comp=Z,22nm,21.3s,baz=200,slow=32
PPT2 **Papeete2** 84.83 108 eLR LR 23 31 17.9
comp=Z,108nm,28.8s
PPT2 eLR LR 23 31 28.7
comp=Z,105nm,24.8s
H24K **Noodor Dome** 84.84 24 IAmb IAmb 23 04 57.4
comp=Z,8.6nm,1.1s
H24K **Noodor Dome** 84.84 24 P P 23 04 41.3 -0.1
baz=267
SCM **Sheep Creek Mo** 84.91 28 P P 23 04 41.4 -0.5
baz=268
F24K **Squaw Lake** 84.93 23 IAmb IAmb 23 04 53.8
comp=Z,7.7nm,0.9s
F24K **Squaw Lake** 84.93 23 P P 23 04 41.4 -0.4
baz=267,SNR=7.2
DHY **Denali Highway** 84.94 27 P P 23 04 41.1 -0.9
baz=268
GLI **Glacier Island** 84.99 29 P P 23 04 41.0 -1.2
baz=268
POKR **Poker Plat Res** 85.00 25 P P 23 04 41.6 -0.5
baz=268
G24K **Hadweenzic Riv** 85.05 23 IAmb IAmb 23 04 45.0
comp=Z,8.1nm,0.8s
G24K **Hadweenzic Riv** 85.05 23 P P 23 04 41.7 -0.6
baz=267,SNR=8.3
KOPT **Kop Dagi** 85.06 310 P P 23 04 39.2 -4.2
KOPT IAmb IAmb 23 05 07.6
comp=Z,11nm,1.0s
HDA **Harding Lake** 85.17 26 P P 23 04 42.8 -0.2
baz=268
IL31 85.22 25 IAmb IAmb 23 05 42.2
comp=Z,20nm,1.9s
ILAR **Eielson Array** 85.22 25 P P 23 04 42.0 -1.1
comp=Z,1.2nm,0.5s,baz=249,slow=4.5,SNR=19
ILAR LR LR 23 37 42.9
comp=Z,26nm,21.6s,baz=310,slow=32
comp=Z,1.2nm,0.5s
M24K **Tolsona, Glenn** 85.46 28 P P 23 04 43.1 -1.5
baz=269
D25K **Kavik River** 85.57 21 P P 23 04 45.2 +0.2
D25K IAmb IAmb 23 05 29.1
comp=Z,13nm,1.6s
D25K **Kavik River** 85.57 21 P P 23 04 43.3 -1.7
baz=268
KLU **Klutina** 85.57 29 IAmb IAmb 23 04 46.9
comp=Z,9.8nm,0.6s
KLU **Klutina** 85.57 29 P P 23 04 43.9 -1.3
baz=269
G25K **Bearman Lake** 85.60 23 P P 23 04 43.9 -1.1
baz=269
SOC **Sochi** 85.61 313 eP P 23 04 43.6 -2.0
SOC e 23 07 58.4
SOC ePPP PPP 23 09 54.7
SOC eS SKSac 23 15 05.6 -1.0
SOC eSS SS 23 20 50.7 +0.2
SOC eSSS SSS 23 24 22.0
SOC pmax pmax
comp=Z,5.0nm,0.7s
DIV **Divide** 85.64 29 P P 23 04 42.8 -2.7
EYAK **Cordova Ski Ar** 85.64 30 P P 23 04 44.9 -0.5
baz=269
K24K **Donnelly Dome** 85.67 26 P P 23 04 44.8 -0.7
baz=269
H25L **Birch Creek** 85.70 24 P P 23 04 45.2 -0.4
baz=269
F25K **Christian Rive** 85.80 23 P P 23 04 45.5 -0.6
baz=269
PAX **Paxson** 85.80 27 P P 23 04 43.6 -2.7
PAX IAmb IAmb 23 05 07.7
comp=Z,10.0nm,1.2s
PAX **Paxson** 85.80 27 P P 23 04 45.0 -1.3
baz=269
PAX **Paxson** 85.80 27 P P 23 04 43.6 -2.7
PAX pmax pmax
comp=Z,10.0nm,1.2s
PRP **Porcupine Dome** 85.81 25 P P 23 04 44.5 -1.9
baz=269
E25K **Arctic Village** 85.83 22 IAmb IAmb 23 05 11.6
comp=Z,11nm,1.4s
E25K **Arctic Village** 85.83 22 P P 23 04 44.6 -1.7
baz=269,SNR=5.3
VORD **Divnogorie** 85.84 321 eP P 23 04 44.9 -1.6
VORD pmax pmax
comp=Z,20nm,1.3s
J25K **Salcha River,** 85.86 26 P P 23 04 44.8 -1.7
baz=269
VORR **Voronezh** 85.88 321 eP P 23 04 45.1 -1.7
VORR pmax pmax
comp=Z,10.0nm,0.6s
VSR **Storozhevoye** 85.91 321 eP P 23 04 44.9 -2.0
VSR pmax pmax
comp=Z,10.0nm,0.9s
HARP **HAARP** 85.94 28 P P 23 04 46.0 -0.8
baz=270
LPSR **Galich'ya Gora** 86.05 322 eP P 23 04 45.7 -1.8
LPSR pmax pmax
comp=Z,10.0nm,0.8s
C26K **Camden Bay** 86.09 20 P P 23 04 46.5 -0.9
baz=270
BMAR **Burnt Mountain** 86.20 23 P P 23 04 49.2 +1.1
BMRM **Bremner River** 86.21 29 P P 23 04 46.9 -1.4
baz=270
N25K **Chitina, Valde** 86.21 29 P P 23 04 47.0 -1.3
baz=270
KAIM **Kayak Island** 86.31 30 P P 23 04 48.2 -0.5
baz=271
F26K **Shnejek River** 86.37 22 P P 23 04 48.6 -0.3
baz=270,SNR=5.3
SCRK **Sand Creek** 86.47 26 P P 23 04 48.8 -0.7
baz=271
C27K **Jago River** 86.51 21 P P 23 04 49.0 -0.5
baz=271,SNR=5.9
G26K **Porcupine Rive** 86.52 23 P P 23 04 49.4 -0.1
baz=271
J26L **Joseph Creek** 86.64 26 P P 23 04 49.8 -0.6
J26L IAmb IAmb 23 07 51.9
comp=Z,14nm,1.6s
J26L **Joseph Creek** 86.64 26 P P 23 04 49.3 -1.0
baz=271
ARPR **Arapgir-MALATY** 86.75 309 P P 23 04 51.1 -0.5
MOS **Moscow** 86.76 325 eP P 23 04 50.1 -0.9
L26K **Log Cabin Wild** 86.77 27 P P 23 04 50.5 -0.4
baz=271
I26K **Coal Creek Min** 86.80 25 P P 23 04 50.0 -1.0
baz=271
M26K **Nabesna, AK** 86.95 28 P P 23 04 50.8 -1.0
baz=272
MCARA **McCarthy VSAT** 86.97 29 P P 23 04 51.3 -0.6
baz=272
ANN **Anapa** 87.23 315 eP P 23 04 52.9 -0.6
ANN eS SKSac 23 15 17.6 +1.1
ANN pmax pmax
comp=Z,12nm,0.7s
K27K **Chicken** 87.31 26 IAmb IAmb 23 05 02.7
comp=Z,7.2nm,1.2s
K27K **Chicken** 87.31 26 P P 23 04 52.7 -0.8
baz=272
E27K **Coleen River** 87.32 22 P P 23 04 52.5 -1.0
baz=273,SNR=7.8
G27K **Doyon Strip** 87.36 23 P P 23 04 53.0 -0.7
baz=273
OBN **Obninsk** 87.38 325 iP P 23 04 53.1 -0.9
OBN e*SP pP 23 05 09.7 +0.3
OBN S SKSac 23 15 12.0 -5.0
OBN pmax pmax
comp=Z,20nm,1.7s
OBN MLR MLR
comp=Z,136nm,14.0s
OBN **Obninsk** 87.38 325 P P 23 04 53.3 -0.7
comp=Z,16nm,0.6s
I27K **Kandik River** 87.43 25 P P 23 04 53.4 -0.8
baz=273
H27K **Steamboat Moun** 87.44 24 P P 23 04 53.2 -1.0
baz=273
L27K **Beaver Creek,** 87.46 27 P P 23 04 53.1 -1.2
baz=273
D27M **Malcolm River** 87.50 21 P P 23 04 53.3 -1.0
baz=273
EGAK **Eagle** 87.67 25 P P 23 04 53.4 -1.8
baz=273
F28M **Old Crow** 88.00 22 P P 23 04 55.5 -1.3
baz=274
E28M **Babbage River** 88.05 21 P P 23 04 55.6 -1.3
baz=275,SNR=8.1
I28M **Miner Creek** 88.14 25 P P 23 04 56.2 -1.4
baz=274
D28M **Stokes Point** 88.28 21 P P 23 04 56.8 -1.1
baz=275
O28M **Mount Upton** 88.37 29 P P 23 04 56.4 -2.6
baz=274
YUK8 **Steele Glacier** 88.54 29 P P 23 04 58.1 -1.7
baz=275
E29M **Blow River** 88.68 22 P P 23 04 59.0 -0.9
baz=276
H29M **Whitestone** 88.72 24 P P 23 04 59.2 -0.9
baz=276
G29M **Pine Creek** 88.78 23 P P 23 04 59.5 -0.9
baz=276
I29M **Ogilvie Camp,** 88.83 25 P P 23 04 59.6 -1.1
baz=276
M29M **Somme Creek** 89.05 28 P P 23 05 00.9 -1.0
baz=276
L29M **L29M** 89.14 27 P P 23 05 01.2 -1.1
baz=276
YUK6 **Outpost Mounta** 89.25 29 P P 23 05 01.3 -1.8
baz=276
K29M **Barlow Dome** 89.33 26 P P 23 05 01.2 -2.0
baz=276
EPYK **Eagle Plains** 89.36 24 P P 23 05 01.7 -1.6
baz=277
MMAI **Mount Meron Ar** 89.42 303 P P 23 05 04.5 +0.2
comp=Z,0.5nm,0.4s,baz=90,slow=7.2,SNR=1.8
comp=Z,0.5nm,0.4s
G30M **tAoh Zraii Nji** 89.48 23 P P 23 05 01.9 -1.9
baz=278
F30M **Barrier River** 89.56 22 P P 23 05 02.5 -1.6
baz=278
I30M **Mount Dempster** 89.65 25 P P 23 05 02.5 -2.2
baz=278
HYT **Haines Junctio** 89.68 29 P P 23 05 03.2 -1.8
baz=277
P29M **Windy Craggy** 89.70 30 P P 23 05 04.0 -0.9
baz=276
J30M **Hart River** 89.75 25 P P 23 05 03.7 -1.5
baz=278
N30M **Aishikik Lake** 89.80 29 P P 23 05 03.4 -2.0
baz=277
P30M **Million Dollar** 90.03 30 P P 23 05 04.8 -1.7
baz=277
EIL **Elat** 90.04 300 LR LR 23 51 16.6
comp=Z,24nm,19.1s,baz=68,slow=39
G31M **Satah River** 90.25 23 P P 23 05 05.9 -1.4
baz=279
INK **Inuvik** 90.29 22 P P 23 05 05.6 -1.8
baz=280
BRTR **Keskin Array B** 90.35 310 P P 23 05 07.5 -1.1
comp=Z,0.7nm,0.7s,baz=135,slow=4.3,SNR=6.2
comp=Z,0.7nm,0.7s
BRTR **Keskin Array B** 90.35 310 iP P 23 05 07.9 -0.6
BRTR pmax pmax
comp=Z,1.0nm,0.7s
BR105 **Keskin Array S** 90.36 310 P P 23 05 07.8 -0.8
F31M **Tsiigehtchic** 90.36 22 P P 23 05 07.0 -0.8
baz=280
O30N **Mendenhall** 90.37 29 P P 23 05 07.2 -0.9
baz=278
H31M **Peel River** 90.40 24 P P 23 05 06.7 -1.4
baz=279
PLBC **Pleasant Camp** 90.41 30 P P 23 05 07.7 -0.5
baz=278
N31M **Braeburn, Yuko** 90.42 28 P P 23 05 07.6 -0.6
baz=278
S31K **Pelican** 90.68 32 P P 23 05 08.4 -1.0
baz=278
ARCES **ARCESS Array B** 90.75 340 P P 23 05 08.0 -1.6
comp=Z,2.0nm,0.7s,baz=90,slow=6.1,SNR=11
comp=Z,2.0nm,0.7s
SPITS **Spitsbergen Ar** 90.75 349 P P 23 05 08.0 -1.5
comp=Z,5.9nm,0.9s,baz=115,slow=10,SNR=3.0
SPITS LR LR 23 53 21.8
comp=Z,58nm,18.1s,baz=142,slow=40
comp=Z,5.9nm,0.9s
SKAG **Skagway** 90.94 30 P P 23 05 10.5 -0.1
baz=278
M31M **Drury Creek, Y** 90.97 28 P P 23 05 10.5 -0.3
baz=279
WHY **Whitehorse** 90.98 29 P P 23 05 10.1 -0.9
baz=279
SIT **Sitka** 91.29 33 P P 23 05 11.8 -0.5
baz=278
FARO **Faro, Yukon** 91.44 28 P P 23 05 13.0 0.0
baz=280
R32K **Eaglecrest** 91.53 32 P P 23 05 12.8 -0.7
baz=279
S32K **Killisnoo** 91.63 32 P P 23 05 12.8 -1.1
baz=279
P32M **Atlin** 91.73 30 P P 23 05 13.9 -0.5
baz=280
N32M **Quiet Lake** 91.76 29 P P 23 05 14.0 -0.5
baz=280
A36M **Sachs Harbour** 92.14 17 P P 23 05 15.7 -0.2
baz=288
FINES **FINESS Array B** 92.15 332 P P 23 05 15.0 -1.2
comp=Z,1.3nm,0.9s,baz=98,slow=10.0,SNR=2.0
comp=Z,1.3nm,0.9s
AKASG **Malin Array Be** 92.22 321 P P 23 05 15.6 -1.1
comp=Z,0.1nm,0.3s,baz=68,slow=5.0,SNR=4.6
comp=Z,0.1nm,0.3s
MMPY **Sheldon Lake,** 92.32 27 P P 23 05 16.1 -0.9
baz=282
U33K **Whale Pass** 92.64 34 P P 23 05 17.5 -1.0
baz=280
R33M **Jennings River** 93.14 30 P P 23 05 19.0 -2.0
baz=282
NOR **Nord** 93.34 355 iP P 23 05 19.1 -2.3
NOR IAmb IAmb 23 05 21.4
comp=Z,1.7nm,0.9s
C36M **Paulatuk** 93.35 20 P P 23 05 20.5 -1.1
baz=289
S34M **Telegraph Cree** 93.37 32 P P 23 05 21.1 -0.8
baz=282
QSPA **South Pole Qui** 93.40 180 P P 23 05 22.3 +0.3
comp=Z,2.8nm,1.1s,baz=287,slow=0.8,SNR=3.2
comp=Z,2.8nm,1.1s
V35K **Ketchikan** 93.63 34 P P 23 05 22.6 -0.5
baz=281
DLBC **Dease Lake** 93.83 31 P P 23 05 22.8 -1.3
baz=283
WTLY **Watson Lake, Y** 94.05 29 P P 23 05 24.8 -0.2
baz=284
MLR **Muntele Rosu** 95.23 316 P P 23 05 30.1 -0.8
comp=Z,3.0nm,0.9s,baz=279,slow=5.6,SNR=4.4
comp=Z,3.0nm,0.9s
DAG **Danmarks Havn** 97.51 352 iP P 23 05 37.7 -2.8
HFS **Hagfors** 98.33 332 LR LR 23 56 51.5
comp=Z,110nm,19.1s,baz=356,slow=39
NOA **NORSAR Array B** 99.10 334 LR LR 23 54 23.7
comp=Z,49nm,18.1s,baz=355,slow=38
NEEM **North Greenlan** 99.16 360 iP Pdif 23 05 45.4 -2.8
LSZ **Lusaka** 99.37 255 LR LR 23 45 32.1
comp=Z,37nm,18.9s,baz=148,slow=32
YKA **Yellowknife Ar** 99.61 24 P Pdif 23 05 49.7 -0.4
comp=Z,0.4nm,0.6s,baz=306,slow=5.8,SNR=7.3
comp=Z,0.4nm,0.6s
YKA **Yellowknife Ar** 99.61 24 iP Pdif 23 05 50.3 +0.2
YKA pmax pmax
comp=Z,1.0nm,0.7s
PFO **Pinyon Flats O** 109.84 53 P PKiKP 23 10 35.8 -2.9
baz=288
GMRC **Granite Mounta** 110.09 51 P PKiKP 23 10 37.4 -1.7
baz=289
RSSD **Black Hills** 114.23 38 P PKPdf 23 10 45.3 -1.5
baz=302
ANMO **Albuquerque** 117.01 48 P PKPdf 23 10 51.1 -1.3
baz=296
T25A **Trinidad** 117.49 45 P PKPdf 23 10 51.6 -1.7
baz=299
EYMN **Ely** 118.73 28 P PKPdf 23 10 52.4 -2.7
baz=315
ECSD **EROS Data Cent** 118.85 35 P PKPdf 23 10 54.8 -0.6
baz=308
MNTX **Cornudas Mount** 119.22 51 P PKPdf 23 10 56.1 -0.4
baz=295
TXAR **Lajitas Array** 121.56 52 PKP PKiKP 23 11 01.7 +0.4
comp=Z,0.7nm,0.7s,baz=330,slow=0.9,SNR=9.9
WMOK **Wichita Mounta** 122.64 44 P PKPdf 23 11 02.8 -0.2
baz=302
JFWS **Jewell Farm** 122.88 32 P PKPdf 23 11 03.2 0.0
baz=314
JCT **Junction City** 124.04 49 P PKPdf 23 11 05.8 0.0
baz=299
S39A **Bolivar** 124.56 39 PKPdf PKPdf 23 11 06.7 +0.1
R40A **Maddies Statio** 124.82 37 PKPdf 23 11 07.2 +0.1
WHTX **Lake Whitney,** 125.02 47 P PKPdf 23 11 06.8 -0.8
baz=302
833A **Chaparral WMA,** 125.36 51 P PKPdf 23 11 07.9 -0.5
baz=298
CCM **Cathedral Cave** 125.59 37 P PKPdf 23 11 07.8 -0.7
baz=311
MIAR **Mount Ida** 126.30 42 P PKPdf 23 11 09.6 -0.4
baz=306
SFIN **Lafayette** 126.34 32 P PKPdf 23 11 09.4 -0.5
baz=316
AAM **Ann Arbor** 126.63 28 P PKPdf 23 11 09.9 -0.5
baz=321
NATX **Nacogdoches** 127.15 45 P PKPdf 23 11 11.0 -0.6
baz=304
O48B **Farmland** 127.44 31 P PKPdf 23 11 11.8 -0.2
baz=318
P49A **Miami Univ. Ec** 128.21 31 P PKPdf 23 11 12.6 -0.9
baz=318
WCI **Wyandotte Cave** 128.32 33 P PKPdf 23 11 13.5 -0.2
baz=316
LONY **Lake Ozonia** 128.36 20 P PKPdf 23 11 13.3 -0.3
baz=332
ACSO **Alum Creek Sta** 128.55 29 P PKPdf 23 11 14.1 -0.1
baz=321
M53A **Wf Miller and** 128.68 27 P PKPdf 23 11 14.1 -0.2
baz=324
WVT **Waverly** 128.91 36 P PKPdf 23 11 14.6 -0.3
baz=313
OXF **Oxford** 129.02 39 P PKPdf 23 11 14.4 -0.8
baz=310
O53A **New Philadelph** 129.38 28 P PKPdf 23 11 14.8 -0.9
baz=323
P52A **Corning** 129.43 29 P PKPdf 23 11 15.0 -0.8
baz=321
BINY **Binghamton** 129.98 22 P PKPdf 23 11 16.5 -0.3
baz=330
T50A **Nancy** 129.99 33 PKPdf 23 11 17.1 +0.2
MCWV **Mont Chateau** 130.49 27 P PKPdf 23 11 17.2 -0.6
baz=324
SSPA **Standing Stone** 130.54 25 P PKPdf 23 11 17.3 -0.6
baz=327
L61B **Northampton** 130.92 19 P PKPdf 23 11 18.3 -0.2
baz=334
TZTN **Tazewell** 131.04 33 P PKPdf 23 11 18.5 -0.5
baz=318
HRV **Adam Dziewonsk** 131.23 18 P PKPdf 23 11 18.7 -0.4
baz=335
LRAL **Lakeview Retre** 131.50 39 P PKPdf 23 11 19.4 -0.6

baz=312
PAL Palisades 131.78 21 P **PKPdf 23 11 20.4 +0.2**
baz=332
BLA Blacksburg 132.16 30 P **PKPdf 23 11 21.4 +0.2**
baz=322
KMSC Kings Mountain 133.28 32 P **PKPdf 23 11 23.5 +0.2**
baz=320
LPAZ La Paz 160.46 132 PKP **PKPdf 23 12 09.3 +1.1**
comp=Z,1.4nm,0.9s,baz=47,slow=2.2,SNR=4.3
LPAZ PKPab **PKPab 23 12 51.3 +1.9**
comp=Z,2.2nm,0.8s,baz=200,slow=2.1,SNR=5.1

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*JMA **10** 22:56:55.0±0.1,28˚.1N±0˚.2×128˚.0E±0˚.3,h15km±1km, MV3.5/11,NW OFF OKINAWAJIMA IS*
*NIED **10** 22:56:55.0,28˚.11N×128˚.03E,h15km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr-0.20; Mθθ0.81; Mφφ-0.61; Mrθ-0.64; Mθφ0.67; Mφr0.24; Fault plane solution: M0 1.20000×10^15^ NP1: φs110.00000°,δ84.00000°,λ-36.00000°. NP2: φs204.00000°,δ54.00000°,λ-173.00000°.*
*IDC **10** 22:56:55.5±1.3,27˚.91N×127˚.84E,h0km,mb3.7/4, mbtmp3.8/5,ML3.6/1,MS3.6/7 Error ellipse: s-maj=49.6km s-min=16.6km az=69.0*
ISC 10 22:56:57.0±1.9,28˚.00N±0˚.05×128˚.18E±0˚.06,h14km±12km, n23,σ1s11/24,mb3.6/4,MS3.8/6,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTK	**Tokunoshima**	**0.71**	**107**	P	**Pb**	**22 57 11.3**	**+0.1**
JTK				S	**Sn**	**22 57 22.8**	**-0.6**
JTK	**Tokunoshima**	**0.71**	**107**	A		22 57 11.3	
	comp=E,13nm,0.6s,comp=N,9.0nm,0.7s						
JOKE	**Okinoerabujima**	**0.72**	**151**	*e*P	**Pb**	**22 57 11.6**	**+0.2**
JOKE				S	**Sn**	**22 57 23.5**	**-0.1**
JAMN	**Amaminishikomi**	**0.91**	**74**	P	**Pb**	**22 57 13.9**	**-0.6**
JAMN				S	**Sn**	**22 57 27.6**	**-0.7**
JIH	**Iheya**	**0.98**	**191**	P	**Pb**	**22 57 14.7**	**-0.9**
JIH				*e*S	**Sg**	**22 57 28.7**	**0.0**
JYRO	**Yoronjima**	**1.00**	**166**	P	**Pb**	**22 57 15.9**	**-0.1**
JYRO				*e*S	**Sn**	**22 57 31.6**	**+1.2**
JOW	**Kunigami**	**1.16**	**176**	Pn	**Pn**	**22 57 18.1**	**-0.7**
	comp=N,184nm,0.3s,baz=3.4,slow=29,SNR=68						
JOW				LR	LR	22 57 27.0	
	comp=N,210nm,21.6s,baz=16,slow=28						
JOW				Sn	**Sg**	**22 57 34.8**	**+0.1**
	comp=N,67nm,0.3s,baz=147,slow=27,SNR=13						
JOW	**Kunigami**	**1.16**	**176**	P	**Pn**	**22 57 18.4**	**-0.5**
JOW				S	**Sg**	**22 57 34.9**	**+0.3**
JAM	**Amami Oshima**	**1.32**	**72**	P	**Pn**	**22 57 20.6**	**-0.4**
JAM				S	**Sb**	**22 57 38.5**	**+0.1**
JTAJ	**Takarajima**	**1.46**	**38**	P	**Pn**	**22 57 21.0**	**-1.9**
JNTH	**Nagotoyohara**	**1.48**	**185**	*e*P	**Pn**	**22 57 23.0**	**-0.2**
JNTH				S	**Sb**	**22 57 42.9**	**0.0**
JNU	**Nakatsue**	**5.61**	**24**	Pn	**Pn**	**22 58 23.1**	**+3.0**
	comp=N,1.6nm,0.3s,baz=202,slow=8.2,SNR=13						
	comp=N,26nm,0.8s						
KSRS	**Korea Array**	**9.43**	**359**	LR	LR	23 02 51.2	
	comp=N,141nm,19.5s,baz=165,slow=37						
MKAR	**Makanchi Array**	**40.34**	**310**	P	**P**	**23 04 34.1**	**0.0**
	comp=N,0.6nm,0.7s,baz=107,slow=9.1,SNR=1.9						
	comp=N,0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**43.56**	**315**	P	**P**	**23 04 58.1**	**-2.1**
	comp=N,0.8nm,0.8s,baz=109,slow=8.9,SNR=2.5						
	comp=N,0.8nm,0.8s						
WRA	**Warramunga Ar**	**48.03**	**172**	P	**P**	**23 05 36.5**	**+0.7**
	comp=N,1.8nm,0.9s,baz=352,slow=8.2,SNR=5.7						
	comp=N,1.8nm,0.9s						
ASAR	**Alice Springs**	**51.66**	**173**	P	**P**	**23 06 04.9**	**+1.5**
	comp=N,0.6nm,0.6s,baz=356,slow=7.4,SNR=4.1						
	comp=N,0.6nm,0.6s						
NEW	**Newport**	**84.23**	**38**	LR	LR	23 45 17.9	
	comp=N,36nm,21.6s,baz=295,slow=34						
YBH	**Yreka Blue Hor**	**84.66**	**45**	LR	LR	23 43 03.1	
	comp=N,44nm,20.7s,baz=318,slow=33						
NVAR	**Mina Array Bea**	**89.32**	**46**	LR	LR	23 43 45.1	
	comp=N,61nm,21.2s,baz=272,slow=31						
PDAR	**Pinedale Array**	**91.81**	**39**	LR	LR	23 53 15.7	
	comp=N,28nm,19.6s,baz=344,slow=37						
PFO	**Pinyon Flats O**	**93.37**	**49**	LR	LR	23 45 52.7	
	comp=N,35nm,21.6s,baz=226,slow=31						
ANMO	**Albuquerque**	**98.87**	**43**	LR	LR	23 49 41.8	
	comp=N,19nm,21.5s,baz=68,slow=32						

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*GII **10** 23:05:08.9±0.4,36˚.05N±0˚.01×18˚.05E±0˚.03,h6km, Mws4.2,confirmed*
*IDC **10** 23:06:52.9±2.4,34˚.45N×26˚.67E,h0km,mb3.5/8, mbtmp3.4/11,ML3.4/3,Error ellipse: s-maj=46.3km s-min=23.3km az=10.0*
*ISK **10** 23:06:55.8,34˚.35N×26˚.75E,h16km,ML2.9/22*
*ATH **10** 23:06:56.4,34˚.24N×26˚.77E,h9km±2km,ML2.6/8,Error ellipse: s-maj=3.2km s-min=1.8km az=349.0*
*AFAD **10** 23:07:08.1±0.0,35˚.17N×27˚.09E,h8km±2km,ML2.3*
ISC 10 23:06:53.0±0.8,34˚.23N±0˚.04×26˚.83E±0˚.04,h10km,n115, σ2s59/118,mb3.4/8,Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**1.02**	**330**	Pg	**Pg**	**23 07 13.4**	**+0.8**
ZKR	**Zakros**	**1.02**	**330**	P	**Pn**	**23 07 15.1**	**+1.8**
ZKR				S	**Sb**	**23 07 28.1**	**+1.9**
ZKR				AML	AML	23 07 39.3	
	comp=E,1060μm,0.5s						
ZKR				AML	AML	23 07 41.5	
	comp=N,491μm,0.5s						
FRMA	**Ierapetra Chan**	**1.20**	**311**	P	**Pb**	**23 07 17.1**	**+1.3**
FRMA				S	**Sb**	**23 07 31.5**	**+0.2**
FRMA				AML	AML	23 07 40.8	
	comp=E,900μm,0.5s						
FRMA				AML	AML	23 07 42.7	
	comp=N,1003μm,0.7s						
KARP	**Karpathos**	**1.34**	**12**	P	**Pg**	**23 07 20.7**	**+1.9**
KARP				S	**Sg**	**23 07 38.9**	**+2.7**
KARP				AML	AML	23 08 04.1	
	comp=N,282μm,0.2s						
KARP				AML	AML	23 08 04.9	
	comp=E,243μm,0.0s						
KSTL	**Kastelli Herak**	**1.80**	**307**	P	**Pn**	**23 07 22.9**	**-1.2**
KSTL				S	**Sn**	**23 07 42.4**	**-4.6**
KSTL				AML	AML	23 08 02.8	
	comp=E,245μm,0.9s						
KSTL				AML	AML	23 08 04.6	
	comp=N,386μm,0.7s						
IDI	**Anoyia**	**1.91**	**304**	Pn	**Pn**	**23 07 26.9**	**+1.1**
IDI				Sn	**Sn**	**23 07 50.5**	**+0.6**
IDI	**Anoyia**	**1.91**	**304**	P	**Pn**	**23 07 28.2**	**+2.4**
IDI				AML	AML	23 08 03.5	
	comp=E,128μm,0.7s						
IDI				AML	AML	23 08 23.2	
	comp=N,212μm,1.6s						
ARG	**Arkhangelos**	**2.25**	**28**	Pn	**Pn**	**23 07 32.5**	**+2.2**
ARG	**Arkhangelos**	**2.25**	**28**	P	**Pb**	**23 07 34.2**	**+0.5**
ARG				S	**Sn**	**23 07 59.8**	**+1.8**
ARG				AML	AML	23 08 04.4	
	comp=E,180μm,0.5s						
ARG				AML	AML	23 08 06.7	
	comp=N,110μm,0.4s						
GVD	**Gavdhos**	**2.34**	**286**	Pn	**Pn**	**23 07 33.4**	**+1.8**
GVD	**Gavdhos**	**2.34**	**286**	P	**Pn**	**23 07 33.6**	**+2.0**
NISR	**Nisiros**	**2.39**	**6**	P	**Pn**	**23 07 34.1**	**+1.9**
YAZI	**Mula-Dat§a-**	**2.50**	**12**	P	**Pn**	**23 07 35.3**	**+1.6**
DAT	**Datca**	**2.57**	**14**	Pn	**Pn**	**23 07 36.3**	**+1.5**
DAT	**Datca**	**2.57**	**14**	P	**Pn**	**23 07 36.5**	**+1.7**
IMMV	**Iera Moni Meta**	**2.65**	**298**	Pn	**Pn**	**23 07 37.3**	**+1.5**
IMMV	**Iera Moni Meta**	**2.65**	**298**	P	**Pn**	**23 07 37.2**	**+1.5**
KNDR	**Palaiochora Ch**	**2.78**	**292**	Pn	**Pn**	**23 07 39.9**	**+2.4**
TURN	**Turunc**	**2.79**	**24**	Pn	**Pn**	**23 07 39.9**	**+2.2**
TURN	**Turunc**	**2.79**	**24**	P	**Pn**	**23 07 40.2**	**+2.5**
TURN				S	**Sn**	**23 08 11.0**	**-0.4**
TURN				*i* AML	AML	23 08 15.0	
	comp=N,22nm,0.3s						
TURN				*i* AML	AML	23 08 20.0	
	comp=N,26nm,0.3s						
BODT	**Bodrum**	**2.85**	**8**	Pn	**Pn**	**23 07 40.5**	**+1.9**
BDRM	**Kayabasi**	**2.87**	**10**	P	**Pn**	**23 07 40.5**	**+1.6**
IZZE	**Mula-Seydike**	**2.95**	**41**	P	**Pn**	**23 07 42.1**	**+2.2**
IZZE				S	**Sn**	**23 08 11.3**	**-4.1**
IZZE				*i* AML	AML	23 08 24.0	
	comp=N,50nm,0.2s						
KSL	**Kastellorizon**	**2.96**	**49**	P	**Pn**	**23 07 43.1**	**+3.0**
KSL				AML	AML	23 08 25.4	
	comp=N,60μm,0.3s						
KSL				AML	AML	23 08 26.5	
	comp=E,99μm,0.7s						
DALY	**Dalyan (Mula)**	**2.98**	**29**	Pn	**Pn**	**23 07 43.1**	**+2.8**
APE	**Apeiranthos**	**3.02**	**340**	Pn	**Pn**	**23 07 41.8**	**+0.8**
FETY	**Fethiye**	**3.02**	**37**	Pn	**Pn**	**23 07 43.9**	**+2.9**
FETY	**Fethiye**	**3.02**	**37**	P	**Pn**	**23 07 45.3**	**+4.3**
FETY				S	**Sn**	**23 08 12.0**	**-5.2**
AKAS	**Kas**	**3.02**	**48**	Pn	**Pn**	**23 07 44.2**	**+3.1**
AKAS	**Kas**	**3.02**	**48**	P	**Pn**	**23 07 43.3**	**+2.3**
AKAS				S	**Sn**	**23 08 15.6**	**-1.8**
SABU	**Mula-Dalaman**	**3.12**	**33**	P	**Pn**	**23 07 45.1**	**+2.8**
SABU				S	**Sn**	**23 08 13.2**	**-6.4**
CAME	**Cameli-Denizli**	**3.37**	**36**	Pn	**Pn**	**23 07 48.9**	**+3.0**
KNIK	**Mula-Seydike**	**3.44**	**40**	P	**Pn**	**23 07 50.0**	**+3.3**
KNIK				S	**Sn**	**23 08 22.9**	**-4.7**
SMG	**Samos**	**3.47**	**0**	P	**Pn**	**23 07 48.8**	**+1.7**
SMG				AML	AML	23 08 33.9	
	comp=N,39μm,0.7s						
SMG				AML	AML	23 08 35.8	
	comp=E,28μm,0.6s						
DNZT	**Denizli-Tavas-**	**3.53**	**30**	P	**Pn**	**23 07 50.7**	**+2.8**
DNZT				S	**Sn**	**23 08 27.8**	**-1.9**
DNZT				*i* AML	AML	23 08 40.0	
	comp=E,10nm,0.6s						
ELL	**Elmali**	**3.55**	**44**	Pn	**Pn**	**23 07 51.8**	**+3.5**
TAVA	**DENIZLI_Tavas**	**3.64**	**27**	P	**Pn**	**23 07 52.0**	**+2.4**
TAVA				S	**Sn**	**23 08 29.5**	**-3.2**
TAVA				*i* AML	AML	23 08 39.0	
	comp=E,15nm,0.5s						
TAVA				*i* AML	AML	23 08 40.0	
	comp=E,14nm,0.5s						
GOLH	**Golhisar**	**3.73**	**36**	P	**Pn**	**23 07 54.7**	**+3.9**
GOLH				S	**Sn**	**23 08 33.1**	**-1.7**
GOLH				*i* AML	AML	23 08 41.0	
	comp=E,20nm,0.3s						
GOLH				*i* AML	AML	23 08 46.0	
	comp=E,18nm,0.5s						
ESEN	**Aydn-Nazilli**	**3.77**	**19**	P	**Pn**	**23 07 53.1**	**+1.9**
ESEN				S	**Sn**	**23 08 28.9**	**-6.6**
ESEN				*i* AML	AML	23 08 40.0	
	comp=E,10nm,0.6s						
APMY	**Acipayam-Deniz**	**3.81**	**31**	Pn	**Pn**	**23 07 54.4**	**+2.6**
AYDB	**Zeytinkoy-Aydi**	**3.81**	**13**	Pn	**Pn**	**23 07 54.1**	**+2.3**
DNIZ	**Denizli-Tavas-**	**3.83**	**27**	P	**Pn**	**23 07 55.0**	**+2.9**
NAZL	**Nazilli-Aydin**	**3.91**	**17**	Pn	**Pn**	**23 07 55.8**	**+2.6**
KORT	**Korkueli**	**3.98**	**45**	Pn	**Pn**	**23 07 57.9**	**+3.6**
ZEYE	**Izmir, Urla-Ze**	**4.01**	**356**	P	**Pn**	**23 07 55.4**	**+0.9**
ZEYE				*i* AML	AML	23 09 29.0	
	comp=E,10nm,1.1s						
URLA	**Izmir**	**4.12**	**357**	Pn	**Pn**	**23 07 58.5**	**+2.4**
BLCB	**Balcova**	**4.15**	**2**	Pn	**Pn**	**23 07 58.5**	**+2.1**
KIRA	**zmir-Kiraz**	**4.16**	**17**	P	**Pn**	**23 07 58.7**	**+2.1**
ODEM	**Odemis-Izmir**	**4.16**	**14**	Pn	**Pn**	**23 07 58.9**	**+2.3**
CHOS	**Chios island**	**4.19**	**352**	Pn	**Pn**	**23 07 58.9**	**+1.8**
KEPZ	**Antalya-Kepez**	**4.72**	**54**	P	**Pn**	**23 08 07.6**	**+3.3**
KEPZ				S	**Sn**	**23 08 54.3**	**-4.8**
CSS	**Mathiatis**	**5.41**	**80**	P	Pn	23 08 07.8	-6.0
CSS	**Mathiatis**	**5.41**	**80**	P	**Pn**	**23 08 12.8**	**-1.0**
SLTI	**Sal'it**	**7.16**	**104**	P	**Pn**	**23 08 39.7**	**+1.9**
SLTI	**Sal'it**	**7.16**	**104**	S	Sg	23 11 26.5	+44
SLTI	**Sal'it**	**7.16**	**104**	P	**Pn**	**23 08 40.1**	**+2.3**
KZIT	**Kziot**	**7.20**	**115**	P	**Pn**	**23 08 41.6**	**+3.3**
KZIT	**Kziot**	**7.20**	**115**	P	**Pn**	**23 08 41.1**	**+2.8**
KZIT	**Kziot**	**7.20**	**115**	S	Sg	23 11 27.5	+44
MMC7	**Mount Meron ar**	**7.24**	**97**	P	**Pn**	**23 08 41.1**	**+2.1**
MMA0	**Mount Meron ar**	**7.25**	**97**	P	**Pn**	**23 08 39.3**	**+0.2**
MMA0B	**Mount Meron ar**	**7.25**	**97**	P	**Pn**	**23 08 42.2**	**+3.1**
MMA0B	**Mount Meron ar**	**7.25**	**97**	S	Sg	23 11 27.4	+42
MMAI	**Mount Meron Ar**	**7.25**	**97**	Pn	**Pn**	**23 08 41.5**	**+2.4**
	comp=E,0.9nm,0.3s,baz=274,slow=11,SNR=5.8						
MMAI				Sn	**Sn**	**23 10 01.3**	**-0.3**
	comp=E,5.1nm,0.3s,baz=278,slow=19,SNR=8.8						
	comp=E,0.5nm,0.3s						
AMAZ	**Amatzia**	**7.31**	**109**	P	**Pn**	**23 08 43.3**	**+3.3**
AMAZ	**Amatzia**	**7.31**	**109**	P	**Pn**	**23 08 43.2**	**+3.3**
AMAZ	**Amatzia**	**7.31**	**109**	S	Sg	23 11 30.5	+43
MMLI	**Mount Malkishu**	**7.41**	**102**	P	**Pn**	**23 08 43.7**	**+2.4**
GEM	**Giv'at Ha'Em**	**7.43**	**95**	P	**Pn**	**23 08 39.8**	**-1.7**
GEM	**Giv'at Ha'Em**	**7.43**	**95**	P	**Pn**	**23 08 43.7**	**+2.2**
NATI	**Neve Ativ**	**7.48**	**95**	P	**Pn**	**23 08 41.5**	**-0.7**
NATI	**Neve Ativ**	**7.48**	**95**	P	**Pn**	**23 08 44.6**	**+2.4**
YTIR	**Yattir**	**7.54**	**110**	P	**Pn**	**23 08 44.6**	**+1.5**
YTIR	**Yattir**	**7.54**	**110**	S	Sg	23 11 35.5	+40
YTIR	**Yattir**	**7.54**	**110**	P	**Pn**	**23 08 45.8**	**+2.7**
HMDT	**Nahal Hemdat**	**7.55**	**103**	P	**Pn**	**23 08 43.1**	**0.0**
HMDT	**Nahal Hemdat**	**7.55**	**103**	P	**Pn**	**23 08 46.5**	**+3.4**
QRNJ	**Al-Qirein**	**7.56**	**102**	P	**Pn**	**23 08 44.4**	**+1.1**
UJAP	**Al Uja**	**7.59**	**105**	P	**Pn**	**23 08 46.7**	**+3.0**
DSI	**Dead Sea**	**7.66**	**108**	P	**Pn**	**23 08 47.4**	**+2.7**
DSI	**Dead Sea**	**7.66**	**108**	P	**Pn**	**23 08 47.1**	**+2.4**
DSI	**Dead Sea**	**7.66**	**108**	S	Sg	23 11 39.5	+41
BALJ	**Balqa**	**7.69**	**104**	P	**Pn**	**23 08 48.5**	**+3.4**
BRTR	**Keskin Array B**	**7.73**	**43**	Pn	**Pn**	**23 08 48.7**	**+3.0**
	comp=E,0.1nm,0.3s,baz=225,slow=16,SNR=2.9						
	comp=E,0.2nm,0.4s						
MDBI	**Mazsada**	**7.75**	**110**	P	Pn	23 08 50.6	+4.8
MSBI	**Mazada**	**7.75**	**110**	P	**Pn**	**23 08 48.2**	**+2.4**
MSBI	**Mazada**	**7.75**	**110**	P	**Pn**	**23 08 48.7**	**+2.8**
KRMI	**Paran Flat**	**7.85**	**119**	P	**Pn**	**23 08 49.5**	**+2.2**
KRMI	**Paran Flat**	**7.85**	**119**	S	Sg	23 11 42.2	+37
LISJ	**El Lisan**	**7.87**	**110**	P	**Pn**	**23 08 50.0**	**+2.5**
GHAJ	**Ghor Haditha**	**7.92**	**109**	P	Pn	23 08 53.0	+4.9
GHAJ	**Ghor Haditha**	**7.92**	**109**	P	**Pn**	**23 08 51.4**	**+3.3**
PRNI	**Paran**	**7.93**	**117**	P	**Pn**	**23 08 51.5**	**+3.2**
PRNI	**Paran**	**7.93**	**117**	P	**Pn**	**23 08 50.7**	**+2.4**
ZFRI	**Zfri**	**7.95**	**115**	P	**Pn**	**23 08 51.9**	**+3.2**
ZFRI	**Zfri**	**7.95**	**115**	P	**Pn**	**23 08 51.1**	**+2.5**
KARJ	**KARJ**	**8.06**	**110**	P	**Pn**	**23 08 49.5**	**-0.6**
HRFI	**Mount Harif**	**8.12**	**119**	S	Sg	23 11 49.3	+36
HRFI	**Mount Harif**	**8.12**	**119**	P	**Pn**	**23 08 53.1**	**+2.1**
MBRI	**Mt Berech**	**8.16**	**121**	P	Pn	23 08 58.1	+6.4
MBRI	**Mt Berech**	**8.16**	**121**	P	**Pn**	**23 08 53.4**	**+1.8**
MBRI	**Mt Berech**	**8.16**	**121**	S	Sg	23 11 49.0	+34
EIL	**Elat**	**8.26**	**121**	P	Pn	23 08 57.7	+4.8
EIL	**Elat**	**8.26**	**121**	P	**Pn**	**23 08 54.6**	**+1.7**
AQBJ	**Aqaba**	**8.30**	**121**	P	Pn	23 08 58.3	+4.9
JAVC	**Velka Javorina**	**16.12**	**338**	*e*SG	**Sn**	**23 13 35.7**	**-2.9**
AKASG	**Malin Array Be**	**16.55**	**5**	Pn	**Pn**	**23 10 43.9**	**-1.2**
	comp=E,0.6nm,0.3s,baz=193,slow=11,SNR=4.3						
	comp=E,0.4nm,0.4s						
ESDC	**Sonseca Array**	**25.13**	**291**	P	**P**	**23 12 18.6**	**+0.4**
	comp=E,0.2nm,0.6s,baz=84,slow=9.3,SNR=1.8						
	comp=E,0.2nm,0.6s						
FINES	**FINESS Array B**	**27.23**	**359**	P	**P**	**23 12 35.5**	**-1.4**
	comp=E,0.7nm,0.7s,baz=165,slow=12,SNR=4.2						
	comp=E,0.7nm,0.7s						
HFS	**Hagfors**	**27.30**	**346**	P	**P**	**23 12 35.3**	**-2.3**
	comp=E,0.6nm,0.4s,baz=139,slow=11,SNR=4.9						
	comp=E,0.6nm,0.4s						
EKA	**Eskdalemuir Ar**	**29.59**	**325**	P	**P**	**23 12 57.1**	**-0.9**
	comp=E,0.2nm,0.3s,baz=128,slow=8.1,SNR=1.6						
	comp=E,0.2nm,0.3s						
ARCES	**ARCESS Array B**	**35.36**	**359**	P	**P**	**23 13 47.9**	**-0.5**
	comp=E,0.6nm,0.8s,baz=172,slow=7.3,SNR=3.6						
	comp=E,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**40.65**	**50**	P	**P**	**23 14 34.5**	**+1.4**
	comp=E,0.2nm,0.5s,baz=276,slow=8.5,SNR=3.6						
	comp=E,0.2nm,0.5s						
MKAR	**Makanchi Array**	**43.15**	**56**	P	**P**	**23 14 54.9**	**+1.2**
	comp=E,0.3nm,0.5s,baz=267,slow=7.5,SNR=4.7						
	comp=E,0.3nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.28**	**357**	P	**P**	**23 15 01.9**	**-0.5**
	comp=E,2.7nm,0.8s,baz=150,slow=6.1,SNR=5.9						
	comp=E,2.7nm,0.8s						

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*TEH **10** 23:07:40.7,39˚.63N×51˚.07E,h10km, ML3.3*
*AZER **10** 23:07:42.3,39˚.74N×51˚.09E,h60km, ml2.5*
ISC 10 23:07:43.6±1.6,39˚.75N±0˚.05×51˚.08E±0˚.06,h30km±16km, n28,σ0s86/45,Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NDR	**Nardaran**	**1.18**	**315**	P	**Pb**	**23 08 05.0**	**-0.3**
NDR				S	**Sb**	**23 08 20.6**	**+0.4**
ATGJ	**Altiaghaj**	**1.98**	**305**	Pn	**Pn**	**23 08 15.1**	**0.0**
ATGJ				Sn	**Sn**	**23 08 39.1**	**+0.3**
SIZA	**Siyzn**	**2.12**	**309**	Pn	**Pn**	**23 08 18.0**	**+0.9**
SIZA				Sn	**Sn**	**23 08 42.1**	**-0.4**
ASTR	**Astara**	**2.14**	**237**	Pn	**Pn**	**23 08 17.0**	**-0.1**
ASTR				Sn	**Sn**	**23 08 43.4**	**+0.7**
GLBA	**Clilabad**	**2.14**	**257**	Pn	**Pn**	**23 08 17.4**	**+0.3**
GLBA				Sn	**Sn**	**23 08 43.2**	**+0.6**
PQL	**Pirkuli**	**2.17**	**299**	Pn	**Pn**	**23 08 16.9**	**-0.8**
PQL				Sn	**Sn**	**23 08 45.8**	**+2.2**
YRD	**Yardimli**	**2.35**	**250**	Pn	**Pn**	**23 08 19.9**	**-0.4**
YRD				Sn	**Sn**	**23 08 48.7**	**+0.5**
LRK	**Lerik**	**2.40**	**243**	Pn	**Pn**	**23 08 20.8**	**-0.1**
LRK				Sn	**Sn**	**23 08 49.2**	**-0.1**
QUBA	**Quba, Azerbaij**	**2.54**	**310**	Pn	**Pn**	**23 08 22.8**	**0.0**
QUBA				Sn	**Sn**	**23 08 52.0**	**-0.7**
XNQ	**Khinaliq**	**2.65**	**303**	Pn	**Pn**	**23 08 24.2**	**-0.3**
XNQ				Sn	**Sn**	**23 08 55.2**	**-0.5**
ZRD	**Zardab**	**2.66**	**283**	Pn	**Pn**	**23 08 24.8**	**+0.5**
ZRD				Sn	**Sn**	**23 08 57.4**	**+1.9**
LHJ2	**Lahijan - Gila**	**2.70**	**197**	Pn	**Pn**	**23 08 24.0**	**-0.9**
QBL	**Gabala**	**2.75**	**297**	Pn	**Pn**	**23 08 26.0**	**+0.4**
QBL				Sn	**Sn**	**23 08 56.7**	**-1.1**
QSAR	**Qusar**	**2.77**	**310**	Pn	**Pn**	**23 08 25.9**	**-0.1**
QSAR				Sn	**Sn**	**23 08 59.0**	**+0.5**
QRD	**Qoradiz**	**2.92**	**266**	Pn	**Pn**	**23 08 27.3**	**-0.6**
QRD				Sn	**Sn**	**23 09 02.4**	**+0.6**
JIR1	**Jirandeh**	**3.20**	**199**	Pn	**Pn**	**23 08 31.1**	**-0.8**
KLST	**Kelardasht - M**	**3.23**	**180**	Pn	**Pn**	**23 08 32.2**	**-0.3**
ISRB	**Sarab**	**3.29**	**235**	Pn	**Pn**	**23 08 34.2**	**+1.0**
MZPU	**Pul - Mazandar**	**3.33**	**173**	Pn	**Pn**	**23 08 33.9**	**+0.2**
IHRS	**Heris**	**3.45**	**247**	Pn	**Pn**	**23 08 36.1**	**+0.7**
IPRN	**Peran**	**3.64**	**164**	Pn	**Pn**	**23 08 37.9**	**-0.1**
IGLO	**Ghaloghah**	**3.90**	**145**	Pn	**Pn**	**23 08 41.8**	**+0.2**
ORD	**Ordubad**	**4.03**	**260**	Pn	**Pn**	**23 08 42.3**	**-0.9**
ORD				Sn	**Sn**	**23 09 29.0**	**-0.4**
IMHD	**Mahdasht**	**4.07**	**185**	Pn	**Pn**	**23 08 43.7**	**-0.1**
GDB	**GEDABAY**	**4.19**	**285**	Pn	**Pn**	**23 08 44.6**	**-0.9**
GDB				Sn	**Sn**	**23 09 30.6**	**-2.9**
SBZ	**Shahbuz**	**4.28**	**267**	Pn	**Pn**	**23 08 47.4**	**+0.6**
SBZ				Sn	**Sn**	**23 09 34.9**	**-0.8**
IMRD	**Marand**	**4.30**	**258**	Pn	**Pn**	**23 08 47.9**	**+0.9**
ISFR	**Sfrayin**	**6.07**	**114**	Pn	**Pn**	**23 09 12.2**	**+0.7**

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*CLL **10** 23:11:23.8±0.3,50˚.25N×12˚.44E,h8km,ML2.1*
*BGR **10** 23:11:23.2±0.2,50˚.25N×12˚.45E,h11km±1km, ML2.3/7, Error ellipse: s-maj=2.2km s-min=1.1km az=102.0*
WBNET 10 23:11:23.5,50˚.25N×12˚.45E,h9km,Ml2.2,6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**180**	*i* Pg	Pg	23 11 25.3	+0.1
NKC				*i* Sg	Sg	23 11 26.5	+0.1
NKC				IAML		23 11 26.6	
	comp=E,873nm,0.2s						
NKC	**Novy Kostel**	**0.01**	**180**	*i* Pg	Pg	23 11 25.3	+0.1
NKC				*i* Sg	Sg	23 11 26.5	+0.1
	comp=E,873nm,0.2s						
NKC	**Novy Kostel**	**0.01**	**180**	⇑P	Pg	23 11 25.3	+0.1
NKC				S	Sg	23 11 26.5	+0.1
LBCW	**Luby**	**0.03**	**309**	⇓P	Pg	23 11 25.4	+0.1
LBCW				S	Sg	23 11 26.8	+0.2
STCW	**Studenec**	**0.05**	**75**	*i* Pg	Pg	23 11 25.5	0.0
STCW				*i* Sg	Sg	23 11 26.7	-0.1
STCW	**Studenec**	**0.05**	**75**	*i* Pg	Pg	23 11 25.5	0.0
STCW				*i* Sg	Sg	23 11 26.7	-0.1
STCW	**Studenec**	**0.05**	**75**	⇑P	Pg	23 11 25.5	0.0
STCW				S	Sg	23 11 26.7	-0.1
VAC	**Vackov**	**0.05**	**255**	*i* Pg	Pg	23 11 25.5	+0.1
VAC				*i* Sg	Sg	23 11 26.8	0.0
VAC	**Vackov**	**0.05**	**255**	⇓P	Pg	23 11 25.5	+0.1
VAC				S	Sg	23 11 26.8	0.0
KVC	**Kvetna**	**0.06**	**134**	*i* Pg	Pg	23 11 25.5	0.0
KVC				*e*Sg

	comp=N,96nm,0.3s								
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Pg		Pg	23 11 33.1	-0.2	
ROTZ				*e*Sg		Sg	23 11 39.8	-0.1	
MOX	**Moxa**	**0.67**	**307**	*e*Pg		Pg	23 11 36.1	-0.2	
MOX				*e*Sg		Sg	23 11 45.0	0.0	
FBE	**Freiberg**	**0.89**	**40**	*e*Pg		Pg	23 11 40.4	-0.2	
FBE				*e*Sg		Sg	23 11 51.6	-0.5	
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg		Pg	23 11 41.7	-0.3	
GRF				*e*Sg		Sg	23 11 54.1	-0.6	
CLL	**Collm**	**1.12**	**18**	*i* Pg		Pb	23 11 44.3	-0.7	
CLL				*i* x		x	23 11 47.8		
CLL				*i* Sg		Sg	23 11 58.7	-0.8	
	comp=Z,31nm,0.9s								
CLL	**Collm**	**1.12**	**18**	*e*Pg		Pb	23 11 44.2	-0.7	
CLL				*e*Sg		Sb	23 11 59.7	+0.1	
WET	**Wettzell**	**1.14**	**166**	*e*Sg		Sg	23 11 59.8	-0.3	
BRG	**Berggiesshubel**	**1.14**	**56**	Pg		Pb	23 11 44.7	-0.6	
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg		Pb	23 11 44.8	-0.5	
BRG				*e*Sg		Sg	23 11 59.7	-0.5	
BRG	**Berggiesshubel**	**1.14**	**56**	Sg		Sg	23 11 59.3	-0.9	
BRG				Amp			23 12 00.1		
	comp=Z,58nm,0.2s								
PRU	**Pruhonice**	**1.37**	**100**	*e*Pg		Pn	23 11 48.9	+0.1	
PRU				*e*Sg		Sb	23 12 06.8	0.0	
PRU	**Pruhonice**	**1.37**	**100**	*e*Pg		Sg	23 12 06.6	-1.0	
GEC2	**GERESS Array S**	**1.62**	**149**	*e*Pg		Pb	23 11 53.8	+0.2	
GEC2				*e*Sg		Sb	23 12 14.2	0.0	
KRUC	**Moravsky**	**2.83**	**113**	*e*PN		Pn	23 12 08.1	-0.6	
KRUC				*e*SG		Sg	23 12 53.0	-1.2	
VRAC	**Vranov**	**2.85**	**108**	*e*PN		Pn	23 12 08.4	-0.6	
VRAC				*e*SG		Sg	23 12 53.0	-1.8	
VYHS	**Vyhne**	**4.53**	**110**	*e*PN		Pn	23 12 26.9	-5.2	
VYHS				*e*SG		Sg	23 13 51.1	+2.3	

CLL ***10*** *23:11:26.8±0.3,50°.25N×12°.44E,h8km±1km,ML2.1*
BGR ***10*** *23:11:26.2±0.3,50°.25N×12°.43E,h11km±1km,ML2.3/5,*
Error ellipse: s-maj=2.2km s-min=2.2km az=113.0

WBNET 10 23:11:26.5,50°.25N×12°.45E,h9km,Ml2.2,7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**178**	*i* Pg		Pg	23 11 28.3	+0.1
NKC				*i* Sg		Sg	23 11 29.5	+0.1
NKC				IAML			23 11 29.6	
	comp=E,765nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**178**	*i* Pg		Pg	23 11 28.3	+0.1
NKC				*i* Sg		Sg	23 11 29.5	+0.1
	comp=E,765nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**178**	⇑P		Pg	23 11 28.3	+0.1
NKC				S		Sg	23 11 29.5	+0.1
LBCW	**Luby**	**0.03**	**307**	⇓P		Pg	23 11 28.4	+0.1
LBCW				S		Sg	23 11 29.7	+0.2
STCW	**Studenec**	**0.05**	**78**	*i* Pg		Pg	23 11 28.4	0.0
STCW				*i* Sg		Sg	23 11 29.7	-0.1
STCW	**Studenec**	**0.05**	**78**	*i* Pg		Pg	23 11 28.4	0.0
STCW				*i* Sg		Sg	23 11 29.7	-0.1
STCW	**Studenec**	**0.05**	**78**	⇑P		Pg	23 11 28.4	0.0
STCW				S		Sg	23 11 29.7	-0.1
VAC	**Vackov**	**0.05**	**252**	*i* Pg		Pg	23 11 28.4	0.0
VAC				*i* Sg		Sg	23 11 29.7	0.0
VAC	**Vackov**	**0.05**	**252**	⇓P		Pg	23 11 28.4	+0.1
VAC				S		Sg	23 11 29.7	0.0
WERN	**Wernitzgruen**	**0.06**	**310**	*i* Pg		Pg	23 11 28.6	+0.1
WERN				*i* Sg		Sg	23 11 30.1	0.0
WERN				IAML			23 11 30.2	
	comp=E,2µm,0.2s							
WERN	**Wernitzgruen**	**0.06**	**310**	*i* Pg		Pg	23 11 28.6	+0.1
WERN				*i* Sg		Sg	23 11 30.1	0.0
	comp=E,2µm,0.2s							
KVC	**Kvetna**	**0.06**	**135**	*e*Pg		Pg	23 11 28.5	0.0
KVC				*i* Sg		Sg	23 11 29.9	-0.1
KVC	**Kvetna**	**0.06**	**135**	⇓P		Pg	23 11 28.5	0.0
KVC				S		Sg	23 11 29.9	-0.1
POCW	**Potky**	**0.07**	**350**	⇑P		Pg	23 11 28.8	+0.1
POCW				S		Sg	23 11 30.4	+0.1
ROHR	**Rohrbach**	**0.09**	**260**	*i* Pg		Pg	23 11 28.8	0.0
ROHR				*i* Sg		Sg	23 11 30.4	-0.1
ROHR				IAML			23 11 30.5	
	comp=E,2µm,0.1s							
ROHR	**Rohrbach**	**0.09**	**260**	*i* Pg		Pg	23 11 28.8	0.0
ROHR				*i* Sg		Sg	23 11 30.4	-0.1
	comp=E,2µm,0.1s							
SKC	**Skalna**	**0.10**	**215**	⇑P		Pg	23 11 29.0	+0.1
SKC				S		Sg	23 11 30.7	0.0
KRCW	**Kraslice**	**0.10**	**33**	⇑P		Pg	23 11 29.0	0.0
KRCW				S		Sg	23 11 30.7	-0.1
GUNZ	**Gunzen**	**0.14**	**327**	*e*Pg		Pg	23 11 29.6	+0.1
GUNZ				*i* Sg		Sg	23 11 31.7	-0.1
GUNZ				IAML			23 11 32.1	
	comp=E,301nm,0.2s							
GUNZ	**Gunzen**	**0.14**	**327**	*e*Pg		Pg	23 11 29.6	+0.1
GUNZ				*i* Sg		Sg	23 11 31.7	-0.1
	comp=E,301nm,0.2s							
KOCW	**Kopaniny**	**0.14**	**277**	⇓P		Pg	23 11 29.6	0.0
KOCW				S		Sg	23 11 31.7	0.0
MULD	**Muldenberg**	**0.17**	**350**	*i* Pg		Pg	23 11 30.0	0.0
MULD				*i* Sg		Sg	23 11 32.3	-0.2
MULD				IAML			23 11 32.5	
	comp=E,572nm,0.2s							
MULD	**Muldenberg**	**0.17**	**350**	*i* Pg		Pg	23 11 30.0	0.0
MULD				*i* Sg		Sg	23 11 32.3	-0.2
	comp=E,572nm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**3**	*e*Pg		Pg	23 11 30.0	-0.1
TANN				*e*Sg		Sg	23 11 32.3	-0.3
TANN				IAML			23 11 32.8	
	comp=N,668nm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**3**	*e*Pg		Pg	23 11 30.0	-0.1
TANN				*e*Sg		Sg	23 11 32.3	-0.3
	comp=N,668nm,0.2s							
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P		Pg	23 11 30.7	+0.1
ZHC				S		Sg	23 11 33.5	0.0
TRCW	**Trojmez**	**0.20**	**286**	⇑P		Pg	23 11 30.7	+0.1
TRCW				S		Sg	23 11 33.5	0.0
WERD	**Werda**	**0.22**	**336**	*e*Sg		Sg	23 11 33.8	-0.3
WERD				IAML			23 11 33.9	
	comp=E,184nm,0.3s							
WERD	**Werda**	**0.22**	**336**	*e*Sg		Sg	23 11 33.8	-0.3
	comp=E,184nm,0.3s							
TRIB	**Obertriebel**	**0.22**	**297**	*e*Sg		Sg	23 11 34.1	-0.1
TRIB				IAML			23 11 34.4	
	comp=E,112nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**297**	*e*Sg		Sg	23 11 34.1	-0.1
	comp=E,112nm,0.1s							
LACW	**Lazy**	**0.23**	**150**	*e*Pg		Pg	23 11 31.3	+0.1
LACW				*i* Sg		Sg	23 11 34.5	+0.2
LACW	**Lazy**	**0.23**	**150**	*e*Pg		Pg	23 11 31.3	+0.1
LACW				*i* Sg		Sg	23 11 34.5	+0.2
LACW	**Lazy**	**0.23**	**150**	⇓P		Pg	23 11 31.3	+0.1
LACW				S		Sg	23 11 34.5	+0.2
VIEL	**Selb-Vielitz**	**0.23**	**254**	*e*Sg		Sg	23 11 34.2	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**254**	*e*Sg		Sg	23 11 34.2	-0.2
PLN	**Plauen**	**0.30**	**322**	*e*Pg		Pg	23 11 32.3	-0.1
PLN				*i* Sg		Sg	23 11 36.4	-0.1
PLN				IAML			23 11 36.7	
	comp=E,183nm,0.2s							
PLN	**Plauen**	**0.30**	**322**	*e*Pg		Pg	23 11 32.3	-0.1
PLN				*i* Sg		Sg	23 11 36.4	-0.1
	comp=E,183nm,0.2s							
MANZ	**Manzenberg**	**0.34**	**220**	*e*Pg		Pg	23 11 33.1	-0.1
MANZ				*e*Sg		Sg	23 11 37.7	-0.1
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		Pg	23 11 34.7	-0.2
SCHF				*e*Sg		Sg	23 11 40.5	-0.1
SCHF				IAML			23 11 40.8	
	comp=E,114nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		Pg	23 11 34.7	-0.2
SCHF				*e*Sg		Sg	23 11 40.5	-0.1
	comp=E,114nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*e*Pg		Pg	23 11 35.4	-0.2
GRZ1				*i* Sg		Sg	23 11 41.4	-0.4
GRZ1				IAML			23 11 42.2	
	comp=N,85nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*e*Pg		Pg	23 11 35.4	-0.2
GRZ1				*i* Sg		Sg	23 11 41.4	-0.4
	comp=N,85nm,0.2s							
MOX	**Moxa**	**0.66**	**307**	*e*Pg		Pg	23 11 39.1	-0.2
MOX				*e*Sg		Sg	23 11 48.1	+0.2
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Sg		Sg	23 11 56.4	-1.3
CLL	**Collm**	**1.12**	**18**	*e*Sg		Sg	23 12 02.3	-0.1
CLL	**Collm**	**1.12**	**18**	*i* Pg		Sg	23 12 02.2	-0.2
CLL	**Collm**	**1.12**	**18**	*e*Pg		Sg	23 12 02.2	-0.2
BRG	**Berggiesshubel**	**1.14**	**56**	Pg		Pb	23 11 47.8	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg		Pb	23 11 47.8	-0.6
BRG				*e*Sg		Sg	23 12 02.7	-0.4
BRG	**Berggiesshubel**	**1.14**	**56**	Pg		Sg	23 12 02.8	-0.4
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg		Sg	23 12 02.7	-0.4
WET	**Wettzell**	**1.14**	**166**	*e*Pg		Pb	23 11 48.2	-0.2
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG		Sb	23 13 07.1	+1.1

LDG ***10*** *23:11:38.9±0.3,50°.25N×12°.45E,h11km,Ml3.0/11,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
VIE ***10*** *23:11:39.8±0.7,50°.16N×12°.45E,h10km,mb2.1/3,ml2.9/3, Error ellipse: s-maj=14.8km s-min=5.0km az=59.0*
CLL ***10*** *23:11:41.7±0.3,50°.25N×12°.45E,h8km,ML2.8*
BGR ***10*** *23:11:41.1±0.2,50°.25N×12°.45E,h11km±1km,ML2.8/6, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
BNS ***10*** *23:11:42.3±0.3,50°.26N×12°.40E,h5km,ML2.6*

WBNET 10 23:11:41.4,50°.25N×12°.45E,h9km,Ml2.6,6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**177**	*i* Pg		Pg	23 11 43.2	+0.1
NKC				*i* Sg		Sg	23 11 44.4	+0.1
NKC				IAML			23 11 44.5	
	comp=E,2µm,0.2s							
NKC	**Novy Kostel**	**0.01**	**177**	*i* Pg		Pg	23 11 43.2	+0.1
NKC				*i* Sg		Sg	23 11 44.4	+0.1
	comp=E,2µm,0.2s							
NKC	**Novy Kostel**	**0.01**	**177**	⇑P		Pg	23 11 43.2	+0.1
NKC				S		Sg	23 11 44.4	+0.1
LBCW	**Luby**	**0.03**	**311**	⇓P		Pg	23 11 43.3	+0.1
LBCW				S		Sg	23 11 44.7	+0.2
VAC	**Vackov**	**0.05**	**256**	*i* Pg		Pg	23 11 43.4	+0.1
VAC				*i* Sg		Sg	23 11 44.6	0.0
VAC	**Vackov**	**0.05**	**256**	⇓P		Pg	23 11 43.4	+0.1
VAC				S		Sg	23 11 44.7	0.0
STCW	**Studenec**	**0.05**	**74**	*i* Pg		Pg	23 11 43.4	0.0
STCW				*i* Sg		Sg	23 11 44.6	-0.1
STCW	**Studenec**	**0.05**	**74**	*i* Pg		Pg	23 11 43.4	0.0
STCW				*i* Sg		Sg	23 11 44.6	-0.1
STCW	**Studenec**	**0.05**	**74**	⇑P		Pg	23 11 43.4	0.0
STCW				S		Sg	23 11 44.6	-0.1
KVC	**Kvetna**	**0.06**	**132**	*i* Pg		Pg	23 11 43.5	0.0
KVC				*i* Sg		Sg	23 11 44.8	-0.1
KVC	**Kvetna**	**0.06**	**132**	⇓P		Pg	23 11 43.5	0.0
KVC				S		Sg	23 11 44.8	-0.1
WERN	**Wernitzgruen**	**0.06**	**312**	*i* Pg		Pg	23 11 43.6	+0.1
WERN				*i* Sg		Sg	23 11 45.0	0.0
WERN				IAML			23 11 45.2	
	comp=E,6µm,0.2s							
WERN	**Wernitzgruen**	**0.06**	**312**	*i* Pg		Pg	23 11 43.6	+0.1
WERN				*i* Sg		Sg	23 11 45.0	0.0
	comp=E,6µm,0.2s							
POCW	**Potky**	**0.07**	**350**	⇑P		Pg	23 11 43.8	+0.1
POCW				S		Sg	23 11 45.3	+0.1
ROHR	**Rohrbach**	**0.08**	**262**	*i* Pg		Pg	23 11 43.7	0.0
ROHR				*i* Sg		Sg	23 11 45.3	-0.1
ROHR				IAML			23 11 45.4	
	comp=E,5µm,0.2s							
ROHR	**Rohrbach**	**0.08**	**262**	*i* Pg		Pg	23 11 43.7	0.0
ROHR				*i* Sg		Sg	23 11 45.3	-0.1
	comp=E,5µm,0.2s							
SKC	**Skalna**	**0.09**	**216**	⇑P		Pg	23 11 43.9	+0.1
SKC				S		Sg	23 11 45.6	+0.1
KRCW	**Kraslice**	**0.10**	**32**	⇑P		Pg	23 11 44.0	0.0
KRCW				S		Sg	23 11 45.7	-0.1
KOCW	**Kopaniny**	**0.14**	**278**	⇓P		Pg	23 11 44.6	+0.1
KOCW				S		Sg	23 11 46.6	0.0
GUNZ	**Gunzen**	**0.14**	**328**	*i* Pg		Pg	23 11 44.6	+0.1
GUNZ				*i* Sg		Sg	23 11 46.6	-0.1
GUNZ				IAML			23 11 47.2	
	comp=E,2µm,0.3s							
GUNZ	**Gunzen**	**0.14**	**328**	*i* Pg		Pg	23 11 44.6	+0.1
GUNZ				*i* Sg		Sg	23 11 46.6	-0.1
	comp=E,2µm,0.3s							
MULD	**Muldenberg**	**0.17**	**351**	*i* Pg		Pg	23 11 45.0	0.0
MULD				*i* Sg		Sg	23 11 47.3	-0.2
MULD				IAML			23 11 47.5	
	comp=E,3µm,0.1s							
MULD	**Muldenberg**	**0.17**	**351**	*i* Pg		Pg	23 11 45.0	0.0
MULD				*i* Sg		Sg	23 11 47.3	-0.2
	comp=E,3µm,0.1s							
TANN	**Tannenbergstha**	**0.17**	**3**	*i* Pg		Pg	23 11 45.0	-0.1
TANN				*i* Sg		Sg	23 11 47.3	-0.3
TANN				IAML			23 11 47.9	
	comp=N,5µm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**3**	*i* Pg		Pg	23 11 45.0	-0.1
TANN				*i* Sg		Sg	23 11 47.3	-0.3
	comp=N,5µm,0.2s							
ZHC	**Zelena Hora**	**0.20**	**207**	⇑P		Pg	23 11 45.6	+0.1
ZHC				S		Sg	23 11 48.3	0.0
TRCW	**Trojmez**	**0.20**	**287**	⇓P		Pg	23 11 45.6	0.0
TRCW				S		Sg	23 11 48.5	0.0
WERD	**Werda**	**0.22**	**336**	*i* Pg		Pg	23 11 45.9	0.0
WERD				*i* Sg		Sg	23 11 48.7	-0.3
WERD				IAML			23 11 49.3	
	comp=N,793nm,0.4s							
WERD	**Werda**	**0.22**	**336**	*i* Pg		Pg	23 11 45.9	0.0
WERD				*i* Sg		Sg	23 11 48.7	-0.3
	comp=N,793nm,0.4s							
TRIB	**Obertriebel**	**0.23**	**298**	*i* Pg		Pg	23 11 45.9	-0.1
TRIB				*e*Sg		Sg	23 11 49.1	0.0
TRIB				IAML			23 11 49.4	
	comp=E,269nm,0.1s							
TRIB	**Obertriebel**	**0.23**	**298**	*i* Pg		Pg	23 11 45.9	-0.1
TRIB				*e*Sg		Sg	23 11 49.1	0.0
	comp=E,269nm,0.1s							
LACW	**Lazy**	**0.23**	**150**	*i* Pg		Pg	23 11 46.2	+0.1
LACW				*i* Sg		Sg	23 11 49.4	+0.3
LACW	**Lazy**	**0.23**	**150**	*i* Pg		Pg	23 11 46.2	+0.1
LACW				*i* Sg		Sg	23 11 49.4	+0.3
LACW	**Lazy**	**0.23**	**150**	⇓P		Pg	23 11 46.2	+0.1
LACW				S		Sg	23 11 49.4	+0.2
VIEL	**Selb-Vielitz**	**0.23**	**255**	*i* Pg		Pg	23 11 46.0	-0.1
VIEL				*i* Sg		Sg	23 11 49.1	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**255**	*i* Pg		Pg	23 11 46.0	-0.1
VIEL				*i* Sg		Sg	23 11 49.1	-0.1
PLN	**Plauen**	**0.30**	**322**	*e*Pg		Pg	23 11 47.3	-0.1
PLN				*e*Sg		Sg	23 11 51.4	-0.1
PLN				IAML			23 11 51.5	
	comp=E,748nm,0.1s							
PLN	**Plauen**	**0.30**	**322**	*e*Pg		Pg	23 11 47.3	-0.1
PLN				*e*Sg		Sg	23 11 51.4	-0.1
	comp=E,748nm,0.1s							
MANZ	**Manzenberg**	**0.34**	**220**	*e*Pg		Pg	23 11 48.0	-0.1
MANZ				*e*Sg		Sg	23 11 52.6	0.0
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		Pg	23 11 49.7	-0.2
SCHF				*i* Sg		Sg	23 11 55.4	-0.1
SCHF				IAML			23 11 55.9	
	comp=E,1µm,0.3s							
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg		Pg	23 11 49.7	-0.2
SCHF				*i* Sg		Sg	23 11 55.4	-0.1
	comp=E,1µm,0.3s							
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg		Pg	23 11 50.3	-0.2
GRZ1				*i* Sg		Sg	23 11 56.3	-0.5
GRZ1				IAML			23 11 57.3	
	comp=N,476nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg		Pg	23 11 50.3	-0.2
GRZ1				*i* Sg		Sg	23 11 56.3	-0.5
	comp=N,476nm,0.3s							
ROTZ	**Rotzenmuhle**	**0.50**	**198**	*e*Pg		Pg	23 11 51.0	-0.2
ROTZ				*e*Sg		Sg	23 11 57.7	-0.1
MOX	**Moxa**	**0.67**	**307**	*e*Pg		Pg	23 11 54.0	-0.2
MOX				*e*Sg		Sg	23 12 02.9	0.0
FBE	**Freiberg**	**0.89**	**40**	*e*Pg		Pg	23 11 58.5	0.0
FBE				*e*Sg		Sg	23 12 09.4	-0.7
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg		Pb	23 12 00.4	+0.1
GRF				*e*Sg		Sg	23 12 12.1	-0.5
CLL	**Collm**	**1.12**	**18**	*i* x		x	23 12 04.2	
CLL				*i* x		x	23 12 05.7	
CLL				*i* Sg		Sg	23 12 16.6	-0.9
	comp=Z,121nm,0.6s							
CLL	**Collm**	**1.12**	**18**	*e*Sg		Sg	23 12 16.6	-0.9
WET	**Wettzell**	**1.14**	**166**	*e*Sg		Sg	23 12 17.3	-0.7
BRG	**Berggiesshubel**	**1.14**	**56**	Sg		Sg	23 12 17.2	-0.9
BRG				Amp			23 12 18.1	
	comp=Z,214nm,0.2s							
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Sg		Sg	23 12 17.5	-0.6
PRU	**Pruhonice**	**1.37**	**100**	*e*Sg		Sn	23 12 25.0	0.0
GEC2	**GERESS Array S**	**1.62**	**149**	*e*Pg		Pb	23 12 11.0	-0.5
GEC2				*e*Sg		Sn	23 12 31.7	+0.4
MOA	**Molln**	**2.68**	**153**	*e*Pg		Pg	23 12 31.5	-1.2
	comp=Z,0.1nm,0.1s							
MOA				*e*Sn		Sn	23 12 52.1	-5.2
	comp=Z,9.4nm,0.3s							
KRUC	**Moravsky**	**2.83**	**113**	*e*PN		Pn	23 12 26.3	-0.4
KRUC				*e*SG		Sg	23 13 09.4	-2.7
LESA	**Schwarzleotal**	**2.83**	**177**	*i* Pg		Pg	23 12 34.7	-0.8
	comp=Z,1.7nm,0.2s							
LESA				*e*Sn		Sn	23 12 55.4	-5.6
	comp=Z,22nm,0.5s							
VRAC	**Vranov**	**2.85**	**108**	*e*PN		Pn	23 12 26.5	-0.5
VRAC				*e*SG		Sb	23 13 09.4	+2.1
NAST	**IGS Nastaetten**	**2.95**	**271**	*e*Pn		Pn	23 12 27.7	-0.6
CONA	**Conrad Observa**	**3.23**	**135**	*e*Pg		Pb	23 12 40.7	+1.8
	comp=Z,0.9nm,0.1s							
CONA				*e*Sn		Sn	23 13 06.2	-4.7
	comp=Z,11nm,0.3s							
BGG	**Burgeitz**	**3.28**	**271**	*e*Pn		Pn	23 12 32.5	-0.4
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG		Sg	23 13 24.5	-3.5
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pg		Pb	23 12 50.9	+1.4
CDF				*e*Sg		Sb	23 13 38.8	+2.7
	comp=Z,13nm,0.4s							
HINF	**Hinteralfeld**	**4.41**	**239**	*e*Pg		Pb	23 13 01.7	+2.7
HINF				*e*Sg		Sb	23 13 57.4	+5.1
	comp=Z,15nm,0.5s							
HAU	**Haudompre**	**4.59**	**243**	*e*Sg		Sb	23 14 02.0	+4.6
	comp=Z,16nm,0.4s							
PAGF	**Fort de Pagny**	**4.70**	**251**	*e*Sg		Sb	23 14 05.6	+4.9
	comp=Z,4.1nm,0.3s							
SFTF	**Sexfontaines**	**5.27**	**250**	*e*Sg		Sb	23 14 23.5	+6.6
	comp=Z,2.1nm,0.3s							
BAIF	**Baives**	**5.30**	**271**	*e*Sg		Sg	23 14 27.6	-3.9
	comp=Z,2.2nm,0.3s							
CABF	**La Chapelle**	**5.58**	**232**	*e*Pg		Pb	23 13 20.7	+1.7
CABF				*e*Sg		Sg	23 14 38.6	-1.9
	comp=Z,2.4nm,0.4s							
LOR	**Lormes**	**6.41**	**246**	*e*Sg		Sg	23 14 58.9	-8.2
	comp=Z,2.6nm,0.4s							
SSF	**Saint Saulge**	**6.72**	**245**	*e*Sg		Sg	23 15 10.0	-7.1
	comp=Z,3.4nm,0.4s							
SMF	**Signal de Mont**	**6.76**	**241**	*e*Sg		Sg	23 15 11.6	-6.7
	comp=Z,2.8nm,0.4s							

IDC 10 23:13:21.8±440.0,0°.18S×77°.13W,h0km,Error ellipse: s-maj=244.0km s-min=158.3km az=16.0,Ecuador

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
I20EC	**Galapagos**	**13.24**	**268**	I		I	00 32 40.0	
	baz=88,slow=313,SNR=3.2							
I08BO	**LAS PENAS INFR**	**18.09**	**152**	I		I	01 04 40.0	
	baz=330,slow=325,SNR=2.9							
I09BR	**BRASILIA INFRA**	**32.59**	**120**	I		I	02 31 10.0	
	baz=294,slow=341,SNR=3.3							

VIE ***10*** *23:22:55.6±0.7,50°.21N×12°.48E,h10km,mb2.3/2,ml2.6/3, Error ellipse: s-maj=12.4km s-min=3.4km az=53.0*
WBNET ***10*** *23:22:56.3,50°.25N×12°.45E,h9km,Ml2.3*
BGR ***10*** *23:22:56.3±0.2,50°.24N×12°.47E,h3km±2km,ML2.0/7, Error ellipse: s-maj=2.2km s-min=1.1km az=95.0*
CLL ***10*** *23:22:56.6±0.3,50°.25N×12°.44E,h9km±1km,ML2.0*

ISC 10 23:22:56.3±0.8,50°.25N±0°.01×12°.47E±0°.02,h12km±3km, n102,σ0°64/194,10E-10D,Germany

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**222**	*i* Pg		**Pg**	**23 22 58.1**	**-0.4**
NKC				*i* Sg		**Sg**	**23 22 59.3**	**-0.8**
NKC				IAML			23 22 59.5	
	comp=E,833nm,0.2s							
NKC	**Novy Kostel**	**0.02**	**222**	*e*Pg		**Pg**	**23 22 59.1**	**+0.5**
NKC				*i* Sg		**Sg**	**23 23 00.3**	**+0.1**
NKC				IAML			23 23 00.4	
	comp=E,1µm,0.1s							
NKC	**Novy Kostel**	**0.02**	**222**	*i* Pg		**Pg**	**23 22 58.1**	**-0.4**
NKC				*i*

TANN				IAML			23 23 02.8	
	comp=N,797nm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**359**	*i* Pg		**Pg**	**23 23 00.8**	**+0.5**
TANN				*e*Sg		**Sg**	**23 23 03.2**	**+0.1**
TANN				IAML			23 23 03.7	
	comp=N,1μm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**359**	*i* Pg		**Pg**	**23 22 59.9**	**-0.4**
TANN				*i* Sg		**Sg**	**23 23 02.2**	**-0.8**
	comp=N,797nm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**359**	*i* Pg		**Pg**	**23 23 00.8**	**+0.5**
TANN				*e*Sg		**Sg**	**23 23 03.2**	**+0.1**
	comp=N,1μm,0.2s							
MULD	**Muldenberg**	**0.17**	**346**	*i* Pg		**Pg**	**23 22 59.9**	**-0.4**
MULD				*i* Sg		**Sg**	**23 23 02.3**	**-0.8**
MULD				IAML			23 23 02.4	
	comp=E,579nm,0.1s							
MULD	**Muldenberg**	**0.17**	**346**	*i* Pg		**Pg**	**23 23 00.9**	**+0.6**
MULD				*i* Sg		**Sg**	**23 23 03.2**	**+0.1**
MULD				IAML			23 23 03.4	
	comp=E,975nm,0.2s							
MULD	**Muldenberg**	**0.17**	**346**	*i* Pg		**Pg**	**23 22 59.9**	**-0.4**
MULD				*i* Sg		**Sg**	**23 23 02.3**	**-0.8**
	comp=E,579nm,0.1s							
MULD	**Muldenberg**	**0.17**	**346**	*i* Pg		**Pg**	**23 23 00.9**	**+0.6**
MULD				*i* Sg		**Sg**	**23 23 03.2**	**+0.1**
	comp=E,975nm,0.2s							
ZHC	**Zelena Hora**	**0.20**	**210**	⇑P		**Pg**	**23 23 00.5**	**-0.3**
ZHC				S		**Sg**	**23 23 03.3**	**-0.6**
ZHC	**Zelena Hora**	**0.20**	**210**	⇑P		**Pg**	**23 23 01.4**	**+0.6**
ZHC				S		**Sg**	**23 23 04.2**	**+0.3**
TRCW	**Trojmez**	**0.21**	**285**	⇓P		**Pg**	**23 23 00.5**	**-0.5**
TRCW				S		**Sg**	**23 23 03.4**	**-0.8**
TRCW	**Trojmez**	**0.21**	**285**	⇓P		**Pg**	**23 23 01.5**	**+0.5**
TRCW				S		**Sg**	**23 23 04.3**	**+0.1**
LACW	**Lazy**	**0.22**	**153**	⇓P		**Pg**	**23 23 01.1**	**0.0**
LACW				S		**Sg**	**23 23 04.4**	**0.0**
LACW	**Lazy**	**0.22**	**153**	⇓P		**Pg**	**23 23 02.0**	**+0.9**
LACW				S		**Sg**	**23 23 05.3**	**+0.9**
WERD	**Werda**	**0.23**	**333**	*i* Pg		**Pg**	**23 23 00.8**	**-0.4**
WERD				*e*Sg		**Sg**	**23 23 03.7**	**-0.9**
WERD				IAML			23 23 03.8	
	comp=E,165nm,0.1s							
WERD	**Werda**	**0.23**	**333**	*i* Pg		**Pg**	**23 23 01.8**	**+0.6**
WERD				*e*Sg		**Sg**	**23 23 04.7**	**+0.2**
WERD				IAML			23 23 04.8	
	comp=E,296nm,0.3s							
WERD	**Werda**	**0.23**	**333**	*i* Pg		**Pg**	**23 23 00.8**	**-0.4**
WERD				*e*Sg		**Sg**	**23 23 03.7**	**-0.9**
	comp=E,165nm,0.1s							
WERD	**Werda**	**0.23**	**333**	*i* Pg		**Pg**	**23 23 01.8**	**+0.6**
WERD				*e*Sg		**Sg**	**23 23 04.7**	**+0.2**
	comp=E,296nm,0.3s							
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg		**Pg**	**23 23 00.9**	**-0.5**
TRIB				*e*Sg		**Sg**	**23 23 04.1**	**-0.7**
TRIB				IAML			23 23 04.6	
	comp=E,101nm,0.2s							
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg		**Pg**	**23 23 01.8**	**+0.4**
TRIB				*e*Sg		**Sg**	**23 23 05.2**	**+0.4**
TRIB				IAML			23 23 05.4	
	comp=E,144nm,0.1s							
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg		**Pg**	**23 23 00.9**	**-0.5**
TRIB				*e*Sg		**Sg**	**23 23 04.1**	**-0.7**
	comp=E,101nm,0.2s							
TRIB	**Obertriebel**	**0.24**	**297**	*i* Pg		**Pg**	**23 23 01.8**	**+0.4**
TRIB				*e*Sg		**Sg**	**23 23 05.2**	**+0.4**
	comp=E,144nm,0.1s							
VIEL	**Selb-Vielitz**	**0.24**	**256**	*e*Pg		**Pg**	**23 23 00.9**	**-0.5**
VIEL				*i* Sg		**Sg**	**23 23 04.1**	**-0.9**
VIEL	**Selb-Vielitz**	**0.24**	**256**	*e*Pg		**Pg**	**23 23 02.0**	**+0.5**
VIEL				*e*Sg		**Sg**	**23 23 05.1**	**+0.1**
VIEL	**Selb-Vielitz**	**0.24**	**256**	*e*Pg		**Pg**	**23 23 00.9**	**-0.5**
VIEL				*i* Sg		**Sg**	**23 23 04.1**	**-0.9**
VIEL	**Selb-Vielitz**	**0.24**	**256**	*e*Pg		**Pg**	**23 23 02.0**	**+0.5**
VIEL				*e*Sg		**Sg**	**23 23 05.1**	**+0.1**
PLN	**Plauen**	**0.31**	**320**	*i* Pg		**Pg**	**23 23 02.2**	**-0.5**
PLN				*e*Sg		**Sg**	**23 23 06.4**	**-0.6**
PLN				IAML			23 23 06.6	
	comp=E,173nm,0.2s							
PLN	**Plauen**	**0.31**	**320**	*i* Pg		**Pg**	**23 23 03.3**	**+0.6**
PLN				*i* Sg		**Sg**	**23 23 07.3**	**+0.3**
PLN				IAML			23 23 07.6	
	comp=E,273nm,0.2s							
PLN	**Plauen**	**0.31**	**320**	*i* Pg		**Pg**	**23 23 02.2**	**-0.5**
PLN				*e*Sg		**Sg**	**23 23 06.4**	**-0.6**
	comp=E,173nm,0.2s							
PLN	**Plauen**	**0.31**	**320**	*i* Pg		**Pg**	**23 23 03.3**	**+0.6**
PLN				*i* Sg		**Sg**	**23 23 07.3**	**+0.3**
	comp=E,273nm,0.2s							
MANZ	**Manzenberg**	**0.35**	**222**	*e*Pg		**Pg**	**23 23 02.9**	**-0.4**
MANZ	**Manzenberg**	**0.35**	**222**	*e*Pg		**Pg**	**23 23 03.9**	**+0.5**
MANZ				*e*Sg		**Sg**	**23 23 08.6**	**+0.5**
SCHF	**Schoenfels**	**0.43**	**355**	*i* Pg		**Pg**	**23 23 04.6**	**-0.3**
SCHF				*e*Sg		**Sg**	**23 23 10.4**	**-0.3**
SCHF				IAML			23 23 10.6	
	comp=E,146nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**355**	*i* Pg		**Pb**	**23 23 05.5**	**-0.4**
SCHF				*i* Sg		**Sb**	**23 23 11.3**	**+0.6**
SCHF				IAML			23 23 11.5	
	comp=E,268nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**355**	*i* Pg		**Pg**	**23 23 04.6**	**-0.3**
SCHF				*e*Sg		**Sg**	**23 23 10.4**	**-0.3**
	comp=E,146nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**355**	*i* Pg		**Pb**	**23 23 05.5**	**-0.4**
SCHF				*i* Sg		**Sb**	**23 23 11.3**	**+0.6**
	comp=E,268nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**341**	*i* Pg		**Pg**	**23 23 05.2**	**-0.4**
GRZ1				*i* Sg		**Sg**	**23 23 11.2**	**-0.8**
GRZ1				IAML			23 23 12.3	
	comp=E,108nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**341**	*i* Pg		**Pb**	**23 23 06.2**	**-0.4**
GRZ1				*e*Sg		**Sg**	**23 23 12.1**	**+0.1**
GRZ1				IAML			23 23 13.1	
	comp=N,179nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.47**	**341**	*i* Pg		**Pg**	**23 23 05.2**	**-0.4**
GRZ1				*i* Sg		**Sg**	**23 23 11.2**	**-0.8**
	comp=N,108nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**341**	*i* Pg		**Pb**	**23 23 06.2**	**-0.4**
GRZ1				*e*Sg		**Sg**	**23 23 12.1**	**+0.1**
	comp=N,179nm,0.3s							
ROTZ	**Rotzenmuhle**	**0.51**	**199**	*e*Pg		**Pg**	**23 23 05.9**	**-0.4**
ROTZ				*e*Sg		**Sg**	**23 23 12.7**	**-0.4**
ROTZ	**Rotzenmuhle**	**0.51**	**199**	*e*Pg		**Pb**	**23 23 06.8**	**-0.4**
ROTZ				*e*Sg		**Sg**	**23 23 13.7**	**+0.6**
MOX	**Moxa**	**0.68**	**307**	*e*Pg		**Pg**	**23 23 08.9**	**-0.6**
MOX	**Moxa**	**0.68**	**307**	*e*Pg		**Pb**	**23 23 09.9**	**-0.2**
MOX				*e*Sg		**Sg**	**23 23 18.0**	**-0.3**
FBE	**Freiberg**	**0.88**	**40**	*e*Pg		**Pg**	**23 23 13.2**	**-0.2**
FBE				*e*Sg		**Sg**	**23 23 25.1**	**+0.2**
FBE	**Freiberg**	**0.88**	**40**	*e*Pg		**Pb**	**23 23 14.2**	**+0.7**
FBE				*e*Sg		**Sb**	**23 23 25.4**	**+0.2**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Pg		**Pg**	**23 23 14.5**	**-0.6**
GRF	**Grafenberg Arr**	**0.98**	**236**	*e*Sg		**Sg**	**23 23 27.9**	**-0.1**
CLL	**Collm**	**1.12**	**18**	*i* Pg		**Pb**	**23 23 17.1**	**-0.4**
CLL				*i* Pg(2)			23 23 18.0	
CLL				*i* x		x	23 23 20.1	
CLL				*i* x		x	23 23 21.6	
CLL				*i* Sg		**Sg**	**23 23 31.6**	**-0.7**
	comp=Z,41nm,1.0s							
CLL				*i* Sg(2)			23 23 33.1	
CLL				*i* x		x	23 23 36.0	
CLL	**Collm**	**1.12**	**18**	*e*Pg		**Pb**	**23 23 17.1**	**-0.4**
CLL				*e*Sg		**Sg**	**23 23 32.3**	**-0.1**
CLL	**Collm**	**1.12**	**18**	*e*Pg		**Pn**	**23 23 18.1**	**+0.4**
CLL				*e*Sg		**Sb**	**23 23 32.6**	**+0.7**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg		**Pb**	**23 23 17.7**	**-0.1**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg		**Pn**	**23 23 18.6**	**+0.7**
BRG				Sg		**Sg**	**23 23 32.2**	**-0.6**
BRG				Amp			23 23 32.9	
	comp=Z,34nm,0.2s							
BRG	**Berggiesshubel**	**1.13**	**56**	Sg		**Sb**	**23 23 33.0**	**+0.6**
BRG				Amp			23 23 33.7	
	comp=Z,94nm,0.2s							
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg		**Pb**	**23 23 17.6**	**-0.1**
BRG				*e*Sg		**Sg**	**23 23 32.6**	**-0.2**
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg		**Pn**	**23 23 18.6**	**+0.7**
BRG				*e*Sg		**Sn**	**23 23 33.5**	**+0.1**
WET	**Wettzell**	**1.14**	**166**	*e*Pg		**Pb**	**23 23 17.5**	**-0.4**
WET				*e*Sg		**Sg**	**23 23 32.3**	**-0.6**
WET	**Wettzell**	**1.14**	**166**	*e*Sg		**Sn**	**23 23 33.6**	**+0.1**
PRU	**Pruhonice**	**1.36**	**100**	*e*Pg		**Pn**	**23 23 21.4**	**+0.3**
PRU				*e*Sg		**Sg**	**23 23 40.0**	**-0.2**
PRU	**Pruhonice**	**1.36**	**100**	*e*Sg		**Sg**	**23 23 41.6**	**+1.4**
GEC2	**GERESS Array S**	**1.62**	**150**	*e*Pg		**Pb**	**23 23 26.0**	**-0.1**
GEC2				*e*Sg		**Sn**	**23 23 46.3**	**+0.8**
GEC2	**GERESS Array S**	**1.62**	**150**	*e*Sg		**Sg**	**23 23 47.8**	**-0.5**
MOA	**Mollin**	**2.67**	**153**	*e*Pg		**Pg**	**23 23 47.5**	**-0.1**
	comp=Z,0.3nm,0.2s							
MOA				*e*Sg		**Sg**	**23 24 21.9**	**-0.3**
	comp=Z,1.6nm,0.2s							
KRUC	**Moravsky**	**2.81**	**113**	*e*PN		**Pn**	**23 23 41.1**	**0.0**
KRUC				*e*SG		**Sg**	**23 24 24.4**	**-2.3**
LESA	**Schwarzleotal**	**2.83**	**177**	*i* Pg		**Pg**	**23 23 50.7**	**+0.2**
	comp=Z,0.3nm,0.1s							
LESA				*e*Sg		**Sg**	**23 24 26.4**	**-0.7**
	comp=Z,0.7nm,0.1s							
VRAC	**Vranov**	**2.83**	**108**	*e*PN		**Pn**	**23 23 41.4**	**0.0**
VRAC				*e*SG		**Sg**	**23 24 24.6**	**-2.7**
CONA	**Conrad Observa**	**3.22**	**135**	*i* Pn		**Pn**	**23 23 47.7**	**+1.0**
	comp=Z,0.1nm,0.1s							
CONA				*e*Sg		**Sg**	**23 24 38.3**	**-1.4**
	comp=Z,4.8nm,0.3s							
MORC	**Moravsky Berou**	**3.31**	**96**	*e*SG		**Sg**	**23 24 39.4**	**-3.1**

WBNET 10 23:23:22.8, 50.25N×12.45E, h9km, Ml1.9, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**193**	⇑P			Pg	23 23 24.6	+0.1
NKC				S			Sg	23 23 25.8	+0.1
LBCW	**Luby**	**0.03**	**309**	⇓P			Pg	23 23 24.7	+0.1
LBCW				S			Sg	23 23 26.1	+0.2
STCW	**Studenec**	**0.05**	**72**	⇑P			Pg	23 23 24.8	+0.1
STCW				S			Sg	23 23 26.1	-0.1
VAC	**Vackov**	**0.05**	**258**	⇓P			Pg	23 23 24.8	0.0
VAC				S			Sg	23 23 26.1	-0.1
KVC	**Kvetna**	**0.06**	**134**	⇓P			Pg	23 23 24.9	+0.1
KVC				S			Sg	23 23 26.2	-0.1
POCW	**Potky**	**0.08**	**348**	⇑P			Pg	23 23 25.2	+0.1
POCW				S			Sg	23 23 26.8	0.0
SKC	**Skalna**	**0.10**	**218**	⇑P			Pg	23 23 25.3	+0.1
SKC				S			Sg	23 23 27.0	0.0
KRCW	**Kraslice**	**0.10**	**30**	⇑P			Pg	23 23 25.4	0.0
KRCW				S			Sg	23 23 27.1	-0.1
KOCW	**Kopaniny**	**0.14**	**278**	⇓P			Pg	23 23 26.0	0.0
KOCW				S			Sg	23 23 28.1	-0.1
ZHC	**Zelena Hora**	**0.20**	**208**	⇑P			Pg	23 23 27.0	+0.1
ZHC				S			Sg	23 23 29.7	0.0
TRCW	**Trojmez**	**0.21**	**287**	⇓P			Pg	23 23 27.0	0.0
TRCW				S			Sg	23 23 29.9	-0.1
LACW	**Lazy**	**0.22**	**150**	⇓P			Pg	23 23 27.6	+0.2
LACW				S			Sg	23 23 30.8	+0.3
CLL	**Collm**	**1.12**	**18**	*i* Sg			Sg	23 23 58.6	-0.2
BRG	**Berggiesshubel**	**1.14**	**56**	Sg			Sg	23 23 59.0	-0.4
BRG				Amp				23 23 59.3	
	comp=Z,14nm,0.2s								

LDG 10 23:23:28.3±0.8, 49.76N×11.02E, h2km, Ml2.5/6, Error ellipse: s-maj=51.4km s-min=12.2km az=149.0, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CLL	**Collm**	**2.00**	**39**	*i* Sg			Sn	23 24 24.5	-4.2
CDF	**Champ du Feu**	**2.81**	**243**	*e*Pn			Pn	23 24 11.4	-2.8
CDF				*e*Sg			Sb	23 24 55.0	+1.0
	4.3nm,0.3s								
HINF	**Hinteralfeld**	**3.37**	**236**	*e*Pn			Pn	23 24 19.8	-2.2
HINF				*e*Sg			Sg	23 25 13.4	-3.1
	3.8nm,0.3s								
HAU	**Haudompre**	**3.55**	**242**	*e*Pn			Pn	23 24 22.9	-1.5
HAU				*e*Sg			Sb	23 25 18.2	+3.0
	2.1nm,0.2s								
CABF	**La Chapelle**	**4.56**	**228**	*e*Sg			Sg	23 25 51.0	-3.7
	1.2nm,0.3s								
LOR	**Lormes**	**5.37**	**245**	*e*Sg			Sg	23 26 15.9	-4.8
	1.3nm,0.3s								

*IDC **10** 23:34:54.5±1.2, 26.95N×128.41E, h0km, mb4.0/11, mbtmp3.9/13, ML3.5/2, MS3.0/5, Error ellipse: s-maj=32.8km s-min=6.7km az=122.0*
*NIED **10** 23:34:59.4, 26.80N×128.42E, h31km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}5.95; $M_{\theta\theta}$-2.37; $M_{\phi\phi}$-3.58; $M_{r\theta}$-1.54; $M_{\theta\phi}$-7.39; $M_{\phi r}$2.77; Fault plane solution: $M_0$9.39000×10^{14} NP1:ϕ_s12.00000°, δ59.00000°, λ45.00000°. NP2:ϕ_s255.00000°, δ53.00000°, λ140.00000°.*
*NEIC **10** 23:34:59.1±0.9, 26.70N±0.07×128.2E±0.1, h31km±3km, mb4.5/33 Error ellipse: s-maj=17.5km s-min=8.8km az=112.0*
*JMA **10** 23:34:59.4±0.1, 26.8N±0.4×128.4E±0.6, h31km, MD3.9/20, MV3.8/20, NEAR OKINAWAJIMA ISLAND*
JMA Felt II J1 at NEAR OKINAWAJIMA ISLAND .
ISC 10 23:34:58.2±0.8, 26.74N±0.04×128.45E±0.04, h32km±5km, n82, σ1°28/82, mb4.4/28, MS2.8/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.18**	**302**	Pn			**Pn**	**23 35 04.8**	**0.0**
	2μm,0.3s,baz=119,slow=20,SNR=2020								
JOW				Sn			**Sb**	**23 35 09.2**	**+0.4**
	7μm,0.3s,baz=122,slow=27,SNR=79								
JOW				LR			LR	23 35 12.0	
	comp=Z,294nm,18.1s,baz=123,slow=108								
JOW	**Kunigami**	**0.18**	**302**	P			**Pn**	**23 35 05.0**	**+0.2**
JOW				S			**Sb**	**23 35 08.9**	**+0.2**
JOW	**Kunigami**	**0.18**	**302**	A			A	23 35 05.0	
	comp=E,86nm,0.3s,comp=N,71nm,0.6s								
JYRO	**Yoronjima**	**0.29**	**1**	*i* P			**Pb**	**23 35 05.9**	**+0.2**
JYRO				S			**Sb**	**23 35 10.4**	**-0.3**
JYRO	**Yoronjima**	**0.29**	**1**	A			A	23 35 05.9	
	comp=E,46nm,0.3s,comp=N,25nm,0.3s								
JNTH	**Nagotoyohara**	**0.44**	**240**	*i* P			**Pb**	**23 35 08.8**	**+1.0**
JNTH				S			**Sb**	**23 35 15.1**	**+0.8**
JNTH	**Nagotoyohara**	**0.44**	**240**	A			A	23 35 08.8	
	comp=E,10.0nm,0.8s,comp=N,11nm,1.7s								
JIH	**Iheya**	**0.52**	**305**	*i* P			**Pb**	**23 35 09.1**	**0.0**
JIH				S			**Sb**	**23 35 16.0**	**-0.6**
JIH	**Iheya**	**0.52**	**305**	A			A	23 35 09.1	
	comp=E,17nm,0.9s,comp=N,6.0nm,1.3s								
JOKE	**Okinoerabujima**	**0.63**	**10**	*i* P			**Pb**	**23 35 10.7**	**-0.2**
JOKE				S			**Sb**	**23 35 18.7**	**-0.9**
JJT3	**Tamagusuku3**	**0.84**	**225**	*e*P			**Pb**	**23 35 16.1**	**+1.7**
JJT3				*e*S			**Sb**	**23 35 27.3**	**+2.0**
JAGN	**Aguni-jima**	**1.09**	**263**	P			**Pb**	**23 35 18.5**	**0.0**
JAGN				*e*S			**Sb**	**23 35 32.2**	**-0.1**
JTK	**Tokunoshima**	**1.14**	**23**	P			**Pn**	**23 35 18.5**	**+0.5**
JTK				*e*S			**Sn**	**23 35 32.4**	**-0.2**
JKE	**Kume jima 2**	**1.54**	**255**	P			**Pn**	**23 35 24.6**	**+1.1**
JAMN	**Amaminishikomi**	**1.64**	**23**	*e*P			**Pn**	**23 35 25.7**	**+0.9**
JAM	**Amami Oshima**	**1.96**	**31**	P			**Pn**	**23 35 30.3**	**+1.0**
JAM				*e*S			**Sn**	**23 35 53.2**	**+0.4**
JZK	**Kikaishima**	**2.08**	**40**	*e*P			**Pn**	**23 35 32.4**	**+1.5**
JZK				*e*S			**Sn**	**23 35 57.4**	**+1.8**
JMZ	**Minamidaito 2**	**2.66**	**109**	P			**Pn**	**23 35 38.4**	**-0.5**
JMZ				*e*S			**Sn**	**23 36 06.9**	**-3.0**
JKDJ	**Kitadaitoujima**	**2.67**	**106**	*e*P			**Pn**	**23 35 39.4**	**+0.3**
JKDJ				*e*S			**Sn**	**23 36 08.5**	**-1.9**
JYAK	**Yakushimahirau**	**3.93**	**27**	*e*S			**Sn**	**23 36 41.0**	**-0.5**
NACB	**Ninganchiao**	**6.70**	**249**	Pn			**Pn**	**23 36 31.3**	**-3.1**
JNU	**Nakatsue**	**6.71**	**18**				**Pn**	**23 36 37.4**	**+2.8**
JNU	**Nakatsue**	**6.71**	**18**	Pn			**Pn**	**23 36 33.8**	**-0.7**
	comp=N,1.4nm,0.3s,baz=195,slow=10,SNR=10								
	comp=N,3.7nm,0.6s								
SSLB	**Suanglung**	**7.39**	**248**	Pn			**Pn**	**23 36 42.0**	**-2.0**
JMN	**Monobe**	**8.40**	**33**	Pn			**Pn**	**23 36 58.3**	**+0.4**
KSRS	**Korea Array**	**10.70**	**358**	Pn			**Pn**	**23 37 27.6**	**-1.5**
	comp=N,0.2nm,0.3s,baz=100,slow=21,SNR=2.2								
KSRS				LR			LR	23 41 48.4	
	comp=N,70nm,19.0s,baz=185,slow=40								
	comp=N,0.5nm,0.3s								
JHJ	**Hachijo jima 2**	**11.71**	**54**	LR			LR	23 42 18.0	
	comp=N,46nm,18.2s,baz=110,slow=38								
GUMO	**Guam**	**20.18**	**127**	LR			LR	23 46 45.8	
	comp=N,19nm,19.3s,baz=106,slow=35								
SONM	**Songino Array**	**27.24**	**326**	P			**P**	**23 40 40.2**	**+0.7**
	comp=N,1.3nm,0.9s,baz=126,slow=10,SNR=6.3								
	comp=N,1.3nm,0.9s								
CMAR	**Chiang Mai Arr**	**28.41**	**259**	LR			LR	23 52 21.6	
	comp=N,25nm,19.7s,baz=90,slow=37								
PETK	**Petropavlovsk-**	**34.17**	**32**	P			**P**	**23 41 40.4**	**0.0**
	comp=N,3.1nm,0.9s,baz=224,slow=6.2,SNR=3.8								
	comp=N,3.1nm,0.9s								
H11N1	**WAKE ISLAND Hy**	**35.91**	**93**	T		T		00 20 04.2	
	baz=290,slow=75,SNR=7.8								
H11N2	**WAKE ISLAND Hy**	**35.91**	**93**	T		T		00 20 09.2	
	baz=290,slow=75,SNR=6.7								
H11N3	**WAKE ISLAND Hy**	**35.93**	**93**	T		T		00 20 08.0	
	baz=290,slow=75,SNR=10								
H11S3	**WAKE ISLAND Hy**	**36.13**	**95**	T		T		00 20 21.9	
	baz=298,slow=74								
H11S1	**WAKE ISLAND Hy**	**36.14**	**95**	T		T		00 20 27.7	
	baz=298,slow=74								
H11S2	**WAKE ISLAND Hy**	**36.15**	**95**	T		T		00 20 23.9	
	baz=298								
MK31	**Makanchi Array**	**41.34**	**311**	P			**P**	**23 42 40.5**	**-0.6**
MKAR	**Makanchi Array**	**41.34**	**311**	P			**P**	**23 42 40.7**	**-0.4**
MKAR	**Makanchi Array**	**41.34**	**311**	P			**P**	**23 42 40.2**	**-0.9**
	comp=N,1.0nm,0.6s,baz=100,slow=10,SNR=13								
	comp=N,1.0nm,0.6s								
ZALV	**Zalesovo Beam**	**41.96**	**322**	P			**P**	**23 42 44.9**	**-1.2**
	comp=N,1.2nm,0.6s,baz=108,slow=9.7,SNR=5.2								
	comp=N,1.2nm,0.6s								
KURBB	**Kurchatov Arra**	**44.62**	**316**	P			**P**	**23 43 06.8**	**-0.8**
	comp=N,0.6nm,0.3s,baz=102,slow=8.5,SNR=4.9								
	comp=N,0.6nm,0.3s								
KK31	**Karatay Array**	**49.28**	**305**	P			**P**	**23 43 43.6**	**-0.5**
KKAR	**Karatay Array**	**49.28**	**305**	P			**P**	**23 43 43.2**	**-0.9**
BVAR	**Borovoye Array**	**50.03**	**318**	P			**P**	**23 43 49.3**	**-0.3**
	comp=N,2.2nm,0.6s,baz=79,slow=8.7,SNR=17								
BVAR					LR		LR	00 07 58.9	
	comp=N,71nm,21.3s,baz=4.2,slow=40								
	comp=N,2.2nm,0.6s								
BRVK	**Borovoye**	**50.10**	**318**	P			**P**	**23 43 48.8**	**-1.3**
BRVK					IAmb		IAmb	23 43 50.9	
	comp=Z,2.8nm,0.8s								
KBL	**Kabul**	**51.07**	**294**	P			**P**	**23 43 58.0**	**0.0**
KBL					IAmb		IAmb	23 43 59.2	
	comp=Z,7.9nm,1.3s								
CLES	**Cleveland East**	**52.17**	**43**	P			**P**	**23 44 07.6**	**+1.9**
ABKAR	**Akbulak array**	**56.44**	**313**	P			**P**	**23 44 36.6**	**-0.2**
F15K	**North Star Dit**	**56.46**	**27**	P			**P**	**23 44 37.6**	**+0.9**
F17K	**Baldwin Pennin**	**57.94**	**27**	P			**P**	**23 44 48.3**	**+1.2**
E18K	**Tukpahlearik C**	**58.30**	**25**	P			**P**	**23 44 50.6**	**+1.0**
E18K					IAmb		IAmb	23 44 50.9	
	comp=Z,7.3nm,1.4s								
J17K	**VABM Dome**	**58.62**	**30**	P			**P**	**23 44 53.5**	**+1.6**
C19K	**Lookout Ridge**	**58.87**	**23**	P			**P**	**23 44 54.6**	**+0.9**
C19K					IAmb		IAmb	23 45 09.4	
	comp=Z,9.6nm,1.4s								
K17K	**Iditarod**	**58.94**	**31**	P			**P**	**23 44 55.6**	**+1.4**
D19K	**Kuna River**	**59.34**	**24**	P			**P**	**23 44 58.4**	**+1.5**
E19K	**Redstone River**	**59.60**	**25**	P			**P**	**23 45 00.3**	**+1.6**
E19K					IAmb		IAmb	23 45 01.1	
	comp=Z,3.7nm,0.9s								
H19K	**Roundabout Mou**	**59.83**	**28**	P			**P**	**23 45 01.3**	**+1.1**
H19K					IAmb		IAmb	23 45 12.4	
	comp=Z,4.0nm,1.1s								
J19K	**Poorman**	**60.17**	**30**	P			**P**	**23 45 04.2**	**+1.5**
J19K					IAmb		IAmb	23 45 12.5	
	comp=Z,9.1nm,1.5s								
B21K	**Ikpikpuk River**	**60.67**	**23**	P			**P**	**23 45 07.5**	**+1.6**
J20K	**Nowinta River**	**60.81**	**29**	P			**P**	**23 45 08.8**	**+1.8**
J20K					IAmb		IAmb	23 45 09.8	
	comp=Z,3.0nm,0.9s

STCH				IAML			23 52 24.7	
	comp=E,43μm,0.8s							
PHO	**Puu Honuaula**	**0.14**	**68**		**Pg**		**23 52 20.7**	**-0.7**
PHO					**Sg**		**23 52 23.9**	**0.0**
PHO	**Puu Honuaula**	**0.14**	**68**		**Pg**		**23 52 20.7**	**-0.7**
KNHH	**Kane Nui o Ham**	**0.14**	**250**		**Pg**		**23 52 21.9**	**+0.2**
PUH	**Pauahi**	**0.19**	**253**	Pg	**Pg**		**23 52 22.5**	**+0.2**
BYL	**Byron's Ledge**	**0.22**	**266**	Pg	**Pg**		**23 52 22.0**	**-0.8**
BYL				Sg	**Sb**		**23 52 28.4**	**+0.7**
BYL				IAML			23 52 30.4	
	comp=E,24μm,0.5s							
HATHI	**Halema'uma'u T**	**0.22**	**268**	Pg	**Pb**		**23 52 23.1**	**-0.7**
HATHI				Sg	**Sb**		**23 52 28.3**	**+0.6**
HATHI				IAML			23 52 32.7	
	comp=N,27μm,1.0s							
HATHI				IAML			23 52 32.8	
	comp=E,19μm,0.9s							
KKO	**Keanakako`i**	**0.23**	**262**	Pg	**Pb**		**23 52 22.1**	**-1.7**
KKO				Sg	**Sb**		**23 52 30.0**	**+2.1**
SBLHI	**Steaming Bluff**	**0.23**	**269**	Pg	**Pb**		**23 52 23.1**	**-0.8**
SBLHI				Sg	**Sb**		**23 52 28.0**	**+0.1**
RIM	**Rim**	**0.24**	**262**	Pg	**Pb**		**23 52 22.4**	**-1.6**
UWB	**Uwekahuna B**	**0.24**	**269**	Pg	**Pb**		**23 52 23.6**	**-0.4**
UWB				Sg	**Sb**		**23 52 28.6**	**+0.4**
RSD	**Rainshed**	**0.24**	**278**	Pg	**Pb**		**23 52 23.8**	**-0.2**
RSD				Sg	**Sb**		**23 52 29.0**	**+0.8**
RSD				IAML			23 52 31.0	
	comp=N,22μm,0.4s							
RSD				IAML			23 52 32.7	
	comp=E,18μm,0.4s							
NPH	**North Pit**	**0.24**	**266**	Pg	**Pg**		**23 52 21.7**	**-1.4**
OBL	**Observatory Le**	**0.24**	**267**	Pg	**Pg**		**23 52 22.4**	**-0.8**
OBL				Sg	**Sb**		**23 52 29.6**	**+1.2**
UWE	**Uwekahuna**	**0.25**	**268**	Pg	**Pb**		**23 52 23.3**	**-0.9**
UWE				Sg	**Sb**		**23 52 29.4**	**+0.8**
UWE				IAML			23 52 31.8	
	comp=N,28μm,0.5s							
UWE				IAML			23 52 32.5	
	comp=E,32μm,0.5s							
SDHHI	**Sand Hill**	**0.26**	**261**	Pg	**Pb**		**23 52 24.1**	**-0.2**
SDHHI				Sg	**Sb**		**23 52 29.8**	**+1.1**
WRMHI	**West Rim**	**0.26**	**265**	Pg	**Pb**		**23 52 24.6**	**+0.2**
WRMHI				Sg	**Sb**		**23 52 30.1**	**+1.3**
HLP	**Hilina Pali**	**0.30**	**244**	Pg	**Pb**		**23 52 24.9**	**-0.1**
HLP				IAML			23 52 31.2	
	comp=E,28μm,0.3s							
MLH	**Mauna Loa**	**0.35**	**281**	Pg	**Pb**		**23 52 26.1**	**+0.1**
MLH				Sg	**Sb**		**23 52 32.8**	**+1.4**
MLH				IAML			23 52 37.9	
	comp=N,15μm,0.4s							
HMH	**Humu'ula Sheep**	**0.47**	**292**	Pg	**Pb**		**23 52 28.2**	**+0.2**
HMH					**Sb**		**23 52 36.7**	**+1.9**
MLOA	**Mauna Loa Obse**	**0.53**	**282**	Pg	**Pb**		**23 52 28.9**	**-0.3**
MLOA				Sg	**Sb**		**23 52 37.5**	**+0.6**
MLOA				IAML			23 52 38.7	
	comp=E,14μm,0.6s							
MLOA				IAML			23 52 42.6	
	comp=N,8μm,0.5s							
MWH	**Moku'aweowe**	**0.54**	**276**		**Pb**		**23 52 28.8**	**-0.7**
MWH				IAML			23 52 46.9	
	comp=N,13μm,0.8s							
POHA	**Pohakuloa**	**0.58**	**304**	Pg	**Pb**		**23 52 29.4**	**-0.5**
POHA				IAML			23 52 52.0	
	comp=N,8μm,0.7s							
KHU	**Kahuku**	**0.59**	**252**		**Pb**		**23 52 28.9**	**-1.1**
KHU					**Sb**		**23 52 38.7**	**+0.4**
KHU				IAML			23 52 48.5	
	comp=E,8μm,0.9s							
I59US	**HAWAII INFRASO**	**0.83**	**281**	Pg	**Pb**		**23 52 34.3**	**+0.1**
	baz=107,slow=11							
HLK	**Haleakala**	**1.75**	**319**	Pn	**Pn**		**23 52 47.5**	**-0.5**
KHLH	**Kahului Airpor**	**1.97**	**318**	Pn	**Pn**		**23 52 49.5**	**-1.3**
HON	**Honolulu**	**3.37**	**305**	Pn	**Pn**		**23 53 07.8**	**-2.2**
KIP	**Kipapa**	**3.43**	**306**	IAML			23 53 52.4	
	comp=E,251nm,0.6s							
KIP	**Kipapa**	**3.43**	**306**	Pn	**Pn**		**23 53 09.6**	**-1.3**
OPA	**Opana**	**3.59**	**309**	Pn	**Pn**		**23 53 12.0**	**-1.0**
KEKH	**Kekaha**	**5.07**	**301**	Pn	**Pn**		**23 53 31.4**	**-2.0**
H11N3	**WAKE ISLAND Hy**	**35.82**	**277**	T	T		00 36 24.0	
	baz=84,slow=74,SNR=28							
H11N2	**WAKE ISLAND Hy**	**35.83**	**277**	T	T		00 36 26.0	
	baz=84,slow=74,SNR=25							
H11N1	**WAKE ISLAND Hy**	**35.84**	**277**	T	T		00 36 25.2	
	baz=84,slow=74,SNR=22							
H11S2	**WAKE ISLAND Hy**	**36.16**	**275**	T	T		00 36 48.8	
	baz=83,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy**	**36.16**	**275**	T	T		00 36 49.1	
	baz=83,slow=75,SNR=8.0							
H11S3	**WAKE ISLAND Hy**	**36.17**	**275**	T	T		00 36 49.8	
	baz=83,slow=75,SNR=13							
PDAR	**Pinedale Array**	**44.67**	**48**	P	**P**		**00 00 30.9**	**+0.3**
	comp=E,0.5nm,0.7s,baz=240,slow=5.1,SNR=4.0							
	comp=E,0.5nm,0.7s							
ILAR	**Eielson Array**	**45.64**	**5**	P	**P**		**00 00 37.5**	**-0.1**
	comp=E,0.3nm,0.6s,baz=194,slow=7.2,SNR=2.3							
	comp=E,0.3nm,0.6s							
TXAR	**Lajitas Array**	**47.49**	**68**	P	**P**		**00 00 53.8**	**+1.0**
	comp=E,0.6nm,0.7s,baz=258,slow=8.5,SNR=9.2							
	comp=E,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**51.21**	**23**	P	**P**		**00 01 21.3**	**+0.8**
	comp=E,0.5nm,0.7s,baz=239,slow=7.2,SNR=8.0							
	comp=E,0.5nm,0.7s							
H03N2	**Juan Fernandez**	**89.52**	**126**	T	T		01 44 08.7	
	baz=298,slow=76,SNR=361							
H03N3	**Juan Fernandez**	**89.54**	**126**	T	T		01 44 07.6	
	baz=298,slow=76,SNR=526							
H03N1	**Juan Fernandez**	**89.54**	**126**	T	T		01 44 07.9	
	baz=298,slow=76,SNR=492							

IDC ***10*** *23:57:45.9±0.8, 6°.18S×105°.23E, h0km, mb3.9/11, mbtmp3.9/12, ML3.3/1,MS3.1/1, Error ellipse: s-maj=34.6km s-min=15.5km az=38.0*

DJA ***10*** *23:57:50.3±1.3, 7°.5±12°×10°.5E±°, h21km±12km, M4.0/7, MLv4.0/7*

ISC 10 23:57:52.4±0.7, 6°.45S±0°.09×105°.40E±0°.06, h53km, n30, σ3s05/25, mb4.0/11, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.80**	**66**	P	**Pn**	**23 58 10.0**	**+2.4**
SBJI				S	**Sn**	**23 58 10.4**	**-8.3**
SKJI	**Sukabumi**	**1.28**	**116**	P	**Pn**	**23 58 11.1**	**-2.8**
KASI	**Kota Agung**	**1.28**	**316**	P	**Pn**	**23 58 13.5**	**-0.5**
KASI				S	**Sn**	**23 58 32.8**	**+2.6**
CBJI	**Citeko**	**1.45**	**89**	P	**Pn**	**23 58 17.5**	**+1.3**
CNJI	**Cibinong**	**1.92**	**116**	P	**Pn**	**23 58 19.5**	**-3.2**
CNJI				S	**Sn**	**23 58 43.6**	**-2.1**
LEM	**Lembang**	**2.24**	**100**	Pn	**Pn**	**23 58 28.4**	**+1.3**
	6.3nm,0.3s,baz=209,slow=9.5,SNR=23						
LEM				Sn	**Sn**	**23 59 01.2**	**+7.4**
	12nm,0.3s,baz=160,slow=17,SNR=3.6						
	189nm,0.8s						
LEM	**Lembang**	**2.24**	**100**	P	**Pn**	**23 58 29.3**	**+2.1**
CMJI	**Cimerak**	**3.31**	**114**	P	**Pn**	**23 58 41.1**	**-0.6**
CMJI				S	**Sn**	**23 59 18.7**	**-1.1**
CMAR	**Chiang Mai Arr**	**25.56**	**346**	LR	LR	00 13 11.5	
	comp=Z,35nm,18.2s,baz=180,slow=37						
H01W3	**Cape Leeuwin H**	**29.42**	**165**	T	T	00 34 08.5	
	baz=345,slow=76,SNR=6.7						
H01W1	**Cape Leeuwin H**	**29.43**	**165**	T	T	00 34 11.6	
	baz=345,slow=76,SNR=5.7						
H01W2	**Cape Leeuwin H**	**29.43**	**165**	T	T	00 34 13.8	
	baz=345,slow=76,SNR=6.1						
WRA	**Warramunga Arr**	**31.13**	**118**	P	**P**	**00 04 09.1**	**+2.8**
	1.3nm,0.7s,baz=290,slow=10,SNR=5.6						
	1.3nm,0.7s						
ASAR	**Alice Springs**	**32.30**	**125**	P	**P**	**00 04 20.1**	**+3.6**
	0.3nm,0.3s,baz=304,slow=8.1,SNR=5.6						
	0.3nm,0.3s						
H08S2	**Diego Garcia H**	**32.67**	**266**	T	T	00 38 28.0	
	baz=90,slow=76,SNR=31						
H08S3	**Diego Garcia H**	**32.68**	**266**	T	T	00 38 28.7	
	baz=90,slow=76,SNR=33						
H08S1	**Diego Carcia H**	**32.69**	**266**	T	T	00 38 29.4	
	baz=90,slow=76,SNR=25						
STKA	**Stephens Creek**	**42.19**	**132**	P	**P**	**00 05 41.3**	**+1.1**
	2.2nm,0.5s,baz=291,slow=9.1,SNR=3.4						
	2.2nm,0.5s						
USRK	**Ussuriysk Ar.**	**55.84**	**23**	P	**P**	**00 07 22.4**	**-2.0**
	1.1nm,0.4s,baz=218,slow=7.8,SNR=2.6						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	**56.85**	**341**	P	**P**	**00 07 29.0**	**-2.6**
	0.3nm,0.5s,baz=134,slow=8.9,SNR=4.4						
	0.3nm,0.5s						

H04N2	**CROZET ISLANDS**	**60.65**	**220**	T	T		01 13 21.9	
	baz=67,slow=75,SNR=17							
H04N1	**CROZET ISLANDS**	**60.66**	**220**	T	T		01 13 22.1	
	baz=67,slow=75,SNR=25							
H04N3	**CROZET ISLANDS**	**60.66**	**220**	T	T		01 13 21.6	
	baz=67,slow=75,SNR=23							
KURBB	**Kurchatov Arra**	**61.41**	**341**	P	**P**		**00 08 01.9**	**-1.1**
	0.4nm,8s,baz=158,slow=5.8,SNR=3.4							
	0.4nm,0.8s							
GEYT	**Alibeck**	**62.30**	**319**	P	**P**		**00 08 08.0**	**-1.4**
	0.8nm,0.6s,baz=190,slow=7.3,SNR=2.5							
	0.8nm,0.6s							
BVAR	**Borovoye Array**	**66.25**	**338**	P	**P**		**00 08 34.3**	**-0.6**
	0.8nm,0.5s,baz=148,slow=7.9,SNR=7.8							
	0.8nm,0.5s							
BOSA	**Boshof**	**78.30**	**242**	P	**P**		**00 09 48.3**	**+0.8**
	1.2nm,0.6s,baz=68,slow=5.4,SNR=3.9							
	1.2nm,0.6s							
BRTR	**Keskin Array B**	**80.28**	**312**	P	**P**		**00 09 58.1**	**+0.1**
	1.3nm,0.7s,baz=139,slow=7.5,SNR=12							
	1.3nm,0.7s							
ARCES	**ARCESS Array B**	**92.47**	**340**	P	**P**		**00 10 57.6**	**+0.4**
	1.6nm,0.9s,baz=91,slow=8.1,SNR=3.5							
	1.6nm,0.9s							
TXAR	**Lajitas Array**	**144.38**	**47**	PKP	**PKPdf**		**00 17 23.9**	**+0.3**
	1.4nm,0.8s,baz=333,slow=1.0,SNR=12							

HVO ***11*** *00:10:15.9±1.8, 19°.36N±0°.02×154°.98W±0°.03, h-1km±9km, Md2.1/10, ML2.5/20(NEIC), Error ellipse: s-maj=4.3km s-min=2.0km az=116.0*

NEIC 11 00:10:18.1±1.7, 19°.35N±0°.01×155°.08W±0°.01, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.1km az=127.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.04**	**321**	Pg	Pg	00 10 18.5	-0.8
NPOC	**North of Pu'u**	**0.05**	**320**		Pg	00 10 18.8	-0.7
STCH	**Steam Cracks**	**0.06**	**304**		Pg	00 10 18.5	-1.1
STCH				IAML		00 10 22.8	
	comp=N,668nm,0.9s						
JOKA	**Jonika Flow**	**0.10**	**40**		Pg	00 10 20.7	+0.4
HLP	**Hilina Pali**	**0.23**	**255**		Pg	00 10 23.5	+0.9
HLP	**Hilina Pali**	**0.23**	**255**	IAML		00 10 24.4	
	comp=E,1μm,0.7s						
HLP				IAML		00 10 32.1	
	comp=N,2μm,0.8s						
MLH	**Mauna Loa**	**0.33**	**296**		Pg	00 10 24.7	+0.3
MLH	**Mauna Loa**	**0.33**	**296**	IAML		00 10 25.8	
	comp=N,680nm,1.0s						
MLH				IAML		00 10 29.2	
	comp=E,728nm,1.1s						
HMH	**Humu'ula Sheep**	**0.46**	**303**	IAML		00 10 41.6	
	comp=E,453nm,0.3s						
MLOA	**Mauna Loa Obse**	**0.51**	**291**	Pg	Pg	00 10 26.9	-1.0
MLOA				IAML		00 10 30.2	
	comp=E,354nm,0.8s						
MLOA				IAML		00 10 46.9	
	comp=N,332nm,1.2s						
KHU	**Kahuku**	**0.52**	**258**		Pg	00 10 27.8	-0.4
KHU	**Kahuku**	**0.52**	**258**	IAML		00 10 44.3	
	comp=N,317nm,1.3s						
KHU				IAML		00 10 45.0	
	comp=E,374nm,1.4s						
ALEP	**Alea Permanent**	**0.57**	**289**		Pg	00 10 28.2	-0.8
HUH	**Hualalai**	**0.79**	**295**	Pg	Pg	00 10 33.6	+0.3

UCR 11 00:12:26.6±1.0, 9°.06N×83°.76W, h32km±1km, MW3.9, 3C-25D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCHAL	**Ojochal**	**0.12**	**73**	*i*P	Pn	00 12 31.9	-0.4
OCHAL				eS	Sb	00 12 36.2	-0.2
ZELE	**Perez Zeledon**	**0.32**	**10**	↓*i*P	Pb	00 12 34.3	-0.3
ZELE				eS	Sb	00 12 40.2	+0.2
PEZE	**Perez Zeledon,**	**0.33**	**15**	↓*i*P	Pb	00 12 34.3	-0.5
PEZE				eS	Sb	00 12 40.3	0.0
SRBA	**San Rafael, Bu**	**0.43**	**67**	*e*P	Pb	00 12 35.5	-0.7
SRBA				eS	Sb	00 12 42.5	-0.3
BURE	**Buenos Aires**	**0.43**	**75**	*e*P	Pb	00 12 36.1	-0.1
BURE				eS	Sb	00 12 43.0	+0.3
BUS1	**Rivas**	**0.49**	**2**	↓*i*P	Pb	00 12 36.9	-0.5
BUS1				eS	Sb	00 12 44.9	+0.1
CDM	**Cerro de Muert**	**0.49**	**0**	↓*i*P	Pb	00 12 36.8	-0.6
CDM				eS	Sb	00 12 44.9	+0.2
LLNJ	**Naranjito**	**0.53**	**321**	↓*i*P	Pb	00 12 36.9	-0.7
LLNJ				eS	Sb	00 12 45.2	0.0
DRK0	**Durika**	**0.55**	**69**	↓*e*P	Pb	00 12 37.3	-0.8
DRK0				eS	Sb	00 12 45.7	-0.2
EDP2	**Potrero Grande**	**0.58**	**94**	*e*P	Pb	00 12 38.3	-0.2
ABE2	**San Pablo**	**0.70**	**336**	↑*i*P	Pn	00 12 40.0	-0.5
ABE2				eS	Sn	00 12 51.0	+0.7
EDAD	**Golfito**	**0.72**	**124**	*e*P	Pn	00 12 39.0	-1.6
LCR2	**La Lucha 2**	**0.72**	**341**	↓*i*P	Pn	00 12 40.0	-0.8
LCR2				eS	Sb	00 12 50.2	-0.3
REPA	**Paraso**	**0.77**	**352**	↓*i*P	Pb	00 12 42.0	+0.3
PIRO	**Carate, Puerto**	**0.78**	**147**	↓*i*P	Pn	00 12 41.4	0.0
ACOS	**Acosta**	**0.83**	**332**	*e*P	Pn	00 12 41.8	-0.4
ACOS				eS	Sn	00 12 53.0	-0.4
OCM	**Ochomogo**	**0.85**	**347**	↓*i*P	Pn	00 12 41.9	-0.6
OCM				eS	Sn	00 12 53.8	-0.3
PCAYA	**Pacayas**	**0.85**	**357**	↓*i*P	Pn	00 12 42.4	-0.2
TRIO	**Tres Rios**	**0.87**	**345**	*e*P	Pn	00 12 42.1	-0.6
VERB	**Verbena**	**0.88**	**4**	*e*P	Pn	00 12 42.9	-0.1
RAFA	**San Farael, Vo**	**0.89**	**357**	↓*i*P	Pn	00 12 43.2	0.0
ICR3	**Volcano Irazu**	**0.91**	**356**	↓*i*P	Pn	00 12 43.6	-0.1
ICR3				eS	Sb	00 12 56.5	+0.2
VTCV	**VTCV, Calle Va**	**0.92**	**2**	↓*i*P	Pn	00 12 43.6	+0.1
VTRT	**Volcan Turrial**	**0.94**	**358**	↓*i*P	Pn	00 12 43.8	-0.1
VTLA	**Turrialba Volc**	**0.94**	**359**	↓*i*P	Pn	00 12 43.9	+0.1
CVTV	**Tajo**	**0.94**	**1**	↓*i*P	Pn	00 12 43.8	-0.1
VTR0	**Volcan Turrial**	**0.95**	**0**	↓*i*P	Pn	00 12 44.1	0.0
CVTR	**Volcan Turrial**	**0.95**	**0**	↓*i*P	Pn	00 12 43.9	-0.3
SANTA	**Santa Ana**	**0.96**	**334**	*e*P	Pn	00 12 43.5	-0.4
CVIMO	**Finca Echandi**	**0.97**	**350**	↓*e*P	Pn	00 12 44.3	0.0
VTLO	**VTLO**	**0.98**	**2**	↓*i*P	Pn	00 12 44.4	0.0
HDC	**Heredia**	**1.00**	**340**	*e*P	Pn	00 12 44.1	-0.4
HDC3	**Heredia 3**	**1.00**	**340**	↓*e*P	Pn	00 12 44.5	0.0
HDC3				eS	Sb	00 12 58.1	-0.2
BELE	**Belen**	**1.00**	**335**	↑*i*P	Pn	00 12 44.3	-0.2
BELE				eS	Sn	00 12 57.4	-0.2
CDITO	**Canoas**	**1.00**	**119**	*e*P	Pn	00 12 44.4	-0.1
LCOCO	**El Coco**	**1.04**	**11**	*e*P	Pn	00 12 45.3	+0.4
RVLA	**Villa Bonita**	**1.06**	**9**	*i*P	Pn	00 12 45.5	+0.4
IRES	**Siquirres**	**1.06**	**14**	↓*e*P	Pb	00 12 45.9	-0.6
TRB2	**Turrubares**	**1.08**	**322**	*e*P	Pn	00 12 45.4	-0.2
BRU2	**Volcan**	**1.09**	**104**	*e*P	Pn	00 12 45.7	-0.2
BATAN	**Batan**	**1.10**	**20**	↓*e*P	Pn	00 12 46.4	+0.6
BATAN				eS	Sb	00 13 03.4	+2.3
RIFO	**Rio Frio, Sara**	**1.26**	**353**	↓*i*P	Pn	00 12 48.5	+0.5
CPMI	**Catarata Coope**	**1.36**	**333**	*e*P	Pn	00 12 50.0	+0.5
SOCE	**Pocosol**	**1.56**	**327**	*e*P	Pb	00 12 53.9	-1.0
CEDE	**Laguna Cedeo**	**1.69**	**327**	*e*P	Pb	00 12 56.2	-1.0
JTS	**Las Juntas de**	**1.69**	**316**	*e*P	Pn	00 12 54.6	+0.6
NYURE	**Nandayure**	**1.74**	**302**	*e*P	Pb	00 12 57.2	-0.7
PLVR	**Palo Verde**	**2.02**	**309**	*e*P	Pn	00 13 00.7	+2.1
JUD3	**Juan Diaz 3**	**2.07**	**302**	*e*P	Pb	00 13 02.3	-1.2

ASIES ***11*** *00:15:14.0, 22°.84N×120°.68E, h20km, ML3.6, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}9.03; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$-7.41; $M_{r\theta}$1.64; $M_{\theta\phi}$-2.14; $M_{\phi r}$-6.55; Fault plane solution: $M_0$10.94290×10^{20} NP1: ϕs180.52000°, δ64.01000°, λ76.03000°. NP2:ϕ_s30.10000°, δ29.27000°, λ116.34000°. Principal axes: T Plg67.9190°, Azm63.5240°; N Plg12.5290°, Azm186.7410°; P Plg17.8780°, Azm280.8520°;*

TAP ***11*** *00:15:14.0, 22°.84N×120°.68E, h20km, ML3.6, B*

JMA ***11*** *00:15:15.0±0.1, 22°.9N±0°.8×120°.7E±0°.6, h17km±3km, MV3.7/13, TAIWAN REGION*

ISC 11 00:15:14.9±0.8, 22°.83N±0°.01×120°.67E±0°.01, h18km±2km, n150, σ0s85/291, 14C-17D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSD	**Sandimen**	**0.09**	**202**	↑*i*P	**Pg**	**00 15 18.4**	**-0.1**
	baz=200						
SSD				*i* S	**Sg**	**00 15 21.3**	**+0.3**
	baz=200						

SLGT	**Liugui**	**0.16**	**353**	⇑P	**Pg**		**00 15 19.4**	**0.0**
	baz=349							
SLGT				S	**Sg**		**00 15 22.6**	**+0.1**
	baz=349							
SCST	**Cishan**	**0.17**	**289**	⇑*i*P	**Pg**		**00 15 19.6**	**+0.1**
	baz=285							
SCST				S	**Sg**		**00 15 23.7**	**+1.2**
	baz=285							
SGLT	**Jiouru**	**0.19**	**237**	⇑*i*P	**Pg**		**00 15 20.5**	**+0.8**
	baz=235							
SGLT				S	**Sg**		**00 15 25.0**	**+1.9**
	baz=235							
MASBT	**Mashibuluo**	**0.22**	**188**	⇑P	**Pb**		**00 15 20.0**	**-0.2**
	baz=190							
MASBT				S	**Sb**		**00 15 23.9**	**+0.3**
	baz=190							
TSPT	**Pingtung City**	**0.22**	**226**	⇑P	**Pg**		**00 15 20.9**	**+0.7**
	baz=220							
TSPT				S	**Sg**		**00 15 26.4**	**+2.7**
	baz=220							
SGST	**Jiashian**	**0.26**	**343**	⇑*i*P	**Pg**		**00 15 20.0**	**-0.9**
	baz=341							
SGST				*i* S	**Sb**		**00 15 25.3**	**+0.1**
	baz=341							
SNJT	**Kaohsiung City**	**0.32**	**256**	⇑P	**Pb**		**00 15 23.2**	**+1.2**
	baz=254							
SNJT				S	**Sn**		**00 15 30.8**	**0.0**
	baz=254							
STYT	**Tauyuan**	**0.34**	**14**	⇑*i*P	**Pg**		**00 15 22.1**	**-0.2**
	baz=19							
STYT				*i* S	**Sg**		**00 15 27.5**	**+0.3**
	baz=19							
SHHT	**Tainan City**	**0.35**	**303**	⇓P	**Pb**		**00 15 23.5**	**+0.8**
	baz=309							
SHHT				*e*S	**Sn**		**00 15 31.6**	**-0.1**
	baz=309							
ECL	**Taimali**	**0.35**	**131**	⇓P	**Pb**		**00 15 22.2**	**-0.2**
	baz=137							
ECL				S	**Sg**		**00 15 27.6**	**+0.2**
	baz=137							
STYH	**Taoyuan**	**0.35**	**16**	⇑P	**Pg**		**00 15 22.3**	**-0.1**
	baz=19							
STYH				*i* S	**Sb**		**00 15 28.3**	**+0.3**
	baz=19							
CHN3	**Shinhua**	**0.37**	**311**	*i* P	**Pb**		**00 15 23.9**	**+0.8**
	baz=317							
CHN3				*i* S	**Sn**		**00 15 32.1**	**0.0**
	baz=317							
TWG	**Pinlang**	**0.37**	**91**	⇓*i*P	**Pg**		**00 15 22.8**	**0.0**
	baz=94							
TWG				*i* S	**Sb**		**00 15 28.8**	**+0.2**
	baz=94							
CHN1	**Nanshi**	**0.38**	**340**	⇓*i*P	**Pg**		**00 15 22.9**	**0.0**
	baz=348							
CHN1				*i* S	**Sb**		**00 15 29.8**	**+1.1**
	baz=348							
TWGBT	**Beinan**	**0.38**	**92**	P	**Pg**		**00 15 22.8**	**-0.1**
TWGBT	**Beinan**	**0.38**	**92**	⇓P	**Pg**		**00 15 22.8**	**-0.1**
	baz=94							
TWGBT				S	**Sg**		**00 15 28.7**	**+0.5**
	baz=94							
WTP	**Ta-pu**	**0.42**	**353**	⇑*i*P	**Pg**		**00 15 23.4**	**-0.2**
	baz=353							
WTP				*i* S	**Sb**		**00 15 30.2**	**+0.3**
	baz=353							
SNST	**Tainan City**	**0.42**	**338**	⇓P	**Pg**		**00 15 23.6**	**0.0**
	baz=348							
SNST				S	**Sb**		**00 15 30.5**	**+0.6**
	baz=348							
KAU	**Kaohsiung**	**0.42**	**232**	*e*P	**Pb**		**00 15 25.3**	**+1.4**
	baz=230							
KAU				*e*S	**Sn**		**00 15 34.2**	**+0.8**
	baz=230							
LONT	**Longtian**	**0.43**	**80**	⇓*i*P	**Pg**		**00 15 23.6**	**-0.2**
	baz=81							
LONT				*i* S	**Sg**		**00 15 30.2**	**+0.4**
	baz=81							
TTN	**Taitung**	**0.45**	**100**	*i* P	**Pb**		**00 15 24.6**	**+0.3**
	baz=91							
TTN				S	**Sb**		**00 15 31.6**	**+0.9**
	baz=91							
TAI1	**Yung-k'ang**	**0.46**	**297**	P	**Pb**		**00 15 25.5**	**+1.1**
	baz=297							
TAI1				*i* S	**Sn**		**00 15 34.2**	**0.0**
	baz=297							
SCZT	**Fangliau**	**0.46**	**186**	⇑*i*P	**Pg**		**00 15 23.9**	**-0.3**
	baz=182							
SCZT				S	**Sg**		**00 15 30.9**	**+0.4**
	baz=182							
SSHA	**Shanhua**	**0.46**	**311**	P	**Pb**		**00 15 25.4**	**+0.8**
	baz=310							
SSHA				S	**Sn**		**00 15 34.1**	**-0.4**
	baz=310							
TAI	**Tainan**	**0.46**	**291**	P	**Pb**		**00 15 25.3**	**+0.7**
	baz=290							
TAI				S	**Sn**		**00 15 33.7**	**-0.8**
	baz=290							
TWK

ALS				*i* S	Sg	00 15 39.0	+1.2
	baz=4.0						
CHKT	**Chengkung**	**0.70**	**67**	*i* P	Pb	00 15 28.4	-0.1
	baz=82						
CHKT				*i* S	Sg	00 15 39.1	+1.1
	baz=82						
CHY	**Chiayi**	**0.70**	**341**	*i* P	Pg	00 15 29.4	+0.6
	baz=341						
CHY				*i* S	Sn	00 15 39.8	-0.6
	baz=341						
LDUT	**Ludao**	**0.76**	**102**	*i* P	Pb	00 15 28.7	-0.8
	baz=103						
LDUT				*i* S	Sg	00 15 40.7	+0.9
	baz=103						
CHKH	**Chenggong**	**0.76**	**62**	P	Pb	00 15 29.4	-0.2
	baz=75						
CHKH				S	Sg	00 15 41.1	+1.1
	baz=75						
CHN5	**Tsauling**	**0.76**	**1**	*i* P	Pb	00 15 29.4	-0.4
CHN5				*i* S	Sn	00 15 42.2	+0.2
TWF1	**Yuli**	**0.78**	**48**	⇓*i* P	Pb	00 15 29.3	-0.7
	baz=49						
TWF1				*i* S	Sb	00 15 39.9	-0.3
	baz=49						
EYUL	**Yuli**	**0.79**	**49**	*i* P	Pb	00 15 29.6	-0.5
	baz=50						
EYUL				*i* S	Sb	00 15 40.0	-0.5
	baz=50						
WSL	**Shuilin Townsh**	**0.80**	**330**	P	Pn	00 15 31.7	+0.4
	baz=329						
WSL				S	Sn	00 15 42.5	-0.2
	baz=329						
YULB	**Yu-li**	**0.81**	**46**	P	Pn	00 15 31.4	0.0
YULB	**Yu-li**	**0.81**	**46**	P	Pb	00 15 29.8	-0.7
	baz=52						
YULB				*e*S	Sb	00 15 40.5	-0.4
	baz=52						
SMST	**Manzhou Townsh**	**0.82**	**169**	P	Pb	00 15 30.8	+0.2
	baz=169						
SMST				S	Sg	00 15 42.8	+1.0
	baz=169						
WGK	**Gukeng**	**0.86**	**353**	*i* P	Pb	00 15 31.3	0.0
	baz=354						
WGK				*i* S	Sn	00 15 44.4	+0.2
	baz=354						
WDLH	**Douliu**	**0.86**	**352**	*i* P	Pb	00 15 30.8	-0.6
	baz=352						
WDLH				*i* S	Sn	00 15 44.0	-0.3
	baz=352						
ECBN	**Changbin**	**0.87**	**56**	P	Pb	00 15 31.7	+0.2
	baz=57						
ECBN				*e*S	Sn	00 15 44.2	-0.3
	baz=57						
WHYT	**Xinyi Township**	**0.88**	**11**	P	Pb	00 15 31.2	-0.5
	baz=2.0						
WHYT				S	Sg	00 15 44.2	+0.5
	baz=2.0						
WTK	**Tuku**	**0.89**	**343**	*i* P	Pb	00 15 31.0	-0.8
	baz=343						
WTK				*i* S	Sg	00 15 44.7	+0.6
	baz=343						
TWK1	**Hengchun**	**0.89**	**172**	*i* P	Pb	00 15 31.9	0.0
	baz=171						
TWK1				*i* S	Sn	00 15 45.5	+0.5
	baz=171						
TWKBT	**Hengchun**	**0.90**	**171**	P	Pb	00 15 31.8	-0.1
	baz=171						
TWKBT				S	Sn	00 15 45.8	+0.7
	baz=171						
EHY	**Hungye**	**0.90**	**42**	*i* P	Pb	00 15 31.6	-0.5
	baz=47						
EHY				*i* S	Sb	00 15 43.2	-0.6
	baz=47						
EHYH	**Wanrong**	**0.91**	**43**	P	Pb	00 15 31.7	-0.5
	baz=49						
EHYH				S	Sb	00 15 43.8	-0.1
	baz=49						
HGSD	**Ruisui**	**0.96**	**46**	P	Pb	00 15 33.2	+0.2
	baz=43						
HGSD				S	Sg	00 15 46.6	+0.4
	baz=43						
SSLB	**Suanglung**	**0.99**	**15**	P	Pb	00 15 33.2	-0.4
SSLB	**Suanglung**	**0.99**	**15**	*i* P	Pb	00 15 33.1	-0.5
	baz=2.0						
SSLB				S	Sg	00 15 47.1	-0.1
	baz=2.0						
WJS	**Zhushan**	**0.99**	**3**	*i* P	Pb	00 15 33.8	+0.2
	baz=348						
WJS				*i* S	Sn	00 15 48.0	+0.5
	baz=348						
VWDT	**VWDT**	**1.02**	**25**	P	Pb	00 15 33.3	-0.7
	baz=23						
VWDT				S	Sg	00 15 48.4	+0.3
	baz=23						
WNT	**Mingjian**	**1.04**	**1**	*i* P	Pb	00 15 33.9	-0.6
	baz=1.0						
WNT				*i* S	Sn	00 15 48.6	-0.1
	baz=1.0						
WNT1	**Nantou City**	**1.07**	**1**	*e*P	Pb	00 15 34.4	-0.5
	baz=1.0						
WNT1				S	Sg	00 15 49.9	+0.1
	baz=1.0						
TYC	**Yuchr**	**1.08**	**9**	*i* P	Pb	00 15 34.8	-0.3
	baz=10.0						
TYC				*i* S	Sg	00 15 50.7	+0.6
	baz=10.0						
EGFH	**Guangfu**	**1.09**	**40**	P	Pb	00 15 35.1	-0.1
	baz=56						
EGFH				S	Sb	00 15 49.0	-0.1
	baz=56						
WTCT	**Ta-ch'eng**	**1.09**	**341**	*e*P	Pn	00 15 35.6	+0.3
	baz=341						
WTCT				*i* S	Sg	00 15 50.5	+0.1
	baz=341						
RLNB	**Erlin**	**1.09**	**345**	*e*P	Pb	00 15 32.5	-2.9
	baz=345						
RLNB				S	Sn	00 15 49.9	-0.1
	baz=345						
WRL	**Guolierlin Hig**	**1.10**	**346**	P	Pb	00 15 34.8	-0.6
	baz=346						
WRL				S	Sb	00 15 49.5	0.0
	baz=346						
WARBT	**Fenglin Townsh**	**1.10**	**37**	⇑P	Pb	00 15 34.6	-0.9
	baz=22						
WARBT				S	Sb	00 15 50.0	+0.4
	baz=22						
LAY	**Lan-yu**	**1.14**	**134**	*i* P	Pn	00 15 34.1	-1.8
	baz=134						
LAY				*i* S	Sb	00 15 50.9	+0.4
	baz=134						
LYUB	**Lan-yu**	**1.18**	**134**	P	Pn	00 15 33.3	-3.2
	baz=135						
LYUB				S	Sb	00 15 49.7	-2.1
	baz=135						
VCHM	**Qimei**	**1.20**	**289**	P	Pn	00 15 34.9	-2.0
	baz=288						
VCHM				S	Sb	00 15 50.8	-1.6
	baz=288						
WPL	**Puli Township**	**1.21**	**13**	*e*P	Pn	00 15 37.2	+0.3
	baz=28						
WPL				*e*S	Sg	00 15 54.8	+0.7
	baz=28						
WWF	**Wufeng**	**1.21**	**1**	P	Pn	00 15 36.9	0.0
	baz=1.0						
WWF				S	Sg	00 15 54.0	-0.1
	baz=1.0						
OWD	**Renai**	**1.21**	**23**	P	Pn	00 15 37.0	-0.2
	baz=23						
OWD				S	Sg	00 15 54.1	-0.2
	baz=23						
PHUB	**P'eng-hu**	**1.22**	**304**	P	Pn	00 15 34.0	-3.0
	baz=304						
PHUB				S	Sb	00 15 50.6	-2.1
	baz=304						
DPDB	**Guoxing**	**1.22**	**11**	P	Pn	00 15 36.5	-0.7
	baz=11						
DPDB				*e*S	Sg	00 15 56.1	+1.5
	baz=11						
WUSB	**Renai**	**1.23**	**20**	P	Pn	00 15 37.2	-0.2
	baz=20						
WUSB				S	Sn	00 15 54.1	+0.6
	baz=20						
WCS	**Beigang Elemen**	**1.24**	**10**	P	Pn	00 15 37.1	-0.3
	baz=10.0						
WCS				S	Sn	00 15 54.0	+0.3
	baz=10.0						
WCHH	**Zhanghua**	**1.25**	**355**	*e*P	Pn	00 15 37.0	-0.4
	baz=355						
WCHH				S	Sn	00 15 54.6	+0.8
	baz=355						
SHUL	**Shoufeng**	**1.26**	**41**	P	Pb	00 15 38.3	+0.1
	baz=41						
SHUL				S	Sg	00 15 56.8	+1.0
	baz=41						
PNG	**Penghu**	**1.26**	**306**	P	Pn	00 15 35.9	-1.7
	baz=306						
PNG				*i* S	Sb	00 15 51.9	-2.1
	baz=306						
CHGB	**Renai**	**1.31**	**21**	P	Pn	00 15 38.4	-0.1
	baz=21						
CHGB				S	Sg	00 15 57.2	-0.3
	baz=21						
TEYL	**Yanliau Villag**	**1.34**	**39**	P	Pn	00 15 38.8	0.0
	baz=23						
TEYL				S	Sg	00 15 59.7	+1.3
	baz=23						
ETM	**Tongmen**	**1.36**	**34**	P	Pb	00 15 39.9	0.0
	baz=33						
ETM				S	Sb	00 15 57.8	+0.8
	baz=33						
LXIB	**Xiulin Townshi**	**1.37**	**30**	P	Pn	00 15 39.4	+0.1
	baz=15						
LXIB				S	Sg	00 15 58.7	-0.6
	baz=15						
WHF	**Hehuan Shan**	**1.42**	**23**	*i* P	Pn	00 15 40.6	+0.4
	baz=23						
WHF				*i* S	Sb	00 15 59.8	+0.7
	baz=23						
HWA	**Hwalien**	**1.43**	**37**	*e*P	Pb	00 15 41.9	+0.9
	baz=23						
HWA				*e*S	Sb	00 16 00.0	+1.1
	baz=23						
WHP	**Taichung City**	**1.46**	**10**	P	Pn	00 15 40.3	-0.2
	baz=355						
WHP				S	Sb	00 16 01.3	+1.3
	baz=355						
TDCB	**Techi**	**1.49**	**18**	P	Pn	00 15 41.0	+0.1
	baz=18						
TDCB				S	Sb	00 16 00.7	0.0
	baz=18						
TWT	**Tachien**	**1.49**	**18**	*i* P	Pn	00 15 41.1	+0.2
	baz=18						
TWT				S	Sb	00 16 01.2	+0.3
	baz=18						
TWD	**Chiawan**	**1.51**	**34**	*i* P	Pn	00 15 41.6	+0.6
	baz=35						
TWD				S	Sb	00 16 01.5	+0.4
	baz=35						
WDJ	**Dajia District**	**1.51**	**359**	P	Pn	00 15 41.9	+0.8
	baz=360						
WDJ				S	Sb	00 16 02.2	+0.9
	baz=360						
TWQ1	**Liyutan**	**1.51**	**4**	*i* P	Pn	00 15 41.1	0.0
	baz=4.0						
TWQ1				*i* S	Sb	00 16 01.9	+0.5
	baz=4.0						
NSY	**Sanyi**	**1.58**	**3**	*i* P	Pn	00 15 41.9	-0.2
	baz=348						
NSY				S	Sg	00 16 05.7	-0.3
	baz=348						
NACB	**Ninganchiao**	**1.58**	**32**	P	Pn	00 15 42.0	-0.1
NACB	**Ninganchiao**	**1.58**	**32**	P	Pn	00 15 41.6	-0.5
	baz=33						
NACB				S	Sb	00 16 04.0	+0.5
	baz=33						
ETL	**Fush Village**	**1.59**	**33**	*e*P	Pb	00 15 44.2	+0.4
	baz=34						
ETL				*e*S	Sb	00 16 03.1	-0.4
	baz=34						
NMLH	**Miaoli**	**1.70**	**4**	*e*P	Pb	00 15 45.0	-0.7
	baz=349						
NMLH				S	Sb	00 16 06.9	+0.1
	baz=349						
NNSB	**Datong**	**1.72**	**22**	P	Pn	00 15 44.5	+0.4
	baz=23						
NNSB				*e*S	Sn	00 16 05.7	0.0
	baz=23						
NNSH	**Datong**	**1.72**	**22**	*i* P	Pn	00 15 44.5	+0.4
	baz=23						
NNSH				*i* S	Sn	00 16 06.7	+1.0
	baz=23						
NNS	**Nan Shan**	**1.73**	**22**	*i* P	Pn	00 15 44.9	+0.7
	baz=23						
NNS				*i* S	Sb	00 16 08.5	+0.8
	baz=23						
EAHA	**Aohua**	**1.79**	**33**	*e*P	Pn	00 15 44.9	0.0
	baz=34						
EAHA				*e*S	Sb	00 16 08.8	-0.4
	baz=34						
NSTT	**Nanjuang**	**1.82**	**10**	*i* P	Pn	00 15 45.2	-0.1
	baz=11						
NSTT				*i* S	Sn	00 16 09.0	+1.0
	baz=11						
LIOB	**Emei**	**1.83**	**10**	*i* P	Pn	00 15 45.4	-0.2
	baz=11						
LIOB				*e*S	Sb	00 16 11.0	+0.4
	baz=11						
NFF	**Wufeng Townshi**	**1.84**	**13**	P	Pn	00 15 45.4	-0.3
	baz=357						
NFF				S	Sn	00 16 09.8	+1.3
	baz=357						
ENA	**Nanau**	**1.87**	**32**	P	Pn	00 15 47.2	+1.1
	baz=32						
ENA				S	Sb	00 16 11.6	0.0
	baz=32						
LATG	**Datong**	**1.87**	**25**	P	Pn	00 15 47.0	+0.9
	baz=25						
LATG				*e*S	Sb	00 16 12.1	+0.4
	baz=25						
EWUT	**Wuta**	**1.90**	**32**	P	Pn	00 15 46.8	+0.4
	baz=33						
EWUT				*e*S	Sb	00 16 13.3	+0.7
	baz=33						
NDT	**Datong Townshi**	**1.93**	**24**	P	Pn	00 15 48.1	+1.3
	baz=24						
NDT				S	Sb	00 16 12.6	-0.6
	baz=24						
NSK	**Sanguang**	**1.94**	**19**	*i* P	Pn	00 15 47.9	+0.8
	baz=20						
NSK				*i* S	Sb	00 16 13.8	0.0
	baz=20						
YHNB	**Yeheng**	**1.94**	**19**	P	Pn	00 15 48.3	+1.2
YHNB	**Yeheng**	**1.94**	**19**	P	Pn	00 15 47.1	0.0
	baz=20						
YHNB				S	Sb	00 16 13.6	-0.2
	baz=20						
ENTT	**Nioudou**	**1.98**	**24**	*i* P	Pn	00 15 49.2	+1.6
	baz=11						
ENTT				*i* S	Sb	00 16 14.0	-0.8
	baz=11						
EOS4	**EOS4**	**1.99**	**49**	P	Pn	00 15 47.6	+0.3
	baz=49						
EOS4				S	Sn	00 16 11.7	+0.2
	baz=49						
NDS	**Dongshan**	**2.04**	**28**	P	Pn	00 15 49.0	+0.6
	baz=43						
NDS				S	Sn	00 16 14.6	+1.3
	baz=43						
ESAO	**Su ao**	**2.04**	**32**	*e*P	Pb	00 15 50.7	-0.9
	baz=33						
ESAO				*e*S	Sb	00 16 15.7	-0.9
	baz=33						
TWC	**Suao**	**2.08**	**31**	*i* P	Pn	00 15 50.6	+1.7
	baz=33						
TWC				S	Sb	00 16 16.7	-0.8
	baz=33						
NWLT	**Wulai**	**2.08**	**21**	P	Pn	00 15 49.6	+0.6
	baz=22						
NWLT				S	Sb	00 16 17.8	0.0
	baz=22						
TWE	**Neicheng**	**2.09**	**26**	*i* P	Pb	00 15 51.3	-1.1
	baz=42						
TWE				S	Sb	00 16 19.8	+1.7
	baz=42						
EOS3	**EOS3**	**2.10**	**46**	*e*P	Pn	00 15 49.6	+0.6
	baz=59						
EOS3				*e*S	Sn	00 16 15.6	+1.1
	baz=59						
FUSB	**Fushanzhiwuyua**	**2.10**	**23**	P	Pb	00 15 51.1	-1.4
	baz=8.0						
FUSB				S	Sb	00 16 18.6	+0.3
	baz=8.0						
EOS2	**EOS2**	**2.13**	**42**	*e*P	Pn	00 15 50.9	+1.3
	baz=55						
EOS2				*e*S	Sn	00 16 15.6	+0.1
	baz=55						
TWA	**Mucha**	**2.30**	**21**	*e*P	Pn	00 15 53.9	+2.0
	baz=23						
TWA				S	Sb	00 16 22.8	-1.2
	baz=23						
TIPB	**Shuangxi**	**2.38**	**26**	*i* P	Pn	00 15 54.0	+0.9
	baz=39						
TIPB				S	Sb	00 16 25.5	-0.9
	baz=39						
VWUC	**VWUC**	**2.42**	**333**	P	Pn	00 15 53.1	-0.5
	baz=333						
VWUC				*e*S	Sn	00 16 22.0	-0.8
	baz=333						
SXI1	**Grass Mountain**	**2.51**	**26**	P	Pn	00 15 56.8	+1.9
	baz=9.0						
SXI1				*e*S	Sn	00 16 26.9	+1.7
	baz=9.0						
KNM	**Kinmen**	**2.59**	**308**	P	Pn	00 15 57.3	+1.4
	baz=306						
KNM				*e*S	Sn	00 16 28.1	+1.2
	baz=306						
PTMZ	**Houxiangcun**	**2.62**	**328**	P	Pn	00 15 55.4	-0.9
	baz=327						
PTMZ				*e*S	Sn	00 16 26.3	-1.3
	baz=327						
KNMB	**Chin-men Tao**	**2.65**	**308**	*e*P	Pn	00 15 57.7	+0.9
	baz=308						
KNMB				*e*S	Sn	00 16 26.8	-1.6
	baz=308						
YOJ	**Yonaguni jima**	**2.69**	**52**	P	Pn	00 15 58.7	+1.3
YOJ	**Yonaguni jima**	**2.69**	**52**	*e*P	Pn	00 15 58.6	+1.3
YOJ				*e*S	Sn	00 16 31.0	+1.5
YOJ	**Yonaguni jima**	**2.69**	**52**	P	Pn	00 15 58.6	+1.3
	baz=51						
YOJ				*e*S	Sn	00 16 30.2	+0.7
	baz=51						
HATJ	**Hateruma jima**	**3.13**	**66**	P	Pn	00 16 03.9	+0.6
HATJ				*e*S	Sn	00 16 39.9	-0.4
JKRS	**Kuro-shima**	**3.37**	**65**	P	Pn	00 16 07.8	+1.1
MATB	**Ma-tsu**	**3.37**	**349**	P	Pn	00 16 05.7	-1.0
	baz=349						
MATB				S	Sn	00 16 43.7	-2.6
	baz=349						
JIJ	**Ishigaki jima**	**3.53**	**64**	P	Pn	00 16 09.2	+0.3
JIJ				*e*S	Sn	00 16 49.8	-0.5
MHZQ	**Yeshan**	**3.58**	**336**	P	Pn	00 16 09.3	-0.3
	baz=334						
MHZQ				*e*S	Sn	00 16 49.5	-1.9
	baz=334						
JISG	**Ishigakijimahi**	**3.77**	**62**	P	Pn	00 16 12.1	-0.1
JISG				*e*S	Sn	00 16 54.6	-1.5
LYJJ	**Jianjiangzhen**	**3.79**	**348**	*e*P	Pn	00 16 12.1	-0.4
	baz=346						
LYJJ				*e*S	Sn	00 16 56.8	+0.1
	baz=346						
JTJ	**Tarama**	**4.11**	**63**	*e*S	Sn	00 17 05.3	+0.8

NEIC ***11*** *00:16:28.0±1.8, 19°.41N±0°.01×154°.916W±0°.004, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.1km az=320.0*

HVO 11 00:16:27.4±1.3, 19°.48N±0°.01×154°.88W±0°.04, h3km±2km, ML2.8/8, ML2.7/18(NEIC), Error ellipse: s-maj=4.9km s-min=1.5km az=102.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.01**	**256**		Pg	Pg	00 16 29.1	+1.2
PHO	**Puu Honuaula**	**0.01**	**256**		Pg	Pg	00 16 28.4	+0.4
PAH	**Pahoa**	**0.06**	**280**		Pg	Pg	00 16 29.4	+0.7
JOKA	**Jonika Flow**	**0.13**	**247**		Pg	Pg	00 16 30.5	+0.6
JOKA					Sg		00 16 33.3	+1.7
JCUZ	**Jacuzzi**	**0.23**	**245**	Pg	Pg	Pg	00 16 31.6	-0.3
JCUZ				IAML			00 16 39.2	
	comp=N,504nm,1.0s							
NPOC	**North of Pu'u**	**0.23**	**247**	Pg	Pg	Pg	00 16 31.4	-0.6
NPOC				IAML			00 16 39.2	
	comp=E,482nm,0.9s							
RSD	**Rainshed**	**0.38**	**267**	Pg	Pg	Pg	00 16 34.8	+0.1
RSD				IAML			00 16 35.9	
	comp=N,1μm,1.1s							
RSD				IAML			00 16 44.3	
	comp=E,1μm,0.8s							
RIM	**Rim**	**0.38**	**257**	Pg	Pg	Pg	00 16 34.0	-0.8
NPH	**North Pit**	**0.38**	**259**		Sg	Pg	00 16 40.0	+0.1
WRMHI	**West Rim**	**0.40**	**259**		Pg	Pg	00 16 34.1	-1.1
MLH	**Mauna Loa**	**0.48**	**271**	Pg	Pg	Pg	00 16 35.6	-1.0
MLH				IAML			00 16 47.4	
	comp=N,877nm,1.0s							
MLH				IAML			00 16 53.3	
	comp=E,787nm,0.8s							
HTC	**Hot Caves**	**0.55**	**243**		Pg	Pg	00 16 38.6	+0.7
HMH	**Humu'ula Sheep**	**0.58**	**282**	Pg	Pg	Pg	00 16 38.5	0.0
HMH				IAML			00 16 56.8	
	comp=E,629nm,0.6s							
HMH				IAML			00 16 58.1	
	comp=N,533nm,0.9s							
MLOA	**Mauna Loa Obse**	**0.66**	**275**	Pg	Pg	Pg	00 16 40.2	+0.1
MLOA				IAML			00 16 44.0	
	comp=E,322nm,1.0s							
MLOA				IAML			00 16 57.1	
	comp=N,419nm,0.7s							

VIE 11 00:39:25.8±0.2, 50°.21N×12°.43E, h10km, mb2.2/1, ml1.9/1, Error ellipse: s-maj=4.4km s-min=1.7km az=55.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CLL	**Collm**	**1.16**	**18**	*i* Pg	Pb	Pb	00 39 47.2	-0.7
CLL				*i* x	x	x	00 39 49.3	
CLL				*i* Sg	Sb	Sb	00 40 01.6	-1.3
	comp=Z,4.0nm,0.5s							
BRG	**Berggiesshubel**	**1.17**	**55**	Pg	Pb	Pb	00 39 47.8	-0.3
BRG				Sg	Sb	Sb	00 40 02.7	-0.6
BRG				Amp			00 40 03.2	
	comp=Z,4.6nm,0.2s							
KRUC	**Moravsky**	**2.82**	**113**	*e*SG	Sg	Sg	00 40 54.3	-2.1
VRAC	**Vranov**	**2.85**	**107**	*e*SG	Sg	Sg	00 40 54.5	-2.7
CONA	**Conrad Observa**	**3.21**	**134**	*i* Pg	Pg	Pg	00 40 27.4	+0.1
CONA				*e*Sg	Sg	Sg	00 41 11.1	+2.2
	comp=Z,0.8nm,0.2s							
MORC	**Moravsky Berou**	**3.33**	**96**	*e*SG	Sg	Sg	00 41 09.9	-2.7

WBNET 11 00:40:05.2, 50°.25N×12°.46E, h9km, Ml0.7, 2C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**193**	S	Sg	Sg	00 40 08.1	+0.1
LBCW	**Luby**	**0.03**	**295**	⇓P	Pg	Pg	00 40 07.0	+0.1
LBCW				S	Sg	Sg	00 40 08.3	+0.1
STCW	**Studenec**	**0.04**	**82**	⇑P	Pg	Pg	00 40 07.1	+0.1
STCW				S	Sg	Sg	00 40 08.3	0.0
VAC	**Vackov**	**0.05**	**250**	⇓P	Pg	Pg	00 40 07.1	0.0
VAC				S	Sg	Sg	00 40 08.4	-0.1
KVC	**Kvetna**	**0.06**	**141**	S	Sg	Sg	00 40 08.7	+0.1
POCW	**Potky**	**0.07**	**345**	⇓P	Pg	Pg	00 40 07.4	+0.1
POCW				S	Sg	Sg	00 40 09.0	+0.1
KRCW	**Kraslice**	**0.09**	**32**	⇑P	Pg	Pg	00 40 07.6	0.0
KRCW				S	Sg	Sg	00 40 09.3	-0.1
SKC	**Skalna**	**0.10**	**216**	S	Sg	Sg	00 40 09.6	+0.1

IDC ***11*** *00:41:40.5±6.4, 35°.60N×71°.10E, h0km, mb3.5/1, mbtmp3.4/5, ML2.9/4, Error ellipse: s-maj=93.8km s-min=31.8km az=161.0*

NNC ***11*** *00:42:10.0±8.7, 37°.10N×70°.62E, h254km±122km, mb2.4, mpv3.6, Error ellipse: s-maj=90.2km s-min=50.4km az=4.0*

ISC 11 00:41:57.8±2.6, 36°.3N±0°.2×70°.7E±0°.1, h200km, n10, σ3°31/13, 5C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.83**	**359**	⇑P	Pn	Pn	00 43 38.8	+3.1
	2.2nm,0.3s,baz=175,slow=13,SNR=47							
KK31				⇑S	Sn		00 44 49.9	-3.6
	8.2nm,0.5s,baz=185,slow=22,SNR=22							
AAK	**Ala-Archa**	**7.01**	**24**	⇑P	Pn	Pn	00 43 41.5	+3.2
	1.4nm,0.4s							
AAK				⇓S	Sn	Sn	00 44 56.2	-1.8
	9.4nm,0.6s							
TKM2	**Tokmak 2**	**7.65**	**28**	⇑P	Pn	Pn	00 43 50.1	+3.5
	2.3nm,0.4s							

TKM2				⇑S		Sn	00 45 09.7	-3.5	
	3.1nm,0.7s								
GEYT	**Alibeck**	**10.17**	**283**	Pn		Pn	00 44 15.6	-3.6	
	0.1nm,0.3s,baz=102,slow=11,SNR=2.5								
GEYT				Sn		**S**	**00 46 14.2**	**+0.9**	
	0.2nm,0.3s,baz=98,slow=6.0,SNR=2.4								
	0.3nm,0.4s								
MKAR	**Makanchi Array**	**13.63**	**36**	Pn		Pn	00 45 00.9	-2.1	
	0.1nm,0.3s,baz=225,slow=5.3,SNR=3.2								
	0.7nm,1.0s								
AB31	**Akbulak array**	**15.16**	**332**	⇓P		**P**	**00 45 24.8**	**+2.6**	
	0.6nm,0.5s,baz=148,slow=11,SNR=16								
KURBB	**Kurchatov Arra**	**15.43**	**19**	Pn		**Pn**	**00 45 23.2**	**-1.7**	
	baz=201,slow=8.8,SNR=2.8								
	0.1nm,0.2s								
BVA0	**Borovoye Array**	**16.76**	**359**	⇓P		**P**	**00 45 37.4**	**-2.4**	
	0.7nm,0.7s,baz=173,slow=15,SNR=6.4								
BVAR	**Borovoye Array**	**16.76**	**359**	P		**Pn**	**00 45 44.9**	**+3.9**	
	baz=175,slow=11,SNR=7.5								
	0.7nm,0.6s								
ZALV	**Zalesovo Beam**	**20.23**	**25**	P		Pn	00 46 21.9	-0.3	
	0.7nm,0.3s,baz=214,slow=10,SNR=4.6								
	0.7nm,0.3s								

RSNC 11 01:04:03.7±0.0, 7°N±1°×7°3W±°, h141km±2km, M3.1, mb4.0, ML3.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.19**	**190**	P	Pn	01 04 22.2	-1.0
BARC				S	Sn	01 04 37.2	-0.8
PAMC	**Pamplona, Colo**	**0.71**	**39**	P	Pn	01 04 25.1	-0.8
PAMC				S	Sn	01 04 42.1	-0.7
RUSC	**La Rusia**	**0.88**	**176**	P	Pn	01 04 26.1	-1.1
RUSC				S	Sn	01 04 45.2	+0.1
PTBC	**PUERTO BERRIO,**	**1.32**	**260**	P	Pn	01 04 28.6	-2.1
PTBC				S	Sn	01 04 50.0	-1.3
TAMC	**Tame, Arauca**	**1.39**	**104**	P	Pn	01 04 30.6	-0.9
TAMC				S	Sn	01 04 52.3	-0.4
SPBC	**San Pablo de B**	**1.45**	**219**	P	Pn	01 04 30.9	-1.2
SPBC				S	Sn	01 04 53.4	-0.4
OCAC	**Ocana**	**1.46**	**353**	P	Pn	01 04 30.5	-1.8
OCAC				S	Sn	01 04 52.6	-1.6
ZARC	**Zaragoza, Cauc**	**1.84**	**293**	P	Pn	01 04 34.7	-1.7
ZARC				S	Sn	01 05 00.3	-1.1
NORC	**Norcasia**	**2.09**	**235**	P	Pn	01 04 37.9	-1.6
NORC				S	Sn	01 05 06.8	-0.1
CHIC	**Chingaza**	**2.21**	**195**	P	Pn	01 04 40.1	-1.2
CHIC				S	Sn	01 05 10.3	+0.2
ROSC	**El Rosal**	**2.25**	**211**	P	Pn	01 04 41.6	-0.1
ROSC				S	Sn	01 05 12.5	+1.6
UREC	**San Jos de Ur**	**2.55**	**292**	P	Pn	01 04 41.9	-3.2
UREC				S	Sn	01 05 13.3	-3.6
VILC	**Villavicencio,**	**2.71**	**192**	P	Pn	01 04 45.4	-1.7
VILC				S	Sn	01 05 19.8	-0.8
PTGC	**Puerto Gaitan,**	**2.76**	**158**	P	Pn	01 04 45.2	-2.5
PTGC				S	Sn	01 05 18.6	-3.0
DBBC	**Dabeiba**	**3.05**	**275**	P	Pn	01 04 49.4	-2.0
DBBC				S	Sn	01 05 24.3	-3.9
ARGC	**Ariguani, Magd**	**3.25**	**341**	P	Pn	01 04 52.0	-1.9
ARGC				S	Sn	01 05 31.8	-1.0
SDV	**Santo Domingo**	**3.25**	**50**	P	Pn	01 04 51.8	-2.4
SDV				S	Sn	01 05 29.5	-3.7
PRAC	**Prado**	**3.50**	**210**	P	Pn	01 04 55.5	-1.8
PRAC				S	Sn	01 05 37.5	-1.3
APAC	**Apartado, Choc**	**3.58**	**288**	P	Pn	01 04 56.9	-2.3
APAC				S	Sn	01 05 36.4	-4.1
PLMC	**San Jos del P**	**3.63**	**239**	P	Pn	01 04 57.7	-1.3
PLMC				S	Sn	01 05 40.8	-1.0
SJCC	**San Jacinto, C**	**3.69**	**327**	P	Pn	01 04 55.7	-4.1
SJCC				S	Sn	01 05 37.4	-5.8
URMC	**La Uribe, Meta**	**3.72**	**199**	P	Pn	01 04 59.4	-0.7
URMC				S	Sn	01 05 42.3	-1.6
CRJC	**Cerrejon, Guaj**	**4.22**	**4**	P	Pn	01 05 02.7	-4.1
CRJC				S	Sn	01 05 49.6	-6.2
GUVC	**San Jose del G**	**4.24**	**173**	P	Pn	01 05 08.1	+1.2
GUVC				S	Sn	01 05 52.6	-3.5
SMRC	**Santa Marta, M**	**4.48**	**346**	P	Pn	01 05 07.2	-2.9
SMRC				S	Sn	01 05 55.0	-6.8
CAPC	**Capurgana**	**4.55**	**294**	P	Pn	01 05 07.2	-3.9
CAPC				S	Sn	01 05 52.2	-11
PIZC	**Pizarro, Choco**	**4.56**	**247**	P	Pn	01 05 10.2	-0.9
MACC	**Macarena, Meta**	**4.66**	**189**	P	Pn	01 05 09.1	-3.4
MACC				S	Sn	01 06 00.1	-5.9
JAMC	**Jamundi, Valle**	**4.99**	**225**	P	Pn	01 05 16.2	-0.8
JAMC				S	Sn	01 06 13.0	-1.1
MALC	**Bahia Malaga**	**4.99**	**237**	P	Pn	01 05 16.5	-0.4
URIC	**Uribia, Colomb**	**5.02**	**13**	P	Pn	01 05 12.6	-4.7
URIC				S	Sn	01 06 09.4	-5.3
POPC	**Popayan, Colom**	**5.49**	**220**	P	Pn	01 05 22.5	-1.2
	9.4nm,0.7s						
POPC				S	Sn	01 06 21.3	-4.8
	9.4nm,0.7s						
FLOC	**Florencia**	**5.73**	**206**	P	Pn	01 05 24.6	-2.3
FLOC				S	Sn	01 06 29.9	-1.9
BCIP	**Isla Barro Col**	**7.04**	**290**	P	Pn	01 05 39.5	-4.7

*MDD **11** 01:11:57.0±1.1, 38°27N×0°08E, h13km, mb_Lg1.8/7, Error ellipse: s-maj=9.2km s-min=4.4km az=178.0*
*SFS **11** 01:11:56.2, 38°13N×0°25E, h19km, ML1.7/4, ML2.5/4, MLv1.3/4*

ISC 11 01:11:55.0±1.6, 38°26N±0°07×0°11E±0°04, h13km±11km, n12, σ0°60/24, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EBEN2	**Beniarda presa**	**0.48**	**331**	Pg	**Pb**	**01 12 06.2**	**+0.8**
EBEN2				Sg	**Sb**	**01 12 12.3**	**-0.2**
EBEN2				*i* Vmb_Lg		01 12 17.1	
AFON	**Font Roja**	**0.66**	**309**	Pg	**Pb**	**01 12 09.3**	**+0.8**
AFON				Sg	**Sb**	**01 12 16.8**	**-0.7**
AFON				*i* Vmb_Lg		01 12 25.9	
EMUR	**La Murta**	**1.15**	**249**	Pn	**Pg**	**01 12 16.4**	**-0.7**
EIBI	**Ibiza**	**1.23**	**51**	Pn	**Pn**	**01 12 17.8**	**-0.2**
EIBI				Sn	**Sb**	**01 12 32.9**	**-1.1**
EIBI	**Ibiza**	**1.23**	**51**	Pn	**Pg**	**01 12 19.3**	**+0.5**
EIBI				Sg	**Sn**	**01 12 35.0**	**+0.4**
EIBI				*i* Vmb_Lg		01 12 38.9	
ETOB	**Tobarra**	**1.36**	**287**	Sn	**Sg**	**01 12 40.0**	**+1.1**
ETOB				Pn	**Pg**	**01 12 21.1**	**-0.1**
ETOB	**Tobarra**	**1.36**	**287**	Pg	**Pn**	**01 12 20.0**	**+0.2**
ETOB				Sg	**Sb**	**01 12 37.9**	**+0.2**
ETOB				*i* Vmb_Lg		01 12 42.3	
EVIV	**Cofrentes, Val**	**1.39**	**317**	Pg	**Pb**	**01 12 21.1**	**+0.1**
EVIV				Sg	**Sg**	**01 12 39.6**	**-0.4**
EVIV				*i* Vmb_Lg		01 12 45.2	
ECHE	**Chera**	**1.58**	**328**	Pn	**Pb**	**01 12 24.1**	**0.0**
ECHE				Sn	**Sg**	**01 12 44.9**	**-0.9**
ECHE	**Chera**	**1.58**	**328**	Pg	**Pb**	**01 12 24.2**	**+0.1**
ECHE				Sg	**Sb**	**01 12 44.1**	**+0.1**
ECHE				*i* Vmb_Lg		01 12 50.2	
ECOL	**Islas Columbre**	**1.70**	**15**	Pn	**Pn**	**01 12 24.9**	**+0.5**
ECOL				Sn	**Sn**	**01 12 46.2**	**+0.2**
EMOS	**Mosqueruela**	**2.15**	**348**	Pn	**Pn**	**01 12 30.9**	**0.0**
EMOS				Pb	**Pb**	**01 12 33.7**	**-0.3**
EMOS				Sn	**Sn**	**01 12 57.0**	**-0.6**
EMOS				*i* Vmb_Lg		01 13 02.3	

IDC 11 01:18:39.0±7.5, 32°94S×179°71E, h410km±92km, mb3.0/2, mbtmp3.7/3, Error ellipse: s-maj=112.9km s-min=49.8km az=4.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.72**	**201**	P	P	01 20 09.7	+1.2
	2.2nm,0.3s,baz=39,slow=6.5,SNR=12						
URZ				S	S	01 21 21.5	-0.5
	9.2nm,0.3s,baz=342,slow=20,SNR=16						
ASAR	**Alice Springs**	**41.10**	**271**	P	P	01 25 45.7	+0.4
	0.3nm,0.4s,baz=112,slow=7.9,SNR=1.5						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**42.33**	**276**	P	P	01 25 54.9	-0.3
	0.8nm,0.3s,baz=112,slow=8.2,SNR=15						
	0.8nm,0.3s						
FINES	**FINESS Array B**	**146.78**	**337**	PKPbc	PKPbc	01 37 32.0	-1.0
	0.9nm,0.8s,baz=59,slow=0.8,SNR=1.7						

*MOS **11** 01:19:43.8±1.4, 24°21S×66°99W, h183km, mb4.9/18, Error ellipse: s-maj=12.8km s-min=7.1km az=99.5*
*SJA **11** 01:19:44.7±0.7, 24°21S×67°05W, h200km±7km, ML4.7, MW4.7*
*NEIC **11** 01:19:44.5±1.6, 24°21S±0°06×66°88W±0°07, h171km±2km, mb5.0/343, Error ellipse: s-maj=9.6km s-min=7.9km az=72.0*
*IDC **11** 01:19:45.2±0.8, 24°10S×66°86W, h176km±6km, mb4.4/20, mbtmp4.8/27, Error ellipse: s-maj=10.7km s-min=8.0km az=52.0*
*VAO **11** 01:19:45.7±0.2, 24°06S×66°86W, h187km±1km, mb5.6*
*GUC **11** 01:19:46.5±0.7, 24°13S×67°63W, h233km±12km, ML5.1*
*GCMT **11** 01:19:49.5±0.4, 24°15S±0°03×67°06W±0°03, h214km±3km, MW4.9/69, Moment Tensor Solution. s18,c20; s69,c84; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.56±.11; Mθθ=0.10±.13; Mφφ=2.66±.16; Mrθ=0.10±.10; Mθφ=-0.19±.16; Mφr=0.95±.13; Best double couple: Mo=2.78500×10¹⁶ NP1:φs=355.00000°, δ55.00000°, λ=-91.00000°. NP2: φs=177.00000°, δ35.00000°, λ=-89.00000°. Principal axes: T 2.8410, Plg10.0000°, Azm86.0000°; N -0.1140, Plg1.0000°, Azm356.0000°; P -2.7290, Plg80.0000°, Azm262.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 01:19:44.3±0.5, 24°16S±0°03×66°92W±0°03, h174km±4km, n688, σ1°38/649, mb4.9/191, 15C-7D, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.41**	**114**	*e*P	Pn	01 20 20.0	+4.9
SLA				eS	**Sn**	**01 20 40.4**	**+1.6**
SLA				IAML		01 20 45.4	
	comp=Z,4μm,1.0s						
AF01	**San Pedro de A**	**1.66**	**316**		**Pn**	**01 20 21.1**	**+3.4**
HJA	**Humahuaca**	**1.68**	**56**	*e*P	**Pn**	**01 20 22.6**	**+4.6**
FSA	**Cafayete**	**2.12**	**156**	eS	**Sn**	**01 20 44.5**	**-7.8**
YJA	**Yavi**	**2.36**	**34**	*e*P	**Pn**	**01 20 29.6**	**+4.0**
YJA				eS	**Sn**	**01 21 03.4**	**+5.9**
LVC	**Limon Verde**	**2.39**	**310**	*e*P	**Pn**	**01 20 28.1**	**+2.3**
LVC				eS	**Sn**	**01 20 59.6**	**+1.7**
LVC	**Limon Verde**	**2.39**	**310**	P	**Pn**	**01 20 28.1**	**+2.3**
	comp=Z,913nm,0.3s,baz=155,slow=7.7,SNR=3014						
LVC				S	**Sn**	**01 20 59.0**	**+1.2**
	comp=Z,3μm,0.3s,baz=100,slow=19,SNR=12						
LVC	**Limon Verde**	**2.39**	**310**	*e*P	**Pn**	**01 20 27.4**	**+1.6**
LVC				eS	**Sn**	**01 20 59.9**	**+2.1**
PB15	**IPOC Station P**	**2.52**	**292**		**Pn**	**01 20 29.1**	**+1.9**
PB15				Sn	**Sn**	**01 21 00.7**	**+0.4**
PB15	**IPOC Station P**	**2.52**	**292**	*e*P	**Pn**	**01 20 29.0**	**+1.9**
PB15				eS	**Sn**	**01 21 01.0**	**+0.7**
PB15	**IPOC Station P**	**2.52**	**292**	⇑*i*P	**Pn**	**01 20 29.1**	**+1.9**
PB15				eS	**Sn**	**01 21 01.0**	**+0.7**
GO02	**Mina Guanaco**	**2.62**	**247**		**Pn**	**01 20 29.9**	**+1.4**
GO02				Sn	**Sn**	**01 21 02.9**	**+0.2**
GO02	**Mina Guanaco**	**2.62**	**247**	*e*P	**Pn**	**01 20 29.1**	**+0.6**
GO02				eS	**Sn**	**01 21 03.7**	**+1.0**
GO02	**Mina Guanaco**	**2.62**	**247**	⇑*i*P	**Pn**	**01 20 29.9**	**+1.4**
GO02				eS	**Sn**	**01 21 03.6**	**+0.9**
PB06	**IPOC Station P**	**2.83**	**300**		**Pn**	**01 20 32.5**	**+1.8**
PB06	**IPOC Station P**	**2.83**	**300**	*e*P	**Pn**	**01 20 32.6**	**+1.8**
PB06				eS	**Sn**	**01 21 06.9**	**0.0**
PB06	**IPOC Station P**	**2.83**	**300**	*i* P	**Pn**	**01 20 32.6**	**+1.8**
PB06				eS	**Sn**	**01 21 06.6**	**-0.3**
AHML	**Horco Molle**	**2.98**	**152**	eS	**Sn**	**01 21 07.2**	**-2.9**
AHML	**Horco Molle**	**2.98**	**152**	⇑*i*P	**Pn**	**01 20 35.2**	**+2.7**
AHML				eS	**Sn**	**01 21 12.3**	**+2.2**
PB09	**IPOC Station P**	**3.18**	**317**		**Pn**	**01 20 37.2**	**+2.1**
PB09	**IPOC Station P**	**3.18**	**317**	*e*P	**Pn**	**01 20 37.2**	**+2.1**
PB09				eS	**Sn**	**01 21 16.4**	**+1.8**
PB09	**IPOC Station P**	**3.18**	**317**	⇑*i*P	**Pn**	**01 20 37.2**	**+2.1**
PB09				eS	**Sn**	**01 21 15.3**	**+0.7**
PB09				IAML		01 21 20.1	
	comp=E,3μm,0.5s						
PB14	**IPOC Station P**	**3.21**	**261**	Pn	**Pn**	**01 20 36.0**	**+0.4**
PB14	**IPOC Station P**	**3.21**	**261**	*e*P	**Pn**	**01 20 36.0**	**+0.4**
PB14				eS	**Sn**	**01 21 13.1**	**-2.4**
PB14	**IPOC Station P**	**3.21**	**261**	⇑*i*P	**Pn**	**01 20 36.1**	**+0.4**
PB14				eS	**Sn**	**01 21 13.3**	**-2.1**
PB14				IAML		01 21 15.6	
	comp=E,3μm,0.4s						
AC02	**Maricunga**	**3.33**	**216**		**Pn**	**01 20 38.5**	**+1.3**
AC02	**Maricunga**	**3.33**	**216**	*e*P	**Pn**	**01 20 38.8**	**+1.6**
AC02				eS	**Sn**	**01 21 13.6**	**-4.9**
PB10	**IPOC Station P**	**3.39**	**280**		**Pn**	**01 20 38.2**	**+0.7**
PB04	**IPOC Station P**	**3.48**	**301**	Pn	**Pn**	**01 20 39.4**	**+0.6**
PB04	**IPOC Station P**	**3.48**	**301**	*e*P	**Pn**	**01 20 39.8**	**+1.0**
PB04				eS	**Sn**	**01 21 18.9**	**-2.4**
PB04	**IPOC Station P**	**3.48**	**301**	⇑*i*P	**Pn**	**01 20 39.7**	**+0.8**
PB04				eS	**Sn**	**01 21 19.8**	**-1.6**
PB07	**IPOC Station P**	**3.65**	**311**		**Pn**	**01 20 41.6**	**+0.6**
PB07	**IPOC Station P**	**3.65**	**311**	*e*P	**Pn**	**01 20 42.0**	**+1.0**
PB07				eS	**Sn**	**01 21 23.6**	**-1.5**
PB07	**IPOC Station P**	**3.65**	**311**	⇑*i*P	**Pn**	**01 20 42.0**	**+1.0**
PB07				eS	**Sn**	**01 21 23.5**	**-1.7**
AC01	**Pan de Azucar**	**3.88**	**238**	Pn	**Pn**	**01 20 43.2**	**-0.5**
AC01	**Pan de Azucar**	**3.88**	**238**	*e*P	**Pn**	**01 20 43.1**	**-0.5**
AC01				eS	**Sn**	**01 21 27.2**	**-2.8**
AC01	**Pan de Azucar**	**3.88**	**238**	*i* P	**Pn**	**01 20 43.1**	**-0.5**
AC01				eS	**Sn**	**01 21 27.0**	**-3.1**
PB01	**IPOC Station P**	**3.90**	**322**	Pn	**Pn**	**01 20 44.9**	**+0.7**
PB01	**IPOC Station P**	**3.90**	**322**	*e*P	**Pn**	**01 20 44.5**	**+0.3**
PB01				eS	**Sn**	**01 21 30.2**	**-0.6**
PB02	**IPOC Station P**	**3.94**	**315**		**Pn**	**01 20 45.2**	**+0.6**
PB02	**IPOC Station P**	**3.94**	**315**	⇑*i*P	**Pn**	**01 20 45.2**	**+0.6**
PB02				eS	**Sn**	**01 21 29.0**	**-2.6**
GUSE	**Guasayan**	**4.16**	**154**	*e*P	**Pn**	**01 20 49.6**	**+2.3**
CYA	**Choya**	**4.38**	**167**	*e*P	**Pn**	**01 20 52.0**	**+1.9**
CYA				eS	**Sn**	**01 21 38.0**	**-3.8**
AC06	**Mina Casimiro**	**4.44**	**223**		**Pn**	**01 20 50.1**	**-0.8**
PATCX	**Punta Patache**	**4.47**	**317**		**Pn**	**01 20 51.0**	**-0.4**
PATCX	**Punta Patache**	**4.47**	**317**	*i* P	**Pn**	**01 20 51.1**	**-0.3**
PATCX				eS	**Sn**	**01 21 41.2**	**-2.6**
PB08	**IPOC Station P**	**4.50**	**332**		**Pn**	**01 20 53.3**	**+1.1**
PB08	**IPOC Station P**	**4.50**	**332**	*e*P	**Pn**	**01 20 53.8**	**+1.7**
PB08				eS	**Sn**	**01 21 46.6**	**+1.5**
PB08	**IPOC Station P**	**4.50**	**332**	⇑*i*P	**Pn**	**01 20 53.9**	**+1.7**
PB08				eS	**Sn**	**01 21 44.9**	**-0.2**
GO03	**Copiap**	**4.54**	**220**		**Pn**	**01 20 51.4**	**-0.8**
GO03	**Copiap**	**4.54**	**220**	*e*P	**Pn**	**01 20 51.7**	**-0.5**
GO03				eS	**Sn**	**01 21 42.6**	**-2.8**
TA01	**Diego Aracena**	**4.68**	**319**		**Pn**	**01 20 53.4**	**-0.6**
TA01	**Diego Aracena**	**4.68**	**319**	*e*P	**Pn**	**01 20 53.6**	**-0.4**
TA01				eS	**Sn**	**01 21 36.8**	**-12**
TA01	**Diego Aracena**	**4.68**	**319**	*e*P	**Pn**	**01 20 53.5**	**-0.5**
TA01				eS	**Sn**	**01 21 46.1**	**-2.5**
VCA	**Vinchina**	**4.70**	**194**	*e*P	**Pn**	**01 20 55.0**	**+0.5**
VCA				eS	**Sn**	**01 21 46.3**	**-3.1**
HMBC	**Humberstone**	**4.74**	**324**	⇑*i*P	**Pn**	**01 20 54.4**	**-0.6**
TA02	**Huaiquique**	**4.88**	**322**		**Pn**	**01 20 55.5**	**-1.1**
TA02	**Huaiquique**	**4.88**	**322**	*e*P	**Pn**	**01 20 56.0**	**-0.7**
TA02				eS	**Sn**	**01 21 52.4**	**-0.9**
TA02	**Huaiquique**	**4.88**	**322**	*e*P	**Pn**	**01 20 57.1**	**+0.5**
TA02				eS	**Sn**	**01 21 51.4**	**-1.9**
GO01	**Chusmiza**	**4.94**	**334**		**Pn**	**01 20 58.4**	**+0.4**
GO01	**Chusmiza**	**4.94**	**334**	*e*P	**Pn**	**01 20 58.9**	**+1.0**
GO01				eS	**Sn**	**01 21 54.2**	**-1.3**
PB11	**IPOC Station P**	**5.06**	**329**	Pn	**Pn**	**01 20 58.7**	**-0.4**
PB11	**IPOC Station P**	**5.06**	**329**	*e*P	**Pn**	**01 20 58.8**	**-0.3**
PB11				eS	**Sn**	**01 21 55.0**	**-2.8**
PB11	**IPOC Station P**	**5.06**	**329**	⇑*i*P	**Pn**	**01 20 58.9**	**-0.3**
PB11				eS	**Sn**	**01 21 54.9**	**-2.8**
AC04	**Llanos de Chal**	**5.49**	**222**	Pn	**Pn**	**01 21 02.8**	**-1.7**
AC04	**Llanos de Chal**	**5.49**	**222**	*e*P	**Pn**	**01 21 02.9**	**-1.7**
AC04				eS	Sn	01 21 50.4	-17
AC05	**El Transito**	**5.54**	**212**	Pn	**Pn**	**01 21 04.6**	**-0.8**
LCO	**Las Campanas**	**5.90**	**214**	Pn	**Pn**	**01 21 08.6**	**-1.6**
LCO	**Las Campanas**	**5.90**	**214**	*e*P	**Pn**	**01 21 08.8**	**-1.4**
LCO	**Las Campanas**	**5.90**	**214**	P	**Pn**	**01 21 08.6**	**-1.6**
PB16	**IPOC Station P**	**6.28**	**337**		**Pn**	**01 21 16.0**	**+0.5**
TICA	**Tres Isletas**	**6.32**	**112**	*e*P	**Pn**	**01 21 16.6**	**+1.1**
TICA				eS	**Sn**	**01 22 28.7**	**+1.4**
PB12	**IPOC Station P**	**6.36**	**329**	Pn	**Pn**	**01 21 14.9**	**-1.3**
CO01	**Juntas del Tor**	**6.45**	**205**		**Pn**	**01 21 17.2**	**-0.1**
AP01	**Chacalluta**	**6.58**	**330**		**Pn**	**01 21 18.6**	**-0.4**
ACCO	**Cerro Coronel**	**6.68**	**196**	IAML		01 22 53.7	
	comp=Z,64nm,0.6s						
ACCO	**Cerro Coronel**	**6.68**	**196**	*i* P	**Pn**	**01 21 20.9**	**+0.4**
ACCO	**Cerro Coronel**	**6.68**	**196**	*i* S	**Sn**	**01 22 35.5**	**-0.8**
CO05	**La Serena**	**6.91**	**213**	Pn	**Pn**	**01 21 22.3**	**-0.8**
DOCA	**Reserva Natura**	**7.03**	**195**	*i* S	**Sn**	**01 22 42.9**	**-1.8**
DOCA	**Reserva Natura**	**7.03**	**195**	*i* P	**Pn**	**01 21 25.2**	**0.0**
CO03	**El Pedregal**	**7.45**	**206**		**Pn**	**01 21 28.0**	**-2.4**
CO03	**El Pedregal**	**7.45**	**206**	*i* S	**Sn**	**01 22 50.2**	**-4.0**
CO03	**El Pedregal**	**7.45**	**206**	*i* P	**Pn**	**01 21 28.8**	**-1.6**
ZON	**Zonda**	**7.52**	**192**		**Pn**	**01 21 30.0**	**-1.3**
ZON	**Zonda**	**7.52**	**192**	P	**Pn**	**01 21 30.0**	**-1.3**
CO06	**Fray Jorge**	**7.72**	**212**	Pn	**Pn**	**01 21 32.5**	**-1.5**
CO02	**Combarbal**	**7.89**	**206**		**Pn**	**01 21 34.3**	**-2.1**
CO02	**Combarbal**	**7.89**	**206**	*i* P	**Pn**	**01 21 34.4**	**-1.9**
RTLS	**Leoncito**	**7.90**	**195**	*i* S	**Sn**	**01 23 03.2**	**-2.0**
RTLS	**Leoncito**	**7.90**	**195**	*i* P	**Pn**	**01 21 36.2**	**-0.3**
LPAZ	**La Paz**	**7.91**	**352**	Pn	**Pn**	**01 21 38.7**	**+1.5**
LPAZ	**La Paz**	**7.91**	**352**	P	**Pn**	**01 21 38.6**	**+1.4**
	comp=Z,35nm,0.3s,baz=155,slow=5.9,SNR=270						
LPAZ				S	**Sn**	**01 23 04.1**	**-2.1**
	comp=Z,25nm,0.8s,baz=151,slow=10,SNR=2.2						
LPAZ	**La Paz**	**7.91**	**352**	P	**Pn**	**01 21 38.7**	**+1.5**
LPAZ	**La Paz**	**7.91**	**352**	*e*P	**Pn**	**01 21 37.0**	**-0.1**
LPAZ				eS	**Sn**	**01 23 05.6**	**-0.6**
BBRB	**Robore, Bolivi**	**8.85**	**50**	*e*P	**Pn**	**01 21 47.7**	**-1.2**
BBRB				eS	**Sn**	**01 23 27.7**	**+0.1**
MURT	**Porto Murtinho**	**8.94**	**76**	*e*P	**Pn**	**01 21 49.9**	**-0.2**
MURT				eS	**Sn**	**01 23 30.5**	**+0.7**
CPUP	**Villa Florida**	**8.95**	**106**	P	**Pn**	**01 21 49.9**	**-0.3**
	comp=Z,40nm,0.8s,baz=291,slow=12,SNR=76						
CPUP	**Villa Florida**	**8.95**	**106**	*e*P	**Pn**	**01 21 50.1**	**-0.1**
CPUP				eS	**Sn**	**01 23 31.2**	**+1.1**
BBSD	**Serra de San D**	**9.11**	**42**	*e*P	**Pn**	**01 21 52.2**	**-0.1**
BBSD				eS	**Sn**	**01 23 32.2**	**-1.8**
VA03	**San Esteban**	**9.15**	**200**		**Pn**	**01 21 51.8**	**-1.1**
MT08	**Bocatoma Ro**	**9.64**	**196**		**Pn**	**01 21 59.0**	**-0.4**
MT02	**Curacav**	**9.79**	**201**		**Pn**	**01 21 57.9**	**-3.3**
SIV	**San Ignacio**	**9.81**	**35**	P	**Pn**	**01 22 01.5**	**-0.1**
	comp=Z,9.5nm,0.4s,baz=211,slow=12,SNR=51						
SIV				S	Sn	01 23 40.3	-10
	comp=Z,12nm,0.7s,baz=231,slow=14,SNR=5.6						
MT13	**San Alfonso**	**9.99**	**196**		**Pn**	**01 22 03.5**	**-0.4**
BDQN	**Bodoquena, MS**	**10.12**	**71**	*e*P	**Pn**	**01 22 05.7**	**+0.1**
BDQN				eS	**Sn**	**01 23 58.4**	**+0.4**
BO04	**La Punta**	**10.31**	**197**		**Pn**	**01 22 07.2**	**-0.9**
ITQB	**Itaqui**	**10.70**	**123**	Pn	**Pn**	**01 22 14.0**	**+0.9**
ITQB	**Itaqui**	**10.70**	**123**	*e*P	**Pn**	**01 22 13.4**	**+0.3**
PSAL	**Palomas, Salto**	**10.76**	**132**	*e*P	**Pn**	**01 22 14.9**	**+1.1**
BO01	**Tunca**	**10.82**	**199**	Pn	**Pn**	**01 22 13.2**	**-1.5**
AQDB	**Aquidauana**	**11.02**	**73**	Pn	**Pn**	**01 22 16.8**	**-0.5**
AQDB	**Aquidauana**	**11.02**	**73**	*e*P	**Pn**	**01 22 17.3**	**0.0**
AMBA	**Amambai (Brazi**	**11.02**	**86**	*e*P	**Pn**	**01 22 17.2**	**-0.1**
BO02	**Sierra Bellavi**	**11.12**	**197**	Pn	**Pn**	**01 22 16.3**	**-2.3**
PTLB	**Pontes e Lacer**	**11.34**	**42**	Pn	**Pn**	**01 22 21.2**	**-0.4**
PTLB	**Pontes e Lacer**	**11.34**	**42**	*e*P	**Pn**	**01 22 21.8**	**+0.2**
GO05	**Huala**	**11.66**	**201**	Pn	**Pn**	**01 22 25.4**	**-0.1**
UNIS	**Unistalda (Bra**	**11.67**	**117**	*e*P	**Pn**	**01 22 26.5**	**+0.8**
CRSM	**Crissiumal (Br**	**12.07**	**109**	*e*P	**Pn**	**01 22 32.0**	**+1.2**
RODS	**Rosario do Sul**	**12.11**	**123**	*e*P	**Pn**	**01 22 31.5**	**+0.1**
TBOT	**Tacuaremb**	**12.26**	**130**	*e*P	**Pn**	**01 22 34.5**	**+

TEFE eS **S** **01 27 48.2 -3.6**
VAS01 Vassouras-RJ 21.66 90 eP **P** **01 24 21.2 -0.1**
COYC Coyhaique 21.77 190 P **P** **01 24 21.3 -0.9**
DIAM Diamantina, MG 22.43 79 eP **P** **01 24 29.0 -0.1**
ITTB Itaituba 22.44 30 eP **P** **01 24 28.1 -0.9**
ITTB eS **S** **01 28 18.6 -3.7**
DUB01 Friburgo-RJ 22.67 90 eP **P** **01 24 30.7 -0.4**
DUB01 eS **S** **01 28 25.9 -0.2**
JANB Januaria 23.12 71 eP **P** **01 24 34.8 -0.5**
SDBA SAO DESIDERIO 23.91 65 eP **P** **01 24 42.1 -0.4**
SMTB Santa Maria do 23.93 54 eP **P** **01 24 42.5 -0.1**
SMTB eS **S** **01 28 46.0 -0.5**
ARNL Arenillas 24.10 326 P **P** **01 24 43.0 -1.1**
ARNL IAmb IAmb 01 24 49.2
comp=Z,27nm,0.6s
PRPB Parauapebas 24.29 45 eP **P** **01 24 44.8 -1.0**
ALF01 Guarapari-ES 24.46 87 eP **P** **01 24 47.4 0.0**
ALF01 eS **S** **01 28 54.4 -0.5**
GO08 Villa O'Higgin 24.66 189 P **P** **01 24 49.0 0.0**
GO08 IAmb IAmb 01 24 53.2
comp=Z,56nm,0.9s
RIB01 Linhares ES 25.09 84 eP **P** **01 24 52.8 -0.3**
NBLA Lagarto - SE 30.62 70 eP **P** **01 25 41.2 -1.2**
NBPB Pedra_Branca-C 32.14 59 eP **P** **01 25 55.3 -0.4**
NBAN Anadia - AL 32.57 69 eP **P** **01 25 58.7 -0.7**
BAUV El Baul 32.92 358 P **P** **01 26 00.9 -1.4**
BAUV IAmb IAmb 01 26 02.7
comp=Z,35nm,0.8s
SDV Santo Domingo 33.04 353 P **P** **01 26 02.3 -1.4**
SDV Santo Domingo 33.04 353 eP **P** **01 26 03.1 -0.5**
RCBR Riachuelo 34.93 64 P **P** **01 26 19.4 -0.5**
RCBR IAmb IAmb 01 26 21.2
comp=Z,27nm,0.8s
RCBR Riachuelo 34.93 64 P **P** **01 26 19.4 -0.5**
RCBR pmax pmax
comp=Z,27nm,0.9s
RCBR Riachuelo 34.93 64 eP **P** **01 26 19.1 -0.8**
RCBR epP **pP** **01 26 57.6 -0.1**
RCBR Riachuelo 34.93 64 P **P** **01 26 20.8 +1.0**
GRGR Grenville 36.43 9 P **P** **01 26 32.2 -0.3**
SRBA San Rafael, Bu 36.87 332 P **P** **01 26 38.0 +1.7**
SRBA IAmb IAmb 01 26 39.9
comp=Z,19nm,0.9s
LCR2 La Lucha 2 37.60 332 P **P** **01 26 44.5 +1.9**
LCR2 IAmb IAmb 01 26 46.2
comp=Z,24nm,0.8s
HOPE Hope Point 37.68 151 P **P** **01 26 43.9 +1.4**
HOPE Hope Point 37.68 151 P **P** **01 26 43.9 +1.4**
HOPE pmax pmax
comp=Z,85nm,1.0s
HOPE Hope Point 37.68 151 P **P** **01 26 44.1 +1.5**
SOCE Pocosol 38.44 331 P **P** **01 26 52.4 +3.0**
SOCE IAmb IAmb 01 26 53.5
comp=Z,70nm,0.9s
JTS Las Juntas de 38.50 331 P **P** **01 26 51.4 +1.4**
JTS IAmb IAmb 01 26 53.6
comp=Z,29nm,1.1s
JTS Las Juntas de 38.50 331 *i* P **P** **01 26 48.6 -1.4**
JTS pmax pmax
comp=Z,33nm,1.2s
JTS Las Juntas de 38.50 331 P **P** **01 26 52.8 +2.9**
ORTG Ortega, Santa 38.80 330 P **P** **01 26 54.1 +1.6**
ORTG IAmb IAmb 01 26 56.1
comp=Z,30nm,1.0s
ACON Acoyapa 40.09 332 P **P** **01 27 04.6 +1.6**
OBIP Obispado Ponce 41.95 0 P **P** **01 27 17.0 -1.2**
OBIP IAmb IAmb 01 27 18.4
comp=Z,32nm,0.6s
CELP Cerrillos 41.98 0 P **P** **01 27 16.9 -1.5**
CELP IAmb IAmb 01 27 18.5
comp=Z,32nm,0.6s
UUPR Utuado, UPR, P 42.15 0 P **P** **01 27 18.5 -1.3**
UUPR IAmb IAmb 01 27 19.2
comp=Z,28nm,0.8s
TGUH Tegucigalpa,Un 42.87 330 P **P** **01 27 26.1 +0.2**
TGUH IAmb IAmb 01 27 27.9
comp=Z,36nm,0.8s
MTO3 Montecristo 44.15 328 P **P** **01 27 36.0 -0.2**
MTO3 IAmb IAmb 01 27 38.4
comp=Z,20nm,0.8s
ESQI Esquipulas 44.28 328 P **P** **01 27 37.2 +0.1**
ESQI IAmb IAmb 01 27 39.7
comp=Z,30nm,0.9s
TEIG Tepich 48.77 333 P **P** **01 28 11.8 +0.1**
TEIG IAmb IAmb 01 28 12.8
comp=Z,29nm,1.1s
TEIG Tepich 48.77 333 P **P** **01 28 11.9 +0.1**
DWPF Disney Wildern 53.81 344 P **P** **01 28 49.6 +0.5**
baz=164
DWPF Disney Wildern 53.81 344 P **P** **01 28 49.7 +0.5**
BELA Belgrano 2 55.88 172 P **P** **01 29 02.9 -0.5**
BELA IAmb IAmb 01 29 05.3
comp=Z,14nm,0.9s
553A Crawfordville 56.59 342 P **P** **01 29 09.4 +0.4**
VNA3 Neumayer Olymp 56.98 161 ⇓P **P** **01 29 12.3 +1.0**
comp=Z,21nm,0.8s
VNA1 Neumayer--Stat 57.18 160 ⇓P **P** **01 29 13.8 +1.2**
comp=Z,30nm,0.8s
TIGA Tifton 57.54 343 P **P** **01 29 15.9 +0.3**
TIGA IAmb IAmb 01 29 16.6
comp=Z,18nm,0.9s
TIGA Tifton 57.54 343 P **P** **01 29 15.9 +0.3**
baz=162
VNA2 Neumayer--Watz 57.55 160 ⇓P **P** **01 29 15.7 +0.5**
comp=Z,14nm,0.5s,baz=291,slow=6.7
352A Blakely 57.95 342 P **P** **01 29 18.8 +0.3**
ZAIG Zacatecas 58.09 321 P **P** **01 29 20.5 +0.4**
ZAIG IAmb IAmb 01 29 23.1
comp=Z,17nm,1.0s
BRAL Brewton 58.29 340 P **P** **01 29 21.2 +0.3**
BRAL Brewton 58.29 340 P **P** **01 29 21.3 +0.4**
baz=158
154A Montrose 58.53 344 P **P** **01 29 22.6 +0.1**
250A Grady 58.80 341 P **P** **01 29 24.2 -0.2**
250A IAmb IAmb 01 29 25.2
comp=Z,30nm,1.1s
Y60A Bolivia 58.83 349 P **P** **01 29 24.3 -0.2**
Y58A Scranton 59.00 348 P **P** **01 29 25.6 -0.1**
152A Waverly Hall 59.01 342 P **P** **01 29 25.4 -0.4**
152A IAmb IAmb 01 29 26.4
comp=Z,20nm,1.0s
SNAA Sanae 59.18 161 P **P** **01 29 26.8 +0.2**
SNAA IAmb IAmb 01 29 28.0
comp=Z,16nm,0.7s
SNAA Sanae 59.18 161 ⇓P **P** **01 29 27.5 +0.9**
comp=Z,245nm,0.5s
SNAA Sanae 59.18 161 P **P** **01 29 27.2 +0.6**
comp=Z,15nm,0.7s,baz=268,slow=8.0,SNR=13
SNAA PcP **PcP** **01 30 13.1 -0.1**
comp=Z,3.7nm,0.7s,baz=324,slow=18,SNR=1.8
comp=Z,15nm,0.7s
SNAA Sanae 59.18 161 *i* P **P** **01 29 25.6 -1.0**
SNAA pmax pmax
comp=Z,20nm,0.8s
GOGA Godfrey 59.38 344 P **P** **01 29 28.4 +0.1**
GOGA IAmb IAmb 01 29 29.1
comp=Z,13nm,0.7s
GOGA Godfrey 59.38 344 P **P** **01 29 28.2 -0.1**
baz=162,SNR=9.8
GOGA Godfrey 59.38 344 P **P** **01 29 28.4 +0.1**
GOGA pmax pmax
comp=Z,13nm,0.7s
X58A Rowland 59.57 348 P **P** **01 29 30.6 +1.1**
JSC Jenkinsville 59.69 346 P **P** **01 29 31.2 +0.7**
JSC IAmb IAmb 01 29 31.9
comp=Z,23nm,0.8s
JSC Jenkinsville 59.69 346 P **P** **01 29 31.2 +0.7**
JSC pmax pmax
comp=Z,23nm,0.8s
HODGE Hodges 59.87 345 P **P** **01 29 31.9 +0.2**
BIRD Birdtown, Kers 59.88 347 P **P** **01 29 32.5 +0.8**
BIRD IAmb IAmb 01 29 33.4
comp=Z,34nm,1.0s
Y52A Lilburn 59.96 344 P **P** **01 29 31.7 -0.6**
Y52A IAmb IAmb 01 29 33.1
comp=Z,20nm,0.8s
LRAL Lakeview Retre 60.01 341 IAmb IAmb 01 29 33.3
comp=Z,12nm,0.8s
LRAL Lakeview Retre 60.01 341 P **P** **01 29 32.5 -0.2**
baz=159,SNR=9.1
W57A Gilead 60.27 348 IAmb IAmb 01 29 35.9
comp=Z,23nm,0.8s
PAULI Pauline 60.33 346 IAmb IAmb 01 29 36.3
comp=Z,15nm,0.8s
Z47A Carrollton 60.49 340 IAmb IAmb 01 29 36.6
comp=Z,20nm,1.0s
KMSC Kings Mountain 60.54 346 IAmb IAmb 01 29 37.8
comp=Z,20nm,0.9s
KMSC Kings Mountain 60.54 346 P **P** **01 29 36.9 +0.7**
baz=165,SNR=8.2
HKT Hockley 60.54 331 P **P** **01 29 37.2 +1.0**
HKT Hockley 60.54 331 *i* P **P** **01 29 36.0 -0.2**
HKT pmax pmax
comp=Z,14nm,1.0s
HKT Hockley 60.54 331 P **P** **01 29 37.3 +1.0**
Y49A Blount Mountai 60.60 341 IAmb IAmb 01 29 37.3
comp=Z,14nm,0.8s
BG3 Lake Jocassee 60.76 345 IAmb IAmb 01 29 39.0
comp=Z,16nm,0.8s
833A Chaparral WMA, 60.84 327 P **P** **01 29 39.5 +1.1**
baz=146,SNR=17
TROLL Troll, Antarti 60.89 161 ⇓P **P** **01 29 39.6 +1.2**
comp=Z,1µm,0.5s
FPAL Fort Paine 61.01 342 IAmb IAmb 01 29 40.1
comp=Z,17nm,0.8s
W52A Murphy 61.09 344 IAmb IAmb 01 29 41.1
comp=Z,16nm,0.9s
V55A Taylorsville 61.20 347 IAmb IAmb 01 29 42.4
comp=Z,29nm,0.8s
V53A Saluda 61.37 345 IAmb IAmb 01 29 43.0
comp=Z,16nm,0.9s
U56A King 61.51 348 IAmb IAmb 01 29 44.7
comp=Z,33nm,1.4s
W50A Signal Mountai 61.55 343 IAmb IAmb 01 29 44.1
comp=Z,25nm,0.8s
CPCT Cooper Cave 61.58 344 IAmb IAmb 01 29 44.1
comp=Z,15nm,0.7s
TKL Tuckaleechee C 61.59 344 IAmb IAmb 01 29 43.6
comp=Z,13nm,0.6s
TKL Tuckaleechee C 61.59 344 P **P** **01 29 42.7 -0.6**
comp=Z,15nm,0.8s,baz=158,slow=7.6,SNR=22
comp=Z,15nm,0.8s
NATX Nacogdoches 61.61 333 P **P** **01 29 44.7 +1.3**
baz=151
V52A Sevierville 61.72 345 IAmb IAmb 01 29 44.5
comp=Z,13nm,0.7s
435B Jarrell 62.03 330 P **P** **01 29 46.7 +0.4**
baz=148
OXF Oxford 62.13 339 P **P** **01 29 46.3 -0.6**
baz=157,SNR=5.3
PLAL Pickwick Lake 62.14 340 IAmb IAmb 01 29 47.4
comp=Z,18nm,0.8s
BLA Blacksburg 62.35 348 P **P** **01 29 49.2 +0.8**
baz=166
TZTN Tazewell 62.38 345 P **P** **01 29 48.2 -0.3**
baz=163
CLTN Cedars of Leba 62.67 342 IAmb IAmb 01 29 51.1
comp=Z,24nm,0.7s
JCT Junction City 62.82 328 P **P** **01 29 52.1 +0.5**
baz=146,SNR=14
U49A Red Boiling Sp 62.92 343 IAmb IAmb 01 29 52.5
comp=Z,12nm,0.8s
WHTX Lake Whitney, 63.00 331 IAmb IAmb 01 29 54.1
comp=Z,20nm,0.8s
WHTX Lake Whitney, 63.00 331 P **P** **01 29 53.1 +0.4**
baz=149,SNR=5.2
HPIG 63.09 321 IAmb IAmb 01 29 55.5
comp=Z,9.2nm,0.6s
BRDY Brady 63.11 329 IAmb IAmb 01 29 54.6
comp=Z,17nm,0.8s
WVT Waverly 63.13 341 P **P** **01 29 53.0 -0.5**
WVT Waverly 63.13 341 P **P** **01 29 53.1 -0.5**
baz=159
WVT Waverly 63.13 341 P **P** **01 29 53.0 -0.5**
WVT pmax pmax
comp=Z,173nm,0.7s
WVT Waverly 63.13 341 P **P** **01 29 53.0 -0.5**
T50A Nancy 63.15 344 IAmb IAmb 01 29 54.0
comp=Z,13nm,0.8s
SAND Sanderson 63.54 326 IAmb IAmb 01 29 58.4
comp=Z,26nm,1.0s
MIAR Mount Ida 63.63 336 IAmb IAmb 01 29 58.1
comp=Z,23nm,1.1s
MIAR Mount Ida 63.63 336 P **P** **01 29 57.1 +0.3**
baz=153,SNR=11
NVL N'lazarevskaya 63.70 159 ⇑ *i* P **P** **01 29 57.0 +0.2**
NVL pmax pmax
comp=Z,33nm,0.9s
FW07 Weatherford 63.75 331 IAmb IAmb 01 29 58.9
comp=Z,20nm,0.8s
OZNA Ozona 63.82 327 IAmb IAmb 01 29 59.6
comp=Z,14nm,0.8s
TXAR Lajitas Array 63.85 324 P **P** **01 29 58.9 +0.4**
comp=Z,4.0nm,0.8s,baz=152,slow=8.5,SNR=51
comp=Z,4.0nm,0.8s
PLPT Palo Pinto 64.08 331 IAmb IAmb 01 30 01.2
comp=Z,20nm,0.8s
Q54A Cox's Mills 64.15 348 IAmb IAmb 01 30 00.7
comp=Z,9.2nm,0.7s
X37A Clayton 64.37 334 IAmb IAmb 01 30 03.4
comp=Z,20nm,0.8s
Q52A Bidwell 64.41 347 IAmb IAmb 01 30 02.7
comp=Z,16nm,0.8s
ABTX Abilene, Hawle 64.52 330 IAmb IAmb 01 30 04.2
comp=Z,34nm,1.4s
ABTX Abilene, Hawle 64.52 330 P **P** **01 30 03.4 +0.7**
baz=147
ALPN Alpine 64.66 325 IAmb IAmb 01 30 05.4
comp=Z,12nm,0.7s
WCI Wyandotte Cave 64.67 343 P **P** **01 30 02.3 -1.2**
WCI Wyandotte Cave 64.67 343 P **P** **01 30 02.8 -0.6**
baz=160
WCI Wyandotte Cave 64.67 343 P **P** **01 30 02.3 -1.2**
WCI pmax pmax
comp=Z,38nm,0.6s
WCI Wyandotte Cave 64.67 343 P **P** **01 30 02.9 -0.6**
WCI PcP **PcP** **01 30 35.8 +0.1**
P53A Whipple 64.74 348 IAmb IAmb 01 30 05.3
comp=Z,24nm,0.9s
CGM3 Cape Girardeau 64.77 340 IAmb IAmb 01 30 04.2
comp=Z,14nm,0.7s
S44A Carbondale 65.01 341 IAmb IAmb 01 30 05.7
comp=Z,16nm,0.7s
SIUC Southern Illin 65.02 341 IAmb IAmb 01 30 06.2
comp=Z,29nm,1.2s
P52A Corning 65.03 347 IAmb IAmb 01 30 06.6
comp=Z,24nm,1.0s
P52A Corning 65.03 347 P **P** **01 30 05.5 -0.3**
baz=165,SNR=7.5
SSPA Standing Stone 65.26 351 P **P** **01 30 07.8 +0.5**
baz=169
HHAR Hobbs 65.31 336 IAmb IAmb 01 30 08.9
comp=Z,19nm,1.0s
O52A Adamsville 65.44 347 IAmb IAmb 01 30 08.9
comp=Z,13nm,0.7s
O53A New Philadelph 65.44 348 P **P** **01 30 08.6 +0.2**
baz=166
W35A Tecumseh 65.46 333 IAmb IAmb 01 30 09.2
comp=Z,14nm,0.6s
MGMO Mountain Grove 65.49 338 IAmb IAmb 01 30 10.0
comp=Z,26nm,1.1s
P49A Miami Univ. Ec 65.51 345 IAmb IAmb 01 30 09.0
comp=Z,28nm,1.0s
P49A Miami Univ. Ec 65.51 345 P **P** **01 30 08.2 -0.7**
baz=162
PECS Pecos 65.57 326 IAmb IAmb 01 30 11.5
comp=Z,35nm,1.5s
P48A Milroy 65.61 344 IAmb IAmb 01 30 09.3
comp=Z,30nm,1.2s
TUL3 Leonard 65.69 335 IAmb IAmb 01 30 12.0
comp=Z,14nm,0.8s
TUL3 Leonard 65.69 335 P **P** **01 30 10.3 +0.2**
baz=151,SNR=5.4
VHRN Van Horn 65.69 324 IAmb IAmb 01 30 12.3
comp=Z,21nm,0.9s
POST Post 65.76 328 IAmb IAmb 01 30 13.6
comp=Z,18nm,0.9s
ACSO Alum Creek Sta 65.78 347 IAmb IAmb 01 30 11.3
comp=Z,23nm,0.9s
ACSO Alum Creek Sta 65.78 347 P **P** **01 30 10.6 0.0**
baz=164,SNR=6.3
WMOK Wichita Mounta 65.92 332 P **P** **01 30 11.4 -0.2**
baz=148
CCM Cathedral Cave 65.97 339 P **P** **01 30 11.7 -0.2**
CCM Cathedral Cave 65.97 339 P **P** **01 30 11.8 -0.1**
baz=156
CCM Cathedral Cave 65.97 339 P **P** **01 30 11.7 -0.1**
CCM pmax pmax
comp=Z,34nm,0.8s
CCM Cathedral Cave 65.97 339 P **P** **01 30 11.7 -0.1**
CCM PcP **PcP** **01 30 41.5 +0.4**
DKNS Dickens 65.98 329 IAmb IAmb 01 30 13.2
comp=Z,16nm,0.7s
O49A Covington 66.04 345 IAmb IAmb 01 30 12.7
comp=Z,21nm,1.1s
QSPA South Pole Qui 66.05 180 P **P** **01 30 11.7 -0.6**
QSPA South Pole Qui 66.05 180 P **P** **01 30 13.1 +0.9**
comp=Z,25nm,0.7s,baz=198,slow=0.4,SNR=156
comp=Z,25nm,0.7s
QSPA South Pole Qui 66.05 180 ⇓P **P** **01 30 13.4 +1.2**
Q44A Meyer Farm, Va 66.06 341 IAmb IAmb 01 30 12.2
comp=Z,17nm,1.0s
M55A Ridgway 66.21 350 IAmb IAmb 01 30 14.8
comp=Z,18nm,1.1s
O48B Farmland 66.30 345 IAmb IAmb 01 30 13.8
comp=Z,23nm,0.7s
O48B Farmland 66.30 345 P **P** **01 30 13.4 -0.5**
baz=162,SNR=6.7
HRV Adam Dziewonsk 66.47 356 P **P** **01 30 15.5 +0.6**
baz=175
L61B Northampton 66.49 355 P **P** **01 30 15.6 +0.5**
baz=174
M53A WI Miller and 66.50 349 P **P** **01 30 15.4 +0.2**
baz=166
BINY Binghamton 66.55 353 P **P** **01 30 16.1 +0.6**
baz=171
MNTX Cornudas Mount 66.62 325 P **P** **01 30 16.1 0.0**
baz=142,SNR=30
N49A Columbus Grove 66.70 346 IAmb IAmb 01 30 17.1
comp=Z,32nm,0.9s
T35A Sooner Cattle 66.85 335 IAmb IAmb 01 30 19.0
comp=Z,23nm,1.2s
P43A Skaggs, Pawnee 66.89 341 IAmb IAmb 01 30 17.8
comp=Z,30nm,0.8s
SFIN Lafayette 66.90 343 IAmb IAmb 01 30 17.1
comp=Z,18nm,0.7s
SFIN Lafayette 66.90 343 P **P** **01 30 16.8 -0.9**
baz=160,SNR=7.8
BLOK Blackwell 66.99 334 IAmb IAmb 01 30 19.9
comp=Z,33nm,1.1s
N47A Urbana 67.02 345 IAmb IAmb 01 30 18.7
comp=Z,30nm,1.0s
ERPA Erie 67.04 349 P **P** **01 30 18.9 +0.3**
baz=167
WVNY West Valley, N 67.10 351 IAmb IAmb 01 30 20.7
comp=Z,14nm,0.8s
AMTX Amarillo 67.34 329 IAmb IAmb 01 30 22.0
comp=Z,21nm,1.2s
AMTX Amarillo 67.34 329 P **P** **01 30 20.8 0.0**
baz=146
OK032 Salt Plains WL 67.43 333 IAmb IAmb 01 30 22.1
comp=Z,17nm,0.6s
KAN09 Caldwell North 67.48 334 pP 01 31 03.7 -0.5
P40A Paris 67.57 339 IAmb IAmb 01 30 22.8
comp=Z,29nm,0.8s
HDIL Hopedale 67.67 342 IAmb IAmb 01 30 22.6
comp=Z,30nm,0.8s
HDIL Hopedale 67.67 342 P **P** **01 30 22.0 -0.5**
baz=158
L48A N Adams 67.74 346 IAmb IAmb 01 30 23.2
comp=Z,26nm,0.7s
HSIG 67.74 319 P **P** **01 30 23.8 +0.6**
HSIG IAmb IAmb 01 30 25.9
comp=Z,32nm,1.2s
DBIC Dimbokro 67.78 71 P **P** **01 30 22.4 -1.5**
DBIC IAmb IAmb 01 32 00.5
comp=Z,40nm,1.5s
DBIC Dimbokro 67.78 71 P **P** **01 30 23.6 -0.2**
comp=Z,4.7nm,0.8s,baz=250,slow=3.0,SNR=10
comp=Z,4.7nm,0.8s
DBIC Dimbokro 67.78 71 P **P** **01 30 22.4 -1.5**
DBIC pmax pmax
comp=Z,40nm,1.5s
M44A Midewin, Midew 68.09 343 IAmb IAmb 01 30 26.8
comp=Z,18nm,0.9s
P38A Dawn 68.15 338 IAmb IAmb 01 30 26.5
comp=Z,31nm,0.9s
LBNH Lisbon 68.22 356 P **P** **01 30 25.4 -0.5**
baz=175
319A Douglas 68.50 322 IAmb IAmb 01 30 30.7
comp=Z,24nm,0.6s
121A Cookes Peak, D 68.55 324 IAmb IAmb 01 30 31.4
comp=Z,25nm,0.9s
121A Cookes Peak, D 68.55 324 P **P** **01 30 30.4 +2.0**
baz=140,SNR=20
KSU1 Kansas State U 68.79 336 IAmb IAmb 01 30 30.1
comp=Z,11nm,0.7s
KSU1 Kansas State U 68.79 336 P **P** **01 30 29.5 -0.1**
baz=151
L44A Lake County Fo 68.80 343 IAmb IAmb 01 30 30.5
comp=Z,32nm,0.9s
L44A Lake County Fo 68.80 343 P **P** **01 30 29.5 0.0**
baz=160
R32A Long Quarter, 69.02 334 IAmb IAmb 01 30 32.7
comp=Z,27nm,0.8s
RTBA Rita Blanca 69.11 330 IAmb IAmb 01 30 35.0
comp=Z,17nm,0.8s
L42A Oliver, Polo 69.11 342 IAmb IAmb 01 30 31.9
comp=Z,23nm,0.7s
Y22D IRIS PASSCAL I 69.28 325 P **P** **01 30 31.4 -1.5**
baz=141
Y22F Passcal Instru 69.28 325 P **P** **01 30 31.7 -1.2**
baz=141
ANMO Albuquerque 69.72 326 P **P** **01 30 36.3 +0.7**
ANMO IAmb IAmb 01 30 38.2
comp=Z,21nm,0.9s
ANMO Albuquerque 69.72 326 P **P** **01 30 37.1 +1.5**
baz=142
ANMO Albuquerque 69.72 326 P **P** **01 30 36.9 +1.3**
comp=Z,14nm,0.8s,baz=225,slow=6.8,SNR=54
comp=Z,14nm,0.8s
ANMO Albuquerque 69.72 326 P **P** **01 30 36.3 +0.7**
ANMO pmax pmax
comp=Z,21nm,1.0s
ANMO Albuquerque 69.72 326 ⇓P **P** **01 30 37.1 +1.5**
CBKS Cedar Bluff 69.78 333 P **P** **01 30 36.9 +1.2**
baz=148
TUC Tucson 70.05 321 P **P** **01 30 38.0 +0.5**
TUC Tucson 70.05 321 P **P** **01 30 39.1 +1.6**
baz=138
TUC Tucson 70.05 321 P **P** **01 30 38.1 +0.5**
TUC pmax pmax
comp=Z,16nm,1.2s
TUC Tucson 70.05 321 P **P** **01 30 39.1 +1.6**
JFWS Jewell Farm 70.12 342 P **P** **01 30 37.6 0.0**
baz=157,SNR=15
T25A Trinidad 70.45 329 IAmb IAmb 01 30 42.6
comp=Z,16nm,0.8s
T25A Trinidad 70.45 329 P **P** **01 30 41.5 +1.4**
baz=144,SNR=17
I42A Draeger Farm, 70.66 343 IAmb IAmb 01 30 41.9
comp=Z,29nm,0.9s
214A Organ Pipe Nat 70.97 320 IAmb IAmb 01 30 46.1
comp=Z,31nm,1.4s
214A Organ Pipe Nat 70.97 320 P **P** **01 30 45.1 +2.1**
baz=136,SNR=6.5
KSCO Kaye Shedlock' 71.17 331 P **P** **01 30 45.5 +1.2**
baz=146
BGNE Belgrade 71.37 336 P **P** **01 30 45.9 +0.6**
baz=150
SDCO Great Sand Dun 71.46 329 P **P** **01 30 47.8 +1.6**
baz=143,SNR=17
W18A Petrified Fore 71.56 324 IAmb IAmb 01 30 49.5
comp=Z,22nm,0.9s
W18A Petrified Fore 71.56 324 P **P** **01 30 48.3 +1.5**
baz=139,SNR=10
E46A Sault Ste Mari 71.94 347 IAmb IAmb 01 30 49.3
comp=Z,34nm,0.8s
X16A Lo Mia Camp, P 71.97 322 IAmb IAmb 01 30 52.2
comp=Z,19nm,1.1s
Q24A Divide 72.27 330 IAmb IAmb 01 30 53.6
comp=Z,24nm,0.9s
Q24A Divide 72.27 330 P **P** **01 30 52.5 +1.5**
baz=144,SNR=9.2
MVCO Mesa Verde 72.51 326 IAmb IAmb 01 30 55.1
comp=Z,19nm,0.9s
MVCO Mesa Verde 72.51 326 P **P** **01 30 54.1 +1.7**
baz=141,SNR=13
WUAZ Wupatki 72.75 323 IAmb IAmb 01 30 56.9
comp=Z,24nm,0.8s
WUAZ Wupatki 72.75 323 P **P** **01 30 55.8 +2.0**
baz=138,SNR=11
ECSD EROS Data Cent 72.85 338 IAmb IAmb 01 30 55.2
comp=Z,28nm,1.1s
ECSD EROS Data Cent 72.85 338 P **P** **01 30 54.3 +0.3**
baz=152,SNR=23
GLA Glamis 72.94 319 IAmb IAmb 01 30 57.5
comp=Z,15nm,0.8s
GLA Glamis 72.94 319 P **P** **01 30 56.4 +1.6**
baz=135

SPMN **Marine on St.** **72.97 341** IAmb IAmb 01 30 55.4
comp=Z,27nm,1.0s
SPMN **Marine on St.** **72.97 341** P **P** **01 30 54.6 0.0**
baz=155,SNR=8.6
ISCO **Idaho Springs** **73.15 330** P **P** **01 30 57.8 +1.6**
baz=144,SNR=16
PDMCI **Parker Dam,Lak** **73.42 321** P **P** **01 30 59.1 +1.6**
baz=136
IKP **In-Ko-Pah, Jac** **73.43 318** P **P** **01 30 59.4 +1.7**
baz=134
SBA **Scott Base** **73.55 190** P **P** **01 30 58.2 +0.5**
SBA **Scott Base** **73.55 190** P **P** **01 30 58.2 +0.5**
SBA pmax pmax
comp=Z,21nm,1.5s
BC3 **Big Chuckawall** **73.74 319** P **P** **01 31 01.2 +1.7**
baz=135,SNR=6.0
F36A **Milaca** **73.76 341** IAmb IAmb 01 31 00.0
comp=Z,24nm,0.8s
MONP2 **Monument Peak** **73.79 318** P **P** **01 31 01.7 +1.7**
baz=134
IRM **Iron Mountain** **73.91 320** P **P** **01 31 01.9 +1.5**
baz=135
U15A **North Rim** **73.92 323** IAmb IAmb 01 31 04.0
comp=Z,18nm,0.8s
N23A **Red Feather La** **74.18 330** P **P** **01 31 03.9 +1.7**
baz=143,SNR=6.7
HMU **Henry Mountain** **74.22 325** IAmb IAmb 01 33 45.1
comp=Z,23nm,1.1s
SUSD **Miller** **74.30 337** P **P** **01 31 02.7 +0.3**
baz=150
TPFO **Pinon Flats** **74.30 319** P **P** **01 31 04.3 +1.5**
baz=134,SNR=5.7
BELC **Belle Mtn. Jos** **74.30 319** P **P** **01 31 04.3 +1.4**
baz=134
PFO **Pinyon Flats O** **74.31 319** P **P** **01 31 03.1 +0.2**
PFO **Pinyon Flats O** **74.31 319** P **P** **01 31 04.4 +1.6**
baz=134
PFO **Pinyon Flats O** **74.31 319** P **P** **01 31 04.6 +1.7**
comp=Z,11nm,0.9s,baz=125,slow=4.8,SNR=9.9
comp=Z,11nm,0.9s
PFO **Pinyon Flats O** **74.31 319** *i* P **P** **01 31 00.0 -2.9**
PFO pmax pmax
comp=Z,70nm,3.0s
VNDA **Vanda** **74.56 190** P **P** **01 31 04.2 +0.7**
VNDA **Vanda** **74.56 190** P **P** **01 31 05.0 +1.5**
comp=Z,5.2nm,0.9s,baz=145,slow=5.0,SNR=18
comp=Z,5.2nm,0.9s
VNDA **Vanda** **74.56 190** P **P** **01 31 04.2 +0.7**
VNDA pmax pmax
comp=Z,10.0nm,1.1s
GMRC **Granite Mounta** **74.65 320** P **P** **01 31 06.4 +1.6**
baz=135,SNR=24
O20A **White River Ci** **74.65 328** IAmb IAmb 01 31 07.5
comp=Z,26nm,0.8s
O20A **White River Ci** **74.65 328** P **P** **01 31 06.7 +1.8**
baz=141,SNR=14
MURC **Murrieta** **74.75 318** P **P** **01 31 07.1 +1.8**
baz=133
ELS **Elsinore Mount** **74.92 318** P **P** **01 31 07.1 +0.8**
ELS IAmb IAmb 01 31 09.1
comp=Z,19nm,0.8s
SRU **San Rafael Swe** **74.99 326** IAmb IAmb 01 31 09.1
comp=Z,20nm,0.8s
HEC **Hector,Ludlow** **75.08 320** P **P** **01 31 09.6 +2.4**
baz=134,SNR=6.6
EYMN **Ely** **75.09 343** P **P** **01 31 06.8 -0.1**
baz=157,SNR=7.7
Q16A **Castle Valley** **75.18 326** IAmb IAmb 01 31 10.8
comp=Z,45nm,1.8s
P18A **Preston Nutter** **75.25 327** IAmb IAmb 01 31 11.2
comp=Z,18nm,0.8s
TUQ **Turquoise Moun** **75.26 320** P **P** **01 31 10.0 +1.7**
baz=135
CCUT **Cedar City** **75.33 323** IAmb IAmb 01 31 12.3
comp=Z,29nm,0.8s
CIS **Catalina Islan** **75.36 317** P **P** **01 31 10.5 +1.7**
baz=132
P17A **Butcher Ranch,** **75.38 326** IAmb IAmb 01 31 11.5
comp=Z,19nm,0.9s
RWWY **Rawlins** **75.39 330** IAmb IAmb 01 31 10.6
comp=Z,20nm,0.9s
BFSC **Mount Baldy Ra** **75.46 318** P **P** **01 31 11.2 +1.7**
baz=133
FMP **Fort Macarthur** **75.49 318** P **P** **01 31 11.2 +1.8**
baz=133
SUR **Sutherland** **75.67 119** P **P** **01 31 10.4 -0.6**
SUR IAmb IAmb 01 33 05.1
comp=Z,74nm,2.0s
GSC **Goldstone, Bar** **75.68 320** P **P** **01 31 12.4 +1.7**
baz=134,SNR=6.4
K22A **Casper** **75.85 331** P **P** **01 31 12.8 +1.2**
baz=143
RSSD **Black Hills** **75.98 333** P **P** **01 31 12.9 +0.6**
RSSD **Black Hills** **75.98 333** P **P** **01 31 13.3 +1.0**
baz=146
RSSD **Black Hills** **75.98 333** P **P** **01 31 12.9 +0.6**
RSSD pmax pmax
comp=Z,11nm,0.9s
D32A **Dogwood Acres,** **75.98 339** IAmb IAmb 01 31 13.1
comp=Z,29nm,0.8s
B35A **Bob, Littlefor** **76.08 342** IAmb IAmb 01 31 13.5
comp=Z,31nm,0.8s
EDW2 **Edwards Air Fo** **76.10 319** P **P** **01 31 14.3 +1.3**
baz=133
BSUT **Blindstream Ca** **76.19 327** IAmb IAmb 01 31 16.6
comp=Z,19nm,0.9s
GWY **Greenwater Val** **76.22 321** IAmb IAmb 01 31 16.3
comp=Z,20nm,0.9s
CCAC **Calif City Air** **76.30 319** IAmb IAmb 01 31 16.8
comp=Z,17nm,0.7s
PSUT **Pine Spring** **76.31 324** IAmb IAmb 01 31 17.2
comp=Z,17nm,0.8s
FURC **Furnace Creek,** **76.52 321** P **P** **01 31 17.0 +1.8**
baz=134,SNR=10
JLU **Jordanelle** **76.58 327** IAmb IAmb 01 31 18.5
comp=Z,37nm,1.5s
MPMC **Manual Prospec** **76.61 320** P **P** **01 31 17.0 +1.0**
baz=134,SNR=6.7
WCT **Wildcat Mounta** **76.61 321** IAmb IAmb 01 31 19.1
comp=Z,18nm,0.9s
AGMN **Agassiz Nation** **76.65 341** IAmb IAmb 01 31 16.9
comp=Z,21nm,0.9s
AGMN **Agassiz Nation** **76.65 341** P **P** **01 31 15.9 +0.2**
baz=153,SNR=7.9
ARVC **Arvin** **76.77 318** P **P** **01 31 17.3 +0.6**
baz=132
DUG **Dugway, Tooele** **76.97 326** P **P** **01 31 19.6 +1.7**
baz=138,SNR=11
R11B **Troy Canyon, C** **77.12 323** P **P** **01 31 20.7 +1.9**
baz=135,SNR=22
PKM **Mcpherson Peak** **77.21 318** P **P** **01 31 21.3 +1.9**
baz=132,SNR=5.3
CWC **Cottonwood Cre** **77.22 320** P **P** **01 31 20.8 +1.5**
baz=133
BW06 **Boulder Array** **77.32 329** P **P** **01 31 20.9 +1.0**
baz=141,SNR=6.6
PDAR **Pinedale Array** **77.32 329** P **P** **01 31 20.3 +0.4**
PDAR **Pinedale Array** **77.32 329** P **P** **01 31 20.6 +0.7**
comp=Z,2.5nm,0.6s,baz=132,slow=7.2,SNR=21
comp=Z,2.5nm,0.6s
VES **Vestal, Richgr** **77.41 319** P **P** **01 31 21.9 +1.8**
baz=132
MDND **Maddock** **77.46 338** P **P** **01 31 21.6 +1.4**
baz=150,SNR=11
TSUM **Tsumeb** **77.54 106** P **P** **01 31 20.8 -0.8**
SMMC **Simmler** **77.61 318** P **P** **01 31 23.3 +1.9**
baz=132
AHID **Auburn Hatcher** **78.05 328** IAmb IAmb 01 31 26.1
comp=Z,28nm,0.9s
ULM **Lac du Bonnet** **78.40 342** IAmb IAmb 01 31 26.0
comp=Z,19nm,0.7s
ULM **Lac du Bonnet** **78.40 342** P **P** **01 31 25.2 -0.1**
comp=Z,16nm,0.6s,baz=155,slow=5.9,SNR=37
comp=Z,16nm,0.6s
ULM **Lac du Bonnet** **78.40 342** *i* P **P** **01 31 24.5 -0.8**
ELK **Elko** **78.64 325** P **P** **01 31 28.1 +0.9**
comp=Z,10nm,0.9s
comp=Z,10nm,0.9s
SCHQ **Schefferville** **78.67 0** P **P** **01 31 26.6 -0.1**
comp=Z,4.1nm,0.6s,baz=189,slow=4.4,SNR=12
comp=Z,4.1nm,0.6s
NVAR **Mina Array Bea** **78.70 321** P **P** **01 31 28.4 +0.8**
NVAR **Mina Array Bea** **78.70 321** P **P** **01 31 28.8 +1.3**
comp=Z,5.4nm,0.9s,baz=154,slow=6.2,SNR=22
comp=Z,5.4nm,0.9s
IMW **Indian Meadow** **78.83 329** IAmb IAmb 01 31 30.8
comp=Z,17nm,0.8s
FLWY **Flagg Ranch** **78.86 329** IAmb IAmb 01 31 31.2
comp=Z,21nm,0.9s
LAO **LASA Array** **78.97 334** IAmb IAmb 01 31 30.7
comp=Z,23nm,0.8s
LAO **LASA Array** **78.97 334** P **P** **01 31 30.1 +1.5**
baz=144
RLMT **Red Lodge** **79.02 331** IAmb IAmb 01 31 31.0
comp=Z,13nm,0.6s
RLMT **Red Lodge** **79.02 331** P **P** **01 31 30.6 +1.5**
baz=141,SNR=13
KVN **Kaiserville** **79.02 322** IAmb IAmb 01 31 31.5
comp=Z,20nm,0.8s
H17A **Grant Village** **79.04 330** P **P** **01 31 31.7 +2.4**
baz=140,SNR=6.6
DGMT **Dagmar** **79.63 336** P **P** **01 31 33.8 +1.6**
baz=146,SNR=8.7
PNTR **Pine Nut** **79.90 321** IAmb IAmb 01 31 36.9
comp=Z,32nm,0.8s
PAHR **Pah Rah Range** **80.19 322** IAmb IAmb 01 31 38.3
comp=Z,28nm,0.9s
HLID **Hailey** **80.26 327** IAmb IAmb 01 31 38.8
comp=Z,27nm,0.8s
HLID **Hailey** **80.26 327** P **P** **01 31 37.9 +2.1**
baz=137,SNR=58
BOZ **Bozeman (W)** **80.44 330** P **P** **01 31 37.9 +1.2**
baz=139,SNR=7.4
BOSA **Boshof** **80.60 117** P **P** **01 31 38.5 +0.4**
BOSA **Boshof** **80.60 117** P **P** **01 31 38.7 +0.7**
comp=Z,6.8nm,0.5s,baz=256,slow=3.4,SNR=31
comp=Z,6.8nm,0.5s
BOSA **Boshof** **80.60 117** P **P** **01 31 38.5 +0.4**
BOSA pmax pmax
comp=Z,15nm,1.1s
MAW **Mawson** **81.26 163** P **P** **01 31 41.2 +0.6**
comp=Z,19nm,0.8s,baz=210,slow=6.0,SNR=28
comp=Z,19nm,0.8s
ORV **Oroville** **81.30 320** IAmb IAmb 01 31 43.8
comp=Z,21nm,1.1s
EGMT **Eagleton** **81.49 333** IAmb IAmb 01 31 43.8
comp=Z,26nm,1.0s
EGMT **Eagleton** **81.49 333** P **P** **01 31 42.9 +0.8**
baz=141,SNR=8.3
PLID **Pearl Lake** **82.15 327** IAmb IAmb 01 31 48.0
comp=Z,27nm,0.8s
J08A **Circle Bar Ran** **82.19 325** IAmb IAmb 01 31 48.4
comp=Z,21nm,0.9s
MSO **Missoula** **82.43 330** P **P** **01 31 48.4 +1.3**
baz=138
K05A **Summer Lake** **83.06 323** IAmb IAmb 01 31 53.2
comp=Z,32nm,0.9s
F10A **Beach Ranch, E** **83.38 327** IAmb IAmb 01 31 58.1
comp=Z,12nm,0.8s
YBH **Yreka Blue Hor** **83.42 321** P **P** **01 31 51.7 -0.6**
comp=Z,4.3nm,0.8s,baz=93,slow=3.8,SNR=7.2
comp=Z,4.3nm,0.8s
J05D **Fort Rock, OR** **83.62 323** IAmb IAmb 01 31 55.6
comp=Z,18nm,1.0s
PINE **Pine Mountain** **83.80 324** IAmb IAmb 01 31 56.9
comp=Z,23nm,0.8s
FFC **Flin Flon** **84.13 340** P **P** **01 31 55.7 +0.3**
FFC **Flin Flon** **84.13 340** P **P** **01 31 55.7 +0.3**
FFC pmax pmax
comp=Z,9.0nm,1.1s
I05D **Terrebonne, OR** **84.38 324** IAmb IAmb 01 31 59.4
comp=Z,16nm,0.7s
K02D **Willamette Mer** **84.59 322** IAmb IAmb 01 32 01.8
comp=Z,16nm,1.0s
DBO **Dodson Butte** **84.62 322** IAmb IAmb 01 33 15.0
comp=Z,48nm,1.6s
NEW **Newport** **84.96 329** P **P** **01 32 00.4 +0.6**
baz=135
NEW **Newport** **84.96 329** P **P** **01 31 59.8 0.0**
comp=Z,4.2nm,0.7s,baz=144,slow=7.4,SNR=3.0
comp=Z,4.2nm,0.7s
BUCK **Buck Mountain** **85.18 323** IAmb IAmb 01 32 02.9
comp=Z,25nm,0.8s
C09A **Chrisman Ranch** **85.18 328** IAmb IAmb 01 32 02.8
comp=Z,31nm,0.8s
COR **Corvallis** **85.60 323** P **P** **01 32 03.2 +0.2**
COR **Corvallis** **85.60 323** P **P** **01 32 03.2 +0.2**
COR pmax pmax
comp=Z,58nm,1.0s
ESDC **Sonseca Array** **86.46 44** P **P** **01 32 06.9 -0.6**
ESDC **Sonseca Array** **86.46 44** P **P** **01 32 08.4 +1.0**
comp=Z,2.6nm,0.9s,baz=240,slow=4.7,SNR=11
comp=Z,2.6nm,0.9s
LSZ **Lusaka** **88.39 106** P **P** **01 32 16.7 -0.6**
LSZ IAmb IAmb 01 32 20.9
comp=Z,12nm,1.1s
LSZ **Lusaka** **88.39 106** P **P** **01 32 16.7 -0.6**
LSZ pmax pmax
comp=Z,12nm,1.1s
CASY **Casey** **89.83 179** P **P** **01 32 23.7 +0.8**
CASY IAmb IAmb 01 32 25.3
comp=Z,18nm,0.9s
KEST **Kesra** **93.45 52** P **P** **01 32 41.3 +1.0**
comp=Z,2.2nm,1.0s,baz=239,slow=13,SNR=1.8
comp=Z,2.2nm,1.0s
YKA **Yellowknife Ar** **94.30 340** P **P** **01 32 43.9 +0.6**
YKA **Yellowknife Ar** **94.30 340** P **P** **01 32 43.7 +0.3**
comp=Z,6.0nm,0.7s,baz=126,slow=4.0,SNR=126
comp=Z,6.0nm,0.7s
YKA **Yellowknife Ar** **94.30 340** P **P** **01 32 43.9 +0.6**
TOAD **Toad River Com** **95.64 334** P **P** **01 32 50.4 +0.7**
baz=129
KOTAN **Kotaneelee Air** **95.98 335** P **P** **01 32 52.0 +0.9**
baz=130
V35K **Ketchikan** **96.36 329** P **P** **01 32 54.7 +1.7**
baz=124
WRAK **Wrangell Islan** **97.31 329** P Pdif 01 32 58.2 +0.9
baz=123
DLBC **Dease Lake** **97.40 332** IAmb IAmb 01 32 59.6
comp=Z,3.9nm,0.8s
DLBC **Dease Lake** **97.40 332** P **P** **01 32 57.6 -0.1**
baz=125
U33K **Whale Pass** **97.51 329** P Pdif 01 32 58.1 +0.1
baz=123
R33M **Jennings River** **98.34 332** P Pdif 01 33 03.2 +1.2
baz=124
P33M **Teslin, Yukon** **99.57 332** P **Pdif** **01 33 07.7 +0.3**
baz=122
N32M **Quiet Lake** **100.19 333** P **Pdif** **01 33 10.9 +0.9**
baz=122
MMPY **Sheldon Lake,** **100.25 335** P **Pdif** **01 33 10.8 +0.5**
baz=123
PLBC **Pleasant Camp** **100.72 331** P **Pdif** **01 33 13.3 +0.9**
baz=120
FARO **Faro, Yukon** **100.86 334** P **Pdif** **01 33 13.7 +0.7**
baz=122
O30N **Mendenhall** **101.25 332** P **Pdif** **01 33 15.9 +1.1**
baz=120
M31M **Drury Creek, Y** **101.27 334** P **Pdif** **01 33 15.3 +0.5**
baz=121
N31M **Braeburn, Yuko** **101.48 333** P **Pdif** **01 33 16.1 +0.3**
baz=120
C36M **Paulatuk** **101.81 342** P **Pdif** **01 33 17.7 +0.8**
baz=128
HYT **Haines Junctio** **101.89 332** P **Pdif** **01 33 18.7 +1.0**
baz=118
YUK6 **Outpost Mounta** **102.31 332** P **Pdif** **01 33 20.7 +1.0**
baz=118
YUK4 **Talbot Arm** **102.62 332** P **Pdif** **01 33 21.6 +0.5**
baz=117
O28M **Mount Upton** **103.03 331** P **Pdif** **01 33 24.5 +1.5**
baz=116
M29M **Somme Creek** **103.05 333** P **Pdif** **01 33 23.3 +0.5**
baz=117
YUK8 **Steele Glacier** **103.08 332** P **Pdif** **01 33 24.5 +1.4**
baz=116
H31M **Peel River** **103.08 337** P **Pdif** **01 33 23.8 +1.1**
baz=120
J30M **Hart River** **103.20 335** P **Pdif** **01 33 24.5 +1.0**
baz=119
L29M **L29M** **103.22 334** **Pdif** **01 33 24.4 +0.9**
L29M **L29M** **103.22 334** P **Pdif** **01 33 24.4 +0.9**
baz=117
K29M **Barlow Dome** **103.32 335** P **Pdif** **01 33 24.7 +0.7**
baz=118
I30M **Mount Dempster** **103.53 336** P **Pdif** **01 33 25.4 +0.5**
baz=118
MESA **MESA** **103.56 330** P **Pdif** **01 33 24.5 -0.7**
baz=115
G31M **Satah River** **103.61 338** P **Pdif** **01 33 25.7 +0.7**
baz=120
A36M **Sachs Harbour** **103.74 344** P **Pdif** **01 33 26.4 +0.9**
baz=127
INK **Inuvik** **104.06 339** P **Pdif** **01 33 28.9 +1.9**
baz=120
DAWY **Dawson** **104.15 334** P **Pdif** **01 33 28.1 +0.5**
baz=116
EPYK **Eagle Plains** **104.20 337** P **Pdif** **01 33 28.3 +0.6**
baz=118
G30M **tAoh Zraii Nji** **104.31 338** P **Pdif** **01 33 28.8 +0.6**
baz=118
I29M **Ogilvie Camp,** **104.31 336** P **Pdif** **01 33 28.9 +0.6**
baz=117
F30M **Barrier River** **104.46 338** P **Pdif** **01 33 29.8 +0.9**
baz=118
MCARA **McCarthy VSAT** **104.54 331** P **Pdif** **01 33 31.7 +2.4**
baz=114
L27K **Beaver Creek,** **104.71 333** P **Pdif** **01 33 30.7 +0.6**
baz=114
H29M **Whitestone** **104.72 337** P **Pdif** **01 33 30.4 +0.4**
baz=116
K27K **Chicken** **105.21 334** P **Pdif** **01 33 33.1 +0.8**
baz=114
I27K **Kandik River** **105.67 335** P **Pdif** **01 33 34.8 +0.5**
baz=114
F28M **Old Crow** **105.86 338** P **PKiKP** **01 37 47.2 +0.5**
baz=115
KLU **Klutina** **105.87 331** P **Pdif** **01 33 33.2 -2.1**
baz=111
SCRK **Sand Creek** **105.96 333** P **Pdif** **01 33 36.4 +0.7**
baz=112
J26L **Joseph Creek** **105.99 334** P **Pdif** **01 33 36.4 +0.6**
baz=112
P23K **Montague Islan** **106.02 329** P **Pdif** **01 33 36.1 +0.2**
baz=110
E28M **Babbage River** **106.17 339** P **Pdif** **01 33 36.7 +0.3**
baz=115
G27K **Doyon Strip** **106.17 337** P **Pdif** **01 33 37.3 +0.8**
baz=114
GLI **Glacier Island** **106.18 330** P **Pdif** **01 33 36.8 +0.1**
baz=110
K24K **Donnelly Dome** **106.64 333** P **Pdif** **01 33 40.7 +2.0**
baz=111
K24K P **PKiKP** **01 37 49.3 +1.1**
baz=111
F26K **Sheenjek River** **107.40 337** P **PKiKP** **01 37 51.1 +1.6**
baz=111
RC01 **Rabbit Creek A** **107.47 330** P **PKiKP** **01 37 50.4 +0.7**
baz=108
H25L **Birch Creek** **107.51 335** P **PKiKP** **01 37 51.0 +1.4**
baz=110
G25K **Bearman Lake** **107.79 336** P **PKiKP** **01 37 50.9 +0.7**
baz=110
KDAK **Kodiak Island** **107.86 326** P **PKiKP** **01 37 50.9 +0.3**
baz=107
F25K **Christian Rive** **107.90 337** P **PKiKP** **01 37 51.2 +0.8**
baz=110
E25K **Arctic Village** **108.05 337** P **PKiKP** **01 37 52.0 +1.3**
baz=110
G24K **Hadweenzic Riv** **108.28 336** P **PKiKP** **01 37 52.4 +1.3**
baz=108
F24K **Squaw Lake** **108.69 336** P **PKiKP** **01 37 53.5 +1.6**
baz=108
E24K **Your Creek** **109.08 337** P **PKiKP** **01 37 54.7 +2.1**
baz=107
COLD **Coldfoot** **109.47 336** P **PKiKP** **01 37 54.7 +1.3**
baz=106
TOLK **Toolik Lake Re** **109.62 337** P **PKiKP** **01 37 55.5 +1.8**
baz=106
F21K **Alatna River** **110.70 335** P **PKiKP** **01 37 57.5 +1.9**
baz=103
M17K **Holitna River** **111.14 329** P **PKiKP** **01 37 59.1 +2.5**
baz=102
J18K **Innoko River** **111.23 331** P **PKiKP** **01 37 59.0 +2.2**
baz=102
C21K **Knifeblade Rid** **111.58 337** P **PKiKP** **01 37 59.9 +2.7**
baz=101
B21K **Ikpikpuk River** **111.61 338** P **PKiKP** **01 38 00.1 +2.9**
baz=101
G19K **Purcell Mounta** **111.89 334** P **PKiKP** **01 37 59.3 +1.4**
baz=100
AKASG **Malin Array Be** **112.10 43** PKiKP **PKiKP** **01 37 57.7 -1.1**
comp=Z,0.3nm,0.3s,baz=259,slow=2.8,SNR=4.6
D20K **Etivluk River** **112.15 337** P **PKiKP** **01 38 01.3 +2.9**
baz=100
L16K **Owhat River** **112.16 329** P **PKiKP** **01 38 01.0 +2.5**
baz=100
J17K **VABM Dome** **112.26 331** P **PKiKP** **01 38 01.9 +3.2**
baz=100
S12K **Black Hills** **112.44 322** P **PKiKP** **01 38 01.3 +2.0**
baz=100
G18K **Tagagawik** **112.48 334** P **PKiKP** **01 38 00.9 +1.8**
baz=99
BRTR **Keskin Array B** **112.84 55** PKiKP **PKiKP** **01 38 00.8 +0.1**
comp=Z,0.5nm,0.7s,baz=236,slow=3.0,SNR=4.5
BRTR PKKPab **PKKPab** **01 48 56.5 +0.7**
comp=Z,0.7nm,0.7s,baz=123,slow=4.6,SNR=6.0
BRTR **Keskin Array B** **112.84 55***c* *i* PKiKP **PKiKP** **01 38 01.0 +0.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
I17K **Unalakleet** **113.05 331** P **PKiKP** **01 38 01.9 +1.7**
baz=98
L15K **Ungalak Mounta** **113.10 329** P **PKiKP** **01 38 02.3 +2.0**
baz=98
G17K **Kiwalik Mounta** **113.25 333** P **PKiKP** **01 38 01.9 +1.4**
baz=97
C19K **Lookout Ridge** **113.27 337** P **PKiKP** **01 38 02.8 +2.2**
baz=97
E17K **Hotham Inlet** **113.89 335** P **PKiKP** **01 38 04.2 +2.5**
baz=96
B18K **Kokolik River** **114.08 337** P **PKiKP** **01 38 04.7 +2.7**
baz=94
J14K **Nanvaranak Lak** **114.19 330** P **PKiKP** **01 38 04.5 +2.1**
baz=96
D17K **Noatak River** **114.43 335** P **PKiKP** **01 38 05.3 +2.6**
baz=94
F15K **North Star Dit** **114.92 333** P PKPdf 01 38 05.9 +2.2
baz=94
C16K **Lisburne Hills** **115.31 336** P **PKPdf** **01 38 07.0 +2.6**
baz=92
OBN **Obninsk** **117.10 39** *i* PKiKP **PKPdf** **01 38 08.0 -0.2**
OBN *e* 01 38 52.2
OBN *e* 01 39 23.2
OBN pmax pmax
comp=Z,5.0nm,0.8s
KIV **Kislovodsk** **120.19 52** *e*PKiKP **PKPdf** **01 38 14.0 -0.7**
KIV *e* 01 39 02.9
KIV *e* 01 39 44.1
KIV pmax pmax
comp=Z,7.0nm,1.1s
KBZ **Khabaz** **120.32 52** PKP **PKiKP** **01 38 15.2 +0.4**
comp=Z,3.6nm,0.8s,baz=99,slow=3.9,SNR=7.8
KBZ **Khabaz** **120.32 52** *i* PKiKP **PKPdf** **01 38 14.4 -0.3**
BILL **Bilibino** **125.66 338** *i* PKiKP **PKPdf** **01 38 22.7 -1.6**
ASAR **Alice Springs** **128.34 205** PKP **PKPdf** **01 38 30.8 -0.1**
comp=Z,5.4nm,0.7s,baz=145,slow=2.0,SNR=42
ARU **Arti** **129.27 36** *i* PKiKP **PKiKP** **01 38 32.9 +0.7**
ARU 01 40 45.6
WRA **Warramunga Arr** **131.52 207** PKP **PKPdf** **01 38 37.2 +0.1**
comp=Z,4.3nm,0.6s,baz=160,slow=1.7,SNR=35
WRA SKPbc **SKPbc** **01 41 43.8 -2.4**
comp=Z,6.2nm,1.3s,baz=148,slow=3.6,SNR=5.6
WRAB **Tennant Creek** **131.52 207** *i* PKiKP **PKPdf** **01 38 32.9 -4.1**
GEYT **Alibeck** **131.59 60** SKPbc **SKPbc** **01 41 45.0 -0.9**
comp=Z,1.8nm,0.8s,baz=242,slow=3.2,SNR=4.3
TIXI **Tiksi** **131.64 353** *i* PKiKP **PKPdf** **01 38 34.1 -1.5**
SEY **Seymchan** **133.25 337** PKP **PKiKP** **01 38 39.7 -0.4**
comp=Z,4.8nm,0.6s,baz=57,slow=1.4,SNR=7.5
SEY **Seymchan** **133.25 337** *i* PKiKP **PKPdf** **01 38 38.9 0.0**
PETK **Petropavlovsk-** **135.78 323** PKP **PKiKP** **01 38 45.0 -0.6**
comp=Z,6.8nm,1.0s,baz=107,slow=5.0,SNR=6.8
BVAR **Borovoye Array** **136.88 37** PKP **PKiKP** **01 38 47.0 -0.8**
comp=Z,2.6nm,0.6s,baz=267,slow=2.8,SNR=16
KURBB **Kurchatov Arra** **142.46 36** PKhKP PKPpre 01 38 53.2
comp=Z,2.2nm,0.6s,baz=304,slow=2.8,SNR=12
KURBB PKP **PKPdf** **01 38 57.2 +1.0**
comp=Z,2.2nm,0.6s,baz=308,slow=2.8,SNR=11
KURBB SKPbc **SKPbc** **01 42 17.5 -0.2**
comp=Z,0.5nm,0.8s,baz=303,slow=2.8,SNR=3.4
KURK **Kurchatov** **142.46 36** *i* PKiKP **PKPdf** **01 38 54.2 -1.9**
AAK **Ala-Archa** **143.28 50** *i* PKiKP PKPbc 01 38 55.7 0.0
ZALV **Zalesovo Beam** **143.50 28** PKP PKPbc 01 38 56.3 +0.7
comp=Z,16nm,0.6s,baz=298,slow=4.1,SNR=71
ZALV SKPbc **SKPbc** **01 42 19.9 -0.2**
comp=Z,0.8nm,0.5s,baz=291,slow=4.5,SNR=2.7
KSH **Kashi** **145.23 55** PKPbc **PKPab** **01 39 02.1 +0.2**
BOD **Bodaibo** **146.36 359** *e*PKP2 **PKPbc** **01 39 04.1 -0.1**
BOD pmax pmax
comp=Z,25nm,1.2s
MK31 **Makanchi Array** **146.60 40**⇑ *e*PKP2 **PKPdf** **01 39 04.4 +0.9**
MKAR **Makanchi Array** **146.60 40** PKPbc **PKPdf** **01 39 04.4 +0.9**
comp=Z,31nm,0.8s,baz=323,slow=1.2,SNR=108
MKAR SKPbc **SKPbc** **01 42 27.3 -0.2**

comp=Z,0.3nm,0.6s,baz=307,slow=2.3,SNR=1.9

HYB	**Hyderabad**	**147.09**	**95**	*e*PKPbc	**PKPdf**	**01 39 05.6**	**+0.4**
YSS	**Yuzh-Sakhalins**	**147.16**	**321**	*e*PKIKP	**PKPdf**	**01 39 02.2**	**-2.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.7s						
ZEA	**Zeya**	**148.59**	**344**	*e*PKP2	**PKiKP**	**01 39 11.2**	**-0.6**
ZEA				pmax	pmax		
	comp=Z,20nm,1.1s						
ASAJ	**Asahikawa**	**148.74**	**317**	PKPbc	**PKPbc**	**01 39 09.9**	**-1.2**
	comp=Z,13nm,0.6s,baz=53,slow=20,SNR=6.8						
KLR	**Kul'dur**	**151.00**	**334**	PKP	**PKPdf**	**01 39 10.6**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=118,slow=14,SNR=2.9						
KLR				PKPbc	**PKPbc**	**01 39 16.4**	**0.0**
	comp=Z,15nm,0.7s,baz=60,slow=3.0,SNR=3.9						
KLR	**Kul'dur**	**151.00**	**334**	*e*PKIKP	**PKPbc**	**01 39 15.2**	**-1.2**
KLR				pmax	pmax		
	comp=Z,18nm,0.9s						
MOY	**Mondy**	**151.01**	**16**	*e*PKIKP	**PKiKP**	**01 39 17.4**	**+0.4**
MOY				pmax	pmax		
	comp=Z,27nm,1.5s						
HEH	**HeiHe**	**151.66**	**340**	*e*P	**PKPbc**	**01 39 17.5**	**-0.3**
HEH				pmax	pmax		
	comp=Z,23nm,0.7s						
HEH				pmax	pmax		
	comp=Z,120nm,5.2s						
USRK	**Ussuriysk Ar.**	**154.72**	**327**	PKPbc	**PKiKP**	**01 39 25.1**	**+0.3**
	comp=Z,2.4nm,0.7s,baz=85,slow=0.8,SNR=4.4						
MJAR	**Matsushiro Arr**	**155.13**	**306**	PKP	**PKPdf**	**01 39 17.0**	**+0.1**
	comp=Z,2.2nm,0.3s,baz=72,slow=3.0,SNR=1.9						
MJAR				PKPab	**PKPab**	**01 39 43.1**	**+0.6**
	comp=Z,11nm,0.9s,baz=67,slow=2.4,SNR=17						
SONM	**Songino Array**	**155.78**	**11**	PKP	**PKPdf**	**01 39 18.5**	**+0.9**
	comp=Z,1.5nm,0.8s,baz=276,slow=0.2,SNR=9.3						
SONM				PKPab	**PKPab**	**01 39 44.5**	**-0.4**
	comp=Z,2.7nm,0.7s,baz=327,slow=4.4,SNR=8.6						
XLT	**XiLinHaoTe**	**160.15**	**354**	*e*PKP	**PKPdf**	**01 39 26.0**	**+3.0**
GTA	**Gaotai**	**161.10**	**33**	*e*PKP	**PKPdf**	**01 39 25.7**	**+1.5**
KSRS	**Korea Array**	**161.64**	**320**	PKP	**PKPdf**	**01 39 24.8**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=104,slow=0.5,SNR=6.1						
KSRS				PKPab	**PKPab**	**01 40 11.0**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=47,slow=3.7,SNR=6.3						
HHC	**Hu-ho-hao-te**	**163.31**	**4**	*e*P	**PKPdf**	**01 39 27.5**	**+1.2**
CMAR	**Chiang Mai Arr**	**165.66**	**111**	PKP	**PKPdf**	**01 39 29.2**	**+0.3**
	comp=Z,1.2nm,0.3s,baz=288,slow=3.0,SNR=6.5						
CMAR				PKPab	**PKPab**	**01 40 28.5**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=250,slow=4.4,SNR=5.6						
PZH	**PanZhiHua**	**169.48**	**75**	PKP	**PKPdf**	**01 39 31.1**	**-0.5**
XAN	**Xi'an**	**169.51**	**19**	PKP	**PKPdf**	**01 39 31.9**	**+0.7**
NJ2	**Nanjing**	**170.63**	**328**	*e*P	**PKPdf**	**01 39 32.8**	**+0.9**
NJ2				pmax	pmax		
	comp=Z,13nm,0.6s						

NEIC ***11*** *01:38:36.9±0.9, 67.42N±0.02×146.34W±0.04, h18km±1km, Error ellipse: s-maj=2.3km s-min=2.2km az=213.0*

AEIC 11 01:38:37.3±1.9, 67.46N±0.02×146.40W±0.03, h18km±3km, ML2.7, ML3.2/14(NEIC), Error ellipse: s-maj=3.6km s-min=1.7km az=191.0, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F25K	**Christian Rive**	**0.32**	**65**		**Pg**	01 38 44.0	-0.2
F25K					**Sg**	01 38 48.7	-0.2
F24K	**Squaw Lake**	**0.57**	**276**		**Pb**	01 38 49.0	+0.2
F24K					**Sb**	01 38 57.0	+0.4
G25K	**Bearman Lake**	**0.71**	**170**		**Pb**	01 38 48.4	-2.6
G25K					**Pg**	01 38 50.9	-0.3
G25K					**Sb**	01 39 00.4	0.0
E25K	**Arctic Village**	**0.73**	**25**		**Pb**	01 38 51.6	+0.1
E25K					**Sb**	01 39 01.3	+0.1
E25K	**Arctic Village**	**0.73**	**25**	IAML		01 39 17.7	
	comp=N,456nm,0.4s						
G24K	**Hadweenzic Riv**	**0.87**	**209**		**Pb**	01 38 51.5	-2.4
G24K					**Pg**	01 38 53.5	-0.7
G24K	**Hadweenzic Riv**	**0.87**	**209**	IAML		01 39 18.7	
	comp=E,650nm,0.3s						
G24K				IAML		01 39 19.0	
	comp=N,762nm,0.2s						
F26K	**Sheenjek River**	**0.90**	**74**		**Pb**	01 38 54.0	-0.3
F26K					**Sg**	01 39 06.9	+0.3
E24K	**Your Creek**	**1.00**	**309**	IAML		01 39 21.9	
	comp=E,678nm,0.3s						
E24K				IAML		01 39 33.5	
	comp=N,461nm,0.6s						
E24K	**Your Creek**	**1.00**	**309**		**Pb**	01 38 54.8	-1.4
E24K					**Pg**	01 38 56.8	+0.1
E24K					**Sn**	01 39 10.1	-0.1
FYU	**Fort Yukon**	**1.01**	**152**		**Pb**	01 38 53.6	-2.5
FYU	**Fort Yukon**	**1.01**	**152**	IAML		01 39 21.4	
	comp=E,425nm,0.6s						
FYU				IAML		01 39 21.4	
	comp=N,663nm,0.6s						
G26K	**Porcupine Rive**	**1.14**	**115**		**Pn**	01 38 57.3	-1.0
G23K	**Bananza Creek**	**1.60**	**244**		**Pn**	01 39 03.5	-1.2
G23K	**Bananza Creek**	**1.60**	**244**	IAML		01 39 54.0	
	comp=E,696nm,0.4s						
H24K	**Noodor Dome**	**1.73**	**200**		**Pn**	01 39 04.8	-1.7
D24K	**Happy Valley**	**1.92**	**333**		**Sb**	01 39 34.9	-0.4
E22K	**Anaktuvuk Pass**	**2.16**	**291**		**Sn**	01 39 38.0	-0.8

AEIC ***11*** *01:39:00.6±1.1, 67.42N±0.02×146.39W±0.04, h11km±4km, ML3.8, ML4.4/160(NEIC), Mwr3.6/17(SLM), Error ellipse: s-maj=3.0km s-min=1.3km az=138.0*

NEIC ***11*** *01:39:00.8±1.1, 67.42N±0.02×146.38W±0.07, h12km±4km, Error ellipse: s-maj=4.3km s-min=2.3km az=130.0*

NEIC ***11*** *01:39:00, 67.44N×146.37W, h14km, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr0.18; Mθθ-2.38; Mϕϕ2.20; Mrθ-0.92; Mϕθ-2.04; Mϕr0.67; Fault plane solution: M₀3.27000×10¹⁴ NP1:ϕ₁25.00000°, δ70.00000°, λ5.00000°. NP2:ϕ₂293.00000°, δ85.00000°, λ160.00000°. Principal axes: T 3.2746, Plg17.0000°, Azm247.0000°; N -0.0007, Plg69.0000°, Azm101.0000°; P -3.2739, Plg11.0000°, Azm341.0000°;*

ISC 11 01:39:00.6±1.0, 67.43N±0.02×146.38W±0.02, h8km±9km, n209, σθ60/206, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
F25K	**Christian Rive**	**0.33**	**59**		**Pg**	**01 39 07.2**	**+0.1**
F25K					**Sg**	**01 39 12.0**	**+0.5**
F25K	**Christian Rive**	**0.33**	**59**	P	**Pg**	**01 39 07.2**	**+0.1**
	baz=240						
F25K				S	**Sg**	**01 39 12.0**	**+0.5**
	baz=240						
F24K	**Squaw Lake**	**0.59**	**280**		**Pg**	**01 39 12.0**	**0.0**
F24K					**Sg**	**01 39 20.1**	**+0.5**
F24K	**Squaw Lake**	**0.59**	**280**	P	**Pg**	**01 39 12.0**	**0.0**
	baz=96						
F24K				S	**Sg**	**01 39 20.1**	**+0.5**
	baz=96						
G25K	**Bearman Lake**	**0.68**	**170**		**Pb**	**01 39 14.4**	**-0.2**
G25K					**Sb**	**01 39 23.8**	**-0.2**
G25K	**Bearman Lake**	**0.68**	**170**	P	**Pb**	**01 39 14.4**	**-0.2**
	baz=353						
G25K				S	**Sb**	**01 39 23.8**	**-0.2**
	baz=353						
E25K	**Arctic Village**	**0.76**	**24**		**Pg**	**01 39 14.6**	**-0.6**
E25K	**Arctic Village**	**0.76**	**24**	IAML		01 39 24.8	
	comp=N,2μm,0.7s						
E25K				IAML		01 39 24.8	
	comp=E,2μm,0.3s						
E25K	**Arctic Village**	**0.76**	**24**	P	**Pg**	**01 39 14.7**	**-0.5**
	baz=203						
G24K	**Hadweenzic Riv**	**0.85**	**211**		**Pg**	**01 39 16.8**	**-0.1**
G24K					**Sg**	**01 39 28.1**	**+0.2**
G24K	**Hadweenzic Riv**	**0.85**	**211**	IAML		01 39 31.8	
	comp=N,7μm,0.4s						
G24K	**Hadweenzic Riv**	**0.85**	**211**	P	**Pg**	**01 39 16.8**	**-0.1**
	baz=30						
G24K				S	**Sb**	**01 39 29.3**	**+0.2**
	baz=30						
F26K	**Sheenjek River**	**0.90**	**72**		**Pg**	**01 39 17.6**	**-0.3**
F26K					**Sb**	**01 39 30.5**	**-0.1**
F26K	**Sheenjek River**	**0.90**	**72**	P	**Pg**	**01 39 17.4**	**-0.5**
	baz=254						
F26K				S	**Sb**	**01 39 30.5**	**-0.1**
	baz=254						
FYU	**Fort Yukon**	**0.98**	**152**		**Pb**	**01 39 19.7**	**0.0**
FYU				IAML		01 39 35.9	
	comp=N,3μm,0.9s						
FYU				IAML		01 39 36.0	
	comp=E,3μm,0.5s						

E24K	**Your Creek**	**1.03**	**310**		**Pg**	**01 39 20.0**	**-0.4**
E24K	**Your Creek**	**1.03**	**310**	P	**Pg**	**01 39 20.0**	**-0.4**
	baz=127						
G26K	**Porcupine Rive**	**1.12**	**114**		**Pb**	**01 39 22.3**	**+0.1**
G26K					**Sg**	**01 39 36.1**	**-0.5**
G26K	**Porcupine Rive**	**1.12**	**114**	P	**Pb**	**01 39 22.3**	**+0.1**
	baz=298						
G26K				S	**Sn**	**01 39 37.5**	**-0.6**
	baz=298						
H25L	**Birch Creek**	**1.19**	**169**		**Pb**	**01 39 23.3**	**-0.1**
H25L					**Sn**	**01 39 39.3**	**-0.4**
H25L	**Birch Creek**	**1.19**	**169**	P	**Pn**	**01 39 23.5**	**0.0**
	baz=351						
H25L				S	**Sn**	**01 39 40.6**	**+0.9**
	baz=351						
E23K	**Chandalar**	**1.39**	**299**		**Pn**	**01 39 25.9**	**-0.4**
COLD	**Coldfoot**	**1.49**	**264**		**Pn**	**01 39 27.6**	**0.0**
COLD	**Coldfoot**	**1.49**	**264**	P	**Pn**	**01 39 27.6**	**0.0**
	baz=80						
G23K	**Bananza Creek**	**1.60**	**245**		**Pn**	**01 39 28.4**	**-0.7**
G23K	**Bananza Creek**	**1.60**	**245**	IAML		01 39 55.4	
	comp=N,702nm,0.4s						
G23K	**Bananza Creek**	**1.60**	**245**	P	**Pn**	**01 39 28.5**	**-0.7**
	baz=61						
H24K	**Noodor Dome**	**1.71**	**201**		**Pn**	**01 39 29.9**	**-0.7**
H24K	**Noodor Dome**	**1.71**	**201**	P	**Pn**	**01 39 30.1**	**-0.6**
	baz=20						
TOLK	**Toolik Lake Re**	**1.71**	**317**		**Pb**	**01 39 31.5**	**-0.8**
TOLK	**Toolik Lake Re**	**1.71**	**317**	P	**Pb**	**01 39 31.8**	**-0.5**
	baz=133						
D25K	**Kavik River**	**1.90**	**0**		**Pn**	**01 39 33.6**	**+0.3**
G27K	**Doyon Strip**	**1.95**	**106**		**Pn**	**01 39 34.2**	**+0.2**
G27K	**Doyon Strip**	**1.95**	**106**	P	**Pn**	**01 39 34.3**	**+0.3**
	baz=291						
PRP	**Porcupine Dome**	**1.95**	**169**	P	**Pn**	**01 39 34.1**	**0.0**
	baz=351						
E27K	**Coleen River**	**1.97**	**65**		**Pn**	**01 39 32.9**	**-1.3**
E27K	**Coleen River**	**1.97**	**65**	IAML		01 40 44.2	
	comp=E,2μm,0.7s						
H23K	**Yukon River**	**2.04**	**220**	P	**Pn**	**01 39 34.8**	**-0.5**
	baz=37						
G22K	**Bettles**	**2.06**	**258**		**Pn**	**01 39 34.6**	**-0.8**
D23K	**Nanushuk River**	**2.23**	**316**		**Pn**	**01 39 38.9**	**+1.1**
F22K	**John River**	**2.23**	**275**		**Pn**	**01 39 38.1**	**+0.2**
F22K	**John River**	**2.23**	**275**	P	**Pn**	**01 39 37.8**	**-0.1**
	baz=89						
H27K	**Steamboat Moun**	**2.27**	**120**		**Pn**	**01 39 38.4**	**+0.1**
H27K	**Steamboat Moun**	**2.27**	**120**	P	**Pn**	**01 39 38.4**	**+0.1**
	baz=305						
POKR	**Poker Plat Res**	**2.36**	**191**		**Pn**	**01 39 39.5**	**-0.1**
POKR	**Poker Plat Res**	**2.36**	**191**	P	**Pn**	**01 39 39.5**	**-0.1**
	baz=10						
C27K	**Jago River**	**2.42**	**23**		**Pn**	**01 39 40.3**	**0.0**
C24K	**Franklin Bluff**	**2.46**	**341**		**Pn**	**01 39 41.6**	**+0.7**
I26K	**Coal Creek Min**	**2.50**	**147**		**Pn**	**01 39 41.0**	**-0.5**
I26K	**Coal Creek Min**	**2.50**	**147**	IAML		01 40 58.0	
	comp=N,1μm,0.6s						
I26K				IAML		01 41 00.5	
	comp=E,1μm,0.7s						
F28M	**Old Crow**	**2.51**	**83**		**Pn**	**01 39 40.5**	**-1.1**
F28M	**Old Crow**	**2.51**	**83**	P	**Pn**	**01 39 40.5**	**-1.1**
	baz=269						
H22K	**Ishtalitna Cre**	**2.52**	**235**		**Pn**	**01 39 41.0**	**-0.7**
C26K	**Camden Bay**	**2.56**	**11**		**Pn**	**01 39 42.5**	**+0.3**
I23K	**Minto, Yukon-K**	**2.59**	**209**		**Pn**	**01 39 42.3**	**-0.3**
I23K	**Minto, Yukon-K**	**2.59**	**209**	P	**Pn**	**01 39 42.4**	**-0.3**
	baz=27						
MDM	**Murphy Dome**	**2.59**	**198**		**Pn**	**01 39 42.2**	**-0.5**
COLA	**College**	**2.63**	**194**		**Pn**	**01 39 43.1**	**-0.2**
COLA				IAML		01 41 25.9	
	comp=E,2μm,0.5s						
I27K	**Kandik River**	**2.65**	**132**		**Pn**	**01 39 43.1**	**-0.5**
I27K	**Kandik River**	**2.65**	**132**	P	**Pn**	**01 39 43.7**	**+0.1**
	baz=317						
IL31		**2.68**	**185**		**Pn**	**01 39 43.7**	**-0.2**
ILAR	**Eielson Array**	**2.68**	**185**	Pn	**Pn**	**01 39 43.2**	**-0.7**
D27M	**Malcolm River**	**2.71**	**45**		**Pn**	**01 39 43.9**	**-0.6**
F21K	**Alatna River**	**2.76**	**269**	Pn	**Pn**	**01 39 45.0**	**-0.1**
F21K	**Alatna River**	**2.76**	**269**	P	**Pn**	**01 39 45.1**	**+0.1**
	baz=82						
D22K	**Ayikyak River**	**2.77**	**305**		**Pn**	**01 39 45.6**	**+0.4**
E28M	**Babbage River**	**2.83**	**62**		**Pn**	**01 39 44.8**	**-1.3**
E28M	**Babbage River**	**2.83**	**62**	P	**Pn**	**01 39 44.9**	**-1.3**
	baz=249						
J25K	**Salcha River,**	**2.86**	**171**		**Pn**	**01 39 46.7**	**+0.2**
J25K	**Salcha River,**	**2.86**	**171**	P	**Pn**	**01 39 46.7**	**+0.2**
	baz=353						
C23K	**Itkillik River**	**2.87**	**329**		**Pn**	**01 39 47.1**	**+0.6**
G21K	**Allakaket**	**2.95**	**255**		**Pn**	**01 39 46.3**	**-1.4**
G21K	**Allakaket**	**2.95**	**255**	P	**Pn**	**01 39 46.5**	**-1.2**
	baz=88						
MLY	**Manley**	**2.98**	**218**		**Pn**	**01 39 47.5**	**-0.7**
MLY	**Manley**	**2.98**	**218**	IAML		01 41 42.0	
	comp=N,813nm,0.5s						
MLY	**Manley**	**2.98**	**218**	P	**Pn**	**01 39 47.7**	**-0.5**
	baz=34						
E21K	**Killik River**	**3.04**	**293**		**Pn**	**01 39 48.3**	**-0.6**
HDA	**Harding Lake**	**3.04**	**185**		**Pn**	**01 39 48.6**	**-0.4**
WRH	**Wood River Hil**	**3.05**	**194**		**Pn**	**01 39 48.9**	**-0.2**
NEA2	**Nenana**	**3.05**	**202**	P	**Pn**	**01 39 48.3**	**-0.8**
	baz=20						
H21K	**Melozitna Rive**	**3.12**	**238**	P	**Pn**	**01 39 49.6**	**-0.4**
	baz=52						
J26L	**Joseph Creek**	**3.16**	**157**		**Pn**	**01 39 50.5**	**-0.2**
J26L	**Joseph Creek**	**3.16**	**157**	P	**Pn**	**01 39 50.6**	**0.0**
	baz=340						
I21K	**Tanana**	**3.19**	**228**		**Pn**	**01 39 50.6**	**-0.4**
I28M	**Miner Creek**	**3.26**	**125**		**Pn**	**01 39 51.8**	**-0.3**
I28M	**Miner Creek**	**3.26**	**125**	P	**Pn**	**01 39 52.2**	**+0.1**
	baz=311						
IMAR	**Indian Mountai**	**3.27**	**247**		**Pn**	**01 39 50.9**	**-1.1**
G29M	**Pine Creek**	**3.30**	**95**		**Pn**	**01 39 52.1**	**-0.4**
E29M	**Blow River**	**3.35**	**69**		**Pn**	**01 39 52.0**	**-1.2**
E29M	**Blow River**	**3.35**	**69**	P	**Pn**	**01 39 53.2**	**+0.1**
	baz=257						
H29M	**Whitestone**	**3.39**	**107**		**Pn**	**01 39 53.9**	**+0.2**
H29M	**Whitestone**	**3.39**	**107**	P	**Pn**	**01 39 54.0**	**+0.2**
	baz=295						
EGAK	**Eagle**	**3.41**	**139**		**Pn**	**01 39 54.1**	**+0.1**
EGAK	**Eagle**	**3.41**	**139**	IAML		01 41 59.9	
	comp=N,573nm,0.6s						
EGAK				IAML		01 42 01.0	
	comp=N,798nm,0.8s						
D28M	**Stokes Point**	**3.41**	**53**		**Pn**	**01 39 54.5**	**+0.5**
D28M	**Stokes Point**	**3.41**	**53**	P	**Pn**	**01 39 54.0**	**0.0**
	baz=240						
BWN	**Browne**	**3.51**	**203**		**Pn**	**01 39 55.0**	**-0.3**
C21K	**Knifeblade Rid**	**3.57**	**303**		**Pn**	**01 39 56.7**	**+0.5**
C21K	**Knifeblade Rid**	**3.57**	**303**	P	**Pn**	**01 39 55.9**	**-0.3**
	baz=115						
SCRK	**Sand Creek**	**3.60**	**163**		**Pn**	**01 39 57.1**	**+0.3**
SCRK	**Sand Creek**	**3.60**	**163**	IAML		01 41 58.7	
	comp=N,848nm,0.6s						
SCRK	**Sand Creek**	**3.60**	**163**	P	**Pn**	**01 39 56.9**	**+0.2**
	baz=346						
K24K	**Donnelly Dome**	**3.65**	**176**		**Pn**	**01 39 57.1**	**-0.2**
F20K	**Avaraarl Lake**	**3.65**	**268**	IAML		01 42 08.5	
	comp=E,662nm,0.7s						
F20K	**Avaraarl Lake**	**3.65**	**268**	P	**Pn**	**01 39 57.1**	**-0.2**
	baz=80						
B21K	**Ikpikpuk River**	**3.74**	**310**		**Pn**	**01 39 58.8**	**+0.3**
B21K	**Ikpikpuk River**	**3.74**	**310**	IAML		01 42 13.9	
	comp=N,880nm,0.8s						
B21K				IAML		01 42 24.0	
	comp=E,676nm,1.0s						
E20K	**Nigu River**	**3.81**	**287**		**Pn**	**01 40 00.2**	**+0.7**
BPAW	**Bear Paw Mtn.**	**3.84**	**212**		**Pn**	**01 39 59.3**	**-0.7**
BPAW	**Bear Paw Mtn.**	**3.84**	**212**	P	**Pn**	**01 39 59.5**	**-0.5**
	baz=28						
K27K	**Chicken**	**3.85**	**150**		**Pn**	**01 40 00.3**	**+0.3**
K27K	**Chicken**	**3.85**	**150**	IAML		01 42 15.0	
	comp=E,494nm,0.7s						
K27K				IAML		01 42 16.1	
	comp=N,391nm,0.6s						
I29M	**Ogilvie Camp,**	**3.85**	**119**	IAML		01 42 14.0	
	comp=N,798nm,0.5s						
I29M				IAML		01 42 16.9	
	comp=E,902nm,1.1s						
MCK	**McKinley**	**3.86**	**197**		**Pn**	**01 40 00.1**	**-0.1**
MCK	**McKinley**	**3.86**	**197**	P	**Pn**	**01 40 00.4**	**+0.2**
	baz=15						
B22K	**Teshekpuk Lake**	**3.88**	**322**		**Pn**	**01 40 00.4**	**+0.1**
H20K	**Anotleneega Mo**	**3.92**	**244**		**Pn**	**01 39 59.5**	**-1.5**
H20K	**Anotleneega Mo**	**3.92**	**244**	P	**Pn**	**01 40 01.0**	**0.0**
	baz=56						

EPYK	**Eagle Plains**	**3.95**	**101**		**Pn**	**01 40 01.1**	**-0.4**
G30M	**tAoh Zraii Nji**	**3.98**	**92**		**Pn**	**01 40 01.2**	**-0.7**
G30M	**tAoh Zraii Nji**	**3.98**	**92**	P	**Pn**	**01 40 01.7**	**-0.2**
	baz=281						
D20K	**Etivluk River**	**4.05**	**293**		**Pn**	**01 40 03.6**	**+0.8**
D20K	**Etivluk River**	**4.05**	**293**	P	**Pn**	**01 40 02.5**	**-0.2**
	baz=104						
F30M	**Barrier River**	**4.07**	**83**		**Pn**	**01 40 02.9**	**-0.2**
RND	**Reindeer**	**4.17**	**195**		**Pn**	**01 40 04.7**	**+0.2**
RND	**Reindeer**	**4.17**	**195**	IAML		01 42 23.2	
	comp=N,396nm,0.6s						
RND				IAML		01 42 26.2	
	comp=E,442nm,0.9s						
E19K	**Redstone River**	**4.18**	**275**		**Pn**	**01 40 05.6**	**+1.1**
E19K	**Redstone River**	**4.18**	**275**	P	**Pn**	**01 40 04.3**	**-0.2**
	baz=85						
TRF	**Thorofare Moun**	**4.31**	**204**		**Pn**	**01 40 06.3**	**-0.2**
TRF	**Thorofare Moun**	**4.31**	**204**	P	**Pn**	**01 40 06.4**	**-0.2**
	baz=21						
CHUM	**Lake Minchumin**	**4.32**	**217**		**Pn**	**01 40 06.2**	**-0.4**
CHUM	**Lake Minchumin**	**4.32**	**217**	P	**Pn**	**01 40 06.3**	**-0.2**
	baz=32						
KTH	**Kantishna Hill**	**4.33**	**208**		**Pn**	**01 40 06.1**	**-0.5**
DHY	**Denali Highway**	**4.39**	**186**		**Pn**	**01 40 07.5**	**-0.1**
DHY	**Denali Highway**	**4.39**	**186**	P	**Pn**	**01 40 07.7**	**0.0**
	baz=5.3						
G19K	**Purcell Mounta**	**4.43**	**258**		**Pn**	**01 40 07.2**	**-0.7**
G19K	**Purcell Mounta**	**4.43**	**258**	P	**Pn**	**01 40 07.3**	**-0.7**
	baz=68						
DAWY	**Dawson**	**4.44**	**136**		**Pn**	**01 40 07.6**	**-0.5**
DAWY	**Dawson**	**4.44**	**136**	IAML		01 42 34.0	
	comp=E,238nm,1.0s						
H19K	**Roundabout Mou**	**4.46**	**249**		**Pn**	**01 40 07.4**	**-1.0**
F19K	**Shaleruckik Mo**	**4.49**	**268**		**Pn**	**01 40 07.4**	**-1.3**
F19K	**Shaleruckik Mo**	**4.49**	**268**	P	**Pn**	**01 40 07.8**	**-0.9**
	baz=77						
PAX	**Paxson**	**4.49**	**175**		**Pn**	**01 40 09.7**	**+0.8**
PAX	**Paxson**	**4.49**	**175**	P	**Pn**	**01 40 09.2**	**+0.2**
	baz=356						
D19K	**Kuna River**	**4.55**	**289**	P	**Pn**	**01 40 10.4**	**+0.8**
	baz=98						
J20K	**Nowinta River**	**4.57**	**228**		**Pn**	**01 40 09.3**	**-0.6**
J20K	**Nowinta River**	**4.57**	**228**	P	**Pn**	**01 40 08.8**	**-1.0**
	baz=41						
I30M	**Mount Dempster**	**4.60**	**114**		**Pn**	**01 40 09.8**	**-0.7**
CAST	**Castle Rocks**	**4.68**	**213**	P	**Pn**	**01 40 10.7**	**-0.7**
	baz=28						
B20K	**Meade River**	**4.70**	**308**		**Pn**	**01 40 11.8**	**+0.1**
A22K	**Sinclair Lake**	**4.71**	**323**		**Pn**	**01 40 11.7**	**-0.2**
WAT7	**Susitna Watana**	**4.73**	**194**		**Pn**	**01 40 12.8**	**+0.6**
G31M	**Satah River**	**4.75**	**91**		**Pn**	**01 40 10.9**	**-1.4**
L27K	**Beaver Creek,**	**4.78**	**154**		**Pn**	**01 40 13.0**	**+0.1**
L27K	**Beaver Creek,**	**4.78**	**154**	P	**Pn**	**01 40 13.5**	**+0.6**
	baz=339						
BCAR	**Beaver Creek A**	**4.79**	**154**	Pn	**Pn**	**01 40 13.2**	**+0.2**
WAT6	**Susitna Watana**	**4.90**	**187**		**Pn**	**01 40 15.1**	**+0.4**
WAT6	**Susitna Watana**	**4.90**	**187**	P	**Pn**	**01 40 15.6**	**+1.0**
	baz=6.4						
INK	**Inuvik**	**4.94**	**74**		**Pn**	**01 40 14.0**	**-1.0**
J30M	**Hart River**	**5.00**	**120**		**Pn**	**01 40 16.1**	**+0.1**
J30M	**Hart River**	**5.00**	**120**	IAML		01 42 57.3	
	comp=E,366nm,1.1s						
J30M				IAML		01 43 02.9	
	comp=N,300nm,0.9s						
J30M	**Hart River**	**5.00**	**120**	P	**Pn**	**01 40 16.1**	**+0.1**
	baz=310						
HARP	**HAARP**	**5.08**	**174**		**Pn**	**01 40 16.7**	**-0.2**
G18K	**Tagagawik**	**5.12**	**258**		**Pn**	**01 40 17.3**	**-0.1**
G18K	**Tagagawik**	**5.12**	**258**	IAML		01 42 53.1	
	comp=E,238nm,0.9s						
G18K				IAML		01 43 05.3	
	comp=N,238nm,1.2s						
K29M	**Barlow Dome**	**5.14**	**130**	IAML		01 42 27.2	
	comp=N,168nm,0.7s						
K29M				IAML		01 43 00.3	
	comp=E,191nm,0.8s						
K29M	**Barlow Dome**	**5.14**	**130**	P	**Pn**	**01 40 18.5**	**+0.7**
	baz=319						
J19K	**Poorman**	**5.14**	**232**		**Pn**	**01 40 16.6**	**-1.1**
C19K	**Lookout Ridge**	**5.19**	**295**	P	**Pn**	**01 40 18.8**	**+0.3**
	baz=102						
K20K	**Telida**	**5.20**	**222**		**Pn**	**01 40 17.6**	**-1.0**
M26K	**Nabesna, AK**	**5.25**	**162**		**Pn**	**01 40 18.6**	**-0.7**
F18K	**Selawik**	**5.27**	**267**		**Pn**	**01 40 19.0**	**-0.5**
A21K	**Barrow**	**5.32**	**322**		**Pn**	**01 40 20.2**	**0.0**
H18K	**Honhosa River**	**5.34**	**250**		**Pn**	**01 40 20.2**	**-0.4**
M27K	**Edge Creek, AK**	**5.44**	**157**		**Pn**

F24K **Squaw Lake** 0.59 278 Pg **Pg** 01 40 17.4 +0.1
F24K Sg **Sg** 01 40 24.6 -0.4
F24K **Squaw Lake** 0.59 278 P **Pg** 01 40 17.7 +0.3
baz=98
F24K S **Sg** 01 40 24.7 -0.3
baz=98
G25K **Bearman Lake** 0.69 171 **Pg** 01 40 19.8 +0.5
G25K **Sb** 01 40 29.5 -0.6
G25K **Bearman Lake** 0.69 171 P **Pg** 01 40 19.7 +0.5
baz=351
BMAR **Burnt Mountain** 0.69 90 Pg **Pg** 01 40 20.1 +0.7
E25K **Arctic Village** 0.75 24 Pg **Pg** 01 40 20.5 +0.1
E25K Sg **Sg** 01 40 29.7 -0.5
E25K IAML 01 40 30.8
comp=N,17µm,0.9s
E25K **Arctic Village** 0.75 24 P **Pg** 01 40 20.2 -0.2
baz=204
G24K **Hadweenzic Riv** 0.86 211 Pg **Pg** 01 40 22.4 -0.2
G24K Sg **Sg** 01 40 33.3 -0.4
G24K **Hadweenzic Riv** 0.86 211 P **Pg** 01 40 22.5 -0.1
baz=30
F26K **Sheenjek River** 0.89 72 **Pg** 01 40 23.2 0.0
F26K **Sb** 01 40 36.5 +0.4
F26K **Sheenjek River** 0.89 72 P **Pg** 01 40 23.2 0.0
baz=253
FYU **Fort Yukon** 0.99 152 Pg **Pb** 01 40 25.5 0.0
FYU Sg **Sg** 01 40 36.9 -0.9
FYU IAML 01 40 41.6
comp=N,18µm,1.0s
FYU IAML 01 40 41.7
comp=E,13µm,0.5s
E24K **Your Creek** 1.02 309 Pg **Pg** 01 40 25.3 -0.5
E24K IAML 01 40 42.1
comp=N,15µm,0.8s
E24K **Your Creek** 1.02 309 **Sg** 01 40 39.1 +0.1
E24K **Your Creek** 1.02 309 P **Pg** 01 40 25.2 -0.5
baz=128
E24K S **Sg** 01 40 39.1 +0.1
baz=128
G26K **Porcupine Rive** 1.12 115 **Pb** 01 40 28.0 +0.1
G26K **Porcupine Rive** 1.12 115 P **Pn** 01 40 28.3 0.0
baz=297
H25L **Birch Creek** 1.20 169 **Pg** 01 40 28.9 -0.2
H25L **Birch Creek** 1.20 169 P **Pg** 01 40 29.3 +0.2
baz=350
E23K **Chandalar** 1.38 298 **Pn** 01 40 32.0 +0.1
COLD **Coldfoot** 1.50 264 **Pb** 01 40 34.1 -0.1
COLD **Sg** 01 40 55.3 +1.2
COLD **Coldfoot** 1.50 264 P **Pn** 01 40 33.4 -0.1
baz=81
G23K **Bananza Creek** 1.61 244 **Pn** 01 40 35.0 0.0
G23K **Bananza Creek** 1.61 244 **Sg** 01 40 57.6 0.0
G23K **Bananza Creek** 1.61 244 P **Pb** 01 40 35.7 -0.4
baz=62
TOLK **Toolik Lake Re** 1.70 317 Pn **Pn** 01 40 36.9 +0.6
TOLK **Toolik Lake Re** 1.70 317 **Sb** 01 40 60.0 +0.6
TOLK **Toolik Lake Re** 1.70 317 P **Pb** 01 40 37.2 -0.5
baz=134
H24K **Noodor Dome** 1.72 201 Pn **Pn** 01 40 35.5 -1.0
H24K IAML 01 41 01.2
comp=E,7µm,0.5s
H24K IAML 01 41 01.9
comp=N,5µm,0.9s
H24K **Noodor Dome** 1.72 201 **Sb** 01 41 00.7 +0.8
H24K **Noodor Dome** 1.72 201 P **Pb** 01 40 37.9 -0.1
baz=20
D25K **Kavik River** 1.89 0 Pn **Pn** 01 40 39.2 +0.3
D25K **Kavik River** 1.89 0 P **Pn** 01 40 39.5 +0.6
baz=180
D24K **Happy Valley** 1.95 333 Pn **Pn** 01 40 40.6 +1.0
D24K IAML 01 41 15.2
comp=N,6µm,0.9s
D24K **Happy Valley** 1.95 333 P **Pn** 01 40 39.9 +0.3
baz=151
G27K **Doyon Strip** 1.95 107 Pn **Pn** 01 40 39.8 +0.1
G27K IAML 01 41 10.1
comp=N,4µm,0.7s
G27K **Doyon Strip** 1.95 107 P **Pb** 01 40 41.0 -0.9
baz=291
E27K **Coleen River** 1.96 65 Pn **Pn** 01 40 40.2 +0.4
E27K IAML 01 41 12.1
comp=E,3µm,0.5s
E27K IAML 01 41 14.8
comp=N,3µm,0.4s
E27K **Coleen River** 1.96 65 P **Pn** 01 40 40.8 +1.0
baz=249
PRP **Porcupine Dome** 1.96 170 Pn **Pn** 01 40 39.7 -0.3
PRP IAML 01 41 07.9
comp=N,4µm,0.6s
PRP IAML 01 41 08.0
comp=E,3µm,0.5s
PRP **Porcupine Dome** 1.96 170 **Sb** 01 41 07.1 +0.1
PRP **Porcupine Dome** 1.96 170 P **Pn** 01 40 39.9 -0.1
baz=350
H23K **Yukon River** 2.06 219 Pn **Pn** 01 40 40.5 -0.7
H23K IAML 01 41 15.6
comp=E,3µm,0.5s
H23K IAML 01 41 21.1
comp=N,3µm,0.7s
H23K **Yukon River** 2.06 219 P **Pn** 01 40 40.6 -0.6
baz=37
G22K **Bettles** 2.07 258 **Pb** 01 40 43.6 -0.3
E22K **Anaktuvuk Pass** 2.18 291 **Pn** 01 40 44.0 +1.2
E22K **Anaktuvuk Pass** 2.18 291 IAML 01 41 15.5
comp=N,3µm,1.0s
D23K **Nanushuk River** 2.22 316 **Pn** 01 40 44.3 +0.9
F22K **John River** 2.24 274 **Pn** 01 40 44.1 +0.6
F22K **John River** 2.24 274 P **Pn** 01 40 43.9 +0.3
baz=89
H27K **Steamboat Moun** 2.27 120 **Pn** 01 40 45.2 +1.1
H27K **Steamboat Moun** 2.27 120 P **Pn** 01 40 45.2 +1.1
baz=304
POKR **Poker Plat Res** 2.37 191 Pn **Pn** 01 40 45.3 -0.2
POKR IAML 01 41 23.5
comp=N,3µm,0.6s
POKR **Poker Plat Res** 2.37 191 P **Pn** 01 40 46.5 +1.0
baz=10.0
C27K **Jago River** 2.40 23 **Pn** 01 40 46.8 +0.9
C27K **Jago River** 2.40 23 P **Pn** 01 40 46.5 +0.7
baz=205
C24K **Franklin Bluff** 2.44 341 **Pn** 01 40 47.2 +0.8
C24K **Franklin Bluff** 2.44 341 P **Pn** 01 40 46.8 +0.4
baz=159
F28M **Old Crow** 2.50 83 Pn **Pn** 01 40 47.4 +0.1
F28M IAML 01 41 28.8
comp=E,3µm,0.7s
F28M IAML 01 41 32.4
comp=N,2µm,0.8s
F28M **Old Crow** 2.50 83 P **Pn** 01 40 48.2 +0.9
baz=269
I26K **Coal Creek Min** 2.51 147 **Pn** 01 40 48.3 +1.0
I26K **Coal Creek Min** 2.51 147 IAML 01 41 26.7
comp=E,2µm,0.3s
I26K IAML 01 41 31.0
comp=N,3µm,0.5s
H22K **Ishtalitna Cre** 2.53 234 **Pn** 01 40 47.4 -0.2
H22K **Ishtalitna Cre** 2.53 234 P **Pn** 01 40 48.2 +0.7
baz=50
C26K **Camden Bay** 2.54 11 **Pn** 01 40 48.6 +0.8
C26K **Camden Bay** 2.54 11 P **Pn** 01 40 48.4 +0.6
baz=193
I23K **Minto, Yukon-K** 2.60 209 Pn **Pn** 01 40 47.8 -0.7
I23K IAML 01 41 30.9
comp=N,3µm,0.6s
I23K IAML 01 41 32.9
comp=E,3µm,0.7s
I23K **Minto, Yukon-K** 2.60 209 P **Pn** 01 40 48.0 -0.6
baz=26
MDM **Murphy Dome** 2.60 198 Pn **Pn** 01 40 47.8 -0.8
COLA **College** 2.65 194 Pn **Pn** 01 40 49.8 +0.6
I27K **Kandik River** 2.65 132 **Pn** 01 40 50.4 +1.1
IL31 2.69 185 Pn **Pn** 01 40 50.0 +0.2
ILAR **Eielson Array** 2.69 185 Pn **Pn** 01 40 50.3 +0.4
ILAR **Eielson Array** 2.69 185 Pn **Pn** 01 40 51.9 +2.1
comp=E,13nm,0.3s,baz=355,slow=12,SNR=2.1
ILAR Pg **Pg** 01 40 56.3 -1.3
comp=E,76nm,0.3s,baz=7.0,slow=16,SNR=8.2
ILAR Sn **Sb** 01 41 27.8 0.0
comp=E,453nm,0.3s,baz=4.4,slow=30,SNR=6.0
comp=E,96nm,0.6s
D27M **Malcolm River** 2.70 45 Pn **Pn** 01 40 51.1 +1.0
D27M IAML 01 41 33.7
comp=N,2µm,0.5s
D27M IAML 01 41 42.7
comp=E,1µm,0.5s

D27M **Malcolm River** 2.70 45 P **Pn** 01 40 50.9 +0.9
baz=230
F21K **Alatna River** 2.76 269 **Pn** 01 40 51.3 +0.5
F21K **Alatna River** 2.76 269 IAML 01 41 39.6
comp=N,2µm,0.7s
F21K **Alatna River** 2.76 269 P **Pn** 01 40 50.9 +0.1
baz=82
D22K **Ayikyak River** 2.77 304 **Pn** 01 40 51.5 +0.7
D22K **Ayikyak River** 2.77 304 IAML 01 41 39.0
comp=N,3µm,0.8s
D22K **Ayikyak River** 2.77 304 P **Pn** 01 40 51.2 +0.4
baz=119
E28M **Babbage River** 2.83 62 **Pn** 01 40 52.5 +0.8
E28M **Babbage River** 2.83 62 IAML 01 41 39.9
comp=N,2µm,0.7s
E28M IAML 01 41 50.9
comp=E,1µm,0.8s
C23K **Itkillik River** 2.86 329 Pn **Pn** 01 40 52.9 +0.7
CCB **Clear Creek Bu** 2.87 192 Pn **Pn** 01 40 52.4 +0.2
CCB IAML 01 41 38.9
comp=E,2µm,0.4s
CCB IAML 01 41 41.9
comp=N,2µm,0.4s
J25K **Salcha River,** 2.87 171 **Pn** 01 40 53.1 +0.7
J25K **Salcha River,** 2.87 171 IAML 01 41 40.2
comp=E,2µm,0.8s
J25K IAML 01 41 42.1
comp=N,2µm,0.5s
J25K **Salcha River,** 2.87 171 P **Pn** 01 40 52.3 0.0
baz=352
G21K **Allakaket** 2.95 255 **Pn** 01 40 54.1 +0.7
G21K **Allakaket** 2.95 255 IAML 01 41 44.2
comp=E,2µm,0.7s
G21K IAML 01 41 44.4
comp=N,2µm,0.8s
MLY **Manley** 3.00 218 Pn **Pn** 01 40 53.8 -0.2
E21K **Killik River** 3.04 293 **Pn** 01 40 55.2 +0.6
E21K **Killik River** 3.04 293 IAML 01 41 45.5
comp=N,2µm,0.8s
E21K IAML 01 41 46.7
comp=E,2µm,1.0s
HDA **Harding Lake** 3.06 185 Pn **Pn** 01 40 55.3 +0.5
HDA IAML 01 41 45.0
comp=E,2µm,0.7s
HDA IAML 01 41 49.1
comp=N,2µm,0.8s
NEA2 **Nenana** 3.06 202 Pn **Pn** 01 40 55.5 +0.5
NEA2 IAML 01 41 46.3
comp=E,1µm,1.0s
WRH **Wood River Hil** 3.06 194 Pn **Pn** 01 40 55.5 +0.6
WRH IAML 01 41 45.4
comp=E,2µm,0.5s
H21K **Melozitna Rive** 3.13 238 Pn **Pn** 01 40 56.2 +0.2
H21K IAML 01 41 52.2
comp=E,1µm,0.7s
J26L **Joseph Creek** 3.17 157 **Pn** 01 40 57.0 +0.6
J26L **Joseph Creek** 3.17 157 IAML 01 41 47.0
comp=N,1µm,0.4s
J26L IAML 01 41 48.1
comp=E,1µm,0.4s
I21K **Tanana** 3.21 228 **Pn** 01 40 56.8 -0.1
I21K **Tanana** 3.21 228 IAML 01 41 48.1
comp=E,1µm,0.8s
I21K IAML 01 42 03.3
comp=N,1µm,0.7s
I28M **Miner Creek** 3.27 125 **Pn** 01 40 58.7 +0.9
I28M **Miner Creek** 3.27 125 IAML 01 41 54.0
comp=N,921nm,0.8s
I28M IAML 01 41 54.4
comp=E,858nm,0.6s
G29M **Pine Creek** 3.30 95 Pn **Pn** 01 40 59.3 +1.1
E29M **Blow River** 3.34 70 Pn **Pn** 01 40 59.2 +0.4
E29M IAML 01 42 01.6
comp=E,968nm,0.7s
D28M **Stokes Point** 3.40 53 **Pn** 01 41 00.6 +1.0
EGAK **Eagle** 3.42 139 **Pn** 01 41 00.5 +0.7
EGAK **Eagle** 3.42 139 IAML 01 42 11.2
comp=E,600nm,1.0s
BPAW **Bear Paw Mtn.** 3.86 212 Pn **Pn** 01 41 04.9 -1.0
BPAW IAML 01 42 16.2
comp=E,754nm,0.8s
B22K **Teshekpuk Lake** 3.87 322 **Pn** 01 41 06.4 +0.5
B22K **Teshekpuk Lake** 3.87 322 IAML 01 42 21.4
comp=N,831nm,0.8s
B22K IAML 01 42 26.0
comp=E,622nm,1.4s
EPYK **Eagle Plains** 3.95 101 Pn **Pn** 01 41 06.8 -0.4
G30M **tAoh Zraii Nji** 3.98 92 Pn **Pn** 01 41 07.4 -0.2
G30M IAML 01 42 18.5
comp=N,704nm,1.1s
G30M IAML 01 42 26.4
comp=E,696nm,0.8s
F30M **Banner River** 4.07 83 **Pn** 01 41 09.2 +0.5
E19K **Redstone River** 4.18 275 **Pn** 01 41 10.8 +0.5
E19K **Redstone River** 4.18 275 IAML 01 42 24.9
comp=E,1µm,0.8s
E19K IAML 01 42 25.7
comp=N,1µm,0.7s
RND **Reindeer** 4.18 195 Pn **Pn** 01 41 10.9 +0.5
I20K **Naaghedeneel** 4.23 235 Pn **Pn** 01 41 11.6 +0.7
TRF **Thorofare Moun** 4.33 204 **Pn** 01 41 12.0 -0.4
TRF **Thorofare Moun** 4.33 204 IAML 01 42 29.2
comp=N,516nm,1.1s
TRF IAML 01 42 29.2
comp=E,613nm,1.2s
CHUM **Lake Minchumin** 4.34 217 **Pn** 01 41 11.9 -0.4
KTH **Kantishna Hill** 4.34 208 Pn **Pn** 01 41 11.8 -0.7
KTH IAML 01 42 32.9
comp=E,443nm,0.9s
KTH IAML 01 42 33.2
comp=N,777nm,1.1s
DHY **Denali Highway** 4.41 186 Pn **Pn** 01 41 14.7 +1.2
DHY IAML 01 42 32.2
comp=N,440nm,0.7s
G19K **Purcell Mounta** 4.43 258 Pn **Pn** 01 41 13.5 -0.3
DAWY **Dawson** 4.45 136 **Pn** 01 41 14.4 +0.4
DAWY **Dawson** 4.45 136 IAML 01 42 43.5
comp=N,270nm,0.5s
DAWY **Dawson** 4.45 136 P **Pn** 01 41 14.2 +0.2
baz=323
H19K **Roundabout Mou** 4.47 249 Pn **Pn** 01 41 14.3 +0.1
F19K **Shaleruckik Mo** 4.49 267 **Pn** 01 41 15.2 +0.7
F19K **Shaleruckik Mo** 4.49 267 IAML 01 42 36.4
comp=E,619nm,0.8s
F19K IAML 01 42 44.7
comp=N,463nm,0.9s
J29N **Klondike Camp** 4.49 128 **Pn** 01 41 15.1 +0.6
J29N **Klondike Camp** 4.49 128 IAML 01 42 35.6
comp=E,1µm,0.6s
J29N IAML 01 42 39.3
comp=N,2µm,0.7s
PAX **Paxson** 4.51 175 **Pn** 01 41 15.7 +0.9
D19K **Kuna River** 4.55 289 **Pn** 01 41 16.1 +0.8
D19K **Kuna River** 4.55 289 IAML 01 42 43.7
comp=E,847nm,1.2s
D19K **Kuna River** 4.55 289 P **Pn** 01 41 15.5 +0.2
baz=98
J20K **Nowinta River** 4.58 228 **Pn** 01 41 15.5 -0.3
J20K **Nowinta River** 4.58 228 IAML 01 42 34.4
comp=E,679nm,0.5s
J20K IAML 01 42 46.7
comp=N,532nm,0.8s
I30M **Mount Dempster** 4.60 114 **Pn** 01 41 17.0 +0.8
I30M **Mount Dempster** 4.60 114 IAML 01 42 34.0
comp=N,412nm,1.1s
I30M IAML 01 42 42.6
comp=E,355nm,0.9s
L26K **Log Cabin Wild** 4.61 163 **Pn** 01 41 16.2 0.0
L26K **Log Cabin Wild** 4.61 163 IAML 01 42 35.0
comp=N,1µm,0.5s
L26K IAML 01 42 39.6
comp=E,2µm,0.4s
MENT **Mentasta** 4.66 165 **Pn** 01 41 17.3 +0.4
MENT **Mentasta** 4.66 165 IAML 01 42 33.0
comp=N,2µm,0.7s
MENT IAML 01 42 34.5
comp=E,1µm,0.4s
CAST **Castle Rocks** 4.69 213 **Pn** 01 41 16.9 -0.3
CAST **Castle Rocks** 4.69 213 IAML 01 42 34.6
comp=E,367nm,0.6s
CAST IAML 01 42 37.1
comp=N,312nm,0.7s
B20K **Meade River** 4.70 308 **Pn** 01 41 17.7 +0.4
B20K **Meade River** 4.70 308 IAML 01 42 59.5
comp=E,640nm,1.4s
B20K IAML 01 42 59.7
comp=N,727nm,1.2s
B20K **Meade River** 4.70 308 P **Pn** 01 41 17.5 +0.2
baz=118
A22K **Sinclair Lake** 4.71 323 **Pn** 01 41 17.4 0.0
A22K **Sinclair Lake** 4.71 323 P **Pn** 01 41 17.4 0.0
baz=135
G31M **Satah River** 4.74 91 **Pn** 01 41 16.6 -1.3
G31M **Satah River** 4.74 91 IAML 01 42 46.5
comp=E,581nm,0.8s
G31M IAML 01 43 00.7
comp=N,520nm,1.3s
WAT7 **Susitna Watana** 4.74 194 **Pn** 01 41 18.9 +0.8
L27K **Beaver Creek,** 4.79 154 **Pn** 01 41 19.3 +0.6
L27K **Beaver Creek,** 4.79 154 IAML 01 42 42.0
comp=E,398nm,0.7s
L27K IAML 01 42 48.4
comp=N,307nm,0.8s
L27K **Beaver Creek,** 4.79 154 P **Pn** 01 41 18.7 -0.1
baz=338
F31M **Tsiigehtchic** 4.87 84 **Pn** 01 41 19.1 -0.5
F31M IAML 01 42 57.4
comp=E,428nm,0.9s
WAT6 **Susitna Watana** 4.92 187 **Pn** 01 41 21.3 +0.8
INK **Inuvik** 4.94 74 **Pn** 01 41 20.8 +0.2
INK **Inuvik** 4.94 74 IAML 01 42 51.1
comp=N,120nm,0.8s
INK IAML 01 42 57.5
comp=E,119nm,0.9s
INK **Inuvik** 4.94 74 Pn **Pn** 01 41 20.6 0.0
comp=E,5.1nm,0.3s,baz=252,slow=19,SNR=7.7
INK Sn **Sn** 01 42 14.3 -3.5
comp=E,10nm,0.3s,baz=234,slow=10,SNR=4.6
INK Lg Lg 01 42 40.5
comp=E,9.2nm,0.3s,baz=176,slow=19,SNR=3.2
INK LR LR 01 43 43.0
comp=E,66nm,21.0s,baz=54,slow=45
comp=E,12nm,0.3s
H31M **Peel River** 5.07 103 **Pn** 01 41 22.6 +0.1
H31M **Peel River** 5.07 103 IAML 01 42 52.3
comp=N,414nm,0.7s
H31M IAML 01 42 53.3
comp=E,543nm,1.2s
HARP **HAARP** 5.09 174 **Pn** 01 41 23.5 +0.7
J19K **Poorman** 5.15 232 **Pn** 01 41 23.6 0.0
J19K **Poorman** 5.15 232 IAML 01 42 56.7
comp=E,344nm,1.0s
PPLA **Purkeypile** 5.18 211 **Pn** 01 41 23.7 -0.4
PPLA **Purkeypile** 5.18 211 P **Pn** 01 41 23.6 -0.4
baz=26
C19K **Lookout Ridge** 5.18 295 **Pn** 01 41 24.4 +0.3
C19K **Lookout Ridge** 5.18 295 IAML 01 43 13.2
comp=N,346nm,1.4s
K20K **Telida** 5.21 222 **Pn** 01 41 23.7 -0.7
K20K **Telida** 5.21 222 IAML 01 42 54.6
comp=E,266nm,1.1s
K20K IAML 01 43 04.1
comp=N,318nm,0.8s
F18K **Selawik** 5.27 267 **Pn** 01 41 25.8 +0.6
A21K **Barrow** 5.31 322 **Pn** 01 41 25.7 -0.1
CUT **Chulitna** 5.32 200 **Pn** 01 41 26.5 +0.6
H18K **Honhosa River** 5.35 250 **Pn** 01 41 26.4 0.0
H18K **Honhosa River** 5.35 250 IAML 01 42 55.8
comp=E,242nm,1.0s
H18K IAML 01 43 03.2
comp=N,240nm,0.9s
M24K **Tolsona, Glenn** 5.36 179 **Pn** 01 41 26.6 +0.1
M27K **Edge Creek, AK** 5.45 157 **Pn** 01 41 28.6 +0.8
E18K **Tukpahlearik C** 5.48 276 **Pn** 01 41 28.6 +0.6
L29M **L29M** 5.55 138 **Pn** 01 41 30.1 +0.9
SCM **Sheep Creek Mo** 5.65 185 **Pn** 01 41 31.2 +0.7
C18K **Utukok River** 5.69 289 **Pn** 01 41 31.8 +0.8
M23K **Glacier View** 5.70 186 **Pn** 01 41 31.7 +0.5
MAYO **Mayo, Yukon** 5.82 127 Pn **Pn** 01 41 32.5 -0.2
L20K **Farewell, AK** 5.91 216 **Pn** 01 41 33.2 -0.8
F17K **Baldwin Pennin** 5.93 267 **Pn** 01 41 34.1 -0.1
A19K **Wainwright** 6.00 304 **Pn** 01 41 34.9 -0.2
E17K **Hotham Inlet** 6.00 274 **Pn** 01 41 35.2 -0.1
B18K **Kokolik River** 6.01 296 **Pn** 01 41 34.7 -0.6
M20K **Styx River** 6.29 211 **Pn** 01 41 39.1 -0.1
RDOG **Red Dog Mine** 6.31 283 **Pn** 01 41 40.1 +0.7
DIV **Divide** 6.34 177 **Pn** 01 41 40.9 +0.9
L19K **White Mountain** 6.40 218 **Pn** 01 41 39.5 -1.2
M19K **Big River Lodg** 6.53 215 **Pn** 01 41 42.4 -0.1
BMRM **Bremner River** 6.55 172 **Pn** 01 41 43.6 +0.8
J17K **VABM Dome** 6.67 238 **Pn** 01 41 43.6 -0.7
SPNN **North Nagishla** 6.68 207 **Pn** 01 41 45.4 +0.6
SPCP **Crater Peak Br** 6.69 205 **Pn** 01 41 45.0 +0.2
FID **Port Fidalgo** 6.72 180 **Pn** 01 41 46.4 +1.3
BARN **Barnard Glacie** 6.73 160 **Pn** 01 41 46.1 +0.7
SPCR **Spurr Chakacha** 6.76 205 **Pn** 01 41 46.4 +0.7
YUK8 **Steele Glacier** 6.81 152 **Pn** 01 41 47.4 +0.7
L18K **Tranite Mounta** 6.83 225 **Pn** 01 41 46.2 -0.5
CTGM **Chitina Glacie** 6.86 159 **Pn** 01 41 48.2 +1.0
I17K **Unalakleet** 6.90 246 **Pn** 01 41 47.6 +0.1
WAX **Waxell Ridge** 7.19 166 **Pn** 01 41 54.3 +2.7
C16K **Lisburne Hills** 7.21 285 Pn **Pn** 01 41 52.1 +0.3
J16K **Anvik River** 7.25 242 Pn **Pn** 01 41 52.0 -0.4
M31M **Drury Creek, Y** 7.32 130 **Pn** 01 41 53.9 +0.5
L17K **Donlin** 7.36 229 **Pn** 01 41 53.6 -0.3
YUK6 **Outpost Mounta** 7.39 148 **Pn** 01 41 55.1 +0.5
F15K **North Star Dit** 7.48 265 **Pn** 01 41 56.0 +0.5
N31M **Braeburn, Yuko** 7.52 138 **Pn** 01 41 56.5 +0.3
N19K **Bonanza Creek** 7.53 212 **Pn** 01 41 56.6 +0.3
RSO **Redoubt South** 7.54 205 **Pn** 01 41 57.2 +0.6
MESA **MESA** 7.55 163 **Pn** 01 41 55.7 -0.9
RED **Redoubt Volcan** 7.59 205 **Pn** 01 41 57.7 +0.6
HYT **Haines Junctio** 7.68 146 **Pn** 01 41 59.1 +0.6
M17K **Holitna River** 7.71 223 **Pn** 01 41 58.1 -0.7
SAMH **Samovar Hills** 7.74 159 **Pn** 01 41 60.0 +0.8
N18K **Kilae Creek** 7.96 216 **Pn** 01 42 01.2 -0.8
MMPY **Sheldon Lake,** 8.00 120 **Pn** 01 42 03.5 +0.8
IVE **Iliamna Volcan** 8.01 205 **Pn** 01 42 03.4 +0.5
L16K **Owhat River** 8.04 231 **Pn** 01 42 03.0 -0.1
K15K **Wolf Creek Mou** 8.25 238 Pn **Pn** 01 42 05.7 -0.3
M16K **Timber Creek** 8.44 226 **Pn** 01 42 07.3 -1.4
N32M **Quiet Lake** 8.54 131 **Pn** 01 42 10.5 +0.4
J14K **Nanvaranak Lak** 8.62 245 Pn **Pn** 01 42 11.9 +0.8
P33M **Teslin, Yukon** 9.38 134 **Pn** 01 42 22.3 +0.6
KDAK **Kodiak Island** 10.10 199 Pn **Pn** 01 42 29.0 -2.4
comp=N,0.4nm,0.3s,baz=90,slow=19,SNR=1.3
KDAK LR LR 01 47 10.0
comp=N,72nm,21.7s,baz=44,slow=41
comp=N,16nm,0.9s
WRGLY **Wrigley** 10.43 103 Pn **Pn** 01 42 36.5 +0.6
DLBC **Dease Lake** 11.66 133 **Pn** 01 42 53.4 +0.6
DLBC **Dease Lake** 11.66 133 Pn **Pn** 01 42 53.5 +0.8
comp=N,1.9nm,0.3s,baz=332,slow=7.3,SNR=16
DLBC Lg Lg 01 46 21.5
comp=N,0.5nm,0.3s,baz=240,slow=22,SNR=4.9
DLBC LR LR 01 47 41.2
comp=N,166nm,19.2s,baz=1.5,slow=39
comp=N,9.0nm,0.5s
S34M **Telegraph Cree** 11.80 137 **Pn** 01 42 55.2 +0.5
YKA **Yellowknife Ar** 14.21 95 Pn **Pn** 01 43 24.1 -3.4
YKA **Yellowknife Ar** 14.21 95 Pn **Pn** 01 43 23.8 -3.7
comp=N,0.9nm,0.3s,baz=308,slow=14,SNR=19
YKA Sn Sn 01 45 51.9 -13
comp=N,0.7nm,0.3s,baz=296,slow=23,SNR=3.9
comp=N,2.8nm,0.5s
RES **Resolute Bay** 17.59 43 Pn **Pn** 01 44 10.0 -1.3
RES **Resolute Bay** 17.59 43 P **Pn** 01 44 09.1 -2.2
comp=N,0.2nm,0.3s,baz=280,slow=8.8,SNR=3.1
RES S Sn 01 47 14.3 -13
comp=N,3.3nm,0.6s,baz=342,slow=20,SNR=3.1
comp=N,1.8nm,0.5s
EUNU **Eureka** 19.59 27 P **Pn** 01 44 35.1 -0.6
FCC **Fort Churchill** 24.44 85 P **P** 01 45 23.6 -1.4
FCC IAmb IAmb 01 45 32.6
comp=Z,7.4nm,1.1s
BMO **Blue Mountains** 27.34 131 P **P** 01 45 51.8 +0.3
BMO IAmb IAmb 01 45 53.7
comp=Z,4.8nm,1.0s
TIXI **Tiksi** 27.60 317 LR LR 01 57 53.1
comp=Z,64nm,20.9s,baz=123,slow=39
YBH **Yreka Blue Hor** 28.80 141 LR LR 01 56 41.2
comp=Z,62nm,18.5s,baz=4.5,slow=34
PETK **Petropavlovsk-** 29.96 270 P **P** 01 46 17.2 +2.5
comp=Z,0.8nm,0.7s,baz=66,slow=16,SNR=1.8
comp=Z,0.8nm,0.7s
PDAR **Pinedale Array** 31.61 123 P **P** 01 46 33.0 +3.4
comp=Z,0.7nm,0.8s,baz=335,slow=4.1,SNR=3.3
comp=Z,0.7nm,0.8s
NVAR **Mina Array Bea** 33.02 137 P **P** 01 46 44.7 +2.7
comp=Z,1.7nm,0.7s,baz=322,slow=7.1,SNR=2.5

NVAR				LR	LR	02 00 01.2		
	comp=Z,84nm,18.4s,baz=322,slow=36							
	comp=Z,1.7nm,0.7s							
SPITS	**Spitsbergen Ar**	**34.23**	**6**	P	**P**	**01 46 50.8**	**-1.0**	
	comp=Z,1.1nm,0.4s,baz=321,slow=10,SNR=5.3							
	comp=Z,1.1nm,0.4s							
SCHQ	**Schefferville**	**37.53**	**69**	P	**P**	**01 47 20.8**	**+0.5**	
	comp=Z,3.1nm,0.7s,baz=306,slow=9.1,SNR=4.2							
	comp=Z,3.1nm,0.7s							
PFO	**Pinyon Flats O**	**38.06**	**138**	LR	LR	02 03 49.4		
	comp=Z,56nm,21.2s,baz=184,slow=37							
OK035	**E0210 Rd and N**	**40.72**	**114**	P	**P**	**01 47 47.6**	**+0.4**	
ARCES	**ARCESS Array B**	**43.17**	**4**	P	**P**	**01 48 04.7**	**-2.1**	
	comp=Z,1.5nm,0.9s,baz=0.5,slow=9.9,SNR=1.8							
	comp=Z,1.5nm,0.9s							
TXAR	**Lajitas Array**	**45.80**	**124**	P	**P**	**01 48 29.8**	**+1.4**	
	comp=Z,0.3nm,0.7s,baz=348,slow=8.3,SNR=2.5							
TXAR				LR	LR	02 07 23.5		
	comp=Z,28nm,18.5s,baz=342,slow=36							
	comp=Z,0.3nm,0.7s							
USRK	**Ussuriysk Ar.**	**47.05**	**284**	LR	LR	02 10 34.0		
	comp=Z,61nm,19.4s,baz=75,slow=39							
BG3	**Lake Jocassee**	**48.06**	**99**	P	**P**	**01 48 46.1**	**+0.2**	
BG3				IAmb	IAmb	01 49 26.5		
	comp=Z,7.1nm,1.4s							
833A	**Chaparral WMA,**	**48.13**	**120**	P	**P**	**01 48 46.3**	**-0.2**	
833A				IAmb	IAmb	01 49 10.8		
	comp=Z,3.6nm,0.8s							
LPIG	**La Paz**	**48.73**	**134**	LR	LR	02 12 14.1		
	comp=Z,45nm,20.9s,baz=212,slow=40							
FINES	**FINESS Array B**	**51.30**	**5**	P	**P**	**01 49 09.9**	**-0.2**	
	comp=Z,0.3nm,0.4s,baz=1.1,slow=9.5,SNR=3.7							
	comp=Z,0.3nm,0.4s							
HFS	**Hagfors**	**51.89**	**13**	P	**P**	**01 49 14.4**	**-0.2**	
	comp=Z,1.1nm,0.7s,baz=349,slow=12,SNR=2.3							
	comp=Z,1.1nm,0.7s							
SONM	**Songino Array**	**52.79**	**306**	P	**P**	**01 49 22.5**	**+0.8**	
	comp=Z,0.3nm,0.3s,baz=23,slow=7.8,SNR=2.9							
	comp=Z,0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**53.04**	**325**	P	**P**	**01 49 22.8**	**-0.5**	
	comp=Z,0.6nm,0.4s,baz=30,slow=6.7,SNR=2.3							
	comp=Z,0.6nm,0.4s							
EKA	**Eskdalemuir Ar**	**54.51**	**25**	P	**P**	**01 49 34.2**	**+0.3**	
	comp=Z,0.6nm,0.4s,baz=332,slow=6.5,SNR=6.9							
	comp=Z,0.6nm,0.4s							
ARU	**Arti**	**55.06**	**343**	P	**P**	**01 49 38.8**	**+0.9**	
BRVK	**Borovoye**	**56.72**	**334**	P	**P**	**01 49 50.2**	**+0.4**	
BRVK				IAmb	IAmb	01 50 29.0		
	comp=Z,2.8nm,0.6s							
BVAR	**Borovoye Array**	**56.73**	**334**	P	**P**	**01 49 50.4**	**+0.4**	
	comp=Z,1.2nm,0.4s,baz=328,slow=5.1,SNR=5.1							
	comp=Z,1.2nm,0.4s							
HHC	**Hu-ho-hao-te**	**57.32**	**298**	*e*P	**P**	**01 49 53.5**	**-0.9**	
HHC				pmax	pmax			
	comp=Z,7.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,63nm,4.4s							
KURK	**Kurchatov**	**57.41**	**328**	P	**P**	**01 49 55.1**	**+0.4**	
KURK				IAmb	IAmb	01 49 55.7		
	comp=Z,3.9nm,1.1s							
KURBB	**Kurchatov Arra**	**57.51**	**328**	P	**P**	**01 49 55.0**	**-0.5**	
	comp=Z,1.3nm,0.7s,baz=16,slow=6.7,SNR=17							
	comp=Z,1.3nm,0.7s							
MKAR	**Makanchi Array**	**60.31**	**324**	P	**P**	**01 50 14.7**	**-0.4**	
MKAR	**Makanchi Array**	**60.31**	**324**	P	**P**	**01 50 13.5**	**-1.5**	
	comp=Z,0.6nm,0.8s,baz=46,slow=7.0,SNR=4.2							
	comp=Z,0.6nm,0.8s							
ABKAR	**Akbulak array**	**61.94**	**341**	P	**P**	**01 50 26.7**	**+0.7**	
ABKAR				IAmb	IAmb	01 50 27.3		
	comp=Z,3.5nm,0.9s							
ABKAR	**Akbulak array**	**61.94**	**341**	P	**P**	**01 50 26.6**	**+0.7**	
AKASG	**Malin Array Be**	**62.14**	**3**	P	**P**	**01 50 26.7**	**-0.5**	
	comp=Z,0.3nm,0.4s,baz=356,slow=6.7,SNR=4.2							
	comp=Z,0.3nm,0.4s							
GERES	**GERESS Array B**	**63.06**	**15**	P	**P**	**01 50 33.6**	**0.0**	
	comp=Z,1.5nm,0.3s,baz=0.0,slow=2.9,SNR=6.2							
	comp=Z,1.5nm,0.3s							
KBZ	**Khabaz**	**68.93**	**353**	P	**P**	**01 51 12.1**	**+0.8**	
	comp=Z,1.1nm,0.7s,baz=27,slow=11,SNR=2.1							
	comp=Z,1.1nm,0.7s							
ESDC	**Sonseca Array**	**69.47**	**30**	P	**P**	**01 51 15.1**	**+0.3**	
	comp=Z,0.5nm,0.9s,baz=342,slow=8.5,SNR=2.0							
	comp=Z,0.5nm,0.9s							
BRTR	**Keskin Array B**	**73.16**	**360**	P	**P**	**01 51 38.2**	**+1.0**	
	comp=Z,0.2nm,0.6s,baz=28,slow=4.6,SNR=2.1							
	comp=Z,0.2nm,0.6s							
GEYT	**Alibeck**	**73.32**	**340**	LR	LR	02 28 25.9		
	comp=Z,46nm,18.2s,baz=355,slow=40							
PZH	**PanZhiHua**	**73.70**	**300**	P	**P**	**01 51 41.1**	**+0.5**	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,100nm,6.1s							

IDC 11 01:53:23.6±2.7, 18°.02S×177°.62W, h0km, mb3.8/3, mbtmp3.8/3, MS2.9/1, Error ellipse: s-maj=287.8km s-min=33.9km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.35**	**260**	P	P	02 01 43.6	-0.4
	0.5nm,0.5s,baz=97,slow=7.1,SNR=11						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**45.49**	**254**	P	P	02 01 45.1	+0.1
	2.3nm,0.5s,baz=86,slow=8.8,SNR=22						
	2.3nm,0.5s						
GUMO	**Guam**	**48.53**	**308**	LR	LR	02 20 02.8	
	comp=Z,13nm,21.3s,baz=88,slow=33						
TXAR	**Lajitas Array**	**85.42**	**57**	P	P	02 06 03.5	0.0
	0.2nm,0.7s,baz=223,slow=5.6,SNR=3.8						
	0.2nm,0.7s						

*MDD **11** 01:57:55.6±0.4, 41°.68N×8°.61W, h12km, mb_Lg2.6/10, Error ellipse: s-maj=4.0km s-min=2.1km az=89.0*
*INMG **11** 01:57:55.7±1.2, 41°.68N×8°.61W, h3km, ML2.1, Error ellipse: s-maj=2.8km s-min=1.2km az=94.0*
*SFS **11** 01:57:56.2, 41°.69N×8°.61W, h21km, ML2.8/11, ML3.5/7, MLv2.5/11*

ISC 11 01:57:53.9±1.1, 41°.69N±0°.02×8°.53W±0°.03, h10km±10km, n46, σ1°51/98, Portugal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGAV	**Gavieira, Arco**	**0.34**	**35**	*e*Pg	**Pn**	**01 58 03.0**	**-2.1**
PGAV				*e*Sg	**Sb**	**01 58 08.2**	**+0.5**
PGAV				A	A	01 58 09.1	
	43nm,0.2s						
ELOB	**Lobios**	**0.40**	**62**	Pg	**Pn**	**01 58 04.1**	**-1.7**
ELOB				Sg	**Sb**	**01 58 10.1**	**+0.8**
ELOB				*i* Vmb_Lg		01 58 13.3	
EZAM	**Zamans**	**0.48**	**345**	Pg	**Pb**	**01 58 04.5**	**0.0**
EZAM				Sg	**Sb**	**01 58 10.6**	**-1.0**
EZAM				*i* Vmb_Lg		01 58 12.4	
PTO	**Porto**	**0.55**	**186**	*e*Pg	**Pb**	**01 58 05.6**	**0.0**
PTO				*e*Sg	**Sg**	**01 58 13.0**	**+1.2**
PTO				A	A	01 58 17.3	
	75nm,0.1s						
POLO	**Lamas de Olo**	**0.63**	**119**	*e*Pg	**Pn**	**01 58 08.3**	**-0.8**
POLO				*e*Sg	**Sn**	**01 58 17.9**	**-1.4**
POLO				A	A	01 58 18.8	
	28nm,0.3s						
PVRL	**Vila Real**	**0.74**	**124**	*e*P	**Pn**	**01 58 10.1**	**-0.3**
PVRL				*e*S	**Sn**	**01 58 20.7**	**-1.0**
PVRL				A	A	01 58 22.2	
	61nm,0.1s						
PVIS	**Viseu**	**1.08**	**153**	*e*P	**Pn**	**01 58 15.2**	**0.0**
PVIS				*e*S	**Sn**	**01 58 31.1**	**+0.9**
PVIS				A	A	01 58 32.5	
	95nm,0.1s						
EAGO	**Agolada(Pontev**	**1.16**	**16**	Pn	**Pn**	**01 58 16.4**	**+0.1**
EAGO				Pg	**Pb**	**01 58 17.5**	**+1.3**
EAGO				Sg	**Sn**	**01 58 32.6**	**+0.4**
EAGO				*i* Vmb_Lg		01 58 35.9	
MVO	**Moncorvo**	**1.24**	**114**	*e*P	**Pn**	**01 58 17.8**	**+0.4**
MVO				*e*S	**Sn**	**01 58 36.2**	**+1.9**
MVO				A	A	01 58 40.0	
	21nm,0.2s						
EMAZ	**Mazaricos**	**1.30**	**345**	Pg	**Pn**	**01 58 19.3**	**+1.0**
EMAZ				Sg	**Sn**	**01 58 36.5**	**+0.7**
EMAZ				*i* Vmb_Lg		01 58 38.7	
PBRG	**Braganca**	**1.34**	**84**	*e*Pn	**Pn**	**01 58 19.3**	**+0.5**
PBRG				*e*Sg	**Sn**	**01 58 40.9**	**+4.2**
PBRG				A	A	01 58 42.3	
	15nm,0.1s						
ECAL	**Calabor**	**1.36**	**79**	Pn	**Pn**	**01 58 19.5**	**+0.4**
ECAL				Sn	**Sn**	**01 58 37.4**	**+0.1**
ECAL	**Calabor**	**1.36**	**79**	Pn	**Pn**	**01 58 19.5**	**+0.4**
ECAL				Pg	**Pb**	**01 58 21.7**	**+2.1**
ECAL				Sn	**Sn**	**01 58 37.5**	**+0.1**
ECAL				Sg	**Sb**	**01 58 41.0**	**+3.8**
ECAL				*i* Vmb_Lg		01 58 44.5	
COI	**Coimbra**	**1.48**	**177**	*e*Sg	**Sg**	**01 58 43.0**	**+1.5**
COI				A	A	01 58 45.4	
	15nm,0.2s						
MTE	**Manteigas**	**1.48**	**150**	*e*Pn	**Pn**	**01 58 20.8**	**0.0**
MTE	**Manteigas**	**1.48**	**150**	*e*Pg	**Pg**	**01 58 22.6**	**+0.2**
MTE				*e*Sn	**Sn**	**01 58 42.1**	**+1.9**
MTE				*e*Sg	**Sb**	**01 58 43.7**	**+3.1**
MTE				A	A	01 58 45.7	
	30nm,0.5s						
PCAS	**Casmilo, Conde**	**1.63**	**179**	*e*Pn	**Pn**	**01 58 23.4**	**+0.7**
PCAS				*e*Sn	**Sn**	**01 58 45.3**	**+1.5**
PCAS				A	A	01 58 49.3	
	11nm,0.7s						
EPON	**Pontenova**	**1.93**	**31**	Pn	**Pb**	**01 58 26.9**	**-2.3**
EPON				Pg	**Pg**	**01 58 31.1**	**+0.1**
EPON				Sg	**Sg**	**01 58 56.1**	**0.0**
EPON				*i* Vmb_Lg		01 58 57.7	
PCBR	**Castelo Branco**	**2.01**	**156**	*e*Pn	**Pn**	**01 58 28.1**	**+0.2**
PCBR	**Castelo Branco**	**2.01**	**156**	*e*Pg	**Pg**	**01 58 32.6**	**+0.1**
PCBR				*e*Sg	**Sg**	**01 58 58.8**	**+0.3**
PCBR				A	A	01 59 00.2	
	11nm,0.3s						
PSBE	**So Bento**	**2.18**	**185**	*e*Pn	**Pn**	**01 58 32.3**	**+2.0**
PSBE	**So Bento**	**2.18**	**185**	*e*Pg	**Pg**	**01 58 35.3**	**-0.4**
PSBE				*e*Sg	**Sg**	**01 59 05.1**	**+1.2**
PSBE				A	A	01 59 09.1	
	6.6nm,0.7s						
PMRV	**Marv??o**	**2.42**	**159**	*e*Pn	**Pn**	**01 58 34.5**	**+1.0**
PMRV				*e*Sg	**Sg**	**01 59 10.7**	**-0.8**
PMRV				A	A	01 59 15.6	
	8.4nm,0.4s						
EPLA	**Plasencia**	**2.46**	**130**	Pn	**Pn**	**01 58 34.8**	**+0.6**
EPLA				Sn	**Sn**	**01 59 04.6**	**+0.2**
EPLA				Sg	**Sg**	**01 59 12.0**	**-1.1**
EPLA				*i* Vmb_Lg		01 59 21.2	
PMTG	**Montargil**	**2.62**	**175**	*e*Pn	**Pn**	**01 58 36.7**	**+0.4**
PMTG				*e*Sg	**Sg**	**01 59 17.3**	**-0.9**
PMTG				A	A	01 59 21.6	
	2.9nm,0.1s						
PMAFR	**Mafra**	**2.79**	**192**	*e*Pn	**Pn**	**01 58 38.8**	**+0.2**
PMAFR				*e*Sg	**Sg**	**01 59 24.3**	**+0.8**
PESTR	**Estremoz**	**2.91**	**165**	*e*Pn	**Pn**	**01 58 41.0**	**+0.8**
PESTR				*e*Sg	**Sg**	**01 59 25.6**	**-1.7**
PESTR				A	A	01 59 28.5	
	3.9nm,0.3s						
PESTR	**Estremoz**	**2.91**	**165**	Pn	**Pn**	**01 58 40.8**	**+0.6**
PESTR				Sg	**Sg**	**01 59 25.3**	**-1.9**
EARI	**Arriondas**	**2.94**	**56**	Pn	**Pb**	**01 58 42.6**	**-3.8**
EARI				Sn	**Sn**	**01 59 16.8**	**+0.7**
EARI				Sg	**Sg**	**01 59 28.0**	**-0.3**
EBAD	**Badajoz**	**3.15**	**158**	Pn	**Pn**	**01 58 44.1**	**+0.5**
EBAD				Sn	**Sn**	**01 59 19.2**	**-2.0**
EBAD				Sg	**Sg**	**01 59 32.4**	**-2.7**
EBAD	**Badajoz**	**3.15**	**158**	Pn	**Pn**	**01 58 44.1**	**+0.5**
EBAD				Sn	**Sn**	**01 59 19.7**	**-1.5**
EBAD				Sg	**Sg**	**01 59 32.0**	**-3.0**
EBAD				*i* Vmb_Lg		01 59 37.2	
EVO	**Evora**	**3.17**	**173**	*e*Pn	**Pn**	**01 58 44.7**	**+0.8**
EVO				*e*Sg	**Sg**	**01 59 35.7**	**-0.2**
EVO				A	A	01 59 38.7	
	2.7nm,0.1s						
EVO	**Evora**	**3.17**	**173**	Pn	**Pn**	**01 58 44.0**	**+0.1**
EVO				Sn	**Sn**	**01 59 19.2**	**-2.6**
GUD	**Guadarrama**	**3.46**	**106**	Pn	**Pn**	**01 58 49.1**	**+1.0**
GUD				Sn	**Sn**	**01 59 29.2**	**0.0**
GUD				Sg	**Sg**	**01 59 45.2**	**+0.1**
GUD				*i* Vmb_Lg		01 59 52.0	
PNCL	**Nicolau / Gran**	**3.57**	**180**	*e*Pn	**Pn**	**01 58 50.4**	**+1.1**
PNCL				*e*Sn	**Sn**	**01 59 30.5**	**-1.1**
PNCL				*e*Sg	**Sg**	**01 59 49.7**	**+1.1**
PNCL	**Nicolau / Gran**	**3.57**	**180**	Sn	**Sn**	**01 59 29.6**	**-2.0**
PBAR	**Barrancos**	**3.69**	**161**	*e*Pn	**Pn**	**01 58 51.3**	**+0.3**
PBAR				*e*Sn	**Sn**	**01 59 34.2**	**-0.3**
PBAR				*e*Sg	**Sg**	**01 59 51.1**	**-1.3**
PBAR				A	A	01 59 58.9	
	2.5nm,0.6s						
PBAR	**Barrancos**	**3.69**	**161**	Pn	**Pn**	**01 58 51.4**	**+0.4**
PBAR				Sn	**Sn**	**01 59 32.0**	**-2.5**
PAB	**San Pablo**	**3.83**	**123**	Pn	**Pn**	**01 58 53.8**	**+0.8**
PAB				Sn	**Sn**	**01 59 38.3**	**+0.1**
PAB				Sg	**Sg**	**01 59 54.6**	**-2.4**
PAB				*i* Vmb_Lg		02 00 01.3	
MESJ	**Messejana**	**3.85**	**176**	*e*Pn	**Pn**	**01 58 53.5**	**+0.3**
MESJ				*e*Sg	**Sg**	**01 59 56.5**	**-1.0**
MESJ				A	A	02 00 02.0	
	2.3nm,0.4s						
EGRO	**El Granado**	**4.22**	**169**	Sn	**Sn**	**01 59 45.3**	**-2.4**
UCM	**Universidad Co**	**4.23**	**107**	Pn	**Pn**	**01 58 59.9**	**+1.4**
PVAQ	**Vaqueiros**	**4.32**	**171**	*e*Pn	**Pn**	**01 59 00.1**	**+0.4**
PVAQ				*e*Sn	**Sn**	**01 59 46.8**	**-3.3**
PVAQ				*e*Sg	**Sg**	**02 00 13.6**	**+0.9**
PVAQ				A	A	02 00 15.7	
	3.5nm,0.7s						
PVAQ	**Vaqueiros**	**4.32**	**171**	Pn	**Pn**	**01 58 59.9**	**+0.2**
PVAQ				Sn	**Sn**	**01 59 46.3**	**-3.8**
ECAB	**El Cabril**	**4.33**	**145**	Pn	**Pn**	**01 59 00.0**	**+0.2**
ECAB				Sn	**Sn**	**01 59 47.4**	**-2.9**
EADA	**Adamuz**	**4.64**	**138**	Pn	**Pn**	**01 59 04.1**	**-0.1**

IDC 11 02:01:21.4±2.1, 5°.57S×151°.78E, h0km, mb3.7/3, mbtmp3.8/4, ML2.0/1, Error ellipse: s-maj=161.8km s-min=23.9km az=130.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.96**	**230**	Pn	Pn	02 02 52.2	+1.3
	2.6nm,0.3s,baz=59,slow=12,SNR=7.0						
PMG				Sn	Sn	02 03 58.6	-1.3
	1.3nm,0.3s,baz=32,slow=19,SNR=2.4						
	18nm,0.7s						
WRA	**Warramunga Arr**	**22.18**	**228**	P	P	02 06 19.9	+0.6
	1.5nm,0.7s,baz=52,slow=9.7,SNR=8.8						
	1.5nm,0.7s						
ASAR	**Alice Springs**	**24.90**	**222**	P	P	02 06 45.8	-0.5
	1.7nm,0.7s,baz=56,slow=9.3,SNR=16						
	1.7nm,0.7s						
ILAR	**Eielson Array**	**83.25**	**22**	P	P	02 13 49.6	0.0
	0.6nm,0.6s,baz=244,slow=5.0,SNR=9.3						
	0.6nm,0.6s						

*TEH **11** 02:05:33.4, 32°.13N×55°.71E, h8km±21km, ML4.0*
*IDC **11** 02:05:38.2±1.2, 32°.41N×55°.62E, h0km, mb3.6/6, mbtmp3.6/15, ML3.3/9, MS2.5/1, Error ellipse: s-maj=20.6km s-min=18.7km az=103.0*

ISC 11 02:05:34.9±0.6, 32°.09N±0°.03×55°.73E±0°.03, h10km, n72, σ1°54/72, mb3.6/6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.51**	**196**	Pg	**Pg**	**02 05 44.5**	**-0.5**
IBAF				Sg	**Sb**	**02 05 52.5**	**-1.2**
ICHK	**Chekchek**	**1.13**	**278**	Pg	**Pb**	**02 05 54.9**	**-1.8**
IMEH	**Mehriz**	**1.18**	**234**	Pg	**Pn**	**02 05 56.5**	**-1.2**
TPRV	**Parvadeh(Tabas**	**1.24**	**40**	Pg	**Pg**	**02 05 56.8**	**-2.0**
ZRDN	**Zarand Kerman**	**1.31**	**148**	Pg	**Pg**	**02 05 59.4**	**-0.7**
ISAD	**Sadrabad**	**1.75**	**265**	Pg	**Pb**	**02 06 06.0**	**-1.2**
KHGB	**Koh Gabri**	**1.82**	**159**	Pn	**Pb**	**02 06 08.0**	**-0.5**
TKDS	**Koohdasht(Taba**	**1.92**	**37**	Pn	**Pb**	**02 06 07.7**	**-2.5**
TNSJ	**Nastanj**	**2.01**	**21**	Pn	**Pb**	**02 06 08.8**	**-2.9**
ANAR	**Anarak**	**2.02**	**304**	Pn	**Pb**	**02 06 09.0**	**-2.8**
KRM1	**Kerman Provinc**	**2.06**	**140**	Pn	**Pb**	**02 06 11.1**	**-1.4**
TVBK	**TV Kerman**	**2.27**	**157**	Pn	**Pb**	**02 06 14.4**	**-1.9**
NGRK	**Negar Kerman**	**2.58**	**160**	Pn	**Pb**	**02 06 19.0**	**-2.6**
ITEG	**Tejag**	**2.68**	**72**	Pn	**Pn**	**02 06 19.1**	**+0.8**
CHMN	**Cheshme madani**	**2.71**	**145**	Pn	**Pb**	**02 06 20.8**	**-2.9**
IKOO	**Kooshah**	**2.79**	**82**	Pn	**Pn**	**02 06 20.6**	**+0.6**
IRAM	**Ramesheh**	**2.86**	**265**	Pn	**Pn**	**02 06 21.2**	**+0.4**
IZEF	**Zefreh**	**2.98**	**287**	Pn	**Pn**	**02 06 23.1**	**+0.5**
AFRZ	**Afriz**	**3.07**	**63**	Pn	**Pn**	**02 06 24.4**	**+0.7**
IGAR	**Gharneh**	**3.14**	**277**	Pn	**Pn**	**02 06 25.1**	**+0.4**
KRSH	**Karshahi**	**3.56**	**303**	Pn	**Pn**	**02 06 30.6**	**+0.2**
IDAH	**Dahanechah**	**3.56**	**78**	Pn	**Pn**	**02 06 31.1**	**+0.6**
KLNJ	**Kolanjah**	**3.69**	**254**	Pn	**Pn**	**02 06 32.9**	**+0.5**
ISFB	**Sefidab**	**3.69**	**309**	Pn	**Pn**	**02 06 32.0**	**-0.2**
IKLH	**Kolahrood**	**3.71**	**290**	Pn	**Pn**	**02 06 33.2**	**+0.7**
KBAM	**BAM**	**3.76**	**141**	Pn	**Pn**	**02 06 34.4**	**+1.2**
IBRJ	**Brojen**	**3.80**	**268**	Pn	**Pn**	**02 06 34.7**	**+0.9**
ILAS	**Lasjerd**	**4.02**	**326**	Pn	**Pn**	**02 06 36.8**	**0.0**
IPIR	**Pirpir**	**4.14**	**280**	Pn	**Pn**	**02 06 38.7**	**+0.2**
JHBN	**Jahan bin**	**4.30**	**273**	Pn	**Pn**	**02 06 41.4**	**+0.7**
IFIR	**Firoozkooh**	**4.32**	**326**	Pn	**Pn**	**02 06 41.2**	**+0.2**
TBHD	**Torbat heydari**	**4.42**	**40**	Pn	**Pn**	**02 06 42.7**	**+0.4**
IVRN	**Varamin**	**4.42**	**312**	Pn	**Pn**	**02 06 42.9**	**+0.7**
SBZV	**Sabzevar**	**4.56**	**19**	Pn	**Pn**	**02 06 45.0**	**+0.7**
IDMV	**Damavand**	**4.65**	**320**	Pn	**Pn**	**02 06 45.5**	**+0.1**
IALA	**Alasht**	**4.66**	**330**	Pn	**Pn**	**02 06 46.3**	**+0.6**
IGLO	**Ghaloghah**	**4.68**	**341**	Pn	**Pn**	**02 06 46.1**	**+0.3**
IQOM	**Qom**	**4.77**	**306**	Pn	**Pn**	**02 06 47.0**	**-0.1**
TBJM	**Torbat-e-JAM**	**4.98**	**49**	Pn	**Pn**	**02 06 50.7**	**+0.8**
IPRN	**Peran**	**5.01**	**327**	Pn	**Pn**	**02 06 51.0**	**+0.7**
IPAY	**Payeh**	**5.12**	**31**	Pn	**Pn**	**02 06 52.5**	**+0.6**
ZHDN	**Zahedan**	**5.13**	**120**	Pn	**Pn**	**02 06 53.8**	**+1.8**
IAKL	**Akhelmad**	**5.15**	**28**	Pn	**Pn**	**02 06 53.0**	**+0.6**
DSBU	**Dashti - Bushe**	**5.36**	**227**	Pn	**Pn**	**02 06 55.9**	**+0.8**
JRKH	**Jarkhoshk**	**5.41**	**44**	Pn	**Pn**	**02 06 57.2**	**+1.5**
IKRD	**Kardeh**	**5.63**	**33**	Pn	**Pn**	**02 06 59.5**	**+0.6**
IEMG	**Emamgholi**	**5.83**	**24**	Pn	**Pn**	**02 07 02.1**	**+0.3**
IRAZ	**Razeghan**	**5.86**	**306**	Pn	**Pn**	**02 07 02.5**	**+0.5**
KLST	**Kelardasht - M**	**5.87**	**320**	Pn	**Pn**	**02 07 02.6**	**+0.3**
GEYT	**Alibeck**	**6.15**	**18**	Pn	**Pn**	**02 07 06.2**	**+0.4**
	1.0nm,0.3s,baz=191,slow=14,SNR=21						
GEYT				Sn	**Sn**	**02 08 14.8**	**-1.5**
	0.1nm,0.3s,baz=224,slow=8.1,SNR=0.9						
GEYT				Lg	Lg	02 08 46.5	
	baz=175,slow=17						
	13nm,0.8s						
QABG	**Abgarm-Qazvin**	**6.26**	**307**	Pn	**Pn**	**02 07 08.5**	**+0.9**
MSFE	**Esma-Masafi**	**6.71**	**177**	Pn	**Pn**	**02 07 15.1**	**+1.4**
JIR1	**Jirandeh**	**6.73**	**315**	Pn	**Pn**	**02 07 14.3**	**+0.4**
NAZ	**Nazwa, Dubai**	**7.07**	**180**	Pn	**Pn**	**02 07 17.6**	**-1.0**
UOSS	**Minazif**	**7.13**	**177**	Pn	**Pn**	**02 07 18.4**	**-0.9**
HATD	**Hatta, Dubai**	**7.24**	**177**	Pn	**Pn**	**02 07 21.9**	**+1.0**
FAQ	**Al Faqa, Dubai**	**7.32**	**181**	Pn	**Pn**	**02 07 23.2**	**+1.4**
ASHO	**Ashiyiah**	**7.38**	**178**	Pn	**Pn**	**02 07 23.6**	**+0.7**
ASHO				Sn	**Sn**	**02 08 42.4**	**-4.3**
WSAR	**Wadi Sarin**	**9.18**	**163**	Pn	Pn	02 07 55.5	+8.0
	0.3nm,0.3s,baz=10,slow=11,SNR=1.5						
WSAR				Sn	Sn	02 09 46.6	+16
	0.2nm,0.3s,baz=56,slow=18,SNR=1.8						
	3.0nm,0.8s						
GNI	**Garni**	**11.98**	**315**	Pn	**Pn**	**02 08 27.6**	**+1.8**
	0.4nm,0.3s,baz=180,slow=20,SNR=1.4						
GNI				LR	LR	02 12 14.3	
	comp=Z,24nm,21.5s,baz=76,slow=34						
	1.8nm,0.5s						
KBZ	**Khabaz**	**15.39**	**323**	Pn	**P**	**02 09 14.7**	**-2.1**
	0.1nm,0.3s,baz=184,slow=14,SNR=1.7						
	1.0nm,0.7s						
KVAR	**Kislovodsk Arr**	**15.66**	**323**	Pn	**P**	**02 09 18.3**	**-1.6**
	baz=90,slow=20						
	1.0nm,0.4s						
EIL	**Elat**	**18.00**	**268**	P	**P**	**02 09 48.7**	**+2.9**
	0.1nm,0.3s,baz=32,slow=16,SNR=1.7						
	1.3nm,0.7s						
AAK	**Ala-Archa**	**18.22**	**49**	P	**P**	**02 09 51.3**	**+3.0**
	0.1nm,0.3s,baz=219,slow=10,SNR=2.1						
	0.9nm,0.5s						
AKTO	**Aktyubinsk**	**18.41**	**5**	P	**P**	**02 09 52.0**	**+1.8**
	0.1nm,0.3s,baz=198,slow=11,SNR=3.1						
	1.3nm,0.6s						
BRTR	**Keskin Array B**	**19.42**	**299**	P	**Pn**	**02 10 04.2**	**+1.6**
	baz=107,slow=14,SNR=5.8						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**23.46**	**23**	P	**P**	**02 10 46.5**	**+2.1**
	1.1nm,0.6s,baz=212,slow=5.3,SNR=7.0						
	1.1nm,0.6s						
KURBB	**Kurchatov Arra**	**25.05**	**36**

FINES	**FINESS Array B**	**58.16**	**328**	P		**P**	**02 21 36.6**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=172,slow=15,SNR=2.0							
	comp=Z,0.8nm,0.8s							
WRA	**Warramunga Arr**	**58.94**	**136**	P		**P**	**02 21 40.2**	**-2.7**
	comp=Z,0.7nm,1.0s,baz=320,slow=7.6,SNR=2.8							
	comp=Z,0.7nm,1.0s							
HFS	**Hagfors**	**64.23**	**327**	P		**P**	**02 22 18.1**	**+0.1**
	comp=Z,1.0nm,0.5s,baz=108,slow=4.7,SNR=7.0							
	comp=Z,1.0nm,0.5s							
EKA	**Eskdalemuir Ar**	**74.12**	**324**	P		**P**	**02 23 19.1**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=72,slow=5.5,SNR=3.5							
	comp=Z,0.3nm,0.4s							

*NEIC **11** 02:36:25.1±0.7, 19°.32N±0°.02×155°.20W±0°.02, h5km±1km, Error ellipse: s-maj=4.9km s-min=2.6km az=144.0*
HVO 11 02:36:24.9±0.7, **19°.33N**±0°.02×**155°.20W**±0°.02, **h2**km±4km, **ML2.8**/10, **ML2.8**/38(NEIC), **Error ellipse: s-maj=4.4km s-min=1.6km az=135.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.04**	**337**		Pg	02 36 26.7	+0.8
KNHH	**Kane Nui o Ham**	**0.05**	**31**		Pg	02 36 26.8	+0.7
STCH	**Steam Cracks**	**0.09**	**53**		Pg	02 36 27.1	+0.4
STCH				IAML		02 36 29.2	
	comp=N,4μm,0.6s						
KKO	**Keanakako'i**	**0.09**	**315**		Pg	02 36 27.4	+0.7
KKO	**Keanakako'i**	**0.09**	**315**	IAML		02 36 28.6	
	comp=N,6μm,0.9s						
KKO				IAML		02 36 28.9	
	comp=E,5μm,0.7s						
RIM	**Rim**	**0.09**	**311**	IAML		02 36 27.4	
	comp=N,7μm,0.6s						
RIM				IAML		02 36 28.2	
	comp=E,6μm,0.8s						
RIM	**Rim**	**0.09**	**311**		Pg	02 36 27.5	+0.7
NPOC	**North of Pu'u**	**0.10**	**55**		Pg	02 36 27.6	+0.7
NPOC				IAML		02 36 29.8	
	comp=N,3μm,0.6s						
JCUZ	**Jacuzzi**	**0.10**	**61**		Pg	02 36 27.4	+0.4
SDHHI	**Sand Hill**	**0.11**	**302**		Pg	02 36 27.6	+0.5
SDHHI	**Sand Hill**	**0.11**	**302**	IAML		02 36 28.3	
	comp=E,7μm,0.5s						
SDHHI				IAML		02 36 30.1	
	comp=N,7μm,0.4s						
HATHI	**Halema'uma'u T**	**0.11**	**326**		Pg	02 36 27.6	+0.6
HATHI	**Halema'uma'u T**	**0.11**	**326**	IAML		02 36 28.8	
	comp=E,5μm,0.9s						
HATHI				IAML		02 36 29.9	
	comp=N,4μm,1.1s						
HLP	**Hilina Pali**	**0.11**	**250**		Pg	02 36 27.8	+0.7
HLP	**Hilina Pali**	**0.11**	**250**	IAML		02 36 30.3	
	comp=N,4μm,0.1s						
HLP				IAML		02 36 30.4	
	comp=E,5μm,0.2s						
SBLHI	**Steaming Bluff**	**0.11**	**325**		Pg	02 36 27.7	+0.5
SBLHI	**Steaming Bluff**	**0.11**	**325**	IAML		02 36 28.0	
	comp=E,5μm,0.8s						
SBLHI				IAML		02 36 30.0	
	comp=N,5μm,0.5s						
RSD	**Rainshed**	**0.15**	**330**		Pg	02 36 28.2	+0.4
RSD	**Rainshed**	**0.15**	**330**	IAML		02 36 31.2	
	comp=E,954nm,0.5s						
RSD				IAML		02 36 31.2	
	comp=N,1μm,0.5s						
MLH	**Mauna Loa**	**0.24**	**312**		Pg	02 36 29.9	+0.3
MLH	**Mauna Loa**	**0.24**	**312**	IAML		02 36 36.0	
	comp=N,1μm,0.2s						
MLH				IAML		02 36 37.2	
	comp=E,728nm,0.4s						
HMH	**Humu'ula Sheep**	**0.38**	**315**		Pg	02 36 32.3	0.0
HMH	**Humu'ula Sheep**	**0.38**	**315**	IAML		02 36 39.4	
	comp=N,3μm,0.2s						
HMH				IAML		02 36 39.5	
	comp=E,3μm,0.2s						
KHU	**Kahuku**	**0.40**	**258**		Pg	02 36 32.7	0.0
KHU				IAML		02 36 40.0	
	comp=E,782nm,0.1s						
KHU				IAML		02 36 40.0	
	comp=N,695nm,0.1s						
MWH	**Moku'aweowe**	**0.41**	**292**		Pg	02 36 33.2	+0.4
MWH				IAML		02 36 40.2	
	comp=N,2μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.41**	**300**		Pg	02 36 33.2	+0.3
MLOA	**Mauna Loa Obse**	**0.41**	**300**	IAML		02 36 39.9	
	comp=N,2μm,0.3s						
MLOA				IAML		02 36 40.2	
	comp=E,2μm,0.2s						
ALEP	**Alea Permanent**	**0.47**	**296**		Sg	02 36 40.8	+0.7
POHA	**Pohakuloa**	**0.53**	**323**		Pg	02 36 34.9	-0.2
POHA	**Pohakuloa**	**0.53**	**323**		Sg	02 36 42.2	+0.3
HUH	**Hualalai**	**0.69**	**300**		Pg	02 36 37.5	-0.8
CPH	**Captain Cook**	**0.70**	**283**		Pg	02 36 37.5	-0.8
HPAH	**Hawaii Prepara**	**0.84**	**326**	Pg	Pg	02 36 40.6	-0.4
HPAH				IAML		02 36 51.8	
	comp=N,334nm,0.2s						
HPAH				IAML		02 36 51.9	
	comp=E,535nm,0.2s						

*THE **11** 02:47:29.6, 36°.65N×21°.25E, h7km, ML3.1/9, Error ellipse: s-maj=1.0km s-min=0.5km az=206.0*
*ATH **11** 02:47:31.1, 36°.71N×21°.30E, h16km±2km, ML3.1/6, Error ellipse: s-maj=6.0km s-min=1.8km az=40.0*
*TIR **11** 02:47:33.4, 37°.04N×20°.68E, h37km±27km, Md3.9, Ml3.3*
*IDC **11** 02:47:45.5±16.0, 36°.97N×21°.59E, h172km±78km, mb3.1/4, mbtmp3.4/6, Error ellipse: s-maj=186.3km s-min=34.1km az=32.0*
ISC 11 02:47:28.7±1.5, **36°.63N**±0°.06×**21°.22E**±0°.05, **h30**km±10km, **n68,σ1s35/88, mb3.5**/4, **Southern Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.50**	**57**	P	**Pb**	**02 47 38.4**	**-0.7**
PYL				S	**Sb**	**02 47 45.0**	**-1.2**
	5μm,0.4s						
PYL	**PYLOS**	**0.50**	**57**	P	**Pn**	**02 47 39.1**	**-0.6**
PYL				S	**Sb**	**02 47 44.3**	**-1.8**
PYL				AML	AML	02 47 48.7	
	comp=E,10423μm,0.3s						
PYL				AML	AML	02 47 49.5	
	comp=N,8620μm,0.4s						
KLMT	**Kalamata**	**0.80**	**57**	P	**Pn**	**02 47 44.5**	**+0.7**
KLMT				S	**Sn**	**02 47 55.5**	**+0.8**
	comp=N,2μm,0.5s						
LTHK	**Lithakia**	**1.12**	**344**	P	**Pb**	**02 47 50.1**	**+0.5**
LTHK				S	**Sn**	**02 48 06.4**	**+3.7**
	comp=N,902nm,0.3s						
LTHK	**Lithakia**	**1.12**	**344**	P	**Pb**	**02 47 50.0**	**+0.5**
LTHK				S	**Sn**	**02 48 04.2**	**+1.5**
LTHK				AML	AML	02 48 14.1	
	comp=N,1855μm,0.4s						
LTHK				AML	AML	02 48 15.9	
	comp=E,1730μm,0.3s						
DRO	**Drossia**	**1.38**	**16**	P	**Pb**	**02 47 54.1**	**+0.2**
DRO				S	**Sb**	**02 48 13.1**	**+2.0**
DRO	**Drossia**	**1.38**	**16**	P	**Pb**	**02 47 54.2**	**+0.3**
DRO				AML	AML	02 48 26.1	
	comp=E,4866μm,0.7s						
DRO				AML	AML	02 48 30.4	
	comp=N,3304μm,0.5s						
VLI	**Veliai**	**1.38**	**86**	P	**Pb**	**02 47 54.3**	**+0.4**
VLI				S	**Sb**	**02 48 13.4**	**+2.3**
	comp=N,422nm,0.6s						
VLI	**Veliai**	**1.38**	**86**	P	**Pb**	**02 47 54.2**	**+0.3**
VLI				AML	AML	02 48 25.2	
	comp=N,861μm,0.7s						
VLI				AML	AML	02 48 27.6	
	comp=E,753μm,0.6s						
RLS	**Riolos of Patr**	**1.44**	**8**	P	**Pb**	**02 47 55.2**	**+0.3**
RLS				S	**Sb**	**02 48 15.0**	**+2.1**
	comp=E,450nm,0.6s						
RLS	**Riolos of Patr**	**1.44**	**8**	P	**Pb**	**02 47 55.4**	**+0.5**
RLS				AML	AML	02 48 27.2	
	comp=N,776μm,0.7s						
RLS				AML	AML	02 48 32.1	
	comp=E,988μm,0.6s						
MNVA	**Monemvasia**	**1.46**	**87**	P	**Pb**	**02 47 55.8**	**+0.7**
GUR	**Goura**	**1.58**	**34**	P	**Pb**	**02 47 56.9**	**-0.5**
GUR				S	**Sb**	**02 48 18.2**	**+1.2**
	comp=E,1μm,0.5s						
GUR	**Goura**	**1.58**	**34**	P	**Pb**	**02 47 56.9**	**-0.5**
KLV	**Kalavryta, Ach**	**1.60**	**27**	P	**Pb**	**02 47 57.1**	**-0.5**
KLV				S	**Sb**	**02 48 18.2**	**+0.8**
KLV	**Kalavryta, Ach**	**1.60**	**27**	P	**Pb**	**02 47 57.1**	**-0.5**
VLS	**Valsamata**	**1.63**	**342**	P	**Pb**	**02 47 57.7**	**-0.4**
VLS				S	**Sb**	**02 48 19.9**	**+1.7**
	comp=E,225nm,0.2s						
VLS	**Valsamata**	**1.63**	**342**	P	**Pb**	**02 47 57.5**	**-0.5**
VLS				AML	AML	02 48 36.0	
	comp=N,589μm,0.3s						
VLS				AML	AML	02 48 47.2	
	comp=E,591μm,0.6s						
KRND	**KRANIDI**	**1.72**	**63**	P	**Pb**	**02 47 58.1**	**-1.5**
KRND				S	**Sb**	**02 48 21.5**	**+0.7**
	comp=E,292nm,0.5s						
KRND	**KRANIDI**	**1.72**	**63**	P	**Pb**	**02 47 58.1**	**-1.5**
DMLN	**Damoulianata-K**	**1.75**	**337**	P	**Pb**	**02 47 58.5**	**-1.6**
ALIK	**Aliki, Aigiali**	**1.78**	**23**	P	**Pb**	**02 47 59.7**	**-0.9**
ALIK				S	**Sb**	**02 48 23.0**	**+0.5**
THAL	**Thalero**	**1.82**	**39**	P	**Pb**	**02 47 59.7**	**-1.6**
THAL				S	**Sb**	**02 48 23.9**	**+0.3**
ANKY	**Antikythira Is**	**1.84**	**114**	P	**Pb**	**02 48 01.5**	**-0.2**
EFP	**Efpalio**	**1.88**	**17**	P	**Pb**	**02 48 01.6**	**-0.7**
FSK	**Fiskardo**	**1.90**	**344**	P	**Pb**	**02 48 01.6**	**-1.1**
ANX	**Ano Chora**	**2.04**	**16**	P	**Pb**	**02 48 03.7**	**-1.4**
ANX				S	**Sb**	**02 48 29.5**	**-0.6**
	comp=E,430nm,0.6s						
LKD2	**Lefkada island**	**2.21**	**348**	P	**Pn**	**02 48 04.8**	**+1.7**
	baz=0.0						
LKD2				S	**Sn**	**02 48 28.1**	**-1.3**
	baz=0.0						
LKD2				AMP			
	comp=N,0.7nm,0.6s,baz=0.0						
LKD2	**Lefkada island**	**2.21**	**348**	P	**Pn**	**02 48 04.9**	**+1.7**
VIL2	**Platees**	**2.27**	**45**	P	**Pn**	**02 48 04.9**	**+0.7**
VLY	**Voula,Athens**	**2.39**	**58**	P	**Pn**	**02 48 06.8**	**+1.1**
AXAR	**Agios Charalam**	**2.42**	**28**	P	**Pn**	**02 48 08.1**	**+2.0**
ATHU	**Athens Univers**	**2.44**	**56**	P	**Pn**	**02 48 07.4**	**+0.9**
DION	**Dionisos Attik**	**2.60**	**55**	P	**Pn**	**02 48 10.7**	**+2.0**
IGT	**Igoumenitsa**	**2.99**	**347**	P	**Pn**	**02 48 16.1**	**+2.1**
	baz=354						
IGT				S	**Sn**	**02 48 46.6**	**-2.1**
	baz=354						
IGT				AMP			
	comp=N,0.2nm,0.2s,baz=354						
SRN	**Sarande**	**3.39**	**344**	P	**Pn**	**02 48 21.4**	**+2.0**
	baz=350						
SRN				S	**Sn**	**02 48 57.1**	**-1.5**
	baz=350						
SRN				AMP			
	comp=N,0.2nm,0.2s,baz=350						
LSK	**Leskovik**	**3.55**	**352**	P	**Pn**	**02 48 23.9**	**+2.1**
	baz=359						
LSK				S	**Sn**	**02 49 02.4**	**-0.4**
	baz=359						
LSK				AMP			
	comp=E,0.3nm,0.8s,baz=359						
SCTE	**Santa Cesarea**	**4.07**	**329**	P	**Pn**	**02 48 30.2**	**+1.4**
	baz=331						
SCTE				S	**Sn**	**02 49 13.0**	**-2.3**
	baz=331						
SCTE				AMP			
	comp=E,851nm,0.1s,baz=331						
OHR	**Ohrid**	**4.49**	**356**	*i* Pn	**Pn**	**02 48 37.7**	**+3.0**
OHR				*i* Sn	**Sn**	**02 49 26.9**	**+1.1**
TIR	**Tirane**	**4.83**	**348**	P	**Pn**	**02 48 42.0**	**+2.7**
	baz=352						
NOCI	**Noci**	**5.28**	**323**	P	**Pn**	**02 48 47.4**	**+2.0**
	baz=325						
NOCI				S	**Sn**	**02 49 41.8**	**-3.4**
	baz=325						
NOCI				AMP			
	comp=N,0.3nm,0.2s,baz=325						
DRME	**Dracevica, Mon**	**5.77**	**345**	*e*Pn	**Pn**	**02 48 53.1**	**+0.9**
PDG	**Podgorica**	**5.99**	**346**	*e*Pn	**Pn**	**02 48 55.0**	**-0.2**
TREB	**Trebinje**	**6.47**	**341**	*e*Pn	**Pn**	**02 49 01.6**	**-0.2**
BRY	**Bratogost**	**6.60**	**343**	*e*Pn	**Pn**	**02 49 03.7**	**0.0**
SJES	**Sjenica**	**6.70**	**352**	*e*Pn	**Pn**	**02 49 05.4**	**+0.4**
STON	**Ston**	**6.80**	**338**	*e*Pn	**Pn**	**02 49 06.3**	**0.0**
NEVS	**Nevesinje**	**7.08**	**341**	*e*Pn	**Pn**	**02 49 10.4**	**+0.1**
RUDO	**Rudo**	**7.13**	**349**	*e*Pn	**Pn**	**02 49 10.8**	**0.0**
HAPS	**Han Pijesak,Bl**	**7.65**	**348**	*e*Pn	**Pn**	**02 49 17.8**	**-0.3**
TEKS	**Tekeris**	**8.02**	**351**	*e*Pn	**Pn**	**02 49 21.0**	**-2.1**
MGRS	**Mrkonjic Grad**	**8.39**	**339**	*e*Pn	**Pn**	**02 49 27.8**	**-0.4**
A050A	**Klekovaca**	**8.62**	**337**	*e*Pn	**Pn**	**02 49 32.7**	**+1.4**
BLY	**Banja Luka**	**8.67**	**341**	*e*Pn	**Pn**	**02 49 32.5**	**+0.5**
A051A	**Mrakovica**	**8.99**	**340**	*e*Pn	**Pn**	**02 49 36.3**	**-0.1**
BOJS	**Bojanci**	**9.95**	**335**	*e*Pn	**Pn**	**02 49 49.8**	**+0.4**
CRES	**Cresnjev**	**10.16**	**337**	*e*Pn	**Pn**	**02 49 52.2**	**-0.2**
BRTR	**Keskin Array B**	**10.25**	**69**	P	Pn	02 50 03.8	+10
	comp=N,0.6nm,1.0s,baz=256,slow=12,SNR=2.4						
CEY	**Cerknica**	**10.44**	**333**	*e*Pn	**Pn**	**02 49 57.5**	**+1.3**
SOKA	**Soboth**	**11.05**	**337**	*i* Pn	**Pn**	**02 50 05.0**	**+0.3**
	comp=N,0.8nm,0.4s						
OBKA	**Obir**	**11.06**	**335**	*i* Pn	**Pn**	**02 50 06.1**	**+1.3**
	comp=N,0.4nm,0.2s						
OBKA	**Obir**	**11.06**	**335**	*e*Pn	**Pn**	**02 50 05.3**	**+0.5**
MYKA	**Terra Mystica**	**11.48**	**333**	*e*Pn	Pn	02 50 04.4	-6.2
	comp=N,0.6nm,0.3s						
AKASG	**Malin Array Be**	**15.20**	**20**	P	**P**	**02 51 05.2**	**-0.5**
	comp=N,0.3nm,0.4s,baz=209,slow=9.5,SNR=4.2						
FINES	**FINESS Array B**	**25.03**	**6**	P	**P**	**02 52 50.2**	**+0.5**
	comp=N,0.6nm,0.4s,baz=173,slow=12,SNR=11						
	comp=N,0.6nm,0.4s						
NOA	**NORSAR Array B**	**25.25**	**349**	P	**P**	**02 52 52.7**	**+0.9**
	comp=N,0.3nm,0.5s,baz=162,slow=8.3,SNR=2.1						
	comp=N,0.3nm,0.5s						
MKAR	**Makanchi Array**	**45.65**	**57**	P	**P**	**02 55 44.5**	**-1.8**
	comp=N,0.3nm,0.4s,baz=277,slow=7.6,SNR=3.3						
	comp=N,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**46.32**	**47**	P	**P**	**02 55 50.8**	**-0.7**
	comp=N,0.9nm,0.3s,baz=261,slow=8.6,SNR=3.9						
	comp=N,0.9nm,0.3s						

*CATAC **11** 02:47:52.1±0.7, 14°.05N×89°.12W, h0km, ML3.5*
*SNET **11** 02:48:12.0±0.7, 13°.26N×88°.07W, h2km±2km, ML2.0*
ISC 11 02:48:12.6±0.9, **13°.24N**±0°.06×**88°.05W**±0°.02, **h17**km±6km, **n18,σ1s17/28, 1C, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**67**	*e*P	**Pg**	**02 48 16.6**	**-0.3**
LCND				*e*S	**Sg**	**02 48 19.6**	**-0.4**
LCND				IAML		02 48 21.4	
	comp=Z,1μm,0.3s						
LCND	**La Caada**	**0.17**	**67**	*i* P	**Pg**	**02 48 16.8**	**-0.2**
LCND				*i* S	**Sg**	**02 48 19.9**	**0.0**
LCND				IAML		02 48 21.2	
	comp=Z,930nm,1.0s						
JUCU	**Jucuarįn**	**0.19**	**273**	*e*P	**Pg**	**02 48 16.7**	**-0.7**
JUCU				*e*S	**Sg**	**02 48 19.6**	**-0.9**
JUCU				IAML		02 48 21.6	
	comp=Z,295nm,0.3s						
JUCU	**Jucuarįn**	**0.19**	**273**	*i* P	**Pg**	**02 48 16.9**	**-0.5**
JUCU				*i* S	**Sg**	**02 48 22.0**	**+1.4**
CNCH	**Conchagua**	**0.21**	**81**	*e*P	**Pg**	**02 48 17.8**	**0.0**
CNCH				*e*S	**Sg**	**02 48 21.6**	**+0.4**
CNCH	**Conchagua**	**0.21**	**81**	*i* P	**Pg**	**02 48 18.0**	**+0.3**
CNCH				*i* S	**Sg**	**02 48 21.6**	**+0.4**
CNCH				IAML		02 48 21.9	
	comp=Z,460μm,1.0s						
BLLM	**Bellamira**	**0.27**	**318**	*e*P	**Pg**	**02 48 18.2**	**-0.4**
BLLM				*e*S	**Sg**	**02 48 22.6**	**-0.1**
RANC	**El Ranchito**	**0.30**	**309**	*e*P	**Pb**	**02 48 18.9**	**-0.8**
RANC				IAML		02 48 24.4	
	comp=Z,160nm,0.2s						
RANC	**El Ranchito**	**0.30**	**309**	*i* P	Pg	02 48 13.1	-6.0
RANC				*i* S	**Sb**	**02 48 23.9**	**-0.5**
RANC				IAML		02 48 28.4	
	comp=Z,180nm,1.0s						
PACA	**Pacayal**	**0.35**	**310**	*e*P	**Pb**	**02 48 19.8**	**-0.6**
PACA				*e*S	**Sb**	**02 48 25.6**	**-0.2**
PACA	**Pacayal**	**0.35**	**310**	*i* P	**Pb**	**02 48 21.1**	**+0.6**
PACA				*i* S	**Sb**	**02 48 30.6**	**+4.8**
AMPH	**Amapala**	**0.39**	**84**	*e*P	**Pb**	**02 48 20.8**	**-0.2**
AMPH				*e*S	**Sb**	**02 48 27.1**	**+0.5**
TECO	**Alcaldia de Te**	**0.77**	**292**	*e*P	**Pg**	**02 48 27.0**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.11**	**43**	*e*P	**Pg**	**02 48 33.0**	**-1.1**
CRIN	**San Cristobal**	**1.11**	**119**	*e*P	**Pg**	**02 48 33.8**	**-0.4**
CRIN	**San Cristobal**	**1.11**	**119**	*i* P	**Pg**	**02 48 33.9**	**-0.3**
CRIN				IAML		02 48 35.4	
	comp=Z,180nm,1.0s						
CNGA	**Al SSO del Vol**	**1.51**	**119**	*i* P	**Pn**	**02 48 38.1**	**-0.9**
CNGN	**Cerro Negro**	**1.51**	**119**	*e*P	**Pn**	**02 48 39.4**	**+0.4**

ROM 11 02:48:55.8±0.1, **42°.824N**±0°.003×**13°.111E**±0°.004, **h10**km, **ML1.1**/18, **3C-2D, Error ellipse: s-maj=0.3km s-min=0.3km az=235.0, Central Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.01**	**15**	P	Pg	02 48 58.1	+0.3
NRCA				S	Sg	02 48 59.2	+0.1
NRCA				AML	AML		
	comp=E,1142μm,0.1s						
NRCA				AML	AML		
	comp=N,669μm,0.2s						
NRCA				AML	AML		
	comp=E,1216μm,0.1s						
NRCA				AML	AML		
	comp=N,722μm,0.2s						
NRCA				AML	AML		
	comp=N,669μm,0.1s						
NRCA				AML	AML		
	comp=E,1142μm,0.2s						
MMO1	**Montemonaco**	**0.18**	**65**	P	Pg	02 49 00.1	+0.5
MMO1				S	Sg	02 49 03.2	+0.8
T1221	**Campello sul C**	**0.20**	**281**	⇑P	Pg	02 49 00.7	+0.7
T1221				S	Sg	02 49 04.0	+1.1
GAVE	**Gavelli**	**0.21**	**230**	P	Pg	02 49 00.9	+0.7
GAVE				S	Sg	02 49 04.4	+1.2
GAVE				AML	AML		
	comp=N,85μm,0.2s						
GAVE				AML	AML		
	comp=E,117μm,0.5s						
MTRA	**Matera**	**0.22**	**108**	P	Pg	02 49 00.9	+0.5
MTRA				S	Sg	02 49 04.7	+1.2
CESI	**CESI - Serrava**	**0.24**	**320**	P	Pg	02 49 01.3	+0.6
CESI				S	Sg	02 49 05.3	+1.3
CESI				AML	AML		
	comp=E,78μm,0.9s						
CESI				AML	AML		
	comp=N,140μm,0.3s						
T1219	**Muccia, Frazio**	**0.24**	**342**	⇓P	Pg	02 49 01.4	+0.5
T1219				S	Sg	02 49 05.3	+1.1
SMA1	**SAN MARTINO**	**0.26**	**139**	⇑P	Pg	02 49 01.6	+0.5
SMA1				S	Sg	02 49 05.6	+1.0
SMA1				AML	AML		
	comp=E,40μm,0.5s						
SMA1				AML	AML		
	comp=N,39μm,0.1s						
CSP1	**Cessapalombo**	**0.28**	**14**	⇓P	Pg	02 49 02.1	+0.6
CSP1				S	Sg	02 49 06.3	+1.1
CSP1				AML	AML		
	comp=N,14μm,1.3s						
CSP1				AML	AML		
	comp=E,35μm,0.7s						
T1220	**Camerino, Fraz**	**0.29**	**357**	P	Pg	02 49 01.9	+0.3
T1220				S	Sb	02 49 07.1	-0.8
GUMA	**Gualdo di Mace**	**0.29**	**35**	⇑P	Pb	02 49 02.5	-0.5
GUMA				S	Sb	02 49 07.3	-0.6
GUMA				AML	AML		
	comp=E,78μm,0.5s						
GUMA				AML	AML		
	comp=N,80μm,1.2s						
MML1	**Montelago di S**	**0.31**	**341**	P	Pb	02 49 02.8	-0.6
MML1				S	Sb	02 49 07.4	-1.1

*SJA **11** 02:58:09.1±0.9, 19°.45S×70°.36W, h18km±3km, ML3.5, MW3.5*
*GUC **11** 02:58:11.9±0.8, 19°.43S×70°.34W, h25km±5km, ML3.3*
ISC 11 02:58:08.7±1.4, **19°.44S**±0°.02×**70°.41W**±0°.05, **h3**km±11km, **n30,σ1s11/60, 4D, Near coast of northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB11	**IPOC Station P**	**0.78**	**115**	*e*P	**Pg**	**02 58 24.2**	**+0.5**
PB11				*e*S	**Sg**	**02 58 35.0**	**+1.3**
PB11				IAML		02 58 35.5	
	comp=Z,2μm,0.3s						
PB11	**IPOC Station P**	**0.78**	**115**	*i* P	**Pb**	**02 58 24.9**	**0.0**
PB11				*e*S	**Sg**	**02 58 34.8**	**+1.1**
PB11				IAML		02 58 35.4	
	comp=E,3μm,0.5s						
PB12	**IPOC Station P**	**0.82**	**5**	*e*P	**Pb**	**02 58 25.7**	**0.0**
PB12				*e*S	**Sb**	**02 58 37.0**	**-0.2**
PB12	**IPOC Station P**	**0.82**	**5**	*i* P	**Pb**	**02 58 25.9**	**+0.3**
PB12				*e*S	**Sb**	**02 58 36.8**	**-0.4**
PB12				IAML		02 58 37.6	
	comp=E,808nm,0.2s						
TA02	**Huaiquique**	**0.87**	**163**	*e*P	**Pb**	**02 58 26.4**	**+0.1**
TA02				*e*S	**Sb**	**02 58 38.0**	**-0.4**
TA02				IAML		02 58 39.1	
	comp=Z,3μm,0.1s						
TA02	**Huaiquique**	**0.87**	**163**	⇓*i* P	**Pb**	**02 58 26.6**	**+0.1**
TA02				*e*S	**Sg**	**02 58 37.6**	**+0.9**
HMBC	**Humberstone**	**0.97**	**150**	*e*P	**Pg**	**02 58 25.7**	**-1.6**
HMBC				*e*P	**Pb**	**02 58 27.1**	**-1.1**
HMBC				*e*S	**Sg**	**02 58 40.5**	**+0.6**
HMBC				IAML		02 58 46.1	
	comp=Z,2μm,0.3s						
HMBC	**Humberstone**	**0.97**	**150**	⇓*i* P	**Pg**	**02 58 27.9**	**+0.6**
HMBC				*e*S	**Sg**	**02 58 40.0**	**+0.1**
HMBC				IAML		02 58 46.2	
	comp=E,2μm,0.5s						
AP01	**Chacalluta**	**1.06**	**3**	*e*P	**Pb**	**02 58 29.7**	**0.0**
AP01				*e*S	**Sn**	**02 58 44.9**	**-0.9**
AP01				IAML		02 58 50.1	
	comp=Z,589nm,0.7s						
TA01	**Diego Aracena**	**1.14**	**169**	*e*P	**Pg**	**02 58 30.8**	**+0.2**
TA01				*e*S	**Sg**	**02 58 46.1**	**+0.7**
TA01				IAML		02 58 46.6	
	comp=Z,703nm,0.5s						
TA01	**Diego Aracena**	**1.14**	**169**	*i* P	**Pg**	**02 58 30.9**	**+0.2**
TA01				*e*S	**Sg**	**02 58 45.5**	**0.0**
TA01				IAML		02 58 49.6	
	comp=N,1μm,0.5s						
GO01	**Chusmiza**	**1.17**	**102**	*e*P	**Pg**	**02 58 31.3**	**+0.2**
GO01				*e*S	**Sg**	**02 58 46.9**	**+0.6**
GO01				IAML		02 58 48.1	
	comp=Z,735nm,0.3s						
GO01	**Chusmiza**	**1.17**	**102**	*e*P	**Pg**	**02 58 31.4**	**+0.2**
GO01				*e*S	**Sg**	**02 58 46.4**	**+0.1**
GO01				IAML		02 58 46.9	
	comp=N,2μm,0.1s						
PB08	**IPOC Station P**	**1.37**	**121**	*e*P	**Pn**	**02 58 34.6**	**-0.5**

PB04	**IPOC Station P**	**2.89**	**175**	*e*P	**Pn**	**02 58 56.2**	**+0.3**
PB04				*e*S	**Sn**	**02 59 33.6**	**+2.3**
PB04				IAML		02 59 44.9	
	comp=Z,162nm,0.8s						
PB06	**IPOC Station P**	**3.34**	**167**	*e*P	**Pn**	**02 59 02.7**	**+0.6**
PB06				*e*S	**Sn**	**02 59 44.9**	**+2.5**
PB06				IAML		03 00 00.7	
	comp=Z,103nm,0.4s						
PB06	**IPOC Station P**	**3.34**	**167**	*e*P	**Pn**	**02 59 02.5**	**+0.4**
LVC	**Limon Verde**	**3.45**	**156**	*e*P	**Pn**	**02 59 05.7**	**+2.0**
LVC				*e*S	**Sg**	**02 59 57.1**	**-2.6**
LVC				IAML		03 00 02.9	
	comp=Z,93nm,0.5s						
PB15	**IPOC Station P**	**3.85**	**167**	*e*P	**Pn**	**02 59 05.2**	**-3.9**
PB15				IAML		03 00 17.8	
	comp=Z,218nm,0.2s						

*IDC **11** 02:58:52.1±2.5,32°.19N×141°.27E,h0km,mb3.6/3, mbtmp3.7/5,ML3.1/2,MS2.7/2,Error ellipse: s-maj=82.8km s-min=20.5km az=60.0*
*JMA **11** 02:58:54.9±0.6,32°.2″×14°.1E±°,h73km,MV3.4/10,E OFF HACHIJOJIMA ISLAND*
ISC 11 02:58:54.7±1.1,32°.27N±0°.07×141°.5E±0°.1,h31km,n15, σ1§42/15,mb3.7/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.52**	**278**	*e*P	**Pn**	**02 59 19.6**	**-0.1**
JHCJ	**Hachijojimakas**	**1.67**	**299**	*e*P	**Pn**	**02 59 20.8**	**-1.1**
JHJ2	**Mitsune**	**1.68**	**300**	P	**Pn**	**02 59 21.2**	**-0.7**
JHJ	**Hachijo jima 2**	**1.71**	**300**	Pn	**Pn**	**02 59 21.1**	**-1.2**
	53nm,0.3s,baz=114,slow=20,SNR=16						
JHJ				Sn	**Sn**	**02 59 41.1**	**-2.0**
	45nm,0.3s,baz=143,slow=20,SNR=4.9						
BSO1	**Boso 1**	**2.42**	**349**	P	**Pn**	**02 59 30.8**	**-0.9**
BSO3	**Boso 3**	**2.67**	**341**	*e*P	**Pn**	**02 59 33.9**	**-1.4**
JHO	**Hitachi**	**4.40**	**350**	*e*P	**Pn**	**02 59 59.0**	**-0.5**
JAG	**Ashikaga**	**4.49**	**338**	P	Pn	02 59 55.6	-5.0
MJAR	**Matsushiro Arr**	**5.07**	**328**	Pn	**Pn**	**03 00 08.6**	**0.0**
	0.2nm,0.3s,baz=143,slow=11,SNR=6.1						
MJAR				Sn	**Sn**	**03 01 05.1**	**-1.1**
	0.1nm,0.3s,baz=211,slow=47,SNR=1.4 1.2nm,0.3s						
JCJ	**Chichijima**	**5.19**	**174**	Pn	**Pn**	**03 00 09.3**	**-0.9**
	3.0nm,0.3s,baz=30,slow=20,SNR=1.7						
JCJ				Sn	**Sn**	**03 01 06.3**	**-2.7**
	4.9nm,0.3s,baz=342,slow=20,SNR=1.5 98nm,1.0s						
KSRS	**Korea Array**	**12.32**	**299**	LR	LR	03 06 30.7	
	comp=Z,34nm,19.2s,baz=160,slow=38						
CMAR	**Chiang Mai Arr**	**40.61**	**261**	LR	LR	03 23 12.5	
	comp=Z,9.1nm,18.2s,baz=170,slow=36						
MKAR	**Makanchi Array**	**46.87**	**306**	P	**P**	**03 07 23.0**	**+1.0**
	0.5nm,0.5s,baz=83,slow=9.6,SNR=6.1 0.5nm,0.5s						
WRA	**Warramunga Arr**	**52.37**	**189**	P	**P**	**03 08 05.5**	**+1.5**
	0.4nm,0.5s,baz=4.8,slow=7.7,SNR=1.9 0.4nm,0.5s						
BRTR	**Keskin Array B**	**82.10**	**312**	P	**P**	**03 11 13.7**	**+1.2**
	0.6nm,1.0s,baz=46,slow=4.2,SNR=2.7 0.6nm,1.0s						

*NEIC **11** 03:02:54.2±0.7,19°.34N±0°.02×155°.22W±0°.01,h5km±1km, Error ellipse: s-maj=3.4km s-min=2.6km az=349.0*
HVO 11 03:02:53.5±0.5,19°.33N±0°.03×155°.19W±0°.02,h6km±2km, ML2.5/6,ML2.8/34(NEIC),Error ellipse: s-maj=4.7km s-min=1.0km az=149.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.05**	**332**		Pg	03 02 55.3	+0.2
PUH	**Pauahi**	**0.05**	**332**	IAML		03 02 56.8	
	comp=E,3μm,0.2s						
PUH				IAML		03 02 57.6	
	comp=N,4μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.05**	**21**		Pg	03 02 55.4	+0.2
STCH	**Steam Cracks**	**0.08**	**48**		Pg	03 02 55.6	+0.1
KKO	**Keanakako`i**	**0.10**	**314**		Pg	03 02 56.1	+0.2
KKO	**Keanakako`i**	**0.10**	**314**	IAML		03 02 59.0	
	comp=E,3μm,0.7s						
KKO				IAML		03 02 59.1	
	comp=N,6μm,0.7s						
NPOC	**North of Pu`u**	**0.10**	**50**		Pg	03 02 55.9	+0.1
NPOC				IAML		03 02 58.2	
	comp=N,3μm,0.5s						
JCUZ	**Jacuzzi**	**0.10**	**57**		Pg	03 02 55.9	+0.1
RIM	**Rim**	**0.10**	**310**		Pg	03 02 56.1	+0.2
RIM	**Rim**	**0.10**	**310**	IAML		03 02 56.5	
	comp=N,6μm,0.7s						
RIM				IAML		03 02 59.4	
	comp=E,4μm,0.7s						
BYL	**Byron's Ledge**	**0.11**	**322**		Pg	03 02 56.1	+0.1
BYL	**Byron's Ledge**	**0.11**	**322**	IAML		03 02 56.3	
	comp=E,3μm,0.4s						
BYL				IAML		03 02 59.4	
	comp=N,4μm,0.6s						
HATHI	**Halema`uma`u T**	**0.12**	**325**		Pg	03 02 56.2	+0.1
HATHI	**Halema`uma`u T**	**0.12**	**325**	IAML		03 02 56.8	
	comp=E,4μm,0.6s						
HATHI				IAML		03 02 57.8	
	comp=N,4μm,0.6s						
SDHHI	**Sand Hill**	**0.12**	**302**		Pg	03 02 56.3	+0.2
SDHHI	**Sand Hill**	**0.12**	**302**	IAML		03 02 57.2	
	comp=N,7μm,0.7s						
SDHHI				IAML		03 02 59.0	
	comp=E,7μm,0.6s						
HLP	**Hilina Pali**	**0.12**	**254**		Pg	03 02 56.5	+0.4
HLP	**Hilina Pali**	**0.12**	**254**	IAML		03 02 59.0	
	comp=E,3μm,0.2s						
HLP				IAML		03 02 59.8	
	comp=N,2μm,0.2s						
SBLHI	**Steaming Bluff**	**0.12**	**323**		Pg	03 02 56.3	+0.1
SBLHI	**Steaming Bluff**	**0.12**	**323**	IAML		03 02 59.5	
	comp=E,4μm,0.7s						
SBLHI				IAML		03 03 00.4	
	comp=N,5μm,0.5s						
WRMHI	**West Rim**	**0.13**	**307**		Pg	03 02 56.5	+0.1
WRMHI	**West Rim**	**0.13**	**307**	IAML		03 03 00.1	
	comp=E,13μm,0.4s						
WRMHI				IAML		03 03 00.8	
	comp=N,9μm,0.6s						
JOKA	**Jonika Flow**	**0.20**	**59**		Sg	03 03 02.4	+2.0
HTC	**Hot Caves**	**0.22**	**245**		Pg	03 02 58.3	+0.5
HMH	**Humu`ula Sheep**	**0.39**	**315**		Pg	03 03 01.4	+0.2
HMH	**Humu`ula Sheep**	**0.39**	**315**	IAML		03 03 08.1	
	comp=E,2μm,0.3s						
HMH				IAML		03 03 08.2	
	comp=N,3μm,0.2s						
KHU	**Kahuku**	**0.41**	**258**		Pg	03 03 01.4	-0.2
KHU	**Kahuku**	**0.41**	**258**	IAML		03 03 08.4	
	comp=N,607nm,0.1s						
KHU				IAML		03 03 13.8	
	comp=E,619nm,0.5s						
MWH	**Moku`aweowe**	**0.41**	**292**		Pg	03 03 01.4	-0.3
MWH	**Moku`aweowe**	**0.41**	**292**	IAML		03 03 09.0	
	comp=N,1μm,0.3s						
MWH				IAML		03 03 09.0	
	comp=E,2μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.42**	**300**		Pg	03 03 01.9	+0.1
MLOA	**Mauna Loa Obse**	**0.42**	**300**	IAML		03 03 08.7	
	comp=N,2μm,0.3s						
MLOA				IAML		03 03 09.7	
	comp=E,873nm,0.1s						
ALEP	**Alea Permanent**	**0.48**	**296**		Pg	03 03 02.5	-0.4
ALEP					Sg	03 03 09.8	+0.6
POHA	**Pohakuloa**	**0.54**	**323**	Sg	Sg	03 03 10.9	0.0
POHA	**Pohakuloa**	**0.54**	**323**		Pg	03 03 03.4	-0.5
HUH	**Hualalai**	**0.70**	**300**	Pg	Pg	03 03 06.2	-0.9
CPH	**Captain Cook**	**0.70**	**283**		Pg	03 03 06.6	-0.5
HPAH	**Hawaii Prepara**	**0.85**	**326**	Pg	Pg	03 03 09.5	-0.3

*GUC **11** 03:11:34.4±0.6,24°.19S×67°.10W,h190km±7km,ML3.4*
*IDC **11** 03:11:35.3±3.8,24°.09S×67°.24W,h200km±37km,mb3.2/2, mbtmp3.4/4,Error ellipse: s-maj=79.1km s-min=32.4km az=96.0*
ISC 11 03:11:33.8±1.0,24°.16S±0°.07×67°.07W±0°.06,h190km±8km, n17,σ0§64/23,3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.54**	**112**	*e*P	**Pn**	**03 12 07.4**	**+0.3**
SLA				*i* S	**Sn**	**03 12 32.5**	**-0.4**
LVC	**Limon Verde**	**2.28**	**312**	P	**Pn**	**03 12 16.1**	**+1.0**
	6.2nm,0.3s,baz=127,slow=6.2,SNR=30						
LVC				S	**Sn**	**03 12 46.8**	**-0.2**
	22nm,0.4s,baz=54,slow=19,SNR=7.1						
LVC	**Limon Verde**	**2.28**	**312**	⇑*i*P	**Pn**	**03 12 15.9**	**+0.9**
LVC				*i* S	**Sn**	**03 12 47.0**	**-0.1**
LVC				IAML		03 12 49.0	
	177nm,0.5s						
PB15	**IPOC Station P**	**2.39**	**293**	⇓*i*P	**Pn**	**03 12 16.9**	**+0.8**
PB15				*i* S	**Sn**	**03 12 48.5**	**-0.4**
GO02	**Mina Guanaco**	**2.50**	**246**	*e*P	**Pn**	**03 12 17.8**	**+0.4**
GO02				*i* S	**Sn**	**03 12 51.2**	**-0.1**
PB06	**IPOC Station P**	**2.71**	**302**	⇑*i*P	**Pn**	**03 12 20.4**	**+0.7**
PB06				*i* S	**Sn**	**03 12 54.2**	**-1.2**
PB06				IAML		03 12 57.2	
	comp=N,89nm,0.3s						
PB09	**IPOC Station P**	**3.08**	**319**	*i* S	**Sn**	**03 13 03.3**	**-0.2**
PB09				IAML		03 13 05.3	
	comp=N,33nm,0.5s						
PB10	**IPOC Station P**	**3.25**	**281**	*e*P	**Pn**	**03 12 26.4**	**+0.4**
PB04	**IPOC Station P**	**3.36**	**302**	*e*P	**Pn**	**03 12 27.9**	**+0.3**
PB07	**IPOC Station P**	**3.55**	**312**	⇑*i*P	**Pn**	**03 12 29.8**	**0.0**
AC01	**Pan de Azucar**	**3.76**	**237**	*e*P	**Pn**	**03 12 31.1**	**-1.2**
PB01	**IPOC Station P**	**3.82**	**324**	*i* P	**Pn**	**03 12 32.9**	**-0.2**
PB02	**IPOC Station P**	**3.84**	**317**	*e*P	**Pn**	**03 12 33.0**	**-0.4**
LPAZ	**La Paz**	**7.89**	**353**	P	**Pn**	**03 13 26.4**	**+0.1**
	comp=N,0.5nm,0.3s,baz=160,slow=7.3,SNR=7.6						
QSPA	**South Pole Qui**	**66.05**	**180**	P	**P**	**03 22 00.7**	**+0.6**
	comp=N,1.8nm,1.1s,baz=130,slow=16,SNR=2.2 comp=N,1.8nm,1.1s						
YKA	**Yellowknife Ar**	**94.25**	**340**	P	**P**	**03 24 30.8**	**-0.1**
	comp=N,0.1nm,0.5s,baz=136,slow=4.6,SNR=1.8 comp=N,0.1nm,0.5s						
MKAR	**Makanchi Array**	**146.69**	**40**	PKPbc	**PKPbc**	**03 30 52.5**	**-0.7**
	comp=N,0.3nm,0.6s,baz=325,slow=1.8,SNR=3.1						

*VIE **11** 03:31:36.6±0.3,50°.21N×12°.35E,h10km,ml2.7/4,Error ellipse: s-maj=4.3km s-min=2.1km az=56.0*
*BGR **11** 03:31:37.1±0.2,50°.26N×12°.44E,h10km±1km,ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=89.0*
*CLL **11** 03:31:37.7±0.3,50°.26N×12°.44E,h8km,ML2.2*
WBNET 11 03:31:37.4,50°.26N×12°.45E,h9km,Ml2.4,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**288**	⇓P	Pg	03 31 39.1	+0.1
LBCW				S	Sg	03 31 40.4	+0.2
NKC	**Novy Kostel**	**0.03**	**180**	*i* Pg	Pg	03 31 39.1	+0.1
NKC				*i* Sg	Sg	03 31 40.2	+0.1
NKC				IAML		03 31 40.3	
	comp=E,1μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**180**	*i* Pg	Pg	03 31 39.1	+0.1
NKC				*i* Sg	Sg	03 31 40.2	+0.1
	comp=E,1μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**180**	⇑P	Pg	03 31 39.1	+0.1
NKC				S	Sg	03 31 40.2	+0.1
STCW	**Studenec**	**0.05**	**89**	*i* Pg	Pg	03 31 39.2	+0.1
STCW				*i* Sg	Sg	03 31 40.4	-0.1
STCW	**Studenec**	**0.05**	**89**	*i* Pg	Pg	03 31 39.2	+0.1
STCW				*i* Sg	Sg	03 31 40.4	-0.1
STCW	**Studenec**	**0.05**	**89**	⇑P	Pg	03 31 39.2	+0.1
STCW				S	Sg	03 31 40.4	-0.1
VAC	**Vackov**	**0.05**	**243**	*i* Pg	Pg	03 31 39.3	+0.1
VAC				*i* Sg	Sg	03 31 40.5	0.0
VAC	**Vackov**	**0.05**	**243**	⇓P	Pg	03 31 39.3	+0.1
VAC				S	Sg	03 31 40.5	0.0
WERN	**Wernitzgruen**	**0.06**	**303**	*i* Pg	Pg	03 31 39.4	+0.1
WERN				*i* Sg	Sg	03 31 40.7	+0.1
WERN				IAML		03 31 40.8	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**303**	*i* Pg	Pg	03 31 39.4	+0.1
WERN				*i* Sg	Sg	03 31 40.7	+0.1
	comp=E,2μm,0.2s						
POCW	**Potky**	**0.06**	**348**	⇓P	Pg	03 31 39.5	+0.1
POCW				S	Sg	03 31 40.9	+0.1
KVC	**Kvetna**	**0.07**	**140**	*i* Pg	Pg	03 31 39.5	+0.1
KVC				*i* Sg	Sg	03 31 40.8	0.0
KVC	**Kvetna**	**0.07**	**140**	⇓P	Pg	03 31 39.5	+0.1
KVC				S	Sg	03 31 40.8	0.0
ROHR	**Rohrbach**	**0.09**	**254**	*i* Pg	Pg	03 31 39.6	0.0
ROHR				*i*		03 31 40.4	
ROHR				*i* Sg	Sg	03 31 41.1	-0.1
ROHR				IAML		03 31 41.3	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**254**	*i* Pg	Pg	03 31 39.6	0.0
ROHR				*i* Sg	Sg	03 31 41.1	-0.1
	comp=E,2μm,0.1s						
KRCW	**Kraslice**	**0.09**	**36**	⇑P	Pg	03 31 39.8	0.0
KRCW				S	Sg	03 31 41.3	-0.1
SKC	**Skalna**	**0.10**	**212**	⇑P	Pg	03 31 40.0	+0.1
SKC				S	Sg	03 31 41.7	+0.1
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg	Pg	03 31 40.4	+0.1
GUNZ				*i* Sg	Sg	03 31 42.3	-0.1
GUNZ				IAML		03 31 42.7	
	comp=E,491nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg	Pg	03 31 40.4	+0.1
GUNZ				*i* Sg	Sg	03 31 42.3	-0.1
	comp=E,491nm,0.2s						
KOCW	**Kopaniny**	**0.14**	**273**	⇓P	Pg	03 31 40.4	0.0
KOCW				S	Sg	03 31 42.4	-0.1
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg	Pg	03 31 40.7	0.0
MULD				*i* Sg	Sg	03 31 42.9	-0.2
MULD				IAML		03 31 43.0	
	comp=E,790nm,0.1s						
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg	Pg	03 31 40.7	0.0
MULD				*i* Sg	Sg	03 31 42.9	-0.2
	comp=E,790nm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**3**	*i* Pg	Pg	03 31 40.7	0.0
TANN				*i* Sg	Sg	03 31 42.9	-0.3
TANN				IAML		03 31 43.4	
	comp=N,1μm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**3**	*i* Pg	Pg	03 31 40.7	0.0
TANN				*i* Sg	Sg	03 31 42.9	-0.3
	comp=N,1μm,0.2s						
TRCW	**Trojmez**	**0.20**	**283**	⇓P	Pg	03 31 41.5	0.0
TRCW				S	Sg	03 31 44.2	-0.1
ZHC	**Zelena Hora**	**0.21**	**206**	⇑P	Pg	03 31 41.7	+0.1
ZHC				S	Sg	03 31 44.6	+0.1
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	03 31 41.7	0.0
WERD				*e*Sg	Sg	03 31 44.4	-0.2
WERD				IAML		03 31 44.5	
	comp=E,166nm,0.1s						
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	03 31 41.7	0.0
WERD				*e*Sg	Sg	03 31 44.4	-0.2
	comp=E,166nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	03 31 41.8	-0.1
TRIB				*i* Sg	Sg	03 31 44.7	-0.2
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	03 31 41.8	-0.1
TRIB				*i* Sg	Sg	03 31 44.7	-0.2
	comp=E,264nm,0.2s						
VIEL	**Selb-Vielitz**	**0.23**	**252**	*i* Pg	Pg	03 31 42.0	-0.1
VIEL				*i* Sg	Sg	03 31 45.1	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**252**	*i* Pg	Pg	03 31 42.0	-0.1
VIEL				*i* Sg	Sg	03 31 45.1	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**252**	*i* Pg	Pg	03 31 45.5	+0.3
VIEL	**Selb-Vielitz**	**0.23**	**252**	*i* Pg	Sg	03 31 45.5	+0.3
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	03 31 42.3	+0.2
LACW				*i* Sg	Sg	03 31 45.6	+0.2
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	03 31 42.3	+0.2
LACW				*i* Sg	Sg	03 31 45.6	+0.2
LACW	**Lazy**	**0.24**	**151**	⇓P	Pg	03 31 42.3	+0.2
LACW				S	Sg	03 31 45.6	+0.3
PLN	**Plauen**	**0.29**	**321**	*i* Pg	Pg	03 31 43.1	-0.1
PLN				*e*Sg	Sg	03 31 46.8	-0.4
PLN				IAML		03 31 47.2	
	comp=E,161nm,0.1s						
PLN	**Plauen**	**0.29**	**321**	*i* Pg	Pg	03 31 43.1	-0.1
PLN				*e*Sg	Sg	03 31 46.8	-0.4
	comp=E,161nm,0.1s						
PLN	**Plauen**	**0.29**	**321**	*e*Pg	Sg	03 31 46.7	-0.5
MANZ	**Manzenberg**	**0.35**	**219**	*e*Pg	Pg	03 31 44.1	-0.1
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg	Pg	03 31 45.5	-0.1
SCHF				*e*Sg	Sg	03 31 51.1	0.0
SCHF				IAML		03 31 51.3	
	comp=E,246nm,0.2s						
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg	Pg	03 31 45.5	-0.1
SCHF				*e*Sg	Sg	03 31 51.1	0.0
	comp=E,246nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	03 31 46.1	-0.2
GRZ1				*i* Sg	Sg	03 31 51.9	-0.4

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	03 31 46.1	-0.2
GRZ1				*i* Sg	Sg	03 31 51.9	-0.4
	comp=E,154nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.52**	**198**	*e*Pg	Pg	03 31 47.2	-0.2
ROTZ				*e*Sg	Sg	03 31 53.9	-0.2
MOX	**Moxa**	**0.66**	**306**	*e*Pg	Pg	03 31 49.8	-0.3
MOX				*e*Sg	Sg	03 31 58.4	-0.2
FBE	**Freiberg**	**0.88**	**41**	*e*Sg	Sg	03 32 05.9	+0.2
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	03 31 55.7	-0.3
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	03 31 58.0	-0.6
CLL				*i* x	x	03 31 59.8	
CLL				*i* Sg	Sg	03 32 12.5	-0.5
	comp=Z,28nm,0.6s						
CLL	**Collm**	**1.11**	**18**	*e*Pg	Pg	03 31 58.1	-0.5
CLL				*e*Sg	Sg	03 32 12.9	-0.1
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pg	03 31 58.7	-0.4
BRG	**Berggiesshubel**	**1.14**	**57**	Sg	Sn	03 32 17.0	+1.8
BRG				Amp		03 32 18.5	
	comp=Z,41nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg	Pg	03 31 58.7	-0.4
BRG				*e*Sg	Sg	03 32 13.7	-0.1
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Sg	Sn	03 32 17.4	+2.2
BRG	**Berggiesshubel**	**1.14**	**57**	Sg	Sg	03 32 13.7	-0.2
BRG				Amp		03 32 14.1	
	comp=Z,25nm,0.3s						
WET	**Wettzell**	**1.15**	**166**	*e*Pg	Pg	03 31 58.7	-0.7
WET				*e*Sg	Sg	03 32 13.9	-0.4
PRU	**Pruhonice**	**1.37**	**101**	*e*Pg	Pn	03 32 02.9	+0.2
PRU				*e*Sg	Sn	03 32 21.1	0.0
GEC2	**GERESS Array S**	**1.63**	**150**	*e*Pn	Pn	03 32 06.8	+0.4
GEC2				*e*Sg	Sn	03 32 27.8	+0.2
MOA	**Molln**	**2.69**	**153**	*i* Pg	Pg	03 32 27.6	-1.3
	comp=Z,0.4nm,0.1s						
MOA				*e*Sg	Sg	03 33 06.5	+2.8
	comp=Z,5.6nm,0.2s						
KRUC	**Moravsky**	**2.83**	**114**	*e*PN	Pn	03 32 22.6	-0.2
KRUC				*e*SG	Sg	03 33 05.8	-2.4
LESA	**Schwarzleotal**	**2.84**	**177**	*e*Pg	Pb	03 32 29.7	+1.4
	comp=Z,0.5nm,0.1s						
LESA				*e*Sg	Sg	03 33 10.0	+1.5
	comp=Z,5.4nm,0.2s						
VRAC	**Vranov**	**2.85**	**108**	*e*PN	Pn	03 32 22.9	-0.1
VRAC				*e*SG	Sb	03 33 05.8	+2.4
WTTA	**Wattenberg**	**3.04**	**190**	*e*Pg	Pb	03 32 33.5	+1.7
	comp=Z,0.7nm,0.2s						
WTTA				Sg	Sg	03 33 20.9	+5.8
	comp=Z,12nm,0.4s						
CONA	**Conrad Observa**	**3.24**	**135**	*i* Pn	Pn	03 32 28.0	-0.4
	comp=Z,0.1nm,0.1s						
CONA				*e*Sg	Sg	03 33 22.5	+1.3
	comp=Z,2.4nm,0.3s						
MODS	**Modra-Piesok**	**3.68**	**119**	*e*SG	Sg	03 33 36.0	+0.6
ZST	**Bratislava**	**3.68**	**122**	*e*SG	Sg	03 33 36.1	+0.6

*BGR **11** 03:31:40.7±0.2,50°.26N×12°.44E,h10km±1km,ML2.4/7, Error ellipse: s-maj=2.2km s-min=1.1km az=86.0*
*CLL **11** 03:31:41.3±0.3,50°.26N×12°.44E,h8km±1km,ML2.4*
WBNET 11 03:31:40.9,50°.26N×12°.45E,h9km,Ml2.3,4C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**286**	⇓P	Pg	03 31 42.7	+0.1
LBCW				S	Sg	03 31 43.9	+0.2
NKC	**Novy Kostel**	**0.03**	**179**	*i* Pg	Pg	03 31 42.8	+0.2
NKC				*i* Sg	Sg	03 31 43.8	+0.1
NKC				IAML		03 31 44.1	
	comp=N,2μm,0.1s						
NKC	**Novy Kostel**	**0.03**	**179**	*i* Pg	Pg	03 31 42.8	+0.2
NKC				*i* Sg	Sg	03 31 43.8	+0.1
	comp=N,2μm,0.1s						
NKC	**Novy Kostel**	**0.03**	**179**	⇓P	Pg	03 31 42.7	+0.2
NKC				S	Sg	03 31 43.8	+0.1
STCW	**Studenec**	**0.05**	**90**	*i* Pg	Pg	03 31 42.8	+0.1
STCW				*i* Sg	Sg	03 31 44.0	-0.1
STCW	**Studenec**	**0.05**	**90**	*i* Pg	Pg	03 31 42.8	+0.1
STCW				*i* Sg	Sg	03 31 44.0	-0.1
STCW	**Studenec**	**0.05**	**90**	⇑P	Pg	03 31 42.8	+0.1
STCW				S	Sg	03 31 44.0	-0.1
VAC	**Vackov**	**0.05**	**242**	*i* Pg	Pg	03 31 42.9	+0.1
VAC				*i* Sg	Sg	03 31 44.1	0.0
VAC	**Vackov**	**0.05**	**242**	⇓P	Pg	03 31 42.9	+0.1
VAC				S	Sg	03 31 44.1	0.0
WERN	**Wernitzgruen**	**0.05**	**302**	*i* Pg	Pg	03 31 43.0	+0.1
WERN				*i* Sg	Sg	03 31 44.3	+0.1
WERN				IAML		03 31 44.4	
	comp=E,3μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**302**	*i* Pg	Pg	03 31 43.0	+0.1
WERN				*i* Sg	Sg	03 31 44.3	+0.1
	comp=E,3μm,0.2s						
POCW	**Potky**	**0.06**	**348**	⇓P	Pg	03 31 43.1	+0.1
POCW				S	Sg	03 31 44.5	+0.1
KVC	**Kvetna**	**0.07**	**140**	*e*Pg	Pg	03 31 43.0	+0.1
KVC				*i* Sg	Sg	03 31 44.4	0.0

SCHF	**Schoenfels**	**0.42**	**356**	*e*Pg	Pg	03 31 49.0	-0.1
SCHF				*i* Sg	Sg	03 31 54.6	-0.1
	comp=E,426nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	03 31 49.6	-0.2
GRZ1				*i* Sg	Sg	03 31 55.5	-0.4
GRZ1				IAML		03 31 57.0	
	comp=E,164nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg	Pg	03 31 49.6	-0.2
GRZ1				*i* Sg	Sg	03 31 55.5	-0.4
	comp=E,164nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	IAML		03 31 57.0	
	comp=E,154nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.52**	**198**	*e*Pg	Pg	03 31 50.8	-0.2
ROTZ				*e*Sg	Sg	03 31 57.6	-0.1
MOX	**Moxa**	**0.66**	**306**	*e*Pg	Pg	03 31 53.4	-0.2
MOX				*e*Sg	Sg	03 32 01.9	-0.3
FBE	**Freiberg**	**0.88**	**41**	*e*Pg	Pg	03 31 57.7	-0.2
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	03 31 59.4	-0.2
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	03 32 01.6	-0.6
CLL				*i* x	x	03 32 03.4	
CLL				*i* x	x	03 32 05.0	
CLL				*i* Sg	Sg	03 32 16.0	-0.6
	comp=Z,60nm,0.4s						
CLL				*i* x	x	03 32 19.8	
CLL	**Collm**	**1.11**	**18**	*i* Sg	Sn	03 32 24.5	+6.4
CLL	**Collm**	**1.11**	**18**	*e*Pg	Pg	03 32 01.5	-0.7
CLL				*e*Sg	Sg	03 32 16.5	-0.1
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pg	03 32 02.3	-0.4
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg	Pg	03 32 02.3	-0.4
WET	**Wettzell**	**1.15**	**166**	*e*Pg	Pg	03 32 02.4	-0.6
WET				*e*Sg	Sg	03 32 17.7	-0.2
PRU	**Pruhonice**	**1.38**	**101**	*e*Sg	Sg	03 32 25.0	-0.2
GEC2	**GERESS Array S**	**1.63**	**150**	*e*SG	Sb	03 32 32.0	-0.1
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG	Sb	03 33 20.7	+0.1
JAVC	**Velka Javorina**	**3.68**	**110**	*e*SG	Sb	03 33 32.7	+1.9

*BGR **11** 03:38:37.8±0.2,50.°26N×12.°44E,H11km±1km, ML2.0/5, Error ellipse: s-maj=2.2km s-min=1.1km az=98.0*
*WBNET **11** 03:38:38.1,50.°26N×12.°45E,h9km, Ml2.1*
*CLL **11** 03:38:38.5±0.3,50.°26N×12.°44E,h8km, ML2.1*
ISC 11 03:38:38.0±0.9,**50.°26N**±0.°02×**12.°46E**±0.°02,**h10**km±3km, **n68,**σ0**90**/125,**8C-14D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.03**	**277**	⇓P	**Pg**	**03 38 39.3**	**-0.6**
LBCW				S	**Sg**	**03 38 40.5**	**-0.7**
LBCW	**Luby**	**0.03**	**277**	⇓P	**Pg**	**03 38 40.0**	**+0.1**
LBCW				S	**Sg**	**03 38 41.2**	**0.0**
NKC	**Novy Kostel**	**0.03**	**189**	*i* Pg	**Pg**	**03 38 39.9**	**+0.1**
NKC				*i* Sg	**Sg**	**03 38 41.0**	**-0.1**
NKC				IAML		03 38 41.2	
	comp=E,804nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**189**	*i* Pg	**Pg**	**03 38 39.9**	**+0.1**
NKC				*i* Sg	**Sg**	**03 38 41.0**	**-0.1**
	comp=E,804nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**189**	⇓P	**Pg**	**03 38 39.2**	**-0.6**
NKC				S	**Sg**	**03 38 40.4**	**-0.8**
NKC	**Novy Kostel**	**0.03**	**189**	⇓P	**Pg**	**03 38 39.9**	**+0.1**
NKC				S	**Sg**	**03 38 41.0**	**-0.1**
STCW	**Studenec**	**0.04**	**94**	*i* Pg	**Pg**	**03 38 40.0**	**0.0**
STCW				*i* Sg	**Sg**	**03 38 41.2**	**-0.1**
STCW	**Studenec**	**0.04**	**94**	*i* Pg	**Pg**	**03 38 40.0**	**0.0**
STCW				*i* Sg	**Sg**	**03 38 41.2**	**-0.1**
STCW	**Studenec**	**0.04**	**94**	⇑P	**Pg**	**03 38 39.3**	**-0.6**
STCW				S	**Sg**	**03 38 40.5**	**-0.8**
STCW	**Studenec**	**0.04**	**94**	⇑P	**Pg**	**03 38 40.1**	**0.0**
STCW				S	**Sg**	**03 38 41.3**	**-0.1**
WERN	**Wernitzgruen**	**0.06**	**296**	*i* Pg	**Pg**	**03 38 40.2**	**0.0**
WERN				*i* Sg	**Sg**	**03 38 41.6**	**-0.1**
WERN				IAML		03 38 41.7	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**296**	*i* Pg	**Pg**	**03 38 40.2**	**0.0**
WERN				*i* Sg	**Sg**	**03 38 41.6**	**-0.1**
	comp=E,1μm,0.2s						
VAC	**Vackov**	**0.06**	**241**	*i* Pg	**Pg**	**03 38 40.0**	**-0.1**
VAC				*i* Sg	**Sg**	**03 38 41.3**	**-0.3**
VAC	**Vackov**	**0.06**	**241**	⇓P	**Pg**	**03 38 39.4**	**-0.7**
VAC				S	**Sg**	**03 38 40.6**	**-1.0**
VAC	**Vackov**	**0.06**	**241**	⇓P	**Pg**	**03 38 40.1**	**-0.1**
VAC				S	**Sg**	**03 38 41.3**	**-0.3**
POCW	**Potky**	**0.06**	**343**	⇓P	**Pg**	**03 38 39.6**	**-0.6**
POCW				S	**Sg**	**03 38 41.1**	**-0.7**
POCW	**Potky**	**0.06**	**343**	⇓P	**Pg**	**03 38 40.3**	**+0.1**
POCW				S	**Sg**	**03 38 41.8**	**0.0**
KVC	**Kvetna**	**0.07**	**146**	*i* Pg	**Pg**	**03 38 40.2**	**0.0**
KVC				*i* Sg	**Sg**	**03 38 41.6**	**-0.2**
KVC	**Kvetna**	**0.07**	**146**	⇓P	**Pg**	**03 38 40.3**	**0.0**
KVC				S	**Sg**	**03 38 41.7**	**-0.2**
KRCW	**Kraslice**	**0.09**	**35**	⇑P	**Pg**	**03 38 39.8**	**-0.6**
KRCW	**Kraslice**	**0.09**	**35**	⇑P	**Pg**	**03 38 40.5**	**+0.1**
KRCW				S	**Sg**	**03 38 42.2**	**0.0**
ROHR	**Rohrbach**	**0.09**	**253**	*i* Pg	**Pg**	**03 38 40.4**	**-0.1**
ROHR				*i* Sg	**Sg**	**03 38 41.9**	**-0.4**
ROHR				IAML		03 38 42.1	
	comp=E,1μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**253**	*i* Pg	**Pg**	**03 38 40.4**	**-0.1**
ROHR				*i* Sg	**Sg**	**03 38 41.9**	**-0.4**
	comp=E,1μm,0.1s						
SKC	**Skalna**	**0.11**	**213**	⇑P	**Pg**	**03 38 40.1**	**-0.7**
SKC				S	**Sg**	**03 38 41.8**	**-0.8**
SKC	**Skalna**	**0.11**	**213**	⇑P	**Pg**	**03 38 40.8**	**0.0**
SKC				S	**Sg**	**03 38 42.5**	**-0.2**
GUNZ	**Gunzen**	**0.13**	**322**	*i* Pg	**Pg**	**03 38 41.1**	**+0.1**
GUNZ				*i* Sg	**Sg**	**03 38 43.1**	**-0.1**
GUNZ				IAML		03 38 43.2	
	comp=E,335nm,0.3s						
GUNZ	**Gunzen**	**0.13**	**322**	*i* Pg	**Pg**	**03 38 41.1**	**+0.1**
GUNZ				*i* Sg	**Sg**	**03 38 43.1**	**-0.1**
	comp=E,335nm,0.3s						
KOCW	**Kopaniny**	**0.14**	**271**	⇓P	**Pg**	**03 38 40.5**	**-0.7**
KOCW				S	**Sg**	**03 38 42.6**	**-0.9**
KOCW	**Kopaniny**	**0.14**	**271**	⇓P	**Pg**	**03 38 41.2**	**0.0**
KOCW				S	**Sg**	**03 38 43.3**	**-0.3**
MULD	**Muldenberg**	**0.15**	**348**	*i* Pg	**Pg**	**03 38 41.5**	**0.0**
MULD				*i* Sg	**Sg**	**03 38 43.7**	**-0.2**
MULD				IAML		03 38 43.8	
	comp=E,704nm,0.1s						
MULD	**Muldenberg**	**0.15**	**348**	*i* Pg	**Pg**	**03 38 41.5**	**0.0**
MULD				*i* Sg	**Sg**	**03 38 43.7**	**-0.2**
	comp=E,704nm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**1**	*i* Pg	**Pg**	**03 38 41.5**	**0.0**
TANN				*i* Sg	**Sg**	**03 38 43.6**	**-0.2**
TANN				IAML		03 38 44.2	
	comp=N,984nm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**1**	*i* Pg	**Pg**	**03 38 41.5**	**0.0**
TANN				*i* Sg	**Sg**	**03 38 43.6**	**-0.2**
	comp=N,984nm,0.2s						
TRCW	**Trojmez**	**0.20**	**282**	⇓P	**Pg**	**03 38 41.5**	**-0.8**
TRCW	**Trojmez**	**0.20**	**282**	⇓P	**Pg**	**03 38 42.3**	**0.0**
TRCW				S	**Sg**	**03 38 45.0**	**-0.2**
WERD	**Werda**	**0.21**	**333**	*i* Pg	**Pg**	**03 38 42.4**	**0.0**
WERD				*i* Sg	**Sg**	**03 38 45.1**	**-0.3**
WERD				IAML		03 38 45.3	
	comp=E,163nm,0.1s						
WERD	**Werda**	**0.21**	**333**	*i* Pg	**Pg**	**03 38 42.4**	**0.0**
WERD				*i* Sg	**Sg**	**03 38 45.1**	**-0.3**
	comp=E,163nm,0.1s						
ZHC	**Zelena Hora**	**0.21**	**206**	⇑P	**Pg**	**03 38 41.8**	**-0.7**
ZHC	**Zelena Hora**	**0.21**	**206**	⇑P	**Pg**	**03 38 42.5**	**0.0**
ZHC				S	**Sg**	**03 38 45.4**	**-0.1**
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg	**Pg**	**03 38 42.5**	**-0.1**
TRIB				*i* Sg	**Sg**	**03 38 45.5**	**-0.2**
TRIB				IAML		03 38 45.9	
	comp=E,107nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg	**Pg**	**03 38 42.5**	**-0.1**
TRIB				*i* Sg	**Sg**	**03 38 45.5**	**-0.2**
	comp=E,107nm,0.1s						
LACW	**Lazy**	**0.24**	**153**	*i* Pg	**Pg**	**03 38 43.1**	**+0.2**
LACW				*i* Sg	**Sg**	**03 38 46.4**	**+0.2**
LACW	**Lazy**	**0.24**	**153**	*i* Pg	**Pg**	**03 38 43.1**	**+0.2**
LACW				*i* Sg	**Sg**	**03 38 46.4**	**+0.2**
LACW	**Lazy**	**0.24**	**153**	⇓P	**Pg**	**03 38 43.1**	**+0.2**
LACW				S	**Sg**	**03 38 46.5**	**+0.2**
VIEL	**Selb-Vielitz**	**0.24**	**251**	*i* Pg	**Pg**	**03 38 42.8**	**-0.2**
VIEL				*i* Sg	**Sg**	**03 38 45.8**	**-0.4**
VIEL	**Selb-Vielitz**	**0.24**	**251**	*i* Pg	**Pg**	**03 38 42.8**	**-0.2**
VIEL				*i* Sg	**Sg**	**03 38 45.8**	**-0.4**
PLN	**Plauen**	**0.29**	**320**	*i* Pg	**Pg**	**03 38 43.9**	**-0.1**
PLN				*i* Sg	**Sg**	**03 38 47.8**	**-0.1**
PLN				IAML		03 38 47.9	
	comp=E,112nm,0.1s						
PLN	**Plauen**	**0.29**	**320**	*i* Pg	**Pg**	**03 38 43.9**	**-0.1**
PLN				*i* Sg	**Sg**	**03 38 47.8**	**-0.1**
	comp=E,112nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**219**	*e*Pg	**Pg**	**03 38 44.9**	**-0.2**
MANZ				*e*Sg	**Sg**	**03 38 49.5**	**-0.3**
SCHF	**Schoenfels**	**0.42**	**355**	*i* Pg	**Pg**	**03 38 46.2**	**-0.1**
SCHF				*i* Sg	**Sg**	**03 38 51.8**	**+0.1**
SCHF				IAML		03 38 52.3	
	comp=E,170nm,0.3s						
SCHF	**Schoenfels**	**0.42**	**355**	*i* Pg	**Pg**	**03 38 46.2**	**-0.1**
SCHF				*i* Sg	**Sg**	**03 38 51.8**	**+0.1**
	comp=E,170nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**341**	*i* Pg	**Pg**	**03 38 46.9**	**-0.1**
GRZ1				*i* Sg	**Sg**	**03 38 52.6**	**-0.4**
GRZ1				IAML		03 38 53.6	
	comp=N,74nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**341**	*i* Pg	**Pg**	**03 38 46.9**	**-0.1**
GRZ1				*i* Sg	**Sg**	**03 38 52.6**	**-0.4**
	comp=N,74nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.52**	**198**	*e*Pg	**Pg**	**03 38 46.8**	**-1.3**
ROTZ				*e*Sg	**Sg**	**03 38 54.6**	**-0.4**
MOX	**Moxa**	**0.66**	**306**	*e*Pg	**Pg**	**03 38 50.6**	**-0.2**
FBE	**Freiberg**	**0.87**	**41**	*e*Pg	**Pg**	**03 38 54.8**	**-0.1**
FBE				*e*Sg	**Sg**	**03 39 06.4**	**+0.1**
GRF	**Grafenberg Arr**	**0.98**	**235**	*e*Pg	**Pg**	**03 38 56.5**	**-0.4**
CLL	**Collm**	**1.10**	**18**	*i* Pg	**Pg**	**03 38 58.7**	**-0.6**
CLL				*i* x	x	03 39 00.3	
CLL				*i* x	x	03 39 02.2	
CLL				*i* Sg	**Sg**	**03 39 13.5**	**-0.1**
	comp=Z,20nm,0.4s						
CLL				*i* x	x	03 39 16.9	
CLL	**Collm**	**1.10**	**18**	*e*Pg	**Pg**	**03 38 58.7**	**-0.6**
CLL				*e*Sg	**Sg**	**03 39 13.3**	**-0.3**
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	**Pb**	**03 38 59.5**	**-0.2**
BRG				Sg	**Sg**	**03 39 06.2**	**-8.2**
BRG				Amp		03 39 07.6	
	comp=Z,6.4nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**57**	Sg	**Sg**	**03 39 14.3**	**-0.1**
BRG				Amp		03 39 15.2	
	comp=Z,28nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg	**Pb**	**03 38 59.3**	**-0.3**
BRG				*e*Sg	**Sg**	**03 39 14.2**	**-0.1**
WET	**Wettzell**	**1.15**	**166**	*e*Sg	**Sb**	**03 39 14.8**	**-0.3**
PRU	**Pruhonice**	**1.37**	**101**	*e*Pg	**Pb**	**03 39 03.9**	**+0.1**
PRU				*e*Sg	**Sg**	**03 39 21.9**	**-0.2**
GEC2	**GERESS Array S**	**1.63**	**150**	*e*Sg	**Sb**	**03 39 28.7**	**-0.4**
KRUC	**Moravsky**	**2.83**	**114**	*e*SG	**Sn**	**03 39 58.1**	**+0.7**
VRAC	**Vranov**	**2.85**	**108**	*e*SG	**Sn**	**03 39 58.4**	**+0.5**
MORC	**Moravsky Berou**	**3.32**	**96**	*e*SG	**Sn**	**03 40 13.5**	**+3.9**

NEIC 11 03:44:57.0±1.4,**31.°36N**±0.°03×**103.°53W**±0.°05,**h5**km±2km, **mb_Lg2.3**/19,**ML2.4**/50,**Error ellipse: s-maj=7.6km s-min=3.0km az=303.0,Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.29**	**272**	Pg	Pb	03 45 04.8	0.0
PECS				Sg	Sb	03 45 09.7	-0.2
PECS				IAML		03 45 12.5	
	583nm,0.5s						
PECS				IAML		03 45 13.0	
	402nm,0.4s						
MNHN	**Monahans**	**0.66**	**91**	Pg	Pg	03 45 10.1	+0.4
MNHN				Sg	Sg	03 45 18.7	+0.5
ALPN	**Alpine**	**0.99**	**185**	Pg	Pg	03 45 15.8	-0.2
ALPN				Sg	Sg	03 45 28.8	+0.1
ODSA	**Odessa**	**1.13**	**48**	Pg	Pg	03 45 17.9	-0.8
ODSA				Sg	Sb	03 45 33.8	-0.4
ODSA				IAML		03 45 50.2	
	75nm,0.7s						
ODSA				IAML		03 45 50.8	
	106nm,0.7s						
VHRN	**Van Horn**	**1.37**	**246**		Pg	03 45 23.9	+0.5
SAND	**Sanderson**	**1.85**	**139**	Pn	Pb	03 45 30.7	-0.7
TX31	**Lajitas Ar. Si**	**2.02**	**183**	Pn	Pb	03 45 33.6	-0.7
TXAR	**Lajitas Array**	**2.02**	**183**	Pn	Pn	03 45 32.3	+0.4
OZNA	**Ozona**	**2.11**	**101**	Pn	Pb	03 45 34.6	-1.2
SGCY	**Sterling City**	**2.12**	**74**	Pn	Pb	03 45 34.9	-1.2
SGCY				IAmb_Lg		03 46 07.5	
	comp=Z,16nm,0.7s						
POST	**Post**	**2.42**	**45**	Pn	Pn	03 45 39.1	+1.7
SN07	**Snyder 07**	**2.83**	**52**	Pn	Pn	03 45 44.2	+1.3
SN07				IAmb_Lg		03 46 25.9	
	comp=Z,10nm,0.7s						
DRIO	**Del Rio**	**3.17**	**127**	Pn	Pn	03 45 48.6	+1.0
DKNS	**Dickens**	**3.19**	**43**	Pn	Pn	03 45 46.7	-1.2
DKNS				IAmb_Lg		03 46 46.4	
	comp=Z,7.9nm,0.8s						
APMT	**Aspermont**	**3.49**	**55**	Pn	Pn	03 45 53.2	+1.2
ABTX	**Abilene, Hawle**	**3.54**	**68**	Pn	Pn	03 45 54.1	+1.5
ABTX				IAmb_Lg		03 46 51.4	
	comp=Z,11nm,0.8s						
121A	**Cookes Peak, D**	**3.80**	**289**	Pn	Pn	03 45 58.3	+1.8
121A				IAML		03 47 06.4	
	comp=N,9.4nm,0.5s						
121A				IAML		03 47 09.9	
	comp=E,9.3nm,0.6s						
BRDY	**Brady**	**3.88**	**90**	Pn	Pn	03 45 58.6	+1.3
BRDY				IAmb_Lg		03 47 01.5	
	comp=Z,6.6nm,0.8s						
Y22D	**IRIS PASSCAL I**	**3.94**	**314**	Pn	Pn	03 45 58.5	+0.3
HNDO	**Hondo**	**4.10**	**115**	Pn	Pn	03 45 58.7	-1.7
ANMO	**Albuquerque**	**4.34**	**326**	Pn	Pn	03 46 03.9	+0.1
ANMO				IAML		03 47 13.1	
	comp=Z,3.6nm,3.6s						
ANMO				IAML		03 47 23.4	
	comp=Z,4.8nm,1.8s						
SMWD	**Samnorwood**	**4.64**	**36**	Pn	Pn	03 46 07.9	0.0
PLPT	**Palo Pinto**	**4.66**	**70**	Pn	Pn	03 46 09.4	+1.4
WTFS	**Witchita Falls**	**4.90**	**59**	Pn	Pn	03 46 10.9	-0.6
WHTX	**Lake Whitney,**	**5.22**	**81**	Pn	Pn	03 46 16.0	+0.3
WHTX				IAmb_Lg		03 47 55.5	
	comp=Z,7.7nm,0.9s						
WMOK	**Wichita Mounta**	**5.22**	**49**	Pn	Pn	03 46 16.2	+0.4
FW13	**Cleburne**	**5.28**	**78**	Pn	Pn	03 46 15.8	-0.8
HHAR	**Hobbs**	**9.37**	**56**	IAmb_Lg		03 50 21.8	
	comp=Z,1.8nm,1.2s						

*NEIC **11** 03:47:46.3±0.5,19.°369N±0.°009×155.°263W±0.°007, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.5km az=209.0*
HVO 11 03:47:45.6±0.4,**19.°36N**±0.°01×**155.°258W**±0.°003, **h1**km±9km,**ML2.9**/5,**ML2.1**/22(NEIC),**Error ellipse: s-maj=1.6km s-min=0.4km az=181.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.04**	**349**	IAML		03 47 46.8	
	comp=N,3μm,0.9s						
KKO				IAML		03 47 47.2	
	comp=E,4μm,0.7s						
KKO	**Keanakako`i**	**0.04**	**349**		Pg	03 47 48.4	+1.9
RIM	**Rim**	**0.04**	**337**	IAML		03 47 46.7	
	comp=N,3μm,0.5s						
RIM				IAML		03 47 47.3	
	comp=E,3μm,0.5s						
RIM	**Rim**	**0.04**	**337**		Pg	03 47 47.2	+0.8
PUH	**Pauahi**	**0.04**	**68**		Pg	03 47 47.4	+0.9
SDHHI	**Sand Hill**	**0.05**	**312**		Pg	03 47 47.4	+0.9
SDHHI	**Sand Hill**	**0.05**	**312**	IAML		03 47 47.5	
	comp=N,5μm,0.7s						
SDHHI				IAML		03 47 47.7	
	comp=E,9μm,0.4s						
WRMHI	**West Rim**	**0.06**	**320**		Pg	03 47 47.8	+0.9
WRMHI	**West Rim**	**0.06**	**320**	IAML		03 47 48.4	
	comp=E,15μm,0.6s						
WRMHI				IAML		03 47 48.6	
	comp=N,7μm,0.9s						
SBLHI	**Steaming Bluff**	**0.07**	**352**		Pg	03 47 48.0	+1.0
SBLHI	**Steaming Bluff**	**0.07**	**352**	IAML		03 47 48.9	
	comp=N,4μm,0.5s						
SBLHI				IAML		03 47 49.1	
	comp=E,5μm,0.8s						
UWB	**Uwekahuna B**	**0.07**	**344**	IAML		03 47 47.7	
	comp=N,3μm,0.9s						
UWB				IAML		03 47 48.4	
	comp=E,1μm,0.7s						
UWB	**Uwekahuna B**	**0.07**	**344**		Pg	03 47 47.8	+0.8
HLP	**Hilina Pali**	**0.08**	**218**		Pg	03 47 48.3	+1.2
HLP				IAML		03 47 48.6	
	comp=E,1μm,0.6s						
HLP				IAML		03 47 49.4	
	comp=N,1μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.09**	**76**		Pg	03 47 48.3	+1.0
STCH	**Steam Cracks**	**0.13**	**78**		Pg	03 47 49.0	+0.9
STCH	**Steam Cracks**	**0.13**	**78**	IAML		03 47 49.1	
	comp=N,532nm,1.0s						
STCH				IAML		03 47 50.4	
	comp=E,529nm,1.0s						
NPOC	**North of Pu'u**	**0.14**	**76**		Pg	03 47 49.2	+0.8
NPOC				IAML		03 47 50.6	
	comp=N,508nm,0.7s						
NPOC				IAML		03 47 51.9	
	comp=E,489nm,1.0s						
JCUZ	**Jacuzzi**	**0.15**	**80**		Pg	03 47 49.2	+0.7
JCUZ				IAML		03 47 53.3	
	comp=N,464nm,0.6s						
HTC	**Hot Caves**	**0.18**	**228**		Pg	03 47 50.1	+1.0

*SCB **11** 04:37:04.5±0.9,21.°74S×67.°21W,h180km±8km,ML3.4/5, MW3.1,Error ellipse: s-maj=4.2km s-min=2.1km az=0.0*
*GUC **11** 04:37:04.3±0.8,21.°82S×67.°30W,h207km±12km,ML3.5*
ISC 11 04:37:03.8±2.3,**21.°77S**±0.°06×**67.°22W**±0.°05, **h191**km±19km,**n27,**σ0**°70**/41,**7C,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.56**	**71**	Pg	**Pn**	**04 37 37.9**	**+0.2**
MOCB				Sg	**Sn**	**04 38 02.9**	**-1.1**
MOCB				IAML		04 38 04.0	
	90nm,0.3s						
LVC	**Limon Verde**	**1.78**	**242**	⇑*i*P	**Pn**	**04 37 40.2**	**+0.5**
LVC				*i* S	**Sn**	**04 38 07.7**	**+0.1**
LVC				IAML		04 38 09.2	
	comp=Z,72nm,0.2s						
PB09	**IPOC Station P**	**1.88**	**269**	*e*P	**Pn**	**04 37 41.4**	**+0.8**
PB09	**IPOC Station P**	**1.88**	**269**	Pg	**Pn**	**04 37 41.2**	**+0.6**
PB01	**IPOC Station P**	**2.23**	**288**	⇑*i*P	**Pn**	**04 37 44.4**	**+0.2**
PB01				*i* S	**Sn**	**04 38 15.6**	**-0.1**
PB01				IAML		04 38 16.7	
	comp=N,193nm,0.2s						
PB01	**IPOC Station P**	**2.23**	**288**		**Pn**	**04 37 44.8**	**+0.6**
PB01				Sg	**Sn**	**04 38 15.4**	**-0.2**
PB01				IAML		04 38 16.7	
	comp=N,192nm,0.2s						
PB06	**IPOC Station P**	**2.37**	**246**	*e*P	**Pn**	**04 37 45.9**	**+0.1**
PB06				*i* S	**Sn**	**04 38 18.5**	**-0.1**
PB06				IAML		04 38 19.6	
	comp=N,112nm,0.1s						
PB08	**IPOC Station P**	**2.43**	**311**	⇑*i*P	**Pn**	**04 37 47.9**	**+1.2**
PB08				*i* S	**Sn**	**04 38 21.5**	**+1.4**
PB08	**IPOC Station P**	**2.43**	**311**	Pg	**Pn**	**04 37 47.2**	**+0.5**
PB07	**IPOC Station P**	**2.48**	**270**	*e*P	**Pn**	**04 37 47.0**	**0.0**
PB07				*i* S	**Sn**	**04 38 19.8**	**-1.0**
PB07				IAML		04 38 21.4	
	comp=E,170nm,0.2s						
PB15	**IPOC Station P**	**2.53**	**235**	*e*P	**Pn**	**04 37 48.1**	**+0.4**
PB15				*i* S	**Sn**	**04 38 21.6**	**-0.3**
PB15	**IPOC Station P**	**2.53**	**235**	Pg	**Pn**	**04 37 48.7**	**+1.1**
PB15				Sg	**Sn**	**04 38 21.9**	**0.0**
PB15				IAML		04 38 25.0	
	comp=E,254nm,0.2s						
PB02	**IPOC Station P**	**2.53**	**280**	⇑*i*P	**Pn**	**04 37 47.7**	**+0.1**
PB02				*i* S	**Sn**	**04 38 20.6**	**-1.1**
PB02				IAML		04 38 21.4	
	comp=E,183nm,0.2s						
PB02	**IPOC Station P**	**2.53**	**280**	Pg	**Pn**	**04 37 48.1**	**+0.5**
PB02				Sg	**Sn**	**04 38 20.6**	**-1.1**
PB02				IAML		04 38 21.4	
	comp=E,176nm,0.3s						
PB04	**IPOC Station P**	**2.78**	**258**	*e*P	**Pn**	**04 37 50.6**	**+0.1**
PB04				IAML		04 38 27.4	
	comp=E,118nm,0.2s						
GO01	**Chusmiza**	**2.79**	**318**	*e*P	**Pn**	**04 37 51.7**	**+0.7**
GO01				IAML		04 38 32.7	
	comp=N,80nm,0.1s						
GO01	**Chusmiza**	**2.79**	**318**	Pg	**Pn**	**04 37 51.4**	**+0.4**
PATCX	**Punta Patache**	**2.89**	**288**	⇑*i*P	**Pn**	**04 37 51.8**	**0.0**
PATCX				*i* S	**Sn**	**04 38 27.9**	**-1.3**
PATCX				IAML		04 38 29.2	
	comp=N,118nm,0.5s						
HMBC	**Humberstone**	**2.90**	**300**	⇑*i*P	**Pn**	**04 37 51.6**	**-0.4**
HMBC				IAML		04 38 28.6	
	comp=N,82nm,0.4s						
TA01	**Diego Aracena**	**3.01**	**293**	*e*P	**Pn**	**04 37 52.6**	**-0.5**
PB11	**IPOC Station P**	**3.03**	**311**	⇑*i*P	**Pn**	**04 37 53.4**	**-0.1**
PB11				*i* S	**Sn**	**04 38 31.4**	**-0.9**
PB11				IAML		04 38 33.2	
	comp=N,57nm,0.2s						
PB11	**IPOC Station P**	**3.03**	**311**	Pg	**Pn**	**04 37 53.6**	**+0.

	comp=E,22nm,2.9s,comp=N,23nm,2.8s							
JJT3	**Tamagusuku3**	**1.86**	**189**	*e*P	**Pb**	**04 41 25.4**	**+0.2**
JJT3	**Tamagusuku3**	**1.86**	**189**	A	A	04 41 25.4	
	comp=E,17nm,2.3s,comp=N,15nm,3.6s							
JKE	**Kume jima 2**	**2.03**	**216**	*e*P	**Pb**	**04 41 26.4**	**-1.6**
JMZ	**Minamidaito 2**	**3.52**	**127**	Pn	**Pn**	**04 41 44.1**	**-1.7**
JNU	**Nakatsue**	**5.65**	**24**	Pn	**Pn**	**04 42 15.9**	**+0.8**
JNU	**Nakatsue**	**5.65**	**24**	P	**Pn**	**04 42 19.4**	**+4.4**
	comp=N,1.3nm,0.3s,baz=204,slow=7.5,SNR=21							
JNU				LR	LR	04 44 33.1		
	comp=N,791nm,21.3s,baz=209,slow=38 comp=N,34nm,0.9s							
YOJ	**Yonaguni jima**	**5.76**	**234**		**Pn**	**04 42 16.0**	**-0.6**
YHNB	**Yeheng**	**6.88**	**243**	Pn	**Pn**	**04 42 35.1**	**+3.1**
JMN	**Monobe**	**7.58**	**40**	Pn	**Pn**	**04 42 43.9**	**+2.5**
SSLB	**Suanglung**	**7.68**	**239**	Pn	**Pn**	**04 42 46.0**	**+3.2**
KSRS	**Korea Array**	**9.44**	**359**	P	**Pn**	**04 43 08.3**	**+1.3**
	comp=N,0.2nm,0.3s,baz=173,slow=14,SNR=1.6							
KSRS				LR	LR	04 46 55.9		
	comp=N,693nm,18.5s,baz=190,slow=38 comp=N,0.4nm,0.3s							
JSG	**Sagara**	**10.89**	**50**	Pn	**Pn**	**04 43 29.0**	**+2.1**
JHJ	**Hachijo jima 2**	**11.29**	**60**	LR	LR	04 47 11.2		
	comp=N,125nm,20.7s,baz=226,slow=33							
MJAR	**Matsushiro Arr**	**12.07**	**43**	P	**P**	**04 43 56.2**	**+0.3**
	comp=N,1.1nm,0.3s,baz=226,slow=9.8,SNR=6.6							
MJAR				LR	LR	04 49 05.3		
	comp=N,393nm,19.3s,baz=221,slow=40							
JCJ	**Chichijima**	**12.53**	**91**	LR	LR	04 47 53.3		
	comp=N,265nm,21.5s,baz=78,slow=33							
TGY	**Tagaytay City**	**15.34**	**207**	LR	LR	04 50 29.9		
	comp=N,296nm,19.7s,baz=252,slow=38							
BJT	**Baijiatuan**	**15.54**	**324**	Pn	**P**	**04 44 32.8**	**-1.6**
ENH	**Enshi**	**16.43**	**282**		**P**	**04 44 44.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**16.48**	**10**	Pn	**Pn**	**04 44 43.1**	**+0.9**
USRK	**Ussuriysk Ar.**	**16.48**	**10**	P	**P**	**04 44 44.5**	**-0.3**
	comp=N,0.2nm,0.3s,baz=206,slow=13,SNR=7.9							
USRK				LR	LR	04 50 36.2		
	comp=N,257nm,19.5s,baz=180,slow=35 comp=N,4.4nm,0.9s							
ASAJ	**Asahikawa**	**19.86**	**32**	LR	LR	04 54 14.4		
	comp=N,184nm,18.3s,baz=62,slow=40							
DAV	**Davao City (W)**	**20.94**	**187**	LR	LR	04 53 51.3		
	comp=N,143nm,21.1s,baz=350,slow=37							
KLR	**Kul'dur**	**21.40**	**7**	P	**P**	**04 45 40.1**	**+1.5**
	comp=N,1.1nm,0.7s,baz=214,slow=12,SNR=2.1							
KLR				LR	LR	04 53 42.3		
	comp=N,172nm,20.9s,baz=200,slow=36 comp=N,1.1nm,0.7s							
ULN	**Ulaanbaatar**	**25.73**	**326**	P	**P**	**04 46 21.6**	**+0.1**
ULN				IAmb	IAmb	04 46 32.9		
	comp=Z,8.6nm,0.9s							
SONM	**Songino Array**	**26.04**	**325**	P	**P**	**04 46 24.2**	**-0.2**
SONM				IAmb	IAmb	04 46 32.7		
	comp=Z,14nm,1.4s							
SONM	**Songino Array**	**26.04**	**325**	P	**P**	**04 46 24.1**	**-0.2**
	comp=Z,4.4nm,0.9s,baz=143,slow=9.3,SNR=15							
SONM				LR	LR	04 57 12.9		
	comp=Z,152nm,18.4s,baz=119,slow=38 comp=Z,4.4nm,0.9s							
CMAR	**Chiang Mai Arr**	**28.37**	**257**	LR	LR	04 59 05.5		
	comp=Z,112nm,18.8s,baz=75,slow=39							
KAPI	**Kappang**	**33.78**	**195**	LR	LR	05 02 22.7		
	comp=Z,101nm,18.5s,baz=347,slow=38							
MK31	**Makanchi Array**	**40.30**	**310**	P	**P**	**04 48 27.9**	**-0.3**
MKAR	**Makanchi Array**	**40.30**	**310**	P	**P**	**04 48 27.5**	**-0.7**
MKAR	**Makanchi Array**	**40.30**	**310**	P	**P**	**04 48 28.1**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=104,slow=9.4,SNR=28 comp=Z,3.2nm,0.8s							
MAKZ	**Makanchi**	**40.51**	**310**	P	**P**	**04 48 29.4**	**-0.6**
ZALV	**Zalesovo Beam**	**40.80**	**322**	P	**P**	**04 48 31.1**	**-1.1**
	comp=Z,1.7nm,0.8s,baz=111,slow=8.4,SNR=6.4 comp=Z,1.7nm,0.8s							
TARG	**Taragay, Kyrgy**	**42.91**	**302**	P	**P**	**04 48 49.8**	**-0.4**
TARG				IAmb	IAmb	04 48 52.7		
	comp=Z,7.7nm,0.8s							
KURK	**Kurchatov**	**43.48**	**315**	P	**P**	**04 48 53.7**	**-0.5**
KURBB	**Kurchatov Arra**	**43.52**	**315**	P	**P**	**04 48 53.7**	**-0.8**
	comp=Z,3.0nm,0.7s,baz=103,slow=8.9,SNR=16 comp=Z,3.0nm,0.7s							
WRA	**Warramunga Arr**	**48.03**	**172**	P	**P**	**04 49 30.6**	**+0.3**
	comp=Z,3.1nm,0.9s,baz=354,slow=8.2,SNR=9.3 comp=Z,3.1nm,0.9s							
BVAR	**Borovoye Array**	**48.90**	**317**	P	**P**	**04 49 36.9**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=91,slow=7.4,SNR=8.2 comp=Z,1.6nm,0.6s							
BRVK	**Borovoye**	**48.97**	**317**	P	**P**	**04 49 37.7**	**+0.3**
BRVK				IAmb	IAmb	04 49 47.1		
	comp=Z,4.0nm,0.8s							
SIMJ	**Simiganj**	**49.76**	**298**	P	**P**	**04 49 43.8**	**+0.1**
SIMJ				IAmb	IAmb	04 49 45.2		
	comp=Z,6.3nm,1.1s							
KBL	**Kabul**	**50.30**	**293**	P	**P**	**04 49 48.0**	**0.0**
KBL				IAmb	IAmb	04 49 51.5		
	comp=Z,11nm,1.1s							
ASAR	**Alice Springs**	**51.66**	**173**	P	**P**	**04 49 58.9**	**+0.9**
	comp=Z,1.1nm,0.8s,baz=356,slow=5.9,SNR=4.7							
ASAR				LR	LR	05 10 24.7		
	comp=Z,70nm,21.9s,baz=1.5,slow=34 comp=Z,1.1nm,0.8s							
ABKAR	**Akbulak array**	**55.38**	**312**	P	**P**	**04 50 24.1**	**-0.9**
ABKAR				IAmb	IAmb	04 50 25.5		
	comp=Z,3.3nm,0.8s							
ABKAR	**Akbulak array**	**55.38**	**312**	P	**P**	**04 50 24.1**	**-0.9**
OHAK	**Old Harbor**	**60.88**	**38**	P	**P**	**04 51 02.5**	**-0.9**
NWAO	**Narrogin (SRO)**	**61.45**	**190**	LR	LR	05 21 34.4		
	comp=Z,37nm,18.2s,baz=214,slow=40							
TOLK	**Toolik Lake Re**	**61.47**	**24**	P	**P**	**04 51 07.2**	**-0.2**
TOLK				IAmb	IAmb	04 51 34.5		
	comp=Z,7.5nm,1.4s							
ARMA	**Armidale**	**62.27**	**157**	P	**P**	**04 51 10.4**	**-2.8**
ARMA				IAmb	IAmb	04 51 34.1		
	comp=Z,19nm,1.5s							
ILAR	**Eielson Array**	**62.95**	**29**	P	**P**	**04 51 18.5**	**+1.2**
	comp=Z,0.3nm,0.7s,baz=272,slow=5.1,SNR=1.8 comp=Z,0.3nm,0.7s							
BCPM	**Bancas Point**	**67.31**	**33**	P	**P**	**04 51 45.6**	**0.0**
C36M	**Paulatuk**	**70.10**	**21**	P	**P**	**04 52 02.4**	**-0.5**
C36M				IAmb	IAmb	04 52 18.1		
	comp=Z,3.3nm,1.1s							
DIB	**Dawson Inlet,**	**73.39**	**38**	P	**P**	**04 52 23.5**	**+0.6**
YKA	**Yellowknife Ar**	**76.99**	**25**	P	**P**	**04 52 43.0**	**-0.5**
	comp=Z,1.0nm,1.0s,baz=301,slow=6.5,SNR=11 comp=Z,1.0nm,1.0s							
YKAB2	**New Yellowknif**	**77.03**	**25**	P	**P**	**04 52 43.1**	**-0.6**
ARG	**Arkhangelos**	**81.33**	**306**	P	**P**	**04 53 08.0**	**+0.2**
GEC2	**GERESS Array S**	**83.74**	**323**	P	**P**	**04 53 20.0**	**-0.2**
GERES	**GERESS Array B**	**83.74**	**323**	P	**P**	**04 53 20.2**	**0.0**
YBH	**Yreka Blue Hor**	**84.72**	**45**	P	**P**	**04 53 25.5**	**+0.1**
YBH				IAmb	IAmb	04 53 54.9		
	comp=Z,4.5nm,1.2s							

*NEIC **11** 04:46:53.8±1.0, 19°.44N±0°.04×154°.910W±0°.008, h5km±1km, Error ellipse: s-maj=6.2km s-min=2.2km az=169.0*

HVO 11 04:46:53.2±1.0, **19°.46N**±0°.02×**154°.91W**±0°.02, **h3**km±3km, **ML2.7**/15, **Error ellipse: s-maj=2.9km s-min=2.0km az=191.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.03**	**38**		Pg	04 46 55.5	+1.4
PHO	**Puu Honuaula**	**0.03**	**38**		Pg	04 46 54.6	+0.5
PAH	**Pahoa**	**0.05**	**315**		Pg	04 46 54.9	+0.5
JOKA	**Jonika Flow**	**0.09**	**254**		Pg	04 46 55.6	+0.4
PUH	**Pauahi**	**0.30**	**254**		Pg	04 47 00.2	+1.1
MLH	**Mauna Loa**	**0.45**	**275**		Sb	04 47 09.8	-1.4
HTC	**Hot Caves**	**0.51**	**245**		Pg	04 47 03.4	+0.4
MWH	**Moku'aweowe**	**0.65**	**272**		Pg	04 47 05.7	-0.1
ALEP	**Alea Permanent**	**0.70**	**277**		Pg	04 47 07.0	+0.3
ALEP					Sg	04 47 16.6	+0.8
KHU	**Kahuku**	**0.70**	**252**		Pg	04 47 06.3	-0.4

*BGR **11** 04:47:45.8±0.2, 50°.25N×12°.44E, h12km±1km, ML1.7/7, Error ellipse: s-maj=2.2km s-min=1.1km az=96.0*

*VIE **11** 04:47:45.2±0.5, 50°.20N×12°.42E, h10km, ml2.0/2, Error ellipse: s-maj=6.9km s-min=3.0km az=54.0*

WBNET 11 04:47:46.0, 50°.25N×12°.45E, h10km**, Ml2.0, 15C-16D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**191**	*e*Sg	Sg	04 47 49.1	+0.1
NKC	**Novy Kostel**	**0.01**	**191**	⇑P	Pg	04 47 47.0	-0.8
NKC				S	Sg	04 47 48.2	-0.8
NKC	**Novy Kostel**	**0.01**	**191**	⇑P	Pg	04 47 47.3	-0.4
NKC				S	Sg	04 47 48.6	-0.4
NKC	**Novy Kostel**	**0.01**	**191**	⇑P	Pg	04 47 47.9	+0.1
NKC				S	Sg	04 47 49.1	+0.1
NKC	**Novy Kostel**	**0.01**	**191**	*e*Pg	Sg	04 47 48.2	-0.8
LBCW	**Luby**	**0.03**	**306**	⇓P	Pg	04 47 47.1	-0.8
LBCW				S	Sg	04 47 48.4	-0.8
LBCW	**Luby**	**0.03**	**306**	⇑P	Pg	04 47 47.4	-0.5
LBCW				S	Sg	04 47 48.8	-0.4
LBCW	**Luby**	**0.03**	**306**	⇓P	Pg	04 47 48.0	+0.1
LBCW				S	Sg	04 47 49.4	+0.1
STCW	**Studenec**	**0.04**	**74**	⇑P	Pg	04 47 47.1	-0.9
STCW				S	Sg	04 47 48.4	-1.0
STCW	**Studenec**	**0.04**	**74**	⇑P	Pg	04 47 47.5	-0.5
STCW				S	Sg	04 47 48.8	-0.6
STCW	**Studenec**	**0.04**	**74**	⇑P	Pg	04 47 48.1	+0.1
STCW				S	Sg	04 47 49.4	-0.1
VAC	**Vackov**	**0.05**	**256**	⇓P	Pg	04 47 47.1	-0.9
VAC				S	Sg	04 47 48.5	-1.0
VAC	**Vackov**	**0.05**	**256**	⇓P	Pg	04 47 48.1	0.0
VAC				S	Sg	04 47 49.4	-0.1
KVC	**Kvetna**	**0.06**	**135**	⇓P	Pg	04 47 47.2	-0.9
KVC				S	Sg	04 47 48.6	-1.0
KVC	**Kvetna**	**0.06**	**135**	⇓P	Pg	04 47 47.6	-0.5
KVC	**Kvetna**	**0.06**	**135**	⇓P	Pg	04 47 48.2	+0.1
KVC				S	Sg	04 47 49.5	-0.1
WERN	**Wernitzgruen**	**0.06**	**310**	*e*Pg	Pg	04 47 48.3	+0.1
WERN				*e*Sg	Sg	04 47 49.8	0.0
POCW	**Potky**	**0.07**	**348**	⇓P	Pg	04 47 47.5	-0.8
POCW				S	Sg	04 47 49.1	-0.9
POCW	**Potky**	**0.07**	**348**	⇑P	Pg	04 47 47.9	-0.5
POCW				S	Sg	04 47 49.5	-0.5
POCW	**Potky**	**0.07**	**348**	⇓P	Pg	04 47 48.4	+0.1
POCW				S	Sg	04 47 50.0	0.0
ROHR	**Rohrbach**	**0.09**	**262**	*e*Pg	Pg	04 47 48.4	0.0
ROHR				*e*Sg	Sg	04 47 50.0	-0.2
SKC	**Skalna**	**0.10**	**217**	⇑P	Pg	04 47 47.7	-0.9
SKC				S	Sg	04 47 49.5	-0.9
SKC	**Skalna**	**0.10**	**217**	⇑P	Pg	04 47 48.6	+0.1
SKC				S	Sg	04 47 50.3	0.0
KRCW	**Kraslice**	**0.10**	**31**	⇑P	Pg	04 47 47.7	-0.9
KRCW				S	Sg	04 47 49.5	-1.0
KRCW	**Kraslice**	**0.10**	**31**	⇑P	Pg	04 47 48.1	-0.6
KRCW	**Kraslice**	**0.10**	**31**	⇑P	Pg	04 47 48.6	0.0
KRCW				S	Sg	04 47 50.4	-0.1
GUNZ	**Gunzen**	**0.14**	**327**	*e*Pg	Pg	04 47 49.3	+0.1
GUNZ				*e*Sg	Sg	04 47 51.4	-0.1
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	04 47 48.3	-0.9
KOCW				S	Sg	04 47 50.4	-1.0
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	04 47 48.7	-0.6
KOCW	**Kopaniny**	**0.14**	**277**	⇓P	Pg	04 47 49.2	0.0
KOCW				S	Sg	04 47 51.4	-0.1
MULD	**Muldenberg**	**0.17**	**349**	*e*Pg	Pg	04 47 49.7	0.0
MULD				*e*Sg	Sg	04 47 52.0	-0.2
TANN	**Tannenbergstha**	**0.17**	**2**	*e*Pg	Pg	04 47 49.6	-0.1
TANN				*e*Sg	Sg	04 47 52.0	-0.2
ZHC	**Zelena Hora**	**0.20**	**208**	⇑P	Pg	04 47 49.3	-0.9
ZHC				S	Sg	04 47 52.1	-0.9
ZHC	**Zelena Hora**	**0.20**	**208**	⇑P	Pg	04 47 50.3	+0.1
ZHC				S	Sg	04 47 53.0	0.0
TRCW	**Trojmez**	**0.20**	**286**	⇓P	Pg	04 47 49.3	-1.0
TRCW				S	Sg	04 47 52.2	-1.0
TRCW	**Trojmez**	**0.20**	**286**	⇓P	Pg	04 47 50.3	0.0
TRCW				S	Sg	04 47 53.1	-0.1
WERD	**Werda**	**0.22**	**335**	*e*Pg	Pg	04 47 50.6	0.0
WERD				*e*Sg	Sg	04 47 53.3	-0.4
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	04 47 49.9	-0.8
LACW				S	Sg	04 47 53.3	-0.5
LACW	**Lazy**	**0.23**	**150**	⇓P	Pg	04 47 50.9	+0.2
LACW				S	Sg	04 47 54.1	+0.3
TRIB	**Obertriebel**	**0.23**	**298**	*e*Pg	Pg	04 47 50.6	-0.1
TRIB				*e*Sg	Sg	04 47 53.7	-0.2
PLN	**Plauen**	**0.30**	**322**	*e*Pg	Pg	04 47 52.0	-0.1
PLN				*e*Sg	Sg	04 47 56.0	-0.2
MANZ	**Manzenberg**	**0.34**	**220**	*e*Pg	Pg	04 47 52.7	-0.1
MANZ				*e*Sg	Sg	04 47 56.7	-0.7
SCHF	**Schoenfels**	**0.43**	**356**	*e*Pg	Pg	04 47 54.4	-0.2
SCHF				*e*Sg	Sg	04 47 59.6	-0.6
ROTZ	**Rotzenmuhle**	**0.51**	**198**	*e*Pg	Pg	04 47 55.7	-0.2
MOX	**Moxa**	**0.67**	**307**	*e*Pg	Pg	04 47 58.7	-0.2
MOX				*e*Sg	Sg	04 48 06.9	-0.7
FBE	**Freiberg**	**0.89**	**40**	*e*Sg	Sg	04 48 14.2	-0.5
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	04 48 04.6	-0.1
GRF				*e*Sg	Sg	04 48 17.2	-0.6
CLL	**Collm**	**1.12**	**18**	*i* Pg	Pb	04 48 06.7	-0.8
CLL				*i* x	x	04 48 10.5	
CLL				*i* Sg	Sg	04 48 21.2	-0.8
	comp=Z,4.0nm,0.6s						
CLL	**Collm**	**1.12**	**18**	*e*Pg	Pb	04 48 06.8	-0.6
CLL				*e*Sg	Sg	04 48 21.4	-0.7
WET	**Wettzell**	**1.14**	**166**	*e*Pg	Pb	04 48 07.3	-0.6
WET				*e*Sg	Sg	04 48 22.4	-0.2
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pb	04 48 07.4	-0.4
BRG				Amp		04 48 21.7	
	comp=Z,15nm,0.2s						
BRG				Sg	Sg	04 48 22.2	-0.5
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pg	Pb	04 48 07.5	-0.4
BRG				*e*Sg	Sg	04 48 21.7	-0.4
PRU	**Pruhonice**	**1.37**	**100**	*e*Pg	Pb	04 48 11.5	-0.2
PRU				*e*Sg	Sn	04 48 29.8	+0.3
GEC2	**GERESS Array S**	**1.62**	**149**	*e*Pg	Pb	04 48 16.3	+0.1
GEC2				*e*Sg	Sn	04 48 36.0	+0.1
MOA	**Molln**	**2.68**	**153**	*i* Pn	Pn	04 48 28.7	-0.6
	comp=Z,0.1nm,0.1s						
MOA				*e*Sg	Sg	04 49 12.0	0.0
	comp=Z,0.5nm,0.2s						
CONA	**Conrad Observa**	**3.23**	**135**	*e*Pn	Pn	04 48 36.3	-0.5
	comp=Z,0.1nm,0.1s						
CONA				*e*Sg	Sg	04 49 28.3	-1.2
	comp=Z,0.6nm,0.3s						

*NEIC **11** 04:47:50.1±0.4, 19°.22N±0°.04×155°.44W±0°.05, h36km±4km, Error ellipse: s-maj=8.1km s-min=3.2km az=126.0*

HVO 11 04:47:51.3±0.6, **19°.21N**±0°.07×**155°.43W**±0°.09, **h31**km±6km, **Md2.1**/6, **ML2.6**/8(NEIC), **Error ellipse: s-maj=13.9km s-min=7.0km az=129.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.04**	**40**		Pb	04 47 56.3	-0.4
KHU	**Kahuku**	**0.18**	**283**		Pb	04 47 57.0	-0.8
KHU					Sb	04 48 01.3	-0.9
KHU	**Kahuku**	**0.18**	**283**	IAML		04 48 02.3	
	comp=N,433nm,1.5s						
KHU				IAML		04 48 04.2	
	comp=E,356nm,1.8s						
MLH	**Mauna Loa**	**0.29**	**7**		Pb	04 47 58.0	-1.1
MLH	**Mauna Loa**	**0.29**	**7**	IAML		04 48 00.4	
	comp=E,722nm,1.1s						
MLH				IAML		04 48 06.0	
	comp=N,860nm,0.6s						
MWH	**Moku'aweowe**	**0.32**	**330**		Pb	04 47 58.4	-1.3
MWH	**Moku'aweowe**	**0.32**	**330**	IAML		04 48 07.8	
	comp=N,804nm,0.8s						
MWH				IAML		04 48 14.2	
	comp=E,993nm,1.0s						
HMH	**Humu'ula Sheep**	**0.40**	**352**		Pb	04 47 59.5	-1.1
HMH	**Humu'ula Sheep**	**0.40**	**352**	IAML		04 48 05.4	
	comp=N,422nm,0.9s						
HMH				IAML		04 48 06.4	
	comp=E,395nm,0.9s						

*MOS **11** 04:58:19.6±0.8, 57°.65N×155°.88W, h63km, mb5.6/97, MS4.1/5, Error ellipse: s-maj=9.0km s-min=3.9km az=96.4*

*BJI **11** 04:58:20.0±0.0, 57°.60N×155°.80W, h80km, mb5.2/72, mB5.1/36, Ms4.8/33, Ms7.4/34*

*NEIC **11** 04:58:22.2±2.0, 57°.45N±0°.03×155°.64W±0°.05, h74km±3km, Error ellipse: s-maj=4.9km s-min=4.0km az=200.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr0.43; Mθθ-0.98; Mφφ0.55; Mrθ0.32; Mθφ0.76; Mφr0.34; Fault plane solution: M₀1.24000×10¹⁷ NP1:φs72.32000°, δ72.18000°, λ27.83000°. NP2:φs333.14000°, δ63.61000°, λ160.02000°. Principal axes: T 1.1435, Plg32.0000°, Azm295.0000°; N 0.1710, Plg57.0000°, Azm102.0000°; P -1.3145, Plg6.0000°, Azm201.0000°; Moment Tensor Solution. Moment tensor: Scale 10¹⁷ Nm; Mrr0.16; Mθθ-0.71; Mφφ0.55; Mrθ0.24; Mθφ0.84; Mφr0.21; Fault plane solution: M₀1.11000×10¹⁷ NP1:φs340.39000°, δ73.61000°, λ171.12000°. NP2:φs72.91000°, δ81.49000°, λ16.57000°. Principal axes: T 1.0681, Plg18.0000°, Azm298.0000°; N 0.0746, Plg71.0000°, Azm99.0000°; P -1.1428, Plg5.0000°, Azm206.0000°;*

*IDC **11** 04:58:22.8±0.7, 57°.75N×155°.79W, h74km±6km, mb4.8/41, mbtmp5.1/46, MS4.0/70 Error ellipse: s-maj=12.7km s-min=7.3km az=3.0*

*GCMT **11** 04:58:23.5±0.2, 57°.52N±0°.01×155°.76W±0°.02, h89km±1km, MW5.3/133, Moment Tensor Solution. s106,c174; s133,c214; Duration: 1s1 Moment tensor: Scale 10¹⁷ Nm; Mrr0.09±.01; Mθθ-0.69±.02; Mφφ0.60±.02; Mrθ0.28±.01; Mθφ1.03±.02; Mφr0.15±.01; Best double couple: M₀1.25700×10¹⁷ NP1:φs75.00000°, δ86.00000°, λ14.00000°. NP2:φs343.00000°, δ76.00000°, λ176.00000°. Principal axes: T 1.2340, Plg13.0000°, Azm300.0000°; N 0.0460, Plg75.0000°, Azm90.0000°; P -1.2810, Plg7.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **11** 04:58:24.3, 57°.46N×155°.77W, h70km, Moment Tensor Solution. Duration: 2s3 Moment tensor: Scale 10¹⁷Nm; Mrr0.22; Mθθ-0.60; Mφφ0.38; Mrθ0.27; Mθφ0.96; Mφr0.15; Fault plane solution: M₀1.13000×10¹⁷ NP1:φs77.90000°, δ82.02000°, λ17.23000°. NP2:φs345.43000°, δ72.94000°, λ171.65000°. Principal axes: T 1.0522, Plg18.0000°, Azm303.0000°; N 0.1509, Plg71.0000°, Azm102.0000°; P -1.2031, Plg6.0000°, Azm211.0000°;*

*NEIC **11** 04:58:24.3, 57°.46N×155°.59W, h70km*

*NEIC **11** 04:58:24.3, 57°.46N×155°.59W, h66km*

*AEIC **11** 04:58:24.5±3.4, 57°.47N±0°.03×155°.59W±0°.06, h63km±4km, ML5.3, mb5.3/634(NEIC), ML5.4/86(NEIC), Mwb5.3/15(NEIC), Mwr5.3/69(NEIC), Mww5.3/56(NEIC), Error ellipse: s-maj=5.0km s-min=4.5km az=62.0*

*NEIC **11** 04:58:24.3, 57°.46N×155°.59W, h66km*

ISC 11 04:58:22.4±0.3, **57°.53N**±0°.03×**155°.66W**±0°.02, **h79**km±2km, **h79**km**:pP-P, n1574,** σ**1936**/1512, **mb5.3**/469, **69C-35D, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.36**	**296**		**Pn**	**04 58 36.3**	**+1.3**
PLK1	**Peulik 1**	**0.58**	**299**		**Pn**	**04 58 38.0**	**+1.2**
ANCK	**Angle Creek**	**0.68**	**7**		**Pn**	**04 58 39.0**	**+1.2**
ANCK					**Sn**	**04 58 50.9**	**+1.6**
ACHA	**Angle Creek He**	**0.71**	**14**		**Pn**	**04 58 39.2**	**+1.0**
CNTC	**Contact Creek**	**0.75**	**351**		**Pn**	**04 58 39.7**	**+1.1**
CNTC					**Sn**	**04 58 52.0**	**+1.4**
Q17K	**Contact Creek**	**0.75**	**351**	P	**Pn**	**04 58 39.6**	**+1.0**
	baz=169,SNR=1000						
Q17K				S	**Sn**	**04 58 52.1**	**+1.5**
	baz=169						
KCE	**Katmai Mt Cerb**	**0.76**	**19**		**Pn**	**04 58 39.9**	**+1.2**
PLK5	**Peulik 5**	**0.81**	**306**		**Pn**	**04 58 40.4**	**+1.4**
KVTA	**Katmai Vly 10**	**0.88**	**13**		**Pn**	**04 58 41.2**	**+1.2**
KELA	**Mount Kelaz**	**0.92**	**357**		**Pn**	**04 58 41.4**	**+0.9**
R16K	**Pilot Point**	**1.03**	**273**		**Pn**	**04 58 42.6**	**+0.9**
R16K				Sn	**Sn**	**04 58 57.0**	**+0.8**
R16K				IAML		04 58 58.7	
	comp=E,71μm,0.5s						
R16K				IAML		04 58 58.7	
	comp=N,103μm,1.2s						
R16K	**Pilot Point**	**1.03**	**273**	P	**Pn**	**04 58 42.8**	**+1.1**
	baz=94,SNR=76						
R16K				S	**Sn**	**04 58 58.0**	**+1.9**
	baz=94						
KAHC	**Katmai Hardscr**	**1.18**	**17**		**Pn**	**04 58 44.7**	**+1.1**
SII	**Sitkinak Islan**	**1.26**	**140**	P	**Pn**	**04 58 44.2**	**-0.4**
SII	**Sitkinak Islan**	**1.26**	**140**		**Pn**	**04 58 44.1**	**-0.5**
SII				Sn	**Sn**	**04 59 00.1**	**-1.2**
SII				IAML		04 59 01.7	
	comp=N,93μm,0.7s						
SII				IAML		04 59 11.6	
	comp=E,89μm,0.7s						
SII	**Sitkinak Islan**	**1.26**	**140**	P	**Pn**	**04 58 44.4**	**-0.2**
	baz=321,SNR=243						
SII				S	**Sn**	**04 59 00.8**	**-0.5**
	baz=321						
Q16K	**King Salmon**	**1.27**	**336**		**Pn**	**04 58 45.9**	**+1.2**
Q16K					**Sn**	**04 59 03.0**	**+1.5**
Q16K	**King Salmon**	**1.27**	**336**	P	**Pn**	**04 58 45.9**	**+1.2**
	baz=154,SNR=464						
Q16K				S	**Sn**	**04 59 02.9**	**+1.5**
	baz=154						
OHAK	**Old Harbor**	**1.32**	**102**	P	**Pn**	**04 58 45.4**	**+0.1**
OHAK	**Old Harbor**	**1.32**	**102**	Pn	**Pn**	**04 58 45.0**	**-0.3**
OHAK	**Old Harbor**	**1.32**	**102**		**Sn**	**04 59 01.9**	**-0.7**
OHAK	**Old Harbor**	**1.32**	**102**	IAML		04 59 02.7	
	comp=N,38μm,0.6s						
OHAK				IA

O17K **Koliganek Bris** 2.37 342 P Pn 04 59 00.6 +1.4
baz=161
O17K S Sn 04 59 29.2 +1.8
baz=161
O16K Kokwok River B 2.43 329 Pn Pn 04 59 01.0 +1.0
O16K IAML 04 59 31.7
comp=N,12µm,1.0s
O16K IAML 04 59 46.0
comp=E,13µm,1.1s
O16K Kokwok River B 2.43 329 P Pn 04 59 01.3 +1.3
baz=147,SNR=495
O16K S Sn 04 59 30.6 +1.8
baz=147
S14K Fog Glacier 2.47 241 P Pn 04 59 01.9 +1.3
baz=60,SNR=56
VNFG Fog Glacier, M 2.47 241 IAML 04 59 45.4
comp=N,16µm,1.4s
VNFG IAML 04 59 55.7
comp=E,22µm,1.1s
P19K Oil Pt 2.48 30 Pn Pn 04 59 01.9 +1.2
P19K IAML 04 59 34.1
comp=E,13µm,0.8s
P19K Oil Pt 2.48 30 P Pn 04 59 02.6 +1.9
baz=210,SNR=436
P19K S Sn 04 59 32.3 +2.3
baz=210
O15K Ungalikthiuk R 2.75 309 P Pn 04 59 05.9 +1.6
baz=126,SNR=1000
O15K S Sn 04 59 37.5 +1.1
baz=126
O19K Port Alsworth 2.76 14 Pn 04 59 06.1 +1.6
O19K Port Alsworth 2.76 14 IAML 04 59 38.4
comp=E,12µm,0.7s
O19K IAML 04 59 38.7
comp=N,12µm,0.6s
O19K Port Alsworth 2.76 14 P Pn 04 59 06.1 +1.6
baz=194
O19K S Sn 04 59 38.0 +1.3
baz=194
IVE Iliamna Volcan 2.85 28 Pn 04 59 07.4 +1.7
HOM Homer 3.00 43 Pn Pn 04 59 08.6 +1.0
HOM IAML 05 00 02.8
comp=N,16µm,1.9s
HOM Homer 3.00 43 P Pn 04 59 09.2 +1.6
baz=225,SNR=105
HOM S Sn 04 59 43.2 +0.7
baz=225
O20K Slope Mountain 3.01 30 Pn 04 59 09.7 +1.8
O20K Slope Mountain 3.01 30 P Pn 04 59 09.9 +2.0
baz=212,SNR=239
O20K S Sn 04 59 44.3 +1.4
baz=212
CNPM China Poot 3.06 47 Pn Pn 04 59 09.4 +0.8
CNPM IAML 04 59 45.0
comp=N,12µm,0.7s
N17K Nushagak Hills 3.11 346 Pn Pn 04 59 10.5 +1.3
N17K IAML 05 00 05.4
comp=N,7µm,1.0s
N17K IAML 05 00 07.4
comp=E,7µm,1.0s
N17K Nushagak Hills 3.11 346 P Pn 04 59 10.7 +1.5
baz=164,SNR=369
N17K S Sn 04 59 46.2 +1.0
baz=164
N18K Kilae Creek 3.16 358 Pn Pn 04 59 10.7 +0.8
N18K IAML 05 00 01.1
comp=E,7µm,1.4s
N18K Kilae Creek 3.16 358 P Pn 04 59 11.4 +1.5
baz=177,SNR=349
N18K S Sn 04 59 47.4 +0.9
baz=177
RED Redoubt Volcan 3.26 26 Pn 04 59 13.2 +1.9
N19K Bonanza Creek 3.35 10 Pn 04 59 14.4 +2.0
N19K Bonanza Creek 3.35 10 IAML 05 00 05.3
comp=E,7µm,0.9s
N19K Bonanza Creek 3.35 10 P Pn 04 59 14.5 +2.0
baz=190,SNR=1000
BRLK Bradley Lake 3.35 46 Pn Pn 04 59 12.3 -0.2
BRLK IAML 04 59 50.1
comp=N,8µm,0.7s
BRLK IAML 04 59 50.4
comp=E,10µm,0.6s
N16K Nishlik Lake 3.36 333 P Pn 04 59 14.5 +1.9
baz=150,SNR=647
N16K S Sn 04 59 52.4 +0.9
baz=150
BRSE Bradley Lake S 3.40 47 P Pn 04 59 13.7 +0.6
baz=230,SNR=160
BRSE S Sn 04 59 50.1 -2.1
baz=230
O14K Tigyukauivet M 3.42 303 Pn 04 59 15.0 +1.7
O14K Tigyukauivet M 3.42 303 IAML 05 00 25.4
comp=N,6µm,1.1s
O14K Tigyukauivet M 3.42 303 P Pn 04 59 15.2 +1.9
baz=118
DFR Drift River 3.44 25 Pn 04 59 15.5 +1.9
SDPT Sand Point 3.45 233 P Pn 04 59 14.7 +0.9
SDPT Sand Point 3.45 233 Pn Pn 04 59 14.0 +0.3
SDPT IAML 04 59 54.4
comp=E,6µm,1.3s
SDPT IAML 05 00 03.7
comp=N,6µm,1.9s
SDPT Sand Point 3.45 233 P Pn 04 59 14.6 +0.8
baz=50,SNR=298
N15K Kwethluk River 3.51 321 Pn 04 59 16.6 +2.0
N15K IAML 04 59 58.5
comp=N,8µm,1.6s
N15K IAML 04 59 59.8
comp=E,5µm,2.0s
N15K Kwethluk River 3.51 321 P Pn 04 59 16.7 +2.1
baz=137,SNR=286
N15K S Sn 04 59 56.8 +1.9
baz=137
SVW2 Sparrevohn 3.58 1 P Pn 04 59 17.2 +1.7
SVW2 Sparrevohn 3.58 1 Pn 04 59 16.9 +1.4
SVW2 IAML 05 00 10.0
comp=E,5µm,2.2s
M16K Timber Creek 3.89 336 Pn Pn 04 59 21.3 +1.5
M16K IAML 05 00 20.5
comp=N,4µm,1.2s
M16K IAML 05 00 33.5
comp=E,4µm,1.5s
M16K Timber Creek 3.89 336 P Pn 04 59 21.8 +2.0
baz=153,SNR=1000
M16K S Sn 05 00 05.2 +1.0
baz=153
N14K Kuskokwak Cree 3.95 310 Pn 04 59 22.6 +2.1
N14K Kuskokwak Cree 3.95 310 P Pn 04 59 22.7 +2.1
baz=125
M18K Stony River 3.98 359 P Pn 04 59 22.6 +1.7
baz=178,SNR=663
M18K S Sn 05 00 06.6 +0.4
baz=178
S12K Black Hills 3.98 245 Pn Pn 04 59 21.7 +0.7
S12K IAML 05 00 09.5
comp=E,4µm,1.1s
S12K Black Hills 3.98 245 P Pn 04 59 22.4 +1.4
baz=61,SNR=64
S12K S Sn 05 00 06.5 0.0
baz=61
M17K Holitna River 3.99 348 Pn Pn 04 59 22.8 +1.7
M17K Holitna River 3.99 348 P Pn 04 59 22.8 +1.7
baz=166,SNR=480
M17K S Sn 05 00 07.3 +0.7
baz=166
CAPN Captain Cook N 3.99 34 Pn 04 59 23.6 +2.6
CAPN Captain Cook N 3.99 34 P Pn 04 59 23.4 +2.3
baz=217
PVV Pavlof Volcano 4.03 240 Pn 04 59 23.1 +1.5
N20K Mount Spurr 4.08 24 P Pn 04 59 24.2 +1.7
baz=206
SPCR Spurr Chakacha 4.08 24 Pn 04 59 24.1 +1.6
M15K Kasigluk River 4.10 323 P Pn 04 59 24.2 +1.6
baz=139,SNR=478
M15K S Sn 05 00 10.3 +1.0
baz=139
SLKM Skilak Lake 4.10 41 Pn 04 59 22.9 +0.3
SPBG Spurr Blockage 4.10 23 Pn 04 59 24.7 +2.0
SEW Seward 4.13 49 P Pn 04 59 22.8 -0.2
baz=233,SNR=74
O22K Cooper Landing 4.26 44 Pn 04 59 25.5 +0.7
O22K Cooper Landing 4.26 44 P Pn 04 59 25.4 +0.7
baz=228,SNR=52
STLK Strandline Lak 4.43 24 Pn 04 59 28.8 +1.6
M19K Big River Lodg 4.44 8 Pn 04 59 29.0 +1.8
M19K Big River Lodg 4.44 8 IAML 05 00 46.6
comp=E,3µm,1.1s

M19K Big River Lodg 4.44 8 P Pn 04 59 29.0 +1.8
baz=188,SNR=753
M19K S Sn 05 00 17.8 +0.3
baz=188
M20K Styx River 4.55 15 Pn Pn 04 59 31.0 +2.2
M20K IAML 05 00 48.4
comp=E,2µm,2.0s
M20K Styx River 4.55 15 P Pn 04 59 31.0 +2.2
baz=197,SNR=785
FIS Fire Island 4.57 35 Pn 04 59 30.7 +1.7
FIS IAML 05 01 58.9
comp=N,5µm,1.6s
M14K Bethel 4.58 318 Pn Pn 04 59 30.4 +1.3
M14K IAML 05 00 38.5
comp=E,5µm,1.4s
M14K Bethel 4.58 318 P Pn 04 59 30.9 +1.8
baz=132,SNR=393
M14K S Sn 05 00 22.7 +1.8
baz=132
L16K Owhat River 4.62 337 Pn Pn 04 59 30.2 +0.5
L16K IAML 05 00 56.5
comp=N,3µm,1.4s
L16K Owhat River 4.62 337 P Pn 04 59 30.8 +1.1
baz=153,SNR=232
L16K S Sn 05 00 22.8 +0.8
baz=153
SUA Susitna One 4.67 30 Pn 04 59 31.5 +1.1
SUA Susitna One 4.67 30 IAML 05 00 25.1
comp=E,4µm,0.9s
SUA IAML 05 00 25.3
comp=N,4µm,1.2s
SUA Susitna One 4.67 30 P Pn 04 59 31.6 +1.1
baz=214,SNR=328
SUA S Sn 05 00 23.2 -0.2
baz=214
RC01 Rabbit Creek A 4.69 38 Pn 04 59 30.9 +0.4
RC01 Rabbit Creek A 4.69 38 P Pn 04 59 31.0 +0.4
baz=222,SNR=88
L19K White Mountain 4.69 5 Pn 04 59 32.2 +1.6
L19K White Mountain 4.69 5 P Pn 04 59 32.2 +1.6
baz=185,SNR=1000
L19K S Sn 05 00 24.6 +0.9
baz=185
L18K Granite Mounta 4.74 354 Pn 04 59 32.7 +1.5
L18K IAML 05 00 26.7
comp=E,4µm,1.4s
L18K Granite Mounta 4.74 354 P Pn 04 59 32.7 +1.5
baz=173,SNR=495
L18K S Sn 05 00 24.9 +0.1
baz=173
L17K Donlin 4.81 345 Pn 04 59 33.5 +1.3
L17K Donlin 4.81 345 P Pn 04 59 33.5 +1.3
baz=162
L17K S Sn 05 00 26.9 +0.3
baz=162
M13K Dall Lake 4.92 309 Pn Pn 04 59 35.3 +1.6
M13K Dall Lake 4.92 309 P Pn 04 59 35.8 +2.1
baz=123,SNR=532
M13K S Sn 05 00 31.3 +2.1
baz=123
SKT Skwentna 4.93 23 Pn Pn 04 59 34.5 +0.7
SKT Skwentna 4.93 23 P Pn 04 59 35.1 +1.2
baz=206,SNR=224
P23K Montague Islan 4.96 57 P Pn 04 59 34.7 +0.4
baz=243,SNR=24
P23K S Sn 05 00 27.4 -2.9
baz=243
L20K Farewell, AK 5.05 9 Pn 04 59 37.6 +2.1
L20K Farewell, AK 5.05 9 P Pn 04 59 37.5 +2.1
baz=190
M22K Willow 5.08 31 Pn 04 59 36.7 +0.8
M22K Willow 5.08 31 P Pn 04 59 36.8 +0.8
baz=215,SNR=129
FALS False Pass 5.09 242 P Pn 04 59 37.3 +1.2
FALS False Pass 5.09 242 P Pn 04 59 36.9 +0.8
baz=56,SNR=81
L15K Ungalak Mounta 5.11 327 P Pn 04 59 37.6 +1.4
baz=142,SNR=171
L14K Kuka Creek 5.24 320 Pn 04 59 39.8 +1.8
L14K Kuka Creek 5.24 320 P Pn 04 59 39.7 +1.6
baz=134
Q23K Middleton Isla 5.24 65 Pn Pn 04 59 38.3 +0.1
Q23K Middleton Isla 5.24 65 P Pn 04 59 38.1 0.0
baz=252,SNR=15
Q23K S Sn 05 00 35.6 -1.6
baz=252
ISNN Isanotski Nort 5.28 243 Pn 04 59 39.6 +1.0
K17K Iditarod 5.37 347 Pn 04 59 41.5 +1.6
K17K Iditarod 5.37 347 P Pn 04 59 41.5 +1.6
baz=164
K17K S Sn 05 00 40.5 +0.3
baz=164
GLI Glacier Island 5.54 49 Pn 04 59 41.1 -1.1
GLI Glacier Island 5.54 49 P Pn 04 59 41.3 -0.9
baz=236,SNR=28
HIN Hinchinbrook I 5.54 55 Pn 04 59 42.3 0.0
CUT Chulitna 5.59 27 Pn 04 59 43.1 +0.2
CUT Chulitna 5.59 27 P Pn 04 59 42.8 0.0
baz=211,SNR=66
K15K Wolf Creek Mou 5.62 331 Pn Pn 04 59 45.1 +1.9
K15K Wolf Creek Mou 5.62 331 P Pn 04 59 45.3 +2.1
baz=146,SNR=259
K15K S Sn 05 00 46.8 +0.5
baz=146
PPLA Purkeypile 5.66 16 Pn 04 59 46.0 +2.1
PPLA Purkeypile 5.66 16 P Pn 04 59 46.0 +2.1
baz=199,SNR=165
SML Sawmill 5.67 38 Pn 04 59 43.7 -0.3
SML Sawmill 5.67 38 P Pn 04 59 43.8 -0.3
baz=223,SNR=62
FID Port Fidalgo 5.72 52 Pn 04 59 43.8 -0.9
M23K Glacier View 5.87 40 Pn 04 59 46.3 -0.3
M23K Glacier View 5.87 40 P Pn 04 59 46.4 -0.3
baz=226,SNR=110
WESE West Dahl East 5.87 242 Pn 04 59 47.9 +1.1
WEBT Westdahl Beart 5.88 244 Pn 04 59 47.8 +0.9
K20K Telida 5.90 7 Pn Pn 04 59 48.6 +1.5
K20K Telida 5.90 7 P Pn 04 59 48.9 +1.7
baz=188,SNR=584
WECS Westdahl Cape 5.93 243 Pn 04 59 48.4 +0.8
EYAK Cordova Ski Ar 5.94 55 P Pn 04 59 47.8 +0.1
EYAK Cordova Ski Ar 5.94 55 Pn 04 59 47.4 -0.3
EYAK Cordova Ski Ar 5.94 55 P Pn 04 59 47.6 -0.1
baz=243,SNR=54
J18K Innoko River 5.98 355 Pn 04 59 49.7 +1.5
J18K Innoko River 5.98 355 P Pn 04 59 49.7 +1.5
baz=174
J18K S Sn 05 00 54.5 -0.7
baz=174
SCM Sheep Creek Mo 6.04 41 Pn 04 59 48.9 -0.1
SCM Sheep Creek Mo 6.04 41 P Pn 04 59 49.1 +0.1
baz=227,SNR=216
SCM Sheep Creek Mo 6.04 41 P Pn 04 59 48.9 -0.1
J17K VABM Dome 6.12 345 Pn Pn 04 59 51.4 +1.3
J17K VABM Dome 6.12 345 P Pn 04 59 51.5 +1.3
baz=162,SNR=55
J17K S Sn 05 01 00.1 +1.4
baz=162
M11K Mekoryuk 6.16 302 Pn 04 59 52.3 +1.7
M11K Mekoryuk 6.16 302 P Pn 04 59 52.2 +1.7
baz=113,SNR=55
CAST Castle Rocks 6.17 15 Pn 04 59 52.6 +1.8
CAST Castle Rocks 6.17 15 P Pn 04 59 52.4 +1.6
baz=198,SNR=704
DIV Divide 6.21 50 Pn 04 59 51.3 -0.2
J16K Anvik River 6.27 339 Pn Pn 04 59 53.1 +1.0
J16K Anvik River 6.27 339 P Pn 04 59 53.0 +0.9
baz=155,SNR=184
KAIM Kayak Island 6.33 63 Pn 04 59 53.1 +0.2
KAIM Kayak Island 6.33 63 P Pn 04 59 52.9 0.0
baz=252,SNR=19
K13K Kusilvak Mount 6.34 318 Pn Pn 04 59 54.3 +1.3
K13K Kusilvak Mount 6.34 318 P Pn 04 59 54.5 +1.5
baz=130,SNR=226
KLU Klutina 6.35 47 Pn Pn 04 59 53.5 +0.1
KLU Klutina 6.35 47 P Pn 04 59 53.5 +0.1
baz=235,SNR=1000
WAT1 Susitna Watana 6.39 31 Pn 04 59 53.4 -0.5
WAT1 Susitna Watana 6.39 31 P Pn 04 59 53.3 -0.5
baz=216
GOAT Goat Mountain 6.42 57 Pn 04 59 54.3 +0.1
WAT6 Susitna Watana 6.43 35 P Pn 04 59 54.0 -0.5
baz=221,SNR=74
KTH Kantishna Hill 6.48 19 Pn 04 59 55.4 +0.4
J19K Poorman 6.49 0 Pn Pn 04 59 55.8 +0.7
J19K Poorman 6.49 0 P Pn 04 59 56.4 +1.2
baz=180,SNR=549
TRF Thorofare Moun 6.50 22 Pn 04 59 55.8 +0.2
TRF Thorofare Moun 6.50 22 P Pn 04 59 55.7 +0.2
baz=206,SNR=145
HMT Hamilton 6.54 60 Pn 04 59 56.0 +0.1
J14K Nanvaranak Lak 6.55 326 Pn 04 59 57.4 +1.5
J14K Nanvaranak Lak 6.55 326 P Pn 04 59 57.6 +1.7
baz=140
CHUM Lake Minchumin 6.58 13 Pn 04 59 58.2 +1.8
CHUM Lake Minchumin 6.58 13 P Pn 04 59 57.9 +1.5
baz=196,SNR=325
M24K Tolsona, Glenn 6.63 42 Pn 04 59 57.2 +0.1
M24K Tolsona, Glenn 6.63 42 P Pn 04 59 57.2 +0.1
baz=230,SNR=92
BMRM Bremner River 6.63 54 P Pn 04 59 56.8 -0.4
baz=243,SNR=79
NICHA Nichawak Mount 6.64 61 Pn 04 59 57.2 0.0
AHB Akutan Harbor 6.67 243 Pn 04 59 57.9 +0.4
J20K Nowinta River 6.71 6 Pn Pn 04 59 59.0 +0.8
J20K Nowinta River 6.71 6 P Pn 04 59 59.5 +1.4
baz=187,SNR=465
AKBBA Akutan Broad B 6.73 244 Pn 04 59 59.1 +0.7
LVA Lava Point 6.75 244 Pn 04 59 59.1 +0.5
ZRO Akutan Zero 6.76 244 Pn 04 59 59.2 +0.3
AKRB Akutan Reef Bi 6.78 244 Pn 04 59 59.4 +0.3
I17K Unalakleet 6.84 341 P Pn 05 00 01.4 +1.5
baz=156,SNR=38
DHY Denali Highway 6.92 33 Pn 05 00 00.7 -0.4
DHY Denali Highway 6.92 33 P Pn 05 00 00.6 -0.5
baz=220,SNR=52
BGLC Bering Glacier 6.93 63 Pn 05 00 01.9 +0.8
BGLC Bering Glacier 6.93 63 P Pn 05 00 02.0 +0.9
baz=253
N25K Chitina, Valde 6.95 49 Pn Pn 05 00 01.6 +0.1
N25K Chitina, Valde 6.95 49 P Pn 05 00 01.3 -0.1
baz=238,SNR=142
GRIN Grindle Hills 6.96 61 Pn 05 00 01.8 +0.2
BPAW Bear Paw Mtn. 6.98 17 P Pn 05 00 01.5 -0.2
baz=201,SNR=342
MCK McKinley 7.04 25 Pn 05 00 02.3 -0.4
MCK McKinley 7.04 25 P Pn 05 00 02.4 -0.3
baz=210,SNR=108
MCK McKinley 7.04 25 P Pn 05 00 02.3 -0.4
UNV Unalaska Valle 7.15 244 P Pn 05 00 04.3 +0.1
UNV Unalaska Valle 7.15 244 Pn 05 00 04.2 +0.1
UNV Unalaska Valle 7.15 244 P Pn 05 00 04.1 -0.1
baz=55,SNR=32
SNH Sunshine Point 7.16 63 Pn 05 00 05.2 +0.8
MTBL Makushin Table 7.17 245 Pn 05 00 05.1 +0.6
HARP HAARP 7.18 43 P Pn 05 00 05.5 +0.9
baz=231,SNR=195
MNAT Makushin Natee 7.22 244 Pn 05 00 05.6 +0.5
WAX Waxell Ridge 7.24 61 Pn 05 00 05.2 -0.2
GCSA Galena City Sc 7.27 356 Pn 05 00 07.1 +1.4
GCSA Galena City Sc 7.27 356 P Pn 05 00 07.5 +1.8
baz=174,SNR=38
CYK Cape Yakataga 7.31 64 Pn 05 00 06.8 +0.6
BWN Browne 7.32 22 Pn 05 00 06.5 +0.1
BARK Barkley Ridge 7.39 62 Pn 05 00 07.6 +0.1
PAX Paxson 7.44 39 P Pn 05 00 08.0 -0.2
baz=227,SNR=250
MCARA McCarthy VSAT 7.51 54 P Pn 05 00 08.9 -0.1
baz=244,SNR=71
ISLE Juniper Island 7.52 60 Pn Pn 05 00 09.3 -0.1
MESA MESA 7.59 64 P Pn 05 00 10.5 +0.2
baz=255,SNR=92
P08K Saint George I 7.63 269 Pn 05 00 11.7 +1.0
P08K Saint George I 7.63 269 P Pn 05 00 12.3 +1.6
baz=78
H17K Granite Mounta 7.71 346 Pn 05 00 13.9 +2.2
H17K Granite Mounta 7.71 346 P Pn 05 00 14.1 +2.4
baz=162
H18K Honhosa River 7.76 352 P Pn 05 00 14.4 +1.9
baz=169,SNR=239
H18K S Sn 05 01 37.7 -1.0
baz=169
NEA2 Nenana 7.77 21 P Pn 05 00 11.6 -1.0
baz=207,SNR=305
H16K Elim 7.81 339 P Pn 05 00 14.8 +1.7
baz=153,SNR=107
WRH Wood River Hil 7.87 25 Pn 05 00 12.9 -1.1
I21K Tanana 7.88 11 Pn 05 00 15.2 +1.1
I21K Tanana 7.88 11 P Pn 05 00 15.1 +1.1
baz=194
MLY Manley 7.89 15 Pn 05 00 14.0 -0.2
MLY Manley 7.89 15 P Pn 05 00 13.8 -0.4
baz=199,SNR=147
SPIA Saint Paul Isl 7.90 274 P Pn 05 00 16.8 +2.4
SPIA Saint Paul Isl 7.90 274 Pn 05 00 15.9 +1.5
SPIA Saint Paul Isl 7.90 274 P Pn 05 00 16.2 +1.9
baz=82,SNR=9.1
K24K Donnelly Dome 7.94 33 P Pn 05 00 15.6 +0.7
baz=222,SNR=117
H20K Anotleneega Mo 8.00 2 P Pn 05 00 17.2 +1.5
baz=183,SNR=178
M26K Nabesna, AK 8.01 47 Pn Pn 05 00 15.6 -0.3
M26K Nabesna, AK 8.01 47 P Pn 05 00 16.1 +0.2
baz=238,SNR=342
H19K Roundabout Mou 8.04 358 Pn 05 00 17.4 +1.2
H19K Roundabout Mou 8.04 358 P Pn 05 00 17.4 +1.2
baz=177,SNR=180
OKFG Magazine Ridge 8.09 245 Pn 05 00 16.8 -0.2
HDA Harding Lake 8.09 28 Pn 05 00 15.7 -1.3
HDA Harding Lake 8.09 28 P Pn 05 00 15.6 -1.4
baz=215,SNR=169
CTG Chitna Glacier 8.10 59 P Pn 05 00 17.9 +0.6
baz=251,SNR=282
SAMH Samovar Hills 8.15 65 Pn 05 00 18.7 +0.8
OKNC Okmok New Cone 8.17 245 Pn 05 00 17.8 -0.2
OKCE Okmok Cone E 8.20 245 Pn 05 00 18.9 +0.3
I23K Minto, Yukon-K 8.22 19 Pn 05 00 17.6 -1.0
I23K Minto, Yukon-K 8.22 19 P Pn 05 00 17.6 -1.0
baz=204,SNR=445
L26K Log Cabin Wild 8.23 43 Pn 05 00 19.9 +1.1
L26K Log Cabin Wild 8.23 43 P Pn 05 00 19.0 +0.2
baz=233,SNR=602
MDM Murphy Dome 8.27 23 Pn Pn 05 00 17.8 -1.5
H21K Melozitna Rive 8.27 8 P Pn 05 00 20.9 +1.4
baz=190,SNR=697
COLA College 8.27 24 P Pn 05 00 18.4 -1.0
COLA College 8.27 24 Pn Pn 05 00 17.7 -1.7
COLA College 8.27 24 P Pn 05 00 18.2 -1.2
baz=210
COLA College 8.27 24*d* P Pn 05 00 17.7 -1.7
G17K Kiwalik Mounta 8.35 346 P Pn 05 00 22.4 +1.9
baz=161,SNR=78
IL31 8.41 27 Pn 05 00 20.0 -1.2
ILAR Eielson Array 8.41 27 Pn Pn 05 00 19.0 -2.3
ILAR Eielson Array 8.41 27 P Pn 05 00 19.5 -1.8
comp=E,250nm,0.6s,baz=217,slow=13,SNR=489
ILAR S Sn 05 01 48.4 -6.0
comp=E,105nm,0.5s,baz=209,slow=24,SNR=16
ILAR LR LR 05 03 56.6
comp=E,2µm,18.4s,baz=208,slow=40
M27K Edge Creek, AK 8.44 49 Pn 05 00 22.4 +0.5
M27K Edge Creek, AK 8.44 49 P Pn 05 00 22.3 +0.5
baz=241,SNR=147
ANM Nome 8.48 330 Pn 05 00 23.9 +1.7
ANM Nome 8.48 330 P Pn 05 00 24.0 +1.8
baz=142,SNR=45
ANM Nome 8.48 330 P Pn 05 00 23.9 +1.7
G15K Niukluk 8.50 335 Pn 05 00 24.6 +2.0
G15K Niukluk 8.50 335 P Pn 05 00 24.5 +2.0
baz=148,SNR=69
G16K Koyuk River 8.51 341 Pn 05 00 24.1 +1.4
G16K Koyuk River 8.51 341 P Pn 05 00 24.8 +2.1
baz=155,SNR=40
G18K Tagagawik 8.52 352 P Pn 05 00 24.5 +1.8
baz=169,SNR=383
IMAR Indian Mountai 8.53 5 Pn Pn 05 00 24.1 +1.2
POKR Poker Plat Res 8.57 24 Pn 05 00 22.2 -1.3
POKR Poker Plat Res 8.57 24 P Pn 05 00 22.2 -1.3
baz=211,SNR=179
O28M Mount Upton 8.59 61 P Pn 05 00 24.7 +0.7
baz=254,SNR=418
YKU2 Yakutat 8.60 70 P Pn 05 00 24.5 +0.6
YKU2 Yakutat 8.60 70 Pn 05 00 24.2 +0.3
SCRK Sand Creek 8.62 37 P Pn 05 00 23.1 -1.2
baz=226,SNR=76
H22K Ishtalitna Cre 8.64 12 P Pn 05 00 24.4 +0.1
baz=195,SNR=354
J25K Salcha River, 8.67 31 P Pn 05 00 23.8 -1.2
baz=219,SNR=413
G19K Purcell Mounta 8.67 356 Pn 05 00 26.1 +1.2
G19K Purcell Mounta 8.67 356 P Pn 05 00 26.1 +1.2

baz=175,SNR=143
PNL **Peninsula** 8.76 69 P Pn 05 00 25.9 -0.2
PNL **Peninsula** 8.76 69 P Pn 05 00 25.8 -0.2
baz=262,SNR=121
YUK3 **Moose Creek** 8.79 55 P Pn 05 00 27.4 +0.7
baz=247,SNR=642
NIKH **Nikolski High** 8.81 244 P Pn 05 00 26.8 0.0
NIKH **Nikolski High** 8.81 244 Pn 05 00 26.3 -0.5
NIKH **Nikolski High** 8.81 244 P Pn 05 00 26.1 -0.6
baz=54,SNR=8.7
H23K **Yukon River** 8.81 17 Pn 05 00 26.0 -0.8
H23K **Yukon River** 8.81 17 P Pn 05 00 25.6 -1.3
baz=202,SNR=576
L27K **Beaver Creek,** 8.82 45 P Pn 05 00 27.5 +0.6
baz=237,SNR=412
BCAR **Beaver Creek A** 8.84 45 Pn Pn 05 00 27.8 +0.6
YUK8 **Steele Glacier** 8.93 58 Pn 05 00 29.7 +1.0
YUK8 **Steele Glacier** 8.93 58 P Pn 05 00 30.1 +1.5
baz=252,SNR=476
G21K **Allakaket** 9.08 5 Pn 05 00 31.4 +1.1
G21K **Allakaket** 9.08 5 P Pn 05 00 31.9 +1.5
baz=187,SNR=389
H24K **Noodor Dome** 9.11 21 Pn 05 00 29.6 -1.3
H24K **Noodor Dome** 9.11 21 P Pn 05 00 29.3 -1.6
baz=207,SNR=354
J26L **Joseph Creek** 9.12 35 P Pn 05 00 30.0 -1.0
baz=225,SNR=117
F15K **North Star Dit** 9.24 336 Pn 05 00 35.1 +2.4
F15K **North Star Dit** 9.24 336 P Pn 05 00 35.5 +2.8
baz=148,SNR=123
K27K **Chicken** 9.29 40 Pn 05 00 33.5 +0.2
K27K **Chicken** 9.29 40 P Pn 05 00 32.4 -0.9
baz=231
F18K **Selawik** 9.29 350 Pn 05 00 35.4 +2.1
F18K **Selawik** 9.29 350 P Pn 05 00 35.0 +1.7
baz=166,SNR=148
F17K **Baldwin Pennin** 9.32 346 Pn Pn 05 00 35.8 +2.2
F17K **Baldwin Pennin** 9.32 346 P Pn 05 00 36.4 +2.8
baz=161,SNR=153
CLCO **Concord Point,** 9.34 245 Pn 05 00 33.8 -0.2
PRP **Porcupine Dome** 9.35 27 Pn 05 00 32.5 -1.8
PRP **Porcupine Dome** 9.35 27 P Pn 05 00 32.4 -1.8
baz=215,SNR=160
F19K **Shaleruckit Mo** 9.39 355 Pn 05 00 36.1 +1.5
F19K **Shaleruckit Mo** 9.39 355 P Pn 05 00 36.3 +1.7
baz=173,SNR=104
CLES **Cleveland East** 9.40 246 Pn 05 00 35.1 +0.2
F14K **Arctic Creek** 9.45 332 Pn 05 00 37.9 +2.4
F14K **Arctic Creek** 9.45 332 P Pn 05 00 37.9 +2.4
baz=142,SNR=218
YUK4 **Talbot Arm** 9.46 59 P Pn 05 00 37.7 +1.8
baz=253,SNR=213
YUK6 **Outpost Mounta** 9.49 62 Pn 05 00 36.6 +0.3
YUK6 **Outpost Mounta** 9.49 62 P Pn 05 00 37.1 +0.8
baz=256,SNR=102
F20K **Avaraart Lake** 9.56 360 Pn Pn 05 00 38.4 +1.6
F20K **Avaraart Lake** 9.56 360 P Pn 05 00 38.8 +1.9
baz=180,SNR=511
G23K **Bananza Creek** 9.58 14 P Pn 05 00 36.4 -0.9
baz=198,SNR=302
P29M **Windy Craggy** 9.59 70 P Pn 05 00 37.2 -0.2
baz=265,SNR=118
G22K **Bettles** 9.62 10 Pn 05 00 38.4 +0.6
G22K **Bettles** 9.62 10 P Pn 05 00 39.1 +1.4
baz=193
F21K **Alatna River** 9.78 5 P Pn 05 00 41.6 +1.6
baz=187,SNR=228
I26K **Coal Creek Min** 9.82 32 Pn 05 00 38.4 -2.1
I26K **Coal Creek Min** 9.82 32 P Pn 05 00 39.0 -1.5
baz=223
HYT **Haines Junctio** 9.88 63 P Pn 05 00 41.7 +0.2
baz=258,SNR=49
H25L **Birch Creek** 9.91 24 Pn 05 00 39.8 -1.8
H25L **Birch Creek** 9.91 24 P Pn 05 00 39.9 -1.8
baz=212
M29M **Somme Creek** 9.91 53 P Pn 05 00 42.9 +1.0
baz=248,SNR=1000
TNA **Tin City** 9.94 329 Pn 05 00 43.8 +1.7
TNA **Tin City** 9.94 329 P Pn 05 00 44.4 +2.3
baz=138,SNR=88
G24K **Hadweenzic Riv** 9.96 19 Pn 05 00 40.5 -1.9
G24K **Hadweenzic Riv** 9.96 19 P Pn 05 00 40.3 -2.1
baz=206,SNR=129
E19K **Redstone River** 9.99 357 P Pn 05 00 44.9 +2.0
baz=175,SNR=72
E19K S Sn 05 02 32.1 -1.0
baz=175
E17K **Hotham Inlet** 10.00 346 P Pn 05 00 45.2 +2.3
baz=160,SNR=102
P30M **Million Dollar** 10.03 67 Pn 05 00 43.8 +0.3
P30M **Million Dollar** 10.03 67 P Pn 05 00 44.0 +0.5
baz=263
GAMB **Gambell** 10.04 315 P Pn 05 00 44.9 +1.4
baz=121,SNR=22
COLD **Coldfoot** 10.05 12 P Pn 05 00 42.7 -0.9
baz=197,SNR=149
EGAK **Eagle** 10.07 38 P Pn 05 00 42.2 -1.8
baz=230,SNR=66
F22K **John River** 10.14 8 P Pn 05 00 46.6 +1.6
baz=190
E18K **Tukpahlearik C** 10.19 349 P Pn 05 00 47.6 +2.1
baz=165,SNR=380
E18K S Sn 05 02 36.9 -0.8
baz=165
N30M **Aishikik Lake** 10.22 60 P Pn 05 00 46.1 +0.1
baz=255,SNR=311
G25K **Bearman Lake** 10.28 22 P Pn 05 00 44.4 -2.3
baz=210,SNR=54
DAWY **Dawson** 10.28 44 Pn Pn 05 00 46.6 -0.2
DAWY **Dawson** 10.28 44 P Pn 05 00 47.4 +0.6
baz=238,SNR=268
PLBC **Pleasant Camp** 10.28 71 P Pn 05 00 47.2 +0.5
baz=267,SNR=133
PLBC S Sn 05 02 36.6 -3.5
baz=267
L29M **L29M** 10.32 50 P Pn 05 00 47.8 +0.5
baz=245,SNR=318
S31K **Pelican** 10.39 79 P Pn 05 00 47.1 -1.2
baz=276,SNR=46
I27K **Kandik River** 10.48 34 P Pn 05 00 48.6 -0.9
baz=226,SNR=132
O30N **Mendenhall** 10.55 64 P Pn 05 00 50.5 0.0
baz=260,SNR=81
R31K **City Hall, Gus** 10.61 77 P Pn 05 00 50.1 -1.2
baz=273
F24K **Squaw Lake** 10.64 16 Pn Pn 05 00 49.5 -2.2
F24K **Squaw Lake** 10.64 16 P Pn 05 00 49.7 -1.9
baz=203,SNR=74
D17K **Noatak River** 10.75 345 P Pn 05 00 56.0 +2.8
baz=158,SNR=25
E20K **Nigu River** 10.77 359 P Pn 05 00 55.8 +2.3
baz=178,SNR=93
E20K S Sn 05 02 51.7 -0.4
baz=178
E22K **Anaktuvuk Pass** 10.79 8 P Pn 05 00 54.1 +0.3
baz=191
SKAG **Skagway** 10.81 71 P Pn 05 00 54.5 +0.5
SKAG **Skagway** 10.81 71 Pn Pn 05 00 54.1 +0.2
SKAG **Skagway** 10.81 71 P Pn 05 00 54.4 +0.5
baz=268,SNR=50
SKAG S Sn 05 02 49.6 -3.3
baz=268
N31M **Braeburn, Yuko** 10.84 60 P Pn 05 00 54.8 +0.4
baz=257,SNR=199
K29M **Barlow Dome** 10.89 47 P Pn 05 00 55.5 +0.4
baz=242,SNR=117
I28M **Miner Creek** 10.90 37 P Pn 05 00 54.2 -1.1
baz=230,SNR=104
E23K **Chandalar** 10.92 12 P Pn 05 00 54.4 -1.1
baz=197
J29N **Klondike Camp** 10.92 43 P Pn 05 00 56.5 +1.0
baz=238,SNR=141
G26K **Porcupine Rive** 10.93 25 P Pn 05 00 52.5 -3.0
baz=216,SNR=99
H27K **Steamboat Moun** 10.95 31 P Pn 05 00 55.0 -1.0
baz=224,SNR=73
E21K **Killik River** 10.98 3 P Pn 05 00 57.1 +0.7
baz=185
SIT **Sitka** 11.01 84 P Pn 05 00 55.0 -1.7
SIT **Sitka** 11.01 84 Pn Pn 05 00 53.5 -3.2
SIT **Sitka** 11.01 84 P Pn 05 00 53.7 -3.0
baz=281,SNR=16
SIT **Sitka** 11.01 84 P Pn 05 00 53.5 -3.2
RDOG **Red Dog Mine** 11.06 346 P Pn 05 01 00.4 +3.0
baz=159,SNR=40
RDOG S Sn 05 02 59.1 +0.1
baz=159

D19K **Kuna River** 11.06 355 Pn Pn 05 00 59.1 +1.6
D19K **Kuna River** 11.06 355 P Pn 05 00 59.9 +2.4
baz=173,SNR=137
E24K **Your Creek** 11.07 14 Pn Pn 05 00 55.1 -2.5
E24K **Your Creek** 11.07 14 P Pn 05 00 56.1 -1.4
baz=200,SNR=150
E24K S Sn 05 02 58.6 -0.8
baz=200
F25K **Christian Rive** 11.09 20 P Pn 05 00 54.7 -3.0
baz=209,SNR=143
WHY **Whitehorse** 11.12 65 Pn Pn 05 00 58.0 -0.4
WHY **Whitehorse** 11.12 65 P Pn 05 00 58.7 +0.3
baz=262,SNR=113
BMAR **Burnt Mountain** 11.15 23 Pn Pn 05 00 55.2 -3.5
D20K **Etivluk River** 11.24 358 P Pn 05 01 01.2 +1.4
baz=177,SNR=49
R32K **Eaglecrest** 11.27 77 P Pn 05 00 57.1 -3.1
baz=275,SNR=10
S32K **Killisnoo** 11.34 81 Pn Pn 05 01 00.4 -0.8
S32K **Killisnoo** 11.34 81 P Pn 05 00 59.3 -1.9
baz=279,SNR=29
JIS **Juneau Island** 11.34 77 P Pn 05 01 01.9 +0.7
G27K **Doyon Strip** 11.35 29 P Pn 05 00 58.7 -2.6
baz=221,SNR=54
I29M **Ogilvie Camp,** 11.39 39 P Pn 05 01 01.4 -0.5
baz=234,SNR=64
C18K **Utukok River** 11.43 350 Pn Pn 05 01 03.9 +1.4
C18K **Utukok River** 11.43 350 P Pn 05 01 03.9 +1.4
baz=165,SNR=12
MAYO **Mayo, Yukon** 11.44 50 P Pn 05 01 03.4 +0.9
baz=247,SNR=46
F26K **Sheenjek River** 11.47 23 P Pn 05 00 59.7 -3.2
baz=212,SNR=61
D22K **Ayikyak River** 11.47 5 P Pn 05 01 03.5 +0.5
baz=188,SNR=111
TOLK **Toolik Lake Re** 11.48 11 P Pn 05 01 02.0 -1.1
baz=196,SNR=84
C17K **DeLong Mountai** 11.49 346 P Pn 05 01 04.0 +0.7
baz=159,SNR=21
C17K S Sn 05 03 10.8 +1.2
baz=159
E25K **Arctic Village** 11.56 19 P Pn 05 01 01.2 -3.0
baz=208,SNR=187
C16K **Lisburne Hills** 11.63 342 P Pn 05 01 05.6 +0.5
baz=153,SNR=12
P32M **Atlin** 11.63 71 P Pn 05 01 04.0 -1.2
baz=269,SNR=22
M31M **Drury Creek, Y** 11.64 57 P Pn 05 01 05.2 -0.1
baz=256,SNR=260
C21K **Knifeblade Rid** 11.68 2 P Pn 05 01 06.0 +0.2
baz=182,SNR=25
J30M **Hart River** 11.69 45 P Pn 05 01 07.2 +1.1
baz=242,SNR=578
D23K **Nanushuk River** 11.69 9 P Pn 05 01 05.2 -0.7
baz=193
C19K **Lookout Ridge** 11.75 353 Pn Pn 05 01 08.0 +1.2
C19K **Lookout Ridge** 11.75 353 P Pn 05 01 07.8 +1.0
baz=169,SNR=20
H29M **Whitestone** 11.89 36 P Pn 05 01 08.9 +0.3
baz=231,SNR=63
ATKA **Atka Island** 11.92 251 P Pn 05 01 08.9 -0.2
ATKA **Atka Island** 11.92 251 Pn Pn 05 01 08.6 -0.5
I30M **Mount Dempster** 11.99 42 P Pn 05 01 09.6 -0.5
baz=239,SNR=226
D24K **Happy Valley** 12.05 12 P Pn 05 01 09.7 -1.1
baz=198
N32M **Quiet Lake** 12.06 63 P Pn 05 01 11.3 +0.2
baz=262
P33M **Teslin, Yukon** 12.10 68 P Pn 05 01 11.0 -0.6
baz=267,SNR=110
FARO **Faro, Yukon** 12.12 58 P Pn 05 01 11.9 0.0
baz=257,SNR=231
B21K **Ikpikpuk River** 12.15 2 P Pn 05 01 11.9 -0.2
baz=182,SNR=27
B18K **Kokolik River** 12.19 350 P Pn 05 01 14.0 +1.4
baz=164,SNR=11
F28M **Old Crow** 12.41 29 P Pn 05 01 13.3 -2.4
baz=223,SNR=56
U33K **Whale Pass** 12.41 87 P Pn 05 01 14.1 -1.7
baz=286,SNR=32
E27K **Coleen River** 12.43 25 P Pn 05 01 12.4 -3.5
baz=217,SNR=49
G29M **Pine Creek** 12.44 34 P Pn 05 01 14.7 -1.5
baz=229,SNR=51
EPYK **Eagle Plains** 12.51 37 P Pn 05 01 15.6 -1.6
baz=234,SNR=150
D25K **Kavik River** 12.52 15 P Pn 05 01 14.2 -3.0
baz=203,SNR=87
B20K **Meade River** 12.55 358 P Pn 05 01 17.6 +0.1
baz=176,SNR=12
C23K **Itkillik River** 12.55 8 P Pn 05 01 15.7 -1.9
baz=192,SNR=70
CRAG **Craig** 12.61 90 P Pn 05 01 16.6 -1.8
CRAG **Craig** 12.61 90 Pn Pn 05 01 16.2 -2.2
CRAG **Craig** 12.61 90 P Pn 05 01 14.9 -3.5
baz=288,SNR=10
C24K **Franklin Bluff** 12.61 11 P Pn 05 01 15.5 -2.8
baz=197
WRAK **Wrangell Islan** 12.75 85 P Pn 05 01 19.7 -0.6
baz=284,SNR=25
B22K **Teshekpuk Lake** 12.90 3 P Pn 05 01 19.8 -2.5
baz=185
A19K **Wainwright** 12.94 352 P Pn 05 01 23.1 +0.3
baz=167
H31M **Peel River** 13.02 42 P Pn 05 01 23.5 -0.4
baz=240,SNR=148
R33M **Jennings River** 13.04 71 P Pn 05 01 23.3 -1.0
baz=272,SNR=28
G30M **tAoh Zraii Nji** 13.04 35 P Pn 05 01 22.7 -1.5
baz=232,SNR=89
S34M **Telegraph Cree** 13.10 78 Pn Pn 05 01 25.5 +0.6
S34M **Telegraph Cree** 13.10 78 P Pn 05 01 25.8 +0.8
baz=278,SNR=24
C27K **Jago River** 13.21 18 P Pn 05 01 24.4 -2.1
baz=205,SNR=58
E28M **Babbage River** 13.23 26 P Pn 05 01 23.7 -3.1
baz=221,SNR=47
C26K **Camden Bay** 13.28 16 P Pn 05 01 26.7 -0.6
baz=206,SNR=76
D27M **Malcolm River** 13.41 23 P Pn 05 01 26.5 -2.7
baz=216,SNR=33
V35K **Ketchikan** 13.47 89 P Pn 05 01 27.4 -2.4
baz=289,SNR=19
E29M **Blow River** 13.49 29 P Pn 05 01 27.0 -3.0
baz=225,SNR=167
A22K **Sinclair Lake** 13.53 1 P Pn 05 01 29.6 -1.1
baz=181,SNR=14
F30M **Barrier River** 13.56 34 P Pn 05 01 28.9 -2.1
baz=231,SNR=82
DLBC **Dease Lake** 13.60 75 P Pn 05 01 32.5 +0.8
baz=277,SNR=52
DLBC **Dease Lake** 13.60 75 P Pn 05 01 33.2 +1.4
comp=E,37nm,0.6s,baz=287,slow=13,SNR=70
DLBC S Sn 05 03 57.4 -3.6
comp=E,31nm,0.5s,baz=151,slow=25,SNR=3.1
DLBC LR LR 05 06 13.2
comp=E,943nm,18.7s,baz=280,slow=34
G31M **Satah River** 13.63 38 P Pn 05 01 30.9 -1.1
baz=236,SNR=107
T35M **Bob Quinn** 13.74 82 P Pn 05 01 31.5 -2.0
baz=283,SNR=34
DIB **Dawson Inlet,** 13.85 98 Pn Pn 05 01 34.6 -0.2
A21K **Barrow** 13.86 359 P Pn 05 01 33.8 -1.0
baz=178
D28M **Stokes Point** 13.97 25 P Pn 05 01 35.1 -1.2
baz=220,SNR=23
F31M **Tsiigehtchic** 14.09 36 Pn Pn 05 01 36.0 -1.9
F31M **Tsiigehtchic** 14.09 36 P Pn 05 01 34.6 -3.3
baz=236,SNR=102
WTLY **Watson Lake, Y** 14.11 68 P Pn 05 01 39.3 +1.0
baz=271,SNR=63
U35K **Hyder** 14.14 86 P Pn 05 01 36.7 -1.9
baz=287
TGTN **Hyland Airport** 14.40 62 P Pn 05 01 42.0 -0.1
baz=266,SNR=43
INK **Inuvik** 14.66 34 P Pn 05 01 43.1 -2.2
baz=233,SNR=116
INK **Inuvik** 14.66 34 P Pn 05 01 44.1 -1.2
comp=E,61nm,0.8s,baz=224,slow=16,SNR=138
INK S Sn 05 04 26.9 +0.6
comp=E,35nm,1.0s,baz=111,slow=4.9,SNR=2.6
INK LR LR 05 07 33.1
comp=E,1µm,21.4s,baz=188,slow=38
LIRD **Liard River Hi** 15.52 71 P P 05 01 58.6 -0.5
baz=276,SNR=57
AMKA **Amchitka** 15.75 258 Pn Pn 05 01 58.5 -0.8
TOAD **Toad River Com** 16.03 72 P P 05 02 05.1 +0.3
baz=278,SNR=95

KOTAN **Kotaneelee Air** 16.48 68 P P 05 02 10.1 +0.4
baz=275,SNR=39
BBB **Bella Bella** 16.67 97 P P 05 02 12.0 +0.2
comp=E,54nm,0.8s,baz=306,slow=13,SNR=16
BBB S Sn 05 05 12.5 -2.5
comp=E,21nm,0.9s,baz=80,slow=15,SNR=9.2
BBB LR LR 05 07 58.0
comp=E,750nm,18.1s,baz=305,slow=34
WRGLY **Wrigley** 16.77 57 IAmb IAmb 05 02 21.1
comp=Z,231nm,0.9s
WRGLY **Wrigley** 16.77 57 P P 05 02 13.5 +0.5
baz=265,SNR=26
HOLB **Holberg** 17.47 101 IAmb IAmb 05 02 28.8
comp=Z,218nm,1.2s
SHEM **Shemya Is, Ala** 17.86 267 P P 05 02 24.3 -0.6
comp=Z,37nm,0.5s,baz=39,slow=6.6,SNR=6.3
C36M **Paulatuk** 18.14 37 P P 05 02 26.5 -1.4
baz=245,SNR=435
A36M **Sachs Harbour** 19.10 29 IAmb IAmb 05 02 42.2
comp=Z,217nm,1.0s
A36M **Sachs Harbour** 19.10 29 P P 05 02 36.8 -1.5
baz=236,SNR=162
CBB **Campbell River** 19.28 100 IAmb IAmb 05 02 47.9
comp=Z,171nm,1.2s
OZB **Mount Ozzard** 19.84 103 Pn 05 02 48.0 -0.9
OZB IAmb IAmb 05 02 51.2
comp=Z,237nm,1.2s
BILL **Bilibino** 19.96 317 P P 05 02 47.8 +0.1
BILL IAmb IAmb 05 02 49.7
comp=Z,218nm,1.1s
BILL **Bilibino** 19.96 317 *i* P P 05 02 48.4 +0.6
HILA **High Level** 20.29 71 P P 05 02 52.3 +0.9
CLRS **Cowichan Lake** 20.64 101 P Pn 05 02 57.4 -0.8
YKA **Yellowknife Ar** 20.83 59 P P 05 02 56.6 -0.6
YKA **Yellowknife Ar** 20.83 59 P P 05 02 57.9 +0.7
comp=Z,72nm,0.9s,baz=277,slow=10.0,SNR=557
comp=Z,72nm,0.9s
YKA **Yellowknife Ar** 20.83 59 P P 05 02 56.6 -0.6
PGC **Sidney** 21.11 101 P P 05 03 02.2 +2.0
BRLDA **Berland Lookou** 21.57 83 IAmb IAmb 05 03 11.3
comp=Z,90nm,0.9s
GNW **Green Mountain** 22.10 103 P P 05 03 11.7 +0.8
GNW IAmb IAmb 05 03 32.1
comp=Z,183nm,1.2s
E03A **Lebam** 22.37 106 P P 05 03 14.9 +1.1
F04A **Amboy** 23.38 105 P P 05 03 25.2 +1.4
F04A IAmb IAmb 05 03 46.7
comp=Z,196nm,1.3s
G03D **McMinnville, O** 23.43 108 IAmb IAmb 05 03 46.7
comp=Z,156nm,1.2s
B08A **Colville Reser** 23.47 97 P P 05 03 26.2 +1.4
B08A IAmb IAmb 05 03 46.8
comp=Z,119nm,1.4s
MXC **Moxie City** 24.07 102 IAmb IAmb 05 03 35.0
comp=Z,120nm,1.4s
EDM **Edmonton** 24.12 82 IAmb IAmb 05 03 34.2
comp=Z,85nm,1.0s
H04D **Lebanon** 24.17 108 P P 05 03 32.4 +1.3
H04D IAmb IAmb 05 03 36.3
comp=Z,103nm,0.9s
HOOD **Mount Hood Mea** 24.18 106 IAmb IAmb 05 03 54.8
comp=Z,143nm,0.9s
BUCK **Buck Mountain** 24.27 109 IAmb IAmb 05 03 56.5
comp=Z,211nm,1.4s
H04A **Detroit Lake** 24.34 107 IAmb IAmb 05 03 37.8
comp=Z,167nm,1.2s
G05A **Wamic** 24.41 105 IAmb IAmb 05 03 56.3
comp=Z,210nm,1.3s
I03D **Drain, OR** 24.45 110 IAmb IAmb 05 04 07.5
comp=Z,124nm,1.2s
D08A **Wollman Farm,** 24.49 99 P P 05 03 35.3 +1.4
D08A IAmb IAmb 05 03 56.3
comp=Z,119nm,1.2s
HAWA **Hanford** 24.59 101 IAmb IAmb 05 03 57.7
comp=Z,202nm,1.4s
F07A **Phinny Hill Vi** 24.70 103 P P 05 03 37.9 +2.1
F07A IAmb IAmb 05 03 39.7
comp=Z,102nm,0.8s
F07A *p* pP 05 03 55.5 +1.6
NEW **Newport** 24.71 95 IAmb IAmb 05 04 00.1
comp=Z,126nm,1.2s
NEW **Newport** 24.71 95 P P 05 03 37.7 +1.8
baz=306,SNR=27
NEW **Newport** 24.71 95 LR LR 05 12 09.3
comp=Z,612nm,21.6s,baz=298,slow=33
G06A **Carlson Farm,** 24.77 105 P P 05 03 37.3 +0.7
G06A IAmb IAmb 05 04 00.6
comp=Z,228nm,1.8s
E08A **Ider Farm, El** 24.78 101 IAmb IAmb 05 03 59.2
comp=Z,218nm,1.3s
DBO **Dodson Butte** 24.92 111 P P 05 03 40.2 +2.3
DBO IAmb IAmb 05 03 44.4
comp=Z,126nm,0.8s
K02D **Willamette Mer** 25.02 113 IAmb IAmb 05 03 45.9
comp=Z,215nm,1.3s
E09A **Wood Farm, Sta** 25.25 100 IAmb IAmb 05 04 03.5
comp=Z,96nm,1.0s
HUMO **Hull Mountain** 25.43 112 IAmb IAmb 05 03 49.6
comp=Z,92nm,0.8s
PINE **Pine Mountain** 25.61 107 IAmb IAmb 05 04 08.8
comp=Z,161nm,1.1s
SEY **Seymchan** 25.73 304 P P 05 03 44.6 -0.4
comp=Z,26nm,0.8s,baz=90,slow=8.8,SNR=38
SEY LR LR 05 13 49.0
comp=Z,268nm,21.0s,baz=72,slow=36
comp=Z,26nm,0.8s
SEY **Seymchan** 25.73 304 *ce* P P 05 03 44.0 -1.0
SEY pmax pmax
comp=Z,46nm,1.0s
J05D **Fort Rock, OR** 25.82 109 P P 05 03 48.5 +2.4
J05D IAmb IAmb 05 03 53.2
comp=Z,112nm,0.7s
PET **Petropavlovsk** 26.02 280 P P 05 03 48.1 +0.5
PET **Petropavlovsk** 26.02 280 P P 05 03 47.0 -0.6
PET IAmb IAmb 05 03 49.1
comp=Z,127nm,1.2s
PET **Petropavlovsk** 26.02 280 *e* P P 05 03 47.2 -0.4
PET *e** PP pP 05 04 08.0 +2.2
PET *eS* S 05 08 10.1 -2.3
PET pmax pmax
comp=Z,92nm,1.1s
PET MLR MLR
comp=Z,200nm,13.0s
PET MLR MLR
comp=Z,300nm,15.0s
PET **Petropavlovsk** 26.02 280 P P 05 03 47.0 -0.6
comp=Z,80nm,1.0s,comp=Z,1µm
L04D **Klamath Falls** 26.05 112 IAmb IAmb 05 04 12.8
comp=Z,176nm,1.3s
F10A **Beach Ranch, E** 26.08 100 IAmb IAmb 05 04 19.6
comp=Z,79nm,1.0s
I07A **Izee** 26.15 105 IAmb IAmb 05 04 13.7
comp=Z,80nm,1.1s
YBH **Yreka Blue Hor** 26.21 113 IAmb IAmb 05 04 14.9
comp=Z,100nm,1.3s
YBH **Yreka Blue Hor** 26.21 113 LR LR 05 13 01.1
comp=Z,233nm,19.0s,baz=328,slow=33
K05A **Summer Lake** 26.39 109 IAmb IAmb 05 04 16.9
comp=Z,167nm,1.2s
PEA0B **Petropavlovsk-** 26.48 281 P P 05 03 51.0 -0.8
PEA0B **Petropavlovsk-** 26.48 281 *c i* P P 05 03 50.7 -1.2
PETK **Petropavlovsk-** 26.48 281 P P 05 03 51.9 0.0
PETK **Petropavlovsk-** 26.48 281 P P 05 03 51.0 -0.8
comp=Z,17nm,0.6s,baz=71,slow=13,SNR=23
PETK LR LR 05 13 14.3
comp=Z,167nm,21.5s,baz=76,slow=34
comp=Z,17nm,0.6s
PETK **Petropavlovsk-** 26.48 281 P P 05 03 51.9 0.0
J08A **Circle Bar Ran** 27.19 105 P P 05 03 59.6 +1.2
J08A IAmb IAmb 05 04 24.1
comp=Z,87nm,1.0s
MSO **Missoula** 27.30 95 P P 05 03 59.9 +0.6
baz=308,SNR=9.0
MA2 **Magadan** 27.40 297 P P 05 03 59.2 -0.8
comp=Z,9.4nm,0.6s,baz=58,slow=13,SNR=5.2
MA2 LR LR 05 16 39.4
comp=Z,294nm,18.6s,baz=104,slow=40
comp=Z,9.4nm,0.6s
MA2 **Magadan** 27.40 297 P P 05 04 00.2 +0.2
comp=Z,22nm,1.5s
WVOR **Wild Horse Val** 27.76 107 IAmb IAmb 05 04 42.4
comp=Z,96nm,1.1s
BPMT **Black Pine Rid** 27.81 95 P P 05 04 04.7 +0.6
LYMT **Lyon Mountain** 28.10 93 P P 05 04 07.7 +1.0
RES **Resolute Bay** 28.14 29 P P 05 04 06.2 -0.3
RES **Resolute Bay** 28.14 29 LR LR 05 16 00.3
comp=Z,402nm,21.0s,baz=226,slow=38

RES	**Resolute Bay**	**28.14**	**29**	P	**P**	**05 04 06.2**	**-0.3**		
RES				pmax	pmax				
	comp=Z,31nm,1.0s								
EGMT	**Eagleton**	**28.83**	**89**	P	**P**	**05 04 13.4**	**+0.5**		
EGMT	**Eagleton**	**28.83**	**89**	P	**P**	**05 04 14.0**	**+1.1**		
	baz=306,SNR=16								
HLID	**Hailey**	**29.18**	**101**	P	**P**	**05 04 17.9**	**+1.7**		
	baz=313,SNR=64								
AFDM	**Forest Hills D**	**29.19**	**114**	P	**P**	**05 04 16.8**	**+0.6**		
BOZ	**Bozeman (W)**	**29.32**	**95**	P	**P**	**05 04 18.9**	**+1.4**		
	baz=310,SNR=11								
MPK	**Martis Peak**	**29.38**	**113**	IAmb	IAmb	05 04 53.3			
	comp=Z,72nm,1.2s								
FFC	**Flin Flon**	**29.40**	**72**	P	**P**	**05 04 17.8**	**0.0**		
FFC	**Flin Flon**	**29.40**	**72**	P	**P**	**05 04 17.8**	**0.0**		
FFC				pmax	pmax				
	comp=Z,24nm,1.1s								
PNTR	**Pine Nut**	**29.76**	**113**	IAmb	IAmb	05 04 25.5			
	comp=Z,59nm,1.0s								
CMB	**Columbia Colle**	**30.18**	**115**	P	**P**	**05 04 27.3**	**+2.3**		
CMB				pP	**pP**	**05 04 45.0**	**+1.6**		
CMB	**Columbia Colle**	**30.18**	**115**	P	**P**	**05 04 27.3**	**+2.3**		
CMB				*PP	**pP**	**05 04 45.0**	**+1.6**		
CMB				pmax	pmax				
	comp=Z,23nm,1.3s								
YFT	**Old Faithful**	**30.50**	**96**	IAmb	IAmb	05 04 33.3			
	comp=Z,58nm,0.9s								
H17A	**Grant Village**	**30.67**	**96**	IAmb	IAmb	05 04 34.3			
	comp=Z,46nm,0.9s								
H17A	**Grant Village**	**30.67**	**96**	P	**P**	**05 04 32.7**	**+3.3**		
	baz=312,SNR=38								
ELK	**Elko**	**30.74**	**105**	LR	LR	05 15 24.8			
	comp=Z,284nm,19.8s,slow=33								
IMW	**Indian Meadow**	**30.81**	**97**	IAmb	IAmb	05 04 34.6			
	comp=Z,52nm,0.9s								
RLMT	**Red Lodge**	**30.90**	**93**	P	**P**	**05 04 34.0**	**+2.6**		
	baz=310,SNR=19								
NVAR	**Mina Array Bea**	**30.91**	**112**	P	**P**	**05 04 33.6**	**+2.0**		
NVAR	**Mina Array Bea**	**30.91**	**112**	P	**P**	**05 04 34.3**	**+2.7**		
	comp=Z,22nm,0.8s,baz=301,slow=8.9,SNR=101								
NVAR				pP	**pP**	**05 04 51.9**	**+1.9**		
	comp=Z,13nm,0.8s,baz=302,slow=8.9,SNR=8.6								
NVAR				PcP	**PcP**	**05 07 27.8**	**+1.6**		
	comp=Z,1.4nm,0.7s,baz=294,slow=2.9,SNR=3.1								
NVAR				LR	LR	05 15 42.6			
	comp=Z,335nm,20.3s,baz=302,slow=33								
	comp=Z,22nm,0.8s								
MDPB	**Devils Postpil**	**31.14**	**114**	IAmb	IAmb	05 04 38.0			
	comp=Z,54nm,1.1s								
SNOW	**Snow King Moun**	**31.20**	**97**	P	**P**	**05 04 36.0**	**+1.9**		
MLAC	**Mammoth, Mammo**	**31.27**	**114**	P	**P**	**05 04 37.5**	**+2.8**		
	baz=322,SNR=5.8								
HVU	**Hansel Valley**	**31.29**	**101**	IAmb	IAmb	05 04 38.7			
	comp=Z,44nm,1.0s								
LAO	**LASA Array**	**31.55**	**88**	P	**P**	**05 04 37.4**	**+0.5**		
	baz=308								
DGMT	**Dagmar**	**31.55**	**84**	P	**P**	**05 04 36.9**	**-0.1**		
DGMT				pP	**pP**	**05 04 55.2**	**-0.1**		
DGMT	**Dagmar**	**31.55**	**84**	P	**P**	**05 04 38.4**	**+1.5**		
	baz=306,SNR=5.6								
DSP	**Deep Springs**	**31.90**	**113**	P	**P**	**05 04 42.5**	**+2.5**		
DSP				IAmb	IAmb	05 04 44.6			
	comp=Z,40nm,1.1s								
TIN	**Tinemaha, Big**	**32.02**	**113**	P	**P**	**05 04 42.0**	**+0.8**		
	baz=322,SNR=5.1								
VOG	**Valley Oaks Go**	**32.03**	**116**	P	**P**	**05 04 41.7**	**+0.6**		
	baz=323								
HWUT	**Hardware Ranch**	**32.05**	**100**	IAmb	IAmb	05 04 45.3			
	comp=Z,48nm,0.8s								
LCH	**Last Change Ra**	**32.17**	**113**	P	**P**	**05 04 44.6**	**+2.1**		
LCH				IAmb	IAmb	05 04 46.8			
	comp=Z,42nm,1.0s								
Q12A	**Willow Creek R**	**32.21**	**107**	P	**P**	**05 04 45.5**	**+2.5**		
Q12A				IAmb	IAmb	05 04 46.7			
	comp=Z,52nm,0.8s								
BW06	**Boulder Array**	**32.32**	**97**	P	**P**	**05 04 45.7**	**+1.8**		
	baz=313,SNR=19								
PDAR	**Pinedale Array**	**32.32**	**97**	P	**P**	**05 04 44.7**	**+0.8**		
PDAR	**Pinedale Array**	**32.32**	**97**	P	**P**	**05 04 45.7**	**+1.8**		
	comp=Z,22nm,0.7s,baz=312,slow=5.4,SNR=157								
PDAR				pP	**pP**	**05 05 04.4**	**+2.0**		
	comp=Z,13nm,0.8s,baz=324,slow=7.3,SNR=6.5								
PDAR				LR	LR	05 16 05.2			
	comp=Z,214nm,19.8s,baz=314,slow=33								
	comp=Z,22nm,0.7s								
R11B	**Troy Canyon, C**	**32.35**	**109**	IAmb	IAmb	05 04 47.6			
	comp=Z,40nm,0.8s								
R11B	**Troy Canyon, C**	**32.35**	**109**	P	**P**	**05 04 46.6**	**+2.5**		
	baz=320,SNR=77								
DUG	**Dugway, Tooele**	**32.41**	**104**	P	**P**	**05 04 46.8**	**+2.2**		
	baz=317,SNR=25								
TCUT	**Toone Canyon**	**32.48**	**101**	IAmb	IAmb	05 04 49.7			
	comp=Z,47nm,0.9s								
GRAC	**Grapevine Rang**	**32.49**	**113**	P	**P**	**05 04 48.2**	**+3.0**		
	baz=322,SNR=49								
SPR3	**Spring Creek 3**	**32.50**	**107**	IAmb	IAmb	05 04 50.1			
	comp=Z,45nm,1.0s								
SMMC	**Simmler**	**32.54**	**118**	P	**P**	**05 04 48.3**	**+2.6**		
	baz=324,SNR=8.1								
VES	**Vestal, Richgr**	**32.56**	**116**	P	**P**	**05 04 48.2**	**+2.4**		
	baz=323,SNR=10								
CWC	**Cottonwood Cre**	**32.57**	**114**	P	**P**	**05 04 48.6**	**+2.5**		
	baz=322								
TIXI	**Tiksi**	**32.70**	**325**	P	**P**	**05 04 45.7**	**-0.9**		
TIXI				IAmb	IAmb	05 04 46.9			
	comp=Z,41nm,1.0s								
TIXI	**Tiksi**	**32.70**	**325**	LR	LR	05 17 55.5			
	comp=Z,174nm,18.8s,baz=96,slow=36								
TIXI	**Tiksi**	**32.70**	**325**	⇑*i*P	**P**	**05 04 45.7**	**-0.9**		
TIXI				pmax	pmax				
	comp=Z,47nm,1.0s								
TIXI	**Tiksi**	**32.70**	**325**	P	**P**	**05 04 46.0**	**-0.7**		
TIXI				PcP	**PcP**	**05 07 30.1**	**-0.1**		
JLU	**Jordanelle**	**32.83**	**102**	IAmb	IAmb	05 04 51.7			
	comp=Z,42nm,0.9s								
PKM	**Mcpherson Peak**	**32.98**	**118**	P	**P**	**05 04 52.8**	**+3.1**		
	baz=325,SNR=6.2								
WCT	**Wildcat Mounta**	**33.02**	**112**	P	**P**	**05 04 52.4**	**+2.5**		
WCT				IAmb	IAmb	05 04 53.9			
	comp=Z,55nm,1.0s								
FURC	**Furnace Creek,**	**33.15**	**113**	P	**P**	**05 04 53.9**	**+2.9**		
	baz=322,SNR=16								
MPMC	**Manual Prospec**	**33.17**	**114**	P	**P**	**05 04 54.0**	**+2.7**		
	baz=322,SNR=30								
ARVC	**Arvin**	**33.25**	**116**	P	**P**	**05 04 52.7**	**+0.8**		
	baz=324,SNR=6.0								
PRN	**Pahroc Range**	**33.34**	**109**	P	**P**	**05 04 55.0**	**+2.3**		
PRN				IAmb	IAmb	05 04 57.3			
	comp=Z,54nm,1.1s								
GWY	**Greenwater Val**	**33.47**	**113**	IAmb	IAmb	05 04 57.6			
	comp=Z,57nm,0.8s								
LRMC	**Laurel Mtn Rad**	**33.53**	**115**	P	**P**	**05 04 56.4**	**+2.0**		
	baz=323,SNR=23								
QSM	**Queen of Sheba**	**33.55**	**113**	IAmb	IAmb	05 04 58.4			
	comp=Z,59nm,1.0s								
RDMU	**Red Mountain**	**33.85**	**100**	IAmb	IAmb	05 05 00.7			
	comp=Z,48nm,1.1s								
EDW2	**Edwards Air Fo**	**33.86**	**116**	P	**P**	**05 04 58.8**	**+1.6**		
	baz=324,SNR=5.1								
SHOC	**Shoshone, Teco**	**33.89**	**113**	P	**P**	**05 04 59.9**	**+2.4**		
	baz=322,SNR=6.9								
K22A	**Casper**	**34.02**	**94**	P	**P**	**05 04 59.2**	**+0.5**		
	baz=313,SNR=9.3								
P17A	**Butcher Ranch,**	**34.02**	**102**	IAmb	IAmb	05 05 02.1			
	comp=Z,30nm,1.0s								
CCUT	**Cedar City**	**34.09**	**107**	IAmb	IAmb	05 05 03.0			
	comp=Z,64nm,1.5s								
GSC	**Goldstone, Bar**	**34.10**	**114**	IAmb	IAmb	05 05 03.1			
	comp=Z,37nm,0.8s								
GSC	**Goldstone, Bar**	**34.10**	**114**	P	**P**	**05 05 02.1**	**+2.8**		
	baz=323,SNR=19								
P18A	**Preston Nutter**	**34.17**	**102**	IAmb	IAmb	05 05 03.8			
	comp=Z,48nm,1.4s								
DECC	**Green Verdugo**	**34.20**	**117**	P	**P**	**05 05 02.5**	**+2.4**		
	baz=324								
SZCU	**Shurtz Canyon**	**34.20**	**107**	IAmb	IAmb	05 05 03.6			
	comp=Z,31nm,0.8s								
RRX	**Edison Barstow**	**34.35**	**114**	P	**P**	**05 05 04.0**	**+2.6**		
	baz=323								
RSSD	**Black Hills**	**34.38**	**90**	P	**P**	**05 05 03.2**	**+1.4**		
RSSD				IAmb	IAmb	05 05 23.5			
	comp=Z,38nm,0.8s								
RSSD	**Black Hills**	**34.38**	**90**	P	**P**	**05 05 03.4**	**+1.6**		
	baz=312								
RSSD				S	**S**	**05 10 24.8**	**+1.0**		
	baz=312								
RSSD	**Black Hills**	**34.38**	**90**	P	**P**	**05 05 03.2**	**+1.4**		
RSSD				pmax	pmax				
	comp=Z,38nm,0.9s								
RSSD	**Black Hills**	**34.38**	**90**	P	**P**	**05 05 03.6**	**+1.8**		
RSSD				pP	**pP**	**05 05 22.6**	**+2.3**		
RSSD				PcP	**PcP**	**05 07 36.1**	**+0.3**		
MDND	**Maddock**	**34.39**	**82**	P	**P**	**05 05 03.5**	**+1.9**		
	baz=308,SNR=11								
MDND				S	**S**	**05 10 24.8**	**+1.4**		
	baz=308								
TUQ	**Turquoise Moun**	**34.44**	**113**	P	**P**	**05 05 04.8**	**+2.5**		
	baz=322,SNR=5.7								
SNCC	**San Nicolas Is**	**34.45**	**119**	P	**P**	**05 05 04.8**	**+2.5**		
	baz=326								
BFSC	**Mount Baldy Ra**	**34.54**	**116**	P	**P**	**05 05 06.1**	**+2.9**		
	baz=324,SNR=12								
LCMT	**Little Creek M**	**34.56**	**108**	IAmb	IAmb	05 05 07.0			
	comp=Z,30nm,0.8s								
HEC	**Hector,Ludlow**	**34.71**	**114**	P	**P**	**05 05 06.9**	**+2.3**		
	baz=323,SNR=5.2								
PKCU	**Pink Cliffs**	**34.72**	**106**	IAmb	IAmb	05 05 09.0			
	comp=Z,55nm,0.9s								
KNB	**Kanab**	**34.78**	**107**	IAmb	IAmb	05 05 30.3			
	comp=Z,34nm,1.0s								
CIS	**Catalina Islan**	**34.85**	**118**	P	**P**	**05 05 09.2**	**+3.4**		
	baz=325								
O20A	**White River Ci**	**34.87**	**99**	P	**P**	**05 05 08.0**	**+1.9**		
	baz=316,SNR=87								
BBRC	**Big Bear Solar**	**34.88**	**115**	P	**P**	**05 05 08.8**	**+2.6**		
	baz=324								
ULM	**Lac du Bonnet**	**34.93**	**76**	P	**P**	**05 05 07.5**	**+1.3**		
	comp=Z,23nm,0.8s,baz=305,slow=9.1,SNR=40								
ULM				pP	**pP**	**05 05 26.6**	**+1.8**		
	comp=Z,37nm,1.0s,baz=303,slow=9.3,SNR=8.8								
ULM				LR	LR	05 19 32.3			
	comp=Z,469nm,18.3s,baz=318,slow=36								
	comp=Z,23nm,0.8s								
ULM	**Lac du Bonnet**	**34.93**	**76***c*	*i*P	**P**	**05 05 07.4**	**+1.3**		
ULM				*i* *PP	**pP**	**05 05 26.0**	**+1.3**		
GMRC	**Granite Mounta**	**35.08**	**113**	P	**P**	**05 05 10.5**	**+2.7**		
	baz=323,SNR=10								
SCI2	**San Clemente I**	**35.14**	**118**	P	**P**	**05 05 10.8**	**+2.6**		
	baz=326								
MURC	**Murrieta**	**35.28**	**116**	P	**P**	**05 05 11.5**	**+2.0**		
	baz=325								
U15A	**North Rim**	**35.50**	**108**	IAmb	IAmb	05 05 15.3			
	comp=Z,40nm,1.1s								
PHWY	**Pilot Hill**	**35.53**	**95**	P	**P**	**05 05 12.4**	**+0.6**		
PHWY					**pP**	**05 05 30.9**	**+0.4**		
BELC	**Belle Mtn. Jos**	**35.54**	**114**	P	**P**	**05 05 13.8**	**+2.0**		
	baz=324,SNR=32								
N23A	**Red Feather La**	**35.56**	**96**	IAmb	IAmb	05 05 42.5			
	comp=Z,36nm,1.0s								
N23A	**Red Feather La**	**35.56**	**96**	P	**P**	**05 05 13.9**	**+1.8**		
	baz=315,SNR=18								
TYV	**Tymovskoe**	**35.56**	**286**	*e*P	**P**	**05 05 11.2**	**-0.4**		
TYV				*e*S	**S**	**05 10 43.0**	**+1.7**		
TYV				pmax	pmax				
	comp=Z,100nm,1.9s								
TYV				pmax	pmax				
	comp=Z,30nm,1.1s								
TYV				smax	smax				
	comp=E,100nm,6.3s								
NEE2	**Needles Airpor**	**35.62**	**112**	P	**P**	**05 05 14.5**	**+2.2**		
	baz=323,SNR=5.3								
PFO	**Pinyon Flats O**	**35.63**	**115**	P	**P**	**05 05 13.9**	**+1.3**		
PFO				IAmb	IAmb	05 05 15.7			
	comp=Z,29nm,0.8s								
PFO	**Pinyon Flats O**	**35.63**	**115**	P	**P**	**05 05 14.5**	**+1.9**		
	baz=324,SNR=11								
PFO	**Pinyon Flats O**	**35.63**	**115**	LR	LR	05 17 16.9			
	comp=Z,319nm,21.9s,baz=329,slow=32								
PFO	**Pinyon Flats O**	**35.63**	**115***d*	*i*P	**P**	**05 05 14.2**	**+1.7**		
PFO				pmax	pmax				
	comp=Z,50nm,0.9s								
PFO	**Pinyon Flats O**	**35.63**	**115**	P	**P**	**05 05 14.5**	**+1.9**		
PFO				pP	**pP**	**05 05 33.6**	**+2.5**		
TPFO	**Pinon Flats**	**35.64**	**115**	P	**P**	**05 05 14.8**	**+2.2**		
	baz=324,SNR=12								
PMD	**Palm Desert**	**35.64**	**115**	IAmb	IAmb	05 05 15.5			
	comp=Z,37nm,0.8s								
W13A	**Hualapai Mount**	**35.72**	**111**	IAmb	IAmb	05 05 17.0			
	comp=Z,26nm,0.8s								
IRM	**Iron Mountain**	**35.84**	**113**	P	**P**	**05 05 16.9**	**+2.7**		
	baz=323,SNR=31								
109C	**Camp Elliot, M**	**35.90**	**117**	P	**P**	**05 05 16.0**	**+1.2**		
	baz=325,SNR=7.2								
YAK	**Yakutsk**	**35.92**	**309**	P	**P**	**05 05 13.5**	**-1.0**		
YAK	**Yakutsk**	**35.92**	**309**	P	**P**	**05 05 13.4**	**-1.1**		
	comp=Z,86nm,0.4s,baz=62,slow=4.2,SNR=34								
YAK				LR	LR	05 20 02.1			
	comp=Z,191nm,19.6s,baz=57,slow=36								
	comp=Z,86nm,0.4s								
YAK	**Yakutsk**	**35.92**	**309***c*	*i*P	**P**	**05 05 13.1**	**-1.4**		
YAK				*e**PP	**pP**	**05 05 32.6**	**-0.6**		
YAK				*e*		05 06 37.4			
YAK				*e*		05 07 38.8			
YAK				*e*S	**S**	**05 10 44.3**	**-2.2**		
YAK				*e*SS	**SnSn**	**05 13 13.0**	**-4.3**		
YAK				*e*		05 15 22.5			
YAK				pmax	pmax				
	comp=Z,209nm,1.1s								
YAK				pmax	pmax				
	comp=N,39nm,1.1s								
YAK				pmax	pmax				
	comp=E,38nm,1.1s								
YAK				pmax	pmax				
	comp=Z,140nm,3.3s								
YAK				pmax	pmax				
	comp=N,77nm,3.3s								
YAK				pmax	pmax				
	comp=E,106nm,3.0s								
YAK				smax	smax				
	comp=E,32nm,2.3s								
YAK				smax	smax				
	comp=N,30nm,1.5s								
YAK	**Yakutsk**	**35.92**	**309**	P	**P**	**05 05 13.4**	**-1.1**		
BC3	**Big Chuckawall**	**36.09**	**114**	P	**P**	**05 05 18.4**	**+1.9**		
	baz=324,SNR=11								
AGMN	**Agassiz Nation**	**36.10**	**78**	IAmb	IAmb	05 05 37.7			
	comp=Z,54nm,0.9s								
AGMN	**Agassiz Nation**	**36.10**	**78**	P	**P**	**05 05 17.5**	**+1.2**		
	baz=308,SNR=26								
D32A	**Dogwood Acres,**	**36.21**	**81**	IAmb	IAmb	05 05 37.8			
	comp=Z,38nm,0.9s								
PDMCI	**Parker Dam,Lak**	**36.22**	**112**	P	**P**	**05 05 19.3**	**+1.9**		
	baz=323,SNR=11								
MONP2	**Monument Peak**	**36.23**	**116**	P	**P**	**05 05 20.0**	**+2.2**		
	baz=325,SNR=10								
BAR	**Barrett**	**36.28**	**116**	IAmb	IAmb	05 05 21.6			
	comp=Z,31nm,0.9s								
TKX	**Tecate**	**36.41**	**116**	IAmb	IAmb	05 05 24.9			
	comp=Z,30nm,0.5s								
SWSC	**Sam W. Stewart**	**36.49**	**115**	P	**P**	**05 05 21.8**	**+2.1**		
	baz=324								
ISCO	**Idaho Springs**	**36.51**	**97**	P	**P**	**05 05 22.2**	**+2.0**		
	baz=316,SNR=7.2								
IKP	**In-Ko-Pah, Jac**	**36.58**	**116**	P	**P**	**05 05 23.1**	**+2.5**		
	baz=325,SNR=8.6								
YUH	**Yuha Desert**	**36.67**	**115**	IAmb	IAmb	05 05 24.7			
	comp=Z,37nm,0.8s								
WUAZ	**Wupatki**	**36.68**	**108**	IAmb	IAmb	05 05 44.7			
	comp=Z,75nm,1.2s								
WUAZ	**Wupatki**	**36.68**	**108**	P	**P**	**05 05 23.8**	**+2.3**		
	baz=321,SNR=17								
MVCO	**Mesa Verde**	**36.88**	**103**	IAmb	IAmb	05 05 25.9			
	comp=Z,25nm,0.9s								
MVCO	**Mesa Verde**	**36.88**	**103**	P	**P**	**05 05 25.0**	**+1.7**		
	baz=319,SNR=18								
GLA	**Glamis**	**36.88**	**114**	IAmb	IAmb	05 05 26.5			
	comp=Z,64nm,1.2s								
GLA	**Glamis**	**36.88**	**114**	P	**P**	**05 05 25.7**	**+2.6**		
	baz=324								
SUSD	**Miller**	**36.90**	**86**	P	**P**	**05 05 23.9**	**+0.8**		
SUSD					**pP**	**05 05 42.1**	**+0.3**		
SUSD	**Miller**	**36.90**	**86**	P	**P**	**05 05 24.3**	**+1.1**		
	baz=311,SNR=5.5								
UGL	**Uglegorsk**	**36.92**	**284**	*e*P	**P**	**05 05 25.4**	**+2.2**		
UGL				pmax	pmax				
	comp=Z,80nm,0.6s								
CCX	**Cicese**	**36.95**	**117**	IAmb	IAmb	05 05 27.4			
	comp=Z,39nm,0.9s								
CPBX	**Cerro Prieto**	**37.16**	**115**	IAmb	IAmb	05 05 29.1			
	comp=Z,41nm,0.7s								
B35A	**Bob, Littlefor**	**37.19**	**77**	IAmb	IAmb	05 05 46.4			
	comp=Z,39nm,1.0s								
Q24A	**Divide**	**37.37**	**98**	P	**P**	**05 05 29.6**	**+2.2**		
	baz=317,SNR=16								
F33A	**5 Mile Ranch,**	**37.42**	**82**	P	**P**	**05 05 27.8**	**+0.3**		
F33A					**pP**	**05 05 45.7**	**-0.4**		
X16A	**Lo Mia Camp, P**	**37.50**	**109**	IAmb	IAmb	05 05 32.5			
	comp=Z,40nm,0.9s								
OGNE	**Ogallala**	**37.62**	**92**	P	**P**	**05 05 31.2**	**+1.8**		
	baz=315								
NEEM	**North Greenlan**	**37.64**	**20**	*i* P	**P**	**05 05 27.5**	**-1.9**		
NEEM				IAmb	IAmb	05 05 31.3			
	comp=Z,7.3nm,0.6s								
K30B	**Basset**	**37.73**	**88**	P	**P**	**05 05 31.4**	**+1.2**		
KULLO	**Kullorsuaq**	**37.80**	**26**	*i* P	**P**	**05 05 31.2**	**+0.9**		
KULLO				IAmb	IAmb	05 05 33.7			
	comp=Z,6.2nm,0.6s								
W18A	**Petrified Fore**	**37.83**	**106**	P	**P**	**05 05 32.9**	**+1.6**		
W18A				pP	**pP**	**05 05 51.4**	**+1.3**		
W18A				IAmb	IAmb	05 05 54.4			
	comp=Z,42nm,1.1s								
W18A	**Petrified Fore**	**37.83**	**106**	P	**P**	**05 05 33.4**	**+2.1**		
	baz=321,SNR=11								
YSS	**Yuzh-Sakhalins**	**37.88**	**281**	*e*P	**P**	**05 05 30.7**	**-0.6**		
YSS				*e*S	**S**	**05 11 16.1**	**-0.6**		
YSS				pmax	pmax				
	comp=Z,300nm,3.2s								
YSS				pmax	pmax				
	comp=Z,40nm,1.0s								
SDCO	**Great Sand Dun**	**38.07**	**99**	P	**P**	**05 05 35.7**	**+2.3**		
SDCO				pP	**pP**	**05 05 54.1**	**+2.0**		
SDCO	**Great Sand Dun**	**38.07**	**99**	P	**P**	**05 05 35.7**	**+2.3**		
	baz=318,SNR=23								
X18A	**Snowflake**	**38.18**	**107**	P	**P**	**05 05 36.2**	**+2.0**		
X18A				IAmb	IAmb	05 05 37.8			
	comp=Z,29nm,0.7s								
X18A				pP	**pP**	**05 05 55.5**	**+2.5**		
SFX	**San Felipe**	**38.51**	**116**	IAmb	IAmb	05 05 40.1			
	comp=Z,27nm,0.8s								
EYMN	**Ely**	**38.61**	**76**	P	**P**	**05 05 38.7**	**+1.2**		
	baz=309,SNR=43								
ECSD	**EROS Data Cent**	**38.63**	**85**	P	**P**	**05 05 38.0**	**+0.3**		
	baz=312,SNR=18								
KSCO	**Kaye Shedlock'**	**38.68**	**95**	P	**P**	**05 05 40.8**	**+2.4**		
	baz=316,SNR=17								
PIX	**Pinacate**	**38.77**	**114**	IAmb	IAmb	05 05 42.3			
	comp=Z,29nm,0.9s								
214A	**Organ Pipe Nat**	**38.77**	**113**	IAmb	IAmb	05 05 42.5			
	comp=Z,39nm,0.8s								
214A	**Organ Pipe Nat**	**38.77**	**113**	P	**P**	**05 05 41.5**	**+2.5**		
	baz=324,SNR=24								
GRNR	**Gornyy**	**38.81**	**290**	⇑*i*P	**P**	**05 05 38.1**	**-1.0**		
GRNR				pmax	pmax				
	comp=Z,20nm,0.9s								
GRNR				MLR	MLR				
	comp=N,900nm,10.0s								
GRNR				MLR	MLR				
	comp=Z,130nm,12.0s								
F36A	**Milaca**	**38.88**	**80**	IAmb	IAmb	05 06 01.5			
	comp=Z,68nm,1.4s								
T25A	**Trinidad**	**39.10**	**99**	P	**P**	**05 05 44.1**	**+2.2**		
	baz=318,SNR=15								
NOR	**Nord**	**39.38**	**9**	*i* P	**P**	**05 05 42.8**	**-0.7**		
NOR				IAmb	IAmb	05 05 45.3			
	comp=Z,1.4nm,0.6s								
BGNE	**Belgrade**	**39.40**	**89**	P	**P**	**05 05 45.4**	**+1.3**		
	baz=314,SNR=6.7								
E38A	**The Farm, Brul**	**39.44**	**78**	IAmb	IAmb	05 06 05.9			
	comp=Z,67nm,1.1s								
TUC	**Tucson**	**39.50**	**110**	P	**P**	**05 05 46.9**	**+1.7**		
TUC	**Tucson**	**39.50**	**110**	P	**P**	**05 05 47.7**	**+2.5**		
	baz=323								
TUC	**Tucson**	**39.50**	**110**	P	**P**	**05 05 46.9**	**+1.7**		
TUC				pmax	pmax				
	comp=Z,20nm,1.0s								
TUC	**Tucson**	**39.50**	**110**	P	**P**	**05 05 47.7**	**+2.5**		
TUC				pP	**pP**	**05 06 06.7**	**+2.7**		
ANMO	**Albuquerque**	**39.67**	**103**	P	**P**	**05 05 46.8**	**+0.1**		
ANMO	**Albuquerque**	**39.67**	**103**	P	**P**	**05 05 48.7**	**+1.9**		
	baz=320								
ANMO	**Albuquerque**	**39.67**	**103**	LR	LR	05 21 30.8			
	comp=Z,94nm,19.2s,baz=50,slow=35								
ANMO	**Albuquerque**	**39.67**	**103**	P	**P**	**05 05 46.8**	**+0.1**		
ANMO				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ANMO	**Albuquerque**	**39.67**	**103**	P	**P**	**05 05 48.6**	**+1.9**		
ANMO				pP	**pP**	**05 06 07.9**	**+2.3**		
ANMO				PcP	**PcP**	**05 07 53.4**	**+1.4**		
SPMN	**Marine on St.**	**39.68**	**80**	IAmb	IAmb	05 06 08.2			
	comp=Z,57nm,0.9s								
SPMN	**Marine on St.**	**39.68**	**80**	P	**P**	**05 05 47.7**	**+1.3**		
	baz=311,SNR=16								
JKA	**Kamikawa-asahi**	**39.82**	**278**	P	**P**	**05 05 47.0**	**-0.6**		
JKA				IAmb	IAmb	05 05 48.5			
	comp=Z,45nm,0.8s								
ASAJ	**Asahikawa**	**39.82**	**278**	P	**P**	**05 05 47.0**	**-0.6**		
ASAJ				pmax	pmax				
	comp=Z,45nm,0.8s								
L34A	**Svendsen Farm,**	**39.96**	**87**	IAmb	IAmb	05 05 50.4			
	comp=Z,48nm,0.7s								
FRB	**Frobisher Bay**	**39.98**	**44**	LR	LR	05 23 05.9			
	comp=Z,220nm,18.7s,baz=304,slow=37								
Y22D	**IRIS PASSCAL I**	**40.10**	**104**	P	**P**	**05 05

I42A	**Draeger Farm,**	**42.63**	**79**	IAmb	IAmb	05 06 12.6		
	comp=Z,36nm,0.8s							
L40A	**Anamosa**	**42.66**	**82**	IAmb	IAmb	05 06 31.9		
	comp=Z,66nm,0.9s							
KAN17	**Caldwell West**	**42.74**	**93**	IAmb	IAmb	05 06 13.5		
	comp=Z,49nm,0.9s							
MNTX	**Cornudas Mount**	**42.77**	**105**	P	**P**	**05 06 13.8**	**+2.0**	
	baz=322,SNR=42							
H43A	**Windswept, Lux**	**42.84**	**77**	P	**P**	**05 06 12.5**	**+0.2**	
H43A				IAmb	IAmb	05 06 14.3		
	comp=Z,56nm,0.7s							
SMWD	**Samnorwood**	**42.85**	**97**	IAmb	IAmb	05 06 16.4		
	comp=Z,40nm,0.8s							
CROK	**Carrier**	**43.02**	**94**	IAmb	IAmb	05 06 17.4		
	comp=Z,49nm,1.0s							
P38A	**Dawn**	**43.14**	**87**	IAmb	IAmb	05 06 35.8		
	comp=Z,48nm,0.9s							
SUMG	**Summit**	**43.23**	**23**	P	**P**	**05 06 16.3**	**+0.7**	
SUMG	**Summit**	**43.23**	**23**	P	**P**	**05 06 16.3**	**+0.7**	
SUMG				pmax	pmax			
	comp=Z,14nm,0.8s							
SUMG	**Summit**	**43.23**	**23**	*i* P	**P**	**05 06 15.0**	**-0.6**	
SUMG				IAmb	IAmb	05 06 18.9		
	comp=Z,5.1nm,0.6s							
DAG	**Danmarks Havn**	**43.24**	**13**	*i* P	**P**	**05 06 13.0**	**-2.1**	
DAG				IAmb	IAmb	05 06 17.0		
	comp=Z,8.4nm,0.5s							
BLOK	**Blackwell**	**43.24**	**93**	IAmb	IAmb	05 06 17.6		
	comp=Z,56nm,0.8s							
L42A	**Oliver, Polo**	**43.53**	**81**	IAmb	IAmb	05 06 38.8		
	comp=Z,62nm,1.1s							
DKNS	**Dickens**	**43.59**	**99**	IAmb	IAmb	05 06 20.7		
	comp=Z,46nm,0.8s							
HEH	**HeiHe**	**43.62**	**295**	*eP*	**P**	**05 06 16.0**	**-2.5**	
HEH				pmax	pmax			
	comp=Z,15nm,1.0s							
HEH				pmax	pmax			
	comp=Z,120nm,8.6s							
HEH				LR	LR			
	comp=Z,200nm,16.8s							
HEH				LR	LR			
	comp=Z,240nm,15.2s							
HEH				LR	LR			
	comp=Z,290nm,19.1s							
VHRN	**Van Horn**	**43.69**	**105**	IAmb	IAmb	05 06 23.1		
	comp=Z,43nm,0.9s							
POST	**Post**	**43.74**	**100**	IAmb	IAmb	05 06 22.0		
	comp=Z,37nm,0.8s							
K43A	**Burlington**	**43.76**	**80**	IAmb	IAmb	05 06 41.0		
	comp=Z,64nm,0.9s							
N41A	**Harden Midland**	**43.81**	**84**	IAmb	IAmb	05 06 41.3		
	comp=Z,79nm,0.9s							
WMOK	**Wichita Mounta**	**43.91**	**96**	IAmb	IAmb	05 06 23.6		
	comp=Z,44nm,0.8s							
WMOK	**Wichita Mounta**	**43.91**	**96**	P	**P**	**05 06 22.5**	**+1.4**	
	baz=319,SNR=53							
ODSA	**Odessa**	**43.92**	**102**	P	**P**	**05 06 22.3**	**+1.1**	
ODSA				IAmb	IAmb	05 06 23.7		
	comp=Z,50nm,1.1s							
SFJD	**Kangerlussuaq**	**44.01**	**33**	P	**P**	**05 06 21.9**	**+0.6**	
SFJD				IAmb	IAmb	05 06 23.3		
	comp=Z,38nm,0.7s							
SFJD	**Kangerlussuaq**	**44.01**	**33**	LR	LR	05 24 18.2		
	comp=Z,226nm,19.2s,baz=322,slow=36							
SFJD	**Kangerlussuaq**	**44.01**	**33**	P	**P**	**05 06 21.9**	**+0.6**	
SFJD				pmax	pmax			
	comp=Z,38nm,0.7s							
SFJD	**Kangerlussuaq**	**44.01**	**33**	P	**P**	**05 06 22.2**	**+0.8**	
SFJD				pP	**pP**	**05 06 40.8**	**+0.2**	
SFJD				sP	**sP**	**05 06 50.0**	**+0.4**	
SFJD	**Kangerlussuaq**	**44.01**	**33**	*i* P	**P**	**05 06 22.1**	**+0.8**	
SFJD				IAmb	IAmb	05 06 23.7		
	comp=Z,25nm,0.7s							
OK052	**Battle Ridge R**	**44.03**	**93**	IAmb	IAmb	05 06 23.8		
	comp=Z,43nm,1.0s							
GLMI	**Grayling**	**44.25**	**75**	IAmb	IAmb	05 06 45.2		
	comp=Z,78nm,1.1s							
GLMI	**Grayling**	**44.25**	**75**	P	**P**	**05 06 24.7**	**+1.1**	
	baz=313							
FNO	**Franklin**	**44.26**	**94**	IAmb	IAmb	05 06 26.1		
	comp=Z,50nm,0.9s							
APMT	**Aspermont**	**44.27**	**99**	IAmb	IAmb	05 06 25.8		
	comp=Z,45nm,0.8s							
L44A	**Lake County Fo**	**44.35**	**80**	P	**P**	**05 06 25.0**	**+0.6**	
	baz=314							
SPITS	**Spitsbergen Ar**	**44.46**	**2**	P	**P**	**05 06 23.7**	**-1.2**	
	comp=Z,1.5nm,0.3s,baz=19,slow=5.5,SNR=22							
SPITS				PcP	**PcP**	**05 08 07.5**	**+0.6**	
	comp=Z,1.9nm,0.4s,baz=58,slow=5.0,SNR=5.4							
SPITS				LR	LR	05 24 42.7		
	comp=Z,113nm,18.2s,baz=330,slow=36							
TUL3	**Leonard**	**44.64**	**92**	P	**P**	**05 06 27.7**	**+0.9**	
	baz=318,SNR=14							
HDIL	**Hopedale**	**44.76**	**82**	P	**P**	**05 06 28.1**	**+0.4**	
	baz=315,SNR=19							
R40A	**Maddies Statio**	**44.79**	**87**	IAmb	IAmb	05 06 48.1		
	comp=Z,30nm,0.8s							
BOD	**Bodaibo**	**44.80**	**311**	*eP*	**P**	**05 06 26.8**	**-1.0**	
BOD				pmax	pmax			
	comp=Z,103nm,1.0s							
WTFS	**Witchita Falls**	**44.82**	**97**	IAmb	IAmb	05 06 30.4		
	comp=Z,31nm,0.8s							
M44A	**Midewin, Midew**	**44.83**	**81**	P	**P**	**05 06 28.6**	**+0.4**	
M44A				pP	**pP**	**05 06 46.4**	**-1.0**	
M44A				IAmb	IAmb	05 06 49.7		
	comp=Z,80nm,1.1s							
SGCY	**Sterling City**	**44.83**	**101**	P	**P**	**05 06 29.1**	**+0.6**	
SGCY				IAmb	IAmb	05 06 30.6		
	comp=Z,55nm,0.8s							
RLO	**Rose Lookout**	**44.87**	**91**	IAmb	IAmb	05 06 30.1		
	comp=Z,37nm,0.9s							
ABTX	**Abilene, Hawle**	**45.07**	**99**	P	**P**	**05 06 31.5**	**+1.2**	
	baz=321,SNR=20							
L46A	**Eue Claire**	**45.32**	**79**	IAmb	IAmb	05 06 33.7		
	comp=Z,47nm,0.7s							
USA0B	**Ussuriysk Arra**	**45.36**	**286**	⇑*i* P	**P**	**05 06 29.4**	**-3.0**	
USRK	**Ussuriysk Ar.**	**45.36**	**286**	P	**P**	**05 06 30.9**	**-1.5**	
USRK	**Ussuriysk Ar.**	**45.36**	**286**	P	**P**	**05 06 31.1**	**-1.3**	
	comp=Z,3.5nm,0.5s,baz=42,slow=8.8,SNR=8.6							
USRK				PcP	**PcP**	**05 08 11.4**	**+1.0**	
	comp=Z,2.8nm,0.7s,baz=64,slow=3.4,SNR=5.1							
USRK				LR	LR	05 25 42.3		
	comp=Z,114nm,19.5s,baz=60,slow=36							
	comp=Z,3.5nm,0.5s							
ICESG	**Greenland Ices**	**45.50**	**27**	*i* P	**P**	**05 06 34.0**	**+0.4**	
ICESG				IAmb	IAmb	05 06 39.1		
	comp=Z,11nm,0.7s							
CCM	**Cathedral Cave**	**45.51**	**86**	P	**P**	**05 06 32.3**	**-1.4**	
CCM	**Cathedral Cave**	**45.51**	**86**	P	**P**	**05 06 33.6**	**-0.1**	
	baz=317							
CCM	**Cathedral Cave**	**45.51**	**86**	P	**P**	**05 06 32.3**	**-1.4**	
CCM				pmax	pmax			
	comp=Z,16nm,0.9s							
CCM	**Cathedral Cave**	**45.51**	**86**	P	**P**	**05 06 33.4**	**-0.3**	
CCM				pP	**pP**	**05 06 53.3**	**+0.5**	
CCM				PcP	**PcP**	**05 08 10.6**	**-0.5**	
TXAR	**Lajitas Array**	**45.54**	**105**	P	**P**	**05 06 34.6**	**+0.5**	
TXAR	**Lajitas Array**	**45.54**	**105**	P	**P**	**05 06 35.9**	**+1.7**	
	comp=Z,14nm,0.8s,baz=314,slow=5.9,SNR=127							
TXAR				pP	**pP**	**05 06 53.8**	**+0.5**	
	comp=Z,8.9nm,0.9s,baz=319,slow=5.5,SNR=6.1							
TXAR				LR	LR	05 24 20.9		
	comp=Z,97nm,20.5s,baz=334,slow=34							
	comp=Z,14nm,0.8s							
NUUK	**Nuuk**	**45.56**	**37**	*i* P	**P**	**05 06 35.9**	**+2.2**	
NUUK				IAmb	IAmb	05 06 37.3		
	comp=Z,10nm,0.7s							
OZNA	**Ozona**	**45.61**	**102**	IAmb	IAmb	05 06 36.8		
	comp=Z,38nm,0.8s							
DY2G	**Dye2**	**45.63**	**32**	*i* P	**P**	**05 06 34.0**	**-0.5**	
DY2G				IAmb	IAmb	05 06 37.9		
	comp=Z,16nm,0.5s							
PLPT	**Palo Pinto**	**45.63**	**97**	IAmb	IAmb	05 06 36.7		
	comp=Z,49nm,0.8s							
Z35A	**Perchaven, San**	**45.80**	**96**	IAmb	IAmb	05 06 38.2		
	comp=Z,61nm,0.9s							
X37A	**Clayton**	**45.86**	**93**	IAmb	IAmb	05 06 38.8		
	comp=Z,44nm,0.8s							
FW06	**Azle**	**45.92**	**97**	IAmb	IAmb	05 06 39.2		
	comp=Z,51nm,1.1s							
SFIN	**Lafayette**	**46.05**	**81**	IAmb	IAmb	05 06 43.1		
	comp=Z,36nm,0.8s							
SFIN	**Lafayette**	**46.05**	**81**	P	**P**	**05 06 38.5**	**+0.6**	
	baz=316							
Q44A	**Meyer Farm, Va**	**46.09**	**84**	IAmb	IAmb	05 06 59.5		
	comp=Z,45nm,0.9s							
SCHQ	**Schefferville**	**46.12**	**53**	P	**P**	**05 06 38.2**	**0.0**	
SCHQ	**Schefferville**	**46.12**	**53**	P	**P**	**05 06 38.8**	**+0.5**	
	comp=Z,7.0nm,0.4s,baz=303,slow=7.2,SNR=22							
SCHQ				LR	LR	05 26 35.7		
	comp=Z,311nm,19.4s,baz=309,slow=37							
	comp=Z,7.0nm,0.4s							
MDJ	**Mudanjiang**	**46.31**	**288**	P	**P**	**05 06 37.4**	**-2.5**	
MDJ				PP	**PP**	**05 08 29.0**	**-0.5**	
MDJ				S	**S**	**05 13 26.4**	**+5.6**	
MDJ				ScS	**ScS**	**05 16 28.6**	**+1.7**	
MDJ				pmax	pmax			
	comp=Z,19nm,2.1s							
MDJ				pmax	pmax			
	comp=Z,170nm,5.8s							
MDJ				LR	LR			
	comp=Z,440nm,21.3s							
MDJ				LR	LR			
	comp=Z,390nm,19.9s							
MDJ				LR	LR			
	comp=Z,300nm,22.0s							
L48A	**N Adams**	**46.35**	**77**	IAmb	IAmb	05 07 02.1		
	comp=Z,85nm,1.4s							
JSD	**Sado**	**46.42**	**275**	P	**P**	**05 06 40.6**	**-0.2**	
BRDY	**Brady**	**46.45**	**99**	IAmb	IAmb	05 06 43.2		
	comp=Z,48nm,0.8s							
LPIG	**La Paz**	**46.50**	**116**	LR	LR	05 23 34.5		
	comp=Z,148nm,22.0s,baz=356,slow=32							
AAM	**Ann Arbor**	**46.51**	**77**	P	**P**	**05 06 42.1**	**+0.6**	
	baz=315							
BNX	**BinXian**	**46.65**	**290**	⇑P	**P**	**05 06 41.5**	**-1.0**	
BNX				pmax	pmax			
	comp=Z,24nm,1.5s							
BNX				pmax	pmax			
	comp=Z,94nm,3.6s							
JCT	**Junction City**	**46.66**	**101**	P	**P**	**05 06 44.2**	**+1.4**	
	baz=322,SNR=44							
WHTX	**Lake Whitney,**	**46.73**	**97**	IAmb	IAmb	05 06 45.6		
	comp=Z,51nm,0.8s							
WHTX	**Lake Whitney,**	**46.73**	**97**	P	**P**	**05 06 44.6**	**+1.3**	
	baz=321,SNR=7.9							
S44A	**Carbondale**	**46.85**	**85**	IAmb	IAmb	05 07 05.5		
	comp=Z,38nm,1.1s							
SIUC	**Southern Illin**	**46.85**	**85**	IAmb	IAmb	05 07 05.5		
	comp=Z,45nm,1.1s							
MIAR	**Mount Ida**	**46.86**	**92**	IAmb	IAmb	05 06 46.2		
	comp=Z,41nm,0.9s							
MIAR	**Mount Ida**	**46.86**	**92**	P	**P**	**05 06 45.2**	**+0.9**	
	baz=319,SNR=34							
PBMO	**Poplar Bluff**	**46.89**	**87**	IAmb	IAmb	05 07 26.5		
	comp=Z,58nm,1.5s							
CGM3	**Cape Girardeau**	**46.92**	**86**	IAmb	IAmb	05 07 05.6		
	comp=Z,83nm,2.0s							
MSHR	**Mys Shultsa**	**46.93**	**285**	*ceP*	**P**	**05 06 41.8**	**-2.9**	
MSHR				pmax	pmax			
	comp=Z,40nm,1.0s							
SLBS	**Sierra La Lagu**	**47.03**	**116**	P	**P**	**05 06 47.9**	**+2.1**	
DRIO	**Del Rio**	**47.06**	**102**	IAmb	IAmb	05 06 47.6		
	comp=Z,40nm,0.8s							
PSTR	**Posyet**	**47.06**	**285**	*eP*	**P**	**05 06 45.4**	**-0.3**	
Z38A	**Mt. Pleasant**	**47.08**	**94**	IAmb	IAmb	05 06 48.2		
	comp=Z,43nm,1.0s							
SADO	**Sadowa**	**47.11**	**71**	P	**P**	**05 06 47.0**	**+0.9**	
SADO				IAmb	IAmb	05 07 07.8		
	comp=Z,39nm,1.0s							
SADO	**Sadowa**	**47.11**	**71**	LR	LR	05 27 46.7		
	comp=Z,252nm,19.6s,baz=64,slow=37							
O48B	**Farmland**	**47.17**	**80**	IAmb	IAmb	05 07 06.9		
	comp=Z,46nm,0.9s							
O48B	**Fland**	**47.17**	**80**	P	**P**	**05 06 46.5**	**-0.1**	
	baz=316,SNR=18							
BLO	**Bloomington**	**47.23**	**82**	IAmb	IAmb	05 06 52.0		
	comp=Z,49nm,0.8s							
MAJO	**Matsushiro**	**47.55**	**274**	P	**P**	**05 06 49.6**	**-0.1**	
MAJO	**Matsushiro**	**47.55**	**274**	P	**P**	**05 06 48.6**	**-1.0**	
MAJO	**Matsushiro**	**47.55**	**274**	*ci* P	**P**	**05 06 49.3**	**-0.3**	
MAJO				pmax	pmax			
	comp=Z,73nm,0.9s							
MAJO	**Matsushiro**	**47.55**	**274**	P	**P**	**05 06 49.3**	**-0.3**	
MJAR	**Matsushiro Arr**	**47.55**	**274**	P	**P**	**05 06 49.5**	**-0.2**	
	comp=Z,19nm,0.8s,baz=25,slow=6.4,SNR=42							
MJAR				LR	LR	05 27 42.4		
	comp=Z,55nm,20.0s,baz=52,slow=37							
	comp=Z,19nm,0.8s							
435B	**Jarrell**	**47.60**	**98**	P	**P**	**05 06 51.8**	**+1.6**	
435B	**Jarrell**	**47.60**	**98**	P	**P**	**05 06 51.7**	**+1.6**	
	baz=322							
O49A	**Covington**	**47.66**	**79**	IAmb	IAmb	05 07 12.5		
	comp=Z,27nm,1.0s							
WLAR	**White Oak Lake**	**47.76**	**92**	IAmb	IAmb	05 06 53.4		
	comp=Z,57nm,1.1s							
P49A	**Miami Univ. Ec**	**47.93**	**80**	IAmb	IAmb	05 07 12.7		
	comp=Z,28nm,0.9s							
P49A	**Miami Univ. Ec**	**47.93**	**80**	P	**P**	**05 06 52.0**	**-0.5**	
	baz=317,SNR=7.1							
WCI	**Wyandotte Cave**	**48.04**	**82**	P	**P**	**05 06 53.1**	**-0.3**	
WCI				IAmb	IAmb	05 07 14.9		
	comp=Z,76nm,1.4s							
WCI	**Wyandotte Cave**	**48.04**	**82**	P	**P**	**05 06 53.6**	**+0.1**	
	baz=317							
WCI				S	**S**	**05 13 45.8**	**+0.3**	
	baz=317							
WCI	**Wyandotte Cave**	**48.04**	**82**	P	**P**	**05 06 53.1**	**-0.3**	
WCI				pmax	pmax			
	comp=Z,76nm,1.4s							
WCI	**Wyandotte Cave**	**48.04**	**82**	P	**P**	**05 06 53.5**	**+0.1**	
WCI				pP	**pP**	**05 07 13.6**	**+0.8**	
WCI				PcP	**PcP**	**05 08 20.6**	**+0.5**	
DELO	**Deloro Mine**	**48.06**	**70**	P	**P**	**05 06 53.4**	**-0.1**	
DELO				pP	**pP**	**05 07 14.3**	**+1.5**	
DELO				IAmb	IAmb	05 07 15.6		
	comp=Z,46nm,1.0s							
SOEG	**Soedalen**	**48.12**	**24**	*i* P	**P**	**05 06 52.1**	**-1.5**	
SOEG				IAmb	IAmb	05 06 55.6		
	comp=Z,12nm,0.5s							
Z41A	**Richland Creek**	**48.26**	**92**	IAmb	IAmb	05 06 56.3		
	comp=Z,33nm,1.0s							
ISOG	**Isortoq, Green**	**48.34**	**30**	*i* P	**P**	**05 06 54.9**	**-0.3**	
ISOG				IAmb	IAmb	05 06 57.1		
	comp=Z,17nm,0.5s							
ACSO	**Alum Creek Sta**	**48.34**	**78**	P	**P**	**05 06 55.8**	**+0.1**	
	baz=316							
TRQ	**Mont Tremblant**	**48.40**	**67**	IAmb	IAmb	05 07 18.4		
	comp=Z,28nm,0.8s							
NATX	**Nacogdoches**	**48.41**	**95**	P	**P**	**05 06 56.7**	**+0.4**	
NATX				pP	**pP**	**05 07 14.6**	**-1.1**	
NATX	**Nacogdoches**	**48.41**	**95**	P	**P**	**05 06 57.8**	**+1.5**	
	baz=321,SNR=8.6							
T47A	**Sharon Grove**	**48.52**	**84**	IAmb	IAmb	05 07 18.8		
	comp=Z,60nm,1.2s							
ERPA	**Erie**	**48.55**	**74**	P	**P**	**05 06 58.2**	**+0.9**	
	baz=316							
833A	**Chaparral WMA,**	**48.58**	**102**	IAmb	IAmb	05 07 00.3		
	comp=Z,36nm,1.1s							
833A	**Chaparral WMA,**	**48.58**	**102**	P	**P**	**05 06 59.1**	**+1.4**	
	baz=323,SNR=9.6							
R49A	**Shelbyville**	**48.59**	**81**	IAmb	IAmb	05 07 19.1		
	comp=Z,33nm,1.1s							
MEDO	**Medina**	**48.60**	**72**	IAmb	IAmb	05 07 20.6		
	comp=Z,26nm,1.0s							
ANGG	**Ammassalik, Gr**	**48.64**	**29**	IAmb	IAmb	05 07 42.5		
	comp=Z,50nm,1.2s							
ANGG	**Ammassalik, Gr**	**48.64**	**29**	*i* P	**P**	**05 06 56.2**	**-1.4**	
ANGG				IAmb	IAmb	05 06 58.9		
	comp=Z,20nm,0.5s							
M53A	**WI Miller and**	**48.68**	**75**	P	**P**	**05 06 59.1**	**+0.8**	
	baz=316,SNR=7.0							
JGF	**Kuroka**	**48.71**	**273**	P	**P**	**05 06 58.6**	**0.0**	
JGF	**Kuroka**	**48.71**	**273**	IAmb	IAmb	05 07 00.6		
	comp=Z,43nm,1.1s							
WVT	**Waverly**	**48.77**	**85**	P	**P**	**05 06 59.2**	**+0.2**	
WVT	**Waverly**	**48.77**	**85**	P	**P**	**05 06 59.7**	**+0.6**	
	baz=318							
WVT	**Waverly**	**48.77**	**85**	P	**P**	**05 06 59.2**	**+0.2**	
WVT				pmax	pmax			
	comp=Z,200nm,1.1s							
WVT	**Waverly**	**48.77**	**85**	P	**P**	**05 06 59.6**	**+0.6**	
WVT				pP	**pP**	**05 07 19.4**	**+0.9**	
WVT				sP	**sP**	**05 07 29.0**	**+1.6**	
IVI	**Ivigtut**	**48.83**	**38**	*i* P	**P**	**05 07 01.2**	**+2.1**	
IVI				IAmb	IAmb	05 07 04.8		
	comp=Z,15nm,0.6s							
P51A	**Williamsport**	**48.85**	**79**	IAmb	IAmb	05 07 20.8		
	comp=Z,50nm,1.4s							
CIT	**Chita**	**48.90**	**305**	*eP*	**P**	**05 07 00.0**	**+0.1**	
CIT				*e*		05 07 20.8		
CIT				pmax	pmax			
	comp=Z,192nm,1.3s							
WBO	**Williamsburg**	**48.90**	**68**	IAmb	IAmb	05 07 21.4		
	comp=Z,49nm,1.0s							
CN2	**Changchun**	**49.00**	**290**	*eP*	**P**	**05 06 59.2**	**-1.5**	
CN2				*ePP*	**PP**	**05 08 52.9**	**-1.6**	
CN2				*eS*	**S**	**05 13 55.1**	**-3.8**	
CN2				pmax	pmax			
	comp=Z,20nm,1.2s							
CN2				LR	LR			
	comp=Z,410nm,20.0s							
CN2				LR	LR			
	comp=Z,280nm,20.0s							
O52A	**Adamsville**	**49.03**	**77**	P	**P**	**05 07 00.7**	**-0.3**	
O52A					**pP**	**05 07 20.6**	**+0.2**	
O52A				IAmb	IAmb	05 07 23.2		
	comp=Z,63nm,1.4s							
N53A	**Lisbon**	**49.05**	**76**	IAmb	IAmb	05 07 05.9		
	comp=Z,33nm,0.9s							
OXF	**Oxford**	**49.13**	**88**	P	**P**	**05 07 02.8**	**+0.9**	
	baz=319,SNR=31							
OXF				S	**S**	**05 14 00.3**	**-0.6**	
	baz=319							
HKT	**Hockley**	**49.19**	**98**	*ci* P	**P**	**05 07 03.9**	**+1.7**	
HKT				pmax	pmax			
	comp=Z,56nm,1.1s							
HKT	**Hockley**	**49.19**	**98**	P	**P**	**05 07 04.2**	**+2.0**	
HKT				pP	**pP**	**05 07 24.1**	**+2.4**	
P52A	**Corning**	**49.23**	**78**	IAmb	IAmb	05 07 23.5		
	comp=Z,25nm,1.1s							
P52A	**Corning**	**49.23**	**78**	P	**P**	**05 07 02.3**	**-0.2**	
	baz=317							
P52A				S	**S**	**05 14 00.9**	**-1.3**	
	baz=317							
O53A	**New Philadelph**	**49.26**	**77**	IAmb	IAmb	05 07 24.2		
	comp=Z,76nm,1.7s							
O53A	**New Philadelph**	**49.26**	**77**	P	**P**	**05 07 03.0**	**+0.2**	
	baz=317							
O53A				S	**S**	**05 14 02.0**	**-0.6**	
	baz=317							
JHJ	**Hachijo jima 2**	**49.28**	**269**	LR	LR	05 26 49.9		
	comp=Z,70nm,21.4s,baz=24,slow=35							
MNTQ	**Montreal, Queb**	**49.37**	**67**	IAmb	IAmb	05 07 24.4		
	comp=Z,28nm,0.9s							
LONY	**Lake Ozonia**	**49.52**	**68**	IAmb	IAmb	05 07 25.4		
	comp=Z,27nm,0.8s							
LONY	**Lake Ozonia**	**49.52**	**68**	P	**P**	**05 07 05.4**	**+0.7**	
	baz=316							
Y45A	**Yeager Farm, C**	**49.55**	**89**	IAmb	IAmb	05 07 07.6		
	comp=Z,46nm,1.1s							
U49A	**Red Boiling Sp**	**49.59**	**83**	IAmb	IAmb	05 07 27.0		
	comp=Z,30nm,1.2s							
V48A	**Smith Brothers**	**49.60**	**85**	IAmb	IAmb	05 07 26.8		
	comp=Z,33nm,0.9s							
Q52A	**Bidwell**	**49.65**	**79**	IAmb	IAmb	05 07 26.7		
	comp=Z,79nm,1.6s							
T50A	**Nancy**	**49.71**	**82**	IAmb	IAmb	05 07 27.4		
	comp=Z,38nm,1.1s							
NRS	**Narsarsuaq**	**49.77**	**37**	*i* P	**P**	**05 07 07.7**	**+1.5**	
NRS				IAmb	IAmb	05 07 12.8		
	comp=Z,10nm,0.6s							
FRNY	**Flat Rock**	**49.86**	**67**	IAmb	IAmb	05 07 28.2		
	comp=Z,45nm,0.9s							
S51A	**Beattyville**	**49.92**	**81**	IAmb	IAmb	05 07 29.4		
	comp=Z,43nm,0.9s							
HBVL	**Hebbronville**	**49.97**	**102**	IAmb	IAmb	05 07 11.9		
	comp=Z,22nm,0.8s							
NCB	**Newcomb**	**50.17**	**68**	IAmb	IAmb	05 07 30.9		
	comp=Z,29nm,0.9s							
VBMS	**Vicksburg**	**50.28**	**91**	P	**P**	**05 07 11.8**	**+1.3**	
	baz=321							
MCWV	**Mont Chateau**	**50.41**	**76**	P	**P**	**05 07 11.7**	**+0.3**	
	baz=317,SNR=10.0							
X48A	**Hartselle**	**50.45**	**86**	IAmb	IAmb	05 07 35.2		
	comp=Z,30nm,0.8s							
SWET	**Sewanee**	**50.47**	**85**	IAmb	IAmb	05 07 32.9		
	comp=Z,27nm,1.0s							
BINY	**Binghamton**	**50.55**	**71**	P	**P**	**05 07 13.3**	**+0.8**	
	baz=317,SNR=13							
M57A	**Sunshine Farm,**	**50.59**	**73**	IAmb	IAmb	05 07 39.6		
	comp=Z,37nm,0.9s							
SSPA	**Standing Stone**	**50.71**	**74**	P	**P**	**05 07 14.4**	**+0.7**	
SSPA	**Standing Stone**	**50.71**	**74**	P	**P**	**05 07 13.9**	**+0.2**	
	baz=317							
SSPA	**Standing Stone**	**50.71**	**74**	P	**P**	**05 07 14.5**	**+0.8**	
SSPA				pP	**pP**	**05 07 34.7**	**+1.5**	
TZTN	**Tazewell**	**50.76**	**82**	IAmb	IAmb	05 07 36.0		
	comp=Z,25nm,1.0s							
TZTN	**Tazewell**	**50.76**	**82**	P	**P**	**05 07 14.6**	**+0.5**	
	baz=318,SNR=8.1							
W50A	**Signal Mountai**	**50.82**	**84**	IAmb	IAmb	05 07 35.8		
	comp=Z,38nm,1.1s							
LBNH	**Lisbon**	**51.12**	**67**	P	**P**	**05 07 16.6**	**-0.1**	
	baz=316							
KSPA	**Keystone Colle**	**51.13**	**72**	IAmb	IAmb	05 07 39.3		
	comp=Z,37nm,1.0s							
FPAL	**Fort Paine**	**51.16**	**85**	IAmb	IAmb	05 07 41.2		
	comp=Z,28nm,0.9s							
N58A	**Sunbury**	**51.17**	**73**	IAmb	IAmb	05 07 39.4		
	comp=Z,42nm,1.0s							
Y49A	**Blount Mountai**	**51.24**	**86**	IAmb	IAmb	05 07 41.1		
	comp=Z,31nm,0.8s							
V52A	**Sevierville**	**51.26**	**82**	IAmb	IAmb	05 07 39.1		
	comp=Z,25nm,1.1s							
R55A	**Marlinton**	**51.28**	**78**	IAmb	IAmb	05 07 39.3		
	comp=Z,29nm,1.2s							
TKL	**T

comp=Z,47nm,1.1s
WES Weston 52.77 68 IAmb IAmb 05 07 50.1
comp=Z,35nm,1.0s
CBN Corbin Frederi 52.78 76 IAmb IAmb 05 07 51.6
comp=Z,23nm,0.8s
CBN Corbin Frederi 52.78 76 P **P** **05 07 28.9 -0.2**
baz=318
BRAL Brewton 52.97 89 P **P** **05 07 30.9 +0.3**
baz=321
KMSC Kings Mountain 52.99 81 IAmb IAmb 05 07 52.3
comp=Z,28nm,0.9s
KMSC Kings Mountain 52.99 81 P **P** **05 07 30.9 +0.1**
baz=320,SNR=7.2
KEV Kevo 53.00 359 P **P** **05 07 29.2 -1.0**
M63A Gales Ferry 53.14 69 P **P** **05 07 32.8 +1.1**
M63A **pP** **05 07 49.5 -1.8**
GOGA Godfrey 53.17 84 P **P** **05 07 31.5 -0.5**
GOGA **pP** **05 07 50.5 -1.2**
GOGA Godfrey 53.17 84 P **P** **05 07 31.6 -0.5**
baz=320
HODGE Hodges 53.19 83 IAmb IAmb 05 07 53.1
comp=Z,22nm,0.8s
ARCES ARCESS Array B 53.23 359 P **P** **05 07 31.2 -0.9**
comp=Z,2.0nm,0.5s,baz=23,slow=7.5,SNR=10
ARCES PcP **PcP** **05 08 38.8 0.0**
comp=Z,10nm,1.0s,baz=347,slow=3.7,SNR=6.1
ARCES LR LR 05 30 59.4
comp=Z,161nm,19.9s,baz=356,slow=37
comp=Z,2.0nm,0.5s
TJN Taejon 53.46 282*c iP* **P** **05 07 34.0 -0.1**
XLT XiLinHaoTe 53.58 296 *eP* **P** **05 07 34.8 -0.3**
XLT sP sP 05 08 07.1 +3.3
XLT PcP **PcP** **05 08 41.1 +0.5**
XLT pmax pmax
comp=Z,16nm,1.2s
XLT pmax pmax
comp=Z,160nm,5.5s
XLT LR LR
comp=Z,300nm,12.2s
XLT LR LR
comp=Z,220nm,15.5s
T59A Double "B" Far 53.61 77 P **P** **05 07 35.8 +0.6**
T59A pP **pP** **05 07 54.8 -0.1**
T59A IAmb IAmb 05 07 57.4
comp=Z,55nm,1.4s
V58A Windy Hill, Pi 53.68 79 IAmb IAmb 05 08 08.4
comp=Z,21nm,0.9s
JSC Jenkinsville 53.69 82 IAmb IAmb 05 07 57.3
comp=Z,23nm,1.0s
BIRD Birdtown, Kers 53.83 81 P **P** **05 07 37.4 +0.5**
BIRD pP **pP** **05 07 55.6 -1.0**
352A Blakely 53.87 87 IAmb IAmb 05 07 60.0
comp=Z,23nm,0.9s
154A Montrose 53.97 85 IAmb IAmb 05 08 01.2
comp=Z,43nm,1.0s
JNU Nakatsue 54.07 277 P **P** **05 07 38.6 -0.1**
JNU Nakatsue 54.07 277 IAmb IAmb 05 07 43.2
comp=Z,28nm,1.1s
JNU Nakatsue 54.07 277 LR LR 05 30 49.1
comp=Z,84nm,21.1s,baz=48,slow=36
451A Vernon 54.10 88 P **P** **05 07 38.8 0.0**
451A **pP** **05 07 56.6 -1.9**
MOY Mondy 54.46 312 *eP* **P** **05 07 41.5 +0.1**
MOY pmax pmax
comp=Z,47nm,2.0s
X58A Rowland 54.50 80 IAmb IAmb 05 08 15.2
comp=Z,28nm,1.1s
TIGA Tifton 54.62 86 P **P** **05 07 41.6 -1.0**
baz=321
LVZ Lovozero 54.65 355 P **P** **05 07 41.6 -0.7**
LVZ IAmb IAmb 05 08 44.9
comp=Z,29nm,1.2s
LVZ Lovozero 54.65 355*c iP* **P** **05 07 41.7 -0.7**
LVZ pmax pmax
comp=Z,18nm,0.9s
LVZ Lovozero 54.65 355 P **P** **05 07 41.6 -0.7**
ULN Ulaanbaatar 54.80 305 P **P** **05 07 43.1 -0.8**
ULN IAmb IAmb 05 07 44.8
comp=Z,30nm,1.1s
ULN Ulaanbaatar 54.80 305*c iP* **P** **05 07 43.6 -0.3**
ULN pmax pmax
comp=Z,32nm,1.0s
ULN Ulaanbaatar 54.80 305 P **P** **05 07 43.5 -0.3**
ULN PcP **PcP** **05 08 46.0 +0.7**
APA Apatity 55.03 356⇓*iP* **P** **05 07 41.3 -3.8**
APA pmax pmax
comp=Z,7.0nm,0.7s
SONM Songino Array 55.11 306 P **P** **05 07 46.5 +0.4**
SONM Songino Array 55.11 306 P **P** **05 07 46.3 +0.1**
comp=Z,46nm,0.9s,baz=46,slow=7.1,SNR=160
SONM PcP **PcP** **05 08 46.9 +0.4**
comp=Z,16nm,0.9s,baz=101,slow=1.5,SNR=6.2
SONM LR LR 05 32 15.6
comp=Z,221nm,21.9s,baz=38,slow=37
comp=Z,46nm,0.9s
SONM Songino Array 55.11 306 P **P** **05 07 46.5 +0.4**
SONM pmax pmax
comp=Z,86nm,1.1s
553A Crawfordville 55.14 88 IAmb IAmb 05 08 09.8
comp=Z,45nm,0.9s
BJI Beijing 56.44 293 P **P** **05 07 55.0 -0.5**
BJI PcP **PcP** **05 08 52.0 +0.4**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI pmax pmax
comp=Z,67nm,4.7s
BJI LR LR
comp=Z,110nm,14.4s
BJI LR LR
comp=Z,88nm,13.6s
BJI LR LR
comp=Z,90nm,20.0s
TLIG Tlapa 57.85 109 P **P** **05 08 05.9 0.0**
TLIG IAmb IAmb 05 08 08.1
comp=Z,24nm,0.9s
TLIG pP **pP** **05 08 24.6 -1.2**
HHC Hu-ho-hao-te 58.08 297 *eP* **P** **05 08 07.1 -0.1**
HHC PcP **PcP** **05 08 54.4 -3.8**
HHC S **S** **05 15 59.1 -2.8**
HHC pmax pmax
comp=Z,37nm,1.1s
HHC pmax pmax
comp=Z,83nm,5.3s
HHC LR LR
comp=Z,270nm,13.4s
HHC LR LR
comp=Z,150nm,16.2s
HHC LR LR
comp=Z,180nm,17.7s
ADZR Andozero 58.40 353 *eP* **P** **05 08 05.7 -3.2**
ADZR pmax pmax
comp=Z,31nm,0.6s
ZAA0 Zalesovo Array 58.53 323 P **P** **05 08 09.3 -0.7**
ZAA0 IAmb IAmb 05 08 11.0
comp=Z,42nm,1.1s
ZALV Zalesovo Beam 58.53 323 P **P** **05 08 09.8 -0.2**
ZALV Zalesovo Beam 58.53 323 P **P** **05 08 09.7 -0.3**
comp=Z,27nm,0.9s,baz=32,slow=5.9,SNR=67
ZALV PcP **PcP** **05 08 59.5 -0.1**
comp=Z,12nm,0.8s,baz=34,slow=5.6,SNR=5.2
ZALV LR LR 05 35 23.0
comp=Z,207nm,18.3s,baz=28,slow=38
comp=Z,27nm,0.9s
BTO Baotou 59.01 298 *eP* **P** **05 08 12.2 -1.5**
BTO pP **pP** **05 08 32.7 -1.1**
BTO sP **sP** **05 08 44.6 +1.9**
BTO PP **PP** **05 10 21.6 -2.8**
BTO S **S** **05 16 10.2 -3.8**
BTO pmax pmax
comp=Z,28nm,1.0s
BTO pmax pmax
comp=Z,220nm,5.7s
BTO LR LR
comp=Z,450nm,13.3s
BTO LR LR
comp=Z,640nm,9.5s
BTO LR LR
comp=Z,400nm,14.3s
HNS HongShan 59.20 292 ⇑P **P** **05 08 14.8 -0.1**
HNS S **S** **05 16 22.6 +6.2**
HNS pmax pmax
comp=Z,29nm,1.1s
HNS LR LR
comp=Z,340nm,19.1s
HNS LR LR
comp=Z,340nm,19.1s
HNS LR LR
comp=Z,220nm,20.7s
VAF Ylistaro 59.75 1 *eP* **P** **05 08 17.3 -1.0**
JOF Joensuu 59.76 356 *eP* **P** **05 08 17.8 -0.6**
CMIG Matias Romero 60.14 106 LR LR 05 33 20.5
comp=Z,86nm,20.9s,baz=344,slow=35
JOW Kunigami 60.39 274 P **P** **05 08 23.7 +0.5**
KEF Keuruu 60.64 360 *eP* **P** **05 08 23.6 -0.8**
TEIG Tepich 61.04 98 P **P** **05 08 27.9 +0.2**
TEIG IAmb IAmb 05 08 49.6
comp=Z,42nm,1.1s
TEIG Tepich 61.04 98 LR LR 05 36 12.8
comp=Z,810nm,21.3s,slow=37
TEIG Tepich 61.04 98 P **P** **05 08 28.0 +0.3**
TEIG pP **pP** **05 08 48.1 +0.4**
NC204 NORSAR Array S 61.06 7 P **P** **05 08 28.1 +0.8**
NC204 IAmb IAmb 05 08 28.6
comp=Z,12nm,0.7s
NC303 NORSAR Array S 61.15 7 P **P** **05 08 28.0 +0.2**
NC303 IAmb IAmb 05 09 02.9
comp=Z,29nm,1.4s
NJ2 Nanjing 61.27 285 *eP* **P** **05 08 32.5 +3.4**
NJ2 pmax pmax
comp=Z,45nm,0.5s
NC405 NORSAR Array S 61.28 7 P **P** **05 08 29.1 +0.3**
NBO00 NORSAR Array S 61.30 7 P **P** **05 08 29.4 +0.5**
NB201 NORSAR Array S 61.32 7 P **P** **05 08 29.2 +0.1**
NB2 NORSAR Subarra 61.32 7 P **P** **05 08 28.7 -0.4**
comp=Z,15nm,0.9s,baz=352,slow=6.9
NB2 NORSAR Subarra 61.32 7 P **P** **05 08 30.0 +0.9**
NOA NORSAR Array B 61.32 7 P **P** **05 08 28.9 -0.1**
comp=Z,7.3nm,0.7s,baz=353,slow=6.8,SNR=33
comp=Z,7.3nm,0.7s
NOA NORSAR Array B 61.32 7 P **P** **05 08 29.0 -0.1**
FIA1 FINESS Array S 61.36 359 P **P** **05 08 28.9 -0.3**
FINES FINESS Array B 61.36 359 P **P** **05 08 28.3 -0.9**
FINES FINESS Array B 61.36 359 P **P** **05 08 28.4 -0.8**
comp=Z,11nm,0.6s,baz=15,slow=7.9,SNR=59
FINES LR LR 05 36 32.7
comp=Z,123nm,18.9s,baz=14,slow=38
comp=Z,11nm,0.6s
RAF Rauma 61.77 1 *eP* **P** **05 08 30.9 -1.0**
RAF Rauma 61.77 1 AML AML 05 09 04.6
comp=Z,2.5nm,0.4s
RAF Rauma 61.77 1 *eP* **P** **05 08 31.2 -0.8**
RAF Rauma 61.77 1 AML AML 05 08 32.4
comp=Z,9.0nm,0.7s
RAF Rauma 61.77 1 AML AML 05 08 32.7
comp=N,4.6nm,0.8s
CCIG Comitan 62.25 104 P **P** **05 08 36.1 +0.1**
CCIG IAmb IAmb 05 08 38.5
comp=Z,26nm,1.1s
SVE Sverdlovsk 62.33 338 *eP* **P** **05 08 35.1 -0.8**
SVE pmax pmax
comp=Z,56nm,1.1s
HFS Hagfors 62.38 6 P **P** **05 08 35.7 -0.4**
comp=Z,11nm,0.5s,baz=57,slow=5.5,SNR=62
comp=Z,11nm,0.5s
KIRV Kirov 62.53 346 P **P** **05 08 35.7 -1.4**
comp=Z,18nm,0.7s,baz=250,slow=2.5,SNR=9.5
KIRV LR LR 05 37 53.3
comp=Z,66nm,21.2s,baz=16,slow=38
comp=Z,18nm,0.7s
LYN LuoYang 62.56 292 ⇑P **P** **05 08 37.5 -0.2**
LYN pP pP 05 08 54.3 -3.7
LYN sP sP 05 09 05.4 -1.4
LYN PcP **PcP** **05 09 10.6 -5.5**
LYN pmax pmax
comp=Z,75nm,1.0s
LYN pmax pmax
comp=Z,280nm,3.6s
LYN LR LR
comp=Z,570nm,19.7s
LYN LR LR
comp=Z,530nm,16.0s
LYN LR LR
comp=Z,390nm,16.5s
KONO Kongsberg 62.59 8 P **P** **05 08 38.4 +0.9**
KONO IAmb IAmb 05 08 38.9
comp=Z,17nm,0.8s
KONO Kongsberg 62.59 8*d iP* **P** **05 08 38.0 +0.5**
KONO pmax pmax
comp=Z,20nm,0.8s
KONO Kongsberg 62.59 8 P **P** **05 08 38.2 +0.7**
MEF Metsahovi 62.60 360 *eP* **P** **05 08 37.3 -0.3**
PETF Flores 62.92 101 P **P** **05 08 40.5 +0.2**
PETF IAmb IAmb 05 09 02.9
comp=Z,31nm,1.2s
SEM Semipalatinsk 63.02 324 *eP* **P** **05 08 39.7 -1.2**
comp=Z,21nm,1.1s,baz=323
SEM Semipalatinsk 63.02 324 *eP* **P** **05 08 39.7 -1.2**
SEM pmax pmax
comp=Z,21nm,1.1s
ARU Arti 63.11 339 P **P** **05 08 40.0 -1.0**
ARU Arti 63.11 339 P **P** **05 08 40.0 -1.0**
comp=Z,21nm,0.6s,baz=359,slow=3.0,SNR=42
ARU LR LR 05 39 16.3
comp=Z,122nm,18.2s,baz=347,slow=39
comp=Z,21nm,0.6s
ARU Arti 63.11 339*c iP* **P** **05 08 39.9 -1.0**
ARU *PP **pP** **05 08 57.6 -3.7**
ARU S **S** **05 17 05.3 -0.1**
ARU SS **SS** **05 21 07.0 -4.3**
ARU pmax pmax
comp=Z,60nm,1.2s
ARU Arti 63.11 339 P **P** **05 08 40.0 -1.0**
ARU Arti 63.11 339 P **P** **05 08 39.7 -1.3**
comp=Z,54nm,1.0s
MCD Coleburn Disti 63.13 16 *eP* **P** **05 08 41.8 +0.6**
MCD IAmb IAmb 05 08 43.1
comp=Z,32nm,1.0s
KURK Kurchatov 63.27 325 P **P** **05 08 41.7 -0.5**
KURK IAmb IAmb 05 08 43.0
comp=Z,38nm,1.0s
KURK Kurchatov 63.27 325*c iP* **P** **05 08 41.6 -0.5**
KURK *i **PP* **pP** **05 08 58.2 -4.2**
KURK pmax pmax
comp=Z,49nm,1.3s
KURK Kurchatov 63.27 325 P **P** **05 08 41.7 -0.5**
KURK PcP **PcP** **05 09 18.6 -0.2**
ARBE Arbavere 63.37 359 *eP* **P** **05 08 42.4 -0.3**
ARBE Arbavere 63.37 359 AML AML 05 08 49.9
comp=N,47nm,0.5s
ARBE Arbavere 63.37 359 *eP* **P** **05 08 39.9 -2.8**
ARBE Arbavere 63.37 359 AML AML 05 08 43.5
comp=Z,124nm,0.4s
ARBE Arbavere 63.37 359 AML AML 05 08 49.2
comp=E,31nm,0.5s
KURBB Kurchatov Arra 63.38 325 P **P** **05 08 42.3 -0.6**
comp=E,18nm,0.8s,baz=28,slow=6.1,SNR=70
KURBB PcP **PcP** **05 09 18.8 -0.4**
comp=E,3.5nm,0.5s,baz=39,slow=4.0,SNR=8.8
KURBB S **S** **05 17 07.8 -1.2**
comp=E,0.4nm,0.4s,baz=180,slow=15,SNR=5.1
KURBB LR LR 05 38 42.7
comp=E,118nm,19.0s,baz=200,slow=38
comp=E,18nm,0.8s
KURBB Kurchatov Arra 63.38 325 P **P** **05 08 41.3 -1.6**
BRVK Borovoye 63.58 331 P **P** **05 08 43.7 -0.5**
BRVK Borovoye 63.58 331*c iP* **P** **05 08 43.6 -0.6**
BRVK pmax pmax
comp=Z,78nm,1.0s
BRVK Borovoye 63.58 331 P **P** **05 08 43.8 -0.5**
BVA0 Borovoye Array 63.58 331 *i* P **P** **05 08 43.1 -1.1**
BVAR Borovoye Array 63.58 331 P **P** **05 08 43.6 -0.6**
comp=Z,68nm,0.8s,baz=42,slow=6.8,SNR=176
BVAR LR LR 05 39 27.6
comp=Z,135nm,18.4s,baz=20,slow=39
comp=Z,68nm,0.8s
DRUM Mains of Drumt 63.90 16 *eP* **P** **05 08 46.7 +0.5**
DRUM IAmb IAmb 05 08 47.4
comp=Z,43nm,0.6s
ZSN Zaisan 64.01 319 *eP* **P** **05 08 47.4 +0.2**
comp=Z,35nm,0.9s,baz=319
ZSN Zaisan 64.01 319 *eP* **P** **05 08 47.3 +0.2**
ZSN pmax pmax
comp=Z,35nm,0.9s
MTSE Matsula 64.10 0 *eP* **P** **05 08 47.4 -0.1**
MTSE Matsula 64.10 0 *eS* **P** **05 08 47.4 -0.1**
INVG Invergeldie, C 64.12 17 *eP* **P** **05 08 48.0 +0.3**
VIKU Vikbolandet 64.16 4 *eP* **P** **05 08 47.7 -0.2**
VSU Vasula 64.34 359*c iP* **P** **05 08 48.7 -0.3**
VSU pmax pmax
comp=Z,70nm,1.3s
GTA Gaotai 64.68 304 ⇑P **P** **05 08 50.8 -1.0**
GTA sS sS 05 17 56.9 -3.4
GTA pmax pmax
comp=Z,32nm,1.2s
GTA LR LR
comp=Z,170nm,18.2s
GTA LR LR
comp=Z,350nm,20.7s
XAN Xi'an 64.73 294 ⇑P **P** **05 08 51.3 -0.8**
XAN S **S** **05 17 22.6 -3.6**
XAN pmax pmax
comp=Z,35nm,1.4s
XAN pmax pmax
comp=Z,180nm,4.5s
XAN LR LR
comp=Z,270nm,14.7s
XAN LR LR
comp=Z,310nm,18.2s
XAN LR LR
comp=Z,380nm,24.9s
WHN Wuhan 64.80 288⇑*iP* **P** **05 08 51.8 -0.7**
WHN pmax pmax
comp=Z,56nm,0.8s
ESQI Esquipulas 65.16 102 P **P** **05 08 55.2 +0.1**
ESQI IAmb IAmb 05 08 58.9
comp=Z,37nm,0.9s
SLIT Slitere, Latvi 65.18 1 *eP* **P** **05 08 54.2 -0.3**
SLIT Slitere, Latvi 65.18 1 AML AML 05 09 00.9
comp=E,48nm,0.5s
SLIT Slitere, Latvi 65.18 1 *eS* **P** **05 08 54.3 -0.2**
SLIT Slitere, Latvi 65.18 1 AML AML 05 08 54.6
comp=Z,114nm,0.6s
SLIT Slitere, Latvi 65.18 1 AML AML 05 09 00.8
comp=N,67nm,0.5s
MTO3 Montecristo 65.28 102 P **P** **05 08 55.9 -0.1**
EKA Eskdalemuir Ar 65.32 17 P **P** **05 08 56.1 +0.6**
comp=N,4.6nm,0.4s,baz=336,slow=5.5,SNR=72
comp=N,4.6nm,0.4s
ESK Eskdalemuir 65.33 17 *eP* **P** **05 08 55.8 +0.3**
ESK IAmb IAmb 05 08 57.4
comp=Z,24nm,1.1s
ESK Eskdalemuir 65.33 17 P **P** **05 08 55.3 -0.2**
ESK Eskdalemuir 65.33 17 P **P** **05 08 55.3 -0.2**
ESK pmax pmax
comp=Z,104nm,1.8s
MK31 Makanchi Array 65.47 320 P **P** **05 08 55.8 -0.9**
MK31 IAmb IAmb 05 08 57.0
comp=Z,26nm,1.1s
MK31 Makanchi Array 65.47 320*c iP* **P** **05 08 55.7 -1.0**
MKAR Makanchi Array 65.47 320 P **P** **05 08 55.9 -0.8**
comp=Z,19nm,0.8s,baz=42,slow=5.9,SNR=140
MKAR LR LR 05 41 31.4
comp=Z,197nm,19.0s,baz=26,slow=40
comp=Z,19nm,0.8s
GAL1 Galloway 65.51 18 *eP* **P** **05 08 57.3 +0.6**
GAL1 IAmb IAmb 05 09 00.7
comp=Z,20nm,0.8s
LZH Lanzhou 65.53 299 ⇑P **P** **05 08 56.7 -0.7**
LZH pP pP 05 09 20.7 +2.9
LZH sP PcP 05 09 29.7 +1.2
LZH pmax pmax
comp=Z,36nm,1.5s
LZH LR LR
comp=Z,250nm,15.5s
LZH LR LR
comp=Z,400nm,15.1s
LZH LR LR
comp=Z,210nm,15.8s
MAKZ Makanchi 65.57 320 P **P** **05 08 56.8 -0.5**
MAKZ IAmb IAmb 05 08 57.8
comp=Z,40nm,1.1s
MAKZ Makanchi 65.57 320 P **P** **05 08 56.8 -0.5**
MAKZ pmax pmax
comp=Z,40nm,1.1s
MAKZ Makanchi 65.57 320 P **P** **05 08 56.4 -0.9**
BRZS Berezniki 65.70 328 *eP* **P** **05 08 57.2 -0.8**
comp=Z,26nm,1.0s,baz=328
BRZS Berezniki 65.70 328 *eP* **P** **05 08 57.2 -0.8**
BRZS pmax pmax
comp=Z,26nm,1.0s
DEL Delary 66.04 6 *eP* **P** **05 08 60.0 -0.1**
WMQ Urumqi 66.06 315 *eP* **P** **05 09 00.9 +0.4**
WMQ sP PcP 05 09 30.8 +0.4
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ pmax pmax
comp=Z,95nm,4.1s
NACB Ninganchiao 66.10 278 P **P** **05 09 00.2 -0.8**
MOS Moscow 66.58 352 *eP* **P** **05 09 01.1 -2.4**
MOS *e* 05 09 19.1
MOS *e* 05 09 31.6
MOS pmax pmax
comp=Z,37nm,0.7s
TGUH Tegucigalpa,Un 66.67 101 P **P** **05 09 05.3 +0.5**
TGUH IAmb IAmb 05 09 08.6
comp=Z,37nm,0.8s
SSLB Suanglung 66.76 278 P **P** **05 09 04.6 -0.6**
SSLB Suanglung 66.76 278 P **P** **05 09 05.0 -0.3**
YULB Yu-li 66.89 277 P **P** **05 09 06.6 +0.5**
WPS Cemaes, Angles 66.96 18 *eP* **P** **05 09 06.1 +0.1**
OBN Obninsk 67.28 352 P **P** **05 09 07.2 -0.8**
OBN IAmb IAmb 05 09 08.0
comp=Z,36nm,0.9s
OBN Obninsk 67.28 352 P **P** **05 09 07.1 -0.8**
comp=Z,20nm,0.4s,baz=149,slow=22,SNR=9.2
comp=Z,20nm,0.4s
OBN Obninsk 67.28 352*c iP* **P** **05 09 07.0 -0.9**
OBN *e**PP **pP** **05 09 27.1 -1.3**
OBN *e* 05 09 35.3
OBN *e* 05 11 36.1
OBN *e*PPP PPP 05 13 13.3
OBN pmax pmax
comp=Z,37nm,0.9s
OBN MLR MLR
comp=Z,72nm,12.0s
PABE Paberze 67.32 0 P **P** **05 09 08.1 -0.1**
PABE Paberze 67.32 0 *eP* **P** **05 09 07.8 -0.4**
TPUB Ta-pu 67.32 278 P **P** **05 09 08.5 -0.3**
TPUB IAmb IAmb 05 09 11.0
comp=Z,42nm,0.9s
OTUK Ortayu 67.36 327 P **P** **05 09 07.7 -1.0**
ENH Enshi 67.49 291 P **P** **05 09 09.1 -0.7**
ENH IAmb IAmb 05 09 10.4
comp=Z,33nm,1.1s
CWF Charnwood Fore 68.11 16 *eP* **P** **05 09 13.5 +0.3**
MNK Minsk 68.29 358 *iP* **P** **05 09 13.9 -0.4**
MNK *i* *PP **pP** **05 09 31.5 -3.4**
MNK *i* 05 11 44.4
MNK *i* PPP PPP 05 13 24.8
MNK *i* S **S** **05 18 09.2 +0.7**
MNK *i* *SS **sS** **05 18 44.0 +0.6**
MNK *i* SS **SS** **05 22 39.6 +8.0**
MNK pmax pmax
comp=E,7.0nm,0.8s
MNK pmax pmax
comp=Z,49nm,1.0s
MNK pmax pmax
comp=N,25nm,0.9s
MNK MLR MLR
comp=Z,122nm,11.0s
MNK MLR MLR
comp=E,51nm,20.0s
MNK MLR MLR
comp=N,96nm,16.0s
RSBS Rosebush, Pemb 68.31 19 *eP* **P** **05 09 14.6 +0.1**
RSBS IAmb IAmb 05 09 15.9
comp=Z,44nm,1.0s
TDK Taldyqorghan 68.36 322 *eP* **P** **05 09 15.0 0.0**
comp=Z,31nm,0.7s,baz=322
TDK Taldyqorghan 68.36 322 *eP* **P** **05 09 15.0 0.0**
TDK pmax pmax
comp=Z,31nm,0.7s
MTDJ Mount Denham 68.45 90 P **P** **05 09 15.5 -0.5**
MTDJ IAmb IAmb 05 09 18.0
comp=Z,51nm,0.9s
BELG Belogornoye 68.79 345 P **P** **05 09 16.6 -0.9**
comp=Z,42nm,0.6s,baz=276,slow=2.1,SNR=12
comp=Z,42nm,0.6s
BELG Belogornoye 68.79 345*c iP* **P** **05 09 16.4 -1.1**
BELG pmax pmax
comp=Z,19nm,1.0s
SUW Suwalki 68.81 1 *eP* **P** **05 09 16.9 -0.7**
SUW Suwalki 68.81 1 P **P** **05 09 16.9 -0.7**
SUW Suwalki 68.81 1 *eP* **P** **05 09 17.2 -0.4**
SUW Suwalki 68.81 1 P **P** **05 09 16.9 -0.7**
SUW pmax pmax

comp=Z,63nm,1.0s
AKTO Aktyubinsk 68.88 338 P P 05 09 17.5 -0.7
comp=Z,40nm,0.8s,baz=17,slow=4.8,SNR=103
AKTO S S 05 18 13.8 -1.9
comp=Z,0.8nm,0.4s,baz=282,slow=22,SNR=10
AKTO LR LR 05 41 26.9
comp=Z,90nm,20.0s,baz=32,slow=38
comp=Z,40nm,0.8s
PDGK Podgornoye 69.47 320 P P 05 09 21.7 -0.3
WOL Wolverton 69.51 17 eP P 05 09 22.8 +0.8
GOMU GeErMu 69.56 306 P P 05 09 22.6 -0.4
GOMU pmax pmax
comp=Z,30nm,0.9s
GOMU LR LR
comp=Z,330nm,15.1s
GOMU LR LR
comp=Z,390nm,15.9s
GOMU LR LR
comp=Z,360nm,17.4s
LPSR Galich'ya Gora 69.58 351 eP P 05 09 20.4 -2.0
LPSR pmax pmax
comp=Z,30nm,1.0s
AB31 Akbulak array 69.59 336 i P P 05 09 21.5 -1.0
ABKAR Akbulak array 69.59 336 P P 05 09 22.0 -0.5
ABKAR IAmb IAmb 05 09 23.0
comp=Z,47nm,0.9s
SHLS Shalkode 69.63 320 eP P 05 09 22.7 -0.4
comp=Z,38nm,0.9s,baz=320
SHLS Shalkode 69.63 320 eP P 05 09 22.6 -0.4
SHLS pmax pmax
comp=Z,38nm,0.9s
UZB Uzynbulak 69.79 320 eP P 05 09 24.0 -0.1
baz=320
UZB Uzynbulak 69.79 320 eP P 05 09 23.9 -0.1
ESPN Las Esperanzas 69.80 99 P P 05 09 23.7 -0.5
ESPN IAmb IAmb 05 09 25.2
comp=Z,27nm,0.9s
CD2 Chengdu 69.80 296 P P 05 09 24.0 -0.2
CD2 pmax pmax
comp=Z,20nm,0.4s
CHKK Chushkaly 69.84 322 eP P 05 09 23.6 -0.7
baz=322
CHKK Chushkaly 69.84 322 eP P 05 09 23.5 -0.7
ZHN Zhinishke 69.97 321 eP P 05 09 25.1 0.0
baz=321
ZHN Zhinishke 69.97 321 eP P 05 09 25.1 0.0
SATY Saty 70.08 321 eP P 05 09 26.1 +0.2
baz=321
SATY Saty 70.08 321 eP P 05 09 26.0 +0.2
MDOK Medeo 70.44 322 eP P 05 09 28.0 0.0
baz=322
MDOK Medeo 70.44 322 eP P 05 09 28.0 0.0
AAA Alma-Ata 70.44 322 eP P 05 09 28.4 +0.5
comp=Z,21nm,0.4s,baz=322
AAA Alma-Ata 70.44 322 eP P 05 09 28.4 +0.5
AAA pmax pmax
comp=Z,21nm,0.4s
VORR Voronezh 70.48 350 eP P 05 09 26.9 -1.0
VORR pmax pmax
comp=Z,46nm,1.4s
BUG Bochum-Univer 70.49 11 P P 05 09 28.7 +0.7
TNSS Tian-Shan 70.59 322 eP P 05 09 29.2 -0.1
baz=322
TNSS Tian-Shan 70.59 322 eP P 05 09 29.1 -0.1
VRH Novokhopyorsk 70.69 349 eP P 05 09 26.4 -2.8
VRH pmax pmax
comp=Z,20nm,0.7s
VSR Storozhevoye 70.94 350 eP P 05 09 28.7 -2.0
VSR pmax pmax
comp=Z,20nm,0.6s
SGDS Sogindy 70.97 324 eP P 05 09 31.5 +0.3
comp=Z,28nm,1.2s,baz=324
SGDS Sogindy 70.97 324 eP P 05 09 31.4 +0.3
SGDS pmax pmax
comp=Z,28nm,1.2s
JTS Las Juntas de 71.04 101 LR LR 05 43 58.1
comp=Z,73nm,19.6s,baz=318,slow=38
GULI GuiLin 71.10 287 ⇑P **P 05 09 31.3 -0.8**
GULI pmax pmax
comp=Z,50nm,1.1s
CLL Collm 71.13 7 P **P 05 09 32.1 +0.3**
CLL Collm 71.13 7⇑*i*P **P 05 09 31.9 +0.1**
comp=Z,28nm,1.2s
CLL *i* pP **pP 05 09 55.8 +3.3**
CLL AMS AMS 05 38 00.0
comp=Z,200nm,18.5s
CLL Collm 71.13 7⇑*i*P **P 05 09 31.9 +0.1**
CLL *i* *PP **pP 05 09 55.8 +3.3**
CLL pmax pmax
comp=Z,28nm,1.2s
CLL Collm 71.13 7 P **P 05 09 31.7 -0.1**
comp=Z,27nm,1.0s
TKM2 Tokmak 2 71.14 323 P **P 05 09 32.8 +0.5**
SNR=43
TKM2 Tokmak 2 71.14 323 P **P 05 09 31.8 -0.5**
BSTI Sart Tilman 71.15 13 *dP* **P 05 09 32.6 +0.7**
comp=Z,8.3nm,0.8s
VORD Divnogorie 71.17 350 *eP* **P 05 09 29.8 -2.3**
VORD pmax pmax
comp=Z,20nm,0.6s
MEM Membach 71.17 12 *dP* **P 05 09 32.8 +0.6**
comp=Z,20nm,0.9s
USP Ospenovka 71.18 324 P **P 05 09 32.8 +0.4**
SNR=13
BTNL Ternell 71.21 12 *dP* **P 05 09 33.0 +0.6**
comp=Z,19nm,1.2s
BCLA Clavier 71.28 13 *dP* **P 05 09 33.2 +0.5**
comp=Z,12nm,1.2s
BGES Gesves 71.29 13 *dP* **P 05 09 33.3 +0.5**
comp=Z,18nm,0.8s
BMRD Maredsous 71.33 13 *dP* **P 05 09 33.8 +0.8**
comp=Z,28nm,1.1s
CHMS Chumysh 71.34 323 P **P 05 09 34.0 +0.6**
SNR=26
BOOM Boomskoye usch 71.41 322 P **P 05 09 34.5 +0.6**
BOOM IAmb IAmb 05 09 35.4
comp=Z,52nm,0.9s
BOOM Boomskoye usch 71.41 322 P **P 05 09 34.5 +0.6**
BOOM pmax pmax
comp=Z,52nm,0.9s
BHOU Houvegnez 71.42 12 *dP* **P 05 09 34.8 +1.1**
comp=Z,8.4nm,0.9s
WUS Wushi 71.44 319 P **P 05 09 34.4 +0.3**
TARG Taragay, Kyrgy 71.46 321 P **P 05 09 34.7 +0.1**
TARG IAmb IAmb 05 09 36.6
comp=Z,19nm,0.6s
TARG Taragay, Kyrgy 71.46 321 P **P 05 09 34.7 +0.1**
TARG pmax pmax
comp=Z,19nm,0.6s
RNPP8 Varash 71.49 359 P **P 05 09 33.5 -0.5**
DOU Dourbes 71.51 13 *dP* **P 05 09 34.8 +0.7**
comp=Z,20nm,1.0s
ULHL Ulahoi 71.53 322 P **P 05 09 35.2 +0.5**
SNR=19
RCHB Rochefort 71.53 13 *dP* **P 05 09 34.9 +0.6**
comp=Z,22nm,1.1s
FRU1 Bishkek 71.55 323 P **P 05 09 35.4 +0.8**
FRU1 Bishkek 71.55 323 P **P 05 09 35.4 +0.8**
FRU1 pmax pmax
comp=Z,122nm,1.1s
KBK Karagaybulak 71.58 323 P **P 05 09 35.6 +0.6**
SNR=29
RNPP5 Staryi Chortor 71.60 359 P **P 05 09 34.4 -0.3**
BRG Berggiesshubel 71.62 7 *i* P **P 05 09 35.2 +0.4**
BRG Amp 05 09 36.4
comp=Z,28nm,1.1s
BRG pP **pP 05 09 59.1 +3.6**
BRG Amp 05 10 00.2
comp=Z,15nm,1.1s
AAK Ala-Archa 71.75 323 P **P 05 09 36.2 +0.2**
SNR=41
AAK Ala-Archa 71.75 323 P **P 05 09 36.4 +0.5**
AAK IAmb IAmb 05 09 37.4
comp=Z,60nm,1.0s
AAK Ala-Archa 71.75 323 LR LR 05 42 05.9
comp=Z,191nm,20.2s,baz=24,slow=37
AAK Ala-Archa 71.75 323*c i*P **P 05 09 36.4 +0.5**
AAK pmax pmax
comp=Z,80nm,1.3s
AAK Ala-Archa 71.75 323 P **P 05 09 36.4 +0.5**
HSKC Hora Svate Kat 71.85 7 *eP* **P 05 09 37.0 +0.7**
MI28 Mi28,Pidlybu 71.87 358 P **P 05 09 36.0 -0.3**
EKS2 Erkin-Say 71.95 324 P **P 05 09 37.7 +0.6**
SNR=62
AK21 Malin Array Si 71.99 357 P **P 05 09 36.0 -1.0**
AK23 Malin Array Si 72.00 357 P **P 05 09 36.0 -1.1**

PVCC Panska Ves 72.01 7 *eP* **P 05 09 38.0 +0.9**
PVCC Panska Ves 72.01 7 *eP* **P 05 09 38.0 +0.9**
GYA Guiyang 72.03 291 ⇓P **P 05 09 37.8 0.0**
GYA pmax pmax
comp=Z,32nm,1.0s
CHVC Chvalec 72.03 6 *eP* **P 05 09 37.9 +0.6**
CHVC Chvalec 72.03 6 *eP* **P 05 09 37.9 +0.6**
AKASG Malin Array Be 72.06 357 P **P 05 09 36.6 -0.8**
comp=Z,28nm,0.8s,baz=0.4,slow=5.7,SNR=70
AKASG LR LR 05 40 50.9
comp=Z,50nm,21.9s,baz=20,slow=36
comp=Z,28nm,0.8s
KIEV Kiev 72.07 357 ⇑P **P 05 09 36.7 -0.8**
KIEV Kiev 72.07 357 P **P 05 09 36.7 -0.8**
KIEV IAmb IAmb 05 09 37.6
comp=Z,35nm,0.8s
KIEV Kiev 72.07 357 P **P 05 09 36.7 -0.8**
KIEV Kiev 72.07 357 P **P 05 09 36.5 -1.0**
KIEV pP **pP 05 09 57.6 -0.6**
OSTC Ostas 72.07 5 *eP* **P 05 09 38.1 +0.5**
OSTC Ostas 72.07 5 *eP* **P 05 09 38.1 +0.5**
UCH Uchtor 72.11 323 P **P 05 09 39.0 +0.5**
SNR=18
UPC Upice 72.11 6 *eP* **P 05 09 38.4 +0.6**
UPC Upice 72.11 6 *eP* **P 05 09 38.4 +0.6**
WLF Walferdange 72.12 12 P **P 05 09 38.2 +0.3**
WLF IAmb IAmb 05 09 40.0
comp=Z,68nm,1.4s
WLF Walferdange 72.12 12 *dP* **P 05 09 39.0 +1.1**
comp=Z,16nm,1.2s
WLF Walferdange 72.12 12 P **P 05 09 38.2 +0.3**
NKC Novy Kostel 72.16 8 *eP* **P 05 09 38.9 +0.8**
NKC Novy Kostel 72.16 8 *eP* **P 05 09 38.9 +0.8**
DPC Dobruska-Polom 72.28 5 *eP* **P 05 09 39.8 +0.9**
DPC Dobruska-Polom 72.28 5 *eP* **P 05 09 39.8 +0.9**
DZA Taraz 72.51 326 *eP* **P 05 09 40.4 0.0**
comp=Z,20nm,0.8s,baz=326
DZA Taraz 72.51 326 *eP* **P 05 09 40.3 0.0**
DZA pmax pmax
comp=Z,20nm,0.8s
PRU Pruhonice 72.54 7 *eP* **P 05 09 41.0 +0.7**
PRU Pruhonice 72.54 7 *eP* **P 05 09 41.0 +0.7**
OJC Ojcow 72.55 3 *eP* **P 05 09 40.5 +0.2**
OJC Ojcow 72.55 3 P **P 05 09 40.7 +0.3**
OJC Ojcow 72.55 3 P **P 05 09 40.7 +0.3**
OJC pmax pmax
comp=Z,12nm,0.9s
KK31 Karatay Array 72.56 326 P **P 05 09 40.4 -0.2**
KK31 IAmb IAmb 05 09 41.5
comp=Z,60nm,1.0s
KK31 Karatay Array 72.56 326 P **P 05 09 40.4 -0.2**
KK31 pmax pmax
comp=Z,60nm,1.0s
KKAR Karatay Array 72.56 326 P **P 05 09 40.5 -0.1**
KKAR IAmb IAmb 05 09 41.5
comp=Z,59nm,1.0s
KKAR Karatay Array 72.56 326 P **P 05 09 40.5 -0.1**
KKAR pmax pmax
comp=Z,59nm,1.0s
KRLC Kraliky 72.58 5 *eP* **P 05 09 41.3 +0.7**
KRLC *es*P **sP 05 10 09.2 -0.8**
KRLC Kraliky 72.58 5 *eP* **P 05 09 41.3 +0.7**
KRLC *e* 05 10 09.2
BRLS Borolday 72.83 327 *eP* **P 05 09 43.4 +1.1**
baz=327
BRLS Borolday 72.83 327 *eP* **P 05 09 43.3 +1.1**
LUBAR Lubar, Ukraine 72.88 358 P **P 05 09 41.2 -1.1**
MORC Moravsky Berou 72.91 5 ⇓P **P 05 09 42.5 -0.1**
MORC Moravsky Berou 72.91 5 P **P 05 09 42.9 +0.3**
MORC Moravsky Berou 72.91 5 *eP* **P 05 09 42.8 +0.2**
MORC Moravsky Berou 72.91 5 P **P 05 09 42.9 +0.3**
MORC pmax pmax
comp=Z,14nm,1.0s
LVV L'vov 73.02 0 *eP* **P 05 09 42.8 -0.4**
LVV *e* 05 10 06.6
LVV *e* 05 19 05.4
ZVC Zvikov 73.07 7 *eP* **P 05 09 44.4 +0.9**
KWP Kalwaria Pacla 73.20 1 *eP* **P 05 09 45.1 +0.8**
KWP Kalwaria Pacla 73.20 1 P **P 05 09 44.9 +0.7**
KWP IAmb IAmb 05 09 46.1
comp=Z,69nm,1.2s
KWP Kalwaria Pacla 73.20 1 P **P 05 09 44.9 +0.7**
KWP pmax pmax
comp=Z,69nm,1.2s
KWP Kalwaria Pacla 73.20 1 P **P 05 09 45.0 +0.8**
comp=Z,49nm,1.1s,comp=Z,2µm
CLF Chambon-Foret 73.23 15 P **P 05 09 45.3 +0.9**
KHC Kasperske Hory 73.33 7 P **P 05 09 45.8 +0.8**
KHC IAmb IAmb 05 09 47.1
comp=Z,39nm,1.1s
KHC Kasperske Hory 73.33 7 *eP* **P 05 09 46.1 +1.0**
KHC *ex* x 05 10 26.0
KHC Kasperske Hory 73.33 7*c i*P **P 05 09 45.9 +0.8**
KHC pmax pmax
comp=Z,59nm,1.0s
MAUC Maruska 73.33 4 *eP* **P 05 09 45.9 +0.8**
VRAC Vranov 73.34 5 ⇑P **P 05 09 45.6 +0.5**
VRAC Vranov 73.34 5 *eP* **P 05 09 45.4 +0.3**
VRAC Vranov 73.34 5 P **P 05 09 45.6 +0.5**
comp=Z,11nm,0.6s,baz=352,slow=6.4,SNR=15
comp=Z,11nm,0.6s
NIE Niedzica 73.37 3 *eP* **P 05 09 45.4 +0.2**
NIE Niedzica 73.37 3 P **P 05 09 45.8 +0.5**
comp=Z,7.5nm,1.2s
STHS Stebnicka Huta 73.39 2 *eP* **P 05 09 45.3 -0.1**
STHS Stebnicka Huta 73.39 2 *eP* **P 05 09 45.3 -0.1**
STHS pmax pmax
comp=Z,26nm,0.7s
ARSB Arslanbob 73.42 324 P **P 05 09 46.1 +0.2**
ARSB Arslanbob 73.42 324 P **P 05 09 46.1 +0.2**
ARSB pmax pmax
comp=Z,15nm,1.2s
KRUC Moravsky 73.57 5 *eP* **P 05 09 46.5 +0.1**
IUG luzhnay 73.58 326 *eP* **P 05 09 47.1 +0.4**
comp=Z,34nm,0.6s,baz=326
IUG luzhnay 73.58 326 *eP* **P 05 09 47.1 +0.4**
IUG pmax pmax
comp=Z,34nm,0.6s
HORU Horodok 73.61 359 P **P 05 09 46.0 -0.6**
LANS Liptovska Anna 73.61 3 *eP* **P 05 09 47.9 +1.2**
LANS Liptovska Anna 73.61 3 *eP* **P 05 09 47.9 +1.2**
LANS pmax pmax
comp=Z,33nm,1.5s
SHIU Shidnytsya 73.61 1 P **P 05 09 47.4 +0.7**
GEC2 GERESS Array S 73.63 7 P **P 05 09 47.2 +0.3**
GERES GERESS Array B 73.63 7 P **P 05 09 47.3 +0.4**
comp=Z,11nm,0.6s,baz=351,slow=4.5,SNR=48
comp=Z,11nm,0.6s
ECH Echery 73.66 12 P **P 05 09 47.9 +0.9**
ECH IAmb IAmb 05 09 48.7
comp=Z,46nm,1.1s
ECH Echery 73.66 12 P **P 05 09 47.9 +0.9**
ECH pmax pmax
comp=Z,46nm,1.1s
CKRC Cesky Krumlov 73.69 7 *eP* **P 05 09 47.5 +0.3**
CKRC Cesky Krumlov 73.69 7 *eP* **P 05 09 47.5 +0.3**
MORS Morshin 73.70 0 P **P 05 09 47.6 +0.4**
JAVC Velka Javorina 73.83 5 *eP* **P 05 09 49.2 +1.1**
KOLS Kolonicke sedl 73.89 1 *eP* **P 05 09 48.7 +0.4**
KOLS Kolonicke sedl 73.89 1 *eP* **P 05 09 48.7 +0.4**
KOLS pmax pmax
comp=Z,33nm,1.5s
CRVS Cervenica-Dubn 73.91 2 *eP* **P 05 09 48.8 +0.4**
CRVS Cervenica-Dubn 73.91 2 *eP* **P 05 09 48.8 +0.4**
CRVS pmax pmax
comp=Z,83nm,1.9s
KSH Kashi 74.06 321 P **P 05 09 53.1 +3.5**
KSH S **S 05 19 21.9 +6.0**
KSH pmax pmax
comp=Z,88nm,1.0s
STNU Starunia 74.13 360 P **P 05 09 50.0 +0.3**
SMOL Smolenice 74.17 5 *eP* **P 05 09 51.0 +1.1**
SMOL pmax pmax
comp=Z,12nm,1.0s
OHH Osh 74.20 324 P **P 05 09 50.8 +0.4**
NDNU Novodnistrovsk 74.21 358 P **P 05 09 49.7 -0.5**
VYHS Vyhne 74.25 4 *eP* **P 05 09 50.7 +0.3**
VYHS Vyhne 74.25 4 *eP* **P 05 09 50.7 +0.3**
VYHS pmax pmax
comp=Z,39nm,1.3s
KMPD K-Podol'skiy 74.26 359 P **P 05 09 49.9 -0.5**
KMPD P **P 05 09 49.4 -1.0**
MODS Modra-Piesok 74.30 5 *eP* **P 05 09 51.6 +0.9**
MODS pmax pmax
comp=Z,78nm,1.2s
KECS Kecovo 74.31 3 *eP* **P 05 09 51.4 +0.7**
KECS Kecovo 74.31 3 *eP* **P 05 09 51.5 +0.7**
KECS pmax pmax
comp=Z,20nm,0.6s
PZH PanZhiHua 74.44 295 P **P 05 09 51.3 -0.7**
PZH S **S 05 19 17.4 -3.0**
PZH pmax pmax
comp=Z,50nm,1.3s
PZH pmax pmax
comp=Z,130nm,5.7s
PZH LR LR
comp=Z,190nm,19.6s
PZH LR LR
comp=Z,160nm,18.6s
PZH LR LR
comp=Z,210nm,18.6s
ZST Bratislava 74.47 5 *eP* **P 05 09 52.9 +1.2**
ZST Bratislava 74.47 5 *eP* **P 05 09 52.9 +1.2**
ZST pmax pmax
comp=Z,121nm,1.6s
KSV Kosov 74.52 359 P **P 05 09 51.3 -0.7**
KSV Kosov 74.52 359 P **P 05 09 51.3 -0.7**
BERU Beregovo 74.59 1 P **P 05 09 52.9 +0.5**
SORM Soroca 74.65 357 ⇑P **P 05 09 52.0 -0.7**
SORM Soroca 74.65 357 P **P 05 09 52.0 -0.7**
MOA Molln 74.66 7 *i* P **P 05 09 53.3 +0.5**
comp=Z,3.7nm,0.6s,SNR=6.7
CONA Conrad Observa 74.67 6 *eP* **P 05 09 53.6 +0.6**
comp=Z,20nm,0.9s,SNR=14
KORU Korolevo 74.68 1 P **P 05 09 53.7 +0.9**
TRSU Trosnyk 74.74 1 P **P 05 09 54.2 +1.0**
RETA Reutte 74.75 9 *eP* **P 05 09 54.2 +0.8**
comp=Z,26nm,1.5s,SNR=5.9
BIOA Bad Ischl, Aus 74.77 7 *i* P **P 05 09 54.1 +0.6**
comp=Z,24nm,1.2s,SNR=7.1
PSZ Piszkesteto 74.86 3 ⇓P **P 05 09 54.5 +0.5**
PSZ Piszkesteto 74.86 3 P **P 05 09 54.5 +0.5**
PSZ IAmb IAmb 05 09 55.8
comp=Z,36nm,1.2s
PSZ Piszkesteto 74.86 3 P **P 05 09 54.5 +0.5**
PSZ pmax pmax
comp=Z,36nm,1.2s
DAVA Damuels 74.86 10 *i* P **P 05 09 54.7 +0.6**
comp=Z,7.2nm,0.7s
MOTA Moosalm 74.92 9 *i* P **P 05 09 55.2 +0.7**
comp=Z,45nm,1.2s,SNR=14
RONA Rosalia, Austr 74.93 6 *i* P **P 05 09 55.2 +0.8**
comp=Z,15nm,1.2s,SNR=6.7
WATA Walderalm 74.97 9 *i* P **P 05 09 55.5 +0.7**
comp=Z,46nm,1.1s,SNR=12
LESA Schwarzleotal 74.97 8 *i* P **P 05 09 55.3 +0.6**
comp=Z,32nm,1.1s
PPT Papeete 74.98 174 LR LR 05 36 46.5
comp=Z,191nm,19.4s,baz=322,slow=31
PPT2 Papeete2 75.00 174 *e*S **S 05 19 29.8 +3.4**
comp=Z,75nm,27.5s
PPT2 Papeete2 75.00 174 *e*LR LR 05 33 01.2
comp=Z,285nm,25.0s
PPT2 *e*LR LR 05 33 07.7
comp=Z,323nm,23.8s
WTTA Wattenberg 75.04 9 *eP* **P 05 09 56.0 +0.8**
comp=Z,40nm,0.8s,SNR=19
SQTA Sankt Quirin 75.05 9 *i* P **P 05 09 56.1 +0.9**
comp=Z,42nm,0.8s,SNR=17
KMI Kunming 75.10 293 ⇓P **P 05 09 55.6 -0.3**
KMI S **S 05 19 24.0 -4.0**
KMI pmax pmax
comp=Z,18nm,1.3s
KMI pmax pmax
comp=Z,120nm,3.4s
KMI LR LR
comp=Z,230nm,21.9s
KMI LR LR
comp=Z,200nm,16.4s
BUR08 Bucovina Ar. S 75.19 359 P **P 05 09 55.7 -0.3**
FETA Feichten 75.20 10 *i* P **P 05 09 57.0 +0.9**
comp=Z,27nm,0.9s,SNR=16
BURAR Bucovina Array 75.22 359 ⇓P **P 05 09 55.8 -0.4**
BURAR Bucovina Array 75.22 359 P **P 05 09 55.9 -0.4**
BURAR Bucovina Array 75.22 359 P **P 05 09 55.7 -0.4**
BTK Batken 75.25 325 P **P 05 09 56.7 +0.3**
BTK Batken 75.25 325 P **P 05 09 56.7 +0.3**
BTK pmax pmax
comp=Z,105nm,1.1s
ARSA Arzberg 75.33 6 *i* P **P 05 09 57.4 +0.7**
comp=Z,14nm,1.0s,SNR=7.4
KBA Koelnbreinsper 75.36 8 *i* P **P 05 09 58.1 +1.0**
comp=Z,32nm,0.6s,SNR=31
DAVOX Davos/Dischmat 75.36 10 LR LR 05 44 29.1
comp=Z,68nm,19.4s,baz=29,slow=37
DRK Karamyk 75.47 324 P **P 05 09 58.5 +0.5**
DRK Karamyk 75.47 324 P **P 05 09 58.5 +0.5**
DRK pmax pmax
comp=Z,107nm,1.1s
SENIN Lac Senin/Sane 75.51 12 P **P 05 09 58.7 +0.8**
FUORN Ofenpass-Fuorn 75.56 10 P **P 05 09 58.8 +0.5**
FUORN IAmb IAmb 05 10 00.5
comp=Z,47nm,1.3s
TUE Stuetta 75.62 11 P **P 05 09 59.1 +0.5**
ABTA Abfaltersbach 75.63 8 *i* P **P 05 09 59.6 +1.1**
comp=Z,26nm,1.2s,SNR=8.9
MYKA Terra Mystica 75.83 8 *i* P **P 05 10 00.0 +0.4**
comp=Z,10nm,0.7s
MILM Milestii Mici 75.85 357 *eP* **P 05 09 58.6 -1.0**
comp=Z,65nm,1.0s
SOKA Soboth 75.87 7 *i* P **P 05 10 00.9 +1.1**
comp=Z,38nm,1.3s,SNR=18
PRED Cave del Predi 76.01 8 P **P 05 10 00.8 +0.2**
OBKA Obir 76.01 7 *i* P **P 05 10 01.3 +0.7**
comp=Z,60nm,0.6s,SNR=21
CIMO Cimolais 76.06 8 P **P 05 10 01.4 +0.5**
CIMO IAmb IAmb 05 10 26.4
comp=Z,22nm,1.7s
MARR Marisel-Cluj 76.16 1 ⇑P **P 05 10 01.4 -0.1**
CADS Cadrg 76.23 8 *i* P **P 05 10 01.4 -0.4**
SSB Saint Sauveur 76.23 14 P **P 05 10 02.6 +0.7**
SSB Saint Sauveur 76.23 14 P **P 05 10 02.6 +0.7**
SSB pmax pmax
comp=Z,15nm,0.7s
CTI Castel Tesino 76.25 9 P **P 05 10 01.9 -0.2**
CTI Castel Tesino 76.25 9 P **P 05 10 01.9 -0.2**
CTI pmax pmax
comp=Z,20nm,1.2s
CRNS Crni Vrh 76.42 7 *i* P **P 05 10 02.4 -0.5**
SABO M.te Sabotino 76.47 8 P **P 05 10 03.4 +0.2**
SABO IAmb IAmb 05 10 04.0
comp=Z,41nm,1.2s
MORH Mrgy, Hungar 76.52 4 ⇑P **P 05 10 03.4 0.0**
QIZ Qiongzhong 76.53 284 P **P 05 10 06.8 +2.9**
QIZ S **S 05 19 45.3 +1.8**
QIZ LR LR
comp=Z,180nm,21.0s
QIZ LR LR
comp=Z,140nm,14.2s
SIRR Siria 76.55 2 ⇑P **P 05 10 03.6 0.0**
GOF Gofitskoye 76.59 346*c e*P **P 05 10 03.7 -0.2**
LSA Lhasa 76.69 305 P **P 05 10 05.8 +0.6**
LSA Lhasa 76.69 305 P **P 05 10 05.1 -0.1**
LSA IAmb IAmb 05 10 07.6
comp=Z,50nm,1.2s
LSA Lhasa 76.69 305 P **P 05 10 05.1 -0.1**
LSA pmax pmax
comp=Z,51nm,1.2s
BNI Bardonecchia 76.73 13 P **P 05 10 05.6 +0.8**
BNI IAmb IAmb 05 10 07.7
comp=Z,30nm,1.1s
BNI Bardonecchia 76.73 13 P **P 05 10 05.6 +0.8**
BNI pmax pmax
comp=Z,30nm,1.1s
OZUR 76.74 359 ⇓P **P 05 10 04.8 0.0**
CEY Cerknica 76.77 7 *i* P **P 05 10 04.6 -0.3**
DOPR Dopca 76.87 359 ⇑P **P 05 10 06.0 +0.5**
TEOL Teolo 76.94 9 P **P 05 10 06.5 +0.7**
VRI Vrincioaia 76.95 358 ⇓P **P 05 10 06.0 0.0**
VRI Vrincioaia 76.95 358 P **P 05 10 05.9 0.0**
PLOR Plostina 76.97 358 ⇓P **P 05 10 06.4 +0.3**
PLOR Plostina 76.97 358 P **P 05 10 06.3 +0.3**
COVR Voineasa-Covas 76.98 359 ⇑P **P 05 10 06.6 +0.6**
SURR Surduc 77.07 2 ⇑P **P 05 10 06.7 +0.2**
SIMJ Simiganj 77.09 326 P **P 05 10 06.9 0.0**
PGAV Gavieira, Arco 77.17 24 *eP* **P 05 10 09.6 +2.3**
comp=Z,77nm,1.6s

BZS	**Buzias**	**77.20**	**2**	⇑P		**P**		**05 10 07.4**	**+0.2**
BZS	**Buzias**	**77.20**	**2**	P		**P**		**05 10 07.4**	**+0.2**
TNCH	**TengChong**	**77.24**	**297**	P		**P**		**05 10 07.8**	**-0.2**
TNCH				pmax		pmax			
	comp=Z,31nm,0.8s								
TNCH				pmax		pmax			
	comp=Z,170nm,4.4s								
MLR	**Muntele Rosu**	**77.34**	**359**	⇓P		**P**		**05 10 08.5**	**+0.3**
MLR	**Muntele Rosu**	**77.34**	**359**	P		**P**		**05 10 09.0**	**+0.8**
MLR				IAmb		IAmb		05 10 10.8	
	comp=Z,47nm,1.6s								
MLR	**Muntele Rosu**	**77.34**	**359**	P		**P**		**05 10 09.0**	**+0.8**
MLR				pmax		pmax			
	comp=Z,47nm,1.6s								
VOIR		**77.40**	**359**	⇑P		**P**		**05 10 08.8**	**+0.3**
VOIR		**77.40**	**359**	P		**P**		**05 10 08.7**	**+0.3**
GZR	**Gura Zlata**	**77.44**	**1**	⇑P		**P**		**05 10 08.8**	**+0.1**
GZR	**Gura Zlata**	**77.44**	**1**	P		**P**		**05 10 08.7**	**+0.1**
ANN	**Anapa**	**77.45**	**350**	*e*P		**P**		**05 10 05.9**	**-2.7**
ANN				*e**PP		**pP**		**05 10 25.0**	**-4.6**
ANN				*e*S		**S**		**05 19 49.2**	**-3.5**
ANN				pmax		pmax			
	comp=Z,56nm,1.1s								
FRGS	**Fruska Gora**	**77.61**	**3**	⇓P		**P**		**05 10 09.5**	**-0.1**
CFR	**Carcaliu**	**77.61**	**357**	⇓P		**P**		**05 10 09.6**	**+0.1**
CFR	**Carcaliu**	**77.61**	**357**	P		**P**		**05 10 09.6**	**+0.1**
SLVN	**Son La**	**77.67**	**290**	P		**P**		**05 10 10.6**	**+0.2**
SLVN				IAmb		IAmb		05 10 11.6	
	comp=Z,40nm,1.0s								
KIV	**Kislovodsk**	**77.72**	**347**	⇓P		**P**		**05 10 10.7**	**+0.3**
KIV	**Kislovodsk**	**77.72**	**347**	P		**P**		**05 10 10.4**	**+0.1**
KIV	**Kislovodsk**	**77.72**	**347**	*c* *i*P		**P**		**05 10 10.2**	**-0.1**
KIV				*e*				05 10 21.3	
KIV				*e**PP		**pP**		**05 10 30.7**	**-0.6**
KIV				*e**SP		**sP**		**05 10 38.1**	**-1.8**
KIV				*e*				05 13 06.4	
KIV				pmax		pmax			
	comp=Z,87nm,1.1s								
KIV				MLR		MLR			
	comp=Z,100nm,16.0s								
MSSA	**Maissana**	**77.77**	**11**	P		**P**		**05 10 10.9**	**+0.3**
MSSA				IAmb		IAmb		05 10 11.3	
	comp=Z,25nm,0.6s								
POLO	**Lamas de Olo**	**77.84**	**24**	*e*P		**P**		**05 10 13.4**	**+2.4**
PTO	**Porto**	**77.88**	**25**	*e*P		**P**		**05 10 13.6**	**+2.5**
KBZ	**Khabaz**	**77.92**	**346**	P		**P**		**05 10 11.7**	**+0.4**
	comp=Z,40nm,0.9s,baz=261,slow=2.7,SNR=63								
KBZ				LR		LR		05 47 17.4	
	comp=Z,76nm,20.6s,baz=4.0,slow=38								
	comp=Z,40nm,0.9s								
KBZ	**Khabaz**	**77.92**	**346**	*c**e*P		**P**		**05 10 11.6**	**+0.4**
KBZ				pmax		pmax			
	comp=Z,50nm,0.9s								
TPGR	**Topolog**	**77.93**	**357**	⇓P		**P**		**05 10 11.3**	**0.0**
SHA1	**Shidzhatmaz**	**77.94**	**347**	*c* *i*P		**P**		**05 10 11.8**	**+0.1**
HERR	**Herculane**	**77.94**	**1**	⇓P		**P**		**05 10 11.5**	**+0.1**
PVRL	**Vila Real**	**77.95**	**24**	*e*P		**P**		**05 10 13.6**	**+2.0**
	comp=Z,70nm,1.6s								
MAK	**Makhachkala**	**78.01**	**343**	*e*P		**P**		**05 10 12.0**	**+0.2**
MAK				*e**PP		**pP**		**05 10 31.4**	**-1.4**
MAK				*e**SP		**sP**		**05 10 39.3**	**-2.1**
MAK				*e*				05 13 08.0	
MAK				*e*PPP		PPP		05 14 56.7	
MAK				*e*S		**S**		**05 20 00.7**	**+1.9**
MAK				*e*SS		**SS**		**05 25 03.4**	**+3.4**
MAK				*e*SSS		SSS		05 28 26.5	
MAK				pmax		pmax			
	comp=Z,217nm,1.4s								
MDVR	**Moldovita**	**78.03**	**2**	⇑P		**P**		**05 10 12.0**	**0.0**
DAV	**Davao City (W)**	**78.04**	**264**	LR		LR		05 40 36.8	
	comp=Z,78nm,19.9s,baz=9.5,slow=32								
GROC	**Groznyy**	**78.04**	**344**	*e*P		**P**		**05 10 12.3**	**+0.3**
GROC				pmax		pmax			
	comp=Z,51nm,1.4s								
HARR	**Harsova**	**78.11**	**357**	⇓P		**P**		**05 10 12.4**	**+0.1**
HARR	**Harsova**	**78.11**	**357**	P		**P**		**05 10 12.3**	**+0.1**
MVO	**Moncorvo**	**78.21**	**24**	*e*P		**P**		**05 10 14.6**	**+1.6**
CEST	**Esterri de Car**	**78.38**	**17**	P		**P**		**05 10 14.8**	**+0.7**
CEST				IAmb		IAmb		05 11 00.5	
	comp=Z,30nm,1.1s								
SOC	**Sochi**	**78.44**	**349**	*e*P		**P**		**05 10 12.5**	**-1.6**
SOC				*e*PPP		PPP		05 14 56.5	
SOC				*e*S		**S**		**05 20 02.6**	**-0.8**
SOC				*e*SS		**SS**		**05 25 08.6**	**+2.2**
SOC				*e*SSS		SSS		05 28 33.5	
SOC				pmax		pmax			
	comp=Z,22nm,0.8s								
PVIS	**Viseu**	**78.45**	**24**	*e*P		**P**		**05 10 16.2**	**+1.9**
RAR	**Rarotonga**	**78.51**	**184**	LR		LR		05 38 18.2	
	comp=Z,162nm,18.9s,baz=126,slow=30								
VSLR	**Vesyoloye**	**78.52**	**348**	*c* *i*P		**P**		**05 10 14.6**	**0.0**
VSLR				pmax		pmax			
	comp=Z,41nm,1.1s								
ICOR	**Ion Corvin**	**78.68**	**357**	⇑P		**P**		**05 10 15.7**	**+0.3**
OSSC	**Osservatorio P**	**78.72**	**10**	P		**P**		**05 10 15.6**	**-0.1**
MTE	**Manteigas**	**78.83**	**24**	*e*P		**P**		**05 10 18.0**	**+1.6**
MTE	**Manteigas**	**78.83**	**24**	P		**P**		**05 10 17.7**	**+1.2**
MTE				IAmb		IAmb		05 10 59.6	
	comp=Z,35nm,1.1s								
PCAS	**Casmilo, Conde**	**78.94**	**25**	*e*P		**P**		**05 10 17.9**	**+0.9**
	comp=Z,68nm,1.6s								
BOVS	**Bovan**	**79.18**	**2**	⇓P		**P**		**05 10 18.0**	**-0.2**
BLKB	**Belogradchik**	**79.21**	**1**	⇓P		**P**		**05 10 18.3**	**-0.2**
GUMA	**Gualdo di Mace**	**79.35**	**8**	P		**P**		**05 10 20.0**	**+0.8**
GUMA				IAmb		IAmb		05 11 05.6	
	comp=Z,32nm,0.9s								
FDMO	**Fiordimonte**	**79.36**	**8**	P		**P**		**05 10 20.1**	**+0.9**
PCBR	**Castelo Branco**	**79.38**	**24**	*e*P		**P**		**05 10 20.5**	**+1.2**
CASP	**Castiglione de**	**79.41**	**10**	P		**P**		**05 10 20.0**	**+0.5**
PLE	**Pljevlja**	**79.42**	**4**	⇑*i*P		**P**		**05 10 19.6**	**-0.1**
NRCA	**Norcia**	**79.56**	**8**	P		**P**		**05 10 21.1**	**+0.7**
NRCA				IAmb		IAmb		05 10 22.2	
	comp=Z,32nm,1.1s								
CESX	**Cesi**	**79.74**	**9**	P		**P**		**05 10 21.1**	**-0.2**
CESX				IAmb		IAmb		05 10 22.2	
	comp=Z,54nm,1.7s								
PMRV	**Marv??o**	**79.79**	**24**	*e*P		**P**		**05 10 22.9**	**+1.3**
BRY	**Bratogost**	**79.82**	**4**	⇑*i*P		**P**		**05 10 21.3**	**-0.6**
CAMP	**Campotosto**	**79.88**	**8**	P		**P**		**05 10 22.9**	**+0.7**
CAMP				IAmb		IAmb		05 10 23.9	
	comp=Z,28nm,1.0s								
SDV	**Santo Domingo**	**79.90**	**89**	P		**P**		**05 10 22.2**	**-0.5**
SDV	**Santo Domingo**	**79.90**	**89**	LR		LR		05 48 06.7	
	comp=Z,55nm,19.7s,baz=325,slow=37								
SDV	**Santo Domingo**	**79.90**	**89**	*e*P		**P**		**05 10 22.9**	**+0.1**
IVA	**Berane**	**79.90**	**3**	⇑*i*P		**P**		**05 10 22.4**	**+0.1**
SHL	**Shillong**	**79.91**	**302**	P		**P**		**05 10 21.2**	**-1.5**
SHL	**Shillong**	**79.91**	**302**	P		**P**		**05 10 21.2**	**-1.5**
KOME	**Kolasin**	**79.91**	**4**	⇑*i*P		**P**		**05 10 22.0**	**-0.3**
NKME	**Niksic**	**79.97**	**4**	⇑*i*P		**P**		**05 10 22.3**	**-0.3**
PVY	**Plav**	**80.18**	**3**	⇑*i*P		**P**		**05 10 24.0**	**+0.2**
CEME	**Cevo**	**80.19**	**4**	⇑*i*P		**P**		**05 10 23.5**	**-0.3**
ESBB	**Sonseca Array**	**80.28**	**22**	P		**P**		**05 10 25.0**	**+0.7**
ESDC	**Sonseca Array**	**80.28**	**22**	P		**P**		**05 10 25.2**	**+0.9**
ESDC	**Sonseca Array**	**80.28**	**22**	P		**P**		**05 10 25.7**	**+1.4**
	comp=Z,12nm,0.8s,baz=340,slow=5.3,SNR=57								
ESDC				LR		LR		05 45 59.4	
	comp=Z,77nm,21.9s,baz=5.0,slow=36								
	comp=Z,12nm,0.8s								
PESTR	**Estremoz**	**80.28**	**25**	*e*P		**P**		**05 10 26.9**	**+2.6**
NIL	**Nilore**	**80.29**	**320**	P		**P**		**05 10 24.9**	**+0.4**
NIL	**Nilore**	**80.29**	**320**	P		**P**		**05 10 24.9**	**+0.4**
NIL				pmax		pmax			
	comp=Z,125nm,1.0s								
PDG	**Podgorica**	**80.32**	**4**	⇑P		**P**		**05 10 24.5**	**+0.1**
PDG	**Podgorica**	**80.32**	**4**	P		**P**		**05 10 24.4**	**+0.1**
PDG				IAmb		IAmb		05 10 25.3	
	comp=Z,31nm,0.8s								
PDG	**Podgorica**	**80.32**	**4**	⇑*i*P		**P**		**05 10 24.2**	**-0.2**
PAB	**San Pablo**	**80.33**	**22**	P		**P**		**05 10 25.3**	**+0.7**
PAB	**San Pablo**	**80.33**	**22**	P		**P**		**05 10 25.3**	**+0.7**
PAB				pmax		pmax			
	comp=Z,19nm,1.2s								
BCA	**Borcka**	**80.33**	**347**	⇑P		**P**		**05 10 24.2**	**-0.3**
CRAI	**Chiangrai**	**80.38**	**292**	P		**P**		**05 10 24.6**	**-0.4**
CRAI				IAmb		IAmb		05 10 25.9	
	comp=Z,41nm,1.2s								
BUM	**Brajici-Budva**	**80.43**	**4**	⇑*i*P		**P**		**05 10 24.7**	**-0.4**
INTR	**Introdacqua**	**80.44**	**8**	P		**P**		**05 10 25.6**	**+0.4**
EVO	**Evora**	**80.50**	**25**	*e*P		**P**		**05 10 27.7**	**+2.2**
	comp=Z,28nm,1.4s								
DRME	**Dracevica, Mon**	**80.56**	**4**	⇑*i*P		**P**		**05 10 25.7**	**0.0**
PUK	**Puka**	**80.72**	**3**	P		**P**		**05 10 27.2**	**+0.5**
TBI	**Tubuai**	**80.73**	**174**	*e*S		**S**		**05 20 28.6**	**+0.9**
	comp=Z,482nm,27.8s								
TBI	**Tubuai**	**80.73**	**174**	*e*LR		LR		05 35 38.6	
	comp=Z,2μm,30.5s								
TBI				*e*LR		LR		05 35 41.1	
	comp=Z,1μm,29.8s								
GEYT	**Alibeck**	**80.74**	**334**	P		**P**		**05 10 27.4**	**+0.5**
GEYT	**Alibeck**	**80.74**	**334**	P		**P**		**05 10 27.3**	**+0.5**
	comp=Z,40nm,0.9s,baz=338,slow=3.5,SNR=51								
GEYT				LR		LR		05 51 31.1	
	comp=Z,125nm,19.1s,baz=42,slow=40								
	comp=Z,40nm,0.9s								
GEYT	**Alibeck**	**80.74**	**334**	P		**P**		**05 10 27.4**	**+0.5**
GEYT				pmax		pmax			
	comp=Z,67nm,1.0s								
GYA0B	**ALIBECK ARRAY**	**80.74**	**334**	P		**P**		**05 10 27.5**	**+0.6**
GYA0B				IAmb		IAmb		05 10 28.4	
	comp=Z,58nm,1.0s								
DIKM	**Dikmen**	**80.76**	**352**	⇑P		**P**		**05 10 27.7**	**+0.9**
PNCL	**Nicolau / Gran**	**80.79**	**26**	*e*P		**P**		**05 10 28.4**	**+1.4**
	comp=Z,44nm,1.5s								
SKO	**Skopje**	**80.84**	**2**	*i*P		**P**		**05 10 27.5**	**+0.3**
KBL	**Kabul**	**80.87**	**324**	P		**P**		**05 10 26.5**	**-1.3**
KBL				IAmb		IAmb		05 10 27.4	
	comp=Z,45nm,0.9s								
KBL	**Kabul**	**80.87**	**324**	P		**P**		**05 10 26.5**	**-1.3**
KBL				pmax		pmax			
	comp=Z,45nm,0.9s								
KTUT	**Trabzon**	**81.00**	**348**	⇓P		**P**		**05 10 28.6**	**+0.5**
PBAR	**Barrancos**	**81.07**	**25**	*e*P		**P**		**05 10 30.1**	**+1.6**
	comp=Z,38nm,1.3s								
GNI	**Garni**	**81.19**	**344**	P		**P**		**05 10 29.7**	**+0.4**
GNI				IAmb		IAmb		05 10 31.6	
	comp=Z,48nm,1.2s								
GNI	**Garni**	**81.19**	**344**	*c* *i*P		**P**		**05 10 30.5**	**+1.2**
GNI				pmax		pmax			
	comp=Z,27nm,1.1s								
BAUV	**El Baul**	**81.25**	**87**	P		**P**		**05 10 29.1**	**-0.6**
PMG	**Port Moresby**	**81.27**	**237**	LR		LR		05 43 18.8	
	comp=Z,70nm,20.9s,baz=34,slow=33								
ROSC	**El Rosal**	**81.28**	**95**	P		**P**		**05 10 32.9**	**+2.5**
	comp=Z,4.0nm,0.4s,baz=8.9,slow=3.5,SNR=4.2								
	comp=Z,4.0nm,0.4s								
TIR	**Tirane**	**81.42**	**3**	⇑P		**P**		**05 10 30.7**	**+0.4**
TIR	**Tirane**	**81.42**	**3**	P		**P**		**05 10 30.7**	**+0.4**
PAOL	**Paolisi**	**81.46**	**7**	P		**P**		**05 10 31.0**	**+0.4**
VAY	**Valandovo**	**81.50**	**1**	*i*P		**P**		**05 10 30.6**	**-0.1**
MORF	**Marmelete**	**81.53**	**26**	*e*P		**P**		**05 10 32.8**	**+1.8**
PVAQ	**Vaqueiros**	**81.65**	**25**	*e*P		**P**		**05 10 33.4**	**+1.8**
OHR	**Ohrid**	**81.68**	**3**	*i*P		**P**		**05 10 32.5**	**+0.7**
RDO	**Rodhopi**	**81.69**	**359**	P		**P**		**05 10 31.8**	**+0.1**
RDO				IAmb		IAmb		05 10 33.3	
	comp=Z,58nm,1.2s								
SWI	**Sorong**	**81.70**	**255**	P		**P**		**05 10 31.9**	**-0.2**
	comp=Z,37nm,1.1s								
PHRA	**Phrae**	**81.91**	**292**	P		**P**		**05 10 32.8**	**-0.4**
MATE	**Matera**	**81.98**	**6**	⇑P		**P**		**05 10 33.7**	**+0.5**
MDUB	**Mudurnu**	**82.19**	**355**	P		**P**		**05 10 35.1**	**+0.6**
CHTO	**Chiang Mai**	**82.28**	**293**	P		**P**		**05 10 33.9**	**-1.3**
CHTO	**Chiang Mai**	**82.28**	**293**	P		**P**		**05 10 33.9**	**-1.3**
CHTO				pmax		pmax			
	comp=Z,28nm,1.2s								
CUC	**Castrocucco**	**82.58**	**7**	P		**P**		**05 10 36.0**	**-0.4**
CMAR	**Chiang Mai Arr**	**82.59**	**293**	P		**P**		**05 10 36.1**	**-0.6**
CMAR	**Chiang Mai Arr**	**82.59**	**293**	P		**P**		**05 10 36.4**	**-0.4**
	comp=Z,16nm,0.9s,baz=19,slow=5.5,SNR=65								
CMAR				LR		LR		05 49 28.9	
	comp=Z,54nm,21.3s,baz=55,slow=37								
	comp=Z,16nm,0.9s								
CMAR	**Chiang Mai Arr**	**82.59**	**293**	P		**P**		**05 10 36.1**	**-0.6**
ANTO	**Ankara**	**82.71**	**353**	⇑P		**P**		**05 10 37.7**	**+0.5**
ANTO	**Ankara**	**82.71**	**353**	P		**P**		**05 10 37.3**	**+0.1**
ANTO	**Ankara**	**82.71**	**353**	P		**P**		**05 10 37.6**	**+0.5**
LIT	**Litokhoron**	**82.72**	**1**	P		**P**		**05 10 36.8**	**-0.4**
LIT				IAmb		IAmb		05 10 38.2	
	comp=Z,45nm,1.0s								
LIT	**Litokhoron**	**82.72**	**1**	P		**P**		**05 10 36.8**	**-0.4**
LIT				pmax		pmax			
	comp=Z,45nm,1.0s								
BR131	**Keskin Array S**	**82.80**	**353**	P		**P**		**05 10 37.6**	**-0.1**
BR131				IAmb		IAmb		05 10 39.0	
	comp=Z,35nm,1.0s								
BR131	**Keskin Array S**	**82.80**	**353**	P		**P**		**05 10 37.6**	**-0.1**
BR131				pmax		pmax			
	comp=Z,35nm,1.0s								
BRTR	**Keskin Array B**	**82.80**	**353**	P		**P**		**05 10 37.7**	**0.0**
BRTR	**Keskin Array B**	**82.80**	**353**	P		**P**		**05 10 37.9**	**+0.1**
	comp=Z,17nm,0.9s,baz=29,slow=2.8,SNR=100								
BRTR				LR		LR		05 57 05.3	
	comp=Z,38nm,18.3s,baz=3.0,slow=43								
	comp=Z,17nm,0.9s								
BRTR	**Keskin Array B**	**82.80**	**353**	P		**P**		**05 10 37.7**	**0.0**
TULM	**Tulcn-Chalpat**	**82.89**	**100**	P		**P**		**05 10 39.0**	**+0.1**
TULM				IAmb		IAmb		05 11 03.1	
	comp=Z,34nm,1.2s								
FAKI	**Fak Fak**	**82.93**	**253**	P		**P**		**05 10 39.3**	**+0.8**
ARPR	**Arapgir-MALATY**	**83.02**	**349**	P		**P**		**05 10 39.9**	**+0.9**
ARPR				IAmb		IAmb		05 10 41.4	
	comp=Z,69nm,1.4s								
HRA	**Herat**	**83.03**	**329**	P		**P**		**05 10 38.9**	**-0.1**
HRA				IAmb		IAmb		05 10 40.6	
	comp=Z,36nm,1.1s								
PULU	**Pululahua**	**83.09**	**101**	P		**P**		**05 10 39.6**	**-0.2**
GURO	**Guroymak-BITLI**	**83.13**	**346**	P		**P**		**05 10 40.4**	**+0.9**
GURO				IAmb		IAmb		05 10 41.7	
	comp=Z,43nm,1.7s								
DLV	**T Lat**	**83.15**	**281**	P		**P**		**05 10 40.3**	**+0.4**
DLV				IAmb		IAmb		05 10 41.5	
	comp=Z,41nm,1.0s								
TIP	**Timpagrande**	**83.44**	**6**	⇓P		**P**		**05 10 41.5**	**+0.5**
TIP	**Timpagrande**	**83.44**	**6**	P		**P**		**05 10 41.1**	**+0.2**
TIP				IAmb		IAmb		05 10 42.2	
	comp=Z,22nm,0.7s								
BNN	**Bunyan**	**83.50**	**351**	P		**P**		**05 10 41.9**	**+0.6**
AGG	**Agios Georgios**	**83.80**	**2**	P		**P**		**05 10 42.6**	**-0.1**
AGG	**Agios Georgios**	**83.80**	**2**	P		**P**		**05 10 42.6**	**-0.1**
AGG				pmax		pmax			
	comp=Z,18nm,0.8s								
CHSH	**Refugio Sur-Vo**	**84.18**	**102**	P		**P**		**05 10 46.7**	**+1.0**
CEL	**Celeste**	**84.31**	**7**	P		**P**		**05 10 44.9**	**-0.5**
CEL				IAmb		IAmb		05 10 46.1	
	comp=Z,26nm,1.0s								
CLTB	**Caltabellotta**	**84.79**	**9**	P		**P**		**05 10 47.7**	**-0.1**
GTOI	**Gorontalo**	**84.80**	**263**	P		**P**		**05 10 46.2**	**-1.8**
	comp=Z,9.5nm,1.0s								
VAE	**Valguarnera**	**84.98**	**8**	LR		LR		05 51 45.1	
	comp=Z,80nm,18.9s,baz=336,slow=38								
GAZ	**Gaziantep**	**85.04**	**350**	P		**P**		**05 10 49.8**	**+0.7**
RAFF	**Raffo Rosso**	**85.23**	**8**	P		**P**		**05 10 50.6**	**+0.7**
ARNL	**Arenillas**	**85.28**	**104**	P		**P**		**05 10 50.6**	**+0.2**
DZM	**Mont Dzumac**	**85.39**	**215**	*e*S		**SKSac**		**05 21 07.0**	**-1.5**
	comp=Z,124nm,22.6s								
DZM	**Mont Dzumac**	**85.39**	**215**	*e*LR		LR		05 37 48.1	
	comp=Z,349nm,30.1s								
TOLI2	**Tolitoli**	**85.60**	**265**	P		**P**		**05 10 50.7**	**-1.3**
SRDT	**SRDT**	**85.98**	**290**	P		**P**		**05 10 53.7**	**-0.2**
KEST	**Kesra**	**86.24**	**12**	P		**P**		**05 10 55.3**	**+0.2**
KEST				IAmb		IAmb		05 10 57.6	
	comp=Z,29nm,0.9s								
KEST	**Kesra**	**86.24**	**12**	P		**P**		**05 10 56.3**	**+1.2**
	comp=Z,26nm,1.0s,baz=287,slow=3.9,SNR=23								
KEST				LR		LR		05 52 44.7	
	comp=Z,43nm,21.3s,baz=276,slow=38								
	comp=Z,26nm,1.0s								
MDT	**Midelt**	**86.75**	**24**	LR		LR		05 51 50.8	
	comp=Z,74nm,19.7s,baz=18,slow=37								
CSS	**Mathiatis**	**87.55**	**353**	P		**P**		**05 11 00.8**	**-0.6**
ATAH	**Atahualpa**	**89.19**	**105**	LR		LR		05 50 23.3	
	comp=Z,48nm,20.3s,baz=342,slow=35								
MMAI	**Mount Meron Ar**	**89.32**	**351**	P		**P**		**05 11 10.8**	**+1.0**
	comp=Z,20nm,1.0s,baz=350,slow=4.2,SNR=16								
MMAI				LR		LR		05 59 18.1	
	comp=Z,21nm,18.7s,baz=322,slow=41								
	comp=Z,20nm,1.0s								
TTSI	**Tana Toraja**	**89.60**	**264**	P		**P**		**05 11 10.5**	**-0.7**
	comp=Z,20nm,0.9s								
SRIT	**Nakonsritamara**	**90.61**	**287**	P		**P**		**05 11 15.4**	**-0.5**
KSM	**Kuching**	**90.94**	**274**	P		**P**		**05 11 17.5**	**+0.1**
CTAO	**Charters Tower**	**91.11**	**233**	P		**P**		**05 11 17.8**	**-0.2**
CTAO				IAmb		IAmb		05 11 23.3	
	comp=Z,15nm,0.8s								
CTAO	**Charters Tower**	**91.11**	**233**	P		**P**		**05 11 17.8**	**-0.2**
CTAO				pmax		pmax			
	comp=Z,15nm,0.9s								
TBTG	**Tabatinga, AM**	**91.22**	**96**	P		**P**		**05 11 17.9**	**-0.8**
KAPI	**Kappang**	**91.28**	**263**	P		**P**		**05 11 18.8**	**-0.2**
KAPI	**Kappang**	**91.28**	**263**	P		**P**		**05 11 18.8**	**-0.2**
KAPI				pmax		pmax			
	comp=Z,50nm,1.4s								
MDP	**Montagnes des**	**92.67**	**76**	LR		LR		05 55 08.4	
	comp=Z,44nm,19.4s,baz=353,slow=37								
EIL	**Elat**	**92.68**	**351**	LR		LR		06 01 17.0	
	comp=Z,35nm,18.6s,baz=65,slow=41								
CZSB	**Cruzeiro do Su**	**92.69**	**100**	P		**P**		**05 11 25.3**	**-0.2**
CZSB	**Cruzeiro do Su**	**92.69**	**100**	*e*P		**P**		**05 11 25.9**	**+0.4**
RPN	**Rapa Nui**	**92.86**	**140**	LR		LR		05 44 08.8	
	comp=Z,44nm,20.1s,baz=202,slow=30								
KULM	**Kulim**	**92.87**	**284**	IAmb		IAmb		05 11 27.5	
	comp=Z,16nm,1.1s								
NNA	**Nana**	**94.09**	**106**	LR		LR		05 52 01.6	
	comp=Z,31nm,19.0s,baz=346,slow=34								
WSAR	**Wadi Sarin**	**94.57**	**329**	LR		LR		06 01 32.5	
	comp=Z,49nm,18.6s,baz=36,slow=40								
WRA	**Warramunga Arr**	**96.43**	**243**	P		**P**		**05 11 42.9**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=33,slow=5.8,SNR=7.3								
	comp=Z,0.9nm,0.7s								
RAYN	**Ar Rayn**	**97.33**	**340**	P		**P**		**05 11 46.7**	**0.0**
RAYN	**Ar Rayn**	**97.33**	**340**	P		**P**		**05 11 46.7**	**0.0**
RAYN				pmax		pmax			
	comp=Z,27nm,1.0s								
ETMB	**Extrema**	**97.90**	**96**	IAmb		IAmb		05 12 19.5	
	comp=Z,20nm,1.8s								
ETMB	**Extrema**	**97.90**	**96**	*e*P		**P**		**05 11 47.4**	**-1.9**
URZ	**Urewera**	**98.14**	**201**	LR		LR		05 49 35.5	
	comp=Z,79nm,20.2s,baz=210,slow=31								
ASAR	**Alice Springs**	**99.81**	**241**	P		**Pdif**		**05 11 58.9**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=35,slow=5.1,SNR=4.9								
ASAR				LR		LR		05 50 52.2	
	comp=Z,115nm,21.3s,baz=38,slow=32								
	comp=Z,0.4nm,0.7s								
QSPA	**South Pole Qui**	**147.32**	**180**	PKPdf		**PKPbc**		**05 17 56.0**	**+0.7**
QSPA	**South Pole Qui**	**147.32**	**180**	PKPbc		**PKPbc**		**05 17 56.0**	**+0.7**
	comp=Z,1nm,0.8s,baz=305,slow=0.7,SNR=32								
BOSA	**Boshof**	**151.09**	**358**	PKPdf		**PKPdf**		**05 18 00.2**	**+0.1**
BOSA	**Boshof**	**151.09**	**358**	PKPbc		**PKPbc**		**05 18 06.0**	**0.0**
	comp=Z,16nm,0.9s,baz=12,slow=1.8,SNR=19								
BOSA	**Boshof**	**151.09**	**358**	PKIKP		**PKPdf**		**05 18 00.2**	**+0.1**
BELA	**Belgrano 2**	**151.86**	**157**	PKPdf		**PKPbc**		**05 18 05.8**	**-0.4**
ELIB	**Princess Elisa**	**165.51**	**179**	*d*PKP		**PKPab**		**05 19 17.4**	**+2.3**
ELIB				*d*pPKP		**pPKPab**		**05 19 38.2**	**+1.6**

JMA 11 05:07:12.1±0.2, 28°.1N±0°.3×128°.0E±0°.5, h15$^{km}_{\pm 2km}$, MV2.0/7, NW OFF OKINAWAJIMA IS, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTK	**Tokunoshima**	**0.86**	**111**	*e*P		Pb	05 07 28.3	-0.5
JTK				S		Sg	05 07 39.5	-0.7

	comp=E,420nm,0.7s						
KHU			IAML			05 58 55.1	
	comp=N,366nm,1.2s						
HMH	**Humu'ula Sheep**	**0.36 324**		Pg		05 58 46.9	-0.2
HMH	**Humu'ula Sheep**	**0.36 324**	IAML			05 58 53.3	
	comp=N,1μm,0.2s						
HMH			IAML			05 58 56.9	
	comp=E,403nm,0.5s						
MWH	**Moku'aweowe**	**0.36 298**		Pg		05 58 47.0	-0.3
MWH	**Moku'aweowe**	**0.36 298**	IAML			05 58 55.8	
	comp=N,1μm,1.0s						
MWH			IAML			05 58 55.8	
	comp=E,1μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.37 307**		Sg		05 58 53.3	+0.9
MLOA	**Mauna Loa Obse**	**0.37 307**	Pg	Pg		05 58 47.1	-0.3
MLOA	**Mauna Loa Obse**	**0.37 307**	IAML			05 58 53.8	
	comp=E,444nm,0.2s						
MLOA			IAML			05 58 55.4	
	comp=N,535nm,0.8s						
ALEP	**Alea Permanent**	**0.43 302**		Sg		05 58 54.8	+0.7
POHA	**Pohakuloa**	**0.51 330**		Sg		05 58 56.6	-0.1
POHA	**Pohakuloa**	**0.51 330**	Pg	Pg		05 58 49.4	-0.5
POHA			IAML			05 58 58.2	
	comp=N,466nm,0.6s						
POHA			IAML			05 59 06.5	
	comp=N,373nm,0.7s						
CPH	**Captain Cook**	**0.65 286**		Pg		05 58 52.0	-0.5
HUH	**Hualalai**	**0.66 304**		Pg		05 58 52.0	-0.8
HUH			IAML			05 59 09.3	
	comp=N,400nm,0.3s						
HUH			IAML			05 59 10.0	
	comp=E,416nm,0.8s						
HPAH	**Hawaii Prepara**	**0.82 330**		Sg		05 59 06.2	-0.5

WBNET 11 06:26:06.6, 50˚26N×12˚45E, h9km, Ml1.2, 3C-3D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**281**	S	Sg	06 26 09.7	+0.2
NKC	**Novy Kostel**	**0.03**	**181**	S	Sg	06 26 09.6	+0.1
STCW	**Studenec**	**0.04**	**92**	S	Sg	06 26 09.8	0.0
VAC	**Vackov**	**0.05**	**240**	S	Sg	06 26 09.8	-0.1
POCW	**Potky**	**0.06**	**347**	S	Sg	06 26 10.2	+0.1
KVC	**Kvetna**	**0.07**	**142**	S	Sg	06 26 10.2	0.0
KRCW	**Kraslice**	**0.09**	**36**	⇑P	Pg	06 26 09.1	+0.1
KRCW				S	Sg	06 26 10.6	0.0
SKC	**Skalna**	**0.11**	**212**	⇑P	Pg	06 26 09.3	+0.1
SKC				S	Sg	06 26 11.1	+0.1
KOCW	**Kopaniny**	**0.14**	**272**	⇓P	Pg	06 26 09.8	+0.1
KOCW				S	Sg	06 26 11.8	-0.1
TRCW	**Trojmez**	**0.20**	**282**	⇓P	Pg	06 26 10.8	0.0
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P	Pg	06 26 11.1	+0.1
LACW	**Lazy**	**0.24**	**152**	⇓P	Pg	06 26 11.7	+0.2

*NEIC **11** 06:36:32.7±1.5, 19˚39N±0˚01×155˚12W±0˚02, h5km±1km, Error ellipse: s-maj=3.5km s-min=1.8km az=124.0*
HVO 11 06:36:30.5±1.4, 19˚37N±0˚02×154˚96W±0˚04, h5km±7km, Md2.3/10, ML2.8/22(NEIC), Error ellipse: s-maj=5.5km s-min=1.5km az=115.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAH	**Pahoa**	**0.13**	**3**		Sg	06 36 36.2	+1.3
JCUZ	**Jacuzzi**	**0.14**	**277**		Pg	06 36 33.3	-0.1
JCUZ	**Jacuzzi**	**0.14**	**277**	IAML		06 36 35.7	
	comp=N,724nm,0.6s						
JCUZ				IAML		06 36 38.1	
	comp=E,596nm,0.2s						
NPOC	**North of Pu'u**	**0.15**	**280**		Sg	06 36 35.8	+0.2
STCH	**Steam Cracks**	**0.16**	**277**		Pg	06 36 33.7	-0.1
STCH	**Steam Cracks**	**0.16**	**277**	IAML		06 36 36.6	
	comp=E,854nm,0.3s						
STCH				IAML		06 36 36.8	
	comp=N,1μm,1.1s						
PUH	**Pauahi**	**0.25**	**272**	Pg	Pg	06 36 35.1	-0.3
PUH				IAML		06 36 36.4	
	comp=N,2μm,0.7s						
PUH				IAML		06 36 40.8	
	comp=E,1μm,1.2s						
RSD	**Rainshed**	**0.32**	**287**	Pg	Pg	06 36 36.7	-0.1
RSD				IAML		06 36 42.5	
	comp=E,2μm,1.2s						
HLP	**Hilina Pali**	**0.34**	**258**		Pg	06 36 37.5	+0.4
HLP	**Hilina Pali**	**0.34**	**258**	IAML		06 36 39.0	
	comp=N,2μm,0.7s						
HLP				IAML		06 36 43.6	
	comp=E,2μm,0.9s						
MLH	**Mauna Loa**	**0.43**	**287**		Pg	06 36 38.8	0.0
MLH	**Mauna Loa**	**0.43**	**287**	IAML		06 36 48.7	
	comp=N,1μm,0.8s						
MLH				IAML		06 36 50.9	
	comp=E,786nm,0.7s						
HTC	**Hot Caves**	**0.44**	**253**		Pg	06 36 39.1	+0.1
HMH	**Humu'ula Sheep**	**0.55**	**295**		Pg	06 36 40.9	-0.3
HMH	**Humu'ula Sheep**	**0.55**	**295**	IAML		06 36 49.1	
	comp=N,1μm,0.6s						
HMH				IAML		06 36 54.6	
	comp=E,654nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.61**	**286**	Pg	Pg	06 36 41.5	-0.8
MLOA				IAML		06 36 50.5	
	comp=N,548nm,0.8s						
MLOA				IAML		06 36 58.0	
	comp=E,425nm,0.9s						
MWH	**Moku'aweowe**	**0.62**	**281**		Pg	06 36 41.5	-1.0
MWH	**Moku'aweowe**	**0.62**	**281**	IAML		06 36 56.6	
	comp=N,786nm,1.2s						
KHU	**Kahuku**	**0.64**	**259**		Sg	06 36 50.6	-0.4
KHU	**Kahuku**	**0.64**	**259**		Pg	06 36 41.9	-0.9
KHU				IAML		06 36 50.5	
	comp=E,541nm,1.8s						
KHU				IAML		06 36 51.4	
	comp=N,332nm,2.0s						
POHA	**Pohakuloa**	**0.67**	**306**	Pg	Pg	06 36 42.1	-1.3
POHA				IAML		06 37 03.9	
	comp=N,334nm,0.9s						
POHA				IAML		06 37 04.0	
	comp=N,437nm,1.0s						
ALEP	**Alea Permanent**	**0.67**	**285**		Pg	06 36 42.7	-0.8
HUH	**Hualalai**	**0.89**	**291**	Pg	Pg	06 36 46.7	-0.9

*NEIC **11** 06:40:11.6±1.7, 19˚42N±0˚04×154˚90W±0˚01, h5km±1km, Error ellipse: s-maj=6.4km s-min=3.0km az=173.0*
HVO 11 06:40:11.3±1.4, 19˚46N±0˚05×154˚91W±0˚02, h4km±3km, ML2.8/3, ML2.8/18(NEIC), Error ellipse: s-maj=6.7km s-min=2.1km az=189.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.03**	**46**		Pg	06 40 12.7	+0.5
PHO	**Puu Honuaula**	**0.03**	**46**		Pg	06 40 12.6	+0.5
PAH	**Pahoa**	**0.05**	**311**		Pg	06 40 14.3	+1.9
JOKA	**Jonika Flow**	**0.10**	**251**		Pg	06 40 13.7	+0.4
STCH	**Steam Cracks**	**0.22**	**249**	Pg	Pg	06 40 15.8	+0.2
PUH	**Pauahi**	**0.30**	**253**		Pg	06 40 18.1	+0.9
PUH	**Pauahi**	**0.30**	**253**	IAML		06 40 21.5	
	comp=E,1μm,0.8s						
PUH				IAML		06 40 27.9	
	comp=N,2μm,0.9s						
HLP	**Hilina Pali**	**0.41**	**246**	Pg	Pg	06 40 19.9	+0.6
MLH	**Mauna Loa**	**0.45**	**274**		Sb	06 40 28.1	-1.2
MLH	**Mauna Loa**	**0.45**	**274**		Pg	06 40 20.6	+0.6
MLH				IAML		06 40 34.1	
	comp=N,2μm,0.9s						
MLH	**Mauna Loa**	**0.45**	**274**	IAML		06 40 24.2	
	comp=E,641nm,0.8s						
HTC	**Hot Caves**	**0.51**	**244**		Pg	06 40 21.4	+0.2
HMH	**Humu'ula Sheep**	**0.56**	**284**	Pg	Pg	06 40 22.5	+0.4
HMH				IAML		06 40 29.7	
	comp=N,442nm,1.6s						
HMH				IAML		06 40 37.4	
	comp=E,527nm,0.8s						
MWH	**Moku'aweowe**	**0.65**	**272**		Pg	06 40 23.8	0.0
MWH	**Moku'aweowe**	**0.65**	**272**	IAML		06 40 31.7	
	comp=E,2μm,0.9s						
MWH				IAML		06 40 41.8	
	comp=N,710nm,0.9s						
ALEP	**Alea Permanent**	**0.70**	**276**		Pg	06 40 24.2	-0.5
KHU	**Kahuku**	**0.70**	**252**		Pg	06 40 24.3	-0.5
KHU	**Kahuku**	**0.70**	**252**	IAML		06 40 29.7	
	comp=E,497nm,1.5s						
KHU				IAML		06 40 45.9	
	comp=N,463nm,1.9s						
HUH	**Hualalai**	**0.90**	**284**	Pg	Pg	06 40 28.6	0.0
HUH				IAML		06 40 34.0	
	comp=E,314nm,1.7s						
HUH				IAML		06 40 41.0	
	comp=N,316nm,1.1s						

*CLL **11** 06:42:14.1±0.3, 50˚26N×12˚44E, h8km±1km, ML1.9*
WBNET 11 06:42:13.7, 50˚26N×12˚45E, h9km, Ml2.0, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**286**	⇓P	Pg	06 42 15.6	+0.1
LBCW				S	Sg	06 42 16.8	+0.2
NKC	**Novy Kostel**	**0.03**	**180**	*i* Pg	Pg	06 42 15.6	+0.1
NKC				*i* Sg	Sg	06 42 16.7	+0.1
NKC				IAML		06 42 16.8	
	comp=E,576nm,0.1s						
NKC	**Novy Kostel**	**0.03**	**180**	⇓P	Pg	06 42 15.6	+0.1
NKC				S	Sg	06 42 16.7	+0.1
STCW	**Studenec**	**0.05**	**90**	*i* Pg	Pg	06 42 15.7	+0.1
STCW				*i* Sg	Sg	06 42 16.9	-0.1
STCW	**Studenec**	**0.05**	**90**	⇑P	Pg	06 42 15.7	+0.1
STCW				S	Sg	06 42 16.9	-0.1
VAC	**Vackov**	**0.05**	**242**	*i* Pg	Pg	06 42 15.7	0.0
VAC				*i* Sg	Sg	06 42 16.9	-0.1
VAC	**Vackov**	**0.05**	**242**	⇓P	Pg	06 42 15.7	+0.1
VAC				S	Sg	06 42 17.0	-0.1
WERN	**Wernitzgruen**	**0.05**	**302**	*i* Pg	Pg	06 42 15.8	+0.1
WERN				*i* Sg	Sg	06 42 17.1	0.0
WERN				IAML		06 42 17.3	
	comp=E,959nm,0.2s						
POCW	**Potky**	**0.06**	**348**	⇑P	Pg	06 42 15.9	+0.1
POCW				S	Sg	06 42 17.4	+0.1
KVC	**Kvetna**	**0.07**	**141**	*i* Pg	Pg	06 42 15.9	+0.1
KVC				*i* Sg	Sg	06 42 17.3	0.0
KVC	**Kvetna**	**0.07**	**141**	⇓P	Pg	06 42 15.9	+0.1
KVC				S	Sg	06 42 17.3	0.0
ROHR	**Rohrbach**	**0.09**	**254**	*i* Pg	Pg	06 42 16.1	0.0
ROHR				*i* Sg	Sg	06 42 17.6	-0.1
ROHR				IAML		06 42 17.7	
	comp=E,845nm,0.1s						
KRCW	**Kraslice**	**0.09**	**36**	⇑P	Pg	06 42 16.1	0.0
KRCW				S	Sg	06 42 17.8	-0.1
SKC	**Skalna**	**0.10**	**212**	⇑P	Pg	06 42 16.4	+0.1
SKC				S	Sg	06 42 18.2	+0.1
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg	Pg	06 42 16.7	+0.1
GUNZ				*i* Sg	Sg	06 42 18.6	-0.1
GUNZ				IAML		06 42 18.8	
	comp=E,249nm,0.3s						
KOCW	**Kopaniny**	**0.14**	**273**	⇓P	Pg	06 42 16.8	0.0
KOCW				S	Sg	06 42 18.9	-0.1
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg	Pg	06 42 17.1	0.0
MULD				*i* Sg	Sg	06 42 19.3	-0.2
MULD				IAML		06 42 19.4	
	comp=E,454nm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**3**	*i* Pg	Pg	06 42 17.1	-0.1
TANN				*i* Sg	Sg	06 42 19.3	-0.3
TANN				IAML		06 42 19.8	
	comp=N,548nm,0.2s						
TRCW	**Trojmez**	**0.20**	**283**	⇓P	Pg	06 42 17.8	0.0
TRCW				S	Sg	06 42 20.6	-0.1
WERD	**Werda**	**0.21**	**334**	*i* Pg	Pg	06 42 18.0	0.0
WERD				*i* Sg	Sg	06 42 20.7	-0.3
WERD				IAML		06 42 20.9	
	comp=E,109nm,0.1s						
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P	Pg	06 42 18.1	+0.1
ZHC				S	Sg	06 42 21.0	+0.1
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	06 42 18.1	-0.1
TRIB				*i* Sg	Sg	06 42 21.2	-0.1
TRIB				IAML		06 42 21.5	
	comp=E,66nm,0.1s						
VIEL	**Selb-Vielitz**	**0.23**	**252**	*e*Pg	Pg	06 42 18.4	-0.1
VIEL				*i* Sg	Sg	06 42 21.5	-0.2
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	06 42 18.7	+0.2
LACW				*i* Sg	Sg	06 42 22.1	+0.3
LACW	**Lazy**	**0.24**	**151**	⇓P	Pg	06 42 18.7	+0.2
LACW				S	Sg	06 42 22.1	+0.3
PLN	**Plauen**	**0.29**	**321**	*e*Pg	Pg	06 42 19.5	0.0
PLN				*e*Sg	Sg	06 42 23.4	-0.1
PLN				IAML		06 42 23.5	
	comp=E,96nm,0.1s						
SCHF	**Schoenfels**	**0.42**	**356**	*e*Pg	Pg	06 42 21.8	-0.2
SCHF				*e*Sg	Sg	06 42 27.4	-0.1
SCHF				IAML		06 42 27.9	
	comp=E,91nm,0.3s						
SCHF	**Schoenfels**	**0.42**	**356**	*e*Pg	Sg	06 42 27.0	-0.5
SCHF	**Schoenfels**	**0.42**	**356**	*e*Pg	Sg	06 42 27.0	-0.5
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*e*Pg	Pg	06 42 22.5	-0.1
GRZ1				*i* Sg	Sg	06 42 28.2	-0.5
GRZ1				IAML		06 42 29.2	
	comp=N,43nm,0.2s						
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	06 42 34.3	-0.7
CLL				*i* Sg	Sg	06 42 48.4	-1.0
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	Pg	06 42 35.0	-0.5

WBNET 11 06:42:17.2, 50˚26N×12˚45E, h9km, Ml1.3, 2C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**186**	⇓P	Pg	06 42 18.9	+0.2
NKC				S	Sg	06 42 20.0	+0.1
LBCW	**Luby**	**0.03**	**286**	⇓P	Pg	06 42 19.0	+0.1
LBCW				S	Sg	06 42 20.2	+0.2
STCW	**Studenec**	**0.04**	**89**	⇑P	Pg	06 42 19.1	+0.1
STCW				S	Sg	06 42 20.3	0.0
VAC	**Vackov**	**0.05**	**244**	⇓P	Pg	06 42 19.1	+0.1
VAC				S	Sg	06 42 20.3	-0.1
POCW	**Potky**	**0.06**	**346**	S	Sg	06 42 20.7	0.0
KVC	**Kvetna**	**0.07**	**142**	S	Sg	06 42 20.6	0.0
KRCW	**Kraslice**	**0.09**	**34**	⇑P	Pg	06 42 19.6	0.0
KRCW				S	Sg	06 42 21.1	0.0
SKC	**Skalna**	**0.11**	**214**	S	Sg	06 42 21.5	+0.1
KOCW	**Kopaniny**	**0.14**	**273**	⇓P	Pg	06 42 20.2	0.0

*BGR **11** 06:42:18.5±0.3, 50˚26N×12˚43E, h12km±2km, ML1.9/7, Error ellipse: s-maj=2.2km s-min=1.1km az=105.0*
*CLL **11** 06:42:19.3±0.3, 50˚26N×12˚44E, h8km±1km, ML2.0*
WBNET 11 06:42:18.9, 50˚26N×12˚44E, h9km, Ml1.9, 5C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**286**	⇓P	Pg	06 42 20.7	+0.1
LBCW				S	Sg	06 42 22.0	+0.2
NKC	**Novy Kostel**	**0.03**	**173**	*e*Pg	Pg	06 42 20.7	+0.1
NKC				*i* Sg	Sg	06 42 21.9	+0.1
NKC				IAML		06 42 22.1	
	comp=E,795nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**173**	*e*Pg	Pg	06 42 20.7	+0.1
NKC				*i* Sg	Sg	06 42 21.9	+0.1
	comp=E,795nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**173**	⇑P	Pg	06 42 20.7	+0.1
NKC				S	Sg	06 42 21.9	+0.1
STCW	**Studenec**	**0.05**	**91**	*i* Pg	Pg	06 42 20.9	+0.1
STCW				*i* Sg	Sg	06 42 22.0	-0.1
STCW	**Studenec**	**0.05**	**91**	*i* Pg	Pg	06 42 20.9	+0.1
STCW				*i* Sg	Sg	06 42 22.0	-0.1
STCW	**Studenec**	**0.05**	**91**	⇑P	Pg	06 42 20.9	+0.1
STCW				S	Sg	06 42 22.1	-0.1
VAC	**Vackov**	**0.05**	**239**	*i* Pg	Pg	06 42 20.9	+0.1
VAC				*i* Sg	Sg	06 42 22.1	0.0
VAC	**Vackov**	**0.05**	**239**	⇓P	Pg	06 42 20.9	+0.1
VAC				S	Sg	06 42 22.1	0.0
WERN	**Wernitzgruen**	**0.05**	**303**	*i* Pg	Pg	06 42 21.0	+0.1
WERN				*i* Sg	Sg	06 42 22.3	+0.1
WERN				IAML		06 42 22.5	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**303**	*i* Pg	Pg	06 42 21.0	+0.1
WERN				*i* Sg	Sg	06 42 22.3	+0.1
	comp=E,1μm,0.2s						
POCW	**Potky**	**0.06**	**350**	⇓P	Pg	06 42 21.1	+0.1
POCW				S	Sg	06 42 22.6	+0.1
KVC	**Kvetna**	**0.07**	**139**	*i* Sg	Sg	06 42 22.5	-0.1
KVC	**Kvetna**	**0.07**	**139**	S	Sg	06 42 22.5	0.0
ROHR	**Rohrbach**	**0.09**	**252**	*i* Pg	Pg	06 42 21.3	+0.1
ROHR				*i* Sg	Sg	06 42 22.8	-0.1
ROHR				IAML		06 42 22.9	
	comp=E,996nm,0.2s						
ROHR	**Rohrbach**	**0.09**	**252**	*i* Pg	Pg	06 42 21.3	+0.1
ROHR				*i* Sg	Sg	06 42 22.8	-0.1
	comp=E,996nm,0.2s						
KRCW	**Kraslice**	**0.09**	**38**	⇑P	Pg	06 42 21.3	0.0
KRCW				S	Sg	06 42 22.9	-0.1
SKC	**Skalna**	**0.10**	**210**	⇑P	Pg	06 42 21.6	+0.1
SKC				S	Sg	06 42 23.3	+0.1
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg	Pg	06 42 21.9	+0.1
GUNZ				*i* Sg	Sg	06 42 23.9	0.0
GUNZ				IAML		06 42 24.4	
	comp=E,317nm,0.2s						
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg	Pg	06 42 21.9	+0.1
GUNZ				*i* Sg	Sg	06 42 23.9	0.0
	comp=E,317nm,0.2s						
KOCW	**Kopaniny**	**0.13**	**272**	⇓P	Pg	06 42 22.0	+0.1
KOCW				S	Sg	06 42 24.0	0.0
MULD	**Muldenberg**	**0.15**	**351**	*i* Pg	Pg	06 42 22.3	0.0
MULD				*i* Sg	Sg	06 42 24.5	-0.1
MULD				IAML		06 42 24.6	
	comp=E,529nm,0.1s						
MULD	**Muldenberg**	**0.15**	**351**	*i* Pg	Pg	06 42 22.3	0.0
MULD				*i* Sg	Sg	06 42 24.5	-0.1
	comp=E,529nm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	06 42 22.3	0.0
TANN				*i* Sg	Sg	06 42 24.4	-0.3
TANN				IAML		06 42 25.0	
	comp=N,848nm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**4**	*i* Pg	Pg	06 42 22.3	0.0
TANN				*i* Sg	Sg	06 42 24.4	-0.3
	comp=N,848nm,0.2s						
TRCW	**Trojmez**	**0.20**	**283**	⇓P	Pg	06 42 23.0	0.0
TRCW				S	Sg	06 42 25.8	0.0
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	06 42 23.2	0.0
WERD				*i* Sg	Sg	06 42 25.9	-0.2
WERD				IAML		06 42 26.1	
	comp=E,129nm,0.2s						
WERD	**Werda**	**0.21**	**335**	*i* Pg	Pg	06 42 23.2	0.0
WERD				*i* Sg	Sg	06 42 25.9	-0.2
	comp=E,129nm,0.2s						
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P	Pg	06 42 23.2	+0.1
ZHC				S	Sg	06 42 26.1	+0.1
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	06 42 23.3	0.0
TRIB				*i* Sg	Sg	06 42 26.2	-0.1
TRIB				IAML		06 42 26.5	
	comp=N,44nm,0.2s						
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	06 42 23.3	0.0
TRIB				*i* Sg	Sg	06 42 26.2	-0.1
	comp=N,44nm,0.2s						
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Sg	Sg	06 42 26.7	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Sg	Sg	06 42 26.7	-0.1
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	06 42 24.0	+0.2
LACW				*i* Sg	Sg	06 42 27.3	+0.3
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	06 42 24.0	+0.2
LACW				*i* Sg	Sg	06 42 27.3	+0.3
LACW	**Lazy**	**0.24**	**151**	⇓P	Pg	06 42 23.9	+0.1
LACW				S	Sg	06 42 27.3	+0.2
PLN	**Plauen**	**0.29**	**321**	*e*Pg	Pg	06 42 24.8	0.0
PLN				*e*Sg	Sg	06 42 28.6	-0.1
PLN				IAML		06 42 28.7	
	comp=E,102nm,0.1s						
PLN	**Plauen**	**0.29**	**321**	*e*Pg	Pg	06 42 24.8	0.0
PLN				*e*Sg	Sg	06 42 28.6	-0.1
	comp=E,102nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg	Pg	06 42 25.3	-0.5
MANZ				*e*Sg	Sg	06 42 30.3	-0.1
SCHF	**Schoenfels**	**0.42**	**357**	*i* Sg	Sg	06 42 32.6	0.0
SCHF				IAML		06 42 33.1	
	comp=E,130nm,0.3s						
SCHF	**Schoenfels**	**0.42**	**357**	*i* Sg	Sg	06 42 32.6	0.0
	comp=E,130nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Sg	Sg	06 42 33.4	-0.4
GRZ1				IAML		06 42 34.4	
	comp=N,59nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Sg	Sg	06 42 33.4	-0.4
	comp=N,59nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Sg	Sg	06 42 35.6	-0.1
MOX	**Moxa**	**0.65**	**306**	*e*Sg	Sg	06 42 38.8	-1.3
FBE	**Freiberg**	**0.88**	**41**	*e*Sg	Sg	06 42 47.5	+0.1
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Sg	Sg	06 42 49.9	-0.3
CLL	**Collm**	**1.11**	**18**	*i* Pg	Pg	06 42 39.5	-0.7
CLL				*i* x	x	06 42 41.6	
CLL				*i* x	x	06 42 43.1	
CLL				*i* Sg	Sg	06 42 53.2	-1.4
	comp=Z,20nm,0.5s						
CLL				*i* x	x	06 42 57.9	
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pg	06 42 40.2	-0.5
BRG				Sg	Sg	06 42 45.0	-10
BRG				Amp		06 42 46.3	
	comp=Z,7.8nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**57**	Sg	Sg	06 42 55.0	-0.5
BRG				Amp		06 42 55.6	
	comp=Z,29nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Sg	Sg	06 42 55.0	-0.5
WET	**Wettzell**	**1.15**	**166**	*e*Sg	Sg	06 42 55.3	-0.6
PRU	**Pruhonice**	**1.38**	**101**	*e*Sg	Sb	06 43 02.3	-0.2

WBNET 11 06:42:25.0, 50˚26N×12˚44E, h9km, Ml1.2, 1C-2D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**298**	⇓P	Pg	06 42 26.9	+0.1
LBCW				S	Sg	06 42 28.1	+0.1
NKC	**Novy Kostel**	**0.02**	**172**	S	Sg	06 42 28.0	+0.1
VAC	**Vackov**	**0.05**	**244**	S	Sg	06 42 28.3	0.0
STCW	**Studenec**	**0.05**	**85**	S	Sg	06 42 28.2	-0.1
POCW	**Potky**	**0.07**	**351**	S	Sg	06 42 28.6	-0.1
KVC	**Kvetna**	**0.07**	**137**	S	Sg	06 42 28.7	0.0
KRCW	**Kraslice**	**0.10**	**36**	⇑P	Pg	06 42 27.5	0.0
KRCW				S	Sg	06 42 29.4	+0.2
KOCW	**Kopaniny**	**0.14**	**274**	⇓P	Pg	06 42 28.2	+0.1
KOCW				S	Sg	06 42 30.1	-0.1

*BGR **11** 06:42:26.3±0.2, 50˚26N×12˚44E, h11km±1km, ML1.9/6, Error ellip

ROHR	**Rohrbach**	**0.09**	**250**	*i* Pg	Pg	06 42 28.9	0.0
ROHR				*i* Sg	Sg	06 42 30.4	-0.1
	comp=E,1μm,0.1s						
KRCW	**Kraslice**	**0.09**	**39**	⇑P	Pg	06 42 29.0	0.0
KRCW				S	Sg	06 42 30.6	-0.1
SKC	**Skalna**	**0.11**	**209**	⇑P	Pg	06 42 29.3	+0.1
SKC				S	Sg	06 42 31.1	+0.1
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	Pg	06 42 29.6	+0.1
GUNZ				*i* Sg	Sg	06 42 31.4	0.0
GUNZ				IAML		06 42 31.6	
	comp=E,287nm,0.4s						
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	Pg	06 42 29.6	+0.1
GUNZ				*i* Sg	Sg	06 42 31.4	0.0
	comp=E,287nm,0.4s						
KOCW	**Kopaniny**	**0.13**	**271**	⇓P	Pg	06 42 29.7	+0.1
KOCW				S	Sg	06 42 31.7	0.0
MULD	**Muldenberg**	**0.15**	**350**	*e*Pg	Pg	06 42 29.9	0.0
MULD				*i* Sg	Sg	06 42 32.1	-0.1
MULD				IAML		06 42 32.2	
	comp=E,548nm,0.1s						
MULD	**Muldenberg**	**0.15**	**350**	*e*Pg	Pg	06 42 29.9	0.0
MULD				*i* Sg	Sg	06 42 32.1	-0.1
	comp=E,548nm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	Pg	06 42 29.9	-0.1
TANN				*i* Sg	Sg	06 42 32.0	-0.2
TANN				IAML		06 42 32.6	
	comp=N,636nm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	Pg	06 42 29.9	-0.1
TANN				*i* Sg	Sg	06 42 32.0	-0.2
	comp=N,636nm,0.2s						
TRCW	**Trojmez**	**0.20**	**282**	⇓P	Pg	06 42 30.7	0.0
TRCW				S	Sg	06 42 33.4	0.0
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	06 42 30.9	0.0
WERD				*i* Sg	Sg	06 42 33.5	-0.2
WERD				IAML		06 42 33.7	
	comp=E,159nm,0.1s						
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	06 42 30.9	0.0
WERD				*i* Sg	Sg	06 42 33.5	-0.2
	comp=E,159nm,0.1s						
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	Pg	06 42 31.0	+0.1
ZHC				S	Sg	06 42 34.0	+0.1
TRIB	**Obertriebel**	**0.21**	**294**	*i* Pg	Pg	06 42 31.0	0.0
TRIB				*e*Sg	Sg	06 42 34.0	0.0
TRIB				IAML		06 42 34.2	
	comp=N,69nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**294**	*i* Pg	Pg	06 42 31.0	0.0
TRIB				*e*Sg	Sg	06 42 34.0	0.0
	comp=N,69nm,0.3s						
VIEL	**Selb-Vielitz**	**0.23**	**251**	*e*Sg	Sg	06 42 34.4	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**251**	*e*Sg	Sg	06 42 34.4	-0.1
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	06 42 31.7	+0.1
LACW				*i* Sg	Sg	06 42 35.1	+0.3
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	06 42 31.7	+0.1
LACW				*i* Sg	Sg	06 42 35.1	+0.3
LACW	**Lazy**	**0.24**	**151**	⇓P	Pg	06 42 31.7	+0.1
LACW				S	Sg	06 42 35.1	+0.2
PLN	**Plauen**	**0.29**	**321**	*i* Sg	Sg	06 42 36.2	0.0
PLN				IAML		06 42 36.3	
	comp=E,115nm,0.2s						
PLN	**Plauen**	**0.29**	**321**	*i* Sg	Sg	06 42 36.2	0.0
	comp=E,115nm,0.2s						
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg	Pg	06 42 33.4	-0.1
MANZ				*e*Sg	Sg	06 42 38.0	-0.2
SCHF	**Schoenfels**	**0.42**	**356**	*e*Sg	Sg	06 42 40.2	-0.1
SCHF				IAML		06 42 40.4	
	comp=E,140nm,0.2s						
SCHF	**Schoenfels**	**0.42**	**356**	*e*Sg	Sg	06 42 40.2	-0.1
	comp=E,140nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Sg	Sg	06 42 41.0	-0.4
GRZ1				IAML		06 42 42.2	
	comp=E,58nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Sg	Sg	06 42 41.0	-0.4
	comp=E,58nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Sg	Sg	06 42 43.4	-0.1
MOX	**Moxa**	**0.65**	**306**	*e*Sg	Sg	06 42 47.7	0.0
FBE	**Freiberg**	**0.88**	**41**	*e*Sg	Sg	06 42 54.7	-0.2
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Sg	Sg	06 42 57.7	-0.3
CLL	**Collm**	**1.10**	**19**	*i* Pg	Pg	06 42 47.2	-0.6
CLL				*i* x	x	06 42 50.7	
CLL				*i* Sg	Sg	06 43 02.0	-0.2
	comp=Z,18nm,0.4s						
CLL				*i* x	x	06 43 05.5	
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pg	06 42 47.9	-0.5
BRG				Sg	Sg	06 42 49.8	-13
BRG				Amp		06 42 50.4	
	comp=Z,24nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**57**	Sg	Sg	06 43 02.9	-0.3
BRG				Amp		06 43 03.8	
	comp=Z,30nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg	Pg	06 42 48.0	-0.5
BRG				*e*Sg	Sg	06 43 03.0	-0.2
WET	**Wettzell**	**1.16**	**166**	*e*Sg	Sg	06 43 03.3	-0.5
PRU	**Pruhonice**	**1.38**	**101**	*e*Sg	Sn	06 43 10.6	+0.1
GEC2	**GERESS Array S**	**1.64**	**150**	*e*Pn	Pn	06 42 54.6	-1.1
GEC2				*e*Sg	Sb	06 43 17.9	0.0

IDC 11 06:45:35.6±1.6, 0.82N×125.89E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=175.7km s-min=21.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.24**	**159**	P	P	06 50 34.1	-0.1
	0.7nm,0.4s,baz=338,slow=11,SNR=7.0 0.7nm,0.4s						
ASAR	**Alice Springs**	**25.56**	**163**	P	P	06 51 06.5	+0.1
	0.9nm,0.6s,baz=333,slow=9.8,SNR=11 0.9nm,0.6s						
MKAR	**Makanchi Array**	**59.48**	**327**	P	P	06 55 40.4	0.0
	0.3nm,0.4s,baz=130,slow=6.5,SNR=6.0 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.74**	**329**	P	P	06 56 09.1	0.0
	0.3nm,0.4s,baz=126,slow=5.9,SNR=6.2 0.3nm,0.4s						

NSSP 11 06:48:55.8, 38.62N×44.90E, h20km, Ms3.1
AFAD 11 06:48:57.7±0.0, 38.67N×44.89E, h7km±1km, ML2.3
TEH 11 06:49:01.7, 38.58N×45.03E, h10km±113km, ML2.7
ISC 11 06:48:59.0±1.1, 38.64N±0.03×44.85E±0.03, h18km±6km, n22, σ1°14/37, 2C-2D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMRD	**Marand**	**0.67**	**83**	Pg	**Pn**	**06 49 13.0**	**-0.8**
OZAP	**Van, Ozalp-Mer**	**0.67**	**273**	P	**Pg**	**06 49 11.5**	**-0.9**
OZAP				S	**Sb**	**06 49 22.0**	**+0.5**
OZAP				*i* AML	AML	06 49 24.0	
	comp=N,110nm,0.6s						
ISHB	**Shabestar**	**0.69**	**120**	Pg	**Pb**	**06 49 12.6**	**-0.1**
CLDR	**Caldiran**	**0.89**	**305**	P	**Pg**	**06 49 15.0**	**-1.4**
CLDR				S	**Sg**	**06 49 27.8**	**-0.5**
VMUR	**Van-Muradiye**	**1.06**	**290**	P	**Pg**	**06 49 18.3**	**-1.4**
VMUR				S	**Sn**	**06 49 33.9**	**+0.3**
VMUR				*i* AML	AML	06 49 38.0	
	comp=N,132nm,0.4s						
ITBZ	**Tabriz**	**1.09**	**111**	Pg	**Pn**	**06 49 19.7**	**+0.1**
IAZR	**Azarshahr**	**1.30**	**137**	Pg	**Pg**	**06 49 25.0**	**+0.7**
NRKZ	**NAREK**	**1.37**	**354**	*e*P	**Pb**	**06 49 24.8**	**+0.6**
NRKZ				*e*S	**Sg**	**06 49 43.9**	**+0.4**
HAKT	**HAKKARI**	**1.41**	**220**	P	**Pg**	**06 49 25.6**	**-0.6**
HAKT				S	**Sg**	**06 49 46.2**	**+1.7**
HAKT				*i* AML	AML	06 49 55.0	
	comp=N,77nm,1.3s						
GRS	**Goris**	**1.44**	**53**	⇓*i*P	**Pn**	**06 49 22.0**	**-2.4**
GRS				⇓*i*S	**Sn**	**06 49 42.0**	**-0.9**
GEVA	**Gevas**	**1.45**	**258**	P	**Pn**	**06 49 24.5**	**+0.1**
GEVA				S	**Sg**	**06 49 45.8**	**0.0**
GEVA				*i* AML	AML	06 49 49.0	
	comp=N,35nm,0.4s						
GNI	**Garni**	**1.52**	**357**	⇑*i*P	**Pg**	**06 49 27.9**	**-0.4**
GNI				⇑*i*S	**Sg**	**06 49 49.5**	**+1.5**
METS	**Metsamor**	**1.63**	**339**	*e*P	**Pb**	**06 49 28.8**	**+0.2**
METS				*e*S	**Sg**	**06 49 52.1**	**+0.5**
VNNZ	**Vanand**	**1.67**	**332**	*e*P	**Pg**	**06 49 30.8**	**-0.3**
VNNZ				*e*S	**Sg**	**06 49 55.6**	**+2.6**
KAPZ	**Kaputan**	**1.69**	**356**	*e*P	**Pg**	**06 49 31.1**	**-0.5**
KAPZ				*e*S	**Sg**	**06 49 55.9**	**+2.3**
KOTA	**Agri, Merkez-K**	**1.73**	**313**	P	**Pg**	**06 49 31.4**	**-0.9**
KOTA				S	**Sg**	**06 49 54.9**	**-0.1**
KOTA				*i* AML	AML	06 50 01.0	
	comp=N,20nm,0.5s						

IHRS	**Heris**	**1.75**	**100**	Pg	**Pg**	**06 49 32.2**	**-0.5**
ARUZ	**Aruch**	**1.75**	**341**	*e*P	**Pb**	**06 49 31.5**	**+0.8**
ARUZ				*e*S	**Sg**	**06 49 56.0**	**+0.5**
DORK	**Agr/Tutak/Do**	**1.78**	**296**	P	**Pb**	**06 49 31.1**	**-0.1**
DORK				S	**Sb**	**06 49 53.9**	**+0.6**
DORK				*i* AML	AML	06 50 02.0	
	comp=N,65nm,0.8s						
AMBZ	**Amberd**	**1.81**	**345**	*e*P	**Pg**	**06 49 33.5**	**-0.4**
AMBZ				*e*S	**Sg**	**06 49 60.0**	**+2.5**
EATA	**Eleskirt**	**2.21**	**305**	P	**Pb**	**06 49 39.7**	**+1.1**
IHSH	**Hashtrud**	**2.32**	**124**	Pn	**Pg**	**06 49 42.5**	**-1.1**

IDC 11 06:50:18.6±2.7, 56.45S×26.96W, h96km±22km, mb3.9/7, mbtmp4.2/8, MS3.3/2, Error ellipse: s-maj=28.7km s-min=15.4km az=55.0
NEIC 11 06:50:19.1±1.4, 56.51S±0.09×27.0W±0.2, h101km±7km, mb4.5/24, Error ellipse: s-maj=16.9km s-min=12.9km az=80.0
ISC 11 06:50:18.8±0.6, 56.48S±0.09×27.0W±0.1, h101km, n51, σ0°68/47, mb4.3/16, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.85**	**288**	Pn	**Pn**	**06 51 43.1**	**+0.2**
SNAA	**Sanae**	**18.30**	**156**		**P**	**06 54 23.1**	**-1.4**
SNAA	**Sanae**	**18.30**	**156**	P	**P**	**06 54 24.2**	**-0.3**
	6.3nm,0.8s,baz=304,slow=5.1,SNR=5.3						
EFI	**East Falkland**	**18.76**	**272**	P	**P**	**06 54 30.2**	**+0.6**
PMSA	**Palmer Station**	**19.71**	**230**	P	**P**	**06 54 41.1**	**+1.4**
SMAI	**San Martin Ant**	**21.52**	**221**	P	**P**	**06 54 59.3**	**+0.2**
SMAI				IAmb	IAmb	06 55 19.4	
	comp=Z,72nm,1.3s						
BELA	**Belgrano 2**	**21.66**	**184**	P	**P**	**06 54 59.2**	**-1.4**
TRQA	**Tornquist**	**29.60**	**294**	P	**P**	**06 56 13.0**	**-1.1**
PLTB	**Pedras Altas**	**30.87**	**312**	P	**P**	**06 56 25.2**	**-0.2**
PLTB				IAmb	IAmb	06 56 55.3	
	comp=Z,21nm,1.3s						
PLCA	**Paso Flores**	**32.19**	**281**	LR	LR	07 09 30.6	
	comp=Z,37nm,18.4s,baz=138,slow=36						
QSPA	**South Pole Qui**	**33.77**	**180**	P	**P**	**06 56 51.1**	**+0.6**
QSPA	**South Pole Qui**	**33.77**	**180**	P	**P**	**06 56 51.3**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=186,slow=2.0,SNR=21 comp=Z,1.7nm,0.4s						
CPUP	**Villa Florida**	**37.18**	**311**	P	**P**	**06 57 19.2**	**-0.7**
CPUP				IAmb	IAmb	06 57 47.1	
	comp=Z,5.6nm,1.4s						
CPUP	**Villa Florida**	**37.18**	**311**	P	**P**	**06 57 19.4**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=160,slow=7.4,SNR=11 comp=Z,2.2nm,0.6s						
MAW	**Mawson**	**39.73**	**143**	P	**P**	**06 57 40.8**	**0.0**
	comp=Z,1.6nm,0.8s,baz=196,slow=5.2,SNR=2.3 comp=Z,1.6nm,0.8s						
CO01	**Juntas del Tor**	**40.09**	**293**	P	**P**	**06 57 44.2**	**-0.2**
CO01				IAmb	IAmb	06 58 05.8	
	comp=Z,7.6nm,1.3s						
AC05	**El Transito**	**41.10**	**294**	P	**P**	**06 57 51.8**	**-0.9**
AC05				IAmb	IAmb	06 58 03.9	
	comp=Z,17nm,1.4s						
AQDB	**Aquidauana**	**41.80**	**317**	P	**P**	**06 57 57.5**	**-0.7**
AC04	**Llanos de Chal**	**42.03**	**293**	P	**P**	**06 57 59.5**	**-0.5**
AC02	**Maricunga**	**42.17**	**297**	P	**P**	**06 58 00.6**	**-1.3**
AC02				IAmb	IAmb	06 58 03.4	
	comp=Z,3.8nm,0.8s						
BDFB	**Brasilia**	**43.80**	**330**	P	**P**	**06 58 15.3**	**+0.8**
BDFB				IAmb	IAmb	06 58 23.4	
	comp=Z,6.0nm,1.4s						
BDFB	**Brasilia**	**43.80**	**330**	P	**P**	**06 58 14.3**	**-0.3**
	comp=Z,1.6nm,0.6s,baz=32,slow=15,SNR=1.9 comp=Z,1.6nm,0.6s						
AF01	**San Pedro de A**	**44.98**	**301**	P	**P**	**06 58 24.4**	**+0.3**
BOSA	**Boshof**	**45.97**	**75**	P	**P**	**06 58 32.3**	**+0.6**
BOSA				IAmb	IAmb	06 58 45.9	
	comp=Z,6.0nm,1.2s						
BOSA	**Boshof**	**45.97**	**75**	P	**P**	**06 58 31.7**	**0.0**
	comp=Z,2.8nm,0.7s,baz=216,slow=5.1,SNR=5.3						
BOSA				LR	LR	07 16 01.4	
	comp=Z,36nm,18.4s,baz=178,slow=34 comp=Z,2.8nm,0.7s						
VNDA	**Vanda**	**46.15**	**183**	P	**P**	**06 58 32.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=74,slow=4.4,SNR=2.9 comp=Z,0.8nm,0.6s						
PB09	**IPOC Station P**	**46.47**	**300**	P	**P**	**06 58 36.5**	**+0.8**
PB09				IAmb	IAmb	06 58 53.4	
	comp=Z,13nm,1.3s						
PB07	**IPOC Station P**	**46.84**	**300**	P	**P**	**06 58 38.5**	**-0.1**
PTLB	**Pontes e Lacer**	**47.69**	**316**	P	**P**	**06 58 44.8**	**-0.2**
H10S2	**ASCENSION HYDR**	**48.38**	**16**	T	T	07 51 34.5	
	baz=31,slow=74,SNR=9.3						
H10S3	**ASCENSION HYDR**	**48.38**	**16**	T	T	07 51 33.5	
	baz=189,slow=74,SNR=15						
H10N1	**ASCENSION HYDR**	**49.50**	**16**	T	T	07 52 58.2	
	baz=189						
H10N3	**ASCENSION HYDR**	**49.50**	**16**	T	T	07 52 57.8	
	baz=189,slow=74						
H10N2	**ASCENSION HYDR**	**49.51**	**16**	T	T	07 52 59.1	
	baz=189,slow=74						
LPAZ	**La Paz**	**50.72**	**305**	P	**P**	**06 59 08.9**	**+0.1**
LPAZ	**La Paz**	**50.72**	**305**	P	**P**	**06 59 09.3**	**+0.5**
	comp=Z,9.1nm,0.5s,baz=160,slow=3.9,SNR=92 comp=Z,9.1nm,0.5s						
SAML	**Samuel**	**55.19**	**315**	P	**P**	**06 59 41.0**	**+0.1**
SAML				IAmb	IAmb	06 59 41.6	
	comp=Z,2.2nm,0.8s						
BOAV	**Boa Vista**	**64.69**	**322**	P	**P**	**07 00 45.2**	**-0.7**
BOAV				IAmb	IAmb	07 00 46.1	
	comp=Z,3.5nm,0.8s						
BAUV	**El Baul**	**73.45**	**317**	P	**P**	**07 01 41.4**	**+1.4**
BAUV				IAmb	IAmb	07 02 14.7	
	comp=Z,26nm,1.4s						
NVAR	**Mina Aray Bea**	**121.67**	**293**	PKP	**PKiKP**	**07 09 01.4**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=68,slow=2.4,SNR=2.4						
FINES	**FINESS Array B**	**124.71**	**28**	PKP	**PKiKP**	**07 09 05.3**	**+0.1**
	comp=Z,0.9nm,0.8s,baz=144,slow=3.3,SNR=2.2						
YKA	**Yellowknife Ar**	**136.57**	**318**	PKP	**PKPdf**	**07 09 27.3**	**0.0**
	comp=Z,0.2nm,0.4s,baz=112,slow=2.1,SNR=12						
YKA				SKPbc	**SKPbc**	**07 12 49.5**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=126,slow=2.5,SNR=5.9						
H31M	**Peel River**	**145.72**	**316**		**PKPbc**	**07 09 44.4**	**0.0**
G31M	**Satah River**	**146.06**	**318**		**PKPbc**	**07 09 45.1**	**-0.1**
M29M	**Somme Creek**	**146.20**	**309**		**PKPbc**	**07 09 46.1**	**0.0**
K29M	**Barlow Dome**	**146.31**	**312**		**PKPbc**	**07 09 46.3**	**-0.1**
H29M	**Whitestone**	**147.41**	**315**		**PKPbc**	**07 09 48.2**	**-1.0**
E29M	**Blow River**	**147.80**	**320**		**PKPbc**	**07 09 49.8**	**-0.3**
I26K	**Coal Creek Min**	**149.07**	**313**		**PKPbc**	**07 09 53.5**	**-0.1**
ILAR	**Eielson Array**	**150.49**	**311**	PKPbc	**PKPbc**	**07 09 57.0**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=113,slow=1.6,SNR=22						
ILAR				PKPab	**PKPab**	**07 10 04.1**	**0.0**
	comp=Z,0.7nm,0.5s,baz=93,slow=0.7,SNR=8.8						
SONM	**Songino Array**	**150.64**	**87**	PKPbc	**PKPbc**	**07 09 58.3**	**+0.3**
	comp=Z,1.1nm,0.5s,baz=222,slow=2.0,SNR=5.2						

NEIC 11 06:51:31.2±1.3, 19.35N±0.01×155.26W±0.01, h0km±6km, Error ellipse: s-maj=3.3km s-min=2.2km az=301.0
HVO 11 06:51:30.9±1.2, 19.35N±0.01×155.26W±0.01, h0km±6km, ML3.0/6, ML2.5/32(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.05**	**59**		Pg	06 51 32.5	+0.7
KKO	**Keanakako`i**	**0.05**	**351**		Pg	06 51 32.4	+0.5
KKO				IAML		06 51 32.5	
	comp=E,5μm,0.9s						
RIM	**Rim**	**0.05**	**342**	Pg	Pg	06 51 32.0	+0.2
RIM				IAML		06 51 32.2	
	comp=N,6μm,0.7s						
RIM				IAML		06 51 33.0	
	comp=E,5μm,0.7s						
SDHHI	**Sand Hill**	**0.05**	**319**		Pg	06 51 32.2	+0.2
SDHHI				IAML		06 51 32.6	
	comp=N,7μm,0.8s						
BYL	**Byron's Ledge**	**0.06**	**358**		Pg	06 51 32.4	+0.3
BYL				IAML		06 51 33.7	
	comp=N,6μm,0.8s						
NPH	**North Pit**	**0.07**	**341**		Sg	06 51 34.1	+1.0
NPH	**North Pit**	**0.07**	**341**	Pg	Pg	06 51 31.8	-0.4
NPH	**North Pit**	**0.07**	**341**	IAML		06 51 34.3	
	comp=N,7μm,0.5s						
NPH				IAML		06 51 34.3	
	comp=E,3μm,0.2s						
WRMHI	**West Rim**	**0.07**	**325**		Pg	06 51 31.8	-0.5
HLP	**Hilina Pali**	**0.07**	**221**		Pg	06 51 32.9	+0.6
OBL	**Observatory Le**	**0.07**	**340**		Sg	06 51 35.0	+1.7
OBL	**Observatory Le**	**0.07**	**340**	Pg	Pg	06 51 32.2	-0.2
OBL				IAML		06 51 34.1	
	comp=N,13μm,0.9s						
OBL				IAML		06 51 34.2	
	comp=E,12μm,0.9s						
HATHI	**Halema'uma'u T**	**0.07**	**358**	Pg	Pg	06 51 32.5	+0.2
HATHI				IAML		06 51 33.5	
	comp=N,5μm,0.6s						
HATHI				IAML		06 51 33.7	
	comp=E,5μm,0.8s						
UWB	**Uwekahuna B**	**0.08**	**346**	Pg	Pg	06 51 32.8	+0.4
UWB				IAML		06 51 33.7	
	comp=N,3μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.09**	**71**		Pg	06 51 34.0	+1.4
STCH	**Steam Cracks**	**0.13**	**74**	Pg	Pg	06 51 33.4	0.0
STCH				IAML		06 51 37.1	
	comp=N,1μm,0.7s						
NPOC	**North of Pu'u**	**0.15**	**73**	Pg	Pg	06 51 34.0	+0.3
NPOC				IAML		06 51 37.8	
	comp=N,1μm,0.6s						
HTC	**Hot Caves**	**0.17**	**230**		Pg	06 51 35.1	+0.9
HMH	**Humu'ula Sheep**	**0.33**	**320**	Pg	Pg	06 51 37.6	+0.3
HMH				IAML		06 51 42.5	
	comp=N,546nm,0.7s						
HMH				IAML		06 51 48.8	
	comp=E,449nm,0.7s						
MWH	**Moku'aweowe**	**0.35**	**293**	Pg	Pg	06 51 37.8	+0.2
KHU	**Kahuku**	**0.35**	**253**		Pg	06 51 38.7	+1.1
KHU	**Kahuku**	**0.35**	**253**	IAML		06 51 48.2	
	comp=N,426nm,1.2s						
KHU				IAML		06 51 49.7	
	comp=E,620nm,1.6s						
POHA	**Pohakuloa**	**0.48**	**327**		Sg	06 51 46.9	+0.5
HUH	**Hualalai**	**0.64**	**302**	Pg	Pg	06 51 43.5	+0.4

CLL 11 06:54:21.0±0.3, 50.26N×12.45E, h8km, ML1.8
WBNET 11 06:54:20.6, 50.26N×12.45E, h9km, MI1.8, 10C-10D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**180**	*i* Pg	Pg	06 54 22.4	+0.1
NKC				*i* Sg	Sg	06 54 23.5	+0.1
NKC				IAML		06 54 23.6	
	comp=E,442nm,0.1s						
NKC	**Novy Kostel**	**0.02**	**180**	⇑P	Pg	06 54 22.4	+0.1
NKC				S	Sg	06 54 23.5	+0.1
NKC	**Novy Kostel**	**0.02**	**180**	S	Sg	06 54 24.3	+0.9
LBCW	**Luby**	**0.03**	**293**	⇓P	Pg	06 54 22.4	+0.1
LBCW				S	Sg	06 54 23.7	+0.2
LBCW	**Luby**	**0.03**	**293**	⇓P	Pg	06 54 23.2	+0.9
LBCW				S	Sg	06 54 24.4	+1.0
STCW	**Studenec**	**0.05**	**86**	*i* Pg	Pg	06 54 22.5	+0.1
STCW	**Studenec**	**0.05**	**86**	⇑P	Pg	06 54 22.5	+0.1
STCW				S	Sg	06 54 23.7	0.0
STCW	**Studenec**	**0.05**	**86**	⇑P	Pg	06 54 23.3	+0.9
STCW				S	Sg	06 54 24.5	+0.8
VAC	**Vackov**	**0.05**	**245**	*i* Pg	Pg	06 54 22.5	+0.1
VAC	**Vackov**	**0.05**	**245**	⇓P	Pg	06 54 22.5	+0.1
VAC				S	Sg	06 54 23.8	0.0
VAC	**Vackov**	**0.05**	**245**	⇑P	Pg	06 54 23.3	+0.9
VAC				S	Sg	06 54 24.6	+0.8
WERN	**Wernitzgruen**	**0.06**	**304**	*i* Pg	Pg	06 54 22.7	+0.1
WERN				*i*		06 54 23.4	
WERN				*i* Sg	Sg	06 54 24.0	0.0
WERN				IAML		06 54 24.1	
	comp=E,909nm,0.2s						
POCW	**Potky**	**0.07**	**348**	⇑P	Pg	06 54 22.8	+0.1
POCW				S	Sg	06 54 24.3	+0.1
POCW	**Potky**	**0.07**	**348**	S	Sg	06 54 25.0	+0.9
KVC	**Kvetna**	**0.07**	**139**	*i* Pg	Pg	06 54 22.7	+0.1
KVC				*i* Sg	Sg	06 54 24.1	0.0
KVC	**Kvetna**	**0.07**	**139**	⇓P	Pg	06 54 22.7	+0.1
KVC				S	Sg	06 54 24.1	0.0
ROHR	**Rohrbach**	**0.09**	**256**	*i* Pg	Pg	06 54 22.9	0.0
ROHR				*i*		06 54 23.7	
ROHR				*i* Sg	Sg	06 54 24.4	-0.1
ROHR				IAML		06 54 24.6	
	comp=E,541nm,0.1s						
KRCW	**Kraslice**	**0.09**	**35**	⇑P	Pg	06 54 23.1	0.0
KRCW				S	Sg	06 54 24.6	-0.1
KRCW	**Kraslice**	**0.09**	**35**	S	Sg	06 54 25.4	+0.7
SKC	**Skalna**	**0.10**	**213**	⇑P	Pg	06 54 23.2	+0.1
SKC				S	Sg	06 54 24.9	+0.1
SKC	**Skalna**	**0.10**	**213**	⇑P	Pg	06 54 24.0	+0.9
SKC				S	Sg	06 54 25.0	+0.9
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg	Pg	06 54 23.7	+0.1
GUNZ				*i* Sg	Sg	06 54 25.6	0.0
GUNZ				IAML		06 54 26.0	
	comp=E,248nm,0.2s						
KOCW	**Kopaniny**	**0.14**	**274**	⇓P	Pg	06 54 23.7	0.0
KOCW				S	Sg	06 54 25.7	-0.1
KOCW	**Kopaniny**	**0.14**	**274**	⇓P	Pg	06 54 24.5	+0.8
KOCW				S	Sg	06 54 26.5	+0.7
MULD	**Muldenberg**	**0.16**	**350**	*i* Pg	Pg	06 54 24.0	0.0
MULD				*i* Sg	Sg

TBP				*i* S		**Sb**	**06 56 41.1**	**+1.2**
CGP	**Cagayan de Oro**	**2.88**	**203**	⇓ *e*P		**Pb**	**06 56 19.4**	**+1.3**
CGP				*e*S		**Sn**	**06 56 49.0**	**+1.7**
BIPH	**Bislig**	**2.96**	**170**	⇓ *e*P		**Pb**	**06 56 16.6**	**-2.8**
BIPH				*e*S		**Sb**	**06 56 57.7**	**+2.0**
RCP	**Roxas**	**3.07**	**278**	⇑ *e*P		**Pn**	**06 56 16.3**	**+1.2**
RCP				*e*S		**Sn**	**06 56 51.2**	**-0.8**
SNPH	**Sibulan**	**3.12**	**236**	⇓ *i*P		**Pb**	**06 56 22.5**	**+0.4**
SNPH				*i* S		**Sg**	**06 57 06.2**	**-0.6**
DCPH	**Dipolog City**	**3.52**	**224**	⇓ *e*P		**Pn**	**06 56 18.2**	**-3.1**
DCPH				*e*S		**Sn**	**06 57 02.8**	**-0.3**
DAV	**Davao City (W)**	**4.04**	**184**	LR		LR	06 58 24.9	
	comp=Z,112nm,19.4s,baz=354,slow=44							
WRA	**Warramunga Arr**	**31.98**	**165**	P		**P**	**07 01 54.3**	**+1.3**
	0.3nm,0.7s,baz=348,slow=8.8,SNR=1.3							
	0.3nm,0.7s							
ASAR	**Alice Springs**	**35.46**	**167**	P		**P**	**07 02 24.1**	**+0.8**
	0.3nm,0.5s,baz=347,slow=7.1,SNR=4.7							
	0.3nm,0.5s							
SONM	**Songino Array**	**40.08**	**340**	P		**P**	**07 03 02.9**	**+0.7**
	0.6nm,0.4s,baz=160,slow=9.2,SNR=2.7							
	0.6nm,0.4s							
H11N1	**WAKE ISLAND Hy 40.39**		**73**	T		T	07 46 34.4	
	baz=265,slow=75,SNR=18							
H11N2	**WAKE ISLAND Hy 40.40**		**73**	T		T	07 46 27.1	
	baz=265,slow=75,SNR=14							
H11N3	**WAKE ISLAND Hy 40.41**		**73**	T		T	07 46 35.7	
	baz=265,slow=75,SNR=17							
MKAR	**Makanchi Array**	**51.10**	**323**	P		**P**	**07 04 29.3**	**-0.1**
	0.3nm,0.3s,baz=114,slow=7.1,SNR=11							
	0.3nm,0.3s							
AAK	**Ala-Archa**	**54.43**	**315**	LR		LR	07 31 55.2	
	comp=Z,25nm,18.4s,baz=183,slow=40							
KURBB	**Kurchatov Arra**	**55.14**	**325**	P		**P**	**07 04 58.1**	**-0.9**
	0.5nm,0.5s,baz=124,slow=7.0,SNR=4.1							
	0.5nm,0.5s							
ARCES	**ARCESS Array B**	**83.25**	**340**	P		**P**	**07 07 53.1**	**+0.2**
	0.3nm,0.5s,baz=79,slow=6.3,SNR=5.6							
	0.3nm,0.5s							

JMA ***11*** *06:57:12.8±0.3,25°N±4°×122°39E±0°8,h101km±2km, MV2.2/9,NW OFF ISHIGAKIJIMA IS*
TAP ***11*** *06:57:12.5,24°59N×122°89E,h101km,ML2.7,C*
ISC 11 06:57:12.2±1.7,24°48N±0°06×122°89E±0°03, h107km±10km,n52,σ0s80/94,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
YOJ	**Yonaguni jima**	**0.11**	**101**	P	**Pn**	**06 57 27.1**		**+0.1**
YOJ				*e*S	**Sn**	**06 57 37.4**		**-0.8**
YOJ	**Yonaguni jima**	**0.11**	**101**	*i* P	**Pn**	**06 57 26.9**		**-0.1**
	baz=148							
YOJ				*i* S	**Sn**	**06 57 37.4**		**-0.8**
	baz=148							
EOS3	**EOS3**	**0.56**	**250**	P	**Pn**	**06 57 29.8**		**+0.8**
	baz=243							
EOS3				S	**Sn**	**06 57 42.6**		**+1.0**
	baz=243							
EOS2	**EOS2**	**0.60**	**264**	P	**Pn**	**06 57 30.9**		**+1.6**
	baz=261							
EOS2				S	**Sn**	**06 57 42.6**		**+0.4**
	baz=261							
EOS4	**EOS4**	**0.64**	**236**	P	**Pn**	**06 57 29.9**		**+0.6**
	baz=230							
EOS4				*e*S	**Sn**	**06 57 42.7**		**+0.6**
	baz=230							
HATJ	**Hateruma jima**	**0.94**	**117**	*e*S	**Sn**	**06 57 48.2**		**+0.4**
TWC	**Suao**	**0.96**	**278**	*e*S	**Sn**	**06 57 46.4**		**-1.7**
	baz=270							
EWUT	**Wuta**	**1.01**	**268**	P	**Pn**	**06 57 33.3**		**0.0**
	baz=256							
EWUT				*e*S	**Sn**	**06 57 49.2**		**0.0**
	baz=256							
ENA	**Nanau**	**1.05**	**267**	*e*S	**Sn**	**06 57 49.9**		**0.0**
	baz=255							
JKRS	**Kuro-shima**	**1.05**	**103**	*e*P	**Pn**	**06 57 34.6**		**+0.9**
JKRS				*e*S	**Sn**	**06 57 50.2**		**+0.3**
NDS	**Dongshan**	**1.08**	**278**	*e*S	**Sn**	**06 57 49.8**		**-0.7**
	baz=271							
TIPB	**Shuangxi**	**1.08**	**297**	*e*P	**Pn**	**06 57 34.6**		**+0.5**
	baz=286							
TIPB				*e*S	**Sn**	**06 57 49.5**		**-1.1**
	baz=286							
JIJ	**Ishigaki jima**	**1.15**	**96**	*e*P	**Pn**	**06 57 35.1**		**+0.4**
JIJ				*e*S	**Sn**	**06 57 50.8**		**-1.0**
ETL	**Fush Village**	**1.20**	**255**	*e*S	**Sn**	**06 57 52.0**		**-0.9**
	baz=249							
ENTT	**Nioudou**	**1.22**	**278**	*e*S	**Sn**	**06 57 52.5**		**-0.7**
	baz=267							
FUSB	**Fushanzhiwuyua**	**1.22**	**283**	*e*P	**Pn**	**06 57 35.6**		**0.0**
	baz=277							
FUSB				*e*S	**Sn**	**06 57 52.0**		**-1.3**
	baz=277							
NACB	**Ninganchiao**	**1.22**	**256**	*i* P	**Pn**	**06 57 35.5**		**-0.1**
	baz=244							
NACB				S	**Sn**	**06 57 52.3**		**-1.0**
	baz=244							
LATG	**Datong**	**1.24**	**273**	*e*P	**Pn**	**06 57 36.3**		**+0.3**
	baz=266							
LATG				*e*S	**Sn**	**06 57 53.6**		**-0.3**
	baz=266							
TWD	**Chiawan**	**1.25**	**252**	P	**Pn**	**06 57 35.6**		**-0.2**
	baz=246							
TWD				S	**Sn**	**06 57 52.8**		**-1.0**
	baz=246							
NDT	**Datong Townshi**	**1.26**	**276**	*e*P	**Pn**	**06 57 36.4**		**+0.3**
	baz=269							
NDT				*e*S	**Sn**	**06 57 54.1**		**0.0**
	baz=269							
JISG	**Ishigakijimahi**	**1.30**	**85**	*e*P	**Pn**	**06 57 36.7**		**+0.3**
JISG				*e*S	**Sn**	**06 57 53.8**		**-1.0**
NWLT	**Wulai**	**1.30**	**283**	*e*P	**Pn**	**06 57 36.6**		**+0.1**
	baz=283							
NWLT				*e*S	**Sn**	**06 57 54.0**		**-0.9**
	baz=283							
NNSB	**Datong**	**1.38**	**268**	P	**Pn**	**06 57 38.0**		**+0.6**
	baz=256							
NNSB				*e*S	**Sn**	**06 57 55.9**		**-0.7**
	baz=256							
ETM	**Tongmen**	**1.38**	**248**	P	**Pn**	**06 57 37.5**		**+0.1**
	baz=241							
ETM				S	**Sn**	**06 57 55.6**		**-0.9**
	baz=241							
NNS	**Nan Shan**	**1.38**	**269**	*e*P	**Pn**	**06 57 37.3**		**-0.2**
	baz=256							
NNS				*e*S	**Sn**	**06 57 55.6**		**-1.2**
	baz=256							
YHNB	**Yeheng**	**1.39**	**278**	*e*P	**Pn**	**06 57 38.4**		**+0.8**
	baz=265							
YHNB				*e*S	**Sn**	**06 57 56.3**		**-0.6**
	baz=265							
SHUL	**Shoufeng**	**1.40**	**241**	P	**Pn**	**06 57 38.1**		**+0.5**
	baz=233							
SHUL				*e*S	**Sn**	**06 57 56.7**		**-0.1**
	baz=233							
NSK	**Sanguang**	**1.41**	**278**	*e*P	**Pn**	**06 57 37.5**		**-0.3**
	baz=266							
NSK				*e*S	**Sn**	**06 57 56.4**		**-0.9**
	baz=266							
LXIB	**Xiulin Townshi**	**1.43**	**251**	*e*P	**Pn**	**06 57 38.2**		**+0.1**
	baz=241							
LXIB				*e*S	**Sn**	**06 57 56.9**		**-0.8**
	baz=241							
ESL	**Shilin**	**1.49**	**244**	*e*P	**Pn**	**06 57 38.9**		**+0.2**
	baz=245							
ESL				*e*S	**Sn**	**06 57 58.1**		**-0.7**
	baz=245							
WHF	**Hehuan Shan**	**1.52**	**258**	P	**Pn**	**06 57 39.9**		**+0.4**
	baz=259							
WHF				*e*S	**Sn**	**06 57 59.5**		**-0.7**
	baz=259							
EGFH	**Guangfu**	**1.56**	**239**	P	**Pn**	**06 57 39.9**		**+0.3**
	baz=232							
EGFH				*e*S	**Sn**	**06 58 00.0**		**-0.4**
	baz=232							
WARBT	**Fenglin Townsh**	**1.57**	**241**	P	**Pn**	**06 57 39.9**		**+0.2**
	baz=244							
WARBT				S	**Sn**	**06 57 59.8**		**-0.9**
	baz=244							
TDCB	**Techi**	**1.60**	**262**	*e*P	**Pn**	**06 57 41.2**		**+1.0**
	baz=254							
TDCB				*e*S	**Sn**	**06 58 00.9**		**-0.5**
	baz=254							
CHGB	**Renai**	**1.62**	**255**	P	**Pn**	**06 57 41.1**		**+0.5**
	baz=244							
CHGB				*e*S	**Sn**	**06 58 01.1**		**-1.0**
	baz=244							
HGSD	**Ruisui**	**1.67**	**234**	P	**Pn**	**06 57 41.0**		**+0.2**
	baz=228							
HGSD				*e*S	**Sn**	**06 58 02.5**		**-0.2**
	baz=228							
WUSB	**Renai**	**1.69**	**254**	*e*P	**Pn**	**06 57 42.2**		**+0.9**
	baz=245							
WUSB				*e*S	**Sn**	**06 58 03.2**		**-0.3**
	baz=245							
NSTT	**Nanjuang**	**1.73**	**275**	*e*S	**Sn**	**06 58 03.4**		**-0.6**
	baz=270							
EHY	**Hungye**	**1.73**	**236**	*e*P	**Pn**	**06 57 41.9**		**+0.2**
	baz=233							
EHY				*e*S	**Sn**	**06 58 03.0**		**-1.1**
	baz=233							
VWDT	**VWDT**	**1.76**	**246**	P	**Pn**	**06 57 43.0**		**+1.1**
	baz=237							
VWDT				S	**Sn**	**06 58 05.0**		**+0.4**
	baz=237							
WHP	**Taichung City**	**1.79**	**264**	*e*P	**Pn**	**06 57 44.1**		**+1.7**
	baz=256							
WHP				S	**Sn**	**06 58 06.3**		**+0.9**
	baz=256							
YULB	**Yu-li**	**1.82**	**234**	P	**Pn**	**06 57 43.0**		**+0.2**
	baz=239							
YULB				*e*S	**Sn**	**06 58 05.2**		**-0.9**
	baz=239							
TWF1	**Yuli**	**1.84**	**233**	P	**Pn**	**06 57 43.6**		**+0.5**
	baz=227							
TWF1				*e*S	**Sn**	**06 58 06.3**		**-0.4**
	baz=227							
SSLB	**Suanglung**	**1.90**	**249**	*e*P	**Pn**	**06 57 44.8**		**+0.9**
	baz=245							
SSLB				*e*S	**Sn**	**06 58 08.0**		**0.0**
	baz=245							
SMLT	**Sun Moon Lake**	**1.91**	**252**	*e*P	**Pn**	**06 57 45.2**		**+1.1**
	baz=243							
FULB	**Fuli**	**1.94**	**229**	*e*P	**Pn**	**06 57 44.7**		**+0.3**
	baz=221							
FULB				*e*S	**Sn**	**06 58 08.8**		**-0.1**
	baz=221							
TYC	**Yuchr**	**1.94**	**253**	*e*P	**Pn**	**06 57 46.0**		**+1.7**
	baz=245							
TYC				*e*S	**Sn**	**06 58 10.7**		**+1.8**
	baz=245							
CHKT	**Chengkung**	**1.96**	**226**	*e*P	**Pn**	**06 57 44.7**		**+0.1**
	baz=221							
CHKT				*e*S	**Sn**	**06 58 08.5**		**-0.8**
	baz=221							
WHYT	**Xinyi Township**	**2.02**	**248**	*e*P	**Pn**	**06 57 47.0**		**+1.6**
	baz=242							
EHD	**Haiduan**	**2.04**	**230**	*e*P	**Pn**	**06 57 45.9**		**+0.3**
	baz=237							
EHD				*e*S	**Sn**	**06 58 10.5**		**-0.6**
	baz=237							
EDH	**Donghe**	**2.09**	**224**	*e*P	**Pn**	**06 57 45.4**		**-0.8**
	baz=219							
EDH				*e*S	**Sn**	**06 58 10.0**		**-2.3**
	baz=219							
LDUT	**Ludao**	**2.22**	**216**	*e*P	**Pn**	**06 57 48.1**		**+0.1**
	baz=212							

BGR ***11*** *06:59:24.5±0.2,50°26N×12°44E,h11km±1km,ML2.0/7, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
WBNET ***11*** *06:59:24.9,50°26N×12°45E,h9km,Ml2.3*
CLL ***11*** *06:59:25.2±0.3,50°27N×12°44E,h8km,ML2.2/11*
ISC 11 06:59:24.8±0.9,50°27N±0°02×12°45E±0°02,h10km±3km, n53,σ0s22/105,5C-6D,Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
LBCW	**Luby**	**0.02**	**269**	⇓ P	**Pg**	**06 59 26.7**		**0.0**
LBCW				S	**Sg**	**06 59 27.9**		**-0.1**
NKC	**Novy Kostel**	**0.03**	**177**	*i* Pg	**Pg**	**06 59 26.7**		**0.0**
NKC				*i* Sg	**Sg**	**06 59 27.8**		**-0.2**
NKC				IAML		06 59 28.2		
	comp=E,1μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**177**	*i* Pg	**Pg**	**06 59 26.7**		**0.0**
NKC				*i* Sg	**Sg**	**06 59 27.8**		**-0.2**
	comp=E,1μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**177**	⇓ P	**Pg**	**06 59 26.7**		**0.0**
NKC				S	**Sg**	**06 59 27.8**		**-0.2**
STCW	**Studenec**	**0.05**	**98**	*i* Pg	**Pg**	**06 59 26.8**		**0.0**
STCW				*i* Sg	**Sg**	**06 59 28.0**		**-0.3**
STCW	**Studenec**	**0.05**	**98**	*i* Pg	**Pg**	**06 59 26.8**		**0.0**
STCW				*i* Sg	**Sg**	**06 59 28.0**		**-0.3**
STCW	**Studenec**	**0.05**	**98**	⇑ P	**Pg**	**06 59 26.8**		**0.0**
STCW				S	**Sg**	**06 59 28.0**		**-0.3**
WERN	**Wernitzgruen**	**0.05**	**296**	*i* Pg	**Pg**	**06 59 26.9**		**0.0**
WERN				*i* Sg	**Sg**	**06 59 28.2**		**-0.1**
WERN				IAML		06 59 28.3		
	comp=E,2μm,0.2s							
WERN	**Wernitzgruen**	**0.05**	**296**	*i* Pg	**Pg**	**06 59 26.9**		**0.0**
WERN				*i* Sg	**Sg**	**06 59 28.2**		**-0.1**
	comp=E,2μm,0.2s							
VAC	**Vackov**	**0.05**	**235**	*i* Pg	**Pg**	**06 59 26.8**		**-0.1**
VAC				*i*		06 59 27.6		
VAC				*i* Sg	**Sg**	**06 59 28.0**		**-0.3**
VAC	**Vackov**	**0.05**	**235**	⇓ P	**Pg**	**06 59 26.8**		**-0.1**
VAC				S	**Sg**	**06 59 28.1**		**-0.3**
POCW	**Potky**	**0.06**	**348**	⇑ P	**Pg**	**06 59 27.0**		**0.0**
POCW				S	**Sg**	**06 59 28.4**		**-0.1**
KVC	**Kvetna**	**0.07**	**143**	*i* Pg	**Pg**	**06 59 27.1**		**0.0**
KVC				*i* Sg	**Sg**	**06 59 28.4**		**-0.3**
KVC	**Kvetna**	**0.07**	**143**	⇓ P	**Pg**	**06 59 27.1**		**0.0**
KVC				S	**Sg**	**06 59 28.4**		**-0.3**
KRCW	**Kraslice**	**0.09**	**40**	⇑ P	**Pg**	**06 59 27.2**		**0.0**
KRCW				S	**Sg**	**06 59 28.9**		**-0.2**
ROHR	**Rohrbach**	**0.09**	**249**	*i* Pg	**Pg**	**06 59 27.2**		**-0.1**
ROHR				*i* Sg	**Sg**	**06 59 28.7**		**-0.3**
ROHR				IAML		06 59 28.9		
	comp=E,2μm,0.1s							
ROHR	**Rohrbach**	**0.09**	**249**	*i* Pg	**Pg**	**06 59 27.2**		**-0.1**
ROHR				*i* Sg	**Sg**	**06 59 28.7**		**-0.3**
	comp=E,2μm,0.1s							
SKC	**Skalna**	**0.11**	**209**	⇑ P	**Pg**	**06 59 27.5**		**0.0**
SKC				S	**Sg**	**06 59 29.3**		**-0.2**
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	**Pg**	**06 59 27.9**		**+0.1**
GUNZ				*i* Sg	**Sg**	**06 59 29.7**		**-0.1**
GUNZ				IAML		06 59 29.9		
	comp=E,440nm,0.3s							
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	**Pg**	**06 59 27.9**		**+0.1**
GUNZ				*i* Sg	**Sg**	**06 59 29.7**		**-0.1**
	comp=E,440nm,0.3s							
KOCW	**Kopaniny**	**0.14**	**270**	⇓ P	**Pg**	**06 59 27.9**		**0.0**
KOCW				S	**Sg**	**06 59 30.0**		**-0.2**
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg	**Pg**	**06 59 28.2**		**0.0**
MULD				*i* Sg	**Sg**	**06 59 30.3**		**-0.2**
MULD				IAML		06 59 30.4		
	comp=E,856nm,0.1s							
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg	**Pg**	**06 59 28.2**		**0.0**
MULD				*i* Sg	**Sg**	**06 59 30.3**		**-0.2**
	comp=E,856nm,0.1s							
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	**Pg**	**06 59 28.2**		**0.0**
TANN				*i* Sg	**Sg**	**06 59 30.3**		**-0.3**
TANN				IAML		06 59 30.8		
	comp=N,790nm,0.2s							
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	**Pg**	**06 59 28.2**		**0.0**
TANN				*i* Sg	**Sg**	**06 59 30.3**		**-0.3**
	comp=N,790nm,0.2s							
WERD	**Werda**	**0.20**	**334**	*i* Pg	**Pg**	**06 59 29.1**		**0.0**
WERD				*i* Sg	**Sg**	**06 59 31.8**		**-0.2**
WERD				IAML		06 59 31.9		
	comp=E,268nm,0.1s							
WERD	**Werda**	**0.20**	**334**	*i* Pg	**Pg**	**06 59 29.1**		**0.0**
WERD				*i* Sg	**Sg**	**06 59 31.8**		**-0.2**
	comp=E,268nm,0.1s							
ZHC	**Zelena Hora**	**0.21**	**204**	⇑ P	**Pg**	**06 59 29.3**		**0.0**
ZHC				S	**Sg**	**06 59 32.2**		**-0.1**
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg	**Pg**	**06 59 29.2**		**0.0**
TRIB				*i* Sg	**Sg**	**06 59 32.1**		**-0.2**
TRIB				IAML		06 59 32.5		
	comp=E,80nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg	**Pg**	**06 59 29.2**		**0.0**
TRIB				*i* Sg	**Sg**	**06 59 32.1**		**-0.2**
	comp=E,80nm,0.1s							
VIEL	**Selb-Vielitz**	**0.23**	**250**	*i* Pg	**Pg**	**06 59 29.5**		**-0.1**
VIEL				*i* Sg	**Sg**	**06 59 32.6**		**-0.3**
VIEL	**Selb-Vielitz**	**0.23**	**250**	*i* Pg	**Pg**	**06 59 29.5**		**-0.1**
VIEL				*i* Sg	**Sg**	**06 59 32.6**		**-0.3**
LACW	**Lazy**	**0.24**	**152**	*i* Pg	**Pg**	**06 59 29.9**		**+0.1**
LACW				*i* Sg	**Sg**	**06 59 33.2**		**+0.1**
LACW	**Lazy**	**0.24**	**152**	*i* Pg	**Pg**	**06 59 29.9**		**+0.1**

LACW				*i* Sg	**Sg**	**06 59 33.2**		**+0.1**
LACW	**Lazy**	**0.24**	**152**	⇓ P	**Pg**	**06 59 29.9**		**+0.1**
LACW				S	**Sg**	**06 59 33.3**		**+0.1**
PLN	**Plauen**	**0.29**	**320**	*i* Pg	**Pg**	**06 59 30.6**		**0.0**
PLN				*i* Sg	**Sg**	**06 59 34.4**		**-0.1**
PLN				IAML		06 59 34.5		
	comp=E,215nm,0.2s							
PLN	**Plauen**	**0.29**	**320**	*i* Pg	**Pg**	**06 59 30.6**		**0.0**
PLN				*i* Sg	**Sg**	**06 59 34.4**		**-0.1**
	comp=E,215nm,0.2s							
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg	**Pg**	**06 59 31.7**		**-0.1**
MANZ				*e*Sg	**Sg**	**06 59 36.3**		**-0.2**
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**06 59 32.9**		**0.0**
SCHF				*i* Sg	**Sg**	**06 59 38.4**		**0.0**
SCHF				IAML		06 59 38.9		
	comp=E,199nm,0.3s							
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**06 59 32.9**		**0.0**
SCHF				*i* Sg	**Sg**	**06 59 38.4**		**0.0**
	comp=E,199nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.45**	**341**	*e*Pg	**Pg**	**06 59 33.6**		**0.0**
GRZ1				*i* Sg	**Sg**	**06 59 39.2**		**-0.3**
GRZ1				IAML		06 59 40.4		
	comp=E,84nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.45**	**341**	*e*Pg	**Pg**	**06 59 33.6**		**0.0**
GRZ1				*i* Sg	**Sg**	**06 59 39.2**		**-0.3**
	comp=E,84nm,0.3s							
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Pg	**Pg**	**06 59 34.7**		**-0.2**
ROTZ				*e*Sg	**Sg**	**06 59 41.6**		**-0.2**
MOX	**Moxa**	**0.65**	**306**	*e*Pg	**Pg**	**06 59 37.3**		**-0.1**
MOX				*e*Sg	**Sg**	**06 59 46.0**		**0.0**
FBE	**Freiberg**	**0.88**	**41**	*e*Pg	**Pg**	**06 59 41.6**		**0.0**
FBE				*e*Sg	**Sg**	**06 59 52.6**		**-0.4**
GRF	**Grafenberg Arr**	**0.98**	**234**	*e*Pg	**Pg**	**06 59 43.4**		**-0.2**
GRF				*e*Sg	**Sg**	**06 59 55.7**		**-0.6**
CLL	**Collm**	**1.10**	**19**	*i* Pg	**Pg**	**06 59 45.5**		**-0.5**
CLL				*i* x	x	06 59 47.3		
CLL				*i* x	x	06 59 48.9		
CLL				*i* Sg	**Sg**	**07 00 00.0**		**-0.3**
	comp=Z,25nm,0.4s							
CLL				*i* x	x	07 00 04.0		
CLL	**Collm**	**1.10**	**19**	*e*Pg	**Pg**	**06 59 45.5**		**-0.5**
CLL				*e*Sg	**Sg**	**07 00 00.3**		**0.0**
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	**Pg**	**06 59 46.1**		**-0.4**
BRG				Sg	**Sg**	**07 00 01.1**		**-0.2**
BRG				Amp		07 00 02.0		
	comp=Z,36nm,0.3s							
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg	**Pg**	**06 59 46.2**		**-0.4**
BRG				*e*Sg	**Sg**	**07 00 01.0**		**-0.3**
WET	**Wettzell**	**1.16**	**166**	*e*Pg	**Pb**	**06 59 47.0**		**+0.1**
WET				*e*Sg	**Sg**	**07 00 01.2**		**-0.9**
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	**Pn**	**06 59 50.3**		**+0.2**
PRU				*e*Sg	**Sb**	**07 00 08.6**		**+0.3**
GEC2	**GERESS Array S**	**1.64**	**150**	*e*Sg	**Sn**	**07 00 15.2**		**+0.2**

IDC ***11*** *07:01:03.6±3.3,34°39N×23°74E,h0km,mb3.5/4, mbtmp3.4/6,ML3.3/2,MS3.1/1,Error ellipse: s-maj=67.5km s-min=28.6km az=0.0*
ATH ***11*** *07:01:08.5,34°48N×23°53E,h23km±2km,ML3.3/7, Error ellipse: s-maj=4.1km s-min=2.9km az=13.0*
THE ***11*** *07:01:12.0,34°72N×23°64E,h16km,ML3.0/3,Error ellipse: s-maj=1.4km s-min=0.6km az=176.0*
ISC 11 07:01:08.7±2.1,34°54N±0°10×23°59E±0°06,h26km±11km, n26,σ0s93/35,mb3.5/4,Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
GVD	**Gavdhos**	**0.51**	**54**	P	**Pb**	**07 01 19.6**		**+0.5**
GVD				S	**Sb**	**07 01 25.9**		**-0.3**
	5μm,0.5s							
GVD	**Gavdhos**	**0.51**	**54**	P	**Pb**	**07 01 19.9**		**+0.8**
GVD				S	**Sn**	**07 01 28.3**		**+0.1**
GVD				AML	AML	07 01 29.4		
	comp=E,12764μm,0.4s							
GVD				AML	AML	07 01 31.9		
	comp=N,7843μm,0.5s							
GVDS	**Gavdos**	**0.51**	**54**	P	**Pb**	**07 01 19.3**		**+0.1**
GVDS				S	**Sb**	**07 01 25.2**		**-1.1**
	comp=N,3μm,0.4s							
KNDR	**Palaiochora Ch**	**0.70**	**7**	P	**Pb**	**07 01 22.6**		**+0.3**
KNDR				S	**Sn**	**07 01 33.1**		**+0.4**
KNDR				AML	AML	07 01 37.3		
	comp=N,11010μm,0.7s							
KNDR				AML	AML	07 01 40.0		
	comp=E,7608μm,0.6s							
IMMV	**Iera Moni Meta**	**0.97**	**19**	P	**Pb**	**07 01 26.7**		**-0.2**
IMMV				S	**Sb**	**07 01 38.2**		**-1.2**
IMMV	**Iera Moni Meta**	**0.97**	**19**	P	**Pb**	**07 01 26.9**		**0.0**
IMMV				S	**Sb**	**07 01 40.2**		**+0.8**
IMMV				AML	AML	07 01 44.0		
	comp=E,5804μm,0.4s							
IMMV				AML	AML	07 01 45.1		
	comp=N,6579μm,0.5s							
RODP	**Rodopos**	**1.03**	**8**	P	**Pb**	**07 01 28.1**		**+0.2**
RODP				S	**Sb**	**07 01 39.6**		**-1.4**
CHAN	**Chania**	**1.05**	**21**	P	**Pn**	**07 01 28.2**		**+0.6**
CHAN				S	**Sn**	**07 01 43.0**		**+1.6**
CHAN				AML	AML	07 01 48.2		
	comp=E,4651μm,0.6s							
CHAN				AML	AML	07 01 49.4		
	comp=N,4637μm,0.7s							
PRNS	**Prines Rethymn**	**1.11**	**42**	P	**Pn**	**07 01 28.3**		**-0.3**
IDI	**Anoyia**	**1.30**	**55**	P	**Pb**	**07 01 32.3**		**-0.3**
IDI				S	**Sn**	**07 01 48.4**		**+0.5**
	comp=N,370nm,0.7s							
IDI	**Anoyia**	**1.30**	**55**	P

DR08	**Loma La Naviza**	**0.56**	**288**	*e*Pg	**Pn**	**07 04 44.3**	**-1.7**
DR08				*e*Sg	**Sn**	**07 04 55.7**	**+0.1**
DR08				IAML		07 04 57.4	
	comp=N,922nm,0.2s						
NADR	**Nagua**	**0.68**	**326**	*e*Pg	**Pn**	**07 04 46.2**	**-0.9**
NADR				*e*Sg	**Sn**	**07 04 58.2**	**+0.5**
NADR				IAML		07 05 02.1	
	comp=N,286nm,1.0s						
HIDR	**Higuey Centro**	**0.73**	**105**	*e*Pg	**Pn**	**07 04 46.9**	**-0.8**
HIDR				*e*Sg	**Sn**	**07 05 00.3**	**+1.6**
HIDR				IAML		07 05 01.0	
	comp=N,211nm,0.3s						
BANI	**BANI**	**0.94**	**246**	*e*Pg	**Pn**	**07 04 50.1**	**-0.3**
BANI				*e*Sg	**Sn**	**07 05 04.4**	**+0.9**
BANI				IAML		07 05 50.1	
	comp=N,290nm,1.6s						
PCDR	**Punta Cana, DR**	**1.05**	**105**	*e*Pg	**Pn**	**07 04 49.5**	**-2.3**
PCDR				*e*Sg	**Sn**	**07 05 05.1**	**-0.8**
PCDR				IAML		07 05 07.5	
	comp=N,180nm,3.0s						
PCDR	**Punta Cana, DR**	**1.05**	**105**	*i* P	**Pn**	**07 04 50.9**	**-0.9**
PCDR				*e*S	**Sn**	**07 05 06.4**	**+0.5**
PCDR				IAML		07 05 11.1	
	comp=Z,97nm,1.4s						
ABDR	**Alto Bandera**	**1.11**	**272**	*e*Pg	**Pn**	**07 04 51.4**	**-1.4**
ABDR				*e*Sg	**Sn**	**07 05 07.7**	**0.0**
ABDR				IAML		07 05 08.8	
	comp=N,55nm,0.2s						
SC01	**Santiago de lo**	**1.36**	**298**	*i* P	**Pn**	**07 04 54.5**	**-1.2**
SC01				*e*S	**Sn**	**07 05 13.5**	**+0.5**
SC01				IAML		07 05 17.4	
	comp=Z,23nm,1.3s						
SDDR	**Presa de Saban**	**1.75**	**277**	*e*Pg	**Pn**	**07 05 00.2**	**-0.8**
SDDR				*e*Sg	**Sn**	**07 05 19.4**	**-2.9**
SDDR				IAML		07 05 24.1	
	comp=N,21nm,1.1s						
SDDR	**Presa de Saban**	**1.75**	**277**	*i* P	**Pn**	**07 05 00.5**	**-0.5**
SDDR				IAML		07 05 30.1	
	comp=Z,14nm,1.5s						
REDR	**Restauracion**	**1.87**	**282**	*e*Pg	**Pn**	**07 05 04.4**	**+1.8**
REDR				*e*Sg	**Sn**	**07 05 30.0**	**+4.8**
REDR				IAML		07 05 32.4	
	comp=N,30nm,0.1s						
CRPR	**Cabo Rojo, PR**	**2.36**	**109**	*i* P	**Pn**	**07 05 09.9**	**+0.7**
CRPR				IAML		07 05 41.8	
	comp=Z,35nm,1.9s						

NAO ***11*** *07:10:16.7±1.2, 76°.57N×19°.71E, h11km±13km, ML3.5*
BER ***11*** *07:10:18.9±3.7, 76°.52N×19°.58E, h15km±16km, ML3.2, ML3.5(NAO)*
FCIAR ***11*** *07:10:18.0, 76°.58N×19°.82E, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.40*
KOLA ***11*** *07:10:18.2, 76°.82N×19°.65E, h0km, ML2.9, Error ellipse: s-maj=14.9km s-min=9.4km az=140.0, Storfjorden zone*

ISC 11 07:10:17.3±1.2, 76°.70N±0°.04×19°.80E±0°.04, h16km±9km, n33, σ1§40/54, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.02**	**289**	P	**Pn**	**07 10 37.3**	**+0.4**
HSPB				S	**Sb**	**07 10 49.8**	**0.0**
HSPB	**Hornsund (broa**	**1.02**	**289**	*e*P	**Pn**	**07 10 37.5**	**+0.5**
HSPB				*e*S	**Sg**	**07 10 49.2**	**-1.1**
HSPB				IAML		07 10 52.0	
	comp=Z,704nm,0.3s						
HSPB	**Hornsund (broa**	**1.02**	**289**	Pg	**Pn**	**07 10 37.5**	**+0.5**
HSPB				Lg	Lg	07 10 51.3	
HOPEN	**Hopen**	**1.23**	**96**	*e*P	**Pg**	**07 10 40.8**	**-0.1**
HOPEN				*e*S	**Sn**	**07 10 57.1**	**+1.1**
HOPEN				IAML		07 11 00.6	
	comp=Z,678nm,0.5s						
HOPEN	**Hopen**	**1.23**	**96**	Pn	**Pg**	**07 10 40.8**	**-0.1**
HOPEN				Lg	Lg	07 10 56.9	
HOPEN	**Hopen**	**1.23**	**96**	*e*P	**Pg**	**07 10 40.7**	**-0.2**
HOPEN				*e*S	**Sb**	**07 10 56.3**	**+0.7**
SPA0	**Spitsbergen Ar**	**1.67**	**335**	Pn	**Pb**	**07 10 47.4**	**-0.2**
	baz=152,slow=22						
SPA0				Pg	**Pg**	**07 10 49.7**	**+0.5**
	baz=153,slow=22						
SPA0				Sg	**Sg**	**07 11 13.2**	**+2.3**
	baz=160,slow=18						
SPA0	**Spitsbergen Ar**	**1.67**	**335**	Pn	**Pb**	**07 10 47.4**	**-0.2**
	baz=152,slow=22						
SPA0				Pg	**Pg**	**07 10 49.7**	**+0.5**
	baz=153,slow=22						
SPA0				Lg	Lg	07 11 13.2	
	baz=160,slow=18						
SPA0	**Spitsbergen Ar**	**1.67**	**335**	*e*P	**Pb**	**07 10 47.3**	**-0.2**
SPA0				*e*S	**Sg**	**07 11 09.8**	**-1.1**
SPITS	**Spitsbergen Ar**	**1.67**	**335**	P	**Pn**	**07 10 46.1**	**+0.3**
SPITS				S	**Sb**	**07 11 08.4**	**+0.1**
BRBA	**Barentsburg A**	**1.84**	**321**	Pn	**Pb**	**07 10 49.8**	**-0.6**
BRBA				*e*Sg	**Sg**	**07 11 16.0**	**-0.3**
BRBA	**Barentsburg A**	**1.84**	**321**	Pn	**Pb**	**07 10 49.8**	**-0.6**
BRBA				Pg	**Pg**	**07 10 52.2**	**-0.3**
BRBA				Lg	Lg	07 11 17.3	
BRBB	**Barentsburg B**	**1.86**	**322**	P	**Pb**	**07 10 49.8**	**-1.1**
BRBB				S	**Sn**	**07 11 12.5**	**+0.9**
BRBB	**Barentsburg B**	**1.86**	**322**	*e*P	**Pb**	**07 10 50.1**	**-0.8**
BRBB				*e*S	**Sb**	**07 11 12.8**	**-1.1**
BRBB				*e*Sg	**Sg**	**07 11 18.1**	**+1.0**
BRBB	**Barentsburg B**	**1.86**	**322**	Pn	**Pb**	**07 10 49.8**	**-1.1**
BRBB				Sn	**Sb**	**07 11 13.3**	**-0.6**
BRBB				Lg	Lg	07 11 18.3	
BJO1	**Bjornoya**	**2.22**	**186**	*e*Pg	**Pn**	**07 10 55.1**	**+1.7**
BJO1				*e*Sg	**Sn**	**07 11 21.3**	**+0.9**
BJO1				IAML		07 11 26.8	
	comp=Z,266nm,0.7s						
BJO1	**Bjornoya**	**2.22**	**186**	Pg	**Pn**	**07 10 55.2**	**+1.9**
BJO1				Lg	Lg	07 11 22.4	
KBS	**Kingsbay**	**2.79**	**327**	P	**Pn**	**07 11 01.7**	**+0.5**
KBS				S	**Sn**	**07 11 35.5**	**+1.0**
KBS	**Kingsbay**	**2.79**	**327**	*e*P	**Pn**	**07 11 02.0**	**+0.8**
KBS				*e*Pg	**Pg**	**07 11 10.3**	**-0.3**
KBS				*e*Sg	**Sg**	**07 11 47.9**	**+1.1**
KBS				IAML		07 11 51.4	
	comp=Z,176nm,0.4s						
KBS	**Kingsbay**	**2.79**	**327**	Pn	**Pn**	**07 11 02.3**	**+1.1**
KBS				Pg	**Pg**	**07 11 10.3**	**-0.3**
KBS				Lg	Lg	07 11 47.8	
KBS	**Kingsbay**	**2.79**	**327**	*e*P	**Pn**	**07 11 02.0**	**+0.8**
KBS				*e*S	**Sn**	**07 11 36.1**	**+1.6**
HAMF	**Hammerfest**	**6.18**	**168**	*e*P	**Pn**	**07 11 45.2**	**-2.6**
HAMF				*e*S	Sn	07 12 46.8	-11
HAMF	**Hammerfest**	**6.18**	**168**	Pn	**Pn**	**07 11 45.0**	**-2.8**
HAMF				Sn	Sn	07 12 46.6	-11
ZFI2	**Zemlya Franca-**	**6.74**	**40**	*e*P	**Pn**	**07 11 58.1**	**+2.7**
ZFI2				*e*S	**Sn**	**07 13 08.8**	**-2.9**
	comp=Z,16nm,1.0s						
OMEGA	**Omega**	**6.75**	**40**	*e*P	**Pn**	**07 11 58.2**	**+2.8**
OMEGA				*e*S	**Sn**	**07 13 08.8**	**-3.0**
	comp=Z,12nm,1.2s						
JETT	**Jettan, Norway**	**7.18**	**178**	Pn	**Pn**	**07 12 01.9**	**+0.4**
JETT	**Jettan, Norway**	**7.18**	**178**	Pn	**Pn**	**07 12 01.9**	**+0.4**
KEV	**Kevo**	**7.28**	**160**	*e*P	**Pn**	**07 12 01.0**	**-1.8**
KEV				*e*S	Sn	07 13 13.9	-11
KEV	**Kevo**	**7.28**	**160**	Pn	**Pn**	**07 12 01.5**	**-1.3**
KEV				Sn	Sn	07 13 14.0	-11
ARA0	**ARCESS Array S**	**7.38**	**164**	Pn	**Pn**	**07 12 01.8**	**-2.5**
	baz=357,slow=10						
ARA0				Sn	Sn	07 13 16.6	-11
	baz=0.7,slow=22						
ARA0	**ARCESS Array S**	**7.38**	**164**	Pn	**Pn**	**07 12 01.8**	**-2.5**
	baz=357,slow=10						
ARA0				Sn	Sn	07 13 16.6	-11
	baz=0.7,slow=22						
APA0	**Apatity Array**	**9.95**	**150**	Pn	Pn	07 12 35.6	-3.8
	baz=350,slow=14						
APA0	**Apatity Array**	**9.95**	**150**	Pn	Pn	07 12 35.6	-3.8
	baz=350,slow=14						

IDC 11 07:14:53.2±3.8, 53°.71N×88°.09E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=36.8km s-min=18.8km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.95**	**278**	I	I	07 27 56.5	
	baz=95,slow=328,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.95**	**278**	Pg	Pn	07 15 28.1	+0.5
ZALV				Lg	Lg	07 15 54.9	
	2.0nm,0.3s,baz=99,slow=12,SNR=23						
	3.2nm,0.3s,baz=97,slow=26,SNR=14						
KURBB	**Kurchatov Arra**	**6.64**	**246**	Pn	Pn	07 16 33.1	+1.1
	0.1nm,0.3s,baz=60,slow=14,SNR=6.4						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.85**	**211**	Pn	Pn	07 16 49.4	+0.7
	0.1nm,0.3s,baz=31,slow=15,SNR=4.7						
	0.1nm,0.3s						

SOME ***11*** *07:16:50.2, 49°.75N×81°.88E, h0km*
NNC ***11*** *07:16:55.9±1.2, 49°.69N×81°.68E, h0km, mb2.9, mpv2.5, Error ellipse: s-maj=16.3km s-min=2.5km az=54.0, Suspected Mining explosion.*

ISC 11 07:16:46.5±1.8, 50°.3N±0°.1×82°.48E±0°.09, h0km, n8, σ1§65/11, 5C-3D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEM	**Semipalatinsk**	**1.43**	**275**	*e*P	**Pg**	**07 17 14.7**	**+0.7**
	4.6nm,0.1s						
SEM				*e*S	**Sn**	**07 17 33.9**	**+0.3**
	23nm,0.1s						
KURK	**Kurchatov**	**2.50**	**281**	⇑Pg	**Pg**	**07 17 36.3**	**+1.9**
	5.8nm,0.7s						
KURK				⇓Lg	Lg	07 18 06.3	
	19nm,0.6s						
KURBB	**Kurchatov Arra**	**2.54**	**279**	⇑Pg	**Pg**	**07 17 36.5**	**+1.2**
	5.6nm,0.7s						
KURBB				⇑Lg	Lg	07 18 07.1	
	19nm,0.5s						
ZSN	**Zaisan**	**3.25**	**150**	*e*P	**Pb**	**07 17 46.3**	**+1.1**
	2.4nm,0.1s						
ZSN				*e*S	**Sg**	**07 18 30.0**	**-1.1**
	12nm,0.7s						
MAKZ	**Makanchi**	**3.51**	**186**	⇓Pg	**Pb**	**07 17 48.5**	**-1.0**
	0.5nm,0.4s						
MAKZ				⇑Lg	Lg	07 18 27.3	
	2.6nm,0.7s						
MK31	**Makanchi Array**	**3.51**	**182**	⇑Pg	**Pb**	**07 17 49.7**	**+0.2**
	0.2nm,0.2s,baz=51,slow=24,SNR=12						
MK31				⇓Lg	Lg	07 18 29.0	
	5.5nm,0.7s,baz=358,slow=28,SNR=3.8						
ARXS	**Arharly**	**6.86**	**209**	*e*P	**Pb**	**07 18 46.1**	**-0.5**
	0.4nm,0.2s						
ARXS				*e*S	**Sb**	**07 20 10.1**	**+1.0**
	1.6nm,0.5s						
CLL	**Collm**	**42.41**	**299**	*i* Sg	**S**	**07 31 01.2**	**-3.4**

SOF ***11*** *07:26:54.3, 43°.14N±0°.01×27°.48E±0°.01, h5km±3km, MD3.3/10*
MCSM ***11*** *07:26:56.3±1.3, 43°.9°×2°.8E±2°.2, h7km±8km, ML3.9, MLv3.6*
ISK ***11*** *07:27:02.9, 42°.58N×27°.20E, h19km, ML2.8/18*

ISC 11 07:26:54.2±0.8, 43°.12N±0°.02×27°.48E±0°.02, h6km±6km, n79, σ1§22/118, 34C-27D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRD	**Provadia**	**0.06**	**310**	*i* Pg	**Pg**	**07 26 55.1**	**-0.7**
PRD				*i* Sg	**Sg**	**07 26 56.4**	**-0.5**
ROIA	**ROIAK**	**0.08**	**250**	*i* Pg	**Pg**	**07 26 56.1**	**+0.1**
ROIA				*i* Sg	**Sg**	**07 26 58.3**	**+1.1**
AVR	**AVREN**	**0.14**	**90**	*i* Pg	**Pg**	**07 26 56.9**	**-0.2**
AVR				*i* Sg	**Sg**	**07 26 59.9**	**+0.8**
NEF	**NEVSHA**	**0.21**	**315**	*i* Pg	**Pg**	**07 26 58.4**	**+0.1**
NEF				*i* Sg	**Sg**	**07 27 01.7**	**+0.7**
PSN	**Preselentsi**	**0.71**	**43**	*i* Pg	**Pg**	**07 27 07.9**	**+0.1**
PSN				*i* Sg	**Sb**	**07 27 18.2**	**-0.8**
RAZG	**Razgrad**	**0.83**	**303**	⇑P	**Pb**	**07 27 10.8**	**-0.4**
RAZG				⇓S	**Sn**	**07 27 24.1**	**-1.2**
JMB	**Yambol**	**0.94**	**228**	Pg	**Pb**	**07 27 13.2**	**+0.3**
JMB	**Yambol**	**0.94**	**228**	*i* Pg	**Pb**	**07 27 13.6**	**+0.7**
JMB				*i* Sg	**Sb**	**07 27 26.5**	**+0.9**
ICOR	**Ion Corvin**	**1.02**	**13**	⇑P	**Pb**	**07 27 14.2**	**-0.2**
ICOR				⇑S	**Sn**	**07 27 30.9**	**+1.0**
TSMN	**Mangalia Port-**	**1.06**	**50**	⇑P	**Pb**	**07 27 14.8**	**-0.2**
MANR	**Mangalia**	**1.07**	**49**	⇓P	**Pb**	**07 27 15.1**	**0.0**
MANR				⇓S	**Sn**	**07 27 31.3**	**+0.3**
SZH	**Strazhitsa**	**1.11**	**278**	*i* Pg	**Pb**	**07 27 15.7**	**-0.1**
SZH				*i* Sg	**Sn**	**07 27 31.6**	**-0.3**
ELND	**Elena**	**1.19**	**261**	⇑P	**Pg**	**07 27 16.9**	**-0.1**
ELND				⇑S	**Sn**	**07 27 33.9**	**0.0**
MFTR	**Murfatlar**	**1.26**	**33**	⇑P	**Pn**	**07 27 18.5**	**0.0**
MFTR				⇑S	**Sn**	**07 27 36.9**	**+1.2**
EFOR	**EFORIE**	**1.28**	**41**	⇑P	**Pn**	**07 27 18.8**	**+0.2**
EFOR				⇑S	**Sn**	**07 27 36.6**	**+0.6**
CVDA	**Cernavoda**	**1.28**	**18**	⇑P	**Pn**	**07 27 18.6**	**-0.1**
CVDA				⇓S	**Sn**	**07 27 38.2**	**+2.0**
TSCT	**Constanta Port**	**1.35**	**39**	⇑P	**Pg**	**07 27 20.5**	**+0.4**
TSCT				⇓S	**Sn**	**07 27 39.4**	**+1.6**
EDRB	**Edirne**	**1.38**	**203**	Pg	**Pn**	**07 27 19.1**	**-1.0**
EDRB				Sg	**Sb**	**07 27 30.9**	**-7.5**
TLBR	**Topalu**	**1.48**	**16**	⇑P	**Pb**	**07 27 22.0**	**-0.2**
TLBR				⇓S	**Sg**	**07 27 43.1**	**+1.2**
PHSR	**Pinarhisar**	**1.49**	**179**	Pg	**Pn**	**07 27 22.3**	**+0.8**
AMRR	**Amara**	**1.49**	**356**	⇓P	**Pn**	**07 27 22.8**	**+0.1**
AMRR				⇓S	**Sg**	**07 27 43.8**	**+1.5**
SGRR	**Singureni**	**1.55**	**316**	⇓P	**Pn**	**07 27 22.7**	**+0.3**
SGRR				⇓S	**Sg**	**07 27 44.8**	**+0.8**
HARR	**Harsova**	**1.60**	**12**	⇓P	**Pb**	**07 27 23.7**	**-0.6**
ZIMR		**1.63**	**290**	⇓P	**Pb**	**07 27 24.7**	**0.0**
ZIMR				⇑S	**Sg**	**07 27 48.1**	**+1.6**
PVL	**Pavlikeni**	**1.69**	**271**	*i* Pg	**Pg**	**07 27 27.1**	**+0.6**
PVL				*i* Sg	**Sg**	**07 27 49.1**	**+0.7**
CTYL	**Yalikoy Yolu**	**1.75**	**160**	Pn	**Pb**	**07 27 27.6**	**+0.9**
CTYL				Sn	**Sn**	**07 27 46.1**	**-1.6**
CIOR	**Ciorogarla**	**1.76**	**320**	⇑P	**Pn**	**07 27 25.8**	**+0.5**
CIOR				⇑S	**Sg**	**07 27 51.2**	**+0.5**
DIM	**Dimitrovgrad**	**1.77**	**233**	*i* P	**Pb**	**07 27 27.8**	**+0.8**
DIM				*i* S	**Sg**	**07 27 51.4**	**+0.5**
SULR		**1.79**	**331**	⇓P	**Pn**	**07 27 26.4**	**+0.7**
SULR				⇓S	**Sg**	**07 27 52.4**	**+0.7**
TPGR	**Topolog**	**1.86**	**21**	⇓P	**Pb**	**07 27 28.2**	**-0.5**
TPGR				⇓S	**Sg**	**07 27 52.8**	**-1.3**
COPA	**Copaceanca**	**1.93**	**303**	⇑P	**Pb**	**07 27 29.0**	**-0.8**
COPA				⇓S	**Sg**	**07 27 55.0**	**-1.2**
SLVT	**Silivri**	**1.97**	**164**	Pn	**Pb**	**07 27 30.4**	**0.0**
CTKS	**Kestanelik-??a**	**2.03**	**157**	Pn	**Pn**	**07 27 30.4**	**+1.4**
UKOP	**Uzunkopru-Edir**	**2.09**	**198**	Pn	**Pn**	**07 27 29.8**	**+0.1**
ISR	**Istrita**	**2.11**	**342**	⇑P	**Pb**	**07 27 32.4**	**-0.5**
ISR				⇑S	**Sg**	**07 28 01.0**	**-0.9**
ISR	**Istrita**	**2.11**	**342**	P	**Pb**	**07 27 32.6**	**-0.3**
ISR				S	**Sg**	**07 28 01.0**	**-0.9**
CFR	**Carcaliu**	**2.11**	**13**	⇑P	**Pn**	**07 27 30.6**	**+0.5**
CFR				⇓S	**Sb**	**07 27 59.7**	**+0.3**
BGKT	**Bogazkoy**	**2.16**	**153**	Pn	**Pb**	**07 27 34.8**	**+1.0**
BGKT				Sn	**Sn**	**07 27 57.3**	**-0.7**
KDZ	**Kurdzhali**	**2.17**	**227**	Pn	**Pn**	**07 27 32.2**	**+1.2**
KDZ	**Kurdzhali**	**2.17**	**227**	*i* P	**Pg**	**07 27 38.2**	**+2.4**
KLYT	**Kilyos**	**2.20**	**147**	Pn	**Pb**	**07 27 35.7**	**+1.3**
PLD	**Plovdiv**	**2.23**	**245**	Pn	**Pg**	**07 27 35.7**	**+0.7**
PLD	**Plovdiv**	**2.23**	**245**	*e*P	**Pg**	**07 27 36.7**	**-0.3**
TLCR		**2.28**	**25**	⇑P	**Pb**	**07 27 33.9**	**-1.9**
TLCR				⇑S	**Sb**	**07 28 04.1**	**-0.1**
HUMR	**Humele**	**2.29**	**309**	⇑P	**Pn**	**07 27 33.1**	**+0.5**
HUMR				⇑S	**Sb**	**07 28 03.1**	**-1.4**
NEGRR	**Negrea**	**2.43**	**7**	⇓S	**Sb**	**07 28 08.5**	**-0.2**
RKY	**Sarkoy-Tekirda**	**2.44**	**185**	Pn	**Pn**	**07 27 35.3**	**+0.6**
RDO	**Rodhopi**	**2.44**	**217**	Pn	**Pn**	**07 27 35.2**	**+0.6**
RZN	**Rozhen**	**2.48**	**236**	*i* P	**Pb**	**07 27 40.5**	**+1.2**
MRMT	**Marmara Adasi**	**2.52**	**178**	Pn	**Pn**	**07 27 36.7**	**+1.0**
ERIK	**Erikli-Kesan**	**2.55**	**197**	Pn	**Pn**	**07 27 36.4**	**+0.3**
ENEZ	**Enez**	**2.58**	**203**	Pn	**Pn**	**07 27 36.3**	**-0.2**
MLR	**Muntele Rosu**	**2.61**	**336**	⇓S	**Sb**	**07 28 12.9**	**-1.0**
SPBR	**Spulber**	**2.68**	**349**	⇓P	**Pn**	**07 27 39.8**	**+1.8**
KRBG	**Karabiga-Canak**	**2.73**	**183**	Pn	**Pn**	**07 27 37.7**	**-0.9**
MPEP	**Malo Peshtene**	**2.74**	**276**	*i* P	**Pb**	**07 27 45.1**	**+1.5**
PLOR5	**Plostina Array**	**2.79**	**348**	P	**Pb**	**07 27 42.6**	**-1.9**
PLOR5				S	**Sb**	**07 28 18.1**	**-0.8**
LPK	**Lapseki**	**2.80**	**191**	Pn	**Pn**	**07 27 39.9**	**+0.4**
VRI	**Vrincioaia**	**2.80**	**349**	⇑P	**Pn**	**07 27 41.8**	**+2.2**
VRI				⇑S	**Sb**	**07 28 17.8**	**-1.3**
VRI	**Vrincioaia**	**2.80**	**349**	Pg	**Pg**	**07 27 47.6**	**-0.2**
VRI				S	**Sb**	**07 28 18.0**	**-1.1**
GELI	**Tayfur-Gelibol**	**2.82**	**196**	Pn	**Pn**	**07 27 39.7**	**-0.1**
VOIR		**2.90**	**324**	⇓P	**Pn**	**07 27 43.1**	**+2.0**
VOIR				⇑S	**Sb**	**07 28 19.9**	**-2.2**
VOIR		**2.90**	**324**	P	**Pn**	**07 27 43.3**	**+2.3**
TURR	**Turia**	**3.12**	**341**	⇓P	**Pn**	**07 27 45.1**	**+1.2**
OZUR		**3.21**	**339**	⇑P	**Pn**	**07 27 46.5**	**+1.3**
DOPR	**Dopca**	**3.21**	**333**	⇓P	**Pn**	**07 27 46.7**	**+1.4**
TESR	**Tescani**	**3.44**	**350**	P	**Pn**	**07 27 50.6**	**+2.2**
LOT	**Lotru**	**3.54**	**312**	⇓P	**Pn**	**07 27 51.0**	**+1.2**
HERR	**Herculane**	**4.05**	**297**	⇓P	**Pn**	**07 27 56.4**	**-0.4**
GZR	**Gura Zlata**	**4.07**	**306**	⇑P	**Pn**	**07 27 57.2**	**+0.1**
BOVS	**Bovan**	**4.24**	**279**	⇑P	**Pn**	**07 27 59.5**	**+0.2**
TARU	**Tarkhankut**	**4.28**	**56**	*e*S	**Sn**	**07 28 49.8**	**-0.2**
TARU				Sm		07 28 51.6	
	comp=N,10.0nm,0.4s						
TARU				Sm		07 28 51.6	
	comp=E,4.0nm,0.4s						
MDVR	**Moldovita**	**4.48**	**294**	⇓P	**Pn**	**07 28 02.7**	**0.0**
SURR	**Surduc**	**4.65**	**306**	⇑P	**Pn**	**07 28 05.4**	**+0.4**
SEV	**Sevastopol'**	**4.70**	**70**	*e*P	**Pn**	**07 28 06.9**	**+1.2**
SEV				Pm		07 28 09.1	
	comp=Z,3.0nm,0.3s						
SEV				*e*S	**Sn**	**07 29 00.5**	**0.0**
SEV				Sm		07 29 02.0	
	comp=E,2.0nm,0.3s						
SEV				Sm		07 29 02.1	
	comp=N,7.0nm,0.4s						
BURAR	**Bucovina Array**	**4.77**	**341**	⇑P	**Pn**	**07 28 08.1**	**+1.4**
BZS	**Buzias**	**4.89**	**303**	⇑P	**Pn**	**07 28 08.2**	**-0.1**
SUDU	**Sudak**	**5.71**	**69**	*e*P	**Pn**	**07 28 20.1**	**+0.6**
SUDU				Pm		07 28 20.9	
	comp=Z,5.0nm,0.3s						
SUDU				*e*S	**Sn**	**07 29 23.6**	**-1.7**
SUDU				Sm		07 29 30.6	
	comp=N,2.0nm,0.6s						
SUDU				Sm		07 29 30.6	
	comp=E,2.0nm,0.3s						
DIKM	**Dikmen**	**5.95**	**102**	⇓S	**Sn**	**07 29 29.9**	**-1.4**

IDC ***11*** *07:27:02.4±7.8, 38°.11N×73°.11E, h124km±52km, mb3.2/4, mbtmp3.6/8, MS3.3/1, Error ellipse: s-maj=64.2km s-min=42.9km az=180.0*
SOME ***11*** *07:27:02.2, 39°.03N×72°.85E, h20km*
NNC ***11*** *07:27:05.8±12.0, 38°.56N×72°.79E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=122.8km s-min=58.6km az=146.0*

ISC 11 07:27:01.0±1.7, 38°.1N±0°.1×72°.75E±0°.08, h100km, n24, σ2§17/26, mb3.7/4, 1C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**4.58**	**334**	*e*S	**Sn**	**07 29 01.1**	**+1.0**
	71nm,0.6s						
IUG	**Iuzhnay**	**4.58**	**334**	*e*P	**Pn**	**07 28 11.9**	**+3.9**
	39nm,0.2s						
MRKS	**Merke**	**4.69**	**4**	*e*S	**Sn**	**07 29 01.9**	**-0.9**
	32nm,0.5s						
MRKS	**Merke**	**4.69**	**4**	*e*P	**Pn**	**07 28 12.3**	**+2.7**
	3.7nm,0.4s						
AAK	**Ala-Archa**	**4.75**	**16**	⇓P	**Pn**	**07 28 13.3**	**+2.7**
	1.6nm,0.5s						
AAK				⇓S	**Sn**	**07 29 04.4**	**-0.2**
	10nm,0.7s						
AAK	**Ala-Archa**	**4.75**	**16**	P	**Pn**	**07 28 10.6**	**+0.1**
	1.1nm,0.4s,baz=192,slow=16,SNR=4.4						
AAK				S	**Sn**	**07 29 04.5**	**0.0**
	7.9nm,0.5s,baz=336,slow=22,SNR=19						
KK31	**Karatay Array**	**5.31**	**342**	⇓P	**Pn**	**07 28 20.5**	**+2.6**
	5.3nm,0.3s,baz=152,slow=13,SNR=80						
KK31				⇑S	**Sn**	**07 29 17.9**	**+0.1**
	6.3nm,0.3s,baz=155,slow=23,SNR=4.1						
BRLS	**Boroldav**	**5.43**	**337**	*e*S	Sn	07 29 14.2	-6.6
	15nm,0.4s						
BRLS	**Boroldav**	**5.43**	**337**	*e*P	**Pn**	**07 28 19.8**	**+0.3**
	22nm,0.3s						
KST	**Kastek**	**5.54**	**25**	*e*P	**Pn**	**07 28 24.8**	**+3.7**
	1.2nm,0.3s						
KST				*e*S	**Sn**	**07 29 23.4**	**-0.2**
	7.0nm,0.5s						
KST	**Kastek**	**5.54**	**25**	*e*S	**Sn**	**07 29 23.1**	**-0.4**
	7.0nm,0.5s						
KST	**Kastek**	**5.54**	**25**	*e*P	**Pn**	**07 28 24.8**	**+3.7**
	2.4nm,0.3s						
KRBS	**Marabastau**	**6.04**	**21**	*e*S	Sn	07 29 55.0	+19
MKAR	**Makanchi Array**	**11.20**	**36**	P	**Pn**	**07 29 36.5**	**-1.5**
	0.6nm,0.7s,baz=227,slow=16,SNR=5.3						
GEYT	**Alibeck**	**11.55**	**274**	S	**Sn**	**07 31 49.9**	**+0.2**
	1.2nm,0.3s,baz=56,slow=23,SNR=1.8

KAPI **Kappang** 3.62 43 P Pn 07 34 15.4 +1.1
KAPI **Kappang** 3.62 43 Pn Pn 07 34 14.5 +0.1
KAPI **Kappang** 3.62 43 P Pn 07 34 15.1 +0.7
514nm,0.6s,baz=216,slow=6.5,SNR=268
KAPI S S 07 35 02.9 -0.7
234nm,1.1s,baz=180,slow=4.0,SNR=6.1
KAPI **Kappang** 3.62 43 P Pn 07 34 15.6 +1.2
KAPI S S 07 35 04.7 +1.1
BLJI **Banyuglugur** 3.65 269 P Pn 07 34 16.1 +1.5
BKSI **Bulukumba** 3.68 50 P Pn 07 34 16.2 +1.3
BKSI S S 07 35 05.5 +0.8
BASI **Baing, Sumba** 4.12 128 P Pn 07 34 18.6 -1.1
BASI S S 07 35 10.0 -3.4
EDFI **Ende, Flores** 4.49 104 P Pn 07 34 22.7 -1.4
EDFI S S 07 35 16.4 -4.9
GRJI **Gresik** 4.82 279 P Pn 07 34 29.7 +1.9
GRJI S S 07 35 29.2 +1.2
BWJI **Bawean** 4.94 291 P Pn 07 34 29.9 +0.7
MMRI **Maumere** 5.00 101 P Pn 07 34 29.6 -0.3
MMRI **Maumere** 5.00 101 Pn Pn 07 34 29.0 -0.9
MMRI **Maumere** 5.00 101 P Pn 07 34 29.0 -0.9
TTSI **Tana Toraja** 5.26 29 P Pn 07 34 35.8 +2.8
545nm,0.8s,6µm1.9nm
PWJI **Pagerwojo** 5.43 266 P Pn 07 34 35.5 +0.5
912nm,0.6s,12µm6.1nm
BBSI **Bau Bau** 5.70 68 P Pn 07 34 39.8 +1.6
270nm,1.1s,3µm0.9nm
NGJI **Ngawi** 5.77 273 P Pn 07 34 42.5 +3.4
496nm,0.8s,5µm2.6nm
UGM **Wanagama** 6.70 268 P Pn 07 34 50.3 0.0
UGM **Wanagama** 6.70 268 Pn Pn 07 34 50.3 0.0
UGM **Wanagama** 6.70 268 P Pn 07 34 50.7 +0.4
400nm,0.5s,7µm7.6nm
BATI **Baumata** 6.79 112 P Pn 07 34 50.7 -0.7
991nm,0.4s,baz=309,slow=2.3,SNR=109
BATI S S 07 36 06.1 -4.9
983nm,0.3s,baz=22,slow=21,SNR=6.1
BATI **Baumata** 6.79 112 P Pn 07 34 50.4 -1.0
1µm,0.6s,16µm6.5nm
SMRI **Semarang** 6.81 275 P Pn 07 34 54.0 +2.3
SMRI **Semarang** 6.81 275 Pn Pn 07 34 53.4 +1.7
SMRI **Semarang** 6.81 275 P Pn 07 34 53.9 +2.3
436nm,0.7s,5µm1.9nm
YOGI **Yogyakarta** 6.92 269 P Pn 07 34 54.2 +1.2
226nm,1.1s,4.2nm
MTKI **Muara Teweh, K** 7.11 340 P Pn 07 34 56.6 +1.2
SOEI **Soe** 7.21 107 P Pn 07 34 56.0 -0.7
SOEI **Soe** 7.21 107 Pn Pn 07 34 54.9 -1.7
SOEI **Soe** 7.21 107 P Pn 07 34 55.9 -0.7
2µm,0.8s,21µm11nm
KPJI **Karang Pucung** 8.28 272 P Pn 07 35 10.7 +0.9
234nm,0.6s,3µm
LUWI **Luwuk** 8.58 40 Pn Pn 07 35 14.9 +1.5
LUWI **Luwuk** 8.58 40 P Pn 07 35 15.1 +1.6
488nm,1.2s,5µm
CMJI **Cimerak** 8.75 269 P Pn 07 35 14.9 -0.6
617nm,0.7s,6µm
JCJI **Jatiwangi** 9.02 277 P Pn 07 35 19.3 +0.4
202nm,0.4s
TOLI2 **Tolitoli** 9.42 22 P Pn 07 35 25.7 +1.9
TOLI2 **Tolitoli** 9.42 22 Pn Pn 07 35 24.5 +0.7
LEM **Lembang** 9.62 275 P Pn 07 35 25.6 -0.9
94nm,0.7s,baz=50,slow=10,SNR=11
LEM S S 07 37 14.3 -1.1
142nm,0.7s,baz=15,slow=20,SNR=1.8
STKI **Sintang** 9.63 323 P Pn 07 35 28.5 +2.0
90nm,1.8s
GTOI **Gorontalo** 10.06 35 P P 07 35 34.3 -1.3
128nm,1.0s,1µm
CNJI **Cibinong** 10.07 272 P Pn 07 35 32.1 +0.3
331nm,0.8s,3µm
SANI **Sanana** 10.33 58 P Pn 07 35 36.3 +1.2
SANI **Sanana** 10.33 58 P Pn 07 35 36.6 +1.5
524nm,0.8s,5µm
CBJI **Citeko** 10.43 276 P Pn 07 35 36.2 0.0
682nm,0.8s,15µm
KMSI **Cibinong** 10.59 39 P Pn 07 35 39.6 +1.3
749nm,0.9s,11µm
SKJI **Sukabumi** 10.65 273 P P 07 35 40.9 -1.4
965nm,0.9s,9µm
SBJI **Serang** 11.18 277 P Pn 07 35 46.7 +1.2
244nm,1.2s
SBUM **Sibu** 11.27 333 Pn 07 35 47.6 +1.0
KSM **Kuching** 11.46 322 P P 07 35 50.9 -0.3
KSM **Kuching** 11.46 322 P 07 35 50.4 -0.8
XMIS **Christmas Isla** 11.81 256 P P 07 35 55.8 +0.7
XMIS **Christmas Isla** 11.81 256 P 07 35 54.4 -0.7
LBMI **Labuha** 12.37 56 P P 07 36 01.3 -0.1
323nm,1.2s,4µm
PPBI **Pangkal Pinang** 12.38 296 P P 07 36 01.3 -0.2
KASI **Kota Agung** 12.88 279 P P 07 36 07.1 +0.1
243nm,0.5s,4µm
BNDI **Bandanaira** 12.95 77 P P 07 36 09.5 +1.8
BNDI **Bandanaira** 12.95 77 P P 07 36 09.0 +1.3
843nm,0.7s,20µm
TNTI **Ternate** 13.11 51 P 07 36 09.7 +0.1
TNTI **Ternate** 13.11 51 P Pn 07 36 08.8 -0.3
69nm,0.9s,2µm
FITZ **Fitzroy Crossi** 13.16 143 P P 07 36 10.0 -0.1
120nm,0.7s
FITZ **Fitzroy Crossi** 13.16 143 P 07 36 10.1 -0.1
LWLI **Liwa** 13.40 281 P P 07 36 14.0 +1.1
703nm,0.6s,10µm
MBWA **Marble Bar** 13.60 170 P P 07 36 15.9 +1.0
MBWA **Marble Bar** 13.60 170 Pn 07 36 14.1 -0.7
MBWA **Marble Bar** 13.60 170 P P 07 36 16.4 +1.5
MBWA S S 07 38 49.5 +4.4
SGSI **Sangihe** 13.98 36 P Pn 07 36 21.5 +2.0
227nm,0.6s,5µm
PSA00 **Pilbara Seismi** 14.02 170 P Pn 07 36 20.6 +0.7
PSA00 **Pilbara Seismi** 14.02 170 P 07 36 19.6 +0.1
DRS **Darwin Rock St** 14.21 110 P Pn 07 36 22.5 +0.2
DSRI **Dabo** 14.54 299 P Pn 07 36 26.6 +0.4
134nm,0.9s,3µm
MTN **Manton Dam** 14.56 112 Pn 07 36 26.3 -0.1
MNAI **Manna** 14.62 282 P Pn 07 36 27.8 +0.7
MNAI **Manna** 14.62 282 P 07 36 26.1 -0.2
MNAI **Manna** 14.62 282 P Pn 07 36 28.2 +1.1
863nm,0.6s,9µm
GIRL **Giralia** 15.15 191 P Pn 07 36 34.4 +1.1
GIRL **Giralia** 15.15 191 Pn Pn 07 36 34.0 +0.7
TPRI **Tanjung Pinang** 15.32 303 P Pn 07 36 36.4 +1.0
SWI **Sorong** 15.50 65 P Pn 07 36 37.8 +0.3
920nm,0.8s,7µm
FAKI **Fak Fak** 15.64 73 P P 07 36 37.6 +0.1
FAKI **Fak Fak** 15.64 73 P P 07 36 37.0 -0.5
FAKI **Fak Fak** 15.64 73 P P 07 36 38.0 +0.5
650nm,0.6s,5µm
KDU **Kakadu** 15.76 110 P P 07 36 39.4 +0.7
MYKOM **Kota Tinggi** 16.37 305 P P 07 36 46.6 +1.1
KMPI **Kaimana, Papua** 16.83 77 P P 07 36 51.4 +1.0
430nm,0.5s,5µm
MEEK **Meekatharra** 18.89 176 P P 07 37 13.5 +1.0
WRKA **Warakurna** 20.21 150 P P 07 37 27.3 +0.8
IPM **Ipoh** 20.23 306 P P 07 37 27.1 +0.3
WR0 **Warramunga Arr** 20.48 128 P P 07 37 29.6 +0.2
WRA **Warramunga Arr** 20.54 128 P P 07 37 30.0 +0.1
WRA **Warramunga Arr** 20.54 128 P P 07 37 29.8 -0.2
4.0nm,0.4s,baz=303,slow=12,SNR=76
WRA S S 07 41 01.2 -0.4
13nm,0.9s,baz=294,slow=20,SNR=7.5
4.0nm,0.4s
WRAB **Tennant Creek** 20.54 128 P P 07 37 30.8 +0.9
WB2 **Warramunga Arr** 20.55 128 P P 07 37 30.0 0.0
WR0 **Warramunga Arr** 20.70 128 P P 07 37 31.8 +0.2
KULM **Kulim** 21.01 307 P P 07 37 34.5 -0.2
PSI **Prapat** 21.07 299 P P 07 37 35.0 -0.3
MORW **Morawa** 21.30 183 P P 07 37 37.6 +0.5
39nm,1.1s
MORW **Morawa** 21.30 183 P P 07 37 37.6 +0.5
DLV **T Lat** 21.38 336 P P 07 37 39.4 +1.2
GSI **Gunungsitoli** 21.59 294 P P 07 37 41.7 +1.7
GSI **Gunungsitoli** 21.59 294 P P 07 37 40.9 +0.9
KCSI **Kotacane, Aceh** 22.42 299 P P 07 37 45.7 -1.9
39nm,0.6s,2µm
AS31 **Alice Springs** 22.51 137 P P 07 37 49.1 +0.8
ASAR **Alice Springs** 22.51 137 P P 07 37 48.5 +0.3
ASAR **Alice Springs** 22.51 137 P P 07 37 49.7 +1.4
7.0nm,0.4s,baz=311,slow=8.7,SNR=165
ASAR S S 07 41 32.5 -1.0
2.3nm,0.4s,baz=306,slow=15,SNR=1.6
ASAR ScP ScP 07 44 41.2 -0.7
3.3nm,0.6s,baz=303,slow=1.9,SNR=3.3
7.0nm,0.4s

BLDU **Ballidu** 22.81 181 P P 07 37 50.8 -0.1
KLBR **Kellerberrin** 23.78 179 P P 07 38 00.0 +0.3
SRIT **Nakonsritamara** 23.92 312 P P 07 38 01.4 +0.2
KMBL **Kambalda** 23.94 170 P P 07 38 01.8 +0.6
MUN **Mundaring** 24.18 182 P P 07 38 03.8 +0.5
FORT **Forrest** 25.09 158 P P 07 38 12.4 +0.9
FORT **Forrest** 25.09 158 P P 07 38 12.0 +0.6
FORT IAmb IAmb 07 38 17.8
comp=Z,39nm,0.8s
QIS **Mount Isa** 25.10 123 P P 07 38 13.7 +1.9
NWAO **Narrogin (SRO)** 25.11 180 P P 07 38 12.5 +0.8
NWAO **Narrogin (SRO)** 25.11 180 P P 07 38 11.5 -0.1
NWAO **Narrogin (SRO)** 25.11 180 P P 07 38 12.6 +1.0
comp=Z,33nm,0.4s,baz=352,slow=7.5,SNR=42
comp=Z,33nm,0.4s
NWAO **Narrogin (SRO)** 25.11 180 P P 07 38 12.9 +1.3
NWAO S S 07 42 18.4 +4.0
UBPT **Khong Chiam** 25.65 333 P P 07 38 18.0 +1.4
COEN **Coen** 26.17 106 P P 07 38 21.5 +0.1
COEN **Coen** 26.17 106 P P 07 38 21.2 -0.2
COEN IAmb IAmb 07 38 22.7
comp=Z,34nm,0.9s
OOD **Oodnadatta** 26.52 141 P P 07 38 25.3 +1.0
MULG **Mulgathing** 27.43 147 P P 07 38 33.5 +1.1
MTSU **Mount Surprise** 28.28 114 P P 07 38 41.6 +1.5
LCRK **Leigh Creek** 29.95 142 P P 07 38 56.5 +1.9
BBOO **Buckleboo** 30.47 148 P P 07 39 00.1 +1.0
CTAO **Charters Tower** 30.65 117 P P 07 39 02.5 +1.7
CM31 **Chiang Mai Arr** 31.66 325 P P 07 39 10.9 +1.2
CMAR **Chiang Mai Arr** 31.66 325 P P 07 39 10.3 +0.6
CMAR **Chiang Mai Arr** 31.66 325 P P 07 39 10.8 +1.1
comp=Z,18nm,0.6s,baz=152,slow=6.7,SNR=37
CMAR PcP PcP 07 41 53.7 -0.4
comp=Z,2.4nm,0.7s,baz=171,slow=3.5,SNR=5.1
CMAR ScP ScP 07 45 09.0 -0.6
comp=Z,1.5nm,0.4s,baz=177,slow=2.7,SNR=11
comp=Z,18nm,0.6s
SLVN **Son La** 31.69 336 P P 07 39 11.6 +1.6
CHTO **Chiang Mai** 31.95 326 P P 07 39 13.4 +1.2
CHTO IAmb IAmb 07 39 14.4
comp=Z,52nm,1.4s
CRAI **Chiangrai** 32.35 329 P P 07 39 17.0 +1.4
HTT **Hallett** 32.51 145 P P 07 39 18.8 +1.8
STKA **Stephens Creek** 33.04 140 P P 07 39 23.0 +1.5
STKA **Stephens Creek** 33.04 140 P P 07 39 22.2 +0.7
STKA **Stephens Creek** 33.04 140 P P 07 39 23.0 +1.5
comp=Z,8.5nm,0.5s,baz=316,slow=9.0,SNR=24
STKA ScP ScP 07 45 14.0 -0.2
comp=Z,4.1nm,0.7s,baz=270,slow=1.0,SNR=2.7
comp=Z,8.5nm,0.5s
GUMO **Guam** 34.61 52 P P 07 39 34.3 -0.8
GUMO ScP ScP 07 45 16.8 -3.2
GYA **Guiyang** 35.48 343 ⇓P P 07 39 44.3 +1.8
GYA pmax pmax
comp=Z,20nm,0.8s
KMI **Kunming** 35.56 337 ⇑P P 07 39 46.0 +2.7
KMI pmax pmax
comp=Z,48nm,0.9s
ARPS **Mount Arapiles** 36.58 146 P P 07 39 53.0 +1.5
PZH **PanZhiHua** 37.19 337 P P 07 39 58.2 +1.3
PZH pmax pmax
comp=Z,50nm,0.8s
PZH pmax pmax
comp=Z,100nm,5.1s
WHN **Wuhan** 38.12 356 ⇑P P 07 40 07.0 +2.6
WHN pmax pmax
comp=Z,36nm,0.8s
TOO **Toolangi** 39.22 144 P P 07 40 15.9 +2.3
NJ2 **Nanjing** 39.55 2 eP P 07 40 18.1 +1.9
NJ2 pmax pmax
comp=Z,15nm,0.6s
CAN **Canberra** 40.01 138 P P 07 40 21.4 +1.3
CAN **Canberra** 40.01 138 P P 07 40 22.1 +2.0
MGCD **Mangrove Creek** 40.30 134 P P 07 40 24.1 +1.7
CD2 **Chengdu** 40.51 342 eP P 07 40 25.0 +0.8
SHL **Shillong** 41.27 324 P P 07 40 30.4 -0.1
SHL IAmb IAmb 07 40 31.3
comp=Z,76nm,1.0s
SHL **Shillong** 41.27 324 P P 07 40 30.7 +0.1
XAN **Xi'an** 42.25 350 ⇓P P 07 40 37.7 -0.5
XAN pmax pmax
comp=Z,28nm,1.1s
LYN **LuoYang** 42.26 354 eP P 07 40 39.6 +1.4
LYN pmax pmax
comp=Z,36nm,0.5s
HNS **HongShan** 44.92 357 ⇑P P 07 40 59.1 -0.1
HNS S S 07 47 16.9 +2.1
HNS pmax pmax
comp=Z,15nm,1.1s
HNS LR LR
comp=Z,140nm,17.5s
LZH **Lanzhou** 45.34 345 eP P 07 41 04.3 +1.5
LZH pP pP 07 42 03.4 +0.6
LZH sP sP 07 42 34.0 -1.3
LZH pmax pmax
comp=Z,22nm,1.4s
KSAR **Wonju Array Be** 45.98 12 P P 07 41 08.8 +1.3
KSRS **Korea Array** 46.00 12 P P 07 41 08.5 +0.9
comp=Z,12nm,0.9s,baz=191,slow=8.1,SNR=36
comp=Z,12nm,0.9s
JGF **Kuroka** 47.04 22 P P 07 41 15.3 -0.5
BJI **Beijing** 47.50 359 P P 07 41 19.0 -0.2
BJI pmax pmax
comp=Z,7.0nm,1.1s
BJI pmax pmax
comp=Z,42nm,3.7s
MAJO **Matsushiro** 48.19 23 P P 07 41 23.5 -1.1
MAJO **Matsushiro** 48.19 23 P P 07 41 23.9 -0.7
MAJO PcP PcP 07 42 46.7 -0.2
MJAR **Matsushiro Arr** 48.19 23 P P 07 41 24.0 -0.5
comp=Z,8.7nm,0.6s,baz=198,slow=7.8,SNR=28
comp=Z,8.7nm,0.6s
MJB9 **Matsu-Tunnel** 48.19 23 P P 07 41 24.4 -0.1
GOMU **GeErMu** 48.50 336 P P 07 41 28.0 +0.7
GOMU pmax pmax
comp=Z,28nm,0.7s
BTO **Baotou** 48.52 353 eP P 07 41 28.6 +1.5
BTO S S 07 48 07.5 +1.7
BTO pmax pmax
comp=Z,89nm,0.9s
BTO pmax pmax
comp=Z,300nm,5.1s
BTO LR LR
comp=Z,160nm,8.8s
BTO LR LR
comp=Z,280nm,15.3s
BTO LR LR
comp=Z,180nm,5.4s
HHC **Hu-ho-hao-te** 48.59 354 eP P 07 41 28.2 +0.6
HHC pmax pmax
comp=Z,23nm,0.8s
HHC pmax pmax
comp=Z,94nm,4.9s
JSD **Sado** 49.53 22 P P 07 41 34.2 -0.3
GTA **Gaotai** 49.58 342 ⇑P P 07 41 36.2 +1.1
GTA pP pP 07 42 39.6 +3.3
GTA PcP PcP 07 42 52.2 +0.1
GTA pmax pmax
comp=Z,32nm,1.0s
JMM **Marumori** 50.36 24 P P 07 41 40.5 -0.3
JMM IAmb IAmb 07 41 41.7
comp=Z,49nm,0.8s
XLT **XiLinHaoTe** 51.36 359 eP P 07 41 48.2 0.0
XLT PcS PcS 07 46 58.8 +2.1
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax
comp=Z,120nm,5.8s
CN2 **Changchun** 51.78 8 eP P 07 41 50.7 -0.5
CN2 esP sP 07 43 23.9 -1.2
CN2 eS S 07 48 50.6 +0.3
CN2 pmax pmax
comp=Z,10.0nm,0.9s
CN2 LR LR
comp=Z,260nm,15.0s
CN2 LR LR
comp=Z,210nm,15.0s
MDJ **Mudanjiang** 53.24 11 P P 07 42 02.1 +0.3
MDJ pmax pmax
comp=Z,72nm,0.8s
MDJ pmax pmax
comp=Z,140nm,3.6s
MDJ **Mudanjiang** 53.24 11 P P 07 42 02.4 +0.5
USA0B **Ussuriysk Arra** 53.34 13 P P 07 42 02.8 +0.3

USA0B IAmb IAmb 07 42 03.8
comp=Z,26nm,0.7s
USRK **Ussuriysk Ar.** 53.34 13 P P 07 42 02.6 +0.1
USRK **Ussuriysk Ar.** 53.34 13 P P 07 42 03.2 +0.7
comp=Z,23nm,0.6s,baz=189,slow=6.6,SNR=37
comp=Z,23nm,0.6s
BNX **BinXian** 53.96 9 ⇓P P 07 42 06.6 -0.4
BNX pmax pmax
comp=Z,20nm,0.6s
BNX pmax pmax
comp=Z,120nm,4.4s
ULN **Ulaanbaatar** 56.05 352 P P 07 42 22.0 0.0
ULN IAmb IAmb 07 42 23.3
comp=Z,26nm,0.8s
ULN **Ulaanbaatar** 56.05 352 P P 07 42 22.3 +0.2
SONM **Songino Array** 56.12 351 P P 07 42 22.7 +0.2
SONM IAmb IAmb 07 42 23.7
comp=Z,44nm,0.8s
SONM **Songino Array** 56.12 351 P P 07 42 22.8 +0.2
comp=Z,41nm,0.7s,baz=169,slow=9.1,SNR=144
comp=Z,41nm,0.7s
WMQ **Urumqi** 57.85 335 eP P 07 42 35.3 +0.7
WMQ sP sP 07 44 12.1 +2.6
WMQ pmax pmax
comp=Z,57nm,0.7s
WMQ pmax pmax
comp=Z,82nm,3.8s
WMQ **Urumqi** 57.85 335 P P 07 42 35.2 +0.7
HEH **HeiHe** 58.38 8 eP P 07 42 38.1 +0.1
HEH pmax pmax
comp=Z,64nm,0.6s
HEH pmax pmax
comp=Z,100nm,4.1s
NIL **Nilore** 58.59 317 P P 07 42 38.2 -1.6
CASY **Casey** 58.68 183 P P 07 42 40.5 +0.6
WUS **Wushi** 59.89 327 P P 07 42 48.5 -0.2
DRV **Dumont d'Urvil** 60.91 170 P P 07 42 56.1 +1.2
SHLS **Shalkode** 61.16 329 eP P 07 42 55.7 -1.5
baz=329
UZB **Uzynbulak** 61.38 329 eP P 07 42 58.2 -0.5
baz=329
SATY **Saty** 61.63 328 eP P 07 42 59.1 -1.2
baz=328
ZHN **Zhinishke** 61.70 329 eP P 07 43 00.2 -0.6
baz=329
ZSN **Zaisan** 61.95 336 eP P 07 43 02.0 -0.2
comp=Z,9.0nm,0.8s,baz=336
KBL **Kabul** 61.97 316 P P 07 43 01.1 -1.8
KBL **Kabul** 61.97 316 P P 07 43 00.2 -2.6
TNSS **Tian-Shan** 62.38 328 eP P 07 43 04.8 -0.8
baz=328
MDOK **Medeo** 62.42 328 eP P 07 43 05.1 -0.4
baz=328
AAA **Alma-Ata** 62.52 328 eP P 07 43 06.0 -0.1
comp=Z,11nm,0.4s,baz=328
MK31 **Makanchi Array** 62.53 334 P P 07 43 05.5 -0.6
MK31 IAmb IAmb 07 43 06.6
comp=Z,18nm,0.8s
MKAR **Makanchi Array** 62.53 334 P P 07 43 05.4 -0.7
MKAR **Makanchi Array** 62.53 334 P P 07 43 05.7 -0.4
comp=Z,21nm,0.7s,baz=142,slow=7.7,SNR=211
MKAR PcP PcP 07 43 41.6 -0.6
comp=Z,4.8nm,0.7s,baz=134,slow=5.2,SNR=5.5
comp=Z,21nm,0.7s
BOOM **Boomskoye usch** 62.55 327 P P 07 43 05.6 -0.9
BOOM IAmb IAmb 07 43 06.9
comp=Z,36nm,1.4s
MAKZ **Makanchi** 62.68 333 P P 07 43 06.5 -0.5
MAKZ **Makanchi** 62.68 333 P P 07 43 06.5 -0.5
MAKZ PcP PcP 07 43 41.8 -1.1
TDK **Taldyqorghan** 63.02 330 eP P 07 43 09.0 -0.3
comp=Z,12nm,0.7s,baz=330
DRK **Karamyk** 63.02 322 P P 07 43 08.8 -1.0
DRK IAmb IAmb 07 43 13.8
comp=Z,22nm,0.7s
AAK **Ala-Archa** 63.45 326 P P 07 43 12.0 -0.4
AAK IAmb IAmb 07 43 13.0
comp=Z,23nm,1.1s
AAK **Ala-Archa** 63.45 326 P P 07 43 11.8 -0.5
AAK PcP PcP 07 43 46.5 +0.2
ARSB **Arslanbob** 63.46 324 P P 07 43 11.5 -0.9
ARSB IAmb IAmb 07 43 12.8
comp=Z,10nm,0.7s
SGDS **Sogindy** 63.91 327 eP P 07 43 14.5 -0.7
baz=327
BTK **Batken** 63.97 322 P P 07 43 14.8 -1.0
SIMJ **Simiganj** 64.29 320 P P 07 43 16.1 -1.7
SIMJ PcP PcP 07 43 49.0 -0.9
WBK **Wadi Bani Khal** 64.51 299 P P 07 43 17.6 -1.9
MHTO **MHTO** 64.83 297 P P 07 43 19.0 -2.4
DQM **DQM** 64.86 296 P P 07 43 19.5 -2.1
WSAR **Wadi Sarin** 65.03 300 P P 07 43 21.0 -1.7
comp=Z,12nm,0.6s,baz=149,slow=5.3,SNR=24
comp=Z,12nm,0.6s
JMDO **Jabal Madar** 65.18 299 P P 07 43 21.8 -1.9
SMDO **Samad** 65.46 300 P P 07 43 23.8 -1.9
BIDO **Bidbid** 65.56 300 P P 07 43 24.4 -1.7
IUG **Iuzhnay** 65.70 323 eP P 07 43 26.1 -0.7
comp=Z,15nm,0.9s,baz=323
KK31 **Karatay Array** 66.00 324 P P 07 43 27.0 -1.6
KKAR **Karatay Array** 66.00 324 P P 07 43 27.1 -1.5
BSY **Bisya** 66.09 299 P P 07 43 27.6 -2.0
SEM **Semipalatinsk** 66.17 335 eP P 07 43 28.7 -0.9
baz=335
HOQ **Hoqain** 66.28 300 P P 07 43 29.3 -1.4
DMTO **DMTO** 66.52 293 P P 07 43 30.6 -1.6
ARQ **Araqi** 66.88 299 P P 07 43 32.2 -2.3
KURBB **Kurchatov Arra** 67.05 334 P P 07 43 34.2 -0.7
comp=Z,8.8nm,0.7s,baz=146,slow=5.4,SNR=126
comp=Z,8.8nm,0.7s
KURK **Kurchatov** 67.08 334 P P 07 43 34.5 -0.7
KURK IAmb IAmb 07 43 35.5
comp=Z,26nm,1.1s
KURK **Kurchatov** 67.08 334 P P 07 43 34.5 -0.7
RBK **Rabkut** 67.13 293 P P 07 43 34.6 -1.6
SOHO **SOHO** 67.14 300 P P 07 43 34.2 -1.8
ZAA0 **Zalesovo Array** 67.23 340 P P 07 43 34.6 -1.3
ZALV **Zalesovo Beam** 67.23 340 P P 07 43 34.9 -1.1
ZALV **Zalesovo Beam** 67.23 340 P P 07 43 34.8 -1.2
comp=Z,30nm,0.5s,baz=147,slow=5.3,SNR=136
comp=Z,30nm,0.5s
CCD **Concordia, Ant** 67.46 178 P P 07 43 39.4 +1.7
DOK **Doka** 67.52 294 P P 07 43 36.0 -2.6
SNR=8.2
DOK P P 07 43 36.3 -2.3
WHFO **Wadi Hawf** 67.65 293 P P 07 43 36.9 -2.6
SNR=8.6
UOSS **Minazif** 67.70 301 P P 07 43 37.4 -2.1
UOSS **Minazif** 67.70 301 P P 07 43 37.3 -2.3
HATD **Hatta, Dubai** 67.72 301 P P 07 43 38.2 -1.2
ASHO **Ashiyiah** 67.74 301 P P 07 43 38.5 -1.4
ABTO **Aybut** 67.92 292 P P 07 43 39.0 -2.2
SNR=5.5
SHME **Shamm** 68.14 302 P P 07 43 40.8 -1.4
FAQ **Al Faqa, Dubai** 68.16 300 P P 07 43 40.6 -1.8
NAZ **Nazwa, Dubai** 68.18 301 P P 07 43 40.8 -1.7
ASUD **Al Ashush, Dub** 68.34 300 P P 07 43 42.0 -1.5
ABPO **Ambohimpanom** 68.71 253 P P 07 43 46.4 +0.2
BRZS **Berezniki** 69.27 331 eP P 07 43 48.2 -0.5
comp=Z,16nm,0.9s,baz=331
MZWR **Madinat Zayed** 69.31 299 P P 07 43 47.4 -2.1
MZR **Muzera** 69.42 298 P P 07 43 48.3 -1.9
PETK **Petropavlovsk-** 69.59 25 P P 07 43 51.0 +0.4
comp=Z,2nm,0.8s,baz=210,slow=6.0,SNR=15
comp=Z,12nm,0.8s
MAW **Mawson** 69.89 199 P P 07 43 53.9 +1.8
comp=Z,4.0nm,0.6s,baz=73,slow=6.9,SNR=11
comp=Z,4.0nm,0.6s
GHWR **Ruwais** 70.24 299 P P 07 43 53.5 -1.6
JRN **Qarnain Island** 70.57 300 P P 07 43 55.2 -1.9
SLWR **Sila** 71.31 299 P P 07 43 60.0 -1.5
GEYT **Alibeck** 71.31 314 P P 07 44 00.5 -0.9
GEYT IAmb IAmb 07 44 01.7
comp=Z,11nm,0.8s
GEYT **Alibeck** 71.31 314 P P 07 44 00.7 -0.7
comp=Z,3.7nm,0.4s,baz=133,slow=6.5,SNR=15
comp=Z,3.7nm,0.4s
GYA0B **ALIBECK ARRAY** 71.31 314 P P 07 44 00.1 -1.3
TRNA **Turayna** 71.92 299 P P 07 44 03.5 -1.7
MA2 **Magadan** 72.17 17 P P 07 44 06.0 +0.2
SMRA **Abu-Samra** 72.26 299 P P 07 44 05.4 -1.7
BVAR **Borovoye Array** 72.35 332 P P 07 44 06.3 -0.8
comp=Z,25nm,0.7s,baz=138,slow=7.4,SNR=115
comp=Z,25nm,0.7s
BRVK **Borovoye** 72.42 332 P P 07 44 07.1 -0.4

BRVK IAmb IAmb 07 44 07.7
comp=Z,17nm,0.9s
BRVK Borovoye 72.42 332 P P 07 44 07.3 -0.3
VNDA Vanda 73.54 171 P P 07 44 13.8 +0.1
VNDA Vanda 73.54 171 P P 07 44 14.1 +0.4
comp=Z,3.3nm,0.5s,baz=310,slow=6.7,SNR=28
comp=Z,3.3nm,0.5s
ABKAR Akbulak array 75.52 325 P P 07 44 24.2 -1.3
KBD Kabd 76.24 302 P P 07 44 28.5 -1.4
RAYN Ar Rayn 76.60 296 P P 07 44 30.3 -1.9
RAYN IAmb IAmb 07 44 31.3
comp=Z,16nm,0.8s
RAYN Ar Rayn 76.60 296 P P 07 44 30.6 -1.5
KIBK Kibwezi 79.02 269 P P 07 44 45.2 -0.5
KIBK IAmb IAmb 07 44 46.8
comp=Z,13nm,0.8s
TIXI Tiksi 79.55 4 P P 07 44 45.4 -1.7
TIXI IAmb IAmb 07 44 46.8
comp=Z,15nm,0.8s
ARU Arti 79.90 331 P P 07 44 47.2 -2.1
ARU IAmb IAmb 07 44 48.7
comp=Z,11nm,1.0s
ARU Arti 79.90 331 P P 07 44 47.5 -1.8
comp=Z,12nm,0.9s
KMBO Kilima Mbogo 79.96 270 P P 07 44 50.5 -0.5
comp=Z,0.1nm,0.6s,baz=62,slow=24,SNR=7.8
QSPA South Pole Qui 82.29 180 P P 07 45 02.6 +0.7
comp=Z,1.7nm,0.5s,baz=311,slow=0.3,SNR=20
comp=Z,1.7nm,0.5s
GURO Guroymak-BITLI 83.37 310 P P 07 45 07.8 -0.3
GURO IAmb IAmb 07 45 09.9
comp=Z,26nm,1.4s
BELG Belogornoye 83.91 325 P P 07 45 09.2 -1.0
comp=Z,29nm,0.8s,baz=293,slow=5.1,SNR=3.4
comp=Z,29nm,0.8s
KBZ Khabaz 84.15 315 P P 07 45 11.0 -0.6
comp=Z,9.7nm,0.8s,baz=121,slow=3.7,SNR=19
comp=Z,9.7nm,0.8s
ARPR Arapgir-MALATY 86.31 310 P P 07 45 22.2 -0.4
MBAR Mbarara 86.49 270 P P 07 45 24.3 +0.3
LSZ Lusaka 87.13 255 P P 07 45 26.5 -0.5
LSZ Lusaka 87.13 255 P P 07 45 27.6 +0.6
MMAI Mount Meron Ar 87.39 304 P P 07 45 28.4 +0.6
comp=Z,7.4nm,0.5s,baz=84,slow=8.5,SNR=9.3
comp=Z,7.4nm,0.5s
BOSA Boshof 88.13 242 P P 07 45 31.4 -0.1
comp=Z,4.0nm,0.8s,baz=120,slow=3.1,SNR=7.0
comp=Z,4.0nm,0.8s
BR131 Keskin Array S 90.00 310 P P 07 45 38.1 -1.9
BRTR Keskin Array B 90.00 310 P P 07 45 38.3 -1.7
comp=Z,2.1nm,0.7s,baz=122,slow=6.0,SNR=10
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 94.66 320 P P 07 45 58.2 -2.7
comp=Z,2.6nm,0.6s,baz=82,slow=4.6,SNR=10
KIEV Kiev 94.67 320 P P 07 45 58.3 -2.7
KIEV IAmb IAmb 07 45 59.3
comp=Z,4.5nm,0.9s
BURAR Bucovina Array 97.01 317 P P 07 46 10.6 -1.3
BURAR IAmb IAmb 07 46 11.7
comp=Z,3.8nm,0.9s
BUR08 Bucovina Ar. S 97.02 317 P P 07 46 10.6 -1.4
BUR08 IAmb IAmb 07 46 12.4
comp=Z,3.3nm,0.9s
FINES FINESS Array B 97.27 331 P P 07 46 11.1 -1.5
comp=Z,3.4nm,0.6s,baz=108,slow=6.2,SNR=12
comp=Z,3.4nm,0.6s
ARCES ARCESS Array B 97.77 339 P P 07 46 13.1 -1.5
comp=Z,2.3nm,0.9s,baz=83,slow=7.4,SNR=4.7
comp=Z,2.3nm,0.9s
ILAR Eielson Array 99.40 26 P Pdif 07 46 20.6 -1.5
comp=Z,0.2nm,0.6s,baz=248,slow=4.8,SNR=1.8
comp=Z,0.2nm,0.6s
HFS Hagfors 103.39 330 Pdiff Pdif 07 46 38.3 -1.5
comp=Z,1.9nm,0.8s,baz=87,slow=7.4,SNR=3.1
YKA Yellowknife Ar 113.69 24 PKiKP PKiKP 07 51 15.2 -1.2
comp=Z,0.3nm,0.4s,baz=5.4,slow=9.7,SNR=16
NVAR Mina Array Bea 121.49 49 PKP PKPdf 07 51 32.3 -0.2
comp=Z,0.7nm,0.7s,baz=257,slow=2.5,SNR=6.6
DBIC Dimbokro 122.61 273 PKP PKPdf 07 51 34.2 -0.8
comp=Z,4.3nm,0.7s,baz=340,slow=2.0,SNR=5.6
PDAR Pinedale Array 126.11 42 PKP PKPdf 07 51 41.2 0.0
comp=Z,0.3nm,0.4s,baz=108,slow=0.3,SNR=2.7
PLCA Paso Flores 131.28 172 PKP PKiKP 07 51 51.6 -0.4
comp=Z,0.9nm,0.9s,baz=225,slow=1.4,SNR=1.6
SCHQ Scheffervile 132.88 3 PKP PKPdf 07 51 54.0 +0.6
comp=Z,1.8nm,0.7s,baz=304,slow=3.6,SNR=1.7
TXAR Lajitas Array 135.93 55 PKP PKPdf 07 52 00.3 +0.3
comp=Z,0.5nm,0.9s,baz=236,slow=0.9,SNR=5.5
CPUP Villa Florida 145.78 189 PKPbc PKPbc 07 52 18.3 -0.3
comp=Z,10nm,0.7s,baz=145,slow=2.7,SNR=24
BDFB Brasilia 152.62 212 PKPbc PKPbc 07 52 36.2 +0.1
comp=Z,5.5nm,0.7s,baz=40,slow=0.5,SNR=8.0

IDC 11 07:36:59.0±374.0, 50.86N×45.94E, h0km, Error ellipse: s-maj=132.5km s-min=107.0km az=57.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I31KZ	**AKTYUBINSK INF**	**7.71**	**89**	I	I	08 22 40.0	
	0.1nm,0.5s,baz=279,slow=335,SNR=2.2						
I43RU	**DUBNA INFRASON**	**7.81**	**322**	I	I	08 23 00.0	
	baz=135,slow=328,SNR=2.6						
I37NO	**I37NO**	**22.46**	**334**	I	I	09 53 20.0	
	baz=132,slow=320,SNR=2.1						

*NEIC **11** 07:42:20.8±1.1, 19.46N±0.02×154.91W±0.01, h5km±1km, Error ellipse: s-maj=3.5km s-min=3.0km az=155.0*
HVO 11 07:42:20.2±1.4, 19.46N±0.02×154.87W±0.02, h2km±4km, ML2.8/3, ML2.7/22(NEIC), Error ellipse: s-maj=3.6km s-min=2.3km az=130.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.03**	**326**		Pg	07 42 21.8	+0.8
PHO	**Puu Honuaula**	**0.03**	**326**		Pg	07 42 21.7	+0.7
PAH	**Pahoa**	**0.08**	**299**		Pg	07 42 22.5	+0.6
JCUZ	**Jacuzzi**	**0.23**	**252**	Pg	Pg	07 42 24.4	-0.3
JCUZ				IAML		07 42 26.3	
	comp=N,746nm,1.3s						
NPOC	**North of Pu'u**	**0.23**	**255**	Pg	Pg	07 42 24.9	+0.1
NPOC				IAML		07 42 25.8	
	comp=E,523nm,0.9s						
NPOC				IAML		07 42 26.8	
	comp=N,446nm,0.9s						
STCH	**Steam Cracks**	**0.25**	**254**	Pg	Pg	07 42 24.9	-0.1
STCH				IAML		07 42 26.2	
	comp=E,667nm,1.0s						
STCH				IAML		07 42 31.2	
	comp=N,765nm,1.1s						
PUH	**Pauahi**	**0.34**	**256**		Sg	07 42 32.3	+1.2
PUH	**Pauahi**	**0.34**	**256**		Pg	07 42 26.9	+0.2
PUH	**Pauahi**	**0.34**	**256**	IAML		07 42 28.7	
	comp=N,2µm,0.8s						
PUH				IAML		07 42 30.2	
	comp=E,2µm,0.8s						
RSD	**Rainshed**	**0.38**	**271**		Pg	07 42 28.1	+0.4
RSD	**Rainshed**	**0.38**	**271**	IAML		07 42 34.0	
	comp=N,3µm,1.0s						
RSD				IAML		07 42 35.0	
	comp=E,2µm,0.8s						
HLP	**Hilina Pali**	**0.44**	**249**		Pg	07 42 28.8	0.0
HLP	**Hilina Pali**	**0.44**	**249**	IAML		07 42 37.4	
	comp=N,2µm,0.8s						
HLP				IAML		07 42 38.1	
	comp=E,2µm,0.9s						
MLH	**Mauna Loa**	**0.49**	**275**		Pg	07 42 29.4	-0.2
MLH	**Mauna Loa**	**0.49**	**275**	IAML		07 42 31.7	
	comp=E,786nm,0.7s						
MLH				IAML		07 42 45.8	
	comp=N,1µm,0.8s						
MLOA	**Mauna Loa Obse**	**0.67**	**277**	Pg	Pg	07 42 32.4	-0.8
MLOA				IAML		07 42 37.9	
	comp=N,434nm,0.8s						
MLOA				IAML		07 42 44.1	
	comp=E,538nm,0.8s						
MWH	**Moku'aweowe**	**0.69**	**273**	Pg	Pg	07 42 32.0	-1.4

*DJA **11** 07:54:23.9±0.2, 9.3×11.2E, h10km, M4.7/18, mb4.9/11, mB5.2/2, MLv4.6/18, Mw(mB)4.5/2*
*NEIC **11** 07:54:25.4±2.9, 9.40S±0.09×112.42E±0.04, h48km±8km, mb4.4/9, Error ellipse: s-maj=13.0km s-min=6.2km az=186.0*

*IDC **11** 07:54:29.4±2.0, 8.91S×112.60E, h85km±17km, mb3.7/12, mbtmp4.1/14, MS3.0/3, Error ellipse: s-maj=24.1km s-min=12.1km az=32.0*
ISC 11 07:54:25.3±0.7, 9.37S±0.05×112.43E±0.04, h51km±6km, n83, σ1.91/93, mb4.2/18, MS3.4/3, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**1.47**	**335**	P	Pn	07 54 48.8	-0.6
PWJI				S	Sn	07 55 05.9	-1.7
JAGI	**Jajag, Banyuwa**	**1.93**	**63**	P	Pn	07 54 55.9	+0.2
JAGI	**Jajag, Banyuwa**	**1.93**	**63**		Pn	07 54 55.9	+0.2
JAGI	**Jajag, Banyuwa**	**1.93**	**63**	P	Pn	07 54 55.9	+0.2
JAGI				S	Sn	07 55 17.1	-1.6
BLJI	**Banyuglugur**	**1.98**	**36**	P	Pn	07 54 56.9	+0.5
BLJI				S	Sn	07 55 19.9	-0.2
NGJI	**Ngawi**	**2.21**	**334**	P	Pn	07 55 02.6	+3.1
NGJI				S	Sn	07 55 28.4	+2.8
UGM	**Wanagama**	**2.37**	**307**	P	Pn	07 55 03.0	+1.2
UGM	**Wanagama**	**2.37**	**307**		Pn	07 55 02.4	+0.6
UGM	**Wanagama**	**2.37**	**307**	P	Pn	07 55 02.8	+1.0
UGM				S	Sn	07 55 29.8	0.0
ABJI	**Asem Bagus**	**2.38**	**49**	P	Pn	07 55 03.3	+1.5
GRJI	**Gresik**	**2.44**	**1**	P	Pn	07 55 01.8	-0.9
GRJI				S	Sn	07 55 30.4	-0.9
YOGI	**Yogyakarta**	**2.61**	**306**	P	Pn	07 55 07.6	+2.6
DNP	**Denpasar**	**2.83**	**76**	P	Pn	07 55 09.6	+1.5
SMRI	**Semarang**	**3.03**	**319**	P	Pn	07 55 12.4	+1.6
SMRI	**Semarang**	**3.03**	**319**		Pn	07 55 11.9	+1.2
SMRI	**Semarang**	**3.03**	**319**	P	Pn	07 55 11.5	+0.7
SRBI	**Singaraja**	**3.04**	**65**	P	Pn	07 55 11.9	+1.1
SRBI				S	Sn	07 55 46.2	+0.2
BWJI	**Bawean**	**3.50**	**4**	P	Pn	07 55 17.3	0.0
KPJI	**Karang Pucung**	**4.01**	**300**	P	Pn	07 55 26.3	+2.1
CMJI	**Cimerak**	**4.24**	**292**	P	Pn	07 55 28.3	+1.0
CMJI				S	Sn	07 56 11.6	-4.0
TWSI	**Taliwang, Sumb**	**4.45**	**82**	P	Pn	07 55 32.6	+2.4
BBJI	**Bungbulang**	**5.09**	**291**	P	Pn	07 55 39.8	+0.7
PLAI	**Plampang**	**5.31**	**85**	P	Pn	07 55 43.8	+1.7
PLAI	**Plampang**	**5.31**	**85**	P	Pn	07 55 44.2	+2.1
	155nm,1.1s,2µm0.7nm						
LEM	**Lembang**	**5.39**	**298**	P	Pn	07 55 48.6	+5.3
	18nm,0.3s,baz=118,slow=22,SNR=1.9						
LEM				S	Sn	07 56 48.4	+4.2
	79nm,0.8s,baz=36,slow=19,SNR=4.9						
CNJI	**Cibinong**	**5.63**	**291**	P	Pn	07 55 48.0	+1.6
	23nm,0.7s,0.3nm						
XMIS	**Christmas Isla**	**6.76**	**260**	P	Pn	07 56 02.1	0.0
XMIS	**Christmas Isla**	**6.76**	**260**	Pn	Pn	07 56 01.3	-0.8
BASI	**Baing, Sumba**	**8.08**	**97**	P	Pn	07 56 22.3	+2.2
	98nm,0.9s						
KAPI	**Kappang**	**8.46**	**60**	P	Pn	07 56 25.1	-0.2
	8.0nm,0.3s,baz=194,slow=12,SNR=1.9						
KAPI				LR	LR	08 00 05.2	
	comp=Z,73nm,20.7s,baz=235,slow=42						
BKSI	**Bulukumba**	**8.63**	**63**	P	Pn	07 56 28.5	+0.9
	19nm,0.7s						
EDFI	**Ende, Flores**	**9.17**	**87**	P	Pn	07 56 35.7	+0.6
	56nm,0.7s,1µm						
MMRI	**Maumere**	**9.72**	**86**	Pn	Pn	07 56 43.5	+0.9
MNAI	**Manna**	**10.64**	**297**	P	Pn	07 56 55.7	+0.6
MNAI	**Manna**	**10.64**	**297**	Pn	Pn	07 56 54.4	-0.7
MNAI	**Manna**	**10.64**	**297**	P	Pn	07 56 55.5	+0.4
	278nm,1.0s						
BATI	**Baumata**	**11.11**	**95**	P	Pn	07 57 03.5	+1.9
	24nm,0.3s,baz=301,slow=18,SNR=2.5						
BATI	**Baumata**	**11.11**	**95**	P	Pn	07 57 03.5	+1.9
	30nm,0.5s						
SOEI	**Soe**	**11.69**	**93**		Pn	07 57 09.9	+0.4
SBUM	**Sibu**	**11.74**	**359**	Pn	Pn	07 57 11.7	+1.5
GIRL	**Giralia**	**13.31**	**173**	P	Pn	07 57 30.9	-0.7
GIRL	**Giralia**	**13.31**	**173**	Pn	Pn	07 57 30.3	-1.4
MBWA	**Marble Bar**	**13.67**	**150**	P	Pn	07 57 37.2	+0.6
MBWA	**Marble Bar**	**13.67**	**150**	Pn	Pn	07 57 34.8	-1.8
FITZ	**Fitzroy Crossi**	**15.48**	**125**	Pn	Pn	07 57 59.5	-1.0
MEEK	**Meekatharra**	**18.15**	**162**	P	Pn	07 58 35.4	+1.7
FAKI	**Fak Fak**	**20.71**	**73**	P	P	07 58 59.9	-1.7
DAV	**Davao City (W)**	**20.94**	**39**	LR	LR	08 08 41.3	
	comp=Z,30nm,18.6s,baz=162,slow=42						
WRKA	**Warakurna**	**21.70**	**138**	P	P	07 59 14.6	+2.4
WRA	**Warramunga Arr**	**23.63**	**119**	P	P	07 59 32.4	+0.3
WRA	**Warramunga Arr**	**23.63**	**119**	P	P	07 59 32.8	+0.7
	0.2nm,0.3s,baz=298,slow=11,SNR=9.3						
WRA				PcP	PcP	08 03 16.8	+1.0
	0.7nm,0.5s,baz=319,slow=1.8,SNR=5.1						
	0.2nm,0.3s						
WR0	**Warramunga Arr**	**23.81**	**119**	P	P	07 59 34.0	+0.2
WR0				IAmb	IAmb	07 59 57.1	
	comp=Z,9.8nm,1.2s						
ASAR	**Alice Springs**	**24.97**	**127**	P	P	07 59 45.6	+1.3
ASAR	**Alice Springs**	**24.97**	**127**	P	P	07 59 46.2	+1.9
	comp=Z,1.2nm,0.5s,baz=304,slow=9.1,SNR=12						
ASAR				PcP	PcP	08 03 20.1	+1.4
	comp=Z,0.7nm,0.5s,baz=314,slow=1.5,SNR=7.9						
	comp=Z,1.2nm,0.5s						
AS31	**Alice Springs**	**24.97**	**127**	P	P	07 59 45.6	+1.3
COEN	**Coen**	**30.44**	**102**	P	P	08 00 33.7	+0.4
COEN				IAmb	IAmb	08 01 08.9	
	comp=Z,17nm,1.4s						
PZH	**PanZhiHua**	**37.14**	**344**	P	P	08 01 34.1	+2.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,130nm,6.9s						
H08S2	**Diego Garcia H**	**39.52**	**269**	T	T	08 43 53.6	
	baz=95,slow=75,SNR=7.0						
H08S3	**Diego Garcia H**	**39.53**	**269**	T	T	08 43 55.2	
	baz=95,slow=75,SNR=8.9						
H08S1	**Diego Garcia H**	**39.53**	**269**	T	T	08 43 55.7	
	baz=95,slow=75,SNR=6.6						
BTO	**Baotou**	**49.77**	**358**	*e*P	P	08 03 16.3	+3.4
BTO				pP	**sP**	08 03 32.4	+0.4
BTO				sP	pP	08 03 38.4	+12
BTO				PP	**PP**	08 05 01.0	-7.1
BTO				S	**S**	08 10 24.1	+5.4
MJAR	**Matsushiro Arr**	**51.70**	**27**	P	P	08 03 24.8	-2.6
	comp=Z,0.9nm,0.7s,baz=230,slow=12,SNR=4.2						
	comp=Z,0.9nm,0.7s						
XLT	**XiLinHaoTe**	**53.12**	**3**	*e*P	P	08 03 41.3	+3.5
XLT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
XLT				pmax	pmax		
	comp=Z,92nm,5.6s						
CN2	**Changchun**	**54.23**	**12**	*e*P	P	08 03 47.6	+1.8
CN2				*e*S	**S**	08 11 19.7	+0.3
CN2				LR	LR		
	comp=N,250nm,15.0s						
CN2				LR	LR		
	comp=E,230nm,15.0s						
WSAR	**Wadi Sarin**	**61.79**	**303**	LR	LR	08 30 45.9	
	comp=E,28nm,20.1s,baz=60,slow=35						
MK31	**Makanchi Array**	**62.04**	**337**	P	P	08 04 38.3	-2.2
MK31				IAmb	IAmb	08 04 39.6	
	comp=Z,1.1nm,0.5s						
MKAR	**Makanchi Array**	**62.04**	**337**	P	P	08 04 38.1	-2.3
MKAR	**Makanchi Array**	**62.04**	**337**	P	P	08 04 38.2	-2.2
	comp=Z,2.2nm,0.5s,baz=144,slow=7.1,SNR=26						
	comp=Z,2.2nm,0.5s						
KURBB	**Kurchatov Arra**	**66.60**	**337**	P	P	08 05 08.0	-2.2
	comp=Z,0.3nm,0.5s,baz=153,slow=6.3,SNR=3.3						
KURBB				PcP	PcP	08 05 37.7	-1.4
	comp=Z,0.8nm,0.6s,baz=152,slow=3.5,SNR=6.9						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**67.27**	**343**	P	P	08 05 11.3	-3.0
	comp=Z,1.0nm,0.4s,baz=142,slow=4.9,SNR=3.6						
	comp=Z,1.0nm,0.4s						
GEYT	**Alibeck**	**69.13**	**317**	P	P	08 05 23.8	-2.6
	comp=Z,0.7nm,0.3s,baz=117,slow=5.0,SNR=1.7						
	comp=Z,0.7nm,0.3s						
SBA	**Scott Base**	**73.74**	**170**	P	P	08 05 53.6	+0.1
ABKAR	**Akbulak array**	**74.24**	**327**	P	P	08 05 55.2	-1.6
ABKAR	**Akbulak array**	**74.24**	**327**	P	P	08 05 55.0	-1.9
ABKAR				IAmb	IAmb	08 05 56.0	
	comp=Z,2.8nm,0.5s						
QSPA	**South Pole Qui**	**80.63**	**180**	P	P	08 06 34.3	+1.8
QSPA	**South Pole Qui**	**80.63**	**180**	P	P	08 06 34.6	+2.1
	comp=Z,1.4nm,0.9s,baz=331,slow=1.1,SNR=5.4						
	comp=Z,1.4nm,0.9s						
KBZ	**Khabaz**	**82.02**	**317**	P	P	08 06 40.0	0.0
	comp=Z,2.8nm,0.8s,baz=99,slow=7.3,SNR=6.3						
	comp=Z,2.8nm,0.8s						
MMAI	**Mount Meron Ar**	**84.35**	**305**	P	P	08 06 52.3	-0.2
	comp=Z,1.2nm,0.4s,baz=106,slow=9.1,SNR=2.4						
	comp=Z,1.2nm,0.4s						
BRTR	**Keskin Array B**	**87.42**	**311**	P	P	08 07 06.5	-1.1
	comp=Z,2.2nm,0.8s,baz=133,slow=6.6,SNR=12						
	comp=Z,2.2nm,0.8s						
AKASG	**Malin Array Be**	**92.90**	**321**	P	P	08 07 31.4	-1.3
	comp=Z,0.2nm,0.2s,baz=71,slow=1.7,SNR=1.3						
	comp=Z,0.2nm,0.2s						
TXAR	**Lajitas Array**	**140.82**	**55**	PKP	PKPdf	08 13 50.4	+0.1
	comp=Z,0.1nm,0.7s,baz=270,slow=2.5,SNR=1.9						
BDFB	**Brasilia**	**148.49**	**218**	PKPbc	PKiKP	08 14 09.2	+0.1
	comp=Z,1.1nm,0.5s,baz=207,slow=6.8,SNR=3.8						
TKL	**Tuckaleechee C**	**149.95**	**27**	PKPbc	PKPbc	08 14 10.2	-0.3
	comp=Z,2.4nm,0.5s,baz=336,slow=10.0,SNR=8.0						

IDC 11 08:08:57.5±3.7, 54.42N×87.30E, h0km, mbtmp2.6/2, ML2.0/2, Error ellipse: s-maj=32.1km s-min=20.6km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**253**	I	I	08 17 40.0	
	baz=73,slow=324,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.54**	**253**	Pg	Pn	08 09 23.6	-2.5
	0.7nm,0.3s,baz=74,slow=15,SNR=11						
ZALV				Lg	Lg	08 09 47.0	
	0.7nm,0.3s,baz=71,slow=29,SNR=5.3						
KURBB	**Kurchatov Arra**	**6.57**	**238**	Pn	Pn	08 10 35.7	+0.5
	baz=53,slow=14,SNR=2.7						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.27**	**205**	Pn	Pn	08 11 00.4	+1.7
	baz=25,slow=15,SNR=1.4						
	0.1nm,0.5s						

IDC 11 08:14:40.8±3.1, 54.25N×87.42E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=25.7km s-min=17.3km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.56**	**260**	I	I	08 24 05.0	
	baz=79,slow=321,SNR=20						
ZALV	**Zalesovo Beam**	**1.56**	**260**	Pg	Pn	08 15 07.5	-2.2
	1.3nm,0.3s,baz=77,slow=15,SNR=9.3						
ZALV				Lg	Lg	08 15 30.6	
	2.8nm,0.3s,baz=82,slow=25,SNR=12						
KURBB	**Kurchatov Arra**	**6.53**	**240**	Pn	Pn	08 16 18.9	+0.8
	0.1nm,0.3s,baz=56,slow=15,SNR=4.2						
KURBB				Lg	Lg	08 18 09.2	
	baz=52,slow=30,SNR=2.4						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**8.14**	**206**	Pn	Pn	08 16 41.6	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=8.5						
MKAR				Sn	Sn	08 18 11.7	-1.1
	0.1nm,0.3s,baz=22,slow=28,SNR=1.8						
MKAR				Lg	Lg	08 19 01.6	
	0.1nm,0.3s,baz=29,slow=27,SNR=2.4						
	0.2nm,0.3s						

IDC 11 08:16:56.3±3.6, 53.77N×88.16E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=32.8km s-min=19.8km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.99**	**276**	I	I	08 30 05.1	
	0.1nm,1.1s,baz=92,slow=326,SNR=5.9						
ZALV	**Zalesovo Beam**	**1.99**	**276**	Pg	Pn	08 17 31.4	+0.2
	1.5nm,0.3s,baz=96,slow=13,SNR=12						
ZALV				Lg	Lg	08 17 59.9	
	2.4nm,0.3s,baz=96,slow=22,SNR=19						
KURBB	**Kurchatov Arra**	**6.71**	**246**	Pn	Pn	08 18 37.2	+1.3
	0.1nm,0.3s,baz=61,slow=14,SNR=4.0						
KURBB				Lg	Lg	08 20 27.6	
	0.1nm,0.3s,baz=58,slow=32,SNR=7.3						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**7.93**	**211**	Pn	Pn	08 18 53.6	+0.7
	0.1nm,0.3s,baz=24,slow=16,SNR=2.5						
	0.2nm,0.4s						

IDC 11 08:18:06.1±4.1, 36.69N×82.56E, h0km, mb3.7/1, mbtmp3.7/5, ML3.2/4, MS3.8/3, Error ellipse: s-maj=49.2km s-min=29.0km az=25.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.60**	**316**	Pn	Pn	08 20 14.9	+2.9
	0.2nm,0.3s,baz=156,slow=18,SNR=1.4						
AAK				Pg	Pg	08 20 41.7	-9.0
	0.7nm,0.3s,baz=134,slow=10.0,SNR=5.9						
AAK				Lg	Lg	08 22 36.9	
	0.3nm,0.3s,baz=107,slow=19,SNR=1.7						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**10.10**	**359**	Pn	Pn	08 20 33.0	+0.7
	1.3nm,0.3s,baz=181,slow=12,SNR=18						
MKAR				Sn	Sn	08 22 25.8	-0.5
	0.6nm,0.3s,baz=181,slow=24,SNR=4.6						
MKAR				Lg	Lg	08 23 27.2	
	0.3nm,0.3s,baz=184,slow=29,SNR=1.3						
	2.3nm,0.5s						
ZALV	**Zalesovo Beam**	**17.33**	**4**	P	Pn	08 22 09.5	+0.3
	0.3nm,0.3s,baz=186,slow=10,SNR=4.6						
	0.9nm,0.4s						
BVAR	**Borovoye Array**	**18.43**	**336**	P	Pn	08 22 22.4	-0.4
	baz=146,slow=8.7,SNR=5.7						
	1.1nm,0.5s						
SONM	**Songino Array**	**20.77**	**50**	P	P	08 22 48.2	-0.5
	2.7nm,0.7s,baz=241,slow=12,SNR=8.3						
	2.7nm,0.7s						
AKASG	**Malin Array Be**	**40.15**	**308**	LR	LR	08 46 09.6	
	comp=Z,103nm,18.1s,baz=45,slow=42						
MLR	**Mutnele Rosu**	**42.78**	**300**	LR	LR	08 49 53.9	
	comp=Z,81nm,20.3s,baz=265,slow=45						
ASAR	**Alice Springs**	**77.12**	**133**	LR	LR	09 08 26.0	
	comp=Z,87nm,18.6s,baz=17,slow=39						

*IDC **11** 08:21:26.8±2.0, 24.08S×179.93E, h515km±23km, mb3.4/5, mbtmp4.3/8, Error ellipse: s-maj=37.0km s-min=19.2km az=171.0*
*NEIC **11** 08:21:26.6±1.7, 23.9S±0.2×179.8W±0.1, h544km±16km, mb4.4/16, Error ellipse: s-maj=22.1km s-min=13.5km az=176.0*
ISC 11 08:21:27.2±0.8, 24.13S±0.09×180.0E±0.1, h526km, n33, σ1.20/35, mb4.3/13, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.43**	**160**	P	P	08 22 59.5	+0.2
RAO	**Raoul Island**	**5.43**	**160**	P	P	08 22 59.6	+0.3
	171nm,0.3s,baz=98,slow=23,SNR=2.4						
MSVF	**Nonsavu**	**6.62**	**344**	P	P	08 23 09.2	-1.5
PINNC	**Pines

WR0	**Warramunga Arr**	**42.19 266**	P	**P**	**08 28 33.2**	**-0.8**
WR0			IAmb	IAmb	08 28 55.1	
	comp=Z,15nm,1.4s					
WB0	**Warramunga Arr**	**42.37 267**	P	**P**	**08 28 34.7**	**-0.7**
WB0			IAmb	IAmb	08 28 35.4	
	comp=Z,12nm,0.7s					
WRA	**Warramunga Arr**	**42.38 266**	P	**P**	**08 28 34.5**	**-0.9**
WRA	**Warramunga Arr**	**42.38 266**	P	**P**	**08 28 34.9**	**-0.6**
	comp=Z,8.2nm,0.5s,baz=97,slow=8.3,SNR=150					
	comp=Z,8.2nm,0.5s					
FORT	**Forrest**	**46.22 250**	P	**P**	**08 29 04.1**	**-0.9**
FORT			IAmb	IAmb	08 29 05.1	
	comp=Z,17nm,0.7s					
FITZ	**Fitzroy Crossi**	**50.80 266**	P	**P**	**08 29 38.8**	**-0.4**
SBA	**Scott Base**	**54.15 183**	P	**P**	**08 30 03.5**	**+1.4**
MBWA	**Marble Bar**	**55.32 260**	P	**P**	**08 30 10.1**	**-1.3**
MBWA			IAmb	IAmb	08 30 11.5	
	comp=Z,13nm,0.9s					
MORW	**Morawa**	**56.78 250**	P	**P**	**08 30 20.1**	**-1.4**
MORW			IAmb	IAmb	08 30 21.6	
	comp=Z,5.4nm,0.6s					
QSPA	**South Pole Qui**	**65.95 180**	P	**P**	**08 31 20.9**	**-0.1**
BELA	**Belgrano 2**	**76.21 173**	P	**P**	**08 32 20.2**	**-0.6**
NVAR	**Mina Array Bea**	**84.93 44**	P	**P**	**08 33 07.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=217,slow=6.8,SNR=2.4					
	comp=Z,0.3nm,0.6s					
TXAR	**Lajitas Array**	**90.56 58**	P	**P**	**08 33 34.3**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=220,slow=6.5,SNR=10					
	comp=Z,0.7nm,0.7s					

NEIC ***11*** *08:23:51.8±1.4, 19.37N±0.01×155.14W±0.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.3km az=136.0*

HVO 11 08:23:50.9±1.1, 19.33N±0.01×155.12W±0.01, h2km±6km, ML2.6/7, ML2.4/20(NEIC), Error ellipse: s-maj=2.6km s-min=0.6km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.05**	**357**		Pg	08 23 52.9	+0.8
STCH	**Steam Cracks**	**0.05**	**357**	IAML		08 23 53.2	
	comp=N,1μm,0.1s						
STCH				IAML		08 23 53.8	
	comp=E,1μm,0.1s						
JCUZ	**Jacuzzi**	**0.06**	**20**		Sg	08 23 54.4	+1.6
JCUZ	**Jacuzzi**	**0.06**	**20**	Pg	Pg	08 23 52.8	+0.7
JCUZ				IAML		08 23 53.0	
	comp=N,738nm,1.3s						
JCUZ				IAML		08 23 53.0	
	comp=E,534nm,1.2s						
NPOC	**North of Pu'u**	**0.06**	**11**		Pg	08 23 53.0	+0.8
NPOC	**North of Pu'u**	**0.06**	**11**	IAML		08 23 53.6	
	comp=N,731nm,0.9s						
NPOC				IAML		08 23 54.1	
	comp=E,663nm,0.5s						
KNHH	**Kane Nui o Ham**	**0.07**	**316**		Pg	08 23 53.1	+0.9
PUH	**Pauahi**	**0.10**	**295**		Sg	08 23 55.7	+1.5
PUH	**Pauahi**	**0.10**	**295**	Pg	Pg	08 23 53.2	+0.4
PUH				IAML		08 23 54.6	
	comp=N,2μm,0.7s						
PUH	**Pauahi**	**0.10**	**295**	IAML		08 23 56.0	
	comp=E,2μm,0.5s						
JOKA	**Jonika Flow**	**0.15**	**48**		Pg	08 23 54.0	+0.2
HLP	**Hilina Pali**	**0.18**	**258**		Pg	08 23 55.2	+0.8
HLP					Sg	08 23 59.2	+2.5
HLP	**Hilina Pali**	**0.18**	**258**	IAML		08 23 59.7	
	comp=E,2μm,0.8s						
HTC	**Hot Caves**	**0.28**	**250**		Pg	08 23 57.4	+1.2
MLH	**Mauna Loa**	**0.30**	**303**		Pg	08 23 57.4	+0.8
MLH	**Mauna Loa**	**0.30**	**303**	IAML		08 23 59.3	
	comp=N,1μm,0.7s						
MLH				IAML		08 24 05.9	
	comp=E,613nm,0.9s						
HMH	**Humu'ula Sheep**	**0.43**	**308**		Pg	08 23 59.7	+0.4
HMH	**Humu'ula Sheep**	**0.43**	**308**	IAML		08 24 07.0	
	comp=N,782nm,0.3s						
HMH				IAML		08 24 07.0	
	comp=E,773nm,0.3s						
MWH	**Moku'aweowe**	**0.47**	**289**		Pg	08 24 00.3	+0.3
KHU	**Kahuku**	**0.47**	**260**		Pg	08 24 00.1	+0.1
MLOA	**Mauna Loa Obse**	**0.47**	**295**	Pg	Pg	08 24 00.1	0.0
ALEP	**Alea Permanent**	**0.54**	**293**		Pg	08 24 01.0	-0.2
ALEP					Sg	08 24 09.0	+0.8
POHA	**Pohakuloa**	**0.57**	**318**		Pg	08 24 01.5	-0.5
POHA					Sg	08 24 09.9	+0.6
POHA	**Pohakuloa**	**0.57**	**318**	IAML		08 24 10.7	
	comp=E,398nm,0.2s						
HUH	**Hualalai**	**0.76**	**298**	Pg	Pg	08 24 05.3	-0.2
CPH	**Captain Cook**	**0.77**	**282**		Pg	08 24 05.0	-0.6

IDC 11 08:39:27.5±4.1, 53.75N×90.69E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=40.0km s-min=25.6km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.48**	**276**	I	I	09 02 40.0	
	baz=91,slow=326,SNR=1.8						
ZALV	**Zalesovo Beam**	**3.48**	**276**	Pg	Pb	08 40 29.4	-0.6
	0.8nm,0.3s,baz=94,slow=16,SNR=6.2						
ZALV				Lg	Lg	08 41 17.3	
	0.7nm,0.3s,baz=91,slow=23,SNR=3.1						
KURBB	**Kurchatov Arra**	**8.10**	**252**	Pn	Pn	08 41 26.9	+0.6
	0.1nm,0.3s,baz=68,slow=14,SNR=6.6						
KURBB				Sn	Sn	08 43 00.8	+2.4
	baz=66,slow=26,SNR=4.1						
KURBB				Lg	Lg	08 43 46.6	
	baz=66,slow=31,SNR=3.5						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.79**	**221**	Pn	Pn	08 41 36.1	+0.3
	0.1nm,0.3s,baz=34,slow=15,SNR=9.2						
MKAR				Lg	Lg	08 44 07.2	
	baz=28,slow=31,SNR=2.4						
	0.3nm,0.4s						

IDC 11 08:42:56.7±3.1, 53.40N×87.25E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=27.7km s-min=17.1km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**292**	I	I	08 53 28.8	
	baz=108,slow=327,SNR=1.4						
ZALV	**Zalesovo Beam**	**1.55**	**292**	Pg	Pn	08 43 24.8	-0.8
	0.5nm,0.3s,baz=114,slow=18,SNR=2.1						
ZALV				Lg	Lg	08 43 46.8	
	0.4nm,0.3s,baz=110,slow=25,SNR=2.0						
KURBB	**Kurchatov Arra**	**6.06**	**246**	Pn	Pn	08 44 27.3	-0.2
	baz=62,slow=13,SNR=1.0						
KURBB				Lg	Lg	08 46 07.6	
	baz=57,slow=41,SNR=2.7						
	0.4nm,0.6s						
MKAR	**Makanchi Array**	**7.34**	**208**	Pn	Pn	08 44 46.8	+1.7
	0.1nm,0.3s,baz=22,slow=16,SNR=1.4						
	0.2nm,0.4s						

IDC 11 08:50:11.5±3.4, 54.25N×87.40E, h0km, mbtmp2.9/2, ML2.5/1, Error ellipse: s-maj=26.5km s-min=19.7km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.55**	**260**	I	I	09 00 02.1	
	baz=80,slow=326,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.55**	**260**	Pg	Pn	08 50 38.8	-1.6
	2.1nm,0.3s,baz=76,slow=15,SNR=6.7						
ZALV				Lg	Lg	08 51 01.8	
	1.8nm,0.3s,baz=76,slow=27,SNR=6.2						
KURBB	**Kurchatov Arra**	**6.53**	**240**	Pn	Pn	08 51 49.0	+0.2
	0.1nm,0.3s,baz=52,slow=32,SNR=2.1						
KURBB				Sn	Sn	08 53 02.1	-1.7
	baz=55,slow=21						
KURBB				Lg	Lg	08 53 40.2	
	baz=58,slow=33,SNR=1.5						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**8.14**	**206**	Pn	Pn	08 52 12.8	+1.8
	0.1nm,0.3s,baz=23,slow=15,SNR=1.2						

BJI ***11*** *08:57:27.9±0.0, 6.94S×129.96E, h192km, mb4.9/60, mB4.7/25*
MOS ***11*** *08:57:29.0±0.8, 6.61S×129.94E, h180km, mb4.9/33, Error ellipse: s-maj=13.5km s-min=5.6km az=118.8*

DJA ***11*** *08:57:31.6±0.2, 7.5S×13.0E±°, h185km±2km, M5.2/74, mB5.6/36, mb5.2/74, MLv5.8/18, Mw(mB)5.1/36, MwMwp5.2/4, Mwp5.4/4*
IDC ***11*** *08:57:31.2±0.6, 6.66S×129.74E, h184km±4km, mb4.1/18, mbtmp4.6/20, MS3.5/4, Error ellipse: s-maj=14.2km s-min=9.1km az=78.0*
NEIC ***11*** *08:57:32.1±1.2, 6.62S±0.07×129.84E±0.08, h188km±6km, mb5.0/46, Mww5.0/12, Error ellipse: s-maj=11.4km s-min=9.9km az=58.0*
GCMT ***11*** *08:57:34.1±0.4, 6.65S±0.03×130.13E±0.03, h211km±4km, MW5.0/68, Moment Tensor Solution. s19,c21; s68,c89; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.26±.16; Mθθ 0.73±.16; Mϕϕ -0.47±.17; Mrθ 1.14±.13; Mθϕ -2.85±.16; Mϕr 2.28±.14; Best double couple: Mo 3.74600×10^16 NP1: ϕs 172.00000°, δ 78.00000°, λ -33.00000°. NP2: ϕs 270.00000°, δ 58.00000°, λ -165.00000°. Principal axes: T 3.1690, Plg 13.0000°, Azm 225.0000°; N 1.1540, Plg 55.0000°, Azm 334.0000°; P -4.3230, Plg 32.0000°, Azm 126.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 11 08:57:31.2±0.4, 6.72S±0.04×129.85E±0.04, h185km±3km, h186km:pP-P, n434, σ1.918/463, mb4.8/92, 9C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.90**	**131**	P	**Pn**	**08 58 09.8**	**+2.2**
SAUI	**Saumlaki**	**1.90**	**131**		**Pn**	**08 58 08.6**	**+1.0**
SAUI	**Saumlaki**	**1.90**	**131**	P	**Pn**	**08 58 09.2**	**+1.6**
BNDI	**Bandanaira**	**2.19**	**1**	P	**Pn**	**08 58 11.0**	**+0.3**
BNDI	**Bandanaira**	**2.19**	**1**	P	**Pn**	**08 58 10.5**	**-0.2**
NLAI	**Namlea**	**4.42**	**321**	P	**Pn**	**08 58 39.8**	**+2.0**
FAKI	**Fak Fak**	**4.47**	**32**	P	**Pn**	**08 58 36.9**	**-1.6**
FAKI	**Fak Fak**	**4.47**	**32**	Pn	**Pn**	**08 58 36.4**	**-2.0**
FAKI	**Fak Fak**	**4.47**	**32**	P	**Pn**	**08 58 36.5**	**-2.0**
KMPI	**Kaimana, Papua**	**4.89**	**52**	P	**Pn**	**08 58 42.6**	**-1.3**
DRS	**Darwin Rock St**	**5.77**	**170**	P	**Pn**	**08 58 56.0**	**+0.7**
SWI	**Sorong**	**5.99**	**14**	P	**Pn**	**08 58 55.8**	**-2.4**
	382nm,0.6s,14μm10nm						
SWI	**Sorong**	**5.99**	**14**	P	**Pn**	**08 58 55.3**	**-2.9**
SANI	**Sanana**	**6.03**	**320**	P	**Pn**	**08 58 59.3**	**+0.5**
SANI	**Sanana**	**6.03**	**320**	P	**Pn**	**08 58 58.4**	**-0.4**
	471nm,1.1s,4μm2μm1.7nm						
MTN	**Manton Dam**	**6.21**	**168**	P	**Pn**	**08 59 01.0**	**-0.1**
	baz=6.3,SNR=708						
MTN				S	**Sn**	**09 00 08.1**	**-3.9**
	baz=6.3						
MTN	**Manton Dam**	**6.21**	**168**	P	**Pn**	**08 59 01.2**	**+0.1**
MTN	**Manton Dam**	**6.21**	**168**	Pn	**Pn**	**08 59 00.9**	**-0.1**
SOEI	**Soe**	**6.30**	**241**	P	**Pn**	**08 59 03.3**	**+1.0**
SOEI	**Soe**	**6.30**	**241**	Pn	**Pn**	**08 59 02.5**	**+0.1**
SOEI	**Soe**	**6.30**	**241**	P	**Pn**	**08 59 02.8**	**+0.5**
	3μm,0.8s,21μm9.3nm						
KDU	**Kakadu**	**6.46**	**157**	P	**Pn**	**08 59 04.4**	**0.0**
	baz=6.6,SNR=651						
KDU				S	**Sn**	**09 00 14.4**	**-3.6**
	baz=6.6						
KDU	**Kakadu**	**6.46**	**157**	P	**Pn**	**08 59 04.8**	**+0.4**
LBMI	**Labuha**	**6.48**	**339**	P	**Pn**	**08 59 03.8**	**-0.9**
	521nm,0.9s,8μm2.7nm						
BATI	**Baumata**	**7.03**	**240**	P	**Pn**	**08 59 11.1**	**-0.8**
	4μm,0.7s,baz=130,slow=2.4,SNR=289						
BATI				S	**Sn**	**09 00 29.1**	**-2.4**
	659nm,0.6s,baz=87,slow=19,SNR=2.3						
BATI	**Baumata**	**7.03**	**240**	P	**Pn**	**08 59 12.1**	**+0.2**
	4μm,0.7s,33μm13nm						
BBSI	**Bau Bau**	**7.35**	**279**	P	**Pn**	**08 59 17.5**	**+1.5**
	532nm,1.1s,5μm1.7nm						
MMRI	**Maumere**	**7.79**	**255**	P	**Pn**	**08 59 23.6**	**+1.9**
MMRI	**Maumere**	**7.79**	**255**	Pn	**Pn**	**08 59 21.6**	**-0.1**
MMRI	**Maumere**	**7.79**	**255**	P	**Pn**	**08 59 22.7**	**+1.0**
	343nm,0.6s,5μm1.3nm						
TNTI	**Ternate**	**7.85**	**341**	P	**Pn**	**08 59 22.1**	**-0.5**
TNTI	**Ternate**	**7.85**	**341**	Pn	**Pn**	**08 59 20.8**	**-1.8**
TNTI	**Ternate**	**7.85**	**341**	P	**Pn**	**08 59 20.7**	**-1.8**
	76nm,0.8s,0.3nm						
EDFI	**Ende, Flores**	**8.34**	**255**	P	**Pn**	**08 59 28.7**	**-0.4**
	238nm,0.6s,3μm						
KMSI	**Cibinong**	**9.32**	**321**	P	**Pn**	**08 59 43.1**	**+1.2**
	424nm,0.9s						
BKSI	**Bulukumba**	**9.78**	**278**	P	**Pn**	**08 59 48.9**	**+1.0**
	93nm,0.7s,902nm						
BASI	**Baing, Sumba**	**9.81**	**249**	P	**Pn**	**08 59 48.6**	**+0.3**
	728nm,0.6s,9μm						
GTOI	**Gorontalo**	**10.00**	**317**	P	**Pn**	**08 59 53.6**	**+2.8**
	26nm,0.8s,446nm						
KAPI	**Kappang**	**10.19**	**279**	P	**Pn**	**08 59 53.5**	**+0.2**
KAPI	**Kappang**	**10.19**	**279**	Pn	**Pn**	**08 59 53.1**	**-0.2**
KAPI	**Kappang**	**10.19**	**279**	P	**Pn**	**08 59 51.7**	**-1.6**
	19nm,0.9s,baz=141,slow=8.2,SNR=5.7						
KAPI	**Kappang**	**10.19**	**279**	i/e	**Pn**	**08 59 54.9**	**+1.6**
MMPI	**Merauke**	**10.58**	**100**	P	**Pn**	**08 59 58.8**	**+0.5**
	657nm,0.4s,13μm						
GENI	**Genyem**	**11.07**	**69**	P	**Pn**	**09 00 05.5**	**+0.9**
GENI	**Genyem**	**11.07**	**69**	P	**Pn**	**09 00 07.3**	**+2.7**
	175nm,0.7s,3μm						
SGSI	**Sangihe**	**11.20**	**337**	P	**Pn**	**09 00 04.9**	**-1.5**
	354nm,0.9s						
TABU	**Tabubil**	**11.40**	**83**	P	**Pn**	**09 00 09.9**	**+0.9**
JAY	**Jayapura**	**11.59**	**69**	P	**Pn**	**09 00 14.0**	**+2.6**
	72nm,0.8s,640nm						
TOLI2	**Tolitoli**	**11.94**	**310**	P	**Pn**	**09 00 16.7**	**+0.9**
TOLI2	**Tolitoli**	**11.94**	**310**	Pn	**Pn**	**09 00 15.9**	**+0.1**
FITZ	**Fitzroy Crossi**	**12.03**	**200**	P	**Pn**	**09 00 16.5**	**-0.5**
	baz=12,SNR=32						
PLAI	**Plampang**	**12.15**	**259**	P	**Pn**	**09 00 16.6**	**-1.9**
PLAI	**Plampang**	**12.15**	**259**	P	**Pn**	**09 00 15.8**	**-2.7**
	401nm,0.8s,5μm						
TWSI	**Taliwang, Sumb**	**13.01**	**260**	P	**Pn**	**09 00 26.2**	**-3.2**
	134nm,1.2s,2μm						
WRAB	**Tennant Creek**	**13.84**	**162**	*c i* P	**Pn**	**09 00 37.9**	**-1.9**
WRA	**Warramunga Arr**	**13.85**	**162**	P	**Pn**	**09 00 38.6**	**-1.3**
	39nm,0.6s,baz=344,slow=12,SNR=120						
WRA				S	**Sn**	**09 03 06.9**	**-7.4**
	38nm,0.7s,baz=346,slow=23,SNR=7.2						
WRA	**Warramunga Arr**	**13.85**	**162**	*i* P	**Pn**	**09 00 38.0**	**-1.9**
WRA				pmax	pmax		
	comp=Z,39nm,0.6s						
BKB	**Balikpapan**	**14.02**	**292**	P	**P**	**09 00 43.6**	**-0.7**
BKB	**Balikpapan**	**14.02**	**292**		**P**	**09 00 44.3**	**0.0**
SRBI	**Singaraja**	**14.58**	**264**	P	**Pn**	**09 00 49.5**	**+0.4**
	comp=Z,82nm,0.9s						
DNP	**Denpasar**	**14.64**	**261**	P	**P**	**09 00 53.5**	**+2.3**
	comp=Z,625nm,0.7s						
COEN	**Coen**	**14.94**	**120**	P	**P**	**09 00 54.2**	**-0.3**
	baz=15,SNR=233						
COEN	**Coen**	**14.94**	**120**	P	**P**	**09 00 54.4**	**-0.1**
COEN	**Coen**	**14.94**	**120**		**Pn**	**09 00 53.8**	**+0.3**
ABJI	**Asem Bagus**	**15.53**	**265**	P	**P**	**09 01 01.6**	**+0.5**
	comp=Z,149nm,1.1s						
JAGI	**Jajag, Banyuwa**	**15.66**	**263**		**Pn**	**09 00 59.1**	**-3.2**
JAGI	**Jajag, Banyuwa**	**15.66**	**263**	P	**Pn**	**09 01 01.2**	**-1.1**
	comp=Z,83nm,0.7s						
MTKI	**Muara Teweh, K**	**15.99**	**290**	P	**Pn**	**09 01 09.0**	**+2.8**
	comp=Z,204nm,1.1s						
BLJI	**Banyuglugur**	**16.16**	**265**	P	**P**	**09 01 08.0**	**0.0**
	comp=Z,648nm,0.7s,comp=Z,6μm						
QIS	**Mount Isa**	**16.69**	**146**	P	**Pn**	**09 01 15.1**	**+0.5**
	baz=17,SNR=230						
QIS	**Mount Isa**	**16.69**	**146**	P	**Pn**	**09 01 15.2**	**+0.5**
BWJI	**Bawean**	**17.11**	**272**	P	**P**	**09 01 19.2**	**+0.7**
	comp=Z,1μm,1.3s						
GRJI	**Gresik**	**17.25**	**268**	P	**Pn**	**09 01 21.9**	**+0.5**
	comp=Z,406nm,1.0s						
AS31	**Alice Springs**	**17.29**	**167**		**Pn**	**09 01 21.6**	**-0.2**
ASAR	**Alice Springs**	**17.29**	**167**		**Pn**	**09 01 21.6**	**-0.2**
ASAR	**Alice Springs**	**17.29**	**167**	P	**Pn**	**09 01 22.1**	**+0.3**
	comp=Z,325nm,0.8s,baz=339,slow=9.6,SNR=778						
ASAR				S	**S**	**09 04 28.9**	**-2.1**
	comp=Z,26nm,0.9s,baz=348,slow=24,SNR=7.2						
ASAR				ScP	**ScP**	**09 09 09.8**	**-1.2**
	comp=Z,9.8nm,0.6s,baz=0.4,slow=2.1,SNR=5.6						
ASAR	**Alice Springs**	**17.29**	**167**	P	**Pn**	**09 01 21.6**	**-0.2**
PMG	**Port Moresby**	**17.34**	**100**	P	**Pn**	**09 01 23.8**	**+1.4**
	comp=Z,110nm,0.8s,baz=279,slow=7.0,SNR=29						
PMG				S	**S**	**09 04 28.2**	**-3.8**
	comp=Z,6.7nm,0.3s,baz=292,slow=16,SNR=1.5						
MBWA	**Marble Bar**	**17.38**	**213**	P	**Pn**	**09 01 22.8**	**0.0**
MBWA	**Marble Bar**	**17.38**	**213**		**Pn**	**09 01 22.3**	**-0.5**
PSA00	**Pilbara Seismi**	**17.65**	**212**	P	**Pn**	**09 01 25.8**	**-0.2**
PSA00	**Pilbara Seismi**	**17.65**	**212**		**P**	**09 01 25.3**	**+1.0**
PSA00	**Pilbara Seismi**	**17.65**	**212**	P	**P**	**09 01 24.6**	**+0.3**
PWJI	**Pagerwojo**	**17.95**	**265**	P	**P**	**09 01 27.8**	**+0.2**
	comp=Z,103nm,0.8s						
MANU	**Manus Island**	**18.06**	**76**	P	**Pn**	**09 01 30.5**	**-0.5**
MANU	**Manus Island**	**18.06**	**76**	P	**Pn**	**09 01 30.2**	**-0.8**
MTSU	**Mount Surprise**	**18.10**	**130**	P	**Pn**	**09 01 31.0**	**-0.3**
	baz=18,SNR=171						
MTSU	**Mount Surprise**	**18.10**	**130**	P	**Pn**	**09 01 30.9**	**-0.4**
NGJI	**Ngawi**	**18.27**	**267**	P	**Pn**	**09 01 33.9**	**+0.6**
	comp=Z,171nm,0.8s						
WRKA	**Warakurna**	**18.27**	**185**	P	**Pn**	**09 01 32.6**	**-0.7**
	baz=18,SNR=87						
WRKA	**Warakurna**	**18.27**	**185**	P	**Pn**	**09 01 32.9**	**-0.4**
AUCSH	**Cairns State H**	**18.57**	**124**	P	**Pn**	**09 01 35.6**	**-1.2**
UGM	**Wanagama**	**19.21**	**265**	P	**P**	**09 01 39.4**	**-2.0**
UGM	**Wanagama**	**19.21**	**265**	P	**P**	**09 01 41.4**	**0.0**
	comp=Z,155nm,1.7s						
STKI	**Sintang**	**19.54**	**289**	P	**P**	**09 01 45.6**	**+0.7**
	comp=Z,50nm,0.7s						
SBUM	**Sibu**	**19.82**	**297**	P	**P**	**09 01 47.8**	**-0.1**
TV1H	**Townsville Har**	**20.66**	**129**	P	**P**	**09 01 58.3**	**+1.6**
CTAO	**Charters Tower**	**20.73**	**131**	P	**P**	**09 01 59.2**	**+1.6**
CTAO	**Charters Tower**	**20.73**	**131**	P	**P**	**09 01 58.2**	**+0.6**
CTAO	**Charters Tower**	**20.73**	**131**	P	**P**	**09 01 58.2**	**+0.6**
KPJI	**Karang Pucung**	**20.77**	**267**	P	**P**	**09 01 57.5**	**-0.6**
	comp=Z,114nm,0.6s						
KSM	**Kuching**	**21.14**	**292**	P	**P**	**09 02 01.7**	**-0.3**
KSM	**Kuching**	**21.14**	**292**	P	**P**	**09 02 01.0**	**-0.9**
CMJI	**Cimerak**	**21.26**	**266**	P	**P**	**09 02 01.3**	**-1.9**
	comp=Z,342nm,0.9s,comp=Z,3μm						
AUAYR	**Ayr State High**	**21.31**	**129**	P	**P**	**09 02 05.6**	**+1.9**
OOD	**Oodnadatta**	**21.68**	**166**	P	**P**	**09 02 07.5**	**+0.1**
GIRL	**Giralia**	**21.85**	**222**	P	**P**	**09 02 10.6**	**+1.4**
	baz=22,SNR=24						
GIRL	**Giralia**	**21.85**	**222**	P	**P**	**09 02 10.6**	**+1.4**
GIRL	**Giralia**	**21.85**	**222**	P	**P**	**09 02 10.5**	**+1.3**
BBJI	**Bungbulang**	**22.05**	**267**	P	**P**	**09 02 11.1**	**-0.3**
LEM	**Lembang**	**22.08**	**268**	P	**P**	**09 02 12.3**	**+0.5**
	comp=Z,83nm,0.6s						
RABL	**Rabaul**	**22.35**	**85**	P	**P**	**09 02 15.1**	**+0.9**
RABL	**Rabaul**	**22.35**	**85**	P	**P**	**09 02 14.1**	**-0.1**
MEEK	**Meekatharra**	**22.51**	**207**	P	**P**	**09 02 16.3**	**+0.7**
	baz=23,SNR=9.3						
MEEK	**Meekatharra**	**22.51**	**207**	P	**P**	**09 02 16.8**	**+1.2**
CNJI	**Cibinong**	**22.56**	**267**	P	**P**	**09 02 14.3**	**-1.8**
	comp=Z,265nm,0.8s,comp=Z,2μm						
CBJI	**Citeko**	**22.86**	**269**	P	**P**	**09 02 18.7**	**-0.1**
	comp=Z,244nm,0.8s,comp=Z,22μm						
INKA	**Innaminka**	**23.32**	**155**	P	**P**	**09 02 24.4**	**+1.6**
MULG	**Mulgathing**	**23.77**	**171**	P	**P**	**09 02 27.8**	**+0.9**
FORT	**Forrest**	**23.99**	**184**	P	**P**	**09 02 29.8**	**+0.9**
	baz=24,SNR=15						
FORT	**Forrest**	**23.99**	**184**	P	**P**	**09 02 29.8**	**+0.9**
FORT	**Forrest**	**23.99**	**184**	P	**P**	**09 02 29.2**	**+0.3**
QLP	**Quilpie**	**24.03**	**147**	P	**P**	**09 02 30.4**	**+1.1**
	baz=24,SNR=100						
QLP	**Quilpie**	**24.03**	**147**	P	**P**	**09 02 30.3**	**+1.0**
PPBI	**Pangkal Pinang**	**24.07**	**280**	P	**P**	**09 02 30.6**	**+0.8**
	comp=Z,70nm,1.1s						
LCRK	**Leigh Creek**	**24.88**	**163**	P	**P**	**09 02 38.0**	**+1.1**
KMBL	**Kambalda**	**25.63**	**196**	P	**P**	**09 02 44.7**	**+1.0**
	baz=26,SNR=13						
MORW	**Morawa**	**25.77**	**209**	P	**P**	**09 02 45.7**	**+0.7**
	baz=26,SNR=6.0						
MORW	**Morawa**	**25.77**	**209**	P	**P**	**09 02 45.7**	**+0.7**
MORW	**Morawa**	**25.77**	**209**	P	**P**	**09 02 45.5**	**+0.4**
MORW				IAmb	IAmb	09 03 21.8	
	comp=Z,35nm,1.4s						
RK1H	**Rockhampton Ha**	**25.86**	**132**	P	**P**	**09 02 46.9**	**+1.1**
DSRI	**Dabo**	**25.96**	**283**	P	**P**	**09 02 48.2**	**+1.2**
BBOO	**Buckleboo**	**26.59**	**168**	P	**P**	**09 02 52.9**	**+0.5**
	baz=27,SNR=41						
BBOO	**Buckleboo**	**26.59**	**168**	P	**P**	**09 02 53.0**	**+0.7**
BBOO	**Buckleboo**	**26.59**	**168**	P	**P**	**09 02 52.9**	**+0.5**
GD1S	**Gladstone Soft**	**26.62**	**132**	P	**P**	**09 02 54.4**	**+1.7**
WHYH	**Whyalla**	**27.15**	**166**	P	**P**	**09 02 58.2**	**+1.0**
KLBR	**Kellerberrin**	**27.21**	**203**	P	**P**	**09 02 58.9**	**+1.1**
	baz=27,SNR=8.5						
MYKOM	**Kota Tinggi**	**27.30**	**287**	P	**P**	**09 02 59.4**	**+0.5**
STKA	**Stephens Creek**	**27.32**	**158**	P	**P**	**09 03 00.0**	**+1.1**
	baz=28,SNR=56						
STKA	**Stephens Creek**	**27.32**	**158**	P	**P**	**09 02 59.7**	**+0.8**
STKA	**Stephens Creek**	**27.32**	**158**	P	**P**	**09 02 59.4**	**+0.5**
STKA	**Stephens Creek**	**27.32**	**158**	P	**P**	**09 02 59.7**	**+0.8**
	comp=Z,28nm,0.5s,baz=331,slow=9.2,SNR=75						
	comp=Z,28nm,0.5s						
EIDS	**Eidsvold**	**27.49**	**135

AUSMG **Snowy Mountain** 34.18 153 P **P** 09 04 01.4 +2.3
MILA **Mila** 34.95 153 P **P** 09 04 05.8 +0.2
baz=35,SNR=6.8
MLSI **Meulaboh, Aceh** 35.13 287 P **P** 09 04 06.5 -0.9
comp=Z,129nm,0.8s
SRDT **SRDT** 36.98 305 P **P** 09 04 22.8 -0.3
SLVN **Son La** 37.76 318 P **P** 09 04 29.1 -0.6
NOUC **Port Laguerre** 38.33 117 P **P** 09 04 35.3 +0.9
NOUC **Port Laguerre** 38.33 117 P **P** 09 04 35.0 +0.7
DZM **Mont Dzumac** 38.45 117 P **P** 09 04 36.7 +1.2
DZM **Mont Dzumac** 38.45 117 P **P** 09 04 35.9 +0.4
DZM IAmb IAmb 09 04 37.0
comp=Z,24nm,0.8s
DZM **Mont Dzumac** 38.45 117 P **P** 09 04 36.5 +1.0
PHRA **Phrae** 38.50 311 P **P** 09 04 35.6 -0.2
CM31 **Chiang Mai Arr** 39.44 310 P **P** 09 04 42.3 -1.3
CM31 IAmb IAmb 09 04 49.8
comp=Z,29nm,0.7s
CMAR **Chiang Mai Arr** 39.44 310 P **P** 09 04 42.7 -0.9
CMAR **Chiang Mai Arr** 39.44 310 P **P** 09 04 43.1 -0.5
comp=Z,9.7nm,0.5s,baz=135,slow=6.8,SNR=38
CMAR ScP **ScP** 09 10 18.8 -0.4
comp=Z,3.1nm,0.3s,baz=159,slow=3.6,SNR=13
comp=Z,9.7nm,0.5s
CMAR **Chiang Mai Arr** 39.44 310 *i* P **P** 09 04 43.2 -0.4
CMAR pmax pmax
comp=Z,11nm,0.5s
CRAI **Chiangrai** 39.47 313 P **P** 09 04 42.5 -1.3
JNU **Nakatsue** 39.63 1 LR LR 09 18 57.7
comp=Z,43nm,21.5s,baz=223,slow=32
CHTO **Chiang Mai** 39.65 310 P **P** 09 04 44.5 -0.9
CHTO IAmb IAmb 09 04 51.6
comp=Z,31nm,0.7s
CHTO **Chiang Mai** 39.65 310 P **P** 09 04 44.5 -0.9
CHTO pmax pmax
comp=Z,31nm,0.7s
GYA **Guiyang** 39.92 327 ⇓P **P** 09 04 47.1 -0.5
GYA pmax pmax
comp=Z,35nm,0.6s
WHN **Wuhan** 39.92 339 ⇓*i* P **P** 09 04 47.6 +0.2
WHN pmax pmax
comp=Z,40nm,0.7s
NJ2 **Nanjing** 39.96 345 *e*P **P** 09 04 48.9 +1.3
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
KMI **Kunming** 41.21 321 ⇑P **P** 09 04 58.4 +0.1
KMI pmax pmax
comp=Z,22nm,0.9s
ENH **Enshi** 41.65 333 P **P** 09 05 00.5 -1.1
PZH **PanZhiHua** 42.83 322 P **P** 09 05 10.3 -1.0
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,100nm,4.3s
MJAR **Matsushiro Arr** 43.74 10 P **P** 09 05 17.0 -1.3
comp=Z,2.5nm,0.7s,baz=184,slow=9.2,SNR=5.4
MJAR ScP **ScP** 09 10 34.4 -1.6
comp=Z,2.8nm,0.9s,baz=175,slow=4.2,SNR=4.0
comp=Z,2.5nm,0.7s
MAJO **Matsushiro** 43.74 10 *d* *i* P **P** 09 05 15.6 -2.7
MAJO pmax pmax
comp=Z,9.0nm,0.8s
KSRS **Korea Array** 43.98 358 P **P** 09 05 19.8 -0.4
comp=Z,1.2nm,0.6s,baz=175,slow=9.3,SNR=7.6
KSRS ScP **ScP** 09 10 35.3 -1.6
comp=Z,1.4nm,0.7s,baz=176,slow=5.3,SNR=5.6
comp=Z,1.2nm,0.6s
LYN **LuoYang** 44.22 339 *e*P **P** 09 05 25.1 +3.0
LYN pmax pmax
comp=Z,14nm,0.6s
CD2 **Chengdu** 44.99 328 P **P** 09 05 27.0 -1.3
CD2 pmax pmax
comp=Z,40nm,0.6s
XAN **Xi'an** 45.13 335 ⇑P **P** 09 05 27.8 -1.5
XAN pmax pmax
comp=Z,31nm,0.7s
XAN **Xi'an** 45.13 335 P **P** 09 05 27.9 -1.4
XAN pP **pwP** 09 06 12.3 -2.4
BJT **Baijiatuau** 48.19 346 P **P** 09 05 52.9 -0.1
BJT **Baijiatuau** 48.19 346 P **P** 09 05 52.4 -0.6
BJT **Baijiatuau** 48.19 346 P **P** 09 05 52.4 -0.6
BJT pmax pmax
comp=Z,15nm,0.6s
BJT **Baijiatuau** 48.19 346 P **P** 09 05 52.3 -0.7
BJI **Beijing** 48.21 346 P **P** 09 05 52.6 -0.5
BJI pmax pmax
comp=Z,10.0nm,0.6s
MSVF **Nonsavu** 48.23 108 P **P** 09 05 55.2 +1.4
MSVF IAmb IAmb 09 05 56.2
comp=Z,23nm,0.8s
MSVF **Nonsavu** 48.23 108 P **P** 09 05 55.2 +1.4
MSVF pmax pmax
comp=Z,23nm,0.8s
MSVF **Nonsavu** 48.23 108 P **P** 09 05 55.3 +1.5
SHL **Shillong** 48.91 312 P **P** 09 05 57.2 -1.7
SHL **Shillong** 48.91 312 P **P** 09 05 57.2 -1.7
LZH **Lanzhou** 49.09 332 *e*P **P** 09 06 00.1 0.0
LZH pP pP 09 06 42.6 +2.7
LZH pmax pmax
comp=Z,38nm,1.4s
HHC **Hu-ho-hao-te** 50.24 342 *e*P **P** 09 06 08.4 -0.2
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,92nm,4.8s
CN2 **Changchun** 50.45 356 *e*P **P** 09 06 09.3 -0.7
CN2 *e*pP pP 09 06 51.7 +1.7
CN2 *e*S **S** 09 13 07.6 -1.5
CN2 *es*S sS 09 14 22.0 +2.6
CN2 LR LR
comp=Z,180nm,18.0s
CN2 LR LR
comp=Z,180nm,18.0s
BTO **Baotou** 50.51 340 *e*P **P** 09 06 13.6 +3.0
BTO pP **pwP** 09 06 53.7 -3.0
BTO S **S** 09 13 14.8 +4.4
BTO SS **SS** 09 16 49.4 +2.3
BTO pmax pmax
comp=Z,22nm,0.6s
BTO pmax pmax
comp=Z,190nm,6.1s
BTO LR LR
comp=Z,160nm,6.9s
BTO LR LR
comp=Z,150nm,8.9s
BTO LR LR
comp=Z,180nm,6.0s
USRK **Ussuriysk Ar.** 50.72 2 P **P** 09 06 11.3 -0.7
comp=Z,2.2nm,0.5s,baz=176,slow=7.1,SNR=6.3
USRK pP **pP** 09 06 53.6 +1.5
comp=Z,2.3nm,0.8s,baz=176,slow=5.8,SNR=2.1
comp=Z,2.2nm,0.5s
WHZ **Wether Hill Ro** 51.01 146 P **P** 09 06 15.3 +1.1
WHZ IAmb IAmb 09 06 16.1
comp=Z,33nm,0.9s
LSA **Lhasa** 51.90 316 P **P** 09 06 21.2 -0.4
XLT **XiLinHaoTe** 51.90 347 *e*P **P** 09 06 20.1 -0.8
XLT pP pwP 09 07 07.9 +1.2
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,72nm,5.6s
TUWZ **Tuamarina** 52.19 139 P **P** 09 06 23.2 +0.2
KHZ **Kahutara** 52.41 140 P **P** 09 06 25.4 +0.8
KHZ IAmb IAmb 09 06 26.2
comp=Z,33nm,0.8s
BHHZ **Black Hill Sta** 52.73 135 P **P** 09 06 27.9 +0.7
BKZ **Black Stump Fm** 52.90 135 P **P** 09 06 29.2 +0.8
BKZ **Black Stump Fm** 52.90 135 P **P** 09 06 28.5 +0.2
BKZ **Black Stump Fm** 52.90 135 P **P** 09 06 29.3 +1.0
URZ **Urewera** 52.96 134 P **P** 09 06 29.2 +0.4
RTZ **Ruatahuna** 53.01 134 P **P** 09 06 29.5 +0.3
RTZ IAmb IAmb 09 06 30.8
comp=Z,82nm,1.5s
PNHZ **Pukenui** 53.01 136 P **P** 09 06 29.8 +0.6
KRHZ **Kereru** 53.01 135 P **P** 09 06 29.8 +0.6
MCHZ **McNeill Hill** 53.16 135 P **P** 09 06 31.8 +1.6
HAZ **Te Kaha** 53.24 133 P **P** 09 06 31.5 +0.7
MWZ **Matawai** 53.29 134 P **P** 09 06 32.1 +0.9
ARHZ **Aropaoanui** 53.29 135 P **P** 09 06 32.2 +1.0
KAHZ **Kahuranaki** 53.43 135 P **P** 09 06 33.3 +1.0
TWGZ **Tauwhareparae** 53.55 133 P **P** 09 06 34.7 +1.5
RIGZ **Rimuhau** 53.61 134 P **P** 09 06 34.5 +0.9
GTA **Gaotai** 53.66 331 ⇑P **P** 09 06 34.0 0.0
GTA pP pwP 09 07 20.9 +0.5
GTA pmax pmax
comp=Z,22nm,0.8s
PUZ **Puketiti** 53.71 133 P **P** 09 06 35.2 +0.9
WMGZ **Waiomatatini S** 53.73 133 P **P** 09 06 35.7 +1.3
CNGZ **Carnagh Statio** 53.84 133 P **P** 09 06 36.5 +1.3
GOMU **GeErMu** 53.89 325 P **P** 09 06 35.7 -0.2
GOMU pmax pmax
comp=Z,11nm,0.6s
MHGZ **Mahia Peninsul** 53.89 134 P **P** 09 06 36.7 +1.2
KLR **Kul'dur** 55.74 2 ⇑*i* P **P** 09 06 47.8 -0.7
KLR pmax pmax
comp=Z,3.0nm,0.8s
HYB **Hyderabad** 56.06 296 *e*P **P** 09 06 50.1 -1.4
HYB IVmB_BB 09 06 54.6
comp=Z,317nm,1.6s
HEH **HeiHe** 56.78 358 *e*P **P** 09 06 55.5 -0.4
HEH pmax pmax
comp=Z,4.0nm,1.0s
HEH pmax pmax
comp=Z,65nm,5.1s
ULN **Ulaanbaatar** 57.96 342 P **P** 09 07 04.3 0.0
ULN **Ulaanbaatar** 57.96 342 *c* *i* P **P** 09 07 04.5 +0.1
ULN pmax pmax
comp=Z,12nm,1.0s
ULN **Ulaanbaatar** 57.96 342 P **P** 09 07 04.4 +0.1
ULN pP **pwP** 09 07 51.7 +0.5
SONM **Songino Array** 58.13 342 P **P** 09 07 05.0 -0.6
comp=Z,1.5nm,0.5s,baz=162,slow=5.8,SNR=5.9
SONM pP **pP** 09 07 47.4 +0.7
comp=Z,0.7nm,0.4s,baz=157,slow=7.8,SNR=1.8
comp=Z,1.5nm,0.5s
DRV **Dumont d'Urvil** 60.26 175 P **P** 09 07 20.6 +0.9
ZEA **Zeya** 60.27 358 *e*P **P** 09 07 21.2 +1.3
WMQ **Urumqi** 63.08 327 *e*P **P** 09 07 39.3 +0.3
WMQ pmax pmax
comp=Z,38nm,0.9s
WMQ pmax pmax
comp=Z,91nm,3.7s
MOY **Mondy** 63.21 340 *e*P **P** 09 07 40.4 +0.7
MOY pmax pmax
comp=Z,9.0nm,1.4s
PETK **Petropavlovsk-** 64.11 18 P **P** 09 07 45.8 +0.4
comp=Z,2.2nm,0.5s,baz=181,slow=5.7,SNR=12
comp=Z,2.2nm,0.5s
PET **Petropavlovsk** 64.34 19 ⇑*e*P **P** 09 07 45.1 -1.8
PET pmax pmax
comp=Z,34nm,1.1s
WUS **Wushi** 66.48 320 P **P** 09 08 01.5 +0.3
NIL **Nilore** 66.93 311 P **P** 09 08 03.0 -1.0
ZSN **Zaisan** 66.96 329 *e*P **P** 09 08 04.0 0.0
baz=328
ZSN **Zaisan** 66.96 329 *e*P **P** 09 08 03.9 0.0
SHLS **Shalkode** 67.41 322 *e*P **P** 09 08 05.6 -1.4
comp=Z,7.7nm,0.6s,baz=322
SHLS **Shalkode** 67.41 322 *e*P **P** 09 08 05.6 -1.4
SHLS pmax pmax
comp=Z,8.0nm,0.6s
PDGK **Podgornoye** 67.49 323 P **P** 09 08 07.3 -0.2
TARG **Taragay, Kyrgy** 67.66 320 P **P** 09 08 08.4 -0.4
TARG **Taragay, Kyrgy** 67.66 320 P **P** 09 08 08.5 -0.4
TARG pmax pmax
comp=Z,10.0nm,0.9s
UZB **Uzynbulak** 67.67 322 *e*P **P** 09 08 08.8 +0.1
baz=322
UZB **Uzynbulak** 67.67 322 *e*P **P** 09 08 08.7 +0.1
KSH **Kashi** 67.72 318 P **P** 09 08 10.0 +1.0
KSH pmax pmax
comp=Z,21nm,0.8s
MK31 **Makanchi Array** 67.92 327 P **P** 09 08 09.8 -0.1
MK31 **Makanchi Array** 67.92 327 P **P** 09 08 09.8 -0.1
MK31 pmax pmax
comp=Z,39nm,0.7s
MKAR **Makanchi Array** 67.92 327 P **P** 09 08 09.9 0.0
MKAR **Makanchi Array** 67.92 327 P **P** 09 08 10.1 +0.2
comp=Z,48nm,0.5s,baz=121,slow=8.0,SNR=582
MKAR pP **pP** 09 08 54.5 +2.2
comp=Z,7.4nm,0.7s,baz=128,slow=6.8,SNR=1.6
SATY **Saty** 68.00 322 *e*P **P** 09 08 10.8 +0.1
comp=Z,14nm,0.6s,baz=322
SATY **Saty** 68.00 322 *e*P **P** 09 08 10.8 +0.1
SATY pmax pmax
comp=Z,14nm,0.6s
ZHN **Zhinishke** 68.04 322 *e*P **P** 09 08 11.0 +0.1
baz=322
ZHN **Zhinishke** 68.04 322 *e*P **P** 09 08 11.0 +0.1
MAKZ **Makanchi** 68.09 327 P **P** 09 08 10.7 -0.3
MAKZ **Makanchi** 68.09 327 P **P** 09 08 10.7 -0.3
MAKZ pmax pmax
comp=Z,42nm,0.7s
MAKZ **Makanchi** 68.09 327 P **P** 09 08 11.0 0.0
MAKZ pP **pwP** 09 08 58.8 -0.4
MA2 **Magadan** 68.16 11 ⇓*e*P **P** 09 08 10.8 -0.3
MA2 pmax pmax
comp=Z,47nm,2.1s
CCD **Concordia, Ant** 68.44 182 P **P** 09 08 14.3 +1.2
CCD PcP **PcP** 09 08 37.9 +0.8
YAK **Yakutsk** 68.55 360 *e*P P 09 08 26.9 +13
YAK pmax pmax
comp=Z,18nm,0.8s
YAK pmax pmax
comp=N,4.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.0s
TNSS **Tian-Shan** 68.89 321 *e*P **P** 09 08 16.4 -0.2
baz=321
TNSS **Tian-Shan** 68.89 321 *e*P **P** 09 08 16.3 -0.2
MDOK **Medeo** 68.90 321 *e*P **P** 09 08 16.5 +0.2
baz=321
MDOK **Medeo** 68.90 321 *e*P **P** 09 08 16.4 +0.2
ARXS **Arharly** 68.98 323 *e*P **P** 09 08 16.2 -0.5
AAA **Alma-Ata** 69.00 321 *e*P **P** 09 08 17.2 +0.3
comp=E,12nm,0.4s,baz=321
AAA **Alma-Ata** 69.00 321 *e*P **P** 09 08 17.1 +0.3
AAA pmax pmax
comp=Z,12nm,0.4s
TDK **Taldyqorghan** 69.07 324 *e*P **P** 09 08 17.2 0.0
baz=323
TDK **Taldyqorghan** 69.07 324 *e*P **P** 09 08 17.1 0.0
BOOM **Boomskoye usch** 69.24 320 P **P** 09 08 18.6 +0.2
BOOM IAmb IAmb 09 08 19.8
comp=Z,27nm,0.8s
BOOM **Boomskoye usch** 69.24 320 P **P** 09 08 18.6 +0.2
BOOM pmax pmax
comp=Z,27nm,0.8s
TKM2 **Tokmak 2** 69.68 321 P **P** 09 08 21.6 +0.5
SNR=45
TKM2 **Tokmak 2** 69.68 321 P **P** 09 08 21.2 +0.1
KBK **Karagaybulak** 69.96 320 P **P** 09 08 23.5 +0.7
SNR=16
UCH **Ucfor** 70.02 319 P **P** 09 08 24.3 +0.8
SNR=36
AAK **Ala-Archa** 70.24 320 P **P** 09 08 25.0 +0.5
SNR=26
AAK **Ala-Archa** 70.24 320 P **P** 09 08 24.1 -0.4
AAK IAmb IAmb 09 08 26.1
comp=Z,26nm,0.7s
AAK **Ala-Archa** 70.24 320 P **P** 09 08 24.1 -0.4
AAK pmax pmax
comp=Z,26nm,0.7s
AAK **Ala-Archa** 70.24 320 P **P** 09 08 25.2 +0.7
CHMS **Chumysh** 70.25 320 P **P** 09 08 24.6 +0.2
SNR=6.5
KBL **Kabul** 70.47 310 P **P** 09 08 25.8 -0.3
KBL IAmb IAmb 09 08 26.9
comp=Z,13nm,0.8s
KBL **Kabul** 70.47 310 P **P** 09 08 25.8 -0.3
KBL pmax pmax
comp=Z,13nm,0.8s
USP **Ospenovka** 70.55 320 P **P** 09 08 26.6 +0.4
SNR=22
SGDS **Sogindy** 70.56 321 *e*P **P** 09 08 26.3 0.0
comp=Z,6.8nm,0.5s,baz=320
SGDS **Sogindy** 70.56 321 *e*P **P** 09 08 26.2 0.0
SGDS pmax pmax
comp=Z,7.0nm,0.5s
EKS2 **Erkin-Say** 70.71 320 P **P** 09 08 28.1 +0.8
SNR=13
SEM **Semipalatinsk** 71.19 329 *e*P **P** 09 08 29.4 -0.7
baz=329
SEM **Semipalatinsk** 71.19 329 *e*P **P** 09 08 29.4 -0.7
ZALV **Zalesovo Beam** 71.27 334 P **P** 09 08 29.2 -1.0
ZALV **Zalesovo Beam** 71.27 334 P **P** 09 08 29.4 -0.8
comp=Z,5.9nm,0.5s,baz=134,slow=5.7,SNR=13
ZALV pP **pP** 09 09 12.1 -0.9
comp=Z,3.6nm,0.8s,baz=132,slow=6.4,SNR=2.0
comp=Z,5.9nm,0.5s
SEY **Seymchan** 71.56 11 ⇓*e*P **P** 09 08 31.9 +0.1
SEY pmax pmax
comp=Z,7.0nm,0.9s
KURBB **Kurchatov Arra** 72.20 329 P **P** 09 08 35.4 -0.5
comp=Z,7.0nm,0.6s,baz=130,slow=5.3,SNR=90
KURBB pP **pP** 09 09 18.0 -0.6
comp=Z,3.2nm,0.6s,baz=130,slow=4.7,SNR=1.9
comp=Z,7.0nm,0.6s
KURK **Kurchatov** 72.21 329 P **P** 09 08 35.4 -0.5
KURK IAmb IAmb 09 09 25.9
comp=Z,25nm,1.1s
KURK **Kurchatov** 72.21 329 *c* *i* P **P** 09 08 35.5 -0.4
KURK pmax pmax
comp=Z,24nm,1.3s
DZA **Taraz** 72.41 319 *e*P **P** 09 08 37.4 +0.1
comp=Z,12nm,0.5s,baz=319
DZA **Taraz** 72.41 319 *e*P **P** 09 08 37.4 +0.1
DZA pmax pmax
comp=Z,12nm,0.5s
VNDA **Vanda** 72.74 173 P **P** 09 08 39.0 +0.3
VNDA **Vanda** 72.74 173 P **P** 09 08 39.1 +0.5
comp=Z,8.4nm,0.7s,baz=320,slow=6.7,SNR=32
comp=Z,8.4nm,0.7s
IUG **Iuzhnay** 72.93 318 *e*P **P** 09 08 40.9 +0.4
comp=Z,7.7nm,0.5s,baz=318
IUG **Iuzhnay** 72.93 318 *e*P **P** 09 08 40.9 +0.4
IUG pmax pmax
comp=Z,8.0nm,0.5s
KK31 **Karatay Array** 73.04 319 P **P** 09 08 40.8 -0.2
KK31 IAmb IAmb 09 08 42.0
comp=Z,30nm,1.2s
KK31 **Karatay Array** 73.04 319 P **P** 09 08 40.8 -0.2
KK31 pmax pmax
comp=Z,30nm,1.3s
KKAR **Karatay Array** 73.04 319 P **P** 09 08 40.6 -0.4
KKAR IAmb IAmb 09 08 42.0
comp=Z,30nm,1.2s
KKAR **Karatay Array** 73.04 319 P **P** 09 08 40.6 -0.4
KKAR pmax pmax
comp=Z,30nm,1.3s
BRLS **Boroldaу** 73.45 319 *e*P **P** 09 08 43.5 0.0
comp=Z,10nm,0.5s,baz=318
BRLS **Boroldaу** 73.45 319 *e*P **P** 09 08 43.4 0.0
BRLS pmax pmax
comp=Z,10.0nm,0.5s
SBA **Scott Base** 73.63 172 P **P** 09 08 45.0 +1.2
SBA **Scott Base** 73.63 172 P **P** 09 08 45.0 +1.2
SBA pmax pmax
comp=Z,9.0nm,0.8s
BRZS **Berezniki** 75.00 326 *e*P **P** 09 08 52.1 -0.1
baz=326
BRZS **Berezniki** 75.00 326 *e*P **P** 09 08 52.1 -0.1
MAW **Mawson** 75.15 201 P **P** 09 08 53.0 +0.2
comp=Z,2.9nm,0.9s,baz=35,slow=9.4,SNR=2.9
MAW LR LR 09 39 28.4
comp=Z,37nm,19.3s,baz=84,slow=34
comp=Z,2.9nm,0.9s
HRA **Herat** 75.67 308 P **P** 09 08 56.1 -0.5
HRA IAmb IAmb 09 08 57.6
comp=Z,20nm,1.1s
BVA0 **Borovoye Array** 77.75 328 *i* P **P** 09 09 06.9 -0.7
BVAR **Borovoye Array** 77.75 328 P **P** 09 09 07.0 -0.6
comp=Z,4.9nm,0.8s,baz=122,slow=5.6,SNR=24
BVAR pP **pP** 09 09 51.0 -0.2
comp=Z,3.0nm,0.8s,baz=142,slow=7.5,SNR=2.2
comp=Z,4.9nm,0.8s
BRVK **Borovoye** 77.82 328 P **P** 09 09 07.7 -0.2
BRVK **Borovoye** 77.82 328 ⇓*i* P **P** 09 09 07.8 -0.2
BRVK pmax pmax
comp=Z,13nm,1.3s
UOSS **Minazif** 78.17 297 P **P** 09 09 10.4 -0.1
UOSS IAmb IAmb 09 09 11.3
comp=Z,16nm,0.8s
TIXI **Tiksi** 78.21 360 P **P** 09 09 09.0 -0.7
TIXI **Tiksi** 78.21 360 ⇓*i* P **P** 09 09 09.2 -0.5
TIXI pmax pmax
comp=Z,4.0nm,0.7s
GEYT **Alibeck** 79.92 310 P **P** 09 09 19.9 +0.1
comp=Z,5.2nm,0.7s,baz=106,slow=9.4,SNR=3.1
comp=Z,5.2nm,0.7s
VOI **Vohitsoka** 81.11 249 P **P** 09 09 27.1 +0.5
VOI IAmb IAmb 09 09 27.9
comp=Z,14nm,0.6s
AB31 **Akbulak array** 82.20 322 *i* P **P** 09 09 30.8 -0.7
ABKAR **Akbulak array** 82.20 322 P **P** 09 09 30.3 -1.3
QSPA **South Pole Qui** 83.25 180 P **P** 09 09 36.8 0.0
comp=Z,9.3nm,0.6s,baz=261,slow=3.7,SNR=82
comp=Z,9.3nm,0.6s
AKTO **Aktyubinsk** 83.77 322 P **P** 09 09 39.1 -0.4
comp=Z,2.1nm,0.4s,baz=144,slow=5.5,SNR=6.0
AKTO pP **pP** 09 10 24.9 +1.0
comp=Z,1.9nm,0.7s,baz=100,slow=2.6,SNR=1.7
comp=Z,2.1nm,0.4s
ARU **Arti** 85.39 328 P **P** 09 09 47.0 -0.5
comp=Z,3.6nm,0.4s,baz=126,slow=1.6,SNR=8.0
ARU pP **pP** 09 10 31.6 -0.6
comp=Z,2.3nm,0.3s,baz=72,slow=9.6,SNR=1.3
comp=Z,3.6nm,0.4s
ARU **Arti** 85.39 328 *c* *i* P **P** 09 09 46.8 -0.8
ARU *PP **pP** 09 10 33.4 +1.3
ARU 09 13 03.2
ARU S **SKSac** 09 19 54.2 -0.7
ARU pmax pmax
comp=Z,10.0nm,1.0s
ARU **Arti** 85.39 328 P **P** 09 09 47.1 -0.5
comp=Z,6.7nm,0.6s
D17K **Noatak River** 87.69 21 P **P** 09 09 58.8 +0.3
baz=246
G17K **Kiwalik Mounta** 87.74 23 P **P** 09 09 59.2 +0.4
baz=249
H17K **Granite Mounta** 87.83 24 P **P** 09 09 59.7 +0.5
baz=249
RDOG **Red Dog Mine** 87.90 20 P **P** 09 09 59.4 -0.1
baz=246
E18K **Tukpahlearik C** 88.47 21 P **P** 09 10 02.0 -0.1
baz=249
ELIB **Princess Elisa** 88.71 197 *d*P **P** 09 10 04.8 +1.3
comp=Z,3.1nm,0.8s
ELIB *dpP **pP** 09 10 49.6 +1.5
C19K **Lookout Ridge** 89.42 20 P **P** 09 10 07.5 +0.8
baz=250
E19K **Redstone River** 89.70 22 P **P** 09 10 07.7 -0.2
baz=252
D19K **Kuna River** 89.72 21 P **P** 09 10 07.5 -0.6
baz=251
E20K **Nigu River** 90.32 21 P **P** 09 10 10.8 0.0
baz=253
I23K **Minto, Yukon-K** 92.19 25 P **P** 09 10 19.1 -0.4
baz=259
H23K **Yukon River** 92.25 24 P **P** 09 10 19.5 -0.3
baz=259
COLD **Coldfoot** 92.27 23 P **P** 09 10 19.8 -0.1
baz=258
KIV **Kislovodsk** 92.58 314 *e*P **P** 09 10 22.2 +0.3
KIV *e*PP **pP** 09 11 06.1 -1.0
KIV *e* 09 14 06.6
KIV *e*PPP PPP 09 16 08.2
KIV pmax pmax
comp=Z,3.0nm,0.9s
E23K **Chandalar** 92.66 22 P **P** 09 10 21.7 0.0
baz=259
H24K **Noodor Dome** 92.92 24 P **P** 09 10 22.7 -0.2
baz=260
ILAR **Eielson Array** 93.16 25 P **P** 09 10 22.1 -1.9
comp=Z,0.8nm,0.7s,baz=256,slow=4.3,SNR=7.6
comp=Z,0.8nm,0.7s
F24K **Squaw Lake** 93.20 22 P **P** 09 10 24.6 +0.4
baz=260
J26L **Joseph Creek** 94.54 26 P **P** 09 10 30.0 -0.4
baz=264
C27K **Jago River** 95.01 21 P **P** 09 10 32.5 +0.1
baz=264
I27K **Kandik River** 95.46 25 P **P** 09 10 34.8 +0.2
baz=266
I28M **Miner Creek** 96.15 25 P **P** 09 10 37.8 0.0
baz=267
F28M **Old Crow** 96.27 23 P **P** 09 10 37.7 -0.5
baz=268
DAWY **Dawson** 96.33 26 P **P** 09 10 38.9 +0.3
baz=268
OBN **Obninsk** 97.35 325 *e*P Pdif 09 10 43.4 +0.1
OBN *e*PP pP 09 11 28.4 -0.2
OBN *e* 09 14 41.0
OBN *e*PPP PPP 09 16 45.8
OBN pmax pmax
comp=Z,3.0nm,0.9s

BR131	**Keskin Array S**	**99.03**	**309**	‖*eP*		**Pdif**	**09 10 52.2**	**+0.8**
BRTR	**Keskin Array B**	**99.03**	**309**	P		**Pdif**	**09 10 51.1**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=134,slow=6.2,SNR=3.0							
	comp=Z,0.6nm,0.8s							
CSS	**Mathiatis**	**99.15**	**304**	P		**Pdif**	**09 10 51.8**	**-0.1**
ARCES	**ARCESS Array B**	**101.27**	**340**	Pdiff		**Pdif**	**09 10 58.4**	**-2.0**
	comp=Z,2.1nm,0.8s,baz=79,slow=6.3,SNR=4.0							
MNK	**Minsk**	**102.39**	**324**	*i* P		**Pdif**	**09 11 05.1**	**-0.7**
MNK				*i*			09 15 18.0	
MNK				*i* PPP	PPP		09 17 30.6	
MNK				*i* PS		**PS**	**09 24 31.5**	**+0.1**
MNK				*i* SS	SS		09 29 45.5	+1.6
MNK				*i* SSS	SSS		09 33 40.8	
MNK				pmax	pmax			
	comp=N,9.0nm,0.8s							
MNK				pmax	pmax			
	comp=E,10.0nm,0.8s							
MNK				pmax	pmax			
	comp=Z,5.0nm,0.6s							
YKA	**Yellowknife Ar**	**107.57**	**26**	PKiKP		**PKiKP**	**09 15 35.4**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=308,slow=2.1,SNR=14							
HLID	**Hailey**	**113.16**	**45**	P		**PKiKP**	**09 15 48.4**	**+1.3**
	baz=283							
VAE	**Valguarnera**	**114.20**	**308**	PKP		PKPdf	09 15 48.3	-0.8
	comp=Z,53nm,0.4s,baz=76,slow=4.2,SNR=4.1							
DUG	**Dugway, Tooele**	**115.09**	**49**	P		**PKPdf**	**09 15 51.9**	**+1.0**
	baz=283							
PDAR	**Pinedale Array**	**116.80**	**45**	PKP		**PKPdf**	**09 15 54.0**	**-0.2**
	comp=Z,0.9nm,0.6s,baz=235,slow=0.3,SNR=6.3							
LAO	**LASA Array**	**117.77**	**40**	P		**PKiKP**	**09 15 56.8**	**+1.0**
	baz=292							
O20A	**White River Ci**	**118.50**	**48**	P		**PKiKP**	**09 15 58.4**	**+0.8**
	baz=287							
K22A	**Casper**	**118.96**	**45**	P		**PKPdf**	**09 15 58.2**	**-0.1**
	baz=289							
MVCO	**Mesa Verde**	**119.08**	**51**	P		**PKiKP**	**09 15 59.9**	**+1.1**
	baz=285							
N23A	**Red Feather La**	**119.94**	**46**	P		**PKiKP**	**09 16 00.9**	**+0.5**
	baz=289							
RSSD	**Black Hills**	**120.15**	**42**	P		**PKPdf**	**09 16 00.4**	**-0.2**
	baz=292							
SDCO	**Great Sand Dun**	**121.23**	**50**	P		**PKiKP**	**09 16 04.1**	**+1.0**
	baz=287							
ANMO	**Albuquerque**	**121.26**	**53**	P		**PKiKP**	**09 16 04.0**	**+0.9**
	baz=285							
T25A	**Trinidad**	**122.24**	**50**	P		**PKiKP**	**09 16 06.1**	**+1.1**
	baz=288							
ULM	**Lac du Bonnet**	**122.29**	**33**	PKP		**PKPdf**	**09 16 03.3**	**-0.9**
	comp=Z,2.3nm,0.5s,baz=353,slow=0.8,SNR=10							
MNTX	**Cornudas Mount**	**122.92**	**57**	P		**PKiKP**	**09 16 06.8**	**+0.6**
	baz=284							
TXAR	**Lajitas Array**	**124.91**	**59**	PKP		**PKiKP**	**09 16 10.5**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=243,slow=1.6,SNR=11							
TXAR				pPKP		**pPKPdf**	**09 16 58.0**	**+1.3**
	comp=Z,0.5nm,1.0s,baz=303,slow=5.8,SNR=3.1							
ECSD	**EROS Data Cent**	**125.17**	**40**	P		**PKPdf**	**09 16 10.0**	**0.0**
	baz=298							
EYMN	**Ely**	**125.97**	**33**	P		**PKPdf**	**09 16 11.0**	**-0.4**
	baz=306							
JCT	**Junction City**	**127.86**	**56**	P		**PKiKP**	**09 16 16.8**	**+0.6**
	baz=287							
PLCA	**Paso Flores**	**129.19**	**160**	PKP		**PKPdf**	**09 16 17.9**	**0.0**
	comp=Z,1.5nm,0.6s,baz=340,slow=2.6,SNR=5.5							
PLCA				SKPbc		SKPbc	09 19 21.8	+0.1
	comp=Z,1.2nm,0.7s,baz=236,slow=4.7,SNR=4.6							
PBAR	**Barrancos**	**130.02**	**315**	*e*SKP		**SKPbc**	**09 19 24.0**	**-0.8**
SCHQ	**Schefferville**	**130.19**	**13**	SKPbc		**SKPab**	**09 19 23.6**	**-1.2**
	comp=Z,17nm,0.8s,baz=331,slow=3.8,SNR=15							
EVO	**Evora**	**130.53**	**316**	*e*SKP		**SKPbc**	**09 19 25.8**	**-0.9**
PBEJ	**Beja**	**130.67**	**316**	*e*SKP		**SKPbc**	**09 19 26.7**	**-0.5**
PVAQ	**Vaqueiros**	**130.85**	**315**	*e*SKP		**SKPbc**	**09 19 26.8**	**-1.1**
PCVE	**Castro Verde**	**130.97**	**315**	*e*SKP		**SKPbc**	**09 19 27.4**	**-1.0**
MESJ	**Messejana**	**131.00**	**315**	*e*SKP		**SKPbc**	**09 19 27.9**	**-0.6**
PBDV	**Barranco-do-Ve**	**131.08**	**315**	*e*SKP		**SKPbc**	**09 19 29.1**	**+0.3**
PNCL	**Nicolau / Gran**	**131.09**	**316**	*e*SKP		**SKPbc**	**09 19 28.1**	**-0.7**
WVT	**Waverly**	**134.80**	**44**	P		**PKiKP**	**09 16 29.4**	**-0.5**
	baz=301							
DBIC	**Dimbokro**	**135.03**	**273**	SKPbc		**SKPbc**	**09 19 41.0**	**-1.9**
	comp=Z,14nm,0.9s,baz=104,slow=0.9,SNR=6.8							
LRAL	**Lakeview Retre**	**136.94**	**48**	P		**PKPdf**	**09 16 32.4**	**-0.1**
	baz=300							
CPUP	**Villa Florida**	**146.41**	**168**	PKPbc		**PKPab**	**09 16 51.8**	**-0.5**
	comp=Z,16nm,0.9s,baz=188,slow=2.4,SNR=29							
CPUP				SKPbc		**SKPbc**	**09 20 12.2**	**-0.4**
	comp=Z,3.4nm,0.7s,baz=190,slow=4.2,SNR=5.3							
LPAZ	**La Paz**	**151.03**	**142**	PKP		**PKPdf**	**09 16 57.7**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=149,slow=1.6,SNR=5.3							
LPAZ				PKPbc		**PKiKP**	**09 17 05.0**	**+0.6**
	comp=Z,4.2nm,0.4s,baz=135,slow=4.7,SNR=8.9							

ISK 11 08:57:50.0, 36.12N×33.56E, h0km, ML1.2/1, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKK2	**Akkuyu-Mersin**	**0.02**	**341**	Pg	Pg	08 57 51.0	+0.6
AKK2				Sg	Sg	08 57 51.6	+0.9
AKK1	**Akkuyu-Mersin**	**0.03**	**333**	Pg	Pg	08 57 51.3	+0.7
AKK1				Sg	Sg	08 57 51.9	+0.9
AKKU	**Akkuyu-Mersin**	**0.04**	**353**	Pg	Pg	08 57 51.3	+0.5
AKKU				Sg	Sg	08 57 52.2	+0.8
IKL	**Isikli**	**0.16**	**40**	Pg	Pg	08 57 53.8	+0.7
IKL				Sg	Sg	08 57 57.1	+1.9

NIC 11 08:57:54.6, 35.31N×33.46E, h28km±1km, Ml1.3/5, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATHAL	**Athalassa**	**0.17**	**198**	P	Pb	08 58 00.8	+0.4
ATHAL				S	Sb	08 58 06.6	+2.3
ATHAL				AML	AML	08 58 13.1	
	1.5nm,0.3s						
ATHAL				AML	AML	08 58 17.3	
	2.2nm,0.6s						
MVOU	**Mavrovouni**	**0.32**	**155**	P	Pb	08 58 02.2	0.0
MVOU				S	Sn	08 58 08.8	-0.3
MVOU				AML	AML	08 58 10.9	
	0.2nm,0.4s						
MVOU				AML	AML	08 58 12.2	
	0.1nm,0.4s						
CSS	**Mathiatis**	**0.36**	**198**	P	Pb	08 58 02.5	-0.3
CSS				S	Sn	08 58 09.4	-0.7
CSS				AML	AML	08 58 10.7	
	0.1nm,0.4s						
CSS				AML	AML	08 58 15.9	
	0.1nm,0.3s						
TROD	**Troodos**	**0.61**	**234**	P	Pb	08 58 06.7	-0.2
TROD				S	Sn	08 58 16.9	+0.5
TROD				AML	AML	08 58 17.4	
	0.1nm,1.4s						
TROD				AML	AML	08 58 27.2	
ALFC	**Alefka**	**0.72**	**258**	P	Pb	08 58 08.8	+0.1
ALFC				S	Sn	08 58 19.5	+0.4
ALFC				AML	AML	08 58 19.7	

*NEIC **11** 09:05:52.6±1.4, 19.39N±0.05×155.29W±0.03, h5km±1km, Error ellipse: s-maj=8.9km s-min=3.9km az=334.0*
HVO 11 09:05:52.3±0.7, 19.40N±0.06×155.29W±0.02, h1km±5km, ML3.0/2, ML2.1/36(NEIC), Error ellipse: s-maj=8.9km s-min=2.7km az=178.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDHHI	**Sand Hill**	**0.01**	**204**	Pg	Pg	09 05 53.2	+0.4
SDHHI				Sg	Sg	09 05 53.8	+0.6
WRMHI	**West Rim**	**0.01**	**298**	Pg	Pg	09 05 53.1	+0.3
WRMHI				Sg	Sg	09 05 53.7	+0.5
NPH	**North Pit**	**0.01**	**33**	Pg	Pg	09 05 53.0	+0.2
NPH					Sg	09 05 53.3	+0.1
RIM	**Rim**	**0.01**	**111**		Pg	09 05 53.0	+0.2
OBL	**Observatory Le**	**0.02**	**15**	IAML		09 05 53.0	
	comp=E,9μm,0.6s						
OBL				Pg	Pg	09 05 53.2	+0.4
OBL				Sg	Sg	09 05 54.0	+0.8
UWE	**Uwekahuna**	**0.02**	**349**	Pg	Pg	09 05 53.0	+0.1
UWE				IAML		09 05 53.0	
	comp=N,4μm,0.6s						
UWE				Sg	Sg	09 05 54.1	+0.8
KKO	**Keanakako`i**	**0.02**	**98**	IAML		09 05 52.9	
	comp=N,6μm,1.1s						
KKO				IAML		09 05 53.3	
	comp=E,4μm,1.1s						
KKO					Pg	09 05 53.5	+0.7
UWB	**Uwekahuna B**	**0.03**	**23**	Pg	Pg	09 05 53.6	+0.7
UWB				Sg	Sg	09 05 54.3	+1.0
BYL	**Byron's Ledge**	**0.03**	**68**	IAML		09 05 53.2	
	comp=N,5μm,1.3s						
BYL				IAML		09 05 53.2	
	comp=E,5μm,1.1s						
BYL				Pg	Pg	09 05 53.6	+0.7
SBLHI	**Steaming Bluff**	**0.03**	**37**	IAML		09 05 53.1	
	comp=N,4μm,0.5s						
SBLHI				Pg	Pg	09 05 53.4	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**50**	IAML		09 05 53.5	
	comp=N,3μm,0.6s						
HATHI				IAML	Pg	09 05 53.8	+0.7
	comp=E,4μm,0.8s						
HATHI				Pg	Pg	09 05 53.8	+0.8
RSD	**Rainshed**	**0.06**	**9**	Pg	Pg	09 05 54.4	+0.8
RSD				IAML		09 05 55.3	
	comp=N,1μm,0.5s						
PUH	**Pauahi**	**0.07**	**111**	IAML		09 05 54.4	
	comp=E,1μm,1.1s						
PUH				Pg	Pg	09 05 54.8	+1.1
HLP	**Hilina Pali**	**0.11**	**190**	Pg	Pg	09 05 55.4	+1.0
MLH	**Mauna Loa**	**0.13**	**315**	Pg	Pg	09 05 56.0	+1.1
MLH				IAML		09 05 57.5	
	comp=N,857nm,0.9s						
MLH				IAML		09 05 57.5	
	comp=E,680nm,1.1s						
MLH				Sg	Sg	09 05 58.8	+2.2
STCH	**Steam Cracks**	**0.15**	**96**	Pg	Pg	09 05 55.9	+0.6
STCH				IAML		09 05 59.0	
	comp=E,768nm,1.0s						
STCH				IAML		09 05 59.1	
	comp=N,703nm,1.3s						
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg	Pg	09 05 58.3	+0.7
HMH				IAML		09 05 58.9	
	comp=N,457nm,1.1s						
HMH					Sg	09 06 02.9	+1.8
HMH				IAML		09 06 06.0	
	comp=E,324nm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	09 05 59.4	+1.2
KHU	**Kahuku**	**0.34**	**244**	Pg	Pg	09 05 59.4	+0.5
POHA	**Pohakuloa**	**0.42**	**327**	Pg	Pg	09 06 01.2	+0.8
POHA				IAML		09 06 14.5	
	comp=E,276nm,1.4s						

*HVO **11** 09:13:07.7±1.3, 19.418N±0.004×155.282W±0.009, h-0km,2km, ML3.1/16, ML2.3/41(NEIC), Error ellipse: s-maj=1.1km s-min=0.6km az=74.0*
NEIC 11 09:13:07.9±2.5, 19.46N±0.01×155.298W±0.007, h5km±1km, Error ellipse: s-maj=2.7km s-min=2.0km az=15.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	**Rainshed**	**0.02**	**86**	Pg	Pg	09 13 08.7	-0.3
RSD				Sg	Sg	09 13 10.8	+0.9
UWE	**Uwekahuna**	**0.04**	**173**	Pg	Pg	09 13 08.3	-0.9
UWE				Sg	Sg	09 13 08.8	-1.3
SBLHI	**Steaming Bluff**	**0.04**	**141**	IAML	Pg	09 13 08.5	-0.8
	comp=N,9μm,0.4s						
SBLHI					Pg	09 13 08.5	-0.8
SBLHI				IAML		09 13 08.5	
	comp=E,14μm,0.3s						
HATHI	**Halema'uma'u T**	**0.05**	**138**	IAML		09 13 08.4	
	comp=E,10μm,0.8s						
HATHI				Pg	Pg	09 13 08.8	-0.5
HATHI				Sg	Sg	09 13 09.4	-0.9
NPH	**North Pit**	**0.05**	**162**	Pg	Pg	09 13 08.0	-1.4
WRMHI	**West Rim**	**0.06**	**182**	IAML		09 13 08.4	
	comp=N,13μm,0.8s						
WRMHI				Pg	Pg	09 13 08.7	-0.7
WRMHI				Sg	Sg	09 13 09.5	-1.0
BYL	**Byron's Ledge**	**0.06**	**144**	IAML		09 13 08.7	
	comp=E,7μm,0.5s						
BYL					Pg	09 13 08.8	-0.6
RIM	**Rim**	**0.07**	**161**	IAML		09 13 08.2	
	comp=N,6μm,0.6s						
RIM				Pg	Pg	09 13 08.7	-0.9
RIM				Sg	Sg	09 13 09.7	-1.1
KKO	**Keanakako`i**	**0.07**	**154**	Pg	Pg	09 13 09.0	-0.6
KKO				Sg	Sg	09 13 09.8	-1.0
SDHHI	**Sand Hill**	**0.07**	**177**	Pg	Pg	09 13 08.7	-1.0
SDHHI				IAML		09 13 08.8	
	comp=N,6μm,0.4s						
SDHHI				IAML		09 13 08.9	
	comp=E,9μm,0.6s						
SDHHI				Sg	Sg	09 13 09.8	-1.0
MLH	**Mauna Loa**	**0.09**	**291**		Pg	09 13 11.2	+1.3
MLH				IAML		09 13 13.0	
	comp=N,1μm,0.7s						
MLH				Sg	Sg	09 13 14.4	+3.0
PUH	**Pauahi**	**0.12**	**138**	Pg	Pg	09 13 09.5	-0.8
PUH				IAML		09 13 11.2	
	comp=N,3μm,0.7s						
PUH				IAML		09 13 11.4	
	comp=E,2μm,0.7s						
PUH				Sg	Sg	09 13 11.9	-0.1
KNHH	**Kane Nui o Ham**	**0.15**	**124**		Pg	09 13 10.9	0.0
HLP	**Hilina Pali**	**0.17**	**183**	Pg	Pg	09 13 10.0	-1.2
HLP				IAML		09 13 10.7	
	comp=N,2μm,0.9s						
STCH	**Steam Cracks**	**0.18**	**115**	Pg	Pg	09 13 12.7	+1.2
STCH				IAML		09 13 15.0	
	comp=E,1μm,0.9s						
STCH				IAML		09 13 15.0	
	comp=N,1μm,0.8s						
NPOC	**North of Pu'u**	**0.19**	**111**	IAML		09 13 12.4	
	comp=E,692nm,1.0s						
NPOC				Pg	Pg	09 13 12.8	+1.1
NPOC				IAML		09 13 15.8	
	comp=N,1μm,0.8s						
JCUZ	**Jacuzzi**	**0.20**	**113**	Pg	Pg	09 13 12.7	+0.8
JCUZ				IAML		09 13 14.9	
	comp=E,833nm,0.8s						
JCUZ				IAML		09 13 16.3	
	comp=N,609nm,0.7s						
HMH	**Humu'ula Sheep**	**0.22**	**309**	Pg	Pg	09 13 13.9	+1.5
HMH				IAML		09 13 20.3	
	comp=E,730nm,0.8s						
HMH				IAML		09 13 21.6	
	comp=N,641nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.27**	**286**	Pg	Pg	09 13 14.1	+0.8
MLOA				IAML		09 13 19.9	
	comp=N,579nm,1.0s						
MWH	**Moku'aweowe**	**0.28**	**275**	Pg	Pg	09 13 14.1	+0.5
ALEP	**Alea Permanent**	**0.34**	**284**		Pg	09 13 15.3	+0.8
KHU	**Kahuku**	**0.37**	**234**		Pg	09 13 15.2	+0.1
POHA	**Pohakuloa**	**0.37**	**323**	Pg	Pb	09 13 16.5	-0.6
HUH	**Hualalai**	**0.55**	**294**		Pg	09 13 19.1	+0.5
CPH	**Captain Cook**	**0.58**	**273**		Pg	09 13 19.3	+0.2
HPAH	**Hawaii Prepara**	**0.68**	**326**	Pg	Pg	09 13 21.0	0.0

IDC 11 09:13:36.5±3.2, 54.28N×87.25E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=27.1km s-min=17.8km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**258**	I	I	09 22 57.1	
	baz=80,slow=325,SNR=12						
ZALV	**Zalesovo Beam**	**1.47**	**258**	Pg	Pn	09 14 02.7	-1.5
	0.6nm,0.3s,baz=78,slow=14,SNR=8.8						
ZALV				Lg	Lg	09 14 22.3	
	0.6nm,0.3s,baz=71,slow=29,SNR=3.7						
KURBB	**Kurchatov Arra**	**6.47**	**239**	Pn	Pn	09 15 13.3	+0.5
	baz=53,slow=13,SNR=4.6						
KURBB				Lg	Lg	09 17 04.8	
	baz=55,slow=32,SNR=4.2						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**8.13**	**205**	Pn	Pn	09 15 37.2	+1.5
	0.1nm,0.3s,baz=25,slow=13,SNR=1.7						
MKAR				Sn	Sn	09 17 07.6	-0.7
	0.1nm,0.3s,baz=24,slow=27,SNR=4.6						
MKAR				Lg	Lg	09 17 57.1	
	baz=32,slow=30,SNR=1.7						
	0.1nm,0.4s						

*CATAC **11** 09:18:08.9±0.1, 13.25N×88.05W, h5km±1km, ML3.8*
*SNET **11** 09:18:08.4±0.9, 13.27N×88.06W, h2km, ML3.9*
ISC 11 09:18:09.1±0.8, 13.30N±0.04×88.06W±0.02, h14km±5km,

n86, σ0.56/106, 1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**86**	*e*P	**Pg**	**09 18 13.0**	**-0.2**
LCND				*e*P	**Pg**	**09 18 13.0**	**-0.2**
LCND				*e*S	**Sg**	**09 18 16.1**	**+0.2**
LCND				*e*S	**Sg**	**09 18 16.3**	**+0.4**
LCND	**La Caada**	**0.17**	**86**	*i* P	**Pg**	**09 18 13.0**	**-0.2**
LCND				*i* P	**Pg**	**09 18 13.0**	**-0.2**
LCND				*i* SA		09 18 16.3	
LCND				IAML		09 18 17.5	
	comp=Z,92μm,1.0s						
LCND				IAML		09 18 17.7	
	comp=Z,84μm,1.0s						
JUCU	**Jucuarįn**	**0.19**	**257**	*e*P	**Pg**	**09 18 13.1**	**-0.5**
JUCU				*e*S	**Sg**	**09 18 16.5**	**0.0**
JUCU	**Jucuarįn**	**0.19**	**257**	*i* P	**Pg**	**09 18 13.1**	**-0.5**
JUCU				*i* SA		09 18 16.7	
JUCU				IAML		09 18 17.2	
	comp=Z,18μm,1.0s						
CNRM	**Centro Naciona**	**0.21**	**329**	*e*P	**Pg**	**09 18 13.9**	**0.0**
CNRM				*e*S	**Sg**	**09 18 16.8**	**-0.2**
CNRM	**Centro Naciona**	**0.21**	**329**	*i* P	**Pg**	**09 18 13.9**	**0.0**
CNRM				IAML		09 18 19.7	
	comp=Z,87μm,1.0s						
CNCH	**Conchagua**	**0.22**	**95**	*e*P	**Pg**	**09 18 14.0**	**-0.1**
CNCH				*e*S	**Sg**	**09 18 18.1**	**+0.6**
CNCH	**Conchagua**	**0.22**	**95**	*i* P	**Pg**	**09 18 14.0**	**-0.1**
CNCH				*i* SA		09 18 18.1	
CNCH				IAML		09 18 18.6	
	comp=Z,82μm,1.0s						
BLLM	**Bellamira**	**0.23**	**310**	*e*P	**Pg**	**09 18 14.3**	**+0.1**
VSM	**San Miguel**	**0.25**	**302**	*e*P	**Pg**	**09 18 14.8**	**+0.2**
LCY	**Lacayo**	**0.26**	**299**	*e*P	**Pg**	**09 18 15.0**	**+0.2**
RANC	**El Ranchito**	**0.26**	**302**	*e*P	**Pg**	**09 18 15.1**	**+0.2**
RANC	**El Ranchito**	**0.26**	**302**	*i* P	**Pg**	**09 18 15.0**	**+0.2**
RANC				IAML		09 18 31.7	
	comp=Z,8μm,1.0s						
PACA	**Pacayal**	**0.31**	**304**	*e*P	**Pg**	**09 18 15.8**	**+0.3**
PACA	**Pacayal**	**0.31**	**304**	*i* P	**Pg**	**09 18 15.9**	**+0.3**
PACA				IAML		09 18 25.0	
	comp=Z,54μm,1.0s						
AMPH	**Amapala**	**0.39**	**91**	*e*P	**Pg**	**09 18 16.9**	**-0.1**
AMPH	**Amapala**	**0.39**	**91**	*i* P	**Pg**	**09 18 17.0**	**-0.1**
TECA	**Tecapa**	**0.47**	**295**	*e*P	**Pg**	**09 18 18.7**	**+0.1**
COEB	**Comit de Eme**	**0.50**	**294**	‖*e*P	**Pg**	**09 18 19.1**	**0.0**
COEB	**Comit de Eme**	**0.50**	**294**	*i* P	**Pg**	**09 18 19.1**	**0.0**
COEB				IAML		09 18 28.4	
	comp=Z,2μm,1.0s						
PQSS	**Presa 15 de Se**	**0.58**	**304**	*e*P	**Pg**	**09 18 20.6**	**-0.1**
PQSS	**Presa 15 de Se**	**0.58**	**304**	*i* P	**Pg**	**09 18 20.4**	**-0.2**
PQSS				IAML		09 18 21.4	
	comp=Z,1μm,1.0s						
PQSS				*i* S	**Sn**	**09 18 31.2**	**-1.2**
TECO	**Alcaldia de Te**	**0.74**	**289**	*e*P	**Pg**	**09 18 23.1**	**-0.4**
TECO	**Alcaldia de Te**	**0.74**	**289**	*i* P	**Pg**	**09 18 23.4**	**-0.2**
TECO				*i* S	**Sb**	**09 18 34.2**	**+0.4**
TECO				IAML		09 18 39.0	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.77**	**302**	*e*P	**Pg**	**09 18 23.9**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.77**	**302**	*i* P	**Pb**	**09 18 24.1**	**-0.1**
SCLA				*i* S	**Sn**	**09 18 36.6**	**-0.3**
SCLA				IAML		09 18 42.0	
	comp=Z,800nm,1.0s						
UESV	**Universidad de**	**0.78**	**296**	*e*P	**Pg**	**09 18 24.2**	**-0.2**
UESV	**Universidad de**	**0.78**	**296**	*i* P	**Pb**	**09 18 24.4**	**-0.2**
UESV				*i* S	**Sn**	**09 18 36.2**	**-1.1**
UESV				IAML		09 18 42.1	
	comp=Z,2μm,1.0s						
SNVI	**San Vicente**	**0.82**	**293**	*e*P	**Pg**	**09 18 25.0**	**-0.1**
COEG	**Centro de Oper**	**0.86**	**292**	*e*P	**Pg**	**09 18 25.4**	**-0.5**
COEG	**Centro de Oper**	**0.86**	**292**	*i* P	**Pg**	**09 18 25.6**	**-0.2**
COEG				*i* S	**Sn**	**09 18 38.2**	**-1.1**
COEG				IAML		09 18 41.1	
	comp=Z,3μm,1.0s						
PAVA	**Las Pavas**	**0.95**	**296**	*e*P	**Pb**	**09 18 27.1**	**-0.3**
PAVA	**Las Pavas**	**0.95**	**296**	*i* P	**Pb**	**09 18 27.3**	**-0.1**
PAVA				IAML		09 18 44.6	
	comp=Z,5μm,1.0s						
INTHN	**La Esperanza I**	**1.01**	**358**	*i* P	**Pn**	**09 18 28.7**	**-0.4**
INTHN				*i* S	**Sn**	**09 18 44.6**	**+1.3**
TGUH	**Tegucigalpa,Un**	**1.08**	**45**	*i* P	**Pb**	**09 18 29.1**	**-0.5**
TGUH				*i* S	**Sn**	**09 18 44.1**	**-0.6**
TGUH				IAML		09 18 48.3	
	comp=Z,5μm,1.0s						
PANCS	**Alcalda de**	**1.13**	**286**	*e*P	**Pb**	**09 18 30.0**	**-0.5**
PANCS	**Alcalda de**	**1.13**	**286**	*i* P	**Pb**	**09 18 30.1**	**-0.4**
PANCS				*i* SA		09 18 45.9	
PANCS				IAML		09 18 46.4	
	comp=Z,5μm,1.0s						
LOMA	**Loma Larga**	**1.13**	**288**	*e*P	**Pb**	**09 18 30.2**	**-0.3**
LOMA	**Loma Larga**	**1.13**	**288**	*i* P	**Pb**	**09 18 30.3**	**-0.3**
LOMA				IAML		09 18 50.1	
	comp=Z,2μm,1.0s						
UDBS	**Universidad Do**	**1.14**	**291**	*e*P	**Pb**	**09 18 30.6**	**0.0**
UDBS	**Universidad Do**	**1.14**	**291**	*i* P	**Pb**	**09 18 30.7**	**0.0**
UDBS				*i* SA		09 18 46.9	
UDBS				IAML		09 18 50.9	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.15**	**121**	*i* P	**Pb**	**09 18 30.9**	**+0.1**
CRIN				IAML		09 18 50.5	
	comp=Z,8μm,1.0s						
UTEC	**Universidad Te**	**1.18**	**290**	*e*P	**Pb**	**09 18 31.4**	**0.0**
UTEC	**Universidad Te**	**1.18**	**290**	*i* P	**Pb**	**09 18 31.3**	**0.0**
UTEC				*i* SA		09 18 48.0	
UTEC				IAML		09 18 49.9	
	comp=Z,2μm,1.0s						
UESS	**Universidad de**	**1.19**	**291**	*e*P	**Pn**	**09 18 31.0**	**-0.3**
SNET	**Serv Nac Est T**	**1.20**	**289**	*e*P	**Pn**	**09 18 31.4**	**-0.2**
LLGN	**La Laguna**	**1.22**	**315**	*e*P	**Pn**	**09 18 31.4**	**-0.5**
LLGN	**La Laguna**	**1.22**	**315**	*i* P	**Pn**	**09 18 31.3**	**-0.5**
LLG

CEVE	**Cerro Verde**	**1.61 289**	*i* P	**Pb**	**09 18 38.9**	**+0.1**
CEVE			*i* S	**Sg**	**09 19 03.0**	**+1.9**
CEVE			IAML		09 19 04.8	
	comp=Z,2μm,1.0s					
SBLS	**San Blas**	**1.61 290**	*eP*	**Pb**	**09 18 38.9**	**0.0**
RTR	**El Retiro**	**1.65 291**	*eP*	**Pb**	**09 18 39.1**	**-0.4**
LEVN	**Ruinas Leon Vi**	**1.67 122**	*i* P	**Pn**	**09 18 37.8**	**-0.1**
LEVN			*i* S	**Sg**	**09 19 02.7**	**-0.1**
LEVN			IAML		09 19 06.7	
	comp=Z,1μm,1.0s					
MTO3	**Montecristo**	**1.67 311**	*eP*	**Pn**	**09 18 38.7**	**+0.5**
MTO3	**Montecristo**	**1.67 311**	*i* P	**Pn**	**09 18 38.7**	**+0.5**
MTO3			IAML		09 18 39.6	
	comp=Z,650nm,1.0s					
MOMN	**Momotombo**	**1.73 121**	*i* P	**Pn**	**09 18 38.5**	**-0.3**
MOMN			*i* S	**Sb**	**09 19 03.4**	**+1.2**
MOMN			IAML		09 19 10.3	
	comp=Z,37nm,1.0s					
MOM2	**El Cardon**	**1.76 119**	*i* P	**Pn**	**09 18 39.0**	**-0.1**
MOM2			IAML		09 19 16.5	
	comp=Z,710nm,1.0s					
ESQI	**Esquipulas**	**1.77 315**	*i* P	**Pb**	**09 18 40.4**	**-1.0**
ESQI			IAML		09 19 13.7	
	comp=Z,760nm,1.0s					
NUBE	**Las Nubes**	**1.78 290**	*eP*	**Pn**	**09 18 40.3**	**+0.7**
NUBE	**Las Nubes**	**1.78 290**	*i* S	**Sg**	**09 19 05.7**	**-0.7**
COPN	**Copaltepe**	**1.81 128**	*i* P	**Pn**	**09 18 40.0**	**+0.1**
COPN			IAML		09 19 08.8	
	comp=Z,530nm,1.0s					
JUAM	**Asuncion Mita**	**1.90 303**	*i* S	**Pb**	**09 18 42.9**	**-0.8**
SAPS	**Ciudad Sandino**	**1.97 125**	*i* P	**Pn**	**09 18 42.6**	**+0.6**
SAPS			IAML		09 19 20.3	
	comp=Z,880nm,1.0s					
APYN	**Apoyeque**	**1.98 122**	*i* P	**Pn**	**09 18 42.6**	**+0.4**
APYN			IAML		09 18 47.7	
	comp=Z,660nm,1.0s					
TISN	**Laguna Tiscapa**	**2.09 123**	*i* P	**Pn**	**09 18 44.9**	**+1.2**
TISN			IAML		09 19 19.9	
	comp=Z,50nm,1.0s					
CONN	**Concepcion**	**2.94 126**	*i* P	**Pn**	**09 18 56.6**	**+1.2**
CONN			IAML		09 19 54.8	
	comp=Z,1μm,1.0s					

*DNK **11** 09:44:26.5±0.7, 81°.22N×3°.20W, h21km±10km, ML1.7*
*BER **11** 09:44:27.8±2.9, 81°.17N×3°.06W, h10km, mb(Pn)2.9, Confirmed Earthquake*
*FCIAR **11** 09:44:29.0, 81°.13N×3°.35W, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.60*

ISC 11 09:44:21.8±0.9, 81°.26N±0°.07×3°.65W±0°.05, h10km, n15, σ3s 18/25, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NOR	**Nord**	**1.98**	**286**	*eP*		**Pg**	**09 45 00.1**	**+0.4**
NOR	**Nord**	**1.98**	**286**	*e*		**Pb**	**09 44 57.7**	**-0.2**
	baz=93,slow=18							
NOR				*i* P		**Pg**	**09 44 59.5**	**-0.2**
NOR				IAML			09 45 25.4	
	comp=Z,7.7nm,0.4s							
KBS	**Kingsbay**	**3.56**	**123**	*eP*		**Pn**	**09 45 19.2**	**+2.2**
KBS				*eS*		**Sn**	**09 45 55.3**	**-3.7**
KBS				IAML			09 46 07.4	
	comp=Z,3.2nm,0.4s							
KBS	**Kingsbay**	**3.56**	**123**	*eP*		**Pn**	**09 45 18.5**	**+1.6**
KBS				S		**Sn**	**09 45 55.5**	**-3.5**
KBS	**Kingsbay**	**3.56**	**123**	*i* P		**Pn**	**09 45 19.1**	**+2.2**
BRBA	**Barentsburg A**	**4.53**	**126**	*eP*		**Pn**	**09 45 34.5**	**+4.3**
SPA0	**Spitsbergen Ar**	**4.71**	**121**	*eP*		**Pn**	**09 45 35.5**	**+2.7**
SPA0				*eS*		**Sn**	**09 46 25.0**	**-2.2**
SPA0				IAML			09 46 27.7	
	comp=Z,2.2nm,0.8s							
SPA0	**Spitsbergen Ar**	**4.71**	**121**	*eP*		**Pn**	**09 45 35.2**	**+2.5**
SPA0				*eS*		**Sn**	**09 46 25.6**	**-1.7**
DAG	**Danmarks Havn**	**5.32**	**220**	*i* P		**Pn**	**09 45 43.7**	**+2.6**
DAG				*i* S		**Sn**	**09 46 41.6**	**-0.7**
DAG				IAML			09 46 46.5	
	comp=Z,3.9nm,0.4s							
HSPB	**Hornsund (broa**	**5.57**	**130**	*eP*		**Pn**	**09 45 48.2**	**+3.7**
DBG	**Daneborg**	**7.77**	**215**	*eP*		**Pn**	**09 46 17.1**	**+2.4**
DBG	**Daneborg**	**7.77**	**215**	*i* P		**Pn**	**09 46 16.5**	**+1.8**
DBG				*eS*		**Sn**	**09 47 37.6**	**-4.9**
DBG				IAML			09 47 47.0	
	comp=Z,2.0nm,0.4s							
ZFI2	**Zemlya Franca-**	**7.80**	**68**	*eP*		**Pn**	**09 46 18.3**	**+3.3**
ZFI2				*eS*		**Sn**	**09 47 39.5**	**-3.7**
	comp=Z,12nm,1.1s							
OMEGA	**Omega**	**7.82**	**68**	*eP*		**Pn**	**09 46 18.7**	**+3.4**
OMEGA				*eS*		**Sn**	**09 47 39.8**	**-4.0**
	comp=Z,15nm,1.2s							
NEEM	**North Greenlan**	**9.27**	**271**	*i* P		**Pn**	**09 46 37.8**	**+2.3**
NEEM				*eS*		**Sn**	**09 48 13.9**	**-5.9**
NEEM				IAML			09 48 19.8	
	comp=Z,1.9nm,0.4s							

UCC 11 09:51:05.8, 50°.46N×5°.01E, h0km±1km, ML1.6, 10D, Mining explosion., Belgium

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BGES	**Gesves**	**0.09**	**147**	*dP*		Pg	09 51 07.5	0.0
BGES				*dS*		Sg	09 51 09.6	+0.9
BCLA	**Clavier**	**0.19**	**102**	*dP*		Pg	09 51 09.5	0.0
BCLA				*dS*		Sg	09 51 13.1	+1.2
BMRD	**Maredsous**	**0.22**	**225**	*dP*		Pg	09 51 10.1	+0.1
DOU	**Dourbes**	**0.45**	**216**	*dP*		Pg	09 51 14.7	+0.3
DOU				*dS*		Sg	09 51 21.0	+0.7
UCC	**Uccle**	**0.54**	**309**	*dP*		Pg	09 51 16.2	+0.1
BBOU	**Bougnies**	**0.69**	**264**	*dP*		Pg	09 51 18.8	-0.1
LKLB	**Kalborn**	**0.79**	**117**	*dP*		Pg	09 51 21.0	+0.1

WBNET 11 09:51:05.6, 50°.26N×12°.45E, h9km, Ml2.3, 4C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**282**	⇓P		Pg	09 51 07.4	+0.1
LBCW				S		Sg	09 51 08.7	+0.2
NKC	**Novy Kostel**	**0.03**	**178**	⇓P		Pg	09 51 07.4	+0.1
NKC				S		Sg	09 51 08.6	+0.1
STCW	**Studenec**	**0.05**	**92**	⇑P		Pg	09 51 07.5	+0.1
STCW				S		Sg	09 51 08.7	-0.1
VAC	**Vackov**	**0.05**	**239**	⇓P		Pg	09 51 07.6	+0.1
VAC				S		Sg	09 51 08.8	0.0
POCW	**Potky**	**0.06**	**348**	⇓P		Pg	09 51 07.7	+0.1
POCW				S		Sg	09 51 09.2	+0.1
KVC	**Kvetna**	**0.07**	**141**	⇓P		Pg	09 51 07.8	+0.1
KVC				S		Sg	09 51 09.2	0.0
KRCW	**Kraslice**	**0.09**	**37**	⇑P		Pg	09 51 08.0	0.0
KRCW				S		Sg	09 51 09.6	-0.1
SKC	**Skalna**	**0.11**	**211**	⇑P		Pg	09 51 08.3	+0.1
SKC				S		Sg	09 51 10.1	+0.1
KOCW	**Kopaniny**	**0.14**	**272**	⇓P		Pg	09 51 08.7	0.0
KOCW				S		Sg	09 51 10.7	-0.1
TRCW	**Trojmez**	**0.20**	**282**	⇓P		Pg	09 51 09.7	0.0
TRCW				S		Sg	09 51 12.5	0.0
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P		Pg	09 51 10.0	+0.1
ZHC				S		Sg	09 51 12.9	+0.1
LACW	**Lazy**	**0.24**	**151**	S		Sg	09 51 14.1	+0.3

IDC 11 09:58:01.7±3.0, 54°.13N×86°.62E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=23.3km s-min=13.8km az=65.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.08**	**261**	I		I	10 05 00.0	
	baz=78,slow=324,SNR=1.0							
ZALV	**Zalesovo Beam**	**1.08**	**261**	Pg		Pg	09 58 21.2	-1.2
	1.7nm,0.3s,baz=78,slow=17,SNR=8.8							
ZALV				Lg		Lg	09 58 37.6	
	2.3nm,0.3s,baz=80,slow=30,SNR=8.1							
KURBB	**Kurchatov Arra**	**6.07**	**238**	Pn		Pn	09 59 34.1	+1.5
	0.1nm,0.3s,baz=54,slow=13,SNR=3.7							
KURBB				Lg		Lg	10 01 13.6	
	baz=57,slow=34,SNR=2.1 0.6nm,0.5s							
MKAR	**Makanchi Array**	**7.85**	**202**	Pn		Pn	09 59 57.8	+0.8
	0.1nm,0.3s,baz=23,slow=13,SNR=3.0							
MKAR				Lg		Lg	10 02 09.8	
	0.1nm,0.3s,baz=23,slow=30,SNR=2.9 0.2nm,0.3s							

*TEH **11** 10:05:52.4, 29°.19N×55°.53E, h10km±124km, ML2.8*
*OMAN **11** 10:06:09.7±0.3, 27°.70N×54°.71E, h10km±2km, ml1.9/2, Error ellipse: s-maj=6.1km s-min=1.4km az=13.0*

ISC 11 10:05:49.4±1.0, 29°.13N±0°.04×55°.29E±0°.06, h10km, n21, σ2s 98/22, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NGRK	**Negar Kerman**	**1.36**	**67**	Pg		**Pb**	**10 06 14.3**	**-0.8**
TVBK	**TV Kerman**	**1.54**	**56**	Pg		**Pg**	**10 06 18.9**	**-0.2**
KHGB	**Koh Gabri**	**1.62**	**39**	Pg		**Pg**	**10 06 19.7**	**-0.8**
GENO	**Geno**	**1.89**	**155**	Pn		**Pg**	**10 06 26.6**	**+1.0**
CHMN	**Cheshme madani**	**2.09**	**69**	Pn		**Pg**	**10 06 28.0**	**-1.6**
ZRDN	**Zarand Kerman**	**2.13**	**30**	Pn		**Pg**	**10 06 29.8**	**-0.5**
IMEH	**Mehriz**	**2.33**	**346**	Pn		**Pg**	**10 06 32.7**	**-1.5**
IBAF	**Bafgh**	**2.47**	**5**	Pn		**Pb**	**10 06 34.4**	**+0.3**
SHME	**Shamm**	**3.15**	**166**	P		**Pb**	**10 06 44.9**	**-0.7**
BANOM	**Banah**	**3.31**	**164**	P		**Pb**	**10 06 48.2**	**-0.2**
BANOM				S		**Sn**	**10 07 16.3**	**-4.5**
MASF	**Masafi**	**3.82**	**168**	P		**Pb**	**10 06 52.6**	**-4.3**
UOSS	**Minazif**	**4.24**	**169**	P		**Pn**	**10 06 57.8**	**+3.7**
HATD	**Hatta, Dubai**	**4.35**	**170**	P		**Pn**	**10 06 59.7**	**+4.1**
FAQ	**Al Faqa, Dubai**	**4.37**	**176**	P		**Pn**	**10 06 59.2**	**+3.3**
ASHO	**Ashiyiah** SNR=14	**4.48**	**171**	P		**Pn**	**10 07 01.5**	**+4.1**
SHMA	**Al-Shehemyia** SNR=15	**5.04**	**231**	P		**Pn**	**10 07 08.5**	**+3.4**
SOHO	**SOHO**	**5.09**	**167**	P		**Pn**	**10 07 10.2**	**+4.4**
ARQ	**Araqi** SNR=14	**5.87**	**169**	P		**Pn**	**10 07 20.3**	**+3.7**
BSY	**Bisya**	**6.58**	**164**	P		**Pn**	**10 07 30.5**	**+4.2**
WHFO	**Wadi Hawf** SNR=6.1	**11.24**	**187**	P		**Pn**	**10 08 31.0**	**+0.7**
ABTO	**Aybut**	**11.86**	**189**	P		**Pn**	**10 08 38.5**	**-0.2**

*CLL **11** 10:18:09.3±0.3, 50°.26N×12°.44E, h8km±1km, ML1.8*
*VIE **11** 10:18:09.0±0.3, 50°.17N×12°.31E, h10km, mb2.4/1, ml2.4/2, Error ellipse: s-maj=4.6km s-min=2.8km az=51.0*
*BGR **11** 10:18:11.4±0.2, 50°.26N×12°.43E, h12km±2km, ML2.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=94.0*

WBNET 11 10:18:09.0, 50°.26N×12°.45E, h9km, Ml1.9, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**284**	⇓P		Pg	10 18 10.8	+0.1
LBCW				S		Sg	10 18 12.1	+0.2
NKC	**Novy Kostel**	**0.03**	**177**	*i* Pg		Pg	10 18 10.8	+0.1
NKC				*i* Sg		Sg	10 18 12.0	+0.1
NKC				IAML			10 18 12.4	
	comp=E,669nm,0.3s							
NKC	**Novy Kostel**	**0.03**	**177**	⇓P		Pg	10 18 10.8	+0.1
NKC				S		Sg	10 18 12.0	+0.1
STCW	**Studenec**	**0.05**	**91**	*i* Pg		Pg	10 18 10.9	+0.1
STCW				*i* Sg		Sg	10 18 12.1	-0.1
STCW				IAML			10 18 12.3	
	comp=E,168nm,0.2s							
STCW	**Studenec**	**0.05**	**91**	⇑P		Pg	10 18 10.9	+0.1
STCW				S		Sg	10 18 12.1	-0.1
VAC	**Vackov**	**0.05**	**240**	*i* Pg		Pg	10 18 10.9	+0.1
VAC				*i* Sg		Sg	10 18 12.2	-0.1
VAC				IAML			10 18 12.3	
	comp=E,299nm,0.2s							
VAC	**Vackov**	**0.05**	**240**	⇓P		Pg	10 18 10.9	+0.1
VAC				S		Sg	10 18 12.2	0.0
WERN	**Wernitzgruen**	**0.05**	**301**	*i* Pg		Pg	10 18 11.0	+0.1
WERN				*i* Sg		Sg	10 18 12.3	0.0
WERN				IAML			10 18 12.5	
	comp=E,736nm,0.2s							
POCW	**Potky**	**0.06**	**349**	⇓P		Pg	10 18 11.1	+0.1
POCW				S		Sg	10 18 12.6	+0.1
KVC	**Kvetna**	**0.07**	**141**	*i* Pg		Pg	10 18 11.1	+0.1
KVC				*i* Sg		Sg	10 18 12.5	-0.1
KVC				IAML			10 18 12.9	
	comp=N,50nm,0.1s							
KVC	**Kvetna**	**0.07**	**141**	⇑P		Pg	10 18 11.2	+0.1
KVC				S		Sg	10 18 12.6	0.0
ROHR	**Rohrbach**	**0.09**	**253**	*i* Pg		Pg	10 18 11.3	0.0
ROHR				*i* Sg		Sg	10 18 12.8	-0.1
ROHR				IAML			10 18 12.9	
	comp=E,552nm,0.2s							
KRCW	**Kraslice**	**0.09**	**37**	⇑P		Pg	10 18 11.4	0.0
KRCW				S		Sg	10 18 13.0	-0.1
SKC	**Skalna**	**0.11**	**211**	⇑P		Pg	10 18 11.6	+0.1
SKC				S		Sg	10 18 13.4	+0.1
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg		Pg	10 18 12.0	+0.1
GUNZ				*i* Sg		Sg	10 18 13.9	-0.1
GUNZ				IAML			10 18 14.0	
	comp=E,267nm,0.2s							
KOCW	**Kopaniny**	**0.14**	**272**	⇓P		Pg	10 18 12.0	0.0
KOCW				S		Sg	10 18 14.1	-0.1
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg		Pg	10 18 12.3	0.0
MULD				*i* Sg		Sg	10 18 14.5	-0.2
MULD				IAML			10 18 14.6	
	comp=E,422nm,0.1s							
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg		Pg	10 18 12.3	-0.1
TANN				*i* Sg		Sg	10 18 14.4	-0.3
TANN				IAML			10 18 14.6	
	comp=E,380nm,0.1s							
TRCW	**Trojmez**	**0.20**	**283**	⇓P		Pg	10 18 13.0	0.0
TRCW				S		Sg	10 18 15.9	0.0
WERD	**Werda**	**0.21**	**335**	*i* Pg		Pg	10 18 13.2	0.0
WERD				*e*Sg		Sg	10 18 15.9	-0.3
WERD	**Werda**	**0.21**	**335**	*e*Pg		Sg	10 18 16.1	-0.1
WERD	**Werda**	**0.21**	**335**	*e*Pg		Sg	10 18 16.1	-0.1
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P		Pg	10 18 13.3	+0.1
ZHC				S		Sg	10 18 15.5	-0.7
LACW	**Lazy**	**0.24**	**151**	*i* Pg		Pg	10 18 14.0	+0.2
LACW				*i* Sg		Sg	10 18 17.4	+0.3
LACW				IAML			10 18 17.6	
	comp=N,267nm,0.1s							
LACW	**Lazy**	**0.24**	**151**	⇑P		Pg	10 18 14.0	+0.2
LACW				S		Sg	10 18 17.3	+0.3
PLN	**Plauen**	**0.29**	**321**	*i* Pg		Pg	10 18 14.7	-0.1
PLN				*e*Sg		Sg	10 18 18.6	-0.1
PLN				IAML			10 18 18.7	
	comp=E,116nm,0.1s							
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg		Pg	10 18 17.0	-0.2
GRZ1	**Mausoleum Wald**	**0.46**	**342**	*i* Pg		Pg	10 18 17.6	-0.2
GRZ1				*e*Sg		Sg	10 18 23.4	-0.5
GRZ1				IAML			10 18 24.6	
	comp=E,43nm,0.2s							
CLL	**Collm**	**1.11**	**18**	*i* Pg		Pg	10 18 29.7	-0.5
CLL				*i* Sg		Sg	10 18 44.5	-0.1
BRG	**Berggiesshubel**	**1.14**	**57**	Pg		Pg	10 18 30.3	-0.5
BRG	**Berggiesshubel**	**1.14**	**57**	Sg		Sn	10 18 47.4	+0.6
MOTA	**Moosalm**	**3.05**	**197**	Pg		Pg	10 19 06.0	-1.4
	comp=E,0.6nm,0.2s							
CONA	**Conrad Observa**	**3.24**	**135**	Pg		Pg	10 19 10.2	-0.7
	comp=E,0.6nm,0.3s							

*CLL **11** 10:18:12.1±0.3, 50°.26N×12°.44E, h8km±1km, ML2.4*

WBNET 11 10:18:11.9, 50°.26N×12°.45E, h9km, Ml2.5, 6C-13D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**282**	⇓P		Pg	10 18 12.9	0.6
LBCW				S		Sg	10 18 14.2	-0.5
LBCW	**Luby**	**0.02**	**282**	⇓P		Pg	10 18 13.7	+0.1
LBCW				S		Sg	10 18 14.9	+0.2
NKC	**Novy Kostel**	**0.03**	**176**	*i* Pg		Pg	10 18 13.7	+0.1
NKC				*i* Sg		Sg	10 18 14.8	+0.1
NKC				IAML			10 18 15.2	
	comp=N,4μm,0.1s							
NKC	**Novy Kostel**	**0.03**	**176**	*i* Pg		Pg	10 18 13.7	+0.1
NKC				*i* Sg		Sg	10 18 14.8	+0.1
	comp=N,4μm,0.1s							
NKC	**Novy Kostel**	**0.03**	**176**	⇓P		Pg	10 18 13.7	+0.1
NKC				S		Sg	10 18 14.8	+0.1
STCW	**Studenec**	**0.05**	**92**	*e*Pg		Pg	10 18 13.8	+0.1
STCW				*i* Sg		Sg	10 18 15.0	-0.1
STCW	**Studenec**	**0.05**	**92**	*e*Pg		Pg	10 18 13.8	+0.1
STCW				*i* Sg		Sg	10 18 15.0	-0.1
STCW	**Studenec**	**0.05**	**92**	⇓P		Pg	10 18 13.1	-0.6
STCW	**Studenec**	**0.05**	**92**	⇑P		Pg	10 18 13.8	+0.1
STCW				S		Sg	10 18 15.0	-0.1
VAC	**Vackov**	**0.05**	**239**	*i* Pg		Pg	10 18 13.8	+0.1
VAC				*i* Sg		Sg	10 18 15.1	0.0
VAC	**Vackov**	**0.05**	**239**	⇓P		Pg	10 18 13.1	-0.7
VAC				S		Sg	10 18 14.3	-0.8
VAC	**Vackov**	**0.05**	**239**	⇓P		Pg	10 18 13.8	+0.1
VAC				S		Sg	10 18 15.1	0.0
WERN	**Wernitzgruen**	**0.05**	**301**	*i* Pg		Pg	10 18 13.9	+0.1
WERN				*i* Sg		Sg	10 18 15.2	+0.1
WERN				IAML			10 18 15.4	
	comp=E,1μm,0.3s							
WERN	**Wernitzgruen**	**0.05**	**301**	*i* Pg		Pg	10 18 13.9	+0.1
WERN				*i* Sg		Sg	10 18 15.2	+0.1
	comp=E,1μm,0.3s							
POCW	**Potky**	**0.06**	**349**	⇓P		Pg	10 18 13.3	-0.6
POCW				S		Sg	10 18 14.7	-0.6
POCW	**Potky**	**0.06**	**349**	⇓P		Pg	10 18 14.0	+0.1
POCW				S		Sg	10 18 15.4	+0.1
KVC	**Kvetna**	**0.07**	**141**	*e*Pg		Pg	10 18 13.9	-0.1
KVC				*i* Sg		Sg	10 18 15.4	0.0
KVC	**Kvetna**	**0.07**	**141**	⇑P		Pg	10 18 14.0	+0.1
KVC				S		Sg	10 18 15.4	0.0
ROHR	**Rohrbach**	**0.09**	**252**	*i* Pg		Pg	10 18 14.2	0.0
ROHR				*i* Sg		Sg	10 18 15.7	-0.1
ROHR				IAML			10 18 15.8	
	comp=E,3μm,0.1s							
ROHR	**Rohrbach**	**0.09**	**252**	*i* Pg		Pg	10 18 14.2	0.0
ROHR				*i* Sg		Sg	10 18 15.7	-0.1
	comp=E,3μm,0.1s							
KRCW	**Kraslice**	**0.09**	**38**	⇑P		Pg	10 18 13.5	-0.7
KRCW				S		Sg	10 18 15.1	-0.8
KRCW	**Kraslice**	**0.09**	**38**	⇑P		Pg	10 18 14.3	0.0
KRCW				S		Sg	10 18 15.9	-0.1
SKC	**Skalna**	**0.11**	**211**	S		Sg	10 18 15.6	-0.7
SKC	**Skalna**	**0.11**	**211**	⇑P		Pg	10 18 14.5	+0.1
SKC				S		Sg	10 18 16.3	+0.1
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg		Pg	10 18 14.8	+0.1
GUNZ				*i* Sg		Sg	10 18 16.7	-0.1
GUNZ				IAML			10 18 17.1	
	comp=N,728nm,0.2s							
GUNZ	**Gunzen**	**0.13**	**325**	*i* Pg		Pg	10 18 14.8	+0.1
GUNZ				*i* Sg		Sg	10 18 16.7	-0.1
	comp=N,728nm,0.2s							
KOCW	**Kopaniny**	**0.14**	**272**	⇓P		Pg	10 18 14.2	-0.7
KOCW				S		Sg	10 18 16.2	-0.8
KOCW	**Kopaniny**	**0.14**	**272**	⇓P		Pg	10 18 14.9	0.0
KOCW				S		Sg	10 18 17.0	-0.1
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg		Pg	10 18 15.2	0.0
MULD				*i* Sg		Sg	10 18 17.3	-0.2
MULD				IAML			10 18 17.5	
	comp=E,1μm,0.1s							
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg		Pg	10 18 15.2	0.0
MULD				*i* Sg		Sg	10 18 17.3	-0.2
	comp=E,1μm,0.1s							
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg		Pg	10 18 15.2	-0.1
TANN				*i* Sg		Sg	10 18 17.3	-0.3
TANN				IAML			10 18 17.5	
	comp=N,1μm,0.1s							
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg		Pg	10 18 15.2	-0.1
TANN				*i* Sg		Sg	10 18 17.3	-0.3
	comp=N,1μm,0.1s							
TRCW	**Trojmez**	**0.20**	**282**	⇓P		Pg	10 18 15.2	-0.8
TRCW				S		Sg	10 18 18.0	-0.8
TRCW	**Trojmez**	**0.20**	**282**	⇓P		Pg	10 18 16.0	0.0
TRCW				S		Sg	10 18 18.7	0.0
WERD	**Werda**	**0.21**	**335**	*i* Sg		Sg	10 18 18.8	-0.3
WERD				IAML			10 18 18.9	
	comp=E,374nm,0.1s							
WERD	**Werda**	**0.21**	**335**	*i* Sg		Sg	10 18 18.8	-0.3
	comp=E,374nm,0.1s							
ZHC	**Zelena Hora**	**0.21**	**205**	S		Sg	10 18 18.4	-0.7
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P		Pg	10 18 16.2	+0.1
ZHC				S		Sg	10 18 19.2	+0.1
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg		Pg	10 18 16.2	-0.1
TRIB				*i* Sg		Sg	10 18 19.4	0.0
TRIB				IAML			10 18 19.6	
	comp=E,337nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg		Pg	10 18 16.2	-0.1
TRIB				*i* Sg		Sg	10 18 19.4	0.0
	comp=E,337nm,0.1s							
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg		Pg	10 18 16.5	-0.1
VIEL				*i* Sg		Sg	10 18 19.6	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg		Pg	10 18 16.5	-0.1
VIEL				*i* Sg		Sg	10 18 19.6	-0.2
LACW	**Lazy**	**0.24**	**151**	*e*Pg		Pg	10 18 16.8	0.0
LACW				*e*Sg		Sg	10 18 20.4	+0.3
LACW	**Lazy**	**0.24**	**151**	*e*Pg		Pg	10 18 16.8	0.0
LACW				*e*Sg		Sg	10 18 20.4	+0.3
LACW	**Lazy**	**0.24**	**151**	S		Sg	10 18 19.5	-0.5
LACW	**Lazy**	**0.24**	**151**	⇓P		Pg	10 18 16.7	0.0
LACW				S		Sg	10 18 20.3	+0.3
PLN	**Plauen**	**0.29**	**321**	*e*Pg		Pg	10 18 17.6	-0.1
PLN				*i* Sg		Sg	10 18 21.4	-0.2
PLN				IAML			10 18 21.

STCW				*i* Sg		Sg	10 21 33.3	-0.1	
STCW	**Studenec**	**0.05**	**95**	*i* Pg		Pg	10 21 32.1	+0.1	
STCW				*i* Sg		Sg	10 21 33.3	-0.1	
STCW	**Studenec**	**0.05**	**95**	⇑P		Pg	10 21 31.7	-0.3	
STCW	**Studenec**	**0.05**	**95**	⇑P		Pg	10 21 32.1	+0.1	
STCW				S		Sg	10 21 33.3	-0.1	
WERN	**Wernitzgruen**	**0.05**	**299**	*i* Pg		Pg	10 21 32.2	+0.1	
WERN				*i* Sg		Sg	10 21 33.5	+0.1	
WERN				IAML			10 21 33.6		
	comp=E,1μm,0.2s								
WERN	**Wernitzgruen**	**0.05**	**299**	*i* Pg		Pg	10 21 32.2	+0.1	
WERN				*i* Sg		Sg	10 21 33.5	+0.1	
	comp=E,1μm,0.2s								
VAC	**Vackov**	**0.05**	**237**	*i* Pg		Pg	10 21 32.1	+0.1	
VAC				*i* Sg		Sg	10 21 33.4	0.0	
VAC	**Vackov**	**0.05**	**237**	⇓P		Pg	10 21 31.7	-0.3	
VAC				S		Sg	10 21 33.0	-0.4	
VAC	**Vackov**	**0.05**	**237**	⇓P		Pg	10 21 32.1	+0.1	
VAC				S		Sg	10 21 33.4	0.0	
POCW	**Potky**	**0.06**	**349**	⇓P		Pg	10 21 31.9	-0.3	
POCW				S		Sg	10 21 33.4	-0.3	
POCW	**Potky**	**0.06**	**349**	⇓P		Pg	10 21 32.3	+0.1	
POCW				S		Sg	10 21 33.7	+0.1	
KVC	**Kvetna**	**0.07**	**141**	*i* Pg		Pg	10 21 32.4	+0.1	
KVC				*i* Sg		Sg	10 21 33.8	0.0	
KVC	**Kvetna**	**0.07**	**141**	⇓P		Pg	10 21 32.4	+0.1	
KVC				S		Sg	10 21 33.8	0.0	
ROHR	**Rohrbach**	**0.09**	**251**	*i* Pg		Pg	10 21 32.5	0.0	
ROHR				*i* Sg		Sg	10 21 34.0	-0.1	
ROHR				IAML			10 21 34.1		
	comp=E,1μm,0.1s								
ROHR	**Rohrbach**	**0.09**	**251**	*i* Pg		Pg	10 21 32.5	0.0	
ROHR				*i* Sg		Sg	10 21 34.0	-0.1	
	comp=E,1μm,0.1s								
KRCW	**Kraslice**	**0.09**	**39**	⇑P		Pg	10 21 32.1	-0.4	
KRCW				S		Sg	10 21 33.7	-0.5	
KRCW	**Kraslice**	**0.09**	**39**	⇑P		Pg	10 21 32.5	0.0	
KRCW				S		Sg	10 21 34.1	-0.1	
SKC	**Skalna**	**0.11**	**210**	⇑P		Pg	10 21 32.4	-0.3	
SKC				S		Sg	10 21 34.2	-0.3	
SKC	**Skalna**	**0.11**	**210**	⇑P		Pg	10 21 32.8	+0.1	
SKC				S		Sg	10 21 34.6	+0.1	
GUNZ	**Gunzen**	**0.12**	**324**	*i* Pg		Pg	10 21 33.1	+0.1	
GUNZ				*i* Sg		Sg	10 21 35.0	-0.1	
GUNZ				IAML			10 21 35.1		
	comp=E,315nm,0.3s								
GUNZ	**Gunzen**	**0.12**	**324**	*i* Pg		Pg	10 21 33.1	+0.1	
GUNZ				*i* Sg		Sg	10 21 35.0	-0.1	
	comp=E,315nm,0.3s								
KOCW	**Kopaniny**	**0.14**	**271**	⇓P		Pg	10 21 32.8	-0.4	
KOCW				S		Sg	10 21 34.8	-0.5	
KOCW	**Kopaniny**	**0.14**	**271**	⇓P		Pg	10 21 33.2	0.0	
KOCW				S		Sg	10 21 35.2	-0.1	
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg		Pg	10 21 33.4	0.0	
MULD				*i* Sg		Sg	10 21 35.5	-0.2	
MULD				IAML			10 21 35.7		
	comp=E,605nm,0.1s								
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg		Pg	10 21 33.4	0.0	
MULD				*i* Sg		Sg	10 21 35.5	-0.2	
	comp=E,605nm,0.1s								
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg		Pg	10 21 33.4	-0.1	
TANN				*i* Sg		Sg	10 21 35.5	-0.3	
TANN				IAML			10 21 35.8		
	comp=N,638nm,0.2s								
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg		Pg	10 21 33.4	-0.1	
TANN				*i* Sg		Sg	10 21 35.5	-0.3	
	comp=N,638nm,0.2s								
TRCW	**Trojmez**	**0.20**	**282**	⇓P		Pg	10 21 33.8	-0.4	
TRCW				S		Sg	10 21 36.6	-0.4	
TRCW	**Trojmez**	**0.20**	**282**	⇓P		Pg	10 21 34.2	0.0	
TRCW				S		Sg	10 21 36.9	-0.1	
WERD	**Werda**	**0.20**	**335**	*i* Pg		Pg	10 21 34.4	0.0	
WERD				*i* Sg		Sg	10 21 37.0	-0.3	
WERD				IAML			10 21 37.1		
	comp=E,132nm,0.3s								
WERD	**Werda**	**0.20**	**335**	*i* Pg		Pg	10 21 34.4	0.0	
WERD				*i* Sg		Sg	10 21 37.0	-0.3	
	comp=E,132nm,0.3s								
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P		Pg	10 21 34.1	-0.3	
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P		Pg	10 21 34.6	+0.1	
ZHC				S		Sg	10 21 37.5	+0.1	
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg		Pg	10 21 34.5	-0.1	
TRIB				*i* Sg		Sg	10 21 37.4	-0.2	
TRIB				IAML			10 21 37.6		
	comp=N,92nm,0.2s								
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg		Pg	10 21 34.5	-0.1	
TRIB				*i* Sg		Sg	10 21 37.4	-0.2	
	comp=N,92nm,0.2s								
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg		Pg	10 21 34.8	-0.1	
VIEL				*i* Sg		Sg	10 21 37.9	-0.2	
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg		Pg	10 21 34.8	-0.1	
VIEL				*i* Sg		Sg	10 21 37.9	-0.2	
LACW	**Lazy**	**0.24**	**151**	*i* Pg		Pg	10 21 35.2	+0.2	
LACW				*i* Sg		Sg	10 21 38.7	+0.3	
LACW	**Lazy**	**0.24**	**151**	*i* Pg		Pg	10 21 35.2	+0.2	
LACW				*i* Sg		Sg	10 21 38.7	+0.3	
LACW	**Lazy**	**0.24**	**151**	⇓P		Pg	10 21 35.2	+0.2	
LACW				S		Sg	10 21 38.7	+0.3	
PLN	**Plauen**	**0.29**	**321**	*i* Pg		Pg	10 21 35.7	-0.2	
PLN				*i* Sg		Sg	10 21 39.7	-0.1	
PLN				IAML			10 21 39.8		
	comp=E,98nm,0.2s								
PLN	**Plauen**	**0.29**	**321**	*i* Pg		Pg	10 21 35.7	-0.2	
PLN				*i* Sg		Sg	10 21 39.7	-0.1	
	comp=E,98nm,0.2s								
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg		Pg	10 21 37.0	-0.1	
MANZ				*e*Sg		Sg	10 21 41.5	-0.2	
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg		Pg	10 21 38.1	-0.2	
SCHF				*i* Sg		Sg	10 21 43.7	-0.1	
SCHF				IAML			10 21 43.9		
	comp=E,108nm,0.2s								
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg		Pg	10 21 38.1	-0.2	
SCHF				*i* Sg		Sg	10 21 43.7	-0.1	
	comp=E,108nm,0.2s								
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg		Pg	10 21 38.8	-0.3	
GRZ1				*i* Sg		Sg	10 21 44.5	-0.5	
GRZ1				IAML			10 21 45.6		
	comp=E,63nm,0.4s								
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg		Pg	10 21 38.8	-0.3	
GRZ1				*i* Sg		Sg	10 21 44.5	-0.5	
	comp=E,63nm,0.4s								
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Pg		Pg	10 21 40.0	-0.2	
ROTZ				*e*Sg		Sg	10 21 46.9	-0.1	
MOX	**Moxa**	**0.65**	**306**	*e*Pg		Pg	10 21 42.5	-0.3	
MOX				*e*Sg		Sg	10 21 51.2	-0.1	
FBE	**Freiberg**	**0.88**	**41**	*e*Pg		Pg	10 21 46.9	-0.1	
FBE				*e*Sg		Sg	10 21 57.7	-0.8	
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg		Pg	10 21 48.5	-0.4	
GRF				*e*Sg		Sg	10 22 00.8	-0.7	
CLL	**Collm**	**1.10**	**19**	*i* Pg		Pg	10 21 50.6	-0.8	
CLL				*i* x		x	10 21 52.7		
CLL				*i* x		x	10 21 54.2		
CLL				*i* Sg		Sg	10 22 05.1	-0.6	
	comp=Z,18nm,0.5s								
CLL				*i* x		x	10 22 09.0		
CLL	**Collm**	**1.10**	**19**	*e*Pg		Pg	10 21 50.7	-0.7	
CLL				*e*Sg		Sg	10 22 05.4	-0.3	
BRG	**Berggiesshubel**	**1.13**	**57**	Pg		Pg	10 21 51.4	-0.5	
BRG				Sg		Sg	10 22 06.3	-0.4	
BRG				Amp			10 22 06.5		
	comp=Z,34nm,0.2s								
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg		Pg	10 21 51.4	-0.5	
BRG				*e*Sg		Sg	10 22 05.7	-0.9	
WET	**Wettzell**	**1.16**	**166**	*e*Pg		Pg	10 21 52.0	-0.3	
WET				*e*Sg		Sg	10 22 06.6	-0.7	
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg		Pn	10 21 55.5	-0.1	
PRU				*e*Sg		Sn	10 22 13.9	0.0	
GEC2	**GERESS Array S**	**1.64**	**150**	*e*Pg		Pb	10 22 00.4	-0.2	
GEC2				*e*Sg		Sb	10 22 21.0	-0.4	
KRUC	**Moravsky**	**2.83**	**114**	*e*SG		Sg	10 22 58.5	-2.7	
VRAC	**Vranov**	**2.85**	**108**	*e*SG		Sb	10 22 58.9	+2.6	

NEIC ***11*** *10:30:54.1±1.1, 19°.43N±0°.02×155°.28W±0°.01, h1km±7km, Error ellipse: s-maj=2.7km s-min=0.6km az=150.0*

HVO 11 10:30:53.3±1.0, **19°.42N**±0°.02×**155°.276W**±0°.008, **h0**km±6km, **ML3.4**/10, **ML2.3**/37(NEIC), **Error ellipse: s-maj=2.3km s-min=1.0km az=172.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.00**	**275**	Pg	Pg	10 30 53.6	+0.1
UWB				Sg	Sg	10 30 54.0	+0.4
SBLHI	**Steaming Bluff**	**0.01**	**71**	Pg	Pg	10 30 54.0	+0.4
SBLHI				Sg	Sg	10 30 54.3	+0.5
OBL	**Observatory Le**	**0.01**	**228**	Pg	Pg	10 30 54.0	+0.4
OBL				Sg	Sg	10 30 54.5	+0.7
NPH	**North Pit**	**0.01**	**202**	Pg	Pg	10 30 54.0	+0.4
NPH				Sg	Sg	10 30 54.4	+0.5
HATHI	**Halema'uma'u T**	**0.01**	**96**	Pg	Pg	10 30 54.1	+0.4
HATHI				Sg	Sg	10 30 54.6	+0.7
UWE	**Uwekahuna**	**0.02**	**258**	Pg	Pg	10 30 54.2	+0.5
UWE				Sg	Sg	10 30 54.9	+0.9
BYL	**Byron's Ledge**	**0.02**	**130**	Pg	Pg	10 30 54.2	+0.5
BYL				Sg	Sg	10 30 55.0	+0.9
KKO	**Keanakako'i**	**0.03**	**161**	IAML		10 30 54.4	
	comp=E,7μm,0.7s						
KKO				Pg	Pg	10 30 54.6	+0.7
RIM	**Rim**	**0.03**	**177**	IAML		10 30 54.3	
	comp=N,6μm,1.1s						
RIM					Pg	10 30 54.5	+0.6
WRMHI	**West Rim**	**0.03**	**232**	Pg	Pg	10 30 54.3	+0.4
WRMHI				Sg	Sg	10 30 55.5	+1.2
RSD	**Rainshed**	**0.04**	**357**	Pg	Pg	10 30 54.8	+0.7
RSD				Sg	Sg	10 30 56.0	+1.4
SDHHI	**Sand Hill**	**0.04**	**206**	IAML		10 30 54.4	
	comp=N,5μm,1.0s						
SDHHI				IAML		10 30 54.8	
	comp=E,5μm,0.9s						
SDHHI					Pg	10 30 54.8	+0.7
PUH	**Pauahi**	**0.07**	**132**	Pg	Pg	10 30 55.9	+1.1
PUH				IAML		10 30 56.9	
	comp=N,2μm,0.8s						
PUH				IAML		10 30 57.0	
	comp=E,1μm,0.5s						
MLH	**Mauna Loa**	**0.12**	**304**		Pg	10 30 57.0	+1.2
MLH				IAML		10 30 57.9	
	comp=N,1μm,0.8s						
HLP	**Hilina Pali**	**0.13**	**193**	Pg	Pg	10 30 57.0	+1.1
HLP				IAML		10 30 59.9	
	comp=N,1μm,1.0s						
STCH	**Steam Cracks**	**0.15**	**105**	Pg	Pg	10 30 57.0	+0.8
STCH				IAML		10 30 57.3	
	comp=N,682nm,1.1s						
STCH				IAML		10 30 59.6	
	comp=E,711nm,0.8s						
NPOC	**North of Pu'u**	**0.16**	**101**	Pg	Pg	10 30 57.2	+0.8
NPOC				IAML		10 30 60.0	
	comp=E,499nm,1.0s						
NPOC				IAML		10 31 00.8	
	comp=N,1μm,1.1s						
JCUZ	**Jacuzzi**	**0.17**	**104**	Pg	Pg	10 30 57.3	+0.7
JCUZ				IAML		10 31 02.2	
	comp=N,674nm,1.5s						
HMH	**Humu'ula Sheep**	**0.26**	**312**		Pg	10 30 59.5	+1.0
HMH				Sg	Sg	10 31 02.7	+0.9
HMH				IAML		10 31 06.5	
	comp=E,549nm,0.8s						
HMH				IAML		10 31 07.8	
	comp=N,558nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.30**	**291**	Pg	Pg	10 31 00.3	+1.2
MLOA				IAML		10 31 03.3	
	comp=E,438nm,0.8s						
MLOA				IAML		10 31 04.8	
	comp=N,471nm,1.0s						
MWH	**Moku'aweowe**	**0.31**	**281**	Pg	Pg	10 31 00.1	+0.8
ALEP	**Alea Permanent**	**0.37**	**289**		Pg	10 31 01.1	+0.7
KHU	**Kahuku**	**0.37**	**241**		Pb	10 31 01.8	-1.1
KHU				IAML		10 31 02.6	
	comp=N,373nm,1.3s						
POHA	**Pohakuloa**	**0.41**	**324**	Pg	Pg	10 31 01.9	+0.7
POHA				IAML		10 31 13.5	
	comp=N,349nm,0.8s						
HUH	**Hualalai**	**0.59**	**296**	Pg	Pb	10 31 05.8	-0.9
CPH	**Captain Cook**	**0.61**	**276**		Pg	10 31 05.0	0.0
HPAH	**Hawaii Prepara**	**0.72**	**327**	Pg	Pg	10 31 06.8	-0.4

SOME ***11*** *10:31:51.3, 43°.72N×69°.73E*
NNC ***11*** *10:31:52.6±1.7, 43°.70N×69°.71E, h0km, mb3.9, mpv3.4, Error ellipse: s-maj=11.4km s-min=5.9km az=135.0, Suspected Mining explosion.*
KRNET ***11*** *10:31:54.7±0.1, 43°.55N×69°.73E, mb2.9*

ISC 11 10:31:50.5±2.3, **43°.83N**±0°.09×**69°.82E**±0°.09, **h0**km, **n14**, σ**0°.70**/22, **14C-2D, Central Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Boroldaу**	**0.80**	**179**	P	**Pn**	**10 32 09.0**	**0.0**
	9.9nm,0.3s						
BRLS				S	**Sn**	**10 32 22.1**	**+0.5**
	34nm,0.2s						
KK31	**Karatay Array**	**0.88**	**145**	⇑P	**Pb**	**10 32 08.6**	**-0.1**
	3.2nm,0.3s,baz=323,slow=17,SNR=93						
KK31				⇑S	**Sb**	**10 32 20.1**	**-0.9**
	18nm,0.3s,baz=316,slow=31,SNR=24						
KKAR	**Karatay Array**	**0.88**	**145**	⇑*i*P	**Pb**	**10 32 08.7**	**0.0**
	baz=28						
KKAR				⇑*i*S	**Sg**	**10 32 19.1**	**+0.4**
	baz=28						
IUG	**luzhnay**	**1.69**	**175**	P	**Pb**	**10 32 22.4**	**0.0**
	49nm,0.3s						
IUG				S	**Sg**	**10 32 44.7**	**+0.1**
	139nm,0.4s						
MNAS	**Manas**	**2.38**	**123**	⇑*i*P	**Pg**	**10 32 35.9**	**-0.1**
	baz=17						
MNAS				⇑*i*S	**Sg**	**10 33 06.5**	**-0.3**
	baz=17						
TRKS	**Terek-Say**	**2.49**	**157**	⇑*e*P	**Pb**	**10 32 36.7**	**+0.5**
	baz=52						
TRKS				⇑*e*S	**Sb**	**10 33 07.6**	**+0.1**
	baz=52						
ARK	**Arkit**	**2.57**	**141**	⇑*i*P	**Pb**	**10 32 37.9**	**+0.4**
	baz=36						
ARK				⇑*i*S	**Sb**	**10 33 08.8**	**-0.8**
	baz=36						
MRKS	**Merke**	**2.71**	**112**	Pg	**Pg**	**10 32 43.2**	**+0.7**
	8.2nm,0.5s						
MRKS				Lg	Lg	10 33 20.6	
	15nm,0.4s						
EKS2	**Erkin-Say**	**3.12**	**111**	⇓*e*P	**Pb**	**10 32 47.4**	**+0.6**
	baz=5.0						
EKS2				⇓*i*S	**Sb**	**10 33 26.1**	**+0.7**
	baz=5.0						
SGDS	**Sogindy**	**3.51**	**94**	Pg	**Pg**	**10 32 59.1**	**+1.4**
	5.0nm,0.4s						
SGDS				Lg	Lg	10 33 47.6	
	8.0nm,0.3s						
AAK	**Ala-Archa**	**3.62**	**108**	⇑Pg	**Pg**	**10 32 59.2**	**-0.5**
	5.7nm,0.5s						
AAK				⇑Lg	Lg	10 33 48.9	
	3.6nm,0.4s						
TKM2	**Tokmak 2**	**4.31**	**100**	⇑Pg	**Pg**	**10 33 11.9**	**-1.1**
	2.9nm,0.6s						
TKM2				⇑Lg	Lg	10 34 10.7	
	3.5nm,0.3s						
DGS	**Degeres**	**4.37**	**96**	Pg	**Pg**	**10 33 12.9**	**-1.2**
	4.7nm,0.4s						
DGS				Lg	Lg	10 34 11.4	
	8.6nm,0.8s						
KTBS	**Karatobe**	**4.97**	**89**	Pg	**Pg**	**10 33 24.8**	**-0.9**
	5.9nm,0.4s						
KTBS				Lg	Lg	10 34 31.6	
	6.5nm,0.7s						

IDC ***11*** *10:34:38.2±1.0, 27°.41N×141°.96E, h0km, mb3.3/5, mbtmp3.4/6, ML2.8/1, MS2.6/2, Error ellipse: s-maj=38.6km s-min=11.1km az=61.0*
JMA ***11*** *10:34:43.0±0.3, 27°.N±1°×14°.2E±°, h61km, MD4.3/12, MV4.1/12, NEAR CHICHIJIMA ISLAND*
JMA Felt I J1 at NEAR CHICHIJIMA ISLAND .

ISC 11 10:34:43.9±0.8, **27°.49N**±0°.10×**141°.9E**±0°.2, **h39**km, **n20**, σ**1°69**/14, **mb3.4/5, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.45**	**150**	P	**Pn**	**10 34 54.9**	**+1.1**
CBIJ				S	**Sn**	**10 35 04.1**	**+3.2**
CBIJ	**Chichi jima**	**0.45**	**150**	A	A	10 34 54.9	
	comp=E,32nm,1.1s,comp=N,60nm,0.7s						
JCJ	**Chichijima**	**0.45**	**150**	LR	LR	10 34 50.2	
	comp=N,130nm,18.8s,baz=88,slow=33						
JCJ				Pn	**Pn**	**10 34 50.9**	**-3.0**
	comp=N,546nm,0.3s,baz=352,slow=15,SNR=1120						
JCJ				Sn	**Sn**	**10 34 59.3**	**-1.6**
	comp=N,4μm,0.3s,baz=311,slow=19,SNR=98						
JHH2	**Haha-jima-NKT2**	**0.88**	**165**	P	**Pn**	**10 34 59.4**	**-0.3**
JHH2				S	**Sn**	**10 35 11.8**	**+0.6**
JHH2	**Haha-jima-NKT2**	**0.88**	**165**	A	A	10 34 59.4	
	comp=E,18nm,0.5s,comp=N,14nm,0.3s						
JRY	**Ryogami san**	**8.89**	**344**	*e*P	**Pn**	**10 36 50.5**	**+0.7**
JAG	**Ashikaga**	**9.16**	**347**	*e*P	**Pn**	**10 36 52.3**	**-1.1**
MJAR	**Matsushiro Arr**	**9.56**	**342**	Pn	**Pn**	**10 36 58.4**	**-0.6**
	comp=N,0.1nm,0.3s,baz=160,slow=12,SNR=3.6						
MJAR				LR	LR	10 40 40.5	
	comp=N,43nm,21.1s,baz=162,slow=38						
	comp=N,1.7nm,0.7s						
GUMO	**Guam**	**14.10**	**168**	LR	LR	10 41 24.8	
	comp=N,21nm,18.1s,baz=54,slow=29						
KLR	**Kul'dur**	**23.09**	**343**	P	**P**	**10 39 44.9**	**-1.2**
	comp=N,2.7nm,1.1s,baz=150,slow=13,SNR=5.5						
	comp=N,2.7nm,1.1s						
H11N2	**WAKE ISLAND Hy**	**24.11**	**103**	T	T	11 04 52.8	
	baz=293,slow=75,SNR=20						
H11N1	**WAKE ISLAND Hy**	**24.11**	**103**	T	T	11 04 52.1	
	baz=293,slow=75,SNR=14						
H11N3	**WAKE ISLAND Hy**	**24.13**	**103**	T	T	11 04 52.1	
	baz=293,slow=75,SNR=23						
H11S3	**WAKE ISLAND Hy**	**24.45**	**106**	T	T	11 05 19.1	
	baz=297,slow=75,SNR=11						
H11S1	**WAKE ISLAND Hy**	**24.45**	**106**	T	T	11 05 19.3	
	baz=297,slow=75,SNR=9.4						
H11S2	**WAKE ISLAND Hy**	**24.46**	**106**	T	T	11 05 16.7	
	baz=297,slow=75,SNR=11						
WRA	**Warramunga Arr**	**47.72**	**190**	P	**P**	**10 43 15.6**	**-1.4**
	comp=N,0.5nm,0.6s,baz=10,slow=8.6,SNR=9.9						
	comp=N,0.5nm,0.6s						
ASAR	**Alice Springs**	**51.44**	**189**	P	**P**	**10 43 45.4**	**+0.1**
	comp=N,0.4nm,1.0s,baz=18,slow=9.2,SNR=2.3						
	comp=N,0.4nm,1.0s						
KURBB	**Kurchatov Arra**	**52.61**	**314**	P	**P**	**10 43 54.9**	**+1.2**
	comp=N,0.2nm,0.5s,baz=92,slow=7.6,SNR=1.3						
	comp=N,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**71.91**	**28**	P	**P**	**10 46 03.8**	**+1.1**
	comp=N,0.1nm,0.6s,baz=300,slow=6.8,SNR=1.6						
	comp=N,0.1nm,0.6s						

NEIC ***11*** *10:53:00.8±0.9, 19°.34N±0°.02×155°.18W±0°.01, h5km±1km, Error ellipse: s-maj=3.4km s-min=2.6km az=138.0*

HVO 11 10:52:60.0±1.2, **19°.30N**±0°.02×**155°.13W**±0°.02, **h8**km±2km, **Md2.2**/15, **ML2.7**/26(NEIC), **Error ellipse: s-maj=4.1km s-min=1.9km az=135.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.08**	**1**		Pg	10 53 02.2	0.0
STCH				IAML		10 53 03.8	
	comp=E,3μm,0.1s						
JCUZ	**Jacuzzi**	**0.08**	**16**		Pg	10 53 02.2	0.0
KNHH	**Kane Nui o Ham**	**0.09**	**331**		Pg	10 53 02.1	-0.1
NPOC	**North of Pu'u**	**0.09**	**10**		Pg	10 53 02.4	+0.1
PUH	**Pauahi**	**0.11**	**309**		Pg	10 53 02.4	-0.2
PUH				IAML		10 53 06.8	
	comp=N,2μm,0.8s						
RIM	**Rim**	**0.17**	**303**	Pg	Pg	10 53 03.4	-0.1
HLP	**Hilina Pali**	**0.17**	**267**		Pg	10 53 03.8	+0.3
HLP				IAML		10 53 05.6	
	comp=N,2μm,0.7s						
HLP				IAML		10 53 07.3	
	comp=E,2μm,0.9s						
JOKA	**Jonika Flow**	**0.17**	**42**		Pg	10 53 03.7	+0.1
HTC	**Hot Caves**	**0.27**	**256**		Pb	10 53 06.1	-0.9
MLH	**Mauna Loa**	**0.31**	**308**	Pg	Pg	10 53 06.1	-0.1
MLH				IAML		10 53 11.0	
	comp=E,780nm,1.0s						
MLH				IAML		10 53 16.1	
	comp=N,1μm,0.6s						
HMH	**Humu'ula Sheep**	**0.45**	**311**		Pg	10 53 08.5	-0.2
KHU	**Kahuku**	**0.47**	**263**		Pg	10 53 09.0	-0.1
KHU					Sg	10 53 16.2	+1.0
KHU				IAML		10 53 17.0	
	comp=N,415nm,1.4s						
KHU				IAML		10 53 19.1	
	comp=E,449nm,0.9s						
MWH	**Moku'aweowe**	**0.48**	**292**		Pg	10 53 08.1	-1.3
MLOA	**Mauna Loa Obse**	**0.48**	**299**	Pg	Pg	10 53 08.9	-0.5
MLOA				IAML		10 53 16.4	
	comp=E,551nm,0.7s						
MLOA				IAML		10 53 18.0	
	comp=N,547nm,0.7s						
ALEP	**Alea Permanent**	**0.54**	**296**		Pg	10 53 09.7	-0.9
ALEP					Sg	10 53 18.1	+0.4
POHA	**Pohakuloa**	**0.59**	**320**		Pg	10 53 10.0	-1.5
POHA					Sg	10 53 18.5	-0.7
POHA	**Pohakuloa**	**0.59**	**320**	IAML		10 53 19.0	
	comp=N,608nm,0.3s						
POHA				IAML		10 53 19.4	
	comp=N,627nm,0.1s						
HUH	**Hualalai**	**0.77**	**300**	Pg	Pg	10 53 14.4	-0.4
HUH				IAML		10 53 30.3	
	comp=N,359nm,0.9s						
HUH				IAML		10 53 30.6	
	comp=E,442nm,0.8s						

HEL ***11*** *10:58:34.2±0.2, 64°.68N×30°.69E, h0km, ML1.6, Explosion*
IDC ***11*** *10:58:35.5±3.3, 64°.64N×30°.79E, h0km, mbtmp2.7/3, ML2.1/2, Error ellipse: s-maj=56.3km s-min=10.5km az=106.0*

ISC 11 10:58:33.4±1.1, **64°.70N**±0°.03×**30°.84E**±0°.06, **h0**km, **n28**, σ**1°54**/41, **Finland-Karelia border region**

| Code | Station Name | Δ° | AZ° | Phase ID

comp=Z,0.2nm,0.3s,baz=30,slow=15,SNR=7.2
FINES Lg Lg 11 00 34.9
comp=Z,0.3nm,0.3s,baz=41,slow=26,SNR=5.5
RAJF Raja-Jooseppi 3.92 346 PN **Pn 10 59 35.3 +0.5**
PAJU Pajala 3.94 310 SG **Sb 11 00 35.0 +3.3**
VJF Virojoki 4.44 201 SG **Sb 11 00 50.1 +3.9**
HEF Hetta 4.70 326 PN **Pn 10 59 47.8 +2.3**
HEF SG **Sb 11 00 56.4 +2.9**
KMNF Kaamanen 4.72 343 PN **Pn 10 59 46.2 +0.4**
ARCES ARCESS Array B 5.28 339 Pn **Pn 10 59 53.6 +0.1**
baz=153,slow=13,SNR=13
ARCES Lg Lg 11 01 14.9
comp=Z,0.1nm,0.3s,baz=144,slow=34,SNR=2.8
comp=Z,0.3nm,0.2s
I37NO I37NO 6.51 318 I I 11 38 20.0
baz=127,slow=321,SNR=0.8
HFS Hagfors 9.16 248 Pn **Pn 11 00 45.0 -1.6**
comp=Z,0.1nm,0.3s,baz=61,slow=12,SNR=1.3
comp=Z,0.7nm,0.8s

MIRAS 11 11:06:40.0, 56°.95N×59°.92E, h0km, ML2.3/4, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SVE	**Sverdlovsk** 9.3nm,0.2s,baz=110	**0.41**	**107**	*i* P	Pg		11 06 47.0	-0.9
SVE	20nm,0.3s,baz=110			*i* S	Sg		11 06 51.9	-1.3
SVE	134nm,0.5s,baz=110			*i* AML	AML		11 06 55.5	
SVE	**Sverdlovsk** 9.3nm,0.2s	**0.41**	**107**	*i* P	Pg		11 06 47.0	-0.9
SVE	84nm,0.6s			*i* S	Sg		11 06 51.9	-1.3
SVE	134nm,0.5s			*i* AML	AML		11 06 55.5	
ARU	**Arti** 4.8nm,0.2s,baz=238	**0.91**	**236**	*i* P	Pb		11 06 59.1	+0.4
ARU	3.4nm,0.9s,baz=238			*i* S	Sb		11 07 12.0	+0.6
ARU	14nm,0.8s			*i* AML	AML		11 07 17.6	
ARU	**Arti** 4.8nm,0.2s	**0.91**	**236**	*i* P	Pb		11 06 59.1	+0.4
ARU	7.3nm,0.3s			*i* S	Sb		11 07 12.0	+0.6
ARU	11nm,1.1s			*i* AML	AML		11 07 18.8	
KAUR	**Kamensk Uralsk** 7.8nm,0.1s,baz=122	**1.02**	**120**	*e*P	Pg		11 06 58.3	-1.1
KAUR	30nm,0.4s,baz=122			*e*S	Sg		11 07 10.1	-2.5
KAUR	33nm,0.9s			*i* AML	AML		11 07 19.2	
KAUR	**Kamensk Uralsk** 8.4nm,0.5s	**1.02**	**120**	*i* P	Pg		11 06 58.1	-1.3
KAUR	21nm,0.2s			*i* S	Sg		11 07 10.8	-1.7
KAUR	57nm,1.4s			*i* AML	AML		11 07 16.4	
KAUR				*i* A	A		11 07 16.5	
PR3R	**Kungur** baz=288	**1.66**	**289**	*e*S	Sg		11 07 34.3	+0.9
PR3R	9.8nm,0.4s			*i* AML	AML		11 07 37.6	
PR7R	**Sarany** 17nm,0.1s	**1.72**	**339**	*i* P	Pg		11 07 14.4	+1.5
PR7R	97nm,0.2s			*i* S	Sg		11 07 38.8	+3.5
PR7R				*i* AML	AML		11 07 41.1	
PR7R	163nm,0.2s			*i* AML	AML		11 07 41.1	

RSNC 11 11:13:09.5±0.0, 7°N±2°×7°3W±°, h140km±4km, M1.8, mb4.0, ML1.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.21**	**189**	P	Pn		11 13 27.6	-1.3
BARC				S	Sn		11 13 42.6	-1.0
PAMC	**Pamplona, Colo**	**0.70**	**40**	P	Pn		11 13 30.6	-0.9
PAMC				S	Sn		11 13 47.8	-0.4
RUSC	**La Rusia**	**0.90**	**176**	P	Pn		11 13 31.8	-1.3
RUSC				S	Sn		11 13 50.4	-0.6
PTBC	**PUERTO BERRIO,**	**1.32**	**259**	P	Pn		11 13 34.4	-2.1
PTBC				S	Sn		11 13 55.6	-1.4
TAMC	**Tame, Arauca**	**1.40**	**105**	P	Pn		11 13 36.0	-1.3
OCAC	**Ocana**	**1.44**	**353**	P	Pn		11 13 36.4	-1.5
OCAC				S	Sn		11 13 59.8	+0.3
SPBC	**San Pablo de B**	**1.46**	**219**	P	Pn		11 13 37.0	-1.0
SPBC				S	Sn		11 13 59.0	-0.8
ZARC	**Zaragoza, Cauc**	**1.83**	**292**	P	Pn		11 13 40.4	-1.6
ZARC				S	Sn		11 14 06.1	-0.8
NORC	**Norcasia**	**2.10**	**234**	P	Pn		11 13 44.2	-1.2
NORC				S	Sn		11 14 12.1	-0.8
ROSC	**El Rosal**	**2.27**	**211**	P	Pn		11 13 48.3	+0.6
UREC	**San Jos de Ur**	**2.55**	**292**	P	Pn		11 13 48.3	-2.4
UREC				S	Sn		11 14 19.2	-3.3
PTGC	**Puerto Gaitan,**	**2.77**	**159**	P	Pn		11 13 51.4	-2.3
PTGC				S	Sn		11 14 24.5	-3.2
PRAC	**Prado**	**3.52**	**210**	P	Pn		11 14 01.8	-1.5
PRAC				S	Sn		11 14 43.5	-1.4
SJCC	**San Jacinto, C**	**3.67**	**327**	P	Pn		11 14 01.9	-3.4
SJCC				S	Sn		11 14 43.5	-5.1
URIC	**Uribia, Colomb**	**5.00**	**13**	P	Pn		11 14 23.2	+0.4

*NEIC **11** 11:16:48.1±0.9, 19°.32N±0°.03×155°.14W±0°.03, h9km±2km, Error ellipse: s-maj=5.5km s-min=2.6km az=144.0*
HVO 11 11:16:47.8±0.9, 19°.31N±0°.03×155°.09W±0°.03, h7km±2km, Md2.0/5, ML2.6/20(NEIC), Error ellipse: s-maj=5.6km s-min=3.1km az=138.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.08**	**355**		Pg		11 16 49.6	-0.2
STCH	**Steam Cracks**	**0.09**	**340**		Pg		11 16 49.9	0.0
STCH	comp=N,2μm,0.4s			IAML			11 16 51.6	
NPOC	**North of Pu'u**	**0.09**	**351**		Pg		11 16 50.0	+0.1
KNHH	**Kane Nui o Ham**	**0.10**	**316**		Pg		11 16 50.1	-0.1
PUH	**Pauahi**	**0.13**	**301**		Pg		11 16 50.6	-0.1
PUH	comp=E,1μm,0.7s			IAML			11 16 51.2	
PUH	comp=N,2μm,1.3s			IAML			11 16 54.8	
JOKA	**Jonika Flow**	**0.15**	**34**		Pg		11 16 51.3	+0.3
HLP	**Hilina Pali**	**0.20**	**267**		Pg		11 16 52.2	+0.3
HTC	**Hot Caves**	**0.29**	**257**		Pg		11 16 54.3	+0.8
MLH	**Mauna Loa**	**0.33**	**304**		Pg		11 16 54.2	-0.2
MLH	comp=E,786nm,1.4s			IAML			11 17 02.1	
HMH	**Humu'ula Sheep**	**0.47**	**309**		Pg		11 16 56.9	-0.1
HMH					Sg		11 17 03.5	+0.4
HMH	comp=E,606nm,0.3s			IAML			11 17 04.0	
HMH	comp=N,649nm,0.3s			IAML			11 17 04.0	
KHU	**Kahuku**	**0.49**	**263**		Pg		11 16 56.9	-0.5
KHU	comp=N,544nm,1.5s			IAML			11 17 01.8	
KHU	comp=E,621nm,1.4s			IAML			11 17 10.4	
MWH	**Moku'aweowe**	**0.51**	**291**		Pg		11 16 57.3	-0.4
ALEP	**Alea Permanent**	**0.57**	**294**		Pg		11 16 58.0	-0.9
POHA	**Pohakuloa**	**0.61**	**318**		Pg		11 16 59.2	-0.5
POHA					Sg		11 17 06.8	-0.9
POHA	**Pohakuloa** comp=E,394nm,0.7s	**0.61**	**318**	IAML			11 17 05.9	
POHA	comp=E,441nm,0.7s			IAML			11 17 07.2	

HEL 11 11:19:46.7±0.1, 62°.96N×28°.74E, h0km, ML1.3, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
NIF	**Nilsia**	**0.60**	**316**	PG	Pg		11 19 57.3	-0.9
JOF	**Joensuu**	**1.18**	**91**	PG	Pg		11 20 07.9	-1.4
JOF				SG	Sg		11 20 23.2	-1.3
SUF	**Sumiainen**	**1.21**	**259**	PG	Pg		11 20 08.5	-1.4
SUF				MSG			11 20 23.5	
SUF	comp=Z,1.3nm,0.2s				SG	Sg	11 20 24.7	-0.9
RMF	**Romuvaara** baz=204	**1.37**	**22**	PG	Pg		11 20 11.4	-1.5
RMF	comp=Z,8.6nm,0.2s			MSG			11 20 27.9	
RMF				SB	Sg		11 20 30.4	-0.2
KAF	**Kangasniemi**	**1.41**	**234**	PG	Pn		11 20 11.8	-1.9
KAF	comp=Z,1.1nm,0.2s			MSG			11 20 29.2	
KAF				SB	Sg		11 20 30.9	-1.1
RUF	**Ruokolahti**	**1.55**	**176**	PG	Pn		11 20 14.4	-1.1
RUF	comp=Z,1.1nm,0.2s			MSG			11 20 33.1	
RUF				SG	Sn		11 20 34.3	-1.9
KEF	**Keuruu** baz=62	**1.96**	**248**	PG	Pn		11 20 22.2	+1.0
KEF	comp=Z,1.4nm,0.2s			MSG			11 20 45.0	
KEF				SG	Sb		11 20 47.4	-0.8
FIA0	**FINESS Array S** comp=Z,1.2nm,0.2s	**1.97**	**220**	MSG			11 20 45.3	
FIA0				SG	Sb		11 20 48.0	-0.4
OUF	**Merijarvi**	**2.27**	**310**	PG	Pn		11 20 26.7	+1.2
OUF	comp=Z,1.1nm,0.2s			MSG			11 20 54.1	
OUF				SG	Sb		11 20 56.5	-0.7
VAF	**Ylistaro** comp=Z,1.0nm,0.2s	**2.77**	**274**	MSG			11 21 08.3	
VAF				SG	Sb		11 21 10.6	-0.8
TOF	**Tornio**	**3.66**	**331**	SN	Sn		11 21 25.9	-2.5
SGF	**Sodankyl**	**4.59**	**349**	SG	Sb		11 22 07.7	+3.9

*HEL **11** 11:20:31.4±0.1, 64°.70N×30°.73E, h0km, ML1.9, Explosion*
*IDC **11** 11:20:32.9±2.6, 64°.67N×30°.69E, h0km, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=39.8km s-min=8.7km az=102.0*
*BER **11** 11:20:32.8±2.8, 64°.70N×30°.65E, h0km, ML1.9(HEL), Suspected explosion*
ISC 11 11:20:30.1±1.0, 64.72N±0°.02×30.84E±0°.07, h0km, n22, σ1s90/36, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.64**	**218**	*e*P	**Pg**		**11 20 42.4**	**+0.1**
RMF				*e*S	**Sg**		**11 20 48.9**	**-1.6**
RMF	comp=Z,21nm,0.1s			MSG			11 20 53.4	
RMF	**Romuvaara**	**0.64**	**218**	*e*P	**Pg**		**11 20 42.4**	**+0.1**
RMF				*e*S	**Sg**		**11 20 48.9**	**-1.6**
RMF	comp=Z,21nm,0.1s			MSG			11 20 53.4	
KU6	**Riekki**	**1.37**	**344**	*e*P	**Pg**		**11 20 56.1**	**-0.3**
KU6				*e*S	**Sg**		**11 21 13.8**	**-0.4**
KU6	comp=Z,21nm,0.1s			MSG			11 21 15.0	
KU6	**Riekki**	**1.37**	**344**	*e*P	**Pg**		**11 20 56.1**	**-0.3**
KU6				*e*S	**Sg**		**11 21 13.8**	**-0.4**
KU6	comp=Z,21nm,0.1s			MSG			11 21 15.0	
MSF	**Maaselka**	**1.42**	**329**	*e*P	**Pn**		**11 20 56.4**	**-0.7**
MSF				*e*S	**Sg**		**11 21 15.0**	**-0.6**
MSF	comp=Z,14nm,0.1s			MSG			11 21 17.9	
MSF	**Maaselka**	**1.42**	**329**	SB	**Sg**		**11 21 14.7**	**-0.9**
MSF	**Maaselka**	**1.42**	**329**	*e*P	**Pn**		**11 20 56.4**	**-0.7**
MSF				*e*S	**Sg**		**11 21 15.0**	**-0.6**
MSF	comp=Z,14nm,0.1s			MSG			11 21 17.9	
OLKF	**Oulanka, Finla**	**1.72**	**340**	*e*P	**Pb**		**11 21 02.1**	**-0.4**
OLKF				*e*S	**Sb**		**11 21 24.3**	**-0.4**
OLKF	**Oulanka, Finla**	**1.72**	**340**	*e*P	**Pb**		**11 21 02.1**	**-0.4**
OLKF				*e*S	**Sb**		**11 21 24.3**	**-0.4**
JOF	**Joensuu**	**1.82**	**173**	*e*P	**Pn**		**11 21 03.1**	**+0.5**
JOF				*e*S	**Sn**		**11 21 26.6**	**+0.3**
JOF	comp=Z,7.4nm,0.1s			MSG			11 21 29.1	
JOF	**Joensuu**	**1.82**	**173**	*e*P	**Pn**		**11 21 03.1**	**+0.5**
JOF				*e*S	**Sn**		**11 21 26.6**	**+0.3**
JOF	comp=Z,7.4nm,0.1s			MSG			11 21 29.1	
NIF	**Nilsia**	**1.88**	**226**	*e*P	**Pn**		**11 21 03.6**	**+0.2**
NIF				*e*S	**Sn**		**11 21 27.0**	**-0.9**
NIF	comp=Z,9.5nm,0.1s			MSG			11 21 32.2	
NIF	**Nilsia**	**1.88**	**226**	*e*P	**Pn**		**11 21 03.6**	**+0.2**
NIF				*e*S	**Sn**		**11 21 27.0**	**-0.9**
NIF	comp=Z,9.5nm,0.1s			MSG			11 21 32.2	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=40,slow=13,SNR=0.8	**3.93**	**216**	Pn	**Pn**		**11 21 32.3**	**+0.6**
FINES	comp=Z,0.3nm,0.3s,baz=31,slow=15,SNR=9.1			Pg	**Pb**		**11 21 41.5**	**+1.3**
FINES	comp=Z,1.2nm,0.3s,baz=34,slow=30,SNR=11 comp=Z,0.3nm,0.3s			Lg	Lg		11 22 31.4	
HEF	**Hetta**	**4.68**	**326**	*e*P	**Pn**		**11 21 43.8**	**+1.8**
HEF				*e*S	**Sb**		**11 22 51.9**	**+2.0**
ARA0	**ARCESS Array S**	**5.27**	**339**	*e*P	**Pn**		**11 21 50.4**	**+0.4**
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=155,slow=14,SNR=35	**5.27**	**339**	Pn	**Pn**		**11 21 50.2**	**+0.2**
ARCES	comp=Z,0.3nm,0.3s,baz=157,slow=22,SNR=6.1			Sn	**Sn**		**11 22 49.7**	**-1.6**
ARCES	comp=Z,0.7nm,0.3s,baz=149,slow=31,SNR=10 comp=Z,0.3nm,0.3s			Lg	Lg		11 23 11.8	
KEV	**Kevo**	**5.28**	**345**	*e*P	**Pn**		**11 21 50.8**	**+0.7**
SALU	**Saltoluokta**	**5.69**	**304**	*e*P	**Pn**		**11 21 58.6**	**+2.8**
JETT	**Jettan, Norway**	**6.33**	**325**	*e*P	**Pn**		**11 22 04.6**	**0.0**
I37NO	**I37NO** baz=126,slow=324,SNR=1.6	**6.50**	**318**	I	I		11 59 50.0	
HFS	**Hagfors** comp=Z,0.2nm,0.3s,baz=47,slow=11,SNR=4.6 comp=Z,0.9nm,0.6s	**9.17**	**248**	Pn	**Pn**		**11 22 42.6**	**-0.9**

*JMA **11** 11:21:54.0±0.1, 37°.1N±0°.3×141°.1E±0°.6, h54km, MV3.7/40, E OFF FUKUSHIMA PREF*
JMA Felt II J1 at E OFF FUKUSHIMA PREF .
*NIED **11** 11:21:54.0, 37°.14N×141°.06E, h54km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; M_{rr}2.76; $M_{\theta\theta}$-1.11; $M_{\phi\phi}$-1.65; $M_{r\theta}$2.35; $M_{\theta\phi}$-1.43; $M_{\phi r}$1.42; Fault plane solution: M_o3.92000×10¹⁴ NP1:φ53.00000°, δ68.00000°, λ100.00000°. NP2:φ207.00000°, δ25.00000°, λ66.00000°.*
*IDC **11** 11:21:56.7±3.7, 37°.05N×140°.96E, h80km±30km, mb3.4/6, mbtmp3.6/8, MS2.4/3 Error ellipse: s-maj=37.5km s-min=27.1km az=79.0*
ISC 11 11:21:53.2±1.2, 37°.11N±0°.05×141°.20E±0°.09, h49km±8km, n28, σ1s37/32, mb3.6/6, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.32**	**268**	*i* P	**Pn**		**11 22 02.8**	**+0.3**
ONAJ				S	**Sn**		**11 22 09.0**	**-0.1**
JFK	**Kawauchi**	**0.36**	**314**	⇓*i*P	**Pn**		**11 22 03.2**	**+0.3**
JFK				⇓S	**Sn**		**11 22 09.6**	**-0.2**
JFFD	**Fukushimafurud**	**0.51**	**268**	*i* P	**Pn**		**11 22 04.5**	**0.0**
JFFD				S	**Sn**		**11 22 12.0**	**-0.7**
JHO	**Hitachi**	**0.71**	**226**	*i* P	**Pn**		**11 22 06.9**	**-0.2**
JHO				S	**Sn**		**11 22 15.9**	**-1.2**
JMM	**Marumori**	**0.82**	**337**	⇓*i*P	**Pn**		**11 22 08.5**	**0.0**
JMM				⇓S	**Sn**		**11 22 19.3**	**-0.4**
JOTO	**OTAMA OYAMA**	**0.82**	**303**	*i* P	**Pn**		**11 22 08.6**	**0.0**
JOTO				S	**Sn**		**11 22 19.2**	**-0.6**
JFY	**Yanaizu**	**1.23**	**284**	⇓*i*P	**Pn**		**11 22 13.5**	**-0.6**
JOU	**Okura**	**1.32**	**341**	⇓*i*P	**Pn**		**11 22 15.4**	**+0.1**
JOU				⇓S	**Sn**		**11 22 31.1**	**-0.7**
JIO	**Ouri**	**1.34**	**5**	⇓*i*P	**Pn**		**11 22 15.9**	**+0.3**
JIO				⇓S	**Sn**		**11 22 31.6**	**-0.7**
JYS	**Shirataka**	**1.43**	**321**	⇓*i*P	**Pn**		**11 22 16.9**	**+0.1**
JYS				⇓S	**Sn**		**11 22 31.2**	**-3.2**
JAG	**Ashikaga**	**1.56**	**244**	*i* P	**Pn**		**11 22 18.2**	**-0.4**
JAG				S	**Sn**		**11 22 35.9**	**-1.8**
JKT	**Katashina**	**1.60**	**258**	P	**Pn**		**11 22 19.5**	**+0.3**
JKT				S	**Sn**		**11 22 37.9**	**-0.8**
MJAR	**Matsushiro Arr** 3.1nm,0.3s,baz=85,slow=15,SNR=22	**2.47**	**258**	P	**Pn**		**11 22 31.2**	**+0.3**
MJAR	8.7nm,0.5s,baz=95,slow=29,SNR=8.0			S	**Sn**		**11 23 04.1**	**+4.2**
MJAR	comp=Z,47nm,21.4s,baz=90,slow=49				LR	LR	11 23 46.7	
USRK	**Ussuriysk Ar.** 3.1nm,0.7s,baz=125,slow=11,SNR=6.7	**9.95**	**318**	P	**Pn**		**11 24 17.1**	**+3.7**
KSRS	**Korea Array** comp=Z,15nm,19.0s,baz=155,slow=38	**10.59**	**276**	LR	LR		11 28 31.2	
KLR	**Kul'dur** comp=Z,38nm,18.4s,baz=148,slow=35	**13.92**	**333**	LR	LR		11 30 02.1	
SONM	**Songino Array** 0.8nm,0.4s,baz=113,slow=11,SNR=2.8 0.8nm,0.4s	**27.60**	**304**	P	**P**		**11 27 34.7**	**-1.2**
H11N2	**WAKE ISLAND Hy** baz=314,slow=75,SNR=28	**28.33**	**121**	T	T		11 57 44.8	
H11N1	**WAKE ISLAND Hy** baz=314,slow=75,SNR=29	**28.34**	**121**	T	T		11 57 44.8	
H11N3	**WAKE ISLAND Hy** baz=314,slow=75,SNR=25	**28.35**	**121**	T	T		11 57 44.8	
H11S1	**WAKE ISLAND Hy** baz=315,slow=75	**29.04**	**123**	T	T		11 58 41.8	
H11S3	**WAKE ISLAND Hy** baz=315,slow=75	**29.04**	**123**	T	T		11 58 33.7	
H11S2	**WAKE ISLAND Hy** baz=315,slow=75	**29.06**	**123**	T	T		11 58 37.4	
ZALV	**Zalesovo Beam** 1.5nm,0.5s,baz=76,slow=6.3,SNR=5.1 1.5nm,0.5s	**41.74**	**312**	P	**P**		**11 29 36.8**	**-0.4**
MKAR	**Makanchi Array** 0.8nm,0.7s,baz=83,slow=9.8,SNR=3.1 0.8nm,0.7s	**43.93**	**302**	P	**P**		**11 29 54.8**	**-0.4**
KURBB	**Kurchatov Arra** 0.8nm,0.6s,baz=85,slow=8.5,SNR=5.9 0.8nm,0.6s	**45.82**	**308**	P	**P**		**11 30 09.3**	**-0.8**
ILAR	**Eielson Array** 0.2nm,0.5s,baz=271,slow=6.2,SNR=2.1 0.2nm,0.5s	**49.52**	**32**	P	**P**		**11 30 39.6**	**+1.0**
WRA	**Warramunga Arr** 0.3nm,0.7s,baz=4.6,slow=7.4,SNR=1.4 0.3nm,0.7s	**57.12**	**188**	P	**P**		**11 31 34.7**	**-0.1**

*IDC **11** 11:23:15.0±0.9, 60°.59N×29°.03W, h0km, mb3.7/12, mbtmp3.7/13, ML3.8/1, MS3.5/27, Error ellipse: s-maj=29.7km s-min=14.4km az=8.0*
*NEIC **11** 11:23:17.7±1.0, 60°.6N±0°.2×28°.9W±0°.1, h10km±1km, mb4.2/20, Error ellipse: s-maj=26.8km s-min=9.7km az=163.0*
ISC 11 11:23:17.2±0.7, 60°.6N±0°.1×28°.86W±0°.08, h10km, n58, σ1s13/37, mb4.0/19, MS3.5/24, Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**5.40**	**37**	Pn	**Pn**		**11 24 38.4**	**+0.7**
BORG	**Borgarnes** 2.8nm,0.3s,baz=237,slow=8.3,SNR=6.5	**5.40**	**37**	Pn	**Pn**		**11 24 37.6**	**-0.1**
BORG	0.7nm,0.3s,baz=345,slow=19,SNR=1.3 17nm,0.6s			Sn	**Sn**		**11 25 38.6**	**-1.2**
SFJD	**Kangerlussuaq** comp=Z,118nm,19.1s,baz=121,slow=35	**11.49**	**313**	LR	LR		11 29 55.0	
FRB	**Frobisher Bay** comp=Z,124nm,20.6s,baz=334,slow=34	**18.57**	**297**	LR	LR		11 33 43.3	
NOA	**NORSAR Array B** comp=Z,116nm,18.4s,baz=280,slow=33	**19.33**	**71**	LR	LR		11 33 56.4	
HFS	**Hagfors** comp=Z,112nm,18.9s,baz=318,slow=35	**20.78**	**73**	LR	LR		11 35 30.8	
SCHQ	**Schefferville** 4.7nm,0.9s,baz=58,slow=15,SNR=3.6	**20.86**	**271**	P	**P**		**11 27 57.8**	**-1.1**
SCHQ	comp=Z,77nm,20.0s,baz=252,slow=33 4.7nm,0.9s			LR	LR		11 34 39.2	
ARCES	**ARCESS Array B** comp=Z,107nm,18.6s,baz=303,slow=33	**23.73**	**45**	LR	LR		11 36 25.0	
FINES	**FINESS Array B** 3.9nm,1.1s,baz=327,slow=14,SNR=5.6	**25.96**	**64**	P	**P**		**11 28 50.4**	**+1.0**
FINES	comp=Z,68nm,21.1s,baz=340,slow=32 3.9nm,1.1s			LR	LR		11 37 01.6	
ESDC	**Sonseca Array** 2.5nm,0.8s,baz=333,slow=9.5,SNR=11 2.5nm,0.8s	**26.05**	**132**	P	**P**		**11 28 51.0**	**+0.5**
DAVOX	**Davos/Dischmat** comp=Z,80nm,20.1s,baz=259,slow=32	**26.32**	**104**	LR	LR		11 37 27.1	
GERES	**GERESS Array B** comp=Z,103nm,18.2s,baz=296,slow=38	**26.74**	**97**	LR	LR		11 40 21.6	
VRAC	**Vranov** comp=Z,89nm,19.8s,baz=320,slow=34	**27.85**	**93**	LR	LR		11 39 00.9	
FCC	**Fort Churchill**	**31.77**	**296**	P	**P**		**11 29 41.6**	**+0.5**
AKASG	**Malin Array Be** 0.2nm,0.2s,baz=297,slow=8.8,SNR=4.1 0.2nm,0.2s	**33.16**	**81**	P	**P**		**11 29 51.4**	**-2.0**
BUR08	**Bucovina Ar. S**	**33.21**	**88**	P	**P**		**11 29 54.0**	**0.0**
BUR08	comp=Z,4.2nm,1.2s			IAmb	IAmb		11 30 09.0	
BURAR	**Bucovina Array**	**33.24**	**88**	P	**P**		**11 29 55.5**	**+1.3**
SADO	**Sadowa** comp=Z,121nm,20.3s,baz=82,slow=34	**33.38**	**265**	LR	LR		11 42 00.2	
MLR	**Muntele Rosu** comp=Z,57nm,18.9s,baz=357,slow=36	**35.09**	**90**	LR	LR		11 44 25.8	
A36M	**Sachs Harbour**	**35.93**	**328**	P	**P**		**11 30 18.3**	**+1.2**
A36M	comp=Z,3.3nm,0.9s			IAmb	IAmb		11 30 20.6	
KIRV	**Kirov** comp=Z,83nm,18.1s,baz=337,slow=34	**37.48**	**57**	LR	LR		11 44 32.5	
ULM	**Lac du Bonnet** comp=Z,116nm,19.0s,baz=26,slow=35	**37.76**	**285**	LR	LR		11 44 57.8	
YKA	**Yellowknife Ar**	**38.05**	**311**	P	**P**		**11 30 36.8**	**+1.6**
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.8s,baz=47,slow=9.2,SNR=15	**38.05**	**311**	P	**P**		**11 30 35.1**	**-0.1**
YKA	comp=Z,50nm,21.1s,baz=327,slow=34 comp=Z,0.9nm,0.8s			LR	LR		11 44 54.6	
INK	**Inuvik**	**40.43**	**326**	P	**P**		**11 30 54.3**	**-0.7**
E29M	**Blow River**	**41.54**	**328**	P	**P**		**11 31 05.1**	**+0.9**
G31M	**Satah River**	**41.60**	**325**	P	**P**		**11 31 04.5**	**-0.1**
G31M	comp=Z,4.0nm,0.9s			IAmb	IAmb		11 31 04.9	
E28M	**Babbage River**	**41.81**	**329**	P	**P**		**11 31 07.8**	**+1.5**
E28M	comp=Z,6.2nm,1.3s			IAmb	IAmb		11 31 11.0	
F28M	**Old Crow**	**42.62**	**328**	P	**P**		**11 31 11.3**	**-1.7**
TKL	**Tuckaleechee C** comp=Z,69nm,21.2s,baz=3.0,slow=34	**42.63**	**260**	LR	LR		11 47 08.4	
E27K	**Coleen River**	**42.64**	**329**	P	**P**		**11 31 13.8**	**+0.6**
E27K	comp=Z,5.3nm,1.4s			IAmb	IAmb		11 31 31.4	
G29M	**Pine Creek**	**42.64**	**327**	P	**P**		**11 31 14.0**	**+0.8**
BRTR	**Keskin Array B** comp=Z,0.4nm,0.6s,baz=324,slow=7.1,SNR=1.9 comp=Z,0.4nm,0.6s	**43.16**	**90**	P	**P**		**11 31 18.0**	**+0.1**
I29M	**Ogilvie Camp,**	**43.86**	**325**	P	**P**		**11 31 23.7**	**+0.6**
J30M	**Hart River**	**43.88**	**324**	P	**P**		**11 31 24.7**	**+1.3**
J30M	comp=Z,4.3nm,1.3s			IAmb	IAmb		11 31 34.2	
L34A	**Svendsen Farm,**	**43.93**	**277**	P	**P**		**11 31 23.8**	**-0.1**
BMAR	**Burnt Mountain**	**43.95**	**330**	P	**P**		**11 31 24.9**	**+1.1**
KBZ	**Khabaz** comp=Z,2.6nm,0.9s,baz=319,slow=7.4,SNR=4.0 comp=Z,2.6nm,0.9s	**44.67**	**78**	P	**P**		**11 31 30.1**	**+0.3**
ILAR	**Eielson Array** comp=Z,0.9nm,0.8s,baz=33,slow=6.9,SNR=14 comp=Z,0.9nm,0.8s	**46.63**	**329**	P	**P**		**11 31 44.6**	**-0.4**
GNI	**Garni** comp=Z,14nm,18.1s,baz=188,slow=35	**48.28**	**80**	LR	LR		11 51 39.4	
NEW	**Newport** comp=Z,60nm,18.8s,baz=51,slow=35	**48.91**	**298**	LR	LR		11 51 43.4	
PD31	**Pinedale Array**	**49.66**	**288**		**P**		**11 32 07.8**	**-1.2**
PD31	comp=Z,1.8nm,0.9s			IAmb	IAmb		11 32 11.6	
PDAR	**Pinedale Array**	**49.66**	**288**	P	**P**		**11 32 08.3**	**-0.7**
PDAR	**Pinedale Array** comp=Z,1.2nm,0.8s,baz=33,slow=5.7,SNR=9.2	**49.66**	**288**	P	**P**		**11 32 07.6**	**-1.4**
PDAR	comp=Z,90nm,18.4s,baz=15,slow=35 comp=Z,1.2nm,0.8s			LR	LR		11 52 22.5	
BVAR

comp=Z,0.4nm,0.7s,baz=59,slow=4.0,SNR=4.4
NVAR LR LR 11 56 02.5
comp=Z,54nm,19.2s,baz=10.0,slow=34
comp=Z,0.4nm,0.7s
TXAR Lajitas Array 57.53 273 P **P** **11 33 04.9 -1.8**
comp=Z,0.2nm,0.5s,baz=79,slow=4.6,SNR=3.5
comp=Z,0.2nm,0.5s
GWY Greenwater Val 58.22 288 P **P** **11 33 11.6 0.0**
S12K Black Hills 58.26 331 P **P** **11 33 12.4 +1.1**
MKAR Makanchi Array 59.34 48 P **P** **11 33 18.1 -0.9**
comp=Z,0.2nm,0.6s,baz=330,slow=5.0,SNR=2.7
comp=Z,0.2nm,0.6s
CMIG Matias Romero 63.53 257 LR LR 12 01 36.0
comp=Z,35nm,18.9s,baz=1.5,slow=36
JTS Las Juntas de 64.84 244 LR LR 12 01 10.7
comp=Z,18nm,18.1s,baz=9.0,slow=35
WSAR Wadi Sarin 68.83 80 LR LR 12 06 29.1
comp=Z,37nm,18.5s,baz=99,slow=38
LSZ Lusaka 88.22 126 LR LR 12 15 04.6
comp=Z,13nm,18.6s,baz=194,slow=35

*BGR **11** 11:38:58.0±0.2,50.26N×12.44E,h11km±1km, ML2.2/7, Error ellipse: s-maj=2.2km s-min=1.1km az=99.0*
*CLL **11** 11:38:58.7±0.3,50.27N×12.44E,h8km, ML2.3*
WBNET 11 11:38:58.4,50.26N×12.44E,h9km,Ml2.3,8C-15D, Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**277**	⇓P	Pg	11 39 00.1	0.0
LBCW				S	Sg	11 39 01.4	+0.1
LBCW	**Luby**	**0.02**	**277**	⇓P	Pg	11 39 00.2	+0.1
LBCW				S	Sg	11 39 01.5	+0.2
NKC	**Novy Kostel**	**0.03**	**174**	*i* Pg	Pg	11 39 00.2	0.0
NKC				*i* Sg	Sg	11 39 01.3	0.0
NKC				IAML		11 39 01.7	
	comp=N,3μm,0.1s						
NKC	**Novy Kostel**	**0.03**	**174**	*i* Pg	Pg	11 39 00.2	0.0
NKC				*i* Sg	Sg	11 39 01.3	0.0
	comp=N,3μm,0.1s						
NKC	**Novy Kostel**	**0.03**	**174**	⇓P	Pg	11 39 00.1	0.0
NKC				S	Sg	11 39 01.3	0.0
NKC	**Novy Kostel**	**0.03**	**174**	⇓P	Pg	11 39 00.3	+0.1
NKC				S	Sg	11 39 01.5	+0.1
STCW	**Studenec**	**0.05**	**95**	*i* Pg	Pg	11 39 00.3	-0.1
STCW				*i* Sg	Sg	11 39 01.5	-0.2
STCW	**Studenec**	**0.05**	**95**	*i* Pg	Pg	11 39 00.3	-0.1
STCW				*i* Sg	Sg	11 39 01.5	-0.2
STCW	**Studenec**	**0.05**	**95**	⇓P	Pg	11 39 00.3	-0.1
STCW				S	Sg	11 39 01.5	-0.2
STCW	**Studenec**	**0.05**	**95**	⇓P	Pg	11 39 00.4	+0.1
STCW				S	Sg	11 39 01.6	-0.1
WERN	**Wernitzgruen**	**0.05**	**300**	*i* Pg	Pg	11 39 00.3	0.0
WERN				*i* Sg	Sg	11 39 01.7	-0.1
WERN				IAML		11 39 01.9	
	comp=E,961nm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**300**	*i* Pg	Pg	11 39 00.3	0.0
WERN				*i* Sg	Sg	11 39 01.7	-0.1
	comp=E,961nm,0.2s						
VAC	**Vackov**	**0.05**	**236**	*i* Pg	Pg	11 39 00.3	-0.1
VAC				*i* Sg	Sg	11 39 01.6	-0.2
VAC	**Vackov**	**0.05**	**236**	⇓P	Pg	11 39 00.3	-0.1
VAC				S	Sg	11 39 01.5	-0.2
VAC	**Vackov**	**0.05**	**236**	⇓P	Pg	11 39 00.4	+0.1
VAC				S	Sg	11 39 01.7	0.0
POCW	**Potky**	**0.06**	**350**	⇓P	Pg	11 39 00.4	0.0
POCW				S	Sg	11 39 01.9	0.0
POCW	**Potky**	**0.06**	**350**	⇓P	Pg	11 39 00.5	+0.1
POCW				S	Sg	11 39 02.0	+0.1
KVC	**Kvetna**	**0.07**	**141**	*i* Pg	Pg	11 39 00.5	-0.1
KVC				*i* Sg	Sg	11 39 01.9	-0.2
KVC	**Kvetna**	**0.07**	**141**	⇑P	Pg	11 39 00.5	0.0
KVC				S	Sg	11 39 02.0	-0.2
KVC	**Kvetna**	**0.07**	**141**	⇓P	Pg	11 39 00.7	+0.1
KVC				S	Sg	11 39 02.1	0.0
ROHR	**Rohrbach**	**0.09**	**250**	*i* Pg	Pg	11 39 00.6	-0.1
ROHR				*i* Sg	Sg	11 39 02.1	-0.3
ROHR				IAML		11 39 02.4	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**250**	*i* Pg	Pg	11 39 00.6	-0.1
ROHR				*i* Sg	Sg	11 39 02.1	-0.3
	comp=E,2μm,0.1s						
KRCW	**Kraslice**	**0.09**	**39**	⇑P	Pg	11 39 00.7	-0.1
KRCW				S	Sg	11 39 02.3	-0.2
KRCW	**Kraslice**	**0.09**	**39**	⇑P	Pg	11 39 00.8	0.0
KRCW				S	Sg	11 39 02.5	-0.1
SKC	**Skalna**	**0.11**	**209**	⇑P	Pg	11 39 01.0	0.0
SKC				S	Sg	11 39 02.8	0.0
SKC	**Skalna**	**0.11**	**209**	⇑P	Pg	11 39 01.1	+0.1
SKC				S	Sg	11 39 02.9	+0.1
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	Pg	11 39 01.2	0.0
GUNZ				*i* Sg	Sg	11 39 03.2	-0.1
GUNZ				IAML		11 39 03.7	
	comp=E,525nm,0.1s						
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	Pg	11 39 01.2	0.0
GUNZ				*i* Sg	Sg	11 39 03.2	-0.1
	comp=E,525nm,0.1s						
KOCW	**Kopaniny**	**0.13**	**271**	⇓P	Pg	11 39 01.3	-0.1
KOCW				S	Sg	11 39 03.4	-0.2
KOCW	**Kopaniny**	**0.13**	**271**	⇓P	Pg	11 39 01.5	0.0
KOCW				S	Sg	11 39 03.5	-0.1
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg	Pg	11 39 01.6	-0.1
MULD				*i* Sg	Sg	11 39 03.8	-0.3
MULD				IAML		11 39 04.0	
	comp=E,985nm,0.1s						
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg	Pg	11 39 01.6	-0.1
MULD				*i* Sg	Sg	11 39 03.8	-0.3
	comp=E,985nm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	Pg	11 39 01.6	-0.2
TANN				*i* Sg	Sg	11 39 03.8	-0.3
TANN				IAML		11 39 04.0	
	comp=N,1μm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	Pg	11 39 01.6	-0.2
TANN				*i* Sg	Sg	11 39 03.8	-0.3
	comp=N,1μm,0.1s						
TRCW	**Trojmez**	**0.20**	**282**	⇓P	Pg	11 39 02.3	-0.1
TRCW				S	Sg	11 39 05.1	-0.1
TRCW	**Trojmez**	**0.20**	**282**	⇓P	Pg	11 39 02.5	0.0
TRCW				S	Sg	11 39 05.2	0.0
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	11 39 02.5	-0.1
WERD				*e*Sg	Sg	11 39 05.2	-0.3
WERD				IAML		11 39 05.4	
	comp=E,255nm,0.3s						
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	11 39 02.5	-0.1
WERD				*e*Sg	Sg	11 39 05.2	-0.3
	comp=E,255nm,0.3s						
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	Pg	11 39 02.7	0.0
ZHC				S	Sg	11 39 05.6	0.0
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	Pg	11 39 02.8	+0.1
ZHC				S	Sg	11 39 05.8	+0.1
TRIB	**Obertriebel**	**0.21**	**294**	*i* Pg	Pg	11 39 02.6	-0.2
TRIB				*i* Sg	Sg	11 39 05.6	-0.2
TRIB				IAML		11 39 06.1	
	comp=E,209nm,0.1s						
TRIB	**Obertriebel**	**0.21**	**294**	*i* Pg	Pg	11 39 02.6	-0.2
TRIB				*i* Sg	Sg	11 39 05.6	-0.2
	comp=E,209nm,0.1s						
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg	Pg	11 39 02.9	-0.2
VIEL				*i* Sg	Sg	11 39 06.2	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg	Pg	11 39 02.9	-0.2
VIEL				*i* Sg	Sg	11 39 06.2	-0.1
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	11 39 03.3	0.0
LACW				*i* Sg	Sg	11 39 06.8	+0.2
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	11 39 03.3	0.0
LACW				*i* Sg	Sg	11 39 06.8	+0.2
LACW	**Lazy**	**0.24**	**151**	⇑P	Pg	11 39 03.4	+0.1
LACW				S	Sg	11 39 06.8	+0.2
LACW	**Lazy**	**0.24**	**151**	S	Sg	11 39 06.9	+0.3
PLN	**Plauen**	**0.29**	**321**	*i* Pg	Pg	11 39 04.0	-0.2
PLN				*i* Sg	Sg	11 39 07.9	-0.2
PLN				IAML		11 39 08.3	
	comp=E,310nm,0.1s						
PLN	**Plauen**	**0.29**	**321**	*i* Pg	Pg	11 39 04.0	-0.2
PLN				*i* Sg	Sg	11 39 07.9	-0.2
	comp=E,310nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg	Pg	11 39 05.1	-0.2
MANZ				*e*Sg	Sg	11 39 10.0	0.0
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg	Pg	11 39 06.2	-0.3
SCHF				*i* Sg	Sg	11 39 12.0	-0.1
SCHF				IAML		11 39 12.1	
	comp=E,190nm,0.2s						
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg	Pg	11 39 06.2	-0.3
SCHF				*i* Sg	Sg	11 39 12.0	-0.1
	comp=E,190nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	11 39 07.0	-0.2
GRZ1				*i* Sg	Sg	11 39 12.7	-0.5
GRZ1				IAML		11 39 13.9	
	comp=E,119nm,0.4s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	11 39 07.0	-0.2
GRZ1				*i* Sg	Sg	11 39 12.7	-0.5
	comp=E,119nm,0.4s						
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Pg	Pg	11 39 08.3	-0.2
ROTZ				*e*Sg	Sg	11 39 15.2	-0.1
MOX	**Moxa**	**0.65**	**306**	*e*Sg	Sg	11 39 19.4	-0.1
FBE	**Freiberg**	**0.88**	**41**	*e*Sg	Sg	11 39 26.1	-0.7
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Sg	Sg	11 39 29.3	-0.4
CLL	**Collm**	**1.10**	**19**	*i* Pg	Pg	11 39 18.9	-0.7
CLL				*i* x	x	11 39 20.8	
CLL				*i* x	x	11 39 22.5	
CLL				*i* Sg	Sg	11 39 33.7	-0.3
	comp=Z,32nm,0.5s						
CLL				*i* x	x	11 39 37.2	
CLL	**Collm**	**1.10**	**19**	*e*Pg	Pg	11 39 19.0	-0.7
CLL				*e*Sg	Sg	11 39 33.6	-0.3
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pb	11 39 19.7	-0.4
BRG				Sg	Sg	11 39 34.5	-0.4
BRG				Amp		11 39 35.2	
	comp=Z,46nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg	Pb	11 39 19.7	-0.5
BRG				*e*Sg	Sg	11 39 34.4	-0.5
WET	**Wettzell**	**1.16**	**166**	*e*Sg	Sg	11 39 35.3	-0.2
PRU	**Pruhonice**	**1.38**	**101**	*e*Sg	Sn	11 39 42.3	+0.2
GEC2	**GERESS Array S**	**1.64**	**150**	*e*Sg	Sn	11 39 49.1	+0.3

*IDC **11** 11:48:46.9±0.8, 16.20S×173.43W, h0km, mb3.9/8, mbtmp3.9/8, MS3.6/3, Error ellipse: s-maj=41.2km s-min=21.6km az=138.0*
*NEIC **11** 11:48:48.5±2.6, 16.26S±0.08×173.29W±0.09, h10km±1km, mb4.6/18, Error ellipse: s-maj=15.8km s-min=12.3km az=133.0*
ISC 11 11:48:47.9±0.6, 16.30S±0.09×173.37W±0.10, h10km, n51, σ0.94/43, mb4.5/15, MS3.5/3, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**2.83**	**33**		**Pn**	**11 49 30.6**	**-2.8**
NIUE	**Niue**	**4.29**	**131**		**Pn**	**11 49 51.3**	**-1.9**
MSVF	**Nonsavu**	**8.33**	**259**	Pn	**Pn**	**11 50 48.4**	**-0.4**
EIDS	**Eidsvold**	**34.34**	**249**	P	**P**	**11 55 33.6**	**-1.4**
EIDS				IAmb	IAmb	11 56 18.0	
	comp=Z,7.9nm,1.2s						
ARMA	**Armidale**	**34.91**	**240**	P	**P**	**11 55 38.3**	**-1.7**
H11S2	**WAKE ISLAND Hy**	**39.75**	**330**	T	T	12 38 00.1	
	baz=149,slow=76,SNR=23						
H11S3	**WAKE ISLAND Hy**	**39.76**	**330**	T	T	12 38 01.1	
	baz=149,slow=76,SNR=11						
H11S1	**WAKE ISLAND Hy**	**39.77**	**330**	T	T	12 38 00.4	
	baz=149,slow=76,SNR=11						
H11N3	**WAKE ISLAND Hy**	**40.71**	**331**	T	T	12 39 10.7	
	baz=150,slow=76,SNR=16						
H11N1	**WAKE ISLAND Hy**	**40.71**	**331**	T	T	12 39 12.1	
	baz=150,slow=76,SNR=13						
H11N2	**WAKE ISLAND Hy**	**40.73**	**331**	T	T	12 39 12.1	
	baz=150,slow=76,SNR=23						
STKA	**Stephens Creek**	**43.62**	**241**	LR	LR	12 13 12.9	
	comp=Z,59nm,19.5s,baz=31,slow=34						
BBOO	**Buckleboo**	**48.39**	**240**	P	**P**	**11 57 30.5**	**+0.2**
WB0	**Warramunga Arr**	**49.63**	**258**	P	**P**	**11 57 40.5**	**+0.4**
WB0				IAmb	IAmb	11 57 54.3	
	comp=Z,12nm,1.4s						
WB2	**Warramunga Arr**	**49.66**	**257**	P	**P**	**11 57 39.8**	**-0.5**
WB2				IAmb	IAmb	11 58 01.8	
	comp=Z,8.5nm,0.9s						
WRA	**Warramunga Arr**	**49.67**	**257**	P	**P**	**11 57 39.7**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=94,slow=6.7,SNR=2.6						
	comp=Z,0.3nm,0.3s						
AS31	**Alice Springs**	**49.86**	**253**	P	**P**	**11 57 41.9**	**+0.1**
ASAR	**Alice Springs**	**49.86**	**253**	P	**P**	**11 57 42.2**	**+0.4**
ASAR	**Alice Springs**	**49.86**	**253**	P	**P**	**11 57 41.8**	**0.0**
	comp=Z,3.8nm,0.7s,baz=89,slow=8.3,SNR=66						
ASAR				LR	LR	12 17 51.7	
	comp=Z,76nm,18.0s,baz=98,slow=35						
	comp=Z,3.8nm,0.7s						
SHEM	**Shemya Is, Ala**	**69.60**	**352**	LR	LR	12 22 57.8	
	comp=Z,33nm,21.6s,baz=152,slow=30						
QSPA	**South Pole Qui**	**73.75**	**180**	P	**P**	**12 00 22.1**	**0.0**
QSPA				IAmb	IAmb	12 00 24.3	
	comp=Z,5.2nm,1.1s						
QSPA	**South Pole Qui**	**73.75**	**180**	P	**P**	**12 00 23.7**	**+1.5**
	comp=Z,2.7nm,0.9s,baz=50,slow=1.3,SNR=9.6						
	comp=Z,2.7nm,0.9s						
NVAR	**Mina Array Bea**	**74.98**	**42**	P	**P**	**12 00 30.1**	**+0.2**
	comp=Z,1.3nm,0.8s,baz=226,slow=9.9,SNR=10.0						
	comp=Z,1.3nm,0.8s						
TPH	**Tonopah**	**75.47**	**43**	P	**P**	**12 00 33.7**	**+1.0**
LCMT	**Little Creek M**	**77.55**	**45**	P	**P**	**12 00 44.4**	**+0.1**
CCUT	**Cedar City**	**77.75**	**45**	P	**P**	**12 00 46.6**	**+1.0**
TXAR	**Lajitas Array**	**81.09**	**56**	P	**P**	**12 01 04.3**	**+0.4**
	comp=Z,0.2nm,0.7s,baz=246,slow=6.7,SNR=3.6						
	comp=Z,0.2nm,0.7s						
PDAR	**Pinedale Array**	**82.92**	**42**	P	**P**	**12 01 13.4**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=215,slow=2.5,SNR=9.3						
	comp=Z,1.1nm,0.7s						
BOZ	**Bozeman (W)**	**83.08**	**39**	P	**P**	**12 01 14.9**	**+0.9**
ILAR	**Eielson Array**	**83.32**	**11**	P	**P**	**12 01 14.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=229,slow=6.0,SNR=13						
	comp=Z,0.7nm,0.7s						
E18K	**Tukpahlearik C**	**84.01**	**5**	P	**P**	**12 01 18.5**	**+0.4**
E19K	**Redstone River**	**84.36**	**6**	P	**P**	**12 01 21.1**	**+1.3**
E19K				IAmb	IAmb	12 01 21.7	
	comp=Z,3.0nm,0.9s						
BILL	**Bilibino**	**85.40**	**352**	P	**P**	**12 01 25.5**	**+0.4**
BILL				IAmb	IAmb	12 01 26.6	
	comp=Z,4.8nm,1.1s						
I30M	**Mount Dempster**	**85.97**	**15**	P	**P**	**12 01 28.2**	**0.0**
I30M				IAmb	IAmb	12 01 31.1	
	comp=Z,4.7nm,1.2s						
BMAR	**Burnt Mountain**	**86.13**	**11**	P	**P**	**12 01 30.7**	**+2.0**
H29M	**Whitestone**	**86.33**	**13**	P	**P**	**12 01 30.4**	**+0.7**
H29M				IAmb	IAmb	12 01 31.1	
	comp=Z,4.7nm,0.9s						
YKA	**Yellowknife Ar**	**90.91**	**23**	P	**P**	**12 01 51.5**	**0.0**
	comp=Z,0.5nm,1.1s,baz=269,slow=4.0,SNR=4.1						
	comp=Z,0.5nm,1.1s						
BRTR	**Keskin Array B**	**146.87**	**320**	PKPbc	**PKPbc**	**12 08 31.9**	**+0.9**
	comp=Z,3.0nm,0.8s,baz=111,slow=3.2,SNR=16						
GERES	**GERESS Array B**	**147.03**	**351**	PKPbc	**PKPbc**	**12 08 32.0**	**+0.9**
	comp=Z,2.1nm,0.8s,baz=32,slow=7.8,SNR=6.0						
CONA	**Conrad Observa**	**147.56**	**348**	*i* PKP	**PKPbc**	**12 08 33.7**	**+1.1**
	comp=Z,3.8nm,0.7s						
RONA	**Rosalia, Austr**	**147.69**	**348**	*i* PKP	**PKiKP**	**12 08 34.6**	**-0.3**
	comp=Z,9.6nm,1.2s						
MOA	**Molln**	**147.92**	**350**	*i* PKP	**PKPbc**	**12 08 34.0**	**+0.6**
	comp=Z,3.4nm,0.9s						
RETA	**Reutte**	**148.72**	**355**	*e*PKiKP	**PKiKP**	**12 08 37.0**	**-0.2**
	comp=Z,4.9nm,1.1s						
WATA	**Walderalm**	**148.79**	**354**	*i* PKP	**PKPbc**	**12 08 36.9**	**+1.0**
	comp=Z,5.5nm,0.9s						
KBA	**Koelnbreinsper**	**148.81**	**351**	*i* PKP	**PKPbc**	**12 08 36.3**	**+0.3**
	comp=Z,4.7nm,1.0s						
MOTA	**Moosalm**	**148.83**	**354**	*i* PKiKP	**PKPbc**	**12 08 37.1**	**+1.0**
	comp=Z,3.8nm,0.7s						
WTTA	**Wattenberg**	**148.85**	**353**	*i* PKP	**PKPbc**	**12 08 36.9**	**+0.7**
	comp=Z,3.7nm,0.6s						
SOKA	**Soboth**	**148.92**	**349**	*i* PKP	**PKPbc**	**12 08 36.1**	**0.0**
	comp=Z,6.0nm,1.2s						
DAVA	**Damuels**	**148.99**	**356**	*i* PKiKP	**PKiKP**	**12 08 37.9**	**+0.1**
	comp=Z,7.7nm,1.0s						
FETA	**Feichten**	**149.18**	**355**	*i* PKiKP	**PKiKP**	**12 08 38.5**	**+0.3**
	comp=Z,5.3nm,1.0s						
ABTA	**Abfaltersbach**	**149.25**	**352**	*i* PKP	**PKPbc**	**12 08 36.9**	**-0.1**
	comp=Z,5.6nm,1.1s						

*NEIC **11** 11:53:16.9±0.8, 19.05N±0.02×155.20W±0.02, h5km±2km, Error ellipse: s-maj=4.5km s-min=3.0km az=328.0*
HVO 11 11:53:17.2±0.8, 19.06N±0.02×155.20W±0.01, h9km±6km, ML2.7/3, ML3.0/36(NEIC), Error ellipse: s-maj=3.6km s-min=1.2km az=158.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HLP	**Hilina Pali**	**0.26**	**337**	Pg	Pg	11 53 22.3	-0.1
HLP				Sg	Sg	11 53 26.4	+0.4
HLP				IAML		11 53 27.8	
	comp=N,3μm,0.8s						
HLP				IAML		11 53 31.0	
	comp=E,4μm,0.7s						
HTC	**Hot Caves**	**0.26**	**314**		Pg	11 53 22.4	0.0
PUH	**Pauahi**	**0.32**	**358**		Pg	11 53 23.0	-0.6
PUH				IAML		11 53 30.6	
	comp=N,2μm,1.0s						
KNHH	**Kane Nui o Ham**	**0.32**	**5**		Pg	11 53 23.4	-0.3
STCH	**Steam Cracks**	**0.34**	**12**		Pg	11 53 23.6	-0.3
JCUZ	**Jacuzzi**	**0.34**	**16**	Pg	Pg	11 53 23.7	-0.3
JCUZ				IAML		11 53 30.1	
	comp=N,2μm,0.8s						
RIM	**Rim**	**0.34**	**349**	Pg	Pg	11 53 23.4	-0.7
RIM				IAML		11 53 35.8	
	comp=E,5μm,1.0s						
KKO	**Keanakako`i**	**0.35**	**350**	Pg	Pg	11 53 23.9	-0.1
NPOC	**North of Pu'u**	**0.35**	**15**		Pg	11 53 23.8	-0.2
NPOC				IAML		11 53 30.4	
	comp=E,1μm,0.7s						
NPOC				IAML		11 53 30.0	
	comp=N,1μm,0.3s						
BYL	**Byron's Ledge**	**0.36**	**351**	Pg	Pg	11 53 23.6	-0.7
WRMHI	**West Rim**	**0.36**	**345**	Pg	Pg	11 53 23.5	-0.9
OBL	**Observatory Le**	**0.37**	**348**	Pg	Pg	11 53 23.5	-1.0
JOKA	**Jonika Flow**	**0.42**	**26**		Pg	11 53 25.0	-0.4
JOKA					Sg	11 53 31.4	+0.5
KHU	**Kahuku**	**0.43**	**296**		Pg	11 53 25.5	-0.3
MLH	**Mauna Loa**	**0.47**	**338**		Pg	11 53 25.9	-0.5
MLH					Sg	11 53 32.5	-0.1
MLH				IAML		11 53 33.4	
	comp=N,2μm,0.6s						
MLH				IAML		11 53 36.4	
	comp=E,2μm,0.9s						
PAH	**Pahoa**	**0.50**	**29**		Pg	11 53 25.9	-1.0
PAH					Sg	11 53 33.4	0.0
PHO	**Puu Honuaula**	**0.52**	**35**		Pg	11 53 26.7	-0.5
MWH	**Moku'aweowe**	**0.57**	**319**	Pg	Pg	11 53 28.1	-0.2
MWH				IAML		11 53 43.2	
	comp=E,1μm,0.5s						
MWH				IAML		11 53 46.0	
	comp=N,1μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.59**	**324**	Pg	Pg	11 53 28.0	-0.8
MLOA					Sg	11 53 36.4	-0.3
MLOA				IAML		11 53 39.0	
	comp=N,1μm,0.5s						
MLOA				IAML		11 53 41.6	
	comp=E,596nm,0.6s						
HMH	**Humu'ula Sheep**	**0.61**	**334**		Pg	11 53 27.8	-1.2
HMH					Sg	11 53 36.5	-0.5
HMH				IAML		11 53 46.7	
	comp=N,650nm,0.8s						
HMH				IAML		11 53 49.6	
	comp=E,633nm,0.5s						
ALEP	**Alea Permanent**	**0.64**	**319**		Pg	11 53 28.1	-1.6
POHA	**Pohakuloa**	**0.77**	**336**		Pg	11 53 30.4	-1.6
POHA	**Pohakuloa**	**0.77**	**336**	IAML		11 53 48.3	
	comp=E,499nm,0.6s						
POHA				IAML		11 53 55.0	
	comp=E,453nm,0.6s						
KHLH	**Kahului Airpor**	**2.16**	**328**	Pn	Pn	11 53 51.8	-1.7
HON	**Honolulu**	**3.46**	**311**	Pn	Pn	11 54 09.4	-1.9

*IDC **11** 12:07:54.1±0.7,24.22N×125.08E, h0km, mb3.9/17, mbtmp3.9/21, ML3.2/4, MS3.5/18, Error ellipse: s-maj=20.2km s-min=14.9km az=77.0*
*NIED **11** 12:07:58.0,24.29N×125.27E, h43km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.01; Mθθ-1.30; Mφφ 1.28; Mrθ 1.85; Mθφ-0.73; Mφr 1.24; Fault plane solution: M0 2.55000×10^15 NP1:φs41.00000°, δ89.00000°, λ57.00000°. NP2:φs309.00000°, δ33.00000°, λ178.00000°.*
*NEIC **11** 12:07:57.8±2.3,24.00N±0.06×125.15E±0.05, h10km±1km, mb4.7/48 Error ellipse: s-maj=13.3km s-min=3.1km az=142.0*
*JMA **11** 12:07:58.0±0.2,24.1N±1.1×125.3E±0.8, h43km±4km, MD4.2/11, MV3.8/11, NEAR MIYAKOJIMA ISLAND*
JMA Felt I J1 at NEAR MIYAKOJIMA ISLAND .
ISC 11 12:07:55.8±1.6, 24.10N±0.06×125.13E±0.04, h4km±10km, n130, σ1.93/112, mb4.6/39, MS3.5/15, 1C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JMJ2	**Miyako jima3**	**0.66**	**16**	*i* P	**Pg**	**12 08 08.0**	**-0.5**
JMJ2				S	**Sg**	**12 08 15.5**	**-1.6**
JMJ2	**Miyako jima3**	**0.66**	**16**	A	A	12 08 08.0	
	comp=E,35nm,1.6s,comp=N,26nm,1.0s						
JTJ	**Tarama**	**0.67**	**324**	*i* P	**Pb**	**12 08 10.3**	**+0.3**
JTJ				S	**Sg**	**12 08 19.3**	**+2.0**
JTJ	**Tarama**	**0.67**	**324**	A	A	12 08 10.3	
	comp=E,24nm,1.2s,comp=N,36nm,0.9s						
JOGS	**Gusukube**	**0.70**	**21**	*i* P	**Pg**	**12 08 08.7**	**-0.6**
JOGS				S	**Sg**	**12 08 16.8**	**-1.7**
JOGS	**Gusukube**	**0.70**	**21**	A	A	12 08 08.7	
	comp=E,55nm,1.5s,comp=N,36nm,0.9s						
JIRB	**Irabujima**	**0.73**	**3**	*i* P	**Pg**	**12 08 09.1**	**-0.7**
JIRB				*e*S	**Sg**	**12 08 17.6**	**-1.6**
JIRB	**Irabujima**	**0.73**	**3**	A	A	12 08 09.1	
	comp=E,12nm,0.5s,comp=N,26nm,0.8s						
JIKM	**Ikem

baz=233,slow=10,SNR=5.5
comp=N,2.4nm,0.8s
MJB9 Matsu-Tunnel 16.75 39 Pn **Pn 12 11 52.8 +1.5**
JSD Sado 17.85 36 **Pn 12 12 06.3 +1.3**
JSD IAmb IAmb 12 12 22.2
comp=Z,135nm,1.5s
JMM Marumori 19.16 41 P **P 12 12 22.0 +1.7**
JMM IAmb IAmb 12 12 35.5
comp=Z,71nm,1.5s
USA0B Ussuriysk Arra 20.82 14 P **P 12 12 40.5 +2.3**
USRK Ussuriysk Ar. 20.82 14 P **P 12 12 39.9 +1.6**
GUMO Guam 21.38 116 LR LR 12 19 09.3
comp=Z,70nm,21.0s,baz=286,slow=31
CRAI Chiangrai 23.24 265 P **P 12 13 04.6 +0.2**
CMAR Chiang Mai Arr 25.02 262 P **P 12 13 20.6 -0.5**
CMAR LR LR 12 24 30.3
comp=Z,0.5nm,0.6s,baz=59,slow=8.7,SNR=2.2
comp=Z,54nm,19.9s,baz=75,slow=40
comp=Z,0.5nm,0.6s
KLR Kul'dur 25.62 10 LR LR 12 23 17.9
comp=Z,71nm,20.9s,baz=189,slow=36
SONM Songino Array 27.98 333 P **P 12 13 45.1 -2.6**
comp=Z,0.7nm,0.7s,baz=154,slow=11,SNR=1.9
SONM LR LR 12 26 00.5
comp=Z,136nm,19.8s,baz=158,slow=39
comp=Z,0.7nm,0.7s
YAK Yakutsk 38.04 3 LR LR 12 32 11.5
comp=Z,50nm,18.6s,baz=155,slow=38
PET Petropavlovsk 38.39 32 P **P 12 15 22.7 +4.6**
PET IAmb IAmb 12 15 26.3
comp=Z,30nm,1.1s
RABL Rabaul 38.52 133 P **P 12 15 20.0 +0.4**
PMG Port Moresby 39.65 145 LR LR 12 30 40.7
comp=Z,45nm,18.4s,baz=272,slow=34
MA2 Magadan 39.75 20 P **P 12 15 32.4 +3.0**
MA2 IAmb IAmb 12 15 56.4
comp=Z,16nm,1.1s
MA2 Magadan 39.75 20 LR LR 12 31 42.6
comp=Z,40nm,20.4s,baz=186,slow=36
MK31 Makanchi Array 40.94 315 P **P 12 15 37.5 -2.0**
MKAR Makanchi Array 40.94 315 P **P 12 15 37.5 -1.9**
MKAR Makanchi Array 40.94 315 P **P 12 15 37.3 -2.2**
comp=Z,0.7nm,0.3s,baz=96,slow=9.2,SNR=16
MKAR LR LR 12 33 36.3
comp=Z,76nm,18.9s,baz=80,slow=38
comp=Z,0.7nm,0.3s
COEN Coen 41.73 153 P **P 12 15 44.0 -2.2**
COEN IAmb IAmb 12 15 56.0
comp=Z,16nm,1.2s
ZALV Zalesovo Beam 42.32 325 P **P 12 15 47.8 -2.8**
comp=Z,0.6nm,0.3s,baz=118,slow=9.1,SNR=3.7
ZALV LR LR 12 34 15.3
comp=Z,62nm,20.6s,baz=121,slow=38
comp=Z,0.6nm,0.3s
BOOM Boomskoye usch 44.36 307 P **P 12 16 09.0 +1.5**
KURBB Kurchatov Arra 44.52 319 P **P 12 16 06.0 -2.4**
comp=Z,1.8nm,0.2s,baz=105,slow=8.6,SNR=5.3
comp=Z,1.8nm,0.2s
WB0 Warramunga Arr 44.52 168 P **P 12 16 08.4 -0.3**
WB0 IAmb IAmb 12 16 18.4
comp=Z,9.1nm,1.0s
WRA Warramunga Arr 44.69 168 P **P 12 16 09.8 -0.2**
WRA Warramunga Arr 44.69 168 P **P 12 16 09.3 -0.8**
comp=Z,5.7nm,0.8s,baz=348,slow=8.8,SNR=24
comp=Z,5.7nm,0.8s
WB2 Warramunga Arr 44.69 168 P **P 12 16 08.7 -1.3**
WB2 IAmb IAmb 12 16 15.4
comp=Z,16nm,1.2s
WR0 Warramunga Arr 44.74 167 P **P 12 16 09.7 -0.8**
WR0 IAmb IAmb 12 16 10.8
comp=Z,6.8nm,0.8s
AAK Ala-Archa 45.44 307 LR LR 12 38 23.0
comp=Z,37nm,21.9s,baz=94,slow=40
TIXI Tiksi 47.63 2 LR LR 12 38 07.6
comp=Z,66nm,20.3s,baz=192,slow=38
ASAR Alice Springs 48.24 169 P **P 12 16 37.9 0.0**
comp=Z,2.4nm,0.9s,baz=354,slow=8.1,SNR=32
comp=Z,2.4nm,0.9s
SIMJ Simiganj 49.35 301 P **P 12 16 49.1 +2.5**
KBL Kabul 49.45 296 P **P 12 16 47.4 -0.1**
BVAR Borovoye Array 50.04 320 P **P 12 16 48.6 -2.8**
comp=Z,0.6nm,0.5s,baz=108,slow=3.3,SNR=2.7
comp=Z,0.6nm,0.5s
ABKAR Akbulak array 56.08 314 P **P 12 17 34.6 -1.5**
ARU Arti 57.35 323 LR LR 12 43 50.8
comp=Z,79nm,19.0s,baz=208,slow=38
AKTO Aktyubinsk 57.36 316 LR LR 12 44 27.5
comp=Z,82nm,20.4s,baz=102,slow=38
STKA Stephens Creek 57.84 163 P **P 12 17 48.9 +0.2**
STKA Stephens Creek 57.84 163 P **P 12 17 48.1 -0.6**
comp=Z,3.3nm,0.8s,baz=347,slow=3.1,SNR=3.6
comp=Z,3.3nm,0.8s
GEYT Alibeck 57.95 301 P **P 12 17 49.9 +0.4**
GEYT Alibeck 57.95 301 P **P 12 17 48.8 -0.8**
comp=Z,2.4nm,0.8s,baz=64,slow=5.0,SNR=4.0
comp=Z,2.4nm,0.8s
GYA0B ALIBECK ARRAY 57.95 301 P **P 12 17 49.9 +0.4**
GYA0B IAmb IAmb 12 18 04.2
comp=Z,8.3nm,1.4s
N15K Kwethluk River 61.86 33 P **P 12 18 19.2 +3.2**
E18K Tukpahlearik C 61.95 25 P P 12 18 21.5 +5.0
E18K IAmb IAmb 12 18 35.4
comp=Z,6.8nm,1.2s
H17K Granite Mounta 62.07 28 P **P 12 18 20.8 +3.4**
H17K IAmb IAmb 12 18 36.5
comp=Z,11nm,1.4s
KIRV Kirov 62.36 325 LR LR 12 48 00.9
comp=Z,144nm,21.5s,baz=89,slow=39
C19K Lookout Ridge 62.46 23 P **P 12 18 22.3 +2.3**
C19K IAmb IAmb 12 18 23.4
comp=Z,6.5nm,1.4s
G18K Tagagawik 62.64 27 P **P 12 18 23.6 +2.5**
G18K IAmb IAmb 12 18 32.0
comp=Z,5.6nm,1.2s
CHGN Chignik 62.84 38 P **P 12 18 25.9 +3.3**
D19K Kuna River 62.96 24 P **P 12 18 23.6 +0.3**
B20K Meade River 63.37 22 P **P 12 18 28.7 +2.8**
F20K Avaraart Lake 63.83 25 P **P 12 18 31.4 +2.4**
F20K IAmb IAmb 12 18 47.3
comp=Z,6.4nm,1.4s
J19K Poorman 63.92 29 P **P 12 18 31.4 +1.7**
J19K IAmb IAmb 12 18 49.7
comp=Z,10nm,1.3s
SVW2 Sparrevohn 64.06 32 P **P 12 18 33.2 +2.6**
B21K Ikpikpuk River 64.25 23 P **P 12 18 31.9 +0.2**
J20K Nowinta River 64.56 29 P **P 12 18 35.1 +1.2**
J20K IAmb IAmb 12 18 55.9
comp=Z,7.1nm,1.2s
IMAR Indian Mountai 64.65 27 P **P 12 18 35.6 +1.2**
H21K Melozitna Rive 65.05 27 P **P 12 18 38.1 +1.1**
H21K IAmb IAmb 12 18 48.1
comp=Z,6.0nm,0.9s
PPLA Purkeypile 65.53 30 P **P 12 18 41.3 +1.0**
BPAW Bear Paw Mtn. 65.95 29 P **P 12 18 45.7 +2.8**
BPAW IAmb IAmb 12 19 02.2
comp=Z,6.4nm,1.0s
G23K Bananza Creek 66.10 26 P **P 12 18 46.2 +2.4**
G23K IAmb IAmb 12 19 13.1
comp=Z,6.7nm,1.4s
D24K Happy Valley 66.32 23 P **P 12 18 45.9 +0.7**
H23K Yukon River 66.38 27 P **P 12 18 46.9 +1.3**
H23K IAmb IAmb 12 18 56.8
comp=Z,7.0nm,0.8s
I23K Minto, Yukon-K 66.53 27 P **P 12 18 47.5 +0.9**
RC01 Rabbit Creek A 66.89 32 P **P 12 18 52.4 +3.4**
RND Reindeer 66.97 29 P **P 12 18 52.7 +3.1**
RND IAmb IAmb 12 18 59.9
comp=Z,5.2nm,0.7s
MDM Murphy Dome 67.03 27 P **P 12 18 52.9 +3.1**
ILAR Eielson Array 67.63 28 P **P 12 18 53.7 +0.2**
comp=Z,0.3nm,0.8s,baz=278,slow=6.3,SNR=2.0
comp=Z,0.3nm,0.8s
BMAR Burnt Mountain 68.11 25 P **P 12 18 58.0 +1.4**
E28M Babbage River 69.72 23 P **P 12 19 07.3 +0.7**
E28M IAmb IAmb 12 19 18.0
comp=Z,6.7nm,1.1s
K27K Chicken 69.82 28 P **P 12 19 08.7 +1.4**
K27K IAmb IAmb 12 19 20.6
comp=Z,14nm,1.5s
BCAR Beaver Creek A 70.18 29 P **P 12 19 10.4 +0.9**
I28M Miner Creek 70.36 26 P **P 12 19 12.0 +1.3**
I28M IAmb IAmb 12 19 22.1
comp=Z,5.1nm,0.9s
I30M Mount Dempster 71.86 26 P **P 12 19 20.4 +0.6**
FINES FINESS Array B 73.32 330 P **P 12 19 26.1 -2.3**
comp=Z,2.1nm,0.8s,baz=123,slow=6.8,SNR=6.6
FINES LR LR 12 55 24.3
comp=Z,134nm,21.6s,baz=34,slow=39
comp=Z,2.1nm,0.8s
AKASG Malin Array Be 75.31 319 P **P 12 19 38.1 -2.1**
comp=Z,0.2nm,0.3s,baz=64,slow=6.3,SNR=1.7
comp=Z,0.2nm,0.3s
BRTR Keskin Array B 76.11 307 P **P 12 19 42.9 -2.3**
comp=Z,0.5nm,0.5s,baz=110,slow=6.6,SNR=2.5
comp=Z,0.5nm,0.5s
HFS Hagfors 79.38 332 P **P 12 20 00.8 -2.0**
comp=Z,0.5nm,0.3s,baz=100,slow=7.5,SNR=2.5
comp=Z,0.5nm,0.3s
NB2 NORSAR Subarra 79.96 333 P **P 12 20 03.3 -2.7**
comp=Z,6.3nm,1.0s,baz=56,slow=5.6
NOA NORSAR Array B 79.96 333 P **P 12 20 04.0 -2.1**
comp=Z,0.7nm,0.7s,baz=68,slow=4.8,SNR=2.2
comp=Z,0.7nm,0.7s
YKA Yellowknife Ar 81.62 24 P **P 12 20 14.3 -0.5**
comp=Z,0.6nm,0.9s,baz=317,slow=4.7,SNR=6.7
comp=Z,0.6nm,0.9s

*IDC **11** 12:22:31.1±1.0, 19°.23N×121°.24E, h0km, mb3.5/7, mbtmp3.5/8, ML3.3/1, Error ellipse: s-maj=43.0km s-min=19.9km az=74.0*
ISC 11 12:22:36.9±0.8, 19°.27N±0°.10×121°.2E±0°.2, h35km, n15, σ2s31/15, mb3.6/7, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**1.08**	**209**	*i* P		**Pn**	**12 22 55.1**	**-0.5**
PIP				*i* S		**Sn**	**12 23 09.5**	**+0.2**
BBP	**Basco**	**1.38**	**33**	*e* P		**Pn**	**12 23 00.5**	**+0.8**
BBP				*i* S		**Sn**	**12 23 21.4**	**+4.6**
SIPP	**Brgy, Tapao**	**1.50**	**207**	*e* P		**Pn**	**12 23 03.8**	**+2.4**
SIPP				*e* S		**Sn**	**12 23 25.0**	**+5.2**
KSRS	**Korea Array**	**19.05**	**17**	P		**P**	**12 26 54.9**	**-1.3**
	0.1nm,0.3s,baz=198,slow=12,SNR=4.3							
	0.5nm,0.5s							
WRA	**Warramunga Arr**	**41.06**	**161**	P		**P**	**12 30 15.4**	**-1.9**
	0.3nm,0.5s,baz=344,slow=8.9,SNR=2.2							
	0.3nm,0.5s							
MKAR	**Makanchi Array**	**41.95**	**320**	P		**P**	**12 30 24.8**	**+0.3**
	0.3nm,0.6s,baz=130,slow=8.0,SNR=3.4							
	0.3nm,0.6s							
H11N1	**WAKE ISLAND Hy**	**43.00**	**81**	T		T	13 16 13.9	
	baz=277,slow=74,SNR=8.1							
H11N2	**WAKE ISLAND Hy**	**43.01**	**81**	T		T	13 16 14.1	
	baz=277,slow=74,SNR=5.7							
H11N3	**WAKE ISLAND Hy**	**43.02**	**81**	T		T	13 16 15.6	
	baz=277							
PETK	**Petropavlovsk-**	**44.00**	**31**	P		**P**	**12 30 40.8**	**0.0**
	2.6nm,1.0s,baz=262,slow=6.8,SNR=1.8							
	2.6nm,1.0s							
ZALV	**Zalesovo Beam**	**44.41**	**330**	P		**P**	**12 30 43.5**	**-0.6**
	0.5nm,0.5s,baz=116,slow=6.7,SNR=1.5							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**44.45**	**163**	P		**P**	**12 30 44.0**	**-0.8**
	0.3nm,0.7s,baz=349,slow=7.3,SNR=9.7							
	0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**45.92**	**323**	P		**P**	**12 30 56.0**	**-0.2**
	0.3nm,0.3s,baz=121,slow=7.6,SNR=4.2							
	0.3nm,0.3s							
YKA	**Yellowknife Ar**	**87.48**	**23**	P		**P**	**12 35 19.6**	**-1.2**
	0.3nm,0.8s,baz=320,slow=6.4,SNR=4.2							
	0.3nm,0.8s							
PLCA	**Paso Flores**	**156.37**	**157**	PKP		**PKPdf**	**12 42 27.2**	**-1.1**
	1.3nm,0.9s,baz=290,slow=2.6,SNR=2.5							

*IDC **11** 12:29:28.1±1.1, 13°.59N×91°.46W, h0km, mb4.0/6, mbtmp4.0/9, ML4.0/3, MS3.5/12, Error ellipse: s-maj=25.9km s-min=19.7km az=28.0*
*CATAC **11** 12:29:30.3±0.8, 13°.57N×91°.40W, h1km±6km, ML4.5*
*NEIC **11** 12:29:34.2±2.7, 13°.68N±0°.07×91°.39W±0°.07, h35km±2km, mb4.3/125, Error ellipse: s-maj=14.5km s-min=9.0km az=220.0*
*SNET **11** 12:29:35.1±1.5, 14°.01N×91°.10W, h110km±36km, ML4.6*
*GCG **11** 12:29:38.1±0.6, 14°.12N×91°.35W, h50km±41km, MD4.4*
ISC 11 12:29:34.2±1.2, 13°.65N±0°.06×91°.43W±0°.05, h43km±11km, n222, σ1s38/229, mb4.3/57, MS3.2/11, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.67**	**348**	*e* P		**Pn**	**12 29 47.0**	**-0.2**
RTAL	**Retalhuleu**	**0.91**	**343**			**Pn**	**12 29 48.4**	**-2.2**
RTAL	**Retalhuleu**	**0.91**	**343**	*i* P		**Pn**	**12 29 48.7**	**-1.8**
RTAL				*i* S		**Sn**	**12 30 02.4**	**-0.1**
RTAL				IAML			12 30 03.6	
	comp=Z,8μm,1.0s							
FUG	**Fuego 3**	**0.98**	**35**	*e* P		**Pn**	**12 29 51.0**	**-0.6**
STG3	**Santiaguito 3,**	**1.06**	**352**	*e* P		**Pn**	**12 29 51.4**	**-1.4**
PCG	**Pacaya**	**1.08**	**47**	*e* P		**Pn**	**12 29 53.0**	**-0.2**
GUMI	**Mixco**	**1.25**	**39**	*i* P		**Pn**	**12 29 55.0**	**-0.5**
GUMI				*i* S		**Sn**	**12 30 12.8**	**+1.5**
GUMI				IAML			12 30 17.8	
	comp=Z,14μm,1.0s							
NBG	**Las Nubes**	**1.40**	**48**	*e* P		**Pn**	**12 29 58.2**	**+0.6**
GUNB	**GUNB**	**1.41**	**48**	*i* P		**Pn**	**12 29 56.8**	**-0.9**
GUNB				*i* S		**Sn**	**12 30 16.3**	**+1.1**
GUNB				IAML			12 30 22.9	
	comp=Z,4μm,1.0s							
NUBE	**Las Nubes**	**1.62**	**81**	*i* P		**Pn**	**12 29 58.6**	**-1.8**
NUBE				IAML			12 30 24.0	
	comp=Z,2μm,1.0s							
LOAL	**Lomas de Alarc**	**1.64**	**78**	*i* P		**Pn**	**12 29 59.1**	**-1.4**
LOAL				*i* S		**Sn**	**12 30 20.2**	**-0.2**
LOAL				IAML			12 30 29.1	
	comp=Z,6μm,1.0s							
APG	**El Apazote**	**1.64**	**35**	Pn		**Pn**	**12 30 01.3**	**+0.6**
	comp=Z,11nm,0.3s,baz=164,slow=10,SNR=304							
APG					Sn	**Sn**	**12 30 23.2**	**+2.5**
	comp=Z,21nm,0.3s,baz=229,slow=20,SNR=11							
APG					LR	LR	12 30 47.1	
	comp=Z,86nm,20.4s,baz=287,slow=46							
HUEH	**Huehuetenango**	**1.66**	**357**			**Pn**	**12 30 00.9**	**-0.1**
HUEH	**Huehuetenango**	**1.66**	**357**	*e* P		**Pn**	**12 30 01.3**	**+0.3**
HUEH				*e* S		**Sn**	**12 30 21.6**	**+0.3**
HUEH	**Huehuetenango**	**1.66**	**357**	*i* P		**Pn**	**12 30 01.3**	**+0.3**
HUEH				IAML			12 30 26.3	
	comp=Z,7μm,1.0s							
CEVE	**Cerro Verde**	**1.76**	**84**	*i* P		**Pn**	**12 30 00.7**	**-1.7**
CEVE				IAML			12 30 31.1	
	comp=Z,5μm,1.0s							
SNJE	**San Jose**	**1.78**	**83**	*e* P		**Pn**	**12 30 01.0**	**-1.7**
SNJE				*e* S		**Sn**	**12 30 24.1**	**-0.2**
UNIC	**Universidad Ca**	**1.85**	**80**	*i* P		**Pn**	**12 30 02.1**	**-1.4**
UNIC				IAML			12 30 32.6	
	comp=Z,720nm,1.0s							
LALI	**Alcalda de L**	**2.05**	**94**	*i* P		**Pn**	**12 30 04.5**	**-1.7**
LALI				*i* S		**Sn**	**12 30 31.2**	**+0.6**
LALI				IAML			12 30 36.2	
	comp=Z,540nm,1.0s							
PMON	**Piamonte**	**2.05**	**88**	*i* P		**Pn**	**12 30 04.8**	**-1.5**
PMON				IAML			12 30 38.7	
	comp=Z,4μm,1.0s							
QUEZ	**Alcaldia de Qu**	**2.10**	**85**	*i* P		**Pn**	**12 30 05.8**	**-1.1**
QUEZ				*i* S		**Sn**	**12 30 31.9**	**0.0**
QUEZ				IAML			12 30 49.7	
	comp=Z,7μm,1.0s							
UEES	**Universidad Ev**	**2.13**	**88**	*i* P		**Pn**	**12 30 06.7**	**-0.6**
UEES				*i* S		**Sn**	**12 30 34.0**	**+1.4**
UEES				IAML			12 30 43.3	
	comp=Z,2μm,1.0s							
SNET	**Serv Nac Est T**	**2.13**	**89**			**Pn**	**12 30 06.3**	**-1.1**
SNET	**Serv Nac Est T**	**2.13**	**89**	*i* P		**Pn**	**12 30 06.3**	**-1.1**
SNET				*i* S		**Sn**	**12 30 33.6**	**+0.9**
SNET				IAML			12 30 42.3	
	comp=Z,5μm,1.0s							
MTO3	**Montecristo**	**2.14**	**69**	Pn		**Pn**	**12 30 06.8**	**-0.8**
MTO3	**Montecristo**	**2.14**	**69**	*i* P		**Pn**	**12 30 07.1**	**-0.5**
MTO3				*i* S		**Sn**	**12 30 35.3**	**+2.2**
MTO3				IAML			12 30 43.5	
	comp=Z,1μm,1.0s							
LOMA	**Loma Larga**	**2.19**	**90**	*i* P		**Pn**	**12 30 07.1**	**-1.2**
LOMA				*i* S		**Sn**	**12 30 35.4**	**+1.1**
LOMA				IAML			12 30 48.7	
	comp=Z,4μm,1.0s							
MRL	**Marmol**	**2.21**	**50**	*e* P		**Pn**	**12 30 09.8**	**+1.3**
ESQI	**Esquipulas**	**2.22**	**66**			**Pn**	**12 30 08.4**	**-0.2**
ESQI	**Esquipulas**	**2.22**	**66**	*i* P		**Pn**	**12 30 08.5**	**-0.1**
ESQI				IAML			12 30 40.0	
	comp=Z,2μm,1.0s							
PAVA	**Las Pavas**	**2.42**	**88**	*i* P		**Pn**	**12 30 11.0**	**-0.4**
PAVA				*i* S		**Sn**	**12 30 31.6**	**-8.3**
PAVA				IAML			12 30 51.3	
	comp=Z,4μm,1.0s							
LLGN	**La Laguna**	**2.46**	**78**	*i* P		**Pn**	**12 30 11.2**	**-0.8**
LLGN				*i* S		**Sn**	**12 30 36.8**	**-4.1**
LLGN				IAML			12 30 55.9	
	comp=Z,710nm,1.0s							
COEG	**Centro de Oper**	**2.48**	**90**	*e* P		**Pn**	**12 30 11.4**	**-0.7**
COEG	**Centro de Oper**	**2.48**	**90**	*i* P		**Pn**	**12 30 11.6**	**-0.5**
COEG				*i* S		**Sn**	**12 30 43.0**	**+1.8**
COEG				IAML			12 30 49.0	
	comp=Z,2μm,1.0s							
TECO	**Alcaldia de Te**	**2.58**	**92**	*i* P		**Pn**	**12 30 12.5**	**-0.9**
TECO				*i* S		**Sn**	**12 30 45.0**	**+1.5**
TECO				IAML			12 30 56.7	
	comp=Z,710nm,1.0s							
SCLA	**Alcaldia de Sa**	**2.62**	**89**	*i* P		**Pn**	**12 30 13.7**	**-0.4**
SCLA				IAML			12 31 00.9	
	comp=Z,580nm,1.0s							
CCIG	**Comitan**	**2.71**	**345**			**Pn**	**12 30 16.3**	**+0.9**
CCIG	**Comitan**	**2.71**	**345**	*i* P		**Pn**	**12 30 16.8**	**+1.4**
CCIG				IAML			12 31 05.8	
	comp=Z,980nm,1.0s							
PQSS	**Presa 15 de Se**	**2.79**	**90**	*i* P		**Pn**	**12 30 15.5**	**-0.8**
PQSS				IAML			12 30 59.4	
	comp=Z,410nm,1.0s							
COEB	**Comit de Eme**	**2.82**	**93**	*e* P		**Pn**	**12 30 16.1**	**-0.8**
COEB	**Comit de Eme**	**2.82**	**93**	*i* P		**Pn**	**12 30 16.0**	**-0.9**
COEB				IAML			12 31 02.8	
	comp=Z,680nm,1.0s							
PACA	**Pacayal**	**3.02**	**93**	*i* P		**Pn**	**12 30 20.8**	**+1.1**
RANC	**El Ranchito**	**3.06**	**94**	*i* P		**Pn**	**12 30 20.0**	**-0.2**
RANC				IAML			12 31 18.5	
	comp=Z,670nm,1.0s							
LCND	**La Caada**	**3.46**	**95**	*i* P		**Pn**	**12 30 26.3**	**+0.8**
LCND				IAML			12 31 16.5	
	comp=Z,630nm,1.0s							
CNCH	**Conchagua**	**3.52**	**96**	*e* P		**Pn**	**12 30 26.3**	**-0.1**
CNCH				IAML			12 31 20.6	
	comp=Z,1μm,0.6s							
CNCH	**Conchagua**	**3.52**	**96**	*i* P		**Pn**	**12 30 26.4**	**-0.1**
CNCH				*i* S		**Sn**	**12 31 12.3**	**+5.4**
CNCH				IAML			12 31 18.9	
	comp=Z,2μm,1.0s							
PETF	**Flores**	**3.58**	**25**			**Pn**	**12 30 28.4**	**+1.2**
AMPH	**Amapala**	**3.68**	**95**	*e* P		**Pn**	**12 30 27.3**	**-1.3**
AMPH				*e* S		**Sn**	**12 31 07.3**	**-3.5**
TGUH	**Tegucigalpa,Un**	**4.05**	**84**			**Pn**	**12 30 32.9**	**-0.9**
CRIN	**San Cristobal**	**4.37**	**102**			**Pn**	**12 30 37.8**	**-0.3**
CRIN	**San Cristobal**	**4.37**	**102**	*i* P		**Pn**	**12 30 38.7**	**+0.6**
CRIN				IAML			12 31 54.8	
	comp=Z,1μm,1.0s							
QUEN	**Al S del Volca**	**4.58**	**103**	*i* P		**Pn**	**12 30 39.9**	**-1.1**
QUEN				IAML			12 31 52.5	
	comp=Z,320nm,1.0s							
TEL3	**Telica 3**	**4.59**	**103**	*i* P		Pn	12 30 45.8	+4.7
PACN	**Al O del Volca**	**4.66**	**104**	*i* P		**Pn**	**12 30 43.0**	**+1.0**
ROCN	**Rota Cerro Neg**	**4.70**	**103**	*i* P		**Pn**	**12 30 41.4**	**-1.2**
ROCN				IAML			12 31 56.8	
	comp=Z,210nm,1.0s							
CNGA	**Al SSO del Vol**	**4.75**	**103**	*i* P		**Pn**	**12 30 41.4**	**-1.9**
CNGA				IAML			12 31 57.9	
	comp=Z,190nm,1.0s							
CNGN	**Cerro Negro**	**4.75**	**103**			**Pn**	**12 30 42.8**	**-0.5**
CNGN	**Cerro Negro**	**4.75**	**103**	*i* P		**Pn**	**12 30 42.5**	**-0.8**
CNGN				IAML			12 32 01.7	
	comp=Z,500nm,1.0s							
MACN	**El Madrono**	**4.78**	**104**	*i* P		**Pn**	**12 30 42.2**	**-1.5**
MACN				IAML			12 32 01.1	
	comp=Z,110nm,1.0s							
CMIG	**Matias Romero**	**4.78**	**316**	Pn		**Pn**	**12 30 42.6**	**-1.1**
	comp=Z,3.9nm,0.3s,baz=164,slow=13,SNR=25							
CMIG					Sn	**Sn**	**12 31 37.8**	**0.0**
	comp=Z,10nm,0.3s,baz=86,slow=21,SNR=1.7							
	comp=Z,12nm,0.3s							
MOMN	**Momotombo**	**4.92**	**104**	*i* P		**Pn**	**12 30 45.5**	**-0.2**
MOMN				IAML			12 32 04.6	
	comp=Z,12nm,1.0s							
COPN	**Copaltepe**	**4.94**	**107**	*i* P		**Pn**	**12 30 46.3**	**+0.5**
COPN				IAML			12 32 02.7	
	comp=Z,430nm,1.0s							
MOM2	**El Cardon**	**4.96**	**103**	*i* P		**Pn**	**12 30 46.5**	**+0.3**
MOM2				IAML			12 32 09.9	
	comp=Z,220nm,1.0s							
ACON	**Acoyapa**	**6.32**	**105**			**Pn**	**12 31 05.9**	**+1.0**
HZTE	**Horizontes, Gu**	**6.40**	**116**	Pn		**Pn**	**12 31 06.9**	**+0.9**
ORTG	**Ortega, Santa**	**6.69**	**119**			**Pn**	**12 31 10.4**	**+0.3**
DUNO	**Dulce Nombre,**	**6.80**	**121**	Pn		**Pn**	**12 31 11.9**	**+0.4**
ESPN	**Las Esperanzas**	**7.10**	**101**			**Pn**	**12 31 15.3**	**-0.2**
JTS	**Las Juntas de**	**7.16**	**117**	Pn		**Pn**	**12 31 18.0**	**+1.5**
JTS	**Las Juntas de**	**7.16**	**117**	Pn		**Pn**	**12 31 14.9**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=305,slow=20,SNR=2.1							
JTS					Lg	Lg	12 33 03.5	
	comp=Z,0.8nm,0.3s,baz=69,slow=20,SNR=9.3							
	comp=Z,3.5nm,0.3s							
TEIG	**Tepich**	**7.20**	**24**	Pn		**Pn**	**12 31 17.8**	**+0.8**
TEIG	**Tepich**	**7.20**	**24**	LR		LR	12 34 16.9	
	comp=Z,2μm,18.0s,slow=40							
TLIG	**Tlapa**	**7.90**	**300**	Pn		**Pn**	**12 31 25.3**	**-1.4**
LCR2	**La Lucha 2**	**8.24**	**117**	Pn		**Pn**	**12 31 32.1**	**+0.7**
SRBA	**San Rafael, Bu**	**9.04**	**118**			**Pn**	**12 31 43.9**	**+1.6**
BRU2	**Volcan**	**9.83**	**118**	Pn		**Pn**	**12 31 55.0**	**+1.8**
SOR	**Soroa**	**12.11**	**40**	Pn		**Pn**	**12 32 25.1**	**+1.0**
MLDN	**Muldoon**	**16.88**	**343**			**Pn**	**12 33 28.2**	**+0.8**
HNDO	**Hondo**	**17.40**	**337**	Pn		**Pn**	**12 33 32.7**	**-1.2**
451A	**Vernon**	**17.68**	**16**			**Pn**	**12 33 34.7**	**-2.5**
656A	**Willston**	**17.68**	**26**	Pn		**Pn**	**12 33 34.8**	**-2.5**
656A				IAmb		IAmb	12 33 39.7	
	comp=Z,42nm,1.4s							
553A	**Crawfordville**	**17.68**	**20**	Pn		**Pn**	**12 33 35.1**	**-2.2**
NATX	**Nacogdoches**	**18.27**	**351**	P		**P**	**12 33 44.2**	**-0.1**
NATX				IAmb		IAmb	12 34 06.8	
	comp=Z,40nm,1.4s							
HPIG		**18.77**	**317**	P		**P**	**12 33 50.5**	**+0.4**
BRDY	**Brady**	**18.88**	**340**	P		**Pn**	**12 33 52.6**	**+0.7**
SAND	**Sanderson**	**19.00**	**330**	P		**Pn**	**12 33 53.7**	**+0.2**
TX31	**Lajitas Ar. Si**	**19.30**	**326**	P		**Pn**	**12 33 57.6**	**+0.5**
TXAR	**Lajitas Array**	**19.30**	**326**	P		**Pn**	**12 33 57.8**	**+0.8**
TXAR	**Lajitas Array**	**19.30**	**326**	P		**Pn**	**12 33 57.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=154,slow=12,SNR=63							
	comp=Z,5.1nm,0.8s							
OZNA	**Ozona**	**19.37**	**334**			**Pn**	**12 33 58.2**	**+0.3**
LRAL	**Lakeview Retre**	**19.72**	**11**	P		**Pn**	**12 34 01.6**	**-0.3**
152A	**Waverly Hall**	**19.90**	**17**	P		**Pn**	**12 34 03.5**	**-0.5**
152A				IAmb		IAmb	12 34 07.9	
	comp=Z,11nm,0.7s							
255A	**Hazlehurst**

comp=Z,9.4nm,0.9s
X37A Clayton 21.15 351 P **P** **12 34 15.2 -0.4**
SN07 Snyder 07 21.19 338 P **P** **12 34 16.5 +0.4**
POST Post 21.40 336 P **P** **12 34 17.7 -0.7**
POST IAmb IAmb 12 34 20.9
comp=Z,8.6nm,0.6s
FPAL Fort Paine 21.46 13 P **P** **12 34 18.4 -0.6**
FPAL IAmb IAmb 12 34 48.6
comp=Z,13nm,1.3s
WHAR Wooly Hollow 21.56 358 P **P** **12 34 21.1 +1.1**
X51A Calhoun 21.66 15 P **P** **12 34 19.9 -1.1**
X51A IAmb IAmb 12 34 44.9
comp=Z,7.3nm,0.8s
DKNS Dickens 21.72 338 P **P** **12 34 21.3 -0.5**
DKNS IAmb IAmb 12 34 26.7
comp=Z,6.7nm,0.6s
WMOK Wichita Mounta 22.03 344 P **P** **12 34 24.9 -0.2**
SWET Sewanee 22.04 12 P **P** **12 34 23.4 -1.8**
HODGE Hodges 22.11 21 P **P** **12 34 26.0 0.0**
LCAR Lake Charles 22.33 1 P **P** **12 34 26.0 -2.2**
LCAR IAmb IAmb 12 34 28.8
comp=Z,6.6nm,0.7s
CPCT Cooper Cave 22.58 15 P **P** **12 34 29.5 -1.5**
WVT Waverly 22.62 8 P **P** **12 34 29.3 -2.0**
SMWD Samnorwood 22.80 341 P **P** **12 34 32.7 -0.6**
SMWD IAmb IAmb 12 34 34.6
comp=Z,13nm,0.9s
U38A Gravette 22.85 354 P **P** **12 34 32.6 -1.2**
U38A IAmb IAmb 12 34 56.7
comp=Z,5.0nm,0.6s
TKL Tuckaleechee C 22.97 16 P **P** **12 34 34.6 -0.5**
TKL IAmb IAmb 12 34 50.7
comp=Z,18nm,1.4s
TKL Tuckaleechee C 22.97 16 P **P** **12 34 34.3 -0.7**
comp=Z,4.9nm,0.6s,baz=177,slow=14,SNR=8.4
TKL LR LR 12 44 19.8
comp=Z,91nm,21.5s,baz=186,slow=39
comp=Z,4.9nm,0.6s
AMTX Amarillo 23.09 338 P **P** **12 34 36.9 +0.6**
V52A Sevierville 23.19 16 P **P** **12 34 36.2 -1.1**
V52A IAmb IAmb 12 35 08.8
comp=Z,14nm,1.4s
V53A Saluda 23.26 18 P **P** **12 34 37.7 -0.3**
KMSC Kings Mountain 23.26 21 P **P** **12 34 36.4 -1.5**
KMSC IAmb IAmb 12 34 58.6
comp=Z,7.9nm,0.8s
T42A Van Buren 23.29 1 P **P** **12 34 36.0 -2.2**
T42A IAmb IAmb 12 34 38.1
comp=Z,4.3nm,0.4s
U49A Red Boiling Sp 23.32 12 P **P** **12 34 37.2 -1.3**
MGMO Mountain Grove 23.42 358 P **P** **12 34 38.2 -1.3**
MGMO IAmb IAmb 12 34 40.0
comp=Z,5.6nm,0.8s
CGM3 Cape Girardeau 23.60 4 P **P** **12 34 39.6 -1.6**
CGM3 IAmb IAmb 12 34 42.5
comp=Z,4.8nm,0.7s
TZTN Tazewell 23.87 16 P **P** **12 34 42.9 -0.8**
TZTN IAmb IAmb 12 35 05.7
comp=Z,11nm,1.0s
S39A Bolivar 24.00 356 P **P** **12 34 43.7 -1.3**
S39A IAmb IAmb 12 34 45.5
comp=Z,7.6nm,0.7s
T50A Nancy 24.01 13 P **P** **12 34 42.9 -2.1**
T50A IAmb IAmb 12 35 09.0
comp=Z,11nm,1.4s
121A Cookes Peak, D 24.02 324 P **P** **12 34 44.1 -1.3**
319A Douglas 24.09 320 P **P** **12 34 46.4 +0.4**
319A IAmb IAmb 12 34 56.4
comp=Z,6.6nm,0.9s
KAN10 Anthony SW Sta 24.12 347 P **P** **12 34 44.6 -1.5**
CCM Cathedral Cave 24.31 0 P **P** **12 34 46.2 -1.5**
CCM IAmb IAmb 12 34 47.9
comp=Z,9.2nm,0.6s
U54A Nelsons Funny 24.35 19 P **P** **12 34 47.0 -1.2**
U54A IAmb IAmb 12 34 52.6
comp=Z,8.3nm,0.6s
ATAH Atahualpa 24.37 147 LR LR 12 42 56.2
comp=Z,72nm,18.4s,baz=348,slow=33
R40A Maddies Statio 24.55 358 P **P** **12 34 48.1 -1.8**
R40A IAmb IAmb 12 34 50.3
comp=Z,7.8nm,0.8s
V58A Windy Hill, Pi 24.68 25 P **P** **12 34 49.3 -1.8**
V58A IAmb IAmb 12 35 07.6
comp=Z,8.2nm,1.1s
RTBA Rita Blanca 24.86 338 P **P** **12 34 51.4 -1.6**
S51A Beattyville 24.89 15 P **P** **12 34 50.9 -2.1**
S51A IAmb IAmb 12 34 55.6
comp=Z,7.9nm,1.1s
ANMO Albuquerque 25.18 330 P **P** **12 34 56.8 +0.9**
R50A Paris 25.33 13 P **P** **12 34 57.4 +0.4**
R50A IAmb IAmb 12 34 57.7
comp=Z,5.4nm,0.7s
TUC Tucson 25.66 320 P **P** **12 35 00.9 +0.7**
S54A Dingess, Beckl 25.68 19 P **P** **12 35 00.1 -0.2**
P40A Paris 25.79 359 P **P** **12 35 01.0 -0.1**
P40A IAmb IAmb 12 35 01.1
comp=Z,7.4nm,0.8s
Q51A Peebles 26.27 14 P **P** **12 35 04.6 -0.9**
Q51A IAmb IAmb 12 35 27.3
comp=Z,14nm,1.1s
BLYC Blythe 28.99 318 P **P** **12 35 32.9 +3.0**
NNA Nana 29.29 150 LR LR 12 45 01.6
comp=Z,47nm,21.3s,baz=300,slow=32
KNB Kanab 30.11 324 IAmb IAmb 12 35 44.4
comp=Z,3.6nm,0.7s
LCMT Little Creek M 30.35 324 P **P** **12 35 42.2 +0.1**
CCUT Cedar City 30.80 325 P **P** **12 35 48.2 +2.1**
MSU Marysvale 30.84 327 P **P** **12 35 47.8 +1.2**
MVU Marysvale 30.86 327 P **P** **12 35 47.6 +0.9**
PDAR Pinedale Array 32.97 335 P **P** **12 36 05.7 +0.5**
comp=Z,0.3nm,0.5s,baz=125,slow=12,SNR=2.8
PDAR PcP **PcP** **12 38 48.5 -0.1**
comp=Z,0.2nm,0.4s,baz=169,slow=5.4,SNR=2.3
PDAR LR LR 12 53 16.4
comp=Z,36nm,19.3s,baz=194,slow=43
comp=Z,0.3nm,0.5s
ELK Elko 34.09 327 P **P** **12 36 17.3 +2.3**
ELK IAmb IAmb 12 36 19.2
comp=Z,2.2nm,0.7s
NV11 Mina Array Sit 34.20 321 P **P** **12 36 18.1 +2.2**
NV11 IAmb IAmb 12 36 20.8
comp=Z,2.5nm,0.8s
NVAR Mina Array Bea 34.29 321 P **P** **12 36 18.6 +1.9**
NVAR Mina Array Bea 34.29 321 P **P** **12 36 18.2 +1.4**
comp=Z,2.8nm,0.7s,baz=135,slow=7.3,SNR=17
NVAR PcP **PcP** **12 38 55.2 +2.8**
comp=Z,0.8nm,0.7s,baz=145,slow=3.7,SNR=4.7
NVAR LR LR 12 52 19.3
comp=Z,62nm,20.5s,baz=121,slow=40
comp=Z,2.8nm,0.7s
KVN Kaiserville 34.56 322 P **P** **12 36 22.3 +3.3**
KVN IAmb IAmb 12 36 33.0
comp=Z,3.0nm,0.9s
BMN Battle Mountai 34.96 325 P **P** **12 36 25.2 +2.8**
BMN IAmb IAmb 12 36 26.2
comp=Z,2.9nm,0.7s
MFID Camas Ranch 36.32 329 IAmb IAmb 12 36 40.2
comp=Z,3.3nm,0.9s
LPAZ La Paz 37.62 142 LR LR 12 52 03.0
comp=Z,34nm,19.8s,baz=336,slow=36
J08A Circle Bar Ran 37.64 327 P **P** **12 36 47.0 +1.9**
PLID Pearl Lake 37.65 331 P **P** **12 36 45.8 +0.4**
PLID IAmb IAmb 12 36 47.4
comp=Z,3.9nm,0.9s
F10A Beach Ranch, E 38.88 331 P **P** **12 36 56.1 +0.5**
HOOD Mount Hood Mea 40.64 327 P **P** **12 37 12.8 +2.5**
SIV San Ignacio 42.05 133 LR LR 12 54 22.4
comp=Z,46nm,20.4s,baz=289,slow=36
LVC Limon Verde 42.25 148 LR LR 12 54 40.5
comp=Z,27nm,18.7s,baz=312,slow=36
SCHQ Schefferville 45.36 20 LR LR 12 56 50.9
comp=Z,91nm,21.1s,baz=266,slow=36
H03N2 Juan Fernandez 48.32 166 T T 13 30 07.5
baz=347,slow=76,SNR=2.1
H03N1 Juan Fernandez 48.33 166 T T 13 30 07.8
baz=347,slow=76,SNR=3.6
H03N3 Juan Fernandez 48.34 166 T T 13 30 06.3
baz=347,slow=76,SNR=3.9
YKAB2 New Yellowknif 51.43 346 P **P** **12 38 33.6 -1.1**
YKA Yellowknife Ar 51.49 346 P **P** **12 38 34.1 -1.1**
YKA Yellowknife Ar 51.49 346 P **P** **12 38 33.8 -1.5**
comp=Z,0.9nm,0.6s,baz=74,slow=6.8,SNR=33
YKA PcP **PcP** **12 39 48.6 -0.3**
comp=Z,0.3nm,0.7s,baz=142,slow=3.3,SNR=4.4
comp=Z,0.9nm,0.6s

DLBC Dease Lake 53.20 336 P **P** **12 38 49.2 +1.2**
DLBC IAmb IAmb 12 38 50.6
comp=Z,4.0nm,0.8s
WTLY Watson Lake, Y 53.85 338 P **P** **12 38 53.1 +0.4**
O30N Mendenhall 57.07 336 P **P** **12 39 15.6 -0.3**
O30N IAmb IAmb 12 39 19.6
comp=Z,6.0nm,1.1s
N31M Braeburn, Yuko 57.37 337 P **P** **12 39 18.0 +0.1**
PLCA Paso Flores 57.46 161 LR LR 12 59 12.6
comp=Z,48nm,18.2s,baz=272,slow=31
M29M Somme Creek 58.95 337 P **P** **12 39 29.8 +0.7**
LOGN Logan Glacier 59.12 334 P **P** **12 39 31.7 +1.3**
L29M L29M 59.20 337 P **P** **12 39 30.6 -0.2**
SFJD Kangerlussuaq 59.68 17 LR LR 13 06 23.5
comp=Z,77nm,18.8s,baz=266,slow=37
I30M Mount Dempster 59.83 340 P **P** **12 39 34.4 -0.7**
I30M IAmb IAmb 12 39 57.0
comp=Z,4.0nm,1.2s
G31M Satah River 60.23 342 P **P** **12 39 37.2 -0.5**
M27K Edge Creek, AK 60.26 336 P **P** **12 39 38.4 +0.2**
VRDI Verde Repeater 60.36 334 P **P** **12 39 40.9 +1.9**
BCAR Beaver Creek A 60.58 336 P **P** **12 39 40.6 +0.4**
L27K Beaver Creek, 60.60 336 P **P** **12 39 40.0 -0.4**
INK Inuvik 60.93 343 P **P** **12 39 41.8 -0.7**
INK IAmb IAmb 12 39 42.0
comp=Z,2.2nm,0.8s
H29M Whitestone 61.09 340 P **P** **12 39 43.3 -0.3**
H29M IAmb IAmb 12 40 03.3
comp=Z,6.0nm,1.4s
A36M Sachs Harbour 61.70 349 P **P** **12 39 45.8 -1.8**
A36M IAmb IAmb 12 40 14.5
comp=Z,5.2nm,1.4s
GLI Glacier Island 61.79 333 P **P** **12 39 49.7 +1.3**
E29M Blow River 62.24 342 P **P** **12 39 51.0 -0.2**
E29M IAmb IAmb 12 39 57.6
comp=Z,3.8nm,1.2s
I26K Coal Creek Min 62.24 338 P **P** **12 39 51.2 -0.1**
F28M Old Crow 62.38 341 P **P** **12 39 52.6 +0.3**
J25K Salcha River, 62.73 337 P **P** **12 39 55.2 +0.5**
J25K IAmb IAmb 12 39 57.8
comp=Z,3.0nm,0.9s
E28M Babbage River 62.85 342 P **P** **12 39 54.7 -0.7**
E28M IAmb IAmb 12 40 07.7
comp=Z,2.1nm,1.1s
E27K Coleen River 63.24 341 P **P** **12 39 58.2 +0.2**
E27K IAmb IAmb 12 40 36.5
comp=Z,6.5nm,1.4s
IL03 Eielson Array 63.37 337 P **P** **12 39 58.6 -0.3**
IL31 63.38 337 P **P** **12 39 58.6 -0.3**
ILAR Eielson Array 63.38 337 P **P** **12 39 58.1 -0.8**
comp=Z,2.3nm,1.0s,baz=119,slow=5.6,SNR=16
comp=Z,2.3nm,1.0s
BMAR Burnt Mountain 63.81 340 P **P** **12 40 01.9 +0.1**
BWN Browne 64.14 336 P **P** **12 40 04.9 +1.0**
SKT Skwentna 64.18 333 P **P** **12 40 04.2 -0.1**
H24K Noodor Dome 64.22 338 P **P** **12 40 04.7 +0.1**
I23K Minto, Yukon-K 64.49 337 P **P** **12 40 06.5 +0.3**
F21K Alatna River 66.84 338 P **P** **12 40 21.6 +0.2**
F21K IAmb IAmb 12 40 22.9
comp=Z,3.4nm,0.8s
H19K Roundabout Mou 67.41 336 P **P** **12 40 24.4 -0.5**
F20K Avaraart Lake 67.60 338 P **P** **12 40 26.0 -0.2**
F20K IAmb IAmb 12 40 30.1
comp=Z,2.0nm,0.9s
E19K Redstone River 68.29 338 P **P** **12 40 30.7 +0.2**
E19K IAmb IAmb 12 41 04.7
comp=Z,3.2nm,1.2s
H17K Granite Mounta 68.65 335 P **P** **12 40 33.0 +0.2**
H17K IAmb IAmb 12 40 33.1
comp=Z,3.2nm,0.9s
BILL Bilibino 81.99 338 P **P** **12 41 49.5 +0.2**
BILL IAmb IAmb 12 41 49.6
comp=Z,2.9nm,0.9s
KURBB Kurchatov Arra 115.40 7 PKP **PKiKP** **12 48 10.3 -1.1**
comp=Z,0.2nm,0.3s,baz=341,slow=1.9,SNR=1.9
ASAR Alice Springs 136.07 250 PKP **PKiKP** **12 48 52.6 -0.6**
comp=Z,0.4nm,1.1s,baz=93,slow=3.7,SNR=1.2
CMAR Chiang Mai Arr 146.50 342 PKPbc **PKPbc** **12 49 11.7 -0.1**
comp=Z,2.7nm,0.7s,baz=335,slow=3.8,SNR=20

*IDC **11** 12:36:42.5±0.7, 19°.74S×172°.87W, h0km, mb4.3/14, mbtmp4.3/15, ML4.2/1, MS3.4/12, Error ellipse: s-maj=26.4km s-min=17.5km az=146.0*
*NEIC **11** 12:36:45.7±1.3, 19°.2S±0°.1×173°.14W±0°.10, h10km±1km, mb4.9/25, Error ellipse: s-maj=22.8km s-min=12.8km az=152.0*
ISC 11 12:36:43.1±0.5, 19°.6S±0°.1×172°.79W±0°.08, h10km, n55, σ1s57/46, mb4.6/23, MS3.5/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.71**	**10**	Pn	**Pn**	**12 38 05.4**	**-2.8**
AFI				Sn	Sn	12 39 08.2	-5.7
MSVF	**Nonsavu**	**8.87**	**280**	Pn	**Pn**	**12 38 48.6**	**-3.0**
MSVF				Sn	Sn	12 40 21.1	-11
RAR	**Rarotonga**	**12.32**	**100**	Pn	**Pn**	**12 39 34.1**	**-4.6**
	2.1nm,0.3s,baz=264,slow=10,SNR=2.7						
RAR				Sn	Sn	12 41 43.8	-12
	0.8nm,0.3s,baz=56,slow=11,SNR=1.9						
PINNC	**Pines Island,**	**18.69**	**257**	P	**Pn**	**12 41 03.4**	**+1.4**
PINNC				IAmb	IAmb	12 41 12.5	
	comp=Z,113nm,1.3s						
LIFNC	**LIFOU**	**18.79**	**263**	P	**Pn**	**12 41 02.1**	**-1.1**
LIFNC				IAmb	IAmb	12 41 17.4	
	comp=Z,82nm,1.0s						
OUENC	**Ouen Island, N**	**19.23**	**258**	P	**Pn**	**12 41 08.5**	**-0.1**
DZM	**Mont Dzumac**	**19.57**	**259**	P	**Pn**	**12 41 10.9**	**-1.9**
DZM	**Mont Dzumac**	**19.57**	**259**	P	**Pn**	**12 41 11.7**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=78,slow=18,SNR=12						
DZM				LR	LR	12 47 37.3	
	comp=Z,166nm,19.2s,baz=106,slow=34						
	comp=Z,20nm,0.7s						
ONTNC	**Ouen Toro**	**19.58**	**258**	P	**Pn**	**12 41 11.3**	**-1.4**
URZ	**Urewera**	**20.59**	**203**	P	Pn	12 41 22.2	-2.3
	comp=Z,11nm,1.0s,baz=189,slow=8.9,SNR=2.5						
	comp=Z,11nm,1.0s						
KOUNC	**Koumac, New Ca**	**21.55**	**263**	P	**P**	**12 41 31.2**	**-1.7**
KOUNC				IAmb	IAmb	12 41 52.8	
	comp=Z,60nm,1.4s						
PPT	**Papeete**	**22.09**	**89**	LR	LR	12 48 46.3	
	comp=Z,51nm,19.3s,baz=305,slow=33						
EIDS	**Eidsvold**	**33.81**	**253**	P	**P**	**12 43 26.3**	**+0.6**
EIDS				IAmb	IAmb	12 43 42.4	
	comp=Z,22nm,1.4s						
ARMA	**Armidale**	**33.88**	**244**	P	**P**	**12 43 26.7**	**+0.3**
ARMA				IAmb	IAmb	12 43 27.3	
	comp=Z,28nm,1.2s						
CAN	**Canberra**	**37.11**	**237**	P	**P**	**12 43 54.6**	**+0.7**
CAN				IAmb	IAmb	12 44 20.3	
	comp=Z,54nm,1.5s						
CTAO	**Charters Tower**	**38.46**	**262**	P	**P**	**12 44 05.3**	**-0.3**
CTAO				IAmb	IAmb	12 44 06.2	
	comp=Z,11nm,0.8s						
TOO	**Toolangi**	**40.41**	**235**	P	**P**	**12 44 22.4**	**+0.8**
TOO				IAmb	IAmb	12 44 33.5	
	comp=Z,37nm,1.4s						
COEN	**Coen**	**42.44**	**271**	P	**P**	**12 44 37.3**	**-1.3**
COEN				IAmb	IAmb	12 44 39.7	
	comp=Z,19nm,1.1s						
STKA	**Stephens Creek**	**42.60**	**244**	P	**P**	**12 44 39.5**	**-0.2**
STKA	**Stephens Creek**	**42.60**	**244**	P	**P**	**12 44 38.5**	**-1.1**
	comp=Z,8.3nm,1.1s,baz=50,slow=9.0,SNR=4.2						
STKA				LR	LR	12 59 48.7	
	comp=Z,52nm,19.5s,baz=26,slow=33						
	comp=Z,8.3nm,1.1s						
BBOO	**Buckleboo**	**47.34**	**243**	P	**P**	**12 45 17.1**	**-0.3**
WR0	**Warramunga Arr**	**49.39**	**260**	P	**P**	**12 45 32.8**	**-0.7**
WR0				IAmb	IAmb	12 45 34.0	
	comp=Z,14nm,1.1s						
AS31	**Alice Springs**	**49.49**	**255**	P	**P**	**12 45 34.0**	**-0.2**
ASAR	**Alice Springs**	**49.49**	**255**	P	**P**	**12 45 33.4**	**-0.8**
	comp=Z,21nm,1.1s,baz=88,slow=8.4,SNR=68						
ASAR				PcP	**PcP**	**12 46 56.9**	**+0.7**
	comp=Z,1.0nm,0.9s,baz=97,slow=3.8,SNR=0.9						
	comp=Z,21nm,1.1s						
WB0	**Warramunga Arr**	**49.56**	**260**	P	**P**	**12 45 34.2**	**-0.6**
WB2	**Warramunga Arr**	**49.57**	**260**	P	**P**	**12 45 34.4**	**-0.4**
WRAB	**Tennant Creek**	**49.57**	**260**	P	**P**	**12 45 34.7**	**-0.1**
WRAB				IAmb	IAmb	12 45 36.1	
	comp=Z,18nm,1.1s						
WRA	**Warramunga Arr**	**49.58**	**260**	P	**P**	**12 45 34.2**	**-0.7**
WRA	**Warramunga Arr**	**49.58**	**260**	P	**P**	**12 45 34.0**	**-0.9**
	comp=Z,13nm,1.1s,baz=97,slow=7.2,SNR=34						
	comp=Z,13nm,1.1s						
GUMO	**Guam**	**53.13**	**305**	LR	LR	13 07 15.9	
	comp=Z,16nm,19.0s,baz=140,slow=34						
MTN	**Manton Dam**	**54.07**	**268**	P	**P**	**12 46 08.4**	**0.0**
FORT	**Forrest**	**54.15**	**246**	P	**P**	**12 46 09.1**	**+0.3**
MORW	**Morawa**	**64.70**	**246**	P	**P**	**12 47 22.7**	**+0.9**
DAV	**Davao City (W)**	**66.17**	**287**	LR	LR	13 15 02.2	
	comp=Z,14nm,18.2s,baz=138,slow=35						
QSPA	**South Pole Qui**	**70.50**	**180**	P		12 48 02.4	+4.4
QSPA				IAmb	IAmb	12 48 14.2	
	comp=Z,8.7nm,1.4s						
QSPA	**South Pole Qui**	**70.50**	**180**	P	**P**	**12 47 58.9**	**+1.0**
	comp=Z,2.9nm,1.0s,baz=12,slow=4.3,SNR=4.5						
	comp=Z,2.9nm,1.0s						
MJAR	**Matsushiro Arr**	**72.50**	**320**	P	**P**	**12 48 11.0**	**+0.7**
	comp=Z,4.5nm,1.0s,baz=166,slow=5.4,SNR=7.9						
MJAR				LR	LR	13 13 50.1	
	comp=Z,28nm,19.7s,baz=115,slow=31						
	comp=Z,4.5nm,1.0s						
JNU	**Nakatsue**	**75.07**	**314**	LR	LR	13 15 56.4	
	comp=Z,21nm,19.4s,baz=32,slow=31						
NVAR	**Mina Array Bea**	**77.05**	**41**	P	**P**	**12 48 38.6**	**+1.8**
	comp=Z,0.7nm,0.8s,baz=235,slow=5.2,SNR=5.5						
	comp=Z,0.7nm,0.8s						
KSRS	**Korea Array**	**79.53**	**316**	P	**P**	**12 48 53.6**	**+3.3**
	comp=Z,7.1nm,1.2s,baz=137,slow=6.1,SNR=16						
	comp=Z,7.1nm,1.2s						
TX31	**Lajitas Ar. Si**	**82.47**	**55**		**P**	**12 49 08.5**	**+2.2**
TX31				IAmb	IAmb	12 49 10.8	
	comp=Z,7.5nm,1.4s						
TXAR	**Lajitas Array**	**82.47**	**55**	P	**P**	**12 49 08.4**	**+2.1**
TXAR	**Lajitas Array**	**82.47**	**55**	P	**P**	**12 49 09.1**	**+2.8**
	comp=Z,2.1nm,1.1s,baz=216,slow=6.2,SNR=13						
TXAR				LR	LR	13 20 12.3	
	comp=Z,20nm,19.3s,baz=264,slow=32						
	comp=Z,2.1nm,1.1s						
CMIG	**Matias Romero**	**84.74**	**70**	LR	LR	13 23 25.1	
	comp=Z,45nm,18.0s,baz=246,slow=33						
PDAR	**Pinedale Array**	**84.98**	**41**	P	**P**	**12 49 20.9**	**+1.8**
PDAR	**Pinedale Array**	**84.98**	**41**	P	**P**	**12 49 20.4**	**+1.3**
	comp=Z,0.9nm,1.0s,baz=222,slow=2.0,SNR=4.6						
	comp=Z,0.9nm,1.0s						
PLCA	**Paso Flores**	**86.30**	**132**	P	**P**	**12 49 24.8**	**-0.9**
	comp=Z,3.6nm,1.2s,baz=261,slow=13,SNR=2.8						
	comp=Z,3.6nm,1.2s						
ILAR	**Eielson Array**	**86.41**	**11**	P	**P**	**12 49 25.8**	**+0.4**
	comp=Z,0.8nm,1.0s,baz=219,slow=5.1,SNR=5.1						
	comp=Z,0.8nm,1.0s						
YKA	**Yellowknife Ar**	**93.68**	**23**	P	**P**	**12 50 01.4**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=224,slow=2.6,SNR=2.3						
	comp=Z,0.1nm,0.5s						
CMAR	**Chiang Mai Arr**	**94.46**	**288**	P	**P**	**12 50 06.2**	**+2.1**
	comp=Z,0.5nm,0.3s,baz=108,slow=2.9,SNR=2.3						
	comp=Z,0.5nm,0.3s						
LVC	**Limon Verde**	**94.69**	**116**	LR	LR	13 22 37.7	
	comp=Z,19nm,21.0s,baz=231,slow=29						
LPAZ	**La Paz**	**97.84**	**110**	LR	LR	13 25 30.0	
	comp=Z,23nm,21.4s,baz=206,slow=30						
SONM	**Songino Array**	**98.32**	**318**	LR	LR	13 32 28.5	
	comp=Z,30nm,18.4s,baz=338,slow=34						
AKASG	**Malin Array Be**	**144.38**	**336**	PKP	**PKPdf**	**12 56 18.4**	**-1.1**
	comp=Z,2.2nm,0.2s,baz=48,slow=1.4,SNR=5.0						
BRTR	**Keskin Array B**	**149.67**	**317**	PKPbc	**PKiKP**	**12 56 34.5**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=114,slow=1.5,SNR=5.1						

*NOU **11** 12:54:05.2,29°.43S×175°.45W,h333km,mb4.3/10, Kermadec Islands Region*
*IDC **11** 12:55:13.0±5.5,33°.45S×179°.67E,h165km±41km,mb3.8/5, mbtmp4.3/6,Error ellipse: s-maj=52.7km s-min=19.4km az=48.0*
*NEIC **11** 12:55:12.4±0.3,33°.42S±0°.09×179°.8E±0°.2,h151km±11km, mb4.2/10,Error ellipse: s-maj=26.9km s-min=11.7km az=106.0*
*WEL **11** 12:55:15.8±0.5,34°S±5°×18°0E±1°.1,h225km±10km, M3.9/27,mB4.5/17,ML4.9/30,MLv4.7/27,Mw(mB)3.7/17, Error ellipse: s-maj=0.0km s-min=0.0km az=111.5, confirmed*
ISC 11 12:55:15.8±0.7, 33°.92S±0°.06×179°.86E±0°.09, h200km, n82, σ3s06/110, mb4.0/11, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.84**	**199**	P	**Pn**	**12 56 19.5**	**+4.0**
MXZ	**Matakaoa Point**	**3.84**	**199**	Pn	**Pn**	**12 56 16.5**	**+1.0**
HAZ	**Te Kaha**	**4.18**	**203**	P	**Pn**	**12 56 21.6**	**+1.9**
HAZ				S	**Sn**	**12 57 11.5**	**+1.4**
KUZ	**Kuaotunu**	**4.40**	**229**	P	**Pn**	**12 56 26.0**	**+3.5**
RUGZ	**Raukumara Rang**	**4.40**	**203**	P	**Pn**	**12 56 24.6**	**+2.0**
RUGZ				S	**Sn**	**12 57 14.3**	**-1.0**
TWGZ	**Tauwhareparae**	**4.51**	**199**	P	**Pn**	**12 56 28.1**	**+4.2**
TWGZ				S	**Sn**	**12 57 19.5**	**+1.9**
OPRZ	**Ohinepanea**	**4.74**	**213**	P	**Pn**	**12 56 29.7**	**+2.9**
MWZ	**Matawai**	**4.79**	**202**	P	**Pn**	**12 56 28.2**	**+0.8**
MWZ				S	**Sn**	**12 57 24.6**	**+0.7**
URZ	**Urewera**	**4.86**	**206**	P	**Pn**	**12 56 31.2**	**+2.9**
URZ	**Urewera**	**4.86**	**206**	P	**Pn**	**12 56 29.0**	**+0.7**
	13nm,0.3s,baz=343,slow=5.5,SNR=19						
URZ				S	**Sn**	**12 57 24.4**	**-1.3**
	38nm,0.3s,baz=140,slow=23,SNR=14						
URZ	**Urewera**	**4.86**	**206**	P	**Pn**	**12 56 29.1**	**+0.7**
URZ				S	**Sn**	**12 57 24.3**	**-1.3**
WCZ	**Waipu Caves**	**4.95**	**245**	P	**Pn**	**12 56 31.5**	**+2.0**
GLKZ	**Green Lake**	**5.02**	**23**	P	**Pn**	**12 56 26.4**	**-4.1**
GLKZ				S	**Sn**	**12 57 23.2**	**-6.1**
RAO	**Raoul Island**	**5.03**	**23**	Pn	Pn	12 56 20.4	-10
RIGZ	**Rimuhau**	**5.06**	**199**	P	**Pn**	**12 56 33.1**	**+2.1**
RIGZ				S	**Sn**	**12 57 29.4**	**-0.9**
TOZ	**Tahuroa Road**	**5.19**	**222**	P	**Pn**	**12 56 36.6**	**+4.1**
RTZ	**Ruatahuna**	**5.23**	**206**	Pn	**Pn**	**12 56 34.2**	**+1.2**
PRGZ	**Paritu Road**	**5.24**	**197**	P	**Pn**	**12 56 35.8**	**+2.7**
SNGZ	**Shannon Statio**	**5.25**	**202**	P	**Pn**	**12 56 34.1**	**+0.8**
SNGZ				S	**Sn**	**12 57 34.6**	**-0.1**
HSRZ	**Hossack Road**	**5.26**	**213**	P	Pn	12 56 38.8	+5.3
OUZ	**Omahuta**	**5.32**	**254**	P	**Pn**	**12 56 34.8**	**+0.5**
OUZ	**Omahuta**	**5.32**	**254**	P	**Pn**	**12 56 34.8**	**+0.5**
PRRZ	**Plateau Road**	**5.35**	**211**	P	**Pn**	**12 56 37.2**	**+2.6**
KNZ	**Kokohu**	**5.38**	**198**	P	**Pn**	**12 56 35.4**	**+0.5**
KNZ				S	**Sn**	**12 57 34.4**	**-3.2**
ALRZ	**Allen Road**	**5.43**	**211**	P	**Pn**	**12 56 37.6**	**+2.0**
MHGZ	**Mahia Peninsul**	**5.45**	**196**	P	**Pn**	**12 56 37.3**	**+1.4**
MHGZ				S	**Sn**	**12 57 38.9**	**-0.3**
RAHZ	**Arahi**	**5.46**	**203**	P	**Pn**	**12 56 36.4**	**+0.4**
RAHZ				S	**Sn**	**12 57 38.5**	**-1.0**
MTHZ	**Maungataniwha**	**5.49**	**205**	P	**Pn**	**12 56 37.3**	**+0.9**
MTHZ				S	**Sn**	**12 57 39.6**	**-0.5**
ARHZ	**Aropaoanui**	**5.80**	**203**	P	**Pn**	**12 56 40.0**	**-0.4**
ARHZ				S	**Sn**	**12 57 45.1**	**-2.3**
BKZ	**Black Stump Fm**	**5.89**	**206**	P	**Pn**	**12 56 43.5**	**+1.9**
MCHZ	**McNeill Hill**	**6.07**	**204**	P	**Pn**	**12 56 43.8**	**0.0**
MCHZ				S	**Sn**	**12 57 51.7**	**-1.8**
HIZ	**Hauiti**	**6.11**	**220**	P	**Pn**	**12 56 49.0**	**+4.7**
HIZ	**Hauiti**	**6.11**	**220**	P	**Pn**	**12 56 46.6**	**+2.3**
KWHZ	**Kaweka Forest**	**6.14**	**206**	P	**Pn**	**12 56 43.6**	**-1.2**
KWHZ				S	**Sn**	**12 57 51.7**	**-3.7**
TMVZ	**Te Maari**	**6.17**	**212**	P	**Pn**	**12 56 47.2**	**+2.0**
KAHZ	**Kahuranaki**	**6.33**	**201**	P	**Pn**	**12 56 46.3**	**-0.9**
KAHZ				S	**Sn**	**12 57 56.0**	**-3.7**
BHHZ	**Black Hill Sta**	**6.33**	**208**	P	**Pn**	**12 56 46.8**	**-0.5**
BHHZ				S	**Sn**	**12 57 56.5**	**-3.4**
KRHZ	**Kereru**	**6.36**	**205**	P	**Pn**	**12 56 45.5**	**-2.1**
KRHZ				S	**Sn**	**12 57 55.4**	**-5.0**
WNVZ	**Wahianoa**	**6.39**	**211**	P	**Pn**	**12 56 49.6**	**+1.5**
**MOV

BFZ	**Birch Farm**	**7.33 202**	P	**Pn**	**12 56 58.3**	**-2.0**
BFZ			S	**Sn**	**12 58 16.5**	**-6.8**
MRZ	**Mangatainoka R**	**7.54 206**	P	**Pn**	**12 56 59.9**	**-2.9**
MRZ			S	**Sn**	**12 58 19.7**	**-8.4**
CPWZ	**Castlepoint**	**7.55 202**	P	**Pn**	**12 57 02.9**	**-0.1**
CPWZ			S	**Sn**	**12 58 23.2**	**-5.2**
OGWZ	**Otaki Gorge**	**7.82 207**	P	**Pn**	**12 57 03.5**	**-3.1**
OGWZ			S	**Sn**	**12 58 27.3**	**-7.6**
TMWZ	**Te Maipa**	**7.83 203**	P	**Pn**	**12 57 04.1**	**-2.6**
TMWZ			S	**Sn**	**12 58 29.3**	**-5.8**
KIW	**Kapiti Island**	**7.96 208**	P	**Pn**	**12 57 05.2**	**-3.3**
KIW			S	Sn	12 58 28.2	-10
CAW	**Cannon Point**	**8.12 207**	P	**Pn**	**12 57 06.7**	**-3.7**
CAW			S	**Sn**	**12 58 33.9**	**-7.9**
TRWZ	**Traveller**	**8.16 203**	P	**Pn**	**12 57 08.3**	**-2.7**
TRWZ			S	**Sn**	**12 58 34.5**	**-8.3**
SNZO	**South Karori**	**8.43 207**	P	**Pn**	**12 57 12.7**	**-1.7**
QRZ	**Quartz Range**	**9.02 218**	P	**Pn**	**12 57 20.0**	**-2.2**
KHZ	**Kahutara**	**9.82 209**	P	Pn	12 57 27.7	-4.9
RPZ	**Rata Peaks**	**11.94 212**	P	**Pn**	**12 57 55.6**	**-4.1**
	5.7nm,0.6s,baz=68,slow=17,SNR=1.0					
RPZ			S	Sn	13 00 00.3	-12
	12nm,0.6s,baz=313,slow=22,SNR=6.4					
CTAO	**Charters Tower**	**32.79 286**	P	**P**	**13 01 31.2**	**+0.8**
CTAO			IAmb	IAmb	13 01 42.5	
	comp=Z,8.1nm,1.4s					
AS31	**Alice Springs**	**41.25 272**	P	**P**	**13 02 41.1**	**-0.4**
ASAR	**Alice Springs**	**41.25 272**	P	**P**	**13 02 41.3**	**-0.2**
ASAR	**Alice Springs**	**41.25 272**	P	**P**	**13 02 41.0**	**-0.6**
	comp=Z,1.4nm,0.7s,baz=112,slow=7.5,SNR=17					
ASAR			PcP	**PcP**	**13 04 35.7**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=119,slow=4.6,SNR=1.1					
	comp=Z,1.4nm,0.7s					
WR0	**Warramunga Arr**	**42.39 277**	P	**P**	**13 02 50.0**	**-0.8**
WR0			IAmb	IAmb	13 03 16.1	
	comp=Z,4.2nm,1.1s					
WB2	**Warramunga Arr**	**42.56 277**	P	**P**	**13 02 51.5**	**-0.6**
WB2			IAmb	IAmb	13 02 56.2	
	comp=Z,6.7nm,1.2s					
WRA	**Warramunga Arr**	**42.57 277**	P	**P**	**13 02 51.5**	**-0.6**
WRA	**Warramunga Arr**	**42.57 277**	P	**P**	**13 02 51.1**	**-1.1**
	comp=Z,0.6nm,0.3s,baz=117,slow=8.0,SNR=17					
	comp=Z,0.6nm,0.3s					
WB0	**Warramunga Arr**	**42.61 277**	P	**P**	**13 02 51.7**	**-0.7**
WB0			IAmb	IAmb	13 02 55.5	
	comp=Z,11nm,1.4s					
VNDA	**Vanda**	**44.42 186**	P	P	13 03 12.8	+6.7
VNDA			IAmb	IAmb	13 03 38.0	
	comp=Z,5.8nm,1.5s					
QSPA	**South Pole Qui**	**56.19 180**	P	P	13 04 40.2	+5.5
QSPA	**South Pole Qui**	**56.19 180**	P	P	13 04 39.9	+5.2
	comp=Z,8.6nm,0.5s,baz=221,slow=1.0,SNR=102					
	comp=Z,8.6nm,0.5s					
BELA	**Belgrano 2**	**66.54 173**	P	**P**	**13 05 47.9**	**+4.3**
BELA			IAmb	IAmb	13 05 48.1	
	comp=Z,6.5nm,1.2s					
MAW	**Mawson**	**68.38 202**	P	**P**	**13 05 57.4**	**+2.2**
	comp=Z,1.7nm,0.7s,baz=153,slow=4.5,SNR=2.4					
	comp=Z,1.7nm,0.7s					
SNAA	**Sanae**	**74.68 179**	P	**P**	**13 06 36.5**	**+3.6**
SNAA	**Sanae**	**74.68 179**	P	**P**	**13 06 36.0**	**+3.1**
	comp=Z,1.7nm,0.3s,baz=318,slow=17,SNR=6.5					
	comp=Z,1.7nm,0.3s					
KURBB	**Kurchatov Arra**	**122.16 312**	PKP	**PKPdf**	**13 13 45.8**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=117,slow=1.8,SNR=5.6					
FINES	**FINESS Array B**	**147.74 337**	PKPbc	**PKPbc**	**13 14 36.1**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=41,slow=4.4,SNR=7.0					
DBIC	**Dimbokro**	**152.53 170**	PKPbc	**PKiKP**	**13 14 51.4**	**+2.2**
	comp=Z,7.9nm,1.2s,baz=178,slow=1.5,SNR=5.1					

*IDC **11** 12:55:55.0±0.8,56˚.39N×148˚.99W,h0km,mb3.7/19, mbtmp3.9/24,ML3.9/5,MS3.4/22,Error ellipse: s-maj=19.2km s-min=12.5km az=36.0*

*NEIC **11** 12:55:57.0±2.0,56˚.43N±0˚.04×148˚.93W±0˚.08,h10km±1km, mb4.3/34,ML4.8/68,ML4.6(AEIC),Error ellipse: s-maj=7.9km s-min=5.7km az=292.0*

*AEIC **11** 12:56:01.4±1.9,56˚.43N±0˚.06×148˚.95W±0˚.08,h12km±4km, Error ellipse: s-maj=9.0km s-min=6.5km az=170.0*

ISC 11 12:55:56.3±0.4,56˚.45N±0˚.05×148˚.97W±0˚.03,h10km, n658,σ1ş40/668,mb4.1/35,MS3.3/16,1C,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.38**	**306**	Pn	**Pn**	**12 56 35.8**	**+0.4**
KDAK				IAML		12 57 02.5	
	3µm,0.4s						
KDAK	**Kodiak Island**	**2.38**	**306**		**Sn**	**12 57 02.0**	**-2.6**
KDAK	**Kodiak Island**	**2.38**	**306**	P	**Pn**	**12 56 35.8**	**+0.4**
	baz=124						
KDAK				S	**Sn**	**12 57 02.2**	**-2.5**
	baz=124						
KDAK	**Kodiak Island**	**2.38**	**306**	Pn	**Pn**	**12 56 35.5**	**+0.1**
	70nm,0.3s,baz=138,slow=4.6,SNR=584						
KDAK				Sn	**Sn**	**12 57 02.0**	**-2.6**
	341nm,0.3s,baz=246,slow=23,SNR=45						
KDAK				LR	LR	12 57 43.2	
	comp=Z,538nm,19.6s,baz=161,slow=45						
	132nm,0.3s						
OHAK	**Old Harbor**	**2.50**	**290**	P	**Pn**	**12 56 37.0**	**+0.1**
OHAK	**Old Harbor**	**2.50**	**290**	Pn	**Pn**	**12 56 37.0**	**+0.1**
OHAK					**Sn**	**12 57 04.2**	**-3.2**
OHAK				IAML		12 57 04.5	
	comp=E,3µm,0.4s						
OHAK				IAML		12 57 04.8	
	comp=N,3µm,0.8s						
OHAK	**Old Harbor**	**2.50**	**290**	P	**Pn**	**12 56 37.0**	**+0.1**
	baz=107,SNR=20						
OHAK				S	**Sn**	**12 57 04.0**	**-3.4**
	baz=107						
SYI	**Shuyak Island**	**2.85**	**321**	Pn	**Pn**	**12 56 42.3**	**+0.6**
SYI					**Sn**	**12 57 14.2**	**-1.8**
SYI				IAML		12 57 16.2	
	comp=N,2µm,0.5s						
Q20K	**Shuyak Island**	**2.85**	**321**	P	**Pn**	**12 56 42.2**	**+0.5**
	baz=139,SNR=21						
Q20K				S	**Sn**	**12 57 14.0**	**-2.0**
	baz=139						
SII	**Sitkinak Islan**	**2.89**	**274**	P	**Pn**	**12 56 42.5**	**+0.1**
SII	**Sitkinak Islan**	**2.89**	**274**	Pn	**Pn**	**12 56 42.5**	**+0.1**
SII					**Sn**	**12 57 14.6**	**-2.6**
SII				IAML		12 57 15.3	
	comp=E,3µm,0.6s						
SII				IAML		12 57 15.0	
	comp=N,3µm,0.7s						
SII	**Sitkinak Islan**	**2.89**	**274**	P	**Pn**	**12 56 42.5**	**+0.1**
	baz=91,SNR=14						
SII				S	**Sn**	**12 57 14.3**	**-2.9**
	baz=91						
Q23K	**Middleton Isla**	**3.30**	**24**	Pn	**Pn**	**12 56 48.5**	**+0.5**
Q23K				IAML		12 57 25.3	
	comp=N,1µm,1.1s						
Q23K					**Sn**	**12 57 25.4**	**-1.8**
Q23K				IAML		12 57 28.3	
	comp=E,2µm,1.1s						
Q23K	**Middleton Isla**	**3.30**	**24**	P	**Pn**	**12 56 48.1**	**+0.1**
	baz=206						
Q23K				S	**Sn**	**12 57 24.4**	**-2.9**
	baz=206						
CNPM	**China Poot**	**3.32**	**340**	Pn	**Pn**	**12 56 48.6**	**+0.3**
CNPM					**Sn**	**12 57 26.2**	**-1.5**
BRSE	**Bradley Lake S**	**3.44**	**345**		**Pn**	**12 56 49.8**	**-0.1**
BRSE					**Sn**	**12 57 28.0**	**-2.7**
BRSE	**Bradley Lake S**	**3.44**	**345**	P	**Pn**	**12 56 49.8**	**-0.1**
	baz=164,SNR=55						
BRSE				S	**Sn**	**12 57 27.9**	**-2.7**
	baz=164						
BRLK	**Bradley Lake**	**3.48**	**344**		**Pn**	**12 56 50.4**	**-0.1**
HOM	**Homer**	**3.52**	**337**		**Pn**	**12 56 51.7**	**+0.8**
HOM				IAML		12 57 34.3	
	comp=E,2µm,0.7s						
HOM				IAML		12 57 41.5	
	comp=N,2µm,0.6s						
HOM	**Homer**	**3.52**	**337**	P	**Pn**	**12 56 51.8**	**+0.8**
	baz=155,SNR=16						
HOM				S	**Sn**	**12 57 31.9**	**-0.8**
	baz=155						
Q19K	**Cape Douglas,**	**3.54**	**317**		**Pn**	**12 56 52.5**	**+1.3**
Q19K	**Cape Douglas,**	**3.54**	**317**	P	**Pn**	**12 56 52.5**	**+1.3**
	baz=133,SNR=40						
Q19K				S	**Sn**	**12 57 32.5**	**-0.6**
	baz=133						
P23K	**Montague Islan**	**3.66**	**12**		**Pn**	**12 56 53.1**	**+0.3**
P23K					**Sn**	**12 57 32.8**	**-3.2**
P23K	**Montague Islan**	**3.66**	**12**	P	**Pn**	**12 56 53.1**	**+0.3**
	baz=194						
P23K				S	**Sn**	**12 57 33.0**	**-3.0**
	baz=194						
SEW	**Seward**	**3.68**	**356**		**Pn**	**12 56 52.9**	**-0.2**
SEW	**Seward**	**3.68**	**356**	P	**Pn**	**12 56 52.9**	**-0.2**
	baz=176,SNR=24						
SEW				S	**Sn**	**12 57 32.9**	**-3.6**
	baz=176						
AU22	**Augustine Moun**	**3.75**	**323**		**Pn**	**12 56 54.7**	**+0.6**
CHIR	**Chirikof Islan**	**3.77**	**263**		**Pn**	**12 56 54.8**	**+0.4**
CHIR					**Sn**	**12 57 35.2**	**-3.7**
CHIR	**Chirikof Islan**	**3.77**	**263**	P	**Pn**	**12 56 54.9**	**+0.4**
	baz=78,SNR=7.0						
CHIR				S	**Sn**	**12 57 35.0**	**-3.9**
	baz=78						
AUL	**Augustine Lava**	**3.79**	**323**		**Pn**	**12 56 55.8**	**+1.2**
ACHA	**Angle Creek He**	**3.87**	**300**		**Pn**	**12 56 57.4**	**+1.5**
KAHC	**Katmai Hardscr**	**3.93**	**307**		**Pn**	**12 56 58.0**	**+1.2**
P19K	**Oil Pt**	**3.93**	**327**		**Pn**	**12 56 57.5**	**+0.8**
P19K				IAML		12 57 45.8	
	comp=E,3µm,0.4s						
P19K	**Oil Pt**	**3.93**	**327**	P	**Pn**	**12 56 57.5**	**+0.8**
	baz=143,SNR=25						
P19K				S	**Sn**	**12 57 41.8**	**-1.1**
	baz=143						
ANCK	**Angle Creek**	**3.95**	**299**		**Pn**	**12 56 58.5**	**+1.5**
O22K	**Cooper Landing**	**4.07**	**355**		**Pn**	**12 56 58.6**	**+0.1**
O22K	**Cooper Landing**	**4.07**	**355**	P	**Pn**	**12 56 58.3**	**-0.2**
	baz=174,SNR=16						
O20K	**Slope Mountain**	**4.12**	**334**		**Pn**	**12 56 59.6**	**+0.3**
O20K	**Slope Mountain**	**4.12**	**334**	P	**Pn**	**12 56 59.7**	**+0.3**
	baz=151,SNR=17						
SLKM	**Skilak Lake**	**4.13**	**351**		**Pn**	**12 56 59.2**	**-0.2**
CNTC	**Contact Creek**	**4.17**	**299**		**Pn**	**12 57 01.2**	**+1.2**
Q17K	**Contact Creek**	**4.17**	**299**	P	**Pn**	**12 57 01.4**	**+1.5**
	baz=114,SNR=24						
Q17K				S	**Sn**	**12 57 46.9**	**-1.8**
	baz=114						
HIN	**Hinchinbrook I**	**4.17**	**17**		**Pn**	**12 57 00.5**	**+0.6**
HIN				IAML		12 57 46.2	
	comp=N,2µm,0.5s						
HIN				IAML		12 57 47.7	
	comp=E,1µm,0.6s						
IVE	**Iliamna Volcan**	**4.17**	**331**		**Pn**	**12 56 59.8**	**-0.2**
PLK3	**Peulik 3**	**4.17**	**290**		**Pn**	**12 57 01.1**	**+1.1**
KAIM	**Kayak Island**	**4.24**	**33**	Pn	**Pn**	**12 57 02.0**	**+1.1**
KAIM				IAML		12 57 49.9	
	comp=E,2µm,1.1s						
KAIM	**Kayak Island**	**4.24**	**33**	P	**Pn**	**12 57 02.0**	**+1.1**
	baz=216,SNR=8.3						
PLK1	**Peulik 1**	**4.38**	**291**		**Pn**	**12 57 03.9**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.45**	**21**	P	**Pn**	**12 57 04.6**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.45**	**21**		**Pn**	**12 57 04.7**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.45**	**21**	P	**Pn**	**12 57 04.4**	**+0.7**
	baz=204,SNR=20						
EYAK				S	**Sn**	**12 57 52.2**	**-3.2**
	baz=204						
P18K	**Big Mountain,**	**4.46**	**314**		**Pn**	**12 57 04.2**	**+0.2**
P18K	**Big Mountain,**	**4.46**	**314**	P	**Pn**	**12 57 04.1**	**+0.2**
	baz=129,SNR=12						
P18K				S	**Sn**	**12 57 52.2**	**-3.5**
	baz=129						
RED	**Redoubt Volcan**	**4.46**	**335**		**Pn**	**12 57 03.5**	**-0.4**
CAPN	**Captain Cook N**	**4.48**	**346**	Pn	**Pn**	**12 57 05.6**	**+1.4**
CAPN				IAML		12 58 04.4	
	comp=E,2µm,0.6s						
CAPN				IAML		12 58 10.0	
	comp=N,2µm,0.9s						
CAPN	**Captain Cook N**	**4.48**	**346**	P	**Pn**	**12 57 05.5**	**+1.3**
	baz=164						
CAPN				S	**Sn**	**12 57 56.4**	**+0.1**
	baz=164						
RSO	**Redoubt South**	**4.49**	**335**		**Pn**	**12 57 04.3**	**-0.3**
FID	**Port Fidalgo**	**4.51**	**16**		**Pn**	**12 57 04.7**	**+0.1**
FID				IAML		12 57 54.1	
	comp=E,846nm,0.3s						
FID				IAML		12 57 56.4	
	comp=N,622nm,0.4s						
RDT	**Redoubt**	**4.51**	**338**		**Pn**	**12 57 04.1**	**-0.6**
RDWB	**Redoubt West**	**4.53**	**335**		**Pn**	**12 57 04.5**	**-0.5**
RAGM	**Ragged Mountai**	**4.55**	**28**	Pn	**Pn**	**12 57 05.8**	**+0.6**
GLI	**Glacier Island**	**4.55**	**12**		**Pn**	**12 57 05.8**	**+0.6**
GLI				IAML		12 57 58.4	
	comp=E,1µm,0.6s						
GLI				IAML		12 57 59.5	
	comp=N,592nm,0.4s						
GLI	**Glacier Island**	**4.55**	**12**	P	**Pn**	**12 57 05.5**	**+0.3**
	baz=193						
GLI				S	**Sn**	**12 57 53.6**	**-4.5**
	baz=193						
SUCK	**Suckling Hills**	**4.55**	**35**		**Pn**	**12 57 06.5**	**+1.3**
DFR	**Drift River**	**4.59**	**336**		**Pn**	**12 57 05.2**	**-0.5**
NCT	**North Crescent**	**4.62**	**335**		**Pn**	**12 57 05.8**	**-0.4**
HMT	**Hamilton**	**4.62**	**30**	Pn	**Pn**	**12 57 07.5**	**+1.3**
RC01	**Rabbit Creek A**	**4.67**	**355**	Pn	**Pn**	**12 57 07.0**	**+0.1**
RC01				IAML		12 57 58.9	
	comp=N,872nm,0.5s						
RC01				IAML		12 58 00.2	
	comp=E,1µm,0.5s						
RC01	**Rabbit Creek A**	**4.67**	**355**	P	**Pn**	**12 57 07.0**	**+0.1**
	baz=175,SNR=16						
RC01				S	**Sn**	**12 57 57.8**	**-3.3**
	baz=175						
O19K	**Port Alsworth**	**4.70**	**325**		**Pn**	**12 57 07.2**	**+0.1**
O19K	**Port Alsworth**	**4.70**	**325**	P	**Pn**	**12 57 07.3**	**+0.1**
	baz=141,SNR=62						
O19K				S	**Sn**	**12 57 58.6**	**-3.1**
	baz=141						
Q16K	**King Salmon**	**4.70**	**302**		**Pn**	**12 57 08.3**	**+1.1**
Q16K	**King Salmon**	**4.70**	**302**	P	**Pn**	**12 57 08.6**	**+1.4**
	baz=116,SNR=17						
Q16K				S	**Sn**	**12 57 58.6**	**-3.2**
	baz=116						
GOAT	**Goat Mountain**	**4.71**	**26**		**Pn**	**12 57 08.5**	**+1.2**
BGLC	**Bering Glacier**	**4.75**	**37**	P	**Pn**	**12 57 08.9**	**+1.0**
	baz=221						
O18K	**Koktuh Hills**	**4.75**	**319**		**Pn**	**12 57 08.2**	**+0.2**
O18K	**Koktuh Hills**	**4.75**	**319**	P	**Pn**	**12 57 08.1**	**+0.2**
	baz=134,SNR=24						
O18K				S	**Sn**	**12 57 59.4**	**-3.7**
	baz=134						
BERG	**Berg Lake**	**4.83**	**33**		**Pn**	**12 57 10.0**	**+1.0**
R16K	**Pilot Point**	**4.84**	**287**	Pn	**Pn**	**12 57 10.4**	**+1.4**
R16K				IAML		12 58 06.7	
	comp=E,426nm,0.9s						
R16K				IAML		12 58 09.3	
	comp=N,565nm,0.6s						
P17K	**Kvichak River**	**4.85**	**308**		**Pn**	**12 57 10.2**	**+0.9**
P17K	**Kvichak River**	**4.85**	**308**	P	**Pn**	**12 57 10.2**	**+0.9**
	baz=122,SNR=34						
SNH	**Sunshine Point**	**4.95**	**38**		**Pn**	**12 57 12.0**	**+1.4**
SNH				IAML		12 58 06.7	
	comp=E,838nm,0.7s						
SNH				IAML		12 58 06.7	
	comp=N,762nm,0.7s						
DIV	**Divide**	**4.98**	**18**		**Pn**	**12 57 12.3**	**+1.1**
CYK	**Cape Yakataga**	**5.00**	**40**		**Pn**	**12 57 12.5**	**+1.2**
KHIT	**Khitrov Hills**	**5.01**	**34**		**Pn**	**12 57 12.0**	**+0.5**
ANNE	**Aniakchak Nort**	**5.03**	**279**		**Pn**	**12 57 12.4**	**+0.6**
N20K	**Mount Spurr**	**5.06**	**342**	P	**Pn**	**12 57 11.9**	**-0.3**
	baz=159,SNR=34						
SPCR	**Spurr Chakacha**	**5.06**	**342**		**Pn**	**12 57 11.8**	**-0.4**
BMRM	**Bremner River**	**5.07**	**25**		**Pn**	**12 57 13.0**	**+0.6**
BMRM	**Bremner River**	**5.07**	**25**	P	**Pn**	**12 57 13.2**	**+0.8**
	baz=208,SNR=20						
SPCP	**Crater Peak Br**	**5.11**	**342**		**Pn**	**12 57 13.0**	**0.0**
SPCG	**Spurr Capps Gl**	**5.11**	**343**		**Pn**	**12 57 12.9**	**0.0**
SUA	**Susitna One**	**5.12**	**350**		**Pn**	**12 57 13.0**	**0.0**
SUA	**Susitna One**	**5.12**	**350**	P	**Pn**	**12 57 12.8**	**-0.2**
	baz=169,SNR=11						
SPBG	**Spurr Blockage**	**5.14**	**341**		**Pn**	**12 57 13.3**	**0.0**
WAX	**Waxell Ridge**	**5.14**	**36**		**Pn**	**12 57 14.3**	**+1.0**
BARK	**Barkley Ridge**	**5.23**	**38**		**Pn**	**12 57 15.8**	**+1.2**
N19K	**Bonanza Creek**	**5.24**	**329**		**Pn**	**12 57 14.8**	**+0.1**
N19K	**Bonanza Creek**	**5.24**	**329**	P	**Pn**	**12 57 14.3**	**-0.4**
	baz=145,SNR=25						
CHGN	**Chignik**	**5.25**	**272**	Pn	**Pn**	**12 57 15.0**	**+0.3**
CHGN				IAML		12 58 12.3	
	comp=E,395nm,0.6s						
CHGN				IAML		12 58 12.7	
	comp=N,541nm,0.7s						
CHGN	**Chignik**	**5.25**	**272**	P	**Pn**	**12 57 15.6**	**+0.9**
	baz=85,SNR=20						
MESA	**MESA**	**5.26**	**42**		**Pn**	**12 57 16.0**	**+0.9**
MESA				IAML		12 58 16.1	
	comp=N,604nm,0.6s						
MESA				IAML		12 58 17.1	
	comp=E,515nm,0.5s						
MESA	**MESA**	**5.26**	**42**	P	**Pn**	**12 57 16.1**	**+0.9**
	baz=227,SNR=15						
STLK	**Strandline Lak**	**5.28**	**345**		**Pn**	**12 57 15.2**	**0.0**
SPNN	**North Nagishla**	**5.30**	**340**		**Pn**	**12 57 15.8**	**+0.2**
KLU	**Klutina**	**5.30**	**16**		**Pn**	**12 57 16.4**	**+0.8**
KLU				IAML		12 58 15.0	
	comp=N,721nm,0.5s						
KLU				IAML		12 58 15.9	
	comp=E,699nm,0.3s						
KLU	**Klutina**	**5.30**	**16**	P	**Pn**	**12 57 16.3**	**+0.8**
	baz=198,SNR=18						
M22K	**Willow**	**5.36**	**354**		**Pn**	**12 57 16.9**	**+0.7**
M22K				IAML		12 58 29.4	
	comp=E,779nm,0.6s						
M22K				IAML		12 58 39.5	
	comp=N,550nm,0.6s						
M22K	**Willow**	**5.36**	**354**	P	**Pn**	**12 57 16.8**	**+0.7**
	baz=173						
SML	**Sawmill**	**5.39**	**3**		**Pn**	**12 57 17.7**	**+1.0**
SML	**Sawmill**	**5.39**	**3**	P	**Pn**	**12 57 17.7**	**+1.0**
	baz=184,SNR=14						
M23K	**Glacier View**	**5.40**	**6**		**Pn**	**12 57 17.7**	**+0.9**
M23K	**Glacier View**	**5.40**	**6**	P	**Pn**	**12 57 17.9**	**+1.0**
	baz=187,SNR=9.9						
ISLE	**Juniper Island**	**5.42**	**37**		**Pn**	**12 57 18.4**	**+1.1**
O17K	**Koliganek Bris**	**5.45**	**311**		**Pn**	**12 57 18.1**	**+0.7**
O17K	**Koliganek Bris**	**5.45**	**311**	P	**Pn**	**12 57 17.7**	**+0.3**
	baz=125						
SCM	**Sheep Creek Mo**	**5.47**	**8**		**Pn**	**12 57 18.8**	**+1.0**
SCM	**Sheep Creek Mo**	**5.47**	**8**	P	**Pn**	**12 57 18.9**	**+1.0**
	baz=190,SNR=7.0						
P16K	**Nushagak River**	**5.48**	**302**		**Pn**	**12 57 18.4**	**+0.5**
P16K	**Nushagak River**	**5.48**	**302**	P	**Pn**	**12 57 17.9**	**0.0**
	baz=115						
N18K	**Kilae Creek**	**5.58**	**322**	Pn	**Pn**	**12 57 19.3**	**0.0**
N18K	**Kilae Creek**	**5.58**	**322**	P	**Pn**	**12 57 19.2**	**0.0**
	baz=137,SNR=23						
VRDI	**Verde Repeater**	**5.59**	**29**		**Pn**	**12 57 20.4**	**+0.9**
N25K	**Chitina, Valde**	**5.65**	**22**	Pn	**Pn**	**12 57 21.4**	**+1.2**
N25K	**Chitina, Valde**	**5.65**	**22**	P	**Pn**	**12 57 21.4**	**+1.2**
	baz=205,SNR=24						
KIAG	**Kiagna River**	**5.66**	**35**		**Pn**	**12 57 21.5**	**+1.0**
GLB	**Gilahina Butte**	**5.68**	**26**	Pn	**Pn**	**12 57 21.7**	**+1.0**
VNHG	**Veniaminof 1**	**5.68**	**272**		**Pn**	**12 57 21.6**	**+0.9**
SKT	**Skwentna**	**5.71**	**348**		**Pn**	**12 57 21.2**	**+0.2**
SKT	**Skwentna**	**5.71**	**348**	P	**Pn**	**12 57 21.0**	**0.0**
	baz=166,SNR=23						
O16K	**Kokwok River B**	**5.78**	**307**	Pn	**Pn**	**12 57 22.9**	**+0.8**
O16K	**Kokwok River B**	**5.78**	**307**	P	**Pn**	**12 57 22.8**	**+0.8**
	baz=120,SNR=15						
SVW2	**Sparrevohn**	**5.79**	**326**	P	**Pn**	**12 57 22.3**	**+0.1**
SVW2	**Sparrevohn**	**5.79**	**326**		**Pn**	**12 57 22.0**	**-0.2**
YKU2	**Yakutat**	**5.82**	**54**	P	**Pn**	**12 57 24.9**	**+2.3**
YKU2	**Yakutat**	**5.82**	**54**	Pn	**Pn**	**12 57 24.6**	**+2.0**
MCARA	**McCarthy VSAT**	**5.83**	**29**		**Pn**	**12 57 23.8**	**+1.1**
MCARA	**McCarthy VSAT**	**5.83**	**29**	P	**Pn**	**12 57 23.7**	**+1.1**
	baz=214,SNR=53						
PTPK	**Patty Peak**	**5.83**	**33**		**Pn**	**12 57 24.1**	**+1.2**
M24K	**Tolsona, Glenn**	**5.86**	**13**		**Pn**	**12 57 24.4**	**+1.2**
M24K	**Tolsona, Glenn**	**5.86**	**13**	P	**Pn**	**12 57 24.1**	**+0.9**
	baz=195,SNR=14						
M20K	**Styx River**	**5.86**	**340**		**Pn**	**12 57 23.2**	**+0.1**
M20K	**Styx River**	**5.86**	**340**	P	**Pn**	**12 57 23.1**	**-0.1**
	baz=157						
S14K	**Fog Glacier**	**5.89**	**273**	P	**Pn**	**12 57 25.1**	**+1.5**
	baz=84,SNR=8.5						
VNFG	**Fog Glacier, M**	**5.89**	**273**		**Pn**	**12 57 25.1**	**+1.6**
VNWF	**Veniaminof 8**	**5.91**	**272**		**Pn**	**12 57 25.1**	**+1.3**
N17K	**Nushagak Hills**	**5.94**	**317**	Pn	**Pn**	**12 57 24.6**	**+0.4**
N17K	**Nushagak Hills**	**5.94**	**317**	P	**Pn**	**12 57 24.5**	**+0.3**
	baz=130,SNR=14						
BARN	**Barnard Glacie**	**5.99**	**36**		**Pn**	**12 57 26.2**	**+1.2**
CUT	**Chulitna**	**6.01**	**354**		**Pn**	**12 57 26.0**	**+0.8**
CUT	**Chulitna**	**6.01**	**354**	P	**Pn**	**12 57 25.9**	**+0.8**
	baz=173						
PNL	**Peninsula**	**6.02**	**54**	P	**Pn**	**12 57 27.4**	**+2.1**
PNL	**Peninsula**	**6.02**	**54**		**Pn**	**12 57 26.6**	**+1.2**
PNL	**Peninsula**	**6.02**	**54**	P	**Pn**	**12 57 26.6**	**+1.2**
	baz=241,SNR=123						
CTG	**Chitna Glacier**	**6.03**	**38**	P	**Pn**	**12 57 26.7**	**+1.2**
	baz=224,SNR=31						
CTGM	**Chitina Glacie**	**6.03**	**38**	Pn	**Pn**	**12 57 26.6**	**+1.0**
LOGN	**Logan Glacier**	**6.05**	**40**		**Pn**	**12 57 26.8**	**+1.0**
BCPM	**Bancas Point**	**6.06**	**51**		**Pn**	**12 57 27.3**	**+1.5**
M19K	**Big River Lodg**	**6.14**	**335**		**Pn**	**12 57 26.6**	**-0.4**
M19K	**Big River Lodg**	**6.14**	**335**	P	**Pn**	**12 57 26.6**	**-0.4**
	baz=151,SNR=12						
M18K	**Stony River**	**6.17**	**328**

O14K Tigyukauivet M 7.14 298 Pn Pn 12 57 42.6 +2.0
O14K Tigyukauivet M 7.14 298 P Pn 12 57 42.3 +1.7
baz=108
CAST Castle Rocks 7.17 349 Pn 12 57 41.2 +0.2
CAST Castle Rocks 7.17 349 P Pn 12 57 41.4 +0.3
baz=166,SNR=27
L26K Log Cabin Wild 7.18 21 Pn 12 57 43.9 +2.6
L26K Log Cabin Wild 7.18 21 P Pn 12 57 43.8 +2.6
baz=206,SNR=13
KTH Kantishna Hill 7.20 353 Pn 12 57 42.2 +0.7
PS1A Pavlof South-1 7.25 267 Pn 12 57 43.2 +1.0
YUK4 Talbot Arm 7.26 43 P Pn 12 57 46.2 +3.7
baz=232,SNR=96
MCK McKinley 7.31 0 Pn 12 57 44.4 +1.4
MCK McKinley 7.31 0 P Pn 12 57 44.4 +1.4
baz=180,SNR=14
P30M Million Dollar 7.32 55 P Pn 12 57 45.0 +1.8
baz=245
PLBC Pleasant Camp 7.35 61 P Pn 12 57 44.9 +1.3
baz=251,SNR=199
S12K Black Hills 7.37 270 Pn 12 57 44.9 +1.1
S12K Black Hills 7.37 270 P Pn 12 57 44.3 +0.5
baz=79,SNR=11
K20K Telida 7.39 342 Pn Pn 12 57 44.0 -0.1
K20K Telida 7.39 342 P Pn 12 57 43.6 -0.5
baz=158
R31K City Hall, Gus 7.41 69 Pn 12 57 45.2 +0.9
R31K City Hall, Gus 7.41 69 P Pn 12 57 45.3 +0.9
baz=260,SNR=12
HYT Haines Junctio 7.42 49 Pn 12 57 46.1 +1.5
HYT Haines Junctio 7.42 49 P Pn 12 57 45.9 +1.3
baz=238,SNR=22
L17K Donlin 7.43 324 Pn 12 57 44.4 -0.3
L17K Donlin 7.43 324 P Pn 12 57 44.4 -0.3
baz=136,SNR=7.7
M15K Kasigluk River 7.46 310 Pn 12 57 45.6 +0.6
M15K Kasigluk River 7.46 310 P Pn 12 57 45.8 +0.8
baz=120
SIT Sitka 7.53 80 P Pn 12 57 44.1 -1.9
SIT Sitka 7.53 80 Pn 12 57 44.4 -1.6
SIT Sitka 7.53 80 P Pn 12 57 44.4 -1.6
baz=271,SNR=12
L27K Beaver Creek, 7.55 26 Pn 12 57 48.4 +2.1
L27K Beaver Creek, 7.55 26 P Pn 12 57 47.6 +1.3
baz=212,SNR=9.7
K24K Donnelly Dome 7.55 11 Pn 12 57 47.7 +1.4
K24K Donnelly Dome 7.55 11 P Pn 12 57 48.3 +1.9
baz=194,SNR=11
L16K Owhat River 7.55 319 Pn 12 57 47.0 +0.7
L16K Owhat River 7.55 319 P Pn 12 57 46.7 +0.3
baz=130,SNR=19
BCAR Beaver Creek A 7.56 26 Pn 12 57 47.8 +1.3
N14K Kuskokwak Cree 7.57 303 P Pn 12 57 46.9 +0.4
baz=112
CHUM Lake Minchumin 7.64 349 P Pn 12 57 47.8 +0.2
baz=166,SNR=45
BPAW Bear Paw Mtn. 7.75 353 Pn 12 57 49.5 +0.5
BPAW Bear Paw Mtn. 7.75 353 P Pn 12 57 48.5 -0.5
baz=172,SNR=22
BWN Browne 7.76 358 Pn 12 57 50.4 +1.3
SKAG Skagway 7.86 62 P Pn 12 57 52.2 +1.7
SKAG Skagway 7.86 62 Pn 12 57 52.0 +1.5
SKAG Skagway 7.86 62 P Pn 12 57 52.1 +1.7
baz=253,SNR=19
K17K Iditarod 7.87 327 Pn Pn 12 57 50.4 -0.2
K17K Iditarod 7.87 327 P Pn 12 57 50.3 -0.3
baz=139
BESE Bessie Mountai 7.90 68 Pn 12 57 52.2 +1.1
N30M Aishikik Lake 7.93 46 Pn 12 57 53.0 +1.5
N30M Aishikik Lake 7.93 46 P Pn 12 57 53.3 +1.7
baz=236,SNR=66
S32K Killisnoo 7.94 77 Pn 12 57 50.9 -0.7
S32K Killisnoo 7.94 77 P Pn 12 57 51.0 -0.5
baz=268,SNR=20
SCRK Sand Creek 7.95 16 Pn 12 57 52.2 +0.3
SCRK Sand Creek 7.95 16 P Pn 12 57 52.6 +0.7
baz=200
O30N Mendenhall 8.00 52 Pn 12 57 53.8 +1.3
O30N Mendenhall 8.00 52 P Pn 12 57 54.2 +1.7
baz=243,SNR=29
R32K Eaglecrest 8.03 71 Pn 12 57 53.7 +0.8
R32K Eaglecrest 8.03 71 P Pn 12 57 53.6 +0.8
baz=263,SNR=6.2
J18K Innoko River 8.04 334 P Pn 12 57 52.5 -0.5
baz=148
M14K Bethel 8.04 308 Pn 12 57 54.8 +1.9
M14K Bethel 8.04 308 P Pn 12 57 53.0 +0.1
baz=117
M29M Somme Creek 8.04 37 Pn 12 57 55.2 +2.1
M29M Somme Creek 8.04 37 P Pn 12 57 54.6 +1.4
baz=226,SNR=84
HDA Harding Lake 8.05 6 Pn 12 57 54.5 +1.3
HDA Harding Lake 8.05 6 P Pn 12 57 55.2 +2.0
baz=188,SNR=24
WRH Wood River Hil 8.06 3 Pn 12 57 54.4 +1.1
JIS Juneau Island 8.10 71 P Pn 12 57 54.8 +1.0
JIS Juneau Island 8.10 71 Pn 12 57 54.4 +0.6
J20K Nowinta River 8.17 344 Pn Pn 12 57 54.9 +0.2
J20K Nowinta River 8.17 344 P Pn 12 57 54.7 0.0
baz=160,SNR=16
NEA2 Nenana 8.18 360 Pn 12 57 55.2 +0.4
NEA2 Nenana 8.18 360 P Pn 12 57 55.1 +0.3
baz=180,SNR=22
CCB Clear Creek Bu 8.25 3 Pn 12 57 56.9 +1.1
J19K Poorman 8.26 339 Pn 12 57 55.6 -0.4
J19K Poorman 8.26 339 P Pn 12 57 55.8 -0.2
baz=154,SNR=13
L15K Ungalak Mounta 8.30 314 Pn 12 57 57.2 +0.6
L15K Ungalak Mounta 8.30 314 P Pn 12 57 57.2 +0.6
baz=124
FALS False Pass 8.33 265 Pn 12 57 57.7 +0.8
FALS False Pass 8.33 265 Pn 12 57 57.7 +0.8
FALS False Pass 8.33 265 P Pn 12 57 57.9 +1.0
baz=73,SNR=28
K27K Chicken 8.34 21 Pn Pn 12 57 58.5 +1.4
K27K Chicken 8.34 21 P Pn 12 57 58.2 +1.1
baz=207
J25K Salcha River, 8.38 11 Pn 12 57 57.9 +0.2
J25K Salcha River, 8.38 11 P Pn 12 57 58.2 +0.4
baz=194,SNR=7.5
IL31 8.42 6 Pn 12 57 58.6 +0.5
ILAR Eielson Array 8.42 6 Pn 12 57 59.0 +0.9
ILAR Eielson Array 8.42 6 Pn Pn 12 57 57.3 -0.9
comp=N,2.5nm,0.3s,baz=192,slow=13,SNR=74
ILAR Sn Sn 12 59 28.0 -5.1
comp=N,7.5nm,0.3s,baz=206,slow=19,SNR=5.5
ILAR LR LR 13 01 31.7
comp=N,354nm,19.3s,baz=204,slow=40
comp=N,10.0nm,0.5s
COLA College 8.47 3 P Pn 12 58 00.0 +1.0
COLA College 8.47 3 Pn 12 57 59.9 +1.0
COLA College 8.47 3 P Pn 12 57 59.8 +0.9
baz=184
N31M Braeburn, Yuko 8.48 48 Pn Pn 12 58 00.8 +1.8
N31M Braeburn, Yuko 8.48 48 P Pn 12 58 01.1 +2.1
baz=239,SNR=78
WHY Whitehorse 8.49 54 Pn Pn 12 58 00.8 +1.6
WHY Whitehorse 8.49 54 P Pn 12 58 01.1 +1.9
baz=246,SNR=102
J26L Joseph Creek 8.51 16 Pn 12 58 00.6 +1.1
J26L Joseph Creek 8.51 16 P Pn 12 58 00.4 +1.0
baz=201,SNR=28
M13K Dall Lake 8.52 304 Pn Pn 12 58 02.4 +2.8
M13K Dall Lake 8.52 304 P Pn 12 58 01.1 +1.5
baz=112
ISLZ Isanotski Laza 8.53 265 Pn 12 58 00.3 +0.6
ISNN Isanotski Nort 8.53 265 Pn 12 58 01.1 +1.3
MDM Murphy Dome 8.55 2 Pn 12 58 00.8 +0.8
J17K VABM Dome 8.61 328 Pn 12 58 00.3 -0.6
J17K VABM Dome 8.61 328 P Pn 12 58 00.0 -0.8
baz=140,SNR=14
L14K Kuka Creek 8.62 310 Pn 12 58 02.2 +1.2
L14K Kuka Creek 8.62 310 P Pn 12 58 01.6 +0.7
baz=119,SNR=6.6
L29M L29M 8.62 35 Pn 12 58 02.9 +1.8
L29M L29M 8.62 35 P Pn 12 58 02.7 +1.7
baz=224,SNR=116
MLY Manley 8.66 355 Pn Pn 12 58 02.2 +0.7
MLY Manley 8.66 355 P Pn 12 58 01.5 0.0
baz=174
K15K Wolf Creek Mou 8.68 318 Pn 12 58 02.6 +0.9
K15K Wolf Creek Mou 8.68 318 P Pn 12 58 02.4 +0.6
baz=127
P32M Atlin 8.69 62 Pn Pn 12 58 03.1 +1.2
P32M Atlin 8.69 62 P Pn 12 58 03.2 +1.2
baz=255,SNR=34
POKR Poker Plat Res 8.73 4 Pn 12 58 03.0 +0.5
POKR Poker Plat Res 8.73 4 P Pn 12 58 03.6 +1.1
baz=186,SNR=6.5
I23K Minto, Yukon-K 8.73 359 Pn 12 58 02.9 +0.4
I23K Minto, Yukon-K 8.73 359 P Pn 12 58 03.2 +0.7
baz=179,SNR=30
I20K Naaghedeneel 8.80 344 Pn Pn 12 58 04.8 +1.4
U33K Whale Pass 8.83 86 Pn 12 58 01.5 -2.2
U33K Whale Pass 8.83 86 P Pn 12 58 02.0 -1.7
baz=278,SNR=9.2
T33K Petersburg 8.84 81 P Pn 12 58 04.1 +0.2
baz=274
I21K Tanana 8.89 352 Pn Pn 12 58 04.3 -0.2
I21K Tanana 8.89 352 P Pn 12 58 04.7 +0.1
baz=169
CRAG Craig 8.95 90 P Pn 12 58 03.6 -1.8
CRAG Craig 8.95 90 Pn 12 58 03.5 -2.0
CRAG Craig 8.95 90 P Pn 12 58 03.4 -2.0
baz=283
DAWY Dawson 8.99 28 Pn 12 58 07.5 +1.4
DAWY Dawson 8.99 28 P Pn 12 58 06.8 +0.7
baz=216,SNR=14
J16K Anvik River 9.00 324 Pn 12 58 06.0 -0.2
J16K Anvik River 9.00 324 P Pn 12 58 05.7 -0.5
baz=134,SNR=9.4
WESE West Dahl East 9.09 264 Pn 12 58 08.7 +1.2
WEBT Westdahl Beart 9.14 265 Pn 12 58 08.5 +0.3
WECS Westdahl Cape 9.18 265 Pn 12 58 09.4 +0.8
GCSA Galena City Sc 9.18 338 P Pn 12 58 08.8 +0.2
baz=152
EGAK Eagle 9.19 21 Pn Pn 12 58 08.2 -0.6
EGAK Eagle 9.19 21 P Pn 12 58 09.4 +0.7
baz=208
WRAK Wrangell Islan 9.21 83 Pn Pn 12 58 08.2 -0.8
WRAK Wrangell Islan 9.21 83 P Pn 12 58 07.9 -1.1
baz=277,SNR=7.0
PRP Porcupine Dome 9.25 9 Pn 12 58 10.3 +0.6
PRP Porcupine Dome 9.25 9 P Pn 12 58 10.2 +0.5
baz=192
P33M Teslin, Yukon 9.29 59 Pn Pn 12 58 11.1 +0.9
P33M Teslin, Yukon 9.29 59 P Pn 12 58 11.4 +1.2
baz=253,SNR=141
I26K Coal Creek Min 9.33 15 Pn 12 58 13.2 +2.6
I26K Coal Creek Min 9.33 15 P Pn 12 58 11.1 +0.5
baz=200
K29M Barlow Dome 9.35 33 Pn 12 58 12.6 +1.6
K29M Barlow Dome 9.35 33 P Pn 12 58 12.6 +1.6
baz=223,SNR=31
M31M Drury Creek, Y 9.41 46 Pn 12 58 13.9 +2.1
M31M Drury Creek, Y 9.41 46 P Pn 12 58 14.1 +2.3
baz=238,SNR=85
H23K Yukon River 9.42 359 Pn 12 58 12.9 +1.0
H23K Yukon River 9.42 359 P Pn 12 58 12.9 +1.0
baz=178,SNR=13
H21K Melozitna Rive 9.43 350 Pn Pn 12 58 11.7 -0.3
H21K Melozitna Rive 9.43 350 P Pn 12 58 11.7 -0.3
baz=167,SNR=53
H24K Noodor Dome 9.44 3 Pn 12 58 14.1 +1.9
H24K Noodor Dome 9.44 3 P Pn 12 58 13.1 +0.8
baz=184,SNR=18
I17K Unalakleet 9.46 327 Pn Pn 12 58 12.9 +0.4
I17K Unalakleet 9.46 327 P Pn 12 58 12.0 -0.4
baz=137
N32M Quiet Lake 9.49 54 Pn Pn 12 58 14.4 +1.5
N32M Quiet Lake 9.49 54 P Pn 12 58 14.9 +2.0
baz=247
H20K Anotleneega Mo 9.52 345 Pn 12 58 12.7 -0.5
H20K Anotleneega Mo 9.52 345 P Pn 12 58 13.7 +0.5
baz=160,SNR=7.4
H22K Ishtalitna Cre 9.55 354 P Pn 12 58 14.0 +0.3
baz=172
J29N Klondike Camp 9.61 29 Pn 12 58 16.8 +2.1
J29N Klondike Camp 9.61 29 P Pn 12 58 15.3 +0.7
baz=218
MAYO Mayo, Yukon 9.69 37 Pn 12 58 18.1 +2.5
MAYO Mayo, Yukon 9.69 37 P Pn 12 58 17.6 +2.0
baz=228,SNR=9.0
J14K Nanvaranak Lak 9.71 317 Pn Pn 12 58 17.0 +1.2
J14K Nanvaranak Lak 9.71 317 P Pn 12 58 16.6 +0.8
baz=124
K13K Kusilvak Mount 9.73 311 Pn Pn 12 58 18.9 +2.8
K13K Kusilvak Mount 9.73 311 P Pn 12 58 16.2 +0.1
baz=118
S34M Telegraph Cree 9.80 74 Pn 12 58 17.8 +0.8
S34M Telegraph Cree 9.80 74 P Pn 12 58 18.2 +1.2
baz=269,SNR=12
H19K Roundabout Mou 9.80 341 Pn Pn 12 58 17.5 +0.4
H19K Roundabout Mou 9.80 341 P Pn 12 58 16.9 -0.2
baz=155
V35K Ketchikan 9.82 89 Pn 12 58 16.8 -0.5
V35K Ketchikan 9.82 89 P Pn 12 58 16.3 -1.0
baz=283
AKSA Akutan Strait 9.82 263 Pn 12 58 18.3 +1.0
IMAR Indian Mountai 9.84 348 Pn 12 58 17.5 -0.1
FARO Faro, Yukon 9.85 48 Pn 12 58 20.1 +2.3
FARO Faro, Yukon 9.85 48 P Pn 12 58 19.4 +1.6
baz=253,SNR=52
I27K Kandik River 9.85 18 Pn 12 58 19.3 +1.5
I27K Kandik River 9.85 18 P Pn 12 58 19.1 +1.3
baz=204,SNR=7.9
H18K Honhosa River 9.85 336 Pn Pn 12 58 17.5 -0.3
H18K Honhosa River 9.85 336 P Pn 12 58 17.3 -0.5
baz=148
AHB Akutan Harbor 9.89 263 Pn 12 58 19.1 +0.8
AKBBA Akutan Broad B 9.96 263 Pn 12 58 19.7 +0.4
H25L Birch Creek 9.97 7 P Pn 12 58 19.8 +0.4
baz=190
ZRO Akutan Zero 9.99 263 Pn 12 58 20.2 +0.5
LVA Lava Point 9.99 264 Pn 12 58 20.2 +0.4
R33M Jennings River 10.02 65 Pn 12 58 21.5 +1.3
R33M Jennings River 10.02 65 P Pn 12 58 21.7 +1.5
baz=260,SNR=72
AKRB Akutan Reef Bi 10.02 264 Pn 12 58 20.8 +0.6
I28M Miner Creek 10.03 22 Pn Pn 12 58 23.6 +3.3
I28M Miner Creek 10.03 22 P Pn 12 58 22.3 +2.0
baz=210,SNR=9.4
H17K Granite Mounta 10.05 332 P Pn 12 58 19.8 -0.7
baz=143
DIB Dawson Inlet, 10.05 102 Pn Pn 12 58 22.5 +1.9
J30M Hart River 10.24 32 Pn Pn 12 58 25.5 +2.2
J30M Hart River 10.24 32 P Pn 12 58 25.2 +2.0
baz=223,SNR=16
T35M Bob Quinn 10.30 79 Pn 12 58 25.5 +1.5
T35M Bob Quinn 10.30 79 P Pn 12 58 26.4 +2.3
baz=275,SNR=9.9
FYU Fort Yukon 10.31 8 Pn 12 58 24.9 +0.9
G23K Bananza Creek 10.31 358 Pn 12 58 25.2 +1.0
G23K Bananza Creek 10.31 358 P Pn 12 58 25.3 +1.1
baz=177,SNR=27
G24K Hadweenzic Riv 10.32 3 Pn 12 58 25.4 +1.2
G24K Hadweenzic Riv 10.32 3 P Pn 12 58 25.2 +1.1
baz=185,SNR=10
I29M Ogilvie Camp, 10.32 26 P Pn 12 58 25.8 +1.5
baz=215
G21K Allakaket 10.33 350 Pn Pn 12 58 24.5 +0.1
G21K Allakaket 10.33 350 P Pn 12 58 24.4 0.0
baz=166,SNR=29
UNV Unalaska Valle 10.37 263 P Pn 12 58 24.8 0.0
UNV Unalaska Valle 10.37 263 P Pn 12 58 25.0 +0.1
baz=69,SNR=12
DLBC Dease Lake 10.40 71 Pn Pn 12 58 26.9 +1.5
DLBC Dease Lake 10.40 71 P Pn 12 58 27.0 +1.6
baz=267,SNR=25
DLBC Dease Lake 10.40 71 Pn Pn 12 58 26.0 +0.6
comp=N,11nm,0.3s,baz=243,slow=9.3,SNR=79
DLBC LR LR 13 01 57.6
comp=N,273nm,18.2s,baz=284,slow=35
H27K Steamboat Moun 10.44 17 P Pn 12 58 27.1 +1.2
baz=203
G25K Bearman Lake 10.45 6 P Pn 12 58 27.0 +1.2
baz=189,SNR=11
G19K Purcell Mounta 10.47 342 Pn Pn 12 58 27.2 +0.9
G19K Purcell Mounta 10.47 342 P Pn 12 58 26.7 +0.5
baz=154
H16K Elim 10.47 327 P Pn 12 58 26.5 +0.2
baz=136
G18K Tagagawik 10.55 338 Pn 12 58 27.9 +0.5
G18K Tagagawik 10.55 338 P Pn 12 58 27.3 -0.1
baz=149
U35K Hyder 10.57 85 P Pn 12 58 29.6 +2.0
baz=280
G22K Bettles 10.58 355 P Pn 12 58 27.9 +0.1
baz=172
G17K Kiwalik Mounta 10.69 333 P Pn 12 58 30.1 +0.9
baz=143
I30M Mount Dempster 10.71 30 Pn 12 58 32.6 +3.0
I30M Mount Dempster 10.71 30 P Pn 12 58 32.2 +2.5
baz=220,SNR=14
G26K Porcupine Rive 10.82 11 P Pn 12 58 31.3 +0.3
baz=195
COLD Coldfoot 10.84 357 P Pn 12 58 32.1 +0.8
baz=176,SNR=9.8
RUBB Prince Rupert 10.85 93 Pn 12 58 31.5 0.0
G27K Doyon Strip 10.96 15 Pn Pn 12 58 33.9 +1.0
G27K Doyon Strip 10.96 15 P Pn 12 58 35.2 +2.3
baz=202
F21K Alatna River 11.02 351 Pn 12 58 34.6 +0.8
F21K Alatna River 11.02 351 P Pn 12 58 34.2 +0.4
baz=167,SNR=18
H29M Whitestone 11.03 23 Pn Pn 12 58 35.9 +2.0
H29M Whitestone 11.03 23 P Pn 12 58 35.1 +1.2
baz=212
G16K Koyuk River 11.06 330 Pn Pn 12 58 34.7 +0.4
G16K Koyuk River 11.06 330 P Pn 12 58 34.4 +0.1
baz=138
F20K Avaraart Lake 11.10 346 P Pn 12 58 35.6 +0.8
baz=160
F24K Squaw Lake 11.13 2 Pn Pn 12 58 36.1 +0.9
F24K Squaw Lake 11.13 2 P Pn 12 58 35.9 +0.7
baz=183,SNR=24
HG4B Hotspring 11.16 104 Pn Pn 12 58 35.6 -0.2
GRNB Grenville Isla 11.18 95 Pn 12 58 34.5 -1.6
F22K John River 11.20 354 P Pn 12 58 37.1 +0.9
baz=171
BMAR Burnt Mountain 11.21 9 Pn 12 58 36.9 +0.5
F19K Shaleruckik Mo 11.21 342 Pn 12 58 36.9 +0.5
F19K Shaleruckik Mo 11.21 342 P Pn 12 58 36.7 +0.2
baz=154,SNR=7.0
WTLY Watson Lake, Y 11.22 63 Pn 12 58 38.5 +1.9
WTLY Watson Lake, Y 11.22 63 P Pn 12 58 38.6 +2.0
baz=260,SNR=14
G15K Niukluk 11.28 326 P Pn 12 58 37.8 +0.6
baz=133
F25K Christian River 11.29 7 P Pn 12 58 38.4 +0.8
baz=189,SNR=6.8
F18K Selawik 11.37 338 P Pn 12 58 39.0 +0.5
baz=149
ANM Nome 11.44 322 Pn Pn 12 58 40.6 +1.1
ANM Nome 11.44 322 P Pn 12 58 39.6 +0.2
baz=128
F26K Sheenjek River 11.51 9 P Pn 12 58 41.1 +0.6
baz=194
EPYK Eagle Plains 11.53 25 Pn 12 58 43.6 +2.8
EPYK Eagle Plains 11.53 25 P Pn 12 58 41.4 +0.7
baz=216
F17K Baldwin Pennin 11.59 335 Pn Pn 12 58 41.1 -0.4
F17K Baldwin Pennin 11.59 335 P Pn 12 58 41.3 -0.3
baz=144
E24K Your Creek 11.68 1 Pn Pn 12 58 43.7 +0.9
E24K Your Creek 11.68 1 P Pn 12 58 43.3 +0.5
baz=181
G29M Pine Creek 11.69 22 Pn 12 58 44.4 +1.5
G29M Pine Creek 11.69 22 P Pn 12 58 45.1 +2.1
baz=211
E19K Redstone River 11.70 344 Pn 12 58 44.0 +1.0
E19K Redstone River 11.70 344 P Pn 12 58 44.1 +1.0
baz=157,SNR=14
H31M Peel River 11.71 31 Pn 12 58 42.9 -0.4
H31M Peel River 11.71 31 P Pn 12 58 45.6 +2.3
baz=224,SNR=7.7
TGTN Hyland Airport 11.80 56 P Pn 12 58 46.9 +2.4
baz=254,SNR=39
E22K Anaktuvuk Pass 11.80 355 Pn Pn 12 58 47.2 +2.7
E22K Anaktuvuk Pass 11.80 355 P Pn 12 58 46.5 +1.9
baz=172
E25K Arctic Village 11.82 6 Pn 12 58 45.1 +0.3
E25K Arctic Village 11.82 6 P Pn 12 58 45.9 +1.1
baz=189,SNR=8.1
F15K North Star Dit 11.95 327 Pn Pn 12 58 45.5 -1.0
F15K North Star Dit 11.95 327 P Pn 12 58 46.5 0.0
baz=134
F28M Old Crow 11.97 17 Pn 12 58 46.5 -0.3
F28M Old Crow 11.97 17 P Pn 12 58 48.3 +1.5
baz=205
NIKH Nikolski High 12.00 262 P Pn 12 58 46.5 -0.8
NIKH Nikolski High 12.00 262 P Pn 12 58 47.5 +0.3
baz=65
G30M tAoh Zraii Nji 12.14 24 Pn Pn 12 58 52.5 +3.4
G30M tAoh Zraii Nji 12.14 24 P Pn 12 58 50.9 +1.8
baz=216
TOLK Toolik Lake Re 12.24 359 Pn Pn 12 58 52.8 +2.3
TOLK Toolik Lake Re 12.24 359 P Pn 12 58 52.0 +1.5
baz=178,SNR=8.6
E17K Hotham Inlet 12.25 336 P Pn 12 58 51.3 +0.8
baz=144,SNR=9.9
E21K Killik River 12.25 351 Pn Pn 12 58 52.4 +1.7
E27K Coleen River 12.26 13 Pn Pn 12 58 55.5 +4.8
E27K Coleen River 12.26 13 P Pn 12 58 52.8 +2.1
baz=200
E18K Tukpahlearik C 12.27 339 Pn Pn 12 58 51.8 +1.0
E18K Tukpahlearik C 12.27 339 P Pn 12 58 51.9 +1.0
baz=148,SNR=6.4
E20K Nigu River 12.31 347 P Pn 12 58 52.4 +1.0
baz=161,SNR=15
F14K Arctic Creek 12.32 324 P Pn 12 58 52.3 +0.8
baz=129
LIRD Liard River Hi 12.49 67 P Pn 12 58 56.6 +2.7
baz=266,SNR=14
G31M Satah River 12.57 27 Pn 12 58 56.2 +1.4
G31M Satah River 12.57 27 P Pn 12 58 56.6 +1.7
baz=220,SNR=7.2
D23K Nanushuk River 12.59 357 P Pn 12 58 57.2 +2.0
baz=176
D22K Ayikyak River 12.59 354 Pn 12 58 55.9 +0.6
D22K Ayikyak River 12.59 354 P Pn 12 58 57.4 +2.1
baz=170,SNR=6.4
CLES Cleveland East 12.64 262 Pn 12 58 56.7 +0.8
F30M Barrier River 12.75 23 P Pn 12 58 58.9 +1.5
baz=215
D24K Happy Valley 12.76 0 Pn Pn 12 58 55.4 -2.0
D24K Happy Valley 12.76 0 P Pn 12 58 59.0 +1.5
baz=180
D19K Kuna River 12.79 345 Pn 12 58 57.8 -0.1
D19K Kuna River 12.79 345 P Pn 12 58 59.3 +1.4
baz=157
D20K Etivluk River 12.79 347 P Pn 12 58 58.3 +0.3
baz=161
BBB Bella Bella 12.88 101 Pn Pn 12 59 00.8 +1.5
BBB Bella Bella 12.88 101 Pn Pn 12 58 58.3 -1.0
comp=N,0.1nm,0.3s,baz=198,slow=4.9,SNR=3.6
BBB Sn Sn 13 01 16.6 -6.0
comp=N,0.7nm,0.3s,baz=59,slow=21,SNR=11
BBB LR LR 13 02 41.1
comp=N,142nm,20.1s,baz=274,slow=32
comp=N,20nm,1.1s
TNA Tin City 12.90 323 Pn Pn 12 59 00.1 +0.7
TNA Tin City 12.90 323 P Pn 12 58 59.9 +0.5
baz=126
TOAD Toad River Com 12.92 69 P Pn 12 59 01.7 +2.0
baz=269,SNR=30
E28M Babbage River 12.93 16 Pn 12 59 00.6 +0.7
E28M Babbage River 12.93 16 P Pn 12 59 00.8 +0.9
baz=204
D25K Kavik River 12.98 4 Pn 12 59 03.8 +3.2
D25K Kavik River 12.98 4 P Pn 12 59 02.8 +2.3
baz=186,SNR=9.2
E29M Blow River 13.00 18 Pn Pn 12 59 04.3 +3.5
E29M Blow River 13.00 18 P Pn 12 59 02.0 +1.2
baz=208
C21K Knifeblade Rid 13.02 351 P Pn 12 59 01.6 +0.5
baz=166
D17K Noatak River 13.04 336 P Pn 12 59 02.2 +1.0
baz=143
F31M Tsiigehtchic 13.10 27 Pn 12 59 04.5 +2.4
F31M Tsiigehtchic 13.10 27 P Pn 12 59 02.7 +0.6
baz=220
RDOG Red Dog Mine 13.28 337 Pn Pn 12 59 06.9 +2.2
RDOG Red Dog Mine 13.28 337 P Pn 12 59 04.8 +0.2
baz=144
C24K Franklin Bluff 13.33 0 P Pn 12 59 06.2 +0.9
baz=181
D27M Malcolm River 13.34 12 Pn 12 59 08.2 +2.7
D27M Malcolm River 13.34 12 P Pn 12 59 07.3 +1.8
baz=200
C27K Jago River 13.44 8 P Pn 12 59 09.0 +2.3
baz=193,SNR=8.1
C18K Utukok River 13.44 341 P Pn 12 59 08.0 +1.2
baz=150
B21K Ikpikpuk River 13.46 351 Pn Pn 12 59 06.9 -0.1
B21K Ikpikpuk River 13.46 351 P Pn 12 59 07.3 +0.3

baz=166
C23K **Itkillik River** 13.46 358 Pn Pn 12 59 07.9 +0.9
C23K **Itkillik River** 13.46 358 P Pn 12 59 07.7 +0.7
baz=176,SNR=13
C19K **Lookout Ridge** 13.57 344 Pn Pn 12 59 08.5 -0.1
C19K **Lookout Ridge** 13.57 344 P Pn 12 59 08.9 +0.3
baz=154
KOTAN **Kotaneelee Air** 13.58 64 P Pn 12 59 10.8 +2.1
baz=265,SNR=19
C26K **Camden Bay** 13.64 6 P Pn 12 59 12.0 +2.5
baz=190,SNR=10
C17K **DeLong Mountai** 13.69 337 P Pn 12 59 11.1 +1.0
baz=145
D28M **Stokes Point** 13.71 15 P Pn 12 59 12.4 +1.9
baz=204
INK **Inuvik** 13.82 24 Pn 12 59 14.1 +2.1
INK **Inuvik** 13.82 24 P Pn 12 59 14.2 +2.3
baz=218,SNR=16
INK **Inuvik** 13.82 24 Pn Pn 12 59 13.6 +1.6
comp=N,0.2nm,0.3s,baz=207,slow=15,SNR=24
INK LR LR 13 04 27.5
comp=N,100nm,20.4s,baz=180,slow=37
comp=N,10nm,1.0s
C16K **Lisburne Hills** 14.02 334 Pn Pn 12 59 15.2 +0.6
C16K **Lisburne Hills** 14.02 334 P Pn 12 59 15.7 +1.0
baz=140
B20K **Meade River** 14.08 348 Pn Pn 12 59 15.2 -0.3
B20K **Meade River** 14.08 348 P Pn 12 59 16.9 +1.4
baz=161
B22K **Teshekpuk Lake** 14.08 354 Pn 12 59 16.9 +1.3
B22K **Teshekpuk Lake** 14.08 354 P Pn 12 59 16.4 +0.9
baz=170,SNR=7.8
WRGLY **Wrigley** 14.43 51 Pn Pn 12 59 23.7 +3.4
WRGLY **Wrigley** 14.43 51 P Pn 12 59 23.1 +2.7
baz=254
A22K **Sinclair Lake** 14.84 352 P Pn 12 59 24.6 -1.2
baz=167
ATKA **Atka Island** 15.28 264 P Pn 12 59 31.0 -0.8
ATKA **Atka Island** 15.28 264 Pn 12 59 31.2 -0.5
C36M **Paulatuk** 17.01 31 Pn Pn 12 59 53.7 -0.2
C36M IAmb IAmb 12 59 57.6
comp=Z,31nm,1.5s
C36M **Paulatuk** 17.01 31 P Pn 12 59 53.6 -0.2
baz=233,SNR=12
HILA **High Level** 17.21 70 Pn Pn 12 59 56.9 +0.3
B04A **Port Angeles** 17.62 108 Pn Pn 13 00 00.4 -1.3
B04A IAmb IAmb 13 00 22.5
comp=Z,18nm,0.9s
BRLDA **Berland Lookou** 18.06 84 Pn 13 00 05.3 -1.9
WISH **Wishkah** 18.08 110 Pn Pn 13 00 04.7 -2.6
YKAB2 **New Yellowknif** 18.30 57 P P 13 00 10.8 +0.8
YKA **Yellowknife Ar** 18.30 57 P P 13 00 11.4 +1.3
YKA **Yellowknife Ar** 18.30 57 P P 13 00 10.8 +0.7
comp=Z,0.8nm,0.3s,baz=270,slow=12,SNR=61
YKA LR LR 13 07 12.4
comp=Z,106nm,18.1s,baz=304,slow=37
comp=Z,18nm,1.1s
A36M **Sachs Harbour** 18.46 23 P P 13 00 12.5 +0.8
A36M IAmb IAmb 13 00 26.6
comp=Z,22nm,0.9s
A36M **Sachs Harbour** 18.46 23 P Pn 13 00 12.7 +0.9
baz=225,SNR=22
AMKA **Amchitka** 19.25 268 P P 13 00 20.7 +0.2
NEW **Newport** 20.94 99 P P 13 00 39.8 +0.7
baz=305
NEW **Newport** 20.94 99 LR LR 13 07 13.5
comp=Z,105nm,19.4s,baz=304,slow=32
DBO **Dodson Butte** 21.14 118 P P 13 00 40.7 -0.6
DBO IAmb IAmb 13 01 25.6
comp=Z,28nm,1.5s
K02D **Willamette Mer** 21.25 120 P P 13 00 40.3 -2.1
K02D IAmb IAmb 13 00 46.5
comp=Z,15nm,1.0s
E09A **Wood Farm, Sta** 21.44 105 P P 13 00 43.2 -1.1
E09A IAmb IAmb 13 00 43.8
comp=Z,19nm,0.8s
SHEM **Shemya Is, Ala** 21.55 276 LR LR 13 09 50.4
comp=Z,69nm,19.5s,baz=124,slow=39
HUMO **Hull Mountain** 21.66 119 P P 13 00 49.7 +2.9
HUMO IAmb IAmb 13 01 05.3
comp=Z,10nm,0.9s
J05D **Fort Rock, OR** 22.02 115 P P 13 00 50.0 -0.8
J05D IAmb IAmb 13 01 10.0
comp=Z,8.6nm,0.9s
F10A **Beach Ranch, E** 22.28 105 P P 13 00 54.0 +0.6
I07A **Izee** 22.33 111 P P 13 00 52.1 -2.0
YBH **Yreka Blue Hor** 22.44 120 P P 13 00 56.0 +0.7
comp=Z,2.8nm,0.9s,baz=336,slow=17,SNR=3.0
YBH LR LR 13 07 53.1
comp=Z,68nm,18.3s,baz=298,slow=32
comp=Z,2.8nm,0.9s
BILL **Bilibino** 23.24 318 P P 13 01 02.6 -0.6
BILL IAmb IAmb 13 01 17.2
comp=Z,10nm,0.9s
HLID **Hailey** 25.37 106 P P 13 01 25.2 +1.7
baz=313
ELK **Elko** 26.93 111 P P 13 01 37.7 0.0
ELK **Elko** 26.93 111 LR LR 13 10 29.1
comp=Z,68nm,18.6s,slow=32
NVAR **Mina Array Bea** 27.14 119 P P 13 01 38.8 -0.8
NVAR **Mina Array Bea** 27.14 119 P P 13 01 40.9 +1.3
comp=Z,1.7nm,0.7s,baz=306,slow=9.0,SNR=12
comp=Z,1.7nm,0.7s
RES **Resolute Bay** 27.34 28 P P 13 01 41.9 +1.2
RES IAmb IAmb 13 02 08.5
comp=Z,7.7nm,1.3s
RES **Resolute Bay** 27.34 28 P P 13 01 41.4 +0.6
comp=Z,0.9nm,0.6s,baz=256,slow=13,SNR=2.5
RES LR LR 13 13 23.2
comp=Z,88nm,18.5s,baz=130,slow=38
comp=Z,0.9nm,0.6s
PDAR **Pinedale Array** 28.53 102 P P 13 01 51.9 -0.2
PDAR **Pinedale Array** 28.53 102 P P 13 01 52.3 +0.3
comp=Z,0.4nm,0.8s,baz=306,slow=1.7,SNR=1.9
PDAR LR LR 13 11 49.1
comp=Z,52nm,18.1s,baz=296,slow=33
comp=Z,0.4nm,0.8s
R11B **Troy Canyon, C** 28.55 115 P P 13 01 53.9 +1.8
R11B **Troy Canyon, C** 28.55 115 P P 13 01 53.6 +1.4
baz=320,SNR=6.5
GRAC **Grapevine Rang** 28.72 119 P P 13 01 55.4 +1.8
baz=323
FCC **Fort Churchill** 28.81 62 P P 13 01 55.9 +1.9
FCC IAmb IAmb 13 01 56.4
comp=Z,5.3nm,0.9s
PSUT **Pine Spring** 29.28 113 P P 13 01 58.1 -0.7
SEY **Seymchan** 29.34 307 LR LR 13 14 45.4
comp=Z,80nm,18.1s,baz=324,slow=38
MPMC **Manual Prospec** 29.41 121 P P 13 02 01.8 +1.9
baz=324
PRN **Pahroc Range** 29.54 116 P P 13 02 02.5 +1.5
PRN IAmb IAmb 13 02 20.3
comp=Z,3.9nm,1.0s
GWY **Greenwater Val** 29.71 119 P P 13 02 04.4 +1.9
GWY IAmb IAmb 13 02 09.7
comp=Z,6.1nm,1.3s
PETK **Petropavlovsk-** 30.30 287 P P 13 02 08.0 +0.7
comp=Z,2.0nm,0.8s,baz=55,slow=13,SNR=1.8
comp=Z,2.0nm,0.8s
SRU **San Rafael Swe** 30.59 108 P P 13 02 12.0 +1.8
SRU IAmb IAmb 13 02 14.4
comp=Z,3.2nm,0.9s
PASC **Pasadena Art C** 30.63 124 P P 13 02 11.5 +1.1
LCMT **Little Creek M** 30.76 114 P P 13 02 13.2 +1.5
O20A **White River Ci** 31.07 104 P P 13 02 15.1 +0.6
baz=315
MA2 **Magadan** 31.12 301 LR LR 13 15 09.0
comp=Z,64nm,18.0s,baz=64,slow=37
GMRC **Granite Mounta** 31.32 120 P P 13 02 18.3 +1.6
baz=324
IRM **Iron Mountain** 32.08 120 P P 13 02 25.3 +2.0
baz=324
BC3 **Big Chuckawall** 32.34 121 P P 13 02 26.5 +0.9
baz=325
SWSC **Sam W. Stewart** 32.76 122 P P 13 02 30.3 +1.2
baz=326
IKP **In-Ko-Pah, Jac** 32.85 122 P P 13 02 30.9 +0.8
baz=326
WUAZ **Wupatki** 32.87 113 P P 13 02 31.3 +1.0
baz=321
MVCO **Mesa Verde** 33.06 108 P P 13 02 33.1 +1.0
baz=319
214A **Organ Pipe Nat** 35.00 119 P P 13 02 50.9 +2.2
baz=325
EYMN **Ely** 35.28 79 P P 13 02 52.2 +1.3
EYMN IAmb IAmb 13 03 07.3
comp=Z,4.9nm,0.8s
EYMN **Ely** 35.28 79 P P 13 02 52.3 +1.3
baz=306
FRB **Frobisher Bay** 38.19 45 LR LR 13 19 10.7
comp=Z,122nm,18.4s,baz=132,slow=36
MNTX **Cornudas Mount** 38.95 111 P P 13 03 23.8 +1.6
baz=323
JFWS **Jewell Farm** 39.10 85 P P 13 03 24.8 +1.4
baz=311
YAK **Yakutsk** 39.39 313 LR LR 13 19 03.8
comp=Z,53nm,19.3s,baz=88,slow=35
OK033 **Mehan** 40.17 98 P P 13 03 30.5 -2.0
OK033 IAmb IAmb 13 04 12.9
comp=Z,10nm,0.5s
TXAR **Lajitas Array** 41.72 111 P P 13 03 46.5 +1.1
TXAR **Lajitas Array** 41.72 111 P P 13 03 44.1 -1.2
comp=Z,0.9nm,0.8s,baz=318,slow=5.7,SNR=10
comp=Z,0.9nm,0.8s
FW03 **Perrin-Whitt E** 41.80 102 P P 13 03 46.1 +0.2
SFJD **Kangerlussuaq** 42.86 35 LR LR 13 21 59.7
comp=Z,85nm,18.4s,baz=313,slow=36
J55A **Hilton** 45.65 75 P P 13 04 16.1 -0.5
Y45A **Yeager Farm, C** 45.87 94 P P 13 04 17.5 -1.0
MMNY **Mt. Morris Dam** 45.97 76 P P 13 04 17.1 -2.1
H11N2 **WAKE ISLAND Hy** 49.12 240 T T 13 57 42.0
baz=30,slow=76,SNR=13
H11N3 **WAKE ISLAND Hy** 49.12 240 T T 13 57 58.9
baz=30,slow=76,SNR=4.3
H11N1 **WAKE ISLAND Hy** 49.13 240 T T 13 57 42.6
baz=30,slow=76,SNR=11
H11S1 **WAKE ISLAND Hy** 50.26 240 T T 13 59 16.6
baz=30,slow=76,SNR=8.2
H11S2 **WAKE ISLAND Hy** 50.27 240 T T 13 59 20.5
baz=30,slow=76,SNR=8.6
H11S3 **WAKE ISLAND Hy** 50.27 240 T T 13 59 15.2
baz=30,slow=76,SNR=7.7
ARCES **ARCESS Array B** 54.26 2 P P 13 05 21.4 -0.4
comp=Z,1.5nm,0.8s,baz=15,slow=7.5,SNR=1.8
comp=Z,1.5nm,0.8s
KSRS **Korea Array** 56.18 288 LR LR 13 28 46.8
comp=Z,8.7nm,21.9s,baz=330,slow=35
SONM **Songino Array** 58.67 310 P P 13 05 54.2 +0.6
comp=Z,0.2nm,0.3s,baz=42,slow=7.1,SNR=1.6
comp=Z,0.2nm,0.3s
ZALV **Zalesovo Beam** 61.52 327 P P 13 06 12.6 -0.3
comp=Z,0.3nm,0.4s,baz=12,slow=7.4,SNR=1.3
comp=Z,0.3nm,0.4s
HHC **Hu-ho-hao-te** 61.80 302 eP P 13 06 12.6 -2.5
HHC pmax pmax
comp=Z,18nm,0.5s
HHC pmax pmax
comp=Z,75nm,4.8s
NOA **NORSAR Array B** 61.82 11 P P 13 06 14.6 -0.2
comp=Z,0.2nm,0.4s,baz=348,slow=6.4,SNR=2.2
comp=Z,0.2nm,0.4s
FINES **FINESS Array B** 62.39 3 P P 13 06 18.8 +0.3
comp=Z,0.8nm,0.5s,baz=358,slow=7.5,SNR=1.7
comp=Z,0.8nm,0.5s
HFS **Hagfors** 62.96 10 P P 13 06 23.3 +0.9
comp=Z,0.5nm,0.6s,baz=330,slow=5.5,SNR=1.8
comp=Z,0.5nm,0.6s
HNS **HongShan** 62.98 297 ⇑P P 13 06 37.3 +14
HNS **HongShan** 62.98 297 pmax pmax
comp=Z,19nm,0.9s
BVAR **Borovoye Array** 66.21 335 P P 13 06 43.7 -0.1
comp=Z,0.2nm,0.3s,baz=46,slow=8.3,SNR=1.4
comp=Z,0.2nm,0.3s
KURBB **Kurchatov Arra** 66.29 329 P P 13 06 44.1 -0.1
comp=Z,0.2nm,0.4s,baz=27,slow=6.1,SNR=2.4
comp=Z,0.2nm,0.4s
MKAR **Makanchi Array** 68.56 325 P P 13 06 59.6 +0.8
MKAR **Makanchi Array** 68.56 325 P P 13 07 00.8 +2.0
comp=Z,0.4nm,0.5s,baz=46,slow=5.4,SNR=1.9
comp=Z,0.4nm,0.5s
MAKZ **Makanchi** 68.65 325 P P 13 06 58.0 -1.3
MAKZ IAmb IAmb 13 07 13.3
comp=Z,4.4nm,1.1s
ABKAR **Akbulak array** 71.95 341 P P 13 07 19.6 +0.2
AKASG **Malin Array Be** 73.21 1 P P 13 07 28.0 +1.2
comp=Z,0.2nm,0.3s,baz=1.2,slow=6.0,SNR=1.3
comp=Z,0.2nm,0.3s
PPT2 **Papeete2** 73.75 181 eLR LR 13 30 02.0
comp=Z,91nm,25.0s
GERES **GERESS Array B** 74.09 12 LR LR 13 44 53.5
comp=Z,20nm,18.2s,baz=22,slow=40
DAVOX **Davos/Dischmat** 75.63 15 LR LR 13 46 40.2
comp=Z,30nm,18.3s,baz=263,slow=40
KSH **Kashi** 77.11 326 P P 13 07 53.1 +3.3
PZH **PanZhiHua** 78.18 300 P P 13 07 53.8 -2.1
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,100nm,4.9s
ESDC **Sonseca Array** 79.76 27 P P 13 08 04.7 +0.4
comp=Z,0.5nm,0.6s,baz=324,slow=7.9,SNR=11
comp=Z,0.5nm,0.6s
GNI **Garni** 83.07 349 LR LR 13 48 44.0
comp=Z,23nm,18.5s,baz=336,slow=38
BRTR **Keskin Array B** 84.17 358 P P 13 08 27.0 -0.5
comp=Z,0.3nm,0.3s,baz=342,slow=1.8,SNR=1.7
comp=Z,0.3nm,0.3s
CMAR **Chiang Mai Arr** 86.36 298 P P 13 08 38.2 -0.4
comp=Z,0.6nm,0.5s,baz=31,slow=5.5,SNR=1.5
CMAR LR LR 13 52 59.5
comp=Z,11nm,18.0s,baz=245,slow=40
comp=Z,0.6nm,0.5s
DZM **Mont Dzumac** 86.78 221 eLR LR 13 36 11.8
comp=Z,93nm,23.1s
QSPA **South Pole Qui** 146.24 180 PKPbc **PKPdf** 13 15 35.4 +1.1
comp=Z,6.8nm,0.8s,baz=67,slow=1.2,SNR=24

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*IDC **11** 13:00:10.4±0.8, 63.85N±150.95W, h0km, mb3.8/7, mbtmp3.7/10, ML3.3/3, MS3.6/2, Error ellipse: s-maj=16.5km s-min=12.3km az=147.0*
*AEIC **11** 13:00:11.0±1.9, 63.61N±0.03×150.68W±0.06, h12km±4km, ML3.5, ML3.6/212(NEIC), Error ellipse: s-maj=4.1km s-min=3.6km az=98.0*
*NEIC **11** 13:00:12.0±2.2, 63.60N±0.02×150.68W±0.05, h20km±7km, Error ellipse: s-maj=3.6km s-min=3.1km az=184.0*
ISC 11 13:00:11.2±0.8, 63.61N±0.02×150.65W±0.02, h12km±5km, n285, σ0.94/260, mb3.9/7, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KTH	**Kantishna Hill**	0.13	245				Pg	13 00 14.7	+0.2
KTH							Sg	13 00 17.0	0.0
TRF	**Thorofare Moun**	0.23	134				Pg	13 00 15.9	-0.1
TRF							Sg	13 00 19.4	0.0
TRF	**Thorofare Moun**	0.23	134	IAML				13 00 19.9	
	comp=E,18μm,0.2s								
TRF				IAML				13 00 20.1	
	comp=N,21μm,0.2s								
TRF	**Thorofare Moun**	0.23	134	P			Pg	13 00 16.1	+0.1
	baz=311								
TRF				S			Sg	13 00 19.4	0.0
	baz=311								
BPAW	**Bear Paw Mtn.**	0.52	343				Pg	13 00 21.4	+0.1
BPAW							Sb	13 00 29.0	-0.6
BPAW	**Bear Paw Mtn.**	0.52	343	P			Pg	13 00 21.4	+0.1
	baz=165								
BPAW				S			Sb	13 00 29.0	-0.6
	baz=165								
CAST	**Castle Rocks**	0.67	254				Pg	13 00 23.7	-0.5
CAST							Sg	13 00 32.7	-0.3
CAST	**Castle Rocks**	0.67	254	IAML				13 00 36.4	
	comp=E,3μm,0.4s								
CAST	**Castle Rocks**	0.67	254	P			Pg	13 00 23.7	-0.5
	baz=73								
CAST				S			Sg	13 00 32.7	-0.3
	baz=73								
BWN	**Browne**	0.77	42				Pb	13 00 26.9	+0.4
BWN	**Browne**	0.77	42	IAML				13 00 40.8	
	comp=E,3μm,0.9s								
BWN				IAML				13 00 43.8	
	comp=N,2μm,0.7s								
MCK	**McKinley**	0.78	80				Pg	13 00 25.5	-0.6
MCK	**McKinley**	0.78	80	P			Pg	13 00 25.9	-0.2
	baz=261								
CHUM	**Lake Minchumin**	0.79	291				Pb	13 00 26.4	-0.3
CHUM							Sb	13 00 36.7	-0.7
CHUM	**Lake Minchumin**	0.79	291	P			Pb	13 00 26.5	-0.3
	baz=111								
CHUM				S			Sb	13 00 37.0	-0.4
	baz=111								
RND	**Reindeer**	0.83	103				Pg	13 00 26.3	-0.9
RND	**Reindeer**	0.83	103	IAML				13 00 42.7	
	comp=N,2μm,0.6s								
RND				IAML				13 00 43.1	
	comp=E,2μm,0.6s								
PPLA	**Purkeypile**	1.00	225				Pg	13 00 29.6	-0.7
PPLA							Sn	13 00 44.1	-1.1
PPLA	**Purkeypile**	1.00	225	P			Pg	13 00 29.6	-0.7
	baz=43								
PPLA				S			Sb	13 00 43.2	-0.4
	baz=43								
WAT7	**Susitna Watana**	1.13	133				Pb	13 00 31.9	-0.7
WAT7							Sn	13 00 49.0	+0.8
NEA2	**Nenana**	1.21	34				Pn	13 00 32.5	-1.4
NEA2	**Nenana**	1.21	34	P			Pn	13 00 32.5	-1.4
	baz=216								
CUT	**Chulitna**	1.22	172				Pb	13 00 33.9	-0.2
CUT							Sb	13 00 49.8	0.0
CUT	**Chulitna**	1.22	172	S			Sb	13 00 49.8	0.0
	baz=351								
WAT1	**Susitna Watana**	1.23	129				Pn	13 00 33.7	-0.5
WAT1	**Susitna Watana**	1.23	129	P			Pn	13 00 33.7	-0.5
	baz=310								
WRH	**Wood River Hil**	1.42	51				Pn	13 00 35.6	-1.1
MLY	**Manley**	1.43	358				Pn	13 00 36.4	-0.5
MLY							Sg	13 00 56.8	-0.3
MLY	**Manley**	1.43	358	P			Pn	13 00 36.4	-0.5
	baz=179								
MLY				S			Sg	13 00 56.8	-0.3
	baz=179								
K20K	**Telida**	1.56	262				Pn	13 00 37.7	-1.0
DHY	**Denali Highway**	1.57	108				Pn	13 00 39.2	+0.2
DHY	**Denali Highway**	1.57	108	IAML				13 01 04.6	
	comp=N,1μm,0.7s								
DHY	**Denali Highway**	1.57	108	P			Pn	13 00 39.2	+0.2
	baz=291								
CCB	**Clear Creek Bu**	1.63	49				Pn	13 00 38.4	-1.2
CCB							Sb	13 01 01.9	+0.4
CCB	**Clear Creek Bu**	1.63	49	IAML				13 01 02.1	
	comp=E,669nm,0.6s								
CCB				IAML				13 01 03.8	
	comp=N,598nm,0.5s								
I23K	**Minto, Yukon-K**	1.64	19				Pn	13 00 39.0	-0.8
I23K	**Minto, Yukon-K**	1.64	19	IAML				13 01 03.6	
	comp=E,585nm,0.5s								
I23K				IAML				13 01 04.0	
	comp=N,690nm,0.9s								
I23K	**Minto, Yukon-K**	1.64	19	P			Pn	13 00 38.9	-0.9
	baz=201								
J20K	**Nowinta River**	1.65	292				Pn	13 00 39.7	-0.2
J20K	**Nowinta River**	1.65	292	P			Pn	13 00 40.0	+0.2
	baz=109								
WAT6	**Susitna Watana**	1.68	127				Pn	13 00 40.4	-0.1
WAT6	**Susitna Watana**	1.68	127	P			Pn	13 00 40.9	+0.5
	baz=309								
I21K	**Tanana**	1.68	340				Pn	13 00 40.1	-0.2
I21K	**Tanana**	1.68	340	IAML				13 01 09.9	
	comp=E,500nm,1.1s								
SKT	**Skwentna**	1.69	194				Pb	13 00 41.2	-0.9
SKT	**Skwentna**	1.69	194	IAML				13 01 04.7	
	comp=N,978nm,0.5s								
SKT	**Skwentna**	1.69	194	P			Pb	13 00 41.2	-0.9
	baz=13								
MDM	**Murphy Dome**	1.72	37				Pn	13 00 39.9	-1.0
MDM							Sb	13 01 04.1	-0.1
COLA	**College**	1.76	43				Pn	13 00 40.3	-1.1
COLA	**College**	1.76	43	Pn			Pn	13 00 40.1	-1.3
COLA				IAML				13 01 11.8	
	comp=N,906nm,0.5s								
COLA				IAML				13 01 11.8	
	comp=N,1μm,0.4s								
HDA	**Harding Lake**	1.82	62				Pn	13 00 41.1	-1.1
HDA	**Harding Lake**	1.82	62	IAML				13 01 08.6	
	comp=N,869nm,0.7s								
HDA	**Harding Lake**	1.82	62	P			Pn	13 00 41.4	-0.9
	baz=245								
L20K	**Farewell, AK**	1.86	234				Pn	13 00 41.6	-1.2
M22K	**Willow**	1.88	172				Pn	13 00 43.2	+0.2
M22K	**Willow**	1.88	172	P			Pn	13 00 43.2	+0.2
	baz=352								
IL31		2.02	53				Pn	13 00 43.8	-1.1
ILAR	**Eielson Array**	2.02	53	Pn			Pn	13 00 44.1	-0.9
ILAR	**Eielson Array**	2.02	53	Pn			Pn	13 00 43.9	-1.1
	comp=N,1.6nm,0.3s,baz=237,slow=14,SNR=4.3								
ILAR				Lg	Lg			13 01 13.4	
	comp=N,36nm,0.3s,baz=239,slow=28,SNR=23								
I20K	**Naaghedeneel**	2.06	307				Pn	13 00 45.5	+0.1
POKR	**Poker Plat Res**	2.06	41				Pn	13 00 44.7	-0.8
M20K	**Styx River**	2.08	215				Pn	13 00 46.4	+0.5
M20K	**Styx River**	2.08	215	IAML				13 01 20.2	
	comp=E,450nm,0.5s								
M20K				IAML				13 01 21.1	
	comp=N,343nm,0.8s								
SML	**Sawmill**	2.10	148				Pn	13 00 45.8	-0.4
SML				IAML				13 01 21.0	
	comp=N,574nm,0.5s								
SML	**Sawmill**	2.10	148	P			Pn	13 00 46.2	0.0
	baz=330								
SUA	**Susitna One**	2.15	181				Pn	13 00 46.6	-0.3
SUA				IAML				13 01 19.4	
	comp=E,485nm,0.6s								
SUA				IAML				13 01 24.7	
	comp=N,579nm,0.8s								
SUA	**Susitna One**	2.15	181	P			Pn	13 00 47.6	+0.7
	baz=0.8								
K24K	**Donnelly Dome**	2.18	83				Pn	13 00 47.0	-0.1
K24K	**Donnelly Dome**	2.18	83	P			Pn	13 00 47.8	+0.6
	baz=267								
STLK	**Strandline Lak**	2.19	195				Pn	13 00 48.2	+0.8
J19K	**Poorman**	2.24	282				Pn	13 00 47.5	-0.5
J19K	**Poorman**	2.24	282	P			Pn	13 00 47.7	-0.3
	baz=98								
H21K	**Melozitna Rive**	2.26	337				Pn	13 00 48.1	-0.1
H21K	**Melozitna Rive**	2.26	337	IAML				13 01 22.7	
	comp=E,346nm,0.7s								
H21K				IAML				13 01 23.3	
	comp=N,506nm,0.7s								
H21K	**Melozitna Rive**	2.26	337	P			Pn	13 00 49.6	+1.3
	baz=155								
M23K	**Glacier View**	2.27	142				Pn	13 00 48.6	+0.3
M23K	**Glacier View**	2.27	142	P			Pn	13 00 49.0	+0.6
	baz=324								
H23K	**Yukon River**	2.28	12				Pn	13 00 48.3	-0.2
H23K	**Yukon River**	2.28	12	IAML				13 01 29.1	
	comp=E,292nm,0.7s								
H23K	**Yukon River**	2.28	12	P			Pn	13 00 48.8	+0.3
	baz=193								
H22K	**Ishtalitna Cre**	2.32	353				Pn	13 00 48.9	-0.1
SCM	**Sheep Creek Mo**	2.35	138				Pn	13 00 49.5	0.0
SCM	**Sheep Creek Mo**	2.35	138	IAML				13 01 24.6	
	comp=N,357nm,0.9s								
SCM				IAML				13 01 33.6	
	comp=E,374nm,0.9s								
SCM	**Sheep Creek Mo**	2.35	138	P			Pn	13 00 50.5	+1.0
	baz=320								
SPCG	**Spurr Capps Gl**	2.41	196				Pn	13 00 51.4	+0.9
PAX	**Paxson**	2.43	103				Pn	13 00 51.4	+0.8
PAX	**Paxson**	2.43	103	P			Pn	13 00 52.6	+1.9
	baz=287								
M19K	**Big River Lodg**	2.43	227				Pn	13 00 50.1	-0.5
M19K	**Big River Lodg**	2.43	227	IAML				13 01 32.7	
	comp=E,426nm,0.8s								
M19K				IAML				13 01 32.7	
	comp=N,306nm,0.6s								
SPNN	**North Nagishla**	2.44	204				Pn	13 00 52.2	+1.2
SPCP	**Crater Peak Br**	2.45	197				Pn	13 00 51.5	+0.4
SPBG	**Spurr Blockage**	2.49	200				Pn	13 00 53.2	+1.7
SPCN	**Chakachatna No**	2.50	197				Pn	13 00 51.9	+0.3
N20K	**Mount Spurr**	2.52	197	P			Pn	13 00 53.9	+1.9
	baz=16								
SPCR	**Spurr Chakacha**	2.52	197				Pn	13 00 52.0	0.0
J25K	**Salcha River,**	2.53	64				Pn	13 00 51.0	-1.0
J25K	**Salcha River,**	2.53	64	P			Pn	13 00 51.2	-0.8
	baz=249								
H24K	**Noodor Dome**	2.53	27				Pn	13 00 51.6	-0.5
M24K	**Tolsona, Glenn**	2.55	124				Pn	13 00 53.5	+1.2
M24K	**Tolsona, Glenn**	2.55	124	P			Pn	13 00 53.9	+1.6
	baz=308								
RC01	**Rabbit Creek A**	2.56	170				Pn	13 00 53.5	+1.0
RC01	**Rabbit Creek A**	2.56	170	IAML				13 01 33.3	
	comp=E,277nm,0.4s								
RC01				IAML				13 01 40.0	
	comp=N,259nm,0.6s								
RC01	**Rabbit Creek A**	2.56	170	P			Pb	13 00 55.2	-1.8
	baz=350								
H20K	**Anotleneega Mo**	2.63	318				Pn	13 00 53.5	+0.1
J18K	**Innoko River**	2.72	270				Pn	13 00 54.1	-0.5
J18K	**Innoko River**	2.72	270	IAML				13 01 43.9	

comp=E,298nm,0.6s
IMAR Indian Mountai 2.73 332 Pn **Pn 13 00 54.7 0.0**
HARP HAARP 2.78 113 Pn 13 00 56.5 +1.0
HARP HAARP 2.78 113 P **Pn 13 00 57.9 +2.3**
baz=298
CAPN Captain Cook N 2.86 185 Pn **Pn 13 00 57.4 +0.9**
PRP Porcupine Dome 2.93 47 Pn 13 00 57.1 -0.5
PRP Porcupine Dome 2.93 47 P **Pn 13 00 57.2 -0.3**
baz=232
GCSA Galena City Sc 2.96 295 Pn 13 00 57.9 +0.1
SCRK Sand Creek 2.98 80 Pn **Pn 13 00 57.5 -0.8**
SCRK IAML 13 01 45.3
comp=N,155nm,0.9s
KLU Klutina 3.05 132 Pn 13 01 01.3 +2.1
KLU Klutina 3.05 132 IAML 13 01 42.4
comp=N,226nm,0.6s
KLU IAML 13 01 46.2
comp=E,218nm,0.7s
KLU Klutina 3.05 132 P **Pn 13 01 01.5 +2.3**
baz=316
L18K Granite Mounta 3.10 246 Pn 13 00 58.7 -1.0
L18K Granite Mounta 3.10 246 IAML 13 01 57.4
comp=N,178nm,0.7s
L18K Granite Mounta 3.10 246 P **Pn 13 00 59.0 -0.7**
baz=61
SLKM Skilak Lake 3.12 176 Pn 13 01 02.1 +2.0
G23K Bananza Creek 3.13 5 Pn 13 01 00.5 +0.2
G23K Bananza Creek 3.13 5 P **Pn 13 01 00.7 +0.5**
baz=185
RDT Redoubt 3.16 196 Pn 13 01 02.0 +1.3
H19K Roundabout Mou 3.16 310 Pn 13 01 01.7 +1.1
H19K Roundabout Mou 3.16 310 IAML 13 01 53.3
comp=E,241nm,0.6s
H19K IAML 13 01 54.2
comp=N,201nm,0.6s
H19K Roundabout Mou 3.16 310 P **Pn 13 01 01.8 +1.1**
baz=125
G21K Allakaket 3.16 339 Pn 13 01 01.2 +0.5
G21K Allakaket 3.16 339 IAML 13 01 49.5
comp=E,214nm,0.6s
G21K IAML 13 01 55.1
comp=N,179nm,0.5s
G21K Allakaket 3.16 339 P **Pn 13 01 01.6 +1.0**
baz=156
O22K Cooper Landing 3.17 172 Pn 13 01 01.2 +0.5
O22K Cooper Landing 3.17 172 P **Pn 13 01 01.2 +0.5**
baz=352
M18K Stony River 3.20 231 Pn 13 01 01.1 -0.1
MENT Mentasta 3.20 99 Pn **Pn 13 01 00.6 -0.7**
MENT IAML 13 02 09.2
comp=E,203nm,0.5s
GLI Glacier Island 3.21 147 Pn 13 01 01.3 +0.1
GLI Glacier Island 3.21 147 IAML 13 01 48.4
comp=N,233nm,0.6s
GLI Glacier Island 3.21 147 P **Pn 13 01 03.0 +1.7**
baz=330
J26L Joseph Creek 3.24 71 Pn 13 01 01.5 -0.4
J26L Joseph Creek 3.24 71 IAML 13 01 58.2
comp=N,117nm,0.6s
NCT North Crescent 3.24 200 Pn 13 01 03.4 +1.5
RDWB Redoubt West 3.30 199 Pn 13 01 02.6 -0.1
RSO Redoubt South 3.31 198 Pn 13 01 04.2 +1.3
WACK Wrangell Chich 3.33 116 Pn 13 01 03.1 -0.1
N19K Bonanza Creek 3.33 214 Pn **Pn 13 01 02.0 -1.0**
N19K IAML 13 02 00.2
comp=N,110nm,1.0s
N19K IAML 13 02 06.7
comp=E,163nm,0.8s
G22K Bettles 3.35 354 Pn 13 01 03.3 +0.1
L26K Log Cabin Wild 3.35 97 Pn **Pn 13 01 01.9 -1.3**
DIV Divide 3.37 135 Pn 13 01 05.1 +1.5
G24K Hadweenzic Riv 3.38 22 Pn 13 01 02.6 -1.1
SVW2 Sparrevohn 3.41 225 Pn 13 01 03.6 -0.5
SVW2 IAML 13 02 11.4
comp=E,113nm,1.0s
N25K Chitina, Valde 3.44 123 Pn 13 01 05.6 +1.0
N25K Chitina, Valde 3.44 123 IAML 13 01 52.5
comp=N,104nm,0.9s
N25K Chitina, Valde 3.44 123 P **Pn 13 01 06.5 +1.8**
baz=308
FID Port Fidalgo 3.47 144 Pn 13 01 06.6 +1.6
FID Port Fidalgo 3.47 144 IAML 13 02 05.9
comp=N,133nm,0.5s
FID IAML 13 02 05.9
comp=E,170nm,0.7s
K17K Iditarod 3.58 259 Pn **Pn 13 01 06.3 -0.1**
K17K IAML 13 02 09.6
comp=E,114nm,0.9s
K17K IAML 13 02 16.6
comp=N,131nm,0.9s
COLD Coldfoot 3.64 3 Pn 13 01 07.2 0.0
I26K Coal Creek Min 3.67 59 Pn 13 01 07.3 -0.3
I26K Coal Creek Min 3.67 59 IAML 13 02 16.7
comp=N,146nm,0.8s
H18K Honhosa River 3.69 298 Pn **Pn 13 01 08.3 +0.3**
H18K IAML 13 02 08.6
comp=N,96nm,0.8s
H18K IAML 13 02 14.5
comp=E,82nm,0.9s
M26K Nabesna, AK 3.69 106 Pn **Pn 13 01 08.7 +0.6**
M26K IAML 13 02 05.3
comp=N,139nm,0.7s
M26K IAML 13 02 15.2
comp=E,128nm,0.8s
G25K Bearman Lake 3.70 29 Pn 13 01 07.3 -0.8
G19K Purcell Mounta 3.74 316 Pn 13 01 09.2 +0.6
G19K Purcell Mounta 3.74 316 IAML 13 02 16.0
comp=E,106nm,0.6s
G19K IAML 13 02 16.1
comp=N,109nm,0.6s
G19K Purcell Mounta 3.74 316 P **Pn 13 01 09.1 +0.4**
baz=130
HIN Hinchinbrook I 3.77 147 Pn **Pn 13 01 08.9 -0.1**
IVE Iliamna Volcan 3.78 198 Pn 13 01 10.4 +1.2
J17K VABM Dome 3.78 271 Pn 13 01 09.0 -0.2
J17K VABM Dome 3.78 271 IAML 13 02 15.1
comp=E,153nm,0.5s
L17K Donlin 3.80 251 Pn 13 01 08.5 -0.9
F21K Alatna River 3.82 343 Pn 13 01 10.4 +0.8
F21K Alatna River 3.82 343 IAML 13 01 57.0
comp=N,114nm,0.5s
F21K Alatna River 3.82 343 P **Pn 13 01 10.8 +1.1**
baz=161
K27K Chicken 3.82 80 Pn 13 01 09.4 -0.4
K27K Chicken 3.82 80 IAML 13 02 16.8
comp=N,83nm,0.6s
N18K Kilae Creek 3.83 222 Pn **Pn 13 01 09.6 -0.3**
N18K IAML 13 02 14.7
comp=N,103nm,0.7s
N18K IAML 13 02 23.6
comp=E,101nm,1.1s
O19K Port Alsworth 3.84 209 Pn 13 01 09.9 -0.1
GLB Gilahina Butte 3.84 121 Pn 13 01 10.4 +0.4
GLB Pb 13 01 12.5 -6.3
GLB Gilahina Butte 3.84 121 IAML 13 01 60.0
comp=E,70nm,0.8s
GLB IAML 13 02 00.9
comp=N,94nm,0.9s
M17K Holitna River 3.85 238 Pn **Pn 13 01 07.8 -2.3**
BRLK Bradley Lake 3.86 182 Pn **Pn 13 01 10.7 +0.4**
BRLK IAML 13 02 18.1
comp=E,88nm,0.7s
BRLK IAML 13 02 37.4
comp=N,70nm,1.3s
BMRM Bremner River 3.87 130 Pn 13 01 11.2 +0.7
BRSE Bradley Lake S 3.88 181 Pn 13 01 10.5 -0.1
BRSE Pb 13 01 12.8 -6.6
HOM Homer 3.99 187 Pn **Pn 13 01 11.2 -0.8**
L27K Beaver Creek, 4.01 94 Pn **Pn 13 01 12.4 0.0**
BCAR Beaver Creek A 4.03 94 Pn **Pn 13 01 11.6 -1.1**
F20K Avaraart Lake 4.06 331 Pn 13 01 12.9 0.0
F20K Avaraart Lake 4.06 331 IAML 13 02 24.4
comp=N,64nm,1.0s
F20K IAML 13 02 30.1
comp=E,67nm,0.7s
F24K Squaw Lake 4.09 15 Pn 13 01 13.4 -0.1
F24K Squaw Lake 4.09 15 IAML 13 02 19.7
comp=E,70nm,0.7s
CNPM China Poot 4.11 184 Pn 13 01 15.5 +1.8
CNPM China Poot 4.11 184 IAML 13 02 26.1
comp=N,74nm,0.9s
CNPM IAML 13 02 36.2
comp=E,89nm,1.1s
VRDI Verde Repeater 4.11 122 Pn 13 01 14.3 +0.5
VRDI Verde Repeater 4.11 122 IAML 13 02 07.3
comp=N,62nm,0.6s
GOAT Goat Mountain 4.12 135 Pn 13 01 14.1 +0.2
G18K Tagagawik 4.12 307 Pn 13 01 14.8 +0.9
G18K Tagagawik 4.12 307 IAML 13 02 04.3
comp=E,109nm,0.5s
G18K IAML 13 02 04.5
comp=N,112nm,0.5s
G18K Tagagawik 4.12 307 P **Pn 13 01 14.8 +0.9**
baz=120
P19K Oil Pt 4.16 198 Pn **Pn 13 01 13.9 -0.5**
P19K IAML 13 02 49.4
comp=N,96nm,0.8s
MCARA McCarthy VSAT 4.18 119 Pn 13 01 16.8 +2.1
MCARA IAML 13 02 34.7
comp=E,113nm,1.0s
M27K Edge Creek, AK 4.19 103 Pn 13 01 14.7 -0.3
M27K IAML 13 02 25.0
comp=N,109nm,1.1s
M27K IAML 13 02 26.2
comp=E,112nm,1.1s
H17K Granite Mounta 4.25 292 Pn **Pn 13 01 16.2 +0.6**
H17K IAML 13 02 08.1
comp=E,106nm,0.6s
O18K Koktuh Hills 4.35 212 Pn 13 01 17.7 +0.8
O18K IAML 13 02 36.9
comp=N,76nm,0.9s
O18K IAML 13 02 39.4
comp=E,49nm,1.1s
N17K Nushagak Hills 4.36 228 Pn 13 01 16.2 -0.9
N17K IAML 13 02 32.9
comp=N,65nm,0.9s
N17K IAML 13 02 35.7
comp=E,66nm,0.6s
F19K Shaleruckik Mo 4.41 320 Pn 13 01 18.1 +0.3
F19K Shaleruckik Mo 4.41 320 IAML 13 02 37.2
comp=E,62nm,0.8s
F19K IAML 13 02 46.8
comp=N,59nm,1.1s
F19K Shaleruckik Mo 4.41 320 P **Pn 13 01 18.6 +0.8**
baz=134
I17K Unalakleet 4.47 278 Pn 13 01 18.6 0.0
I17K Unalakleet 4.47 278 IAML 13 02 36.1
comp=N,58nm,1.0s
I17K IAML 13 02 36.9
comp=E,77nm,0.9s
J16K Anvik River 4.48 270 Pn 13 01 18.4 -0.4
J16K Anvik River 4.48 270 IAML 13 02 42.4
comp=E,61nm,0.8s
L16K Owhat River 4.49 249 Pn 13 01 17.5 -1.4
L16K Owhat River 4.49 249 IAML 13 02 36.6
comp=E,50nm,0.8s
L16K IAML 13 02 44.2
comp=N,75nm,0.8s
E22K Anaktuvuk Pass 4.57 355 Pn **Pn 13 01 20.3 +0.3**
E24K Your Creek 4.57 10 Pn **Pn 13 01 20.0 -0.1**
E24K IAML 13 02 46.0
comp=E,43nm,0.8s
BMAR Burnt Mountain 4.59 31 Pn **Pn 13 01 17.9 -2.4**
M16K Timber Creek 4.66 240 Pn 13 01 19.5 -1.8
M16K IAML 13 02 51.1
comp=E,56nm,0.8s
M16K IAML 13 02 51.5
comp=N,51nm,0.8s
E19K Redstone River 4.73 328 Pn 13 01 23.6 +1.4
E19K Redstone River 4.73 328 P **Pn 13 01 23.9 +1.6**
baz=142
P18K Big Mountain, 4.76 209 Pn **Pn 13 01 23.3 +0.6**
F18K Selawik 4.84 312 Pn 13 01 24.5 +0.8
F18K Selawik 4.84 312 P **Pn 13 01 24.9 +1.2**
baz=124
WAX Waxell Ridge 4.85 127 Pn 13 01 24.3 +0.4
BARN Barnard Glacie 4.91 117 Pn 13 01 27.0 +2.2
Q19K Cape Douglas, 4.91 198 Pn **Pn 13 01 26.6 +1.9**
ISLE Juniper Island 4.93 124 Pn **Pn 13 01 25.0 -0.1**
ISLE IAML 13 02 47.1
comp=E,54nm,1.5s
G27K Doyon Strip 4.96 46 Pn Pn 13 01 24.4 -1.1
I28M Miner Creek 4.98 63 Pn Pn 13 01 25.9 +0.2
I28M IAML 13 02 54.6
comp=N,52nm,0.7s
I28M IAML 13 03 01.7
comp=E,54nm,0.8s
E25K Arctic Village 4.99 22 Pn Pn 13 01 25.3 -0.5
DAWY Dawson 5.01 80 Pn Pn 13 01 25.4 -0.6
E21K Killik River 5.04 346 Pn Pn 13 01 25.4 -1.0
E21K IAML 13 02 55.0
comp=E,50nm,1.1s
E21K IAML 13 03 04.6
comp=N,39nm,0.9s
YUK3 Moose Creek 5.04 107 Pn 13 01 27.8 +1.2
TOLK Toolik Lake Re 5.07 4 Pn 13 01 28.4 +1.5
TOLK Toolik Lake Re 5.07 4 IAML 13 03 02.8
comp=E,54nm,1.1s
TOLK Toolik Lake Re 5.07 4 P **Pn 13 01 28.4 +1.5**
baz=186
SYI Shuyak Island 5.09 190 Pn Pn 13 01 28.2 +1.1
SYI IAML 13 02 30.1
comp=N,31nm,1.3s
SYI IAML 13 02 57.2
comp=E,40nm,1.4s
CTGM Chitina Glacie 5.09 117 Pn Pn 13 01 28.2 +0.9
K15K Wolf Creek Mou 5.14 260 Pn Pn 13 01 27.9 +0.1
K15K IAML 13 02 59.6
comp=N,34nm,1.2s
E20K Nigu River 5.19 337 Pn 13 01 30.4 +1.9
E20K Nigu River 5.19 337 P **Pn 13 01 30.4 +1.9**
baz=152
LOGN Logan Glacier 5.31 117 Pn Pn 13 01 30.6 +0.3
LOGN IAML 13 04 26.1
comp=N,40nm,0.8s
LOGN IAML 13 04 26.7
comp=E,28nm,1.0s
F17K Baldwin Pennin 5.31 307 Pn Pn 13 01 30.8 +0.7
F17K IAML 13 03 07.9
comp=E,40nm,1.1s
F17K IAML 13 03 10.5
comp=N,35nm,1.4s
G16K Koyuk River 5.37 295 Pn 13 01 30.6 -0.2
O16K Kokwok River B 5.37 225 Pn Pn 13 01 30.7 -0.3
O16K IAML 13 03 09.3
comp=N,40nm,1.1s
O16K IAML 13 03 12.2
comp=E,36nm,0.9s
D24K Happy Valley 5.62 7 Pn Pn 13 01 35.2 +0.8
E18K Tukpahlearik C 5.63 317 Pn 13 01 36.2 +1.6
E18K Tukpahlearik C 5.63 317 P **Pn 13 01 36.2 +1.6**
baz=128
D19K Kuna River 5.77 332 Pn 13 01 36.7 +0.3
E17K Hotham Inlet 5.83 312 Pn 13 01 38.2 +0.9
E17K Hotham Inlet 5.83 312 P **Pn 13 01 38.4 +1.1**
baz=122
H29M Whitestone 5.84 58 Pn Pn 13 01 35.8 -1.6
E27K Coleen River 5.90 35 Pn Pn 13 01 37.4 -0.8
J14K Nanvaranak Lak 5.91 267 Pn Pn 13 01 37.8 -0.5
KDAK Kodiak Island 5.92 190 Pn Pn 13 01 39.0 +0.5
comp=E,0.3nm,0.3s,baz=138,slow=7.4,SNR=1.2
KDAK Sn **Sn 13 02 45.8 -0.4**
comp=E,1.5nm,0.3s,baz=169,slow=19,SNR=1.1
comp=E,6.8nm,0.7s
D25K Kavik River 5.99 15 Pn 13 01 40.7 +1.2
D25K Kavik River 5.99 15 P **Pn 13 01 41.1 +1.7**
baz=199
F28M Old Crow 6.00 43 Pn Pn 13 01 38.6 -1.0
B21K Ikpikpuk River 6.24 347 Pn Pn 13 01 43.2 +0.4
G29M Pine Creek 6.25 52 Pn Pn 13 01 42.5 -0.6
C23K Itkillik River 6.26 0 Pn Pn 13 01 43.3 +0.2
F15K North Star Dit 6.37 296 Pn Pn 13 01 44.4 -0.2
I30M Mount Dempster 6.39 69 Pn Pn 13 01 45.9 +0.8
ANM Nome 6.53 285 Pn Pn 13 01 46.5 -0.3
C19K Lookout Ridge 6.58 331 Pn Pn 13 01 46.1 -1.5
C18K Utukok River 6.62 324 Pn Pn 13 01 47.7 -0.4
E28M Babbage River 6.74 37 Pn Pn 13 01 47.9 -1.9
B22K Teshekpuk Lake 6.85 352 Pn Pn 13 01 51.0 -0.2
B20K Meade River 6.92 341 Pn Pn 13 01 51.9 -0.3
E29M Blow River 7.07 42 Pn 13 01 53.6 -0.6
E29M Blow River 7.07 42 P **Pn 13 01 54.1 -0.1**
baz=233
D28M Stokes Point 7.45 34 Pn 13 02 00.3 +0.8
D28M Stokes Point 7.45 34 P **Pn 13 02 00.6 +1.2**
baz=225
C16K Lisburne Hills 7.60 314 Pn Pn 13 02 02.7 +1.2
INK Inuvik 8.41 48 Pn Pn 13 02 12.5 -0.1
comp=E,0.6nm,0.3s,baz=232,slow=14,SNR=6.7
comp=E,3.8nm,0.6s
YKA Yellowknife Ar 16.24 78 Pn Pn 13 03 59.7 +0.9
comp=E,0.1nm,0.3s,baz=297,slow=11,SNR=2.8
comp=E,0.3nm,0.8s
TXAR Lajitas Array 45.39 116 P **P 13 08 31.4 +2.0**
comp=E,0.2nm,0.5s,baz=333,slow=6.8,SNR=5.4
comp=E,0.2nm,0.5s
SONM Songino Array 53.59 305 P **P 13 09 31.6 -0.1**
comp=E,0.7nm,0.6s,baz=25,slow=8.1,SNR=2.5
comp=E,0.7nm,0.6s
ZALV Zalesovo Beam 55.12 324 P **P 13 09 41.6 -1.0**
comp=E,1.2nm,0.6s,baz=23,slow=8.0,SNR=4.6
comp=E,1.2nm,0.6s
ARU Arti 58.19 341 LR LR 13 36 50.0
comp=E,42nm,18.6s,baz=346,slow=38
BVAR Borovoye Array 59.38 333 P **P 13 10 11.8 -0.8**
comp=E,1.8nm,0.6s,baz=28,slow=7.2,SNR=6.6
comp=E,1.8nm,0.6s
KURBB Kurchatov Arra 59.77 326 P **P 13 10 14.8 -0.5**
comp=E,0.5nm,0.5s,baz=27,slow=7.0,SNR=5.0
comp=E,0.5nm,0.5s
MKAR Makanchi Array 62.29 322 P **P 13 10 31.7 -0.9**
comp=E,0.6nm,0.6s,baz=48,slow=6.6,SNR=4.8
comp=E,0.6nm,0.6s
AAK Ala-Archa 68.21 326 LR LR 13 45 01.1
comp=E,50nm,18.4s,baz=4.5,slow=40
ESDC Sonseca Array 73.70 26 P **P 13 11 44.3 -0.1**
comp=E,0.6nm,0.7s,baz=340,slow=7.9,SNR=4.4
comp=E,0.6nm,0.7s
BOSA Boshof 144.90 6 PKP **PKPab 13 19 45.5 -1.2**
comp=E,0.8nm,0.6s,baz=326,slow=3.6,SNR=3.5
QSPA South Pole Qui 153.42 180 PKP **PKPdf 13 20 02.4 +2.5**
comp=E,1.1nm,1.0s,baz=56,slow=3.6,SNR=2.3

IDC ***11*** *13:17:39.2±1.7, 13°.75S×167°.10E, h209km±15km, mb3.9/15, mbtmp4.4/16, Error ellipse: s-maj=16.2km s-min=11.1km az=96.0*
NEIC ***11*** *13:17:40.5±2.2, 13°.8S±0°.1×167°.4E±0°.2, h226km±8km, mb4.6/25, Error ellipse: s-maj=22.4km s-min=15.8km az=87.0*

ISC 11 13:17:38.3±0.5,**13°.73S**±0°.06×**167°.16E**±0°.09,**h200km**,**n65**, σ1**9**21/71,**mb4.5**/30,**1D**,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**7.01**	**179**	Pn	**Pn**	**13 19 17.9**	**-0.7**
KOUNC	**Koumac, New Ca**	**7.31**	**202**		**Pn**	**13 19 24.0**	**+1.4**
DZM	**Mont Dzumac**	**8.32**	**185**	P	**Pn**	**13 19 37.7**	**+1.8**
	3.8nm,0.4s,baz=346,slow=7.8,SNR=15						
DZM				S	**Sn**	**13 21 09.6**	**0.0**
	9.1nm,1.0s,baz=96,slow=17,SNR=2.2						
OUENC	**Ouen Island, N**	**8.64**	**182**	Pn	**Pn**	**13 19 40.0**	**+0.1**
PINNC	**Pines Island,**	**8.84**	**178**	Pn	**Pn**	**13 19 43.7**	**+1.3**
MSVF	**Nonsavu**	**11.21**	**112**	Pn	**P**	**13 20 22.2**	**+2.9**
EIDS	**Eidsvold**	**19.04**	**230**	P	**P**	**13 21 47.5**	**+2.0**
CTAO	**Charters Tower**	**20.96**	**250**	P	**P**	**13 22 08.1**	**+2.0**
CTAO				IAmb	IAmb	13 22 09.4	
	comp=Z,19nm,1.4s						
ARMA	**Armidale**	**21.93**	**218**		**P**	**13 22 17.8**	**+1.8**
COEN	**Coen**	**23.29**	**267**	P	**P**	**13 22 31.1**	**+2.6**
COEN				IAmb	IAmb	13 22 44.0	
	comp=Z,27nm,1.5s						
URZ	**Urewera**	**25.98**	**162**	P	**P**	**13 22 51.8**	**-0.7**
	comp=Z,3.4nm,0.4s,baz=318,slow=18,SNR=1.6						
	comp=Z,3.4nm,0.4s						
BKZ	**Black Stump Fm**	**26.64**	**164**	P	**P**	**13 22 57.8**	**-0.8**
BKZ				IAmb	IAmb	13 23 33.5	
	comp=Z,19nm,1.3s						
CAN	**Canberra**	**27.02**	**214**	P	**P**	**13 23 02.5**	**+0.6**
CAN				IAmb	IAmb	13 23 17.1	
	comp=Z,19nm,1.2s						
LTZ	**Lake Taylor**	**29.28**	**172**	P	**P**	**13 23 20.9**	**-1.0**
STKA	**Stephens Creek**	**29.56**	**228**		**P**	**13 23 25.5**	**+1.0**
STKA	**Stephens Creek**	**29.56**	**228**	P	**P**	**13 23 25.1**	**+0.6**
	comp=Z,14nm,0.5s,baz=51,slow=9.4,SNR=42						
STKA				PcP	**PcP**	**13 26 22.9**	**-1.5**
	comp=Z,3.8nm,0.8s,baz=94,slow=3.9,SNR=4.6						
	comp=Z,14nm,0.5s						
TOO	**Toolangi**	**30.59**	**215**	P	**P**	**13 23 33.9**	**+0.4**
WR0	**Warramunga Arr**	**31.79**	**254**	P	**P**	**13 23 43.2**	**-1.0**
WR0				IAmb	IAmb	13 23 49.8	
	comp=Z,19nm,1.5s						
WB0	**Warramunga Arr**	**31.91**	**255**	P	**P**	**13 23 44.3**	**-1.0**
WB0				IAmb	IAmb	13 23 45.1	
	comp=Z,6.8nm,0.6s						
WRA	**Warramunga Arr**	**31.98**	**254**	P	**P**	13 23 44.2	-1.7
WRA	**Warramunga Arr**	**31.98**	**254**	P	**P**	**13 23 44.9**	**-1.0**
	comp=Z,2.5nm,0.6s,baz=86,slow=9.5,SNR=21						
WRA				PcP	**PcP**	**13 26 30.6**	**-0.5**
	comp=Z,3.4nm,0.9s,baz=79,slow=3.1,SNR=9.8						
WRA				ScP	**ScP**	**13 29 55.8**	**+0.1**
	comp=Z,1.0nm,0.9s,baz=76,slow=2.8,SNR=6.4						
	comp=Z,2.5nm,0.6s						
AS31	**Alice Springs**	**32.94**	**248**	P	P	13 23 52.9	-1.4
AS31				IAmb	IAmb	13 23 54.5	
	comp=Z,3.6nm,0.4s						
ASAR	**Alice Springs**	**32.94**	**248**	P	**P**	**13 23 53.1**	**-1.1**
ASAR	**Alice Springs**	**32.94**	**248**	P	**P**	**13 23 53.4**	**-0.8**
	comp=Z,6.8nm,0.5s,baz=75,slow=9.2,SNR=173						
ASAR				PcP	**PcP**	**13 26 33.3**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=71,slow=2.5,SNR=10.0						
ASAR				S	**S**	**13 28 54.6**	**-2.9**
	comp=Z,0.8nm,0.8s,baz=84,slow=16,SNR=4.9						
ASAR				ScP	**ScP**	**13 29 59.2**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=80,slow=3.6,SNR=9.0						
	comp=Z,6.8nm,0.5s						
BBOO	**Buckleboo**	**34.11**	**231**	P	**P**	**13 24 03.6**	**-0.6**
BBOO				IAmb	IAmb	13 24 04.8	
	comp=Z,12nm,0.8s						
MTN	**Manton Dam**	**35.05**	**267**	P	**P**	**13 24 13.2**	**+0.8**
MTN				IAmb	IAmb	13 24 40.9	
	comp=Z,28nm,1.2s						
FORT	**Forrest**	**39.72**	**238**	P	**P**	**13 24 51.1**	**-0.3**
FORT				IAmb	IAmb	13 24 52.1	
	comp=Z,20nm,0.7s						
FITZ	**Fitzroy Crossi**	**40.10**	**258**	P	**P**	**13 24 54.0**	**-0.7**
PSA00	**Pilbara Seismi**	**45.61**	**253**	P	**P**	**13 25 38.7**	**-0.3**
MJAR	**Matsushiro Arr**	**56.98**	**332**	P	**P**	**13 27 01.9**	**-1.2**
	comp=Z,1.0nm,0.5s,baz=230,slow=12,SNR=5.2						
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**62.86**	**326**	P	**P**	**13 27 43.4**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=134,slow=7.0,SNR=7.2						
	comp=Z,1.2nm,0.8s						
VNDA	**Vanda**	**63.85**	**181**	P	**P**	**13 27 48.9**	**-0.1**
VNDA	**Vanda**	**63.85**	**181**	P	**P**	**13 27 49.2**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=357,slow=7.5,SNR=11						
	comp=Z,1.3nm,0.5s						
SBA	**Scott Base**	**64.13**	**180**	P	**P**	**13 27 50.6**	**-0.1**
SBA				IAmb	IAmb	13 27 52.8	
	comp=Z,13nm,1.0s						
CASY	**Casey**	**64.40**	**202**	P	**P**	**13 27 52.2**	**-0.5**
CASY				IAmb	IAmb	13 28 00.1	
	comp=Z,7.3nm,1.0s						
USRK	**Ussuriysk Ar.**	**65.95**	**333**	P	**P**	**13 28 02.6**	**-0.4**
USRK	**Ussuriysk Ar.**	**65.95**	**333**	P	**P**	**13 28 03.0**	**0.0**
	comp=Z,2.4nm,0.8s,baz=160,slow=5.7,SNR=4.9						
	comp=Z,2.4nm,0.8s						
PEA0B	**Petropavlovsk-**	**67.06**	**354**	P	**P**	**13 28 09.5**	**-0.3**
PETK	**Petropavlovsk-**	**67.06**	**354**	P	**P**	**13 28 09.5**	**-0.3**
PETK	**Petropavlovsk-**	**67.06**	**354**	P	**P**	**13 28 10.2**	**+0.3**
	comp=Z,6.1nm,0.9s,baz=134,slow=8.4,SNR=4.8						
	comp=Z,6.1nm,0.9s						
CN2	**Changchun**	**68.74**	**329**	*e*P	**P**	**13 28 20.1**	**-0.4**
CN2				*ep*P	sP	13 29 32.3	+3.8
CN2				*e*S	S	13 36 58.3	-9.2
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
BNX	**BinXian**	**69.22**	**331**	||P	**P**	**13 28 23.5**	**+0.2**
BNX				pmax	pmax		
	comp=Z,12nm,0.7s						
BNX				pmax	pmax		
	comp=Z,69nm,4.9s						
LYN	**LuoYang**	**70.70**	**314**	*e*P	**P**	**13 28 33.3**	**+0.6**
LYN				pmax	pmax		
	comp=Z,21nm,0.6s						
XLT	**XiLinHaoTe**	**73.84**	**324**	*e*P	**P**	**13 28 51.5**	**+0.4**
XLT				pmax	pmax		
	comp=Z,12nm,0.7s						
XLT				pmax	pmax		
	comp=Z,63nm,4.3s						
CMAR	**Chiang Mai Arr**	**74.45**	**294**		**P**	**13 28 55.6**	**+0.5**
CMAR	**Chiang Mai Arr**	**74.45**	**294**	P	**P**	**13 28 56.0**	**+1.0**
	comp=Z,3.5nm,0.8s,baz=130,slow=4.9,SNR=22						
	comp=Z,3.5nm,0.8s						
CHTO	**Chiang Mai**	**74.57**	**294**	P	**P**	**13 28 56.1**	**+0.3**
BTO	**Baotou**	**75.61**	**319**	*e*P	**P**	**13 29 03.9**	**+2.5**
BTO				pP	**sP**	**13 30 14.2**	**+3.8**

BTO					S	S	13 38 18.5	-7.4
QSPA	**South Pole Qui**	**76.29**	**180**		P	**P**	**13 29 04.2**	**-0.7**
QSPA					IAmb	IAmb	13 29 05.6	
	comp=Z,12nm,0.8s							
QSPA	**South Pole Qui**	**76.29**	**180**		P	**P**	**13 29 04.8**	**-0.1**
	comp=Z,10nm,0.7s,baz=314,slow=0.6,SNR=71							
	comp=Z,10nm,0.7s							
SONM	**Songino Array**	**81.64**	**324**		P	**P**	**13 29 34.5**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=129,slow=5.9,SNR=3.7							
	comp=Z,0.9nm,0.5s							
IMAR	**Indian Mountai**	**84.64**	**15**		P	**P**	**13 29 47.7**	**-1.2**
ILAR	**Eielson Array**	**85.62**	**18**		P	**P**	**13 29 52.6**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=240,slow=5.0,SNR=6.9							
	comp=Z,0.4nm,0.5s							
SNAA	**Sanae**	**94.53**	**183**		P	**P**	**13 30 34.2**	**-1.5**
MKAR	**Makanchi Array**	**96.41**	**316**		P	**P**	**13 30 44.6**	**0.0**
	comp=Z,1.8nm,0.6s,baz=94,slow=6.2,SNR=22							
	comp=Z,1.8nm,0.6s							
ZALV	**Zalesovo Beam**	**96.53**	**324**		P	**P**	**13 30 43.6**	**-1.3**
	comp=Z,1.3nm,0.6s,baz=102,slow=6.2,SNR=5.2							
	comp=Z,1.3nm,0.6s							
ARCES	**ARCESS Array B**	**119.27**	**346**		PKP	**PKPdf**	**13 36 00.7**	**-2.3**
	comp=Z,2.5nm,0.6s,baz=70,slow=1.9,SNR=8.4							
BOSA	**Boshof**	**124.06**	**221**		PKP	**PKPdf**	**13 36 12.4**	**-1.3**
	comp=Z,3.2nm,0.9s,baz=220,slow=1.1,SNR=4.8							
FINES	**FINESS Array B**	**124.76**	**338**		PKP	**PKPdf**	**13 36 13.4**	**-0.3**
	comp=Z,1.6nm,0.8s,baz=48,slow=2.8,SNR=6.2							
NOA	**NORSAR Array B**	**129.64**	**345**		PKP	**PKPdf**	**13 36 21.1**	**-2.1**
	comp=Z,0.4nm,0.5s,baz=31,slow=6.5,SNR=1.7							
HFS	**Hagfors**	**129.74**	**343**		PKP	**PKPdf**	**13 36 22.7**	**-0.7**
	comp=Z,0.9nm,0.7s,baz=0.0,slow=1.6,SNR=1.6							
BRTR	**Keskin Array B**	**131.78**	**311**		PKP	**PKPdf**	**13 36 27.6**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=87,slow=3.7,SNR=2.1							
GERES	**GERESS Array B**	**138.71**	**333**		PKP	**PKPdf**	**13 36 41.1**	**+0.5**
	comp=Z,0.5nm,0.2s,baz=355,slow=2.2,SNR=2.4							
KEST	**Kesra**	**150.37**	**322**		PKPbc	**PKPbc**	**13 37 06.8**	**+0.3**
	comp=Z,12nm,0.7s,baz=260,slow=1.2,SNR=14							
ESDC	**Sonseca Array**	**153.00**	**345**		PKPbc	**PKPbc**	**13 37 12.3**	**0.0**
	comp=Z,0.7nm,0.5s,baz=25,slow=1.9,SNR=6.3							

*SNET **11** 13:20:00.5±1.5, 13°.41N×91°.07W, h15km±10km, ML3.7*
*GCG **11** 13:20:02.1±0.4, 13°.61N×91°.29W, h20km±6km, MD3.8*
*CATAC **11** 13:20:10.1±0.8, 13°.83N×90°.45W, h1km±5km, ML3.3*

ISC 11 13:20:00.6±1.8**, 13°.50N**±0°.09×**91°.22W**±0°.07**, h29km, n42, σ1s55/47, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.86**	**337**	*e*P	**Pb**	**13 20 18.9**	**+1.9**
SULM				*e*S	**Sb**	**13 20 26.4**	**-1.9**
FUG	**Fuego 3**	**1.01**	**21**	*e*P	**Pn**	**13 20 19.6**	**+0.7**
STG3	**Santiaguito 3,**	**1.25**	**344**	*e*P	**Pn**	**13 20 23.0**	**+0.7**
GUMI	**Mixco**	**1.27**	**28**	*i* P	**Pb**	**13 20 25.8**	**+1.8**
GUMI				IAML		13 20 46.0	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.37**	**38**	*e*P	**Pn**	**13 20 24.5**	**+0.4**
NBG				*e*S	**Sb**	**13 20 45.4**	**+2.3**
GUNB	**GUNB**	**1.38**	**38**	*i* P	**Pn**	**13 20 24.2**	**0.0**
GUNB				IAML		13 20 47.6	
	comp=Z,480nm,1.0s						
NUBE	**Las Nubes**	**1.46**	**74**	*e*P	**Pn**	**13 20 23.8**	**-1.3**
NUBE				*e*S	**Sn**	**13 20 42.5**	**-0.8**
NUBE	**Las Nubes**	**1.46**	**74**	*i* P	**Pn**	**13 20 23.4**	**-1.7**
NUBE				IAML		13 20 46.0	
	comp=Z,430nm,1.0s						
LOAL	**Lomas de Alarc**	**1.49**	**70**	*i* P	**Pn**	**13 20 22.3**	**-3.1**
LOAL				IAML		13 21 02.6	
	comp=Z,1μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.49**	**69**	*e*P	**Pn**	**13 20 25.0**	**-0.5**
SLOZ				*e*S	**Sb**	**13 20 44.5**	**-1.8**
SMSP	**San Marcos**	**1.56**	**340**	*i* P	**Sn**	**13 20 41.1**	**-4.9**
SMSP				IAML		13 21 17.6	
	comp=Z,3μm,1.0s						
CEVE	**Cerro Verde**	**1.59**	**78**	*e*P	**Pn**	**13 20 25.9**	**-1.1**
CEVE				IAML		13 20 54.9	
	comp=Z,967nm,0.5s						
CEVE	**Cerro Verde**	**1.59**	**78**	*i* P	**Pn**	**13 20 25.9**	**-1.1**
CEVE				IAML		13 20 54.3	
	comp=Z,840nm,1.0s						
SNJE	**San Jose**	**1.61**	**77**	*e*P	**Pn**	**13 20 26.4**	**-0.9**
SNJE				*e*S	**Sn**	**13 20 47.3**	**+0.1**
JUAM	**Asuncion Mita**	**1.69**	**60**	*i* P	**Pn**	**13 20 27.3**	**-0.9**
JUAM				IAML		13 20 29.5	
	comp=Z,720nm,1.0s						
UNIC	**Universidad Ca**	**1.70**	**74**	*i* P	**Pn**	**13 20 27.7**	**-0.6**
UNIC				IAML		13 20 46.3	
	comp=Z,250nm,1.0s						
JAYA	**Jayaque - finc**	**1.73**	**85**	*i* P	**Pn**	**13 20 28.3**	**-0.6**
JAYA				IAML		13 20 59.3	
	comp=Z,2μm,1.0s						
CEDA	**San Andres**	**1.80**	**80**	*i* P	**Pn**	**13 20 29.9**	**+0.1**
CEDA				IAML		13 21 09.0	
	comp=Z,2μm,1.0s						
LALI	**Alcalda de L**	**1.85**	**90**	*i* P	**Pb**	**13 20 33.0**	**-0.8**
LALI				IAML		13 21 07.8	
	comp=Z,120nm,1.0s						
PMON	**Piamonte**	**1.87**	**83**	*e*P	**Pn**	**13 20 30.9**	**+0.2**
PMON	**Piamonte**	**1.87**	**83**	*i* P	**Pn**	**13 20 31.1**	**+0.4**
PMON				IAML		13 21 01.7	
	comp=Z,670nm,1.0s						
ITCA	**Escuela Especi**	**1.90**	**85**	*i* P	**Pn**	**13 20 30.9**	**-0.2**
ITCA				IAML		13 21 00.5	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.93**	**80**	*i* P	**Pn**	**13 20 31.2**	**-0.2**
QUEZ				IAML		13 21 14.3	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.94**	**84**	*i* P	**Pn**	**13 20 33.0**	**+1.2**
SNET				IAML		13 21 43.3	
	comp=Z,2μm,1.0s						
PANCS	**Alcalda de**	**1.99**	**87**	*i* P	**Pn**	**13 20 33.5**	**+1.1**
PANCS				IAML		13 21 10.5	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**2.00**	**86**	*i* P	**Pn**	**13 20 34.3**	**+1.7**
LOMA				IAML		13 21 06.9	
	comp=Z,520nm,1.0s						
MTO3	**Montecristo**	**2.02**	**64**	*e*P	**Pn**	**13 20 33.1**	**+0.2**
MTO3	**Montecristo**	**2.02**	**64**	*i* P	**Pn**	**13 20 33.3**	**+0.4**
MTO3				IAML		13 21 00.8	
	comp=Z,300nm,1.0s						
ESQI	**Esquipulas**	**2.11**	**60**	*e*P	**Pn**	**13 20 34.8**	**+0.8**
ESQI	**Esquipulas**	**2.11**	**60**	*i* P	**Pn**	**13 20 35.2**	**+1.2**
MRL	**Marmol**	**2.17**	**43**	*e*P	**Pn**	**13 20 37.3**	**+2.3**
PAVA	**Las Pavas**	**2.23**	**84**	*i* P	**Pn**	**13 20 37.8**	**+2.1**
PAVA				IAML		13 21 20.0	
	comp=Z,440nm,1.0s						
COEG	**Centro de Oper**	**2.28**	**87**	*e*P	**Pn**	**13 20 36.5**	**+0.2**
COEG	**Centro de Oper**	**2.28**	**87**	*i* P	**Pn**	**13 20 37.3**	**+0.9**
COEG				IAML		13 21 09.5	
	comp=Z,220nm,1.0s						
LLGN	**La Laguna**	**2.31**	**73**	*i* P	**Pn**	**13 20 37.8**	**+1.0**
LLGN				IAML		13 21 13.1	
	comp=Z,230nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.43**	**85**	*i* P	**Pn**	**13 20 40.1**	**+1.6**
SCLA				IAML		13 21 17.6	
	comp=Z,89nm,1.0s						
PQSS	**Presa 15 de Se**	**2.59**	**87**	IAML		13 20 39.4	
PQSS	comp=Z,220nm,1.0s						
				i P	**Pn**	**13 20 41.9**	**+1.3**
PACA	**Pacayal**	**2.82**	**90**	*i* P	**Pn**	**13 20 46.5**	**+2.6**
PACA				IAML		13 21 30.7	
	comp=Z,980nm,1.0s						
RANC	**El Ranchito**	**2.86**	**91**	*i* P	**Pn**	**13 20 46.3**	**+2.0**
RANC				IAML		13 21 23.2	
	comp=Z,110nm,1.0s						
INTHN	**La Esperanza I**	**3.13**	**75**	*i* P	**Pn**	**13 20 49.1**	**+0.8**
LCND	**La Caada**	**3.25**	**93**	*i* P	**Pn**	**13 20 51.7**	**+2.1**
LCND				IAML		13 20 51.9	
	comp=Z,93nm,1.0s						
COMHN	**El Horno**	**3.68**	**75**	*i* P	**Pn**	**13 20 55.2**	**-0.6**

*VIE **11** 13:29:46.5±0.2, 50°.22N×12°.42E, h10km, mb2.4/7, ml2.8/11, Error ellipse: s-maj=2.3km s-min=1.6km az=88.0*
*BGR **11** 13:29:46.9±0.2, 50°.27N×12°.44E, h11km±1km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=96.0*
*PRU **11** 13:29:46.5, 50°.26N×12°.44E, h10km, West Bohemia Swarm*
*CLL **11** 13:29:47.6±0.3, 50°.27N×12°.44E, h8km, ML2.6*
*WBNET **11** 13:29:47.2, 50°.27N×12°.44E, h9km, Ml2.5*
*LDG **11** 13:29:48.4±0.2, 50°.27N×12°.37E, h10km, Ml3.0/5, Error ellipse: s-maj=4.4km s-min=3.2km az=149.0*

ISC 11 13:29:47.1±0.7**, 50°.26N**±0°.01×**12°.44E**±0°.01**, h12**km±3km,
n91, σ1s12/163, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**276**	⇓P	**Pg**	**13 29 49.1**	**-0.3**
LBCW				S	**Sg**	**13 29 50.3**	**-0.6**
NKC	**Novy Kostel**	**0.03**	**170**	*i* Pg	**Pg**	**13 29 49.1**	**-0.2**
NKC				*i* Sg	**Sg**	**13 29 50.3**	**-0.6**
NKC				IAML		13 29 50.6	
	comp=N,6μm,0.1s						
NKC	**Novy Kostel**	**0.03**	**170**	*e*PG	**Pg**	**13 29 49.1**	**-0.2**
NKC				*e*SG	**Sg**	**13 29 50.3**	**-0.6**
	comp=N,2μm,0.4s						
NKC	**Novy Kostel**	**0.03**	**170**	*i* Pg	**Pg**	**13 29 49.1**	**-0.2**
NKC				*i* Sg	**Sg**	**13 29 50.3**	**-0.6**
	comp=N,6μm,0.1s						
NKC	**Novy Kostel**	**0.03**	**170**	⇓P	**Pg**	**13 29 49.1**	**-0.2**
NKC				S	**Sg**	**13 29 50.3**	**-0.6**
WERN	**Wernitzgruen**	**0.05**	**300**	*i* Pg	**Pg**	**13 29 49.2**	**-0.2**
WERN				*i* Sg	**Sg**	**13 29 50.6**	**-0.6**
WERN				IAML		13 29 50.7	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**300**	*i* Pg	**Pg**	**13 29 49.2**	**-0.2**
WERN				*i* Sg	**Sg**	**13 29 50.6**	**-0.6**
	comp=E,2μm,0.2s						
VAC	**Vackov**	**0.05**	**234**	*i* Pg	**Pg**	**13 29 49.2**	**-0.3**
VAC				*i* Sg	**Sg**	**13 29 50.5**	**-0.7**
VAC	**Vackov**	**0.05**	**234**	⇓P	**Pg**	**13 29 49.2**	**-0.3**
VAC				S	**Sg**	**13 29 50.5**	**-0.7**
STCW	**Studenec**	**0.05**	**95**	*i* Pg	**Pg**	**13 29 49.2**	**-0.3**
STCW				*i* Sg	**Sg**	**13 29 50.4**	**-0.8**
STCW	**Studenec**	**0.05**	**95**	*i* Pg	**Pg**	**13 29 49.2**	**-0.3**
STCW				*i* Sg	**Sg**	**13 29 50.4**	**-0.8**
STCW	**Studenec**	**0.05**	**95**	⇑P	**Pg**	**13 29 49.2**	**-0.3**
STCW				S	**Sg**	**13 29 50.4**	**-0.8**
POCW	**Potky**	**0.06**	**352**	⇓P	**Pg**	**13 29 49.3**	**-0.2**
POCW				S	**Sg**	**13 29 50.8**	**-0.6**
KVC	**Kvetna**	**0.07**	**140**	*i* Pg	**Pg**	**13 29 49.5**	**-0.2**
KVC				*i* Sg	**Sg**	**13 29 50.9**	**-0.7**
KVC	**Kvetna**	**0.07**	**140**	⇑P	**Pg**	**13 29 49.5**	**-0.2**
KVC				S	**Sg**	**13 29 50.9**	**-0.7**
ROHR	**Rohrbach**	**0.08**	**250**	*i* Pg	**Pg**	**13 29 49.6**	**-0.2**
ROHR				*i* Sg	**Sg**	**13 29 51.1**	**-0.7**
ROHR				IAML		13 29 51.2	
	comp=E,5μm,0.1s						
ROHR	**Rohrbach**	**0.08**	**250**	*i* Pg	**Pg**	**13 29 49.6**	**-0.2**
ROHR				*i* Sg	**Sg**	**13 29 51.1**	**-0.7**
	comp=E,5μm,0.1s						
KRCW	**Kraslice**	**0.09**	**40**	⇑P	**Pg**	**13 29 49.6**	**-0.3**
KRCW				S	**Sg**	**13 29 51.2**	**-0.7**
SKC	**Skala**	**0.11**	**208**	⇑P	**Pg**	**13 29 49.9**	**-0.1**
SKC				S	**Sg**	**13 29 51.8**	**-0.4**
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	**Pg**	**13 29 50.2**	**-0.1**
GUNZ				*i* Sg	**Sg**	**13 29 52.0**	**-0.6**
GUNZ				IAML		13 29 52.3	
	comp=N,1μm,0.2s						
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	**Pg**	**13 29 50.2**	**-0.1**
GUNZ				*i* Sg	**Sg**	**13 29 52.0**	**-0.6**
	comp=N,1μm,0.2s						
KOCW	**Kopaniny**	**0.13**	**271**	⇓P	**Pg**	**13 29 50.3**	**-0.1**
KOCW				S	**Sg**	**13 29 52.3**	**-0.5**
MULD	**Muldenberg**	**0.15**	**351**	*i* Pg	**Pg**	**13 29 50.5**	**-0.2**
MULD				*i* Sg	**Sg**	**13 29 52.6**	**-0.7**
MULD				IAML		13 29 52.7	
	comp=E,2μm,0.1s						
MULD	**Muldenberg**	**0.15**	**351**	*i* Pg	**Pg**	**13 29 50.5**	**-0.2**
MULD				*i* Sg	**Sg**	**13 29 52.6**	**-0.7**
	comp=E,2μm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**5**	*i* Pg	**Pg**	**13 29 50.5**	**-0.3**
TANN				*i* Sg	**Sg**	**13 29 52.6**	**-0.8**
TANN				IAML		13 29 52.8	
	comp=E,2μm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**5**	*i* Pg	**Pg**	**13 29 50.5**	**-0.3**
TANN				*i* Sg	**Sg**	**13 29 52.6**	**-0.8**
	comp=E,2μm,0.2s						
TRCW	**Trojmez**	**0.19**	**282**	⇓P	**Pg**	**13 29 51.3**	**-0.1**
TRCW				S	**Sg**	**13 29 53.9**	**-0.4**
WERD	**Werda**	**0.20**	**335**	*i* Pg	**Pg**	**13 29 51.4**	**-0.1**
WERD				*i* Sg	**Sg**	**13 29 54.0**	**-0.6**
WERD				IAML		13 29 54.1	
	comp=E,559nm,0.3s						
WERD	**Werda**	**0.20**	**335**	*i* Pg	**Pg**	**13 29 51.4**	**-0.1**
WERD				*i* Sg	**Sg**	**13 29 54.0**	**-0.6**
	comp=E,559nm,0.3s						
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	**Pg**	**13 29 51.7**	**0.0**
ZHC				S	**Sg**	**13 29 54.6**	**-0.1**
TRIB	**Obertriebel**	**0.21**	**295**	*i* Pg	**Pg**	**13 29 51.5**	**-0.1**
TRIB				*i* Sg	**Sg**	**13 29 54.4**	**-0.5**
TRIB				IAML		13 29 54.7	
	comp=N,421nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**295**	*i* Pg	**Pg**	**13 29 51.5**	**-0.1**
TRIB				*i* Sg	**Sg**	**13 29 54.4**	**-0.5**
	comp=N,421nm,0.2s						
VIEL	**Selb-Vielitz**	**0.23**	**250**	*i* Pg	**Pg**	**13 29 51.9**	**-0.1**
VIEL				*i* Sg	**Sg**	**13 29 54.9**	**-0.4**
VIEL	**Selb-Vielitz**	**0.23**	**250**	*i* Pg	**Pg**	**13 29 51.9**	**-0.1**
VIEL				*i* Sg	**Sg**	**13 29 54.9**	**-0.4**
LACW	**Lazy**	**0.24**	**151**	*i* Pg	**Pg**	**13 29 52.4**	**+0.1**
LACW				*i* Sg	**Sg**	**13 29 55.8**	**0.0**
LACW	**Lazy**	**0.24**	**151**	*i* Pg	**Pg**	**13 29 52.4**	**+0.1**
LACW				*i* Sg	**Sg**	**13 29 55.8**	**0.0**
LACW	**Lazy**	**0.24**	**151**	⇑P	**Pg**	**13 29 52.4**	**+0.1**
LACW				S	**Sg**	**13 29 55.8**	**0.0**
PLN	**Plauen**	**0.29**	**321**	*i* Pg	**Pg**	**13 29 52.8**	**-0.2**
PLN				*i* Sg	**Sg**	**13 29 56.7**	**-0.3**
PLN				IAML		13 29 57.0	
	comp=E,498nm,0.1s						
PLN	**Plauen**	**0.29**	**321**	*i* Pg	**Pg**	**13 29 52.8**	**-0.2**
PLN				*i* Sg	**Sg**	**13 29 56.7**	**-0.3**
	comp=E,498nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg	**Pg**	**13 29 54.1**	**-0.1**
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	**Pg**	**13 29 55.2**	**-0.2**
SCHF				*i* Sg	**Sg**	**13 30 00.7**	**-0.2**
SCHF				IAML		13 30 00.9	
	comp=E,414nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	**Pg**	**13 29 55.2**	**-0.2**
SCHF				*i* Sg	**Sg**	**13 30 00.7**	**-0.2**
	comp=E,414nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	**Pg**	**13 29 55.8**	**-0.2**
GRZ1				*i* Sg	**Sg**	**13 30 01.5**	**-0.5**
GRZ1				IAML		13 30 02.6	
	comp=E,274nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	**Pg**	**13 29 55.8**	**-0.2**
GRZ1				*i* Sg	**Sg**	**13 30 01.5**	**-0.5**
	comp=E,274nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Pg	**Pg**	**13 29 57.2**	**-0.1**
ROTZ				*e*Sg	**Sg**	**13 30 04.0**	**-0.1**
MOX	**Moxa**	**0.65**	**306**	*e*Pg	**Pg**	**13 29 59.5**	**-0.2**
MOX				*e*Sg	**Sg**	**13 30 08.3**	**0.0**
HSKC	**Hora Svate Kat**	**0.72**	**61**	*e*PG	**Pg**	**13 30 00.8**	**-0.3**
HSKC				*e*SG	**Sg**	**13 30 10.1**	**-0.4**
	comp=E,186nm,0.2s						
FBE	**Freiberg**	**0.88**	**41**	*e*Pg	**Pg**	**13 30 03.9**	**-0.1**
FBE				*e*Sg	**Sg**	**13 30 15.0**	**-0.6**
GRF	**Grafenberg Arr**	**0.97**	**234**	*e*Pg	**Pg**	**13 30 05.5**	**-0.3**
GRF				*e*Sg	**Sg**	**13 30 18.1**	**-0.4**
RICC	**Richard**	**1.10**	**75**	*e*SG	**Sg**	**13 30 22.1**	**-0.4**
	comp=E,132nm,0.3s						
CLL	**Collm**	**1.10**	**19**	*i* Pg	**Pb**	**13 30 07.6**	**-0.5**
CLL				*i* x	x	13 30 09.8	
CLL				*i* x	x	13 30 11.3	
CLL				*i* Sg	**Sg**	**13 30 22.4**	**-0.3**
	comp=Z,69nm,0.4s						
CLL				*i* x	x	13 30 25.8	
CLL	**Collm**	**1.10**	**19**	*e*Pg	**Pb**	**13 30 07.8**	**-0.3**
CLL				*e*Sg	**Sg**	**13 30 22.5**	**-0.2**
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	**Pb**	**13 30 08.5**	**-0.1**
BRG				Sg	**Sb**	**13 30 23.3**	**0.0**
BRG				Amp		13 30 24.0	
	comp=Z,109nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg	**Pb**	**13 30 08.5**	**-0.1**
BRG				*e*Sg	**Sb**	**13 30 22.8**	**-0.5**
WET	**Wettzell**	**1.16**	**166**	*e*Pg	**Pb**	**13 30 08.8**	**-0.2**
WET				*e*Sg	**Sb**	**13 30 24.0**	**+0.1**
PRA	**Prague**	**1.30**	**98**	*e*Pn	**Pn**	**13 30 10.0**	**-1.0**
PRA	**Prague**	**1.30**	**98**	*e*SG	**Sb**	**13 30 27.8**	**-0.1**
	comp=Z,22nm,0.3s						
KHC	**Kasperske Hory**	**1.35**	**146**	*e*PG	**Pn**	**13 30 11.6**	**-0.2**
KHC				*e*SG	**Sb**	**13 30 29.1**	**-0.5**
	comp=Z,42nm,0.3s						
PRU	**Pruhonice**	**1.38**	**101**	*e*SG	**Sb**	**13 30 30.2**	**-0.2**
	comp=Z,37nm,0.2s						
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	**Pn**	**13 30 12.6**	**+0.5**
PRU				*e*Sg	**Sn**	**13 30 31.1**	**+0.8**
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG	**Sn**	**13 30 31.4**	**+0.9**
	comp=Z,120nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	*e*SG	**Sb**	**13 30 36.1**	**+0.8**
	comp=Z,36nm,0.3s						
GEC2	**GERESS Array S**	**1.64**	**149**	*e*Pn	**Pn**	**13 30 15.8**	**0.0**
GEC2				*e*Sg	**Sn**	**13 30 37.8**	**+0.9**
CKRC	**Cesky Krumlov**	**1.89**	**139**	*e*SG	**Sb**	**13 30 45.0**	**0.0**
UPC	**Upice**	**2.30**	**83**	*e*SG	**Sb**	**13 30 58.9**	**+2.1**
DPC	**Dobruska-Polom**	**2.49**	**87**	*e*SG	**Sb**	**13 31 04.5**	**+2.1**
	comp=Z,19nm,0.4s						
MOA	**Molln**	**2.70**	**153**	Sg	**Sb**	**13 31 10.7**	**+2.4**
	comp=Z,5.9nm,0.2s						
KRUC	**Moravsky**	**2.84**	**114**	*e*PN	**Pn**	**13 30 32.3**	**+0.1**
KRUC				*e*SG	**Sb**	**13 31 14.2**	**+1.9**
LESA	**Schwarzleotal**	**2.85**	**177**	*e*Pg	**Pg**	**13 30 40.4**	**-1.2**
	comp=Z,3.2nm,0.2s						
LESA				*e*Sg	**Sg**	**13 31 20.1**	**+1.7**
	comp=Z,11nm,0.3s						
VRAC	**Vranov**	**2.86**	**108**	*e*PN	**Pn**	**13 30 32.5**	**+0.1**
VRAC				*e*SG	**Sb**	**13 31 14.3**	**+1.5**
WATA	**Walderalm**	**2.99**	**191**	*e*Pg	**Pg**	**13 30 43.1**	**-1.2**
	comp=Z,1.0nm,0.1s						
WATA				*e*Sn	**Sn**	**13 31 10.4**	**+0.3**
	comp=Z,6.4nm,0.2s						
WATA				*i* Sg	**Sg**	**13 31 24.0**	**+1.0**
	comp=Z,11nm,0.2s						
RETA	**Reutte**	**2.99**	**202**	*e*Pg	**Pb**	**13 30 42.5**	**+2.2**
	comp=Z,3.0nm,0.3s						
RETA				*e*Sg	**Sg**	**13 31 24.5**	**+1.4**
	comp=Z,2.8nm,0.3s						
WTTA	**Wattenberg**	**3.05**	**190**	*e*Sg	**Sg**	**13 31 26.0**	**+1.0**
	comp=Z,12nm,0.4s						
MOTA	**Moosalm**	**3.05**	**197**	*e*Pg	**Pg**	**13 30 44.7**	**-0.8**
	comp=Z,1.3nm,0.2s						
MOTA				*i* Sn	**Sn**	**13 31 12.0**	**+0.2**
	comp=Z,1.2nm,0.1s						
MOTA				*e*Sg	**Sg**	**13 31 25.7**	**+0.7**
	comp=Z,3.4nm,0.3s						
CONA	**Conrad Observa**	**3.24**	**135**	*i* Pn	**Pn**	**13 30 37.3**	**-0.5**
	comp=Z,0.3nm,0.1s						
CONA				*i* Pg	**Pg**	**13 30 47.3**	**-1.9**
	comp=Z,0.9nm,0.2s						
CONA				*i* Sn	**Sn**	**13 31 16.7**	**+0.4**
	comp=Z,1.3nm,0.2s						
CONA				*e*Sg	**Sg**	**13 31 29.9**	**-1.3**
	comp=Z,13nm,0.4s						
KBA	**Koelnbreinsper**	**3.24**	**169**	*e*Sg	**Sg**	**13 31 30.1**	**-1.1**
	comp=Z,1.6nm,0.2s						
MORC	**Moravsky Berou**	**3.33**	**96**	*e*SG	**Sb**	**13 31 30.4**	**+4.0**
ABTA	**Abfaltersbach**	**3.52**	**179**	*e*Sg	**Sg**	**13 31 39.4**	**-0.6**
	comp=Z,3.7nm,0.3s						
RONA	**Rosalia, Austr**	**3.61**	**134**	*e*Sg	**Sg**	**13 31 40.8**	**-2.1**
	comp=Z,2.6nm,0.2s						
ARSA	**Arzberg**	**3.64**	**145**	*e*Sg	**Sg**	**13 31 41.4**	**-2.5**
	comp=Z,4.3nm,0.4s						
MODS	**Modra-Piesok**	**3.69**	**119**	*e*SG	**Sg**	**13 31 43.3**	**-2.1**
ZST	**Bratislava**	**3.69**	**122**	*e*SG	**Sg**	**13 31 42.2**	**-3.3**
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pn	**Pn**	**13 30 45.4**	**-0.8**
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pg	**Pg**	**13 30 58.3**	**-2.5**
CDF				*e*Sg	**Sg**	**13 31 47.7**	**-3.0**
	comp=Z,8.3nm,0.4s						
HINF	**Hinteralfeld**	**4.42**	**238**	*e*Pn	**Pn**	**13 30 55.5**	**+1.6**
HINF	**Hinteralfeld**	**4.42**	**238**	*e*Pg	**Pg**	**13 31 09.8**	**-1.8**
HINF				*e*Sg	**Sg**	**13 32 04.9**	**-3.9**
	comp=Z,8.0nm,0.3s						
HAU	**Haudompre**	**4.59**	**243**	*e*Pn	**Pn**	**13 30 57.7**	**+1.4**
HAU	**Haudompre**	**4.59**	**243**	*e*Pg	**Pg**	**13 31 13.6**	**-1.4**
HAU				*

h-1km±6km, ML3.1/34, ML2.5/40(NEIC), Error ellipse: s-maj=1.7km s-min=1.2km az=205.0

NEIC 11 13:34:45.4±1.2, 19°.379N±0°.010×155°.272W±0°.009, h2km±3km, Error ellipse: s-maj=1.8km s-min=0.8km az=215.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RIM	**Rim** comp=N,7μm,0.8s	**0.02**	**354**			IAML		13 34 45.6	
RIM							Pg	13 34 45.8	-0.2
KKO	**Keanakako`i** comp=N,7μm,1.0s	**0.02**	**17**			IAML		13 34 45.6	
KKO							Pg	13 34 45.8	-0.2
SDHHI	**Sand Hill**	**0.02**	**298**				Pg	13 34 46.1	+0.1
SDHHI	comp=E,6μm,0.4s					IAML		13 34 46.5	
NPH	**North Pit**	**0.03**	**346**				Pg	13 34 46.4	+0.2
NPH	comp=N,5μm,0.6s					IAML		13 34 47.1	
BYL	**Byron's Ledge** comp=E,4μm,0.9s	**0.04**	**19**			IAML		13 34 46.0	
BYL							Pg	13 34 46.3	+0.2
BYL	comp=N,5μm,1.3s					IAML		13 34 46.9	
WRMHI	**West Rim**	**0.04**	**317**				Pg	13 34 46.8	+0.6
WRMHI	comp=N,7μm,1.0s					IAML		13 34 46.9	
OBL	**Observatory Le**	**0.04**	**344**	Pg			Pg	13 34 46.3	0.0
HATHI	**Halema'uma'u T**	**0.04**	**13**				Pg	13 34 46.3	0.0
UWB	**Uwekahuna B**	**0.05**	**353**	Pg			Pg	13 34 45.9	-0.4
UWB	comp=N,4μm,0.8s					IAML		13 34 47.7	
UWE	**Uwekahuna**	**0.05**	**335**	Pg			Pg	13 34 46.1	-0.2
UWE	comp=N,6μm,0.6s					IAML		13 34 47.2	
SBLHI	**Steaming Bluff**	**0.05**	**5**	Pg			Pg	13 34 46.2	-0.2
SBLHI	comp=E,6μm,0.5s					IAML		13 34 48.0	
PUH	**Pauahi**	**0.05**	**95**				Pg	13 34 46.5	0.0
RSD	**Rainshed**	**0.08**	**356**				Pg	13 34 46.8	-0.3
RSD	comp=E,2μm,0.8s					IAML		13 34 48.3	
HLP	**Hilina Pali**	**0.09**	**202**				Pg	13 34 47.0	-0.1
HLP	comp=E,4μm,0.5s					IAML		13 34 48.5	
KNHH	**Kane Nui o Ham**	**0.10**	**89**				Pg	13 34 47.3	0.0
STCH	**Steam Cracks**	**0.14**	**87**				Pg	13 34 47.3	-0.8
STCH	comp=E,2μm,0.8s					IAML		13 34 51.1	
STCH	comp=N,2μm,0.9s					IAML		13 34 51.4	
NPOC	**North of Pu'u**	**0.15**	**85**				Pg	13 34 47.6	-0.8
NPOC	comp=E,2μm,0.7s					IAML		13 34 51.7	
NPOC	comp=N,2μm,1.1s					IAML		13 34 52.5	
MLH	**Mauna Loa**	**0.16**	**317**				Pg	13 34 48.9	+0.4
MLH	comp=N,1μm,0.5s					IAML		13 34 53.6	
JCUZ	**Jacuzzi**	**0.16**	**88**				Pg	13 34 48.3	-0.2
JCUZ	comp=E,1μm,0.5s					IAML		13 34 52.2	
JOKA	**Jonika Flow**	**0.26**	**78**				Pb	13 34 52.3	-0.5
HMH	**Humu'ula Sheep**	**0.30**	**318**				Pg	13 34 50.1	-1.1
HMH	comp=E,482nm,0.7s					IAML		13 34 59.9	
HMH	comp=N,800nm,0.7s					IAML		13 35 00.7	
MWH	**Moku'aweowe**	**0.32**	**289**				Pg	13 34 50.5	-1.2
MLOA	**Mauna Loa Obse**	**0.33**	**299**	Pg			Pg	13 34 50.4	-1.3
KHU	**Kahuku**	**0.35**	**248**				Pg	13 34 51.2	-0.9
ALEP	**Alea Permanent**	**0.39**	**295**				Pg	13 34 52.7	-0.1
POHA	**Pohakuloa**	**0.45**	**327**				Pg	13 34 53.5	-0.6
POHA	**Pohakuloa**	**0.45**	**327**				Pb	13 34 54.2	-2.0
HUH	**Hualalai**	**0.61**	**300**				Pg	13 34 56.7	-0.4
CPH	**Captain Cook**	**0.62**	**280**				Pg	13 34 56.3	-0.9
HPAH	**Hawaii Prepara**	**0.76**	**328**				Pg	13 34 58.8	-1.2

IDC 11 14:08:35.7±1.8, 36°.42N×68°.95E, h0km, mb3.5/3, mbtmp3.7/9, ML3.3/6, MS3.1/2, Error ellipse: s-maj=31.0km s-min=22.4km az=134.0

NNC 11 14:08:41.5±1.4, 36°.65N×68°.44E, h114km±37km, mb3.3, mpv3.8, Error ellipse: s-maj=12.1km s-min=10.6km az=144.0

ISC 11 14:08:38.6±1.4, 36°.6N±0°.1×68°.50E±0°.09, h24km, n19, σ1§63/22, 3C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.7nm,0.3s,baz=199,slow=14,SNR=12	**6.72**	**13**	⇓P			**Pn**	**14 10 16.9**	**+1.1**
KK31	2.1nm,0.5s			⇑S			**Sn**	**14 11 31.1**	**-0.5**
UCH	**Uchtor** SNR=37	**7.33**	**38**	P			**Pn**	**14 10 25.3**	**+0.7**
AAK	**Ala-Archa** SNR=12	**7.63**	**35**	P			**Pn**	**14 10 29.8**	**+1.3**
AAK	**Ala-Archa** 7.7nm,0.5s	**7.63**	**35**	⇓P			**Pn**	**14 10 29.3**	**+0.7**
AAK	5.1nm,0.7s			⇑S			**Sn**	**14 11 54.5**	**+0.2**
AAK	**Ala-Archa** 2.3nm,0.3s,baz=213,slow=9.8,SNR=20	**7.63**	**35**	Pn			**Pn**	**14 10 29.2**	**+0.7**
AAK	baz=176,slow=21 9.3nm,0.5s			Sn			**Sn**	**14 11 54.7**	**+0.4**
KBK	**Karagaybulak** SNR=18	**7.87**	**37**	P			**Pn**	**14 10 33.4**	**+1.7**
CHMS	**Chumysh** SNR=6.4	**8.03**	**35**	P			**Pn**	**14 10 35.7**	**+1.8**
TKM2	**Tokmak 2** SNR=9.1	**8.38**	**39**	P			**Pn**	**14 10 40.0**	**+1.2**
TKM2	**Tokmak 2** 3.5nm,0.5s	**8.38**	**39**	⇑P			**Pn**	**14 10 39.4**	**+0.6**
TKM2	5.7nm,0.8s			⇓S			**Sn**	**14 12 13.0**	**+0.2**
GEYT	**Alibeck** 0.4nm,0.3s,baz=108,slow=18,SNR=2.8	**8.39**	**282**	Pn			Pn	14 10 44.5	+5.7
GEYT	0.6nm,0.3s,baz=128,slow=19,SNR=2.0			Sn			**Sn**	**14 12 13.6**	**+0.8**
GEYT	comp=Z,85nm,20.5s,baz=142,slow=46 1.4nm,0.6s			LR			LR	14 15 18.8	
AB31	**Akbulak array** 1.5nm,0.8s,baz=151,slow=13,SNR=14	**14.14**	**336**	P			**Pn**	**14 11 55.2**	**-2.1**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=232,slow=12,SNR=18 1.6nm,0.7s	**14.50**	**41**	Pn			**Pn**	**14 12 00.3**	**-1.9**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=146,slow=7.3,SNR=1.7 1.2nm,0.5s	**15.79**	**335**	Pn			**Pn**	**14 12 19.5**	**+0.1**
KURBB	**Kurchatov Arra** baz=212,slow=12,SNR=3.7 0.4nm,0.3s	**15.80**	**24**	Pn			**Pn**	**14 12 14.9**	**-4.5**
BVAR	**Borovoye Array** 0.1nm,0.3s,baz=170,slow=10,SNR=2.2 0.9nm,0.5s	**16.52**	**4**	Pn			**Pn**	**14 12 26.9**	**-1.7**
ZALV	**Zalesovo Beam** 1.3nm,0.4s,baz=219,slow=9.3,SNR=6.0 1.3nm,0.4s	**20.75**	**28**	P			**P**	**14 13 16.6**	**-0.8**
SONM	**Songino Array** comp=Z,65nm,20.2s,baz=256,slow=39	**29.97**	**56**	LR			LR	14 28 08.1	
YKA	**Yellowknife Ar** 0.4nm,0.7s,baz=351,slow=6.0,SNR=7.5 0.4nm,0.7s	**81.26**	**1**	P			**P**	**14 20 54.1**	**+1.8**
ASAR	**Alice Springs** 0.1nm,0.6s,baz=316,slow=5.2,SNR=1.3 0.1nm,0.6s	**85.96**	**123**	P			**P**	**14 21 16.0**	**-1.0**

NEIC 11 14:13:43.1±0.9, 36°.22N±0°.01×98°.634W±0°.009, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=238.0

TUL 11 14:13:43.8±1.0, 36°.23N±0°.01×98°.65W±0°.02, h7km±4km, ML2.5, mb_Lg2.3/7(NEIC), ML2.1/14(NEIC), Error ellipse: s-maj=2.0km s-min=1.6km az=219.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OK038	**West end E0370**	**0.26**	**343**				Pg	14 13 49.5	+0.5
OK038					Sg		Sg	14 13 53.4	+0.9
OK038	274nm,0.2s					IAML		14 13 55.1	
OK038	270nm,0.2s					IAML		14 13 57.3	
OK035	**E0210 Rd and N**	**0.48**	**354**		Pg		Pg	14 13 53.0	-0.1
OK035	117nm,0.2s					IAML		14 14 05.3	
OK035	135nm,0.2s					IAML		14 14 07.6	
CSTR	**Hydro, Custer**	**0.58**	**183**		Pg		Pg	14 13 54.5	-0.5
CROK	**Carrier**	**0.60**	**62**		Pg		Pg	14 13 54.9	-0.5
CROK	comp=E,125nm,0.3s					IAML		14 14 06.7	
ELIS	**Ellis County**	**0.65**	**256**		Pg		Pg	14 13 55.7	-0.5
ELIS	comp=N,107nm,0.1s					IAML		14 14 14.7	
ELIS	comp=E,86nm,0.3s					IAML		14 14 15.1	
OK032	**Salt Plains WL**	**0.67**	**31**		Pg		Pg	14 13 56.3	-0.5
GC02	**Grant County #**	**0.89**	**45**				Pg	14 14 01.0	+0.1
OK029	**Liberty Lake**	**1.06**	**114**		Pg		Pg	14 14 02.3	-1.8
KAN08	**Anthony NE Sta**	**1.14**	**28**				Pg	14 14 04.2	-1.4
KAN08	comp=Z,39nm,1.1s					IAmb_Lg		14 14 20.4	
OK048	**Pawnee Station**	**1.39**	**82**				Pn	14 14 09.1	-0.5
OK033	**Mehan**	**1.39**	**97**				Pn	14 14 08.5	-1.2
OK051	**E0350 and S346**	**1.49**	**79**				Pn	14 14 11.1	+0.1
WMOK	**Wichita Mounta**	**1.49**	**184**				Pn	14 14 10.7	-0.3
OK052	**Battle Ridge R**	**1.51**	**98**				Pn	14 14 11.2	-0.1
QUOK	**Quay**	**1.57**	**91**				Pn	14 14 11.8	-0.3
SMWD	**Samnorwood**	**1.72**	**230**	Pn			Pn	14 14 13.8	-0.4
DEOK	**Depew**	**1.78**	**102**	Pn			Pn	14 14 14.1	-1.0
DEOK	comp=Z,9.7nm,1.0s					IAmb_Lg		14 14 42.9	
W35A	**Tecumseh**	**1.80**	**126**				Pn	14 14 15.5	+0.3
T35A	**Sooner Cattle**	**1.85**	**68**	Pn			Pn	14 14 16.1	+0.1
SN07	**Snyder 07** comp=Z,6.2nm,0.8s	**3.63**	**211**			IAmb_Lg		14 15 43.7	
237A	**Washetta, Mont** comp=Z,23nm,0.8s	**4.83**	**150**			IAmb_Lg		14 16 29.6	

IDC 11 14:14:27.1±1.9, 39°.73N×75°.79E, h0km, mb3.8/4, mbtmp3.8/10, ML3.3/5, MS3.3/8, Error ellipse: s-maj=26.0km s-min=22.6km az=120.0

SOME 11 14:14:29.6, 40°.10N×75°.80E, h15km

KRNET 11 14:14:31.4±0.1, 40°.03N×75°.78E, mb4.1

NNC 11 14:14:33.2±1.2, 40°.18N×75°.86E, h0km, mb4.3, mpv3.9, Error ellipse: s-maj=9.6km s-min=6.6km az=161.0

ISC 11 14:14:32.0±1.2, 40°.10N±0°.03×75°.53E±0°.02, h13km±7km, n103, σ2§11/153, mb3.9/6, MS3.7/4, 35C-26D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.68**	**150**		P		**Pn**	**14 14 48.1**	**+0.6**
KSH					S		**Sn**	**14 15 01.3**	**+3.3**
KSH	comp=Z,1μm,0.6s				pmax	pmax			
KSH	comp=N,4μm,0.6s				smax	smax			
KSH	comp=E,3μm,0.4s				smax	smax			
NRN	**Naryn** baz=6.0	**1.38**	**15**	⇑*e*P			**Pn**	**14 14 57.1**	**-0.1**
NRN	baz=6.0			⇑*e*S			**Sb**	**14 15 16.7**	**+1.3**
SFK	**Sufi-Kurgan** baz=70	**1.56**	**267**	⇓*i*P			**Pg**	**14 15 04.0**	**+2.0**
SFK	baz=70			⇓*i*S			**Sg**	**14 15 27.8**	**+5.6**
ARLS	**Aral** baz=29	**1.98**	**333**	⇑*i*P			**Pg**	**14 15 09.7**	**-0.3**
ARLS	baz=29			⇑*i*S			**Sg**	**14 15 37.7**	**+2.0**
OHH	**Osh** baz=83	**2.14**	**282**	⇓*i*P			**Pg**	**14 15 12.5**	**-0.6**
OHH	baz=83			⇓*i*S			**Sg**	**14 15 42.6**	**+1.8**
ULHL	**Ulahol** SNR=112	**2.21**	**14**	P			**Pb**	**14 15 11.8**	**-0.1**
ULHL	**Ulahol** baz=9.0	**2.21**	**14**	⇓*i*P			**Pb**	**14 15 11.1**	**-0.8**
ULHL	baz=9.0			⇓*i*S			**Sb**	**14 15 39.9**	**+0.7**
UCH	**Uchtor** SNR=318	**2.26**	**340**	P			**Pg**	**14 15 14.4**	**-1.0**
UCH	**Uchtor** baz=37	**2.26**	**340**	⇓*i*P			**Pb**	**14 15 13.7**	**+0.8**
UCH	baz=37			⇓*i*S			**Sg**	**14 15 44.4**	**-0.2**
ARSB	**Arslanbob** baz=2.0	**2.29**	**303**	⇑*i*P			**Pg**	**14 15 14.7**	**-1.2**
ARSB	baz=2.0			⇑*i*S			**Sg**	**14 15 46.1**	**+0.5**
KDJ	**Kajisay** baz=27	**2.38**	**31**	⇓*e*P			**Pb**	**14 15 13.1**	**-1.7**
KDJ	baz=27			⇓*e*S			**Sb**	**14 15 43.7**	**-0.4**
BOOM	**Boomskoye usch** baz=3.0	**2.40**	**7**	⇑*i*P			**Pb**	**14 15 14.1**	**-1.2**
BOOM	baz=3.0			⇑*i*S			**Sb**	**14 15 45.5**	**+0.6**
KBK	**Karagaybulak** SNR=12	**2.59**	**350**	P			**Pb**	**14 15 19.9**	**+1.5**
KBK	**Karagaybulak** baz=47	**2.59**	**350**	⇓*i*P			**Pb**	**14 15 17.6**	**-0.8**
KBK	baz=47			⇓*i*S			**Sb**	**14 15 51.2**	**+1.0**
AAK	**Ala-Archa** SNR=27	**2.65**	**343**	P			**Pb**	**14 15 19.9**	**+0.4**
AAK	**Ala-Archa** comp=E,108nm,0.6s	**2.65**	**343**	⇑Pn			**Pb**	**14 15 19.5**	**+0.1**
AAK	comp=E,1μm,0.9s			⇓Lg			Lg	14 15 56.5	
AAK	**Ala-Archa** comp=E,18nm,0.3s,baz=165,slow=15,SNR=90	**2.65**	**343**	Pn			**Pb**	**14 15 19.7**	**+0.3**
AAK	comp=E,52nm,0.3s,baz=286,slow=19,SNR=25 comp=E,53nm,0.3s			Sn			**Sg**	**14 15 57.4**	**+0.3**
AAK	**Ala-Archa** baz=40	**2.65**	**343**	⇓*i*P			**Pb**	**14 15 18.7**	**-0.7**
AAK	baz=40			⇓*i*S			**Sb**	**14 15 53.4**	**+1.5**
FRU1	**Bishkek** baz=43	**2.79**	**346**	⇑*i*P			**Pb**	**14 15 20.7**	**-1.0**
FRU1	baz=43			⇑*i*S			**Sb**	**14 15 56.8**	**+1.0**
TKM2	**Tokmak 2** SNR=54	**2.81**	**1**	P			**Pb**	**14 15 21.3**	**-1.0**
TKM2	**Tokmak 2** comp=E,110nm,0.7s	**2.81**	**1**	⇓Pn			**Pb**	**14 15 21.1**	**-1.2**
TKM2	comp=E,304nm,0.8s			⇓Lg			Lg	14 16 00.7	
TKM2	**Tokmak 2** baz=57	**2.81**	**1**	⇑*i*P			**Pb**	**14 15 20.2**	**-2.1**
TKM2	baz=57			⇑*i*S			**Sb**	**14 15 55.7**	**-1.0**
EKS2	**Erkin-Say** SNR=13	**2.88**	**333**	P			**Pb**	**14 15 23.7**	**+0.4**
EKS2	**Erkin-Say** baz=31	**2.88**	**333**	⇑*e*P			**Pb**	**14 15 22.1**	**-1.2**
EKS2	baz=31			⇑*i*S			**Sb**	**14 15 59.1**	**+0.7**
DRK	**Karamyk** baz=61	**2.94**	**259**	⇑*i*P			**Pb**	**14 15 23.1**	**-1.4**
DRK	baz=61			⇑*i*S			**Sb**	**14 16 01.0**	**+0.6**
CHMS	**Chumysh** SNR=19	**2.95**	**349**	P			**Pb**	**14 15 23.6**	**-0.9**
CHMS	**Chumysh** baz=46	**2.95**	**349**	⇑*i*P			**Pb**	**14 15 22.5**	**-2.0**
CHMS	baz=46			⇑*i*S			**Sb**	**14 15 59.8**	**-0.7**
KST	**Kastek** comp=E,100nm,0.5s	**2.96**	**6**	Pg			**Pb**	**14 15 23.3**	**-1.4**
KST	comp=E,194nm,0.7s			Lg			Lg	14 16 04.1	
KST	**Kastek** comp=E,101nm,0.6s	**2.96**	**6**	*e*P			**Pb**	**14 15 23.2**	**-1.4**
KST	comp=E,216nm,0.7s			*e*S			**Sg**	**14 16 02.5**	**+1.9**
IZV	**Izvestkoviy** comp=E,49nm,0.9s	**3.04**	**15**	Pg			**Pb**	**14 15 26.9**	**+0.8**
IZV	comp=E,182nm,0.6s			Lg			Lg	14 16 09.0	
IZV	**Izvestkoviy** comp=E,48nm,0.8s	**3.04**	**15**	*e*P			**Pb**	**14 15 27.2**	**+1.1**
IZV	comp=E,182nm,0.5s			*e*S			**Sg**	**14 16 08.9**	**-0.8**
MTBS	**Maitube** comp=E,21nm,0.2s	**3.10**	**12**	Pg			**Pb**	**14 15 27.4**	**+0.4**
MTBS	comp=E,126nm,0.4s			Lg			Lg	14 16 10.1	
MTBS	**Maitube** comp=E,21nm,0.2s	**3.10**	**12**	*e*P			**Pb**	**14 15 28.4**	**+1.3**
MTBS	comp=E,126nm,0.4s			*e*S			**Sg**	**14 16 10.8**	**-0.8**
TNSS	**Tian-Shan** comp=E,48nm,0.5s	**3.12**	**19**	Pg			**Pb**	**14 15 24.2**	**-3.4**
TNSS	comp=E,35nm,0.9s			Lg			Lg	14 16 06.1	
TNSS	**Tian-Shan** comp=E,54nm,0.7s	**3.12**	**19**	*e*P			**Pb**	**14 15 24.9**	**-2.7**
TNSS	comp=E,34nm,0.8s			*e*S			**Sb**	**14 16 05.2**	**-0.4**
ANVS	**Anan'yevo** baz=27	**3.12**	**30**	⇑*e*P			**Pn**	**14 15 22.9**	**+1.8**
ANVS	baz=27			⇑*e*S			**Sn**	**14 16 00.6**	**+2.2**
DGS	**Degeres** comp=E,50nm,0.5s	**3.14**	**3**	Pg			**Pb**	**14 15 28.6**	**+0.8**
DGS	comp=E,112nm,0.5s			Lg			Lg	14 16 13.0	
DGS	**Degeres** comp=E,61nm,0.6s	**3.14**	**3**	*e*P			**Pb**	**14 15 29.4**	**+1.7**
DGS	comp=E,112nm,0.5s			*e*S			**Sg**	**14 16 13.2**	**+0.2**
MRKS	**Merke** comp=E,17nm,0.4s	**3.16**	**327**	Pg			**Pg**	**14 15 30.4**	**-2.1**
MRKS	comp=E,212nm,0.6s			Lg			Lg	14 16 15.3	
MRKS	**Merke** comp=E,107nm,0.9s	**3.16**	**327**	*e*P			**Pg**	**14 15 31.3**	**-1.2**
MRKS	comp=E,212nm,0.6s			*e*S			**Sg**	**14 16 16.3**	**+2.9**
ARK	**Arkit** baz=3.0	**3.19**	**303**	⇑*i*P			**Pb**	**14 15 27.2**	**-1.4**
ARK	baz=3.0			⇑*i*S			**Sb**	**14 16 07.8**	**+0.5**
PRZ	**Przheval'sk** baz=38	**3.21**	**41**	⇑*e*P			**Pn**	**14 15 24.1**	**+1.7**
PRZ	baz=38			⇑*e*S			**Sn**	**14 16 02.9**	**+2.3**
USP	**Ospenovka** SNR=22	**3.25**	**347**	P			**Pb**	**14 15 28.0**	**-1.7**
USP	**Ospenovka** baz=44	**3.25**	**347**	⇓*i*P			**Pb**	**14 15 26.9**	**-2.7**
USP	baz=44			⇓*i*S			**Sb**	**14 16 07.4**	**-1.8**
MDOK	**Medeo** comp=E,94nm,1.1s	**3.26**	**20**	⇑Pn			**Pn**	**14 15 25.5**	**+2.5**
MDOK	comp=E,12nm,0.6s			Pg			**Pb**	**14 15 29.3**	**-0.6**
MDOK	comp=E,471nm,1.3s			⇓Lg			Lg	14 16 13.0	
MDOK	comp=E,216nm,0.9s			Lg			Lg	14 16 13.4	
MDOK	**Medeo** comp=E,12nm,0.6s	**3.26**	**20**	*e*P			**Pb**	**14 15 29.5**	**-0.3**
MDOK	comp=E,216nm,0.9s			*e*S			**Sb**	**14 16 13.3**	**+3.8**
AAA	**Alma-Ata** comp=E,41nm,0.3s	**3.27**	**18**	*e*P			**Pb**	**14 15 31.0**	**+1.0**
AAA	comp=E,266nm,1.2s			*e*S			**Sg**	**14 16 15.6**	**-1.5**
KNDC	**Almaty** comp=E,145nm,0.8s	**3.29**	**19**	⇑Pn			**Pb**	**14 15 26.9**	**-3.4**
KNDC	comp=E,284nm,0.5s			⇑Lg			Lg	14 16 15.7	
MNAS	**Manas** baz=16	**3.29**	**317**	⇑*i*P			**Pb**	**14 15 28.6**	**-1.8**
MNAS	baz=16			⇑*i*S			**Sb**	**14 16 10.2**	**-0.3**
KOTS	**Kotyrbulak** comp=E,15nm,0.6s	**3.34**	**20**	Pg			**Pb**	**14 15 30.7**	**-0.6**
KOTS	comp=E,205nm,0.9s			Lg			Lg	14 16 15.8	
KOTS	**Kotyrbulak** comp=E,11nm,0.3s	**3.34**	**20**	*e*P			**Pb**	**14 15 31.6**	**+0.3**
KOTS	comp=E,182nm,0.4s			*e*S			**Sg**	**14 16 16.7**	**-2.7**
SGDS	**Sogindy** comp=E,9.5nm,0.5s	**3.41**	**349**	Pg			**Pb**	**14 15 34.7**	**+2.3**
SGDS	comp=E,71nm,0.4s			Lg			Lg	14 16 22.4	
KRBS	**Karabastau** comp=E,25nm,0.4s	**3.59**	**2**	Pg			**Pb**	**14 15 37.0**	**+1.6**
KRBS	comp=E,110nm,0.7s			Lg			Lg	14 16 26.7	
KRBS	**Karabastau** comp=E,25nm,0.4s	**3.59**	**2**	*e*P			**Pb**	**14 15 37.6**	**+2.2**
KRBS	comp=E,110nm,0.7s			*e*S			**Sg**	**14 16 26.7**	**-0.6**
BTK	**Batken** baz=72	**3.61**	**271**	⇓*i*P			**Pb**	**14 15 32.9**	**-2.9**
BTK	baz=72			⇓*i*S			**Sb**	**14 16 17.8**	**-1.8**
TRKS	**Terek-Say** baz=94	**3.62**	**295**	⇓*e*P			**Pb**	**14 15 32.3**	**-3.7**
TRKS	baz=94			⇓*e*S			**Sb**	**14 16 16.9**	**-3.0**
SATY	**Saty** comp=E,24nm,0.8s	**3.66**	**35**	Pg			**Pb**	**14 15 36.0**	**-0.6**
SATY	comp=E,168nm,0.8s			Lg			Lg	14 16 24.1	
SATY	**Saty** comp=E,24nm,0.8s	**3.66**	**35**	*e*P			**Pb**	**14 15 35.7**	**-0.9**
SATY	comp=E,168nm,0.8s			*e*S			**Sb**	**14 16 24.2**	**+3.4**
KTBS	**Karatobe** comp=E,60nm,0.5s	**3.71**	**13**	Pg			**Pb**	**14 15 38.3**	**+0.9**
KTBS	comp=E,269nm,0.5s			Lg			Lg	14 16 28.8	
KTBS	**Karatobe** comp=E,60nm,0.5s	**3.71**	**13**	*e*P			**Pb**	**14 15 39.0**	**+1.6**
KTBS	comp=E,269nm,0.5s			*e*S			**Sg**	**14 16 29.1**	**-2.0**
ZHN	**Zhinishke** comp=E,13nm,0.1s	**3.76**	**34**	Pg			**Pb**	**14 15 37.7**	**-0.6**
ZHN	comp=E,55nm,0.3s			Lg			Lg	14 16 27.6	
ZHN	**Zhinishke** comp=E,13nm,0.1s	**3.76**	**34**	*e*P			**Pb**	**14 15 37.7**	**-0.6**
ZHN	comp=E,55nm,0.3s			*e*S			**Sb**	**14 16 26.9**	**+3.2**
CHKK	**Chushkaly** comp=E,20nm,0.7s	**3.90**	**16**	Pg			**Pb**	**14 15 41.3**	**+0.6**
CHKK	comp=E,116nm,0.5s			Lg			Lg	14 16 34.1	
CHKK	**Chushkaly** comp=E,20nm,0.7s	**3.90**	**16**	*e*P			**Pb**	**14 15 41.7**	**+1.1**
CHKK	comp=E,116nm,0.5s			*e*S			**Sg**	**14 16 34.3**	**-3.0**
KURS	**Kuram** comp=E,5.9nm,0.4s	**3.92**	**29**	Pg			**Pb**	**14 15 39.0**	**-1.9**
KURS	comp=E,80nm,0.8s			Lg			Lg	14 16 30.1	
KURS	**Kuram** comp=E,5.9nm,0.4s	**3.92**	**29**	*e*P			**Pb**	**14 15 39.5**	**-1.4**
KURS	comp=E,80nm,0.8s			*e*S			**Sb**	**14 16 30.5**	**+2.2**
UZB	**Uzynbulak** comp=E,7.4nm,0.6s	**4.01**	**40**	Pg			**Pb**	**14 15 41.7**	**-1.0**
UZB	comp=E,38nm,0.7s			Lg			Lg	14 16 34.5	
UZB	**Uzynbulak** comp=E,7.4nm,0.6s	**4.01**	**40**	*e*P			**Pb**	**14 15 41.6**	**-1.0**
UZB	comp=E,38nm,0.7s			*e*S			**Sb**	**14 16 33.8**	**+2.7**
SHLS	**Shalkode** comp=E,11nm,0.4s	**4.24**	**43**	Pg			**Pg**	**14 15 50.1**	**-3.2**
SHLS	comp=E,80nm,0.5s			Lg			Lg	14 16 48.9	
SHLS	**Shalkode** comp=E,8.9nm,0.6s	**4.24**	**43**	*e*P			**Pg**	**14 15 51.0**	**-2.3**
SHLS	comp=E,80nm,0.5s			*e*S			**Sg**	**14 16 49.8**	**+1.6**
PDGK	**Podgornoye** comp=E,5.9nm,0.7s	**4.38**	**41**	Pg			**Pb**	**14 15 47.2**	**-1.7**
PDGK	comp=E,32nm,0.6s			Lg			Lg	14 16 44.5	
PDGK	**Podgornoye** comp=E,48nm,1.2s	**4.38**	**41**	⇑Pn			**Pn**	**14 15 38.4**	**0.0**
PDGK	comp=E,117nm,1.0s			⇑Lg			Lg	14 16 44.8	
ARXS	**Arharly** comp=E,6.9nm,0.4s	**4.45**	**22**	*e*P			**Pb**	**14 15 50.3**	**+0.3**

ARXS					*e*S		**Sb**	**14 16 49.3**	**+5.7**
	comp=E,48nm,0.5s									
IUG	**luzhnay**	**4.63**	**298**		Pg		**Pg**	**14 16 00.3**	**-0.4**
	comp=E,28nm,0.3s									
IUG					Lg		Lg	14 17 06.8		
	comp=E,136nm,0.8s									
IUG	**luzhnay**	**4.63**	**298**		*e*P		**Pg**	**14 16 00.7**	**0.0**
	comp=E,28nm,0.3s									
IUG					*e*S		**Sg**	**14 17 06.9**	**+6.4**
	comp=E,136nm,0.8s									
KK31	**Karatay Array**	**4.81**	**310**		Pn		Pn	14 15 48.9	+4.8	
	comp=E,3.7nm,0.6s,baz=128,slow=12,SNR=13									
KK31					⇑Pg		**Pg**	**14 16 01.8**	**-2.3**	
	comp=E,16nm,0.7s,baz=125,slow=14,SNR=26									
KK31					⇓Lg		Lg	14 17 08.8		
	comp=E,60nm,0.7s,baz=130,slow=27,SNR=8.2									
KKAR	**Karatay Array**	**4.81**	**310**	⇑	*i*P		Pn	14 15 49.1	+5.0	
	baz=10.0									
KKAR				⇑	*i*S		**Sn**	**14 16 46.5**	**+6.8**	
	baz=10.0									
KTMS	**Ketmen**	**4.92**	**46**		Pg		**Pb**	**14 15 57.7**	**-0.3**	
	comp=E,1.5nm,0.3s									
KTMS					Lg		Lg	14 17 02.2		
	comp=E,11nm,0.3s									
KTMS	**Ketmen**	**4.92**	**46**		*e*P		**Pb**	**14 15 58.0**	**0.0**	
	comp=E,1.5nm,0.3s									
KTMS					*e*S		**Sb**	**14 17 02.1**	**+5.0**	
	comp=E,11nm,0.3s									
KNOS	**Konyrlen**	**5.04**	**31**		Pg		**Pb**	**14 15 59.5**	**-0.7**	
	comp=E,10nm,0.6s									
KNOS					Lg		Lg	14 17 06.2		
	comp=E,19nm,0.8s									
BTLS	**Baital**	**5.05**	**348**		Pg		**Pb**	**14 16 02.7**	**+2.4**	
	comp=E,12nm,0.7s									
BTLS					Lg		Lg	14 17 11.7		
	comp=E,95nm,0.9s									
BRLS	**Borolday**	**5.17**	**306**		Pg		**Pg**	**14 16 08.1**	**-3.0**	
	comp=E,13nm,0.9s									
BRLS					Lg		Lg	14 17 21.1		
	comp=E,50nm,0.8s									
BRLS	**Borolday**	**5.17**	**306**		*e*P		**Pg**	**14 16 09.4**	**-1.7**	
	comp=E,13nm,0.9s									
BRLS					*e*S		**Sg**	**14 17 21.6**	**+3.5**	
	comp=E,50nm,0.8s									
DJR	**Jarkent**	**5.28**	**35**		Pg		**Pb**	**14 16 03.8**	**-0.4**	
	comp=E,3.6nm,0.5s									
DJR					Lg		Lg	14 17 12.9		
	comp=E,42nm,0.9s									
DJR	**Jarkent**	**5.28**	**35**		*e*P		**Pb**	**14 16 05.0**	**+0.9**	
	comp=E,1.8nm,0.4s									
DJR					*e*S		**Sb**	**14 17 13.7**	**+6.3**	
	comp=E,42nm,0.9s									
KAPS	**Kapalarasan**	**5.90**	**27**		Pg		**Pb**	**14 16 15.5**	**+0.8**	
	comp=E,3.2nm,0.4s									
KAPS					Lg		Lg	14 17 32.8		
	comp=E,16nm,0.6s									
KAPS	**Kapalarasan**	**5.90**	**27**		*e*P		**Pb**	**14 16 15.0**	**+0.3**	
	comp=E,3.2nm,0.4s									
KAPS					*e*S		**Sb**	**14 17 31.2**	**+6.1**	
	comp=E,16nm,0.6s									
MKAR	**Makanchi Array**	**8.30**	**34**		Pn		**Pn**	**14 16 32.5**	**+0.4**	
	comp=E,0.3nm,0.3s,baz=211,slow=14,SNR=14									
MKAR					Lg		Lg	14 18 54.6		
	comp=E,0.2nm,0.3s,baz=215,slow=27,SNR=2.1									
MKAR					LR		LR	14 20 12.3		
	comp=E,76nm,19.1s,baz=236,slow=41									
	comp=E,2.2nm,0.7s									
OTUK	**Ortayu**	**8.45**	**345**	⇓	Lg		Lg	14 18 58.3		
	comp=E,47nm,0.9s									
KURBB	**Kurchatov Arra**	**10.73**	**10**		Pn		**Pn**	**14 17 06.9**	**+1.7**	
	comp=E,0.5nm,0.2s,baz=201,slow=13,SNR=4.4									
KURBB					Lg		Lg	14 20 06.7		
	baz=198,slow=28,SNR=7.0									
KURBB					LR		LR	14 21 29.1		
	comp=E,121nm,20.9s,baz=169,slow=38									
BVAR	**Borovoye Array**	**13.39**	**346**		Pn		**Pn**	**14 17 42.2**	**+0.5**	
	comp=E,0.1nm,0.3s,baz=153,slow=13,SNR=3.8									
BVAR					Lg		Lg	14 21 35.5		
	baz=157,slow=27									
BVAR					LR		LR	14 23 18.1		
	comp=E,95nm,21.6s,baz=167,slow=38									
	comp=E,1.3nm,0.7s									
GEYT	**Alibeck**	**13.71**	**266**		Sn		**Sn**	**14 20 14.1**	**-4.3**	
	comp=E,0.5nm,0.3s,baz=150,slow=26,SNR=4.0									
ZALV	**Zalesovo Beam**	**15.21**	**21**		Pn		**Pn**	**14 18 05.8**	**-0.5**	
	comp=E,0.2nm,0.3s,baz=206,slow=9.6,SNR=1.9									
	comp=E,0.4nm,0.3s									
AKTO	**Aktyubinsk**	**16.04**	**316**		Pn		**Pn**	**14 18 16.2**	**-1.0**	
	comp=E,0.2nm,0.3s,baz=108,slow=9.8,SNR=2.1									
AKTO					LR		LR	14 24 55.9		
	comp=E,103nm,20.2s,baz=346,slow=38									
	comp=E,1.1nm,0.5s									
ARU	**Arti**	**19.77**	**331**		LR		LR	14 27 08.2		
	comp=E,93nm,19.7s,baz=118,slow=38									
HHC	**Hu-ho-hao-te**	**27.30**	**77**		*e*P		**P**	**14 20 14.6**	**-1.8**	
HHC					pmax		pmax			
	comp=Z,19nm,0.7s									
HHC					pmax		pmax			
	comp=Z,75nm,5.6s									
BRTR	**Keskin Array B**	**31.92**	**283**		P		**P**	**14 20 58.0**	**+0.7**	
	comp=Z,0.9nm,0.7s,baz=105,slow=8.5,SNR=5.3									
	comp=Z,0.9nm,0.7s									
MNK	**Minsk**	**34.65**	**311**		*i* P		**P**	**14 21 19.1**	**-1.7**	
	comp=E,8.0nm,0.8s									
MNK					*i* P		**P**	**14 21 19.1**	**-1.7**	
	comp=N,17nm,0.9s									
MNK					*i* P		**P**	**14 21 19.1**	**-1.7**	
	comp=Z,10.0nm,0.8s,baz=95									
MNK					*i* PP		**PnPn**	**14 22 36.6**	**+0.2**	
MNK					*i* PPP		PPP	14 22 50.2		
MNK					*i* S		**S**	**14 26 51.5**	**+1.6**	
MNK					*i* SS		**SS**	**14 29 16.2**	**-3.8**	
MNK					*i* LQ		LQ	14 33 27.5		
MNK					*i* LR		LR	14 35 54.4		
MNK					*i* LRM		MLR	14 37 03.6		
	comp=N,98nm,12.4s									
MNK					*i* LRM		MLR	14 37 13.1		
	comp=E,59nm,14.3s									
MNK					*i* LRM		MLR	14 37 25.6		
	comp=Z,95nm,12.2s									
FINES	**FINESS Array B**	**36.65**	**322**		P		**P**	**14 21 38.6**	**+0.7**	
	comp=Z,1.3nm,0.7s,baz=109,slow=10,SNR=5.2									
	comp=Z,1.3nm,0.7s									
YAK	**Yakutsk**	**38.96**	**37**		LR		LR	14 38 37.7		
	comp=Z,68nm,19.3s,baz=242,slow=37									
HFS	**Hagfors**	**42.55**	**319**		P		**P**	**14 22 26.9**	**-0.2**	
	comp=Z,1.4nm,0.8s,baz=118,slow=12,SNR=3.6									
HFS					LR		LR	14 42 04.9		
	comp=Z,120nm,19.1s,baz=349,slow=39									
	comp=Z,1.4nm,0.8s									
GERES	**GERESS Array B**	**43.87**	**303**		LR		LR	14 44 00.2		
	comp=Z,62nm,19.1s,baz=54,slow=40									
YKA	**Yellowknife Ar**	**77.42**	**5**		P		**P**	**14 26 24.9**	**-1.5**	
	comp=Z,1.0nm,0.9s,baz=348,slow=6.3,SNR=8.8									
	comp=Z,1.0nm,0.9s									

*IDC **11** 14:29:05.2±0.9, 24.˚30N×125.˚03E, h0km, mb3.9/16, mbtmp3.9/19, ML3.0/3, MS3.5/7, Error ellipse: s-maj=20.8km s-min=19.9km az=90.0*

*JMA **11** 14:29:09.3±0.2, 24.˚4N±2.˚1×125.˚2E±0.˚9, h41km±4km, MV3.7/10, NEAR MIYAKOJIMA ISLAND*

*NIED **11** 14:29:09.3, 24.˚33N×125.˚23E, h41km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; M_{rr}0.52; $M_{\theta\theta}$-0.63; $M_{\phi\phi}$0.11; $M_{r\theta}$1.22; $M_{\theta\phi}$-0.42; $M_{\phi r}$0.85; Fault plane solution: $M_0$1.64000×10¹⁵ NP1:ϕ_s55.00000°, δ78.00000°, λ83.00000°. NP2:ϕ_s266.00000°, δ14.00000°, λ121.00000°.*

ISC 11 14:29:08.0±0.8, 24˚25N±0.˚07×125˚23E±0.˚05, h20km±4km, n39, σ1°13/42, mb3.9/16, MS3.5/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
JMJ2	**Miyako jima3**	**0.50**	**11**	P		**Pb**	**14 29 18.8**		**+0.8**
JMJ2				S		**Sb**	**14 29 25.9**		**+1.1**
JOGS	**Gusukube**	**0.53**	**18**	P		**Pb**	**14 29 19.5**		**+0.7**
JOGS				S		**Sb**	**14 29 27.4**		**+1.4**
JMJ	**Miyako jima 2**	**0.56**	**6**	P		**Pb**	**14 29 18.8**		**-0.5**
JIRB	**Irabujima**	**0.58**	**355**	P		**Pb**	**14 29 19.8**		**+0.2**
JIRB				S		**Sb**	**14 29 27.3**		**0.0**
JTJ	**Tarama**	**0.62**	**309**	P		**Pn**	**14 29 20.9**		**-0.6**
JIKM	**Ikemajima**	**0.67**	**2**	P		**Pb**	**14 29 21.3**		**+0.2**
JIKM				S		**Sb**	**14 29 30.2**		**+0.3**
JISG	**Ishigakijimahi**	**0.90**	**292**	P		**Pn**	**14 29 25.1**		**-0.3**
JISG				*e*S		**Sn**	**14 29 37.8**		**-0.1**
JIJ	**Ishigaki jima**	**1.00**	**277**	P		**Pn**	**14 29 27.0**		**+0.3**
JKRS	**Kuro-shima**	**1.11**	**270**	P		**Pb**	**14 29 29.8**		**+1.2**
IRIF	**Iriomote-Funau**	**1.37**	**274**	P		**Pb**	**14 29 32.8**		**-0.1**
YOJ	**Yonaguni jima**	**2.03**	**276**	P		**Pb**	**14 29 43.3**		**-0.9**
NACB	**Ninganchiao**	**3.32**	**269**	P		**Pn**	**14 29 59.4**		**+0.7**
YHNB	**Yeheng**	**3.54**	**278**	P		**Pn**	**14 30 04.3**		**+2.5**
YULB	**Yu-li**	**3.70**	**257**	P		**Pn**	**14 30 03.5**		**-0.5**
JOW	**Kunigami**	**3.77**	**46**	Pn		**Pn**	**14 30 05.7**		**+0.8**
	3.4nm,0.3s,baz=128,slow=22,SNR=7.7								
JOW				Sn		**Sb**	**14 30 55.1**		**-3.8**
	2.3nm,0.3s,baz=108,slow=25,SNR=1.4								
	9.2nm,0.3s								
SSLB	**Suanglung**	**3.94**	**264**	P		**Pn**	**14 30 08.2**		**+0.9**
TWGBT	**Beinan**	**4.07**	**250**	P		**Pn**	**14 30 08.3**		**-0.7**
TPUB	**Ta-pu**	**4.32**	**258**	P		**Pn**	**14 30 14.2**		**+1.7**
KSRS	**Korea Array**	**13.36**	**9**	Pn		**Pn**	**14 32 17.0**		**+0.5**
	0.1nm,0.3s,baz=206,slow=40,SNR=1.5								
	0.2nm,0.3s								
JHJ	**Hachijo jima 2**	**15.52**	**52**	LR		LR	14 37 00.2		
	comp=Z,49nm,21.9s,baz=324,slow=30								
MJAR	**Matsushiro Arr**	**16.58**	**39**	Pn		**P**	**14 33 01.4**		**-0.2**
	baz=225,slow=10,SNR=4.7								
	1.8nm,0.7s								
CMAR	**Chiang Mai Arr**	**25.13**	**262**	P		**P**	**14 34 32.3**		**+0.5**
	0.2nm,0.3s,baz=78,slow=8.4,SNR=1.2								
CMAR				LR		LR	14 45 48.0		
	comp=Z,25nm,18.6s,baz=70,slow=40								
	0.2nm,0.3s								
SONM	**Songino Array**	**27.89**	**332**	P		**P**	**14 34 55.1**		**-1.5**
	0.5nm,0.3s,baz=145,slow=10,SNR=1.9								
SONM				LR		LR	14 47 38.6		
	comp=Z,60nm,18.8s,baz=180,slow=40								
	0.5nm,0.3s								
MKAR	**Makanchi Array**	**40.90**	**314**	P		**P**	**14 36 47.8**		**-0.9**
	2.0nm,0.3s,baz=98,slow=9.6,SNR=52								
	2.0nm,0.3s								
ZALV	**Zalesovo Beam**	**42.24**	**325**	P		**P**	**14 36 57.7**		**-1.9**
	1.4nm,0.4s,baz=115,slow=9.2,SNR=8.2								
ZALV				LR		LR	14 55 02.7		
	comp=Z,29nm,19.2s,baz=74,slow=37								
	1.4nm,0.4s								
KURBB	**Kurchatov Arra**	**44.47**	**319**	P		**P**	**14 37 16.3**		**-1.3**
	1.0nm,0.5s,baz=100,slow=8.7,SNR=15								
	1.0nm,0.5s								
WRA	**Warramunga Arr**	**44.81**	**168**	P		**P**	**14 37 21.0**		**+0.3**
	0.6nm,0.5s,baz=348,slow=8.7,SNR=2.8								
	0.6nm,0.5s								
ASAR	**Alice Springs**	**48.37**	**169**	P		**P**	**14 37 49.3**		**+0.7**
	0.2nm,0.4s,baz=355,slow=7.6,SNR=1.3								
	0.2nm,0.4s								
BVAR	**Borovoye Array**	**49.98**	**320**	P		**P**	**14 38 00.0**		**-0.6**
	0.8nm,0.5s,baz=107,slow=6.9,SNR=3.8								
	0.8nm,0.5s								
ARU	**Arti**	**57.28**	**323**	LR		LR	15 07 33.8		
	comp=Z,78nm,18.7s,baz=260,slow=40								
GEYT	**Alibeck**	**57.94**	**301**	P		**P**	**14 38 58.5**		**-0.5**
	1.3nm,0.4s,baz=91,slow=5.8,SNR=3.4								
	1.3nm,0.4s								
ILAR	**Eielson Array**	**67.45**	**28**	P		**P**	**14 40 02.9**		**+0.9**
	0.3nm,0.5s,baz=238,slow=5.7,SNR=5.0								
	0.3nm,0.5s								
KBZ	**Khbaz**	**68.31**	**309**	P		**P**	**14 40 07.3**		**-0.3**
	1.4nm,0.8s,baz=214,slow=4.3,SNR=2.1								
	1.4nm,0.8s								
FINES	**FINESS Array B**	**73.23**	**330**	P		**P**	**14 40 36.6**		**-0.7**
	2.2nm,0.5s,baz=74,slow=6.8,SNR=9.5								
FINES				LR		LR	15 15 36.3		
	comp=Z,144nm,18.5s,baz=5.5,slow=38								
	2.2nm,0.5s								
BRTR	**Keskin Array B**	**76.09**	**307**	P		**P**	**14 40 55.1**		**+0.6**
	0.4nm,0.5s,baz=207,slow=8.0,SNR=2.4								
	0.4nm,0.5s								
HFS	**Hagfors**	**79.29**	**332**	P		**P**	**14 41 11.3**		**-0.4**
	1.8nm,0.7s,baz=91,slow=7.4,SNR=5.0								
	1.8nm,0.7s								
NOA	**NORSAR Array B**	**79.86**	**333**	P		**P**	**14 41 14.9**		**0.0**
	0.7nm,0.7s,baz=57,slow=5.4,SNR=2.4								
	0.7nm,0.7s								
YKA	**Yellowknife Ar**	**81.44**	**24**	P		**P**	**14 41 24.5**		**+1.2**
	0.4nm,0.8s,baz=314,slow=5.2,SNR=6.5								
	0.4nm,0.8s								
GERES	**GERESS Array B**	**85.10**	**322**	LR		LR	15 23 15.3		
	comp=Z,58nm,18.7s,baz=46,slow=38								

*DJA **11** 14:29:34.9±0.4, 3˚N±3˚×12˚8E±˚, h84km±9km, M4.7/13, mb5.0/10, mB5.1/8, MLv4.8/13, Mw(mB)4.5/8*

*NEIC **11** 14:29:36.0±1.0, 3.˚29N±0.˚09×128.˚2E±0.˚1, h90km±9km, mb4.6/29, Error ellipse: s-maj=17.4km s-min=13.0km az=85.0*

*IDC **11** 14:29:36.0±2.5, 3.˚27N×128.˚25E, h94km±22km, mb4.0/17, mbtmp4.3/17, MS3.1/7, Error ellipse: s-maj=24.0km s-min=12.5km az=75.0*

ISC 11 14:29:36.4±0.5, 3˚29N±0.˚04×128˚22E±0.˚06, h100km, n83, σ0°96/82, mb4.5/31, 2C-3D, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TNTI	**Ternate**	**2.64**	**199**	Pn		**Pn**	**14 30 16.7**		**-0.8**
TNTI	**Ternate**	**2.64**	**199**	P		**Pn**	**14 30 17.4**		**-0.1**
TNTI				S		**Sn**	**14 30 50.0**		**+1.0**
SGSI	**Sangihe**	**2.71**	**278**	P		**Pn**	**14 30 17.0**		**-1.4**
SGSI				S		**Sn**	**14 30 49.2**		**-1.5**
LBMI	**Labuha**	**3.97**	**190**	P		**Pn**	**14 30 36.0**		**+0.7**
LBMI				S		**Sn**	**14 31 20.2**		**-0.6**
GSPH	**General Santos**	**4.28**	**311**	⇑ *i*	P	**Pn**	**14 30 38.5**		**-1.1**
GSPH				*i*	S	**Sn**	**14 31 27.3**		**-1.3**
KMSI	**Cibinong**	**5.02**	**238**	P		**Pn**	**14 30 49.3**		**-0.2**
	927nm,1.1s,8μm2.6nm								
KMSI				S		**Sn**	**14 31 45.9**		**-0.5**
	927nm,1.1s,8μm2.6nm								
SWI	**Sorong**	**5.13**	**144**	P		**Pn**	**14 30 50.2**		**-0.7**
	143nm,0.6s,2μm0.6nm								
SWI				S		**Sn**	**14 31 46.2**		**-2.7**
	143nm,0.6s,2μm0.6nm								
BIPH	**Bislig**	**5.20**	**339**	⇓ *e*	P	**Pn**	**14 30 49.5**		**-2.4**
BIPH				*e*	S	Sn	14 31 40.9		-10
SANI	**Sanana**	**5.75**	**203**	P		**Pn**	**14 30 57.6**		**-1.9**
	66nm,0.8s,2μm0.4nm								
GTOI	**Gorontalo**	**5.83**	**243**	P		**Pn**	**14 31 00.3**		**-0.2**
	118nm,0.8s,1μm0.4nm								
CGP	**Cagayan de Oro**	**6.21**	**326**	⇓ *e*	P	**Pn**	**14 31 03.5**		**-2.1**
CGP				*e*	S	**Sn**	**14 32 14.3**		**-1.0**
LUWI	**Luwuk**	**6.94**	**232**	Pn		**Pn**	**14 31 16.0**		**+0.5**
LUWI	**Luwuk**	**6.94**	**232**	P		**Pn**	**14 31 15.8**		**+0.2**
	99nm,0.7s,2μm0.7nm								
FAKI	**Fak Fak**	**7.37**	**147**	Pn		**Pn**	**14 31 21.3**		**0.0**
FAKI	**Fak Fak**	**7.37**	**147**	P		**Pn**	**14 31 21.4**		**0.0**
	51nm,0.8s,558nm0.2nm								
TOLI2	**Tolitoli**	**7.74**	**254**	Pn		**Pn**	**14 31 25.2**		**-1.3**
TTSI	**Jana Toraja**	**10.49**	**233**	P		**Pn**	**14 32 03.1**		**-0.8**
	27nm,0.6s,1μm								
SAUI	**Saumlaki**	**11.61**	**165**	P		**Pn**	**14 32 18.8**		**-0.3**
	477nm,1.1s								
BKSI	**Bulukumba**	**11.77**	**223**	P		**Pn**	**14 32 21.3**		**+0.1**
TGY	**Tagaytay City**	**12.93**	**327**	LR		LR	14 38 28.9		
	comp=Z,91nm,21.2s,baz=120,slow=41								
MTN	**Manton Dam**	**16.29**	**170**	Pn		**Pn**	**14 33 18.2**		**-1.2**
MTN				IAmb		IAmb	14 33 31.1		
	comp=Z,69nm,1.4s								
FITZ	**Fitzroy Crossi**	**21.41**	**187**	P		**P**	**14 34 15.1**		**-1.3**
WB0	**Warramunga Arr**	**23.70**	**165**	P		**P**	**14 34 38.8**		**-0.6**
WB0				IAmb		IAmb	14 35 02.3		
	comp=Z,18nm,0.8s								
WRA	**Warramunga Arr**	**23.86**	**166**	P		**P**	**14 34 39.8**		**-1.0**
	comp=Z,1.1nm,0.6s,baz=342,slow=10,SNR=23								
	comp=Z,1.1nm,0.6s								
WB2	**Warramunga Arr**	**23.86**	**166**	P		**P**	**14 34 40.3**		**-0.5**
UBPT	**Khong Chiam**	**25.38**	**299**	P		**P**	**14 34 56.0**		**+1.4**
UBPT				IAmb		IAmb	14 34 58.0		
	comp=Z,30nm,0.9s								
ASAR	**Alice Springs**	**27.36**	**169**	P		**P**	**14 35 13.4**		**+1.0**
ASAR	**Alice Springs**	**27.36**	**169**	P		**P**	**14 35 11.9**		**-0.5**
	comp=Z,0.5nm,0.6s,baz=351,slow=7.7,SNR=7.4								
ASAR				PcP		**PcP**	**14 38 29.8**		**+0.4**
	comp=Z,0.2nm,0.4s,baz=348,slow=2.8,SNR=4.2								
ASAR				ScP		**ScP**	**14 41 59.8**		**-1.2**
	comp=Z,0.4nm,0.7s,baz=335,slow=2.2,SNR=4.1								
	comp=Z,0.5nm,0.6s								
JNU	**Nakatsue**	**29.78**	**4**	LR		LR	14 47 02.9		
	comp=Z,38nm,19.5s,baz=222,slow=35								
CMAR	**Chiang Mai Arr**	**32.38**	**300**	P		**P**	**14 35 58.0**		**+1.2**
	comp=Z,2.5nm,0.9s,baz=121,slow=7.5,SNR=13								
CMAR				ScP		**ScP**	**14 42 18.8**		**+1.5**
	comp=Z,0.3nm,0.3s,baz=118,slow=1.8,SNR=5.0								
	comp=Z,2.5nm,0.9s								
JGF	**Kuroka**	**33.24**	**14**	P		**P**	**14 36 03.5**		**-0.7**
JGF				IAmb		IAmb	14 36 05.0		
	comp=Z,5.5nm,0.7s								
FORT	**Forrest**	**33.88**	**180**	P		**P**	**14 36 09.7**		**0.0**
KSAR	**Wonju Array Be**	**33.99**	**360**	P		**P**	**14 36 10.1**		**-0.4**
KSRS	**Korea Array**	**34.00**	**360**	P		**P**	**14 36 10.9**		**+0.3**
	comp=Z,4.5nm,0.7s,baz=178,slow=9.9,SNR=23								
KSRS				LR		LR	14 49 43.4		
	comp=Z,11nm,19.9s,baz=185,slow=36								
	comp=Z,4.5nm,0.7s								
KS19	**Wonju Array Si**	**34.05**	**360**	P		**P**	**14 36 10.6**		**-0.5**
KS19				IAmb		IAmb	14 36 11.9		
	comp=Z,5.7nm,0.8s								
MORW	**Morawa**	**34.23**	**199**	P		**P**	**14 36 11.7**		**-1.1**
MORW				IAmb		IAmb	14 36 43.2		
	comp=Z,15nm,1.4s								
MAJO	**Matsushiro**	**34.35**	**14**	P		**P**	**14 36 12.4**		**-1.3**
MAJO				IAmb		IAmb	14 36 14.4		
	comp=Z,10nm,0.8s								
MJAR	**Matsushiro Arr**	**34.35**	**14**	P		**P**	**14 36 12.6**		**-1.1**
	comp=Z,6.9nm,0.6s,baz=184,slow=9.4,SNR=25								
MJAR				LR		LR	14 47 44.4		
	comp=Z,20nm,21.2s,baz=186,slow=32								
	comp=Z,6.9nm,0.6s								
MJB9	**Matsu-Tunnel**	**34.35**	**14**	P		**P**	**14 36 13.3**		**-0.5**
MJB9				IAmb		IAmb	14 36 15.4		
	comp=Z,9.8nm,0.8s								
JSD	**Sado**	**35.78**	**14**	P		**P**	**14 36 24.5**		**-1.4**
BBOO	**Buckleboo**	**36.67**	**169**	P		**P**	**14 36 32.5**		**-1.0**
STKA	**Stephens Creek**	**37.22**	**161**	P		**P**	**14 36 39.3**		**+1.1**
STKA	**Stephens Creek**	**37.22**	**161**	P		**P**	**14 36 39.1**		**+0.9**
	comp=Z,2.8nm,0.9s,baz=326,slow=8.5,SNR=3.6								
	comp=Z,2.8nm,0.9s								
LZH	**Lanzhou**	**39.64**	**328**	⇓ P		**P**	**14 37 01.0**		**+2.2**
LZH				sP		pP	14 37 15.6		-5.9
LZH				pmax		pmax			
	comp=Z,39nm,1.4s								
H11S3	**WAKE ISLAND Hy**	**40.55**	**65**	T		T	15 20 38.4		
	baz=253,slow=75,SNR=5.8								
H11S2	**WAKE ISLAND Hy**	**40.57**	**65**	T		T	15 20 21.3		
	baz=253,slow=75,SNR=9.3								
H11S1	**WAKE ISLAND Hy**	**40.57**	**65**	T		T	15 20 26.2		
	baz=253,slow=75,SNR=5.4								
USA0B	**Ussuriysk Arra**	**40.87**	**4**	P		**P**	**14 37 08.7**		**+0.2**
USRK	**Ussuriysk Ar.**	**40.87**	**4**	P		**P**	**14 37 08.6**		**+0.1**
USRK	**Ussuriysk Ar.**	**40.87**	**4**	P		**P**	**14 37 09.7**		**+1.1**
	comp=Z,12nm,0.7s,baz=159,slow=5.4,SNR=18								
	comp=Z,12nm,0.7s								
H11N1	**WAKE ISLAND Hy**	**41.11**	**64**	T		T	15 21 21.3		
	baz=250,slow=75								
H11N2	**WAKE ISLAND Hy**	**41.12**	**64**	T		T	15 21 23.5		
	baz=250								
H11N3	**WAKE ISLAND Hy**	**41.13**	**64**	T		T	15 21 23.7		
	baz=250,slow=75								
MDJ	**Mudanjiang**	**41.17**	**1**	P		**P**	**14 37 11.0**		**0.0**
MDJ				IAmb		IAmb	14 37 13.0		
	comp=Z,9.6nm,0.8s								
JKA	**Kamikawa-asahi**	**42.60**	**15**	P		**P**	**14 37 23.5**		**+0.9**
GTA	**Gaotai**	**44.24**	**328**	⇑ P		**P**	**14 37 37.1**		**+1.0**
GTA				pmax		pmax			
	comp=Z,7.0nm,1.1s								
YSS	**Yuzh-Sakhalins**	**45.29**	**14**	P		**P**	**14 37 44.0**		**-0.1**
YSS				IAmb		IAmb	14 37 45.2		
	comp=Z,10nm,0.7s								
SONM	**Songino Array**	**48.20**	**340**	P		**P**	**14 38 07.1**		**+0.2**
	comp=Z,1.3nm,0.7s,baz=159,slow=5.6,SNR=5.8								
	comp=Z,1.3nm,0.7s								
PEA0B	**Petropavlovsk-**	**55.29**	**21**

H11N2	**WAKE ISLAND Hy**	**41.19**	**77**	T	T	16 24 51.0			
	baz=267,slow=74,SNR=18								
H11N3	**WAKE ISLAND Hy**	**41.20**	**77**	T	T	16 24 52.5			
	baz=267,slow=74,SNR=30								
MKAR	**Makanchi Array**	**47.19**	**321**	P	**P**	**15 41 34.9**	**+1.1**		
	0.4nm,0.7s,baz=116,slow=8.2,SNR=4.2								
	0.4nm,0.7s								
KURBB	**Kurchatov Arra**	**51.19**	**324**	P	**P**	**15 42 05.4**	**+1.1**		
	1.0nm,0.7s,baz=122,slow=7.7,SNR=6.7								
	1.0nm,0.7s								

BJI ***11*** *15:52:00.4±0.0,6˚24'N×126˚40'E,h89km,mb4.4/44, mB4.8/18,Ms3.9/8,Ms7 3.7/7*
DJA ***11*** *15:52:00.0±0.9,6˚N±6˚×12˚6E±˚,h11km±12km,M5.1/24, mB5.5/17,mb5.2/24,MLv5.3/9,Mw(mB)5.0/17*
IDC ***11*** *15:52:01.1±1.3,6˚53'N×126˚57'E,h72km±10km,mb4.1/27, mbtmp4.4/28,MS3.5/35,Error ellipse: s-maj=21.3km s-min=9.5km az=67.0*
NEIC ***11*** *15:52:01.0±1.6,6˚54'N±0˚07'×126˚52'E±0˚07',h73km±7km, mb4.8/40,Error ellipse: s-maj=11.4km s-min=8.4km az=218.0*
ISC 11 15:52:01.1±0.4,**6˚44'N**±0˚03'×**126˚50'E**±0˚05',**h71**km±3km, **h72**km:**pP-P,n184,**σ1§**58**/183,**mb4.6**/51,**12C-6D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.11**	**304**		**Pn**	**15 52 20.4**	**-0.6**
DAV				Sn	**Sn**	**15 52 37.9**	**+1.9**
DAV	**Davao City (W)**	**1.11**	**304**	P	**Pn**	**15 52 20.9**	**-0.2**
	4µm,0.4s,baz=110,slow=2.4,SNR=81						
DAV				S	**Sn**	**15 52 36.6**	**+0.6**
	12µm,0.7s,baz=66,slow=23,SNR=13						
DAV				LR	LR	15 52 42.0	
	comp=Z,813nm,19.9s,baz=118,slow=36						
GSPH	**General Santos**	**1.58**	**257**	*i*P	**Pn**	**15 52 24.4**	**-3.0**
GSPH				*i* S	**Sn**	**15 52 42.2**	**-4.9**
BIPH	**Bislig**	**1.74**	**355**	*e*P	**Pn**	**15 52 28.3**	**-1.0**
BIPH				*e*S	**Sn**	**15 52 49.7**	**-1.0**
BUKP	**Musuan**	**2.02**	**315**	*e*P	**Pn**	**15 52 33.8**	**+0.6**
CGP	**Cagayan de Oro**	**2.69**	**318**	*e*P	**Pn**	**15 52 42.9**	**+0.7**
CGP				*i* S	**Sn**	**15 53 15.8**	**+2.3**
SGSI	**Sangihe**	**2.90**	**200**	P	**Pn**	**15 52 45.1**	**0.0**
SGSI				S	**Sn**	**15 53 19.6**	**+0.7**
TBP	**Tagbilaran**	**4.15**	**321**	*e*P	**Pn**	**15 53 02.7**	**+0.6**
TBP				*i* S	**Sn**	**15 53 45.9**	**-3.5**
SNPH	**Sibulan**	**4.33**	**312**	*e*P	**Pn**	**15 53 06.2**	**+1.6**
SNPH				*e*S	Sn	15 54 05.0	+11
ZCP	**Zamboanga City**	**4.42**	**277**	*e*P	**Pn**	**15 53 05.8**	**0.0**
ZCP				*e*S	Sn	15 53 37.7	-18
LLP	**Lapu-Lapu**	**4.59**	**327**	*e*P	**Pn**	**15 53 09.0**	**+0.9**
LLP				*e*S	**Sn**	**15 54 02.5**	**+2.2**
PLP	**Palo**	**4.93**	**342**	*e*P	**Pn**	**15 53 14.8**	**+2.0**
PLP				*e*S	**Sn**	**15 54 14.7**	**+6.3**
CNOP	**Candoni, Negro**	**5.09**	**312**	*e*P	**Pn**	**15 53 17.4**	**+2.4**
TNTI	**Ternate**	**5.70**	**171**	Pn	**Pn**	**15 53 23.6**	**+0.4**
TNTI	**Ternate**	**5.70**	**171**	P	**Pn**	**15 53 24.1**	**+0.8**
	461nm,1.3s,8µm2.1nm						
TNTI				S	**Sn**	**15 54 29.5**	**+2.2**
	461nm,1.3s,8µm2.1nm						
JAP	**San Jose, Anti**	**6.21**	**314**	*e*P	**Pn**	**15 53 32.9**	**+2.7**
RCP	**Roxas**	**6.29**	**324**	*e*P	**Pn**	**15 53 32.6**	**+1.2**
KMSI	**Cibinong**	**6.35**	**203**	P	**Pn**	**15 53 32.8**	**+0.7**
	599nm,0.8s,6µm3.1nm						
KMSI				S	**Sn**	**15 54 43.5**	**+0.3**
	599nm,0.8s,6µm3.1nm						
GTOI	**Gorontalo**	**6.74**	**211**	P	**Pn**	**15 53 36.2**	**-1.3**
	255nm,0.5s,4µm1.2nm						
IBAJ	**Ibajay, Aklan**	**6.84**	**322**	*e*P	**Pn**	**15 53 42.7**	**+3.8**
LBMI	**Labuha**	**7.10**	**172**	P	**Pn**	**15 53 43.0**	**+0.5**
	513nm,0.5s,5µm1.9nm						
LBMI				S	**Sn**	**15 55 02.6**	**+0.8**
	513nm,0.5s,5µm1.9nm						
TOLI2	**Tolitoli**	**7.78**	**227**	Pn	**Pn**	**15 53 49.4**	**-2.4**
LUWI	**Luwuk**	**8.31**	**207**	Pn	**Pn**	**15 54 02.0**	**+3.0**
LUWI	**Luwuk**	**8.31**	**207**	P	**Pn**	**15 53 59.4**	**+0.4**
	502nm,1.1s,4µm						
GQP	**Guinayangan**	**8.42**	**332**	*i*P	**Pn**	**15 54 04.8**	**+4.3**
SANI	**Sanana**	**8.45**	**183**	P	**Pn**	**15 53 58.9**	**-2.0**
	373nm,1.2s,11µm						
SWI	**Sorong**	**8.67**	**147**	P	**Pn**	**15 54 05.6**	**+1.7**
	60nm,0.6s,928nm						
LQP	**Lukban**	**9.05**	**328**	*e*P	Pn	15 54 14.7	+5.5
TGY	**Tagaytay City**	**9.38**	**325**	P	**Pn**	**15 54 17.1**	**+3.6**
	108nm,0.3s,baz=297,slow=21,SNR=1.3						
TGY				LR	LR	15 58 57.8	
	comp=Z,277nm,20.1s,baz=126,slow=45						
NLAI	**Namlea**	**9.63**	**176**	P	**Pn**	**15 54 16.9**	**-0.2**
	271nm,0.5s						
FAKI	**Fak Fak**	**10.93**	**148**	P	**Pn**	**15 54 36.0**	**+1.2**
	50nm,1.4s						
TTSI	**Tana Toraja**	**11.54**	**215**	P	**Pn**	**15 54 42.4**	**-0.8**
	179nm,1.5s,2µm						
KAPI	**Kappang**	**13.22**	**211**	P	**Pn**	**15 55 07.0**	**+1.0**
	58nm,0.8s,baz=19,slow=11,SNR=22						
BKSI	**Bulukumba**	**13.31**	**209**	P	**Pn**	**15 55 07.8**	**+0.7**
	32nm,0.6s						
SBUM	**Sibu**	**14.78**	**255**	P	**P**	**15 55 31.9**	**+1.3**
MMRI	**Maumere**	**15.57**	**196**	P	**P**	**15 55 41.7**	**+2.4**
MMRI				IAmb	IAmb	15 55 49.3	
	comp=Z,47nm,0.6s						
MMRI	**Maumere**	**15.57**	**196**	P	**P**	**15 55 38.2**	**-1.2**
	comp=Z,67nm,0.7s						
EDFI	**Ende, Flores**	**15.83**	**198**	P	**P**	**15 55 41.7**	**-0.7**
	comp=Z,33nm,0.6s,comp=Z,590nm						
SOEI	**Soe**	**16.24**	**188**		**P**	**15 55 46.4**	**-0.6**
SOEI	**Soe**	**16.24**	**188**	P	**P**	**15 55 47.0**	**0.0**
	comp=Z,89nm,0.8s						
STKI	**Sintang**	**16.27**	**248**	P	**P**	**15 55 47.7**	**+0.5**
	comp=Z,18nm,0.7s						
BATI	**Baumata**	**16.78**	**190**	P	**P**	**15 55 52.7**	**-0.1**
	comp=Z,115nm,0.5s,baz=73,slow=1.5,SNR=31						
BATI				LR	LR	16 02 30.7	
	comp=Z,274nm,20.4s,baz=346,slow=37						
BATI	**Baumata**	**16.78**	**190**	P	**P**	**15 55 54.0**	**+1.2**
	comp=Z,231nm,0.6s,comp=Z,2µm						
PLAI	**Plampang**	**17.48**	**210**	P	**P**	**15 56 02.6**	**+2.0**
	comp=Z,85nm,1.4s						
TWSI	**Taliwang, Sumb**	**17.87**	**213**	P	**Pn**	**15 56 07.6**	**+2.5**
JAGI	**Jajaq, Banyuwa**	**19.26**	**220**	P	**P**	**15 56 19.5**	**-0.6**
GUMO	**Guam**	**19.42**	**67**	LR	LR	16 03 35.9	
	comp=Z,39nm,20.6s,baz=243,slow=36						
MTN	**Manton Dam**	**19.70**	**166**	P	**P**	**15 56 25.5**	**+0.6**
	baz=20,SNR=26						
MTN	**Manton Dam**	**19.70**	**166**	Pn	**Pn**	**15 56 27.2**	**+0.2**
MTN				IAmb	IAmb	15 56 50.0	
	comp=Z,76nm,1.4s						
KDU	**Kakadu**	**19.91**	**163**	P	**P**	**15 56 28.1**	**+1.0**
	baz=20,SNR=30						
JOW	**Kunigami**	**20.35**	**5**	LR	LR	16 03 36.9	
	comp=Z,121nm,21.1s,baz=124,slow=34						
QIZ	**Qiongzhong**	**20.48**	**309**	P	**P**	**15 56 31.4**	**-1.9**
QIZ				S	**S**	**16 00 19.2**	**+0.5**
QIZ				sS	**sS**	**16 00 47.3**	**+5.2**
QIZ				pmax	pmax		
	comp=Z,170nm,4.8s						
QIZ				LR	LR		
	comp=Z,170nm,9.8s						
QIZ				LR	LR		
	comp=Z,140nm,9.8s						
LEM	**Lembang**	**22.99**	**235**	LR	LR	16 07 18.7	
	comp=Z,118nm,18.4s,baz=350,slow=40						
FITZ	**Fitzroy Crossi**	**24.40**	**182**	P	**P**	**15 57 13.5**	**+0.5**
	baz=24,SNR=38						
FITZ	**Fitzroy Crossi**	**24.40**	**182**	P	**P**	**15 57 12.6**	**-0.4**
JCJ	**Chichijima**	**25.39**	**34**	LR	LR	16 06 29.1	
	comp=Z,61nm,21.0s,baz=110,slow=34						
KULM	**Kulim**	**25.74**	**269**	P	**P**	**15 57 24.3**	**-1.0**
KULM				IAmb	IAmb	15 57 41.1	
	comp=Z,26nm,1.3s						
PMG	**Port Moresby**	**25.92**	**127**	LR	LR	16 10 12.8	
	comp=Z,72nm,18.4s,baz=289,slow=42						
COEN	**Coen**	**26.17**	**141**	P	**P**	**15 57 28.6**	**-0.5**
	baz=26,SNR=5.3						
COEN	**Coen**	**26.17**	**141**	P	**P**	**15 57 29.3**	**+0.2**
NJ2	**Nanjing**	**26.46**	**345**	*e*P	**P**	**15 57 31.8**	**+0.2**
NJ2				pP	**pP**	**15 57 49.4**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.6s						
JNU	**Nakatsue**	**26.86**	**8**	LR	LR	16 07 20.1	
	comp=Z,69nm,21.9s,baz=209,slow=34						
WB0	**Warramunga Arr**	**27.18**	**164**	P	**P**	**15 57 38.3**	**+0.2**
WB0				IAmb	IAmb	15 58 07.6	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**27.33**	**164**	P	**P**	**15 57 40.3**	**+0.7**
WRA	**Warramunga Arr**	**27.33**	**164**	P	**P**	**15 57 39.3**	**-0.2**
	comp=Z,2.1nm,0.4s,baz=335,slow=11,SNR=26						
WRA				PcP	**PcP**	**16 00 55.8**	**-1.7**
	comp=Z,0.9nm,0.7s,baz=332,slow=2.3,SNR=2.4						
WRA				ScP	**ScP**	**16 04 32.8**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=331,slow=3.0,SNR=4.6						
	comp=Z,2.1nm,0.4s						
WR0	**Warramunga Arr**	**27.40**	**163**	P	**P**	**15 57 41.0**	**+0.8**
MBWA	**Marble Bar**	**28.22**	**193**	P	**P**	**15 57 45.5**	**-2.0**
MBWA				IAmb	IAmb	15 57 52.0	
	comp=Z,31nm,1.4s						
PSA00	**Pilbara Seismi**	**28.59**	**193**	P	**P**	**15 57 49.9**	**-0.9**
PSA00				IAmb	IAmb	15 57 51.4	
	comp=Z,13nm,0.7s						
JHJ	**Hachijo jima 2**	**29.28**	**23**	LR	LR	16 07 48.5	
	comp=Z,82nm,21.9s,baz=177,slow=32						
GSI	**Gunungsitoli**	**29.30**	**261**	P	**P**	**15 57 55.5**	**-1.7**
GSI				IAmb	IAmb	15 58 24.2	
	comp=Z,16nm,1.1s						
CMAR	**Chiang Mai Arr**	**29.39**	**297**	P	**P**	**15 57 57.7**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=99,slow=7.2,SNR=5.8						
CMAR				LR	LR	16 09 25.4	
	comp=Z,40nm,21.8s,baz=95,slow=36						
	comp=Z,0.7nm,0.6s						
QIS	**Mount Isa**	**29.76**	**155**	P	**P**	**15 58 01.5**	**+0.4**
	baz=30,SNR=17						
AS31	**Alice Springs**	**30.78**	**167**	P	**P**	**15 58 10.4**	**+0.2**
ASAR	**Alice Springs**	**30.79**	**167**	P	**P**	**15 58 10.3**	**+0.1**
	comp=Z,1.7nm,0.4s,baz=343,slow=7.1,SNR=79						
ASAR				PcP	**PcP**	**16 01 06.8**	**+0.5**
	comp=Z,1.4nm,0.4s,baz=353,slow=2.6,SNR=5.7						
	comp=Z,1.7nm,0.4s						
PZH	**PanZhiHua**	**30.89**	**313**	P	**P**	**15 58 10.8**	**-0.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
KSRS	**Korea Array**	**30.90**	**2**	P	**P**	**15 58 09.9**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=188,slow=10,SNR=2.1						
KSRS				PcP	**PcP**	**16 01 06.4**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=181,slow=2.3,SNR=6.5						
KSRS				LR	LR	16 09 35.9	
	comp=Z,56nm,21.7s,baz=185,slow=34						
	comp=Z,0.4nm,0.6s						
GIRL	**Giralia**	**31.30**	**202**	P	**P**	**15 58 14.5**	**-0.2**
WRKA	**Warakurna**	**31.34**	**177**	P	**P**	**15 58 15.2**	**+0.2**
	baz=32,SNR=28						
PATS	**Pohnpei**	**31.60**	**87**	P	**P**	**15 58 15.2**	**-2.3**
MJAR	**Matsushiro Arr**	**31.82**	**18**	LR	LR	16 08 58.0	
	comp=Z,46nm,20.8s,baz=204,slow=32						
XAN	**Xi'an**	**31.92**	**332**	P	**P**	**15 58 20.4**	**+0.3**
XAN				pmax	pmax		
	comp=Z,24nm,1.5s						
XAN				LR	LR		
	comp=Z,230nm,12.9s						
XAN				LR	LR		
	comp=Z,130nm,11.2s						
XAN				LR	LR		
	comp=Z,340nm,24.0s						
XAN	**Xi'an**	**31.92**	**332**	P	**P**	**15 58 20.3**	**+0.2**
XAN				sP	**sP**	**15 58 42.1**	**-3.3**
HNS	**HongShan**	**32.63**	**342**	P	**P**	**15 58 28.9**	**+2.7**
HNS				pmax	pmax		
	comp=Z,13nm,0.9s						
CTAO	**Charters Tower**	**32.75**	**144**	P	**P**	**15 58 26.4**	**-1.1**
CTAO	**Charters Tower**	**32.75**	**144**	P	**P**	**15 58 30.7**	**+3.2**
CTAO				pP	**pP**	**15 58 45.3**	**+1.8**
CTAO				sP	**sP**	**15 58 51.6**	**+0.2**
MEEK	**Meekatharra**	**33.76**	**193**	P	**P**	**15 58 35.4**	**-0.8**
	baz=34,SNR=9.4						
JMM	**Marumori**	**33.87**	**21**	P	**P**	**15 58 35.1**	**-1.9**
JMM				IAmb	IAmb	15 59 04.9	
	comp=Z,15nm,0.8s						
BJI	**Beijing**	**34.72**	**346**	P	**P**	**15 58 45.1**	**+0.8**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LZH	**Lanzhou**	**36.08**	**328**	P	**P**	**15 58 58.2**	**+1.9**
LZH				pP	sP	15 59 20.2	-1.4
LZH				pmax	pmax		
	comp=Z,23nm,1.5s						
LZH				LR	LR		
	comp=Z,96nm,12.0s						
LZH				LR	LR		
	comp=Z,160nm,14.1s						
MORW	**Morawa**	**36.71**	**195**	P	**P**	**15 59 00.9**	**-0.6**
	baz=37,SNR=18						
MORW	**Morawa**	**36.71**	**195**	P	**P**	**15 59 00.7**	**-0.8**
MORW				IAmb	IAmb	15 59 04.7	
	comp=Z,9.0nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.77**	**341**	*e*P	**P**	**15 59 03.7**	**+1.7**
HHC				pmax	pmax		
	comp=Z,17nm,0.6s						
HHC				pmax	pmax		
	comp=Z,130nm,5.6s						
FORT	**Forrest**	**37.04**	**178**	P	**P**	**15 59 04.6**	**+0.4**
	baz=37,SNR=9.1						
FORT	**Forrest**	**37.04**	**178**	P	**P**	**15 59 04.8**	**+0.6**
QLP	**Quilpie**	**37.06**	**153**	P	**P**	**15 59 04.5**	**+0.1**
	baz=37,SNR=5.5						
CN2	**Changchun**	**37.22**	**359**	*e*P	**P**	**15 59 06.8**	**+1.1**
KMBL	**Kambalda**	**37.85**	**186**	P	**P**	**15 59 11.2**	**+0.1**
	baz=38,SNR=23						
USA0B	**Ussuriysk Arra**	**37.92**	**6**	P	**P**	**15 59 09.4**	**-2.1**
USRK	**Ussuriysk Ar.**	**37.92**	**6**	P	**P**	**15 59 09.5**	**-2.0**
USRK	**Ussuriysk Ar.**	**37.92**	**6**	P	**P**	**15 59 10.4**	**-1.1**
	comp=Z,1.0nm,0.4s,baz=177,slow=8.6,SNR=6.7						
USRK				LR	LR	16 13 09.2	
	comp=Z,42nm,20.9s,baz=200,slow=34						
	comp=Z,1.0nm,0.4s						
BLDU	**Ballidu**	**38.02**	**194**	P	**P**	**15 59 12.0**	**-0.6**
	baz=38,SNR=18						
XLT	**XiLinHaoTe**	**38.41**	**348**	*e*P	**P**	**15 59 17.7**	**+1.9**
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,83nm,5.6s						
XLT				LR	LR		
	comp=Z,17nm,13.8s						
XLT				LR	LR		
	comp=Z,160nm,26.1s						
KLBR	**Kellerberrin**	**38.73**	**192**	P	**P**	**15 59 18.3**	**-0.2**
	baz=39,SNR=26						
MUN	**Mundaring**	**39.45**	**194**	P	**P**	**15 59 24.4**	**-0.1**
	baz=40,SNR=11						
EIDS	**Eidsvold**	**39.64**	**144**	P	**P**	**15 59 26.6**	**+0.4**
EIDS				IAmb	IAmb	15 59 41.1	
	comp=Z,13nm,1.2s						
BBOO	**Buckleboo**	**40.08**	**167**	P	**P**	**15 59 30.6**	**+0.9**
	baz=40,SNR=26						
BBOO	**Buckleboo**	**40.08**	**167**	P	**P**	**15 59 29.2**	**-0.5**
NWAO	**Narrogin (SRO)**	**40.13**	**192**	P	**P**	**15 59 30.3**	**+0.2**
	baz=40,SNR=19						
NWAO				P	**P**	**15 59 30.3**	**+0.2**
	baz=40,SNR=19						
NWAO	**Narrogin (SRO)**	**40.13**	**192**	P	**P**	**15 59 29.7**	**-0.5**
GTA	**Gaotai**	**40.68**	**328**	*e*P	**P**	**15 59 35.6**	**+0.8**
GTA				pP	pP	15 59 51.5	-0.7
GTA				PcP	**PcP**	**16 01 35.8**	**+0.5**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
STKA	**Stephens Creek**	**40.74**	**160**	P	**P**	**15 59 36.0**	**+0.9**
	baz=41,SNR=7.4						
STKA	**Stephens Creek**	**40.74**	**160**	P	**P**	**15 59 35.8**	**+0.6**
STKA	**Stephens Creek**	**40.74**	**160**	P	**P**	**15 59 35.6**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=327,slow=7.5,SNR=17						
	comp=Z,5.7nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**40.92**	**69**	T	T	16 43 43.9	
	baz=253,slow=77,SNR=34						
H11S1	**WAKE ISLAND Hy**	**40.94**	**69**	T	T	16 43 40.7	
	baz=253,slow=77,SNR=25						
H11S2	**WAKE ISLAND Hy**	**40.94**	**69**	T	T	16 43 41.6	
	baz=253,slow=77,SNR=33						
HTT	**Hallett**	**41.37**	**164**	P	**P**	**15 59 42.3**	**+1.9**
	baz=42,SNR=6.8						
H11N1	**WAKE ISLAND Hy**	**41.37**	**67**	T	T	16 44 15.9	
	baz=265,slow=75,SNR=36						
H11N2	**WAKE ISLAND Hy**	**41.38**	**67**	T	T	16 44 42.5	
	baz=265,slow=75,SNR=27						
H11N3	**WAKE ISLAND Hy**	**41.39**	**67**	T	T	16 44 40.2	
	baz=265,slow=75,SNR=37						
KLR	**Kul'dur**	**42.87**	**5**	LR	LR	16 16 52.5	
	comp=Z,23nm,22.0s,baz=192,slow=35						
ARMA	**Armidale**	**43.86**	**148**	P	**P**	**16 00 02.0**	**+1.3**
	baz=44,SNR=5.1						
ARMA	**Armidale**	**43.86**	**148**	P	**P**	**16 00 00.2**	**-0.5**
ARMA				IAmb	IAmb	16 00 26.4	
	comp=Z,18nm,1.1s						
ULN	**Ulaanbaatar**	**44.49**	**341**	P	**P**	**16 00 07.9**	**+2.3**
SONM	**Songino Array**	**44.67**	**341**	P	**P**	**16 00 06.8**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=165,slow=7.7,SNR=9.8						
SONM				LR	LR	16 19 40.5	
	comp=Z,52nm,18.8s,baz=156,slow=37						
	comp=Z,1.9nm,0.7s						
ARPS	**Mount Arapiles**	**45.32**	**163**	P	**P**	**16 00 13.6**	**+1.5**
	baz=46,SNR=7.2						
TOO	**Toolangi**	**47.24**	**159**	P	**P**	**16 00 27.9**	**+0.7**
DZM	**Mont Dzumac**	**48.31**	**127**	P	**P**	**16 00 36.6**	**+0.8**
	comp=Z,2.9nm,0.6s,baz=295,slow=14,SNR=1.4						
	comp=Z,2.9nm,0.6s						
WMQ	**Urumqi**	**50.40**	**324**	*e*P	**P**	**16 00 52.5**	**+1.1**
WMQ				LR	LR		
	comp=Z,97nm,24.9s						
PETK	**Petropavlovsk-**	**53.03**	**23**	P	**P**	**16 01 10.3**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=207,slow=4.0,SNR=5.3						
PETK				LR	LR	16 23 08.8	
	comp=Z,21nm,21.2s,baz=231,slow=35						
	comp=Z,1.8nm,0.8s						
MK31	**Makanchi Array**	**55.22**	**324**	P	**P**	**16 01 24.9**	**-1.9**
MK31				IAmb	IAmb	16 01 32.3	
	comp=Z,5.7nm,0.7s						
MKAR	**Makanchi Array**	**55.22**	**324**	P	**P**	**16 01 25.6**	**-1.3**
MKAR	**Makanchi Array**	**55.22**	**324**	P	**P**	**16 01 25.7**	**-1.2**
	comp=Z,6.8nm,0.6s,baz=129,slow=5.8,SNR=30						
MKAR				PcP	**PcP**	**16 02 27.7**	**+0.7**
	comp=Z,3.7nm,0.8s,baz=95,slow=4.6,SNR=2.0						
MKAR				ScP	**ScP**	**16 06 19.7**	**0.0**
	comp=Z,0.4nm,0.7s,baz=126,slow=3.9,SNR=3.3						
MKAR				LR	LR	16 26 35.0	
	comp=Z,85nm,18.9s,baz=82,slow=38						
	comp=Z,6.8nm,0.6s						
MAKZ	**Makanchi**	**55.41**	**324**	P	**P**	**16 01 25.6**	**-2.6**
MAKZ				pP	**pP**	**16 01 41.1**	**-5.3**
YAK	**Yakutsk**	**55.52**	**2**	LR	LR	16 25 42.6	
	comp=Z,34nm,20.5s,baz=170,slow=36						
MA2	**Magadan**	**56.15**	**15**	LR	LR	16 27 56.0	
	comp=Z,16nm,18.8s,baz=266,slow=38						
ZALV	**Zalesovo Beam**	**58.09**	**332**	P	**P**	**16 01 46.5**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=123,slow=5.5,SNR=6.5						
ZALV				LR	LR	16 27 58.4	
	comp=Z,55nm,18.6s,baz=90,slow=37						
	comp=Z,1.8nm,0.5s						
AAK	**Ala-Archa**	**58.22**	**317**	LR	LR	16 27 10.3	
	comp=Z,44nm,21.7s,baz=98,slow=36						
KURK	**Kurchatov**	**59.35**	**327**	P	**P**	**16 01 55.0**	**-0.9**
KURK	**Kurchatov**	**59.35**	**327**	P	**P**	**16 01 55.2**	**-0.6**
KURK				pP	**pP**	**16 02 12.0**	**-2.3**
KURBB	**Kurchatov Arra**	**59.35**	**327**	P	**P**	**16 01 55.3**	**-0.5**
	comp=Z,5.7nm,0.7s,baz=126,slow=6.2,SNR=25						
	comp=Z,5.7nm,0.7s						
URZ	**Urewera**	**64.68**	**138**	LR	LR	16 33 27.0	
	comp=Z,42nm,18.2s,baz=38,slow=38						
BVAR	**Borovoye Array**	**64.94**	**326**	P	**P**	**16 02 33.1**	**-0.1**
	comp=Z,5.1nm,0.6s,baz=130,slow=8.5,SNR=18						
	comp=Z,5.1nm,0.6s						
BRVK	**Borovoye**	**65.02**	**326**	P	**P**	**16 02 33.2**	**-0.5**
BRVK				IAmb	IAmb	16 02 35.8	
	comp=Z,14nm,1.1s						
BRVK	**Borovoye**	**65.02**	**326**	P	**P**	**16 02 33.9**	**+0.2**
BRVK				pP	**pP**	**16 02 49.5**	**-2.9**
TIXI	**Tiksi**	**65.15**	**1**	LR	LR	16 32 41.1	
	comp=Z,41nm,20.4s,baz=191,slow=38						
ABKAR	**Akbulak array**	**69.93**	**320**	P	**P**	**16 03 03.2**	**-1.5**
AKTO	**Aktyubinsk**	**71.41**	**321**	P	**P**	**16 03 13.7**	**-0.1**
	comp=Z,3.7nm,0.6s,baz=85,slow=7.1,SNR=7.7						
AKTO				LR	LR	16 36 16.2	
	comp=Z,123nm,18.6s,baz=82,slow=37						
	comp=Z,3.7nm,0.6s						
ARU	**Arti**	**72.54**	**327**	P	**P**	**16 03 19.2**	**-1.2**
ARU				IAmb	IAmb	16 03 20.9	
	comp=Z,12nm,0.6s						
ARU	**Arti**	**72.54**	**327**	P	**P**	**16 03 19.9**	**-0.5**
	comp=Z,14nm,0.5s,baz=111,slow=4.3,SNR=20						
	comp=Z,14nm,0.5s						
CASY	**Casey**	**73.47**	**187**	P	**P**	**16 03 25.9**	**+0.4**
CASY				IAmb	IAmb	16 03 31.2	
	comp=Z,13nm,1.1s						
BELG	**Belogornoye**	**78.14**	**322**	P	**P**	**16 03 52.2**	**-0.3**
	comp=Z,14nm,0.8s,baz=195,slow=4.7,SNR=3.7						
	comp=Z,14nm,0.8s						
GNI	**Garni**	**79.59**	**310**	LR	LR	16 44 16.4	
	comp=Z,23nm,19.1s,baz=44,slow=39						
IMAR	**Indian Mountai**	**79.98**	**24**	P	**P**	**16 04 02.2**	**-0.2**
KBZ	**Khabaz**	**80.97**	**313**	LR	LR	16 45 01.9	
	comp=Z,23nm,18.9s,baz=66,slow=39						
ILAR	**Eielson Array**	**82.77**	**26**	P	**P**	**16 04 14.6**	**-2.6**
ILAR	**Eielson Array**	**82.77**	**26**	P	**P**	**16 04 15.8**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=245,slow=4.6,SNR=12						
	comp=Z,0.5nm,0.6s		

*NNC **11** 15:58:04.6±5.3,36.96N×69.28E,h139km±131km,mb3.3, mpv4.0,Error ellipse: s-maj=48.3km s-min=35.6km az=16.0*

ISC 11 15:58:03.0±1.9,36°9'N±0.2'×69°27'E±0.0',h37km,n16, σ1§57/19,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.29**	**8**	⇓P	**Pn**	**15 59 33.7**	**+0.6**
	1.0nm,0.3s,baz=185,slow=12,SNR=13						
KK31				⇑S	**Sn**	**16 00 44.0**	**+0.3**
	1.8nm,0.3s,baz=196,slow=24,SNR=4.0						
AAK	**Ala-Archa**	**7.02**	**33**	⇓P	**Pn**	**15 59 44.1**	**+0.8**
	9.1nm,0.5s						
AAK				⇑S	**Sn**	**16 01 04.2**	**+2.4**
	16nm,1.2s						
AAK	**Ala-Archa**	**7.02**	**33**	Pn	**Pn**	**15 59 44.5**	**+1.3**
	4.3nm,0.3s,baz=199,slow=8.4,SNR=40						
AAK				Sn	**Sn**	**16 01 04.3**	**+2.4**
	0.5nm,0.3s,baz=26,slow=12,SNR=1.8						
AAK				Lg	Lg	16 01 42.6	
	0.5nm,0.3s,baz=279,slow=17,SNR=4.7						
	12nm,0.4s						
TKM2	**Tokmak 2**	**7.75**	**37**	⇓P	**Pn**	**15 59 53.6**	**+0.3**
	7.1nm,0.5s						
TKM2				⇑S	**Sn**	**16 01 18.3**	**-1.5**
	2.7nm,0.6s						
MDOK	**Medeo**	**8.66**	**41**	⇑P	**Pn**	**16 00 06.3**	**+0.6**
	5.3nm,0.7s						
GEYT	**Alibeck**	**8.94**	**280**	Pn	**Pn**	**16 00 09.5**	**0.0**
	0.6nm,0.3s,baz=115,slow=10,SNR=4.9						
GEYT				Sn	**Sn**	**16 01 49.3**	**+0.4**
	1.2nm,0.3s,baz=145,slow=18,SNR=3.4						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**13.85**	**40**	Pn	**Pn**	**16 01 15.2**	**-1.4**
	0.1nm,0.3s,baz=230,slow=16,SNR=8.0						
	0.5nm,0.5s						
AB31	**Akbulak array**	**14.11**	**334**	P	**Pn**	**16 01 17.4**	**-2.7**
	1.5nm,0.4s,baz=160,slow=12,SNR=51						
AKTO	**Aktyubinsk**	**15.78**	**333**	Pn	**Pn**	**16 01 41.8**	**-0.5**
	0.4nm,0.3s,baz=152,slow=8.7,SNR=6.1						
	1.5nm,0.4s						
BVAR	**Borovoye Array**	**16.17**	**2**	Pn	**Pn**	**16 01 44.0**	**-3.1**
	baz=159,slow=13,SNR=5.1						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**20.18**	**27**	P	**P**	**16 02 33.2**	**-0.9**
	3.1nm,0.4s,baz=219,slow=10,SNR=7.9						
	3.1nm,0.4s						
ARU	**Arti**	**20.85**	**343**	P	**P**	**16 02 42.4**	**+1.1**
	2.2nm,0.4s,baz=114,slow=10.0,SNR=5.3						
	2.2nm,0.4s						
KBZ	**Khabaz**	**21.19**	**297**	P	**P**	**16 02 45.9**	**+0.8**
	1.1nm,0.7s,baz=98,slow=7.1,SNR=2.3						
	1.1nm,0.7s						
JOW	**Kunigami**	**50.41**	**84**	LR	LR	16 31 37.3	
	comp=Z,64nm,19.4s,baz=152,slow=40						
YKA	**Yellowknife Ar**	**80.92**	**2**	P	**P**	**16 10 13.6**	**+0.6**
	0.2nm,0.4s,baz=348,slow=5.7,SNR=3.7						
	0.2nm,0.4s						
ULM	**Lac du Bonnet**	**92.26**	**351**	LR	LR	16 59 37.2	
	comp=Z,44nm,18.1s,baz=8.5,slow=40						

*JMA **11** 16:00:38.8±0.1,24.0N±1.0×122.6E±0.7,h41km,MV1.3/10, NW OFF ISHIGAKIJIMA IS*

TAP 11 16:00:39.2,24.11N×122.60E,h45km,ML2.1,3C-2D,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.26**	**273**	*i* P	Pn	16 00 47.5	+0.4
	baz=273						
EOS4				*i* S	Sn	16 00 53.9	+1.2
	baz=273						
EOS3	**EOS3**	**0.32**	**305**	P	Pn	16 00 48.7	+0.8
	baz=305						
EOS3				S	Sn	16 00 56.1	+2.0
	baz=305						
EOS2	**EOS2**	**0.46**	**313**	P	Pn	16 00 51.0	+1.4
	baz=306						
EOS2				S	Sn	16 00 59.9	+3.0
	baz=306						
JYNG	**Yonagunijimaku**	**0.46**	**42**	*e*P	Pn	16 00 49.6	-0.1
JYNG				*e*S	Sn	16 00 57.6	+0.4
YOJ	**Yonaguni jima**	**0.51**	**46**	P	Pn	16 00 50.3	-0.1
YOJ	**Yonaguni jima**	**0.51**	**46**	P	Pn	16 00 50.2	-0.2
	baz=51						
YOJ				*i* S	Sn	16 00 59.0	+0.7
	baz=51						
EWUT	**Wuta**	**0.83**	**294**	P	Pn	16 00 54.4	-0.1
	baz=294						
EWUT				*i* S	Sn	16 01 06.4	+0.8
	baz=294						
ESAO	**Su ao**	**0.84**	**304**	*e*S	Sn	16 01 06.7	+0.9
	baz=304						
TWC	**Suao**	**0.85**	**306**	*e*S	Sn	16 01 08.0	+1.7
	baz=306						
TWD	**Chiawan**	**0.92**	**269**	*e*P	Pn	16 00 55.4	-0.3
	baz=269						
TWD				*e*S	Sn	16 01 08.1	+0.2
	baz=269						
NACB	**Ninganchiao**	**0.93**	**274**	P	Pn	16 00 56.0	+0.2
	baz=263						
NACB				S	Sn	16 01 08.1	+0.1
	baz=263						
SHUL	**Shoufeng**	**1.00**	**252**	*i* P	Pn	16 00 56.5	-0.5
	baz=252						
SHUL				S	Sn	16 01 09.5	-0.4
	baz=252						
ETM	**Tongmen**	**1.03**	**262**	P	Pn	16 00 56.9	-0.3
	baz=263						
ETM				*e*S	Sn	16 01 11.0	+0.6
	baz=263						
TWE	**Neicheng**	**1.05**	**306**	P	Pn	16 00 58.1	+0.6
	baz=306						
TWE				*e*S	Sn	16 01 11.4	+0.3
	baz=306						
IRIF	**Iriomote-Funau**	**1.05**	**77**	P	Pn	16 00 57.8	+0.2
TWB1	**Santiao Chiao**	**1.06**	**328**	*i* P	Pn	16 00 58.0	+0.3
	baz=329						
TWB1				S	Sn	16 01 12.4	+1.1
	baz=329						
LXIB	**Xiulin Townshi**	**1.09**	**266**	P	Pn	16 00 58.2	0.0
	baz=266						
LXIB				*e*S	Sn	16 01 12.2	-0.1
	baz=266						
ESL	**Shilin**	**1.11**	**255**	*i* P	Pn	16 00 58.0	-0.4
	baz=248						
ESL				*i* S	Sn	16 01 12.2	-0.4
	baz=248						
NDT	**Datong Townshi**	**1.11**	**297**	⇑P	Pn	16 00 58.8	+0.4
	baz=286						
TIPB	**Shuangxi**	**1.12**	**321**	P	Pn	16 00 59.3	+0.8
	baz=332						
TIPB				*e*S	Sn	16 01 13.8	+1.1
	baz=332						
FUSB	**Fushanzhiwuyua**	**1.13**	**305**	*e*P	Pn	16 01 00.7	+1.9
	baz=305						
FUSB				*e*S	Sn	16 01 14.9	+1.7
	baz=305						
NNS	**Nan Shan**	**1.17**	**287**	P	Pn	16 00 59.4	+0.1
	baz=286						
WARBT	**Fenglin Townsh**	**1.18**	**251**	P	Pn	16 00 58.5	-0.8
	baz=251						
WARBT				*i* S	Sn	16 01 13.7	-0.6
	baz=251						
SXI1	**Grass Mountain**	**1.19**	**326**	*i* P	Pn	16 01 00.5	+1.0
	baz=336						
SXI1				S	Sn	16 01 15.9	+1.3
	baz=336						
NWLT	**Wulai**	**1.21**	**304**	*e*S	Sn	16 01 15.4	+0.5
	baz=314						
WHF	**Hehuan Shan**	**1.22**	**272**	*e*P	Pn	16 01 00.7	+0.4
	baz=272						
WHF				S	Sn	16 01 16.3	+0.4
	baz=272						
HGSD	**Ruisui**	**1.24**	**241**	⇑*i*P	Pn	16 00 59.7	-0.4
	baz=241						
HGSD				*e*S	Sn	16 01 14.1	-1.7
	baz=241						
YHNB	**Yeheng**	**1.25**	**297**	P	Pn	16 01 00.9	+0.5
	baz=286						
NSK	**Sanguang**	**1.27**	**297**	P	Pn	16 01 01.2	+0.6
	baz=297						
NSK				*i* S	Sn	16 01 17.5	+1.0
	baz=297						
JKRS	**Kuro-shima**	**1.29**	**84**	*e*P	Pn	16 01 01.6	+0.8
CHGB	**Renai**	**1.31**	**268**	*e*P	Pn	16 01 01.8	+0.5
	baz=269						
CHGB				*i* S	Sn	16 01 17.4	-0.3
	baz=269						
TWT	**Tachien**	**1.31**	**277**	*e*P	Pn	16 01 01.5	+0.2
	baz=265						
TWT				S	Sn	16 01 18.6	+0.9
	baz=265						
OWD	**Renai**	**1.31**	**264**	*e*P	Pn	16 01 01.7	+0.4
	baz=264						
OWD				S	Sn	16 01 17.8	0.0
	baz=264						
EHY	**Hungye**	**1.32**	**243**	⇓P	Pn	16 01 00.9	-0.3
	baz=257						
EHY				*e*S	Sn	16 01 16.4	-1.2
	baz=257						
WUSB	**Renai**	**1.36**	**266**	*e*P	Pn	16 01 02.7	+0.8
	baz=266						
WUSB				*e*S	Sn	16 01 19.7	+0.8
	baz=266						
VWDT	**VWDT**	**1.38**	**256**	*e*P	Pn	16 01 02.8	+0.7
	baz=256						
VWDT				*e*S	Sn	16 01 19.5	+0.3
	baz=256						
YULB	**Yu-li**	**1.39**	**240**	⇓P	Pn	16 01 02.0	-0.3
	baz=253						
YULB				S	Sn	16 01 19.5	0.0
	baz=253						
TWF1	**Yuli**	**1.41**	**238**	⇑*i*P	Pn	16 01 02.5	0.0
	baz=238						
TWF1				*e*S	Sn	16 01 19.4	-0.5
	baz=238						
YM08	**YM08**	**1.42**	**320**	P	Pn	16 01 03.2	+0.6
	baz=320						
YM08				*e*S	Sn	16 01 21.6	+1.4
	baz=320						
JIJ	**Ishigaki jima**	**1.43**	**79**	P	Pn	16 01 02.8	0.0
NFF	**Wufeng Townshi**	**1.45**	**291**	*e*P	Pn	16 01 03.3	+0.2
	baz=292						
NFF				*e*S	Sn	16 01 21.9	+0.8
	baz=292						
FULB	**Fuli**	**1.50**	**233**	*e*P	Pn	16 01 03.1	-0.7
	baz=224						
FULB				*e*S	Sn	16 01 21.8	-0.4
	baz=224						
WHP	**Taichung City**	**1.52**	**277**	*e*P	Pn	16 01 07.6	+3.5
	baz=268						
SSLB	**Suanglung**	**1.54**	**258**	P	Pn	16 01 04.2	-0.1
	baz=259						
SSLB				*e*S	Sn	16 01 23.7	+0.5
	baz=259						
WCS	**Beigang Elemen**	**1.55**	**269**	*e*P	Pn	16 01 05.9	+1.6
	baz=268						
SMLT	**Sun Moon Lake**	**1.57**	**262**	*e*P	Pn	16 01 05.9	+1.1
	baz=262						
SMLT				*e*S	Sn	16 01 27.2	+3.1
	baz=262						
EHD	**Haiduan**	**1.60**	**234**	*e*P	Pn	16 01 04.6	-0.5
	baz=226						
EHD				*e*S	Sn	16 01 23.1	-1.4
	baz=226						
TYC	**Yuchr**	**1.61**	**263**	*e*P	Pn	16 01 06.5	+1.3
	baz=263						
JISG	**Ishigakijimahi**	**1.63**	**73**	*e*P	Pn	16 01 05.5	0.0
EDH	**Donghe**	**1.64**	**227**	*e*P	Pn	16 01 02.3	-3.4
	baz=220						
EDH				*e*S	Sn	16 01 21.9	-3.6
	baz=220						
WHYT	**Xinyi Township**	**1.65**	**256**	*e*P	Pn	16 01 07.4	+1.6
	baz=248						
WHYT				*e*S	Sn	16 01 28.4	+2.5
	baz=248						
ELDTW	**Lidau**	**1.72**	**238**	*e*P	Pn	16 01 06.2	-0.6
	baz=238						
ELDTW				*e*S	Sn	16 01 26.3	-1.3
	baz=238						
ALS	**Alishan**	**1.75**	**251**	*e*P	Pn	16 01 08.8	+1.4
	baz=251						
ALS				*e*S	Sn	16 01 30.7	+2.0
	baz=251						
LDUT	**Ludao**	**1.77**	**216**	*e*P	Pn	16 01 05.1	-2.2
	baz=217						
LDUT				*e*S	Sn	16 01 26.0	-2.6
	baz=217						
STYH	**Taoyuan**	**1.92**	**241**	*e*P	Pn	16 01 11.1	+1.7
	baz=235						
STYH				S	Sn	16 01 32.7	+0.4
	baz=235						
WCKO	**Fanlu**	**1.95**	**250**	P	Pn	16 01 11.2	+1.3
	baz=251						
WCKO				*e*S	Sn	16 01 35.7	+2.5
	baz=251						
TPUB	**Ta-pu**	**1.98**	**247**	*e*P	Pn	16 01 12.3	+2.0
	baz=247						
TPUB				*e*S	Sn	16 01 37.2	+3.3
	baz=247						
CHN4	**Tsaushan**	**1.99**	**248**	*e*P	Pn	16 01 13.0	+2.6
	baz=249						
CHN4				*e*S	Sn	16 01 37.2	+3.1
	baz=249						
WTP	**Ta-pu**	**2.02**	**245**	*e*P	Pn	16 01 12.9	+2.1
	baz=246						
WTP				*e*S	Sn	16 01 38.2	+3.4
	baz=246						
SLGT	**Liugui**	**2.11**	**239**	*e*P	Pn	16 01 13.9	+1.8
	baz=233						
SLGT				*e*S	Sn	16 01 40.6	+3.4
	baz=233						
TWK	**Hsinying**	**2.11**	**247**	*e*P	Pn	16 01 14.4	+2.2
	baz=247						
TWK				*e*S	Sn	16 01 40.6	+3.3
	baz=247						
CHN1	**Nanshi**	**2.11**	**245**	*e*P	Pn	16 01 14.7	+2.5
	baz=245						
CHN1				S	Sn	16 01 39.7	+2.5
	baz=245						
SNST	**Tainan City**	**2.12**	**246**	*e*P	Pn	16 01 14.5	+2.3
	baz=246						
SNST				*e*S	Sn	16 01 41.3	+3.9
	baz=246						
MASBT	**Mashibuluo**	**2.34**	**231**	*e*P	Pn	16 01 17.9	+2.6
	baz=228						
MASBT				*e*S	Sn	16 01 44.8	+1.9
	baz=228						
EAST	**Anshuo**	**2.36**	**224**	*e*P	Pn	16 01 14.3	-1.2
	baz=232						
EAST				*e*S	Sn	16 01 41.1	-2.1
	baz=232						
PHUB	**P'eng-hu**	**2.84**	**259**	*e*P	Pn	16 01 23.5	+1.5
	baz=272						
PHUB				*e*S	Sn	16 01 55.9	+0.8
	baz=272						
VWUC	**VWUC**	**3.00**	**288**	*e*S	Sn	16 01 58.6	-0.6
	baz=287						

TAP 11 16:01:05.7,24.47N×121.51E,h6km±1km,ML0.9,3C-1D, B,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LATG	**Datong**	**0.07**	**12**	⇑*e*P	Pg	16 01 07.1	-0.3
	baz=11						
LATG				S	Sg	16 01 08.5	-0.2
	baz=11						
NNSB	**Datong**	**0.12**	**251**	⇑*i*P	Pg	16 01 08.1	-0.3
	baz=250						
NNSB				*e*S	Sg	16 01 10.0	-0.1
	baz=250						
NNSH	**Datong**	**0.12**	**250**	*i* P	Pg	16 01 08.2	-0.2
	baz=250						
NNSH				*e*S	Sg	16 01 10.1	-0.1
	baz=250						
NNS	**Nan Shan**	**0.13**	**257**	*e*P	Pg	16 01 09.8	+1.3
	baz=254						
NNS				*e*S	Sg	16 01 12.0	+1.7
	baz=254						
NDT	**Datong Townshi**	**0.13**	**1**	*e*P	Pg	16 01 08.5	0.0
NDT				S	Sg	16 01 10.3	0.0
ENTT	**Nioudou**	**0.18**	**16**	⇓*e*P	Pg	16 01 09.3	+0.1
	baz=18						
ENTT				S	Sg	16 01 11.9	+0.2
	baz=18						
ENA	**Nanau**	**0.21**	**101**	*i* P	Pg	16 01 09.6	-0.4
	baz=101						
ENA				*i* S	Sg	16 01 13.3	+0.5
	baz=101						
YHNB	**Yeheng**	**0.23**	**328**	*i* P	Pg	16 01 10.4	+0.1
	baz=328						
YHNB				*e*S	Sg	16 01 13.7	+0.2
	baz=328						
EWUT	**Wuta**	**0.24**	**96**	P	Pg	16 01 10.2	-0.3
	baz=95						
EWUT				*e*S	Sg	16 01 13.6	-0.2
	baz=95						
NDS	**Dongshan**	**0.25**	**49**	*e*S	Sg	16 01 10.4	-3.5
	baz=303						
NDS	**Dongshan**	**0.25**	**49**	⇑P	Pg	16 01 10.4	-0.2
	baz=48						
NDS				*i* S	Sg	16 01 14.5	+0.6
	baz=48						
NSK	**Sanguang**	**0.25**	**326**	*i* P	Pg	16 01 10.6	0.0
	baz=326						
NSK				*e*S	Sg	16 01 14.1	+0.2
	baz=326						
EAHA	**Aohua**	**0.25**	**124**	P	Pg	16 01 10.4	-0.2
	baz=123						
EAHA				S	Sg	16 01 14.2	+0.3
	baz=123						
NACB	**Ninganchiao**	**0.30**	**165**	P	Pg	16 01 11.8	+0.1
	baz=165						
NACB				S	Sg	16 01 16.6	+0.9
	baz=165						
ETL	**Fush Village**	**0.33**	**162**	*i* P	Pg	16 01 12.0	-0.1
	baz=161						
ETL				S	Sg	16 01 17.7	+1.3
	baz=161						

*IDC **11** 16:04:04.9±1.4,48.02S×104.14E,h0km,mb3.8/4, mbtmp3.8/4,MS3.6/7,Error ellipse: s-maj=55.7km s-min=28.9km az=108.0*

ISC 11 16:04:06.4±1.4,48.0S±0.2°×104.2E±0.4,h10km,n15, σ0§33/6,mb3.8/4,MS3.7/7,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H01W2	**Cape Leeuwin H**	**15.08**	**33**	T	T	16 23 39.6	
	baz=205,slow=74,SNR=140						
H01W1	**Cape Leeuwin H**	**15.09**	**33**	T	T	16 23 14.3	
	baz=205,slow=74,SNR=116						
H01W3	**Cape Leeuwin H**	**15.09**	**33**	T	T	16 23 40.7	
	baz=205,slow=74,SNR=120						
ASAR	**Alice Springs**	**33.87**	**55**	P	**P**	**16 10 49.0**	**-0.2**
	1.3nm,1.1s,baz=226,slow=6.4,SNR=5.0						
	1.3nm,1.1s						
WRA	**Warramunga Arr**	**37.12**	**52**	P	**P**	**16 11 17.4**	**+0.3**
	2.0nm,1.0s,baz=215,slow=8.3,SNR=4.9						
	2.0nm,1.0s						
QSPA	**South Pole Qui**	**42.09**	**180**	P	**P**	**16 11 58.4**	**+0.1**
	1.8nm,1.0s,baz=317,slow=3.3,SNR=3.7						
	1.8nm,1.0s						
KAPI	**Kappang**	**44.90**	**22**	LR	LR	16 29 02.4	
	comp=Z,41nm,21.9s,baz=174,slow=33						
SNAA	**Sanae**	**50.12**	**203**	LR	LR	16 31 39.2	
	comp=Z,87nm,21.7s,baz=192,slow=33						
PMG	**Port Moresby**	**52.77**	**58**	LR	LR	16 35 55.3	
	comp=Z,57nm,18.0s,baz=92,slow=36						
RAO	**Raoul Island**	**61.08**	**103**	LR	LR	16 36 25.9	
	comp=Z,58nm,20.6s,baz=58,slow=32						
CMAR	**Chiang Mai Arr**	**66.36**	**355**	P	**P**	**16 14 55.2**	**0.0**
	0.4nm,0.8s,baz=197,slow=4.3,SNR=4.8						
CMAR				LR	LR	16 42 41.2	
	comp=Z,28nm,18.2s,baz=165,slow=35						
	0.4nm,0.8s						
PMSA	**Palmer Station**	**67.15**	**185**	LR	LR	16 42 25.8	
	comp=Z,60nm,20.7s,baz=198,slow=34						
SONM	**Songino Array**	**95.52**	**1**	LR	LR	17 01 34.1	
	comp=Z,16nm,18.2s,baz=157,slow=36						
NVAR	**Mina Array Bea**	**147.94**	**92**	PKPbc	**PKPbc**	**16 23 51.8**	**+0.1**
	0.3nm,0.3s,baz=242,slow=6.4,SNR=4.4						
TXAR	**Lajitas Array**	**151.57**	**121**	PKPbc	**PKPbc**	**16 24 00.3**	**-0.4**
	0.4nm,0.9s,baz=209,slow=6.7,SNR=3.7						

*DNK **11** 16:06:27.6±1.2,51.62N×15.92E,h0km,90km,ML1.8(UPP)*
*IPEC **11** 16:06:28.5±0.3,51.63N×16.14E,h1km,ML2.7/4,Error ellipse: s-maj=3.2km s-min=1.7km az=66.0*
*VIE **11** 16:06:29.7±0.8,51.51N×16.11E,h0km,mb2.6/6,ml3.1/5, Error ellipse: s-maj=8.0km s-min=4.5km az=37.0, Suspected Mining induced.*
*UPP **11** 16:06:30.5±3.1,51.63N×15.10E,h0km,ML1.8*
*BGR **11** 16:06:30.5±0.4,51.52N×15.99E,h1km,ML3.1/16,Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*
*IDC **11** 16:06:31.2±1.1,51.48N×15.96E,h0km,mbtmp3.1/4, ML2.9/4,Error ellipse: s-maj=17.5km s-min=8.4km az=119.0*
*PRU **11** 16:06:31.8,51.50N×16.00E,h0km*

ISC 11 16:06:27.7±0.7,51.66N±0.03×16.03E±0.02,h0km,n62, σ1§13/112,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**1.07**	**179**	*e*PG	**Pb**	**16 06 48.9**	**-0.2**
CHVC				*e*SG	**Sg**	**16 07 02.2**	**+0.2**
OSTC	**Ostas**	**1.11**	**174**	*e*PG	**Pg**	**16 06 49.4**	**+0.5**
UPC	**Upice**	**1.15**	**181**	*e*PG	**Pg**	**16 06 50.1**	**+0.4**
UPC				*e*SG	**Sg**	**16 07 04.3**	**-0.3**
	comp=Z,239nm,0.3s						
DPC	**Dobruska-Polom**	**1.32**	**172**	*e*PG	**Pg**	**16 06 52.7**	**-0.3**
DPC				*e*SG	**Sg**	**16 07 10.1**	**+0.1**
	comp=Z,65nm,0.5s						
DPC	**Dobruska-Polom**	**1.32**	**172**	*e*Pg	**Pg**	**16 06 52.7**	**-0.3**
DPC				*e*Sg	**Sg**	**16 07 09.5**	**-0.6**
PVCC	**Panska Ves**	**1.46**	**220**	*e*SG	**Sg**	**16 07 14.9**	**+0.4**
BRG	**Berggiesshubel**	**1.53**	**240**	Pg	**Pg**	**16 06 57.5**	**+0.5**
BRG				Sg	**Sg**	**16 07 17.2**	**+0.5**
BRG				Amp		16 07 17.8	
	comp=Z,148nm,0.4s						
BRG	**Berggiesshubel**	**1.53**	**240**	*e*Pn	**Pn**	**16 06 56.2**	**0.0**
BRG				*e*Pg	**Pb**	**16 06 57.1**	**+0.2**
BRG				*e*Sg	**Sg**	**16 07 16.0**	**-0.8**
KRLC	**Kraliky**	**1.65**	**163**	*e*PG	**Pn**	**16 06 57.9**	**-0.1**
KRLC				*e*SG	**Sn**	**16 07 19.6**	**-0.3**
	comp=Z,116nm,0.5s						
FBE	**Freiberg**	**1.83**	**247**	*e*Pg	**Pg**	**16 07 03.3**	**+0.5**
FBE				*e*Sg	**Sb**	**16 07 26.1**	**+0.5**
PRU	**Pruhonice**	**1.92**	**210**	*e*SG	**Sb**	**16 07 27.6**	**-0.4**
	comp=Z,59nm,0.6s						
CLL	**Collm**	**1.93**	**261**	*i* Pn	**Pn**	**16 07 01.7**	**0.0**
CLL				*e*Pg	**Pg**	**16 07 05.0**	**+0.4**
CLL				*i* x	x	16 07 08.7	
CLL				*e*Sg	**Sg**	**16 07 30.0**	**+0.5**
	comp=Z,36nm,0.5s						
CLL	**Collm**	**1.93**	**261**	*e*Pn	**Pn**	**16 07 01.8**	**+0.1**
CLL				*e*Sg	**Sg**	**16 07 30.1**	**+0.5**
HSKC	**Hora Svate Kat**	**1.95**	**238**	*e*SG	**Sb**	**16 07 28.5**	**-0.3**
	comp=Z,68nm,0.5s						
MORC	**Moravsky Berou**	**2.11**	**152**	*e*Pn	**Pn**	**16 07 04.2**	**-0.1**
	baz=335						
MORC				*e*Sg	**Sb**	**16 07 33.1**	**-0.5**
	comp=Z,42nm,0.5s,baz=335						
MORC	**Moravsky Berou**	**2.11**	**152**	*e*Pn	**Pn**	**16 07 04.2**	**-0.1**
MORC				*e*Sg	**Sb**	**16 07 33.6**	**0.0**
OKC	**Ostrava-Krasne**	**2.26**	**143**	*e*Pg	**Pg**	**16 07 10.6**	**-0.4**
OKC				*e*Sg	**Sg**	**16 07 39.4**	**-1.0**
VRAC	**Vranov**	**2.38**	**171**	Pn	**Pn**	**16 07 09.1**	**+1.2**
	comp=Z,2.4nm,0.3s,baz=333,slow=16,SNR=10						
VRAC				Lg	Lg	16 07 40.8	
	comp=Z,6.7nm,0.3s,baz=77,slow=21,SNR=6.1						
	comp=Z,5.1nm,0.3s						
VRAC	**Vranov**	**2.38**	**171**	*e*Pn	**Pn**	**16 07 08.1**	**+0.2**
	baz=353						
VRAC				*e*Sg	**Sb**	**16 07 42.0**	**+0.8**
	comp=Z,36nm,0.4s,baz=353						
TREC	**Trest**	**2.39**	**189**	*e*SG	**Sb**	**16 07 42.5**	**+0.9**
TANN	**Tannenbergstha**	**2.57**	**243**	*e*Pn	**Pn**	**16 07 11.3**	**+0.6**
TANN				*e*Pg	**Pg**	**16 07 17.5**	**+0.5**
TANN				*e*Sg	**Sg**	**16 07 49.7**	**-0.6**
KRUC	**Moravsky**	**2.61**	**175**	*e*Pn	**Pn**	**16 07 11.4**	**+0.3**
	baz=356						
KRUC				*e*Sg	**Sb**	**16 07 49.1**	**+1.3**
	comp=Z,38nm,0.6s,baz=356						
WERD	**Werda**	**2.64**	**244**	*e*Pn	**Pn**	**16 07 12.0**	**+0.4**
WERD				*e*Pg	**Pg**	**16 07 17.9**	**-0.4**
WERD				*e*Sg	**Sb**	**16 07 51.3**	**+2.3**
OJC	**Ojcow**	**2.78**	**120**	*e*Pg	**Pg**

JAVC	**Velka Javorina**	**2.99**	**159**	*e*PN	**Pn**	**16 07 17.4**	**+1.0**
MANZ	**Manzenberg**	**3.00**	**238**	*e*Pn	**Pn**	**16 07 17.6**	**+1.1**
MANZ				*e*Sg	**Sg**	**16 08 03.4**	**-0.5**
CKRC	**Cesky Krumlov**	**3.05**	**202**	*e*PG	**Pb**	**16 07 24.0**	**+1.2**
CKRC				*e*SG	**Sb**	**16 08 02.7**	**+2.2**
ROTZ	**Rotzenmuhle**	**3.08**	**234**	*e*Pn	**Pn**	**16 07 18.1**	**+0.5**
ROTZ				*e*Sg	**Sb**	**16 08 04.2**	**+2.7**
GEC2	**GERESS Array S**	**3.19**	**209**	*e*Pn	**Pn**	**16 07 20.1**	**+0.9**
GEC2				*e*Sg	**Sb**	**16 08 06.6**	**+2.0**
GERES	**GERESS Array B**	**3.19**	**209**	Pn	**Pn**	**16 07 20.2**	**+1.1**
	comp=Z,1.6nm,0.3s,baz=30,slow=13,SNR=19						
GERES				Sn	**Sn**	**16 07 56.9**	**-1.0**
	comp=Z,2.7nm,0.3s,baz=31,slow=23,SNR=6.4						
GERES				Lg	Lg	16 08 07.1	
	comp=Z,8.1nm,0.3s,baz=45,slow=26,SNR=12						
	comp=Z,2.9nm,0.4s						
WET	**Wettzell**	**3.22**	**220**	*e*Pn	**Pn**	**16 07 20.1**	**+0.5**
WET				*e*Sg	**Sg**	**16 08 09.0**	**-2.2**
LANS	**Liptovska Anna**	**3.33**	**137**	*e*PN	**Pn**	**16 07 22.0**	**+0.9**
LANS				*e*PG	**Pg**	**16 07 31.4**	**-0.2**
LANS				*e*SG	**Sg**	**16 08 14.0**	**-0.8**
MODS	**Modra-Piesok**	**3.38**	**166**	*e*PN	**Pn**	**16 07 22.2**	**+0.4**
MODS				*e*PG	**Pg**	**16 07 32.6**	**+0.1**
MODS				*e*SG	**Sg**	**16 08 15.6**	**-0.7**
CLZ	**Clausthal**	**3.52**	**275**	*e*Pn	**Pn**	**16 07 25.5**	**+1.8**
CLZ				*e*Sg	**Sg**	**16 08 21.3**	**+0.5**
NIE	**Niedzica**	**3.52**	**128**	*e*PG	**Pg**	**16 07 34.9**	**-0.3**
NIE				*e*SG	**Sg**	**16 08 20.3**	**-0.6**
GRF	**Grafenberg Arr**	**3.64**	**239**	*e*Pn	**Pn**	**16 07 26.5**	**+1.2**
GRF				*e*Sg	**Sg**	**16 08 23.4**	**-1.1**
VYHS	**Vyhne**	**3.64**	**149**	*e*PN	**Pn**	**16 07 25.3**	**0.0**
VYHS				*e*PG	**Pg**	**16 07 39.6**	**+2.1**
VYHS				*e*SG	**Sg**	**16 08 23.6**	**-1.1**
CONA	**Conrad Observa**	**3.73**	**182**	*e*Pn	**Pn**	**16 07 27.4**	**+0.8**
	comp=Z,0.8nm,0.2s,SNR=6.6						
CONA				*e*Sg	**Sg**	**16 08 25.0**	**-2.6**
	comp=Z,29nm,0.4s						
RONA	**Rosalia, Austr**	**3.96**	**177**	*e*Pg	**Pg**	**16 07 41.5**	**-2.1**
	comp=Z,3.5nm,0.5s						
RONA				Sg	**Sg**	**16 08 31.4**	**-3.5**
	comp=Z,18nm,0.4s						
MOA	**Molln**	**3.98**	**197**	*e*Pn	**Pn**	**16 07 30.5**	**+0.6**
	comp=Z,5.5nm,0.3s,SNR=7.8						
MOA				*e*Sg	**Sg**	**16 08 34.1**	**-1.3**
	comp=Z,10nm,0.4s						
STHS	**Stebnicka Huta**	**4.01**	**122**	*e*PG	**Pg**	**16 07 46.6**	**+2.1**
STHS				*e*SG	**Sg**	**16 08 38.0**	**+1.6**
LUNU	**Lund**	**4.27**	**340**	P	**Pn**	**16 07 34.0**	**0.0**
LUNU				S	**Sn**	**16 08 23.6**	**-0.8**
LUNU	**Lund**	**4.27**	**340**	P	**Pn**	**16 07 34.0**	**0.0**
LUNU				S	**Sn**	**16 08 23.6**	**-0.8**
KECS	**Kecovo**	**4.28**	**136**	*e*PG	**Pg**	**16 07 53.0**	**+3.3**
KECS				*e*SG	**Sg**	**16 08 44.5**	**-0.6**
ARSA	**Arzberg**	**4.42**	**185**	*e*Sg	**Sg**	**16 08 50.5**	**+0.8**
	comp=Z,22nm,0.6s						
CRVS	**Cervenica-Dubn**	**4.44**	**126**	*e*PG	**Pg**	**16 07 53.5**	**+0.7**
CRVS				*e*SG	**Sg**	**16 08 52.3**	**+2.0**
BJUU	**Bjuv**	**4.77**	**339**	P	**Pn**	**16 07 40.8**	**0.0**
BJUU	**Bjuv**	**4.77**	**339**	P	**Pn**	**16 07 40.8**	**0.0**
KBA	**Koelnbreinsper**	**4.91**	**202**	*i* Pn	**Pn**	**16 07 43.6**	**+0.8**
	comp=Z,3.6nm,0.4s,SNR=11						
KBA				Sg	**Sg**	**16 09 06.0**	**+0.8**
	comp=Z,14nm,0.6s						
DEL	**Delary**	**4.99**	**346**	P	**Pn**	**16 07 44.2**	**+0.5**
DEL				S	**Sn**	**16 08 40.0**	**-2.1**
DEL	**Delary**	**4.99**	**346**	P	**Pn**	**16 07 44.2**	**+0.5**
DEL				S	**Sn**	**16 08 40.0**	**-2.1**
FABU	**Falkenberg**	**5.70**	**341**	P	**Pn**	**16 07 53.9**	**+0.5**
FABU	**Falkenberg**	**5.70**	**341**	P	**Pn**	**16 07 53.9**	**+0.5**
GNOU	**Gnosjoe**	**5.80**	**348**	P	**Pn**	**16 07 55.9**	**+1.0**
GNOU	**Gnosjoe**	**5.80**	**348**	P	**Pn**	**16 07 55.9**	**+1.0**
DAVOX	**Davos/Dischmat**	**6.33**	**222**	Lg	Lg	16 09 46.7	
	comp=Z,0.4nm,0.3s,baz=183,slow=22,SNR=2.9						
AKASG	**Malin Array Be**	**8.35**	**91**	Pn	**Pn**	**16 08 30.4**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=279,slow=12,SNR=5.9						
AKASG				Lg	Lg	16 10 57.6	
	comp=Z,0.3nm,0.3s,baz=37,slow=29,SNR=1.1						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**11.25**	**25**	Pn	**Pn**	**16 09 10.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=217,slow=14,SNR=5.7						
FINES				Sn	**Sn**	**16 11 14.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=212,slow=21,SNR=4.0						
	comp=Z,0.6nm,0.4s						
ARCES	**ARCESS Array B**	**18.49**	**11**	Pn	**P**	**16 10 42.6**	**-2.4**
	baz=191,slow=13,SNR=2.2						

*GUC **11** 16:18:53.9±0.7,23.°92S×67.°33W,h206km±14km,ML3.6*
*SJA **11** 16:18:53.9±0.7,24.°08S×66.°96W,h157km±7km,ML3.4, MW3.5*

ISC 11 16:18:51.2±1.9,24.°05S±0.°05×66.°99W±0.°05, h199km±17km,n34,σ1§51/51,5C,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SLA	**San Lorenzo**	**1.51**	**116**	*e*P	**Pn**		**16 19 27.0**	**+2.0**
SLA				*e*S	**Sn**		**16 19 47.3**	**-4.0**
HJA	**Humahuaca**	**1.68**	**60**	*e*S	**Sn**		**16 19 52.1**	**-2.3**
FSA	**Cafayete**	**2.25**	**156**	*e*P	**Pn**		**16 19 33.7**	**+1.3**
LVC	**Limon Verde**	**2.27**	**309**	*e*P	**Pn**		**16 19 34.4**	**+1.5**
LVC				*e*S	**Sn**		**16 20 05.9**	**+0.6**
LVC	**Limon Verde**	**2.27**	**309**	*e*P	**Pn**		**16 19 34.1**	**+1.2**
LVC				*e*S	**Sn**		**16 20 04.4**	**-0.9**
LVC				IAML			16 20 08.4	
	277nm,0.4s							
YJA	**Yavi**	**2.31**	**36**	*e*P	**Pn**		**16 19 35.3**	**+1.9**
PB15	**IPOC Station P**	**2.42**	**290**	*e*P	**Pn**		**16 19 35.8**	**+1.4**
PB15	**IPOC Station P**	**2.42**	**290**	*i*P	**Pn**		**16 19 35.7**	**+1.4**
PB15				*e*S	**Sn**		**16 20 06.9**	**-1.0**
GO02	**Mina Guanaco**	**2.61**	**244**	*e*P	**Pn**		**16 19 37.9**	**+1.3**
GO02	**Mina Guanaco**	**2.61**	**244**	*i*P	**Pn**		**16 19 37.8**	**+1.3**
PB06	**IPOC Station P**	**2.72**	**299**	*e*P	**Pn**		**16 19 39.0**	**+1.2**
PB06				IAML			16 20 15.0	
	comp=Z,163nm,0.3s							
PB06	**IPOC Station P**	**2.72**	**299**	*i*P	**Pn**		**16 19 38.9**	**+1.2**
PB06				*e*S	**Sn**		**16 20 12.7**	**-1.3**
PB06				IAML			16 20 15.3	
	comp=E,255nm,0.2s							
PB09	**IPOC Station P**	**3.06**	**317**	*e*P	**Pn**		**16 19 43.5**	**+1.8**
PB09				*e*S	**Sn**		**16 20 21.6**	**+0.5**
PB09				IAML			16 20 25.9	
	comp=Z,50nm,0.4s							
PB09	**IPOC Station P**	**3.06**	**317**	*e*P	**Pn**		**16 19 43.4**	**+1.7**
PB09				*e*S	**Sn**		**16 20 20.8**	**-0.2**
PB09				IAML			16 20 22.1	
	comp=N,71nm,0.4s							
AHML	**Horco Molle**	**3.11**	**151**	*e*P	**Pn**		**16 19 43.7**	**+1.7**
PB14	**IPOC Station P**	**3.16**	**259**	*e*P	**Pn**		**16 19 43.7**	**+0.7**
PB14				*e*S	Sn		16 20 08.2	-15
PB14				IAML			16 20 08.3	
	comp=Z,63nm,0.4s							
PB10	**IPOC Station P**	**3.31**	**279**	*e*P	**Pn**		**16 19 45.6**	**+1.1**
PB10				*e*S	**Sn**		**16 20 25.7**	**-0.3**
PB10				IAML			16 20 28.4	
	comp=Z,57nm,0.4s							
PB10	**IPOC Station P**	**3.31**	**279**	*i*P	**Pn**		**16 19 45.5**	**+1.1**
PB10				*e*S	**Sn**		**16 20 24.7**	**-1.3**
PB10				IAML			16 20 28.8	
	comp=E,65nm,0.3s							
PB04	**IPOC Station P**	**3.37**	**300**	*e*P	Pn		16 19 50.4	+5.0
PB04				*e*S	**Sn**		**16 20 26.1**	**-1.6**
PB04				IAML			16 20 33.5	
	comp=Z,94nm,0.3s							
AC02	**Maricunga**	**3.38**	**214**	*e*P	**Pn**		**16 19 47.6**	**+1.8**
AC02	**Maricunga**	**3.38**	**214**	*i*P	**Pn**		**16 19 47.4**	**+1.7**
PB07	**IPOC Station P**	**3.53**	**310**	*e*P	**Pn**		**16 19 47.5**	**+0.2**
PB07				*e*S	**Sn**		**16 20 29.3**	**-2.0**
PB07				IAML			16 20 30.0	
	comp=Z,92nm,0.3s							
PB07	**IPOC Station P**	**3.53**	**310**	*e*P	**Pn**		**16 19 48.1**	**+0.7**
PB01	**IPOC Station P**	**3.78**	**322**	*e*P	**Pn**		**16 19 51.1**	**+0.7**
PB01				*e*S	**Sn**		**16 20 35.1**	**-1.6**
PB01				IAML			16 20 38.8	
	comp=Z,39nm,0.3s							
PB01	**IPOC Station P**	**3.78**	**322**	*e*P	**Pn**		**16 19 50.7**	**+0.4**
PB02	**IPOC Station P**	**3.82**	**315**	*e*P	**Pn**		**16 19 51.6**	**+0.8**
PB02				*e*S	**Sn**		**16 20 36.0**	**-1.5**
PB02				IAML			16 21 04.8	
	comp=Z,102nm,0.3s							
PB02	**IPOC Station P**	**3.82**	**315**	*e*P	**Pn**		**16 19 51.4**	**+0.6**
AC01	**Pan de Azucar**	**3.88**	**237**	*e*P	**Pn**		**16 19 51.5**	**+0.1**
AC01				IAML			16 21 04.7	
	comp=Z,29nm,0.2s							
AC01	**Pan de Azucar**	**3.88**	**237**	*i*P	**Pn**		**16 19 51.3**	**-0.1**
PATCX	**Punta Patache**	**4.35**	**317**	*e*P	**Pn**		**16 19 58.2**	**+0.8**
PATCX				*e*S	**Sn**		**16 20 45.6**	**-3.8**
PATCX				IAML			16 21 14.8	
	comp=Z,31nm,0.9s							
PB08	**IPOC Station P**	**4.38**	**332**	*e*P	**Pn**		**16 19 59.8**	**+1.7**
PB08				*e*S	**Sn**		**16 20 50.8**	**+0.1**
PB08				IAML			16 20 53.5	
	comp=Z,18nm,0.5s							
TA01	**Diego Aracena**	**4.56**	**319**	*e*P	**Pn**		**16 20 00.5**	**+0.6**
TA01				*e*S	**Sn**		**16 20 54.8**	**+0.8**
TA01				IAML			16 21 29.7	
	comp=Z,14nm,1.0s							
GO01	**Chusmiza**	**4.82**	**334**	*e*P	**Pn**		**16 20 04.7**	**+0.9**
GO01				*e*S	**Sn**		**16 21 00.7**	**-0.1**
PB11	**IPOC Station P**	**4.94**	**329**	*e*P	**Pn**		**16 20 04.6**	**-0.3**
PB11				*e*S	**Sn**		**16 21 00.7**	**-2.3**
PB11				IAML			16 21 09.1	
	comp=Z,18nm,0.4s							

*IDC **11** 16:23:58.6±1.1,84.°24N×108.°45E,h0km,mb3.5/6, mbtmp3.6/7,ML3.2/1,MS3.3/7,Error ellipse: s-maj=34.0km s-min=21.4km az=147.0*
*FCIAR **11** 16:24:00.0,84.°01N×108.°66E,h10km,station SVZ has station magnitude of 3.20*

ISC 11 16:23:59.4±0.8,84.°19N±0.°08×105.°54E±0.°08,h10km,n17, σ2§28/13,mb3.4/5,MS3.3/7,North of Severnaya Zemlya

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SVZ	**Severnaya Zeml**	**4.98**	**188**	*e*P	**Pn**		**16 25 14.6**	**+0.6**
SVZ				*e*S	**Sn**		**16 26 07.3**	**-4.2**
	17nm,0.6s							
ZFI2	**Zemlya Franca-**	**7.88**	**276**	*e*P	**Pn**		**16 25 55.0**	**+1.2**
ZFI2				*e*S	**Sn**		**16 27 20.4**	**-2.4**
OMEGA	**Omega**	**7.89**	**276**	*e*P	**Pn**		**16 25 54.9**	**+1.0**
OMEGA				*e*S	**Sn**		**16 27 20.0**	**-3.0**
SPA0	**Spitsbergen Ar**	**13.16**	**295**	P	**Pn**		**16 27 05.8**	**-0.2**
SPA0				S	Sn		16 29 21.9	-10
TIXI	**Tiksi**	**13.29**	**147**	Pn	**Pn**		**16 27 08.3**	**+0.5**
	0.1nm,0.3s,baz=22,slow=12,SNR=4.0							
	1.2nm,0.3s							
ARCES	**ARCESS Array B**	**20.37**	**276**	P	Pn		16 28 40.4	+2.7
	2.2nm,0.8s,baz=20,slow=11,SNR=1.6							
	2.2nm,0.8s							
ILAR	**Eielson Array**	**27.67**	**62**	P	**P**		**16 29 46.0**	**-0.9**
	0.9nm,1.1s,baz=350,slow=7.5,SNR=5.0							
	0.9nm,1.1s							
FINES	**FINESS Array B**	**28.19**	**270**	P	**P**		**16 29 54.6**	**+3.1**
	1.3nm,0.8s,baz=16,slow=12,SNR=2.8							
	1.3nm,0.8s							
ARU	**Arti**	**30.03**	**234**	LR	LR		16 43 04.2	
	comp=Z,52nm,18.9s,baz=20,slow=38							
ZALV	**Zalesovo Beam**	**30.83**	**204**	LR	LR		16 43 06.4	
	comp=Z,26nm,19.0s,baz=300,slow=37							
YKA	**Yellowknife Ar**	**32.34**	**34**	P	**P**		**16 30 26.8**	**-1.3**
	0.2nm,0.6s,baz=360,slow=11,SNR=3.7							
YKA				LR	LR		16 43 59.2	
	comp=Z,59nm,18.5s,baz=76,slow=37							
	0.2nm,0.6s							
BVAR	**Borovoye Array**	**32.53**	**220**	LR	LR		16 46 36.7	
	comp=Z,71nm,18.2s,baz=8.2,slow=42							
MKAR	**Makanchi Array**	**38.09**	**206**	P	**P**		**16 31 19.7**	**+2.0**
	0.4nm,0.8s,baz=10,slow=7.4,SNR=4.4							
	0.4nm,0.8s							
AAK	**Ala-Archa**	**42.63**	**214**	LR	LR		16 51 37.0	
	comp=Z,44nm,19.0s,baz=52,slow=39							
TKL	**Tuckaleechee C**	**60.30**	**9**	LR	LR		16 59 57.2	
	comp=Z,31nm,19.8s,baz=354,slow=36							
CMAR	**Chiang Mai Arr**	**65.85**	**187**	LR	LR		17 04 46.9	
	comp=Z,14nm,18.7s,baz=145,slow=37							
TXAR	**Lajitas Array**	**65.97**	**28**	P	**P**		**16 34 44.5**	**-0.9**
	0.3nm,0.5s,baz=1.7,slow=3.7,SNR=5.6							
	0.3nm,0.5s							

*IDC **11** 16:24:26.5±1.3,10.°51N×126.°40E,h0km,mb3.7/7, mbtmp3.7/7,MS2.8/1,Error ellipse: s-maj=67.6km s-min=20.6km az=64.0*

ISC 11 16:24:28.0±1.0,10.°39N±0.°06×126.°35E±0.°06,h10km,n26, σ1§61/24,mb3.8/7,5C-7D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PLP	**Palo**	**1.55**	**300**	*e*P	**Pg**		**16 24 57.1**	**-0.7**
PLP				*e*S	**Sg**		**16 25 17.0**	**-1.0**
BIPH	**Bislig**	**2.19**	**180**	*e*P	**Pn**		**16 25 05.7**	**+1.1**
BIPH				*e*S	**Sn**		**16 25 31.4**	**-0.4**
LLP	**Lapu-Lapu**	**2.35**	**268**	*e*P	**Pb**		**16 25 09.3**	**-1.1**
LLP				*e*S	**Sb**		**16 25 38.9**	**-0.6**
CGP	**Cagayan de Oro**	**2.52**	**220**	*e*P	**Pn**		**16 25 11.1**	**+2.0**
CGP				*e*S	**Sn**		**16 25 40.8**	**+0.9**
TBP	**Tagbilaran**	**2.55**	**254**	*e*P	**Pb**		**16 25 11.8**	**-2.0**
TBP				*i* S	**Sb**		**16 25 43.9**	**-1.4**
BUKP	**Musuan**	**2.80**	**207**	*e*P	**Pb**		**16 25 16.2**	**-2.0**
SNPH	**Sibulan**	**3.24**	**252**	*e*P	**Pn**		**16 25 21.7**	**+2.7**
SNPH				*e*S	**Sb**		**16 26 04.5**	**-0.8**
DAV	**Davao City (W)**	**3.38**	**193**	LR	LR		16 27 08.6	
	comp=Z,128nm,20.4s,baz=8.0,slow=46							
DCPH	**Dipolog City**	**3.46**	**239**	*i*P	**Pn**		**16 25 24.0**	**+2.0**
DCPH				*i* S	**Sn**		**16 26 05.0**	**+2.0**
CNOP	**Candoni, Negro**	**3.70**	**262**	*e*P	**Pn**		**16 25 27.8**	**+2.5**
RCP	**Roxas**	**3.73**	**289**	*e*P	**Pn**		**16 25 28.0**	**+2.3**
JAP	**San Jose, Anti**	**4.34**	**275**	*e*P	Pb		16 25 39.0	-5.5
LQP	**Lukban**	**5.98**	**309**	*e*P	Pn		16 25 47.8	-9.1
CMAR	**Chiang Mai Arr**	**27.70**	**290**	P	**P**		**16 30 16.8**	**+0.1**
	1.1nm,0.7s,baz=98,slow=7.0,SNR=9.0							
	1.1nm,0.7s							
WRA	**Warramunga Arr**	**31.15**	**165**	P	**P**		**16 30 49.6**	**+2.3**
	0.5nm,0.7s,baz=329,slow=10,SNR=2.0							
	0.5nm,0.7s							
ASAR	**Alice Springs**	**34.64**	**168**	P	**P**		**16 31 17.8**	**0.0**
	0.2nm,0.4s,baz=352,slow=6.9,SNR=9.7							
	0.2nm,0.4s							
H11S3	**WAKE ISLAND Hy**	**39.81**	**74**	T	T		17 14 53.3	
	baz=261,slow=76,SNR=9.1							
H11S1	**WAKE ISLAND Hy**	**39.83**	**74**	T	T		17 15 00.3	
	baz=261,slow=76,SNR=6.9							
H11S2	**WAKE ISLAND Hy**	**39.83**	**74**	T	T		17 15 08.4	
	baz=261,slow=76,SNR=11							
H11N1	**WAKE ISLAND Hy**	**40.14**	**72**	T	T		17 15 17.5	
	baz=264,slow=74,SNR=18							
H11N2	**WAKE ISLAND Hy**	**40.15**	**72**	T	T		17 15 30.4	
	baz=264,slow=74,SNR=12							
H11N3	**WAKE ISLAND Hy**	**40.16**	**72**	T	T		17 15 18.8	
	baz=264,slow=74,SNR=12							
MKAR	**Makanchi Array**	**51.98**	**323**	P	**P**		**16 33 37.1**	**-0.4**
	0.3nm,0.3s,baz=114,slow=6.8,SNR=11							
	0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**56.02**	**325**	P	**P**		**16 34 06.2**	**-0.7**
	0.5nm,0.4s,baz=126,slow=6.7,SNR=6.0							
	0.5nm,0.4s							
ARCES	**ARCESS Array B**	**84.11**	**340**	P	**P**		**16 36 59.1**	**+0.1**
	2.2nm,0.9s,baz=92,slow=6.7,SNR=2.0							
	2.2nm,0.9s							
FINES	**FINESS Array B**	**85.82**	**332**	P	**P**		**16 37 06.7**	**-0.9**
	0.3nm,0.4s,baz=91,slow=8.5,SNR=3.7							
	0.3nm,0.4s							

*DJA **11** 16:34:02.9±0.6,3.°5S±4.°×9.°9E±.°,h76km±10km,M3.8/6, mb4.0/1,MLv3.8/6*
*IDC **11** 16:34:17.4±7.0,1.°85S×101.°50E,h0km,mb3.2/3, mbtmp3.2/3,Error ellipse: s-maj=253.9km s-min=31.0km az=62.0*

ISC 11 16:34:00.6±2.1,3.°5S±0.°1×99.°3E±0.°1,h10km,n12, σ1§68/11,mb3.3/3,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
PPSI	**Pulau Pagai**	**1.01**	**43**	P	**Pb**		**16 34 21.6**	**+1.3**
PPSI				S	**Sn**		**16 34 35.2**	**0.0**
SISI	**Saibi**	**2.19**	**354**	P	**Pn**		**16 34 36.3**	**-0.7**
SISI				S	**Sn**		**16 35 02.5**	**-1.7**
PDSI	**Padang**	**2.82**	**24**	P	**Pn**		**16 34 45.7**	**-0.2**
PDSI				S	**Sn**		**16 35 17.2**	**-2.8**
PBSI	**Pulau Batu**	**3.59**	**343**	P	**Pn**		**16 34 55.4**	**-1.0**
MNAI	**Manna**	**3.72**	**103**	P	**Pn**		**16 34 57.1**	**-1.1**
MNAI				S	**Sn**		**16 35 40.7**	**-1.4**
KASI	**Kota Agung**	**5.53**	**111**	P	Pn		**16 35 22.6**	**-0.5**
CMAR	**Chiang Mai Arr**	**21.84**	**359**	P	**P**		**16 38 55.7**	**+2.3**
	0.7nm,0.6s,baz=188,slow=10,SNR=10							
	0.7nm,0.6s							
H08S2	**Diego Garcia H**	**27.01**	**260**	T	T		17 10 04.0	
	baz=79							
H08S3	**Diego Garcia H**	**27.02**	**260**	T	T		17 09 49.0	
	baz=79,SNR=2.4							
H08S1	**Diego Carcia H**	**27.03**	**260**	T	T		17 09 46.3	
	baz=79							
WRA	**Warramunga Arr**	**37.84**	**118**	P	P		16 41 27.9	+10
	0.4nm,0.8s,baz=305,slow=9.0,SNR=1.4							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**38.94**	**124**	P	P		16 41 37.9	+11
	0.2nm,0.8s,baz=297,slow=7.5,SNR=4.1							
	0.2nm,0.8s							

IDC 11 16:37:10.2±7.5,16.°02S×174.°78W,h0km,mb3.9/3, mbtmp3.9/3,Error ellipse: s-maj=331.7km s-min=35.9km az=140.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**48.41**	**257**	P	P		16 45 54.3	-0.2
	0.5nm,0.6s,baz=93,slow=7.3,SNR=11							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**48.65**	**252**	P	P		16 45 56.4	0.0
	4.0nm,0.6s,baz=89,slow=7.7,SNR=106							
	4.0nm,0.6s							
ILAR	**Eielson Array**	**83.31**	**12**	P	P		16 49 38.5	0.0
	0.3nm,0.4s,baz=221,slow=5.2,SNR=6.5							
	0.3nm,0.4s							

DJA 11 16:41:23.6±1.0,10.°5S±5.°×11.°5E±.°,h35km±20km,M3.8/10, mb3.8/1,MLv3.8/10,South of Bali

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
DNP	**Denpasar**	**1.18**	**32**	P	Pn		16 41 44.0	+0.3
DNP				S	Sn		16 41 59.5	+0.9
JAGI	**Jajag, Banyuwa**	**1.28**	**341**	P	Pn		16 41 44.7	-0.4
SRBI	**Singaraja**	**1.71**	**21**	P	Pn		16 41 51.1	+0.1
SRBI				S	Sn		16 42 12.0	+0.4
ABJI	**Asem Bagus**	**1.91**	**350**	P	Pn		16 41 53.3	-0.4
ABJI				S	Sn		16 42 18.3	+1.7
BLJI	**Banyuglugur**	**2.16**	**333**	P	Pn		16 41 57.3	+0.1
BLJI				S	Sn		16 42 23.9	+1.1
TWSI	**Taliwang, Sumb**	**2.46**	**68**	P	Pn		16 42 02.0	+0.7
PWJI	**Pagerwojo**	**3.21**	**301**	P	Pn		16 42 11.2	-0.3
PLAI	**Plampang**	**3.27**	**75**	P	Pn		16 42 13.5	+1.1
PLAI				S	Sn		16 42 50.6	+0.5
UGM	**Wanagama**	**4.38**	**293**	P	Pn		16 42 27.4	-0.3
EDFI	**Ende, Flores**	**7.08**	**83**	P	Pn		16 43 04.8	-0.1

*IDC **11** 16:49:34.1±2.3,4.°48N×123.°52E,h553km±29km,mb3.2/9, mbtmp4.2/10,Error ellipse: s-maj=91.2km s-min=12.4km az=66.0*
*DJA **11** 16:49:35.1±0.6,4.°7N±5.°×12.°3E±.°,h520km±5km,M3.9/10, mb4.0/7,mB4.3/4,MLv4.0/10,Mw(mB)3.5/4*

ISC 11 16:49:33.3±0.7,4.°42N±0.°07×123.°5E±0.°1,h550km,n24, σ1§04/31,mb3.6/9,3C,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time	Res
				Op			h m s	ISC
SGSI	**Sangihe**	**2.13**	**110**	P	**P**		**16 50 42.5**	**-1.1**
SGSI				S	**S**		**16 51 39.8**	**-1.0**
BUKP	**Musuan**	**3.77**	**24**	*e*P	**P**		**16 50 54.3**	**+0.7**
GTOI	**Gorontalo**	**3.79**	**188**	P	**P**		**16 50 52.3**	**-1.4**
KMSI	**Cibinong**	**3.84**	**173**	P	**P**		**16 50 54.1**	**0.0**
TBP	**Tagbilaran**	**5.25**	**4**	*e*P	**P**		**16 51 05.4**	**+0.1**
TNTI	**Ternate**	**5.28**	**133**	P	**P**		**16 51 05.4**	**-0.2**
	17nm,0.7s,364nm0.1nm							
TNTI				S	**S**		**16 52 20.9**	**0.0**
	17nm,0.7s,364nm0.1nm							
CNOP	**Candoni, Negro**	**5.45**	**351**	*e*P	**P**		**16 51 06.6**	**-0.3**
LUWI	**Luwuk**	**5.47**	**188**	P	**P**		**16 51 07.6**	**+0.3**
	33nm,1.1s,1μm0.5nm							
LUWI				S	**S**		**16 52 21.5**	**-2.5**
	33nm,1.1s,1μm0.5nm							
LBMI	**Labuha**	**6.41**	**142**	P	**P**		**16 51 16.1**	**+0.3**
	60nm,0.7s,1μm0.3nm							
LBMI				S	**S**		**16 52 40.3**	**+0.8**
	60nm,0.7s,1μm0.3nm	

WHHZ				S	S	17 02 04.0	-0.2	
NMHZ	**Naumai**	**2.60**	**190**	P	Pn	17 01 29.5	+0.3	
NMHZ				S	S	17 02 07.7	+2.2	
MHGZ	**Mahia Peninsul**	**2.65**	**171**	P	Pn	17 01 29.8	+0.1	
BKZ	**Black Stump Fm**	**2.72**	**195**	P	Pn	17 01 29.4	-1.1	
MCHZ	**McNeill Hill**	**2.95**	**190**	P	Pn	17 01 32.5	-0.5	
MCHZ				S	S	17 02 13.4	+1.1	
BHHZ	**Black Hill Sta**	**3.13**	**199**	P	Pn	17 01 33.5	-1.5	
KRHZ	**Kereru**	**3.20**	**194**	P	Pn	17 01 34.5	-1.4	
KAHZ	**Kahuranaki**	**3.28**	**187**	P	Pn	17 01 35.7	-1.1	
PNHZ	**Pukenui**	**3.50**	**195**	P	Pn	17 01 37.5	-1.8	
TSZ	**Takapari Road**	**3.69**	**197**	P	Pn	17 01 39.7	-2.0	
PRHZ	**Porangahau**	**3.77**	**189**	P	Pn	17 01 40.9	-1.7	
HOWZ	**Holdsworth Sta**	**4.59**	**198**	P	Pn	17 01 49.5	-3.2	
OGWZ	**Otaki Gorge**	**4.61**	**201**	P	Pn	17 01 50.3	-2.5	
TUWZ	**Tuamarina**	**5.57**	**208**	P	Pn	17 02 02.6	-2.3	
TKNZ	**Takaka Hill**	**5.66**	**216**	P	Pn	17 02 05.4	-0.7	
THZ	**Tophouse**	**6.27**	**212**	P	Pn	17 02 12.2	-1.6	
KHZ	**Kahutara**	**6.58**	**206**	P	Pn	17 02 15.3	-2.4	

*NEIC **11** 17:13:20.3±0.7,19˚.32N±0˚.02×155˚.205W±0˚.009,*
h5km±1km, Error ellipse: s-maj=3.0km s-min=2.1km
az=154.0

HVO 11 17:13:19.5±1.1,**19˚.320N**±0˚.006×**155˚.196W**±0˚.008,
h1km±8km,**ML2.6**/9,**ML2.8**/44(NEIC),**Error ellipse:**
s-maj=1.3km s-min=0.6km az=130.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**341**		Pg	17 13 21.8	+1.1
PUH				Sg	Sg	17 13 22.9	+1.4
KNHH	**Kane Nui o Ham**	**0.06**	**23**		Pg	17 13 21.9	+1.1
STCH	**Steam Cracks**	**0.09**	**46**		Pg	17 13 22.2	+0.8
STCH				Sg	Sg	17 13 24.0	+1.4
KKO	**Keanakako`i**	**0.10**	**320**		Pg	17 13 22.4	+0.9
KKO				IAML		17 13 23.1	
	comp=E,7μm,1.1s						
RIM	**Rim**	**0.10**	**316**		Pg	17 13 22.6	+1.0
RIM				Sg	Sg	17 13 24.5	+1.5
HLP	**Hilina Pali**	**0.11**	**257**	Pg	Pg	17 13 22.7	+1.1
HLP				Sg	Sg	17 13 25.0	+1.9
HLP				IAML		17 13 25.2	
	comp=N,6μm,0.3s						
HLP				IAML		17 13 25.3	
	comp=E,4μm,0.1s						
NPOC	**North of Pu'u**	**0.11**	**48**		Pg	17 13 22.6	+0.9
NPOC	**North of Pu'u**	**0.11**	**48**	Sg	Sg	17 13 24.5	+1.4
NPOC				IAML		17 13 25.0	
	comp=N,2μm,0.4s						
NPOC				IAML		17 13 25.2	
	comp=E,1μm,0.7s						
BYL	**Byron's Ledge**	**0.11**	**327**	Pg	Pg	17 13 22.5	+0.8
BYL				IAML		17 13 22.5	
	comp=E,6μm,1.2s						
BYL				IAML		17 13 25.0	
	comp=N,5μm,0.8s						
JCUZ	**Jacuzzi**	**0.11**	**54**		Pg	17 13 22.5	+0.9
JCUZ				Sg	Sg	17 13 24.4	+1.3
SDHHI	**Sand Hill**	**0.12**	**307**	Pg	Pg	17 13 22.6	+0.8
SDHHI				IAML		17 13 23.3	
	comp=E,6μm,0.5s						
HATHI	**Halema'uma'u T**	**0.12**	**329**	Pg	Pg	17 13 22.7	+0.8
HATHI				IAML		17 13 25.4	
	comp=E,7μm,0.8s						
HATHI				IAML		17 13 25.9	
	comp=N,5μm,0.8s						
SBLHI	**Steaming Bluff**	**0.13**	**327**	Pg	Pg	17 13 22.8	+0.8
SBLHI				IAML		17 13 23.4	
	comp=E,5μm,0.8s						
SBLHI				IAML		17 13 24.2	
	comp=N,4μm,0.8s						
RSD	**Rainshed**	**0.16**	**331**	IAML		17 13 23.3	
	comp=N,2μm,1.4s						
RSD				Pg	Pg	17 13 23.5	+0.8
RSD				IAML		17 13 23.7	
	comp=E,2μm,3.6s						
HTC	**Hot Caves**	**0.21**	**247**		Pg	17 13 24.6	+1.0
JOKA	**Jonika Flow**	**0.21**	**58**		Pg	17 13 24.0	+0.4
JOKA					Sg	17 13 28.5	+2.1
MLH	**Mauna Loa**	**0.25**	**314**		Pg	17 13 25.0	+0.7
MLH	**Mauna Loa**	**0.25**	**314**	IAML		17 13 32.0	
	comp=E,866nm,0.5s						
MLH				IAML		17 13 32.2	
	comp=N,1μm,0.4s						
HMH	**Humu'ula Sheep**	**0.39**	**316**		Pg	17 13 27.6	+0.6
HMH				Sg	Sg	17 13 33.5	+1.3
HMH				IAML		17 13 34.8	
	comp=E,2μm,0.3s						
HMH				IAML		17 13 34.9	
	comp=N,2μm,0.3s						
KHU	**Kahuku**	**0.40**	**260**		Pg	17 13 27.5	+0.3
KHU				Sg	Sg	17 13 33.8	+1.2
KHU				IAML		17 13 34.3	
	comp=E,1μm,0.3s						
KHU				IAML		17 13 34.4	
	comp=N,1μm,0.5s						
MWH	**Moku'aweowe**	**0.41**	**294**		Pg	17 13 27.7	+0.2
MWH					Sg	17 13 33.1	+0.3
MLOA	**Mauna Loa Obse**	**0.42**	**301**		Sg	17 13 34.7	+1.6
MLOA	**Mauna Loa Obse**	**0.42**	**301**		Pg	17 13 27.9	+0.3
MLOA	**Mauna Loa Obse**	**0.42**	**301**	IAML		17 13 35.0	
	comp=E,2μm,0.4s						
MLOA				IAML		17 13 35.0	
	comp=N,3μm,0.3s						
ALEP	**Alea Permanent**	**0.48**	**298**		Pg	17 13 29.0	+0.3
ALEP					Sg	17 13 36.4	+1.5
POHA	**Pohakuloa**	**0.54**	**324**		Pg	17 13 29.7	-0.2
POHA					Sg	17 13 37.2	+0.3
POHA	**Pohakuloa**	**0.54**	**324**	IAML		17 13 38.3	
	comp=N,2μm,0.5s						
POHA				IAML		17 13 38.5	
	comp=N,1μm,0.5s						
CPH	**Captain Cook**	**0.70**	**284**		Pg	17 13 32.9	-0.1
HUH	**Hualalai**	**0.70**	**301**		Pg	17 13 32.4	-0.6
HPAH	**Hawaii Prepara**	**0.85**	**326**	Pn	Pg	17 13 30.8	-5.0
HPAH				IAML		17 13 47.2	
	comp=E,258nm,0.2s						
HPAH				IAML		17 13 49.8	
	comp=N,172nm,0.4s						
MHA	**Mahukona**	**1.09**	**322**	Pg	Pg	17 13 37.4	-3.1

*BGR **11** 17:19:30.5±0.2,50˚.26N×12˚.44E,h12km±2km, ML1.9/6,*
Error ellipse: s-maj=2.2km s-min=1.1km az=96.0
*WBNET **11** 17:19:30.9,50˚.26N×12˚.44E,h9km,Ml2.1*
*CLL **11** 17:19:31.3±0.3,50˚.27N×12˚.44E,h8km,ML2.0/11*

ISC 11 17:19:31.0±0.8,**50˚.27N**±0˚.02×**12˚.45E**±0˚.02,**h11**km±3km,
n57,σ0**972**/109,**5C-7D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**265**	⇓P	**Pg**	**17 19 32.8**	**-0.2**
LBCW				S	**Sg**	**17 19 34.1**	**-0.4**
NKC	**Novy Kostel**	**0.03**	**178**	*i* Pg	**Pg**	**17 19 32.8**	**-0.3**
NKC				*i* Sg	**Sg**	**17 19 34.1**	**-0.5**
NKC				IAML		17 19 34.5	
	comp=E,1μm,0.3s						
NKC	**Novy Kostel**	**0.03**	**178**	*i* Pg	**Pg**	**17 19 32.8**	**-0.3**
NKC				*i* Sg	**Sg**	**17 19 34.1**	**-0.5**
	comp=E,1μm,0.3s						
NKC	**Novy Kostel**	**0.03**	**178**	⇓P	**Pg**	**17 19 32.8**	**-0.3**
NKC				S	**Sg**	**17 19 34.1**	**-0.5**
STCW	**Studenec**	**0.05**	**100**	*i* Pg	**Pg**	**17 19 33.0**	**-0.3**
STCW				*i* Sg	**Sg**	**17 19 34.2**	**-0.6**
STCW	**Studenec**	**0.05**	**100**	*i* Pg	**Pg**	**17 19 33.0**	**-0.3**
STCW				*i* Sg	**Sg**	**17 19 34.2**	**-0.6**
STCW	**Studenec**	**0.05**	**100**	⇑P	**Pg**	**17 19 33.0**	**-0.3**
STCW				S	**Sg**	**17 19 34.3**	**-0.6**
WERN	**Wernitzgruen**	**0.05**	**294**	*i* Pg	**Pg**	**17 19 33.0**	**-0.2**
WERN				*i* Sg	**Sg**	**17 19 34.4**	**-0.5**
WERN				IAML		17 19 34.5	
	comp=E,838nm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**294**	*i* Pg	**Pg**	**17 19 33.0**	**-0.2**
WERN				*i* Sg	**Sg**	**17 19 34.4**	**-0.5**
	comp=E,838nm,0.2s						
POCW	**Potky**	**0.05**	**347**	⇓P	**Pg**	**17 19 33.1**	**-0.2**
POCW				S	**Sg**	**17 19 34.6**	**-0.4**
VAC	**Vackov**	**0.06**	**233**	*i* Pg	**Pg**	**17 19 32.9**	**-0.3**
VAC				*i* Sg	**Sg**	**17 19 34.3**	**-0.7**
VAC	**Vackov**	**0.06**	**233**	⇓P	**Pg**	**17 19 33.0**	**-0.3**
VAC				S	**Sg**	**17 19 34.3**	**-0.7**
KVC	**Kvetna**	**0.08**	**144**	*e*Pg	**Pg**	**17 19 33.2**	**-0.3**
KVC				*i* Sg	**Sg**	**17 19 34.7**	**-0.6**
KVC	**Kvetna**	**0.08**	**144**	⇑P	**Pg**	**17 19 33.2**	**-0.3**
KVC				S	**Sg**	**17 19 34.7**	**-0.6**
KRCW	**Kraslice**	**0.08**	**40**	⇑P	**Pg**	**17 19 33.4**	**-0.2**
KRCW				S	**Sg**	**17 19 35.0**	**-0.5**
ROHR	**Rohrbach**	**0.09**	**248**	*i* Pg	**Pg**	**17 19 33.3**	**-0.4**
ROHR				*i* Sg	**Sg**	**17 19 34.9**	**-0.7**
ROHR				IAML		17 19 35.0	
	comp=E,1μm,0.2s						
ROHR	**Rohrbach**	**0.09**	**248**	*i* Pg	**Pg**	**17 19 33.3**	**-0.4**
ROHR				*i* Sg	**Sg**	**17 19 34.9**	**-0.7**
	comp=E,1μm,0.2s						
SKC	**Skalna**	**0.11**	**209**	⇑P	**Pg**	**17 19 33.6**	**-0.3**
SKC				S	**Sg**	**17 19 35.5**	**-0.5**
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	**Pg**	**17 19 33.9**	**-0.2**
GUNZ				*i* Sg	**Sg**	**17 19 35.8**	**-0.5**
GUNZ				IAML		17 19 36.0	
	comp=E,249nm,0.3s						
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	**Pg**	**17 19 33.9**	**-0.2**
GUNZ				*i* Sg	**Sg**	**17 19 35.8**	**-0.5**
	comp=E,249nm,0.3s						
KOCW	**Kopaniny**	**0.14**	**269**	⇓P	**Pg**	**17 19 34.0**	**-0.3**
KOCW				S	**Sg**	**17 19 36.0**	**-0.6**
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg	**Pg**	**17 19 34.3**	**-0.2**
MULD				*i* Sg	**Sg**	**17 19 36.4**	**-0.5**
MULD				IAML		17 19 36.6	
	comp=E,509nm,0.1s						
MULD	**Muldenberg**	**0.15**	**350**	*i* Pg	**Pg**	**17 19 34.3**	**-0.2**
MULD				*i* Sg	**Sg**	**17 19 36.4**	**-0.5**
	comp=E,509nm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	**Pg**	**17 19 34.3**	**-0.3**
TANN				*i* Sg	**Sg**	**17 19 36.4**	**-0.6**
TANN				IAML		17 19 36.6	
	comp=E,602nm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	**Pg**	**17 19 34.3**	**-0.3**
TANN				*i* Sg	**Sg**	**17 19 36.4**	**-0.6**
	comp=E,602nm,0.2s						
TRCW	**Trojmez**	**0.20**	**281**	⇓P	**Pg**	**17 19 35.0**	**-0.3**
TRCW				S	**Sg**	**17 19 37.7**	**-0.5**
WERD	**Werda**	**0.20**	**334**	*i* Pg	**Pg**	**17 19 35.2**	**-0.2**
WERD				*i* Sg	**Sg**	**17 19 37.8**	**-0.5**
WERD				IAML		17 19 38.0	
	comp=E,118nm,0.3s						
WERD	**Werda**	**0.20**	**334**	*i* Pg	**Pg**	**17 19 35.2**	**-0.2**
WERD				*i* Sg	**Sg**	**17 19 37.8**	**-0.5**
	comp=E,118nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg	**Pg**	**17 19 35.3**	**-0.3**
TRIB				*i* Sg	**Sg**	**17 19 38.2**	**-0.5**
TRIB				IAML		17 19 38.7	
	comp=E,107nm,0.1s						
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg	**Pg**	**17 19 35.3**	**-0.3**
TRIB				*i* Sg	**Sg**	**17 19 38.2**	**-0.5**
	comp=E,107nm,0.1s						
ZHC	**Zelena Hora**	**0.22**	**204**	⇑P	**Pg**	**17 19 35.4**	**-0.2**
ZHC				S	**Sg**	**17 19 38.3**	**-0.4**
VIEL	**Selb-Vielitz**	**0.23**	**250**	*i* Pg	**Pg**	**17 19 35.6**	**-0.3**
VIEL				*i* Sg	**Sg**	**17 19 38.7**	**-0.5**
VIEL	**Selb-Vielitz**	**0.23**	**250**	*i* Pg	**Pg**	**17 19 35.6**	**-0.3**
VIEL				*i* Sg	**Sg**	**17 19 38.7**	**-0.5**
LACW	**Lazy**	**0.25**	**152**	*i* Pg	**Pg**	**17 19 36.0**	**-0.1**
LACW				*i* Sg	**Sg**	**17 19 39.5**	**-0.1**
LACW	**Lazy**	**0.25**	**152**	*i* Pg	**Pg**	**17 19 36.0**	**-0.1**
LACW				*i* Sg	**Sg**	**17 19 39.5**	**-0.1**
LACW	**Lazy**	**0.25**	**152**	⇓P	**Pg**	**17 19 36.0**	**-0.1**
LACW				S	**Sg**	**17 19 39.5**	**-0.1**
PLN	**Plauen**	**0.29**	**320**	*i* Pg	**Pg**	**17 19 36.6**	**-0.3**
PLN				*i* Sg	**Sg**	**17 19 40.5**	**-0.3**
PLN				IAML		17 19 40.9	
	comp=E,82nm,0.2s						
PLN	**Plauen**	**0.29**	**320**	*i* Pg	**Pg**	**17 19 36.6**	**-0.3**
PLN				*i* Sg	**Sg**	**17 19 40.5**	**-0.3**
	comp=E,82nm,0.2s						
MANZ	**Manzenberg**	**0.36**	**218**	*e*Pg	**Pg**	**17 19 37.7**	**-0.4**
MANZ				*e*Sg	**Sg**	**17 19 42.3**	**-0.5**
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**17 19 38.9**	**-0.3**
SCHF				*e*Sg	**Sg**	**17 19 44.4**	**-0.2**
SCHF				IAML		17 19 44.7	
	comp=E,97nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**17 19 38.9**	**-0.3**
SCHF				*e*Sg	**Sg**	**17 19 44.4**	**-0.2**
	comp=E,97nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**341**	*i* Pg	**Pg**	**17 19 39.6**	**-0.3**
GRZ1				*i* Sg	**Sg**	**17 19 45.2**	**-0.6**
GRZ1				IAML		17 19 46.4	
	comp=E,40nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**341**	*i* Pg	**Pg**	**17 19 39.6**	**-0.3**
GRZ1				*i* Sg	**Sg**	**17 19 45.2**	**-0.6**
	comp=E,40nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Pg	**Pg**	**17 19 40.8**	**-0.4**
ROTZ				*e*Sg	**Sg**	**17 19 47.6**	**-0.5**
MOX	**Moxa**	**0.65**	**306**	*e*Pg	**Pg**	**17 19 43.3**	**-0.4**
MOX				*e*Sg	**Sg**	**17 19 51.9**	**-0.3**
FBE	**Freiberg**	**0.87**	**41**	*e*Pg	**Pg**	**17 19 45.2**	**-2.6**
FBE				*e*Sg	**Sg**	**17 19 58.7**	**-0.5**
GRF	**Grafenberg Arr**	**0.98**	**234**	*e*Pg	**Pg**	**17 19 47.9**	**-1.9**
GRF				*e*Sg	**Sg**	**17 20 01.7**	**-0.9**
CLL	**Collm**	**1.10**	**19**	*e*Pg	**Pg**	**17 19 51.5**	**-0.6**
CLL				*e*Sg	**Sg**	**17 20 06.4**	**-0.1**
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	**Pb**	**17 19 52.2**	**-0.3**
BRG				Sg	Sg	17 19 53.5	-14
BRG				Amp		17 19 53.9	
	comp=Z,9.7nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**57**	Sg	**Sg**	**17 20 07.2**	**-0.3**
BRG				Amp		17 20 07.6	
	comp=E,26nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg	**Pb**	**17 19 52.3**	**-0.3**
BRG				*e*Sg	**Sg**	**17 20 07.2**	**-0.3**
WET	**Wettzell**	**1.16**	**166**	*e*Pg	**Pb**	**17 19 52.7**	**-0.4**
WET				*e*Sg	**Sg**	**17 20 07.5**	**-0.8**
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	**Pn**	**17 19 56.3**	**+0.2**
PRU				*e*Sg	**Sn**	**17 20 14.7**	**+0.4**
GEC2	**GERESS Array S**	**1.64**	**150**	*e*Pg	**Pb**	**17 20 00.9**	**-0.4**
GEC2				*e*Sg	**Sn**	**17 20 21.6**	**+0.6**
KRUC	**Moravsky**	**2.83**	**114**	*e*SG	**Sb**	**17 20 59.1**	**+2.8**
VRAC	**Vranov**	**2.85**	**108**	*e*SG	**Sb**	**17 20 59.5**	**+2.6**
MORC	**Moravsky Berou**	**3.32**	**97**	*e*SG	**Sg**	**17 21 14.3**	**-3.4**

*NEIC **11** 17:21:04.5±0.4,36˚.282N±0˚.007×97˚.511W±0˚.008,*
h5km±3km, Error ellipse: s-maj=1.3km s-min=0.6km
az=138.0

TUL 11 17:21:04.8±0.5,**36˚.280N**±0˚.007×**97˚.506W**±0˚.009,
h7km±4km,**ML2.8,mb_Lg2.6**/59(NEIC),**ML2.8**/79(NEIC),
Error ellipse: s-maj=1.2km s-min=0.6km az=137.0,
Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.45**	**300**		Pg	17 21 13.5	+0.1
CROK				Sg	Sg	17 21 19.9	+0.6
OK048	**Pawnee Station**	**0.47**	**73**	Pg	Pg	17 21 14.2	+0.2
OK048				Sg	Sg	17 21 20.4	+0.2
OK029	**Liberty Lake**	**0.48**	**175**		Pg	17 21 14.3	+0.1
OK029				Sg	Sg	17 21 20.5	0.0
OK033	**Mehan**	**0.52**	**117**		Pg	17 21 14.9	+0.2
OK033				Sg	Sg	17 21 22.1	+0.6
OK033				IAML		17 21 24.5	
	786nm,0.5s						
BLOK	**Blackwell**	**0.53**	**26**		Pg	17 21 15.3	+0.1
BLOK				Sg	Sg	17 21 22.9	+0.8
OK051	**E0350 and S346**	**0.58**	**67**	Pg	Pg	17 21 16.1	0.0
OK051				IAML		17 21 29.5	
	538nm,0.2s						
OK051				IAML		17 21 35.3	
	498nm,0.2s						
OK031	**S. Brethren Rd**	**0.63**	**121**	Pg	Pg	17 21 16.9	0.0
OK031				Sg	Sg	17 21 25.6	+0.4
OK031				IAML		17 21 27.9	
	609nm,0.3s						
OK031				IAML		17 21 27.9	
	470nm,0.5s						
ADOK	**Arcadia Dam**	**0.64**	**170**	Pg	Pg	17 21 17.1	+0.1
OK052	**Battle Ridge R**	**0.64**	**116**		Pg	17 21 17.3	+0.3
OK052				Sg	Sg	17 21 25.7	+0.4
OK052				IAML		17 21 29.9	
	739nm,0.5s						
OK052				IAML		17 21 29.9	
	467nm,0.4s						
GC02	**Grant County #**	**0.64**	**334**	Pg	Pg	17 21 17.0	-0.1
GC02				Sg	Sg	17 21 26.0	+0.6
QUOK	**Quay**	**0.65**	**99**		Pg	17 21 17.4	0.0
QUOK				Sg	Sg	17 21 26.3	+0.4
QUOK				IAML		17 21 28.8	
	comp=N,399nm,0.3s						
KAN13	**South Haven SW**	**0.73**	**2**	Pg	Pg	17 21 18.9	0.0
KAN13				IAML		17 21 37.5	
	comp=N,471nm,0.3s						
KAN13				IAML		17 21 37.7	
	comp=E,610nm,0.3s						
KAN14	**Manchester OK**	**0.77**	**332**	Pg	Pg	17 21 19.4	-0.2
KAN14				Sg	Sg	17 21 30.3	+0.7
KAN14				IAML		17 21 31.2	
	comp=E,472nm,0.1s						
KAN14				IAML		17 21 39.7	
	comp=N,302nm,0.1s						
OK032	**Salt Plains WL**	**0.77**	**313**		Pg	17 21 19.5	-0.2
OK032				Sg	Sg	17 21 29.9	+0.2
OK032				IAML		17 21 34.3	
	comp=N,493nm,0.3s						
KAN17	**Caldwell West**	**0.79**	**345**	Pg	Pg	17 21 19.6	-0.4
KAN17				IAML		17 21 36.6	
	comp=E,505nm,0.2s						
KAN17				IAML		17 21 38.1	
	comp=N,339nm,0.3s						
KAN09	**Caldwell North**	**0.86**	**354**	Pg	Pg	17 21 20.1	-1.2
KAN09				Sg	Sg	17 21 32.5	0.0
OKCSW	**OKLAHOMA CITY**	**0.87**	**176**	Pg	Pg	17 21 21.6	0.0
OKCSW				Sg	Sg	17 21 33.5	+0.5
OKCSW				IAML		17 21 38.7	
	comp=N,307nm,0.4s						
OKCSW				IAML		17 21 45.4	
	comp=E,332nm,0.7s						
KAN05	**Bluff City Nor**	**0.88**	**341**	Pg	Pg	17 21 19.7	-2.0
KAN05				IAML		17 21 39.6	
	comp=E,377nm,0.2s						
KAN05				IAML		17 21 40.7	
	comp=N,292nm,0.1s						
KAN01	**Argonia South**	**0.90**	**347**	Pg	Pg	17 21 20.9	-1.1
KAN01				IAML		17 21 37.7	
	comp=N,317nm,0.3s						
DEOK	**Depew**	**0.93**	**118**		Pg	17 21 22.3	-0.3
DEOK				IAML		17 21 37.0	
	comp=N,345nm,0.5s						
DEOK				IAML		17 21 37.7	
	comp=E,369nm,0.2s						
KAN10	**Anthony SW Sta**	**0.97**	**331**	Pg	Pg	17 21 22.6	-0.7
KAN06	**Argonia West S**	**1.01**	**344**	Pg	Pg	17 21 23.4	-0.8
KAN06				IAML		17 21 44.5	
	comp=N,250nm,0.2s						
KAN08	**Anthony NE Sta**	**1.02**	**339**	Pg	Pg	17 21 23.8	-0.5
KAN08				IAML		17 21 32.8	
	comp=N,211nm,3.8s						
KAN08				IAML		17 21 40.3	
	comp=E,182nm,0.4s						
OK038	**West end E0370**	**1.02**	**282**		Pg	17 21 23.7	-0.6
T35A	**Sooner Cattle**	**1.02**	**51**	Pg	Pg	17 21 23.8	-0.6
T35A				IAML		17 21 39.2	
	comp=N,187nm,0.3s						
T35A				IAML		17 21 40.1	
	comp=E,198nm,0.3s						
FNO	**Franklin**	**1.02**	**175**		Pg	17 21 24.0	-0.5
OK035	**E0210 Rd and N**	**1.06**	**294**		Pg	17 21 24.5	-0.7
KAN12	**Harper NE Stat**	**1.09**	**339**		Pg	17 21 24.7	-1.1
CSTR	**Hydro, Custer**	**1.15**	**237**	Pg	Pg	17 21 26.1	-0.8
U32A	**Winter Ranch,**	**1.21**	**275**		Pg	17 21 27.3	-0.8
U32A				IAML		17 21 49.4	
	comp=E,196nm,0.2s						
U32A				IAML		17 21 56.5	
	comp=N,155nm,0.6s						
W35A	**Tecumseh**	**1.24**	**155**		Pb	17 21 27.4	-1.1
W35A				IAML		17 21 45.8	
	comp=N,225nm,0.2s						
TUL3	**Leonard**	**1.44**	**104**		Pn	17 21 30.8	-0.4
ELIS	**Ellis County**	**1.56**	**263**		Pn	17 21 33.3	+0.3
WMOK	**Wichita Mounta**	**1.86**	**214**		Pn	17 21 37.2	+0.1
RLO	**Rose Lookout**	**2.01**	**93**	Pn	Pn	17 21 39.6	+0.4
LOOK	**Love County**	**2.30**	**173**		Pn	17 21 43.4	+0.3
LOOK				IAmb_Lg		17 22 23.5	
	comp=Z,24nm,0.9s						
R32A	**Long Quarter,**	**2.34**	**336**	Pn	Pn	17 21 43.8	0.0
X37A	**Clayton**	**2.43**	**133**		Pn	17 21 44.6	-0.3
X37A				IAmb_Lg		17 22 22.5	
	comp=Z,24nm,0.7s						
SMWD	**Samnorwood**	**2.52**	**243**	Pn	Pn	17 21 45.9	-0.3
SMWD				IAmb_Lg		17 22 23.4	
	comp=Z,13nm,0.8s						
U38A	**Gravette**	**2.52**	**85**		Pn	17 21 46.1	-0.1
WTFS	**Witchita Falls**	**2.63**	**198**	Pn	Pn	17 21 45.9	-1.7
HHAR	**Hobbs**	**2.88**	**89**		Pn	17 21 50.1	-1.0
KSU1	**Kansas State U**	**2.90**	**14**		Pn	17 21 49.4	-2.1
Z35A	**Perchaven, San**	**2.95**	**176**	Pn	Pn	17 21 51.2	-0.9
CBKS	**Cedar Bluff**	**3.09**	**326**	Pn	Pn	17 21 54.8	+0.8
PLPT	**Palo Pinto**	**3.52**	**191**	Pn	Pn	17 21 59.3	-0.7
S39A	**Bolivar**	**3.63**	**66**	Pn	Pn	17 22 02.1	+0.6
S39A				IAmb_Lg		17 23 06.5	
	comp=Z,11nm,0.8s						
MIAR	**Mount Ida**	**3.65**	**117**	Pn	Pn	17 22 02.6	+1.0
MIAR				IAmb_Lg		17 23 10.7	
	comp=Z,13nm,0.7s						
Z38A	**Mt. Pleasant**	**3.66**	**145**		Pn	17 22 02.5	+0.7
AMTX	**Amarillo**	**3.68**	**249**	Pn	Pn	17 22 03.0	+0.9
AMTX				IAmb_Lg		17 23 05.8	
	comp=Z,16nm,0.8s						
FW16	**Waxahatchie**	**3.82**	**172**	Pn	Pn	17 22 03.5	-0.6
DKNS	**Dickens**	**3.83**	**228**	Pn	Pn

MNHN	**Monahans**	**6.59**	**223**	IAmb_Lg		17	24	40.7
	comp=Z,4.9nm,0.9s							
K30B	**Basset**	**6.59**	**346**	IAmb_Lg		17	24	34.7
	comp=Z,9.1nm,0.7s							
Q24A	**Divide**	**6.63**	**296**	IAmb_Lg		17	24	46.5
	comp=Z,9.3nm,0.7s							
N41A	**Harden Midland**	**6.84**	**48**	Pn	Pn	17	22	42.8 -2.7
HNDO	**Hondo**	**6.90**	**193**	IAmb_Lg		17	24	43.6
	comp=Z,8.4nm,0.9s							
SAND	**Sanderson**	**7.40**	**213**	IAmb_Lg		17	25	19.8
	comp=Z,8.6nm,0.9s							
PHWY	**Pilot Hill**	**7.98**	**311**	IAmb_Lg		17	25	29.5
	comp=Z,6.3nm,0.8s							

*NEIC **11** 17:22:43.0±1.6, 19°.47N±0°.03×154°.86W±0°.03, h5km±1km, Error ellipse: s-maj=5.6km s-min=3.0km az=293.0*

HVO 11 17:22:43.6±1.3, 19°.47N±0°.03×154°.86W±0°.02, h3km±3km, ML2.8/8, ML2.7/27(NEIC), Error ellipse: s-maj=4.6km s-min=1.9km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.03**	**293**		Pg	17 22 45.9	+1.5
PHO	**Puu Honuaula**	**0.03**	**293**		Pg	17 22 45.0	+0.6
PAH	**Pahoa**	**0.08**	**287**		Pg	17 22 47.8	+2.4
JOKA	**Jonika Flow**	**0.14**	**254**		Pg	17 22 46.9	+0.5
JOKA					Sg	17 22 49.5	+1.3
JCUZ	**Jacuzzi**	**0.24**	**249**	Pg	Pg	17 22 48.8	+0.5
NPOC	**North of Pu'u**	**0.24**	**251**		Pg	17 22 48.4	0.0
NPOC				IAML		17 22 51.2	
	comp=N,721nm,1.2s						
STCH	**Steam Cracks**	**0.26**	**251**		Pg	17 22 48.9	+0.2
STCH				IAML		17 22 55.0	
	comp=N,908nm,1.1s						
STCH				IAML		17 22 57.5	
	comp=E,646nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.30**	**252**		Pg	17 22 50.4	+0.9
PUH	**Pauahi**	**0.35**	**254**		Pg	17 22 50.6	+0.3
PUH				IAML		17 22 57.6	
	comp=N,2µm,0.6s						
PUH				IAML		17 22 59.8	
	comp=E,1µm,0.9s						
RSD	**Rainshed**	**0.39**	**269**		Pg	17 22 52.0	+0.8
RSD	**Rainshed**	**0.39**	**269**	IAML		17 22 56.8	
	comp=N,2µm,4.4s						
RSD				Sg	Sb	17 22 58.3	-1.5
HLP	**Hilina Pali**	**0.45**	**247**		Pg	17 22 52.7	+0.3
HLP				Sg	Sg	17 22 59.5	+1.2
MLH	**Mauna Loa**	**0.49**	**273**		Pg	17 22 53.5	+0.3
MLH				IAML		17 23 10.3	
	comp=E,874nm,1.0s						
HMH	**Humu'ula Sheep**	**0.60**	**283**		Pg	17 22 55.3	+0.2
HMH				IAML		17 23 10.0	
	comp=E,453nm,0.8s						
HMH				IAML		17 23 14.4	
	comp=N,804nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.68**	**276**	Pg	Pg	17 22 56.3	-0.3
MLOA				IAML		17 23 03.9	
	comp=N,654nm,1.1s						
MLOA				IAML		17 23 10.7	
	comp=E,427nm,0.9s						
MWH	**Moku'aweowe**	**0.69**	**271**		Pg	17 22 56.3	-0.7
POHA	**Pohakuloa**	**0.69**	**294**	Pg	Pg	17 22 56.1	-0.8
POHA				IAML		17 23 10.7	
	comp=E,337nm,0.9s						
POHA				IAML		17 23 19.6	
	comp=E,541nm,0.9s						
ALEP	**Alea Permanent**	**0.74**	**276**		Pg	17 22 57.5	-0.4
KHU	**Kahuku**	**0.74**	**253**		Pg	17 22 56.8	-1.2
KHU				IAML		17 23 05.0	
	comp=E,398nm,3.3s						
KHU				IAML		17 23 20.5	
	comp=N,468nm,1.4s						
HUH	**Hualalai**	**0.94**	**283**	Pg	Pb	17 23 02.7	-0.1
HPAH	**Hawaii Prepara**	**0.96**	**305**	Pg	Pb	17 23 02.7	-0.4
MHA	**Mahukona**	**1.21**	**306**	Pg	Pg	17 23 06.4	-0.5
HLK	**Haleakala**	**1.82**	**315**	Pn	Pn	17 23 14.6	-1.6

*SDD **11** 17:26:07.9±1.9, 18°.86N×66°.52W, h78km±68km, MD2.8, ML2.7, MW3.0*

*NEIC **11** 17:26:08.6±1.0, 18°.92N±0°.05×66°.69W±0°.04, h42km±18km, ML2.7/28, Md2.5/12(RSPR), Error ellipse: s-maj=8.4km s-min=3.0km az=217.0*

*RSPR **11** 17:26:09.2, 18°.97N×66°.69W, h30km±4km, MD2.5/12*

ISC 11 17:26:07.6±1.4, 18°.92N±0°.06×66°.69W±0°.03, h28km, n55, σ0$59/61, 5C-7D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.47**	**161** ⇑	*e*P	**Pn**	**17 26 19.3**	**+0.8**
EMPR	**Esperanza - Ma**	**0.47**	**161**	*e*S	**Sn**	**17 26 26.0**	**+0.2**
EMPR	**Esperanza - Ma**	**0.47**	**161**		**Pn**	**17 26 19.2**	**+0.8**
EMPR					**Sn**	**17 26 26.7**	**+0.9**
EMPR				IAML		17 26 29.4	
	comp=E,241nm,0.8s						
AOPR	**Arecibo Observ**	**0.58**	**186** ⇓	*e*P	**Pn**	**17 26 20.1**	**+0.1**
AOPR	**Arecibo Observ**	**0.58**	**186**	*e*S	**Sn**	**17 26 28.9**	**+0.4**
AOPR	**Arecibo Observ**	**0.58**	**186**		**Pn**	**17 26 20.1**	**+0.1**
AOPR	**Arecibo Observ**	**0.58**	**186**		**Sn**	**17 26 28.9**	**+0.4**
AOPR	**Arecibo Observ**	**0.58**	**186**	*e*Pg	**Pn**	**17 26 20.5**	**+0.6**
AOPR				IAML		17 26 30.4	
	comp=N,828nm,0.3s						
AGPR	**Aguadilla, PR**	**0.60**	**222**		**Pn**	**17 26 19.6**	**-0.8**
AGPR					**Sn**	**17 26 28.1**	**-1.1**
AGPR				IAML		17 26 30.6	
	comp=N,261nm,0.3s						
AGPR				IAML		17 26 32.1	
	comp=E,192nm,0.1s						
UUPR	**Utuado, UPR, P**	**0.67**	**183** ⇓	*e*P	**Pn**	**17 26 21.2**	**0.0**
UUPR	**Utuado, UPR, P**	**0.67**	**183**	*e*S	**Sb**	**17 26 28.1**	**-1.6**
UUPR	**Utuado, UPR, P**	**0.67**	**183**		**Pn**	**17 26 21.2**	**0.0**
UUPR					**Sn**	**17 26 30.6**	**-0.2**
PRSN	**Puerto Rico Se**	**0.82**	**212**		**Pn**	**17 26 23.2**	**-0.1**
PRSN				Sn	**Sn**	**17 26 33.8**	**-0.8**
PRSN				IAML		17 26 35.2	
	comp=E,485nm,0.2s						
PRSN				IAML		17 26 37.5	
	comp=N,563nm,0.3s						
PRSN	**Puerto Rico Se**	**0.82**	**212**	*e*Pg	**Pn**	**17 26 25.7**	**+2.4**
PRSN				IAML		17 26 39.7	
	comp=N,395nm,0.2s						
LSP	**Las Mesas**	**0.83**	**207** ⇑	*e*P	**Pn**	**17 26 23.4**	**-0.1**
LSP	**Las Mesas**	**0.83**	**207**	*e*S	**Sn**	**17 26 35.1**	**+0.2**
LSP	**Las Mesas**	**0.83**	**207**		**Pn**	**17 26 23.4**	**-0.1**
LSP					**Sn**	**17 26 35.1**	**+0.2**
GCPR	**Guaynabo City**	**0.84**	**137** ⇑	*e*P	**Pb**	**17 26 23.8**	**+0.1**
GCPR	**Guaynabo City**	**0.84**	**137**	*e*S	**Sn**	**17 26 34.6**	**-0.3**
GCPR	**Guaynabo City**	**0.84**	**137**		**Sn**	**17 26 34.6**	**-0.3**
GCPR	**Guaynabo City**	**0.84**	**137**		**Pb**	**17 26 23.7**	**+0.1**
GCPR	**Guaynabo City**	**0.84**	**137**	IAML		17 26 36.8	
	comp=N,63nm,0.3s						
GCPR				IAML		17 26 37.8	
	comp=E,50nm,0.6s						
CELP	**Cerrillos**	**0.85**	**173** ⇓	*e*P	**Pb**	**17 26 23.8**	**0.0**
CELP	**Cerrillos**	**0.85**	**173**	*e*S	**Sn**	**17 26 35.7**	**+0.4**
CELP	**Cerrillos**	**0.85**	**173**		**Pb**	**17 26 23.7**	**0.0**
CELP				IAML		17 26 36.0	
	comp=N,185nm,0.4s						
CELP	**Cerrillos**	**0.85**	**173**		**Sn**	**17 26 35.7**	**+0.4**
CELP	**Cerrillos**	**0.85**	**173**	*e*Pg	**Pb**	**17 26 24.1**	**+0.3**
CELP				IAML		17 26 36.0	
	comp=N,127nm,0.3s						
OBIP	**Obispado Ponce**	**0.88**	**175** ⇓	*e*P	**Pb**	**17 26 24.3**	**+0.1**
OBIP	**Obispado Ponce**	**0.88**	**175**	*e*S	**Sn**	**17 26 36.2**	**+0.2**
OBIP	**Obispado Ponce**	**0.88**	**175**		**Pb**	**17 26 24.3**	**+0.1**
OBIP					**Sn**	**17 26 36.2**	**+0.2**
OBIP	**Obispado Ponce**	**0.88**	**175**	IAML		17 26 37.0	
	comp=N,148nm,0.1s						
GBPR	**Guanica, Bosqu**	**0.96**	**191** ⇓	*e*P	**Pb**	**17 26 25.7**	**+0.1**
GBPR	**Guanica, Bosqu**	**0.96**	**191**	*e*S	**Sn**	**17 26 38.6**	**+0.7**
GBPR	**Guanica, Bosqu**	**0.96**	**191**		**Pb**	**17 26 25.7**	**+0.1**
GBPR					**Sn**	**17 26 38.6**	**+0.7**
CRPR	**Cabo Rojo, PR**	**0.99**	**204** ⇑	*e*P	**Pb**	**17 26 26.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.99**	**204**	*e*S	**Sb**	**17 26 39.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.99**	**204**		**Sb**	**17 26 39.0**	**+0.1**
CRPR	**Cabo Rojo, PR**	**0.99**	**204**		**Pb**	**17 26 25.9**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.99**	**204**	*e*Pg	**Pb**	**17 26 25.7**	**-0.5**
CRPR				IAML		17 26 42.3	
	comp=N,79nm,0.3s						
MLPR	**Magueyes Islan**	**1.01**	**200** ⇑	*e*P	**Pb**	**17 26 26.1**	**-0.3**
MLPR	**Magueyes Islan**	**1.01**	**200**	*e*S	**Sb**	**17 26 39.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.01**	**200**		**Sb**	**17 26 39.2**	**-0.1**
MLPR	**Magueyes Islan**	**1.01**	**200**		**Pb**	**17 26 26.0**	**-0.3**
MLPR				IAML		17 26 39.6	
	comp=E,131nm,0.4s						
MLPR				IAML		17 26 40.0	
	comp=N,109nm,0.3s						
MLPR	**Magueyes Islan**	**1.01**	**200**	*e*Pg	**Pn**	**17 26 25.3**	**-0.5**
MLPR				IAML		17 26 39.9	
	comp=N,112nm,0.1s						
IGPR	**InterUniversit**	**1.10**	**150** ⇓	*e*P	**Pb**	**17 26 27.6**	**-0.4**
IGPR	**InterUniversit**	**1.10**	**150**	*e*S	**Sb**	**17 26 41.9**	**-0.1**
IGPR	**InterUniversit**	**1.10**	**150**		**Pb**	**17 26 27.6**	**-0.4**
IGPR					**Sb**	**17 26 41.9**	**-0.1**
IGPR	**InterUniversit**	**1.10**	**150**	IAML		17 26 44.4	
	comp=E,354nm,0.2s						
HUMP	**Col San Antoni**	**1.11**	**134** ⇓	*e*P	**Pb**	**17 26 27.7**	**-0.5**
HUMP	**Col San Antoni**	**1.11**	**134**	*e*S	**Sn**	**17 26 41.0**	**-0.7**
HUMP	**Col San Antoni**	**1.11**	**134**	IAML		17 26 43.4	
	comp=E,122nm,0.2s						
HUMP				IAML		17 26 43.6	
	comp=N,92nm,0.2s						
HUMP	**Col San Antoni**	**1.11**	**134**		**Pb**	**17 26 27.7**	**-0.5**
HUMP					**Sn**	**17 26 41.0**	**-0.7**
PCDR	**Punta Cana, DR**	**1.66**	**256**	Pn	**Pn**	**17 26 35.6**	**+0.8**
PCDR				IAML		17 27 12.2	
	comp=E,84nm,2.4s						
HATOM	**Hato Mayor del**	**2.55**	**267**	*e*Pg	**Pn**	**17 26 48.0**	**+0.9**
HATOM				IAML		17 28 03.7	
	comp=N,22nm,2.8s						
SDDR	**Presa de Saban**	**4.35**	**272**	Pn	**Pn**	**17 27 12.4**	**+0.4**
SDDR				Sn	**Sn**	**17 28 01.3**	**-0.6**
SDDR				IAML		17 28 23.8	
	comp=N,17nm,2.4s						

*SFS **11** 17:26:46.5, 37°.94N×0°.69W, h7km, ML3.5/18, ML3.6/14, MLv3.3/18*

*MDD **11** 17:26:46.8±0.2, 37°.96N×0°.76W, h0km, mb_Lg3.3/46, Error ellipse: s-maj=2.1km s-min=1.3km az=131.0*

*NEIC **11** 17:26:46.9±1.7, 38°.00N±0°.03×0°.88W±0°.09, h7km±13km, mb_Lg2.8/5, Error ellipse: s-maj=10.1km s-min=3.5km az=103.0*

*INMG **11** 17:26:47.0±1.5, 37°.96N×0°.75W, h4km, ML3.0, Error ellipse: s-maj=4.5km s-min=2.1km az=124.0*

*LDG **11** 17:26:47.1±0.2, 37°.93N×0°.76W, h2km, Ml3.0/3, Error ellipse: s-maj=5.1km s-min=2.7km az=147.0*

ISC 11 17:26:46.8±0.8, 37°.98N±0°.02×0°.79W±0°.02, h11km±5km, n107, σ1$70/197, 2C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETRV	**Los Montesinos**	**0.05**	**31** ⇓	Pg	**Pg**	**17 26 48.4**	**-0.5**
ETRV				Sg	**Sg**	**17 26 49.4**	**-1.1**
EMUR	**La Murta**	**0.38**	**249**	Pg	**Pg**	**17 26 54.6**	**+0.2**
EMUR				Sg	**Sg**	**17 27 00.0**	**+0.6**
EMUR	**La Murta**	**0.38**	**249** ⇑	Pg	**Pg**	**17 26 54.6**	**+0.2**
EMUR				Sg	**Sb**	**17 27 00.3**	**-1.2**
EMUR				*i* Vmb_Lg		17 27 02.8	
CART	**Cartagena**	**0.43**	**203**		**Pg**	**17 26 54.9**	**-0.2**
CART				Sg	**Sg**	**17 27 00.5**	**-0.3**
CART	**Cartagena**	**0.43**	**203**	Pg	**Pg**	**17 26 55.0**	**-0.2**
CART				Sg	**Sg**	**17 27 00.7**	**-0.1**
E001A	**Albudeite (Mur**	**0.47**	**275** ⇑	Pg	**Pb**	**17 26 57.5**	**+0.3**
E001A				Sg	**Sb**	**17 27 05.0**	**+0.7**
E1002	**Yechar (Murcia**	**0.52**	**280**	Pg	**Pb**	**17 26 58.1**	**+0.1**
E1002				Sg	**Sb**	**17 27 05.8**	**+0.3**
AFON	**Font Roja**	**0.71**	**16**	Pg	**Pg**	**17 27 00.7**	**+0.1**
AFON				Sg	**Sb**	**17 27 11.4**	**+0.2**
AFON				*i* Vmb_Lg		17 27 14.7	
EZAR	**Zarzadilla de**	**0.72**	**262**	Pg	**Pb**	**17 27 01.5**	**+0.1**
EZAR				Sg	**Sb**	**17 27 11.9**	**+0.5**
EZAR				*i* Vmb_Lg		17 27 16.1	
TLOR	**Lorca, Murcia**	**0.78**	**246**	Pg	**Pb**	**17 27 01.9**	**-0.5**
TLOR				Sg	**Sb**	**17 27 14.2**	**+1.2**
TLOR	**Lorca, Murcia**	**0.78**	**246**	Pg	**Pg**	**17 27 01.7**	**-0.1**
TLOR				Sg	**Sb**	**17 27 12.8**	**-0.2**
ELOR	**Lorca, Murcia**	**0.83**	**246**	Pg	**Pb**	**17 27 03.5**	**+0.2**
ELOR				Sg	**Sb**	**17 27 13.7**	**-0.7**
ELOR				*i* Vmb_Lg		17 27 19.3	
EBEN2	**Beniarda presa**	**0.84**	**34**	Pg	**Pg**	**17 27 02.9**	**-0.2**
EBEN2				Sg	**Sg**	**17 27 14.7**	**+0.7**
EBEN2				*i* Vmb_Lg		17 27 20.2	
ETOB	**Tobarra**	**0.89**	**318**	Pg	**Pb**	**17 27 05.1**	**+0.8**
ETOB				Sg	**Sb**	**17 27 17.3**	**+1.0**
ETOB	**Tobarra**	**0.89**	**318** ⇓	Pg	**Pb**	**17 27 05.1**	**+0.8**
ETOB				Sg	**Sb**	**17 27 18.1**	**+1.8**
ETOB				*i* Vmb_Lg		17 27 20.1	
EVIV	**Cofrentes, Val**	**1.31**	**349**	Pg	**Pn**	**17 27 10.7**	**-0.5**
EVIV				Sg	**Sg**	**17 27 27.9**	**-1.1**
EVIV				*i* Vmb_Lg		17 27 34.6	
ENIJ	**Nijar**	**1.51**	**229**	Pn	**Pn**	**17 27 12.9**	**-1.0**
ENIJ				Sn	**Sn**	**17 27 31.6**	**-1.9**
ENIJ	**Nijar**	**1.51**	**229**	Pg	**Pn**	**17 27 12.7**	**-1.2**
ENIJ				Sg	**Sn**	**17 27 32.4**	**-1.2**
ENIJ				*i* Vmb_Lg		17 27 39.7	
ECHE	**Chera**	**1.61**	**355**	Pn	**Pn**	**17 27 14.8**	**-0.5**
ECHE				Sn	**Sn**	**17 27 36.1**	**-0.1**
ECHE	**Chera**	**1.61**	**355**	Pn	**Pn**	**17 27 15.0**	**-0.4**
ECHE				Pg	**Pg**	**17 27 18.4**	**+0.6**
ECHE				Sg	**Sg**	**17 27 38.8**	**+0.1**
ECHE				*i* Vmb_Lg		17 27 39.5	
EQES	**Quesada**	**1.81**	**265**	Pn	**Pn**	**17 27 18.4**	**+0.4**
EQES				Sn	**Sb**	**17 27 42.9**	**+0.1**
EQES				*i* Vmb_Lg		17 27 46.8	
EIBI	**Ibiza**	**1.98**	**57**	Pn	**Pn**	**17 27 18.3**	**-1.9**
EIBI				Sn	**Sn**	**17 27 41.5**	**-3.5**
EIBI	**Ibiza**	**1.98**	**57**	Pn	**Pn**	**17 27 18.3**	**-1.9**
EIBI				Sn	**Sn**	**17 27 41.3**	**-3.7**
EIBI				*i* Vmb_Lg		17 27 44.2	
EBER	**Berja**	**1.99**	**238**	Pn	**Pn**	**17 27 20.4**	**-0.1**
EBER	**Berja**	**1.99**	**238**	Pn	**Pn**	**17 27 19.9**	**-0.6**
EBER				Sn	**Sn**	**17 27 45.0**	**-0.6**
EBER				*i* Vmb_Lg		17 28 00.3	
E0802	**Ubeda,Jaen**	**2.04**	**272**	Sn	**Sn**	**17 27 47.5**	**+0.8**
EMOS	**Mosqueruela**	**2.39**	**6**	Pn	**Pn**	**17 27 26.4**	**+0.2**
EMOS				Pg	**Pb**	**17 27 31.3**	**+1.3**
EMOS				Sn	**Sn**	**17 27 55.9**	**+0.3**
EMOS				Sg	**Sb**	**17 28 02.2**	**+2.6**
EMOS				*i* Vmb_Lg		17 28 07.3	
PSIM	**Granatula de C**	**2.47**	**291**	Pn	**Pn**	**17 27 27.0**	**-0.1**
PSIM				Pg	**Pg**	**17 27 33.2**	**-1.1**
PSIM				Sn	**Sn**	**17 27 55.9**	**-1.5**
PSIM				Sg	**Sg**	**17 28 05.5**	**-0.8**
E0901	**Celadas (Terue**	**2.51**	**354**	Pn	**Pn**	**17 27 29.2**	**+1.5**
E0901				Pg	**Pg**	**17 27 35.0**	**0.0**
E0901				Sg	**Sg**	**17 28 06.5**	**-1.0**
E0901				*i* Vmb_Lg		17 28 10.6	
ELGU	**Los Guajares,**	**2.51**	**245**	Pn	**Pn**	**17 27 27.7**	**0.0**
ELGU				Sn	**Sn**	**17 27 58.8**	**+0.4**
ELGU	**Los Guajares,**	**2.51**	**245**	Pn	**Pn**	**17 27 27.7**	**0.0**
ELGU				Sn	**Sn**	**17 27 58.4**	**0.0**
EGOR	**Sierra Gorda,**	**2.77**	**253**	Pn	**Pn**	**17 27 32.7**	**+1.3**
EGOR	**Sierra Gorda,**	**2.77**	**253**	Pn	**Pn**	**17 27 31.4**	**0.0**
EGOR				Sg	**Sb**	**17 28 10.8**	**+0.2**
EGOR				*i* Vmb_Lg		17 28 29.1	
EADA	**Adamuz**	**2.99**	**275**	Pn	**Pn**	**17 27 33.6**	**-0.7**
EADA				Pg	**Pg**	**17 27 42.3**	**-1.8**
EADA	**Adamuz**	**2.99**	**275**	Pn	**Pn**	**17 27 33.8**	**-0.4**
EADA				Pg	**Pb**	**17 27 41.4**	**+1.2**
EADA				Sn	**Sn**	**17 28 10.2**	**0.0**
EADA				Sg	**Sg**	**17 28 21.3**	**-1.6**
EADA				*i* Vmb_Lg		17 28 28.3	
ESBB	**Sonseca Array**	**3.00**	**305**		**Pn**	**17 27 34.4**	**+0.1**
ESBB				IAmb_Lg		17 28 24.1	
	comp=Z,37nm,0.9s						
ESDC	**Sonseca Array**	**3.00**	**305**	Pn	**Pn**	**17 27 34.0**	**-0.3**
ESDC	**Sonseca Array**	**3.00**	**305**	Pn	**Pn**	**17 27 34.2**	**-0.2**
ESDC				Pg	**Pg**	**17 27 42.8**	**-1.4**
ESDC				Sn	**Sn**	**17 28 12.6**	**+2.3**
ESDC				Sg	**Sg**	**17 28 21.8**	**-1.3**
ESDC				*i* Vmb_Lg		17 28 26.0	
ETOR	**Torete**	**3.00**	**341**	Pn	**Pn**	**17 27 35.3**	**+0.9**
ETOR				Pg	**Pg**	**17 27 43.2**	**-1.0**
ETOR				Sg	**Sg**	**17 28 21.7**	**-1.4**
ETOR				*i* Vmb_Lg		17 28 28.4	
UCM	**Universidad Co**	**3.00**	**321**	Pn	**Pn**	**17 27 34.7**	**+0.3**
UCM				Sn	**Sn**	**17 28 10.7**	**+0.2**
CHAS	**Isla Isabel II**	**3.09**	**206**	Pn	**Pn**	**17 27 35.1**	**-0.4**
ERTA	**Horta de San J**	**3.10**	**16**	Pn	**Pn**	**17 27 35.4**	**-0.3**
ERTA				Sn	**Sn**	**17 28 13.5**	**+0.7**
ERTA				Sg	**Sb**	**17 28 22.8**	**+3.0**
ERTA				*i* Vmb_Lg		17 28 31.0	
PAB	**San Pablo**	**3.19**	**300**	Pn	**Pn**	**17 27 36.6**	**-0.4**
PAB				IAmb_Lg		17 28 30.5	
	comp=Z,26nm,0.8s						
PAB	**San Pablo**	**3.19**	**300**	Pn	**Pn**	**17 27 36.6**	**-0.4**
PAB				Pg	**Pg**	**17 27 45.9**	**-2.0**
PAB				Sn	**Sn**	**17 28 17.1**	**+2.0**
PAB				Sg	**Sg**	**17 28 26.9**	**-2.3**
PAB				*i* Vmb_Lg		17 28 31.3	
EMIJ	**Mijas**	**3.47**	**247**	Pn	**Pn**	**17 27 40.9**	**0.0**
EMIJ	**Mijas**	**3.47**	**247**	Pn	**Pn**	**17 27 40.6**	**-0.2**
EMIJ				*i* Vmb_Lg		17 28 53.9	
ECAB	**El Cabril**	**3.65**	**273**	Pn	**Pn**	**17 27 42.6**	**-0.7**
ECAB	**El Cabril**	**3.65**	**273**	Pn	**Pn**	**17 27 42.5**	**-0.9**
ECAB				Pg	**Pb**	**17 27 53.1**	**+1.7**
ECAB				Sn	**Sn**	**17 28 28.5**	**+2.1**
ECAB				Sg	**Sg**	**17 28 40.4**	**-3.7**
ECAB				*i* Vmb_Lg		17 28 52.0	
EPOB	**Poblet**	**3.67**	**23**	Pn	**Pn**	**17 27 42.8**	**-0.7**
EPOB				Sn	**Sn**	**17 28 23.7**	**-3.1**
EPOB				*i* Vmb_Lg		17 28 49.4	
GUD	**Guadarrama**	**3.72**	**317**	Pn	**Pn**	**17 27 44.5**	**+0.1**
GUD				Pg	**Pb**	**17 27 54.9**	**+2.3**
GUD				Sn	**Sn**	**17 28 29.3**	**+1.0**
GUD				Sg	**Sg**	**17 28 43.0**	**-3.4**
GUD				*i* Vmb_Lg		17 28 54.6	
ESAC	**San Caprasio**	**3.75**	**4**	Pn	**Pn**	**17 27 44.7**	**0.0**
ESAC				Pg	**Pb**	**17 27 54.5**	**+1.5**
ESAC				Sg	**Sg**	**17 28 45.0**	**-2.1**
EMIR	**Miracle**	**4.32**	**24**	Pg	**Pb**	**17 28 03.7**	**+1.0**
EMIR				Sn	**Sn**	**17 28 45.4**	**+2.6**
EMIR				*i* Vmb_Lg		17 31 22.9	
MAHO	**Mahon**	**4.38**	**63**	Pn	**Pn**	**17 27 52.9**	**-0.5**
EPLA	**Plasencia**	**4.61**	**298**	Pn	**Pn**	**17 27 56.9**	**+0.3**
EPLA				Pg	**Pb**	**17 28 08.8**	**+1.0**
EPLA				Sg	**Sg**	**17 29 11.3**	**-3.6**
EPLA				*i* Vmb_Lg		17 29 17.4	
CEST	**Esterri de Car**	**4.87**	**18**	Pn	**Pn**	**17 27 59.7**	**-0.5**
ETSF	**Etsaut**	**4.92**	**2**	*e*Pn	**Pn**	**17 28 00.6**	**-0.1**
ETSF	**Etsaut**	**4.92**	**2**	*e*P	**Pn**	**17 28 04.8**	**+4.1**
ETSF				*e*Sn	**Sn**	**17 28 55.1**	**-2.5**
	comp=Z,7.1nm,0.5s						
PBAR	**Barrancos**	**4.93**	**274**	*e*Pn	**Pn**	**17 28 01.7**	**+0.8**
PBAR				*e*Sg	**Sg**	**17 29 25.6**	**+0.5**
PBAR				A	A	17 29 26.8	
	comp=Z,12nm,0.7s						
EBAD	**Badajoz**	**4.95**	**281**	Pn	**Pn**	**17 28 00.4**	**-0.7**
EBAD				Pg	**Pb**	**17 28 14.5**	**+1.0**
EBAD				Sn	**Sn**	**17 28 57.1**	**-1.2**
EBAD				Sg	**Sg**	**17 29 22.6**	**-3.1**
EBAD				*i* Vmb_Lg		17 29 31.0	
EPF	**Esparros**	**5.12**	**9**	*e*Pn	**Pn**	**17 28 03.8**	**+0.3**
EPF	**Esparros**	**5.12**	**9**	*e*P	**Pn**	**17 28 07.3**	**+3.8**
EPF				*e*Sn	**Sn**	**17 28 58.5**	**-4.1**
	comp=Z,5.6nm,0.4s						
EPF				*e*Sg	**Sg**	**17 29 28.7**	**-2.4**
SJPF	**Ste Jean**	**5.14**	**356**	*e*Pn	**Pn**	**17 28 04.7**	**+1.0**
SJPF	**Ste Jean**	**5.14**	**356**	*e*P	**Pn**	**17 28 07.0**	**+3.3**
SJPF				*e*Sn	**Sn**	**17 29 01.1**	**-1.9**
EGRO	**El Granado**	**5.32**	**267**	Pn	**Pn**	**17 28 05.2**	**-0.9**
EGRO	**El Granado**	**5.32**	**267**	Pn	**Pn**	**17 28 05.3**	**-0.8**
EGRO				Sn	**Sn**	**17 29 03.8**	**-3.7**
EGRO				Sg	**Sb**	**17 29 29.9**	**+6.3**
EGRO				*i* Vmb_Lg		17 29 46.4	
PMRV	**Marv??o**	**5.36**	**288**	*e*Sg	**Sg**	**17 29 39.4**	**+0.5**
PMRV				A	A	17 29 44.6	
	comp=Z,20nm,0.6s						
PESTR	**Estremoz**	**5.41**	**282**	*e*Pn	**Pn**	**17 28 08.1**	**+0.6**
PESTR				*e*Sn	**Sn**	**17 29 07.2**	**-2.5**
PESTR				*e*Sg	**Sg**	**17 29 40.2**	**-0.3**
PESTR				A	A	17 29 48.1	
	comp=Z,12nm,0.8s						
PESTR	**Estremoz**	**5.41**	**282**	Pn	**Pn**	**17 28 08.0**	**+0.5**
PESTR				IAmb_Lg		17 29 48.2	
	comp=Z,14nm,0.7s						
PVAQ	**Vaqueiros**	**5.52**	**266**	*e*Pn	**Pn**	**17 28 08.0**	**-1.0**
PVAQ				*e*Sn	**

NEIC ***11*** *17:39:04.6±1.5, 19°.43N×0°.02×154°.92W×0°.02, h5km×1km, Error ellipse: s-maj=4.1km s-min=2.7km az=325.0*

HVO 11 17:39:04.1±1.4,**19°.44N**±0°.02×**154°.89W**±0°.02,**h5**km±3km, **ML2.7**/5,**ML2.9**/34(NEIC),**Error ellipse: s-maj=2.6km s-min=1.8km az=138.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**1**			**Pg**	17 39 07.4	**+1.1**
PHO	**Puu Honuaula**	**0.04**	**1**			Pg	17 39 05.8	+0.4
PAH	**Pahoa**	**0.08**	**316**			Pg	17 39 07.3	+1.4
JOKA	**Jonika Flow**	**0.11**	**267**			Sg	17 39 08.5	+0.6
JCUZ	**Jacuzzi**	**0.21**	**255**	Pg		Pg	17 39 08.6	+0.4
JCUZ						Sg	17 39 10.3	-0.6
NPOC	**North of Pu'u**	**0.21**	**257**			Pg	17 39 08.5	+0.2
NPOC				Sg		Sg	17 39 09.7	-1.4
NPOC				IAML			17 39 14.5	
	comp=E,1μm,1.1s							
STCH	**Steam Cracks**	**0.23**	**256**			Pg	17 39 08.8	+0.3
STCH				Sg		Sg	17 39 10.6	-1.0
KNHH	**Kane Nui o Ham**	**0.27**	**257**			Pg	17 39 09.8	+0.4
PUH	**Pauahi**	**0.31**	**258**			Pg	17 39 10.2	0.0
PUH						Sg	17 39 14.9	+0.5
PUH				IAML			17 39 17.2	
	comp=E,1μm,1.0s							
RSD	**Rainshed**	**0.37**	**274**			Pg	17 39 11.5	+0.3
RSD				IAML			17 39 13.7	
	comp=N,2μm,1.0s							
RSD				Sg		Sg	17 39 16.1	+0.1
RSD				IAML			17 39 22.7	
	comp=E,2μm,0.9s							
WRMHH	**West Rim**	**0.39**	**265**	Pg		Pg	17 39 11.1	-0.5
HLP	**Hilina Pali**	**0.42**	**250**			Pg	17 39 12.3	+0.1
HLP						Sg	17 39 17.7	0.0
MLH	**Mauna Loa**	**0.47**	**277**			Pg	17 39 12.9	-0.3
MLH				IAML			17 39 16.1	
	comp=E,896nm,0.9s							
MLH				IAML			17 39 17.2	
	comp=N,1μm,1.6s							
MLH						Sg	17 39 19.3	-0.1
HTC	**Hot Caves**	**0.52**	**247**			Pg	17 39 13.8	-0.3
HMH	**Humu'ula Sheep**	**0.58**	**286**	Pg		Pg	17 39 14.7	-0.6
HMH						Sg	17 39 21.0	-1.9
HMH				IAML			17 39 29.3	
	comp=E,1μm,0.5s							
MLOA	**Mauna Loa Obse**	**0.65**	**279**	Pg		Pg	17 39 15.4	-1.3
MLOA						Sg	17 39 24.5	-0.8
MLOA				IAML			17 39 25.0	
	comp=N,619nm,1.6s							
MLOA				IAML			17 39 37.9	
	comp=E,634nm,0.8s							
MWH	**Moku'aweowe**	**0.67**	**274**	Pg		Pg	17 39 15.7	-1.3
MWH				Sg		Sg	17 39 26.3	+0.5
MWH				IAML			17 39 30.5	
	comp=N,888nm,1.0s							
POHA	**Pohakuloa**	**0.68**	**298**	Pg		Pg	17 39 16.2	-1.0
POHA				IAML			17 39 33.2	
	comp=N,496nm,1.1s							
POHA				IAML			17 39 39.8	
	comp=N,496nm,0.7s							
KHU	**Kahuku**	**0.71**	**254**			Pg	17 39 16.8	-0.9
KHU				Sg		Sg	17 39 26.4	-0.6
KHU				IAML			17 39 27.6	
	comp=E,606nm,1.4s							
KHU				IAML			17 39 33.1	
	comp=N,514nm,1.2s							
ALEP	**Alea Permanent**	**0.72**	**278**			Pg	17 39 17.1	-0.8
ALEP						Sg	17 39 27.0	-0.3
HUH	**Hualalai**	**0.92**	**285**	Pg		Pg	17 39 21.2	-0.7
HUH				IAML			17 39 42.6	
	comp=N,564nm,0.5s							
HPAH	**Hawaii Prepara**	**0.96**	**308**	Pg		Pg	17 39 21.7	-0.9
HPAH				IAML			17 39 41.8	
	comp=N,155nm,0.9s							
HPAH				IAML			17 39 55.6	
	comp=E,234nm,0.8s							
MHA	**Mahukona**	**1.21**	**308**	Pg		Pg	17 39 26.1	-1.2
HLK	**Haleakala**	**1.83**	**316**	Pn		Pn	17 39 34.6	-1.8

LDG ***11*** *17:51:05.3±0.6, 50°.20N×12°.54E, h2km, Ml2.9/3, Error ellipse: s-maj=61.0km s-min=10.2km az=148.0*

PRU ***11*** *17:51:05.6, 50°.25N×12°.45E, h10km, West Bohemia Swarm*

VIE ***11*** *17:51:06.0±0.4, 50°.21N×12°.40E, h10km, mb2.4/8, ml2.7/12, Error ellipse: s-maj=4.3km s-min=2.4km az=93.0*

WBNET ***11*** *17:51:06.8, 50°.26N×12°.44E, h9km, Ml2.6*

BGR ***11*** *17:51:06.6±0.2, 50°.26N×12°.44E, h11km±1km, ML2.4/7, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*

CLL ***11*** *17:51:07.2±0.3, 50°.27N×12°.44E, h8km, ML2.5*

ISC 11 17:51:06.3±0.7,**50°.26N**±0°.01×**12°.46E**±0°.01,**h12**km±3km, **n102,**σ**1°.08**/183,**9C-15D,Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.03**	**278**	⇓P		**Pg**	**17 51 08.1**	**-0.5**
LBCW				S		**Sg**	**17 51 09.4**	**-0.8**
LBCW	**Luby**	**0.03**	**278**	⇓P		**Pg**	**17 51 08.7**	**0.0**
LBCW				S		**Sg**	**17 51 10.0**	**-0.3**
NKC	**Novy Kostel**	**0.03**	**192**	*i* Pg		**Pg**	**17 51 08.7**	**+0.1**
NKC				*i* Sg		**Sg**	**17 51 09.9**	**-0.3**
NKC				IAML			17 51 10.3	
	comp=E,3μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**192**	*e*PG		**Pg**	**17 51 08.1**	**-0.5**
NKC				*e*SG		**Sg**	**17 51 09.4**	**-0.8**
	comp=E,1μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**192**	*i* Pg		**Pg**	**17 51 08.7**	**+0.1**
NKC				*i* Sg		**Sg**	**17 51 09.9**	**-0.3**
	comp=E,3μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**192**	⇓P		**Pg**	**17 51 08.2**	**-0.5**
NKC				S		**Sg**	**17 51 09.4**	**-0.8**
NKC	**Novy Kostel**	**0.03**	**192**	⇓P		**Pg**	**17 51 08.7**	**+0.1**
NKC				S		**Sg**	**17 51 09.9**	**-0.3**
STCW	**Studenec**	**0.04**	**94**	*i* Pg		**Pg**	**17 51 08.8**	**+0.1**
STCW				*i* Sg		**Sg**	**17 51 10.1**	**-0.3**
STCW	**Studenec**	**0.04**	**94**	*i* Pg		**Pg**	**17 51 08.8**	**+0.1**
STCW				*i* Sg		**Sg**	**17 51 10.1**	**-0.3**
STCW	**Studenec**	**0.04**	**94**	⇑P		**Pg**	**17 51 08.3**	**-0.4**
STCW				S		**Sg**	**17 51 09.6**	**-0.8**
STCW	**Studenec**	**0.04**	**94**	⇑P		**Pg**	**17 51 08.8**	**+0.1**
STCW				S		**Sg**	**17 51 10.1**	**-0.3**
WERN	**Wernitzgruen**	**0.06**	**296**	*i* Pg		**Pg**	**17 51 08.9**	**0.0**
WERN				*i* Sg		**Sg**	**17 51 10.3**	**-0.4**
WERN				IAML			17 51 10.4	
	comp=E,3μm,0.2s							
WERN	**Wernitzgruen**	**0.06**	**296**	*i* Pg		**Pg**	**17 51 08.9**	**0.0**
WERN				*i* Sg		**Sg**	**17 51 10.3**	**-0.4**
	comp=E,3μm,0.2s							
VAC	**Vackov**	**0.06**	**242**	*i* Pg		**Pg**	**17 51 08.8**	**0.0**
VAC				*i* Sg		**Sg**	**17 51 10.1**	**-0.5**
VAC	**Vackov**	**0.06**	**242**	⇓P		**Pg**	**17 51 08.3**	**-0.6**
VAC				S		**Sg**	**17 51 09.6**	**-1.1**
VAC	**Vackov**	**0.06**	**242**	⇓P		**Pg**	**17 51 08.8**	**0.0**
VAC				S		**Sg**	**17 51 10.1**	**-0.5**
POCW	**Potky**	**0.06**	**342**	⇓P		**Pg**	**17 51 08.4**	**-0.5**
POCW				S		**Sg**	**17 51 09.9**	**-0.8**
POCW	**Potky**	**0.06**	**342**	⇓P		**Pg**	**17 51 09.0**	**+0.1**
POCW				S		**Sg**	**17 51 10.5**	**-0.3**
KVC	**Kvetna**	**0.07**	**146**	*e*Pg		**Pg**	**17 51 09.1**	**+0.2**
KVC				*i* Sg		**Sg**	**17 51 10.7**	**0.0**
KVC	**Kvetna**	**0.07**	**146**	⇓P		**Pg**	**17 51 08.5**	**-0.4**
KVC				S		**Sg**	**17 51 10.0**	**-0.7**
KVC	**Kvetna**	**0.07**	**146**	⇑P		**Pg**	**17 51 08.8**	**-0.1**
KRCW	**Kraslice**	**0.08**	**34**	⇑P		**Pg**	**17 51 08.7**	**-0.4**
KRCW				S		**Sg**	**17 51 10.4**	**-0.8**
KRCW	**Kraslice**	**0.08**	**34**	⇑P		**Pg**	**17 51 09.2**	**+0.1**
KRCW				S		**Sg**	**17 51 10.9**	**-0.3**
ROHR	**Rohrbach**	**0.09**	**253**	*i* Pg		**Pg**	**17 51 09.2**	**-0.1**
ROHR				*i* Sg		**Sg**	**17 51 10.7**	**-0.6**
ROHR				IAML			17 51 10.8	
	comp=E,4μm,0.2s							
ROHR	**Rohrbach**	**0.09**	**253**	*i* Pg		**Pg**	**17 51 09.2**	**-0.1**
ROHR				*i* Sg		**Sg**	**17 51 10.7**	**-0.6**
	comp=E,4μm,0.2s							
SKC	**Skalna**	**0.11**	**214**	⇑P		**Pg**	**17 51 09.0**	**-0.4**
SKC				S		**Sg**	**17 51 10.8**	**-0.8**
SKC	**Skalna**	**0.11**	**214**	⇑P		**Pg**	**17 51 09.5**	**+0.1**
SKC				S		**Sg**	**17 51 11.3**	**-0.2**
GUNZ	**Gunzen**	**0.13**	**322**	*i* Pg		**Pg**	**17 51 09.8**	**+0.1**
GUNZ				*i* Sg		**Sg**	**17 51 11.7**	**-0.4**
GUNZ				IAML			17 51 11.8	
	comp=E,1μm,0.2s							
GUNZ	**Gunzen**	**0.13**	**322**	*i* Pg		**Pg**	**17 51 09.8**	**+0.1**
GUNZ				*i* Sg		**Sg**	**17 51 11.7**	**-0.4**
	comp=E,1μm,0.2s							
KOCW	**Kopaniny**	**0.14**	**271**	⇓P		**Pg**	**17 51 09.3**	**-0.5**
KOCW				S		**Sg**	**17 51 11.4**	**-1.0**
KOCW	**Kopaniny**	**0.14**	**271**	⇓P		**Pg**	**17 51 09.9**	**0.0**
KOCW				S		**Sg**	**17 51 11.9**	**-0.4**
TANN	**Tannenbergstha**	**0.15**	**1**	*i* Pg		**Pg**	**17 51 10.1**	**+0.1**
TANN				*i* Sg		**Sg**	**17 51 12.3**	**-0.4**
TANN				IAML			17 51 12.4	
	comp=E,2μm,0.2s							
TANN	**Tannenbergstha**	**0.15**	**1**	*i* Pg		**Pg**	**17 51 10.1**	**+0.1**
TANN				*i* Sg		**Sg**	**17 51 12.3**	**-0.4**
	comp=E,2μm,0.2s							
MULD	**Muldenberg**	**0.15**	**347**	*i* Pg		**Pg**	**17 51 10.1**	**+0.1**
MULD				*i* Sg		**Sg**	**17 51 12.2**	**-0.4**
MULD				IAML			17 51 12.4	
	comp=E,2μm,0.1s							
MULD	**Muldenberg**	**0.15**	**347**	*i* Pg		**Pg**	**17 51 10.1**	**+0.1**
MULD				*i* Sg		**Sg**	**17 51 12.2**	**-0.4**
	comp=E,2μm,0.1s							
TRCW	**Trojmez**	**0.20**	**282**	⇓P		**Pg**	**17 51 10.3**	**-0.5**
TRCW				S		**Sg**	**17 51 13.1**	**-0.9**
TRCW	**Trojmez**	**0.20**	**282**	⇓P		**Pg**	**17 51 10.9**	**0.0**
TRCW				S		**Sg**	**17 51 13.6**	**-0.3**
WERD	**Werda**	**0.21**	**333**	*i* Pg		**Pg**	**17 51 11.0**	**+0.1**
WERD				*i* Sg		**Sg**	**17 51 13.7**	**-0.4**
WERD				IAML			17 51 13.8	
	comp=E,489nm,0.2s							
WERD	**Werda**	**0.21**	**333**	*i* Pg		**Pg**	**17 51 11.0**	**+0.1**
WERD				*i* Sg		**Sg**	**17 51 13.7**	**-0.4**
	comp=E,489nm,0.2s							
ZHC	**Zelena Hora**	**0.21**	**207**	⇑P		**Pg**	**17 51 10.7**	**-0.3**
ZHC				S		**Sg**	**17 51 13.6**	**-0.5**
ZHC	**Zelena Hora**	**0.21**	**207**	⇑P		**Pg**	**17 51 11.2**	**+0.3**
ZHC				S		**Sg**	**17 51 14.2**	**0.0**
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg		**Pg**	**17 51 11.2**	**0.0**
TRIB				*i* Sg		**Sg**	**17 51 14.1**	**-0.3**
TRIB				IAML			17 51 14.6	
	comp=E,433nm,0.1s							
TRIB	**Obertriebel**	**0.22**	**294**	*i* Pg		**Pg**	**17 51 11.2**	**0.0**
TRIB				*i* Sg		**Sg**	**17 51 14.1**	**-0.3**
	comp=E,433nm,0.1s							
LACW	**Lazy**	**0.24**	**153**	*e*Pg		**Pg**	**17 51 11.9**	**+0.5**
LACW				*i* Sg		**Sg**	**17 51 15.4**	**+0.6**
LACW	**Lazy**	**0.24**	**153**	*e*Pg		**Pg**	**17 51 11.9**	**+0.5**
LACW				*i* Sg		**Sg**	**17 51 15.4**	**+0.6**
LACW	**Lazy**	**0.24**	**153**	⇓P		**Pg**	**17 51 11.4**	**0.0**
LACW				S		**Sg**	**17 51 14.8**	**0.0**
LACW	**Lazy**	**0.24**	**153**	⇓P		**Pg**	**17 51 11.9**	**+0.5**
LACW				S		**Sg**	**17 51 15.4**	**+0.6**
VIEL	**Selb-Vielitz**	**0.24**	**252**	*i* Pg		**Pg**	**17 51 11.4**	**0.0**
VIEL				*i* Sg		**Sg**	**17 51 14.6**	**-0.3**
VIEL	**Selb-Vielitz**	**0.24**	**252**	*i* Pg		**Pg**	**17 51 11.4**	**0.0**
VIEL				*i* Sg		**Sg**	**17 51 14.6**	**-0.3**
PLN	**Plauen**	**0.29**	**319**	*i* Pg		**Pg**	**17 51 12.4**	**0.0**
PLN				*i* Sg		**Sg**	**17 51 16.4**	**-0.1**
PLN				IAML			17 51 16.7	
	comp=E,297nm,0.1s							
PLN	**Plauen**	**0.29**	**319**	*i* Pg		**Pg**	**17 51 12.4**	**0.0**
PLN				*i* Sg		**Sg**	**17 51 16.4**	**-0.1**
	comp=E,297nm,0.1s							
MANZ	**Manzenberg**	**0.36**	**219**	*e*Pg		**Pg**	**17 51 13.6**	**+0.1**
MANZ				*e*Sg		**Sg**	**17 51 18.3**	**0.0**
SCHF	**Schoenfels**	**0.42**	**355**	*i* Pg		**Pg**	**17 51 14.8**	**+0.1**
SCHF				*e*Sg		**Sg**	**17 51 20.4**	**+0.1**
SCHF				IAML			17 51 20.8	
	comp=E,333nm,0.3s							
SCHF	**Schoenfels**	**0.42**	**355**	*i* Pg		**Pg**	**17 51 14.8**	**+0.1**
SCHF				*e*Sg		**Sg**	**17 51 20.4**	**+0.1**
	comp=E,333nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.46**	**341**	*i* Pg		**Pg**	**17 51 15.4**	**+0.1**
GRZ1				*i* Sg		**Sg**	**17 51 21.1**	**-0.4**
GRZ1				IAML			17 51 22.2	
	comp=E,170nm,0.4s							
GRZ1	**Mausoleum Wald**	**0.46**	**341**	*i* Pg		**Pg**	**17 51 15.4**	**+0.1**
GRZ1				*i* Sg		**Sg**	**17 51 21.1**	**-0.4**
	comp=E,170nm,0.4s							
ROTZ	**Rotzenmuhle**	**0.52**	**198**	*e*Pg		**Pg**	**17 51 17.0**	**+0.5**
ROTZ				*e*Sg		**Sg**	**17 51 23.7**	**+0.2**
MOX	**Moxa**	**0.66**	**306**	*e*Pg		**Pg**	**17 51 19.2**	**0.0**
MOX				*e*Sg		**Sg**	**17 51 28.1**	**+0.2**
HSKC	**Hora Svate Kat**	**0.71**	**61**	*e*SG		**Sg**	**17 51 29.2**	**-0.3**
	comp=E,127nm,0.2s							
FBE	**Freiberg**	**0.87**	**41**	*e*Pg		**Pg**	**17 51 23.6**	**+0.4**
FBE				*e*Sg		**Sb**	**17 51 35.7**	**+0.7**
GRF	**Grafenberg Arr**	**0.98**	**235**	*e*Pg		**Pg**	**17 51 25.3**	**0.0**
GRF				*e*Sg		**Sg**	**17 51 38.1**	**+0.1**
RICC	**Richard**	**1.09**	**74**	*e*SG		**Sg**	**17 51 41.2**	**-0.2**
	comp=E,85nm,0.3s							
CLL	**Collm**	**1.10**	**18**	*e*Pg		**Pb**	**17 51 27.5**	**+0.1**
CLL				*e*Sg		**Sg**	**17 51 42.2**	**+0.2**
BRG	**Berggiesshubel**	**1.13**	**57**	Pg		**Pb**	**17 51 27.6**	**-0.2**
BRG				Sg		**Sb**	**17 51 42.4**	**0.0**
BRG				Amp			17 51 43.2	
	comp=E,108nm,0.3s							
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg		**Pb**	**17 51 28.2**	**+0.4**
BRG				*e*Sg		**Sb**	**17 51 42.5**	**+0.2**
WET	**Wettzell**	**1.15**	**166**	*e*Pg		**Pb**	**17 51 28.2**	**0.0**
WET				*e*Sg		**Sb**	**17 51 43.6**	**+0.6**
PRA	**Prague**	**1.28**	**98**	*e*SG		**Sb**	**17 51 47.1**	**+0.3**
	comp=E,19nm,0.3s							
KHC	**Kasperske Hory**	**1.35**	**147**	*e*SG		**Sb**	**17 51 48.5**	**-0.1**
	comp=E,44nm,0.2s							
PRU	**Pruhonice**	**1.37**	**101**	*e*SG		**Sb**	**17 51 49.4**	**+0.1**
	comp=E,39nm,0.2s							
PRU	**Pruhonice**	**1.37**	**101**	*e*Pg		**Pg**	**17 51 32.7**	**+0.1**
PRU				*e*Sg		**Sn**	**17 51 50.2**	**+1.0**
PVCC	**Panska Ves**	**1.38**	**78**	*e*SG		**Sg**	**17 51 50.8**	**+0.1**
	comp=Z,100nm,0.1s							
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	*e*SG		**Sb**	**17 51 55.1**	**+0.9**
GEC2	**GERESS Array S**	**1.63**	**150**	*e*Sg		**Sb**	**17 51 57.5**	**+0.5**
CKRC	**Cesky Krumlov**	**1.88**	**139**	*e*SG		**Sb**	**17 52 04.2**	**+0.2**
UPC	**Upice**	**2.29**	**82**	*e*SG		**Sb**	**17 52 18.0**	**+2.2**
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG		**Sb**	**17 52 23.8**	**+2.5**
	comp=Z,12nm,0.2s							
BIOA	**Bad Ischl, Aus**	**2.69**	**163**	*i* Pg		**Pg**	**17 51 57.3**	**-0.5**
	comp=Z,1.3nm,0.2s							
BIOA				*e*Sg		**Sg**	**17 52 32.1**	**-0.5**
	comp=Z,17nm,0.3s							
KRLC	**Kraliky**	**2.79**	**92**	*e*SG		**Sg**	**17 52 34.4**	**-1.4**
	comp=Z,7.0nm,0.3s							
KRUC	**Moravsky**	**2.83**	**114**	*e*PN		**Pn**	**17 51 50.8**	**-0.5**
KRUC				*e*SG		**Sb**	**17 52 34.2**	**+3.0**
LESA	**Schwarzleotal**	**2.84**	**177**	*e*Pg		**Pg**	**17 52 00.7**	**-0.1**
	comp=Z,1.6nm,0.2s							
LESA				*e*Sg		**Sb**	**17 52 34.5**	**+2.7**
	comp=Z,8.0nm,0.3s							
VRAC	**Vranov**	**2.84**	**108**	*e*PN		**Pn**	**17 51 51.4**	**-0.1**
WATA	**Walderalm**	**2.99**	**192**	*e*Pn		**Pn**	**17 51 53.2**	**-0.4**
	comp=Z,1.1nm,0.2s							
WATA				*e*Pg		**Pg**	**17 52 02.6**	**-0.9**
	comp=Z,2.1nm,0.2s							
WATA				*e*Sn		**Sn**	**17 52 30.4**	**+1.0**
	comp=Z,5.0nm,0.2s							
WATA				*e*Sg		**Sg**	**17 52 43.5**	**+1.2**
	comp=Z,7.0nm,0.2s							
RETA	**Reutte**	**2.99**	**203**	*e*Pg		**Pg**	**17 52 02.6**	**-1.1**
	comp=Z,1.8nm,0.2s							
WTTA	**Wattenberg**	**3.05**	**191**	*i* Pg		**Pg**	**17 52 03.4**	**-1.3**
	comp=Z,1.3nm,0.2s							
WTTA				*e*Sg		**Sg**	**17 52 44.8**	**+0.6**
	comp=Z,3.8nm,0.2s							
MOTA	**Moosalm**	**3.05**	**198**	*i* Pn		**Pn**	**17 51 53.6**	**-0.9**
	comp=Z,0.2nm,0.1s							
MOTA				*e*Pg		**Pg**	**17 52 03.1**	**-1.7**
	comp=Z,0.9nm,0.1s							
MOTA				*e*Sn		**Sn**	**17 52 30.3**	**-0.7**
	comp=Z,1.2nm,0.1s							
MOTA				*e*Sg		**Sg**	**17 52 44.5**	**+0.1**
	comp=Z,2.1nm,0.2s							
SQTA	**Sankt Quirin**	**3.15**	**196**	*e*Pg		**Pg**	**17 52 05.0**	**-1.8**
	comp=Z,3.4nm,0.2s							
SQTA				*i* Sg		**Sg**	**17 52 47.6**	**0.0**
	comp=Z,3.9nm,0.3s							
CONA	**Conrad Observa**	**3.23**	**135**	*e*Pg		**Pg**	**17 52 06.8**	**-1.5**
	comp=Z,0.7nm,0.2s							
CONA				*e*Sg		**Sb**	**17 52 46.7**	**+3.7**
	comp=Z,4.4nm,0.3s							
KBA	**Koelnbreinsper**	**3.24**	**169**	*i* Sg		**Sg**	**17 52 50.2**	**-0.2**
	comp=Z,3.6nm,0.4s							
MORC	**Moravsky Berou**	**3.31**	**96**	*e*PN		**Pn**	**17 51 58.0**	**0.0**
MORC				*e*SG		**Sg**	**17 52 50.0**	**-2.8**
ABTA	**Abfaltersbach**	**3.52**	**179**	*i* Sn		**Sn**	**17 52 43.3**	**+0.9**
	comp=Z,1.7nm,0.2s							
ABTA				*e*Sg		**Sg**	**17 52 59.6**	**+0.4**
	comp=Z,1.9nm,0.2s							
ARSA	**Arzberg**	**3.63**	**145**	*e*Sg		**Sg**	**17 53 00.3**	**-2.6**
	comp=Z,3.4nm,0.4s							
JAVC	**Velka Javorina**	**3.67**	**110**	*e*SG		**Sg**	**17 53 02.5**	**-1.7**
MODS	**Modra-Piesok**	**3.68**	**119**	*e*SG		**Sg**	**17 53 02.8**	**-1.5**
CDF	**Champ du Feu**	**3.86**	**243**	*e*Pn		**Pn**	**17 52 03.8**	**-1.7**
CDF	**Champ du Feu**	**3.86**	**243**	*e*Pg		**Pg**	**17 52 17.5**	**-2.8**
CDF				*e*Sg		**Sb**	**17 53 05.2**	**+4.1**
	comp=Z,4.1nm,0.3s							
OBKA	**Obir**	**4.00**	**159**	*e*Sg		**Sg**	**17 53 13.0**	**-1.9**
	comp=Z,5.2nm,0.3s							
HINF	**Hinteralfeld**	**4.42**	**239**	*e*Pn		**Pn**	**17 52 11.8**	**-1.5**
HINF	**Hinteralfeld**	**4.42**	**239**	*e*Pg		**Pb**	**17 52 27.6**	**+3.7**
HINF				*e*Sg		**Sg**	**17 53 23.9**	**-4.4**
	comp=Z,5.5nm,0.3s							
VYHS	**Vyhne**	**4.53**	**111**	*e*SG		**Sb**	**17 53 21.9**	**+1.8**
HAU	**Haudompre**	**4.60**	**243**	*e*Pn		**Pn**	**17 52 13.8**	**-1.9**
HAU	**Haudompre**	**4.60**	**243**	*e*Pg		**Pg**	**17 52 31.0**	**-3.4**
HAU				*e*Sg		**Sg**	**17 53 32.1**	**-1.9**
	comp=Z,7.8nm,0.5s							
LANS	**Liptovska Anna**	**4.68**	**101**	*e*SG		**Sg**	**17 53 32.3**	**-4.3**

IDC ***11*** *17:57:23.4±5.4, 23°.68S×179°.88W, h502km±55km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=35.4km s-min=22.0km az=47.0*

NEIC ***11*** *17:57:28.1±2.6, 23°.8S±0°.1×179°.9E±0°.2, h546km±12km, mb4.8/18, Error ellipse: s-maj=21.0km s-min=18.2km az=75.0*

ISC 11 17:57:26.2±0.6,**23°.85S**±0°.07×**179°.90E**±0°.09,**h526**km,**n72,** σ**1°.58/77,mb4.6/17,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.72**	**161**	P		**P**	**17 59 01.8**	**+0.8**
GLKZ	**Green Lake**	**5.73**	**161**	P		**P**	**17 59 00.9**	**-0.2**
GLKZ				S		**S**	**18 00 20.1**	**+1.4**
MSVF	**Nonsavu**	**6.33**	**344**	P		**P**	**17 59 06.7**	**-0.3**
NIUE	**Niue**	**10.59**	**65**	P		**P**	**17 59 52.0**	**+1.9**
PINNC	**Pines Island,**	**11.52**	**274**	P		**P**	**18 00 01.6**	**+1.8**
KUZ	**Kuaotunu**	**13.35**	**195**	P		**P**	**18 00 19.3**	**+0.7**
ABAZ	**Army Bay**	**13.44**	**198**	P		**P**	**18 00 15.9**	**-3.6**
WIAZ	**Waiheke Island**	**13.54**	**197**	P		**P**	**18 00 22.7**	**+2.1**
MKAZ	**Moumakai**	**13.82**	**196**	P		**P**	**18 00 25.6**	**+2.0**
HAZ	**Te Kaha**	**13.98**	**187**	P		**P**	**18 00 27.4**	**+2.2**
HAZ	**Te Kaha**	**13.98**	**187**	P		**P**	**18 00 25.2**	**0.0**
TOZ	**Tahuroa Road**	**14.34**	**194**	P		**P**	**18 00 30.2**	**+1.3**
TOZ	**Tahuroa Road**	**14.34**	**194**	P		**P**	**18 00 31.1**	**+2.2**
TWGZ	**Tauwhareparae**	**14.37**	**186**	P		**P**	**18 00 32.5**	**+3.1**
URZ	**Urewera**	**14.56**	**189**	P		**P**	**18 00 29.6**	**-1.6**
	12nm,0.7s,baz=56,slow=3.1,SNR=8.4							
URZ				S		**S**	**18 02 59.8**	**-4.1**
	4.6nm,0.6s,baz=249,slow=19,SNR=1.3							
URZ	**Urewera**	**14.56**	**189**	P		**P**	**18 00 29.6**	**-1.6**
MWZ	**Matawai**	**14.58**	**187**	P		**P**	**18 00 31.6**	**+0.1**
RRRZ	**Republican Roa**	**14.73**	**191**	P		**P**	**18 00 37.0**	**+3.9**
OTVZ	**Oturere**	**15.68**	**192**	P		**P**	**18 00 42.7**	**-0.5**
VRZ	**Vera Road**	**15.84**	**195**	P		**P**	**18 00 48.4**	**+3.9**
BHHZ	**Black Hill Sta**	**15.93**	**191**	P		**P**	**18 00 42.5**	**-3.0**
KAHZ	**Kahuranaki**	**16.10**	**188**	P		**P**	**18 00 46.6**	**-0.7**
LREZ	**Lake Rotokare**	**16.24**	**195**	P		**P**	**18 00 51.0**	**+2.4**
TSZ	**Takapari Road**	**16.50**	**191**	P		**P**	**18 00 49.6**	**-1.5**
TCW	**Tory Channel**	**17.94**	**194**	P		**P**	**18 01 03.0**	**-1.5**
TUWZ	**

s-min=33.3km az=137.0
NEIC ***11*** *18:23:37.0±1.8, 10.71S±0.06×164.4E±0.1, h10km±2km, mb4.2/3, Error ellipse: s-maj=17.1km s-min=10.0km az=89.0*

ISC 11 18:23:36.3±1.0,**10.75S**±0.09×**164.4E**±0.1,**h10**km,**n25,** σ1§**55**/**20**,**mb3.9**/**4**,**MS3.2**/**3**,**Santa Cruz Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.53**	**286**	P	**Pn**	**18 24 46.9**	**+1.8**
HNR	**Honiara**	**4.53**	**286**		**Pn**	**18 24 45.9**	**+0.9**
HNR				Sn	**Sn**	**18 25 37.3**	**-0.5**
DVP	**Devils Point**	**7.87**	**152**	P	**Pn**	**18 25 31.4**	**+0.5**
KOUNC	**Koumac, New Ca**	**9.75**	**180**	P	**Pn**	**18 25 59.2**	**+2.5**
KOUNC	**Koumac, New Ca**	**9.75**	**180**		**Pn**	**18 25 57.7**	**+1.0**
KOUNC				Sn	**Sn**	**18 27 43.9**	**-2.4**
LIFNC	**LIFOU**	**10.35**	**165**	Pn	**Pn**	**18 26 05.9**	**+0.9**
DZM	**Mont Dzumac**	**11.44**	**170**	P	**Pn**	**18 26 21.1**	**+1.2**
DZM	**Mont Dzumac**	**11.44**	**170**	Pn	**Pn**	**18 26 20.6**	**+0.7**
NOUC	**Port Laguerre**	**11.44**	**171**	P	**Pn**	**18 26 21.5**	**+1.6**
ONTNC	**Ouen Toro**	**11.67**	**170**	Pn	**Pn**	**18 26 23.1**	**+0.1**
OUENC	**Ouen Island, N**	**11.85**	**169**	P	**Pn**	**18 26 27.5**	**+2.1**
OUENC	**Ouen Island, N**	**11.85**	**169**	Pn	**Pn**	**18 26 27.2**	**+1.7**
PINNC	**Pines Island,**	**12.16**	**166**	Pn	**Pn**	**18 26 31.5**	**+1.8**
RABL	**Rabaul**	**13.73**	**297**	P	Pn	18 26 43.7	-7.5
PMG	**Port Moresby**	**16.98**	**273**	LR	LR	18 33 34.9	
	comp=Z,106nm,19.8s,baz=106,slow=36						
PATS	**Pohnpei**	**18.48**	**341**	P	**P**	**18 27 50.8**	**-1.7**
CTAO	**Charters Tower**	**19.75**	**240**		**P**	**18 28 04.7**	**-1.9**
CTAO				IAmb	IAmb	18 28 13.6	
	comp=Z,7.9nm,0.9s						
COEN	**Coen**	**20.93**	**259**	P	**P**	**18 28 19.3**	**-0.1**
COEN				IAmb	IAmb	18 28 36.4	
	comp=Z,20nm,1.3s						
STKA	**Stephens Creek**	**29.74**	**222**	LR	LR	18 40 13.9	
	comp=Z,22nm,19.5s,baz=27,slow=34						
WRA	**Warramunga Arr**	**30.31**	**249**	P	P	18 29 43.3	-4.9
	comp=Z,1.1nm,0.8s,baz=79,slow=9.0,SNR=3.3						
	comp=Z,1.1nm,0.8s						
GUMO	**Guam**	**30.96**	**321**	LR	LR	18 42 30.0	
	comp=Z,47nm,18.1s,baz=142,slow=37						
ASAR	**Alice Springs**	**31.71**	**242**	P	P	18 29 54.9	-5.7
	comp=Z,0.4nm,0.9s,baz=64,slow=10,SNR=1.6						
	comp=Z,0.4nm,0.9s						
ILAR	**Eielson Array**	**83.67**	**19**	P	**P**	**18 36 05.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=226,slow=5.8,SNR=7.5						
	comp=Z,1.0nm,0.7s						
YBH	**Yreka Blue Hor**	**84.67**	**46**	LR	LR	19 07 41.9	
	comp=Z,36nm,18.9s,baz=146,slow=31						
MKAR	**Makanchi Array**	**92.37**	**317**	P	**P**	**18 36 46.7**	**-0.6**
	comp=Z,0.5nm,0.7s,baz=104,slow=5.1,SNR=3.6						
	comp=Z,0.5nm,0.7s						

IDC ***11*** *18:33:26.0±5.0, 12.85S×166.96E, h190km±46km, mb3.3/5, mbtmp3.8/6, Error ellipse: s-maj=32.8km s-min=26.2km az=98.0*

ISC 11 18:33:25.0±1.1,**12.8S**±0.1×**166.9E**±0.3,**h180**km,**n7,** σ0§**84**/**7**,**mb3.4**/**5**,**Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.24**	**183**	P	**Pn**	**18 35 35.3**	**+0.5**
	4.7nm,0.8s,baz=89,slow=18,SNR=2.1						
STKA	**Stephens Creek**	**30.03**	**227**	P	**P**	**18 39 16.6**	**-0.5**
	2.4nm,0.9s,baz=62,slow=10,SNR=4.8						
	2.4nm,0.9s						
ASAR	**Alice Springs**	**33.09**	**246**	P	**P**	**18 39 44.6**	**+0.4**
	0.4nm,0.6s,baz=75,slow=9.2,SNR=14						
	0.4nm,0.6s						
KSRS	**Korea Array**	**61.96**	**325**	P	**P**	**18 43 25.6**	**-0.2**
	0.2nm,0.3s,baz=138,slow=7.5,SNR=4.6						
	0.2nm,0.3s						
QSPA	**South Pole Qui**	**77.23**	**180**	P	**P**	**18 44 58.2**	**-0.9**
	1.2nm,0.8s,baz=316,slow=6.9,SNR=7.0						
	1.2nm,0.8s						
ILAR	**Eielson Array**	**84.80**	**18**	P	**P**	**18 45 38.7**	**-0.1**
	0.4nm,0.6s,baz=230,slow=5.1,SNR=5.1						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**118.30**	**346**	PKP	**PKiKP**	**18 51 51.5**	**+1.2**
	1.6nm,0.9s,baz=41,slow=1.9,SNR=7.5						

IDC ***11*** *18:38:48.8±1.2, 9.83S×160.59E, h0km, mb3.6/7, mbtmp3.7/8, ML3.6/1, MS3.3/6, Error ellipse: s-maj=37.9km s-min=26.6km az=85.0*

ISC 11 18:38:54.0±0.9,**10.0S**±0.1×**160.7E**±0.2,**h37**km,**n18,** σ1§**89**/**9**,**mb3.6**/**7**,**MS3.0**/**4**,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.23**	**156**	Pn	**Pn**	**18 42 01.5**	**+2.1**
	0.3nm,0.3s,baz=13,slow=12,SNR=11						
DZM				Sn	**Sn**	**18 44 21.8**	**-3.5**
	baz=331,slow=15,SNR=1.5						
DZM				LR	LR	18 46 11.0	
	comp=Z,127nm,18.0s,baz=8.0,slow=33						
	4.7nm,0.9s						
PMG	**Port Moresby**	**13.34**	**271**	LR	LR	18 46 43.1	
	comp=Z,201nm,20.7s,baz=106,slow=36						
WRA	**Warramunga Arr**	**27.27**	**246**	P	**P**	**18 44 35.5**	**+0.4**
	0.7nm,0.6s,baz=74,slow=9.2,SNR=3.1						
	0.7nm,0.6s						
GUMO	**Guam**	**28.20**	**326**	LR	LR	18 54 59.8	
	comp=Z,32nm,20.7s,baz=163,slow=35						
H11S2	**WAKE ISLAND Hy**	**28.91**	**12**	T	T	19 13 36.2	
	baz=194,slow=76,SNR=16						
H11S3	**WAKE ISLAND Hy**	**28.91**	**12**	T	T	19 13 36.4	
	baz=194,slow=76,SNR=16						
H11S1	**WAKE ISLAND Hy**	**28.93**	**12**	T	T	19 13 36.8	
	baz=194,slow=76,SNR=14						
ASAR	**Alice Springs**	**28.94**	**239**	P	**P**	**18 44 50.6**	**+0.6**
	0.1nm,0.4s,baz=64,slow=10,SNR=1.3						
	0.1nm,0.4s						
H11N1	**WAKE ISLAND Hy**	**30.14**	**12**	T	T	19 15 07.4	
	baz=194,slow=76,SNR=56						
H11N3	**WAKE ISLAND Hy**	**30.15**	**12**	T	T	19 15 05.9	
	baz=194,slow=76,SNR=41						
H11N2	**WAKE ISLAND Hy**	**30.16**	**12**	T	T	19 15 06.8	
	baz=194,slow=76,SNR=66						
DAV	**Davao City (W)**	**38.85**	**295**	LR	LR	19 01 12.6	
	comp=Z,23nm,20.0s,baz=40,slow=35						
KSRS	**Korea Array**	**56.30**	**329**	P	**P**	**18 48 30.4**	**-0.6**
	0.6nm,0.8s,baz=144,slow=6.6,SNR=1.8						
KSRS				LR	LR	19 10 00.7	
	comp=Z,14nm,20.6s,baz=210,slow=33						
	0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**67.14**	**295**	P	**P**	**18 49 42.9**	**-1.7**
	0.2nm,0.3s,baz=126,slow=4.6,SNR=1.6						
	0.2nm,0.3s						
SONM	**Songino Array**	**74.92**	**325**	P	**P**	**18 50 31.4**	**+0.1**
	0.2nm,0.4s,baz=133,slow=6.3,SNR=1.6						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**80.01**	**180**	P	**P**	**18 51 00.5**	**+1.1**
	1.8nm,0.8s,baz=32,slow=1.8,SNR=7.1						
	1.8nm,0.8s						
ILAR	**Eielson Array**	**84.16**	**20**	P	**P**	**18 51 21.2**	**+0.2**
	0.3nm,0.6s,baz=224,slow=3.8,SNR=2.2						
	0.3nm,0.6s						
PFO	**Pinyon Flats O**	**89.58**	**56**	LR	LR	19 27 14.0	
	comp=Z,43nm,19.1s,baz=196,slow=32						

LDG ***11*** *18:45:27.9±0.4, 50.25N×12.45E, h10km, Ml2.8/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
BGR ***11*** *18:45:30.3±0.2, 50.26N×12.44E, h11km±1km, ML2.3/7, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
VIE ***11*** *18:45:30.3±0.3, 50.23N×12.43E, h10km, mb2.4/3, ml2.7/13, Error ellipse: s-maj=3.3km s-min=2.2km az=106.0*
WBNET ***11*** *18:45:30.6, 50.27N×12.44E, h9km, Ml2.5*
PRU ***11*** *18:45:30.5, 50.24N×12.48E, h10km, West Bohemia Swarm-felt*
CLL ***11*** *18:45:31.0±0.3, 50.27N×12.44E, h8km, ML2.4*

ISC 11 18:45:29.5±0.7,**50.27N**±0.01×**12.38E**±0.01,**h17**km±2km, **n97,** σ1§**67**/172,**4C-8D,Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**101**	⇓P	**Pg**	**18 45 32.4**	**-0.2**
LBCW				S	**Sg**	**18 45 33.7**	**-1.0**
WERN	**Wernitzgruen**	**0.02**	**347**	*i* Pg	**Pg**	**18 45 32.6**	**0.0**
WERN				*i* Sg	**Sg**	**18 45 34.0**	**-0.8**
WERN				IAML		18 45 34.1	
	comp=E,3μm,0.2s						
WERN	**Wernitzgruen**	**0.02**	**347**	*i* Pg	**Pg**	**18 45 32.6**	**0.0**
WERN				*i* Sg	**Sg**	**18 45 34.0**	**-0.8**
	comp=E,3μm,0.2s						
VAC	**Vackov**	**0.04**	**187**	*i* Pg	**Pg**	**18 45 32.6**	**0.0**
VAC				*i* Sg	**Sg**	**18 45 33.9**	**-0.8**
VAC	**Vackov**	**0.04**	**187**	⇓P	**Pg**	**18 45 32.6**	**0.0**
VAC				S	**Sg**	**18 45 33.9**	**-0.8**
NKC	**Novy Kostel**	**0.06**	**131**	*i* Pg	**Pg**	**18 45 32.5**	**-0.3**
NKC				*i* Sg	**Sg**	**18 45 33.7**	**-1.2**
NKC				IAML		18 45 34.1	
	comp=E,3μm,0.3s						
NKC	**Novy Kostel**	**0.06**	**131**	*e*PG	**Pg**	**18 45 32.5**	**-0.3**
NKC				*e*SG	**Sg**	**18 45 33.7**	**-1.2**
	comp=E,747nm,0.2s						
NKC	**Novy Kostel**	**0.06**	**131**	*i* Pg	**Pg**	**18 45 32.5**	**-0.3**
NKC				*i* Sg	**Sg**	**18 45 33.7**	**-1.2**
	comp=E,3μm,0.3s						
NKC	**Novy Kostel**	**0.06**	**131**	⇓P	**Pg**	**18 45 32.5**	**-0.3**
NKC				S	**Sg**	**18 45 33.7**	**-1.2**
ROHR	**Rohrbach**	**0.06**	**230**	*i* Pg	**Pg**	**18 45 33.0**	**+0.2**
ROHR				*i* Sg	**Sg**	**18 45 34.5**	**-0.4**
ROHR				IAML		18 45 34.6	
	comp=E,5μm,0.2s						
ROHR	**Rohrbach**	**0.06**	**230**	*i* Pg	**Pg**	**18 45 33.0**	**+0.2**
ROHR				*i* Sg	**Sg**	**18 45 34.5**	**-0.4**
	comp=E,5μm,0.2s						
POCW	**Potky**	**0.06**	**29**	⇓P	**Pg**	**18 45 32.7**	**-0.1**
POCW				S	**Sg**	**18 45 34.2**	**-0.9**
STCW	**Studenec**	**0.09**	**97**	*i* Pg	**Pg**	**18 45 32.6**	**-0.4**
STCW				*i* Sg	**Sg**	**18 45 33.8**	**-1.6**
STCW	**Studenec**	**0.09**	**97**	*i* Pg	**Pg**	**18 45 32.6**	**-0.4**
STCW				*i* Sg	**Sg**	**18 45 33.8**	**-1.6**
STCW	**Studenec**	**0.09**	**97**	⇑P	**Pg**	**18 45 32.6**	**-0.4**
STCW				S	**Sg**	**18 45 33.8**	**-1.6**
KOCW	**Kopaniny**	**0.10**	**268**	⇓P	**Pb**	**18 45 33.7**	**+0.6**
KOCW				S	**Sg**	**18 45 35.7**	**+0.2**
GUNZ	**Gunzen**	**0.10**	**341**	*i* Pg	**Pg**	**18 45 33.6**	**+0.4**
GUNZ				*i* Sg	**Sg**	**18 45 35.4**	**-0.2**
GUNZ				IAML		18 45 35.6	
	comp=E,726nm,0.2s						
GUNZ	**Gunzen**	**0.10**	**341**	*i* Pg	**Pg**	**18 45 33.6**	**+0.4**
GUNZ				*i* Sg	**Sg**	**18 45 35.4**	**-0.2**
	comp=E,726nm,0.2s						
SKC	**Skalna**	**0.10**	**188**	⇑P	**Pg**	**18 45 33.3**	**+0.2**
SKC				S	**Sg**	**18 45 35.2**	**-0.3**
KVC	**Kvetna**	**0.11**	**127**	*i* Pg	**Pg**	**18 45 32.9**	**-0.3**
KVC				*i* Sg	**Sg**	**18 45 34.3**	**-1.3**
KVC	**Kvetna**	**0.11**	**127**	⇓P	**Pg**	**18 45 32.9**	**-0.3**
KVC				S	**Sg**	**18 45 34.3**	**-1.3**
KRCW	**Kraslice**	**0.11**	**57**	⇑P	**Pg**	**18 45 33.0**	**-0.3**
KRCW				S	**Sg**	**18 45 34.6**	**-1.2**
MULD	**Muldenberg**	**0.14**	**5**	*i* Pg	**Pg**	**18 45 33.9**	**+0.2**
MULD				*i* Sg	**Sg**	**18 45 36.0**	**-0.4**
MULD				IAML		18 45 36.1	
	comp=E,1μm,0.2s						
MULD	**Muldenberg**	**0.14**	**5**	*i* Pg	**Pg**	**18 45 33.9**	**+0.2**
MULD				*i* Sg	**Sg**	**18 45 36.0**	**-0.4**
	comp=E,1μm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**19**	*i* Pg	**Pg**	**18 45 33.9**	**+0.1**
TANN				*i* Sg	**Sg**	**18 45 36.0**	**-0.7**
TANN				IAML		18 45 36.5	
	comp=N,2μm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**19**	*i* Pg	**Pg**	**18 45 33.9**	**+0.1**
TANN				*i* Sg	**Sg**	**18 45 36.0**	**-0.7**
	comp=N,2μm,0.2s						
TRCW	**Trojmez**	**0.16**	**283**	⇓P	**Pb**	**18 45 34.7**	**+0.7**
TRCW				S	**Sg**	**18 45 37.3**	**+0.7**
TRIB	**Obertriebel**	**0.18**	**298**	*i* Pg	**Pb**	**18 45 35.0**	**+0.6**
TRIB				*i* Sg	**Sg**	**18 45 37.8**	**+0.7**
TRIB				IAML		18 45 38.1	
	comp=N,249nm,0.2s						
TRIB	**Obertriebel**	**0.18**	**298**	*i* Pg	**Pb**	**18 45 35.0**	**+0.6**
TRIB				*i* Sg	**Sg**	**18 45 37.8**	**+0.7**
	comp=N,249nm,0.2s						
WERD	**Werda**	**0.18**	**345**	*i* Pg	**Pg**	**18 45 34.8**	**+0.6**
WERD				*i* Sg	**Sg**	**18 45 37.4**	**0.0**
WERD				IAML		18 45 37.6	
	comp=E,372nm,0.3s						
WERD	**Werda**	**0.18**	**345**	*i* Pg	**Pg**	**18 45 34.8**	**+0.6**
WERD				*i* Sg	**Sg**	**18 45 37.4**	**0.0**
	comp=E,372nm,0.3s						
VIEL	**Selb-Vielitz**	**0.20**	**245**	*i* Pg	**Pb**	**18 45 35.3**	**+0.6**
VIEL				*i* Sg	**Sg**	**18 45 38.4**	**+0.7**
VIEL	**Selb-Vielitz**	**0.20**	**245**	*i* Pg	**Pb**	**18 45 35.3**	**+0.6**
VIEL				*i* Sg	**Sg**	**18 45 38.4**	**+0.7**
ZHC	**Zelena Hora**	**0.20**	**193**	⇑P	**Pg**	**18 45 35.1**	**+0.6**
ZHC				S	**Sg**	**18 45 38.0**	**+0.2**
PLN	**Plauen**	**0.26**	**326**	*i* Pg	**Pb**	**18 45 36.2**	**+0.5**
PLN				*i* Sg	**Sg**	**18 45 40.0**	**+0.7**
PLN				IAML		18 45 40.2	
	comp=E,294nm,0.2s						
PLN	**Plauen**	**0.26**	**326**	*i* Pg	**Pb**	**18 45 36.2**	**+0.5**
PLN				*i* Sg	**Sg**	**18 45 40.0**	**+0.7**
	comp=E,294nm,0.2s						
LACW	**Lazy**	**0.27**	**144**	*i* Pg	**Pg**	**18 45 35.8**	**+0.3**
LACW				*e*Sg	**Sg**	**18 45 39.1**	**-0.4**
LACW	**Lazy**	**0.27**	**144**	*i* Pg	**Pg**	**18 45 35.8**	**+0.3**
LACW				*e*Sg	**Sg**	**18 45 39.1**	**-0.4**
LACW	**Lazy**	**0.27**	**144**	⇓P	**Pg**	**18 45 35.8**	**+0.3**
LACW				S	**Sg**	**18 45 39.2**	**-0.4**
MANZ	**Manzenberg**	**0.33**	**212**	*e*Pg	**Pb**	**18 45 37.5**	**+0.5**
MANZ				*e*Sg	**Sg**	**18 45 42.1**	**+0.7**
SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg	**Pb**	**18 45 38.6**	**+0.3**
SCHF				*i* Sg	**Sg**	**18 45 44.1**	**+0.5**
SCHF				IAML		18 45 44.3	
	comp=E,305nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg	**Pb**	**18 45 38.6**	**+0.3**
SCHF				*i* Sg	**Sg**	**18 45 44.1**	**+0.5**
	comp=E,305nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.44**	**346**	*i* Pg	**Pb**	**18 45 39.2**	**+0.5**
GRZ1				*i* Sg	**Sg**	**18 45 44.9**	**+0.5**
GRZ1				IAML		18 45 46.5	
	comp=N,137nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.44**	**346**	*i* Pg	**Pb**	**18 45 39.2**	**+0.5**
GRZ1				*i* Sg	**Sg**	**18 45 44.9**	**+0.5**
	comp=N,137nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.52**	**193**	*e*Pg	**Pb**	**18 45 40.5**	**+0.4**
ROTZ				*e*Sg	**Sg**	**18 45 47.5**	**+0.8**
MOX	**Moxa**	**0.62**	**308**	*e*Pg	**Pb**	**18 45 43.0**	**+1.1**
MOX				*e*Sg	**Sb**	**18 45 51.6**	**+1.4**
HSKC	**Hora Svate Kat**	**0.75**	**63**	*e*PG	**Pg**	**18 45 44.2**	**0.0**
HSKC				*e*SG	**Sg**	**18 45 53.5**	**-0.7**
	comp=N,98nm,0.2s						
FBE	**Freiberg**	**0.90**	**43**	*e*Pg	**Pg**	**18 45 47.3**	**+0.3**
FBE				*e*Sg	**Sb**	**18 45 58.4**	**0.0**
GRF	**Grafenberg Arr**	**0.95**	**233**	*e*Pg	**Pn**	**18 45 49.1**	**+1.1**
GRF				*e*Sg	**Sg**	**18 46 01.6**	**+1.3**
CLL	**Collm**	**1.11**	**20**	*e*Pg	**Pg**	**18 45 51.2**	**+0.2**
CLL				*e*Sg	**Sn**	**18 46 06.1**	**+0.9**
RICC	**Richard**	**1.13**	**75**	*e*SG	**Sg**	**18 46 05.6**	**-0.6**
	comp=N,89nm,0.3s						
BRG	**Berggiesshubel**	**1.16**	**58**	Pg	**Pg**	**18 45 51.9**	**-0.1**
BRG				Sg	**Sn**	**18 46 06.6**	**+0.1**
BRG				Amp		18 46 07.8	
	comp=Z,62nm,0.3s						
BRG	**Berggiesshubel**	**1.16**	**58**	*e*Pg	**Pg**	**18 45 51.9**	**-0.1**
BRG				*e*Sg	**Sb**	**18 46 06.5**	**+0.6**
WET	**Wettzell**	**1.17**	**164**	*e*Pg	**Pg**	**18 45 52.1**	**0.0**
WET				*e*Sg	**Sg**	**18 46 07.8**	**+0.3**
PRA	**Prague**	**1.33**	**98**	*e*SG	**Sn**	**18 46 11.5**	**+0.9**
KHC	**Kasperske Hory**	**1.38**	**145**	*e*PG	**Pb**	**18 45 55.1**	**+0.3**
KHC				*e*SG	**Sn**	**18 46 12.5**	**+0.7**
	comp=Z,25nm,0.2s						
PRU	**Pruhonice**	**1.42**	**101**	*e*SG	**Sb**	**18 46 13.9**	**+0.7**
	comp=Z,19nm,0.2s						
PRU	**Pruhonice**	**1.42**	**101**	*e*Pg	**Pb**	**18 45 56.1**	**+0.6**
PRU				*e*Sg	**Sg**	**18 46 14.6**	**-0.7**
PVCC	**Panska Ves**	**1.42**	**79**	*e*SG	**Sg**	**18 46 15.0**	**-0.5**
	comp=Z,55nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.59**	**102**	*e*SG	**Sb**	**18 46 19.4**	**+1.2**
GEC2	**GERESS Array S**	**1.66**	**148**	*e*Sg	**Sb**	**18 46 20.9**	**+0.5**
CKRC	**Cesky Krumlov**	**1.92**	**138**	*e*SG	**Sb**	**18 46 28.8**	**+1.1**
	comp=Z,12nm,0.3s						
UPC	**Upice**	**2.33**	**83**	*e*SG	**Sg**	**18 46 42.4**	**-2.2**
	comp=Z,19nm,0.5s						
DPC	**Dobruska-Polom**	**2.53**	**87**	*e*SG	**Sb**	**18 46 47.9**	**+2.7**
	comp=Z,9.1nm,0.3s						
BIOA	**Bad Ischl, Aus**	**2.71**	**162**	*e*Sg	**Sg**	**18 46 54.3**	**-2.2**
	comp=Z,18nm,0.5s						
MOA	**Molln**	**2.72**	**152**	*e*Pn	**Pn**	**18 46 14.0**	**+1.6**
	comp=Z,0.2nm,0.2s						
MOA				*i* Pg	**Pg**	**18 46 20.6**	**-1.0**
	comp=Z,1.6nm,0.2s						
MOA				*e*Sn	**Sn**	**18 46 47.1**	**+2.2**
	comp=Z,1.6nm,0.2s						
MOA				*e*Sg	**Sg**	**18 46 54.1**	**-2.8**
	comp=Z,5.4nm,0.2s						
KRLC	**Kraliky**	**2.83**	**92**	*e*SG	**Sg**	**18 46 58.3**	**-2.3**
LESA	**Schwarzleotal**	**2.85**	**176**	*e*Pg	**Pg**	**18 46 25.1**	**+0.9**
	comp=Z,1.9nm,0.3s						
LESA				*i* Sg	**Sg**	**18 46 59.0**	**-2.2**
	comp=Z,4.2nm,0.2s						
KRUC	**Moravsky**	**2.87**	**113**	*e*PN	**Pn**	**18 46 15.5**	**+1.0**
KRUC				*e*SG	**Sb**	**18 46 57.8**	**+2.7**
VRAC	**Vranov**	**2.89**	**108**	*e*PN	**Pn**	**18 46 15.8**	**+1.0**
VRAC				*e*SG	**Sb**	**18 46 58.0**	**+2.3**
RETA	**Reutte**	**2.98**	**202**	*e*Pg	**Pg**	**18 46 27.2**	**+0.5**
	comp=Z,1.6nm,0.2s						
RETA				Sg	**Sg**	**18 47 08.2**	**+2.9**
	comp=Z,2.3nm,0.2s						
WATA	**Walderalm**	**2.98**	**191**	*i* Pg	**Pg**	**18 46 27.7**	**+1.0**
	comp=Z,0.7nm,0.1s						
WATA				*e*Sn	**Sn**	**18 46 53.8**	**+2.2**
	comp=Z,5.6nm,0.3s						
WATA				*e*Sg	**Sg**	**18 47 08.0**	**+2.6**
	comp=Z,6.8nm,0.2s						
MOTA	**Moosalm**	**3.05**	**197**	*e*Pg	**Pg**	**18 46 28.6**	**+0.7**
	comp=Z,1.1nm,0.2s						
WTTA	**Wattenberg**	**3.05**	**190**	*e*Pg	**Pg**	**18 46 28.1**	**+0.1**
	comp=Z,0.8nm,0.2s						
WTTA				*e*Sg	**Sg**	**18 47 09.6**	**+2.2**
	comp=Z,7.2nm,0.5s						
SQTA	**Sankt Quirin**	**3.15**	**195**	*e*Pg	**Pg**	**18 46 30.0**	**+0.1**
	comp=Z,2.8nm,0.3s						
SQTA				*e*Sg	**Sg**	**18 47 10.4**	**-0.3**
	comp=Z,2.8nm,0.2s						
KBA	**Koelnbreinsper**	**3.26**	**168**	*e*Sg	**Sg**	**18 47 12.9**	**-1.2**
	comp=Z,1.9nm,0.3s						
CONA	**Conrad Observa**	**3.27**	**134**	*i* Pn	**Pn**	**18 46 22.2**	**+2.1**
	comp=Z,0.2nm,0.1s						
CONA				*e*Pg	**Pg**	**18 46 30.9**	**-1.3**
	comp=Z,0.9nm,0.2s						
CONA				*e*Sg	**Sg**	**18 47 13.3**	**-1.3**
	comp=Z,9.2nm,0.4s						
MORC	**Moravsky Berou**	**3.36**	**96**	*e*PN	**Pn**	**18 46 22.6**	**+1.3**
MORC				*e*SG	**Sg**	**18 47 13.8**	**-3.7**
RONA	**Rosalia, Austr**	**3.64**	**133**	*i* Sg	**Sg**	**18 47 24.3**	**-2.1**
	comp=Z,6.3nm,0.5s						
ARSA	**Arzberg**	**3.67**	**144**	*e*Sg	**Sg**	**18 47 24.8**	**-2.4**
	comp=Z,4.1nm,0.4s						
JAVC	**Velka Javorina**	**3.72**	**110**	*e*SG	**Sg**	**18 47 27.0**	**-1.9**
MODS	**Modra-Piesok**	**3.72**	**119**	*e*SG	**Sg**	**18 47 28.5**	**-0.5**
CDF	**Champ du Feu**	**3.82**	**243**	*e*Pn	**Pn**	**18 46 25.7**	**-1.9**
CDF	**Champ du Feu**	**3.82**	**243**	*e*Pg	**Pb**	**18 46 39.2**	**+2.7**
CDF				*e*Sg	**Sg**	**18 47 30.7**	**-1.5**
	comp=Z,6.0nm,0.4s						
OBKA	**Obir**	**4.03**	**158**	*e*Sg	**Sg**	**18 47 35.9**	**-3.0**
	comp=Z,2.4nm,0.4s						
HINF	**Hinteralfeld**	**4.39**	**238**	*e*Pn	**Pn**	**18 46 33.3**	**-2.0**
HINF	**Hinteralfeld**	**4.39**	**238**	*e*Pg	**Pb**	**18 46 50.6**	**+4.5**
HINF				*e*Sg	**Sg**	**18 47 47.7**	**-2.6**
	comp=Z,3.4nm,0.3s						
HAU	**Haudompre**	**4.56**	**243**	*e*Pn	Pn	18 46 33.8	-3.9
HAU	**Haudompre**	**4.56**	**243**	*e*Pg	**Pb**	**18 46 51.9**	**+2.8**
HAU				*e*Sg	**Sg**	**18 47 54.3**	**-1.6**
	comp=Z,5.9nm,0.4s						
PAGF	**Fort de Pagny**	**4.67**	**251**	*e*Pn	**Pn**	**18 46 37.1**	**-2.1**
PAGF	**Fort de Pagny**	**4.67**	**251**	*e*Pg	**Pb**	**18 46 54.6**	**+3.7**
PAGF				*e*Sg	**Sg**	**18 47 55.7**	**-3.7**
	comp=Z,4.8nm,0.5s						
MEZF	**Maizieres J'vi**	**5.10**	**253**	*e*Pn	**Pn**	**18 46 43.1**	**-2.0**
MEZF	**Maizieres J'vi**	**5.10**	**253**	*e*Pg	**Pb**	**18 47 02.2**	**+3.9**
MEZF				*e*Sn	**Sn**	**18 47 36.9**	**-6.7**
MEZF				*e*Sg	**Sg**	**18 48 09.1**	**-4.1**
	comp=Z,4.0nm,0.5s						
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pn	**Pn**	**18 47 04.2**	**-2.8**
SSF	**Saint

YM01				S		Sn	18 47 56.1 -0.2
	baz=288						
NWLT	**Wulai**	**1.15**	**270**	*eP*		**Pn**	**18 47 38.5 +0.1**
	baz=269						
NWLT				*eS*		**Sn**	**18 47 56.5 +0.1**
	baz=269						
NDT	**Datong Townshi**	**1.16**	**261**	P		**Pn**	**18 47 39.4 +0.9**
	baz=261						
NDT				S		**Sn**	**18 47 56.2 -0.2**
	baz=261						
LATG	**Datong**	**1.16**	**258**	P		**Pn**	**18 47 39.1 +0.5**
	baz=257						
LATG				S		**Sn**	**18 47 57.2 +0.6**
	baz=257						
HATJ	**Hateruma jima**	**1.19**	**127**	*eS*		**Sn**	**18 47 57.6 +0.6**
ETL	**Fush Village**	**1.22**	**239**	P		**Pn**	**18 47 39.1 -0.1**
	baz=239						
ETL				S		**Sn**	**18 47 57.7 +0.2**
	baz=239						
NACB	**Ninganchiao**	**1.23**	**241**	P		**Pn**	**18 47 39.3 0.0**
NACB	**Ninganchiao**	**1.23**	**241**	P		**Pn**	**18 47 38.9 -0.4**
	baz=240						
NACB				*eS*		**Sn**	**18 47 57.1 -0.7**
	baz=240						
JKRS	**Kuro-shima**	**1.25**	**116**	*eP*		**Pn**	**18 47 40.0 +0.5**
JKRS				*eS*		**Sn**	**18 47 58.6 +0.4**
YHNB	**Yeheng**	**1.27**	**265**	P		**Pn**	**18 47 40.3 +0.5**
YHNB	**Yeheng**	**1.27**	**265**	*i P*		**Pn**	**18 47 40.3 +0.5**
	baz=265						
YHNB				*i S*		**Sn**	**18 47 58.3 -0.4**
	baz=265						
TWD	**Chiawan**	**1.28**	**237**	P		**Pn**	**18 47 39.8 0.0**
	baz=236						
TWD				S		**Sn**	**18 47 57.9 -0.8**
	baz=236						
NSK	**Sanguang**	**1.29**	**265**	*i P*		**Pn**	**18 47 40.3 +0.3**
	baz=265						
NSK				*i S*		**Sn**	**18 47 58.6 -0.4**
	baz=265						
NNSB	**Datong**	**1.31**	**255**	P		**Pn**	**18 47 40.7 +0.4**
	baz=254						
NNSB				S		**Sn**	**18 47 58.9 -0.6**
	baz=254						
NNS	**Nan Shan**	**1.32**	**255**	*i P*		**Pn**	**18 47 40.5 +0.2**
	baz=254						
NNS				*i S*		**Sn**	**18 47 58.8 -0.9**
	baz=254						
JIJ	**Ishigaki jima**	**1.32**	**108**	P		**Pn**	**18 47 40.3 +0.1**
JIJ				*eS*		**Sn**	**18 47 59.0 -0.5**
HWA	**Hwalien**	**1.33**	**233**	P		**Pn**	**18 47 40.2 -0.2**
	baz=232						
HWA				*eS*		**Sn**	**18 48 00.3 +0.5**
	baz=232						
TEYL	**Yanliau Villag**	**1.41**	**230**	*eP*		**Pn**	**18 47 41.1 -0.1**
	baz=230						
JISG	**Ishigakijimahi**	**1.42**	**98**	P		**Pn**	**18 47 41.2 -0.1**
JISG				*eS*		**Sn**	**18 48 00.7 -0.7**
ETM	**Tongmen**	**1.42**	**235**	P		**Pn**	**18 47 41.3 -0.1**
	baz=235						
ETM				S		**Sn**	**18 48 00.2 -1.3**
	baz=235						
LXIB	**Xiulin Townshi**	**1.45**	**239**	*i P*		**Pn**	**18 47 41.6 -0.3**
	baz=238						
LXIB				S		**Sn**	**18 48 01.4 -1.0**
	baz=238						
SHUL	**Shoufeng**	**1.48**	**228**	*eP*		**Pn**	**18 47 41.6 -0.5**
	baz=227						
SHUL				*eS*		**Sn**	**18 48 03.0 +0.2**
	baz=227						
NFF	**Wufeng Townshi**	**1.51**	**265**	*eP*		**Pn**	**18 47 42.6 +0.1**
	baz=264						
NFF				*eS*		**Sn**	**18 48 03.4 -0.1**
	baz=264						
WHF	**Hehuan Shan**	**1.51**	**245**	P		**Pn**	**18 47 42.9 +0.1**
	baz=244						
WHF				*eS*		**Sn**	**18 48 01.9 -2.2**
	baz=244						
TWT	**Tachien**	**1.54**	**250**	*eP*		**Pn**	**18 47 44.1 +1.1**
	baz=250						
TWT				*eS*		**Sn**	**18 48 03.8 -0.6**
	baz=250						
ESL	**Shilin**	**1.56**	**232**	P		**Pn**	**18 47 42.8 -0.1**
	baz=231						
ESL				*eS*		**Sn**	**18 48 02.5 -1.8**
	baz=231						
TDCB	**Techi**	**1.56**	**250**	P		**Pn**	**18 47 43.8 +0.6**
	baz=250						
TDCB				S		**Sn**	**18 48 04.5 -0.2**
	baz=250						
LIOB	**Emei**	**1.60**	**265**	*eP*		**Pn**	**18 47 44.2 +0.7**
	baz=265						
LIOB				*eS*		**Sn**	**18 48 05.1 -0.2**
	baz=265						
NSTT	**Nanjuang**	**1.61**	**265**	*eP*		**Pn**	**18 47 44.3 +0.7**
	baz=264						
NSTT				*eS*		**Sn**	**18 48 04.8 -0.8**
	baz=264						
CHGB	**Renai**	**1.62**	**244**	P		**Pn**	**18 47 44.4 +0.4**
	baz=243						
CHGB				S		**Sn**	**18 48 05.6 -0.5**
	baz=243						
WARBT	**Fenglin Townsh**	**1.65**	**230**	P		**Pn**	**18 47 43.5 -0.6**
	baz=229						
EGFH	**Guangfu**	**1.65**	**228**	P		**Pn**	**18 47 43.9 -0.2**
	baz=227						
EGFH				*eS*		**Sn**	**18 48 05.2 -1.2**
	baz=227						
OWD	**Renai**	**1.67**	**241**	*eP*		**Pn**	**18 47 44.8 +0.3**
	baz=240						
OWD				*eS*		**Sn**	**18 48 06.3 -0.7**
	baz=240						
WUSB	**Renai**	**1.70**	**243**	P		**Pn**	**18 47 45.6 +0.8**
	baz=242						
WUSB				S		**Sn**	**18 48 07.3 -0.2**
	baz=242						
WHP	**Taichung City**	**1.74**	**253**	P		**Pn**	**18 47 46.3 +1.2**
	baz=253						
WHP				S		**Sn**	**18 48 08.9 +0.6**
	baz=253						
JTJ	**Tarama**	**1.76**	**94**	*eP*		**Pn**	**18 47 45.4 0.0**
JTJ				*eS*		**Sn**	**18 48 08.1 -0.6**
HGSD	**Ruisui**	**1.78**	**224**	P		**Pn**	**18 47 45.4 -0.2**
	baz=223						
HGSD				*eS*		**Sn**	**18 48 09.1 +0.1**
	baz=223						
VWDT	**VWDT**	**1.81**	**236**	P		**Pn**	**18 47 46.7 +0.8**
	baz=235						
VWDT				*eS*		**Sn**	**18 48 09.5 -0.1**
	baz=235						
EHYH	**Wanrong**	**1.83**	**226**	*eP*		**Pn**	**18 47 46.2 0.0**
	baz=225						
EHY	**Hungye**	**1.84**	**226**	P		**Pn**	**18 47 45.7 -0.6**
	baz=225						
EHY				*eS*		**Sn**	**18 48 09.0 -1.4**
	baz=225						
WCS	**Beigang Elemen**	**1.84**	**247**	*eP*		**Pn**	**18 47 47.5 +1.2**
	baz=246						
WCS				*eS*		**Sn**	**18 48 10.8 +0.3**
	baz=246						
TWQ1	**Liyutan**	**1.87**	**257**	*eP*		**Pn**	**18 47 47.5 +0.8**
	baz=256						
TWQ1				*eS*		**Sn**	**18 48 10.7 -0.4**
	baz=256						
ECBN	**Changbin**	**1.90**	**220**	*eP*		**Pn**	**18 47 46.8 -0.3**
	baz=219						
SSLB	**Suanglung**	**1.93**	**239**	P		**Pn**	**18 47 48.3 +0.8**
SSLB	**Suanglung**	**1.93**	**239**	*eP*		**Pn**	**18 47 47.7 +0.2**
	baz=239						
YULB	**Yu-li**	**1.93**	**224**	P		**Pn**	**18 47 47.1 -0.5**
YULB	**Yu-li**	**1.93**	**224**	P		**Pn**	**18 47 47.0 -0.5**
	baz=224						
YULB				*eS*		**Sn**	**18 48 10.8 -1.6**
	baz=224						
EYUL	**Yuli**	**1.95**	**223**	*eP*		**Pn**	**18 47 47.5 -0.2**
	baz=222						
TYC	**Yuchr**	**1.95**	**244**	P		**Pn**	**18 47 49.1 +1.4**
	baz=243						
TYC				S		**Sn**	**18 48 13.8 +1.0**
	baz=243						
TWF1	**Yuli**	**1.96**	**224**	P		**Pn**	**18 47 47.9 0.0**
	baz=223						
CHKH	**Chenggong**	**2.02**	**219**	*eP*		**Pn**	**18 47 48.5 -0.2**
	baz=218						
FULB	**Fuli**	**2.08**	**221**	*eP*		**Pn**	**18 47 49.1 -0.3**
	baz=220						
WJS	**Zhushan**	**2.10**	**243**	*eP*		**Pn**	**18 47 51.2 +1.7**
	baz=242						
WNT	**Mingjian**	**2.11**	**245**	*eP*		**Pn**	**18 47 50.3 +0.7**
	baz=244						
CHKT	**Chengkung**	**2.11**	**218**	P		**Pn**	**18 47 49.3 -0.4**
	baz=217						
EHD	**Haiduan**	**2.17**	**222**	*eP*		**Pn**	**18 47 49.6 -0.9**
	baz=221						
JIRB	**Irabujima**	**2.19**	**88**	*eP*		**Pn**	**18 47 51.0 +0.4**
JIRB				*eS*		**Sn**	**18 48 18.0 0.0**
ALS	**Alishan**	**2.20**	**235**	*eP*		**Pn**	**18 47 52.0 +0.9**
	baz=234						
ECS	**Chishang**	**2.20**	**220**	*eP*		**Pn**	**18 47 51.0 +0.1**
	baz=220						
EDH	**Donghe**	**2.25**	**217**	*eP*		**Pn**	**18 47 50.3 -1.1**
	baz=216						
ELDTW	**Lidau**	**2.26**	**226**	*eP*		**Pn**	**18 47 51.4 -0.2**
	baz=225						
WGK	**Gukeng**	**2.29**	**242**	*eP*		**Pn**	**18 47 53.6 +1.6**
	baz=241						
WDLH	**Douliu**	**2.31**	**242**	*eP*		**Pn**	**18 47 52.4 +0.1**
	baz=241						
WRL	**Guolierlin Hig**	**2.35**	**249**	*eP*		**Pn**	**18 47 52.7 0.0**
	baz=248						
WCKO	**Fanlu**	**2.39**	**236**	*eP*		**Pn**	**18 47 53.6 +0.4**
	baz=235						
LONT	**Longtian**	**2.40**	**219**	*eP*		**Pn**	**18 47 53.1 -0.2**
	baz=218						
LDUT	**Ludao**	**2.42**	**210**	*eP*		**Pn**	**18 47 53.5 -0.1**
	baz=209						
STYH	**Taoyuan**	**2.43**	**229**	*eP*		**Pn**	**18 47 55.3 +1.5**
	baz=228						
CHN4	**Tsaushan**	**2.45**	**235**	*eP*		**Pn**	**18 47 55.4 +1.4**
	baz=234						
TPUB	**Ta-pu**	**2.45**	**233**	P		**Pn**	**18 47 55.7 +1.6**
TPUB	**Ta-pu**	**2.45**	**233**	*eP*		**Pn**	**18 47 55.9 +1.8**
	baz=232						
TWGBT	**Beinan**	**2.50**	**219**	P		**Pn**	**18 47 55.0 +0.4**
TWGBT	**Beinan**	**2.50**	**219**	*eP*		**Pn**	**18 47 54.5 -0.1**
	baz=218						
WTP	**Ta-pu**	**2.50**	**233**	*eP*		**Pn**	**18 47 56.5 +1.9**
	baz=232						
TWG	**Pinlang**	**2.50**	**219**	*eP*		**Pn**	**18 47 54.6 -0.1**
	baz=218						
TWK	**Hsinying**	**2.58**	**235**	*eP*		**Pn**	**18 47 56.9 +1.2**
	baz=233						
WSF	**Szhu**	**2.59**	**244**	*eP*		**Pn**	**18 47 56.2 +0.4**
	baz=243						
CHN1	**Nanshi**	**2.60**	**233**	*eP*		**Pn**	**18 47 57.3 +1.4**
	baz=232						
SNST	**Tainan City**	**2.60**	**234**	*eP*		**Pn**	**18 47 57.2 +1.3**
	baz=233						
SGST	**Jiashian**	**2.62**	**230**	*eP*		**Pn**	**18 47 57.1 +0.8**
	baz=229						
SLGT	**Liugui**	**2.64**	**228**	*eP*		**Pn**	**18 47 58.0 +1.5**
	baz=227						
ICHU	**Yijhu**	**2.68**	**239**	*eP*		**Pn**	**18 47 57.9 +0.9**
	baz=238						
ECL	**Taimali**	**2.74**	**218**	*eP*		**Pn**	**18 47 56.9 -0.9**
	baz=217						
SSD	**Sandimen**	**2.82**	**224**	*eP*		**Pn**	**18 48 00.5 +1.6**
	baz=223						
MASBT	**Mashibuluo**	**2.92**	**223**	*eP*		**Pn**	**18 48 01.6 +1.5**
	baz=222						
LAY	**Lan-yu**	**2.95**	**202**	*eP*		**Pn**	**18 48 00.8 +0.2**
	baz=202						
EAST	**Anshuo**	**2.97**	**217**	*eP*		**Pn**	**18 48 01.3 +0.5**
	baz=216						
LYUB	**Lan-yu**	**2.98**	**202**	*eP*		**Pn**	**18 48 00.6 -0.2**
	baz=201						
VWUC	**VWUC**	**3.02**	**275**	*eP*		**Pn**	**18 48 00.9 -0.5**
	baz=274						
SCZT	**Fangliau**	**3.11**	**220**	*eP*		**Pn**	**18 48 04.5 +1.9**
	baz=219						
PHUB	**P'eng-hu**	**3.18**	**247**	*eP*		**Pn**	**18 48 03.0 -0.5**
	baz=246						
PTMZ	**Houxiangcun**	**3.32**	**275**	*eP*		**Pn**	**18 48 05.3 -0.1**
	baz=274						

*NEIC **11** 18:48:29.8±2.8, 16°.18S±0°.06×72°.26W±0°.08, h87km±7km, mb5.0/79, Error ellipse: s-maj=11.2km s-min=8.9km az=68.0*
*VAO **11** 18:48:31.9±0.8, 16°.18S×72°.04W, h112km±5km, mb4.5*
*IDC **11** 18:48:33.3±0.5, 16°.09S×72°.02W, h119km±4km, mb4.4/13, mbtmp4.7/17, MS3.0/9, Error ellipse: s-maj=17.0km s-min=10.2km az=70.0*

ISC 11 18:48:31.8±0.3, 16°.16S±0°.04×72°.07W±0°.05, h114km, n194, σ1§52/204, mb4.9/50, 2D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AP01	**Chacalluta**	**2.75**	**143**			**Pn**	**18 49 15.7**	**+1.0**
AP01					Sn	**Sn**	**18 49 46.8**	**-0.9**
PB12	**Visviri**	**2.86**	**120**			**Pn**	**18 49 20.4**	**+3.8**
PB18					Sn	**Sn**	**18 49 48.1**	**-3.0**
PB12	**IPOC Station P**	**2.96**	**146**		Pn	**Pn**	**18 49 17.2**	**-0.3**
PB12					Sn	**Sn**	**18 49 50.2**	**-2.4**
LPAZ	**La Paz**	**3.79**	**92**		Pn	**Pn**	**18 49 32.4**	**+3.3**
LPAZ					Sn	**Sn**	**18 50 15.2**	**+2.0**
LPAZ	**La Paz**	**3.79**	**92**	P		**Pn**	**18 49 31.7**	**+2.7**
	258nm,0.5s,baz=304,slow=7.5,SNR=1302							
LPAZ					S	**Sn**	**18 50 09.1**	**-4.1**
	82nm,0.5s,baz=263,slow=9.5,SNR=5.0							
LPAZ					LR	LR	18 51 05.3	
	comp=Z,154nm,21.7s,baz=247,slow=41							
LPAZ	**La Paz**	**3.79**	**92**	*eP*		**Pn**	**18 49 30.1**	**+1.1**
LPAZ				*eS*		**Sn**	**18 50 12.2**	**-1.0**
PB11	**IPOC Station P**	**4.26**	**148**		Pn	**Pn**	**18 49 34.3**	**-0.6**
PB11					Sn	**Sn**	**18 50 20.2**	**-3.6**
GO01	**Chusmiza**	**4.44**	**142**			**Pn**	**18 49 38.4**	**+0.8**
GO01					Sn	**Sn**	**18 50 27.6**	**-1.0**
TA02	**Huaiquique**	**4.49**	**156**			**Pn**	**18 49 37.6**	**-0.2**
TA02					Sn	**Sn**	**18 50 25.5**	**-3.6**
HMBC	**Humberstone**	**4.59**	**153**		Pn	**Pn**	**18 49 38.5**	**-0.8**
HMBC					Sn	**Sn**	**18 50 27.6**	**-4.3**
TA01	**Diego Aracena**	**4.74**	**158**			**Pn**	**18 49 40.5**	**-0.7**
TA01					Sn	**Sn**	**18 50 30.5**	**-4.6**
PB08	**IPOC Station P**	**4.84**	**145**			**Pn**	**18 49 42.8**	**-0.1**
PB08					Sn	**Sn**	**18 50 35.4**	**-2.6**
PATCX	**Punta Patache**	**4.98**	**159**			**Pn**	**18 49 43.7**	**-0.9**
PB01	**IPOC Station P**	**5.44**	**154**		Pn	**Pn**	**18 49 49.9**	**-0.9**
PB01					Sn	**Sn**	**18 50 47.4**	**-4.9**
PB02	**IPOC Station P**	**5.53**	**158**			**Pn**	**18 49 51.4**	**-0.6**
PB07	**IPOC Station P**	**5.91**	**160**			**Pn**	**18 49 56.7**	**-0.5**
NNA	**Nana**	**6.21**	**311**			**Pn**	**18 49 59.0**	**-2.2**
NNA	**Nana**	**6.21**	**311**	P		**Pn**	**18 50 00.8**	**-0.4**
	23nm,0.3s,baz=121,slow=11,SNR=10							
NNA					S	**Sn**	**18 51 05.4**	**-5.6**
	59nm,0.3s,baz=152,slow=10,SNR=2.8							
NNA					LR	LR	18 52 29.6	
	comp=Z,59nm,21.3s,baz=163,slow=38							
PB09	**IPOC Station P**	**6.21**	**155**			**Pn**	**18 50 01.8**	**+0.5**
PB04	**IPOC Station P**	**6.41**	**164**		Pn	**Pn**	**18 50 02.2**	**-1.7**
PB06	**IPOC Station P**	**6.93**	**160**			**Pn**	**18 50 09.7**	**-1.2**
LVC	**Limon Verde**	**7.08**	**156**	P		**Pn**	**18 50 13.3**	**+0.2**
	16nm,0.3s,baz=354,slow=10,SNR=44							
LVC					S	**Sn**	**18 51 28.2**	**-4.1**
	133nm,0.3s,baz=311,slow=23,SNR=29							
LVC					LR	LR	18 53 13.6	
	comp=Z,67nm,20.3s,baz=338,slow=39							
LVC	**Limon Verde**	**7.08**	**156**	*eP*		**Pn**	**18 50 13.4**	**+0.2**
LVC				*eS*		**Sn**	**18 51 29.1**	**-3.2**
PB15	**IPOC Station P**	**7.43**	**161**			**Pn**	**18 50 16.6**	**-1.2**
PB10	**IPOC Station P**	**7.46**	**169**			**Pn**	**18 50 16.4**	**-1.5**
CZSB	**Cruzeiro do Su**	**8.40**	**356**		Pn	Pn	18 50 25.6	-5.3
ETMB	**Extrema**	**8.50**	**43**		Pn	**Pn**	**18 50 30.8**	**-1.4**
PB14	**IPOC Station P**	**8.57**	**170**		Pn	**Pn**	**18 50 31.6**	**-1.7**
GO02	**Mina Guanaco**	**9.26**	**166**		Pn	**Pn**	**18 50 41.6**	**-1.0**
AC01	**Pan de Azucar**	**10.03**	**172**		Pn	**Pn**	**18 50 51.8**	**-1.1**
SIV	**San Vicente**	**10.58**	**91**	P		**Pn**	**18 50 58.2**	**-2.1**
	12nm,0.5s,baz=286,slow=8.8,SNR=33							
SIV					LR	LR	18 55 56.7	
	comp=Z,76nm,20.9s,baz=224,slow=42							
ATAH	**Atahualpa**	**10.89**	**325**	P		**Pn**	**18 51 07.0**	**+2.0**
	2.7nm,0.6s,baz=116,slow=20,SNR=1.8							
AC02	**Maricunga**	**10.97**	**166**			**Pn**	**18 51 05.1**	**-0.9**
SAML	**Samuel**	**11.25**	**51**		Pn	**Pn**	**18 51 06.2**	**-3.1**
SAML	**Samuel**	**11.25**	**51**	*eP*		**Pn**	**18 51 06.2**	**-3.1**
SAML				*eS*		**Sn**	**18 53 14.5**	**+1.3**
AC06	**Mina Casimiro**	**11.26**	**172**			**Pn**	**18 51 07.8**	**-1.6**
VILB	**Vilhena**	**11.93**	**76**		Pn	**Pn**	**18 51 15.6**	**-2.8**
TBTG	**Tabatinga, AM**	**12.09**	**10**		Pn	Pn	18 51 15.8	-4.6
PTLB	**Pontes e Lacer**	**12.47**	**89**		Pn	**Pn**	**18 51 23.0**	**-2.4**
AC05	**El Transito**	**12.73**	**173**		Pn	**Pn**	**18 51 27.3**	**-1.5**
LCO	**Las Campanas**	**12.85**	**175**		Pn	**Pn**	**18 51 30.6**	**0.0**
CO01	**Juntas del Tor**	**13.87**	**173**	P		**P**	**18 51 48.0**	**-0.3**
CO06	**Fray Jorge**	**14.46**	**178**	P		**P**	**18 51 53.9**	**-0.6**
CO02	**Combarbal**	**15.01**	**176**	P		**P**	**18 52 00.6**	**-0.2**
ZON	**Zonda**	**15.63**	**169**	P		**P**	**18 52 06.9**	**-0.7**
AQDB	**Aquidauana**	**16.13**	**108**	Pn		**Pn**	**18 52 10.7**	**-1.4**
VA03	**San Esteban**	**16.59**	**176**	P		**Pn**	**18 52 16.7**	**-1.0**
VA01	**Torpederas**	**16.80**	**179**			**Pn**	**18 52 18.9**	**-1.3**
PEL	**Peldehue**	**16.96**	**176**	P		**Pn**	**18 52 21.6**	**-0.6**
MT02	**Curacav**	**17.05**	**177**	P		**Pn**	**18 52 24.7**	**+1.5**
MACA	**Manacapuru-AM**	**17.10**	**42**	P		**P**	**18 52 20.4**	**-3.5**
MT08	**Bocatoma Ro**	**17.31**	**174**	P		**Pn**	**18 52 29.0**	**+2.3**
IMBA	**Imbabura, San**	**17.41**	**339**	P		**P**	**18 52 26.4**	**-1.4**
VA05	**Santo Domingo**	**17.43**	**179**	P		**P**	**18 52 26.7**	**-0.7**
MT09	**Talagante**	**17.57**	**177**	P		**Pn**	**18 52 30.3**	**+0.6**
MT13	**San Alfonso**	**17.58**	**175**	P		**Pn**	**18 52 30.5**	**+0.6**
MT01	**Popeta**	**17.65**	**178**	P		**Pn**	**18 52 31.2**	**+0.7**
LMEL	**Las Melosas**	**17.69**	**175**	P		**Pn**	**18 52 32.6**	**+1.4**
BO04	**La Punta**	**17.80**	**176**	P		**P**	**18 52 32.0**	**+0.4**
BO01	**Tunca**	**18.18**	**177**	P		**P**	**18 52 36.1**	**+0.5**
H03N1	**Juan Fernandez**	**18.28**	**199**	T		T	19 11 05.9	
	baz=21,slow=73,SNR=1042							
H03N2	**Juan Fernandez**	**18.29**	**199**	T		T	19 10 58.3	
	baz=21,slow=73,SNR=299							
H03N3	**Juan Fernandez**	**18.30**	**199**	T		T	19 11 08.6	
	baz=21,slow=73,SNR=975							
VA04	**Juan Fernndez**	**18.45**	**198**	P		**Pn**	**18 52 39.9**	**-0.1**
BO02	**Sierra Bellavi**	**18.59**	**177**	P		**Pn**	**18 52 41.4**	**-0.4**
GO05	**Huala**	**18.77**	**180**	P		**Pn**	**18 52 43.6**	**-0.3**
TRCB	**Terra Rica**	**19.47**	**113**	P		**P**	**18 52 50.2**	**+0.3**
ML02	**Panimavida**	**19.53**	**178**	P		**Pn**	**18 52 52.1**	**-0.6**
ITQB	**Itaqui**	**19.55**	**136**	P		**Pn**	**18 52 52.0**	**-1.0**
CRSM	**Crissiumal (Br**	**20.16**	**127**	*eP*		**P**	**18 52 58.0**	**+0.8**
CRSM				*eS*		**S**	**18 56 36.6**	**-0.7**
BI05	**Punta Hualpn**	**20.53**	**183**	P		**P**	**18 53 01.6**	**+0.5**
ROSC	**El Rosal**	**20.98**	**354**	P		**P**	**18 53 07.3**	**+0.7**
	11nm,0.4s,baz=122,slow=13,SNR=4.2							
	11nm,0.4s							
ITAB	**Concordia**	**21.53**	**124**	P		**P**	**18 53 11.1**	**-0.8**
BOAV	**Boa Vista**	**21.68**	**33**			**P**	**18 53 12.8**	**-0.9**
PLTB	**Pedras Altas**	**22.88**	**136**	P		**P**	**18 53 25.8**	**0.0**
BDFB	**Brasilia**	**23.14**	**92**	P		**P**	**18 53 27.9**	**-0.7**
BDFB	**Brasilia**	**23.14**	**92**	P		**P**	**18 53 28.3**	**-0.2**
	41nm,0.8s,baz=264,slow=13,SNR=39							
	41nm,0.8s							
GO06	**Curarrehue**	**23.34**	**179**	P		**P**	**18 53 31.1**	**+0.9**
TRQA	**Tornquist**	**23.56**	**160**	P		**P**	**18 53 32.4**	**+0.4**
LR04	**Corral**	**23.66**	**183**	P		**P**	**18 53 34.0**	**+1.1**
LR05	**Currie**	**23.98**	**180**	P		**P**	**18 53 36.7**	**+0.9**
SPB	**Sao Paulo**	**24.30**	**112**	P		**P**	**18 53 39.2**	**+0.3**
PLCA	**Paso Flores**	**24.52**	**177**	P		**P**	**18 53 42.5**	**+1.8**
PLCA	**Paso Flores**	**24.52**	**177**	P		**P**	**18 53 42.4**	**+1.7**
	21nm,0.8s,baz=356,slow=11,SNR=52							
PLCA					PcP	**PcP**	**18 57 17.5**	**+1.3**
	1.2nm,0.8s,baz=28,slow=1.4,SNR=3.1							
PLCA					LR	LR	19 03 05.8	
	comp=Z,24nm,20.0s,baz=63,slow=36							
	21nm,0.8s							
PLCA	**Paso Flores**	**24.52**	**177**	*eP*		**P**	**18 53 42.2**	**+1.4**
PLCA				*eS*		**S**	**18 57 54.4**	**+1.3**
LL04	**Puerto Octay**	**24.66**	**181**	P		**P**	**18 53 42.7**	**+0.8**
LL03	**Petrohue**	**24.89**	**181**	P		**P**	**18 53 45.3**	**+1.3**
SDV	**Santo Domingo**	**24.93**	**3**			**P**	**18 53 43.2**	**-1.6**
SDV	**Santo Domingo**	**24.93**	**3**	*eP*		**P**	**18 53 43.4**	**-1.4**
BAUV	**El Baul**	**25.26**	**9**			**P**	**18 53 46.1**	**-1.4**
PCRV	**Puerto La Cruz**	**27.18**	**16**	LR		LR	19 06 27.1	
	comp=Z,68nm,18.2s,slow=40							
MDP	**Montagnes des**	**28.57**	**44**	LR		LR	19 07 05.1	
	comp=Z,46nm,20.7s,baz=181,slow=39							
CELP	**Cerrillos**	**34.45**	**9**	P		**P**	**18 55 06.2**	**-2.5**
CELP				IAmb		IAmb	18 55 34.7	
	comp=Z,21nm,1.1s							
SMRT	**St. Maarten**	**35.13**	**15**	P		**P**	**18 55 11.6**	**-3.1**
PMSA	**Palmer Station**	**48.88**	**175**	P		**P**	**18 57 04.2**	**-1.4**
152A	**Waverly Hall**	**50.04**	**346**	P		**P**	**18 57 13.7**	**-1.1**
152A				IAmb		IAmb	18 57 15.6	
	comp=Z,13nm,0.9s							
JSC	**Jenkinsville**	**50.92**	**350**	P		**P**	**18 57 20.6**	**-0.8**
JSC				IAmb		IAmb	18 58 23.4	
	comp=Z,38nm,1.8s							
LRAL	**Lakeview Retre**	**50.95**	**344**	P		**P**	**18 57 20.9**	**-0.9**
HODGE	**Hodges**	**51.04**	**349**	P		**P**	**18 57 21.8**	**-0.6**
BIRD	**Birdtown, Kers**	**51.15**	**351**	P		**P**	**18 57 22.7**	**-0.4**
BIRD				IAmb		IAmb	18 57 24.5	
	comp=Z,10nm,0.8s							
Z47A	**Carrollton**	**51.40**	**343**	P		**P**	**18 57 24.8**	**-0.3**
Z47A				IAmb		IAmb	18 57 44.2	
	comp=Z,10nm,0.6s							
PAULI	**Pauline**	**51.54**	**350**	P		**P**	**18 57 25.7**	**-0.3**
W57A	**Gilead**	**51.58**	**352**			**P**	**18 57 25.7**	**-0.6**
W57A				IAmb		IAmb	18 57 28.5	
	comp=Z,11nm,0.9s							
Y49A	**Blount Mountai**	**51.58**	**345**	P		**P**	**18 57 25.6**	**-0.9**
Y49A				IAmb		IAmb	18 57 26.5	
	comp=Z,6.4nm,0.5s							
KMSC	**Kings Mountain**	**51.77**	**350**	P		**P**	**18 57 27.7**	**-0.1**
BG3	**Lake Jocassee**	**51

S39A					IAmb	IAmb	18 58 07.4		
	comp=Z,9.4nm,0.7s								
R40A	**Maddies Statio**	**57.38**	**341**		IAmb	IAmb	18 58 08.5		
	comp=Z,9.9nm,0.6s								
M57A	**Sunshine Farm,**	**57.39**	**355**		IAmb	IAmb	18 58 10.3		
	comp=Z,17nm,0.9s								
M55A	**Ridgway**	**57.67**	**354**		IAmb	IAmb	18 58 11.7		
	comp=Z,12nm,0.7s								
HRV	**Adam Dziewonsk**	**58.37**	**0**		P	**P**	**18 58 15.8**	**+0.7**	
WVNY	**West Valley, N**	**58.58**	**354**		IAmb	IAmb	18 58 17.8		
	comp=Z,14nm,0.8s								
J59A	**Piesco**	**59.37**	**358**		P	**P**	**18 58 22.2**	**+0.1**	
J59A					IAmb	IAmb	18 58 23.7		
	comp=Z,17nm,0.8s								
ANMO	**Albuquerque**	**60.41**	**328**		P	**P**	**18 58 31.0**	**+1.4**	
FRNY	**Flat Rock**	**60.71**	**359**		IAmb	IAmb	18 58 32.8		
	comp=Z,13nm,0.8s								
SADO	**Sadowa**	**60.98**	**354**			**P**	**18 58 33.0**	**0.0**	
SADO					IAmb	IAmb	18 58 33.6		
	comp=Z,12nm,0.9s								
G62A	**West of Eustis**	**61.10**	**1**			**P**	**18 58 34.2**	**+0.4**	
E62A	**Clayton Lake**	**62.53**	**2**		P	**P**	**18 58 43.4**	**+0.1**	
D62A	**Allapoint, All**	**63.01**	**2**			**P**	**18 58 46.9**	**+0.5**	
LDAQ	**Lac Daran**	**63.83**	**1**		P	**P**	**18 58 52.8**	**+0.8**	
LDAQ					IAmb	IAmb	18 58 53.6		
	comp=Z,23nm,0.8s								
BELA	**Belgrano 2**	**64.43**	**172**		P	**P**	**18 58 57.1**	**+1.6**	
EYMN	**Ely**	**66.14**	**346**		P	**P**	**18 59 06.4**	**-0.4**	
AGMN	**Agassiz Nation**	**67.59**	**343**		IAmb	IAmb	18 59 17.0		
	comp=Z,13nm,0.8s								
PDAR	**Pinedale Array**	**68.01**	**331**		P	**P**	**18 59 19.7**	**+0.5**	
	comp=Z,0.3nm,0.7s,baz=185,slow=8.0,SNR=2.5								
SNAA	**Sanae**	**68.27**	**161**		P	**P**	**18 59 21.7**	**+1.5**	
SNAA					IAmb	IAmb	18 59 22.6		
	comp=Z,9.8nm,0.6s								
SNAA	**Sanae**	**68.27**	**161**		⇓P	**P**	**18 59 21.8**	**+1.5**	
	comp=Z,77nm,0.4s								
SNAA	**Sanae**	**68.27**	**161**		P	**P**	**18 59 21.7**	**+1.5**	
	comp=Z,9.8nm,0.6s,baz=282,slow=7.3,SNR=19								
	comp=Z,9.8nm,0.6s								
ULM	**Lac du Bonnet**	**69.36**	**344**			**P**	**18 59 27.1**	**+0.1**	
ULM					IAmb	IAmb	18 59 27.3		
	comp=Z,8.2nm,0.5s								
ULM	**Lac du Bonnet**	**69.36**	**344**		P	**P**	**18 59 26.9**	**-0.1**	
	comp=Z,6.8nm,0.5s,baz=159,slow=7.1,SNR=17								
	comp=Z,6.8nm,0.5s								
DBIC	**Dimbokro**	**70.26**	**77**		P	**P**	**18 59 32.8**	**-0.6**	
	comp=Z,14nm,0.7s,baz=238,slow=5.5,SNR=12								
DBIC					LR	LR	19 29 35.0		
	comp=Z,23nm,19.1s,baz=320,slow=35								
	comp=Z,14nm,0.7s								
DBIC	**Dimbokro**	**70.26**	**77**		P	**P**	**18 59 32.7**	**-0.6**	
SCHQ	**Schefferville**	**70.85**	**3**		P	**P**	**18 59 36.2**	**+0.2**	
	comp=Z,9.2nm,0.8s,baz=178,slow=8.0,SNR=4.2								
	comp=Z,9.2nm,0.8s								
QSPA	**South Pole Qui**	**74.00**	**180**		P	**P**	**18 59 56.6**	**+1.7**	
QSPA					IAmb	IAmb	18 59 57.9		
	comp=Z,27nm,1.4s								
QSPA	**South Pole Qui**	**74.00**	**180**		P	**P**	**18 59 56.4**	**+1.6**	
	comp=Z,5.9nm,0.7s,baz=133,slow=0.3,SNR=47								
QSPA					pP	**pP**	**19 00 24.5**	**+0.5**	
	comp=Z,2.7nm,0.8s,baz=153,slow=9.1,SNR=3.8								
	comp=Z,5.9nm,0.7s								
ELIB	**Princess Elisa**	**76.44**	**161**	*d*P		**P**	**19 00 10.6**	**+1.9**	
PNCL	**Nicolau / Gran**	**80.34**	**46**	*e*P		**P**	**19 00 31.6**	**+1.1**	
PCVE	**Castro Verde**	**80.45**	**46**	*e*P		**P**	**19 00 32.6**	**+1.5**	
PBEJ	**Beja**	**80.76**	**46**	*e*P		**P**	**19 00 34.0**	**+1.2**	
PMTG	**Montargil**	**81.02**	**45**	*e*P		**P**	**19 00 35.4**	**+1.3**	
PBAR	**Barrancos**	**81.41**	**46**	*e*P		**P**	**19 00 37.5**	**+1.3**	
VNDA	**Vanda**	**81.56**	**190**	P		**P**	**19 00 38.4**	**+2.0**	
VNDA	**Vanda**	**81.56**	**190**	P		**P**	**19 00 38.2**	**+1.8**	
	comp=Z,3.4nm,0.9s,baz=128,slow=5.5,SNR=15								
VNDA					pP	**pP**	**19 01 06.8**	**+0.9**	
	comp=Z,1.8nm,0.8s,baz=113,slow=3.3,SNR=3.9								
	comp=Z,3.4nm,0.9s								
MTE	**Manteigas**	**82.12**	**44**	*e*P		**P**	**19 00 40.9**	**+0.9**	
	comp=Z,41nm,1.8s								
PGAV	**Gavieira, Arco**	**82.41**	**42**	*e*P		**P**	**19 00 41.0**	**-0.5**	
PBRG	**Braganca**	**83.33**	**43**	*e*P		**P**	**19 00 47.2**	**+1.0**	
PAB	**San Pablo**	**83.90**	**46**	P		**P**	**19 00 49.9**	**+0.7**	
PAB					IAmb	IAmb	19 00 51.0		
	comp=Z,11nm,0.8s								
ESDC	**Sonseca Array**	**84.22**	**46**	P		**P**	**19 00 51.6**	**+0.8**	
ESDC	**Sonseca Array**	**84.22**	**46**	P		**P**	**19 00 51.8**	**+1.0**	
	comp=Z,6.7nm,0.7s,baz=258,slow=5.1,SNR=51								
ESDC					pP	**pP**	**19 01 23.7**	**+2.0**	
	comp=Z,1.0nm,0.8s,baz=259,slow=4.9,SNR=2.6								
	comp=Z,6.7nm,0.7s								
YKA	**Yellowknife Ar**	**85.19**	**342**	P		**P**	**19 00 55.7**	**+0.7**	
	comp=Z,2.3nm,0.8s,baz=133,slow=4.7,SNR=33								
YKA					pP	**pP**	**19 01 27.0**	**+1.6**	
	comp=Z,1.1nm,0.8s,baz=132,slow=4.6,SNR=3.3								
	comp=Z,2.3nm,0.8s								
BOSA	**Boshof**	**88.63**	**119**	P		**P**	**19 01 13.4**	**+0.6**	
	comp=Z,1.6nm,0.9s,baz=247,slow=7.7,SNR=1.6								
	comp=Z,1.6nm,0.9s								
MAW	**Mawson**	**90.27**	**164**	P		**P**	**19 01 20.8**	**+1.4**	
	comp=Z,3.6nm,0.6s,baz=209,slow=6.2,SNR=12								
	comp=Z,3.6nm,0.6s								
SUMG	**Summit**	**91.30**	**10**			**P**	**19 01 25.2**	**+0.8**	
CLL	**Collm**	**99.41**	**39**	P		**Pdif**	**19 02 01.6**	**+0.3**	
ASAR	**Alice Springs**	**132.98**	**213**	PKP		**PKPdf**	**19 07 35.2**	**+0.6**	
	comp=Z,1.0nm,0.6s,baz=129,slow=2.1,SNR=15								
WRA	**Warramunga Arr**	**135.72**	**217**	PKP		**PKPdf**	**19 07 40.7**	**+0.9**	
	comp=Z,1.6nm,0.4s,baz=142,slow=1.9,SNR=14								
ZALV	**Zalesovo Beam**	**138.21**	**20**	PKP		**PKiKP**	**19 07 45.2**	**-0.2**	
	comp=Z,1.5nm,0.7s,baz=299,slow=1.5,SNR=6.7								
ZALV					pPKP	**pPKPdf**	**19 08 16.9**	**+1.5**	
	comp=Z,0.9nm,0.6s,baz=246,slow=2.8,SNR=2.5								
MKAR	**Makanchi Array**	**142.77**	**29**	PKP		**PKPdf**	**19 07 51.4**	**-0.5**	
	comp=Z,0.7nm,0.9s,baz=321,slow=2.3,SNR=4.5								
MJAR	**Matsushiro Arr**	**146.33**	**313**	PKPbc		**PKPbc**	**19 08 00.1**	**+0.4**	
	comp=Z,3.7nm,0.7s,baz=66,slow=1.3,SNR=11								
MJAR					pPKPbc	pPKPbc	19 08 31.5	+0.3	
	comp=Z,1.5nm,0.7s,baz=51,slow=1.5,SNR=3.5								
SONM	**Songino Array**	**148.39**	**2**	PKPbc		**PKPdf**	**19 08 03.5**	**+1.9**	
	comp=Z,0.9nm,0.6s,baz=334,slow=3.3,SNR=5.9								
SONM					pPKPbc	**pPKPbc**	**19 08 36.1**	**-1.1**	
	comp=Z,0.9nm,0.8s,baz=345,slow=1.9,SNR=2.5								
KSRS	**Korea Array**	**152.39**	**324**	PKPbc		**PKiKP**	**19 08 16.6**	**+1.5**	
	comp=Z,1.5nm,0.7s,baz=47,slow=1.3,SNR=9.0								
KSRS					pPKPbc	**pPKPbc**	**19 08 47.9**	**+1.3**	
	comp=Z,1.5nm,0.9s,baz=25,slow=1.3,SNR=3.6								

*WBNET **11** 18:48:54.9,50.2°27N×12.2°44E,h9km,Ml2.0*
CLL 11 18:48:55.2±0.3,50.2°27N×12.2°44E,h8km,ML1.8,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**258**	⇓P	Pg	18 48 56.7	0.0
LBCW				S	Sg	18 48 57.9	+0.2
NKC	**Novy Kostel**	**0.04**	**170**	*i* Pg	Pg	18 48 56.7	-0.1
NKC				*i* Sg	Sg	18 48 57.9	0.0
NKC				IAML		18 48 58.2	
	comp=N,869nm,0.1s						
NKC	**Novy Kostel**	**0.04**	**170**	⇓P	Pg	18 48 56.7	0.0
NKC				S	Sg	18 48 57.9	0.0
WERN	**Wernitzgruen**	**0.04**	**295**	*i* Pg	Pg	18 48 56.9	0.0
WERN				*i* Sg	Sg	18 48 58.2	+0.1
WERN				IAML		18 48 58.3	
	comp=E,489nm,0.2s						
POCW	**Potky**	**0.05**	**352**	⇓P	Pg	18 48 57.0	0.0
POCW				S	Sg	18 48 58.4	+0.1
STCW	**Studenec**	**0.05**	**101**	*i* Pg	Pg	18 48 56.8	-0.1
STCW				*i* Sg	Sg	18 48 58.0	-0.2
STCW	**Studenec**	**0.05**	**101**	⇑P	Pg	18 48 56.8	-0.1
STCW				S	Sg	18 48 58.0	-0.2
VAC	**Vackov**	**0.05**	**229**	*i* Pg	Pg	18 48 56.8	-0.1
VAC				*i* Sg	Sg	18 48 58.1	-0.1
VAC	**Vackov**	**0.05**	**229**	⇓P	Pg	18 48 56.8	-0.1
VAC				S	Sg	18 48 58.1	-0.1
KVC	**Kvetna**	**0.08**	**142**	*i* Pg	Pg	18 48 57.1	-0.2
KVC				*i* Sg	Sg	18 48 58.5	-0.2
KVC	**Kvetna**	**0.08**	**142**	⇑P	Pg	18 48 57.1	-0.1
KVC				S	Sg	18 48 58.5	-0.2
ROHR	**Rohrbach**	**0.09**	**246**	*i* Pg	Pg	18 48 57.2	-0.2
ROHR				*i* Sg	Sg	18 48 58.7	-0.2
ROHR				IAML		18 48 58.8	
	comp=E,853nm,0.1s						
KRCW	**Kraslice**	**0.09**	**43**	⇑P	Pg	18 48 57.2	-0.2
KRCW				S	Sg	18 48 58.8	-0.2
SKC	**Skalna**	**0.11**	**206**	⇑P	Pg	18 48 57.6	-0.1
SKC				S	Sg	18 48 59.4	0.0
GUNZ	**Gunzen**	**0.12**	**324**	*i* Pg	Pg	18 48 57.8	-0.1
GUNZ				*i* Sg	Sg	18 48 58.6	-0.1
GUNZ				IAML		18 48 59.8	
	comp=E,112nm,0.2s						
KOCW	**Kopaniny**	**0.13**	**268**	⇓P	Pg	18 48 57.9	-0.1
KOCW				S	Sg	18 48 59.9	-0.1
MULD	**Muldenberg**	**0.14**	**351**	*i* Pg	Pg	18 48 58.1	-0.2
MULD				*i* Sg	Sg	18 49 00.2	-0.2
MULD				IAML		18 49 00.4	
	comp=E,346nm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**6**	*i* Pg	Pg	18 48 58.1	-0.2
TANN				*i* Sg	Sg	18 49 00.2	-0.3
TANN				IAML		18 49 00.7	
	comp=N,495nm,0.2s						
TRCW	**Trojmez**	**0.19**	**280**	⇓P	Pg	18 48 58.9	-0.2
TRCW				S	Sg	18 49 01.6	-0.2
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	18 48 59.0	-0.2
WERD				*e*Sg	Sg	18 49 01.7	-0.3
WERD				IAML		18 49 01.8	
	comp=E,74nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg	Pg	18 48 59.2	-0.2
TRIB				*i* Sg	Sg	18 49 02.1	-0.2
TRIB				IAML		18 49 02.3	
	comp=N,118nm,0.2s						
ZHC	**Zelena Hora**	**0.21**	**203**	⇑P	Pg	18 48 59.3	-0.2
ZHC				S	Sg	18 49 02.3	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**249**	*i* Pg	Pg	18 48 59.5	-0.3
VIEL				*i* Sg	Sg	18 49 02.6	-0.3
LACW	**Lazy**	**0.25**	**151**	*i* Pg	Pg	18 49 00.0	-0.2
LACW				*i* Sg	Sg	18 49 03.4	-0.1
LACW	**Lazy**	**0.25**	**151**	⇓P	Pg	18 49 00.0	-0.2
LACW				S	Sg	18 49 03.4	-0.1
PLN	**Plauen**	**0.28**	**320**	*i* Pg	Pg	18 49 00.5	-0.3
PLN				*i* Sg	Sg	18 49 04.3	-0.2
PLN				IAML		18 49 04.5	
	comp=E,68nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	Pg	18 49 02.8	-0.3
SCHF				*i* Sg	Sg	18 49 08.3	-0.3
SCHF				IAML		18 49 08.5	
	comp=E,76nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	18 49 03.5	-0.4
GRZ1				*i* Sg	Sg	18 49 09.1	-0.6
GRZ1				IAML		18 49 10.7	
	comp=N,35nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	Pg	18 49 16.2	-0.8

*LDG **11** 18:49:05.7±0.7,50.2°26N×12.2°44E,h10km,Ml2.9/3,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*PRU **11** 18:49:05.9,50.2°25N×12.2°46E,h10km,West Bohemia Swarm*
*VIE **11** 18:49:06.2±0.3,50.2°22N×12.2°42E,h10km,mb2.4/8, ml2.8/14, Error ellipse: s-maj=5.1km s-min=1.5km az=115.0*
*WBNET **11** 18:49:06.8,50.2°27N×12.2°44E,h9km,Ml2.6*
*BGR **11** 18:49:06.4±0.2,50.2°26N×12.2°44E,h11km±1km,ML2.5/6, Error ellipse: s-maj=1.1km s-min=1.1km az=98.0*
*CLL **11** 18:49:07.1±0.3,50.2°27N×12.2°44E,h8km,ML2.6*
ISC 11 18:49:06.3±0.7,50.2°7N±0.01°×12.2°45E±0.01,h13km±3km, n97,σ1°36/175,6C-6D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**263**	⇓P	**Pg**	**18 49 08.6**	**-0.1**
LBCW				S	**Sg**	**18 49 09.8**	**-0.6**
NKC	**Novy Kostel**	**0.04**	**182**	*i* Pg	**Pg**	**18 49 08.6**	**-0.1**
NKC				*i* Sg	**Sg**	**18 49 09.8**	**-0.7**
NKC				IAML		18 49 10.2	
	comp=E,3µm,0.2s						
NKC	**Novy Kostel**	**0.04**	**182**	*e*PG	**Pg**	**18 49 08.6**	**-0.1**
NKC				*e*SG	**Sg**	**18 49 09.7**	**-0.7**
	comp=E,1µm,0.2s						
NKC	**Novy Kostel**	**0.04**	**182**	*i* Pg	**Pg**	**18 49 08.6**	**-0.1**
NKC				*i* Sg	**Sg**	**18 49 09.8**	**-0.7**
	comp=E,3µm,0.2s						
NKC	**Novy Kostel**	**0.04**	**182**	⇑P	**Pg**	**18 49 08.6**	**-0.1**
NKC				S	**Sg**	**18 49 09.8**	**-0.7**
STCW	**Studenec**	**0.05**	**102**	*i* Pg	**Pg**	**18 49 08.7**	**-0.1**
STCW				*i* Sg	**Sg**	**18 49 09.9**	**-0.7**
STCW	**Studenec**	**0.05**	**102**	*i* Pg	**Pg**	**18 49 08.7**	**-0.1**
STCW				*i* Sg	**Sg**	**18 49 09.9**	**-0.7**
STCW	**Studenec**	**0.05**	**102**	⇑P	**Pg**	**18 49 08.7**	**-0.1**
STCW				S	**Sg**	**18 49 09.9**	**-0.7**
WERN	**Wernitzgruen**	**0.05**	**292**	*i* Pg	**Pg**	**18 49 08.8**	**-0.1**
WERN				*i* Sg	**Sg**	**18 49 10.1**	**-0.6**
WERN				IAML		18 49 10.2	
	comp=E,3µm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**292**	*i* Pg	**Pg**	**18 49 08.8**	**-0.1**
WERN				*i* Sg	**Sg**	**18 49 10.1**	**-0.6**
	comp=E,3µm,0.2s						
POCW	**Potky**	**0.05**	**344**	⇓P	**Pg**	**18 49 08.9**	**-0.1**
POCW				S	**Sg**	**18 49 10.3**	**-0.5**
VAC	**Vackov**	**0.06**	**234**	*i* Pg	**Pg**	**18 49 08.7**	**-0.2**
VAC				*i* Sg	**Sg**	**18 49 10.0**	**-0.8**
VAC	**Vackov**	**0.06**	**234**	⇓P	**Pg**	**18 49 08.7**	**-0.2**
VAC				S	**Sg**	**18 49 10.0**	**-0.8**
KVC	**Kvetna**	**0.07**	**146**	*i* Pg	**Pg**	**18 49 09.0**	**-0.1**
KVC				*i* Sg	**Sg**	**18 49 10.4**	**-0.6**
KVC	**Kvetna**	**0.07**	**146**	⇑P	**Pg**	**18 49 09.0**	**-0.1**
KVC				S	**Sg**	**18 49 10.4**	**-0.6**
KRCW	**Kraslice**	**0.08**	**39**	⇑P	**Pg**	**18 49 09.1**	**-0.1**
KRCW				S	**Sg**	**18 49 10.7**	**-0.6**
ROHR	**Rohrbach**	**0.09**	**248**	*i* Pg	**Pg**	**18 49 09.1**	**-0.2**
ROHR				*i* Sg	**Sg**	**18 49 10.6**	**-0.7**
ROHR				IAML		18 49 10.7	
	comp=E,4µm,0.1s						
ROHR	**Rohrbach**	**0.09**	**248**	*i* Pg	**Pg**	**18 49 09.1**	**-0.2**
ROHR				*i* Sg	**Sg**	**18 49 10.6**	**-0.7**
	comp=E,4µm,0.1s						
SKC	**Skalna**	**0.11**	**210**	⇑P	**Pg**	**18 49 09.5**	**0.0**
SKC				S	**Sg**	**18 49 11.3**	**-0.4**
GUNZ	**Gunzen**	**0.12**	**321**	*i* Pg	**Pg**	**18 49 09.7**	**0.0**
GUNZ				*i* Sg	**Sg**	**18 49 11.5**	**-0.5**
GUNZ				IAML		18 49 12.1	
	comp=E,842nm,0.4s						
GUNZ	**Gunzen**	**0.12**	**321**	*i* Pg	**Pg**	**18 49 09.7**	**0.0**
GUNZ				*i* Sg	**Sg**	**18 49 11.5**	**-0.5**
	comp=E,842nm,0.4s						
KOCW	**Kopaniny**	**0.14**	**269**	⇓P	**Pg**	**18 49 09.8**	**0.0**
KOCW				S	**Sg**	**18 49 11.8**	**-0.5**
MULD	**Muldenberg**	**0.15**	**348**	*i* Pg	**Pg**	**18 49 10.0**	**0.0**
MULD				*i* Sg	**Sg**	**18 49 12.1**	**-0.5**
MULD				IAML		18 49 12.3	
	comp=E,2µm,0.1s						
MULD	**Muldenberg**	**0.15**	**348**	*i* Pg	**Pg**	**18 49 10.0**	**0.0**
MULD				*i* Sg	**Sg**	**18 49 12.1**	**-0.5**
	comp=E,2µm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**3**	*i* Pg	**Pg**	**18 49 10.0**	**0.0**
TANN				*i* Sg	**Sg**	**18 49 12.1**	**-0.5**
TANN				IAML		18 49 12.7	
	comp=N,3µm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**3**	*i* Pg	**Pg**	**18 49 10.0**	**0.0**
TANN				*i* Sg	**Sg**	**18 49 12.1**	**-0.5**
	comp=N,3µm,0.2s						
TRCW	**Trojmez**	**0.20**	**280**	⇓P	**Pg**	**18 49 10.8**	**0.0**
TRCW				S	**Sg**	**18 49 13.5**	**-0.4**
WERD	**Werda**	**0.20**	**333**	*i* Pg	**Pg**	**18 49 10.9**	**+0.1**
WERD				*e*Sg	**Sg**	**18 49 13.6**	**-0.4**
WERD				IAML		18 49 13.7	
	comp=E,382nm,0.1s						
WERD	**Werda**	**0.20**	**333**	*i* Pg	**Pg**	**18 49 10.9**	**+0.1**
WERD				*e*Sg	**Sg**	**18 49 13.6**	**-0.4**
	comp=E,382nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**293**	*i* Pg	**Pg**	**18 49 11.1**	**0.0**
TRIB				*i* Sg	**Sg**	**18 49 13.9**	**-0.4**
TRIB				IAML		18 49 14.2	
	comp=N,588nm,0.2s						
TRIB	**Obertriebel**	**0.22**	**293**	*i* Pg	**Pg**	**18 49 11.1**	**0.0**
TRIB				*i* Sg	**Sg**	**18 49 13.9**	**-0.4**
	comp=N,588nm,0.2s						
ZHC	**Zelena Hora**	**0.22**	**205**	⇑P	**Pg**	**18 49 11.2**	**+0.1**
ZHC				S	**Sg**	**18 49 14.2**	**-0.1**
VIEL	**Selb-Vielitz**	**0.24**	**250**	*i* Pg	**Pg**	**18 49 11.4**	**0.0**
VIEL				*i* Sg	**Sg**	**18 49 14.5**	**-0.4**
VIEL	**Selb-Vielitz**	**0.24**	**250**	*i* Pg	**Pg**	**18 49 11.4**	**0.0**
VIEL				*i* Sg	**Sg**	**18 49 14.5**	**-0.4**
LACW	**Lazy**	**0.24**	**153**	*i* Pg	**Pg**	**18 49 11.9**	**+0.3**
LACW				*i* Sg	**Sg**	**18 49 15.3**	**+0.2**
LACW	**Lazy**	**0.24**	**153**	*i* Pg	**Pg**	**18 49 11.9**	**+0.3**
LACW				*i* Sg	**Sg**	**18 49 15.3**	**+0.2**
LACW	**Lazy**	**0.24**	**153**	⇓P	**Pg**	**18 49 11.9**	**+0.3**
LACW				S	**Sg**	**18 49 15.3**	**+0.2**
PLN	**Plauen**	**0.29**	**319**	*i* Pg	**Pg**	**18 49 12.4**	**+0.1**
PLN				*i* Sg	**Sg**	**18 49 16.2**	**-0.1**
PLN				IAML		18 49 16.4	
	comp=E,377nm,0.1s						
PLN	**Plauen**	**0.29**	**319**	*i* Pg	**Pg**	**18 49 12.4**	**+0.1**
PLN				*i* Sg	**Sg**	**18 49 16.2**	**-0.1**
	comp=E,377nm,0.1s						
MANZ	**Manzenberg**	**0.36**	**218**	*e*Pg	**Pg**	**18 49 13.6**	**+0.1**
MANZ				*e*Sg	**Sg**	**18 49 18.3**	**-0.2**
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**18 49 14.7**	**+0.2**
SCHF				*e*Sg	**Sg**	**18 49 20.2**	**+0.2**
SCHF				IAML		18 49 20.4	
	comp=E,454nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**18 49 14.7**	**+0.2**
SCHF				*e*Sg	**Sg**	**18 49 20.2**	**+0.2**
	comp=E,454nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**341**	*i* Pg	**Pg**	**18 49 15.4**	**+0.1**
GRZ1				*i* Sg	**Sg**	**18 49 21.0**	**-0.2**
GRZ1				IAML		18 49 22.6	
	comp=N,228nm,0.4s						
GRZ1	**Mausoleum Wald**	**0.45**	**341**	*i* Pg	**Pg**	**18 49 15.4**	**+0.1**
GRZ1				*i* Sg	**Sg**	**18 49 21.0**	**-0.2**
	comp=N,228nm,0.4s						
ROTZ	**Rotzenmuhle**	**0.53**	**197**	*e*Pg	**Pg**	**18 49 16.7**	**+0.1**
ROTZ				*e*Sg	**Sg**	**18 49 23.5**	**-0.1**
MOX	**Moxa**	**0.65**	**306**	*e*Pg	**Pg**	**18 49 19.1**	**+0.1**
MOX				*e*Sg	**Sg**	**18 49 27.8**	**+0.1**
HSKC	**Hora Svate Kat**	**0.71**	**61**	*e*SG	**Sg**	**18 49 29.5**	**-0.1**
	comp=N,184nm,0.2s						
FBE	**Freiberg**	**0.87**	**41**	*e*Pg	**Pg**	**18 49 22.9**	**-0.3**
FBE				*e*Sg	**Sg**	**18 49 34.5**	**-0.1**
GRF	**Grafenberg Arr**	**0.98**	**234**	*e*Pg	**Pg**	**18 49 25.2**	**-0.1**
GRF				*e*Sg	**Sg**	**18 49 37.8**	**-0.3**
CLL	**Collm**	**1.10**	**18**	*e*Pg	**Pb**	**18 49 27.4**	**+0.2**
CLL				*e*Sg	**Sb**	**18 49 41.8**	**+0.4**
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	**Pb**	**18 49 28.1**	**+0.4**
BRG				Sg	**Sb**	**18 49 42.9**	**+0.7**
BRG				Amp		18 49 43.8	
	comp=Z,97nm,0.2s						
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg	**Pb**	**18 49 28.1**	**+0.4**
BRG				*e*Sg	**Sb**	**18 49 43.0**	**+0.7**
WET	**Wettzell**	**1.16**	**166**	*e*Pg	**Pb**	**18 49 28.3**	**+0.1**
WET				*e*Sg	**Sb**	**18 49 43.7**	**+0.5**
PRA	**Prague**	**1.29**	**98**	*e*SG	**Sb**	**18 49 47.7**	**+0.8**
	comp=Z,32nm,0.3s						
KHC	**Kasperske Hory**	**1.35**	**147**	*e*SG	**Sb**	**18 49 48.7**	**-0.1**
	comp=Z,44nm,0.2s						
PRU	**Pruhonice**	**1.38**	**101**	*e*SG	**Sn**	**18 49 49.9**	**+0.6**
	comp=Z,44nm,0.2s						
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	**Pn**	**18 49 32.1**	**+0.9**
PRU				*e*Sg	**Sb**	**18 49 50.6**	**+1.3**
PVCC	**Panska Ves**	**1.38**	**78**	*e*SG	**Sg**	**18 49 51.0**	**+0.2**
	comp=Z,116nm,0.2s						
GEC2	**GERESS Array S**	**1.64**	**150**	*e*Pg	**Pb**	**18 49 36.6**	**+0.1**
GEC2				*e*Sg	**Sb**	**18 49 57.4**	**+0.2**
CKRC	**Cesky Krumlov**	**1.89**	**139**	*e*SG	**Sb**	**18 50 04.8**	**+0.6**
TREC	**Trest**	**2.20**	**115**	*e*SG	**Sb**	**18 50 14.5**	**+1.5**
	comp=Z,19nm,0.2s						
UPC	**Upice**	**2.29**	**83**	*e*SG	**Sb**	**18 50 18.4**	**+2.6**
CHVC	**Chvalec**	**2.33**	**81**	*e*SG	**Sg**	**18 50 20.0**	**-1.1**
DPC	**Dobruska-Polom**	**2.48**	**87**	*e*SG	**Sb**	**18 50 23.9**	**+2.6**
	comp=Z,22nm,0.4s						
BIOA	**Bad Isch

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.25**	**301**		**Pn**	**19 09 52.6**	**+1.0**
OHAK	**Old Harbor** baz=118	**2.25**	**301**	P	**Pn**	**19 09 52.8**	**+1.1**
OHAK	baz=118			S	**Sn**	**19 10 18.0**	**-1.3**
KDAK	**Kodiak Island**	**2.28**	**318**		**Pn**	**19 09 53.3**	**+1.2**
KDAK					**Sn**	**19 10 18.9**	**-1.3**
KDAK	**Kodiak Island** 178nm,0.3s	**2.28**	**318**	IAML		19 10 20.2	
SII	**Sitkinak Islan**	**2.51**	**282**		**Pn**	**19 09 56.6**	**+1.3**
SII					**Sn**	**19 10 25.4**	**-0.5**
SII	**Sitkinak Islan** comp=E,160nm,0.6s	**2.51**	**282**	IAML		19 10 26.1	
SII	comp=N,163nm,1.1s			IAML		19 10 29.8	
SII	**Sitkinak Islan** baz=98	**2.51**	**282**	P	**Pn**	**19 09 56.6**	**+1.3**
SII	baz=98			S	**Sn**	**19 10 25.4**	**-0.5**
SYI	**Shuyak Island**	**2.88**	**331**		**Sn**	**19 10 34.0**	**-1.0**
SYI	**Shuyak Island**	**2.88**	**331**		**Pn**	**19 10 01.4**	**+1.1**
SYI	**Shuyak Island** comp=E,95nm,0.5s	**2.88**	**331**	IAML		19 10 35.7	
SYI	comp=N,72nm,0.4s			IAML		19 10 36.9	
Q20K	**Shuyak Island** baz=149	**2.88**	**331**	P	**Pn**	**19 10 01.5**	**+1.1**
Q20K	baz=149			S	**Sn**	**19 10 34.0**	**-1.0**
CHIR	**Chirikof Islan**	**3.32**	**267**		**Sn**	**19 10 43.9**	**-1.9**
CHIR	**Chirikof Islan**	**3.32**	**267**	Pn	**Pn**	**19 10 06.3**	**0.0**
CHIR	comp=N,145nm,1.2s			IAML		19 10 44.6	
CHIR	comp=E,77nm,1.3s			IAML		19 11 08.0	
CHIR	**Chirikof Islan** baz=83	**3.32**	**267**	S	**Sn**	**19 10 43.9**	**-1.9**
CNPM	**China Poot**	**3.51**	**347**		**Pn**	**19 10 09.3**	**+0.3**
CNPM	comp=N,60nm,0.3s			IAML		19 10 50.6	
CNPM	**China Poot**	**3.51**	**347**		**Sn**	**19 10 49.0**	**-1.5**
Q19K	**Cape Douglas,**	**3.52**	**325**		**Sn**	**19 10 52.8**	**+2.1**
Q19K	comp=N,128nm,0.8s			IAML		19 10 58.7	
Q19K	**Cape Douglas,**	**3.52**	**325**		**Pn**	**19 10 10.4**	**+1.3**
BRSE	**Bradley Lake S**	**3.67**	**352**		**Pn**	**19 10 11.2**	**-0.1**
BRSE					**Sn**	**19 10 51.8**	**-2.8**
BRSE	**Bradley Lake S** baz=171	**3.67**	**352**	P	**Pn**	**19 10 11.2**	**-0.1**
BRSE	baz=171			S	**Sn**	**19 10 51.8**	**-2.8**
BRLK	**Bradley Lake**	**3.71**	**351**		**Pn**	**19 10 11.6**	**-0.1**
BRLK	comp=E,165nm,0.5s			IAML		19 11 19.8	
Q23K	**Middleton Isla**	**3.79**	**27**		**Pn**	**19 10 12.8**	**0.0**
Q23K	**Middleton Isla** baz=210	**3.79**	**27**	P	**Pn**	**19 10 12.7**	**0.0**
SEW	**Seward**	**4.00**	**2**		**Pn**	**19 10 15.5**	**-0.2**
SEW	**Seward** baz=182	**4.00**	**2**	P	**Pn**	**19 10 15.5**	**-0.2**
P19K	**Oil Pt**	**4.00**	**334**	Pn	**Pn**	**19 10 17.0**	**+1.2**
P19K	comp=E,104nm,0.6s			IAML		19 11 05.2	
P19K	comp=N,115nm,0.6s			IAML		19 11 05.2	
P23K	**Montague Islan**	**4.08**	**17**		**Pn**	**19 10 17.0**	**+0.1**
P23K	**Montague Islan** baz=198	**4.08**	**17**	P	**Pn**	**19 10 17.0**	**+0.1**
O22K	**Cooper Landing**	**4.38**	**0**	Pn	**Pn**	**19 10 20.9**	**+0.1**
P18K	**Big Mountain,**	**4.41**	**320**	Pn	**Pn**	**19 10 22.4**	**+1.1**
SLKM	**Skilak Lake**	**4.41**	**357**		**Pn**	**19 10 21.1**	**-0.2**
HIN	**Hinchinbrook I**	**4.62**	**20**		**Pn**	**19 10 24.6**	**+0.4**
HIN	comp=E,62nm,1.4s			IAML		19 11 42.0	
HIN	comp=N,82nm,1.4s			IAML		19 11 42.3	
O18K	**Koktuh Hills**	**4.74**	**324**		**Pn**	**19 10 26.9**	**+1.0**
O18K	**Koktuh Hills** comp=N,29nm,0.9s	**4.74**	**324**	IAML		19 11 21.3	
O18K	**Koktuh Hills** baz=140	**4.74**	**324**	P	**Pn**	**19 10 26.9**	**+1.0**
DFR	**Direct River**	**4.75**	**342**		**Pn**	**19 10 26.4**	**+0.4**
KAIM	**Kayak Island**	**4.75**	**34**		**Pn**	**19 10 26.6**	**+0.5**
KAIM	**Kayak Island** comp=E,72nm,1.5s	**4.75**	**34**	IAML		19 12 30.4	
KAIM	**Kayak Island** baz=219	**4.75**	**34**	P	**Pn**	**19 10 26.6**	**+0.5**
O19K	**Port Alsworth**	**4.75**	**331**		**Sn**	**19 11 21.6**	**+0.5**
EYAK	**Cordova Ski Ar**	**4.92**	**24**		**Pn**	**19 10 28.7**	**+0.5**
EYAK	**Cordova Ski Ar** baz=207	**4.92**	**24**	P	**Pn**	**19 10 28.7**	**+0.5**
FID	**Port Fidalgo**	**4.95**	**19**		**Pn**	**19 10 28.7**	**-0.1**
FID	**Port Fidalgo** comp=E,45nm,0.7s	**4.95**	**19**	IAML		19 12 45.6	
FID	comp=N,42nm,1.3s			IAML		19 12 45.9	
GLI	**Glacier Island**	**4.97**	**15**		**Pn**	**19 10 29.3**	**+0.3**
GLI	**Glacier Island** comp=E,44nm,1.4s	**4.97**	**15**	IAML		19 12 37.8	
GLI	comp=N,43nm,1.3s			IAML		19 12 39.9	
GLI	**Glacier Island** baz=197	**4.97**	**15**	P	**Pn**	**19 10 29.3**	**+0.3**
RC01	**Rabbit Creek A**	**4.99**	**0**	Pn	**Pn**	**19 10 29.4**	**+0.2**
RC01	comp=E,36nm,0.4s			IAML		19 11 26.8	
RC01	comp=N,31nm,0.9s			IAML		19 12 50.8	
RAGM	**Ragged Mountai**	**5.05**	**30**	Pn	**Pn**	**19 10 30.8**	**+0.7**
RAGM	comp=N,60nm,1.5s			IAML		19 13 18.3	
SUCK	**Suckling Hills**	**5.07**	**36**		**Pn**	**19 10 31.3**	**+0.9**
HMT	**Hamilton**	**5.13**	**32**		**Pn**	**19 10 32.0**	**+0.8**
HMT	comp=N,59nm,1.4s			IAML		19 11 32.3	
N20K	**Mount Spurr** baz=165	**5.26**	**347**	P	**Pn**	**19 10 33.4**	**+0.4**
SPCR	**Spurr Chakacha**	**5.26**	**347**		**Pn**	**19 10 33.5**	**+0.4**
N19K	**Bonanza Creek**	**5.33**	**334**		**Pn**	**19 10 34.2**	**+0.2**
N19K	**Bonanza Creek** baz=150	**5.33**	**334**	P	**Pn**	**19 10 34.2**	**+0.2**
BERG	**Berg Lake**	**5.34**	**34**		**Pn**	**19 10 34.7**	**+0.6**
BERG	**Berg Lake** comp=N,51nm,1.1s	**5.34**	**34**	IAML		19 11 33.6	
SUA	**Susitna One**	**5.39**	**355**	Pn	**Pn**	**19 10 34.9**	**0.0**
SNH	**Sunshine Point**	**5.47**	**39**	Pn	**Pn**	**19 10 36.2**	**+0.2**
STLK	**Strandline Lak**	**5.50**	**349**		**Pn**	**19 10 36.2**	**+0.2**
N18K	**Kilae Creek**	**5.60**	**327**		**Pn**	**19 10 38.3**	**+0.6**
N18K	**Kilae Creek** baz=142	**5.60**	**327**	P	**Pn**	**19 10 38.3**	**+0.6**
O16K	**Kokwok River B**	**5.66**	**311**	Pn	**Pn**	**19 10 39.5**	**+1.1**
WAX	**Waxell Ridge**	**5.66**	**37**	Pn	**Pn**	**19 10 39.2**	**+0.6**
KLU	**Klutina**	**5.74**	**19**		**Pn**	**19 10 40.3**	**+0.6**
KLU	**Klutina** baz=202	**5.74**	**19**	P	**Pn**	**19 10 40.3**	**+0.6**
CNBA	**Chernabura Isl**	**5.75**	**261**	Pn	**Pn**	**19 10 40.1**	**+0.4**
BARK	**Barkley Ridge**	**5.75**	**39**		**Pn**	**19 10 40.6**	**+0.7**
SML	**Sawmill**	**5.75**	**7**	Pn	**Pn**	**19 10 40.5**	**+0.6**
MESA	**MESA**	**5.79**	**42**	Pn	**Pn**	**19 10 41.2**	**+0.7**
SCM	**Sheep Creek Mo**	**5.87**	**11**	Pn	**Pn**	**19 10 42.6**	**+1.2**
ISLE	**Juniper Island**	**5.95**	**38**	Pn	**Pn**	**19 10 43.1**	**+0.5**
SKT	**Skwentna**	**5.95**	**352**	Pn	**Pn**	**19 10 42.8**	**+0.3**
M20K	**Styx River**	**6.04**	**345**		**Pn**	**19 10 44.1**	**+0.3**
M20K	**Styx River** baz=162	**6.04**	**345**	P	**Pn**	**19 10 44.1**	**+0.3**
VRDI	**Verde Repeater**	**6.08**	**30**	Pn	**Pn**	**19 10 44.9**	**+0.4**
SDPT	**Sand Point**	**6.11**	**267**	Pn	**Pn**	**19 10 45.9**	**+1.2**
N25K	**Chitina, Valde**	**6.12**	**24**		**Pn**	**19 10 45.0**	**+0.2**
N25K	**Chitina, Valde** baz=208	**6.12**	**24**	P	**Pn**	**19 10 45.3**	**+0.5**
GLB	**Gilahina Butte**	**6.16**	**28**		**Pn**	**19 10 45.8**	**+0.3**
M18K	**Stony River**	**6.24**	**332**		**Pn**	**19 10 46.3**	**-0.2**
M18K	**Stony River** baz=147	**6.24**	**332**	P	**Pn**	**19 10 46.3**	**-0.2**
M19K	**Big River Lodg**	**6.28**	**339**	Pn	**Pn**	**19 10 47.9**	**+0.9**
M24K	**Tolsona, Glenn**	**6.28**	**16**	Pn	**Pn**	**19 10 47.9**	**+0.9**
MCARA	**McCarthy VSAT**	**6.33**	**31**		**Pn**	**19 10 48.5**	**+0.8**
BARN	**Barnard Glacie**	**6.51**	**37**		**Pn**	**19 10 51.0**	**+0.7**
CTGM	**Chitina Glacie**	**6.55**	**39**	Pn	**Pn**	**19 10 51.5**	**+0.6**
PNL	**Peninsula**	**6.56**	**53**		**Pn**	**19 10 52.1**	**+1.2**
PNL	**Peninsula** baz=241	**6.56**	**53**	P	**Pn**	**19 10 52.1**	**+1.2**
LOGN	**Logan Glacier**	**6.58**	**41**	Pn	**Pn**	**19 10 51.8**	**+0.6**
BCPM	**Bancas Point**	**6.60**	**50**	Pn	**Pn**	**19 10 52.7**	**+1.3**
L19K	**White Mountain**	**6.62**	**339**		**Pn**	**19 10 51.5**	**-0.2**
L19K	**White Mountain** baz=154	**6.62**	**339**	P	**Pn**	**19 10 51.7**	**-0.1**
M17K	**Holitna River**	**6.64**	**326**	Pn	**Pn**	**19 10 52.7**	**+0.8**
N15K	**Kwethluk River**	**6.82**	**311**	Pn	**Pn**	**19 10 56.1**	**+1.7**
O28M	**Mount Upton**	**6.84**	**43**		**Sn**	**19 10 56.0**	**+1.0**
O28M	**Mount Upton** baz=231	**6.84**	**43**	P	**Pn**	**19 10 56.0**	**+1.0**
M16K	**Timber Creek**	**6.88**	**319**	Pn	**Pn**	**19 10 56.4**	**+1.1**
S12K	**Black Hills**	**6.94**	**272**	Pn	**Pn**	**19 10 57.2**	**+1.1**
L18K	**Granite Mounta**	**7.08**	**333**	Pn	**Pn**	**19 10 56.0**	**-1.9**
DHY	**Denali Highway**	**7.08**	**9**	Pn	**Pn**	**19 10 59.5**	**+1.4**
M26K	**Nabesna, AK**	**7.18**	**26**	Pn	**Pn**	**19 10 59.5**	**+0.1**
P29M	**Windy Craggy**	**7.30**	**56**		**Pn**	**19 11 01.8**	**+0.7**
P29M	**Windy Craggy** baz=246	**7.30**	**56**	P	**Pn**	**19 11 01.8**	**+0.7**
RND	**Reindeer**	**7.33**	**3**	Pn	**Pn**	**19 11 00.2**	**-1.2**
TRF	**Thorofare Moun**	**7.36**	**358**	Pn	**Pn**	**19 11 01.2**	**-0.8**
CAST	**Castle Rocks**	**7.42**	**352**	Pn	**Pn**	**19 11 03.4**	**+0.8**
M27K	**Edge Creek, AK**	**7.44**	**30**	Pn	**Pn**	**19 11 04.5**	**+1.5**
KTH	**Kantishna Hill**	**7.48**	**356**	Pn	**Pn**	**19 11 04.2**	**+0.6**
L16K	**Owhat River**	**7.53**	**322**	Pn	**Pn**	**19 11 02.9**	**-1.3**
S31K	**Pelican**	**7.60**	**70**		**Pn**	**19 11 03.4**	**-1.6**
S31K	**Pelican** baz=262	**7.60**	**70**	P	**Pn**	**19 11 04.5**	**-0.5**
BPAW	**Bear Paw Mtn.**	**8.03**	**356**	Pn	**Pn**	**19 11 10.2**	**-0.9**
L27K	**Beaver Creek,**	**8.03**	**27**	Pn	**Pn**	**19 11 11.7**	**+0.6**
BCAR	**Beaver Creek A**	**8.05**	**27**	Pn	**Pn**	**19 11 11.2**	**-0.1**
J18K	**Innoko River**	**8.16**	**337**	Pn	**Pn**	**19 11 12.8**	**0.0**
J20K	**Nowinta River**	**8.38**	**347**	Pn	**Pn**	**19 11 16.4**	**+0.7**
SCRK	**Sand Creek**	**8.39**	**18**	Pn	**Pn**	**19 11 16.6**	**+0.6**
SKAG	**Skagway**	**8.39**	**61**	Pn	**Pn**	**19 11 17.5**	**+1.6**
J19K	**Poorman**	**8.43**	**342**	Pn	**Pn**	**19 11 16.9**	**+0.5**
HDA	**Harding Lake**	**8.43**	**8**	Pn	**Pn**	**19 11 18.4**	**+1.9**
N30M	**Aishikik Lake**	**8.47**	**46**	Pn	**Pn**	**19 11 18.3**	**+1.2**
O30N	**Mendenhall**	**8.54**	**51**	Pn	**Pn**	**19 11 19.0**	**+1.0**
R32K	**Eaglecrest**	**8.54**	**69**	Pn	**Pn**	**19 11 19.3**	**+1.2**
M29M	**Somme Creek**	**8.57**	**38**		**Pn**	**19 11 20.3**	**+1.9**
CCB	**Clear Creek Bu**	**8.61**	**6**	Pn	**Pn**	**19 11 20.9**	**+2.0**
K15K	**Wolf Creek Mou**	**8.64**	**321**	Pn	**Pn**	**19 11 18.1**	**-1.3**
J25K	**Salcha River,**	**8.79**	**12**	Pn	**Pn**	**19 11 21.6**	**+0.2**
IL31		**8.80**	**8**	Pn	**Pn**	**19 11 21.2**	**-0.2**
ILAR	**Eielson Array**	**8.80**	**8**	Pn	**Pn**	**19 11 22.0**	**+0.6**
K27K	**Chicken**	**8.80**	**23**	Pn	**Pn**	**19 11 21.6**	**0.0**
MDM	**Murphy Dome**	**8.90**	**4**	Pn	**Pn**	**19 11 23.0**	**+0.1**
J26L	**Joseph Creek**	**8.95**	**17**		**Pn**	**19 11 24.5**	**+0.9**
MLY	**Manley**	**8.96**	**357**	Pn	**Pn**	**19 11 23.9**	**+0.2**
N31M	**Braeburn, Yuko**	**9.02**	**48**	Pn	**Pn**	**19 11 25.8**	**+1.3**
WHY	**Whitehorse**	**9.03**	**54**	Pn	**Pn**	**19 11 25.8**	**+1.1**
I23K	**Minto, Yukon-K**	**9.06**	**1**	Pn	**Pn**	**19 11 26.4**	**+1.3**
L29M	**L29M**	**9.14**	**35**		**Pn**	**19 11 27.5**	**+1.3**
P32M	**Atlin**	**9.22**	**61**	Pn	**Pn**	**19 11 27.7**	**+0.3**
U33K	**Whale Pass**	**9.29**	**83**	Pn	**Pn**	**19 11 26.6**	**-1.5**
H21K	**Melozitna Rive**	**9.69**	**352**		**Pn**	**19 11 34.1**	**+0.4**
I26K	**Coal Creek Min**	**9.76**	**17**	Pn	**Pn**	**19 11 36.0**	**+1.4**
H24K	**Noodor Dome**	**9.79**	**5**	Pn	**Pn**	**19 11 37.5**	**+2.3**
P33M	**Teslin, Yukon**	**9.83**	**58**	Pn	**Pn**	**19 11 35.8**	**+0.1**
K29M	**Barlow Dome**	**9.86**	**33**	Pn	**Pn**	**19 11 37.7**	**+1.6**
M31M	**Drury Creek, Y**	**9.95**	**46**	Pn	**Pn**	**19 11 39.4**	**+2.1**
H19K	**Roundabout Mou**	**9.98**	**344**	Pn	**Pn**	**19 11 39.0**	**+1.3**
IMAR	**Indian Mountai**	**10.09**	**351**	Pn	**Pn**	**19 11 40.0**	**+0.9**
I28M	**Miner Creek**	**10.50**	**23**	Pn	**Pn**	**19 11 47.5**	**+2.7**
R33M	**Jennings River**	**10.55**	**64**	Pn	**Pn**	**19 11 46.1**	**+0.6**
G21K	**Allakaket**	**10.59**	**352**	Pn	**Pn**	**19 11 46.6**	**+0.6**
J30M	**Hart River**	**10.75**	**32**	Pn	**Pn**	**19 11 49.6**	**+1.3**
F20K	**Avaraart Lake**	**11.32**	**348**	Pn	**Pn**	**19 11 56.5**	**+0.5**
MMPY	**Sheldon Lake,**	**11.43**	**48**	Pn	**Pn**	**19 11 59.0**	**+1.4**
BMAR	**Burnt Mountain**	**11.61**	**10**	Pn	**Pn**	**19 12 01.6**	**+1.7**
E19K	**Redstone River**	**11.90**	**346**	Pn	**Pn**	**19 12 04.0**	**+0.1**
E21K	**Killik River**	**12.52**	**353**	Pn	**Pn**	**19 12 13.6**	**+1.1**
D24K	**Happy Valley**	**13.09**	**1**	Pn	**Pn**	**19 12 21.6**	**+1.5**
C23K	**Itkillik River**	**13.78**	**359**	Pn	**Pn**	**19 12 32.3**	**+2.8**

*IDC **11** 19:14:57.2±4.1,26.˚16S×177.˚29W,h106km±33km,mb3.6/5, mbtmp4.1/8,MS2.9/1,Error ellipse: s-maj=36.3km s-min=24.1km az=47.0*

ISC 11 19:15:02.3±0.9,26.˚59S±0.˚08×177.˚6W±0.˚2,h150km,n13, σ2ş44/16,mb3.7/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.67**	**186**	P	**Pn**	**19 15 44.4**	**-1.2**
RAO	174nm,0.2s,baz=66,slow=20,SNR=2.0			S	**Sn**	**19 16 22.3**	**+3.3**
URZ	**Urewera**	**12.47**	**200**	P	**Pn**	**19 17 56.0**	**+1.4**
URZ	826nm,0.3s,baz=26,slow=23,SNR=7.6			S	**Sn**	**19 20 06.2**	**-6.2**
DZM	**Mont Dzumac**	**15.24**	**284**	P	**Pn**	**19 18 29.6**	**-0.3**
DZM	9.8nm,0.9s,baz=301,slow=19,SNR=2.0			LR	LR	19 22 49.6	
ASAR	**Alice Springs**	**43.82**	**263**	P	**P**	**19 22 55.3**	**+1.6**
WRA	**Warramunga Arr**	**44.46**	**268**	P	**P**	**19 22 59.9**	**+1.1**
QSPA	**South Pole Qui**	**63.51**	**180**	P	**P**	**19 25 19.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**92.50**	**289**	P	**P**	**19 27 58.6**	**+1.8**
ILAR	**Eielson Array**	**94.14**	**13**	P	**P**	**19 28 01.2**	**-2.1**
NB2	**NORSAR Subarra**	**145.04**	**353**	PKP	**PKPbc**	**19 34 20.0**	**-1.0**
NOA	**NORSAR Array B**	**145.04**	**353**	PKP	**PKPbc**	**19 34 19.8**	**-1.2**
HFS	**Hagfors**	**145.58**	**350**	PKPbc	**PKPdf**	**19 34 21.0**	**-1.1**
MMAI	**Mount Meron Ar**	**150.75**	**291**	PKPbc	**PKPbc**	**19 34 36.9**	**-0.3**
BRTR	**Keskin Array B**	**150.92**	**305**	PKPbc	**PKPbc**	**19 34 37.7**	**+0.2**
BRTR	comp=Z,0.9nm,0.6s,baz=75,slow=1.6,SNR=4.6			PKPab	**PKPab**	**19 34 43.9**	**-1.6**

*IDC **11** 19:16:51.8±0.9,6.˚69S×74.˚42W,h0km,mb4.0/6, mbtmp4.0/11,ML3.7/5,MS3.1/7,Error ellipse: s-maj=34.7km s-min=17.6km az=76.0*
*NEIC **11** 19:16:56.8±1.5,6.˚75S±0.˚08×74.˚61W±0.˚07,h28km±14km, mb4.2/6,Error ellipse: s-maj=12.1km s-min=9.2km az=196.0*

ISC 11 19:16:56.8±0.6,6.˚77S±0.˚06×74.˚58W±0.˚08,h35km,n32, σ1ş23/29,mb4.0/6,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CZSB	**Cruzeiro do Su**	**2.09**	**117**		**Pn**	**19 17 32.8**	**+3.4**
ATAH	**Atahualpa**	**3.80**	**264**	Pn	**Pn**	**19 17 54.1**	**+0.8**
ATAH	2.8nm,0.3s,baz=14,slow=2.9,SNR=16			Lg	Lg	19 18 49.5	
ATAH	16nm,0.3s,baz=299,slow=20,SNR=3.8			LR	LR	19 19 44.3	
TBTG	**Tabatinga, AM**	**5.31**	**61**	Pn	**Pn**	**19 18 14.3**	**+0.5**
NNA	**Nana**	**5.64**	**203**		**Pn**	**19 18 18.9**	**+0.6**
NNA	**Nana**	**5.64**	**203**	Pn	**Pn**	**19 18 19.4**	**+1.1**
NNA	11nm,0.3s,baz=37,slow=5.9,SNR=9.5			Sn	**Sn**	**19 19 20.2**	**-1.8**
NNA	6.2nm,0.3s,baz=190,slow=14,SNR=2.2			LR	LR	19 20 56.5	
CHSH	**Refugio Sur-Vo**	**6.76**	**321**		**Pn**	**19 18 34.0**	**-0.2**
SLOR	**San Lorenzo -**	**7.16**	**327**	Pn	**Pn**	**19 18 40.0**	**+0.5**
ETMB	**Extrema**	**8.82**	**111**		**Pn**	**19 19 02.5**	**+0.6**
LPAZ	**La Paz**	**11.37**	**147**	Pn	**Pn**	**19 19 37.5**	**+0.1**
LPAZ	**La Paz** 0.4nm,0.3s,baz=14,slow=7.2,SNR=5.0	**11.37**	**147**	Pn	**Pn**	**19 19 37.8**	**+0.3**
LPAZ	0.2nm,0.3s,baz=248,slow=12,SNR=3.7			Lg	Lg	19 22 46.7	
LPAZ	comp=Z,48nm,18.6s,baz=279,slow=41 1.1nm,0.4s			LR	LR	19 24 36.2	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAML	**Samuel**	**11.50**	**102**		**Pn**	**19 19 37.7**	**-0.9**
ROSC	**El Rosal**	**11.54**	**1**	Pn	**Pn**	**19 19 38.9**	**-0.7**
ROSC	2.7nm,0.3s,baz=133,slow=17,SNR=1.6 3.6nm,0.3s,baz=152,slow=23,SNR=1.8 9.0nm,0.4s			Lg	Lg	19 22 43.0	
PB11	**IPOC Station P**	**13.77**	**160**	Pn	**Pn**	**19 20 07.0**	**-2.9**
HMBC	**Humberstone**	**14.18**	**162**	Pn	**Pn**	**19 20 14.7**	**-0.6**
PB02	**IPOC Station P**	**15.16**	**163**	Pn	**Pn**	**19 20 29.5**	**+0.9**
PB02	comp=E,26nm,1.4s			IAML	IAmb	19 20 41.3	
VILB	**Vilhena**	**15.44**	**115**		**Pn**	**19 20 32.4**	**+0.2**
VILB	comp=Z,14nm,0.8s			IAML	IAmb	19 20 42.7	
PB07	**IPOC Station P**	**15.55**	**163**	Pn	**Pn**	**19 20 34.5**	**+0.8**
SDV	**Santo Domingo** comp=Z,67nm,18.7s,baz=124,slow=41	**16.04**	**14**	LR	LR	19 27 47.2	
SIV	**San Ignacio** baz=284,slow=16,SNR=1.3	**16.09**	**126**	Pn	**Pn**	**19 20 38.6**	**-2.0**
SIV	comp=Z,0.1nm,0.3s,baz=221,slow=17,SNR=3.7 comp=Z,0.5nm,0.3s			Lg	Lg	19 25 10.3	
BOAV	**Boa Vista**	**16.73**	**57**	Pn	**Pn**	**19 20 48.8**	**+0.2**
BOAV	comp=Z,9.7nm,1.3s			IAmb	IAmb	19 21 32.7	
BAUV	**El Baul**	**16.92**	**23**		**Pn**	**19 20 50.1**	**-0.8**
BAUV	comp=Z,15nm,0.6s			IAmb	IAmb	19 20 56.6	
PCRV	**Puerto La Cruz** comp=Z,90nm,18.8s,slow=40	**19.53**	**31**	LR	LR	19 29 43.3	
AC02	**Maricunga**	**20.62**	**166**	P	**P**	**19 21 33.4**	**-0.4**
MDP	**Montagnes des** comp=Z,45nm,20.3s,baz=277,slow=38	**24.87**	**62**	LR	LR	19 32 27.3	
PLCA	**Paso Flores** comp=Z,1.8nm,0.8s,baz=21,slow=6.7,SNR=4.1 comp=Z,1.8nm,0.8s	**34.01**	**175**	P	**P**	**19 23 38.0**	**+0.5**
TXAR	**Lajitas Array** comp=Z,0.7nm,0.5s,baz=141,slow=8.7,SNR=9.5 comp=Z,0.7nm,0.5s	**45.51**	**323**	P	**P**	**19 25 14.9**	**+1.6**
ULM	**Lac du Bonnet** comp=Z,4.8nm,0.7s,baz=159,slow=8.3,SNR=9.3 comp=Z,4.8nm,0.7s	**59.72**	**344**	P	**P**	**19 26 57.7**	**-0.2**
ELK	**Elko** comp=Z,48nm,20.6s,slow=37	**60.24**	**325**	LR	LR	19 53 35.2	
YKA	**Yellowknife Ar** comp=Z,0.6nm,0.8s,baz=133,slow=5.8,SNR=6.3 comp=Z,0.6nm,0.8s	**75.56**	**342**	P	**P**	**19 28 37.5**	**-0.1**
QSPA	**South Pole Qui** comp=Z,1.5nm,0.8s,baz=146,slow=2.7,SNR=8.2 comp=Z,1.5nm,0.8s	**83.33**	**180**	P	**P**	**19 29 20.8**	**+0.8**
ILAR	**Eielson Array** comp=Z,0.6nm,0.9s,baz=121,slow=3.1,SNR=4.6 comp=Z,0.6nm,0.9s	**88.65**	**336**	P	**P**	**19 29 44.8**	**-1.3**
MKAR	**Makanchi Array** comp=Z,0.4nm,0.7s,baz=298,slow=3.2,SNR=2.4	**135.45**	**23**	PKP	**PKPdf**	**19 36 13.3**	**-0.1**

WEL 11 19:21:18.9,41.˚S±7.˚×17.˚4E±.˚,h31km±16km,M2.1/4, ML2.2/9,MLv2.1/4,Error ellipse: s-maj=0.0km s-min=0.0km az=123.,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.21**	**31**	P	Pb	19 21 25.5	+0.2
NNZ	**Nelson**	**0.39**	**232**	P	Pn	19 21 29.5	+1.1
TCW	**Tory Channel**	**0.44**	**122**	P	Pb	19 21 27.5	-0.9
TUWZ	**Tuamarina**	**0.47**	**165**	P	Pn	19 21 30.0	+0.5
BSWZ	**Blackbirch Sta**	**0.74**	**174**	P	Pb	19 21 33.3	0.0
KIW	**Kapiti Island**	**0.86**	**83**	P	Pb	19 21 35.9	+0.5
MRNZ	**Matariki Terra**	**0.88**	**241**	P	Pn	19 21 35.2	+0.1
QRZ	**Quartz Range**	**0.96**	**279**	P	Pn	19 21 36.3	0.0
CAW	**Cannon Point**	**0.98**	**98**	P	Pb	19 21 38.0	+0.6
THZ	**Tophouse**	**1.02**	**220**	P	Pn	19 21 36.8	-0.4
OGWZ	**Otaki Gorge**	**1.07**	**82**	P	Pb	19 21 39.5	+0.8
OTVZ	**Oturere**	**2.32**	**39**	P	Pb	19 21 57.7	-2.4

*IDC **11** 19:21:30.1±3.5,35.˚13S×179.˚14W,h0km,mb3.5/2, mbtmp3.6/3,ML3.5/1,Error ellipse: s-maj=85.5km s-min=37.8km az=124.0*

ISC 11 19:21:31.2±2.6,35.˚1S±0.˚2×179.˚2W±0.˚4,h10km,n7, σ1ş09/8,East of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKGZ	**Pakihiroa**	**3.57**	**218**	P	**Pn**	**19 22 27.3**	**+0.6**
HAZ	**Te Kaha**	**3.62**	**222**	P	**Pn**	**19 22 28.3**	**+0.9**
PUZ	**Puketiti**	**3.62**	**214**	P	**Pn**	**19 22 28.3**	**+0.9**
URZ	**Urewera** 2.6nm,0.3s,baz=302,slow=23,SNR=30	**4.35**	**223**	Pn	**Pn**	**19 22 37.7**	**+0.3**
URZ	3.1nm,0.3s,baz=246,slow=21,SNR=8.7 12nm,0.5s			Sn	**Sn**	**19 23 26.9**	**-1.3**
ASAR	**Alice Springs** 0.5nm,0.7s,baz=115,slow=7.3,SNR=7.2 0.5nm,0.7s	**42.12**	**273**	P	**P**	**19 29 24.6**	**+0.8**
WRA	**Warramunga Arr** 0.2nm,0.4s,baz=117,slow=7.4,SNR=2.0 0.2nm,0.4s	**43.54**	**278**	P	**P**	**19 29 35.3**	**0.0**
FINES	**FINESS Array B** 0.7nm,0.8s,baz=54,slow=7.1,SNR=1.3	**149.14**	**336**	PKPbc	**PKiKP**	**19 41 18.9**	**-1.3**

GUC 11 19:28:28.7±0.6,23.˚86S×66.˚81W,h180km±35km,ML3.5, 1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**2.52**	**284**	*e*P	Pn	19 29 11.4	-0.6
PB15				*e*S	Sn	19 29 44.3	-1.2
PB06	**IPOC Station P**	**2.79**	**294**	*e*P	Pn	19

WRA	**Warramunga Arr**	**23.86**	**229**	P		**P**	**19 37 54.6**	**0.0**
	comp=Z,2.4nm,0.7s,baz=53,slow=9.9,SNR=16							
WRA				PcP		**PcP**	**19 41 38.3**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=54,slow=2.7,SNR=1.6							
	comp=Z,2.4nm,0.7s							
ASAR	**Alice Springs**	**26.52**	**223**	P		**P**	**19 38 18.8**	**-0.1**
ASAR	**Alice Springs**	**26.52**	**223**	P		**P**	**19 38 18.4**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=58,slow=8.9,SNR=5.5							
	comp=Z,1.0nm,0.5s							
STKA	**Stephens Creek**	**29.09**	**201**	P		**P**	**19 38 43.5**	**+1.8**
	comp=Z,1.4nm,0.7s,baz=18,slow=9.6,SNR=1.8							
	comp=Z,1.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**30.16**	**242**	P		**P**	**19 38 50.8**	**-0.5**
KAPI	**Kappang**	**33.51**	**268**	LR		LR	19 53 45.2	
	comp=Z,42nm,18.5s,baz=92,slow=38							
FORT	**Forrest**	**35.13**	**220**	P		**P**	**19 39 34.5**	**-0.1**
KSRS	**Korea Array**	**48.29**	**333**	LR		LR	20 00 09.2	
	comp=Z,9.3nm,18.9s,baz=170,slow=34							
PETK	**Petropavlovsk-**	**57.84**	**3**	LR		LR	20 03 05.4	
	comp=Z,28nm,21.1s,baz=121,slow=32							
CMAR	**Chiang Mai Arr**	**58.42**	**295**	LR		LR	20 06 32.8	
	comp=Z,16nm,20.2s,baz=205,slow=35							
VNDA	**Vanda**	**72.78**	**178**	P		**P**	**19 44 10.1**	**+1.4**
VNDA	**Vanda**	**72.78**	**178**	P		**P**	**19 44 10.0**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=312,slow=8.5,SNR=3.8							
	comp=Z,1.0nm,0.9s							
J20K	**Nowinta River**	**79.01**	**21**	P		**P**	**19 44 45.5**	**+1.2**
J20K				IAmb		IAmb	19 45 24.2	
	comp=Z,9.0nm,1.4s							
H19K	**Roundabout Mou**	**79.06**	**19**	P		**P**	**19 44 45.1**	**+0.6**
H19K				IAmb		IAmb	19 45 19.0	
	comp=Z,3.4nm,1.4s							
MKAR	**Makanchi Array**	**80.73**	**319**	P		**P**	**19 44 54.2**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=96,slow=9.3,SNR=4.7							
	comp=Z,0.3nm,0.5s							
QSPA	**South Pole Qui**	**85.13**	**180**	P		**P**	**19 45 18.0**	**+1.4**
QSPA				IAmb		IAmb	19 45 25.5	
	comp=Z,5.6nm,1.5s							
QSPA	**South Pole Qui**	**85.13**	**180**	P		**P**	**19 45 17.7**	**+1.1**
	comp=Z,1.4nm,0.6s,baz=290,slow=1.6,SNR=11							
	comp=Z,1.4nm,0.6s							
BVAR	**Borovoye Array**	**89.61**	**323**	P		**P**	**19 45 37.7**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=69,slow=8.1,SNR=6.1							
	comp=Z,1.1nm,0.6s							
NVAR	**Mina Array Bea**	**91.65**	**52**	P		**P**	**19 45 46.8**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=262,slow=6.3,SNR=2.6							
	comp=Z,0.2nm,0.3s							

*SDD **11** 19:39:35.3±1.9,18°.35N×67°.90W,h106km±20km,MD3.3, ML2.6,MW3.1*
*NEIC **11** 19:39:36.0±1.0,18°.1N±0°.1×67°.97W±0°.05,h86km±8km, ML2.5/28,Md3.4/9(RSPR),Error ellipse: s-maj=20.0km s-min=1.5km az=198.0*
*RSPR **11** 19:39:37.1,18°.20N×67°.94W,h83km±2km,MD3.4/9*
*OSPL **11** 19:39:37.6±2.0,17°.87N×67°.97W,h50km±143km,ML2.5*

ISC 11 19:39:35.1±1.3,18°.1N±0°.1×67°.97W±0°.04,h94km,n53, σ0§98/58,7C-6D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.56**	**316**	*e*P	**Pn**	**19 39 50.2**	**-0.5**
PCDR	**Punta Cana, DR**	**0.56**	**316**		**Pn**	**19 39 50.1**	**-0.5**
PCDR				IAML		19 40 03.7	
	comp=E,109nm,0.5s						
PCDR				IAML		19 40 05.1	
	comp=N,188nm,0.9s						
PCDR	**Punta Cana, DR**	**0.56**	**316**		**Sn**	**19 40 01.9**	**-0.5**
PCDR	**Punta Cana, DR**	**0.56**	**316**	*e*Pg	**Pn**	**19 39 50.2**	**-0.5**
PCDR				⇓*e*Sg	**Sn**	**19 40 03.1**	**+0.8**
PCDR				IAML		19 40 03.6	
	comp=E,101nm,0.3s						
PCDR				IAML		19 40 04.8	
	comp=N,226nm,2.0s						
PCDR	**Punta Cana, DR**	**0.56**	**316**	*i* P	**Pn**	**19 39 50.3**	**-0.5**
PCDR				*e*S	**Sn**	**19 40 01.9**	**-0.5**
PCDR				IAML		19 40 05.8	
	comp=Z,172nm,1.4s						
SADR	**Isla Saona**	**0.77**	**276**	⇑*e*Sg	**Sn**	**19 40 08.1**	**+2.3**
CRPR	**Cabo Rojo, PR**	**0.82**	**97**	⇑*e*P	**Pn**	**19 39 53.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.82**	**97**	*e*S	**Sn**	**19 40 06.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.82**	**97**		**Pn**	**19 39 53.5**	**+0.4**
CRPR	**Cabo Rojo, PR**	**0.82**	**97**		**Sn**	**19 40 06.3**	**-0.4**
CRPR	**Cabo Rojo, PR**	**0.82**	**97**	IAML		19 40 04.2	
	comp=N,30nm,2.2s						
CRPR				IAML		19 40 05.9	
	comp=E,23nm,1.9s						
CRPR	**Cabo Rojo, PR**	**0.82**	**97**	*e*Pg	**Pn**	**19 39 53.7**	**+0.5**
CRPR				*e*Sg	**Sn**	**19 40 06.2**	**-0.4**
CRPR				IAML		19 40 07.5	
	comp=E,27nm,1.1s						
CRPR				IAML		19 40 21.2	
	comp=N,24nm,0.8s						
CRPR	**Cabo Rojo, PR**	**0.82**	**97**	*i* P	**Pn**	**19 39 53.6**	**+0.5**
CRPR				*e*S	**Sn**	**19 40 02.1**	**-4.6**
CRPR				IAML		19 40 15.6	
	comp=Z,40nm,0.5s						
LSP	**Las Mesas**	**0.84**	**85**	⇑*e*P	**Pn**	**19 39 54.2**	**+0.8**
LSP	**Las Mesas**	**0.84**	**85**		**Pn**	**19 39 54.2**	**+0.8**
HIDR	**Higuey Centro**	**0.86**	**304**	*e*Pg	**Pn**	**19 39 52.3**	**-1.2**
HIDR				*e*Sg	**Sn**	**19 40 06.2**	**-1.1**
HIDR				IAML		19 40 07.8	
	comp=N,492nm,0.2s						
HIDR				IAML		19 40 09.3	
	comp=E,329nm,0.3s						
MLPR	**Magueyes Islan**	**0.89**	**99**	⇓*e*P	**Pn**	**19 39 54.6**	**+0.8**
MLPR	**Magueyes Islan**	**0.89**	**99**	*e*S	**Sn**	**19 40 07.6**	**-0.3**
MLPR	**Magueyes Islan**	**0.89**	**99**		**Pn**	**19 39 54.0**	**+0.2**
MLPR	**Magueyes Islan**	**0.89**	**99**		**Sn**	**19 40 07.6**	**-0.3**
MLPR	**Magueyes Islan**	**0.89**	**99**	*e*Pg	**Pn**	**19 39 54.2**	**+0.4**
MLPR				IAML		19 40 08.5	
	comp=N,33nm,1.9s						
MLPR				IAML		19 40 08.9	
	comp=E,22nm,0.2s						
AGPR	**Aguadilla, PR**	**0.89**	**66**	Pn	**Pn**	**19 39 53.5**	**-0.3**
GBPR	**Guanica, Bosqu**	**1.05**	**97**	*e*S	**Sn**	**19 40 11.9**	**+0.9**
GBPR	**Guanica, Bosqu**	**1.05**	**97**		**Sn**	**19 40 11.9**	**+0.9**
AOPR	**Arecibo Observ**	**1.18**	**78**	⇑*e*P	**Pn**	**19 39 57.5**	**+0.4**
AOPR	**Arecibo Observ**	**1.18**	**78**	*e*S	**Sn**	**19 40 13.5**	**-0.3**
AOPR	**Arecibo Observ**	**1.18**	**78**		**Sn**	**19 40 13.5**	**-0.3**
AOPR	**Arecibo Observ**	**1.18**	**78**		**Pn**	**19 39 57.4**	**+0.4**
AOPR	**Arecibo Observ**	**1.18**	**78**	⇑*e*Pg	**Pn**	**19 39 57.2**	**+0.1**
AOPR				IAML		19 40 16.6	
	comp=E,575nm,0.3s						
AOPR				IAML		19 40 17.7	
	comp=N,325nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.20**	**83**	⇓*e*P	**Pn**	**19 39 58.3**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.20**	**83**	*e*S	**Sn**	**19 40 13.8**	**-0.3**
UUPR	**Utuado, UPR, P**	**1.20**	**83**		**Pn**	**19 39 58.3**	**+1.0**
UUPR					**Sn**	**19 40 13.8**	**-0.3**
OBIP	**Obispado Ponce**	**1.30**	**93**	Pn	**Pn**	**19 39 59.3**	**+0.8**
CELP	**Cerrillos**	**1.32**	**91**	⇑*e*P	**Pn**	**19 39 59.1**	**+0.3**
CELP	**Cerrillos**	**1.32**	**91**	*e*S	**Sn**	**19 40 16.7**	**-0.1**
CELP	**Cerrillos**	**1.32**	**91**		**Pn**	**19 39 58.8**	**0.0**
CELP				IAML		19 40 22.6	
	comp=N,47nm,0.2s						
CELP				IAML		19 40 22.8	
	comp=E,31nm,0.2s						
CELP	**Cerrillos**	**1.32**	**91**		**Sn**	**19 40 16.7**	**-0.1**
CELP	**Cerrillos**	**1.32**	**91**	*e*Pg	**Pn**	**19 39 58.8**	**0.0**
CELP				IAML		19 40 22.6	
	comp=N,47nm,0.1s						
EMPR	**Esperanza - Ma**	**1.42**	**75**	⇓*e*P	**Pn**	**19 40 00.0**	**+0.1**
EMPR	**Esperanza - Ma**	**1.42**	**75**	*e*S	**Sn**	**19 40 18.5**	**-0.3**
EMPR	**Esperanza - Ma**	**1.42**	**75**		**Pn**	**19 40 00.0**	**+0.1**
EMPR					**Sn**	**19 40 18.5**	**-0.3**
EMPR	**Esperanza - Ma**	**1.42**	**75**	IAML		19 40 23.9	
	comp=N,126nm,1.2s						
SJG	**San Juan**	**1.73**	**90**	Pn	**Pn**	**19 40 03.7**	**-0.2**
SJG				IAML		19 40 29.6	
	comp=N,60nm,0.1s						
SJG				IAML		19 40 30.5	
	comp=N,53nm,0.2s						
IGPR	**InterUniversit**	**1.78**	**94**	Pn	**Pn**	**19 40 05.5**	**+1.0**
IGPR				IAML		19 40 31.7	
	comp=E,49nm,0.3s						
IGPR				IAML		19 40 33.8	
	comp=N,40nm,0.2s						
GCPR	**Guaynabo City**	**1.80**	**83**	⇑*e*P	**Pn**	**19 40 06.2**	**+1.3**
GCPR	**Guaynabo City**	**1.80**	**83**		**Pn**	**19 40 05.3**	**+0.5**
GCPR				IAML		19 40 30.4	
	comp=N,20nm,0.2s						
HUMP	**Col San Antoni**	**2.02**	**89**	⇓*e*P	**Pn**	**19 40 08.1**	**+0.5**
HUMP	**Col San Antoni**	**2.02**	**89**	*e*S	**Sn**	**19 40 32.1**	**-0.4**
HUMP	**Col San Antoni**	**2.02**	**89**		**Pn**	**19 40 08.1**	**+0.5**
HUMP					**Sn**	**19 40 32.1**	**-0.4**
HUMP	**Col San Antoni**	**2.02**	**89**	IAML		19 40 34.2	
	comp=E,34nm,0.2s						
HUMP				IAML		19 40 37.8	
	comp=N,24nm,0.2s						
SDDR	**Presa de Saban**	**3.27**	**286**	Pn	**Pn**	**19 40 25.6**	**+1.3**
SDDR				IAML		19 42 11.6	
	comp=N,18nm,2.5s						
SDDR				IAML		19 42 30.7	
	comp=N,14nm,2.5s						
GRTK	**Grand Turk**	**4.51**	**319**	Pn	**Pn**	**19 40 43.6**	**+2.6**
ILAM	**Ilet Lapin Mar**	**7.57**	**115**	Pn	**Pn**	**19 41 21.8**	**-1.0**

*IPEC **11** 19:39:48.9±0.1,50°.26N×12°.45E,h10km,ML3.1/9,Error ellipse: s-maj=1.0km s-min=1.0km az=1.0*
*BGR **11** 19:39:48.6±0.2,50°.26N×12°.44E,h12km±1km,ML3.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=99.0*
*LDG **11** 19:39:48.8±0.6,50°.26N×12°.44E,h10km,Ml3.6/12,Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*VIE **11** 19:39:48.5±0.3,50°.21N×12°.36E,h10km,mb3.2/13, ml3.3/13,Error ellipse: s-maj=3.9km s-min=2.3km az=93.0*
*PRU **11** 19:39:48.3,50°.26N×12°.46E,h10km,West Bohemia Swarm-felt*
*WBNET **11** 19:39:49.0,50°.27N×12°.44E,h9km,Ml3.3*
*CLL **11** 19:39:49.3±0.3,50°.27N×12°.44E,h8km,ML3.2*
*BNS **11** 19:39:49.9±0.3,50°.27N×12°.37E,h6km,ML2.9*

ISC 11 19:39:48.5±0.7,50°.26N±0°.01×12°.42E±0°.01,h14km±3km, n108,σ1§50/174,5C-7D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.01**	**319**	⇓P	**Pg**	**19 39 50.8**	**-0.3**
LBCW				S	**Sg**	**19 39 52.1**	**-0.8**
NKC	**Novy Kostel**	**0.03**	**146**	*i* Pg	**Pg**	**19 39 50.8**	**-0.3**
NKC				*i* Sg	**Sg**	**19 39 52.1**	**-0.9**
NKC				IAML		19 39 52.5	
	comp=E,25μm,0.3s						
NKC	**Novy Kostel**	**0.03**	**146**	*e*PG	**Pg**	**19 39 50.8**	**-0.3**
NKC				*e*SG	**Sg**	**19 39 52.0**	**-0.9**
	comp=E,8μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**146**	*i* Pg	**Pg**	**19 39 50.8**	**-0.3**
NKC				*i* Sg	**Sg**	**19 39 52.1**	**-0.9**
	comp=E,25μm,0.3s						
NKC	**Novy Kostel**	**0.03**	**146**	⇓P	**Pg**	**19 39 50.8**	**-0.3**
NKC				S	**Sg**	**19 39 52.1**	**-0.9**
VAC	**Vackov**	**0.04**	**227**	*i* Pg	**Pg**	**19 39 51.0**	**-0.2**
VAC				*i* Sg	**Sg**	**19 39 52.3**	**-0.7**
VAC	**Vackov**	**0.04**	**227**	⇓P	**Pg**	**19 39 51.0**	**-0.2**
VAC				S	**Sg**	**19 39 52.3**	**-0.7**
WERN	**Wernitzgruen**	**0.04**	**314**	*i* Pg	**Pg**	**19 39 51.0**	**-0.2**
WERN				*i*		19 39 52.0	
WERN				*i* Sg	**Sg**	**19 39 52.4**	**-0.7**
WERN				IAML		19 39 52.5	
	comp=E,15μm,0.2s						
WERN	**Wernitzgruen**	**0.04**	**314**	*i* Pg	**Pg**	**19 39 51.0**	**-0.2**
WERN				*i* Sg	**Sg**	**19 39 52.4**	**-0.7**
	comp=E,15μm,0.2s						
POCW	**Potky**	**0.06**	**5**	⇓P	**Pg**	**19 39 51.1**	**-0.3**
POCW				S	**Sg**	**19 39 52.6**	**-0.8**
STCW	**Studenec**	**0.06**	**91**	*i* Pg	**Pg**	**19 39 51.0**	**-0.4**
STCW				*i* Sg	**Sg**	**19 39 52.2**	**-1.1**
STCW	**Studenec**	**0.06**	**91**	*i* Pg	**Pg**	**19 39 51.0**	**-0.4**
STCW	**Studenec**			*i* Sg	**Sg**	**19 39 52.2**	**-1.1**
STCW	**Studenec**	**0.06**	**91**	⇑P	**Pg**	**19 39 51.0**	**-0.4**
STCW				S	**Sg**	**19 39 52.2**	**-1.1**
ROHR	**Rohrbach**	**0.07**	**249**	*e*Pg	**Pg**	**19 39 51.3**	**-0.1**
ROHR				*i* Sg	**Sg**	**19 39 52.9**	**-0.5**
ROHR				IAML		19 39 53.0	
	comp=E,23μm,0.2s						
ROHR	**Rohrbach**	**0.07**	**249**	*e*Pg	**Pg**	**19 39 51.3**	**-0.1**
ROHR				*i* Sg	**Sg**	**19 39 52.9**	**-0.5**
	comp=E,23μm,0.2s						
KVC	**Kvetna**	**0.08**	**131**	*i* Pg	**Pg**	**19 39 51.2**	**-0.3**
KVC				*i* Sg	**Sg**	**19 39 52.7**	**-0.9**
KVC	**Kvetna**	**0.08**	**131**	⇑P	**Pg**	**19 39 51.2**	**-0.3**
KVC				S	**Sg**	**19 39 52.7**	**-0.9**
SKC	**Skalna**	**0.10**	**203**	⇑P	**Pg**	**19 39 51.7**	**0.0**
SKC				S	**Sg**	**19 39 53.5**	**-0.3**
KRCW	**Kraslice**	**0.10**	**45**	⇑P	**Pg**	**19 39 51.4**	**-0.4**
KRCW				S	**Sg**	**19 39 53.0**	**-1.0**
GUNZ	**Gunzen**	**0.12**	**331**	*i* Pg	**Pg**	**19 39 51.9**	**-0.1**
GUNZ				*i* Sg	**Sg**	**19 39 53.8**	**-0.5**
GUNZ				IAML		19 39 54.1	
	comp=N,4μm,0.2s						
GUNZ	**Gunzen**	**0.12**	**331**	*i* Pg	**Pg**	**19 39 51.9**	**-0.1**
GUNZ				*i* Sg	**Sg**	**19 39 53.8**	**-0.5**
	comp=N,4μm,0.2s						
KOCW	**Kopaniny**	**0.12**	**272**	⇓P	**Pg**	**19 39 52.0**	**0.0**
KOCW				S	**Sg**	**19 39 54.0**	**-0.2**
MULD	**Muldenberg**	**0.15**	**356**	*i* Pg	**Pg**	**19 39 52.2**	**-0.2**
MULD				*i* Sg	**Sg**	**19 39 54.3**	**-0.7**
MULD				IAML		19 39 54.5	
	comp=E,9μm,0.1s						
MULD	**Muldenberg**	**0.15**	**356**	*i* Pg	**Pg**	**19 39 52.2**	**-0.2**
MULD				*i* Sg	**Sg**	**19 39 54.3**	**-0.7**
	comp=E,9μm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**10**	*i* Pg	**Pg**	**19 39 52.2**	**-0.3**
TANN				*i* Sg	**Sg**	**19 39 54.4**	**-0.8**
TANN				IAML		19 39 54.5	
	comp=E,12μm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**10**	*i* Pg	**Pg**	**19 39 52.2**	**-0.3**
TANN				*i* Sg	**Sg**	**19 39 54.4**	**-0.8**
	comp=E,12μm,0.2s						
TRCW	**Trojmez**	**0.18**	**284**	⇓P	**Pg**	**19 39 53.0**	**+0.2**
TRCW				S	**Sg**	**19 39 55.7**	**0.0**
WERD	**Werda**	**0.20**	**339**	*i* Pg	**Pg**	**19 39 53.1**	**0.0**
WERD				*i* Sg	**Sg**	**19 39 55.8**	**-0.5**
WERD				IAML		19 39 55.9	
	comp=E,2μm,0.3s						
WERD	**Werda**	**0.20**	**339**	*i* Pg	**Pg**	**19 39 53.1**	**0.0**
WERD				*i* Sg	**Sg**	**19 39 55.8**	**-0.5**
	comp=E,2μm,0.3s						
TRIB	**Obertriebel**	**0.20**	**297**	*i* Pg	**Pg**	**19 39 53.3**	**+0.1**
TRIB				*i* Sg	**Sg**	**19 39 56.1**	**-0.2**
TRIB				IAML		19 39 56.4	
	comp=N,2μm,0.2s						
TRIB	**Obertriebel**	**0.20**	**297**	*i* Pg	**Pg**	**19 39 53.3**	**+0.1**
TRIB				*i* Sg	**Sg**	**19 39 56.1**	**-0.2**
	comp=N,2μm,0.2s						
ZHC	**Zelena Hora**	**0.20**	**201**	⇑P	**Pg**	**19 39 53.4**	**+0.2**
ZHC				S	**Sg**	**19 39 56.4**	**+0.1**
VIEL	**Selb-Vielitz**	**0.22**	**250**	*i* Pg	**Pg**	**19 39 53.5**	**+0.2**
VIEL				*i* Sg	**Sg**	**19 39 56.6**	**0.0**
VIEL	**Selb-Vielitz**	**0.22**	**250**	*i* Pg	**Pg**	**19 39 53.5**	**+0.2**
VIEL				*i* Sg	**Sg**	**19 39 56.6**	**0.0**
LACW	**Lazy**	**0.25**	**148**	*i* Pg	**Pg**	**19 39 54.1**	**+0.2**
LACW				*i* Sg	**Sg**	**19 39 57.5**	**0.0**
LACW	**Lazy**	**0.25**	**148**	*i* Pg	**Pg**	**19 39 54.1**	**+0.2**
LACW				*i* Sg	**Sg**	**19 39 57.5**	**0.0**
LACW	**Lazy**	**0.25**	**148**	⇓P	**Pg**	**19 39 54.1**	**+0.2**
LACW				S	**Sg**	**19 39 57.6**	**0.0**
PLN	**Plauen**	**0.28**	**323**	*i* Pg	**Pg**	**19 39 54.6**	**+0.1**
PLN				*e*Sg	**Sg**	**19 39 58.4**	**-0.1**
PLN				IAML		19 39 58.8	
	comp=E,1μm,0.1s						
PLN	**Plauen**	**0.28**	**323**	*i* Pg	**Pg**	**19 39 54.6**	**+0.1**
PLN				*e*Sg	**Sg**	**19 39 58.4**	**-0.1**
	comp=E,1μm,0.1s						
MANZ	**Manzenberg**	**0.34**	**216**	*e*Pg	**Pg**	**19 39 55.8**	**+0.3**
MANZ				*e*Sg	**Sg**	**19 40 00.4**	**+0.2**
SCHF	**Schoenfels**	**0.42**	**359**	*i* Pg	**Pg**	**19 39 56.9**	**0.0**
SCHF				*i* Sg	**Sg**	**19 40 02.4**	**-0.2**
SCHF				IAML		19 40 02.6	
	comp=E,2μm,0.2s						
SCHF	**Schoenfels**	**0.42**	**359**	*i* Pg	**Pg**	**19 39 56.9**	**0.0**
SCHF				*i* Sg	**Sg**	**19 40 02.4**	**-0.2**
	comp=E,2μm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**344**	*i* Pg	**Pg**	**19 39 57.5**	**+0.1**
GRZ1				*i* Sg	**Sg**	**19 40 03.2**	**-0.4**
GRZ1				IAML		19 40 05.6	
	comp=N,933nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.45**	**344**	*i* Pg	**Pg**	**19 39 57.5**	**+0.1**
GRZ1				*i* Sg	**Sg**	**19 40 03.2**	**-0.4**
	comp=N,933nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.51**	**196**	*e*Pg	**Pg**	**19 39 58.8**	**+0.2**
ROTZ				*e*Sg	**Sg**	**19 40 05.7**	**+0.2**
MOX	**Moxa**	**0.64**	**307**	*e*Pg	**Pg**	**19 40 01.3**	**+0.2**
MOX				*e*Sg	**Sg**	**19 40 09.9**	**+0.3**
HSKC	**Hora Svate Kat**	**0.73**	**61**	*e*PG	**Pg**	**19 40 02.6**	**-0.2**
HSKC				*e*SG	**Sg**	**19 40 11.9**	**-0.6**
	comp=N,807nm,0.2s						
FBE	**Freiberg**	**0.89**	**42**	*e*Pg	**Pg**	**19 40 05.6**	**-0.1**
FBE				*e*Sg	**Sg**	**19 40 16.7**	**-0.7**
GRF	**Grafenberg Arr**	**0.96**	**234**	*e*Pg	**Pg**	**19 40 07.2**	**+0.2**
GRF				*e*Sg	**Sg**	**19 40 19.7**	**+0.2**
RICC	**Richard**	**1.11**	**75**	*e*SG	**Sg**	**19 40 23.9**	**-0.5**
	comp=N,470nm,0.5s						
CLL	**Collm**	**1.11**	**19**	*i* Pg	**Pb**	**19 40 09.5**	**+0.1**
CLL				*i* x	x	19 40 11.5	
CLL				*i* x	x	19 40 13.0	
CLL				*i* Sg	**Sg**	**19 40 23.9**	**-0.6**
	comp=Z,284nm,0.5s						
CLL				*i* x	x	19 40 27.6	
CLL	**Collm**	**1.11**	**19**	*e*Pg	**Pb**	**19 40 09.5**	**+0.1**
CLL				*e*Sg	**Sg**	**19 40 23.8**	**-0.6**
BRG	**Berggiesshubel**	**1.15**	**57**	Pg	**Pb**	**19 40 10.2**	**+0.1**
BRG				Sg	**Sb**	**19 40 25.0**	**+0.2**
BRG				Amp		19 40 25.6	
	comp=Z,253nm,0.3s						
BRG	**Berggiesshubel**	**1.15**	**57**	*e*Pg	**Pb**	**19 40 10.2**	**+0.1**
BRG				*e*Sg	**Sb**	**19 40 24.6**	**-0.2**
WET	**Wettzell**	**1.16**	**165**	*e*Pg	**Pb**	**19 40 10.6**	**+0.4**
WET				*e*Sg	**Sb**	**19 40 25.6**	**+0.6**
PRA	**Prague**	**1.31**	**98**	*e*SG	**Sb**	**19 40 29.5**	**+0.1**
	comp=Z,130nm,0.3s						
KHC	**Kasperske Hory**	**1.36**	**146**	*e*PG	**Pn**	**19 40 13.6**	**+0.6**
KHC				*e*SG	**Sb**	**19 40 30.9**	**0.0**
PRU	**Pruhonice**	**1.39**	**100**	*e*SG	**Sb**	**19 40 31.7**	**-0.1**
	comp=Z,160nm,0.5s						
PRU	**Pruhonice**	**1.39**	**100**	*e*Pg	**Pn**	**19 40 14.4**	**+0.9**
PRU				*e*Sg	**Sn**	**19 40 32.8**	**+1.2**
PVCC	**Panska Ves**	**1.40**	**78**	*e*SG	**Sn**	**19 40 33.0**	**+1.2**
GOPC	**GO Pecny, Ondr**	**1.56**	**102**	*e*SG	**Sb**	**19 40 37.6**	**+0.8**
	comp=Z,169nm,0.3s						
GEC2	**GERESS Array S**	**1.64**	**149**	*e*Pg	**Pb**	**19 40 18.8**	**+0.2**
GEC2				*e*Sg	**Sb**	**19 40 39.7**	**+0.5**
TREC	**Trest**	**2.21**	**115**	*e*SG	**Sb**	**19 40 56.8**	**+1.4**
	comp=Z,52nm,0.3s						
UPC	**Upice**	**2.31**	**82**	*e*SG	**Sb**	**19 41 00.6**	**+2.3**
DPC	**Dobruska-Polom**	**2.50**	**86**	*e*SG	**Sb**	**19 41 06.1**	**+2.3**
BIOA	**Bad Ischl, Aus**	**2.69**	**162**	*e*Sg	**Sb**	**19 41 12.6**	**+3.3**
	comp=Z,37nm,0.3s						
MOA	**Molln**	**2.70**	**153**	*e*Sg	**Sb**	**19 41 12.8**	**+3.3**
	comp=Z,36nm,0.3s						
KRLC	**Kraliky**	**2.81**	**92**	*e*SG	**Sg**	**19 41 16.7**	**-2.0**
	comp=Z,42nm,0.5s						
KRUC	**Moravsky**	**2.85**	**113**	*e*Sg	**Sg**	**19 41 17.5**	**-2.4**
	comp=Z,106nm,0.6s,baz=297						
VRAC	**Vranov**	**2.87**	**108**	*e*Sg	**Sg**	**19 41 18.0**	**-2.6**
	comp=Z,78nm,0.4s,baz=291						
RETA	**Reutte**	**2.98**	**202**	*e*Pg	**Pg**	**19 40 44.6**	**-1.0**
	comp=Z,9.0nm,0.3s						
RETA				*e*Sg	**Sg**	**19 41 24.4**	**+0.1**
	comp=Z,13nm,0.3s						
WTTA	**Wattenberg**	**3.04**	**190**	*i* Sg	**Sg**	**19 41 26.9**	**+0.7**
	comp=Z,35nm,0.5s						
MOTA	**Moosalm**	**3.04**	**197**	*e*Pg	**Pg**	**19 40 46.9**	**+0.1**
	comp=Z,9.3nm,0.3s						
MOTA				Sg	**Sg**	**19 41 27.2**	**+1.0**
	comp=Z,19nm,0.3s						
SQTA	**Sankt Quirin**	**3.15**	**195**	*i* Sg	**Sg**	**19 41 28.6**	**-0.8**
	comp=Z,29nm,0.6s						
KBA	**Koelnbreinsper**	**3.24**	**169**	Sg	**Sg**	**19 41 31.5**	**-1.1**
	comp=Z,35nm,0.6s						
CONA	**Conrad Observa**	**3.25**	**135**	*e*Sg	**Sg**	**19 41 31.6**	**-1.3**
	comp=Z,50nm,0.4s						
MORC	**Moravsky Berou**	**3.34**	**96**	*e*Sg	**Sg**	**19 41 32.8**	**-2.9**
	baz=280						
FETA	**Feichten**	**3.43**	**200**	*e*Sg	**Sg**	**19 41 38.1**	**-0.5**
	comp=Z,6.6nm,0.4s						
ABTA	**Abfaltersbach**	**3.52**	**179**	*e*Sg	**Sg**	**19 41 41.1**	**-0.3**
	comp=Z,38nm,0.5

TAW	baz=252			eS	Sb	19 46 25.0	-1.1
LAY	Lan-yu baz=159	0.51	165	iP	Pb	19 46 19.8	+0.6
LAY	baz=159			eS	Sb	19 46 27.1	+0.9
TAWH	Dawu Township baz=251	0.52	248	⇓iP	Pb	19 46 18.9	-0.5
TAWH	baz=251			S	Sb	19 46 25.4	-1.1
EAST	Anshuo baz=248	0.54	254	⇓iP	Pb	19 46 19.1	-0.7
EAST	baz=248			iS	Sb	19 46 26.0	-1.2
LYUB	Lan-yu baz=158	0.56	163	⇓P	Pb	19 46 19.2	-0.7
LYUB	baz=158			S	Sb	19 46 28.3	+0.8
CHKT	Chengkung baz=11	0.56	356	iP	Pb	19 46 19.6	-0.5
CHKT	baz=11			S	Sb	19 46 28.1	+0.3
ECS	Chishang baz=354	0.58	342	P	Pb	19 46 20.8	+0.3
ECS	baz=354			eS	Sb	19 46 29.2	+0.8
EHD	Haiduan baz=334	0.64	343	P	Pb	19 46 20.6	-0.8
EHD	baz=334			S	Sb	19 46 30.4	+0.5
SLIU	Shizi baz=235	0.65	241	⇑P	Pb	19 46 20.8	-0.8
SLIU	baz=235			S	Sb	19 46 28.5	-1.8
CHKH	Chenggong baz=16	0.65	359	P	Pb	19 46 21.1	-0.5
CHKH	baz=16			eS	Sb	19 46 30.9	+0.6
FULB	Fuli baz=341	0.67	351	P	Pb	19 46 21.4	-0.5
FULB	baz=341			S	Sb	19 46 31.5	+0.7
MASBT	Mashibuluo baz=275	0.72	276	⇓P	Pb	19 46 21.8	-0.9
MASBT	baz=275			eS	Sb	19 46 30.3	-2.0
SMST	Manzhou Townsh baz=220	0.74	226	P	Pb	19 46 22.6	-0.5
SMST	baz=220			eS	Sb	19 46 32.8	+0.1
ELDTW	Lidau baz=336	0.74	331	iP	Pb	19 46 21.9	-1.3
ELDTW	baz=336			S	Sb	19 46 32.5	-0.4
SCZT	Fangliau baz=254	0.75	258	⇓P	Pb	19 46 22.4	-0.9
SCZT	baz=254			S	Sb	19 46 31.5	-1.5
SSD	Sandimen baz=291	0.75	286	⇓iP	Pb	19 46 21.9	-1.3
SSD	baz=291			eS	Sb	19 46 31.4	-1.6
ECBN	Changbin baz=18	0.78	3	P	Pn	19 46 24.3	-0.3
ECBN	baz=18			S	Sb	19 46 34.7	+0.9
EYUL	Yuli baz=345	0.81	354	P	Pb	19 46 24.3	+0.1
EYUL	baz=345			eS	Sb	19 46 35.5	+0.7
TWKBT	Hengchun baz=207	0.81	223	P	Pb	19 46 23.8	-0.5
TWKBT	baz=207			S	Sb	19 46 35.0	+0.2
TWK1	Hengchun baz=207	0.81	224	iP	Pb	19 46 23.8	-0.6
TWK1	baz=207			S	Sb	19 46 34.4	-0.4
HEN	Hengchun baz=224	0.82	230	iP	Pb	19 46 23.9	-0.4
HEN	baz=224			S	Sb	19 46 35.0	+0.1
TWF1	Yuli baz=345	0.82	353	iP	Pb	19 46 23.8	-0.6
TWF1	baz=345			eS	Sb	19 46 35.2	+0.2
SLGT	Liugui baz=300	0.84	303	P	Pb	19 46 24.0	-0.8
SLGT	baz=300			eS	Sn	19 46 36.6	-0.7
TSPT	Pingtung City baz=279	0.86	280	P	Pb	19 46 24.7	-0.3
TSPT	baz=279			eS	Sn	19 46 37.4	-0.2
YULB	Yu-li	0.86	353	P	Pb	19 46 24.6	-0.5
YULB	Yu-li baz=345	0.86	353	P	Pb	19 46 23.6	-1.5
YULB	baz=345			eS	Sb	19 46 35.4	-0.8
STYH	Taoyuan baz=320	0.86	317	P	Pb	19 46 24.3	-0.8
STYH	baz=320			eS	Sb	19 46 35.4	-0.8
STYT	Tauyuan baz=319	0.87	316	⇓iP	Pb	19 46 24.3	-1.0
STYT	baz=319			eS	Sb	19 46 35.7	-0.8
SGLT	Jiouru baz=286	0.87	283	iP	Pb	19 46 25.3	+0.1
SGLT	baz=286			eS	Sn	19 46 37.5	-0.5
SCST	Cishan baz=289	0.92	292	P	Pb	19 46 25.8	-0.2
SCST	baz=289			eS	Sn	19 46 38.5	-0.6
SGST	Jiashian baz=305	0.94	306	iP	Pb	19 46 25.2	-1.2
SGST	baz=305			eS	Sb	19 46 38.4	0.0
HGSD	Ruisui baz=19	0.95	1	P	Pb	19 46 26.3	-0.4
HGSD	baz=19			eS	Sn	19 46 41.8	+1.8
EHYH	Wanrong baz=346	0.95	356	P	Pb	19 46 26.5	-0.3
EHYH	baz=346			eS	Sn	19 46 40.2	+0.1
EHY	Hungye baz=347	0.97	355	iP	Pb	19 46 26.0	-1.0
EHY	baz=347			eS	Sb	19 46 38.6	-0.7
TWP	Hsiaoliuchiu baz=257	0.99	259	iP	Pn	19 46 29.7	+2.1
TWP	baz=257			eS	Sn	19 46 44.8	+3.9
SNJT	Kaohsiung City baz=282	1.02	282	P	Pn	19 46 28.5	+0.6
SNJT	baz=282			eS	Sn	19 46 43.8	+2.2
WTP	Ta-pu baz=326	1.02	314	⇓iP	Pb	19 46 27.6	-0.3
WTP	baz=326			S	Sn	19 46 42.3	+0.6
CHN1	Nanshi baz=318	1.04	309	iP	Pn	19 46 28.3	+0.1
CHN1	baz=318			iS	Sn	19 46 44.1	+1.9
TPUB	Ta-pu	1.05	317	P	Pb	19 46 28.0	-0.3
TPUB	Ta-pu baz=327	1.05	317	P	Pb	19 46 27.8	-0.5
TPUB	baz=327			eS	Sn	19 46 42.2	-0.2
SNST	Tainan City baz=322	1.08	309	P	Pb	19 46 29.1	+0.2
SNST	baz=322			S	Sn	19 46 44.0	+0.7
SHHT	Tainan City baz=297	1.09	296	⇑P	Pb	19 46 31.0	+1.9
SHHT	baz=297			eS	Sn	19 46 44.8	+1.3
CHN3	Shinhua baz=300	1.10	299	iP	Pb	19 46 31.3	+2.0
CHN3	baz=300			S	Sn	19 46 45.7	+2.0
CHN4	Tsaushan baz=327	1.11	317	iP	Pb	19 46 29.2	-0.1
CHN4	baz=327			S	Sn	19 46 44.8	+0.9
ALS	Alishan baz=334	1.12	330	⇓iP	Pn	19 46 28.9	-0.7
ALS	baz=334			eS	Sb	19 46 43.7	-0.2
TWK	Hsinying baz=325	1.12	311	⇓iP	Pn	19 46 29.4	0.0
TWK	baz=325			iS	Sn	19 46 46.5	+2.2
EGFH	Guangfu baz=352	1.13	1	P	Pn	19 46 29.1	-0.3
EGFH	baz=352			eS	Sb	19 46 43.4	-0.4
WCKO	Fanlu baz=330	1.17	321	P	Pn	19 46 29.5	-0.5
WCKO	baz=330			eS	Sn	19 46 46.3	+1.0
WARBT	Fenglin Townsh baz=352	1.18	359	P	Pn	19 46 29.6	-0.6
WARBT	baz=352			eS	Sb	19 46 43.9	-1.4
SSHA	Shanhua baz=300	1.20	300	P	Pb	19 46 31.2	+0.4
SSHA	baz=300			eS	Sn	19 46 47.8	+1.8
TAI	Tainan baz=292	1.21	292	eP	Pb	19 46 32.0	+0.9
TAI	baz=292			S	Sn	19 46 48.8	+2.5
VWDT	VWDT baz=8.0	1.24	348	P	Pn	19 46 30.9	-0.1
VWDT	baz=8.0			eS	Sn	19 46 46.4	-0.6
SHUL	Shoufeng baz=355	1.25	6	P	Pb	19 46 31.9	+0.1
SHUL	baz=355			S	Sb	19 46 49.1	+1.7
WHYT	Xinyi Township baz=349	1.26	336	P	Pb	19 46 32.2	+0.2
WHYT	baz=349			eS	Sb	19 46 48.2	+0.4
ESL	Shilin baz=355	1.27	1	iP	Pn	19 46 31.7	+0.3
ESL	baz=355			eS	Sn	19 46 46.2	-1.7
SCLT	Jiali baz=300	1.29	300	P	Pb	19 46 32.6	+0.2
SCLT	baz=300			iS	Sb	19 46 50.5	+2.0
SSLB	Suanglung	1.31	341	P	Pn	19 46 32.3	+0.2
SSLB	Suanglung baz=355	1.31	341	P	Pn	19 46 32.1	0.0
SSLB	baz=355			eS	Sb	19 46 49.4	+0.1
ICHU	Yijhu baz=309	1.33	308	P	Pb	19 46 33.0	-0.1
ICHU	baz=309			S	Sb	19 46 51.0	+1.4
TEYL	Yanliau Villag baz=23	1.34	7	eP	Pn	19 46 32.8	+0.4
TEYL	baz=23			eS	Sb	19 46 51.8	+1.9
TSCK	Chigu Township baz=297	1.36	297	P	Pn	19 46 33.0	+0.3
TSCK	baz=297			S	Sb	19 46 51.1	+0.4
CHN8	Yiju baz=307	1.37	306	P	Pb	19 46 33.8	0.0
CHN8	baz=307			iS	Sb	19 46 52.7	+1.9
WGK	Gukeng baz=329	1.39	326	iP	Pb	19 46 34.8	+0.7
WGK	baz=329			eS	Sb	19 46 52.8	+1.5
WDLH	Douliu baz=328	1.40	325	P	Pb	19 46 34.5	+0.2
WDLH	baz=328			S	Sb	19 46 53.9	+2.2
SMLT	Sun Moon Lake baz=345	1.42	341	iP	Pb	19 46 35.1	+0.4
SMLT	baz=345			S	Sb	19 46 54.0	+1.6
ETM	Tongmen baz=8.0	1.42	3	P	Pn	19 46 33.5	0.0
ETM	baz=8.0			eS	Sn	19 46 50.1	-1.6
WJS	Zhushan baz=337	1.43	334	eP	Pb	19 46 35.0	+0.3
WJS	baz=337			eS	Sb	19 46 53.8	+1.3
OWD	Renai baz=8.0	1.43	351	P	Pn	19 46 34.0	+0.3
OWD	baz=8.0			eS	Sn	19 46 51.6	-0.3
HWA	Hwalien baz=23	1.45	7	eP	Pn	19 46 34.2	+0.4
HWA	baz=23			eS	Sb	19 46 53.4	+0.4
TYC	Yuchr baz=344	1.45	340	iP	Pb	19 46 35.3	+0.1
TYC	baz=344			S	Sb	19 46 55.1	+1.8
WSL	Shuilin Townsh baz=295	1.47	312	P	Pn	19 46 34.7	+0.5
WSL	baz=295			iS	Sb	19 46 55.0	+1.4
WUSB	Renai baz=8.0	1.47	349	P	Pn	19 46 34.7	+0.3
WUSB	baz=8.0			eS	Sb	19 46 55.6	+1.6
LXIB	Xiulin Townshi baz=5.0	1.48	0	P	Pn	19 46 33.3	-1.1
LXIB	baz=5.0			eS	Sn	19 46 52.9	-0.3
WTK	Tuku baz=322	1.48	321	P	Pb	19 46 35.4	-0.3
WTK	baz=322			S	Sb	19 46 55.8	+1.7
WNT	Mingjian baz=337	1.49	334	iP	Pb	19 46 36.6	+0.7
WNT	baz=337			iS	Sb	19 46 57.1	+2.7
WNT1	Nantou City baz=337	1.52	334	P	Pb	19 46 36.8	+0.4
WNT1	baz=337			eS	Sb	19 46 57.3	+2.1
WPL	Puli Township baz=2.0	1.53	344	P	Pb	19 46 37.1	+0.6
WPL	baz=2.0			eS	Sb	19 46 56.8	+1.4
CHGB	Renai baz=10.0	1.53	352	P	Pn	19 46 35.7	+0.4
CHGB	baz=10.0			eS	Sb	19 46 56.7	+0.9
TWD	Chiawan baz=359	1.54	6	P	Pn	19 46 35.1	-0.1
TWD	baz=359			eS	Sn	19 46 54.9	+0.3
WSF	Szhu baz=316	1.55	315	iP	Pn	19 46 35.9	+0.6
WSF	baz=316			iS	Sb	19 46 56.8	+0.8
DPDB	Guoxing baz=2.0	1.56	343	P	Pn	19 46 36.5	-0.5
DPDB	baz=2.0			eS	Sb	19 46 57.3	+1.1
WCS	Beigang Elemen baz=2.0	1.58	343	P	Pb	19 46 37.3	-0.1
WCS	baz=2.0			eS	Sb	19 46 58.9	+2.0
WHF	Hehuan Shan baz=13	1.61	355	P	Pn	19 46 36.6	+0.2
WHF	baz=13			S	Sn	19 46 56.6	-0.2
WYL	Yuanlin Townsh baz=335	1.61	332	eP	Pb	19 46 38.3	+0.4
WYL	baz=335			eS	Sb	19 46 59.8	+2.0
WWF	Wufeng baz=340	1.64	337	P	Pb	19 46 38.0	-0.4
WWF	baz=340			eS	Sb	19 46 59.9	+1.4
NACB	Ninganchiao	1.64	6	P	Pb	19 46 37.5	-0.9
NACB	Ninganchiao baz=357	1.64	6	P	Pn	19 46 35.9	-0.6
NACB	baz=357			eS	Sn	19 46 56.5	-0.4
WRL	Guolierlin Hig baz=328	1.66	325	P	Pn	19 46 37.3	+0.6
WRL	baz=328			S	Sb	19 46 59.6	+0.5
RLNB	Erlin baz=327	1.66	325	eP	Pb	19 46 38.0	-0.7
RLNB	baz=327			S	Sb	19 47 00.1	+0.9
FUSS	Fushou baz=10.0	1.71	355	P	Pn	19 46 38.3	+0.6
FUSS	baz=10.0			S	Sb	19 47 01.5	+0.6
TWT	Tachien baz=356	1.72	353	iP	Pb	19 46 39.1	-0.8
TWT	baz=356			S	Sb	19 47 01.7	+0.5
TDCB	Techi baz=357	1.72	352	P	Pb	19 46 39.5	-0.5
TDCB	baz=357			eS	Sn	19 46 59.9	+0.6
WCHH	Zhanghua baz=336	1.72	333	P	Pb	19 46 39.2	-0.6
WCHH	baz=336			eS	Sb	19 47 01.6	+0.5
TCU	Taichung baz=341	1.74	337	iP	Pb	19 46 39.9	-0.2
TCU	baz=341			eS	Sb	19 47 01.8	+0.3
WDGT	Dungji baz=294	1.77	294	iP	Pn	19 46 38.3	0.0
WDGT	baz=294			iS	Sn	19 46 59.3	-0.9
EOS4	EOS4 baz=42	1.78	28	eP	Pn	19 46 38.7	+0.6
EOS4	baz=42			eS	Sn	19 46 59.7	-0.3
WHP	Taichung City baz=2.0	1.79	346	P	Pb	19 46 40.9	0.0
WHP	baz=2.0			S	Sb	19 47 03.9	+1.0
NNSB	Datong baz=15	1.88	359	P	Pn	19 46 40.6	+0.7
NNSB	baz=15			eS	Sn	19 47 03.8	+0.6
NNS	Nan Shan baz=15	1.90	359	iP	Pb	19 46 42.7	-0.1
NNS	baz=15			S	Sn	19 47 04.5	+1.1
TWQ1	Liyutan baz=345	1.90	342	iP	Pb	19 46 41.8	-1.0
TWQ1	baz=345			iS	Sb	19 47 06.5	+0.4
ENA	Nanau baz=358	1.91	9	iP	Pn	19 46 41.4	+1.2
ENA	baz=358			eS	Sn	19 47 03.5	-0.1
EWUT	Wuta baz=2.0	1.93	10	P	Pn	19 46 41.0	+0.5
EWUT	baz=2.0			S	Sb	19 47 05.6	-1.3
EOS3	EOS3 baz=38	1.93	25	eP	Pn	19 46 41.3	+0.9
EOS3	baz=38			eS	Sn	19 47 04.6	+0.7
VCHM	Qimei baz=290	1.95	290	P	Pn	19 46 40.5	-0.2
VCHM	baz=290			S	Sn	19 47 03.9	-0.7
PHUB	P'eng-hu baz=299	1.95	300	P	Pn	19 46 40.6	-0.2
PHUB	baz=299			S	Sn	19 47 03.7	-1.0
LATG	Datong baz=8.0	1.99	3	P	Pb	19 46 43.2	-1.2
LATG	baz=8.0			eS	Sn	19 47 06.1	+0.2
PNG	Penghu baz=301	1.99	301	iP	Pn	19 46 41.1	-0.2
PNG	baz=301			S	Sn	19 47 05.5	-0.2
EOS2	EOS2 baz=23	2.02	22	P	Pb	19 46 43.8	-1.0
EOS2	baz=23			eS	Sn	19 47 06.1	-0.1
NDT	Datong Townshi baz=7.0	2.06	3	P	Pb	19 46 44.2	-1.4
NDT	baz=7.0			eS	Sb	19 47 09.2	-1.5
ESAO	Su ao baz=3.0	2.07	11	eP	Pn	19 46 43.5	+1.1
ESAO	baz=3.0			eS	Sn	19 47 08.6	+1.0
NMLH	Miaoli baz=346	2.07	344	P	Pb	19 46 44.4	-1.3
NMLH	baz=346			S	Sb	19 47 10.8	-0.3
ENTT	Nioudou baz=9.0	2.10	4	iP	Pb	19 46 44.6	-1.6
ENTT	baz=9.0			eS	Sb	19 47 10.0	+1.6
TWC	Suao baz=3.0	2.10	11	eP	Pn	19 46 43.8	+0.9
TWC	baz=3.0			eS	Sn	19 47 09.4	+1.0
NFF	Wufeng Townshi baz=10.0	2.10	353	P	Pb	19 46 45.1	-1.3
NFF	baz=10.0			eS	Sb	19 47 10.8	-1.2
NDS	Dongshan baz=1.0	2.11	8	eP	Pn	19 46 44.6	+1.7
NDS	baz=1.0			eS	Sn	19 47 08.5	0.0
NSTT	Nanjuang baz=336	2.12	350	iP	Pb	19 46 45.9	-0.7
NSTT	baz=336			iS	Sb	19 47 12.7	+0.3
YHNB	Yeheng	2.12	359	P	Pn	19 46 45.3	-1.4
YHNB	Yeheng baz=15	2.12	359	P	Pn	19 46 44.7	+1.5
YHNB	baz=15			eS	Sn	19 47 10.3	+1.3
LIOB	Emei baz=353	2.13	350	P	Pn	19 46 44.9	+1.6
LIOB	baz=353			eS	Sb	19 47 11.5	-1.2
NSK	Sanguang baz=16	2.13	359	iP	Pb	19 46 45.6	-1.2
NSK	baz=16			iS	Sb	19 47 11.4	-1.5
TWE	Neicheng baz=11	2.19	6	P	Pn	19 46 45.5	+1.4
TWE	baz=11			eS	Sn	19 47 11.0	+0.5
FUSB	Fushanzhiwuyua baz=9.0	2.22	4	P	Pb	19 46 46.5	-1.9
FUSB	baz=9.0			eS	Sn	19 47 11.5	+0.2
NWLT	Wulai baz=7.0	2.23	2	P	Pn	19 46 46.5	+1.9
NWLT	baz=7.0			eS	Sn	19 47 12.7	+1.0
JYNG	Yonagunijimaku	2.37	36	P	Pn	19 46 47.6	+1.1
JYNG				eS	Sn	19 47 14.8	-0.2
TIPB	Shuangxi baz=2.0	2.45	9	P	Pn	19 46 49.1	+1.4
TIPB	baz=2.0			eS	Sn	19 47 17.2	0.0
SXI1	Grass Mountain baz=4.0	2.58	9	P	Pb	19 46 52.3	-2.2
SXI1	baz=4.0			S	Sb	19 47 23.9	-1.9
YM01	YM01 baz=7.0	2.60	3	eP	Pb	19 46 52.5	-2.3
YM01	baz=7.0			S	Sb	19 47 21.8	+1.0
HATJ	Hateruma jima	2.67	55	eS	Sn	19 47 23.3	+0.9
IRIF	Iriomote-Funau	2.78	50	eP	Pn	19 46 53.0	+0.8
IRIF				eS	Sn	19 47 27.0	+1.9
VWUC	VWUC baz=322	3.03	324	P	Pn	19 46 55.7	+0.1
VWUC	baz=322			eS	Sn	19 47 30.5	-0.8
JIJ	Ishigaki jima	3.10	54	eP	Pn	19 46 57.4	+0.9
JIJ				eS	Sn	19 47 31.6	-1.3
PTMZ	Houxiangcun baz=319	3.26	320	P	Pn	19 46 58.8	+0.1
PTMZ	baz=319			S	Sn	19 47 36.3	-0.6
KNM	Kinmen baz=301	3.31	305	P	Pn	19 47 01.2	+1.7

KNM				*e*S		**Sn**	**19 47 39.2**	**+0.9**
	baz=301								
JISG	**Ishigakijimahi**	**3.35**	**52**	P		**Pn**	**19 47 00.8**	**+0.7**
JISG				S		**Sn**	**19 47 38.5**	**-0.7**
KNMB	**Chin-men Tao**	**3.37**	**305**	P		**Pn**	**19 47 00.3**	**-0.1**
	baz=302								
KNMB				*e*S		**Sn**	**19 47 38.7**	**-1.0**
	baz=302								
ZPLA	**Ao Xicun**	**3.64**	**293**	P		**Pn**	**19 47 03.8**	**-0.2**
	baz=293								
ZPLA				*e*S		**Sn**	**19 47 44.9**	**-1.5**
	baz=293								
MATB	**Ma-tsu**	**3.84**	**340**	*e*P		**Pn**	**19 47 07.0**	**+0.3**
	baz=337								
MATB				*e*S		**Sn**	**19 47 50.1**	**-1.2**
	baz=337								
DSXP	**Dongshan**	**3.85**	**288**	P		**Pn**	**19 47 06.4**	**-0.5**
	baz=288								
DSXP				*e*S		**Sn**	**19 47 48.4**	**-3.1**
	baz=288								
MHZQ	**Yeshan**	**4.16**	**329**	P		**Pn**	**19 47 12.3**	**+1.1**
	baz=326								
MHZQ				S		**Sn**	**19 47 58.8**	**-0.4**
	baz=326								

IDC ***11*** *19:47:22.0±1.2, 10°.96N×126°.83E, h0km, mb3.8/11, mbtmp3.8/11, Error ellipse: s-maj=62.1km s-min=16.9km az=72.0*
NEIC ***11*** *19:47:24.9±0.4, 10°.7N±0°.1×126°.3E±0°.3, h10km±2km, mb4.5/8, Error ellipse: s-maj=55.4km s-min=17.1km az=86.0*
ISC 11 19:47:26.2±3.2, 10°.74N±0°.06×126°.32E±0°.08, h23km±22km, n41, σ1§17/41, mb3.9/13, 6C-8D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**1.38**	**288**	⇓*e*P	**Pn**	**19 47 49.0**	**-1.0**
PLP				*e*S	**Sn**	**19 48 06.5**	**-1.1**
LLP	**Lapu-Lapu**	**2.35**	**260**	⇑*e*P	**Pn**	**19 48 03.4**	**-0.1**
LLP				*i* S	**Sn**	**19 48 31.8**	**+0.2**
BIPH	**Bislig**	**2.54**	**179**	⇑*e*P	**Pn**	**19 48 06.9**	**+0.8**
BIPH				*e*S	**Sn**	**19 48 35.6**	**-0.7**
TBP	**Tagbilaran**	**2.63**	**247**	⇓*e*P	**Pn**	**19 48 07.3**	**+0.1**
TBP				*i* S	**Sn**	**19 48 40.4**	**+1.9**
CGP	**Cagayan de Oro**	**2.78**	**215**	⇓*e*P	**Pn**	**19 48 09.8**	**+0.5**
CGP				*e*S	**Sn**	**19 48 40.7**	**-1.5**
MMPH	**Masbate**	**3.09**	**302**	⇑*i*P	Pb	19 48 37.3	+17
MMPH				*i* S	**Sb**	**19 48 56.5**	**-1.2**
BUKP	**Musuan**	**3.10**	**204**	⇓*e*P	**Pn**	**19 48 16.6**	**+2.8**
SNPH	**Sibulan**	**3.34**	**246**	⇓*e*P	**Pn**	**19 48 17.8**	**+0.7**
SNPH				*e*S	**Sn**	**19 48 54.6**	**-1.4**
RCP	**Roxas**	**3.60**	**283**	⇑*e*P	**Pn**	**19 48 22.2**	**+1.6**
RCP				*e*S	**Sn**	**19 49 02.3**	**-0.1**
DCPH	**Dipolog City**	**3.62**	**234**	⇑*e*P	**Pn**	**19 48 20.9**	**-0.1**
DCPH				*e*S	**Sn**	**19 49 01.8**	**-1.3**
CNOP	**Candoni, Negro**	**3.73**	**256**	⇓*e*P	**Pn**	**19 48 23.4**	**+1.0**
IBAJ	**Ibajay, Aklan**	**4.21**	**285**	⇑*e*P	**Pn**	**19 48 31.7**	**+2.8**
JAP	**San Jose, Anti**	**4.29**	**271**	⇓*e*P	**Pn**	**19 48 32.8**	**+2.6**
LQP	**Lukban**	**5.75**	**306**	⇓*e*P	Pn	19 48 40.1	-10
BATI	**Baumata**	**20.98**	**187**	P	Pn	19 52 10.7	+0.1
	9.5nm,0.4s,baz=342,slow=2.5,SNR=5.7 9.5nm,0.4s						
MTN	**Manton Dam**	**23.91**	**168**	P	**P**	**19 52 37.9**	**-0.6**
MTN				IAmb	IAmb	19 52 57.9	
	comp=Z,9.3nm,0.8s						
CMAR	**Chiang Mai Arr**	**27.55**	**289**	P	**P**	**19 53 14.1**	**+2.4**
	comp=Z,0.2nm,0.5s,baz=88,slow=7.7,SNR=2.3 comp=Z,0.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**28.66**	**181**	P	**P**	**19 53 21.1**	**-0.3**
WRA	**Warramunga Arr**	**31.50**	**165**	P	**P**	**19 53 45.9**	**-0.6**
	comp=Z,0.4nm,0.8s,baz=327,slow=9.8,SNR=1.3 comp=Z,0.4nm,0.8s						
MBWA	**Marble Bar**	**32.35**	**192**	P	**P**	**19 53 53.8**	**-0.3**
PSA00	**Pilbara Seismi**	**32.73**	**191**	P	**P**	**19 53 57.0**	**-0.4**
ASAR	**Alice Springs**	**34.99**	**168**	P	**P**	**19 54 17.2**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=341,slow=7.4,SNR=21 comp=Z,0.5nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**39.75**	**74**	T	T	20 37 47.6	
	baz=265,slow=75,SNR=12						
H11S1	**WAKE ISLAND Hy**	**39.76**	**74**	T	T	20 37 46.3	
	baz=265,slow=75,SNR=6.3						
H11S2	**WAKE ISLAND Hy**	**39.76**	**74**	T	T	20 37 49.3	
	baz=265,slow=75,SNR=9.5						
H11N1	**WAKE ISLAND Hy**	**40.07**	**72**	T	T	20 38 08.7	
	baz=265,slow=75,SNR=49						
H11N2	**WAKE ISLAND Hy**	**40.07**	**72**	T	T	20 38 10.3	
	baz=265,slow=75,SNR=22						
H11N3	**WAKE ISLAND Hy**	**40.09**	**72**	T	T	20 38 10.1	
	baz=265,slow=75,SNR=32						
SONM	**Songino Array**	**40.60**	**339**	P	**P**	**19 55 03.2**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=151,slow=9.5,SNR=1.8 comp=Z,0.2nm,0.4s						
FORT	**Forrest**	**41.31**	**178**	P	**P**	**19 55 10.4**	**+0.2**
NWAO	**Narrogin (SRO)**	**44.28**	**191**	P	**P**	**19 55 34.0**	**-0.2**
NWAO				IAmb	IAmb	19 55 35.7	
	comp=Z,7.8nm,1.0s						
BBOO	**Buckleboo**	**44.29**	**168**	P	**P**	**19 55 34.1**	**-0.2**
BBOO				IAmb	IAmb	19 55 46.0	
	comp=Z,7.4nm,1.1s						
MKAR	**Makanchi Array**	**51.69**	**323**	P	**P**	**19 56 31.6**	**+0.1**
MKAR	**Makanchi Array**	**51.69**	**323**	P	**P**	**19 56 31.7**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=125,slow=7.9,SNR=11 comp=Z,0.5nm,0.3s						
MAKZ	**Makanchi**	**51.88**	**322**	P	**P**	**19 56 33.3**	**+0.4**
ZALV	**Zalesovo Beam**	**54.24**	**331**	P	**P**	**19 56 50.1**	**0.0**
ZALV	**Zalesovo Beam**	**54.24**	**331**	P	**P**	**19 56 49.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=120,slow=5.2,SNR=3.0 comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**55.72**	**325**	P	**P**	**19 57 01.1**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=124,slow=6.8,SNR=14 comp=Z,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**83.77**	**340**	P	**P**	**19 59 52.6**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=81,slow=7.5,SNR=4.1 comp=Z,1.9nm,1.0s						
FINES	**FINESS Array B**	**85.50**	**332**	P	**P**	**20 00 02.2**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=77,slow=7.3,SNR=2.1 comp=Z,0.5nm,0.5s						
AKASG	**Malin Array Be**	**86.23**	**321**	P	**P**	**20 00 06.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=81,slow=1.2,SNR=2.5 comp=Z,0.2nm,0.3s						

IDC 11 19:57:51.9±1.5, 26°.15S×68°.66E, h0km, mb3.7/5, mbtmp3.7/5, MS3.6/2, Error ellipse: s-maj=49.5km s-min=31.3km az=80.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.76**	**12**	T	T	20 21 22.9	
	baz=192,slow=76,SNR=8.3						
H08S2	**Diego Garcia H**	**18.76**	**12**	T	T	20 21 21.7	
	baz=192,slow=76,SNR=8.6						
H08S3	**Diego Garcia H**	**18.78**	**12**	T	T	20 21 24.6	
	baz=192,slow=76,SNR=8.8						
H04N2	**CROZET ISLANDS**	**24.08**	**210**	T	T	20 28 08.5	
	baz=39,slow=74,SNR=196						
H04N1	**CROZET ISLANDS**	**24.08**	**210**	T	T	20 28 12.6	
	baz=39,slow=74,SNR=194						
H04N3	**CROZET ISLANDS**	**24.09**	**210**	T	T	20 28 19.2	
	baz=39,slow=74,SNR=307						
ASAR	**Alice Springs**	**58.66**	**103**	P	P	20 07 51.5	0.0
	0.5nm,0.5s,baz=253,slow=6.2,SNR=9.0						
ASAR				LR	LR	20 28 14.7	
	comp=Z,110nm,21.9s,baz=85,slow=31 0.5nm,0.5s						
WRA	**Warramunga Arr**	**60.21**	**99**	P	P	20 08 02.1	0.0
	0.8nm,0.8s,baz=251,slow=7.0,SNR=2.8 0.8nm,0.8s						
QSPA	**South Pole Qui**	**63.98**	**180**	P	P	20 08 27.0	0.0
	0.8nm,0.7s,baz=278,slow=2.6,SNR=5.7 0.8nm,0.7s						
GNI	**Garni**	**69.62**	**341**	LR	LR	20 38 00.2	
	comp=Z,20nm,19.8s,baz=22,slow=35						
MKAR	**Makanchi Array**	**73.64**	**10**	P	P	20 09 26.6	-0.4
	0.7nm,0.8s,baz=196,slow=7.6,SNR=3.6 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**76.93**	**6**	P	P	20 09 46.3	+0.5
	0.2nm,0.5s,baz=203,slow=6.7,SNR=3.8 0.2nm,0.5s						

HVO ***11*** *20:10:03.5±1.1, 18°.75N±0°.08×156°.82W±0°.05, h18km±7km, Error ellipse: s-maj=12.0km s-min=6.2km az=198.0*

NEIC 11 20:09:59.5±2.1, 18°.89N±0°.05×156°.79W±0°.02, h10km±2km, ML3.6/38, ML3.6/47(HVO), Error ellipse: s-maj=9.4km s-min=3.0km az=197.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPH	**Captain Cook**	**1.02**	**54**		Pn	20 10 20.6	+0.7
KKH	**Kailua Kona**	**1.05**	**44**		Pn	20 10 21.5	+1.1
KHU	**Kahuku**	**1.17**	**72**		Pn	20 10 22.2	0.0
KHU					Sg	20 10 36.2	-1.0
KHU	**Kahuku**	**1.17**	**72**	IAML		20 10 36.7	
	comp=N,750nm,0.2s						
KHU				IAML		20 10 36.9	
	comp=E,928nm,0.8s						
HUH	**Hualalai**	**1.20**	**49**		Pb	20 10 22.6	0.0
HUH	**Hualalai**	**1.20**	**49**		Sb	20 10 37.7	-0.5
HUH	**Hualalai**	**1.20**	**49**	IAML		20 10 43.1	
	comp=N,545nm,0.2s						
HUH				IAML		20 10 52.8	
	comp=E,536nm,1.5s						
ALEP	**Alea Permanent**	**1.26**	**59**		Pg	20 10 24.3	+0.4
ALEP					Sb	20 10 39.8	-0.3
MWH	**Moku'aweowe**	**1.27**	**62**		Pb	20 10 24.0	0.0
MWH	**Moku'aweowe**	**1.27**	**62**		Sb	20 10 38.7	-2.0
MWH				IAML		20 10 48.3	
	comp=N,965nm,0.8s						
MWH				IAML		20 11 09.5	
	comp=E,2μm,0.9s						
MLOA	**Mauna Loa Obse**	**1.31**	**61**		Pb	20 10 24.6	0.0
MLOA	**Mauna Loa Obse**	**1.31**	**61**		Sb	20 10 39.8	-2.0
MLOA				IAML		20 10 40.5	
	comp=N,859nm,0.1s						
MLOA				IAML		20 10 43.5	
	comp=E,633nm,1.1s						
MLOA	**Mauna Loa Obse**	**1.31**	**61**		Pb	20 10 24.6	0.0
MLOA					Sb	20 10 40.3	-1.5
HTC	**Hot Caves**	**1.36**	**75**		Pn	20 10 24.7	0.0
HTC					Sb	20 10 39.8	-3.0
HMH	**Humu'ula Sheep**	**1.42**	**60**		Pb	20 10 26.1	-0.3
HMH					Sb	20 10 43.1	-1.6
HMH				IAML		20 10 44.4	
	comp=E,1μm,0.3s						
HMH				IAML		20 10 44.6	
	comp=N,728nm,0.3s						
MLH	**Mauna Loa**	**1.46**	**66**		Pn	20 10 26.3	+0.1
MLH				IAML		20 10 48.0	
	comp=E,1μm,1.3s						
MLH				IAML		20 10 57.0	
	comp=N,1μm,1.6s						
MLH	**Mauna Loa**	**1.46**	**66**		Sn	20 10 43.4	-2.1
HLP	**Hilina Pali**	**1.46**	**74**		Pn	20 10 26.0	0.0
HLP					Sn	20 10 42.9	-2.5
POHA	**Pohakuloa**	**1.47**	**54**	Pn	Pn	20 10 26.3	0.0
POHA				IAML		20 10 46.0	
	comp=N,603nm,1.0s						
POHA				IAML		20 11 10.5	
	comp=N,505nm,1.1s						
HPAH	**Hawaii Prepara**	**1.53**	**42**		Pb	20 10 27.6	-0.5
HPAH				IAML		20 10 45.8	
	comp=E,467nm,0.2s						
HPAH	**Hawaii Prepara**	**1.53**	**42**		Sn	20 10 44.6	-2.5
MHA	**Mahukona**	**1.54**	**33**		Pb	20 10 28.4	+0.2
MHA	**Mahukona**	**1.54**	**33**	Pn	Pb	20 10 28.1	0.0
SBLHI	**Steaming Bluff**	**1.54**	**70**		Pg	20 10 29.5	+0.4
BYL	**Byron's Ledge**	**1.54**	**70**	Pn	Pn	20 10 23.6	-3.5
RSD	**Rainshed**	**1.54**	**68**	Pn	Pn	20 10 25.5	-1.7
PUH	**Pauahi**	**1.57**	**72**	Pn	Pn	20 10 27.3	-0.2
PUH				IAML		20 10 52.6	
	comp=E,2μm,1.1s						
STCH	**Steam Cracks**	**1.65**	**73**	Pn	Pn	20 10 28.5	-0.2
STCH				IAML		20 10 50.0	
	comp=E,793nm,1.1s						
STCH				IAML		20 11 08.1	
	comp=N,1μm,1.3s						
NPOC	**North of Pu'u**	**1.67**	**72**	Pn	Pn	20 10 28.1	-0.8
NPOC				IAML		20 10 52.9	
	comp=N,924nm,1.2s						
NPOC				IAML		20 11 26.9	
	comp=E,888nm,1.1s						
JCUZ	**Jacuzzi**	**1.67**	**73**	Pn	Pn	20 10 28.1	-0.9
JCUZ				IAML		20 11 03.0	
	comp=E,612nm,1.4s						
JCUZ				IAML		20 11 12.3	
	comp=N,780nm,1.7s						
PHO	**Puu Honuaula**	**1.89**	**72**		Sn	20 10 53.3	-2.5
HLK	**Haleakala**	**1.92**	**15**		Pn	20 10 33.3	+0.7
KHLH	**Kahului Airpor**	**2.02**	**10**		Pb	20 10 35.2	-1.2
KHLH	**Kahului Airpor**	**2.02**	**10**		Sn	20 10 57.3	-1.8
DHH	**Diamond Head**	**2.54**	**338**		Sn	20 11 09.9	-2.0
WMR	**Waimanalo Ridg**	**2.55**	**341**		Pn	20 10 41.8	+0.8
WMR					Sn	20 11 09.0	-3.2
HON	**Honolulu**	**2.67**	**335**		Sn	20 11 13.1	-2.0
HON	**Honolulu**	**2.67**	**335**	Pn	Pn	20 10 42.7	+0.1
KIP	**Kipapa**	**2.77**	**336**		Sn	20 11 14.7	-2.7
KIP	**Kipapa**	**2.77**	**336**	Pn	Pn	20 10 43.6	-0.4
OPA	**Opana**	**3.00**	**338**	Pn	Pn	20 10 47.2	0.0
KEKH	**Kekaha**	**4.11**	**319**	Pn	Pn	20 11 01.7	-0.8

NEIC ***11*** *20:44:11.2±1.0, 20°.05S±0°.2×178°.4W±0°.2, h617km±13km, mb4.1/13, Error ellipse: s-maj=29.1km s-min=25.9km az=167.0*
IDC ***11*** *20:44:12.9±6.2, 20°.22S×178°.70W, h621km±70km, mb3.0/6, mbtmp4.0/7, Error ellipse: s-maj=42.8km s-min=25.4km az=48.0*
ISC 11 20:44:10.9±0.8, 20°.2S±0°.1×178°.5W±0°.1, h602km, n25, σ1§16/26, mb3.9/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.08**	**307**	P	**P**	**20 45 37.9**	**+0.7**
DZM	**Mont Dzumac**	**14.15**	**260**	P	**P**	**20 47 12.8**	**+1.6**
DZM	**Mont Dzumac**	**14.15**	**260**	P	**P**	**20 47 11.6**	**+0.4**
	2.4nm,0.5s,baz=111,slow=20,SNR=6.2						
URZ	**Urewera**	**18.38**	**191**	P	**P**	**20 47 46.2**	**-3.4**
	10nm,1.0s,baz=17,slow=20,SNR=1.7						
CTAO	**Charters Tower**	**33.03**	**264**	P	**P**	**20 49 58.4**	**0.0**
STKA	**Stephens Creek**	**37.47**	**244**	P	**P**	**20 50 34.7**	**-0.2**
STKA	**Stephens Creek**	**37.47**	**244**	P	**P**	**20 50 34.7**	**-0.2**
	1.2nm,0.6s,baz=107,slow=11,SNR=3.1 1.2nm,0.6s						
BBOO	**Buckleboo**	**42.24**	**243**	P	**P**	**20 51 12.6**	**-0.3**
WR0	**Warramunga Arr**	**43.96**	**262**	P	**P**	**20 51 25.8**	**-0.6**
WR0				IAmb	IAmb	20 51 31.3	
	comp=Z,12nm,1.4s						
ASAR	**Alice Springs**	**44.11**	**257**	P	**P**	**20 51 27.2**	**-0.4**
ASAR	**Alice Springs**	**44.11**	**257**	P	**P**	**20 51 27.3**	**-0.2**
	comp=Z,2.9nm,0.7s,baz=94,slow=7.5,SNR=34						
ASAR				PcP	**PcP**	**20 52 58.5**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=107,slow=4.1,SNR=5.0 comp=Z,2.9nm,0.7s						
WB0	**Warramunga Arr**	**44.13**	**262**	P	**P**	**20 51 27.2**	**-0.5**
WB0				IAmb	IAmb	20 51 56.9	
	comp=Z,9.2nm,1.1s						
WRA	**Warramunga Arr**	**44.15**	**262**	P	**P**	**20 51 26.9**	**-1.0**
	comp=Z,1.0nm,0.4s,baz=98,slow=8.3,SNR=16 comp=Z,1.0nm,0.4s						
FORT	**Forrest**	**48.96**	**246**	P	**P**	**20 52 03.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**52.58**	**262**	P	**P**	**20 52 30.0**	**-0.2**
SBA	**Scott Base**	**58.12**	**184**	P	**P**	**20 53 09.9**	**+2.3**
VNDA	**Vanda**	**58.15**	**185**	P	**P**	**20 53 09.3**	**+1.5**
VNDA	**Vanda**	**58.15**	**185**	P	**P**	**20 53 09.0**	**+1.2**
	comp=Z,0.4nm,0.5s,baz=19,slow=7.9,SNR=2.1 comp=Z,0.4nm,0.5s						
CASY	**Casey**	**64.01**	**205**	P	**P**	**20 53 46.5**	**+0.4**
CASY				IAmb	IAmb	20 54 08.4	
	comp=Z,11nm,1.2s						
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**20 54 22.7**	**+0.6**
QSPA				IAmb	IAmb	20 54 23.6	
	comp=Z,3.7nm,0.8s						
QSPA	**South Pole Qui**	**69.85**	**180**	P	**P**	**20 54 22.5**	**+0.4**
	comp=Z,3.2nm,0.8s,baz=319,slow=0.8,SNR=18 comp=Z,3.2nm,0.8s						
BELA	**Belgrano 2**	**79.90**	**173**	P	**P**	**20 55 17.4**	**-0.3**
BELA				IAmb	IAmb	20 55 18.1	
	comp=Z,3.5nm,0.9s						
SKT	**Skwentna**	**84.70**	**12**	P	**P**	**20 55 40.5**	**-1.5**
SKT				IAmb	IAmb	20 56 21.5	
	comp=Z,12nm,1.3s						
TXAR	**Lajitas Array**	**87.32**	**58**	P	**P**	**20 55 56.1**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=226,slow=7.4,SNR=2.7 comp=Z,0.4nm,0.7s						
MMAI	**Mount Meron Ar**	**147.25**	**300**	PKPbc	**PKPbc**	**21 02 47.8**	**-0.4**
	comp=Z,0.9nm,0.5s,baz=92,slow=6.5,SNR=2.1						

IDC ***11*** *20:52:30.0±0.9, 29°.85S×71°.13W, h0km, mb3.8/5, mbtmp3.7/10, ML3.6/5, MS3.0/4, Error ellipse: s-maj=33.5km s-min=20.4km az=95.0*
SJA ***11*** *20:52:30.9±0.7, 29°.94S×71°.95W, h12km±3km, ML3.9, MW3.7*
GUC ***11*** *20:52:35.9±0.5, 29°.94S×71°.63W, h40km±1km, ML4.0*
ISC 11 20:52:34.9±1.3, 29°.93S±0°.02×71°.72W±0°.06, h32km±9km, n48, σ2§00/59, mb3.8/5, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.41**	**88**	⇑*e*P	**Pb**	**20 52 44.2**	**+0.1**
CO05				*e*S	**Sn**	**20 52 50.3**	**-0.9**
CO05				IAML		20 52 51.4	
	comp=N,58μm,0.3s						
CO06	**Fray Jorge**	**0.74**	**175**	⇑*e*P	**Pn**	**20 52 49.7**	**+0.5**
CO06				*e*S	**Sb**	**20 53 00.1**	**+0.8**
CO06				IAML		20 53 01.4	
	comp=E,9μm,0.1s						
GO04	**Tololo Observa**	**0.83**	**107**	*i* P	**Pn**	**20 52 51.0**	**+0.4**
GO04				*i* S	**Sn**	**20 53 05.3**	**+3.4**
GO04	**Tololo Observa**	**0.83**	**107**	⇑*e*P	**Pn**	**20 52 50.6**	**0.0**
GO04				*e*S	**Sb**	**20 53 01.0**	**-0.9**
GO04				IAML		20 53 03.1	
	comp=E,21μm,0.3s						
CO03	**El Pedregal**	**1.27**	**136**	*i* P	**Pn**	**20 52 57.3**	**+0.8**
CO03				IAML		20 53 16.6	
	comp=Z,1μm,0.6s						
CO03				*i* S	**Sb**	**20 53 16.8**	**+2.6**
CO03	**El Pedregal**	**1.27**	**136**	⇓*e*P	**Pn**	**20 52 57.3**	**+0.8**
CO03				*e*S	**Sb**	**20 53 13.7**	**-0.6**
CO03				IAML		20 53 15.6	
	comp=E,4μm,0.1s						
LCO	**Las Campanas**	**1.27**	**44**	*e*P	**Pn**	**20 52 57.8**	**+1.1**
LCO				*e*S	**Sb**	**20 53 14.1**	**-0.5**
CO01	**Juntas del Tor**	**1.41**	**92**	⇓*e*P	**Pn**	**20 52 59.8**	**+1.2**
CO01				*e*S	**Sb**	**20 53 17.2**	**-1.3**
CO01				IAML		20 53 18.4	
	comp=N,2μm,0.1s						
CO02	**Combarbal**	**1.41**	**154**	*i* P	**Pn**	**20 52 59.2**	**+0.7**
CO02				*i* S	**Sb**	**20 53 19.9**	**+1.5**
CO02				IAML		20 53 21.2	
	comp=Z,2μm,0.4s						
CO02	**Combarbal**	**1.41**	**154**	*e*P	**Pn**	**20 52 59.6**	**+1.2**
CO02				*e*S	**Sb**	**20 53 17.8**	**-0.6**
CO02				IAML		20 53 20.3	
	comp=N,9μm,0.5s						
AC05	**El Transito**	**1.67**	**49**	*i* P	**Pb**	**20 53 04.3**	**-0.7**
AC05				*i* S	**Sb**	**20 53 29.3**	**+3.6**
AC05				IAML		20 53 31.0	
	comp=Z,894nm,0.7s						
AC05	**El Transito**	**1.67**	**49**	⇓*e*P	**Pn**	**20 53 03.8**	**+1.8**
AC05				*e*S	**Sb**	**20 53 24.3**	**-1.4**
AC05				IAML		20 53 27.9	
	comp=N,3μm,0.6s						
AC04	**Llanos de Chal**	**1.81**	**18**	*i* P	**Pn**	**20 53 04.7**	**+0.8**
AC04				*i* S	**Sb**	**20 53 30.6**	**+0.9**
AC04				IAML		20 53 36.3	
	comp=Z,970nm,0.4s						
AC04	**Llanos de Chal**	**1.81**	**18**	*e*P	**Pn**	**20 53 04.5**	**+0.6**
AC04				*e*S	**Sn**	**20 53 28.2**	**+2.5**
AC04				IAML		20 53 33.9	
	comp=E,1μm,0.2s						
AROD	**Rodeo**	**1.96**	**97**	*i* P	**Pb**	**20 53 09.6**	**-0.5**
AROD				*i* S	**Sb**	**20 53 38.1**	**+3.9**
ACDV	**Cuesta del Vie**	**2.26**	**97**	*i* P	**Pb**	**20 53 13.7**	**-1.4**
ACDV				IAML		20 53 59.2	
	comp=Z,306nm,0.7s						
ACCO	**Cerro Coronel**	**2.38**	**107**	*i* P	**Pb**	**20 53 16.4**	**-1.0**
ACCO				IAML		20 53 53.4	
	comp=Z,491nm,0.3s						
DOCA	**Reserva Natura**	**2.49**	**115**	*i* P	**Pb**	**20 53 16.8**	**-2.3**
VA06	**Catapilco**	**2.65**	**172**	*e*P	**Pn**	**20 53 16.4**	**+1.0**
VA06				*e*S	**Sn**	**20 53 49.2**	**+2.9**
VA06				IAML		20 54 02.8	
	comp=N,1μm,0.5s						
GO03	**Copiap**	**2.67**	**30**	*i* P	**Pn**	**20 53 17.9**	**+2.2**
GO03	**Copiap**	**2.67**	**30**	⇑*e*P	**Pn**	**20 53 17.0**	**+1.2**
GO03				*e*S	**Sn**	**20 53 49.4**	**+2.4**
GO03				IAML		20 54 05.1	
	comp=E,678nm,0.5s						
AC06	**Mina Casimiro**	**2.83**	**25**	*e*P	**Pn**	**20 53 19.0**	**+1.1**
AC06				*e*S	**Sn**	**20 53 53.4**	**+2.5**
AC06				IAML		20 54 07.8	
	comp=E,514nm,0.3s						
VA03	**San Esteban**	**3.00**	**161**	*i* P	**Pn**	**20 53 21.9**	**+1.7**
VA03				IAML		20 54 11.1	
	comp=Z,416nm,0.6s						
ZON	**Zonda**	**3.07**	**122**	*i* P	**Pn**	**20 53 24.5**	**+3.2**
ZON				IAML		20 54 15.7	
	comp=Z,258nm,0.6s						
VA01	**Torpederas**	**3.08**	**179**	*i* P	**Pn**	**20 53 21.9**	**+0.6**
ROCH	**El Roble**	**3.09**	**169**	*e*P	**Pn**	**20 53 23.0**	**+1.4**
ROCH				*e*S	**Sn**	**20 53 56.9**	**-0.7**
ROCH				IAML		20 54 13.7	
	comp=N,792nm,0.4s						
RTLL	**Cerro Villicun**	**3.12**	**117**	*i* P	**Pn**	**20 53 25.3**	**+3.4**
RTLL				IAML		20 54 21.1	
	comp=Z,410nm,0.6s						
MT02	**Curacav**	**3.35**	**172**	*i* P	**Pn**	**20 53 26.2**	**+1.1**
MT02				IAML		20 54 23.4	
	comp=Z,258nm,0.5s						
FCH	**Farellones**	**3.60**	**161**	*e*P	**Pn**	**20 53 31.2**	**+2.4**
FCH				*e*S	**Sn**	**20 54 13.3**	**+3.0**
FCH				IAML		20 54 26.3	
	comp=E,248nm,0.7s						
MT01	**Popeta**	**3.94**	**174**	*i* P	**Pn**	**20 53 34.2**	**+1.0**

H11S3 WAKE ISLAND Hyl 26.03 272 T T 23 30 30.6
baz=115,slow=75,SNR=38

ZALV Zalesovo Beam 150.59 29 PKPbc **PKPbc 21 12 22.0 -1.0**
comp=Z,1.3nm,0.5s,baz=310,slow=4.5,SNR=5.6

*MDD **11** 20:54:35.5±1.2,37.°16N×13.°15W, h0km, Mb3.7/9, M_mb3.0/9, Error ellipse: s-maj=12.9km s-min=8.5km az=0.0*

*INMG **11** 20:54:36.5±0.9,37.°02N×13.°57W, h24km, ML2.3, Error ellipse: s-maj=5.9km s-min=4.5km az=22.0*

ISC 11 20:54:35.6±3.7,37.°3N±0.°1×13.°1W±0.°2, h10km, n42, σ1§40/66, 9C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.40**	**91**	*eS*	**Sn**	**20 56 08.6**	**-0.5**
PFVI				A	A	20 56 11.2	
	5.4nm,0.2s						
PMAFR	**Mafra**	**3.44**	**60**	*eP*	**Pn**	**20 55 30.6**	**+1.4**
PMAFR				*eS*	**Sn**	**20 56 11.6**	**+1.6**
PMAFR				A	A	20 56 15.0	
	11nm,0.7s						
PMAFR	**Mafra**	**3.44**	**60**	S	**Sn**	**20 56 10.0**	**-0.1**
PMAFR				P	**Pn**	**20 55 30.3**	**+1.1**
PACT	**Alcochete**	**3.67**	**65**	*eP*	**Pn**	**20 55 34.6**	**+2.1**
PACT				*eS*	**Sn**	**20 56 17.9**	**+2.1**
PACT				A	A	20 56 21.8	
	12nm,0.5s						
PNCL	**Nicolau / Gran**	**3.71**	**76**	*eS*	**Sn**	**20 56 16.9**	**+0.2**
PNCL				A	A	20 56 20.9	
	2.1nm,0.2s						
PNCL	**Nicolau / Gran**	**3.71**	**76**	S	**Sn**	**20 56 16.0**	**-0.7**
PNCL				P	**Pn**	**20 55 34.6**	**+1.7**
MESJ	**Messejana**	**3.91**	**80**	*eS*	**Sn**	**20 56 21.4**	**-0.2**
MESJ				A	A	20 56 28.7	
	2.8nm,0.4s						
PCVE	**Castro Verde**	**4.03**	**83**	*eS*	**Sn**	**20 56 24.1**	**-0.5**
PCVE	**Castro Verde**	**4.03**	**83**	P	**Pn**	**20 55 38.1**	**+0.7**
PCVE				S	**Sn**	**20 56 23.9**	**-0.7**
PBDV	**Barranco-do-Ve**	**4.11**	**89**	*eS*	**Sn**	**20 56 26.7**	**0.0**
PBDV				A	A	20 56 31.7	
	3.9nm,0.8s						
PBDV	**Barranco-do-Ve**	**4.11**	**89**	S	**Sn**	**20 56 25.3**	**-1.3**
EVO	**Evora**	**4.20**	**71**	*eP*	**Pn**	**20 55 40.5**	**+0.7**
EVO				*eS*	**Sn**	**20 56 29.0**	**+0.1**
EVO				A	A	20 56 32.8	
	4.3nm,0.3s						
EVO	**Evora**	**4.20**	**71**	P	**Pn**	**20 55 40.5**	**+0.7**
EVO				S	**Sn**	**20 56 28.0**	**-1.0**
PMTG	**Montargil**	**4.23**	**63**	*eP*	**Pn**	**20 55 40.9**	**+0.8**
PMTG				*eS*	**Sn**	**20 56 30.6**	**+1.1**
PMTG				A	A	20 56 35.3	
	1.7nm,0.1s						
PVAQ	**Vaqueiros**	**4.28**	**87**	*eP*	**Pn**	**20 55 41.7**	**+0.9**
PVAQ				*eS*	**Sn**	**20 56 29.8**	**-0.9**
PVAQ				A	A	20 56 35.8	
	3.2nm,0.2s						
PVAQ	**Vaqueiros**	**4.28**	**87**	P	**Pn**	**20 55 41.7**	**+0.9**
PVAQ				S	**Sn**	**20 56 29.2**	**-1.5**
EGRO	**El Granado**	**4.47**	**85**	S	**Sn**	**20 56 34.5**	**-0.9**
EGRO	**El Granado**	**4.47**	**85**	Pn	**Pn**	**20 55 44.0**	**+0.6**
EGRO				⇑*i*Vmb_V		20 55 46.0	
	32nm,SNR=1.6						
EGRO				Sn	**Sn**	**20 56 33.7**	**-1.7**
PCAS	**Casmilo, Conde**	**4.54**	**51**	*eP*	**Pn**	**20 55 44.9**	**+0.5**
PCAS				*eS*	**Sn**	**20 56 38.3**	**+1.1**
PCAS				A	A	20 56 42.0	
	2.5nm,0.8s						
PESTR	**Estremoz**	**4.62**	**68**	*eS*	**Sn**	**20 56 40.1**	**+0.9**
PESTR	**Estremoz**	**4.62**	**68**	P	**Pn**	**20 55 46.7**	**+1.2**
PESTR				S	**Sn**	**20 56 39.4**	**+0.2**
PBAR	**Barrancos**	**4.88**	**77**	*eS*	**Sn**	**20 56 45.2**	**-0.3**
PBAR				A	A	20 56 52.4	
	1.2nm,0.1s						
PBAR	**Barrancos**	**4.88**	**77**	P	**Pn**	**20 55 50.9**	**+1.9**
PBAR				S	**Sn**	**20 56 45.2**	**-0.3**
PMRV	**Marv??o**	**4.96**	**63**	*eP*	**Pn**	**20 55 51.1**	**+0.8**
PMRV				*eS*	**Sn**	**20 56 47.6**	**-0.1**
PMRV				A	A	20 56 53.3	
	1.4nm,0.4s						
EBAD	**Badajoz**	**5.02**	**71**	P	**Pn**	**20 55 52.3**	**+1.3**
EBAD				S	**Sn**	**20 56 47.2**	**-1.8**
EBAD	**Badajoz**	**5.02**	**71**	Pn	**Pn**	**20 55 52.0**	**+1.1**
EBAD				⇑*i*Vmb_V		20 55 53.6	
	73nm,SNR=1.1						
EBAD				Sn	**Sn**	**20 56 48.0**	**-1.0**
PCBR	**Castelo Branco**	**5.09**	**58**	*eP*	**Pn**	**20 55 53.2**	**+1.3**
EMIN	**Mina Concepcio**	**5.12**	**82**	S	**Sn**	**20 56 49.6**	**-1.9**
EMIN	**Mina Concepcio**	**5.12**	**82**	⇑*i*Vmb_V		20 55 54.8	
	41nm,SNR=2.3						
EMIN				Sn	**Sn**	**20 56 50.1**	**-1.4**
ESPR	**Espera**	**5.79**	**92**	S	**Sn**	**20 57 06.8**	**-1.2**
ESPR	**Espera**	**5.79**	**92**	⇑*i*Vmb_V		20 56 04.2	
	70nm,SNR=1.1						
ESPR				Sn	**Sn**	**20 57 06.6**	**-1.5**
POLO	**Lamas de Olo**	**5.80**	**43**	*eP*	**Pn**	**20 56 02.5**	**+0.7**
PGAV	**Gavieira, Arco**	**5.98**	**37**	*eP*	**Pn**	**20 56 04.9**	**+0.6**
PGAV				*eS*	**Sn**	**20 57 11.4**	**-1.5**
PGAV				A	A	20 57 12.9	
	3.4nm,0.6s						
MVO	**Moncorvo**	**6.10**	**49**	*eP*	**Pn**	**20 56 06.6**	**+0.7**
ECAB	**El Cabril**	**6.13**	**80**	S	**Sn**	**20 57 14.4**	**-2.1**
ECAB	**El Cabril**	**6.13**	**80**	Pn	**Pn**	**20 56 07.1**	**+0.7**
ECAB				⇑*i*Vmb_V		20 56 08.2	
	15nm,SNR=1.6						
ECAB				Sn	**Sn**	**20 57 14.2**	**-2.3**
EPLA	**Plasencia**	**6.15**	**61**	Pn	**Pn**	**20 56 08.2**	**+1.6**
EPLA				⇑*i*Vmb_V		20 56 09.4	
	50nm,SNR=0.6						
EPLA				Sn	**Sn**	**20 57 16.0**	**-0.9**
PBRG	**Braganca**	**6.67**	**45**	*eP*	**Pn**	**20 56 14.8**	**+1.1**
EAGO	**Agolada(Pontev**	**6.72**	**33**	Pn	**Pn**	**20 56 14.9**	**+0.5**
EAGO				⇑*i*Vmb_V		20 56 15.5	
	123nm,SNR=0.6						
EAGO				Sn	**Sn**	**20 57 26.4**	**-4.6**
EADA	**Adamuz**	**6.80**	**80**	Pn	**Pn**	**20 56 16.4**	**+0.9**
EADA				⇑*i*Vmb_V		20 56 16.6	
	40nm,SNR=0.7						
EADA				Sn	**Sn**	**20 57 30.9**	**-2.1**
PAB	**San Pablo**	**7.22**	**69**	Pn	**Pn**	**20 56 21.9**	**+0.5**
PAB				⇑*i*Vmb_V		20 56 23.0	
	25nm,SNR=0.4						
PAB				Sn	**Sn**	**20 57 41.1**	**-2.4**
PSIM	**Granatula de C**	**7.52**	**75**	Pn	**Pn**	**20 56 26.9**	**+1.5**
PSIM				Sn	**Sn**	**20 57 47.8**	**-2.9**

*GCMT **11** 20:56:30.8±0.2,6.°11N±0.°01×125.°85E±0.°01, h124km±1km, MW5.1/143, Moment Tensor Solution. s100,c132; s143,c236; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.84±.09; Mθθ0.06±.11; Mϕϕ-5.89±.12; Mrθ-1.99±.09; Mθϕ0.67±.13; Mϕr1.50±.11; Best double couple: M06.40000×10^16^ NP1:ϕs338.00000°,δ55.00000°, λ72.00000°. NP2:ϕs188.00000°,δ39.00000°,λ114.00000°. Principal axes: T 6.5820, Plg73.0000°, Azm200.0000°; N -0.3580, Plg15.0000°, Azm349.0000°; P -6.2180, Plg8.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*MAN **11** 20:56:30.8,6.°06N×125.°78E, h120km, mb5.7, ML4.8, MS5.1*

MAN INTENSITY II - DAVAO CITY; GENERAL SANTOS CITY.

*DJA **11** 20:56:31.6±0.2,6.°N±2.°×12.°6E±.°, h115km±3km, M5.2/47, mb5.4/47, mB5.6/31, MLv5.8/10, Mw(mB)5.1/31, MwMwp4.7/8, Mwp5.0/8*

*NEIC **11** 20:56:31.8±2.0,6.°15N±0.°05×125.°76E±0.°07, h127km±4km, mb5.1/274, Mww5.1/22, Error ellipse: s-maj=10.6km s-min=7.1km az=83.0*

*NEIC **11** 20:56:31.7,6.°05N×125.°96E, h130km, Moment Tensor Solution. Duration: 1§7 Moment tensor: Scale 10^16^Nm; Mrr4.57; Mθθ-0.05; Mϕϕ-4.51; Mrθ-1.35; Mθϕ0.63; Mϕr1.48; Fault plane solution: M05.00000×10^16^ NP1: ϕs339.52000°,δ56.21000°,λ75.75000°. NP2: ϕs184.06000°,δ36.34000°,λ110.20000°. Principal axes: T 5.1000, Plg74.0000°, Azm209.0000°; N -0.2030, Plg12.0000°, Azm348.0000°; P -4.8970, Plg10.0000°, Azm80.0000°;*

*NEIC **11** 20:56:31.7,6.°15N×125.°76E, h130km*

*MOS **11** 20:56:31.2±1.0,6.°14N×125.°55E, h145km, mb5.1/52, Error ellipse: s-maj=8.1km s-min=4.0km az=114.2*

*IDC **11** 20:56:31.7±0.9,6.°15N×125.°50E, h131km±7km, mb4.7/37, mbtmp5.0/39, MS3.7/36, Error ellipse: s-maj=13.2km s-min=7.3km az=76.0*

ISC 11 20:56:31.8±0.3,6.°10N±0.°02×125.°73E±0.°03, h136km±2km, h136km:pP-n1198, σ1§55/1238, mb5.0/255, 82C-48D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.02**	**270**	⇑*eP*	**Pn**	**20 56 48.1**	**-1.9**
DDMP				*eS*	**Sn**	**20 57 00.7**	**-3.2**
GSPH	**General Santos**	**0.77**	**269**	⇑*iP*	**Pn**	**20 56 51.9**	**-1.6**
GSPH				*i* S	**Sn**	**20 57 06.7**	**-3.1**
DAV	**Davao City (W)**	**0.97**	**351**		**Pn**	**20 56 53.8**	**-1.2**
DAV				Sn	**Sn**	**20 57 08.7**	**-3.9**
DAV	**Davao City (W)**	**0.97**	**351**	P	**Pn**	**20 56 54.0**	**-1.0**
	10μm,0.5s,baz=134,slow=1.4,SNR=312						
DAV				S	**Sn**	**20 57 09.1**	**-3.5**
	8μm,0.3s,baz=108,slow=23,SNR=7.3						
MATI	**Mati**	**0.99**	**32**	⇑*eP*	**Pn**	**20 56 53.0**	**-2.1**
MATI				*eS*	**Sn**	**20 57 09.8**	**-3.1**
SKMP	**Bagumbayan, Su**	**1.25**	**289**	*eP*	**Pn**	**20 56 56.4**	**-1.2**
SKMP				*eS*	**Sn**	**20 57 12.8**	**-4.5**
PICP	**Pikit**	**1.41**	**312**	⇓*iP*	**Pn**	**20 56 58.3**	**-1.0**
PICP				*i* S	**Sn**	**20 57 18.2**	**-2.1**
CDOP	**Cateel, Davao**	**1.81**	**23**	⇓*iP*	**Pn**	**20 57 03.2**	**-0.6**
CDOP				*eS*	**Sn**	**20 57 27.9**	**-0.5**
BUKP	**Musuan**	**1.88**	**340**	⇑*eP*	**Pn**	**20 57 04.4**	**-0.4**
BIPH	**Bislig**	**2.16**	**17**	⇓*iP*	**Pn**	**20 57 07.2**	**-0.9**
BIPH				*i* S	**Sn**	**20 57 34.4**	**-1.5**
TASP	**Talacogon, Agu**	**2.33**	**2**	⇑*eP*	**Pn**	**20 57 10.4**	**+0.2**
TASP				*eS*	**Sn**	**20 57 41.0**	**+1.3**
SGSI	**Sangihe**	**2.41**	**185**	P	**Pn**	**20 57 11.9**	**+0.8**
SGSI				S	**Sn**	**20 57 42.7**	**+1.3**
CGP	**Cagayan de Oro**	**2.55**	**336**	⇓*eP*	**Pn**	**20 57 13.3**	**+0.4**
CGP				*i* S	**Sn**	**20 57 52.0**	**+7.5**
BLNP	**Bacolod Lanao**	**2.64**	**321**	⇓*iP*	**Pn**	**20 57 14.8**	**+0.8**
BLNP				*eS*	**Sn**	**20 57 47.6**	**+1.0**
DCPH	**Dipolog City**	**3.41**	**316**	⇓*iP*	**Pn**	**20 57 25.0**	**+1.1**
DCPH				*i* S	**Sn**	**20 58 05.9**	**+1.6**
LSIP	**Lazi, Siquijor**	**3.66**	**325**	⇓*iP*	**Pn**	**20 57 27.8**	**+0.6**
LSIP				*eS*	**Sn**	**20 58 11.5**	**+1.5**
GLSP	**General Luna,**	**3.68**	**6**	⇓*eP*	**Pn**	**20 57 26.9**	**-0.5**
GLSP				*eS*	**Sn**	**20 58 10.0**	**-0.6**
ZCP	**Zamboanga City**	**3.72**	**283**	⇓*iP*	**Pn**	**20 57 28.6**	**+0.6**
ZCP				*i* S	**Sn**	**20 58 11.4**	**-0.2**
GHBP	**Garcia Hernand**	**3.77**	**338**	⇓*eP*	**Pn**	**20 57 29.1**	**+0.4**
GHBP				*eS*	**Sn**	**20 58 13.2**	**+0.4**
TBP	**Tagbilaran**	**4.01**	**333**	⇓*iP*	**Pn**	**20 57 32.0**	**+0.1**
TBP				*i* S	**Sn**	**20 58 19.7**	**+1.2**
SNPH	**Sibulan**	**4.05**	**323**	⇓*eP*	**Pn**	**20 57 33.4**	**+0.9**
SNPH				*eS*	Sn	20 58 32.6	+13
TABP	**Talibon, Bohol**	**4.20**	**341**	⇓*eP*	**Pn**	**20 57 34.3**	**0.0**
TABP				*eS*	**Sn**	**20 58 22.9**	**+0.1**
DACP	**Dalaguete, Ceb**	**4.25**	**329**	⇓*iP*	**Pn**	**20 57 35.5**	**+0.6**
DACP				*eS*	**Sn**	**20 58 19.7**	**-4.3**
LDIP	**Loreto**	**4.26**	**358**	⇓*eP*	**Pn**	**20 57 34.8**	**-0.4**
LDIP				*eS*	**Sn**	**20 58 26.0**	**+1.5**
LLP	**Lapu-Lapu**	**4.53**	**338**	⇓*eP*	**Pn**	**20 57 39.4**	**+0.6**
LLP				*i* S	**Sn**	**20 58 32.9**	**+2.0**
SFCP	**San Francisco,**	**4.70**	**343**	⇓*eP*	**Pn**	**20 57 42.0**	**+0.9**
SFCP				*eS*	**Sn**	**20 58 35.4**	**+0.5**
GNOP	**Guihulngan Cit**	**4.77**	**329**	⇓*iP*	**Pn**	**20 57 42.7**	**+0.7**
GNOP				*eS*	**Sn**	**20 58 38.2**	**+1.6**
CNOP	**Candoni, Negro**	**4.80**	**321**	⇓*eP*	**Pn**	**20 57 43.0**	**+0.7**
CNOP				*eS*	**Sn**	**20 58 29.3**	**-7.9**
CNOP	**Candoni, Negro**	**4.80**	**321**	⇓*eP*	**Pn**	**20 57 43.1**	**+0.8**
OCLP	**Ormoc**	**5.04**	**347**	⇑*eP*	**Pn**	**20 57 47.0**	**+1.5**
OCLP				*eS*	**Sn**	**20 58 37.8**	**-5.2**
PLP	**Palo**	**5.08**	**352**	⇑*eP*	**Pn**	**20 57 46.9**	**+0.8**
PLP				*eS*	**Sn**	**20 58 46.1**	**+2.1**
MECP	**Medelin, Cebu**	**5.32**	**341**	⇑*eP*	**Pn**	**20 57 51.2**	**+2.0**
MECP				*eS*	**Sn**	**20 58 49.2**	**-0.3**
CADP	**Cadiz City**	**5.36**	**333**	⇑*eP*	Pn	20 57 58.9	+9.2
CADP				*eS*	**Sn**	**20 58 51.6**	**+1.0**
BESP	**Borongan**	**5.47**	**357**	⇑*eP*	**Pn**	**20 57 52.2**	**+0.9**
BESP				*eS*	**Sn**	**20 58 58.4**	**+5.1**
TNTI	**Ternate**	**5.54**	**163**	P	**Pn**	**20 57 52.8**	**+0.5**
TNTI	**Ternate**	**5.54**	**163**	Pn	**Pn**	**20 57 51.2**	**-1.1**
TNTI				Sn	**Sn**	**20 58 52.0**	**-3.1**
TNTI	**Ternate**	**5.54**	**163**	P	**Pn**	**20 57 52.2**	**-0.1**
	491nm,0.9s,7μm2μm3.1nm						
TNTI				S	**Sn**	**20 58 53.6**	**-1.5**
	491nm,0.9s,7μm2μm3.1nm						
KMSI	**Cibinong**	**5.76**	**198**	P	**Pn**	**20 57 56.7**	**+1.5**
	3μm,1.0s,20μm3μm12nm						
KMSI				S	**Sn**	**20 59 02.9**	**+2.6**
	3μm,1.0s,20μm3μm12nm						
JAP	**San Jose, Anti**	**5.94**	**321**	⇓*eP*	**Pn**	**20 58 00.2**	**+2.6**
BTTP	**Bongao, Tawi-T**	**6.03**	**260**	⇓*eP*	**Pn**	**20 57 59.4**	**+0.6**
BTTP				*eS*	**Sn**	**20 59 06.6**	**-0.1**
GTOI	**Gorontalo**	**6.07**	**207**	P	**Pn**	**20 57 59.8**	**+0.4**
	685nm,0.9s,6μm3.0nm						
RCP	**Roxas**	**6.17**	**332**	⇑*eP*	**Pn**	**20 58 02.3**	**+1.6**
MMPH	**Masbate**	**6.55**	**342**	⇓*iP*	**Pn**	**20 58 10.5**	**+4.7**
IBAJ	**Ibajay, Aklan**	**6.67**	**329**	⇓*iP*	**Pn**	**20 58 10.0**	**+2.5**
LBMI	**Labuha**	**6.93**	**165**	P	**Pn**	**20 58 10.4**	**-0.5**
	693nm,0.8s,6μm5.2nm						
LBMI				S	**Sn**	**20 59 27.2**	**-1.2**
	693nm,0.8s,6μm5.2nm						
TOLI2	**Tolitoli**	**7.00**	**225**	P	**Pn**	**20 58 11.9**	**+0.1**
TOLI2	**Tolitoli**	**7.00**	**225**	Pn	**Pn**	**20 58 11.5**	**-0.3**
TOLI2				Sn	**Sn**	**20 59 27.8**	**-2.3**
OTRP	**Odiongan**	**7.21**	**330**	⇑*eP*	**Pn**	**20 58 14.4**	**-0.3**
PVCP	**Virac**	**7.60**	**348**	⇑*eP*	**Pn**	**20 58 21.9**	**+2.0**
PVCP				*eS*	Sn	21 00 03.9	+19
LUWI	**Luwuk**	**7.69**	**203**	P	**Pn**	**20 58 24.8**	**+3.7**
LUWI	**Luwuk**	**7.69**	**203**	Pn	**Pn**	**20 58 23.5**	**+2.5**
LUWI				Sn	**Sn**	**20 59 45.0**	**-1.8**
LUWI	**Luwuk**	**7.69**	**203**	P	**Pn**	**20 58 25.0**	**+3.9**
	2μm,1.1s,18μm6.0nm						
SCSP	**San Jose Seism**	**7.81**	**344**	⇑*eP*	**Pn**	**20 58 26.5**	**+3.8**
PPR	**Puerto Princes**	**7.83**	**298**	⇑*eP*	**Pn**	**20 58 23.6**	**+0.6**
SANI	**Sanana**	**8.10**	**178**	P	**Pn**	**20 58 24.8**	**-1.9**
	438nm,0.9s,9μm						
BATP	**Bataraza**	**8.30**	**289**	⇑*eP*	**Pn**	**20 58 29.9**	**+0.5**
GQP	**Guinayangan**	**8.40**	**338**	⇓*eP*	**Pn**	**20 58 34.2**	**+3.6**
JCNP	**Jose Panganiba**	**8.66**	**340**	⇑*eP*	**Pn**	**20 58 36.6**	**+2.4**
JCNP				*eS*	**Sn**	**21 00 07.6**	**-2.7**
SWI	**Sorong**	**8.86**	**141**	P	**Pn**	**20 58 35.8**	**-1.0**
	185nm,1.0s,2μm2μm						
I39PW	**PALAU INFRASON**	**8.87**	**80**	I	I	21 55 00.0	
	baz=264,slow=319,SNR=1.0						
LQP	**Lukban**	**8.96**	**333**	⇓*eP*	**Pn**	**20 58 42.1**	**+3.7**
LBLP	**Los Banos, Lag**	**9.16**	**331**	⇑*eP*	**Pn**	**20 58 43.5**	**+2.7**
TGY	**Tagaytay City**	**9.24**	**330**	P	**Pn**	**20 58 41.1**	**-0.9**
	152nm,0.4s,baz=233,slow=5.1,SNR=2.3						
TGY				LR	LR	21 02 51.4	
	comp=Z,274nm,18.8s,baz=109,slow=42						
LUBP	**Lubang**	**9.31**	**325**	⇑*eP*	**Pn**	**20 58 46.0**	**+3.2**
NLAI	**Namlea**	**9.38**	**172**	P	**Pn**	**20 58 42.9**	**-0.9**
	315nm,0.6s						
MACP	**Maragondon, Ca**	**9.49**	**329**	⇑*eP*	**Pn**	**20 58 43.9**	**-1.3**
RTBP	**Dona Remedios**	**9.93**	**333**	⇑*eP*	**Pn**	**20 58 54.1**	**+3.0**
ABPP	**Abucay Bataan**	**10.03**	**329**	⇑*eP*	**Pn**	**20 58 56.1**	**+3.6**
CAAP	**Casiguran, Aur**	**10.67**	**341**	⇑*eP*	**Pn**	**20 59 03.3**	**+2.2**
SMKI	**Samarinda**	**10.71**	**233**	P	**Pn**	**20 59 06.1**	**+4.5**
	567nm,1.1s,6μm						
IBZP	**Iba, Zambales**	**10.80**	**329**	⇑*eP*	**Pn**	**20 59 04.5**	**+1.7**
TTSI	**Tana Toraja**	**10.84**	**213**	P	**Pn**	**20 59 06.6**	**+3.3**
	338nm,1.2s,4μm						
FAKI	**Fak Fak**	**11.08**	**144**	P	**Pn**	**20 59 06.9**	**+0.4**
FAKI	**Fak Fak**	**11.08**	**144**	Pn	**Pn**	**20 59 06.5**	**0.0**
FAKI	**Fak Fak**	**11.08**	**144**	P	**Pn**	**20 59 05.6**	**-0.9**
	144nm,0.8s,1μm1μm						
BNDI	**Bandanaira**	**11.35**	**158**	P	**Pn**	**20 59 10.1**	**0.0**
	223nm,1.3s						
CAUP	**Cauayan**	**11.43**	**341**	⇑*eP*	**Pn**	**20 59 15.0**	**+3.9**
BKB	**Balikpapan**	**11.46**	**231**	P	**Pn**	**20 59 12.4**	**+0.9**
BKB	**Balikpapan**	**11.46**	**231**	Pn	**Pn**	**20 59 12.2**	**+0.7**
BKB	**Balikpapan**	**11.46**	**231**	P	**Pn**	**20 59 15.2**	**+3.7**
	1μm,1.2s,10μm3μm						
SAMP	**Sagada Mountai**	**11.89**	**337**	⇑*eP*	**Pn**	**20 59 19.7**	**+2.6**
BBSI	**Bau Bau**	**11.94**	**195**	P	**P**	**20 59 21.7**	**-3.3**
	208nm,0.9s						
ABRA	**Dolores**	**12.48**	**337**	⇑*eP*	**P**	**20 59 29.2**	**-1.8**
KAPI	**Kappang**	**12.55**	**208**	Pn	**Pn**	**20 59 25.0**	**-0.8**
KAPI	**Kappang**	**12.55**	**208**	P	**Pn**	**20 59 25.0**	**-0.8**
	36nm,0.9s,baz=15,slow=8.2,SNR=14						
KAPI				S	**Sn**	**21 01 41.4**	**-3.0**
	8.1nm,0.4s,baz=360,slow=22,SNR=1.1						
KAPI	**Kappang**	**12.55**	**208**	*c*⇑*iP*	**Pn**	**20 59 28.3**	**+2.5**
KMPI	**Kaimana, Papua**	**12.55**	**140**	P	**Pn**	**20 59 25.5**	**-0.3**
	222nm,0.9s,2μm						
BKSI	**Bulukumba**	**12.65**	**206**	P	**Pn**	**20 59 29.6**	**+2.5**
	76nm,1.2s,918nm						
MTKI	**Muara Teweh, K**	**12.88**	**237**	P	**P**	**20 59 33.5**	**-2.1**
	313nm,1.1s,4μm						
PACPP	**Pamplona Cagay**	**13.00**	**341**	*eP*	**P**	**20 59 34.6**	**-2.2**
CICP	**Calayan Island**	**13.72**	**343**	⇓*eP*	**Pn**	**20 59 41.3**	**+0.5**
SBUM	**Sibu**	**13.95**	**255**		**P**	**20 59 47.1**	**-0.3**
MMRI	**Maumere**	**15.05**	**193**	P	**P**	**20 59 59.6**	**-0.1**
MMRI	**Maumere**	**15.05**	**193**	Pn	**Pn**	**20 59 58.1**	**+0.5**
MMRI	**Maumere**	**15.05**	**193**	P	**Pn**	**20 59 58.6**	**+1.0**
	605nm,1.3s,7μm						
SAUI	**Saumlaki**	**15.06**	**158**	P	**Pn**	**20 59 58.5**	**+0.8**
SAUI	**Saumlaki**	**15.06**	**158**	P	**Pn**	**20 59 58.4**	**+0.7**
	759nm,0.6s						
EDFI	**Ende, Flores**	**15.29**	**195**	P	**P**	**21 00 01.9**	**-0.6**
	139nm,0.8s,2μm						
STKI	**Sintang**	**15.44**	**248**	P	**P**	**21 00 06.3**	**+2.3**
	140nm,1.1s						
SOEI	**Soe**	**15.82**	**185**	P	**P**	**21 00 10.0**	**+1.7**
SOEI	**Soe**	**15.82**	**185**	P	**P**	**21 00 08.2**	**-0.1**
SOEI	**Soe**	**15.82**	**185**	P	**P**	**21 00 09.3**	**+1.0**
	245nm,0.7s,3μm						
KSM	**Kuching**	**16.05**	**254**	P	**P**	**21 00 12.0**	**+1.2**
BATI	**Baumata**	**16.33**	**187**	P	**P**	**21 00 15.6**	**+1.6**
	548nm,0.7s,baz=312,slow=0.6,SNR=72						
BATI				S	**Sn**	**21 03 12.4**	**-3.1**
	64nm,0.9s,baz=105,slow=9.6,SNR=1.8						
BATI				LR	LR	21 07 13.6	
	comp=Z,465nm,19.0s,baz=40,slow=39						
BATI	**Baumata**	**16.33**	**187**	P	**P**	**21 00 15.4**	**+1.5**
	727nm,0.8s,5μm						
GENI	**Genyem**	**16.81**	**121**	P	**P**	**21 00 18.6**	**-0.6**
	346nm,0.6s,4μm						
PLAI	**Plampang**	**16.82**	**208**	P	**Pn**	**21 00 21.6**	**+2.2**
PLAI	**Plampang**	**16.82**	**208**	P	**Pn**	**21 00 21.8**	**+2.4**
	343nm,0.9s,2μm						
BASI	**Baing, Sumba**	**17.01**	**198**	P	**Pn**	**21 00 24.0**	**+2.4**
	289nm,0.9s						
TWSI	**Taliwang, Sumb**	**17.18**	**211**	P	**Pn**	**21 00 25.3**	**+1.6**
	102nm,1.2s						
TWGBT	**Beinan**	**17.21**	**345**	P	**Pn**	**21 00 26.2**	**+2.1**
TWG	**Pinlang**	**17.21**	**345**	P	**P**	**21 00 21.5**	**-2.0**
JAY	**Jayapura**	**17.23**	**119**	P	**P**	**21 00 23.6**	**-0.3**
	68nm,0.8s,656nm						
SRBI	**Singaraja**	**17.57**	**217**	P	**Pn**	**21 00 29.3**	**+0.9**
	150nm,0.9s,2μm						
BWJI	**Bawean**	**17.64**	**228**	P	**Pn**	**21 00 32.0**	**+2.7**
	2μm,1.1s,15μm						
YULB	**Yu-li**	**17.71**	**347**	P	**Pn**	**21 00 32.4**	**+2.3**
YULB	**Yu-li**	**17.71**	**347**	P	**P**	**21 00 27.6**	**-1.4**
TPUB	**Ta-pu**	**17.79**	**344**	P	**Pn**	**21 00 31.8**	**+0.8**
TPUB	**Ta-pu**	**17.79**	**344**	P	**P**	**21 00 29.1**	**-0.7**
ABJI	**Asem Bagus**	**17.95**	**220**	P	**Pn**	**21 00 35.6**	**+2.7**
	126nm,1.3s						
DLV	**T Lat**	**17.98**	**290**	P	**Pn**	**21 00 36.5**	**+2.9**
DLV	**T Lat**	**17.98**	**290**		**Pn**	**21 00 34.8**	**+1.2**
SSLB	**Suanglung**	**18.17**	**346**	P	**Pn**	**21 00 35.3**	**-0.3**
SSLB	**Suanglung**	**18.17**	**346**	P	**P**	**21 00 32.9**	**-1.1**
BLJI	**Banyuglugur**	**18.32**	**221**	P	**Pn**	**21 00 39.3**	**+1.9**
	94nm,0.3s						
YOJ	**Yonaguni jima**	**18.44**	**352**	P	**P**	**21 00 36.5**	**-0.4**
YOJ	**Yonaguni jima**	**18.44**	**352**	P	**P**	**21 00 36.5**	**-0.4**

GYA S **S** **21 06 35.7 +3.4**
GYA pmax pmax
comp=Z,18nm,0.9s
GYA pmax pmax
comp=Z,120nm,9.6s
GYA LR LR
comp=Z,190nm,16.2s
GYA LR LR
comp=Z,230nm,17.8s
GYA LR LR
comp=Z,250nm,19.5s
WRAB Tennant Creek 27.23 162 P **P** **21 02 02.5 -0.8**
WRAB IAmb IAmb 21 02 04.6
comp=Z,89nm,1.1s
WRAB Tennant Creek 27.23 162 P **P** **21 02 02.5 -0.8**
WRAB pmax pmax
comp=Z,89nm,1.1s
WRA Warramunga Arr 27.23 162 P **P** **21 02 02.0 -1.3**
WRA Warramunga Arr 27.23 162 P **P** **21 02 03.5 +0.2**
comp=Z,57nm,0.8s,baz=340,slow=9.8,SNR=141
WRA S **S** **21 06 28.1 -4.5**
comp=Z,4.8nm,0.9s,baz=334,slow=15,SNR=7.0
comp=Z,57nm,0.8s
WRA Warramunga Arr 27.23 162 *i* P **P** **21 02 03.5 +0.2**
WRA pmax pmax
comp=Z,62nm,0.9s
WB2 Warramunga Arr 27.24 162 P **P** **21 02 02.9 -0.5**
WC3 Warramunga Arr 27.26 162 P **P** **21 02 04.1 +0.6**
baz=27
JNU Nakatsue 27.31 9 P **P** **21 02 04.1 +0.3**
JNU Nakatsue 27.31 9 P **P** **21 02 03.2 -0.6**
JNU IAmb IAmb 21 02 05.3
comp=Z,52nm,0.9s
WR0 Warramunga Arr 27.31 162 P **P** **21 02 03.5 -0.5**
WR0 IAmb IAmb 21 02 05.4
comp=Z,70nm,1.1s
MBWA Marble Bar 27.73 192 P **P** **21 02 08.5 +0.9**
MBWA Marble Bar 27.73 192 P **P** **21 02 07.6 0.0**
MBWA IAmb IAmb 21 02 52.7
comp=Z,49nm,0.8s
PHRA Phrae 27.74 299 P **P** **21 02 07.9 0.0**
PSA00 Pilbara Seismi 28.10 192 P **P** **21 02 11.9 +0.9**
PSA00 Pilbara Seismi 28.10 192 P **P** **21 02 11.3 +0.3**
PSA00 Pilbara Seismi 28.10 192 P **P** **21 02 10.8 -0.2**
PSA00 IAmb IAmb 21 02 12.7
comp=Z,45nm,0.9s
CRAI Chiangrai 28.34 302 P **P** **21 02 13.6 +0.4**
JTU Tsushima 28.48 6 P **P** **21 02 12.7 -1.6**
JTU IAmb IAmb 21 02 17.2
comp=Z,29nm,1.0s
ENH Enshi 28.49 330 P **P** **21 02 14.5 +0.1**
ENH Enshi 28.49 330 P **P** **21 02 13.5 -0.9**
ENH IAmb IAmb 21 03 08.3
comp=Z,61nm,1.3s
GSI Gunungsitoli 28.49 261 P **P** **21 02 14.8 +0.2**
GSI Gunungsitoli 28.49 261 P **P** **21 02 14.2 -0.4**
JMN Monobe 28.51 14 P **P** **21 02 15.6 +1.1**
JMN Monobe 28.51 14 P **P** **21 02 14.9 +0.3**
JMN IAmb IAmb 21 03 05.5
comp=Z,44nm,0.9s
LHMI Lhok Sumawe 28.65 270 P **P** **21 02 18.9 +2.9**
LHMI Lhok Sumawe 28.65 270 P **P** **21 02 16.1 0.0**
CM31 Chiang Mai Arr 28.85 298 P **P** **21 02 18.5 +0.7**
CMAR Chiang Mai Arr 28.85 298 P **P** **21 02 17.8 0.0**
CMAR PcP **PcP** **21 05 22.9 -1.3**
CMAR Chiang Mai Arr 28.85 298 P **P** **21 02 17.9 0.0**
comp=Z,5.0nm,0.8s,baz=110,slow=6.9,SNR=32
CMAR PcP **PcP** **21 05 23.6 -0.5**
comp=Z,4.8nm,0.8s,baz=114,slow=1.0,SNR=10
CMAR LR LR 21 12 58.6
comp=Z,120nm,22.0s,baz=115,slow=34
comp=Z,5.0nm,0.8s
CMAR Chiang Mai Arr 28.85 298 *i* P **P** **21 02 19.0 +1.2**
CMAR pmax pmax
comp=Z,7.0nm,0.9s
CHTO Chiang Mai 28.99 298 P **P** **21 02 18.7 -0.2**
CHTO Chiang Mai 28.99 298 P **P** **21 02 18.7 -0.2**
CHTO pmax pmax
comp=Z,14nm,0.8s
KMI Kunming 29.02 313 ⇓P **P** **21 02 21.4 +2.0**
KMI pP pP 21 02 50.4 +1.8
KMI S **S** **21 07 03.1 +2.0**
KMI pmax pmax
comp=Z,14nm,1.0s
KMI LR LR
comp=Z,180nm,12.9s
KMI LR LR
comp=Z,290nm,15.9s
KMI LR LR
comp=Z,270nm,20.5s
QIS Mount Isa 29.80 153 P **P** **21 02 27.0 +1.0**
baz=30,SNR=37
QIS Mount Isa 29.80 153 P **P** **21 02 26.7 +0.6**
JHJ Hachijo jima 2 29.89 24 LR LR 21 15 23.4
comp=Z,120nm,18.6s,baz=56,slow=38
JHJ2 Mitsune 29.90 24 P **P** **21 02 25.6 -1.2**
TJN Taejon 30.17 3 P **P** **21 02 29.6 +0.5**
TJN Taejon 30.17 3 P **P** **21 02 27.9 -1.1**
TJN PcP **PcP** **21 05 27.4 +0.3**
TJN Taejon 30.17 3 *de*P **P** **21 02 29.6 +0.5**
MTSU Mount Surprise 30.28 143 P **P** **21 02 31.8 +1.5**
baz=30,SNR=30
MTSU Mount Surprise 30.28 143 P **P** **21 02 31.8 +1.5**
PZH PanZhiHua 30.57 314 P **P** **21 02 33.9 +0.9**
PZH PcP **PcP** **21 05 28.5 -0.1**
PZH S **S** **21 07 27.4 +2.3**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,110nm,5.7s
PZH LR LR
comp=Z,160nm,14.1s
PZH LR LR
comp=Z,160nm,15.1s
PZH LR LR
comp=Z,240nm,19.1s
AS31 Alice Springs 30.65 165 P **P** **21 02 33.9 +0.4**
ASAR Alice Springs 30.65 165 P **P** **21 02 33.7 +0.1**
ASAR Alice Springs 30.65 165 P **P** **21 02 34.4 +0.8**
comp=Z,29nm,0.5s,baz=346,slow=7.4,SNR=338
ASAR PcP **PcP** **21 05 29.4 +0.7**
comp=Z,12nm,0.7s,baz=352,slow=2.2,SNR=9.1
ASAR S **S** **21 07 26.2 0.0**
comp=Z,3.6nm,1.0s,baz=343,slow=21,SNR=4.7
ASAR LR LR 21 16 09.5
comp=Z,114nm,18.4s,baz=24,slow=38
comp=Z,29nm,0.5s
JSG Sagara 30.67 20 P **P** **21 02 32.2 -1.4**
GIRL Giralia 30.70 201 P **P** **21 02 35.9 +1.9**
baz=31,SNR=11
GIRL Giralia 30.70 201 P **P** **21 02 35.9 +1.9**
GIRL Giralia 30.70 201 P **P** **21 02 34.8 +0.8**
TIA Tai'an 30.99 346 *e*P P 21 02 43.4 +7.0
TIA pmax pmax
comp=Z,4.0nm,0.8s
WRKA Warakurna 31.05 175 P **P** **21 02 37.8 +0.8**
baz=31,SNR=30
WRKA Warakurna 31.05 175 P **P** **21 02 37.9 +0.8**
INCN Inchon 31.24 1 P **P** **21 02 40.1 +1.5**
INCN Inchon 31.24 1 P **P** **21 02 38.5 -0.1**
INCN IAmb IAmb 21 02 40.5
comp=Z,22nm,0.8s
INCN Inchon 31.24 1 P **P** **21 02 38.5 -0.1**
INCN pmax pmax
comp=Z,22nm,0.8s
JGF Kuroka 31.25 18 P **P** **21 02 40.3 +1.6**
JGF Kuroka 31.25 18 IAmb IAmb 21 02 42.2
comp=Z,18nm,0.7s
KSAR Wonju Array Be 31.25 3 P **P** **21 02 37.7 -0.9**
KSAR **PcP** **21 05 30.2 +0.2**
KSAR Wonju Array Be 31.25 3 P **P** **21 02 37.7 -0.9**
KSRS Korea Array 31.27 3 P **P** **21 02 39.8 +1.0**
comp=Z,16nm,0.8s,baz=188,slow=9.9,SNR=13
KSRS PcP **PcP** **21 05 31.1 +1.2**
comp=Z,7.6nm,0.7s,baz=183,slow=2.6,SNR=14
KSRS ScP **ScP** **21 09 01.2 +0.7**
comp=Z,1.1nm,0.7s,baz=205,slow=2.2,SNR=5.1
comp=Z,16nm,0.8s
KS19 Wonju Array Si 31.31 3 P **P** **21 02 38.2 -1.0**
XAN Xi'an 31.86 333 ⇑P **P** **21 02 43.1 -1.0**
XAN S **S** **21 07 47.1 +2.2**
XAN pmax pmax
comp=Z,19nm,1.0s
XAN pmax pmax
comp=Z,160nm,5.1s
XAN LR LR
comp=Z,230nm,11.8s
XAN LR LR
comp=Z,180nm,11.0s
XAN LR LR
comp=Z,420nm,17.2s
TNCH TengChong 32.14 309 P **P** **21 02 48.1 +1.2**
TNCH PP **PnPn** **21 03 56.7 -1.6**
TNCH S **S** **21 07 50.4 +0.6**
TNCH sS sS 21 08 39.6 -1.4
TNCH pmax pmax
comp=Z,16nm,1.2s
TNCH pmax pmax
comp=Z,86nm,4.4s
TNCH LR LR
comp=Z,140nm,12.3s
TNCH LR LR
comp=Z,140nm,12.2s
TNCH LR LR
comp=Z,160nm,17.4s
CD2 Chengdu 32.16 323 P **P** **21 02 49.5 +2.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
MJAR Matsushiro Arr 32.38 19 P **P** **21 02 48.1 -0.4**
comp=Z,17nm,0.8s,baz=197,slow=9.4,SNR=41
MJAR PcP **PcP** **21 05 33.6 +0.5**
comp=Z,5.3nm,0.8s,baz=172,slow=2.6,SNR=6.0
MJAR ScP **ScP** **21 09 05.2 +0.7**
comp=Z,3.0nm,0.9s,baz=201,slow=4.4,SNR=4.9
MJAR LR LR 21 16 08.4
comp=Z,112nm,19.1s,baz=206,slow=36
MJAR P3KPbc 21 34 12.7
comp=Z,1.1nm,0.7s,baz=34,slow=4.6,SNR=4.0
comp=Z,17nm,0.8s
MAJO Matsushiro 32.38 19 P **P** **21 02 48.5 -0.1**
MAJO Matsushiro 32.38 19 P **P** **21 02 47.4 -1.2**
MAJO IAmb IAmb 21 02 50.1
comp=Z,26nm,0.8s
MAJO Matsushiro 32.38 19 *de*P **P** **21 02 47.5 -1.1**
MAJO pmax pmax
comp=Z,27nm,0.8s
MAJO Matsushiro 32.38 19 P **P** **21 02 48.2 -0.4**
MAJO pP **pP** **21 03 15.6 -2.4**
MAJO PcP **PcP** **21 05 34.3 +1.2**
MJB9 Matsu-Tunnel 32.38 19 P **P** **21 02 48.5 -0.1**
MJB9 IAmb IAmb 21 02 51.1
comp=Z,25nm,0.8s
TV1H Townsville Har 32.65 141 P **P** **21 02 53.1 +2.0**
HNS HongShan 32.73 344 ⇓P **P** **21 02 53.4 +1.8**
HNS *e*S **S** **21 08 01.6 +3.4**
HNS pmax pmax
comp=Z,28nm,0.8s
HNS LR LR
comp=Z,160nm,20.6s
HNS LR LR
comp=Z,150nm,19.6s
DL2 Dalian 32.86 354 P **P** **21 02 53.9 +1.2**
DL2 pmax pmax
comp=Z,38nm,0.8s
CTAO Charters Tower 32.94 143 P **P** **21 02 55.4 +1.7**
CTAO Charters Tower 32.94 143 P **P** **21 02 53.8 +0.2**
CTAO Charters Tower 32.94 143 P **P** **21 02 53.8 +0.2**
CTAO pmax pmax
comp=Z,120nm,1.5s
CTAO Charters Tower 32.94 143 P **P** **21 02 55.6 +1.9**
CTAO PcP **PcP** **21 05 36.8 +1.9**
MEEK Meekatharra 33.27 192 P **P** **21 02 57.0 +0.5**
baz=34,SNR=56
MEEK Meekatharra 33.27 192 P **P** **21 02 56.9 +0.5**
AUAYR Ayr State High 33.27 141 P **P** **21 02 58.6 +2.1**
JSD Sado 33.77 18 P **P** **21 03 00.1 -0.4**
JSD IAmb IAmb 21 03 04.2
comp=Z,35nm,1.0s
JMM Marumori 34.46 21 P **P** **21 03 07.5 +0.9**
JMM Marumori 34.46 21 P **P** **21 03 06.9 +0.3**
BJT Baijiatuau 34.84 347 P **P** **21 03 09.8 0.0**
BJT Baijiatuau 34.84 347 IAmb IAmb 21 04 05.8
comp=Z,33nm,1.1s
BJI Beijing 34.86 347 P **P** **21 03 09.6 -0.4**
BJI PcP **PcP** **21 05 41.5 +1.5**
BJI ScP **ScP** **21 09 15.1 +2.0**
BJI PcS **PcS** **21 09 29.0 +2.2**
BJI pmax pmax
comp=Z,6.0nm,0.8s
BJI pmax pmax
comp=Z,41nm,4.6s
OOD Oodnadatta 35.05 165 P **P** **21 03 12.8 +1.1**
LZH Lanzhou 35.96 329 *e*P **P** **21 03 19.7 0.0**
LZH sP sP 21 04 05.2 +0.1
LZH sS sS 21 09 40.7 +0.6
LZH pmax pmax
comp=Z,15nm,1.5s
LZH LR LR
comp=Z,280nm,14.4s
LZH LR LR
comp=Z,180nm,13.7s
LZH LR LR
comp=Z,120nm,13.7s
MORW Morawa 36.19 194 P **P** **21 03 22.3 +0.8**
baz=36,SNR=40
MORW Morawa 36.19 194 P **P** **21 03 22.0 +0.5**
MORW Morawa 36.19 194 P **P** **21 03 21.8 +0.3**
MSHR Mys Shultsa 36.64 7 *ce*P **P** **21 03 27.3 +2.2**
MSHR pmax pmax
comp=Z,24nm,0.7s
INKA Innaminka 36.64 157 P **P** **21 03 26.5 +1.2**
FORT Forrest 36.74 177 P **P** **21 03 27.4 +1.3**
baz=37,SNR=44
FORT Forrest 36.74 177 P **P** **21 03 27.1 +1.0**
FORT Forrest 36.74 177 P **P** **21 03 26.9 +0.8**
HHC Hu-ho-hao-te 36.85 342 *e*P **P** **21 03 25.8 -1.3**
HHC pP pP 21 03 56.0 -0.8
HHC *e*S **S** **21 09 01.8 +0.2**
HHC sS sS 21 09 51.7 -1.7
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,80nm,4.6s
HHC LR LR
comp=Z,150nm,16.9s
HHC LR LR
comp=Z,94nm,15.9s
HHC LR LR
comp=Z,210nm,19.6s
MULG Mulgathing 37.05 168 P **P** **21 03 30.0 +1.3**
QLP Quilpie 37.12 152 P **P** **21 03 30.0 +0.7**
baz=37,SNR=13
QLP Quilpie 37.12 152 P **P** **21 03 29.7 +0.3**
BTO Baotou 37.12 340 *e*P **P** **21 03 31.6 +2.2**
BTO sP **sP** **21 04 12.3 -3.0**
BTO PP **PnPn** **21 05 02.8 +3.8**
BTO S **S** **21 09 10.3 +4.5**
BTO pmax pmax
comp=Z,11nm,0.7s
BTO pmax pmax
comp=Z,270nm,5.7s
BTO LR LR
comp=Z,240nm,9.7s
BTO LR LR
comp=Z,230nm,16.4s
BTO LR LR
comp=Z,320nm,21.4s
JTM Tenmabayashi 37.16 19 P **P** **21 03 28.9 -0.7**
JTM IAmb IAmb 21 03 42.4
comp=Z,69nm,1.2s
HNR Honiara 37.43 114 P **P** **21 03 31.7 -0.5**
HNR Honiara 37.43 114 P **P** **21 03 31.7 -0.5**
HNR pmax pmax
comp=Z,243nm,1.6s
KMBL Kambalda 37.44 185 P **P** **21 03 33.2 +1.1**
baz=38,SNR=72
KMBL Kambalda 37.44 185 P **P** **21 03 32.8 +0.8**
BLDU Ballidu 37.52 193 P **P** **21 03 33.4 +0.7**
baz=38,SNR=46
BLDU Ballidu 37.52 193 P **P** **21 03 33.2 +0.5**
CN2 Changchun 37.55 360 *e*P **P** **21 03 31.4 -1.4**
CN2 PcP **PcP** **21 05 48.6 +0.6**
CN2 *e*S **S** **21 09 11.1 -0.7**
CN2 *es*S sS 21 10 00.3 -3.5
SHL Shillong 37.69 305 P **P** **21 03 34.7 +0.2**
SHL Shillong 37.69 305 P **P** **21 03 34.7 +0.2**
RK1H Rockhampton Ha 38.01 141 P **P** **21 03 38.3 +1.4**
KLBR Kellerberrin 38.25 191 P **P** **21 03 39.7 +0.9**
baz=38,SNR=33
KLBR Kellerberrin 38.25 191 P **P** **21 03 39.5 +0.7**
LCRK Leigh Creek 38.26 162 P **P** **21 03 40.4 +1.4**
USA0B Ussuriysk Arra 38.34 7 P **P** **21 03 39.6 +0.1**
USA0B IAmb IAmb 21 03 42.1
comp=Z,40nm,0.8s
USA0B Ussuriysk Arra 38.34 7 *c* *i*P **P** **21 03 40.6 +1.2**
USRK Ussuriysk Ar. 38.34 7 P **P** **21 03 39.7 +0.3**
USRK Ussuriysk Ar. 38.34 7 P **P** **21 03 40.6 +1.2**
comp=Z,49nm,0.8s,baz=196,slow=7.6,SNR=80
USRK PcP **PcP** **21 05 50.9 +0.4**
comp=Z,5.1nm,0.8s,baz=229,slow=4.0,SNR=2.2
USRK LR LR 21 17 23.0
comp=Z,51nm,21.6s,baz=184,slow=33
comp=Z,49nm,0.8s
MDJ Mudanjiang 38.51 4 P **P** **21 03 42.0 +1.2**
MDJ Mudanjiang 38.51 4 P **P** **21 03 42.0 +1.2**
MDJ sP sP 21 04 25.5 -0.5
MDJ S **S** **21 09 30.9 +4.6**
MDJ sS sS 21 10 20.5 +2.1
MDJ pmax pmax
comp=Z,79nm,0.9s
MDJ pmax pmax
comp=Z,170nm,3.7s
MDJ Mudanjiang 38.51 4 P **P** **21 03 42.1 +1.3**
MDJ PcP **PcP** **21 05 52.0 +1.0**
XLT XiLinHaoTe 38.59 349 *e*P **P** **21 03 42.1 +0.5**
XLT sP sP 21 04 30.1 +3.3
XLT S **S** **21 09 29.8 +2.1**
XLT sS sS 21 10 24.0 +4.2
XLT pmax pmax
comp=Z,11nm,0.7s
XLT pmax pmax
comp=Z,99nm,3.6s
MUN Mundaring 38.94 193 P **P** **21 03 45.6 +1.0**
baz=39,SNR=24
MUN Mundaring 38.94 193 P **P** **21 03 45.4 +0.8**
ERM Erimo 38.97 21 P **P** **21 03 44.2 -0.5**
ERM Erimo 38.97 21 P **P** **21 03 44.2 -0.5**
ERM pmax pmax
comp=Z,106nm,1.4s
MTKN Mount Kenneth 39.00 194 P **P** **21 03 48.1 +3.1**
BNX BinXian 39.51 2 ⇓P **P** **21 03 49.5 +0.4**
BNX pmax pmax
comp=Z,12nm,1.0s
BNX pmax pmax
comp=Z,150nm,3.7s
NWAO Narrogin (SRO) 39.65 191 P **P** **21 03 51.9 +1.4**
baz=40,SNR=43
NWAO P **P** **21 03 51.9 +1.4**
baz=40,SNR=43
NWAO Narrogin (SRO) 39.65 191 P **P** **21 03 51.8 +1.4**
NWAO Narrogin (SRO) 39.65 191 P **P** **21 03 51.0 +0.6**
NWAO Narrogin (SRO) 39.65 191 P **P** **21 03 51.0 +0.6**
NWAO pmax pmax
comp=Z,209nm,1.0s
NWAO Narrogin (SRO) 39.65 191 P **P** **21 03 51.8 +1.4**
EIDS Eidsvold 39.83 143 P **P** **21 03 52.8 +0.7**
baz=40,SNR=14
EIDS Eidsvold 39.83 143 P **P** **21 03 52.9 +0.8**
EIDS Eidsvold 39.83 143 P **P** **21 03 52.1 0.0**
EIDS IAmb IAmb 21 03 53.8
comp=Z,47nm,0.9s
TEY Ternei 39.92 12 ⇑*e*P **P** **21 03 54.0 +1.4**
TEY *e* 21 04 22.1
TEY pmax pmax
comp=N,30nm,0.8s
TEY pmax pmax
comp=Z,40nm,0.9s
BBOO Buckleboo 39.93 166 P **P** **21 03 54.3 +1.6**
baz=40,SNR=265
BBOO Buckleboo 39.93 166 P **P** **21 03 54.0 +1.2**
BBOO Buckleboo 39.93 166 P **P** **21 03 53.5 +0.7**
LSA Lhasa 40.14 310 P **P** **21 03 56.5 +1.3**
LSA Lhasa 40.14 310 IAmb IAmb 21 04 33.1
comp=Z,105nm,1.9s
LSA Lhasa 40.14 310 P **P** **21 03 58.1 +2.9**
LSA pP **pP** **21 04 26.7 +1.2**
WHYH Whyalla 40.52 165 P **P** **21 03 59.2 +1.6**
GTA Gaotai 40.56 329 ⇑P **P** **21 03 57.9 -0.2**
GTA pP pP 21 04 30.1 +1.5
GTA sP sP 21 04 46.0 +1.9
GTA PcP **PcP** **21 05 58.5 +0.7**
GTA ScP **ScP** **21 09 38.8 +4.0**
GTA sS sS 21 10 52.7 +2.8
GTA ScS **ScS** **21 13 47.4 -2.3**
GTA pmax pmax
comp=Z,3.0nm,1.0s
GTA LR LR
comp=Z,180nm,15.6s
GTA LR LR
comp=Z,110nm,15.6s
GTA LR LR
comp=Z,150nm,16.7s
ASAJ Asahikawa 40.65 19 P **P** **21 03 58.5 -0.1**
ASAJ pmax pmax
comp=Z,41nm,1.0s
JKA Kamikawa-asahi 40.65 19 P **P** **21 03 58.5 -0.1**
JKA IAmb IAmb 21 04 01.5
comp=Z,40nm,1.0s
STKA Stephens Creek 40.69 159 P **P** **21 04 00.7 +1.6**
baz=41,SNR=149
STKA Stephens Creek 40.69 159 P **P** **21 04 00.4 +1.3**
STKA Stephens Creek 40.69 159 P **P** **21 03 60.0 +0.9**
STKA IAmb IAmb 21 04 01.6
comp=Z,36nm,0.8s
STKA Stephens Creek 40.69 159 P **P** **21 04 00.7 +1.6**
comp=Z,159nm,0.7s,baz=334,slow=8.4,SNR=290
STKA S **S** **21 09 58.9 -0.3**
comp=Z,5.7nm,0.9s,baz=262,slow=18,SNR=2.9
comp=Z,159nm,0.7s
GOMU GeErMu 41.22 321 P **P** **21 04 05.8 +2.0**
GOMU S S 21 09 57.8 -10
GOMU pmax pmax
comp=Z,13nm,1.1s
GOMU LR LR
comp=Z,190nm,10.6s
GOMU LR LR
comp=Z,130nm,12.9s
GOMU LR LR
comp=Z,240nm,13.9s
HTT Hallett 41.26 163 P **P** **21 04 05.8 +1.9**
baz=42,SNR=20
HTT Hallett 41.26 163 P **P** **21 04 05.7 +1.9**
AULRC Lightning Ridg 41.30 150 P **P** **21 04 04.6 +0.5**
AUALB St Joseph's Co 41.55 190 P **P** **21 04 08.2 +2.2**
CMSA Cobar Meteorol 42.01 154 P **P** **21 04 11.4 +1.6**
baz=42,SNR=24
CMSA Cobar Meteorol 42.01 154 P **P** **21 04 11.1 +1.3**
AUWSH Wavell State H 42.51 143 P **P** **21 04 15.1 +1.2**
GHSS Government Hou 42.57 164 P **P** **21 04 16.8 +2.5**
YSS Yuzh-Sakhalins 43.26 17 P **P** **21 04 20.9 +1.2**
YSS Yuzh-Sakhalins 43.26 17 P **P** **21 04 19.8 +0.1**
YSS Yuzh-Sakhalins 43.26 17 *e*P **P** **21 04 20.6 +0.9**
YSS *e* 21 05 59.5
YSS *e*S **S** **21 10 35.6 -1.0**
YSS *e*SS **SS** **21 13 55.6 +0.3**
YSS pmax pmax
comp=Z,20nm,0.9s
YSS pmax pmax
comp=Z,300nm,4.5s
YSS MLR MLR
comp=Z,200nm,13.0s
KLR Kul'dur 43.28 6 PcP **PcP** **21 06 07.1 +0.7**
comp=Z,11nm,0.7s,baz=184,slow=4.9,SNR=4.4
KLR ScP **ScP** **21 09 46.4 +1.1**
comp=Z,2.2nm,0.9s,baz=244,slow=5.6,SNR=3.7
KLR Kul'dur 43.28 6 *c* *i*P **P** **21 04 20.2 +0.4**
KLR pmax pmax
comp=Z,23nm,0.8s
AUDCS Dubbo College 43.92 152 P **P** **21 04 27.0 +1.8**
ARMA Armidale 43.99 147 P **P** **21 04 27.9 +2.0**
baz=44,SNR=18
ARMA Armidale 43.99 147 P **P** **21 04 28.0 +2.1**
ARMA Armidale 43.99 147 P **P** **21 04 26.3 +0.4**
ARMA IAmb IAmb 21 04 28.8
comp=Z,55nm,1.1s
HEH HeiHe 44.02 2 *e*P **P** **21 04 26.2 +0.4**
HEH PcP **PcP** **21 06 08.8 -0.1**
HEH ScP **ScP** **21 09 49.2 +0.9**
HEH pmax pmax
comp=Z,54nm,0.8s
HEH pmax pmax
comp=Z,100nm,4.1s
ULN Ulaanbaatar 44.57 342 P **P** **21 04 29.5 -0.9**
ULN Ulaanbaatar 44.57 342 *ce*P **P** **21 04 30.0 -0.4**
ULN pmax pmax

comp=Z,11nm,1.7s
PALK Pallekele 44.72 274 P P 21 04 32.3 +0.3
PALK Pallekele 44.72 274 P P 21 04 32.3 +0.3
PALK pmax pmax
comp=Z,20nm,1.2s
SONM Songino Array 44.74 342 P P 21 04 30.9 -0.8
SONM Songino Array 44.74 342 P P 21 04 31.2 -0.5
comp=Z,1.8nm,0.8s,baz=153,slow=8.1,SNR=8.7
SONM PcP **PcP 21 06 12.1 +0.5**
comp=Z,6.3nm,0.9s,baz=162,slow=4.9,SNR=3.6
SONM ScP **ScP 21 09 52.7 +1.2**
comp=Z,0.7nm,0.8s,baz=155,slow=5.3,SNR=2.2
SONM LR LR 21 24 59.9
comp=Z,116nm,20.4s,baz=152,slow=38
SONM Songino Array 44.74 342 P P 21 04 30.9 -0.8
SONM pmax pmax
comp=Z,11nm,1.0s
UGL Uglegorsk 45.01 15 *eP* **P 21 04 35.7 +2.1**
UGL *eS* **S 21 11 06.1 +4.3**
UGL pmax pmax
comp=Z,120nm,0.9s
UGL pmax pmax
comp=Z,190nm,3.0s
ARPS Mount Arapiles 45.24 162 P **P 21 04 37.7 +2.1**
baz=45,SNR=58
ARPS Mount Arapiles 45.24 162 P **P 21 04 37.4 +1.8**
GRNR Gornyy 45.41 10⇑ *iP* **P 21 04 38.4 +1.6**
GRNR pmax pmax
comp=Z,20nm,0.7s
YNG Young 45.54 153 P **P 21 04 40.4 +2.3**
baz=46,SNR=11
YNG Young 45.54 153 P **P 21 04 40.2 +2.1**
AUMAG Moama Anglican 45.62 158 P **P 21 04 41.2 +2.6**
KOUNC Koumac, New Ca 46.22 126 P **P 21 04 44.2 +0.6**
KOUNC IAmb IAmb 21 05 41.7
comp=Z,40nm,1.3s
BRAT Ballarat 46.63 160 P **P 21 04 48.5 +2.0**
CAN Canberra 46.67 154 P **P 21 04 49.4 +2.5**
CAN Canberra 46.67 154 P **P 21 04 48.5 +1.6**
CAN Canberra 46.67 154 P **P 21 04 48.5 +1.6**
CAN pmax pmax
comp=Z,107nm,0.9s
CAN Canberra 46.67 154 P **P 21 04 49.5 +2.5**
CAN PcP **PcP 21 06 19.8 +1.3**
CNB Canberra Magne 46.83 153 P **P 21 04 50.1 +1.9**
baz=47,SNR=16
CNB Canberra Magne 46.83 153 P **P 21 04 50.1 +1.9**
TOO Toolangi 47.20 159 P **P 21 04 53.5 +2.5**
baz=47,SNR=23
TOO Toolangi 47.20 159 P **P 21 04 53.2 +2.2**
TOO Toolangi 47.20 159 P **P 21 04 52.5 +1.5**
TOO Toolangi 47.20 159 P **P 21 04 52.5 +1.5**
TOO pmax pmax
comp=Z,241nm,1.7s
MLBS Spotswood, Mel 47.22 159 P **P 21 04 54.4 +3.4**
TARA Tarawa 47.31 94 P **P 21 04 51.0 -1.3**
TARA IAmb IAmb 21 05 00.7
comp=Z,76nm,1.1s
HYB Hyderabad 47.41 288 *eP* **P 21 04 53.5 +0.6**
ZEA Zeya 47.51 1 *eP* **P 21 04 53.3 +0.2**
ZEA pmax pmax
comp=N,10.0nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.0s
NOUC Port Laguerre 48.63 127 P **P 21 05 03.8 +1.6**
NOUC Port Laguerre 48.63 127 P **P 21 05 03.5 +1.3**
NOUC pP **pP 21 05 32.8 +0.4**
DZM Mont Dzumac 48.73 126 P **P 21 05 04.9 +1.8**
DZM Mont Dzumac 48.73 126 *eP* **P 21 05 03.2 +0.1**
comp=Z,148nm,0.9s
DZM Mont Dzumac 48.73 126 *e*LR LR 21 19 06.7
comp=Z,336nm,38.8s
DZM Mont Dzumac 48.73 126 P **P 21 05 03.1 0.0**
DZM Mont Dzumac 48.73 126 P **P 21 05 04.6 +1.6**
comp=Z,58nm,0.8s,baz=288,slow=6.5,SNR=39
comp=Z,58nm,0.8s
DZM Mont Dzumac 48.73 126 P **P 21 05 04.6 +1.6**
LIFNC LIFOU 48.74 124 P **P 21 05 04.8 +1.8**
LIFNC LIFOU 48.74 124 P **P 21 05 02.8 -0.2**
ONTNC Ouen Toro 48.85 127 P **P 21 05 03.8 -0.1**
OUENC Ouen Island, N 49.22 127 P **P 21 05 07.2 +0.5**
OUENC IAmb IAmb 21 05 09.6
comp=Z,34nm,0.9s
PINNC Pines Island, 49.80 126 P **P 21 05 12.3 +1.2**
MOY Mondy 49.82 340 *eP* **P 21 05 10.2 -0.8**
WMQ Urumqi 50.22 325 *eP* **P 21 05 16.5 +2.4**
WMQ LR LR
comp=Z,110nm,21.5s
BOD Bodaibo 52.39 352 *eP* **P 21 05 31.3 +1.5**
BOD pmax pmax
comp=Z,15nm,1.1s
KAAM Kaadhehdhoo 52.91 266 P **P 21 05 34.9 +0.4**
PEA0B Petropavlovsk- 53.64 23 P **P 21 05 39.8 +0.7**
PEA0B Petropavlovsk- 53.64 23 P **P 21 05 39.8 +0.7**
PEA0B pmax pmax
comp=Z,239nm,1.9s
PETK Petropavlovsk- 53.64 23 P **P 21 05 39.5 +0.4**
PETK Petropavlovsk- 53.64 23 P **P 21 05 40.5 +1.4**
comp=Z,18nm,0.7s,baz=197,slow=3.3,SNR=35
comp=Z,18nm,0.7s
PET Petropavlovsk 53.96 24⇓ *eP* **P 21 05 43.5 +2.1**
PET pmax pmax
comp=Z,66nm,1.3s
ZSN Zaisan 53.98 327 *eP* **P 21 05 40.9 -0.9**
baz=327
ZSN Zaisan 53.98 327 *eP* **P 21 05 40.9 -0.9**
DGZ Jazzator, Alta 54.05 330⇓ *eP* **P 21 05 42.1 -0.3**
DGZ pmax pmax
comp=Z,5.0nm,1.2s
SHLS Shalkode 54.90 320 *eP* **P 21 05 45.8 -2.8**
baz=320
SHLS Shalkode 54.90 320 *eP* **P 21 05 45.8 -2.8**
MK31 Makanchi Array 55.05 325 P **P 21 05 48.7 -0.7**
MK31 Makanchi Array 55.05 325 *ce*P **P 21 05 48.8 -0.7**
MKAR Makanchi Array 55.05 325 P **P 21 05 49.0 -0.4**
MKAR Makanchi Array 55.05 325 P **P 21 05 48.9 -0.6**
comp=Z,7.1nm,0.9s,baz=127,slow=7.3,SNR=28
MKAR LR LR 21 30 03.2
comp=Z,105nm,19.7s,baz=113,slow=37
MKAR PKP2bc **P'P'bc 21 36 08.1 -2.1**
comp=Z,1.1nm,1.1s,baz=282,slow=6.1,SNR=3.9
comp=Z,7.1nm,0.9s
MKAR Makanchi Array 55.05 325 P **P 21 05 49.1 -0.4**
UZB Uzynbulak 55.17 320 *eP* **P 21 05 49.7 -0.9**
baz=320
UZB Uzynbulak 55.17 320 *eP* **P 21 05 49.6 -1.0**
MAKZ Makanchi 55.24 325 P **P 21 05 50.0 -0.8**
MAKZ IAmb IAmb 21 06 32.3
comp=Z,20nm,1.1s
MAKZ Makanchi 55.24 325 P **P 21 05 50.1 -0.8**
MAKZ pmax pmax
comp=Z,20nm,1.1s
SATY Saty 55.53 319 *eP* **P 21 05 52.3 -0.9**
baz=319
SATY Saty 55.53 319 *eP* **P 21 05 52.2 -0.9**
ZHN Zhinishke 55.56 319 *eP* **P 21 05 52.5 -0.9**
baz=319
ZHN Zhinishke 55.56 319 *eP* **P 21 05 52.5 -0.9**
KSH Kashi 55.67 314 P **P 21 05 56.1 +1.9**
KSH sP sP 21 06 43.9 +2.8
KSH S **S 21 13 35.6 +5.4**
KSH pmax pmax
comp=Z,9.0nm,1.3s
YAK Yakutsk 55.88 2 P **P 21 05 54.3 -0.8**
YAK Yakutsk 55.88 2 P **P 21 05 55.8 +0.7**
comp=Z,148nm,0.8s,baz=21,slow=2.5,SNR=23
YAK LR LR 21 32 44.4
comp=Z,30nm,18.1s,baz=178,slow=39
comp=Z,148nm,0.8s
YAK Yakutsk 55.88 2*c iP* **P 21 05 55.6 +0.5**
YAK *e**PP **pP 21 06 25.7 -0.9**
YAK *e* 21 06 52.6
YAK *e* 21 08 01.5
YAK *e*PPP PPP 21 09 17.1
YAK *e*S **S 21 13 33.4 +1.5**
YAK *e* 21 15 27.4
YAK *e*SS **SS 21 17 21.0 +1.3**
YAK pmax pmax
comp=Z,183nm,0.9s
YAK pmax pmax
comp=N,24nm,1.0s
YAK pmax pmax
comp=E,13nm,1.0s
YAK pmax pmax
comp=Z,127nm,3.5s
YAK pmax pmax
comp=N,74nm,2.8s
YAK pmax pmax
comp=E,46nm,3.4s
YAK smax smax
comp=E,128nm,3.5s
YAK smax smax
comp=N,81nm,3.3s
YAK Yakutsk 55.88 2 P **P 21 05 55.6 +0.5**
YAK sP **sP 21 06 41.5 +0.1**
YAK PcP **PcP 21 06 52.1 0.0**
ARXS Arharly 56.44 320 *eP* **P 21 05 59.8 +0.3**
TDK Taldyqorghan 56.45 321 *eP* **P 21 05 58.2 -1.3**
comp=N,14nm,0.8s,baz=321
TDK Taldyqorghan 56.45 321 *eP* **P 21 05 58.2 -1.3**
TDK pmax pmax
comp=Z,14nm,0.8s
MDOK Medeo 56.47 319 *eP* **P 21 05 58.9 -1.0**
baz=319
MDOK Medeo 56.47 319 *eP* **P 21 05 58.8 -1.0**
AAA Alma-Ata 56.57 319 *eP* **P 21 05 59.4 -1.1**
comp=Z,8.1nm,0.5s,baz=319
AAA Alma-Ata 56.57 319 *eP* **P 21 05 59.4 -1.1**
AAA pmax pmax
comp=Z,8.0nm,0.5s
MA2 Magadan 56.67 15 P **P 21 06 02.6 +1.9**
MA2 Magadan 56.67 15 P **P 21 05 59.9 -0.8**
MA2 Magadan 56.67 15*d iP* **P 21 06 03.1 +2.4**
MA2 pmax pmax
comp=Z,16nm,0.6s
MA2 Magadan 56.67 15 P **P 21 06 02.2 +1.4**
MA2 sP **sP 21 06 46.3 -0.9**
MA2 PcP **PcP 21 06 57.0 +1.7**
MA2 Magadan 56.67 15 P **P 21 06 01.3 +0.6**
comp=Z,49nm,0.9s
CHKK Chushkaly 56.81 319 *eP* **P 21 06 00.9 -1.2**
baz=320
CHKK Chushkaly 56.81 319 *eP* **P 21 06 00.8 -1.3**
MSVF Nonsavu 56.82 116 P **P 21 06 02.6 0.0**
MSVF IAmb IAmb 21 06 06.2
comp=Z,28nm,0.9s
MSVF Nonsavu 56.82 116 P **P 21 06 02.6 0.0**
MSVF pmax pmax
comp=Z,28nm,0.9s
MSVF Nonsavu 56.82 116 P **P 21 06 05.1 +2.5**
BOOM Boomskoye usch 56.91 318 P **P 21 06 02.5 -0.5**
BOOM Boomskoye usch 56.91 318 P **P 21 06 02.5 -0.5**
BOOM pmax pmax
comp=Z,18nm,1.3s
FRU1 Bishkek 57.92 317 P **P 21 06 09.2 -0.7**
FRU1 Bishkek 57.92 317 P **P 21 06 09.2 -0.7**
FRU1 pmax pmax
comp=Z,8.0nm,0.8s
AAK Ala-Archa 57.94 317 P **P 21 06 09.7 -0.5**
AAK Ala-Archa 57.94 317 LR LR 21 33 50.6
comp=Z,149nm,19.8s,baz=114,slow=39
AAK Ala-Archa 57.94 317*d iP* **P 21 06 10.9 +0.7**
AAK pmax pmax
comp=Z,6.0nm,1.0s
AAK Ala-Archa 57.94 317 P **P 21 06 11.1 +0.9**
AAK PcP **PcP 21 07 00.8 -0.2**
ZAA0 Zalesovo Array 58.03 333 P **P 21 06 09.3 -1.1**
ZALV Zalesovo Beam 58.03 333 P **P 21 06 08.0 -2.4**
ZALV Zalesovo Beam 58.03 333 P **P 21 06 09.1 -1.3**
comp=Z,2.7nm,0.7s,baz=126,slow=6.2,SNR=12
ZALV LR LR 21 32 55.3
comp=Z,75nm,18.6s,baz=120,slow=38
ZALV PKP2bc **P'P'bc 21 36 00.2 -2.7**
comp=Z,3.0nm,0.8s,baz=297,slow=4.0,SNR=9.4
comp=Z,2.7nm,0.7s
ZALV Zalesovo Beam 58.03 333 *i* P **P 21 06 11.8 +1.4**
ZALV pmax pmax
comp=Z,3.0nm,0.7s
SEM Semipalatinsk 58.17 328 *eP* **P 21 06 10.5 -1.2**
baz=328
SEM Semipalatinsk 58.17 328 *eP* **P 21 06 10.5 -1.2**
SGDS Sogindy 58.19 318 *eP* **P 21 06 10.6 -1.2**
baz=316
SGDS Sogindy 58.19 318 *eP* **P 21 06 10.6 -1.2**
ARSB Arslanbob 58.47 315 P **P 21 06 12.6 -1.3**
ARSB Arslanbob 58.47 315 P **P 21 06 12.6 -1.3**
ARSB pmax pmax
comp=Z,7.0nm,1.5s
KURBB Kurchatov Arra 59.22 327 P **P 21 06 17.7 -0.9**
comp=Z,11nm,0.8s,baz=125,slow=6.1,SNR=66
KURBB PKPPKP P'P'df 21 35 40.8 -9.0
comp=Z,2.0nm,1.0s,baz=273,slow=3.9,SNR=9.3
comp=Z,11nm,0.8s
KURK Kurchatov 59.22 327 P **P 21 06 17.2 -1.5**
KURK IAmb IAmb 21 06 39.9
comp=Z,28nm,0.8s
KURK Kurchatov 59.22 327*c iP* **P 21 06 17.5 -1.1**
KURK pmax pmax
comp=Z,16nm,1.0s
KURK Kurchatov 59.22 327 P **P 21 06 17.7 -1.0**
BTLS Baital 59.23 320 *eP* **P 21 06 17.8 -1.1**
baz=320
BTLS Baital 59.23 320 *eP* **P 21 06 17.8 -1.1**
KBL Kabul 59.30 307 P **P 21 06 18.4 -1.5**
KBL IAmb IAmb 21 07 07.1
comp=Z,15nm,0.9s
KBL Kabul 59.30 307 P **P 21 06 18.4 -1.5**
KBL pmax pmax
comp=Z,15nm,0.9s
BTK Batken 59.57 313 IAmb IAmb 21 07 22.3
comp=Z,20nm,1.1s
SEY Seymchan 59.97 14 LR LR 21 33 07.9
comp=Z,35nm,19.7s,baz=223,slow=37
SEY Seymchan 59.97 14⇑ *eP* **P 21 06 25.6 +2.0**
SEY pmax pmax
comp=Z,29nm,1.0s
DZA Taraz 60.19 316 *eP* **P 21 06 24.8 -0.7**
baz=316
DZA Taraz 60.19 316 *eP* **P 21 06 24.8 -0.7**
SIMJ Simiganj 60.47 311 P **P 21 06 26.6 -1.1**
KK31 Karatay Array 60.83 316 P **P 21 06 28.5 -1.4**
KK31 Karatay Array 60.83 316 P **P 21 06 28.5 -1.4**
KK31 pmax pmax
comp=Z,10.0nm,0.9s
KKAR Karatay Array 60.83 316 P **P 21 06 28.6 -1.3**
KKAR Karatay Array 60.83 316 P **P 21 06 28.6 -1.3**
KKAR pmax pmax
comp=Z,10.0nm,0.9s
IUG luzhnay 60.83 315 *eP* **P 21 06 29.1 -0.9**
baz=315
IUG luzhnay 60.83 315 *eP* **P 21 06 29.1 -0.9**
SHEM Shemya Is, Ala 60.95 31 LR LR 21 34 56.8
comp=Z,19nm,18.5s,baz=118,slow=38
CHM Chimkent 61.19 315 *eP* **P 21 06 31.3 -1.1**
baz=315
CHM Chimkent 61.19 315 *eP* **P 21 06 31.2 -1.1**
BRLS Boroldav 61.27 316 *eP* **P 21 06 32.0 -0.9**
baz=316
BRLS Boroldav 61.27 316 *eP* **P 21 06 31.9 -0.9**
BRZS Berezniki 62.19 324 *eP* **P 21 06 37.5 -1.3**
baz=324
BRZS Berezniki 62.19 324 *eP* **P 21 06 37.5 -1.3**
AMKA Amchitka 63.10 34 P **P 21 06 44.0 -0.8**
JCZ Jackson Bay 63.23 147 P **P 21 06 47.5 +1.6**
DCZ Deep Cove 63.28 149 P **P 21 06 46.8 +0.8**
QRZ Quartz Range 63.40 142 P **P 21 06 47.3 +0.3**
QRZ Quartz Range 63.40 142 P **P 21 06 49.1 +2.2**
FOZ Fox Glacier 63.45 146 P **P 21 06 48.6 +1.4**
DSZ Denniston Nort 63.50 143 P **P 21 06 47.6 0.0**
PYZ Puysegur Point 63.51 149 P **P 21 06 47.9 +0.3**
HIZ Hauiti 63.58 139 P **P 21 06 48.1 -0.1**
TOZ Tahuroa Road 63.59 137 P **P 21 06 48.5 +0.3**
TOZ IAmb IAmb 21 06 51.6
comp=Z,21nm,0.9s
MLZ Mavora Lakes 63.72 148 P **P 21 06 49.3 +0.3**
TKNZ Takaka Hill 63.79 142 P **P 21 06 50.2 +0.7**
WKZ Wanaka 63.84 147 P **P 21 06 50.2 +0.4**
MRNZ Matariki Terra 63.88 142 P **P 21 06 49.4 -0.7**
MRNZ Matariki Terra 63.88 142 P **P 21 06 51.4 +1.3**
NNZ Nelson 64.15 142 P **P 21 06 52.8 +0.9**
THZ Tophouse 64.18 142 P **P 21 06 52.6 +0.5**
LBZ Lake Benmore 64.20 146 P **P 21 06 52.9 +0.8**
RPZ Rata Peaks 64.27 145 P **P 21 06 54.3 +1.7**
RPZ Rata Peaks 64.27 145 P **P 21 06 53.2 +0.6**
NNVZ North Ngauruho 64.41 139 P **P 21 06 56.5 +2.7**
RAO Raoul Island 64.53 126 LR LR 21 34 14.2
comp=Z,64nm,18.9s,baz=26,slow=35
OXZ Oxford 64.59 144 P **P 21 06 54.3 -0.4**
TUWZ Tuamarina 64.62 142 P **P 21 06 55.4 +0.5**
BVAR Borovoye Array 64.80 327 P **P 21 06 55.2 -0.7**
comp=Z,6.0nm,0.8s,baz=126,slow=7.5,SNR=27
BVAR PKP2bc **P'P'bc 21 35 44.6 -1.8**
comp=Z,1.4nm,0.9s,baz=231,slow=4.7,SNR=3.5
BVAR LR LR 21 35 58.4
comp=Z,97nm,21.9s,baz=115,slow=37
comp=Z,6.0nm,0.8s
BRVK Borovoye 64.87 327 P **P 21 06 55.3 -1.1**
BRVK IAmb IAmb 21 07 17.5
comp=Z,21nm,0.8s
BRVK Borovoye 64.87 327*d iP* **P 21 06 56.2 -0.2**
BRVK pmax pmax
comp=Z,21nm,0.7s
BRVK Borovoye 64.87 327 P **P 21 06 55.6 -0.8**
BHHZ Black Hill Sta 64.90 139 P **P 21 06 58.3 +1.5**
URZ Urewera 64.95 137 P **P 21 06 58.0 +0.9**
comp=Z,23nm,0.8s,baz=62,slow=8.1,SNR=7.9
comp=Z,23nm,0.8s
BKZ Black Stump Fm 65.01 138 P **P 21 06 59.0 +1.4**
BKZ Black Stump Fm 65.01 138 P **P 21 06 57.0 -0.5**
SNZO South Karori 65.03 141 P **P 21 06 57.3 -0.2**
KWHZ Kaweka Forest 65.10 139 P **P 21 06 60.0 +1.8**
KRHZ Kereru 65.18 139 P **P 21 06 60.0 +1.4**
BHW Baring Head 65.18 141 P **P 21 06 58.5 -0.1**
POWZ Post Office Ro 65.19 140 P **P 21 06 59.2 +0.6**
PNHZ Pukenui 65.21 139 P **P 21 06 59.9 +1.0**
MCHZ McNeill Hill 65.29 139 P **P 21 07 01.4 +2.1**
TIXI Tiksi 65.50 1 P **P 21 07 00.1 0.0**
TIXI Tiksi 65.50 1*ce*P **P 21 06 59.8 -0.3**
TIXI pmax pmax
comp=Z,60nm,0.9s
TIXI Tiksi 65.50 1 P **P 21 06 59.9 -0.2**
PLWZ Palliser 65.51 141 P **P 21 07 01.4 +0.6**
KAHZ Kahuranaki 65.59 139 P **P 21 07 03.2 +1.9**
ANWZ Angora Road 65.68 140 P **P 21 07 02.9 +1.1**
PXZ Pawanui 65.71 139 P **P 21 07 03.5 +1.6**
ATKA Atka Island 67.14 35 P **P 21 07 12.0 +1.2**
ATKA Atka Island 67.14 35 P **P 21 07 11.1 +0.3**
BILL Bilibino 67.53 15 P **P 21 07 13.0 -0.1**
BILL Bilibino 67.53 15 *i* P **P 21 07 14.9 +1.8**
BILL pmax pmax
comp=Z,21nm,1.1s
BILL Bilibino 67.53 15 P **P 21 07 13.8 +0.7**
BILL pP **pP 21 07 45.9 +0.3**
GEYT Alibeck 68.64 308 P **P 21 07 20.2 -0.5**
GEYT IAmb IAmb 21 07 22.1
comp=Z,19nm,0.9s
GEYT Alibeck 68.64 308 P **P 21 07 20.6 0.0**
comp=Z,10nm,0.9s,baz=128,slow=4.5,SNR=30
GEYT LR LR 21 42 44.4
comp=Z,46nm,18.5s,baz=126,slow=40
comp=Z,10nm,0.9s
GEYT Alibeck 68.64 308 P **P 21 07 20.2 -0.5**
GEYT pmax pmax
comp=Z,19nm,1.0s
ABKAR Akbulak array 69.69 320 P **P 21 07 26.0 -0.9**
ABKAR Akbulak array 69.69 320 IAmb IAmb 21 07 27.1
comp=Z,11nm,0.9s
NIKH Nikolski High 70.47 36 P **P 21 07 32.5 +1.0**
baz=254
SPIA Saint Paul Isl 70.99 31 P **P 21 07 35.1 +0.6**
baz=251
P08K Saint George I 71.17 32 P **P 21 07 36.5 +0.9**
baz=252
AKTO Aktyubinsk 71.19 321 LR LR 21 40 14.7
comp=Z,78nm,20.7s,baz=228,slow=37
SVE Sverdlovsk 71.43 328 *eP* **P 21 07 36.5 -0.7**
SVE pmax pmax
comp=Z,39nm,1.2s
UNV Unalaska Valle 72.06 35 P **P 21 07 42.1 +1.1**
UNV Unalaska Valle 72.06 35 P **P 21 07 42.0 +0.9**
baz=255
ARU Arti 72.41 328 P **P 21 07 41.6 -1.5**
ARU Arti 72.41 328 LR LR 21 42 41.9
comp=Z,55nm,18.9s,baz=100,slow=38
ARU Arti 72.41 328*c iP* **P 21 07 42.0 -1.1**
ARU 21 07 59.9
ARU *PP **pP 21 08 19.3 +2.8**
ARU 21 10 21.1
ARU S **S 21 16 53.9 -1.8**
ARU SS **SS 21 21 35.5 -1.3**
ARU pmax pmax
comp=Z,12nm,0.8s
ARU Arti 72.41 328 P **P 21 07 40.9 -2.2**
comp=Z,18nm,0.8s
GAMB Gambell 72.65 24 P **P 21 07 45.5 +1.2**
baz=248
CASY Casey 73.05 186 P **P 21 07 47.1 +0.6**
CASY IAmb IAmb 21 07 48.9
comp=Z,55nm,0.8s
M11K Mekoryuk 73.97 29 P **P 21 07 53.2 +1.1**
baz=254
FALS False Pass 74.05 35 P **P 21 07 53.5 +0.8**
FALS False Pass 74.05 35 P **P 21 07 53.7 +0.9**
baz=258
TNA Tin City 74.81 23 P **P 21 07 58.4 +1.5**
baz=251
S12K Black Hills 74.99 34 P **P 21 07 58.7 +0.5**
baz=259
K13K Kusilvak Mount 75.11 27 P **P 21 08 00.1 +1.4**
baz=255,SNR=5.6
M13K Dall Lake 75.34 29 P **P 21 08 00.4 +0.4**
baz=256
F14K Arctic Creek 75.41 24 P **P 21 08 01.4 +1.0**
baz=252
SDPT Sand Point 75.81 34 P **P 21 08 03.8 +1.0**
baz=260
J14K Nanvaranak Lak 75.82 27 P **P 21 08 03.1 +0.4**
baz=256
L14K Kuka Creek 75.88 28 IAmb IAmb 21 08 06.1
comp=Z,40nm,0.8s
L14K Kuka Creek 75.88 28 P **P 21 08 03.5 +0.4**
baz=257,SNR=9.3
LKRN Lenkeran, Azer 76.03 308 P **P 21 08 04.5 +0.1**
M14K Bethel 76.09 29 P **P 21 08 05.0 +0.7**
baz=257,SNR=5.2
O14K Tigyukauivet M 76.12 30 P **P 21 08 05.0 +0.5**
baz=258
F15K North Star Dit 76.15 24 P **P 21 08 05.5 +0.9**
baz=254
G15K Niukluk 76.20 24 P **P 21 08 05.5 +0.7**
baz=254
CHNA Chernabura Isl 76.22 35 P **P 21 08 05.9 +0.8**
baz=261
L15K Ungalak Mounta 76.52 28 P **P 21 08 07.4 +0.7**
baz=258
K15K Wolf Creek Mou 76.63 27 IAmb IAmb 21 08 10.4
comp=Z,27nm,0.9s
K15K Wolf Creek Mou 76.63 27 P **P 21 08 07.8 +0.5**
baz=257,SNR=7.2
C16K Lisburne Hills 76.64 21 IAmb IAmb 21 08 09.7
comp=Z,26nm,1.1s
C16K Lisburne Hills 76.64 21 P **P 21 08 08.3 +1.1**
baz=252,SNR=7.6
M15K Kasigluk River 76.69 29 P **P 21 08 08.7 +1.0**
baz=259,SNR=9.5
O15K Ungalikthiuk R 76.83 31 P **P 21 08 09.2 +0.7**
baz=260
H16K Elim 76.85 25 P **P 21 08 09.0 +0.4**
baz=256,SNR=7.3
N15K Kwethluk River 76.88 30 IAmb IAmb 21 08 19.9
comp=Z,45nm,1.0s
N15K Kwethluk River 76.88 30 P **P 21 08 09.8 +1.0**
baz=259
G16K Koyuk River 76.99 24 P **P 21 08 10.3 +1.0**
baz=256
MAK Makhachkala 77.25 313 *eP* **P 21 08 09.4 -1.8**
MAK *e**PP **pP 21 08 41.8 -3.3**
MAK *eS* **S 21 17 48.6 -1.3**
MAK *e**SS **sS 21 18 44.0 -4.2**
MAK pmax pmax
comp=Z,88nm,1.3s
J16K Anvik River 77.26 26 P **P 21 08 12.6 +1.7**
J16K IAmb IAmb 21 08 18.6
comp=Z,23nm,0.9s
J16K Anvik River 77.26 26 P **P 21 08 11.9 +1.0**
baz=258,SNR=9.0
D17K Noatak River 77.29 22 P **P 21 08 12.1 +1.2**
baz=255,SNR=16
I17K Unalakleet 77.34 26 P **P 21 08 11.9 +0.6**
baz=258
SEKA Sheki 77.38 311 P **P 21 08 11.6 -0.5**
MNGR Mingechevir, A 77.44 310 P **P 21 08 12.3 0.0**
RDOG Red Dog Mine 77.45 21 IAmb IAmb 21 08 14.6
comp=Z,60nm,1.6s
RDOG Red Dog Mine 77.45 21 P **P 21 08 12.5 +0.7**

baz=255,SNR=6.4
L16K **Owhat River** 77.46 28 IAmb IAmb 21 08 14.7
comp=Z,30nm,0.8s
L16K **Owhat River** 77.46 28 P **P** **21 08 13.0 +1.0**
baz=259,SNR=10
C17K **DeLong Mountai** 77.46 21 P **P** **21 08 12.9 +1.0**
baz=254
N16K **Nishlik Lake** 77.58 29 P **P** **21 08 13.9 +1.2**
baz=260,SNR=11
M16K **Timber Creek** 77.58 29 IAmb IAmb 21 08 15.5
comp=Z,40nm,0.8s
M16K **Timber Creek** 77.58 29 P **P** **21 08 13.3 +0.6**
baz=260
E17K **Hotham Inlet** 77.61 22 P **P** **21 08 13.8 +1.1**
baz=256,SNR=13
F17K **Baldwin Pennin** 77.68 23 P **P** **21 08 14.4 +1.4**
F17K **Baldwin Pennin** 77.68 23 P **P** **21 08 13.8 +0.7**
baz=257,SNR=6.9
KIRV **Kirov** 77.69 329 LR LR 21 43 34.1
comp=Z,95nm,19.5s,baz=110,slow=36
KIRV **Kirov** 77.69 329*d i*P **P** **21 08 12.6 -0.7**
G17K **Kiwalik Mounta** 77.70 24 P **P** **21 08 14.2 +1.0**
baz=258,SNR=12
O16K **Kokwok River B** 77.77 30 IAmb IAmb 21 08 16.0
comp=Z,27nm,0.9s
O16K **Kokwok River B** 77.77 30 P **P** **21 08 14.1 +0.4**
baz=261,SNR=5.3
ZKTA **Zakatala** 77.83 311 P **P** **21 08 14.5 0.0**
H17K **Granite Mounta** 77.89 25 P **P** **21 08 15.2 +0.8**
baz=258
BELG **Belogornoye** 77.93 322*c i*P **P** **21 08 13.2 -1.5**
BELG pmax pmax
comp=Z,8.0nm,0.9s
J17K **VABM Dome** 77.95 26 IAmb IAmb 21 08 17.8
comp=Z,21nm,0.8s
J17K **VABM Dome** 77.95 26 P **P** **21 08 15.7 +1.0**
baz=259,SNR=11
GANJ **Ganja** 78.01 310 P **P** **21 08 15.5 -0.1**
L17K **Donlin** 78.08 28 P **P** **21 08 16.5 +1.1**
baz=260
E18K **Tukpahlearik C** 78.15 22 P **P** **21 08 16.9 +1.2**
baz=257,SNR=13
B18K **Kokolik River** 78.17 20 P **P** **21 08 16.2 +0.4**
baz=256
K17K **Iditarod** 78.18 27 IAmb IAmb 21 08 19.2
comp=Z,39nm,0.8s
K17K **Iditarod** 78.18 27 P **P** **21 08 15.8 -0.1**
baz=260
C18K **Utukok River** 78.21 21 P **P** **21 08 17.2 +1.0**
C18K **Utukok River** 78.21 21 P **P** **21 08 16.9 +0.8**
baz=256,SNR=5.8
O17K **Koliganek Bris** 78.30 30 P **P** **21 08 16.9 +0.3**
baz=262
F18K **Selawik** 78.34 23 P **P** **21 08 17.7 +1.0**
baz=258,SNR=10
N17K **Nushagak Hills** 78.36 29 IAmb IAmb 21 08 19.9
comp=Z,22nm,0.9s
N17K **Nushagak Hills** 78.36 29 P **P** **21 08 17.8 +0.8**
baz=262
M17K **Holitna River** 78.37 29 IAmb IAmb 21 08 20.4
comp=Z,26nm,0.8s
M17K **Holitna River** 78.37 29 P **P** **21 08 18.5 +1.4**
baz=261,SNR=5.3
GROC **Groznyy** 78.51 313 *e*P **P** **21 08 17.6 -0.6**
GROC *e**SP **sP** **21 09 07.8 +1.1**
GROC *e* 21 11 16.2
GROC pmax pmax
comp=Z,40nm,1.3s
P17K **Kvichak River** 78.56 31 P **P** **21 08 18.5 +0.5**
baz=263
H18K **Honhosa River** 78.58 25 P **P** **21 08 18.7 +0.6**
baz=260
G18K **Tagagawik** 78.59 24 P **P** **21 08 18.9 +0.7**
baz=259
NAX **Nakhchivan** 78.60 309 P **P** **21 08 18.8 -0.1**
RAYN **Ar Rayn** 78.64 293 P **P** **21 08 18.3 -1.1**
RAYN **Ar Rayn** 78.64 293 P **P** **21 08 18.3 -1.1**
RAYN pmax pmax
comp=Z,10.0nm,0.8s
Q17K **Contact Creek** 78.73 32 P **P** **21 08 19.9 +0.7**
baz=263,SNR=8.9
L18K **Granite Mounta** 78.84 28 IAmb IAmb 21 08 22.8
comp=Z,19nm,0.8s
L18K **Granite Mounta** 78.84 28 P **P** **21 08 20.8 +1.2**
baz=262,SNR=7.9
C19K **Lookout Ridge** 78.88 21 IAmb IAmb 21 08 23.6
comp=Z,27nm,0.8s
C19K **Lookout Ridge** 78.88 21 P **P** **21 08 21.4 +1.6**
baz=258
J18K **Innoko River** 79.01 27 P **P** **21 08 21.6 +1.1**
baz=262,SNR=8.6
N18K **Kilae Creek** 79.02 29 P **P** **21 08 22.1 +1.5**
baz=263
F19K **Shaleruckim Mo** 79.11 23 P **P** **21 08 22.5 +1.6**
baz=260,SNR=6.9
GCSA **Galena City Sc** 79.13 25 P **P** **21 08 22.0 +1.0**
baz=261
M18K **Stony River** 79.15 29 P **P** **21 08 22.5 +1.2**
baz=263,SNR=10
P18K **Big Mountain,** 79.19 31 P **P** **21 08 22.7 +1.1**
baz=264
GNI **Garni** 79.21 310 P **P** **21 08 22.2 -0.1**
GNI **Garni** 79.21 310*c i*P **P** **21 08 22.4 +0.1**
GNI pmax pmax
comp=Z,32nm,1.6s
GNI **Garni** 79.21 310 P **P** **21 08 22.1 -0.2**
comp=Z,16nm,1.3s
O18K **Koktuh Hills** 79.26 30 P **P** **21 08 23.2 +1.2**
baz=264,SNR=14
G19K **Purcell Mounta** 79.27 24 IAmb IAmb 21 08 24.6
comp=Z,23nm,1.0s
G19K **Purcell Mounta** 79.27 24 P **P** **21 08 22.3 +0.5**
baz=261,SNR=20
D19K **Kuna River** 79.28 21 IAmb IAmb 21 08 26.9
comp=Z,20nm,0.7s
D19K **Kuna River** 79.28 21 P **P** **21 08 22.9 +0.9**
baz=259
E19K **Redstone River** 79.43 22 IAmb IAmb 21 08 27.7
comp=Z,35nm,0.8s
E19K **Redstone River** 79.43 22 P **P** **21 08 23.9 +1.2**
baz=260
H19K **Roundabout Mou** 79.43 24 IAmb IAmb 21 08 25.7
comp=Z,34nm,0.8s
H19K **Roundabout Mou** 79.43 24 P **P** **21 08 23.9 +1.2**
baz=261,SNR=23
J19K **Poorman** 79.57 26 P **P** **21 08 25.0 +1.4**
baz=262,SNR=12
L19K **White Mountain** 79.69 28 P **P** **21 08 25.0 +0.7**
L19K IAmb IAmb 21 08 27.2
comp=Z,23nm,0.8s
L19K **White Mountain** 79.69 28 P **P** **21 08 25.3 +1.0**
baz=264,SNR=12
N19K **Bonanza Creek** 79.72 29 IAmb IAmb 21 08 27.5
comp=Z,25nm,0.8s
N19K **Bonanza Creek** 79.72 29 P **P** **21 08 25.9 +1.3**
baz=264,SNR=12
O19K **Port Alsworth** 79.74 30 P **P** **21 08 25.8 +1.4**
baz=264
D20K **Etivluk River** 79.87 21 P **P** **21 08 26.3 +1.3**
baz=261
M19K **Big River Lodg** 79.88 28 P **P** **21 08 26.4 +1.1**
baz=264,SNR=8.2
B20K **Meade River** 79.89 20 IAmb IAmb 21 08 29.4
comp=Z,33nm,1.1s
B20K **Meade River** 79.89 20 P **P** **21 08 26.0 +0.9**
baz=260,SNR=5.6
F20K **Avaraart Lake** 79.94 23 P **P** **21 08 26.1 +0.7**
F20K **Avaraart Lake** 79.94 23 P **P** **21 08 26.3 +0.9**
baz=262,SNR=20
E20K **Nigu River** 79.95 22 P **P** **21 08 26.8 +1.2**
baz=261
Q19K **Cape Douglas,** 79.96 31 IAmb IAmb 21 08 33.5
comp=Z,51nm,0.8s
Q19K **Cape Douglas,** 79.96 31 P **P** **21 08 26.6 +0.8**
baz=265
OHAK **Old Harbor** 80.02 33 P **P** **21 08 27.6 +1.6**
OHAK **Old Harbor** 80.02 33 IAmb IAmb 21 08 28.5
comp=Z,47nm,0.8s
OHAK **Old Harbor** 80.02 33 P **P** **21 08 27.0 +1.0**
baz=266,SNR=7.8
H20K **Anotleneega Mo** 80.08 25 P **P** **21 08 27.6 +1.3**
baz=263,SNR=26
NCK **Nalchik** 80.12 313⇓*i*P **P** **21 08 26.6 -0.4**
NCK pmax pmax
comp=Z,38nm,1.7s
I20K **Naaghedeneel** 80.16 25 P **P** **21 08 27.8 +1.1**
baz=263
L20K **Farewell, AK** 80.17 28 P **P** **21 08 28.1 +1.2**
baz=264
K20K **Telida** 80.18 27 IAmb IAmb 21 08 30.1
comp=Z,21nm,0.9s
K20K **Telida** 80.18 27 P **P** **21 08 28.3 +1.5**
baz=264,SNR=10.0
J20K **Nowinta River** 80.23 26 IAmb IAmb 21 08 30.2
comp=Z,25nm,0.8s
J20K **Nowinta River** 80.23 26 P **P** **21 08 28.6 +1.5**
baz=264,SNR=20
P19K **Oil Pt** 80.23 31 P **P** **21 08 28.1 +0.8**
baz=265
KDAK **Kodiak Island** 80.43 33 P **P** **21 08 29.3 +1.1**
KDAK **Kodiak Island** 80.43 33 P **P** **21 08 29.3 +1.1**
baz=266
KDAK **Kodiak Island** 80.43 33 P **P** **21 08 29.8 +1.5**
comp=Z,46nm,0.7s,baz=277,slow=6.5,SNR=32
KDAK **Kodiak Island** 80.43 33 P **P** **21 08 29.3 +1.1**
KDAK pmax pmax
comp=Z,57nm,0.8s
M20K **Styx River** 80.47 28 IAmb IAmb 21 08 31.5
comp=Z,46nm,0.8s
M20K **Styx River** 80.47 28 P **P** **21 08 29.8 +1.2**
baz=265,SNR=18
O20K **Slope Mountain** 80.57 30 P **P** **21 08 29.9 +0.8**
baz=266
C21K **Knifeblade Rid** 80.59 21 P **P** **21 08 30.1 +1.2**
baz=262
Q20K **Shuyak Island** 80.59 32 P **P** **21 08 29.4 +0.3**
baz=266
SYI **Shuyak Island** 80.59 32 IAmb IAmb 21 08 31.7
comp=Z,48nm,0.8s
IMAR **Indian Mountai** 80.60 24 P **P** **21 08 29.7 +0.7**
KBZ **Khabaz** 80.63 313 P **P** **21 08 28.9 -0.7**
comp=Z,4.4nm,1.0s,baz=358,slow=5.2,SNR=7.3
comp=Z,4.4nm,1.0s
KBZ **Khabaz** 80.63 313*c i*P **P** **21 08 28.6 -1.0**
KBZ pmax pmax
comp=Z,10.0nm,1.2s
B21K **Ikpikpuk River** 80.71 20 IAmb IAmb 21 08 32.4
comp=Z,31nm,0.9s
B21K **Ikpikpuk River** 80.71 20 P **P** **21 08 30.3 +0.8**
baz=262,SNR=22
G21K **Allakaket** 80.75 24 IAmb IAmb 21 08 32.8
comp=Z,26nm,1.0s
G21K **Allakaket** 80.75 24 P **P** **21 08 30.7 +0.9**
baz=264
A22K **Sinclair Lake** 80.78 19 P **P** **21 08 31.2 +1.4**
baz=262
KIV **Kislovodsk** 80.79 313 ⇑P **P** **21 08 28.6 -2.1**
KIV **Kislovodsk** 80.79 313 P **P** **21 08 30.7 +0.1**
KIV **Kislovodsk** 80.79 313*d i*P **P** **21 08 29.8 -0.8**
KIV *e* 21 11 36.4
KIV *e*PPP PPP 21 13 26.9
KIV pmax pmax
comp=Z,11nm,0.9s
KIV **Kislovodsk** 80.79 313 P **P** **21 08 29.3 -1.3**
comp=Z,12nm,1.0s
E21K **Killik River** 80.79 22 IAmb IAmb 21 08 32.6
comp=Z,34nm,1.1s
E21K **Killik River** 80.79 22 P **P** **21 08 31.0 +1.0**
baz=263,SNR=25
F21K **Alatna River** 80.83 23 P **P** **21 08 30.9 +0.6**
baz=264,SNR=10
N20K **Mount Spurr** 80.86 29 P **P** **21 08 31.5 +0.9**
baz=266,SNR=6.6
H21K **Melozitna Rive** 80.95 25 IAmb IAmb 21 08 33.9
comp=Z,22nm,0.8s
H21K **Melozitna Rive** 80.95 25 P **P** **21 08 31.9 +1.0**
baz=265,SNR=26
PPLA **Purkeypile** 80.99 27 P **P** **21 08 32.2 +0.8**
baz=266,SNR=8.4
CHUM **Lake Minchumin** 81.01 26 P **P** **21 08 32.6 +1.4**
baz=266,SNR=8.2
HOM **Homer** 81.04 31 P **P** **21 08 32.7 +1.3**
baz=267
CAST **Castle Rocks** 81.08 27 P **P** **21 08 32.5 +0.9**
CAST IAmb IAmb 21 08 34.2
comp=Z,43nm,0.8s
CAST **Castle Rocks** 81.08 27 P **P** **21 08 32.9 +1.2**
baz=266,SNR=28
B22K **Teshekpuk Lake** 81.20 20 IAmb IAmb 21 08 34.9
comp=Z,48nm,1.2s
B22K **Teshekpuk Lake** 81.20 20 P **P** **21 08 32.9 +0.8**
baz=263,SNR=11
SKT **Skwentna** 81.23 28 IAmb IAmb 21 08 34.0
comp=Z,24nm,0.8s
SKT **Skwentna** 81.23 28 P **P** **21 08 32.7 +0.2**
baz=266,SNR=7.2
D22K **Ayikyak River** 81.31 21 P **P** **21 08 34.2 +1.5**
D22K **Ayikyak River** 81.31 21 P **P** **21 08 34.1 +1.3**
baz=264,SNR=9.4
F22K **John River** 81.37 23 P **P** **21 08 34.9 +1.8**
baz=265,SNR=36
BRSE **Bradley Lake S** 81.50 31 P **P** **21 08 35.2 +1.3**
baz=268
VRH **Novokhopyorsk** 81.52 321 *e*P **P** **21 08 31.4 -2.8**
VRH pmax pmax
comp=Z,20nm,0.7s
E22K **Anaktuvuk Pass** 81.56 22 P **P** **21 08 35.2 +1.1**
E22K IAmb IAmb 21 08 38.1
comp=Z,29nm,0.9s
E22K **Anaktuvuk Pass** 81.56 22 P **P** **21 08 35.7 +1.6**
baz=265,SNR=34
H22K **Ishtalitna Cre** 81.56 24 P **P** **21 08 35.7 +1.6**
baz=266,SNR=21
SUA **Susitna One** 81.58 29 P **P** **21 08 34.7 +0.3**
baz=267,SNR=13
G22K **Bettles** 81.58 23 P **P** **21 08 35.9 +1.7**
baz=266,SNR=7.1
KTH **Kantishna Hill** 81.60 27 IAmb IAmb 21 08 37.5
comp=Z,25nm,1.0s
BPAW **Bear Paw Mtn.** 81.61 26 IAmb IAmb 21 08 37.0
comp=Z,42nm,0.8s
BPAW **Bear Paw Mtn.** 81.61 26 P **P** **21 08 35.8 +1.3**
baz=267,SNR=15
MLY **Manley** 81.77 25 IAmb IAmb 21 08 37.9
comp=Z,24nm,0.8s
MLY **Manley** 81.77 25 P **P** **21 08 36.3 +1.0**
baz=267,SNR=34
CUT **Chulitna** 81.84 28 IAmb IAmb 21 08 38.3
comp=Z,47nm,1.0s
CUT **Chulitna** 81.84 28 P **P** **21 08 36.1 +0.5**
baz=268
TRF **Thorofare Moun** 81.88 27 P **P** **21 08 36.5 +0.5**
TRF IAmb IAmb 21 08 39.2
comp=Z,48nm,1.1s
TRF **Thorofare Moun** 81.88 27 P **P** **21 08 36.3 +0.2**
baz=267,SNR=13
M22K **Willow** 81.89 29 P **P** **21 08 36.3 +0.5**
M22K **Willow** 81.89 29 P **P** **21 08 36.3 +0.5**
baz=268,SNR=5.7
D23K **Nanushuk River** 82.03 21 P **P** **21 08 38.0 +1.5**
baz=266
RC01 **Rabbit Creek A** 82.05 29 P **P** **21 08 36.6 -0.2**
baz=268
COLD **Coldfoot** 82.11 23 P **P** **21 08 38.5 +1.5**
baz=267,SNR=18
C23K **Itkillik River** 82.12 20 IAmb IAmb 21 08 40.6
comp=Z,40nm,0.7s
C23K **Itkillik River** 82.12 20 P **P** **21 08 38.0 +1.1**
baz=266,SNR=35
G23K **Bananza Creek** 82.15 24 IAmb IAmb 21 08 41.1
comp=Z,22nm,0.8s
G23K **Bananza Creek** 82.15 24 P **P** **21 08 38.7 +1.5**
baz=267,SNR=22
SEW **Seward** 82.16 30 P **P** **21 08 38.3 +1.0**
baz=269
LABN **Labinsk** 82.19 314 *e*P **P** **21 08 34.6 -3.3**
LABN *e*S **S** **21 18 35.4 -6.5**
LABN pmax pmax
comp=Z,22nm,0.8s
H23K **Yukon River** 82.31 24 IAmb IAmb 21 08 41.6
comp=Z,25nm,0.8s
H23K **Yukon River** 82.31 24 P **P** **21 08 39.5 +1.5**
baz=268,SNR=27
ERBR **Yeremizino-Bor** 82.35 315 *e*P **P** **21 08 35.4 -3.2**
ERBR *e*S **S** **21 18 35.6 -7.9**
ERBR pmax pmax
comp=Z,10.0nm,0.7s
I23K **Minto, Yukon-K** 82.36 25 IAmb IAmb 21 08 41.4
comp=Z,30nm,0.8s
I23K **Minto, Yukon-K** 82.36 25 P **P** **21 08 39.4 +1.2**
baz=268,SNR=15
TOLK **Toolik Lake Re** 82.42 22 IAmb IAmb 21 08 41.1
comp=Z,19nm,0.8s
TOLK **Toolik Lake Re** 82.42 22 P **P** **21 08 39.9 +1.3**
baz=267,SNR=18
NEA2 **Nenana** 82.46 26 IAmb IAmb 21 08 42.1
comp=Z,45nm,1.4s
NEA2 **Nenana** 82.46 26 P **P** **21 08 39.5 +0.7**
baz=268,SNR=8.3
MCK **McKinley** 82.50 27 P **P** **21 08 39.5 +0.4**
baz=268,SNR=13
RND **Reindeer** 82.53 27 P **P** **21 08 39.2 -0.1**
RND **Reindeer** 82.53 27 P **P** **21 08 39.2 -0.1**
RND pmax pmax
comp=Z,143nm,1.8s
WAT1 **Susitna Watana** 82.65 27 P **P** **21 08 40.4 +0.5**
baz=269
D24K **Happy Valley** 82.71 21 IAmb IAmb 21 08 57.6
comp=Z,34nm,0.7s
D24K **Happy Valley** 82.71 21 P **P** **21 08 41.4 +1.3**
baz=268
SML **Sawmill** 82.74 29 P **P** **21 08 41.2 +0.8**
baz=269,SNR=9.7
C24K **Franklin Bluff** 82.78 21 P **P** **21 08 41.3 +0.9**
baz=268
E24K **Your Creek** 82.80 22 P **P** **21 08 41.7 +1.1**
baz=268,SNR=20
MDM **Murphy Dome** 82.83 25 IAmb IAmb 21 08 57.0
comp=Z,16nm,0.8s
KLMR **Klimovskoe** 82.86 331 *e*P **P** **21 08 38.8 -2.1**
KLMR *e**PP **pP** **21 09 20.0 +4.8**
KLMR pmax pmax
comp=Z,26nm,1.0s
COLA **College** 82.99 25 P **P** **21 08 42.1 +0.6**
baz=269
COLA **College** 82.99 25 ⇑P **P** **21 08 41.2 -0.3**
H24K **Noodor Dome** 82.99 24 IAmb IAmb 21 08 45.2
comp=Z,31nm,0.8s
H24K **Noodor Dome** 82.99 24 P **P** **21 08 42.8 +1.2**
baz=269,SNR=23
F24K **Squaw Lake** 83.01 23 IAmb IAmb 21 08 47.1
comp=Z,14nm,0.8s
F24K **Squaw Lake** 83.01 23 P **P** **21 08 42.8 +1.1**
baz=269,SNR=23
WAT6 **Susitna Watana** 83.02 28 P **P** **21 08 43.2 +1.2**
baz=270,SNR=12
M23K **Glacier View** 83.03 29 P **P** **21 08 43.3 +1.5**
baz=270,SNR=5.6
VORD **Divnogorie** 83.05 321 *e*P **P** **21 08 39.5 -2.6**
VORD pmax pmax
comp=Z,10.0nm,0.7s
VORR **Voronezh** 83.09 321 *e*P **P** **21 08 40.5 -1.8**
VORR pmax pmax
comp=Z,42nm,0.7s
VSR **Storozhevoye** 83.13 321 *e*P **P** **21 08 39.9 -2.6**
VSR pmax pmax
comp=Z,20nm,0.7s
G24K **Hadweenzic Riv** 83.17 24 IAmb IAmb 21 08 45.7
comp=Z,32nm,0.8s
G24K **Hadweenzic Riv** 83.17 24 P **P** **21 08 44.0 +1.6**
baz=270,SNR=26
POKR **Poker Plat Res** 83.17 25 P **P** **21 08 42.4 -0.1**
baz=270
P23K **Montague Islan** 83.19 30 P **P** **21 08 42.2 -0.4**
baz=270
DHY **Denali Highway** 83.19 27 IAmb IAmb 21 08 46.3
comp=Z,20nm,1.0s
DHY **Denali Highway** 83.19 27 P **P** **21 08 42.4 -0.5**
baz=270,SNR=6.1
SCM **Sheep Creek Mo** 83.22 29 IAmb IAmb 21 08 55.0
comp=Z,58nm,1.2s
SCM **Sheep Creek Mo** 83.22 29 P **P** **21 08 43.5 +0.6**
baz=270
LPSR **Galich'ya Gora** 83.25 322 *e*P **P** **21 08 40.5 -2.6**
LPSR pmax pmax
comp=Z,30nm,0.8s
GLI **Glacier Island** 83.33 29 P **P** **21 08 44.0 +0.6**
baz=270
HDA **Harding Lake** 83.38 26 P **P** **21 08 43.3 -0.2**
HDA **Harding Lake** 83.38 26 P **P** **21 08 44.2 +0.6**
baz=270,SNR=32
IL31 83.40 26 IAmb IAmb 21 08 45.2
comp=Z,17nm,0.7s
ILAR **Eielson Array** 83.40 26 P **P** **21 08 43.1 -0.6**
ILAR **Eielson Array** 83.40 26 P **P** **21 08 43.5 -0.1**
comp=Z,12nm,0.7s,baz=242,slow=4.7,SNR=112
ILAR LR LR 21 45 03.1
comp=Z,20nm,21.0s,baz=234,slow=35
comp=Z,12nm,0.7s
D25K **Kavik River** 83.59 21 IAmb IAmb 21 08 47.4
comp=Z,26nm,1.0s
D25K **Kavik River** 83.59 21 P **P** **21 08 45.5 +0.9**
baz=270,SNR=25
FID **Port Fidalgo** 83.64 30 IAmb IAmb 21 08 47.2
comp=Z,34nm,0.7s
G25K **Bearman Lake** 83.71 24 P **P** **21 08 46.7 +1.5**
baz=271,SNR=19
Q23K **Middleton Isla** 83.73 31 P **P** **21 08 46.4 +1.0**
baz=271
M24K **Tolsona, Glenn** 83.76 28 IAmb IAmb 21 08 48.0
comp=Z,42nm,0.9s
M24K **Tolsona, Glenn** 83.76 28 P **P** **21 08 46.7 +1.1**
baz=271
H25L **Birch Creek** 83.83 24 P **P** **21 08 47.1 +1.3**
baz=271,SNR=23
F25K **Christian Rive** 83.88 23 P **P** **21 08 47.5 +1.4**
baz=271,SNR=21
KLU **Klutina** 83.89 29 IAmb IAmb 21 09 02.2
comp=Z,49nm,1.4s
KLU **Klutina** 83.89 29 P **P** **21 08 47.7 +1.4**
baz=272
E25K **Arctic Village** 83.89 22 P **P** **21 08 47.3 +1.1**
E25K IAmb IAmb 21 08 49.5
comp=Z,37nm,1.1s
E25K **Arctic Village** 83.89 22 P **P** **21 08 48.5 +2.3**
baz=271,SNR=27
K24K **Donnelly Dome** 83.90 27 P **P** **21 08 46.9 +0.6**
baz=271,SNR=5.5
MOS **Moscow** 83.93 325 *e*P **P** **21 08 44.1 -2.4**
MOS *e**PP **pP** **21 09 21.2 +0.3**
MOS *e*S **SKSac** **21 18 51.8 -5.1**
PRP **Porcupine Dome** 83.97 25 P **P** **21 08 46.8 0.0**
baz=271
EYAK **Cordova Ski Ar** 84.00 30 P **P** **21 08 47.1 +0.4**
baz=272
J25K **Salcha River,** 84.06 26 IAmb IAmb 21 08 48.1
comp=Z,17nm,0.7s
J25K **Salcha River,** 84.06 26 P **P** **21 08 46.5 -0.6**
baz=272,SNR=26
PAX **Paxson** 84.06 27 P **P** **21 08 47.9 +0.7**
baz=272,SNR=9.0
C26K **Camden Bay** 84.09 20 P **P** **21 08 48.9 +1.8**
baz=272,SNR=36
BMAR **Burnt Mountain** 84.29 23 P **P** **21 08 50.0 +1.8**
F26K **Sheenjek River** 84.45 23 P **P** **21 08 50.7 +1.8**
baz=272,SNR=15
C27K **Jago River** 84.52 21 P **P** **21 08 50.8 +1.5**
baz=273,SNR=43
N25K **Chitina, Valde** 84.52 29 IAmb IAmb 21 09 06.2
comp=Z,26nm,0.9s
N25K **Chitina, Valde** 84.52 29 P **P** **21 08 51.0 +1.5**
baz=273
ANN **Anapa** 84.53 314 *e*P **P** **21 08 46.3 -3.5**
ANN *e**PP **pP** **21 09 27.8 +3.6**
ANN *e*S **SKSac** **21 18 52.7 -8.6**
ANN pmax pmax
comp=Z,37nm,0.8s
BMRM **Bremner River** 84.55 29 P **P** **21 08 49.3 -0.3**
baz=273
OBN **Obninsk** 84.56 325 P **P** **21 08 48.5 -1.2**
OBN IAmb IAmb 21 08 49.7
comp=Z,28nm,0.8s
OBN **Obninsk** 84.56 325 LR LR 21 47 31.7
comp=Z,61nm,18.7s,baz=1.5,slow=36
OBN **Obninsk** 84.56 325*c i*P **P** **21 08 48.3 -1.4**
OBN *e**PP **pP** **21 09 29.6 +5.5**
OBN *e*PPP PPP 21 14 00.1
OBN pmax pmax
comp=Z,32nm,0.8s
OBN **Obninsk** 84.56 325 P **P** **21 08 48.0 -1.7**
comp=Z,34nm,1.1s
G26K **Porcupine Rive** 84.62 23 P **P** **21 08 51.4 +1.6**
baz=273,SNR=25
SCRK **Sand Creek** 84.69 26 IAmb IAmb 21 08 52.7
comp=Z,88nm,1.9s
SCRK **Sand Creek** 84.69 26 P **P** **21 08 51.4 +1.1**
baz=273,SNR=12
KAIM **Kayak Island** 84.69 30 P **P** **21 08 51.2 +0.9**
baz=273
LVZ **Lovozero** 84.80 338⇑*e*P **P** **21 08 49.9 -0.8**

LVZ pmax pmax
comp=Z,32nm,1.7s
LVZ Lovozero 84.80 338 P **P** **21 08 50.8 +0.1**
comp=Z,26nm,1.2s
J26L Joseph Creek 84.84 26 P **P** **21 08 51.2 +0.1**
J26L IAmb IAmb 21 08 53.1
comp=Z,18nm,0.7s
J26L Joseph Creek 84.84 26 P **P** **21 08 51.9 +0.8**
baz=273,SNR=22
GLB Gilahina Butte 84.91 29 IAmb IAmb 21 09 07.8
comp=Z,35nm,0.9s
I26K Coal Creek Min 84.97 25 IAmb IAmb 21 08 53.7
comp=Z,26nm,0.8s
I26K Coal Creek Min 84.97 25 P **P** **21 08 52.5 +1.0**
baz=274
L26K Log Cabin Wild 85.03 27 P **P** **21 08 52.8 +0.9**
baz=274
KHAM Kharkiv 85.04 320 P **P** **21 08 51.1 -1.2**
GAZ Gaziantep 85.17 307 IAmb IAmb 21 09 38.2
comp=Z,23nm,1.0s
M26K Nabesna, AK 85.23 28 P **P** **21 08 53.4 +0.4**
baz=274
MCARA McCarthy VSAT 85.29 29 P **P** **21 08 54.1 +0.9**
baz=274
APA Apatity 85.29 337 ⇓ *i*P **P** **21 08 49.4 -3.7**
APA *i* *PP **pP** **21 09 28.0 +0.6**
APA pmax pmax
comp=Z,7.0nm,0.8s
E27K Coleen River 85.38 22 IAmb IAmb 21 09 10.9
comp=Z,32nm,1.1s
E27K Coleen River 85.38 22 P **P** **21 08 54.7 +1.1**
baz=275,SNR=11
G27K Doyon Strip 85.47 23 P **P** **21 08 55.2 +1.1**
G27K Doyon Strip 85.47 23 P **P** **21 08 55.4 +1.3**
baz=275,SNR=15
D27M Malcolm River 85.51 21 IAmb IAmb 21 09 11.7
comp=Z,23nm,0.9s
D27M Malcolm River 85.51 21 P **P** **21 08 54.9 +0.6**
baz=275,SNR=6.1
K27K Chicken 85.52 26 IAmb IAmb 21 09 11.9
comp=Z,24nm,0.8s
K27K Chicken 85.52 26 P **P** **21 08 55.9 +1.5**
baz=275
H27K Steamboat Moun 85.57 24 P **P** **21 08 56.0 +1.4**
baz=275,SNR=16
I27K Kandik River 85.59 25 P **P** **21 08 56.6 +1.9**
baz=275,SNR=29
MAW Mawson 85.63 200 P **P** **21 08 55.5 +0.8**
comp=Z,24nm,0.8s,baz=61,slow=5.7,SNR=54
comp=Z,24nm,0.8s
L27K Beaver Creek, 85.72 27 IAmb IAmb 21 09 43.6
comp=Z,29nm,1.5s
L27K Beaver Creek, 85.72 27 P **P** **21 08 57.3 +1.9**
baz=275
BCAR Beaver Creek A 85.73 27 P **P** **21 08 55.8 +0.3**
M27K Edge Creek, AK 85.75 28 IAmb IAmb 21 09 45.3
comp=Z,21nm,1.2s
M27K Edge Creek, AK 85.75 28 P **P** **21 08 56.9 +1.1**
baz=275
EGAK Eagle 85.85 25 P **P** **21 08 56.2 +0.3**
baz=275
VNDA Vanda 85.89 173 IAmb IAmb 21 08 57.7
comp=Z,43nm,1.8s
VNDA Vanda 85.89 173 P **P** **21 08 56.7 +0.8**
comp=Z,5.9nm,0.7s,baz=321,slow=5.9,SNR=38
VNDA PKKPbc **PKKPbc** **21 26 57.5 -2.3**
comp=Z,0.8nm,0.9s,baz=34,slow=1.4,SNR=4.9
VNDA LR LR 21 46 21.4
comp=Z,43nm,21.3s,baz=352,slow=35
comp=Z,5.9nm,0.7s
MESA MESA 85.91 30 P **P** **21 08 55.8 -0.8**
baz=275
BARN Barnard Glacie 85.97 29 IAmb IAmb 21 09 14.3
comp=Z,38nm,0.9s
F28M Old Crow 86.08 23 P **P** **21 08 57.7 +0.6**
F28M IAmb IAmb 21 08 59.7
comp=Z,23nm,0.7s
F28M Old Crow 86.08 23 P **P** **21 08 57.9 +0.8**
baz=276,SNR=44
E28M Babbage River 86.09 22 P **P** **21 08 57.9 +0.8**
baz=277,SNR=18
BNN Bunyan 86.12 308 IAmb IAmb 21 08 59.6
comp=Z,36nm,1.0s
CTG Chitna Glacier 86.14 29 P **P** **21 08 59.3 +1.7**
baz=276,SNR=6.8
CTGM Chitina Glacie 86.14 29 IAmb IAmb 21 09 47.4
comp=Z,39nm,0.8s
D28M Stokes Point 86.29 21 P **P** **21 08 58.8 +0.8**
baz=277
I28M Miner Creek 86.30 25 P **P** **21 08 59.4 +1.1**
I28M Miner Creek 86.30 25 P **P** **21 08 59.9 +1.6**
baz=276,SNR=34
LOGN Logan Glacier 86.31 29 IAmb IAmb 21 09 47.7
comp=Z,25nm,0.9s
JOF Joensuu 86.62 333 *e*P **P** **21 08 58.9 -0.9**
DAWY Dawson 86.69 26 P **P** **21 09 00.7 +0.5**
baz=277,SNR=7.1
O28M Mount Upton 86.72 29 P **P** **21 09 00.9 +0.2**
baz=276
E29M Blow River 86.72 22 P **P** **21 09 00.8 +0.6**
baz=278,SNR=6.9
H29M Whitestone 86.84 24 P **P** **21 09 01.4 +0.6**
H29M IAmb IAmb 21 09 03.2
comp=Z,13nm,0.7s
H29M Whitestone 86.84 24 P **P** **21 09 01.7 +0.9**
baz=278,SNR=9.6
YUK8 Steele Glacier 86.86 29 P **P** **21 09 01.6 +0.3**
baz=277
G29M Pine Creek 86.88 23 P **P** **21 09 01.9 +0.9**
baz=278,SNR=25
I29M Ogilvie Camp, 86.99 25 P **P** **21 09 02.6 +1.0**
baz=278,SNR=9.4
MMAI Mount Meron Ar 86.99 303 P **P** **21 09 01.0 -1.4**
comp=Z,2.3nm,0.7s,baz=75,slow=6.6,SNR=3.0
comp=Z,2.3nm,0.7s
PNL Peninsula 87.24 30 P **P** **21 09 03.4 +0.5**
baz=277
M29M Somme Creek 87.32 28 P **P** **21 09 04.3 +0.9**
baz=278,SNR=6.9
L29M L29M 87.38 27 P **P** **21 09 04.8 +1.2**
baz=278,SNR=7.0
YUK4 Talbot Arm 87.39 29 P **P** **21 09 04.7 +0.9**
baz=278
EPYK Eagle Plains 87.48 24 P **P** **21 09 04.2 +0.3**
EPYK IAmb IAmb 21 09 06.0
comp=Z,18nm,0.8s
EPYK Eagle Plains 87.48 24 P **P** **21 09 04.6 +0.7**
baz=279,SNR=11
K29M Barlow Dome 87.54 26 P **P** **21 09 05.6 +1.3**
baz=279
G30M tAoh Zraii Nji 87.57 23 IAmb IAmb 21 09 05.5
comp=Z,12nm,0.8s
G30M tAoh Zraii Nji 87.57 23 P **P** **21 09 04.7 +0.4**
baz=280,SNR=11
YUK6 Outpost Mounta 87.58 29 P **P** **21 09 05.0 +0.3**
baz=278
F30M Barrier River 87.63 22 P **P** **21 09 05.0 +0.5**
baz=280,SNR=15
EIL Elat 87.69 299 LR LR 21 54 44.8
comp=Z,22nm,18.5s,baz=64,slow=40
BR131 Keskin Array S 87.75 310 *c* *i*P **P** **21 09 04.0 -1.9**
BR104 Keskin Array S 87.75 310 P **P** **21 09 04.3 -1.6**
comp=Z,3.7nm,0.8s,comp=Z,37nm
BRTR Keskin Array B 87.75 310 P **P** **21 09 04.0 -1.9**
BRTR Keskin Array B 87.75 310 P **P** **21 09 04.2 -1.8**
comp=Z,2.9nm,0.8s,baz=108,slow=4.2,SNR=18
comp=Z,2.9nm,0.8s
BRTR Keskin Array B 87.75 310 *i* P **P** **21 09 04.3 -1.6**
BRTR pmax pmax
comp=Z,3.0nm,0.8s
BR106 Keskin Array S 87.76 310 P **P** **21 09 04.4 -1.6**
comp=Z,5.7nm,0.9s,comp=Z,48nm
BR105 Keskin Array S 87.77 310 P **P** **21 09 04.4 -1.6**
comp=Z,6.1nm,0.9s,comp=Z,52nm
I30M Mount Dempster 87.81 25 P **P** **21 09 06.7 +1.1**
baz=280
ARCES ARCESS Array B 87.89 340 P **P** **21 09 04.6 -1.2**
ARCES IAmb IAmb 21 09 06.7
comp=Z,12nm,0.8s
ARCES ARCESS Array B 87.89 340 P **P** **21 09 04.6 -1.2**
comp=Z,9.8nm,0.7s,baz=74,slow=6.4,SNR=18
ARCES PKKPbc **PKKPbc** **21 26 54.2 -0.2**
comp=Z,2.0nm,0.8s,baz=286,slow=4.4,SNR=3.6
ARCES LR LR 21 53 59.4
comp=Z,64nm,21.1s,baz=68,slow=39
comp=Z,9.8nm,0.7s
J30M Hart River 87.94 25 P **P** **21 09 07.3 +1.0**
baz=280

SPITS Spitsbergen Ar 87.97 349 P **P** **21 09 04.8 -1.2**
comp=Z,2.1nm,0.4s,baz=110,slow=7.2,SNR=23
SPITS LR LR 21 52 55.1
comp=Z,69nm,18.1s,baz=14,slow=38
comp=Z,2.1nm,0.4s
HYT Haines Junctio 88.01 29 P **P** **21 09 08.1 +1.4**
baz=279
P29M Windy Craggy 88.08 30 P **P** **21 09 07.7 +0.8**
baz=279
N30M Aishikik Lake 88.11 28 P **P** **21 09 08.3 +1.3**
baz=279
INK Inuvik 88.33 21 P **P** **21 09 08.2 +0.5**
baz=282,SNR=11
INK Inuvik 88.33 21 P **P** **21 09 07.4 -0.4**
comp=Z,7.1nm,0.6s,baz=301,slow=3.9,SNR=42
comp=Z,7.1nm,0.6s
G31M Satah River 88.34 23 P **P** **21 09 07.1 -0.8**
G31M IAmb IAmb 21 09 09.2
comp=Z,22nm,0.8s
G31M Satah River 88.34 23 P **P** **21 09 08.3 +0.4**
baz=282,SNR=16
P30M Million Dollar 88.39 30 P **P** **21 09 08.7 +0.3**
baz=279
F31M Tsiigehtchic 88.43 22 IAmb IAmb 21 09 09.5
comp=Z,19nm,0.7s
F31M Tsiigehtchic 88.43 22 P **P** **21 09 07.8 -0.5**
baz=282,SNR=17
H31M Peel River 88.53 24 P **P** **21 09 10.3 +1.4**
baz=282,SNR=5.7
O30N Mendenhall 88.71 29 P **P** **21 09 11.1 +1.3**
baz=280
N31M Braeburn, Yuko 88.73 28 IAmb IAmb 21 09 12.3
comp=Z,14nm,0.8s
N31M Braeburn, Yuko 88.73 28 P **P** **21 09 11.2 +1.3**
baz=280
S31K Pelican 89.13 32 P **P** **21 09 12.0 +0.3**
baz=280
M31M Drury Creek, Y 89.24 28 P **P** **21 09 12.7 +0.4**
baz=282
FINES FINESS Array B 89.28 332 P **P** **21 09 10.6 -1.8**
FINES FINESS Array B 89.28 332 P **P** **21 09 11.0 -1.4**
comp=Z,9.3nm,0.7s,baz=97,slow=6.3,SNR=39
FINES PKKPbc **PKKPbc** **21 26 49.4 -1.3**
comp=Z,0.7nm,0.8s,baz=318,slow=2.6,SNR=4.0
comp=Z,9.3nm,0.7s
WHY Whitehorse 89.31 29 IAmb IAmb 21 09 15.1
comp=Z,13nm,0.8s
WHY Whitehorse 89.31 29 P **P** **21 09 13.1 +0.4**
baz=281
SKAG Skagway 89.32 30 P **P** **21 09 14.2 +1.6**
baz=281
AK09 Malin Array Si 89.41 321 P **P** **21 09 10.7 -2.5**
AK08 Malin Array Si 89.42 321 P **P** **21 09 12.2 -1.1**
AK03 Malin Array Si 89.43 321 P **P** **21 09 10.9 -2.4**
AK10 Malin Array Si 89.43 321 P **P** **21 09 11.7 -1.6**
AKASG Malin Array Be 89.43 321 P **P** **21 09 11.5 -1.8**
comp=Z,4.1nm,0.8s,baz=71,slow=4.3,SNR=14
comp=Z,4.1nm,0.8s
AKASG Malin Array Be 89.43 321 *i* P **P** **21 09 11.8 -1.5**
AKASG pmax pmax
comp=Z,5.0nm,0.7s
AKBB Malin Array Si 89.43 321 *c* *i*P **P** **21 09 11.0 -2.3**
AKBB pmax pmax
comp=Z,9.0nm,1.3s
AKBB Malin Array Si 89.43 321 P **P** **21 09 10.3 -3.0**
AK01 Malin Array Si 89.44 321 P **P** **21 09 11.4 -2.0**
KIEV Kiev 89.44 321 P **P** **21 09 10.7 -2.7**
KIEV Kiev 89.44 321 P **P** **21 09 10.7 -2.7**
KIEV pmax pmax
comp=Z,10.0nm,1.3s
KIEV Kiev 89.44 321 P **P** **21 09 10.0 -3.4**
comp=Z,27nm,1.2s
AK02 Malin Array Si 89.45 321 P **P** **21 09 11.5 -1.9**
AK05 Malin Array Si 89.46 321 P **P** **21 09 11.1 -2.4**
AK04 Malin Array Si 89.47 321 P **P** **21 09 09.8 -3.7**
AK07 Malin Array Si 89.47 321 P **P** **21 09 11.8 -1.7**
AK11 Malin Array Si 89.47 321 P **P** **21 09 11.2 -2.3**
AK12 Malin Array Si 89.48 321 P **P** **21 09 10.9 -2.7**
AK15 Malin Array Si 89.50 321 P **P** **21 09 11.7 -1.9**
AK14 Malin Array Si 89.52 321 P **P** **21 09 11.8 -1.9**
AK22 Malin Array Si 89.52 321 P **P** **21 09 11.8 -2.0**
AK18 Malin Array Si 89.53 321 P **P** **21 09 11.8 -2.0**
VSU Vasula 89.53 329 *c* *i*P **P** **21 09 11.9 -1.7**
VSU pmax pmax
comp=Z,16nm,0.7s
AK21 Malin Array Si 89.53 321 P **P** **21 09 11.9 -1.9**
AK20 Malin Array Si 89.56 321 P **P** **21 09 11.2 -2.7**
MNK Minsk 89.62 325 *i* P **P** **21 09 13.5 -0.6**
MNK *i* 21 12 47.7
MNK *i* PPP PPP 21 14 43.9
MNK *i* S **SKSac** **21 19 26.8 -5.1**
MNK *i* SS **SS** **21 25 50.4 -2.3**
MNK *i* SSS SSS 21 29 27.7
MNK pmax pmax
comp=Z,30nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=N,8.0nm,1.0s
PURM Purcari 89.63 317 P **P** **21 09 12.6 -1.8**
comp=N,38nm,0.8s,comp=N,2μm
KEF Keuruu 89.69 333 *e*P **P** **21 09 13.0 -1.3**
FARO Faro, Yukon 89.71 27 IAmb IAmb 21 09 16.6
comp=Z,22nm,0.7s
FARO Faro, Yukon 89.71 27 P **P** **21 09 15.8 +1.3**
baz=282
ARBE Arbavere 89.72 330 *e*P **P** **21 09 12.9 -1.6**
R32K Eaglecrest 89.96 31 P **P** **21 09 16.5 +0.8**
baz=282
A36M Sachs Harbour 90.03 17 P **P** **21 09 16.7 +1.0**
baz=290
N32M Quiet Lake 90.07 28 P **P** **21 09 16.9 +0.7**
baz=283
MI30 MI30,Zelenitsa 90.07 321 P **P** **21 09 14.6 -1.8**
IDID Didziasalis 90.12 326 *e*P **P** **21 09 16.1 -0.3**
MEF Metsahovi 90.34 331 *e*P **P** **21 09 16.5 -0.8**
MI28 Mi28,Pidlybu 90.37 321 P **P** **21 09 15.9 -1.8**
P33M Teslin, Yukon 90.41 29 P **P** **21 09 18.7 +0.8**
baz=283
SORM Soroca 90.41 318 ⇑P **P** **21 09 16.7 -1.2**
SORM Soroca 90.41 318 ⇑P **P** **21 09 16.7 -1.2**
SORM Soroca 90.41 318 P **P** **21 09 15.3 -2.6**
comp=Z,5.2nm,0.8s
VAF Ylistaro 90.48 334 *e*P **P** **21 09 16.9 -1.0**
LUBAR Lubar, Ukraine 90.49 320 P **P** **21 09 16.2 -2.1**
MMPY Sheldon Lake, 90.56 27 P **P** **21 09 19.0 +0.6**
baz=284
TLCR 90.57 315 ⇑P **P** **21 09 18.1 -0.7**
TLCR 90.57 315 ⇑P **P** **21 09 18.1 -0.7**
NOR Nord 90.65 355 *i* P **P** **21 09 16.7 -1.7**
NOR IAmb IAmb 21 09 19.7
comp=Z,14nm,0.7s
VLDR Vladesti 90.97 316 ⇑P **P** **21 09 20.1 -0.5**
NDNU Novodnistrovsk 90.97 319 P **P** **21 09 18.4 -2.2**
MTSE Matsula 90.97 329 *e*P **P** **21 09 19.3 -1.1**
VASR Vaslui 91.03 317 ⇑P **P** **21 09 20.1 -0.8**
CFR Carcaliu 91.05 315 ⇑P **P** **21 09 19.2 -1.8**
CFR Carcaliu 91.05 315 ⇑P **P** **21 09 19.2 -1.8**
SCTR Scanteiesti 91.06 316 ⇑P **P** **21 09 19.5 -1.5**
U33K Whale Pass 91.16 33 P **P** **21 09 22.0 +0.8**
baz=283
SLCR Slobozia Conac 91.23 316 ⇓P **P** **21 09 21.2 -0.6**
C36M Paulatuk 91.32 19 P **P** **21 09 21.4 -0.4**
C36M IAmb IAmb 21 09 37.8
comp=Z,8.0nm,0.8s
C36M Paulatuk 91.32 19 P **P** **21 09 22.4 +0.7**
baz=291
RNPP9 Sopachiv 91.38 322 P **P** **21 09 20.4 -2.0**
RAF Rauma 91.41 332 *e*P **P** **21 09 21.2 -1.1**
R33M Jennings River 91.51 30 P **P** **21 09 24.0 +0.9**
baz=284
KMPD K-Podol'skiy 91.57 319 P **PcP** **21 09 21.4 -2.8**
KMPD P **P** **21 09 20.3 -3.0**
PANC Panciu 91.61 316 ⇑P **P** **21 09 21.6 -2.0**
PABE Paberze 91.63 326 IAmb IAmb 21 09 23.0
comp=Z,15nm,0.8s
PABE Paberze 91.63 326 *e*P **P** **21 09 22.7 -0.8**
S34M Telegraph Cree 91.80 31 P **P** **21 09 25.1 +0.9**
baz=284
TESR Tescani 91.83 317 ⇑P **P** **21 09 23.5 -1.2**
TESR Tescani 91.83 317 P **P** **21 09 22.7 -1.9**
comp=Z,13nm,0.8s
VRI Vrincioaia 91.90 316 ⇑P **P** **21 09 23.4 -1.6**
VRI Vrincioaia 91.90 316 ⇑P **P** **21 09 23.4 -1.6**
VRI Vrincioaia 91.90 316 P **P** **21 09 23.8 -1.2**
comp=Z,11nm,0.8s
PLOR Plostina 91.95 316 ⇑P **P** **21 09 24.7 -0.5**
PLOR Plostina 91.95 316 ⇑P **P** **21 09 24.7 -0.5**
PLOR3 Plostina Array 91.96 316 P **P** **21 09 23.8 -1.5**
comp=Z,7.6nm,0.9s
TGTN Hyland Airport 92.21 27 P **P** **21 09 27.7 +1.5**
baz=287
DLBC Dease Lake 92.23 31 P **P** **21 09 26.6 +0.3**
baz=285
DLBC Dease Lake 92.23 31 P **P** **21 09 26.6 +0.3**
comp=Z,3.4nm,0.7s,baz=290,slow=3.3,SNR=6.3
comp=Z,3.4nm,0.7s
NEHR Nehoiu 92.28 316 ⇑P **P** **21 09 26.2 -0.6**
WTLY Watson Lake, Y 92.38 29 P **P** **21 09 27.0 +0.1**
baz=286
SUW Suwalki 92.42 325 P **P** **21 09 25.3 -1.9**
SUW Suwalki 92.42 325 *e*P **P** **21 09 26.2 -0.9**
SUW Suwalki 92.42 325 P **P** **21 09 25.3 -1.9**
SUW pmax pmax
comp=Z,36nm,0.9s
T35M Bob Quinn 92.50 32 P **P** **21 09 28.3 +0.8**
baz=285
MLR Muntele Rosu 92.51 316 ⇓P **P** **21 09 27.3 -0.6**
MLR Muntele Rosu 92.51 316 IAmb IAmb 21 09 28.9
comp=Z,7.4nm,0.9s
MLR Muntele Rosu 92.51 316 LR LR 21 56 06.3
comp=Z,81nm,18.8s,baz=53,slow=39
MLR Muntele Rosu 92.51 316 ⇓P **P** **21 09 27.3 -0.6**
MLR Muntele Rosu 92.51 316 P **P** **21 09 26.4 -1.6**
comp=Z,11nm,1.1s
BURAR Bucovina Array 92.58 318 ⇑P **P** **21 09 26.9 -1.3**
BURAR Bucovina Array 92.58 318 ⇑P **P** **21 09 26.9 -1.3**
STNU Starunia 92.81 319 P **P** **21 09 27.1 -2.0**
MORS Morshin 93.11 320 P **P** **21 09 29.4 -1.1**
EZN Ezine 93.31 310 P **P** **21 09 29.6 -2.0**
comp=Z,16nm,1.6s,comp=Z,1μm
SHIU Shidnytsya 93.43 320 P **P** **21 09 31.8 -0.2**
BRIU Brid 93.86 319 P **P** **21 09 33.2 -0.7**
LIRD Liard River Hi 93.89 29 P **P** **21 09 35.4 +1.6**
baz=289
LOT Lotru 94.01 316 ⇓P **P** **21 09 34.1 -0.8**
BERU Beregovo 94.12 319 P **P** **21 09 33.7 -1.4**
MARR Marisel-Cluj 94.18 318 ⇑P **P** **21 09 34.5 -1.1**
KOLS Kolonicke sedl 94.19 320 *e*P **P** **21 09 37.8 +2.3**
KOLS Kolonicke sedl 94.19 320 *e*P **P** **21 09 37.8 +2.3**
HOLU Holmets 94.22 320 P **P** **21 09 34.1 -1.5**
DRGR 94.42 318 ⇑P **P** **21 09 35.3 -1.4**
DRGR 94.42 318 ⇑P **P** **21 09 35.3 -1.4**
TOAD Toad River Com 94.50 30 P **P** **21 09 37.6 +0.9**
baz=290
GZR Gura Zlata 94.71 316 ⇑P **P** **21 09 37.5 -0.5**
GZR Gura Zlata 94.71 316 ⇑P **P** **21 09 37.5 -0.5**
CRVS Cervenica-Dubn 94.72 320 *e*P **P** **21 09 37.3 -0.6**
CRVS Cervenica-Dubn 94.72 320 *e*P **P** **21 09 37.3 -0.6**
DAG Danmarks Havn 94.78 352 *i* P **P** **21 09 36.0 -1.6**
DAG IAmb IAmb 21 09 38.7
comp=Z,27nm,0.8s
BBB Bella Bella 95.00 36 LR LR 21 58 28.0
comp=Z,18nm,18.1s,baz=139,slow=39
SURR Surduc 95.07 317 ⇑P **P** **21 09 37.7 -1.9**
HERR Herculane 95.08 316 ⇓P **P** **21 09 38.4 -1.1**
BLKB Belogradchik 95.19 315 ⇑P **P** **21 09 39.5 -0.7**
SIRR Siria 95.25 317 ⇑P **P** **21 09 39.0 -1.4**
NIE Niedzica 95.32 321 P **P** **21 09 39.3 -1.4**
comp=Z,2.0nm,1.9s
OJC Ojcow 95.41 322 P **P** **21 09 39.8 -1.2**
comp=Z,3.7nm,1.1s
BZS Buzias 95.44 317 ⇑P **P** **21 09 40.1 -1.2**
BZS Buzias 95.44 317 ⇑P **P** **21 09 40.1 -1.2**
HFS Hagfors 95.47 332 P **P** **21 09 38.8 -2.2**
comp=Z,2.9nm,0.7s,baz=92,slow=7.7,SNR=7.6
HFS PKKPbc **PKKPdf** **21 26 32.5 -1.6**
comp=Z,1.1nm,0.6s,baz=228,slow=11,SNR=4.1
HFS LR LR 21 56 48.3
comp=Z,64nm,21.1s,baz=48,slow=38
comp=Z,2.9nm,0.7s
MDVR Moldovita 95.59 316 ⇑P **P** **21 09 40.6 -1.4**
RES Resolute Bay 95.67 10 IAmb IAmb 21 09 43.3
comp=Z,13nm,0.9s
RES Resolute Bay 95.67 10 P **P** **21 09 41.9 +0.3**
comp=Z,9.6nm,0.9s,baz=325,slow=5.5,SNR=40
RES PP **PP** **21 13 33.0 -1.3**
comp=Z,1.1nm,0.9s,baz=309,slow=5.1,SNR=4.1
comp=Z,9.6nm,0.9s
QSPA South Pole Qui 96.00 180 P **P** **21 09 43.7 +0.3**
QSPA IAmb IAmb 21 09 46.0
comp=Z,16nm,1.2s
QSPA South Pole Qui 96.00 180 P **P** **21 09 44.1 +0.8**
comp=Z,7.5nm,1.0s,baz=269,slow=0.5,SNR=14
QSPA PKKPbc **PKKPbc** **21 26 31.8 -2.8**
comp=Z,1.9nm,0.7s,baz=176,slow=1.5,SNR=9.5
comp=Z,7.5nm,1.0s
NB2 NORSAR Subarra 96.23 334 P **P** **21 09 42.3 -2.2**
comp=Z,5.5nm,0.8s,baz=66,slow=4.6
NB2 NORSAR Subarra 96.23 334 P **P** **21 09 42.3 -2.2**
baz=66,slow=4.6
NB2 NORSAR Subarra 96.23 334 P **P** **21 09 42.7 -1.8**
NOA NORSAR Array B 96.23 334 P **P** **21 09 42.7 -1.8**
comp=Z,3.2nm,0.8s,baz=65,slow=4.6,SNR=12
NOA PKKPbc **PKKPbc** **21 26 31.1 -1.8**
comp=Z,0.9nm,0.7s,baz=68,slow=3.2,SNR=3.8
NOA LR LR 21 57 44.3
comp=Z,57nm,18.4s,baz=70,slow=38
comp=Z,3.2nm,0.8s
NEEM North Greenlan 96.55 359 *i* P **P** **21 09 44.4 -1.6**
NEEM IAmb IAmb 21 09 48.8
comp=Z,34nm,0.8s
BSD Bornholm Skovb 96.69 327 *i* P **P** **21 09 44.3 -2.3**
BSD IAmb IAmb 21 09 47.1
comp=Z,4.2nm,0.7s
FRGS Fruska Gora 96.79 317 P **P** **21 09 46.1 -1.3**
DBG Daneborg 97.04 351 *i* P **P** **21 09 46.2 -1.6**
DBG IAmb IAmb 21 09 49.3
comp=Z,13nm,0.9s
JMIC Jan Mayen 97.33 346 LR LR 21 58 44.0
comp=Z,34nm,18.7s,baz=270,slow=38
VRAC Vranov 97.67 321 LR LR 21 57 26.1
comp=Z,57nm,18.2s,baz=63,slow=38
YKA Yellowknife Ar 97.76 24 P Pdif 21 09 52.0 +0.7
comp=Z,3.8nm,0.7s,baz=304,slow=5.1,SNR=59
YKA PKiKP **PKiKP** **21 14 24.5 0.0**
comp=Z,0.4nm,0.7s,baz=312,slow=2.4,SNR=3.8
YKA PKKPbc **PKKPbc** **21 26 25.3 -3.4**
comp=Z,2.0nm,0.7s,baz=110,slow=2.1,SNR=22
YKA LR LR 21 55 16.3
comp=Z,28nm,20.8s,baz=302,slow=36
comp=Z,3.8nm,0.7s
BRG Berggiesshubel 98.75 323 *e*P **P** **21 09 55.6 -0.4**
BRG Amp 21 09 56.3
comp=Z,4.5nm,0.8s
LSZ Lusaka 98.83 256 LR LR 21 49 54.5
comp=Z,47nm,21.7s,baz=118,slow=32
CLL Collm 99.14 324 *i* Pdif **Pdif** **21 09 56.9 -0.9**
CLL Collm 99.14 324 *i* P **Pdif** **21 09 56.9 -0.9**
KULLO Kullorsuaq 99.43 1 *i* P **Pdif** **21 09 56.9 -1.6**
KULLO IAmb IAmb 21 10 00.6
comp=Z,12nm,0.9s
KHC Kasperske Hory 99.59 322 ⇓ *e*P **Pdif** **21 09 58.6 -1.3**
KHC pmax pmax
comp=Z,36nm,3.9s
GERES GERESS Array B 99.62 322 P **Pdif** **21 09 59.3 -0.8**
comp=Z,1.1nm,0.7s,baz=83,slow=3.4,SNR=7.0
GERES LR LR 21 58 35.3
comp=Z,37nm,20.1s,baz=60,slow=37
comp=Z,1.1nm,0.7s
UPNV Upernavik 101.25 1 *i* P **Pdif** **21 10 05.8 -0.9**
UPNV IAmb IAmb 21 10 08.8
comp=Z,6.1nm,0.8s
NEW Newport 102.98 38 P **Pdif** **21 10 15.3 +0.3**
baz=295
NVAR Mina Array Bea 106.06 47 Pdiff **Pdif** **21 10 31.1 +2.0**
comp=Z,1.1nm,0.7s,baz=316,slow=4.1,SNR=4.1
EGMT Eagleton 107.46 35 P **PKiKP** **21 14 43.2 +0.4**
baz=301
BOZ Bozeman (W) 107.54 38 P **PKiKP** **21 14 43.3 +0.3**
baz=299
PDAR Pinedale Array 110.22 40 PKiKP **PKiKP** **21 14 49.3 +1.1**
comp=Z,0.4nm,0.6s,baz=143,slow=2.3,SNR=2.6
PDAR PKKPbc **PKKPbc** **21 25 48.2 -2.8**
comp=Z,1.3nm,0.9s,baz=140,slow=4.8,SNR=4.9
O20A White River Ci 112.37 42 P **PKiKP** **21 14 53.0 +0.6**
baz=300
RSSD Black Hills 112.91 37 P **PKiKP** **21 14 53.4 +0.1**
baz=305
ULM Lac du Bonnet 113.35 28 PKiKP **PKiKP** **21 14 52.6 -1.1**
comp=Z,3.0nm,0.7s,baz=346,slow=2.4,SNR=7.8

ISCO	Idaho Springs	114.28	41	P		PKiKP	21 14 56.3	+0.1
	baz=302							
ESDC	Sonseca Array	115.02	319	PKKPbc	PKKPbc		21 25 35.5	+0.8
	comp=Z,0.8nm,0.8s,baz=266,slow=3.9,SNR=5.5							
Q24A	Divide	115.03	42	P		PKiKP	21 14 57.3	-0.4
	baz=302							
SDCO	Great Sand Dun	115.42	43	P		PKiKP	21 14 56.5	-1.9
	baz=301							
OGNE	Ogallala	115.94	39	P		PKiKP	21 14 59.1	0.0
	baz=305							
ANMO	Albuquerque	116.14	46			PKPdf	21 14 59.3	-0.5
ANMO	Albuquerque	116.14	46	P		PKiKP	21 14 59.8	0.0
	baz=299							
ANMO	Albuquerque	116.14	46	PKIKP		PKPdf	21 14 59.3	-0.5
121A	Cookes Peak, D	116.29	49	P		PKPdf	21 14 59.6	-0.5
	baz=297							
T25A	Trinidad	116.48	43	P		PKPdf	21 15 00.0	-0.3
	baz=302							
KSCO	Kaye Shedlock'	116.65	41	P		PKiKP	21 15 01.1	+0.5
	baz=304							
EYMN	Ely	117.01	27	PKPdf		PKPdf	21 15 00.6	-0.2
EYMN	Ely	117.01	27	P		PKiKP	21 15 01.0	+0.2
	baz=318							
ECSD	EROS Data Cent	117.39	33	P		PKiKP	21 15 01.8	+0.2
	baz=311							
BGNE	Belgrade	118.01	36	P		PKiKP	21 15 03.6	+0.6
	baz=309							
SCHQ	Schefferville	118.39	8			PKiKP	21 15 03.3	0.0
SCHQ	Schefferville	118.39	8	PKP		PKiKP	21 15 03.8	+0.5
	comp=Z,10nm,0.8s,baz=109,slow=7.6,SNR=5.5							
MNTX	Cornudas Mount	118.49	49	P		PKiKP	21 15 04.4	+0.2
	baz=298,SNR=5.2							
KSU1	Kansas State U	120.37	37	P		PKiKP	21 15 07.7	+0.1
	baz=309							
SCIA	State Center	120.47	33	P		PKiKP	21 15 07.8	+0.1
	baz=314							
TXAR	Lajitas Array	120.91	51	PKPdf		PKiKP	21 15 09.2	+0.2
TXAR	Lajitas Array	120.91	51	PKP		PKiKP	21 15 10.2	+1.1
	comp=Z,2.5nm,0.7s,baz=222,slow=1.1,SNR=35							
TXAR					PKKPbc	PKKPbc	21 25 12.7	-0.8
	comp=Z,0.5nm,0.8s,baz=134,slow=7.1,SNR=4.3							
JFWS	Jewell Farm	121.30	30	P		PKPdf	21 15 08.7	-0.5
	baz=317,SNR=6.0							
E46A	Sault Ste Mari	121.33	24	PKPdf		PKiKP	21 15 09.6	+0.3
WMOK	Wichita Mounta	121.61	43	P		PKiKP	21 15 10.2	0.0
	baz=305							
ABTX	Abilene, Hawle	122.20	45	P		PKPdf	21 15 11.2	0.0
	baz=303							
L42A	Oliver, Polo	122.26	31			PKPdf	21 15 10.8	-0.3
GLMI	Grayling	122.44	25	P		PKiKP	21 15 11.6	0.0
	baz=324							
JCT	Junction City	123.23	47	P		PKiKP	21 15 13.4	-0.1
	baz=302							
HDIL	Hopedale	123.51	32	P		PKPdf	21 15 13.5	0.0
	baz=317							
CCM	Cathedral Cave	124.22	35	PKPdf		PKPdf	21 15 14.8	-0.1
CCM	Cathedral Cave	124.22	35	P		PKPdf	21 15 15.0	+0.1
	baz=314							
CCM	Cathedral Cave	124.22	35	PKIKP		PKPdf	21 15 14.8	-0.1
833A	Chaparral WMA,	124.66	49	P		PKPdf	21 15 16.2	+0.1
	baz=301							
SFIN	Lafayette	124.76	30	P		PKiKP	21 15 16.5	+0.2
	baz=319							
L48A	N Adams	124.83	27			PKiKP	21 15 16.4	+0.1
MIAR	Mount Ida	125.14	40	PKPdf		PKiKP	21 15 17.1	0.0
MIAR	Mount Ida	125.14	40	P		PKiKP	21 15 17.5	+0.3
	baz=310,SNR=9.8							
MIAR	Mount Ida	125.14	40	PKIKP		PKiKP	21 15 17.1	0.0
LCAR	Lake Charles	125.63	37			PKPdf	21 15 17.6	-0.1
O48B	Farmland	125.81	29	P		PKPdf	21 15 17.4	-0.5
	baz=321							
P48A	Milroy	126.30	30			PKPdf	21 15 18.5	-0.3
LONY	Lake Ozonia	126.30	18	P		PKiKP	21 15 19.6	+0.4
	baz=335							
ERPA	Erie	126.58	24	P		PKiKP	21 15 19.8	0.0
	baz=328							
P49A	Miami Univ. Ec	126.58	29	P		PKiKP	21 15 19.8	-0.1
	baz=321							
WCI	Wyandotte Cave	126.79	31	PKPdf		PKPdf	21 15 19.7	-0.1
WCI	Wyandotte Cave	126.79	31	P		PKPdf	21 15 20.0	+0.1
	baz=319							
WCI	Wyandotte Cave	126.79	31	PKIKP		PKPdf	21 15 19.7	-0.1
ACSO	Alum Creek Sta	126.85	27	P		PKPdf	21 15 19.8	-0.1
	baz=323							
M53A	WI Miller and	126.87	25	P		PKPdf	21 15 20.1	+0.2
	baz=326							
WVNY	West Valley, N	126.88	22	PKPdf		PKPdf	21 15 20.0	+0.1
PKME	Peaks-Kenny Pk	127.12	13	P		PKPdf	21 15 20.1	-0.2
	baz=341							
P51A	Williamsport	127.42	28			PKPdf	21 15 21.0	0.0
LBNH	Lisbon	127.42	16	P		PKPdf	21 15 20.7	-0.2
	baz=338							
WVT	Waverly	127.51	34			PKPdf	21 15 20.8	-0.5
WVT	Waverly	127.51	34	P		PKPdf	21 15 21.1	-0.1
	baz=316							
WVT	Waverly	127.51	34	PKIKP		PKPdf	21 15 20.8	-0.5
O53A	New Philadelph	127.63	26	P		PKPdf	21 15 21.0	-0.4
	baz=325							
P52A	Corning	127.72	27	P		PKPdf	21 15 21.6	0.0
	baz=324							
OXF	Oxford	127.73	37	P		PKPdf	21 15 21.6	-0.2
	baz=314							
BINY	Binghamton	128.01	20	P		PKPdf	21 15 22.2	+0.1
	baz=332							
PLAL	Pickwick Lake	128.19	36			PKPdf	21 15 22.4	-0.2
SSPA	Standing Stone	128.67	23			PKiKP	21 15 23.8	-0.3
SSPA	Standing Stone	128.67	23	P		PKPdf	21 15 23.4	0.0
	baz=329							
MCWV	Mont Chateau	128.70	25	P		PKPdf	21 15 23.6	+0.1
	baz=327							
L61B	Northampton	128.85	17	P		PKPdf	21 15 23.6	-0.1
	baz=336							
DBIC	Dimbokro	129.08	284	PKP		PKiKP	21 15 25.4	-0.2
	comp=Z,6.5nm,0.8s,baz=114,slow=5.0,SNR=7.0							
HRV	Adam Dziewonsk	129.12	16	P		PKPdf	21 15 23.8	-0.4
	baz=338							
ODNJ	Ogdensburg	129.47	20			PKPdf	21 15 25.2	+0.3
TZTN	Tazewell	129.49	31	P		PKPdf	21 15 24.7	-0.3
	baz=321							
PAL	Palisades	129.78	19	P		PKPdf	21 15 25.0	-0.4
	baz=334							
V52A	Sevierville	130.00	31			PKPdf	21 15 26.2	+0.1
LRAL	Lakeview Retre	130.20	36	P		PKPdf	21 15 26.1	-0.4
	baz=315							
BLA	Blacksburg	130.47	28	P		PKPdf	21 15 26.7	-0.3
	baz=325							
KMSC	Kings Mountain	131.70	30	P		PKPdf	21 15 29.4	+0.1
	baz=323							
GOGA	Godfrey	131.93	33			PKPpre	21 15 23.6	
GOGA					PKPdf	PKPdf	21 15 29.2	-0.5
GOGA	Godfrey	131.93	33	P		PKPdf	21 15 29.5	-0.3
	baz=319							
GOGA	Godfrey	131.93	33	PKIKP		PKPdf	21 15 23.6	-6.2
TIGA	Tifton	133.34	35	P		PKPdf	21 15 31.5	-0.9
	baz=318							
PLCA	Paso Flores	142.56	159	PKPdf		PKPdf	21 15 46.6	-2.6
PLCA	Paso Flores	142.56	159	PKhKP	PKPpre		21 15 46.1	
	comp=Z,5.4nm,0.7s,baz=248,slow=3.2,SNR=30							
PLCA	Paso Flores	142.56	159	PKIKP		PKPdf	21 15 46.6	-2.6
TRQA	Tornquist	147.43	169	PKPdf		PKPdf	21 15 55.5	-2.1
TRQA						PKPbc	21 15 59.9	-0.4
TRQA	Tornquist	147.43	169	PKIKP		PKPdf	21 15 55.5	-2.1
TRQA							21 15 59.9	
BO01	Tunca	147.84	153			PKPbc	21 16 02.0	+0.6
CDITO	Canoas	147.97	63	PKPdf		PKPdf	21 15 56.5	-2.6
CDITO						PKPbc	21 16 02.1	-0.2
MT09	Talagante	148.40	153			PKiKP	21 16 04.2	-0.5
MT13	San Alfonso	148.74	154			PKPdf	21 15 58.0	-2.0
MT13					PKPbc	PKiKP	21 16 05.2	-0.2
MT13					PKPab	PKPab	21 16 09.5	+1.5
PEL	Peldehue	149.07	153			PKPbc	21 16 04.8	0.0
PEL					PKPab	PKPab	21 16 10.4	+1.2
PEL	Peldehue	149.07	153	PKP2		PKPab	21 16 10.4	+1.2
MT08	Bocatoma Ro	149.11	154			PKPdf	21 15 58.9	-1.9
MT08					PKPbc	PKPbc	21 16 02.7	-2.3
MT08					PKPab	PKiKP	21 16 06.5	+0.2
TULM	Tulcn-Chalpat	155.57	75	PKPdf		PKPdf	21 16 07.9	-3.3
TULM						PKPab	21 16 33.8	-4.0
ROSC	El Rosal	157.22	62	PKP		PKPdf	21 16 14.5	+1.3
	comp=Z,11nm,0.4s,baz=66,slow=1.6,SNR=5.7							
LVC	Limon Verde	158.35	141	PKP		PKPdf	21 16 15.4	+1.1
	comp=Z,5.1nm,0.8s,baz=58,slow=2.3,SNR=6.2							
LVC					PKPab	pPKPdf	21 16 49.9	0.0
	comp=Z,13nm,0.9s,baz=257,slow=3.7,SNR=8.9							
CPUP	Villa Florida	159.68	172	PKP		PKPdf	21 16 15.9	+0.6
	comp=Z,4.9nm,0.8s,baz=37,slow=1.9,SNR=7.7							
CPUP					PKPab	PKPab	21 16 55.8	+1.6
	comp=Z,10nm,0.9s,baz=182,slow=5.3,SNR=10							
PTGB	Pitanga	161.37	186	*eP*		PKPdf	21 16 16.4	-0.9
CZSB	Cruzeiro do Su	161.63	96	*eP*		PKPdf	21 16 16.8	-0.9
SJMB	Sao Joao De Ma	162.12	224	*eP*		PKPdf	21 16 18.1	0.0
LPAZ	La Paz	163.07	128	PKP		PKPdf	21 16 21.2	+1.3
	comp=Z,7.8nm,0.8s,baz=250,slow=0.6,SNR=19							
LPAZ					PKPab	PKPab	21 17 12.2	+2.0
	comp=Z,10nm,0.9s,baz=162,slow=0.6,SNR=8.4							
MURT	Porto Murtinho	164.20	169	*eP*		PKPdf	21 16 18.4	-1.6
PCMB	Pacaembu	164.31	190	*eP*		PKPdf	21 16 18.8	-1.3
BBSD	Serra de San D	167.36	151	*eP*		PKPdf	21 16 22.3	-0.3
ETMB	Extrema	167.61	108	*eP*		PKPdf	21 16 21.8	-1.2
SIV	San Ignacio	168.13	146	PKP		PKPdf	21 16 24.3	+1.0
	comp=Z,8.1nm,0.7s,baz=166,slow=1.2,SNR=6.7							
BDFB	Brasilia	168.71	212	PKP		PKPdf	21 16 23.6	-0.2
	comp=Z,5.6nm,0.9s,baz=38,slow=1.2,SNR=6.7							
BDFB					PKPab	PKPab	21 17 33.7	-0.7
	comp=Z,3.1nm,0.7s,baz=108,slow=2.3,SNR=3.2							
MDP	Montagnes des	168.75	352	PKPab		PKPab	21 17 33.8	-0.5
	comp=Z,20nm,0.9s,baz=16,slow=5.1,SNR=5.1							
TEFE	Tefe	169.36	76	*eP*		PKPdf	21 16 25.1	+1.0
BOAV	Boa Vista	169.50	37	*eP*		PKPdf	21 16 23.5	-0.7
SMTB	Santa Maria do	172.83	247	*eP*		PKPdf	21 16 24.9	-1.0
SNDB	Serra Nova Dou	173.47	207	*eP*		PKPdf	21 16 26.0	-0.1
ITTB	Itaituba	177.74	40	*eP*		PKPdf	21 16 27.5	+0.3

NEIC ***11*** *21:01:24.4±0.8, 19.5°S±0.2×177.4°W±0.2, h583km±14km, mb4.4/11, Error ellipse: s-maj=32.7km s-min=11.0km az=136.0*

IDC ***11*** *21:01:25.6±3.7, 19.47°S×177.72°W, h575km±38km, mb3.3/7, mbtmp4.1/7, Error ellipse: s-maj=45.9km s-min=16.1km az=151.0*

ISC 11 21:01:25.2±0.9, 19.6°S±0.2×177.4°W±0.1, h600km, n27, σ1°§37/26, mb4.2/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	Nonsavu	4.68	292	P		P	21 02 53.2	-2.6
AFI	Afiamalu	7.80	45	P		P	21 03 20.5	-2.3
TOZ	Tahuroa Road	19.12	197	P		P	21 05 11.0	+0.2
TOZ				IAmb		IAmb	21 05 12.5	
	comp=Z,11nm,1.0s							
COEN	Coen	38.09	272	P		P	21 07 54.8	+0.1
COEN				IAmb		IAmb	21 07 55.4	
	comp=Z,14nm,0.9s							
WB0	Warramunga Arr	45.26	261	P		P	21 08 50.5	-0.4
WB0				IAmb		IAmb	21 09 08.6	
	comp=Z,15nm,1.1s							
WB2	Warramunga Arr	45.27	261	P		P	21 08 50.3	-0.7
WB2				IAmb		IAmb	21 08 51.9	
	comp=Z,19nm,1.1s							
AS31	Alice Springs	45.28	256	P		P	21 08 50.2	-0.8
ASAR	Alice Springs	45.28	256	P		P	21 08 50.8	-0.2
	comp=Z,5.2nm,0.7s,baz=86,slow=8.2,SNR=11							
ASAR				S		S	21 14 48.6	-0.3
	comp=Z,1.5nm,0.8s,baz=93,slow=16,SNR=7.1							
	comp=Z,5.2nm,0.7s							
WRA	Warramunga Arr	45.29	261	P		P	21 08 50.4	-0.6
WRA	Warramunga Arr	45.29	261	P		P	21 08 50.5	-0.6
	comp=Z,1.5nm,0.4s,baz=97,slow=7.8,SNR=10.0							
	comp=Z,1.5nm,0.4s							
MTN	Manton Dam	49.72	270	P		P	21 09 22.6	-1.5
FITZ	Fitzroy Crossi	53.71	262	P		P	21 09 52.6	-0.1
SOEI	Soe	57.03	271	P		P	21 10 17.3	+1.4
SOEI				IAmb		IAmb	21 10 18.4	
	comp=Z,24nm,0.7s							
PSA00	Pilbara Seismi	58.42	256	P		P	21 10 24.3	-0.8
PSA00				IAmb		IAmb	21 10 40.3	
	comp=Z,20nm,1.1s							
MBWA	Marble Bar	58.60	257	P		P	21 10 25.7	-0.6
MBWA				IAmb		IAmb	21 10 29.5	
	comp=Z,18nm,1.1s							
MJAR	Matsushiro Arr	69.80	323	P		P	21 11 37.6	+1.0
	comp=Z,3.4nm,0.8s,baz=155,slow=6.2,SNR=7.6							
	comp=Z,3.4nm,0.8s							
PETK	Petropavlovsk-	75.52	345	P		P	21 12 10.1	+1.0
	comp=Z,1.1nm,0.6s,baz=124,slow=10,SNR=5.4							
	comp=Z,1.1nm,0.6s							
TXAR	Lajitas Array	86.09	57	P		P	21 13 08.1	+4.1
	comp=Z,0.4nm,0.6s,baz=234,slow=7.7,SNR=6.5							
	comp=Z,0.4nm,0.6s							
ILAR	Eielson Array	87.29	13	P		P	21 13 09.9	+1.2
	comp=Z,0.4nm,0.6s,baz=218,slow=5.7,SNR=1.9							
	comp=Z,0.4nm,0.6s							
CMAR	Chiang Mai Arr	90.33	289	P		P	21 13 26.9	+3.0
	comp=Z,1.4nm,0.9s,baz=117,slow=2.8,SNR=7.3							
	comp=Z,1.4nm,0.9s							
BVAR	Borovoye Array	118.73	320	PKP		PKiKP	21 19 07.0	+1.0
	comp=Z,0.6nm,0.4s,baz=96,slow=1.3,SNR=5.6							
ARCES	ARCESS Array B	128.11	350	PKP		PKiKP	21 19 25.5	+1.4
	comp=Z,2.0nm,0.9s,baz=11,slow=1.8,SNR=5.6							
AKASG	Malin Array Be	142.47	332	PKhKP	PKPpre		21 19 48.7	
	comp=Z,0.7nm,0.4s,baz=43,slow=4.6,SNR=7.5							
EKA	Eskdalemuir Ar	144.03	6	PKP		PKiKP	21 19 54.5	-2.4
	comp=Z,1.1nm,0.8s,baz=335,slow=3.2,SNR=3.5							
BRTR	Keskin Array B	146.62	314	PKPbc		PKiKP	21 20 02.3	-0.7
	comp=Z,1.5nm,0.7s,baz=63,slow=2.1,SNR=8.1							
MMAI	Mount Meron Ar	147.82	301	PKPbc		PKiKP	21 20 06.2	+0.6
	comp=Z,2.3nm,0.5s,baz=76,slow=6.1,SNR=5.1							
GERES	GERESS Array B	149.46	345	PKPbc		PKiKP	21 20 09.7	+1.3
	comp=Z,1.2nm,0.6s,baz=28,slow=6.0,SNR=7.1							

SJA ***11*** *21:04:03.3±0.7, 22.07°S×68.61°W, h129km±3km, ML3.8, MW3.7*

NEIC ***11*** *21:04:04.4±2.1, 22.05°S±0.06°×68.62°W±0.08, h120km±8km, mb4.0/4, Error ellipse: s-maj=11.7km s-min=6.5km az=58.0*

GUC ***11*** *21:04:04.8±0.9, 22.05°S×68.60°W, h112km±5km, ML3.8*

ISC 11 21:04:04.4±0.9, 22.08°S±0.03°×68.65°W±0.05, h126km±7km, n71, σ1°§05/99, 9C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	Limon Verde	0.58	204	Pn		Pn	21 04 23.4	-0.6
LVC	Limon Verde	0.58	204	*i* P		Pn	21 04 23.6	-0.3
LVC				*i* S		Sn	21 04 38.8	0.0
LVC				IAML			21 04 40.5	
	comp=Z,928nm,0.2s							
LVC	Limon Verde	0.58	204	*eP*		Pn	21 04 23.0	-0.9
LVC				*eS*		Sn	21 04 37.0	-1.7
LVC				IAML			21 04 38.9	
	comp=Z,5μm,0.2s							
PB09	IPOC Station P	0.61	297			Pn	21 04 24.2	+0.2
PB09					Sn	Sn	21 04 38.0	-0.8
PB09	IPOC Station P	0.61	297	*i* P		Pn	21 04 24.0	+0.1
PB09				IAML			21 04 39.0	
	comp=Z,1μm,0.6s							
PB09				*i* S		Sn	21 04 39.2	+0.4
PB09	IPOC Station P	0.61	297	⇑*i*P		Pn	21 04 24.0	+0.1
PB09				*eS*		Sn	21 04 38.1	-0.6
PB09				IAML			21 04 41.8	
	comp=N,1μm,0.5s							
AF01	San Pedro de A	0.97	153			Pn	21 04 26.5	-0.5
AF01	San Pedro de A	0.97	153	*eP*		Pn	21 04 26.8	-0.2
PB06	IPOC Station P	1.05	234	*i* P		Pn	21 04 27.7	0.0
PB06				*i* S		Sn	21 04 46.1	+0.8
PB06				IAML			21 04 48.5	
	comp=Z,1μm,0.2s							
PB06	IPOC Station P	1.05	234	⇑*i*P		Pn	21 04 28.3	+0.6
PB06				*eS*		Sn	21 04 45.6	+0.4
PB06				IAML			21 04 46.7	
	comp=E,3μm,0.2s							
PB07	IPOC Station P	1.20	287			Pn	21 04 29.6	+0.5
PB07	IPOC Station P	1.20	287	*i* P		Pn	21 04 29.0	-0.1
PB07				*i* S		Sn	21 04 48.9	+1.1
PB07				IAML			21 04 50.5	
	comp=Z,1μm,0.4s							
PB07	IPOC Station P	1.20	287	⇑*i*P		Pn	21 04 29.7	+0.6
PB07				*eS*		Sn	21 04 48.3	+0.5
PB07				IAML			21 04 49.5	
	comp=E,2μm,0.4s							
PB01	IPOC Station P	1.29	323			Pn	21 04 30.3	+0.3
PB01	IPOC Station P	1.29	323	*i* P		Pn	21 04 29.6	-0.4
PB01				*i* S		Sn	21 04 49.9	+0.4
PB01				IAML			21 04 52.6	
	comp=Z,1μm,0.2s							
PB01	IPOC Station P	1.29	323	⇑*i*P		Pn	21 04 30.0	0.0
PB01				*eS*		Sn	21 04 49.4	-0.1
PB01				IAML			21 04 52.7	
	comp=E,2μm,0.2s							
PB15	IPOC Station P	1.35	214	Pn		Pn	21 04 31.5	+0.7
PB15	IPOC Station P	1.35	214	*i* P		Pn	21 04 31.1	+0.3
PB15				*i* S		Sn	21 04 52.1	+1.2
PB15	IPOC Station P	1.35	214	*i* P		Pn	21 04 31.6	+0.7
PB15				*eS*		Sn	21 04 52.1	+1.2
PB02	IPOC Station P	1.38	303			Pn	21 04 31.1	+0.2
PB02	IPOC Station P	1.38	303	⇑*i*P		Pn	21 04 31.2	+0.2
PB02				*eS*		Sn	21 04 50.9	-0.3
PB02				IAML			21 04 59.6	
	comp=E,2μm,0.3s							
PB04	IPOC Station P	1.41	259	Pn		Pn	21 04 31.9	+0.5
PB04	IPOC Station P	1.41	259	*i* P		Pn	21 04 31.6	+0.3
PB04				*i* S		Sn	21 04 53.0	+1.1
PB04				IAML			21 05 02.3	
	comp=Z,955nm,0.2s							
PB04	IPOC Station P	1.41	259	⇑*i*P		Pn	21 04 31.9	+0.5
PB04				*eS*		Sn	21 04 52.9	+1.1
PB04				IAML			21 04 57.9	
	comp=N,1μm,0.1s							
PATCX	Punta Patache	1.88	312			Pn	21 04 37.0	+0.2
PATCX	Punta Patache	1.88	312	*i* P		Pn	21 04 37.0	+0.2
PATCX				*i* S		Sn	21 05 02.0	+0.6
PATCX				IAML			21 05 10.0	
	comp=Z,609nm,0.3s							
PATCX	Punta Patache	1.88	312	⇑*i*P		Pn	21 04 36.9	+0.2
PATCX				*eS*		Sn	21 05 02.1	+0.7
PATCX				IAML			21 05 07.6	
	comp=E,1μm,0.3s							
PB08	IPOC Station P	1.99	346	Pn		Pn	21 04 39.5	+1.0
PB08	IPOC Station P	1.99	346	⇑*i*P		Pn	21 04 39.4	+1.0
PB08				*eS*		Sn	21 05 04.8	+0.4
PB08				IAML			21 05 07.3	
	comp=E,543nm,0.2s							
TA01	Diego Aracena	2.07	316			Pn	21 04 39.0	-0.1
TA01	Diego Aracena	2.07	316	*i* P		Pn	21 04 39.4	+0.3
TA01				*i* S		Sn	21 05 06.0	+0.3
TA01				IAML			21 05 14.9	
	comp=Z,458nm,0.3s							
TA01	Diego Aracena	2.07	316	*eP*		Pn	21 04 38.7	-0.4
TA01				*eS*		Sn	21 05 05.8	+0.2
HMBC	Humberstone	2.13	327	Pn		Pn	21 04 39.5	-0.5
HMBC	Humberstone	2.13	327	*i* P		Pn	21 04 39.7	-0.3
HMBC				*i* S		Sn	21 05 07.5	+0.4
HMBC				IAML			21 05 13.8	
	comp=Z,579nm,0.3s							
HMBC	Humberstone	2.13	327	⇑*i*P		Pn	21 04 39.8	-0.2
HMBC				*eS*		Sn	21 05 06.8	-0.3
HMBC				IAML			21 05 09.1	
	comp=N,1μm,0.5s							
PB10	IPOC Station P	2.26	231			Pn	21 04 41.6	+0.3
TA02	Huaiquique	2.27	322			Pn	21 04 40.0	-0.7
TA02	Huaiquique	2.27	322	*eP*		Pn	21 04 41.0	-0.5
GO01	Chusmiza	2.45	348			Pn	21 04 45.1	+0.7
GO01	Chusmiza	2.45	348	*eP*		Pn	21 04 44.8	+0.5
GO01				*eS*		Sn	21 05 15.9	+1.0
GO01				IAML			21 05 17.7	
	comp=N,850nm,0.2s							
PB11	IPOC Station P	2.49	338			Pn	21 04 44.2	-0.2
PB11	IPOC Station P	2.49	338	*i* P		Pn	21 04 44.3	-0.2
PB11				*i* S		Sn	21 05 15.3	0.0
PB11				IAML			21 05 24.9	
	comp=Z,317nm,0.4s							
PB11	IPOC Station P	2.49	338	*i* P		Pn	21 04 44.3	-0.2
PB11				*eS*		Sn	21 05 14.2	-1.1
PB11				IAML			21 05 22.0	
	comp=N,790nm,0.5s							
YJA	Yavi	2.91	92	*i* P		Pn	21 04 50.9	+0.8
PB14	IPOC Station P	3.00	212	Pn		Pn	21 04 51.1	-0.1
PB14	IPOC Station P	3.00	212	*i* P		Pn	21 04 51.7	+0.5
PB14				*i* S		Sn	21 05 27.8	+0.6
PB14				IAML			21 05 37.3	
	comp=Z,262nm,1.3s							
GO02	Mina Guanaco	3.19	195			Pn	21 04 53.5	0.0
GO02	Mina Guanaco	3.19	195	*i* P		Pn	21 04 53.8	+0.2
GO02	Mina Guanaco	3.19	195	*i* P		Pn	21 04 53.7	+0.1
HJA	Humahuaca	3.20	111	*i* P		Pn	21 04 54.5	+0.7
PB12	IPOC Station P	3.79	335			Pn	21 04 59.9	-1.5
PB12	IPOC Station P	3.79	335	*eP*		Pn	21 04 59.6	-1.8
PB12				*eS*		Sn	21 05 42.3	-3.2
AP01	Chacalluta	4.02	336	Pn		Pn	21 05 06.6	+1.3
AC01	Pan de Azucar	4.42	203			Pn	21 05 08.7	-1.0
AC01	Pan de Azucar	4.42	203	*eP*		Pn	21

ILAR	**Eielson Array**	**41.17**	**37**	P		**P**	**21 15 05.1**	**+0.8**
	0.4nm,0.7s,baz=269,slow=7.2,SNR=3.0							
	0.4nm,0.7s							
MKAR	**Makanchi Array**	**43.67**	**297**	P		**P**	**21 15 23.2**	**-1.5**
	0.6nm,0.8s,baz=75,slow=8.0,SNR=2.9							
	0.6nm,0.8s							
KURBB	**Kurchatov Arra**	**44.65**	**303**	P		**P**	**21 15 31.9**	**-0.5**
	0.3nm,0.4s,baz=73,slow=8.8,SNR=4.4							
	0.3nm,0.4s							
YKA	**Yellowknife Ar**	**55.44**	**34**	P		**P**	**21 16 52.7**	**-0.5**
	0.2nm,0.5s,baz=302,slow=8.0,SNR=2.6							
	0.2nm,0.5s							
FINES	**FINESS Array B**	**63.85**	**332**	P		**P**	**21 17 49.4**	**-1.1**
	1.1nm,1.0s,baz=38,slow=7.0,SNR=1.5							
	1.1nm,1.0s							
PDAR	**Pinedale Array**	**69.83**	**50**	P		**P**	**21 18 30.3**	**+1.4**
	0.6nm,0.5s,baz=315,slow=1.6,SNR=5.0							
	0.6nm,0.5s							

CATAC ***11*** *21:14:50.7±0.4, 12.°95N×89.°16W, h22km±3km, ML4.3*
SNET ***11*** *21:14:52.0±0.9, 12.°97N×89.°15W, h31km±495km, ML4.3*
GCG ***11*** *21:14:57.2±0.7, 13.°30N×89.°45W, h84km±76km, MD3.9*

ISC 11 21:14:50.9±1.4**, 12.°93N**±0.°05×**89.°18W**±0.°03**, h28**km±11km**, n103,** σ**0°54**/134**, 7C-14D, Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.58**	**346**	⇓*i*	P	**Pn**	**21 15 03.2**	**-0.1**
LALI	**Alcalda de L**	**0.58**	**346**	*i*	P	**Pn**	**21 15 03.2**	**-0.1**
LALI				*i*	S	**Sb**	**21 15 10.4**	**0.0**
LALI					IAML		21 15 11.5	
	comp=Z,4μm,1.0s							
PANCS	**Alcalda de**	**0.68**	**360**	*eP*		**Pb**	**21 15 04.5**	**+0.2**
PANCS	**Alcalda de**	**0.68**	**360**	*i*	P	**Pb**	**21 15 04.1**	**-0.2**
PANCS				*i*	S	**Sb**	**21 15 13.9**	**+0.5**
PANCS					IAML		21 15 15.6	
	comp=Z,32μm,1.0s							
LOMA	**Loma Larga**	**0.71**	**0**	⇓*i*	P	**Pb**	**21 15 05.0**	**+0.1**
LOMA				*e*	S	**Sn**	**21 15 15.3**	**-0.1**
LOMA					IAML		21 15 17.4	
	comp=Z,27μm,0.2s							
LOMA	**Loma Larga**	**0.71**	**0**	*i*	P	**Pb**	**21 15 05.0**	**+0.1**
LOMA				*i*	S	**Sn**	**21 15 15.3**	**-0.1**
LOMA					IAML		21 15 17.1	
	comp=Z,25μm,1.0s							
TECO	**Alcaldia de Te**	**0.72**	**32**	⇑*i*	P	**Pb**	**21 15 04.6**	**-0.3**
TECO	**Alcaldia de Te**	**0.72**	**32**	*i*	P	**Pb**	**21 15 04.7**	**-0.2**
TECO				*i*	S	**Sb**	**21 15 14.3**	**-0.1**
TECO					IAML		21 15 20.4	
	comp=Z,3μm,1.0s							
COEG	**Centro de Oper**	**0.75**	**23**	⇑*eP*		**Pb**	**21 15 05.2**	**-0.2**
COEG	**Centro de Oper**	**0.75**	**23**	*i*	P	**Pb**	**21 15 05.2**	**-0.2**
COEG					IAML		21 15 20.2	
	comp=Z,6μm,1.0s							
ITCA	**Escuela Especi**	**0.75**	**352**	*i*	P	**Pb**	**21 15 05.5**	**0.0**
ITCA				*i*	S	**Sn**	**21 15 16.0**	**-0.3**
ITCA					IAML		21 15 21.6	
	comp=Z,34μm,1.0s							
SNET	**Serv Nac Est T**	**0.76**	**356**	*eP*		**Pb**	**21 15 05.5**	**0.0**
SNET	**Serv Nac Est T**	**0.76**	**356**	*i*	P	**Pb**	**21 15 05.6**	**0.0**
SNET				*i*	S	**Sn**	**21 15 16.4**	**0.0**
SNET					IAML		21 15 18.5	
	comp=Z,23μm,1.0s							
MAGS	**Ministerio de**	**0.76**	**352**	*eP*		**Pb**	**21 15 05.7**	**0.0**
AEIL	**Aeropuerto Ilo**	**0.77**	**4**	*eP*		**Pn**	**21 15 06.1**	**+0.1**
UTEC	**Universidad Te**	**0.77**	**358**	*i*	P	**Pb**	**21 15 05.8**	**0.0**
UTEC				*i*	S	**Sn**	**21 15 16.4**	**-0.3**
UTEC					IAML		21 15 18.7	
	comp=Z,9μm,1.0s							
JAYA	**Jayaque - finc**	**0.77**	**340**	*i*	P	**Pb**	**21 15 05.9**	**0.0**
IGN	**Direccin Gen**	**0.78**	**0**	*eP*		**Pb**	**21 15 06.0**	**+0.1**
IGN	**Direccin Gen**	**0.78**	**0**	*i*	P	**Pb**	**21 15 06.1**	**+0.1**
IGN				*i*	S	**Sn**	**21 15 16.6**	**-0.4**
IGN					IAML		21 15 20.8	
	comp=Z,36μm,1.0s							
UDBS	**Universidad Do**	**0.78**	**1**	*i*	P	**Pn**	**21 15 06.4**	**+0.2**
UDBS				*i*	S	**Sn**	**21 15 17.2**	**+0.1**
UDBS					IAML		21 15 20.2	
	comp=Z,10μm,1.0s							
UEES	**Universidad Ev**	**0.79**	**355**	*eP*		**Pb**	**21 15 06.1**	**0.0**
UEES					IAML		21 15 19.2	
	comp=Z,13μm,0.2s							
UESS	**Universidad de**	**0.79**	**358**	*eP*		**Pn**	**21 15 06.2**	**-0.1**
PMON	**Piamonte**	**0.79**	**350**	⇓*i*	P	**Pn**	**21 15 06.2**	**-0.2**
PMON	**Piamonte**	**0.79**	**350**	*i*	P	**Pn**	**21 15 06.0**	**-0.4**
PMON				*i*	S	**Sb**	**21 15 16.9**	**+0.3**
PMON					IAML		21 15 21.2	
	comp=Z,22μm,1.0s							
UESV	**Universidad de**	**0.80**	**28**	*i*	P	**Pn**	**21 15 05.8**	**-0.6**
UESV				*i*	S	**Sb**	**21 15 16.3**	**-0.5**
UESV					IAML		21 15 21.1	
	comp=Z,4μm,1.0s							
BOQS	**Boqueron**	**0.81**	**353**	⇓*i*	P	**Pn**	**21 15 06.7**	**0.0**
PAVA	**Las Pavas**	**0.81**	**16**	⇑*eP*		**Pn**	**21 15 06.5**	**-0.2**
PAVA	**Las Pavas**	**0.81**	**16**	*i*	P	**Pn**	**21 15 06.4**	**-0.2**
PAVA				*i*	S	**Sn**	**21 15 18.2**	**+0.3**
PAVA					IAML		21 15 18.9	
	comp=Z,22μm,1.0s							
PIC2	**El Picacho**	**0.82**	**354**	⇓*i*	P	**Pb**	**21 15 06.8**	**+0.2**
LFU	**La Fuente**	**0.82**	**4**	*eP*		**Pn**	**21 15 06.6**	**-0.1**
COEB	**Comit de Eme**	**0.85**	**48**	*eP*		**Pn**	**21 15 06.7**	**-0.4**
COEB	**Comit de Eme**	**0.85**	**48**	*i*	P	**Pn**	**21 15 06.7**	**-0.4**
COEB					IAML		21 15 21.7	
	comp=Z,6μm,1.0s							
TECA	**Tecapa**	**0.86**	**49**	⇑*eP*		**Pn**	**21 15 07.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.88**	**29**	⇑*eP*		**Pn**	**21 15 07.4**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.88**	**29**	*i*	P	**Pn**	**21 15 07.5**	**-0.1**
SCLA				*i*	S	**Sb**	**21 15 18.9**	**-0.3**
SCLA					IAML		21 15 27.2	
	comp=Z,2μm,1.0s							
CEDA	**San Andres**	**0.90**	**346**	⇓*i*	P	**Pn**	**21 15 07.5**	**-0.2**
CEDA	**San Andres**	**0.90**	**346**	*i*	P	**Pn**	**21 15 07.5**	**-0.2**
CEDA				*i*	S	**Sb**	**21 15 19.3**	**-0.2**
CEDA					IAML		21 15 24.1	
	comp=Z,24μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.91**	**354**	*eP*		**Pb**	**21 15 08.0**	**0.0**
QUEZ	**Alcaldia de Qu**	**0.91**	**354**	*i*	P	**Pb**	**21 15 08.1**	**0.0**
QUEZ				*i*	S	**Sn**	**21 15 20.9**	**+0.8**
QUEZ					IAML		21 15 30.9	
	comp=Z,20μm,1.0s							
PQSS	**Presa 15 de Se**	**0.92**	**41**	*eP*		**Pn**	**21 15 07.7**	**-0.2**
PQSS	**Presa 15 de Se**	**0.92**	**41**	*i*	P	**Pn**	**21 15 07.8**	**-0.2**
PQSS				*i*	S	**Sn**	**21 15 19.7**	**-0.5**
PQSS					IAML		21 15 21.3	
	comp=Z,13μm,1.0s							
JUCU	**Jucuarįn**	**0.96**	**70**	*eP*		**Pn**	**21 15 08.1**	**-0.5**
JUCU				*e*	S	**Sn**	**21 15 20.6**	**-0.8**
JUCU					IAML		21 15 23.2	
	comp=Z,5μm,0.3s							
JUCU	**Jucuarįn**	**0.96**	**70**	*i*	P	**Pn**	**21 15 08.1**	**-0.5**
JUCU				*i*	S	**Sn**	**21 15 21.3**	**-0.1**
JUCU					IAML		21 15 23.2	
	comp=Z,4μm,1.0s							
LCY	**Lacayo**	**0.99**	**60**	*eP*		**Pn**	**21 15 08.9**	**-0.2**
PACA	**Pacayal**	**0.99**	**57**	*eP*		**Pn**	**21 15 09.2**	**+0.2**
PACA	**Pacayal**	**0.99**	**57**	*i*	P	**Pb**	**21 15 09.4**	**-0.1**
PACA				*i*	S	**Sb**	**21 15 22.6**	**+0.4**
PACA					IAML		21 15 24.2	
	comp=Z,89μm,1.0s							
CEVE	**Cerro Verde**	**1.00**	**334**	⇓*eP*		**Pn**	**21 15 09.1**	**-0.2**
CEVE	**Cerro Verde**	**1.00**	**334**	*i*	P	**Pn**	**21 15 09.3**	**0.0**
CEVE					IAML		21 15 34.7	
	comp=Z,7μm,1.0s							
RANC	**El Ranchito**	**1.00**	**60**	⇓*eP*		**Pn**	**21 15 09.1**	**-0.1**
RANC	**El Ranchito**	**1.00**	**60**	*i*	P	**Pn**	**21 15 09.1**	**-0.1**
RANC				*i*	S	**Sb**	**21 15 22.7**	**+0.1**
RANC					IAML		21 15 27.2	
	comp=Z,10μm,1.0s							
SBLS	**San Blas**	**1.01**	**334**	⇓*eP*		**Pn**	**21 15 09.2**	**-0.2**
SNJE	**San Jose**	**1.03**	**336**	⇓*i*	P	**Pn**	**21 15 09.4**	**-0.2**
BLLM	**Bellamira**	**1.05**	**61**	*eP*		**Pn**	**21 15 09.6**	**-0.2**
RTR	**El Retiro**	**1.07**	**335**	⇓*i*	P	**Pn**	**21 15 10.2**	**0.0**
UNIC	**Universidad Ca**	**1.11**	**341**	*i*	P	**Pn**	**21 15 10.7**	**0.0**
UNIC				*i*	S	**Sn**	**21 15 25.3**	**+0.2**
UNIC					IAML		21 15 28.3	
	comp=Z,2μm,1.0s							
CNRM	**Centro Naciona**	**1.12**	**61**	*i*	P	**Pn**	**21 15 10.7**	**0.0**
CNRM				*i*	S	**Sb**	**21 15 25.6**	**-0.2**
CNRM					IAML		21 15 37.7	
	comp=Z,11μm,1.0s							
NUBE	**Las Nubes**	**1.13**	**329**	⇓*i*	P	**Pn**	**21 15 10.7**	**-0.4**
NUBE	**Las Nubes**	**1.13**	**329**	*i*	P	**Pn**	**21 15 10.7**	**-0.4**
NUBE				*i*	S	**Sn**	**21 15 24.8**	**-1.0**
NUBE					IAML		21 15 26.8	
	comp=Z,7μm,1.0s							
LOAL	**Lomas de Alarc**	**1.22**	**331**	*eP*		**Pn**	**21 15 12.5**	**+0.4**
LOAL	**Lomas de Alarc**	**1.22**	**331**	*i*	P	**Pn**	**21 15 12.1**	**-0.1**
LOAL					IAML		21 15 13.4	
	comp=Z,8μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.24**	**332**	*eP*		**Pn**	**21 15 12.7**	**+0.2**
LLGN	**La Laguna**	**1.25**	**10**	*eP*		**Pn**	**21 15 12.6**	**-0.1**
LLGN	**La Laguna**	**1.25**	**10**	*i*	P	**Pn**	**21 15 12.5**	**-0.1**
LLGN				*i*	S	**Sn**	**21 15 29.0**	**+0.4**
LLGN					IAML		21 15 29.8	
	comp=Z,2μm,1.0s							
LCND	**La Caada**	**1.31**	**73**	⇑*eP*		**Pn**	**21 15 13.2**	**-0.1**
LCND	**La Caada**	**1.31**	**73**	*i*	P	**Pn**	**21 15 13.7**	**+0.4**
LCND					IAML		21 15 31.7	
	comp=Z,9μm,1.0s							
CNCH	**Conchagua**	**1.35**	**75**	⇑*eP*		**Pn**	**21 15 13.7**	**-0.4**
CNCH	**Conchagua**	**1.35**	**75**	*i*	P	**Pn**	**21 15 13.9**	**-0.2**
CNCH				*i*	S	**Sn**	**21 15 30.8**	**-0.4**
CNCH					IAML		21 15 37.4	
	comp=Z,13μm,1.0s							
MTO3	**Montecristo**	**1.47**	**353**	⇓*i*	P	**Pn**	**21 15 15.9**	**+0.1**
MTO3	**Montecristo**	**1.47**	**353**	*i*	P	**Pn**	**21 15 15.8**	**0.0**
MTO3					IAML		21 15 36.8	
	comp=Z,1μm,1.0s							
JUAM	**Asuncion Mita**	**1.49**	**340**	*i*	P	**Pn**	**21 15 15.4**	**-0.5**
JUAM					IAML		21 15 17.3	
	comp=Z,2μm,1.0s							
AMPH	**Amapala**	**1.52**	**76**	*eP*		**Pn**	**21 15 16.1**	**-0.1**
AMPH	**Amapala**	**1.52**	**76**	*i*	P	**Pn**	**21 15 16.3**	**+0.1**
AMPH				*i*	S	**Sn**	**21 15 36.0**	**+0.9**
ESQI	**Esquipulas**	**1.63**	**354**	⇓*i*	P	**Pn**	**21 15 18.4**	**+0.5**
ESQI	**Esquipulas**	**1.63**	**354**	*i*	P	**Pn**	**21 15 18.3**	**+0.4**
ESQI					IAML		21 15 44.2	
	comp=Z,2μm,1.0s							
INTHN	**La Esperanza I**	**1.73**	**37**	*i*	P	**Pn**	**21 15 19.2**	**-0.1**
INTHN				*i*	S	**Sn**	**21 15 41.7**	**+1.1**
NBG	**Las Nubes**	**2.00**	**326**	*eP*		**Pn**	**21 15 24.8**	**+1.7**
GUNB	**GUNB**	**2.01**	**326**	*i*	P	**Pn**	**21 15 23.1**	**-0.2**
GUNB					IAML		21 16 15.7	
	comp=Z,650nm,1.0s							
CRIN	**San Cristobal**	**2.08**	**96**	*eP*		**Pn**	**21 15 24.1**	**0.0**
CRIN	**San Cristobal**	**2.08**	**96**	*i*	P	**Pn**	**21 15 24.5**	**+0.4**
CRIN				*i*	S	**Sn**	**21 15 49.7**	**+0.5**
CRIN					IAML		21 15 56.9	
	comp=Z,6μm,1.0s							
TGUH	**Tegucigalpa,Un**	**2.16**	**59**	*i*	P	**Pn**	**21 15 25.5**	**+0.3**
TGUH					IAML		21 16 02.2	
	comp=Z,630nm,1.0s							
MRL	**Marmol**	**2.20**	**347**	*eP*		**Pn**	**21 15 27.3**	**+1.5**
FUG	**Fuego 3**	**2.22**	**313**	*eP*		**Pn**	**21 15 26.4**	**+0.4**
PACN	**Al O del Volca**	**2.36**	**100**	*i*	P	**Pn**	**21 15 27.3**	**-0.6**
PLRN	**Geotermica Pol**	**2.37**	**98**	*i*	P	**Pn**	**21 15 27.5**	**-0.5**
ROCN	**Rota Cerro Neg**	**2.41**	**99**	*i*	P	**Pn**	**21 15 25.9**	**-2.6**
CNGA	**Al SSO del Vol**	**2.45**	**100**	*i*	P	**Pn**	**21 15 27.1**	**-2.0**
CNGN	**Cerro Negro**	**2.45**	**100**	*eP*		**Pn**	**21 15 28.6**	**-0.6**
CNGN	**Cerro Negro**	**2.45**	**100**	*i*	P	**Pn**	**21 15 29.1**	**0.0**
CNGN				*i*	S	**Sn**	**21 15 58.7**	**+0.4**
CNGN					IAML		21 16 04.7	
	comp=Z,2μm,1.0s							
MACN	**El Madrono**	**2.48**	**100**	*i*	P	**Pn**	**21 15 29.1**	**-0.4**
LEVN	**Ruinas Leon Vi**	**2.55**	**102**	*i*	P	**Pn**	**21 15 30.1**	**-0.3**
LEVN					IAML		21 16 16.3	
	comp=Z,1μm,1.0s							
MOMN	**Momotombo**	**2.62**	**101**	*i*	P	**Pn**	**21 15 30.5**	**-1.0**
MOMN					IAML		21 16 13.4	
	comp=Z,54nm,1.0s							
COPN	**Copaltepe**	**2.63**	**106**	*i*	P	**Pn**	**21 15 31.8**	**+0.3**
COPN					IAML		21 16 11.1	
	comp=Z,720nm,1.0s							
MOM2	**El Cardon**	**2.67**	**100**	*i*	P	**Pn**	**21 15 31.9**	**-0.2**
LIMN	**Finca el Limon**	**2.74**	**87**	*i*	P	**Pn**	**21 15 33.3**	**+0.2**
SAPS	**Ciudad Sandino**	**2.81**	**105**	*i*	P	**Pn**	**21 15 34.0**	**0.0**
SAPS					IAML		21 16 15.7	
	comp=Z,2μm,1.0s							
APQ3	**Volcan Apoyequ**	**2.81**	**103**	*i*	P	**Pn**	**21 15 33.8**	**-0.3**
APQ3					IAML		21 16 19.5	
	comp=Z,880nm,1.0s							
APYN	**Apoyeque**	**2.84**	**104**	*i*	P	**Pn**	**21 15 34.9**	**+0.4**
RTAL	**Retalhuleu**	**2.92**	**303**	*i*	P	**Pn**	**21 15 35.4**	**-0.1**
RTAL					IAML		21 16 22.8	
	comp=Z,470nm,1.0s							
STG3	**Santiaguito 3,**	**2.93**	**308**	*eP*		**Pn**	**21 15 37.0**	**+1.2**
STG3				*e*	S	**Sn**	**21 16 07.6**	**-2.5**
TISN	**Laguna Tiscapa**	**2.94**	**105**	*i*	P	**Pn**	**21 15 36.5**	**+0.7**
R4DEC	**Barrio San Lui**	**2.96**	**105**	*i*	P	**Pn**	**21 15 36.3**	**+0.2**
R4DEC					IAML		21 16 19.4	
	comp=Z,840nm,1.0s							
MAS3	**Al N del Volca**	**3.06**	**107**	*i*	P	**Pn**	**21 15 37.9**	**+0.4**
JAPN	**Al SSO del Vol**	**3.69**	**112**	*i*	P	**Pn**	**21 15 47.2**	**+1.1**
JAPN					IAML		21 16 38.6	
	comp=Z,320nm,1.0s							

JMA 11 21:20:34.8±0.2**, 32.°1N**±0.°7×**13.°2E**±°**, h26**km±3km**,**
MV0.6/14**, HYUGANADA REGION, Kyushu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHHC	**Hyugahichiya**	**0.47**	**323**		P	Pb	21 20 44.4	-0.2
JHHC				*e*	S	Sb	21 20 51.3	+0.2
JKIT	**Kitakata**	**0.71**	**322**	*eP*		Pb	21 20 48.4	-0.2
JUS	**Usuki**	**1.01**	**350**	*e*	S	Sn	21 21 07.4	+0.6

IDC ***11*** *21:21:28.5±1.8, 35.°89N×140.°21E, h78km±15km, mb3.4/9, mbtmp3.7/12, Error ellipse: s-maj=23.8km s-min=8.6km az=66.0*
JMA ***11*** *21:21:29.2±0.1, 36.°0N±0.°4×140.°1E±0.°6, h61km±1km, MV3.5/40, SOUTHERN IBARAKI PREF*
JMA Felt I J1 at SOUTHERN IBARAKI PREF .
NIED ***11*** *21:21:29.2, 36.°00N×140.°09E, h61km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10*^{14}*Nm; Mrr4.08; Mθθ-0.09; Mφφ-3.99; Mrθ-0.70; Mθφ-1.14; Mφr2.92; Fault plane solution: M0 5.16000×10*^{14} *NP1: φs=359.00000°, δ63.00000°, λ75.00000°. NP2: φs=210.00000°, δ31.00000°, λ117.00000°.*

ISC 11 21:21:28.4±0.8**, 35.°94N**±0.°04×**140.°13E**±0.°05**, h73**km±6km**,**
n40, σ**1°08**/44**, mb3.7**/9**, 11D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYT	**Yasato**	**0.29**	**10**		P	**Pn**	**21 21 39.0**	**-0.9**
JYT					S	**Sn**	**21 21 46.5**	**-1.8**
JIHU	**Itakohorinouch**	**0.32**	**86**	*i*	P	**Pn**	**21 21 40.2**	**+0.2**
JIHU					S	**Sn**	**21 21 49.5**	**+0.9**
TOK	**Tokyo**	**0.39**	**230**		P	**Pn**	**21 21 41.7**	**+1.2**
TOK					S	**Sn**	**21 21 52.1**	**+2.6**
JAG	**Ashikaga**	**0.73**	**312**	⇓	P	**Pn**	**21 21 43.4**	**-0.4**
JAG				⇓	*e*S	**Sn**	**21 21 54.1**	**-1.2**
JRY	**Ryogami san**	**1.00**	**275**	⇓	P	**Pn**	**21 21 47.0**	**-0.1**
JOD2	**Odawara 2**	**1.08**	**232**	⇓	P	**Pn**	**21 21 48.0**	**-0.2**
JOD2				⇓	S	**Sn**	**21 22 01.9**	**-1.0**
JKT	**Katashina**	**1.09**	**319**	⇓	P	**Pn**	**21 21 47.9**	**-0.4**
JKT				⇓	S	**Sn**	**21 22 02.3**	**-0.7**
BSO3	**Boso 3**	**1.18**	**165**		P	**Pn**	**21 21 49.0**	**0.0**
JIM2	**Oshima 3**	**1.35**	**205**		S	**Sn**	**21 22 07.5**	**-1.3**
JYN	**Shimob**	**1.36**	**252**	⇓	P	**Pn**	**21 21 52.1**	**+0.4**
JYN				⇓	S	**Sn**	**21 22 09.0**	**-0.3**
JFNN	**Fujinakano**	**1.39**	**238**	⇓	P	**Pn**	**21 21 52.3**	**+0.2**
JFNN				⇓	S	**Sn**	**21 22 09.3**	**-0.6**
JFY	**Yanaizu**	**1.50**	**347**		P	**Pn**	**21 21 53.7**	**+0.2**
JUON	**Uonuma**	**1.53**	**326**		P	**Pn**	**21 21 53.9**	**0.0**
MJAR	**Matsushiro Arr**	**1.66**	**292**		P	**Pn**	**21 21 55.7**	**0.0**
	124nm,0.4s,baz=91,slow=9.2,SNR=619							
MJAR					S	**Sn**	**21 22 18.7**	**+2.4**
	25nm,0.4s,baz=31,slow=10,SNR=3.0							
MAJO	**Matsushiro**	**1.67**	**292**		P	**Pn**	**21 21 56.4**	**+0.7**
JMM	**Marumori**	**1.99**	**15**		P	**Pn**	**21 22 01.1**	**+1.1**
JGF	**Kuroka**	**2.28**	**262**		P	**Pn**	**21 22 05.7**	**+1.8**
JSD	**Sado**	**2.57**	**325**		P	**Pn**	**21 22 07.9**	**+0.1**
JHJ	**Hachijo jima 2**	**2.83**	**186**		P	**Pn**	**21 22 11.6**	**+0.3**
	60nm,0.3s,baz=100,slow=21,SNR=17							
JHJ					S	**Sn**	**21 22 43.9**	**-0.5**
	147nm,0.3s,baz=71,slow=23,SNR=7.3							
JHJ2	**Mitsune**	**2.83**	**185**		P	**Pn**	**21 22 12.9**	**+1.5**
JTM	**Tenmabayashi**	**4.89**	**8**		P	**Pn**	**21 22 41.5**	**+2.1**
JMN	**Monobe**	**5.59**	**249**		P	**Pn**	**21 22 51.0**	**+1.9**
JEM	**Erimo**	**6.51**	**20**		P	**Pn**	**21 23 02.8**	**+1.3**
ASAJ	**Asahikawa**	**8.38**	**12**		P	**Pn**	**21 23 26.1**	**-0.9**
	5.2nm,0.8s,baz=238,slow=9.0,SNR=4.7							
KSRS	**Korea Array**	**9.92**	**282**		P	**Pn**	**21 23 48.6**	**+0.6**
	0.6nm,0.4s,baz=101,slow=15,SNR=2.6							
SONM	**Songino Array**	**27.56**	**306**		P	**P**	**21 27 08.2**	**-0.4**
	0.3nm,0.4s,baz=113,slow=3.3,SNR=2.9							
	0.3nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**28.52**	**117**		T	T	21 57 19.1	
	baz=308							
H11N1	**WAKE ISLAND Hy**	**28.53**	**117**		T	T	21 57 15.4	
	baz=308							
H11N3	**WAKE ISLAND Hy**	**28.54**	**117**		T	T	21 57 23.8	
	baz=308							
H11S3	**WAKE ISLAND Hy**	**29.18**	**120**		T	T	21 58 10.0	
	baz=313							
H11S1	**WAKE ISLAND Hy**	**29.18**	**119**		T	T	21 58 19.1	
	baz=313							
H11S2	**WAKE ISLAND Hy**	**29.20**	**119**		T	T	21 57 58.2	
	baz=313							
ZALV	**Zalesovo Beam**	**41.90**	**313**		P	**P**	**21 29 11.2**	**-0.2**
	0.8nm,0.5s,baz=101,slow=7.7,SNR=4.9							
	0.8nm,0.5s							
MKAR	**Makanchi Array**	**43.83**	**303**		P	**P**	**21 29 27.4**	**+0.3**
	0.8nm,0.8s,baz=90,slow=10,SNR=5.5							
	0.8nm,0.8s							
KURBB	**Kurchatov Arra**	**45.87**	**309**		P	**P**	**21 29 43.0**	**-0.2**
	1.1nm,0.4s,baz=80,slow=7.5,SNR=17							
	1.1nm,0.4s							
ILAR	**Eielson Array**	**50.97**	**32**		P	**P**	**21 30 23.2**	**+1.0**
	0.4nm,0.8s,baz=279,slow=6.3,SNR=3.0							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**55.85**	**187**		P	**P**	**21 30 58.4**	**0.0**
	0.7nm,0.6s,baz=0.4,slow=7.5,SNR=8.7							
	0.7nm,0.6s							
ARU	**Arti**	**56.49**	**319**		P	**P**	**21 31 02.3**	**-0.3**
	1.2nm,0.3s,baz=81,slow=19,SNR=3.8							
	1.2nm,0.3s							
ASAR	**Alice Springs**	**59.58**	**187**		P	**P**	**21 31 23.0**	**-1.5**
	0.3nm,0.8s,baz=19,slow=9.7,SNR=1.4							
	0.3nm,0.8s							
FINES	**FINESS Array B**	**69.29**	**332**		P	**P**	**21 32 27.2**	**-0.2**
	0.9nm,0.8s,baz=66,slow=11,SNR=3.4							
	0.9nm,0.8s							

NEIC ***11*** *21:34:26.8±1.7, 13.°55N±0.°02×91.°68W±0.°08, h10km±1km, mb4.5/57, Error ellipse: s-maj=13.8km s-min=3.8km az=268.0*
IDC ***11*** *21:34:29.9±2.4, 14.°38N×91.°99W, h0km, mb3.6/8, mbtmp3.6/10, ML3.8/2, MS3.3/6, Error ellipse: s-maj=53.9km s-min=19.9km az=7.0*
CATAC ***11*** *21:34:31.7±0.6, 13.°64N×91.°25W, h5km±5km, ML4.1*
GCG ***11*** *21:34:31.8±0.3, 13.°99N×91.°53W, h85km±8km, MD4.2*

ISC 11 21:34:28.3±1.8**, 13.°58N**±0.°06×**91.°54W**±0.°05**, h23**km±12km**,**
n117, σ**1°68**/121**, mb4.4**/27**, MS3.2**/5**, Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.72**	**358**	*eP*		**Pn**	**21 34 44.7**	**+1.5**
RTAL	**Retalhuleu**	**0.95**	**351**			**Pb**	**21 34 45.5**	**-0.7**
RTAL	**Retalhuleu**	**0.95**	**351**	*i*	P	Pn	21 34 51.1	+4.8
RTAL					IAML		21 35 01.0	
	comp=Z,5μm,1.0s							
FUG	**Fuego 3**	**1.10**	**38**	*eP*		**Pn**	**21 34 48.6**	**+0.1**
STG3	**Santiaguito 3,**	**1.12**	**359**	*eP*		**Pn**	**21 34 48.8**	**-0.1**
GUMI	**Mixco**	**1.38**	**41**	*i*	P	**Pb**	**21 34 54.4**	**+0.8**
GUMI				*i*	S	**Sn**	**21 35 09.2**	**-0.9**
GUMI					IAML		21 35 19.5	
	comp=Z,6μm,

comp=Z,137nm,20.2s,baz=57,slow=37
comp=Z,36nm,0.4s
CNGA **Al SSO del Vol** **4.84** **102** *i* P **Pn** **21 35 40.8 +0.9**
CNGA IAML 21 36 54.6
comp=Z,96nm,1.0s
CNGN **Cerro Negro** **4.84** **102** **Pn** **21 35 40.2 +0.3**
CNGN **Cerro Negro** **4.84** **102** *i* P **Pn** **21 35 40.1 +0.2**
CNGN IAML 21 36 56.1
comp=Z,170nm,1.0s
HZTE **Horizontes, Gu** **6.47** **115** Pn **Pn** **21 36 03.8 +1.5**
ORTG **Ortega, Santa** **6.76** **118** **Pn** **21 36 07.8 +1.5**
DUNO **Dulce Nombre,** **6.87** **120** Pn **Pn** **21 36 09.2 +1.5**
TEIG **Tepich** **7.31** **25** **Pn** **21 36 14.8 +1.1**
HBVL **Hebbronville** **14.98** **335** **Pn** **21 37 57.4 -1.3**
DRIO **Del Rio** **17.87** **333** **Pn** **21 38 31.0 -4.6**
JCT **Junction City** **18.46** **337** P **P** **21 38 41.5 -1.1**
JCT IAmb IAmb 21 38 44.0
comp=Z,16nm,0.8s
BRDY **Brady** **18.91** **340** **P** **21 38 46.7 -0.8**
SAND **Sanderson** **19.01** **331** P **P** **21 38 46.9 -1.7**
TXAR **Lajitas Array** **19.29** **326** P **P** **21 38 48.4 -3.4**
TXAR **Lajitas Array** **19.29** **326** P **P** **21 38 46.1 -5.7**
baz=145,slow=14,SNR=8.8
comp=Z,1.1nm,0.9s
TX31 **Lajitas Ar. Si** **19.29** **326** P **P** **21 38 48.8 -2.9**
OZNA **Ozona** **19.39** **334** P **P** **21 38 51.6 -1.2**
OZNA IAmb IAmb 21 38 54.7
comp=Z,20nm,0.9s
Z47A **Carrollton** **19.78** **9** P **Pn** **21 39 00.1 +1.5**
Z47A IAmb IAmb 21 39 09.4
comp=Z,21nm,0.7s
ALPN **Alpine** **20.10** **328** P **P** **21 38 59.3 -1.4**
PLPT **Palo Pinto** **20.12** **343** P **P** **21 38 59.2 -1.5**
PLPT IAmb IAmb 21 39 04.1
comp=Z,16nm,0.8s
SGCY **Sterling City** **20.25** **336** P **P** **21 39 00.8 -1.5**
SGCY IAmb IAmb 21 39 03.2
comp=Z,23nm,0.8s
ABTX **Abilene, Hawle** **20.35** **340** **P** **21 39 03.4 +0.1**
ABTX IAmb IAmb 21 39 05.1
comp=Z,13nm,0.8s
MNHN **Monahans** **20.46** **332** P **P** **21 39 03.9 -0.6**
MNHN IAmb IAmb 21 39 08.9
comp=Z,17nm,0.8s
MIAR **Mount Ida** **20.95** **355** **P** **21 39 09.8 0.0**
MIAR IAmb IAmb 21 39 20.1
comp=Z,9.5nm,0.7s
SN05 **Snyder 5** **21.02** **338** P **P** **21 39 09.7 -0.8**
SN05 IAmb IAmb 21 39 15.0
comp=Z,16nm,0.9s
PECS **Pecos** **21.02** **329** P **P** **21 39 09.9 -0.6**
ODSA **Odessa** **21.03** **333** P **P** **21 39 09.5 -1.2**
ODSA IAmb IAmb 21 39 13.8
comp=Z,14nm,0.8s
VHRN **Van Horn** **21.13** **326** P **P** **21 39 09.9 -2.0**
APMT **Aspermont** **21.15** **340** **P** **21 39 11.8 -0.1**
X37A **Clayton** **21.20** **351** P **P** **21 39 13.1 +0.7**
X37A IAmb IAmb 21 39 22.2
comp=Z,18nm,0.9s
SN07 **Snyder 07** **21.21** **338** P **P** **21 39 11.6 -1.0**
SN07 IAmb IAmb 21 39 25.7
comp=Z,28nm,0.7s
POST **Post** **21.42** **337** **P** **21 39 14.1 -0.7**
POST IAmb IAmb 21 39 16.6
comp=Z,14nm,0.8s
DKNS **Dickens** **21.74** **338** P **P** **21 39 18.6 +0.4**
DKNS IAmb IAmb 21 39 19.2
comp=Z,16nm,1.0s
W35A **Tecumseh** **22.01** **348** **P** **21 39 20.9 -0.2**
W35A IAmb IAmb 21 39 28.4
comp=Z,20nm,0.8s
WMOK **Wichita Mounta** **22.06** **344** **P** **21 39 20.9 -0.8**
WMOK IAmb IAmb 21 39 24.4
comp=Z,15nm,0.8s
SWET **Sewanee** **22.13** **12** P **P** **21 39 21.9 -0.5**
FCAR **Ozark Folk Cen** **22.22** **359** P **P** **21 39 23.9 +0.6**
FCAR IAmb IAmb 21 39 32.6
comp=Z,9.7nm,0.7s
TUL3 **Leonard** **22.56** **351** P **P** **21 39 27.5 +0.5**
TUL3 IAmb IAmb 21 39 33.5
comp=Z,20nm,0.8s
ADOK **Arcadia Dam** **22.59** **348** P **P** **21 39 21.3 -6.1**
OK052 **Battle Ridge R** **22.81** **349** P **P** **21 39 29.0 -0.7**
SMWD **Samnorwood** **22.82** **341** P **P** **21 39 30.0 +0.2**
U38A **Gravette** **22.90** **354** P **P** **21 39 31.8 +1.2**
QUOK **Quay** **22.97** **349** **P** **21 39 31.8 +0.5**
TKL **Tuckaleechee C** **23.07** **16** P **P** **21 39 30.5 -1.8**
comp=Z,1.8nm,0.5s,baz=180,slow=11,SNR=2.6
TKL LR LR 21 49 06.9
comp=Z,59nm,18.2s,baz=195,slow=39
comp=Z,1.8nm,0.5s
AMTX **Amarillo** **23.11** **338** P **P** **21 39 32.7 -0.1**
AMTX IAmb IAmb 21 39 33.9
comp=Z,15nm,0.7s
S39A **Bolivar** **24.06** **357** P **P** **21 39 41.8 -0.2**
ATAH **Atahualpa** **24.37** **147** LR LR 21 48 43.7
comp=Z,53nm,18.3s,baz=353,slow=34
CCM **Cathedral Cave** **24.38** **1** **P** **21 39 44.0 -0.8**
CCM IAmb IAmb 21 39 52.4
comp=Z,12nm,0.7s
R40A **Maddies Stadio** **24.62** **359** P **P** **21 39 46.7 -0.3**
R40A IAmb IAmb 21 39 53.7
comp=Z,8.5nm,0.7s
RTBA **Rita Blanca** **24.88** **338** P **P** **21 39 48.7 -0.9**
RTBA IAmb IAmb 21 40 04.2
comp=Z,9.5nm,0.9s
R32A **Long Quarter,** **25.55** **347** P **P** **21 39 56.3 +0.8**
TUC **Tucson** **25.64** **320** P **P** **21 39 55.4 -1.1**
KSU1 **Kansas State U** **25.81** **351** P **P** **21 39 57.9 +0.1**
P40A **Paris** **25.85** **359** P **P** **21 39 58.1 0.0**
P38A **Dawn** **26.00** **356** P **P** **21 40 00.9 +1.3**
T25A **Trinidad** **26.13** **336** P **P** **21 40 00.4 -0.5**
CBKS **Cedar Bluff** **26.16** **345** P **P** **21 40 01.1 +0.1**
BRIGG **Briggsdale** **29.14** **340** P **P** **21 40 24.9 -2.9**
RDMU **Red Mountain** **31.18** **333** P **P** **21 40 43.2 -2.7**
BSUT **Blindstream Ca** **31.69** **331** P **P** **21 40 47.4 -3.3**
BSUT IAmb IAmb 21 40 54.4
comp=Z,8.6nm,0.9s
SADO **Sadowa** **32.83** **16** LR LR 21 54 51.3
comp=Z,51nm,21.2s,baz=265,slow=38
PDAR **Pinedale Array** **32.98** **335** P **P** **21 40 59.3 -2.5**
comp=Z,0.4nm,0.4s,baz=151,slow=6.2,SNR=1.1
comp=Z,0.4nm,0.4s
ELK **Elko** **34.08** **327** P **P** **21 41 09.8 -1.7**
NVAR **Mina Array Bea** **34.27** **321** P **P** **21 41 10.4 -2.7**
comp=Z,0.3nm,0.4s,baz=133,slow=8.7,SNR=2.9
comp=Z,0.3nm,0.4s
B35A **Bob, Littlefor** **34.72** **357** P **P** **21 41 16.9 +0.3**
B35A IAmb IAmb 21 41 22.6
comp=Z,6.0nm,0.8s
J08A **Circle Bar Ran** **37.63** **327** P **P** **21 41 41.4 -0.2**
J08A IAmb IAmb 21 41 45.3
comp=Z,8.3nm,0.9s
F10A **Beach Ranch, E** **38.89** **331** P **P** **21 41 50.7 -1.5**
F10A IAmb IAmb 21 41 54.9
comp=Z,7.3nm,0.9s
YKA **Yellowknife Ar** **51.53** **347** P **P** **21 43 31.2 -0.9**
comp=Z,0.4nm,0.5s,baz=139,slow=5.8,SNR=10
comp=Z,0.4nm,0.5s
SFJD **Kangerlussuaq** **59.78** **17** LR LR 22 10 38.9
comp=Z,40nm,19.6s,baz=232,slow=37
ILAR **Eielson Array** **63.40** **337** P **P** **21 44 55.2 -0.6**
comp=Z,0.7nm,0.8s,baz=138,slow=4.3,SNR=6.4
comp=Z,0.7nm,0.8s
BWN **Browne** **64.15** **336** P **P** **21 45 00.3 -0.4**
F21K **Alatna River** **66.86** **338** P **P** **21 45 18.4 +0.2**
F21K IAmb IAmb 21 45 26.2
comp=Z,4.0nm,1.0s
EKA **Eskdalemuir Ar** **78.04** **36** P **P** **21 46 27.7 +2.6**
comp=Z,0.8nm,0.7s,baz=271,slow=6.3,SNR=1.6
comp=Z,0.8nm,0.7s
ESDC **Sonseca Array** **79.62** **52** P P 21 46 39.8 +5.6
comp=Z,0.2nm,0.7s,baz=285,slow=6.1,SNR=1.1
comp=Z,0.2nm,0.7s
NOA **NORSAR Array B** **84.30** **28** P **P** **21 47 02.4 +4.1**
comp=Z,0.1nm,0.5s,baz=290,slow=5.1,SNR=1.3
NOA LR LR 22 24 18.1
comp=Z,23nm,18.8s,baz=5.0,slow=36
comp=Z,0.1nm,0.5s
CMAR **Chiang Mai Arr** **146.53** **342** PKPbc **PKPab** **21 54 09.4 -0.2**
comp=Z,1.5nm,0.5s,baz=334,slow=3.7,SNR=12

*IDC **11** 21:37:10.4±1.1,6˚.04S×69˚.96E,h0km,mb3.9/17, mbtmp3.9/17,MS3.4/4,Error ellipse: s-maj=38.2km s-min=17.2km az=47.0*
*NEIC **11** 21:37:12.1±1.4,6˚.15S±0˚.05×70˚.01E±0˚.06,h10km±1km, mb4.4/19,Error ellipse: s-maj=12.6km s-min=4.2km az=306.0*

ISC 11 21:37:11.6±0.7,6˚.13S±0˚.09×70˚.07E±0˚.09,h10km,n50, σ0s84/41,mb4.2/25,MS3.4/4,Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGAR	**Diego Garcia**	**2.69**	**118**		**Pn**	**21 37 55.9**	**+0.8**
DGAR				Sn	**Sn**	**21 38 25.3**	**-2.4**
KAAM	**Kaadhehdhoo**	**7.20**	**24**	Pn	**Pn**	**21 38 57.4**	**+0.4**
MSEY	**Mahe Island**	**14.59**	**275**	P	**P**	**21 40 44.8**	**-0.1**
PALK	**Pallekele**	**17.02**	**39**		**Pn**	**21 41 09.3**	**-0.7**
PALK				IAmb	IAmb	21 41 33.5	
	comp=Z,23nm,1.2s						
LODK	**Lodwar**	**35.93**	**284**	pP	pP	21 44 13.7	-0.9
LEM	**Lembang**	**37.31**	**93**	LR	LR	21 58 03.5	
	comp=Z,70nm,20.2s,baz=222,slow=34						
CMAR	**Chiang Mai Arr**	**37.52**	**49**	P	**P**	**21 44 27.5**	**+1.3**
	comp=Z,0.7nm,0.8s,baz=238,slow=11,SNR=5.9						
	comp=Z,0.7nm,0.8s						
SHL	**Shillong**	**37.98**	**33**	P	**P**	**21 44 29.7**	**-0.3**
SHL				IAmb	IAmb	21 44 42.7	
	comp=Z,5.9nm,0.8s						
CRAI	**Chiangrai**	**39.67**	**48**	P	**P**	**21 44 45.5**	**+1.3**
KBL	**Kabul**	**40.46**	**359**	P	**P**	**21 44 51.6**	**+0.8**
KBL				IAmb	IAmb	21 45 11.0	
	comp=Z,12nm,1.1s						
LSZ	**Lusaka**	**42.07**	**254**	LR	LR	21 59 08.2	
	comp=Z,51nm,21.4s,baz=118,slow=31						
H04N2	**CROZET ISLANDS**	**42.90**	**199**	T	T	22 30 35.9	
	baz=29,slow=75,SNR=2.1						
H04N1	**CROZET ISLANDS**	**42.91**	**199**	T	T	22 30 12.5	
	baz=29,slow=75,SNR=2.2						
H04N3	**CROZET ISLANDS**	**42.92**	**199**	T	T	22 30 33.7	
	baz=29,slow=75,SNR=2.2						
DRK	**Karamyk**	**45.41**	**2**	P	**P**	**21 45 30.5**	**-0.4**
DRK				IAmb	IAmb	21 45 31.2	
	comp=Z,2.8nm,0.7s						
BTK	**Batken**	**45.96**	**1**	P	**P**	**21 45 35.9**	**+0.8**
BTK				IAmb	IAmb	21 45 36.6	
	comp=Z,5.9nm,1.1s						
KK31	**Karatay Array**	**49.00**	**0**	P	**P**	**21 45 59.6**	**+1.1**
KKAR	**Karatay Array**	**49.00**	**0**	P	**P**	**21 45 59.4**	**+0.8**
KAPI	**Kappang**	**49.45**	**91**	LR	LR	22 05 49.1	
	comp=Z,48nm,18.5s,baz=276,slow=35						
H01W3	**Cape Leeuwin H**	**49.63**	**131**	T	T	22 39 21.7	
	baz=296						
H01W2	**Cape Leeuwin H**	**49.64**	**131**	T	T	22 39 18.2	
	baz=296						
H01W1	**Cape Leeuwin H**	**49.65**	**131**	T	T	22 39 19.1	
	baz=296						
GNI	**Garni**	**51.62**	**335**	P	**P**	**21 46 18.0**	**-0.7**
GNI				IAmb	IAmb	21 46 31.7	
	comp=Z,9.2nm,1.1s						
MMRI	**Maumere**	**51.77**	**96**	P	**P**	**21 46 19.6**	**-0.4**
KARS	**Kars**	**52.73**	**334**	P	**P**	**21 46 26.4**	**-0.5**
CSS	**Mathiatis**	**53.56**	**322**	P	**P**	**21 46 31.7**	**-1.2**
MKAR	**Makanchi Array**	**53.80**	**10**	P	**P**	**21 46 34.4**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=202,slow=7.8,SNR=7.9						
	comp=Z,0.7nm,0.6s						
KBZ	**Khabaz**	**55.37**	**336**	P	**P**	**21 46 45.5**	**-0.3**
	comp=Z,2.5nm,0.9s,baz=133,slow=3.1,SNR=4.9						
KBZ				LR	LR	22 08 00.2	
	comp=Z,17nm,18.4s,baz=26,slow=34						
	comp=Z,2.5nm,0.9s						
ABKAR	**Akbulak array**	**55.86**	**352**	P	**P**	**21 46 49.2**	**-0.1**
ABKAR				IAmb	IAmb	21 46 51.2	
	comp=Z,5.3nm,1.4s						
BRTR	**Keskin Array B**	**56.66**	**327**	P	**P**	**21 46 54.0**	**-1.5**
	comp=Z,0.4nm,0.8s,baz=126,slow=7.3,SNR=2.6						
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**56.99**	**6**	P	**P**	**21 46 57.1**	**-0.3**
	comp=Z,1.5nm,0.9s,baz=200,slow=7.3,SNR=8.9						
	comp=Z,1.5nm,0.9s						
KURK	**Kurchatov**	**57.09**	**6**	P	**P**	**21 46 57.9**	**-0.1**
KURK				IAmb	IAmb	21 46 59.0	
	comp=Z,2.2nm,0.8s						
AKTO	**Aktyubinsk**	**57.29**	**351**	P	**P**	**21 46 59.0**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=185,slow=4.6,SNR=3.9						
	comp=Z,1.6nm,0.6s						
BVAR	**Borovoye Array**	**58.93**	**0**	P	**P**	**21 47 10.4**	**-0.5**
	comp=Z,0.5nm,0.6s,baz=170,slow=8.8,SNR=1.9						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**61.13**	**10**	P	**P**	**21 47 25.6**	**-0.4**
ZALV	**Zalesovo Beam**	**61.13**	**10**	P	**P**	**21 47 25.4**	**-0.6**
	comp=Z,1.8nm,0.6s,baz=205,slow=7.0,SNR=7.7						
	comp=Z,1.8nm,0.6s						
SONM	**Songino Array**	**62.52**	**27**	P	**P**	**21 47 35.1**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=223,slow=6.7,SNR=2.5						
	comp=Z,0.4nm,0.6s						
ASAR	**Alice Springs**	**63.62**	**113**	P	**P**	**21 47 42.5**	**-0.9**
ASAR	**Alice Springs**	**63.62**	**113**	P	**P**	**21 47 44.7**	**+1.3**
	comp=Z,2.9nm,0.7s,baz=278,slow=6.4,SNR=36						
	comp=Z,2.9nm,0.7s						
WRA	**Warramunga Arr**	**63.77**	**109**	P	**P**	**21 47 44.5**	**0.0**
WRA	**Warramunga Arr**	**63.77**	**109**	P	**P**	**21 47 45.7**	**+1.3**
	comp=Z,4.3nm,0.7s,baz=282,slow=6.6,SNR=33						
	comp=Z,4.3nm,0.7s						
WR0	**Warramunga Arr**	**63.96**	**109**	P	**P**	**21 47 45.5**	**-0.2**
BUR08	**Bucovina Ar. S**	**66.52**	**329**	P	**P**	**21 48 01.6**	**-0.2**
BUR08				IAmb	IAmb	21 48 22.7	
	comp=Z,4.9nm,1.4s						
AKASG	**Malin Array Be**	**66.64**	**333**	P	**P**	**21 48 02.1**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=134,slow=6.0,SNR=2.8						
	comp=Z,0.7nm,0.6s						
STKA	**Stephens Creek**	**71.11**	**121**	P	**P**	**21 48 31.5**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=310,slow=11,SNR=3.2						
	comp=Z,2.8nm,0.9s						
GERES	**GERESS Array B**	**73.49**	**325**	P	**P**	**21 48 44.1**	**-0.5**
FINES	**FINESS Array B**	**75.48**	**340**	P	**P**	**21 48 55.8**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=116,slow=13,SNR=3.4						
	comp=Z,0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**76.39**	**50**	P	**P**	**21 49 02.5**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=236,slow=4.9,SNR=1.9						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**79.41**	**335**	P	**P**	**21 49 18.1**	**+0.3**
	comp=Z,1.9nm,1.0s,baz=148,slow=8.5,SNR=2.3						
	comp=Z,1.9nm,1.0s						
ESDC	**Sonseca Array**	**81.73**	**311**	P	**P**	**21 49 31.4**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=99,slow=4.8,SNR=2.3						
	comp=Z,0.3nm,0.7s						

*IDC **11** 21:52:05.3±0.8,32˚.54N×141˚.45E,h0km,mb4.0/18, mbtmp4.0/21,ML3.6/3,MS3.5/23,Error ellipse: s-maj=21.7km s-min=16.0km az=26.0*
*JMA **11** 21:52:08.9±0.3,32˚.6N±0˚.9×14˚.1E±˚,h4km±4km,MV4.0/30, E OFF HACHIJOJIMA ISLAND*
*NIED **11** 21:52:08.9,32˚.56N×141˚.25E,h4km,MW4.2,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-1.65; Mθθ1.93; Mϕϕ-0.28; Mrθ0.56; Mθϕ-0.94; Mϕr1.72; Fault plane solution: M₀2.64000×10¹⁵ NP1: ϕs142.00000°,δ57.00000°,λ-44.00000°. NP2: ϕs259.00000°,δ54.00000°,λ-138.00000°.*
*NEIC **11** 21:52:09.3±1.0,32˚.37N±0˚.08×141˚.39E±0˚.09,h25km±6km, mb4.5/32 Error ellipse: s-maj=13.2km s-min=9.1km az=214.0*

ISC 11 21:52:06.9±1.0,32˚.42N±0˚.04×141˚.41E±0˚.05,h13km±5km, n118,σ1s37/114,mb4.4/38,MS3.7/19,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.40**	**272**	P	**Pb**	**21 52 32.6**	**-0.2**
JAOM				*eS*	**Sn**	**21 52 49.5**	**-0.8**
JHCJ	**Hachijojimakas**	**1.51**	**296**	*eP*	**Pn**	**21 52 33.6**	**0.0**
JHCJ				*eS*	**Sn**	**21 52 51.1**	**-2.1**
JHJ2	**Mitsune**	**1.51**	**298**	Pn	**Pb**	**21 52 34.1**	**-0.7**
JHJ2	**Mitsune**	**1.51**	**298**	P	**Pb**	**21 52 34.0**	**-0.8**
JHJ	**Hachijo jima 2**	**1.54**	**298**	Pn	**Pn**	**21 52 34.0**	**-0.1**
	236nm,0.3s,baz=285,slow=20,SNR=56						
JHJ				Sn	**Sb**	**21 52 54.8**	**0.0**
	200nm,0.3s,baz=48,slow=15,SNR=11						
JHJ				LR	LR	21 53 14.6	
	comp=Z,1μm,18.0s,baz=104,slow=47						
JMKN	**Mikurajimanish**	**2.12**	**314**	P	**Pn**	**21 52 43.0**	**+1.0**
BSO1	**Boso 1**	**2.26**	**351**	*eP*	**Pb**	**21 52 45.3**	**-1.9**
BSO1				S	**Sb**	**21 53 13.0**	**-2.0**
JMYK	**Miyake Tsubota**	**2.27**	**317**	*eP*	**Pn**	**21 52 44.6**	**+0.6**
JMYK				*eS*	**Sn**	**21 53 11.0**	**-0.8**
BSO3	**Boso 3**	**2.50**	**343**	P	**Pn**	**21 52 48.8**	**+1.9**
JOD2	**Odawara 2**	**3.44**	**326**	P	**Pn**	**21 53 02.1**	**+1.9**
JSG	**Sagara**	**3.51**	**311**	Pn	**Pn**	**21 53 02.1**	**+1.0**
JFNN	**Fujinakano**	**3.58**	**321**	P	**Pn**	**21 53 05.6**	**+3.4**
JYN	**Shimodo**	**3.89**	**323**	P	**Pn**	**21 53 09.3**	**+2.8**
JRY	**Ryogami san**	**4.15**	**331**	P	**Pn**	**21 53 11.7**	**+1.7**
JRY				*eS*	**Sn**	**21 53 58.5**	**+0.1**
JAG	**Ashikaga**	**4.32**	**339**	P	**Pn**	**21 53 13.6**	**+1.4**
JAG				*eS*	**Sn**	**21 54 01.8**	**-0.6**
JGF	**Kuroka**	**4.63**	**314**		**Pn**	**21 53 18.4**	**+1.8**
MJAR	**Matsushiro Arr**	**4.89**	**328**	Pn	**Pn**	**21 53 21.3**	**+1.2**
	0.6nm,0.3s,baz=146,slow=11,SNR=41						
MJAR				Sn	**Sn**	**21 54 17.7**	**+1.0**
	0.4nm,0.3s,baz=66,slow=40,SNR=1.8						
MAJO	**Matsushiro**	**4.89**	**328**		**Pn**	**21 53 22.1**	**+1.9**
MAT	**Matsushiro**	**4.89**	**328**	*eP*	**Pn**	**21 53 21.9**	**+1.7**
MJB9	**Matsu-Tunnel**	**4.90**	**328**		**Pn**	**21 53 22.4**	**+2.1**
JTNC	**Tanabenakahech**	**5.07**	**288**	*eP*	**Pn**	**21 53 24.0**	**+1.4**
JOTO	**OTAMA OYAMA**	**5.21**	**351**	P	**Pn**	**21 53 25.3**	**+0.8**
JOTO				S	**Sn**	**21 54 23.1**	**-1.4**
CBIJ	**Chichi jima**	**5.34**	**173**	P	**Pn**	**21 53 26.7**	**+0.3**
CBIJ				*eS*	**Sn**	**21 54 24.4**	**-3.4**
JCJ	**Chichijima**	**5.34**	**173**	Pn	**Pn**	**21 53 26.0**	**-0.4**
JCJ	**Chichijima**	**5.34**	**173**	Pn	Pn	21 53 21.2	-5.2
	15nm,0.3s,baz=268,slow=24,SNR=24						
JCJ				Sn	Sn	21 54 19.0	-8.8
	19nm,0.3s,baz=292,slow=20,SNR=2.1						
JCJ				LR	LR	21 55 37.0	
	comp=Z,432nm,20.1s,baz=2.0,slow=39						
JMM	**Marumori**	**5.46**	**355**		**Pn**	**21 53 27.9**	**0.0**
JWT	**Wachi**	**5.76**	**301**	*eP*	Pn	21 53 36.9	+4.8
JSD	**Sado**	**6.17**	**336**	Pn	**Pn**	**21 53 39.0**	**+1.2**
JMN	**Monobe**	**6.46**	**284**	Pn	**Pn**	**21 53 43.5**	**+1.8**
JTM	**Tenmabayashi**	**8.36**	**358**	Pn	**Pn**	**21 54 08.5**	**+0.8**
JNU	**Nakatsue**	**8.90**	**277**	LR	LR	21 57 40.5	
	comp=Z,362nm,19.1s,baz=87,slow=38						
ASAJ	**Asahikawa**	**11.72**	**4**	Pn	**Pn**	**21 54 52.2**	**-1.5**
	0.8nm,0.3s,baz=260,slow=31,SNR=1.2						
	3.9nm,0.6s						
KSRS	**Korea Array**	**12.15**	**298**	LR	LR	21 59 53.2	
	comp=Z,268nm,18.2s,baz=105,slow=38						
JOW	**Kunigami**	**12.71**	**247**	LR	LR	21 59 40.7	
	comp=Z,161nm,21.0s,baz=126,slow=36						
USRK	**Ussuriysk Ar.**	**13.89**	**331**	Pn	**Pn**	**21 55 23.0**	**-0.3**
	0.1nm,0.3s,baz=143,slow=13,SNR=1.9						
USRK				LR	LR	22 00 45.3	
	comp=Z,121nm,19.1s,baz=155,slow=38						
	1.7nm,0.8s						
KLR	**Kul'dur**	**18.29**	**339**	P	**Pn**	**21 56 18.9**	**-1.4**
	0.3nm,0.3s,baz=130,slow=16,SNR=12						
KLR				LR	LR	22 03 35.9	
	comp=Z,47nm,18.3s,baz=158,slow=38						
	4.4nm,0.9s						
GUMO	**Guam**	**19.00**	**170**	P	**Pn**	**21 56 31.0**	**+1.9**
	81nm,0.8s,baz=342,slow=20,SNR=9.1						
NJ2	**Nanjing**	**19.09**	**275**	*eP*	**P**	**21 56 29.0**	**-0.2**
NJ2				pP	**pwP**	**21 56 35.7**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,110nm,3.5s						
HEH	**HeiHe**	**20.63**	**334**	*eP*	Pn	21 56 47.2	-1.0
HEH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,99nm,5.1s						
HHC	**Hu-ho-hao-te**	**25.30**	**298**	*eP*	**P**	**21 57 33.2**	**0.0**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,57nm,4.0s						
HHC				LR	LR		
	comp=E,140nm,12.9s						
HHC				LR	LR		
	comp=Z,120nm,11.8s						
H11N2	**WAKE ISLAND Hy**	**26.07**	**113**	T	T	22 25 12.6	
	baz=305,slow=74,SNR=14						
H11N1	**WAKE ISLAND Hy**	**26.07**	**113**	T	T	22 24 42.1	
	baz=305,slow=74,SNR=13						
H11N3	**WAKE ISLAND Hy**	**26.09**	**113**	T	T	22 25 13.8	
	baz=305,slow=74,SNR=12						
H11S3	**WAKE ISLAND Hy**	**26.61**	**115**	T	T	22 25 54.9	
	baz=306						
H11S1	**WAKE ISLAND Hy**	**26.62**	**115**	T	T	22 25 54.8	
	baz=306						
H11S2	**WAKE ISLAND Hy**	**26.63**	**115**	T	T	22 25 56.2	
	baz=306						
MA2	**Magadan**	**27.88**	**10**	LR	LR	22 09 48.3	
	comp=Z,46nm,21.4s,baz=113,slow=38						
ULN	**Ulaanbaatar**	**30.17**	**311**	P	**P**	**21 58 17.0**	**+0.2**
ULN				IAmb	IAmb	21 58 26.1	
	comp=Z,8.2nm,1.4s						
SONM	**Songino Array**	**30.58**	**311**	P	**P**	**21 58 20.9**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=113,slow=8.2,SNR=7.7						
SONM				LR	LR	22 11 14.3	
	comp=Z,162nm,18.2s,baz=94,slow=38						
	comp=Z,1.4nm,0.8s						
YAK	**Yakutsk**	**30.58**	**349**	LR	LR	22 11 36.3	
	comp=Z,88nm,18.1s,baz=170,slow=38						
PZH	**PanZhiHua**	**34.90**	**271**	P	**P**	**21 58 58.4**	**0.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,90nm,4.3s						
GOMU	**GeErMu**	**38.39**	**289**	P	**P**	**21 59 27.6**	**-0.8**
GOMU				pP	pP	21 59 30.6	-0.7
GOMU				sP	sP	21 59 32.8	+0.3
GOMU				PP	**PP**	**22 00 50.4**	**-5.7**
GOMU				S	S	22 04 30.6	-53
GOMU				sS	pS	22 04 42.9	-44
GOMU				ScS	**ScP**	**22 05 28.0**	**-1.5**
GOMU				pmax	pmax		
	comp=Z,15nm,0.8s						
GOMU				LR	LR		
	comp=N,120nm,15.4s						
GOMU				LR	LR		
	comp=E,190nm,14.1s						
GOMU				LR	LR		
	comp=Z,230nm,15.1s						
TIXI	**Tiksi**	**39.87**	**354**	P	**P**	**21 59 40.1**	**+0.3**
TIXI	**Tiksi**	**39.87**	**354**	LR	LR	22 17 10.2	
	comp=Z,38nm,18.2s,baz=160,slow=38						
CMAR	**Chiang Mai Arr**	**40.53**	**260**	LR	LR	22 16 15.7	
	comp=Z,20nm,21.6s,baz=60,slow=36						
ZALV	**Zalesovo Beam**	**45.12**	**316**	P	**P**	**22 00 24.4**	**+1.6**
	comp=Z,1.4nm,0.8s,baz=101,slow=7.5,SNR=4.5						
ZALV				PcP	**PcP**	**22 02 03.2**	**0.0**
	comp=Z,0.2nm,0.3s,baz=96,slow=2.9,SNR=1.9						
ZALV				LR	LR	22 19 50.6	
	comp=Z,55nm,18

comp=Z,0.8nm,0.5s,baz=86,slow=7.9,SNR=7.0
BVAR LR LR 22 25 06.5
comp=Z,62nm,18.6s,baz=44,slow=37
comp=Z,0.8nm,0.5s
E27K Coleen River 55.53 26 P **P** **22 01 42.4 +1.0**
KKAR Karatay Array 55.53 303 P P **22 01 41.9 +0.1**
K27K Chicken 55.54 31 P **P** **22 01 42.9 +1.5**
K27K IAmb IAmb 22 01 57.3
comp=Z,7.6nm,1.2s
D27M Malcolm River 55.73 25 P **P** **22 01 45.0 +2.1**
F28M Old Crow 56.21 27 P **P** **22 01 47.8 +1.5**
ASAR Alice Springs 56.23 188 P **P** **22 01 46.7 -0.1**
comp=Z,0.6nm,0.5s,baz=359,slow=6.8,SNR=2.3
comp=Z,0.6nm,0.5s
E28M Babbage River 56.27 26 P **P** **22 01 49.1 +2.4**
E28M IAmb IAmb 22 02 00.8
comp=Z,6.6nm,1.5s
I28M Miner Creek 56.34 29 P **P** **22 01 49.6 +2.3**
MHA Mahukona 56.80 86 P **P** **22 01 51.1 0.0**
E29M Blow River 56.89 26 P **P** **22 01 53.0 +1.9**
H29M Whitestone 56.91 28 P **P** **22 01 51.9 +0.7**
G29M Pine Creek 56.98 28 P **P** **22 01 54.3 +2.5**
G29M IAmb IAmb 22 02 18.9
comp=Z,4.5nm,1.1s
M29M Somme Creek 57.33 33 P **P** **22 01 55.1 +0.7**
M29M IAmb IAmb 22 02 08.2
comp=Z,4.0nm,1.0s
SIMJ Simiganj 57.85 298 P **P** **22 01 58.5 -0.1**
G31M Satah River 58.45 27 P **P** **22 02 03.0 +1.0**
G31M IAmb IAmb 22 02 04.2
comp=Z,2.9nm,0.6s
INK Inuvik 58.51 26 P **P** **22 02 03.4 +1.0**
INK IAmb IAmb 22 02 04.5
comp=Z,2.4nm,0.6s
H31M Peel River 58.60 29 P **P** **22 02 04.9 +1.8**
ARU Arti 59.86 320 P **P** **22 02 11.4 -0.6**
ARU Arti 59.86 320 P **P** **22 02 11.3 -0.7**
comp=Z,4.0nm,0.6s,baz=73,slow=11,SNR=6.0
ARU LR LR 22 30 11.4
comp=Z,50nm,18.2s,baz=44,slow=38
comp=Z,4.0nm,0.6s
ABKAR Akbulak array 60.97 312 P **P** **22 02 19.6 -0.1**
ABKAR IAmb IAmb 22 02 31.4
comp=Z,1.6nm,0.5s
ABKAR Akbulak array 60.97 312 P **P** **22 02 19.5 -0.1**
AKTO Aktyubinsk 61.81 314 LR LR 22 29 20.4
comp=Z,63nm,19.5s,baz=80,slow=36
KIRV Kirov 63.96 324 LR LR 22 32 41.4
comp=Z,47nm,19.5s,baz=43,slow=38
GEYT Alibeck 66.13 301 P **P** **22 02 55.0 +1.0**
comp=Z,0.6nm,0.7s,baz=78,slow=8.0,SNR=2.0
comp=Z,0.6nm,0.7s
RES Resolute Bay 67.07 14 P **P** **22 03 00.1 +0.7**
RES IAmb IAmb 22 03 11.3
comp=Z,5.6nm,1.2s
YKA Yellowknife Ar 67.81 29 P **P** **22 03 04.2 -0.1**
comp=Z,0.9nm,0.7s,baz=299,slow=6.8,SNR=12
comp=Z,0.9nm,0.7s
FINES FINESS Array B 72.91 333 P **P** **22 03 35.0 -0.4**
comp=Z,1.2nm,0.5s,baz=66,slow=6.2,SNR=14
comp=Z,1.2nm,0.5s
KBZ Khabaz 73.94 312 P **P** **22 03 42.7 +0.9**
comp=Z,4.9nm,0.9s,baz=87,slow=2.5,SNR=10
KBZ LR LR 22 40 20.2
comp=Z,26nm,18.1s,baz=20,slow=39
comp=Z,4.9nm,0.9s
KIV Kislovodsk 73.96 312 P **P** **22 03 42.2 +0.1**
GNI Garni 74.50 308 LR LR 22 39 05.6
comp=Z,44nm,18.7s,baz=44,slow=38
AKASG Malin Array Be 77.96 323 P **P** **22 04 04.5 -0.1**
comp=Z,0.5nm,0.4s,baz=44,slow=6.6,SNR=7.1
AKASG LR LR 22 41 08.1
comp=Z,81nm,18.2s,baz=57,slow=38
comp=Z,0.5nm,0.4s
HFS Hagfors 78.30 336 P **P** **22 04 05.0 -1.4**
comp=Z,1.5nm,0.7s,baz=82,slow=12,SNR=5.2
HFS LR LR 22 39 59.1
comp=Z,44nm,19.1s,baz=356,slow=37
comp=Z,1.5nm,0.7s
NB2 NORSAR Subarra 78.44 338 P **P** **22 04 06.8 -0.4**
comp=Z,1.3nm,0.7s,baz=40,slow=5.6
NOA NORSAR Array B 78.44 338 P **P** **22 04 06.8 -0.4**
comp=Z,1.8nm,0.8s,baz=41,slow=5.5,SNR=8.4
NOA LR LR 22 42 39.5
comp=Z,27nm,18.2s,baz=0.0,slow=39
comp=Z,1.8nm,0.8s
PDAR Pinedale Array 80.92 45 P **P** **22 04 21.6 +0.3**
comp=Z,0.2nm,0.5s,baz=290,slow=5.3,SNR=1.8
comp=Z,0.2nm,0.5s
KWP Kalwaria Pacla 81.89 325 P **P** **22 04 26.6 +0.6**
BRTR Keskin Array B 81.92 312 P **P** **22 04 26.8 +0.2**
BRTR Keskin Array B 81.92 312 P **P** **22 04 27.0 +0.5**
comp=Z,1.4nm,0.8s,baz=94,slow=4.3,SNR=9.4
comp=Z,1.4nm,0.8s
BURAR Bucovina Array 81.94 322 P **P** **22 04 26.4 +0.1**
MTPU Mount Pierson 82.02 50 P **P** **22 04 27.6 +0.2**
MTPU IAmb IAmb 22 04 37.0
comp=Z,5.7nm,1.1s
RAYN Ar Rayn 82.43 293 P **P** **22 04 29.1 -0.2**
RAYN IAmb IAmb 22 04 44.8
comp=Z,2.7nm,0.8s
STHS Stebnicka Huta 82.74 325 *e*P **P** **22 04 30.9 +0.5**
LANS Liptovska Anna 83.77 326 *e*P **P** **22 04 38.3 +2.5**
VYHS Vyhne 84.53 326 *e*P **P** **22 04 40.3 +0.7**
CLL Collm 85.10 330 *i* P **P** **22 04 42.1 -0.3**
comp=Z,6.0nm,0.8s
CLL *e*pP **pwP** **22 04 51.0 +0.8**
TXAR Lajitas Array 92.93 52 P P **22 05 20.9 +0.7**
comp=Z,0.4nm,0.6s,baz=312,slow=3.6,SNR=6.0
comp=Z,0.4nm,0.6s
LPAZ La Paz 148.80 66 PKPbc **PKiKP** **22 11 56.9 -0.1**
comp=Z,1.2nm,0.6s,baz=291,slow=7.5,SNR=4.4

IDC ***11*** *21:55:14.9±1.8,5.˙86S×130.˙62E,h0km,mb3.5/2, mbtmp4.1/5,ML4.5/3, Error ellipse: s-maj=55.8km s-min=28.1km az=80.0*
DJA ***11*** *21:55:31.5±0.4,6.˙5S±2.˙×13.˙0E±.˙,h117km±14km,M4.4/11, mb4.3/5,mB5.0/4,MLv4.5/11,Mw(mB)4.3/4*
ISC 11 21:55:29.9±0.7,**6.˙47S**±0.˙05×**129.˙95E**±0.˙05,**h100km**,**n31,** σ2**s12**/36,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**1.93**	**359**	P	**Pn**	**21 56 03.2**	**+1.6**
SAUI	**Saumlaki**	**2.02**	**138**	P	**Pn**	**21 56 06.3**	**+3.6**
SAUI	**Saumlaki**	**2.02**	**138**	P	**Pn**	**21 56 05.0**	**+2.3**
SAUI				S	**Sn**	**21 56 31.2**	**+3.4**
FAKI	**Fak Fak**	**4.20**	**33**	P	**Pn**	**21 56 34.2**	**+2.3**
FAKI	**Fak Fak**	**4.20**	**33**	P	**Pn**	**21 56 34.4**	**+2.5**
FAKI				S	**Sn**	**21 57 21.0**	**+1.0**
KMPI	**Kaimana, Papua**	**4.67**	**54**	P	**Pn**	**21 56 40.7**	**+2.6**
KMPI				S	**Sn**	**21 57 31.8**	**+0.7**
SWI	**Sorong**	**5.72**	**13**	P	**Pn**	**21 56 54.5**	**+2.1**
SWI				S	**Sn**	**21 57 57.1**	**+0.4**
SANI	**Sanana**	**5.90**	**318**	P	**Pn**	**21 56 57.6**	**+2.7**
DRS	**Darwin Rock St**	**6.00**	**171**	P	**Pn**	**21 56 57.5**	**+1.2**
LBMI	**Labuha**	**6.28**	**337**	P	**Pn**	**21 57 01.4**	**+1.3**
	29nm,0.7s,0.2nm						
LBMI				S	**Sn**	**21 58 13.1**	**+2.6**
	29nm,0.7s,0.2nm						
MTN	**Manton Dam**	**6.45**	**170**	P	**Pn**	**21 57 03.4**	**+1.1**
KDU	**Kakadu**	**6.67**	**158**	P	**Pn**	**21 57 06.0**	**+0.7**
BATI	**Baumata**	**7.24**	**239**	Pn	**Pn**	**21 57 15.9**	**+2.8**
	17nm,0.3s,baz=105,slow=2.3,SNR=16						
BATI				Sn	**Sn**	**21 58 35.1**	**+1.2**
	11nm,0.3s,baz=38,slow=20,SNR=6.6						
	72nm,0.5s						
BATI	**Baumata**	**7.24**	**239**	P	**Pn**	**21 57 15.3**	**+2.1**
	93nm,0.8s,0.4nm						
BATI				S	**Sn**	**21 58 35.9**	**+2.0**
	93nm,0.8s,0.4nm						
EDFI	**Ende, Flores**	**8.49**	**254**	P	**Pn**	**21 57 32.9**	**+2.7**
PLAI	**Plampang**	**12.29**	**258**	P	**Pn**	**21 58 22.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**12.30**	**200**	P	**Pn**	**21 58 21.2**	**-0.4**
WRA	**Warramunga Arr**	**14.06**	**163**	Pn	Pn	21 58 41.1	-3.6
	1.5nm,0.3s,baz=344,slow=13,SNR=37						
WRA				Sn	Sn	22 01 05.7	-14
	2.8nm,0.3s,baz=328,slow=24,SNR=10						
	3.6nm,0.6s						
COEN	**Coen**	**14.99**	**121**	P	**Pn**	**21 58 56.5**	**-0.1**
QIS	**Mount Isa**	**16.85**	**147**	P	**Pn**	**21 59 18.6**	**-1.2**
ASAR	**Alice Springs**	**17.52**	**168**	P	**P**	**21 59 26.0**	**-1.7**
	1.1nm,0.3s,baz=355,slow=13,SNR=46						
ASAR				S	Sn	22 02 34.0	-9.2
	1.6nm,0.5s,baz=346,slow=26,SNR=5.2						
	4.9nm,0.7s						
PSA00	**Pilbara Seismi**	**17.92**	**212**	P	**P**	**21 59 31.1**	**-0.9**
WRKA	**Warakurna**	**18.54**	**185**	P	**P**	**21 59 37.5**	**-1.3**
OOD	**Oodnadatta**	**21.90**	**166**	P	**P**	**22 00 12.6**	**-2.4**
MULG	**Mulgathing**	**24.01**	**171**	P	**P**	**22 00 32.7**	**-2.7**
FORT	**Forrest**	**24.25**	**184**	P	**P**	**22 00 36.4**	**-1.2**
LCRK	**Leigh Creek**	**25.09**	**163**	P	**P**	**22 00 42.7**	**-2.6**
BBOO	**Buckleboo**	**26.82**	**169**	P	**P**	**22 00 58.5**	**-2.4**
ARPS	**Mount Arapiles**	**32.06**	**162**	P	**P**	**22 01 45.2**	**-2.1**
MKAR	**Makanchi Array**	**67.75**	**327**	P	**P**	**22 06 14.1**	**-2.7**
	0.3nm,0.4s,baz=115,slow=8.0,SNR=6.5						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.03**	**328**	P	P	22 06 38.9	-4.0
	0.2nm,0.6s,baz=129,slow=5.5,SNR=2.6						
	0.2nm,0.6s						

SJA ***11*** *21:57:35.0±0.8,32.˙77S×72.˙38W,h10km±3km,ML4.6, MW4.4*
IDC ***11*** *21:57:38.0±0.5,32.˙71S×71.˙84W,h0km,mb4.3/13, mbtmp4.3/18,ML4.5/4,MS3.9/24,Error ellipse: s-maj=22.4km s-min=13.3km az=89.0*
VAO ***11*** *21:57:39.7±0.3,32.˙71S×71.˙86W,h12km±2km,mb4.4*
NEIC ***11*** *21:57:40.9±1.2,32.˙76S±0.˙04×71.˙96W±0.˙06,h19km±2km, mb4.7/19,Mwr4.5/79,Error ellipse: s-maj=7.7km s-min=5.6km az=86.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr5.94; Mθθ0.29; Mϕϕ-6.23; Mrθ-0.11; Mrϕ-0.87; Mθϕ-0.21; Fault plane solution: M₀6.16000×10¹⁵ NP1:φs188.36000°,δ46.04000°, λ91.21000°. NP2:φs6.61000°,δ43.97000°,λ88.74000°. Principal axes: T 5.9495, Plg89.0000°, Azm138.0000°; N 0.4035, Plg1.0000°, Azm8.0000°; P -6.3530, Plg1.0000°, Azm277.0000°;*
NEIC ***11*** *21:57:40.6,32.˙76S×72.˙00W,h18km*
GUC ***11*** *21:57:42.2±0.9,32.˙79S×71.˙76W,h29km±3km,ML4.5*
ISC 11 21:57:39.0±0.7,**32.˙71S**±0.˙02×**71.˙96W**±0.˙03,**h9**km±4km**, n252,** σ1§**43**/301,**mb4.7**/23,**MS3.9**/22,**7C-16D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.41**	**140**		**Pb**	**21 57 49.4**	**+0.9**
VA01	**Torpederas**	**0.41**	**140**	*i* P	**Pb**	**21 57 48.6**	**+0.2**
VA01	**Torpederas**	**0.41**	**140**	⇓*i*P	**Pb**	**21 57 49.4**	**+0.9**
VA01				*e*S	**Sb**	**21 57 54.5**	**-0.4**
VA06	**Catapilco**	**0.58**	**76**		**Pb**	**21 57 52.2**	**+0.9**
VA06	**Catapilco**	**0.58**	**76**	⇓*i*P	**Pb**	**21 57 52.2**	**+0.9**
VA06				*e*S	**Sb**	**21 57 59.3**	**-0.4**
VA06				IAML		21 58 00.8	
	comp=E,35μm,0.3s						
ROCH	**El Roble**	**0.84**	**108**	⇓*e*P	**Pb**	**21 57 56.0**	**0.0**
ROCH				*e*S	**Sg**	**21 58 05.8**	**-0.6**
ROCH				IAML		21 58 13.5	
	comp=N,22μm,0.5s						
MT02	**Curacav**	**0.89**	**129**		**Pb**	**21 57 56.4**	**-0.2**
MT02	**Curacav**	**0.89**	**129**	*i* P	**Pb**	**21 57 56.8**	**+0.2**
MT02				*i* S	**Sn**	**21 58 12.9**	**+2.3**
MT02	**Curacav**	**0.89**	**129**	⇓*i*P	**Pb**	**21 57 56.4**	**-0.2**
VA05	**Santo Domingo**	**0.99**	**163**		**Pn**	**21 57 58.7**	**-0.4**
VA05	**Santo Domingo**	**0.99**	**163**	*e*P	**Pn**	**21 57 58.5**	**-0.5**
VA05				*e*S	**Sb**	**21 58 11.9**	**+0.4**
VA05				IAML		21 58 15.3	
	comp=E,60μm,0.4s						
PEL	**Peldehue**	**1.16**	**112**		**Pn**	**21 58 01.3**	**-0.1**
PEL	**Peldehue**	**1.16**	**112**	*e*P	**Pg**	**21 58 00.2**	**-1.1**
PEL				*e*S	**Sg**	**21 58 14.9**	**-1.5**
PEL				IAML		21 58 18.5	
	comp=E,24μm,0.6s						
VA03	**San Esteban**	**1.19**	**93**		**Pb**	**21 58 01.6**	**-0.3**
VA03	**San Esteban**	**1.19**	**93**	⇓*i*P	**Pb**	**21 58 01.5**	**-0.4**
VA03				*e*S	**Sg**	**21 58 16.0**	**-1.5**
VA03				IAML		21 58 17.9	
	comp=E,46μm,0.1s						
MT05	**Renca**	**1.23**	**124**	Pn	**Pg**	**21 58 02.8**	**0.0**
MT05	**Renca**	**1.23**	**124**	*i* P	**Pg**	**21 58 03.2**	**+0.5**
MT05				*i* S	**Sn**	**21 58 24.4**	**+5.1**
MT05				IAML		21 58 25.4	
	comp=Z,7μm,0.5s						
MT05	**Renca**	**1.23**	**124**	*i* P	**Pg**	**21 58 02.7**	**0.0**
MT05				*e*S	**Sn**	**21 58 19.4**	**+0.1**
MT05				IAML		21 58 26.5	
	comp=E,17μm,0.4s						
MT01	**Popeta**	**1.30**	**153**		**Pb**	**21 58 03.3**	**-0.3**
MT01	**Popeta**	**1.30**	**153**	*i* P	**Pn**	**21 58 02.6**	**-0.7**
MT01				*i* S	**Sn**	**21 58 22.3**	**+1.4**
MT01				IAML		21 58 22.8	
	comp=Z,12μm,0.3s						
MT01	**Popeta**	**1.30**	**153**	⇓*i*P	**Pb**	**21 58 03.3**	**-0.3**
MT01				*e*S	**Sb**	**21 58 18.7**	**-1.7**
MT01				IAML		21 58 21.7	
	comp=E,22μm,0.3s						
MT10	**Hacienda Santa**	**1.32**	**116**	*i* P	**Pn**	**21 58 03.6**	**-0.2**
MT10				*e*S	**Sb**	**21 58 20.1**	**-1.2**
MT10				IAML		21 58 27.5	
	comp=N,40μm,0.6s						
MT09	**Talagante**	**1.34**	**143**		**Pb**	**21 58 04.0**	**-0.4**
MT09	**Talagante**	**1.34**	**143**	⇓*i*P	**Pb**	**21 58 04.1**	**-0.4**
MT09				*e*S	**Sb**	**21 58 20.1**	**-1.7**
MT09				IAML		21 58 22.4	
	comp=N,21μm,0.3s						
MT14	**Cerro Cal¡n**	**1.38**	**120**	⇓*i*P	**Pb**	**21 58 04.6**	**-0.5**
MT14				*e*S	**Sb**	**21 58 21.7**	**-1.2**
MT14				IAML		21 58 27.2	
	comp=E,20μm,0.5s						
MT16	**CCHEN**	**1.41**	**121**		**Pb**	**21 58 05.0**	**-0.5**
MT16	**CCHEN**	**1.41**	**121**	⇓*i*P	**Pb**	**21 58 05.0**	**-0.5**
MT16				*e*S	**Sb**	**21 58 22.9**	**-0.7**
MT16				IAML		21 58 25.8	
	comp=E,8μm,0.5s						
MT15	**Las Vizcachas**	**1.51**	**126**	*e*P	**Pn**	**21 58 06.3**	**0.0**
MT15				*e*S	**Sb**	**21 58 26.2**	**-0.4**
MT15				IAML		21 58 29.8	
	comp=N,39μm,0.5s						
FCH	**Farellones**	**1.54**	**114**	⇓*i*P	**Pn**	**21 58 07.1**	**+0.2**
FCH				*e*S	**Sn**	**21 58 26.9**	**-0.2**
FCH				IAML		21 58 29.3	
	comp=E,6μm,0.3s						
MT12	**Pirque**	**1.57**	**131**	⇓*i*P	**Pb**	**21 58 07.7**	**-0.5**
MT12				*e*S	**Sn**	**21 58 27.1**	**-0.4**
MT12				IAML		21 58 31.5	
	comp=N,36μm,0.5s						
MT04	**Ro Olivares**	**1.69**	**115**	⇓*i*P	**Pn**	**21 58 09.3**	**+0.5**
MT04				*e*S	**Sn**	**21 58 30.6**	**0.0**
MT04				IAML		21 58 36.1	
	comp=N,8μm,0.2s						
BO04	**La Punta**	**1.71**	**139**		**Pb**	**21 58 09.8**	**-0.8**
BO04	**La Punta**	**1.71**	**139**	⇓*i*P	**Pb**	**21 58 09.8**	**-0.8**
BO04				*e*S	**Sb**	**21 58 31.3**	**-1.0**
BO04				IAML		21 58 38.0	
	comp=E,14μm,0.5s						
CO02	**Combarbal**	**1.71**	**29**		**Pb**	**21 58 10.2**	**-0.5**
CO02	**Combarbal**	**1.71**	**29**	*i* P	**Pb**	**21 58 10.4**	**-0.3**
CO02				*i* S	**Sg**	**21 58 36.7**	**+2.7**
CO02				IAML		21 58 37.6	
	comp=Z,3μm,0.2s						
CO02	**Combarbal**	**1.71**	**29**	⇑*i*P	**Pb**	**21 58 10.3**	**-0.3**
MT13	**San Alfonso**	**1.75**	**127**		**Pb**	**21 58 10.3**	**-1.0**
MT13	**San Alfonso**	**1.75**	**127**	⇓*i*P	**Pb**	**21 58 10.3**	**-1.0**
MT13				*e*S	**Sn**	**21 58 32.0**	**0.0**
MT13				IAML		21 58 36.4	
	comp=N,15μm,0.3s						
MT08	**Bocatoma Ro**	**1.79**	**115**		**Pb**	**21 58 11.3**	**-0.9**
MT08	**Bocatoma Ro**	**1.79**	**115**	⇓*i*P	**Pb**	**21 58 11.3**	**-0.9**
MT08				*e*S	**Sb**	**21 58 33.9**	**-0.9**
MT08				IAML		21 58 43.6	
	comp=E,5μm,0.6s						
BO01	**Tunca**	**1.83**	**157**		**Pn**	**21 58 10.9**	**+0.2**
BO01	**Tunca**	**1.83**	**157**	*i* P	**Pn**	**21 58 10.2**	**-0.5**
BO01				*i* S	**Sb**	**21 58 36.0**	**+0.2**
BO01	**Tunca**	**1.83**	**157**	⇑*i*P	**Pn**	**21 58 10.8**	**+0.2**
BO01				*e*S	**Sn**	**21 58 34.0**	**0.0**
LMEL	**Las Melosas**	**1.86**	**128**	⇓*i*P	**Pb**	**21 58 12.2**	**-1.1**
LMEL				*e*S	**Sb**	**21 58 36.5**	**-0.2**
LMEL				IAML		21 58 41.0	
	comp=N,14μm,0.4s						
CO06	**Fray Jorge**	**2.05**	**8**		**Pn**	**21 58 14.2**	**+0.6**
CO06	**Fray Jorge**	**2.05**	**8**	⇑*i*P	**Pn**	**21 58 14.1**	**+0.5**
CO03	**El Pedregal**	**2.16**	**31**	Pn	**Pn**	**21 58 16.8**	**+1.6**
CO03	**El Pedregal**	**2.16**	**31**	*i* P	**Pb**	**21 58 17.1**	**-1.2**
CO03				*i* S	**Sg**	**21 58 47.9**	**-0.5**
CO03	**El Pedregal**	**2.16**	**31**	*i* P	**Pn**	**21 58 16.7**	**+1.4**
CO03				IAML		21 58 53.7	
	comp=N,2μm,0.3s						
GO05	**Huala**	**2.30**	**179**		**Pn**	**21 58 16.9**	**-0.2**
GO05	**Huala**	**2.30**	**179**	⇑*i*P	**Pn**	**21 58 16.7**	**-0.4**
GO05				*e*S	**Sg**	**21 58 51.2**	**-1.7**
GO05				IAML		21 58 56.0	
	comp=E,3μm,0.4s						
BO02	**Sierra Bellavi**	**2.30**	**155**	Pn	**Pn**	**21 58 16.6**	**-0.6**
BO02	**Sierra Bellavi**	**2.30**	**155**	*i* P	**Pn**	**21 58 16.7**	**-0.5**
BO02				*i* S	**Sb**	**21 58 48.8**	**-0.5**
BO02	**Sierra Bellavi**	**2.30**	**155**	*e*P	**Pn**	**21 58 16.1**	**-1.1**
BO02				*e*S	**Sb**	**21 58 47.1**	**-2.2**
BO02				IAML		21 58 54.2	
	comp=E,10μm,0.3s						
RTLS	**Leoncito**	**2.44**	**69**	*i* P	**Pb**	**21 58 22.8**	**-0.4**
RTLS				IAML		21 59 03.3	
	comp=Z,2μm,0.9s						
ASAL	**Salagasta**	**2.64**	**88**	*i* P	**Pb**	**21 58 25.8**	**-0.8**
ASAL				*i* S	**Sg**	**21 59 02.6**	**-1.3**
ASAL				IAML		21 59 03.2	
	comp=Z,2μm,1.2s						
GO04	**Tololo Observa**	**2.72**	**22**		**Pn**	**21 58 24.5**	**+1.4**
GO04	**Tololo Observa**	**2.72**	**22**	*i* P	**Pn**	**21 58 23.9**	**+0.8**
GO04	**Tololo Observa**	**2.72**	**22**	*e*P	**Pn**	**21 58 24.0**	**+0.9**
CO05	**La Serena**	**2.85**	**13**		**Pn**	**21 58 25.8**	**+1.2**
DOCA	**Reserva Natura**	**3.02**	**55**	*i* P	**Pb**	**21 58 30.7**	**-2.4**
ZON	**Zonda**	**3.02**	**68**		**Pn**	**21 58 28.9**	**+1.8**
ZON	**Zonda**	**3.02**	**68**	*i* P	**Pb**	**21 58 30.6**	**-2.4**
ML02	**Panimavida**	**3.08**	**172**		**Pn**	**21 58 28.0**	**+0.2**
ML02	**Panimavida**	**3.08**	**172**	*e*P	**Pn**	**21 58 28.1**	**+0.2**
CO01	**Juntas del Tor**	**3.16**	**31**		**Pn**	**21 58 30.9**	**+1.8**
CO01	**Juntas del Tor**	**3.16**	**31**	*i* P	**Pn**	**21 58 31.0**	**+1.8**
CO01	**Juntas del Tor**	**3.16**	**31**	*e*P	**Pn**	**21 58 31.2**	**+2.0**
CO01				IAML		21 59 21.3	
	comp=E,555nm,0.3s						
ACCO	**Cerro Coronel**	**3.25**	**50**	*i* P	**Pb**	**21 58 34.2**	**-2.9**
ACCO				*i* S	**Sb**	**21 59 17.9**	**+0.9**
ACCO				IAML		21 59 38.3	
	comp=Z,1μm,1.1s						
AROD	**Rodeo**	**3.31**	**41**	*i* P	**Pb**	**21 58 34.8**	**-3.2**
RFA	**San Rafael**	**3.57**	**126**	*i* P	**Pn**	**21 58 37.4**	**+2.8**
RFA				IAML		21 59 37.8	
	comp=Z,882nm,0.7s						
LCO	**Las Campanas**	**3.84**	**17**	Pn	**Pn**	**21 58 39.4**	**+0.8**
LCO	**Las Campanas**	**3.84**	**17**	*i* P	**Pn**	**21 58 39.5**	**+0.9**
LCO				IAML		21 59 52.6	
	comp=Z,2μm,1.0s						
LCO	**Las Campanas**	**3.84**	**17**	*i* P	**Pn**	**21 58 39.3**	**+0.8**
AC05	**El Transito**	**4.12**	**21**	Pn	**Pn**	**21 58 44.0**	**+1.7**
AC05	**El Transito**	**4.12**	**21**	*i* P	**Pn**	**21 58 44.0**	**+1.7**
AC05				IAML		22 00 01.0	
	comp=Z,404nm,0.8s						
BI05	**Punta Hualpn**	**4.16**	**194**	Pn	**Pn**	**21 58 42.1**	**-0.5**
AVFE	**Valle Fertil**	**4.35**	**63**	*i* P	**Pn**	**21 58 49.3**	**+3.9**
AVFE				IAML		22 00 04.8	
	comp=Z,285nm,0.8s						
AGUA	**GUANDACOL**	**4.38**	**44**	*i* P	**Pn**	**21 58 49.4**	**+3.6**
AGUA				IAML		22 00 08.5	
	comp=Z,533nm,0.9s						
AC04	**Llanos de Chal**	**4.55**	**10**	Pn	**Pn**	**21 58 48.3**	**+0.2**
VCA	**Vinchina**	**5.11**	**40**	*i* P	**Pn**	**21 58 59.0**	**+3.1**
VCA				IAML		22 00 35.0	
	comp=Z,555nm,1.8s						
VA04	**Juan Fernndez**	**5.83**	**259**	Pn	**Pn**	**21 59 05.4**	**-0.2**
H03N1	**Juan Fernandez**	**5.88**	**261**	Pn	**Pn**	**21 59 08.4**	**+2.3**
	baz=121,slow=22						
H03N1				T	T	22 05 38.2	
	baz=89,slow=74,SNR=535						
H03N3	**Juan Fernandez**	**5.89**	**261**	Pn	**Pn**	**21 59 07.9**	**+1.7**
	baz=121,slow=22						
H03N3				T	T	22 05 37.8	
	baz=89,slow=74,SNR=917						
H03N2	**Juan Fernandez**	**5.89**	**261**	Pn	**Pn**	**21 59 08.4**	**+2.2**
	baz=121,slow=22						
H03N2				T	T	22 05 39.1	
	baz=89,slow=74,SNR=628						
H03S1	**Juan Fernandez**	**5.92**	**257**	Pn	**Pn**	**21 59 07.0**	**+0.4**
H03S1				T	T	22 05 27.5	
	baz=85,slow=75,SNR=1276						
H03S3	**Juan Fernandez**	**5.92**	**257**	Pn	**Pn**	**21 59 08.2**	**+1.5**
H03S3				T	T	22 05 29.1	
	baz=85,slow=75,SNR=971						
H03S2	**Juan Fernandez**	**5.94**	**257**	Pn	**Pn**	**21 59 07.2**	**+0.3**
H03S2				T	T	22 05 29.4	
	baz=85,slow=75,SNR=2320						
LC02	**Puerto Saavedr**	**6.18**	**190**	Pn	**Pn**	**21 59 09.8**	**-0.6**
AC02	**Maricunga**	**6.35**	**24**	Pn	**Pn**	**21 59 14.0**	**+0.8**
AC01	**Pan de Azucar**	**6.64**	**11**	Pn	**Pn**	**21 59 17.5**	**+0.7**
GO06	**Curarrehue**	**6.87**	**177**	Pn	**Pn**	**21 59 19.9**	**-0.1**
LR05	**Currie**	**7.51**	**180**	Pn	**Pn**	**21 59 28.3**	**-0.3**
GO02	**Mina Guanaco**	**7.80**	**16**		**Pn**	**21 59 32.9**	**-0.1**
PLCA	**Paso Flores**	**8.09**	**172**	Pn	**Pn**	**21 59 36.8**	**+0.1**
PLCA	**Paso Flores**	**8.09**	**172**	Pn	**Pn**	**21 59 37.4**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=335,slow=11,SNR=112						
PLCA				Sn	**Sn**		**22 01 10.9 +2.6**
	comp=Z,0.4nm,0.3s,baz=14,slow=21,SNR=1.2						
	comp=Z,14nm,0.4s						
PLCA	**Paso Flores**	**8.09**	**172**	*e*P	**Pn**	**21 59 37.8**	**+1.0**
PLCA				*e*S	**Sn**	**22 01 10.5**	**+2.2**
LL04	**Puerto Octay**	**8.19**	**182**	Pn	**Pn**	**21 59 37.7**	**-0.3**
TRQA	**Tornquist**	**9.74**	**126**	Pn	**Pn**	**21 59 59.7**	**+0.4**
LVC	**Limon Verde**	**10.42**	**16**	Pn	**Pn**		**22 00 09.7 +0.8**
	comp=Z,1.2nm,0.3s,baz=189,slow=12,SNR=0.3						
LVC				Sn	**Sn**		**22 02 08.3 +2.3**
	comp=Z,0.7nm,0.3s,baz=265,slow=4.9,SNR=1.2						
LVC				LR	LR	22 04 31.1	
	comp=Z,745nm,19.7

PLTB **Pedras Altas** 15.57 91 Pn **Pn** 22 01 19.2 +0.5
PLTB IAmb IAmb 22 01 54.4
comp=Z,30nm,1.4s
PLTB **Pedras Altas** 15.57 91 *e*P **Pn** 22 01 18.5 -0.3
PLTB *e*S **Sn** 22 04 09.0 -2.4
GO08 **Villa O'Higgin** 15.75 181 **Pn** 22 01 19.5 -1.4
SJPY **San Joaquin** 15.87 65 *e*P **Pn** 22 01 22.3 -0.3
SJPY *e*S **Sn** 22 04 18.4 -0.3
CPSB **Cacapava Do Su** 15.96 87 *e*P **Pn** 22 01 23.2 -0.5
CPSB *e*S **Sn** 22 04 20.3 -0.5
CRSM **Crissiumal (Br** 16.35 76 *e*P **Pn** 22 01 28.5 -0.4
CRSM *e*S **Sn** 22 04 29.8 -0.6
LPAZ **La Paz** 16.71 13 Pn **Pn** 22 01 34.1 +0.1
LPAZ **La Paz** 16.71 13 Pn **Pn** 22 01 34.7 +0.7
comp=Z,0.6nm,0.3s,baz=183,slow=8.9,SNR=7.6
comp=Z,2.1nm,0.4s
LPAZ **La Paz** 16.71 13 *e*P **Pn** 22 01 34.6 +0.6
ALGR **Alto Alegre (B** 16.74 82 *e*P **Pn** 22 01 32.7 -1.1
ALGR *e*S **Sn** 22 04 37.2 -2.6
MURT **Porto Murtinho** 16.84 53 *e*P **Pn** 22 01 35.1 +0.1
MURT *e*S **Sn** 22 04 41.2 -1.0
CHAP **Chapeco** 17.27 76 *e*S **Sn** 22 04 52.2 -0.5
MCR1 **Marechal Candi** 17.74 67 *e*P **Pn** 22 01 46.2 -0.2
MCR1 *e*S **Sn** 22 05 03.7 -0.6
FRBT **Francisco Belt** 17.78 73 *e*P **Pn** 22 01 46.2 -0.7
FRBT *e*S **Sn** 22 05 04.7 -0.5
AMBA **Amambai (Brazi** 17.88 61 *e*P **P** 22 01 48.5 -0.2
AMBA *e*S **Sn** 22 05 06.8 -0.6
ITAB **Concordia** 18.02 78 *e*P **Pn** 22 01 49.9 +0.1
ITAB *e*S **Sn** 22 05 10.1 -0.7
BBRB **Robore, Bolivi** 18.06 40 *e*P **Pn** 22 01 49.5 -0.7
BDQN **Bodoquena, MS** 18.26 52 *e*P **Pn** 22 01 51.8 -0.9
BBLB **La Banda, Boli** 18.31 43 *e*P **P** 22 01 53.5 +0.1
CNLB **Canela** 18.41 85 *e*P **Pn** 22 01 53.4 -1.2
BBSD **Serra de San D** 18.55 36 *e*P **P** 22 01 55.3 -0.8
AQDB **Aquidauana** 18.94 54 *e*P **P** 22 02 00.2 -0.2
PTGB **Pitanga** 19.16 71 *e*P **P** 22 02 02.8 -0.1
SIV **San Ignacio** 19.35 33 P **P** 22 02 04.2 -0.7
baz=212,slow=11,SNR=9.8
comp=Z,2.4nm,0.7s
PANT **Pantanal (Braz** 19.39 49 *e*P **P** 22 02 05.0 -0.4
TRCB **Terra Rica** 19.73 65 *e*P **P** 22 02 08.7 -0.3
TER01 **Tubaro-SC** 20.08 84 *e*P **P** 22 02 12.1 -0.8
RPRD **Ribas do Rio P** 20.34 58 *e*P **P** 22 02 15.2 -0.4
RVDE **Rio Verde (Bra** 20.46 52 *e*P **P** 22 02 16.9 -0.1
LDASE **Londrina, Braz** 20.58 68 *e*P **P** 22 02 16.8 -1.4
PTLB **Pontes e Lacer** 20.76 37 P **P** 22 02 20.8 +0.6
PTLB **Pontes e Lacer** 20.76 37 *e*P **P** 22 02 20.2 0.0
NNA **Nana** 21.10 347 LR LR 22 09 20.3
comp=Z,189nm,18.3s,baz=188,slow=33
PCMB **Pacaembu** 21.44 64 *e*P **P** 22 02 26.6 -1.1
PP1B **Ponte de Pedra** 21.53 50 *e*P **P** 22 02 27.6 -0.9
PP1B *e*pP **pP** 22 02 30.5 -0.2
FRTB **Fartura** 21.83 70 *e*P **P** 22 02 30.3 -1.5
PTET **Porto Estrela** 21.87 41 *e*P **P** 22 02 32.1 -0.1
PTET *e*pP **sP** 22 02 35.0 0.0
SALV **Santo Antonio** 22.31 45 *e*P **P** 22 02 35.7 -1.1
VILB **Vilhena** 22.42 31 *e*P **P** 22 02 37.5 -0.6
PET01 **Itanhaem-SP** 23.22 75 *e*P **P** 22 02 45.9 -0.5
ITRB **Iturama** 23.25 61 *e*P **P** 22 02 46.5 -0.4
ETMB **Extrema** 23.39 14 P **P** 22 02 48.4 +0.3
ETMB **Extrema** 23.39 14 *e*P **P** 22 02 49.4 +1.2
SPB **Sao Paulo** 23.42 73 *e*P **P** 22 02 48.4 0.0
NBRS **Nobres** 23.51 43 *e*P **P** 22 02 48.8 -0.6
BB19B **Bebedouro** 23.85 67 *e*P **P** 22 02 51.5 -1.2
JIR01 **Jirau** 24.00 18 *e*P **P** 22 02 54.3 +0.2
DVLD **Doverlandia** 24.01 53 *e*P **P** 22 02 53.4 -0.9
VAO **Valinhos** 24.07 73 *e*P **P** 22 02 54.0 -0.8
ARAG **Araguaiana, MT** 24.91 52 *e*P **P** 22 03 01.1 -1.4
SAML **Samuel** 25.00 21 P **P** 22 03 02.6 -0.6
SAML IAmb IAmb 22 03 05.6
comp=Z,8.7nm,1.1s
SAML **Samuel** 25.00 21 *e*P **P** 22 03 03.8 +0.6
SLP01 **Ubatuba-SP** 25.39 75 *e*P **P** 22 03 05.8 -1.1
IPMB **Ipameri, GO** 25.91 61 *e*P **P** 22 03 09.7 -1.9
ATAH **Atahualpa** 26.14 345 LR LR 22 12 15.3
comp=Z,175nm,18.8s,baz=223,slow=34
BSCB **Bom Sucesso** 26.84 71 *e*P **P** 22 03 18.4 -1.5
PMNB **Patos De Minas** 26.91 65 *e*P **P** 22 03 19.5 -1.2
VAS01 **Vassouras-RJ** 27.27 75 *e*P **P** 22 03 23.7 -0.2
BDFB **Brasilia** 27.57 58 P **P** 22 03 26.0 -0.7
BDFB IAmb IAmb 22 03 26.3
comp=Z,16nm,1.1s
BDFB **Brasilia** 27.57 58 P **P** 22 03 25.3 -1.3
comp=Z,12nm,1.1s,baz=236,slow=9.4,SNR=8.7
BDFB LR LR 22 14 43.6
comp=Z,200nm,19.9s,baz=209,slow=37
comp=Z,12nm,1.1s
SNDB **Serra Nova Dou** 28.03 47 *e*P **P** 22 03 31.3 +0.7
DUB01 **Friburgo-RJ** 28.24 75 *e*P **P** 22 03 31.9 -0.6
SDBA **SAO DESIDERIO** 31.97 57 *e*P **P** 22 04 04.1 -1.5
PMSA **Palmer Station** 32.46 174 LR LR 22 16 53.8
comp=Z,326nm,20.5s,baz=328,slow=36
PRPB **Parauapebas** 33.51 43 *e*P **P** 22 04 17.9 -1.0
NBPN **Ponto Novo - B** 36.42 61 *e*P **P** 22 04 42.5 -1.6
BOAV **Boa Vista** 36.55 19 P **P** 22 04 45.4 +0.2
BOAV IAmb IAmb 22 04 46.0
comp=Z,9.4nm,0.7s
BOAV **Boa Vista** 36.55 19 *e*P **P** 22 04 45.5 +0.3
NBLA **Lagarto - SE** 38.12 63 *e*P **P** 22 04 56.5 -2.0
NBTA **Tacaratu-PE** 39.13 61 *e*P **P** 22 05 05.3 -1.7
NBMA **Muriti-CE** 39.81 58 *e*P **P** 22 05 11.7 -1.1
NBAN **Anadia - AL** 40.10 63 *e*P **P** 22 05 13.4 -1.8
NBPB **Pedra_Branca-C** 40.51 55 *e*P **P** 22 05 17.6 -0.9
SDV **Santo Domingo** 41.38 2 LR LR 22 23 40.8
comp=Z,116nm,20.9s,baz=240,slow=38
BAUV **El Baul** 41.59 6 P **P** 22 05 27.9 +0.6
BAUV IAmb IAmb 22 05 28.5
comp=Z,36nm,1.4s
MDP **Montagnes des** 41.84 30 LR LR 22 24 48.1
comp=Z,173nm,19.0s,baz=202,slow=39
PCRV **Puerto La Cruz** 43.21 11 LR LR 22 25 46.0
comp=Z,186nm,18.2s,slow=39
BELA **Belgrano 2** 48.14 170 P **P** 22 06 19.8 +0.9
BELA IAmb IAmb 22 06 21.0
comp=Z,10nm,1.1s
VNA3 **Neumayer Olymp** 50.53 158 ⇑P **P** 22 06 37.8 +0.6
comp=Z,8.5nm,0.7s
VNA2 **Neumayer--Watz** 51.18 158 ⇑P **P** 22 06 42.7 +0.6
comp=Z,9.2nm,0.7s,baz=269,slow=9.4
SNAA **Sanae** 52.76 158 ⇑P **P** 22 06 54.3 +0.3
comp=Z,112nm,0.7s
SNAA **Sanae** 52.76 158 P **P** 22 06 53.7 -0.2
comp=Z,8.3nm,1.0s,baz=285,slow=3.6,SNR=6.2
SNAA LR LR 22 28 19.9
comp=Z,118nm,19.9s,baz=11,slow=35
comp=Z,8.3nm,1.0s
CMIG **Matias Romero** 54.16 333 LR LR 22 25 57.0
comp=Z,37nm,18.1s,baz=180,slow=31
QSPA **South Pole Qui** 57.52 180 P **P** 22 07 29.4 +0.9
QSPA **South Pole Qui** 57.52 180 P **P** 22 07 29.3 +0.7
comp=Z,12nm,0.9s,baz=153,slow=1.8,SNR=28
QSPA LR LR 22 31 19.0
comp=Z,74nm,20.5s,baz=131,slow=35
comp=Z,12nm,0.9s
VNDA **Vanda** 65.38 191 P **P** 22 08 22.1 +0.9
comp=Z,1.7nm,1.1s,baz=119,slow=7.4,SNR=3.5
VNDA LR LR 22 36 32.5
comp=Z,33nm,18.1s,baz=48,slow=36
comp=Z,1.7nm,1.1s
TXAR **Lajitas Array** 68.64 330 P **P** 22 08 43.8 +1.2
comp=Z,0.3nm,0.5s,baz=145,slow=7.5,SNR=6.0
TXAR LR LR 22 34 22.1
comp=Z,72nm,18.2s,baz=190,slow=32
comp=Z,0.3nm,0.5s
W50A **Signal Mountai** 68.70 348 P **P** 22 08 43.6 +0.8
W50A IAmb IAmb 22 08 44.4
comp=Z,12nm,1.2s
V53A **Saluda** 68.78 351 P **P** 22 08 43.7 +0.4
V53A IAmb IAmb 22 09 06.0
comp=Z,11nm,1.4s
SWET **Sewanee** 68.83 348 P **P** 22 08 44.4 +0.8
SWET IAmb IAmb 22 08 44.6
comp=Z,5.9nm,0.7s
TKL **Tuckaleechee C** 68.90 350 P **P** 22 08 44.2 +0.1
TKL IAmb IAmb 22 09 22.3
comp=Z,11nm,1.4s
TKL **Tuckaleechee C** 68.90 350 P **P** 22 08 44.0 0.0
comp=Z,1.4nm,0.5s,baz=146,slow=7.2,SNR=4.1
comp=Z,1.4nm,0.5s
PLPT **Palo Pinto** 69.75 337 P **P** 22 08 50.6 +1.2
PLPT IAmb IAmb 22 08 52.2
comp=Z,7.5nm,0.7s
WVT **Waverly** 70.07 346 P **P** 22 08 51.8 +0.6

MAW **Mawson** 74.40 164 P **P** 22 09 17.0 +0.2
comp=Z,6.8nm,1.0s,baz=227,slow=7.1,SNR=9.6
MAW LR LR 22 45 11.5
comp=Z,118nm,18.2s,baz=238,slow=38
comp=Z,6.8nm,1.0s
ANMO **Albuquerque** 74.68 331 LR LR 22 37 40.9
comp=Z,102nm,19.7s,baz=274,slow=32
DBIC **Dimbokro** 74.71 72 P **P** 22 09 19.4 -0.1
comp=Z,5.0nm,0.8s,baz=209,slow=6.0,SNR=3.9
DBIC LR LR 22 40 32.3
comp=Z,50nm,18.3s,baz=206,slow=34
comp=Z,5.0nm,0.8s
SUR **Sutherland** 75.40 119 LR LR 22 39 22.1
comp=Z,81nm,18.8s,baz=183,slow=33
TSUM **Tsumeb** 79.51 106 LR LR 22 39 27.3
comp=Z,98nm,21.4s,baz=205,slow=32
BOSA **Boshof** 80.62 118 P **P** 22 09 52.0 -0.5
comp=Z,8.0nm,1.0s,baz=222,slow=3.4,SNR=11
BOSA LR LR 22 43 16.5
comp=Z,92nm,18.4s,baz=200,slow=34
comp=Z,8.0nm,1.0s
PDAR **Pinedale Array** 82.64 333 P **P** 22 10 03.5 +0.7
comp=Z,0.3nm,0.6s,baz=149,slow=3.9,SNR=2.5
PDAR LR LR 22 42 50.4
comp=Z,40nm,21.7s,baz=168,slow=33
comp=Z,0.3nm,0.6s
NVAR **Mina Array Bea** 82.86 325 P **P** 22 10 05.2 +1.2
comp=Z,2.2nm,0.9s,baz=149,slow=4.2,SNR=1.7
comp=Z,2.2nm,0.9s
ELK **Elko** 83.30 328 P **P** 22 10 07.2 +0.9
comp=Z,1.2nm,0.8s
ELK LR LR 22 44 36.4
comp=Z,67nm,18.6s,slow=34
comp=Z,1.2nm,0.8s
ULM **Lac du Bonnet** 85.27 345 P **P** 22 10 15.5 -0.1
comp=Z,2.9nm,0.8s,baz=172,slow=6.1,SNR=6.7
comp=Z,2.9nm,0.8s
LSZ **Lusaka** 90.15 108 LR LR 22 47 58.3
comp=Z,140nm,18.9s,baz=244,slow=34
MDT **Midelt** 90.96 51 LR LR 22 49 36.8
comp=Z,45nm,21.6s,baz=246,slow=34
ASAR **Alice Springs** 118.74 207 PKP **PKiKP** 22 16 28.8 +0.6
comp=Z,0.3nm,0.9s,baz=108,slow=1.8,SNR=1.6
FINES **FINESS Array B** 121.89 34 PKP **PKPdf** 22 16 32.4 -0.4
comp=Z,1.5nm,1.1s,baz=240,slow=7.8,SNR=1.9
WRA **Warramunga Arr** 121.92 209 PKP **PKPdf** 22 16 33.3 -1.0
comp=Z,0.5nm,0.6s,baz=154,slow=1.6,SNR=5.5
H11S2 **WAKE ISLAND Hyd** 25.84 270 T T 00 35 39.3
baz=118,slow=75,SNR=144
H11S1 **WAKE ISLAND Hyd** 25.86 270 T T 00 35 40.9
baz=118,slow=75,SNR=254
H11S3 **WAKE ISLAND Hyd** 25.86 270 T T 00 35 40.9
baz=118,slow=75,SNR=143
H11N3 **WAKE ISLAND Hyd** 26.22 271 T T 00 36 04.1
baz=116,slow=74,SNR=13
H11N1 **WAKE ISLAND Hyd** 26.24 271 T T 00 36 06.2
baz=116,slow=74,SNR=16
H11N2 **WAKE ISLAND Hyd** 26.24 271 T T 00 36 16.9
baz=116,slow=74,SNR=43
BVAR **Borovoye Array** 146.28 42 PKPbc **PKPab** 22 17 20.2 -0.1
comp=Z,4.3nm,0.6s,baz=307,slow=3.2,SNR=32
YAK **Yakutsk** 147.53 341 PKPbc **PKPbc** 22 17 22.5 -0.3
comp=Z,11nm,0.4s,baz=355,slow=5.1,SNR=9.1
EKS2 **Erkin-Say** 151.29 60 P **PKiKP** 22 17 33.7 +0.2
SNR=15
USP **Ospenovka** 151.72 58 P **PKiKP** 22 17 34.2 -0.1
SNR=9.1
AAK **Ala-Archa** 151.82 60 P **PKiKP** 22 17 35.0 +0.4
SNR=9.3
AAK **Ala-Archa** 151.82 60 PKPbc **PKiKP** 22 17 35.0 +0.4
comp=Z,7.2nm,0.7s,baz=270,slow=3.0,SNR=29
KURBB **Kurchatov Arra** 151.88 42 PKPbc **PKPbc** 22 17 34.0 +0.1
comp=Z,5.2nm,0.6s,baz=303,slow=2.9,SNR=73
UCH **Uchtor** 151.90 61 P **PKiKP** 22 17 35.6 +0.4
SNR=12
TKM2 **Tokmak 2** 152.57 59 P **PKiKP** 22 17 36.2 -0.1
SNR=5.6
ZALV **Zalesovo Beam** 153.10 31 PKPbc **PKPbc** 22 17 36.4 -0.1
comp=Z,8.5nm,0.8s,baz=302,slow=3.5,SNR=31
MKAR **Makanchi Array** 155.85 47 PKPab **PKPab** 22 18 00.1 0.0
comp=Z,1.9nm,0.7s,baz=304,slow=2.8,SNR=12
SONM **Songino Array** 164.84 4 PKPab **PKPab** 22 18 39.9 +0.8
comp=Z,0.7nm,0.9s,baz=353,slow=4.6,SNR=4.7
XLT **XiLinHaoTe** 167.17 333 *e*PKP **PKPdf** 22 17 45.6 +0.4
NJ2 **Nanjing** 170.83 269 *e*P **PKPdf** 22 17 47.4 -0.3
HHC **Hu-ho-hao-te** 171.40 342 *e*P **PKPdf** 22 17 45.0 -2.9
PZH **PanZhiHua** 171.74 137 PKP **PKPdf** 22 17 47.2 -1.4

TAP 11 22:10:08.1,24.36N×122.08E,h27km,ML1.4,D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.29**	**288**	P	Pb	22 10 15.2	+0.1
	baz=293						
EWUT				S	Sb	22 10 20.3	+0.4
	baz=293						
ENA	**Nanau**	**0.32**	**283**	P	Pb	22 10 15.5	0.0
	baz=288						
ENA				S	Sb	22 10 20.9	+0.3
	baz=288						
NACB	**Ninganchiao**	**0.48**	**248**	*e*P	Pb	22 10 18.1	0.0
	baz=247						
NACB				*e*S	Sn	22 10 26.3	-0.5
	baz=247						
LATG	**Datong**	**0.54**	**290**	P	Pn	22 10 19.6	-0.5
	baz=293						
LATG				*e*S	Sn	22 10 29.0	+0.7
	baz=293						
ENTT	**Nioudou**	**0.55**	**301**	*e*P	Pn	22 10 19.9	-0.3
	baz=302						
ENTT				*e*S	Sn	22 10 29.6	+1.1
	baz=302						
FUSB	**Fushanzhiwuyua**	**0.60**	**312**	*e*P	Pn	22 10 21.0	+0.1
	baz=313						
FUSB				*e*S	Sn	22 10 31.3	+1.4
	baz=313						
NNSB	**Datong**	**0.64**	**277**	P	Pb	22 10 21.0	+0.2
	baz=284						
NNSB				*e*S	Sn	22 10 31.1	+0.2
	baz=284						
LXIB	**Xiulin Townshi**	**0.70**	**242**	*e*S	Sn	22 10 32.4	+0.1
	baz=240						
YHNB	**Yeheng**	**0.72**	**296**	*e*P	Pn	22 10 22.8	+0.3
	baz=297						
YHNB				*e*S	Sn	22 10 33.8	+1.1
	baz=297						
NSK	**Sanguang**	**0.73**	**296**	*e*P	Pn	22 10 22.7	-0.1
	baz=297						
NSK				*e*S	Sn	22 10 33.8	+0.7
	baz=297						
WHF	**Hehuan Shan**	**0.78**	**254**	*e*P	Pb	22 10 23.0	-0.2
	baz=253						
WHF				*e*S	Sn	22 10 35.2	+0.6
	baz=253						

JMA 11 22:10:53.4±0.2,24.3N±0.4×123.8E±0.4,h17km±1km, MV0.4/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.11**	**313**	P	Pg	22 10 57.0	0.0
IRIF				*e*S	Sb	22 10 59.7	+0.1
JKRS	**Kuro-shima**	**0.17**	**97**	P	Pg	22 10 57.9	0.0
JKRS				*e*S	Sg	22 11 01.0	+0.2
HATJ	**Hateruma jima**	**0.20**	**184**	P	Pg	22 10 58.1	-0.2
HATJ				*e*S	Sg	22 11 01.6	+0.1
JIJ	**Ishigaki jima**	**0.31**	**71**	P	Pg	22 10 59.8	-0.3
JIJ				S	Sg	22 11 04.4	-0.2
JISG	**Ishigakijimahi**	**0.55**	**54**	*e*P	Pg	22 11 04.5	+0.1

SOME 11 22:18:13.4,42.60N×86.12E,h10km
IDC 11 22:18:21.5±1.9,42.75N×85.51E,h0km,mb3.8/1, mbtmp3.4/7,ML2.9/6,MS3.8/2,Error ellipse: s-maj=23.0km s-min=16.4km az=31.0
NNC 11 22:18:22.3±2.3,42.87N×85.64E,h0km,mb3.9,mpv3.6, Error ellipse: s-maj=18.3km s-min=10.9km az=137.0

ISC 11 22:18:23.2±1.2,42.89N±0.06×85.63E±0.05,h10km,n39,s32/54,11C-6D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTMS	**Ketmen**	**3.90**	**280**	*e*P	Pb	22 19 30.9	-1.2

KTMS Lg Lg 22 20 25.4
3.3nm,0.3s
KTMS Ketmen 3.90 280 *e*P **Pb** 22 19 30.9 -1.2
3.3nm,0.3s
KTMS *e*S **Sg** 22 20 25.4 -3.0
24nm,0.3s
DJR Jarkent 4.48 291 Pg **Pb** 22 19 42.8 +0.8
4.9nm,0.2s
DJR Lg Lg 22 20 45.2
15nm,0.4s
DJR Jarkent 4.48 291 *e*P **Pb** 22 19 42.8 +0.8
4.9nm,0.2s
DJR *e*S **Sg** 22 20 45.2 -1.7
15nm,0.4s
PDGK Podgornoye 4.51 278 Pg **Pb** 22 19 42.5 -0.1
2.2nm,0.2s
PDGK Lg Lg 22 20 45.6
8.2nm,0.6s
PDGK Podgornoye 4.51 278 ⇑Pn **Pn** 22 19 33.4 +1.6
1.3nm,0.3s
PDGK ⇓Pg **Pg** 22 19 49.3 -0.4
4.7nm,0.4s
PDGK ⇓Lg Lg 22 20 48.9
29nm,0.4s
SHLS Shalkode 4.53 275 Pg **Pb** 22 19 38.6 -4.3
5.9nm,0.2s
SHLS Lg Lg 22 20 37.9
56nm,0.5s
SHLS Shalkode 4.53 275 *e*P **Pb** 22 19 38.6 -4.3
5.9nm,0.2s
SHLS *e*S **Sb** 22 20 37.9 +0.4
56nm,0.5s
MK31 Makanchi Array 4.57 330 ⇑Pn **Pn** 22 19 34.9 +2.5
0.1nm,0.1s,baz=147,slow=14,SNR=57
MK31 Pg **Pg** 22 19 51.1 +0.4
2.9nm,0.3s,baz=143,slow=16,SNR=10
MK31 ⇑Sn **Sn** 22 20 29.3 +3.8
2.2nm,0.2s,baz=162,slow=23,SNR=3.9
MK31 ⇑Lg Lg 22 20 49.9
9.3nm,0.4s,baz=145,slow=30,SNR=9.1
MKAR Makanchi Array 4.57 330 Pn **Pn** 22 19 34.7 +2.3
1.0nm,0.3s,baz=145,slow=13,SNR=42
MKAR Sn **Sn** 22 20 27.2 +1.7
3.5nm,0.3s,baz=145,slow=16,SNR=4.7
MKAR Lg Lg 22 20 49.9
10.0nm,0.3s,baz=147,slow=30,SNR=4.4
1.4nm,0.3s
ZSN Zaisan 4.59 354 Pg **Pb** 22 19 44.7 +0.9
6.2nm,0.2s
ZSN Lg Lg 22 20 48.5
12nm,0.3s
ZSN Zaisan 4.59 354 *e*P **Pb** 22 19 44.7 +0.9
6.2nm,0.2s
ZSN *e*S **Sg** 22 20 48.5 -2.0
12nm,0.3s
UZB Uzynbulak 4.85 275 Pg **Pb** 22 19 49.3 +1.0
2.7nm,0.2s
UZB Lg Lg 22 20 56.4
9.3nm,0.5s
UZB Uzynbulak 4.85 275 *e*P **Pb** 22 19 49.3 +1.0
2.7nm,0.2s
UZB *e*S **Sg** 22 20 56.4 -2.5
9.3nm,0.5s
KNOS Konyrlen 4.90 290 Pg **Pb** 22 19 48.5 -0.8
9.7nm,0.2s
KNOS Lg Lg 22 20 56.9
12nm,0.5s
KAPS Kapalarasan 5.11 300 Pg **Pg** 22 19 57.3 -3.8
KAPS Lg Lg 22 21 10.2
KAPS Kapalarasan 5.11 300 *e*P **Pg** 22 19 57.3 -3.8
KAPS *e*S **Sg** 22 21 10.2 +2.9
SATY Saty 5.30 274 Pg **Pb** 22 19 58.1 +2.1
3.3nm,0.2s
SATY Lg Lg 22 21 11.6
14nm,0.4s
SATY Saty 5.30 274 *e*P **Pb** 22 19 58.1 +2.1
3.3nm,0.2s
SATY *e*S **Sg** 22 21 11.6 -1.8
14nm,0.4s
KURS Kuram 5.48 279 Pg **Pb** 22 20 02.2 +3.0
1.8nm,0.5s
KURS Lg Lg 22 21 17.5
7.8nm,0.6s
KURS Kuram 5.48 279 *e*P **Pb** 22 20 01.8 +2.7
1.8nm,0.5s
KURS *e*S **Sg** 22 21 17.5 -1.7
7.8nm,0.6s
KOTS Kotyrbulak 6.25 276 Pg **Pb** 22 20 15.3 +3.1
3.4nm,0.3s
KOTS Lg Lg 22 21 41.4
21nm,0.6s
MDOK Medeo 6.29 275 Pn **Pn** 22 19 57.9 +1.6
0.7nm,0.4s
MDOK ⇑Pg **Pg** 22 20 23.6 -0.2
1.5nm,0.5s
MDOK ⇑Lg Lg 22 21 44.0
14nm,0.7s
TNSS Tian-Shan 6.37 274 Pg **Pb** 22 20 17.9 +3.5
2.0nm,0.2s
TNSS Lg Lg 22 21 45.4
2.5nm,0.6s
KTBS Karatobe 6.58 280 Pg **Pb** 22 20 19.1 +1.4
1.6nm,0.3s
KTBS Lg Lg 22 21 47.2
6.2nm,0.8s
IZV Izvestkoviy 6.61 274 Pg Pb 22 20 23.0 +4.5
1.1nm,0.2s
IZV Lg Lg 22 21 54.6
12nm,0.6s
KST Kastek 7.09 275 Pg **Pb** 22 20 29.6 +3.1
0.9nm,0.2s
KST Lg Lg 22 22 06.1
6.2nm,0.6s
KRBS Karabastau 7.30 280 Pg Pb 22 20 34.2 +4.1
1.0nm,0.4s
TKM2 Tokmak 2 7.37 274 ⇓Pn **Pn** 22 20 11.2 +0.2
0.8nm,0.4s
TKM2 ⇑Sn **Sn** 22 21 41.1 +6.4
3.2nm,0.7s
TKM2 ⇑Lg Lg 22 22 16.2
7.7nm,0.7s
AAK Ala-Archa 8.20 272 Pn **Pn** 22 20 21.0 -1.3
0.2nm,0.3s,baz=143,slow=5.5,SNR=2.0
AAK Sn **Sn** 22 21 54.7 -0.4
0.2nm,0.3s,baz=82,slow=7.1,SNR=1.4
AAK Lg Lg 22 22 41.3
0.2nm,0.3s,baz=237,slow=19,SNR=1.5
0.6nm,0.3s
KURBB Kurchatov Arra 9.13 330 ⇓Pn **Pn** 22 20 37.3 +2.3
0.6nm,0.3s
KURBB ⇑Sn **Sn** 22 22 19.7 +1.9
5.8nm,0.7s
KURBB ⇓Lg Lg 22 23 17.1
25nm,0.7s
KURBB Kurchatov Arra 9.13 330 Pn **Pn** 22 20 34.7 -0.3
0.1nm,0.3s,baz=150,slow=12,SNR=5.0
KURBB Sn **Sn** 22 22 18.6 +0.7
0.1nm,0.3s,baz=71,slow=13,SNR=7.6
KURBB Lg Lg 22 23 14.2
0.1nm,0.3s,baz=140,slow=29,SNR=5.8
0.2nm,0.3s
KURK Kurchatov 9.18 331 ⇑Pn **Pn** 22 20 34.9 -0.7
0.2nm,0.4s
KURK ⇑Sn **Sn** 22 22 19.9 +1.0
2.7nm,0.7s
KURK ⇓Lg Lg 22 23 15.4
8.5nm,0.6s
ZALV Zalesovo Beam 11.08 358 Pn **Pn** 22 21 01.2 -0.4
0.2nm,0.3s,baz=174,slow=14,SNR=2.7
ZALV Sn **Sn** 22 23 03.4 -2.0
0.6nm,0.3s,baz=176,slow=25,SNR=8.3
ZALV Lg Lg 22 24 17.7
baz=171,slow=27
0.4nm,0.3s
BVAR Borovoye Array 14.36 320 Pn **Pn** 22 21 44.3 -2.1
baz=128,slow=9.4,SNR=1.6
BVAR Lg Lg 22 25 58.6
baz=127,slow=24,SNR=1.9
0.2nm,0.5s
SONM Songino Array 15.40 64 Pn **P** 22 22 02.9 -2.3
0.2nm,0.3s,baz=251,slow=12,SNR=13
1.6nm,0.6s
KSRS Korea Array 32.52 85 P **P** 22 24 55.0 +1.0
0.7nm,0.5s,baz=301,slow=9.5,SNR=2.6
0.7nm,0.5s
KEST Kesra 57.58 291 LR LR 22 59 40.5
comp=Z,142nm,18.9s,baz=288,slow=43
YKA Yellowknife Ar 73.71 10 LR LR 23 04 54.0

comp=Z,39nm,19.5s,baz=306,slow=38

TAP ***11*** *22:19:05.4,21.°19N×121.°99E,h181km±1km,ML3.9,D*
ISC 11 22:19:04.5±1.7,**21.°16N**±0.°04×**121.°99E**±0.°07,**h175**km±9km,
n106,σ1§**28**/186,**1C-2D,Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBP	**Basco**	**0.72**	**182**	‖*eP*	Pn	22 19 23.8	-6.0
BBP				*i* S	**Sn**	**22 19 47.2**	**-2.1**
LYUB	**Lan-yu**	**0.91**	**336**	P	**Pn**	**22 19 32.0**	**+0.9**
	baz=334						
LYUB				S	**Sn**	**22 19 51.7**	**0.0**
	baz=334						
LAY	**Lan-yu**	**0.96**	**335**	*eP*	**Pn**	**22 19 32.1**	**+0.6**
	baz=334						
LAY				S	**Sn**	**22 19 52.7**	**+0.3**
	baz=334						
TWKBT	**Hengchun**	**1.34**	**306**	P	**Pn**	**22 19 36.0**	**+1.5**
	baz=304						
TWKBT				*eS*	**Sn**	**22 19 57.6**	**-0.1**
	baz=304						
TWK1	**Hengchun**	**1.34**	**305**	P	**Pn**	**22 19 36.1**	**+1.6**
	baz=304						
TWK1				*eS*	**Sn**	**22 19 57.5**	**-0.3**
	baz=304						
SMST	**Manzhou Townsh**	**1.37**	**309**	*eP*	**Pn**	**22 19 36.0**	**+1.2**
	baz=307						
SMST				*eS*	**Sn**	**22 19 57.8**	**-0.4**
	baz=307						
HEN	**Hengchun**	**1.43**	**306**	P	**Pn**	**22 19 36.9**	**+1.6**
	baz=304						
HEN				*eS*	**Sn**	**22 19 59.0**	**-0.3**
	baz=304						
SLIU	**Shizi**	**1.52**	**314**	*i* P	**Pn**	**22 19 37.5**	**+1.2**
	baz=312						
SLIU				S	**Sn**	**22 20 00.9**	**0.0**
	baz=312						
TAWH	**Dawu Township**	**1.55**	**319**	*eP*	**Pn**	**22 19 37.3**	**+0.8**
	baz=318						
TAWH				*eS*	**Sn**	**22 20 00.2**	**-1.2**
	baz=318						
TAW	**Tawu**	**1.56**	**320**	*i* P	**Pn**	**22 19 37.3**	**+0.7**
	baz=318						
TAW				*eS*	**Sn**	**22 19 59.6**	**-2.0**
	baz=318						
LDUT	**Ludao**	**1.58**	**342**	P	**Pn**	**22 19 36.8**	**0.0**
	baz=341						
LDUT				*eS*	**Sn**	**22 20 00.8**	**-1.1**
	baz=341						
EAST	**Anshuo**	**1.61**	**319**	P	**Pn**	**22 19 38.0**	**+0.9**
	baz=318						
EAST				*eS*	**Sn**	**22 20 00.9**	**-1.6**
	baz=318						
ECL	**Taimali**	**1.72**	**326**	*eP*	**Pn**	**22 19 38.5**	**+0.3**
	baz=325						
ECL				*eS*	**Sn**	**22 20 02.1**	**-2.3**
	baz=325						
SCZT	**Fangliau**	**1.75**	**314**	P	**Pn**	**22 19 39.6**	**+1.1**
	baz=312						
SCZT				S	**Sn**	**22 20 04.5**	**-0.4**
	baz=312						
TWGBT	**Beinan**	**1.85**	**333**	*eP*	**Pn**	**22 19 40.0**	**+0.4**
	baz=332						
TWGBT				*eS*	**Sn**	**22 20 05.3**	**-1.5**
	baz=332						
TWG	**Pinlang**	**1.85**	**333**	*eP*	**Pn**	**22 19 40.0**	**+0.4**
	baz=332						
TWG				*eS*	**Sn**	**22 20 05.3**	**-1.7**
	baz=332						
EDH	**Donghe**	**1.91**	**341**	*eP*	**Pn**	**22 19 39.6**	**-0.6**
	baz=340						
EDH				*eS*	**Sn**	**22 20 05.8**	**-2.2**
	baz=340						
LONT	**Longtian**	**1.91**	**336**	P	**Pn**	**22 19 40.6**	**+0.4**
	baz=334						
LONT				*eS*	**Sn**	**22 20 05.4**	**-2.6**
	baz=334						
MASBT	**Mashibuluo**	**1.91**	**319**	P	**Pn**	**22 19 41.4**	**+1.1**
	baz=318						
MASBT				*eS*	**Sn**	**22 20 06.5**	**-1.6**
	baz=318						
TWP	**Hsiaoliuchiu**	**1.91**	**308**	P	**Pn**	**22 19 43.0**	**+2.7**
	baz=307						
CHKT	**Chengkung**	**2.01**	**344**	*eP*	**Pn**	**22 19 42.2**	**+0.9**
	baz=343						
CHKT				*eS*	**Sn**	**22 20 08.9**	**-1.1**
	baz=343						
SSD	**Sandimen**	**2.02**	**322**	P	**Pn**	**22 19 42.5**	**+1.2**
	baz=320						
SSD				*eS*	**Sn**	**22 20 09.3**	**-0.7**
	baz=320						
TSPT	**Pingtung City**	**2.04**	**318**	*eP*	**Pn**	**22 19 43.7**	**+2.1**
	baz=316						
TSPT				*eS*	**Sn**	**22 20 12.2**	**+1.6**
	baz=316						
ECS	**Chishang**	**2.05**	**340**	*eP*	**Pn**	**22 19 42.1**	**+0.4**
	baz=339						
ECS				*eS*	**Sn**	**22 20 09.9**	**-0.9**
	baz=339						
CHKH	**Chenggong**	**2.09**	**345**	*eP*	**Pn**	**22 19 42.7**	**+0.5**
	baz=344						
CHKH				*eS*	**Sn**	**22 20 11.2**	**-0.4**
	baz=344						
EHD	**Haiduan**	**2.10**	**340**	*eP*	**Pn**	**22 19 42.4**	**0.0**
	baz=339						
EHD				*eS*	**Sn**	**22 20 09.4**	**-2.5**
	baz=339						
FULB	**Fuli**	**2.12**	**343**	P	**Pn**	**22 19 43.6**	**+1.0**
	baz=342						
FULB				*eS*	**Sn**	**22 20 12.7**	**+0.3**
	baz=342						
SNJT	**Kaohsiung City**	**2.20**	**316**	*eP*	**Pn**	**22 19 45.4**	**+1.9**
	baz=315						
SCST	**Cishan**	**2.20**	**321**	P	**Pn**	**22 19 44.9**	**+1.5**
	baz=320						
SCST				*eS*	**Sn**	**22 20 13.5**	**-0.3**
	baz=320						
SLGT	**Liugui**	**2.21**	**326**	*eP*	**Pn**	**22 19 45.0**	**+1.5**
	baz=325						
SLGT				*eS*	**Sn**	**22 20 13.8**	**-0.1**
	baz=325						
ELDTW	**Lidau**	**2.21**	**336**	*eP*	**Pn**	**22 19 44.0**	**+0.4**
	baz=335						
EYUL	**Yuli**	**2.26**	**344**	*eP*	**Pn**	**22 19 45.5**	**+1.4**
	baz=343						
EYUL				*eS*	**Sn**	**22 20 13.8**	**-1.2**
	baz=343						
TWF1	**Yuli**	**2.27**	**344**	*eP*	**Pn**	**22 19 44.8**	**+0.5**
	baz=343						
TWF1				*eS*	**Sn**	**22 20 13.3**	**-2.0**
	baz=343						
STYH	**Taoyuan**	**2.29**	**331**	P	**Pn**	**22 19 45.4**	**+0.9**
	baz=330						
STYH				*eS*	**Sn**	**22 20 14.6**	**-1.0**
	baz=330						
STYT	**Tauyuan**	**2.29**	**330**	P	**Pn**	**22 19 45.6**	**+1.1**
	baz=329						
STYT				*eS*	**Sn**	**22 20 14.6**	**-1.2**
	baz=329						
YULB	**Yu-li**	**2.31**	**344**	*eP*	**Pn**	**22 19 45.2**	**+0.5**
	baz=343						
YULB				*eS*	**Sn**	**22 20 14.3**	**-1.7**
	baz=343						
SGST	**Jiashian**	**2.31**	**326**	*eP*	**Pn**	**22 19 44.9**	**+0.2**
	baz=325						
SGST				*eS*	**Sn**	**22 20 14.6**	**-1.4**
	baz=325						
HGSD	**Ruisui**	**2.38**	**347**	*eP*	**Pn**	**22 19 45.8**	**+0.4**
	baz=347						
SHHT	**Tainan City**	**2.39**	**321**	P	**Pn**	**22 19 47.9**	**+2.3**
	baz=320						
SHHT				*eS*	**Sn**	**22 20 18.6**	**+0.9**
	baz=320						
EHY	**Hungye**	**2.41**	**345**	*eP*	**Pn**	**22 19 46.6**	**+0.8**
	baz=345						
EHY				*eS*	**Sn**	**22 20 16.1**	**-2.1**
	baz=345						
CHN1	**Nanshi**	**2.42**	**326**	P	**Pn**	**22 19 47.1**	**+1.0**
	baz=325						
CHN1				*eS*	**Sn**	**22 20 17.2**	**-1.2**
	baz=325						
CHN3	**Shinhua**	**2.42**	**322**	*eP*	**Pn**	**22 19 48.9**	**+2.9**
	baz=321						
CHN3				*eS*	**Sn**	**22 20 19.6**	**+1.3**
	baz=321						
WTP	**Ta-pu**	**2.43**	**329**	P	**Pn**	**22 19 46.9**	**+0.8**
	baz=328						
WTP				*eS*	**Sn**	**22 20 17.7**	**-0.9**
	baz=328						
TAI	**Tainan**	**2.46**	**318**	P	**Pn**	**22 19 48.2**	**+1.7**
	baz=317						
TAI				*eS*	**Sn**	**22 20 19.4**	**+0.3**
	baz=317						
SNST	**Tainan City**	**2.47**	**326**	*eP*	**Pn**	**22 19 47.3**	**+0.8**
	baz=325						
TPUB	**Ta-pu**	**2.47**	**330**	‖*iP*	**Pn**	**22 19 47.5**	**+0.9**
	baz=328						
TPUB				S	**Sn**	**22 20 17.8**	**-1.5**
	baz=328						
TWK	**Hsinying**	**2.51**	**327**	P	**Pn**	**22 19 47.8**	**+0.8**
	baz=326						
TWK				*eS*	**Sn**	**22 20 19.3**	**-1.0**
	baz=326						
CHN4	**Tsaushan**	**2.53**	**330**	P	**Pn**	**22 19 48.2**	**+0.9**
	baz=328						
CHN4				*eS*	**Sn**	**22 20 19.5**	**-1.1**
	baz=328						
EGFH	**Guangfu**	**2.55**	**348**	*eP*	**Pn**	**22 19 47.2**	**-0.2**
	baz=348						
ALS	**Alishan**	**2.58**	**335**	P	**Pn**	**22 19 49.1**	**+1.0**
	baz=334						
ALS				S	**Sn**	**22 20 21.9**	**-0.2**
	baz=334						
SCLT	**Jiali**	**2.60**	**321**	*eP*	**Pn**	**22 19 48.0**	**0.0**
	baz=319						
SCLT				*eS*	**Sn**	**22 20 21.7**	**-0.3**
	baz=319						
WCKO	**Fanlu**	**2.60**	**331**	P	**Pn**	**22 19 47.8**	**-0.3**
	baz=330						
WCKO				*eS*	**Sn**	**22 20 19.2**	**-2.9**
	baz=330						
WARBT	**Fenglin Townsh**	**2.60**	**348**	*eP*	**Pn**	**22 19 48.4**	**+0.3**
	baz=347						
WARBT				*eS*	**Sn**	**22 20 19.9**	**-2.3**
	baz=347						
SHUL	**Shoufeng**	**2.64**	**352**	*eP*	**Pn**	**22 19 50.1**	**+1.6**
	baz=351						
TSCK	**Chigu Township**	**2.65**	**319**	P	**Pn**	**22 19 49.8**	**+1.2**
	baz=317						
TSCK				S	**Sn**	**22 20 21.9**	**-1.0**
	baz=317						
ESL	**Shilin**	**2.69**	**349**	*eP*	**Pn**	**22 19 50.0**	**+0.8**
	baz=348						
ESL				*eS*	**Sn**	**22 20 22.7**	**-1.2**
	baz=348						
VWDT	**VWDT**	**2.69**	**343**	P	**Pn**	**22 19 51.1**	**+1.9**
	baz=342						
VWDT				*eS*	**Sn**	**22 20 23.8**	**-0.2**
	baz=342						
ICHU	**Yijhu**	**2.70**	**324**	P	**Pn**	**22 19 50.2**	**+1.0**
	baz=323						
ICHU				*eS*	**Sn**	**22 20 24.1**	**0.0**
	baz=323						
CHN5	**Tsauling**	**2.71**	**334**	P	**Pn**	**22 19 50.2**	**+0.7**
	baz=333						
CHN5				*eS*	**Sn**	**22 20 23.8**	**-0.7**
	baz=333						
CHN8	**Yiju**	**2.72**	**323**	*eP*	**Pn**	**22 19 50.2**	**+0.7**
	baz=322						
CHN8				*eS*	**Sn**	**22 20 24.2**	**-0.4**
	baz=322						
WHYT	**Xinyi Township**	**2.73**	**338**	P	**Pn**	**22 19 50.3**	**+0.6**
	baz=337						
WHYT				*eS*	**Sn**	**22 20 23.8**	**-1.1**
	baz=337						
SSLB	**Suanglung**	**2.78**	**340**	P	**Pn**	**22 19 51.1**	**+0.8**
	baz=339						
SSLB				*eS*	**Sn**	**22 20 24.8**	**-1.2**
	baz=339						
ETM	**Tongmen**	**2.83**	**351**	*eP*	**Pn**	**22 19 52.2**	**+1.5**
	baz=350						
ETM				*eS*	**Sn**	**22 20 26.6**	**-0.4**
	baz=350						
WDLH	**Douliu**	**2.85**	**332**	*eP*	**Pn**	**22 19 51.6**	**+0.5**
	baz=331						
WDLH				*eS*	**Sn**	**22 20 26.2**	**-1.2**
	baz=331						
WSL	**Shuilin Townsh**	**2.86**	**326**	*eP*	**Pn**	**22 19 51.7**	**+0.6**
	baz=324						
WSL				*eS*	**Sn**	**22 20 26.3**	**-1.2**
	baz=324						
OWD	**Renai**	**2.88**	**345**	*eP*	**Pn**	**22 19 53.3**	**+1.7**
	baz=344						
SMLT	**Sun Moon Lake**	**2.89**	**340**	*eP*	**Pn**	**22 19 52.5**	**+0.9**
	baz=339						
SMLT				*eS*	**Sn**	**22 20 26.8**	**-1.6**
	baz=339						
LXIB	**Xiulin Townshi**	**2.89**	**350**	P	**Pn**	**22 19 52.4**	**+0.7**
	baz=349						
LXIB				*eS*	**Sn**	**22 20 27.9**	**-0.7**
	baz=349						
WTK	**Tuku**	**2.92**	**330**	P	**Pn**	**22 19 52.2**	**+0.4**
	baz=329						
WTK				*eS*	**Sn**	**22 20 27.6**	**-1.2**
	baz=329						
TYC	**Yuchr**	**2.92**	**339**	*eP*	**Pn**	**22 19 53.0**	**+1.1**
	baz=338						
TYC				*eS*	**Sn**	**22 20 27.8**	**-1.1**
	baz=338						
WUSB	**Renai**	**2.93**	**344**	*eP*	**Pn**	**22 19 53.4**	**+1.2**
	baz=343						
WUSB				*eS*	**Sn**	**22 20 29.6**	**+0.3**
	baz=343						
WNT	**Mingjian**	**2.96**	**336**	P	**Pn**	**22 19 53.6**	**+1.2**
	baz=335						
WNT				S	**Sn**	**22 20 29.3**	**-0.5**
	baz=335						
CHGB	**Renai**	**2.98**	**346**	*eP*	**Pn**	**22 19 54.5**	**+1.6**
	baz=345						
CHGB				*eS*	**Sn**	**22 20 30.9**	**+0.3**
	baz=345						
WDGT	**Dungji**	**3.00**	**315**	P	**Pn**	**22 19 53.5**	**+0.7**
	baz=313						
WDGT				S	**Sn**	**22 20 29.0**	**-1.6**
	baz=313						
NACB	**Ninganchiao**	**3.02**	**353**	*eP*	**Pn**	**22 19 54.2**	**+1.1**
	baz=352						
NACB				*eS*	**Sn**	**22 20 29.0**	**-2.1**
	baz=352						
WHF	**Hehuan Shan**	**3.04**	**348**	*eP*	**Pn**	**22 19 55.5**	**+1.7**
	baz=347						
WHF				*eS*	**Sn**	**22 20 32.0**	**-0.3**
	baz=347						
WCS	**Beigang Elemen**	**3.05**	**341**	*eP*	**Pn**	**22 19 54.5**	**+1.0**
	baz=340						
WCS				*eS*	**Sn**	**22 20 31.1**	**-0.6**
	baz=340						
PIP	**Pasuquin**	**3.10**	**205**	‖*eP*	**Pn**	**22 19 55.3**	**+1.1**
PIP				*eS*	**Sn**	**22 20 31.1**	**-1.9**
WRL	**Guolierlin Hig**	**3.10**	**332**	P	**Pn**	**22 19 54.4**	**+0.2**
	baz=331						
WRL				*eS*	**Sn**	**22 20 31.6**	**-1.4**
	baz=331						
VCHM	**Qimei**	**3.12**	**311**	*eP*	**Pn**	**22 19 54.8**	**+0.4**
	baz=310						
VCHM				*eS*	**Sn**	**22 20 31.7**	**-1.6**
	baz=310						
TDCB	**Techi**	**3.17**	**346**	*eP*	**Pn**	**22 19 55.8**	**+0.7**
	baz=345						
WCHH	**Zhanghua**	**3.19**	**336**	*eP*	**Pn**	**22 19 56.2**	**+1.1**
	baz=335						
WCHH				*eS*	**Sn**	**22 20 34.8**	**0.0**
	baz=335						
TCU	**Taichung**	**3.21**	**338**	*eP*	**Pn**	**22 19 55.6**	**+0.1**
	baz=337						
PHUB	**P'eng-hu**	**3.23**	**317**	P	**Pn**	**22 19 56.3**	**+0.6**
	baz=315						
PHUB				S	**Sn**	**22 20 33.6**	**-2.2**
	baz=315						
WHP	**Taichung City**	**3.25**	**343**	P	**Pn**	**22 19 57.4**	**+1.4**
	baz=342						
WHP				*eS*	**Sn**	**22 20 36.7**	**+0.4**
	baz=342						
PNG	**Penghu**	**3.28**	**317**	*eP*	**Pn**	**22 19 56.9**	**+0.6**
	baz=316						
PNG				*eS*	**Sn**	**22 20 35.0**	**-1.9**
	baz=316						
NNSB	**Datong**	**3.30**	**350**	*eP*	**Pn**	**22 19 58.3**	**+1.6**
	baz=350						
NNSB				*eS*	**Sn**	**22 20 37.9**	**+0.4**
	baz=350						
NNS	**Nan Shan**	**3.31**	**350**	*eP*	**Pn**	**22 19 58.6**	**+1.8**
	baz=350						
TWQ1	**Liyutan**	**3.36**	**341**	*eP*	**Pn**	**22 19 58.8**	**+1.4**
	baz=340						
TWQ1				*eS*	**Sn**	**22 20 39.6**	**+0.9**
	baz=340						
LATG	**Datong**	**3.38**	**353**	*eP*	**Pn**	**22 19 59.7**	**+2.0**
	baz=352						
ENTT	**Nioudou**	**3.48**	**354**	*eP*	**Pn**	**22 20 01.8**	**+2.9**
	baz=353						
YHNB	**Yeheng**	**3.54**	**351**	*eP*	**Pn**	**22 20 01.7**	**+2.1**
	baz=350						
NFF	**Wufeng Townshi**	**3.54**	**347**	*eP*	**Pn**	**22 20 00.8**	**+1.1**
	baz=346						
NSK	**Sanguang**	**3.54**	**351**	*eP*	**Pn**	**22 20 00.3**	**+0.6**
	baz=350						
NSTT	**Nanjuang**	**3.57**	**345**	*eP*	**Pn**	**22 20 00.4**	**+0.5**
	baz=345						
LIOB	**Emei**	**3.58**	**346**	*eP*	**Pn**	**22 20 01.1**	**+1.0**
	baz=345						
FUSB	**Fushanzhiwuyua**	**3.60**	**354**	*eP*	**Pn**	**22 20 02.7**	**+2.3**
	baz=353						
NWLT	**Wulai**	**3.62**	**353**	*eP*	**Pn**	**22 20 03.1**	**+2.4**
	baz=352						
TIPB	**Shuangxi**	**3.79**	**358**	*eP*	**Pn**	**22 20 04.5**	**+1.7**
	baz=357						
VWUC	**VWUC**	**4.47**	**329**	P	**Pn**	**22 20 11.8**	**+0.4**
	baz=328						
VWUC				*eS*	**Sn**	**22 21 01.4**	**-2.5**
	baz=328						
KNM	**Kinmen**	**4.61**	**315**	*eP*	**Pn**	**22 20 15.3**	**+2.1**
	baz=313						
KNMB	**Chin-men Tao**	**4.67**	**315**	*eP*	**Pn**	**22 20 14.4**	**+0.4**
	baz=314						
KNMB				*eS*	**Sn**	**22 21 07.0**	**-1.6**
	baz=314						
PTMZ	**Houxiangcun**	**4.67**	**326**	*eP*	**Pn**	**22 20 14.8**	**+0.7**
	baz=325						
PTMZ				*eS*	**Sn**	**22 21 06.6**	**-2.0**
	baz=325						
MATB	**Ma-tsu**	**5.31**	**340**	P	**Pn**	**22 20 22.4**	**+0.1**
	baz=338						
MHZQ	**Yeshan**	**5.61**	**332**	*eP*	**Pn**	**22 20 26.9**	**+0.6**
	baz=330						
LYJJ	**Jianjiangzhen**	**5.74**	**340**	*eP*	**Pn**	**22 20 28.1**	**+0.2**
	baz=339						

DJA ***11*** *22:25:22.3±0.6,7.°S±5.°×12.°7E±.°,h423km±11km,M4.5/11, mb4.2/7,mB5.1/2,MLv4.6/11,Mw(mB)4.4/2*
IDC ***11*** *22:25:23.5±1.6,6.°57S×127.°42E,h406km±20km,mb3.3/9, mbtmp4.2/14,Error ellipse: s-maj=21.7km s-min=10.3km az=68.0*
NEIC ***11*** *22:25:24.1±1.1,6.°55S±0.°09×127.°45E±0.°08,h401km±7km, mb4.2/11,Error ellipse: s-maj=12.9km s-min=11.2km az=159.0*
ISC 11 22:25:23.5±0.5,**6.°61S**±0.°06×**127.°43E**±0.°06,**h408**km,**n52,**
σ1§**15**/58,**mb3.6**/10,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.22**	**50**	P	**P**	**22 26 28.4**	**-0.7**
SAUI	**Saumlaki**	**4.07**	**110**		**P**	**22 26 34.6**	**-2.0**
SAUI					**S**	**22 27 35.9**	**-0.2**
SAUI	**Saumlaki**	**4.07**	**110**	P	**P**	**22 26 37.2**	**+0.6**
SAUI				S	**S**	**22 27 37.3**	**+1.1**
SOEI	**Soe**	**4.42**	**225**	P	**P**	**22 26 40.4**	**+0.4**
SOEI	**Soe**	**4.42**	**225**		**P**	**22 26 40.5**	**+0.5**
SOEI					**S**	**22 27 40.8**	**-1.7**
SOEI	**Soe**	**4.42**	**225**	P	**P**	**22 26 40.0**	**0.0**
BBSI	**Bau Bau**	**4.96**	**283**	P	**P**	**22 26 46.2**	**+0.9**
BATI	**Baumata**	**5.16**	**226**	P	**P**	**22 26 48.2**	**+0.9**
	187nm,0.5s,baz=139,slow=1.3,SNR=42						
BATI				S	**S**	**22 27 54.8**	**-1.1**
	168nm,0.6s,baz=333,slow=18,SNR=14						
BATI	**Baumata**	**5.16**	**226**	P	**P**	**22 26 48.0**	**+0.7**
	212nm,0.6s,3µm1.0nm						
MMRI	**Maumere**	**5.52**	**248**	Pn	**P**	**22 26 50.2**	**-0.9**
FAKI	**Fak Fak**	**6.04**	**53**		**P**	**22 26 55.9**	**-0.7**
FAKI	**Fak Fak**	**6.04**	**53**	P	**P**	**22 26 56.0**	**-0.7**
	35nm,1.2s,0.3nm						
EDFI	**Ende, Flores**	**6.07**	**249**	P	**P**	**22 26 55.8**	**-1.2**
	17nm,1.2s,0.1nm						
DRS	**Darwin Rock St**	**6.72**	**150**	P	**P**	**22 27 05.8**	**+1.1**
KMPI	**Kaimana, Papua**	**6.90**	**65**	P	**P**	**22 27 05.3**	**-1.5**
	127nm,0.7s,0.5nm						
MTN	**Manton Dam**	**7.18**	**150**	P	**P**	**22 27 10.9**	**+1.1**
MTN	**Manton Dam**	**7.18**	**150**		**P**	**22 27 10.4**	**+0.5**
BKSI	**Bulukumba**	**7.38**	**280**	P	**P**	**22 27 11.4**	**-0.6**
	22nm,0.7s,0.1nm						
KAPI	**Kappang**	**7.80**	**281**	P	**P**	**22 27 17.9**	**+1.2**
KAPI	**Kappang**	**7.80**	**281**	P	**P**	**22 27 17.2**	**+0.5**
KAPI	**Kappang**	**7.80**	**281**	P	**P**	**22 27 16.8**	**+0.1**
	21nm,0.6s,baz=98,slow=4.7,SNR=13						
KDU	**Kakadu**	**7.82**	**141**	P	**P**	**22 27 17.6**	**+0.8**
PLAI	**Plampang**	**9.81**	**256**	P	**P**	**22 27 35.8**	**-3.1**
TOLI2	**Tolitoli**	**10.14**	**319**		**P**	**22 27 42.9**	**+0.3**
FITZ	**Fitzroy Crossi**	**11.55**	**189**	P	**P**	**22 27 59.4**	**+1.3**
WB0	**Warramunga Arr**	**14.72**	**153**	P	**P**	**22 28 33.5**	**+0.8**
WRA	**Warramunga Arr**	**14.85**	**154**	P	**P**	**22 28 34.0**	**-0.2**
WRA	**Warramunga Arr**	**14.85**	**154**	P	**P**	**22 28 35.0**	**+0.8**
	8.2nm,0.6s,baz=330,slow=11,SNR=64						
WRA				S	**S**	**22 31 08.5**	**-3.5**
	5.6nm,0.6s,baz=330,slow=20,SNR=12						
WB2	**Warramunga Arr**	**14.86**	**154**	P	**P**	**22 28 35.1**	**+0.9**
WR0	**Warramunga Arr**	**14.96**	**153**	P	**P**	**22 28 36.3**	**+1.0**
WR0				IAmb	IAmb	22 28 36.8	
	comp=Z,13nm,0.6s						
MBWA	**Marble Bar**	**16.27**	**207**	P	**P**	**22 28 49.8**	**+0.4**
MBWA				IAmb	IAmb	22 29 00.9	
	comp=Z,23nm,1.1s						
PSA00	**Pilbara Seismi**	**16.58**	**205**	P	**P**	**22 28 51.8**	**-0.9**
PSA00				IAmb	IAmb	22 29 35.4	
	comp=Z,19nm,1.1s						
COEN	**Coen**	**17.12**	**116**	P	**P**	**22 28 59.4**	**+0.9**
COEN				IAmb	IAmb	22 29 06.4	
	comp=Z,21nm,1.2s						
SBUM	**Sibu**	**17.65**	**300**	P	**P**	**22 29 05.0**	**+0.8**
SBUM				IAmb	IAmb	22 29 07.9	
	comp=Z,3.6nm,0.6s						
AS31	**Alice Springs**	**18.06**	**161**	P	**P**	**22 29 09.9**	**+1.5**
AS31				IAmb	IAmb	22 29 17.0	
	comp=Z,1.8nm,0.3s						
ASAR	**Alice Springs**	**18.06**	**161**	P	**P**	**22 29 09.8**	**+1.4**
ASAR	**Alice Springs**	**18.06**	**161**	P	**P**	**22 29 09.5**	**+1.1**
	comp=Z,1.9nm,0.4s,baz=343,slow=12,SNR=27						
ASAR				S	**S**	**22 32 15.5**	**+1.3**
	comp=Z,1.9nm,0.5s,baz=347,slow=22,SNR=4.6						
LEM	**Lembang**	**19.68**	**268**	P	**P**	**22 29 26.7**	**+1.9**
	comp=Z,14nm,0.4s,baz=160,slow=16,SNR=3.6						
GIRL	**Giralia**	**20.39**	**217**	P	**P**	**22 29 32.4**	**+1.4**
BBOO	**Buckleboo**	**27.27**	**164**	P	**P**	**22 30 33.9**	**+1.2**
STKA	**Stephens Creek**	**28.40**	**154**	P	**P**	**22 30 43.1**	**+0.4**
STKA	**Stephens Creek**	**28.40**	**154**	P	**P**	**22 30 43.5**	**+0.8**
	comp=Z,1.7nm,0.4s,baz=318,slow=6.7,SNR=5.4						
	comp=Z,1.7nm,0.4s						
KULM	**Kulim**	**29.23**	**293**	P	**P**	**22 30 50.7**	**+0.5**
KULM				IAmb	IAmb	22 30 51.7	
	comp=Z,5.5nm,1.0s						
CMAR	**Chiang Mai Arr**	**37.55**	**312**	P	**P**	**22 32 00.9**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=135,slow=7.3,SNR=6.3						
	comp=Z,0.7nm,0.3s						
KSRS	**Korea Array**	**43.84**	**1**	P	**P**	**22 32 51.3**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=171,slow=9.5,SNR=6.4						
	comp=Z,0.9nm,0.7s						
MJAR	**Matsushiro Arr**	**44.10**	**12**	P	**P**	**22 32 52.5**	**-1.1**
	comp=Z,2.5nm,0.8s,baz=187,slow=9.2,SNR=7.8						
	comp=Z,2.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**50.74**	**4**	P	**P**	**22 33 44.0**	**+0.3**
	comp=Z,1.7nm,0.5s,baz=202,slow=9.1,SNR=5.5						
	comp=Z,1.7nm,0.5s						
PETK	**Petropavlovsk-**	**64.79**	**20**	P	**P**	**22 35 20.5**	**+0

HVO 11 22:51:28.0±0.8, 19°36N±0°02×155°13W±0°01, h8km±2km, ML3.1/32, ML3.1/36(NEIC), Error ellipse: s-maj=3.6km s-min=1.2km az=156.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.03**	**3**	Pg	Pg	22 51 29.6	0.0
STCH					Sg	22 51 31.4	+0.6
STCH				IAML		22 51 31.5	
	comp=E,16μm,0.2s						
STCH				IAML		22 51 31.6	
	comp=N,21μm,0.5s						
JCUZ	**Jacuzzi**	**0.04**	**39**	Pg	Pg	22 51 29.9	+0.2
JCUZ					Sg	22 51 30.7	-0.1
JCUZ				IAML		22 51 31.9	
	comp=E,11μm,0.2s						
NPOC	**North of Pu'u**	**0.04**	**23**	Pg	Pg	22 51 29.9	+0.1
NPOC				Sg	Sg	22 51 31.4	+0.5
NPOC				IAML		22 51 31.7	
	comp=E,17μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.05**	**301**		Pg	22 51 30.2	+0.4
PUH	**Pauahi**	**0.09**	**282**	Pg	Pg	22 51 30.6	+0.3
PUH				IAML		22 51 32.5	
	comp=E,6μm,0.2s						
PUH				IAML		22 51 32.6	
	comp=N,9μm,0.8s						
BYL	**Byron's Ledge**	**0.14**	**294**		Pg	22 51 31.1	+0.1
BYL					Sg	22 51 33.9	+0.8
BYL				IAML		22 51 34.1	
	comp=N,8μm,0.4s						
JOKA	**Jonika Flow**	**0.14**	**56**		Pg	22 51 31.2	+0.2
JOKA					Sg	22 51 33.4	+0.3
HATHI	**Halema'uma'u T**	**0.14**	**298**		Pg	22 51 31.2	0.0
HATHI	**Halema'uma'u T**	**0.14**	**298**		Sg	22 51 33.9	+0.6
RSD	**Rainshed**	**0.18**	**307**	Pg	Pg	22 51 31.8	0.0
RSD					Sg	22 51 34.5	+0.2
RSD				IAML		22 51 35.5	
	comp=N,4μm,2.1s						
RSD				IAML		22 51 36.0	
	comp=E,3μm,0.3s						
HLP	**Hilina Pali**	**0.18**	**251**		Sg	22 51 35.1	+0.8
HLP	**Hilina Pali**	**0.18**	**251**	IAML		22 51 35.7	
	comp=E,4μm,0.2s						
HLP				IAML		22 51 37.3	
	comp=N,3μm,0.8s						
MLH	**Mauna Loa**	**0.28**	**299**		Pg	22 51 33.7	0.0
MLH					Sb	22 51 39.0	-1.5
HMH	**Humu'ula Sheep**	**0.42**	**306**		Pg	22 51 36.4	+0.2
HMH	**Humu'ula Sheep**	**0.42**	**306**	IAML		22 51 43.6	
	comp=N,3μm,0.2s						
HMH				IAML		22 51 43.6	
	comp=E,5μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.46**	**293**	IAML		22 51 44.7	
	comp=N,2μm,0.4s						
MWH	**Moku'aweowe**	**0.46**	**286**	IAML		22 51 44.9	
	comp=N,2μm,0.6s						
MWH				IAML		22 51 45.0	
	comp=E,2μm,0.6s						
KHU	**Kahuku**	**0.47**	**257**	IAML		22 51 50.0	
	comp=N,1μm,0.6s						
POHA	**Pohakuloa**	**0.55**	**316**		Pg	22 51 38.6	-0.2
POHA				IAML		22 51 48.0	
	comp=N,2μm,0.3s						
POHA				IAML		22 51 48.7	
	comp=N,1μm,0.3s						
HUH	**Hualalai**	**0.74**	**296**		Pb	22 51 43.4	-0.1
HPAH	**Hawaii Prepara**	**0.86**	**321**	Pg	Pg	22 51 42.5	-2.1
HPAH				IAML		22 51 56.5	
	comp=E,467nm,0.3s						

NEIC 11 22:54:37.8±2.7, 54°25S±0°02×70°81W±0°08, h10km±2km, ML3.9/14, Error ellipse: s-maj=7.7km s-min=3.8km az=266.0
GUC 11 22:54:41.0±0.8, 54°12S×70°28W, h15km±5km, ML3.7
ISC 11 22:54:38.5±1.4, 54°21S±0°06×70°46W±0°07, h17km±9km, n16, σ0°978/24, 4C-1D, Tierra del Fuego

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MG03	**Isla Dawson**	**0.36**	**0**		**Pg**	**22 54 46.4**	**+0.3**
MG03				Sg	**Sg**	**22 54 50.7**	**-0.5**
MG03				IAML		22 54 51.0	
	comp=E,9μm,0.5s						
MG03				IAML		22 54 52.1	
	comp=N,5μm,0.3s						
MG03	**Isla Dawson**	**0.36**	**0**	*e*P	**Pg**	**22 54 46.4**	**+0.3**
MG03				*e*S	**Sg**	**22 54 50.6**	**-0.6**
MG03				IAML		22 54 51.1	
	comp=E,14μm,0.1s						
GO10	**Punta Arenas**	**1.11**	**342**		**Pg**	**22 55 00.6**	**+0.5**
GO10				IAML		22 55 17.7	
	comp=E,3μm,0.5s						
GO10	**Punta Arenas**	**1.11**	**342**	⇑*i*P	**Pg**	**22 55 00.8**	**+0.7**
GO10				*e*S	**Sg**	**22 55 15.1**	**+0.4**
GO10				IAML		22 55 18.5	
	comp=N,4μm,0.4s						
USHA	**Ushuaia**	**1.34**	**119**	*e*P	**Pg**	**22 55 04.6**	**+0.3**
USHA				*e*S	**Sg**	**22 55 22.3**	**+0.6**
MG04	**Isla Riesco**	**1.51**	**334**		**Pn**	**22 55 05.2**	**+0.4**
MG04				IAML		22 55 28.7	
	comp=E,3μm,0.3s						
MG04				IAML		22 55 28.8	
	comp=N,2μm,0.4s						
MG04	**Isla Riesco**	**1.51**	**334**	⇑*i*P	**Pn**	**22 55 05.5**	**+0.8**
MG04				*e*S	**Sg**	**22 55 27.2**	**+0.1**
MG04				IAML		22 55 28.8	
	comp=E,3μm,0.3s						
MG02	**Cerro Sombrero**	**1.61**	**28**		**Pg**	**22 55 09.9**	**+0.4**
MG02				Sn	**Sg**	**22 55 31.3**	**+0.8**
MG02				IAML		22 55 32.5	
	comp=N,1μm,0.4s						
MG02				IAML		22 55 32.9	
	comp=E,1μm,0.8s						
MG02	**Cerro Sombrero**	**1.61**	**28**	*e*P	**Pb**	**22 55 07.4**	**-0.4**
MG02				*e*S	**Sn**	**22 55 27.4**	**+1.0**
MG02				IAML		22 55 33.4	
	comp=E,1000nm,0.3s						
MG01	**Puerto William**	**1.80**	**115**		**Pb**	**22 55 11.1**	**+0.1**
MG01	**Puerto William**	**1.80**	**115**	⇓*i*P	**Pb**	**22 55 11.1**	**+0.1**
MG01				*e*S	**Sg**	**22 55 35.6**	**-0.9**
MG01				IAML		22 55 42.1	
	comp=E,1μm,0.4s						
MG05	**Puerto Natales**	**2.82**	**333**		**Pn**	**22 55 22.2**	**-0.6**
MG05				IAML		22 56 17.8	
	comp=N,191nm,0.8s						
MG05	**Puerto Natales**	**2.82**	**333**	⇑*i*P	**Pn**	**22 55 22.1**	**-0.6**
MG05				IAML		22 56 18.2	
	comp=N,214nm,0.9s						
GO09	**Cerro Castillo**	**3.16**	**338**		**Pn**	**22 55 26.4**	**-1.0**
GO09	**Cerro Castillo**	**3.16**	**338**	⇑*i*P	**Pn**	**22 55 26.4**	**-1.0**
GO08	**Villa O'Higgin**	**5.90**	**346**	Pn	**Pn**	**22 56 03.2**	**-1.9**

BER 11 22:57:38.8±1.7, 71°91N×0°35W, h10km, mb(Pn)3.9
ISC 11 22:57:35.4±1.3, 71°9N±0°1×1°5W±0°1, h10km, n15, σ1°28/16, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBG	**Daneborg**	**5.95**	**303**	*i*P	**Pn**	**22 59 03.8**	**+0.4**
DBG				IAML		22 59 18.5	
	comp=Z,4.7nm,0.4s						
LOF	**Lofoten**	**6.38**	**119**	*e*P	**Pn**	**22 59 09.3**	**0.0**
LOF				IAML		22 59 13.7	
	comp=Z,3.7nm,0.4s						
DAG	**Danmarks Havn** baz=122,slow=16	**6.71**	**325**	*e*	**Pn**	**22 59 12.8**	**-0.9**
DAG				*i*P	**Pn**	**22 59 13.7**	**-0.1**
DAG				*i*S	Sn	23 00 20.3	-10
DAG				IAML		23 00 21.5	
	comp=Z,3.2nm,0.4s						
HSPB	**Hornsund (broa**	**6.84**	**34**	*e*P	**Pn**	**22 59 15.8**	**+0.3**
STEI	**Steigen**	**6.99**	**116**	*e*P	**Pn**	**22 59 16.4**	**-1.2**
STEI				IAML		22 59 17.8	
	comp=Z,17nm,0.4s						
TRO	**Tromso**	**7.11**	**99**	*e*P	**Pn**	**22 59 17.7**	**-1.5**
BRBB	**Barentsburg B**	**7.41**	**26**	*e*P	**Pn**	**22 59 26.1**	**+2.8**
KONS	**Konsvik**	**7.50**	**129**	*e*P	**Pn**	**22 59 23.7**	**-0.8**
KONS				IAML		22 59 24.1	
	comp=Z,3.5nm,0.2s						
JETT	**Jettan, Norway**	**7.60**	**97**	*e*P	**Pn**	**22 59 24.4**	**-1.7**
STOK	**Stokkvaagen**	**7.60**	**130**	*e*P	**Pn**	**22 59 26.3**	**+0.3**
SPA0	**Spitsbergen Ar**	**7.77**	**28**	*e*P	**Pn**	**22 59 30.0**	**+1.6**
SPA0				IAML		22 59 31.0	
	comp=Z,2.3nm,0.2s						
KBS	**Kingsbay**	**7.81**	**19**	*e*P	**Pn**	**22 59 29.1**	**+0.3**
KBS				IAML		22 59 30.4	
	comp=Z,1.7nm,0.6s						
KBS	**Kingsbay**	**7.81**	**19**	*i*P	**Pn**	**22 59 29.0**	**+0.3**
NSS	**Namsos**	**8.91**	**139**	*e*P	**Pn**	**22 59 45.2**	**+1.3**
ARA0	**ARCESS Array S**	**9.20**	**92**	*e*P	**Pn**	**22 59 47.3**	**-0.6**

SJA 11 23:29:08.5±0.7, 32°72S×72°22W, h7km±2km, ML3.9, MW3.8
IDC 11 23:29:10.2±1.5, 32°68S×72°05W, h0km, mbtmp3.6/3, ML4.0/3, Error ellipse: s-maj=60.0km s-min=34.8km az=104.0
NEIC 11 23:29:14.0±1.4, 32°753S±0°008×71°91W±0°05, h23km±6km, mb4.0/3, Mwr3.7/58, Error ellipse: s-maj=6.4km s-min=1.0km az=84.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}4.73; $M_{\theta\theta}$0.17; $M_{\phi\phi}$-4.89; $M_{r\theta}$-0.05; $M_{r\phi}$-1.30; $M_{\theta\phi}$-0.82; Fault plane solution: M_o5.05000×10^{14} NP1:ϕ_s191.70000°, δ49.63000°, λ87.48000°. NP2:ϕ_s15.58000°, δ40.44000°, λ92.96000°. Principal axes: T 4.7983, Plg85.0000°, Azm81.0000°; N 0.4762, Plg2.0000°, Azm193.0000°; P -5.2745, Plg5.0000°, Azm283.0000°;
NEIC 11 23:29:14.2, 32°75S×71°91W, h26km
GUC 11 23:29:15.2±0.7, 32°78S×71°81W, h29km±5km, ML3.6
ISC 11 23:29:10.6±1.4, 32.72S±0°02×72°00W±0°04, h1km±9km, n91, σ1°842/115, 2C-10D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VA01	**Torpederas**	**0.42**	**136**		**Pb**	**23 29 21.7**	**+0.8**
VA01				Sg	**Sb**	**23 29 26.9**	**-0.9**
VA01	**Torpederas**	**0.42**	**136**	⇓*i*P	**Pb**	**23 29 21.8**	**+0.8**
VA01				*e*S	**Sb**	**23 29 26.6**	**-1.2**
VA01				IAML		23 29 27.7	
	comp=E,9μm,0.1s						
VA06	**Catapilco**	**0.61**	**75**		**Pb**	**23 29 24.6**	**+0.5**
VA06					**Sb**	**23 29 31.7**	**-1.5**
VA06	**Catapilco**	**0.61**	**75**	⇓*i*P	**Pb**	**23 29 24.6**	**+0.5**
VA06				*e*S	**Sb**	**23 29 31.9**	**-1.3**
VA06				IAML		23 29 32.4	
	comp=N,21μm,0.4s						
ROC1	**El Roble**	**0.87**	**107**	*i*P	**Pb**	**23 29 28.5**	**-0.1**
ROCH	**El Roble**	**0.87**	**107**	⇓*i*P	**Pb**	**23 29 28.4**	**-0.3**
ROCH				*e*S	**Sg**	**23 29 38.1**	**-0.5**
ROCH				IAML		23 29 43.4	
	comp=N,5μm,0.2s						
MT02	**Curacav**	**0.90**	**127**		**Pg**	**23 29 28.8**	**+0.9**
MT02	**Curacav**	**0.90**	**127**	*i*P	**Pg**	**23 29 28.9**	**+1.0**
MT02				*i*S	**Sn**	**23 29 44.3**	**+0.1**
MT02	**Curacav**	**0.90**	**127**	⇓*i*P	**Pg**	**23 29 28.8**	**+0.9**
MT02				*e*S	**Sg**	**23 29 39.5**	**-0.2**
MT02				IAML		23 29 42.6	
	comp=N,2μm,0.4s						
VA05	**Santo Domingo**	**0.99**	**161**		**Pb**	**23 29 31.1**	**+0.6**
VA05				Sn	**Sb**	**23 29 44.4**	**+0.3**
VA05	**Santo Domingo**	**0.99**	**161**	⇓*i*P	**Pb**	**23 29 31.1**	**+0.6**
VA05				*e*S	**Sg**	**23 29 43.4**	**+1.0**
VA05				IAML		23 29 47.8	
	comp=E,3μm,0.5s						
PEL	**Peldehue**	**1.18**	**111**		**Pb**	**23 29 33.5**	**-0.4**
PEL				Sn	**Sb**	**23 29 48.8**	**-0.9**
PEL	**Peldehue**	**1.18**	**111**	⇑*i*P	**Pb**	**23 29 33.0**	**-0.9**
PEL				*e*S	**Sg**	**23 29 47.0**	**-1.7**
PEL				IAML		23 29 51.4	
	comp=E,5μm,0.3s						
VA03	**San Esteban**	**1.22**	**92**		**Pb**	**23 29 33.8**	**-0.7**
VA03	**San Esteban**	**1.22**	**92**	⇓*i*P	**Pb**	**23 29 33.9**	**-0.7**
VA03				*e*S	**Sg**	**23 29 48.4**	**-1.4**
MT05	**Renca**	**1.25**	**123**		**Pb**	**23 29 35.1**	**0.0**
MT05	**Renca**	**1.25**	**123**	*i*P	**Pn**	**23 29 35.3**	**-0.1**
MT05				*i*S	**Sn**	**23 29 55.6**	**+2.6**
MT05				IAML		23 29 57.8	
	comp=Z,2μm,0.3s						
MT05	**Renca**	**1.25**	**123**	⇓*i*P	**Pb**	**23 29 35.2**	**0.0**
MT05				*e*S	**Sb**	**23 29 49.5**	**-2.3**
MT05				IAML		23 29 56.2	
	comp=E,4μm,0.3s						
MT01	**Popeta**	**1.30**	**151**		**Pn**	**23 29 35.7**	**-0.2**
MT01	**Popeta**	**1.30**	**151**	*i*P	**Pn**	**23 29 34.8**	**-1.1**
MT01				IAML		23 29 55.1	
	comp=Z,1μm,0.5s						
MT01				*i*S	**Sn**	**23 29 55.1**	**+1.1**
MT01	**Popeta**	**1.30**	**151**	⇓*i*P	**Pn**	**23 29 35.7**	**-0.2**
MT01				*e*S	**Sb**	**23 29 51.3**	**-1.9**
MT01				IAML		23 29 56.3	
	comp=E,3μm,0.5s						
MT10	**Hacienda Santa**	**1.35**	**115**	⇓*i*P	**Pn**	**23 29 36.1**	**-0.6**
MT10				*e*S	**Sb**	**23 29 51.6**	**-3.0**
MT09	**Talagante**	**1.35**	**141**		**Pn**	**23 29 35.5**	**-1.3**
MT09	**Talagante**	**1.35**	**141**	⇓*i*P	**Pn**	**23 29 36.5**	**-0.3**
MT09				*e*S	**Sb**	**23 29 52.4**	**-2.3**
MT09				IAML		23 30 00.7	
	comp=N,3μm,0.3s						
MT16	**CCHEN**	**1.43**	**120**		**Pn**	**23 29 37.5**	**-0.2**
BO04	**La Punta**	**1.72**	**138**		**Pn**	**23 29 42.3**	**+0.5**
CO02	**Combarbal**	**1.73**	**30**		**Pn**	**23 29 42.8**	**+0.8**
CO02	**Combarbal**	**1.73**	**30**	*i*P	**Pn**	**23 29 43.0**	**+1.0**
CO02				*i*S	**Sg**	**23 30 08.0**	**+1.6**
CO02				IAML		23 30 11.0	
	comp=Z,2μm,0.2s						
MT13	**San Alfonso**	**1.76**	**126**		**Pn**	**23 29 42.9**	**+0.5**
MT08	**Bocatoma Ro**	**1.81**	**114**		**Pn**	**23 29 43.8**	**+0.5**
BO01	**Tunca**	**1.83**	**156**		**Pn**	**23 29 43.2**	**-0.1**
BO01	**Tunca**	**1.83**	**156**	*i*P	**Pn**	**23 29 43.5**	**+0.2**
BO01				*i*S	**Sg**	**23 30 10.0**	**+0.4**
BO01				IAML		23 30 10.1	
	comp=Z,680nm,0.5s						
CO06	**Fray Jorge**	**2.06**	**9**		**Pn**	**23 29 46.8**	**+0.4**
CO03	**El Pedregal**	**2.18**	**31**		**Pn**	**23 29 49.2**	**+1.1**
CO03	**El Pedregal**	**2.18**	**31**	*i*P	**Pn**	**23 29 49.2**	**+1.1**
CO03				*i*S	**Sb**	**23 30 19.1**	**+0.6**
CO03				IAML		23 30 27.6	
	comp=Z,600nm,0.8s						
GO05	**Huala**	**2.29**	**179**		**Pn**	**23 29 49.5**	**0.0**
GO05	**Huala**	**2.29**	**179**	*i*P	**Pn**	**23 29 49.2**	**-0.3**
GO05				*i*S	**Sn**	**23 30 19.8**	**+1.5**
BO02	**Sierra Bellavi**	**2.30**	**154**		**Pn**	**23 29 50.4**	**+0.6**
BO02	**Sierra Bellavi**	**2.30**	**154**	*i*P	**Pn**	**23 29 50.9**	**+1.1**
BO02				*i*S	**Sb**	**23 30 21.2**	**-0.8**
BO02				IAML		23 30 32.5	
	comp=Z,711nm,0.7s						
RTLS	**Leoncito**	**2.47**	**69**	*i*P	**Pb**	**23 29 55.4**	**-0.6**
RTLS				*i*S	**Sg**	**23 30 29.4**	**-0.6**
RTLS				IAML		23 30 34.4	
	comp=Z,897nm,1.1s						
ARCO	**CERRO ARCO**	**2.59**	**94**	*i*P	**Pb**	**23 29 56.5**	**-1.4**
ARCO				*i*S	**Sb**	**23 30 31.2**	**+0.9**
ARCO				IAML		23 30 31.7	
	comp=Z,410nm,1.4s						
GO04	**Tololo Observa**	**2.74**	**22**		**Pn**	**23 29 56.0**	**+0.1**
GO04	**Tololo Observa**	**2.74**	**22**	*i*P	**Pn**	**23 29 56.9**	**+0.9**
GO04				*i*S	**Sb**	**23 30 32.5**	**-2.3**
CO05	**La Serena**	**2.87**	**13**		**Pn**	**23 29 58.2**	**+0.7**
DOCA	**Reserva Natura**	**3.05**	**55**	*i*P	**Pn**	**23 30 02.5**	**+2.2**
DOCA				*i*S	**Sb**	**23 30 42.5**	**-1.2**
ZON	**Zonda**	**3.05**	**68**		**Pb**	**23 30 03.3**	**-2.5**
ZON	**Zonda**	**3.05**	**68**	*i*P	**Pn**	**23 30 02.8**	**+2.7**
ZON				*i*S	**Sb**	**23 30 42.2**	**-1.4**
ZON				IAML		23 30 51.8	
	comp=Z,213nm,0.3s						
ML02	**Panimavida**	**3.07**	**171**		**Pn**	**23 30 00.9**	**+0.6**
CO01	**Juntas del Tor**	**3.18**	**31**	*i*P	**Pn**	**23 30 03.5**	**+1.4**
CO01				*i*S	**Sb**	**23 30 44.2**	**-3.3**
CO01				IAML		23 30 59.5	
	comp=Z,173nm,0.5s						
ACCO	**Cerro Coronel**	**3.28**	**50**	*i*P	**Pn**	**23 30 06.7**	**+3.2**
ACCO				IAML		23 31 01.1	
	comp=Z,397nm,0.8s						
RTLL	**Cerro Villicun**	**3.30**	**66**	*i*P	**Pn**	**23 30 06.0**	**+2.5**
AROD	**Rodeo**	**3.34**	**41**	*i*P	**Pn**	**23 30 07.0**	**+2.7**
RFA	**San Rafael**	**3.58**	**126**	⇑*i*P	**Pn**	**23 30 09.6**	**+2.2**
RFA				*i*S	**Sb**	**23 30 55.2**	**-3.7**
LCO	**Las Campanas**	**3.86**	**17**		**Pn**	**23 30 12.5**	**+1.1**
LCO	**Las Campanas**	**3.86**	**17**	*i*P	**Pn**	**23 30 12.2**	**+0.8**
LCO				*i*S	**Sn**	**23 30 59.9**	**+2.4**
AC05	**El Transito**	**4.15**	**21**	*i*P	**Pn**	**23 30 16.4**	**+1.2**
AC05				IAML		23 31 30.6	
	comp=Z,139nm,0.8s						
AVFE	**Valle Fertil**	**4.38**	**63**	*i*P	**Pn**	**23 30 21.4**	**+3.0**
AVFE				IAML		23 31 32.6	
	comp=Z,88nm,0.4s						
AGUA	**GUANDACOL**	**4.41**	**44**	*i*P	**Pn**	**23 30 21.3**	**+2.5**
AGUA				IAML		23 31 43.3	
	comp=Z,148nm,0.7s						
AC04	**Llanos de Chal**	**4.57**	**10**		**Pn**	**23 30 21.3**	**+0.4**
AC04	**Llanos de Chal**	**4.57**	**10**	*i*P	**Pn**	**23 30 21.8**	**+0.9**
AC04				IAML		23 31 39.3	
	comp=Z,113nm,1.1s						
VCA	**Vinchina**	**5.14**	**40**	*i*P	**Pn**	**23 30 31.1**	**+2.2**
VCA				*i*S	**Sn**	**23 31 32.7**	**+3.7**
GO03	**Copiap**	**5.33**	**17**	Pn	**Pn**	**23 30 31.6**	**+0.1**
AC06	**Mina Casimiro**	**5.53**	**15**	Pn	**Pn**	**23 30 34.8**	**+0.6**
H03N1	**Juan Fernandez**	**5.85**	**261**	Pn	**Pn**	**23 30 39.8**	**+1.6**
H03N1				T	T	23 37 07.3	
	baz=89,slow=74,SNR=534						
H03N3	**Juan Fernandez**	**5.86**	**261**	Pn	**Pn**	**23 30 39.6**	**+1.3**
H03N3				T	T	23 37 12.6	
	baz=89,slow=74,SNR=809						
H03N2	**Juan Fernandez**	**5.86**	**261**	Pn	**Pn**	**23 30 39.9**	**+1.5**
H03N2				T	T	23 37 26.2	
	baz=89,slow=74,SNR=608						
H03S1	**Juan Fernandez**	**5.89**	**257**	T	T	23 36 59.7	
	baz=82,slow=75,SNR=30						
H03S3	**Juan Fernandez**	**5.89**	**257**	T	T	23 37 05.7	
	baz=82,slow=75,SNR=32						
H03S2	**Juan Fernandez**	**5.91**	**257**	T	T	23 36 58.1	
	baz=82,slow=75,SNR=59						
AC02	**Maricunga**	**6.37**	**24**	Pn	**Pn**	**23 30 46.5**	**+0.3**
AC01	**Pan de Azucar**	**6.66**	**11**	Pn	**Pn**	**23 30 51.9**	**+2.2**
GO06	**Curarrehue**	**6.86**	**177**	Pn	**Pn**	**23 30 51.8**	**-0.7**
PLCA	**Paso Flores**	**8.08**	**172**	Pn	**Pn**	**23 31 09.9**	**+0.7**
PLCA	**Paso Flores**	**8.08**	**172**	Pn	**Pn**	**23 31 10.0**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=346,slow=4.2,SNR=14						
	comp=Z,1.9nm,0.4s						
TRQA	**Tornquist**	**9.76**	**126**	Pn	**Pn**	**23 31 33.2**	**+1.0**
ITQB	**Itaqui**	**13.51**	**81**	Pn	**Pn**	**23 32 23.0**	**-0.4**
CPUP	**Villa Florida**	**14.27**	**67**	Pn	**Pn**	**23 32 34.0**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=241,slow=16,SNR=1.1						
CPUP				Sn	**Sn**	**23 35 13.8**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=235,slow=16,SNR=3.1						
	comp=Z,0.5nm,0.3s						
LPAZ	**La Paz**	**16.73**	**13**	P	**P**	**23 33 08.7**	**-0.6**
LPAZ				IAmb	IAmb	23 33 35.8	
	comp=Z,1.7nm,0.8s						
LPAZ	**La Paz**	**16.73**	**13**	Pn	**Pn**	**23 33 07.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=191,slow=14,SNR=2.4						
	comp=Z,0.6nm,0.4s						
MG05	**Puerto Natales**	**18.95**	**181**	P	**P**	**23 33 30.9**	**-2.1**
MG05				IAmb	IAmb	23 33 35.8	
	comp=Z,35nm,1.4s						
ETMB	**Extrema**	**23.41**	**14**	P	**P**	**23 34 21.2**	**0.0**
ETMB				IAmb	IAmb	23 34 42.0	
	comp=Z,9.0nm,1.5s						
H11S2	**WAKE ISLAND Hyd**	**25.81**	**270**	T	T	02 07 12.2	
	baz=118,slow=75,SNR=26						
H11S1	**WAKE ISLAND Hyd**	**25.83**	**270**	T	T	02 07 12.9	
	baz=118,slow=75,SNR=50						
H11S3	**WAKE ISLAND Hyd**	**25.83**	**270**	T	T	02 07 13.6	
	baz=118,slow=75,SNR=30						
H11N3	**WAKE ISLAND Hyd**	**26.19**	**271**	T	T	02 07 36.2	
	baz=118,slow=74						
H11N1	**WAKE ISLAND Hyd**	**26.21**	**271**	T	T	02 07 39.2	
	baz=118						
H11N2	**WAKE ISLAND Hyd**	**26.21**	**271**	T	T	02 07 38.7	
	baz=118,slow=74						
BVAR	**Borovoye Array**	**146.31**	**42**	PKPbc	**PKPbc**	**23 48 52.4**	**-0.2**
	comp=Z,1.2nm,0.6s,baz=289,slow=4.5,SNR=7.8						
KURBB	**Kurchatov Arra**	**151.91**	**42**	PKPbc	**PKPbc**	**23 49 06.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=306,slow=2.9,SNR=12						
ZALV	**Zalesovo Beam**	**153.12**	**31**	PKPbc	**PKPbc**	**23 49 08.5**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=300,slow=2.8,SNR=5.0						
MKAR	**Makanchi Array**	**155.88**	**47**	PKPab	**PKPab**	**23 49 31.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=326,slow=4.8,SNR=4.1						

VIE 11 23:47:58.9±0.2, 50°23N×12°43E, h10km, mb2.3/2, ml2.5/3, Error ellipse: s-maj=2.7km s-min=1.6km az=66.0
WBNET 11 23:47:59.8, 50°26N×12°44E, h8km, Ml2.1
BGR 11 23:47:59.3±0.2, 50°26N×12°44E, h10km±1km, ML2.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=99.0
PRU 11 23:47:59.4, 50°24N×12°47E, h10km, West Bohemia Swarm
CLL 11 23:48:00.2±0.3, 50°26N×12°44E, h7km±1km, ML2.0
ISC 11 23:47:59.4±0.8, 50°26N±0°01×12°46E±0°02, h10km±3km, n78, σ0°959/145, 12C-12D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.03**	**192**	*e*Pg	**Pg**	**23 48 01.6**	**+0.2**
NKC				*i*Sg	**Sg**	**23 48 02.8**	**0.0**
NKC				IAML		23 48 03.0	
	comp=N,1μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**192**	*e*SG	**Sg**	**23 48 02.4**	**-0.3**
	comp=N,820nm,0.3s						
NKC	**Novy Kostel**	**0.03**	**192**	*e*Pg	**Pg**	**23 48 01.6**	**+0.2**
NKC				*i*Sg	**Sg**	**23 48 02.8**	**0.0**
	comp=N,1μm,0.2s						
NKC	**Novy Kostel**	**0.03**	**192**	⇑P	**Pg**	**23 48 01.3**	**-0.1**
NKC				S	**Sg**	**23 48 02.4**	**-0.3**
NKC	**Novy Kostel**	**0.03**	**192**	⇑P	**Pg**	**23 48 01.4**	**+0.2**
NKC				S	**Sg**	**23 48 02.7**	**0.0**
LBCW	**Luby**	**0.03**	**282**	⇓P	**Pg**	**23 48 01.3**	**-0.1**
LBCW				S	**Sg**	**23 48 02.5**	**-0.3**
LBCW	**Luby**	**0.03**	**282**	⇓P	**Pg**	**23 48

TANN	**Tannenbergstha**	0.16	1	*i* Pg		**Pg**	**23 48 03.1**	**+0.1**
TANN				*i* Sg		**Sg**	**23 48 05.2**	**-0.2**
TANN				IAML			23 48 05.7	
	comp=N,742nm,0.2s							
TANN	**Tannenbergstha**	0.16	1	*i* Pg		**Pg**	**23 48 03.1**	**+0.1**
TANN				*i* Sg		**Sg**	**23 48 05.2**	**-0.2**
	comp=N,742nm,0.2s							
TRCW	**Trojmez**	0.20	283	⇓P		**Pg**	**23 48 03.6**	**-0.2**
TRCW				S		**Sg**	**23 48 06.3**	**-0.4**
TRCW	**Trojmez**	0.20	283	⇓P		**Pg**	**23 48 03.3**	**+0.1**
TRCW				S		**Sg**	**23 48 06.7**	**-0.1**
ZHC	**Zelena Hora**	0.21	207	⇑P		**Pg**	**23 48 03.9**	**+0.1**
ZHC				S		**Sg**	**23 48 06.9**	**0.0**
ZHC	**Zelena Hora**	0.21	207	⇑P		**Pg**	**23 48 04.2**	**+0.3**
ZHC				S		**Sg**	**23 48 07.1**	**+0.3**
WERD	**Werda**	0.21	333	*i* Pg		**Pg**	**23 48 04.0**	**+0.1**
WERD				*e*Sg		**Sg**	**23 48 06.7**	**-0.2**
WERD				IAML			23 48 06.8	
	comp=E,97nm,0.1s							
WERD	**Werda**	0.21	333	*i* Pg		**Pg**	**23 48 04.0**	**+0.1**
WERD				*e*Sg		**Sg**	**23 48 06.7**	**-0.2**
	comp=E,97nm,0.1s							
TRIB	**Obertriebel**	0.23	294	*i* Pg		**Pg**	**23 48 04.2**	**+0.1**
TRIB				*e*Sg		**Sg**	**23 48 07.2**	**-0.1**
TRIB				IAML			23 48 07.3	
	comp=E,121nm,0.1s							
TRIB	**Obertriebel**	0.23	294	*i* Pg		**Pg**	**23 48 04.2**	**+0.1**
TRIB				*e*Sg		**Sg**	**23 48 07.2**	**-0.1**
	comp=E,121nm,0.1s							
LACW	**Lazy**	0.23	152	⇓P		**Pg**	**23 48 04.6**	**+0.3**
LACW				S		**Sg**	**23 48 08.0**	**+0.4**
LACW	**Lazy**	0.23	152	⇓P		**Pg**	**23 48 04.9**	**+0.6**
LACW				S		**Sg**	**23 48 08.3**	**+0.7**
VIEL	**Selb-Vielitz**	0.24	252	*i* Pg		**Pg**	**23 48 04.4**	**+0.1**
VIEL				*i* Sg		**Sg**	**23 48 07.5**	**-0.2**
VIEL	**Selb-Vielitz**	0.24	252	*i* Pg		**Pg**	**23 48 04.4**	**+0.1**
VIEL				*i* Sg		**Sg**	**23 48 07.5**	**-0.2**
PLN	**Plauen**	0.30	320	*i* Pg		**Pg**	**23 48 05.6**	**+0.1**
PLN				*e*Sg		**Sg**	**23 48 09.4**	**-0.1**
PLN				IAML			23 48 09.5	
	comp=N,61nm,0.2s							
PLN	**Plauen**	0.30	320	*i* Pg		**Pg**	**23 48 05.6**	**+0.1**
PLN				*e*Sg		**Sg**	**23 48 09.4**	**-0.1**
	comp=N,61nm,0.2s							
MANZ	**Manzenberg**	0.35	219	*e*Pg		**Pg**	**23 48 06.4**	**-0.1**
MANZ				*e*Sg		**Sg**	**23 48 11.1**	**-0.1**
SCHF	**Schoenfels**	0.42	355	*i* Pg		**Pg**	**23 48 08.0**	**+0.3**
SCHF				*i* Sg		**Sg**	**23 48 13.4**	**+0.1**
SCHF				IAML			23 48 13.6	
	comp=E,223nm,0.2s							
SCHF	**Schoenfels**	0.42	355	*i* Pg		**Pg**	**23 48 08.0**	**+0.3**
SCHF				*i* Sg		**Sg**	**23 48 13.4**	**+0.1**
	comp=E,223nm,0.2s							
GRZ1	**Mausoleum Wald**	0.46	341	*i* Pg		**Pg**	**23 48 08.5**	**0.0**
GRZ1				*e*Sg		**Sg**	**23 48 14.5**	**0.0**
GRZ1				IAML			23 48 15.4	
	comp=E,73nm,0.2s							
GRZ1	**Mausoleum Wald**	0.46	341	*i* Pg		**Pg**	**23 48 08.5**	**0.0**
GRZ1				*e*Sg		**Sg**	**23 48 14.5**	**0.0**
	comp=E,73nm,0.2s							
ROTZ	**Rotzenmuhle**	0.52	198	*e*Pg		**Pg**	**23 48 09.4**	**-0.1**
ROTZ				*e*Sg		**Sg**	**23 48 16.3**	**-0.1**
MOX	**Moxa**	0.66	306	*e*Pg		**Pg**	**23 48 11.8**	**-0.4**
MOX				*e*Sg		**Sg**	**23 48 21.2**	**+0.2**
HSKC	**Hora Svate Kat**	0.71	60	*e*PG		**Pg**	**23 48 13.2**	**0.0**
HSKC				*e*SG		**Sg**	**23 48 22.5**	**-0.1**
	comp=E,30nm,0.3s							
FBE	**Freiberg**	0.88	40	*e*Pg		**Pg**	**23 48 16.1**	**-0.2**
FBE				*e*Sg		**Sg**	**23 48 27.5**	**-0.2**
GRF	**Grafenberg Arr**	0.98	235	*e*Pg		**Pg**	**23 48 18.0**	**-0.2**
GRF				*e*Sg		**Sg**	**23 48 30.7**	**-0.3**
RICC	**Richard**	1.09	74	*e*SG		**Sg**	**23 48 34.5**	**0.0**
	comp=E,22nm,0.3s							
CLL	**Collm**	1.11	18	*e*Pg		**Pb**	**23 48 20.0**	**-0.5**
CLL				*e*Sg		**Sg**	**23 48 35.0**	**0.0**
BRG	**Berggiesshubel**	1.13	56	Pg		**Pb**	**23 48 21.0**	**0.0**
BRG				Sg		**Sg**	**23 48 36.1**	**+0.3**
BRG				Amp			23 48 36.6	
	comp=E,25nm,0.3s							
BRG	**Berggiesshubel**	1.13	56	*e*Pg		**Pb**	**23 48 20.8**	**-0.2**
BRG				*e*Sg		**Sb**	**23 48 36.0**	**+0.2**
WET	**Wettzell**	1.15	166	*e*Pg		**Pb**	**23 48 21.0**	**-0.4**
WET				*e*Sg		**Sb**	**23 48 36.0**	**-0.3**
PRA	**Prague**	1.28	98	*e*SG		**Sb**	**23 48 40.4**	**+0.2**
KHC	**Kasperske Hory**	1.34	147	*e*PG		**Pn**	**23 48 24.0**	**-0.2**
KHC				*e*SG		**Sb**	**23 48 41.9**	**0.0**
	comp=E,13nm,0.2s							
PRU	**Pruhonice**	1.37	101	*e*PG		**Pn**	**23 48 24.7**	**+0.2**
PRU				*e*SG		**Sg**	**23 48 43.4**	**-0.1**
PRU	**Pruhonice**	1.37	101	*e*Pn		**Pn**	**23 48 24.4**	**-0.2**
PRU				*e*Sg		**Sg**	**23 48 43.6**	**+0.1**
PVCC	**Panska Ves**	1.38	78	*e*SG		**Sg**	**23 48 43.7**	**-0.1**
	comp=E,34nm,0.1s							
GOPC	**GO Pecny, Ondr**	1.54	102	*e*SG		**Sb**	**23 48 48.3**	**+0.7**
GEC2	**GERESS Array S**	1.63	150	*e*Pn		**Pn**	**23 48 28.4**	**+0.2**
GEC2				*e*Sg		**Sb**	**23 48 50.5**	**+0.2**
CKRC	**Cesky Krumlov**	1.88	139	*e*SG		**Sb**	**23 48 57.7**	**+0.4**
	comp=Z,4.8nm,0.2s							
UPC	**Upice**	2.29	82	*e*SG		**Sb**	**23 49 11.3**	**+2.2**
CHVC	**Chvalec**	2.33	80	*e*SG		**Sg**	**23 49 12.9**	**-1.2**
DPC	**Dobruska-Polom**	2.48	86	*e*SG		**Sb**	**23 49 16.6**	**+2.0**
KRLC	**Kraliky**	2.79	92	*e*SG		**Sg**	**23 49 27.4**	**-1.5**
KRUC	**Moravsky**	2.83	114	*e*PN		**Pn**	**23 48 44.7**	**+0.1**
KRUC				*e*SG		**Sb**	**23 49 27.4**	**+2.9**
VRAC	**Vranov**	2.84	108	*e*PN		**Pn**	**23 48 44.9**	**+0.1**
VRAC				*e*SG		**Sb**	**23 49 27.7**	**+2.6**
WTTA	**Wattenberg**	3.05	191	*e*Pg		**Pg**	**23 48 56.3**	**-1.5**
	comp=Z,0.8nm,0.2s							
WTTA				*e*Sg		**Sg**	**23 49 38.7**	**+1.5**
	comp=Z,5.6nm,0.4s							
MOTA	**Moosalm**	3.05	198	*i* Pg		**Pg**	**23 48 57.8**	**-0.1**
	comp=Z,1.3nm,0.3s							
MOTA				*e*Sg		**Sg**	**23 49 38.2**	**+0.8**
	comp=Z,6.1nm,0.3s							
CONA	**Conrad Observa**	3.23	135	*e*Pg		**Pg**	**23 49 00.3**	**-1.1**
	comp=Z,0.2nm,0.1s							
CONA				*i* Sn		**Sn**	**23 49 28.2**	**-0.6**
	comp=Z,0.4nm,0.2s							
MORC	**Moravsky Berou**	3.32	96	*e*SG		**Sg**	**23 49 43.0**	**-2.9**

IDC ***12*** *00:08:13.8±0.6, 13°.29N×120°.88E, h75km±3km, mb4.0/24, mbtmp4.3/24, MS3.0/8, Error ellipse: s-maj=13.3km s-min=8.7km az=83.0*
BJI ***12*** *00:08:15.4±0.0, 13°.14N×121°.01E, h116km, mb4.6/25, mB4.6/7*
NEIC ***12*** *00:08:15.7±1.1, 13°.39N±0°.07×120°.92E±0°.1, h80km±7km, mb4.7/48, Error ellipse: s-maj=17.0km s-min=10.1km az=87.0*

ISC 12 00:08:14.4±0.6, 13°.31N±0°.06×120°.93E±0°.08, h78km±4km, h78km:pP-P, n99, σ1°48/110, mb4.5/51, 1D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**0.79**	**0**	P		**P**	**Pn**	**00 08 31.1**	**+0.1**
	4μm,0.4s,baz=340,slow=7.6,SNR=76								
TGY				S			**Sn**	**00 08 43.5**	**+0.2**
	7μm,0.4s,baz=0.0,slow=20,SNR=12								
TGY				LR		LR	LR	00 09 02.5	
	comp=Z,375nm,18.7s,baz=190,slow=60								
DAV	**Davao City (W)**	**7.70**	**143**	LR		LR	LR	00 13 38.1	
	comp=Z,124nm,19.5s,baz=324,slow=42								
TWG	**Pinlang**	**9.46**	**1**	Pn			**Pn**	**00 10 28.5**	**+0.5**
YULB	**Yu-li**	**10.04**	**2**				**Pn**	**00 10 35.4**	**-0.4**
YHNB	**Yeheng**	**11.31**	**2**	Pn			**Pn**	**00 10 52.8**	**-0.4**
SBUM	**Sibu**	**13.81**	**219**	Pn			**Pn**	**00 11 29.7**	**+2.9**
JOW	**Kunigami**	**15.11**	**26**	P			**P**	**00 11 48.2**	**+1.2**
	22nm,1.0s,baz=188,slow=14,SNR=2.7								
UBPT	**Khong Chiam**	**15.12**	**279**	Pn			**Pn**	**00 11 43.3**	**-0.4**
KAPI	**Kappang**	**18.24**	**184**	LR		LR	LR	00 19 13.1	
	comp=Z,59nm,19.6s,baz=21,slow=36								
FAKI	**Fak Fak**	**19.65**	**144**	P			**Pn**	**00 12 43.0**	**+3.8**
FAKI						IAmb	IAmb	00 12 45.3	
	comp=Z,43nm,1.3s								
ENH	**Enshi**	**19.93**	**330**	P			**P**	**00 12 40.0**	**-0.1**
PHRA	**Phrae**	**20.56**	**287**	P			**P**	**00 12 48.0**	**+1.0**
CRAI	**Chiangrai**	**20.84**	**292**	P			**P**	**00 12 50.9**	**+0.8**
CRAI						IAmb	IAmb	00 12 55.0	
	comp=Z,26nm,0.9s								
IPM	**Ipoh**	**21.52**	**248**	P			**P**	**00 12 57.6**	**+0.3**
JNU	**Nakatsue**	**21.71**	**23**	P			**P**	**00 13 00.5**	**+1.2**
	comp=Z,5.0nm,0.7s,baz=190,slow=13,SNR=4.6								
	comp=Z,5.0nm,0.7s								

CM31	**Chiang Mai Arr**	**21.75**	**286**	P		**P**	**00 13 01.0**	**+1.1**
CMAR	**Chiang Mai Arr**	**21.75**	**286**	P		**P**	**00 12 59.7**	**-0.1**
CMAR	**Chiang Mai Arr**	**21.75**	**286**	P		**P**	**00 13 00.7**	**+0.8**
	comp=Z,5.3nm,0.8s,baz=95,slow=6.1,SNR=22							
CMAR				S		**S**	**00 16 54.9**	**-1.5**
	comp=Z,1.2nm,0.3s,baz=296,slow=16,SNR=3.7							
CMAR				LR		LR	00 21 11.7	
	comp=Z,11nm,18.9s,baz=100,slow=36							
	comp=Z,5.3nm,0.8s							
CHTO	**Chiang Mai**	**21.82**	**287**	P		**P**	**00 13 00.6**	**+0.1**
PZH	**PanZhiHua**	**22.27**	**309**	P		**P**	**00 13 06.2**	**+0.7**
PZH				*p*max		*p*max		
	comp=Z,10.0nm,0.8s							
PZH				*p*max		*p*max		
	comp=Z,100nm,5.3s							
LYN	**LuoYang**	**22.50**	**341**	*e*P		**P**	**00 13 08.8**	**+1.1**
LYN				sP		sP	00 13 41.8	+8.5
LYN				*p*max		*p*max		
	comp=Z,22nm,1.1s							
GUMO	**Guam**	**23.28**	**87**	LR		LR	00 22 19.4	
	comp=Z,19nm,20.7s,baz=278,slow=36							
JCJ	**Chichijima**	**24.15**	**52**	P		P	00 13 14.8	-8.6
	comp=Z,118nm,1.0s,baz=63,slow=2.3,SNR=2.1							
KSAR	**Wonju Array Be**	**24.83**	**13**	P		**P**	**00 13 29.3**	**-0.1**
KSRS	**Korea Array**	**24.85**	**13**	P		**P**	**00 13 29.6**	**0.0**
	comp=Z,3.2nm,0.9s,baz=191,slow=11,SNR=14							
KSRS				LR		LR	00 24 23.8	
	comp=Z,24nm,18.3s,baz=205,slow=39							
	comp=Z,3.2nm,0.9s							
LZH	**Lanzhou**	**27.40**	**329**	⇓P		**P**	**00 13 54.3**	**+1.4**
LZH				*p*max		*p*max		
	comp=Z,35nm,1.5s							
BTO	**Baotou**	**28.83**	**343**	*e*P		P	00 14 11.0	+5.5
BTO				pP		sP	00 14 33.8	+1.2
BTO				PP		**PP**	**00 15 08.9**	**-3.0**
BTO				SS		**SnSn**	**00 20 30.4**	**+11**
BTO				*p*max		*p*max		
	comp=Z,14nm,0.5s							
BTO				*p*max		*p*max		
	comp=Z,200nm,3.9s							
BTO				LR		LR		
	comp=Z,210nm,5.6s							
BTO				LR		LR		
	comp=Z,130nm,5.0s							
BTO				LR		LR		
	comp=Z,130nm,4.9s							
SHL	**Shillong**	**29.91**	**298**	P		**P**	**00 14 14.7**	**-0.6**
GTA	**Gaotai**	**31.99**	**328**	*e*P		**P**	**00 14 33.9**	**+0.4**
GTA				*p*max		*p*max		
	comp=Z,11nm,1.1s							
LSA	**Lhasa**	**32.02**	**305**	P		**P**	**00 14 34.6**	**+0.4**
LSA				IAmb		IAmb	00 14 37.0	
	comp=Z,30nm,1.5s							
GOMU	**GeErMu**	**32.70**	**319**	P		**P**	**00 14 40.9**	**+0.9**
GOMU				*p*max		*p*max		
	comp=Z,14nm,1.0s							
WB0	**Warramunga Arr**	**35.44**	**158**	P		**P**	**00 15 02.9**	**-0.5**
WRA	**Warramunga Arr**	**35.58**	**158**	P		**P**	**00 15 04.0**	**-0.6**
WRA	**Warramunga Arr**	**35.58**	**158**	P		**P**	**00 15 03.7**	**-0.9**
	comp=Z,2.1nm,0.5s,baz=333,slow=10,SNR=14							
WRA				pP		**pP**	**00 15 22.0**	**-1.4**
	comp=Z,3.1nm,0.6s,baz=335,slow=9.9,SNR=6.3							
	comp=Z,2.1nm,0.5s							
WB2	**Warramunga Arr**	**35.58**	**158**	P		**P**	**00 15 04.0**	**-0.6**
WB2				IAmb		IAmb	00 15 22.7	
	comp=Z,7.6nm,0.9s							
SONM	**Songino Array**	**36.50**	**343**	P		**P**	**00 15 11.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=164,slow=9.7,SNR=17							
SONM				pP		**pP**	**00 15 29.9**	**-0.8**
	comp=Z,1.2nm,0.6s,baz=164,slow=11,SNR=4.3							
SONM				PcP		**PcP**	**00 17 33.4**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=184,slow=2.2,SNR=2.8							
	comp=Z,1.6nm,0.5s							
KLR	**Kul'dur**	**36.92**	**12**	P		**P**	**00 15 15.6**	**-0.1**
	comp=Z,3.1nm,0.7s,baz=228,slow=8.6,SNR=13							
KLR				LR		LR	00 29 10.0	
	comp=Z,33nm,21.9s,baz=221,slow=34							
	comp=Z,3.1nm,0.7s							
ASAR	**Alice Springs**	**38.87**	**161**	P		**P**	**00 15 32.5**	**0.0**
ASAR				pP		**pP**	**00 15 50.4**	**-1.1**
ASAR	**Alice Springs**	**38.87**	**161**	P		**P**	**00 15 32.1**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=339,slow=7.0,SNR=49							
ASAR				pP		**pP**	**00 15 49.7**	**-1.8**
	comp=Z,2.2nm,0.6s,baz=340,slow=7.0,SNR=6.6							
	comp=Z,2.9nm,0.6s							
MK31	**Makanchi Array**	**46.48**	**324**	P		**P**	**00 16 33.5**	**-0.3**
MK31				IAmb		IAmb	00 16 35.2	
	comp=Z,6.8nm,0.9s							
MKAR	**Makanchi Array**	**46.48**	**324**	P		**P**	**00 16 33.6**	**-0.2**
MKAR	**Makanchi Array**	**46.48**	**324**	P		**P**	**00 16 34.2**	**+0.4**
	comp=Z,4.7nm,0.7s,baz=127,slow=8.9,SNR=42							
MKAR				PcP		**PcP**	**00 18 06.5**	**-0.7**
	comp=Z,1.0nm,0.7s,baz=85,slow=3.2,SNR=3.1							
MKAR				LR		LR	00 36 33.1	
	comp=Z,24nm,18.8s,baz=58,slow=37							
	comp=Z,4.7nm,0.7s							
MAKZ	**Makanchi**	**46.67**	**324**	P		**P**	**00 16 35.2**	**-0.1**
MAKZ				IAmb		IAmb	00 16 36.5	
	comp=Z,6.2nm,0.5s							
TARG	**Taragay, Kyrgy**	**46.89**	**315**	P		**P**	**00 16 37.5**	**0.0**
KSH	**Kashi**	**47.33**	**312**	P		**P**	**00 16 43.1**	**+2.4**
KSH				*p*max		*p*max		
	comp=Z,7.0nm,0.8s							
NIL	**Nilore**	**47.71**	**304**	P		**P**	**00 16 43.0**	**-0.6**
ULHL	**Ulahol**	**48.16**	**315**	P		**P**	**00 16 48.2**	**+1.1**
	SNR=8.0							
BOOM	**Boomskoye usch**	**48.46**	**316**	P		**P**	**00 16 48.9**	**-0.6**
TKM2	**Tokmak 2**	**48.87**	**316**	P		**P**	**00 16 53.3**	**+0.7**
	SNR=13							
KBK	**Karagaybulak**	**49.20**	**316**	P		**P**	**00 16 56.2**	**+1.1**
	SNR=18							
PETK	**Petropavlovsk-**	**49.26**	**28**	P		**P**	**00 16 55.9**	**+0.7**
	comp=Z,3.6nm,0.6s,baz=179,slow=3.7,SNR=11							
PETK				ScP		**ScP**	**00 22 06.0**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=232,slow=7.0,SNR=1.8							
	comp=Z,3.6nm,0.6s							
UCH	**Uchtor**	**49.34**	**315**	P		**P**	**00 16 57.7**	**+1.2**
	SNR=20							
ZALV	**Zalesovo Beam**	**49.51**	**333**	P		**P**	**00 16 55.7**	**-1.3**
ZALV	**Zalesovo Beam**	**49.51**	**333**	P		**P**	**00 16 56.2**	**-0.9**
	comp=Z,1.8nm,0.4s,baz=120,slow=7.3,SNR=15							
ZALV				PcP		**PcP**	**00 18 15.5**	**-2.4**
	comp=Z,0.5nm,0.5s,baz=90,slow=5.8,SNR=2.1							
	comp=Z,1.8nm,0.4s							
USP	**Ospenovka**	**49.74**	**316**	P		**P**	**00 16 59.5**	**+0.5**
	SNR=13							
EKS2	**Erkin-Say**	**50.01**	**315**	P		**P**	**00 17 02.1**	**+1.0**
	SNR=8.7							
ARSB	**Arslanbob**	**50.09**	**313**	P		**P**	**00 17 01.9**	**0.0**
KURBB	**Kurchatov Arra**	**50.64**	**326**	P		**P**	**00 17 05.7**	**+0.1**
	comp=Z,8.1nm,0.7s,baz=133,slow=7.6,SNR=74							
KURBB				pP		**pP**	**00 17 24.8**	**0.0**
	comp=Z,1.4nm,0.8s,baz=110,slow=8.6,SNR=3.0							
KURBB				sP		**sP**	**00 17 32.6**	**-0.9**
	comp=Z,2.0nm,0.7s,baz=122,slow=8.1,SNR=4.2							
KURBB				PcP		**PcP**	**00 18 20.8**	**-1.3**
	comp=Z,0.8nm,0.7s,baz=114,slow=4.1,SNR=1.8							
	comp=Z,8.1nm,0.7s							
KURK	**Kurchatov**	**50.64**	**326**	P		**P**	**00 17 05.9**	**+0.3**
BTK	**Batken**	**51.27**	**311**	P		**P**	**00 17 10.7**	**+0.1**
KBL	**Kabul**	**51.31**	**304**	P		**P**	**00 17 12.0**	**+0.7**
SIMJ	**Simiganj**	**52.24**	**309**	P		**P**	**00 17 17.6**	**-0.4**
SIMJ				IAmb		IAmb	00 17 19.8	
	comp=Z,10nm,1.0s							
KK31	**Karatay Array**	**52.41**	**315**	P		**P**	**00 17 19.2**	**+0.2**
KK31				IAmb		IAmb	00 17 19.9	
	comp=Z,8.2nm,0.6s							
KKAR	**Karatay Array**	**52.41**	**315**	P		**P**	**00 17 19.2**	**+0.2**
BVAR	**Borovoye Array**	**56.23**	**326**	P		**P**	**00 17 46.0**	**-0.6**
	comp=Z,1.3nm,0.4s,baz=118,slow=8.8,SNR=14							
	comp=Z,1.3nm,0.4s							
BRVK	**Borovoye**	**56.30**	**326**	P		**P**	**00 17 46.7**	**-0.3**
BRVK				IAmb		IAmb	00 17 47.9	
	comp=Z,6.8nm,0.8s							
DZM	**Mont Dzumac**	**56.81**	**128**	LR		LR	00 43 00.4	
	comp=Z,48nm,19.2s,baz=37							
HRA	**Herat**	**56.84**	**302**	P		**P**	**00 17 51.4**	**-0.1**
HRA				IAmb		IAmb	00 17 52.4	
	comp=Z,7.3nm,1.0s							
TIXI	**Tiksi**	**58.51**	**3**	P		**P**	**00 18 01.1**	**-1.1**
TIXI				IAmb		IAmb	00 18 02.2	
	comp=Z,8.8nm,0.8s							
GEYT	**Alibeck**	**60.55**	**306**	P		**P**	**00 18 17.2**	**+0.3**
GEYT	**Alibeck**	**60.55**	**306**	P		**P**	**00 18 17.5**	**+0.5**
	comp=Z,9.5nm,0.8s,baz=122,slow=5.2,SNR=31							
GEYT				pP		**pP**	**00 18 36.3**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=312,slow=54,SNR=1.7							
GEYT				PcP		**PcP**	**00 19 00.5**	**-0.4**
	comp=Z,1.6nm,0.7s,baz=116,slow=3.4,SNR=1.9							
	comp=Z,9.5nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**60.55**	**306**	P		**P**	**00 18 17.4**	**+0.4**
ABKAR	**Akbulak array**	**61.18**	**319**	P		**P**	**00 18 20.7**	**-0.3**
ABKAR	**Akbulak array**	**61.18**	**319**	P		**P**	**00 18 20.9**	**-0.1**
ABKAR				IAmb		IAmb	00 18 21.4	
	comp=Z,7.7nm,0.7s							
ARU	**Arti**	**63.84**	**327**	P		**P**	**00 18 36.8**	**-1.7**
RAYN	**Ar Rayn**	**71.61**	**291**	P		**P**	**00 19 28.4**	**+0.3**
RAYN				IAmb		IAmb	00 19 29.1	
	comp=Z,15nm,0.9s							
KBZ	**Khabaz**	**72.31**	**312**	P		**P**	**00 19 31.2**	**-0.6**
	comp=Z,3.7nm,0.9s,baz=143,slow=5.1,SNR=7.4							
	comp=Z,3.7nm,0.9s							
KIV	**Kislovodsk**	**72.46**	**312**	P		**P**	**00 19 33.4**	**+0.5**
KIV				IAmb		IAmb	00 19 34.0	
	comp=Z,9.1nm,0.7s							
GURO	**Guroymak-BITLI**	**73.21**	**307**	P		**P**	**00 19 38.4**	**+0.9**
GURO				IAmb		IAmb	00 19 39.2	
	comp=Z,6.5nm,0.8s							
G21K	**Allakaket**	**76.13**	**24**	P		**P**	**00 19 55.1**	**+1.4**
G21K				IAmb		IAmb	00 19 56.3	
	comp=Z,8.9nm,1.2s							
ILAR	**Eielson Array**	**79.00**	**26**	P		**P**	**00 20 10.4**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=235,slow=6.4,SNR=4.2							
	comp=Z,0.6nm,0.9s							
MMAI	**Mount Meron Ar**	**79.18**	**301**	P		**P**	**00 20 12.0**	**+0.6**
	comp=Z,2.6nm,0.8s,baz=42,slow=4.5,SNR=3.1							
	comp=Z,2.6nm,0.8s							
GHAJ	**Ghor Haditha**	**79.31**	**300**	P		**P**	**00 20 12.6**	**+0.7**
ARCES	**ARCESS Array B**	**79.53**	**339**	P		**P**	**00 20 11.5**	**-1.0**
	comp=Z,3.2nm,0.9s,baz=72,slow=5.9,SNR=15							
	comp=Z,3.2nm,0.9s							
BRTR	**Keskin Array B**	**79.57**	**308**	P		**P**	**00 20 12.8**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=116,slow=3.4,SNR=7.1							
	comp=Z,1.3nm,0.8s							
SPITS	**Spitsbergen Ar**	**80.02**	**348**	P		**P**	**00 20 15.1**	**+0.1**
	comp=Z,11nm,1.0s,baz=93,slow=10,SNR=11							
	comp=Z,11nm,1.0s							
FINES	**FINESS Array B**	**80.74**	**331**	P		**P**	**00 20 18.1**	**-1.0**
	comp=Z,0.8nm,0.5s,baz=55,slow=5.3,SNR=12							
	comp=Z,0.8nm,0.5s							
MLR	**Muntele Rosu**	**84.09**	**315**	P		**P**	**00 20 37.1**	**0.0**
MLR				IAmb		IAmb	00 20 37.9	
	comp=Z,3.9nm,0.6s							
BURAR	**Bucovina Array**	**84.10**	**317**	P		**P**	**00 20 37.3**	**+0.2**
BUR08	**Bucovina Ar. S**	**84.11**	**317**	P		**P**	**00 20 37.0**	**-0.1**
BUR08				IAmb		IAmb	00 20 41.3	
	comp=Z,7.3nm,1.4s							
KWP	**Kalwaria Pacla**	**85.23**	**320**	P		**P**	**00 20 43.0**	**+0.4**
KWP				IAmb		IAmb	00 20 43.6	
	comp=Z,7.9nm,1.0s							
RDO	**Rodhopi**	**85.37**	**311**	P		**P**	**00 20 42.4**	**-1.0**
RDO				IAmb		IAmb	00 20 43.5	
	comp=Z,5.7nm,1.0s							
C36M	**Paulatuk**	**86.11**	**19**	P		**P**	**00 20 47.0**	**+0.5**
C36M				IAmb		IAmb	00 20 47.2	
	comp=Z,5.0nm,0.7s							
CRVS	**Cervenica-Dubn**	**86.21**	**319**	*e*P		**P**	**00 20 46.5**	**-0.9**
HFS	**Hagfors**	**86.93**	**331**	P		**P**	**00 20 48.6**	**-2.1**
	comp=Z,1.5nm,0.5s,baz=98,slow=6.0,SNR=13							
	comp=Z,1.5nm,0.5s	

FRMA					AML	AML	00 28 20.5	
	comp=N,353μm,0.6s							
FRMA					AML	AML	00 28 20.6	
	comp=E,315μm,0.3s							
GVD	**Gavdhos**	**1.00**	**307**		Pg	**Pg**	**00 27 55.9**	**-0.6**
GVD					Sg	**Sg**	**00 28 11.7**	**+2.1**
GVD	**Gavdhos**	**1.00**	**307**		P	**Pg**	**00 27 55.7**	**-0.8**
GVD					S	**Sg**	**00 28 10.2**	**+0.6**
	comp=E,668nm,0.3s							
GVD	**Gavdhos**	**1.00**	**307**		P	**Pg**	**00 27 55.7**	**-0.8**
GVD					S	**Sg**	**00 28 08.9**	**-0.7**
GVD					AML	AML	00 28 13.3	
	comp=E,1532μm,0.4s							
GVD					AML	AML	00 28 14.0	
	comp=N,1123μm,0.3s							
GVDS	**Gavdos**	**1.00**	**307**		Pg	**Pg**	**00 27 55.9**	**-0.6**
GVDS					Sg	**Sg**	**00 28 11.9**	**+2.3**
GVDS	**Gavdos**	**1.00**	**307**		P	**Pg**	**00 27 56.0**	**-0.6**
GVDS					S	**Sg**	**00 28 10.3**	**+0.7**
	comp=N,408nm,0.2s							
IDI	**Anoyia**	**1.05**	**352**		Pg	**Pg**	**00 27 56.3**	**-1.3**
IDI					Sg	**Sg**	**00 28 12.4**	**+1.1**
IDI	**Anoyia**	**1.05**	**352**		P	**Pg**	**00 27 56.1**	**-1.5**
IDI	**Anoyia**	**1.05**	**352**		P	**Pg**	**00 27 56.1**	**-1.5**
IDI					S	**Sg**	**00 28 10.1**	**-1.2**
IDI					AML	AML	00 28 15.6	
	comp=N,195μm,0.4s							
IDI					AML	AML	00 28 17.7	
	comp=E,319μm,0.4s							
KSTL	**Kastelli Herak**	**1.06**	**1**		P	**Pg**	**00 27 55.4**	**-2.3**
KSTL	**Kastelli Herak**	**1.06**	**1**		P	**Pg**	**00 27 55.8**	**-1.9**
KSTL					AML	AML	00 28 26.7	
	comp=E,190μm,0.6s							
KSTL					AML	AML	00 28 30.8	
	comp=N,353μm,0.5s							
PRNS	**Prines Rethymn**	**1.21**	**338**		P	**Pg**	**00 27 59.1**	**-1.5**
PRNS					S	**Sg**	**00 28 17.1**	**+0.8**
	comp=N,72nm,0.8s							
ZKR	**Zakros**	**1.29**	**47**		Pn	**Pg**	**00 28 01.2**	**-0.9**
ZKR					Sn	**Sb**	**00 28 19.4**	**+1.5**
ZKR	**Zakros**	**1.29**	**47**		P	**Pg**	**00 28 01.5**	**-0.6**
ZKR					S	**Sg**	**00 28 18.7**	**-0.2**
	comp=N,98nm,0.7s							
ZKR	**Zakros**	**1.29**	**47**		P	**Pg**	**00 28 01.6**	**-0.6**
ZKR					S	**Sg**	**00 28 18.4**	**-0.5**
ZKR					AML	AML	00 28 25.2	
	comp=N,127μm,0.7s							
ZKR					AML	AML	00 28 30.6	
	comp=E,237μm,0.6s							
KNDR	**Palaiochora Ch**	**1.50**	**312**		Pn	**Pn**	**00 28 04.9**	**+1.1**
KNDR	**Palaiochora Ch**	**1.50**	**312**		P	**Pn**	**00 28 03.9**	**0.0**
KNDR					AML	AML	00 28 44.5	
	comp=N,296μm,0.8s							
KNDR					AML	AML	00 28 48.0	
	comp=E,235μm,0.8s							
IMMV	**Iera Moni Meta**	**1.50**	**324**		Pn	**Pn**	**00 28 04.8**	**+0.9**
IMMV	**Iera Moni Meta**	**1.50**	**324**		P	**Pn**	**00 28 04.0**	**+0.1**
IMMV	**Iera Moni Meta**	**1.50**	**324**		P	**Pn**	**00 28 03.7**	**-0.2**
IMMV					S	**Sn**	**00 28 21.3**	**-2.0**
IMMV					AML	AML	00 28 35.7	
	comp=E,443μm,0.5s							
IMMV					AML	AML	00 28 41.1	
	comp=N,324μm,0.5s							
RODP	**Rodopos**	**1.69**	**321**		Pn	**Pn**	**00 28 07.5**	**+1.0**
KARP	**Karpathos**	**2.16**	**52**		Pn	**Pn**	**00 28 13.2**	**+0.2**
KARP	**Karpathos**	**2.16**	**52**		P	**Pn**	**00 28 14.1**	**+1.1**
ANKY	**Antikythira Is**	**2.17**	**319**		P	**Pn**	**00 28 12.6**	**-0.4**
ANKY	**Antikythira Is**	**2.17**	**319**		P	**Pn**	**00 28 13.2**	**+0.2**
VLI	**Veliai**	**3.02**	**326**		P	**Pn**	**00 28 25.1**	**+0.4**
VLI					S	**Sn**	**00 29 00.4**	**-0.3**
VLI	**Veliai**	**3.02**	**326**		P	**Pn**	**00 28 25.2**	**+0.5**
ARG	**Arkhangelos**	**3.19**	**51**		Pn	**Pn**	**00 28 28.0**	**+0.9**
ARG	**Arkhangelos**	**3.19**	**51**		P	**Pn**	**00 28 27.7**	**+0.6**
DAT	**Datca**	**3.22**	**39**		Pn	**Pn**	**00 28 28.6**	**+1.0**
DALY	**Dalyan (Mula)**	**3.90**	**48**		Pn	**Pn**	**00 28 37.8**	**+1.0**
FETY	**Fethiye**	**4.06**	**53**		Pn	**Pn**	**00 28 40.3**	**+1.2**
KZIT	**Kziot**	**8.55**	**110**		S	Sn	00 31 09.4	-7.7
KZIT	**Kziot**	**8.55**	**110**		P	**Pn**	**00 29 39.7**	**-1.1**
SLTI	**Sal'it**	**8.60**	**101**		P	**Pn**	**00 29 40.2**	**-1.1**
SLTI	**Sal'it**	**8.60**	**101**		S	Sn	00 31 10.7	-7.5
AMAZ	**Amatzia**	**8.72**	**105**		P	**Pn**	**00 29 41.5**	**-1.6**
YTIR	**Yattir**	**8.94**	**106**		P	**Pn**	**00 29 45.0**	**-1.1**
YTIR	**Yattir**	**8.94**	**106**		S	Sn	00 31 19.0	-7.8
HMDT	**Nahal Hemdat**	**8.99**	**100**		S	Sn	00 31 20.1	-7.7
HMDT	**Nahal Hemdat**	**8.99**	**100**		P	**Pn**	**00 29 45.7**	**-1.0**
DSI	**Dead Sea**	**9.08**	**104**		P	**Pn**	**00 29 46.8**	**-1.2**
DSI	**Dead Sea**	**9.08**	**104**		S	Sn	00 31 21.9	-8.1
MSBI	**Mazada**	**9.15**	**106**		S	Sn	00 31 23.1	-8.6
MSBI	**Mazada**	**9.15**	**106**		P	**Pn**	**00 29 47.8**	**-1.1**
KRMI	**Paran Flat**	**9.16**	**114**		S	Sn	00 31 24.1	-8.1
KRMI	**Paran Flat**	**9.16**	**114**		P	**Pn**	**00 29 48.3**	**-0.9**
PRNI	**Paran**	**9.27**	**112**		S	Sn	00 31 26.7	-8.0
PRNI	**Paran**	**9.27**	**112**		P	**Pn**	**00 29 49.5**	**-1.1**
GHAJ	**Ghor Haditha**	**9.32**	**105**		P	**Pn**	**00 29 50.2**	**-1.0**
GHAJ	**Ghor Haditha**	**9.32**	**105**		S	Sn	00 31 27.7	-8.2
HRFI	**Mount Harif**	**9.44**	**114**		S	Sn	00 31 31.2	-7.7
HRFI	**Mount Harif**	**9.44**	**114**		P	**Pn**	**00 29 51.8**	**-1.1**

NAO **12** *00:32:30.0±1.6, 72.°82N×4.°61E, ML3.7*
IDC **12** *00:32:32.9±0.7, 72.°88N×5.°35E, h0km, mb3.7/16, mbtmp3.8/20, ML3.7/4, MS3.6/41, Error ellipse: s-maj=17.5km s-min=11.8km az=50.0*
NEIC **12** *00:32:32.6±2.0, 72.°86N±0.°07×4.°9E±0.°2, h10km±1km, mb4.3/22, Error ellipse: s-maj=12.9km s-min=7.2km az=150.0*
GCMT **12** *00:32:32.6±0.3, 72.°87N±0.°05×4.°7E±0.°1, h14km±1km, MW4.5/78, Moment Tensor Solution. s4,c4; s78,c107; Duration: 0 Moment tensor: Scale 1016Nm; Mrr=0.80±.09; Mθθ=0.32±.05; Mφφ=0.48±.06; Mrθ=-0.12±.15; Mθφ=0.32±.03; Mφr=0.01±.16; Best double couple: M0=0.77500×1016 NP1:φs=44.00000°, δ=48.00000°, λ=-81.00000°. NP2: φs=211.00000°, δ=43.00000°, λ=-100.00000°. Principal axes: T 0.7330, Plg3.0000°, Azm128.0000°; N 0.0840, Plg7.0000°, Azm218.0000°; P -0.8170, Plg83.0000°, Azm17.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
BER **12** *00:32:33.7±3.4, 72.°85N×4.°75E, h10km, mb(Pn)4.9, ML3.7(NAO), Confirmed Earthquake*
DNK **12** *00:32:34.9±1.4, 73.°24N×3.°83E, h0km±43km, ML1.9*
ISC 12 00:32:33.5±0.4, 72.°90N±0.°05×5.°03E±0.°06, h10km, n179, σ2s27/158, mb4.2/32, MS3.5/36, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op	ISC		h m s	ISC
JMIC	**Jan Mayen**	**4.62**	**252**		LR	LR	00 35 09.1	
	comp=Z,394nm,20.6s,baz=44,slow=33							
TRO	**Tromso**	**5.54**	**119**	*eP*		**Pn**	**00 33 54.0**	**-1.8**
TRO	**Tromso**	**5.54**	**119**		Pn	**Pn**	**00 33 54.2**	**-1.6**
LOF	**Lofoten**	**5.56**	**145**	*eP*		**Pn**	**00 33 54.4**	**-1.7**
LOF				*eS*		Sn	00 34 51.0	-9.0
LOF					IAML		00 34 58.2	
	comp=Z,42nm,0.5s							
LOF	**Lofoten**	**5.56**	**145**		Pn	**Pn**	**00 33 55.2**	**-1.0**
LOF					Sn	**Sn**	**00 34 54.3**	**-5.8**
BRBA	**Barentsburg A**	**5.67**	**20**		Pn	**Pn**	**00 33 58.9**	**+1.2**
BRBA	**Barentsburg A**	**5.67**	**20**		Pn	**Pn**	**00 33 58.9**	**+1.2**
BRBB	**Barentsburg B**	**5.70**	**19**		Pn	**Pn**	**00 33 59.6**	**+1.5**
BRBB	**Barentsburg B**	**5.70**	**19**		Pn	**Pn**	**00 33 59.6**	**+1.5**
JETT	**Jettan, Norway**	**5.98**	**117**	*eP*		**Pn**	**00 34 00.8**	**-1.2**
JETT	**Jettan, Norway**	**5.98**	**117**		Pn	**Pn**	**00 34 00.7**	**-1.2**
SPB2	**Spitsbergen Ar**	**6.00**	**23**		Pn	**Pn**	**00 34 02.0**	**-0.2**
SPA0	**Spitsbergen Ar**	**6.01**	**23**		Pn	**Pn**	**00 34 01.4**	**-0.9**
	baz=208,slow=16							
SPA0	**Spitsbergen Ar**	**6.01**	**23**		Pn	**Pn**	**00 34 01.4**	**-0.9**
	baz=208,slow=16							
SPITS	**Spitsbergen Ar**	**6.01**	**23**		Pn	**Pn**	**00 34 02.1**	**-0.2**
	baz=205,slow=16							
	comp=Z,1.2nm,0.3s							
STEI	**Steigen**	**6.05**	**140**	*eP*		**Pn**	**00 34 01.3**	**-1.5**
STEI				*eS*		**Sn**	**00 35 05.2**	**-6.7**
STEI					IAML		00 35 13.1	
	comp=Z,14nm,0.5s							
STEI	**Steigen**	**6.05**	**140**		Pn	**Pn**	**00 34 01.5**	**-1.2**
STEI					Sn	**Sn**	**00 35 06.5**	**-5.4**
HAMF	**Hammerfest**	**6.26**	**102**	*eP*		**Pn**	**00 34 03.6**	**-2.1**
HAMF	**Hammerfest**	**6.26**	**102**		Pn	**Pn**	**00 34 03.6**	**-2.1**
KBS	**Kingsbay**	**6.29**	**12**		Pn	**Pn**	**00 34 04.4**	**-1.7**
KBS	**Kingsbay**	**6.29**	**12**		Pn	**Pn**	**00 34 04.8**	**-1.3**
KBS	**Kingsbay**	**6.29**	**12**	*i*	P	**Pn**	**00 34 04.0**	**-2.0**
KIF	**Kilpisjarvi**	**6.46**	**119**	*eP*		**Pn**	**00 34 07.3**	**-1.1**
KIF	**Kilpisjarvi**	**6.46**	**119**		Pn	**Pn**	**00 34 07.3**	**-1.1**
FAUS	**Fauske**	**6.54**	**143**	*eP*		**Pn**	**00 34 07.0**	**-2.5**
FAUS				*eS*		Sn	00 35 13.8	-10
FAUS					IAML		00 35 21.4	
	comp=Z,13nm,0.4s							
KONS	**Konsvik**	**7.01**	**152**	*eP*		**Pn**	**00 34 14.5**	**-1.4**
KONS				*eS*		Sn	00 35 26.1	-9.4
KONS					IAML		00 35 32.5	
	comp=Z,18nm,0.3s							
STOK	**Stokkvaagen**	**7.15**	**153**	*eP*		**Pn**	**00 34 16.9**	**-1.0**
STOK				*eS*		Sn	00 35 29.2	-10
STOK					IAML		00 35 37.0	
	comp=Z,28nm,0.6s							
SALU	**Saltoluokta**	**7.17**	**134**	*eP*		**Pn**	**00 34 16.9**	**-1.4**
DBG	**Daneborg**	**7.25**	**293**	*eP*		Pn	00 34 13.7	-5.6
DBG	**Daneborg**	**7.25**	**293**		Pn	Pn	00 34 13.4	-5.8
DBG	**Daneborg**	**7.25**	**293**	*eP*		Pn	00 34 13.4	-5.9
DBG				*i*	S	Sn	00 35 28.2	-13
DAG	**Danmarks Havn**	**7.28**	**313**	*eP*		**Pn**	**00 34 14.8**	**-4.8**
DAG				*e*			00 35 28.3	
DAG	**Danmarks Havn**	**7.28**	**313**	*e*		Pn	00 34 13.8	-5.8
	baz=114,slow=16							
DAG				*i*	P	Pn	00 34 14.7	-4.9
DAG				*i*	S	Sn	00 35 27.8	-14
DAG					IAML		00 35 33.7	
	comp=Z,3.5nm,0.4s							
ARA0	**ARCESS Array S**	**7.39**	**107**	*eP*		**Pn**	**00 34 20.1**	**-1.1**
ARA0	**ARCESS Array S**	**7.39**	**107**		Pn	**Pn**	**00 34 19.9**	**-1.3**
	baz=316,slow=12							
ARCES	**ARCESS Array B**	**7.39**	**107**		Pn	**Pn**	**00 34 20.4**	**-0.9**
ARCES	**ARCESS Array B**	**7.39**	**107**		Pn	**Pn**	**00 34 20.0**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=316,slow=12,SNR=76							
ARCES						Sn	**Sn**	**00 35 39.7**	**-5.3**
	comp=Z,0.4nm,0.3s,baz=313,slow=20,SNR=2.3							
	comp=Z,1.7nm,0.3s							
MOR8	**Moi Rana**	**7.50**	**149**	*eP*		**Pn**	**00 34 21.5**	**-1.3**
MOR8				*eS*		Sn	00 35 38.6	-9.2
MOR8					IAML		00 35 46.4	
	comp=Z,27nm,0.4s							
HEF	**Hetta**	**7.62**	**117**	*eP*		**Pn**	**00 34 23.5**	**-0.9**
HEF	**Hetta**	**7.62**	**117**		Pn	**Pn**	**00 34 23.1**	**-1.3**
KEV	**Kevo**	**7.69**	**103**		Pn	**Pn**	**00 34 23.4**	**-2.0**
KEV	**Kevo**	**7.69**	**103**		Pn	**Pn**	**00 34 23.3**	**-2.0**
KEV	**Kevo**	**7.69**	**103**		Pn	**Pn**	**00 34 23.3**	**-2.0**
VADS	**Vadso**	**8.18**	**98**		Pn	**Pn**	**00 34 30.1**	**-1.9**
VADS				*eP*			**00 34 30.5**	**-1.5**
NSS	**Namsos**	**8.77**	**160**	*eP*		**Pn**	**00 34 38.9**	**-1.1**
NSS				*eS*		Sn	00 36 08.3	-10
NSS					IAML		00 36 18.3	
	comp=Z,23nm,0.5s							
SCO	**Scoresbysund**	**8.78**	**267**			**Pn**	**00 34 37.1**	**-3.2**
SCO	**Scoresbysund**	**8.78**	**267**	*i*	P	**Pn**	**00 34 36.6**	**-3.6**
TBLU	**Trondheim**	**9.88**	**166**	*eP*		**Pn**	**00 34 51.6**	**-3.7**
TBLU				*eS*		Sn	00 36 28.9	-17
TBLU					IAML		00 36 36.7	
	comp=Z,15nm,0.6s							
NOD	**Norderasen**	**10.15**	**154**	*eP*		**Pn**	**00 34 58.3**	**-0.8**
APA0	**Apatity Array**	**10.75**	**106**		Pn	**Pn**	**00 35 05.1**	**-2.0**
	baz=306,slow=11							
APA0	**Apatity Array**	**10.75**	**106**		Pn	**Pn**	**00 35 05.1**	**-2.0**
	baz=306,slow=11							
AKN	**Aaknes**	**10.79**	**175**		Pn	**Pn**	**00 35 04.8**	**-3.0**
AKN					Sn	Sn	00 36 55.1	-13
AKN	**Aaknes**	**10.79**	**175**		Pn	**Pn**	**00 35 04.8**	**-3.0**
AKN					Sn	Sn	00 36 55.1	-13
LVZ	**Lovozero**	**11.03**	**102**		Pn	**Pn**	**00 35 08.7**	**-2.4**
VAF	**Ylistaro**	**11.83**	**138**	*eP*		**Pn**	**00 35 20.8**	**-1.2**
NC204	**NORSAR Array S**	**11.87**	**166**			**Pn**	**00 35 20.9**	**-1.7**
NC303	**NORSAR Array S**	**11.97**	**165**			**Pn**	**00 35 22.2**	**-1.6**
NC405	**NORSAR Array S**	**12.11**	**164**			**Pn**	**00 35 23.8**	**-2.0**
NBO00	**NORSAR Array S**	**12.12**	**167**			**Pn**	**00 35 24.1**	**-1.9**
NB201	**NORSAR Array S**	**12.14**	**165**		Pn	**Pn**	**00 35 24.8**	**-1.4**
NB2	**NORSAR Subarra**	**12.14**	**166**		Pn	**Pn**	**00 35 24.6**	**-1.6**
	baz=344,slow=14							
NB2	**NORSAR Subarra**	**12.14**	**166**		Pn	**Pn**	**00 35 24.6**	**-1.6**
	baz=344,slow=14							
NOA	**NORSAR Array B**	**12.14**	**166**		Pn	**Pn**	**00 35 24.1**	**-2.2**
	comp=Z,0.1nm,0.3s,baz=336,slow=12,SNR=8.2							
NOA						Sn	Sn	00 37 30.8	-11
	baz=280,slow=19,SNR=4.4							
NOA						LR	LR	00 39 59.9	
	comp=Z,181nm,18.1s,baz=350,slow=37							
NAO01	**NORSAR Array S**	**12.31**	**166**		Pn	**Pn**	**00 35 26.4**	**-2.2**
BORG	**Borgarnes**	**12.42**	**242**		LR	LR	00 38 45.5	
	comp=Z,68nm,19.6s,baz=341,slow=30							
NC602	**NORSAR Array S**	**12.47**	**165**			**Pn**	**00 35 29.1**	**-1.5**
NRA0	**NORESS Array S**	**12.47**	**165**		Pn	**Pn**	**00 35 28.8**	**-1.8**
	slow=14							
NRA0	**NORESS Array S**	**12.47**	**165**		Pn	**Pn**	**00 35 28.8**	**-1.8**
	slow=14							
SUMG	**Summit**	**12.70**	**289**		Pn	**Pn**	**00 35 31.9**	**-2.3**
KEF	**Keuruu**	**13.07**	**135**	*eP*		**Pn**	**00 35 37.9**	**-0.9**
HFS	**Hagfors**	**13.25**	**161**		Pn	**Pn**	**00 35 39.2**	**-2.2**
	baz=350,slow=12							
HFS						Sn	Sn	00 37 58.1	-10
	baz=351,slow=28							
HFS	**Hagfors**	**13.25**	**161**		Pn	**Pn**	**00 35 39.2**	**-2.2**
	baz=350,slow=12							
HFS						Sn	Sn	00 37 58.1	-10
	baz=351,slow=28							
HFS	**Hagfors**	**13.25**	**161**		Pn	**Pn**	**00 35 39.5**	**-1.9**
	comp=Z,3.2nm,0.3s,baz=354,slow=13,SNR=80							
HFS						Sn	Sn	00 37 58.1	-10
	comp=Z,1.0nm,0.3s,baz=350,slow=23,SNR=7.2							
HFS						LR	LR	00 40 25.4	
	comp=Z,277nm,19.9s,baz=346,slow=36							
JOF	**Joensuu**	**13.90**	**122**	*eP*		**Pn**	**00 35 47.1**	**-3.1**
FIA0	**FINESS Array S**	**13.97**	**134**		Pn	**Pn**	**00 35 49.2**	**-1.9**
	baz=337,slow=11							
FIA0	**FINESS Array S**	**13.97**	**134**		Pn	**Pn**	**00 35 49.2**	**-1.9**
	baz=337,slow=11							
FIA1	**FINESS Array S**	**13.97**	**134**		Pn	**Pn**	**00 35 49.0**	**-2.1**
FINES	**FINESS Array B**	**13.97**	**134**		Pn	**Pn**	**00 35 49.0**	**-2.1**
	comp=Z,0.7nm,0.3s,baz=338,slow=10,SNR=33							
FINES						Sn	Sn	00 38 14.8	-11
	comp=Z,0.2nm,0.3s,baz=316,slow=20,SNR=1.9							
FINES						LR	LR	00 40 51.7	
	comp=Z,403nm,19.7s,baz=345,slow=36							
	comp=Z,7.3nm,0.6s							
AAL	**Aland**	**14.02**	**148**	*eP*		**Pn**	**00 35 50.9**	**-0.9**
MEF	**Metsahovi**	**14.75**	**139**	*eP*		**Pn**	**00 35 59.2**	**-2.6**
VIKU	**Vikbolandet**	**15.18**	**156**	*eP*		**Pn**	**00 36 05.5**	**-2.0**
EKA	**Eskdalemuir Ar**	**17.96**	**195**		P	**P**	**00 36 44.2**	**+0.8**
	baz=4.8,slow=9.3							
	comp=Z,3.7nm,0.8s							
PBUR	**Paburge**	**18.30**	**149**	*eP*		**P**	**00 36 47.7**	**+0.6**
PABE	**Paberze**	**19.12**	**146**			**P**	**00 36 54.7**	**-1.5**
PABE	**Paberze**	**19.12**	**146**	*eP*		**P**	**00 36 56.0**	**-0.2**
SFJD	**Kangerlussuaq**	**19.27**	**281**		LR	LR	00 43 28.0	
	comp=Z,310nm,18.4s,baz=46,slow=34							
IDID	**Didziasalis**	**19.79**	**141**	*eP*		**Pn**	**00 37 05.3**	**+0.3**
NACGM	**Naroch**	**20.19**	**142**	*eP*		**P**	**00 37 08.7**	**+0.8**
	comp=E,656nm,0.8s							
SUW	**Suwalki**	**20.43**	**148**	*eP*		**P**	**00 37 10.1**	**-0.4**
SUW	**Suwalki**	**20.43**	**148**		P	**P**	**00 37 09.1**	**-1.4**
SUW	**Suwalki**	**20.43**	**148**	*eP*		**P**	**00 37 11.2**	**+0.7**
MNK	**Minsk**	**20.78**	**140**	*i*	P	**P**	**00 37 15.2**	**+1.0**
	comp=E,2.0nm,0.7s,baz=344							
MNK					*i*	P	**P**	**00 37 15.2**	**+1.0**
	comp=N,15nm,1.0s,baz=344							
MNK					*i*	P	**P**	**00 37 15.2**	**+1.0**
	comp=Z,12nm,0.9s,baz=344							
MNK					*i*	pP	pwP	00 37 28.4	+8.6
	baz=344							
MNK					*i*	PP	**PnPn**	**00 37 37.2**	**+5.2**
	baz=344							
MNK					*i*	S	Sn	00 41 09.3	-1.5
	baz=344							
MNK					*i*	SS	**SnSn**	**00 41 36.9**	**+12**
	baz=344							
MNK					*i*	LQ	LQ	00 43 09.9	
	baz=344							
MNK					*i*	LR	LR	00 43 46.0	
	baz=344							
MNK					*i*	LRM	MLR	00 45 00.1	
	comp=Z,305nm,18.2s,baz=344							
MNK					*i*	LRM	MLR	00 45 09.7	
	comp=N,368nm,19.1s,baz=344							
MNK					*i*	LRM	MLR	00 45 10.4	
	comp=E,67nm,18.0s,baz=344							
CLL	**Collm**	**21.94**	**167**		P	**P**	**00 37 25.9**	**-0.9**
CLL	**Collm**	**21.94**	**167**	*eP*		**P**	**00 37 30.0**	**+3.2**
CLL					*ex*	x	00 37 35.0	
CLL					*eS*	**S**	**00 41 32.0**	**+3.3**
OBN	**Obninsk**	**22.07**	**127**		P	**P**	**00 37 27.7**	**-0.3**
OBN	**Obninsk**	**22.07**	**127**		P	**P**	**00 37 28.0**	**0.0**
	comp=E,4.4nm,0.4s,baz=45,slow=7.1,SNR=6.4							
OBN						LR	LR	00 45 44.8	
	comp=E,261nm,19.5s,baz=356,slow=36							
	comp=E,4.4nm,0.4s							
KIRV	**Kirov**	**22.41**	**106**		LR	LR	00 46 05.0	
	comp=E,199nm,21.4s,baz=334,slow=36							
BRG	**Berggiesshubel**	**22.44**	**165**	*eP*		**P**	**00 37 36.0**	**+3.8**
BRG					Amp		00 37 40.1	
	comp=Z,2.6nm,1.0s							
CHVC	**Chvalec**	**22.91**	**162**	*eP*		**P**	**00 37 40.6**	**+3.5**
DPC	**Dobruska-Polom**	**23.17**	**161**	*eP*		**P**	**00 37 43.6**	**+3.8**
OJC	**Ojcow**	**23.67**	**156**	*eP*		**P**	**00 37 49.1**	**+4.4**
OJC	**Ojcow**	**23.67**	**156**			**P**	**00 37 44.5**	**-0.2**
OJC					IAmb	IAmb	00 37 55.4	
	comp=Z,7.7nm,0.9s							
MORC	**Moravsky Berou**	**23.85**	**160**		P	**P**	**00 37 46.4**	**-0.2**
MORC					IAmb	IAmb	00 38 02.3	
	comp=Z,7.7nm,1.2s							
MORC	**Moravsky Berou**	**23.85**	**160**	*eP*		**P**	**00 37 46.7**	**+0.1**
KHC	**Kasperske Hory**	**24.15**	**166**		P	**P**	**00 37 47.9**	**-1.4**
KHC	**Kasperske Hory**	**24.15**	**166**	*eP*		**P**	**00 37 51.3**	**+2.0**
VRAC	**Vranov**	**24.22**	**161**	*eP*		**P**	**00 37 51.0**	**+1.0**
VRAC	**Vranov**	**24.22**	**161**		LR	LR	00 47 33.8	
	comp=Z,160nm,18.5s,baz=350,slow=37							
GEC2	**GERESS Array S**	**24.44**	**166**		P	**P**	**00 37 52.7**	**+0.6**
GEC2					IAmb	IAmb	00 38 01.4	
	comp=Z,5.6nm,1.2s							
GERES	**GERESS Array B**	**24.44**	**166**		P	**P**	**00 37 51.7**	**-0.4**
GERES	**GERESS Array B**	**24.44**	**166**		P	**P**	**00 37 53.8**	**+1.7**
	comp=Z,0.9nm,0.6s,baz=350,slow=5.0,SNR=6.7							
GERES						LR	LR	00 47 27.7	
	comp=Z,42nm,20.2s,baz=18,slow=37							
	comp=Z,0.9nm,0.6s							
KRUC	**Moravsky**	**24.45**	**162**	*eP*		**P**	**00 37 53.4**	**+1.4**
CKRC	**Cesky Krumlov**	**24.51**	**165**	*eP*		**P**	**00 37 54.7**	**+2.1**
KWP	**Kalwaria Pacla**	**24.63**	**152**		P	**P**	**00 37 54.3**	**+0.7**
KWP					IAmb	IAmb	00 38 02.3	
	comp=Z,13nm,1.1s							
AKASG	**Malin Array Be**	**24.65**	**141**		P	**P**	**00 37 53.9**	**0.0**
	comp=Z,1.5nm,0.7s,baz=342,slow=10,SNR=7.9							
AKASG						LR	LR	00 47 25.4	
	comp=Z,380nm,18.7s,baz=340,slow=36							
	comp=Z,1.5nm,0.7s							
AKBB	**Malin Array Si**	**24.65**	**141**		P	**P**	**00 37 53.2**	**-0.6**
KIEV	**Kiev**	**24.66**	**141**		P	**P**	**00 37 52.3**	**-1.6**
KIEV					IAmb	IAmb	00 38 08.7	
	comp=Z,18nm,1.5s							
LANS	**Liptovska Anna**	**24.68**	**157**	*eP*		**P**	**00 37 58.4**	**+4.2**
LANS				*e*			00 38 03.9	
RES	**Resolute Bay**	**24.86**	**321**		LR	LR	00 47 46.5	
	comp=Z,241nm,18.6s,baz=24,slow=37							
KOLS	**Kolonicke sedl**	**25.25**	**153**	*eP*		**P**	**00 38 01.6**	**+2.3**
KOLS				*e*			00 38 06.2	
VYHS	**Vyhne**	**25.26**	**158**	*eP*		**P**	**00 38 00.8**	**+1.4**
VYHS				*e*			00 38 06.2	
CONA	**Conrad Observa**	**25.53**	**163**	*i*	P	**P**	**00 38 03.3**	**+1.4**
	comp=Z,5.5nm,0.9s							
MOTA	**Moosalm**	**25.78**	**170**	*eP*		**P**	**00 38 08.2**	**+3.9**
	comp=Z,5.7nm,1.1s							
DAVA	**Damuels**	**25.79**	**172**	*i*	P	**P**	**00 38 08.2**	**+3.9**
	comp=Z,4.5nm,0.8s							
LESA	**Schwarzleotal**	**25.79

PETK	**Petropavlovsk-**	**52.87**	**20**	P		**P**	**00 41 50.2**	**+1.4**
	comp=Z,3.5nm,0.9s,baz=346,slow=11,SNR=2.3							
	comp=Z,3.5nm,0.9s							
SHEM	**Shemya Is, Ala**	**54.44**	**8**	LR		LR	01 04 41.7	
	comp=Z,42nm,20.7s,baz=327,slow=35							
IMW	**Indian Meadow**	**55.51**	**308**	P		**P**	**00 42 08.1**	**-0.3**
IMW				IAmb		IAmb	00 42 29.9	
	comp=Z,5.1nm,1.1s							
SIUC	**Southern Illin**	**55.63**	**287**	P		**P**	**00 42 07.8**	**-1.3**
TKL	**Tuckaleechee C**	**55.99**	**281**	LR		LR	01 04 23.2	
	comp=Z,43nm,18.3s,baz=3.0,slow=34							
ASAJ	**Asahikawa**	**59.65**	**34**	LR		LR	01 09 39.3	
	comp=Z,41nm,19.0s,baz=152,slow=37							
ANMO	**Albuquerque**	**62.89**	**301**	LR		LR	01 10 30.7	
	comp=Z,100nm,18.0s,baz=152,slow=36							
MJAR	**Matsushiro Arr**	**66.22**	**40**	P		**P**	**00 43 21.1**	**0.0**
	comp=Z,2.0nm,0.9s,baz=358,slow=7.3,SNR=4.6							
	comp=Z,2.0nm,0.9s							
VHRN	**Van Horn**	**66.46**	**298**	P		**P**	**00 43 23.3**	**+0.4**
VHRN				IAmb		IAmb	00 43 29.6	
	comp=Z,3.0nm,1.1s							
TXAR	**Lajitas Array**	**67.50**	**296**	P		**P**	**00 43 30.8**	**+1.4**
	comp=Z,0.7nm,0.7s,baz=28,slow=6.1,SNR=2.7							
TXAR				LR		LR	01 12 48.8	
	comp=Z,29nm,18.4s,baz=316,slow=36							
	comp=Z,0.7nm,0.7s							
TEIG	**Tepich**	**71.80**	**279**	LR		LR	01 14 35.0	
	comp=Z,205nm,20.9s,slow=35							
CMAR	**Chiang Mai Arr**	**73.66**	**81**	LR		LR	01 22 56.0	
	comp=Z,14nm,18.8s,baz=245,slow=41							
CMIG	**Matias Romero**	**76.69**	**285**	LR		LR	01 20 38.6	
	comp=Z,19nm,19.6s,baz=3.5,slow=38							
JTS	**Las Juntas de**	**80.23**	**273**	LR		LR	01 21 19.0	
	comp=Z,25nm,18.7s,baz=328,slow=36							
ATAH	**Atahualpa**	**94.83**	**262**	LR		LR	01 24 45.0	
	comp=Z,23nm,21.0s,baz=272,slow=33							

IDC ***12*** *00:32:53.3±0.7,27°.31N×44°.37W,h0km,mb4.1/22, mbtmp4.1/22,MS3.4/19,Error ellipse: s-maj=22.2km s-min=15.4km az=155.0*

NEIC ***12*** *00:32:55.1±1.5,27°.2N±0°.1×44°.3W±0°.2,h10km±1km, mb4.5/35,Error ellipse: s-maj=25.7km s-min=20.0km az=137.0*

ISC 12 00:32:56.5±0.6,27°.3N±0°.1×44°.36W±0°.10,h22km,n78, σ1§13/61,mb4.3/39,MS3.4/19,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**23.44**	**201**	LR	LR	00 44 43.5	
	comp=Z,19nm,19.3s,baz=102,slow=30						
SDV	**Santo Domingo**	**30.85**	**239**	LR	LR	00 52 45.8	
	comp=Z,20nm,18.6s,baz=14,slow=39						
SCHQ	**Schefferville**	**32.02**	**335**	P	**P**	**00 39 21.8**	**+0.6**
	5.8nm,0.7s,baz=152,slow=14						
SCHQ				LR	LR	00 51 31.4	
	comp=Z,111nm,21.1s,baz=102,slow=35						
	5.8nm,0.7s						
SADO	**Sadowa**	**32.78**	**311**	LR	LR	00 51 02.9	
	comp=Z,100nm,20.0s,baz=266,slow=33						
TKL	**Tuckaleechee C**	**34.45**	**294**	LR	LR	00 51 04.2	
	comp=Z,86nm,20.4s,baz=62,slow=32						
MDT	**Midelt**	**34.70**	**71**	LR	LR	00 50 18.1	
	comp=Z,76nm,20.6s,baz=312,slow=30						
ESDC	**Sonseca Array**	**35.60**	**59**	P	**P**	**00 39 51.9**	**-0.6**
	1.1nm,1.0s,baz=263,slow=11,SNR=3.6						
	1.1nm,1.0s						
ROSC	**El Rosal**	**36.24**	**237**	LR	LR	00 54 32.2	
	comp=Z,39nm,19.0s,baz=144,slow=36						
Z47A	**Carrollton**	**38.01**	**290**	P	**P**	**00 40 13.7**	**+0.7**
Z47A				IAmb	IAmb	00 40 16.1	
	comp=Z,8.7nm,0.9s						
SAML	**Samuel**	**40.38**	**209**	P	**P**	**00 40 32.6**	**-0.4**
TEIG	**Tepich**	**40.64**	**270**	LR	LR	00 53 54.8	
	comp=Z,593nm,21.6s,slow=31						
EKA	**Eskdalemuir Ar**	**40.81**	**35**	P	**P**	**00 40 35.3**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=225,slow=7.0,SNR=2.7						
	comp=Z,1.4nm,0.8s						
HHAR	**Hobbs**	**42.70**	**295**	P	**P**	**00 40 47.5**	**-4.3**
HHAR				IAmb	IAmb	00 41 31.1	
	comp=Z,8.5nm,1.0s						
DBIC	**Dimbokro**	**42.72**	**111**	LR	LR	00 56 05.0	
	comp=Z,91nm,19.0s,baz=283,slow=33						
BDFB	**Brasilia**	**42.83**	**185**	LR	LR	00 56 37.4	
	comp=Z,38nm,19.0s,baz=56,slow=33						
H10N2	**ASCENSION HYDR**	**45.34**	**136**	T	T	01 29 37.7	
	baz=321,slow=75,SNR=63						
H10N3	**ASCENSION HYDR**	**45.34**	**136**	T	T	01 29 39.8	
	baz=321,slow=75,SNR=64						
H10N1	**ASCENSION HYDR**	**45.36**	**136**	T	T	01 29 41.1	
	baz=321,slow=75,SNR=66						
KEST	**Kesra**	**46.07**	**66**	P	**P**	**00 41 19.4**	**+0.5**
KEST	**Kesra**	**46.07**	**66**	P	**P**	**00 41 19.5**	**+0.5**
	comp=Z,6.7nm,0.9s,baz=227,slow=6.2,SNR=10						
	comp=Z,6.7nm,0.9s						
H10S3	**ASCENSION HYDR**	**46.12**	**137**	T	T	01 30 24.6	
	baz=321,slow=74,SNR=52						
H10S2	**ASCENSION HYDR**	**46.13**	**137**	T	T	01 30 25.8	
	baz=259,slow=74,SNR=19						
WMOK	**Wichita Mounta**	**46.75**	**293**	P	**P**	**00 41 24.6**	**+0.3**
WMOK				IAmb	IAmb	00 41 32.0	
	comp=Z,5.6nm,1.1s						
BRDY	**Brady**	**47.42**	**289**	P	**P**	**00 41 28.8**	**-0.7**
BRDY				IAmb	IAmb	00 41 30.9	
	comp=Z,3.2nm,0.9s						
CTI	**Castel Tesino**	**47.64**	**51**	P	**P**	**00 41 30.2**	**-0.9**
CTI				IAmb	IAmb	00 41 33.2	
	comp=Z,4.2nm,0.9s						
CLL	**Collm**	**48.98**	**44**	P	**P**	**00 41 36.9**	**-4.3**
LPAZ	**La Paz**	**49.08**	**211**	P	**P**	**00 41 43.5**	**+0.5**
LPAZ	**La Paz**	**49.08**	**211**	P	**P**	**00 41 43.3**	**+0.3**
	comp=Z,2.5nm,0.8s,baz=3.1,slow=8.4,SNR=9.6						
LPAZ				LR	LR	01 00 36.6	
	comp=Z,21nm,21.1s,baz=24,slow=34						
	comp=Z,2.5nm,0.8s						
KHC	**Kasperske Hory**	**49.14**	**47**	P	**P**	**00 41 43.1**	**+0.6**
GERES	**GERESS Array B**	**49.20**	**48**	P	**P**	**00 41 42.7**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=280,slow=6.9,SNR=4.4						
GERES				LR	LR	00 57 55.8	
	comp=Z,31nm,19.7s,baz=306,slow=30						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**49.96**	**32**	P	**P**	**00 41 49.1**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=252,slow=7.6,SNR=3.9						
NOA				LR	LR	00 58 57.5	
	comp=Z,23nm,20.2s,baz=0.0,slow=31						
	comp=Z,1.0nm,0.8s						
HFS	**Hagfors**	**50.91**	**33**	P	**P**	**00 41 56.7**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=223,slow=5.9,SNR=3.6						
	comp=Z,1.2nm,0.6s						
DAG	**Danmarks Havn**	**51.06**	**7**	*i* P	**P**	**00 41 56.0**	**-0.6**
TXAR	**Lajitas Array**	**51.76**	**287**	P	**P**	**00 42 03.0**	**+0.3**
	comp=Z,0.7nm,0.9s,baz=102,slow=8.4,SNR=4.5						
	comp=Z,0.7nm,0.9s						
GO01	**Chusmiza**	**52.52**	**210**	P	**P**	**00 42 06.8**	**-2.0**
GO01				IAmb	IAmb	00 42 14.9	
	comp=Z,7.8nm,0.9s						
PB11	**IPOC Station P**	**52.81**	**210**	P	**P**	**00 42 08.7**	**-1.7**
PD31	**Pinedale Array**	**54.30**	**305**	P	**P**	**00 42 21.6**	**+0.1**
PD31				IAmb	IAmb	00 42 22.8	
	comp=Z,3.3nm,0.8s						
PDAR	**Pinedale Array**	**54.30**	**305**	P	**P**	**00 42 21.1**	**-0.3**
PDAR	**Pinedale Array**	**54.30**	**305**	P	**P**	**00 42 21.5**	**+0.1**
	comp=Z,2.6nm,0.8s,baz=87,slow=8.5,SNR=16						
PDAR				LR	LR	01 03 37.8	
	comp=Z,50nm,21.9s,baz=94,slow=34						
	comp=Z,2.6nm,0.8s						
P18A	**Preston Nutter**	**55.21**	**301**	P	**P**	**00 42 28.5**	**+0.3**
BURAR	**Bucovina Array**	**56.91**	**49**	P	**P**	**00 42 39.7**	**-0.2**
YKA	**Yellowknife Ar**	**57.07**	**329**	P	**P**	**00 42 39.9**	**-0.7**
	comp=Z,0.9nm,0.8s,baz=86,slow=7.4,SNR=14						
YKA				PcP	**PcP**	**00 43 35.3**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=85,slow=5.0,SNR=6.8						
YKA				LR	LR	01 05 54.9	
	comp=Z,112nm,20.5s,baz=314,slow=35						
	comp=Z,0.9nm,0.8s						
FINES	**FINESS Array B**	**57.10**	**33**	P	**P**	**00 42 41.1**	**+0.2**
	comp=Z,2.7nm,1.0s,baz=262,slow=9.5,SNR=5.0						
	comp=Z,2.7nm,1.0s						
ARCES	**ARCESS Array B**	**57.67**	**23**	P	**P**	**00 42 45.4**	**+0.5**
	comp=Z,5.5nm,0.8s,baz=274,slow=7.1,SNR=9.3						
	comp=Z,5.5nm,0.8s						
ELK	**Elko**	**58.80**	**303**	P	**P**	**00 42 53.8**	**+0.3**
AKASG	**Malin Array Be**	**59.21**	**45**	P	**P**	**00 42 55.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=278,slow=6.3,SNR=8.8						
AKASG				LR	LR	01 04 34.0	
	comp=Z,33nm,21.3s,baz=312,slow=32						
	comp=Z,1.2nm,0.6s						
A36M	**Sachs Harbour**	**61.49**	**340**	P	**P**	**00 43 12.0**	**+1.0**
BRTR	**Keskin Array B**	**64.34**	**57**	P	**P**	**00 43 31.2**	**+0.4**
	comp=Z,2.3nm,0.9s,baz=271,slow=5.3,SNR=8.7						
	comp=Z,2.3nm,0.9s						
INK	**Inuvik**	**64.64**	**336**	LR	LR	01 11 24.9	
	comp=Z,43nm,19.3s,baz=190,slow=36						
F28M	**Old Crow**	**67.13**	**336**	P	**P**	**00 43 48.3**	**+0.2**
F28M				IAmb	IAmb	00 43 49.5	
	comp=Z,2.9nm,0.9s						
D25K	**Kavik River**	**68.86**	**338**	P	**P**	**00 43 59.5**	**+0.5**
D25K				IAmb	IAmb	00 44 07.1	
	comp=Z,2.6nm,0.9s						
BMAR	**Burnt Mountain**	**68.91**	**336**	P	**P**	**00 44 00.2**	**+0.9**
E25K	**Arctic Village**	**69.02**	**337**	P	**P**	**00 44 00.8**	**+0.8**
E25K				IAmb	IAmb	00 44 02.5	
	comp=Z,4.1nm,0.9s						
KBZ	**Khabaz**	**69.81**	**50**	P	**P**	**00 44 06.6**	**+1.4**
	comp=Z,1.8nm,0.8s,baz=289,slow=6.3,SNR=4.1						
	comp=Z,1.8nm,0.8s						
E24K	**Your Creek**	**70.05**	**337**	P	**P**	**00 44 07.7**	**+1.3**
F24K	**Squaw Lake**	**70.06**	**337**	P	**P**	**00 44 07.5**	**+1.0**
F24K				IAmb	IAmb	00 44 09.1	
	comp=Z,2.7nm,0.8s						
G24K	**Hadweenzic Riv**	**70.23**	**336**	P	**P**	**00 44 08.6**	**+1.1**
IL31		**70.77**	**334**	P	**P**	**00 44 10.9**	**+0.2**
IL31				IAmb	IAmb	00 44 12.5	
	comp=Z,2.4nm,0.8s						
ILAR	**Eielson Array**	**70.77**	**334**	P	**P**	**00 44 10.9**	**+0.2**
ILAR	**Eielson Array**	**70.77**	**334**	P	**P**	**00 44 11.3**	**+0.6**
	comp=Z,2.1nm,0.8s,baz=77,slow=4.8,SNR=18						
	comp=Z,2.1nm,0.8s						
D22K	**Ayikyak River**	**71.11**	**339**	P	**P**	**00 44 13.7**	**+0.9**
D22K				IAmb	IAmb	00 44 21.7	
	comp=Z,6.4nm,1.1s						
H23K	**Yukon River**	**71.36**	**335**	P	**P**	**00 44 15.2**	**+0.9**
H23K				IAmb	IAmb	00 44 22.3	
	comp=Z,3.4nm,0.9s						
B21K	**Ikpikpuk River**	**71.38**	**340**	P	**P**	**00 44 15.8**	**+1.5**
B21K				IAmb	IAmb	00 44 16.9	
	comp=Z,5.6nm,0.9s						
PLCA	**Paso Flores**	**71.92**	**201**	P	**P**	**00 44 18.4**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=8.7,slow=8.0,SNR=5.1						
	comp=Z,1.7nm,0.8s						
D19K	**Kuna River**	**73.03**	**339**	P	**P**	**00 44 26.0**	**+1.6**
C19K	**Lookout Ridge**	**73.16**	**340**	P	**P**	**00 44 27.0**	**+1.9**
E19K	**Redstone River**	**73.29**	**338**	IAmb	IAmb	00 44 29.9	
	comp=Z,3.3nm,0.9s						
TSUM	**Tsumeb**	**75.73**	**121**	LR	LR	01 12 10.6	
	comp=Z,32nm,18.8s,baz=133,slow=31						
TIXI	**Tiksi**	**81.21**	**2**	P	**P**	**00 45 10.3**	**+0.1**
TIXI				IAmb	IAmb	00 45 12.0	
	comp=Z,7.1nm,1.1s						
BVAR	**Borovoye Array**	**82.04**	**34**	P	**P**	**00 45 15.7**	**+0.8**
	comp=Z,1.4nm,0.8s,baz=279,slow=2.8,SNR=6.1						
	comp=Z,1.4nm,0.8s						
LSZ	**Lusaka**	**82.06**	**112**	LR	LR	01 20 04.1	
	comp=Z,13nm,19.3s,baz=144,slow=34						
GEYT	**Alibeck**	**82.69**	**51**	P	**P**	**00 45 18.9**	**+0.3**
GEYT				IAmb	IAmb	00 45 53.5	
	comp=Z,4.5nm,1.4s						
GEYT	**Alibeck**	**82.69**	**51**	P	**P**	**00 45 18.5**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=289,slow=4.4,SNR=2.7						
	comp=Z,0.7nm,0.7s						
KURK	**Kurchatov**	**87.47**	**32**	P	**P**	**00 45 41.8**	**-0.5**
KURBB	**Kurchatov Arra**	**87.49**	**32**	P	**P**	**00 45 42.7**	**+0.4**
	comp=Z,0.6nm,0.9s,baz=311,slow=6.3,SNR=4.1						
	comp=Z,0.6nm,0.9s						
ZAA0	**Zalesovo Array**	**87.96**	**27**	P	**P**	**00 45 45.4**	**+0.8**
ZAA0				IAmb	IAmb	00 45 46.0	
	comp=Z,1.7nm,0.8s						
ZALV	**Zalesovo Beam**	**87.96**	**27**	P	**P**	**00 45 44.8**	**+0.3**
ZALV	**Zalesovo Beam**	**87.96**	**27**	P	**P**	**00 45 44.7**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=308,slow=7.1,SNR=7.7						
	comp=Z,1.4nm,0.8s						

IDC ***12*** *00:50:54.1±0.8,28°.8S×139°.34E,h0km,mb4.3/6, mbtmp4.2/10,ML4.3/3,MS3.3/4,Error ellipse: s-maj=35.5km s-min=15.6km az=66.0*

NEIC ***12*** *00:50:55.7±1.6,28°.74S±0°.07×139°.32E±0°.09,h10km±2km, mb4.4/9,Error ellipse: s-maj=14.2km s-min=11.7km az=52.0*

AUST ***12*** *00:50:56.0±0.4,28°.80S×139°.33E,h10km,Error ellipse: s-maj=4.9km s-min=4.6km az=15.0*

NOU ***12*** *00:50:59.1,28°.82S×139°.32E,h80km,mb4.5/28,South Australia*

ISC 12 00:50:54.8±0.5,28°.80S±0°.05×139°.24E±0°.05,h10km,n97, σ1§81/103,mb4.5/8,1C,South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INKA	**Innaminka**	**1.69**	**52**	P	**Pg**	**00 51 26.7**	**-0.7**
	baz=1.6,SNR=70						
INKA				S	**Sb**	**00 51 46.7**	**-0.8**
	baz=1.6						
INKA	**Innaminka**	**1.69**	**52**	P	**Pg**	**00 51 27.0**	**-0.4**
LCRK	**Leigh Creek**	**1.87**	**208**	P	**Pb**	**00 51 29.8**	**+0.7**
	baz=1.9,SNR=89						
LCRK	**Leigh Creek**	**1.87**	**208**	P	**Pb**	**00 51 29.6**	**+0.5**
OOD	**Oodnadatta**	**3.29**	**287**	P	**Pn**	**00 51 50.4**	**+4.0**
	baz=3.4,SNR=192						
OOD				S	**Sn**	**00 52 29.2**	**+3.5**
	baz=3.4						
OOD	**Oodnadatta**	**3.29**	**287**	P	**Pn**	**00 51 50.6**	**+4.1**
STKA	**Stephens Creek**	**3.68**	**147**	P	**Pn**	**00 51 53.3**	**+1.5**
	baz=3.6,SNR=71						
STKA	**Stephens Creek**	**3.68**	**147**	P	**Pn**	**00 51 53.5**	**+1.7**
STKA	**Stephens Creek**	**3.68**	**147**	P	**Pn**	**00 51 53.2**	**+1.4**
STKA	**Stephens Creek**	**3.68**	**147**	Pn	**Pn**	**00 51 53.3**	**+1.5**
	11nm,0.3s,baz=322,slow=12,SNR=88						
STKA				Lg	Lg	00 52 54.5	
	334nm,0.3s,baz=49,slow=20,SNR=6.3						
STKA				LR	LR	00 53 34.9	
	comp=Z,274nm,18.1s,baz=248,slow=44						
	20nm,0.3s						
AUJCS	**Jamestown Cent**	**4.42**	**187**	P	**Pn**	**00 52 03.8**	**+1.8**
	baz=4.5						
WHYH	**Whyalla**	**4.46**	**198**	P	**Pn**	**00 52 04.9**	**+2.4**
HTT	**Hallett**	**4.62**	**183**	P	**Pn**	**00 52 06.9**	**+2.0**
	baz=4.6,SNR=27						
HTT	**Hallett**	**4.62**	**183**	P	**Pn**	**00 52 06.8**	**+2.0**
MULG	**Mulgathing**	**4.75**	**251**	P	**Pn**	**00 52 09.1**	**+2.5**
	baz=4.8,SNR=34						
MULG	**Mulgathing**	**4.75**	**251**	P	**Pn**	**00 52 08.9**	**+2.3**
BBOO	**Buckleboo**	**4.84**	**214**	P	**Pn**	**00 52 10.0**	**+2.1**
	baz=4.9,SNR=95						
BBOO				S	**Sn**	**00 53 01.9**	**-2.1**
	baz=4.9,SNR=6.5						
BBOO	**Buckleboo**	**4.84**	**214**	P	**Pn**	**00 52 10.1**	**+2.3**
BBOO	**Buckleboo**	**4.84**	**214**	Pn	**Pn**	**00 52 10.4**	**+2.6**
QLP	**Quilpie**	**4.95**	**65**	P	**Pn**	**00 52 11.4**	**+2.2**
	baz=4.9,SNR=29						
QLP	**Quilpie**	**4.95**	**65**	P	**Pn**	**00 52 11.4**	**+2.2**
CMSA	**Cobar Meteorol**	**6.21**	**118**	P	**Pn**	**00 52 26.3**	**-0.3**
	baz=6.1						
CMSA	**Cobar Meteorol**	**6.21**	**118**	P	**Pn**	**00 52 26.1**	**-0.5**
AUCAS	**Cummins Area S**	**6.22**	**208**	P	**Pn**	**00 52 29.1**	**+2.4**
	baz=6.3						
AS31	**Alice Springs**	**7.01**	**316**		**Pn**	**00 52 39.9**	**+2.3**
ASAR	**Alice Springs**	**7.01**	**316**		**Pn**	**00 52 39.1**	**+1.5**
ASAR	**Alice Springs**	**7.01**	**316**	Pn	**Pn**	**00 52 39.9**	**+2.2**
	11nm,0.3s,baz=140,slow=12,SNR=155						
ASAR				Sn	**Sn**	**00 53 56.5**	**-1.0**
	15nm,0.3s,baz=142,slow=23,SNR=7.5						
ASAR				Lg	Lg	00 54 40.1	
	baz=163,slow=22						
ASAR				LR	LR	00 56 07.7	
	comp=Z,206nm,20.4s,baz=128,slow=44						
	15nm,0.3s						
QIS	**Mount Isa**	**8.21**	**2**	P	**Pn**	**00 52 55.6**	**+1.4**
	baz=8.2,SNR=13						
QIS	**Mount Isa**	**8.21**	**2**	P	**Pn**	**00 52 55.5**	**+1.4**
ARPS	**Mount Arapiles**	**8.24**	**165**	P	**Pn**	**00 52 55.0**	**+0.6**
	baz=8.2,SNR=60						
ARPS				P	**Pn**	**00 52 55.1**	**+0.6**
	baz=8.2,SNR=26						
ARPS				S	**Sn**	**00 54 21.4**	**-6.2**
	baz=8.2,SNR=5.7						
ARPS	**Mount Arapiles**	**8.24**	**165**	P	**Pn**	**00 52 55.2**	**+0.7**
AUDCS	**Dubbo College**	**8.79**	**115**	P	**Pn**	**00 53 02.0**	**0.0**
	baz=8.7						
BRAT	**Ballarat**	**9.57**	**157**	P	**Pn**	**00 53 13.1**	**+0.5**
AUMTC	**Mt Clear Colle**	**9.60**	**157**	P	**Pn**	**00 53 13.8**	**+0.7**
	baz=9.6						
AUHPC	**Hawkesdale P12**	**9.63**	**165**	P	**Pn**	**00 53 15.1**	**+1.6**
	baz=9.6						
WR0	**Warramunga Arr**	**9.79**	**333**		**Pn**	**00 53 16.2**	**+0.4**
WC3	**Warramunga Arr**	**9.86**	**332**	P	**Pn**	**00 53 17.6**	**+0.8**
	baz=9.9						
WB2	**Warramunga Arr**	**9.88**	**332**	P	**Pn**	**00 53 17.8**	**+0.8**
	baz=9.9						
WB2	**Warramunga Arr**	**9.88**	**332**		**Pn**	**00 53 17.6**	**+0.5**
WRA	**Warramunga Arr**	**9.89**	**332**	Pn	**Pn**	**00 53 17.3**	**+0.2**
	3.4nm,0.3s,baz=148,slow=13,SNR=60						
WRA				Sn	**Sn**	**00 55 03.5**	**-4.7**
	6.0nm,0.3s,baz=152,slow=22,SNR=8.1						
WRA				Lg	Lg	00 56 10.2	
	baz=155,slow=25						
	2.4nm,0.3s						
FORT	**Forrest**	**9.91**	**256**	P	**Pn**	**00 53 18.1**	**+0.7**
	baz=10.0,SNR=10.0						
FORT	**Forrest**	**9.91**	**256**	P	**Pn**	**00 53 18.0**	**+0.6**
FORT	**Forrest**	**9.91**	**256**	Pn	**Pn**	**00 53 18.5**	**+1.0**
WB0	**Warramunga Arr**	**10.02**	**333**		**Pn**	**00 53 19.3**	**+0.4**
TOO	**Toolangi**	**10.19**	**151**	P	**Pn**	**00 53 22.0**	**+0.8**
	baz=10,SNR=7.9						
TOO	**Toolangi**	**10.19**	**151**	P	**Pn**	**00 53 21.8**	**+0.6**
TOO	**Toolangi**	**10.19**	**151**	Pn	**Pn**	**00 53 22.6**	**+1.4**
AUPHS	**Peel High Scho**	**10.36**	**106**	P	**Pn**	**00 53 23.0**	**-0.6**
	baz=10						
WRKA	**Warakurna**	**10.46**	**288**	P	**Pn**	**00 53 26.3**	**+1.2**
	baz=10,SNR=39						
WRKA	**Warakurna**	**10.46**	**288**	P	**Pn**	**00 53 26.2**	**+1.2**
CAN	**Canberra**	**10.52**	**131**	P	**Pn**	**00 53 25.7**	**-0.1**
CAN	**Canberra**	**10.52**	**131**	Pn	**Pn**	**00 53 26.0**	**+0.2**
AUMTS	**Mt Stromlo**	**10.52**	**131**	P	**Pn**	**00 53 26.4**	**+0.6**
	baz=10						
AUMHS	**Melrose High S**	**10.60**	**131**	P	**Pn**	**00 53 27.1**	**+0.2**
	baz=10						
CNB	**Canberra Magne**	**10.76**	**130**	P	**Pn**	**00 53 29.0**	**-0.1**
	baz=11,SNR=6.9						
CNB	**Canberra Magne**	**10.76**	**130**	P	**Pn**	**00 53 28.8**	**-0.3**
CTAO	**Charters Tower**	**10.77**	**38**	P	**Pn**	**00 53 30.3**	**+1.1**
CTAO	**Charters Tower**	**10.77**	**38**	Pn	**Pn**	**00 53 29.6**	**+0.4**
ARMA	**Armidale**	**10.90**	**102**	P	**Pn**	**00 53 30.8**	**-0.2**
	baz=11,SNR=6.6						
ARMA	**Armidale**	**10.90**	**102**	P	**Pn**	**00 53 30.9**	**-0.2**
ARMA	**Armidale**	**10.90**	**102**	Pn	**Pn**	**00 53 30.0**	**-1.0**
MGCD	**Mangrove Creek**	**11.09**	**116**	P	**Pn**	**00 53 33.5**	**0.0**
	baz=11,SNR=15						
MGCD	**Mangrove Creek**	**11.09**	**116**	P	**Pn**	**00 53 33.4**	**0.0**
EIDS	**Eidsvold**	**11.09**	**75**	P	**Pn**	**00 53 33.7**	**+0.1**
	baz=11						
EIDS	**Eidsvold**	**11.09**	**75**	P	**Pn**	**00 53 33.6**	**+0.1**
EIDS	**Eidsvold**	**11.09**	**75**	Pn	**Pn**	**00 53 32.4**	**-1.1**
COEN	**Coen**	**15.22**	**15**	P	**Pn**	**00 54 29.8**	**-0.1**
COEN	**Coen**	**15.22**	**15**	Pn	**Pn**	**00 54 29.1**	**-0.8**
FITZ	**Fitzroy Crossi**	**16.39**	**308**	P	**Pn**	**00 54 43.5**	**-1.6**
	baz=16,SNR=7.4						
FITZ	**Fitzroy Crossi**	**16.39**	**308**	P	**Pn**	**00 54 43.7**	**-1.4**
FITZ	**Fitzroy Crossi**	**16.39**	**308**		**Pn**	**00 54 43.6**	**-1.6**
KDU	**Kakadu**	**17.23**	**337**	P	**Pn**	**00 54 54.6**	**-1.1**
MTN	**Manton Dam**	**17.58**	**333**	Pn	**Pn**	**00 54 58.4**	**-1.8**
MTN				IAmb	IAmb	00 55 07.1	
	comp=Z,28nm,1.1s						
MEEK	**Meekatharra**	**18.39**	**272**	P	**P**	**00 55 07.9**	**-2.2**
	baz=18,SNR=7.0						
MEEK	**Meekatharra**	**18.39**	**272**	P	**P**	**00 55 09.1**	**-1.0**
PSA00	**Pilbara Seismi**	**18.96**	**288**	P	**P**	**00 55 16.1**	**-0.2**
PSA00	**Pilbara Seismi**	**18.96**	**288**	P	**P**	**00 55 15.7**	**-0.6**
MBWA	**Marble Bar**	**19.24**	**289**	P	**P**	**00 55 18.6**	**-0.8**
MBWA	**Marble Bar**	**19.24**	**289**		**P**	**00 55 19.2**	**-0.2**
MBWA				IAmb	IAmb	00 55 34.0	
	comp=Z,21nm,0.8s						
NWAO	**Narrogin (SRO)**	**19.33**	**252**	P	**Pn**	**00 55 21.9**	**+0.5**
	comp=Z,6.6nm,1.0s,baz=85,slow=8.8,SNR=1.0						
NWAO				S	**Sn**	**00 58 49.3**	**-8.9**
	comp=Z,3.7nm,0.4s,baz=38,slow=13,SNR=1.9						
NWAO				Lg	Lg	01 01 00.7	
	comp=Z,0.5nm,0.3s,baz=350,slow=23,SNR=1.1						
GIRL	**Giralia**	**23.33**	**279**	P	**P**	**00 56 04.5**	**+1.3**
KAPI	**Kappang**	**30.02**

PB06 IAML 00 56 25.9
comp=N,694nm,0.3s
PB15 IPOC Station P 1.76 247 *eP* **Pn 00 55 58.9 +0.5**
PB15 *eS* **Sn 00 56 24.2 -0.4**
PB15 IPOC Station P 1.76 247 Pg **Pn 00 55 58.9 +0.5**
YJA Yavi 2.07 81 *eP* **Pn 00 56 02.9 +0.8**
YJA *eS* **Sn 00 56 32.7 +1.6**
PB07 IPOC Station P 2.16 291 *eP* **Pn 00 56 02.8 -0.1**
PB07 *eS* **Sn 00 56 32.3 -0.1**
PB07 IAML 00 56 32.5
comp=Z,452nm,0.2s
PB07 IPOC Station P 2.16 291⇑ *eP* **Pn 00 56 02.7 -0.1**
PB07 *eS* **Sn 00 56 30.9 -1.5**
PB07 IAML 00 56 32.5
comp=N,650nm,0.2s
PB01 IPOC Station P 2.20 311 *eP* **Pn 00 56 03.2 0.0**
PB01 *eS* **Sn 00 56 34.0 +0.8**
PB01 IAML 00 56 37.8
comp=Z,128nm,0.2s
PB01 IPOC Station P 2.20 311⇑ *iP* **Pn 00 56 03.1 0.0**
PB01 IPOC Station P 2.20 311 Pg **Pn 00 56 03.3 0.0**
PB01 Sg **Sn 00 56 32.5 -0.7**
PB01 IAML 00 56 36.7
comp=Z,169nm,0.2s
HJA Humahuaca 2.24 108 *eP* **Pn 00 56 04.6 +0.7**
HJA *eS* **Sn 00 56 29.9 -4.6**
PB04 IPOC Station P 2.25 274 *eP* **Pn 00 56 03.7 -0.3**
PB04 *eS* **Sn 00 56 33.5 -0.9**
PB04 IAML 00 56 35.5
comp=Z,473nm,0.1s
PB04 IPOC Station P 2.25 274⇑ *iP* **Pn 00 56 03.6 -0.3**
PB04 *eS* **Sn 00 56 33.2 -1.2**
PB04 IAML 00 56 35.1
comp=N,705nm,0.3s
MOCB Mochara 2.31 57 Pg **Pn 00 56 05.7 +0.9**
MOCB Sg **Sn 00 56 36.5 +0.5**
MOCB IAML 00 56 37.9
comp=N,244nm,0.5s
PB02 IPOC Station P 2.34 300 *eP* **Pn 00 56 04.6 -0.3**
PB02 *eS* **Sn 00 56 36.2 0.0**
PB02 IAML 00 56 38.9
comp=Z,297nm,0.1s
PB02 IPOC Station P 2.34 300⇑ *eP* **Pn 00 56 04.6 -0.3**
PB02 *eS* **Sn 00 56 34.8 -1.3**
PB02 IAML 00 56 43.0
comp=N,369nm,0.4s
PB02 IPOC Station P 2.34 300 Pg **Pn 00 56 04.8 -0.1**
PB02 Sg **Sn 00 56 35.0 -1.2**
PB02 IAML 00 56 43.1
comp=N,287nm,0.3s
PB08 IPOC Station P 2.71 330 *eP* **Pn 00 56 09.8 +0.2**
PB08 *eS* **Sn 00 56 46.1 +1.5**
PB08 IAML 00 56 46.8
comp=Z,119nm,0.3s
PB08 IPOC Station P 2.71 330⇑ *eP* **Pn 00 56 10.4 +0.8**
PB08 *eS* **Sn 00 56 45.1 +0.6**
PB08 IAML 00 56 48.5
comp=E,189nm,0.5s
PB08 IPOC Station P 2.71 330 Pg **Pn 00 56 10.5 +0.9**
PB10 IPOC Station P 2.79 249 *eP* **Pn 00 56 09.6 -0.5**
PB10 *eS* **Sn 00 56 43.2 -2.4**
PB10 IAML 00 56 44.3
comp=Z,131nm,0.3s
PATCX Punta Patache 2.82 306 *eP* **Pn 00 56 09.9 -0.7**
PATCX *eS* **Sn 00 56 50.1 +3.7**
PATCX IAML 00 56 53.1
comp=Z,110nm,0.3s
PATCX Punta Patache 2.82 306⇑ *eP* **Pn 00 56 09.8 -0.7**
PATCX *eS* **Sn 00 56 45.3 -1.0**
PATCX IAML 00 56 49.6
comp=N,181nm,0.3s
SLA San Lorenzo 2.99 138 *eP* **Pn 00 56 13.7 +1.0**
SLA *eS* **Sn 00 56 53.5 +3.3**
TA01 Diego Aracena 3.00 310 *eP* **Pn 00 56 10.9 -1.8**
TA01 *eS* **Sn 00 56 51.1 +1.0**
HMBC Humberstone 3.01 317 *eP* **Pn 00 56 11.8 -1.1**
HMBC *eS* **Sn 00 56 49.0 -1.5**
HMBC IAML 00 56 52.9
comp=Z,219nm,0.4s
HMBC Humberstone 3.01 317⇑ *iP* **Pn 00 56 11.7 -1.1**
HMBC *eS* **Sn 00 56 48.9 -1.6**
GO02 Mina Guanaco 3.14 213 *eP* **Pn 00 56 14.5 -0.2**
GO02 *eS* **Sn 00 56 52.5 -1.3**
GO01 Chusmiza 3.15 334 *eP* **Pn 00 56 15.6 +0.5**
GO01 *eS* **Sn 00 56 55.7 +1.4**
GO01 Chusmiza 3.15 334⇑ *eP* **Pn 00 56 15.0 0.0**
GO01 *eS* **Sn 00 56 54.5 +0.2**
GO01 IAML 00 56 57.2
comp=E,253nm,0.1s
GO01 Chusmiza 3.15 334 Pg **Pn 00 56 15.5 +0.5**
TA02 Huaiquique 3.17 314 *eP* **Pn 00 56 15.4 +0.7**
TA02 IAML 00 57 14.6
comp=Z,302nm,0.1s
PB14 IPOC Station P 3.24 229 *eP* **Pn 00 56 15.5 -0.4**
PB14 *eS* **Sn 00 56 53.4 -2.5**
PB14 IAML 00 56 56.3
comp=Z,125nm,1.0s
PB14 IPOC Station P 3.24 229 *eP* **Pn 00 56 15.5 -0.4**
PB11 IPOC Station P 3.28 326 *eP* **Pn 00 56 15.6 -0.8**
PB11 *eS* **Sn 00 56 56.7 -0.1**
PB11 IAML 00 56 57.2
comp=Z,104nm,0.3s
PB11 IPOC Station P 3.28 326⇑ *eP* **Pn 00 56 15.4 -1.0**
PB11 *eS* **Sn 00 56 55.6 -1.2**
PB11 IAML 00 56 57.0
comp=E,301nm,0.4s
AC01 Pan de Azucar 4.47 215 *eP* **Pn 00 56 29.7 -1.6**
AC01 *eS* **Sn 00 57 20.0 -3.7**
AC01 IAML 00 57 48.0
comp=Z,21nm,1.4s
AC02 Maricunga 4.49 196 *eP* **Pn 00 56 31.8 -0.2**
AC02 *eS* **Sn 00 57 22.4 -2.4**
PB12 IPOC Station P 4.59 327 *eP* **Pn 00 56 31.1 -1.9**
PB12 *eS* **Sn 00 57 24.3 -2.3**
PB12 IAML 00 57 33.7
comp=Z,29nm,0.2s
SOET ToroToro 4.73 23 Pg **Pn 00 56 35.8 +0.7**
AHML Horco Molle 4.77 153 *eP* Pn 00 56 30.8 -4.5
AOEA Aiquile 4.90 29 Pg **Pn 00 56 37.5 +0.2**
BBOD La Paz, Gloria 5.91 352 Pg **Pn 00 56 51.8 +1.1**
LPAZ La Paz 6.21 356 P **Pn 00 56 55.0 +0.2**
comp=Z,5.8nm,0.3s,baz=155,slow=14,SNR=56
LPAZ S **Sn 00 58 05.7 +0.1**
comp=Z,1.9nm,0.6s,baz=297,slow=18,SNR=1.9
LPAZ La Paz 6.21 356 Pg **Pn 00 56 55.9 +1.1**
LPAZ La Paz 6.21 356 *eP* **Pn 00 56 55.3 +0.6**
LPAZ *eS* **Sn 00 58 03.6 -2.0**
TICA Tres Isletas 7.72 121 *eP* **Pn 00 57 13.5 -0.6**
BBRB Robore, Bolivi 8.53 62 *eP* **Pn 00 57 22.9 -2.1**
BBSD Serra de San D 8.54 53 *eP* **Pn 00 57 22.0 -3.0**
SIV San Ignacio 9.03 45 P **Pn 00 57 27.3 -4.2**
comp=Z,6.3nm,0.3s,baz=226,slow=8.6,SNR=48
SIV S **Sn 00 59 04.1 -8.1**
comp=Z,7.0nm,0.3s,baz=128,slow=19,SNR=16
MURT Porto Murtinho 9.41 87 *eP* **Pn 00 57 36.3 -0.2**
CPUP Villa Florida 10.20 114 P **Pn 00 57 45.5 -1.3**
comp=Z,2.2nm,0.6s,baz=282,slow=11,SNR=5.7
CPUP Villa Florida 10.20 114 *eP* **Pn 00 57 45.9 -1.0**
BDQN Bodoquena, MS 10.42 81 *eP* **Pn 00 57 48.9 -0.9**
BDQN *eS* **Sn 00 59 43.3 -2.1**
PTLB Pontes e Lacer 10.74 51 *eP* **Pn 00 57 52.9 -1.0**
RVDE Rio Verde (Bra 12.45 76 *eP* **Pn 00 58 16.1 +0.1**
UNIS Unistalda (Bra 13.12 122 *eP* **Pn 00 58 26.7 +2.1**
CRSM Crissiumal (Br 13.35 115 *eP* **Pn 00 58 28.6 +1.1**
RODS Rosario do Sul 13.66 127 *eP* **Pn 00 58 33.6 +2.3**
TBOT Tacuaremb 13.90 134 *eP* **Pn 00 58 36.6 +2.3**
TRCB Terra Rica 13.93 94 *eP* **Pn 00 58 35.9 +1.0**
PTGB Pitanga 14.52 102 *eP* **P 00 58 44.2 0.0**
ALGR Alto Alegre (B 14.64 118 *eP* **P 00 58 46.0 +0.4**
CPSB Cacapava Do Su 15.00 125 *eP* **Pn 00 58 47.1 -0.9**
IPMB Ipameri, GO 18.85 80 *eP* **P 00 59 31.8 0.0**
BDFB Brasilia 19.83 73 P **P 00 59 41.3 -1.1**
comp=Z,1.3nm,0.5s,baz=243,slow=13,SNR=3.3
QSPA South Pole Qui 67.68 180 P **P 01 06 04.7 +1.5**
comp=Z,0.6nm,0.6s,baz=167,slow=2.7,SNR=7.0
comp=Z,0.6nm,0.6s
ULM Lac du Bonnet 76.62 342 P **P 01 06 56.5 +0.4**
comp=Z,1.5nm,0.5s,baz=194,slow=12,SNR=4.0
comp=Z,1.5nm,0.5s
YKA Yellowknife Ar 92.51 340 P **P 01 08 17.1 +1.3**
comp=Z,0.3nm,0.7s,baz=129,slow=4.1,SNR=6.8
comp=Z,0.3nm,0.7s
WRA Warramunga Arr 132.62 209 PKP **PKPdf 01 14 20.7 +0.9**
comp=Z,0.4nm,0.4s,baz=167,slow=1.8,SNR=1.8

IDC 12 01:03:36.1±2.6, 9.80S×112.32E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=125.5km s-min=22.6km az=50.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.52**	**118**	P	P	01 08 47.3	-0.7
	0.8nm,0.9s,baz=290,slow=11,SNR=2.4						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**24.80**	**126**	P	P	01 09 00.5	+0.5
	1.1nm,0.8s,baz=307,slow=9.4,SNR=7.8						
	1.1nm,0.8s						
H08S2	**Diego Garcia H**	**39.41**	**270**	T	T	01 53 23.9	
	baz=95						
H08S3	**Diego Garcia H**	**39.42**	**270**	T	T	01 53 26.1	
	baz=95						
H08S1	**Diego Carcia H**	**39.43**	**270**	T	T	01 53 24.5	
	baz=95						
SONM	**Songino Array**	**57.62**	**355**	P	P	01 13 27.6	-0.4
	0.4nm,0.3s,baz=175,slow=7.9,SNR=4.3						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**62.39**	**337**	P	P	01 14 01.3	+0.6
	0.7nm,0.4s,baz=153,slow=7.5,SNR=10						
	0.7nm,0.4s						
ZALV	**Zalesovo Beam**	**67.64**	**343**	P	P	01 14 34.1	-0.6
	0.4nm,0.2s,baz=158,slow=4.7,SNR=2.5						
	0.4nm,0.2s						

*IDC **12** 01:03:56.7±10.0, 35.81N×22.14E, h0km, mb3.7/3, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=337.6km s-min=111.4km az=171.0*
*ISK **12** 01:04:08.9, 38.14N×22.64E, h6km, ML2.9/9*
*THE **12** 01:04:10.8, 38.15N×22.59E, h2km±2km, ML2.8/15, Error ellipse: s-maj=2.1km s-min=0.5km az=223.0*
*ATH **12** 01:04:10.2, 38.14N×22.59E, h9km, ML2.9/34, Manual Solution by N.Liadopoulou This location: 2020/06/02 09:33:44 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 0 km; Longitude uncertainty: 0 km*

ISC 12 01:04:10.6±0.9, 38.14N±0.01×22.59E±0.01, h9km±7km, n123, σ0.68/169, mb3.7/3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THAL	**Thalero**	**0.12**	**150**	P	**Pg**	**01 04 13.4**	**0.0**
GUR	**Goura**	**0.28**	**224**	P	**Pg**	**01 04 16.1**	**-0.3**
GUR				S	**Sg**	**01 04 20.1**	**0.0**
	8μm,0.4s						
GUR	**Goura**	**0.28**	**224**	P	**Pg**	**01 04 16.0**	**-0.3**
GUR				S	**Sg**	**01 04 20.1**	**0.0**
LTK	**Loutraki**	**0.32**	**111**	P	**Pg**	**01 04 16.7**	**-0.3**
LTK				S	**Sg**	**01 04 21.7**	**+0.4**
LOUT	**Loutraki**	**0.34**	**116**	P	**Pg**	**01 04 17.1**	**-0.3**
LOUT				S	**Sg**	**01 04 22.4**	**+0.5**
	2μm,0.3s						
LOUT	**Loutraki**	**0.34**	**116**	P	**Pg**	**01 04 16.9**	**-0.5**
LOUT				S	**Sg**	**01 04 21.9**	**0.0**
DLFA	**Delphi**	**0.34**	**348**	P	**Pg**	**01 04 16.9**	**-0.7**
DLFA				S	**Sg**	**01 04 22.3**	**+0.1**
KLV	**Kalavryta, Ach**	**0.36**	**255**	P	**Pg**	**01 04 17.2**	**-0.6**
KLV				S	**Sg**	**01 04 21.9**	**-0.6**
	882nm,0.4s						
KLV	**Kalavryta, Ach**	**0.36**	**255**	P	**Pg**	**01 04 17.2**	**-0.6**
KLV				S	**Sg**	**01 04 22.0**	**-0.6**
ALIK	**Aliki, Aigiali**	**0.39**	**288**	P	**Pg**	**01 04 18.2**	**-0.2**
ALIK				S	**Sg**	**01 04 24.2**	**+0.6**
TRIZ	**Trizonia**	**0.46**	**299**	P	**Pg**	**01 04 19.3**	**-0.4**
TRIZ				S	**Sg**	**01 04 26.4**	**+0.6**
	578nm,0.4s						
VIL2	**Platees**	**0.54**	**82**	P	**Pg**	**01 04 21.1**	**0.0**
VIL2				S	**Sb**	**01 04 29.4**	**-0.7**
VILL	**Villia**	**0.57**	**87**	P	**Pg**	**01 04 21.2**	**-0.5**
EFP	**Efpalio**	**0.61**	**298**	P	**Pg**	**01 04 21.8**	**-0.6**
EFP	**Efpalio**	**0.61**	**298**	P	**Pg**	**01 04 21.9**	**-0.5**
EFP				S	**Sg**	**01 04 30.5**	**+0.1**
AXAR	**Agios Charalam**	**0.63**	**5**	P	**Pg**	**01 04 22.0**	**-0.8**
AXAR				S	**Sb**	**01 04 32.7**	**0.0**
	10μm,0.4s						
AXAR	**Agios Charalam**	**0.63**	**5**	P	**Pg**	**01 04 22.2**	**-0.6**
AXAR				S	**Sb**	**01 04 31.6**	**-1.0**
UPR	**University Cam**	**0.65**	**283**	P	**Pb**	**01 04 23.4**	**-0.7**
ANX	**Ano Chora**	**0.69**	**311**	P	**Pb**	**01 04 24.3**	**-0.6**
ANX	**Ano Chora**	**0.69**	**311**	P	**Pg**	**01 04 23.6**	**-0.4**
ANX				S	**Sg**	**01 04 33.4**	**+0.3**
DRO	**Drossia**	**0.72**	**255**	P	**Pg**	**01 04 24.0**	**-0.5**
DRO	**Drossia**	**0.72**	**255**	P	**Pg**	**01 04 24.0**	**-0.5**
DRO				S	**Sg**	**01 04 34.2**	**+0.3**
KRND	**KRANIDI**	**0.88**	**149**	P	**Pg**	**01 04 26.6**	**-0.9**
KRND				S	**Sb**	**01 04 40.9**	**+1.1**
	2μm,0.4s						
KRND	**KRANIDI**	**0.88**	**149**	P	**Pg**	**01 04 26.9**	**-0.7**
KRND				S	**Sb**	**01 04 39.3**	**-0.4**
RLS	**Riolos of Patr**	**0.89**	**265**	P	**Pg**	**01 04 26.7**	**-1.0**
RLS	**Riolos of Patr**	**0.89**	**265**	P	**Pg**	**01 04 26.7**	**-1.0**
RLS				S	**Sg**	**01 04 39.3**	**0.0**
AGG	**Agios Georgios**	**0.90**	**347**	Pg	**Pg**	**01 04 26.8**	**-1.3**
AGG				Sg	**Sg**	**01 04 39.8**	**0.0**
AGG	**Agios Georgios**	**0.90**	**347**	P	**Pg**	**01 04 26.7**	**-1.3**
AGG				S	**Sg**	**01 04 39.5**	**-0.3**
	638nm,0.6s						
AGG	**Agios Georgios**	**0.90**	**347**	P	**Pg**	**01 04 27.4**	**-0.6**
AGG				S	**Sg**	**01 04 39.9**	**0.0**
ATH	**Athens Observa**	**0.91**	**100**	P	**Pg**	**01 04 27.6**	**-0.4**
ATH				S	**Sb**	**01 04 41.2**	**+0.6**
	710nm,0.8s						
ATH	**Athens Observa**	**0.91**	**100**	P	**Pg**	**01 04 27.7**	**-0.4**
ATH				S	**Sg**	**01 04 39.7**	**-0.1**
MAKR	**Makrakomi, Fth**	**0.94**	**338**	P	**Pg**	**01 04 28.3**	**-0.5**
MAKR	**Makrakomi, Fth**	**0.94**	**338**	P	**Pg**	**01 04 28.5**	**-0.3**
MAKR				S	**Sb**	**01 04 41.5**	**-0.2**
ATHU	**Athens Univers**	**0.96**	**100**	P	**Pg**	**01 04 28.5**	**-0.6**
ATHU				S	**Sb**	**01 04 42.1**	**-0.1**
	240nm,0.4s						
ATHU	**Athens Univers**	**0.96**	**100**	P	**Pg**	**01 04 28.7**	**-0.4**
ATHU				S	**Sb**	**01 04 41.9**	**-0.3**
PVO	**Paravola**	**0.96**	**300**	P	**Pb**	**01 04 29.2**	**-0.2**
PVO	**Paravola**	**0.96**	**300**	P	**Pb**	**01 04 29.5**	**0.0**
PVO				S	**Sb**	**01 04 41.9**	**-0.3**
EVR	**Evrytania**	**0.99**	**322**	P	**Pb**	**01 04 29.9**	**-0.1**
EVR	**Evrytania**	**0.99**	**322**	P	**Pb**	**01 04 29.8**	**-0.1**
EVR				S	**Sb**	**01 04 42.8**	**-0.3**
VLY	**Voula,Athens**	**0.99**	**106**	P	**Pb**	**01 04 29.9**	**-0.1**
VLY				S	**Sb**	**01 04 43.3**	**+0.1**
	498nm,0.3s						
VLY	**Voula,Athens**	**0.99**	**106**	P	**Pb**	**01 04 29.7**	**-0.3**
VLY				S	**Sb**	**01 04 42.9**	**-0.3**
PTL	**Penteli**	**1.01**	**95**	P	**Pn**	**01 04 30.6**	**-0.4**
PTL				S	**Sn**	**01 04 44.6**	**-0.7**
	642nm,0.6s						
PTL	**Penteli**	**1.01**	**95**	P	**Pb**	**01 04 30.5**	**+0.2**
PTL				S	**Sb**	**01 04 43.4**	**-0.3**
YDRA	**Hydra**	**1.05**	**138**	P	**Pg**	**01 04 30.0**	**-0.9**
DION	**Dionisos Attik**	**1.06**	**93**	P	**Pb**	**01 04 31.3**	**+0.1**
DION				S	**Sn**	**01 04 46.9**	**+0.3**
	2μm,0.5s						
DION	**Dionisos Attik**	**1.06**	**93**	P	**Pn**	**01 04 31.4**	**-0.2**
DION				S	**Sb**	**01 04 45.5**	**+0.3**
ITM	**Ithomi**	**1.09**	**209**	Pn	**Pg**	**01 04 30.5**	**-1.1**
ITM				Sn	**Sb**	**01 04 46.3**	**+0.3**
ITM	**Ithomi**	**1.09**	**209**	P	**Pg**	**01 04 30.3**	**-1.3**
ITM	**Ithomi**	**1.09**	**209**	P	**Pg**	**01 04 30.3**	**-1.3**
ITM				S	**Sb**	**01 04 45.9**	**-0.2**
KLMT	**Kalamata**	**1.16**	**201**	P	**Pn**	**01 04 33.0**	**+0.1**
NEO	**Neokhori**	**1.27**	**23**	P	**Pg**	**01 04 33.7**	**-1.3**
NEO				S	**Sn**	**01 04 51.6**	**0.0**
	425nm,0.4s						
NEO	**Neokhori**	**1.27**	**23**	P	**Pg**	**01 04 34.0**	**-0.9**
NEO				S	**Sg**	**01 04 50.6**	**-0.8**
XOR	**Xorichti**	**1.31**	**21**	P	**Pn**	**01 04 34.6**	**-0.6**
XOR				S	**Sb**	**01 04 52.5**	**+0.1**
	392nm,0.7s						
XOR	**Xorichti**	**1.31**	**21**	P	**Pn**	**01 04 34.5**	**-0.6**
XOR				S	**Sb**	**01 04 52.5**	**+0.1**
PYL	**PYLOS**	**1.41**	**209**	P	**Pn**	**01 04 36.4**	**-0.1**
PYL	**PYLOS**	**1.41**	**209**	P	**Pn**	**01 04 36.4**	**-0.1**
VLI	**Veliai**	**1.45**	**169**	P	**Pn**	**01 04 36.6**	**-0.3**
VLI	**Veliai**	**1.45**	**169**	P	**Pn**	**01 04 36.5**	**-0.5**
VLI				S	**Sb**	**01 04 55.0**	**-1.1**
LTHK	**Lithakia**	**1.45**	**253**	P	**Pg**	**01 04 39.2**	**+0.7**
LTHK	**Lithakia**	**1.45**	**253**	P	**Pn**	**01 04 36.8**	**-0.2**
THL	**Klokotos Trika**	**1.49**	**343**	P	**Pn**	**01 04 37.6**	**0.0**
THL				S	**Sg**	**01 04 58.6**	**0.0**
	98nm,0.6s						
THL	**Klokotos Trika**	**1.49**	**343**	P	**Pn**	**01 04 37.6**	**0.0**
THL				S	**Sn**	**01 04 56.6**	**-0.5**
MNVA	**Monemvasia**	**1.49**	**166**	P	**Pn**	**01 04 37.3**	**-0.3**
MNVA				S	**Sn**	**01 04 56.2**	**-1.0**
LRSO	**Larissa Observ**	**1.54**	**354**	P	**Pn**	**01 04 38.2**	**0.0**
VLS	**Valsamata**	**1.58**	**272**	P	**Pn**	**01 04 39.0**	**+0.3**
VLS	**Valsamata**	**1.58**	**272**	P	**Pn**	**01 04 39.0**	**+0.3**
NYDR	**Nydri-Lefkada**	**1.59**	**292**	P	**Pn**	**01 04 40.2**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.59**	**292**	P	**Pn**	**01 04 39.2**	**+0.3**
EVGI	**Lefkada island**	**1.59**	**288**	P	**Pb**	**01 04 40.3**	**+0.1**
EVGI	**Lefkada island**	**1.59**	**288**	P	**Pn**	**01 04 39.2**	**+0.2**
TYRN	**Tyrnavos**	**1.59**	**350**	P	**Pn**	**01 04 38.9**	**0.0**
TYRN	**Tyrnavos**	**1.59**	**350**	P	**Pn**	**01 04 38.9**	**0.0**
TYRN				S	**Sn**	**01 04 59.2**	**-0.4**
FSK	**Fiskardo**	**1.62**	**282**	P	**Pb**	**01 04 40.4**	**-0.3**
FSK	**Fiskardo**	**1.62**	**282**	P	**Pn**	**01 04 39.9**	**+0.5**
LKD2	**Lefkada island**	**1.65**	**294**	P	**Pb**	**01 04 40.9**	**-0.3**
LKD2	**Lefkada island**	**1.65**	**294**	P	**Pn**	**01 04 40.3**	**+0.5**
TSLK	**Tsoukalades, L**	**1.66**	**295**	P	**Pg**	**01 04 41.9**	**-0.6**
TSLK	**Tsoukalades, L**	**1.66**	**295**	P	**Pn**	**01 04 39.1**	**-0.8**
DRAG	**Dragano-Lefkad**	**1.67**	**290**	P	**Pn**	**01 04 40.3**	**+0.2**
DMLN	**Damoulianata-K**	**1.75**	**274**	P	**Pb**	**01 04 42.8**	**-0.1**
DMLN	**Damoulianata-K**	**1.75**	**274**	P	**Pn**	**01 04 41.7**	**+0.6**
KEF3	**Kipouria, Keph**	**1.77**	**273**	P	**Pb**	**01 04 42.4**	**-0.8**
KEF3	**Kipouria, Keph**	**1.77**	**273**	P	**Pn**	**01 04 41.3**	**0.0**
PAIG	**Paliouri**	**1.98**	**25**	P	**Pn**	**01 04 43.1**	**-1.1**
JAN	**Janina**	**2.03**	**319**	P	**Pn**	**01 04 45.0**	**-0.1**
KPRO	**Kipourio**	**2.05**	**333**	P	**Pn**	**01 04 45.9**	**+0.7**
KPRO	**Kipourio**	**2.05**	**333**	P	**Pn**	**01 04 46.0**	**+0.7**
IGT	**Igoumenitsa**	**2.24**	**309**	P	**Pn**	**01 04 48.2**	**+0.3**
ANKY	**Antikythira Is**	**2.34**	**166**	P	**Pn**	**01 04 49.1**	**-0.1**
ANKY	**Antikythira Is**	**2.34**	**166**	P	**Pn**	**01 04 48.7**	**-0.5**
OUR	**Ouranopolis**	**2.44**	**26**	P	**Pn**	**01 04 49.9**	**-0.7**
HORT	**Hortiatis**	**2.49**	**9**	P	**Pn**	**01 04 50.8**	**-0.5**
HORT	**Hortiatis**	**2.49**	**9**	P	**Pn**	**01 04 50.8**	**-0.5**
LSK	**Leskovik**	**2.53**	**323**	P	**Pn**	**01 04 53.1**	**+1.1**
NEST	**Nestorio**	**2.57**	**333**	P	**Pn**	**01 04 53.1**	**+0.7**
APE	**Apeiranthos**	**2.57**	**114**	Pn	**Pn**	**01 04 51.7**	**-0.7**
APE	**Apeiranthos**	**2.57**	**114**	P	**Pn**	**01 04 52.2**	**-0.2**
APE	**Apeiranthos**	**2.57**	**114**	P	**Pn**	**01 04 52.3**	**-0.1**
SRN	**Sarande**	**2.66**	**312**	P	**Pn**	**01 04 55.3**	**+1.7**
CHOS	**Chios island**	**2.74**	**84**	Pn	**Pn**	**01 04 53.9**	**-0.9**
RODP	**Rodopos**	**2.74**	**160**	Pn	**Pn**	**01 04 54.5**	**-0.2**
RODP	**Rodopos**	**2.74**	**160**	P	**Pn**	**01 04 55.2**	**+0.5**
SOH	**Sokhos**	**2.74**	**12**	P	**Pn**	**01 04 55.0**	**+0.2**
FNA	**Florina**	**2.80**	**341**	P	**Pn**	**01 04 56.1**	**+0.5**
FNA	**Florina**	**2.80**	**341**	P	**Pn**	**01 04 55.0**	**-0.6**
GRG	**Griva**	**2.82**	**357**	P	**Pn**	**01 04 56.4**	**+0.6**
CHAN	**Chania**	**2.86**	**156**	P	**Pn**	**01 04 56.2**	**-0.2**
KOKK	**Kokkinochori,**	**2.89**	**22**	P	**Pn**	**01 04 56.0**	**-0.8**
IMMV	**Iera Moni Meta**	**2.90**	**157**	Pn	**Pn**	**01 04 56.8**	**-0.1**
IMMV	**Iera Moni Meta**	**2.90**	**157**	P	**Pn**	**01 04 57.7**	**+0.8**
IMMV	**Iera Moni Meta**	**2.90**	**157**	P	**Pn**	**01 04 57.5**	**+0.6**
KNT	**Kendrikon**	**3.03**	**4**	P	**Pn**	**01 04 58.7**	**0.0**
KNDR	**Palaiochora Ch**	**3.03**	**163**	Pn	**Pn**	**01 04 58.6**	**-0.1**
KNDR	**Palaiochora Ch**	**3.03**	**163**	P	**Pn**	**01 04 58.9**	**+0.2**
SRS	**Serrai**	**3.07**	**14**	P	**Pn**	**01 04 59.1**	**-0.2**
NVR	**Nevrokopi**	**3.35**	**17**	P	**Pn**	**01 05 03.8**	**+0.6**
IDI	**Anoyia**	**3.40**	**146**	Pn	**Pn**	**01 05 03.6**	**-0.2**
IDI	**Anoyia**	**3.40**	**146**	P	**Pn**	**01 05 04.2**	**+0.4**
GVD	**Gavdhos**	**3.51**	**159**	Pn	**Pn**	**01 05 05.5**	**+0.2**
BRTR	**Keskin Array B**	**8.76**	**76**	Pn	**Pn**	**01 06 21.8**	**+4.3**
	baz=248,slow=11,SNR=2.5						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**40.94**	**54**	P	**P**	**01 11 55.6**	**+2.4**
	0.3nm,0.3s,baz=272,slow=9.0,SNR=1.1						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**43.93**	**59**	P	**P**	**01 12 17.3**	**-0.4**
	0.6nm,0.5s,baz=268,slow=8.2,SNR=8.4						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	**44.50**	**48**	P	**P**	**01 12 23.3**	**+1.3**
	0.7nm,0.6s,baz=280,slow=8.9,SNR=3.9						
	0.7nm,0.6s						

*NEIC **12** 01:05:39.8±1.1, 46.68N±0.02×121.06W±0.02, h5km±2km, Error ellipse: s-maj=3.1km s-min=3.0km az=7.0*
*PNSN **12** 01:05:40.5, 46.71N×121.06W, h2km, MD2.3, Fault plane solution: NP1:θ=340.00000°, δ35.00000°, λ-140.00000°.*

SEA 12 01:05:40.5±2.3, 46.71N±0.02×121.06W±0.02, h2km±7km, ML2.3/9, ML2.7/54(NEIC), Error ellipse: s-maj=2.6km s-min=1.6km az=187.0, Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NAC	**Naches**	**0.16**	**83**		Pg	01 05 43.9	+0.3
YA2	**Yakima**	**0.41**	**117**		Pg	01 05 48.3	0.0
RCM	**Mount Rainier-**	**0.48**	**285**		Pg	01 05 49.6	-0.1
RCS	**Mount Rainier-**	**0.49**	**289**		Pg	01 05 49.8	0.0
LON	**Longmire**	**0.52**	**274**		Pg	01 05 49.8	-0.6
LON					Sg	01 05 56.6	-0.5
LON	**Longmire**	**0.52**	**274**		Pg	01 05 49.8	-0.5
MXC	**Moxie City**	**0.55**	**104**		Pg	01 05 50.7	-0.2
MXC					Sg	01 05 58.3	+0.3
MXC				IAML		01 05 58.8	
	comp=E,552nm,0.2s						
REMR	**Mount Rainier-**	**0.55**	**281**		Pg	01 05 50.6	-0.3
OBSR	**Observation Ro**	**0.55**	**290**		Pg	01 05 50.9	-0.1
TRW	**Toppenish Ridg**	**0.55**	**140**		Pg	01 05 50.7	-0.3
TBM	**Table Mountain**	**0.56**	**35**		Pg	01 05 51.4	+0.3
LTY	**Liberty**	**0.61**	**26**		Pg	01 05 51.8	-0.3
LTY					Sg	01 06 00.1	+0.2
LTY				IAML		01 06 00.8	
	comp=N,286nm,0.3s						
RVC	**Mount Rainier-**	**0.67**	**290**		Pg	01 05 52.9	-0.3
GSM	**

F03A	**Seaside**	**1.90**	**247**	Pn	Pn	01 06 13.1	-0.7	
RADR	**Rader Ridge**	**1.91**	**262**	Pn	Pn	01 06 12.9	-1.1	
RADR				IAML		01 06 42.9		
	comp=E,76nm,1.9s							
RADR				IAML		01 07 04.5		
	comp=N,59nm,2.1s							
B08A	**Colville Reser**	**2.02**	**35**	Pn	Pn	01 06 13.2	-2.3	
B08A				IAML		01 06 44.0		
	comp=N,68nm,0.5s							
E09A	**Wood Farm, Sta**	**2.02**	**95**	Pn	Pn	01 06 13.4	-2.1	
G08A	**Pilot Rock**	**2.04**	**133**		Pn	01 06 13.1	-2.8	
G08A				IAML		01 06 41.8		
	comp=N,92nm,0.4s							
G08A				IAML		01 06 42.2		
	comp=E,96nm,0.4s							
H04A	**Detroit Lake**	**2.18**	**202**		Pn	01 06 16.2	-1.5	
H04A				IAML		01 06 58.0		
	comp=N,32nm,0.3s							
C09A	**Chrisman Ranch**	**2.19**	**59**		Pn	01 06 15.8	-2.1	
I05D	**Terrebonne, OR**	**2.38**	**185**		Pn	01 06 18.7	-1.8	
I05D				IAML		01 06 57.5		
	comp=E,36nm,0.5s							
I05D				IAML		01 06 57.6		
	comp=N,65nm,0.5s							
H04D	**Lebanon**	**2.49**	**209**	Pn	Pn	01 06 20.5	-1.4	
H04D				IAML		01 07 05.0		
	comp=E,61nm,2.9s							
H04D				IAML		01 07 09.5		
	comp=N,46nm,3.0s							
I07A	**Izee**	**2.85**	**157**		Pn	01 06 25.8	-1.3	
NEW	**Newport**	**3.09**	**58**	Pn	Pn	01 06 28.1	-2.2	
NEW				IAML		01 07 20.7		
	comp=N,21nm,0.6s							
NEW				IAML		01 07 24.2		
	comp=N,32nm,0.6s							

NEIC ***12*** *01:22:21.1±0.5, 19.°346N×0.°009×155.°306W×0.°008, h6km±2km, Error ellipse: s-maj=1.4km s-min=0.9km az=150.0*

HVO 12 01:22:20.8±0.7, 19.°337N±0.°007×155.°308W±0.°009, h2km±7km, Md2.4/7, ML2.5/28(NEIC), **Error ellipse: s-maj=1.7km s-min=0.7km az=124.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLP	**Hilina Pali**	**0.04**	**181**		**Pg**	01 22 22.5	+0.9
HLP				Sg	Sg	01 22 23.7	+1.5
SDHHI	**Sand Hill**	**0.05**	**14**		**Pg**	01 22 22.4	+0.5
WRMHI	**West Rim**	**0.07**	**6**		**Pg**	01 22 22.6	+0.4
PUH	**Pauahi**	**0.09**	**67**		**Pg**	01 22 23.2	+0.6
PUH				IAML		01 22 24.2		
	comp=N,2μm,1.3s							
RSD	**Rainshed**	**0.13**	**13**	Pg	Pg	01 22 23.6	+0.3
RSD				IAML		01 22 25.7		
	comp=E,3μm,0.9s							
HTC	**Hot Caves**	**0.13**	**221**		Pg	01 22 24.1	+0.8
MLH	**Mauna Loa**	**0.17**	**335**		Pg	01 22 24.9	+0.7
MLH				Sg	Sg	01 22 28.0	+1.5
MLH				IAML		01 22 29.7		
	comp=E,974nm,0.7s							
STCH	**Steam Cracks**	**0.18**	**74**	Pg	Pg	01 22 24.3	0.0
NPOC	**North of Pu'u**	**0.20**	**73**	Pg	Pg	01 22 24.9	+0.4
NPOC				IAML		01 22 28.1		
	comp=N,818nm,1.1s							
NPOC				IAML		01 22 28.4		
	comp=E,865nm,0.9s							
JCUZ	**Jacuzzi**	**0.20**	**76**	Pg	Pg	01 22 24.9	+0.3
KHU	**Kahuku**	**0.30**	**253**		Pg	01 22 26.7	+0.1
KHU				IAML		01 22 31.9		
	comp=N,527nm,1.1s							
KHU				IAML		01 22 34.1		
	comp=E,564nm,1.1s							
MWH	**Moku'aweowe**	**0.31**	**298**		Pg	01 22 26.9	+0.1	
MWH				IAML		01 22 28.4		
	comp=N,870nm,1.5s							
HMH	**Humu'ula Sheep**	**0.31**	**328**		Pg	01 22 27.1	+0.3	
HMH				IAML		01 22 31.3		
	comp=N,601nm,0.8s							
HMH				IAML		01 22 33.4		
	comp=E,403nm,1.0s							
MLOA	**Mauna Loa Obse**	**0.32**	**308**	Pg	Pg	01 22 27.2	+0.2	
MLOA				IAML		01 22 28.8		
	comp=N,508nm,1.2s							
MLOA				IAML		01 22 37.0		
	comp=E,608nm,0.9s							
ALEP	**Alea Permanent**	**0.38**	**303**		Pg	01 22 27.9	-0.1	
POHA	**Pohakuloa**	**0.47**	**333**	Pg	Pg	01 22 30.1	+0.3	
POHA				IAML		01 22 31.4		
	comp=E,527nm,1.2s							
POHA				IAML		01 22 45.2		
	comp=E,411nm,0.7s							
HUH	**Hualalai**	**0.61**	**305**	Pg	Pg	01 22 32.3	-0.1	

BJI ***12*** *01:29:24.4±0.0, 36.°39N×138.°57E, h20km, mb4.8/79, mB5.2/59, Ms5.1/86, Ms7 5.0/80*

MOS ***12*** *01:29:27.6±1.0, 36.°58N×137.°84E, h10km, mb5.2/78, MS4.9/12, Error ellipse: s-maj=5.5km s-min=4.0km az=118.9*

IDC ***12*** *01:29:28.0±0.4, 36.°61N×137.°80E, h0km, mb4.5/29, mbtmp4.5/31, ML3.8/3, MS4.4/65, Error ellipse: s-maj=12.8km s-min=5.1km az=19.0*

NEIC ***12*** *01:29:29.8±1.4, 36.°64N±0.°03×137.°90E±0.°07, h10km±3km, mb5.1/199, Error ellipse: s-maj=8.4km s-min=3.3km az=104.0*

JMA ***12*** *01:29:30.1±0.1, 36.°6N±0.°2×137.°9E±0.°3, h11km, MD5.2/20, MW5.0/20, NORTHERN NAGANO PREF*

JMA Felt V J1 at NORTHERN NAGANO PREF .

NIED ***12*** *01:29:30.1, 36.°63N×137.°90E, h11km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16Nm; Mrr1.20; Mθθ0.15; Mθφ-1.36; Mrθ-0.73; Mθφ-2.94; Mφr2.42; Fault plane solution: Mo4.08000×10^16 NP1: φs359.00000°, δ77.00000°, λ42.00000°. NP2: φs257.00000°, δ50.00000°, λ163.00000°.*

GCMT ***12*** *01:29:31.8±0.2, 36.°71N±0.°01×137.°92E±0.°01, h13km, MW5.0/121, Moment Tensor Solution. s65,c93; s121,c199; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.97±. 10; Mθθ0.10±.08; Mθφ-2.07±.08; Mrθ-2.34±.25; Mθφ-3.05±.07; Mφr0.44±.17; Best double couple: Mo4.36600×10^16 NP1:φs251.00000°, δ68.00000°, λ139.00000°. NP2:φs359.00000°, δ52.00000°, λ28.00000°. Principal axes: T 4.3340, Plg44.0000°, Azm209.0000°; N 0.0570, Plg45.0000°, Azm48.0000°; P -4.3970, Plg10.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 01:29:30.4±0.3, 36.°62N±0.°02×138.°01E±0.°02, h16km±2km, h16km:pP-P, n1138, σ1s76/1038, **mb5.0**/236, **MS4.8**/98, **44C-52D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJB9	**Matsu-Tunnel**	**0.17**	**114**		**Pb**	**01 29 35.9**	**+0.7**
MAJO	**Matsushiro**	**0.18**	**115**	P	**Pg**	**01 29 34.8**	**0.0**
MAJO	**Matsushiro**	**0.18**	**115**	Pg	**Pg**	**01 29 35.0**	**+0.2**
MAJO	**Matsushiro**	**0.18**	**115**	*d* iP	**Pg**	**01 29 35.0**	**+0.2**
MAT	**Matsushiro**	**0.18**	**115**	P	**Pg**	**01 29 35.0**	**+0.2**
MAT				S	**Sg**	**01 29 38.6**	**+0.9**
MJAR	**Matsushiro Arr**	**0.18**	**115**	Pg	**Pb**	**01 29 35.5**	**+0.2**
	670nm,0.3s,baz=292,slow=18						
MJAR				Lg	Lg	01 29 39.9	
	754nm,0.3s,baz=284,slow=35,SNR=32						
JNG	**Nsakai**	**0.22**	**161**	⇓P	**Pg**	**01 29 35.5**	**0.0**
JNG				⇓S	**Sg**	**01 29 39.5**	**+0.5**
JNG	**Nsakai**	**0.22**	**161**	A	A	01 29 35.5	
	comp=E,320nm,4.4s,comp=N,431nm,1.1s						
JJN	**Nakama**	**0.50**	**14**	A	A	01 29 40.2	
	comp=E,545nm,0.8s,comp=N,406nm,0.7s						
JGK	**Kuni**	**0.51**	**96**	⇓P	**Pb**	**01 29 41.4**	**+0.4**
JGK				⇓S	**Sb**	**01 29 49.9**	**+1.6**
JGK	**Kuni**	**0.51**	**96**	A	A	01 29 41.4	
	comp=E,208nm,5.2s,comp=N,280nm,3.1s						
JTT	**Ttatey**	**0.54**	**269**	⇓P	**Pg**	**01 29 39.5**	**-1.6**
JTT	**Ttatey**	**0.54**	**269**	A	A	01 29 39.5	
	comp=E,719nm,1.3s,comp=N,557nm,2.9s						
JGN	**Niukaw**	**0.68**	**235**	A	A	01 29 42.1	
JNT	**Takato**	**0.75**	**172**	A	A	01 29 44.9	
	comp=E,92nm,6.2s,comp=N,69nm,1.3s						
JRY	**Ryogami san**	**0.94**	**129**	P	**Pb**	**01 29 48.0**	**-0.3**
JRY				S	**Sg**	**01 30 01.5**	**+0.6**
JRY	**Ryogami san**	**0.94**	**129**	A	A	01 29 48.0	
	comp=E,61nm,3.8s,comp=N,48nm,4.9s						
JSZ	**Suzu**	**0.98**	**328**	⇓P	**Pb**	**01 29 47.7**	**-1.2**
JSZ				⇓S	**Sb**	**01 30 01.3**	**-0.3**
JSZ	**Suzu**	**0.98**	**328**	A	A	01 29 47.7	
	comp=E,65nm,1.5s,comp=N,83nm,1.2s						
JKT	**Katashina**	**1.01**	**81**	A	A	01 29 50.4	
	comp=E,59nm,6.9s,comp=N,69nm,2.7s						
JKT	**Katashina**	**1.01**	**81**	⇓P	**Pb**	**01 29 50.1**	**+0.6**
JUON	**Uonuma**	**1.03**	**55**	A	A	01 29 50.4	
	comp=E,53nm,4.0s,comp=N,44nm,3.6s						
JUON	**Uonuma**	**1.03**	**55**	*i* P	**Pb**	**01 29 49.6**	**-0.2**
JJH	**Hakui**	**1.03**	**288**	A	A	01 29 48.0	
	comp=E,90nm,2.1s,comp=N,135nm,2.6s						
JIZZ	**Izumozaki**	**1.07**	**31**	A	A	01 29 50.7	
	comp=E,358nm,3.8s,comp=N,256nm,3.6s						
JGF	**Kuroka**	**1.14**	**208**	P	**Pb**	**01 29 51.2**	**-0.6**
JGF	**Kuroka**	**1.14**	**208**		**Pb**	**01 29 51.3**	**-0.6**
JGF				Sg	**Sb**	**01 30 06.2**	**-0.2**
JGF	**Kuroka**	**1.14**	**208**	A	A	01 29 50.9	
	comp=E,52nm,5.7s,comp=N,31nm,5.8s						
JAG	**Ashikaga**	**1.18**	**99**	A	A	01 29 53.4	
	comp=E,48nm,7.6s,comp=N,33nm,3.2s						
JAG	**Ashikaga**	**1.18**	**99**	⇓*i*P	**Pn**	**01 29 52.5**	**+0.2**
JYN	**Shimob**	**1.20**	**159**	A	A	01 29 53.0	
	comp=E,114nm,2.7s,comp=N,102nm,5.4s						
JYN	**Shimob**	**1.20**	**159**	⇓*i*P	**Pb**	**01 29 53.1**	**+0.4**
JNY	**Yasuok**	**1.26**	**185**	A	A	01 29 53.4	
	comp=E,97nm,1.2s,comp=N,165nm,4.1s						
JHU	**Hanno**	**1.28**	**126**	A	A	01 29 54.8	
	comp=E,98nm,5.0s,comp=N,49nm,6.2s						
JKG	**Kaga**	**1.39**	**256**	A	A	01 29 54.2	
	comp=E,77nm,5.9s,comp=N,107nm,5.6s						
JSGW	**Sagamiharawaka**	**1.40**	**136**	A	A	01 29 56.7	
	comp=E,54nm,4.9s,comp=N,43nm,3.5s						
JSD	**Sado**	**1.43**	**8**	P	**Pg**	**01 29 57.9**	**0.0**
JSD	**Sado**	**1.43**	**8**	Pn	**Pn**	**01 29 55.1**	**-0.6**
JSD				Sn	**Sn**	**01 30 14.3**	**+0.1**
JSD	**Sado**	**1.43**	**8**	A	A	01 29 56.0	
	comp=E,38nm,3.9s,comp=N,35nm,0.8s						
JYTA	**Yamagatataniai**	**1.45**	**226**	A	A	01 29 55.6	
	comp=E,51nm,8.1s,comp=N,33nm,2.1s						
JYTA	**Yamagatataniai**	**1.45**	**226**	*i* P	**Pn**	**01 29 56.1**	**+0.1**
JAO	**Obara**	**1.48**	**205**	A	A	01 29 56.4	
	comp=E,70nm,4.8s,comp=N,53nm,4.8s						
JHG	**Hegura jima**	**1.50**	**325**	A	A	01 29 56.3	
	comp=E,80nm,2.2s,comp=N,58nm,2.5s						
JFNN	**Fujinakano**	**1.52**	**159**	A	A	01 29 58.2	
	comp=E,126nm,8.3s,comp=N,140nm,3.1s						
JFNN	**Fujinakano**	**1.52**	**159**	⇓*i*P	**Pb**	**01 29 58.8**	**+0.5**
SHZ3	**Shizuoka 3**	**1.56**	**174**	A	A	01 29 58.3	
	comp=E,153nm,1.0s,comp=N,201nm,1.0s						
SHZ3	**Shizuoka 3**	**1.56**	**174**	P	**Pb**	**01 29 58.5**	**-0.4**
JFY	**Yanaizu**	**1.57**	**59**	A	A	01 29 59.2	
	comp=E,26nm,7.4s,comp=N,37nm,4.1s						
JFY	**Yanaizu**	**1.57**	**59**	*i* P	**Pb**	**01 29 58.8**	**-0.3**
JSB	**Shiboa**	**1.57**	**77**	A	A	01 29 59.4	
	comp=E,100nm,4.7s,comp=N,146nm,5.4s						
JNS	**Sasagawa**	**1.59**	**41**	A	A	01 29 59.2	
	comp=E,44nm,1.0s,comp=N,41nm,3.0s						
JOD2	**Odawara 2**	**1.61**	**147**	A	A	01 29 59.6	
	comp=E,47nm,3.9s,comp=N,62nm,1.1s						
JOD2	**Odawara 2**	**1.61**	**147**	⇓P	**Pb**	**01 30 00.1**	**+0.3**
JICN	**Ichinomiyachia**	**1.62**	**216**	A	A	01 29 58.3	
	comp=E,75nm,1.3s,comp=N,58nm,2.6s						
TOK	**Tokyo**	**1.69**	**123**	A	A	01 30 01.2	
	comp=E,317nm,5.0s,comp=N,240nm,7.4s						
JSSY	**Shinshiroyabe**	**1.75**	**194**	A	A	01 30 00.8	
	comp=E,78nm,1.3s,comp=N,38nm,7.7s						
HMMJ	**Hamamatsu 2**	**1.77**	**188**	A	A	01 30 01.2	
	comp=E,51nm,2.9s,comp=N,59nm,6.5s						
JYT	**Yasato**	**1.81**	**102**	A	A	01 30 02.9	
	comp=E,26nm,6.0s,comp=N,38nm,3.1s						
JHTM	**Izuhatsuma**	**1.84**	**154**	A	A	01 30 03.0	
	comp=E,169nm,1.2s,comp=N,214nm,1.7s						
JKKS	**Kakegawashinom**	**1.86**	**181**	A	A	01 30 02.8	
	comp=E,209nm,4.8s,comp=N,200nm,4.1s						
JYO	**Yokosk**	**1.93**	**135**	A	A	01 30 04.6	
	comp=E,116nm,2.5s,comp=N,106nm,5.0s						
JSG	**Sagara**	**1.94**	**176**	P	**Pn**	**01 30 03.8**	**+1.0**
JSG	**Sagara**	**1.94**	**176**		**Pb**	**01 30 04.6**	**-0.8**
JSG	**Sagara**	**1.94**	**176**	A	A	01 30 04.0	
	comp=E,208nm,1.0s,comp=N,321nm,3.6s						
JFM	**Mihama**	**1.97**	**237**	A	A	01 30 03.1	
	comp=E,27nm,4.1s,comp=N,26nm,4.7s						
JEG	**Eigenji**	**1.98**	**222**	A	A	01 30 03.5	
	comp=E,36nm,7.6s,comp=N,34nm,6.1s						
JIZS	**Izushimoda**	**2.02**	**159**	A	A	01 30 05.5	
	comp=E,127nm,2.1s,comp=N,156nm,1.6s						
JHO	**Hitachi**	**2.06**	**99**	A	A	01 30 06.6	
	comp=E,20nm,4.2s,comp=N,24nm,4.1s						
JAW	**Awa shima**	**2.08**	**28**	A	A	01 30 06.2	
	comp=E,38nm,5.8s,comp=N,25nm,3.5s						
JOTO	**OTAMA OYAMA**	**2.08**	**62**	A	A	01 30 06.8	
	comp=E,48nm,3.3s,comp=N,36nm,3.2s						
JHYU	**Hitachinakayam**	**2.10**	**97**	A	A	01 30 07.2	
	comp=E,42nm,7.6s,comp=N,38nm,6.1s						
JFFD	**Fukushimafurud**	**2.10**	**76**	A	A	01 30 07.2	
	comp=E,18nm,5.7s,comp=N,35nm,3.4s						
JAA	**Atsumi**	**2.10**	**200**	A	A	01 30 05.8	
	comp=E,35nm,4.9s,comp=N,26nm,5.2s						
JIHU	**Itakohorinouch**	**2.13**	**107**	A	A	01 30 07.8	
	comp=E,131nm,4.5s,comp=N,123nm,4.1s						
JYAR	**Yonezawaarcadi**	**2.14**	**52**	A	A	01 30 07.4	
	comp=E,38nm,1.5s,comp=N,47nm,1.2s						
JCN	**Nagara**	**2.14**	**123**	A	A	01 30 07.7	
	comp=E,184nm,6.1s,comp=N,140nm,4.6s						
TATJ	**Tateyama 2**	**2.20**	**135**	A	A	01 30 08.4	
	comp=E,98nm,2.3s,comp=N,103nm,1.8s						
JSMT	**Sammumatsuo**	**2.20**	**116**	A	A	01 30 08.7	
	comp=E,180nm,4.4s,comp=N,127nm,3.8s						
JIM2	**Oshima 3**	**2.22**	**148**	A	A	01 30 08.5	
	comp=E,62nm,1.9s,comp=N,79nm,1.2s						
I30JP	**ISUMI INFRASON**	**2.28**	**124**	Pn	**Pb**	**01 30 11.3**	**+0.1**
	baz=297,slow=24						
ONAJ	**Iwakimizuishiy**	**2.29**	**77**	A	A	01 30 09.9	
	comp=E,29nm,6.7s,comp=N,36nm,4.7s						
JYS	**Shiraka**	**2.29**	**45**	A	A	01 30 09.5	
	comp=E,47nm,1.2s,comp=N,63nm,1.6s						
JKUC	**kamogawauchiur**	**2.30**	**129**	A	A	01 30 10.0	
	comp=E,66nm,5.6s,comp=N,49nm,6.0s						
TSUJ	**Tsu 2**	**2.30**	**215**	A	A	01 30 08.4	
	comp=E,34nm,8.6s,comp=N,16nm,2.6s						
TSUJ	**Tsu 2**	**2.30**	**215**	P	**Pn**	**01 30 08.5**	**+0.9**
JTHY	**Toshimahigashi**	**2.33**	**153**	A	A	01 30 10.2	
	comp=E,95nm,1.9s,comp=N,157nm,2.6s						
TTO5	**TONANKAI O.B.S**	**2.37**	**186**	A	A	01 30 10.0	
	comp=E,204nm,2.1s,comp=N,191nm,4.7s						
JYA	**Atsumi**	**2.39**	**34**	A	A	01 30 10.7	
	comp=E,42nm,1.3s,comp=N,28nm,1.4s						
JFK	**Kawauchi**	**2.41**	**71**	A	A	01 30 11.6	
	comp=E,23nm,4.3s,comp=N,26nm,5.1s						
JIE	**Ise**	**2.46**	**206**	A	A	01 30 10.9	
	comp=E,27nm,4.5s,comp=N,18nm,2.3s						
JSKK	**Shikinejimakit**	**2.48**	**156**	A	A	01 30 12.2	
	comp=E,119nm,2.1s,comp=N,84nm,3.1s						
JNIO	**Nijimaoohara**	**2.48**	**155**	A	A	01 30 12.2	
	comp=E,155nm,2.2s,comp=N,136nm,1.9s						
JWT	**Wachi**	**2.50**	**239**	A	A	01 30 10.8	
	comp=E,13nm,3.9s,comp=N,22nm,3.5s						
JWT	**Wachi**	**2.50**	**239**	P	**Pn**	**01 30 11.3**	**+0.9**
JMM	**Marumori**	**2.55**	**60**	P	**Pb**	**01 30 14.9**	**-0.8**
JMM	**Marumori**	**2.55**	**60**		**Pn**	**01 30 12.5**	**+1.5**
JMM	**Marumori**	**2.55**	**60**	A	A	01 30 13.4	
	comp=E,18nm,6.9s,comp=N,12nm,3.3s						
JKY	**Yasaka**	**2.55**	**248**	A	A	01 30 11.4	
	comp=E,23nm,4.7s,comp=N,29nm,2.8s						
JMST	**Minamisoumatoc**	**2.55**	**63**	A	A	01 30 13.5	
	comp=E,14nm,3.4s,comp=N,18nm,2.7s						
JKO	**Kozu shima**	**2.59**	**159**	A	A	01 30 13.7	
	comp=E,120nm,1.5s,comp=N,141nm,3.3s						
TTO4	**TONANKAI O.B.S**	**2.63**	**189**	A	A	01 30 13.7	
	comp=E,103nm,4.3s,comp=N,123nm,3.1s						
JHE	**Heguri**	**2.72**	**225**	A	A	01 30 14.3	
	comp=E,20nm,5.5s,comp=N,25nm,6.8s						
JOU	**Okura**	**2.74**	**50**	A	A	01 30 16.0	
	comp=E,16nm,3.3s,comp=N,20nm,3.3s						
JKN2	**Miekihoku**	**2.76**	**211**	A	A	01 30 15.1	
	comp=E,21nm,10.0s,comp=N,13nm,5.5s						
JKN2	**Miekihoku**	**2.76**	**211**	P	**Pn**	**01 30 14.6**	**+0.6**
TTO3	**TONANKAI O.B.S**	**2.79**	**190**	A	A	01 30 16.0	
	comp=E,164nm,7.6s,comp=N,155nm,4.4s						
JYYZ	**Yamagatayuza**	**2.84**	**32**	A	A	01 30 17.1	
	comp=E,50nm,5.1s,comp=N,80nm,2.0s						
JMYK	**Miyake Tsubota**	**2.84**	**153**	A	A	01 30 17.4	
	comp=E,44nm,8.9s,comp=N,39nm,8.4s						
JTB	**Tobi-shima**	**2.85**	**25**	A	A	01 30 17.1	
	comp=E,27nm,1.6s,comp=N,17nm,1.6s						
JKSM	**Kasumi**	**2.90**	**250**	A	A	01 30 16.4	
	comp=E,14nm,6.7s,comp=N,16nm,7.2s						
JNTK	**Naratenkawa**	**2.91**	**217**	A	A	01 30 17.1	
	comp=E,16nm,11.1s,comp=N,19nm,5.7s						
JYK	**Kaneyama**	**2.96**	**38**	A	A	01 30 18.9	
	comp=E,16nm,3.0s,comp=N,14nm,2.0s						
TTO2	**TONANKAI O.B.S**	**2.99**	**196**	A	A	01 30 18.6	
	comp=E,121nm,4.2s,comp=N,127nm,3.4s						
JMIK	**Miki**	**3.01**	**234**	A	A	01 30 18.1	
	comp=E,28nm,7.6s,comp=N,19nm,4.6s						
JMKN	**Mikurajimanish**	**3.01**	**154**	A	A	01 30 19.8	
	comp=E,32nm,2.3s,comp=N,25nm,2.9s						
JOFO	**Osakifurukawao**	**3.04**	**48**	A	A	01 30 20.3	
	comp=E,77nm,3.4s,comp=N,83nm,2.7s						
JKS	**Kasai**	**3.05**	**239**	A	A	01 30 18.6	
	comp=E,18nm,5.3s,comp=N,9.0nm,5.2s						
JWY	**Kouya**	**3.10**	**220**	A	A	01 30 19.7	
	comp=E,21nm,5.8s,comp=N,18nm,5.5s						
TTO1	**TONANKAI O.B.S**	**3.15**	**199**	A	A	01 30 20.9	
	comp=E,105nm,5.7s,comp=N,118nm,6.3s						
JMMH	**Miemihama**	**3.23**	**211**	A	A	01 30 21.7	
	comp=E,17nm,6.5s,comp=N,14nm,7.4s						
JAWN	**Awajishima-nag**	**3.31**	**231**	A	A	01 30 22.5	
	comp=E,23nm,7.7s,comp=N,14nm,8.7s						
JYW	**Yuwa**	**3.40**	**30**	A	A	01 30 25.0	
	comp=E,15nm,3.0s,comp=N,18nm,3.6s						
JOG3	**Oga3**	**3.40**	**14**	A	A	01 30 27.6	
	comp=E,12nm,2.2s,comp=N,16nm,2.6s						
JTNC	**Tanabenakahech**	**3.41**	**216**	A	A	01 30 24.3	
	comp=E,20nm,4.8s,comp=N,20nm,10.0s						
JMK	**Ichinoseki**	**3.45**	**47**	A	A	01 30 26.1	
	comp=E,5.0nm,3.4s,comp=N,9.0nm,5.1s						
JRG	**Rokugo**	**3.46**	**36**	A	A	01 30 26.1	
	comp=E,13nm,6.6s,comp=N,12nm,5.8s						
JWM	**Minabe**	**3.51**	**219**	A	A	01 30 25.6	
	comp=E,18nm,6.8s,comp=N,22nm,3.4s						
JKR	**Kurayoshi**	**3.61**	**251**	A	A	01 30 26.6	
	comp=E,13nm,5.7s,comp=N,9.0nm,7.5s						
JWKM	**Wakayamakushim**	**3.66**	**211**	A	A	01 30 27.9	
	comp=E,23nm,6.8s,comp=N,18nm,5.0s						
JHJ	**Hachijo jima 2**	**3.78**	**157**	Pn	**Pn**	**01 30 32.1**	**+4.1**
	comp=N,115nm,0.3s,baz=263,slow=11,SNR=34						
JHJ				Sn	**Sn**	**01 31 16.8**	**+4.6**
	comp=N,33nm,0.3s,baz=90,slow=20,SNR=1.7						
JHJ				LR	LR	01 31 36.4	
	comp=N,2μm,18.8s,baz=273,slow=33						
JHJ2	**Mitsune**	**3.80**	**156**	P	**Pn**	**01 30 28.1**	**-0.2**
JHJ2	**Mitsune**	**3.80**	**156**	Pn	**Pn**	**01 30 30.6**	**+2.3**
JHCJ	**Hachijojimakas**	**3.83**	**157**	A	A	01 30 31.4	
	comp=E,13nm,12.0s,comp=N,13nm,5.8s						
JSZI	**Iwateshizukuis**	**3.89**	**36**	A	A	01 30 32.0	
	comp=E,18nm,4.5s,comp=N,21nm,2.8s						
JJS	**Sakaide**	**4.01**	**237**	A	A	01 30 32.3	
	comp=E,9.0nm,5.0s,comp=N,11nm,7.9s						
JNTW	**Noshirotokiwa**	**4.02**	**24**	A	A	01 30 33.7	
	comp=E,20nm,3.8s,comp=N,20nm,3.4s						
JAI	**Aioi**	**4.05**	**227**	A	A	01 30 33.1	
	comp=E,9.0nm,9.5s,comp=N,8.0nm,5.3s						
JHS	**Saijyo**	**4.29**	**249**	P	**Pn**	**01 30 36.4**	**+1.3**
JAOM	**Aogashimamukai**	**4.39**	**160**	A	A	01 30 39.2	
	comp=E,21nm,6.3s,comp=N,14nm,6.3s						
JMN	**Monobe**	**4.44**	**231**	P	**Pn**	**01 30 37.9**	**+0.7**
JMN	**Monobe**	**4.44**	**231**	Pn	**Pn**	**01 30 37.1**	**-0.1**
JMN	**Monobe**	**4.44**	**231**	A	A	01 30 38.5	
	comp=E,12nm,7.6s,comp=N,9.0nm,1.8s						
MRT2	**Murotomisaki 2**	**4.52**	**226**	A	A	01 30 39.7	
	comp=E,11nm,10.6s,comp=N,9.0nm,7.0s						
JANG	**Nango**	**4.65**	**35**	A	A	01 30 42.8	
	comp=E,6.0nm,3.7s,comp=N,4.0nm,8.0s						
JTM	**Tenmabayashi**	**4.80**	**29**	P	**Pn**	**01 30 46.0**	**+4.0**
JTM	**Tenmabayashi**	**4.80**	**29**	Pn	**Pn**	**01 30 44.3**	**+2.3**
JKHR	**Kochiharuno**	**4.83**	**231**	A	A	01 30 43.9	
	comp=E,11nm,6.9s,comp=N,8.0nm,4.2s						
JET	**Tanbara**	**4.95**	**237**	A	A	01 30 45.6	
	comp=E,5.0nm,12.2s,comp=N,5.0nm,7.0s						
JHT	**Toyohira**	**4.95**	**248**	A	A	01 30 45.4	
	comp=E,5.0nm,6.1s,comp=N,8.0nm,6.9s						
JKU	**Kubokawa**	**5.23**	**232**	A	A	01 30 49.6	
	comp=E,7.0nm,5.7s,comp=N,5.0nm,5.7s						
JNA	**Nagahama**	**5.46**	**238**	A	A	01 30 52.8	
	comp=E,4.0nm,7.2s,comp=N,5.0nm,10.6s						
UWA2	**Uwa jima 2**	**5.58**	**234**	A	A	01 30 54.4	
	comp=E,5.0nm,7.1s

SHO pmax pmax
comp=N,17nm,0.8s
SHO pmax pmax
comp=E,15nm,0.6s
SHO MLR MLR
comp=Z,2µm,15.0s
JCJ Chichijima 10.13 158 Pn **Pn 01 31 56.6 +1.4**
JCJ Chichijima 10.13 158 Pn **Pn 01 31 56.9 +1.6**
comp=Z,6.4nm,0.3s,baz=304,slow=15,SNR=3.5
JCJ LR LR 01 35 23.3
comp=Z,3µm,20.8s,baz=23,slow=35
comp=Z,98nm,0.8s
MDJ Mudanjiang 10.23 324 P **Pn 01 31 59.2 +2.7**
MDJ Mudanjiang 10.23 324 P **Pn 01 31 57.6 +1.1**
MDJ pP 01 32 02.1
MDJ pmax pmax
comp=Z,7.0nm,1.0s
MDJ pmax pmax
comp=Z,99nm,3.5s
MDJ LR LR
comp=Z,6µm,15.2s
MDJ LR LR
comp=Z,4µm,14.6s
MDJ LR LR
comp=Z,9µm,15.5s
YSS Yuzh-Sakhalins 10.92 17 P **Pn 01 32 09.9 +4.0**
comp=Z,154nm,1.3s
YSS Yuzh-Sakhalins 10.92 17 **Pn 01 32 06.6 +0.7**
YSS Yuzh-Sakhalins 10.92 17κ *i*P Pn 01 32 11.4 +5.5
YSS *e*S **Sn 01 34 15.2 +7.6**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=Z,300nm,3.1s
YSS pmax pmax
comp=N,500nm,2.3s
YSS pmax pmax
comp=E,200nm,2.0s
YSS MLR MLR
comp=N,4µm,13.0s
YSS MLR MLR
comp=Z,4µm,13.0s
YSS MLR MLR
comp=E,3µm,14.0s
CN2 Changchun 11.98 311 ⇑P **Pn 01 32 24.2 +3.8**
CN2 *es*P 01 32 32.1
CN2 pmax pmax
comp=E,10.0nm,0.7s
CN2 pmax pmax
comp=E,400nm,4.0s
CN2 LR LR
comp=E,2µm,12.0s
CN2 LR LR
comp=E,3µm,12.0s
CN2 LR LR
comp=E,1µm,13.0s
BNX BinXian 12.11 322 ⇓P Pn 01 32 27.6 +5.4
BNX PP **P 01 32 38.6 +3.7**
BNX S Sn 01 34 46.3 +9.5
BNX pmax pmax
comp=E,40nm,1.9s
BNX pmax pmax
comp=E,690nm,6.3s
BNX LR LR
comp=E,6µm,16.0s
BNX LR LR
comp=E,4µm,14.5s
BNX LR LR
comp=E,6µm,14.0s
JMZ Minamidaito 2 12.22 210 Pn **Pn 01 32 25.5 +1.6**
SNY Shenyang 12.34 299 ⇓P **Pn 01 32 29.3 +4.0**
SNY pmax pmax
comp=E,12nm,0.8s
SNY LR LR
comp=E,3µm,12.3s
SNY LR LR
comp=E,2µm,12.6s
SNY LR LR
comp=E,4µm,15.2s
JOW Kunigami 12.79 223 Pn **P 01 32 43.6 +1.0**
comp=E,1.3nm,0.3s,baz=63,slow=11,SNR=9.6
JOW LR LR 01 37 49.3
comp=E,1µm,20.5s,baz=62,slow=40
UGL Uglegorsk 12.80 12*de*P Pn 01 32 36.8 +5.2
UGL S Sn 01 35 03.6 +10
UGL pmax pmax
comp=Z,600nm,2.0s
UGL pmax pmax
comp=Z,102nm,1.1s
UGL MLR MLR
comp=Z,2µm,14.0s
UGL MLR MLR
comp=N,2µm,13.0s
UGL MLR MLR
comp=E,1µm,13.0s
DL2 Dalian 13.16 285 P **Pn 01 32 38.8 +2.2**
DL2 S **Sn 01 35 07.5 +4.8**
DL2 pmax pmax
comp=E,52nm,1.2s
DL2 pmax pmax
comp=E,600nm,6.3s
DL2 LR LR
comp=E,3µm,12.4s
DL2 LR LR
comp=E,6µm,12.7s
DL2 LR LR
comp=E,7µm,14.7s
KLR Kul'dur 13.41 342 Pn **Pn 01 32 44.1 +4.3**
comp=E,0.8nm,0.3s,baz=146,slow=10,SNR=51
KLR Sn **Sn 01 35 14.4 +5.8**
comp=E,0.1nm,0.3s,baz=86,slow=24,SNR=1.5
KLR LR LR 01 37 46.3
comp=E,1µm,19.2s,baz=159,slow=37
KLR Kul'dur 13.41 342⇑*e*P **Pn 01 32 42.0 +2.1**
KLR pmax pmax
comp=Z,101nm,1.3s
GRNR Gornyy 14.19 356⇓*i*P **P 01 32 55.2 -2.9**
GRNR pmax pmax
comp=Z,30nm,1.1s
GRNR MLR MLR
comp=E,1µm,14.0s
GRNR MLR MLR
comp=Z,1µm,15.0s
TYV Tymovskoe 14.63 12 *e*P **P 01 33 00.8 -2.0**
TYV *e*S S 01 35 48.5 -8.8
TYV pmax pmax
comp=Z,79nm,1.3s
TYV pmax pmax
comp=Z,500nm,2.6s
TYV smax smax
comp=N,300nm,5.3s
TYV smax smax
comp=E,300nm,5.3s
SSE Sheshan 15.02 253 P **Pn 01 33 01.0 -0.9**
SSE S **Sn 01 35 47.3 -0.6**
SSE pmax pmax
comp=E,41nm,0.9s
SSE pmax pmax
comp=E,400nm,5.1s
SSE LR LR
comp=E,830nm,14.6s
SSE LR LR
comp=E,4µm,14.1s
HEH HeiHe 15.63 334 *e*P **P 01 33 13.2 -0.8**
HEH pP **sP 01 33 21.7 +0.8**
HEH S **S 01 36 10.5 -7.3**
HEH sS **sS 01 36 21.7 -3.5**
HEH pmax pmax
comp=E,32nm,1.8s
HEH pmax pmax
comp=E,690nm,6.3s
HEH LR LR
comp=E,4µm,16.3s
HEH LR LR
comp=E,8µm,17.1s
HEH LR LR
comp=E,4µm,12.5s
NJ2 Nanjing 16.46 260⇓*i*P **P 01 33 22.9 -0.4**
NJ2 pP **pP 01 33 25.9 -2.1**
NJ2 pmax pmax
comp=E,100nm,1.4s
NJ2 pmax pmax
comp=E,680nm,5.1s
NJ2 LR LR
comp=E,3µm,12.2s
NJ2 LR LR
comp=E,5µm,14.5s
NJ2 LR LR
comp=E,5µm,14.2s
TIA Tai'an 16.82 275 P **P 01 33 27.4 +0.1**
TIA S **Sn 01 36 36.3 +4.6**
TIA pmax pmax
comp=E,95nm,2.4s
TIA LR LR
comp=E,900nm,11.5s
TIA LR LR
comp=E,2µm,12.2s
TIA LR LR
comp=E,2µm,10.1s
BJI Beijing 17.46 288 P **P 01 33 34.7 +0.4**
BJI pP **pP 01 33 36.8 -2.3**
BJI S **Sn 01 36 50.3 +3.1**
BJI sS **sS 01 37 03.0 +0.3**
BJI pmax pmax
comp=E,37nm,1.2s
BJI pmax pmax
comp=E,600nm,5.9s
BJI LR LR
comp=E,600nm,21.2s
BJI LR LR
comp=E,1µm,12.9s
BJI LR LR
comp=E,1µm,13.2s
BJT Baijiatuao 17.47 288 P **P 01 33 36.8 +2.4**
comp=E,76nm,1.4s
BJT Baijiatuao 17.47 288 P **P 01 33 33.6 -0.8**
BJT Baijiatuao 17.47 288 P **P 01 33 33.6 -0.8**
BJT pmax pmax
comp=Z,113nm,1.3s
YOJ Yonaguni jima 17.68 231 **P 01 33 36.2 -0.7**
YOJ Yonaguni jima 17.68 231 P **P 01 33 36.2 -0.7**
YOJ pmax pmax
comp=Z,43nm,1.1s
XLT XiLinHaoTe 18.22 300 *e*P **P 01 33 43.8 +1.0**
XLT pP sP 01 33 48.7 -1.0
XLT sP pP 01 33 53.8 +6.2
XLT S **Sn 01 37 04.0 -1.6**
XLT sS sS 01 37 15.7 -2.5
XLT pmax pmax
comp=Z,60nm,0.9s
XLT pmax pmax
comp=Z,1µm,5.4s
XLT LR LR
comp=Z,3µm,17.1s
XLT LR LR
comp=Z,4µm,15.6s
HIA Hailar 18.34 319 P **P 01 33 47.2 +3.2**
comp=Z,32nm,1.0s
HIA Hailar 18.34 319 P **Pn 01 33 43.7 -0.3**
HIA Hailar 18.34 319 P **Pn 01 33 43.7 -0.3**
HIA pmax pmax
comp=Z,32nm,1.0s
YHNB Yeheng 18.59 235 P **Pn 01 33 48.6 +1.4**
comp=Z,48nm,0.8s
YHNB Yeheng 18.59 235 P **P 01 33 46.6 -0.3**
HNS HongShan 18.62 279 ⇑P **Pn 01 33 49.2 +1.7**
HNS PP **PnPn 01 34 05.8 +6.5**
HNS S **S 01 37 21.5 +2.6**
HNS SS SnSn 01 37 45.3 +16
HNS pmax pmax
comp=Z,230nm,1.2s
HNS pmax pmax
comp=Z,2µm,6.9s
HNS LR LR
comp=Z,2µm,16.7s
HNS LR LR
comp=Z,3µm,15.7s
HNS LR LR
comp=Z,3µm,14.2s
ZEA Zeya 18.69 340 *e*P **Pn 01 33 49.9 +1.8**
ZEA *e* 01 37 22.4
ZEA pmax pmax
comp=N,30nm,1.4s
ZEA pmax pmax
comp=Z,40nm,1.3s
ZEA pmax pmax
comp=Z,300nm,7.9s
ZEA MLR MLR
comp=N,1µm,13.0s
ZEA MLR MLR
comp=Z,700nm,12.0s
SSLB Suanglung 19.48 234 P **Pn 01 33 58.3 +0.4**
comp=Z,31nm,1.0s
SSLB Suanglung 19.48 234 P **P 01 33 56.8 +0.2**
YULB Yu-li 19.54 232 P **Pn 01 33 59.0 +0.4**
comp=Z,21nm,1.3s
YULB Yu-li 19.54 232 P **P 01 33 57.4 +0.1**
TPUB Ta-pu 20.03 233 P Pn 01 34 04.4 -0.1
comp=Z,39nm,1.1s
TPUB Ta-pu 20.03 233 P **P 01 34 02.7 0.0**
TWGBT Beinan 20.09 231 P **P 01 34 03.6 +0.3**
comp=Z,56nm,1.1s
TWG Pinlang 20.09 231 P **P 01 34 02.8 -0.6**
TWG IAmb IAmb 01 34 12.7
comp=Z,90nm,1.2s
QZH Quanzhou 20.30 240⇑*i*P **P 01 34 05.6 +0.1**
QZH pmax pmax
comp=Z,530nm,6.5s
QZH LR LR
comp=Z,2µm,19.6s
QZH LR LR
comp=Z,2µm,22.7s
QZH LR LR
comp=Z,3µm,13.2s
WHN Wuhan 20.60 260 ⇓P Pn 01 34 10.2 -0.9
WHN pP pP 01 34 13.9 +0.4
WHN S **S 01 37 56.5 -2.0**
WHN pmax pmax
comp=Z,130nm,0.9s
WHN LR LR
comp=Z,4µm,9.7s
WHN LR LR
comp=Z,17µm,16.3s
WHN LR LR
comp=Z,16µm,15.0s
LYN LuoYang 20.86 272⇓*i*P Pn 01 34 13.2 -0.9
LYN pP sP 01 34 19.6 +1.0
LYN sP pP 01 34 22.4 +6.0
LYN sS sS 01 38 12.4 +1.1
LYN SS **SnSn 01 38 37.8 +14**
LYN pmax pmax
comp=Z,190nm,1.2s
LYN pmax pmax
comp=Z,1µm,5.6s
LYN LR LR
comp=Z,5µm,15.3s
LYN LR LR
comp=Z,4µm,15.8s
LYN LR LR
comp=Z,6µm,13.7s
HHC Hu-ho-hao-te 21.03 290⇓*i*P **P 01 34 16.0 +2.5**
HHC pP sP 01 34 20.0 -0.5
HHC sP pP 01 34 23.7 +5.4
HHC S **S 01 38 05.9 -1.3**
HHC sS pS 01 38 19.8 +2.3
HHC pmax pmax
comp=Z,50nm,1.1s
HHC pmax pmax
comp=Z,380nm,4.8s
HHC LR LR
comp=Z,1µm,11.9s
HHC LR LR
comp=Z,2µm,12.9s
HHC LR LR
comp=Z,2µm,14.1s
PEA0B Petropavlovsk- 21.49 34⇓*e*P **P 01 34 21.4 +3.2**
PETK Petropavlovsk- 21.49 34 P **P 01 34 18.9 +0.7**
PETK Petropavlovsk- 21.49 34 P **P 01 34 20.9 +2.7**
comp=Z,22nm,1.0s,baz=226,slow=7.8,SNR=7.7
PETK LR LR 01 42 25.5
comp=Z,990nm,19.2s,baz=211,slow=36
comp=Z,22nm,1.0s
PET Petropavlovsk 21.86 35 *e*P **P 01 34 20.1 -2.1**
PET *e*S **S 01 38 19.8 -3.3**
PET pmax pmax
comp=Z,51nm,1.1s
PET pmax pmax
comp=Z,100nm,12.0s
PET Petropavlovsk 21.86 35 P **P 01 34 25.4 +3.2**
BTO Baotou 22.19 289 *e*P **P 01 34 26.0 0.0**
BTO pP **pP 01 34 31.1 +0.3**
BTO sP **sP 01 34 34.2 +1.2**
BTO PP **PnPn 01 34 55.8 +7.5**
BTO S **S 01 38 30.1 +0.3**
BTO pmax pmax
comp=Z,17nm,0.9s
BTO pmax pmax
comp=Z,330nm,3.7s
BTO LR LR
comp=Z,4µm,15.1s
BTO LR LR
comp=Z,3µm,13.0s
BTO LR LR
comp=Z,4µm,12.7s
CNSH ChangSha 22.74 255⇓P **P 01 34 32.7 +0.9**
CNSH pmax pmax
comp=Z,69nm,1.3s
CNSH LR LR
comp=Z,3µm,14.6s
CNSH LR LR
comp=Z,3µm,14.3s
CNSH LR LR
comp=Z,6µm,14.4s
CIT Chita 23.15 319 *e*P **P 01 34 33.4 -2.5**
CIT *e* 01 34 37.6
CIT *e* 01 35 00.2
CIT *e* 01 35 19.0
GUMO Guam 23.74 163 P **P 01 34 42.4 +0.4**
comp=Z,153nm,1.4s
GUMO Guam 23.74 163 P **P 01 34 41.4 -0.5**
GUMO Guam 23.74 163 LR LR 01 42 32.6
comp=Z,1µm,20.3s,baz=337,slow=33
GUMO Guam 23.74 163 P **P 01 34 41.4 -0.5**
GUMO pmax pmax
comp=Z,460nm,1.4s
XAN Xi'an 23.83 272⇓P **P 01 34 42.8 0.0**
XAN pP pP 01 34 46.3 -1.6
XAN S **S 01 38 55.9 -2.2**
XAN sS sS 01 39 08.8 +2.2
XAN pmax pmax
comp=Z,41nm,1.3s
XAN pmax pmax
comp=Z,720nm,6.4s
XAN LR LR
comp=Z,3µm,13.1s
XAN LR LR
comp=Z,3µm,11.6s
XAN LR LR
comp=Z,2µm,12.2s
MA2 Magadan 24.41 16 P **P 01 34 51.5 +3.6**
comp=Z,133nm,1.4s
MA2 Magadan 24.41 16 P **P 01 34 47.5 -0.4**
MA2 Magadan 24.41 16 LR LR 01 45 22.3
comp=Z,645nm,18.7s,baz=200,slow=39
MA2 Magadan 24.41 16*d* *i*P **P 01 34 48.3 +0.4**
MA2 pmax pmax
comp=Z,91nm,0.9s
MA2 Magadan 24.41 16 P **P 01 34 48.1 +0.2**
ENH Enshi 24.57 263 P **P 01 34 49.7 0.0**
comp=Z,44nm,1.2s
ENH Enshi 24.57 263 P **P 01 34 48.0 -1.7**
ENH IAmb IAmb 01 34 57.0
comp=Z,32nm,0.8s
ULN Ulaanbaatar 25.36 306 P **P 01 34 55.5 -1.3**
ULN Ulaanbaatar 25.36 306*de*P **P 01 34 55.7 -1.1**
ULN pmax pmax
comp=Z,24nm,1.3s
SONM Songino Array 25.78 306 P **P 01 34 59.2 -1.4**
SONM Songino Array 25.78 306 P **P 01 34 59.4 -1.2**
comp=Z,1.7nm,0.7s,baz=114,slow=8.9,SNR=11
SONM LR LR 01 45 24.6
comp=Z,3µm,18.9s,baz=110,slow=37
comp=Z,1.7nm,0.7s
SONM Songino Array 25.78 306 P **P 01 34 59.2 -1.4**
SONM pmax pmax
comp=Z,22nm,1.2s
YAK Yakutsk 25.97 351 P **P 01 35 00.8 -1.1**
YAK Yakutsk 25.97 351 LR LR 01 45 09.1
comp=Z,901nm,19.1s,baz=162,slow=36
YAK Yakutsk 25.97 351 *e*P **P 01 35 02.5 +0.6**
YAK *e**PP **sP 01 35 11.3 +2.2**
YAK *e* 01 35 43.3
YAK *e*PPP PPP 01 35 52.0
YAK *e*S **S 01 39 35.0 +3.5**
YAK *e*SS **SnSn 01 40 40.8 +12**
YAK pmax pmax
comp=Z,35nm,1.3s
YAK pmax pmax
comp=N,24nm,1.4s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=Z,30nm,0.9s
YAK pmax pmax
comp=E,7.0nm,0.6s
YAK pmax pmax
comp=N,51nm,1.5s
YAK smax smax
comp=N,199nm,2.5s
YAK smax smax
comp=E,158nm,2.8s
YAK MLR MLR
comp=Z,1µm,14.0s
YAK MLR MLR
comp=N,502nm,12.0s
YAK MLR MLR
comp=E,332nm,12.0s
GULI GuiLin 26.17 252⇓P **P 01 35 03.9 -0.2**
GULI S **S 01 39 34.2 -1.2**
GULI pmax pmax
comp=E,40nm,1.1s
GULI pmax pmax
comp=E,280nm,8.7s
GULI LR LR
comp=E,3µm,14.6s
GULI LR LR
comp=E,3µm,14.3s
GULI LR LR
comp=E,5µm,14.7s
BOD Bodaibo 26.49 331 *e*P **P 01 35 11.3 +4.6**
BOD pmax pmax
comp=Z,13nm,1.6s
LZH Lanzhou 27.44 279 ⇑P **P 01 35 20.4 +4.7**
LZH pP sP 01 35 26.0 +3.2
LZH sP pP 01 35 30.9 +10
LZH S **S 01 39 57.5 +1.8**
LZH SS **SnSn 01 41 12.8 +7.4**
LZH pmax pmax
comp=Z,38nm,1.4s
LZH pmax pmax
comp=Z,180nm,5.2s
LZH LR LR
comp=Z,2µm,14.8s
LZH LR LR
comp=Z,2µm,15.5s
LZH LR LR
comp=Z,2µm,15.1s
SEY Seymchan 27.79 14 LR LR 01 46 28.2
comp=Z,487nm,21.0s,baz=192,slow=37
SEY Seymchan 27.79 14⇓*e*P **P 01 35 21.5 +3.1**
SEY pmax pmax
comp=Z,37nm,1.0s
ZAK Zakamensk 28.41 310 *e*P **P 01 35 22.6 -1.6**
ZAK pmax pmax
comp=Z,9.0nm,1.4s
CD2 Chengdu 28.94 269 P **P 01 35 27.7 -1.3**
CD2 sP pP 01 35 34.6 +0.6
CD2 S **S 01 40 24.5 +5.4**
CD2 pmax pmax
comp=Z,10.0nm,0.4s
CD2 pmax pmax
comp=Z,110nm,7.0s
CD2 LR LR
comp=Z,3µm,17.8s
CD2 LR LR
comp=Z,3µm,16.0s
CD2 LR LR
comp=Z,2µm,15.9s
SHEM Shemya Is, Ala 29.91 46 LR LR 01 47 00.3
comp=Z,252nm,21.4s,baz=300,slow=35
GTA Gaotai 30.07 287 *e*P **P 01 35 38.5 -0.6**
GTA PP **PnPn 01 36 39.2 +3.2**
GTA SS **SnSn 01 42 19.7 +10**
GTA pmax pmax
comp=Z,8.0nm,1.2s
GTA LR LR
comp=Z,1µm,12.0s
GTA LR LR
comp=Z,1µm,13.8s

GTA LR LR
comp=Z,2µm,13.1s
QIZ Qiongzhong 30.29 242 P **P** **01 35 41.8 +0.8**
QIZ S **S** **01 40 42.9 +2.5**
QIZ LR LR
comp=Z,1µm,18.5s
QIZ LR LR
comp=Z,1µm,16.2s
QIZ LR LR
comp=Z,2µm,12.6s
DAV Davao City (W) 31.52 204 LR LR 01 48 59.3
comp=Z,493nm,18.1s,baz=29,slow=37
KMI Kunming 32.20 259 ⇑P P 01 36 04.2 +6.2
KMI S **S** **01 41 09.3 -1.3**
KMI pmax pmax
comp=Z,160nm,5.9s
KMI LR LR
comp=N,1µm,14.7s
KMI LR LR
comp=E,4µm,16.2s
KMI LR LR
comp=Z,4µm,15.8s
PZH PanZhiHua 32.34 262 P **P** **01 35 57.8 -1.4**
PZH S **S** **01 41 10.4 -2.2**
PZH SS **SnSn** **01 43 07.0 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,150nm,6.5s
PZH LR LR
comp=Z,1µm,15.9s
PZH LR LR
comp=Z,2µm,15.1s
PZH LR LR
comp=Z,3µm,15.1s
SLVN Son La 33.29 252 P **P** **01 36 06.2 -1.3**
SLVN IAmb IAmb 01 36 09.7
comp=Z,26nm,1.3s
GOMU GeErMu 34.55 283 P **P** **01 36 17.2 -1.4**
GOMU pP pP 01 36 23.0 -0.7
GOMU sP sP 01 36 24.5 -1.3
GOMU PP **PP** **01 37 40.6 +3.8**
GOMU S **S** **01 41 53.8 +6.6**
GOMU pmax pmax
comp=Z,10.0nm,0.7s
GOMU LR LR
comp=Z,2µm,14.1s
GOMU LR LR
comp=Z,2µm,15.6s
GOMU LR LR
comp=Z,3µm,15.7s
BILL Bilibino 35.23 18 P **P** **01 36 23.9 +0.2**
BILL Bilibino 35.23 18 *i*P **P** **01 36 24.5 +0.8**
BILL pmax pmax
comp=Z,28nm,1.7s
TIXI Tiksi 35.42 355 P **P** **01 36 24.3 -1.0**
TIXI IAmb IAmb 01 36 29.9
comp=Z,53nm,1.6s
TIXI Tiksi 35.42 355⇑ *i*P **P** **01 36 24.4 -0.8**
TIXI pmax pmax
comp=Z,21nm,1.0s
TNCH TengChong 35.59 262 P P 01 36 20.3 -7.2
TNCH pP pP 01 36 27.1 -5.5
TNCH PP **PP** **01 37 56.4 +8.1**
TNCH S **S** **01 42 03.5 +0.4**
TNCH sS sS 01 42 19.8 +7.9
TNCH pmax pmax
comp=Z,190nm,5.6s
TNCH LR LR
comp=N,1µm,13.8s
TNCH LR LR
comp=E,850nm,13.5s
TNCH LR LR
comp=Z,2µm,17.1s
UBPT Khong Chiam 35.89 242 P **P** **01 36 30.5 +0.6**
comp=Z,51nm,1.5s
UBPT Khong Chiam 35.89 242 P **P** **01 36 29.5 -0.4**
UBPT IAmb IAmb 01 36 31.6
comp=Z,50nm,1.1s
DLV T Lat 36.17 235 P **P** **01 36 33.2 +0.7**
comp=Z,86nm,1.2s
DLV T Lat 36.17 235 P **P** **01 36 31.6 -0.9**
CRAI Chiangrai 36.63 254 P **P** **01 36 35.9 -0.3**
TNTI Ternate 37.01 198 P **P** **01 36 38.3 -1.0**
PHRA Phrae 37.74 252 P **P** **01 36 44.9 -0.8**
SWI Sorong 37.81 191 P **P** **01 36 45.5 -0.7**
GTOI Gorontalo 38.41 205 P **P** **01 36 49.9 -1.3**
comp=Z,19nm,1.3s,comp=Z,193nm
DGZ Jazzator, Alta 38.43 306‖ *e*P **P** **01 36 50.7 -0.6**
DGZ pmax pmax
comp=Z,15nm,1.3s
CHTO Chiang Mai 38.55 253 P **P** **01 36 51.6 -0.8**
CHTO IAmb IAmb 01 36 53.4
comp=Z,23nm,0.8s
CHTO Chiang Mai 38.55 253 P **P** **01 36 51.7 -0.8**
CHTO pmax pmax
comp=Z,23nm,0.8s
WMQ Urumqi 38.59 297 *e*P **P** **01 36 55.0 +2.4**
WMQ LR LR
comp=Z,2µm,18.1s
WMQ LR LR
comp=Z,1µm,13.1s
WMQ LR LR
comp=Z,490nm,15.3s
CM31 Chiang Mai Arr 38.76 253 P **P** **01 36 53.3 -0.9**
CMAR Chiang Mai Arr 38.76 253 P **P** **01 36 53.4 -0.8**
CMAR Chiang Mai Arr 38.76 253 P **P** **01 36 54.1 -0.1**
comp=Z,6.8nm,0.7s,baz=47,slow=6.4,SNR=34
CMAR PcP **PcP** **01 39 06.2 +0.5**
comp=Z,1.1nm,0.3s,baz=27,slow=2.5,SNR=4.8
CMAR LR LR 01 52 56.7
comp=Z,364nm,18.5s,baz=60,slow=36
comp=Z,6.8nm,0.7s
TOLI2 Tolitoli 38.76 208 P **P** **01 36 53.1 -1.1**
comp=Z,11nm,1.4s
TOLI2 Tolitoli 38.76 208 P **P** **01 36 52.3 -1.9**
TOLI2 IAmb IAmb 01 36 54.0
comp=Z,64nm,2.0s
LSA Lhasa 39.52 274 P **P** **01 37 00.4 -0.6**
LSA Lhasa 39.52 274 P **P** **01 37 00.4 -0.6**
LSA pmax pmax
comp=Z,9.0nm,1.1s
FAKI Fak Fak 39.70 189 P **P** **01 37 01.0 -1.0**
comp=Z,44nm,1.1s
FAKI Fak Fak 39.70 189 P **P** **01 37 01.3 -0.8**
FAKI IAmb IAmb 01 37 08.0
comp=Z,43nm,1.1s
FAKI Fak Fak 39.70 189 P **P** **01 37 01.2 -0.8**
comp=Z,44nm,1.1s
LUWI Luwuk 40.06 204 P **P** **01 37 04.9 -0.1**
LUWI IAmb IAmb 01 37 44.8
comp=Z,54nm,0.8s
SANI Sanana 40.06 199 P **P** **01 37 03.2 -1.9**
comp=Z,45nm,1.1s
SANI Sanana 40.06 199 P **P** **01 37 03.6 -1.5**
comp=Z,44nm,1.0s
ZAA0 Zalesovo Array 40.18 313 P **P** **01 37 04.2 -1.5**
ZALV Zalesovo Beam 40.18 313 P **P** **01 37 03.8 -1.9**
comp=Z,1.7nm,0.8s,baz=126,slow=4.1,SNR=6.0
ZALV PcP **PcP** **01 39 08.8 -0.8**
comp=Z,2.5nm,0.6s,baz=109,slow=2.1,SNR=5.6
ZALV LR LR 01 53 51.5
comp=Z,399nm,19.4s,baz=92,slow=36
comp=Z,1.7nm,0.8s
ZSN Zaisan 40.21 303 *e*P **P** **01 37 05.0 -1.1**
baz=303
ZSN Zaisan 40.21 303 *e*P **P** **01 37 04.9 -1.1**
SHL Shillong 40.66 268 P **P** **01 37 08.3 -1.9**
SHL Shillong 40.66 268 P **P** **01 37 08.4 -1.9**
SHL pmax pmax
comp=Z,28nm,1.1s
SRDT SRDT 41.13 248 P **P** **01 37 14.4 +0.5**
comp=Z,41nm,1.3s
SBUM Sibu 41.50 221 P **P** **01 37 15.5 -1.4**
UNV Unalaska Valle 41.54 47 P **P** **01 37 16.9 +0.1**
baz=269
MK31 Makanchi Array 42.02 302 P **P** **01 37 20.0 -1.0**
MK31 Makanchi Array 42.02 302 P **P** **01 37 20.0 -1.0**
MK31 pmax pmax
comp=Z,4.0nm,1.0s
MKAR Makanchi Array 42.02 302 P **P** **01 37 19.0 -2.0**
MKAR Makanchi Array 42.02 302 P **P** **01 37 19.5 -1.5**
comp=Z,1.6nm,0.9s,baz=91,slow=12,SNR=4.7
MKAR PcP **PcP** **01 39 15.5 -0.3**
comp=Z,4.0nm,1.1s,baz=82,slow=3.9,SNR=5.3
MKAR LR LR 01 55 18.0
comp=Z,2µm,18.2s,baz=94,slow=37
comp=Z,1.6nm,0.9s
TNA Tin City 42.57 30 P **P** **01 37 25.5 +0.5**
baz=254
SEM Semipalatinsk 43.03 308 *e*P **P** **01 37 28.7 -0.6**
baz=308
SEM Semipalatinsk 43.03 308 *e*P **P** **01 37 28.7 -0.6**
F14K Arctic Creek 43.19 30 P **P** **01 37 30.2 +0.1**
baz=256
KSM Kuching 43.34 223 P **P** **01 37 32.7 +0.8**
KSM Kuching 43.34 223 P **P** **01 37 31.0 -0.9**
KSM IAmb IAmb 01 37 44.0
comp=Z,34nm,1.2s
ANM Nome 43.38 32 P **P** **01 37 33.0 +1.3**
ANM Nome 43.38 32 P **P** **01 37 30.5 -1.2**
baz=258
ANM Nome 43.38 32 P **P** **01 37 33.0 +1.3**
ANM pmax pmax
comp=Z,21nm,1.0s
J14K Nanvaranak Lak 43.86 34 P **P** **01 37 35.3 -0.3**
baz=262
F15K North Star Dit 43.92 30 P **P** **01 37 37.0 +1.0**
F15K IAmb IAmb 01 37 42.7
comp=Z,42nm,1.0s
F15K North Star Dit 43.92 30 P **P** **01 37 35.6 -0.4**
baz=258,SNR=7.4
G15K Niukluk 44.03 31 P **P** **01 37 36.3 -0.6**
baz=259,SNR=7.0
KURK Kurchatov 44.04 308 P **P** **01 37 35.6 -1.5**
KURK Kurchatov 44.04 308*c i*P **P** **01 37 35.3 -1.9**
KURK pmax pmax
comp=Z,18nm,0.9s
L14K Kuka Creek 44.09 37 P **P** **01 37 37.3 -0.1**
baz=264
KURBB Kurchatov Arra 44.10 308 P **P** **01 37 35.7 -2.0**
comp=Z,3.3nm,0.8s,baz=86,slow=8.0,SNR=22
KURBB PcP **PcP** **01 39 22.1 -0.6**
comp=Z,2.6nm,0.9s,baz=92,slow=3.2,SNR=4.1
KURBB LR LR 01 56 31.2
comp=Z,2µm,18.2s,baz=116,slow=37
comp=Z,3.3nm,0.8s
S12K Black Hills 44.13 45 P **P** **01 37 37.8 0.0**
baz=270
C16K Lisburne Hills 44.28 26 P **P** **01 37 39.3 +0.4**
C16K IAmb IAmb 01 37 44.3
comp=Z,28nm,1.0s
C16K Lisburne Hills 44.28 26 P **P** **01 37 38.1 -0.8**
baz=254,SNR=6.4
M14K Bethel 44.38 37 P **P** **01 37 38.9 -0.9**
baz=265
N14K Kuskokwak Cree 44.46 39 P **P** **01 37 39.5 -0.9**
baz=266
SHLS Shalkode 44.60 297 *e*P **P** **01 37 38.0 -4.1**
baz=297
SHLS Shalkode 44.60 297 *e*P **P** **01 37 37.9 -4.1**
SRIT Nakonsritamara 44.63 241 P **P** **01 37 43.9 +1.6**
SRIT Nakonsritamara 44.63 241 P **P** **01 37 42.0 -0.3**
H16K Elim 44.72 32 P **P** **01 37 41.3 -1.1**
baz=261
K15K Wolf Creek Mou 44.73 35 P **P** **01 37 40.9 -1.7**
baz=264
G16K Koyuk River 44.80 31 P **P** **01 37 42.1 -1.0**
baz=260
KAPI Kappang 44.80 206 P **P** **01 37 43.2 -0.4**
comp=Z,52nm,1.4s
KAPI Kappang 44.80 206 P **P** **01 37 42.4 -1.2**
KAPI Kappang 44.80 206 P **P** **01 37 42.4 -1.2**
KAPI pmax pmax
comp=Z,62nm,1.2s
UZB Uzunbulak 44.92 297 *e*P **P** **01 37 43.1 -1.5**
baz=297
UZB Uzunbulak 44.92 297 *e*P **P** **01 37 43.0 -1.5**
D17K Noatak River 44.97 28 P **P** **01 37 43.4 -1.0**
baz=257,SNR=7.8
TDK Taldyqorghan 44.98 300 *e*P **P** **01 37 43.6 -1.2**
baz=300
TDK Taldyqorghan 44.98 300 *e*P **P** **01 37 43.6 -1.2**
M15K Kasigluk River 45.00 38 P **P** **01 37 44.0 -0.7**
baz=266
C17K DeLong Mountai 45.11 26 P **P** **01 37 44.4 -1.1**
baz=256,SNR=6.9
RDOG Red Dog Mine 45.11 27 P **P** **01 37 46.2 +0.7**
RDOG IAmb IAmb 01 37 51.4
comp=Z,44nm,1.4s
RDOG Red Dog Mine 45.11 27 P **P** **01 37 44.3 -1.2**
baz=257,SNR=6.1
J16K Anvik River 45.26 34 P **P** **01 37 45.6 -1.1**
baz=264
N15K Kwethluk River 45.27 38 P **P** **01 37 45.8 -1.1**
baz=268
I17K Unalakleet 45.29 33 P **P** **01 37 45.1 -1.8**
baz=263
E17K Hotham Inlet 45.31 29 P **P** **01 37 45.9 -1.2**
baz=259,SNR=27
O15K Ungalikthiuk R 45.37 40 P **P** **01 37 47.1 -0.6**
baz=269
SATY Saty 45.38 297 *e*P **P** **01 37 47.0 -1.2**
baz=297
SATY Saty 45.38 297 *e*P **P** **01 37 47.0 -1.2**
F17K Baldwin Pennin 45.42 29 P **P** **01 37 48.8 +0.8**
F17K IAmb IAmb 01 37 54.3
comp=Z,26nm,0.9s
F17K Baldwin Pennin 45.42 29 P **P** **01 37 47.2 -0.7**
baz=260,SNR=8.5
G17K Kiwalik Mounta 45.52 31 P **P** **01 37 48.3 -0.5**
baz=262,SNR=7.9
S14K Fog Glacier 45.53 44 P **P** **01 37 48.2 -0.9**
baz=272
CHNA Chernabura Isl 45.57 46 P **P** **01 37 48.5 -0.8**
baz=273
L16K Owhat River 45.65 36 P **P** **01 37 49.2 -0.7**
baz=267
H17K Granite Mounta 45.75 32 P **P** **01 37 49.0 -1.6**
baz=263
B18K Kokolik River 45.80 25 P **P** **01 37 49.5 -1.5**
baz=257,SNR=5.7
E18K Tukpahlearik C 45.84 28 P **P** **01 37 52.1 +0.8**
E18K IAmb IAmb 01 37 57.8
comp=Z,36nm,1.0s
E18K Tukpahlearik C 45.84 28 P **P** **01 37 50.0 -1.4**
baz=260,SNR=20
C18K Utukok River 45.86 26 P **P** **01 37 50.0 -1.6**
baz=258
M16K Timber Creek 45.86 37 P **P** **01 37 50.4 -1.2**
baz=268
N16K Nishlik Lake 45.94 38 P **P** **01 37 51.0 -1.2**
baz=268
J17K VABM Dome 45.95 34 P **P** **01 37 51.1 -1.2**
baz=265,SNR=7.7
F18K Selawik 46.08 29 P **P** **01 37 51.8 -1.3**
baz=262,SNR=9.8
TARG Taragay, Kyrgy 46.13 296 P **P** **01 37 53.3 -1.1**
TARG Taragay, Kyrgy 46.13 296 P **P** **01 37 53.3 -1.1**
TARG pmax pmax
comp=Z,13nm,1.1s
CHGN Chignik 46.16 44 P **P** **01 37 53.1 -0.8**
CHKK Chushkaly 46.21 299 *e*P **P** **01 37 53.2 -1.4**
baz=299
CHKK Chushkaly 46.21 299 *e*P **P** **01 37 53.1 -1.4**
L17K Donlin 46.23 36 P **P** **01 37 52.9 -1.5**
baz=267
A19K Wainwright 46.24 24 P **P** **01 37 53.5 -0.9**
baz=257
K17K Iditarod 46.26 35 P **P** **01 37 53.9 -0.7**
baz=267
O16K Kokwok River B 46.26 39 P **P** **01 37 54.1 -0.6**
baz=270
KULM Kulim 46.27 237 P **P** **01 37 54.8 -0.5**
KULM IAmb IAmb 01 37 56.8
comp=Z,35nm,1.3s
MDOK Medeo 46.33 298 *e*P **P** **01 37 54.6 -1.1**
baz=298
MDOK Medeo 46.33 298 *e*P **P** **01 37 54.5 -1.1**
G18K Tagagawik 46.39 30 P **P** **01 37 56.5 +0.8**
G18K IAmb IAmb 01 38 01.7
comp=Z,30nm,1.1s
G18K Tagagawik 46.39 30 P **P** **01 37 55.2 -0.5**
baz=263,SNR=11
AAA Alma-Ata 46.41 298 *e*P **P** **01 37 54.7 -1.6**
baz=298
AAA Alma-Ata 46.41 298 *e*P **P** **01 37 54.6 -1.6**
H18K Honhosa River 46.43 32 P **P** **01 37 55.4 -0.6**
baz=264
C19K Lookout Ridge 46.52 26 P **P** **01 37 56.0 -0.8**
baz=259,SNR=8.7
R16K Pilot Point 46.57 42 P **P** **01 37 55.5 -1.6**
baz=272
PMG Port Moresby 46.58 168 LR LR 01 56 30.2
comp=Z,255nm,19.1s,baz=334,slow=35
M17K Holitna River 46.61 37 P **P** **01 37 55.4 -2.0**
baz=269
IPM Ipoh 46.62 236 P **P** **01 37 58.2 +0.1**
comp=Z,37nm,1.3s
IPM Ipoh 46.62 236 P **P** **01 37 56.8 -1.3**
IPM IAmb IAmb 01 37 58.7
comp=Z,31nm,1.0s
N17K Nushagak Hills 46.72 38 P **P** **01 37 57.3 -1.0**
baz=270
O17K Koliganek Bris 46.77 39 P **P** **01 37 57.8 -0.8**
baz=270
F19K Shaleruckik Mo 46.85 29 P **P** **01 38 00.0 +0.8**
F19K Shaleruckik Mo 46.85 29 P **P** **01 37 59.0 -0.3**
baz=263,SNR=6.0
MYKOM Kota Tinggi 46.85 230 P **P** **01 37 59.7 -0.1**
D19K Kuna River 46.95 27 P **P** **01 37 59.5 -0.5**
baz=261,SNR=20
L18K Granite Mounta 46.99 36 P **P** **01 37 59.6 -0.8**
baz=269
J18K Innoko River 47.02 34 P **P** **01 38 00.5 -0.1**
baz=267
G19K Purcell Mounta 47.05 30 P **P** **01 38 00.3 -0.5**
baz=265,SNR=7.7
P17K Kvichak River 47.11 40 P **P** **01 38 01.0 -0.3**
baz=272
E19K Redstone River 47.14 28 P **P** **01 38 02.6 +1.2**
E19K IAmb IAmb 01 38 07.7
comp=Z,31nm,1.1s
E19K Redstone River 47.14 28 P **P** **01 38 00.6 -0.9**
baz=263,SNR=22
H19K Roundabout Mou 47.26 31 P **P** **01 38 01.3 -1.2**
baz=266,SNR=8.6
BOOM Boomskoye usch 47.28 297 P **P** **01 38 01.8 -1.4**
BOOM IAmb IAmb 01 39 35.5
comp=Z,14nm,1.2s
BOOM Boomskoye usch 47.28 297 P **P** **01 38 01.8 -1.4**
BOOM pmax pmax
comp=Z,14nm,1.2s
N18K Kilae Creek 47.36 38 P **P** **01 38 03.0 -0.4**
baz=271
M18K Stony River 47.39 37 P **P** **01 38 02.8 -0.6**
baz=270
Q17K Contact Creek 47.44 41 P **P** **01 38 03.5 -0.6**
baz=273
B20K Meade River 47.52 25 P **P** **01 38 03.7 -0.7**
baz=261,SNR=7.6
D20K Etivluk River 47.52 27 P **P** **01 38 03.6 -0.9**
baz=263,SNR=21
J19K Poorman 47.53 33 P **P** **01 38 03.6 -1.0**
baz=268,SNR=7.0
E20K Nigu River 47.62 27 P **P** **01 38 04.8 -0.6**
baz=264
F20K Avaraaart Lake 47.68 29 P **P** **01 38 05.5 -0.1**
baz=265,SNR=6.7
O18K Koktuh Hills 47.72 39 P **P** **01 38 05.9 -0.2**
baz=272
P18K Big Mountain, 47.73 39 P **P** **01 38 05.8 -0.4**
baz=272
L19K White Mountain 47.85 36 P **P** **01 38 06.5 -0.6**
baz=270
H20K Anotleneega Mo 47.91 31 P **P** **01 38 06.1 -1.5**
baz=267,SNR=7.1
SGDS Sogindy 47.97 299 *e*P **P** **01 38 07.3 -1.1**
baz=299
SGDS Sogindy 47.97 299 *e*P **P** **01 38 07.3 -1.1**
BTLS Baital 47.99 301 *e*P **P** **01 38 07.5 -1.0**
baz=301
BTLS Baital 47.99 301 *e*P **P** **01 38 07.4 -1.0**
M19K Big River Lodg 48.07 36 P **P** **01 38 07.1 -1.7**
baz=271
KSH Kashi 48.07 293 P **P** **01 38 12.7 +3.4**
KSH pP sP 01 38 19.1 +2.6
KSH pmax pmax
comp=Z,6.0nm,0.9s
KSH LR LR
comp=Z,450nm,12.2s
KSH LR LR
comp=Z,990nm,15.1s
KSH LR LR
comp=Z,1µm,13.9s
FRU1 Bishkek 48.13 298 P **P** **01 38 09.1 -0.6**
FRU1 Bishkek 48.13 298 P **P** **01 38 09.1 -0.6**
FRU1 pmax pmax
comp=Z,22nm,0.4s
O19K Port Alsworth 48.15 38 P **P** **01 38 08.8 -0.6**
baz=272
J20K Nowinta River 48.18 33 P **P** **01 38 09.0 -0.7**
baz=269,SNR=6.6
K20K Telida 48.21 34 P **P** **01 38 07.9 -1.9**
baz=270
C21K Knifeblade Rid 48.23 26 P **P** **01 38 08.9 -1.1**
baz=264,SNR=14
AAK Ala-Archa 48.27 298 P **P** **01 38 09.7 -1.2**
AAK Ala-Archa 48.27 298 LR LR 01 59 25.9
comp=Z,811nm,18.5s,baz=72,slow=37
AAK Ala-Archa 48.27 298*d i*P **P** **01 38 10.6 -0.3**
AAK pmax pmax
comp=Z,6.0nm,1.3s
L20K Farewell, AK 48.30 35 P **P** **01 38 09.1 -1.5**
baz=271
B21K Ikpikpuk River 48.34 26 P **P** **01 38 09.6 -1.2**
baz=264
A22K Sinclair Lake 48.39 24 P **P** **01 38 10.0 -1.1**
baz=262,SNR=5.1
IMAR Indian Mountai 48.40 31 P **P** **01 38 11.9 +0.6**
E21K Killik River 48.46 27 P **P** **01 38 12.3 +0.6**
E21K IAmb IAmb 01 38 17.6
comp=Z,27nm,1.0s
E21K Killik River 48.46 27 P **P** **01 38 10.7 -1.0**
baz=265
SII Sitkinak Islan 48.48 43 P **P** **01 38 09.9 -2.2**
baz=276
G21K Allakaket 48.52 30 P **P** **01 38 11.1 -1.1**
baz=268,SNR=9.7
F21K Alatna River 48.56 29 P **P** **01 38 13.7 +1.1**
F21K Alatna River 48.56 29 P **P** **01 38 10.9 -1.7**
baz=267,SNR=9.3
Q19K Cape Douglas, 48.57 40 P **P** **01 38 11.3 -1.4**
baz=274
M20K Styx River 48.66 36 P **P** **01 38 11.8 -1.7**
baz=272
P19K Oil Pt 48.73 39 P **P** **01 38 12.1 -1.9**
baz=274
H21K Melozitna Rive 48.78 31 P **P** **01 38 12.0 -2.3**
baz=269,SNR=5.3
BVAR Borovoye Array 48.83 312 P **P** **01 38 13.2 -1.5**
comp=Z,1.9nm,0.6s,baz=90,slow=7.2,SNR=14
BVAR PcP **PcP** **01 39 39.0 -0.3**
comp=Z,6.6nm,0.9s,baz=81,slow=3.6,SNR=5.9
BVAR LR LR 02 00 06.7
comp=Z,576nm,20.0s,baz=77,slow=38
comp=Z,1.9nm,0.6s
B22K Teshekpuk Lake 48.83 25 P **P** **01 38 13.0 -1.5**
baz=264
BRVK Borovoye 48.88 312 P **P** **01 38 13.1 -2.1**
BRVK Borovoye 48.88 312*d i*P **P** **01 38 15.3 +0.1**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
OHAK Old Harbor 48.91 42 P **P** **01 38 13.7 -1.6**
baz=276
D22K Ayikyak River 48.96 27 P **P** **01 38 14.4 -1.3**
baz=266,SNR=40
CHUM Lake Minchumin 48.99 33 P **P** **01 38 14.9 -0.9**
baz=271
O20K Slope Mountain 49.01 38 P **P** **01 38 14.7 -1.4**
baz=274
PPLA Purkeypile 49.07 35 P **P** **01 38 14.8 -1.9**
baz=272
F22K John River 49.08 29 P **P** **01 38 14.9 -1.6**
baz=268,SNR=18
CAST Castle Rocks 49.10 34 P **P** **01 38 17.9 +1.2**
CAST IAmb IAmb 01 38 25.7
comp=Z,63nm,2.0s
CAST Castle Rocks 49.10 34 P **P** **01 38 15.7 -1.1**
baz=272
I21K Tanana 49.12 32 P **P** **01 38 15.5 -1.3**
baz=270
N20K Mount Spurr 49.14 37 P **P** **01 38 16.0 -1.1**
baz=273,SNR=5.6
KDAK Kodiak Island 49.23 41 P **P** **01 38 18.2 +0.5**
KDAK Kodiak Island 49.23 41 P **P** **01 38 16.1 -1.6**
baz=276
KDAK Kodiak Island 49.23 41 LR LR 01 57 58.9
comp=Z,294nm,21.4s,baz=256,slow=35

KDAK Kodiak Island 49.23 41 P P 01 38 18.2 +0.5
KDAK pmax pmax
comp=Z,104nm,1.6s
Q20K Shuyak Island 49.24 40 P P 01 38 16.5 -1.4
baz=276
E22K Anaktuvuk Pass 49.24 28 P P 01 38 16.5 -1.3
baz=268
PSI Prapat 49.26 236 P P 01 38 18.3 -0.4
comp=Z,11nm,1.4s
PSI Prapat 49.26 236 P P 01 38 17.7 -1.0
PSI pmax pmax
comp=Z,15nm,1.2s
G22K Bettles 49.33 29 P P 01 38 17.3 -1.1
baz=269
RPSI Rantau Prapat 49.34 236 P P 01 38 17.7 -1.4
H22K Ishtalitna Cre 49.37 31 P P 01 38 17.8 -0.9
baz=270
SKT Skwentna 49.41 36 P P 01 38 18.0 -1.2
baz=273
BPAW Bear Paw Mtn. 49.57 33 P P 01 38 21.7 +1.4
BPAW IAmb IAmb 01 38 26.6
comp=Z,66nm,2.0s
BPAW Bear Paw Mtn. 49.57 33 P P 01 38 19.4 -0.8
baz=272
KTH Kantishna Hill 49.62 34 P P 01 38 21.5 +0.8
KTH IAmb IAmb 01 38 26.9
comp=Z,22nm,1.0s
MTN Manton Dam 49.62 189 P P 01 38 20.1 -1.0
MLY Manley 49.65 32 P P 01 38 21.6 +0.7
MLY IAmb IAmb 01 38 26.6
comp=Z,25nm,1.6s
D23K Nanushuk River 49.69 27 P P 01 38 20.1 -1.0
baz=268
ARSB Arslanbob 49.72 296 P P 01 38 21.4 -0.6
ARSB Arslanbob 49.72 296 P P 01 38 21.4 -0.6
ARSB pmax pmax
comp=Z,8.0nm,1.1s
C23K Itkillik River 49.75 26 P P 01 38 20.5 -1.1
baz=267,SNR=21
SUA Susitna One 49.82 37 P P 01 38 22.8 +0.4
SUA IAmb IAmb 01 39 16.3
comp=Z,64nm,1.8s
SUA Susitna One 49.82 37 P P 01 38 21.3 -1.1
baz=274
COLD Coldfoot 49.84 29 P P 01 38 21.8 -0.5
baz=270,SNR=6.3
TRF Thorofare Moun 49.91 34 P P 01 38 21.7 -1.4
baz=273
G23K Bananza Creek 49.91 30 P P 01 38 23.5 +0.6
G23K Bananza Creek 49.91 30 P P 01 38 21.9 -1.0
baz=271,SNR=8.2
BRSE Bradley Lake S 49.98 39 P P 01 38 21.6 -1.9
baz=276
CUT Chulitna 49.98 35 P P 01 38 21.8 -1.6
baz=274
TOLK Toolik Lake Re 50.09 27 P P 01 38 25.1 +0.9
TOLK IAmb IAmb 01 38 30.4
comp=Z,20nm,1.2s
TOLK Toolik Lake Re 50.09 27 P P 01 38 22.9 -1.3
baz=269,SNR=6.4
H23K Yukon River 50.13 31 P P 01 38 22.8 -1.8
baz=272,SNR=8.6
I23K Minto, Yukon-K 50.23 32 P P 01 38 23.5 -1.7
baz=272
RC01 Rabbit Creek A 50.34 37 P P 01 38 24.0 -2.2
baz=276
D24K Happy Valley 50.36 26 P P 01 38 24.4 -1.8
baz=270,SNR=20
NEA2 Nenana 50.38 32 P P 01 38 24.0 -2.4
baz=273
C24K Franklin Bluff 50.41 26 P P 01 38 25.1 -1.4
baz=269
DZA Taraz 50.44 299 *e*P P 01 38 26.3 -1.0
baz=299
DZA Taraz 50.44 299 *e*P P 01 38 26.3 -1.0
E24K Your Creek 50.49 28 P P 01 38 25.4 -1.9
baz=271,SNR=24
MCK McKinley 50.49 33 P P 01 38 24.8 -2.5
baz=274
COEN Coen 50.54 173 P P 01 38 28.8 +0.7
comp=Z,30nm,1.6s
COEN Coen 50.54 173 P P 01 38 28.2 +0.1
COEN IAmb IAmb 01 38 29.6
comp=Z,38nm,1.1s
RND Reindeer 50.55 34 P P 01 38 28.4 +0.5
RND Reindeer 50.55 34 P P 01 38 28.4 +0.5
RND pmax pmax
comp=Z,15nm,1.0s
SEW Seward 50.59 38 P P 01 38 25.7 -2.3
baz=277
MDM Murphy Dome 50.72 32 P P 01 38 30.1 +1.1
MDM IAmb IAmb 01 38 53.3
comp=Z,22nm,1.2s
F24K Squaw Lake 50.73 29 P P 01 38 26.4 -2.7
baz=272
WAT1 Susitna Watana 50.74 35 P P 01 38 26.7 -2.5
baz=275
H24K Noodor Dome 50.81 31 P P 01 38 26.7 -3.0
baz=273,SNR=5.9
COLA College 50.88 32 P P 01 38 28.0 -2.1
baz=274
COLA College 50.88 32 ||| *e*P P 01 38 32.3 +2.1
COLA pmax pmax
comp=Z,26nm,2.2s
G24K Hadweenzic Riv 50.93 30 P P 01 38 28.9 -1.7
baz=273,SNR=6.7
SML Sawmill 50.94 36 P P 01 38 29.2 -1.6
baz=276
KK31 Karatay Array 50.96 299 P P 01 38 29.7 -1.4
KK31 IAmb IAmb 01 38 38.5
comp=Z,22nm,1.2s
KK31 Karatay Array 50.96 299 P P 01 38 29.7 -1.4
KK31 pmax pmax
comp=Z,22nm,1.2s
KKAR Karatay Array 50.96 299 P P 01 38 29.8 -1.4
KKAR Karatay Array 50.96 299 P P 01 38 29.8 -1.4
POKR Poker Plat Res 51.04 32 P P 01 38 32.0 +0.6
POKR IAmb IAmb 01 38 37.7
comp=Z,28nm,1.1s
POKR Poker Plat Res 51.04 32 P P 01 38 29.6 -1.9
baz=274
WAT6 Susitna Watana 51.13 35 P P 01 38 30.3 -2.1
baz=276
DRK Karamyk 51.15 295 P P 01 38 31.9 -1.1
DRK Karamyk 51.15 295 P P 01 38 31.9 -1.1
DRK pmax pmax
comp=Z,34nm,0.3s
M23K Glacier View 51.23 36 P P 01 38 31.8 -1.1
baz=277
D25K Kavik River 51.23 26 P P 01 38 31.6 -1.2
baz=272,SNR=18
DHY Denali Highway 51.25 34 P P 01 38 33.7 +0.5
DHY Denali Highway 51.25 34 P P 01 38 31.5 -1.7
baz=276
GSI Gunungsitoli 51.27 236 P P 01 38 33.2 -0.5
comp=Z,77nm,1.3s
GSI Gunungsitoli 51.27 236 P P 01 38 32.0 -1.7
ILAR Eielson Array 51.30 32 P P 01 38 33.9 +0.6
ILAR Eielson Array 51.30 32 P P 01 38 34.0 +0.6
comp=Z,3.0nm,0.9s,baz=273,slow=5.9,SNR=18
ILAR LR LR 02 00 22.6
comp=Z,308nm,21.8s,baz=276,slow=36
comp=Z,3.0nm,0.9s
HDA Harding Lake 51.31 33 P P 01 38 32.8 -0.6
HDA Harding Lake 51.31 33 P P 01 38 31.9 -1.5
baz=275
SCM Sheep Creek Mo 51.41 36 P P 01 38 32.4 -2.0
baz=277
BRLS Boroldav 51.45 299 *e*P P 01 38 35.3 +0.4
baz=299
BRLS Boroldav 51.45 299 *e*P P 01 38 35.3 +0.4
G25K Bearman Lake 51.47 29 P P 01 38 32.3 -2.3
baz=274
IUG luzhnay 51.58 298 *e*P P 01 38 35.1 -0.8
comp=Z,14nm,1.0s,baz=298
IUG luzhnay 51.58 298 *e*P P 01 38 35.1 -0.8
IUG pmax pmax
comp=Z,14nm,1.0s
E25K Arctic Village 51.58 28 P P 01 38 34.1 -1.4
baz=274,SNR=6.6
F25K Christian Rive 51.59 28 P P 01 38 33.0 -2.6
baz=274,SNR=6.9
P23K Montague Islan 51.62 38 P P 01 38 33.1 -2.7
baz=278
H25L Birch Creek 51.62 30 P P 01 38 33.9 -1.8
baz=275
GLI Glacier Island 51.65 37 P P 01 38 33.6 -2.4
baz=278
BTK Batken 51.68 296 P P 01 38 34.9 -1.8
BTK Batken 51.68 296 P P 01 38 34.9 -1.8
BTK pmax pmax
comp=Z,24nm,1.5s
C26K Camden Bay 51.72 25 P P 01 38 34.8 -1.6
baz=273,SNR=28
PRP Porcupine Dome 51.81 31 P P 01 38 36.1 -1.2
baz=276
K24K Donnelly Dome 51.88 33 P P 01 38 36.3 -1.4
baz=277
M24K Tolsona, Glenn 51.91 35 P P 01 38 36.6 -1.5
baz=278
J25K Salcha River, 51.97 32 P P 01 38 36.8 -1.6
baz=276
BMAR Burnt Mountain 52.01 29 P P 01 38 39.7 +1.0
KLU Klutina 52.12 36 P P 01 38 38.1 -1.5
baz=278
PAX Paxson 52.12 34 P P 01 38 38.3 -1.4
baz=278
NIL Nilore 52.14 287 P P 01 38 39.4 -0.7
NIL IAmb IAmb 01 38 41.3
comp=Z,29nm,1.1s
NIL Nilore 52.14 287 P P 01 38 39.4 -0.7
NIL pmax pmax
comp=Z,29nm,1.1s
F26K Sheenjek River 52.15 28 P P 01 38 38.6 -1.1
baz=275,SNR=27
C27K Jago River 52.16 26 P P 01 38 38.2 -1.5
baz=274,SNR=24
Q23K Middleton Isla 52.23 39 P P 01 38 38.9 -1.5
baz=280
HARP HAARP 52.35 35 P P 01 38 39.6 -1.6
baz=278
EYAK Cordova Ski Ar 52.35 37 P P 01 38 39.5 -1.7
baz=279
G26K Porcupine Rive 52.36 29 P P 01 38 40.5 -0.7
baz=276,SNR=7.4
SCRK Sand Creek 52.65 33 P P 01 38 43.9 +0.4
SCRK Sand Creek 52.65 33 P P 01 38 41.5 -2.0
baz=278,SNR=6.5
N25K Chitina, Valde 52.73 36 P P 01 38 42.0 -2.2
baz=279
J26L Joseph Creek 52.76 32 P P 01 38 42.5 -1.8
baz=278
I26K Coal Creek Min 52.82 31 P P 01 38 43.1 -1.6
baz=278
BMRM Bremner River 52.83 37 P P 01 38 43.2 -1.6
baz=280
E27K Coleen River 53.06 27 P P 01 38 45.7 -0.8
baz=277,SNR=6.5
L26K Log Cabin Wild 53.07 34 P P 01 38 44.8 -1.8
baz=279
KAIM Kayak Island 53.11 38 P P 01 38 45.1 -1.7
baz=281
D27M Malcolm River 53.16 26 P P 01 38 44.9 -2.3
baz=277
G27K Doyon Strip 53.22 29 P P 01 38 46.0 -1.6
baz=278
VRDI Verde Repeater 53.34 36 P P 01 38 49.4 +0.6
VRDI IAmb IAmb 01 38 56.4
comp=Z,35nm,1.3s
M26K Nabesna, AK 53.34 35 P P 01 38 46.9 -1.7
baz=280,SNR=5.5
H27K Steamboat Moun 53.35 30 P P 01 38 46.8 -1.8
baz=279,SNR=5.1
I27K Kandik River 53.41 31 P P 01 38 47.7 -1.3
baz=279,SNR=6.6
K27K Chicken 53.47 33 P P 01 38 50.2 +0.8
K27K IAmb IAmb 01 39 20.8
comp=Z,20nm,1.2s
K27K Chicken 53.47 33 P P 01 38 48.2 -1.3
baz=280
SIMJ Simiganj 53.47 295 P P 01 38 48.9 -1.2
SIMJ IAmb IAmb 01 38 57.3
comp=Z,31nm,1.1s
MCARA McCarthy VSAT 53.51 36 P P 01 38 50.5 +0.7
MCARA IAmb IAmb 01 38 56.6
comp=Z,28nm,1.0s
MCARA McCarthy VSAT 53.51 36 P P 01 38 48.5 -1.3
baz=281
SVE Sverdlovsk 53.65 318 *e*P P 01 38 50.5 -0.3
SVE pmax pmax
comp=Z,35nm,1.1s
SVE MLR MLR
comp=Z,1μm,15.0s
EGAK Eagle 53.73 32 P P 01 38 52.0 +0.6
EGAK Eagle 53.73 32 P P 01 38 50.4 -0.9
baz=280
L27K Beaver Creek, 53.75 34 P P 01 38 50.7 -0.9
baz=281,SNR=7.0
E28M Babbage River 53.76 27 P P 01 38 50.6 -0.9
baz=279,SNR=6.7
BCAR Beaver Creek A 53.77 34 P P 01 38 52.7 +1.0
F28M Old Crow 53.78 28 P P 01 38 50.5 -1.3
baz=279,SNR=7.5
M27K Ed Creek, AK 53.86 35 P P 01 38 50.9 -1.6
baz=281,SNR=6.3
D28M Stokes Point 53.93 26 P P 01 38 52.6 -0.2
baz=279
I28M Miner Creek 54.12 31 P P 01 38 53.6 -0.8
baz=280,SNR=8.5
MESA MESA 54.27 37 P P 01 38 54.4 -1.2
baz=283
E29M Blow River 54.39 27 P P 01 38 55.2 -0.9
baz=280,SNR=22
CTG Chitna Glacier 54.40 36 P P 01 38 55.6 -0.8
baz=283
H29M Whitestone 54.61 30 P P 01 38 56.6 -1.1
baz=281,SNR=5.4
G29M Pine Creek 54.61 29 P P 01 38 56.6 -1.1
baz=281,SNR=6.5
DAWY Dawson 54.62 32 P P 01 38 57.1 -0.9
baz=282
YUK3 Moose Creek 54.63 35 P P 01 38 56.7 -1.6
baz=283
MTSU Mount Surprise 54.78 173 P P 01 38 59.6 +0.1
comp=Z,7.4nm,1.1s
I29M Ogilvie Camp, 54.81 31 P P 01 38 58.1 -1.2
baz=282,SNR=6.0
ARU Arti 54.85 318 P P 01 38 58.6 -1.1
ARU IAmb IAmb 01 39 06.9
comp=Z,27nm,1.0s
ARU Arti 54.85 318 LR LR 02 04 10.1
comp=Z,334nm,18.2s,baz=70,slow=38
ARU Arti 54.85 318 *c i*P P 01 38 59.1 -0.6
ARU 01 39 58.3
ARU 01 40 58.6
ARU S S 01 46 40.5 +0.5
ARU SS SS 01 50 17.7 -5.1
ARU pmax pmax
comp=Z,13nm,1.5s
ARU MLR MLR
comp=Z,1μm,16.0s
ARU Arti 54.85 318 P P 01 38 59.0 -0.6
O28M Mount Upton 54.99 36 P P 01 38 58.9 -2.0
baz=284
KBL Kabul 55.00 290 P P 01 38 59.6 -1.7
KBL IAmb IAmb 01 39 01.4
comp=Z,19nm,1.2s
KBL Kabul 55.00 290 P P 01 38 59.6 -1.7
KBL pmax pmax
comp=Z,19nm,1.2s
J29N Klondike Camp 55.04 32 P P 01 38 59.4 -1.6
baz=283
YUK8 Steele Glacier 55.07 36 P P 01 38 59.8 -1.6
baz=284
EPYK Eagle Plains 55.23 29 P P 01 39 01.1 -1.2
baz=283,SNR=14
G30M tAoh Zrail Nji 55.29 28 P P 01 39 01.7 -1.0
baz=283,SNR=14
F30M Barrier River 55.32 28 P P 01 39 01.7 -1.1
baz=283,SNR=29
L29M L29M 55.38 33 P P 01 39 02.1 -1.4
baz=284
M29M Somme Creek 55.39 34 P P 01 39 02.0 -1.6
baz=284
K29M Barlow Dome 55.48 32 P P 01 39 03.3 -0.9
baz=284,SNR=5.6
YUK4 Talbot Arm 55.58 35 P P 01 39 03.7 -1.4
baz=284
I30M Mount Dempster 55.63 31 P P 01 39 04.0 -1.3
baz=284,SNR=28
PNL Peninsula 55.64 38 P P 01 39 03.7 -1.7
baz=285
FITZ Fitzroy Crossi 55.66 194 P P 01 39 05.9 +0.1
comp=Z,22nm,0.9s
FITZ Fitzroy Crossi 55.66 194 P P 01 39 05.2 -0.5
J30M Hart River 55.81 31 P P 01 39 04.9 -1.6
baz=284
YUK6 Outpost Mounta 55.81 36 P P 01 39 04.3 -2.5
baz=285
INK Inuvik 55.99 27 P P 01 39 07.5 -0.1
INK IAmb IAmb 01 39 13.3
comp=Z,24nm,1.1s
INK Inuvik 55.99 27 P P 01 39 05.0 -2.6
baz=284,SNR=21
INK Inuvik 55.99 27 LR LR 02 04 57.4
comp=Z,300nm,20.3s,baz=0.5,slow=38
INK Inuvik 55.99 27 P P 01 39 07.5 -0.1
INK pmax pmax
comp=Z,24nm,1.1s
G31M Satah River 56.05 28 P P 01 39 06.1 -2.0
baz=284,SNR=6.1
ABKAR Akbulak array 56.11 309 P P 01 39 07.4 -1.4
ABKAR Akbulak array 56.11 309 P P 01 39 07.6 -1.2
ABKAR IAmb IAmb 01 39 15.2
comp=Z,21nm,1.1s
F31M Tsiigehtchic 56.12 28 P P 01 39 05.2 -3.4
baz=284,SNR=14
WB0 Warramunga Arr 56.18 184 P P 01 39 08.6 -0.9
HYT Haines Junctio 56.25 36 P P 01 39 06.9 -2.9
baz=286
N30M Aishikik Lake 56.27 35 P P 01 39 08.1 -1.8
baz=286
H31M Peel River 56.31 30 P P 01 39 06.5 -3.5
baz=285,SNR=20
WRA Warramunga Arr 56.36 184 P P 01 39 09.3 -1.5
WRA Warramunga Arr 56.36 184 P P 01 39 10.0 -0.8
comp=Z,32nm,1.0s,baz=358,slow=7.4,SNR=97
comp=Z,32nm,1.0s
WRA Warramunga Arr 56.36 184 P P 01 39 09.3 -1.5
WRA pmax pmax
comp=Z,4.0nm,1.1s
P29M Windy Craggy 56.47 37 P P 01 39 08.0 -3.3
baz=286
P30M Million Dollar 56.70 37 P P 01 39 10.6 -2.3
baz=287
N31M Braeburn, Yuko 56.87 35 P P 01 39 11.3 -2.8
baz=287
QIS Mount Isa 56.88 178 P P 01 39 14.5 0.0
AKTO Aktyubinsk 56.91 311 LR LR 02 04 55.5
comp=Z,1μm,18.4s,baz=88,slow=38
O30N Mendenhall 56.93 36 P P 01 39 12.5 -2.0
baz=287
CTAO Charters Tower 56.93 171 P P 01 39 15.0 +0.1
CTAO IAmb IAmb 01 40 22.5
comp=Z,31nm,1.4s
CTAO Charters Tower 56.93 171 P P 01 39 15.0 +0.1
CTAO pmax pmax
comp=Z,31nm,1.5s
PLBC Pleasant Camp 57.19 37 P P 01 39 12.8 -3.5
baz=287
WHY Whitehorse 57.53 36 P P 01 39 16.2 -2.6
baz=288
A36M Sachs Harbour 57.66 21 P P 01 39 20.3 +0.9
A36M Sachs Harbour 57.66 21 P P 01 39 17.5 -1.9
baz=289,SNR=28
SKAG Skagway 57.69 37 P P 01 39 17.8 -1.9
baz=288
N32M Quiet Lake 58.21 35 P P 01 39 23.2 -0.4
baz=289
P32M Atlin 58.43 37 P P 01 39 23.3 -1.8
baz=289
SIT Sitka 58.47 40 P P 01 39 23.6 -1.7
baz=290
MMPY Sheldon Lake, 58.54 33 P P 01 39 24.3 -1.6
baz=290
P33M Teslin, Yukon 58.64 36 P P 01 39 24.5 -2.1
baz=290,SNR=6.6
S32K Killisnoo 58.71 39 P P 01 39 23.8 -3.2
baz=290
KIRV Kirov 58.92 322 LR LR 02 07 09.0
comp=Z,1μm,18.1s,baz=67,slow=38
KIRV Kirov 58.92 322 *e*P P 01 39 27.8 -0.6
C36M Paulatuk 58.94 24 P P 01 39 28.9 +0.5
C36M Paulatuk 58.94 24 P P 01 39 26.7 -1.7
baz=292,SNR=20
R33M Jennings River 59.81 36 P P 01 39 32.3 -2.4
baz=292
U33K Whale Pass 59.94 40 P P 01 39 33.8 -1.7
baz=292
MBWA Marble Bar 60.00 200 P P 01 39 35.2 -1.1
AS31 Alice Springs 60.08 184 P P 01 39 36.3 -0.5
ASAR Alice Springs 60.08 184 P P 01 39 36.2 -0.7
ASAR Alice Springs 60.08 184 P P 01 39 36.4 -0.5
comp=Z,12nm,0.9s,baz=6.1,slow=4.8,SNR=45
ASAR LR LR 02 05 12.7
comp=Z,138nm,19.9s,baz=2.0,slow=36
comp=Z,12nm,0.9s
HRA Herat 60.17 292 P P 01 39 36.8 -0.9
CRAG Craig 60.18 41 P P 01 39 35.8 -1.3
baz=292
WRAK Wrangell Islan 60.23 40 P P 01 39 35.8 -1.7
baz=292
S34M Telegraph Cree 60.28 38 P P 01 39 37.1 -0.8
baz=292
SPITS Spitsbergen Ar 60.39 348 LR LR 02 06 24.5
comp=Z,374nm,19.4s,baz=8.5,slow=37
DLBC Dease Lake 60.62 37 P P 01 39 38.4 -1.9
baz=293
DLBC Dease Lake 60.62 37 LR LR 02 05 54.4
comp=Z,148nm,21.8s,baz=284,slow=36
RK1H Rockhampton Ha 60.84 167 P P 01 39 42.3 +0.4
comp=Z,22nm,0.8s
EUNU Eureka 60.99 8 P P 01 39 42.0 -0.5
V35K Ketchikan 61.03 41 P P 01 39 41.2 -1.7
baz=293
WRGLY Wrigley 61.61 31 P P 01 39 47.8 +1.0
GEYT Alibeck 61.63 298 P P 01 39 46.7 -0.7
GEYT IAmb IAmb 01 39 48.2
comp=Z,12nm,0.9s
GEYT Alibeck 61.63 298 P P 01 39 47.0 -0.4
comp=Z,8.1nm,1.0s,baz=72,slow=9.5,SNR=18
GEYT LR LR 02 08 09.2
comp=Z,571nm,19.0s,baz=88,slow=38
comp=Z,8.1nm,1.0s
GEYT Alibeck 61.63 298 P P 01 39 46.7 -0.7
GEYT pmax pmax
comp=Z,12nm,1.0s
GYA0B ALIBECK ARRAY 61.63 298 P P 01 39 46.5 -0.9
GYA0B IAmb IAmb 01 40 02.7
comp=Z,11nm,0.9s
APA Apatity 61.93 335 ||| *i*P P 01 39 53.7 +4.9
APA pmax pmax
comp=Z,8.0nm,1.1s
WRKA Warakurna 62.00 190 P P 01 39 49.5 -0.3
comp=Z,23nm,0.8s
KLMR Klimovskoe 62.63 327 *e*P P 01 39 51.5 -2.1
KLMR pmax pmax
comp=Z,18nm,1.1s
KLMR MLR MLR
comp=Z,612nm,15.0s
EIDS Eidsvold 62.88 167 P P 01 39 56.4 +0.8
comp=Z,18nm,1.2s
EIDS Eidsvold 62.88 167 P P 01 39 55.7 +0.1
EIDS IAmb IAmb 01 39 57.0
comp=Z,17nm,1.0s
QLP Quilpie 63.13 174 P P 01 39 57.4 +0.1
ARCES ARCESS Array B 63.41 339 P P 01 39 58.2 -0.5
ARCES IAmb IAmb 01 40 06.1
comp=Z,11nm,0.9s
ARCES ARCESS Array B 63.41 339 P P 01 39 58.2 -0.5
comp=Z,6.1nm,0.9s,baz=48,slow=8.6,SNR=7.9
ARCES LR LR 02 10 25.5
comp=Z,400nm,19.0s,baz=72,slow=39
comp=Z,6.1nm,0.9s
LIFNC LIFOU 63.41 149 P P 01 39 58.6 -0.6
RES Resolute Bay 63.67 14 P P 01 39 60.0 -0.3
RES Resolute Bay 63.67 14 LR LR 02 12 17.7
comp=Z,168nm,18.0s,baz=356,slow=40
RES Resolute Bay 63.67 14 P P 01 40 00.0 -0.3
RES pmax pmax
comp=Z,32nm,0.9s
INKA Innaminka 64.07 177 P P 01 40 03.9 +0.5
OOD Oodnadatta 64.11 182 P P 01 40 04.2 +0.5
NOUC Port Laguerre 64.22 151 P P 01 40 05.7 +1.1
comp=Z,93nm,0.9s
BBB Bella Bella 64.25 43 LR LR 02 06 34.9
comp=Z,99nm,20.1s,baz=296,slow=35
DZM Mont Dzumac 64.25 151 P P 01 40 05.9 +1.0
DZM Mont Dzumac 64.25 151 *e*P P 01 40 05.6 +0.7
comp=Z,111nm,0.9s
DZM *e*S S 01 48 45.1 +3.0

comp=Z,160nm,30.1s
DZM eSS SS 01 52 49.0 -3.2
comp=Z,109nm,24.6s
DZM eLR LR 01 59 07.4
comp=Z,484nm,22.6s
DZM Mont Dzumac 64.25 151 LR LR 02 04 30.7
comp=Z,286nm,21.8s,baz=26,slow=33
JOF Joensuu 65.02 331 eP P **01 40 08.9 -0.5**
YKA Yellowknife Ar 65.52 29 P P **01 40 13.9 +1.3**
YKA Yellowknife Ar 65.52 29 P P **01 40 12.8 +0.2**
comp=Z,5.1nm,1.1s,baz=304,slow=6.8,SNR=16
YKA LR LR 02 12 31.2
comp=Z,87nm,19.2s,baz=191,slow=39
comp=Z,5.1nm,1.1s
YKA Yellowknife Ar 65.52 29 ceP P **01 40 13.5 +0.9**
YKA pmax pmax
comp=Z,5.0nm,1.0s
YKAB2 New Yellowknif 65.56 29 P P **01 40 12.9 0.0**
TULEG Thule 65.85 7 P P **01 40 15.4 +0.9**
DAG Danmarks Havn 65.93 354 i P P **01 40 14.0 -1.1**
DAG IAmb IAmb 01 40 20.0
comp=Z,4.6nm,1.1s
MOS Moscow 65.94 322 eP P **01 40 12.8 -2.6**
MOS MLR MLR
comp=N,400nm,14.0s
MOS MLR MLR
comp=E,600nm,14.0s
MOS MLR MLR
comp=Z,900nm,14.0s
VRH Novokhopyorsk 66.03 317 eP P **01 40 13.4 -2.7**
VRH pmax pmax
comp=Z,10.0nm,1.4s
NEEM North Greenlan 66.07 2 i P P **01 40 14.8 -1.5**
NEEM IAmb IAmb 01 40 22.3
comp=Z,19nm,0.8s
MAK Makhachkala 66.54 307 eP P 01 40 14.4 -5.1
MAK e 01 42 42.4
MAK eS S **01 49 03.8 -5.9**
MAK pmax pmax
comp=Z,58nm,0.9s
MAK MLR MLR
comp=Z,785nm,16.0s
HILA High Level 66.62 33 P P **01 40 20.4 +0.6**
MULG Mulgathing 66.65 184 P P **01 40 20.1 0.0**
comp=Z,38nm,1.3s
LCRK Leigh Creek 66.71 180 P P **01 40 21.2 +0.7**
comp=Z,31nm,1.7s
OBN Obninsk 66.77 322 P P **01 40 18.9 -1.8**
OBN IAmb IAmb 01 40 38.8
comp=Z,9.2nm,0.6s
OBN Obninsk 66.77 322 LR LR 02 12 13.0
comp=Z,1μm,18.1s,baz=44,slow=38
OBN Obninsk 66.77 322⇑ eP P **01 40 19.4 -1.3**
OBN e 01 40 48.6
OBN e 01 42 53.6
OBN eS S 01 49 02.4 -10
OBN eSS SS **01 53 33.5 +4.3**
OBN eSSS SSS 01 56 31.0
OBN pmax pmax
comp=Z,26nm,2.5s
OBN MLR MLR
comp=Z,1μm,18.0s
LPSR Galich'ya Gora 66.85 319 eP P **01 40 19.0 -2.3**
LPSR pmax pmax
comp=Z,30nm,1.7s
VORR Voronezh 67.17 318 eP P **01 40 21.4 -1.9**
VORR pmax pmax
comp=Z,20nm,1.6s
VSR Storozhevoye 67.42 318 eP P **01 40 22.6 -2.4**
VSR pmax pmax
comp=Z,20nm,1.6s
GROC Groznyy 67.52 308 eP P **01 40 25.1 -0.6**
GROC e 01 40 52.5
GROC pmax pmax
comp=Z,15nm,1.1s
FORT Forrest 67.69 189 P P **01 40 25.8 -0.9**
FIA1 FINESS Array S 67.89 331 P P **01 40 26.2 -1.5**
FINES FINESS Array B 67.89 331 P P **01 40 27.0 -0.7**
comp=Z,9.9nm,1.0s,baz=47,slow=8.4,SNR=19
comp=Z,9.9nm,1.0s
ARMA Armidale 67.90 167 P P **01 40 28.5 +0.3**
KEF Keuruu 67.91 332 eP P **01 40 27.4 -0.5**
VAF Ylistaro 68.18 334 eP P **01 40 29.9 +0.4**
CMSA Cobar Meteorol 68.18 173 P P **01 40 30.7 +0.9**
comp=Z,22nm,1.0s
STKA Stephens Creek 68.22 177 P P **01 40 30.1 0.0**
comp=Z,4.8nm,0.7s,baz=348,slow=6.3,SNR=6.6
STKA LR LR 02 10 08.6
comp=Z,141nm,20.7s,baz=6.7,slow=36
comp=Z,4.8nm,0.7s
GOF Gofitskoye 68.31 311 ceP P **01 40 30.5 -0.2**
WSAR Wadi Sarin 68.32 283 LR LR 02 14 34.6
comp=Z,207nm,18.7s,baz=94,slow=40
KULLO Kullorsuaq 68.62 4 i P P **01 40 32.5 +0.4**
KULLO IAmb IAmb 01 40 36.7
comp=Z,13nm,0.8s
NCK Nalchik 68.76 309⇓ eP P **01 40 33.3 -0.3**
NCK pmax pmax
comp=Z,28nm,1.8s
KBZ Khabaz 69.08 309 P P **01 40 35.0 -0.5**
comp=Z,8.1nm,1.2s,baz=66,slow=8.4,SNR=9.6
KBZ LR LR 02 13 15.2
comp=Z,371nm,18.9s,baz=48,slow=38
comp=Z,8.1nm,1.2s
KBZ Khabaz 69.08 309 c i P P **01 40 34.8 -0.6**
KBZ pmax pmax
comp=Z,15nm,1.1s
KIV Kislovodsk 69.09 310⇓ P P **01 40 35.5 -0.2**
KIV Kislovodsk 69.09 310 P P **01 40 35.0 -0.7**
KIV Kislovodsk 69.09 310 ceP P **01 40 35.2 -0.5**
KIV e 01 43 12.1
KIV eS S **01 49 46.5 +6.0**
KIV pmax pmax
comp=Z,37nm,1.3s
KIV MLR MLR
comp=Z,587nm,16.0s
KIV Kislovodsk 69.09 310 P P **01 40 36.2 +0.5**
comp=Z,22nm,1.1s,comp=Z,300nm
BBOO Buckleboo 69.09 182 P P **01 40 34.7 -0.8**
ARBE Arbavere 69.13 330 eP P **01 40 35.9 +0.4**
SHA1 Shidzhatmaz 69.22 309 ceP P **01 40 37.4 +0.7**
MEF Metsahovi 69.29 331 eP P **01 40 37.2 +0.7**
UOSS Minazif 69.32 286 P P **01 40 36.1 -1.2**
UOSS IAmb IAmb 01 40 38.9
comp=Z,13nm,1.1s
VSU Vasula 69.40 328 ceP P **01 40 36.7 -0.5**
VSU pmax pmax
comp=Z,11nm,1.0s
GNW Green Mountain 69.50 46 P P **01 40 39.0 +1.0**
GNW IAmb IAmb 01 40 44.9
comp=Z,39nm,1.9s
ERBR Yeremizino-Bor 69.52 312 eP P **01 40 37.3 -0.9**
ERBR eS S **01 49 43.1 -2.1**
ERBR pmax pmax
comp=Z,34nm,1.5s
GNI Garni 69.74 305 P P **01 40 39.5 -0.3**
GNI Garni 69.74 305 LR LR 02 13 33.9
comp=Z,927nm,18.8s,baz=66,slow=38
GNI Garni 69.74 305 c i P P **01 40 40.1 +0.2**
GNI pmax pmax
comp=Z,15nm,1.3s
GNI Garni 69.74 305 P P **01 40 39.6 -0.3**
RAF Rauma 69.79 332 eP P **01 40 40.1 +0.6**
LABN Labinsk 69.94 311 eP P **01 40 37.9 -2.9**
LABN eS S **01 49 47.3 -2.9**
LABN pmax pmax
comp=Z,22nm,0.3s
MTSE Matsula 70.46 330 eP P **01 40 44.2 +0.5**
PLTM Poltava 70.78 318 P P **01 40 46.0 +0.2**
SUMG Summit 71.07 359 P P **01 40 47.7 0.0**
SUMG Summit 71.07 359 P P **01 40 47.7 0.0**
SUMG Summit 71.07 359 i P P **01 40 48.0 +0.3**
SUMG IAmb IAmb 01 40 53.6
comp=Z,31nm,0.8s
SOC Sochi 71.11 311 eP P **01 40 46.5 -1.5**
SOC e 01 43 25.3
SOC ePPP PPP 01 45 05.3
SOC eS S **01 50 03.4 -0.5**
SOC eSS SS **01 54 36.4 -0.3**
SOC eSSS SSS 01 57 48.3
SOC MLR MLR
comp=Z,451nm,17.0s
MNK Minsk 71.28 325 i P P **01 40 47.7 -1.1**
MNK i 01 41 07.3
MNK i 01 43 25.6
MNK i PPP PPP 01 45 08.7
MNK i S S **01 50 06.0 +0.5**
MNK i 01 50 52.2
MNK i SS SS **01 54 41.0 +2.3**
MNK pmax pmax
comp=N,10.0nm,1.0s
MNK pmax pmax
comp=Z,16nm,1.3s
MNK pmax pmax
comp=E,6.0nm,1.1s
MNK MLR MLR
comp=N,203nm,13.0s
MNK MLR MLR
comp=E,112nm,14.0s
MNK MLR MLR
comp=Z,369nm,14.0s
ANN Anapa 71.82 313 eP P **01 40 50.9 -1.3**
ANN pmax pmax
comp=Z,27nm,0.9s
NWAO Narrogin (SRO) 71.86 198 LR LR 02 14 55.0
comp=Z,53nm,19.1s,baz=263,slow=38
C09A Chrisman Ranch 71.94 44 P P **01 40 53.4 +0.4**
UPP Uppsala 72.10 333 eP P **01 40 53.3 -0.3**
NEW Newport 72.31 43 P P **01 40 55.5 +0.3**
NEW IAmb IAmb 01 41 01.0
comp=Z,14nm,1.1s
NEW Newport 72.31 43 P P **01 40 54.4 -0.8**
baz=305
NEW Newport 72.31 43 LR LR 02 11 34.7
comp=Z,87nm,20.9s,baz=320,slow=35
NEW Newport 72.31 43 P P **01 40 55.5 +0.3**
NEW pmax pmax
comp=Z,14nm,1.1s
GURO Guroymak-BITLI 72.37 305 P P **01 40 55.5 -0.4**
GURO IAmb IAmb 01 41 11.1
comp=Z,17nm,1.3s
PABE Paberze 72.43 327 P P **01 40 54.6 -1.0**
PABE IAmb IAmb 01 41 03.0
comp=Z,20nm,0.8s
PABE Paberze 72.43 327 eP P **01 40 55.9 +0.3**
PINE Pine Mountain 72.67 48 P P **01 40 58.2 +0.6**
PINE IAmb IAmb 01 41 10.2
comp=Z,26nm,0.9s
AKASG Malin Array Be 72.93 321 P P **01 40 57.7 -1.0**
comp=Z,1.1nm,0.5s,baz=44,slow=6.3,SNR=20
AKASG LR LR 02 15 37.8
comp=Z,1μm,18.4s,baz=50,slow=38
comp=Z,1.1nm,0.5s
AKBB Malin Array Si 72.93 321 P P **01 40 57.6 -1.1**
AKBB IAmb IAmb 01 41 14.9
comp=Z,13nm,0.9s
AKBB Malin Array Si 72.93 321 ceP P **01 40 57.5 -1.2**
AKBB pmax pmax
comp=Z,15nm,1.0s
AKBB Malin Array Si 72.93 321 P P **01 40 58.1 -0.6**
KIEV Kiev 72.94 321⇑ P P **01 40 57.4 -1.4**
KIEV Kiev 72.94 321 P P **01 40 57.7 -1.1**
KIEV IAmb IAmb 01 41 14.9
comp=Z,11nm,0.9s
KIEV Kiev 72.94 321 P P **01 40 57.7 -1.1**
KIEV pmax pmax
comp=Z,11nm,1.0s
KIEV Kiev 72.94 321 P P **01 40 58.4 -0.4**
comp=Z,49nm,1.0s
PBUR Paburge 72.97 328 eP P **01 40 59.5 +0.6**
NC405 NORSAR Array S 73.27 336 P P **01 41 00.1 -0.5**
NC405 IAmb IAmb 01 41 07.9
comp=Z,21nm,0.9s
HFS Hagfors 73.31 334 P P **01 41 00.2 -0.7**
comp=Z,3.1nm,0.6s,baz=71,slow=5.2,SNR=16
HFS LR LR 02 14 38.1
comp=Z,288nm,18.4s,baz=40,slow=37
comp=Z,3.1nm,0.6s
VIKU Vikbolandet 73.39 332 eP P **01 41 01.2 -0.1**
NB2 NORSAR Subarra 73.48 336 P P **01 41 01.3 -0.6**
comp=Z,38nm,1.4s,baz=41,slow=6.2
NB2 NORSAR Subarra 73.48 336 P P **01 41 01.3 -0.6**
baz=41,slow=6.2
NB2 NORSAR Subarra 73.48 336 P P **01 40 58.7 -3.2**
NOA NORSAR Array B 73.48 336 P P **01 41 01.5 -0.4**
comp=Z,7.3nm,1.0s,baz=41,slow=5.9,SNR=14
NOA LR LR 02 15 26.5
comp=Z,273nm,18.6s,baz=50,slow=38
comp=Z,7.3nm,1.0s
SUW Suwalki 73.74 326 eP P **01 41 03.2 -0.2**
SUW Suwalki 73.74 326 P P **01 41 02.7 -0.7**
SUW IAmb IAmb 01 41 11.6
comp=Z,20nm,0.9s
SUW Suwalki 73.74 326 eP P **01 41 04.0 +0.5**
SUW Suwalki 73.74 326 P P **01 41 02.7 -0.7**
SUW pmax pmax
comp=Z,20nm,0.9s
RNPP9 Sopachiv 74.14 323 P P **01 41 05.3 -0.5**
LUBAR Lubar, Ukraine 74.15 321 P P **01 41 05.6 -0.3**
BMO Blue Mountains 74.19 46 P P **01 41 06.7 +0.2**
BMO IAmb IAmb 01 41 12.6
comp=Z,19nm,1.4s
BMO Blue Mountains 74.19 46 P P **01 41 06.7 +0.2**
BMO pmax pmax
comp=Z,19nm,1.4s
RNPP5 Staryi Chortor 74.26 323 P P **01 41 05.9 -0.6**
ARPR Arapgir-MALATY 74.47 307 P P **01 41 07.6 -0.6**
ARPR IAmb IAmb 01 41 23.8
comp=Z,26nm,1.2s
NE56 Odesa 74.47 317 P P **01 41 09.2 +1.4**
ICESG Greenland Ices 74.59 359 i P P **01 41 09.2 +0.6**
ICESG IAmb IAmb 01 41 13.9
comp=Z,8.9nm,0.7s
PLID Pearl Lake 74.80 45 P P **01 41 10.2 0.0**
MSO Missoula 74.89 43 P P **01 41 10.1 -0.4**
MSO Missoula 74.89 43 P P **01 41 09.9 -0.6**
baz=308
SORM Soroca 74.95 319⇑ P P **01 41 09.4 -1.2**
SORM Soroca 74.95 319⇑ P P **01 41 09.4 -1.2**
SOEG Soedalen 75.19 356 i P P **01 41 11.3 -0.3**
SOEG IAmb IAmb 01 41 19.7
comp=Z,11nm,0.7s
OVMT Ovando 75.26 42 P P **01 41 12.8 +0.2**
FFC Flin Flon 75.50 31 P P **01 41 13.8 +0.1**
FFC IAmb IAmb 01 41 19.0
comp=Z,23nm,1.1s
FFC Flin Flon 75.50 31 P P **01 41 13.8 +0.1**
FFC pmax pmax
comp=Z,23nm,1.1s
FCC Fort Churchill 75.56 25 P P **01 41 14.1 +0.2**
FCC IAmb IAmb 01 41 19.2
comp=Z,26nm,1.1s
FCC Fort Churchill 75.56 25 P P **01 41 14.1 +0.2**
FCC pmax pmax
comp=Z,26nm,1.2s
KMPD K-Podol'skiy 75.66 320 P P **01 41 13.7 -1.0**
MFID Camas Ranch 75.91 46 P P **01 41 16.8 +0.4**
MFID IAmb IAmb 01 41 22.7
comp=Z,51nm,1.8s
LVV L'vov 76.07 322 eP P **01 41 17.0 0.0**
BNN Bunyan 76.19 308 P P **01 41 17.0 -1.1**
GAZ Gaziantep 76.30 306 P P **01 41 18.1 -0.6**
GAZ IAmb IAmb 01 41 31.1
comp=Z,16nm,1.1s
EGMT Eagleton 76.36 40 P P **01 41 18.9 0.0**
EGMT Eagleton 76.36 40 P P **01 41 17.3 -1.5**
baz=310
BSD Bornholm Skovb 76.48 330 eP P **01 41 19.0 -0.2**
SFJD Kangerlussuaq 76.50 3 LR LR 02 15 59.1
comp=Z,121nm,20.8s,baz=345,slow=36
HLID Hailey 76.63 45 P P **01 41 20.9 +0.3**
HLID Hailey 76.63 45 P P **01 41 18.4 -2.1**
baz=308
KWP Kalwaria Pacla 76.84 323 eP P **01 41 19.9 -1.5**
KWP eL L 02 18 13.6
comp=Z,2μm,18.1s
KWP Kalwaria Pacla 76.84 323 P P **01 41 21.4 0.0**
KWP Kalwaria Pacla 76.84 323 P P **01 41 21.4 0.0**
KWP pmax pmax
comp=Z,43nm,1.2s
KWP Kalwaria Pacla 76.84 323 P P **01 41 21.8 +0.4**
TESR Tescani 76.87 319⇑ P P **01 41 21.1 -0.6**
BMN Battle Mountai 76.87 49 P P **01 41 22.9 +1.0**
BMN IAmb IAmb 01 41 37.5
comp=Z,17nm,1.2s
BMN Battle Mountai 76.87 49 P P **01 41 22.9 +1.0**
BMN pmax pmax
comp=Z,17nm,1.2s
BUR08 Bucovina Ar. S 76.90 320 P P **01 41 21.4 -0.5**
BURAR Bucovina Array 76.91 320⇑ P P **01 41 21.7 -0.3**
BURAR Bucovina Array 76.91 320⇑ P P **01 41 21.7 -0.3**
BOZ Bozeman (W) 76.92 43 P P **01 41 22.6 +0.5**
BOZ IAmb IAmb 01 41 28.1
comp=Z,15nm,1.1s
BOZ Bozeman (W) 76.92 43 P P **01 41 21.2 -0.9**
baz=309
BOZ Bozeman (W) 76.92 43 P P **01 41 22.6 +0.5**
BOZ pmax pmax
comp=Z,15nm,1.1s
BR131 Keskin Array S 77.05 310 P P **01 41 22.3 -0.6**
BR131 IAmb IAmb 01 41 24.3
comp=Z,18nm,1.2s
BR131 Keskin Array S 77.05 310 c i P P **01 41 22.2 -0.7**
BRTR Keskin Array B 77.05 310 P P **01 41 22.4 -0.6**
BRTR Keskin Array B 77.05 310 P P **01 41 23.1 +0.1**
comp=Z,11nm,1.1s,baz=90,slow=4.3,SNR=31
BRTR LR LR 02 18 36.2
comp=Z,292nm,18.1s,baz=59,slow=38
comp=Z,11nm,1.1s
BRTR Keskin Array B 77.05 310 P P **01 41 22.4 -0.6**
BR106 Keskin Array S 77.06 310 P P **01 41 23.7 +0.7**
BR105 Keskin Array S 77.07 310 P P **01 41 23.5 +0.4**
KVN Kaiserville 77.16 51 P P **01 41 24.2 +0.6**
KVN Kaiserville 77.16 51 P P **01 41 24.2 +0.6**
KVN pmax pmax
comp=Z,66nm,1.7s
DY2G Dye2 77.18 2 i P P **01 41 23.2 -0.1**
DY2G IAmb IAmb 01 41 28.5
comp=Z,19nm,0.7s
VRI Vrincioaia 77.24 318⇑ P P **01 41 24.9 +1.1**
VRI Vrincioaia 77.24 318⇑ P P **01 41 24.9 +1.1**
PLOR Plostina 77.29 318⇓ P P **01 41 34.0 +10**
PLOR Plostina 77.29 318⇓ P P **01 41 34.0 +10**
NVAR Mina Array Bea 77.40 51 P P **01 41 25.3 +0.3**
NVAR Mina Array Bea 77.40 51 P P **01 41 27.0 +2.0**
comp=Z,3.8nm,0.8s,baz=302,slow=5.2,SNR=15
comp=Z,3.8nm,0.8s
ANTO Ankara 77.48 310⇑ P P **01 41 25.7 +0.4**
ANTO Ankara 77.48 310 P P **01 41 24.7 -0.6**
ANTO IAmb IAmb 01 41 26.9
comp=Z,12nm,0.8s
ANTO Ankara 77.48 310 P P **01 41 24.7 -0.6**
ANTO pmax pmax
comp=Z,12nm,0.8s
ANTO Ankara 77.48 310 P P **01 41 25.4 +0.1**
TURR Turia 77.50 319⇑ P P **01 41 25.6 +0.4**
OZUR 77.60 319⇑ P P **01 41 26.4 +0.6**
STHS Stebnicka Huta 77.69 323 eP P **01 41 26.2 0.0**
STHS Stebnicka Huta 77.69 323 eP P **01 41 26.2 0.0**
STHS pmax pmax
comp=Z,11nm,1.4s
FRB Frobisher Bay 77.77 12 LR LR 02 17 56.0
comp=Z,130nm,21.7s,baz=320,slow=37
OJC Ojcow 77.83 325 eP P **01 41 27.3 +0.3**
OJC eL L 02 19 24.1
comp=Z,871nm,16.3s
OJC Ojcow 77.83 325 P P **01 41 26.2 -0.7**
OJC IAmb IAmb 01 41 45.2
comp=Z,17nm,0.9s
OJC Ojcow 77.83 325 P P **01 41 26.2 -0.7**
OJC pmax pmax
comp=Z,17nm,0.9s
OJC Ojcow 77.83 325 P P **01 41 27.2 +0.3**
comp=Z,21nm,1.1s
ELK Elko 77.88 48 P P **01 41 27.6 -0.1**
ELK Elko 77.88 48 LR LR 02 16 50.9
comp=Z,49nm,19.0s,baz=304,slow=36
ELK Elko 77.88 48 P P **01 41 27.6 -0.1**
ELK pmax pmax
comp=Z,17nm,1.6s
DOPR Dopca 77.89 319⇓ P P **01 41 28.6 +1.3**
MLR Muntele Rosu 77.91 318 LR LR 02 18 50.3
comp=Z,491nm,18.1s,baz=57,slow=38
CRVS Cervenica-Dubn 77.94 323 eP P **01 41 28.5 +0.9**
CRVS Cervenica-Dubn 77.94 323 eP P **01 41 28.5 +0.9**
ANGG Ammassalik, Gr 78.04 358 i P P **01 41 27.4 -0.4**
ANGG IAmb IAmb 01 41 32.6
comp=Z,14nm,1.0s
NIE Niedzica 78.14 324 eP P **01 41 29.8 +1.1**
NIE Niedzica 78.14 324 P P **01 41 29.5 +0.8**
comp=Z,7.0nm,1.1s
DSP Deep Springs 78.25 52 P P **01 41 30.2 +0.7**
DSP IAmb IAmb 01 42 25.2
comp=Z,9.5nm,0.8s
H17A Grant Village 78.26 43 P P **01 41 28.3 -1.5**
baz=310
RAYN Ar Rayn 78.26 291 P P **01 41 28.1 -1.7**
RAYN IAmb IAmb 01 41 30.9
comp=Z,40nm,1.7s
RAYN Ar Rayn 78.26 291 P P **01 41 28.1 -1.7**
RAYN pmax pmax
comp=Z,41nm,1.7s
TPH Tonopah 78.30 51 P P **01 41 30.4 +0.4**
TPH Tonopah 78.30 51 P P **01 41 30.4 +0.4**
TPH pmax pmax
comp=Z,62nm,1.0s
RLMT Red Lodge 78.50 42 P P **01 41 29.3 -1.7**
baz=311
PKM Mcpherson Peak 78.54 55 P P **01 41 28.6 -2.8**
baz=307
TPAW Teton Pass 78.64 44 P P **01 41 32.6 +0.7**
LANS Liptovska Anna 78.72 324 eP P **01 41 33.0 +1.1**
LANS Liptovska Anna 78.72 324 eP P **01 41 33.0 +1.1**
LANS pmax pmax
comp=Z,7.0nm,1.3s
CWC Cottonwood Cre 78.74 53 P P **01 41 31.8 -0.6**
baz=307
DGMT Dagmar 78.84 37 P P **01 41 32.6 0.0**
DGMT IAmb IAmb 01 41 38.2
comp=Z,23nm,0.8s
DGMT Dagmar 78.84 37 P P **01 41 30.6 -2.0**
baz=314
GRAC Grapevine Rang 78.86 52 P P **01 41 33.5 +0.5**
GRAC IAmb IAmb 01 41 44.5
comp=Z,36nm,1.5s
GRAC Grapevine Rang 78.86 52 P P **01 41 30.5 -2.4**
baz=308
OKC Ostrava-Krasne 78.86 325 AMS AMS 02 20 20.0
comp=Z,900nm,11.0s
SBC Santa Barbara 78.88 55 P P **01 41 32.1 -0.9**
baz=307
LAO LASA Array 79.05 39 P P **01 41 31.8 -2.0**
baz=313
R11B Troy Canyon, C 79.15 50 P P **01 41 32.1 -2.6**
baz=308
MORC Moravsky Berou 79.18 325⇑ P P **01 41 34.6 +0.2**
MORC Moravsky Berou 79.18 325 P P **01 41 33.8 -0.6**
MORC Moravsky Berou 79.18 325 eP P **01 41 34.6 +0.2**
MORC Moravsky Berou 79.18 325 P P **01 41 33.8 -0.6**
MORC pmax pmax
comp=Z,10.0nm,1.1s
OSTC Ostas 79.22 327 AMS AMS 02 20 30.0
comp=Z,1μm,15.2s
CHVC Chvalec 79.27 327 AMS AMS 02 20 40.0
comp=Z,800nm,14.7s
KRLC Kraliky 79.31 326 eP P **01 41 35.4 +0.2**
KRLC epP sP **01 41 41.5 -1.1**
KRLC AMS AMS 02 20 20.0
comp=Z,1μm,16.3s
KRLC Kraliky 79.31 326 eP P **01 41 35.4 +0.2**
KRLC e 01 41 41.5
KRLC MLR MLR
comp=Z,1μm,16.3s
DPC Dobruska-Polom 79.32 326 eP P **01 41 36.1 +0.9**
DPC epP sP **01 41 41.8 -0.9**
DPC AMS AMS 02 21 50.0
comp=Z,900nm,13.0s
DPC Dobruska-Polom 79.32 326 eP P **01 41 36.1 +0.9**
DPC e 01 41 41.8
DPC MLR MLR
comp=Z,900nm,13.0s
DPC Dobruska-Polom 79.32 326 P P **01 41 36.4 +1.2**
comp=Z,9.1nm,0.4s
UPC Upice 79.35 327 AMS AMS 02 20 40.0
comp=Z,900nm,14.9s
MPMC Manual Prospec 79.35 53 P P **01 41 33.5 -2.3**
baz=308
PSZ Piszkesteto 79.37 323⇓ P P **01 41 36.2 +0.7**
PSZ Piszkesteto 79.37 323 P P **01 41 34.4 -1.2**
PSZ IAmb IAmb 01 41 45.2
comp=Z,20nm,1.3s
PSZ Piszkesteto 79.37 323 P P **01 41 34.4 -1.2**
PSZ pmax pmax
comp=Z,20nm,1.3s

OSI	Osito Audit: C	79.42	55	P		P		01 41 32.9	-3.1
	baz=307								
WCT	Wildcat Mounta	79.45	52	P		P		01 41 36.7	+0.4
VYHS	Vyhne	79.48	324	*e*P		P		01 41 36.4	+0.3
VYHS	Vyhne	79.48	324	*e*P		P		01 41 36.4	+0.3
VYHS					pmax		pmax		
	comp=Z,17nm,1.5s								
ELND	Elena	79.61	316	⇑P		P		01 41 37.0	+0.1
SIRR	Siria	79.63	321	⇑P		P		01 41 37.3	+0.4
SNCC	San Nicolas Is	79.72	56	P		P		01 41 36.2	-1.4
	baz=307								
SURR	Surduc	79.74	320	⇓P		P		01 41 37.5	0.0
JAVC	Velka Javorina	79.77	325	*e*P		P		01 41 38.6	+0.9
GWY	Greenwater Val	79.80	52	P		P		01 41 38.7	+0.5
BW06	Boulder Array	79.88	44	P		P		01 41 35.6	-3.0
	baz=311								
PD31	Pinedale Array	79.88	44	P		P		01 41 38.6	-0.1
PDAR	Pinedale Array	79.88	44	P		P		01 41 38.5	-0.1
PDAR	Pinedale Array	79.88	44	P		P		01 41 39.9	+1.2
	comp=Z,3.4nm,0.7s,baz=272,slow=2.1,SNR=22								
PDAR					LR		LR	02 16 26.6	
	comp=Z,69nm,20.8s,baz=332,slow=35								
	comp=Z,3.4nm,0.7s								
MMAI	Mount Meron Ar	79.95	304	P		P		01 41 40.2	+1.3
	comp=Z,3.4nm,0.8s,baz=66,slow=8.1,SNR=3.8								
	comp=Z,3.4nm,0.8s								
VRAC	Vranov	79.95	325	⇑P		P		01 41 39.0	+0.4
VRAC	Vranov	79.95	325	*e*P		P		01 41 38.5	-0.1
VRAC	Vranov	79.95	325	LR		LR		02 18 17.0	
	comp=Z,386nm,18.4s,baz=38,slow=37								
VRAC	Vranov	79.95	325	⇑P		P		01 41 39.0	+0.4
BRG	Berggiesshubel	79.98	328	*e*P		P		01 41 39.1	+0.4
BRG					Amp			01 41 40.2	
	comp=Z,5.5nm,1.1s								
BRG	Berggiesshubel	79.98	328	P		P		01 41 44.4	+5.7
BRG					Amp			01 41 44.7	
	comp=Z,10nm,1.3s								
CLL	Collm	80.06	329	P		P		01 41 38.5	-0.6
CLL					IAmb		IAmb	01 41 47.1	
	comp=Z,19nm,1.2s								
CLL	Collm	80.06	329	*i* P		P		01 41 38.8	-0.3
CLL				*i* *PP		pP		01 41 44.5	-0.1
CLL				*e*S		S		01 51 44.0	+1.4
CLL					pmax		pmax		
	comp=Z,20nm,1.2s								
CLL	Collm	80.06	329	P		P		01 41 38.9	-0.2
BZS	Buzias	80.09	320	⇑P		P		01 41 39.2	-0.2
BZS	Buzias	80.09	320	⇑P		P		01 41 39.2	-0.2
SMOL	Smolenice	80.13	324	*e*P		P		01 41 40.6	+1.0
SRO	Srobarova	80.21	324	*e*P		P		01 41 40.7	+0.7
SRO	Srobarova	80.21	324	*e*P		P		01 41 40.7	+0.7
KRUC	Moravsky	80.22	325	*e*P		P		01 41 40.0	0.0
MODS	Modra-Piesok	80.30	324	*e*P		P		01 41 41.5	+1.0
MODS	Modra-Piesok	80.30	324	*e*P		P		01 41 41.5	+1.0
MODS					pmax		pmax		
	comp=Z,78nm,1.8s								
GOPC	GO Pecny, Ondr	80.32	327		AMS		AMS	02 21 40.0	
	comp=Z,900nm,13.4s								
PRA	Prague	80.36	327		AMS		AMS	02 22 40.0	
	comp=Z,800nm,11.0s								
CIS	Catalina Islan	80.36	56	P		P		01 41 39.5	-1.6
	baz=308								
PRU	Pruhonice	80.37	327		AMS		AMS	02 22 40.0	
	comp=Z,900nm,12.6s								
HSKC	Hora Svate Kat	80.40	328	*e*P		P		01 41 41.3	+0.3
HSKC				*ex*		x		01 41 47.6	
TREC	Trest	80.46	326	*e*P		P		01 41 41.9	+0.5
TREC					AMS		AMS	02 21 00.0	
	comp=Z,1μm,15.6s								
TREC	Trest	80.46	326	*e*P		P		01 41 41.9	+0.5
TREC					MLR		MLR		
	comp=Z,1μm,15.6s								
BLKB	Belogradchik	80.89	318	⇑P		P		01 41 43.5	-0.3
ZVC	Zvikov	80.93	327	*e*P		P		01 41 44.2	+0.4
MPLH	Magyarpolny	81.03	323	P		P		01 41 45.3	+0.9
	comp=Z,26nm,1.1s								
MURC	Murrieta	81.05	55	P		P		01 41 42.7	-2.1
	baz=308								
NKC	Novy Kostel	81.10	328		AMS		AMS	02 23 10.0	
	comp=Z,900nm,13.3s								
MORH	Mrgy, Hungar	81.17	322	⇑P		P		01 41 44.7	-0.5
MORH	Mrgy, Hungar	81.17	322	P		P		01 41 45.0	-0.2
RONA	Rosalia, Austr	81.24	324	*i* P		P		01 41 46.4	+0.8
	comp=Z,14nm,1.4s,SNR=8.4								
CONA	Conrad Observa	81.28	325	*e*P		P		01 41 46.5	+0.7
	comp=Z,14nm,1.4s,SNR=6.5								
GMRC	Granite Mounta	81.31	53	P		P		01 41 44.3	-2.0
	baz=309								
ULM	Lac du Bonnet	81.32	32	P		P		01 41 45.9	0.0
ULM					IAmb		IAmb	01 41 50.8	
	comp=Z,32nm,1.2s								
ULM	Lac du Bonnet	81.32	32	P		P		01 41 46.1	+0.2
	comp=Z,9.0nm,0.9s,baz=320,slow=6.6,SNR=7.7								
ULM					LR		LR	02 20 48.3	
	comp=Z,184nm,19.0s,baz=332,slow=38								
	comp=Z,9.0nm,0.9s								
ULM	Lac du Bonnet	81.32	32	P		P		01 41 45.9	0.0
ULM					pmax		pmax		
	comp=Z,32nm,1.3s								
FRGS	Fruska Gora	81.33	321	P		P		01 41 46.1	0.0
CKRC	Cesky Krumlov	81.33	326	*e*P		P		01 41 46.1	+0.1
CKRC				*ex*		x		01 41 51.8	
CKRC					AMS		AMS	02 21 40.0	
	comp=Z,1μm,15.9s								
CKRC	Cesky Krumlov	81.33	326	*e*P		P		01 41 46.1	+0.1
CKRC				*e*				01 41 51.8	
CKRC					MLR		MLR		
	comp=Z,1μm,15.9s								
EZN	Ezine	81.38	314	P		P		01 41 47.3	+0.9
KHC	Kasperske Hory	81.43	327	P		P		01 41 46.2	-0.4
KHC	Kasperske Hory	81.43	327	*e*P		P		01 41 46.6	0.0
KHC				*ep*		PcP		01 41 52.3	-0.3
KHC					AMS		AMS	02 21 50.0	
	comp=Z,1μm,15.1s								
KHC	Kasperske Hory	81.43	327	*ce*P		P		01 41 46.7	+0.2
KHC					pmax		pmax		
	comp=Z,43nm,2.5s								
KHC	Kasperske Hory	81.43	327	P		P		01 41 46.8	+0.2
	comp=Z,10nm,1.0s								
MDND	Maddock	81.45	35	P		P		01 41 43.9	-2.8
	baz=317								
PFO	Pinyon Flats O	81.52	54	P		P		01 41 43.9	-3.5
	baz=309								
PFO	Pinyon Flats O	81.52	54	LR		LR		02 10 04.5	
	comp=Z,169nm,21.0s,baz=271,slow=30								
TPFO	Pinon Flats	81.53	54	P		P		01 41 44.7	-2.7
	baz=309								
109C	Camp Elliot, M	81.54	55	P		P		01 41 44.8	-2.5
	baz=308								
GEC2	GERESS Array S	81.59	327	P		P		01 41 46.8	-0.6
GERES	GERESS Array B	81.59	327	P		P		01 41 46.5	-0.9
GERES	GERESS Array B	81.59	327	P		P		01 41 47.2	-0.2
	comp=Z,1.2nm,0.7s,baz=41,slow=6.5,SNR=8.1								
GERES					LR		LR	02 19 33.7	
	comp=Z,364nm,18.2s,baz=35,slow=37								
	comp=Z,1.2nm,0.7s								
ARSA	Arzberg	81.93	325	*i* P		P		01 41 49.5	+0.3
	comp=Z,9.9nm,1.0s								
RSSD	Black Hills	81.93	40	P		P		01 41 47.0	-2.5
	baz=314								
MONP2	Monument Peak	81.99	55	P		P		01 41 47.7	-2.3
	baz=309								
GRA1	Grafenberg Arr	82.03	328	P		P		01 41 49.3	-0.4
GRF	Grafenberg Arr	82.03	328	P		P		01 41 49.3	-0.4
GRF					pmax		pmax		
	comp=Z,138nm,2.0s								
GRFO	Grafenberg	82.03	328	P		P		01 41 49.1	-0.5
GRFO	Grafenberg	82.03	328	P		P		01 41 49.1	-0.5
GRFO					pmax		pmax		
	comp=Z,110nm,1.9s								
MOA	Molln	82.07	326	*i* P		P		01 41 50.0	0.0
	comp=Z,10nm,1.5s								
RAR	Rarotonga	82.17	124	LR		LR		02 15 57.9	
	comp=Z,119nm,18.6s,baz=290,slow=34								
W13A	Hualapai Mount	82.25	52	P		P		01 41 51.5	+0.1
EIL	Elat	82.28	301	LR		LR		02 22 34.7	
	comp=Z,288nm,18.1s,baz=58,slow=39								
IKP	In-Ko-Pah, Jac	82.35	55	P		P		01 41 50.1	-1.7
	baz=309								
O20A	White River Ci	82.36	45	P		P		01 41 49.9	-2.0
	baz=312								
BIOA	Bad Ischl, Aus	82.47	326	*i* P		P		01 41 52.3	+0.2
	comp=Z,16nm,1.3s,SNR=9.0								
GROS	Grobnik	82.52	324	*e*P		P		01 41 52.1	-0.3
PERS	Pernice	82.57	324	*i* P		P		01 41 52.5	-0.1
EKA	Eskdalemuir Ar	82.57	339	P		P		01 41 52.3	0.0
	comp=Z,1.4nm,0.7s,baz=34,slow=4.5,SNR=5.2								
	comp=Z,1.4nm,0.7s								
SOKA	Soboth	82.58	324	*i* P		P		01 41 52.7	0.0
	comp=Z,21nm,1.3s,SNR=13								
PDMCI	Parker Dam,Lak	82.59	53	P		P		01 41 50.5	-2.3
	baz=310								
AGMN	Agassiz Nation	82.80	33	P		P		01 41 51.4	-2.3
	baz=319								
URZ	Urewera	82.80	150	LR		LR		02 18 26.2	
	comp=Z,62nm,18.8s,baz=29,slow=35								
OBKA	Obir	82.93	325	*i* P		P		01 41 54.1	-0.5
	comp=Z,5.0nm,1.2s								
GLA	Glamis	82.94	54	P		P		01 41 52.6	-2.2
	baz=309								
LEGS	Legarje	82.98	324	*e*P		P		01 41 54.3	-0.4
KBA	Koelnbreinsper	83.06	326	*e*P		P		01 41 55.0	-0.4
	comp=Z,9.8nm,1.4s								
LESA	Schwarzleotal	83.11	326	*i* P		P		01 41 55.6	+0.1
	comp=Z,25nm,1.1s								
N23A	Red Feather La	83.14	43	P		P		01 41 52.6	-3.3
	baz=313								
MYKA	Terra Mystica	83.26	325	*i* P		P		01 41 55.5	-0.7
	comp=Z,9.6nm,1.1s								
BTNL	Ternell	83.38	331	*d*P		P		01 41 55.2	-1.5
	comp=Z,4.5nm,1.0s								
MEM	Membach	83.41	332	*d*P		P		01 41 56.9	+0.1
	comp=Z,7.1nm,1.1s								
PUK	Puka	83.46	319	P		P		01 41 55.7	-1.6
PUK					IAmb		IAmb	01 42 08.4	
	comp=Z,23nm,1.3s								
WUAZ	Wupatki	83.55	50	P		P		01 41 59.0	+0.9
WUAZ	Wupatki	83.55	50	P		P		01 41 55.4	-2.6
	baz=311								
STU	Stuttgart	83.58	329	P		P		01 41 57.2	-0.5
STU					IAmb		IAmb	01 42 05.2	
	comp=Z,23nm,1.1s								
STU	Stuttgart	83.58	329	P		P		01 41 57.2	-0.5
STU					pmax		pmax		
	comp=Z,23nm,1.1s								
BHOU	Houvegnez	83.62	331	*d*P		P		01 41 57.0	-0.9
	comp=Z,5.0nm,1.4s								
ABTA	Abfaltersbach	83.69	326	*i* P		P		01 41 57.5	-0.9
	comp=Z,11nm,1.5s								
WTTA	Wattenberg	83.69	327	*i* P		P		01 41 57.9	-0.6
	comp=Z,8.0nm,1.5s								
SABO	M.te Sabotino	83.76	325	P		P		01 41 58.1	-0.7
SABO					IAmb		IAmb	01 41 58.8	
	comp=Z,40nm,1.8s								
BCLA	Clavier	83.83	332	*d*P		P		01 41 56.4	-2.5
	comp=Z,5.5nm,1.3s								
MOTA	Moosalm	83.86	327	*i* P		P		01 41 58.8	-0.6
	comp=Z,12nm,1.4s								
RETA	Reutte	83.91	327	*e*P		P		01 41 59.3	-0.2
	comp=Z,16nm,1.2s,SNR=6.4								
SQTA	Sankt Quirin	83.91	327	*e*P		P		01 41 58.4	-1.3
	comp=Z,9.3nm,1.6s								
BGES	Gesves	83.94	332	*d*P		P		01 41 58.6	-0.9
	comp=Z,5.5nm,1.2s								
STAL	STALIGIAL	83.96	325	P		P		01 41 58.4	-1.4
STAL					IAmb		IAmb	01 42 05.3	
	comp=Z,13nm,1.0s								
ISCO	Idaho Springs	84.07	44	P		P		01 42 01.0	+0.2
ISCO					IAmb		IAmb	01 42 08.2	
	comp=Z,12nm,1.4s								
ISCO	Idaho Springs	84.07	44	P		P		01 41 58.5	-2.4
	baz=314								
ISCO	Idaho Springs	84.07	44	P		P		01 42 01.0	+0.2
ISCO					pmax		pmax		
	comp=Z,12nm,1.4s								
RCHB	Rochefort	84.08	332	*d*P		P		01 41 57.8	-2.4
	comp=Z,7.3nm,1.1s								
WLF	Walferdange	84.11	331	*d*P		P		01 41 59.3	-1.1
	comp=Z,6.8nm,1.3s								
BMRD	Maredsous	84.13	332	*d*P		P		01 41 58.9	-1.6
	comp=Z,7.2nm,1.2s								
MVCO	Mesa Verde	84.17	47	P		P		01 42 01.5	+0.2
MVCO					IAmb		IAmb	01 42 07.4	
	comp=Z,22nm,1.1s								
MVCO	Mesa Verde	84.17	47	P		P		01 41 58.1	-3.2
	baz=312								
FETA	Feichten	84.28	327	*e*P		P		01 42 01.2	-0.3
	comp=Z,7.7nm,1.2s								
BFO	Black Forest	84.29	329	P		P		01 42 00.7	-0.7
BFO					IAmb		IAmb	01 42 09.3	
	comp=Z,24nm,1.2s								
BFO	Black Forest	84.29	329	P		P		01 42 00.7	-0.7
BFO					pmax		pmax		
	comp=Z,24nm,1.2s								
DAVA	Damuels	84.44	327	*e*P		P		01 42 02.4	0.0
	comp=Z,17nm,1.4s,SNR=7.1								
CTI	Castel Tesino	84.61	326	P		P		01 42 01.6	-1.6
CTI					IAmb		IAmb	01 42 10.1	
	comp=Z,12nm,1.1s								
CTI	Castel Tesino	84.61	326	P		P		01 42 01.6	-1.6
CTI					pmax		pmax		
	comp=Z,12nm,1.1s								
FUORN	Ofenpass-Fuorn	84.79	327	P		P		01 42 04.3	0.0
FUORN					IAmb		IAmb	01 42 11.7	
	comp=Z,20nm,1.1s								
W18A	Petrified Fore	84.82	50	P		P		01 42 03.0	-1.5
	baz=312								
DAVOX	Davos/Dischmat	84.83	327	LR		LR		02 21 46.4	
	comp=Z,262nm,18.9s,baz=28,slow=37								
ECH	Echery	84.86	329	P		P		01 42 03.7	-0.6
ECH					IAmb		IAmb	01 42 08.7	
	comp=Z,19nm,1.4s								
ECH	Echery	84.86	329	P		P		01 42 03.7	-0.6
ECH					pmax		pmax		
	comp=Z,19nm,1.4s								
Q24A	Divide	84.91	44	P		P		01 42 01.7	-3.4
	baz=314								
EYMN	Ely	84.93	31	P		P		01 42 04.4	-0.2
EYMN					IAmb		IAmb	01 42 09.5	
	comp=Z,13nm,0.8s								
EYMN	Ely	84.93	31	P		P		01 42 02.3	-2.4
	baz=322								
214A	Organ Pipe Nat	84.94	54	P		P		01 42 02.1	-2.9
	baz=310								
X18A	Snowflake	85.08	50	P		P		01 42 05.8	0.0
X18A					IAmb		IAmb	01 42 11.9	
	comp=Z,8.8nm,1.0s								
TEOL	Teolo	85.12	325	P		P		01 42 04.5	-1.1
TEOL					IAmb		IAmb	01 42 12.4	
	comp=Z,11nm,0.9s								
OGNE	Ogallala	85.22	41	P		P		01 42 05.8	-0.5
OGNE	Ogallala	85.22	41	P		P		01 42 02.9	-3.4
	baz=316								
TUE	Stuetta	85.31	327	P		P		01 42 08.6	+1.8
	comp=Z,46nm,2.5s								
SDCO	Great Sand Dun	85.55	45	P		P		01 42 08.1	-0.2
SDCO					IAmb		IAmb	01 42 14.4	
	comp=Z,11nm,1.2s								
SDCO	Great Sand Dun	85.55	45	P		P		01 42 05.2	-3.1
	baz=314								
ITM	Ithomi	85.71	314	P		P		01 42 07.4	-1.3
ECSD	EROS Data Cent	85.90	36	P		P		01 42 09.2	-0.4
ECSD					IAmb		IAmb	01 42 14.1	
	comp=Z,11nm,1.0s								
ECSD	EROS Data Cent	85.90	36	P		P		01 42 06.0	-3.6
	baz=319								
TUC	Tucson	86.02	52	P		P		01 42 06.7	-3.8
	baz=311								
FDMO	Fiordimonte	86.21	323	P		P		01 42 10.5	-0.6
SCHQ	Schefferville	86.45	14	P		P		01 42 12.1	0.0
	comp=Z,10nm,1.1s,baz=20,slow=12,SNR=3.1								
	comp=Z,10nm,1.1s								
SPMN	Marine on St.	86.51	33	P		P		01 42 09.9	-2.6
	baz=322								
T25A	Trinidad	86.60	45	P		P		01 42 12.7	-0.7
T25A					IAmb		IAmb	01 42 28.5	
	comp=Z,15nm,1.1s								
T25A	Trinidad	86.60	45	P		P		01 42 10.9	-2.5
	baz=315								
ANMO	Albuquerque	86.92	48	P		P		01 42 14.9	-0.1
ANMO					IAmb		IAmb	01 42 30.5	
	comp=Z,14nm,1.4s								
ANMO	Albuquerque	86.92	48	P		P		01 42 12.5	-2.5
	baz=314								
ANMO	Albuquerque	86.92	48	⇓*i* P		P		01 42 16.7	+1.7
ANMO					pmax		pmax		
	comp=Z,13nm,1.7s								
PPT	Papeete	86.92	114	LR		LR		02 12 13.9	
	comp=Z,168nm,21.6s,baz=310,slow=30								
PPT2	Papeete2	86.94	114	*e*LR		LR		02 09 25.6	
	comp=Z,454nm,24.5s								
PPT2					*e*LR		LR	02 09 43.3	
	comp=Z,362nm,34.5s								
ATD	Arta Tunnel	87.31	282	LR		LR		02 23 44.4	
	comp=Z,7.4nm,21.1s,baz=55,slow=37								
KSU1	Kansas State U	89.39	39	P		P		01 42 24.1	-2.3
	baz=319								
MNTX	Cornudas Mount	89.81	50	P		P		01 42 26.3	-2.2
	baz=314								
VLDQ	Val d'Or	89.91	23	P		P		01 42 27.6	-0.9
VLDQ					IAmb		IAmb	01 42 32.8	
	comp=Z,15nm,1.0s								
GLMI	Grayling	90.23	29	P		P		01 42 27.8	-2.4
	baz=327								
TBI	Tubuai	90.69	119	*e*LR		LR		02 11 25.6	
	comp=Z,1μm,24.2s								
L44A	Lake County Fo	91.07	32	P		P		01 42 33.5	-0.6
	baz=325								
WMOK	Wichita Mounta	91.49	44	P		P		01 42 36.6	+0.3
WMOK					IAmb		IAmb	01 42 41.8	
	comp=Z,8.4nm,1.2s								
WMOK	Wichita Mounta	91.49	44	P		P		01 42 34.0	-2.3
	baz=318								
WMOK	Wichita Mounta	91.49	44	P		P		01 42 36.6	+0.3
WMOK					pmax		pmax		
	comp=Z,8.0nm,1.2s								
LPIG	La Paz	91.75	58	LR		LR		02 19 44.7	
	comp=Z,66nm,18.7s,baz=208,slow=33								
HDIL	Hopedale	91.78	34	P		P		01 42 35.1	-2.4
	baz=324								
TUL3	Leonard	92.23	41	P		P		01 42 37.8	-1.8
	baz=320								
TX31	Lajitas Ar. Si	92.51	50	P		P		01 42 41.2	0.0
TX31					IAmb		IAmb	01 42 47.0	
	comp=Z,12nm,1.1s								
TXAR	Lajitas Array	92.51	50	P		P		01 42 41.6	+0.4
TXAR	Lajitas Array	92.51	50	P		P		01 42 42.1	+0.9
	comp=Z,4.6nm,0.9s,baz=289,slow=3.6,SNR=22								
	comp=Z,4.6nm,0.9s								
TXAR	Lajitas Array	92.51	50	P		P		01 42 41.6	+0.4
ABTX	Abilene, Hawle	92.56	46	P		P		01 42 40.2	-1.1
	baz=317								
CCM	Cathedral Cave	92.87	37	P		P		01 42 41.9	-0.6
CCM					IAmb		IAmb	01 42 51.3	
	comp=Z,7.5nm,0.9s								
CCM	Cathedral Cave	92.87	37	P		P		01 42 41.1	-1.4
	baz=323								
CCM	Cathedral Cave	92.87	37	P		P		01 42 41.9	-0.6
CCM					pmax		pmax		
	comp=Z,8.0nm,0.9s								
SFIN	Lafayette	92.90	33	P		P		01 42 40.9	-1.8
	baz=325								
KEST	Kesra	93.65	320	P		P		01 42 46.4	+0.1
	comp=Z,3.2nm,1.1s,baz=90,slow=6.1,SNR=3.5								
KEST					LR		LR	02 29 38.8	
	comp=Z,477nm,18.0s,baz=358,slow=39								
	comp=Z,3.2nm,1.1s								
O48B	Farmland	93.83	32	P		P		01 42 43.5	-3.5
	baz=327								
LONY	Lake Ozonia	93.92	23	P		P		01 42 45.0	-2.3
	baz=334								
JCT	Junction City	94.03	47	P		P		01 42 46.0	-2.1
	baz=317								
ERPA	Erie	94.30	27	P		P		01 42 47.0	-2.0
	baz=330								
MIAR	Mount Ida	94.44	40	P		P		01 42 47.9	-1.9
	baz=321								
P49A	Miami Univ. Ec	94.62	32	P		P		01 42 48.3	-2.2
	baz=327								
PKME	Peaks-Kenny Pk	94.84	19	P		P		01 42 50.6	-0.9
	baz=338								
WCI	Wyandotte Cave	95.02	34	P		P		01 42 50.3	-2.1
	baz=326								
LBNH	Lisbon	95.06	21	P		P		01 42 51.1	-1.4
	baz=336								
BINY	Binghamton	95.64	25	P		P		01 42 53.1	-2.1
	baz=333								
L61B	Northampton	96.47	22	P		P		01 42 57.3	-1.6
	baz=336								
PAL	Palisades	97.39	24	P		P		01 43 00.7	-2.4
	baz=335								
LRAL	Lakeview Retre	98.95	37	P		P		01 43 07.4	-2.9
	baz=325								
GOGA	Godfrey	100.30	34	P		Pdif		01 43 13.1	-3.2
	baz=327								
CNNC	Cliffs of the	101.09	29	P		Pdif		01 43 14.9	-4.9
	baz=331								
DWPF	Disney Wildern	105.69	36	P		PKiKP		01 47 50.9	-2.4
	baz=328								
MAW	Mawson	118.00	205	PKP		PKiKP		01 48 15.9	+0.6
	comp=Z,1.1nm,0.6s,baz=340,slow=4.6,SNR=4.3								
QSPA	South Pole Qui	126.36	180			PKPdf		01 48 31.2	-0.2
QSPA	South Pole Qui	126.36	180	PKP		PKPdf		01 48 31.4	-0.1
	comp=Z,6.8nm,1.0s,baz=259,slow=2.1,SNR=15								
CZSB	Cruzeiro do Su	139.89	52	*e*P		PKPdf		01 48 58.0	-0.4
ETMB	Extrema	145.46	45	PKPdf		PKPbc		01 49 07.1	-1.1
ETMB	Extrema	145.46	45	*e*P		PKPbc		01 49 07.7	-0.5
TMAB	Tom-Au,PA,Br	145.46	11	*e*P		PKPbc		01 49 07.8	-0.5
ITTB	Itaituba	145.51	25	*e*P		PKPdf		01 49 07.7	-0.7
SAML	Samuel	146.40	40	PKPdf		PKPdf		01 49 09.3	-0.6
SAML	Samuel	146.40	40	PKP2		PKPdf		01 49 09.3	-0.6
NPGB	Novo Progresso	148.13	26	*e*P		PKPdf		01 49 12.0	-0.8
PRPB	Parauapebas	148.86	15	*e*P		PKPdf		01 49 13.4	-0.6
LPAZ	La Paz	149.22	56	PKPdf		PKPdf		01 49 15.2	0.0
LPAZ	La Paz	149.22	56	PKIKP		PKPbc		01 49 19.8	+0.3
	comp=Z,2.6nm,0.8s,baz=331,slow=3.5,SNR=7.6								
LPAZ	La Paz	149.22	56			PKPdf		01 49 15.2

WEL	Wellington	0.66	32	P		Pn	01 50 59.5	-0.1
WEL				S		Sn	01 51 09.4	-0.3
PLWZ	Palliser	0.76	69			Pn	01 51 02.3	+1.2
PLWZ	Palliser	0.76	69	P		Pn	01 51 02.4	+1.3
KHZ	Kahutara	0.81	225	P		Pn	01 51 02.6	+1.0
KHZ	Kahutara	0.81	225			Pn	01 51 02.7	+1.1
KHZ	Kahutara	0.81	225	P		Pn	01 51 02.8	+1.1
KHZ				S		Sn	01 51 15.9	+2.7
MSWZ	Moikau Station	0.83	59			Pn	01 51 03.2	+1.2
CAW	Cannon Point	0.93	38	P		Pn	01 51 04.3	+0.8
CAW				S		Sn	01 51 17.4	+0.9
NNZ	Nelson	0.94	312			Pb	01 51 02.3	-0.5
NNZ	Nelson	0.94	312	P		Pb	01 51 02.4	-0.5
NNZ				S		Sn	01 51 16.6	0.0
PAWZ	Paruwai Farm	0.96	61	P		Pn	01 51 05.0	+1.2
THZ	Tophouse	1.05	274			Pn	01 51 05.2	+0.1
THZ	Tophouse	1.05	274	P		Pn	01 51 05.2	+0.1
THZ				S		Sg	01 51 18.8	-0.3
KIW	Kapiti Island	1.08	25	P		Pg	01 51 06.3	+0.4
KIW				S		Sg	01 51 22.7	+2.5
DUWZ	D'Urville Isla	1.09	344	P		Pb	01 51 05.1	-0.3
DUWZ				S		Sb	01 51 19.0	-0.3
TRWZ	Traveller	1.13	67	P		Pg	01 51 07.1	+0.4
MTW	Mount Morrison	1.13	53	P		Pg	01 51 07.2	+0.4
OGWZ	Otaki Gorge	1.22	32	P		Pg	01 51 08.8	+0.4
OGWZ				S		Sg	01 51 25.7	+1.4
MRNZ	Matariki Terra	1.25	291			Pb	01 51 08.4	+0.3
MRNZ	Matariki Terra	1.25	291	P		Pg	01 51 08.5	-0.5
MRNZ				S		Sg	01 51 25.3	0.0
TKNZ	Takaka Hill	1.30	308			Pb	01 51 08.7	-0.3
TKNZ	Takaka Hill	1.30	308	P		Pb	01 51 08.8	-0.2
TKNZ				S		Sg	01 51 26.4	-0.5
HOWZ	Holdsworth Sta	1.31	44	P		Pb	01 51 09.7	-0.4
HOWZ				S		Sg	01 51 27.7	+0.3
TMWZ	Te Maipa	1.40	59	P		Pb	01 51 10.7	0.0
GVZ	Greta Valley S	1.46	220			Pb	01 51 11.8	0.0
GVZ	Greta Valley S	1.46	220	P		Pb	01 51 11.9	0.0
GVZ				S		Sg	01 51 32.1	0.0
MRZ	Mangatainoka R	1.52	39			Pn	01 51 12.7	-0.2
MRZ	Mangatainoka R	1.52	39	P		Pb	01 51 12.7	-0.2
MRZ				S		Sg	01 51 33.9	-0.2
TIWZ	Tintock	1.60	48	P		Pb	01 51 13.9	-0.2
TIWZ				S		Sg	01 51 35.6	-0.9
QRZ	Quartz Range	1.69	307	P		Pb	01 51 15.7	+0.1
QRZ	Quartz Range	1.69	307			Pb	01 51 15.3	-0.3
QRZ	Quartz Range	1.69	307	P		Pb	01 51 15.4	-0.2
CPWZ	Castlepoint	1.71	57	P		Pn	01 51 15.2	+1.2
LTZ	Lake Taylor	1.78	238			Pn	01 51 16.1	+1.1
LTZ	Lake Taylor	1.78	238	P		Pn	01 51 16.2	+1.1
LTZ				S		Sb	01 51 38.4	-0.8
PRWZ	Pori Road	1.80	45	P		Pn	01 51 16.1	+0.8
AMCZ	Amberley	1.81	222			Pn	01 51 15.8	+0.4
AMCZ	Amberley	1.81	222	P		Pn	01 51 16.2	+0.8
OHWZ	Ohakea	1.81	25	P		Pb	01 51 18.1	+0.4
POWZ	Post Office Ro	1.83	38	P		Pn	01 51 16.7	+1.0
BFZ	Birch Farm	1.87	52	P		Pn	01 51 16.3	+0.1
BFZ	Birch Farm	1.87	52			Pn	01 51 16.4	+0.1
BFZ	Birch Farm	1.87	52	P		Pn	01 51 16.4	+0.2
DSZ	Denniston Nort	1.88	272		Pn	Pb	01 51 17.9	-1.0
DSZ	Denniston Nort	1.88	272	P		Pb	01 51 18.1	-0.8
DSZ				S		Sb	01 51 42.3	+0.2
DVHZ	Dannevirke	2.09	43	P		Pn	01 51 19.6	+0.3
ANWZ	Angora Road	2.15	50	P		Pn	01 51 20.2	+0.2
WAZ	Wanganui	2.15	14	P		Pb	01 51 23.3	-0.3
TSZ	Takapari Road	2.18	36	P		Pn	01 51 21.5	+0.8
MQZ	McQueen's Vall	2.22	213			Pn	01 51 20.8	-0.3
MQZ	McQueen's Vall	2.22	213	P		Pn	01 51 20.6	-0.3
MQZ				S		Sn	01 51 48.0	-0.2
OXZ	Oxford	2.23	228			Pn	01 51 21.2	-0.1
OXZ	Oxford	2.23	228	P		Pn	01 51 21.3	0.0
AKCZ	Akaroa Harbour	2.27	206	P		Pn	01 51 22.1	+0.3
AKCZ				S		Sn	01 51 49.5	+0.1
INZ	Inchbonnie	2.30	247		Pn	Pn	01 51 23.2	+1.0
INZ	Inchbonnie	2.30	247	P		Pn	01 51 23.3	+1.1
INZ				S		Sn	01 51 51.8	+1.6
PRHZ	Porangahau	2.37	49	P		Pn	01 51 23.9	+0.8
LREZ	Lake Rotokare	2.39	2	P		Pb	01 51 26.9	-0.6
WPHZ	Waipukurau	2.41	43	P		Pn	01 51 24.1	+0.5
PNHZ	Pukenui	2.41	37	P		Pn	01 51 24.1	+0.4
PNHZ				S		Sb	01 51 55.6	-1.7
NMEZ	Namu Road	2.46	352	P		Pb	01 51 29.4	+0.8
RACZ	Rakaia	2.46	220	P		Pn	01 51 24.3	-0.2
RACZ				S		Sn	01 51 53.7	-0.5
PREZ	Palmer Road	2.51	357	P		Pn	01 51 29.1	-0.5
KHEZ	Kahui Hut	2.56	355	P		Pn	01 51 29.2	+1.5
KHEZ	Kahui Hut	2.56	355	P		Pn	01 51 29.6	+0.9
NEZ	North Egmont	2.58	356	P		Pn	01 51 31.4	+0.5
NBEZ	Newall Road No	2.60	352	P		Pb	01 51 31.7	+0.5
MTVZ	Mangateitei	2.62	20	P		Pn	01 51 28.9	+2.3
MHCZ	Mount Hutt	2.63	229	P		Pn	01 51 26.6	-0.2
PXZ	Pawanui	2.65	48	P		Pn	01 51 26.6	-0.4
PXZ				P		Pn	01 51 26.8	-0.3
DREZ	Durham Road	2.66	358	P		Pb	01 51 31.7	-0.4
PKEZ	Pukeiti	2.66	355	P		Pb	01 51 31.1	-1.1
MOVZ	Moawhango	2.67	25	P		Pn	01 51 28.7	+1.2
PKVZ	Pokaka	2.68	18	P		Pn	01 51 29.8	+2.4
KRHZ	Kereru	2.70	36	P		Pn	01 51 28.0	+0.3
WNVZ	Wahianoa	2.70	22	P		Pn	01 51 29.9	+2.0
BHHZ	Black Hill Sta	2.71	30	P		Pn	01 51 28.9	+1.0
TRVZ	Turoa	2.72	21	P		Pn	01 51 30.5	+2.3
WHVZ	Whangaehu Hut	2.74	21	P		Pn	01 51 30.8	+2.3
VRZ	Vera Road	2.74	7	P		Pn	01 51 31.1	-2.5
MAVZ	Matarangi	2.75	27	P		Pn	01 51 30.7	+2.1
FWVZ	Far West T-bar	2.76	21	P		Pn	01 51 31.1	+2.4
MHEZ	Mangahewa	2.77	0	P		Pb	01 51 35.1	+1.0
WACZ	Wakanui South	2.77	220	P		Pn	01 51 28.7	0.0
TUVZ	Tukino	2.77	22	P		Pn	01 51 30.8	+1.9
COVZ	Chateau Observ	2.81	20	P		Pn	01 51 31.4	+2.1
KAHZ	Kahuranaki	2.83	44	P		Pn	01 51 29.1	-0.4
NGZ	Ngauruhoe	2.85	21	P		Pn	01 51 32.1	+2.2
SNVZ	South Ngauruho	2.85	21	P		Pn	01 51 31.8	+1.9
OTVZ	Oturere	2.88	22	P		Pn	01 51 32.1	+1.9
NNVZ	North Ngauruho	2.89	21	P		Pn	01 51 32.7	+2.3
WTVZ	West Tongariro	2.90	20	P		Pn	01 51 32.9	+2.3
TWVZ	Taurewa	2.91	18	P		Pn	01 51 32.8	+2.2
KWHZ	Kaweka Forest	2.91	34	P		Pn	01 51 30.9	+0.3
ETVZ	East Tongariro	2.91	22	P		Pn	01 51 32.8	+2.1
WVZ	Waitaha Valley	2.91	244	P		Pn	01 51 31.4	+0.8
TMVZ	Te Maari	2.93	22	P		Pn	01 51 32.6	+1.7
KRVZ	Karewarewa	2.93	21	P		Pn	01 51 32.6	+2.6
NTVZ	North Tongarir	2.94	21	P		Pn	01 51 32.9	+1.8
RPZ	Rata Peaks	3.04	231	P		Pn	01 51 32.5	+0.2
RPZ	Rata Peaks	3.04	231	Pn		Pn	01 51 32.5	+0.2
	7.9nm,0.3s,baz=8.1,slow=7.1,SNR=48							
RPZ						Sn	**Sn**	01 52 08.6	+0.3
	5.8nm,0.3s,baz=37,slow=20,SNR=25							
	19nm,0.3s							
RPZ	Rata Peaks	3.04	231	P		Pn	01 51 32.7	+0.3
KATZ	Kakaramea	3.06	21	P		Pb	01 51 36.1	-3.0
RITZ	Rihia Road	3.10	23	P		Pn	01 51 36.1	+2.8
ARCZ	Arundel	3.11	227	P		Pn	01 51 33.6	+0.2
BKZ	Black Stump Fm	3.15	33	P		Pn	01 51 34.5	+0.5
BKZ	Black Stump Fm	3.15	33	Pn		Pn	01 51 33.9	-0.1
BKZ	Black Stump Fm	3.15	33	P		Pn	01 51 34.3	+0.3
RATZ	Rangitukua	3.18	21	P		Pb	01 51 40.9	-0.2
GCSZ	Gaunt Creek Bo	3.29	242	P		Pn	01 51 37.7	+1.9
NMHZ	Naumai	3.34	36	P		Pn	01 51 36.6	0.0
HIZ	Hauiti	3.36	7	P		Pn	01 51 39.7	+3.0
HIZ	Hauiti	3.36	7			Pn	01 51 38.5	+1.7
HIZ	Hauiti	3.36	7	P		Pn	01 51 39.5	+2.7
MRHZ	Matea Rd	3.42	29	P		Pn	01 51 37.5	-0.1
TMZ	Timaru	3.50	223	P		Pn	01 51 38.8	+0.1
MTHZ	Maungataniwha	3.56	34	P		Pn	01 51 40.0	+0.4
TLZ	Tolley Road	3.64	15	P		Pn	01 51 43.3	+2.7
PRRZ	Plateau Road	3.71	26	P		Pb	01 51 47.6	-2.4
FOZ	Fox Glacier	3.71	242			Pn	01 51 42.5	+0.8
FOZ	Fox Glacier	3.71	242	P		Pn	01 51 42.6	+0.9
RTZ	Ruatahuna	3.82	33			Pn	01 51 42.7	-0.5
SNGZ	Shannon Statio	3.84	38	P		Pn	01 51 42.6	-0.8
LBZ	Lake Benmore	3.94	229			Pn	01 51 44.7	-0.1
LBZ	Lake Benmore	3.94	229	P		Pn	01 51 45.3	+0.5
ODZ	Otahua Downs	4.16	219	P		Pn	01 51 47.4	-0.4
ODZ	Otahua Downs	4.16	219	Pn		Pn	01 51 47.4	-0.4
ODZ	Otahua Downs	4.16	219	P		Pn	01 51 47.5	-0.4
URZ	Urewera	4.18	32	P		Pn	01 51 48.8	+0.8
URZ	Urewera	4.18	32	Pn		Pn	01 51 47.7	-0.3
	1.3nm,0.3s,baz=301,slow=13,SNR=11							
URZ						Sn	**Sn**	01 52 36.2	-0.3
	3.3nm,0.3s,baz=160,slow=18,SNR=3.5							
	4.2nm,0.3s							

URZ	Urewera	4.18	32	P		Pn	01 51 47.8	-0.3
TOZ	Tahuroa Road	4.21	13	Pn		Pn	01 51 49.0	+0.5
TOZ	Tahuroa Road	4.21	13	P		Pn	01 51 51.0	+2.5
JCZ	Jackson Bay	4.62	239	P		Pn	01 51 55.4	+1.2
JCZ	Jackson Bay	4.62	239	P		Pn	01 51 55.2	+1.0
RUGZ	Raukumara Rang	4.66	35	P		Pn	01 51 53.7	-1.1
MKAZ	Moumakai	4.78	8	P		Pn	01 51 58.1	+1.7
AWAZ	Awhitu Peninsu	4.79	3	P		Pn	01 51 59.1	+2.8
HHSZ	Highcliff Hill	4.84	212	P		Pn	01 51 57.5	+0.4
WKZ	Wanaka	4.87	231			Pn	01 51 57.0	-0.7
HAZ	Te Kaha	4.88	34	P		Pn	01 51 58.0	+0.3
PKGZ	Pakihiroa	4.90	37	P		Pn	01 51 57.1	-0.9
ETAZ	East Tamaki Re	4.91	6	P		Pn	01 52 01.7	+3.6
EAZ	Earnscleugh	4.96	225	P		Pn	01 51 59.1	+0.3
WIAZ	Waiheke Island	5.09	7	P		Pn	01 52 02.9	+2.4
MBAZ	Motutapu North	5.09	5	P		Pn	01 52 03.4	+2.8
KUZ	Kuaotunu	5.21	13	P		Pn	01 52 02.5	+0.3
MXZ	Matakaoa Point	5.28	37	Pn		Pn	01 52 02.0	-1.0
TUZ	Tuapeka	5.32	218	P		Pn	01 52 03.5	-0.1
MLZ	Mavora Lakes	5.71	230	Pn		Pn	01 52 08.3	-0.7
MLZ	Mavora Lakes	5.71	230	P		Pn	01 52 08.7	-0.3
SYZ	Scrubby Hill	5.98	217	P		Pn	01 52 12.8	+0.1
SYZ	Scrubby Hill	5.98	217	P		Pn	01 52 13.7	+1.0
WHZ	Wether Hill Ro	6.12	227	Pn		Pn	01 52 13.4	-1.3
OUZ	Omahuta	6.64	355	P		Pn	01 52 24.8	+2.9
BBOO	Buckleboo	31.51	274	P		P	01 57 05.7	-0.4
BBOO					IAmb	IAmb	01 57 11.3	
	comp=Z,11nm,1.1s							
ASAR	Alice Springs	38.10	286	P		P	01 58 01.2	-1.9
ASAR	Alice Springs	38.10	286	P		P	01 58 02.4	-0.8
	comp=Z,0.3nm,0.3s,baz=122,slow=6.7,SNR=9.9							
	comp=Z,0.3nm,0.3s							
WRA	Warramunga Arr	40.18	290	P		P	01 58 19.8	-0.8
	comp=Z,0.9nm,0.6s,baz=127,slow=8.4,SNR=7.3							
	comp=Z,0.9nm,0.6s							
WB0	Warramunga Arr	40.26	291	P		P	01 58 20.2	-1.0
WB0					IAmb	IAmb	01 58 35.6	
	comp=Z,5.2nm,1.0s							
QSPA	South Pole Qui	48.28	180	P		P	01 59 26.3	+1.2
QSPA					IAmb	IAmb	01 59 33.8	
	comp=Z,0.8nm,0.9s							
FINES	FINESS Array B	152.64	327	PKPbc		PKPbc	02 10 39.3	-0.4
	comp=Z,0.6nm,0.7s,baz=44,slow=4.2,SNR=1.9							

*NOU **12** 02:03:19.0, 41°.95S × 174°.46E, h14km, MLv3.6/8, Cook Strait, New Zealand*
*WEL **12** 02:03:20.1 ± 0.4, 42°.5 ± 2°.× 17°.4E ± °, h6km ± 3km, M3.0/16, ML3.2/16, MLv3.0/16, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7, confirmed*

ISC 12 02:03:18.9 ± 1.0, **41°.86S** ± 0°.03 × **174°.30E** ± 0°.03, **h13**km ± 6km, **n89**, σ **1°05**/104, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WDFS	Ward Fire Stat	0.12	286	P	Pg	02 03 22.5	+0.4
WDFS				S	Sg	02 03 25.0	+0.5
CMWZ	Cape Campbell	0.13	331	P	Pg	02 03 22.2	0.0
SDNS	Seddon	0.23	329	P	Pg	02 03 23.7	-0.1
SDNS				S	Sg	02 03 26.9	-0.2
SEDS	Seddon Fire St	0.25	319	P	Pg	02 03 23.7	-0.5
SEDS				S	Sg	02 03 26.9	-0.9
KEKS	Kekerengu Vall	0.25	248	P	Pb	02 03 25.7	+0.4
KEKS				S	Sb	02 03 30.1	+0.4
BSWZ	Blackbirch Sta	0.35	295	P	Pg	02 03 25.4	-0.5
BSWZ				S	Sg	02 03 30.2	-0.5
MGCS	Blenheim Marlb	0.44	323	P	Pg	02 03 25.7	-2.0
MGCS				S	Sg	02 03 31.1	-2.4
TUWZ	Tuamarina	0.51	328	P	Pg	02 03 28.1	-0.7
TUWZ				S	Sg	02 03 34.1	-1.4
BWRS	Waikakaho Road	0.51	325	P	Pg	02 03 28.4	-0.6
BWRS				S	Pg	02 03 34.1	-1.6
BHW	Baring Head	0.62	44	P	Pb	02 03 32.3	+0.6
SNZO	South Karori	0.63	29	P	Pb	02 03 31.8	+0.1
TCW	Tory Channel	0.65	359	P	Pg	02 03 30.8	-0.7
TCW				S	Sg	02 03 39.4	-0.8
WEL	Wellington	0.68	32	P	Pb	02 03 32.9	+0.4
PLWZ	Palliser	0.77	68	P	Pn	02 03 35.7	+0.2
KHZ	Kahutara	0.79	225	P	Pn	02 03 36.1	+0.4
KHZ	Kahutara	0.79	225	P	Pn	02 03 36.2	+0.4
KHZ				S	Sn	02 03 49.1	+1.7
NNZ	Nelson	0.94	313	P	Pg	02 03 35.7	-1.4
CAW	Cannon Point	0.95	38	P	Pb	02 03 37.6	+0.4
PAWZ	Paruwai Farm	0.97	61	P	Pn	02 03 38.3	0.0
THZ	Tophouse	1.04	275	P	Pb	02 03 38.6	-0.3
DUWZ	D'Urville Isla	1.09	345	P	Pb	02 03 38.4	-1.3
DUWZ				S	Sb	02 03 52.7	-1.2
KIW	Kapiti Island	1.10	25	P	Pb	02 03 39.6	-0.1
KIW				S	Sn	02 03 55.6	+0.6
TRWZ	Traveller	1.14	67	P	Pb	02 03 40.4	0.0
MTW	Mount Morrison	1.15	53	P	Pb	02 03 40.4	-0.1
MTW				S	Sn	02 03 58.7	+2.6
OGWZ	Otaki Gorge	1.23	33	P	Pn	02 03 42.1	+0.2
MRNZ	Matariki Terra	1.24	291	P	Pn	02 03 41.9	-0.1
MRNZ				S	Sb	02 03 58.7	+0.5
TKNZ	Takaka Hill	1.30	309	P	Pn	02 03 42.5	-0.3
TKNZ				S	Sb	02 04 00.3	+0.5
HOWZ	Holdsworth Sta	1.33	44	P	Pn	02 03 43.0	-0.2
TMWZ	Te Maipa	1.41	58	P	Pn	02 03 44.0	-0.3
GVZ	Greta Valley S	1.45	220	P	Pn	02 03 45.2	+0.4
MRZ	Mangatainoka R	1.54	39	P	Pn	02 03 45.9	-0.1
QRZ	Quartz Range	1.69	307	P	Pn	02 03 49.1	+1.0
QRZ	Quartz Range	1.69	307	P	Pn	02 03 48.8	+0.7
LTZ	Lake Taylor	1.76	238	P	Pn	02 03 49.5	+0.4
AMCZ	Amberley	1.79	222	P	Pn	02 03 49.6	+0.1
PRWZ	Pori Road	1.82	45	P	Pn	02 03 49.5	-0.4
POWZ	Post Office Ro	1.84	38	P	Pn	02 03 50.1	-0.1
DSZ	Denniston Nort	1.87	273	P	Pn	02 03 51.8	+1.2
BFZ	Birch Farm	1.88	52	P	Pn	02 03 50.0	-0.8
BFZ	Birch Farm	1.88	52	P	Pn	02 03 49.9	-0.9
DVHZ	Dannevirke	2.10	43	P	Pn	02 03 53.0	-0.8
WAZ	Wanganui	2.17	14	P	Pn	02 03 56.6	+1.9
TSZ	Takapari Road	2.20	36	P	Pb	02 03 58.9	+0.3
MQZ	McQueen's Vall	2.21	213	P	Pn	02 03 54.2	-0.9
AKCZ	Akaroa Harbour	2.25	206	P	Pn	02 03 55.5	-0.3
INZ	Inchbonnie	2.29	247	P	Pn	02 03 56.9	+0.5
PNHZ	Pukenui	2.42	37	P	Pn	02 03 57.5	-0.7
PREZ	Palmer Road	2.52	358	P	Pb	02 04 03.1	-0.9
KHEZ	Kahui Hut	2.57	355	P	Pn	02 04 02.5	+2.2
KHEZ	Kahui Hut	2.57	355	P	Pb	02 04 03.7	-1.2
NEZ	North Egmont	2.59	357	P	Pb	02 04 04.7	-0.6
NBEZ	Newall Road No	2.61	353	P	Pb	02 04 06.0	+0.5
MHCZ	Mount Hutt	2.62	229	P	PcP	02 04 02.7	-0.6
MTVZ	Mangateitei	2.63	20	P	Pn	02 04 02.7	+1.5
PKEZ	Pukeiti	2.67	355	P	Pn	02 04 04.6	+2.9
MOVZ	Moawhango	2.69	25	P	Pn	02 04 02.3	+0.3
WNVZ	Wahianoa	2.72	22	P	Pn	02 04 03.2	+0.8
BHHZ	Black Hill Sta	2.72	30	P	Pn	02 04 02.7	+0.3
TRVZ	Turoa	2.73	21	P	Pn	02 04 04.2	+1.6
WACZ	Wakanui South	2.75	220	P	Pn	02 04 02.5	-0.3
VRZ	Vera Road	2.76	7	P	Pn	02 04 04.5	+1.8
WHVZ	Whangaehu Hut	2.76	21	P	Pb	02 04 08.1	-0.1
MAVZ	Matarangi	2.76	21	P	Pb	02 04 08.1	-0.2
FWVZ	Far West T-bar	2.77	21	P	Pb	02 04 08.2	-0.3
TUVZ	Tukino	2.79	22	P	Pn	02 04 04.1	+0.7
COVZ	Chateau Observ	2.82	20	P	Pb	02 04 08.7	-0.6
NGZ	Ngauruhoe	2.86	21	P	Pb	02 04 08.5	-1.4
SNVZ	South Ngauruho	2.86	21	P	Pn	02 04 05.3	+0.9
OTVZ	Oturere	2.89	22	P	Pn	02 04 05.5	+0.8
WVZ	Waitaha Valley	2.90	244	P	Pn	02 04 06.2	+1.5
NNVZ	North Ngauruho	2.91	21	P	Pn	02 04 06.6	+1.6
WTVZ	West Tongariro	2.91	20	P	Pb	02 04 10.5	-0.3
TWVZ	Taurewa	2.92	18	P	Pn	02 04 06.3	+1.2
KWHZ	Kaweka Forest	2.92	34	P	Pn	02 04 04.4	-0.7
ETVZ	East Tongariro	2.93	22	P	Pb	02 04 10.7	-0.4
TMVZ	Te Maari	2.94	22	P	Pn	02 04 06.3	+0.8
NTVZ	North Tongarir	2.95	21	P	Pn	02 04 06.4	+0.8
RPZ	Rata Peaks	3.02	231	P	Pn	02 04 06.1	-0.4
RPZ	Rata Peaks	3.02	231	P	Pn	02 04 06.3	-0.1
KATZ	Kakaramea	3.07	21	P	Pb	02 04 13.1	-0.4
ARCZ	Arundel	3.10	227	P	Pn	02 04 07.0	-0.6
BKZ	Black Stump Fm	3.17	33	P	Pn	02 04 08.4	-0.1
BKZ	Black Stump Fm	3.17	33	P	Pb	02 04 15.8	+0.7
HIZ	Hauiti	3.37	7	P	Pn	02 04 12.9	+1.7
HIZ	Hauiti	3.37	7	P	Pn	02 04 12.9	+1.7
TMZ	Timaru	3.49	223	P	Pn	02 04 12.5	-0.4
RTZ	Ruatahuna	3.84	33	P	Pn	02 04 22.0	+4.2
ODZ	Otahua Downs	4.15	219	P	Pn	02 04 20.9	-1.0
URZ	Urewera	4.20	32	P	Pn	02 04 21.8	-0.8

*IDC **12** 02:26:34.4 ± 0.5, 27°.38N × 44°.39W, h0km, mb4.3/29, mbtmp4.3/29, Error ellipse: s-maj=17.0km s-min=11.8km az=142.0*
*NEIC **12** 02:26:36.0 ± 0.9, 27°.3N ± 0°.1 × 44°.3W ± 0°.1, h10km ± 1km, mb4.7/88, Error ellipse: s-maj=20.8km s-min=16.3km az=140.0*

ISC 12 02:26:37.4 ± 0.4, **27°.28N** ± 0°.07 × **44°.35W** ± 0°.07, **h22**km, **n489**, σ **0°75**/485, **mb4.6**/85, **3C-4D**, **Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGPR	InterUniversit	22.10	250	P	P	02 31 30.1	-1.2
IGPR				IAmb	IAmb	02 32 04.0	
	comp=Z,43nm,1.4s						
PKME	Peaks-Kenny Pk	26.78	319	P	P	02 32 16.5	+0.8
	baz=124						
HRV	Adam Dziewonsk	26.84	312	P	P	02 32 17.3	+1.0
	baz=116						
L61B	Northampton	27.57	311	P	P	02 32 23.4	+0.5
	baz=114						
LBNH	Lisbon	27.87	315	P	P	02 32 25.8	+0.3
	baz=118						
PAL	Palisades	27.88	307	P	P	02 32 26.5	+0.9
	baz=110						
BOAV	Boa Vista	29.20	215	P	P	02 32 38.4	+0.9
MVL	Millersville	29.34	304	P	P	02 32 40.5	+1.8
MVL				IAmb	IAmb	02 32 45.8	
	comp=Z,14nm,1.3s						
CNNC	Cliffs of the	29.65	294	P	P	02 32 42.1	+0.8
	baz=96						
CBN	Corbin Frederi	29.69	300	P	P	02 32 42.3	+0.5
	baz=102						
LONY	Lake Ozonia	29.74	314	P	P	02 32 43.0	+0.8
	baz=116						
BINY	Binghamton	29.75	308	P	P	02 32 42.7	+0.4
	baz=110						
SSPA	Standing Stone	30.65	304	P	P	02 32 51.5	+1.3
	baz=105						
MCWV	Mont Chateau	31.88	302	P	P	02 33 01.7	+0.7
	baz=102						
BLA	Blacksburg	31.91	297	P	P	02 33 02.1	+0.7
	baz=98						
M53A	WI Miller and	32.89	305	P	P	02 33 10.4	+0.5
	baz=104						
O53A	New Philadelph	33.03	303	P	P	02 33 11.3	+0.2
	baz=102						
P52A	Corning	33.61	301	P	P	02 33 15.5	-0.7
	baz=100						
GOGA	Godfrey	34.16	290	P	P	02 33 21.5	+0.4
	baz=90						
TIGA	Tifton	34.33	286	P	P	02 33 23.4	+0.8
	baz=87						
TZTN	Tazewell	34.34	296	P	P	02 33 22.8	+0.2
	baz=94						
P49A	Miami Univ. Ec	35.57	301	P	P	02 33 33.4	+0.3
	baz=98						
ESDC	Sonseca Array	35.59	59	P	P	02 33 32.9	-0.5
ESDC	Sonseca Array	35.59	59	P	P	02 33 33.6	+0.2
	comp=Z,1.7nm,0.9s,baz=262,slow=9

FETA **Feichten** 47.07 50 *i* P P 02 35 08.8 +1.2
comp=Z,8.5nm,1.0s
RETA **Reutte** 47.13 49 *i* P P 02 35 09.1 +1.0
comp=Z,11nm,1.3s
CBKS **Cedar Bluff** 47.19 299 P P 02 35 08.3 -0.3
baz=87
OSSC **Osservatorio P** 47.26 55 P P 02 35 08.3 -0.7
MDND **Maddock** 47.26 311 P P 02 35 08.9 -0.1
baz=95
MOTA **Moosalm** 47.35 50 *i* P P 02 35 10.2 +0.4
comp=Z,7.0nm,1.5s
SQTA **Sankt Quirin** 47.41 50 *e*P P 02 35 11.3 +1.1
comp=Z,9.2nm,1.3s
TATN **Tataouine** 47.41 70 P P 02 35 09.7 -0.7
BRDY **Brady** 47.44 289 P P 02 35 10.5 0.0
BRDY IAmb IAmb 02 35 11.9
comp=Z,7.9nm,0.9s
CTI **Castel Tesino** 47.63 51 P P 02 35 11.6 -0.4
CTI IAmb IAmb 02 35 13.2
comp=Z,8.5nm,1.0s
WATA **Walderalm** 47.67 50 *e*P P 02 35 13.1 +0.8
comp=Z,8.9nm,1.4s
WTTA **Wattenberg** 47.70 50 *e*P P 02 35 13.5 +0.9
comp=Z,8.0nm,0.9s
ABTX **Abilene, Hawle** 47.76 290 P P 02 35 12.6 -0.5
baz=81
JCT **Junction City** 48.26 288 P P 02 35 16.6 -0.4
JCT IAmb IAmb 02 35 18.3
comp=Z,7.1nm,1.1s
JCT **Junction City** 48.26 288 P P 02 35 16.5 -0.5
baz=79
ABTA **Abfaltersbach** 48.27 50 *e*P P 02 35 17.3 +0.4
comp=Z,9.7nm,1.1s
833A **Chaparral WMA,** 48.34 285 P P 02 35 17.1 -0.5
baz=78
LESA **Schwarzleotal** 48.42 50 *i* P P 02 35 18.6 +0.6
comp=Z,5.8nm,1.1s
CAMP **Campotosto** 48.84 56 P P 02 35 21.4 0.0
CAMP IAmb IAmb 02 35 22.6
comp=Z,12nm,1.1s
OGNE **Ogallala** 48.85 302 P P 02 35 21.2 -0.2
baz=87
KBA **Koelnbreinsper** 48.85 50 *e*P P 02 35 21.5 0.0
comp=Z,5.8nm,1.0s
CLL **Collm** 48.98 44 *i* P P 02 35 22.6 +0.5
CLL *ex* x 02 35 33.0
PRED **Cave del Predi** 48.98 51 P P 02 35 22.1 -0.2
PRED IAmb IAmb 02 35 23.2
comp=Z,6.8nm,0.9s
MYKA **Terra Mystica** 49.04 51 *e*P P 02 35 22.7 -0.1
comp=Z,5.4nm,1.1s
LPAZ **La Paz** 49.08 211 P P 02 35 23.5 -0.5
LPAZ IAmb IAmb 02 35 25.1
comp=Z,4.7nm,0.8s
LPAZ **La Paz** 49.08 211 P P 02 35 24.4 +0.4
comp=Z,3.9nm,0.8s,baz=7.0,slow=6.5,SNR=15
comp=Z,3.9nm,0.8s
BIOA **Bad Ischl, Aus** 49.08 49 *e*P P 02 35 23.3 +0.2
comp=Z,3.9nm,1.1s
AMTX **Amarillo** 49.12 294 P P 02 35 23.3 -0.3
baz=82
GEC2 **GERESS Array S** 49.20 48 P P 02 35 23.6 -0.4
GEC2 IAmb IAmb 02 35 44.6
comp=Z,8.1nm,1.3s
GERES **GERESS Array B** 49.20 48 P P 02 35 23.7 -0.3
GERES **GERESS Array B** 49.20 48 P P 02 35 23.9 -0.1
comp=Z,1.7nm,0.8s,baz=263,slow=6.6,SNR=3.7
comp=Z,1.7nm,0.8s
OZNA **Ozona** 49.30 288 P P 02 35 24.8 -0.1
MOA **Molln** 49.52 49 *i* P P 02 35 26.5 +0.1
comp=Z,7.5nm,1.5s
OBKA **Obir** 49.66 51 *i* P P 02 35 28.0 +0.4
comp=Z,10.0nm,0.7s
PAOL **Paolisi** 49.77 58 P P 02 35 27.5 -0.9
PAOL IAmb IAmb 02 35 29.9
comp=Z,13nm,1.1s
VAE **Valguarnera** 49.95 63 P P 02 35 30.8 +1.0
comp=Z,10.0nm,0.8s,baz=242,slow=4.7,SNR=5.1
comp=Z,10.0nm,0.8s
NB2 **NORSAR Subarra** 49.96 32 P P 02 35 30.1 +0.5
comp=Z,17nm,1.4s,baz=255,slow=7.9
NOA **NORSAR Array B** 49.96 32 P P 02 35 30.7 +1.1
comp=Z,1.9nm,0.8s,baz=254,slow=7.8,SNR=8.8
comp=Z,1.9nm,0.8s
SOKA **Soboth** 50.00 51 *i* P P 02 35 29.8 -0.3
comp=Z,3.0nm,0.8s
RSSD **Black Hills** 50.22 306 P P 02 35 31.6 -0.5
baz=89
ARSA **Arzberg** 50.35 50 *e*P P 02 35 32.6 -0.1
comp=Z,10nm,1.2s
DGMT **Dagmar** 50.37 312 P P 02 35 32.6 -0.3
baz=92
CONA **Conrad Observa** 50.59 49 *e*P P 02 35 34.7 +0.1
comp=Z,4.8nm,1.1s
PB18 **Visviri** 50.83 212 P P 02 35 36.5 -0.7
PB18 IAmb IAmb 02 36 05.2
comp=Z,20nm,1.4s
RONA **Rosalia, Austr** 50.88 49 *i* P P 02 35 37.0 +0.3
comp=Z,5.8nm,0.8s
HFS **Hagfors** 50.91 33 P P 02 35 36.3 -0.4
comp=Z,3.0nm,0.7s,baz=225,slow=6.1,SNR=9.3
comp=Z,3.0nm,0.7s
T25A **Trinidad** 51.02 297 P P 02 35 37.8 -0.4
baz=83
VRAC **Vranov** 51.12 47 P P 02 35 37.9 -0.5
comp=Z,1.3nm,0.4s,baz=270,slow=9.1,SNR=3.4
comp=Z,1.3nm,0.4s
Q24A **Divide** 51.39 299 P P 02 35 40.7 -0.3
baz=84
TIP **Timpagrande** 51.60 60 P P 02 35 41.6 -0.7
TIP IAmb IAmb 02 36 13.4
comp=Z,11nm,1.4s
ISCO **Idaho Springs** 51.66 301 P P 02 35 42.5 -0.6
baz=84
LAO **LASA Array** 51.72 309 P P 02 35 43.0 0.0
baz=89
MORC **Moravsky Berou** 51.75 47 P P 02 35 43.4 +0.2
MORC IAmb IAmb 02 36 01.2
comp=Z,9.7nm,1.5s
TX31 **Lajitas Ar. Si** 51.78 287 P P 02 35 43.7 -0.1
TXAR **Lajitas Array** 51.78 287 P P 02 35 43.7 -0.1
TXAR **Lajitas Array** 51.78 287 P P 02 35 44.0 +0.2
comp=Z,0.9nm,0.7s,baz=96,slow=7.6,SNR=15
comp=Z,0.9nm,0.7s
SDCO **Great Sand Dun** 51.81 298 P P 02 35 44.1 0.0
baz=83
N23A **Red Feather La** 51.81 302 P P 02 35 43.6 -0.5
baz=85
K22A **Casper** 52.10 304 P P 02 35 46.2 +0.1
baz=86
SRO **Srobarova** 52.24 49 *e*P P 02 35 46.8 0.0
MORH **Mrgy, Hungar** 52.50 51 ⇑P P 02 35 47.4 -1.3
GO01 **Chusmiza** 52.52 210 P P 02 35 48.4 -1.3
GO01 IAmb IAmb 02 35 49.7
comp=Z,13nm,0.9s
VYHS **Vyhne** 52.59 48 *e*P P 02 35 49.5 +0.1
MNTX **Cornudas Mount** 52.72 290 P P 02 35 51.3 +0.6
baz=78
PB11 **IPOC Station P** 52.81 210 P P 02 35 50.0 -1.5
ANMO **Albuquerque** 52.99 295 P P 02 35 53.6 +0.8
ANMO **Albuquerque** 52.99 295 P P 02 35 53.6 +0.8
baz=80
Y22D **IRIS PASSCAL I** 53.52 294 P P 02 35 56.5 -0.2
baz=79
Y22F **Passcal Instru** 53.52 294 P P 02 35 56.6 -0.1
baz=79
O20A **White River Ci** 53.63 301 P P 02 35 57.8 +0.3
baz=83
RLMT **Red Lodge** 53.91 307 P P 02 35 59.2 -0.3
baz=86
EGMT **Eagleton** 54.09 311 P P 02 36 01.0 +0.5
baz=88
MVCO **Mesa Verde** 54.24 298 P P 02 36 02.4 +0.4
baz=81
BW06 **Boulder Array** 54.32 305 P P 02 36 02.2 -0.4
baz=84
PD31 **Pinedale Array** 54.32 305 P P 02 36 02.7 +0.1
PD31 IAmb IAmb 02 36 03.8
comp=Z,6.2nm,0.8s
PDAR **Pinedale Array** 54.32 305 P P 02 36 02.5 0.0
PDAR **Pinedale Array** 54.32 305 P P 02 36 02.8 +0.3
comp=Z,5.1nm,0.8s,baz=90,slow=8.9,SNR=34
comp=Z,5.1nm,0.8s
121A **Cookes Peak, D** 54.54 292 P P 02 36 04.8 +0.6
baz=78
RDMU **Red Mountain** 54.58 302 P P 02 36 04.3 -0.2
SIRR **Siria** 54.59 51 ⇓P P 02 36 05.2 +1.0

BZS **Buzias** 54.60 52 ⇑P P 02 36 04.7 +0.4
CPUP **Villa Florida** 54.75 194 P P 02 36 05.0 -0.4
comp=Z,4.2nm,1.1s,baz=229,slow=6.4,SNR=3.3
comp=Z,4.2nm,1.1s
SURR **Surduc** 54.95 52 ⇑P P 02 36 06.6 -0.1
SNOW **Snow King Moun** 55.12 306 P P 02 36 08.7 +0.3
SNOW IAmb IAmb 02 36 10.1
comp=Z,6.1nm,0.8s
AHID **Auburn Hatcher** 55.45 305 P P 02 36 10.9 +0.2
AHID IAmb IAmb 02 36 13.8
comp=Z,9.7nm,1.3s
SRU **San Rafael Swe** 55.52 300 P P 02 36 11.4 +0.2
SRU IAmb IAmb 02 36 13.0
comp=Z,5.9nm,0.8s
BOZ **Bozeman (W)** 55.53 308 P P 02 36 11.7 +0.6
baz=85
MARR **Marisel-Cluj** 55.56 50 ⇓P P 02 36 11.9 +0.6
BUR08 **Bucovina Ar. S** 56.89 49 P P 02 36 20.6 -0.1
BUR08 IAmb IAmb 02 36 44.4
comp=Z,11nm,1.3s
BURAR **Bucovina Array** 56.91 49 ⇓P P 02 36 18.5 -2.3
BURAR **Bucovina Array** 56.91 49 P P 02 36 20.9 0.0
MSO **Missoula** 57.01 310 P P 02 36 21.8 +0.2
baz=84
TUC **Tucson** 57.06 292 P P 02 36 22.0 -0.2
baz=76
YKA **Yellowknife Ar** 57.08 329 P P 02 36 21.4 -0.3
comp=Z,1.7nm,0.9s,baz=86,slow=7.5,SNR=24
YKA PcP PcP 02 37 16.4 0.0
comp=Z,0.7nm,0.8s,baz=90,slow=4.6,SNR=6.4
comp=Z,1.7nm,0.9s
DUG **Dugway, Tooele** 57.09 302 P P 02 36 22.6 +0.3
baz=80
FINES **FINESS Array B** 57.10 33 P P 02 36 21.9 +0.1
FINES **FINESS Array B** 57.10 33 P P 02 36 22.9 +1.1
comp=Z,3.6nm,0.8s,baz=272,slow=5.0,SNR=11
comp=Z,3.6nm,0.8s
FIA1 **FINESS Array S** 57.10 33 P P 02 36 22.2 +0.3
MLR **Muntele Rosu** 57.64 52 P P 02 36 25.8 -0.3
MLR **Muntele Rosu** 57.64 52 P P 02 36 27.0 +0.9
comp=Z,5.5nm,0.8s,baz=263,slow=8.1,SNR=7.5
comp=Z,5.5nm,0.8s
ARCES **ARCESS Array B** 57.68 23 P P 02 36 26.0 +0.2
ARCES **ARCESS Array B** 57.68 23 P P 02 36 26.0 +0.2
comp=Z,9.9nm,0.7s,baz=261,slow=4.8,SNR=25
comp=Z,9.9nm,0.7s
HLID **Hailey** 57.75 306 P P 02 36 26.4 -0.5
baz=82
KEV **Kevo** 58.23 23 P P 02 36 29.7 +0.1
SPR3 **Spring Creek 3** 58.46 301 P P 02 36 32.3 +0.1
214A **Organ Pipe Nat** 58.81 292 P P 02 36 33.8 -0.6
baz=75
ELK **Elko** 58.82 303 P P 02 36 34.3 -0.3
AC02 **Maricunga** 58.85 206 P P 02 36 34.2 -0.8
AC02 IAmb IAmb 02 36 36.3
comp=Z,3.7nm,0.8s
NEW **Newport** 58.98 312 P P 02 36 35.3 -0.1
NEW IAmb IAmb 02 36 36.3
comp=Z,5.8nm,0.8s
NEW **Newport** 58.98 312 P P 02 36 35.1 -0.2
baz=83
KIEV **Kiev** 59.20 45 P P 02 36 36.0 -0.7
KIEV IAmb IAmb 02 36 44.6
comp=Z,3.5nm,0.8s
AKASG **Malin Array Be** 59.20 45 P P 02 36 36.2 -0.5
comp=Z,2.7nm,0.7s,baz=276,slow=6.2,SNR=19
comp=Z,2.7nm,0.7s
PDMCI **Parker Dam,Lak** 59.32 295 P P 02 36 38.6 +0.8
baz=76
R11B **Troy Canyon, C** 59.55 300 P P 02 36 39.9 +0.3
baz=78
GLA **Glamis** 60.18 294 P P 02 36 44.7 +0.8
baz=75
GMRC **Granite Mounta** 60.42 296 P P 02 36 45.7 +0.1
baz=76
BC3 **Big Chuckawall** 60.54 295 P P 02 36 46.5 +0.1
baz=75
A36M **Sachs Harbour** 61.50 340 P P 02 36 53.0 +0.9
A36M **Sachs Harbour** 61.50 340 P P 02 36 52.4 +0.3
baz=90
NVAR **Mina Array Bea** 61.62 301 P P 02 36 54.1 +0.3
comp=Z,0.4nm,0.5s,baz=96,slow=5.0,SNR=2.5
comp=Z,0.4nm,0.5s
TIN **Tinemaha, Big** 61.89 299 P P 02 36 55.7 +0.3
baz=76
CWC **Cottonwood Cre** 61.92 299 P P 02 36 55.1 -0.7
baz=76
MURC **Murrieta** 61.95 295 P P 02 36 55.9 0.0
baz=74
CO01 **Juntas del Tor** 62.04 205 P P 02 36 56.9 +0.3
109C **Camp Elliot, M** 62.07 295 P P 02 36 57.1 +0.5
baz=74
BFSC **Mount Baldy Ra** 62.16 296 P P 02 36 56.4 -0.9
baz=75
EDW2 **Edwards Air Fo** 62.25 297 P P 02 36 57.2 -0.7
baz=75
TOAD **Toad River Com** 62.43 325 P P 02 36 58.4 -0.2
baz=82
FMP **Fort Macarthur** 62.80 296 P P 02 37 01.5 0.0
baz=74
ARVC **Arvin** 62.85 297 P P 02 37 00.9 -0.9
baz=74
VES **Vestal, Richgr** 62.86 298 P P 02 37 01.8 0.0
baz=75
OBN **Obninsk** 63.00 40 P P 02 37 02.4 0.0
SCI2 **San Clemente I** 63.21 295 P P 02 37 04.6 +0.4
baz=74
TGTN **Hyland Airport** 63.56 328 P P 02 37 06.5 +0.4
baz=81
PKM **Mcpherson Peak** 63.69 297 P P 02 37 07.3 -0.3
baz=74
SMMC **Simmler** 63.72 298 P P 02 37 07.3 -0.3
baz=74
SBC **Santa Barbara** 63.74 297 P P 02 37 06.7 -0.9
baz=74
SNCC **San Nicolas Is** 63.92 296 P P 02 37 08.1 -0.9
baz=73
BR131 **Keskin Array S** 64.33 57 P P 02 37 11.0 -0.7
BR131 IAmb IAmb 02 37 13.0
comp=Z,5.5nm,0.8s
BRTR **Keskin Array B** 64.33 57 P P 02 37 10.8 -0.8
BRTR **Keskin Array B** 64.33 57 P P 02 37 12.2 +0.6
comp=Z,3.7nm,0.8s,baz=269,slow=5.4,SNR=20
comp=Z,3.7nm,0.8s
INK **Inuvik** 64.66 336 P P 02 37 13.0 -0.1
INK IAmb IAmb 02 37 13.8
comp=Z,4.1nm,0.8s
INK **Inuvik** 64.66 336 P P 02 37 13.0 -0.1
baz=80,SNR=6.8
F31M **Tsiigehtchic** 64.89 335 P P 02 37 14.7 +0.1
baz=79
DLBC **Dease Lake** 64.97 325 P P 02 37 15.3 -0.2
baz=78
G31M **Satah River** 65.20 334 P P 02 37 15.3 -1.3
baz=79,SNR=5.0
R33M **Jennings River** 65.25 326 P P 02 37 15.6 -1.7
baz=78
T35M **Bob Quinn** 65.39 323 P P 02 37 17.6 -0.6
baz=78
H31M **Peel River** 65.45 333 P P 02 37 18.3 0.0
baz=78
U35K **Hyder** 65.51 322 P P 02 37 18.6 -0.2
baz=77
F30M **Barrier River** 65.63 335 P P 02 37 19.9 +0.5
baz=77
S34M **Telegraph Cree** 65.66 324 P P 02 37 19.5 -0.3
baz=77
FARO **Faro, Yukon** 65.79 329 P P 02 37 20.1 -0.5
baz=77
N32M **Quiet Lake** 65.90 328 P P 02 37 20.7 -0.7
baz=77
G30M **tAoh Zraii Nji** 65.94 335 P P 02 37 21.2 -0.3
baz=77
P33M **Teslin, Yukon** 65.99 327 P P 02 37 21.6 -0.4
baz=77
BNN **Bunyan** 66.22 57 P P 02 37 21.3 -2.6
E29M **Blow River** 66.23 336 P P 02 37 23.0 -0.3
baz=76
EPYK **Eagle Plains** 66.27 334 P P 02 37 23.5 -0.2
baz=76
M31M **Drury Creek, Y** 66.27 329 P P 02 37 23.7 0.0
baz=76
D28M **Stokes Point** 66.29 337 P P 02 37 23.5 -0.1
baz=76
I30M **Mount Dempster** 66.41 333 P P 02 37 24.9 +0.3
baz=76
V35K **Ketchikan** 66.52 322 P P 02 37 25.4 0.0
baz=76
J30M **Hart River** 66.55 332 P P 02 37 25.7 +0.1
baz=76,SNR=5.6
P32M **Atlin** 66.58 326 P P 02 37 25.5 -0.3
baz=76
MAYO **Mayo, Yukon** 66.60 331 P P 02 37 25.3 -0.5
baz=76
G29M **Pine Creek** 66.64 335 P P 02 37 25.4 -0.6
baz=75
WRAK **Wrangell Islan** 66.65 323 P P 02 37 26.1 -0.1
baz=76
E28M **Babbage River** 66.76 337 P P 02 37 26.3 -0.4
E28M IAmb IAmb 02 37 27.8
comp=Z,3.3nm,0.8s
E28M **Babbage River** 66.76 337 P P 02 37 26.2 -0.4
baz=75,SNR=5.3
WHY **Whitehorse** 66.88 328 P P 02 37 27.8 +0.1
baz=75
H29M **Whitestone** 66.95 334 P P 02 37 27.6 -0.4
baz=75,SNR=5.7
D27M **Malcolm River** 67.08 337 P P 02 37 28.8 0.0
baz=74
N31M **Braeburn, Yuko** 67.09 329 P P 02 37 28.7 -0.2
baz=75
U33K **Whale Pass** 67.15 323 P P 02 37 28.8 -0.5
baz=75
F28M **Old Crow** 67.15 336 P P 02 37 28.9 -0.3
baz=74,SNR=6.8
I29M **Ogilvie Camp,** 67.16 333 P P 02 37 29.6 +0.3
baz=74
K29M **Barlow Dome** 67.24 331 P P 02 37 30.4 +0.5
baz=74
R32K **Eaglecrest** 67.31 325 P P 02 37 30.3 -0.1
baz=75
CRAG **Craig** 67.32 322 P P 02 37 30.3 -0.1
baz=75
J29N **Klondike Camp** 67.37 332 P P 02 37 29.9 -0.8
baz=74
SKAG **Skagway** 67.40 326 P P 02 37 30.7 -0.2
baz=74
O30N **Mendenhall** 67.42 328 P P 02 37 30.6 -0.5
baz=74
S32K **Killisnoo** 67.56 324 P P 02 37 31.8 -0.1
baz=74
E27K **Coleen River** 67.61 336 P P 02 37 32.2 +0.1
baz=73
N30M **Aishikik Lake** 67.70 329 P P 02 37 32.6 -0.3
baz=74
L29M **L29M** 67.70 331 P P 02 37 33.5 +0.7
baz=74
I28M **Miner Creek** 67.79 333 P P 02 37 33.3 -0.1
I28M IAmb IAmb 02 37 49.7
comp=Z,4.8nm,1.1s
I28M **Miner Creek** 67.79 333 P P 02 37 33.3 -0.1
baz=73
C27K **Jago River** 67.89 338 P P 02 37 34.0 +0.1
baz=71,SNR=9.3
R31K **City Hall, Gus** 67.90 325 P P 02 37 34.7 +0.7
baz=74
DAWY **Dawson** 67.97 332 P P 02 37 34.0 -0.5
DAWY IAmb IAmb 02 37 35.8
comp=Z,9.3nm,1.2s
DAWY **Dawson** 67.97 332 P P 02 37 34.1 -0.3
baz=73
P30M **Million Dollar** 68.01 327 P P 02 37 34.4 -0.4
baz=74
M29M **Somme Creek** 68.04 330 P P 02 37 35.0 0.0
baz=73
G27K **Doyon Strip** 68.05 335 P P 02 37 35.4 +0.5
baz=72
HYT **Haines Junctio** 68.07 328 P P 02 37 34.4 -0.8
baz=73
H27K **Steamboat Moun** 68.18 334 P P 02 37 35.4 -0.3
baz=72,SNR=5.3
C26K **Camden Bay** 68.19 339 P P 02 37 35.7 0.0
baz=70
S31K **Pelican** 68.27 325 P P 02 37 36.8 +0.4
baz=73
I27K **Kandik River** 68.41 334 P P 02 37 37.1 -0.1
baz=72,SNR=5.6
YUK6 **Outpost Mounta** 68.44 328 P P 02 37 37.8 +0.1
baz=73
YUK4 **Talbot Arm** 68.45 329 P P 02 37 37.1 -0.6
baz=73
EGAK **Eagle** 68.48 333 P P 02 37 37.8 +0.2
baz=72
P29M **Windy Craggy** 68.53 327 P P 02 37 38.3 +0.2
baz=73
F26K **Sheenjek River** 68.68 336 P P 02 37 39.2 +0.4
baz=70,SNR=7.1
G26K **Porcupine Rive** 68.80 335 P P 02 37 40.0 +0.4
baz=70
D25K **Kavik River** 68.88 338 P P 02 37 39.9 -0.2
baz=69,SNR=8.1
BMAR **Burnt Mountain** 68.93 336 P P 02 37 41.2 +0.8
YUK8 **Steele Glacier** 68.98 329 P P 02 37 41.5 +0.4
baz=72
E25K **Arctic Village** 69.03 337 P P 02 37 41.8 +0.8
E25K **Arctic Village** 69.03 337 P P 02 37 40.4 -0.7
baz=69,SNR=8.2
K27K **Chicken** 69.10 332 P P 02 37 41.0 -0.5
baz=71
I26K **Coal Creek Min** 69.11 334 P P 02 37 41.2 -0.3
baz=70
YUK3 **Moose Creek** 69.14 330 P P 02 37 41.7 -0.4
baz=71
F25K **Christian Rive** 69.25 336 P P 02 37 42.3 -0.1
baz=69,SNR=7.1
L27K **Beaver Creek,** 69.32 331 P P 02 37 42.4 -0.5
baz=71
PNL **Peninsula** 69.32 327 P P 02 37 42.6 -0.4
baz=71
O28M **Mount Upton** 69.34 329 P P 02 37 43.1 -0.3
baz=71
C24K **Franklin Bluff** 69.49 339 P P 02 37 43.5 -0.2
baz=67
J26L **Joseph Creek** 69.55 333 P P 02 37 44.1 -0.3
baz=70
M27K **Edge Creek, AK** 69.58 330 P P 02 37 44.3 -0.4
baz=70
G25K **Bearman Lake** 69.72 336 P P 02 37 45.1 -0.1
baz=68
D24K **Happy Valley** 69.75 338 P P 02 37 45.4 0.0
baz=67
KBZ **Khabaz** 69.81 50 P P 02 37 47.2 +1.0
comp=Z,3.4nm,0.8s,baz=302,slow=6.1,SNR=8.3
comp=Z,3.4nm,0.8s
SCRK **Sand Creek** 69.91 332 P P 02 37 47.3 +0.7
baz=69
BARN **Barnard Glacie** 69.92 329 P P 02 37 47.2 +0.3
PRP **Porcupine Dome** 69.97 334 P P 02 37 46.8 -0.1
baz=68
C23K **Itkillik River** 70.05 339 P P 02 37 48.0 +0.8
C23K **Itkillik River** 70.05 339 P P 02 37 47.2 0.0
baz=65,SNR=5.8
M26K **Nabesna, AK** 70.05 331 P P 02 37 47.4 -0.1
baz=69
E24K **Your Creek** 70.07 337 P P 02 37 48.2 +0.8
baz=67,SNR=7.9
F24K **Squaw Lake** 70.08 337 P P 02 37 48.1 +0.6
baz=67,SNR=9.5
TOLK **Toolik Lake Re** 70.21 338 P P 02 37 47.9 -0.3
baz=66
J25K **Salcha River,** 70.24 333 P P 02 37 48.3 -0.3
baz=68
G24K **Hadweenzic Riv** 70.25 336 P P 02 37 49.0 +0.5
baz=67
MESA **MESA** 70.36 328 P P 02 37 48.3 -1.3
baz=70
MCARA **McCarthy VSAT** 70.43 330 P P 02 37 49.3 -0.4
baz=69
D23K **Nanushuk River** 70.44 338 P P 02 37 49.5 -0.2
baz=65
VRDI **Verde Repeater** 70.68 330 P P 02 37 51.1 -0.4
B22K **Teshekpuk Lake** 70.69 340 P P 02 37 50.9 -0.2
baz=63
K24K **Donnelly Dome** 70.71 333 P P 02 37 50.3 -1.2
baz=68
H24K **Noodor Dome** 70.74 335 P P 02 37 51.2 -0.4
baz=66
H09W1 **TRISTAN DA CUN** 70.76 153 T T 03 54 52.2
ILAR **Eielson Array** 70.78 334 P P 02 37 51.8 0.0
ILAR **Eielson Array** 70.78 334 P P 02 37 52.1 +0.3
comp=Z,3.7nm,0.8s,baz=71,slow=4.6,SNR=31
comp=Z,3.7nm,0.8s
POKR **Poker Plat Res** 70.86 334 P P 02 37 52.4 +0.1
baz=66
PAX **Paxson** 70.91 332 P P 02 37 52.2 -0.5

baz=68
GURO **Guroymak-BITLI** 70.91 56 P P 02 37 52.9 -0.3
GURO IAmb IAmb 02 37 55.3
comp=Z,3.8nm,0.8s
HDA **Harding Lake** 70.95 333 P P 02 37 52.5 -0.3
baz=67
HARP **HAARP** 70.99 331 P P 02 37 52.6 -0.5
baz=68
COLD **Coldfoot** 71.01 337 P P 02 37 53.0 -0.2
baz=65,SNR=5.5
N25K **Chitina, Valde** 71.05 330 P P 02 37 53.4 -0.1
baz=68
COLA **College** 71.12 334 P P 02 37 53.7 -0.1
baz=66
D22K **Ayikyak River** 71.13 339 P P 02 37 55.0 +1.1
D22K **Ayikyak River** 71.13 339 P P 02 37 54.1 +0.2
baz=63,SNR=7.7
A21K **Barrow** 71.16 342 P P 02 37 53.8 -0.1
baz=60
G23K **Bananza Creek** 71.17 336 P P 02 37 54.6 +0.4
baz=65,SNR=6.9
E22K **Anaktuvuk Pass** 71.17 338 P P 02 37 53.4 -0.8
baz=64
CCB **Clear Creek Bu** 71.19 334 P P 02 37 54.3 0.0
CCB IAmb IAmb 02 37 55.0
comp=Z,7.7nm,1.0s
BMRM **Bremner River** 71.29 330 P P 02 37 54.7 -0.3
baz=68
H23K **Yukon River** 71.37 335 P P 02 37 55.0 -0.4
baz=65,SNR=6.2
B21K **Ikpikpuk River** 71.39 340 P P 02 37 55.8 +0.4
baz=62,SNR=6.4
M24K **Tolsona, Glenn** 71.54 331 P P 02 37 56.0 -0.6
baz=67
F22K **John River** 71.58 337 P P 02 37 56.4 -0.2
baz=63
I23K **Minto, Yukon-K** 71.59 335 P P 02 37 56.2 -0.4
baz=65
G22K **Bettles** 71.61 337 P P 02 37 56.7 -0.1
baz=64
KAIM **Kayak Island** 71.61 328 P P 02 37 56.6 -0.3
baz=67
DHY **Denali Highway** 71.66 332 P P 02 37 56.6 -0.8
baz=66
C21K **Knifeblade Rid** 71.67 339 P P 02 37 56.9 -0.2
baz=61
KLU **Klutina** 71.68 330 P P 02 37 57.1 -0.3
baz=67
NEA2 **Nenana** 71.71 334 P P 02 37 57.2 -0.2
baz=65
E21K **Killik River** 71.75 338 P P 02 37 57.2 -0.5
baz=62
PLCA **Paso Flores** 71.92 201 P P 02 37 59.2 +0.3
PLCA IAmb IAmb 02 37 59.9
comp=Z,4.3nm,0.8s
PLCA **Paso Flores** 71.92 201 P P 02 37 59.8 +0.8
comp=Z,2.3nm,0.6s,baz=25,slow=7.5,SNR=10
comp=Z,2.3nm,0.6s
B20K **Meade River** 71.97 341 P P 02 37 58.8 0.0
baz=60
EYAK **Cordova Ski Ar** 71.97 329 P P 02 37 59.0 0.0
baz=66
WAT6 **Susitna Watana** 72.02 332 P P 02 37 59.2 -0.4
baz=66
H22K **Ishtalitna Cre** 72.02 336 P P 02 37 59.6 +0.3
baz=63
MCK **McKinley** 72.03 333 P P 02 37 59.1 -0.3
baz=65
SCM **Sheep Creek Mo** 72.15 331 P P 02 37 59.6 -0.6
baz=66
F21K **Alatna River** 72.16 337 P P 02 37 59.7 -0.4
baz=62
MLY **Manley** 72.17 335 P P 02 38 00.0 -0.2
baz=64
WAT1 **Susitna Watana** 72.25 332 P P 02 38 00.7 -0.1
baz=65
GNI **Garni** 72.32 54 P P 02 38 01.8 +0.1
D20K **Etivluk River** 72.46 339 P P 02 38 02.0 +0.1
baz=60,SNR=7.1
G21K **Allakaket** 72.50 337 P P 02 38 02.0 -0.1
baz=62
E20K **Nigu River** 72.56 339 P P 02 38 02.4 -0.1
baz=60
I21K **Tanana** 72.57 335 P P 02 38 03.0 +0.5
baz=63
SML **Sawmill** 72.60 331 P P 02 38 02.9 +0.1
baz=65
H21K **Melozitna Rive** 72.65 336 P P 02 38 02.7 -0.4
baz=62,SNR=5.3
BPAW **Bear Paw Mtn.** 72.68 334 P P 02 38 03.2 -0.1
BPAW IAmb IAmb 02 38 04.2
comp=Z,4.7nm,0.8s
BPAW **Bear Paw Mtn.** 72.68 334 P P 02 38 02.5 -0.8
baz=63
TRF **Thorofare Moun** 72.69 333 P P 02 38 02.6 -0.9
baz=64
Q23K **Middleton Isla** 72.70 328 P P 02 38 03.4 0.0
baz=66
IMAR **Indian Mountai** 72.84 336 P P 02 38 04.7 +0.5
KTH **Kantishna Hill** 72.90 333 P P 02 38 04.4 -0.2
P23K **Montague Islan** 72.95 329 P P 02 38 04.3 -0.6
baz=65
F20K **Avaraart Lake** 73.01 338 P P 02 38 04.4 -0.7
baz=60
D19K **Kuna River** 73.05 339 P P 02 38 06.0 +0.6
D19K **Kuna River** 73.05 339 P P 02 38 05.3 -0.1
baz=58,SNR=8.2
CUT **Chulitna** 73.15 332 P P 02 38 06.1 +0.1
baz=63
C19K **Lookout Ridge** 73.17 340 P P 02 38 05.9 -0.3
baz=57
CHUM **Lake Minchumin** 73.30 334 P P 02 38 06.5 -0.4
baz=62
E19K **Redstone River** 73.31 338 P P 02 38 07.3 +0.4
E19K IAmb IAmb 02 38 08.9
comp=Z,5.3nm,0.8s
E19K **Redstone River** 73.31 338 P P 02 38 06.6 -0.3
baz=59,SNR=5.6
M22K **Willow** 73.38 331 P P 02 38 06.8 -0.6
baz=63
CAST **Castle Rocks** 73.43 333 P P 02 38 07.7 0.0
baz=62
H20K **Anotleneega Mo** 73.49 336 P P 02 38 07.5 -0.5
baz=60
RC01 **Rabbit Creek A** 73.52 331 P P 02 38 07.6 -0.6
baz=63
B18K **Kokolik River** 73.69 341 P P 02 38 08.5 -0.6
baz=55
I20K **Naaghedeneel** 73.69 335 P P 02 38 07.9 -1.2
baz=60
PPLA **Purkeypile** 73.72 333 P P 02 38 08.6 -0.9
baz=62
SUA **Susitna One** 73.78 331 P P 02 38 08.9 -1.0
baz=63
F19K **Shaleruckik Mo** 73.81 338 P P 02 38 09.4 -0.4
baz=58
J20K **Nowinta River** 73.87 335 P P 02 38 09.8 -0.4
baz=61
SKT **Skwentna** 73.88 332 P P 02 38 10.8 +0.5
SKT IAmb IAmb 02 38 48.2
comp=Z,9.5nm,1.3s
SKT **Skwentna** 73.88 332 P P 02 38 09.8 -0.6
baz=62
C18K **Utukok River** 73.91 340 P P 02 38 09.8 -0.7
baz=56
G19K **Purcell Mounta** 73.94 337 P P 02 38 10.4 -0.3
baz=59
H19K **Roundabout Mou** 74.04 336 P P 02 38 10.8 -0.3
baz=59
K20K **Telida** 74.24 334 P P 02 38 12.3 -0.2
baz=60
CAPN **Captain Cook N** 74.28 331 P P 02 38 12.3 -0.4
baz=62
E18K **Tukpahlearik C** 74.42 339 P P 02 38 13.4 0.0
baz=56
J19K **Poorman** 74.52 335 P P 02 38 13.5 -0.5
baz=59
N20K **Mount Spurr** 74.53 331 P P 02 38 13.8 -0.4
baz=62
F18K **Selawik** 74.57 338 P P 02 38 14.0 -0.2
baz=56
BRSE **Bradley Lake S** 74.58 330 P P 02 38 14.6 +0.1
baz=62
M20K **Styx River** 74.59 332 P P 02 38 15.2 +0.6
baz=61
GCSA **Galena City Sc** 74.60 336 P P 02 38 14.9 +0.5
baz=58
L20K **Farewell, AK** 74.60 333 P P 02 38 14.1 -0.5
baz=60
C17K **DeLong Mountai** 74.61 340 P P 02 38 14.8 +0.3
baz=54
G18K **Tagagawik** 74.62 337 P P 02 38 15.1 +0.5
baz=57
RDOG **Red Dog Mine** 74.78 340 P P 02 38 15.0 -0.5
baz=54
H18K **Honhosa River** 74.92 336 P P 02 38 16.0 -0.3
baz=57
E17K **Hotham Inlet** 75.01 339 P P 02 38 16.8 0.0
baz=55,SNR=5.1
HOM **Homer** 75.02 330 P P 02 38 15.4 -1.6
baz=62
D17K **Noatak River** 75.04 340 P P 02 38 15.2 -1.8
baz=54
M19K **Big River Lodg** 75.10 333 P P 02 38 15.7 -1.7
baz=60
L19K **White Mountain** 75.14 333 P P 02 38 14.7 -3.0
baz=60
F17K **Baldwin Pennin** 75.19 338 P P 02 38 16.7 -1.1
baz=55
J18K **Innoko River** 75.21 335 P P 02 38 17.2 -0.9
baz=58
O20K **Slope Mountain** 75.25 331 P P 02 38 17.5 -0.9
baz=61
C16K **Lisburne Hills** 75.37 341 P P 02 38 18.1 -0.8
baz=52
G17K **Kiwalik Mounta** 75.52 337 P P 02 38 18.7 -1.1
baz=55
H17K **Granite Mounta** 75.59 337 P P 02 38 17.2 -2.9
baz=56
N19K **Bonanza Creek** 75.69 332 P P 02 38 18.4 -2.5
baz=60
P19K **Oil Pt** 75.73 330 P P 02 38 18.1 -3.0
baz=60
L18K **Granite Mounta** 75.86 333 P P 02 38 20.6 -1.1
baz=58
Q20K **Shuyak Island** 75.87 329 P P 02 38 20.1 -1.8
baz=61
M18K **Stony River** 75.89 333 P P 02 38 19.2 -2.8
baz=59
J17K **VABM Dome** 76.14 335 P P 02 38 21.9 -1.5
baz=56
G16K **Koyuk River** 76.17 338 P P 02 38 21.6 -1.9
baz=54
K17K **Iditarod** 76.22 334 P P 02 38 21.7 -2.2
baz=57
Q19K **Cape Douglas,** 76.27 330 P P 02 38 22.3 -2.0
baz=60
N18K **Kilae Creek** 76.35 332 P P 02 38 23.1 -1.5
baz=58
KDAK **Kodiak Island** 76.36 328 P P 02 38 22.9 -1.8
baz=60
I17K **Unalakleet** 76.46 336 P P 02 38 23.7 -1.4
baz=55
O18K **Koktuh Hills** 76.49 331 P P 02 38 23.7 -1.7
baz=59
L17K **Donlin** 76.54 334 P P 02 38 24.5 -1.2
baz=57
H16K **Elim** 76.57 337 P P 02 38 24.3 -1.5
baz=54
M17K **Holitna River** 76.60 333 P P 02 38 24.1 -1.9
baz=57
P18K **Big Mountain,** 76.74 331 P P 02 38 25.3 -1.6
baz=59
F15K **North Star Dit** 76.74 338 P P 02 38 25.3 -1.5
baz=52
J16K **Anvik River** 76.78 335 P P 02 38 25.8 -1.2
baz=55
N17K **Nushagak Hills** 76.97 332 P P 02 38 26.6 -1.5
baz=57
OHAK **Old Harbor** 76.97 328 P P 02 38 27.5 -0.7
baz=60
G15K **Niukluk** 76.98 338 P P 02 38 26.9 -1.2
baz=52
L16K **Owhat River** 77.24 334 P P 02 38 28.2 -1.3
baz=56
O17K **Koliganek Bris** 77.34 331 P P 02 38 29.4 -0.8
baz=57
M16K **Timber Creek** 77.42 333 P P 02 38 29.7 -1.0
baz=54
F14K **Arctic Creek** 77.43 339 P P 02 38 29.4 -1.2
baz=51
Q17K **Contact Creek** 77.62 330 P P 02 38 29.8 -2.1
baz=58
N16K **Nishlik Lake** 77.65 333 P P 02 38 30.6 -1.4
baz=56
ANM **Nome** 77.69 338 P P 02 38 31.0 -1.1
baz=51
K15K **Wolf Creek Mou** 77.70 335 P P 02 38 31.0 -1.1
baz=54
SII **Sitkinak Islan** 77.73 328 P P 02 38 30.6 -1.9
baz=59
TNA **Tin City** 77.89 339 P P 02 38 32.4 -0.7
baz=49
L15K **Ungalak Mounta** 78.04 334 P P 02 38 33.0 -1.1
baz=54
J14K **Nanvaranak Lak** 78.18 336 P P 02 38 33.3 -1.5
baz=54
M15K **Kasigluk River** 78.31 333 P P 02 38 33.5 -2.1
baz=54
N15K **Kwethluk River** 78.37 333 P P 02 38 35.4 -0.6
baz=55
ABKAR **Akbulak array** 78.43 40 P P 02 38 36.4 -0.1
ABKAR **Akbulak array** 78.43 40 P P 02 38 36.0 -0.5
ABKAR IAmb IAmb 02 38 44.6
comp=Z,3.7nm,1.1s
L14K **Kuka Creek** 78.71 334 P P 02 38 36.5 -1.2
baz=53
K13K **Kusilvak Mount** 79.09 335 P P 02 38 38.4 -1.4
baz=51
N14K **Kuskokwak Cree** 79.16 333 P P 02 38 39.1 -1.1
baz=54
O14K **Tigyukauivet M** 79.39 332 P P 02 38 41.0 -0.5
baz=54
M13K **Dall Lake** 79.53 334 P P 02 38 41.1 -1.1
baz=52
CHGN **Chignik** 79.85 329 P P 02 38 43.3 -0.7
baz=56
GAMB **Gambell** 80.30 339 P P 02 38 46.6 +0.3
baz=46
S14K **Fog Glacier** 80.38 329 P P 02 38 46.6 -0.4
baz=55
M11K **Mekoryuk** 80.65 335 P P 02 38 47.2 -1.1
baz=50
TIXI **Tiksi** 81.22 2 P P 02 38 51.4 +0.3
TIXI IAmb IAmb 02 38 53.1
comp=Z,11nm,1.1s
CHNA **Chernabura Isl** 81.24 328 P P 02 38 50.7 -0.9
baz=54
S12K **Black Hills** 81.86 330 P P 02 38 53.9 -0.9
baz=53
BRVK **Borovoye** 81.97 34 P P 02 38 55.4 -0.1
BRVK IAmb IAmb 02 38 57.6
comp=Z,6.6nm,1.1s
BVAR **Borovoye Array** 82.04 34 P P 02 38 56.9 +1.0
comp=Z,2.5nm,0.8s,baz=307,slow=5.2,SNR=13
comp=Z,2.5nm,0.8s
BILL **Bilibino** 82.28 349 P P 02 38 57.0 +0.3
BILL IAmb IAmb 02 38 58.5
comp=Z,12nm,1.4s
GEYT **Alibeck** 82.69 51 P P 02 38 59.8 +0.2
SPIA **Saint Paul Isl** 84.37 334 P P 02 39 06.5 -1.2
baz=46
P08K **Saint George I** 84.48 333 P P 02 39 07.8 -0.5
baz=47
UNV **Unalaska Valle** 85.03 330 P P 02 39 10.0 -1.1
baz=49
NIKH **Nikolski High** 86.66 330 P P 02 39 17.6 -1.7
baz=47
KURBB **Kurchatov Arra** 87.49 32 P P 02 39 23.9 +0.5
comp=Z,0.7nm,0.4s,baz=312,slow=5.3,SNR=9.7
comp=Z,0.7nm,0.4s
ZAA0 **Zalesovo Array** 87.96 27 P P 02 39 24.4 -1.1
ZAA0 IAmb IAmb 02 39 27.0
comp=Z,3.5nm,0.8s
ZALV **Zalesovo Beam** 87.96 27 P P 02 39 25.2 -0.3
ZALV **Zalesovo Beam** 87.96 27 P P 02 39 26.3 +0.8
comp=Z,2.7nm,0.8s,baz=298,slow=6.4,SNR=9.4
comp=Z,2.7nm,0.8s
ELIB **Princess Elisa** 109.14 162 *d*PKiKP **PKiKP** 02 45 07.3 +2.5
CMAR **Chiang Mai Arr** 122.26 42 PKP **PKiKP** 02 45 31.6 0.0
comp=Z,1.1nm,0.3s,baz=302,slow=3.0,SNR=4.3
VNDA **Vanda** 128.23 187 PKP **PKiKP** 02 45 41.7 +0.1
comp=Z,1.2nm,0.7s,baz=272,slow=1.8,SNR=6.3
WRA **Warramunga Arr** 172.59 10 PKPab **PKPab** 02 48 10.0 -0.3
comp=Z,0.9nm,0.7s,baz=347,slow=4.5,SNR=3.6

IDC ***12*** *02:31:37.1±2.6,41°.65S×174°.22E,h0km,mb3.8/2, mbtmp3.8/4,ML3.6/2,MS4.1/1,Error ellipse: s-maj=64.3km s-min=25.2km az=138.0*
NEIC ***12*** *02:31:39.8±2.0,41°.82S±0°.03×174°.24E±0°.03,h17km±6km, mb4.0/3,Error ellipse: s-maj=4.8km s-min=1.8km az=149.0*
NOU ***12*** *02:31:39.1,42°.00S×174°.55E,h15km,MLv4.4/13,Cook Strait, New Zealand*
WEL ***12*** *02:31:40.2±0.4,42°S±2°×17°4E±°,h12km±2km,M4.1/119, ML4.2/17,MLv4.1/119,Error ellipse: s-maj=0.0km s-min=0.0km az=126.9,confirmed*
WEL ***12*** *02:31:40.6,41°.73S×174°.21E,h14km,ML4.0,Mw3.9, Moment Tensor Solution. s3 Moment tensor: Mrr59.21; Mθθ36.37; Mφφ-95.58; Mrθ-32.76; Mθφ36.57; Mφr-41.01; Fault plane solution: NP1:φ228.00000°,δ47.00000°, λ146.00000°. NP2:φ343.00000°,δ66.00000°,λ49.00000°. Principal axes: T 97.9300, Plg51.0000°, Azm206.0000°; N 13.3400, Plg37.0000°, Azm2.0000°; P -111.2700, Plg11.0000°, Azm101.0000°; SOUTH ISLAND*
ISC 12 02:31:39.5±0.8,41°.81S±0°.03×174°.27E±0°.03,h18km±4km, n186,σ1s21/204,mb4.4/5,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.08**	**325**		**Pg**	**02 31 42.8**	**-0.1**
CMWZ				Sg	**Sg**	**02 31 45.3**	**+0.1**
CMWZ	**Cape Campbell**	**0.08**	**325**	P	**Pg**	**02 31 42.8**	**-0.1**
CMWZ				S	**Sg**	**02 31 45.7**	**+0.5**
WDFS	**Ward Fire Stat**	**0.10**	**261**	P	**Pg**	**02 31 43.2**	**0.0**
WDFS				S	**Sg**	**02 31 45.7**	**+0.2**
SDNS	**Seddon**	**0.18**	**326**	P	**Pb**	**02 31 44.2**	**-0.1**
SDNS				S	**Sb**	**02 31 47.6**	**+0.2**
SEDS	**Seddon Fire St**	**0.20**	**314**	P	**Pb**	**02 31 44.3**	**-0.3**
SEDS				S	**Sb**	**02 31 47.4**	**-0.6**
KEKS	**Kekerengu Vall**	**0.26**	**236**	P	**Pb**	**02 31 46.2**	**+0.5**
KEKS				S	**Sb**	**02 31 51.2**	**+1.3**
BSWZ	**Blackbirch Sta**	**0.31**	**288**		**Pg**	**02 31 46.0**	**-0.2**
BSWZ				Sg	**Sb**	**02 31 50.6**	**-0.8**
BSWZ	**Blackbirch Sta**	**0.31**	**288**	P	**Pg**	**02 31 46.0**	**-0.2**
BSWZ				S	**Sb**	**02 31 50.7**	**-0.6**
MGCS	**Blenheim Marlb**	**0.39**	**321**	P	**Pg**	**02 31 46.2**	**-1.4**
MGCS				S	**Sg**	**02 31 51.8**	**-1.2**
TUWZ	**Tuamarina**	**0.46**	**327**		**Pb**	**02 31 48.6**	**-0.4**
TUWZ				Sg	**Sb**	**02 31 54.3**	**-1.2**
TUWZ	**Tuamarina**	**0.46**	**327**	P	**Pb**	**02 31 48.6**	**-0.4**
TUWZ				S	**Sb**	**02 31 54.9**	**-0.6**
BWRS	**Waikakaho Road**	**0.46**	**323**	P	**Pb**	**02 31 48.8**	**-0.3**
BWRS				S	**Sb**	**02 31 54.9**	**-0.7**
SNZO	**South Karori**	**0.60**	**33**	P	**Pb**	**02 31 52.5**	**+1.1**
SNZO	**South Karori**	**0.60**	**33**		**Pb**	**02 31 52.4**	**+0.9**
SNZO					**Sn**	**02 32 01.5**	**-0.9**
TCW	**Tory Channel**	**0.60**	**0**		**Pb**	**02 31 51.3**	**-0.1**
TCW				Sg	**Sb**	**02 31 59.1**	**-0.5**
TCW	**Tory Channel**	**0.60**	**0**	P	**Pb**	**02 31 51.4**	**-0.1**
TCW				S	**Sb**	**02 32 00.1**	**+0.4**
BHW	**Baring Head**	**0.60**	**48**		**Pb**	**02 31 52.7**	**+1.2**
BHW					**Sn**	**02 32 02.0**	**-0.5**
BHW	**Baring Head**	**0.60**	**48**	P	**Pb**	**02 31 52.8**	**+1.2**
WEL	**Wellington**	**0.65**	**35**	P	**Pn**	**02 31 53.4**	**-0.4**
PLWZ	**Palliser**	**0.78**	**72**		**Pn**	**02 31 56.2**	**+0.6**
PLWZ	**Palliser**	**0.78**	**72**	P	**Pn**	**02 31 56.3**	**+0.6**
KHZ	**Kahutara**	**0.81**	**222**	P	**Pn**	**02 31 56.7**	**+0.6**
KHZ	**Kahutara**	**0.81**	**222**		**Pn**	**02 31 56.6**	**+0.6**
KHZ	**Kahutara**	**0.81**	**222**	P	**Pn**	**02 31 56.7**	**+0.6**
KHZ				S	**Sn**	**02 32 09.9**	**+2.2**
MSWZ	**Moikau Station**	**0.83**	**62**		**Pn**	**02 31 56.9**	**+0.5**
MSWZ	**Moikau Station**	**0.83**	**62**	P	**Pn**	**02 31 57.8**	**+1.4**
NNZ	**Nelson**	**0.90**	**311**		**Pb**	**02 31 56.2**	**-0.3**
NNZ	**Nelson**	**0.90**	**311**	P	**Pb**	**02 31 56.3**	**-0.3**
CAW	**Cannon Point**	**0.92**	**41**	P	**Pn**	**02 31 58.1**	**+0.5**
PAWZ	**Paruwai Farm**	**0.97**	**64**	P	**Pn**	**02 31 58.9**	**+0.6**
THZ	**Tophouse**	**1.02**	**272**		**Pg**	**02 31 59.1**	**-0.3**
THZ	**Tophouse**	**1.02**	**272**	P	**Pg**	**02 31 59.1**	**-0.3**
DUWZ	**D'Urville Isla**	**1.04**	**345**	P	**Pg**	**02 31 59.0**	**-0.7**
KIW	**Kapiti Island**	**1.06**	**27**	P	**Pn**	**02 32 00.2**	**0.0**
MTW	**Mount Morrison**	**1.13**	**55**	P	**Pn**	**02 32 01.0**	**+0.5**
TRWZ	**Traveller**	**1.14**	**69**	P	**Pn**	**02 32 00.9**	**+0.3**
OGWZ	**Otaki Gorge**	**1.20**	**35**	P	**Pg**	**02 32 02.6**	**-0.1**
MRNZ	**Matariki Terra**	**1.21**	**289**		**Pg**	**02 32 02.4**	**-0.5**
MRNZ	**Matariki Terra**	**1.21**	**289**	P	**Pg**	**02 32 02.4**	**-0.5**
TKNZ	**Takaka Hill**	**1.26**	**308**		**Pb**	**02 32 02.6**	**-0.1**
TKNZ	**Takaka Hill**	**1.26**	**308**	P	**Pb**	**02 32 02.8**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.31**	**46**	P	**Pn**	**02 32 03.6**	**+0.6**
TMWZ	**Te Maipa**	**1.41**	**60**	P	**Pn**	**02 32 04.5**	**+0.2**
GVZ	**Greta Valley S**	**1.47**	**218**		**Pn**	**02 32 05.8**	**+0.6**
GVZ	**Greta Valley S**	**1.47**	**218**	P	**Pn**	**02 32 05.8**	**+0.6**
MRZ	**Mangatainoka R**	**1.52**	**41**	Pn	**Pn**	**02 32 06.5**	**+0.7**
MRZ	**Mangatainoka R**	**1.52**	**41**	P	**Pn**	**02 32 06.5**	**+0.7**
TIWZ	**Tintock**	**1.60**	**50**	P	**Pn**	**02 32 07.4**	**+0.4**
QRZ	**Quartz Range**	**1.64**	**306**	P	**Pg**	**02 32 09.2**	**-1.2**
QRZ	**Quartz Range**	**1.64**	**306**		**Pn**	**02 32 09.3**	**0.0**
QRZ	**Quartz Range**	**1.64**	**306**	P	**Pb**	**02 32 09.3**	**0.0**
CPWZ	**Castlepoint**	**1.71**	**59**	P	**Pn**	**02 32 09.6**	**+1.1**
LTZ	**Lake Taylor**	**1.77**	**236**		**Pn**	**02 32 10.0**	**+0.7**
LTZ	**Lake Taylor**	**1.77**	**236**	P	**Pn**	**02 32 10.1**	**+0.7**
OHWZ	**Ohakea**	**1.79**	**27**	P	**Pb**	**02 32 12.1**	**+0.4**
PRWZ	**Pori Road**	**1.79**	**46**	P	**Pn**	**02 32 10.0**	**+0.4**
POWZ	**Post Office Ro**	**1.81**	**39**	P	**Pn**	**02 32 10.7**	**+0.8**
AMCZ	**Amberley**	**1.81**	**221**		**Pn**	**02 32 10.0**	**+0.1**
AMCZ	**Amberley**	**1.81**	**221**	P	**Pn**	**02 32 10.2**	**+0.3**
DSZ	**Denniston Nort**	**1.85**	**271**		**Pb**	**02 32 11.9**	**-0.9**
DSZ	**Denniston Nort**	**1.85**	**271**	P	**Pb**	**02 32 12.4**	**-0.4**
BFZ	**Birch Farm**	**1.87**	**53**	P	**Pn**	**02 32 10.6**	**0.0**
BFZ	**Birch Farm**	**1.87**	**53**		**Pn**	**02 32 10.3**	**-0.4**
BFZ	**Birch Farm**	**1.87**	**53**	P	**Pn**	**02 32 10.4**	**-0.2**
DVHZ	**Dannevirke**	**2.08**	**44**	P	**Pn**	**02 32 13.6**	**0.0**
WAZ	**Wanganui**	**2.13**	**15**	P	**Pb**	**02 32 17.2**	**-0.4**
ANWZ	**Angora Road**	**2.14**	**52**	P	**Pn**	**02 32 14.1**	**-0.3**
TSZ	**Takapari Road**	**2.17**	**37**	P	**Pn**	**02 32 15.4**	**+0.6**
MQZ	**McQueen's Vall**	**2.24**	**212**		**Pn**	**02 32 14.8**	**-0.9**
MQZ	**McQueen's Vall**	**2.24**	**212**	P	**Pn**	**02 32 14.7**	**-0.9**
OXZ	**Oxford**	**2.24**	**227**		**Pn**	**02 32 15.2**	**-0.6**
OXZ	**Oxford**	**2.24**	**227**	P	**Pn**	**02 32 15.5**	**-0.3**
INZ	**Inchbonnie**	**2.29**	**246**		**Pn**	**02 32 17.2**	**+0.8**
INZ	**Inchbonnie**	**2.29**	**246**	P	**Pn**	**02 32 17.3**	**+0.9**
AKCZ	**Akaroa Harbour**	**2.29**	**205**	P	**Pn**	**02 32 16.1**	**-0.4**
LREZ	**Lake Rotokare**	**2.35**	**2**	P	**Pb**	**02 32 21.2**	**-0.1**
PRHZ	**Porangahau**	**2.36**	**50**	P	**Pn**	**02 32 17.0**	**-0.4**
PNHZ	**Pukenui**	**2.40**	**38**	P	**Pn**	**02 32 18.2**	**+0.3**
WPHZ	**Waipukurau**	**2.40**	**44**	P	**Pn**	**02 32 18.0**	**+0.1**
NMEZ	**Namu Road**	**2.42**	**353**	P	**Pb**	**02 32 23.2**	**+0.8**
PREZ	**Palmer Road**	**2.47**	**358**	P	**Pb**	**02 32 23.4**	**0.0**
RACZ	**Rakaia**	**2.48**	**219**	P	**Pn**	**02 32 18.4**	**-0.6**
KHEZ	**Kahui Hut**	**2.52**	**355**	P	**Pb**	**02 32 23.8**	**-0.5**
KHEZ	**Kahui Hut**	**2.52**	**355**	P	**Pb**	**02 32 23.6**	**-0.8**
NEZ	**North Egmont**	**2.54**	**357**	P	**Pb**	**02 32 24.7**	**0.0**
NBEZ	**Newall Road No**	**2.56**	**353**	P	**Pb**	**02 32 24.5**	**-0.4**
MTVZ	**Mangateitei**	**2.59**	**21**	P	**Pn**	**02 32 23.0**	**+2.4**
DREZ	**Durham Road**	**2.62**	**359**	P	**Pb**	**02 32 25.3**	**-0.6**
PKE	**Pukeiti**	**2.62**	**355**	P	**Pb**	**02 32 24.8**	**-1.2**
MHCZ	**Mount Hutt**	**2.63**	**228**	P	**Pn**	**02 32 20.9**	**-0.3**
PXZ	**Pawanui**	**2.65**	**49**	P	**Pn**	**02 32 20.7**	**-0.7**
PKVZ	**Pokaka**	**2.65**	**18**	P	**Pn**	**02 32 24.0**	**+2.5**
MOVZ	**Moawhango**	**2.65**	**26**	P	**Pn**	**02 32 22.6**	**+1.1**
WNVZ	**Wahianoa**	**2.68**	**23**	P	**Pn**	**02 32 23.7**	**+1.8**
KRHZ	**Kereru**	**2.69**	**37**	P	**Pn**	**02 32 22.1**	**+0.1**
BHHZ	**Black Hill Sta**	**2.69**	**31**	P	**Pn**	**02 32 22.8**	**+0.8**
TRVZ	**Turoa**	**2.69**	**22**	P	**Pn**	**02 32 24.2**	**+2.0**
VRZ	**Vera Road**	**2.71**	**8**	P	**Pb**	**02 32 25.2**	**-2.3**
WHVZ	**Whangaehu Hut**	**2.72**	**22**	P	**Pn**	**02 32 24.8**	**+2.2**
MAVZ	**Matarangi**	**2.73**	**22**	P	**Pn**	**02 32 25.0**	**+2.3**
FWVZ	**Far West T-bar**	**2.73**	**21**	P	**Pn**	**02 32 25.1**	**+2.3**
TUKZ	**Tukino**	**2.75**	**23**	P	**Pn**	**02 32 24.8**	**+1.9**
WACZ	**Wakanui South**	**2.78**	**219**	P	**Pn**	**02 32 22.6**	**-0.5**
COVZ	**Chateau Observ**	**2.78**	**21**	P	**Pn**	**02 32 25.5**	**+2.2**
NGZ	**Ngauruhoe**	**2.82**	**21**	P	**Pn**	**02 32 26.0**	**+2.1**
KAHZ	**Kahuranaki**	**2.82**	**45**	P	**Pn**	**02 32 23.1**	**-0.7**
SNVZ	**South Ngauruho**	**2.82**	**22**	P	**Pn**	**02 32 25.8**	**+1.9**
OTVZ	**Oturere**	**2.85**	**22**	P	**Pn**	**02 32 26.0**	**+1.7**
NNVZ	**North Ngauruho**	**2.87**	**21**	P	**Pn**	**02 32 26.6**	**+2.0**
WTVZ	**West Tongariro**	**2.88**	**21**	P	**Pn**	**02 32 26.7**	**+2.1**
TWVZ	**Taurewa**	**2.88**	**18**	P	**Pn**	**02 32 26.5**	**+1.9**
ETVZ	**East Tongariro**	**2.89**	**23**	P	**Pn**	**02 32 26.6**	**+1.8**
KWHZ	**Kaweka Forest**	**2.89**	**35**	P	**Pn**	**02 32 24.9**	**+0.1**
WVZ	**Waitaha Valley**	**2.91**	**243**	P	**Pn**	**02 32 25.5**	**+0.6**
TMVZ	**Te Maari**	**2.91**	**23**	P	**Pn**	**02 32 26.7**	**+1.7**
KRVZ	**Karewarewa**	**2.91**	**21**	P	**Pn**	**02 32 27.2**	**+2.2**

NTVZ	North Tongarir	2.92	22	P		Pn	02 32 27.0	+1.8
MCHZ	McNeill Hill	3.00	39	P		Pn	02 32 26.2	0.0
KATZ	Kakaramea	3.04	21	P		Pb	02 32 30.2	-2.9
RPZ	Rata Peaks	3.04	230	P		Pn	02 32 26.9	+0.1
RPZ	Rata Peaks	3.04	230	Pn		Pn	02 32 26.2	-0.5
RPZ	Rata Peaks	3.04	230	Pn		Pn	02 32 26.9	+0.1
	12nm,0.3s,baz=67,slow=8.4,SNR=45							
RPZ				Sn		Sn	02 33 02.2	-0.5
	11nm,0.3s,baz=36,slow=19,SNR=17							
	34nm,0.4s							
RPZ	Rata Peaks	3.04	230	P		Pn	02 32 26.8	+0.1
RITZ	Rihia Road	3.08	24	P		Pn	02 32 29.4	+2.0
ARCZ	Arundel	3.12	226	P		Pn	02 32 27.5	-0.3
BKZ	Black Stump Fm	3.14	33	P		Pn	02 32 28.4	+0.2
BKZ	Black Stump Fm	3.14	33			Pn	02 32 27.7	-0.5
BKZ	Black Stump Fm	3.14	33	P		Pn	02 32 28.0	-0.2
RATZ	Rangitukua	3.16	22	P		Pb	02 32 34.0	-1.1
GCSZ	Gaunt Creek Bo	3.28	241	P		Pn	02 32 31.6	+1.6
WATZ	Wairara	3.30	20	P		Pb	02 32 38.2	+0.7
HIZ	Hauiti	3.33	8	P		Pn	02 32 33.4	+2.7
HIZ	Hauiti	3.33	8			Pn	02 32 32.9	+2.2
HIZ	Hauiti	3.33	8	P		Pn	02 32 33.4	+2.7
MRHZ	Matea Rd	3.40	30	P		Pn	02 32 31.5	-0.2
TMZ	Timaru	3.51	222	P		Pn	02 32 32.6	-0.7
RAHZ	Arahi	3.60	38	P		Pn	02 32 33.7	-0.8
TLZ	Tolley Road	3.61	16	P		Pn	02 32 34.0	-0.6
FOZ	Fox Glacier	3.71	241			Pn	02 32 35.9	0.0
FOZ	Fox Glacier	3.71	241	P		Pn	02 32 36.4	+0.5
RTZ	Ruatahuna	3.81	34	Pn		Pn	02 32 37.0	-0.4
MUGZ	Murupara	3.84	31	P		Pn	02 32 38.9	+1.1
LBZ	Lake Benmore	3.95	228			Pn	02 32 39.0	-0.2
LBZ	Lake Benmore	3.95	228	P		Pn	02 32 39.4	+0.2
TARZ	Mount Tarawera	3.96	26	P		Pb	02 32 44.8	-4.1
PRGZ	Paritu Road	3.99	45	P		Pn	02 32 38.5	-1.4
URZ	Urewera	4.16	32	P		Pn	02 32 41.8	-0.4
URZ	Urewera	4.16	32	Pn		Pn	02 32 40.8	-1.3
	1.9nm,0.3s,baz=220,slow=19,SNR=13							
URZ				Sn		Sn	02 33 30.8	+0.4
	2.9nm,0.3s,baz=216,slow=19,SNR=1.6							
	6.9nm,0.4s							
URZ	Urewera	4.16	32	P		Pn	02 32 41.6	-0.6
ODZ	Otahua Downs	4.17	218	P		Pn	02 32 41.6	-0.7
ODZ	Otahua Downs	4.17	218	Pn		Pn	02 32 41.2	-1.1
ODZ	Otahua Downs	4.17	218	P		Pn	02 32 41.4	-0.9
TOZ	Tahuroa Road	4.18	13			Pn	02 32 43.2	+0.7
TOZ	Tahuroa Road	4.18	13	P		Pn	02 32 44.6	+2.1
TWGZ	Tauwhareparae	4.61	39	P		Pn	02 32 47.2	-1.3
JCZ	Jackson Bay	4.62	239	P		Pn	02 32 49.4	+0.9
JCZ	Jackson Bay	4.62	239	P		Pn	02 32 49.5	+0.9
RUGZ	Raukumara Rang	4.65	35	P		Pn	02 32 47.6	-1.4
AWAZ	Awhitu Peninsu	4.75	4	P		Pn	02 32 53.7	+3.4
MKAZ	Moumakai	4.75	9	P		Pn	02 32 52.2	+1.9
HHSZ	Highcliff Hill	4.86	212	P		Pn	02 32 51.5	-0.2
HAZ	Te Kaha	4.87	35	P		Pn	02 32 51.0	-0.8
WKZ	Wanaka	4.88	230			Pn	02 32 51.2	-0.8
WTAZ	Waiatarua	4.88	3	P		Pn	02 32 56.3	+4.3
EAZ	Earnscleugh	4.97	225	P		Pn	02 32 53.0	-0.2
WIAZ	Waiheke Island	5.06	8	P		Pn	02 32 57.0	+2.5
MBAZ	Motutapu North	5.06	6	P		Pn	02 32 57.0	+2.5
KUZ	Kuaotunu	5.18	13	P		Pn	02 32 58.3	+2.1
MXZ	Matakaoa Point	5.26	38	Pn		Pn	02 32 56.0	-1.3
TUZ	Tuapeka	5.33	217	P		Pn	02 32 57.8	-0.4
MLZ	Mavora Lakes	5.71	229			Pn	02 33 02.3	-1.1
MLZ	Mavora Lakes	5.71	229	P		Pn	02 33 03.0	-0.4
SYZ	Scrubby Hill	5.99	216	P		Pn	02 33 06.7	-0.6
SYZ	Scrubby Hill	5.99	216	P		Pn	02 33 07.3	0.0
WHZ	Wether Hill Ro	6.13	226	Pn		Pn	02 33 08.1	-1.1
DCZ	Deep Cove	6.32	232	Pn		Pn	02 33 11.8	0.0
CTZ	Chatham Island	6.97	109	Pn		Pn	02 33 20.3	-0.4
ASAR	Alice Springs	38.06	286	P		P	02 38 57.1	-0.1
ASAR	Alice Springs	38.06	286	P		P	02 38 57.0	-0.2
	0.7nm,0.5s,baz=120,slow=6.8,SNR=9.0							
	0.7nm,0.5s							
WRA	Warramunga Arr	40.14	290	P		P	02 39 13.7	-0.9
WRA				IAmb		IAmb	02 39 33.2	
	comp=Z,0.1nm,0.8s							
WRA	Warramunga Arr	40.14	290	P		P	02 39 14.1	-0.5
	comp=Z,1.2nm,0.6s,baz=128,slow=8.0,SNR=11							
	comp=Z,1.2nm,0.6s							
WB0	Warramunga Arr	40.22	291	P		P	02 39 14.2	-1.0
WB0				IAmb		IAmb	02 39 26.5	
	comp=Z,8.9nm,1.1s							
QSPA	South Pole Qui	48.32	180	P		P	02 40 21.5	+1.9
QSPA				IAmb		IAmb	02 40 24.1	
	comp=Z,6.1nm,1.3s							
BATI	Baumata	54.27	290	LR		LR	03 02 47.8	
	comp=Z,193nm,21.6s,baz=142,slow=34							
HHC	Hu-ho-hao-te	99.95	317	*eP*		Pdif	02 45 27.6	+4.5
HHC				pmax		pmax		
	comp=Z,14nm,0.5s							
HHC				pmax		pmax		
	comp=Z,47nm,4.8s							
FINES	FINESS Array B	152.59	327	PKPbc		PKPbc	02 51 33.3	-0.5
	comp=Z,0.8nm,0.8s,baz=40,slow=2.4,SNR=1.8							

IDC ***12*** *02:33:03.8±2.8,41°.80S×174°.34E,h0km,mb3.9/2, mbtmp4.0/4,ML3.8/2, Error ellipse: s-maj=66.6km s-min=23.4km az=135.0*

NEIC ***12*** *02:33:07.6±1.5,41°.86S±0°.05×174°.24E±0°.05,h13km±6km, mb4.0/4, Error ellipse: s-maj=8.0km s-min=4.0km az=141.0*

WEL ***12*** *02:33:08.4±0.4,42°.5±2°×17°.4E±°,h6km±3km,M3.9/18, ML4.1/18,MLv3.9/18, Error ellipse: s-maj=0.0km s-min=0.0km az=122.0, confirmed*

WEL ***12*** *02:33:08.6,41°.77S×174°.23E,h11km,ML3.9,Mw4.0, Moment Tensor Solution. s4 Moment tensor: Mrr89.82; Mθθ21.21; Mϕϕ-111.03; Mrθ-32.44; Mθϕ18.57; Mϕr-32.09; Fault plane solution: NP1:ϕs210.00000°,δ42.00000°, λ125.00000°. NP2:ϕs347.00000°,δ57.00000°,λ63.00000°. Principal axes: T 108.8600, Plg66.0000°, Azm205.0000°; N 8.5200, Plg22.0000°, Azm2.0000°; P -117.3800, Plg8.0000°, Azm96.0000°; SOUTH ISLAND*

ISC 12 02:33:08.0±0.8,41°.82S±0°.03×174°.25E±0°.02,h17km±4km, n93,σ0°99/109,mb3.8/4,Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.07	337	Pg	Pg	02 33 10.8	-0.5
CMWZ	Cape Campbell	0.07	337	P	Pg	02 33 10.7	-0.7
WDFS	Ward Fire Stat	0.09	262	P	Pg	02 33 11.0	-0.4
WDFS				S	Sg	02 33 13.4	-0.3
SDNS	Seddon	0.17	331	P	Pg	02 33 12.2	-0.3
SDNS				S	Sg	02 33 15.5	0.0
SEDS	Seddon Fire St	0.20	318	P	Pg	02 33 12.3	-0.5
SEDS				S	Sg	02 33 15.5	-0.4
KEKS	Kekerengu Vall	0.25	235	P	Pg	02 33 14.1	+0.5
KEKS				S	Sg	02 33 18.6	+1.2
BSWZ	Blackbirch Sta	0.30	290	P	Pg	02 33 13.8	-0.6
BSWZ				S	Sg	02 33 18.2	-0.7
MGCS	Blenheim Marlb	0.39	323	P	Pg	02 33 14.2	-1.8
MGCS				S	Sg	02 33 19.6	-1.7
TUWZ	Tuamarina	0.45	329	P	Pg	02 33 16.6	-0.5
TUWZ				S	Sg	02 33 22.9	-0.4
BWRS	Waikakaho Road	0.46	325	P	Pg	02 33 16.8	-0.5
TCW	Tory Channel	0.61	2	Pg	Pg	02 33 19.4	-0.6
TCW	Tory Channel	0.61	2	P	Pg	02 33 19.4	-0.6
SNZO	South Karori	0.61	34	Pg	Pb	02 33 20.6	+0.4
BHW	Baring Head	0.62	49	Pg	Pb	02 33 20.9	+0.6
BHW				Sg	Sb	02 33 30.5	+1.8
BHW	Baring Head	0.62	49	P	Pb	02 33 21.0	+0.6
WEL	Wellington	0.66	36	P	Pb	02 33 21.5	+0.5
PLWZ	Palliser	0.79	72	Pg	Pb	02 33 24.5	+1.2
PLWZ				Sg	Sg	02 33 32.7	-1.2
PLWZ	Palliser	0.79	72	P	Pb	02 33 24.5	+1.2
KHZ	Kahutara	0.80	221	P	Pb	02 33 24.6	+1.1
KHZ				S	Sn	02 33 37.1	+1.2
MSWZ	Moikau Station	0.85	62		Pb	02 33 24.9	+0.7
MSWZ					Sn	02 33 38.5	+1.3
NNZ	Nelson	0.89	312	P	Pg	02 33 24.3	-0.9
CAW	Cannon Point	0.94	41	P	Pb	02 33 26.3	+0.6
PAWZ	Paruwai Farm	0.98	64	P	Pb	02 33 27.2	+0.7
THZ	Tophouse	1.01	273		Pb	02 33 27.1	+0.1
THZ	Tophouse	1.01	273	P	Pb	02 33 27.1	+0.1
DUWZ	D'Urville Isla	1.04	346	P	Pg	02 33 27.2	-1.0
DUWZ				S	Sn	02 33 43.3	+1.3
KIW	Kapiti Island	1.07	28	P	Pb	02 33 28.4	+0.3
KIW				S	Sn	02 33 44.3	+1.6
MTW	Mount Morrison	1.15	55	P	Pg	02 33 29.2	-1.0
TRWZ	Traveller	1.16	69	P	Pg	02 33 29.1	-1.2
MRNZ	Matariki Terra	1.20	290		Pb	02 33 30.4	+0.3
MRNZ	Matariki Terra	1.20	290	P	Pb	02 33 30.5	+0.3
MRNZ				S	Sn	02 33 47.9	+2.2
OGWZ	Otaki Gorge	1.22	35	P	Pg	02 33 30.7	-0.8
TKNZ	Takaka Hill	1.25	308	Pn	Pg	02 33 30.4	-1.6
TKNZ	Takaka Hill	1.25	308	P	Pg	02 33 31.0	-1.1
HOWZ	Holdsworth Sta	1.32	46	P	Pn	02 33 31.9	+0.2
GVZ	Greta Valley S	1.46	218	Pn	Pn	02 33 33.6	0.0
GVZ	Greta Valley S	1.46	218	P	Pn	02 33 33.8	+0.2
MRZ	Mangatainoka R	1.53	41	Pn	Pn	02 33 34.6	+0.1
MRZ	Mangatainoka R	1.53	41	P	Pn	02 33 34.6	+0.1
QRZ	Quartz Range	1.63	307	Pn	Pn	02 33 37.1	+1.2
QRZ	Quartz Range	1.63	307	P	Pb	02 33 37.5	-0.1
LTZ	Lake Taylor	1.76	236	Pn	Pn	02 33 38.0	+0.3
LTZ	Lake Taylor	1.76	236	P	Pn	02 33 38.2	+0.5
AMCZ	Amberley	1.80	221	Pn	Pn	02 33 37.6	-0.6
AMCZ	Amberley	1.80	221	P	Pn	02 33 38.1	-0.2
PRWZ	Pori Road	1.81	46	P	Pn	02 33 38.6	+0.3
DSZ	Denniston Nort	1.83	271	Pn	Pn	02 33 39.8	+1.1
DSZ	Denniston Nort	1.83	271	P	Pn	02 33 40.4	+1.7
BFZ	Birch Farm	1.88	54	Pn	Pn	02 33 38.8	-0.6
BFZ	Birch Farm	1.88	54	P	Pg	02 33 44.9	+0.7
DVHZ	Dannevirke	2.10	44	P	Pn	02 33 41.5	-0.8
TSZ	Takapari Road	2.18	37	P	Pn	02 33 44.1	+0.6
OXZ	Oxford	2.23	227	Pn	Pn	02 33 43.1	-1.0
OXZ	Oxford	2.23	227	P	Pn	02 33 43.6	-0.5
MQZ	McQueen's Vall	2.23	211	Pn	Pn	02 33 42.5	-1.6
MQZ	McQueen's Vall	2.23	211	P	Pn	02 33 42.8	-1.3
INZ	Inchbonnie	2.27	246	Pn	Pn	02 33 44.9	+0.1
INZ	Inchbonnie	2.27	246	P	Pn	02 33 45.3	+0.6
AKCZ	Akaroa Harbour	2.28	205	P	Pn	02 33 43.9	-0.9
RACZ	Rakaia	2.46	218	P	Pn	02 33 46.1	-1.2
MHCZ	Mount Hutt	2.62	228	P	Pn	02 33 48.5	-1.0
MOVZ	Moawhango	2.66	26	P	Pb	02 33 55.5	+0.2
BHHZ	Black Hill Sta	2.70	31	P	Pb	02 33 57.2	+1.3
WHVZ	Whangaehu Hut	2.73	22	P	Pb	02 33 56.1	-0.4
WACZ	Wakanui South	2.77	219	P	Pn	02 33 50.7	-0.8
OTVZ	Oturere	2.86	23	P	Pb	02 33 59.5	+0.8
WTVZ	West Tongariro	2.88	21	P	Pb	02 34 00.2	+1.1
WVZ	Waitaha Valley	2.89	243	P	Pn	02 33 54.5	+1.3
RPZ	Rata Peaks	3.02	230	Pn	Pn	02 33 54.5	-0.6
RPZ	Rata Peaks	3.02	230	Pn	Pn	02 33 55.0	-0.1
	16nm,0.3s,baz=34,slow=16,SNR=9.0							
RPZ				Sn		Sn	02 34 30.5	-0.4
	10nm,0.3s,baz=130,slow=21,SNR=9.3							
	43nm,0.3s							
RPZ	Rata Peaks	3.02	230	P		Pn	02 33 54.7	-0.4
ARCZ	Arundel	3.10	226	P		Pn	02 33 55.5	-0.6
BKZ	Black Stump Fm	3.15	34	Pn		Pn	02 33 56.0	-0.8
HIZ	Hauiti	3.33	8	Pn		Pn	02 34 00.9	+1.7
TMZ	Timaru	3.50	222	P		Pn	02 34 00.9	-0.7
FOZ	Fox Glacier	3.69	241	Pn		Pn	02 34 03.9	-0.3
LBZ	Lake Benmore	3.93	228	Pn		Pn	02 34 06.6	-0.9
LBZ	Lake Benmore	3.93	228	P		Pn	02 34 07.7	+0.2
ODZ	Otahua Downs	4.16	218	Pn		Pn	02 34 09.2	-1.4
ODZ	Otahua Downs	4.16	218	P		Pn	02 34 09.5	-1.2
URZ	Urewera	4.17	33	Pn		Pn	02 34 08.4	-2.4
	3.9nm,0.3s,baz=205,slow=13,SNR=3.4							
URZ				Sn		Sn	02 34 58.4	-0.8
	1.0nm,0.3s,baz=243,slow=4.9,SNR=1.9							
	32nm,0.6s							
JCZ	Jackson Bay	4.60	239	P		Pn	02 34 19.6	+2.8
HHSZ	Highcliff Hill	4.85	212	P		Pn	02 34 19.1	-1.1
WKZ	Wanaka	4.86	230	Pn		Pn	02 34 19.7	-0.6
TUZ	Tuapeka	5.32	217	P		Pn	02 34 25.3	-1.2
AS31	Alice Springs	38.05	286	P		P	02 40 24.8	-0.8
AS31				IAmb		IAmb	02 40 27.2	
	comp=Z,1.6nm,1.2s							
ASAR	Alice Springs	38.05	286	P		P	02 40 25.5	-0.1
ASAR	Alice Springs	38.05	286	P		P	02 40 24.4	-1.1
	comp=Z,0.5nm,0.3s,baz=128,slow=8.7,SNR=13							
	comp=Z,0.5nm,0.3s							
WRA	Warramunga Arr	40.13	291	P		P	02 40 42.1	-0.8
WRA	Warramunga Arr	40.13	291	P		P	02 40 41.8	-1.2
	comp=Z,1.6nm,0.6s,baz=127,slow=8.6,SNR=10							
	comp=Z,1.6nm,0.6s							
WB0	Warramunga Arr	40.21	291	P		P	02 40 42.3	-1.3
QSPA	South Pole Qui	48.31	180	P		P	02 41 49.3	+1.2
QSPA				IAmb		IAmb	02 41 53.2	
	comp=Z,4.1nm,1.1s							
FINES	FINESS Array B	152.59	327	PKPbc		PKPbc	02 53 00.7	-1.6
	comp=Z,0.5nm,0.6s,baz=56,slow=3.5,SNR=1.7							

GRAL ***12*** *02:34:02.9±0.3,33°.40N×34°.90E,h3km±150km,MD2.7*

GII ***12*** *02:34:06.2±0.3,33°.693N±0°.002×35°.367E±0°.001,h0km, confirmed*

ISC 12 02:34:07.0±1.7,33°.68N±0°.07×35°.21E±0°.07,h0km,n36, σ0°71/37,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DQRL	Deir Qamar	0.30	84	*eP*	Pb	02 34 14.4	-1.0
DQRL				*eS*	Sb	02 34 22.8	+1.8
QRWL	Qaraoun	0.42	108	*eP*	Pg	02 34 14.8	-0.1
BHL	Bhannes	0.44	58	*eP*	Pb	02 34 17.3	-0.3
RCY	Rachaya	0.56	109	*eP*	Pg	02 34 17.1	-0.5
HNTI	Hanita	0.59	183	P	Pb	02 34 19.2	-1.0
HNTI	Hanita	0.59	183	S	Sb	02 34 29.6	+0.5
ZAHL	Zahle	0.59	72	*eP*	Pb	02 34 19.8	-0.6
GEM	Giv'at Ha'Em	0.60	140	P	Pg	02 34 17.7	-0.8
NATI	Neve Ativ	0.61	133	P	Pg	02 34 17.7	-0.9
NATI	Neve Ativ	0.61	133	S	Sg	02 34 27.2	+0.8
MMC7	Mount Meron ar	0.67	166	P	Pg	02 34 19.6	-0.2
KSHT	Keshet	0.86	144	P	Pg	02 34 22.9	-0.5
KSHT	Keshet	0.86	144	S	Sg	02 34 35.2	+0.7
BLGI	Bet Lehem HaGe	0.94	181	P	Pb	02 34 25.6	-0.5
BLGI	Bet Lehem HaGe	0.94	181	S	Sb	02 34 40.2	+1.0
OFRI	`Ofer	1.07	190	P	Pb	02 34 28.1	-0.3
OFRI	`Ofer	1.07	190	S	Sn	02 34 44.5	-0.3
MMLI	Mount Malkishu	1.25	172	P	Pg	02 34 30.4	-0.5
MMLI	Mount Malkishu	1.25	172	S	Sn	02 34 48.9	-0.3
SLTI	Sal'it	1.44	186	P	Pn	02 34 34.2	-0.1
SLTI	Sal'it	1.44	186	S	Sn	02 34 54.6	+0.7
HMDT	Nahal Hemdat	1.44	169	P	Pn	02 34 33.6	-0.7
HMDT	Nahal Hemdat	1.44	169	S	Sg	02 34 53.6	+0.2
DSI	Dead Sea	2.10	176	P	Pn	02 34 42.6	-0.9
DSI	Dead Sea	2.10	176	S	Sn	02 35 10.0	-0.3
AMAZ	Amatzia	2.15	187	P	Pn	02 34 44.1	0.0
AMAZ	Amatzia	2.15	187	S	Sn	02 35 12.6	+1.0
YTIR	Yattir	2.31	182	P	Pn	02 34 46.2	-0.2
YTIR	Yattir	2.31	182	S	Sn	02 35 16.3	+0.8
MSBI	Mazada	2.36	177	P	Pn	02 34 46.5	-0.4
MSBI	Mazada	2.36	177	S	Sn	02 35 16.7	+0.1
GHAJ	Ghor Haditha	2.38	173	P	Pn	02 34 46.7	-0.6
KZIT	Kziot	2.84	194	P	Pn	02 34 53.7	0.0
KZIT	Kziot	2.84	194	S	Sn	02 35 29.9	+1.3
PRNI	Paran	3.32	183	P	Pn	02 34 60.0	-0.2
PRNI	Paran	3.32	183	S	Sn	02 35 41.2	+0.8

IDC ***12*** *02:34:58.8±0.5,27°.32N×44°.42W,h0km,mb4.6/35, mbtmp4.6/35,MS4.1/73, Error ellipse: s-maj=15.6km s-min=11.2km az=143.0*

NEIC ***12*** *02:35:00.8±1.3,27°.33N±0°.10×44°.3W±0°.1,h10km±1km, mb5.1/241, Error ellipse: s-maj=17.5km s-min=15.0km az=138.0*

GCMT ***12*** *02:35:02.8±0.2,27°.42N±0°.02×44°.31W±0°.01,h12km, MW5.0/134, Moment Tensor Solution. s51,c57; s134,c196; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-3.87±.07; Mθθ0.78±.07; Mϕϕ3.08±.06; Mrθ0.85±.32; Mθϕ1.14±.06; Mϕr0.45±.24; Best double couple: Mo3.82600×1016 NP1:ϕs211.00000°,δ51.00000°, λ-80.00000°. NP2:ϕs15.00000°,δ40.00000°, λ-102.00000°. Principal axes: T 3.6240, Plg6.0000°, Azm293.0000°; N 0.3970, Plg8.0000°, Azm24.0000°; P -4.0280, Plg80.0000°, Azm168.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 02:35:01.7±0.3,27°.39N±0°.05×44°.54W±0°.04,h22km,n835, σ1°84/745,mb5.0/172,MS4.2/76,21C-15D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	Col San Antoni	21.68	249	P	P	02 39 53.8	+2.8
GCPR	Guaynabo City	21.79	250	P	P	02 39 55.0	+2.8
GCPR				IAmb	IAmb	02 40 00.7	
	comp=Z,131nm,1.6s						
IGPR	InterUniversit	21.98	249	P	P	02 39 57.1	+2.9
CELP	Cerrillos	22.32	250	P	P	02 39 58.5	+0.5
CELP				IAmb	IAmb	02 40 19.0	
	comp=Z,82nm,1.5s						
AOPR	Arecibo Observ	22.34	251	P	P	02 39 59.8	+1.6
AOPR				IAmb	IAmb	02 40 22.5	
	comp=Z,65nm,1.3s						
UUPR	Utuado, UPR, P	22.35	251	P	P	02 40 00.9	+2.6
UUPR				IAmb	IAmb	02 40 07.4	
	comp=Z,110nm,1.4s						
OBIP	Obispado Ponce	22.35	250	P	P	02 40 03.1	+4.8
MDP	Montagnes des	23.47	201	LR	LR	02 47 13.8	
	comp=Z,174nm,19.6s,baz=4.0,slow=31						
DRLN	Deer Lake	24.02	339	P	P	02 40 16.5	+1.6
DRLN				IAmb	IAmb	02 40 19.4	
	comp=Z,84nm,1.2s						
PMAR	Madeira	24.46	71	P	P	02 40 26.6	+7.3
PCRV	Puerto La Cruz	25.53	232	LR	LR	02 49 57.6	
	comp=Z,109nm,18.4s,slow=35						
M65A	Busby, Falmout	25.63	310	P	P	02 40 30.8	+1.2
	baz=115						
PKME	Peaks-Kenny Pk	26.59	319	P	P	02 40 39.3	+1.1
	baz=124						
HRV	Adam Dziewonsk	26.65	311	P	P	02 40 39.1	+0.2
	baz=116						
L61B	Northampton	27.38	311	P	P	02 40 45.7	+0.3
	baz=114						
CPNY	Central Park	27.65	307	P	P	02 40 50.2	+2.4
CPNY				IAmb	IAmb	02 40 57.0	
	comp=Z,40nm,1.4s						
LBNH	Lisbon	27.68	315	P	P	02 40 49.0	+1.0
	baz=118						
PAL	Palisades	27.68	307	P	P	02 40 49.3	+1.2
	baz=110						
TRNY	Table Rock, Ra	27.96	307	P	P	02 40 52.8	+2.3
TRNY				IAmb	IAmb	02 41 00.6	
	comp=Z,29nm,1.2s						
ODNJ	Ogdensburg	28.21	307	P	P	02 40 56.1	+3.3
ODNJ				IAmb	IAmb	02 41 02.9	
	comp=Z,38nm,1.5s						
LUPA	Lehigh Univers	28.60	305	P	P	02 40 58.6	+2.3
LUPA				IAmb	IAmb	02 41 05.9	
	comp=Z,31nm,1.3s						
BAUV	El Baul	28.80	235	P	P	02 40 59.7	+1.4
MVL	Millersville	29.15	304	P	P	02 41 03.0	+1.8
MVL				IAmb	IAmb	02 41 11.6	
	comp=Z,33nm,1.3s						
BOAV	Boa Vista	29.19	214	P	P	02 41 01.4	-0.3
BOAV	Boa Vista	29.19	214	*eP*	P	02 41 02.1	+0.4
CNNC	Cliffs of the	29.45	294	P	P	02 41 04.4	+0.5
	baz=96						
CBN	Corbin Frederi	29.50	300	P	P	02 41 04.5	+0.2
	baz=102						
J58A	Remsen	29.50	311	P	P	02 41 06.8	+2.6
LONY	Lake Ozonia	29.55	314	P	P	02 41 06.6	+1.9
LONY	Lake Ozonia	29.55	314	P	P	02 41 04.1	-0.5
	baz=115						
BINY	Binghamton	29.56	308	P	P	02 41 04.7	-0.1
BINY				IAmb	IAmb	02 41 15.2	
	comp=Z,36nm,1.1s						
BINY	Binghamton	29.56	308	P	P	02 41 03.6	-1.3
	baz=110						
M57A	Sunshine Farm,	30.09	306	P	P	02 41 11.5	+2.0
K57A	Scipio Center	30.11	309	P	P	02 41 11.4	+1.7
SSPA	Standing Stone	30.45	304	P	P	02 41 14.6	+1.9
SSPA				IAmb	IAmb	02 41 23.0	
	comp=Z,31nm,1.4s						
SSPA	Standing Stone	30.45	304	P	P	02 41 12.7	0.0
	baz=105						
J56A	Wolcott	30.53	310	P	P	02 41 15.3	+2.0
J56A				IAmb	IAmb	02 41 23.3	
	comp=Z,31nm,1.1s						
L56A	Greenwood	30.64	307	P	P	02 41 15.7	+1.2
L56A				IAmb	IAmb	02 41 24.7	
	comp=Z,22nm,1.1s						
SDV	Santo Domingo	30.77	238	P	P	02 41 16.8	+0.8
SDV	Santo Domingo	30.77	238	LR	LR	02 54 33.2	
	comp=Z,108nm,18.8s,baz=83,slow=38						
SDV	Santo Domingo	30.77	238	*eP*	P	02 41 18.6	+2.6
MMNY	Mt. Morris Dam	31.07	308	P	P	02 41 19.2	+1.0
W57A	Gilead	31.16	293	P	P	02 41 19.7	+0.7
W57A				IAmb	IAmb	02 41 29.7	
	comp=Z,45nm,1.6s						
WVNY

TZTN Tazewell 34.14 295 P P 02 41 47.9 +2.7
TZTN IAmb IAmb 02 41 54.4
comp=Z,56nm,1.9s
TZTN Tazewell 34.14 295 P P 02 41 42.8 -2.3
baz=94
ACSO Alum Creek Sta 34.16 302 P P 02 41 43.2 -2.0
baz=100
Q51A Peebles 34.24 300 P P 02 41 48.4 +2.4
Q51A IAmb IAmb 02 41 56.3
comp=Z,36nm,1.2s
TKL Tuckaleechee C 34.27 294 P P 02 41 48.6 +2.3
TKL IAmb IAmb 02 41 56.8
comp=Z,32nm,1.4s
TKL Tuckaleechee C 34.27 294 LR LR 02 53 20.8
comp=Z,985nm,20.9s,baz=104,slow=32
MDT Midelt 34.82 71 LR LR 02 52 44.4
comp=Z,734nm,20.6s,baz=274,slow=31
R50A Paris 34.92 298 P P 02 41 54.8 +3.0
152A Waverly Hall 35.04 289 P P 02 41 55.1 +2.2
AAM Ann Arbor 35.06 305 P P 02 41 54.7 +1.7
AAM Ann Arbor 35.06 305 P P 02 41 49.8 -3.1
baz=102
P49A Miami Univ. Ec 35.37 300 P P 02 41 52.0 -3.7
baz=98
PAB San Pablo 35.37 60 P P 02 41 54.2 -1.7
ESDC Sonseca Array 35.69 59 P P 02 41 57.0 -1.5
ESDC Sonseca Array 35.69 59 P P 02 41 58.1 -0.3
comp=Z,4.8nm,1.1s,baz=258,slow=8.8,SNR=16
ESDC LR LR 02 53 24.2
comp=Z,285nm,19.1s,baz=244,slow=31
comp=Z,4.8nm,1.1s
ESBB Sonseca Array 35.69 59 P P 02 41 57.6 -0.9
FPAL Fort Paine 35.75 292 P P 02 42 01.2 +2.1
NPGB Novo Progresso 35.80 199 eP P 02 41 59.6 0.0
O48B Farmland 35.80 302 P P 02 41 57.1 -2.3
baz=98
SMTB Santa Maria do 36.16 185 eP P 02 42 02.0 -0.6
ROSC El Rosal 36.16 237 LR LR 02 56 48.7
comp=Z,340nm,20.5s,baz=57,slow=36
TEFE Tefe 36.33 215 eP P 02 42 06.0 +1.9
GLMI Grayling 36.33 309 P P 02 42 02.1 -1.8
baz=105
CLTN Cedars of Leba 36.36 294 P P 02 42 06.0 +1.7
WCI Wyandotte Cave 36.45 298 P P 02 42 07.7 +2.7
WCI Wyandotte Cave 36.45 298 P P 02 42 02.6 -2.4
baz=95
LRAL Lakeview Retre 36.94 289 P P 02 42 06.5 -2.7
baz=87
BRAL Brewton 37.11 286 P P 02 42 07.1 -3.6
baz=85
SFIN Lafayette 37.29 301 P P 02 42 08.1 -4.0
baz=97
WVT Waverly 37.58 294 P P 02 42 09.3 -5.2
baz=91
L44A Lake County Fo 38.14 304 P P 02 42 15.3 -4.0
baz=98
SIUC Southern Illin 38.73 297 P P 02 42 27.0 +2.7
OXF Oxford 38.88 292 P P 02 42 27.4 +1.8
OXF Oxford 38.88 292 P P 02 42 21.2 -4.4
baz=88
HDIL Hopedale 38.98 301 P P 02 42 21.0 -5.2
baz=96
FRB Frobisher Bay 39.55 343 LR LR 02 57 29.4
comp=Z,530nm,21.3s,baz=169,slow=34
SDBA SAO DESIDERIO 39.56 181 eP P 02 42 30.4 -1.0
SNDB Serra Nova Dou 39.67 190 eP P 02 42 32.5 +0.2
SFJD Kangerlussuaq 39.80 356 LR LR 02 55 30.8
comp=Z,329nm,20.8s,baz=178,slow=31
TBTG Tabatinga, AM 39.82 222 P P 02 42 33.7 +0.2
TBTG IAmb IAmb 02 42 41.4
comp=Z,48nm,1.3s
JFWS Jewell Farm 39.95 305 P P 02 42 28.9 -5.6
baz=98
VBMS Vicksburg 39.96 288 P P 02 42 29.5 -5.0
baz=85
CEST Esterri de Car 39.97 55 P P 02 42 34.5 -0.2
CEST IAmb IAmb 02 42 36.6
comp=Z,23nm,1.4s
ESPN Las Esperanzas 40.16 256 P P 02 42 38.5 +2.1
ESPN IAmb IAmb 02 42 46.6
comp=Z,58nm,1.5s
BORG Borgarnes 40.19 15 P P 02 42 37.9 +1.9
BORG IAmb IAmb 02 42 41.2
comp=Z,44nm,0.9s
BORG Borgarnes 40.19 15 P P 02 42 37.6 +1.5
comp=Z,32nm,0.9s,baz=148,slow=10,SNR=6.3
comp=Z,32nm,0.9s
LCAR Lake Charles 40.27 294 P P 02 42 39.4 +2.3
CCM Cathedral Cave 40.34 297 P P 02 42 39.3 +1.6
CCM Cathedral Cave 40.34 297 P P 02 42 32.8 -4.9
baz=91
SAML Samuel 40.39 209 P P 02 42 38.1 -0.1
SAML Samuel 40.39 209 eP P 02 42 38.5 +0.3
TEIG Tepich 40.49 270 LR LR 02 57 10.0
comp=Z,4µm,21.8s,slow=33
EKA Eskdalemuir Ar 40.82 35 P P 02 42 41.1 -0.3
comp=Z,5.5nm,1.0s,baz=237,slow=7.7,SNR=6.4
comp=Z,5.5nm,1.0s
CCAR Cane Creek 40.87 291 P P 02 42 44.2 +2.1
CCAR IAmb IAmb 02 42 52.3
comp=Z,48nm,1.3s
COVE Coope Vega, Sa 40.95 254 P P 02 42 45.1 +2.1
PEZE Perez Zeledon, 41.01 252 P P 02 42 45.1 +1.6
PEZE IAmb IAmb 02 42 54.1
comp=Z,49nm,1.4s
UALR University of 41.29 292 P P 02 42 47.8 +2.2
UALR IAmb IAmb 02 42 55.3
comp=Z,35nm,1.1s
TULM Tulcn-Chalpat 41.48 236 P P 02 42 49.2 +1.4
TULM IAmb IAmb 02 42 57.2
comp=Z,68nm,1.3s
CLF Chambon-Foret 41.60 47 P P 02 42 47.9 0.0
JTS Las Juntas de 41.63 254 LR LR 02 59 10.1
comp=Z,96nm,19.1s,baz=52,slow=35
EYMN Ely 41.69 312 P P 02 42 50.7 +2.0
EYMN Ely 41.69 312 P P 02 42 43.0 -5.7
baz=102
X40A Basin Creek Fa 41.71 292 P P 02 42 51.3 +2.2
ICESG Greenland Ices 41.83 3 i P P 02 42 48.0 -1.9
ICESG IAmb IAmb 02 42 53.5
comp=Z,18nm,1.0s
TGUH Tegucigalpa,Un 41.91 260 P P 02 42 53.5 +2.5
TGUH IAmb IAmb 02 43 01.6
comp=Z,43nm,1.5s
WLAR White Oak Lake 42.00 291 P P 02 42 53.8 +2.4
ILULI Ilulissat 42.03 357 P P 02 42 52.8 +1.7
ILULI IAmb IAmb 02 43 10.7
comp=Z,68nm,1.4s
SCIA State Center 42.04 303 P P 02 42 46.3 -5.3
baz=94,SNR=5.1
IMBA Imbabura, San 42.08 236 P P 02 42 54.1 +1.4
SPMN Marine on St. 42.10 308 P P 02 42 47.5 -4.5
baz=98
JANB Januaria 42.19 180 eP P 02 42 51.5 -1.6
MIAR Mount Ida 42.32 292 P P 02 42 56.5 +2.5
MIAR Mount Ida 42.32 292 P P 02 42 50.7 -3.2
baz=86
PULU Pululahua 42.47 236 P P 02 42 56.5 +0.6
PULU IAmb IAmb 02 43 12.2
comp=Z,56nm,1.1s
ETMB Extrema 42.54 213 P P 02 42 55.3 -0.6
ETMB Extrema 42.54 213 eP P 02 42 55.7 -0.1
VILB Vilhena 42.88 203 P P 02 42 58.5 -0.2
VILB Vilhena 42.88 203 eP P 02 42 59.5 +0.8
DBIC Dimbokro 42.90 111 LR LR 02 57 50.6
comp=Z,962nm,20.5s,baz=287,slow=32
BDFB Brasilia 42.91 185 P P 02 42 58.7 -0.2
BDFB Brasilia 42.91 185 P P 02 42 59.3 +0.4
comp=Z,5.9nm,1.0s,baz=358,slow=4.8,SNR=6.1
BDFB LR LR 02 58 51.7
comp=Z,327nm,19.6s,baz=342,slow=33
comp=Z,5.9nm,1.0s
SLOR San Lorenzo - 42.98 235 P P 02 43 01.1 +1.0
ARAG Araguaiana, MT 43.41 190 eP P 02 43 03.0 0.0
NATX Nacogdoches 43.51 288 P P 02 43 05.5 +1.9
NATX Nacogdoches 43.51 288 P P 02 43 00.6 -3.1
baz=82
ESQI Esquipulas 43.52 262 P P 02 43 06.6 +2.6
MTO3 Montecristo 43.60 262 P P 02 43 06.8 +1.9
MTO3 IAmb IAmb 02 43 15.6
comp=Z,77nm,1.8s
CHSH Refugio Sur-Vo 43.77 235 P P 02 43 08.2 +1.6
CHSH IAmb IAmb 02 43 18.3
comp=Z,34nm,1.0s
X37A Clayton 43.79 292 P P 02 43 08.0 +2.1

TUL3 Leonard 44.03 294 P P 02 43 09.5 +1.6
TUL3 IAmb IAmb 02 43 17.2
comp=Z,34nm,1.2s
TUL3 Leonard 44.03 294 P P 02 43 04.3 -3.5
baz=86
BNI Bardonecchia 44.14 52 P P 02 43 08.7 -0.1
CZSB Cruzeiro do Su 44.30 222 P P 02 43 09.9 -0.2
CZSB Cruzeiro do Su 44.30 222 eP P 02 43 10.3 +0.2
CZSB epP pP 02 43 15.4 -0.6
SALV Santo Antonio 44.37 195 eP P 02 43 10.8 +0.2
WLF Walferdange 44.45 46 P P 02 43 10.6 -0.4
KSU1 Kansas State U 44.55 299 P P 02 43 13.4 +1.5
KSU1 IAmb IAmb 02 43 20.9
comp=Z,20nm,1.1s
KSU1 Kansas State U 44.55 299 P P 02 43 09.2 -2.7
baz=89
AGMN Agassiz Nation 44.63 312 P P 02 43 14.3 +1.9
AGMN IAmb IAmb 02 43 21.4
comp=Z,38nm,1.3s
AGMN Agassiz Nation 44.63 312 P P 02 43 09.6 -2.8
baz=99
ECSD EROS Data Cent 44.66 306 P P 02 43 10.6 -2.1
baz=94
PTLB Pontes e Lacer 44.88 200 P P 02 43 14.2 -0.4
PTLB IAmb IAmb 02 43 18.4
comp=Z,47nm,1.8s
PTLB Pontes e Lacer 44.88 200 eP P 02 43 14.9 +0.3
W35A Tecumseh 44.97 293 P P 02 43 17.3 +1.9
ULM Lac du Bonnet 44.97 315 P P 02 43 16.4 +1.3
ULM IAmb IAmb 02 43 23.2
comp=Z,25nm,1.2s
ULM Lac du Bonnet 44.97 315 P P 02 43 16.8 +1.6
comp=Z,4.0nm,0.9s,baz=92,slow=7.8,SNR=5.9
ULM PcP PcP 02 44 56.1 0.0
comp=Z,3.0nm,0.9s,baz=98,slow=2.7,SNR=3.3
ULM LR LR 03 01 48.3
comp=Z,270nm,18.2s,baz=104,slow=36
comp=Z,4.0nm,0.9s
SCO Scoresbysund 45.02 11 P P 02 43 16.6 +1.4
SCO IAmb IAmb 02 43 25.1
comp=Z,37nm,1.2s
SCO Scoresbysund 45.02 11 ⇓i P P 02 43 14.8 -0.4
SCO IAmb IAmb 02 43 18.5
comp=Z,11nm,1.0s
TAM Tamanrasset 45.33 84 P P 02 43 17.1 -1.5
SUMG Summit 45.36 3 P P 02 43 18.6 +0.3
SUMG IAmb IAmb 02 43 20.8
comp=Z,22nm,1.1s
SUMG Summit 45.36 3 i P P 02 43 16.9 -1.4
SUMG IAmb IAmb 02 43 22.5
comp=Z,8.7nm,0.9s
DIAM Diamantina, MG 45.42 179 eP P 02 43 18.2 -0.9
H10N2 ASCENSION HYDR 45.52 136 T T 03 31 32.8
baz=321,slow=75,SNR=488
H10N3 ASCENSION HYDR 45.52 136 T T 03 31 42.2
baz=321,slow=75,SNR=409
H10N1 ASCENSION HYDR 45.54 136 T T 03 31 34.3
baz=321,slow=75,SNR=434
BFO Black Forest 45.65 48 P P 02 43 20.1 -0.5
BFO IAmb IAmb 02 43 21.8
comp=Z,31nm,1.3s
BGNE Belgrade 45.71 302 P P 02 43 17.6 -3.6
baz=90
WHTX Lake Whitney, 45.83 289 P P 02 43 18.6 -3.6
baz=82
SJMB Sao Joao De Ma 45.93 176 eP P 02 43 21.4 -1.6
VSL Villasalto 45.96 60 P P 02 43 22.4 -0.8
VSL IAmb IAmb 02 43 24.3
comp=Z,32nm,1.2s
SIV San Ignacio 46.01 202 LR LR 03 01 00.4
comp=Z,155nm,21.1s,baz=79,slow=34
ARNL Arenillas 46.05 234 P P 02 43 24.4 +0.4
ARNL IAmb IAmb 02 43 32.2
comp=Z,33nm,1.3s
435B Jarrell 46.13 287 P P 02 43 21.9 -2.7
baz=80
TUE Stuetta 46.14 51 P P 02 43 24.4 -0.3
TUE IAmb IAmb 02 43 26.6
comp=Z,37nm,1.6s
KEST Kesra 46.17 66 P P 02 43 24.6 -0.3
KEST Kesra 46.17 66 P P 02 43 25.2 +0.2
comp=Z,25nm,1.0s,baz=243,slow=5.1,SNR=30
KEST LR LR 03 00 25.4
comp=Z,209nm,21.6s,baz=258,slow=33
comp=Z,25nm,1.0s
FCC Fort Churchill 46.28 327 P P 02 43 26.4 +1.1
STU Stuttgart 46.28 48 P P 02 43 23.7 -1.8
STU IAmb IAmb 02 43 32.7
comp=Z,18nm,1.2s
H10S3 ASCENSION HYDR 46.29 137 T T 03 32 32.8
baz=321,slow=74,SNR=242
H10S2 ASCENSION HYDR 46.30 137 T T 03 32 34.0
baz=259,slow=74,SNR=198
SUSD Miller 46.38 306 P P 02 43 23.7 -2.7
baz=92
PLPT Palo Pinto 46.43 290 P P 02 43 28.9 +2.0
PLPT IAmb IAmb 02 43 37.1
comp=Z,22nm,1.2s
DAVOX Davos/Dischmat 46.53 50 LR LR 02 59 07.8
comp=Z,259nm,21.5s,baz=266,slow=31
WMOK Wichita Mounta 46.57 293 P P 02 43 25.3 -2.8
baz=84
DAVA Damuels 46.57 50 i P P 02 43 28.4 +0.3
comp=Z,23nm,1.1s,SNR=8.5
PRMA PARMA 46.70 53 P P 02 43 28.3 -0.5
FUORN Ofenpass-Fuorn 46.78 51 P P 02 43 29.5 -0.2
FUORN IAmb IAmb 02 43 32.9
comp=Z,32nm,1.7s
CBKS Cedar Bluff 46.99 299 P P 02 43 26.9 -4.5
baz=87
MDND Maddock 47.07 311 P P 02 43 27.9 -3.8
baz=95
FETA Feichten 47.13 50 i P P 02 43 32.7 +0.3
comp=Z,18nm,1.2s,SNR=7.9
RETA Reutte 47.19 49 i P P 02 43 32.8 +0.1
comp=Z,13nm,1.1s,SNR=6.9
RVDE Rio Verde (Bra 47.23 193 eP P 02 43 33.3 +0.1
OSSC Osservatorio P 47.33 55 P P 02 43 32.7 -1.2
MOTA Moosalm 47.41 50 i P P 02 43 34.8 +0.2
comp=Z,25nm,1.9s,SNR=8.6
CMIG Matias Romero 47.45 268 LR LR 03 02 44.1
comp=Z,188nm,20.3s,baz=63,slow=35
ATAH Atahualpa 47.45 229 LR LR 03 05 29.0
comp=Z,149nm,20.4s,baz=27,slow=38
SQTA Sankt Quirin 47.47 50 i P P 02 43 35.4 +0.4
comp=Z,26nm,1.2s,SNR=9.1
TATN Tataouine 47.54 70 P P 02 43 33.5 -2.1
TATN IAmb IAmb 02 43 35.3
comp=Z,22nm,1.1s
ABTX Abilene, Hawle 47.57 290 P P 02 43 33.0 -2.8
baz=81
TEOL Teolo 47.69 52 P P 02 43 34.9 -1.6
TEOL IAmb IAmb 02 43 36.8
comp=Z,20nm,1.1s
WATA Walderalm 47.73 50 i P P 02 43 37.0 -0.1
comp=Z,23nm,1.4s,SNR=8.8
WTTA Wattenberg 47.76 50 i P P 02 43 37.4 +0.1
comp=Z,18nm,1.1s,SNR=10.0
APMT Aspermont 47.86 291 P P 02 43 39.6 +1.5
APMT IAmb IAmb 02 43 47.1
comp=Z,18nm,1.0s
JCT Junction City 48.06 288 P P 02 43 41.3 +1.6
JCT Junction City 48.06 288 P P 02 43 35.5 -4.2
baz=79
JMIC Jan Mayen 48.09 15 LR LR 02 59 18.5
comp=Z,73nm,19.0s,baz=272,slow=30
833A Chaparral WMA, 48.15 285 P P 02 43 36.2 -4.2
baz=77
CESX Cesi 48.31 56 P P 02 43 40.5 -0.9
CESX IAmb IAmb 02 43 43.8
comp=Z,24nm,1.2s
ABTA Abfaltersbach 48.33 51 i P P 02 43 41.2 -0.4
comp=Z,21nm,1.0s,SNR=11
LESA Schwarzleotal 48.48 50 eP P 02 43 42.3 -0.5
comp=Z,21nm,1.7s
DBG Daneborg 48.64 9 i P P 02 43 42.8 -0.6
DBG IAmb IAmb 02 43 48.6
comp=Z,3.8nm,0.9s
OGNE Ogallala 48.65 302 P P 02 43 39.9 -4.3
baz=87
KBA Koelnbreinsper 48.92 50 i P P 02 43 45.7 -0.5
comp=Z,11nm,1.1s,SNR=6.3
AMTX Amarillo 48.92 294 P P 02 43 42.3 -4.0
baz=82
CLL Collm 49.02 45 P P 02 43 46.0 -0.7
CLL IAmb IAmb 02 43 49.3
comp=Z,42nm,2.0s
CLL Collm 49.02 45 i P P 02 43 46.5 -0.2
comp=Z,94nm,2.5s
CLL i x x 02 43 54.9
CLL AMS AMS 03 01 00.0
comp=N,100nm,19.7s
CLL AMS AMS 03 01 00.0
comp=E,300nm,21.6s
CLL AMS AMS 03 01 00.0
comp=Z,300nm,18.8s
PRED Cave del Predi 49.05 51 P P 02 43 46.1 -1.0
PRED IAmb IAmb 02 43 47.7
comp=Z,18nm,1.1s
LPAZ La Paz 49.08 211 P P 02 43 48.2 0.0
LPAZ IAmb IAmb 02 43 56.0
comp=Z,17nm,1.1s
LPAZ La Paz 49.08 211 P P 02 43 48.7 +0.5
comp=Z,7.0nm,0.9s,baz=3.9,slow=5.7,SNR=17
LPAZ LR LR 03 03 32.5
comp=Z,175nm,20.1s,baz=22,slow=35
comp=Z,7.0nm,0.9s
LPAZ La Paz 49.08 211 eP P 02 43 48.5 +0.3
MYKA Terra Mystica 49.10 51 i P P 02 43 47.0 -0.6
comp=Z,12nm,1.3s,SNR=5.2
BIOA Bad Ischl, Aus 49.14 49 i P P 02 43 47.2 -0.6
comp=Z,15nm,1.3s,SNR=6.0
CADS Cadrg 49.16 51 eP P 02 43 46.9 -1.1
KHC Kasperske Hory 49.19 47 P P 02 43 47.2 -0.9
KHC IAmb IAmb 02 43 49.4
comp=Z,24nm,1.4s
KSCO Kaye Shedlock' 49.23 299 P P 02 43 45.2 -3.5
baz=85
GEC2 GERESS Array S 49.25 48 P P 02 43 47.7 -0.9
GEC2 IAmb IAmb 02 43 49.7
comp=Z,31nm,1.5s
GERES GERESS Array B 49.25 48 P P 02 43 47.9 -0.8
GERES GERESS Array B 49.25 48 P P 02 43 48.6 0.0
comp=Z,3.2nm,0.9s,baz=280,slow=8.0,SNR=17
GERES LR LR 03 00 47.8
comp=Z,116nm,21.5s,baz=259,slow=32
comp=Z,3.2nm,0.9s
FFC Flin Flon 49.44 320 P P 02 43 51.3 +1.5
FFC IAmb IAmb 02 43 59.2
comp=Z,24nm,1.4s
CRNS Crni Vrh 49.52 52 eP P 02 43 50.0 -0.6
BRG Berggiesshubel 49.57 45 eP P 02 43 51.3 +0.4
BRG Amp 02 43 51.5
comp=Z,12nm,1.4s
BRG Berggiesshubel 49.57 45 P P 02 43 59.8 +8.9
BRG Amp 02 44 00.7
comp=Z,8.4nm,1.2s
MOA Molln 49.57 49 eP P 02 43 50.5 -0.6
comp=Z,15nm,2.0s
CEY Cerknica 49.63 52 ⇓i P P 02 43 51.1 -0.4
LJU Ljubljana 49.70 52 eP P 02 43 51.9 -0.2
OBKA Obir 49.73 51 i P P 02 43 51.9 -0.5
comp=Z,26nm,1.0s,SNR=14
OBKA Obir 49.73 51 ⇓i P P 02 43 51.7 -0.6
NBO00 NORSAR Array S 49.76 32 P P 02 43 52.0 -0.2
NB2 NORSAR Subarra 49.96 32 P P 02 43 54.3 +0.5
comp=Z,71nm,2.0s,baz=252,slow=7.9
NB2 NORSAR Subarra 49.96 32 P P 02 43 54.3 +0.5
baz=252,slow=7.9
NOA NORSAR Array B 49.96 32 P P 02 43 54.6 +0.8
comp=Z,4.7nm,0.9s,baz=254,slow=7.8,SNR=12
NOA LR LR 03 01 13.7
comp=Z,156nm,21.4s,baz=260,slow=32
comp=Z,4.7nm,0.9s
NB201 NORSAR Array S 50.00 32 P P 02 43 54.4 +0.3
NB201 IAmb IAmb 02 44 02.6
comp=Z,31nm,1.3s
RSSD Black Hills 50.02 306 P P 02 43 51.4 -3.4
baz=89
VAE Valguarnera 50.05 63 LR LR 03 02 13.5
comp=Z,471nm,19.6s,baz=274,slow=33
SOKA Soboth 50.06 51 i P P 02 43 53.8 -1.1
comp=Z,13nm,1.9s,SNR=9.0
PERS Pernice 50.12 51 eP P 02 43 53.8 -1.5
NNA Nana 50.14 223 LR LR 03 03 44.0
comp=Z,96nm,21.7s,baz=19,slow=34
DGMT Dagmar 50.18 312 P P 02 43 53.1 -2.6
baz=92
BOJS Bojanci 50.21 52 eP P 02 43 55.6 -0.3
NEEM North Greenlan 50.23 358 i P P 02 43 55.8 -0.1
NEEM IAmb IAmb 02 44 00.5
comp=Z,6.1nm,0.9s
CRES Cresnjev 50.35 52 eP P 02 43 56.5 -0.5
MNHN Monahans 50.40 289 P P 02 43 59.1 +1.5
ARSA Arzberg 50.41 50 i P P 02 43 56.4 -1.0
comp=Z,14nm,1.1s,SNR=8.6
TRCB Terra Rica 50.50 190 P P 02 43 58.2 -0.1
CONA Conrad Observa 50.65 49 i P P 02 43 58.7 -0.6
comp=Z,8.2nm,1.1s,SNR=7.1
T25A Trinidad 50.83 297 P P 02 43 57.8 -3.1
baz=83
PB18 Visviri 50.84 211 P P 02 44 00.7 -0.8
PB18 IAmb IAmb 02 44 18.9
comp=Z,37nm,1.3s
LDASE Londrina, Braz 50.88 188 eP P 02 44 00.8 -0.4
HFS Hagfors 50.92 33 P P 02 44 01.7 +0.7
comp=Z,7.6nm,0.9s,baz=238,slow=10,SNR=12
HFS LR LR 03 02 19.4
comp=Z,171nm,19.4s,baz=246,slow=32
comp=Z,7.6nm,0.9s
RONA Rosalia, Austr 50.94 49 i P P 02 44 01.0 -0.5
comp=Z,14nm,1.0s,SNR=11
DAG Danmarks Havn 50.98 7 i P P 02 43 59.6 -1.6
DAG IAmb IAmb 02 44 03.9
comp=Z,5.8nm,0.9s
AMBA Amambai (Brazi 51.03 192 eP P 02 44 02.4 +0.2
KRUC Moravsky 51.04 48 eP P 02 44 01.8 -0.3
A050A Klekovaca 51.14 54 ⇓i P P 02 44 01.8 -1.2
JRQG Juriquilla Cam 51.14 275 P P 02 44 05.2 +1.6
JRQG IAmb IAmb 02 44 32.0
comp=Z,7.3nm,0.3s
VRAC Vranov 51.17 47 ⇑P P 02 44 03.4 +0.3
VRAC Vranov 51.17 47 eP P 02 44 03.0 -0.1
VRAC Vranov 51.17 47 LR LR 03 03 13.1
comp=Z,96nm,20.0s,baz=269,slow=33
Q24A Divide 51.19 299 P P 02 44 00.1 -3.7
baz=84
A051A Mrakovica 51.39 53 ⇓i P P 02 44 04.2 -0.7
ISCO Idaho Springs 51.46 300 P P 02 44 07.8 +2.0
ISCO Idaho Springs 51.46 300 P P 02 44 02.9 -3.0
baz=84
ZST Bratislava 51.49 49 eP P 02 44 06.2 +0.7
LAO LASA Array 51.52 309 P P 02 44 02.9 -2.9
baz=89
MGRS Mrkonjic Grad 51.53 54 eP P 02 44 05.2 -0.7
TXAR Lajitas Array 51.58 287 P P 02 44 08.3 +1.7
comp=Z,1.9nm,0.9s,baz=99,slow=8.2,SNR=18
TXAR PcP PcP 02 45 22.1 +1.7
comp=Z,0.9nm,0.9s,baz=92,slow=4.5,SNR=1.9
TXAR LR LR 03 07 01.9
comp=Z,63nm,18.2s,baz=75,slow=37
comp=Z,1.9nm,0.9s
BLY Banja Luka 51.59 53 ⇓i P P 02 44 05.3 -1.0
MODS Modra-Piesok 51.61 49 eP P 02 44 06.5 +0.1
SDCO Great Sand Dun 51.61 298 P P 02 44 09.2 +2.3
SDCO Great Sand Dun 51.61 298 P P 02 44 02.6 -4.3
baz=83
N23A Red Feather La 51.61 302 P P 02 44 02.0 -4.8
baz=85
TIP Timpagrande 51.69 60 ⇓P P 02 44 05.8 -1.4
TIP Timpagrande 51.69 60 P P 02 44 05.9 -1.4
MORC Moravsky Berou 51.80 47 ⇑P P 02 44 09.4 +1.5
MORC Moravsky Berou 51.80 47 P P 02 44 07.7 -0.2
MORC Moravsky Berou 51.80 47 eP P 02 44 07.7 -0.2
JAVC Velka Javorina 51.87 48 eP P 02 44 08.3 -0.1
K22A Casper 51.91 304 P P 02 44 04.4 -4.5
baz=86
MOIG Morelia 52.14 274 P P 02 44 13.5 +2.4
SRO Srobarova 52.30 49 eP P 02 44 10.9 -0.6
ZAIG Zacatecas 52.37 279 P P 02 44 14.7 +1.9
MNTX Cornudas Mount 52.52 290 P P 02 44 15.5 +2.0
MNTX Cornudas Mount 52.52 290 P P 02 44 07.7 -5.8
baz=78
GO01 Chusmiza 52.52 210 P P 02 44 13.3 -0.7
MORH Mrgy, Hungar 52.56 51 ⇑P P 02 44 13.6 +0.1
VYHS Vyhne 52.64 48 eP P 02 44 13.9 -0.2
ANMO Albuquerque 52.79 294 P P 02 44 18.0 +2.4
ANMO Albuquerque 52.79 294 P P 02 44 10.9 -4.8
baz=80
ANMO Albuquerque 52.79 294 LR LR 03 04 51.9
comp=Z,668nm,20.5s,baz=168,slow=34
PB11 IPOC Station P 52.81 210 P P 02 44 14.5 -1.2

HAPS Han Pijesak,Bl 52.89 54 ⇓ *i*P P 02 44 15.6 -0.5
PB08 IPOC Station P 52.92 209 P P 02 44 16.0 -0.8
PB08 IAmb IAmb 02 44 23.6
comp=Z,35nm,1.2s
LANS Liptovska Anna 53.06 48 *e*P P 02 44 18.4 +1.2
DRME Dracevica, Mon 53.22 56 *e*P P 02 44 18.2 -0.2
RUDO Rudo 53.23 55 *e*P P 02 44 17.0 -1.5
BBLS Lazi&#263i 53.24 54 *e*P P 02 44 18.3 -0.3
PDG Podgorica 53.25 56 ⇑P P 02 44 17.3 -1.3
PDG Podgorica 53.25 56 P P 02 44 17.9 -0.7
PDG IAmb IAmb 02 44 19.9
comp=Z,22nm,1.1s
PDG Podgorica 53.25 56 ⇓ *i*P P 02 44 17.9 -0.7
OJC Ojcow 53.27 46 *e*P P 02 44 18.8 +0.1
OJC Ojcow 53.27 46 P P 02 44 18.2 -0.4
OJC IAmb IAmb 02 44 20.3
comp=Z,60nm,2.0s
TEKS Tekeris 53.27 53 *e*P P 02 44 17.0 -1.8
Y22D IRIS PASSCAL I 53.33 294 P P 02 44 13.2 -6.3
baz=79
Y22F Passcal Instru 53.33 294 P P 02 44 13.0 -6.5
baz=79
PSZ Piszkesteto 53.36 49 P P 02 44 18.9 -0.5
FRGS Fruska Gora 53.43 53 ⇓ *i*P P 02 44 18.9 -1.1
O20A White River Ci 53.43 301 P P 02 44 15.9 -4.4
baz=83
EPT El Paso 53.44 291 P P 02 44 21.8 +1.4
NIE Niedzica 53.60 47 *e*P P 02 44 22.3 +1.1
SJES Sjenica 53.70 55 *e*P P 02 44 21.3 -0.8
RES Resolute Bay 53.71 345 P P 02 44 23.1 +1.6
RES Resolute Bay 53.71 345 LR LR 03 05 29.9
comp=Z,311nm,20.3s,baz=116,slow=34
RLMT Red Lodge 53.71 307 P P 02 44 16.7 -5.6
baz=86
PUK Puka 53.76 56 P P 02 44 21.9 -0.6
PUK IAmb IAmb 02 44 25.3
comp=Z,34nm,1.5s
EGMT Eagleton 53.89 311 P P 02 44 24.7 +1.4
EGMT Eagleton 53.89 311 P P 02 44 19.2 -4.1
baz=88,SNR=6.9
MVCO Mesa Verde 54.05 298 P P 02 44 20.5 -4.4
baz=81
BW06 Boulder Array 54.12 305 P P 02 44 21.9 -3.5
baz=84,SNR=27
PDAR Pinedale Array 54.12 305 P P 02 44 27.0 +1.7
PDAR Pinedale Array 54.12 305 P P 02 44 27.2 +1.9
comp=Z,7.7nm,0.8s,baz=90,slow=8.9,SNR=50
PDAR LR LR 03 05 30.7
comp=Z,552nm,21.9s,baz=73,slow=34
comp=Z,7.7nm,0.8s
121A Cookes Peak, D 54.34 292 P P 02 44 23.9 -3.1
baz=78
CRVS Cervenica-Dubn 54.37 48 *e*P P 02 44 27.8 +1.0
LKWY Lake 54.56 307 P P 02 44 30.6 +2.1
LKWY IAmb IAmb 02 44 38.7
comp=Z,25nm,1.3s
SIRR Siria 54.65 51 ⇑P P 02 44 29.4 +0.6
BZS Buzias 54.67 52 ⇓P P 02 44 28.6 -0.4
H17A Grant Village 54.70 307 P P 02 44 26.8 -2.7
baz=84
LOHW Long Hollow 54.80 306 P P 02 44 31.8 +1.6
LOHW IAmb IAmb 02 44 39.9
comp=Z,25nm,1.4s
CPUP Villa Florida 54.81 194 P P 02 44 29.6 -0.5
comp=Z,3.4nm,1.0s,baz=42,slow=12,SNR=3.0
CPUP LR LR 03 08 09.8
comp=Z,87nm,18.3s,baz=32,slow=36
comp=Z,3.4nm,1.0s
MDVR Moldovita 54.81 53 ⇑P P 02 44 29.1 -1.0
BOVS Bovan 54.92 54 ⇑P P 02 44 28.6 -2.2
REDW Red Top Meadow 55.00 305 P P 02 44 33.6 +1.9
LVC Limon Verde 55.01 208 P P 02 44 31.6 -0.4
LVC Limon Verde 55.01 208 LR LR 03 08 01.0
comp=Z,139nm,19.3s,baz=6.5,slow=36
LVC Limon Verde 55.01 208 *e*P P 02 44 32.3 +0.3
AF01 San Pedro de A 55.01 207 P P 02 44 32.0 0.0
SURR Surduc 55.02 52 ⇑P P 02 44 32.1 +0.7
P18A Preston Nutter 55.03 301 P P 02 44 33.6 +1.5
P18A IAmb IAmb 02 44 41.2
comp=Z,20nm,1.1s
KWP Kalwaria Pacla 55.16 47 *e*P P 02 44 34.2 +1.7
KWP Kalwaria Pacla 55.16 47 P P 02 44 32.6 +0.2
AHID Auburn Hatcher 55.25 305 P P 02 44 35.1 +1.6
AHID IAmb IAmb 02 44 42.9
comp=Z,22nm,1.1s
HERR Herculane 55.30 53 ⇑P P 02 44 32.4 -1.1
SRU San Rafael Swe 55.32 300 P P 02 44 35.8 +1.8
SRU IAmb IAmb 02 44 43.8
comp=Z,18nm,1.1s
BOZ Bozeman (W) 55.33 308 P P 02 44 35.2 +1.3
BOZ IAmb IAmb 02 44 42.7
comp=Z,24nm,1.6s
BOZ Bozeman (W) 55.33 308 P P 02 44 31.4 -2.6
baz=85
DRGR 55.34 50 ⇑P P 02 44 34.2 +0.4
SUW Suwalki 55.36 42 *e*P P 02 44 34.0 +0.2
SUW Suwalki 55.36 42 P P 02 44 32.8 -1.0
SUW IAmb IAmb 02 44 34.7
comp=Z,34nm,1.5s
NOR Nord 55.37 5 *i*P P 02 44 32.6 -0.9
NOR IAmb IAmb 02 44 36.1
comp=Z,3.7nm,0.8s
W18A Petrified Fore 55.40 295 P P 02 44 31.5 -3.2
baz=79
GZR Gura Zlata 55.50 52 ⇑P P 02 44 34.1 -0.9
EUNU Eureka 55.55 352 P P 02 44 36.3 +1.4
TICA Tres Isletas 55.60 197 *e*P P 02 44 36.2 +0.5
BLKB Belogradchik 55.62 54 ⇑P P 02 44 35.2 -0.7
MARR Marisel-Cluj 55.62 50 ⇑P P 02 44 36.4 +0.4
VAF Ylistaro 55.65 31 *e*P P 02 44 36.7 +1.0
HWUT Hardware Ranch 55.74 303 P P 02 44 38.7 +1.6
HWUT IAmb IAmb 02 44 46.4
comp=Z,18nm,1.2s
PABE Paberze 55.83 40 P P 02 44 36.8 -0.4
PABE Paberze 55.83 40 *e*P P 02 44 39.2 +2.1
MTSE Matsula 55.84 36 *e*P P 02 44 37.8 +0.7
CJR Cluj-Napoca 55.95 50 ⇑P P 02 44 35.3 -3.0
EDM Edmonton 56.02 317 P P 02 44 40.0 +1.3
KEF Keuruu 56.57 32 *e*P P 02 44 43.9 +1.5
WUAZ Wupatki 56.64 296 P P 02 44 46.2 +2.8
WUAZ IAmb IAmb 02 44 54.2
comp=Z,34nm,1.4s
WUAZ Wupatki 56.64 296 P P 02 44 39.5 -4.0
baz=78
MSO Missoula 56.81 310 P P 02 44 46.2 +1.8
MSO Missoula 56.81 310 P P 02 44 41.3 -3.1
baz=84
TUC Tucson 56.86 292 P P 02 44 46.8 +1.8
TUC Tucson 56.86 292 P P 02 44 41.1 -3.9
baz=76
YKA Yellowknife Ar 56.91 329 P P 02 44 45.4 +0.6
YKA Yellowknife Ar 56.91 329 P P 02 44 45.5 +0.8
comp=Z,3.4nm,0.9s,baz=86,slow=7.3,SNR=40
YKA PcP PcP 02 45 40.9 +0.9
comp=Z,1.3nm,0.9s,baz=87,slow=4.6,SNR=3.9
YKA LR LR 03 08 10.7
comp=Z,1µm,20.5s,baz=86,slow=35
comp=Z,3.4nm,0.9s
BUR08 Bucovina Ar. S 56.95 49 P P 02 44 45.2 -0.3
BUR08 IAmb IAmb 02 45 05.0
comp=Z,36nm,1.4s
BURAR Bucovina Array 56.97 49 ⇑P P 02 44 44.5 -1.0
BURAR Bucovina Array 56.97 49 P P 02 44 45.6 +0.1
ARBE Arbavere 56.98 35 *e*P P 02 44 46.3 +1.1
FINES FINESS Array B 57.10 33 P P 02 44 46.8 +0.7
comp=Z,9.5nm,1.0s,baz=272,slow=5.5,SNR=18
FINES LR LR 03 06 11.0
comp=Z,107nm,18.7s,baz=263,slow=33
comp=Z,9.5nm,1.0s
FIA1 FINESS Array S 57.10 33 P P 02 44 46.4 +0.3
HUMR Humele 57.16 53 ⇑P P 02 44 46.4 -0.4
DOPR Dopca 57.26 51 ⇑P P 02 44 47.7 +0.2
PB14 IPOC Station P 57.42 208 P P 02 44 48.3 -0.8
HLID Hailey 57.55 306 P P 02 44 50.8 +0.9
HLID Hailey 57.55 306 P P 02 44 46.2 -3.7
baz=82,SNR=7.5
GO02 Mina Guanaco 57.56 207 P P 02 44 49.5 -0.6
GO02 IAmb IAmb 02 44 50.9
comp=Z,23nm,1.1s
ARCES ARCESS Array B 57.65 23 P P 02 44 50.3 +0.4
ARCES ARCESS Array B 57.65 23 P P 02 44 50.6 +0.7
comp=Z,21nm,0.9s,baz=270,slow=6.1,SNR=34
ARCES LR LR 03 03 46.7
comp=Z,71nm,20.7s,baz=276,slow=30
comp=Z,21nm,0.9s

MLR Muntele Rosu 57.71 52 ⇓P P 02 44 50.0 -0.8
MLR Muntele Rosu 57.71 52 P P 02 44 50.8 -0.1
MLR Muntele Rosu 57.71 52 P P 02 44 51.6 +0.8
comp=Z,15nm,0.9s,baz=306,slow=5.3,SNR=16
MLR LR LR 03 08 54.3
comp=Z,138nm,18.2s,baz=250,slow=35
comp=Z,15nm,0.9s
COVR Voineasa-Covas 57.84 51 ⇓P P 02 44 52.1 +0.4
ITQB Itaqui 57.91 192 P P 02 44 52.0 0.0
ITQB Itaqui 57.91 192 *e*P P 02 44 50.9 -1.2
ELND Elena 58.03 55 ⇑P P 02 44 51.2 -1.8
PLOR Plostina 58.15 51 ⇑P P 02 44 53.5 -0.3
KEV Kevo 58.20 23 P P 02 44 54.0 +0.3
VRI Vrincioaia 58.20 51 ⇓P P 02 44 52.3 -1.9
SPR3 Spring Creek 3 58.26 301 P P 02 44 56.7 +1.6
SPR3 IAmb IAmb 02 45 04.9
comp=Z,22nm,1.2s
214A Organ Pipe Nat 58.62 292 P P 02 44 53.4 -3.9
baz=75
ELK Elko 58.62 303 P P 02 44 58.5 +1.1
ELK Elko 58.62 303 LR LR 03 09 24.2
comp=Z,395nm,18.8s,baz=93,slow=35
LPIG La Paz 58.72 283 LR LR 03 10 49.4
comp=Z,254nm,19.2s,baz=38,slow=37
NEW Newport 58.79 312 P P 02 44 54.3 -3.9
baz=83,SNR=9.4
NEW Newport 58.79 312 LR LR 03 09 37.8
comp=Z,508nm,18.6s,baz=81,slow=35
SORM Soroca 59.00 48 ⇓P P 02 44 58.0 -1.6
PDMCI Parker Dam,Lak 59.12 295 P P 02 44 58.0 -2.7
baz=76
KIEV Kiev 59.24 45 ⇑P P 02 45 01.0 -0.2
AK05 Malin Array Si 59.25 45 P P 02 45 00.2 -1.0
AKASG Malin Array Be 59.25 45 P P 02 45 00.5 -0.9
comp=Z,5.7nm,0.9s,baz=273,slow=5.9,SNR=20
AKASG LR LR 03 07 33.2
comp=Z,192nm,19.4s,baz=262,slow=33
comp=Z,5.7nm,0.9s
AKBB Malin Array Si 59.25 45 P P 02 45 00.2 -1.1
AKBB IAmb IAmb 02 45 03.1
comp=Z,20nm,1.2s
R11B Troy Canyon, C 59.35 300 P P 02 45 04.1 +1.6
R11B Troy Canyon, C 59.35 300 P P 02 44 59.4 -3.1
baz=78
NEE2 Needles Airpor 59.40 296 P P 02 44 59.8 -2.8
baz=76
JOF Joensuu 59.58 31 *e*P P 02 45 04.3 +0.9
IRM Iron Mountain 59.97 295 P P 02 45 03.9 -2.7
baz=76
GLA Glamis 59.99 294 P P 02 45 04.0 -2.8
baz=75
GMRC Granite Mounta 60.22 296 P P 02 45 05.3 -3.2
baz=76
PURM Purcari 60.26 50 ⇑P P 02 45 06.5 -1.9
TUQ Turquoise Moun 60.27 297 P P 02 45 04.8 -4.0
baz=76
BC3 Big Chuckawall 60.34 295 P P 02 45 05.8 -3.4
baz=75
J08A Circle Bar Ran 60.50 306 P P 02 45 11.6 +1.4
TPH Tonopah 60.67 300 P P 02 45 13.1 +1.5
BELC Belle Mtn. Jos 60.69 295 P P 02 45 08.3 -3.4
baz=75
MANT Manisa 60.89 59 P P 02 45 12.6 -0.4
MANT IAmb IAmb 02 45 14.1
comp=Z,19nm,1.1s
GSC Goldstone, Bar 61.01 297 P P 02 45 09.4 -4.4
baz=75
GRAC Grapevine Rang 61.03 299 P P 02 45 10.3 -3.5
baz=76
IKP In-Ko-Pah, Jac 61.13 294 P P 02 45 11.5 -3.2
baz=74
TPFO Pinon Flats 61.16 295 P P 02 45 11.6 -3.2
baz=75
PFO Pinyon Flats O 61.16 295 P P 02 45 11.3 -3.6
baz=75
PFO Pinyon Flats O 61.16 295 LR LR 03 11 06.3
comp=Z,369nm,19.0s,baz=72,slow=35
MONP2 Monument Peak 61.32 294 P P 02 45 12.0 -4.1
baz=74
A36M Sachs Harbour 61.35 340 P P 02 45 16.9 +1.6
A36M IAmb IAmb 02 45 20.1
comp=Z,16nm,0.9s
A36M Sachs Harbour 61.35 340 P P 02 45 11.3 -4.0
baz=89,SNR=14
MPMC Manual Prospec 61.36 298 P P 02 45 12.5 -3.7
baz=76
BBRC Big Bear Solar 61.36 296 P P 02 45 12.2 -4.2
baz=75
NVAR Mina Array Bea 61.42 301 P P 02 45 18.0 +1.3
NVAR Mina Array Bea 61.42 301 P P 02 45 17.7 +1.1
comp=Z,1.5nm,0.8s,baz=89,slow=4.1,SNR=3.8
NVAR LR LR 03 12 10.0
comp=Z,392nm,18.2s,baz=84,slow=36
comp=Z,1.5nm,0.8s
LRMC Laurel Mtn Rad 61.65 297 P P 02 45 15.0 -3.2
baz=75
CWC Cottonwood Cre 61.73 299 P P 02 45 14.2 -4.5
baz=75
MURC Murrieta 61.76 295 P P 02 45 14.5 -4.3
baz=74
109C Camp Elliot, M 61.88 294 P P 02 45 14.9 -4.7
baz=74
BFSC Mount Baldy Ra 61.96 296 P P 02 45 16.2 -4.1
baz=74
EDW2 Edwards Air Fo 62.06 297 P P 02 45 17.3 -3.6
baz=75
ELL Elmali 62.35 61 P P 02 45 23.1 +0.2
J05D Fort Rock, OR 62.48 307 P P 02 45 25.2 +1.6
FMP Fort Macarthur 62.61 296 P P 02 45 20.8 -3.7
baz=74
ARVC Arvin 62.65 297 P P 02 45 22.2 -2.5
baz=74
VES Vestal, Richgr 62.66 298 P P 02 45 21.5 -3.3
baz=75
OSI Osito Audit: C 62.71 297 P P 02 45 21.2 -4.0
baz=74
CIS Catalina Islan 62.79 295 P P 02 45 22.0 -3.7
baz=74
SCI2 San Clemente I 63.02 295 P P 02 45 24.4 -2.8
baz=74
OBN Obninsk 63.03 40 P P 02 45 27.1 +0.2
OBN Obninsk 63.03 40 P P 02 45 27.7 +0.9
comp=Z,9.3nm,0.4s,baz=86,slow=21,SNR=8.3
OBN LR LR 03 10 01.7
comp=Z,255nm,20.5s,baz=332,slow=33
comp=Z,9.3nm,0.4s
TGTN Hyland Airport 63.38 328 P P 02 45 26.1 -3.1
baz=81
PKM Mcpherson Peak 63.49 297 P P 02 45 26.2 -4.4
baz=74
SBC Santa Barbara 63.54 297 P P 02 45 26.9 -3.7
baz=74
ORV Oroville 63.56 303 P P 02 45 32.2 +1.5
SNCC San Nicolas Is 63.73 295 P P 02 45 28.6 -3.3
baz=73
BR231 Keskin MP Arra 63.74 57 P P 02 45 31.4 -0.7
BR231 IAmb IAmb 02 46 03.0
comp=Z,21nm,1.1s
ANTO Ankara 63.75 57 P P 02 45 31.5 -0.6
YBH Yreka Blue Hor 63.91 305 LR LR 03 12 48.1
comp=Z,455nm,19.2s,baz=96,slow=35
BRTR Keskin Array B 64.42 57 P P 02 45 36.8 +0.3
comp=Z,6.8nm,0.8s,baz=270,slow=4.3,SNR=19
comp=Z,6.8nm,0.8s
INK Inuvik 64.49 336 P P 02 45 36.9 +0.6
INK IAmb IAmb 02 45 38.4
comp=Z,8.7nm,0.9s
INK Inuvik 64.49 336 P P 02 45 33.7 -2.6
baz=80,SNR=7.9
INK Inuvik 64.49 336 LR LR 03 11 55.4
comp=Z,406nm,21.8s,baz=18,slow=34
F31M Tsiigehtchic 64.73 335 P P 02 45 34.0 -3.8
baz=79
DLBC Dease Lake 64.79 325 P P 02 45 39.8 +1.3
DLBC IAmb IAmb 02 45 48.0
comp=Z,26nm,1.4s
DLBC Dease Lake 64.79 325 P P 02 45 35.0 -3.5
baz=78
DLBC Dease Lake 64.79 325 LR LR 03 12 03.4
comp=Z,250nm,21.8s,baz=50,slow=34
G31M Satah River 65.03 334 P P 02 45 40.2 +0.4
G31M IAmb IAmb 02 45 41.9
comp=Z,11nm,0.9s
G31M Satah River 65.03 334 P P 02 45 35.4 -4.4
baz=79,SNR=9.2
BBB Bella Bella 65.05 318 LR LR 03 13 29.1
comp=Z,232nm,19.1s,baz=83,slow=35

R33M Jennings River 65.07 326 P P 02 45 37.2 -3.2
baz=78,SNR=8.8
MT08 Bocatoma Ro 65.16 203 P P 02 45 42.1 +0.8
MT08 IAmb IAmb 02 45 48.9
comp=Z,13nm,1.1s
T35M Bob Quinn 65.21 323 P P 02 45 38.6 -2.6
baz=77
H31M Peel River 65.28 333 P P 02 45 42.5 +0.9
H31M IAmb IAmb 02 45 44.1
comp=Z,11nm,1.1s
H31M Peel River 65.28 333 P P 02 45 38.8 -2.7
baz=78
F30M Barrier River 65.47 335 P P 02 45 40.2 -2.5
baz=78
S34M Telegraph Cree 65.47 324 P P 02 45 40.5 -2.4
baz=77
MT13 San Alfonso 65.52 203 P P 02 45 44.3 +0.8
FARO Faro, Yukon 65.61 329 P P 02 45 44.7 +0.9
FARO IAmb IAmb 02 45 52.2
comp=Z,17nm,1.3s
FARO Faro, Yukon 65.61 329 P P 02 45 41.1 -2.7
baz=77
N32M Quiet Lake 65.73 328 P P 02 45 42.4 -2.1
baz=77
G30M tAoh Zraii Nji 65.77 334 P P 02 45 41.7 -2.9
baz=77
P33M Teslin, Yukon 65.81 327 P P 02 45 42.6 -2.5
baz=77
E29M Blow River 66.06 336 P P 02 45 42.8 -3.7
baz=76
M31M Drury Creek, Y 66.09 329 P P 02 45 45.0 -1.9
baz=76
EPYK Eagle Plains 66.10 334 P P 02 45 47.7 +0.8
EPYK IAmb IAmb 02 45 48.6
comp=Z,24nm,1.4s
EPYK Eagle Plains 66.10 334 P P 02 45 43.7 -3.1
baz=76
D28M Stokes Point 66.13 337 P P 02 45 45.0 -1.8
baz=76
I30M Mount Dempster 66.24 333 P P 02 45 45.2 -2.6
baz=76
BNN Bunyan 66.30 57 P P 02 45 48.5 -0.2
V35K Ketchikan 66.33 321 P P 02 45 46.2 -2.2
baz=76
J30M Hart River 66.38 332 P P 02 45 49.8 +1.0
J30M IAmb IAmb 02 45 51.6
comp=Z,13nm,1.0s
J30M Hart River 66.38 332 P P 02 45 47.5 -1.2
baz=76,SNR=11
P32M Atlin 66.40 326 P P 02 45 44.9 -3.9
baz=76
WRAK Wrangell Islan 66.47 323 P P 02 45 47.5 -1.8
baz=76
G29M Pine Creek 66.47 335 P P 02 45 46.1 -3.1
baz=75
E28M Babbage River 66.59 337 P P 02 45 47.2 -2.7
baz=75,SNR=6.0
BO02 Sierra Bellavi 66.64 203 P P 02 45 51.6 +0.9
WHY Whitehorse 66.70 328 P P 02 45 47.6 -3.2
baz=75
H29M Whitestone 66.79 334 P P 02 45 48.5 -2.7
baz=75
N31M Braeburn, Yuko 66.91 329 P P 02 45 50.6 -1.5
baz=75,SNR=7.7
D27M Malcolm River 66.92 337 P P 02 45 49.2 -2.8
baz=74,SNR=11
U33K Whale Pass 66.96 323 P P 02 45 49.0 -3.4
baz=75
F28M Old Crow 66.98 336 P P 02 45 50.1 -2.3
baz=74,SNR=14
I29M Ogilvie Camp, 66.99 333 P P 02 45 49.4 -3.1
baz=74,SNR=8.3
K29M Barlow Dome 67.07 331 P P 02 45 49.7 -3.5
baz=74
CRAG Craig 67.13 322 P P 02 45 51.7 -1.8
baz=75
R32K Eaglecrest 67.13 325 P P 02 45 52.2 -1.3
baz=75
J29N Klondike Camp 67.20 332 P P 02 45 52.5 -1.4
baz=74
SKAG Skagway 67.22 326 P P 02 45 51.9 -2.1
baz=74
O30N Mendenhall 67.24 328 P P 02 45 55.7 +1.4
O30N Mendenhall 67.24 328 P P 02 45 50.9 -3.3
baz=74,SNR=5.8
S32K Killisnoo 67.38 324 P P 02 45 52.3 -2.7
baz=74
E27K Coleen River 67.44 336 P P 02 45 52.5 -2.9
baz=73,SNR=6.3
N30M Aishikik Lake 67.52 329 P P 02 45 51.4 -4.6
baz=74,SNR=5.7
L29M L29M 67.53 331 P P 02 45 51.8 -4.2
baz=74
I28M Miner Creek 67.62 333 P P 02 45 53.6 -2.9
baz=73,SNR=8.0
C27K Jago River 67.73 338 P P 02 45 55.1 -2.0
baz=71,SNR=18
PLBC Pleasant Camp 67.73 327 P P 02 45 53.2 -4.1
baz=74
DAWY Dawson 67.80 332 P P 02 45 58.7 +1.0
DAWY IAmb IAmb 02 46 00.3
comp=Z,14nm,1.1s
DAWY Dawson 67.80 332 P P 02 45 55.7 -2.0
baz=73,SNR=7.8
GAZ Gaziantep 67.84 59 P P 02 45 58.0 -0.4
P30M Million Dollar 67.84 327 P P 02 45 55.1 -2.9
baz=73
M29M Somme Creek 67.87 330 P P 02 45 55.3 -2.9
baz=73
SIT Sitka 67.88 324 P P 02 45 54.6 -3.6
baz=74
G27K Doyon Strip 67.88 335 P P 02 45 55.3 -2.9
baz=72
HYT Haines Junctio 67.89 328 P P 02 45 55.5 -3.0
baz=73
H27K Steamboat Moun 68.01 334 P P 02 45 57.4 -1.6
baz=72,SNR=7.4
C26K Camden Bay 68.03 339 P P 02 45 57.4 -1.5
baz=70,SNR=8.5
S31K Pelican 68.09 325 P P 02 45 56.8 -2.7
baz=73
I27K Kandik River 68.24 334 P P 02 45 58.4 -2.0
baz=72
YUK6 Outpost Mounta 68.26 328 P P 02 45 59.1 -1.8
baz=73
YUK4 Talbot Arm 68.27 329 P P 02 45 58.3 -2.6
baz=73
EGAK Eagle 68.31 333 P P 02 46 01.7 +0.9
EGAK Eagle 68.31 333 P P 02 45 58.0 -2.8
baz=72
P29M Windy Craggy 68.35 327 P P 02 45 59.3 -2.0
baz=73
EIL Elat 68.50 67 P P 02 46 01.6 -1.0
comp=Z,3.7nm,0.9s,baz=192,slow=6.2,SNR=4.0
EIL LR LR 03 17 04.8
comp=Z,104nm,18.7s,baz=256,slow=37
comp=Z,3.7nm,0.9s
F26K Sheenjek River 68.52 336 P P 02 45 59.2 -2.9
baz=70,SNR=15
G26K Porcupine Rive 68.63 335 P P 02 45 59.9 -2.8
baz=70,SNR=13
D25K Kavik River 68.72 338 P P 02 46 01.7 -1.6
baz=69,SNR=11
BMAR Burnt Mountain 68.76 336 P P 02 46 05.6 +1.9
YUK8 Steele Glacier 68.81 329 P P 02 46 00.3 -4.0
baz=72
E25K Arctic Village 68.87 337 P P 02 46 00.1 -4.2
baz=69,SNR=22
K27K Chicken 68.93 332 P P 02 46 02.3 -2.4
baz=71
I26K Coal Creek Min 68.94 334 P P 02 46 02.8 -2.0
baz=70
YUK3 Moose Creek 68.97 330 P P 02 46 02.6 -2.7
baz=71
KIRV Kirov 69.04 34 LR LR 03 13 21.8
comp=Z,107nm,18.1s,baz=285,slow=33
F25K Christian Rive 69.09 336 P P 02 46 03.2 -2.5
baz=69,SNR=14
BCAR Beaver Creek A 69.13 331 P P 02 46 06.8 +0.8
PNL Peninsula 69.14 327 P P 02 46 03.7 -2.4
baz=71
L27K Beaver Creek, 69.15 331 P P 02 46 03.7 -2.5
baz=70,SNR=7.9
O28M Mount Upton 69.17 328 P P 02 46 04.3 -2.3
baz=71
C24K Franklin Bluff 69.33 339 P P 02 46 04.2 -2.9
baz=67
J26L Joseph Creek 69.39 333 P P 02 46 05.5 -2.1

baz=70,SNR=5.2
M27K Edge Creek, AK 69.41 330 P P 02 46 05.7 -2.1
baz=70
G25K Bearman Lake 69.56 335 P P 02 46 03.5 -5.0
baz=68
D24K Happy Valley 69.59 338 P P 02 46 06.7 -2.0
baz=67,SNR=5.8
CTG Chitna Glacier 69.63 329 P P 02 46 06.7 -2.6
baz=70
H25L Birch Creek 69.64 335 P P 02 46 04.8 -4.1
baz=68
KIV Kislovodsk 69.66 50 P P 02 46 10.0 +0.4
KIV IAmb IAmb 02 46 11.7
comp=Z,22nm,1.2s
KVAR Kislovodsk Arr 69.66 50 P P 02 46 10.7 +0.9
comp=Z,1.0nm,0.3s,baz=269,slow=24,SNR=2.2
comp=Z,1.0nm,0.3s
SCRK Sand Creek 69.74 332 P P 02 46 06.9 -3.0
baz=69
PRP Porcupine Dome 69.80 334 P P 02 46 11.4 +1.2
PRP IAmb IAmb 02 46 19.6
comp=Z,32nm,1.6s
PRP Porcupine Dome 69.80 334 P P 02 46 07.2 -3.1
baz=68
L26K Log Cabin Wild 69.81 331 P P 02 46 08.2 -2.0
baz=69
KBZ Khabaz 69.88 50 P P 02 46 12.2 +1.3
comp=Z,4.5nm,0.9s,baz=281,slow=5.9,SNR=11
KBZ LR LR 03 17 18.3
comp=Z,68nm,18.2s,baz=320,slow=36
comp=Z,4.5nm,0.9s
M26K Nabesna, AK 69.88 331 P P 02 46 08.2 -2.5
baz=69
C23K Itkillik River 69.89 339 P P 02 46 07.6 -2.9
baz=65,SNR=17
E24K Your Creek 69.91 337 P P 02 46 09.1 -1.7
baz=67,SNR=16
F24K Squaw Lake 69.92 337 P P 02 46 08.3 -2.5
baz=67,SNR=14
TOLK Toolik Lake Re 70.05 338 P P 02 46 13.4 +1.8
TOLK Toolik Lake Re 70.05 338 P P 02 46 09.5 -2.1
baz=66
BELG Belogornoye 70.06 41 P P 02 46 11.9 +0.1
comp=Z,31nm,1.0s,baz=72,slow=0.5,SNR=8.5
BELG LR LR 03 15 10.9
comp=Z,81nm,18.2s,baz=306,slow=34
comp=Z,31nm,1.0s
J25K Salcha River, 70.07 333 P P 02 46 09.7 -2.1
baz=68
G24K Hadweenzic Riv 70.09 336 P P 02 46 10.6 -1.2
baz=67,SNR=8.2
MESA MESA 70.19 328 P P 02 46 10.5 -2.2
baz=69
MCARA McCarthy VSAT 70.25 330 P P 02 46 14.4 +1.5
MCARA McCarthy VSAT 70.25 330 P P 02 46 12.2 -0.7
baz=69
D23K Nanushuk River 70.28 338 P P 02 46 12.6 -0.3
baz=65
VRDI Verde Repeater 70.50 330 P P 02 46 16.1 +1.5
B22K Teshekpuk Lake 70.54 340 P P 02 46 12.4 -2.0
baz=63,SNR=6.7
H24K Noodor Dome 70.58 335 P P 02 46 13.6 -1.2
baz=66,SNR=6.1
GLB Gilahina Butte 70.58 330 P P 02 46 16.1 +1.2
IL31 70.61 334 P P 02 46 16.2 +1.2
IL31 IAmb IAmb 02 46 18.9
comp=Z,16nm,1.1s
ILAR Eielson Array 70.61 334 P P 02 46 16.1 +1.1
ILAR Eielson Array 70.61 334 P P 02 46 16.4 +1.4
comp=Z,7.4nm,0.9s,baz=68,slow=4.6,SNR=51
ILAR LR LR 03 18 15.8
comp=Z,174nm,18.2s,baz=68,slow=37
comp=Z,7.4nm,0.9s
A22K Sinclair Lake 70.69 341 P P 02 46 14.2 -1.1
baz=62
POKR Poker Plat Res 70.69 334 P P 02 46 15.5 -0.1
baz=66
PAX Paxson 70.73 332 P P 02 46 17.2 +1.3
baz=68
HDA Harding Lake 70.78 333 P P 02 46 15.8 -0.3
baz=67
HARP HAARP 70.82 331 P P 02 46 15.6 -0.7
baz=68
COLD Coldfoot 70.85 337 P P 02 46 15.7 -0.7
baz=65,SNR=5.8
N25K Chitina, Valde 70.87 330 P P 02 46 15.1 -1.7
baz=68
H09N1 TRISTAN DA CUN 70.91 153 T T 04 03 26.1
SNR=7.4
H09W1 TRISTAN DA CUN 70.93 153 T T 04 03 27.5
SNR=4.3
COLA College 70.95 334 P P 02 46 18.4 +1.3
COLA IAmb IAmb 02 46 19.8
comp=Z,14nm,0.8s
COLA College 70.95 334 P P 02 46 13.3 -3.7
baz=66
D22K Ayikyak River 70.97 339 P P 02 46 15.9 -1.2
baz=63,SNR=19
GURO Guroymak-BITLI 70.99 56 P P 02 46 18.0 0.0
G23K Bananza Creek 71.01 336 P P 02 46 16.2 -1.2
baz=65,SNR=16
E22K Anaktuvuk Pass 71.01 338 P P 02 46 14.5 -3.0
baz=64
CCB Clear Creek Bu 71.03 334 P P 02 46 18.9 +1.4
KARS Kars 71.04 54 P P 02 46 18.7 +0.5
BMRM Bremner River 71.12 329 P P 02 46 15.7 -2.5
baz=68
GO06 Curarrehue 71.21 202 P P 02 46 19.2 +0.2
GO06 IAmb IAmb 02 46 20.6
comp=Z,17nm,1.2s
H23K Yukon River 71.21 335 P P 02 46 16.1 -2.5
baz=65,SNR=12
B21K Ikpikpuk River 71.24 340 P P 02 46 16.2 -2.5
baz=62,SNR=8.1
F22K John River 71.42 337 P P 02 46 17.8 -2.1
baz=63,SNR=7.5
I23K Minto, Yukon-K 71.42 334 P P 02 46 17.9 -2.0
baz=65,SNR=7.3
G22K Bettles 71.45 337 P P 02 46 17.6 -2.5
baz=64,SNR=6.6
DHY Denali Highway 71.49 332 P P 02 46 18.8 -1.8
baz=66
KLU Klutina 71.50 330 P P 02 46 18.9 -1.7
baz=67
C21K Knifeblade Rid 71.51 339 P P 02 46 19.2 -1.2
baz=61,SNR=9.0
NEA2 Nenana 71.55 334 P P 02 46 20.4 -0.3
baz=65,SNR=6.8
E21K Killik River 71.59 338 P P 02 46 20.1 -0.8
baz=62
B20K Meade River 71.82 340 P P 02 46 21.5 -0.7
baz=60
WAT6 Susitna Watana 71.85 332 P P 02 46 21.4 -1.4
baz=66
H22K Ishtalitna Cre 71.86 336 P P 02 46 22.7 +0.1
baz=63
MCK McKinley 71.86 333 P P 02 46 20.5 -2.1
baz=65
PLCA Paso Flores 71.95 201 P P 02 46 23.7 +0.3
PLCA IAmb IAmb 02 46 25.2
comp=Z,29nm,1.2s
PLCA Paso Flores 71.95 201 P P 02 46 24.4 +0.9
comp=Z,6.1nm,0.9s,baz=17,slow=7.4,SNR=10
comp=Z,6.1nm,0.9s
PLCA Paso Flores 71.95 201 *e*P P 02 46 24.4 +0.9
SCM Sheep Creek Mo 71.98 331 P P 02 46 22.2 -1.3
baz=66
F21K Alatna River 72.00 337 P P 02 46 20.0 -3.4
baz=62
MLY Manley 72.00 335 P P 02 46 21.8 -1.7
baz=64
WAT1 Susitna Watana 72.08 332 P P 02 46 24.1 +0.1
baz=65
M23K Glacier View 72.17 331 P P 02 46 23.7 -0.8
baz=65
GLI Glacier Island 72.27 330 P P 02 46 22.6 -2.5
baz=66
D20K Etivluk River 72.31 339 P P 02 46 24.4 -0.8
baz=60,SNR=18
G21K Allakaket 72.34 337 P P 02 46 24.6 -0.8
baz=62,SNR=9.6
GNI Garni 72.39 54 P P 02 46 26.9 +0.4
GNI Garni 72.39 54 P P 02 46 27.1 +0.7
comp=Z,12nm,0.8s,baz=129,slow=0.8,SNR=13
GNI LR LR 03 18 13.0
comp=Z,19nm,18.9s,baz=276,slow=36
comp=Z,12nm,0.8s
E20K Nigu River 72.40 339 P P 02 46 25.8 0.0
baz=60,SNR=10
I21K Tanana 72.41 335 P P 02 46 27.4 +1.6
baz=63
SML Sawmill 72.42 331 P P 02 46 26.5 +0.4
baz=65
H21K Melozitna Rive 72.49 336 P P 02 46 29.9 +3.6
baz=62,SNR=9.4
BPAW Bear Paw Mtn. 72.51 334 P P 02 46 27.3 +0.7
BPAW IAmb IAmb 02 46 30.2
comp=Z,16nm,1.1s
BPAW Bear Paw Mtn. 72.51 334 P P 02 46 24.9 -1.7
baz=63,SNR=6.7
TRF Thorofare Moun 72.53 333 P P 02 46 27.6 +0.8
TRF IAmb IAmb 02 46 31.7
comp=Z,25nm,1.2s
TRF Thorofare Moun 72.53 333 P P 02 46 25.0 -1.8
baz=64
Q23K Middleton Isla 72.53 328 P P 02 46 25.9 -0.7
baz=66
IMAR Indian Mountai 72.68 336 P P 02 46 28.6 +1.1
LL04 Puerto Octay 72.71 202 P P 02 46 27.6 -0.2
LL04 IAmb IAmb 02 46 35.2
comp=Z,18nm,1.1s
KTH Kantishna Hill 72.73 333 P P 02 46 28.9 +1.0
F20K Avaraart Lake 72.85 338 P P 02 46 28.1 -0.3
baz=60,SNR=6.7
D19K Kuna River 72.89 339 P P 02 46 28.7 0.0
baz=58,SNR=20
CUT Chulitna 72.98 332 P P 02 46 29.0 -0.3
baz=63
C19K Lookout Ridge 73.02 340 P P 02 46 29.5 0.0
baz=57
CHUM Lake Minchumin 73.13 334 P P 02 46 29.4 -0.7
baz=62
E19K Redstone River 73.15 338 P P 02 46 30.7 +0.5
baz=59,SNR=11
M22K Willow 73.21 331 P P 02 46 30.4 -0.3
baz=63
CAST Castle Rocks 73.26 333 P P 02 46 31.7 +0.7
CAST Castle Rocks 73.26 333 P P 02 46 29.3 -1.7
baz=62
H20K Anotleneega Mo 73.33 336 P P 02 46 29.2 -2.1
baz=60,SNR=10.0
RC01 Rabbit Creek A 73.34 331 P P 02 46 30.3 -1.2
baz=63
I20K Naaghedeneel 73.52 335 P P 02 46 31.7 -0.7
baz=60
B18K Kokolik River 73.53 341 P P 02 46 30.7 -1.7
baz=55
PPLA Purkeypile 73.55 333 P P 02 46 33.4 +0.5
baz=62
O22K Cooper Landing 73.61 330 P P 02 46 31.4 -1.6
baz=63
SUA Susitna One 73.61 331 P P 02 46 32.3 -0.9
baz=63
F19K Shaleruckik Mo 73.65 338 P P 02 46 33.2 +0.1
baz=58
SEW Seward 73.66 330 P P 02 46 33.0 -0.3
baz=63
J20K Nowinta River 73.70 335 P P 02 46 32.7 -0.8
baz=61,SNR=6.6
SKT Skwentna 73.70 332 P P 02 46 34.9 +1.2
SKT IAmb IAmb 02 46 42.3
comp=Z,22nm,1.2s
SKT Skwentna 73.70 332 P P 02 46 33.8 +0.2
baz=62
C18K Utukok River 73.76 340 P P 02 46 35.1 +1.2
baz=56,SNR=6.4
G19K Purcell Mounta 73.78 337 P P 02 46 35.8 +1.9
baz=59,SNR=6.8
H19K Roundabout Mou 73.87 336 P P 02 46 35.4 +1.0
baz=59
LL01 San Ignacio de 74.03 201 P P 02 46 35.1 -0.4
LL01 IAmb IAmb 02 46 38.4
comp=Z,34nm,1.4s
K20K Telida 74.07 334 P P 02 46 36.3 +0.6
baz=60,SNR=6.3
CAPN Captain Cook N 74.11 331 P P 02 46 36.4 +0.5
baz=62
E18K Tukpahlearik C 74.26 339 P P 02 46 38.2 +1.5
baz=56,SNR=7.6
J19K Poorman 74.35 335 P P 02 46 38.1 +0.8
baz=59
N20K Mount Spurr 74.36 331 P P 02 46 38.4 +0.9
baz=61
BRSE Bradley Lake S 74.40 330 P P 02 46 38.5 +0.8
baz=62
F18K Selawik 74.41 338 P P 02 46 38.0 +0.4
baz=56,SNR=6.4
M20K Styx River 74.42 332 P P 02 46 37.9 +0.1
baz=61
ARU Arti 74.42 34 P P 02 46 37.9 +0.1
ARU Arti 74.42 34 LR LR 03 16 59.1
comp=Z,85nm,18.8s,baz=312,slow=34
L20K Farewell, AK 74.43 333 P P 02 46 37.8 0.0
baz=60
GCSA Galena City Sc 74.44 336 P P 02 46 39.0 +1.3
baz=58
C17K DeLong Mountai 74.45 340 P P 02 46 38.7 +0.9
baz=54,SNR=7.0
G18K Tagagawik 74.46 337 P P 02 46 39.2 +1.3
baz=57
RDOG Red Dog Mine 74.62 340 P P 02 46 40.3 +1.4
baz=54
H18K Honhosa River 74.75 336 P P 02 46 40.6 +0.9
baz=57
HOM Homer 74.84 330 P P 02 46 40.9 +0.6
baz=62
E17K Hotham Inlet 74.85 339 P P 02 46 41.6 +1.5
baz=55,SNR=7.0
D17K Noatak River 74.89 340 P P 02 46 40.9 +0.5
baz=54
M19K Big River Lodg 74.93 333 P P 02 46 40.9 +0.2
baz=60
L19K White Mountain 74.97 333 P P 02 46 41.5 +0.5
baz=60,SNR=5.2
F17K Baldwin Pennin 75.03 338 P P 02 46 41.5 +0.4
baz=55
J18K Innoko River 75.05 335 P P 02 46 41.1 -0.2
baz=58
O20K Slope Mountain 75.08 330 P P 02 46 41.6 -0.1
baz=61
C16K Lisburne Hills 75.22 341 P P 02 46 43.2 +0.9
baz=52
G17K Kiwalik Mounta 75.36 337 P P 02 46 43.5 +0.3
baz=55
H17K Granite Mounta 75.42 337 P P 02 46 43.1 -0.4
baz=56
N19K Bonanza Creek 75.51 332 P P 02 46 44.1 -0.1
baz=60
Q20K Shuyak Island 75.69 329 P P 02 46 45.1 0.0
baz=58
M18K Stony River 75.72 333 P P 02 46 45.3 0.0
baz=58
TSUM Tsumeb 75.92 121 LR LR 03 15 01.8
comp=Z,106nm,18.2s,baz=322,slow=32
J17K VABM Dome 75.98 335 P P 02 46 46.6 0.0
baz=56
G16K Koyuk River 76.01 338 P P 02 46 47.1 +0.3
baz=54
K17K Iditarod 76.06 334 P P 02 46 47.5 +0.3
baz=57
Q19K Cape Douglas, 76.10 330 P P 02 46 47.3 -0.2
baz=60
N18K Kilae Creek 76.17 332 P P 02 46 48.0 +0.1
baz=58
KDAK Kodiak Island 76.18 328 LR LR 03 21 16.1
comp=Z,312nm,18.7s,baz=76,slow=36
I17K Unalakleet 76.30 336 P P 02 46 48.3 -0.2
baz=55
O18K Koktuh Hills 76.31 331 P P 02 46 48.5 -0.2
baz=59
L17K Donlin 76.37 334 P P 02 46 48.9 0.0
baz=57
H16K Elim 76.41 337 P P 02 46 48.5 -0.6
baz=54
M17K Holitna River 76.43 333 P P 02 46 48.3 -1.0
baz=57
P18K Big Mountain, 76.56 331 P P 02 46 48.9 -1.2
baz=59
F15K North Star Dit 76.58 338 P P 02 46 49.6 -0.5
baz=52
J16K Anvik River 76.61 335 P P 02 46 50.4 +0.1
baz=55
OHAK Old Harbor 76.79 328 P P 02 46 50.1 -1.3
baz=60
N17K Nushagak Hills 76.80 332 P P 02 46 51.2 -0.2
baz=57
AKTO Aktyubinsk 76.81 40 P P 02 46 52.5 +0.8
comp=Z,10.0nm,1.1s,baz=296,slow=6.7,SNR=12
AKTO LR LR 03 18 44.2
comp=Z,206nm,19.4s,baz=253,slow=34
comp=Z,10.0nm,1.1s
G15K Niukluk 76.82 338 P P 02 46 50.8 -0.6
baz=52
L16K Owhat River 77.07 334 P P 02 46 52.7 -0.2
baz=56
O17K Koliganek Bris 77.17 331 P P 02 46 53.3 -0.2
baz=57
MBAR Mbarara 77.22 97 LR LR 03 20 51.3
comp=Z,498nm,18.5s,baz=286,slow=36
M16K Timber Creek 77.25 333 P P 02 46 53.7 -0.3
baz=56
F14K Arctic Creek 77.28 339 P P 02 46 53.9 -0.1
baz=51
Q17K Contact Creek 77.45 330 P P 02 46 55.4 +0.2
baz=58
N16K Nishlik Lake 77.48 332 P P 02 46 55.6 +0.3
baz=56
ANM Nome 77.53 338 P P 02 46 55.3 -0.1
baz=51
K15K Wolf Creek Mou 77.53 335 P P 02 46 55.6 +0.1
baz=54
SII Sitkinak Islan 77.56 328 P P 02 46 56.3 +0.5
baz=59
O16K Kokwok River B 77.69 331 P P 02 46 58.2 +1.8
baz=56
TNA Tin City 77.73 339 P P 02 46 57.7 +1.2
baz=49
J14K Nanvaranak Lak 78.01 336 P P 02 46 58.4 +0.3
baz=52
M15K Kasigluk River 78.14 333 P P 02 46 59.2 +0.3
baz=54
N15K Kwethluk River 78.20 333 P P 02 47 01.0 +1.7
baz=55
ABKAR Akbulak array 78.46 40 P P 02 47 01.4 +0.5
ABKAR Akbulak array 78.46 40 P P 02 47 01.4 +0.5
ABKAR IAmb IAmb 02 47 03.0
comp=Z,18nm,1.4s
L14K Kuka Creek 78.54 334 P P 02 47 00.8 -0.2
baz=53
M14K Bethel 78.61 334 P P 02 47 02.6 +1.2
baz=53
O15K Ungalikthiuk R 78.66 332 P P 02 47 02.3 +0.5
baz=55
K13K Kusilvak Mount 78.92 335 P P 02 47 02.7 -0.5
baz=51
O14K Tigyukauivet M 79.22 332 P P 02 47 04.5 -0.3
baz=54
LODK Lodwar 79.46 92 P P 02 47 06.8 -0.3
FURI Furi 79.97 85 P P 02 47 09.5 -0.7
GAMB Gambell 80.14 339 P P 02 47 09.8 0.0
baz=46
S14K Fog Glacier 80.20 329 P P 02 47 10.3 -0.1
baz=55
CHNA Chernabura Isl 81.06 328 P P 02 47 14.6 -0.3
baz=54
TIXI Tiksi 81.13 2 P P 02 47 16.0 +1.1
TIXI IAmb IAmb 02 47 17.6
comp=Z,26nm,1.1s
BRVK Borovoye 81.98 34 P P 02 47 20.4 +0.7
BVAR Borovoye Array 82.05 34 P P 02 47 21.5 +1.4
comp=Z,6.2nm,1.0s,baz=295,slow=4.2,SNR=22
BVAR LR LR 03 22 42.0
comp=Z,52nm,18.3s,baz=306,slow=35
comp=Z,6.2nm,1.0s
BILL Bilibino 82.14 349 P P 02 47 21.2 +0.8
BILL IAmb IAmb 02 47 29.3
comp=Z,15nm,1.3s
LSZ Lusaka 82.24 112 P P 02 47 21.9 0.0
LSZ IAmb IAmb 02 47 25.1
comp=Z,26nm,1.8s
LSZ Lusaka 82.24 112 LR LR 03 20 31.5
comp=Z,103nm,19.8s,baz=316,slow=33
ATD Arta Tunnel 82.49 81 LR LR 03 23 23.5
comp=Z,7.9nm,19.8s,baz=347,slow=35
GEYT Alibeck 82.76 51 P P 02 47 24.3 +0.1
GEYT IAmb IAmb 02 47 46.0
comp=Z,24nm,1.8s
GEYT Alibeck 82.76 51 P P 02 47 24.9 +0.7
comp=Z,2.1nm,0.9s,baz=238,slow=4.4,SNR=6.2
comp=Z,2.1nm,0.9s
SPIA Saint Paul Isl 84.20 334 P P 02 47 31.1 -0.1
baz=46
P08K Saint George I 84.31 333 P P 02 47 31.9 +0.1
baz=47
KIBK Kibwezi 84.48 95 P P 02 47 33.9 +0.4
KIBK IAmb IAmb 02 47 43.0
comp=Z,13nm,1.3s
SUR Sutherland 85.99 130 LR LR 03 18 56.2
comp=Z,99nm,19.0s,baz=309,slow=31
BOSA Boshof 87.02 124 LR LR 03 19 38.3
comp=Z,146nm,19.9s,baz=320,slow=31
KURK Kurchatov 87.47 32 P P 02 47 47.7 +0.1
KURK IAmb IAmb 02 47 49.5
comp=Z,16nm,1.4s
KURBB Kurchatov Arra 87.49 32 P P 02 47 48.5 +0.9
comp=Z,2.7nm,0.9s,baz=312,slow=5.7,SNR=25
KURBB LR LR 03 26 13.6
comp=Z,55nm,18.3s,baz=169,slow=35
comp=Z,2.7nm,0.9s
UOSS Minazif 87.62 63 P P 02 47 48.6 -0.2
UOSS IAmb IAmb 02 47 49.4
comp=Z,11nm,0.9s
KK31 Karatay Array 87.94 42 P P 02 47 50.0 0.0
KKAR Karatay Array 87.94 42 P P 02 47 49.6 -0.4
ZAA0 Zalesovo Array 87.95 27 P P 02 47 49.8 +0.1
ZAA0 IAmb IAmb 02 47 57.8
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 87.95 27 P P 02 47 49.7 0.0
ZALV Zalesovo Beam 87.95 27 P P 02 47 50.6 +0.9
comp=Z,8.4nm,1.0s,baz=305,slow=5.2,SNR=19
comp=Z,8.4nm,1.0s
SEY Seymchan 88.98 352 LR LR 03 27 23.6
comp=Z,79nm,19.1s,baz=23,slow=35
SIMJ Simiganj 89.62 46 P P 02 47 57.4 -0.7
WSAR Wadi Sarin 90.39 64 LR LR 03 30 34.6
comp=Z,84nm,19.2s,baz=295,slow=37
AAK Ala-Archa 90.55 40 LR LR 03 26 09.0
comp=Z,148nm,21.9s,baz=318,slow=34
YAK Yakutsk 90.78 3 LR LR 03 25 32.9
comp=Z,43nm,19.6s,baz=18,slow=33
MKAR Makanchi Array 91.93 33 P P 02 48 08.3 -0.2
MKAR Makanchi Array 91.93 33 P P 02 48 09.1 +0.5
comp=Z,2.6nm,1.2s,baz=263,slow=4.8,SNR=5.3
MKAR LR LR 03 27 24.8
comp=Z,93nm,21.5s,baz=309,slow=34
comp=Z,2.6nm,1.2s
MA2 Magadan 92.44 352 LR LR 03 30 12.5
comp=Z,41nm,18.5s,baz=20,slow=36
PMSA Palmer Station 93.11 188 LR LR 03 32 10.9
comp=Z,57nm,18.5s,baz=35,slow=37
KSH Kashi 93.39 42 P P 02 48 17.6 +2.0
KSH pP sP 02 48 23.8 -0.4
SHEM Shemya Is, Ala 93.39 338 LR LR 03 32 47.9
comp=Z,117nm,18.9s,baz=106,slow=37
WMQ Urumqi 96.71 33 *e*P P 02 48 32.8 +2.2
TBI Tubuai 113.01 255 *e*LR LR 03 27 30.3
comp=Z,1μm,30.5s
CD2 Chengdu 114.60 30 PKP PKPdf 02 53 41.0 +0.3
QSPA South Pole Qui 117.30 180 PKP **PKPdf** 02 53 43.8 -0.9
comp=Z,1.6nm,1.0s,baz=75,slow=7.0,SNR=2.7
PZH PanZhiHua 117.36 34 PKP **PKiKP** 02 53 46.8 +0.6
NJ2 Nanjing 118.81 16 *e*P **PKiKP** 02 53 49.3 +0.6
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 122.29 42 PKP **PKiKP** 02 53 56.2 +0.4
comp=Z,1.1nm,0.3s,baz=308,slow=2.7,SNR=7.0
VNDA Vanda 128.31 187 PKPdf **PKiKP** 02 54 07.2 +1.1
VNDA Vanda 128.31 187 PKP **PKPdf** 02 54 05.2 -0.3
comp=Z,2.9nm,1.0s,baz=257,slow=3.4,SNR=7.0
TOLI2 Tolitoli 148.34 29 **PKPbc** 02 54 45.8 -1.3
DZM Mont Dzumac 151.41 274 *e*LR LR 03 45 07.2
comp=Z,293nm,35.0s
DZM *e*LR LR 03 45 15.3
comp=Z,193nm,32.7s
DZM Mont Dzumac 151.41 274 **PKPbc** 02 54 53.6 -0.9
WRA Warramunga Arr 172.52 8 PKPab **PKPab** 02 56 35.0 +0.7
comp=Z,2.8nm,1.0s,baz=351,slow=4.9,SNR=5.3
ASAR Alice Springs 176.03 21 PKP **PKPdf** 02 55 11.5 +0.8
comp=Z,1.0nm,1.0s,baz=79,slow=2.0,SNR=4.9

NNC 12 02:35:31.6±5.9, 37.70N×71.49E, h0km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=46.4km s-min=37.6km

az=160.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa** 1.7nm,0.3s	**5.44**	**24**	⇓P	Pn	02 36 54.5	+0.4
AAK	5.3nm,0.6s			⇓S	Sn	02 37 58.3	+0.9
KK31	**Karatay Array** 1.0nm,0.3s,baz=178,slow=13	**5.45**	**352**	⇑P	Pn	02 36 56.0	+2.0
KK31	13nm,0.6s,baz=178,slow=22,SNR=25			⇑S	Sn	02 37 59.3	+1.8
CHMS	**Chumysh** 1.0nm,0.3s	**5.85**	**24**	⇑P	Pn	02 36 59.5	-0.1
CHMS	5.3nm,1.2s			⇑S	Sn	02 38 07.7	+0.4
TKM2	**Tokmak 2** 0.8nm,0.4s	**6.08**	**30**	⇓P	Pn	02 37 01.4	-1.6
TKM2	1.9nm,0.9s			⇓S	Sn	02 38 13.9	+0.5

NNC 12 02:40:23.5±5.6, 36°98N×70°36E, h0km, mb3.6, mpv3.2, 4C-2D, Error ellipse: s-maj=43.8km s-min=38.7km az=166.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 0.2nm,0.3s,baz=181,slow=12	**6.12**	**1**	⇑P	Pn	02 41 55.4	+0.3
KK31	1.5nm,0.7s,baz=184,slow=22,SNR=4.3			⇑S	Sn	02 43 07.4	+1.6
AAK	**Ala-Archa** 1.0nm,0.4s	**6.49**	**28**	⇑P	Pn	02 42 01.1	+0.8
AAK	2.5nm,0.6s			⇓S	Sn	02 43 17.2	+2.1
TKM2	**Tokmak 2** 2.2nm,0.4s	**7.17**	**33**	⇓P	Pn	02 42 08.9	-0.8
TKM2	0.6nm,0.7s			⇑S	Sn	02 43 31.1	-0.9

*IDC **12** 02:45:46.6±4.4, 6°62S×104°05E, h61km±39km, mb3.7/11, mbtmp3.9/12, ML3.8/1, MS3.6/1, Error ellipse: s-maj=33.7km s-min=16.9km az=55.0*

ISC 12 02:45:45.1±0.9, 6.7S±0.2×104.0E±0.1, h48km, n17, σ1s10/15, mb4.0/11, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang** 7.7nm,0.3s,baz=285,slow=20,SNR=6.5	**3.60**	**92**	P	**Pn**	**02 46 37.8**	**-0.8**
LEM	60nm,0.7s,baz=189,slow=22,SNR=3.6			S	**Sn**	**02 47 21.2**	**+1.2**
LEM	comp=Z,58nm,18.9s,baz=360,slow=33 50nm,0.7s			LR	LR	02 47 43.9	
CMAR	**Chiang Mai Arr** 1.7nm,0.3s,baz=183,slow=8.8,SNR=17 1.7nm,0.3s	**25.48**	**349**	P	**P**	**02 51 09.9**	**+1.0**
H08S2	**Diego Garcia H** baz=90	**31.26**	**266**	T	T	03 25 26.0	
H08S3	**Diego Garcia H** baz=90,slow=74	**31.27**	**266**	T	T	03 25 08.3	
H08S1	**Diego Carcia H** baz=90,slow=74	**31.28**	**266**	T	T	03 25 17.3	
WRA	**Warramunga Arr** 0.6nm,0.6s,baz=285,slow=11,SNR=6.5 0.6nm,0.6s	**32.26**	**117**	P	**P**	**02 52 10.3**	**+0.8**
ASAR	**Alice Springs** 0.4nm,0.5s,baz=303,slow=7.9,SNR=5.3	**33.32**	**124**	P	**P**	**02 52 18.2**	**-0.5**
ASAR	0.3nm,0.5s,baz=310,slow=2.0,SNR=1.6 0.4nm,0.5s			PcP	**PcP**	**02 54 59.6**	**-0.4**
SONM	**Songino Array** 1.8nm,0.7s,baz=180,slow=7.1,SNR=7.7 1.8nm,0.7s	**54.33**	**2**	P	**P**	**02 55 07.4**	**+0.5**
MKAR	**Makanchi Array** 1.2nm,0.7s,baz=152,slow=8.0,SNR=7.6 1.2nm,0.7s	**56.63**	**342**	P	**P**	**02 55 22.5**	**-0.8**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=154,slow=6.1,SNR=6.8 0.7nm,0.6s	**61.18**	**342**	P	**P**	**02 55 53.6**	**-1.1**
ZALV	**Zalesovo Beam** 1.3nm,0.5s,baz=134,slow=4.3,SNR=6.0 1.3nm,0.5s	**62.53**	**347**	P	**P**	**02 56 03.1**	**-0.6**
BVAR	**Borovoye Array** 0.7nm,0.5s,baz=151,slow=6.3,SNR=4.2 0.7nm,0.5s	**65.95**	**339**	P	**P**	**02 56 25.2**	**-1.0**
AKTO	**Aktyubinsk** 0.7nm,0.5s,baz=188,slow=3.4,SNR=1.7 0.7nm,0.5s	**69.36**	**331**	P	**P**	**02 56 48.9**	**+1.2**
BOSA	**Boshof** 6.7nm,1.2s,baz=117,slow=3.8,SNR=6.0 6.7nm,1.2s	**76.96**	**242**	P	**P**	**02 57 34.5**	**+1.2**
BRTR	**Keskin Array B** 0.3nm,0.6s,baz=132,slow=5.9,SNR=1.4 0.3nm,0.6s	**79.40**	**312**	P	**P**	**02 57 46.1**	**-0.5**
KEST	**Kesra** comp=Z,25nm,18.2s,baz=296,slow=38	**97.63**	**305**	LR	LR	03 47 14.9	
TXAR	**Lajitas Array** 0.8nm,0.7s,baz=284,slow=2.3,SNR=9.5	**145.54**	**46**	PKPbc	**PKPdf**	**03 05 16.9**	**-2.0**

IDC 12 03:17:18.7±18.0, 44°16S×81°36W, h0km, mb3.8/3, mbtmp3.7/4, ML3.8/1, MS3.7/8, Error ellipse: s-maj=519.1km s-min=42.0km az=3.0, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 0.2nm,0.3s,baz=243,slow=10,SNR=15 1.1nm,0.7s	**8.70**	**71**	P	Pn	03 19 25.5	-0.3
H03S1	**Juan Fernandez** baz=188,slow=74,SNR=28	**10.47**	**11**	T	T	03 31 41.9	
H03S2	**Juan Fernandez** baz=188,slow=74,SNR=36	**10.48**	**11**	T	T	03 31 23.1	
H03S3	**Juan Fernandez** baz=188,slow=74,SNR=26	**10.49**	**11**	T	T	03 31 42.3	
CPUP	**Villa Florida** 3.2nm,1.0s,baz=225,slow=10,SNR=3.7	**26.34**	**55**	P	P	03 22 56.5	+0.2
CPUP	comp=Z,270nm,19.8s,baz=224,slow=37 3.2nm,1.0s			LR	LR	03 33 36.2	
SIV	**San Ignacio** comp=Z,83nm,18.2s,baz=274,slow=36	**32.93**	**38**	LR	LR	03 37 22.0	
BDFB	**Brasilia** 2.6nm,0.8s,baz=210,slow=16,SNR=3.4	**40.07**	**55**	P	P	03 24 55.8	-0.1
BDFB	comp=Z,176nm,19.5s,baz=161,slow=37 2.6nm,0.8s			LR	LR	03 42 13.7	
ROSC	**El Rosal** comp=Z,91nm,18.3s,baz=212,slow=35	**49.18**	**9**	LR	LR	03 45 43.5	
MDP	**Montagnes des** comp=Z,40nm,19.9s,baz=190,slow=35	**55.43**	**36**	LR	LR	03 49 15.5	
URZ	**Urewera** comp=Z,141nm,19.4s,baz=208,slow=30	**71.65**	**234**	LR	LR	03 52 47.9	
TXAR	**Lajitas Array** 0.2nm,0.6s,baz=157,slow=4.9,SNR=2.3 0.2nm,0.6s	**75.93**	**340**	P	P	03 29 07.1	0.0
TSUM	**Tsumeb** comp=Z,22nm,19.9s,baz=165,slow=31	**83.04**	**110**	LR	LR	04 00 28.4	
DBIC	**Dimbokro** comp=Z,35nm,21.1s,baz=154,slow=31	**85.03**	**76**	LR	LR	04 01 34.0	

*NEIC **12** 03:23:56.5±2.2, 44°7S±0°1×81°8W±0°2, h10km±2km, mb4.3/3, Error ellipse: s-maj=23.8km s-min=18.3km az=282.0*

*IDC **12** 03:23:58.5±20.0, 44°62S×81°70W, h0km, mb4.0/3, mbtmp3.9/4, ML3.6/1, Error ellipse: s-maj=571.3km s-min=39.3km az=2.0*

ISC 12 03:23:58.3±1.7, 44.7S±0.1×81.6W±0.2, h10km, n27, σ1s56/24, mb4.0/3, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL06	**Loncomilla**	**6.31**	**70**	Pn	**Pn**	**03 25 30.3**	**-1.1**
AY03	**Cochrane**	**6.78**	**115**	Pn	**Pn**	**03 25 39.4**	**+1.6**
LL05	**Los Muermos**	**6.80**	**64**	Pn	**Pn**	**03 25 36.0**	**-2.1**
LL01	**San Ignacio de**	**7.07**	**74**	Pn	**Pn**	**03 25 40.2**	**-1.6**
GO08	**Villa O'Higgin**	**7.28**	**124**	Pn	**Pn**	**03 25 44.4**	**-0.2**
LL04	**Puerto Octay**	**7.75**	**64**	Pn	**Pn**	**03 25 49.0**	**-2.1**
LR03	**Panguipulli**	**8.54**	**57**	Pn	**Pn**	**03 26 04.2**	**+2.3**
GO09	**Cerro Castillo**	**9.04**	**140**	Pn	**Pn**	**03 26 07.4**	**-1.4**
PLCA	**Paso Flores**	**9.05**	**68**	Pn	**Pn**	**03 26 09.2**	**+0.2**
PLCA	**Paso Flores** 0.1nm,0.3s,baz=235,slow=10,SNR=9.4	**9.05**	**68**	Pn	**Pn**	**03 26 09.7**	**+0.6**
	1.0nm,0.5s						
GO06	**Curarrehue**	**9.10**	**59**	Pn	**Pn**	**03 26 11.2**	**+1.5**
H03S1	**Juan Fernandez** baz=188,slow=73,SNR=50	**11.04**	**12**	T	T	03 38 13.9	
H03S2	**Juan Fernandez** baz=188,slow=73,SNR=50	**11.04**	**12**	T	T	03 38 10.8	
H03S3	**Juan Fernandez** baz=188,slow=73,SNR=44	**11.06**	**12**	T	T	03 38 24.6	
GO05	**Huala**	**12.19**	**41**	Pn	**Pn**	**03 26 51.5**	**-0.5**
BO02	**Sierra Bellavi**	**12.92**	**44**	Pn	**Pn**	**03 27 01.4**	**-0.6**
BO01	**Tunca**	**13.10**	**42**	Pn	**Pn**	**03 27 03.7**	**-0.6**
MT01	**Popeta**	**13.45**	**40**	Pn	**Pn**	**03 27 07.8**	**-1.4**
MT09	**Talagante**	**13.65**	**41**	Pn	**Pn**	**03 27 10.8**	**-1.2**
MT02	**Curacav**	**14.01**	**39**	Pn	**Pn**	**03 27 15.5**	**-1.3**
TRQA	**Tornquist**	**16.14**	**73**		**Pn**	**03 27 45.2**	**+0.1**
TRQA	comp=Z,42nm,1.6s				IAmb	03 27 54.4	
CO03	**El Pedregal**	**16.28**	**36**		**Pn**	**03 27 47.9**	**+0.8**
CO03	comp=Z,11nm,1.3s				IAmb	03 28 05.5	
AC02	**Maricunga**	**20.46**	**34**	P	**P**	**03 28 33.5**	**-3.0**
AC02	comp=Z,28nm,1.4s				IAmb	03 28 45.4	
CPUP	**Villa Florida**	**26.79**	**55**	P	**P**	**03 29 37.8**	**-0.6**
CPUP	**Villa Florida** comp=Z,3.4nm,0.9s,baz=222,slow=12,SNR=2.8 comp=Z,3.4nm,0.9s	**26.79**	**55**	P	**P**	**03 29 40.1**	**+1.7**
BDFB	**Brasilia** comp=Z,3.6nm,0.8s,baz=196,slow=7.4,SNR=5.7 comp=Z,3.6nm,0.8s	**40.52**	**55**	P	**P**	**03 31 40.1**	**+2.4**
TXAR	**Lajitas Array** comp=Z,0.6nm,0.9s,baz=154,slow=6.9,SNR=5.5 comp=Z,0.6nm,0.9s	**76.38**	**340**	P	**P**	**03 35 48.8**	**+1.1**

*HVO **12** 03:27:19.2±1.4, 19°15N±0°03×155°28W±0°02, h-0km±9km, Md2.5/13, ML2.8/24(NEIC), Error ellipse: s-maj=5.3km s-min=1.2km az=156.0*

NEIC 12 03:27:20.1±1.1, 19°14N±0°03×155°27W±0°02, h5km±2km, Error ellipse: s-maj=6.4km s-min=3.0km az=335.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.16**	**308**		Pg	03 27 23.3	+0.1
HLP	**Hilina Pali**	**0.16**	**346**	Pg	Pg	03 27 23.4	+0.1
HLP	comp=E,2μm,1.5s			IAML		03 27 24.5	
PUH	**Pauahi**	**0.24**	**12**		Pg	03 27 24.8	0.0
PUH	comp=N,2μm,1.4s			IAML		03 27 28.2	
PUH				Sg	Sg	03 27 28.9	+1.0
PUH	comp=E,2μm,1.1s			IAML		03 27 29.0	
STCH	**Steam Cracks**	**0.28**	**29**		Pg	03 27 25.5	-0.1
STCH				Sg	Sg	03 27 30.6	+1.4
STCH	comp=E,1μm,0.8s			IAML		03 27 34.2	
JCUZ	**Jacuzzi**	**0.29**	**33**	Pg	Pg	03 27 25.0	-0.7
JCUZ	comp=E,993nm,1.3s			IAML		03 27 27.3	
KHU	**Kahuku**	**0.34**	**288**		Pg	03 27 26.7	-0.2
KHU					Sg	03 27 32.3	+0.8
KHU	comp=E,1μm,0.6s			IAML		03 27 33.1	
MLH	**Mauna Loa**	**0.37**	**342**	Pg	Pg	03 27 27.4	+0.1
MLH				Sg	Sg	03 27 33.3	+1.1
MLH	comp=E,1μm,1.0s			IAML		03 27 38.1	
JOKA	**Jonika Flow**	**0.38**	**40**		Pg	03 27 27.3	-0.2
MWH	**Moku'aweowe**	**0.46**	**318**		Pg	03 27 28.5	-0.7
MWH				Sg	Sg	03 27 35.6	+0.3
MLOA	**Mauna Loa Obse**	**0.49**	**323**		Pg	03 27 29.0	-0.6
MLOA					Sg	03 27 36.3	+0.3
MLOA	comp=E,922nm,0.4s			IAML		03 27 36.7	
MLOA	comp=N,879nm,0.4s			IAML		03 27 36.7	
HMH	**Humu'ula Sheep**	**0.50**	**336**		Pg	03 27 29.3	-0.5
HMH					Sg	03 27 36.8	+0.4
HMH	comp=N,609nm,0.8s			IAML		03 27 38.1	
HMH	comp=E,787nm,0.8s			IAML		03 27 41.1	
POHA	**Pohakuloa**	**0.66**	**338**	Pg	Pg	03 27 31.5	-1.3
POHA				Sg	Sg	03 27 41.0	-0.5
POHA	comp=E,589nm,0.6s			IAML		03 27 46.2	
HUH	**Hualalai**	**0.76**	**315**	Pg	Pg	03 27 33.1	-1.7
HPAH	**Hawaii Prepara**	**0.97**	**335**	Pg	Pg	03 27 37.5	-1.3

*NEIC **12** 03:29:53.4±1.3, 56°29N±0°09×148°4W±0°1, h21km±10km, ML3.6/56, ML3.3(AEIC), Error ellipse: s-maj=13.8km s-min=8.2km az=157.0*

*AEIC **12** 03:29:57.2±1.1, 56°32N±0°09×148°4W±0°1, h12km±8km, Error ellipse: s-maj=13.3km s-min=8.8km az=158.0*

ISC 12 03:29:51.2±1.7, 56°34N±0°09×148°44W±0°06, h10km, n122, σ1s57/131, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.68**	**304**		**Pn**	**03 30 35.8**	**+1.4**
KDAK					**Sn**	**03 31 05.2**	**-1.7**
OHAK	**Old Harbor**	**2.81**	**290**		**Pn**	**03 30 37.2**	**+1.1**
OHAK					**Sn**	**03 31 07.9**	**-2.1**
OHAK	**Old Harbor** baz=107	**2.81**	**290**	P	**Pn**	**03 30 37.3**	**+1.1**
OHAK	baz=107			S	**Sn**	**03 31 07.7**	**-2.3**
SYI	**Shuyak Island**	**3.12**	**318**		**Pn**	**03 30 42.1**	**+1.8**
SYI					**Sn**	**03 31 17.2**	**-0.4**
Q20K	**Shuyak Island** baz=135	**3.12**	**318**	P	**Pn**	**03 30 41.8**	**+1.4**
Q20K	baz=135			S	**Sn**	**03 31 17.1**	**-0.5**
SII	**Sitkinak Islan**	**3.19**	**276**		**Pn**	**03 30 42.8**	**+1.4**
SII	comp=N,98nm,1.3s			IAML		03 31 11.8	
SII					**Sn**	**03 31 16.9**	**-2.6**
SII	comp=E,130nm,1.3s			IAML		03 31 27.4	
Q23K	**Middleton Isla**	**3.29**	**19**		**Pn**	**03 30 43.3**	**+0.5**
Q23K	comp=N,189nm,1.5s			IAML		03 32 45.4	
Q23K	**Middleton Isla** baz=200	**3.29**	**19**	P	**Pn**	**03 30 43.6**	**+0.9**
CNPM	**China Poot**	**3.52**	**336**		**Pn**	**03 30 47.2**	**+1.2**
CNPM					**Sn**	**03 31 25.7**	**-2.0**
BRSE	**Bradley Lake S**	**3.62**	**341**		**Pn**	**03 30 48.4**	**+1.1**
BRSE	**Bradley Lake S** baz=159	**3.62**	**341**	P	**Pn**	**03 30 48.4**	**+1.1**
BRSE	baz=159			S	**Sn**	**03 31 28.0**	**-2.1**
BRLK	**Bradley Lake**	**3.67**	**340**		**Pn**	**03 30 48.7**	**+0.7**
P23K	**Montague Islan**	**3.71**	**8**		**Pn**	**03 30 49.4**	**+1.0**
P23K	**Montague Islan** baz=189	**3.71**	**8**	P	**Pn**	**03 30 49.4**	**+1.0**
P23K	baz=189			S	**Sn**	**03 31 29.5**	**-2.7**
HOM	**Homer**	**3.74**	**334**	Pn	**Pn**	**03 30 51.2**	**+2.4**
SEW	**Seward**	**3.81**	**352**		**Pn**	**03 30 50.5**	**+0.6**
SEW	**Seward** baz=171	**3.81**	**352**	P	**Pn**	**03 30 50.4**	**+0.6**
Q19K	**Cape Douglas,**	**3.81**	**315**		**Pn**	**03 30 52.1**	**+2.1**
Q19K	comp=N,80nm,0.9s			IAML		03 31 40.4	
Q19K	comp=E,122nm,1.2s			IAML		03 31 50.8	
Q19K	**Cape Douglas,** baz=131	**3.81**	**315**	P	**Pn**	**03 30 51.9**	**+2.0**
AU22	**Augustine Moun**	**4.01**	**321**		**Pn**	**03 30 54.7**	**+2.1**
CHIR	**Chirikof Islan**	**4.06**	**266**		**Pn**	**03 30 54.5**	**+1.3**
CHIR	comp=E,103nm,1.4s			IAML		03 32 19.8	
CHIR	**Chirikof Islan** baz=80	**4.06**	**266**	P	**Pn**	**03 30 54.9**	**+1.7**
KAIM	**Kayak Island**	**4.18**	**29**		**Pn**	**03 30 56.1**	**+1.2**
KAIM	comp=E,85nm,1.2s			IAML		03 31 46.0	
KAIM	**Kayak Island** baz=212	**4.18**	**29**	P	**Pn**	**03 30 56.2**	**+1.2**
P19K	**Oil Pt**	**4.18**	**324**		**Pn**	**03 30 56.9**	**+1.8**
P19K	comp=E,78nm,0.6s			IAML		03 31 47.6	
P19K	**Oil Pt** baz=140	**4.18**	**324**	P	**Pn**	**03 30 56.9**	**+1.8**
HIN	**Hinchinbrook I**	**4.19**	**13**		**Pn**	**03 30 56.3**	**+1.2**
HIN	comp=E,74nm,1.5s			IAML		03 33 04.8	
HIN	comp=N,87nm,1.3s			IAML		03 33 08.2	
SLKM	**Skilak Lake**	**4.28**	**348**		**Pn**	**03 30 57.3**	**+0.9**
O20K	**Slope Mountain**	**4.35**	**331**		**Pn**	**03 30 58.7**	**+1.3**
O20K	**Slope Mountain** baz=148	**4.35**	**331**	P	**Pn**	**03 30 58.7**	**+1.3**
IVE	**Iliamna Volcan**	**4.41**	**329**		**Pn**	**03 30 59.1**	**+0.9**
EYAK	**Cordova Ski Ar**	**4.45**	**17**		**Pn**	**03 31 00.1**	**+1.5**
EYAK	**Cordova Ski Ar** baz=199	**4.45**	**17**	P	**Pn**	**03 31 00.1**	**+1.5**
CNTC	**Contact Creek**	**4.47**	**299**		**Pn**	**03 31 01.4**	**+2.4**
Q17K	**Contact Creek** baz=112	**4.47**	**299**	P	**Pn**	**03 31 01.4**	**+2.3**
SUCK	**Suckling Hills**	**4.48**	**31**		**Pn**	**03 31 00.6**	**+1.5**
SUCK	comp=N,79nm,1.0s			IAML		03 32 07.9	
RAGM	**Ragged Mountai**	**4.51**	**24**		**Pn**	**03 31 00.9**	**+1.3**
RAGM	comp=E,63nm,1.4s			IAML		03 32 00.5	
FID	**Port Fidalgo**	**4.54**	**12**		**Pn**	**03 31 00.6**	**+0.7**
FID	comp=E,48nm,1.3s			IAML		03 31 51.3	
FID	comp=N,38nm,1.2s			IAML		03 31 53.5	
NICHA	**Nichawak Mount**	**4.56**	**29**		**Pn**	**03 31 01.6**	**+1.4**
HMT	**Hamilton**	**4.57**	**27**		**Pn**	**03 31 01.8**	**+1.4**
GLI	**Glacier Island**	**4.61**	**8**		**Pn**	**03 31 01.6**	**+0.8**
GLI	comp=E,28nm,0.7s			IAML		03 31 52.6	
GLI	comp=N,35nm,1.3s			IAML		03 31 53.0	
GLI	**Glacier Island** baz=189	**4.61**	**8**	P	**Pn**	**03 31 01.7**	**+1.0**
BGLC	**Bering Glacier**	**4.67**	**34**		**Pn**	**03 31 03.6**	**+2.0**
BGLC	**Bering Glacier** baz=218	**4.67**	**34**	P	**Pn**	**03 31 03.6**	**+2.0**
GOAT	**Goat Mountain**	**4.68**	**23**		**Pn**	**03 31 03.3**	**+1.5**
RED	**Redoubt Volcan**	**4.68**	**333**		**Pn**	**03 31 02.4**	**+0.5**
RDT	**Redoubt**	**4.73**	**336**		**Pn**	**03 31 03.1**	**+0.6**
P18K	**Big Mountain,**	**4.74**	**313**		**Pn**	**03 31 03.6**	**+0.9**
P18K	**Big Mountain,** baz=127	**4.74**	**313**	P	**Pn**	**03 31 02.8**	**+0.1**
RDWB	**Redoubt West**	**4.76**	**333**		**Pn**	**03 31 03.7**	**+0.6**
GRIN	**Grindle Hills**	**4.79**	**32**		**Pn**	**03 31 05.0**	**+1.7**
DFR	**Drift River**	**4.81**	**334**		**Pn**	**03 31 04.3**	**+0.6**
RC01	**Rabbit Creek A**	**4.81**	**352**	Pn	**Pn**	**03 31 04.7**	**+1.1**
RC01	comp=N,41nm,0.9s			IAML		03 31 59.2	
RC01	comp=E,49nm,0.6s			IAML		03 31 59.9	
NCT	**North Crescent**	**4.84**	**333**		**Pn**	**03 31 05.0**	**+0.8**
SNH	**Sunshine Point**	**4.85**	**35**		**Pn**	**03 31 05.5**	**+1.2**
KHIT	**Khitrov Hills**	**4.94**	**31**		**Pn**	**03 31 06.5**	**+1.1**
O19K	**Port Alsworth**	**4.96**	**324**	Pn	**Pn**	**03 31 07.4**	**+1.9**
DIV	**Divide**	**5.00**	**15**		**Pn**	**03 31 07.3**	**+1.1**
O18K	**Koktuh Hills**	**5.03**	**317**	Pn	**Pn**	**03 31 08.0**	**+1.4**
BMRM	**Bremner River**	**5.05**	**22**		**Pn**	**03 31 08.1**	**+1.2**
BMRM	**Bremner River** baz=205	**5.05**	**22**	P	**Pn**	**03 31 08.0**	**+1.0**
WAX	**Waxell Ridge**	**5.06**	**33**		**Pn**	**03 31 08.2**	**+1.1**
WAX	comp=E,42nm,0.4s			IAML		03 32 03.8	
WAX	comp=N,50nm,1.0s			IAML		03 32 08.9	
BARK	**Barkley Ridge**	**5.14**	**35**		**Pn**	**03 31 09.5**	**+1.3**
MESA	**MESA**	**5.15**	**39**		**Pn**	**03 31 09.8**	**+1.4**
MESA	comp=E,50nm,1.5s			IAML		03 32 12.7	
MESA	comp=N,43nm,1.4s			IAML		03 34 06.4	
MESA	**MESA** baz=224	**5.15**	**39**	P	**Pn**	**03 31 09.9**	**+1.4**
SUA	**Susitna One**	**5.27**	**348**	Pn	**Pn**	**03 31 10.7**	**+0.6**
SUA	comp=N,19nm,1.5s			IAML		03 31 55.1	
SUA	comp=E,23nm,1.5s			IAML		03 34 01.9	
KLU	**Klutina**	**5.33**	**13**		**Pn**	**03 31 12.4**	**+1.6**
KLU	comp=E,17nm,0.4s			IAML		03 32 11.3	
KLU	comp=N,17nm,0.7s			IAML		03 32 12.0	
KLU	**Klutina** baz=195	**5.33**	**13**	P	**Pn**	**03 31 12.2**	**+1.4**
ISLE	**Juniper Island**	**5.34**	**34**		**Pn**	**03 31 12.2**	**+1.2**
ISLE	comp=E,20nm,1.3s			IAML		03 33 45.4	
ISLE	comp=N,27nm,1.4s			IAML		03 34 33.4	
SML	**Sawmill**	**5.48**	**1**	Pn	**Pn**	**03 31 14.7**	**+1.8**
N19K	**Bonanza Creek**	**5.49**	**327**	Pn	**Pn**	**03 31 13.9**	**+0.9**
SCM	**Sheep Creek Mo**	**5.54**	**5**	Pn	**Pn**	**03 31 15.7**	**+2.0**
VRDI	**Verde Repeater**	**5.54**	**26**		**Pn**	**03 31 14.8**	**+1.0**
SAMH	**Samovar Hills**	**5.55**	**44**		**Pn**	**03 31 15.5**	**+1.7**
N25K	**Chitina, Valde**	**5.64**	**19**		**Pn**	**03 31 16.6**	**+1.4**
N25K	**Chitina, Valde** baz=202	**5.64**	**19**	P	**Pn**	**03 31 16.5**	**+1.4**
GLB	**Gilahina Butte**	**5.65**	**23**		**Pn**	**03 31 16.3**	**+1.1**
MCARA	**McCarthy VSAT**	**5.78**	**27**	Pn	**Pn**	**03 31 18.6**	**+1.6**
N18K	**Kilae Creek**	**5.84**	**321**		**Pn**	**03 31 18.7**	**+0.9**
N18K	**Kilae Creek** baz=135	**5.84**	**321**	P	**Pn**	**03 31 18.4**	**+0.6**
PNL	**Peninsula**	**5.85**	**52**		**Pn**	**03 31 19.8**	**+1.9**
PNL	**Peninsula** baz=239	**5.85**	**52**	P	**Pn**	**03 31 19.8**	**+1.9**
SKT	**Skwentna**	**5.87**	**346**	Pn	**Pn**	**03 31 20.7**	**+2.4**
M24K	**Tolsona, Glenn**	**5.90**	**10**		**Pn**	**03 31 20.6**	**+2.0**
M24K	**Tolsona, Glenn** baz=192	**5.90**	**10**	P	**Pn**	**03 31 20.6**	**+2.0**
BCPM	**Bancas Point**	**5.90**	**49**		**Pn**	**03 31 20.0**	**+1.4**
BARN	**Barnard Glacie**	**5.90**	**34**		**Pn**	**03 31 20.4**	**+1.6**
CTG	**Chitna Glacier** baz=222	**5.93**	**36**	P	**Pn**	**03 31 20.3**	**+1.2**
CTGM	**Chitina Glacie**	**5.94**	**36**		**Pn**	**03 31 20.5**	**+1.3**
LOGN	**Logan Glacier**	**5.94**	**38**		**Pn**	**03 31 20.5**	**+1.2**
WACK	**Wrangell Chich**	**6.04**	**19**		**Pn**	**03 31 22.3**	**+1.5**
M20K	**Styx River**	**6.06**	**338**	Pn	**Pn**	**03 31 21.6**	**+0.8**
O16K	**Kokwok River B**	**6.08**	**306**	Pn	**Pn**	**03 31 23.0**	**+1.9**
O28M	**Mount Upton**	**6.19**	**41**		**Pn**	**03 31 24.3**	**+1.5**
O28M	**Mount Upton** baz=228	**6.19**	**41**	P	**Pn**	**03 31 24.3**	**+1.5**
N17K	**Nushagak Hills**	**6.22**	**316**	Pn	**Pn**	**03 31 24.5**	**+1.6**
HARP	**HAARP**	**6.30**	**14**		**Pn**	**03 31 26.2**	**+2.1**
HARP	**HAARP** baz=197	**6.30**	**14**	P	**Pn**	**03 31 26.2**	**+2.1**
M18K	**Stony River**	**6.42**	**327**		**Pn**	**03 31 26.8**	**+1.1**
M18K	**Stony River** baz=140	**6.42**	**327**	P	**Pn**	**03 31 26.8**	**+1.1**
CNBA	**Chernabura Isl**	**6.50**	**261**	Pn	**Pn**	**03 31 28.6**	**+1.7**
P29M	**Windy Craggy**	**6.58**	**55**		**Pn**	**03 31 28.7**	**+0.9**
P29M	**Windy Craggy** baz=244	**6.58**	**55**	P	**Pn**	**03 31 28.8**	**+1.0**
YUK2	**White River**	**6.72**	**32**		**Pn**	**03 31 32.1**	**+2.2**
O15K	**Ungalikthiuk R**	**6.72**	**300**		**Pn**	**03 31 32.4**	**+2.6**
O15K	**Ungalikthiuk R** baz=110	**6.72**	**300**	P	**Pn**	**03 31 32.4**	**+2.6**
DHY	**Denali Highway**	**6.78**	**4**		**Pn**	**03 31 32.8**	**+2.1**
DHY	**Denali Highway** baz=185	**6.78**	**4**	P	**Pn**	**03 31 33.0**	**+2.3**
S31K	**Pelican**	**6.84**	**71**	Pn	**Pn**	**03 31 30.4**	**-1.0**
SDPT	**Sand Point**	**6.85**	**267**	Pn	**Pn**	**03 31 32.8**	**+1.2**
M17K	**Holitna River**	**6.89**	**321**		**Pn**	**03 31 33.5**	**+1.4**
M17K	**Holitna River** baz=134	**6.89**	**321**	P	**Pn**	**03 31 33.6**	**+1.4**
M27K	**Edge Creek, AK**	**6.90**	**26**	Pn	**Pn**	**03 31 34.2**	**+1.7**
YUK6	**Outpost Mounta**	**6.99**	**45**		**Pn**	**03 31 36.3**	**+2.5**
YUK6	**Outpost Mounta** baz=233	**6.99**	**45**	P	**Pn**	**03 31 36.3**	**+2.5**
TRF	**Thorofare Moun**	**7.19**	**353**	Pn	**Pn**	**03 31 38.4**	**+2.0**
M16K	**Timber Creek**	**7.21**	**315**		**Pn**	**03 31 38

*SOME **12** 03:32:07.3,42°.15N×81°.00E,h10km*
*NNC **12** 03:32:09.0±0.9,42°.18N×80°.94E,h0km,mb4.2,mpv3.9,*
Error ellipse: s-maj=6.3km s-min=4.9km az=143.0
*KRNET **12** 03:32:10.4±0.1,42°.30N×80°.89E,mb3.3*

ISC 12 03:32:05.2±1.8,42°.16N±0°.07×81°.45E±0°.08,h13km±16km,
n64,σ2ᵇ14/95,22C-15D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.52**	**328**	P	**Pb**	**03 32 33.5**	**+0.1**
	40nm,0.3s						
KTMS				S	**Sn**	**03 32 52.2**	**+0.2**
	243nm,0.2s						
KTMS	**Ketmen**	**1.52**	**328**	*e*P	**Pb**	**03 32 33.5**	**+0.1**
	40nm,0.1s						
KTMS				*e*S	**Sn**	**03 32 52.2**	**+0.2**
	243nm,0.2s						
SHLS	**Shalkode**	**1.78**	**305**	P	**Pn**	**03 32 32.8**	**-3.0**
	357nm,0.3s						
SHLS				S	**Sn**	**03 32 51.1**	**-7.1**
	2μm,1.0s						
SHLS	**Shalkode**	**1.78**	**305**	*e*P	**Pn**	**03 32 32.8**	**-3.0**
	357nm,0.2s						
SHLS				*e*S	**Sn**	**03 32 51.1**	**-7.1**
	2μm,1.0s						
PDGK	**Podgornoye**	**1.86**	**310**	P	**Pn**	**03 32 37.9**	**+1.0**
	44nm,0.5s						
PDGK				S	**Sn**	**03 33 00.0**	**-0.3**
	85nm,0.2s						
PDGK	**Podgornoye**	**1.86**	**310**	⇑P	**Pn**	**03 32 37.9**	**+1.0**
	66nm,0.5s						
PDGK				⇑S	**Sn**	**03 33 00.1**	**-0.3**
	186nm,0.6s						
UZB	**Uzynbulak**	**2.05**	**300**	P	**Pn**	**03 32 40.6**	**+1.1**
	208nm,0.4s						
UZB				S	**Sn**	**03 33 05.1**	**+0.1**
	114nm,0.4s						
UZB	**Uzynbulak**	**2.05**	**300**	*e*P	**Pn**	**03 32 40.6**	**+1.1**
	208nm,0.4s						
UZB				*e*S	**Sn**	**03 33 05.1**	**+0.1**
	114nm,0.4s						
PRZ	**Przheval'sk**	**2.29**	**279**	⇑*e*P	**Pb**	**03 32 44.4**	**-2.0**
	baz=77						
PRZ				⇑*e*S	**Sn**	**03 33 10.6**	**-0.3**
	baz=77						
SATY	**Saty**	**2.42**	**293**	Pg	**Pb**	**03 32 47.3**	**-1.4**
	54nm,0.4s						
SATY				Lg	Lg	03 33 16.8	
	132nm,0.3s						
SATY	**Saty**	**2.42**	**293**	*e*P	**Pb**	**03 32 47.3**	**-1.4**
	54nm,0.4s						
SATY				*e*S	**Sb**	**03 33 16.8**	**-1.7**
	132nm,0.3s						
ZHN	**Zhinishke**	**2.44**	**295**	Pg	**Pb**	**03 32 47.4**	**-1.7**
	138nm,0.4s						
ZHN				Lg	Lg	03 33 16.3	
	261nm,0.4s						
ZHN	**Zhinishke**	**2.44**	**295**	*e*P	**Pb**	**03 32 47.4**	**-1.7**
	138nm,0.4s						
ZHN				*e*S	**Sn**	**03 33 16.3**	**+1.6**
	261nm,0.4s						
DJR	**Jarkent**	**2.49**	**331**	Pg	**Pb**	**03 32 50.6**	**+0.8**
	26nm,0.4s						
DJR				Lg	Lg	03 33 22.1	
	252nm,0.6s						
DJR	**Jarkent**	**2.49**	**331**	*e*P	**Pb**	**03 32 50.6**	**+0.8**
	25nm,0.3s						
DJR				*e*S	**Sb**	**03 33 22.1**	**+1.6**
	250nm,0.3s						
KNOS	**Konyrlen**	**2.76**	**324**	Pg	**Pb**	**03 32 54.4**	**0.0**
	61nm,0.3s						
KNOS				Lg	Lg	03 33 28.8	
	485nm,0.6s						
KURS	**Kuram**	**2.76**	**300**	Pg	**Pb**	**03 32 53.1**	**-1.3**
	104nm,0.6s						
KURS				Lg	Lg	03 33 26.4	
	191nm,0.7s						
KURS	**Kuram**	**2.76**	**300**	*e*P	**Pb**	**03 32 53.1**	**-1.3**
	103nm,0.3s						
KURS				*e*S	**Sb**	**03 33 26.4**	**-1.7**
	191nm,0.7s						
ANVS	**Anan'yevo**	**2.87**	**284**	⇑*e*P	**Pb**	**03 32 53.9**	**-2.4**
	baz=83						
ANVS				⇑*e*S	**Sn**	**03 33 25.4**	**+0.1**
	baz=83						
BLB	**Baldybastay**	**2.92**	**313**	Pg	**Pb**	**03 32 56.4**	**-0.7**
	202nm,0.4s						
BLB				Lg	Lg	03 33 31.9	
	313nm,0.5s						
KDJ	**Kajisay**	**3.18**	**271**	⇓*e*P	**Pb**	**03 32 58.2**	**-3.4**
	baz=68						
KDJ				⇓*e*S	**Sn**	**03 33 32.9**	**0.0**
	baz=68						
ARXS	**Arharly**	**3.35**	**309**	Pg	**Pb**	**03 33 03.4**	**-1.1**
	50nm,0.3s						
ARXS				Lg	Lg	03 33 44.1	
	214nm,0.6s						
ARXS	**Arharly**	**3.35**	**309**	*e*P	**Pb**	**03 33 03.5**	**-1.1**
	50nm,0.2s						
ARXS				*e*S	**Sb**	**03 33 44.1**	**-1.2**
	213nm,0.3s						
KOTS	**Kotyrbulak**	**3.38**	**290**	Pg	**Pb**	**03 33 03.7**	**-1.2**
	24nm,0.5s						
KOTS				Lg	Lg	03 33 44.3	
	139nm,0.9s						
KOTS	**Kotyrbulak**	**3.38**	**290**	*e*P	**Pb**	**03 33 03.7**	**-1.2**
	24nm,0.5s						
KOTS				*e*S	**Sb**	**03 33 44.3**	**-1.7**
	139nm,0.9s						
MDOK	**Medeo**	**3.40**	**289**	Pg	**Pb**	**03 33 03.8**	**-1.5**
	18nm,0.4s						
MDOK				⇓Pg	Pg	03 33 03.9	-6.4
	21nm,0.5s						
MDOK				Lg	Lg	03 33 44.7	
	40nm,0.4s						
MDOK				⇓Lg	Lg	03 33 46.5	
	53nm,0.6s						
MDOK	**Medeo**	**3.40**	**289**	*e*P	**Pb**	**03 33 03.9**	**-1.5**
	18nm,0.4s						
MDOK				*e*S	**Sb**	**03 33 44.7**	**-2.0**
	40nm,0.4s						
TNSS	**Tian-Shan**	**3.44**	**286**	Pg	**Pb**	**03 33 04.9**	**-1.3**
	26nm,0.3s						
TNSS				Lg	Lg	03 33 46.4	
	60nm,0.4s						
TNSS	**Tian-Shan**	**3.44**	**286**	*e*P	**Pb**	**03 33 04.9**	**-1.3**
	26nm,0.1s						
TNSS				*e*S	**Sb**	**03 33 46.4**	**-1.7**
	60nm,0.4s						
KNDC	**Almaty**	**3.47**	**289**	⇓Pg	**Pb**	**03 33 07.1**	**+0.5**
	52nm,0.5s						
KNDC				⇑Lg	Lg	03 33 48.7	
	162nm,0.5s						
KAPS	**Kapalarasan**	**3.48**	**335**	Pg	**Pb**	**03 33 07.8**	**+1.2**
	18nm,0.2s						
KAPS				Lg	Lg	03 33 51.4	
	298nm,0.5s						
KAPS	**Kapalarasan**	**3.48**	**335**	*e*P	**Pb**	**03 33 07.8**	**+1.2**
	18nm,0.2s						
KAPS				*e*S	**Sb**	**03 33 51.4**	**+2.6**
	297nm,0.3s						
TDK	**Taldyqorghan**	**3.60**	**323**	Pg	**Pb**	**03 33 09.4**	**+0.6**
	59nm,0.4s						
TDK				Lg	Lg	03 33 53.9	
	176nm,0.5s						
TDK	**Taldyqorghan**	**3.60**	**323**	*e*P	**Pb**	**03 33 09.4**	**+0.6**
	59nm,0.4s						
TDK				*e*S	**Sb**	**03 33 53.9**	**+1.5**
	176nm,0.5s						
IZV	**Izvestkoviy**	**3.68**	**285**	Pg	**Pb**	**03 33 08.4**	**-1.8**
	22nm,0.3s						
IZV				Lg	Lg	03 33 52.2	
	108nm,0.3s						
IZV	**Izvestkoviy**	**3.68**	**285**	*e*P	**Pb**	**03 33 08.4**	**-1.8**
	22nm,0.3s						
IZV				*e*S	**Sb**	**03 33 52.2**	**-2.5**
	108nm,0.3s						
CHKK	**Chushkaly**	**3.69**	**299**	Pg	**Pb**	**03 33 09.0**	**-1.2**
	15nm,0.5s						
CHKK				Lg	Lg	03 33 53.6	
	121nm,0.4s						
CHKK	**Chushkaly**	**3.69**	**299**	*e*P	**Pb**	**03 33 09.0**	**-1.2**
	15nm,0.3s						
CHKK				*e*S	**Sb**	**03 33 53.6**	**-1.2**
	121nm,0.4s						
MTBS	**Maitube**	**3.83**	**286**	Pg	**Pb**	**03 33 11.0**	**-1.6**
	19nm,0.3s						
MTBS				Lg	Lg	03 33 57.5	
	57nm,0.6s						
MTBS	**Maitube**	**3.83**	**286**	*e*P	**Pb**	**03 33 11.0**	**-1.6**
	19nm,0.3s						
MTBS				*e*S	**Sb**	**03 33 57.5**	**-1.5**
	57nm,0.6s						
KTBS	**Karatobe**	**3.83**	**296**	Pg	**Pb**	**03 33 11.5**	**-1.1**
	23nm,1.0s						
KTBS				Lg	Lg	03 33 57.7	
	74nm,0.6s						
KTBS	**Karatobe**	**3.83**	**296**	*e*P	**Pb**	**03 33 11.5**	**-1.1**
	24nm,0.2s						
KTBS				*e*S	**Sb**	**03 33 57.7**	**-1.3**
	74nm,0.2s						
BOOM	**Boomskoye usch**	**4.10**	**277**	⇑*e*P	**Pn**	**03 33 10.6**	**+2.9**
	baz=75						
BOOM				⇑*e*S	**Sn**	**03 33 54.7**	**-0.9**
	baz=75						
NRN	**Naryn**	**4.14**	**262**	⇑*e*P	Pb	03 33 12.5	-5.6
	baz=58						
NRN				⇑*e*S	**Sn**	**03 33 57.7**	**+0.9**
	baz=58						
KST	**Kastek**	**4.15**	**284**	Pg	**Pb**	**03 33 16.4**	**-1.7**
	19nm,0.6s						
KST				Lg	Lg	03 34 06.4	
	143nm,0.9s						
KST	**Kastek**	**4.15**	**284**	*e*P	**Pb**	**03 33 16.4**	**-1.7**
	18nm,0.4s						
KST				*e*S	**Sb**	**03 34 06.4**	**-1.8**
	141nm,0.5s						
DGS	**Degeres**	**4.33**	**286**	Pg	**Pb**	**03 33 20.2**	**-0.9**
	28nm,0.5s						
DGS				Lg	Lg	03 34 13.0	
	73nm,0.7s						
DGS	**Degeres**	**4.33**	**286**	*e*P	**Pb**	**03 33 20.2**	**-0.9**
	28nm,0.5s						
DGS				*e*S	**Sb**	**03 34 13.0**	**-0.3**
	73nm,0.7s						
TKM2	**Tokmak 2**	**4.39**	**282**	⇑Pg	**Pb**	**03 33 22.7**	**+0.4**
	4.5nm,0.3s						
TKM2				⇓Lg	Lg	03 34 16.9	
	51nm,0.5s						
KRBS	**Karabastau**	**4.51**	**292**	Pg	**Pb**	**03 33 23.2**	**-1.0**
	16nm,0.8s						
KRBS				Lg	Lg	03 34 18.1	
	43nm,0.4s						
KRBS	**Karabastau**	**4.51**	**292**	*e*P	**Pb**	**03 33 23.2**	**-1.0**
	17nm,0.3s						
KRBS				*e*S	**Sb**	**03 34 18.1**	**-0.5**
	43nm,0.4s						
MAKZ	**Makanchi**	**4.67**	**4**	⇓Pn	Pb	03 33 22.8	-4.0
	2.8nm,0.2s						
MAKZ				⇓Sn	**Sb**	**03 34 19.8**	**-3.2**
	8.6nm,0.6s						
MAKZ				⇑Lg	Lg	03 34 36.3	
	13nm,0.4s						
MK31	**Makanchi Array**	**4.68**	**7**	⇑Pn	Pb	03 33 22.2	-4.8
	0.8nm,0.3s,baz=196,slow=13,SNR=124						
MK31				⇑Pg	**Pg**	**03 33 33.6**	**-1.1**
	3.3nm,0.4s,baz=186,slow=15,SNR=5.6						
MK31				⇓Sn	**Sb**	**03 34 18.4**	**-4.8**
	1.9nm,0.2s,baz=190,slow=18,SNR=5.0						
MK31				⇑Lg	Lg	03 34 37.0	
	14nm,0.5s,baz=193,slow=27,SNR=6.2						
CHMS	**Chumysh**	**5.02**	**282**	⇓Pg	**Pb**	**03 33 32.2**	**-0.7**
	2.2nm,0.3s						
CHMS				⇑Lg	Lg	03 34 37.2	
	20nm,0.7s						
AAK	**Ala-Archa**	**5.17**	**278**	⇓Pn	**Pn**	**03 33 26.7**	**+4.3**
	0.9nm,0.5s						
AAK				⇓Pg	**Pb**	**03 33 37.7**	**+2.1**
	6.1nm,0.5s						
AAK				⇓Lg	Lg	03 34 40.0	
	20nm,0.6s						
ARLS	**Aral**	**5.32**	**269**	⇑*e*P	**Pn**	**03 33 27.8**	**+3.4**
	baz=67						
ARLS				⇑*e*S	**Sn**	**03 34 24.6**	**-1.1**
	baz=67						
ZSN	**Zaisan**	**5.82**	**23**	*e*P	**Pg**	**03 33 55.6**	**-1.0**
	7.0nm,0.3s						
ZSN				*e*S	**Sg**	**03 35 13.4**	**+1.4**
	18nm,0.6s						
BTLS	**Baital**	**6.10**	**301**	*e*P	**Pb**	**03 33 54.7**	**+3.4**
	4.4nm,0.3s						
BTLS				*e*S	**Sb**	**03 35 11.5**	**+7.3**
	7.3nm,0.3s						
MRKS	**Merke**	**6.12**	**278**	Pg	**Pb**	**03 33 52.9**	**+1.4**
	1.4nm,0.5s						
MRKS				Lg	Lg	03 35 08.6	
	17nm,0.5s						
MRKS	**Merke**	**6.12**	**278**	*e*P	**Pb**	**03 33 52.9**	**+1.4**
	1.2nm,0.2s						
MRKS				*e*S	**Sb**	**03 35 08.6**	**+3.9**
	17nm,0.5s						
KK31	**Karatay Array**	**8.12**	**280**	⇑Pg	Pg	03 34 34.6	-6.0
	0.8nm,0.4s,baz=82,slow=16,SNR=6.7						
KK31				⇓Lg	Lg	03 36 16.8	
	4.5nm,0.6s,baz=91,slow=28,SNR=4.2						
KURBB	**Kurchatov Arra**	**8.71**	**348**	⇑Lg	Lg	03 36 43.9	
	32nm,0.7s						
KURK	**Kurchatov**	**8.78**	**348**	⇑Lg	Lg	03 36 44.7	
	19nm,0.9s						
OTUK	**Ortayu**	**8.86**	**317**	⇓Lg	Lg	03 36 39.7	
	6.5nm,0.6s						

*NEIC **12** 03:36:08.6±2.3,81°.60N±0°.05×115°.2W±0°.7,h10km±1km,*
mb3.9/25,ML4.2(OTT),Error ellipse: s-maj=17.1km
s-min=7.8km az=107.0
*OTT **12** 03:36:09.3±0.7,81°.72N×114°.65W,h18km,ML4.2/5,*
390km northwest from Isachsen, Nu
*IDC **12** 03:36:09.6±0.8,81°.65N×113°.50W,h0km,mb3.8/12,*
mbtmp3.8/15,ML3.7/3,MS2.9/2,Error ellipse:
s-maj=23.2km s-min=14.6km az=88.0

ISC 12 03:36:09.2±0.5,81°.46N±0°.05×114°.65W±0°.06,h10km,
n157,σ1ᵇ80/152,mb3.9/14,Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EUNU	**Eureka**	**4.72**	**93**	*i* P	**Pn**	**03 37 22.0**	**+1.6**
EUNU				*e*S	**Sn**	**03 38 12.0**	**-3.1**
RES	**Resolute Bay**	**7.86**	**139**	Pn	**Pn**	**03 38 05.2**	**+1.9**
RES	**Resolute Bay**	**7.86**	**139**	Pn	**Pn**	**03 38 04.5**	**+1.2**
	0.4nm,0.3s,baz=338,slow=13,SNR=24						
RES				Sn	**Sn**	**03 39 29.4**	**-2.8**
	1.2nm,0.3s,baz=38,slow=14,SNR=5.5						
RES				LR	LR	03 41 42.0	
	comp=Z,62nm,18.1s,baz=14,slow=42						
	0.9nm,0.3s						
RES	**Resolute Bay**	**7.86**	**139**	PN	**Pn**	**03 38 04.7**	**+1.4**
RES	**Resolute Bay**	**7.86**	**139**	SN	**Sn**	**03 39 29.5**	**-2.6**
RES				Trac		03 39 45.8	
	comp=Z,4.8nm,0.2s						
RES	**Resolute Bay**	**7.86**	**139**	*e*P	**Pn**	**03 38 05.8**	**+2.5**
RES				*e*S	**Sn**	**03 39 29.3**	**-2.8**
TULEG	**Thule**	**9.72**	**95**	Pn	**Pn**	**03 38 29.8**	**+1.1**
A36M	**Sachs Harbour**	**9.80**	**200**		**Pn**	**03 38 30.9**	**+1.1**
A36M	**Sachs Harbour**	**9.80**	**200**	Pn	**Pn**	**03 38 31.0**	**+1.1**
A36M	**Sachs Harbour**	**9.80**	**200**	P	**Pn**	**03 38 30.9**	**+1.1**
	baz=8.8						
A36M	**Sachs Harbour**	**9.80**	**200**	PN	**Pn**	**03 38 31.0**	**+1.1**
A36M	**Sachs Harbour**	**9.80**	**200**	SN	**Sn**	**03 40 16.4**	**-3.2**
A36M				Trac		03 40 19.6	
	comp=Z,7.1nm,0.3s						
NEEM	**North Greenlan**	**11.66**	**76**	*i* P	**Pn**	**03 38 54.3**	**-1.2**
NEEM				IAML		03 41 00.7	
	comp=Z,4.9nm,0.3s						
C36M	**Paulatuk**	**12.37**	**196**	Pn	**Pn**	**03 39 06.1**	**+1.1**
C36M	**Paulatuk**	**12.37**	**196**	P	**Pn**	**03 39 06.9**	**+1.9**
	baz=6.2						
C36M	**Paulatuk**	**12.37**	**196**	PN	**Pn**	**03 39 07.2**	**+2.2**
C36M	**Paulatuk**	**12.37**	**196**	SN	**Sn**	**03 41 18.3**	**-4.4**
C36M				Trac		03 41 40.1	
	comp=Z,13nm,0.7s						
NOR	**Nord**	**12.85**	**41**	*e*P	**Pn**	**03 39 08.3**	**-3.1**
NOR				*i*		03 41 23.3	
NOR				IAML		03 41 43.5	
	comp=Z,2.7nm,0.7s						
KULLO	**Kullorsuaq**	**13.03**	**90**	Pn	**Pn**	**03 39 12.9**	**-1.1**
KULLO	**Kullorsuaq**	**13.03**	**90**	PN	**Pn**	**03 39 12.9**	**-1.1**
KULLO	**Kullorsuaq**	**13.03**	**90**	SN	Sn	03 41 27.0	-12
KULLO				Trac		03 41 31.6	
	comp=Z,9.0nm,0.5s						
D28M	**Stokes Point**	**13.40**	**219**	P	**Pn**	**03 39 18.8**	**-0.1**
	baz=15,SNR=46						
C26K	**Camden Bay**	**13.47**	**228**	P	**Pn**	**03 39 18.7**	**-1.1**
	baz=18						
C27K	**Jago River**	**13.61**	**226**	P	**Pn**	**03 39 20.6**	**-1.3**
	baz=17						
D27M	**Malcolm River**	**13.69**	**222**	Pn	**Pn**	**03 39 22.4**	**-0.7**
D27M	**Malcolm River**	**13.69**	**222**	P	**Pn**	**03 39 22.4**	**-0.7**
	baz=16,SNR=151						
A22K	**Sinclair Lake**	**13.70**	**244**	P	**Pn**	**03 39 22.8**	**-0.2**
	baz=23						
INK	**Inuvik**	**13.96**	**210**	Pn	**Pn**	**03 39 26.4**	**-0.2**
INK	**Inuvik**	**13.96**	**210**	Pn	**Pn**	**03 39 29.3**	**+2.7**
INK	**Inuvik**	**13.96**	**210**	P	**Pn**	**03 39 26.7**	**+0.1**
	baz=11						
INK	**Inuvik**	**13.96**	**210**	Pn	**Pn**	**03 39 26.7**	**+0.1**
	comp=Z,0.5nm,0.3s,baz=4.1,slow=15,SNR=21						
INK				Sn	Sn	03 41 53.6	-7.7
	comp=Z,0.6nm,0.3s,baz=295,slow=27,SNR=6.0						
INK	**Inuvik**	**13.96**	**210**	PN	**Pn**	**03 39 29.3**	**+2.7**
INK	**Inuvik**	**13.96**	**210**	SN	Sn	03 41 54.0	-7.3
INK	**Inuvik**	**13.96**	**210**	Trac		03 42 01.3	
	comp=Z,4.6nm,0.3s						
C24K	**Franklin Bluff**	**14.09**	**233**	P	**Pn**	**03 39 27.2**	**-1.2**
	baz=19						
B22K	**Teshekpuk Lake**	**14.10**	**240**	Pn	**Pn**	**03 39 26.8**	**-1.8**
B22K	**Teshekpuk Lake**	**14.10**	**240**	P	**Pn**	**03 39 27.4**	**-1.1**
	baz=22						
E28M	**Babbage River**	**14.17**	**219**	Pn	**Pn**	**03 39 29.2**	**-0.4**
E28M	**Babbage River**	**14.17**	**219**	P	**Pn**	**03 39 29.5**	**-0.1**
	baz=14,SNR=286						
D25K	**Kavik River**	**14.20**	**230**		**Pn**	**03 39 29.4**	**-0.5**
D25K	**Kavik River**	**14.20**	**230**	P	**Pn**	**03 39 28.6**	**-1.4**
	baz=18						
C23K	**Itkillik River**	**14.22**	**236**	Pn	**Pn**	**03 39 29.2**	**-0.9**
C23K	**Itkillik River**	**14.22**	**236**	P	**Pn**	**03 39 29.2**	**-0.9**
	baz=20						
E29M	**Blow River**	**14.23**	**216**	Pn	**Pn**	**03 39 30.1**	**-0.3**
E29M	**Blow River**	**14.23**	**216**	P	**Pn**	**03 39 29.9**	**-0.5**
	baz=13,SNR=76						
ILON	**Igloolik, Nuna**	**14.28**	**129**	Pn	**Pn**	**03 39 31.4**	**+0.5**
ILON	**Igloolik, Nuna**	**14.28**	**129**	PN	**Pn**	**03 39 31.4**	**+0.5**
ILON	**Igloolik, Nuna**	**14.28**	**129**	SN	Sn	03 41 57.6	-11
ILON	**Igloolik, Nuna**	**14.28**	**129**	Trac		03 42 23.3	
	comp=Z,148nm,3.1s						
D24K	**Happy Valley**	**14.64**	**233**		**Pn**	**03 39 34.4**	**-1.6**
D24K	**Happy Valley**	**14.64**	**233**	P	**Pn**	**03 39 34.5**	**-1.4**
	baz=19						
E27K	**Coleen River**	**14.78**	**222**	Pn	**Pn**	**03 39 37.9**	**+0.1**
E27K	**Coleen River**	**14.78**	**222**	P	**Pn**	**03 39 38.1**	**+0.2**
	baz=15,SNR=128						
F30M	**Barrier River**	**14.82**	**213**	P	**Pn**	**03 39 38.9**	**+0.6**
	baz=12						
F31M	**Tsiigehtchic**	**14.82**	**210**	Pn	**Pn**	**03 39 37.1**	**-1.3**
B20K	**Meade River**	**14.91**	**245**		**Pn**	**03 39 38.6**	**-0.9**
B20K	**Meade River**	**14.91**	**245**	P	**Pn**	**03 39 39.6**	**+0.1**
	baz=22						
B21K	**Ikpikpuk River**	**14.93**	**241**	Pn	**Pn**	**03 39 37.9**	**-1.9**
B21K	**Ikpikpuk River**	**14.93**	**241**	P	**Pn**	**03 39 39.8**	**0.0**
	baz=21						
D23K	**Nanushuk River**	**15.04**	**235**	P	**Pn**	**03 39 41.5**	**+0.1**
	baz=19						
F28M	**Old Crow**	**15.17**	**219**	Pn	**Pn**	**03 39 41.6**	**-1.5**
F28M	**Old Crow**	**15.17**	**219**	P	**Pn**	**03 39 41.8**	**-1.3**
	baz=13,SNR=120						
TOLK	**Toolik Lake Re**	**15.22**	**233**	Pn	**Pn**	**03 39 41.7**	**-2.0**
TOLK				IAmb	IAmb	03 40 13.6	
	comp=Z,8.0nm,1.1s						
TOLK	**Toolik Lake Re**	**15.22**	**233**	P	**Pn**	**03 39 42.5**	**-1.2**
	baz=18						
E25K	**Arctic Village**	**15.26**	**227**		**Pn**	**03 39 43.0**	**-1.2**
E25K				IAmb	IAmb	03 40 06.6	
	comp=Z,6.3nm,0.8s						
E25K	**Arctic Village**	**15.26**	**227**	P	**Pn**	**03 39 43.4**	**-0.8**
	baz=16						
D22K	**Ayikyak River**	**15.37**	**237**	Pn	**Pn**	**03 39 45.7**	**-0.1**
D22K				IAmb	IAmb	03 40 26.8	
	comp=Z,7.7nm,1.2s						
D22K	**Ayikyak River**	**15.37**	**237**	P	**Pn**	**03 39 45.3**	**-0.5**
	baz=20						
G31M	**Satah River**	**15.38**	**210**	Pn	**Pn**	**03 39 46.8**	**+1.0**
G31M				IAmb	IAmb	03 40 00.3	
	comp=Z,6.7nm,0.8s						
G31M	**Satah River**	**15.38**	**210**	P	**Pn**	**03 39 46.5**	**+0.7**
	baz=10						
C21K	**Knifeblade Rid**	**15.38**	**240**	P	**Pn**	**03 39 45.4**	**-0.4**
	baz=20						
G30M	**tAoh Zraii Nji**	**15.47**	**213**		**Pn**	**03 39 46.6**	**-0.4**
G30M				IAmb	IAmb	03 39 49.5	
	comp=Z,5.8nm,1.1s						
G30M	**tAoh Zraii Nji**	**15.47**	**213**	P	**Pn**	**03 39 46.7**	**-0.4**
	baz=11						
F26K	**Sheenjek River**	**15.52**	**225**	P	**Pn**	**03 39 46.8**	**-0.9**
	baz=15						
E24K	**Your Creek**	**15.63**	**231**	P	**Pn**	**03 39 48.1**	**-1.1**
	baz=17						
G29M	**Pine Creek**	**15.69**	**215**	P	**Pn**	**03 39 48.7**	**-1.2**
	baz=12,SNR=9.7						
F25K	**Christian Rive**	**15.77**	**227**	P	**Pn**	**03 39 50.7**	**-0.3**
	baz=16						
BMAR	**Burnt Mountain**	**15.82**	**225**	Pn	**Pn**	**03 39 50.5**	**-1.1**
E21K	**Killik River**	**15.95**	**238**	P	**Pn**	**03 39 52.7**	**-0.6**
	baz=19						
E22K	**Anaktuvuk Pass**	**15.97**	**235**		**Pn**	**03 39 53.1**	**-0.4**
E22K				IAmb	IAmb	03 40 12.3	
	comp=Z,4.6nm,0.8s						
E22K	**Anaktuvuk Pass**	**15.97**	**235**	P	**Pn**	**03 39 53.1**	**-0.4**
	baz=18						
D20K	**Etivluk River**	**16.04**	**242**	P	**Pn**	**03 39 54.0**	**-0.4**
	baz=20						
F24K	**Squaw Lake**	**16.09**	**229**		**Pn**	**03 39 55.2**	**+0.1**
F24K	**Squaw Lake**	**16.09**	**229**	P	**Pn**	**03 39 55.0**	**-0.1**
	baz=16						
EPYK	**Eagle Plains**	**16.11**	**213**		**Pn**	**03 39 55.4**	**+0.1**
EPYK				IAmb	IAmb	03 40 13.4	
	comp=Z,9.4nm,1.1s						
EPYK	**Eagle Plains**	**16.11**	**213**	P	**Pn**	**03 39 56.5**	**+1.1**
	baz=11						
G27K	**Doyon Strip**	**16.12**	**220**	P	**Pn**	**03 39 55.0**	**-0.4**
	baz=14,SNR=9.4						
B18K	**Kokolik River**	**16.14**	**249**	P	**P**	**03 39 58.0**	**-0.9**
	baz=22						
G26K	**Porcupine Rive**	**16.20**	**223**	P	**Pn**	**03 39 57.1**	**+0.7**
	baz=14						
H29M	**Whitestone**	**16.40**	**215**	P	**Pn**	**03 40 00.3**	**+1.3**
	baz=12						
E20K	**Nigu River**	**16.41**	**241**	P	**P**	**03 40 00.3**	**-1.7**
	baz=20						
D19K	**Kuna River**	**16.44**	**244**	Pn	**Pn**	**03 39 59.3**	**-0.3**
D19K				IAmb	IAmb	03 40 18.6	
	comp=Z,5.9nm,0.8s						
D19K	**Kuna River**	**16.44**

baz=21
SUMG Summit 17.53 76 Pn Pn 03 40 10.6 -2.9
SUMG IAmb IAmb 03 40 43.1
comp=Z,6.3nm,1.0s
C16K Lisburne Hills 17.65 252 P 03 40 14.8 -0.7
I26K Coal Creek Min 17.73 221 P P 03 40 18.5 +2.0
baz=13
E18K Tukpahlearik C 17.79 245 P P 03 40 19.7 +2.6
baz=20
J30M Hart River 17.85 211 P 03 40 18.3 +0.3
J30M Hart River 17.85 211 P P 03 40 19.8 +1.8
baz=9.9
D17K Noatak River 17.87 249 P P 03 40 21.6 +3.6
baz=21
H23K Yukon River 17.91 230 P P 03 40 19.8 +1.2
baz=16
EGAK Eagle 18.06 218 P 03 40 20.8 +0.6
IMAR Indian Mountai 18.26 235 P 03 40 22.7 +0.4
E17K Hotham Inlet 18.27 246 P P 03 40 26.6 +4.2
baz=20
G19K Purcell Mounta 18.53 240 P Pn 03 40 29.6 +4.2
baz=18
J26L Joseph Creek 18.56 221 P Pn 03 40 30.4 +4.4
baz=13,SNR=9.6
DAWY Dawson 18.60 215 P Pn 03 40 27.2 +0.8
DAWY IAmb IAmb 03 40 43.1
comp=Z,6.6nm,1.2s
ILAR Eielson Array 18.64 226 P Pn 03 40 32.5 +5.6
comp=Z,0.1nm,0.3s,baz=11,slow=9.4,SNR=11
ILAR S Sn 03 43 46.5 -8.4
comp=Z,0.5nm,0.4s,baz=10,slow=29,SNR=7.0
comp=Z,1.2nm,0.8s
YKAW3 Yellowknife Wh 19.00 180 Pn 03 40 33.9 +2.8
YKAW3 Yellowknife Wh 19.00 180 IAmb IAmb 03 40 38.7
comp=Z,3.2nm,1.1s
YKAW3 Yellowknife Wh 19.00 180 PN Pn 03 40 33.9 +2.8
YKAW3 Yellowknife Wh 19.00 180 SN Sn 03 43 54.7 -8.8
YKA Yellowknife Ar 19.07 180 Pn 03 40 32.9 +1.0
YKA Yellowknife Ar 19.07 180 P Pn 03 40 34.3 +2.3
comp=Z,0.5nm,0.3s,baz=40,slow=3.7,SNR=33
YKA S Sn 03 43 53.1 -12
comp=Z,1.0nm,0.5s,baz=360,slow=22,SNR=10
comp=Z,1.2nm,0.7s
YKAW1 Yellowknife Wh 19.08 180 Pn 03 40 35.8 +3.7
YKAW1 Yellowknife Wh 19.08 180 IAmb IAmb 03 40 54.8
comp=Z,7.2nm,1.4s
YKAW1 Yellowknife Wh 19.08 180 PN Pn 03 40 35.8 +3.7
WHY Whitehorse 21.62 208 P P 03 41 01.5 +2.4
TIXI Tiksi 23.55 315 LR LR 03 51 51.0
comp=Z,36nm,18.2s,baz=64,slow=40
ARCES ARCESS Array B 27.72 29 P P 03 41 56.5 -0.5
comp=Z,1.0nm,0.8s,baz=346,slow=11,SNR=3.7
comp=Z,1.0nm,0.8s
ULM Lac du Bonnet 31.90 157 P P 03 42 36.9 +2.8
comp=Z,2.3nm,0.7s,baz=1.9,slow=6.9,SNR=4.8
comp=Z,2.3nm,0.7s
NOA NORSAR Array B 34.80 44 P P 03 42 58.9 -0.5
comp=Z,1.0nm,0.8s,baz=348,slow=8.5,SNR=4.2
comp=Z,1.0nm,0.8s
FINES FINESS Array B 35.76 31 P P 03 43 07.1 -0.4
comp=Z,1.2nm,0.9s,baz=357,slow=15,SNR=2.2
comp=Z,1.2nm,0.9s
HFS Hagfors 35.95 42 P P 03 43 09.3 +0.1
comp=Z,1.5nm,0.7s,baz=32,slow=8.7,SNR=4.1
comp=Z,1.5nm,0.7s
ZALV Zalesovo Beam 44.42 344 P P 03 44 19.9 +0.5
comp=Z,0.8nm,0.4s,baz=0.0,slow=11,SNR=4.6
comp=Z,0.8nm,0.4s
KLR Kul'dur 44.97 302 P P 03 44 25.7 +1.8
comp=Z,0.9nm,0.6s,baz=157,slow=11,SNR=4.9
comp=Z,0.9nm,0.6s
BRVK Borovoye 45.70 356 P P 03 44 26.8 -2.7
BRVK IAmb IAmb 03 44 31.5
comp=Z,2.5nm,1.1s
BVAR Borovoye Array 45.73 356 P P 03 44 30.9 +1.0
comp=Z,1.3nm,0.9s,baz=23,slow=8.0,SNR=4.1
comp=Z,1.3nm,0.9s
KURBB Kurchatov Arra 47.97 349 P P 03 44 47.6 +0.2
comp=Z,1.3nm,0.9s,baz=3.3,slow=8.0,SNR=8.8
comp=Z,1.3nm,0.9s
SONM Songino Array 49.10 324 P P 03 44 58.0 +1.7
comp=Z,1.9nm,0.6s,baz=8.1,slow=6.7,SNR=6.9
comp=Z,1.9nm,0.6s
ABKAR Akbulak array 49.50 5 P P 03 44 58.1 -1.0
ABKAR Akbulak array 49.50 5 P P 03 44 58.3 -0.8
ABKAR IAmb IAmb 03 45 34.3
comp=Z,4.0nm,1.4s
MK31 Makanchi Array 51.67 345 P P 03 45 14.2 -1.3
MKAR Makanchi Array 51.67 345 P P 03 45 14.7 -0.9
MKAR Makanchi Array 51.67 345 P P 03 45 15.4 -0.2
comp=Z,1.3nm,0.8s,baz=356,slow=6.0,SNR=8.8
comp=Z,1.3nm,0.8s
TXAR Lajitas Array 52.40 168 P P 03 45 24.9 +3.5
comp=Z,0.1nm,0.5s,baz=20,slow=4.0,SNR=4.7
comp=Z,0.1nm,0.5s
KBZ Khabaz 54.49 20 P P 03 45 37.3 +1.0
comp=Z,6.7nm,0.8s,baz=341,slow=7.2,SNR=13
KKAR Karatay Array 55.66 355 P P 03 45 44.7 -0.1

*NEIC **12** 03:40:32.8±0.7, 19.°09N±0.°04×68.°23W±0.°03, h35km±2km, ML2.1/14, Md2.5/6(RSPR), Error ellipse: s-maj=7.5km s-min=3.4km az=220.0*
*RSPR **12** 03:40:33.6, 19.°16N×68.°24W, h29km±18km, MD2.5/6*
*SDD **12** 03:41:05.2±1.8, 18.°43N×67.°14W, h0km±688km, MD2.0, ML1.1, MW1.6*

ISC 12 03:40:31.0±2.7, 19.°2N±0.°1×68.°1W±0.°2, h11km±23km, n25, σ1§70/36, 8C-6D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.71**	**206**	**⇑eP**		**Pg**	**03 40 44.9**	**+0.1**
PCDR	**Punta Cana, DR**	**0.71**	**206**	*eS*		**Sg**	**03 40 53.2**	**-0.9**
PCDR	**Punta Cana, DR**	**0.71**	**206**			**Pg**	**03 40 44.4**	**-0.3**
PCDR						**Sg**	**03 40 52.9**	**-1.1**
PCDR					IAML		03 41 02.4	
	comp=N,169nm,1.4s							
AGPR	**Aguadilla, PR**	**1.12**	**127**	**⇓eSg**		**Sb**	**03 41 06.3**	**-0.6**
AGPR				**⇑ePg**		**Sb**	**03 41 06.4**	**-0.6**
AGPR					IAML		03 41 10.7	
	comp=E,67nm,1.4s							
AGPR					IAML		03 41 20.9	
	comp=N,82nm,2.2s							
LSP	**Las Mesas**	**1.33**	**137**	**⇑eP**		**Pb**	**03 40 56.9**	**+0.8**
LSP	**Las Mesas**	**1.33**	**137**	*eS*		**Sb**	**03 41 14.6**	**+1.4**
LSP	**Las Mesas**	**1.33**	**137**			**Pb**	**03 40 56.9**	**+0.8**
LSP						**Sb**	**03 41 14.6**	**+1.4**
CRPR	**Cabo Rojo, PR**	**1.45**	**142**	**⇓eP**		**Pn**	**03 40 57.6**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.45**	**142**	*eS*		**Sn**	**03 41 16.7**	**+0.6**
CRPR	**Cabo Rojo, PR**	**1.45**	**142**			**Pn**	**03 40 57.1**	**0.0**
CRPR					IAML		03 41 08.6	
	comp=N,14nm,1.3s							
CRPR						**Sn**	**03 41 15.4**	**-0.7**
CRPR	**Cabo Rojo, PR**	**1.45**	**142**	**⇑ePg**		**Sn**	**03 41 13.1**	**-3.0**
CRPR				**⇓eSg**		**Sb**	**03 41 17.9**	**+1.4**
CRPR					IAML		03 41 20.3	
	comp=E,27nm,1.4s							
AOPR	**Arecibo Observ**	**1.47**	**123**	*eS*		**Sb**	**03 41 18.0**	**+0.9**
AOPR	**Arecibo Observ**	**1.47**	**123**	Pn		**Pn**	**03 40 58.4**	**+0.9**
AOPR					IAML		03 41 13.1	
	comp=N,27nm,1.3s							
AOPR						**Sn**	**03 41 16.6**	**-0.1**
AOPR					IAML		03 41 18.7	
	comp=E,32nm,0.8s							
AOPR	**Arecibo Observ**	**1.47**	**123**	**⇑ePg**		**Sn**	**03 41 11.3**	**-5.3**
AOPR				**⇑eSg**		**Sb**	**03 41 17.6**	**+0.6**
AOPR					IAML		03 41 21.3	
	comp=E,30nm,0.8s							
AOPR					IAML		03 41 30.8	
	comp=N,25nm,2.3s							
MLPR	**Magueyes Islan**	**1.52**	**141**	**⇑eP**		**Pn**	**03 40 59.0**	**+1.0**
MLPR	**Magueyes Islan**	**1.52**	**141**	*eS*		**Sn**	**03 41 18.5**	**+0.7**
MLPR	**Magueyes Islan**	**1.52**	**141**			**Pn**	**03 40 58.6**	**+0.6**
MLPR						**Sn**	**03 41 17.4**	**-0.4**
MLPR					IAML		03 41 40.6	
	comp=N,18nm,1.5s							
UUPR	**Utuado, UPR, P**	**1.55**	**125**	**⇓eP**		**Pn**	**03 40 59.4**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.55**	**125**	*eS*		**Sn**	**03 41 18.2**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.55**	**125**			**Pn**	**03 40 58.7**	**+0.2**
UUPR						**Sn**	**03 41 17.8**	**-0.8**
UUPR					IAML		03 41 22.0	
	comp=N,55nm,0.3s							
EMPR	**Esperanza - Ma**	**1.59**	**115**	Pn		**Pn**	**03 40 59.0**	**0.0**
CELP	**Cerrillos**	**1.76**	**127**	**⇓eP**		**Pn**	**03 41 02.8**	**+1.3**
CELP	**Cerrillos**	**1.76**	**127**	*eS*		**Sn**	**03 41 24.9**	**+1.1**
CELP	**Cerrillos**	**1.76**	**127**			**Pn**	**03 41 02.2**	**+0.8**
CELP						**Sn**	**03 41 24.3**	**+0.5**
CELP					IAML		03 41 27.7	
	comp=E,9.8nm,1.1s							
CELP					IAML		03 41 28.8	
	comp=N,9.7nm,1.2s							
CELP	**Cerrillos**	**1.76**	**127**	**⇑ePg**		**Sn**	**03 41 18.1**	**-5.8**
CELP				**⇓eSg**		**Sb**	**03 41 24.6**	**-0.8**
CELP					IAML		03 41 28.9	
	comp=N,16nm,4.1s							

*JMA **12** 03:40:53.5±0.1, 34.°7N±0.°2×136.°7E±0.°2, h40km, MV3.8/35, ISE BAY REGION*
JMA Felt II J1 at ISE BAY REGION .
*NIED **12** 03:40:53.5, 34.°74N×136.°70E, h40km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.58; $M_{\theta\theta}$-1.00; $M_{\phi\phi}$1.58; $M_{r\theta}$-1.84; $M_{\theta\phi}$-0.62; $M_{\phi r}$1.25; Fault plane solution: $M_0$2.69000×10^{14} NP1: ϕ_s128.00000°, δ83.00000°, λ-122.00000°. NP2: ϕ_s27.00000°, δ32.00000°, λ-14.00000°.*

ISC 12 03:40:54.4±1.3, 34.°75N±0.°04×136.°65E±0.°04, h35km, n15, σ1§18/20, 8D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TSUJ	**Tsu 2**	**0.19**	**258**	**⇓P**		**Pn**	**03 41 00.9**	**-0.3**
TSUJ				**⇓*e*S**		**Sn**	**03 41 06.3**	**+0.5**
JIE	**Ise**	**0.36**	**172**	**⇓P**		**Pn**	**03 41 02.5**	**-0.7**
JAA	**Atsumi**	**0.42**	**106**	P		**Pn**	**03 41 02.3**	**-1.8**
JAA				*eS*		**Sn**	**03 41 08.9**	**-1.8**
JKN2	**Miekihoku**	**0.59**	**211**	**⇓P**		**Pn**	**03 41 05.5**	**-0.9**
JKN2				**⇓eS**		**Sn**	**03 41 14.2**	**-0.7**
JHE	**Heguri**	**0.80**	**263**	P		**Pn**	**03 41 08.9**	**-0.3**
JHE				*eS*		**Sn**	**03 41 20.5**	**+0.6**
JYTA	**Yamagatataniai**	**0.85**	**5**	**⇓P**		**Pn**	**03 41 09.3**	**-0.6**
JYTA				**⇓eS**		**Sn**	**03 41 20.6**	**-0.4**
JWY	**Kouya**	**1.02**	**239**	P		**Pn**	**03 41 11.8**	**-0.5**
JGF	**Kuroka**	**1.03**	**34**	P		**Pn**	**03 41 11.5**	**-0.9**
TTO2	**TONANKAI O.B.S**	**1.06**	**163**	**⇓P**		**Pn**	**03 41 11.9**	**-0.6**
JSG	**Sagara**	**1.27**	**93**	P		**Pn**	**03 41 17.0**	**+1.3**
MAJO	**Matsushiro**	**2.19**	**35**	P		**Pn**	**03 41 28.2**	**-0.2**
JMN	**Monobe**	**2.51**	**247**	P		**Pn**	**03 41 32.9**	**+0.1**
JHJ2	**Mitsune**	**3.10**	**121**	P		**Pn**	**03 41 43.6**	**+2.7**
JMM	**Marumori**	**4.57**	**46**	P		**Pn**	**03 42 02.4**	**+1.4**
JNU	**Nakatsue**	**5.06**	**253**	P		**Pn**	**03 42 09.0**	**+1.1**

*MOS **12** 03:42:11.8±0.9, 52.°72N×156.°98E, h197km, mb4.1/16, Error ellipse: s-maj=10.5km s-min=6.0km az=78.9*
*NEIC **12** 03:42:13.2±1.1, 52.°8N±0.°1×156.°9E±0.°2, h189km±5km, mb4.3/40, Error ellipse: s-maj=19.1km s-min=11.6km az=140.0*
*KRSC **12** 03:42:13.1±1.0, 52.°63N×157.°22E, h186km±7km, Ml4.4*
*IDC **12** 03:42:14.1±0.8, 52.°84N×156.°88E, h197km±7km, mb3.6/28, mbtmp4.2/31, MS3.4/1, Error ellipse: s-maj=13.3km s-min=8.8km az=151.0*

ISC 12 03:42:12.9±0.5, 52.°67N±0.°05×157.°11E±0.°05, h194km±4km, n176, σ1§11/206, mb4.1/63, 6C-5D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
APC	**Apacha**	**0.26**	**7**	*eP*		**Pn**	**03 42 38.6**	**+0.1**
APC				*eS*		**Sn**	**03 42 57.3**	**-1.2**
APC	**Apacha**	**0.26**	**7**	PN		**Pn**	**03 42 38.6**	**+0.1**
APC				S		**Sn**	**03 42 57.3**	**-1.2**
ASAK	**Asacha**	**0.56**	**120**	*eP*		**Pn**	**03 42 39.8**	**+0.2**
ASAK	**Asacha**	**0.56**	**120**	PN		**Pn**	**03 42 39.8**	**+0.2**
PEA0B	**Petropavlovsk-**	**0.57**	**39**			**Pn**	**03 42 39.6**	**+0.1**
PEA0B					Sn	**Sn**	**03 42 58.9**	**-1.3**
PEA0B	**Petropavlovsk-**	**0.57**	**39**	*c iPN*		**Pn**	**03 42 39.5**	**0.0**
PETK	**Petropavlovsk-**	**0.57**	**39**			**Pn**	**03 42 38.8**	**-0.7**
PETK	**Petropavlovsk-**	**0.57**	**39**	P		**Pn**	**03 42 38.6**	**-0.9**
	402nm,0.5s,baz=160,slow=1.8,SNR=657							
PETK				S		**Sn**	**03 43 00.2**	**-0.1**
	134nm,0.6s,baz=262,slow=33,SNR=17							
PETK	**Petropavlovsk-**	**0.57**	**39**	PN		**Pn**	**03 42 38.8**	**-0.7**
GRL	**Gorelyy**	**0.60**	**101**	*eP*		**Pn**	**03 42 40.0**	**+0.2**
GRL	**Gorelyy**	**0.60**	**101**	PN		**Pn**	**03 42 40.0**	**+0.2**
KRMR	**Karymshinskiy**	**0.64**	**75**	*eP*		**Pn**	**03 42 39.8**	**0.0**
KRMR				*eS*		**Sn**	**03 43 01.2**	**+0.5**
KRMR	**Karymshinskiy**	**0.64**	**75**	PN		**Pn**	**03 42 39.8**	**0.0**
KRMR				S		**Sn**	**03 43 01.2**	**+0.5**
MTVR	**Mutnovka**	**0.68**	**105**	*eP*		**Pn**	**03 42 39.9**	**-0.3**
MTVR	**Mutnovka**	**0.68**	**105**	PN		**Pn**	**03 42 39.9**	**-0.3**
RUS	**Russkaya**	**0.89**	**105**	*eP*		**Pn**	**03 42 40.5**	**-0.7**
RUS				*eS*		**Sn**	**03 43 01.6**	**-1.5**
RUS	**Russkaya**	**0.89**	**105**	PN		**Pn**	**03 42 40.5**	**-0.7**
RUS				S		**Sn**	**03 43 01.6**	**-1.5**
INSR	**Institute**	**0.99**	**66**	*eP*		**Pn**	**03 42 42.0**	**+0.1**
INSR				*eS*		**Sn**	**03 43 04.3**	**+0.4**
PET	**Petropavlovsk**	**1.00**	**68**			**Pn**	**03 42 41.8**	**-0.1**
PET	**Petropavlovsk**	**1.00**	**68**	*eP*		**Pn**	**03 42 41.8**	**-0.1**
PET				*eS*		**Sn**	**03 43 03.9**	**-0.6**
PET	**Petropavlovsk**	**1.00**	**68**	PN		**Pn**	**03 42 41.8**	**-0.1**
PET				S		**Sn**	**03 43 03.9**	**-0.6**
KDTR	**Khodutka, Kamc**	**1.04**	**145**	*eP*		**Pn**	**03 42 41.1**	**-1.2**
KDTR				*eS*		**Sn**	**03 43 02.2**	**-2.8**
KDTR	**Khodutka, Kamc**	**1.04**	**145**	PN		**Pn**	**03 42 41.1**	**-1.2**
KDTR				S		**Sn**	**03 43 02.2**	**-2.8**
DALK	**Dalny**	**1.06**	**69**	*eP*		**Pn**	**03 42 42.2**	**-0.1**
DALK				*eS*		**Sn**	**03 43 05.0**	**-0.2**
DALK	**Dalny**	**1.06**	**69**	PN		**Pn**	**03 42 42.2**	**-0.1**
DALK				S		**Sn**	**03 43 05.0**	**-0.2**
KOK	**Koryaka**	**1.12**	**55**	*eP*		**Pn**	**03 42 43.3**	**+0.4**
KOK				*eS*		**Sn**	**03 43 06.7**	**+0.5**
KOK	**Koryaka**	**1.12**	**55**	PN		**Pn**	**03 42 43.3**	**+0.4**
KOK				S		**Sn**	**03 43 06.7**	**+0.5**
GNL	**Ganaly**	**1.15**	**26**	*eP*		**Pn**	**03 42 43.2**	**+0.1**
AVH	**Avacha**	**1.16**	**58**	*eP*		**Pn**	**03 42 43.5**	**+0.3**
AVH				*eS*		**Sn**	**03 43 07.6**	**+0.9**
AVH	**Avacha**	**1.16**	**58**	PN		**Pn**	**03 42 43.5**	**+0.3**
AVH				S		**Sn**	**03 43 07.6**	**+0.9**
KRX	**Arik**	**1.16**	**53**	*eP*		**Pn**	**03 42 43.6**	**+0.3**
KRX				*eS*		**Sn**	**03 43 07.1**	**+0.1**
KRX	**Arik**	**1.16**	**53**	PN		**Pn**	**03 42 43.6**	**+0.3**
KRX				S		**Sn**	**03 43 07.1**	**+0.1**
UGLR	**Uglovaya**	**1.17**	**62**	*eP*		**Pn**	**03 42 43.9**	**+0.6**
UGLR	**Uglovaya**	**1.17**	**62**	PN		**Pn**	**03 42 43.9**	**+0.6**
SMAR	**Somma**	**1.19**	**59**	*eP*		**Pn**	**03 42 43.7**	**+0.2**
SMAR	**Somma**	**1.19**	**59**	PN		**Pn**	**03 42 43.7**	**+0.2**
PAU	**Pauzhetka**	**1.22**	**189**	*eP*		**Pn**	**03 42 45.0**	**+1.4**
PAU	**Pauzhetka**	**1.22**	**189**	PN		**Pn**	**03 42 45.0**	**+1.4**
NLC	**Nalytchevo**	**1.45**	**69**	*eP*		**Pn**	**03 42 44.7**	**-0.7**
NLC	**Nalytchevo**	**1.45**	**69**	PN		**Pn**	**03 42 44.7**	**-0.7**
SPN	**Mys Shipunski**	**1.82**	**75**	*eP*		**Pn**	**03 42 47.8**	**-1.2**
SPN				*eS*		**Sn**	**03 43 13.1**	**-4.0**
SPN	**Mys Shipunski**	**1.82**	**75**	PN		**Pn**	**03 42 47.8**	**-1.2**
SPN				S		**Sn**	**03 43 13.1**	**-4.0**
SKR	**Severo-Kuril's**	**2.08**	**198**	*eP*		**Pn**	**03 42 52.0**	**+0.3**
SKR				*eS*		**Sn**	**03 43 23.1**	**+1.2**
SKR	**Severo-Kuril's**	**2.08**	**198**	PN		**Pn**	**03 42 52.0**	**+0.3**
SKR				S		**Sn**	**03 43 23.1**	**+1.2**
TUMR	**Tumrok**	**3.18**	**33**	*eP*		**Pn**	**03 43 05.6**	**+1.3**
TUMR	**Tumrok**	**3.18**	**33**	PN		**Pn**	**03 43 05.6**	**+1.3**
TUMD	**Tumrok D**	**3.20**	**36**	*eP*		**Pn**	**03 43 07.5**	**+3.0**
ESO	**Esso**	**3.40**	**15**	*eP*		**Pn**	**03 43 08.0**	**+1.2**
ESO	**Esso**	**3.40**	**15**	PN		**Pn**	**03 43 08.0**	**+1.2**
KMNR	**Kamenistaya**	**3.60**	**29**	*eP*		**Pn**	**03 43 10.7**	**+1.3**
KMNR	**Kamenistaya**	**3.60**	**29**	PN		**Pn**	**03 43 10.7**	**+1.3**
BZP	**Bezymyannyi-Pe**	**3.82**	**30**	*eP*		**Pn**	**03 43 13.9**	**+1.6**
BZMR	**Bezymyannaya**	**3.83**	**30**	*eP*		**Pn**	**03 43 13.8**	**+1.5**
BZMR	**Bezymyannaya**	**3.83**	**30**	PN		**Pn**	**03 43 13.8**	**+1.5**
BZGR	**Bezymyannyi-Gr**	**3.90**	**31**	*eP*		**Pn**	**03 43 11.7**	**-1.4**
BZGR	**Bezymyannyi-Gr**	**3.90**	**31**	PN		**Pn**	**03 43 11.7**	**-1.4**
SEY	**Seymchan**	**10.60**	**348**	P		**Pn**	**03 44 41.4**	**+1.8**
	0.7nm,0.3s,baz=163,slow=15,SNR=3.7							
SEY	**Seymchan**	**10.60**	**348**	*i*PN		**Pn**	**03 44 41.6**	**+2.0**
SEY					pmax	pmax		
	comp=Z,9.0nm,1.4s							
ASAJ	**Asahikawa**	**12.87**	**234**	LR		LR	03 50 07.8	
	comp=Z,162nm,20.1s,baz=140,slow=37							
AMKA	**Amchitka**	**13.72**	**87**			**Pn**	**03 45 21.2**	**+1.9**
ERM	**Erimo**	**14.22**	**227**	Pn		**Pn**	**03 45 24.9**	**-0.7**
ERM	**Erimo**	**14.22**	**227**	P		**Pn**	**03 45 24.9**	**-0.7**
BILL	**Bilibino**	**16.04**	**13**	*e*P		**P**	**03 45 47.9**	**+0.7**
BILL					pmax	pmax		
	comp=Z,4.0nm,0.7s							
KLR	**Kul'dur**	**16.32**	**268**	P		**Pn**	**03 45 51.3**	**+0.3**
	comp=Z,1.9nm,0.6s,baz=70,slow=9.5,SNR=10.0							
KLR	**Kul'dur**	**16.32**	**268**	*i*P		**Pn**	**03 45 50.7**	**-0.3**
KLR					pmax	pmax		
	comp=Z,6.0nm,1.4s							
YAK	**Yakutsk**	**17.38**	**313**	P		**P**	**03 46 01.9**	**-0.1**
YAK	**Yakutsk**	**17.38**	**313**	P		**P**	**03 46 02.0**	**0.0**
	comp=Z,54nm,0.6s,baz=92,slow=2.1,SNR=16							
YAK	**Yakutsk**	**17.38**	**313**	*e*P		**P**	**03 46 02.2**	**+0.2**
YAK					pmax	pmax		
	comp=Z,58nm,0.8s							
YAK					pmax	pmax		
	comp=E,17nm,1.0s							
YAK					pmax	pmax		
	comp=N,8.0nm,1.1s							
ZEA	**Zeya**	**17.86**	**285**	*e*P		**P**	**03 46 07.3**	**0.0**
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.4s							
HEH	**HeiHe**	**18.60**	**274**	*e*P		**Pn**	**03 46 17.3**	**-0.6**
HEH					pmax	pmax		
	comp=Z,11nm,0.6s							
HEH					pmax	pmax		
	comp=Z,70nm,5.7s							
USA0B	**Ussuriysk Arra**	**18.62**	**253**	P		**Pn**	**03 46 17.5**	**-0.8**
USA0B	**Ussuriysk Arra**	**18.62**	**253**	P		**Pn**	**03 46 17.5**	**-0.8**
USA0B					pmax	pmax		
	comp=Z,4.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**18.62**	**253**	P		**Pn**	**03 46 19.1**	**+0.8**
USRK	**Ussuriysk Ar.**	**18.62**	**253**	P		**P**	**03 46 16.3**	**+0.7**
	comp=Z,3.2nm,0.7s,baz=51,slow=12,SNR=10							
USRK	**Ussuriysk Ar.**	**18.62**	**253**	P		**Pn**	**03 46 19.1**	**+0.8**
JMM	**Marumori**	**18.66**	**224**	P		**P**	**03 46 16.1**	**0.0**
JSD	**Sado**	**19.64**	**229**	P		**P**	**03 46 27.5**	**+0.8**
MJAR	**Matsushiro Arr**	**20.90**	**227**	P		**P**	**03 46 41.6**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=44,slow=8.8,SNR=3.4							
	comp=Z,0.8nm,0.4s							
ANM	**Nome**	**22.48**	**43**	P		**P**	**03 46 58.2**	**+2.6**
ANM	**Nome**	**22.48**	**43**	P		**P**	**03 46 58.2**	**+2.6**
ANM					pmax	pmax		
	comp=Z,21nm,1.2s							
TIXI	**Tiksi**	**22.74**	**337**	P		**P**	**03 46 57.9**	**+0.1**
TIXI					IAmb	IAmb	03 46 58.7	
	comp=Z,6.3nm,0.6s							
TIXI	**Tiksi**	**22.74**	**337**	**⇓***e*P		**P**	**03 46 58.0**	**+0.1**
TIXI					pmax	pmax		
	comp=Z,8.0nm,1.0s							
C16K	**Lisburne Hills**	**23.67**	**34**	P		**P**	**03 47 06.7**	**+0.4**
C16K					IAmb	IAmb	03 47 16.9	
	comp=Z,11nm,1.1s							
G16K	**Koyuk River**	**23.93**	**42**	P		**P**	**03 47 09.2**	**+0.5**
G16K					IAmb	IAmb	03 47 34.7	
	comp=Z,11nm,1.4s							
RDOG	**Red Dog Mine**	**24.44**	**36**	P		**P**	**03 47 15.0**	**+1.7**
RDOG					IAmb	IAmb	03 47 16.8	
	comp=Z,12nm,0.8s							
F17K	**Baldwin Pennin**	**24.61**	**40**	P		**P**	**03 47 15.9**	**+1.1**
F17K					IAmb	IAmb	03 47 37.4	
	comp=Z,19nm,1.4s							
E18K	**Tukpahlearik C**	**25.10**	**38**	P		**P**	**03 47 20.0**	**+0.8**
E18K					IAmb	IAmb	03 47 21.0	
	comp=Z,9.9nm,1.4s							
C18K	**Utukok River**	**25.23**	**35**	P		**P**	**03 47 21.0**	**+0.5**
C18K					IAmb	IAmb	03 47 24.4	
	comp=Z,8.0nm,0.6s							
KSRS	**Korea Array**	**25.39**	**245**	P		**P**	**03 47 22.1**	**0.0**
	comp=Z,0.8nm,0.5s,baz=34,slow=9.3,SNR=2.5							
	comp=Z,0.8nm,0.5s							
G18K	**Tagagawik**	**25.53**	**42**	P		**P**	**03 47 24.2**	**+1.0**
G18K					IAmb	IAmb	03 47 24.8	
	comp=Z,4.5nm,1.0s							
H19K	**Roundabout Mou**	**26.38**	**43**	P		**P**	**03 47 31.4**	**+0.7**
H19K					IAmb	IAmb	03 47 59.1	
	comp=Z,8.6nm,1.1s							
IMAR	**Indian Mountai**	**27.54**	**42**	P		**P**	**03 47 41.4**	**+0.3**
B21K	**Ikpikpuk River**	**27.77**	**34**	P		**P**	**03 47 43.9**	**+0.9**
CAST	**Castle Rocks**	**28.18**	**48**	P		**P**	**03 47 47.6**	**+0.7**
CAST					IAmb	IAmb	03 48 05.5	
	comp=Z,5.8nm,1.4s							
C23K	**Itkillik River**	**29.18**	**34**	P		**P**	**03 47 56.1**	**+0.6**
C23K					IAmb	IAmb	03 47 57.4	
	comp=Z,10nm,1.2s							
H23K	**Yukon River**	**29.25**	**43**	P		**P**	**03 47 57.1**	**+0.8**
E24K	**Your Creek**	**29.75**	**38**	P		**P**	**03 48 01.3**	**+0.6**
E24K					IAmb	IAmb	03 48 04.1	
	comp=Z,5.2nm,1.4s							
COLA	**College**	**29.98**	**44**	**⇑***e*P		**P**	**03 47 59.7**	**-2.9**
COLA					pmax	pmax		
	comp=Z,2.0nm,0.8s							
CCB	**Clear Creek Bu**	**30.01**	**45**	P		**P**	**03 48 03.4**	**+0.5**
IL31		**30.40**	**45**	P		**P**	**03 48 06.7**	**+0.4**
IL31					IAmb	IAmb	03 48 09.4	
	comp=Z,5.5nm,1.4s							
ILAR	**Eielson Array**	**30.40**	**45**	P		**P**	**03 48 06.9**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=268,slow=

PZH pmax pmax
comp=Z,100nm,5.5s
NEEM North Greenlan 48.97 8 *i* P **P** **03 50 39.1 -0.2**
NEEM IAmb IAmb 03 50 40.1
comp=Z,5.5nm,0.9s
BVAR Borovoye Array 49.22 307 P **P** **03 50 40.0 -1.2**
comp=Z,4.4nm,0.4s,baz=54,slow=7.5,SNR=27
BVAR pP **pP** **03 51 24.1 +0.3**
comp=Z,1.3nm,0.7s,baz=65,slow=12,SNR=2.6
BVAR PcP **PcP** **03 52 00.7 -0.4**
comp=Z,0.8nm,0.3s,baz=72,slow=3.7,SNR=2.9
comp=Z,4.4nm,0.4s
BRVK Borovoye 49.25 307 P **P** **03 50 39.8 -1.5**
BRVK IAmb IAmb 03 50 40.9
comp=Z,3.0nm,0.5s
BRVK Borovoye 49.25 307⇓ *eP* **P** **03 50 40.2 -1.1**
BRVK pmax pmax
comp=Z,2.0nm,0.5s
KULLO Kullorsuaq 50.98 11 *eP* **P** **03 50 53.7 -0.2**
KULLO IAmb IAmb 03 50 54.3
comp=Z,7.6nm,0.7s
BOOM Boomskoye usch 52.92 294 P **P** **03 51 08.9 -0.1**
BOOM Boomskoye usch 52.92 294 P **P** **03 51 08.9 -0.1**
BOOM pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 53.11 341 P **P** **03 51 09.1 -0.7**
comp=Z,2.1nm,0.9s,baz=39,slow=8.1,SNR=6.6
ARCES PcP **PcP** **03 52 15.0 -0.3**
comp=Z,3.9nm,1.0s,baz=22,slow=3.9,SNR=9.7
comp=Z,2.1nm,0.9s
ARCES ARCESS Array B 53.11 341 *eP* **P** **03 51 09.6 -0.2**
ARCES pmax pmax
comp=Z,2.0nm,0.9s
AAK Ala-Archa 53.62 295↑ *eP* **P** **03 51 13.9 -0.2**
AAK pmax pmax
comp=Z,4.0nm,2.5s
SUMG Summit 54.58 6 P **P** **03 51 20.9 0.0**
SUMG IAmb IAmb 03 51 22.3
comp=Z,6.7nm,0.9s
SUMG Summit 54.58 6 P **P** **03 51 20.9 0.0**
SUMG pmax pmax
comp=Z,7.0nm,0.9s
SUMG Summit 54.58 6 IAmb IAmb 03 51 22.5
comp=Z,8.2nm,1.0s
KIRV Kirov 54.64 322 *de*P **P** **03 51 21.0 +0.1**
KSH Kashi 54.88 291 P **P** **03 51 27.0 +3.8**
FCC Fort Churchill 54.93 37 P **P** **03 51 23.4 +0.4**
FCC Fort Churchill 54.93 37 P **P** **03 51 23.4 +0.4**
FCC pmax pmax
comp=Z,3.0nm,1.0s
KK31 Karatay Array 55.49 297 P **P** **03 51 26.1 -1.3**
KK31 Karatay Array 55.49 297 P **P** **03 51 26.1 -1.3**
KK31 pmax pmax
comp=Z,3.0nm,0.9s
KKAR Karatay Array 55.49 297 P **P** **03 51 26.0 -1.3**
KKAR Karatay Array 55.49 297 P **P** **03 51 26.0 -1.3**
ABKAR Akbulak array 56.67 309 P **P** **03 51 34.2 -1.3**
ABKAR Akbulak array 56.67 309 P **P** **03 51 34.6 -0.9**
ABKAR IAmb IAmb 03 51 35.1
comp=Z,1.0nm,0.8s
NVAR Mina Array Bea 57.59 68 P **P** **03 51 43.9 +1.5**
comp=Z,0.9nm,0.6s,baz=298,slow=6.6,SNR=5.9
comp=Z,0.9nm,0.6s
ICESG Greenland Ices 57.93 7 *eP* **P** **03 51 44.5 0.0**
ICESG IAmb IAmb 03 51 45.2
comp=Z,8.3nm,0.6s
VALR Valaam 58.56 333 *de*P **P** **03 51 46.8 -1.7**
VALR pmax pmax
comp=Z,7.0nm,1.3s
FRB Frobisher Bay 58.60 22 P **P** **03 51 48.0 -0.7**
comp=Z,1.9nm,0.3s,baz=324,slow=7.9,SNR=16
comp=Z,1.9nm,0.3s
FRB Frobisher Bay 58.60 22 P **P** **03 51 48.0 -0.7**
SFJD Kangerlussuaq 58.84 12 P **P** **03 51 49.9 -0.5**
comp=Z,2.2nm,0.4s,baz=6.3,slow=9.2,SNR=4.0
comp=Z,2.2nm,0.4s
PDAR Pinedale Array 59.30 59 P **P** **03 51 55.8 +1.5**
comp=Z,0.3nm,0.3s,baz=323,slow=3.7,SNR=4.0
PDAR pP **pP** **03 52 38.8 +0.3**
comp=Z,0.3nm,0.4s,baz=222,slow=20,SNR=2.0
comp=Z,0.3nm,0.3s
FINES FINESS Array B 59.77 335 P **P** **03 51 55.8 -1.0**
comp=Z,0.6nm,0.4s,baz=40,slow=6.4,SNR=8.3
FINES pP **pP** **03 52 40.4 -0.7**
comp=Z,0.8nm,0.6s,baz=26,slow=3.5,SNR=2.4
comp=Z,0.6nm,0.4s
NOA NORSAR Array B 63.42 342 P **P** **03 52 20.7 -0.6**
comp=Z,0.5nm,0.6s,baz=21,slow=6.8,SNR=2.9
comp=Z,0.5nm,0.6s
HFS Hagfors 63.77 341 P **P** **03 52 22.8 -0.8**
comp=Z,0.5nm,0.3s,baz=31,slow=5.6,SNR=13
comp=Z,0.5nm,0.3s
GEYT Alibeck 65.78 301 P **P** **03 52 36.7 -0.2**
comp=Z,2.4nm,0.5s,baz=67,slow=5.2,SNR=4.8
comp=Z,2.4nm,0.5s
SCHQ Schefferville 66.85 26 P **P** **03 52 43.4 +0.1**
comp=Z,1.5nm,0.3s,baz=9.9,slow=5.3,SNR=5.2
comp=Z,1.5nm,0.3s
AKASG Malin Array Be 68.02 327 P **P** **03 52 49.5 -1.2**
comp=Z,0.4nm,0.4s,baz=30,slow=6.7,SNR=2.9
comp=Z,0.4nm,0.4s
KBZ Khabaz 68.58 315 *eP* **P** **03 52 52.0 -2.3**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
EKA Eskdalemuir Ar 71.13 348 P **P** **03 53 09.7 0.0**
comp=Z,1.4nm,0.3s,baz=18,slow=5.1,SNR=29
comp=Z,1.4nm,0.3s
TX31 Lajitas Ar. Si 72.46 65 P **P** **03 53 19.4 +1.2**
TXAR Lajitas Array 72.46 65 P **P** **03 53 19.6 +1.4**
comp=Z,0.3nm,0.4s,baz=298,slow=5.0,SNR=14
comp=Z,0.3nm,0.4s
GERES GERESS Array B 74.19 336 P **P** **03 53 27.8 -0.2**
comp=Z,0.4nm,0.4s,baz=19,slow=8.5,SNR=5.6
comp=Z,0.4nm,0.4s
WRA Warramunga Arr 74.97 202 P **P** **03 53 33.3 +0.8**
comp=Z,0.7nm,0.5s,baz=23,slow=6.3,SNR=3.6
comp=Z,0.7nm,0.5s
ASAR Alice Springs 78.66 202 P **P** **03 53 53.9 +0.7**
ASAR Alice Springs 78.66 202 P **P** **03 53 54.5 +1.4**
comp=Z,0.6nm,0.5s,baz=13,slow=5.0,SNR=9.9
comp=Z,0.6nm,0.5s
ZCCA Zocca 79.06 336 P **P** **03 53 55.4 +0.2**
ESDC Sonseca Array 86.58 345 P **P** **03 54 33.4 -0.5**
comp=Z,1.4nm,0.8s,baz=360,slow=4.0,SNR=8.7
comp=Z,1.4nm,0.8s
KEST Kesra 87.59 334 P **P** **03 54 38.7 -0.2**
comp=Z,2.8nm,0.6s,baz=308,slow=2.9,SNR=9.8
comp=Z,2.8nm,0.6s

MOS ***12*** *03:48:32.1±1.0, 42.46N×144.30E, h66km, mb4.6/9, Error ellipse: s-maj=11.4km s-min=6.1km az=75.6*
JMA ***12*** *03:48:33.3±0.1, 42.5N±0.3×144.3E±0.4, h70km±1km, MD4.0/40, MV4.0/40, SE OFF TOKACHI*
JMA Felt I J1 at SE OFF TOKACHI .
IDC ***12*** *03:48:33.8±2.0, 42.56N×144.19E, h60km±16km, mb3.6/18, mbtmp3.9/21, MS2.9/3, Error ellipse: s-maj=16.4km s-min=11.8km az=93.0*
NIED ***12*** *03:48:33.3, 42.54N×144.30E, h70km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=2.85; $M_{\theta\theta}$=3.39; $M_{\phi\phi}$=-0.54; $M_{r\theta}$=7.99; $M_{\theta\phi}$=-2.17; $M_{\phi r}$=0.67; Fault plane solution: M_0=8.88000×10^{14} NP1: ϕ_s=267.00000°, δ=80.00000°, λ=-105.00000°. NP2: ϕ_s=144.00000°, δ=18.00000°, λ=-34.00000°.*
SKHL ***12*** *03:48:34.0±0.2, 42.50N×144.30E, h75km±4km, mb4.9/2*
NEIC ***12*** *03:48:34.0±1.9, 42.54N±0.06×144.3E±0.1, h63km±8km, mb4.5/28, Error ellipse: s-maj=12.3km s-min=7.9km az=111.0*

ISC 12 03:48:34.1±0.7, 42°50N±0'.04×144°34E±0'.03, h67km±6km, n140, σ1$20/156, mb4.3/39, 3C-21D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	ISC
JOB	**Onbets**	**0.55**	**318**	⇓ *iP*		**Pn**	**03 48 46.5**	**-0.7**
JOB				⇓S		**Sn**	**03 48 55.9**	**-0.8**
JOB	**Onbets**	**0.55**	**318**	A		A	03 48 46.5	
comp=E,29nm,0.3s,comp=N,12nm,0.3s								
JAK	**Akkeshi**	**0.57**	**28**	⇓ *iP*		**Pn**	**03 48 46.5**	**-0.9**
JAK				⇓S		**Sn**	**03 48 56.4**	**-0.6**
JAK	**Akkeshi**	**0.57**	**28**	A		A	03 48 46.5	
comp=E,17nm,0.5s,comp=N,18nm,0.6s								
AKK	**Akkeshi**	**0.64**	**35**	*eP*		**Pn**	**03 48 47.3**	**-0.8**
JCH	**Churui**	**0.73**	**280**	⇓ *iP*		**Pn**	**03 48 48.4**	**-0.8**
JCH				⇓S		**Sn**	**03 48 58.9**	**-1.3**
JCH	**Churui**	**0.73**	**280**	A		A	03 48 48.4	
comp=E,5.0nm,0.6s,comp=N,10.0nm,1.5s								
JTHR	**Tokachihiroo**	**0.80**	**256**	P		**Pn**	**03 48 49.5**	**-0.4**
JTHR				S		**Sn**	**03 49 00.9**	**-0.6**
JKHN	**Kushirohamanak**	**0.84**	**46**	⇓ *iP*		**Pn**	**03 48 50.1**	**-0.4**
JKHN				⇓S		**Sn**	**03 49 01.8**	**-0.8**
JKHN	**Kushirohamanak**	**0.84**	**46**	A		A	03 48 50.1	
comp=E,9.0nm,0.6s,comp=N,11nm,0.6s								
JAR	**Ashorobuto**	**0.90**	**333**	⇓ *iP*		**Pn**	**03 48 50.1**	**-1.1**
JAR				⇓S		**Sn**	**03 49 02.3**	**-1.7**
JAR	**Ashorobuto**	**0.90**	**333**	A		A	03 48 50.1	
comp=E,13nm,0.3s,comp=N,9.0nm,0.3s								
ERM	**Erimo**	**1.00**	**242**			**Pn**	**03 48 52.4**	**0.0**
ERM				Sn		**Sn**	**03 49 04.8**	**-1.2**
ERM	**Erimo**	**1.00**	**242**	*de*PN		**Pn**	**03 48 52.4**	**0.0**
JEM	**Erimo**	**1.00**	**242**	*eP*		**Pn**	**03 48 51.8**	**-0.6**
JNK	**Nakash**	**1.13**	**14**	⇓ *iP*		**Pn**	**03 48 53.0**	**-1.1**
JNK				⇓S		**Sn**	**03 49 07.5**	**-1.4**
JNK	**Nakash**	**1.13**	**14**	A		A	03 48 53.0	
comp=E,11nm,0.7s,comp=N,16nm,0.8s								
JNBK	**Urakawa-nobuka**	**1.19**	**260**	*i* P		**Pn**	**03 48 53.9**	**-1.0**
NMR	**Nemuro--Hokkai**	**1.34**	**49**	*i* P		**Pn**	**03 48 55.6**	**-1.3**
NMR				*e*S		**Sn**	**03 49 11.8**	**-2.2**
NMR	**Nemuro--Hokkai**	**1.34**	**49**	⇓ *i*PN		**Pn**	**03 48 55.6**	**-1.3**
NMR				*e*S		**Sn**	**03 49 11.6**	**-2.4**
NEM2	**Nemuro 2**	**1.35**	**49**	*i* P		**Pn**	**03 48 55.7**	**-1.3**
NEM2				S		**Sn**	**03 49 11.7**	**-2.4**
JFR	**Furan**	**1.45**	**298**	*i* P		**Pn**	**03 48 57.3**	**-0.9**
JFR				S		**Sn**	**03 49 14.8**	**-1.6**
JBT2	**Biratori 2**	**1.48**	**282**	⇓ *iP*		**Pn**	**03 48 57.1**	**-1.6**
JTKR	**Abashiri--Toko**	**1.51**	**348**	*i* P		**Pn**	**03 48 58.8**	**-0.2**
JTKR				S		**Sn**	**03 49 17.6**	**-0.2**
JRA	**Rausu**	**1.55**	**21**	*i* P		**Pn**	**03 48 59.3**	**-0.3**
JRA				S		**Sn**	**03 49 18.3**	**-0.6**
RUSJ	**Misakicho**	**1.74**	**22**↑	*i* PN		**Pn**	**03 49 02.1**	**-0.1**
RUSJ				*e*S		**Sn**	**03 49 24.4**	**+1.0**
YUK	**Yuzh-Kuril'sk**	**1.90**	**35**	*i* P		**Pn**	**03 49 03.9**	**-0.4**
YUK				AMB		AMB	03 49 04.4	
comp=N,510nm,0.3s								
YUK				*e*S		**Sn**	**03 49 26.4**	**-0.8**
YUK				A		A	03 49 30.2	
comp=N,2μm,0.5s								
YUK				A		A	03 49 30.2	
comp=N,3μm,0.5s								
YUK	**Yuzh-Kuril'sk**	**1.90**	**35**	*d* iPN		**Pn**	**03 49 04.1**	**-0.2**
YUK				*e*S		**Sn**	**03 49 25.9**	**-1.3**
YUK				pmax	pmax			
comp=E,78nm,0.3s								
YUK				pmax	pmax			
comp=Z,511nm,0.3s								
YUK				pmax	pmax			
comp=N,57nm,0.1s								
YUK				smax	smax			
comp=E,3μm,0.4s								
YUK				smax	smax			
comp=N,2μm,0.5s								
JKA	**Kamikawa-asahi**	**2.06**	**323**			**Pn**	**03 49 05.9**	**-0.5**
JKA				Sn		**Sn**	**03 49 28.9**	**-2.1**
JKA	**Kamikawa-asahi**	**2.06**	**323**	*eP*		**Pn**	**03 49 05.9**	**-0.5**
ASAJ	**Asahikawa**	**2.06**	**323**	P		**Pn**	**03 49 05.8**	**-0.6**
comp=N,47nm,0.3s,baz=170,slow=15,SNR=37								
ASAJ				S		**Sn**	**03 49 28.0**	**-3.1**
comp=N,148nm,0.5s,baz=113,slow=20,SNR=12								
SHO	**Shikotan**	**2.28**	**52**	*eP*		**Pn**	**03 49 08.5**	**-1.0**
SHO				AMB		AMB	03 49 11.9	
comp=N,20nm,0.2s								
SHO				AMB		AMB	03 49 11.9	
comp=N,80nm,0.2s								
SHO				*e*S		**Sn**	**03 49 33.6**	**-2.9**
SHO				A		A	03 49 37.1	
comp=N,580nm,0.3s								
SHO				A		A	03 49 37.1	
comp=N,610nm,0.3s								
SHO	**Shikotan**	**2.28**	**52**	*eP*N		**Pn**	**03 49 08.5**	**-1.0**
SHO				*e*S		**Sn**	**03 49 33.0**	**-3.5**
SHO				pmax	pmax			
comp=N,20nm,0.2s								
SHO				pmax	pmax			
comp=Z,78nm,0.2s								
SHO				smax	smax			
comp=N,582nm,0.3s								
SHO				smax	smax			
comp=E,611nm,0.3s								
JTM	**Tenmabayashi**	**2.98**	**236**	Pn		**Pn**	**03 49 18.9**	**-0.1**
KUR	**Kuril'sk**	**3.74**	**42**	*eP*		**Pn**	**03 49 30.7**	**+1.4**
KUR				AMB		AMB	03 49 31.2	
comp=E,50nm,0.4s								
KUR				*e*S		**Sn**	**03 50 12.9**	**+0.8**
KUR				S		**S**	**03 50 15.3**	**+3.2**
comp=E,160nm,0.4s								
KUR				S		**S**	**03 50 15.3**	**+3.2**
comp=E,150nm,0.4s								
KUR	**Kuril'sk**	**3.74**	**42**	*e*PN		**Pn**	**03 49 30.7**	**+1.4**
KUR				*e*S		**Sn**	**03 50 12.9**	**+0.8**
KUR				pmax	pmax			
comp=Z,51nm,0.4s								
KUR				smax	smax			
comp=N,159nm,0.4s								
KUR				smax	smax			
comp=E,146nm,0.4s								
YSS	**Yuzh-Sakhalins**	**4.60**	**346**	*eP*		**Pn**	**03 49 41.5**	**+0.5**
YSS				*e*S		**Sn**	**03 50 32.6**	**-0.5**
YSS	**Yuzh-Sakhalins**	**4.60**	**346**	*e*PN		**Pn**	**03 49 41.5**	**+0.5**
YSS				*e*S		**Sn**	**03 50 32.6**	**-0.5**
YSS				pmax	pmax			
comp=Z,20nm,0.4s								
YSS				MLR	MLR			
comp=Z,200nm,14.0s								
JMM	**Marumori**	**5.36**	**212**	Pn		**Pn**	**03 49 49.3**	**-2.2**
JSD	**Sado**	**6.43**	**228**	Pn		**Pn**	**03 50 05.1**	**-1.1**
MJA0	**Matsu Arr-Jizo**	**7.58**	**220**	*e*PN		**Pn**	**03 50 21.0**	**-0.9**
MJB9	**Matsu-Tunnel**	**7.60**	**221**	Pn		**Pn**	**03 50 21.9**	**-0.2**
MAJO	**Matsushiro**	**7.60**	**221**	Pn		**Pn**	**03 50 20.8**	**-1.3**
MAJO	**Matsushiro**	**7.60**	**221**	*c* iPN		**Pn**	**03 50 21.3**	**-0.8**
MJAR	**Matsushiro Arr**	**7.60**	**221**	P		**Pn**	**03 50 21.1**	**-1.1**
comp=Z,4.4nm,0.6s,baz=29,slow=13,SNR=14								
MJAR				S		**Sn**	**03 51 47.0**	**+0.2**
comp=Z,0.9nm,0.5s,baz=15,slow=26,SNR=1.3								
MJAR				LR		LR	03 54 00.7	
comp=Z,76nm,19.9s,baz=36,slow=43								
JGF	**Kuroka**	**8.76**	**221**	Pn		**Pn**	**03 50 37.7**	**-0.4**
JHJ2	**Mitsune**	**10.02**	**202**	Pn		**Pn**	**03 50 53.7**	**-1.5**
KLR	**Kul'dur**	**11.05**	**312**	LR		LR	03 56 11.6	
comp=Z,57nm,19.7s,baz=47,slow=42								
KLR	**Kul'dur**	**11.05**	**312**	*eP*		**Pn**	**03 51 10.9**	**+1.7**
KLR	**Kul'dur**	**11.05**	**312**	*e*PN		**Pn**	**03 51 10.9**	**+1.7**
KLR				pmax	pmax			
comp=Z,2.0nm,1.0s								
PEA0B	**Petropavlovsk-**	**13.88**	**36**	Pn		**Pn**	**03 51 46.0**	**-1.5**
PEA0B	**Petropavlovsk-**	**13.88**	**36**	P		**Pn**	**03 51 46.0**	**-1.5**
PETK	**Petropavlovsk-**	**13.88**	**36**	Pn		**Pn**	**03 51 44.9**	**-2.6**
PETK	**Petropavlovsk-**	**13.88**	**36**	P		**Pn**	**03 51 46.2**	**-1.3**
comp=Z,2.1nm,0.5s,baz=197,slow=8.6,SNR=12								
MA2	**Magadan**	**17.56**	**11**	P		**Pn**	**03 52 33.2**	**-0.8**
comp=Z,6.6nm,0.6s,baz=217,slow=14,SNR=2.4								
MA2				LR		LR	03 58 55.2	
comp=Z,32nm,18.3s,baz=153,slow=36								
XLT	**XiLinHaoTe**	**20.61**	**284**	*eP*		P	03 52 55.2	-13
XLT				pmax	pmax			
comp=Z,9.0nm,0.8s								
XLT				pmax	pmax			
comp=Z,81nm,4.2s								
SEY	**Seymchan**	**21.01**	**10**	P		**P**	**03 53 08.6**	**-3.2**
comp=Z,4.4nm,0.6s,baz=194,slow=8.3,SNR=15								
SEY	**Seymchan**	**21.01**	**10**	⇓ *iP*		**P**	**03 53 09.1**	**-2.7**
SEY				pmax	pmax			
comp=Z,13nm,0.9s								
SONM	**Songino Array**	**27.08**	**295**	P		**P**	**03 54 11.0**	**+0.6**
comp=Z,1.3nm,0.5s,baz=80,slow=9.5,SNR=4.6								
comp=Z,1.3nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**29.63**	**133**	T		T	04 25 52.8	
baz=326,slow=75,SNR=11								
H11N1	**WAKE ISLAND Hy**	**29.64**	**133**	T		T	04 25 54.3	
baz=326,slow=75,SNR=9.4								
H11N3	**WAKE ISLAND Hy**	**29.64**	**133**	T		T	04 25 59.6	
baz=326,slow=75,SNR=13								
H11S1	**WAKE ISLAND Hy**	**30.53**	**135**	T		T	04 26 58.7	
baz=328,slow=76,SNR=57								
H11S3	**WAKE ISLAND Hy**	**30.53**	**135**	T		T	04 27 06.2	
baz=328,slow=76,SNR=34								
H11S2	**WAKE ISLAND Hy**	**30.54**	**135**	T		T	04 27 00.0	
baz=328,slow=76,SNR=41								
K15K	**Wolf Creek Mou**	**37.10**	**39**	P		**P**	**03 55 39.5**	**+1.9**
K15K				IAmb		IAmb	03 56 07.5	
comp=Z,13nm,1.4s								
N15K	**Kwethluk River**	**37.63**	**42**	P		**P**	**03 55 44.0**	**+1.8**
F17K	**Baldwin Pennin**	**37.88**	**32**	P		**P**	**03 55 44.8**	**+0.7**
F17K				IAmb		IAmb	03 56 03.5	
comp=Z,9.1nm,1.1s								
L18K	**Granite Mounta**	**39.36**	**39**	P		**P**	**03 55 57.7**	**+1.1**
L18K				IAmb		IAmb	03 56 05.6	
comp=Z,6.5nm,1.1s								
ZALV	**Zalesovo Beam**	**40.12**	**308**	P		**P**	**03 56 01.2**	**-1.8**
comp=Z,1.2nm,0.5s,baz=100,slow=8.1,SNR=4.6								
comp=Z,1.2nm,0.5s								
ZALV	**Zalesovo Beam**	**40.12**	**308**	*eP*		**P**	**03 56 02.9**	**-0.1**
ZALV				pmax	pmax			
comp=Z,1.0nm,0.5s								
IMAR	**Indian Mountai**	**40.83**	**34**	P		**P**	**03 56 08.9**	**+0.2**
F21K	**Alatna River**	**41.03**	**32**	P		**P**	**03 56 11.1**	**+0.7**
CAST	**Castle Rocks**	**41.48**	**37**	P		**P**	**03 56 14.9**	**+0.8**
CAST				IAmb		IAmb	03 56 17.3	
comp=Z,8.9nm,1.2s								
SUA	**Susitna One**	**42.19**	**40**	P		**P**	**03 56 20.9**	**+0.9**
TOLK	**Toolik Lake Re**	**42.60**	**30**	P		**P**	**03 56 23.4**	**+0.2**
TOLK				IAmb		IAmb	03 56 25.0	
comp=Z,4.1nm,0.5s								
COLA	**College**	**43.29**	**35**	⇓ *iP*		**P**	**03 56 30.5**	**+1.8**
COLA				pmax	pmax			
comp=Z,7.0nm,0.8s								
MKAR	**Makanchi Array**	**43.34**	**298**	P		**P**	**03 56 27.5**	**-2.0**
comp=Z,0.4nm,0.4s,baz=83,slow=10,SNR=7.4								
comp=Z,0.4nm,0.4s								
MKAR	**Makanchi Array**	**43.34**	**298**	*eP*		**P**	**03 56 30.0**	**+0.6**
MKAR	**Makanchi Array**	**43.34**	**298**	*eP*		**P**	**03 56 30.0**	**+0.6**
ILAR	**Eielson Array**	**43.71**	**35**	P		**P**	**03 56 32.3**	**+0.2**
ILAR	**Eielson Array**	**43.71**	**35**	P		**P**	**03 56 32.8**	**+0.7**
comp=Z,4.7nm,0.9s,baz=264,slow=6.2,SNR=35								
comp=Z,4.7nm,0.9s								
ILAR	**Eielson Array**	**43.71**	**35**	*eP*		**P**	**03 56 33.1**	**+1.0**
ILAR				pmax	pmax			
comp=Z,5.0nm,0.9s								
D25K	**Kavik River**	**43.77**	**29**	P		**P**	**03 56 32.0**	**-0.6**
D25K				IAmb		IAmb	03 56 33.4	
comp=Z,4.4nm,0.5s								
E25K	**Arctic Village**	**44.08**	**30**	P		**P**	**03 56 35.2**	**+0.1**
BMAR	**Burnt Mountain**	**44.48**	**31**	P		**P**	**03 56 39.2**	**+0.9**
KURK	**Kurchatov**	**44.53**	**304**	P		**P**	**03 56 38.1**	**-0.7**
KURK	**Kurchatov**	**44.53**	**304**	*eP*		**P**	**03 56 37.8**	**-1.0**
KURK	**Kurchatov**	**44.53**	**304**⇓ *eP*			**P**	**03 56 37.8**	**-1.0**
KURK				pmax	pmax			
comp=Z,2.0nm,0.9s								
KURBB	**Kurchatov Arra**	**44.61**	**304**	P		**P**	**03 56 39.3**	**-0.1**
comp=Z,1.2nm,0.4s,baz=71,slow=8.8,SNR=11								
comp=Z,1.2nm,0.4s								
SCRK	**Sand Creek**	**45.04**	**36**	P		**P**	**03 56 42.4**	**-0.5**
EGAK	**Eagle**	**46.15**	**35**	P		**P**	**03 56 52.0**	**+0.6**
EGAK				IAmb		IAmb	03 56 54.5	
comp=Z,4.7nm,0.8s								
BCAR	**Beaver Creek A**	**46.15**	**37**	P		**P**	**03 56 52.6**	**+1.1**
I28M	**Miner Creek**	**46.55**	**34**	P		**P**	**03 56 55.5**	**+0.8**
I28M				IAmb		IAmb	03 56 59.1	
comp=Z,5.6nm,0.9s								
I30M	**Mount Dempster**	**48.06**	**34**	P		**P**	**03 57 07.0**	**+0.5**
I30M				IAmb		IAmb	03 57 10.3	
comp=Z,5.8nm,1.0s								
INK	**Inuvik**	**48.52**	**29**	P		**P**	**03 57 09.3**	**-0.4**
INK				IAmb		IAmb	03 57 22.6	
comp=Z,6.1nm,1.5s								
INK	**Inuvik**	**48.52**	**29**	P		**P**	**03 57 09.3**	**-0.4**
INK				pmax	pmax			
comp=Z,6.0nm,1.5s								
HYT	**Haines Junctio**	**48.62**	**40**	P		**P**	**03 57 11.6**	**+0.8**
BVAR	**Borovoye Array**	**48.71**	**309**	P		**P**	**03 57 11.2**	**-0.3**
comp=Z,1.0nm,0.4s,baz=78,slow=9.6,SNR=8.1								
comp=Z,1.0nm,0.4s								
C36M	**Paulatuk**	**51.54**	**27**	P		**P**	**03 57 32.2**	**-0.4**
C36M				IAmb		IAmb	03 57 34.3	
comp=Z,2.9nm,0.8s								
ARU	**Arti**	**53.85**	**317**	*eP*		**P**	**03 57 49.2**	**-0.6**
ARU	**Arti**	**53.85**	**317**	*c iP*		**P**	**03 57 49.2**	**-0.6**
ARU							03 59 47.3	
ARU				S		**S**	**04 05 19.7**	**+0.2**
ARU				SS		**SKiKP**	**04 08 55.4**	**-0.9**
ARU				pmax	pmax			
comp=Z,5.0nm,0.8s								
EUNU	**Eureka**	**54.45**	**10**	P		**P**	**03 57 53.3**	**-0.7**
EUNU				IAmb		IAmb	03 57 54.7	
comp=Z,2.5nm,0.6s								
ABKAR	**Akbulak array**	**56.23**	**308**	P		**P**	**03 58 06.4**	**-0.7**
ABKAR	**Akbulak array**	**56.23**	**308**	P		**P**	**03 58 06.5**	**-0.7**
RES	**Resolute Bay**	**56.75**	**16**	P		**P**	**03 58 10.2**	**-0.2**
RES	**Resolute Bay**	**56.75**	**16**	P		**P**	**03 58 10.2**	**-0.2**
RES				pmax	pmax			
comp=Z,5.0nm,0.6s								
KIRV	**Kirov**	**57.31**	**322**⇓ *eP*			**P**	**03 58 14.0**	**-0.5**
YKA	**Yellowknife Ar**	**57.98**	**33**	P		**P**	**03 58 19.4**	**+0.2**
comp=Z,0.5nm,0.5s,baz=304,slow=7.5,SNR=15								
comp=Z,0.5nm,0.5s								
YKA	**Yellowknife Ar**	**57.98**	**33**	*eP*		**P**	**03 58 22.0**	**+2.8**
YKA				pmax	pmax			
comp=Z,1.0nm,0.5s								
ARCES	**ARCESS Array B**	**59.69**	**339**	P		**P**	**03 58 30.8**	**-0.2**
ARCES	**ARCESS Array B**	**59.69**	**339**	P		**P**	**03 58 31.1**	**+0.1**
comp=Z,2.7nm,0.8s,baz=57,slow=9.0,SNR=4.9								
comp=Z,2.7nm,0.8s								
ARCES	**ARCESS Array B**	**59.69**	**339**	*eP*		**P**	**03 58 31.8**	**+0.8**
ARCES				pmax	pmax			
comp=Z,3.0nm,0.9s								
NEEM	**North Greenlan**	**59.95**	**4**	*i* P		**P**	**03 58 32.5**	**-0.5**
DAG	**Danmarks Havn**	**60.52**	**356**	*i* P		**P**	**03 58 35.7**	**-0.8**
WRA	**Warramunga Arr**	**62.80**	**191**	P		**P**	**03 58 52.5**	**-0.1**
WRA	**Warramunga Arr**	**62.80**	**191**	P		**P**	**03 58 52.3**	**-0.3**
comp=Z,0.9nm,0.7s,baz=7.6,slow=7.0,SNR=3.3								
comp=Z,0.9nm,0.7s								
WRA	**Warramunga Arr**	**62.80**	**191**	P		**P**	**03 58 52.5**	**-0.1**
W

SFS 12 04:14:23.0, 38.51N×1.28W, h10km, ML3.7/5, ML3.7/5, MLv3.8/4, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EADA	**Adamuz**	**2.62**	**264**	P	Pn	04 15 03.1	-2.3
EMIN	**Mina Concepcio**	**4.32**	**262**	P	Pn	04 15 26.7	-2.1
PBAR	**Barrancos**	**4.54**	**268**	P	Pn	04 15 32.7	+0.9
PESTR	**Estremoz**	**4.95**	**276**	P	Pn	04 15 35.6	-1.9
PVAQ	**Vaqueiros**	**5.21**	**260**	P	Pn	04 15 39.8	-1.2
PCVE	**Castro Verde**	**5.41**	**263**	P	Pn	04 15 43.6	-0.2

*BJI **12** 04:17:44.2±0.0, 23.87N×121.71E, h26km, mb4.3/28, mB4.4/13, ML4.0/7, Ms3.8/5, Ms7 3.7/5*
*IDC **12** 04:17:45.8±2.9, 23.85N×121.82E, h48km±29km, mb3.7/14, mbtmp4.0/15, ML3.8/1, MS3.2/8, Error ellipse: s-maj=19.3km s-min=14.7km az=62.0*
*TAP **12** 04:17:46.6, 23.86N×121.69E, h48km, ML4.8, C*
*NIED **12** 04:17:46.3, 23.83N×121.69E, h46km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}0.39; $M_{\theta\theta}$-1.24; $M_{\phi\phi}$0.85; $M_{r\theta}$-1.15; $M_{r\phi}$-0.14; $M_{\theta\phi}$1.18; Fault plane solution: $M_0$1.98000×10^{15} NP1: ϕ_s308.00000°, δ83.00000°, λ122.00000°. NP2: ϕ_s48.00000°, δ33.00000°, λ12.00000°.*
*ASIES **12** 04:17:46.6, 23.86N×121.69E, h48km, ML4.8, Mw4.1, Moment Tensor Solution. Moment tensor: Scale 10^{22}Nm; M_{rr}-0.88; $M_{\theta\theta}$0.32; $M_{\phi\phi}$0.57; $M_{r\theta}$0.17; $M_{\theta\phi}$0.02; $M_{r\phi}$1.87; Fault plane solution: $M_0$2.03491×10^{22} NP1: ϕ_s185.02000°, δ79.46000°, λ-89.85000°. NP2: ϕ_s4.19000°, δ10.54000°, λ-90.82000°. Principal axes: T Plg34.4610°, Azm274.8930°; N Plg0.1500°, Azm4.9960°; P Plg55.5390°, Azm95.2150°;*
*NEIC **12** 04:17:46.3±1.7, 23.81N±0.03×121.70E±0.04, h45km±6km, mb4.5/81 Error ellipse: s-maj=6.3km s-min=3.7km az=114.0*
*JMA **12** 04:17:46.3±0.1, 23.8N±0.3×121.7E±0.7, h46km±1km, MD4.1/19, MV4.4/19, TAIWAN REGION*
ISC 12 04:17:46.0±0.6, 23.85N±0.02×121.71E±0.02, h45km±4km, n334, σ1^{s}72/509, mb4.5/55, MS3.3/6, 38C-30D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHUL	**Shoufeng** baz=231	**0.15**	**245**	⇑P	**Pn**	**04 17 54.7**	**+1.3**
SHUL				S	**Sn**	**04 18 01.1**	**+2.5**
HWA	**Hwalien** baz=331	**0.16**	**323**	⇑*i*P	**Pn**	**04 17 54.6**	**+1.2**
HWA				S	**Sn**	**04 18 01.5**	**+2.8**
ETM	**Tongmen** baz=290	**0.23**	**300**	P	**Pn**	**04 17 54.6**	**+0.7**
ETM				*e*S	**Sn**	**04 18 00.9**	**+1.3**
TWD	**Chiawan** baz=349	**0.25**	**336**	⇑*i*P	**Pn**	**04 17 55.0**	**+0.8**
TWD				*i* S	**Sn**	**04 18 01.3**	**+1.4**
ESL	**Shilin** baz=266	**0.25**	**262**	⇓*i*P	**Pn**	**04 17 54.8**	**+0.6**
ESL				*i* S	**Sn**	**04 18 00.7**	**+0.8**
EGFH	**Guangfu** baz=240	**0.31**	**235**	⇓P	**Pn**	**04 17 55.4**	**+0.6**
EGFH				S	**Sn**	**04 18 02.6**	**+1.6**
ETL	**Fush Village** baz=352	**0.32**	**346**	P	**Pn**	**04 17 55.6**	**+0.8**
ETL				S	**Sn**	**04 18 02.9**	**+1.8**
LXIB	**Xiulin Townshi** baz=302	**0.32**	**302**	⇓P	**Pn**	**04 17 55.3**	**+0.3**
LXIB				S	**Sn**	**04 18 03.5**	**+2.1**
WARBT	**Fenglin Townsh** baz=249	**0.32**	**246**	⇓P	**Pn**	**04 17 55.3**	**+0.4**
WARBT				S	**Sn**	**04 18 01.5**	**+0.3**
NACB	**Ninganchiao**	**0.34**	**342**	P	**Pn**	**04 17 55.7**	**+0.6**
NACB	**Ninganchiao**	**0.34**	**342**		**Pn**	**04 17 55.5**	**+0.5**
NACB				Sn	**Sn**	**04 18 01.8**	**+0.4**
NACB	**Ninganchiao** baz=337	**0.34**	**342**	⇓P	**Pn**	**04 17 55.6**	**+0.6**
NACB				S	**Sn**	**04 18 02.5**	**+1.1**
HGSD	**Ruisui** baz=223	**0.44**	**216**	⇑P	**Pn**	**04 17 57.4**	**+1.2**
HGSD				S	**Sn**	**04 18 06.0**	**+2.6**
EHP	**Heping Village** baz=14	**0.46**	**4**	P	**Pn**	**04 17 57.2**	**+0.8**
EHP				S	**Sn**	**04 18 05.4**	**+1.6**
EAHA	**Aohua** baz=12	**0.48**	**3**	P	**Pn**	**04 17 57.5**	**+0.8**
EAHA				S	**Sn**	**04 18 05.8**	**+1.6**
EHYH	**Wanrong** baz=230	**0.49**	**223**	P	**Pn**	**04 17 57.2**	**+0.4**
EHYH				S	**Sn**	**04 18 05.2**	**+0.8**
EHY	**Hungye** baz=222	**0.49**	**226**	⇓*i*P	**Pn**	**04 17 57.0**	**+0.2**
EHY				S	**Sn**	**04 18 04.7**	**+0.2**
OWD	**Renai** baz=281	**0.50**	**282**	P	**Pn**	**04 17 57.8**	**+0.7**
OWD				S	**Sn**	**04 18 05.6**	**+0.7**
WHF	**Hehuan Shan** baz=306	**0.50**	**306**	*i* P	**Pn**	**04 17 57.7**	**+0.4**
WHF				*i* S	**Sn**	**04 18 05.8**	**+0.4**
VWDT	**VWDT** baz=254	**0.53**	**260**	⇓P	**Pn**	**04 17 58.3**	**+1.0**
VWDT				S	**Sn**	**04 18 05.9**	**+0.6**
CHGB	**Renai** baz=296	**0.53**	**293**	⇓P	**Pn**	**04 17 58.3**	**+0.8**
CHGB				S	**Sn**	**04 18 07.0**	**+1.3**
WUSB	**Renai** baz=284	**0.56**	**285**	⇓P	**Pn**	**04 17 58.6**	**+0.9**
WUSB				S	**Sn**	**04 18 06.8**	**+0.6**
ENA	**Nanau** baz=14	**0.58**	**3**	⇑*i*P	**Pn**	**04 17 58.6**	**+0.7**
ENA				S	**Sn**	**04 18 08.0**	**+1.6**
FUSS	**Fushou** baz=319	**0.58**	**313**	⇓P	**Pn**	**04 17 59.0**	**+0.8**
FUSS				S	**Sn**	**04 18 07.3**	**+0.4**
ECBN	**Changbin** baz=190	**0.58**	**204**	P	**Pn**	**04 17 59.1**	**+1.1**
ECBN				S	**Sn**	**04 18 08.5**	**+2.0**
YULB	**Yu-li**	**0.59**	**220**	P	**Pn**	**04 17 58.3**	**+0.2**
YULB	**Yu-li**	**0.59**	**220**		**Pn**	**04 17 57.9**	**-0.2**
YULB				Sn	**Sn**	**04 18 05.4**	**-1.4**
YULB	**Yu-li** baz=222	**0.59**	**220**	P	**Pn**	**04 17 58.2**	**+0.2**
YULB				S	**Sn**	**04 18 06.9**	**+0.1**
EWUT	**Wuta** baz=16	**0.60**	**6**	⇑P	**Pn**	**04 17 58.8**	**+0.7**
EWUT				S	**Sn**	**04 18 08.7**	**+1.9**
EYUL	**Yuli** baz=220	**0.61**	**216**	*i* P	**Pn**	**04 17 59.3**	**+0.9**
EYUL				S	**Sn**	**04 18 08.4**	**+1.1**
EOS4	**EOS4** baz=75	**0.62**	**64**	⇑P	**Pn**	**04 17 59.4**	**+1.3**
EOS4				S	**Sn**	**04 18 08.9**	**+2.0**
TWF1	**Yuli** baz=221	**0.62**	**217**	*i* P	**Pn**	**04 17 58.8**	**+0.3**
TWF1				*i* S	**Sn**	**04 18 08.0**	**+0.4**
TWT	**Tachien** baz=309	**0.63**	**310**	⇓*i*P	**Pn**	**04 17 59.8**	**+1.1**
TWT				*i* S	**Sn**	**04 18 08.7**	**+0.7**
TDCB	**Techi** baz=309	**0.64**	**309**	⇓P	**Pn**	**04 17 59.9**	**+1.0**
TDCB				S	**Sn**	**04 18 08.5**	**+0.4**
NNSB	**Datong** baz=332	**0.65**	**333**	⇓P	**Pn**	**04 17 59.6**	**+0.6**
NNSB				S	**Sn**	**04 18 08.4**	**+0.2**
NNSH	**Datong** baz=331	**0.65**	**333**	⇓*i*P	**Pn**	**04 17 59.6**	**+0.6**
NNSH				S	**Sn**	**04 18 08.7**	**+0.4**
NNS	**Nan Shan** baz=332	**0.66**	**333**	⇓*i*P	**Pn**	**04 17 59.8**	**+0.6**
NNS				*i* S	**Sn**	**04 18 09.1**	**+0.5**
SSLB	**Suanglung**	**0.69**	**265**	P	**Pn**	**04 18 00.3**	**+0.8**
SSLB	**Suanglung**	**0.69**	**265**		**Pn**	**04 18 00.1**	**+0.6**
SSLB				Sn	**Sn**	**04 18 08.3**	**-0.9**
SSLB	**Suanglung** baz=265	**0.69**	**265**	⇓P	**Pn**	**04 18 00.1**	**+0.6**
SSLB				S	**Sn**	**04 18 10.2**	**+1.0**
LATG	**Datong** baz=341	**0.70**	**346**	⇓P	**Pn**	**04 18 00.1**	**+0.4**
LATG				*i* S	**Sn**	**04 18 09.6**	**+0.1**
WPL	**Puli Township** baz=280	**0.70**	**283**	⇓P	**Pn**	**04 18 00.5**	**+0.9**
WPL				*e*S	**Sn**	**04 18 10.2**	**+0.8**
EOS3	**EOS3** baz=51	**0.71**	**52**	*e*P	**Pn**	**04 18 01.1**	**+1.6**
EOS3				*e*S	**Sn**	**04 18 12.3**	**+3.0**
CHKH	**Chenggong** baz=191	**0.72**	**204**	P	**Pn**	**04 18 00.5**	**+0.8**
CHKH				S	**Sn**	**04 18 11.5**	**+1.9**
ESAO	**Su ao** baz=17	**0.73**	**10**	P	**Pn**	**04 18 00.8**	**+0.9**
ESAO				S	**Sn**	**04 18 11.6**	**+1.5**
DPDB	**Guoxing** baz=281	**0.74**	**284**	P	**Pn**	**04 18 01.1**	**+1.0**
DPDB				*e*S	**Sn**	**04 18 11.1**	**+0.8**
SMLT	**Sun Moon Lake** baz=271	**0.74**	**273**	⇓*i*P	**Pn**	**04 18 01.1**	**+0.9**
SMLT				*i* S	**Sn**	**04 18 11.6**	**+1.2**
EOS2	**EOS2** baz=48	**0.74**	**40**	*e*P	**Pn**	**04 18 01.8**	**+1.8**
EOS2				*e*S	**Sn**	**04 18 14.2**	**+4.1**
FULB	**Fuli** baz=217	**0.75**	**210**	*i* P	**Pn**	**04 18 01.2**	**+1.0**
FULB				*i* S	**Sn**	**04 18 13.5**	**+2.9**
WCS	**Beigang Elemen** baz=283	**0.76**	**286**	⇓P	**Pn**	**04 18 01.4**	**+1.1**
WCS				*e*S	**Sn**	**04 18 11.8**	**+1.2**
TWC	**Suao** baz=19	**0.77**	**10**	⇑*i*P	**Pn**	**04 18 01.5**	**+1.1**
TWC				*i* S	**Sn**	**04 18 12.9**	**+2.0**
NDT	**Datong Townshi** baz=341	**0.77**	**347**	⇓P	**Pn**	**04 18 01.2**	**+0.7**
NDT				*e*S	**Sn**	**04 18 11.5**	**+0.5**
NDS	**Dongshan** baz=354	**0.78**	**1**	P	**Pn**	**04 18 01.5**	**+0.9**
NDS				S	**Sn**	**04 18 12.4**	**+1.1**
TYC	**Yuchr** baz=275	**0.78**	**274**	*i* P	**Pn**	**04 18 01.4**	**+0.9**
TYC				*e*S	**Sn**	**04 18 12.3**	**+1.1**
ENTT	**Nioudou** baz=354	**0.80**	**351**	⇓*i*P	**Pn**	**04 18 01.6**	**+0.7**
ENTT				*i* S	**Sn**	**04 18 13.0**	**+1.3**
WHYT	**Xinyi Township** baz=256	**0.80**	**259**	⇓P	**Pn**	**04 18 02.2**	**+1.4**
WHYT				*i* S	**Sn**	**04 18 13.0**	**+1.3**
CHKT	**Chengkung** baz=190	**0.81**	**203**	⇑*i*P	**Pn**	**04 18 01.4**	**+0.4**
CHKT				*i* S	**Sn**	**04 18 13.7**	**+1.8**
WHP	**Taichung City** baz=303	**0.82**	**302**	⇑P	**Pn**	**04 18 02.6**	**+1.4**
WHP				S	**Sn**	**04 18 13.9**	**+1.6**
EHD	**Haiduan** baz=218	**0.84**	**213**	⇑P	**Pn**	**04 18 01.1**	**-0.3**
EHD				S	**Sn**	**04 18 12.3**	**-0.3**
TWE	**Neicheng** baz=353	**0.87**	**358**	⇓*i*P	**Pn**	**04 18 02.6**	**+0.9**
TWE				*e*S	**Sn**	**04 18 14.5**	**+1.2**
YHNB	**Yeheng**	**0.87**	**340**	P	**Pn**	**04 18 02.9**	**+1.0**
YHNB	**Yeheng**	**0.87**	**340**		**Pn**	**04 18 02.8**	**+0.9**
YHNB	**Yeheng** baz=342	**0.87**	**340**	⇓P	**Pn**	**04 18 02.8**	**+0.9**
YHNB				S	**Sn**	**04 18 14.2**	**+0.6**
ECS	**Chishang** baz=207	**0.88**	**211**	P	**Pn**	**04 18 02.2**	**+0.3**
ECS				*e*S	**Sn**	**04 18 15.7**	**+2.1**
NSK	**Sanguang** baz=341	**0.88**	**339**	⇓*i*P	**Pn**	**04 18 02.9**	**+0.9**
NSK				*i* S	**Sn**	**04 18 14.6**	**+0.8**
ALS	**Alishan** baz=245	**0.89**	**248**	⇓*i*P	**Pn**	**04 18 03.8**	**+1.3**
ALS				*i* S	**Sn**	**04 18 15.5**	**+1.1**
WJS	**Zhushan** baz=267	**0.90**	**268**	*i* P	**Pn**	**04 18 04.3**	**+2.1**
WJS				*i* S	**Sn**	**04 18 16.8**	**+2.7**
FUSB	**Fushanzhiwuyua** baz=356	**0.91**	**353**	⇓P	**Pn**	**04 18 03.2**	**+0.7**
FUSB				S	**Sn**	**04 18 15.0**	**+0.5**
ILA	**Ilan** baz=357	**0.91**	**2**	*i* P	**Pn**	**04 18 04.1**	**+1.7**
ILA				S	**Sn**	**04 18 17.4**	**+3.0**
ELDTW	**Lidau** baz=216	**0.91**	**224**	*i* P	**Pn**	**04 18 02.9**	**+0.4**
ELDTW				*i* S	**Sn**	**04 18 15.6**	**+1.0**
WNT	**Mingjian** baz=270	**0.94**	**272**	⇑*i*P	**Pn**	**04 18 04.7**	**+2.0**
WNT				*i* S	**Sn**	**04 18 17.7**	**+2.7**
NWLT	**Wulai** baz=345	**0.94**	**349**	P	**Pn**	**04 18 03.6**	**+0.8**
NWLT				S	**Sn**	**04 18 15.9**	**+0.7**
WNT1	**Nantou City** baz=272	**0.94**	**274**	P	**Pn**	**04 18 05.0**	**+2.2**
WNT1				S	**Sn**	**04 18 18.2**	**+3.1**
WWF	**Wufeng** baz=281	**0.94**	**282**	P	**Pn**	**04 18 05.1**	**+2.3**
WWF				S	**Sn**	**04 18 18.8**	**+3.6**
NFF	**Wufeng Townshi** baz=331	**0.95**	**325**	⇓P	**Pn**	**04 18 04.3**	**+1.4**
NFF				S	**Sn**	**04 18 17.8**	**+2.5**
EDH	**Donghe** baz=199	**0.95**	**203**	⇑*i*P	**Pn**	**04 18 03.4**	**+0.5**
EDH				*i* S	**Sn**	**04 18 17.9**	**+2.6**
TWQ1	**Liyutan** baz=300	**0.99**	**300**	⇑*i*P	**Pn**	**04 18 05.0**	**+1.6**
TWQ1				*i* S	**Sn**	**04 18 18.0**	**+1.8**
TCU	**Taichung** baz=286	**0.99**	**288**	*i* P	**Pn**	**04 18 05.5**	**+2.0**
TCU				S	**Sn**	**04 18 18.7**	**+2.4**
NTC	**Toucheng** baz=358	**1.01**	**6**	*i* P	**Pn**	**04 18 06.5**	**+2.8**
NTC				*i* S	**Sn**	**04 18 20.5**	**+3.8**
NSTT	**Nanjuang** baz=308	**1.01**	**320**	⇑*i*P	**Pn**	**04 18 05.5**	**+1.7**
NSTT				*i* S	**Sn**	**04 18 18.5**	**+1.7**
LIOB	**Emei** baz=309	**1.01**	**322**	⇑*i*P	**Pn**	**04 18 05.7**	**+1.9**
LIOB				*i* S	**Sn**	**04 18 19.0**	**+2.1**
NSY	**Sanyi** baz=303	**1.03**	**303**	⇑*i*P	**Pn**	**04 18 05.7**	**+1.7**
NSY				*i* S	**Sn**	**04 18 20.4**	**+3.0**
WYL	**Yuanlin Townsh** baz=275	**1.04**	**276**	P	**Pn**	**04 18 06.3**	**+2.3**
WYL				S	**Sn**	**04 18 20.9**	**+3.5**
WGK	**Gukeng** baz=259	**1.06**	**261**	*i* P	**Pn**	**04 18 06.1**	**+1.7**
WGK				*i* S	**Sn**	**04 18 21.0**	**+3.0**
WCHH	**Zhanghua** baz=281	**1.08**	**282**	*i* P	**Pn**	**04 18 06.6**	**+2.0**
WCHH				*i* S	**Sn**	**04 18 21.8**	**+3.4**
LONT	**Longtian** baz=197	**1.08**	**210**	*i* P	**Pn**	**04 18 04.6**	**-0.1**
LONT				S	**Sn**	**04 18 19.2**	**+0.7**
NMLH	**Miaoli** baz=308	**1.08**	**309**	*i* P	**Pn**	**04 18 06.2**	**+1.5**
NMLH				*i* S	**Sn**	**04 18 20.6**	**+2.1**
WDLH	**Douliu** baz=259	**1.08**	**262**	*i* P	**Pn**	**04 18 06.6**	**+1.9**
WDLH				*i* S	**Sn**	**04 18 21.3**	**+2.7**
STYH	**Taoyuan** baz=223	**1.09**	**232**	⇓P	**Pn**	**04 18 06.5**	**+1.6**
STYH				S	**Sn**	**04 18 20.4**	**+1.7**
WCKO	**Fanlu** baz=236	**1.09**	**248**	⇑P	**Pn**	**04 18 05.8**	**+0.9**
WCKO				S	**Sn**	**04 18 20.5**	**+1.7**
WDJ	**Dajia District** baz=297	**1.09**	**297**	⇑P	**Pn**	**04 18 06.5**	**+1.6**
WDJ				S	**Sn**	**04 18 21.3**	**+2.5**
STYT	**Tauyuan** baz=238	**1.11**	**232**	*i* P	**Pn**	**04 18 06.6**	**+1.5**
STYT				*i* S	**Sn**	**04 18 21.3**	**+2.0**
HSN1	**Hsinchu** baz=315	**1.12**	**326**	P	**Pn**	**04 18 07.2**	**+2.1**
HSN1				S	**Sn**	**04 18 23.0**	**+3.6**
NHDH	**Xindian Distri** baz=354	**1.12**	**351**	P	**Pn**	**04 18 06.8**	**+1.6**
NHDH				S	**Sn**	**04 18 21.1**	**+1.7**
TIPB	**Shuangxi**	**1.12**	**5**	⇑*i*P	**Pn**	**04 18 07.1**	**+1.8**
TIPB				*i* S	**Sn**	**04 18 21.8**	**+2.2**
NJN	**Zhunan** baz=305	**1.13**	**318**	P	**Pn**	**04 18 07.1**	**+1.8**
NJN				S	**Sn**	**04 18 21.9**	**+2.3**
TWA	**Mucha** baz=345	**1.13**	**354**	*i* P	**Pn**	**04 18 07.0**	**+1.7**
TWA				*i* S	**Sn**	**04 18 21.8**	**+2.0**
TPUB	**Ta-pu**	**1.13**	**241**		**Pn**	**04 18 06.9**	**+1.5**
TPUB	**Ta-pu** baz=238	**1.13**	**241**	⇑P	**Pn**	**04 18 07.0**	**+1.7**
TPUB				S	**Sn**	**04 18 22.4**	**+2.6**
CHN4	**Tsaushan** baz=242	**1.14**	**244**	*i* P	**Pn**	**04 18 07.3**	**+1.9**
CHN4				*i* S	**Sn**	**04 18 23.5**	**+3.6**
TATO	**Taipei**	**1.14**	**350**	P	**Pn**	**04 18 07.1**	**+1.6**
TATO	**Taipei**	**1.14**	**350**		**Pn**	**04 18 06.6**	**+1.2**
TATO	**Taipei** baz=353	**1.14**	**350**	P	**Pn**	**04 18 06.7**	**+1.2**
TATO				S	**Sn**	**04 18 20.9**	**+1.0**
SBCB	**Hsinchu** baz=325	**1.15**	**325**	P	**Pn**	**04 18 07.4**	**+1.8**
SBCB				S	**Sn**	**04 18 23.1**	**+3.0**
HSN	**Hsinchu** baz=327	**1.16**	**325**	*i* P	**Pn**	**04 18 07.7**	**+1.9**
HSN				*i* S	**Sn**	**04 18 23.5**	**+3.0**
BACT	**New Taipei Cit** baz=350	**1.17**	**348**	P	**Pn**	**04 18 10.5**	**+4.6**
BACT				S	**Sn**	**04 18 23.4**	**+2.8**
WTP	**Ta-pu** baz=236	**1.17**	**239**	⇑*i*P	**Pn**	**04 18 07.7**	**+1.7**
WTP				*i* S	**Sn**	**04 18 23.4**	**+2.6**
CHN2	**Minshiung** baz=252	**1.17**	**255**	*i* P	**Pn**	**04 18 08.2**	**+2.3**
CHN2				*i* S	**Sn**	**04 18 24.3**	**+3.5**
TWGBT	**Beinan**	**1.18**	**209**	P	**Pn**	**04 18 05.8**	**-0.2**
TWGBT	**Beinan** baz=197	**1.18**	**209**	P	**Pn**	**04 18 05.5**	**-0.5**
TWGBT				S	**Sn**	**04 18 20.4**	**-0.5**
TWG	**Pinlang**	**1.18**	**210**		**Pn**	**04 18 05.1**	**-1.0**
TWG	**Pinlang** baz=197	**1.18**	**210**	*i* P	**Pn**	**04 18 05.7**	**-0.4**
TWG				*i* S	**Sn**	**04 18 20.4**	**-0.5**
TWB1	**Santiao Chiao** baz=17	**1.18**	**12**	*i* P	**Pn**	**04 18 07.6**	**+1.6**
TWB1				S	**Sn**	**04 18 23.3**	**+2.4**
NHY	**Taipei** baz=357	**1.19**	**354**	P	**Pn**	**04 18 06.6**	**+0.4**
NHY				S	**Sn**	**04 18 23.2**	**+2.0**
LDUT	**Ludao** baz=180	**1.19**	**191**	⇑*i*P	**Pn**	**04 18 06.0**	**-0.2**
LDUT				*i* S	**Sn**	**04 18 21.0**	**-0.2**
TAP	**Taipei** baz=355	**1.20**	**351**	*i* P	**Pn**	**04 18 08.5**	**+2.2**
TAP				*i* S	**Sn**	**04 18 23.3**	**+1.9**
NTY	**Taoyuan** baz=350	**1.20**	**342**	P	**Pn**	**04 18 08.4**	**+2.0**
NTY				S	**Sn**	**04 18 24.4**	**+2.9**
TTN	**Taitung** baz=201	**1.21**	**205**	*i* P	**Pn**	**04 18 08.6**	**+2.2**
TTN				*i* S	**Sn**	**04 18 23.9**	**+2.4**
NCUH	**Zhongli** baz=338	**1.21**	**337**	*i* P	**Pn**	**04 18 08.2**	**+1.8**
NCUH				*i* S	**Sn**	**04 18 23.7**	**+2.0**
NCU	**National Centr** baz=338	**1.21**	**337**	*i* P	**Pn**	**04 18 07.2**	**+0.7**
NCU				*i* S	**Sn**	**04 18 23.1**	**+1.4**
NWF	**Wu-fen Shan** baz=355	**1.22**	**3**	*i* P	**Pn**	**04 18 08.4**	**+1.8**
NWF				*i* S	**Sn**	**04 18 24.2**	**+2.3**
WFSB	**Wu-fen Shan** baz=355	**1.22**	**3**	P	**Pn**	**04 18 08.4**	**+1.9**
WFSB				S	**Sn**	**04 18 24.1**	**+2.3**
WRL	**Guolierlin Hig** baz=282	**1.22**	**273**	⇑P	**Pn**	**04 18 08.2**	**+1.7**
WRL				S	**Sn**	**04 18 23.5**	**+1.7**
WTK	**Tuku** baz=261	**1.22**	**263**	⇑*i*P	**Pn**	**04 18 08.3**	**+1.8**

WTK *i* S **Sn** **04 18 24.2 +2.3**
baz=261
CHY **Chiayi** **1.23 254** *i* P **Pn** **04 18 08.6 +1.9**
baz=251
CHY *i* S **Sn** **04 18 25.5 +3.4**
baz=251
RLNB **Erlin** **1.23 272** ⇑P **Pn** **04 18 08.6 +1.9**
baz=282
RLNB S **Sn** **04 18 24.1 +1.9**
baz=282
SXI1 **Grass Mountain** **1.25 7** P **Pn** **04 18 09.0 +2.0**
baz=356
SXI1 S **Sn** **04 18 25.3 +2.6**
baz=356
TWK **Hsinying** **1.26 243** ⇑*i*P **Pn** **04 18 08.8 +1.6**
baz=240
TWK *i* S **Sn** **04 18 26.4 +3.4**
baz=240
CHN1 **Nanshi** **1.27 239** *i* P **Pn** **04 18 09.1 +1.8**
baz=236
CHN1 *i* S **Sn** **04 18 26.8 +3.7**
baz=236
TWS1 **Kuangyinshan** **1.27 348** *i* P **Pn** **04 18 09.0 +1.7**
baz=351
TWS1 *i* S **Sn** **04 18 25.6 +2.4**
baz=351
SNST **Tainan City** **1.28 241** ⇑P **Pn** **04 18 09.0 +1.7**
baz=238
SNST S **Sn** **04 18 26.0 +2.7**
baz=238
JYNG **Yonagunijimaku** **1.28 62** P **Pn** **04 18 08.8 +1.4**
JYNG *e*S **Sn** **04 18 24.7 +1.3**
JYNG **Yonagunijimaku** **1.28 62** A A 04 18 08.8
comp=E,7.0nm,1.0s,comp=N,5.0nm,2.6s
SGST **Jiashian** **1.28 234** ⇑*i*P **Pn** **04 18 08.7 +1.2**
baz=230
SGST *i* S **Sn** **04 18 25.8 +2.3**
baz=230
SLGT **Liugui** **1.29 229** ⇑P **Pn** **04 18 09.7 +2.0**
baz=233
SLGT S **Sn** **04 18 26.8 +3.0**
baz=233
TNOU **National Taiwa** **1.29 3** P **Pn** **04 18 09.2 +1.5**
baz=352
TNOU S **Sn** **04 18 25.8 +2.1**
baz=352
YM01 **YM01** **1.30 354** P **Pn** **04 18 08.9 +1.3**
baz=358
YM01 S **Sn** **04 18 25.6 +1.7**
baz=358
NHW **Xinwu Township** **1.30 333** *i* P **Pn** **04 18 09.1 +1.5**
baz=345
NHW *i* S **Sn** **04 18 26.4 +2.5**
baz=345
WTCT **Ta-ch'eng** **1.31 271** *i* P **Pn** **04 18 09.4 +1.7**
baz=269
WTCT *i* S **Sn** **04 18 25.9 +1.9**
baz=269
NTST **Danshui** **1.33 350** *i* P **Pn** **04 18 09.5 +1.5**
baz=352
NTST S **Sn** **04 18 27.0 +2.4**
baz=352
YM08 **YM08** **1.34 355** P **Pn** **04 18 08.6 +0.3**
baz=345
YM08 *e*S **Sn** **04 18 24.3 -0.5**
baz=345
YOJ **Yonaguni jima** **1.34 63** P **Pn** **04 18 09.7 +1.5**
YOJ **Yonaguni jima** **1.34 63** **Pn** **04 18 09.5 +1.3**
YOJ **Yonaguni jima** **1.34 63** P **Pn** **04 18 09.5 +1.3**
YOJ *e*S **Sn** **04 18 26.2 +1.4**
YOJ **Yonaguni jima** **1.34 63** A A 04 18 09.5
comp=E,5.0nm,1.7s,comp=N,5.0nm,2.9s
YOJ **Yonaguni jima** **1.34 63** ⇑P **Pn** **04 18 09.5 +1.3**
baz=66
YOJ S **Sn** **04 18 26.5 +1.7**
baz=66
ANP **Anpu** **1.34 353** *i* P **Pn** **04 18 10.6 +2.3**
baz=356
ANP *e*S **Sn** **04 18 26.9 +1.8**
baz=356
NWRT **Kuosheng** **1.35 358** *e*P **Pn** **04 18 11.5 +3.2**
baz=348
NWRT S **Sn** **04 18 26.3 +1.3**
baz=348
WSF **Szhu** **1.38 261** *i* P **Pn** **04 18 10.6 +1.9**
baz=260
WSF *i* S **Sn** **04 18 28.8 +3.0**
baz=260
WSL **Shuilin Townsh** **1.40 257** P **Pn** **04 18 10.7 +1.7**
baz=243
WSL S **Sn** **04 18 29.7 +3.5**
baz=243
ICHU **Yijhu** **1.40 250** *i* P **Pn** **04 18 10.6 +1.6**
baz=248
ICHU *i* S **Sn** **04 18 28.4 +2.1**
baz=248
TWY **Chenhua** **1.42 356** *i* P **Pn** **04 18 10.9 +1.5**
baz=346
TWY *e*S **Sn** **04 18 27.3 +0.4**
baz=346
ECL **Taimali** **1.43 209** P **Pn** **04 18 09.2 -0.2**
baz=198
ECL S **Sn** **04 18 26.5 -0.5**
baz=198
NSM **Shimen** **1.44 356** *e*P **Pn** **04 18 12.4 +2.9**
baz=346
NSM *e*S **Sn** **04 18 30.6 +3.4**
baz=346
CHN3 **Shinhua** **1.45 238** P **Pn** **04 18 10.8 +1.0**
baz=249
CHN3 *i* S **Sn** **04 18 32.4 +4.8**
baz=249
CHN8 **Yiju** **1.46 250** *i* P **Pn** **04 18 11.5 +1.6**
baz=248
CHN8 *i* S **Sn** **04 18 30.4 +2.6**
baz=248
SCST **Cishan** **1.47 230** *i* P **Pn** **04 18 12.6 +2.6**
baz=226
SCST *i* S **Sn** **04 18 32.5 +4.4**
baz=226
SSD **Sandimen** **1.48 222** *i* P **Pn** **04 18 11.8 +1.7**
baz=218
SSD *i* S **Sn** **04 18 30.9 +2.6**
baz=218
SSHA **Shanhua** **1.48 242** P **Pn** **04 18 12.9 +2.7**
baz=238
SSHA S **Sn** **04 18 33.0 +4.6**
baz=238
SHHT **Tainan City** **1.50 237** P **Pn** **04 18 13.3 +2.9**
baz=247
SHHT S **Sn** **04 18 33.8 +5.1**
baz=247
SCLT **Jiali** **1.54 244** *i* P **Pn** **04 18 13.3 +2.3**
baz=242
SCLT *i* S **Sn** **04 18 32.6 +2.8**
baz=242
MASBT **Mashibuluo** **1.58 219** P **Pn** **04 18 13.2 +1.7**
baz=203
MASBT S **Sn** **04 18 34.3 +3.5**
baz=203
TAI1 **Yung-k'ang** **1.58 240** *e*P **Pn** **04 18 15.4 +3.9**
baz=249
TAI1 *e*S **Sn** **04 18 35.1 +4.4**
baz=249
SGLT **Jiouru** **1.58 225** *i* P **Pn** **04 18 15.9 +4.4**
baz=209
SGLT S **Sn** **04 18 36.5 +5.6**
baz=209
TSCK **Chigu Township** **1.65 245** P **Pn** **04 18 13.7 +1.3**
baz=243
TSCK S **Sn** **04 18 34.4 +2.1**
baz=243
EAST **Anshuo** **1.66 209** *i* P **Pn** **04 18 13.5 +0.8**
baz=199
EAST S **Sn** **04 18 33.0 +0.2**
baz=199
TAW **Tawu** **1.66 207** *i* P **Pn** **04 18 13.8 +1.2**
baz=196
TAW *e*S **Sn** **04 18 32.8 0.0**
baz=196
SNJT **Kaohsiung City** **1.67 229** P **Pn** **04 18 15.5 +2.8**
baz=225
SNJT S **Sn** **04 18 38.2 +5.3**
baz=225
TAWH **Dawu Township** **1.68 207** P **Pn** **04 18 13.8 +0.9**
baz=197
TAWH *e*S **Sn** **04 18 33.8 +0.5**
baz=197

SCZT **Fangliau** **1.78 214** *i* P **Pn** **04 18 16.5 +2.2**
baz=210
SCZT *i* S **Sn** **04 18 39.8 +4.1**
baz=210
PCYT **Pengchaiyu** **1.80 10** *i* P **Pn** **04 18 16.6 +2.0**
baz=17
PCYT *e*S **Sn** **04 18 38.9 +2.7**
baz=17
LAY **Lan-yu** **1.81 185** *i* P **Pn** **04 18 14.4 -0.3**
baz=174
LAY S **Sn** **04 18 37.7 +1.3**
baz=174
LYUB **Lan-yu** **1.84 184** P **Pn** **04 18 14.1 -1.0**
baz=173
LYUB S **Sn** **04 18 38.5 +1.3**
baz=173
IRIF **Iriomote-Funau** **1.91 75** P **Pn** **04 18 17.4 +1.4**
IRIF *e*S **Sn** **04 18 40.3 +1.4**
HATJ **Hateruma jima** **1.93 83** P **Pn** **04 18 18.0 +1.7**
HATJ *e*S **Sn** **04 18 41.1 +1.8**
WDGT **Dungji** **1.97 253** ⇑*i*P **Pn** **04 18 17.6 +0.8**
baz=252
WDGT *i* S **Sn** **04 18 40.3 0.0**
baz=252
PHUB **P'eng-hu** **1.99 261** ⇑P **Pn** **04 18 17.7 +0.7**
baz=272
PHUB S **Sn** **04 18 40.6 -0.1**
baz=272
PNG **Penghu** **1.99 262** ⇑*i*P **Pn** **04 18 17.8 +0.7**
baz=261
PNG *i* S **Sn** **04 18 41.0 +0.1**
baz=261
HEN **Hengchun** **2.04 206** *i* P **Pn** **04 18 21.4 +3.6**
baz=201
HEN *i* S **Sn** **04 18 46.3 +4.2**
baz=201
TWKBT **Hengchun** **2.07 204** P **Pn** **04 18 19.8 +1.5**
baz=199
TWKBT S **Sn** **04 18 45.7 +2.8**
baz=199
TWK1 **Hengchun** **2.07 204** *i* P **Pn** **04 18 19.7 +1.4**
baz=199
TWK1 *i* S **Sn** **04 18 45.5 +2.6**
baz=199
JKRS **Kuro-shima** **2.14 79** P **Pn** **04 18 21.0 +1.8**
JKRS *e*S **Sn** **04 18 46.5 +2.0**
JKRS **Kuro-shima** **2.14 79** A A 04 18 21.0
comp=E,5.0nm,1.5s,comp=N,8.0nm,0.9s
VCHM **Qimei** **2.19 253** P **Pn** **04 18 20.6 +0.8**
baz=252
VCHM S **Sn** **04 18 45.9 +0.2**
baz=252
JIJ **Ishigaki jima** **2.28 77** *e*P **Pn** **04 18 22.3 +1.2**
JIJ *e*S **Sn** **04 18 48.0 -0.1**
VWUC **VWUC** **2.35 299** P **Pn** **04 18 21.7 -0.4**
baz=298
VWUC S **Sn** **04 18 47.8 -1.9**
baz=298
JISG **Ishigakijimahi** **2.49 72** P **Pn** **04 18 25.1 +1.1**
JISG *e*S **Sn** **04 18 53.9 +0.8**
PTMZ **Houxiangcun** **2.64 297** P **Pn** **04 18 25.9 -0.1**
baz=296
PTMZ S **Sn** **04 18 54.6 -2.2**
baz=296
MATB **Ma-tsu** **2.79 325** P **Pn** **04 18 27.8 -0.4**
baz=312
MATB S **Sn** **04 18 58.9 -1.8**
baz=312
JTJ **Tarama** **2.84 73** P **Pn** **04 18 30.2 +1.4**
JTJ *e*S **Sn** **04 19 02.0 +0.1**
QZH **Quanzhou** **3.04 292** ⇑*i*Pn **Pn** **04 18 31.2 -0.4**
QZH Sn **Sn** **04 19 04.1 -2.6**
QZH smax smax
comp=N,690nm,0.4s
QZH smax smax
comp=N,530nm,0.5s
KNM **Kinmen** **3.04 281** ⇑*i*P **Pn** **04 18 33.3 +1.7**
baz=280
KNM *i* S **Sn** **04 19 07.3 +0.6**
baz=280
KNMB **Chin-men Tao** **3.09 282** **Pn** **04 18 31.8 -0.5**
KNMB **Chin-men Tao** **3.09 282** P **Pn** **04 18 32.2 -0.1**
baz=281
KNMB S **Sn** **04 19 05.4 -2.6**
baz=281
LYJJ **Jianjiangzhen** **3.21 327** P **Pn** **04 18 33.6 -0.4**
baz=314
LYJJ S **Sn** **04 19 09.7 -1.3**
baz=314
MHZQ **Yeshan** **3.31 313** P **Pn** **04 18 34.7 -0.5**
baz=311
MHZQ S **Sn** **04 19 11.3 -1.9**
baz=311
JIRB **Irabujima** **3.31 72** *e*S **Sn** **04 19 13.3 0.0**
XPSS **Dashiqiu** **3.36 336** P **Pn** **04 18 35.5 -0.4**
baz=341
XPSS *e*S **Sn** **04 19 11.4 -3.1**
baz=341
JIKM **Ikemajima** **3.40 71** *e*P **Pn** **04 18 37.8 +1.3**
JIKM *e*S **Sn** **04 19 17.5 +1.9**
JMJ2 **Miyako jima3** **3.42 74** *e*S **Sn** **04 19 18.7 +2.6**
JOGS **Gusukube** **3.49 74** *e*P **Pn** **04 18 39.5 +1.7**
JOGS *e*S **Sn** **04 19 18.3 +0.4**
ZPLA **Ao Xicun** **3.62 272** P **Pn** **04 18 39.8 +0.3**
baz=282
ZPLA S **Sn** **04 19 18.4 -2.7**
baz=282
DSXP **Dongshan** **3.92 269** P **Pn** **04 18 43.8 +0.1**
baz=279
DSXP S **Sn** **04 19 25.7 -2.8**
baz=279
SXFK **Yanhouchang** **4.47 305** P **Pn** **04 18 50.9 -0.4**
baz=302
SXFK S **Sn** **04 19 39.4 -2.7**
baz=302
JOW **Kunigami** **6.64 62** Pn **Pn** **04 19 20.6 -0.4**
JOW **Kunigami** **6.64 62** P **Pn** **04 19 20.1 -1.0**
comp=N,4.0nm,0.3s,baz=120,slow=19,SNR=15
JOW S **Sn** **04 20 32.9 -2.5**
comp=N,8.9nm,0.3s,baz=114,slow=21,SNR=1.7
comp=N,12nm,0.2s
HKPS **Hong Kong Po S** **7.14 259** Pn **Pn** **04 19 28.0 +0.1**
NJ2 **Nanjing** **8.55 343** *e*P **Pn** **04 19 48.7 +1.5**
NJ2 pmax pmax
comp=N,12nm,0.7s
JMZ **Minamidaito 2** **8.86 75** Pn **Pn** **04 19 49.4 -2.1**
WHN **Wuhan** **9.34 317** ⇑P **Pn** **04 19 57.9 -0.1**
WHN pmax pmax
comp=N,52nm,0.6s
QIZ **Qiongzhong** **12.04 249** P **Pn** **04 20 35.6 +0.6**
QIZ S **Sn** **04 22 47.8 -0.2**
QIZ LR LR
comp=N,130nm,10.9s
QIZ LR LR
comp=N,120nm,14.3s
QIZ LR LR
comp=N,160nm,23.6s
ENH **Enshi** **12.62 303** Pn **Pn** **04 20 43.1 +0.2**
TIA **Tai'an** **12.94 343** *e*P **Pn** **04 20 46.6 -0.6**
TIA pmax pmax
comp=N,2.0nm,0.4s
KSRS **Korea Array** **14.57 20** P Pn 04 21 02.1 -7.2
comp=N,0.4nm,0.4s,baz=61,slow=24,SNR=3.4
KSRS LR LR 04 28 10.6
comp=N,41nm,18.4s,baz=140,slow=43
HNS **HongShan** **14.78 338** ⇑P **P** **04 21 19.9 +2.7**
HNS pmax pmax
comp=Z,17nm,0.9s
XAN **Xi'an** **15.10 315** P **P** **04 21 20.7 -0.1**
XAN pmax pmax
comp=Z,7.0nm,0.7s
BJT **Baijiatuan** **16.79 345** P **P** **04 21 39.6 +0.2**
BJI **Beijing** **16.80 345** P **P** **04 21 41.2 +1.6**
BJI pmax pmax
comp=Z,3.0nm,0.7s
DAV **Davao City (W)** **17.09 167** LR LR 04 28 19.7
comp=Z,68nm,18.1s,baz=332,slow=37
PZH **PanZhiHua** **18.26 282** P **Pn** **04 21 58.7 +2.5**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,4.9s
HHC **Hu-ho-hao-te** **18.97 336** *e*P **Pn** **04 22 06.4 +1.8**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax

comp=Z,67nm,4.7s
PHRA **Phrae** **20.72 259** P **P** **04 22 22.7 0.0**
CMAR **Chiang Mai Arr** **21.89 260** P **P** **04 22 37.0 +1.7**
CMAR **Chiang Mai Arr** **21.89 260** P **P** **04 22 36.8 +1.5**
comp=Z,1.7nm,0.3s,baz=56,slow=8.1,SNR=6.4
CMAR LR LR 04 31 09.4
comp=Z,45nm,21.4s,baz=60,slow=36
comp=Z,1.7nm,0.3s
TOLI2 **Tolitoli** **22.62 182** P **P** **04 22 41.9 -1.2**
GUMO **Guam** **24.16 111** LR LR 04 31 55.6
comp=Z,14nm,19.5s,baz=228,slow=35
KSM **Kuching** **24.84 208** P **P** **04 23 03.6 -0.6**
KSM IAmb IAmb 04 23 05.9
comp=Z,24nm,1.3s
GOMU **GeErMu** **26.24 304** P **P** **04 23 18.3 +1.0**
GOMU pP pP 04 23 24.1 -5.4
GOMU pmax pmax
comp=Z,7.0nm,0.9s
SONM **Songino Array** **26.86 337** P **P** **04 23 23.1 +0.7**
SONM **Songino Array** **26.86 337** P **P** **04 23 21.8 -0.7**
comp=Z,1.2nm,0.6s,baz=160,slow=9.0,SNR=2.6
SONM LR LR 04 34 44.2
comp=Z,57nm,19.7s,baz=242,slow=38
comp=Z,1.2nm,0.6s
SHL **Shillong** **27.12 280** P **P** **04 23 25.3 +0.2**
LSA **Lhasa** **27.85 289** P **P** **04 23 31.5 -0.5**
LSA IAmb IAmb 04 23 37.7
comp=Z,11nm,0.7s
WMQ **Urumqi** **34.23 314** *e*P **P** **04 24 27.2 -0.3**
WMQ pmax pmax
comp=Z,160nm,4.3s
MK31 **Makanchi Array** **38.91 316** P **P** **04 25 07.1 -0.2**
MKAR **Makanchi Array** **38.91 316** P **P** **04 25 07.2 -0.1**
MKAR **Makanchi Array** **38.91 316** P **P** **04 25 07.5 +0.2**
comp=Z,1.5nm,0.7s,baz=106,slow=10.0,SNR=16
comp=Z,1.5nm,0.7s
MAKZ **Makanchi** **39.11 316** P **P** **04 25 09.8 +0.8**
ZALV **Zalesovo Beam** **40.78 327** P **P** **04 25 21.7 -1.0**
ZALV **Zalesovo Beam** **40.78 327** P **P** **04 25 22.0 -0.7**
comp=Z,1.7nm,0.4s,baz=117,slow=7.9,SNR=4.6
comp=Z,1.7nm,0.4s
H11N1 **WAKE ISLAND Hy** **42.03 87** T T 05 10 58.4
baz=283,slow=75,SNR=12
H11N2 **WAKE ISLAND Hy** **42.03 87** T T 05 10 56.5
baz=283,slow=75,SNR=14
H11N3 **WAKE ISLAND Hy** **42.04 87** T T 05 10 57.6
baz=283,slow=75,SNR=10
H11S3 **WAKE ISLAND Hy** **42.15 88** T T 05 11 00.8
baz=284,slow=75,SNR=12
H11S1 **WAKE ISLAND Hy** **42.16 88** T T 05 10 56.1
baz=284,slow=75,SNR=11
H11S2 **WAKE ISLAND Hy** **42.17 88** T T 05 11 03.6
baz=284,slow=75,SNR=10
KURBB **Kurchatov Arra** **42.67 320** P **P** **04 25 38.7 +0.5**
comp=Z,0.9nm,0.6s,baz=107,slow=9.7,SNR=8.4
comp=Z,0.9nm,0.6s
WB0 **Warramunga Arr** **45.08 163** P **P** **04 25 56.3 -1.5**
WB0 IAmb IAmb 04 26 10.4
comp=Z,9.5nm,1.2s
PSA00 **Pilbara Seismi** **45.19 182** P **P** **04 25 56.8 -1.8**
WRA **Warramunga Arr** **45.24 163** P **P** **04 25 57.7 -1.3**
comp=Z,2.1nm,0.8s,baz=345,slow=8.6,SNR=5.6
comp=Z,2.1nm,0.8s
WB2 **Warramunga Arr** **45.24 163** P **P** **04 25 57.8 -1.3**
WB2 IAmb IAmb 04 26 21.6
comp=Z,16nm,1.4s
WR0 **Warramunga Arr** **45.31 163** P **P** **04 25 58.4 -1.2**
WR0 IAmb IAmb 04 26 16.2
comp=Z,12nm,1.4s
KKAR **Karatay Array** **46.05 308** P **P** **04 26 04.8 -0.6**
BVAR **Borovoye Array** **48.23 321** P **P** **04 26 22.1 -0.1**
comp=Z,1.0nm,0.5s,baz=101,slow=7.9,SNR=3.5
comp=Z,1.0nm,0.5s
ASAR **Alice Springs** **48.70 165** P **P** **04 26 25.0 -1.0**
ASAR **Alice Springs** **48.70 165** P **P** **04 26 25.3 -0.8**
comp=Z,0.9nm,0.5s,baz=340,slow=7.0,SNR=11
comp=Z,0.9nm,0.5s
CTAO **Charters Tower** **49.80 149** P **P** **04 26 35.4 +0.9**
ABKAR **Akbulak array** **54.02 314** P **P** **04 27 05.7 +0.1**
STKA **Stephens Creek** **58.59 160** P **P** **04 27 37.5 -0.7**
STKA **Stephens Creek** **58.59 160** P **P** **04 27 37.6 -0.7**
comp=Z,1.5nm,0.4s,baz=334,slow=6.5,SNR=5.3
comp=Z,1.5nm,0.4s
K15K **Wolf Creek Mou** **63.03 31** P **P** **04 28 09.2 +1.1**
F17K **Baldwin Pennin** **63.21 26** P **P** **04 28 10.1 +0.8**
C18K **Utukok River** **63.32 24** P **P** **04 28 10.4 +0.4**
E18K **Tukpahlearik C** **63.49 25** P **P** **04 28 11.1 -0.1**
C19K **Lookout Ridge** **63.92 23** P **P** **04 28 13.7 -0.3**
C19K IAmb IAmb 04 28 24.1
comp=Z,7.3nm,1.2s
J17K **VABM Dome** **64.14 29** P **P** **04 28 14.6 -0.9**
D19K **Kuna River** **64.45 24** P **P** **04 28 17.6 +0.2**
D19K IAmb IAmb 04 28 18.4
comp=Z,4.5nm,0.9s
B20K **Meade River** **64.78 22** P **P** **04 28 19.6 +0.1**
E19K **Redstone River** **64.80 25** P **P** **04 28 19.3 -0.4**
H19K **Roundabout Mou** **65.19 27** P **P** **04 28 23.6 +1.4**
H19K IAmb IAmb 04 28 24.9
comp=Z,3.8nm,0.7s
F20K **Avaraart Lake** **65.40 25** P **P** **04 28 24.3 +0.7**
F20K IAmb IAmb 04 28 31.2
comp=Z,5.3nm,1.4s
B21K **Ikpikpuk River** **65.67 22** P **P** **04 28 24.9 -0.5**
B21K IAmb IAmb 04 28 31.9
comp=Z,3.2nm,0.8s
B22K **Teshekpuk Lake** **66.04 22** P **P** **04 28 27.9 +0.3**
L19K **White Mountain** **66.16 31** P **P** **04 28 29.4 +0.7**
L19K IAmb IAmb 04 29 08.5
comp=Z,9.2nm,1.4s
J20K **Nowinta River** **66.27 28** P **P** **04 28 30.5 +1.2**
J20K IAmb IAmb 04 28 32.4
comp=Z,4.8nm,0.9s
K20K **Telida** **66.39 29** P **P** **04 28 30.6 +0.5**
K20K IAmb IAmb 04 28 32.6
comp=Z,4.2nm,0.8s
M19K **Big River Lodg** **66.41 31** P **P** **04 28 31.1 +0.9**
D22K **Ayikyak River** **66.41 23** P **P** **04 28 30.7 +0.6**
D22K IAmb IAmb 04 28 39.0
comp=Z,9.3nm,1.4s
H21K **Melozitna Rive** **66.69 27** P **P** **04 28 33.1 +1.2**
H21K IAmb IAmb 04 28 34.4
comp=Z,4.6nm,0.7s
E22K **Anaktuvuk Pass** **66.80 24** P **P** **04 28 33.1 +0.5**
E22K IAmb IAmb 04 28 39.1
comp=Z,9.9nm,1.4s
M20K **Styx River** **67.00 31** P **P** **04 28 35.1 +1.0**
M20K IAmb IAmb 04 28 38.5
comp=Z,6.0nm,1.1s
C23K **Itkillik River** **67.05 22** P **P** **04 28 34.2 +0.1**
C23K IAmb IAmb 04 28 41.3
comp=Z,8.0nm,1.4s
CAST **Castle Rocks** **67.27 29** P **P** **04 28 36.7 +1.0**
CAST IAmb IAmb 04 28 38.0
comp=Z,4.5nm,0.9s
TOLK **Toolik Lake Re** **67.57 23** P **P** **04 28 37.6 +0.1**
TOLK IAmb IAmb 04 28 39.1
comp=Z,7.3nm,1.4s
BPAW **Bear Paw Mtn.** **67.66 28** P **P** **04 28 38.7 +0.6**
BPAW IAmb IAmb 04 29 13.7
comp=Z,6.5nm,1.3s
G23K **Bananza Creek** **67.67 25** P **P** **04 28 38.7 +0.5**
G23K IAmb IAmb 04 28 40.2
comp=Z,3.2nm,0.9s
D24K **Happy Valley** **67.76 23** P **P** **04 28 38.6 -0.1**
H23K **Yukon River** **68.00 26** P **P** **04 28 41.6 +1.4**
H23K IAmb IAmb 04 28 43.2
comp=Z,5.4nm,0.8s
E24K **Your Creek** **68.05 24** P **P** **04 28 41.3 +0.8**
E24K IAmb IAmb 04 28 42.8
comp=Z,5.2nm,1.1s
TRF **Thorofare Moun** **68.07 29** P **P** **04 28 41.3 +0.4**
SUA **Susitna One** **68.19 31** P **P** **04 28 41.6 0.0**
F24K **Squaw Lake** **68.37 24** P **P** **04 28 43.2 +0.7**
F24K IAmb IAmb 04 28 44.8
comp=Z,3.8nm,0.8s
H24K **Noodor Dome** **68.67 26** P **P** **04 28 45.5 +1.0**
MDM **Murphy Dome** **68.69 27** P **P** **04 28 44.9 +0.3**
MDM IAmb IAmb 04 28 46.6
comp=Z,4.8nm,0.8s
RND **Reindeer** **68.71 29** P **P** **04 28 43.7 -1.1**
RND IAmb IAmb 04 28 46.3
comp=Z,6.9nm,0.9s
ILAR **Eielson Array** **69.29 27** P **P** **04 28 49.3 +1.1**
ILAR **Eielson Array** **69.29 27** P **P** **04 28 48.5 +0.2**
comp=Z,0.7nm,0.8s,baz=299,slow=8.7,SNR=12
comp=Z,0.7nm,0.8s

FYU	**Fort Yukon**	**69.58**	**25**	P	**P**	**04 28 51.9**	**+2.0**
BMAR	**Burnt Mountain**	**69.63**	**24**	P	**P**	**04 28 51.4**	**+1.0**
SCM	**Sheep Creek Mo**	**69.72**	**30**	P	**P**	**04 28 51.0**	**-0.1**
J25K	**Salcha River,**	**69.96**	**27**	P	**P**	**04 28 51.4**	**-1.1**
M24K	**Tolsona, Glenn**	**70.19**	**30**	P	**P**	**04 28 55.0**	**+1.1**
KLU	**Klutina**	**70.45**	**31**	P	**P**	**04 28 55.8**	**+0.2**
KLU				IAmb	IAmb	04 29 29.2	
	comp=Z,12nm,1.3s						
D27M	**Malcolm River**	**70.49**	**22**	P	**P**	**04 28 56.4**	**+0.8**
D27M				IAmb	IAmb	04 29 26.2	
	comp=Z,7.4nm,1.4s						
I26K	**Coal Creek Min**	**70.70**	**26**	P	**P**	**04 28 56.6**	**-0.3**
J26L	**Joseph Creek**	**70.74**	**27**	P	**P**	**04 28 56.6**	**-0.7**
J26L				IAmb	IAmb	04 28 57.8	
	comp=Z,3.3nm,0.7s						
E28M	**Babbage River**	**71.16**	**23**	P	**P**	**04 28 59.5**	**-0.1**
F28M	**Old Crow**	**71.33**	**24**	P	**P**	**04 28 59.2**	**-1.5**
F28M				IAmb	IAmb	04 29 02.4	
	comp=Z,3.6nm,0.8s						
GLB	**Gilahina Butte**	**71.44**	**30**	P	**P**	**04 29 01.6**	**+0.1**
GLB				IAmb	IAmb	04 29 06.7	
	comp=Z,8.3nm,1.2s						
K27K	**Chicken**	**71.50**	**27**	P	**P**	**04 29 03.2**	**+1.5**
M26K	**Nabesna, AK**	**71.55**	**29**	P	**P**	**04 29 02.7**	**+0.5**
EGAK	**Eagle**	**71.67**	**27**	P	**P**	**04 29 02.6**	**-0.2**
EGAK				IAmb	IAmb	04 29 03.9	
	comp=Z,4.0nm,0.8s						
E29M	**Blow River**	**71.80**	**23**	P	**P**	**04 29 04.5**	**+1.0**
BCAR	**Beaver Creek A**	**71.90**	**28**	P	**P**	**04 29 04.4**	**+0.1**
I28M	**Miner Creek**	**71.96**	**26**	P	**P**	**04 29 05.6**	**+0.9**
I28M				IAmb	IAmb	04 29 06.3	
	comp=Z,3.6nm,0.8s						
FINES	**FINESS Array B**	**71.97**	**330**	P	**P**	**04 29 03.2**	**-1.4**
FINES	**FINESS Array B**	**71.97**	**330**	P	**P**	**04 29 03.6**	**-1.0**
	comp=Z,0.4nm,0.4s,baz=54,slow=7.1,SNR=6.7						
FINES				LR	LR	05 05 52.0	
	comp=Z,27nm,18.8s,baz=32,slow=40						
	comp=Z,0.4nm,0.4s						
G29M	**Pine Creek**	**72.23**	**24**	P	**P**	**04 29 06.5**	**+0.4**
H29M	**Whitestone**	**72.33**	**25**	P	**P**	**04 29 07.2**	**+0.5**
H29M				IAmb	IAmb	04 29 08.0	
	comp=Z,3.6nm,0.8s						
CTGM	**Chitina Glacie**	**72.73**	**30**	P	**P**	**04 29 09.9**	**+0.5**
G30M	**tAoh Zraii Nji**	**72.88**	**24**	P	**P**	**04 29 09.0**	**-1.0**
G30M				IAmb	IAmb	04 29 10.9	
	comp=Z,6.7nm,1.1s						
LOGN	**Logan Glacier**	**72.93**	**31**	P	**P**	**04 29 10.9**	**+0.4**
INK	**Inuvik**	**73.35**	**22**	P	**P**	**04 29 12.5**	**-0.2**
L29M	**L29M**	**73.46**	**28**	P	**P**	**04 29 14.2**	**+0.7**
L29M				IAmb	IAmb	04 29 15.6	
	comp=Z,5.2nm,0.7s						
J30M	**Hart River**	**73.69**	**26**	P	**P**	**04 29 14.3**	**-0.6**
BRTR	**Keskin Array B**	**73.75**	**307**	P	**P**	**04 29 14.6**	**-1.2**
BRTR	**Keskin Array B**	**73.75**	**307**	P	**P**	**04 29 15.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=117,slow=4.1,SNR=5.7						
	comp=Z,0.7nm,0.5s						
BALJ	**Balqa**	**74.58**	**299**	P	**P**	**04 29 20.7**	**+0.1**
BALJ				IAmb	IAmb	04 29 33.4	
	comp=Z,10.0nm,1.0s						
M31M	**Drury Creek, Y**	**75.40**	**28**	P	**P**	**04 29 24.1**	**-0.7**
FARO	**Faro, Yukon**	**75.84**	**28**	P	**P**	**04 29 27.6**	**+0.3**
FARO				IAmb	IAmb	04 29 29.0	
	comp=Z,4.9nm,1.0s						
C36M	**Paulatuk**	**75.96**	**19**	P	**P**	**04 29 27.0**	**-0.7**
C36M				IAmb	IAmb	04 29 27.7	
	comp=Z,2.7nm,0.6s						
HFS	**Hagfors**	**78.09**	**331**	P	**P**	**04 29 38.8**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=321,slow=0.9,SNR=1.2						
HFS				LR	LR	05 05 38.0	
	comp=Z,64nm,18.7s,baz=31,slow=37						
	comp=Z,0.2nm,0.3s						
NOA	**NORSAR Array B**	**78.74**	**332**	LR	LR	05 08 06.9	
	comp=Z,21nm,19.9s,baz=355,slow=38						
YKA	**Yellowknife Ar**	**83.09**	**23**	P	**P**	**04 30 06.0**	**-0.6**
YKA	**Yellowknife Ar**	**83.09**	**23**	P	**P**	**04 30 06.2**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=313,slow=5.6,SNR=37						
	comp=Z,1.7nm,0.7s						

IDC ***12*** *04:31:37.5±0.5, 81°.67N×115°.53W, h0km, mb4.0/21, mbtmp4.0/24, ML4.0/3, MS3.2/8, Error ellipse: s-maj=17.9km s-min=11.4km az=87.0*
OTT ***12*** *04:31:37.4±0.6, 81°.70N×114°.64W, h18km, ML4.7/8, 388km northwest from Isachsen, Nu*
NEIC ***12*** *04:31:38±2.6, 81°.61N±0°.07×114°.6W±0°.5, h10km±1km, mb4.2/85, ML4.7(OTT), Error ellipse: s-maj=13.4km s-min=10.9km az=309.0*

ISC 12 04:31:37.8±0.3, 81°.49N±0°.04×115°.68W±0°.05, h10km, n287, σ2$ 28/274, mb4.2/42, MS3.2/6, Arctic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RES	**Resolute Bay**	**7.99**	**137**	Pn	**Pn**	**04 33 32.6**	**-1.1**
	1.0nm,0.3s,baz=329,slow=10,SNR=54						
RES				Sn	Sn	04 34 57.3	-6.7
	5.0nm,0.3s,baz=263,slow=20,SNR=12						
RES				LR	LR	04 37 30.6	
	comp=Z,95nm,18.5s,baz=27,slow=44						
RES	**Resolute Bay**	**7.99**	**137**	PN	**Pn**	**04 33 32.6**	**-1.1**
RES	**Resolute Bay**	**7.99**	**137**	SN	**Sn**	**04 34 57.7**	**-6.2**
RES	**Resolute Bay**	**7.99**	**137**	Trac		04 35 02.1	
	comp=Z,10.0nm,0.2s						
RES	**Resolute Bay**	**7.99**	**137**	*i* P	**Pn**	**04 33 34.1**	**+0.4**
RES				*i* S	Sn	04 34 54.0	-10
A36M	**Sachs Harbour**	**9.78**	**198**		**Pn**	**04 33 59.0**	**+0.8**
A36M	**Sachs Harbour**	**9.78**	**198**	Sn	**Sn**	**04 35 44.9**	**-3.0**
A36M	**Sachs Harbour**	**9.78**	**198**	P	**Pn**	**04 33 59.1**	**+0.9**
	baz=8.8,SNR=36						
A36M				S	Sn	04 35 40.2	-7.7
	baz=8.8						
A36M	**Sachs Harbour**	**9.78**	**198**	PN	**Pn**	**04 33 59.2**	**+0.9**
A36M	**Sachs Harbour**	**9.78**	**198**	SN	**Sn**	**04 35 44.9**	**-3.0**
A36M				Trac		04 35 49.0	
	comp=Z,28nm,0.5s						
C36M	**Paulatuk**	**12.37**	**194**		**Pn**	**04 34 34.5**	**+0.9**
C36M	**Paulatuk**	**12.37**	**194**	Sn	**Sn**	**04 36 47.5**	**-3.7**
C36M	**Paulatuk**	**12.37**	**194**	P	**Pn**	**04 34 34.7**	**+1.1**
	baz=6.2,SNR=24						
C36M				S	Sn	04 36 45.2	-6.0
	baz=6.2						
C36M	**Paulatuk**	**12.37**	**194**	PN	**Pn**	**04 34 35.2**	**+1.7**
C36M	**Paulatuk**	**12.37**	**194**	SN	**Sn**	**04 36 46.3**	**-4.8**
C36M				SN		04 36 47.5	
C36M	**Paulatuk**	**12.37**	**194**	Trac		04 37 09.4	
	comp=Z,35nm,0.7s						
CB31	**Cambridge Bay**	**12.68**	**163**	Pn	**Pn**	**04 34 36.8**	**-1.0**
CB31	**Cambridge Bay**	**12.68**	**163**	PN	**Pn**	**04 34 36.8**	**-1.0**
CB31	**Cambridge Bay**	**12.68**	**163**	Trac		04 36 56.7	
	comp=Z,52nm,0.6s						
KULLO	**Kullorsuaq**	**13.18**	**89**	Pn	**Pn**	**04 34 41.4**	**-3.3**
KULLO	**Kullorsuaq**	**13.18**	**89**	PN	**Pn**	**04 34 41.4**	**-3.3**
KULLO	**Kullorsuaq**	**13.18**	**89**	SN	Sn	04 36 54.5	-17
KULLO	**Kullorsuaq**	**13.18**	**89**	Trac		04 37 09.0	
	comp=Z,4.6nm,0.3s						
KULLO	**Kullorsuaq**	**13.18**	**89**	*e*S	Sn	04 36 52.8	-18
D28M	**Stokes Point**	**13.33**	**217**	P	**Pn**	**04 34 47.3**	**+0.6**
	baz=15						
D28M				S	Sn	04 37 06.7	-7.9
	baz=15						
C26K	**Camden Bay**	**13.38**	**227**	P	**Pn**	**04 34 47.2**	**-0.1**
	baz=18,SNR=30						
C26K				S	Sn	04 37 08.6	-7.2
	baz=18						
A21K	**Barrow**	**13.50**	**245**	P	**Pn**	**04 34 51.1**	**+2.2**
	baz=24						
A21K				S	Sn	04 37 10.9	-7.9
	baz=24						
C27K	**Jago River**	**13.53**	**225**	P	**Pn**	**04 34 48.9**	**-0.5**
	baz=17,SNR=7.2						
C27K				S	Sn	04 37 11.3	-8.1
	baz=17						
A22K	**Sinclair Lake**	**13.57**	**242**	P	**Pn**	**04 34 52.0**	**+2.0**
	baz=23						
A22K				S	Sn	04 37 13.6	-7.0
	baz=23						
D27M	**Malcolm River**	**13.62**	**220**		**Pn**	**04 34 50.6**	**-0.1**
D27M	**Malcolm River**	**13.62**	**220**	P	**Pn**	**04 34 50.8**	**+0.1**
	baz=16,SNR=10						
D27M				S	Sn	04 37 13.8	-8.1
	baz=16						
INK	**Inuvik**	**13.91**	**208**		**Pn**	**04 34 54.2**	**-0.4**
INK	**Inuvik**	**13.91**	**208**	P	**Pn**	**04 34 54.3**	**-0.3**
	baz=11,SNR=9.3						
INK				S	Sn	04 37 18.6	-10
	baz=11						
INK	**Inuvik**	**13.91**	**208**	Pn	**Pn**	**04 34 54.6**	**+0.1**
	0.9nm,0.3s,baz=8.5,slow=17,SNR=37						
INK				Sn	Sn	04 37 20.3	-8.5
	1.4nm,0.3s,baz=299,slow=24,SNR=9.0						
INK				LR	LR	04 43 03.0	
	comp=Z,37nm,18.2s,baz=271,slow=49						
	2.3nm,0.2s						
INK	**Inuvik**	**13.91**	**208**	PN	**Pn**	**04 34 55.0**	**+0.5**
INK	**Inuvik**	**13.91**	**208**	SN	Sn	04 37 20.5	-8.3
INK				Trac		04 37 29.3	
	comp=Z,23nm,0.7s						
B22K	**Teshekpuk Lake**	**13.99**	**239**	Pn	**Pn**	**04 34 55.8**	**+0.2**
B22K	**Teshekpuk Lake**	**13.99**	**239**	P	**Pn**	**04 34 57.2**	**+1.6**
	baz=22						
B22K				S	**Sn**	**04 37 24.8**	**-5.9**
	baz=22						
C24K	**Franklin Bluff**	**13.99**	**232**	S	Sn	04 37 23.8	-7.0
	baz=19						
D25K	**Kavik River**	**14.11**	**228**		**Pn**	**04 34 57.2**	**-0.1**
D25K	**Kavik River**	**14.11**	**228**	P	**Pn**	**04 34 58.0**	**+0.7**
	baz=18						
D25K				S	Sn	04 37 26.1	-7.5
	baz=18						
E28M	**Babbage River**	**14.11**	**218**	Pn	**Pn**	**04 34 57.5**	**+0.2**
E28M	**Babbage River**	**14.11**	**218**	P	**Pn**	**04 34 57.8**	**+0.5**
	baz=14,SNR=142						
E28M				S	Sn	04 37 25.1	-8.5
	baz=14						
C23K	**Itkillik River**	**14.11**	**235**		**Pn**	**04 34 57.6**	**+0.3**
C23K	**Itkillik River**	**14.11**	**235**	P	**Pn**	**04 34 57.6**	**+0.3**
	baz=20						
C23K				S	Sn	04 37 26.5	-7.1
	baz=20						
E29M	**Blow River**	**14.17**	**215**		**Pn**	**04 34 58.0**	**-0.2**
E29M	**Blow River**	**14.17**	**215**	P	**Pn**	**04 34 58.2**	**0.0**
	baz=13,SNR=12						
E29M				S	Sn	04 37 25.8	-9.4
	baz=13						
ILON	**Igloolik, Nuna**	**14.42**	**128**	Pn	**Pn**	**04 34 58.1**	**-3.4**
ILON	**Igloolik, Nuna**	**14.42**	**128**	PN	**Pn**	**04 34 58.1**	**-3.4**
ILON	**Igloolik, Nuna**	**14.42**	**128**	SN	Sn	04 37 29.6	-12
ILON				Trac		04 38 00.5	
	comp=Z,32nm,1.4s						
D24K	**Happy Valley**	**14.54**	**231**		**Pn**	**04 35 02.7**	**-0.6**
D24K	**Happy Valley**	**14.54**	**231**	P	**Pn**	**04 35 02.9**	**-0.3**
	baz=19						
D24K				S	Sn	04 37 36.9	-7.3
	baz=19						
E27K	**Coleen River**	**14.70**	**220**	Pn	**Pn**	**04 35 05.5**	**0.0**
E27K	**Coleen River**	**14.70**	**220**	P	**Pn**	**04 35 05.5**	**0.0**
	baz=15,SNR=17						
E27K				S	Sn	04 37 40.0	-8.2
	baz=15						
F30M	**Barrier River**	**14.76**	**211**	P	**Pn**	**04 35 05.4**	**-0.9**
	baz=12,SNR=7.7						
F30M				S	Sn	04 37 40.6	-9.0
	baz=12						
F31M	**Tsiigehtchic**	**14.78**	**208**	Pn	**Pn**	**04 35 05.3**	**-1.2**
F31M	**Tsiigehtchic**	**14.78**	**208**	P	**Pn**	**04 35 06.0**	**-0.5**
	baz=11,SNR=5.2						
F31M				S	Sn	04 37 40.8	-9.2
	baz=11						
B20K	**Meade River**	**14.78**	**243**	Pn	**Pn**	**04 35 08.0**	**+1.5**
B20K	**Meade River**	**14.78**	**243**	P	**Pn**	**04 35 09.0**	**+2.5**
	baz=22						
B21K	**Ikpikpuk River**	**14.81**	**239**	Pn	**Pn**	**04 35 07.3**	**+0.4**
B21K	**Ikpikpuk River**	**14.81**	**239**	P	**Pn**	**04 35 08.3**	**+1.5**
	baz=21						
B21K				S	**Sn**	**04 37 44.1**	**-6.5**
	baz=21						
D23K	**Nanushuk River**	**14.94**	**233**	P	**Pn**	**04 35 09.3**	**+0.6**
	baz=19						
D23K				S	**Sn**	**04 37 47.1**	**-6.7**
	baz=19						
F28M	**Old Crow**	**15.10**	**217**		**Pn**	**04 35 09.6**	**-1.2**
F28M	**Old Crow**	**15.10**	**217**	P	**Pn**	**04 35 10.0**	**-0.9**
	baz=14,SNR=17						
F28M				S	Sn	04 37 48.8	-9.0
	baz=14						
TOLK	**Toolik Lake Re**	**15.12**	**232**	Pn	**Pn**	**04 35 12.0**	**+0.9**
TOLK				IAmb	IAmb	04 35 32.6	
	comp=Z,19nm,1.1s						
TOLK	**Toolik Lake Re**	**15.12**	**232**	P	**Pn**	**04 35 11.3**	**+0.3**
	baz=18						
TOLK				S	**Sn**	**04 37 51.2**	**-7.0**
	baz=18						
E25K	**Arctic Village**	**15.17**	**226**	Pn	**Pn**	**04 35 11.0**	**-0.7**
E25K				IAmb	IAmb	04 35 34.4	
	comp=Z,20nm,0.9s						
E25K	**Arctic Village**	**15.17**	**226**	P	**Pn**	**04 35 11.6**	**-0.1**
	baz=16						
E25K				S	Sn	04 37 51.6	-7.9
	baz=16						
D22K	**Ayikyak River**	**15.26**	**236**	Pn	**Pn**	**04 35 13.6**	**+0.6**
D22K	**Ayikyak River**	**15.26**	**236**	P	**Pn**	**04 35 13.9**	**+0.9**
	baz=20						
D22K				S	**Sn**	**04 37 53.8**	**-8.0**
	baz=20						
C21K	**Kniveblade Rid**	**15.27**	**239**	P	**Pn**	**04 35 14.4**	**+1.4**
	baz=20						
C21K				S	**Sn**	**04 37 55.8**	**-6.0**
	baz=20						
G31M	**Satah River**	**15.33**	**208**	Pn	**Pn**	**04 35 13.2**	**-0.6**
G31M				IAmb	IAmb	04 35 28.2	
	comp=Z,14nm,0.8s						
G31M	**Satah River**	**15.33**	**208**	P	**Pn**	**04 35 13.5**	**-0.3**
	baz=10,SNR=14						
G31M				S	Sn	04 37 53.5	-10
	baz=10						
G30M	**tAoh Zraii Nji**	**15.42**	**211**	Pn	**Pn**	**04 35 14.2**	**-0.8**
G30M				IAmb	IAmb	04 35 25.3	
	comp=Z,8.3nm,0.8s						
G30M	**tAoh Zraii Nji**	**15.42**	**211**	P	**Pn**	**04 35 14.4**	**-0.6**
	baz=11,SNR=7.5						
G30M				S	Sn	04 37 55.0	-11
	baz=11						
F26K	**Sheenjek River**	**15.43**	**223**	P	**Pn**	**04 35 15.2**	**0.0**
	baz=15						
F26K				S	Sn	04 37 57.6	-8.3
	baz=15						
E24K	**Your Creek**	**15.53**	**229**	Pn	**Pn**	**04 35 15.9**	**-0.6**
E24K				IAmb	IAmb	04 35 38.1	
	comp=Z,9.6nm,0.8s						
E24K	**Your Creek**	**15.53**	**229**	P	**Pn**	**04 35 17.1**	**+0.6**
	baz=17						
E24K				S	**Sn**	**04 38 01.2**	**-7.2**
	baz=17						
G29M	**Pine Creek**	**15.63**	**214**	Pn	**Pn**	**04 35 17.8**	**0.0**
G29M				IAmb	IAmb	04 35 38.6	
	comp=Z,20nm,0.9s						
G29M	**Pine Creek**	**15.63**	**214**	P	**Pn**	**04 35 17.7**	**0.0**
	baz=12						
G29M				S	Sn	04 38 01.9	-8.8
	baz=12						
F25K	**Christian Rive**	**15.69**	**225**	P	**Pn**	**04 35 19.0**	**+0.5**
	baz=16						
F25K				S	Sn	04 38 03.8	-8.3
	baz=16						
BMAR	**Burnt Mountain**	**15.73**	**223**	Pn	**Pn**	**04 35 18.9**	**-0.2**
E21K	**Killik River**	**15.84**	**237**	S	**Sn**	**04 38 08.0**	**-7.8**
	baz=19						
E22K	**Anaktuvuk Pass**	**15.87**	**234**	Pn	**Pn**	**04 35 21.4**	**+0.6**
E22K	**Anaktuvuk Pass**	**15.87**	**234**	P	**Pn**	**04 35 21.8**	**+1.0**
	baz=18						
E22K				S	**Sn**	**04 38 08.6**	**-7.8**
	baz=18						
D20K	**Etivluk River**	**15.92**	**241**	P	**Pn**	**04 35 23.3**	**+1.8**
	baz=20						
D20K				S	**Sn**	**04 38 09.6**	**-8.1**
	baz=20						
C19K	**Lookout Ridge**	**15.95**	**245**		**P**	**04 35 24.6**	**-0.9**
C19K				IAmb	IAmb	04 35 33.6	
	comp=Z,15nm,1.0s						
F24K	**Squaw Lake**	**16.00**	**228**	Pn	**Pn**	**04 35 22.3**	**-0.2**
F24K	**Squaw Lake**	**16.00**	**228**	P	**Pn**	**04 35 22.9**	**+0.3**
	baz=16						
F24K				S	**Sn**	**04 38 12.3**	**-7.4**
	baz=16						
B18K	**Kokolik River**	**16.01**	**248**	P	**Pn**	**04 35 24.6**	**+2.0**
	baz=22						
G27K	**Doyon Strip**	**16.05**	**219**	Pn	**Pn**	**04 35 23.2**	**0.0**
G27K	**Doyon Strip**	**16.05**	**219**	P	**Pn**	**04 35 23.2**	**0.0**
	baz=14						
G27K				S	Sn	04 38 11.5	-9.4
	baz=14						
EPYK	**Eagle Plains**	**16.06**	**212**	Pn	**Pn**	**04 35 22.8**	**-0.5**
EPYK				IAmb	IAmb	04 35 34.0	
	comp=Z,16nm,0.8s						
EPYK	**Eagle Plains**	**16.06**	**212**	P	**Pn**	**04 35 23.2**	**-0.1**
	baz=11,SNR=7.6						
EPYK				S	Sn	04 38 11.8	-9.3
	baz=11						
EPYK	**Eagle Plains**	**16.06**	**212**	PN	**Pn**	**04 35 24.8**	**+1.4**
EPYK	**Eagle Plains**	**16.06**	**212**	SN	Sn	04 38 12.8	-8.3
EPYK				Trac		04 38 25.1	
	comp=Z,9.8nm,0.2s						
G26K	**Porcupine Rive**	**16.12**	**222**	P	**Pn**	**04 35 24.5**	**+0.5**
	baz=14						
G26K				S	**Sn**	**04 38 15.5**	**-7.0**
	baz=14						
E20K	**Nigu River**	**16.29**	**240**	P	**Pn**	**04 35 28.4**	**+2.0**
	baz=20						
D19K	**Kuna River**	**16.32**	**242**		**Pn**	**04 35 28.5**	**+1.9**
D19K				IAmb	IAmb	04 35 46.8	
	comp=Z,8.7nm,0.7s						
D19K	**Kuna River**	**16.32**	**242**	P	**P**	**04 35 29.2**	**-0.5**
	baz=20						
H29M	**Whitestone**	**16.34**	**214**	Pn	**Pn**	**04 35 27.6**	**+0.7**
H29M				IAmb	IAmb	04 35 44.5	
	comp=Z,17nm,0.8s						
H29M	**Whitestone**	**16.34**	**214**	P	**Pn**	**04 35 27.2**	**+0.3**
	baz=12,SNR=6.8						
H31M	**Peel River**	**16.44**	**208**	Pn	**Pn**	**04 35 28.7**	**+0.5**
H31M				IAmb	IAmb	04 35 47.1	
	comp=Z,22nm,0.9s						
H31M	**Peel River**	**16.44**	**208**	P	**Pn**	**04 35 28.4**	**+0.2**
	baz=9.8,SNR=11						
F22K	**John River**	**16.51**	**234**	P	**Pn**	**04 35 30.3**	**+1.2**
	baz=18						
COLD	**Coldfoot**	**16.54**	**231**	P	**Pn**	**04 35 30.5**	**+1.1**
	baz=17						
C18K	**Utukok River**	**16.59**	**246**	Pn	**Pn**	**04 35 31.1**	**+1.0**
C18K	**Utukok River**	**16.59**	**246**	P	**P**	**04 35 32.2**	**-0.5**
	baz=21						
H27K	**Steamboat Moun**	**16.61**	**218**	P	**Pn**	**04 35 31.1**	**+0.9**
	baz=13,SNR=14						
DAG	**Danmarks Havn**	**16.65**	**53**	*i* P	**Pn**	**04 35 27.0**	**-3.7**
DAG				*e*S	Sn	04 38 15.2	-20
DAG				IAML		04 38 22.8	
	comp=Z,5.6nm,0.8s						
F21K	**Alatna River**	**16.94**	**235**	Pn	**Pn**	**04 35 35.8**	**+1.3**
F21K	**Alatna River**	**16.94**	**235**	P	**Pn**	**04 35 36.5**	**+2.0**
	baz=18						
G23K	**Bananza Creek**	**17.02**	**230**	Pn	**Pn**	**04 35 36.7**	**+1.2**
G23K	**Bananza Creek**	**17.02**	**230**	P	**Pn**	**04 35 36.9**	**+1.4**
	baz=16						
C17K	**DeLong Mountai**	**17.02**	**248**	P	**P**	**04 35 38.9**	**+1.6**
	baz=22						
I30M	**Mount Dempster**	**17.16**	**210**	Pn	**Pn**	**04 35 38.4**	**+1.0**
I30M				IAmb	IAmb	04 35 55.8	
	comp=Z,12nm,0.8s						
I30M	**Mount Dempster**	**17.16**	**210**	P	**Pn**	**04 35 38.1**	**+0.7**
	baz=10						
E19K	**Redstone River**	**17.18**	**240**	Pn	**P**	**04 35 39.5**	**+0.3**
E19K				IAmb	IAmb	04 36 03.7	
	comp=Z,10nm,0.7s						
E19K	**Redstone River**	**17.18**	**240**	P	**P**	**04 35 40.3**	**+1.1**
	baz=19,SNR=6.0						
I27K	**Kandik River**	**17.23**	**218**	P	**Pn**	**04 35 38.9**	**+0.8**
	baz=13						
I28M	**Miner Creek**	**17.23**	**215**	Pn	**Pn**	**04 35 39.6**	**+1.4**
I28M	**Miner Creek**	**17.23**	**215**	P	**Pn**	**04 35 39.4**	**+1.1**
	baz=12						
F20K	**Avaraart Lake**	**17.38**	**238**	Pn	**Pn**	**04 35 40.4**	**+0.5**
F20K	**Avaraart Lake**	**17.38**	**238**	P	**P**	**04 35 42.2**	**+0.9**
	baz=18						
RDOG	**Red Dog Mine**	**17.38**	**247**	P	**P**	**04 35 43.5**	**+2.2**
	baz=21						
C16K	**Lisburne Hills**	**17.51**	**251**	Pn	**P**	**04 35 43.2**	**+0.5**
C16K				IAmb	IAmb	04 36 01.9	
	comp=Z,20nm,1.1s						
C16K	**Lisburne Hills**	**17.51**	**251**	P	**P**	**04 35 45.0**	**+2.3**
	baz=22						
G21K	**Allakaket**	**17.61**	**234**	P	**P**	**04 35 45.0**	**+1.1**
	baz=17						
H24K	**Noodor Dome**	**17.62**	**226**	Pn	**Pn**	**04 35 42.7**	**-0.3**
H24K	**Noodor Dome**	**17.62**	**226**	P	**Pn**	**04 35 44.1**	**+1.1**
	baz=15						
E18K	**Tukpahlearik C**	**17.66**	**244**		**P**	**04 35 47.1**	**+2.7**
E18K	**Tukpahlearik C**	**17.66**	**244**	P	**P**	**04 35 47.0**	**+2.7**
	baz=20						
I26K	**Coal Creek Min**	**17.66**	**220**		**P**	**04 35 45.5**	**+1.1**
I26K	**Coal Creek Min**	**17.66**	**220**	P	**Pn**	**04 35 44.3**	**+0.9**
	baz=13						
SUMG	**Summit**	**17.67**	**75**	Pn	**Pn**	**04 35 39.2**	**-4.7**
D17K	**Noatak River**	**17.74**	**247**	P	**P**	**04 35 47.2**	**+2.0**
	baz=21,SNR=5.6						
J30M	**Hart River**	**17.80**	**210**		**Pn**	**04 35 46.9**	**+1.6**
J30M	**Hart River**	**17.80**	**210**	P	**Pn**	**04 35 46.2**	**+0.9**
	baz=10.0						
H23K	**Yukon River**	**17.82**	**229**		**Pn**	**04 35 47.0**	**+1.6**
H23K	**Yukon River**	**17.82**	**229**	P	**P**	**04 35 47.4**	**+1.3**
	baz=16						
F19K	**Shaleruckik Mo**	**17.85**	**240**	P	**P**	**04 35 49.0**	**+2.6**
	baz=19						
H22K	**Ishtalitna Cre**	**17.96**	**231**	P	**P**	**04 35 49.2**	**+1.4**
	baz=16						
BLKN	**Baker Lake**	**17.98**	**152**	PN	**Pn**	**04 35 47.5**	**+0.1**
BLKN	**Baker Lake**	**17.98**	**152**	SN	Sn	04 38 55.7	-12
BLKN				Trac		04 39 23.1	
	comp=Z,0.3nm,0.0s						
EGAK	**Eagle**	**18.00**	**217**		**Pn**	**04 35 48.2**	**+0.6**
E17K	**Hotham Inlet**	**18.15**	**245**	P	**P**	**04 35 53.0**	**+3.3**
	baz=20						
IMAR	**Indian Mountai**	**18.16**	**234**		**Pn**	**04 35 50.5**	**+1.0**
F18K	**Selawik**	**18.31**	**242**	P	**Pn**	**04 35 54.5**	**+3.1**
	baz=19						
H21K	**Melozitna Rive**	**18.36**	**233**	P	**Pn**	**04 35 53.8**	**+1.8**
H21K	**Melozitna Rive**	**18.36**	**233**

YKAW3 Yellowknife Wh 19.03 178 SN Sn 04 39 22.4 -11
SCRK Sand Creek 19.04 220 Pn **04 36 02.4 +2.0**
SCRK Sand Creek 19.04 220 P Pn **04 36 02.0 +1.5**
baz=12,SNR=5.9
YKA Yellowknife Ar 19.10 178 Pn **04 36 02.5 +1.5**
YKA Yellowknife Ar 19.10 178 P P **04 36 02.1 +1.9**
comp=Z,0.9nm,0.3s,baz=35,slow=21,SNR=56
YKA PcP **PcP 04 40 23.1 -0.6**
comp=Z,3.1nm,0.9s,baz=3.8,slow=1.9,SNR=4.5
comp=Z,2.9nm,0.6s
YKAW1 Yellowknife Wh 19.11 178 Pn Pn **04 36 03.4 +2.2**
YKAW1 Yellowknife Wh 19.11 178 IAmb IAmb 04 36 14.2
comp=Z,9.7nm,1.1s
YKAW1 Yellowknife Wh 19.11 178 PN Pn **04 36 03.4 +2.2**
YKAW1 Yellowknife Wh 19.11 178 SN Sn 04 39 24.4 -11
L29M L29M 19.39 212 Pn **04 36 06.0 +1.4**
L29M IAmb IAmb 04 36 21.8
comp=Z,7.7nm,0.8s
L29M L29M 19.39 212 P P **04 36 04.7 +1.3**
baz=9.9
H18K Honhosa River 19.52 239 P Pn **04 36 06.8 +0.6**
baz=17
BPAW Bear Paw Mtn. 19.65 229 P P **04 36 08.2 +1.9**
baz=15
L27K Beaver Creek, 19.74 216 P Pn **04 36 09.9 +1.1**
baz=11
MCK McKinley 19.78 226 P Pn **04 36 10.0 +0.8**
baz=14,SNR=7.0
FARO Faro, Yukon 19.93 205 P Pn 04 36 13.2 +2.3
baz=7.8
J20K Nowinta River 19.94 233 P Pn 04 36 12.1 +1.1
J20K IAmb IAmb 04 36 30.0
comp=Z,9.3nm,0.9s
J20K Nowinta River 19.94 233 P Pn 04 36 14.9 +3.8
baz=16
M31M Drury Creek, Y 20.02 206 P Pn 04 36 13.0 +1.0
baz=8.1,SNR=10.0
M29M Somme Creek 20.07 212 P P **04 36 12.7 +1.7**
M29M IAmb IAmb 04 36 31.0
comp=Z,7.0nm,0.9s
M29M Somme Creek 20.07 212 P P **04 36 13.0 +2.1**
baz=9.7
PAX Paxson 20.17 221 P Pn 04 36 15.0 +1.1
baz=12
TRF Thorofare Moun 20.21 228 P P **04 36 14.4 +1.9**
baz=14
CAST Castle Rocks 20.44 230 P P **04 36 11.9 -2.9**
CAST IAmb IAmb 04 36 35.0
comp=Z,7.1nm,0.9s
CAST Castle Rocks 20.44 230 P Pn 04 36 19.8 +2.8
baz=14
M26K Nabesna, AK 20.50 218 P Pn 04 36 19.7 +2.1
baz=11
K20K Telida 20.73 232 P Pn 04 36 24.4 +4.1
baz=15
WAT6 Susitna Watana 20.78 224 P Pn 04 36 25.0 +3.9
baz=13
N31M Braeburn, Yuko 20.82 208 P Pn 04 36 24.4 +2.9
baz=8.4
YUK3 Moose Creek 20.89 214 Pn P 04 36 27.4 +7.5
YUK3 Moose Creek 20.89 214 PN P 04 36 27.4 +7.5
SFJD Kangerlussuaq 20.94 94 LR LR 04 44 33.9
comp=Z,53nm,18.8s,baz=314,slow=37
ANM Nome 21.01 247 P P **04 36 24.3 +3.3**
N25K Chitina, Valde 21.43 219 P P **04 36 29.6 +4.0**
baz=11
FRB Frobisher Bay 21.45 117 P P **04 36 28.5 +2.8**
comp=Z,6.3nm,0.8s,baz=350,slow=9.8,SNR=6.9
comp=Z,6.3nm,0.8s
WHY Whitehorse 21.59 206 P P **04 36 29.9 +2.6**
baz=7.8
SML Sawmill 21.60 224 P P **04 36 32.5 +5.1**
SML Sawmill 21.60 224 P P **04 36 28.2 +0.8**
baz=12
J16K Anvik River 21.61 240 P P **04 36 32.1 +4.8**
baz=16
SKT Skwentna 21.78 228 P P **04 36 32.0 +2.7**
baz=13
BILL Bilibino 21.90 279 P P **04 36 30.6 +0.2**
BILL IAmb IAmb 04 36 37.5
comp=Z,10nm,1.1s
P33M Teslin, Yukon 21.90 203 P P **04 36 33.9 +3.2**
P33M IAmb IAmb 04 36 49.7
comp=Z,9.8nm,0.9s
SUA Susitna One 22.19 227 P P **04 36 39.0 +5.2**
TIXI Tiksi 23.41 314 P P **04 36 46.1 -0.2**
TIXI IAmb IAmb 04 36 50.7
comp=Z,5.2nm,0.8s
FCC Fort Churchill 23.64 151 P P **04 36 50.6 +2.0**
FCC IAmb IAmb 04 36 51.9
comp=Z,6.9nm,1.3s
KDAK Kodiak Island 26.00 227 LR LR 04 50 11.8
comp=Z,58nm,18.5s,baz=152,slow=43
BORG Borgarnes 27.33 69 LR LR 04 48 46.3
comp=Z,60nm,18.2s,baz=347,slow=38
SCHQ Schefferville 30.32 120 P P **04 37 50.1 +1.3**
comp=Z,3.9nm,0.8s,baz=10,slow=11,SNR=2.7
comp=Z,3.9nm,0.8s
ULM Lac du Bonnet 31.99 156 P P **04 38 05.3 +1.7**
ULM Lac du Bonnet 31.99 156 P P **04 38 06.7 +3.1**
comp=Z,4.2nm,0.8s,baz=358,slow=8.1,SNR=9.8
comp=Z,4.2nm,0.8s
NEW Newport 33.37 182 LR LR 04 52 06.5
comp=Z,42nm,18.9s,baz=349,slow=37
AGMN Agassiz Nation 33.94 156 P P **04 38 22.7 +2.1**
AGMN Agassiz Nation 33.94 156 P P **04 38 21.9 +1.2**
baz=355,SNR=6.5
B35A Bob, Littlefor 34.01 154 P P **04 38 23.8 +2.5**
EYMN Ely 34.58 151 P P **04 38 28.7 +2.5**
EYMN Ely 34.58 151 P P **04 38 27.7 +1.5**
baz=354,SNR=6.6
NB2 NORSAR Subarra 34.88 43 P P **04 38 28.3 -0.4**
comp=Z,0.9nm,0.7s,baz=344,slow=8.6
NOA NORSAR Array B 34.88 43 P P **04 38 28.0 -0.7**
comp=Z,1.4nm,0.8s,baz=345,slow=8.4,SNR=4.1
comp=Z,1.4nm,0.8s
FIA1 FINESS Array S 35.80 31 P P **04 38 35.1 -1.4**
FINES FINESS Array B 35.80 31 P P **04 38 34.6 -2.0**
FINES FINESS Array B 35.80 31 P P **04 38 35.6 -1.0**
comp=Z,2.5nm,0.8s,baz=353,slow=14,SNR=7.0
FINES PcP **PcP 04 41 04.4 +0.7**
comp=Z,1.1nm,0.8s,baz=328,slow=4.9,SNR=2.6
comp=Z,2.5nm,0.8s
HFS Hagfors 36.02 41 P P **04 38 37.9 -0.5**
comp=Z,2.8nm,0.7s,baz=3.4,slow=7.4,SNR=8.9
comp=Z,2.8nm,0.7s
E43A Lone Tree Farm 36.49 146 P P **04 38 45.4 +2.8**
G40A Rib Lake 37.34 150 P P **04 38 51.0 +1.2**
RSSD Black Hills 37.71 166 P P **04 38 53.4 +0.1**
RSSD IAmb IAmb 04 38 58.6
comp=Z,7.5nm,1.1s
ECSD EROS Data Cent 38.44 158 P P **04 38 58.3 -0.8**
ECSD IAmb IAmb 04 39 03.1
comp=Z,2.5nm,0.7s
EKA Eskdalemuir Ar 38.84 57 P P **04 39 02.1 -0.2**
comp=Z,2.5nm,0.8s,baz=346,slow=8.1,SNR=5.0
comp=Z,2.5nm,0.8s
PDAR Pinedale Array 38.92 173 P P **04 39 07.7 +4.2**
comp=Z,0.4nm,0.5s,baz=22,slow=4.8,SNR=5.0
comp=Z,0.4nm,0.5s
FRNY Flat Rock 39.33 131 P P **04 39 07.6 +1.0**
FRNY IAmb IAmb 04 39 09.3
comp=Z,5.5nm,0.8s
NCB Newcomb 40.12 132 P P **04 39 15.6 +2.5**
NCB IAmb IAmb 04 39 16.5
comp=Z,4.9nm,0.8s
MNK Minsk 42.83 31 *i* P P **04 39 33.0 -2.2**
comp=E,3.0nm,0.7s,baz=352
MNK *i* P P **04 39 33.0 -2.2**
comp=N,15nm,0.9s,baz=352
MNK *i* P P **04 39 33.0 -2.2**
comp=Z,6.0nm,0.8s,baz=352
MNK *i* PP PP **04 41 12.0 -2.2**
baz=352
MNK *i* PPP PPP 04 41 43.1
baz=352
MNK *i* S S **04 45 57.0 -2.0**
baz=352
MNK *i* SS SS **04 49 08.7 -0.7**
baz=352
MNK *i* SSS SSS 04 49 41.5
baz=352
MNK *i* LQ LQ 04 53 46.9
baz=352
MNK *i* LR LR 04 57 05.4
baz=352
NVAR Mina Array Bea 43.20 183 P P **04 39 40.8 +2.1**
comp=Z,0.3nm,0.4s,baz=0.0,slow=1.5,SNR=3.6
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 44.34 343 P P **04 39 47.8 +0.3**
ZALV Zalesovo Beam 44.34 343 P P **04 39 47.1 -0.3**
comp=Z,1.9nm,0.7s,baz=4.0,slow=6.4,SNR=7.5
comp=Z,1.9nm,0.7s
KNB Kanab 44.62 177 P P **04 39 50.3 +0.3**
KNB IAmb IAmb 04 40 05.8
comp=Z,4.6nm,0.8s
S39A Bolivar 44.66 155 P P **04 39 51.0 +0.8**
S39A IAmb IAmb 04 39 52.9
comp=Z,8.1nm,1.4s
BVAR Borovoye Array 45.68 355 P P **04 39 58.7 +0.6**
comp=Z,4.2nm,1.1s,baz=356,slow=8.9,SNR=6.5
comp=Z,4.2nm,1.1s
FCAR Ozark Folk Cen 46.53 153 P P **04 40 05.9 +1.0**
AKASG Malin Array Be 46.71 30 P P **04 40 05.6 -0.6**
comp=Z,0.1nm,0.3s,baz=354,slow=8.4,SNR=2.3
comp=Z,0.1nm,0.3s
GERES GERESS Array B 47.16 44 P P **04 40 09.0 -0.9**
GERES GERESS Array B 47.16 44 P P **04 40 09.6 -0.3**
comp=Z,0.2nm,0.3s,baz=35,slow=44,SNR=2.1
comp=Z,0.2nm,0.3s
KURK Kurchatov 47.81 348 P P **04 40 14.1 -0.6**
X40A Basin Creek Fa 47.88 154 P P **04 40 16.6 +1.1**
KURBB Kurchatov Arra 47.91 348 P P **04 40 15.9 +0.5**
comp=Z,1.3nm,0.6s,baz=3.4,slow=7.8,SNR=12
KURBB PcP **PcP 04 41 44.4 +0.7**
comp=Z,0.3nm,0.2s,baz=360,slow=3.6,SNR=4.4
comp=Z,1.3nm,0.6s
PAULI Pauline 48.41 142 P P **04 40 20.0 +0.5**
ULN Ulaanbaatar 48.90 323 P P **04 40 24.4 +1.1**
ULN IAmb IAmb 04 40 26.2
comp=Z,3.5nm,0.8s
SONM Songino Array 48.98 323 P P **04 40 25.4 +1.3**
SONM Songino Array 48.98 323 P P **04 40 25.0 +1.0**
comp=Z,4.3nm,0.8s,baz=359,slow=6.1,SNR=10
comp=Z,4.3nm,0.8s
Z41A Richland Creek 49.10 154 P P **04 40 25.5 +0.6**
BURAR Bucovina Array 49.46 34 P P **04 40 26.9 -0.7**
BURAR IAmb IAmb 04 40 38.8
comp=Z,2.1nm,1.1s
ABKAR Akbulak array 49.48 4 P P **04 40 27.4 -0.2**
USRK Ussuriysk Ar. 49.74 299 P P **04 40 30.9 +1.2**
JCT Junction City 51.48 162 P P **04 40 44.2 +1.2**
MAKZ Makanchi 51.60 345 P P **04 40 42.9 -0.7**
MAKZ IAmb IAmb 04 40 44.8
comp=Z,7.3nm,1.4s
MK31 Makanchi Array 51.60 344 P P **04 40 43.0 -0.7**
MK31 IAmb IAmb 04 40 44.6
comp=Z,5.3nm,1.2s
MKAR Makanchi Array 51.60 344 P P **04 40 43.5 -0.2**
comp=Z,2.3nm,0.8s,baz=7.9,slow=6.3,SNR=14
comp=Z,2.3nm,0.8s
MLR Muntele Rosu 51.63 34 P P **04 40 43.5 -0.6**
TXAR Lajitas Array 52.47 167 P P **04 40 51.1 +0.6**
TXAR Lajitas Array 52.47 167 P P **04 40 53.6 +3.1**
comp=Z,0.3nm,0.5s,baz=22,slow=3.1,SNR=6.4
comp=Z,0.3nm,0.5s
KBZ Khabaz 54.50 19 P P **04 41 06.3 +1.3**
comp=Z,12nm,0.8s,baz=342,slow=6.3,SNR=26
HHC Hu-ho-hao-te 55.42 317 *e*P P **04 41 11.0 -0.9**
HHC pmax pmax
comp=Z,8.0nm,0.5s
HHC pmax pmax
comp=Z,79nm,4.1s
KK31 Karatay Array 55.61 355 P P **04 41 12.5 -0.6**
KK31 IAmb IAmb 04 41 14.5
comp=Z,2.3nm,0.7s
KKAR Karatay Array 55.61 355 P P **04 41 12.6 -0.5**
KKAR IAmb IAmb 04 41 14.5
comp=Z,2.3nm,0.7s
KKAR Karatay Array 55.61 355 P P **04 41 12.8 -0.4**
AAK Ala-Archa 56.00 351 LR LR 05 08 07.2
comp=Z,40nm,18.3s,baz=312,slow=39
BOOM Boomskoye usch 56.11 350 P P **04 41 17.2 +0.4**
BOOM IAmb IAmb 04 41 19.1
comp=Z,3.9nm,1.0s
MJAR Matsushiro Arr 56.43 292 P P **04 41 18.8 -0.3**
comp=Z,1.3nm,0.8s,baz=2.5,slow=8.5,SNR=2.5
comp=Z,1.3nm,0.8s
KSRS Korea Array 56.90 302 LR LR 05 07 07.5
comp=Z,17nm,18.2s,baz=305,slow=38
JGF Kuroka 57.47 292 P P **04 41 27.4 +0.9**
JGF IAmb IAmb 04 41 29.3
comp=Z,3.9nm,0.9s
BRTR Keskin Array B 57.95 28 P P **04 41 29.2 -0.7**
comp=Z,1.2nm,0.9s,baz=357,slow=2.5,SNR=4.5
comp=Z,1.2nm,0.9s
GEYT Alibeck 60.78 6 P P **04 41 48.7 -0.7**
comp=Z,1.8nm,0.3s,baz=320,slow=14,SNR=5.2
comp=Z,1.8nm,0.3s
RAYN Ar Rayn 74.75 18 P P **04 43 16.6 -1.0**
CMAR Chiang Mai Arr 78.76 327 P P **04 43 41.6 +1.4**
CMAR Chiang Mai Arr 78.76 327 P P **04 43 41.2 +1.0**
comp=Z,1.6nm,0.3s,baz=353,slow=5.6,SNR=6.3
comp=Z,1.6nm,0.3s

IDC **12** *04:42:17.6±1.9,54.˚14N×117.˚99E,h0km,mb3.7/5, mbtmp3.7/5,MS3.0/1,Error ellipse: s-maj=68.4km s-min=27.7km az=30.0*
MOS **12** *04:42:52.2±1.5,56.˚29N×112.˚15E,h10km,mb3.6/1,Error ellipse: s-maj=12.7km s-min=7.8km az=72.4*
BYKL **12** *04:42:54.6±0.1,56.˚24N×112.˚19E,h23km±2km*
ISC 12 04:42:55.1±1.0,56.˚31N±0.˚03×112.˚25E±0.˚02,h26km±8km, n62,σ2s77/101,7C-9D,Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
YOA	**Uoyan**	**0.34**	**239**	⇓*i*	Pg	**Pb**	**04 43 01.1**	**-1.7**
YOA				*e*	Sg	**Sb**	**04 43 06.8**	**-1.3**
YOA				*e*			04 43 09.1	
YOA				Pmax				
	4μm,0.2s							
YOA				max				
	99μm,0.5s							
YOA	**Uoyan**	**0.34**	**239**	⇓*i*	PG	**Pb**	**04 43 01.1**	**-1.7**
YOA				*e*			04 43 06.9	
YOA				pmax	pmax			
	comp=Z,4μm,0.2s							
YOA				smax	smax			
	comp=N,66μm,0.3s							
KMO	**Kumora**	**0.72**	**235**	*e*	Pg	**Pb**	**04 43 07.2**	**-1.9**
KMO				*e*	Sg	**Sb**	**04 43 16.3**	**-2.3**
KMO				*e*	Sb	**Sn**	**04 43 18.6**	**-1.2**
KMO				Pmax				
	comp=N,466nm,0.2s							
KMO				max				
	comp=N,2μm,0.4s							
KMO	**Kumora**	**0.72**	**235**	⇑*i*	PG	**Pb**	**04 43 07.2**	**-1.9**
KMO				*e*			04 43 16.6	
KMO				pmax	pmax			
	comp=Z,202nm,0.1s							
KMO				smax	smax			
	comp=E,3μm,0.3s							
SVKR	**Severomuysk**	**0.76**	**104**	*e*	Pg	**Pn**	**04 43 09.3**	**-0.9**
SVKR				*e*	Sg	**Sn**	**04 43 19.6**	**-1.2**
SVKR				Pmax				
	comp=E,696nm,0.1s							
SVKR				Smax				
	comp=E,5μm,0.8s							
SVKR	**Severomuysk**	**0.76**	**104**	⇑*i*	PG	**Pn**	**04 43 09.3**	**-0.9**
SVKR				*e*			04 43 19.5	
SVKR				pmax	pmax			
	comp=Z,507nm,0.4s							
SVKR				smax	smax			
	comp=N,5μm,0.8s							
UKT	**Uakit**	**1.13**	**136**	⇓*i*	Pg	**Pb**	**04 43 14.8**	**-1.2**
	comp=N,319nm,0.0s							
UKT				⇑*i*	Pg	**Pb**	**04 43 14.8**	**-1.2**
	comp=N,215nm,0.0s							
UKT				⇑*i*	Pg	**Pb**	**04 43 14.8**	**-1.2**
	comp=N,291nm,0.0s							
UKT				*e*	Sg	**Sn**	**04 43 29.8**	**-0.2**
UKT				*e*	Sb	**Sb**	**04 43 32.3**	**+2.0**
UKT				Pmax				
	comp=N,316nm,0.6s							
UKT				max				
	comp=N,4μm,0.7s							
UKT	**Uakit**	**1.13**	**136**	⇑*i*	PG	**Pb**	**04 43 14.8**	**-1.2**
UKT				*e*			04 43 29.4	
UKT				pmax	pmax			
	comp=Z,129nm,0.2s							
UKT				smax	smax			
	comp=E,3μm,0.4s							

YLYR Ulyunkhan 1.56 204 ⇑*i* Pg Pn **04 43 21.4 +0.2**
YLYR *e* Sg **Sn** **04 43 41.6 +1.1**
YLYR Pmax
comp=E,255nm,0.4s
YLYR Smax
comp=E,4μm,0.7s
YLYR Ulyunkhan 1.56 204 ⇑*i* PG **Pn** **04 43 21.4 +0.2**
YLYR *e* 04 43 39.7
YLYR pmax pmax
comp=Z,257nm,0.4s
YLYR smax smax
comp=E,3μm,0.5s
NIZB Nizh Angarsk 1.61 252 ⇓*i* Pg **Pb** **04 43 22.8 -1.3**
NIZB *e* Sg **Sb** **04 43 43.9 -0.1**
NIZB Pmax
comp=E,161nm,0.2s
NIZB Smax
comp=E,1μm,0.5s
NIZB Nizh Angarsk 1.61 252 *e* PG **Pb** **04 43 23.2 -0.9**
NIZB *e* 04 43 44.9
NIZB pmax pmax
comp=Z,160nm,0.3s
NIZB smax smax
comp=E,1μm,0.4s
BOD Bodaibo 1.79 32 *e* Pn **Pb** **04 43 26.5 -0.7**
BOD *e* Pg **Pn** **04 43 27.8 +3.5**
BOD *e* Sn **Sb** **04 43 50.4 +1.1**
BOD *e* Sg **Sn** **04 43 52.5 +6.3**
BOD Pmax
comp=E,409nm,0.3s
BOD Smax
comp=E,3μm,0.8s
BOD Bodaibo 1.79 32 *e* PN **Pb** **04 43 26.2 -1.0**
BOD *e* 04 43 27.4
BOD *e* 04 43 51.8
BOD pmax pmax
comp=Z,411nm,0.3s
BOD smax smax
comp=E,3μm,0.5s
NLYR Nelyaty 1.93 83 ⇓*i* Pn **Pb** **04 43 28.0 -1.6**
NLYR *e* Pg Pn 04 43 30.2 +4.0
NLYR *e* 04 43 53.8
NLYR *e* Sg **Sb** **04 43 55.7 +2.5**
NLYR Pmax
comp=E,197nm,0.6s
NLYR Smax
comp=E,774nm,0.8s
NLYR Nelyaty 1.93 83 ⇓*i* PN **Pb** **04 43 27.9 -1.6**
NLYR *e* 04 43 53.9
NLYR pmax pmax
comp=Z,196nm,0.6s
NLYR smax smax
comp=N,768nm,1.0s
SYVR Suvo 2.95 207 *e* Pn **Pn** **04 43 40.0 -0.2**
SYVR *e* Pg **Pb** **04 43 45.5 -1.5**
SYVR *e* 04 43 47.4
SYVR *e* Sn **Sn** **04 44 13.3 -1.6**
SYVR *e* Sg **Sb** **04 44 23.1 +0.5**
SYVR max
comp=N,88nm,0.6s
SYVR Smax
comp=N,420nm,0.7s
SYVR Suvo 2.95 207 *e* PN **Pn** **04 43 40.1 -0.2**
SYVR *e* 04 43 44.9
SYVR *e* 04 44 22.9
SYVR pmax pmax
comp=Z,90nm,0.6s
SYVR smax smax
comp=N,430nm,0.7s
VTMR Vitim 3.15 3 *e* Pn **Pn** **04 43 44.1 +1.2**
VTMR *e* Pg **Pb** **04 43 52.0 +1.8**
VTMR *e* Sn **Sn** **04 44 19.7 +0.2**
VTMR *e* Sg **Sb** **04 44 33.6 +5.5**
CRS Chara 3.38 77 *e* Pn **Pn** **04 43 48.2 +2.0**
CRS *e* Pg **Pb** **04 43 56.6 +2.3**
CRS *e* PgPg 04 43 58.5
CRS *e* Sg **Sb** **04 44 41.1 +6.2**
CRS max
comp=N,89nm,1.0s
CRS Smax
comp=N,447nm,1.0s
CRS Chara 3.38 77 *e* PN **Pn** **04 43 48.1 +1.9**
CRS *e* 04 44 40.9
CRS pmax pmax
comp=Z,82nm,0.8s
CRS smax smax
comp=E,478nm,1.0s
MXMB Maximikha 3.66 215 *e* **Pn** **04 43 53.2 +3.2**
MXMB *e* Pg **Pb** **04 43 59.3 +0.2**
MXMB *e* Sg **Sb** **04 44 46.7 +3.7**
OGRR Ongureny 3.78 227 *e* Pn **Pn** **04 43 52.1 +0.4**
OGRR *e* Pg **Pb** **04 44 00.8 -0.3**
OGRR *e* Sn **Sn** **04 44 34.5 -0.8**
OGRR *e* Sg **Sb** **04 44 48.8 +2.3**
OGRR Pmax
comp=E,32nm,0.2s
OGRR Smax
comp=E,288nm,1.0s
OGRR Ongureny 3.78 227 *e* PN **Pn** **04 43 52.0 +0.4**
OGRR *e* 04 44 01.8
OGRR *e* 04 44 48.5
OGRR pmax pmax
comp=Z,32nm,0.5s
OGRR smax smax
comp=E,288nm,1.0s
UZR Uzur 3.97 223 *e* Pn **Pn** **04 43 54.4 +0.2**
UZR *e* Pg **Pb** **04 44 04.2 0.0**
UZR *e* 04 44 42.2
UZR *e* Sg **Sb** **04 44 54.8 +3.1**
UZR Pmax
comp=E,31nm,0.5s
UZR Smax
comp=E,187nm,0.8s
GORB Goryachinsk 4.05 216 *e* Pg **Pb** **04 44 05.4 -0.2**
GORB *e* Sg **Sb** **04 44 58.0 +4.0**
KELR Kotokel 4.30 216 *e* Pg **Pb** **04 44 11.0 +1.0**
KELR *e* Sg **Sb** **04 45 06.9 +5.5**
KHNR Khani 4.32 79 *e* Sn **Sn** **04 44 47.6 -0.9**
KHNR *e* Sg Sb 04 45 08.9 +7.1
CIT Chita 4.36 169 *e* Pg **Pb** **04 44 11.4 +0.4**
CIT *e* Sg **Sb** **04 45 08.3 +5.1**
CIT Pmax
comp=E,102nm,0.2s
CIT Smax
comp=E,423nm,0.5s
CIT Chita 4.36 169 *e* PN **Pn** **04 44 00.0 +0.3**
CIT *e* 04 44 11.0
CIT *e* 04 45 08.0
CIT pmax pmax
comp=Z,101nm,0.3s
CIT smax smax
comp=E,444nm,0.8s
TUP Tupik 4.78 110 *e* Pn **Pn** **04 44 06.0 +0.6**
TUP *e* Pg **Pb** **04 44 19.9 +1.7**
TUP *e* Sn **Sn** **04 44 58.1 -1.9**
TUP *e* Sg Sb 04 45 23.4 +8.1
TUP Pmax
comp=E,28nm,1.0s
TUP Smax
comp=E,338nm,1.7s
TUP Tupik 4.78 110 *e* PN **Pn** **04 44 05.6 +0.2**
TUP *e* 04 44 19.2
TUP *e* S **Sn** **04 44 55.7 -4.3**
TUP *e* 04 45 23.3
TUP pmax pmax
comp=Z,28nm,0.9s
TUP smax smax
comp=N,337nm,1.6s
TRG Tyrgan 4.94 226 *e* Pn **Pn** **04 44 07.6 0.0**
TRG *e* Pg **Pb** **04 44 21.4 +0.5**
TRG *e* Sg **Sb** **04 45 24.3 +4.5**
TRG Pmax
comp=N,31nm,1.9s
TRG Smax
comp=N,121nm,0.6s
TRG Tyrgan 4.94 226 *e* PN **Pn** **04 44 07.3 -0.3**
TRG *e* 04 44 20.9
TRG *e* S **Sn** **04 45 02.7 -1.2**
TRG *e* 04 45 23.3
TRG pmax pmax
comp=Z,14nm,0.3s
TRG smax smax
comp=N,111nm,0.5s
UUDB Ulan-Yde 5.20 213 *e* Pg **Pb** **04 44 26.2 +0.9**

UUDB				*e*Sg	**Sb**	**04 45 32.7**	**+5.4**
UUDB				Pmax			
	comp=N,25nm,0.5s						
UUDB				Smax			
	comp=N,181nm,1.3s						
YKLR	**Yuktali**	**5.23**	**83**	*e*Pg	Pb	04 44 28.8	+3.1
YKLR				*e*		04 44 38.5	
YKLR				*e*Sg	Sb	04 45 37.8	+10
FFNB	**Fofonovo**	**5.35**	**219**	*e*Sg	**Sb**	**04 45 38.2**	**+6.8**
STDB	**Stepnoy Dvoret**	**5.39**	**222**	*e*Sg	**Sb**	**04 45 39.2**	**+6.5**
HRMR	**Khuramsha**	**5.63**	**216**	*e*Pg	**Pb**	**04 44 34.5**	**+1.9**
HRMR				*e*Sg	**Sb**	**04 45 46.8**	**+7.2**
HRMR				Pmax			
	comp=N,46nm,0.9s						
HRMR				Smax			
	comp=N,401nm,0.8s						
BGT	**Bolshoye Golou**	**5.86**	**226**	*e*Pg	**Pb**	**04 44 38.0**	**+1.5**
BGT				*e*		04 44 51.0	
BGT				*e*Sg	**Sb**	**04 45 53.3**	**+7.1**
BGT				max			
	comp=N,54nm,1.7s						
BGT				Smax			
	comp=N,101nm,1.4s						
IRK	**Irkutsk**	**6.20**	**232**	*e*PN	**Pb**	**04 44 44.0**	**+1.8**
IRK				*e*		04 46 02.4	
IRK				pmax	pmax		
	comp=Z,159nm,0.1s						
IRK				smax	smax		
	comp=E,423nm,0.4s						
LSTR	**Listvyanka**	**6.23**	**228**	*e*Pg	**Pb**	**04 44 44.7**	**+2.0**
LSTR				*e*Sg	**Sb**	**04 46 04.4**	**+7.7**
LSTR				Pmax			
	comp=E,22nm,0.9s						
LSTR				Smax			
	comp=E,71nm,1.4s						
IVK	**Ivanovka**	**6.45**	**229**	*e*Pg	**Pb**	**04 44 49.5**	**+3.0**
IVK				*e*		04 46 09.9	
IVK				*e*Sg	Sb	04 46 12.2	+9.1
IVK				Pmax			
	comp=E,27nm,1.7s						
IVK				Smax			
	comp=E,60nm,1.4s						
KPC	**Khapcheranga**	**6.62**	**179**	*e*Pn	**Pn**	**04 44 30.2**	**-0.4**
KPC				*e*Pg	**Pb**	**04 44 52.3**	**+2.9**
KPC				*e*Sg	Sb	04 46 17.1	+9.2
KPC				Pmax			
	comp=E,12nm,0.9s						
KPC				Smax			
	comp=E,121nm,0.8s						
TLY	**Talaya**	**6.87**	**231**	*e*Pg	**Pb**	**04 44 57.0**	**+3.4**
TLY				*e*Sg	Sb	04 46 24.6	+9.5
TLY				Pmax			
	comp=E,20nm,1.3s						
TLY				Smax			
	comp=E,53nm,1.2s						
CLNS	**Chul'man**	**7.01**	**80**	*e*Pg	Pb	04 45 01.1	+5.1
CLNS				*e*Sg	Sb	04 46 32.9	+14
ARS	**Arshan**	**7.25**	**237**	*e*Pg	**Pb**	**04 45 03.8**	**+3.6**
ARS				*e*Sg	Sb	04 46 36.4	+10
ARS				Pmax			
	comp=E,25nm,0.5s						
ARS				Smax			
	comp=E,175nm,0.8s						
ZAK	**Zakamensk**	**8.00**	**226**	*e*Sg	Sb	04 47 00.1	+13
ZAK				Smax			
	comp=E,39nm,1.4s						
MOY	**Mondy**	**8.10**	**240**	*e*Pn	**Pn**	**04 44 51.9**	**+0.9**
MOY				*e*Pg	Pb	04 45 19.4	+4.8
MOY				*e*Sn	**Sn**	**04 46 17.0**	**-4.6**
MOY				*e*Sg	Sb	04 47 03.1	+13
MOY				Pmax			
	comp=E,14nm,1.1s						
MOY				Smax			
	comp=E,57nm,1.1s						
ORL	**Orlik**	**8.17**	**248**	*e*Pn	**Pn**	**04 44 52.6**	**+0.6**
ORL				*e*Pg	Pb	04 45 20.8	+4.9
ORL				*e*Sg	Sb	04 47 05.7	+13
ORL				Pmax			
	comp=E,8.0nm,0.9s						
ORL				Smax			
	comp=E,66nm,1.4s						
HIA	**Hailar**	**8.38**	**144‖**	*e*PN	**Pn**	**04 44 54.5**	**-0.3**
ULN	**Ulaanbaatar**	**9.04**	**203‖**	*e*P	**Pn**	**04 45 02.0**	**-1.9**
SONM	**Songino Array**	**9.21**	**205**	LR	LR	04 48 54.2	
	comp=E,86nm,20.0s,baz=284,slow=41						
TIXI	**Tiksi**	**16.92**	**18‖**	*e*P	**Pn**	**04 46 46.1**	**-3.5**
TIXI				pmax	pmax		
	comp=Z,12nm,2.1s						
KURK	**Kurchatov**	**20.62**	**268**	P	Pn	04 47 33.3	-1.2
KURBB	**Kurchatov Arra**	**20.71**	**268**	P	**P**	**04 47 33.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=64,slow=10,SNR=4.5						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**20.76**	**255**	P	**P**	**04 47 32.1**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=58,slow=8.9,SNR=9.8						
	comp=Z,0.9nm,0.5s						
MKAR	**Makanchi Array**	**20.76**	**255**	*i* P	**P**	**04 47 34.5**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**24.16**	**280**	P	**P**	**04 48 07.3**	**-1.4**
	comp=Z,0.3nm,0.4s,baz=68,slow=11,SNR=1.6						
	comp=Z,0.3nm,0.4s						
BVAR	**Borovoye Array**	**24.16**	**280**	P	**P**	**04 48 07.3**	**-1.4**
FINES	**FINESS Array B**	**41.75**	**314**	P	**P**	**04 50 39.6**	**-1.9**
	comp=Z,0.9nm,0.7s,baz=54,slow=9.3,SNR=2.6						
	comp=Z,0.9nm,0.7s						
FINES	**FINESS Array B**	**41.75**	**314**	P	**P**	**04 50 39.6**	**-1.9**

*IDC **12** 04:50:57.7±1.8,34°.68N×96°.55E,h0km,mb3.5/5, mbtmp3.6/8,ML3.8/3,MS2.7/3,Error ellipse: s-maj=39.0km s-min=27.0km az=36.0*
ISC 12 04:50:58.9±1.2,34°.7N±0°.1×96°.5E±0°.2,h10km,n9,σ0°70/7, mb3.6/3,Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**15.05**	**26**	Pn	**Pn**	**04 54 32.0**	**+0.3**
	0.2nm,0.3s,baz=213,slow=14,SNR=4.9						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**16.15**	**323**	Pn	**Pn**	**04 54 44.8**	**-1.1**
	0.1nm,0.3s,baz=133,slow=12,SNR=5.8						
	0.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**16.33**	**172**	Pn	**Pn**	**04 54 48.1**	**-0.3**
	0.5nm,0.3s,baz=341,slow=11,SNR=9.6						
CMAR				LR	LR	05 00 23.4	
	comp=Z,5.8nm,22.0s,baz=125,slow=35						
	1.5nm,0.3s						
KURBB	**Kurchatov Arra**	**20.59**	**326**	P	**P**	**04 55 37.8**	**-0.1**
	1.2nm,0.4s,baz=137,slow=11,SNR=14						
KURBB				LR	LR	05 05 08.1	
	comp=Z,40nm,18.3s,baz=186,slow=41						
	1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**20.92**	**340**	P	Pn	04 55 42.7	-1.3
	0.8nm,0.5s,baz=155,slow=11,SNR=6.2						
	0.8nm,0.5s						
KSRS	**Korea Array**	**25.48**	**75**	P	**P**	**04 56 27.0**	**-0.1**
	0.5nm,0.4s,baz=255,slow=14,SNR=2.0						
	0.5nm,0.4s						
BVAR	**Borovoye Array**	**26.03**	**323**	P	**P**	**04 56 32.2**	**+0.2**
	0.5nm,0.4s,baz=136,slow=11,SNR=2.0						
	0.5nm,0.4s						
ASAJ	**Asahikawa**	**36.41**	**61**	LR	LR	05 14 42.8	
	comp=Z,36nm,18.6s,baz=139,slow=39						
BRTR	**Keskin Array B**	**49.42**	**295**	P	**P**	**04 59 49.9**	**+0.8**
	0.4nm,0.6s,baz=69,slow=6.9,SNR=3.6						
	0.4nm,0.6s						

TRN 12 04:54:54.2,17°.71N×60°.08W,h3km,MD3.8,Far East of Barbuda.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANBD	**Bethesda, Anti**	**1.74**	**248**	*e*P	Pg	04 55 29.1	+1.5
ANBD				*e*S	Sg	04 55 52.0	+1.8
ANDO	**Antigua, Disas**	**1.78**	**251**	*e*P	Pg	04 55 28.2	-0.1
ANDO				*e*S	Sg	04 55 52.7	+1.3
CBE	**Ff, Capester**	**2.19**	**222**	*e*P	Pn	04 55 27.4	-4.3
CBE				*e*S	Sn	04 56 00.8	+1.4
MBFL	**Flemmings, Mon**	**2.25**	**245**	*e*S	Sg	04 56 06.0	-0.8
TDBA	**Terre de Bas,**	**2.38**	**219**	*e*P	Pn	04 55 35.9	+1.7
TDBA				*e*S	Sb	04 56 07.5	-0.1
TBG	**Guadaloupe-3**	**2.38**	**219**	*e*P	Pb	04 55 36.9	-0.9
TBG				*e*S	Sb	04 56 08.4	+0.8
BIM	**Bigot**	**3.32**	**197**	*e*P	Pn	04 55 50.3	+3.2
BIM				*e*S	Sb	04 56 31.6	-3.0
SLBI	**Saint Lucia, B**	**3.77**	**193**	*e*P	Pn	04 55 56.9	+3.6
SLBI				*e*S	Sn	04 56 40.2	+2.0

IDC 12 04:55:34.2±21.0,28°.00N×44°.60W,h0km,mb3.5/3, mbtmp3.5/3,MS3.3/5,Error ellipse: s-maj=466.7km s-min=122.2km az=153.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SADO	**Sadowa**	**32.16**	**311**	LR	LR	05 13 49.7	
	comp=Z,49nm,20.8s,baz=2.0,slow=34						
TKL	**Tuckaleechee C**	**33.98**	**293**	LR	LR	05 13 28.5	
	comp=Z,26nm,19.6s,baz=54,slow=32						
DBIC	**Dimbokro**	**43.18**	**112**	LR	LR	05 17 59.4	
	comp=Z,28nm,21.9s,baz=163,slow=31						
H10N2	**ASCENSION HYDR**	**46.00**	**136**	T	T	05 52 03.6	
	baz=321,slow=75,SNR=15						
H10N3	**ASCENSION HYDR**	**46.00**	**136**	T	T	05 52 03.4	
	baz=321,slow=75,SNR=12						
H10N1	**ASCENSION HYDR**	**46.02**	**136**	T	T	05 52 04.3	
	baz=321,slow=75,SNR=14						
PDAR	**Pinedale Array**	**53.73**	**304**	P	P	05 04 58.3	-0.2
	0.6nm,0.7s,baz=81,slow=9.2,SNR=5.8						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**56.36**	**328**	P	P	05 05 16.7	-0.2
	0.3nm,0.9s,baz=86,slow=7.3,SNR=3.8						
YKA				LR	LR	05 29 28.5	
	comp=Z,48nm,18.5s,baz=324,slow=36						
	0.3nm,0.9s						
NEW	**Newport**	**58.34**	**312**	LR	LR	05 28 50.2	
	comp=Z,30nm,19.6s,baz=212,slow=34						
ILAR	**Eielson Array**	**70.04**	**334**	P	P	05 06 47.8	+0.2
	0.6nm,0.8s,baz=78,slow=4.3,SNR=6.3						
	0.6nm,0.8s						

*NEIC **12** 05:01:52.5±0.9,19°.24N±0°.04×155°.50W±0°.05,h32km±2km, Error ellipse: s-maj=6.8km s-min=6.1km az=84.0*
HVO 12 05:01:53.2±0.9,19°.20N±0°.04×155°.48W±0°.05,h32km±4km, Md2.6/5,ML2.9/24(NEIC),Error ellipse: s-maj=7.6km s-min=4.6km az=131.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**63**		Pb	05 01 58.4	-0.4
KHU	**Kahuku**	**0.14**	**290**	IAML		05 02 07.4	
	comp=N,955nm,1.7s						
KHU	**Kahuku**	**0.14**	**290**		Pn	05 01 58.7	-0.7
KHU					Sn	05 02 02.6	-0.5
HLP	**Hilina Pali**	**0.19**	**59**		Pb	05 01 58.9	-0.7
HLP	**Hilina Pali**	**0.19**	**59**	IAML		05 02 05.4	
	comp=E,2μm,1.0s						
HLP				IAML		05 02 06.8	
	comp=N,3μm,1.1s						
NPH	**North Pit**	**0.28**	**41**	Pg	Pb	05 02 00.6	-0.1
NPH					Sb	05 02 05.7	-0.1
UWB	**Uwekahuna B**	**0.29**	**40**	Pg	Pb	05 02 00.8	0.0
PUH	**Pauahi**	**0.30**	**55**		Sb	05 02 04.8	-1.5
PUH	**Pauahi**	**0.30**	**55**		Pb	05 01 59.7	-1.3
PUH				IAML		05 02 02.9	
	comp=N,3μm,1.8s						
PUH	**Pauahi**	**0.30**	**55**	IAML		05 02 13.5	
	comp=E,2μm,0.8s						
MLH	**Mauna Loa**	**0.30**	**16**	IAML		05 02 06.9	
	comp=E,966nm,1.2s						
MLH				IAML		05 02 13.5	
	comp=N,1μm,1.9s						
MLH	**Mauna Loa**	**0.30**	**16**		Pb	05 02 00.0	-1.2
MLH					Sb	05 02 05.4	-1.2
MWH	**Moku'aweowe**	**0.31**	**338**		Pb	05 02 00.1	-1.4
MWH	**Moku'aweowe**	**0.31**	**338**	IAML		05 02 05.6	
	comp=E,2μm,1.1s						
MWH				IAML		05 02 06.3	
	comp=N,986nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.35**	**344**	Pg	Pb	05 02 00.5	-1.4
STCH	**Steam Cracks**	**0.38**	**61**		Sb	05 02 06.2	-1.9
STCH	**Steam Cracks**	**0.38**	**61**	Pg	Pb	05 02 00.3	-1.7
STCH				IAML		05 02 04.2	
	comp=E,839nm,1.0s						
STCH	**Steam Cracks**	**0.38**	**61**	IAML		05 02 08.5	
	comp=N,938nm,1.2s						
NPOC	**North of Pu'u**	**0.40**	**61**	Pg	Pb	05 02 00.6	-1.6
NPOC				IAML		05 02 08.1	
	comp=E,1μm,1.4s						
NPOC				IAML		05 02 15.3	
	comp=N,791nm,1.4s						
JCUZ	**Jacuzzi**	**0.40**	**63**		Sb	05 02 06.6	-1.9
HMH	**Humu'ula Sheep**	**0.40**	**359**		Pb	05 02 01.4	-1.2
HMH					Sb	05 02 07.8	-1.1
POHA	**Pohakuloa**	**0.56**	**355**		Pb	05 02 03.8	-1.1
POHA				IAML		05 02 19.6	
	comp=N,522nm,1.2s						
HUH	**Hualalai**	**0.59**	**325**		Sb	05 02 11.6	-2.1

*IDC **12** 05:06:06.8±2.1,16°.61S×172°.44W,h0km,mb3.7/8, mbtmp3.8/8,Error ellipse: s-maj=132.0km s-min=21.1km az=150.0*
ISC 12 05:06:10.8±2.0,16°.5S±0°.7×172°.5W±0°.4,h24km,n9, σ1°01/9,mb3.8/7,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**20.63**	**251**	P	**P**	**05 10 49.7**	**+0.9**
	5.5nm,1.0s,baz=90,slow=20,SNR=2.2						
	5.5nm,1.0s						
WRA	**Warramunga Arr**	**50.45**	**258**	P	**P**	**05 15 05.7**	**-1.3**
	0.8nm,0.6s,baz=96,slow=6.2,SNR=8.2						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**50.61**	**253**	P	**P**	**05 15 07.8**	**-0.4**
	4.1nm,0.6s,baz=86,slow=7.9,SNR=54						
	4.1nm,0.6s						
NVAR	**Mina Array Bea**	**74.58**	**41**	P	**P**	**05 17 48.5**	**+0.4**
	0.6nm,0.6s,baz=233,slow=8.9,SNR=3.0						
	0.6nm,0.6s						
TXAR	**Lajitas Array**	**80.51**	**56**	P	**P**	**05 18 20.6**	**-0.8**
	0.1nm,0.5s,baz=218,slow=4.2,SNR=2.2						
	0.1nm,0.5s						
PDAR	**Pinedale Array**	**82.51**	**41**	P	**P**	**05 18 32.5**	**+0.6**
	0.2nm,0.5s,baz=243,slow=6.0,SNR=2.0						
	0.2nm,0.5s						
ILAR	**Eielson Array**	**83.37**	**11**	P	**P**	**05 18 34.6**	**-0.9**
	0.6nm,0.9s,baz=198,slow=8.5,SNR=4.7						
	0.6nm,0.9s						
YKA	**Yellowknife Ar**	**90.77**	**23**	P	**P**	**05 19 12.3**	**+0.8**
	0.2nm,1.0s,baz=232,slow=4.0,SNR=2.3						
	0.2nm,1.0s						
BRTR	**Keskin Array B**	**147.57**	**321**	PKPbc	**PKPbc**	**05 25 54.5**	**+1.0**
	1.3nm,0.7s,baz=86,slow=2.9,SNR=7.4						

*IDC **12** 05:11:58.3±10.0,16°.34S×175°.87W,h276km±80km, mb3.8/5,mbtmp4.4/6,Error ellipse: s-maj=106.7km s-min=28.6km az=127.0*
ISC 12 05:12:01.9±2.8,16°.1S±0°.5×176°.3W±0°.5,h300km,n8, σ0°95/10,mb3.8/5,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**17.35**	**247**	P	**Pn**	**05 15 47.2**	**-0.9**
	5.8nm,0.8s,baz=50,slow=19,SNR=7.4						
STKA	**Stephens Creek**	**41.27**	**240**	P	**P**	**05 19 19.5**	**+0.8**
	2.1nm,0.4s,baz=69,slow=9.7,SNR=6.3						
	2.1nm,0.4s						
WRA	**Warramunga Arr**	**46.97**	**258**	P	**P**	**05 20 04.2**	**+0.4**
	2.6nm,0.6s,baz=90,slow=7.2,SNR=27						
WRA				PcP	**PcP**	**05 21 30.7**	**-0.4**
	0.8nm,0.7s,baz=97,slow=3.5,SNR=2.9						
	2.0nm,0.6s						
ASAR	**Alice Springs**	**47.24**	**253**	P	**P**	**05 20 06.6**	**+0.7**
	15nm,0.5s,baz=88,slow=7.9,SNR=208						
ASAR				PcP	**PcP**	**05 21 31.4**	**-0.6**
	0.7nm,0.6s,baz=93,slow=4.0,SNR=3.8						
	15nm,0.5s						
PETK	**Petropavlovsk-**	**72.49**	**344**	P	**P**	**05 22 56.8**	**+0.7**
	2.0nm,0.8s,baz=142,slow=7.3,SNR=1.7						
	2.0nm,0.8s						
ILAR	**Eielson Array**	**83.70**	**12**	P	**P**	**05 23 57.0**	**+0.1**
	0.5nm,0.4s,baz=217,slow=5.5,SNR=17						
	0.5nm,0.4s						
BRTR	**Keskin Array B**	**144.88**	**318**	PKPbc	**PKPab**	**05 31 03.0**	**-0.9**
	1.7nm,0.8s,baz=52,slow=2.0,SNR=6.7						
MMAI	**Mount Meron Ar**	**146.79**	**306**	PKPbc	**PKPab**	**05 31 09.9**	**-1.6**
	3.4nm,0.8s,baz=108,slow=4.7,SNR=2.1						

*MDD **12** 05:37:22.4±0.6,36°.59N×7°.31W,h2km±3km,mb_Lg2.7/9, Error ellipse: s-maj=3.9km s-min=3.1km az=9.0*
*INMG **12** 05:37:23.9±1.3,36°.58N×7°.36W,h6km±3km,ML2.4,Error ellipse: s-maj=2.8km s-min=2.3km az=66.0*
*CNRM **12** 05:37:23.2,36°.37N×7°.44W,h24km,ML2.1*
*SFS **12** 05:37:24.8,36°.59N×7°.34W,h23km,ML3.2/16,ML2.8/13, MLv2.4/16*
*IGIL **12** 05:37:24.0,36°.58N×7°.35W,h2km,ML2.5*
ISC 12 05:37:21.1±1.1,36°.51N±0°.02×7°.31W±0°.02,h12km±9km, n73,σ1°38/117,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNO	**Arenosillo**	**0.75**	**38**	Pg	**Pn**	**05 37 38.2**	**+0.7**
PBDV	**Barranco-do-Ve**	**0.89**	**326**	*e*P	**Pb**	**05 37 39.0**	**+0.5**
PBDV				*e*S	**Sg**	**05 37 49.5**	**-0.4**
PBDV				A	A	05 37 50.8	
	104nm,0.3s						
PBDV	**Barranco-do-Ve**	**0.89**	**326**	Pg	**Pb**	**05 37 39.0**	**+0.5**
PBDV				Sg	**Sg**	**05 37 49.8**	**-0.1**
PVAQ	**Vaqueiros**	**0.95**	**340**	*e*P	**Pb**	**05 37 40.0**	**+0.4**
PVAQ				*e*S	**Sg**	**05 37 51.3**	**-0.6**
PVAQ				A	A	05 37 54.1	
	142nm,0.1s						
PVAQ	**Vaqueiros**	**0.95**	**340**	Pg	**Pb**	**05 37 40.1**	**+0.4**
PVAQ				Sg	**Sg**	**05 37 51.3**	**-0.6**
PVAQ	**Vaqueiros**	**0.95**	**340**	P	**Pn**	**05 37 40.5**	**+0.2**
EGRO	**El Granado**	**1.04**	**352**	Pg	**Pn**	**05 37 42.0**	**+0.5**
EGRO				Sg	**Sg**	**05 37 54.6**	**0.0**
EGRO	**El Granado**	**1.04**	**352**	Pg	**Pn**	**05 37 42.0**	**+0.5**
EGRO				Sg	**Sg**	**05 37 52.8**	**-1.8**
EGRO				*i* Vmb_Lg		05 37 56.7	
ESPR	**Espera**	**1.22**	**72**	Pn	**Pg**	**05 37 46.0**	**+1.4**
ESPR				Sn	**Sn**	**05 38 01.3**	**+0.8**
ESPR	**Espera**	**1.22**	**72**	Pg	**Pg**	**05 37 46.0**	**+1.4**
ESPR				Sg	**Sb**	**05 38 00.5**	**+0.6**
ESPR				*i* Vmb_Lg		05 38 03.0	
PCVE	**Castro Verde**	**1.27**	**333**	*e*P	**Pn**	**05 37 44.6**	**0.0**
PCVE				*e*S	**Sb**	**05 38 01.3**	**+0.1**
PCVE				A	A	05 38 02.9	
	47nm,0.2s						
PCVE	**Castro Verde**	**1.27**	**333**	Pn	**Pn**	**05 37 44.6**	**0.0**
PCVE				Sn	**Sb**	**05 38 00.9**	**-0.3**
MORF	**Marmelete**	**1.34**	**307**	*e*P	**Pg**	**05 37 46.8**	**0.0**
MORF				*e*S	**Sb**	**05 38 03.2**	**-0.1**
MORF				A	A	05 38 05.1	
	64nm,0.3s						
MORF	**Marmelete**	**1.34**	**307**	*e*P	**Pg**	**05 37 46.7**	**-0.1**
MORF				*e*S	**Sb**	**05 38 03.1**	**-0.3**
MORF				IAML		05 38 05.3	
	comp=E,109nm,0.2s						
EMIN	**Mina Concepcio**	**1.36**	**22**	Pn	**Pb**	**05 37 47.0**	**+0.5**
EMIN	**Mina Concepcio**	**1.36**	**22**	Pg	**Pb**	**05 37 47.0**	**+0.5**
EMIN				Sg	**Sb**	**05 38 04.4**	**+0.6**
EMIN				*i* Vmb_Lg		05 38 07.7	
PFVI	**Vila Bisbo**	**1.37**	**298**	*e*P	**Pg**	**05 37 46.9**	**-0.5**
PFVI				*e*S	**Sn**	**05 38 04.5**	**+0.3**
PFVI				A	A	05 38 07.4	
	comp=E,35nm,0.1s						
PFVI	**Vila Bisbo**	**1.37**	**298**	Pn	**Pg**	**05 37 47.7**	**+0.3**
PFVI				Sn	**Sn**	**05 38 04.4**	**+0.3**
PFVI	**Vila Bisbo**	**1.37**	**298**	P	**Pg**	**05 37 46.9**	**-0.5**
PFVI	**Vila Bisbo**	**1.37**	**298**	S	**Sg**	**05 38 05.1**	**-0.1**
MESJ	**Messejana**	**1.52**	**332**	*e*P	**Pn**	**05 37 47.8**	**-0.3**
MESJ				*e*S	**Sn**	**05 38 07.5**	**-0.3**
MESJ				A	A	05 38 10.9	
	comp=E,38nm,0.3s						
MESJ	**Messejana**	**1.52**	**332**	*e*Pg	**Pb**	**05 37 49.8**	**+0.6**
MESJ				*e*Sg	**Sn**	**05 38 08.6**	**+0.8**
MESJ				IAML		05 38 11.7	
	comp=N,38nm,0.0s						
PTEO	**Sao Teotonio**	**1.54**	**313**	*e*Pn	**Pn**	**05 37 48.5**	**+0.2**
PTEO				*e*Sn	**Sn**	**05 38 08.3**	**+0.1**
PTEO				A	A	05 38 12.7	
	comp=N,18nm,0.2s						
PBEJ	**Beja**	**1.58**	**344**	*e*Pn	**Pg**	**05 37 51.5**	**0.0**
PBEJ				*e*Sn	**Sn**	**05 38 10.1**	**+0.7**
PBEJ				A	A	05 38 13.0	
	comp=N,29nm,0.1s						
PBAR	**Barrancos**	**1.68**	**7**	*e*Pn	**Pn**	**05 37 50.9**	**+0.5**
PBAR				*e*Sn	**Sb**	**05 38 13.8**	**+0.7**
PBAR				A	A	05 38 17.7	
	comp=N,40nm,0.1s						
PBAR	**Barrancos**	**1.68**	**7**	Pn	**Pn**	**05 37 50.8**	**+0.5**
SMIR	**Smir Dam**	**1.77**	**117**	P	**Pb**	**05 37 53.0**	**-0.4**
SMIR	**Smir Dam**	**1.77**	**117**	S	**Sn**	**05 38 14.6**	**+0.8**
PNCL	**Nicolau / Gran**	**1.88**	**329**	*e*Pn	**Pn**	**05 37 53.3**	**+0.3**
PNCL				*e*Sn	**Sn**	**05 38 15.7**	**-0.9**
PNCL				A	A	05 38 23.2	
	comp=N,26nm,0.1s						
PNCL	**Nicolau / Gran**	**1.88**	**329**	Pn	**Pn**	**05 37 53.2**	**+0.2**
EVO	**Evora**	**2.10**	**345**	*e*Sn	**Sn**	**05 38 23.4**	**+1.3**
EVO				A	A	05 38 30.8	
	comp=N,27nm,0.1s						
EVO	**Evora**	**2.10**	**345**	Pn	**Pn**	**05 37 57.0**	**+0.9**
EVO				Sg	**Sb**	**05 38 24.9**	**-0.2**
ECAB	**El Cabril**	**2.17**	**43**	Pn	**Pn**	**05 37 57.9**	**+0.7**
ECAB				Sg	**Sb**	**05 38 24.5**	**+1.6**
ECAB	**El Cabril**	**2.17**	**43**	Pn	**Pn**	**05 37 57.9**	**+0.7**
ECAB				Pg	**Pb**	**05 37 58.9**	**-1.5**
ECAB				Sn	**Sn**	**05 38 24.5**	**+0.4**
ECAB				Sg	**Sb**	**05 38 29.5**	**+2.1**
ECAB				*i* Vmb_Lg		05 38 32.3	
EBAD	**Badajoz**	**2.26**	**6**	Pn	**Pn**	**05 37 58.3**	**0.0**
EBAD				Sg	**Sb**	**05 38 30.3**	**+0.6**
EBAD	**Badajoz**	**2.26**	**6**	Pn	**Pn**	**05 37 58.3**	**0.0**
EBAD				Pg	**Pb**	**05 38 01.6**	**-0.2**
EBAD				Sg	**Sb**	**05 38 30.6**	**+0.9**
EBAD				*i* Vmb_Lg		05 38 34.4	
PESTR	**Estremoz**	**2.37**	**355**	*e*Pn	**Pn**	**05 38 00.1**	**+0.3**
PESTR				*e*Sn	**Sn**	**05 38 27.6**	**-1.2**
PESTR				*e*Sg	**Sb**	**05 38 34.8**	**+1.9**
PESTR				A	A	05 38 38.6	
	comp=N,11nm,0.3s						
PESTR	**Estremoz**	**2.37**	**355**	Pn	**Pn**	**05 37 59.4**	**-0.4**
PESTR				Sg	**Sb**	**05 38 34.4**	**+1.4**
PESTR	**Estremoz**	**2.37**	**355**	P	**Pn**	**05 38 01.7**	**+1.9**
PESTR	**Estremoz**	**2.37**	**355**	S	**Sb**	**05 38 33.6**	**+

JBK	JBK	4.44	118	S	Sn	05 39 20.0	-0.1	
MVO	Moncorvo	4.66	3	*e*Sn	Sn	05 39 21.2	-4.1	
TISM	Timmit	4.83	171	P	Pn	05 38 33.4	-0.2	
TISM	Timmit	4.83	171	S	Sn	05 39 26.7	-2.7	
ETOB	Tobarra	5.05	63	Pn	Pn	05 38 37.1	+0.4	
ETOB	Tobarra	5.05	63	Pn	Pn	05 38 37.1	+0.4	
ETOB				Sn	Sn	05 39 32.1	-2.9	
ETOB				*i* Vmb_Lg		05 39 47.6		
TIO	Tiouine	5.56	180	Pn	Pn	05 38 45.7	+1.8	
TIO				Sn	Sn	05 39 45.8	-2.1	
TIO	Tiouine	5.56	180	P	Pn	05 38 43.9	+0.1	
TIO	Tiouine	5.56	180	S	Sn	05 39 45.8	-2.1	
OUZM	OUZ	5.60	175	P	Pn	05 38 45.9	+1.5	
OUZM	OUZ	5.60	175	S	Sn	05 39 48.4	-0.4	
TTIG	Tnine Tigouga,	6.02	189	P	Pn	05 38 48.9	-1.2	
TTIG	Tnine Tigouga,	6.02	189	S	Sn	05 39 55.6	-3.4	

IDC ***12*** *05:43:41.8±0.9,42˚.08S×173˚.87E,h0km,mb4.0/4, mbtmp4.1/6,ML4.3/2,MS3.8/16,Error ellipse: s-maj=29.5km s-min=22.1km az=125.0*

NOU ***12*** *05:43:43.8,42˚.38S×174˚.01E,h13km,MLv4.8/12,Off E. Coast of S. Island, N.Z.*

NEIC ***12*** *05:43:44.7±1.2,42˚.32S±0˚.04×173˚.94E±0˚.04,h18km±6km, mb4.5/10,Error ellipse: s-maj=5.9km s-min=3.3km az=147.0*

WEL ***12*** *05:43:45.7±0.6,42˚S±4˚×17˚4E±˚,h10km±4km,M4.6/12, ML4.9/12,MLv4.6/12,Error ellipse: s-maj=0.0km s-min=0.0km az=123.5,confirmed*

WEL ***12*** *05:43:45.7,42˚.29S×173˚.83E,h23km,ML4.6,Mw4.5, Moment Tensor Solution. s5 Moment tensor: Mrr444.14; Mθθ232.51; Mϕϕ-676.64; Mrθ193.87; Mθϕ217.30; Mϕr-77.46; Fault plane solution: NP1: ϕs164.00000°,δ48.00000°,λ46.00000°. NP2:ϕs39.00000°, δ58.00000°,λ128.00000°. Principal axes: T -738.0700, Plg58.0000°, Azm4.0000°; N 177.1300, Plg31.0000°, Azm196.0000°; P 560.9400, Plg6.0000°, Azm103.0000°; SOUTH ISLAND*

ISC 12 05:43:44.6±0.7, 42˚.32S±0˚.03×173˚.95E±0˚.03, h18km±3km, n232, σ1§23/224, mb4.4/10, MS3.8/16, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	Kahutara	0.32	253	P	Pb	05 43 51.6	-0.2
KHZ	Kahutara	0.32	253		Pg	05 43 51.4	0.0
KHZ	Kahutara	0.32	253	P	Pb	05 43 51.5	-0.2
KHZ				S	Sg	05 43 56.1	+0.1
CMWZ	Cape Campbell	0.61	19		Pn	05 43 58.0	-0.3
CMWZ	Cape Campbell	0.61	19	P	Pn	05 43 58.9	+0.5
BSWZ	Blackbirch Sta	0.61	355		Pg	05 43 56.4	-0.3
BSWZ	Blackbirch Sta	0.61	355	P	Pb	05 43 57.0	+0.2
BSWZ				S	Sb	05 44 06.0	+1.0
TUWZ	Tuamarina	0.89	360		Pb	05 44 01.8	+0.2
TUWZ	Tuamarina	0.89	360	P	Pn	05 44 02.4	+0.1
TUWZ				S	Sn	05 44 16.0	+1.2
GVZ	Greta Valley S	0.93	226		Pg	05 44 02.6	-0.1
GVZ	Greta Valley S	0.93	226	P	Pn	05 44 03.3	+0.5
GVZ				S	Sn	05 44 17.1	+1.4
THZ	Tophouse	0.96	305		Pb	05 44 01.9	-0.8
THZ	Tophouse	0.96	305	P	Pb	05 44 02.2	-0.5
THZ				S	Sb	05 44 14.2	-0.9
TCW	Tory Channel	1.14	12		Pb	05 44 05.9	+0.1
TCW	Tory Channel	1.14	12	P	Pg	05 44 06.2	-0.4
TCW				S	Sg	05 44 22.4	+0.8
BHW	Baring Head	1.15	37		Pb	05 44 06.2	+0.4
BHW	Baring Head	1.15	37	P	Pg	05 44 06.6	-0.1
SNZO	South Karori	1.16	29	P	Pg	05 44 06.6	-0.4
SNZO	South Karori	1.16	29		Pb	05 44 06.4	+0.3
NNZ	Nelson	1.19	339		Pn	05 44 06.3	+0.1
NNZ	Nelson	1.19	339	P	Pn	05 44 06.4	+0.1
WEL	Wellington	1.21	31	P	Pg	05 44 07.5	-0.3
PLWZ	Palliser	1.23	53		Pb	05 44 07.3	-0.1
PLWZ	Palliser	1.23	53	P	Pb	05 44 07.6	+0.2
AMCZ	Amberley	1.28	228		Pn	05 44 07.8	+0.2
AMCZ	Amberley	1.28	228	P	Pb	05 44 08.0	-0.1
MRNZ	Matariki Terra	1.28	316		Pn	05 44 07.6	-0.1
MRNZ	Matariki Terra	1.28	316	P	Pb	05 44 08.2	0.0
LTZ	Lake Taylor	1.32	249		Pn	05 44 08.2	0.0
LTZ	Lake Taylor	1.32	249	P	Pn	05 44 08.4	+0.1
LTZ				S	Sb	05 44 25.8	+0.2
MSWZ	Moikau Station	1.33	47		Pb	05 44 08.7	-0.3
PAWZ	Paruwai Farm	1.45	50	P	Pn	05 44 10.4	+0.4
CAW	Cannon Point	1.48	35	P	Pb	05 44 11.1	-0.4
TKNZ	Takaka Hill	1.49	330		Pn	05 44 11.0	+0.5
TKNZ	Takaka Hill	1.49	330	P	Pb	05 44 11.4	-0.3
DUWZ	D'Urville Isla	1.52	359	P	Pb	05 44 12.0	-0.3
TRWZ	Traveller	1.59	55	P	Pn	05 44 12.2	+0.3
KIW	Kapiti Island	1.63	27	P	Pb	05 44 13.3	-0.8
MTW	Mount Morrison	1.65	45	P	Pn	05 44 12.9	+0.3
MQZ	McQueen's Vall	1.68	214		Pn	05 44 12.3	-0.8
MQZ	McQueen's Vall	1.68	214	P	Pn	05 44 12.4	-0.6
DSZ	Denniston Nort	1.70	289		Pn	05 44 14.3	+0.9
DSZ	Denniston Nort	1.70	289	P	Pn	05 44 14.0	+0.6
AKCZ	Akaroa Harbour	1.73	206	P	Pn	05 44 13.9	+0.1
OXZ	Oxford	1.73	234		Pn	05 44 12.6	-1.0
OXZ	Oxford	1.73	234	P	Pn	05 44 13.2	-0.5
OGWZ	Otaki Gorge	1.76	32	P	Pn	05 44 14.9	+0.7
QRZ	Quartz Range	1.84	324		Pn	05 44 16.3	+1.0
QRZ	Quartz Range	1.84	324		Pn	05 44 16.2	+1.0
QRZ	Quartz Range	1.84	324	P	Pn	05 44 16.5	+1.2
HOWZ	Holdsworth Sta	1.85	40	P	Pn	05 44 15.6	+0.2
INZ	Inchbonnie	1.90	257		Pn	05 44 15.8	-0.3
INZ	Inchbonnie	1.90	257	P	Pn	05 44 16.1	0.0
TMWZ	Te Maipa	1.90	51	P	Pn	05 44 16.2	+0.1
RACZ	Rakaia	1.93	223	P	Pn	05 44 16.1	-0.4
MRZ	Mangatainoka R	2.06	37	Pn	Pn	05 44 18.4	0.0
MRZ	Mangatainoka R	2.06	37	P	Pn	05 44 18.7	+0.3
TIWZ	Tintock	2.12	44	P	Pn	05 44 20.1	+0.9
MHCZ	Mount Hutt	2.12	235	P	Pn	05 44 18.6	-0.7
CPWZ	Castlepoint	2.20	51	P	Pn	05 44 21.0	+0.7
WACZ	Wakanui South	2.24	223	P	Pn	05 44 20.3	-0.4
PRWZ	Pori Road	2.33	41	P	Pn	05 44 22.1	+0.1
OHWZ	Ohakea	2.35	26	P	Pn	05 44 24.7	-1.7
POWZ	Post Office Ro	2.37	36	P	Pn	05 44 23.4	+0.9
BFZ	Birch Farm	2.38	47	P	Pn	05 44 22.3	-0.4
BFZ	Birch Farm	2.38	47		Pn	05 44 22.8	+0.1
BFZ	Birch Farm	2.38	47	P	Pn	05 44 22.4	-0.4
WVZ	Waitaha Valley	2.48	251	P	Pn	05 44 24.4	+0.3
RPZ	Rata Peaks	2.54	236	P	Pn	05 44 24.3	-0.6
RPZ	Rata Peaks	2.54	236	Pn	Pn	05 44 24.5	-0.4
	412nm,0.3s,baz=44,slow=3.5,SNR=769						
RPZ				Sn	Sn	05 44 53.6	-1.8
	259nm,0.3s,baz=20,slow=13,SNR=3.7						
	881nm,0.4s						
RPZ	Rata Peaks	2.54	236	P	Pn	05 44 24.3	-0.6
ARCZ	Arundel	2.60	230	P	Pn	05 44 25.0	-0.7
DVHZ	Dannevirke	2.62	40	P	Pn	05 44 25.5	-0.6
ANWZ	Angora Road	2.66	46	P	Pn	05 44 26.3	-0.2
WAZ	Wanganui	2.68	17	P	Pn	05 44 29.4	+2.5
TSZ	Takapari Road	2.73	35	P	Pn	05 44 27.7	+0.2
GCSZ	Gaunt Creek Bo	2.84	248	P	Pn	05 44 30.1	+1.0
LREZ	Lake Rotokare	2.88	7	P	Pb	05 44 33.4	-2.0
PRHZ	Porangahau	2.88	45	P	Pn	05 44 29.9	+0.2
NMEZ	Namu Road	2.91	359	P	Pb	05 44 35.9	0.0
WPHZ	Waipukurau	2.94	41	P	Pn	05 44 30.4	0.0
PNHZ	Pukenui	2.95	36	P	Pn	05 44 30.3	-0.3
TMZ	Timaru	2.97	225	P	Pn	05 44 30.6	-0.3
PREZ	Palmer Road	2.98	3	P	Pb	05 44 35.0	-2.2
KHEZ	Kahui Hut	3.03	1	P	Pb	05 44 36.0	-2.0
NEZ	North Egmont	3.05	2	P	Pb	05 44 36.3	-2.2
NBEZ	Newall Road No	3.05	359	P	Pb	05 44 36.9	-1.5
PKEZ	Pukeiti	3.13	1	P	Pb	05 44 36.5	-3.2
DREZ	Durham Road	3.14	4	P	Pb	05 44 37.0	-2.8
MTVZ	Mangateitei	3.15	22	P	Pn	05 44 35.4	+2.0
PXZ	Pawanui	3.17	45	P	Pn	05 44 33.1	-0.6
PKVZ	Pokaka	3.21	20	P	Pn	05 44 36.4	+2.2
MOVZ	Moawhango	3.22	26	P	Pn	05 44 35.0	+0.7
KRHZ	Kereru	3.25	35	P	Pn	05 44 34.1	-0.5
WNVZ	Wahianoa	3.25	23	P	Pn	05 44 36.1	+1.3
BHHZ	Black Hill Sta	3.25	30	P	Pn	05 44 35.2	+0.4
VRZ	Vera Road	3.25	11	P	Pn	05 44 37.2	+2.4
TRVZ	Turoa	3.26	22	P	Pn	05 44 36.8	+1.8
FOZ	Fox Glacier	3.27	247	Pn	Pn	05 44 35.1	+0.2
FOZ	Fox Glacier	3.27	247	P	Pn	05 44 35.3	+0.4
WHVZ	Whangaehu Hut	3.28	23	P	Pn	05 44 37.0	+1.7
MAVZ	Matarangi	3.29	22	P	Pn	05 44 38.1	+2.6
FWVZ	Far West T-bar	3.30	22	P	Pn	05 44 37.3	+1.7
TUVZ	Tukino	3.32	24	P	Pn	05 44 37.1	+1.3
COVZ	Chateau Observ	3.35	22	P	Pn	05 44 38.0	+1.9
KAHZ	Kahuranaki	3.36	42	P	Pn	05 44 35.5	-0.7
NGZ	Ngauruhoe	3.39	22	P	Pn	05 44 39.4	+2.7
SNVZ	South Ngauruho	3.39	23	P	Pn	05 44 38.2	+1.5
OTVZ	Oturere	3.42	23	P	Pn	05 44 38.4	+1.3
NNVZ	North Ngauruho	3.43	22	P	Pn	05 44 39.2	+1.9
LBZ	Lake Benmore	3.43	232	Pn	Pn	05 44 36.7	-0.5
LBZ	Lake Benmore	3.43	232	P	Pn	05 44 37.1	-0.1
WTVZ	West Tongariro	3.44	22	P	Pn	05 44 40.2	+2.8
TWVZ	Taurewa	3.44	20	P	Pg	05 44 48.3	-2.2
KWHZ	Kaweka Forest	3.45	34	P	Pn	05 44 37.4	-0.1
ETVZ	East Tongariro	3.46	23	P	Pn	05 44 38.9	+1.3
TMVZ	Te Maari	3.47	23	P	Pn	05 44 39.1	+1.3
NTVZ	North Tongarir	3.48	23	P	Pn	05 44 39.4	+1.5
MCHZ	McNeill Hill	3.55	37	P	Pn	05 44 39.0	+0.1
KATZ	Kakaramea	3.60	22	P	Pg	05 44 51.7	-1.9
ODZ	Otahua Downs	3.62	220	P	Pn	05 44 39.2	-0.6
ODZ	Otahua Downs	3.62	220		Pn	05 44 39.7	-0.1
ODZ	Otahua Downs	3.62	220	P	Pn	05 44 39.3	-0.5
RITZ	Rihia Road	3.65	24	P	Pg	05 44 53.0	-1.4
BKZ	Black Stump Fm	3.70	32	P	Pn	05 44 40.7	-0.2
BKZ	Black Stump Fm	3.70	32	P	Pn	05 44 40.4	-0.5
RATZ	Rangitukua	3.72	22	P	Pg	05 44 53.1	-2.7
ARHZ	Aropaoanui	3.83	38	P	Pn	05 44 40.4	+1.3
WATZ	Wairara	3.86	21	P	Pg	05 44 56.1	-2.4
HIZ	Hauiti	3.87	11		Pn	05 44 45.5	+1.3
HIZ	Hauiti	3.87	11	P	Pn	05 44 45.5	+2.3
NMHZ	Naumai	3.89	35	P	Pn	05 44 43.7	+0.2
MRHZ	Matea Rd	3.96	29	P	Pn	05 44 44.0	-0.5
MTHZ	Maungataniwha	4.11	33	P	Pn	05 44 47.5	+1.0
RAHZ	Arahi	4.16	36	P	Pn	05 44 46.3	-0.9
JCZ	Jackson Bay	4.16	243	P	Pn	05 44 47.2	-0.1
JCZ	Jackson Bay	4.16	243	P	Pn	05 44 46.9	-0.4
TLZ	Tolley Road	4.17	17	P	Pn	05 44 49.1	+1.7
ALRZ	Allen Road	4.18	27	P	Pn	05 44 47.2	-0.3
PRRZ	Plateau Road	4.25	27	P	Pb	05 45 00.9	+2.1
HHSZ	Highcliff Hill	4.30	213	P	Pn	05 44 49.1	0.0
HRRZ	Handcock Road	4.32	25	P	Pg	05 45 05.4	-1.8
RTZ	Ruatahuna	4.37	33		Pn	05 44 50.9	+0.8
RTZ	Ruatahuna	4.37	33	P	Pg	05 45 07.4	-0.8
MHGZ	Mahia Peninsul	4.37	45	P	Pn	05 44 51.2	+1.2
WKZ	Wanaka	4.37	233	Pn	Pn	05 44 49.4	-0.7
HSRZ	Hossack Road	4.38	24	P	Pg	05 45 06.2	-2.1
SNGZ	Shannon Statio	4.38	37	P	Pn	05 44 50.2	0.0
EAZ	Earnscleugh	4.44	228	P	Pn	05 44 50.3	-0.7
PRGZ	Paritu Road	4.53	43	P	Pn	05 44 51.4	-0.9
OMRZ	Omania	4.60	25	P	Pb	05 45 05.1	+0.3
URZ	Urewera	4.72	32	P	Pn	05 44 54.5	-0.4
URZ	Urewera	4.72	32	Pn	Pn	05 44 53.2	-1.8
	1.9nm,0.3s,baz=246,slow=19,SNR=14						
URZ				Sn	Sn	05 45 46.6	-2.7
	13nm,0.3s,baz=83,slow=15,SNR=4.8						
	4.0nm,0.3s						
URZ	Urewera	4.72	32	P	Pn	05 44 55.6	+0.7
TOZ	Tahuroa Road	4.74	15	Pn	Pn	05 44 55.9	+0.8
TOZ	Tahuroa Road	4.74	15	P	Pn	05 44 56.6	+1.4
TUZ	Tuapeka	4.78	219	P	Pn	05 44 55.7	+0.1
TGRZ	Tauranga	4.92	22	P	Pg	05 45 17.0	-1.8
MSZ	Milford Sound	4.97	240	P	Pn	05 44 57.4	-0.9
CNGZ	Carnagh Statio	5.03	42	P	Pn	05 44 58.1	-1.0
TWGZ	Tauwhareparae	5.16	38	P	Pn	05 45 00.8	-0.2
MLZ	Mavora Lakes	5.20	233	Pn	Pn	05 45 00.8	-0.7
MLZ	Mavora Lakes	5.20	232	P	Pn	05 45 00.4	-1.0
RUGZ	Raukumara Rang	5.21	34	P	Pn	05 45 01.1	-0.6
KBAZ	Karaka Road Bo	5.27	8	P	Pn	05 45 04.9	+2.4
AWAZ	Awhitu Peninsu	5.28	6	P	Pn	05 45 04.9	+2.3
MKAZ	Moumakai	5.30	11	P	Pn	05 45 04.0	+1.3
PUZ	Puketiti	5.38	39	P	Pn	05 45 05.7	+1.8
WTAZ	Waiatarua	5.41	5	P	Pn	05 45 07.3	+3.0
ETAZ	East Tamaki Re	5.42	8	P	Pn	05 45 06.4	+1.9
HAZ	Te Kaha	5.43	34	P	Pn	05 45 04.0	-0.5
SYZ	Scrubby Hill	5.44	218	P	Pn	05 45 05.0	+0.3
SYZ	Scrubby Hill	5.44	218	P	Pn	05 45 05.1	+0.4
PKGZ	Pakihiroa	5.44	37	P	Pn	05 45 03.8	-1.1
RVAZ	Riverhead Bore	5.57	5	P	Pn	05 45 09.1	+2.6
MBAZ	Motutapu North	5.60	8	P	Pn	05 45 12.1	+5.2
WIAZ	Waiheke Island	5.60	10	P	Pn	05 45 08.6	+1.7
WHZ	Wether Hill Ro	5.60	228		Pn	05 45 05.2	-1.7
WMGZ	Waiomatatini S	5.65	39	P	Pn	05 45 06.5	-1.2
KUZ	Kuaotunu	5.74	14	P	Pn	05 45 08.7	-0.1
KUZ	Kuaotunu	5.74	14	P	Pn	05 45 09.7	+0.9
ABAZ	Army Bay	5.76	7	P	Pn	05 45 11.8	+2.7
DCZ	Deep Cove	5.83	235	Pn	Pn	05 45 08.5	-1.6
DCZ	Deep Cove	5.83	235	P	Pn	05 45 09.0	-1.0
APZ	The Paps	6.20	221	P	Pn	05 45 14.4	-0.8
WCZ	Waipu Caves	6.38	3	P	Pn	05 45 22.9	+5.2
PYZ	Puysegur Point	6.48	231	P	Pn	05 45 18.8	-0.2
CTZ	Chatham Island	7.05	105	Pn	Pn	05 45 27.0	+0.1
CTZ	Chatham Island	7.05	105	P	Pn	05 45 27.1	+0.2
OUZ	Omahuta	7.10	358	P	Pn	05 45 34.6	+7.1
DZM	Mont Dzumac	21.15	340	P	P	05 48 27.1	-1.6
DZM				IAmb	IAmb	05 49 08.8	
	comp=Z,25nm,1.4s						
DZM	Mont Dzumac	21.15	340	P	P	05 48 26.5	-2.3
	comp=Z,4.2nm,1.1s,baz=158,slow=18,SNR=1.4						
DZM				LR	LR	05 56 15.5	
	comp=Z,327nm,18.9s,baz=197,slow=36						
	comp=Z,4.2nm,1.1s						
STKA	Stephens Creek	27.68	281	LR	LR	05 59 26.5	
	comp=Z,205nm,18.9s,baz=169,slow=34						
BBOO	Buckleboo	31.28	275	P	P	05 50 02.5	-0.9
VNDA	Vanda	35.66	184	P	P	05 50 41.8	+0.8
VNDA				IAmb	IAmb	05 51 22.4	
	comp=Z,5.3nm,1.4s						
VNDA	Vanda	35.66	184	LR	LR	06 04 30.9	
	comp=Z,112nm,18.2s,baz=22,slow=35						
AS31	Alice Springs	37.97	287		P	05 51 01.0	-0.4
ASAR	Alice Springs	37.97	287		P	05 51 00.3	-1.1
ASAR	Alice Springs	37.97	287	P	P	05 51 00.8	-0.6
	comp=Z,1.2nm,0.6s,baz=128,slow=6.9,SNR=19						
ASAR				PcP	PcP	05 53 16.1	-0.9
	comp=Z,0.4nm,0.7s,baz=121,slow=3.6,SNR=2.0						
ASAR				LR	LR	06 06 50.4	
	comp=Z,315nm,18.3s,baz=168,slow=37						
	comp=Z,1.2nm,0.6s						
FORT	Forrest	38.20	272	P	P	05 51 02.3	-0.9
FORT				IAmb	IAmb	05 51 19.8	
	comp=Z,18nm,0.9s						
WR0	Warramunga Arr	39.95	292	P	P	05 51 17.3	-0.7
WR0				IAmb	IAmb	05 51 22.0	
	comp=Z,8.8nm,1.0s						
WB2	Warramunga Arr	40.09	291	P	P	05 51 17.9	-1.2
WB2				IAmb	IAmb	05 51 25.8	
	comp=Z,10nm,0.9s						
WRA	Warramunga Arr	40.10	291	P	P	05 51 18.0	-1.2
WRA	Warramunga Arr	40.10	291	P	P	05 51 18.4	-0.8
	comp=Z,5.1nm,0.7s,baz=129,slow=7.4,SNR=33						
WRA				PcP	PcP	05 53 21.5	-2.2
	comp=Z,0.7nm,0.9s,baz=128,slow=3.0,SNR=2.4						
	comp=Z,5.1nm,0.7s						
PMG	Port Moresby	40.35	317	LR	LR	06 08 01.8	
	comp=Z,230nm,18.2s,baz=160,slow=36						
NWAO	Narrogin (SRO)	45.15	263	LR	LR	06 07 02.4	
	comp=Z,114nm,21.9s,baz=72,slow=31						
QSPA	South Pole Qui	47.80	180		P	05 52 21.2	+0.5
QSPA				IAmb	IAmb	05 52 49.6	
	comp=Z,5.2nm,1.1s						
QSPA	South Pole Qui	47.80	180	P	P	05 52 23.6	+2.9
	comp=Z,2.4nm,1.0s,baz=44,slow=0.3,SNR=3.7						
	comp=Z,2.4nm,1.0s						
KAPI	Kappang	60.63	292	LR	LR	06 20 47.7	
	comp=Z,52nm,18.4s,baz=97,slow=37						
GUMO	Guam	61.73	328	LR	LR	06 18 45.6	
	comp=Z,22nm,19.7s,baz=132,slow=34						
RPN	Rapa Nui	62.86	103	LR	LR	06 16 14.6	
	comp=Z,78nm,19.1s,baz=235,slow=31						
DAV	Davao City (W)	65.99	306	LR	LR	06 23 59.0	
	comp=Z,66nm,19.8s,baz=202,slow=37						
SNAA	Sanae	66.29	181	P	P	05 54 32.9	+1.6
LEM	Lembang	67.99	281	LR	LR	06 26 16.1	
	comp=Z,68nm,18.8s,baz=166,slow=38						
PLCA	Paso Flores	78.85	136	LR	LR	06 22 40.6	
	comp=Z,65nm,18.0s,baz=204,slow=30						
H03N3	Juan Fernandez	79.31	126	T	T	07 23 06.4	
	baz=225,slow=74						
H03N2	Juan Fernandez	79.31	126	T	T	07 23 05.2	
	baz=225						
H03N1	Juan Fernandez	79.33	126	T	T	07 23 03.9	
	baz=225,slow=74,SNR=7.7						
NJ2	Nanjing	89.65	316	*e*P	P	05 56 44.5	+3.4
NJ2				pP	pP	05 56 47.0	-0.1
NJ2				sP	sP	05 56 49.4	+0.3
NJ2				pmax	pmax		
	comp=Z,11nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,220nm,5.9s						
KSRS	Korea Array	89.80	325	LR	LR	06 36 49.7	
	comp=Z,18nm,18.2s,baz=165,slow=36						
CMAR	Chiang Mai Arr	91.66	293	LR	LR	06 38 48.6	
	comp=Z,18nm,21.9s,baz=150,slow=36						
PZH	PanZhiHua	95.43	301	P	P	05 57 08.7	+0.5
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.7s						
LPIG	La Paz	96.06	63	LR	LR	06 34 07.4	
	comp=Z,77nm,18.1s,baz=202,slow=32						
PETK	Petropavlovsk-	96.08	350	LR	LR	06 37 28.5	
	comp=Z,40nm,18.6s,baz=108,slow=34						
HHC	Hu-ho-hao-te	100.16	317	*e*P	Pdif	05 57 32.0	+2.9
HHC				pP	sPdif	05 57 36.6	-0.4
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,140nm,4.3s						
YKA	Yellowknife Ar	118.98	30	PKP	PKiKP	06 02 31.6	+0.6
	comp=Z,0.8nm,0.8s,baz=260,slow=1.6,SNR=12						
KURBB	Kurchatov Arra	124.18	310	PKP	PKPdf	06 02 40.7	-0.6
	comp=Z,0.5nm,0.6s,baz=123,slow=2.1,SNR=4.3						
KBZ	Khabaz	144.60	289	PKP	PKPbc	06 03 18.4	+0.1
	comp=Z,2.6nm,0.8s,baz=98,slow=13,SNR=3.8						
MMAI	Mount Meron Ar	146.18	268	PKPbc	PKPab	06 03 24.6	+0.1
	comp=Z,3.0nm,0.7s,baz=132,slow=4.1,SNR=2.7						
ARCES	ARCESS Array B	148.24	340	PKPbc	PKPdf	06 03 25.1	+0.2
	comp=Z,1.7nm,0.9s,baz=52,slow=2.0,SNR=3.9						
BRTR	Keskin Array B	150.13	279	PKPbc	PKPbc	06 03 33.8	-0.3
	comp=Z,1.6nm,0.8s,baz=116,slow=5.1,SNR=6.6						
FINES	FINESS Array B	152.89	326	PKPbc	PKPbc	06 03 38.1	-1.4
	comp=Z,1.5nm,0.9s,baz=104,slow=16,SNR=4.3						

IDC 12 05:46:10.3±2.4, 4˚.22S×128˚.68E, h0km, mb3.8/1, mbtmp3.4/3, ML3.1/2, Error ellipse: s-maj=178.6km s-min=30.8km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.57	161	Pn	P	05 50 06.1	-0.9
	0.1nm,0.3s,baz=344,slow=13,SNR=1.8						
	0.6nm,0.8s						
ASAR	Alice Springs	19.98	166	P	P	05 50 43.7	-0.8
	0.1nm,0.3s,baz=344,slow=11,SNR=5.6						
	0.4nm,0.6s						
MKAR	Makanchi Array	65.19	327	P	P	05 56 53.6	0.0
	0.7nm,0.7s,baz=116,slow=6.6,SNR=4.0						
	0.7nm,0.7s						

IDC ***12*** *05:53:01.3±2.7,6˚.68S×129˚.68E,h142km±24km,mb4.0/14, mbtmp4.5/17,Error ellipse: s-maj=19.8km s-min=12.2km az=67.0*

NEIC ***12*** *05:53:02.9±2.0,6˚.72S±0˚.06×129˚.74E±0˚.05,h153km±7km, mb4.6/44,Error ellipse: s-maj=10.0km s-min=4.9km az=142.0*

DJA ***12*** *05:53:03.0±0.2,7˚S±2˚×13˚0E±˚,h161km±3km,M4.9/29, mB5.3/14,mb4.8/29,MLv5.2/12,Mw(mB)4.8/14*

ISC 12 05:53:02.2±0.3, 6˚.83S±0˚.04×129˚.69E±0˚.04, h150km, n129, σ1§54/136, mb4.5/43, 1C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	Saumlaki	1.97	126	P	Pn	05 53 39.6	+2.7
SAUI	Saumlaki	1.97	126	Pn	Pn	05 53 39.3	+2.4
SAU

comp=Z,24nm,1.3s
MTSU Mount Surprise 18.15 130 P **Pn** 05 57 06.4 +1.5
comp=Z,25nm,0.8s
WRKA Warakurna 18.16 184 P **P** 05 57 05.0 +1.8
comp=Z,29nm,0.8s
MANU Manus Island 18.25 76 P **Pn** 05 57 07.6 +1.5
comp=Z,162nm,0.9s
MANU Manus Island 18.25 76 P **Pn** 05 57 05.6 -0.5
SBUM Sibu 19.72 297 P **P** 05 57 20.8 +0.5
SBUM IAmb IAmb 05 57 23.2
comp=Z,17nm,0.7s
KPJI Karang Pucung 20.61 267 P **P** 05 57 29.2 -0.6
comp=Z,27nm,0.7s
CTAO Charters Tower 20.78 131 P **P** 05 57 31.5 -0.2
CTAO IAmb IAmb 05 57 49.7
comp=Z,13nm,0.8s
KSM Kuching 21.03 292 P **P** 05 57 35.4 +1.1
KSM IAmb IAmb 05 57 56.7
comp=Z,20nm,0.7s
OOD Oodnadatta 21.61 165 P **P** 05 57 41.0 +0.6
comp=Z,54nm,0.8s
GIRL Giralia 21.66 222 P **P** 05 57 41.8 +0.8
BBJI Bungbulang 21.88 267 P **P** 05 57 44.1 +0.7
comp=Z,67nm,0.7s
LEM Lembang 21.92 269 P **P** 05 57 43.4 -0.5
comp=Z,48nm,0.7s,baz=86,slow=19,SNR=6.4
comp=Z,48nm,0.7s
LEM Lembang 21.92 269 P **P** 05 57 43.1 -0.8
comp=Z,62nm,0.9s
CNJI Cibinong 22.39 267 P **P** 05 57 47.4 -1.0
comp=Z,73nm,0.9s
MULG Mulgathing 23.69 171 P **P** 05 58 02.5 +2.3
comp=Z,21nm,1.5s
FORT Forrest 23.88 183 P **P** 05 58 03.8 +1.9
FORT IAmb IAmb 05 58 48.2
comp=Z,23nm,0.8s
QLP Quilpie 24.04 146 P **P** 05 58 05.2 +1.8
comp=Z,36nm,1.1s
BBOO Buckleboo 26.52 168 P **P** 05 58 28.3 +2.4
BBOO IAmb IAmb 05 59 08.1
comp=Z,16nm,1.0s
STKA Stephens Creek 27.29 157 P **P** 05 58 32.5 -0.2
STKA Stephens Creek 27.29 157 P **P** 05 58 33.9 +1.2
comp=Z,1.4nm,0.4s,baz=343,slow=9.7,SNR=5.7
comp=Z,1.4nm,0.4s
IPM Ipoh 30.74 291 P **P** 05 59 04.2 +0.7
IPM IAmb IAmb 05 59 05.7
comp=Z,10nm,1.0s
KULM Kulim 31.38 292 P **P** 05 59 09.1 -0.1
KULM IAmb IAmb 05 59 11.5
comp=Z,8.0nm,0.8s
PSI Prapat 32.17 286 P **P** 05 59 15.1 -1.0
comp=Z,14nm,0.7s
UBPT Khong Chiam 32.54 313 P **P** 05 59 19.4 +0.2
comp=Z,17nm,0.9s
UBPT Khong Chiam 32.54 313 P **P** 05 59 18.9 -0.3
UBPT IAmb IAmb 05 59 19.4
comp=Z,14nm,0.9s
CAN Canberra 33.45 151 P **P** 05 59 28.9 +1.9
DZM Mont Dzumac 38.55 117 P **P** 06 00 11.1 +0.5
DZM IAmb IAmb 06 00 12.3
comp=Z,9.6nm,0.8s
ONTNC Ouen Toro 38.62 117 P **P** 06 00 11.6 +0.5
OUENC Ouen Island, N 39.00 117 P **P** 06 00 14.7 +0.5
CMAR Chiang Mai Arr 39.39 310 P **P** 06 00 16.6 -0.9
CMAR Chiang Mai Arr 39.39 310 P **P** 06 00 17.3 -0.2
comp=Z,3.4nm,0.6s,baz=142,slow=7.3,SNR=20
comp=Z,3.4nm,0.6s
CRAI Chiangrai 39.42 314 P **P** 06 00 17.3 -0.5
CHTO Chiang Mai 39.60 311 P **P** 06 00 18.9 -0.3
CHTO IAmb IAmb 06 00 19.8
comp=Z,9.9nm,0.8s
NJ2 Nanjing 40.02 346 *e*P **P** 06 00 22.7 +0.2
NJ2 pP **pP** 06 00 56.5 +2.5
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
NJ2 pmax pmax
comp=Z,190nm,5.0s
PZH PanZhiHua 42.81 322 P **P** 06 00 44.9 -0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,7.5s
MJAR Matsushiro Arr 43.88 10 P **P** 06 00 51.4 -2.3
comp=Z,2.7nm,0.8s,baz=186,slow=8.7,SNR=6.4
comp=Z,2.7nm,0.8s
KSRS Korea Array 44.08 358 P **P** 06 00 53.1 -2.2
comp=Z,0.4nm,0.4s,baz=180,slow=9.3,SNR=1.8
comp=Z,0.4nm,0.4s
LYN LuoYang 44.26 340 *e*P P 06 01 01.8 +5.0
LYN pmax pmax
comp=Z,12nm,0.6s
XAN Xi'an 45.16 335 ⇓P **P** 06 01 02.6 -1.4
XAN pmax pmax
comp=Z,14nm,0.9s
HNS HongShan 46.17 343 ⇑P **P** 06 01 10.6 -1.2
HNS pmax pmax
comp=Z,10.0nm,0.8s
HHC Hu-ho-hao-te 50.29 342 *e*P **P** 06 01 41.7 -1.8
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,63nm,5.1s
QRZ Quartz Range 50.99 138 P **P** 06 01 50.3 +1.6
RPZ Rata Peaks 51.56 142 P **P** 06 01 54.0 +1.1
TUWZ Tuamarina 52.22 138 P **P** 06 01 57.6 -0.1
GTA Gaotai 53.67 331 *e*P **P** 06 02 08.5 -0.1
GTA pmax pmax
comp=Z,5.0nm,0.9s
ULN Ulaanbaatar 58.01 342 P **P** 06 02 39.2 -0.1
ULN IAmb IAmb 06 02 40.2
comp=Z,6.3nm,0.6s
SONM Songino Array 58.18 342 P **P** 06 02 40.9 +0.4
comp=Z,1.3nm,0.4s,baz=150,slow=7.0,SNR=3.7
comp=Z,1.3nm,0.4s
PEA0B Petropavlovsk- 64.26 18 P **P** 06 03 20.8 -0.3
PETK Petropavlovsk- 64.26 18 P **P** 06 03 20.5 -0.6
PETK Petropavlovsk- 64.26 18 P **P** 06 03 20.6 -0.5
comp=Z,3.8nm,0.8s,baz=142,slow=7.4,SNR=4.9
comp=Z,3.8nm,0.8s
MKAR Makanchi Array 67.91 327 P **P** 06 03 43.9 -0.8
MKAR Makanchi Array 67.91 327 P **P** 06 03 44.2 -0.4
comp=Z,6.4nm,0.4s,baz=121,slow=7.9,SNR=64
comp=Z,6.4nm,0.4s
MK31 Makanchi Array 67.92 327 P **P** 06 03 44.4 -0.2
MK31 IAmb IAmb 06 03 45.9
comp=Z,7.7nm,0.9s
MAKZ Makanchi 68.09 327 P **P** 06 03 45.2 -0.5
MAKZ IAmb IAmb 06 03 46.9
comp=Z,8.4nm,0.9s
AAK Ala-Archa 70.21 320 P **P** 06 03 59.5 +0.4
ZAA0 Zalesovo Array 71.29 334 P **P** 06 04 04.1 -1.0
ZALV Zalesovo Beam 71.29 334 P **P** 06 04 04.1 -1.1
comp=Z,3.6nm,0.6s,baz=127,slow=4.7,SNR=15
comp=Z,3.6nm,0.6s
KURBB Kurchatov Arra 72.20 329 P **P** 06 04 10.0 -0.6
comp=Z,5.7nm,0.6s,baz=131,slow=4.9,SNR=54
comp=Z,5.7nm,0.6s
KURK Kurchatov 72.21 329 P **P** 06 04 10.0 -0.7
KURK IAmb IAmb 06 04 12.5
comp=Z,9.8nm,1.0s
KK31 Karatay Array 73.01 319 P **P** 06 04 15.6 -0.1
KKAR Karatay Array 73.01 319 P **P** 06 04 15.3 -0.3
KKAR Karatay Array 73.01 319 P **P** 06 04 15.6 -0.1
KKAR IAmb IAmb 06 04 17.9
comp=Z,6.4nm,1.4s
ATKA Atka Island 75.66 32 P **P** 06 04 29.7 -1.0
BVAR Borovoye Array 77.75 328 P **P** 06 04 41.7 -0.8
comp=Z,1.7nm,0.5s,baz=119,slow=5.8,SNR=13
comp=Z,1.7nm,0.5s
BRVK Borovoye 77.83 328 P **P** 06 04 42.0 -0.8
UOSS Minazif 78.07 297 P **P** 06 04 45.5 +0.6
UOSS IAmb IAmb 06 04 46.9
comp=Z,6.5nm,0.6s
TIXI Tiksi 78.32 360 P **P** 06 04 43.8 -1.3
GEYT Alibeck 79.87 310 P **P** 06 04 53.7 -0.7
comp=Z,1.4nm,0.3s,baz=90,slow=10,SNR=2.4
comp=Z,1.4nm,0.3s
ABKAR Akbulak array 82.18 322 P **P** 06 05 04.9 -1.4
QSPA South Pole Qui 83.15 180 P **P** 06 05 11.3 +0.1
QSPA South Pole Qui 83.15 180 P **P** 06 05 11.0 -0.2
comp=Z,0.8nm,0.5s,baz=22,slow=5.4,SNR=13
comp=Z,0.8nm,0.5s
L14K Kuka Creek 85.48 27 P **P** 06 05 22.3 -0.5
RAYN Ar Rayn 87.40 294 P **P** 06 05 32.2 -0.9
RAYN IAmb IAmb 06 05 36.0
comp=Z,7.2nm,0.8s
J17K VABM Dome 87.80 25 P **P** 06 05 33.6 -0.4
J17K IAmb IAmb 06 05 35.5
comp=Z,5.0nm,0.8s
E19K Redstone River 89.86 22 P **P** 06 05 42.7 -0.9
E19K IAmb IAmb 06 05 43.8
comp=Z,2.6nm,0.8s
ILAR Eielson Array 93.32 25 P **P** 06 05 57.3 -2.4
comp=Z,1.2nm,0.7s,baz=250,slow=4.6,SNR=17
comp=Z,1.2nm,0.7s
J26L Joseph Creek 94.71 26 P **P** 06 06 05.2 -1.0
TXAR Lajitas Array 125.10 59 PKP **PKPdf** 06 11 45.5 -0.1
comp=Z,0.2nm,0.4s,baz=290,slow=2.7,SNR=5.5
LVC Limon Verde 145.54 149 PKPbc **PKPbc** 06 12 25.3 +1.0
comp=Z,3.5nm,0.4s,baz=225,slow=1.4,SNR=5.8
CPUP Villa Florida 146.34 169 PKPbc **PKPbc** 06 12 26.4 +0.3
comp=Z,4.3nm,0.8s,baz=202,slow=2.5,SNR=8.7
LPAZ La Paz 151.04 143 PKPbc **PKPbc** 06 12 39.8 +0.6
comp=Z,3.1nm,0.4s,baz=222,slow=0.3,SNR=28

CATAC 12 06:04:54.3±1.2, 13.60N×91.30W, h2km±8km, ML3.2, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RTAL	**Retalhuleu**	**1.00**	**337**	*i* P	Pn	06 05 15.1	-0.2
RTAL				IAML		06 05 53.6	
	comp=Z,380nm,1.0s						
GUNB	**GUNB**	**1.35**	**43**	*i* P	Pg	06 05 19.9	-0.3
GUNB				*i* S	Sg	06 05 35.5	-2.3
GUNB				IAML		06 05 43.3	
	comp=Z,270nm,1.0s						
SMSP	**San Marcos**	**1.44**	**341**	*i* P	Pn	06 05 19.4	-2.3
SMSP				IAML		06 05 54.7	
	comp=Z,940nm,1.0s						
NUBE	**Las Nubes**	**1.50**	**78**	*i* P	Pn	06 05 20.7	-1.7
NUBE				IAML		06 05 48.7	
	comp=Z,140nm,1.0s						
LOAL	**Lomas de Alarc**	**1.52**	**75**	*i* P	Pg	06 05 23.6	+0.1
LOAL				IAML		06 05 40.1	
	comp=Z,2μm,1.0s						
LOAL				*i* S	Sn	06 05 42.7	-0.4
CEVE	**Cerro Verde**	**1.64**	**82**	*i* P	Pn	06 05 22.9	-1.5
CEVE				*i* S	Sb	06 05 46.5	-0.2
CEVE				IAML		06 05 52.4	
	comp=Z,290nm,1.0s						
HUEH	**Huehuetenango**	**1.72**	**353**	*i* P	Pn	06 05 24.3	-1.2
HUEH				IAML		06 06 23.0	
	comp=Z,570nm,1.0s						
UNIC	**Universidad Ca**	**1.74**	**77**	*i* P	Pn	06 05 24.1	-1.5
UNIC				IAML		06 05 39.2	
	comp=Z,130nm,1.0s						
UNIC				*i* S	Sn	06 05 48.3	-0.1
JAYA	**Jayaque - finc**	**1.79**	**88**	*i* P	Pn	06 05 25.6	-0.9
JAYA				*i* S	Sn	06 05 49.3	-0.6
JAYA				IAML		06 05 53.5	
	comp=Z,590nm,1.0s						
CEDA	**San Andres**	**1.86**	**84**	*i* P	Pn	06 05 27.3	+0.1
CEDA				*i* S	Sb	06 05 52.3	-0.4
CEDA				IAML		06 05 58.8	
	comp=Z,400nm,1.0s						
PMON	**Piamonte**	**1.93**	**87**	*i* P	Pn	06 05 28.4	+0.1
PMON				*i* S	Sn	06 05 53.5	+0.3
PMON				IAML		06 05 59.0	
	comp=Z,290nm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.98**	**83**	*i* S	Sn	06 05 55.0	+0.7
UEES	**Universidad Ev**	**2.00**	**87**	*i* P	Pn	06 05 28.4	-0.8
UEES				*i* S	Sn	06 05 55.7	+0.8
UEES				IAML		06 06 06.0	
	comp=Z,140nm,1.0s						
MTO3	**Montecristo**	**2.04**	**67**	*i* P	Pn	06 05 28.6	-1.3
MTO3				*i* S	Sn	06 05 57.0	+1.0
MTO3				IAML		06 06 01.7	
	comp=Z,52nm,1.0s						
PANCS	**Alcalda de**	**2.06**	**89**	*i* P	Pn	06 05 29.7	-0.3
PANCS				*i* S	Sn	06 05 57.0	+0.7
PANCS				IAML		06 06 21.7	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**2.12**	**63**	*i* P	Pn	06 05 30.8	-0.1
ESQI				IAML		06 06 06.1	
	comp=Z,90nm,1.0s						
COEG	**Centro de Oper**	**2.35**	**89**	*i* P	Pn	06 05 33.8	-0.2
COEG				*i* S	Sn	06 06 02.2	-1.3
COEG				IAML		06 06 21.6	
	comp=Z,60nm,1.0s						
TECO	**Alcaldia de Te**	**2.45**	**91**	*i* P	Pn	06 05 34.9	-0.4
TECO				*i* S	Sn	06 06 06.2	+0.4
TECO				IAML		06 06 21.3	
	comp=Z,44nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.50**	**87**	*i* P	Pn	06 05 35.7	-0.3
SCLA				*i* S	Sb	06 06 10.6	-0.6
SCLA				IAML		06 06 23.3	
	comp=Z,25nm,1.0s						
PQSS	**Presa 15 de Se**	**2.66**	**89**	*i* P	Pn	06 05 37.4	-0.8
PQSS				IAML		06 06 25.0	
	comp=Z,26nm,1.0s						

MEX 12 06:05:04.9±1.0, 14.37N×93.35W, h18km±74km, MD4.3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THIG		**1.18**	**63**	*e*P	Pn	06 05 25.4	-1.1
THIG				*e*S	Sb	06 05 41.3	-0.3
PATR	**El Naranjo**	**1.31**	**55**	*e*P	Pn	06 05 20.6	-7.9
PATR				*e*S	Sn	06 05 42.9	-2.7
PCIG		**1.33**	**5**	*e*P	Pn	06 05 24.5	-4.1
PCIG				*e*S	Sn	06 05 39.1	-6.6
PAVE	**Pavencul**	**1.40**	**54**	*e*P	Pn	06 05 21.9	-7.8
PAVE				*e*S	Sn	06 05 42.7	-5.1
CHUJ	**Union Juarez**	**1.40**	**59**	*e*P	Pn	06 05 19.6	-10
CHUJ				*e*S	Sn	06 05 43.1	-4.7
RTAL	**Retalhuleu**	**1.61**	**84**	*e*S	Sn	06 05 49.3	-3.5
SMSP	**San Marcos**	**1.63**	**68**	*e*P	Pn	06 05 31.6	-1.4
SMSP				*e*S	Sn	06 05 50.0	-3.7
CARR	**Arriaga**	**1.94**	**344**	*i* P	Pn	06 05 33.1	-3.9
CARR				*i* S	Sn	06 05 55.0	-5.9
HUEH	**Huehuetenango**	**2.02**	**62**	*e*P	Pn	06 05 37.7	-0.6
HUEH				*e*S	Sn	06 05 59.5	-3.7
CCIG	**Comitan**	**2.23**	**32**	*e*P	Pn	06 05 41.5	+0.4
CCIG				*e*S	Sn	06 06 08.3	+0.1
CCIG	**Comitan**	**2.23**	**32**	*i* P	Pn	06 05 41.5	+0.4
CCIG				IAML		06 06 14.8	
	comp=Z,350nm,1.0s						
TGIG		**2.40**	**5**	*e*P	Pn	06 05 41.5	-1.8
TGIG				*e*S	Sn	06 06 09.0	-3.4
HUIG	**Huatulco**	**3.00**	**298**	*e*P	Pn	06 05 44.5	-7.1
HUIG				*e*S	Sn	06 06 13.6	-13
UXUV	**UXUV**	**3.03**	**345**	*e*P	Pn	06 05 49.5	-2.4
UXUV				*e*S	Sn	06 06 22.4	-5.3
CMIG	**Matias Romero**	**3.08**	**332**	*e*P	Pn	06 05 48.1	-4.6
CMIG				*e*S	Sn	06 06 19.8	-9.2
NEUV	**Arroyo Zacate**	**4.07**	**325**	*e*P	Pn	06 06 02.5	-3.8
NEUV				*i* S	Sn	06 06 45.7	-7.8

RSNC 12 06:06:00.8±0.0, 5.7N±1.1×7.4W±1.1, h145km±2km, M3.0, mb4.1, mB4.7, ML3.0, Mw(mB)3.9, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.50**	**318**	P	Pn	06 06 20.8	-0.9
SPBC				S	Sn	06 06 37.0	-0.6
CHIC	**Chingaza**	**0.65**	**179**	P	Pn	06 06 21.9	-1.1
CHIC				S	Sn	06 06 38.5	-1.3
ROSC	**El Rosal**	**0.72**	**233**	P	Pn	06 06 23.5	+0.1
ROSC				S	Sn	06 06 40.8	+0.3
RUSC	**La Rusia**	**0.89**	**47**	P	Pn	06 06 24.2	-0.6
RUSC				S	Sn	06 06 42.8	-0.2
NORC	**Norcasia**	**1.16**	**284**	P	Pn	06 06 25.3	-1.3
NORC				S	Sn	06 06 45.3	-1.0
VILC	**Villavicencio,**	**1.16**	**178**	P	Pn	06 06 25.2	-1.6
VILC				S	Sn	06 06 45.2	-1.3
BARC	**Barichara**	**1.42**	**23**	P	Pn	06 06 28.0	-1.4
BARC				S	Sn	06 06 50.0	-1.2
PTBC	**PUERTO BERRIO,**	**1.44**	**330**	P	Pn	06 06 27.5	-1.9
PTBC				S	Sn	06 06 50.1	-1.2
PTGC	**Puerto Gaitan,**	**1.93**	**124**	P	Pn	06 06 33.0	-1.8
PTGC				S	Sn	06 06 58.2	-2.7
PRAC	**Prado**	**1.93**	**216**	P	Pn	06 06 33.6	-1.3
PRAC				S	Sn	06 06 59.8	-1.2
URMC	**La Uribe, Meta**	**2.12**	**198**	P	Pn	06 06 36.1	-1.1
URMC				S	Sn	06 07 04.3	-0.8
TAMC	**Tame, Arauca**	**2.25**	**59**	P	Pn	06 06 37.7	-1.0
TAMC				S	Sn	06 07 06.2	-1.7
PAMC	**Pamplona, Colo**	**2.29**	**27**	P	Pn	06 06 39.5	-0.1
PAMC				P	Pn	06 06 39.5	-0.1
PAMC				S	Sn	06 07 09.2	-0.3
ZARC	**Zaragoza, Cauc**	**2.46**	**333**	P	Pn	06 06 38.4	-2.9
ZARC				S	Sn	06 07 09.8	-2.6
PLMC	**San Jos del P**	**2.56**	**262**	P	Pn	06 06 42.2	-0.3
PLMC				S	Sn	06 07 16.0	+1.4
GUVC	**San Jose del G**	**2.94**	**158**	P	Pn	06 06 44.8	-2.4
GUVC				S	Sn	06 07 20.1	-2.9
OCAC	**Ocana**	**2.97**	**8**	P	Pn	06 06 46.2	-1.6
OCAC				S	Sn	06 07 22.6	-1.4
DBBC	**Dabeiba**	**3.00**	**305**	P	Pn	06 06 46.9	-1.2
DBBC				S	Sn	06 07 23.7	-0.9
UREC	**San Jos de Ur**	**3.03**	**324**	P	Pn	06 06 45.0	-3.4
UREC				S	Sn	06 07 21.2	-4.1
MACC	**Macarena, Meta**	**3.12**	**182**	P	Pn	06 06 46.5	-3.0
MACC				S	Sn	06 07 22.9	-4.3
GARC	**Garzon, Huila**	**3.54**	**210**	P	Pn	06 06 52.7	-2.4
JAMC	**Jamundi, Valle**	**3.57**	**235**	P	Pn	06 06 54.3	-1.3
PIZC	**Pizarro, Choco**	**3.62**	**265**	P	Pn	06 06 56.0	0.0
MALC	**Bahia Malaga**	**3.80**	**251**	P	Pn	06 06 57.7	-0.6
APAC	**Apartado, Choc**	**3.84**	**313**	P	Pn	06 06 57.1	-1.7
APAC				S	Sn	06 07 40.9	-3.0
POPC	**Popayan, Colom**	**4.00**	**227**	P	Pn	06 06 59.9	-1.3
POPC				S	Sn	06 07 51.1	+3.1
FLOC	**Florencia**	**4.14**	**208**	P	Pn	06 07 01.2	-1.6
ARGC	**Ariguani, Magd**	**4.58**	**354**	P	Pn	06 07 07.1	-1.5
ARGC				P		06 07 07.7	
ARGC				P		06 07 07.9	
SDV	**Santo Domingo**	**4.73**	**41**	P	Pn	06 07 08.9	-1.8
SDV				S	Sn	06 08 01.7	-3.4
SJCC	**San Jacinto, C**	**4.80**	**343**	P	Pn	06 07 07.5	-4.1
SJCC				S	Sn	06 08 00.6	-6.2
CAPC	**Capurgana**	**4.89**	**313**	P	Pn	06 07 09.5	-3.3
CAPC				S	Sn	06 08 00.3	-8.6
CRJC	**Cerrejon, Guaj** 20nm,1.3s,862nm	**5.77**	**8**	P	Pn	06 07 21.1	-3.4
CRJC				S	Sn	06 08 24.1	-5.7
	20nm,1.3s,862nm						
URIC	**Uribia, Colomb**	**6.61**	**15**	P	Pn	06 07 32.0	-3.7

MDD 12 06:15:59.7±1.3, 28.29N×16.63W, h13km±9km, mb_Lg1.3/6, Error ellipse: s-maj=7.5km s-min=5.0km az=175.0, Canary Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CFOR	**Fortaleza, Los**	**0.04**	**45**	S	Sg	06 16 03.7	-0.6
CNOR	**Icod de los Vi**	**0.04**	**313**	P	Pg	06 16 02.3	+0.1
CNOR				S	Sg	06 16 04.0	-0.1
CCAN	**Las Canadas**	**0.06**	**165**	P	Pg	06 16 02.6	+0.1
CCAN				S	Sg	06 16 04.4	-0.2
GUIA	**Guia de Isora,**	**0.09**	**246**	S	Sg	06 16 04.8	-0.1
GUIA				*i* Vmb_Lg		06 16 10.7	
CDOS	**Garachico, Isl**	**0.10**	**275**	P	Pg	06 16 03.1	+0.3
CDOS				S	Sg	06 16 04.7	-0.4
MACI	**Morro de la Ar**	**0.11**	**109**	P	Pg	06 16 02.9	0.0
MACI				S	Sg	06 16 05.5	+0.3
MACI				*i* Vmb_Lg		06 16 11.5	
CGUI	**Guimar, Teneri**	**0.17**	**77**	S	Sg	06 16 06.3	-0.1
CGUI				*i* Vmb_Lg		06 16 09.3	
CTFS	**San Miguel de**	**0.20**	**182**	S	Sg	06 16 07.1	0.0

IDC 12 06:18:51.1±1.2, 5.58N×124.50E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/1, Error ellipse: s-maj=36.0km s-min=20.1km az=87.0
DJA 12 06:19:01.7±0.5, 6.7N±3.2×12.6E±., h10km, M4.0/7, mb3.9/3, mB4.5/1, MLv4.0/7, Mw(mB)3.7/1
ISC 12 06:18:49.1±1.5, 6.40N±0.09×127.3E±0.1, h10km, n8, σ2.8 87/9, mb3.4/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.79**	**292**	Pn	**Pg**	**06 19 25.7**	**+2.4**
	80nm,0.3s,baz=252,slow=18,SNR=1.6						
DAV				Sn	**Sg**	**06 19 46.7**	**+0.2**
	206nm,0.3s,baz=284,slow=21,SNR=8.7						
SGSI	**Sangihe**	**3.20**	**212**	P	**Pb**	**06 19 44.7**	**-1.3**
SGSI				S	**Sn**	**06 20 17.0**	**-0.6**
GTOI	**Gorontalo**	**7.12**	**217**	P	**Pn**	**06 20 32.6**	**-0.8**
	6.6nm,0.9s,0.0nm						
WRA	**Warramunga Arr**	**27.09**	**165**	P	**P**	**06 24 36.9**	**+4.7**
	0.2nm,0.3s,baz=342,slow=11,SNR=6.4						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**30.58**	**168**	P	**P**	**06 25 05.3**	**+2.0**
	0.4nm,0.4s,baz=337,slow=7.4,SNR=14						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**55.69**	**324**	P	**P**	**06 28 23.5**	**-2.2**
	0.2nm,0.6s,baz=134,slow=8.3,SNR=2.1						
	0.2nm,0.6s						
AAK	**Ala-Archa**	**58.76**	**317**	LR	LR	06 56 36.7	
	comp=Z,23nm,18.5s,baz=154,slow=39						
KURBB	**Kurchatov Arra**	**59.80**	**326**	P	**P**	**06 28 51.3**	**-3.2**
	0.1nm,0.3s,baz=119,slow=8.9,SNR=1.6						
	0.1nm,0.3s						

SJA 12 06:28:41.6±0.6, 34.04S×71.14W, h72km±1km, ML3.5, MW3.4
GUC 12 06:28:43.0±0.6, 34.03S×71.10W, h70km±2km, ML3.6
ISC 12 06:28:44.0±1.3, 34.03S±0.03×71.12W±0.03, h61km±6km, n50, σ1.9 18/90, 3C-16D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MT01	**Popeta**	**0.20**	**327**	*e*P	**Pn**	**06 28 53.2**	**-0.4**
MT01				*e*S	**Sn**	**06 29 01.7**	**+1.2**
MT01				IAML		06 29 02.2	
	comp=Z,3μm,0.1s						
MT01	**Popeta**	**0.20**	**327**	⇓*i* P	**Pn**	**06 28 53.5**	**-0.1**
MT01				*i* S	**Sn**	**06 29 01.4**	**+0.9**
MT01				IAML		06 29 02.2	
	comp=N,5μm,0.1s						
MT09	**Talagante**	**0.28**	**23**	⇓*i* P	**Pn**	**06 28 53.9**	**-0.4**
MT09				*i* S	**Sn**	**06 29 02.3**	**+0.6**
MT09				IAML		06 29 02.8	
	comp=N,14μm,0.3s						
BO01	**Tunca**	**0.36**	**175**	*e*P	**Pn**	**06 28 54.3**	**-0.5**
BO01				IAML		06 29 05.0	
	comp=Z,894nm,0.3s						
BO01	**Tunca**	**0.36**	**175**	⇓*i* P	**Pn**	**06 28 54.4**	**-0.4**
BO01				*i* S	**Sn**	**06 29 03.0**	**+0.5**
BO04	**La Punta**	**0.43**	**85**	⇑*i* P	**Pn**	**06 28 54.5**	**-0.9**
BO04				*i* S	**Sn**	**06 29 03.9**	**+0.2**
BO04				IAML		06 29 04.0	
	comp=N,2μm,0.2s						
VA05	**Santo Domingo**	**0.56**	**312**	⇑*i* P	**Pn**	**06 28 56.2**	**-0.5**
VA05				*i* S	**Sn**	**06 29 06.5**	**+0.6**
VA05				IAML		06 29 08.8	
	comp=N,5μm,0.2s						
MT12	**Pirque**	**0.56**	**58**	⇓*i* P	**Pn**	**06 28 56.0**	**-0.8**
MT12				*e*S	**Sn**	**06 29 05.7**	**-0.4**
MT12				IAML		06 29 07.4	
	comp=E,4μm,0.3s						
MT15	**Las Vizcachas**	**0.67**	**50**	⇓*i* P	**Pn**	**06 28 57.2**	**-0.9**
MT15				*i* S	**Sn**	**06 29 08.2**	**-0.1**
MT15				IAML		06 29 08.8	
	comp=N,6μm,0.4s						
MT05	**Renca**	**0.71**	**27**	*e*P	**Pn**	**06 28 58.5**	**0.0**
MT05				*e*S	**Sn**	**06 29 10.4**	**+1.2**
MT05				IAML		06 29 10.9	
	comp=Z,2μm,0.2s						
MT05	**Renca**	**0.71**	**27**	⇓*i* P	**Pn**	**06 28 58.5**	**0.0**
MT05				*i* S	**Sn**	**06 29 10.1**	**+0.9**
MT05				IAML		06 29 12.5	
	comp=E,6μm,0.3s						
MT13	**San Alfonso**	**0.75**	**68**	⇓*i* P	**Pn**	**06 28 58.3**	**-0.7**
MT13				*i* S	**Sn**	**06 29 10.5**	**+0.4**
MT13				IAML		06 29 11.3	
	comp=N,2μm,0.2s						
MT02	**Curacav**	**0.77**	**359**	*e*P	**Pn**	**06 28 58.4**	**-0.9**
MT02				*e*S	**Sn**	**06 29 10.4**	**0.0**
MT02				IAML		06 29 11.9	
	comp=Z,987nm,0.3s						
MT02	**Curacav**	**0.77**	**359**	⇓*i* P	**Pn**	**06 28 58.6**	**-0

MT16	**CCHEN**	**0.78**	**40**	⇓*iP*		**Pn**	**06 28 58.5**	**-0.9**
MT16				*i* S		**Sn**	**06 29 10.6**	**0.0**
MT16				IAML			06 29 11.7	
	comp=N,831nm,0.4s							
LMEL	**Las Melosas**	**0.78**	**77**	*eP*		**Pn**	**06 28 58.9**	**-0.6**
LMEL				*i* S		**Sn**	**06 29 11.1**	**+0.2**
LMEL				IAML			06 29 12.1	
	comp=N,4μm,0.3s							
MT14	**Cerro Calįn**	**0.80**	**38**	⇓*iP*		**Pn**	**06 28 58.9**	**-0.7**
MT14				*i* S		**Sn**	**06 29 10.9**	**-0.2**
MT14				IAML			06 29 14.4	
	comp=E,4μm,0.3s							
BO02	**Sierra Bellavi**	**0.81**	**160**	*eP*		**Pn**	**06 28 58.8**	**-1.0**
BO02				*eS*		**Sn**	**06 29 11.5**	**+0.2**
BO02				IAML			06 29 14.2	
	comp=Z,4μm,0.1s							
BO02	**Sierra Bellavi**	**0.81**	**160**	⇑*iP*		**Pn**	**06 28 59.0**	**-0.8**
BO02				*i* S		**Sn**	**06 29 11.4**	**+0.1**
BO02				IAML			06 29 12.3	
	comp=N,7μm,0.1s							
MT10	**Hacienda Santa**	**0.90**	**33**	⇓*iP*		**Pn**	**06 29 00.2**	**-0.7**
MT10				*i* S		**Sn**	**06 29 13.6**	**+0.2**
MT10				IAML			06 29 16.0	
	comp=E,3μm,0.3s							
PEL	**Peldehue**	**0.96**	**22**	*eP*		**Pn**	**06 29 00.8**	**-0.8**
PEL				*eS*		**Sn**	**06 29 15.2**	**+0.7**
PEL	**Peldehue**	**0.96**	**22**	*eP*		**Pn**	**06 29 00.5**	**-1.1**
PEL				*eS*		**Sn**	**06 29 15.1**	**+0.5**
PEL				IAML			06 29 15.6	
	comp=N,3μm,0.3s							
FCH	**Farellones**	**0.99**	**45**	⇓*iP*		**Pn**	**06 29 01.3**	**-1.0**
FCH				*i* S		**Sn**	**06 29 15.3**	**-0.4**
FCH				IAML			06 29 15.8	
	comp=N,2μm,0.2s							
MT04	**Ro Olivares**	**1.03**	**53**	⇓*iP*		**Pn**	**06 29 02.0**	**-0.8**
MT04				*i* S		**Sn**	**06 29 16.5**	**0.0**
MT04				IAML			06 29 17.4	
	comp=N,2μm,0.2s							
ROC1	**El Roble**	**1.06**	**5**	*eP*		**Pn**	**06 29 02.3**	**-0.8**
ROC1				*eS*		**Sn**	**06 29 16.5**	**-0.7**
ROCH	**El Roble**	**1.06**	**5**	⇓*iP*		**Pn**	**06 29 02.3**	**-0.8**
ROCH				*i* S		**Sn**	**06 29 17.4**	**+0.1**
ROCH				IAML			06 29 19.7	
	comp=N,3μm,0.3s							
MT08	**Bocatoma Ro**	**1.09**	**58**	⇓*iP*		**Pn**	**06 29 03.0**	**-0.5**
MT08				*i* S		**Sn**	**06 29 18.1**	**+0.1**
MT08				IAML			06 29 19.6	
	comp=N,892nm,0.3s							
VA01	**Torpederas**	**1.10**	**336**	*eP*		**Pn**	**06 29 02.6**	**-0.8**
VA01				*eS*		**Sn**	**06 29 19.3**	**+1.6**
VA01				IAML			06 29 21.4	
	comp=Z,1μm,0.2s							
VA01	**Torpederas**	**1.10**	**336**	*eP*		**Pn**	**06 29 03.3**	**-0.1**
VA01				*i* S		**Sn**	**06 29 18.7**	**+1.0**
VA01				IAML			06 29 22.4	
	comp=N,2μm,0.1s							
GO05	**Huala**	**1.18**	**214**	*eP*		**Pn**	**06 29 03.8**	**-0.8**
GO05				*eS*		**Sn**	**06 29 21.2**	**+1.4**
VA03	**San Esteban**	**1.35**	**21**	*eP*		**Pn**	**06 29 06.0**	**-0.8**
VA03				*eS*		**Sn**	**06 29 24.6**	**+0.7**
VA03				IAML			06 29 25.1	
	comp=Z,459nm,0.2s							
VA03	**San Esteban**	**1.35**	**21**	⇓*iP*		**Pn**	**06 29 05.9**	**-0.9**
VA03				*i* S		**Sn**	**06 29 24.1**	**+0.1**
VA03				IAML			06 29 25.9	
	comp=E,1μm,0.2s							
AAGR	**Agrelo**	**2.13**	**64**	*eP*		**Pn**	**06 29 18.3**	**+0.9**
AAGR				*eS*		**Sn**	**06 29 38.7**	**-4.2**
ARCO	**CERRO ARCO**	**2.18**	**58**	*eP*		**Pn**	**06 29 19.4**	**+1.3**
EDS3	**Malargue**	**2.24**	**141**	*eP*		**Pn**	**06 29 16.6**	**-2.3**
EDS3				*eS*		**Sn**	**06 29 48.7**	**+3.2**
AVIZ	**Vizcacheras**	**2.24**	**76**	*eP*		**Pn**	**06 29 19.5**	**+0.6**
RFA	**San Rafael**	**2.32**	**109**	*eP*		**Pn**	**06 29 19.4**	**-0.5**
RFA				*eS*		Sn	06 29 58.2	+11
ASAL	**Salagasta**	**2.39**	**54**	*eP*		**Pn**	**06 29 22.1**	**+1.2**
RTLS	**Leoncito**	**2.70**	**35**	*eP*		**Pn**	**06 29 26.8**	**+1.4**
RTLS				IAML			06 30 07.0	
	comp=Z,93nm,0.6s							
CO02	**Combarbal**	**2.82**	**2**	*eP*		**Pn**	**06 29 25.8**	**-1.0**
CO02				*eS*		**Sn**	**06 29 59.8**	**+0.1**
CO02				IAML			06 30 14.1	
	comp=Z,163nm,0.3s							
RTCV	**Cerro Valdivia**	**3.06**	**46**	*eP*		**Pn**	**06 29 32.9**	**+2.9**
CO03	**El Pedregal**	**3.20**	**7**	*eP*		**Pn**	**06 29 31.8**	**-0.3**
CO03				*eS*		**Sn**	**06 30 09.3**	**+0.2**
CO03				IAML			06 30 24.4	
	comp=Z,73nm,0.5s							
DOCA	**Reserva Natura**	**3.52**	**30**	*eP*		**Pn**	**06 29 36.5**	**-0.2**
DOCA				*eS*		**Sn**	**06 30 17.9**	**+0.6**
DOCA				IAML			06 30 41.7	
	comp=Z,116nm,1.4s							
ACCO	**Cerro Coronel**	**3.85**	**27**	*eP*		**Pn**	**06 29 41.1**	**0.0**
ACCO				*eS*		**Sn**	**06 30 28.6**	**+3.4**
GO04	**Tololo Observa**	**3.86**	**4**	*eP*		**Pn**	**06 29 40.3**	**-0.8**
AROD	**Rodeo**	**4.10**	**20**	*eP*		**Pn**	**06 29 45.0**	**+0.5**
AROD				*eS*		**Sn**	**06 30 35.4**	**+4.1**
ACDV	**Cuesta del Vie**	**4.21**	**24**	*eP*		**Pn**	**06 29 45.8**	**0.0**
ACDV				*eS*		Sn	06 30 50.8	+17
AVFE	**Valle Fertil**	**4.57**	**44**	*eP*		**Pn**	**06 29 51.3**	**+0.5**
LCO	**Las Campanas**	**5.02**	**4**	*eP*		**Pn**	**06 29 56.5**	**-0.6**
LCO				*eS*		**Sn**	**06 30 51.7**	**-2.2**
LCO				IAML			06 31 32.1	
	comp=Z,53nm,2.9s							
AC05	**El Transito**	**5.23**	**8**	*eP*		**Pn**	**06 29 58.4**	**-1.4**
AC05				*eS*		**Sn**	**06 30 56.8**	**-2.0**
AC05				IAML			06 31 31.9	
	comp=Z,26nm,0.8s							

ATH ***12*** *06:30:50.1,42˚.26N×25˚.27E,h6^{km}±2^{km},ML3.5/11,Error ellipse: s-maj=4.2km s-min=1.5km az=52.0*
PDG ***12*** *06:30:51.7±0.5,42˚.16N×25˚.13E,h13^{km}±1^{km},ML3.5/9, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
ISK ***12*** *06:30:51.1,42˚.16N×25˚.13E,h5^{km},ML3.5/18*
THE ***12*** *06:30:51.6,42˚.15N×25˚.22E,h1^{km}±2^{km},ML3.5/12,Error ellipse: s-maj=2.7km s-min=1.0km az=8.0*
BEO ***12*** *06:30:51.1±0.7,42˚.27N×25˚.18E,h0^{km},ML3.1/12*
SOF ***12*** *06:30:51.2,42˚.16N±0˚.01×25˚.16E,h14^{km}±1^{km},MD3.4/13*
AFAD ***12*** *06:30:54.0±0.0,42˚.20N×25˚.34E,h29^{km}±9^{km},MW3.5*

ISC 12 06:30:52.0±1.0,**42˚.15N**±0˚.01×**25˚.17E**±0˚.01,**h8**^{km}±8^{km}, **n143,** σ**0**s**87**/207,**30C-19D,Bulgaria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLD	**Plovdiv**	**0.32**	**269**	Pg	**Pg**	**06 30 57.9**	**-0.3**
PLD				Sg	**Sg**	**06 31 02.3**	**-0.1**
PLD	**Plovdiv**	**0.32**	**269**	⇑*iP*	**Pg**	**06 30 58.0**	**-0.3**
PLD				S	**Sg**	**06 31 02.2**	**-0.1**
PLD	**Plovdiv**	**0.32**	**269**	*ePg*	**Pg**	**06 30 57.9**	**-0.3**
PLD				*eSg*	**Sg**	**06 31 02.4**	**0.0**
DIM	**Dimitrovgrad**	**0.32**	**110**	⇑*iP*	**Pg**	**06 30 58.5**	**+0.2**
DIM				S	**Sg**	**06 31 02.9**	**+0.3**
KDZ	**Kurdzhali**	**0.54**	**166**	Pg	**Pg**	**06 31 02.2**	**-0.2**
KDZ				Sg	**Sg**	**06 31 09.8**	**+0.3**
KDZ	**Kurdzhali**	**0.54**	**166**	⇑*iP*	**Pg**	**06 31 02.2**	**-0.2**
KDZ				S	**Sg**	**06 31 09.7**	**+0.3**
RZN	**Rozhen**	**0.56**	**215**	P	**Pg**	**06 31 02.7**	**-0.2**
PGB	**Panagyurishte**	**0.82**	**296**	P	**Pg**	**06 31 07.2**	**-0.6**
PGB				S	**Sg**	**06 31 18.4**	**-0.1**
PVL	**Pavlikeni**	**0.97**	**0**	P	**Pg**	**06 31 10.6**	**0.0**
RDO	**Rodhopi**	**1.04**	**165**	Pg	**Pg**	**06 31 11.7**	**-0.3**
RDO				Sg	**Sb**	**06 31 26.9**	**+0.8**
RDO	**Rodhopi**	**1.04**	**165**	P	**Pg**	**06 31 11.2**	**-0.8**
RDO				S	**Sg**	**06 31 25.8**	**+0.3**
	6μm,0.2s						
RDO	**Rodhopi**	**1.04**	**165**	P	**Pg**	**06 31 11.2**	**-0.8**
RDO				S	**Sb**	**06 31 26.8**	**+0.8**
RDO				AML	AML	06 31 28.1	
	comp=E,9710μm,0.3s						
RDO				AML	AML	06 31 28.8	
	comp=N,14906μm,0.2s						
JMB	**Yambol**	**1.06**	**71**	Pn	**Pn**	**06 31 13.1**	**0.0**
JMB	**Yambol**	**1.06**	**71**	P	**Pg**	**06 31 11.7**	**-0.7**
EDRB	**Edirne**	**1.21**	**104**	Pn	**Pg**	**06 31 14.8**	**-0.4**
EDRB	**Edirne**	**1.21**	**104**	P	**Pg**	**06 31 14.3**	**-0.9**
EDRB				S	**Sg**	**06 31 29.4**	**-1.5**
	comp=N,270nm,0.4s						
MMB	**Musomishta**	**1.22**	**241**	P	**Pg**	**06 31 14.6**	**-0.8**
MMB				S	**Sb**	**06 31 31.9**	**+0.6**
KAVA	**Kavala**	**1.26**	**203**	P	**Pg**	**06 31 15.5**	**-0.6**
KAVA				S	**Sb**	**06 31 32.6**	**+0.4**
	comp=N,3μm,0.4s						
KAVA	**Kavala**	**1.26**	**203**	P	**Pg**	**06 31 14.9**	**-1.1**
KAVA				S	**Sn**	**06 31 33.1**	**+0.2**
SZH	**Strazhitsa**	**1.26**	**28**	P	**Pg**	**06 31 15.6**	**-0.5**
SZH				S	**Sb**	**06 31 32.4**	**+0.1**
NVR	**Nevrokopi**	**1.27**	**231**	P	**Pb**	**06 31 16.2**	**+0.1**
NVR				S	**Sn**	**06 31 34.0**	**+0.8**
	comp=N,1μm,0.5s						
NVR	**Nevrokopi**	**1.27**	**231**	P	**Pg**	**06 31 15.6**	**-0.7**
NVR				S	**Sb**	**06 31 33.1**	**+0.5**
NVR				AML	AML	06 31 36.2	
	comp=E,2066μm,0.5s						
NVR				AML	AML	06 31 36.4	
	comp=N,2798μm,0.4s						
KIRK	**Kırklareli**	**1.48**	**104**	P	**Pn**	**06 31 16.6**	**-2.3**
KIRK				S	**Sn**	**06 31 36.4**	**-2.0**
UKOP	**Uzunkopru-Edir**	**1.50**	**133**	Pn	**Pb**	**06 31 19.9**	**-0.1**
VTS	**Vitosha**	**1.51**	**289**	*i* P	**Pn**	**06 31 19.4**	**0.0**
VTS				S	**Sn**	**06 31 39.1**	**-0.3**
VTS	**Vitosha**	**1.51**	**289**	*ePg*	**Pn**	**06 31 18.7**	**-0.7**
VTS				*eSg*	**Sn**	**06 31 39.0**	**-0.3**
ZIMR		**1.51**	**5**	⇑P	**Pg**	**06 31 21.0**	**+0.1**
KKB	**Krupnik**	**1.55**	**259**	P	**Pb**	**06 31 21.2**	**+0.2**
KKB				S	**Sg**	**06 31 41.6**	**-0.3**
SRS	**Serrai**	**1.57**	**229**	P	**Pn**	**06 31 19.6**	**-0.6**
SRS				S	**Sb**	**06 31 41.4**	**+0.1**
	comp=N,1μm,0.4s						
SRS	**Serrai**	**1.57**	**229**	P	**Pn**	**06 31 19.6**	**-0.6**
SRS				S	**Sb**	**06 31 41.5**	**+0.2**
SRS				AML	AML	06 31 45.0	
	comp=E,2504μm,0.4s						
SRS				AML	AML	06 31 46.5	
	comp=N,1964μm,0.4s						
THAS	**Thassos island**	**1.58**	**193**	P	**Pn**	**06 31 19.8**	**-0.5**
THAS				S	**Sn**	**06 31 41.7**	**+0.8**
	comp=N,2μm,0.3s						
THAS	**Thassos island**	**1.58**	**193**	P	**Pn**	**06 31 19.7**	**-0.6**
THAS				S	**Sn**	**06 31 41.1**	**+0.2**
THAS				AML	AML	06 31 44.5	
	comp=E,6031μm,0.3s						
THAS				AML	AML	06 31 45.6	
	comp=N,3140μm,0.4s						
ENEZ	**Enez**	**1.60**	**152**	Pn	**Pn**	**06 31 21.2**	**+0.7**
ENEZ	**Enez**	**1.60**	**152**	P	**Pn**	**06 31 20.8**	**+0.3**
ENEZ				S	**Sb**	**06 31 43.0**	**+1.0**
	comp=N,1μm,0.5s						
MPEP	**Malo Peshtene**	**1.60**	**319**	P	**Pg**	**06 31 22.1**	**-0.5**
MPEP				S	**Sg**	**06 31 44.1**	**+0.7**
KOKK	**Kokkinochori,**	**1.60**	**214**	P	**Pn**	**06 31 20.3**	**-0.2**
KOKK				S	**Sg**	**06 31 43.1**	**-0.3**
	comp=N,572nm,0.5s						
KOKK	**Kokkinochori,**	**1.60**	**214**	P	**Pn**	**06 31 19.2**	**-1.4**
KOKK				S	**Sn**	**06 31 41.4**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.64**	**153**	P	**Pn**	**06 31 21.2**	**+0.1**
CAVK				S	**Sn**	**06 31 43.3**	**+0.9**
CAVK				*i* AML	AML	06 31 47.0	
	comp=N,739nm,0.4s						
CAVK				*i* AML	AML	06 31 48.0	
	comp=N,401nm,0.2s						
SMTH	**Samothraki Isl**	**1.70**	**171**	P	**Pn**	**06 31 21.5**	**-0.5**
SMTH	**Samothraki Isl**	**1.70**	**171**	P	**Pn**	**06 31 21.4**	**-0.6**
SMTH				S	**Sn**	**06 31 43.5**	**-0.5**
SMTH				AML	AML	06 31 49.4	
	comp=E,605μm,0.2s						
SMTH				AML	AML	06 31 50.0	
	comp=N,605μm,0.3s						
ARMN	**Kirklareli, Me**	**1.71**	**99**	P	**Pn**	**06 31 21.7**	**-0.3**
ARMN				S	**Sb**	**06 31 45.2**	**0.0**
ARMN				*i* AML	AML	06 31 48.0	
	comp=N,84nm,0.5s						
ARMN				*i* AML	AML	06 31 53.0	
	comp=N,65nm,0.4s						
RAZG	**Razgrad**	**1.72**	**34**	⇑P	**Pb**	**06 31 23.7**	**-0.2**
ERIK	**Erikli-Kesan**	**1.79**	**145**	Pn	**Pn**	**06 31 23.8**	**+0.6**
ROIA	**ROIAK**	**1.88**	**59**	P	**Pn**	**06 31 24.6**	**+0.2**
NEF	**NEVSHA**	**1.91**	**54**	P	**Pb**	**06 31 27.3**	**+0.3**
NEF				S	**Sg**	**06 31 53.0**	**-0.2**
SOH	**Sokhos**	**1.91**	**226**	P	**Pn**	**06 31 24.7**	**-0.1**
SOH				S	**Sb**	**06 31 50.6**	**-0.4**
	comp=N,842nm,0.5s						
SOH	**Sokhos**	**1.91**	**226**	P	**Pn**	**06 31 24.5**	**-0.3**
SOH				S	**Sn**	**06 31 49.5**	**+0.5**
SOH				AML	AML	06 31 54.4	
	comp=N,2295μm,0.6s						
SOH				AML	AML	06 31 55.4	
	comp=E,1918μm,0.4s						
VLAD	**Vladila**	**1.93**	**343**	⇑P	**Pb**	**06 31 26.4**	**-0.9**
PRD	**Provadia**	**1.93**	**58**	P	**Pb**	**06 31 27.8**	**+0.4**
PRD				S	**Sg**	**06 31 53.8**	**-0.3**
KNT	**Kendrikon**	**1.97**	**241**	Pn	**Pn**	**06 31 25.6**	**0.0**
KNT	**Kendrikon**	**1.97**	**241**	P	**Pn**	**06 31 24.8**	**-0.9**
KNT				S	**Sb**	**06 31 52.9**	**+0.1**
	comp=E,592nm,0.5s						
KNT	**Kendrikon**	**1.97**	**241**	P	**Pn**	**06 31 24.8**	**-0.9**
KNT				S	**Sn**	**06 31 50.8**	**+0.3**
COPA	**Copaceanca**	**1.98**	**1**	⇑P	**Pb**	**06 31 28.5**	**+0.2**
VALD	**Valchedram**	**2.00**	**321**	P	**Pn**	**06 31 25.8**	**-0.2**
GELI	**Tayfur-Gelibol**	**2.01**	**150**	Pn	**Pn**	**06 31 26.8**	**+0.6**
BOSS	**Bosilegrad**	**2.02**	**281**	*ePn*	**Pn**	**06 31 27.5**	**+1.1**
BOSS				*eSn*	**Sn**	**06 31 52.2**	**+0.3**
OUR	**Ouranopolis**	**2.03**	**207**	Pn	**Pn**	**06 31 26.9**	**+0.5**
OUR	**Ouranopolis**	**2.03**	**207**	P	**Pn**	**06 31 26.7**	**+0.3**
OUR				AML	AML	06 31 58.8	
	comp=N,1767μm,0.3s						
OUR				AML	AML	06 32 00.4	
	comp=E,2416μm,0.5s						
GADA	**Gvkgeada**	**2.04**	**164**	Pn	**Pn**	**06 31 27.5**	**+1.0**
VIZE	**Kirklareli, Vi**	**2.07**	**105**	P	**Pn**	**06 31 25.9**	**-1.2**
VIZE				S	**Sn**	**06 31 50.8**	**-2.3**
VIZE				*i* AML	AML	06 31 59.0	
	comp=E,63nm,0.7s						
VIZE				*i* AML	AML	06 32 00.0	
	comp=E,97nm,0.6s						
AVR	**AVREN**	**2.08**	**62**	P	**Pn**	**06 31 27.0**	**-0.1**
RKY	**Sarkoy-Tekirda**	**2.10**	**133**	Pn	**Pn**	**06 31 28.6**	**+1.1**
VAY	**Valandovo**	**2.12**	**248**	*ePn*	**Pn**	**06 31 28.2**	**+0.6**
VAY				*eSg*	**Sg**	**06 32 00.6**	**+0.6**
VAY	**Valandovo**	**2.12**	**248**	*ePn*	**Pb**	**06 31 31.2**	**+0.6**
VAY				*i* Sg	**Sg**	**06 32 00.5**	**+0.6**
LPK	**Lapseki**	**2.15**	**146**	Pn	**Pn**	**06 31 28.9**	**+0.9**
HORT	**Hortiatis**	**2.20**	**226**	Pn	**Pn**	**06 31 29.1**	**+0.2**
HORT	**Hortiatis**	**2.20**	**226**	P	**Pn**	**06 31 28.4**	**-0.5**
HORT				S	**Sb**	**06 31 59.2**	**-0.3**
	comp=E,380nm,0.6s						
HORT	**Hortiatis**	**2.20**	**226**	P	**Pn**	**06 31 28.3**	**-0.5**
HORT				AML	AML	06 32 04.6	
	comp=N,598μm,0.6s						
HORT				AML	AML	06 32 05.0	
	comp=E,905μm,0.4s						
THE	**Thessaloniki**	**2.25**	**228**	P	**Pn**	**06 31 30.3**	**+0.8**
THE	**Thessaloniki**	**2.25**	**228**	P	**Pn**	**06 31 28.7**	**-0.7**
THE				AML	AML	06 32 05.4	
	comp=E,718μm,0.4s						
THE				AML	AML	06 32 06.0	
	comp=N,542μm,0.7s						
LIA	**Limnos Island**	**2.25**	**180**	P	**Pn**	**06 31 27.8**	**-1.7**
LIA	**Limnos Island**	**2.25**	**180**	P	**Pn**	**06 31 28.5**	**-1.0**
LIA				AML	AML	06 32 07.5	
	comp=N,1425μm,0.7s						
LIA				AML	AML	06 32 08.6	
	comp=E,1091μm,0.4s						
COMU	**Canakkale**	**2.28**	**154**	Pn	**Pn**	**06 31 29.9**	**0.0**
BAIL	**Bailesti**	**2.30**	**325**	⇑S	**Sg**	**06 32 07.0**	**+1.3**
PRVS	**Prvonek**	**2.32**	**280**	*ePn*	**Pn**	**06 31 30.2**	**-0.3**
PRVS				*eSn*	**Sn**	**06 32 00.3**	**+1.0**
BLKB	**Belogradchik**	**2.35**	**310**	⇓P	**Pb**	**06 31 29.8**	**-1.1**
BLKB				S	**Sb**	**06 32 04.9**	**+1.2**
HUMR	**Humele**	**2.38**	**357**	⇑P	**Pn**	**06 32 32.2**	**+1.0**
KRBG	**Karabiga-Canak**	**2.38**	**137**	Pn	**Pn**	**06 31 31.6**	**+0.4**
MRMT	**Marmara Adasi**	**2.39**	**130**	Pn	**Pn**	**06 31 32.3**	**+0.8**
GRG	**Griva**	**2.40**	**241**	Pn	**Pn**	**06 31 31.6**	**0.0**
GRG	**Griva**	**2.40**	**241**	P	**Pn**	**06 31 31.7**	**+0.1**
GRG				S	**Sn**	**06 32 02.8**	**+1.7**
	comp=E,262nm,0.6s						
GRG	**Griva**	**2.40**	**241**	P	**Pn**	**06 31 31.5**	**0.0**
GRG				AML	AML	06 32 10.8	
	comp=N,443μm,0.3s						
GRG				AML	AML	06 32 12.2	
	comp=E,440μm,0.3s						
CTYL	**Yalikoy Yolu**	**2.43**	**105**	Pn	**Pn**	**06 31 32.1**	**+0.2**
EZN	**Ezine**	**2.48**	**159**	Pn	**Pn**	**06 31 33.4**	**+0.7**
EZN	**Ezine**	**2.48**	**159**	P	**Pn**	**06 31 32.8**	**+0.1**
PAIG	**Paliouri**	**2.49**	**207**	Pn	**Pn**	**06 31 33.0**	**+0.2**
BARS	**Barje**	**2.57**	**286**	*ePn*	**Pn**	**06 31 33.6**	**-0.3**
SULR		**2.64**	**17**	⇑P	**Pn**	**06 31 37.1**	**+2.3**
SULR				⇑S	**Sg**	**06 32 16.7**	**-0.2**
PUNG	**Punghina**	**2.68**	**323**	⇑P	**Pn**	**06 31 35.1**	**-0.2**
PUNG				⇑S	**Sg**	**06 32 16.8**	**-1.3**
ZAGS	**Zajecar**	**2.72**	**309**	*ePn*	**Pn**	**06 31 36.3**	**+0.4**
ZAGS				*eSn*	**Sn**	**06 32 08.6**	**-0.4**
ICOR	**Ion Corvin**	**2.75**	**44**	⇑P	**Pn**	**06 31 37.4**	**+1.1**
SRE	**Strehaia**	**2.89**	**331**	⇑P	**Pn**	**06 31 37.1**	**-1.1**
AMRR	**Amara**	**2.92**	**32**	⇑S	**Sg**	**06 32 24.2**	**-1.5**
BOVS	**Bovan**	**2.95**	**301**	⇑P	**Pn**	**06 31 38.3**	**-0.8**
BOVS	**Bovan**	**2.95**	**301**	*ePn*	**Pn**	**06 31 39.2**	**+0.2**
BOVS				*eSn*	**Sn**	**06 32 13.1**	**-1.5**
SIGR	**SIGRI**	**2.98**	**170**	P	**Pn**	**06 31 38.5**	**-1.1**
MANR	**Mangalia**	**3.01**	**55**	⇑P	**Pn**	**06 31 39.8**	**-0.1**
PRK	**Paraskevi**	**3.02**	**164**	P	**Pn**	**06 31 39.3**	**-0.7**
MTUR	**Matau**	**3.07**	**359**	⇑P	**Pn**	**06 31 43.1**	**+2.3**
BLKS	**Balkesir-Sus**	**3.11**	**136**	P	**Pn**	**06 31 40.8**	**-0.5**
BLKS				S	**Sb**	**06 32 26.9**	**+1.4**
BLKS				*i* AML	AML	06 32 41.0	
	comp=E,34nm,0.7s						
BLKS				*i* AML	AML	06 32 43.0	
	comp=E,34nm,1.1s						
MFTR	**Murfatlar**	**3.12**	**49**	⇑P	**Pn**	**06 31 42.5**	**+1.0**
ISR	**Istrita**	**3.13**	**18**	⇓P	**Pn**	**06 31 43.5**	**+2.0**
FNA	**Florina**	**3.16**	**246**	P	**Pn**	**06 31 41.6**	**-0.5**
XOR	**Xorichti**	**3.17**	**209**	P	**Pn**	**06 31 41.2**	**-0.9**
SELS	**Selova**	**3.17**	**291**	*ePn*	**Pn**	**06 31 41.7**	**-0.5**
SELS				*eSn*	**Sn**	**06 32 18.5**	**-1.7**
TLBR	**Topalu**	**3.18**	**40**	⇓P	**Pn**	**06 31 43.4**	**+1.1**
BKES	**Balkesir-Mer**	**3.19**	**138**	P	**Pn**	**06 31 43.4**	**+0.9**
BKES				S	**Sb**	**06 32 29.7**	**+1.7**
BKES				*i* AML	AML	06 32 39.0	
	comp=E,46nm,0.4s						
BKES				*i* AML	AML	06 32 40.0	
	comp=E,59nm,0.8s						
NEO	**Neokhori**	**3.21**	**208**	P	**Pn**	**06 31 41.9**	**-0.8**
HARR	**Harsova**	**3.23**	**37**	⇑P	**Pn**	**06 31 44.1**	**+1.1**
VOIR		**3.28**	**358**	⇓P	**Pn**	**06 31 44.9**	**+1.1**
TYRN	**Tyrnavos**	**3.30**	**223**	P	**Pn**	**06 31 43.7**	**-0.2**
HERR	**Herculane**	**3.38**	**325**	⇑P	**Pn**	**06 31 43.8**	**-1.3**
MLR	**Muntele Rosu**	**3.38**	**9**	⇑P	**Pn**	**06 31 46.2**	**+1.4**
KUBS	**Kucevo**	**3.41**	**313**	*ePn*	**Pn**	**06 31 43.2**	**-2.2**
KUBS				*eSn*	**Sn**	**06 32 24.6**	**-1.4**
LOT	**Lotru**	**3.45**	**343**	⇓P	**Pn**	**06 31 45.6**	**-0.4**
BISRR	**Bisoca**	**3.57**	**18**	⇓P	**Pn**	**06 31 50.6**	**+2.9**
TPGR	**Topolog**	**3.59**	**40**	⇑P	**Pn**	**06 31 49.1**	**+1.2**
MDVR	**Moldovita**	**3.64**	**317**	⇓P	**Pn**	**06 31 47.3**	**-1.3**
GZR	**Gura Zlata**	**3.67**	**333**	⇓P	**Pn**	**06 31 48.1**	**-1.0**
GRUS	**Gruza**	**3.70**	**299**	*ePn*	**Pn**	**06 31 48.8**	**-0.6**
GRUS				*eSn*	**Sn**	**06 32 31.9**	**-1.2**
CFR	**Carcaliu**	**3.71**	**34**	⇑P	**Pn**	**06 31 50.3**	**+0.8**
COVR	**Voineasa-Covas**	**3.77**	**11**	⇑P	**Pn**	**06 31 51.8**	**+1.4**
AGG	**Agios Georgios**	**3.80**	**216**	P	**Pn**	**06 31 50.7**	**-0.2**
CHOS	**Chios island**	**3.82**	**170**	P	**Pn**	**06 31 51.2**	**0.0**
CHOS	**Chios island**	**3.82**	**170**	P	**Pn**	**06 31 50.7**	**-0.5**
PLOR	**Plostina**	**3.85**	**16**	⇑P	**Pn**	**06 31 53.9**	**+2.4**
VRI	**Vrincioaia**	**3.88**	**16**	⇓P	**Pn**	**06 31 54.1**	**+2.2**
PVY	**Plav**	**3.89**	**278**	⇓*i*Pn	**Pn**	**06 31 52.3**	**+0.2**
PVY				*i* Sn	**Sn**	**06 32 38.4**	**+0.4**
TLCR		**4.02**	**40**	⇑P	**Pn**	**06 31 55.0**	**+1.2**
SURR	**Surduc**	**4.22**	**330**	⇓P	**Pn**	**06 31 56.1**	**-0.5**
KOME	**Kolasin**	**4.24**	**281**	⇓*i*Pn	**Pn**	**06 31 57.3**	**+0.4**
KOME				*i* Sn	**Sn**	**06 32 46.9**	**+0.3**
BZS	**Buzias**

PUH					IAML			07 25 12.5	
	comp=E,48µm,0.8s								
HATHI	**Halema'uma'u T**	**0.15**	**263**			**Pb**		**07 25 06.7**	**+0.7**
HATHI					IAML			07 25 12.5	
	comp=E,49µm,0.9s								
HATHI					IAML			07 25 14.8	
	comp=N,46µm,1.2s								
BYL	**Byron's Ledge**	**0.15**	**259**			**Pb**		**07 25 06.5**	**+0.5**
BYL					IAML			07 25 13.0	
	comp=E,37µm,0.8s								
BYL					IAML			07 25 15.0	
	comp=N,35µm,0.6s								
SBLHI	**Steaming Bluff**	**0.15**	**265**			**Pb**		**07 25 06.4**	**+0.3**
SBLHI					IAML			07 25 14.1	
	comp=N,46µm,0.8s								
SBLHI					IAML			07 25 14.5	
	comp=E,32µm,0.7s								
KKO	**Keanakako'i**	**0.16**	**254**			**Pb**		**07 25 06.7**	**+0.5**
KKO					IAML			07 25 13.2	
	comp=E,47µm,0.7s								
KKO					IAML			07 25 14.5	
	comp=N,59µm,0.8s								
PAH	**Pahoa**	**0.16**	**70**			**Pg**		**07 25 04.5**	**-0.7**
PAH						**Sg**		**07 25 06.9**	**-1.0**
RSD	**Rainshed**	**0.16**	**277**			**Pb**		**07 25 06.8**	**+0.5**
RSD					IAML			07 25 13.1	
	comp=N,50µm,0.7s								
RSD					IAML			07 25 14.6	
	comp=E,37µm,0.6s								
UWB	**Uwekahuna B**	**0.16**	**264**			**Pb**		**07 25 06.8**	**+0.5**
RIM	**Rim**	**0.17**	**254**			**Pb**		**07 25 06.4**	**+0.1**
RIM					IAML			07 25 13.2	
	comp=N,40µm,1.1s								
RIM					IAML			07 25 14.2	
	comp=E,33µm,0.6s								
NPH	**North Pit**	**0.17**	**260**			**Pb**		**07 25 05.6**	**-0.7**
OBL	**Observatory Le**	**0.17**	**262**			**Pb**		**07 25 07.0**	**+0.6**
OBL					IAML			07 25 14.0	
	comp=E,45µm,0.7s								
OBL					IAML			07 25 16.2	
	comp=N,51µm,0.5s								
UWE	**Uwekahuna**	**0.18**	**263**			**Pb**		**07 25 06.6**	**+0.1**
UWE					IAML			07 25 14.4	
	comp=N,51µm,0.7s								
SDHHI	**Sand Hill**	**0.19**	**254**			**Pb**		**07 25 06.8**	**+0.1**
SDHHI					IAML			07 25 13.7	
	comp=E,58µm,0.5s								
SDHHI					IAML			07 25 15.1	
	comp=N,53µm,0.6s								
WRMHI	**West Rim**	**0.19**	**259**			**Pb**		**07 25 07.0**	**+0.3**
WRMHI					IAML			07 25 13.1	
	comp=N,49µm,0.9s								
PHO	**Puu Honuaula**	**0.21**	**79**			**Pg**		**07 25 05.0**	**-0.9**
PHO						**Sg**		**07 25 07.6**	**-1.6**
PHO	**Puu Honuaula**	**0.21**	**79**			**Pg**		**07 25 04.8**	**-1.1**
HLP	**Hilina Pali**	**0.24**	**233**			**Pb**		**07 25 07.8**	**+0.3**
HLP					IAML			07 25 13.5	
	comp=N,57µm,0.4s								
HLP					IAML			07 25 13.5	
	comp=E,63µm,0.5s								
HLP	**Hilina Pali**	**0.24**	**233**			**Sb**		**07 25 13.2**	**+1.5**
MLH	**Mauna Loa**	**0.27**	**281**			**Pb**		**07 25 08.9**	**+0.8**
MLH					IAML			07 25 17.2	
	comp=E,23µm,0.7s								
MLH	**Mauna Loa**	**0.27**	**281**			**Sn**		**07 25 15.5**	**-1.8**
HTC	**Hot Caves**	**0.34**	**234**			**Pn**		**07 25 09.3**	**-2.6**
HMH	**Humu'ula Sheep**	**0.39**	**294**			**Pb**		**07 25 11.1**	**+0.8**
HMH	**Humu'ula Sheep**	**0.39**	**294**			**Sn**		**07 25 18.9**	**-1.5**
MLOA	**Mauna Loa Obse**	**0.45**	**282**			**Pn**		**07 25 12.1**	**-1.8**
MLOA	**Mauna Loa Obse**	**0.45**	**282**			**Pb**		**07 25 11.9**	**+0.5**
MLOA						**Sn**		**07 25 20.0**	**-2.1**
MWH	**Moku'aweowe**	**0.47**	**275**			**Pb**		**07 25 11.8**	**+0.2**
MWH	**Moku'aweowe**	**0.47**	**275**			**Sn**		**07 25 20.2**	**-2.3**
POHA	**Pohakuloa**	**0.51**	**308**			**Pb**		**07 25 12.4**	**+0.1**
POHA					IAML			07 25 28.7	
	comp=E,22µm,0.6s								
POHA	**Pohakuloa**	**0.51**	**308**			**Sb**		**07 25 21.2**	**+1.5**
ALEP	**Alea Permanent**	**0.52**	**281**			**Pb**		**07 25 12.5**	**+0.1**
ALEP						**Sn**		**07 25 21.4**	**-2.1**
KHU	**Kahuku**	**0.52**	**248**			**Pb**		**07 25 11.9**	**-0.5**
KHU						**Sn**		**07 25 20.1**	**-3.3**
KHU					IAML			07 25 22.2	
	comp=N,18µm,0.6s								
KHU					IAML			07 25 29.5	
	comp=E,20µm,0.7s								
HUH	**Hualalai**	**0.73**	**289**			**Pb**		**07 25 16.1**	**+0.1**
HUH	**Hualalai**	**0.73**	**289**			**Sg**		**07 25 24.3**	**-0.9**
CPH	**Captain Cook**	**0.77**	**274**			**Pb**		**07 25 15.6**	**-0.9**
HPAH	**Hawaii Prepara**	**0.81**	**316**			**Pg**		**07 25 16.4**	**-0.7**
HPAH	**Hawaii Prepara**	**0.81**	**316**			**Sg**		**07 25 28.2**	**+0.5**
KKH	**Kailua Kona**	**0.89**	**284**			**Pb**		**07 25 17.2**	**-1.3**
KKH						**Sg**		**07 25 30.3**	**+0.2**
MHA	**Mahukona**	**1.06**	**315**			**Pb**		**07 25 20.1**	**-1.3**
HLK	**Haleakala**	**1.69**	**321**			**Pn**		**07 25 28.6**	**-2.2**
HLK	**Haleakala**	**1.69**	**321**			**Sn**		**07 25 49.9**	**-2.6**
HON	**Honolulu**	**3.30**	**305**			**Pn**		**07 25 51.3**	**-1.3**
KIP	**Kipapa**	**3.37**	**306**			**Pn**		**07 25 52.7**	**-0.8**
OPA	**Opana**	**3.52**	**310**	Pn		**Pn**		**07 25 54.5**	**-1.2**
KEKH	**Kekaha**	**5.00**	**301**	Pn		**Pn**		**07 26 14.9**	**-1.1**
SAO	**San Andreas Ge**	**34.11**	**53**	P		**P**		**07 31 45.9**	**+0.1**
H11N3	**WAKE ISLAND Hy**	**35.74**	**277**	T		T		08 09 18.7	
	baz=84,slow=72,SNR=109								
H11N2	**WAKE ISLAND Hy**	**35.75**	**277**	T		T		08 09 16.8	
	baz=84,slow=72,SNR=82								
H11N1	**WAKE ISLAND Hy**	**35.76**	**277**	T		T		08 09 20.0	
	baz=84,slow=72,SNR=70								
H11S2	**WAKE ISLAND Hy**	**36.08**	**275**	T		T		08 09 45.0	
	baz=82,slow=74,SNR=32								
H11S1	**WAKE ISLAND Hy**	**36.08**	**275**	T		T		08 09 43.4	
	baz=82,slow=74,SNR=18								
H11S3	**WAKE ISLAND Hy**	**36.10**	**275**	T		T		08 09 43.9	
	baz=82,slow=74,SNR=33								
MDPB	**Devils Postpil**	**36.19**	**52**	P		**P**		**07 32 02.5**	**-1.5**
NVAR	**Mina Array Bea**	**37.03**	**51**	P		**P**		**07 32 15.3**	**+4.1**
	comp=E,0.4nm,0.6s,baz=238,slow=10,SNR=2.4								
	comp=E,0.4nm,0.6s								
H04A	**Detroit Lake**	**37.16**	**40**	P		**P**		**07 32 12.2**	**+0.3**
H04A					IAmb	IAmb		07 32 16.9	
	comp=Z,12nm,1.4s								
PPT	**Papeete**	**37.18**	**171**	LR		LR		07 43 48.2	
	comp=Z,188nm,20.7s,baz=36,slow=31								
PMD	**Palm Desert**	**37.20**	**60**	P		**P**		**07 32 12.4**	**0.0**
PMD					IAmb	IAmb		07 32 13.7	
	comp=Z,15nm,1.4s								
HOOD	**Mount Hood Mea**	**37.82**	**39**	P		**P**		**07 32 18.7**	**+1.1**
KDAK	**Kodiak Island**	**38.33**	**2**	LR		LR		07 44 26.7	
	comp=Z,58nm,20.3s,baz=216,slow=30								
F10A	**Beach Ranch, E**	**40.84**	**41**	P		**P**		**07 32 43.3**	**+0.6**
SHEM	**Shemya Is, Ala**	**40.92**	**332**	LR		LR		07 47 27.7	
	comp=Z,30nm,20.5s,baz=317,slow=33								
N19K	**Bonanza Creek**	**41.33**	**0**	P		**P**		**07 32 46.5**	**-0.1**
N19K					IAmb	IAmb		07 32 50.1	
	comp=Z,9.0nm,0.8s								
HLID	**Hailey**	**41.64**	**46**	P		**P**		**07 32 49.9**	**+0.4**
KTH	**Kantishna Hill**	**44.17**	**3**	P		**P**		**07 33 10.1**	**+0.5**
PDAR	**Pinedale Array**	**44.72**	**48**	P		**P**		**07 33 15.9**	**+1.4**
	comp=Z,1.6nm,0.9s,baz=238,slow=5.1,SNR=9.5								
	comp=Z,1.6nm,0.9s								
ILAR	**Eielson Array**	**45.63**	**5**	P		**P**		**07 33 22.0**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=195,slow=6.9,SNR=16								
	comp=Z,0.8nm,0.6s								
EDM	**Edmonton**	**46.55**	**33**	P		**P**		**07 33 28.8**	**+0.2**
EDM					IAmb	IAmb		07 33 33.3	
	comp=Z,5.1nm,0.9s								
F19K	**Shaleruckik Mo**	**47.40**	**359**	P		**P**		**07 33 37.0**	**+2.0**
F19K					IAmb	IAmb		07 33 42.1	
	comp=Z,6.8nm,1.3s								
I30M	**Mount Dempster**	**47.41**	**11**	P		**P**		**07 33 36.4**	**+1.1**
I30M					IAmb	IAmb		07 33 42.0	
	comp=Z,2.6nm,0.9s								
G24K	**Hadweenzic Riv**	**47.50**	**4**	P		**P**		**07 33 38.6**	**+2.9**
TX31	**Lajitas Ar. Si**	**47.55**	**68**	P		**P**		**07 33 37.3**	**+0.5**
TX31					IAmb	IAmb		07 33 42.3	
	comp=Z,2.4nm,0.8s								
TXAR	**Lajitas Array**	**47.55**	**68**	P		**P**		**07 33 38.1**	**+1.3**
TXAR	**Lajitas Array**	**47.55**	**68**	P		**P**		**07 33 39.1**	**+2.2**
	comp=Z,1.8nm,0.8s,baz=252,slow=6.7,SNR=25								
	comp=Z,1.8nm,0.8s								
H29M	**Whitestone**	**48.02**	**9**	P		**P**		**07 33 41.8**	**+2.0**
H29M					IAmb	IAmb		07 33 52.5	
	comp=Z,2.9nm,1.0s								
MSTX	**Muleshoe**	**48.45**	**62**	P		**P**		**07 33 43.8**	**0.0**
RSSD	**Black Hills**	**48.96**	**48**	P		**P**		**07 33 47.8**	**+0.2**
RSSD					IAmb	IAmb		07 33 52.2	
	comp=Z,4.1nm,0.9s								
E25K	**Arctic Village**	**49.04**	**5**	P		**P**		**07 33 49.0**	**+1.4**
D19K	**Kuna River**	**49.08**	**359**	P		**P**		**07 33 49.5**	**+1.6**
D19K					IAmb	IAmb		07 33 52.5	
	comp=Z,11nm,1.4s								
D22K	**Ayikyak River**	**49.45**	**1**	P		**P**		**07 33 53.0**	**+2.3**
D22K					IAmb	IAmb		07 33 54.4	
	comp=Z,8.5nm,1.5s								
YKA	**Yellowknife Ar**	**51.23**	**23**	P		**P**		**07 34 05.6**	**+1.3**
	comp=Z,1.5nm,0.8s,baz=238,slow=7.1,SNR=20								
	comp=Z,1.5nm,0.8s								
RAO	**Raoul Island**	**53.18**	**205**	LR		LR		07 54 49.7	
	comp=Z,26nm,19.5s,baz=58,slow=34								
HHC	**Hu-ho-hao-te**	**79.98**	**310**	*e*P		**P**		**07 37 10.0**	**-0.6**
HHC					pmax	pmax			
	comp=Z,11nm,0.5s								
HHC					pmax	pmax			
	comp=Z,39nm,3.8s								
H03N2	**Juan Fernandez**	**89.59**	**126**	T		T		09 16 53.4	
	baz=298,slow=76,SNR=271								
H03N3	**Juan Fernandez**	**89.61**	**126**	T		T		09 16 54.4	
	baz=298,slow=76,SNR=382								
H03N1	**Juan Fernandez**	**89.61**	**126**	T		T		09 16 54.6	
	baz=298,slow=76,SNR=292								

NOU 12 07:26:22.6, 15.67S×168.00E, h78km, MLv4.3/9, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.05**	**175**	P	Pn	07 26 56.7	+1.6
LIFNC	**LIFOU**	**5.13**	**188**	P	Pn	07 27 35.3	-1.6
KOUNC	**Koumac, New Ca**	**6.00**	**215**	P	Pn	07 27 49.5	+0.6
DZM	**Mont Dzumac**	**6.54**	**193**	P	Pn	07 27 56.0	-0.2
NOUC	**Port Laguerre**	**6.59**	**194**	P	Pn	07 27 56.9	-0.1
OUENC	**Ouen Island, N**	**6.80**	**189**	P	Pn	07 28 00.0	+0.2

PDG ***12*** *07:28:45.8±0.6, 37.00N×23.02E, h88km±4km, ML4.0/11, Error ellipse: s-maj=1.1km s-min=1.9km az=0.0*
ATH ***12*** *07:28:46.6, 37.00N×23.15E, h80km±1km, ML3.4/30, Error ellipse: s-maj=1.9km s-min=0.7km az=254.0*
THE ***12*** *07:28:46.8, 37.00N×23.20E, h76km±2km, ML3.4/23, Error ellipse: s-maj=2.0km s-min=0.7km az=317.0*

ISC 12 07:28:45.1±1.2, 37.01N±0.02×23.15E±0.03, h92km±6km, n138, σ1§54/198, 3C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNVA	**Monemvasia**	**0.33**	**196**	P	**Pn**	**07 28 59.7**	**+0.8**
MNVA				S	**Sn**	**07 29 08.0**	**-1.1**
MNVA				AML	AML	07 29 08.5	
	comp=E,17009µm,0.3s						
MNVA				AML	AML	07 29 08.6	
	comp=N,10972µm,0.2s						
VLI	**Velíai**	**0.34**	**210**	P	**Pn**	**07 28 58.8**	**-0.2**
VLI				S	**Sn**	**07 29 07.4**	**-1.9**
	comp=N,3µm,0.2s						
VLI	**Velíai**	**0.34**	**210**	P	**Pn**	**07 28 58.7**	**-0.2**
VLI				S	**Sn**	**07 29 07.3**	**-1.9**
VLI				AML	AML	07 29 07.6	
	comp=N,5495µm,0.3s						
VLI				AML	AML	07 29 08.5	
	comp=E,4944µm,0.2s						
KRND	**KRANIDI**	**0.37**	**0**	P	**Pn**	**07 28 59.2**	**0.0**
KRND				S	**Sn**	**07 29 09.0**	**-0.6**
	comp=E,3µm,0.3s						
KRND	**KRANIDI**	**0.37**	**0**	P	**Pn**	**07 28 59.2**	**0.0**
KRND				S	**Sn**	**07 29 08.7**	**-0.9**
KRND				AML	AML	07 29 09.1	
	comp=N,5519µm,0.4s						
KRND				AML	AML	07 29 09.7	
	comp=E,4555µm,0.2s						
YDRA	**Hydra**	**0.42**	**37**	P	**Pn**	**07 28 59.8**	**+0.3**
YDRA				S	**Sn**	**07 29 09.0**	**-1.1**
KLMT	**Kalamata**	**0.87**	**274**	P	**Pn**	**07 29 05.4**	**+1.9**
KLMT				S	**Sn**	**07 29 19.4**	**+2.1**
	comp=E,1µm,0.7s						
VLY	**Voula,Athens**	**0.99**	**31**	P	**Pn**	**07 29 05.3**	**+0.5**
VLY				S	**Sn**	**07 29 18.8**	**-0.8**
	comp=E,832nm,0.3s						
VLY	**Voula,Athens**	**0.99**	**31**	P	**Pn**	**07 29 05.3**	**+0.5**
VLY				S	**Sn**	**07 29 18.8**	**-0.8**
VLY				AML	AML	07 29 21.1	
	comp=N,1444µm,0.2s						
VLY				AML	AML	07 29 21.7	
	comp=E,1891µm,0.4s						
LOUT	**Loutraki**	**0.99**	**352**	P	**Pn**	**07 29 05.6**	**+0.8**
LOUT				S	**Sn**	**07 29 19.8**	**+0.2**
	comp=E,2µm,0.5s						
LOUT	**Loutraki**	**0.99**	**352**	P	**Pn**	**07 29 05.5**	**+0.8**
LOUT				S	**Sn**	**07 29 18.8**	**-0.8**
ITM	**Ithomi**	**0.99**	**280**	P	**Pn**	**07 29 06.5**	**+1.7**
ITM				S	**Sn**	**07 29 21.4**	**+1.7**
	comp=E,2µm,0.3s						
ITM	**Ithomi**	**0.99**	**280**	P	**Pn**	**07 29 06.2**	**+1.4**
ITM				S	**Sn**	**07 29 19.7**	**+0.1**
ITM				AML	AML	07 29 21.7	
	comp=N,3215µm,0.3s						
ITM				AML	AML	07 29 24.0	
	comp=E,3754µm,0.4s						
LTK	**Loutraki**	**1.02**	**352**	P	**Pn**	**07 29 06.0**	**+0.8**
LTK				S	**Sn**	**07 29 20.0**	**-0.3**
LTK				AML	AML	07 29 21.2	
	comp=E,4077µm,0.4s						
LTK				AML	AML	07 29 21.3	
	comp=N,3793µm,0.5s						
MHLO	**Agia Marina, M**	**1.05**	**107**	P	**Pn**	**07 29 06.4**	**+0.9**
MHLO	**Agia Marina, M**	**1.05**	**107**	P	**Pn**	**07 29 06.3**	**+0.9**
MHLO				S	**Sn**	**07 29 20.5**	**-0.4**
MHLO				AML	AML	07 29 22.9	
	comp=N,5876µm,0.3s						
MHLO				AML	AML	07 29 23.1	
	comp=E,6430µm,0.2s						
ATH	**Athens Observa**	**1.06**	**25**	P	**Pn**	**07 29 06.5**	**+0.9**
ATH				S	**Sn**	**07 29 21.2**	**+0.2**
	comp=E,1µm,0.5s						
ATH	**Athens Observa**	**1.06**	**25**	P	**Pn**	**07 29 06.5**	**+0.9**
ATH				S	**Sn**	**07 29 20.8**	**-0.2**
ATH				AML	AML	07 29 21.2	
	comp=E,2588µm,0.4s						
ATH				AML	AML	07 29 25.3	
	comp=N,2111µm,0.3s						
ATHU	**Athens Univers**	**1.08**	**28**	P	**Pn**	**07 29 06.7**	**+0.8**
ATHU				S	**Sn**	**07 29 21.1**	**-0.4**
	comp=N,402nm,0.3s						
ATHU	**Athens Univers**	**1.08**	**28**	P	**Pn**	**07 29 06.7**	**+0.8**
THAL	**Thalero**	**1.10**	**340**	P	**Pn**	**07 29 07.0**	**+1.0**
THAL				S	**Sn**	**07 29 21.7**	**0.0**
	comp=N,6µm,0.3s						
GUR	**Goura**	**1.13**	**326**	P	**Pn**	**07 29 07.5**	**+1.0**
GUR				S	**Sn**	**07 29 22.7**	**+0.1**
	comp=N,10µm,0.5s						
GUR	**Goura**	**1.13**	**326**	P	**Pn**	**07 29 07.6**	**+1.0**
GUR				S	**Sn**	**07 29 21.9**	**-0.7**
GUR				AML	AML	07 29 24.3	
	comp=N,20766µm,0.6s						
GUR				AML	AML	07 29 25.3	
	comp=E,18537µm,0.5s						
PYL	**PYLOS**	**1.13**	**265**	P	**Pn**	**07 29 07.1**	**+0.6**
PYL				S	**Sn**	**07 29 23.7**	**+1.2**
	comp=E,952nm,0.2s						
PYL	**PYLOS**	**1.13**	**265**	P	**Pn**	**07 29 07.0**	**+0.6**
PYL				S	**Sn**	**07 29 22.4**	**0.0**
PYL				AML	AML	07 29 24.4	
	comp=E,2102µm,0.2s						
PYL				AML	AML	07 29 24.6	
	comp=N,1667µm,0.3s						
ANKY	**Antikythira Is**	**1.15**	**174**	P	**Pn**	**07 29 07.2**	**+0.6**
ANKY	**Antikythira Is**	**1.15**	**174**	P	**Pn**	**07 29 07.1**	**+0.6**
ANKY				S	**Sn**	**07 29 22.1**	**-0.6**
ANKY				AML	AML	07 29 26.9	
	comp=N,1620µm,0.3s						
ANKY				AML	AML	07 29 29.1	
	comp=E,1359µm,0.3s						
VILL	**Villia**	**1.16**	**6**	P	**Pn**	**07 29 07.6**	**+0.8**
VILL				S	**Sn**	**07 29 23.2**	**0.0**
	comp=E,2µm,0.4s						
PTL	**Penteli**	**1.19**	**29**	P	**Pn**	**07 29 09.2**	**+2.1**
PTL				S	**Sn**	**07 29 24.5**	**+0.8**
	comp=E,1µm,0.5s						
PTL	**Penteli**	**1.19**	**29**	P	**Pn**	**07 29 08.7**	**+1.6**
PTL				S	**Sn**	**07 29 23.7**	**0.0**
PTL				AML	AML	07 29 25.5	
	comp=E,3212µm,0.2s						
PTL				AML	AML	07 29 25.5	
	comp=N,1714µm,0.3s						
VIL2	**Platees**	**1.21**	**4**	P	**Pn**	**07 29 07.6**	**+0.3**
VIL2				S	**Sn**	**07 29 23.2**	**-0.9**
VIL2				AML	AML	07 29 25.5	
	comp=E,3271µm,0.5s						
VIL2				AML	AML	07 29 28.4	
	comp=N,2754µm,0.3s						
DION	**Dionisos Attik**	**1.24**	**30**	P	**Pn**	**07 29 09.9**	**+2.2**
DION				S	**Sn**	**07 29 24.7**	**0.0**
	comp=N,3µm,0.3s						
DION	**Dionisos Attik**	**1.24**	**30**	P	**Pn**	**07 29 09.7**	**+2.0**
DION				S	**Sn**	**07 29 24.8**	**+0.1**
DION				AML	AML	07 29 27.9	
	comp=N,3791µm,0.3s						
DION				AML	AML	07 29 28.6	
	comp=E,3402µm,0.3s						
KLV	**Kalavryta, Ach**	**1.30**	**323**	P	**Pn**	**07 29 09.5**	**+0.9**
KLV	**Kalavryta, Ach**	**1.30**	**323**	P	**Pn**	**07 29 09.5**	**+0.9**
DRO	**Drossia**	**1.48**	**310**	P	**Pn**	**07 29 12.7**	**+1.9**
DRO				S	**Sn**	**07 29 31.9**	**+1.8**
	comp=E,5µm,0.4s						
DRO	**Drossia**	**1.48**	**310**	P	**Pn**	**07 29 12.6**	**+1.9**
DRO				S	**Sn**	**07 29 30.2**	**+0.1**
DRO				AML	AML	07 29 34.3	
	comp=N,6649µm,0.3s						
DRO				AML	AML	07 29 35.0	
	comp=E,11324µm,0.5s						
ALIK	**Aliki, Aigiali**	**1.50**	**327**	P	**Pn**	**07 29 12.0**	**+1.2**
ALIK				S	**Sn**	**07 29 31.0**	**+0.6**
RODP	**Rodopos**	**1.53**	**161**	P	**Pn**	**07 29 12.0**	**+0.7**
RODP				S	**Sn**	**07 29 30.5**	**-0.6**
	comp=E,342nm,0.3s						
TRIZ	**Trizonia**	**1.60**	**328**	P	**Pn**	**07 29 13.3**	**+1.1**
TRIZ	**Trizonia**	**1.60**	**328**	P	**Pn**	**07 29 13.3**	**+1.1**
CHAN	**Chania**	**1.65**	**154**	P	**Pn**	**07 29 13.5**	**+0.7**
CHAN				S	**Sn**	**07 29 33.2**	**-0.7**
CHAN				AML	AML	07 29 34.4	
	comp=E,3156µm,0.3s						
CHAN				AML	AML	07 29 34.8	
	comp=N,2825µm,0.3s						
IMMV	**Iera Moni Meta**	**1.69**	**156**	P	**Pn**	**07 29 13.9**	**+0.6**
IMMV				S	**Sn**	**07 29 34.1**	**-0.6**
	comp=N,925nm,0.3s						
IMMV	**Iera Moni Meta**	**1.69**	**156**	P	**Pn**	**07 29 14.0**	**+0.6**
IMMV				S	**Sn**	**07 29 33.9**	**-0.8**
IMMV				AML	AML	07 29 40.0	
	comp=N,2053µm,0.3s						
IMMV				AML	AML	07 29 45.5	
	comp=E,1632µm,0.3s						
RLS	**Riolos of Patr**	**1.70**	**309**	P	**Pn**	**07 29 16.3**	**+2.9**
RLS				S	**Sn**	**07 29 37.7**	**+2.8**
	comp=E,745nm,0.5s						
RLS	**Riolos of Patr**	**1.70**	**309**	P	**Pn**	**07 29 15.4**	**+2.0**
RLS				S	**Sn**	**07 29 36.0**	**+1.0**
RLS				AML	AML	07 29 41.5	
	comp=E,1384µm,0.4s						
RLS				AML	AML	07 29 41.9	
	comp=N,1589µm,0.5s						
EFP	**Efpalio**	**1.73**	**326**	P	**Pn**	**07 29 14.8**	**+1.0**
EFP	**Efpalio**	**1.73**	**326**	P	**Pn**	**07 29 15.1**	**+1.3**
EFP				S	**Sn**	**07 29 35.3**	**-0.2**
EFP				AML	AML	07 29 38.1	
	comp=E,1670µm,0.3s						
EFP				AML	AML	07 29 39.5	
	comp=N,1089µm,0.4s						
AXAR	**Agios Charalam**	**1.80**	**348**	P	**Pn**	**07 29 16.3**	**+1.6**
AXAR				S	**Sn**	**07 29 38.7**	**+1.4**
	comp=N,2µm,0.4s						
AXAR	**Agios Charalam**	**1.80**	**348**	P	**Pn**	**07 29 16.1**	**+1.4**
AXAR				S	**Sn**	**07 29 37.9**	**+0.7**
AXAR				AML	AML	07 29 42.4	
	comp=N,3441µm,0.4s						
AXAR				AML	AML	07 29 46.2	
	comp=E,2628µm,0.5s						
KNDR	**Palaiochora Ch**	**1.82**	**166**	P	**Pn**	**07 29 16.4**	**+1.3**
KNDR				S	**Sn**	**07 29 37.8**	**0.0**
KNDR				AML	AML	07 29 46.2	
	comp=E,1422µm,0.7s						
KNDR				AML	AML	07 29 48.8	
	comp=N,1116µm,0.3s						
ANX	**Ano Chora**	**1.86**	**329**	P	**Pn**	**07 29 16.7**	**+1.1**
ANX				S	**Sn**	**07 29 40.0**	**+1.2**
	comp=N,728nm,0.4s						
ANX	**Ano Chora**	**1.86**	**329**	P	**Pn**	**07 29 16.9**	**+1.3**
ANX				S	**Sn**	**07 29 39.1**	**+0.3**
ANX				AML	AML	07 29 40.4	
	comp=E,1044µm,0.4s						
ANX				AML	AML	07 29 41.7	
	comp=N,1818µm,0.4s						
THR5	**Thira Island,**	**1.86**	**108**	P	**Pn**	**07 29 17.0**	**+1.4**
THR9	**Santorini-Faro**	**1.89**	**109**	P	**Pn**	**07 29 17.5**	**+1.6**
CMBO	**Columbo, Santo**	**1.89**	**106**	P	**Pn**	**07 29 17.6**	**+1.7**
THR3	**Thira Island,**	**1.91**	**108**	P	**Pn**	**07 29 17.2**	**+1.1**
THR3	**Thira Island,**	**1.91**	**108**	P	**Pn**	**07 29 17.9**	**+1.8**
APE	**Apeiranthos**	**1.91**	**87**	P	**Pn**	**07 29 17.4**	**+1.2**
APE	**Apeiranthos**	**1.91**	**87**	P	**Pn**	**07 29 17.5**	**+1.3**
APE				AML	AML	07 29 41.6	
	comp=E,465µm,0.2s						
APE				AML	AML	07 29 41.7	
	comp=N,494µm,0.3s						
THR6	**Thira Island,**	**1.92**	**109**	P	**Pn**	**07 29 17.3**	**+1.0**
THR6	**Thira Island,**	**1.92**	**109**	P	**Pn**	**07 29 18.1**	**+1.8**
THR8	**Santorini-Mono**	**1.97**	**107**	P	**Pn**	**07 29 18.3**	**+1.4**
THR8	**Santorini-Mono**	**1.97**	**107**	P	**Pn**

FSK					AML	AML	07 29 54.9
	comp=N,344µm,0.1s						
FSK					AML	AML	07 29 56.4
	comp=E,684µm,0.1s						
DMLN	**Damoulianata-K**	**2.52**	**300**	P		**Pn**	**07 29 24.7 +0.4**
DMLN	**Damoulianata-K**	**2.52**	**300**	P		**Pn**	**07 29 24.7 +0.4**
KEF3	**Kipouria, Keph**	**2.52**	**299**	P		**Pn**	**07 29 24.5 +0.2**
KEF3	**Kipouria, Keph**	**2.52**	**299**	P		**Pn**	**07 29 24.4 +0.2**
EVGI	**Lefkada island**	**2.55**	**310**	P		**Pn**	**07 29 25.6 +1.0**
EVGI	**Lefkada island**	**2.55**	**310**	P		**Pn**	**07 29 25.5 +1.0**
NYDR	**Nydri-Lefkada**	**2.58**	**312**	P		**Pn**	**07 29 26.5 +1.5**
NYDR	**Nydri-Lefkada**	**2.58**	**312**	P		**Pn**	**07 29 26.5 +1.5**
DRAG	**Dragano-Lefkad**	**2.64**	**310**	P		**Pn**	**07 29 27.3 +1.6**
LKD2	**Lefkada island**	**2.65**	**313**	P		**Pn**	**07 29 27.4 +1.4**
LKD2	**Lefkada island**	**2.65**	**313**	P		**Pn**	**07 29 27.1 +1.1**
TSLK	**Tsoukalades, L**	**2.68**	**313**	P		**Pn**	**07 29 28.2 +1.9**
TSLK	**Tsoukalades, L**	**2.68**	**313**	P		**Pn**	**07 29 28.3 +1.9**
CHOS	**Chios island**	**2.69**	**58**	P		**Pn**	**07 29 27.9 +1.4**
THL	**Klokotos Trika**	**2.70**	**341**	P		**Pn**	**07 29 28.1 +1.4**
THL	**Klokotos Trika**	**2.70**	**341**	P		**Pn**	**07 29 28.1 +1.4**
TYRN	**Tyrnavos**	**2.79**	**345**	P		**Pn**	**07 29 28.9 +1.1**
TYRN	**Tyrnavos**	**2.79**	**345**	P		**Pn**	**07 29 28.9 +1.1**
PAIG	**Paliouri**	**2.94**	**8**	P		**Pn**	**07 29 31.1 +1.2**
ZKR	**Zakros**	**3.12**	**126**	P		**Pn**	**07 29 34.4 +2.1**
LIT	**Litokhoron**	**3.13**	**351**	P		**Pn**	**07 29 33.9 +1.5**
JAN	**Janina**	**3.20**	**326**	P		**Pn**	**07 29 38.0 +4.6**
KPRO	**Kipourio**	**3.26**	**335**	P		**Pn**	**07 29 36.2 +2.0**
IGT	**Igoumenitsa**	**3.36**	**320**	P		**Pn**	**07 29 36.4 +1.0**
KARP	**Karpathos**	**3.56**	**113**	P		**Pn**	**07 29 39.8 +1.7**
HORT	**Hortiatis**	**3.58**	**359**	P		**Pn**	**07 29 40.4 +1.8**
LSK	**Leskovik**	**3.72**	**328**	P		**Pn**	**07 29 42.1 +1.7**
NEST	**Nestorio**	**3.78**	**335**	P		**Pn**	**07 29 43.5 +2.3**
SRN	**Sarande**	**3.79**	**320**	P		**Pn**	**07 29 42.0 +0.8**
THAS	**Thassos island**	**3.80**	**18**	P		**Pn**	**07 29 42.6 +1.3**
FNA	**Florina**	**4.01**	**340**	P		**Pn**	**07 29 45.9 +1.5**
SRS	**Serrai**	**4.12**	**5**	P		**Pn**	**07 29 47.4 +1.7**
KNT	**Kendrikon**	**4.15**	**357**	P		**Pn**	**07 29 46.7 +0.5**
OHR	**Ohrid**	**4.49**	**337**	*i* Pn		**Pn**	**07 29 53.2 +2.5**
OHR				*e*Sg		**Sn**	**07 30 41.0 -0.7**
ULC	**Ulcinj**	**5.80**	**330**	*e*Pn		**Pn**	**07 30 08.8 +0.3**
ULC				*i* Sn		**Sn**	**07 31 10.0 -3.6**
DRME	**Dracevica, Mon**	**6.01**	**331** ⇓	*i* Pn		**Pn**	**07 30 11.0 -0.4**
DRME				*i* Sn		**Sn**	**07 31 15.7 -3.0**
PVY	**Plav**	**6.09**	**337** ⇓	*i* Pn		**Pn**	**07 30 13.4 +0.7**
PVY				*i* Sn		**Sn**	**07 31 17.5 -3.5**
PDG	**Podgorica**	**6.19**	**332**	*e*Pn		**Pn**	**07 30 14.7 +0.8**
PDG				*i* Sn		**Sn**	**07 31 19.7 -3.4**
IVA	**Berane**	**6.37**	**338** ⇓	*i* Pn		**Pn**	**07 30 16.9 +0.6**
IVA				*i* Sn		**Sn**	**07 31 24.2 -3.4**
CEME	**Cevo**	**6.42**	**331** ⇑	*i* Pn		**Pn**	**07 30 16.2 -0.8**
CEME				*i* Sn		**Sn**	**07 31 25.1 -3.7**
KOME	**Kolasin**	**6.47**	**336** ⇑	*i* Pn		**Pn**	**07 30 18.5 +0.8**
KOME				*i* Sn		**Sn**	**07 31 26.5 -3.6**
NKME	**Niksic**	**6.59**	**332**	*e*Pn		**Pn**	**07 30 20.2 +0.8**
NKME				*i* Sn		**Sn**	**07 31 29.4 -3.7**
BRY	**Bratogost**	**6.87**	**330**	*e*Pn		**Pn**	**07 30 22.7 -0.5**
BRY				*i* Sn		**Sn**	**07 31 35.2 -4.7**
PLE	**Pljevlja**	**6.94**	**337** ⇑	*i* Pn		**Pn**	**07 30 24.5 +0.4**
PLE				*i* Sn		**Sn**	**07 31 37.9 -3.7**
UPM	**Unac-Piva**	**6.99**	**334**	*e*Pn		**Pn**	**07 30 25.4 +0.5**
UPM				*i* Sn		**Sn**	**07 31 39.0 -3.9**

AFAD ***12*** *07:36:13.9±0.0,38°.38N×26°.45E,h14km±1km,MW3.7*
ISK ***12*** *07:36:13.3,38°.40N×26°.42E,h16km,ML3.5/45*
ATH ***12*** *07:36:14.4,38°.38N×26°.40E,h19km±2km,ML3.6/7,Error ellipse: s-maj=2.1km s-min=0.9km az=292.0*
THE ***12*** *07:36:14.1,38°.40N×26°.44E,h9km±1km,ML3.7/7,Error ellipse: s-maj=1.2km s-min=0.5km az=292.0*
ISC 12 07:36:14.0±0.8,38°.39N±0″.02×26°.44E±0″.02,h16km±5km, n125,σ0s74/160,6C-4D,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CESE	**eme**	**0.13**	**241**	Pg	**Pg**	**07 36 17.4**	**-0.3**
CESE				Sg	**Sg**	**07 36 19.9**	**-0.2**
URLA	**Izmir**	**0.13**	**104**	P	**Pg**	**07 36 17.8**	**0.0**
URLA				S	**Sg**	**07 36 20.4**	**+0.2**
ZEYE	**Izmir, Urla-Ze**	**0.16**	**162**	P	**Pg**	**07 36 18.2**	**0.0**
ZEYE				S	**Sg**	**07 36 21.0**	**+0.1**
ZEYE				*i* AML	AML	07 36 21.0	
	comp=E,4µm,0.4s						
ZEYE				*i* AML	AML	07 36 22.0	
	comp=N,4µm,0.2s						
KARB	**zmir-Karabur**	**0.27**	**355**	P	**Pg**	**07 36 20.0**	**0.0**
KARB				S	**Sg**	**07 36 23.5**	**-0.5**
KARB				*i* AML	AML	07 36 24.0	
	comp=E,7µm,0.5s						
KARB				*i* AML	AML	07 36 25.0	
	comp=N,4µm,0.2s						
EAG2	**Marmaro, Chios**	**0.30**	**300**	P	**Pg**	**07 36 20.7**	**+0.3**
EAG2				S	**Sg**	**07 36 24.7**	**-0.1**
CHOS	**Chios island**	**0.30**	**269**	Pg	**Pb**	**07 36 20.2**	**-0.2**
CHOS				Sg	**Sg**	**07 36 24.9**	**0.0**
CHOS	**Chios island**	**0.30**	**269**	P	**Pb**	**07 36 20.9**	**-0.2**
CHOS				S	**Sg**	**07 36 25.2**	**+0.3**
	24µm,0.3s						
CHOS	**Chios island**	**0.30**	**269**	P	**Pb**	**07 36 21.0**	**-0.2**
CHOS				S	**Sg**	**07 36 24.7**	**-0.2**
CHOS				AML	AML	07 36 25.4	
	comp=E,56080µm,0.2s						
CHOS				AML	AML	07 36 26.2	
	comp=N,42172µm,0.3s						
FOCM	**Foa**	**0.39**	**35**	Pg	**Pg**	**07 36 21.8**	**-0.3**
FOCM				Sg	**Sb**	**07 36 28.2**	**-0.3**
BLCB	**Balcova**	**0.47**	**90**	Pg	**Pg**	**07 36 23.5**	**0.0**
BLCB				Sg	**Sg**	**07 36 30.1**	**+0.2**
BLCB	**Balcova**	**0.47**	**90**	P	**Pg**	**07 36 23.5**	**0.0**
BLCB				S	**Sg**	**07 36 30.2**	**+0.3**
DGB	**zmir**	**0.49**	**134**	P	**Pg**	**07 36 23.6**	**-0.1**
DGB				S	**Sg**	**07 36 30.2**	**-0.1**
DGB				*i* AML	AML	07 36 31.0	
	comp=N,5µm,0.2s						
DGB				*i* AML	AML	07 36 31.0	
	comp=N,10µm,0.2s						
GMLD	**Gumuldur**	**0.49**	**130**	Pg	**Pg**	**07 36 23.4**	**-0.4**
GMLD				Sg	**Sb**	**07 36 30.9**	**-0.3**
CAND	**Candarli**	**0.63**	**27**	Pg	**Pg**	**07 36 26.4**	**0.0**
EAG3	**Mitilini, Lesv**	**0.70**	**8**	P	**Pg**	**07 36 27.3**	**-0.4**
EAG3				S	**Sb**	**07 36 37.2**	**-0.2**
IZMD	**zmir-Dikili-**	**0.70**	**33**	P	**Pg**	**07 36 27.4**	**-0.5**
IZMD				P	**Pb**	**07 36 27.5**	**-0.5**
IZMD				S	**Sb**	**07 36 38.1**	**+0.5**
IZMD				*i* AML	AML	07 36 41.0	
	comp=N,826nm,0.6s						
IZMD				*i* AML	AML	07 36 41.0	
	comp=N,803nm,0.6s						
IZMD				*i* AML	AML	07 36 43.0	
	comp=N,542nm,0.6s						
IZMD				*i* AML	AML	07 36 43.0	
	comp=N,534nm,0.7s						
LESV	**Lesvos island,**	**0.72**	**8**	P	**Pg**	**07 36 28.1**	**-0.1**
LESV				S	**Sb**	**07 36 39.0**	**+1.1**
	comp=N,36µm,0.5s						
SMG	**Samos**	**0.75**	**155**	P	**Pg**	**07 36 28.3**	**-0.4**
SMG				S	**Sb**	**07 36 39.1**	**+0.3**
	comp=N,13µm,0.4s						
SMG	**Samos**	**0.75**	**155**	P	**Pg**	**07 36 28.6**	**-0.1**
SMG				S	**Sb**	**07 36 39.0**	**+0.3**
SMG				AML	AML	07 36 41.2	
	comp=E,23430µm,0.2s						
SMG				AML	AML	07 36 41.5	
	comp=N,18482µm,0.4s						
ZEDA	**zmir-Bergama**	**0.76**	**41**	P	**Pg**	**07 36 28.8**	**-0.1**
ZEDA				S	**Sb**	**07 36 39.2**	**+0.1**
ZEDA				*i* AML	AML	07 36 42.0	
	comp=N,2µm,0.4s						
ZEDA				*i* AML	AML	07 36 42.0	
	comp=N,2µm,0.6s						
DKL	**Dikili**	**0.77**	**28**	Pg	**Pg**	**07 36 28.7**	**-0.4**
PRK	**Paraskevi**	**0.86**	**351**	P	**Pb**	**07 36 30.5**	**-0.2**
PRK				S	**Sg**	**07 36 42.3**	**+0.1**
	comp=N,8µm,0.8s						
PRK	**Paraskevi**	**0.86**	**351**	P	**Pb**	**07 36 30.7**	**0.0**
PRK				S	**Sg**	**07 36 42.6**	**+0.3**
PRK				AML	AML	07 36 44.9	
	comp=E,18926µm,0.6s						
PRK				AML	AML	07 36 45.9	
	comp=N,13647µm,0.4s						
GCAM	**G?zelcaml?**	**0.93**	**138**	P	**Pb**	**07 36 31.7**	**-0.1**
GCAM				S	**Sg**	**07 36 44.3**	**0.0**
GCAM				*i* AML	AML	07 36 46.0	
	comp=N,2µm,0.4s						
GCAM				*i* AML	AML	07 36 50.0	
	comp=N,696nm,0.7s						
AYVA	**Ayvalik**	**0.94**	**12**	P	**Pb**	**07 36 31.6**	**-0.4**
AYVA				S	**Sg**	**07 36 44.5**	**0.0**
AYVA				*i* AML	AML	07 36 46.0	
	comp=N,987nm,0.7s						
AYVA				*i* AML	AML	07 36 53.0	
	comp=N,1µm,0.7s						
SIGR	**SIGRI**	**0.94**	**331**	Pg	**Pb**	**07 36 31.5**	**-0.4**
SIGR				Sg	**Sg**	**07 36 44.8**	**+0.2**
SIGR	**SIGRI**	**0.94**	**331**	P	**Pg**	**07 36 32.1**	**-0.1**
SIGR				S	**Sb**	**07 36 44.3**	**+0.1**
	comp=N,4µm,0.4s						
SIGR	**SIGRI**	**0.94**	**331**	P	**Pb**	**07 36 31.8**	**-0.1**
SIGR				S	**Sb**	**07 36 44.2**	**+0.1**
SIGR				AML	AML	07 36 45.0	
	comp=N,7287µm,0.4s						
SIGR				AML	AML	07 36 45.1	
	comp=E,6718µm,0.3s						
GPNR	**Gulpinar-Canak**	**1.09**	**347**	Pg	**Pb**	**07 36 34.3**	**-0.2**
DDIM	**Aydin, Didim**	**1.13**	**146**	P	**Pb**	**07 36 34.9**	**-0.3**
DDIM				S	**Sg**	**07 36 51.2**	**+0.6**
DDIM				*i* AML	AML	07 36 56.0	
	comp=E,1µm,0.5s						
DDIM				*i* AML	AML	07 36 56.0	
	comp=E,1µm,0.7s						
KOCA	**Canakkale, Ayv**	**1.13**	**348**	P	**Pn**	**07 36 34.9**	**-0.4**
KOCA				S	**Sb**	**07 36 49.1**	**-0.8**
KOCA				*i* AML	AML	07 36 52.0	
	comp=E,2µm,0.7s						
KOCA				*i* AML	AML	07 36 52.0	
	comp=E,1µm,0.5s						
SOMA	**Soma-Manisa**	**1.15**	**48**	Pn	**Pn**	**07 36 35.4**	**-0.1**
AKS	**Akhisar**	**1.18**	**65**	Pn	**Pn**	**07 36 35.9**	**0.0**
AKHS	**Akhisar**	**1.18**	**65**	P	**Pg**	**07 36 36.5**	**-0.3**
AKHS				S	**Sn**	**07 36 51.7**	**-0.1**
AKHS				*i* AML	AML	07 36 54.0	
	comp=E,0.5nm,0.4s						
AKHS				*i* AML	AML	07 36 55.0	
	comp=E,667nm,0.2s						
GOMA	**Golmarmara-Man**	**1.20**	**74**	Pn	**Pb**	**07 36 36.4**	**0.0**
BUHA	**Balikesir, Bur**	**1.22**	**24**	P	**Pn**	**07 36 35.8**	**-0.6**
BUHA				S	**Sg**	**07 36 53.0**	**-0.3**
IZMR	**zmir-demi**	**1.22**	**102**	P	**Pn**	**07 36 36.5**	**+0.1**
IZMR				S	**Sb**	**07 36 50.6**	**-1.6**
IZMR				*i* AML	AML	07 36 55.0	
	comp=E,170nm,0.5s						
IZMR				*i* AML	AML	07 37 02.0	
	comp=E,200nm,0.5s						
AYDB	**Zeytinkoy-Aydi**	**1.23**	**111**	Pn	**Pn**	**07 36 36.6**	**-0.1**
ODEM	**Odemis-Izmir**	**1.29**	**95**	Pn	**Pb**	**07 36 37.7**	**-0.3**
EZNE	**Ezine-Canakkal**	**1.36**	**358**	Pn	**Pn**	**07 36 38.1**	**-0.4**
STEP	**BALIKESIR_Sava**	**1.40**	**45**	P	**Pn**	**07 36 38.7**	**-0.3**
STEP				S	**Sg**	**07 36 58.7**	**-0.6**
STEP				*i* AML	AML	07 37 04.0	
	comp=E,834nm,0.6s						
STEP				*i* AML	AML	07 37 04.0	
	comp=E,1µm,0.6s						
YKAV	**Yalikavak-Bodr**	**1.43**	**152**	Pn	**Pn**	**07 36 39.5**	**+0.2**
EZN	**Ezine**	**1.44**	**356**	Pn	**Pn**	**07 36 39.2**	**-0.2**
EZN	**Ezine**	**1.44**	**356**	P	**Pn**	**07 36 39.0**	**-0.4**
EZN				S	**Sb**	**07 36 58.3**	**-0.2**
	comp=E,1µm,0.7s						
GORD	**Gordes-Manisa**	**1.46**	**69**	Pn	**Pn**	**07 36 39.8**	**0.0**
BODT	**Bodrum**	**1.50**	**152**	Pn	**Pn**	**07 36 40.0**	**-0.3**
BODT	**Bodrum**	**1.50**	**152**	P	**Pn**	**07 36 40.0**	**-0.3**
BODT				S	**Sb**	**07 37 00.0**	**-0.2**
APE	**Apeiranthos**	**1.50**	**209**	Pn	**Pn**	**07 36 39.1**	**-1.2**
APE	**Apeiranthos**	**1.50**	**209**	P	**Pn**	**07 36 39.2**	**-1.2**
APE	**Apeiranthos**	**1.50**	**209**	P	**Pn**	**07 36 39.2**	**-1.2**
NAZL	**Nazilli-Aydin**	**1.52**	**106**	Pn	**Pn**	**07 36 40.9**	**+0.3**
MLSB	**Milas**	**1.52**	**136**	Pn	**Pn**	**07 36 40.8**	**+0.2**
KIRA	**zmir-Kiraz**	**1.56**	**97**	P	**Pn**	**07 36 41.5**	**+0.3**
KIRA				*i* AML	AML	07 37 06.0	
	comp=E,182nm,0.5s						
KIRA				*i* AML	AML	07 37 09.0	
	comp=E,180nm,0.2s						
SKY	**Skiros Island**	**1.56**	**289**	P	**Pn**	**07 36 40.1**	**-1.1**
YENI	**Yenice-Canakka**	**1.66**	**22**	Pn	**Pn**	**07 36 42.7**	**+0.1**
BALB	**Balikesir**	**1.68**	**42**	Pn	**Pn**	**07 36 42.8**	**0.0**
CANM	**Can-anakkale**	**1.69**	**16**	Pn	**Pn**	**07 36 39.5**	**-3.4**
COMU	**Canakkale**	**1.71**	**1**	Pn	**Pn**	**07 36 43.0**	**-0.2**
KULA	**Kula-Manisa**	**1.75**	**85**	Pn	**Pn**	**07 36 44.2**	**+0.4**
KULA	**Kula-Manisa**	**1.75**	**85**	P	**Pn**	**07 36 44.2**	**+0.4**
KULA				S	**Sb**	**07 37 06.9**	**-0.7**
LIA	**Limnos Island**	**1.79**	**327**	P	**Pn**	**07 36 44.3**	**-0.1**
LIA	**Limnos Island**	**1.79**	**327**	P	**Pn**	**07 36 44.2**	**-0.1**
LIA				AML	AML	07 37 14.3	
	comp=N,3106µm,0.7s						
LIA				AML	AML	07 37 15.8	
	comp=E,3355µm,0.5s						
GADA	**Gvkgeada**	**1.85**	**347**	Pn	**Pn**	**07 36 44.9**	**-0.2**
DAT	**Datca**	**1.89**	**151**	Pn	**Pn**	**07 36 45.4**	**-0.4**
DAT	**Datca**	**1.89**	**151**	P	**Pn**	**07 36 45.6**	**-0.2**
GONE	**Gonen-Balikesi**	**1.92**	**30**	Pn	**Pn**	**07 36 46.2**	**+0.2**
LPK	**Lapseki**	**2.00**	**Pn**	Pn	**Pn**	**07 36 47.2**	**+0.1**
DION	**Dionisos Attik**	**2.00**	**262**	P	**Pn**	**07 36 38.8**	**-1.4**
GELI	**Tayfur-Gelibol**	**2.00**	**1**	Pn	**Pn**	**07 36 47.5**	**+0.2**
SUSR	**Susurluk-Balik**	**2.02**	**39**	Pn	**Pn**	**07 36 47.7**	**+0.2**
PTL	**Penteli**	**2.06**	**261**	P	**Pn**	**07 36 47.1**	**-0.9**
DST	**Dursunbey**	**2.09**	**54**	Pn	**Pn**	**07 36 49.1**	**+0.7**
THR2	**Thira island,**	**2.10**	**203**	P	**Pn**	**07 36 47.6**	**-0.9**
KRBG	**Karabiga-Canak**	**2.11**	**18**	Pn	**Pn**	**07 36 48.4**	**-0.3**
THR8	**Santorini-Mono**	**2.12**	**201**	P	**Pn**	**07 36 48.1**	**-0.8**
THR8	**Santorini-Mono**	**2.12**	**201**	P	**Pn**	**07 36 47.6**	**-1.3**
ATHU	**Athens Univers**	**2.13**	**259**	P	**Pn**	**07 36 50.3**	**+1.2**
THR3	**Thira Island,**	**2.14**	**203**	P	**Pn**	**07 36 48.3**	**-0.8**
THR5	**Thira Island,**	**2.15**	**204**	P	**Pn**	**07 36 48.4**	**-0.9**
VLY	**Voula,Athens**	**2.15**	**256**	P	**Pn**	**07 36 50.7**	**+1.4**
VLY	**Voula,Athens**	**2.15**	**256**	P	**Pn**	**07 36 48.1**	**-1.3**
VLY				AML	AML	07 37 31.4	
	comp=E,682µm,0.4s						
VLY				AML	AML	07 37 38.7	
	comp=N,575µm,0.7s						
SMTH	**Samothraki Isl**	**2.19**	**342**	P	**Pn**	**07 36 49.6**	**-0.3**
SMTH	**Samothraki Isl**	**2.19**	**342**	P	**Pn**	**07 36 49.5**	**-0.3**
SMTH				AML	AML	07 37 26.3	
	comp=N,414µm,0.3s						
SMTH				AML	AML	07 37 29.4	
	comp=E,400µm,0.5s						
THR6	**Thira Island,**	**2.19**	**203**	P	**Pn**	**07 36 49.2**	**-0.7**
THR6	**Thira Island,**	**2.19**	**203**	P	**Pn**	**07 36 49.0**	**-0.9**
EDC	**Edincik**	**2.24**	**29**	Pn	**Pn**	**07 36 50.5**	**-0.1**
ERIK	**Erikli-Kesan**	**2.28**	**1**	Pn	**Pn**	**07 36 50.6**	**-0.4**
ENEZ	**Enez**	**2.35**	**355**	Pn	**Pn**	**07 36 52.2**	**+0.2**
ENEZ	**Enez**	**2.35**	**355**	P	**Pn**	**07 36 52.5**	**+0.5**
DALY	**Dalyan (Mula)**	**2.36**	**131**	Pn	**Pn**	**07 36 52.7**	**+0.6**
RKY	**Sarkoy-Tekirda**	**2.36**	**14**	Pn	**Pn**	**07 36 52.7**	**+0.4**
MRMT	**Marmara Adasi**	**2.38**	**22**	Pn	**Pn**	**07 36 52.6**	**+0.1**
KCTX	**Karacabey (Bur**	**2.39**	**38**	Pn	**Pn**	**07 36 52.8**	**+0.2**
APMY	**Acipayam-Deniz**	**2.44**	**111**	Pn	**Pn**	**07 36 54.2**	**+0.8**
ORLT	**Orhaneli**	**2.52**	**48**	Pn	**Pn**	**07 36 55.1**	**+0.6**
ARG	**Arkhangelos**	**2.55**	**148**	Pn	**Pn**	**07 36 55.1**	**+0.2**
ARG	**Arkhangelos**	**2.55**	**148**	P	**Pn**	**07 36 55.0**	**+0.2**
ARG	**Arkhangelos**	**2.55**	**148**	P	**Pn**	**07 36 55.0**	**+0.2**
THAS	**Thassos island**	**2.58**	**330**	P	**Pn**	**07 36 54.9**	**-0.3**
THAS	**Thassos island**	**2.58**	**330**	P	**Pn**	**07 36 54.7**	**-0.5**
PAIG	**Paliouri**	**2.64**	**306**	Pn	**Pn**	**07 36 55.8**	**-0.2**
XOR	**Xorichti**	**2.72**	**292**	P	**Pn**	**07 36 56.8**	**-0.3**
RDO	**Rodhopi**	**2.84**	**346**	P	**Pn**	**07 36 59.0**	**+0.3**
RDO	**Rodhopi**	**2.84**	**346**	P	**Pn**	**07 36 58.8**	**+0.1**
KOKK	**Kokkinochori,**	**3.07**	**323**	P	**Pn**	**07 37 02.0**	**+0.1**
VLI	**Veliai**	**3.25**	**240**	P	**Pn**	**07 37 04.8**	**+0.5**
GUR	**Goura**	**3.26**	**263**	P	**Pn**	**07 37 05.6**	**+1.0**
AGG	**Agios Georgios**	**3.28**	**282**	P	**Pn**	**07 37 05.4**	**+0.6**
KLV	**Kalavryta, Ach**	**3.40**	**265**	P	**Pn**	**07 37 07.1**	**+0.6**
SRS	**Serrai**	**3.50**	**322**	P	**Pn**	**07 37 08.1**	**+0.3**
ANX	**Ano Chora**	**3.55**	**275**	P	**Pn**	**07 37 09.6**	**+1.0**
THL	**Klokotos Trika**	**3.64**	**290**	P	**Pn**	**07 37 10.8**	**+1.0**
ITM	**Ithomi**	**3.77**	**253**	P	**Pn**	**07 37 12.8**	**+1.2**
KNT	**Kendrikon**	**3.89**	**317**	P	**Pn**	**07 37 13.7**	**+0.6**
GRG	**Griva**	**4.03**	**311**	P	**Pn**	**07 37 16.8**	**+1.6**
ELND	**Elena**	**4.55**	**355**	⇑P	**Pn**	**07 37 22.3**	**0.0**
BLKB	**Belogradchik**	**5.95**	**333**	⇓P	**Pn**	**07 37 42.7**	**+1.1**
BOVS	**Bovan**	**6.34**	**327**	⇓P	**Pn**	**07 37 47.6**	**+0.7**
MLR	**Muntele Rosu**	**7.10**	**357**	⇑P	**Pn**	**07 38 01.0**	**+3.5**
VOIR		**7.12**	**352**	⇑P	**Pn**	**07 38 00.6**	**+3.0**
MDVR	**Moldovita**	**7.30**	**332**	⇑P	**Pn**	**07 38 00.8**	**+0.7**
LOT	**Lotru**	**7.33**	**345**	⇑P	**Pn**	**07 37 58.9**	**-1.6**
PLOR	**Plostina**	**7.46**	**1**	⇑P	Pn	07 38 08.5	+6.3
VRI	**Vrincioaia**	**7.47**	**2**	⇓P	**Pn**	**07 38 04.3**	**+1.9**
SIRR	**Siria**	**8.63**	**337**	⇓P	**Pn**	**07 38 19.8**	**+1.5**

IDC ***12*** *07:50:13.3±1.5,6°.76S×128°.27E,h0km,mb4.0/3, mbtmp4.1/6,ML4.3/3,Error ellipse: s-maj=51.3km s-min=26.7km az=79.0*
ISC 12 07:50:14.8±1.4,6°.8S±0°.1×128°.2E±0°.2,h10km,n6,σ0s28/6, mb4.0/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**5.63**	**233**	Pn	**Pn**	**07 51 38.7**	**0.0**
	17nm,0.3s,baz=97,slow=4.1,SNR=7.3						
BATI				Sn	Sn	07 52 33.6	-10
	27nm,0.3s,baz=234,slow=23,SNR=11						
	36nm,0.3s						
WRA	**Warramunga Arr**	**14.33**	**156**	Pn	**Pn**	**07 53 38.2**	**+0.2**
	1.0nm,0.3s,baz=336,slow=12,SNR=52						
WRA				Sn	Sn	07 56 03.6	-14
	2.0nm,0.3s,baz=322,slow=24,SNR=17						
	0.8nm,0.3s						
ASAR	**Alice Springs**	**17.62**	**163**	P	**P**	**07 54 21.2**	**-0.4**
	1.0nm,0.3s,baz=341,slow=12,SNR=51						
ASAR				S	Sn	07 57 22.6	-14
	1.2nm,0.5s,baz=321,slow=20,SNR=7.4						
	4.7nm,0.5s						
MKAR	**Makanchi Array**	**67.12**	**328**	P	**P**	**08 01 08.9**	**+0.1**
	0.5nm,0.5s,baz=124,slow=8.3,SNR=7.3						
	0.5nm,0.5s						
ZALV	**Zalesovo Beam**	**70.65**	**334**	P	**P**	**08 01 30.5**	**0.0**
	0.9nm,0.4s,baz=124,slow=7.3,SNR=2.4						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**71.44**	**329**	P	**P**	**08 01 35.3**	**-0.1**
	0.5nm,0.4s,baz=127,slow=5.0,SNR=7.4						
	0.5nm,0.4s						

PRU ***12*** *07:53:07.2,50°.26N×12°.45E,h10km,West Bohemia Swarm-felt*
LDG ***12*** *07:53:07.7±0.1,50°.26N×12°.41E,h5km,Ml3.6/29,Error ellipse: s-maj=2.1km s-min=1.4km az=145.0*
IPEC ***12*** *07:53:07.5±0.1,50°.28N×12°.45E,h10km,ML3.4/10,Error ellipse: s-maj=1.4km s-min=1.2km az=146.0*
WBNET ***12*** *07:53:07.9,50°.27N×12°.44E,h9km,Ml3.2*
VIE ***12*** *07:53:07.5±0.3,50°.21N×12°.41E,h10km,mb2.6/16, ml3.8/16,Error ellipse: s-maj=3.1km s-min=2.5km az=84.0*
BGR ***12*** *07:53:07.6±0.2,50°.27N×12°.44E,h10km±1km,ML3.3/6, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*
CLL ***12*** *07:53:08.2±0.3,50°.27N×12°.44E,h8km,ML3.1*
BNS ***12*** *07:53:08.7±0.3,50°.39N×12°.49E,h7km±13km,ML3.3*
ISC 12 07:53:07.0±0.7,50°.26N±0″.01×12°.38E±0″.02,h15km±3km, n138,σ1s89/264,4C-8D,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**86**	⇓P	**Pg**	**07 53 09.7**	**+0.1**
LBCW				S	**Sg**	**07 53 10.9**	**-0.6**
WERN	**Wernitzgruen**	**0.02**	**350**	*i* Pg	**Pg**	**07 53 09.9**	**+0.2**
WERN				*i*		07 53 10.9	
WERN				*i* Sg	**Sg**	**07 53 11.1**	**-0.4**
WERN				IAML		07 53 11.4	
	comp=N,7µm,0.2s						
WERN	**Wernitzgruen**	**0.02**	**350**	*i* Pg	**Pg**	**07 53 09.9**	**+0.2**
WERN				*i* Sg	**Sg**	**07 53 11.1**	**-0.4**
	comp=N,7µm,0.2s						
VAC	**Vackov**	**0.03**	**187**	*i* Pg	**Pg**	**07 53 09.9**	**+0.2**
VAC				*i* Sg	**Sg**	**07 53 11.2**	**-0.3**
VAC	**Vackov**	**0.03**	**187**	⇓P	**Pg**	**07

MANZ	**Manzenberg**	**0.33**	**212**	*e*Pg		**Pg**	**07 53 14.8**	**+1.0**
MANZ				*e*Sg		**Sg**	**07 53 19.5**	**+1.1**
SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg		**Pg**	**07 53 15.8**	**+0.5**
SCHF				*e*Sg		**Sg**	**07 53 21.2**	**+0.2**
SCHF				IAML			07 53 21.6	
	comp=E,2μm,0.2s							
SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg		**Pg**	**07 53 15.8**	**+0.5**
SCHF				*e*Sg		**Sg**	**07 53 21.2**	**+0.2**
	comp=E,2μm,0.2s							
GRZ1	**Mausoleum Wald**	**0.44**	**346**	*i* Pg		**Pg**	**07 53 16.4**	**+0.6**
GRZ1				*i* Sg		**Sg**	**07 53 22.0**	**+0.2**
GRZ1				IAML			07 53 24.6	
	comp=N,972nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.44**	**346**	*i* Pg		**Pg**	**07 53 16.4**	**+0.6**
GRZ1				*i* Sg		**Sg**	**07 53 22.0**	**+0.2**
	comp=N,972nm,0.3s							
ROTZ	**Rotzenmuhle**	**0.51**	**193**	*e*Pg		**Pg**	**07 53 17.9**	**+0.9**
ROTZ				*e*Sg		**Sg**	**07 53 24.8**	**+0.9**
MOX	**Moxa**	**0.62**	**308**	*e*Pg		**Pg**	**07 53 20.1**	**+1.0**
MOX				*e*Sg		**Sg**	**07 53 28.8**	**+1.5**
HSKC	**Hora Svate Kat**	**0.75**	**63**	*e*PG		**Pg**	**07 53 21.5**	**-0.1**
HSKC				*e*SG		**Sg**	**07 53 30.8**	**-0.8**
	comp=N,588nm,0.3s							
FBE	**Freiberg**	**0.90**	**43**	*e*Pg		**Pg**	**07 53 24.5**	**+0.1**
FBE				*e*Sg		**Sg**	**07 53 35.3**	**-1.0**
GRF	**Grafenberg Arr**	**0.94**	**233**	*e*Pg		**Pg**	**07 53 26.4**	**+1.2**
GRF				*e*Sg		**Sg**	**07 53 39.1**	**+1.6**
CLL	**Collm**	**1.12**	**20**	*i* Pg		**Pb**	**07 53 28.3**	**+0.3**
CLL				*i* x		x	07 53 31.8	
CLL				*ex*		x	07 53 42.0	
CLL				*i* Sg		**Sb**	**07 53 43.1**	**+0.8**
	comp=Z,497nm,0.8s							
CLL				*i* x		x	07 53 46.5	
CLL	**Collm**	**1.12**	**20**	*e*Pg		**Pb**	**07 53 28.4**	**+0.5**
CLL				*e*Sg		**Sb**	**07 53 43.2**	**+0.9**
RICC	**Richard**	**1.13**	**75**	*e*SG		**Sg**	**07 53 42.9**	**-0.7**
	comp=Z,739nm,0.4s							
BRG	**Berggiesshubel**	**1.17**	**58**	Pg		**Pb**	**07 53 29.1**	**+0.3**
BRG				Sg		**Sg**	**07 53 44.2**	**-0.5**
BRG				Amp			07 53 45.6	
	comp=Z,376nm,0.3s							
BRG	**Berggiesshubel**	**1.17**	**58**	*e*Pg		**Pb**	**07 53 29.1**	**+0.3**
BRG				*e*Sg		**Sb**	**07 53 43.5**	**-0.3**
WET	**Wettzell**	**1.17**	**164**	*e*Pn		**Pb**	**07 53 29.7**	**+0.8**
WET				*e*Sg		**Sb**	**07 53 44.8**	**+1.1**
PRA	**Prague**	**1.33**	**98**	*e*SG		**Sb**	**07 53 48.5**	**0.0**
KHC	**Kasperske Hory**	**1.38**	**145**	*e*PG		**Pn**	**07 53 32.3**	**+0.7**
KHC				*e*SG		**Sb**	**07 53 49.9**	**+0.1**
	comp=Z,314nm,0.3s							
PRU	**Pruhonice**	**1.42**	**100**	*e*Pn		**Pn**	**07 53 32.2**	**0.0**
PRU				*e*Sg		**Sn**	**07 53 51.7**	**+1.1**
PVCC	**Panska Ves**	**1.42**	**78**	*e*SG		**Sn**	**07 53 51.7**	**+0.9**
	comp=Z,435nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.59**	**102**	*e*SG		**Sb**	**07 53 56.8**	**+0.9**
GEC2	**GERESS Array S**	**1.66**	**148**	*e*Pn		**Pn**	**07 53 36.3**	**+0.7**
GEC2				*e*Sg		**Sb**	**07 53 58.7**	**+0.7**
CKRC	**Cesky Krumlov**	**1.92**	**138**	*e*SG		**Sb**	**07 54 06.1**	**+0.8**
UPC	**Upice**	**2.34**	**83**	*e*SG		**Sb**	**07 54 19.5**	**+2.1**
	comp=Z,246nm,0.6s							
DPC	**Dobruska-Polom**	**2.53**	**87**	*e*SG		**Sb**	**07 54 25.0**	**+2.1**
	comp=Z,185nm,0.6s							
BIOA	**Bad Ischl, Aus**	**2.71**	**162**	*e*Pn		**Pn**	**07 53 51.1**	**+1.2**
	comp=E,2.4nm,0.2s							
BIOA				*e*Sg		**Sb**	**07 54 31.8**	**+3.7**
	comp=Z,284nm,0.5s							
MOA	**Molln**	**2.72**	**152**	*i* Pn		**Pn**	**07 53 51.2**	**+1.2**
	comp=Z,1.5nm,0.1s							
MOA				*e*Pg		**Pb**	**07 53 57.6**	**+2.4**
	comp=Z,10nm,0.3s							
MOA				*e*Sg		**Sb**	**07 54 31.5**	**+3.2**
	comp=Z,56nm,0.3s							
KRLC	**Kraliky**	**2.83**	**92**	*e*SG		**Sg**	**07 54 35.7**	**-2.3**
	comp=Z,127nm,0.5s							
LESA	**Schwarzleotal**	**2.85**	**176**	*i* Pg		**Pg**	**07 54 02.2**	**+0.7**
	comp=Z,15nm,0.3s							
KRUC	**Moravsky**	**2.87**	**113**	*e*Pn		**Pn**	**07 53 52.7**	**+0.5**
	baz=297							
KRUC				*e*Sg		**Sg**	**07 54 36.3**	**-2.8**
	comp=Z,162nm,0.5s,baz=297							
VRAC	**Vranov**	**2.89**	**108**	*e*Pn		**Pn**	**07 53 52.7**	**+0.2**
	baz=292							
VRAC				*e*Sg		**Sg**	**07 54 37.0**	**-2.8**
	comp=Z,154nm,0.7s,baz=292							
NAST	**IGS Nastaetten**	**2.90**	**270**	*e*Pn		**Pn**	**07 53 54.8**	**+2.1**
RETA	**Reutte**	**2.98**	**202**	*e*Pn		**Pn**	**07 53 53.9**	**+0.2**
	comp=Z,1.3nm,0.2s							
RETA				*e*Pg		**Pg**	**07 54 04.3**	**+0.3**
	comp=Z,38nm,0.4s,SNR=11							
RETA				*e*Sn		**Sn**	**07 54 30.7**	**+1.5**
	comp=Z,19nm,0.3s							
RETA				*e*Sg		**Sg**	**07 54 43.5**	**+0.9**
	comp=Z,70nm,0.3s							
WATA	**Walderalm**	**2.98**	**191**	*i* Pn		**Pn**	**07 53 54.3**	**+0.5**
	comp=Z,1.9nm,0.1s							
WATA				*e*Pg		**Pg**	**07 54 03.9**	**-0.1**
	comp=Z,36nm,0.4s,SNR=14							
WATA				*e*Sn		**Sn**	**07 54 30.6**	**+1.3**
	comp=Z,34nm,0.2s							
WATA				*e*Sg		**Sg**	**07 54 43.9**	**+1.3**
	comp=Z,70nm,0.2s							
MOTA	**Moosalm**	**3.04**	**197**	*e*Pn		**Pn**	**07 53 55.0**	**+0.3**
	comp=Z,1.2nm,0.1s							
MOTA				*e*Pg		**Pg**	**07 54 05.9**	**+0.7**
	comp=Z,12nm,0.2s,SNR=17							
MOTA				*e*Sn		**Sn**	**07 54 33.3**	**+2.4**
	comp=Z,28nm,0.3s							
MOTA				*e*Sg		**Sg**	**07 54 45.5**	**+0.9**
	comp=Z,60nm,0.4s							
WTTA	**Wattenberg**	**3.04**	**190**	*e*Pn		**Pn**	**07 53 55.3**	**+0.6**
	comp=Z,1.0nm,0.1s							
WTTA				*e*Pg		**Pg**	**07 54 05.2**	**0.0**
	comp=Z,15nm,0.3s,SNR=11							
WTTA				*e*Sg		**Sg**	**07 54 45.6**	**+1.0**
	comp=Z,104nm,0.4s							
SQTA	**Sankt Quirin**	**3.14**	**195**	*i* Pn		**Pn**	**07 53 57.3**	**+1.3**
	comp=Z,1.0nm,0.1s							
SQTA				*e*Pg		**Pg**	**07 54 07.1**	**-0.1**
	comp=Z,28nm,0.3s,SNR=11							
SQTA				*e*Sn		**Sn**	**07 54 35.3**	**+1.9**
	comp=Z,43nm,0.3s							
SQTA				*e*Sg		**Sg**	**07 54 48.8**	**+0.9**
	comp=Z,58nm,0.3s							
BGG	**Burgeitz**	**3.24**	**271**	*e*Pn		**Pn**	**07 53 59.6**	**+2.4**
KBA	**Koelnbreinsper**	**3.25**	**168**	*i* Pn		**Pn**	**07 53 59.0**	**+1.5**
	comp=Z,3.5nm,0.2s,SNR=8.1							
KBA				*e*Sg		**Sg**	**07 54 51.2**	**-0.1**
	comp=Z,90nm,0.4s							
CONA	**Conrad Observa**	**3.27**	**134**	*i* Pn		**Pn**	**07 53 58.1**	**+0.4**
	comp=Z,1.5nm,0.2s,SNR=8.2							
CONA				*e*Pg		**Pg**	**07 54 08.1**	**-1.5**
	comp=Z,21nm,0.4s							
MORC	**Moravsky Berou**	**3.36**	**96**	*e*Pn		**Pn**	**07 53 59.2**	**+0.2**
	baz=281							
MORC				*e*Sg		**Sg**	**07 54 51.4**	**-3.5**
	comp=Z,114nm,0.8s,baz=281							
DAVA	**Damuels**	**3.41**	**210**	*i* Pn		**Pn**	**07 53 59.7**	**0.0**
	comp=Z,1.0nm,0.1s							
DAVA				*i* Pg		**Pg**	**07 54 13.0**	**+0.8**
	comp=Z,16nm,0.3s							
DAVA				*i* Sn		**Sn**	**07 54 40.8**	**+0.8**
	comp=Z,24nm,0.3s							
DAVA				*e*Sg		**Sg**	**07 54 57.6**	**+1.2**
	comp=Z,51nm,0.4s							
FETA	**Feichten**	**3.43**	**199**	*i* Pn		**Pn**	**07 54 00.2**	**+0.3**
	comp=Z,0.5nm,0.2s							
FETA				*e*Pg		**Pg**	**07 54 12.4**	**-0.1**
	comp=Z,3.1nm,0.2s							
FETA				*i* Sn		**Sn**	**07 54 41.4**	**+1.1**
	comp=Z,7.8nm,0.3s							
FETA				*i* Sg		**Sg**	**07 54 57.4**	**+0.4**
	comp=Z,19nm,0.4s							
ABTA	**Abfaltersbach**	**3.52**	**179**	*i* Pn		**Pn**	**07 54 03.0**	**+1.8**
	comp=Z,1.4nm,0.2s,SNR=5.7							
ABTA				*i* Sn		**Sn**	**07 54 45.0**	**+2.4**
	comp=Z,16nm,0.4s							
ABTA				*e*Sg		**Sg**	**07 55 00.4**	**+0.5**
	comp=Z,124nm,0.5s							
RONA	**Rosalia, Austr**	**3.64**	**133**	*i* Pn		**Pn**	**07 54 03.8**	**+1.0**
	comp=Z,0.3nm,0.1s,SNR=5.7							
RONA				*i* Pg		**Pb**	**07 54 14.2**	**+3.3**
	comp=Z,9.4nm,0.4s							
ARSA	**Arzberg**	**3.66**	**144**	*i* Pn		**Pn**	**07 54 04.4**	**+1.3**
	comp=Z,3.4nm,0.3s							
ARSA				*e*Pg		**Pg**	**07 54 15.7**	**-1.4**
	comp=Z,11nm,0.6s							
ARSA				Sg		**Sg**	**07 55 02.2**	**-2.3**
	comp=Z,91nm,0.6s							
JAVC	**Velka Javorina**	**3.72**	**110**	*e*PN		**Pn**	**07 54 05.2**	**+1.3**
JAVC				*e*SG		**Sg**	**07 55 03.9**	**-2.4**
ZST	**Bratislava**	**3.72**	**122**	*e*SG		**Sg**	**07 55 03.2**	**-3.2**
OKC	**Ostrava-Krasne**	**3.74**	**94**	*e*SG		**Sg**	**07 55 03.1**	**-3.9**
	comp=Z,122nm,0.7s							
CDF	**Champ du Feu**	**3.82**	**243**	*e*Pn		**Pn**	**07 54 06.0**	**+0.7**
CDF	**Champ du Feu**	**3.82**	**243**	*e*Pg		**Pg**	**07 54 18.9**	**-1.2**
CDF				*e*Sg		**Sb**	**07 55 07.0**	**+6.9**
	comp=Z,64nm,0.5s							
DREG	**Dreilaegerbach**	**3.95**	**278**	*e*Pn		**Pn**	**07 54 09.0**	**+2.0**
OBKA	**Obir**	**4.03**	**158**	*i* Pn		**Pn**	**07 54 10.1**	**+2.0**
	comp=Z,2.4nm,0.3s							
OBKA				Sg		**Sg**	**07 55 15.0**	**-1.1**
	comp=Z,77nm,0.5s							
HINF	**Hinteralfeld**	**4.38**	**238**	*e*Pn		**Pn**	**07 54 12.7**	**-0.3**
HINF	**Hinteralfeld**	**4.38**	**238**	*e*Pg		**Pg**	**07 54 29.3**	**-1.6**
HINF				*e*Sn		**Sn**	**07 55 01.4**	**-2.4**
HINF				*e*Sg		**Sg**	**07 55 25.5**	**-2.1**
	comp=E,66nm,0.5s							
HAU	**Haudompre**	**4.56**	**243**	*e*Pn		**Pn**	**07 54 15.1**	**-0.3**
HAU	**Haudompre**	**4.56**	**243**	*e*Pg		**Pg**	**07 54 32.1**	**-2.1**
HAU				*e*Sn		**Sn**	**07 55 05.5**	**-2.6**
HAU				*e*Sg		**Sg**	**07 55 31.2**	**-2.1**
	comp=E,55nm,0.4s							
VYHS	**Vyhne**	**4.57**	**110**	*e*PN		**Pn**	**07 54 15.7**	**+0.1**
VYHS				*e*PG		**Pg**	**07 54 33.3**	**-1.2**
VYHS				*e*SN		**Sn**	**07 55 07.3**	**-1.1**
PAGF	**Fort de Pagny**	**4.67**	**251**	*e*Pn		**Pn**	**07 54 18.7**	**+1.8**
PAGF	**Fort de Pagny**	**4.67**	**251**	*e*Pg		**Pg**	**07 54 35.3**	**-1.0**
PAGF				*e*Sg		**Sg**	**07 55 33.9**	**-2.9**
	comp=E,65nm,0.6s							
LANS	**Liptovska Anna**	**4.73**	**101**	*e*PN		**Pn**	**07 54 19.0**	**+1.2**
LANS				*e*SG		**Sg**	**07 55 38.0**	**-0.7**
GIVF	**Givet**	**4.86**	**271**	*e*Pn		**Pn**	**07 54 20.5**	**+1.0**
GIVF	**Givet**	**4.86**	**271**	*e*Pg		**Pg**	**07 54 37.7**	**-2.3**
GIVF				*e*Sn		**Sn**	**07 55 14.2**	**-1.3**
GIVF				*e*Sg		**Sg**	**07 55 40.8**	**-2.1**
	comp=E,28nm,0.5s							
SAVF	**Savonnieres en**	**5.01**	**254**	*e*Pn		**Pn**	**07 54 22.9**	**+1.3**
SAVF	**Savonnieres en**	**5.01**	**254**	*e*Pg		**Pg**	**07 54 42.4**	**-0.5**
SAVF				*e*Sn		**Sn**	**07 55 16.3**	**-3.0**
SAVF				*e*Sg		**Sg**	**07 55 46.1**	**-1.7**
	comp=E,27nm,0.6s							
MEZF	**Maizieres J'vi**	**5.10**	**253**	*e*Pn		**Pn**	**07 54 23.9**	**+1.1**
MEZF	**Maizieres J'vi**	**5.10**	**253**	*e*Pg		**Pg**	**07 54 43.6**	**-1.0**
MEZF				*e*Sg		**Sg**	**07 55 49.9**	**-0.7**
	comp=E,62nm,0.8s							
SFTF	**Sexfontaines**	**5.23**	**250**	*e*Pn		**Pn**	**07 54 24.6**	**0.0**
SFTF	**Sexfontaines**	**5.23**	**250**	*e*Pg		**Sg**	**07 54 45.2**	**-1.9**
SFTF				*e*Sg		**Sg**	**07 55 52.2**	**-2.6**
	comp=E,56nm,0.7s							
BAIF	**Baives**	**5.26**	**271**	*e*Pn		**Pn**	**07 54 25.0**	**0.0**
BAIF	**Baives**	**5.26**	**271**	*e*Pg		**Pg**	**07 54 44.8**	**-2.8**
BAIF				*e*Sn		**Sn**	**07 55 24.2**	**-1.1**
BAIF				*e*Sg		**Sg**	**07 55 51.3**	**-4.3**
	comp=E,6.7nm,0.4s							
CABF	**La Chapelle**	**5.56**	**231**	*e*Pn		**Pn**	**07 54 29.2**	**0.0**
CABF	**La Chapelle**	**5.56**	**231**	*e*Pg		**Pg**	**07 54 50.8**	**-2.5**
CABF				*e*Sg		**Sg**	**07 56 02.2**	**-3.1**
	comp=Z,70nm,0.9s							
STHS	**Stebnicka Huta**	**5.80**	**95**	*e*SG		**Sg**	**07 56 11.5**	**-1.4**
LPL	**La Plagne**	**6.08**	**221**	*e*Pg		**Sg**	**07 55 00.4**	**-2.9**
LPL				*e*Sg		**Sg**	**07 56 18.7**	**-3.4**
	comp=E,12nm,0.5s							
LPG	**La Plagne**	**6.09**	**221**	*e*Pg		**Pg**	**07 55 01.2**	**-2.3**
LPG				*e*Sg		**Sg**	**07 56 20.1**	**-2.2**
	comp=Z,7.5nm,0.4s							
LOR	**Lormes**	**6.38**	**245**	*e*Pn		**Pn**	**07 54 40.1**	**-0.3**
	baz=59							
LOR	**Lormes**	**6.38**	**245**	*e*Pg		Pg	07 55 05.7	-3.4
	baz=59							
LOR				*e*Sn		**Sn**	**07 55 49.0**	**-4.0**
LOR				*e*Sg		**Sg**	**07 56 28.0**	**-3.6**
	comp=Z,6.5nm,0.2s							
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pn		**Pn**	**07 54 44.7**	**0.0**
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pg		**Pg**	**07 55 11.8**	**-3.2**
SSF				*e*Sn		**Sn**	**07 55 57.0**	**-3.7**
SSF				*e*Sg		**Sg**	**07 56 37.9**	**-3.8**
	comp=Z,22nm,0.6s							
MBDF	**Montbardon**	**6.72**	**217**	*e*Pg		Pg	07 55 11.9	-3.6
MBDF				*e*Sn		**Sn**	**07 55 56.7**	**-4.7**
MBDF				*e*Sg		**Sg**	**07 56 38.4**	**-4.0**
	comp=Z,9.4nm,0.6s							
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pn		**Pn**	**07 54 44.7**	**-0.6**
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg		Pg	07 55 12.3	-3.5
SMF				*e*Sn		**Sn**	**07 55 57.5**	**-4.2**
SMF				*e*Sg		**Sg**	**07 56 39.2**	**-3.7**
	comp=Z,23nm,0.5s							
ORIF	**Oris-en-Rattie**	**6.92**	**222**	*e*Pn		**Pn**	**07 54 47.4**	**-0.5**
ORIF	**Oris-en-Rattie**	**6.92**	**222**	*e*Pg		Pg	07 55 15.6	-3.8
ORIF				*e*Sn		**Sn**	**07 56 02.1**	**-4.3**
ORIF				*e*Sg		**Sg**	**07 56 45.6**	**-3.3**
	comp=Z,9.3nm,0.6s							
AVF	**Avril sur Loir**	**6.93**	**243**	*e*Pn		**Pn**	**07 54 47.9**	**0.0**
AVF	**Avril sur Loir**	**6.93**	**243**	*e*Pg		Pg	07 55 16.0	-3.5
AVF				*e*Sn		**Sn**	**07 56 02.2**	**-4.2**
AVF				*e*Sg		**Sg**	**07 56 46.0**	**-3.2**
	comp=E,12nm,0.5s							
HYF	**Humbligny**	**7.10**	**249**	*e*Pg		Pg	07 55 18.8	-4.0
HYF				*e*Sg		**Sg**	**07 56 51.2**	**-3.5**
BGF	**Bois d'Agland**	**7.35**	**243**	*e*Pn		**Pn**	**07 54 53.5**	**-0.2**
BGF	**Bois d'Agland**	**7.35**	**243**	*e*Pg		**Pg**	**07 55 24.3**	**-3.2**
BGF				*e*Sn		**Sn**	**07 56 12.7**	**-4.1**
BGF				*e*Sg		**Sg**	**07 56 58.7**	**-3.9**
	comp=Z,34nm,0.6s							
VIVF	**Saint-Julien-l**	**7.51**	**227**	*e*Pg		**Pg**	**07 55 27.4**	**-3.3**
VIVF				*e*Sg		**Sg**	**07 57 02.3**	**-5.5**
	comp=Z,5.6nm,0.5s							
TCF	**Toulx Ste Croi**	**7.87**	**244**	*e*Pg		Pg	07 55 33.1	-4.3
TCF				*e*Sg		**Sg**	**07 57 14.0**	**-5.1**
	comp=Z,11nm,0.5s							
LDF	**La Druitiere**	**8.32**	**263**	*e*Pn		**Pn**	**07 55 06.8**	**-0.2**
LDF				*e*Sg		**Sg**	**07 57 28.4**	**-5.4**
	comp=Z,10nm,0.8s							
LASF	**Ste Croix**	**8.48**	**226**	*e*Pg		Pg	07 55 42.7	-6.5
LASF				*e*Sn		**Sn**	**07 56 39.9**	**-4.8**
LASF				*e*Sg		**Sg**	**07 57 33.4**	**-5.6**
	comp=Z,7.0nm,0.6s							
FLN	**La Foliniere**	**8.51**	**265**	*e*Pn		**Pn**	**07 55 09.0**	**-0.5**
FLN				*e*Sg		**Sg**	**07 57 34.2**	**-5.5**
	comp=Z,8.0nm,0.5s							
CAF	**Calviac**	**8.78**	**236**	*e*Pn		**Pn**	**07 55 12.7**	**-0.6**
CAF				*e*Sg		**Sg**	**07 57 44.0**	**-4.4**
	comp=Z,6.5nm,0.7s							
RJF	**Les Rejaudoux**	**8.84**	**240**	*e*Pn		**Pn**	**07 55 14.2**	**+0.1**
RJF				*e*Sg		**Sg**	**07 57 44.4**	**-5.8**
	comp=Z,3.1nm,0.4s							
MFF	**Saint Martin d**	**9.10**	**251**	*e*Pn		**Pn**	**07 55 16.7**	**-0.9**
LFF	**La Frestale**	**9.49**	**240**	*e*Sg		Sn	07 58 03.3	+54
	comp=Z,19nm,0.6s							

ROM 12 08:35:02.4±0.1, 42°.709N±0°.003×13°.163E±0°.004, h11km, ML1.1/10, Error ellipse: s-maj=0.3km s-min=0.3km az=240.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.13**	**344**	P	Pg	08 35 06.1	+0.5
NRCA				S	Sg	08 35 08.4	+0.5
NRCA				AML	AML		
	comp=E,119μm,0.1s						
NRCA				AML	AML		
	comp=N,80μm,0.4s						
LNSS	**Leonessa**	**0.14**	**221**	P	Pg	08 35 06.2	+0.5
LNSS				S	Sg	08 35 08.8	+0.7
LNSS				AML	AML		
	comp=E,103μm,0.2s						
LNSS				AML	AML		
	comp=E,103μm,0.2s						
LNSS				AML	AML		
	comp=N,97μm,0.6s						
SMA1	**SAN MARTINO**	**0.15**	**122**	P	Pb	08 35 06.6	-0.6
SMA1				S	Sg	08 35 09.2	+0.9
SMA1				AML	AML		
	comp=E,124μm,0.2s						
SMA1				AML	AML		
	comp=N,86μm,0.4s						
MTRA	**Matera**	**0.18**	**74**	P	Pg	08 35 06.8	+0.5
MTRA				S	Sg	08 35 09.8	+0.7
RM33	**Pellescritta (**	**0.20**	**169**	P	Pg	08 35 07.2	+0.5
RM33				S	Sg	08 35 10.7	+1.0
RM33				AML	AML		
	comp=N,22μm,0.3s						
RM33				AML	AML		
	comp=E,36μm,1.4s						
MMO1	**Montemonaco**	**0.23**	**32**	P	Pg	08 35 07.7	+0.6
MMO1				S	Sg	08 35 11.6	+1.2
T1221	**Campello sul C**	**0.28**	**303**	P	Pg	08 35 08.5	+0.5
T1221				S	Sb	08 35 13.1	-1.1
ATCC	**AVT- Casa Cast**	**0.61**	**321**	AML	AML		
	comp=E,46μm,0.1s						
ATCC				AML	AML		
	comp=N,39μm,0.1s						

WBNET 12 08:35:06.6, 50°.27N×12°.44E, h9km, Ml1.4, 3C-4D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**262**	⇓P	Pg	08 35 08.4	+0.1
LBCW				S	Sg	08 35 09.6	+0.2
NKC	**Novy Kostel**	**0.04**	**173**	⇓P	Pg	08 35 08.5	+0.1
NKC				S	Sg	08 35 09.7	+0.1
STCW	**Studenec**	**0.05**	**100**	S	Sg	08 35 09.8	-0.1
POCW	**Potky**	**0.05**	**350**	⇓P	Pg	08 35 08.7	+0.1
POCW				S	Sg	08 35 10.1	+0.1
VAC	**Vackov**	**0.05**	**231**	⇑P	Pg	08 35 08.5	+0.1
VAC				S	Sg	08 35 09.8	0.0
KVC	**Kvetna**	**0.08**	**143**	S	Sg	08 35 10.3	0.0
KRCW	**Kraslice**	**0.09**	**42**	⇑P	Pg	08 35 08.9	0.0
KRCW				S	Sg	08 35 10.5	-0.1
SKC	**Skalna**	**0.11**	**208**	⇑P	Pg	08 35 09.3	+0.1
SKC				S	Sg	08 35 11.2	+0.1
KOCW	**Kopaniny**	**0.13**	**269**	⇓P	Pg	08 35 09.6	0.0
KOCW				S	Sg	08 35 11.6	-0.1

*IDC **12** 08:45:15.1±0.7, 32°.92S×179°.04W, h0km, mb4.2/7, mbtmp4.3/8, ML4.4/1, MS3.5/11, Error ellipse: s-maj=28.7km s-min=22.6km az=95.0*
*NOU **12** 08:45:17.8, 33°.22S×178°.36W, h208km, MLv5.0/10, South of Kermadec Islands*
*WEL **12** 08:45:19.5±0.8, 33°.S±6°×17°.8W±1°.5, h33km, M4.8/18, mB5.3/10, ML5.1/18, MLv4.9/18, Mw(mB)4.7/10, Error ellipse: s-maj=0.0km s-min=0.0km az=108.9, confirmed*
*NEIC **12** 08:45:22.3±2.1, 33°.17S±0°.08×179°.1W±0°.1, h42km±2km, mb4.6/14, Error ellipse: s-maj=17.9km s-min=10.5km az=107.0*

ISC 12 08:45:20.2±0.5, 33°.23S±0°.06×178°.76W±0°.09, h35km, n128, σ1°58/123, mb4.5/16, MS3.5/10, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.02**	**11**	P	**Pn**	**08 46 18.8**	**-0.5**
GLKZ				S	**Sn**	**08 47 05.8**	**+0.7**
RAO	**Raoul Island**	**4.03**	**11**	Pn	**Pn**	**08 46 21.1**	**+1.6**
MXZ	**Matakaoa Point**	**4.94**	**208**	P	**Pn**	**08 46 33.4**	**+1.4**
MXZ	**Matakaoa Point**	**4.94**	**208**	Pn	**Pn**	**08 46 31.8**	**-0.2**
MXZ	**Matakaoa Point**	**4.94**	**208**	P	**Pn**	**08 46 32.5**	**+0.5**
MXZ				S	**Sn**	**08 47 28.7**	**+0.8**
WMGZ	**Waiomatatini S**	**5.13**	**206**	P	**Pn**	**08 46 35.5**	**+1.0**
WMGZ				S	**Sn**	**08 47 33.2**	**+0.7**
HAZ	**Te Kaha**	**5.32**	**211**	P	**Pn**	**08 46 37.8**	**+0.6**
HAZ				S	**Sn**	**08 47 38.8**	**+1.5**
PUZ	**Puketiti**	**5.41**	**206**	P	**Pn**	**08 46 37.9**	**-0.5**
PUZ				S	**Sn**	**08 47 40.6**	**+1.2**
RUGZ	**Raukumara Rang**	**5.54**	**211**	P	**Pn**	**08 46 41.3**	**+0.9**
RUGZ				S	**Sn**	**08 47 43.1**	**+0.2**
TWGZ	**Tauwhareparae**	**5.60**	**207**	P	**Pn**	**08 46 40.8**	**-0.3**
TWGZ				S	**Sn**	**08 47 45.8**	**+1.6**
KUZ	**Kuaotunu**	**5.73**	**231**	P	**Pn**	**08 46 45.0**	**+2.3**
CNGZ	**Carnagh Statio**	**5.79**	**204**	P	**Pn**	**08 46 43.4**	**-0.2**
CNGZ				S	**Sn**	**08 47 48.1**	**-0.8**
MWZ	**Matawai**	**5.92**	**210**	P	**Pn**	**08 46 45.0**	**-0.5**
MWZ				S	**Sn**	**08 47 51.7**	**-0.4**
OPRZ	**Ohinepanea**	**5.98**	**218**	P	**Pn**	**08 46 48.2**	**+2.0**
MARZ	**Manawahe**

AS31	**Alice Springs**	**42.39**	**270**	P	**P**	**08 53 09.2**	**-2.3**
ASAR	**Alice Springs**	**42.39**	**270**	P	**P**	**08 53 10.7**	**-0.8**
ASAR	**Alice Springs**	**42.39**	**270**	P	**P**	**08 53 10.4**	**-1.1**
	comp=Z,3.4nm,0.5s,baz=109,slow=7.4,SNR=61						
ASAR				PcP	**PcP**	**08 55 02.7**	**-1.6**
	comp=Z,0.3nm,0.4s,baz=104,slow=3.9,SNR=2.1						
	comp=Z,3.4nm,0.5s						
WR0	**Warramunga Arr**	**43.46**	**276**	P	**P**	**08 53 17.9**	**-2.3**
WR0				IAmb	IAmb	08 53 20.3	
	comp=Z,6.5nm,1.0s						
WRA	**Warramunga Arr**	**43.64**	**276**	P	**P**	**08 53 20.0**	**-1.5**
WRA	**Warramunga Arr**	**43.64**	**276**	P	**P**	**08 53 20.1**	**-1.5**
	comp=Z,4.8nm,0.6s,baz=116,slow=7.7,SNR=84						
WRA				PcP	**PcP**	**08 55 07.2**	**-1.4**
	comp=Z,0.6nm,0.8s,baz=120,slow=3.1,SNR=2.2						
	comp=Z,4.8nm,0.6s						
WB0	**Warramunga Arr**	**43.67**	**276**	P	**P**	**08 53 20.2**	**-1.7**
WB0				IAmb	IAmb	08 53 24.0	
	comp=Z,11nm,1.1s						
MTN	**Manton Dam**	**49.85**	**282**	P	**P**	**08 54 09.2**	**-1.1**
FITZ	**Fitzroy Crossi**	**51.77**	**273**	P	**P**	**08 54 23.2**	**-1.4**
CASY	**Casey**	**52.35**	**209**	P	**P**	**08 54 28.6**	**+0.3**
CASY				IAmb	IAmb	08 54 28.9	
	comp=Z,7.1nm,1.1s						
MORW	**Morawa**	**55.15**	**256**	P	**P**	**08 54 46.2**	**-3.2**
QSPA	**South Pole Qui**	**56.89**	**180**	P	**P**	**08 55 04.7**	**+3.3**
QSPA				IAmb	IAmb	08 55 11.2	
	comp=Z,6.1nm,0.8s						
QSPA	**South Pole Qui**	**56.89**	**180**	P	**P**	**08 55 05.0**	**+3.6**
	comp=Z,2.7nm,0.7s,baz=3.1,slow=1.0,SNR=20						
	comp=Z,2.7nm,0.7s						
BATI	**Baumata**	**57.42**	**280**	LR	LR	09 18 13.6	
	comp=Z,54nm,19.8s,baz=136,slow=35						
RPN	**Rapa Nui**	**59.35**	**104**	LR	LR	09 16 02.0	
	comp=Z,22nm,18.3s,baz=88,slow=31						
KAPI	**Kappang**	**63.51**	**282**	LR	LR	09 23 38.2	
	comp=Z,33nm,18.0s,baz=123,slow=36						
BELA	**Belgrano 2**	**67.08**	**172**	P	**P**	**08 56 11.2**	**+1.7**
BELA				IAmb	IAmb	08 56 22.9	
	comp=Z,3.5nm,0.9s						
MAW	**Mawson**	**69.44**	**201**	P	**P**	**08 56 24.4**	**0.0**
	comp=Z,1.1nm,0.8s,baz=90,slow=15,SNR=1.9						
	comp=Z,1.1nm,0.8s						
SNAA	**Sanae**	**75.35**	**179**	P	**P**	**08 57 01.2**	**+1.6**
	comp=Z,1.1nm,0.4s,baz=297,slow=15,SNR=1.8						
	comp=Z,1.1nm,0.4s						
VNA3	**Neumayer Olymp**	**75.53**	**176**	⇑P	**P**	**08 57 02.0**	**+1.4**
	comp=Z,3.5nm,0.7s						
VNA2	**Neunayer--Watz**	**75.96**	**177**	⇑P	**P**	**08 57 04.0**	**+1.0**
	comp=Z,3.4nm,0.7s,baz=175,slow=5.7						
JOW	**Kunigami**	**78.10**	**313**	LR	LR	09 27 59.4	
	comp=Z,22nm,18.3s,baz=180,slow=33						
H03S2	**Juan Fernandez**	**79.45**	**123**	T	T	10 25 41.3	
	baz=235,slow=74,SNR=8.5						
H03S1	**Juan Fernandez**	**79.46**	**123**	T	T	10 25 41.9	
	baz=235,slow=74,SNR=7.1						
H03S3	**Juan Fernandez**	**79.47**	**123**	T	T	10 25 41.6	
	baz=235,slow=74,SNR=8.1						
H03N3	**Juan Fernandez**	**79.66**	**123**	T	T	10 25 52.8	
	baz=240,slow=72,SNR=46						
H03N2	**Juan Fernandez**	**79.66**	**123**	T	T	10 25 51.7	
	baz=240,slow=72,SNR=15						
H03N1	**Juan Fernandez**	**79.67**	**123**	T	T	10 25 51.9	
	baz=240,slow=72,SNR=60						
MJAR	**Matsushiro Arr**	**80.20**	**326**	LR	LR	09 28 53.2	
	comp=Z,17nm,18.9s,baz=164,slow=33						
PLCA	**Paso Flores**	**81.06**	**133**	P	**P**	**08 57 34.4**	**+2.5**
PLCA				IAmb	IAmb	08 58 00.3	
	comp=Z,9.0nm,1.4s						
PLCA	**Paso Flores**	**81.06**	**133**	LR	LR	09 31 10.9	
	comp=Z,21nm,18.2s,baz=234,slow=34						
JNU	**Nakatsue**	**81.25**	**319**	LR	LR	09 27 09.6	
	comp=Z,26nm,21.9s,baz=184,slow=31						
H06S1	**SOCORRO T**	**82.77**	**62**	T	T	10 31 08.5	
	SNR=4.5						
PETK	**Petropavlovsk-**	**88.39**	**346**	P	**P**	**08 58 06.6**	**-1.4**
	comp=Z,1.8nm,0.7s,baz=111,slow=7.9,SNR=1.4						
	comp=Z,1.8nm,0.7s						
NVAR	**Mina Array Bea**	**90.75**	**43**	P	**P**	**08 58 20.1**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=202,slow=3.6,SNR=3.1						
	comp=Z,0.4nm,0.6s						
CPUP	**Villa Florida**	**98.72**	**129**	LR	LR	09 34 48.9	
	comp=Z,30nm,21.2s,baz=221,slow=30						
MKAR	**Makanchi Array**	**119.07**	**309**	PKP	**PKPdf**	**09 04 03.4**	**-1.6**
	comp=Z,0.3nm,0.7s,baz=145,slow=5.3,SNR=2.7						
KURBB	**Kurchatov Arra**	**122.54**	**313**	PKP	**PKPdf**	**09 04 10.1**	**-1.4**
	comp=Z,0.4nm,0.5s,baz=118,slow=1.7,SNR=5.7						
BVAR	**Borovoye Array**	**127.94**	**314**	PKP	**PKPdf**	**09 04 21.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=192,slow=4.2,SNR=4.4						
SPITS	**Spitsbergen Ar**	**134.47**	**356**	PKP	**PKPdf**	**09 04 33.0**	**-0.5**
	comp=Z,8.5nm,0.9s,baz=96,slow=7.4,SNR=1.6						
ARCES	**ARCESS Array B**	**141.20**	**347**	PKhKP	PKPpre	09 04 34.5	
	comp=Z,1.0nm,0.8s,baz=20,slow=2.9,SNR=2.4						
FINES	**FINESS Array B**	**147.54**	**338**	PKPbc	**PKPbc**	**09 04 59.3**	**-0.6**
	comp=Z,7.4nm,0.6s,baz=45,slow=3.8,SNR=29						
NB2	**NORSAR Subarra**	**151.43**	**350**	PKP	**PKPbc**	**09 05 09.5**	**-0.1**
	comp=Z,2.0nm,0.6s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.43**	**350**	PKPbc	**PKPbc**	**09 05 09.3**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=14,slow=4.1,SNR=15						
HFS	**Hagfors**	**151.86**	**347**	PKPbc	**PKPbc**	**09 05 09.9**	**-0.7**
	comp=Z,4.5nm,0.6s,baz=90,slow=0.3,SNR=14						
DBIC	**Dimbokro**	**152.97**	**167**	PKPbc	**PKiKP**	**09 05 18.3**	**+3.6**
	comp=Z,1.7nm,0.5s,baz=322,slow=0.9,SNR=3.6						
BRTR	**Keskin Array B**	**153.25**	**293**	PKPbc	**PKPbc**	**09 05 13.3**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=160,slow=4.4,SNR=4.8						

*UPA **12** 09:10:10.9±1.3,9°.27N×84°.90W,h10km±54km,MD4.2, MW4.4*
*UCR **12** 09:10:14.1±1.0,9°.43N×84°.63W,h13km±10km,MW3.8*
*CATAC **12** 09:10:15.3±0.6,9°.53N×84°.48W,h11km±5km,mb4.1, ML3.9*

ISC 12 09:10:13.6±1.1,9°.41N±0°.03×84°.62W±0°.03,h15km±8km, n106,σ1°.25/127,1C-8D,Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JACO	**JACO, Garabito**	**0.25**	**351**	*eP*			**Pg**	**09 10 19.6**	**+0.4**
RITA	**Parrita**	**0.30**	**69**	⇓*eP*			**Pg**	**09 10 20.5**	**+0.5**
RITA				*eS*			**Sb**	**09 10 26.3**	**+0.8**
LAFE	**Finca La Fe, P**	**0.49**	**324**	*eP*			**Pg**	**09 10 23.8**	**+0.4**
TRB2	**Turrubares**	**0.53**	**19**	*eP*			**Pg**	**09 10 24.0**	**-0.2**
ARZA	**Esparza**	**0.58**	**355**	*eP*			**Pb**	**09 10 25.8**	**+0.3**
ACOS	**Acosta**	**0.59**	**50**	⇓*iP*			**Pg**	**09 10 25.1**	**-0.2**
ACOS				*eP*			**Pg**	**09 10 25.1**	**-0.2**
SANTA	**Santa Ana**	**0.67**	**39**	⇓*eP*			**Pg**	**09 10 26.1**	**-0.8**
LCR2	**La Lucha 2**	**0.69**	**61**	*eP*			**Pg**	**09 10 26.6**	**-0.5**
RAMO	**San Ramon**	**0.69**	**12**	*eP*			**Pg**	**09 10 26.8**	**-0.4**
TCS1	**Tacares**	**0.70**	**27**	⇓*eP*			**Pg**	**09 10 27.3**	**-0.1**
BELE	**Belen**	**0.70**	**37**	*eP*			**Pg**	**09 10 26.9**	**-0.6**
NARAN	**Naranjo de Ala**	**0.72**	**19**	*eP*			**Pg**	**09 10 27.7**	**-0.1**
GREC	**Grecia**	**0.72**	**25**	*eP*			**Pb**	**09 10 28.9**	**+0.8**
SARCI	**Sarchi**	**0.72**	**22**	*eP*			**Pb**	**09 10 28.9**	**+0.9**
AMPA	**Desamparados**	**0.73**	**49**	⇓*eP*			**Pg**	**09 10 27.3**	**-0.7**
CENT	**San Jose**	**0.74**	**46**	*eP*			**Pg**	**09 10 27.5**	**-0.6**
LUJA	**Lujan**	**0.74**	**46**	⇓*eP*			**Pg**	**09 10 28.7**	**+0.5**
MEXI	**Barrio Mexico**	**0.74**	**45**	*eP*			**Pg**	**09 10 27.7**	**-0.5**
SJS	**Escuela Geolog**	**0.76**	**47**	*eP*			**Pg**	**09 10 28.1**	**-0.5**
SJS3	**Mercedes San J**	**0.77**	**47**	⇓*eP*			**Pg**	**09 10 28.3**	**-0.3**
TIBA	**Tibas**	**0.77**	**45**	*eP*			**Pg**	**09 10 28.4**	**-0.3**
HDC	**Heredia**	**0.77**	**40**	*eP*			**Pg**	**09 10 28.2**	**-0.5**
DOMI	**Santo Domingo**	**0.77**	**42**	*eP*			**Pg**	**09 10 28.3**	**-0.4**
HDC3	**Heredia 3**	**0.77**	**40**	*iP*			**Pg**	**09 10 28.2**	**-0.5**
HDC3				*iS*			**Sg**	**09 10 36.6**	**-2.3**
HDC3				IAML				09 10 42.2	
	comp=Z,4μm,1.0s								
HDC3	**Heredia 3**	**0.77**	**40**	⇓*eP*			**Pg**	**09 10 28.2**	**-0.5**
TRIO	**Tres Rios**	**0.79**	**51**	*eP*			**Pg**	**09 10 28.1**	**-0.9**
ZARE	**Zarcero**	**0.80**	**16**	*eP*			**Pg**	**09 10 29.4**	**+0.1**
OCM	**Ochomogo**	**0.81**	**53**	*eP*			**Pg**	**09 10 28.4**	**-1.0**
TAGO	**Cartago**	**0.82**	**57**	*eP*			**Pg**	**09 10 29.1**	**-0.6**
CORON	**Coronado**	**0.82**	**47**	*eP*			**Pg**	**09 10 29.4**	**-0.3**
REPA	**Paraso**	**0.85**	**61**	*eP*			**Pg**	**09 10 30.4**	**+0.2**
CDM	**Cerro de Muert**	**0.85**	**80**	*eP*			**Pg**	**09 10 29.6**	**-0.7**
NYURE	**Nandayure**	**0.85**	**313**	*eP*			**Pg**	**09 10 29.8**	**-0.5**
VPS6	**Volcano Poas**	**0.86**	**26**	*eP*			**Pg**	**09 10 30.0**	**-0.5**
BUS1	**Rivas**	**0.87**	**81**	*eP*			**Pg**	**09 10 29.7**	**-1.0**
CPMI	**Catarata Coope**	**0.90**	**15**	*eP*			**Pg**	**09 10 30.6**	**-0.5**
CVIMO	**Finca Echandi**	**0.90**	**47**	*eP*			**Pg**	**09 10 30.7**	**-0.5**
PEZE	**Perez Zeledon,**	**0.93**	**92**	*eP*			**Pg**	**09 10 30.9**	**-0.8**
PCAYA	**Pacayas**	**0.94**	**58**	*eP*			**Pg**	**09 10 31.5**	**-0.5**
SOCE	**Pocosol**	**0.96**	**360**	*iP*			**Pg**	**09 10 31.8**	**-0.6**
SOCE				*iS*			**Sg**	**09 10 43.2**	**-1.9**
SOCE				IAML				09 10 48.1	
	comp=Z,7μm,1.0s								
SOCE	**Pocosol**	**0.96**	**360**	⇑*eP*			**Pg**	**09 10 31.7**	**-0.6**
CMARA	**Lajas Hojancha**	**1.00**	**307**	⇑*eP*			**Pg**	**09 10 31.4**	**-1.6**
VTRT	**Volcan Turrial**	**1.00**	**54**	*eP*			**Pg**	**09 10 32.6**	**-0.5**
OCHAL	**Ojochal**	**1.01**	**108**	*iP*			**Pg**	**09 10 32.0**	**-1.2**
OCHAL				*iS*			**Sg**	**09 10 46.2**	**-0.2**
OCHAL				IAML				09 10 59.1	
	comp=Z,1μm,1.0s								
OCHAL	**Ojochal**	**1.01**	**108**	*eP*			**Pg**	**09 10 32.0**	**-1.2**
VTLA	**Turrialba Volc**	**1.02**	**55**	*eP*			**Pg**	**09 10 33.1**	**-0.3**
CVTQ	**Turrialba Volc**	**1.02**	**55**	*eP*			**Pg**	**09 10 33.2**	**-0.3**
VTR0	**Volcan Turrial**	**1.04**	**54**	*eP*			**Pg**	**09 10 33.4**	**-0.4**
CVTV	**Tajo**	**1.04**	**55**	*eP*			**Pg**	**09 10 33.3**	**-0.6**
CVTR	**Volcan Turrial**	**1.04**	**54**	*eP*			**Pg**	**09 10 33.4**	**-0.5**
VTCV	**VTCV, Calle Va**	**1.05**	**57**	*eP*			**Pg**	**09 10 33.1**	**-0.9**
TUNA	**La Fortuna**	**1.05**	**359**	*eP*			**Pg**	**09 10 33.4**	**-0.6**
VACR	**Volcan Arenal**	**1.06**	**357**	*eP*			**Pg**	**09 10 33.2**	**-0.9**
VTLO	**VTLO**	**1.08**	**54**	*eP*			**Pg**	**09 10 33.7**	**-0.9**
ITAL	**Pital**	**1.09**	**18**	*eP*			**Pb**	**09 10 33.7**	**-0.4**
NICO	**Nicoya**	**1.09**	**311**	*eP*			**Pb**	**09 10 34.0**	**-0.2**
DUNO	**Dulce Nombre,**	**1.09**	**308**	*eP*			**Pb**	**09 10 32.8**	**-1.4**
RIFO	**Rio Frio, Sara**	**1.13**	**37**	*eP*			**Pb**	**09 10 34.5**	**-0.4**
JUD3	**Juan Diaz 3**	**1.18**	**310**	*eP*			**Pb**	**09 10 34.1**	**-1.6**
PLVR	**Palo Verde**	**1.18**	**322**	*eP*			**Pb**	**09 10 34.8**	**-1.1**
ORTG	**Ortega, Santa**	**1.26**	**319**	*eP*			**Pn**	**09 10 35.6**	**-1.1**
SACU	**Santa Cruz**	**1.27**	**312**	*eP*			**Pn**	**09 10 37.4**	**+0.5**
BURE	**Buenos Aires**	**1.28**	**101**	*eP*			**Pn**	**09 10 36.8**	**-0.2**
CARI	**Cariari**	**1.28**	**42**	*eP*			**Pb**	**09 10 38.4**	**+0.9**
IRES	**Siquirres**	**1.29**	**58**	*eP*			**Pn**	**09 10 37.5**	**+0.4**
COVE	**Coope Vega, Sa**	**1.32**	**9**	*iP*			**Pn**	**09 10 36.9**	**-0.6**
COVE				*iS*			**Sb**	**09 10 54.1**	**-0.7**
COVE				IAML				09 11 02.4	
	comp=Z,2μm,1.0s								
COVE	**Coope Vega, Sa**	**1.32**	**9**	*eP*			**Pn**	**09 10 37.1**	**-0.4**
DRK0	**Durika**	**1.36**	**96**	*eP*			**Pn**	**09 10 37.9**	**-0.4**
DELF	**Filadelfia**	**1.38**	**318**	*eP*			**Pn**	**09 10 39.0**	**+0.6**
BATAN	**Batan**	**1.40**	**61**	*eP*			**Pn**	**09 10 39.5**	**+0.9**
BATAN	**Batan**	**1.40**	**61**	*eP*			**Pn**	**09 10 39.2**	**+0.5**
TAAN	**Batan**	**1.42**	**62**	*eP*			**Pn**	**09 10 39.8**	**+0.9**
VMAR	**Armenia, Volca**	**1.48**	**341**	*eP*			**Pn**	**09 10 40.2**	**+0.5**
ALIBA	**Liberia Airpor**	**1.49**	**322**	*eP*			**Pb**	**09 10 41.7**	**+0.7**
ELI1	**Hacienda Flor**	**1.53**	**323**	*eP*			**Pn**	**09 10 41.6**	**+1.1**
VRLE	**La Escondida,**	**1.55**	**332**	*eP*			**Pn**	**09 10 41.2**	**+0.3**
HZTE	**Horizontes, Gu**	**1.61**	**323**	*eP*			**Pn**	**09 10 41.5**	**0.0**
PIRO	**Carate, Puerto**	**1.61**	**128**	*eP*			**Pb**	**09 10 44.8**	**+1.6**
LCRUZ	**La Cruz**	**1.93**	**329**	*eP*			**Pb**	**09 10 48.8**	**+0.2**
BRU2	**Volcan**	**2.00**	**108**	*eP*			**Pn**	**09 10 47.6**	**+0.6**
BRU2				*eS*			**Sb**	**09 11 14.8**	**+0.2**
BRU2	**Volcan**	**2.00**	**108**	*iP*			**Pn**	**09 10 45.9**	**-1.1**
BRU2				*iS*			**Sg**	**09 11 18.3**	**+0.2**
BRU2	**Volcan**	**2.00**	**108**	*eP*			**Pn**	**09 10 47.9**	**+0.9**
CNI2	**El Empalme, Bo**	**2.12**	**89**	*eP*			**Pn**	**09 10 49.3**	**+0.8**
CNI2				*eS*			**Sb**	**09 11 18.4**	**+0.6**
BCO2	**Palmira**	**2.17**	**108**	*eP*			**Pn**	**09 10 51.1**	**+1.6**
BCO2				*eS*			**Sb**	**09 11 20.6**	**+0.9**
OMEN	**Al SSO del Vol**	**2.31**	**335**	*iP*			**Pn**	**09 10 52.1**	**+1.0**
OMEN				IAML				09 11 02.1	
	comp=Z,480nm,1.0s								
JAPN	**Al SSO del Vol**	**2.34**	**334**	*iP*			**Pn**	**09 10 52.2**	**+0.6**
JAPN				IAML				09 11 09.7	
	comp=Z,340nm,1.0s								
MORN	**Al O del Volca**	**2.35**	**335**	*iP*			**Pn**	**09 10 52.9**	**+1.2**
MORN				IAML				09 10 59.0	
	comp=Z,670nm,1.0s								
CONN	**Concepcion**	**2.36**	**335**	*iP*			**Pn**	**09 10 54.0**	**+2.2**
CONN				IAML				09 10 58.9	
	comp=Z,3μm,1.0s								
CONN				*iS*			**Sg**	**09 11 30.3**	**+0.8**
ACON	**Acoyapa**	**2.60**	**348**	*iP*			**Pn**	**09 10 55.5**	**+0.4**
ACON				*iS*			**Sb**	**09 11 32.8**	**+1.1**
ACON				IAML				09 11 40.5	
	comp=Z,330nm,1.0s								
ACON	**Acoyapa**	**2.60**	**348**	*eP*			**Pn**	**09 10 55.6**	**+0.5**
ESPN	**Las Esperanzas**	**2.78**	**6**	*iP*			**Pn**	**09 10 58.6**	**+0.9**
ESPN				*iS*			**Sb**	**09 11 35.3**	**-1.7**
ESPN				IAML				09 11 46.7	
	comp=Z,470nm,1.0s								
ESPN	**Las Esperanzas**	**2.78**	**6**	*eP*			**Pn**	**09 10 58.4**	**+0.8**
SAPS	**Ciudad Sandino**	**3.25**	**328**	*iP*			Pn	09 10 58.6	-5.5
SAPS				*iS*			**Sn**	**09 11 45.9**	**+3.3**
COPN	**Copaltepe**	**3.37**	**325**	*iP*			**Pn**	**09 11 06.0**	**+0.3**
MOM2	**El Cardon**	**3.52**	**329**	*iP*			**Pn**	**09 11 10.6**	**+2.8**
MOM2				*iS*			**Sn**	**09 11 51.4**	**+2.2**
MOM2				IAML				09 12 00.9	
	comp=Z,68nm,1.0s								
MACN	**El Madrono**	**3.65**	**327**	*iP*			**Pn**	**09 11 11.1**	**+1.5**
MACN				IAML				09 11 15.1	
	comp=Z,120nm,1.0s								
CNGA	**Al SSO del Vol**	**3.68**	**326**	*iP*			**Pn**	**09 11 10.6**	**+0.5**
CNGA				*iS*			**Sn**	**09 11 53.2**	**-0.1**
CNGN	**Cerro Negro**	**3.69**	**327**	*iP*			**Pn**	**09 11 12.9**	**+2.8**
CNGN				*iS*			**Sn**	**09 11 55.3**	**+1.9**
CNGN				IAML				09 12 12.4	
	comp=Z,86nm,1.0s								
PACN	**Al O del Volca**	**3.74**	**325**	*iP*			**Pn**	**09 11 14.2**	**+3.4**
CRIN	**San Cristobal**	**4.05**	**324**	*iP*			**Pn**	**09 11 17.8**	**+2.7**
CRIN				IAML				09 11 44.7	
	comp=Z,160nm,1.0s								
CRIN				*iS*			**Sn**	**09 12 04.9**	**+2.6**
BCIP	**Isla Barro Col**	**4.72**	**93**	*iP*			**Pn**	**09 11 24.8**	**+0.4**
BCIP				IAML				09 11 48.4	
	comp=Z,54nm,1.0s								
BCIP				*iS*			**Sn**	**09 12 19.0**	**+0.1**
PACA	**Pacayal**	**5.43**	**318**	*iP*			**Pn**	**09 11 37.0**	**+2.9**
PACA				IAmb	IAmb			09 11 51.0	
	comp=Z,97nm,0.6s								
PACA				*iS*			**Sn**	**09 12 35.3**	**-1.1**
PACA				IAML				09 12 49.8	
	comp=Z,180nm,1.0s								
SCLA	**Alcaldia de Sa**	**5.87**	**317**	*iP*			**Pn**	**09 11 42.7**	**+2.6**
SCLA				IAML				09 11 57.0	
	comp=Z,15nm,1.0s								
SCLA				IAmb	IAmb			09 11 57.1	
	comp=Z,8.7nm,0.7s								
COEG	**Centro de Oper**	**5.91**	**315**	*iP*			**Pn**	**09 11 42.9**	**+2.2**
COEG				IAmb	IAmb			09 12 07.0	
	comp=Z,7.1nm,0.5s								
COEG				*iS*			**Sn**	**09 12 46.6**	**-1.7**
COEG				IAML				09 13 12.4	
	comp=Z,18nm,1.0s								
NUBE	**Las Nubes**	**6.74**	**312**	*iP*			**Pn**	**09 11 54.5**	**+2.2**
NUBE				IAmb	IAmb			09 11 56.9	
	comp=Z,11nm,0.7s								
NUBE				IAML				09 12 36.5	
	comp=Z,43nm,1.0s								
NUBE				*iS*			**Sn**	**09 13 04.2**	**-4.7**
MTO3	**Montecristo**	**6.79**	**317**	*iP*			**Pn**	**09 11 55.8**	**+2.8**
MTO3				IAmb	IAmb			09 11 59.0	
	comp=Z,3.5nm,0.6s								
MTO3				IAML				09 12 05.6	
	comp=Z,14nm,1.0s								

GUC 12 09:13:19.8±0.5,37°.12S×74°.93W,h20km±10km,ML3.5,1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BI05	**Punta Hualpn**	**1.45**	**76**	*eP*			Pn	09 13 44.3	-0.5
BI05				*iS*			Sn	09 14 02.4	-0.7
BI05				IAML				09 14 03.5	
	comp=N,2μm,0.2s								
CCSP	**San Pedro de C**	**1.49**	**80**	*iS*			Sn	09 14 03.1	-1.0
CCSP				IAML				09 14 05.7	
	comp=E,620nm,0.3s								
LC02	**Puerto Saavedr**	**2.07**	**144**	*eP*			Pn	09 13 53.6	+0.2
LC02				*iS*			Sn	09 14 16.2	-2.4
BI02	**San Fabin de**	**2.97**	**82**	*eP*			Pn	09 14 07.0	+1.1
BI02				*iS*			Sn	09 14 41.5	+0.5
BI02				IAML				09 14 46.9	
	comp=E,130nm,0.5s								
GO05	**Huala**	**3.22**	**50**	*eP*			Pn	09 14 09.6	+0.4
GO05				*eS*			Sn	09 14 45.7	-1.2
GO05				IAML				09 14 53.0	
	comp=N,82nm,0.7s								
BO02	**Sierra Bellavi**	**4.09**	**57**	*eP*			Pn	09 14 22.1	+0.9
BO02				*iS*			Sn	09 15 07.4	-1.2
BO01	**Tunca**	**4.15**	**50**	*eP*			Pn	09 14 22.9	+0.9
BO01				*iS*			Sn	09 15 08.8	-1.1
MT01	**Popeta**	**4.42**	**44**	*eP*			Pn	09 14 26.2	+0.4
MT01				*iS*			Sn	09 15 14.7	-2.1
MT09	**Talagante**	**4.63**	**45**	*eP*			Pn	09 14 29.7	+0.8
MT09				*iS*			Sn	09 15 21.8	-0.3
VA04	**Juan Fernndez**	**4.71**	**316**	*eP*			Pn	09 14 28.5	-1.1
BO04	**La Punta**	**4.71**	**50**	*eP*			Pn	09 14 30.8	+1.1
BO04				*eS*			Sn	09 15 23.0	-0.9
MT12	**Pirque**	**4.92**	**48**	*eP*			Pn	09 14 33.9	+1.2
MT12				*iS*			Sn	09 15 28.6	-0.5
LMEL	**Las Melosas**	**5.05**	**51**	*eP*			Pn	09 14 36.2	+1.6
LMEL				*iS*			Sn	09 15 33.0	+0.5
ROCH	**El Roble**	**5.24**	**39**	*eP*			Pn	09 14 38.0	+0.8
ROCH				*eS*			Sn	09 15 36.5	-0.6
MT10	**Hacienda Santa**	**5.26**	**44**	⇓*iP*			Pn	09 14 38.5	+1.0
PEL	**Peldehue**	**5.28**	**43**	*eP*			Pn	09 14 38.5	+1.0
PEL				*iS*			Sn	09 15 37.6	-0.2
VA03	**San Esteban**	**5.64**	**41**	*eP*			Pn	09 14 43.2	+0.6
VA03				*iS*			Sn	09 15 45.7	-1.2

WBNET 12 09:17:30.6,50°.27N×12°.44E,h9km,Ml1.5,4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**258**	⇓*P*			Pg	09 17 32.5	+0.1
LBCW				*S*			Sg	09 17 33.7	+0.2
NKC	**Novy Kostel**	**0.04**	**171**	⇓*P*			Pg	09 17 32.5	+0.1
NKC				*S*			Sg	09 17 33.8	+0.2
POCW	**Potky**	**0.05**	**351**	⇑*P*			Pg	09 17 32.7	+0.1
POCW				*S*			Sg	09 17 34.1	+0.1
STCW	**Studenec**	**0.05**	**101**	⇓*P*			Pg	09 17 32.6	+0.1
STCW				*S*			Sg	09 17 33.9	-0.1
VAC	**Vackov**	**0.05**	**229**	⇓*P*			Pg	09 17 32.6	+0.1
VAC				*S*			Sg	09 17 33.9	0.0
KVC	**Kvetna**	**0.08**	**142**	⇑*P*			Pg	09 17 33.0	+0.1
KVC				*S*			Sg	09 17 34.4	0.0
KRCW	**Kraslice**	**0.09**	**43**	⇑*P*			Pg	09 17 33.0	0.0
KRCW				*S*			Sg	09 17 34.6	-0.1
SKC	**Skalna**	**0.11**	**207**	⇑*P*			Pg	09 17 33.4	+0.1
SKC				*S*			Sg	09 17 35.2	+0.1
KOCW	**Kopaniny**	**0.13**	**268**	⇓*P*			Pg	09 17 33.6	0.0
KOCW				*S*			Sg	09 17 35.6	-0.1

*LDG **12** 09:17:32.9±0.1,50°.29N×12°.41E

SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg	**Pg**	**09 17 41.8**	**+0.5**
SCHF				*i* Sg	**Sg**	**09 17 47.3**	**+0.3**
SCHF				IAML		09 17 47.5	
	comp=E,248nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg	**Pg**	**09 17 41.8**	**+0.5**
SCHF				*i* Sg	**Sg**	**09 17 47.3**	**+0.3**
	comp=E,248nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.43**	**347**	*i* Pg	**Pg**	**09 17 42.5**	**+0.7**
GRZ1				*e*Sg	**Sg**	**09 17 48.1**	**+0.4**
GRZ1				IAML		09 17 50.5	
	comp=N,197nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.43**	**347**	*i* Pg	**Pg**	**09 17 42.5**	**+0.7**
GRZ1				*e*Sg	**Sg**	**09 17 48.1**	**+0.4**
	comp=N,197nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.52**	**192**	*e*Pg	**Pg**	**09 17 43.9**	**+0.6**
ROTZ				*e*Sg	**Sg**	**09 17 50.8**	**+0.6**
MOX	**Moxa**	**0.61**	**308**	*e*Pg	**Pb**	**09 17 46.2**	**+0.7**
MOX				*e*Sg	**Sb**	**09 17 54.8**	**+0.9**
HSKC	**Hora Svate Kat**	**0.75**	**63**	*e*PG	**Pg**	**09 17 47.5**	**-0.3**
HSKC				*e*SG	**Sg**	**09 17 56.8**	**-0.9**
	comp=N,147nm,0.2s						
FBE	**Freiberg**	**0.90**	**43**	*e*Pg	**Pg**	**09 17 50.6**	**+0.1**
FBE				*e*Sg	**Sg**	**09 18 01.6**	**-0.8**
GRF	**Grafenberg Arr**	**0.94**	**233**	*e*Pg	**Pn**	**09 17 52.2**	**+0.5**
GRF				*e*Sg	**Sg**	**09 18 04.8**	**+1.1**
CLL	**Collm**	**1.11**	**21**	*i* Pg	**Pb**	**09 17 54.3**	**+0.4**
CLL				*i* x	x	09 17 56.4	
CLL				*i* x	x	09 17 58.0	
CLL				*i* Sg	**Sg**	**09 18 09.1**	**0.0**
	comp=Z,81nm,0.4s						
CLL				*i* x	x	09 18 12.7	
CLL	**Collm**	**1.11**	**21**	*e*Pg	**Pn**	**09 17 54.4**	**+0.4**
CLL				*e*Sg	**Sg**	**09 18 09.0**	**0.0**
RICC	**Richard**	**1.14**	**75**	*e*SG	**Sb**	**09 18 08.9**	**+0.1**
	comp=Z,150nm,0.3s						
BRG	**Berggiesshubel**	**1.17**	**58**	Pg	**Pn**	**09 17 55.2**	**+0.4**
BRG				Sg	**Sb**	**09 18 09.9**	**+0.2**
BRG				Amp		09 18 10.7	
	comp=Z,70nm,0.3s						
BRG	**Berggiesshubel**	**1.17**	**58**	*e*Pg	**Pn**	**09 17 55.1**	**+0.4**
BRG				*e*Sg	**Sb**	**09 18 09.6**	**-0.2**
WET	**Wettzell**	**1.17**	**164**	*e*Pg	**Pb**	**09 17 55.5**	**+0.5**
WET				*e*Sg	**Sn**	**09 18 11.1**	**+0.5**
PRA	**Prague**	**1.34**	**98**	*e*P	**Pb**	**09 17 57.8**	**0.0**
PRA	**Prague**	**1.34**	**98**	*e*SG	**Sb**	**09 18 14.6**	**-0.1**
	comp=Z,32nm,0.3s						
KHC	**Kasperske Hory**	**1.38**	**145**	*e*PG	**Pb**	**09 17 58.7**	**+0.1**
KHC				*e*SG	**Sb**	**09 18 16.2**	**+0.2**
	comp=Z,38nm,0.2s						
PRU	**Pruhonice**	**1.42**	**101**	*e*SG	**Sb**	**09 18 17.0**	**-0.1**
	comp=Z,43nm,1.0s						
PRU	**Pruhonice**	**1.42**	**101**	*e*Pg	**Pb**	**09 17 59.4**	**+0.2**
PRU				*e*Sg	**Sb**	**09 18 17.8**	**+0.7**
PVCC	**Panska Ves**	**1.43**	**79**	*e*SG	**Sb**	**09 18 17.6**	**+0.4**
	comp=Z,114nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.59**	**102**	*e*SG	**Sb**	**09 18 22.8**	**+0.8**
	comp=Z,46nm,0.3s						
GEC2	**GERESS Array S**	**1.67**	**148**	*e*Pg	**Pb**	**09 18 04.1**	**+0.6**
GEC2				*e*Sg	**Sb**	**09 18 24.9**	**+0.6**
CKRC	**Cesky Krumlov**	**1.92**	**138**	*e*SG	**Sb**	**09 18 32.1**	**+0.6**
	comp=Z,21nm,0.3s						
UPC	**Upice**	**2.34**	**83**	*e*SG	**Sb**	**09 18 45.5**	**+2.0**
	comp=Z,26nm,0.5s						
CHVC	**Chvalec**	**2.37**	**81**	*e*SG	**Sg**	**09 18 47.0**	**-2.3**
DPC	**Dobruska-Polom**	**2.53**	**87**	*e*SG	**Sb**	**09 18 51.1**	**+2.0**
	comp=Z,16nm,0.2s						
MOA	**Molln**	**2.72**	**152**	*e*Sg	**Sb**	**09 18 57.4**	**+2.9**
	comp=Z,14nm,0.4s						
KRLC	**Kraliky**	**2.84**	**92**	*e*SG	**Sg**	**09 19 01.6**	**-2.6**
	comp=Z,13nm,0.5s						
LESA	**Schwarzleotal**	**2.85**	**176**	*e*Pg	**Pg**	**09 18 28.4**	**+0.6**
	comp=Z,3.0nm,0.2s						
LESA				*e*Sn	**Sn**	**09 18 53.9**	**+1.8**
	comp=Z,2.3nm,0.2s						
KRUC	**Moravsky**	**2.88**	**113**	*e*PN	**Pn**	**09 18 18.9**	**+0.6**
KRUC				*e*SG	**Sb**	**09 19 00.9**	**+1.9**
VRAC	**Vranov**	**2.90**	**108**	*e*PN	**Pn**	**09 18 18.9**	**+0.3**
VRAC				*e*SG	**Sb**	**09 19 01.3**	**+1.7**
WATA	**Walderalm**	**2.98**	**191**	*i* Pn	**Pn**	**09 18 20.0**	**+0.1**
	comp=Z,0.9nm,0.1s						
WATA				*i* Pg	**Pg**	**09 18 30.4**	**+0.2**
	comp=Z,2.1nm,0.2s						
WATA				*i* Sn	**Sn**	**09 18 56.5**	**+1.1**
	comp=Z,3.3nm,0.2s						
WATA				*e*Sg	**Sg**	**09 19 09.8**	**+0.9**
	comp=Z,4.1nm,0.2s						
MOTA	**Moosalm**	**3.05**	**197**	*i* Pn	**Pn**	**09 18 21.2**	**+0.5**
	comp=Z,0.3nm,0.1s						
MOTA				*e*Pg	**Pg**	**09 18 31.6**	**+0.2**
	comp=Z,2.0nm,0.2s						
MOTA				*i* Sn	**Sn**	**09 18 57.7**	**+0.7**
	comp=Z,1.7nm,0.1s						
MOTA				*i* Sg	**Sg**	**09 19 12.6**	**+1.7**
	comp=Z,2.4nm,0.2s						
WTTA	**Wattenberg**	**3.05**	**190**	*e*Pg	**Pg**	**09 18 30.4**	**-1.0**
	comp=Z,1.6nm,0.2s						
WTTA				*e*Sg	**Sg**	**09 19 12.5**	**+1.6**
	comp=Z,3.8nm,0.3s						
SQTA	**Sankt Quirin**	**3.15**	**195**	*e*Pg	**Pg**	**09 18 33.0**	**-0.4**
	comp=Z,4.5nm,0.2s						
SQTA				*i* Sn	**Sn**	**09 19 01.9**	**+2.5**
	comp=Z,2.2nm,0.2s						
SQTA				*e*Sg	**Sg**	**09 19 15.2**	**+1.1**
	comp=Z,10nm,0.4s						
CONA	**Conrad Observa**	**3.28**	**134**	*e*Pg	**Pg**	**09 18 34.5**	**-1.3**
	comp=Z,0.7nm,0.2s						
CONA				*e*Sg	**Sb**	**09 19 13.6**	**+3.0**
	comp=Z,20nm,0.5s						
MORC	**Moravsky Berou**	**3.37**	**96**	*e*PN	**Pn**	**09 18 25.7**	**+0.6**
MORC				*e*SG	**Sb**	**09 19 16.3**	**+3.2**
DAVA	**Damuels**	**3.41**	**210**	*i* Pn	**Pn**	**09 18 25.7**	**-0.1**
	comp=Z,0.3nm,0.1s						
DAVA				*e*Pg	**Pg**	**09 18 38.9**	**+0.5**
	comp=Z,2.1nm,0.3s						
DAVA				*i* Sn	**Sn**	**09 19 08.3**	**+2.3**
	comp=Z,2.9nm,0.2s						
DAVA				*i* Sg	**Sg**	**09 19 24.3**	**+1.8**
	comp=Z,4.8nm,0.3s						
ABTA	**Abfaltersbach**	**3.53**	**178**	*i* Sn	**Sn**	**09 19 09.9**	**+1.2**
	comp=Z,1.8nm,0.1s						
ABTA				Sg	**Sg**	**09 19 26.4**	**+0.1**
	comp=Z,4.0nm,0.2s						
JAVC	**Velka Javorina**	**3.72**	**110**	*e*SG	**Sg**	**09 19 29.4**	**-3.2**
MODS	**Modra-Piesok**	**3.73**	**119**	*e*SG	**Sg**	**09 19 30.1**	**-2.5**
ZST	**Bratislava**	**3.73**	**122**	*e*SG	**Sg**	**09 19 30.8**	**-1.9**
CDF	**Champ du Feu**	**3.82**	**243**	*e*Pn	**Pn**	**09 18 31.2**	**-0.1**
CDF	**Champ du Feu**	**3.82**	**243**	*e*Pg	**Pg**	**09 18 44.3**	**-1.9**
CDF				*e*Sg	**Sg**	**09 19 33.7**	**-1.9**
	comp=Z,6.4nm,0.3s						
HINF	**Hinteralfeld**	**4.38**	**238**	*e*Pn	**Pn**	**09 18 38.7**	**-0.3**
HINF	**Hinteralfeld**	**4.38**	**238**	*e*Pg	**Pg**	**09 18 54.7**	**-2.3**
HINF				*e*Sn	**Sn**	**09 19 27.9**	**-1.9**
HINF				*e*Sg	**Sg**	**09 19 51.4**	**-2.3**
	comp=Z,5.7nm,0.3s						
HAU	**Haudompre**	**4.56**	**243**	*e*Pn	**Pn**	**09 18 41.2**	**-0.2**
HAU	**Haudompre**	**4.56**	**243**	*e*Pg	**Pg**	**09 18 57.8**	**-2.5**
HAU				*e*Sg	**Sg**	**09 19 56.9**	**-2.5**
	comp=Z,7.2nm,0.4s						
CABF	**La Chapelle**	**5.56**	**231**	*e*Pg	**Pg**	**09 19 16.3**	**-3.1**
CABF				*e*Sg	**Sg**	**09 20 28.0**	**-3.4**
	comp=Z,3.7nm,0.5s						
LOR	**Lormes**	**6.38**	**245**	*e*Pg	**Pg**	**09 19 31.5**	**-3.6**
	baz=60						
LOR				*e*Sg	**Sg**	**09 20 53.8**	**-3.9**
	comp=Z,2.9nm,0.5s						
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pn	**Pn**	**09 19 10.8**	**-0.5**
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg	**Pg**	**09 19 38.0**	**-3.9**
SMF				*e*Sn	**Sn**	**09 20 23.9**	**-3.8**
SMF				*e*Sg	**Sg**	**09 21 04.8**	**-4.2**
	comp=Z,1.2nm,0.2s						

IDC 12 09:25:59.0±1.9, 14°26N×147°79E, h0km, mb3.5/4, mbtmp3.6/5, ML4.0/1, Error ellipse: s-maj=42.3km s-min=28.3km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.92**	**257**	Pn	Pn	09 26 47.5	+0.8
	22nm,0.3s,baz=105,slow=6.2,SNR=14						
GUMO				Sn	Sn	09 27 21.8	-0.7
	9.9nm,0.3s,baz=3.7,slow=22,SNR=1.9 54nm,0.3s						
H11S3	**WAKE ISLAND Hy 18.61**	**74**		T	T	09 49 11.1	
	baz=263,slow=74,SNR=9.0						
H11S1	**WAKE ISLAND Hy 18.62**	**74**		T	T	09 49 11.1	
	baz=263,slow=74,SNR=12						
H11S2	**WAKE ISLAND Hy 18.62**	**74**		T	T	09 49 11.7	
	baz=263,slow=74,SNR=175						
H11N1	**WAKE ISLAND Hy 19.05**	**71**		T	T	09 49 50.2	
	baz=256,slow=75,SNR=8.1						
H11N2	**WAKE ISLAND Hy 19.06**	**71**		T	T	09 49 48.1	
	baz=256,slow=75,SNR=8.0						
H11N3	**WAKE ISLAND Hy 19.07**	**71**		T	T	09 49 48.6	
	baz=256,slow=75,SNR=12						
WRA	**Warramunga Arr**	**36.48**	**202**	P	P	09 33 05.8	-0.3
	0.7nm,0.7s,baz=26,slow=9.5,SNR=3.0 0.7nm,0.7s						
ASAR	**Alice Springs**	**40.07**	**200**	P	P	09 33 36.4	0.0
	0.2nm,0.6s,baz=30,slow=6.9,SNR=4.5 0.2nm,0.6s						
MKAR	**Makanchi Array**	**62.99**	**315**	P	P	09 36 28.5	+0.7
	0.1nm,0.4s,baz=90,slow=11,SNR=2.3 0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**65.96**	**319**	P	P	09 36 46.5	-0.6
	0.7nm,0.6s,baz=96,slow=6.2,SNR=5.6 0.7nm,0.6s						

CRAAG ***12*** *09:38:22.2, 36°37N×7°23E, Ml2.7, Algerie 01km SE Ras-El-Akba*
TUN ***12*** *09:38:30.6, 35°87N×8°42E, h0km, MD2.4*
ISC 12 09:38:19.7±1.9, 36°1N±0°1×7°23E±0°05, h10km, n10, σ1s75/10, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABSA	**Djebel Ababsia**	**0.29**	**43**	P	**Pb**	**09 38 28.2**	**+1.1**
CBST	**Bordj Sabath**	**0.36**	**343**	P	**Pg**	**09 38 26.3**	**-0.6**
CSGS	**Sigus**	**0.43**	**280**	P	**Pn**	**09 38 32.4**	**+0.4**
CKFL	**Kef-Lekhel**	**0.54**	**309**	P	**Pn**	**09 38 32.4**	**-1.1**
CMAH	**Djebel Manchou**	**0.58**	**15**	P	**Pg**	**09 38 30.3**	**-0.7**
CASM	**Ain Smara**	**0.63**	**288**	P	**Pn**	**09 38 35.9**	**+1.1**
CAEH	**'Ain El Ouahch**	**0.78**	**337**	P	**Pg**	**09 38 33.8**	**-1.0**
GHAT	**Ghardimaou**	**0.97**	**63**	*i* P	**Pn**	**09 38 42.0**	**+2.6**
KRIT	**Krib**	**1.52**	**79**	*i* P	**Pn**	**09 38 44.0**	**-3.0**
KRIT				*i* S	Sn	09 38 52.8	-14
BLIT	**Baltah**	**1.53**	**64**	*i* P	**Pg**	**09 38 48.8**	**-0.3**

IDC 12 10:19:42.0±3.2, 14°71S×173°99W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=172.8km s-min=27.5km az=145.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.45**	**256**	P	P	10 28 34.0	-0.3
	0.4nm,0.9s,baz=90,slow=6.6,SNR=5.6 0.4nm,0.9s						
ASAR	**Alice Springs**	**49.78**	**251**	P	P	10 28 36.9	0.0
	0.8nm,0.6s,baz=90,slow=7.5,SNR=16 0.8nm,0.6s						
NVAR	**Mina Array Bea**	**74.20**	**42**	P	P	10 31 21.1	0.0
	0.4nm,0.6s,baz=208,slow=8.0,SNR=3.5 0.4nm,0.6s						
ILAR	**Eielson Array**	**81.89**	**11**	P	P	10 32 03.0	+0.1
	0.4nm,0.7s,baz=223,slow=6.3,SNR=8.4 0.4nm,0.7s						

SNET ***12*** *10:26:41.6±0.6, 11°46N×87°07W, h16km±13km, ML3.0*
CATAC ***12*** *10:26:43.6±0.7, 11°57N×86°99W, h27km±7km, ML3.6*
ISC 12 10:26:43.1±1.8, 11°56N±0°09×87°01W±0°04, h21km±5km, n38, σ0s70/54, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.74**	**33**	*i* P	**Pn**	**10 26 58.1**	**-0.3**
COPN				IAML		10 27 14.1	
	comp=Z,1μm,1.0s						
SAPS	**Ciudad Sandino**	**0.85**	**44**	*i* P	**Pb**	**10 26 59.3**	**+0.1**
SAPS				IAML		10 27 20.0	
	comp=Z,1μm,1.0s						
RE6B4	**Centro civico**	**0.90**	**51**	*i* P	**Pn**	**10 27 00.0**	**-0.5**
RE6B4				IAML		10 27 01.0	
	comp=Z,1μm,1.0s						
USIM	**UNAN**	**0.91**	**52**	*i* P	**Pb**	**10 27 00.7**	**+0.5**
USIM				IAML		10 27 44.9	
	comp=Z,7μm,1.0s						
RB28C	**Hialeah**	**0.91**	**52**	*i* P	**Pb**	**10 27 00.6**	**+0.4**
RB28C				IAML		10 27 01.2	
	comp=Z,3μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.93**	**25**	*i* P	**Pb**	**10 27 00.8**	**+0.4**
LEVN				*i* S	**Sb**	**10 27 11.7**	**-0.6**
LEVN				IAML		10 27 17.5	
	comp=Z,2μm,1.0s						
RB213	**Mirador 2 Volc**	**0.93**	**63**	*i* P	**Pn**	**10 27 00.2**	**-0.7**
RB213				IAML		10 27 01.2	
	comp=Z,3μm,1.0s						
TISN	**Laguna Tiscapa**	**0.93**	**51**	*i* P	**Pn**	**10 27 00.4**	**-0.6**
TISN				IAML		10 27 18.0	
	comp=Z,100nm,1.0s						
APYN	**Apoyeque**	**0.94**	**44**	*i* P	**Pn**	**10 27 00.3**	**-0.7**
APYN				*i* S	**Sn**	**10 27 13.1**	**-0.7**
APYN				IAML		10 27 15.1	
	comp=Z,1μm,1.0s						
MAS3	**Al N del Volca**	**0.94**	**60**	*i* P	**Pn**	**10 27 00.4**	**-0.7**
MAS3				IAML		10 27 01.4	
	comp=Z,1μm,1.0s						
MAS3				*i* S	**Sb**	**10 27 12.3**	**-0.5**
APQ3	**Volcan Apoyequ**	**0.95**	**41**	*i* P	**Pn**	**10 27 00.7**	**-0.5**
APQ3				*i* S	**Sn**	**10 27 14.6**	**+0.5**
APQ3				IAML		10 27 17.2	
	comp=Z,1μm,1.0s						
R4DEC	**Barrio San Lui**	**0.95**	**52**	*i* P	**Pb**	**10 27 02.8**	**+1.9**
R4DEC				*i* P	**Pn**	**10 27 00.8**	**-0.4**
R4DEC				IAML		10 27 01.4	
	comp=Z,1μm,1.0s						
R4DEC				IAML		10 27 03.4	
	comp=Z,1μm,1.0s						
R4DEC				*i* S	**Sb**	**10 27 12.1**	**-0.9**
MACN	**El Madrono**	**0.96**	**20**	*i* P	**Pn**	**10 27 01.0**	**-0.4**
MACN				IAML		10 27 21.3	
	comp=Z,760nm,1.0s						
PACN	**Al O del Volca**	**0.96**	**13**	*i* P	**Pb**	**10 27 01.3**	**+0.2**
PACN				IAML		10 27 02.1	
	comp=Z,2μm,1.0s						
PACN				*i* S	**Sn**	**10 27 15.2**	**+0.7**
MOMN	**Momotombo**	**0.96**	**28**	*i* P	**Pn**	**10 27 01.0**	**-0.5**
MOMN				IAML		10 27 01.7	
	comp=Z,59nm,1.0s						
MOMN				*i* S	**Sb**	**10 27 12.2**	**-1.3**
CNGA	**Al SSO del Vol**	**0.98**	**18**	*i* P	**Pn**	**10 26 59.9**	**-1.8**
CNGA				IAML		10 27 00.7	
	comp=Z,2μm,1.0s						
CNGN	**Cerro Negro**	**0.99**	**18**	*e*P	**Pn**	**10 27 01.3**	**-0.5**
CNGN				*e*S	**Sn**	**10 27 16.2**	**+1.0**
CNGN	**Cerro Negro**	**0.99**	**18**	*i* P	**Pn**	**10 27 01.2**	**-0.5**
CNGN				IAML		10 27 18.1	
	comp=Z,1μm,1.0s						
WILN	**Americas 2**	**1.01**	**53**	*i* P	**Pn**	**10 27 01.6**	**-0.4**
WILN				*i* S	**Sn**	**10 27 16.2**	**+0.7**
WILN				IAML		10 27 17.9	
	comp=Z,610nm,1.0s						
MOM2	**El Cardon**	**1.02**	**30**	*i* P	**Pn**	**10 27 01.8**	**-0.3**
MOM2				IAML		10 27 02.6	
	comp=Z,2μm,1.0s						
MOM2				*i* S	**Sn**	**10 27 16.6**	**+0.8**
QUEN	**Al S del Volca**	**1.04**	**9**	*i* P	**Pn**	**10 27 01.9**	**-0.6**
QUEN				IAML		10 27 19.5	
	comp=Z,1μm,1.0s						
CRIN	**San Cristobal**	**1.14**	**358**	*e*P	**Pn**	**10 27 03.5**	**-0.3**
CRIN	**San Cristobal**	**1.14**	**358**	*i* P	**Pn**	**10 27 03.2**	**-0.7**
CRIN				*i* S	**Sb**	**10 27 19.5**	**+1.0**
CRIN				IAML		10 27 36.1	
	comp=Z,2μm,1.0s						
JAPN	**Al SSO del Vol**	**1.31**	**91**	*i* P	**Pn**	**10 27 06.0**	**-0.1**
JAPN				IAML		10 27 32.7	
	comp=Z,460nm,1.0s						
BRAN	**Las Pilas**	**1.33**	**29**	*i* P	Pn	10 27 00.1	-6.3
BRAN				IAML		10 27 00.8	
	comp=Z,2μm,1.0s						
BRAN				*i* S	Sn	10 27 11.2	-12
MORN	**Al O del Volca**	**1.34**	**90**	*i* P	**Pn**	**10 27 06.0**	**-0.5**
MORN				IAML		10 27 31.7	
	comp=Z,910nm,1.0s						
CONN	**Concepcion**	**1.36**	**89**	*i* P	**Pn**	**10 27 05.9**	**-0.9**
CONN				IAML		10 27 30.6	
	comp=Z,4μm,1.0s						
OMEN	**Al SSO del Vol**	**1.36**	**92**	*i* P	**Pn**	**10 27 06.5**	**-0.3**
OMEN				IAML		10 27 31.9	
	comp=Z,630nm,1.0s						
AMPH	**Amapala**	**1.83**	**340**	*e*P	**Pn**	**10 27 13.4**	**+0.1**
AMPH				*e*S	**Sb**	**10 27 37.7**	**-0.7**
CNCH	**Conchagua**	**1.89**	**335**	*e*P	**Pn**	**10 27 13.9**	**-0.4**
CNCH				*e*S	**Sb**	**10 27 39.8**	**-0.3**
CNCH	**Conchagua**	**1.89**	**335**	*i* P	**Pn**	**10 27 13.6**	**-0.7**
CNCH				*i* S	**Sn**	**10 27 38.5**	**+1.0**
CNCH				IAML		10 27 40.8	
	comp=Z,880nm,1.0s						
LCND	**La Caada**	**1.94**	**334**	*e*P	**Pn**	**10 27 14.7**	**-0.2**
LCND	**La Caada**	**1.94**	**334**	*i* P	**Pn**	**10 27 14.3**	**-0.6**
LCND				*i* S	**Sn**	**10 27 38.1**	**-0.6**
LCND				IAML		10 27 41.8	
	comp=Z,520nm,1.0s						
RANC	**El Ranchito**	**2.25**	**326**	*e*P	**Pn**	**10 27 18.8**	**-0.3**
PACA	**Pacayal**	**2.29**	**326**	*e*P	**Pn**	**10 27 19.7**	**-0.1**
PACA	**Pacayal**	**2.29**	**326**	*i* P	**Pn**	**10 27 20.0**	**+0.2**
PACA				*i* S	**Sn**	**10 27 47.3**	**-0.2**
PACA				IAML		10 28 04.7	
	comp=Z,850nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.71**	**322**	*i* P	**Pn**	**10 27 25.2**	**-0.3**
SCLA				*i* S	**Sn**	**10 27 57.2**	**-0.6**
SCLA				IAML		10 28 16.3	
	comp=Z,40nm,1.0s						
COEG	**Centro de Oper**	**2.75**	**319**	IAML		10 28 12.1	
	comp=Z,55nm,0.6s						

IDC 12 10:27:13.7±2.0, 2°23S×126°37E, h0km, mb3.2/2, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=168.0km s-min=28.3km az=65.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.25**	**157**	P	Pn	10 31 40.3	-0.4
	0.1nm,0.3s,baz=336,slow=12,SNR=4.9 0.3nm,0.5s						
ASAR	**Alice Springs**	**22.52**	**162**	P	P	10 32 15.0	-0.3
	0.4nm,0.9s,baz=332,slow=8.9,SNR=2.2 0.4nm,0.9s						
MKAR	**Makanchi Array**	**62.28**	**327**	P	P	10 37 37.6	-0.1
	0.5nm,0.8s,baz=148,slow=8.4,SNR=3.9 0.5nm,0.8s						

NEIC ***12*** *10:37:25.9±0.8, 36°560N±0°002×89°57W±0°01, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.3km az=299.0*
SLM 12 10:37:25.3±0.6, 36°553N±0°005×89°56W±0°01, h5km±2km, Md2.3/21, mb_Lg2.8/4(NEIC), ML1.8/26(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=84.0, New Madrid region, Missouri

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WALK	**Watson Lake**	**0.02**	**129**		Pg	10 37 27.8	+1.5
NMEM	**New Madrid Sch**	**0.03**	**321**		Pg	10 37 26.6	+0.3
NMMO	**New Madrid**	**0.04**	**15**		Pg	10 37 28.1	+1.7
MARMO	**Marston**	**0.09**	**255**		Pg	10 37 29.6	+2.4
CATM	**Catron**	**0.09**	**312**		Pg	10 37 29.5	+2.3
SJMO	**Saint John's B**	**0.10**	**43**		Pg	10 37 27.8	+0.4
SJMO					Sg	10 37 30.0	+1.1
PENMO	**Penman**	**0.12**	**207**		Pg	10 37 28.1	+0.5
PENMO					Sg	10 37 30.4	+1.2
KEWM	**Kewanee**	**0.15**	**351**		Pg	10 37 28.6	+0.3
KEWM					Sg	10 37 31.1	+0.9
PPLM	**Point Pleasant**	**0.15**	**186**		Pg	10 37 28.8	+0.5
PPLM					Sg	10 37 31.6	+1.3
PGVM	**Portageville**	**0.16**	**235**		Pg	10 37 29.0	+0.5
PGVM					Sg	10 37 31.8	+1.1
POBM	**Portage Bay**	**0.17**	**209**		Pg	10 37 29.0	+0.5
POBM					Sg	10 37 32.1	+1.4
PVMO	**Portageville**	**0.18**	**218**	Pg	Pg	10 37 29.1	+0.3
PVMO	**Portageville**	**0.18**	**218**		Sg	10 37 32.3	+1.2
PVMO	**Portageville**	**0.18**	**218**	IAML		10 37 32.5	
	comp=E,243nm,0.8s						
PVMO				IAML		10 37 34.8	
	comp=N,149nm,0.4s						
HENM	**Henderson Moun**	**0.18**	**24**		Pg	10 37 29.1	+0.3
HENM					Sg	10 37 32.1	+0.9
PARMO	**Parma**	**0.19**	**306**		Pg	10 37 29.4	+0.4
PARMO					Sg	10 37 32.4	+0.9
COKM	**Charter Oak**	**0.20**	**320**		Pg	10 37 29.8	+0.5
COKM					Sg	10 37 33.0	+1.0
DWDM	**Dogwood**	**0.25**	**13**		Pg	10 37 30.5	+0.4
TOPM	**Tallapoosa**	**0.26**	**264**		Pg	10 37 30.7	+1.3
WADM	**Wardell**	**0.26**	**225**		Pg	10 37 30.8	+0.4
WADM					Sg	10 37 35.1	+1.3
HICK	**Hickman**	**0.27**	**93**		Pg	10 37 31.0	+0.5
HICK				IAML		10 37 35.4	
	comp=N,108nm,0.5s						
HICK				IAML		10 37 36.1	
	comp=E,112nm,0.3s						
MLDM	**Malden**	**0.29**	**284**		Pg	10 37 31.3	+0.3
MLDM					Sg	10 37 35.7	+0.8
CHRM	**Charleston**	**0.34**	**29**		Pg	10 37 32.1	+0.2
GLAT	**Glass**	**0.36**	**142**	Pg	Pg	10 37 32.4	+0.2
LNXT	**Lenox**	**0.46**	**173**	Pg	Pg	10 37 33.4	-0.6
LNXT				IAML		10 37 41.6	
	comp=E,86nm,2.4s						
LNXT				IAML		10 37 42.8	
	comp=N,58nm,0.9s						
PEBM	**Pemiscott Bayo**	**0.50**	**209**	Pg	Pg	10 37 34.7	-0.2
UTMT	**University of**	**0.60**	**110**	Pg	Pg	10 37 36.7	-0.1
UTMT				IAML		10 37 49.9	
	comp=N,34

DBBC	**Dabeiba**	**3.06**	**275**	P	Pn	11 20 44.0	-1.0
DBBC				S	Sn	11 21 19.8	-2.3
SDV	**Santo Domingo**	**3.25**	**50**	P	Pn	11 20 45.7	-2.0
SDV				S	Sn	11 21 23.1	-3.8
ARGC	**Ariguani, Magd**	**3.26**	**340**	P	Pn	11 20 45.0	-2.5
ARGC				S	Sn	11 21 25.1	-1.6
PRAC	**Prado**	**3.50**	**210**	P	Pn	11 20 49.3	-1.4
PRAC				S	Sn	11 21 31.6	-0.7
APAC	**Apartado, Choc**	**3.59**	**288**	P	Pn	11 20 48.7	-3.1
APAC				S	Sn	11 21 33.5	-0.9
PLMC	**San Jos del P**	**3.63**	**240**	P	Pn	11 20 51.9	-0.6
PLMC				S	Sn	11 21 34.7	-0.8
SJCC	**San Jacinto, C**	**3.71**	**327**	P	Pn	11 20 49.9	-3.5
SJCC				S	Sn	11 21 31.5	-5.6
URMC	**La Uribe, Meta**	**3.71**	**199**	P	Pn	11 20 52.0	-1.5
URMC				S	Sn	11 21 37.6	+0.3
CRJC	**Cerrejon, Guaj**	**4.23**	**3**	P	Pn	11 20 56.2	-4.1
CRJC				S	Sn	11 21 44.5	-5.0
SMRC	**Santa Marta, M**	**4.50**	**346**	P	Pn	11 21 01.3	-2.4
SMRC				S	Sn	11 21 49.7	-5.9
CAPC	**Capurgana**	**4.57**	**294**	P	Pn	11 21 00.4	-4.2
CAPC				S	Sn	11 21 51.6	-5.7
MACC	**Macarena, Meta**	**4.65**	**189**	P	Pn	11 21 02.8	-3.0
URIC	**Uribia, Colomb** 26nm,1.2s	**5.03**	**13**	P	Pn	11 21 06.2	-4.6
URIC	26nm,1.2s			S	Sn	11 22 02.9	-5.4
FLOC	**Florencia**	**5.73**	**206**	P	Pn	11 21 18.5	-1.7

*PRU **12** 11:29:47.0,50˚.26N×12˚.44E,h10km, West Bohemia Swarm*

WBNET 12 11:29:47.7,50˚.26N×12˚.44E,h9km,Ml1.7,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**277**	⇓P	Pg	11 29 49.6	+0.1
LBCW				S	Sg	11 29 50.9	+0.2
NKC	**Novy Kostel**	**0.03**	**174**	*e*PG	Pg	11 29 49.6	+0.1
NKC				*e*SG	Sg	11 29 50.7	0.0
	comp=Z,149nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**174**	⇓P	Pg	11 29 49.6	+0.1
NKC				S	Sg	11 29 50.8	+0.1
STCW	**Studenec**	**0.05**	**95**	⇑P	Pg	11 29 49.7	+0.1
STCW				S	Sg	11 29 51.0	-0.1
VAC	**Vackov**	**0.05**	**236**	⇓P	Pg	11 29 49.7	0.0
VAC				S	Sg	11 29 51.0	-0.1
POCW	**Potky**	**0.06**	**350**	⇓P	Pg	11 29 49.9	+0.1
POCW				S	Sg	11 29 51.4	+0.1
KVC	**Kvetna**	**0.07**	**141**	⇑P	Pg	11 29 50.0	+0.1
KVC				S	Sg	11 29 51.5	0.0
KRCW	**Kraslice**	**0.09**	**39**	⇑P	Pg	11 29 50.1	0.0
KRCW				S	Sg	11 29 51.8	-0.1
SKC	**Skalna**	**0.11**	**209**	⇑P	Pg	11 29 50.4	+0.1
SKC				S	Sg	11 29 52.2	0.0
KOCW	**Kopaniny**	**0.13**	**271**	⇓P	Pg	11 29 50.8	0.0
KOCW				S	Sg	11 29 52.8	-0.1
TRCW	**Trojmez**	**0.20**	**282**	⇓P	Pg	11 29 51.8	0.0
TRCW				S	Sg	11 29 54.5	0.0
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	Pg	11 29 52.1	+0.1
ZHC				S	Sg	11 29 55.0	0.0
LACW	**Lazy**	**0.24**	**151**	⇓P	Pg	11 29 52.8	+0.2
LACW				S	Sg	11 29 56.2	+0.2
HSKC	**Hora Svate Kat** comp=Z,16nm,0.2s	**0.72**	**61**	*e*SG	Sg	11 30 10.5	-0.5
RICC	**Richard** comp=Z,12nm,0.4s	**1.10**	**74**	*e*SG	Sb	11 30 23.5	+0.3
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pb	11 30 08.9	-0.5
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pn	11 30 11.1	+1.3
BRG				Sg	Sg	11 30 23.7	-0.5
BRG				Amp		11 30 24.5	
	comp=Z,10nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**57**	Sg	Sn	11 30 26.1	+0.6
BRG				Amp		11 30 26.5	
	comp=Z,14nm,0.3s						
KHC	**Kasperske Hory**	**1.35**	**147**	*e*SG	Sb	11 30 29.9	-0.7
PRU	**Pruhonice** comp=Z,3.6nm,0.2s	**1.38**	**101**	*e*SG	Sn	11 30 31.5	+0.1
PVCC	**Panska Ves** comp=Z,15nm,0.2s	**1.39**	**78**	*e*SG	Sg	11 30 32.1	-0.2
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	*e*SG	Sb	11 30 36.7	+0.5
CKRC	**Cesky Krumlov**	**1.89**	**139**	*e*SG	Sb	11 30 45.6	-0.4
UPC	**Upice**	**2.30**	**83**	*e*SG	Sb	11 30 59.3	+1.5
DPC	**Dobruska-Polom**	**2.49**	**87**	*e*SG	Sb	11 31 04.8	+1.5
KRUC	**Moravsky**	**2.83**	**114**	*e*SG	Sg	11 31 16.6	-2.1

WBNET 12 11:29:49.8,50˚.26N×12˚.44E,h9km,Ml1.8,4C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**280**	⇓P	Pg	11 29 51.6	+0.1
LBCW				S	Sg	11 29 52.9	+0.2
NKC	**Novy Kostel**	**0.03**	**174**	⇓P	Pg	11 29 51.7	+0.1
NKC				S	Sg	11 29 52.9	+0.1
STCW	**Studenec**	**0.05**	**93**	⇑P	Pg	11 29 51.8	+0.1
STCW				S	Sg	11 29 53.1	-0.1
VAC	**Vackov**	**0.05**	**237**	⇓P	Pg	11 29 51.8	+0.1
VAC				S	Sg	11 29 53.1	-0.1
POCW	**Potky**	**0.06**	**350**	⇓P	Pg	11 29 52.0	+0.1
POCW				S	Sg	11 29 53.4	+0.1
KVC	**Kvetna**	**0.07**	**140**	S	Sg	11 29 53.5	0.0
KRCW	**Kraslice**	**0.09**	**39**	⇑P	Pg	11 29 52.2	0.0
KRCW				S	Sg	11 29 53.9	-0.1
SKC	**Skalna**	**0.11**	**210**	S	Sg	11 29 54.3	+0.1
KOCW	**Kopaniny**	**0.13**	**271**	S	Sg	11 29 54.9	-0.1
TRCW	**Trojmez**	**0.20**	**282**	⇓P	Pg	11 29 53.9	0.0
TRCW				S	Sg	11 29 56.6	-0.1
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	Pg	11 29 54.2	+0.1
ZHC				S	Sg	11 29 57.1	+0.1
LACW	**Lazy**	**0.24**	**151**	⇑P	Pg	11 29 54.9	+0.2
LACW				S	Sg	11 29 58.4	+0.4

*KOLA **12** 11:29:55.8,67˚.63N×33˚.94E,h0km,ML2.1,Error ellipse: s-maj=6.4km s-min=1.4km az=150.0,Khibiny, mines Koashva, Nyurkpakh,Khibiny, mines Rasvumchorr, Central HEL **12** 11:29:56.0±0.1,67˚.67N×33˚.83E,h0km,ML1.8,Explosion IDC **12** 11:29:59.9±2.6,67˚.55N×33˚.00E,h0km,mbtmp3.0/2, ML2.0/2,Error ellipse: s-maj=28.9km s-min=9.9km az=79.0*

ISC 12 11:29:54.9±1.0,67˚.61N±0˚.05×33˚.96E±0˚.04,h0km,n20, σ1ˢ46/33,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.22**	**259**	P	**Pg**	**11 29 59.4**	**+0.4**
APA				S	**Sg**	**11 30 02.6**	**+0.8**
APA0	**Apatity Array**	**0.37**	**270**	P	**Pg**	**11 30 01.9**	**0.0**
APA0				S	**Sg**	**11 30 07.6**	**+0.9**
LVZ	**Lovozero**	**0.39**	**42**	P	**Pg**	**11 30 02.7**	**+0.3**
LVZ				S	**Sg**	**11 30 08.3**	**+0.8**
LVZ	**Lovozero**	**0.39**	**42**	*e*P	**Pg**	**11 30 02.8**	**+0.3**
LVZ				*e*S	**Sg**	**11 30 08.4**	**+0.9**
TERR	**Teriberka**	**1.66**	**14**	P	**Pn**	**11 30 24.1**	**-1.1**
TERR				S	**Sn**	**11 30 46.0**	**-1.0**
VRF	**Varrio**	**1.67**	**277**	*e*P	**Pn**	**11 30 25.0**	**-0.3**
VRF				*e*S	**Sn**	**11 30 46.2**	**-1.2**
VRF				MSG		11 30 50.6	
	comp=Z,8.8nm,0.2s						
OLKF	**Oulanka, Finla**	**2.21**	**236**	*e*P	**Pn**	**11 30 34.0**	**+1.2**
OLKF				*e*SG	**Sb**	**11 31 03.6**	**0.0**
OLKF				MSG		11 31 06.0	
	comp=Z,3.2nm,0.1s						
KU6	**Riekki**	**2.26**	**227**	*e*P	**Pn**	**11 30 34.6**	**+1.1**
KU6				*e*SB	**Sb**	**11 31 04.9**	**-0.1**
RAJF	**Raja-Jooseppi**	**2.29**	**295**	*e*P	**Pn**	**11 30 34.0**	**0.0**
RAJF				*e*S	**Sn**	**11 31 02.2**	**-0.6**
MSF	**Maaselka**	**2.59**	**231**	*e*PB	**Pn**	**11 30 40.5**	**+2.5**
MSF				*e*SB	**Sb**	**11 31 13.9**	**-0.6**
SGF	**Sodankyl**	**2.86**	**270**	*e*P	**Pn**	**11 30 42.1**	**+0.4**
SGF				*e*SG	**Sb**	**11 31 22.0**	**-0.3**
SGF				MSG		11 31 24.7	
	comp=Z,2.2nm,0.2s						
KMNF	**Kaamanen**	**3.00**	**304**	*e*P	**Pn**	**11 30 43.6**	**-0.1**
RANF	**Ranua**	**3.26**	**244**	*e*P	**Pn**	**11 30 48.5**	**+1.4**
RNF	**Rovaniemi**	**3.26**	**256**	*e*P	**Pn**	**11 30 47.5**	**+0.2**
KEV	**Kevo**	**3.33**	**314**	*e*P	**Pn**	**11 30 48.5**	**+0.4**
KEV				MSG		11 31 40.4	
	comp=Z,2.0nm,0.2s						
ARA0	**ARCESS Array S**	**3.65**	**306**	*e*P	**Pn**	**11 30 52.6**	**0.0**
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.3s,baz=120,slow=15,SNR=98	**3.65**	**306**	Pn	**Pn**	**11 30 52.7**	**+0.1**
ARCES				Pg	**Pb**	**11 31 01.5**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=118,slow=15,SNR=13						
ARCES				Sn	**Sn**	**11 31 34.4**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=120,slow=24,SNR=1.6						
ARCES				Lg	Lg	11 31 45.1	
	comp=Z,0.6nm,0.3s,baz=120,slow=32,SNR=9.5 comp=Z,1.5nm,0.2s						
HEF	**Hetta**	**3.96**	**286**	*e*P	**Pn**	**11 30 56.7**	**0.0**
I37NO	**I37NO** baz=99,slow=321,SNR=2.9	**5.87**	**292**	I	I	12 04 10.0	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=25,slow=14,SNR=1.7	**7.06**	**212**	Pn	**Pn**	**11 31 40.0**	**+0.7**
FINES				Sn	**Sn**	**11 32 53.8**	**-6.2**
	comp=Z,0.1nm,0.3s,baz=30,slow=26,SNR=1.1						
FINES				Lg	Lg	11 33 32.5	
	comp=Z,0.1nm,0.3s,baz=27,slow=28,SNR=3.4 comp=Z,1.3nm,1.0s						

ROM 12 11:30:48.1±0.1,37˚.952N±0˚.004×15˚.19E±0˚.01,h21km±1km, ML2.6/18,4C-3D,Error ellipse: s-maj=0.8km s-min=0.3km az=287.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIO	**Antillo**	**0.04**	**61**	⇑*i*P	Pb	11 30 51.9	0.0
AIO				S	Sb	11 30 54.8	+0.2
AIO				AML	AML		
	comp=E,5195μm,0.5s						
AIO				AML	AML		
	comp=N,4160μm,0.4s						
AIO				AML	AML		
	comp=E,4318μm,0.3s						
AIO				AML	AML		
	comp=N,4161μm,0.4s						
NOV	**Novara**	**0.09**	**331**	⇑*i*P	Pb	11 30 52.0	-0.2
NOV				S	Sb	11 30 55.0	-0.1
NOV				AML	AML		
	comp=N,2365μm,1.0s						
NOV				AML	AML		
	comp=E,3620μm,0.1s						
NOV				AML	AML		
	comp=N,2365μm,1.0s						
NOV				AML	AML		
	comp=N,2220μm,0.3s						
EMSG	**Monte Spagnolo**	**0.23**	**235**	P	Pb	11 30 54.4	+0.1
EMSG				AML	AML		
	comp=N,3105μm,0.7s						
EMSG				AML	AML		
	comp=E,2905μm,0.8s						
EMSG				AML	AML		
	comp=N,2969μm,0.4s						
EMSG				AML	AML		
	comp=E,2435μm,0.5s						
MPNC	**Port Mandanici**	**0.23**	**34**	⇓P	Pb	11 30 54.1	-0.1
MPNC				S	Sb	11 30 58.8	+0.4
MPNC				AML	AML		
	comp=N,4430μm,0.4s						
MPNC				AML	AML		
	comp=E,2805μm,1.6s						
MPNC				AML	AML		
	comp=N,4431μm,0.4s						
MPNC				AML	AML		
	comp=E,2778μm,0.3s						
MUCR	**Ucria**	**0.27**	**290**	⇑*i*P	Pb	11 30 54.0	-0.5
MUCR				S	Sb	11 30 58.3	-0.7
MUCR				AML	AML		
	comp=E,2160μm,0.7s						
MUCR				AML	AML		
	comp=N,2925μm,0.3s						
MUCR				AML	AML		
	comp=N,2925μm,1.7s						
MUCR				AML	AML		
	comp=N,2922μm,0.3s						
MUCR				AML	AML		
	comp=E,2005μm,0.3s						
EPZF	**Pizzo Felice**	**0.29**	**244**	⇑P	Pb	11 30 55.0	+0.2
EPZF				S	Sb	11 31 00.7	+1.3
EPZF				AML	AML		
	comp=E,1128μm,0.5s						
EPZF				AML	AML		
	comp=N,1625μm,0.4s						
EPZF				AML	AML		
	comp=E,1130μm,0.5s						
EPZF				AML	AML		
	comp=N,1626μm,0.4s						
ESLN	**Serra La Nave**	**0.31**	**213**	P	Pb	11 30 55.7	+0.5
ESLN				AML	AML		
	comp=E,822μm,0.6s						
MILZ	**Milazzo**	**0.32**	**6**	⇓*i*P	Pb	11 30 55.1	0.0
MILZ				S	Sb	11 31 00.8	+0.9
MILZ				AML	AML		
	comp=N,586μm,0.2s						
MILZ				AML	AML		
	comp=E,1475μm,0.5s						
MILZ				AML	AML		
	comp=N,586μm,0.2s						
MILZ				AML	AML		
	comp=E,1475μm,0.5s						
ESML	**S. M. di Licod**	**0.42**	**217**	P	Pb	11 30 57.2	+0.6
EPOZ	**Pozzillo**	**0.45**	**191**	P	Pb	11 30 55.8	-1.4
VPL	**Vulcano Piano**	**0.46**	**339**	⇓P	Pb	11 30 57.3	-0.1
VPL				S	Sb	11 31 04.8	+1.0
VPL				AML	AML		
	comp=N,1678μm,0.3s						
GALF	**Gagliano Caste**	**0.55**	**244**	P	Pn	11 30 60.0	-0.7
GALF				AML	AML		
	comp=E,380μm,0.8s						
GALF				AML	AML		
	comp=N,544μm,0.7s						
GALF				AML	AML		
	comp=N,544μm,1.3s						
GALF				AML	AML		
	comp=E,380μm,1.2s						
GALF				AML	AML		
	comp=N,544μm,0.7s						
CAGR	**Agira**	**0.64**	**239**	P	Pn	11 31 02.1	+0.2
HLNI	**Lentini**	**0.65**	**203**	P	Pb	11 31 00.4	-0.4
HLNI				S	Sb	11 31 10.1	+0.5
HLNI				AML	AML		
	comp=E,1180μm,1.1s						
HLNI				AML	AML		
	comp=N,1050μm,0.8s						
HLNI				AML	AML		
	comp=N,215μm,0.1s						
HAGA	**Augusta**	**0.67**	**182**	P	Pb	11 31 00.5	-0.5
HAGA				S	Sb	11 31 10.8	+0.9
HAGA				AML	AML		
	comp=E,1735μm,1.3s						
HAGA				AML	AML		
	comp=E,1415μm,0.6s						
HAGA				AML	AML		
	comp=N,2045μm,0.8s						
HAGA				AML	AML		
	comp=E,1415μm,1.4s						
HAGA				AML	AML		
	comp=E,256μm,0.2s						
SOI	**Samo**	**0.69**	**80**	P	Pb	11 31 01.7	+0.2
AGST	**Augusta-Monte**	**0.69**	**178**	P	Pb	11 31 01.1	-0.5
AGST				S	Sb	11 31 11.4	+0.8
AGST				AML	AML		
	comp=N,2755μm,0.2s						
AGST				AML	AML		
	comp=E,2000μm,1.3s						
AGST				AML	AML		
	comp=E,2000μm,0.7s						
IFIL	**Filicudi I Eol**	**0.78**	**321**	P	Pb	11 31 02.5	-0.5
IFIL				S	Sb	11 31 13.6	+0.4
IFIL				AML	AML		
	comp=E,8330μm,0.4s						
IFIL				AML	AML		
	comp=N,4450μm,0.7s						
IFIL				AML	AML		
	comp=N,4375μm,0.7s						
SSY	**Sortino**	**0.80**	**187**	P	Pb	11 31 02.9	-0.5
SSY				S	Sn	11 31 15.3	-0.2
SSY				AML	AML		
	comp=E,1810μm,0.7s						
SSY				AML	AML		
	comp=N,5420μm,0.6s						
SSY				AML	AML		
	comp=E,1810μm,1.3s						
PLLN	**Pollina**	**0.83**	**273**	P	Pb	11 31 04.1	+0.3
PLLN				AML	AML		
	comp=N,1335μm,0.4s						
PLLN				AML	AML		
	comp=E,1875μm,0.6s						
PLLN				AML	AML		
	comp=E,1875μm,1.4s						
PLLN				AML	AML		
	comp=N,1505μm,0.4s						
JOPP	**Joppolo**	**0.85**	**40**	P	Pb	11 31 04.2	0.0
JOPP				AML	AML		
	comp=E,834μm,0.5s						
JOPP				AML	AML		
	comp=E,834μm,1.5s						
JOPP				AML	AML		
	comp=N,832μm,0.4s						
HVZN	**Vizzini**	**0.86**	**206**	P	Pb	11 31 04.0	-0.4
MEU	**Monte Lauro**	**0.87**	**194**	P	Pb	11 31 04.1	-0.6
MEU				S	Sn	11 31 17.0	-0.3
MEU				AML	AML		
	comp=E,2340μm,0.2s						
MEU				AML	AML		
	comp=N,2865μm,0.6s						
MEU				AML	AML		
	comp=N,2865μm,1.4s						
CSLB	**Castelbuono**	**0.90**	**269**	P	Pn	11 31 05.2	-0.2
CSLB				AML	AML		
	comp=N,298μm,1.2s						
CSLB				AML	AML		
	comp=E,174μm,0.5s						
RAFF	**Raffo Rosso**	**0.98**	**222**	P	Pb	11 31 06.2	-0.2
RAFF				AML	AML		
	comp=N,1960μm,0.6s						
RAFF				AML	AML		
	comp=E,1760μm,0.2s						
HMDC	**Modica**	**1.04**	**198**	P	Pb	11 31 06.8	-0.7
HMDC				S	Sn	11 31 22.0	+0.5
HMDC				AML	AML		
	comp=N,2175μm,0.7s						
HMDC				AML	AML		
	comp=E,2225μm,1.0s						
PLAC	**Placanica**	**1.10**	**63**	P	Pb	11 31 09.2	+0.7
HPAC	**Pachino**	**1.25**	**183**	P	Pn	11 31 10.3	0.0
HPAC				AML	AML		
	comp=E,1700μm,0.6s						
HPAC				AML	AML		
	comp=N,1680μm,0.7s						
HPAC				AML	AML		
	comp=N,1680μm,1.3s						
HPAC				AML	AML		
	comp=E,1700μm,1.4s						

ROM 12 11:31:06.6±0.1,37˚.954N±0˚.003×15˚.197E±0˚.006, h22km,ML3.0/33,6C-5D,Error ellipse: s-maj=0.5km s-min=0.1km az=110.0,Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIO	**Antillo**	**0.03**	**59**	⇑*i*P	Pb	11 31 10.4	-0.2
AIO				S	Sb	11 31 13.2	-0.1
AIO				AML	AML		
	comp=E,24500μm,1.5s						
AIO				AML	AML		
	comp=N,24000μm,0.6s						
AIO				AML	AML		
	comp=E,22847μm,0.2s						
AIO				AML	AML		
	comp=N,19364μm,0.3s						
NOV	**Novara**	**0.09**	**327**	⇑*i*P	Pb	11 31 10.5	-0.4
NOV				S	Sb	11 31 13.5	-0.3
NOV				AML	AML		
	comp=N,22000μm,0.2s						
NOV				AML	AML		
	comp=E,14400μm,0.7s						
NOV				AML	AML		
	comp=E,14076μm,0.2s						
NOV				AML	AML		
	comp=N,21987μm,0.2s						
MPNC	**Port Mandanici**	**0.23**	**33**	⇑*i*P	Pb	11 31 12.6	+0.1
MPNC				S	Sb	11 31 17.2	+0.6
MPNC				AML	AML		
	comp=E,16100μm,0.4s						
MPNC				AML	AML		
	comp=N,23550μm,0.5s						
MPNC				AML	AML		
	comp=E,16081μm,0.4s						
MPNC				AML	AML		
	comp=N,23526μm,0.5s						
EMSG	**Monte Spagnolo**	**0.24**	**236**	P	Pb	11 31 13.0	+0.2
EMSG				S	Sb	11 31 17.4	+0.5
EMSG				AML	AML		
	comp=E,14250μm,0.8s						
EMSG				AML	AML		
	comp=N,19400μm,0.6s						
EMSG				AML	AML		
	comp=N,13533μm,0.4s						
EMSG				AML	AML		
	comp=E,12695μm,0.3s						
MUCR	**Ucria**	**0.27**	**289**	⇑*i*P	Pb	11 31 12.5	-0.6
MUCR				S	Sb	11 31 17.9	+0.4
MUCR				AML	AML		
	comp=E,6880μm,0.3s						
MUCR				AML	AML		
	comp=N,10290μm,0.2s						
MUCR				AML	AML		
	comp=E,6880μm,0.3s						
MUCR				AML	AML		
	comp=N,10296μm,0.2s						
EPZF	**Pizzo Felice**	**0.30**	**244**	⇓*i*P	Pb	11 31 13.5	0.0
EPZF				S	Sb	11 31 19.3	+1.2
EPZF				AML	AML		
	comp=E,6890μm,0.7s						
EPZF				AML	AML		
	comp=N,7775μm,1.3s						
EPZF				AML	AML		
	comp=N,7082μm,0.3s						
EPZF				AML	AML		
	comp=E,5961μm,0.6s						
ESLN	**Serra La Nave**	**0.31**	**214**	P	Pb	11 31 13.9	+0.2
ESLN				S	Sb	11 31 19.0	+0.4
ESLN				AML	AML		
	comp=E,4335μm,0.8s						
ESLN				AML	AML		
	comp=E,3785μm,0.6s						
ESLN				AML	AML		
	comp=N,3030μm,0.7s						
ESLN				AML	AML		
	comp=E,4337μm,0.8s						
ESLN				AML	AML		
	comp=N,3032μm,0.7s						
MILZ	**Milazzo**	**0.32**	**5**	⇓*i*P	Pb	11 31 13.6	-0.1
MILZ				S	Sb	11 31 19.1	+0.6
MILZ				AML	AML		
	comp=E,7850μm,0.4s						
MILZ				AML	AML		
	comp=N,4040μm,1.2s						
MILZ				AML	AML		
	comp=N,3935μm,0.4s						
MILZ				AML	AML		
	comp=E,7848μm,0.4s						
EPOZ	**Pozzillo**	**0.45**	**192**	P	Pb	11 31 14.0	-1.8
EPOZ				S	Sb	11 31 18.4	-3.6
EPOZ				AML	AML		
	comp=E,5765μm,0.6s						
EPOZ				AML	AML		
	comp=N,4135μm,0.8s						
EPOZ				AML	AML		
	comp=E,4741μm,0.4s						
EPOZ				AML	AML		
	comp=N,3794μm,0.4s						
VPL	**Vulcano Piano**	**0.46**	**338**	P	Pb	11 31 15.9	-0.1
VPL				S	Sb	11 31 22.6	+0.2
VPL				AML	AML		
	comp=N,10346μm,0.4s						
IVGP	**Vulcano Grotta**	**0.48**	**337**	P	Pb	11 31 16.1	-0.3
IVGP				S	Sb	11 31 23.6	+0.6
LLI	**Lipari**	**0.53**	**338**	P	Pb	11 31 17.4	+0.1
GALF	**Gagliano Caste**	**0.56**	**244**	P	Pn	11 31 18.7	-0.6
GALF				S	Sn	11 31 26.6	-1.2
GALF				AML	AML		
	comp=N,1040μm,0.8s						
GALF				AML	AML		
	comp=E,882μm,0.9s						
GALF				AML	AML		
	comp=N,1035μm,0.8s						
GALF				AML	AML		

comp=E,1725µm,0.6s
GALF AML AML
comp=N,3110µm,0.8s
GALF AML AML
comp=N,3112µm,0.8s
GALF AML AML
comp=E,1729µm,0.6s
GALF AML AML
comp=N,1036µm,0.8s
GALF AML AML
comp=E,883µm,0.9s
CAGR Agira 0.64 239 P Pb 11 31 19.4 +0.1
HLNI Lentini 0.66 203⇑*i*P Pb 11 31 18.9 -0.5
HLNI S Sb 11 31 28.3 +0.2
HLNI AML AML
comp=E,1180µm,1.1s
HLNI AML AML
comp=N,1230µm,0.7s
HLNI AML AML
comp=N,1147µm,0.2s
HLNI AML AML
comp=E,1159µm,0.3s
HAGA Augusta 0.67 183 P Pb 11 31 19.1 -0.5
HAGA S Sb 11 31 29.1 +0.7
HAGA AML AML
comp=N,2045µm,0.8s
HAGA AML AML
comp=E,1415µm,0.6s
HAGA AML AML
comp=E,1699µm,0.2s
HAGA AML AML
comp=N,1698µm,0.3s
SOI Samo 0.69 80 P Pb 11 31 20.3 +0.4
SOI AML AML
comp=E,909µm,0.5s
SOI AML AML
comp=N,614µm,0.7s
SOI AML AML
comp=E,909µm,0.5s
SOI AML AML
comp=N,615µm,0.7s
AGST Augusta-Monte 0.70 178⇓*i*P Pb 11 31 19.7 -0.4
AGST S Sb 11 31 29.9 +0.7
AGST AML AML
comp=N,2755µm,0.2s
AGST AML AML
comp=E,2145µm,0.4s
AGST AML AML
comp=N,2756µm,0.2s
AGST AML AML
comp=E,2120µm,0.1s
IFIL Filicudi I Eol 0.79 321⇓*i*P Pb 11 31 21.4 -0.2
IFIL S Sb 11 31 32.3 +0.5
IFIL AML AML
comp=N,4460µm,0.8s
IFIL AML AML
comp=E,8330µm,0.4s
IFIL AML AML
comp=N,4460µm,0.8s
IFIL AML AML
comp=E,8328µm,0.4s
SSY Sortino 0.81 187 P Pb 11 31 22.0 +0.1
SSY S Sn 11 31 33.5 -0.5
SSY AML AML
comp=E,1810µm,0.7s
SSY AML AML
comp=N,5420µm,0.6s
SSY AML AML
comp=E,1600µm,0.1s
SSY AML AML
comp=N,5222µm,0.3s
PLLN Pollina 0.83 273⇓*i*P Pb 11 31 22.6 +0.2
PLLN AML AML
comp=E,2660µm,0.9s
PLLN AML AML
comp=N,1825µm,0.7s
PLLN AML AML
comp=E,2661µm,0.9s
PLLN AML AML
comp=N,1825µm,0.7s
JOPP Joppolo 0.85 40 P Pb 11 31 22.7 0.0
JOPP S Sn 11 31 35.1 0.0
JOPP AML AML
comp=E,834µm,0.5s
JOPP AML AML
comp=N,832µm,0.4s
JOPP AML AML
comp=N,832µm,0.4s
JOPP AML AML
comp=E,834µm,0.5s
HVZN Vizzini 0.86 206 P Pb 11 31 22.5 -0.4
HVZN S Sb 11 31 34.5 +0.3
PETRA Petralia Sopra 0.86 262 P Pn 11 31 23.4 -0.2
PETRA AML AML
comp=N,1165µm,0.7s
PETRA AML AML
comp=E,900µm,0.8s
PETRA AML AML
comp=E,900µm,0.8s
PETRA AML AML
comp=N,1161µm,0.7s
MEU Monte Lauro 0.88 194 P Pb 11 31 22.7 -0.5
MEU S Sb 11 31 34.9 +0.3
MEU AML AML
comp=E,2340µm,0.2s
MEU AML AML
comp=N,2865µm,0.6s
MEU AML AML
comp=E,2339µm,0.2s
MEU AML AML
comp=N,2448µm,0.3s
IACL Alicudi 0.88 311 P Pb 11 31 23.1 -0.1
IACL S Sn 11 31 35.4 -0.4
CSLB Castelbuono 0.90 269 P Pn 11 31 23.9 -0.1
CSLB S Sb 11 31 35.7 +0.5
CSLB AML AML
comp=E,236µm,0.7s
CSLB AML AML
comp=N,298µm,1.2s
CSLB AML AML
comp=E,236µm,0.7s
CSLB AML AML
comp=N,298µm,1.2s
RAFF Raffo Rosso 0.99 222 P Pb 11 31 24.6 -0.4
RAFF S Sn 11 31 38.4 0.0
RAFF AML AML
comp=E,1760µm,0.2s
RAFF AML AML
comp=N,1960µm,0.6s
RAFF AML AML
comp=E,1762µm,0.2s
RAFF AML AML
comp=N,1781µm,0.2s
HMDC Modica 1.05 198 P Pb 11 31 26.1 0.0
HMDC S Sn 11 31 40.4 +0.4
HMDC AML AML
comp=E,2225µm,1.0s
HMDC AML AML
comp=N,2175µm,0.7s
HMDC AML AML
comp=E,1687µm,0.3s
HMDC AML AML
comp=N,1946µm,0.2s
PLAC Placanica 1.10 63 P Pb 11 31 27.0 +0.1
PLAC AML AML
comp=E,604µm,0.6s
PLAC AML AML
comp=N,230µm,1.5s
PLAC AML AML
comp=E,566µm,0.6s
PLAC AML AML
comp=N,154µm,0.5s
PLAC AML AML
comp=E,604µm,0.6s
PLAC AML AML
comp=E,565µm,0.6s
HPAC Pachino 1.26 183⇑*i*P Pn 11 31 28.9 +0.1
HPAC S Sb 11 31 46.3 +1.0
HPAC AML AML
comp=E,1700µm,0.6s
HPAC AML AML
comp=N,1680µm,0.7s
HPAC AML AML
comp=N,1350µm,0.5s
HPAC AML AML
comp=E,1699µm,0.6s
GRI Girifalco 1.29 48 P Pb 11 31 31.0 +0.8
GRI S Sb 11 31 47.2 +0.7
CAR1 CAROLEI 1.52 31 P Pn 11 31 32.3 -0.3
CAR1 S Sb 11 31 52.7 -0.3
CAR1 AML AML
comp=E,890µm,0.9s
CAR1 AML AML
comp=N,876µm,0.6s
CAR1 AML AML
comp=E,884µm,0.5s
CAR1 AML AML
comp=N,872µm,0.8s
CAR1 AML AML
comp=N,876µm,0.7s
CAR1 AML AML
comp=N,872µm,0.8s
CAR1 AML AML
comp=E,890µm,0.9s
CAR1 AML AML
comp=E,885µm,0.5s
SERS Sersale 1.59 47 P Pn 11 31 34.5 +0.9
SPS2 Spezzano della 1.61 33 P Pn 11 31 33.6 -0.1
SPS2 S Sb 11 31 55.1 -0.4
CET2 Cetraro 1.68 20 AML AML
comp=N,753µm,0.6s
CET2 AML AML
comp=E,592µm,0.6s
CET2 AML AML
comp=N,753µm,0.6s
CET2 AML AML
comp=E,592µm,0.6s
TIP Timpagrande 1.73 45 P Pn 11 31 36.2 +0.8

ROM 12 11:31:51.6±0.1,**37°953N**±0°004×**15°17E**±0°01,**h21**km±1km, **ML2.5**/13,**2C-1D,Error ellipse: s-maj=0.8km s-min=0.6km az=87.0,Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIO	**Antillo**	**0.06**	**71**⇑*i*	P	Pb	11 31 55.4	0.0
AIO				S	Sb	11 31 58.1	+0.1
AIO				AML	AML		
	comp=E,3365µm,0.5s						
AIO				AML	AML		
	comp=N,2820µm,0.4s						
AIO				AML	AML		
	comp=N,2819µm,0.4s						
AIO				AML	AML		
	comp=E,3364µm,0.5s						
AIO				AML	AML		
	comp=E,2978µm,0.3s						
NOV	**Novara**	**0.08**	**342**⇑*i*	P	Pb	11 31 55.5	-0.1
NOV				S	Sb	11 31 58.5	+0.1
NOV				AML	AML		
	comp=N,1745µm,1.6s						
NOV				AML	AML		
	comp=E,3045µm,0.1s						
NOV				AML	AML		
	comp=E,3043µm,0.1s						
NOV				AML	AML		
	comp=N,1677µm,0.3s						
NOV				AML	AML		
	comp=N,1532µm,0.1s						
EMSG	**Monte Spagnolo**	**0.22**	**233**	P	Pb	11 31 58.0	+0.3
MPNC	**Port Mandanici**	**0.24**	**37**	P	Pb	11 31 57.6	-0.1
MPNC				S	Sb	11 32 02.2	+0.2
MPNC				AML	AML		
	comp=E,1925µm,0.3s						
MPNC				AML	AML		
	comp=N,3035µm,0.4s						
MPNC				AML	AML		
	comp=N,3031µm,0.4s						
MPNC				AML	AML		
	comp=E,1925µm,0.3s						
MUCR	**Ucria**	**0.25**	**291**	P	Pb	11 31 57.5	-0.3
MUCR				S	Sb	11 32 01.7	-0.5
MUCR				AML	AML		
	comp=N,1780µm,0.3s						
MUCR				AML	AML		
	comp=E,1260µm,0.7s						
MUCR				AML	AML		
	comp=E,1143µm,0.4s						
MUCR				AML	AML		
	comp=N,1779µm,0.3s						
EPZF	**Pizzo Felice**	**0.28**	**242**	P	Pb	11 31 58.5	+0.3
EPZF				AML	AML		
	comp=E,888µm,0.9s						
EPZF				AML	AML		
	comp=N,1093µm,0.3s						
MILZ	**Milazzo**	**0.32**	**9**⇓*i*	P	Pb	11 31 58.6	+0.1
MILZ				S	Sb	11 32 04.3	+1.0
MILZ				AML	AML		
	comp=N,468µm,0.6s						
MILZ				AML	AML		
	comp=E,1130µm,0.4s						
VPL	**Vulcano Piano**	**0.45**	**341**	P	Pb	11 32 01.0	+0.2
VPL				S	Sb	11 32 07.7	+0.7
VPL				AML	AML		
	comp=E,989µm,1.2s						
VPL				AML	AML		
	comp=N,1212µm,0.4s						
VPL				AML	AML		
	comp=E,983µm,0.4s						
HLNI	**Lentini**	**0.65**	**201**	P	Pb	11 32 04.0	-0.3
HLNI				S	Sb	11 32 13.5	+0.7
HLNI				AML	AML		
	comp=N,194µm,0.2s						
HAGA	**Augusta**	**0.67**	**181**	P	Pb	11 32 04.1	-0.5
HAGA				S	Sb	11 32 14.3	+0.9
HAGA				AML	AML		
	comp=E,241µm,0.2s						
HAGA				AML	AML		
	comp=N,287µm,0.3s						
HAGA				AML	AML		
	comp=N,263µm,0.1s						
HAGA				AML	AML		
	comp=E,229µm,0.3s						
MEU	**Monte Lauro**	**0.87**	**193**	AML	AML		
	comp=E,320µm,1.7s						
MEU				AML	AML		
	comp=E,320µm,0.3s						
MEU				AML	AML		
	comp=N,456µm,0.3s						

IDC 12 11:39:12.3±2.5,**0°47S**×**133°43E,h0**km,**mb3.7**/3, **mbtmp3.7**/4,**ML3.5**/1,**Error ellipse: s-maj=135.6km s-min=24.7km az=75.0,Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.38**	**177**	P	P	11 43 39.4	-0.5
	0.1nm,0.3s,baz=357,slow=12,SNR=8.3 1.0nm,0.6s						
ASAR	**Alice Springs**	**23.07**	**179**	P	P	11 44 20.1	+0.4
	1.9nm,0.6s,baz=359,slow=11,SNR=29 1.9nm,0.6s						
MKAR	**Makanchi Array**	**64.83**	**324**	P	P	11 49 52.5	-0.6
	0.1nm,0.4s,baz=117,slow=8.1,SNR=2.5 0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**68.90**	**326**	P	P	11 50 19.5	+0.6
	0.7nm,0.2s,baz=123,slow=5.1,SNR=1.6 0.7nm,0.2s						

*NEIC **12** 11:42:15.0±2.5,53°.95N±0°.05×163°.53W±0°.08, h42km±11km,mb4.2/39,ML4.7/16,ML4.3(AEIC),Error ellipse: s-maj=8.6km s-min=5.7km az=139.0*
*IDC **12** 11:42:15.4±2.1,54°.13N×163°.66W,h38km±16km,mb4.0/29, mbtmp4.2/33,ML3.9/4,MS3.6/42,Error ellipse: s-maj=16.7km s-min=10.9km az=177.0*
*AEIC **12** 11:42:15.5±2.9,53°.93N±0°.06×163°.56W±0°.08,h25km±6km, Error ellipse: s-maj=9.3km s-min=4.8km az=145.0*

ISC 12 11:42:15.3±1.0,**53°99N**±0°.06×**163°51W**±0°.04,**h42**km±8km, **n375,**σ1$**41**/354,**mb4.4**/60,**MS3.6**/40,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**0.80**	**308**		**Pn**	**11 42 29.6**	**-0.6**
ISNN	**Isanotski Nort**	**0.86**	**350**		**Pn**	**11 42 31.2**	**+0.2**
ISNN					**Sn**	**11 42 42.3**	**-0.1**
SSLW	**Shishaldin Wes**	**0.86**	**336**		**Pn**	**11 42 30.9**	**-0.2**
FALS	**False Pass**	**0.87**	**3**	P	**Pn**	**11 42 30.7**	**-0.4**
FALS	**False Pass**	**0.87**	**3**		**Pn**	**11 42 30.7**	**-0.4**
FALS					**Sn**	**11 42 43.1**	**+0.5**
FALS	**False Pass**	**0.87**	**3**	P	**Pn**	**11 42 30.7**	**-0.4**
	baz=185						
FALS				S	**Sn**	**11 42 43.1**	**+0.5**
	baz=185						
WECS	**Westdahl Cape**	**0.92**	**307**		**Pn**	**11 42 31.4**	**-0.5**
WECS					**Sn**	**11 42 44.1**	**+0.2**
WEBT	**Westdahl Beart**	**0.95**	**310**		**Pn**	**11 42 31.8**	**-0.3**
AKSA	**Akutan Strait**	**1.30**	**277**		**Pn**	**11 42 36.2**	**-0.7**
AKSA					**Sn**	**11 42 51.9**	**-1.2**
AHB	**Akutan Harbor**	**1.37**	**276**		**Pn**	**11 42 37.2**	**-0.6**
HSB	**Akutan Spr's B**	**1.43**	**279**		**Pn**	**11 42 38.4**	**-0.4**
AKBBA	**Akutan Broad B**	**1.43**	**275**		**Pn**	**11 42 38.1**	**-0.7**
AKBBA					**Sn**	**11 42 56.8**	**+0.4**
ZRO	**Akutan Zero**	**1.46**	**275**		**Pn**	**11 42 38.5**	**-0.7**
LVA	**Lava Point**	**1.50**	**278**		**Pn**	**11 42 39.3**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.52**	**276**		**Pn**	**11 42 39.5**	**-0.5**
HAG	**Hague Volcano**	**1.63**	**34**		**Pn**	**11 42 42.1**	**+0.6**
PS4A	**Pavlof South-4**	**1.67**	**35**		**Pn**	**11 42 42.4**	**+0.4**
PS4A					**Sn**	**11 43 04.9**	**+2.8**
PS1A	**Pavlof South-1**	**1.77**	**35**		**Pn**	**11 42 44.2**	**+0.8**
UNV	**Unalaska Valle**	**1.78**	**267**		**Pn**	**11 42 41.8**	**-1.6**
UNV	**Unalaska Valle**	**1.78**	**267**	P	**Pn**	**11 42 42.1**	**-1.4**
	baz=86						
MTBL	**Makushin Table**	**1.87**	**271**		**Pn**	**11 42 44.4**	**-0.5**
MNAT	**Makushin Natee**	**1.88**	**268**		**Pn**	**11 42 43.7**	**-1.2**
MNAT					**Sn**	**11 43 08.1**	**+0.7**
S12K	**Black Hills**	**1.91**	**25**		**Pn**	**11 42 46.2**	**+0.8**
S12K				IAML		11 43 14.0	
	comp=E,6µm,0.3s						
S12K	**Black Hills**	**1.91**	**25**	P	**Pn**	**11 42 46.0**	**+0.7**
	baz=207						
MSW	**Makushin Switc**	**1.94**	**269**		**Pn**	**11 42 44.8**	**-0.9**
MAPS	**Pakushin South**	**2.04**	**266**		**Pn**	**11 42 46.5**	**-0.6**
SDPT	**Sand Point**	**2.23**	**51**		**Pn**	**11 42 50.6**	**+0.9**
SDPT				IAML		11 43 24.8	
	comp=N,3µm,0.9s						
SDPT	**Sand Point**	**2.23**	**51**	P	**Pn**	**11 42 50.6**	**+0.9**
	baz=233						
CNBA	**Chernabura Isl**	**2.44**	**68**	Pn	**Pn**	**11 42 52.1**	**-0.5**
CHNA	**Chernabura Isl**	**2.44**	**68**	P	**Pn**	**11 42 52.5**	**-0.1**
	baz=250						
OKFG	**Magazine Ridge**	**2.68**	**259**		**Pn**	**11 42 55.7**	**-0.2**
OKNC	**Okmok New Cone**	**2.79**	**261**		**Pn**	**11 42 57.6**	**+0.1**
OKCE	**Okmok Cone E**	**2.82**	**260**		**Pn**	**11 42 58.2**	**+0.3**
OKWE	**Okmok W'ng Wal**	**2.86**	**262**		**Pn**	**11 42 58.7**	**+0.3**
VNWF	**Veniaminof 8**	**3.14**	**45**		**Pn**	**11 43 04.0**	**+1.8**
S14K	**Fog Glacier**	**3.23**	**43**	P	**Pn**	**11 43 05.6**	**+2.0**
	baz=226						
VNFG	**Fog Glacier, M**	**3.23**	**43**		**Pn**	**11 43 05.3**	**+1.8**
VNSS	**Veniaminof 8**	**3.23**	**44**		**Pn**	**11 43 05.4**	**+1.8**
VNHG	**Veniaminof 1**	**3.35**	**46**		**Pn**	**11 43 06.7**	**+1.5**
NIKH	**Nikolski High**	**3.35**	**255**	P	**Pn**	**11 43 05.5**	**+0.4**
NIKH	**Nikolski High**	**3.35**	**255**		**Pn**	**11 43 04.3**	**-0.8**
NIKH	**Nikolski High**	**3.35**	**255**	P	**Pn**	**11 43 05.8**	**+0.7**
	baz=71						
CHGN	**Chignik**	**3.73**	**50**	Pn	**Pn**	**11 43 11.8**	**+1.5**
CHGN				IAML		11 44 06.3	
	comp=E,1µm,0.8s						
CHGN	**Chignik**	**3.73**	**50**	P	**Pn**	**11 43 11.6**	**+1.3**
	baz=233						
CLCO	**Concord Point,**	**3.91**	**255**		**Pn**	**11 43 13.6**	**+0.8**
CLES	**Cleveland East**	**4.00**	**256**		**Pn**	**11 43 15.8**	**+1.9**
CLES				IAML		11 44 27.4	
	comp=N,1µm,0.7s						
CLES				IAML		11 44 32.0	
	comp=E,836nm,1.0s						
ANNE	**Aniakchak Nort**	**4.27**	**44**		**Pn**	**11 43 19.5**	**+1.8**
P08K	**Saint George I**	**4.33**	**310**		**Pn**	**11 43 19.4**	**+0.9**
P08K	**Saint George I**	**4.33**	**310**	P	**Pn**	**11 43 19.4**	**+0.9**
	baz=125						
CHIR	**Chirikof Islan**	**4.91**	**65**		**Pn**	**11 43 26.2**	**-0.2**
CHIR	**Chirikof Islan**	**4.91**	**65**	IAML		11 44 50.2	
	comp=N,572nm,1.5s						
CHIR				IAML		11 44 55.6	
	comp=E,474nm,0.9s						
CHIR	**Chirikof Islan**	**4.91**	**65**	P	**Pn**	**11 43 26.2**	**-0.2**
	baz=251						
R16K	**Pilot Point**	**4.91**	**41**	Pn	**Pn**	**11 43 26.2**	**-0.2**
R16K				IAML		11 44 37.6	
	comp=E,561nm,1.1s						
SPIA	**Saint Paul Isl**	**4.98**	**313**	P	**Pn**	**11 43 28.8**	**+1.3**
SPIA	**Saint Paul Isl**	**4.98**	**313**		**Pn**	**11 43 28.7**	**+1.3**
SPIA	**Saint Paul Isl**	**4.98**	**313**	P	**Pn**	**11 43 28.7**	**+1.3**
	baz=128						
O14K	**Tigyukauivet M**	**5.42**	**12**	Pn	**Pn**	**11 43 34.5**	**+1.1**
O14K	**Tigyukauivet M**	**5.42**	**12**	P	**Pn**	**11 43 36.5**	**+3.0**
	baz=194						
O15K	**Ungalikthiuk R**	**5.59**	**20**		**Pn**	**11 43 36.6**	**+0.9**
O15K	**Ungalikthiuk R**	**5.59**	**20**	P	**Pn**	**11 43 37.5**	**+1.8**
	baz=203						
P16K	**Nushagak River**	**5.91**	**29**		**Pn**	**11 43 41.2**	**+1.1**
P16K	**Nushagak River**	**5.91**	**29**	P	**Pn**	**11 43 42.1**	**+2.0**
	baz=214						
SII	**Sitkinak Islan**	**5.92**	**60**	P	**Pn**	**11 43 40.8**	**+0.5**
SII	**Sitkinak Islan**	**5.92**	**60**		**Pn**	**11 43 42.4**	**+2.0**
SII	**Sitkinak Islan**	**5.92**	**60**	P	**Pn**	**11 43 42.4**	**+2.0**
	baz=248						
N14K	**Kuskokwak Cree**	**6.04**	**9**		**Pn**	**11 43 43.9**	**+2.0**
N14K	**Kuskokwak Cree**	**6.04**	**9**	P	**Pn**	**11 43 45.4**	**+3.5**
	baz=190						
Q17K	**Contact Creek**	**6.04**	**42**	P	**Pn**	**11 43 43.8**	**+1.7**
	baz=228						
CNTC	**Contact Creek**	**6.04**	**42**		**Pn**	**11 43 43.6**	**+1.5**
ANCK	**Angle Creek**	**6.16**	**43**		**Pn**	**11 43 44.8**	**+1.2**
O16K	**Kokwok River B**	**6.36**	**26**		**Pn**	**11 43 47.7**	**+1.4**
O16K	**Kokwok River B**	**6.36**	**26**	P	**Pn**	**11 43 47.8**	**+1.4**
	baz=210						
M13K	**Dall Lake**	**6.45**	**1**		**Pn**	**11 43 50.5**	**+3.0**
M13K	**Dall Lake**	**6.45**	**1**	P	**Pn**	**11 43 50.5**	**+3.0**
	baz=181						
N15K	**Kwethluk River**	**6.47**	**15**		**Pn**	**11 43 49.6**	**+1.7**
N15K	**Kwethluk River**	**6.47**	**15**	P	**Pn**	**11 43 50.4**	**+2.5**
	baz=198						
P17K	**Kvichak River**	**6.52**	**34**		**Pn**	**11 43 50.3**	**+1.8**
P17K	**Kvichak River**	**6.52**	**34**	P	**Pn**	**11 43 51.6**	**+3.1**
	baz=220						
M11K	**Mekoryuk**	**6.58**	**348**		**Pn**	**11 43 51.1**	**+1.8**
M11K	**Mekoryuk**	**6.58**	**348**	P	**Pn**	**11 43 52.2**	**+2.9**
	baz=166						
OHAK	**Old Harbor**	**6.64**	**57**	P	**Pn**	**11 43 50.2**	**+0.1**
OHAK	**Old Harbor**	**6.64**	**57**	Pn	**Pn**	**11 43 50.0**	**-0.1**
ATKA	**Atka Island**	**6.68**	**259**	P	**Pn**	**11 43 52.2**	**+1.4**
ATKA	**Atka Island**	**6.68**	**259**	Pn	**Pn**	**11 43 52.7**	**+1.9**
O17K	**Koliganek Bris**	**6.78**	**29**		**Pn**	**11 43 53.5**	**+1.4**
O17K	**Koliganek Bris**	**6.78**	**29**	P	**Pn**	**11 43 53.5**	**+1.4**
	baz=214						
M14K	**Bethel**	**6.83**	**6**		**Pn**	**11 43 54.5**	**+1.6**
M14K	**Bethel**	**6.83**	**6**	P	**Pn**	**11 43 55.9**	**+3.0**
	baz=188						
M15K	**Kasigluk River**	**6.90**	**12**		**Pn**	**11 43 55.2**	**+1.6**
M15K	**Kasigluk River**	**6.90**	**12**	P	**Pn**	**11 43 55.2**	**+1.6**
	baz=194						
N16K	**Nishlik Lake**	**6.99**	**20**		**Pn**	**11 43 56.9**	**+1.9**
N16K	**Nishlik Lake**	**6.99**	**20**	P	**Pn**	**11 43 58.1**	**+3.1**
	baz=204						
P18K	**Big Mountain,**	**7.08**	**37**		**Pn**	**11 43 57.9**	**+1.7**
P18K	**Big Mountain,**	**7.08**	**37**	P	**Pn**	**11 43 58.7**	**+2.4**
	baz=224						
KDAK	**Kodiak Island**	**7.22**	**54**	Pn	**Pn**	**11 43 58.3**	**+0.2**
KDAK	**Kodiak Island**	**7.22**	**54**	Pn	**Pn**	**11 43 57.4**	**-0.8**
	comp=E,4.1nm,0.3s,baz=180,slow=5.0,SNR=34						
KDAK				Sn	**Sn**	**11 45 15.1**	**-3.7**
	comp=E,2.7nm,0.3s,baz=35,slow=4.8,SNR=1.6 comp=E,16nm,0.4s						
Q19K	**Cape Douglas,**	**7.37**	**44**		**Pn**	**11 44 01.5**	**+1.3**
Q19K	**Cape Douglas,**	**7.37**	**44**	P	**Pn**	**11 44 03.0**	**+2.8**
	baz=232						
L14K	**Kuka Creek**	**7.39**	**3**		**Pn**	**11 44 01.7**	**+1.3**
L14K	**Kuka Creek**	**7.39**	**3**	P	**Pn**	**11 44 02.8**	**+2.4**
	baz=184						
N17K	**Nushagak Hills**	**7.39**	**25**		**Pn**	**11 44 01.3**	**+0.8**
N17K	**Nushagak Hills**	**7.39**	**25**	P	**Pn**	**11 44 02.6**	**+2.1**
	baz=210						
O18K	**Koktuh Hills**	**7.43**	**34**		**Pn**	**11 44 02.2**	**+1.3**
O18K	**Koktuh Hills**	**7.43**	**34**	P	**Pn**	**11 44 02.8**	**+1.8**
	baz=221						
M16K	**Timber Creek**	**7.47**	**17**		**Pn**	**11 44 02.9**	**+1.3**
M16K	**Timber Creek**	**7.47**	**17**	P	**Pn**	**11 44 03.4**	**+1.8**
	baz=201						
SYI	**Shuyak Island**	**7.72**	**49**		**Pn**	**11 44 05.3**	**+0.3**
L15K	**Ungalak Mounta**	**7.79**	**7**		**Pn**	**11 44 07.3**	**+1.4**
L15K	**Ungalak Mounta**	**7.79**	**7**	P	**Pn**	**11 44 07.9**	**+2.0**
	baz=189						

N18K Kilae Creek 7.87 28 Pn 11 44 08.4 +1.3
N18K Kilae Creek 7.87 28 P Pn 11 44 09.4 +2.3
baz=215
O19K Port Alsworth 7.98 35 Pn 11 44 10.8 +2.3
O19K Port Alsworth 7.98 35 P Pn 11 44 11.5 +3.0
baz=223
K13K Kusilvak Mount 7.99 356 Pn 11 44 12.2 +3.5
P19K Oil Pt 8.00 41 Pn Pn 11 44 11.2 +2.4
L16K Owhat River 8.04 14 Pn Pn 11 44 11.0 +1.7
L16K Owhat River 8.04 14 P Pn 11 44 11.5 +2.2
baz=197
M17K Holitna River 8.11 21 Pn 11 44 11.5 +1.1
M17K Holitna River 8.11 21 P Pn 11 44 12.3 +1.9
baz=206
SVW2 Sparrevohn 8.30 28 P Pn 11 44 13.7 +0.7
SVW2 Sparrevohn 8.30 28 Pn 11 44 14.7 +1.7
IVE Iliamna Volcan 8.32 39 Pn 11 44 15.4 +2.2
N19K Bonanza Creek 8.39 32 Pn 11 44 16.2 +1.9
N19K Bonanza Creek 8.39 32 P Pn 11 44 17.1 +2.7
baz=219
K15K Wolf Creek Mou 8.40 6 Pn Pn 11 44 16.8 +2.6
K15K Wolf Creek Mou 8.40 6 P Pn 11 44 17.4 +3.1
baz=188
M18K Stony River 8.57 26 Pn 11 44 17.3 +0.7
L17K Donlin 8.62 17 Pn 11 44 18.2 +0.9
CNPM China Poot 8.72 46 Pn 11 44 19.2 +0.4
J14K Nanvaranak Lak 8.79 360 Pn 11 44 21.4 +1.8
L18K Granite Mounta 9.00 21 Pn 11 44 24.2 +1.7
BRLK Bradley Lake 9.01 45 Pn Pn 11 44 21.8 -0.8
BRSE Bradley Lake S 9.05 45 Pn 11 44 22.8 -0.4
K17K Iditarod 9.17 15 Pn Pn 11 44 25.9 +1.1
M19K Big River Lodg 9.29 28 Pn 11 44 27.0 +0.5
L19K White Mountain 9.40 26 Pn Pn 11 44 28.9 +1.0
J16K Anvik River 9.45 8 Pn Pn 11 44 30.7 +2.1
M20K Styx River 9.64 31 Pn 11 44 33.8 +2.5
J17K VABM Dome 9.71 12 Pn Pn 11 44 33.9 +1.6
O22K Cooper Landing 9.89 43 Pn 11 44 33.3 -1.5
I17K Unalakleet 10.03 7 Pn Pn 11 44 39.0 +2.4
SUA Susitna One 10.12 37 Pn 11 44 38.2 +0.3
J18K Innoko River 10.13 18 Pn Pn 11 44 40.0 +2.0
SKT Skwentna 10.21 34 Pn 11 44 40.4 +1.3
RC01 Rabbit Creek A 10.25 41 Pn Pn 11 44 40.0 +0.3
M22K Willow 10.54 37 Pn 11 44 43.8 +0.4
K20K Telida 10.59 24 Pn Pn 11 44 45.9 +1.7
ANM Nome 10.65 356 Pn Pn 11 44 47.7 +2.6
AMKA Amchitka 10.76 263 Pn 11 44 46.9 +0.3
J19K Poorman 10.82 19 Pn Pn 11 44 48.7 +1.3
H17K Granite Mounta 11.13 8 Pn 11 44 55.1 +3.5
CAST Castle Rocks 11.15 27 Pn Pn 11 44 53.3 +1.4
GLI Glacier Island 11.20 45 Pn Pn 11 44 51.8 -0.8
HIN Hinchinbrook I 11.22 48 Pn Pn 11 44 52.2 -0.6
SML Sawmill 11.23 40 Pn Pn 11 44 52.0 -1.0
J20K Nowinta River 11.28 21 Pn Pn 11 44 55.5 +1.9
FID Port Fidalgo 11.39 47 Pn Pn 11 44 53.9 -1.4
G16K Koyuk River 11.46 2 Pn Pn 11 44 58.8 +2.7
H18K Honhosa River 11.46 11 Pn 11 44 58.9 +2.3
KTH Kantishna Hill 11.58 29 Pn 11 44 58.2 +0.4
SCM Sheep Creek Mo 11.63 41 Pn Pn 11 44 56.8 -1.6
TRF Thorofare Moun 11.69 30 Pn Pn 11 45 00.2 +0.8
F15K North Star Dit 11.77 358 Pn Pn 11 45 03.2 +2.8
BPAW Bear Paw Mtn. 11.99 27 Pn Pn 11 45 04.8 +1.4
KLU Klutina 12.00 44 Pn Pn 11 45 02.4 -1.2
RAGM Ragged Mountai 12.03 50 Pn Pn 11 45 03.8 -0.2
H19K Roundabout Mou 12.10 14 Pn 11 45 05.8 +1.0
RND Reindeer 12.10 33 Pn 11 45 06.4 +1.5
G18K Tagagawik 12.19 9 Pn Pn 11 45 08.9 +2.9
HMT Hamilton 12.20 51 Pn Pn 11 45 05.0 -1.3
M24K Tolsona, Glenn 12.23 41 Pn 11 45 06.2 -0.6
DHY Denali Highway 12.37 36 Pn 11 45 06.3 -2.3
F17K Baldwin Pennin 12.54 4 Pn Pn 11 45 11.2 +0.3
G19K Purcell Mounta 12.60 12 Pn 11 45 13.2 +1.6
N25K Chitina, Valde 12.61 45 Pn 11 45 10.9 -0.9
MLY Manley 12.80 25 Pn 11 45 15.0 +0.6
H21K Melozitna Rive 12.86 20 Pn 11 45 16.3 +1.2
GLB Gilahina Butte 12.87 47 Pn 11 45 14.1 -1.3
WAX Waxell Ridge 12.89 52 Pn 11 45 14.7 -1.1
NEA2 Nenana 12.90 29 Pn 11 45 14.6 -1.2
VRDI Verde Repeater 12.93 48 Pn 11 45 15.1 -1.3
IMAR Indian Mountai 12.96 18 Pn 11 45 19.2 +2.6
WRH Wood River Hil 13.10 31 Pn 11 45 18.1 -0.3
ISLE Juniper Island 13.18 51 Pn 11 45 18.2 -1.6
F19K Shaleruckik Mo 13.19 10 Pn 11 45 20.3 +0.7
I23K Minto, Yukon-K 13.25 27 Pn 11 45 20.5 0.0
CCB Clear Creek Bu 13.31 30 Pn 11 45 20.6 -0.8
HDA Harding Lake 13.40 32 Pn 11 45 21.4 -1.3
MDM Murphy Dome 13.41 29 Pn 11 45 21.9 -0.9
SHEM Shemya Is, Ala 13.42 274 LR LR 11 50 31.4
comp=E,146nm,20.9s,baz=124,slow=37
COLA College 13.46 30 P Pn 11 45 24.1 +0.7
COLA College 13.46 30 Pn 11 45 23.4 +0.1
G21K Allakaket 13.48 17 Pn 11 45 24.6 +0.8
E18K Tukpahlearik C 13.55 5 Pn 11 45 27.3 +2.6
F20K Avaraart Lake 13.63 13 Pn 11 45 27.9 +2.2
M26K Nabesna, AK 13.65 44 Pn 11 45 24.5 -1.6
BARN Barnard Glacie 13.66 50 Pn 11 45 25.4 -1.0
IL31 13.68 31 Pn 11 45 25.8 -0.5
ILAR Eielson Array 13.68 31 Pn 11 45 26.1 -0.3
ILAR Eielson Array 13.68 31 Pn Pn 11 45 23.6 -2.7
comp=E,0.1nm,0.3s,baz=228,slow=11,SNR=10.0
comp=E,0.5nm,0.6s
H23K Yukon River 13.73 25 Pn 11 45 27.6 +0.4
CTGM Chitina Glacie 13.77 51 Pn 11 45 25.9 -1.9
L26K Log Cabin Wild 13.83 41 Pn 11 45 27.5 -1.0
LOGN Logan Glacier 13.88 51 Pn 11 45 28.7 -0.6
J25K Salcha River, 14.05 34 Pn 11 45 30.4 -1.1
M27K Edge Creek, AK 14.10 45 Pn 11 45 30.2 -2.0
SCRK Sand Creek 14.12 37 Pn Pn 11 45 29.7 -2.9
F21K Alatna River 14.13 16 Pn 11 45 33.5 +1.0
H24K Noodor Dome 14.17 27 Pn Pn 11 45 31.8 -1.3
PNL Peninsula 14.32 57 P Pn 11 45 34.9 -0.3
G23K Bananza Creek 14.35 22 Pn 11 45 36.9 +1.4
C16K Lisburne Hills 14.36 357 P 11 45 40.0 -1.8
L27K Beaver Creek, 14.45 42 Pn 11 45 35.5 -1.3
BCAR Beaver Creek A 14.46 42 Pn 11 45 35.5 -1.5
J26L Joseph Creek 14.59 36 Pn Pn 11 45 38.5 -0.2
PRP Porcupine Dome 14.61 31 Pn 11 45 39.5 +0.4
D19K Kuna River 14.78 8 Pn 11 45 43.5 +2.3
G24K Hadweenzic Riv 14.94 25 Pn 11 45 42.2 -1.2
P29M Windy Craggy 15.14 58 Pn 11 45 45.3 -0.8
C19K Lookout Ridge 15.28 5 Pn 11 45 48.8 +1.0
C19K IAmb IAmb 11 45 57.8
comp=Z,25nm,1.2s
F24K Squaw Lake 15.49 23 Pn 11 45 50.2 -0.4
HYT Haines Junctio 15.52 53 P P 11 45 56.7 +1.9
HYT IAmb IAmb 11 46 07.2
comp=Z,16nm,0.7s
M29M Somme Creek 15.58 47 Pn Pn 11 45 51.0 -0.8
EGAK Eagle 15.59 37 Pn 11 45 51.2 -0.6
EGAK IAmb IAmb 11 45 58.7
comp=Z,12nm,0.7s
D22K Ayikyak River 15.77 15 Pn 11 45 53.4 -0.7
D22K IAmb IAmb 11 46 00.9
comp=Z,13nm,0.8s
N30M Aishikik Lake 15.88 51 Pn 11 45 54.9 -0.7
N30M IAmb IAmb 11 46 08.6
comp=Z,17nm,0.7s
DAWY Dawson 15.89 41 Pn 11 45 54.1 -1.5
DAWY IAmb IAmb 11 46 06.1
comp=Z,13nm,0.7s
TOLK Toolik Lake Re 16.08 19 P Pn 11 45 59.9 +1.8
TOLK IAmb IAmb 11 46 04.6
comp=Z,32nm,1.1s
BMAR Burnt Mountain 16.24 27 Pn 11 45 58.0 -2.1
I28M Miner Creek 16.39 36 Pn 11 46 01.9 -0.2
I28M IAmb IAmb 11 46 09.2
comp=Z,16nm,0.7s
E25K Arctic Village 16.51 24 Pn 11 46 03.4 -0.2
J29N Klondike Camp 16.52 41 Pn 11 46 03.1 -0.6
K29M Barlow Dome 16.53 43 Pn 11 46 03.2 -0.7
K29M IAmb IAmb 11 46 14.3
comp=Z,23nm,1.0s
G27K Doyon Strip 16.65 31 P Pn 11 46 04.0 -1.3
D24K Happy Valley 16.66 18 P Pn 11 46 06.2 +0.8
I29M Ogilvie Camp, 16.93 38 P Pn 11 46 06.6 -2.1
I29M IAmb IAmb 11 46 15.0
comp=Z,9.9nm,0.7s
C23K Itkillik River 16.95 15 P Pn 11 46 09.6 +0.6
C23K IAmb IAmb 11 46 13.5
comp=Z,32nm,1.1s
B22K Teshekpuk Lake 17.03 12 Pn 11 46 10.3 +0.4
B22K IAmb IAmb 11 46 15.3
comp=Z,18nm,0.8s
P32M Atlin 17.16 59 P Pn 11 46 11.0 -0.7
P32M IAmb IAmb 11 46 18.1
comp=Z,20nm,1.2s
J30M Hart River 17.31 42 Pn 11 46 13.9 +0.4
H29M Whitestone 17.36 35 P Pn 11 46 13.9 -0.2
I30M Mount Dempster 17.57 40 P Pn 11 46 15.5 -1.3
I30M IAmb IAmb 11 46 23.2
comp=Z,13nm,0.6s
G29M Pine Creek 17.86 34 P Pn 11 46 18.8 -1.4
EPYK Eagle Plains 18.00 36 P Pn 11 46 20.9 -1.1
EPYK IAmb IAmb 11 46 29.0
comp=Z,19nm,0.9s
E28M Babbage River 18.43 28 P P 11 46 27.0 +0.3
G30M tAoh Zraii Nji 18.49 35 P P 11 46 26.6 -0.9
E29M Blow River 18.76 30 P P 11 46 29.9 -0.5
T35M Bob Quinn 18.97 67 P P 11 46 31.7 -1.1
T35M IAmb IAmb 11 46 50.1
comp=Z,24nm,1.3s
DLBC Dease Lake 19.02 63 P P 11 46 33.7 +0.4
comp=Z,0.2nm,0.3s,baz=263,slow=14,SNR=9.7
DLBC LR LR 11 53 11.3
comp=Z,100nm,19.9s,baz=278,slow=34
comp=Z,12nm,1.1s
G31M Satah River 19.13 36 P P 11 46 32.6 -1.7
G31M IAmb IAmb 11 46 42.1
comp=Z,18nm,0.8s
F31M Tsiigehtchic 19.56 35 P P 11 46 38.1 -0.9
BILL Bilibino 20.00 326 P P 11 46 44.7 +0.8
BILL IAmb IAmb 11 46 57.5
comp=Z,19nm,1.4s
INK Inuvik 20.06 33 P P 11 46 42.3 -2.2
INK IAmb IAmb 11 46 54.0
comp=Z,7.2nm,0.8s
INK Inuvik 20.06 33 P P 11 46 42.5 -2.0
comp=Z,0.3nm,0.3s,baz=231,slow=15,SNR=28
INK ScP ScP 11 54 31.6 +0.7
comp=Z,1.0nm,0.8s,baz=179,slow=4.8,SNR=6.2
INK LR LR 11 54 45.2
comp=Z,201nm,22.0s,baz=187,slow=38
comp=Z,3.8nm,0.8s
PETK Petropavlovsk- 22.88 284 P P 11 47 13.8 -1.1
comp=Z,2.0nm,0.4s,baz=82,slow=12,SNR=28
PETK LR LR 11 56 35.7
comp=Z,105nm,20.6s,baz=84,slow=38
comp=Z,2.0nm,0.4s
C36M Paulatuk 23.61 34 P P 11 47 20.7 -1.2
C36M IAmb IAmb 11 47 23.3
comp=Z,9.4nm,0.8s
SEY Seymchan 24.27 309 LR LR 11 58 47.0
comp=Z,152nm,18.1s,baz=94,slow=41
A36M Sachs Harbour 24.33 28 P P 11 47 27.8 -0.7
YKA Yellowknife Ar 26.49 52 P P 11 47 48.6 +0.4
YKA Yellowknife Ar 26.49 52 P P 11 47 49.0 +0.7
comp=Z,1.2nm,0.7s,baz=276,slow=10,SNR=25
YKA ScP ScP 11 54 48.5 +0.4
comp=Z,0.3nm,0.9s,baz=278,slow=4.9,SNR=3.5
YKA LR LR 11 59 28.4
comp=Z,157nm,20.5s,baz=258,slow=39
comp=Z,1.2nm,0.7s
NEW Newport 29.24 82 LR LR 11 57 51.1
comp=Z,78nm,19.1s,baz=264,slow=32
YBH Yreka Blue Hor 29.57 98 LR LR 11 57 24.1
comp=Z,129nm,19.4s,baz=307,slow=31
TIXI Tiksi 33.21 328 LR LR 12 04 04.9
comp=Z,141nm,18.2s,baz=112,slow=40
RES Resolute Bay 33.36 27 P P 11 48 48.4 -0.5
RES IAmb IAmb 11 48 49.8
comp=Z,3.1nm,0.9s
RES Resolute Bay 33.36 27 LR LR 12 04 01.3
comp=Z,128nm,18.0s,baz=222,slow=39
NVAR Mina Array Bea 34.28 98 P P 11 48 59.3 +1.9
comp=Z,0.7nm,0.5s,baz=290,slow=12,SNR=7.4
NVAR LR LR 12 00 29.5
comp=Z,105nm,21.7s,baz=252,slow=32
comp=Z,0.7nm,0.5s
YAK Yakutsk 34.78 311 LR LR 12 05 10.1
comp=Z,121nm,18.5s,baz=78,slow=40
ASAJ Asahikawa 35.86 277 P P 11 49 09.8 -0.9
comp=Z,6.2nm,1.0s,baz=45,slow=2.9,SNR=2.2
ASAJ LR LR 12 01 59.0
comp=Z,38nm,21.4s,baz=36,slow=33
comp=Z,6.2nm,1.0s
PDAR Pinedale Array 36.69 85 P P 11 49 19.4 +1.3
comp=Z,0.3nm,0.6s,baz=308,slow=3.3,SNR=2.1
comp=Z,0.3nm,0.6s
FCC Fort Churchill 37.16 54 P P 11 49 22.1 +0.5
PFO Pinyon Flats O 38.70 102 LR LR 12 02 24.3
comp=Z,123nm,21.5s,baz=239,slow=31
ULM Lac du Bonnet 40.27 67 P P 11 49 48.4 +0.5
comp=Z,1.7nm,0.7s,baz=287,slow=12,SNR=2.8
comp=Z,1.7nm,0.7s
H11N2 WAKE ISLAND Hy 41.01 225 T T 12 33 31.3
baz=26,slow=76,SNR=726
H11N3 WAKE ISLAND Hy 41.02 225 T T 12 33 31.3
baz=26,slow=76,SNR=665
H11N1 WAKE ISLAND Hy 41.03 225 T T 12 33 33.5
baz=26,slow=76,SNR=438
H11S1 WAKE ISLAND Hy 42.19 225 T T 12 34 55.6
baz=26,slow=76,SNR=1814
H11S2 WAKE ISLAND Hy 42.20 225 T T 12 35 00.4
baz=26,slow=76,SNR=596
H11S3 WAKE ISLAND Hy 42.20 225 T T 12 35 01.2
baz=26,slow=76,SNR=631
NEEM North Greenlan 42.43 17 *i* P P 11 50 04.8 -0.8
NEEM IAmb IAmb 11 50 06.5
comp=Z,4.9nm,0.8s
MJAR Matsushiro Arr 43.24 271 P P 11 50 12.2 -0.1
comp=Z,1.3nm,0.7s,baz=33,slow=6.2,SNR=5.0
comp=Z,1.3nm,0.7s
NOR Nord 43.49 7 *i* P P 11 50 12.7 -1.0
NOR IAmb IAmb 11 50 15.1
comp=Z,1.5nm,0.9s
ANMO Albuquerque 43.61 92 LR LR 12 07 00.6
comp=Z,74nm,20.1s,baz=3.0,slow=34
JHJ Hachijo jima 2 44.69 266 LR LR 12 06 23.9
comp=Z,32nm,21.8s,baz=78,slow=32
FRB Frobisher Bay 45.57 38 LR LR 12 10 33.2
comp=Z,238nm,19.6s,baz=256,slow=37
DAG Danmarks Havn 47.62 10 *i* P P 11 50 45.0 -1.3
DAG IAmb IAmb 11 50 46.6
comp=Z,6.0nm,0.7s
SPITS Spitsbergen Ar 48.10 0 P P 11 50 49.1 -1.0
comp=Z,1.2nm,0.4s,baz=33,slow=5.0,SNR=12
SPITS LR LR 12 11 38.1
comp=Z,57nm,18.6s,baz=346,slow=37
comp=Z,1.2nm,0.4s
SUMG Summit 48.14 19 P P 11 50 50.8 -0.2
SUMG Summit 48.14 19 *i* P P 11 50 50.7 -0.2
SUMG IAmb IAmb 11 50 53.7
comp=Z,8.1nm,0.7s
KSRS Korea Array 48.67 279 P P 11 50 55.3 +0.3
comp=Z,1.3nm,0.6s,baz=51,slow=6.8,SNR=5.3
KSRS LR LR 12 11 24.5
comp=Z,20nm,19.8s,baz=85,slow=36
comp=Z,1.3nm,0.6s
TXAR Lajitas Array 49.28 95 P P 11 51 00.9 +1.0
TXAR Lajitas Array 49.28 95 P P 11 51 01.2 +1.4
comp=Z,2.0nm,0.6s,baz=302,slow=5.4,SNR=37
comp=Z,2.0nm,0.6s
SFJD Kangerlussuaq 49.32 29 LR LR 12 12 09.8
comp=Z,73nm,18.4s,baz=288,slow=36
DBG Daneborg 49.63 12 *i* P P 11 50 59.9 -2.0
DBG IAmb IAmb 11 51 02.1
comp=Z,3.9nm,0.6s
ICESG Greenland Ices 50.57 23 *i* P P 11 51 08.7 -0.8
ICESG IAmb IAmb 11 51 10.1
comp=Z,6.2nm,0.7s
XLT XiLinHaoTe 51.04 294 *eP* P 11 51 12.2 -0.9
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT pmax pmax
comp=Z,35nm,5.1s
SCHQ Schefferville 51.79 47 P P 11 51 18.6 +0.1
comp=Z,4.9nm,0.9s,baz=320,slow=8.1,SNR=3.0
comp=Z,4.9nm,0.9s
SONM Songino Array 53.44 303 P P 11 51 29.8 -1.0
comp=Z,1.6nm,0.9s,baz=79,slow=7.7,SNR=4.8
comp=Z,1.6nm,0.9s
JMIC Jan Mayen 54.05 10 LR LR 12 17 00.6
comp=Z,30nm,18.6s,baz=140,slow=39
HHC Hu-ho-hao-te 55.57 294 *eP* P 11 51 44.8 -1.6
HHC pmax pmax
comp=Z,22nm,0.5s
HHC pmax pmax
comp=Z,77nm,4.8s
TKL Tuckaleechee C 56.35 74 LR LR 12 15 27.6
comp=Z,51nm,18.3s,baz=329,slow=35
ARCES ARCESS Array B 56.61 356 P P 11 51 52.0 -1.3
comp=Z,1.8nm,0.7s,baz=30,slow=9.8,SNR=12
ARCES PcP PcP 11 52 48.6 -0.6
comp=Z,4.2nm,1.0s,baz=36,slow=10,SNR=4.7
ARCES LR LR 12 18 43.5
comp=Z,62nm,18.2s,baz=324,slow=39
comp=Z,1.8nm,0.7s
GUMO Guam 56.98 245 LR LR 12 10 59.2
comp=Z,25nm,20.5s,baz=81,slow=30
BORG Borgarnes 58.07 18 LR LR 12 19 54.9
comp=Z,36nm,19.4s,baz=309,slow=39
ZALV Zalesovo Beam 58.53 320 P P 11 52 06.1 -0.8
comp=Z,1.4nm,0.5s,baz=37,slow=4.8,SNR=6.3
ZALV PcP PcP 11 52 57.2 +0.2
comp=Z,1.0nm,0.6s,baz=0.0,slow=0.7,SNR=4.2
comp=Z,1.4nm,0.5s
JOF Joensuu 62.86 352 *eP* P 11 52 36.0 -0.2
VAF Ylistaro 63.21 357 *eP* P 11 52 38.1 -0.5
KURBB Kurchatov Arra 63.53 321 P P 11 52 40.7 -0.1
comp=Z,3.5nm,0.7s,baz=28,slow=7.5,SNR=19
KURBB PcP PcP 11 53 16.3 -0.9
comp=Z,0.4nm,0.3s,baz=38,slow=6.9,SNR=1.9
comp=Z,3.5nm,0.7s
KEF Keuruu 64.00 356 *eP* P 11 52 43.1 -0.6
BVAR Borovoye Array 64.34 327 P P 11 52 46.6 +0.4
comp=Z,8.7nm,0.6s,baz=40,slow=7.2,SNR=38
BVAR LR LR 12 22 40.5
comp=Z,58nm,18.2s,baz=40,slow=38
comp=Z,8.7nm,0.6s
FINES FINESS Array B 64.66 355 P P 11 52 47.2 -0.9
comp=Z,4.5nm,0.5s,baz=20,slow=8.2,SNR=18
FINES LR LR 12 23 04.4
comp=Z,34nm,19.1s,baz=14,slow=38
comp=Z,4.5nm,0.5s
KIRV Kirov 64.67 342 LR LR 12 25 35.4
comp=Z,84nm,19.0s,baz=17,slow=40
ARU Arti 64.69 336 LR LR 12 24 48.7
comp=Z,52nm,18.2s,baz=277,slow=40
ARU Arti 64.69 336 P P 11 52 47.9 -0.5
comp=Z,11nm,0.8s
MKAR Makanchi Array 65.16 316 P P 11 52 51.0 -0.7
comp=Z,0.9nm,0.4s,baz=41,slow=6.7,SNR=14
MKAR LR LR 12 21 45.3
comp=Z,74nm,20.4s,baz=42,slow=36
comp=Z,0.9nm,0.4s
NB2 NORSAR Subarra 65.24 3 P P 11 52 51.4 -0.6
comp=Z,1.8nm,0.7s,baz=358,slow=6.5
NOA NORSAR Array B 65.24 3 P P 11 52 51.7 -0.2
comp=Z,3.0nm,0.8s,baz=357,slow=6.6,SNR=14
NOA LR LR 12 20 05.5
comp=Z,18nm,21.0s,baz=345,slow=35
comp=Z,3.0nm,0.8s
RAF Rauma 65.26 357 *eP* P 11 52 51.2 -0.7
MEF Metsahovi 65.97 356 *eP* P 11 52 56.1 -0.4
HFS Hagfors 66.21 2 P P 11 52 57.3 -0.8
comp=Z,8.3nm,0.5s,baz=27,slow=3.6,SNR=54
HFS LR LR 12 22 14.1
comp=Z,28nm,21.2s,baz=345,slow=36
comp=Z,8.3nm,0.5s
VIKU Vikbolandet 67.87 360 *eP* P 11 53 08.2 -0.4
EKA Eskdalemuir Ar 69.85 12 P P 11 53 21.4 +0.3
comp=Z,2.8nm,0.7s,baz=338,slow=4.4,SNR=8.1
comp=Z,2.8nm,0.7s
DEL Delary 69.88 2 *eP* P 11 53 21.4 +0.1
OBN Obninsk 70.01 348 LR LR 12 26 06.8
comp=Z,44nm,21.7s,baz=6.5,slow=38
AKTO Aktyubinsk 70.27 333 LR LR 12 27 22.3
comp=Z,59nm,19.5s,baz=348,slow=39
PABE Paberze 70.70 356 *eP* P 11 53 26.3 +0.1
BELG Belogornoye 70.86 340 LR LR 12 26 48.4
comp=Z,68nm,19.1s,baz=33,slow=38
AAK Ala-Archa 71.72 319 LR LR 12 28 06.4
comp=Z,76nm,18.1s,baz=24,slow=38
PPT Papeete 72.26 166 P P 11 53 38.0 +2.0
comp=Z,46nm,0.6s,baz=248,slow=23,SNR=5.0
KSH Kashi 73.77 316 P P 11 53 48.9 +3.9
KSH pP sP 11 54 02.3 +0.1
KSH pmax pmax
comp=Z,8.0nm,0.9s
CLL Collm 75.04 2 *i* P P 11 53 51.8 -0.2
comp=Z,4.0nm,0.8s
AK21 Malin Array Si 75.08 352 P P 11 53 51.3 -0.9
AK23 Malin Array Si 75.08 352 P P 11 53 51.5 -0.8
AK22 Malin Array Si 75.09 352 P P 11 53 51.6 -0.7
AKASG Malin Array Be 75.14 352 P P 11 53 51.5 -1.0
comp=Z,3.2nm,0.5s,baz=4.9,slow=5.6,SNR=15
AKASG LR LR 12 27 38.8
comp=Z,37nm,21.0s,baz=48,slow=36
comp=Z,3.2nm,0.5s
BRG Berggiesshubel 75.49 2 *eP* P 11 53 54.9 +0.3
BRG Amp 11 53 56.3
comp=Z,5.2nm,1.4s
LUBAR Lubar, Ukraine 76.03 353 P P 11 53 56.9 -0.8
DPC Dobruska-Polom 76.03 0 P P 11 53 58.3 +0.5
comp=Z,5.4nm,1.2s
MORC Moravsky Berou 76.61 359 *eP* P 11 54 00.7 -0.4
STHS Stebnicka Huta 76.89 357 *eP* P 11 54 05.9 +3.3
VRAC Vranov 77.08 360 *eP* P 11 54 04.4 +0.7
KHC Kasperske Hory 77.23 2 P P 11 54 05.3 +0.7
comp=Z,7.1nm,2.3s
KRUC Moravsky 77.33 0 *eP* P 11 54 05.7 +0.7
KOLS Kolonicke sedl 77.34 356 *eP* P 11 54 05.9 +0.8
GERES GERESS Array B 77.52 2 P P 11 54 06.0 -0.2
comp=Z,1.0nm,0.6s,baz=294,slow=1.3,SNR=5.2
GERES LR LR 12 29 11.0
comp=Z,25nm,20.3s,baz=350,slow=36
comp=Z,1.0nm,0.6s
JAVC Velka Javorina 77.52 359 *eP* P 11 54 07.3 +1.1
VYHS Vyhne 77.87 358 *eP* P 11 54 09.2 +1.1
MODS Modra-Piesok 78.01 359 *eP* P 11 54 10.3 +1.4
CONA Conrad Observa 78.46 0 *i* P P 11 54 12.1 +0.7
comp=Z,6.4nm,1.3s
LESA Schwarzleotal 78.91 3 *i* P P 11 54 14.4 +0.5
comp=Z,2.3nm,0.6s
MOTA Moosalm 78.94 4 *i* P P 11 54 14.9 +0.7
comp=Z,12nm,1.4s
DAVA Damuels 78.94 5 *i* P P 11 54 14.8 +0.5
comp=Z,3.6nm,0.9s
WATA Walderalm 78.97 3 *i* P P 11 54 14.7 +0.3
comp=Z,2.1nm,0.5s
WTTA Wattenberg 79.04 3 *i* P P 11 54 15.3 +0.5
comp=Z,5.4nm,0.7s
SQTA Sankt Quirin 79.07 4 *i* P P 11 54 15.6 +0.7
comp=Z,4.5nm,0.7s
FETA Feichten 79.25 4 *eP* P 11 54 16.3 +0.4
comp=Z,4.6nm,0.8s
KBA Koelnbreinsper 79.27 2 *i* P P 11 54 17.2 +1.2
comp=Z,5.5nm,0.7s
ABTA Abfaltersbach 79.58 3 *i* P P 11 54 18.8 +1.2
comp=Z,6.2nm,1.3s
CMAR Chiang Mai Arr 79.61 287 P P 11 54 18.2 +0.1
comp=Z,2.7nm,0.7s,baz=14,slow=5.5,SNR=21
CMAR LR LR 12 32 20.4
comp=Z,11nm,19.0s,baz=230,slow=38
comp=Z,2.7nm,0.7s
SOKA Soboth 79.70 1 *i* P P 11 54 18.9 +0.6
comp=Z,8.4nm,1.3s
TUE Stuetta 79.73 5 P P 11 54 19.8 +1.2
comp=Z,15nm,0.9s
OBKA Obir 79.86 1 *i* P P 11 54 19.7 +0.5
comp=Z,8.6nm,0.8s
DZM Mont Dumac 80.06 208 LR LR 12 25 27.4
comp=Z,66nm,18.5s,baz=348,slow=32
KBZ Khabaz 80.07 341 P P 11 54 20.1 0.0
comp=Z,3.3nm,0.9s,baz=281,slow=4.7,SNR=4.3
KBZ LR LR 12 32 38.3
comp=Z,30nm,21.3s,baz=10,slow=38
comp=Z,3.3nm,0.9s
GEYT Alibeck 81.67 328 P P 11 54 29.2 +0.3
comp=Z,2.5nm,0.6s,baz=351,slow=4.7,SNR=8.7
comp=Z,2.5nm,0.6s
ESDC Sonseca Array 85.06 16 P P 11 54 47.1 +0.7
comp=Z,2.7nm,0.9s,baz=346,slow=5.2,SNR=10
comp=Z,2.7nm,0.9s
BRTR Keskin Array B 85.50 347 P P 11 54 49.2 +0.6
comp=Z,2.4nm,0.9s,baz=29,slow=2.8,SNR=8.6
comp=Z,2.4nm,0.9s
BR105 Keskin Array S 85.51 347 P P 11 54 49.3 +0.6
comp=Z,4.8nm,1.1s
BR104 Keskin Array S 85.51 347 P P 11 54 49.4 +0.7
comp=Z,4.1nm,1.0s
TIP Timpagrande 87.20 360 P P 11 54 56.9 0.0
ASAR Alice Springs 94.18 235 P P 11 55 28.1 -1.3
comp=Z,0.4nm,0.7s,baz=53,slow=4.4,SNR=4.2
comp=Z,0.4nm,0.7s
EIL Elat 95.17 344 LR LR 12 43 20.7
comp=Z,19nm,19.3s,baz=66,slow=39
H03N2 Juan Fernandez 113.33 115 T T 14 04 09.4

baz=323,slow=77,SNR=26
H03N1 Juan Fernandez 113.34 115 T T 14 04 09.1
baz=323,slow=77,SNR=43
H03N3 Juan Fernandez 113.34 115 T T 14 04 08.3
baz=323,slow=77,SNR=40
QSPA South Pole Qui 143.76 180 PKP PKPbc 12 01 42.5 +0.5
comp=Z,1.7nm,0.5s,baz=272,slow=1.2,SNR=21

ROM 12 11:55:32.9±0.2, 37°.948N±0°.009×15°.153E±0°.005, h21km, ML1.2/6, 2C, Error ellipse: s-maj=1.0km s-min=0.4km az=176.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AIO	**Antillo**	**0.07**	**70**	**↑P**		Pb	11 55 36.9	0.0
AIO				S		Sb	11 55 39.7	+0.2
AIO					AML	AML		
	comp=E,117μm,0.5s							
AIO					AML	AML		
	comp=N,105μm,1.5s							
AIO					AML	AML		
	comp=E,98μm,0.2s							
AIO					AML	AML		
	comp=N,95μm,0.3s							
MUCR	**Ucria**	**0.24**	**293**	**↑P**		Pb	11 55 39.0	-0.1
MUCR				S		Sb	11 55 43.2	-0.2
MUCR					AML	AML		
	comp=N,63μm,0.3s							
MUCR					AML	AML		
	comp=E,50μm,0.7s							
MUCR					AML	AML		
	comp=N,63μm,0.3s							
MUCR					AML	AML		
	comp=E,41μm,0.3s							
MPNC	**Port Mandanici**	**0.25**	**39**	P		Pb	11 55 39.0	-0.1
MPNC				S		Sb	11 55 43.7	+0.3
MPNC					AML	AML		
	comp=N,167μm,0.5s							
MPNC					AML	AML		
	comp=E,108μm,0.4s							
MPNC					AML	AML		
	comp=N,122μm,0.4s							
MPNC					AML	AML		
	comp=E,109μm,0.4s							

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*IDC **12** 11:55:50.9±5.9, 39°.67N×72°.33E, h0km, mb3.6/4, mbtmp3.7/7, ML3.3/3, MS3.6/1, Error ellipse: s-maj=113.8km s-min=19.5km az=158.0*
*SOME **12** 11:55:50.4, 39°.48N×72°.90E, h5km*
*NNC **12** 11:55:56.4±1.8, 39°.06N×72°.95E, h212km±31km, mb2.6, mpv3.8, Error ellipse: s-maj=23.2km s-min=10.6km az=10.0*
ISC 12 11:55:45.1±1.3, 38°.86N±0°.09×72°.91E±0°.06, h10km, n24, σ2°69/31, mb3.6/4, 3C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UCH	**Uchtor**	**3.58**	**19**	P		**Pb**	**11 56 50.7**	**+1.9**
	SNR=110							
EKS2	**Erkin-Say**	**3.86**	**10**	P		**Pb**	**11 56 55.2**	**+1.9**
	SNR=7.6							
MRKS	**Merke**	**3.89**	**3**	*e*P		**Pb**	**11 56 55.2**	**+1.4**
	14nm,0.3s							
MRKS				*e*S		**Sb**	**11 57 41.4**	**+0.4**
	155nm,0.2s							
IUG	**Iuzhnay**	**3.95**	**327**	*e*P		**Pb**	**11 56 55.6**	**+0.7**
	17nm,0.1s							
IUG				*e*S		**Sb**	**11 57 42.2**	**-0.6**
	75nm,0.4s							
AAK	**Ala-Archa**	**3.96**	**17**	P		**Pb**	**11 56 56.1**	**+1.0**
	SNR=25							
AAK	**Ala-Archa**	**3.96**	**17**	**⇓**P		**Pb**	**11 56 55.7**	**+0.6**
	12nm,0.5s							
AAK				**⇓**S		**Sb**	**11 57 43.3**	**+0.1**
	90nm,0.9s							
KBK	**Karagaybulak**	**4.10**	**22**	P		**Pb**	**11 56 57.7**	**+0.3**
	SNR=11							
CHMS	**Chumysh**	**4.37**	**18**	**↑**P		**Pb**	**11 57 00.4**	**-1.6**
	8.9nm,0.4s							
CHMS				**⇓**S		**Sb**	**11 57 52.1**	**-2.5**
	41nm,0.6s							
TKM2	**Tokmak 2**	**4.54**	**26**	P		**Pb**	**11 57 03.1**	**-2.0**
	SNR=5.9							
TKM2	**Tokmak 2**	**4.54**	**26**	P		**Pb**	**11 57 02.7**	**-2.3**
	3.3nm,0.3s							
TKM2				S		**Sb**	**11 57 55.8**	**-4.1**
	27nm,0.7s							
USP	**Ospenovka**	**4.56**	**15**	P		**Pb**	**11 57 03.7**	**-1.6**
	SNR=7.9							
KK31	**Karatay Array**	**4.61**	**338**	**↑**P		**Pb**	**11 57 04.1**	**-2.1**
	12nm,0.5s,baz=156,slow=14,SNR=122							
KK31				**↑**S		**Sb**	**11 57 57.7**	**-4.0**
	28nm,0.5s,baz=149,slow=23,SNR=6.2							
BRLS	**Borolday**	**4.77**	**332**	*e*P		Pn	11 57 03.7	+6.6
	24nm,0.3s							
BRLS				*e*S		**Sn**	**11 57 56.0**	**+3.6**
	16nm,0.5s							
DGS	**Degeres**	**4.88**	**25**	*e*P		**Pb**	**11 57 08.2**	**-2.6**
	15nm,0.6s							
DGS				*e*S		**Sb**	**11 58 03.6**	**-6.1**
	17nm,0.5s							
MKAR	**Makanchi Array**	**10.50**	**38**	Pn		**Pn**	**11 58 19.0**	**+3.4**
	0.1nm,0.3s,baz=222,slow=16,SNR=4.6							
MKAR				Lg		Lg	12 01 14.2	
	baz=222,slow=23,SNR=2.4							
	0.2nm,0.3s							
GEYT	**Alibeck**	**11.65**	**270**	Pn		**Pn**	**11 58 31.8**	**+0.4**
	0.6nm,0.3s,baz=83,slow=13,SNR=2.0							
GEYT				S		**Sn**	**12 00 35.1**	**-6.4**
	0.3nm,0.3s,baz=82,slow=20,SNR=1.8							
	0.6nm,0.3s							
KURBB	**Kurchatov Arra**	**12.42**	**17**	Lg		Lg	12 02 06.8	
	baz=211,slow=27,SNR=1.9							
AB31	**Akbulak array**	**13.94**	**322**	**⇓**P		**Pn**	**11 59 06.1**	**+3.5**
	1.5nm,0.5s,baz=133,slow=13,SNR=30							
AB31				S		**Sn**	**12 01 35.1**	**-2.2**
	0.7nm,0.5s,baz=141,slow=23,SNR=3.5							
ZALV	**Zalesovo Beam**	**17.14**	**24**	Pn		**Pn**	**11 59 46.2**	**+1.6**
	0.5nm,0.3s,baz=213,slow=11,SNR=17							
	4.4nm,0.6s							
KBZ	**Khabaz**	**23.00**	**292**	P		**P**	**12 00 51.8**	**+1.8**
	0.6nm,0.4s,baz=357,slow=21,SNR=1.7							
	0.6nm,0.4s							
FINES	**FINESS Array B**	**36.42**	**324**	P		**P**	**12 02 48.9**	**-0.7**
	0.6nm,0.5s,baz=94,slow=7.1,SNR=2.2							
	0.6nm,0.5s							
ARCES	**ARCESS Array B**	**39.58**	**336**	P		**P**	**12 03 15.3**	**-0.8**
	0.9nm,0.7s,baz=102,slow=8.4,SNR=4.4							
	0.9nm,0.7s							
HFS	**Hagfors**	**42.19**	**320**	P		**P**	**12 03 36.8**	**-0.9**
	0.6nm,0.4s,baz=112,slow=11,SNR=8.2							
	0.6nm,0.4s							
DAVOX	**Davos/Dischmat**	**45.79**	**301**	LR		LR	12 26 49.3	
	comp=Z,63nm,18.7s,baz=266,slow=41							

ROM 12 11:56:21.4±0.1, 37°.959N±0°.004×15°.162E±0°.008, h21km±1km, ML2.3/29, 6C-3D, Error ellipse: s-maj=0.7km s-min=0.2km az=99.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AIO	**Antillo**	**0.06**	**77**	**↑***i*P		Pb	11 56 25.3	0.0
AIO				S		Sb	11 56 27.8	-0.1
AIO					AML	AML		
	comp=E,2605μm,0.5s							
AIO					AML	AML		
	comp=N,1915μm,0.4s							
AIO					AML	AML		
	comp=E,2104μm,0.2s							
AIO					AML	AML		
	comp=N,1918μm,0.4s							
NOV	**Novara**	**0.07**	**344**	**↑***i*P		Pb	11 56 25.4	0.0
NOV				S		Sb	11 56 28.3	+0.2
NOV					AML	AML		
	comp=E,1620μm,0.1s							
NOV					AML	AML		
	comp=N,1600μm,0.4s							
NOV					AML	AML		
	comp=N,1449μm,0.2s							
NOV					AML	AML		
	comp=E,1235μm,0.2s							
EMSG	**Monte Spagnolo**	**0.22**	**231**	P		Pb	11 56 27.8	+0.3
EMSG					AML	AML		
	comp=N,1580μm,1.0s							
EMSG					AML	AML		
	comp=E,1270μm,1.6s							
EMSG					AML	AML		
	comp=E,1112μm,0.3s							
EMSG					AML	AML		
	comp=N,1519μm,0.4s							
MPNC	**Port Mandanici**	**0.24**	**39**	**↑***i*P		Pb	11 56 27.5	0.0
MPNC				S		Sb	11 56 31.9	+0.1
MPNC					AML	AML		
	comp=E,1126μm,0.3s							
MPNC					AML	AML		
	comp=N,1775μm,0.4s							
MPNC					AML	AML		
	comp=N,1777μm,0.4s							
MPNC					AML	AML		
	comp=E,1125μm,0.3s							
MUCR	**Ucria**	**0.24**	**290**	**↑***i*P		Pb	11 56 27.4	-0.3
MUCR				S		Sb	11 56 31.7	-0.2
MUCR					AML	AML		
	comp=E,890μm,0.7s							
MUCR					AML	AML		
	comp=N,1310μm,0.3s							
MUCR					AML	AML		
	comp=N,1310μm,0.3s							
MUCR					AML	AML		
	comp=E,817μm,0.4s							
EPZF	**Pizzo Felice**	**0.28**	**241**	P		Pb	11 56 28.3	+0.4
EPZF					AML	AML		
	comp=N,800μm,0.4s							
EPZF					AML	AML		
	comp=E,702μm,0.4s							
EPZF					AML	AML		
	comp=N,800μm,0.4s							
EPZF					AML	AML		
	comp=E,702μm,0.4s							
EPZF					AML	AML		
	comp=N,800μm,1.6s							
MILZ	**Milazzo**	**0.32**	**10**	**⇓***i*P		Pb	11 56 28.5	+0.1
MILZ				S		Sb	11 56 33.9	+0.8
MILZ					AML	AML		
	comp=E,600μm,0.4s							
MILZ					AML	AML		
	comp=N,238μm,1.4s							
MILZ					AML	AML		
	comp=N,226μm,0.5s							
MILZ					AML	AML		
	comp=E,600μm,0.4s							
MILZ					AML	AML		
	comp=N,226μm,1.5s							
VPL	**Vulcano Piano**	**0.44**	**342**	P		Pb	11 56 30.7	+0.2
VPL				S		Sb	11 56 37.1	+0.4
VPL					AML	AML		
	comp=E,563μm,0.4s							
VPL					AML	AML		
	comp=N,602μm,0.5s							
VPL					AML	AML		
	comp=E,563μm,0.4s							
VPL					AML	AML		
	comp=E,563μm,1.6s							
VPL					AML	AML		
	comp=N,603μm,0.5s							
EPOZ	**Pozzillo**	**0.45**	**188**	P		Pb	11 56 28.7	-1.9
HLNI	**Lentini**	**0.65**	**201**	**↑***i*P		Pb	11 56 33.8	-0.4
HLNI				S		Sb	11 56 43.4	+0.6
HLNI					AML	AML		
	comp=E,122μm,1.2s							
HLNI					AML	AML		
	comp=N,126μm,0.2s							
HLNI					AML	AML		
	comp=E,99μm,0.1s							
HLNI					AML	AML		
	comp=N,126μm,0.2s							
HLNI					AML	AML		
	comp=N,126μm,1.8s							
HAGA	**Augusta**	**0.67**	**180**	**⇓***i*P		Pb	11 56 33.9	-0.6
HAGA				S		Sb	11 56 44.1	+0.7
HAGA					AML	AML		
	comp=E,138μm,0.5s							
HAGA					AML	AML		
	comp=N,136μm,0.2s							
SOI	**Samo**	**0.71**	**81**	P		Pb	11 56 35.3	+0.1
SSY	**Sortino**	**0.81**	**185**	P		Pb	11 56 36.5	-0.3
SSY				S		Sn	11 56 48.6	-0.4
SSY					AML	AML		
	comp=E,182μm,1.2s							
SSY					AML	AML		
	comp=N,612μm,0.6s							
SSY					AML	AML		
	comp=E,160μm,0.3s							
SSY					AML	AML		
	comp=N,478μm,0.1s							
MEU	**Monte Lauro**	**0.88**	**192**	P		Pb	11 56 37.4	-0.6
MEU				S		Sn	11 56 50.2	-0.6
MEU					AML	AML		
	comp=E,208μm,0.3s							
MEU					AML	AML		
	comp=N,240μm,0.2s							
MEU					AML	AML		
	comp=E,208μm,0.3s							
MEU					AML	AML		
	comp=E,208μm,1.7s							
MEU					AML	AML		
	comp=N,240μm,0.2s							
RAFF	**Raffo Rosso**	**0.97**	**221**	**↑***i*P		Pb	11 56 39.6	0.0
RAFF				S		Sn	11 56 53.7	+0.6
RAFF					AML	AML		
	comp=N,160μm,0.2s							
RAFF					AML	AML		
	comp=E,140μm,0.3s							
RAFF					AML	AML		
	comp=N,160μm,0.2s							
RAFF					AML	AML		
	comp=N,160μm,1.8s							
RAFF					AML	AML		
	comp=E,140μm,0.3s							
HMDC	**Modica**	**1.04**	**197**	P		Pb	11 56 40.1	-0.7
HMDC				S		Sn	11 56 54.6	-0.3
HMDC					AML	AML		
	comp=N,174μm,1.6s							
HMDC					AML	AML		
	comp=E,158μm,0.7s							
HMDC					AML	AML		
	comp=E,117μm,0.2s							
HMDC					AML	AML		
	comp=N,136μm,0.3s							
HPAC	**Pachino**	**1.26**	**182**	**⇓***i*P		Pn	11 56 44.0	+0.2
HPAC				S		Sb	11 57 01.3	+1.1
HPAC					AML	AML		
	comp=E,156μm,0.4s							
HPAC					AML	AML		
	comp=N,147μm,0.4s							

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*NOU **12** 12:02:33.8, 38°.28S×177°.77E, h67km, MLv3.7/9, North Island, New Zealand*
*WEL **12** 12:02:35.3±0.5, 38°.3S×17°.8E±°, h58km±5km, M3.1/31, ML3.3/32, MLv3.1/31, Error ellipse: s-maj=0.0km s-min=0.0km az=140.5, confirmed*
ISC 12 12:02:33.6±1.6, 38°.21S±0°.04×177°.72E±0°.04, h84km±8km, n104, σ0°93/118, North Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MWZ	**Matawai**	**0.19**	**230**	P		**Pn**	**12 02 45.9**	**0.0**
MWZ				S		**Sn**	**12 02 53.7**	**-1.3**
TWGZ	**Tauwhareparae**	**0.21**	**81**	P		**Pn**	**12 02 46.4**	**+0.4**
TWGZ				S		**Sn**	**12 02 55.6**	**+0.4**
RUGZ	**Raukumara Rang**	**0.25**	**353**	P		**Pn**	**12 02 46.0**	**-0.3**
RUGZ				S		**Sn**	**12 02 54.2**	**-1.4**
RAGZ	**Rawiri**	**0.37**	**220**	P		**Pn**	**12 02 47.3**	**+0.3**
RAGZ				S		**Sn**	**12 02 56.6**	**-0.2**
PKGZ	**Pakihiroa**	**0.43**	**41**	P		**Pn**	**12 02 47.6**	**+0.3**
PKGZ				S		**Sn**	**12 02 57.0**	**-0.4**
PUZ	**Puketiti**	**0.45**	**72**	P		**Pn**	**12 02 47.7**	**+0.3**
PUZ				S		**Sn**	**12 02 57.7**	**+0.1**
HAZ	**Te Kaha**	**0.46**	**6**	P		**Pn**	**12 02 47.3**	**-0.1**
HAZ				S		**Sn**	**12 02 56.7**	**-0.9**
CNGZ	**Carnagh Statio**	**0.47**	**125**	P		**Pn**	**12 02 48.8**	**+1.2**
URZ	**Urewera**	**0.48**	**264**	P		**Pn**	**12 02 47.3**	**-0.3**
URZ	**Urewera**	**0.48**	**264**	P		**Pn**	**12 02 47.5**	**-0.1**
URZ				S		**Sn**	**12 02 56.9**	**-1.1**
RIGZ	**Rimuhau**	**0.49**	**176**	P		**Pn**	**12 02 48.6**	**+0.8**
RIGZ				S		**Sn**	**12 02 59.4**	**+1.0**
SNGZ	**Shannon Statio**	**0.64**	**207**	P		**Pn**	**12 02 49.9**	**+0.7**
SNGZ				S		**Sn**	**12 03 02.5**	**+1.9**
WMGZ	**Waiomatatini S**	**0.68**	**55**	P		**Pn**	**12 02 50.0**	**+0.6**
WMGZ				S		**Sn**	**12 03 01.6**	**+0.5**
WHRZ	**Whale Island**	**0.69**	**301**	P		**Pn**	**12 02 49.7**	**+0.2**
WHRZ				S		**Sn**	**12 03 00.6**	**-0.7**
RTZ	**Ruatahuna**	**0.71**	**235**	P		**Pn**	**12 02 50.1**	**+0.3**
PRGZ	**Paritu Road**	**0.72**	**170**	P		**Pn**	**12 02 50.7**	**+0.8**
EDRZ	**Edgecumbe**	**0.78**	**277**	P		**Pn**	**12 02 50.6**	**+0.1**
EDRZ				S		**Sn**	**12 03 01.9**	**-1.2**
MUGZ	**Murupara**	**0.79**	**250**	P		**Pn**	**12 02 50.7**	**+0.1**
MXZ	**Matakaoa Point**	**0.80**	**36**	P		**Pn**	**12 02 51.3**	**+0.7**
MXZ	**Matakaoa Point**	**0.80**	**36**	P		**Pn**	**12 02 51.4**	**+0.7**
KNZ	**Kokohu**	**0.81**	**182**	P		**Pn**	**12 02 51.5**	**+0.7**
MARZ	**Manawahe**	**0.85**	**285**	P		**Pn**	**12 02 51.1**	**-0.2**
RAHZ	**Arahi**	**0.86**	**215**	P		**Pn**	**12 02 52.3**	**+0.9**
RAHZ				S		**Sn**	**12 03 06.1**	**+1.5**
MTHZ	**Maungataniwha**	**0.94**	**227**	P		**Pn**	**12 02 53.0**	**+0.7**
WHHZ	**Waihua**	**0.94**	**203**	P		**Pn**	**12 02 53.4**	**+1.1**
MHGZ	**Mahia Peninsul**	**0.95**	**171**	P		**Pn**	**12 02 53.5**	**+1.1**
RRRZ	**Republican Roa**	**0.95**	**262**	P		**Pn**	**12 02 52.7**	**+0.2**
TARZ	**Mount Tarawera**	**0.95**	**268**	P		**Pn**	**12 02 52.9**	**+0.4**
OPRZ	**Ohinepanea**	**0.99**	**291**	P		**Pn**	**12 02 52.5**	**-0.3**
OMRZ	**Omania**	**1.07**	**275**	P		**Pn**	**12 02 54.0**	**+0.3**
HLRZ	**Highlands Stat**	**1.08**	**267**	P		**Pn**	**12 02 54.2**	**+0.3**
PRRZ	**Plateau Road**	**1.08**	**254**	P		**Pn**	**12 02 54.1**	**+0.2**
ALRZ	**Allen Road**	**1.14**	**252**	P		**Pn**	**12 02 54.9**	**+0.3**
NMHZ	**Naumai**	**1.14**	**219**	P		**Pn**	**12 02 55.9**	**+1.3**
HRRZ	**Handcock Road**	**1.14**	**261**	P		**Pn**	**12 02 55.2**	**+0.5**
HSRZ	**Hossack Road**	**1.16**	**265**	P		**Pn**	**12 02 55.6**	**+0.7**
KARZ	**Kaharoa**	**1.18**	**279**	P		**Pn**	**12 02 55.2**	**+0.1**
ARHZ	**Aropaoanui**	**1.19**	**208**	P		**Pn**	**12 02 56.3**	**+1.0**
MRHZ	**Matea Rd**	**1.20**	**238**	P		**Pn**	**12 02 55.8**	**+0.5**
TGRZ	**Tauranga**	**1.25**	**292**	P		**Pn**	**12 02 55.6**	**-0.3**
WPRZ	**Whakapapatarin**	**1.26**	**255**	P		**Pn**	**12 02 56.9**	**+0.8**
GRRZ	**Galatos Road**	**1.27**	**263**	P		**Pn**	**12 02 57.0**	**+0.8**
BKZ	**Black Stump Fm**	**1.35**	**225**	P		**Pn**	**12 02 57.4**	**+0.1**
BKZ	**Black Stump Fm**	**1.35**	**225**	P		**Pn**	**12 02 58.1**	**+0.8**
WHTZ	**Whakaora**	**1.46**	**251**	P		**Pn**	**12 02 59.6**	**+1.0**
MCHZ	**McNeill Hill**	**1.47**	**213**	P		**Pn**	**12 02 59.6**	**+0.9**
KUTZ	**Kaahu Road**	**1.52**	**259**	P		**Pn**	**12 03 00.1**	**+0.7**
CKHZ	**Cape Kidnapper**	**1.53**	**199**	P		**Pn**	**12 02 59.8**	**+0.3**
KWHZ	**Kaweka Forest**	**1.58**	**219**	P		**Pn**	**12 03 00.7**	**+0.5**
RITZ	**Rihia Road**	**1.65**	**242**	P		**Pn**	**12 03 01.9**	**+0.8**
KAHZ	**Kahuranaki**	**1.71**	**202**	P		**Pn**	**12 03 02.3**	**+0.4**
TLZ	**Tolley Road**	**1.72**	**265**	P		**Pn**	**12 03 02.5**	**+0.5**
KRHZ	**Kereru**	**1.77**	**216**	P		**Pn**	**12 03 02.8**	**0.0**
BHHZ	**Black Hill Sta**	**1.82**	**225**	P		**Pn**	**12 03 03.9**	**+0.6**
TOZ	**Tahuroa Road**	**1.82**	**285**	P		**Pn**	**12 03 03.6**	**+0.4**
TMVZ	**Te Maari**	**1.82**	**240**	P		**Pn**	**12 03 03.9**	**+0.6**
ETVZ	**East Tongariro**	**1.82**	**239**	P		**Pn**	**12 03 04.0**	**+0.6**
NTVZ	**North Tongarir**	**1.83**	**240**	P		**Pn**	**12 03 04.1**	**+0.6**
OTVZ	**Oturere**	**1.87**	**239**	P		**Pn**	**12 03 04.6**	**+0.6**
TUVZ	**Tukino**	**1.93**	**236**	P		**Pn**	**12 03 05.4**	**+0.6**
PXZ	**Pawanui**	**1.94**	**200**	P		**Pn**	**12 03 04.3**	**-0.5**
MOVZ	**Moawhango**	**1.94**	**232**	P		**Pn**	**12 03 05.2**	**+0.3**
COVZ	**Chateau Observ**	**1.97**	**239**	P		**Pn**	**12 03 06.0**	**+0.7**
WHVZ	**Whangaehu Hut**	**1.98**	**237**	P		**Pn**	**12 03 06.0**	**+0.4**
FWVZ	**Far West T-bar**	**1.99**	**238**	P		**Pn**	**12 03 06.1**	**+0.4**
MAVZ	**Matarangi**	**1.99**	**237**	P		**Pn**	**12 03 06.3**	**+0.5**
WNVZ	**Wahianoa**	**2.00**	**235**	P		**Pn**	**12 03 06.2**	**+0.4**
TRVZ	**Turoa**	**2.01**	**237**	P		**Pn**	**12 03 06.5**	**+0.5**
PNHZ	**Pukenui**	**2.07**	**214**	P		**Pn**	**12 03 06.2**	**-0.4**
WPHZ	**Waipukurau**	**2.10**	**208**	P		**Pn**	**12 03 06.6**	**-0.4**
MTVZ	**Mangateitei**	**2.11**	**236**	P		**Pn**	**12 03 07.7**	**+0.5**
PKVZ	**Pokaka**	**2.14**	**239**	P		**Pn**	**12 03 08.5**	**+0.9**
KUZ	**Kuaotunu**	**2.16**	**312**	P		**Pn**	**12 03 07.6**	**-0.1**
KUZ	**Kuaotunu**	**2.16**	**312**	P		**Pn**	**12 03 07.7**	**-0.1**
PRHZ	**Porangahau**	**2.22**	**202**	P		**Pn**	**12 03 07.9**	**-0.6**
HIZ	**Hauiti**	**2.27**	**261**	P		**Pn**	**12 03 10.6**	**+1.4**
HIZ	**Hauiti**	**2.27**	**261**	P		**Pn**	**12 03 10.6**	**+1.4**
MKAZ	**Moumakai**	**2.31**	**298**	P		**Pn**	**12 03 10.3**	**+0.5**
DVHZ	**Dannevirke**	**2.41**	**210**	P		**Pn**	**12 03 10.0**	**-1.1**
ANWZ	**Angora Road**	**2.44**	**203**	P		**Pn**	**12 03 10.9**	**-0.7**
VRZ	**Vera Road**	**2.49**	**248**	P		**Pn**	**12 03 13.4**	**+1.3**
WIAZ	**Waiheke Island**	**2.50**	**304**	P		**Pn**	**12 03 12.9**	**+0.6**
ETAZ	**East Tamaki Re**	**2.55**	**299**	P		**Pn**	**12 03 14.0**	**+1.0**
WAZ	**Wanganui**	**2.63**	**233**	P		**Pn**	**12 03 15.1**	**+1.0**
POWZ	**Post Office Ro**	**2.65**	**214**	P		**Pn**	**12 03 13.4**	**-1.0**
AWAZ	**Awhitu Peninsu**	**2.70**	**294**	P		**Pn**	**12 03 16.5**	**+1.6**
PRWZ	**Pori Road**	**2.70**	**209**	P		**Pn**	**12 03 14.2**	**-0.8**
EPAZ	**Eden Park BICE**	**2.71**	**299**	P		**Pn**	**12 03 16.6**	**+1.4**
BFZ	**Birch Farm**	**2.72**	**204**	P		**Pn**	**12 03 14.1**	**-1.2**
BFZ	**Birch Farm**	**2.72**	**204**	P		**Pn**	**12 03 14.0**	**-1.2**
HBAZ	**Herne Bay Bore**	**2.74**	**299**	P		**Pn**	**12 03 16.6**	**+1.2**
LREZ	**Lake Rotokare**	**2.87**	**243**	P		**Pn**	**12 03 19.9**	**+2.6**
RVAZ	**Riverhead Bore**	**2.88**	**299**	P		**Pn**	**12 03 18.8**	**+1.3**
TIWZ	**Tintock**	**2.93**	**208**	P		**Pn**	**12 03 16.6**	**+1.5**
MRZ	**Mangatainoka R**	**2.95**	**213**	P		**Pn**	**12 03 16.8**	**-1.6**
NEZ	**North Egmont**	**3.02**	**248**	P		**Pn**	**12 03 22.0**	**+2.6**
HOWZ	**Holdsworth Sta**	**3.18**	**212**	P		**Pn**	**12 03 19.4**	**-2.1**
TMWZ	**Te Maipa**	**3.22**	**205**	P		**Pn**	**12 03 20.1**	**-1.9**
OGWZ	**Otaki Gorge**	**3.26**	**216**	P		**Pn**	**12 03 21.0**	**-1.6**
KIW	**Kapiti Island**	**3.42**	**218**	P		**Pn**	**12 03 23.2**	**-1.6**
SNZO	**South Karori**	**3.87**	**216**	P		**Pn**	**12 03 29.7**	**-1.1**
QRZ	**Quartz Range**	**4.79**	**235**	P		**Pn**	**12 03 43.9**	**+0.6**
KHZ	**Kahutara**	**5.28**	**216**	P		**Pn**	**12 03 49.4**	**-0.5**
GVZ	**Greta Valley S**	**5.94**	**215**	P		**Pn**	**12 03 57.1**	**-1.9**

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*NEIC **12** 12:18:04.5±0.9, 19°.26N±0°.06×155°.45W±0°.03, h35km±2km, Error ellipse: s-maj=10.0km s-min=4.7km az=190.0*
HVO 12 12:18:05.5±1.4, 19°.2N±0°.1×155°.4W±0°.1, h33km±8km, Md2.3/5, ML3.3/40(NEIC), Error ellipse: s-maj=25.2km s-min=6.3km az=146.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HTC	**Hot Caves**	**0.04**	**36**			Pb	12 18 10.6	-0.4
HLP	**Hilina Pali**	**0.14**	**50**			Pn	12 18 10.5	-0.3
HLP						Sb	12 18 15.1	-0.7
HLP					IAML		12 18 16.8	
	comp=E,3μm,1.2s							
HLP					IAML		12 18 20.1	
	comp=N,2μm,1.4s							
KHU	**Kahuku**	**0.19**	**283**			Sn	12 18 15.7	+0.6
KHU	**Kahuku**	**0.19**	**283**			Pn	12 18 11.2	-0.6
KHU					IAML		12 18 16.2	
	comp=N,911nm,1.6s							
KHU					IAML		12 18 21.5	
	comp=E,876nm,1.8s							
SDHHI	**Sand Hill**	**0.22**	**33**	Pg		Pn	12 18 10.4	-2.0
WRMHI	**West Rim**	**0.23**	**30**	Pg		Pb	12 18 07.6	-5.0
RIM	**Rim**	**0.24**	**37**	Pg		Pb	12 18 10.4	-2.2
RIM					IAML		12 18 18.5	
	comp=E,8μm,1.4s							
RIM					IAML

JCUZ			IAML		12 18 19.2		
	comp=N,993nm,1.3s						
MLOA	**Mauna Loa Obse**	**0.36 336**		Pb	12 18 12.9	-1.5	
ALEP	**Alea Permanent**	**0.40 328**		Pn	12 18 15.8	+0.5	
ALEP				Sb	12 18 19.1	-2.1	
HMH	**Humu'ula Sheep**	**0.40 352**		Pb	12 18 13.8	-1.0	
HMH	**Humu'ula Sheep**	**0.40 352**	IAML		12 18 21.4		
	comp=N,584nm,0.9s						
HMH			IAML		12 18 27.4		
	comp=E,488nm,0.9s						
CPH	**Captain Cook**	**0.55 301**		Pb	12 18 11.9	-4.9	
POHA	**Pohakuloa**	**0.56 349**	Pn	Pb	12 18 15.6	-1.7	
POHA			IAML		12 18 37.8		
	comp=E,475nm,0.8s						
HUH	**Hualalai**	**0.62 321**	Pn	Pb	12 18 15.5	-2.7	
HUH			IAML		12 18 26.7		
	comp=N,458nm,1.5s						
HUH			IAML		12 18 33.1		
	comp=E,531nm,1.6s						
HPAH	**Hawaii Prepara**	**0.86 343**		Pn	12 18 19.1	-2.3	

*NOU **12** 12:18:22.1,36°.34S×178°.60E,h235km,mb4.1/6,Off E. Coast of N. Island, N.Z.*
*WEL **12** 12:18:37.0±0.8,37°.5±.5°×17°.8E±°,h133km±7km,M3.0/19, ML3.3/26,MLv3.0/19,Error ellipse: s-maj=0.0km s-min=0.0km az=122.8,confirmed*
ISC 12 12:18:33.2±2.8,36°.95S±0°.10×177°.91E±0°.09, h165km±14km,n70,σ1°22/87,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.69**	**153**	P	**Pn**	**12 18 57.5**	**+0.4**
MXZ	**Matakaoa Point**	**0.69**	**153**	P	**Pn**	**12 18 57.5**	**+0.4**
MXZ				S	**Sn**	**12 19 14.9**	**-0.7**
HAZ	**Te Kaha**	**0.81**	**187**	P	**Pn**	**12 18 58.1**	**+0.2**
HAZ				S	**Sn**	**12 19 14.8**	**-2.2**
PKGZ	**Pakihiroa**	**0.94**	**172**	P	**Pn**	**12 19 00.4**	**+1.4**
PKGZ				S	**Sn**	**12 19 18.9**	**0.0**
WMGZ	**Waiomatatini S**	**0.95**	**155**	P	**Pn**	**12 19 00.0**	**+1.1**
WMGZ				S	**Sn**	**12 19 18.9**	**0.0**
RUGZ	**Raukumara Rang**	**1.03**	**190**	P	**Pn**	**12 18 59.6**	**-0.1**
RUGZ				S	**Sn**	**12 19 17.4**	**-2.8**
PUZ	**Puketiti**	**1.15**	**166**	P	**Pn**	**12 19 01.6**	**+1.0**
TWGZ	**Tauwhareparae**	**1.23**	**178**	P	**Pn**	**12 19 03.0**	**+1.7**
TWGZ				S	**Sn**	**12 19 23.3**	**+0.2**
OPRZ	**Ohinepanea**	**1.40**	**230**	P	**Pn**	**12 19 03.3**	**+0.4**
MWZ	**Matawai**	**1.42**	**192**	P	**Pn**	**12 19 03.8**	**+0.7**
MARZ	**Manawahe**	**1.43**	**223**	P	**Pn**	**12 19 04.3**	**+1.1**
URZ	**Urewera**	**1.45**	**206**	P	**Pn**	**12 19 04.0**	**+0.6**
URZ				S	**Sn**	**12 19 25.2**	**-1.5**
CNGZ	**Carnagh Statio**	**1.55**	**171**	P	**Pn**	**12 19 06.3**	**+2.0**
RAGZ	**Rawiri**	**1.59**	**194**	P	**Pn**	**12 19 06.3**	**+1.5**
RIGZ	**Rimuhau**	**1.76**	**184**	P	**Pn**	**12 19 07.9**	**+1.4**
KUZ	**Kuaotunu**	**1.77**	**276**	P	**Pn**	**12 19 06.3**	**-0.3**
MUGZ	**Murupara**	**1.77**	**210**	P	**Pn**	**12 19 07.7**	**+1.0**
RTZ	**Ruatahuna**	**1.82**	**200**	P	**Pn**	**12 19 08.0**	**+0.8**
SNGZ	**Shannon Statio**	**1.88**	**194**	P	**Pn**	**12 19 09.5**	**+1.6**
HRRZ	**Handcock Road**	**1.93**	**221**	P	**Pn**	**12 19 10.4**	**+2.0**
PRRZ	**Plateau Road**	**1.96**	**217**	P	**Pn**	**12 19 10.0**	**+1.3**
PRGZ	**Paritu Road**	**1.97**	**181**	P	**Pn**	**12 19 10.4**	**+1.5**
ALRZ	**Allen Road**	**2.03**	**217**	P	**Pn**	**12 19 10.8**	**+1.2**
RAHZ	**Arahi**	**2.07**	**198**	P	**Pn**	**12 19 11.4**	**+1.5**
TOZ	**Tahuroa Road**	**2.07**	**247**	P	**Pn**	**12 19 10.9**	**+1.0**
KNZ	**Kokohu**	**2.08**	**185**	P	**Pn**	**12 19 11.3**	**+1.3**
MTHZ	**Maungataniwha**	**2.08**	**204**	P	**Pn**	**12 19 10.9**	**+0.8**
MHGZ	**Mahia Peninsul**	**2.20**	**180**	P	**Pn**	**12 19 13.3**	**+1.9**
MKAZ	**Moumakai**	**2.21**	**265**	P	**Pn**	**12 19 12.2**	**+0.6**
MRHZ	**Matea Rd**	**2.22**	**212**	P	**Pn**	**12 19 12.6**	**+0.9**
NMHZ	**Naumai**	**2.31**	**202**	P	**Pn**	**12 19 14.7**	**+1.8**
TLZ	**Tolley Road**	**2.33**	**233**	P	**Pn**	**12 19 14.6**	**+1.6**
ARHZ	**Aropaoanui**	**2.42**	**197**	P	**Pn**	**12 19 15.3**	**+1.3**
ARHZ				S	**Sn**	**12 19 46.3**	**+0.5**
MBAZ	**Motutapu North**	**2.42**	**273**	P	**Pn**	**12 19 15.2**	**+1.1**
BKZ	**Black Stump Fm**	**2.48**	**206**	P	**Pn**	**12 19 16.3**	**+1.5**
BKZ	**Black Stump Fm**	**2.48**	**206**	P	**Pn**	**12 19 16.0**	**+1.2**
BKZ				S	**Sn**	**12 19 46.4**	**-0.7**
RITZ	**Rihia Road**	**2.59**	**218**	P	**Pn**	**12 19 17.7**	**+1.6**
MCHZ	**McNeill Hill**	**2.67**	**201**	P	**Pn**	**12 19 18.2**	**+1.2**
MCHZ				S	**Sn**	**12 19 51.6**	**+0.5**
KWHZ	**Kaweka Forest**	**2.73**	**205**	P	**Pn**	**12 19 18.6**	**+0.8**
KWHZ				S	**Sn**	**12 19 53.0**	**+0.4**
TMVZ	**Te Maari**	**2.78**	**218**	P	**Pn**	**12 19 19.5**	**+1.0**
TMVZ				S	**Sn**	**12 19 53.5**	**-0.2**
NTVZ	**North Tongarir**	**2.78**	**219**	P	**Pn**	**12 19 19.9**	**+1.4**
ETVZ	**East Tongariro**	**2.79**	**218**	P	**Pn**	**12 19 19.8**	**+1.2**
ETVZ				S	**Sn**	**12 19 54.2**	**+0.2**
OTVZ	**Oturere**	**2.83**	**218**	P	**Pn**	**12 19 20.4**	**+1.2**
OTVZ				S	**Sn**	**12 19 54.0**	**-0.9**
HIZ	**Hauiti**	**2.88**	**236**	P	**Pn**	**12 19 22.0**	**+2.4**
HIZ	**Hauiti**	**2.88**	**236**	P	**Pn**	**12 19 21.8**	**+2.2**
TUVZ	**Tukino**	**2.92**	**217**	P	**Pn**	**12 19 21.5**	**+1.3**
BHHZ	**Black Hill Sta**	**2.92**	**209**	P	**Pn**	**12 19 20.7**	**+0.5**
BHHZ				S	**Sn**	**12 19 55.9**	**-0.8**
KRHZ	**Kereru**	**2.95**	**204**	P	**Pn**	**12 19 20.7**	**+0.3**
KRHZ				S	**Sn**	**12 19 56.1**	**-1.2**
KAHZ	**Kahuranaki**	**2.95**	**196**	P	**Pn**	**12 19 21.5**	**+0.9**
FWVZ	**Far West T-bar**	**2.96**	**218**	P	**Pn**	**12 19 22.1**	**+1.3**
MAVZ	**Matarangi**	**2.97**	**218**	P	**Pn**	**12 19 22.2**	**+1.3**
MOVZ	**Moawhango**	**2.99**	**214**	P	**Pn**	**12 19 21.1**	**+0.1**
MOVZ				S	**Sn**	**12 19 56.2**	**-1.9**
WNVZ	**Wahianoa**	**2.99**	**217**	P	**Pn**	**12 19 22.7**	**+1.5**
TRVZ	**Turoa**	**3.00**	**218**	P	**Pn**	**12 19 22.4**	**+1.1**
PXZ	**Pawanui**	**3.19**	**195**	P	**Pn**	**12 19 23.5**	**+0.1**
PNHZ	**Pukenui**	**3.25**	**204**	P	**Pn**	**12 19 24.5**	**+0.3**
PRHZ	**Porangahau**	**3.46**	**196**	P	**Pn**	**12 19 27.0**	**+0.1**
WAZ	**Wanganui**	**3.62**	**219**	P	**Pn**	**12 19 29.9**	**+1.0**
ANWZ	**Angora Road**	**3.68**	**197**	P	**Pn**	**12 19 29.7**	**+0.1**
BFZ	**Birch Farm**	**3.95**	**199**	P	**Pn**	**12 19 32.5**	**-0.5**
BFZ	**Birch Farm**	**3.95**	**199**	P	**Pn**	**12 19 32.6**	**-0.5**
MRZ	**Mangatainoka R**	**4.13**	**205**	P	**Pn**	**12 19 34.5**	**-0.9**
HOWZ	**Holdsworth Sta**	**4.36**	**205**	P	**Pn**	**12 19 37.3**	**-1.1**
OGWZ	**Otaki Gorge**	**4.41**	**208**	P	**Pn**	**12 19 38.2**	**-0.9**
TMWZ	**Te Maipa**	**4.44**	**200**	P	**Pn**	**12 19 38.7**	**-0.7**
KIW	**Kapiti Island**	**4.55**	**210**	P	**Pn**	**12 19 39.6**	**-1.3**
CAW	**Cannon Point**	**4.71**	**207**	P	**Pn**	**12 19 41.4**	**-1.5**
PAWZ	**Paruwai Farm**	**4.83**	**203**	P	**Pn**	**12 19 43.0**	**-1.6**
SNZO	**South Karori**	**5.02**	**209**	P	**Pn**	**12 19 48.4**	**+1.5**
DSZ	**Denniston Nort**	**6.73**	**223**	P	**Pn**	**12 20 10.5**	**+0.8**

*LDG **12** 12:34:17.4±0.1,50°.26N×12°.37E,h5km,Ml2.6/4,Error ellipse: s-maj=3.0km s-min=1.7km az=147.0*
*BGR **12** 12:34:17.6±0.2,50°.27N×12°.42E,h10km±1km,ML2.0/7, Error ellipse: s-maj=2.2km s-min=1.1km az=85.0*
*PRU **12** 12:34:17.0,50°.27N×12°.44E,h10km,West Bohemia Swarm*
*CLL **12** 12:34:18.0±0.3,50°.27N×12°.44E,h8km,ML2.1*
WBNET 12 12:34:17.7,50°.27N×12°.44E,h9km,Ml2.2,6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**254**	⇓P	Pg	12 34 19.5	+0.2
LBCW				S	Sg	12 34 20.7	+0.2
NKC	**Novy Kostel**	**0.04**	**168**	*i* Pg	Pg	12 34 19.6	+0.1
NKC				*i* Sg	Sg	12 34 20.8	+0.1
NKC				IAML		12 34 21.2	
	comp=N,3μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**168**	*e*PG	Pg	12 34 19.6	+0.1
NKC				*e*SG	Sg	12 34 20.8	+0.1
	comp=N,955nm,0.2s						
NKC	**Novy Kostel**	**0.04**	**168**	*i* Pg	Pg	12 34 19.6	+0.1
NKC				*i* Sg	Sg	12 34 20.8	+0.1
	comp=N,3μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**168**	⇓P	Pg	12 34 19.6	+0.1
NKC				S	Sg	12 34 20.8	+0.1
WERN	**Wernitzgruen**	**0.04**	**294**	*i* Pg	Pg	12 34 19.7	+0.1
WERN				*i*		12 34 20.7	
WERN				*i* Sg	Sg	12 34 21.0	+0.1
WERN				IAML		12 34 21.2	
	comp=N,477nm,0.1s						
WERN	**Wernitzgruen**	**0.04**	**294**	*i* Pg	Pg	12 34 19.7	+0.1
WERN				*i* Sg	Sg	12 34 21.0	+0.1
	comp=N,477nm,0.1s						
POCW	**Potky**	**0.05**	**353**	⇓P	Pg	12 34 19.8	+0.1
POCW				S	Sg	12 34 21.2	+0.1
VAC	**Vackov**	**0.05**	**227**	*i* Pg	Pg	12 34 19.7	+0.1
VAC				*i* Sg	Sg	12 34 21.0	0.0
VAC	**Vackov**	**0.05**	**227**	⇓P	Pg	12 34 19.7	+0.1
VAC				S	Sg	12 34 21.0	0.0
STCW	**Studenec**	**0.06**	**101**	*i* Pg	Pg	12 34 19.7	0.0
STCW				*i* Sg	Sg	12 34 20.9	-0.1
STCW	**Studenec**	**0.06**	**101**	*i* Pg	Pg	12 34 19.7	0.0
STCW				*i* Sg	Sg	12 34 20.9	-0.1
STCW	**Studenec**	**0.06**	**101**	⇑P	Pg	12 34 19.7	0.0
STCW				S	Sg	12 34 20.9	-0.1
KVC	**Kvetna**	**0.08**	**142**	*i* Pg	Pg	12 34 20.0	+0.1
KVC				*i* Sg	Sg	12 34 21.5	0.0
KVC	**Kvetna**	**0.08**	**142**	⇑P	Pg	12 34 20.0	+0.1
KVC				S	Sg	12 34 21.5	0.0
ROHR	**Rohrbach**	**0.08**	**245**	*i* Pg	Pg	12 34 20.0	0.0
ROHR				*i* Sg	Sg	12 34 21.6	-0.1
ROHR				IAML		12 34 21.7	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.08**	**245**	*i* Pg	Pg	12 34 20.0	0.0
ROHR				*i* Sg	Sg	12 34 21.6	-0.1
	comp=E,2μm,0.1s						
KRCW	**Kraslice**	**0.09**	**44**	⇑P	Pg	12 34 20.0	0.0
KRCW				S	Sg	12 34 21.6	-0.1
SKC	**Skalna**	**0.11**	**206**	⇑P	Pg	12 34 20.5	+0.1
SKC				S	Sg	12 34 22.3	+0.1
GUNZ	**Gunzen**	**0.12**	**324**	*i* Pg	Pg	12 34 20.6	+0.1
GUNZ				*i* Sg	Sg	12 34 22.4	0.0
GUNZ				IAML		12 34 22.7	
	comp=N,540nm,0.2s						
GUNZ	**Gunzen**	**0.12**	**324**	*i* Pg	Pg	12 34 20.6	+0.1
GUNZ				*i* Sg	Sg	12 34 22.4	0.0
	comp=N,540nm,0.2s						
KOCW	**Kopaniny**	**0.13**	**268**	⇓P	Pg	12 34 20.7	+0.1
KOCW				S	Sg	12 34 22.7	0.0
MULD	**Muldenberg**	**0.14**	**352**	*i* Pg	Pg	12 34 20.9	0.0
MULD				*i* Sg	Sg	12 34 22.9	-0.2
MULD				IAML		12 34 23.1	
	comp=E,655nm,0.1s						
MULD	**Muldenberg**	**0.14**	**352**	*i* Pg	Pg	12 34 20.9	0.0
MULD				*i* Sg	Sg	12 34 22.9	-0.2
	comp=E,655nm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**6**	*i* Pg	Pg	12 34 20.9	-0.1
TANN				*i* Sg	Sg	12 34 22.9	-0.3
TANN				IAML		12 34 23.1	
	comp=E,842nm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**6**	*i* Pg	Pg	12 34 20.9	-0.1
TANN				*i* Sg	Sg	12 34 22.9	-0.3
	comp=E,842nm,0.2s						
TRCW	**Trojmez**	**0.19**	**280**	⇓P	Pg	12 34 21.7	0.0
TRCW				S	Sg	12 34 24.3	0.0
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	12 34 21.8	0.0
WERD				*i* Sg	Sg	12 34 24.4	-0.2
WERD				IAML		12 34 24.5	
	comp=E,181nm,0.3s						
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	12 34 21.8	0.0
WERD				*i* Sg	Sg	12 34 24.4	-0.2
	comp=E,181nm,0.3s						
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg	Pg	12 34 22.0	0.0
TRIB				*i* Sg	Sg	12 34 24.8	-0.1
TRIB				IAML		12 34 25.1	
	comp=E,205nm,0.1s						
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg	Pg	12 34 22.0	0.0
TRIB				*i* Sg	Sg	12 34 24.8	-0.1
	comp=E,205nm,0.1s						
ZHC	**Zelena Hora**	**0.22**	**202**	⇑P	Pg	12 34 22.2	+0.1
ZHC				S	Sg	12 34 25.2	+0.1
VIEL	**Selb-Vielitz**	**0.23**	**249**	*e*Pg	Pg	12 34 22.3	-0.1
VIEL				*e*Sg	Sg	12 34 25.4	-0.1
VIEL	**Selb-Vielitz**	**0.23**	**249**	*e*Pg	Pg	12 34 22.3	-0.1
VIEL				*e*Sg	Sg	12 34 25.4	-0.1
LACW	**Lazy**	**0.25**	**151**	*i* Pg	Pg	12 34 22.9	+0.1
LACW				*i* Sg	Sg	12 34 26.4	+0.3
LACW	**Lazy**	**0.25**	**151**	*i* Pg	Pg	12 34 22.9	+0.1
LACW				*i* Sg	Sg	12 34 26.4	+0.3
LACW	**Lazy**	**0.25**	**151**	⇑P	Pg	12 34 22.9	+0.1
LACW				S	Sg	12 34 26.4	+0.2
PLN	**Plauen**	**0.28**	**320**	*i* Pg	Pg	12 34 23.2	-0.1
PLN				*i* Sg	Sg	12 34 27.2	+0.1
PLN				IAML		12 34 27.3	
	comp=E,156nm,0.1s						
PLN	**Plauen**	**0.28**	**320**	*i* Pg	Pg	12 34 23.2	-0.1
PLN				*i* Sg	Sg	12 34 27.2	+0.1
	comp=E,156nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**217**	*e*Pg	Pg	12 34 24.6	-0.1
MANZ				*e*Sg	Sg	12 34 29.3	-0.1
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	Pg	12 34 25.6	-0.2
SCHF				*i* Sg	Sg	12 34 31.0	-0.1
SCHF				IAML		12 34 31.2	
	comp=E,111nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	Pg	12 34 25.6	-0.2
SCHF				*i* Sg	Sg	12 34 31.0	-0.1
	comp=E,111nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	12 34 26.2	-0.2
GRZ1				*i* Sg	Sg	12 34 31.8	-0.4
GRZ1				IAML		12 34 33.4	
	comp=N,77nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	12 34 26.2	-0.2
GRZ1				*i* Sg	Sg	12 34 31.8	-0.4
	comp=N,77nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.53**	**196**	*e*Pg	Pg	12 34 27.7	-0.2
ROTZ				*e*Sg	Sg	12 34 34.6	-0.1
MOX	**Moxa**	**0.65**	**306**	*e*Pg	Pg	12 34 29.9	-0.2
MOX				*e*Sg	Sg	12 34 38.5	-0.1
HSKC	**Hora Svate Kat**	**0.72**	**62**	*e*PG	Pg	12 34 31.2	-0.4
HSKC				*e*SG	Sg	12 34 40.4	-0.6
	comp=N,40nm,0.2s						
FBE	**Freiberg**	**0.88**	**42**	*e*Pg	Pg	12 34 34.4	-0.2
FBE				*e*Sg	Sg	12 34 46.3	+0.3
GRF	**Grafenberg Arr**	**0.97**	**234**	*e*Pg	Pg	12 34 36.1	-0.3
GRF				*e*Sg	Sg	12 34 49.0	-0.1
RICC	**Richard**	**1.10**	**75**	*e*SG	Sg	12 34 52.5	-0.5
	comp=N,39nm,0.3s						
CLL	**Collm**	**1.10**	**19**	*i* Pg	Pg	12 34 38.2	-0.6
CLL				*i* x	x	12 34 40.1	
CLL				*i* x	x	12 34 41.7	
CLL				*i* Sg	Sg	12 34 52.4	-0.7
	comp=Z,25nm,0.3s						
CLL				*i* x	x	12 34 56.5	
CLL	**Collm**	**1.10**	**19**	*e*Pg	Pg	12 34 38.2	-0.6
CLL				*e*Sg	Sg	12 34 52.7	-0.4
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pg	12 34 38.9	-0.6
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pn	12 34 51.3	+11
BRG				Sg	Sg	12 34 53.7	-0.6
BRG				Amp		12 34 55.0	
	comp=Z,27nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg	Pg	12 34 38.9	-0.6
BRG				*e*Sg	Sg	12 34 54.0	-0.3
WET	**Wettzell**	**1.16**	**166**	*e*Pg	Pb	12 34 39.3	-0.7
WET				*e*Sg	Sg	12 34 54.9	-0.2
PRA	**Prague**	**1.30**	**98**	*e*SG	Sb	12 34 58.6	-0.5
	comp=Z,10nm,0.3s						
KHC	**Kasperske Hory**	**1.36**	**147**	*e*SG	Sn	12 35 01.0	-0.1
	comp=Z,11nm,0.2s						
PRU	**Pruhonice**	**1.38**	**101**	*e*SG	Sb	12 35 01.5	0.0
	comp=Z,13nm,0.2s						
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	Pn	12 34 43.5	+0.2
PRU				*e*Sg	Sn	12 35 01.6	0.0
GOPC	**GO Pecny, Ondr**	**1.56**	**102**	*e*SG	Sb	12 35 06.6	+0.1
	comp=Z,16nm,0.4s						
GEC2	**GERESS Array S**	**1.65**	**149**	*e*Pg	Pb	12 34 47.6	-0.7
GEC2				*e*Sg	Sn	12 35 08.6	+0.3
TREC	**Trest**	**2.21**	**115**	*e*SG	Sb	12 35 25.6	+0.4
UPC	**Upice**	**2.30**	**83**	*e*SG	Sb	12 35 29.2	+1.3
	comp=Z,5.3nm,0.3s						
DPC	**Dobruska-Polom**	**2.49**	**87**	*e*SG	Sb	12 35 35.0	+1.5
	comp=Z,5.0nm,0.3s						
KRLC	**Kraliky**	**2.80**	**92**	*e*SG	Sg	12 35 46.1	-1.5
KRUC	**Moravsky**	**2.84**	**114**	*e*PN	Pn	12 35 02.8	-0.5
KRUC				*e*SG	Sb	12 35 46.0	+2.5
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pn	Pn	12 35 15.1	-2.1
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pg	Pb	12 35 28.1	+2.2
CDF				*e*Sg	Sg	12 36 17.3	-4.1
	comp=Z,2.0nm,0.3s						
HINF	**Hinteralfeld**	**4.42**	**238**	*e*Pn	Pn	12 35 22.6	-2.3
HINF	**Hinteralfeld**	**4.42**	**238**	*e*Pg	Pb	12 35 38.3	+2.8
HINF				*e*Sg	Sg	12 36 35.0	-4.5
	comp=Z,1.6nm,0.3s						
HAU	**Haudompre**	**4.59**	**243**	*e*Pn	Pn	12 35 25.0	-2.4
HAU	**Haudompre**	**4.59**	**243**	*e*Pg	Pb	12 35 41.1	+2.6
HAU				*e*Sg	Sg	12 36 40.4	-4.7
	comp=Z,3.0nm,0.3s						
PAGF	**Fort de Pagny**	**4.71**	**251**	*e*Pn	Pn	12 35 26.6	-2.3
PAGF				*e*Sg	Sg	12 36 43.4	-5.3
	comp=Z,5.7nm,0.6s						

*BGR **12** 12:34:27.8±0.3,50°.28N×12°.42E,h10km±2km,ML2.1/4, Error ellipse: s-maj=3.3km s-min=2.2km az=88.0*
*CLL **12** 12:34:28.2±0.3,50°.27N×12°.44E,h8km±1km,ML2.1*
WBNET 12 12:34:27.9,50°.27N×12°.44E,h9km,Ml2.1,5C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**253**	⇓P	Pg	12 34 29.7	+0.2
LBCW				S	Sg	12 34 30.9	+0.2
NKC	**Novy Kostel**	**0.04**	**173**	*i* Pg	Pg	12 34 29.8	+0.1
NKC				*i* Sg	Sg	12 34 31.0	+0.1
NKC				IAML		12 34 31.4	
	comp=N,2μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**173**	*i* Pg	Pg	12 34 29.8	+0.1
NKC				*i* Sg	Sg	12 34 31.0	+0.1
	comp=N,2μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**173**	⇓P	Pg	12 34 29.8	+0.1
NKC				S	Sg	12 34 31.0	+0.1
WERN	**Wernitzgruen**	**0.04**	**292**	*i* Pg	Pg	12 34 29.9	+0.1
WERN				*i* Sg	Sg	12 34 31.1	+0.1
WERN				IAML		12 34 31.4	
	comp=N,724nm,0.2s						
WERN	**Wernitzgruen**	**0.04**	**292**	*i* Pg	Pg	12 34 29.9	+0.1
WERN				*i* Sg	Sg	12 34 31.1	+0.1
	comp=N,724nm,0.2s						
POCW	**Potky**	**0.05**	**350**	⇓P	Pg	12 34 30.0	+0.1
POCW				S	Sg	12 34 31.4	+0.1
STCW	**Studenec**	**0.05**	**103**	*i* Pg	Pg	12 34 29.9	+0.1
STCW				*i* Sg	Sg	12 34 31.1	-0.1
STCW	**Studenec**	**0.05**	**103**	*i* Pg	Pg	12 34 29.9	+0.1
STCW				*i* Sg	Sg	12 34 31.1	-0.1
STCW	**Studenec**	**0.05**	**103**	⇑P	Pg	12 34 29.9	+0.1
STCW				S	Sg	12 34 31.1	-0.1
VAC	**Vackov**	**0.06**	**229**	*e*Pg	Pg	12 34 29.9	+0.1
VAC				*i* Sg	Sg	12 34 31.2	0.0
VAC	**Vackov**	**0.06**	**229**	⇓P	Pg	12 34 29.9	+0.1
VAC				S	Sg	12 34 31.2	0.0
KVC	**Kvetna**	**0.08**	**144**	*i* Pg	Pg	12 34 30.2	+0.1
KVC				*i* Sg	Sg	12 34 31.7	0.0
KVC	**Kvetna**	**0.08**	**144**	⇑P	Pg	12 34 30.2	+0.1
KVC				S	Sg	12 34 31.7	0.0
KRCW	**Kraslice**	**0.08**	**43**	⇑P	Pg	12 34 30.2	0.0
KRCW				S	Sg	12 34 31.8	-0.1
ROHR	**Rohrbach**	**0.09**	**245**	*i* Sg	Sg	12 34 31.8	-0.1
ROHR	**Rohrbach**	**0.09**	**245**	*e*Pg	Pg	12 34 30.4	+0.2
ROHR				*i* Sg	Sg	12 34 31.8	-0.1
	comp=N,2μm,0.1s						
SKC	**Skalna**	**0.11**	**207**	⇑P	Pg	12 34 30.7	+0.1
SKC				S	Sg	12 34 32.5	+0.1
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	Pg	12 34 30.8	+0.1
GUNZ				*i* Sg	Sg	12 34 32.5	-0.1
GUNZ				IAML		12 34 32.9	
	comp=N,317nm,0.2s						
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	Pg	12 34 30.8	+0.1
GUNZ				*i* Sg	Sg	12 34 32.5	-0.1
	comp=N,317nm,0.2s						
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	Pg	12 34 32.9	+0.3
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	Sg	12 34 32.9	+0.3
KOCW	**Kopaniny**	**0.13**	**268**	⇓P	Pg	12 34 31.0	0.0
KOCW				S	Sg	12 34 32.9	-0.1
MULD	**Muldenberg**	**0.14**	**350**	*i* Pg	Pg	12 34 31.1	0.0
MULD				*i* Sg	Sg	12 34 33.1	-0.2
MULD				IAML		12 34 33.3	
	comp=E,450nm,0.1s						
MULD	**Muldenberg**	**0.14**	**350**	*i* Pg	Pg	12 34 31.1	0.0
MULD				*i* Sg	Sg	12 34 33.1	-0.2
	comp=E,450nm,0.1s						
TANN	**Tannenbergstha**	**0.14**	**5**	*i* Pg	Pg	12 34 31.1	-0.1
TANN				*i* Sg	Sg	12 34 33.1	-0.2
TANN				IAML		12 34 33.5

STCW				*i* Sg	Sg	12 34 33.3	-0.1	
STCW	**Studenec**	**0.05**	**103**	⇑P	Pg	12 34 32.0	+0.1	
STCW				S	Sg	12 34 33.3	-0.1	
VAC	**Vackov**	**0.06**	**229**	*e*Pg	Pg	12 34 32.1	+0.1	
VAC				*i* Sg	Sg	12 34 33.3	0.0	
VAC	**Vackov**	**0.06**	**229**	⇑P	Pg	12 34 32.1	+0.1	
VAC				S	Sg	12 34 33.3	0.0	
KVC	**Kvetna**	**0.08**	**144**	*i* Sg	Sg	12 34 33.9	0.0	
KVC	**Kvetna**	**0.08**	**144**	⇓P	Pg	12 34 32.4	+0.1	
KVC				S	Sg	12 34 33.9	0.0	
KRCW	**Kraslice**	**0.08**	**43**	⇑P	Pg	12 34 32.4	0.0	
KRCW				S	Sg	12 34 33.9	-0.1	
ROHR	**Rohrbach**	**0.09**	**245**	*e*Pg	Pg	12 34 32.4	0.0	
ROHR				*i* Sg	Sg	12 34 33.9	-0.1	
ROHR				IAML		12 34 34.1		
	comp=E,2μm,0.1s							
ROHR	**Rohrbach**	**0.09**	**245**	*e*Pg	Pg	12 34 32.4	0.0	
ROHR				*i* Sg	Sg	12 34 33.9	-0.1	
	comp=E,2μm,0.1s							
SKC	**Skalna**	**0.11**	**207**	⇑P	Pg	12 34 32.8	+0.1	
SKC				S	Sg	12 34 34.7	+0.1	
GUNZ	**Gunzen**	**0.12**	**323**	*i* Sg	Sg	12 34 34.9	+0.1	
GUNZ				IAML		12 34 35.0		
	comp=N,299nm,0.2s							
GUNZ	**Gunzen**	**0.12**	**323**	*i* Sg	Sg	12 34 34.9	+0.1	
	comp=N,299nm,0.2s							
KOCW	**Kopaniny**	**0.13**	**268**	S	Sg	12 34 35.1	-0.1	
MULD	**Muldenberg**	**0.14**	**350**	*i* Sg	Sg	12 34 35.3	-0.2	
MULD				IAML		12 34 35.4		
	comp=E,896nm,0.1s							
MULD	**Muldenberg**	**0.14**	**350**	*i* Sg	Sg	12 34 35.3	-0.2	
	comp=E,896nm,0.1s							
TANN	**Tannenbergstha**	**0.14**	**5**	*i* Sg	Sg	12 34 35.3	-0.2	
TANN				IAML		12 34 35.5		
	comp=N,1μm,0.2s							
TANN	**Tannenbergstha**	**0.14**	**5**	*i* Sg	Sg	12 34 35.3	-0.2	
	comp=N,1μm,0.2s							
TRCW	**Trojmez**	**0.19**	**280**	⇓P	Pg	12 34 34.1	0.0	
TRCW				S	Sg	12 34 36.7	-0.1	
WERD	**Werda**	**0.20**	**334**	*e*Sg	Sg	12 34 36.8	-0.2	
WERD				IAML		12 34 36.9		
	comp=E,131nm,0.2s							
WERD	**Werda**	**0.20**	**334**	*e*Sg	Sg	12 34 36.8	-0.2	
	comp=E,131nm,0.2s							
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg	Pg	12 34 34.3	-0.1	
TRIB				*i* Sg	Sg	12 34 37.1	-0.2	
TRIB				IAML		12 34 37.4		
	comp=N,346nm,0.2s							
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg	Pg	12 34 34.3	-0.1	
TRIB				*i* Sg	Sg	12 34 37.1	-0.2	
	comp=N,346nm,0.2s							
ZHC	**Zelena Hora**	**0.22**	**203**	⇑P	Pg	12 34 34.6	+0.1	
ZHC				S	Sg	12 34 37.6	0.0	
VIEL	**Selb-Vielitz**	**0.23**	**249**	*e*Pg	Pg	12 34 34.8	-0.1	
VIEL				*e*Sg	Sg	12 34 37.8	-0.2	
VIEL	**Selb-Vielitz**	**0.23**	**249**	*e*Pg	Pg	12 34 34.8	-0.1	
VIEL				*e*Sg	Sg	12 34 37.8	-0.2	
LACW	**Lazy**	**0.25**	**152**	*i* Pg	Pg	12 34 35.3	+0.1	
LACW				*i* Sg	Sg	12 34 38.8	+0.3	
LACW	**Lazy**	**0.25**	**152**	*i* Pg	Pg	12 34 35.3	+0.1	
LACW				*i* Sg	Sg	12 34 38.8	+0.3	
LACW	**Lazy**	**0.25**	**152**	⇓P	Pg	12 34 35.3	+0.1	
LACW				S	Sg	12 34 38.8	+0.3	
PLN	**Plauen**	**0.28**	**320**	*e*Pg	Pg	12 34 35.6	-0.1	
PLN				*e*Sg	Sg	12 34 39.6	+0.1	
PLN				IAML		12 34 39.8		
	comp=E,147nm,0.1s							
PLN	**Plauen**	**0.28**	**320**	*e*Pg	Pg	12 34 35.6	-0.1	
PLN				*e*Sg	Sg	12 34 39.6	+0.1	
	comp=E,147nm,0.1s							
SCHF	**Schoenfels**	**0.41**	**357**	*e*Sg	Sg	12 34 43.4	-0.1	
SCHF				IAML		12 34 43.5		
	comp=E,146nm,0.2s							
SCHF	**Schoenfels**	**0.41**	**357**	*e*Sg	Sg	12 34 43.4	-0.1	
	comp=E,146nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*e*Pg	Pg	12 34 38.6	-0.2	
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*e*Pg	Pg	12 34 38.6	-0.2	

RSNC 12 12:37:35.5±0.0, 7°N±2°×7°3W±°, h138km±3km, M2.7, mb3.7, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**201**	P	Pn	12 37 53.8	-0.9
BARC				S	Sn	12 38 08.4	-0.7
PAMC	**Pamplona, Colo**	**0.69**	**36**	P	Pn	12 37 56.7	-0.5
PAMC				S	Sn	12 38 13.3	-0.4
RUSC	**La Rusia**	**0.88**	**178**	P	Pn	12 37 57.8	-0.9
RUSC				S	Sn	12 38 15.9	-0.4
PTBC	**PUERTO BERRIO,**	**1.36**	**260**	P	Pn	12 38 00.7	-2.0
PTBC				S	Sn	12 38 21.5	-1.9
OCAC	**Ocana**	**1.46**	**352**	P	Pn	12 38 02.1	-1.9
OCAC				S	Sn	12 38 23.6	-2.1
SPBC	**San Pablo de B**	**1.47**	**221**	P	Pn	12 38 03.0	-1.0
SPBC				P		12 38 03.3	
SPBC				S	Sn	12 38 24.6	-1.1
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	12 38 07.0	-1.4
ZARC				S	Sn	12 38 32.4	-1.2
ZARC				S	Sn	12 38 32.4	-1.2
NORC	**Norcasia**	**2.13**	**235**	P	Pn	12 38 10.1	-1.4
NORC				S	Sn	12 38 37.5	-1.6
CHIC	**Chingaza**	**2.22**	**196**	P	Pn	12 38 12.0	-1.1
CHIC				S	Sn	12 38 40.7	-1.2
ROSC	**El Rosal**	**2.27**	**212**	P	Pn	12 38 13.5	-0.1
ROSC				S	Sn	12 38 42.2	-0.7
UREC	**San Jos de Ur**	**2.59**	**292**	P	Pn	12 38 14.3	-2.9
UREC				S	Sn	12 38 44.9	-4.4
VILC	**Villavicencio,**	**2.71**	**192**	P	Pn	12 38 17.9	-1.0
VILC				S	Sn	12 38 52.3	-0.1
PTGC	**Puerto Gaitan,**	**2.74**	**159**	P	Pn	12 38 17.1	-2.1
PTGC				S	Sn	12 38 49.2	-3.6
NIZA	**Niza - Manizal**	**2.91**	**234**	P	Pn	12 38 19.5	-2.0
DBBC	**Dabeiba**	**3.09**	**275**	P	Pn	12 38 22.0	-1.6
DBBC				S	Sn	12 38 57.6	-3.2
SDV	**Santo Domingo**	**3.23**	**49**	P	Pn	12 38 24.7	-0.8
PRAC	**Prado**	**3.52**	**210**	P	Pn	12 38 27.7	-1.6
PRAC				S	Sn	12 39 09.0	-1.9
APAC	**Apartado, Choc**	**3.62**	**288**	P	Pn	12 38 28.3	-2.1
PLMC	**San Jos del P**	**3.67**	**240**	P	Pn	12 38 29.8	-1.3
PLMC				S	Sn	12 39 11.8	-2.4
SJCC	**San Jacinto, C**	**3.71**	**327**	P	Pn	12 38 28.7	-3.1
SJCC				S	Sn	12 39 10.2	-5.2
URMC	**La Uribe, Meta**	**3.73**	**200**	P	Pn	12 38 31.0	-1.0
URMC				S	Sn	12 39 14.0	-1.8
CRJC	**Cerrejon, Guaj**	**4.22**	**3**	P	Pn	12 38 34.4	-4.1
SMRC	**Santa Marta, M**	**4.49**	**346**	P	Pn	12 38 38.6	-3.4
SMRC				S	Sn	12 39 27.7	-6.0
CAPC	**Capurgana**	**4.59**	**294**	P	Pn	12 38 42.9	-0.4
CAPC				S	Sn	12 39 30.3	-5.7
MACC	**Macarena, Meta**	**4.66**	**189**	P	Pn	12 38 41.1	-3.2
MACC				S	Sn	12 39 33.3	-4.5
URIC	**Uribia, Colomb** 28nm,1.2s	**5.01**	**13**	P	Pn	12 38 44.6	-4.3
MALC	**Bahia Malaga**	**5.03**	**237**	P	Pn	12 38 41.1	-8.0
POPC	**Popayan, Colom** 3.2nm,0.7s	**5.51**	**220**	P	Pn	12 38 57.2	+1.4
FLOC	**Florencia**	**5.75**	**206**	P	Pn	12 38 56.9	-2.0

*IDC **12** 12:38:02.2±2.4, 35°.83N×141°.13E, h0km, mb3.4/3, mbtmp3.3/4, ML2.5/1, MS2.4/1, Error ellipse: s-maj=63.7km s-min=28.0km az=50.0*
*JMA **12** 12:38:09.7±0.2, 35°.8N±0°.6×140°.7E±0°.8, h50km±1km, MV2.8/39, NEAR CHOSHI CITY*
ISC 12 12:38:10.1±1.2, 35°.77N±0°.05×140°.76E±0°.10, h49km±8km, n12, σ0s91/17, mb3.4/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIHU	**Itakohorinouch**	**0.27**	**315**	*i* P	**Pn**	**12 38 19.1**	**+0.1**
JIHU				S	**Sn**	**12 38 26.1**	**+0.9**
JSMT	**Sammumatsuo**	**0.29**	**243**	*i* P	**Pn**	**12 38 18.6**	**-0.4**
JSMT				*e*S	**Sn**	**12 38 25.9**	**+0.5**
JCN	**Nagara**	**0.58**	**233**	*i* P	**Pn**	**12 38 22.0**	**-0.3**
JCN				S	**Sn**	**12 38 31.1**	**+0.1**
JYT	**Yasato**	**0.65**	**315**	*i* P	**Pn**	**12 38 22.5**	**-0.7**
JYT				*e*S	**Sn**	**12 38 31.5**	**-1.1**
JHO	**Hitachi**	**0.85**	**349**	*i* P	**Pn**	**12 38 26.1**	**+0.3**
BSO3	**Boso 3**	**0.99**	**192**	P	**Pn**	**12 38 27.2**	**-0.3**
BSO1	**Boso 1**	**1.13**	**171**	P	**Pn**	**12 38 29.6**	**+0.5**
JAG	**Ashikaga**	**1.25**	**302**	*i* P	**Pn**	**12 38 30.4**	**-0.8**
MJAR	**Matsushiro Arr** 1.1nm,0.3s,baz=106,slow=13,SNR=77	**2.21**	**291**	Pn	**Pn**	**12 38 44.8**	**+0.6**
MJAR				Sn	**Sn**	**12 39 12.8**	**+2.5**
	0.5nm,0.3s,baz=102,slow=4.9,SNR=3.9						
MJAR				LR	LR	12 39 46.2	
	comp=Z,73nm,18.4s,baz=113,slow=42						
MKAR	**Makanchi Array** 6.8nm,0.4s	**44.35**	**303**	P	**P**	**12 46 15.4**	**0.0**
	0.2nm,0.5s,baz=89,slow=8.7,SNR=2.6						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra** 0.9nm,0.9s,baz=82,slow=8.1,SNR=4.4	**46.37**	**309**	P	**P**	**12 46 31.2**	**-0.1**
	0.9nm,0.9s						
WRA	**Warramunga Arr** 0.2nm,0.5s,baz=1.5,slow=7.4,SNR=4.8	**55.74**	**187**	P	**P**	**12 47 41.2**	**-0.6**
	0.2nm,0.5s						

*MEX **12** 12:40:58.4±0.8, 15°.42N×94°.98W, h16km±10km, MD4.5*
*IDC **12** 12:41:03.1±1.4, 17°.18N×93°.77W, h0km, mb3.4/8, mbtmp3.4/10, ML3.3/2, MS3.5/18, Error ellipse: s-maj=29.7km s-min=11.2km az=169.0*
*NEIC **12** 12:41:06.0±1.6, 15°.99N±0°.09×94°.57W±0°.07, h38km±23km, mb4.1/44, Md4.5/22(MEX), Error ellipse: s-maj=13.7km s-min=8.7km az=204.0*
ISC 12 12:40:56.1±1.7, 15°.36N±0°.05×94°.98W±0°.03, h24km±14km, n119, σ2s19/121, mb3.6/10, MS3.6/17, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.16**	**291**		**Sn**	**12 41 28.9**	**-3.1**
HUIG	**Huatulco**	**1.16**	**291**	*e*P	**Pn**	**12 41 15.9**	**-0.9**
HUIG				*e*S	**Sn**	**12 41 28.9**	**-3.1**
CARR	**Arriaga**	**1.35**	**49**	*e*P	**Pn**	**12 41 17.1**	**-2.5**
CARR				*e*S	**Sn**	**12 41 31.8**	**-5.0**
CMIG	**Matias Romero**	**1.72**	**3**		**Sn**	**12 41 22.9**	**-1.7**
CMIG					**Sn**	**12 41 42.0**	**-3.9**
CMIG	**Matias Romero** 125nm,0.3s,baz=172,slow=12,SNR=740	**1.72**	**3**	Pg	**Pn**	**12 41 22.8**	**-1.8**
CMIG				Lg	Lg	12 41 39.4	
	387nm,0.3s,baz=241,slow=23,SNR=19						
CMIG				LR	LR	12 41 53.1	
	comp=Z,709nm,18.9s,baz=170,slow=47						
CMIG	**Matias Romero**	**1.72**	**3**	*e*P	**Pn**	**12 41 22.9**	**-1.7**
CMIG				*e*S	**Sn**	**12 41 42.0**	**-3.9**
PCIG		**1.73**	**78**		**Pn**	**12 41 23.8**	**-0.9**
PCIG		**1.73**	**78**	*e*P	**Pn**	**12 41 23.8**	**-0.9**
PCIG				*e*S	**Sn**	**12 41 43.2**	**-2.9**
UXUV	**UXUV**	**2.11**	**22**	*e*P	**Pn**	**12 41 29.1**	**-0.8**
UXUV				*e*S	**Sn**	**12 41 52.4**	**-3.0**
PEIG	**Puerto Escondi**	**2.18**	**287**	*e*P	**Pn**	**12 41 30.6**	**-0.4**
PEIG				*e*S	**Sn**	**12 41 53.1**	**-4.2**
TGIG		**2.28**	**51**	*e*P	**Pn**	**12 41 32.2**	**-0.2**
TGIG				*e*S	**Sn**	**12 41 59.0**	**-0.6**
TGBT	**Tuxtla Gutierr**	**2.30**	**52**	*e*P	**Pn**	**12 41 32.0**	**-0.5**
TGBT				*e*S	**Sn**	**12 41 59.1**	**-1.0**
OXLC	**Oaxaca**	**2.37**	**316**	*e*P	**Pn**	**12 41 35.0**	**+1.3**
OXLC				*e*S	**Sn**	**12 42 02.0**	**-0.2**
OXBJ	**Oaxaca**	**2.38**	**316**	*e*P	**Pn**	**12 41 35.0**	**+1.0**
OXBJ				*e*S	**Sn**	**12 42 01.0**	**-1.5**
OXIG	**Oaxaca**	**2.39**	**316**		**Pn**	**12 41 36.0**	**+2.0**
VHO	**Vista Hermosa**	**2.39**	**316**	*e*P	**Pn**	**12 41 36.0**	**+2.0**
NEUV	**Arroyo Zacate**	**2.47**	**342**	*e*P	**Pn**	**12 41 34.9**	**0.0**
NEUV				*e*S	**Sn**	**12 42 00.4**	**-3.9**
PATR	**El Naranjo**	**2.66**	**95**	*e*P	**Pn**	**12 41 37.6**	**-0.2**
PATR				*e*S	**Sn**	**12 42 06.9**	**-2.5**
PAVE	**Pavencul**	**2.71**	**93**	*e*P	**Pn**	**12 41 38.6**	**+0.2**
PAVE				*e*S	**Sn**	**12 42 07.9**	**-2.7**
TUIG	**Tuzandepetl**	**2.71**	**11**	*e*P	**Pn**	**12 41 37.5**	**-0.7**
TUIG				*e*S	**Sn**	**12 42 08.0**	**-2.3**
CHUJ	**Union Juarez**	**2.79**	**95**	*e*P	**Pn**	**12 41 39.7**	**+0.2**
CHUJ				*e*S	**Sn**	**12 42 10.6**	**-1.9**
YOIG	**Yosondua**	**2.88**	**301**	*e*P	**Pn**	**12 41 42.9**	**+2.1**
YOIG				*e*S	**Sn**	**12 42 12.3**	**-2.6**
CCIG	**Comitan**	**2.89**	**71**		**Pn**	**12 41 42.3**	**+1.5**
CCIG	**Comitan**	**2.89**	**71**	*e*P	**Pn**	**12 41 42.4**	**+1.5**
CCIG				*e*S	**Sn**	**12 42 15.5**	**+0.6**
PMUV	**Sontecomapan**	**3.17**	**358**	*e*P	**Pn**	**12 41 43.0**	**-1.6**
PMUV				*e*S	**Sn**	**12 42 21.9**	**+0.1**
PNIG	**Pinotepa**	**3.20**	**289**	*e*P	**Pn**	**12 41 44.9**	**0.0**
PNIG				*e*S	**Sn**	**12 42 17.3**	**-5.1**
TXIG	**Tlaxiaco**	**3.27**	**306**	*e*P	**Pn**	**12 41 47.9**	**+1.7**
TXIG				*e*S	**Sn**	**12 42 24.5**	**-0.1**
RTAL	**Retalhuleu**	**3.28**	**104**	Pn	**Pb**	**12 41 52.4**	**-1.3**
HUEH	**Huehuetenango**	**3.36**	**90**		**Pn**	**12 41 49.8**	**+2.5**
TOIG	**Toxpalan**	**3.37**	**324**	*e*P	**Pn**	**12 41 50.6**	**+3.1**
TOIG				*e*S	**Sn**	**12 42 26.8**	**-0.1**
TPIG	**Tehuac#an**	**3.80**	**323**	*e*S	**Sn**	**12 42 38.3**	**+0.9**
FTIG	**Fresnillo de T**	**3.94**	**310**		**Pn**	**12 41 57.1**	**+1.8**
FTIG	**Fresnillo de T**	**3.94**	**310**	*e*P	**Pn**	**12 41 57.1**	**+1.8**
FTIG				*e*S	**Sn**	**12 42 36.2**	**-4.7**
TLIG	**Tlapa**	**4.08**	**303**	Pn	**Pb**	**12 42 07.7**	**+0.4**
TLIG	**Tlapa**	**4.08**	**303**	*e*P	**Pn**	**12 41 58.0**	**+0.9**
TLIG				*e*S	**Sn**	**12 42 41.5**	**-2.7**
CRIG	**Cruz Grande**	**4.22**	**289**	*e*P	**Pn**	**12 41 58.9**	**-0.1**
CRIG				*e*S	**Sn**	**12 42 41.8**	**-5.7**
JAUV	**Jalcomulco**	**4.35**	**337**	*e*P	**Pn**	**12 41 59.7**	**-1.1**
JAUV				*e*S	**Sn**	**12 42 45.9**	**-4.9**
APG	**El Apazote** 0.5nm,0.3s,baz=98,slow=14,SNR=23	**4.38**	**94**	Pn	**Pn**	**12 42 04.0**	**+2.6**
APG				Lg	Lg	12 42 53.6	
	0.9nm,0.3s,baz=233,slow=20,SNR=5.3 3.4nm,1.0s						
LVIG	**Laguna Verde**	**4.55**	**343**	*e*P	**Pn**	**12 42 03.4**	**-0.1**
LVIG				*e*S	**Sn**	**12 42 57.8**	**+2.1**
PPM	**Popocatepetl**	**5.07**	**317**	*e*P	**Pn**	**12 42 14.7**	**+3.5**
PPM				*e*S	**Sn**	**12 43 12.1**	**+2.8**
SCIG	**Sabancuy**	**5.10**	**45**	*e*P	**Pn**	**12 42 10.0**	**-1.1**
PETF	**Flores**	**5.15**	**72**	Pn	**Pn**	**12 42 12.7**	**+0.9**
ESQI	**Esquipulas**	**5.51**	**98**	Pn	Pn	12 42 22.2	+5.4
MTO3	**Montecristo**	**5.52**	**99**	Pn	**Pn**	**12 42 20.7**	**+3.7**
SNET	**Serv Nac Est T**	**5.81**	**106**	Pn	Pn	12 42 28.6	+7.3
TGUH	**Tegucigalpa,Un**	**7.57**	**99**	Pn	**Pn**	**12 42 48.6**	**+3.4**
TEIG	**Tepich**	**8.01**	**52**		**Pn**	**12 42 49.5**	**-1.6**
ORTG	**Ortega, Santa**	**10.53**	**117**		Pn	12 43 37.0	+11
DUNO	**Dulce Nombre,**	**10.64**	**118**		Pn	12 43 36.9	+10
JTS	**Las Juntas de** comp=Z,218nm,21.9s,baz=302,slow=37	**11.00**	**116**	LR	LR	12 47 53.6	
LCR2	**La Lucha 2**	**12.08**	**116**	Pn	**P**	**12 43 57.4**	**-2.3**
SOR	**Soroa**	**13.51**	**55**	Pn	**Pn**	**12 44 05.8**	**-0.6**
833A	**Chaparral WMA,**	**13.53**	**343**	Pn	**Pn**	**12 44 08.2**	**+1.5**
HNDO	**Hondo**	**14.65**	**345**		**Pn**	**12 44 23.9**	**+2.0**
DRIO	**Del Rio**	**14.93**	**341**	Pn	**Pn**	**12 44 26.8**	**+1.1**
435B	**Jarrell**	**15.54**	**352**	Pn	**Pn**	**12 44 33.8**	**0.0**
JCT	**Junction City** comp=Z,18nm,1.2s	**15.69**	**344**		**Pn**	**12 44 37.7**	**+2.0**
JCT				IAmb	IAmb	12 44 54.9	
SAND	**Sanderson**	**15.94**	**337**		**P**	**12 44 42.5**	**0.0**
TX31	**Lajitas Ar. Si**	**16.05**	**332**	Pn	**P**	**12 44 45.4**	**+1.7**
TXAR	**Lajitas Array**	**16.05**	**332**		**P**	**12 44 45.1**	**+1.5**
TXAR	**Lajitas Array** comp=Z,0.1nm,0.3s,baz=144,slow=14,SNR=5.4	**16.05**	**332**	Pn	**Pn**	**12 44 41.6**	**+1.1**
TXAR				Lg	Lg	12 48 40.2	
	comp=Z,0.1nm,0.3s,baz=170,slow=28,SNR=1.8 comp=Z,0.3nm,0.5s						
BRDY	**Brady**	**16.27**	**348**		**P**	**12 44 45.0**	**-1.1**
BRDY				IAmb	IAmb	12 44 57.1	
	comp=Z,13nm,1.0s						
OZNA	**Ozona**	**16.48**	**341**		**P**	**12 44 48.5**	**0.0**
OZNA				IAmb	IAmb	12 45 09.9	
	comp=Z,16nm,1.0s						
WHTX	**Lake Whitney,**	**16.71**	**353**	Pn	**P**	**12 44 50.7**	**-0.1**
ALPN	**Alpine**	**16.93**	**333**	Pn	**P**	**12 44 54.8**	**+1.3**
FW13	**Cleburne**	**17.06**	**353**	P	**P**	**12 44 55.9**	**+1.1**
FW13				IAmb	IAmb	12 44 58.2	
	comp=Z,23nm,1.0s						
FW14	**Alvarado**	**17.08**	**354**	Pn	**P**	**12 44 54.5**	**-0.5**
SGCY	**Sterling City**	**17.41**	**342**	P	**P**	**12 45 00.3**	**+1.6**
SGCY				IAmb	IAmb	12 45 10.3	
	comp=Z,10nm,0.7s						
MNHN	**Monahans**	**17.43**	**337**	P	**P**	**12 45 02.5**	**+3.6**
PLPT	**Palo Pinto**	**17.64**	**351**	P	**P**	**12 45 03.0**	**+1.8**
FW06	**Azle**	**17.69**	**353**	P	**P**	**12 45 03.5**	**+1.8**
ABTX	**Abilene, Hawle**	**17.70**	**347**		**P**	**12 45 04.0**	**+2.1**
ABTX				IAmb	IAmb	12 45 07.6	
	comp=Z,24nm,1.1s						
FW03	**Perrin-Whitt E**	**17.82**	**352**	P	**P**	**12 45 04.5**	**+1.3**
FW03				IAmb	IAmb	12 45 30.9	
	comp=Z,20nm,0.9s						
VHRN	**Van Horn**	**17.89**	**331**	P	**P**	**12 45 07.5**	**+3.4**
ODSA	**Odessa**	**18.05**	**339**	P	**P**	**12 45 08.5**	**+2.7**
ODSA				IAmb	IAmb	12 45 13.1	
	comp=Z,26nm,1.2s						
SN05	**Snyder 5**	**18.25**	**344**	P	**P**	**12 45 10.6**	**+2.6**
SN05				IAmb	IAmb	12 45 18.0	
	comp=Z,18nm,1.1s						
APMT	**Aspermont**	**18.48**	**346**	P	**Pn**	**12 45 12.2**	**+1.5**
POST	**Post**	**18.59**	**343**	P	**Pn**	**12 45 14.2**	**+2.1**
WTFS	**Witchita Falls**	**18.59**	**351**		**Pn**	**12 45 13.7**	**+1.7**
WTFS				IAmb	IAmb	12 45 21.0	
	comp=Z,16nm,0.9s						
LOOK	**Love County**	**18.66**	**354**	P	**Pn**	**12 45 13.8**	**+1.0**
DKNS	**Dickens**	**19.00**	**345**	P	**Pn**	**12 45 18.0**	**+0.9**
DKNS				IAmb	IAmb	12 45 27.7	
	comp=Z,11nm,1.0s						
MIAR	**Mount Ida**	**19.15**	**4**	P	**Pn**	**12 45 18.4**	**-0.3**
X37A	**Clayton**	**19.15**	**359**	P	**Pn**	**12 45 20.4**	**+1.7**
X37A				IAmb	IAmb	12 45 56.6	
	comp=Z,11nm,0.9s						
152A	**Waverly Hall**	**19.59**	**27**	P	**Pn**	**12 45 23.8**	**-0.2**
152A				IAmb	IAmb	12 45 28.1	
	comp=Z,15nm,1.4s						
WMOK	**Wichita Mounta**	**19.60**	**351**	P	**Pn**	**12 45 25.2**	**+1.1**
W35A	**Tecumseh**	**19.78**	**355**	P	**P**	**12 45 25.4**	**+0.7**
W35A				IAmb	IAmb	12 45 39.0	
	comp=Z,17nm,1.0s						
WHAR	**Wooly Hollow**	**19.99**	**6**		**P**	**12 45 27.4**	**+0.5**
WHAR				IAmb	IAmb	12 45 37.2	
	comp=Z,18nm,1.4s						
SMWD	**Samnorwood**	**20.22**	**347**	P	Pn	12 45 31.6	0.0
AMTX	**Amarillo**	**20.35**	**344**	P	Pn	12 45 33.7	+0.6
AMTX				IAmb	IAmb	12 45 38.7	
	comp=Z,14nm,1.1s						
FCAR	**Ozark Folk Cen**	**20.60**	**7**	P	Pn	12 45 35.0	-1.0
FCAR				IAmb	IAmb	12 45 47.7	
	comp=Z,16nm,1.4s						
121A	**Cookes Peak, D**	**20.68**	**328**		Pn	12 45 40.7	+3.6
121A				IAmb	IAmb	12 45 46.4	
	comp=Z,10nm,1.0s						
ELIS	**Ellis County**	**21.00**	**350**	P	Pn	12 45 40.8	+0.2
T35A	**Sooner Cattle**	**21.51**	**357**	P	**P**	**12 45 44.8**	**+1.4**
ANMO	**Albuquerque**	**22.06**	**334**	P	**P**	**12 45 54.1**	**+4.6**
ANMO	**Albuquerque** comp=Z,0.4nm,0.4s,baz=239,slow=10,SNR=2.7 comp=Z,0.4nm,0.4s	**22.06**	**334**	P	**P**	**12 45 50.1**	**+0.6**
TKL	**Tuckaleechee C** comp=Z,0.6nm,0.3s,baz=143,slow=21,SNR=2.1 comp=Z,0.6nm,0.3s	**22.57**	**24**	P	P	12 45 44.0	-11
T25A	**Trinidad**	**23.25**	**341**	P	**P**	**12 46 04.9**	**+2.8**
T25A				IAmb	IAmb	12 46 14.4	
	comp=Z,10.0nm,1.1s						
SDCO	**Great Sand Dun**	**24.16**	**339**	P	**P**	**12 46 13.3**	**+2.4**
SDCO				IAmb	IAmb	12 46 18.2	
	comp=Z,9.3nm,1.5s						
PFO	**Pinyon Flats O** comp=Z,188nm,19.5s,baz=142,slow=40	**26.59**	**317**	LR	LR	12 58 17.2	
ATAH	**Atahualpa** comp=Z,50nm,19.3s,baz=286,slow=31	**27.74**	**143**	LR	LR	12 55 51.0	
PCRV	**Puerto La Cruz** comp=Z,53nm,20.7s,slow=40	**30.02**	**96**	LR	LR	13 00 39.2	
PDAR	**Pinedale Array** comp=Z,0.1nm,0.4s,baz=132,slow=7.4,SNR=1.2	**30.04**	**338**	P	**P**	**12 47 04.8**	**+1.2**
PDAR				LR	LR	13 02 25.5	
	comp=Z,49nm,18.1s,baz=179,slow=44 comp=Z,0.1nm,0.4s						
NVAR	**Mina Array Bea** comp=Z,0.4nm,0.8s,baz=125,slow=8.9,SNR=1.9	**30.83**	**323**	P	**P**	**12 47 13.2**	**+2.6**
NVAR				LR	LR	13 00 58.1	
	comp=Z,127nm,18.4s,baz=179,slow=40 comp=Z,0.4nm,0.8s						
NNA	**Nana** comp=Z,69nm,20.7s,baz=313,slow=31	**32.57**	**146**	LR	LR	12 58 18.6	
YBH	**Yreka Blue Hor** comp=Z,134nm,21.1s,baz=148,slow=36	**35.54**	**323**	LR	LR	13 01 54.4	
NEW	**Newport** comp=Z,68nm,19.8s,baz=165,slow=42	**37.54**	**336**	LR	LR	13 06 26.8	
MDP	**Montagnes des** comp=Z

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**337**		Pg	12 43 56.2	+0.3
JCUZ	**Jacuzzi**	**0.11**	**270**		Pg	12 43 56.0	-0.8
NPOC	**North of Pu'u**	**0.12**	**274**		Pg	12 43 56.7	-0.2
NPOC	**North of Pu'u** comp=E,5μm,0.3s	**0.12**	**274**	IAML		12 43 58.7	
NPOC				IAML		12 43 58.7	
	comp=N,4μm,0.3s						
STCH	**Steam Cracks**	**0.14**	**270**		Pg	12 43 57.3	+0.2
STCH	**Steam Cracks** comp=N,1μm,0.2s	**0.14**	**270**	IAML		12 43 59.0	
STCH				IAML		12 43 59.0	
	comp=E,3μm,0.2s						
PUH	**Pauahi**	**0.22**	**267**		Pg	12 43 58.3	-0.4
PUH	**Pauahi** comp=N,3μm,1.9s	**0.22**	**267**	IAML		12 44 02.4	
PUH				IAML		12 44 03.6	
	comp=E,2μm,1.6s						
RSD	**Rainshed**	**0.29**	**286**		Pg	12 44 00.3	+0.3
RSD	**Rainshed** comp=E,3μm,1.5s	**0.29**	**286**	IAML		12 44 05.0	
RSD				IAML		12 44 06.0	
	comp=N,4μm,1.3s						
HLP	**Hilina Pali**	**0.32**	**254**		Sg	12 44 05.6	+0.8
HLP	**Hilina Pali**	**0.32**	**254**		Pg	12 44 00.9	+0.4
HLP	**Hilina Pali** comp=N,3μm,1.7s	**0.32**	**254**	IAML		12 44 01.9	
HLP				IAML		12 44 04.0	
	comp=E,3μm,1.1s						
MLH	**Mauna Loa**	**0.40**	**286**		Sg	12 44 08.3	+1.1
MLH	**Mauna Loa**	**0.40**	**286**		Pg	12 44 02.0	-0.1
MLH	comp=E,1μm,1.3s			IAML		12 44 14.6	
MLH	**Mauna Loa** comp=N,2μm,1.7s	**0.40**	**286**	IAML		12 44 03.4	
HTC	**Hot Caves**	**0.42**	**250**		Pg	12 44 02.4	0.0
HMH	**Humu'ula Sheep**	**0.52**	**295**		Pg	12 44 04.1	-0.2
HMH					Sg	12 44 11.4	+0.2
HMH	**Humu'ula Sheep** comp=N,1μm,0.5s	**0.52**	**295**	IAML		12 44 11.9	
HMH				IAML		12 44 20.4	
	comp=E,865nm,1.2s						
MLOA	**Mauna Loa Obse** comp=E,773nm,1.1s	**0.58**	**285**	IAML		12 44 14.7	
MLOA				IAML		12 44 23.3	
	comp=N,730nm,1.6s						
MLOA	**Mauna Loa Obse**	**0.58**	**285**		Pg	12 44 04.8	-0.7
MLOA					Sg	12 44 12.5	-0.7
MWH	**Moku'aweowe**	**0.59**	**280**		Pg	12 44 04.8	-0.9
KHU	**Kahuku**	**0.61**	**257**		Sg	12 44 13.5	-0.7
KHU	**Kahuku**	**0.61**	**257**	Pg	Pg	12 44 04.7	-1.4
KHU	comp=E,602nm,1.3s			IAML		12 44 09.0	
KHU	**Kahuku** comp=N,575nm,1.1s	**0.61**	**257**	IAML		12 44 15.6	
POHA	**Pohakuloa**	**0.64**	**306**		Sg	12 44 14.0	-1.0
POHA	**Pohakuloa**	**0.64**	**306**	Pg	Pg	12 44 05.1	-1.4
POHA	comp=N,648nm,0.6s			IAML		12 44 22.7	
POHA	comp=N,566nm,0.8s			IAML		12 44 27.1	
ALEP	**Alea Permanent**	**0.64**	**284**		Pg	12 44 05.5	-1.2
ALEP					Sg	12 44 14.3	-0.8
HUH	**Hualalai**	**0.86**	**291**	Pg	Pg	12 44 09.8	-1.0
HUH	comp=N,531nm,1.8s			IAML		12 44 34.5	
HUH	comp=E,505nm,0.5s			IAML		12 44 35.8	

IDC 12 12:46:26.5±9.3, 6.76S×124.41E, h135km±98km, mb2.9/1, mbtmp3.9/4, ML4.1/3, Error ellipse: s-maj=156.1km s-min=31.5km az=49.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.50**	**192**	P	Pn	12 47 19.9	0.0
BATI	16nm,0.3s,baz=235,slow=1.2,SNR=18			S	Sn	12 47 54.3	-6.9
	110nm,0.3s,baz=330,slow=21,SNR=11						
WRA	**Warramunga Arr**	**16.27**	**145**	P	P	12 50 08.7	+0.7
	0.6nm,0.3s,baz=320,slow=12,SNR=14						
ASAR	**Alice Springs**	**19.13**	**153**	P	P	12 50 38.7	-0.5
	0.8nm,0.3s,baz=324,slow=11,SNR=54						
MKAR	**Makanchi Array**	**65.09**	**329**	P	P	12 56 52.6	0.0
	0.2nm,0.6s,baz=119,slow=8.4,SNR=2.0						

IDC 12 12:51:58.7±4.2, 36.66N×140.84E, h0km, mb3.7/4, mbtmp3.7/5, ML2.9/1, MS3.1/1, Error ellipse: s-maj=82.3km s-min=36.1km az=151.0
JMA 12 12:52:05.9±0.2, 35.6N±0.6×140.1E±0.8, h69km±1km, MV3.2/40, CENTRAL CHIBA PREF
JMA Felt I J1 at CENTRAL CHIBA PREF .

ISC 12 12:52:05.7±0.9, 35.53N±0.04×140.10E±0.05, h76km±7km, n22, σ1°17/30, mb3.7/4, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.14**	**144**	*i* P	**Pn**	**12 52 16.9**	**+0.1**
JCN				S	**Sn**	**12 52 25.4**	**+0.5**
JSMT	**Sammumatsuo**	**0.30**	**69**	P	**Pn**	**12 52 17.4**	**-0.1**
JSMT				*eS*	**Sn**	**12 52 26.1**	**-0.1**
TOK	**Tokyo**	**0.32**	**299**	P	**Pn**	**12 52 17.9**	**+0.3**
TOK				*eS*	**Sn**	**12 52 27.1**	**+0.8**
BSO3	**Boso 3**	**0.80**	**155**	*i* P	**Pn**	**12 52 22.1**	**+0.2**
BSO3				X		12 52 34.7	
JOD2	**Odawara 2**	**0.87**	**252**	⇓*i* P	**Pn**	**12 52 22.7**	**-0.2**
JOD2				⇓S	**Sn**	**12 52 34.8**	**-1.0**
JIM2	**Oshima 3**	**0.98**	**214**	P	**Pn**	**12 52 23.9**	**-0.3**
JIM2				S	**Sn**	**12 52 37.2**	**-1.0**
JAG	**Ashikaga**	**1.03**	**330**	⇓*i* P	**Pn**	**12 52 24.3**	**-0.6**
JAG				⇓S	**Sn**	**12 52 37.6**	**-1.7**
JRY	**Ryogami san**	**1.09**	**297**	⇓*i* P	**Pn**	**12 52 25.7**	**+0.2**
BSO1	**Boso 1**	**1.14**	**140**	P	**Pn**	**12 52 25.9**	**+0.3**
BSO1				S	**Sn**	**12 52 41.4**	**+0.8**
JFNN	**Fujinakano**	**1.21**	**254**	⇓P	**Pn**	**12 52 27.2**	**+0.2**
JFNN				⇓S	**Sn**	**12 52 43.0**	**0.0**
JYN	**Shimob**	**1.27**	**269**	⇓*i* P	**Pn**	**12 52 27.9**	**0.0**
JYN				⇓S	**Sn**	**12 52 44.4**	**-0.2**
JIZS	**Izushimoda**	**1.29**	**231**	⇓*i* P	**Pn**	**12 52 28.1**	**0.0**
JIZS				⇓S	**Sn**	**12 52 44.2**	**-0.7**
JKT	**Katashina**	**1.41**	**331**	*i* P	**Pn**	**12 52 29.2**	**-0.6**
JKT				S	**Sn**	**12 52 46.7**	**-1.2**
MJAR	**Matsushiro Arr**	**1.83**	**304**	Pn	**Pn**	**12 52 35.5**	**+0.3**
MJAR	3.6nm,0.3s,baz=86,slow=16,SNR=49			Sn	**Sn**	**12 53 02.5**	**+4.8**
	2.0nm,0.3s,baz=131,slow=9.3,SNR=3.4						
	26nm,0.3s						
H11N2	**WAKE ISLAND Hy**	**28.36**	**117**	T	T	13 27 42.1	
	baz=309						
H11N1	**WAKE ISLAND Hy**	**28.37**	**117**	T	T	13 27 39.4	
	baz=309						
H11N3	**WAKE ISLAND Hy**	**28.38**	**117**	T	T	13 27 44.1	
	baz=309						
DAV	**Davao City (W)**	**31.31**	**209**	LR	LR	13 09 48.2	
	comp=Z,38nm,21.7s,baz=304,slow=33						
MKAR	**Makanchi Array**	**44.03**	**303**	P	**P**	**13 00 06.5**	**+0.8**
	0.5nm,0.6s,baz=83,slow=8.0,SNR=5.3						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**46.10**	**309**	P	**P**	**13 00 22.8**	**+0.8**
	0.4nm,0.3s,baz=84,slow=7.8,SNR=9.7						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**50.81**	**313**	P	**P**	**13 00 58.2**	**+0.1**
	0.2nm,0.4s,baz=84,slow=9.0,SNR=1.7						
	0.2nm,0.4s						
FINES	**FINESS Array B**	**69.64**	**332**	P	**P**	**13 03 05.3**	**-1.2**
	1.2nm,0.9s,baz=67,slow=6.4,SNR=3.6						
	1.2nm,0.9s						

IDC 12 12:57:54.8±1.0, 85.75N×22.27E, h0km, mb3.6/8, mbtmp3.6/10, ML3.6/2, MS3.2/15, Error ellipse: s-maj=25.6km s-min=19.4km az=58.0
KOLA 12 12:57:57.4, 85.93N×18.18E, h0km, ML1.4, Error ellipse: s-maj=288.6km s-min=58.0km az=90.0, Arctic Ocean, Gakkel ridge

FCIAR 12 12:58:00.0, 85.83N×29.64E, h10km, station ZFI2 has station magnitude of 3.60

ISC 12 12:57:56.4±0.8, 85.59N±0.07×23.09E±0.07, h10km, n37, σ1°62/35, mb3.5/7, MS3.1/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFI2	**Zemlya Franca-**	**5.53**	**136**	*eP*	**Pn**	**12 59 20.8**	**+2.2**
ZFI2				*eS*	**Sn**	**13 00 19.2**	**-2.8**
	33nm,1.6s						
OMEGA	**Omega**	**5.56**	**136**	P	**Pn**	**12 59 21.2**	**+2.2**
OMEGA				S	**Sn**	**13 00 19.2**	**-3.5**
NOR	**Nord**	**5.78**	**249**	*eP*	**Pn**	**12 59 23.1**	**+1.0**
NOR	**Nord**	**5.78**	**249**	*i* P	**Pn**	**12 59 23.0**	**+0.9**
KBS	**Kingsbay**	**6.84**	**198**	P	**Pn**	**12 59 37.7**	**+1.1**
KBS				S	**Sn**	**13 00 53.1**	**-1.4**
KBS	**Kingsbay**	**6.84**	**198**	*eP*	**Pn**	**12 59 37.4**	**+0.7**
KBS				*eS*	**Sn**	**13 00 52.8**	**-1.7**
KBS				IAML		13 00 59.9	
	comp=Z,5.0nm,0.7s						
KBS	**Kingsbay**	**6.84**	**198**	*eP*	**Pn**	**12 59 37.3**	**+0.6**
KBS				*eS*	**Sn**	**13 00 53.0**	**-1.4**
KBS	**Kingsbay**	**6.84**	**198**	*i* P	**Pn**	**12 59 37.6**	**+1.0**
KBS				*i*		13 00 52.4	
SPA0	**Spitsbergen Ar**	**7.51**	**191**	*eP*	**Pn**	**12 59 46.8**	**+1.0**
SPA0				*eS*	**Sn**	**13 01 09.4**	**-1.4**
SPA0				IAML		13 01 15.9	
	comp=Z,3.8nm,0.7s						
SPA0	**Spitsbergen Ar**	**7.51**	**191**	*eP*	**Pn**	**12 59 46.6**	**+0.9**
SPA0				*eS*	**Sn**	**13 01 08.6**	**-2.1**
SPITS	**Spitsbergen Ar**	**7.51**	**191**	P	**Pn**	**12 59 47.2**	**+1.4**
SPITS				S	**Sn**	**13 01 09.9**	**-0.8**
SPITS	**Spitsbergen Ar**	**7.51**	**191**	Pn	**Pn**	**12 59 47.1**	**+1.3**
	baz=34,slow=14						
	comp=Z,1.1nm,0.3s						
BRBB	**Barentsburg B**	**7.63**	**194**	P	**Pn**	**12 59 49.5**	**+2.1**
BRBB				S	**Sn**	**13 01 13.5**	**-0.2**
BRBB	**Barentsburg B**	**7.63**	**194**	*eP*	**Pn**	**12 59 49.4**	**+2.1**
BRBB				*eS*	**Sn**	**13 01 12.8**	**-0.9**
DAG	**Danmarks Havn**	**10.42**	**238**	*e*	**Pn**	**13 00 28.5**	**+3.0**
DAG	**Danmarks Havn**	**10.42**	**238**	*eP*	**Pn**	**13 00 25.3**	**-0.3**
NEEM	**North Greenlan**	**12.19**	**274**	*eP*	Pn	13 00 45.0	-4.9
ARCES	**ARCESS Array B**	**16.16**	**177**	Pn	**Pn**	**13 01 42.4**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=356,slow=9.9,SNR=9.5						
	comp=Z,2.5nm,0.8s						
RES	**Resolute Bay**	**17.92**	**310**	P	Pn	13 01 58.4	-6.7
	comp=Z,1.2nm,0.6s,baz=22,slow=14,SNR=5.9						
RES				LR	LR	13 08 56.3	
	comp=Z,67nm,19.2s,baz=26,slow=37						
TIXI	**Tiksi**	**20.12**	**62**	P	**P**	**13 02 30.2**	**+0.4**
	comp=Z,1.4nm,0.2s,baz=48,slow=3.1,SNR=1.7						
TIXI				LR	LR	13 09 17.7	
	comp=Z,20nm,18.4s,baz=344,slow=34						
	comp=Z,1.4nm,0.2s						
FINES	**FINESS Array B**	**24.29**	**177**	P	**P**	**13 03 13.6**	**+0.3**
	comp=Z,0.9nm,0.7s,baz=354,slow=13,SNR=2.7						
FINES				LR	LR	13 11 32.5	
	comp=Z,46nm,19.8s,baz=8.5,slow=33						
	comp=Z,0.9nm,0.7s						
NOA	**NORSAR Array B**	**24.80**	**194**	LR	LR	13 12 09.1	
	comp=Z,18nm,19.7s,baz=15,slow=34						
HFS	**Hagfors**	**25.66**	**191**	LR	LR	13 12 36.7	
	comp=Z,19nm,19.6s,baz=322,slow=34						
KIRV	**Kirov**	**27.67**	**150**	LR	LR	13 17 43.2	
	comp=Z,29nm,19.5s,baz=13,slow=43						
YKA	**Yellowknife Ar**	**31.08**	**323**	P	**P**	**13 04 11.6**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=356,slow=9.1,SNR=7.8						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**34.28**	**128**	P	**P**	**13 04 41.6**	**-0.5**
	comp=Z,1.1nm,0.7s,baz=353,slow=10,SNR=5.7						
BVAR				LR	LR	13 20 15.5	
	comp=Z,32nm,21.5s,baz=3.2,slow=39						
	comp=Z,1.1nm,0.7s						
AKTO	**Aktyubinsk**	**36.19**	**142**	LR	LR	13 22 20.4	
	comp=Z,45nm,18.0s,baz=130,slow=40						
KURBB	**Kurchatov Arra**	**37.20**	**120**	P	**P**	**13 05 08.4**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=355,slow=8.4,SNR=4.9						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**41.27**	**117**	LR	LR	13 24 59.9	
	comp=Z,38nm,20.0s,baz=62,slow=39						
SONM	**Songino Array**	**42.03**	**92**	P	**P**	**13 05 49.0**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=339,slow=7.9,SNR=3.8						
	comp=Z,0.5nm,0.5s						
KBZ	**Khabaz**	**42.31**	**159**	LR	LR	13 25 11.7	
	comp=Z,49nm,18.0s,baz=26,slow=38						
AAK	**Ala-Archa**	**44.89**	**125**	LR	LR	13 29 04.9	
	comp=Z,22nm,18.4s,baz=64,slow=42						
NEW	**Newport**	**45.41**	**323**	LR	LR	13 26 11.1	
	comp=Z,56nm,18.2s,baz=230,slow=38						
BRTR	**Keskin Array B**	**46.10**	**169**	LR	LR	13 27 59.3	
	comp=Z,37nm,18.2s,baz=336,slow=39						
PDAR	**Pinedale Array**	**50.51**	**315**	LR	LR	13 26 44.5	
	comp=Z,24nm,21.1s,baz=250,slow=34						
TXAR	**Lajitas Array**	**63.55**	**309**	P	**P**	**13 08 26.6**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=17,slow=6.6,SNR=1.7						
	comp=Z,0.1nm,0.4s						
CMAR	**Chiang Mai Arr**	**70.63**	**103**	P	**P**	**13 09 12.3**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=351,slow=6.9,SNR=4.0						
CMAR				LR	LR	13 42 52.9	
	comp=Z,26nm,18.9s,baz=235,slow=38						
	comp=Z,0.7nm,0.9s						

IDC 12 12:57:47.1±9.0, 6.63S×130.16E, h0km, mb4.0/1, mbtmp4.2/4, ML4.2/3, MS3.2/4, Error ellipse: s-maj=137.8km s-min=46.7km az=10.0
NEIC 12 12:58:03.8±2.4, 7.15S±0.08×129.53E±0.10, h157km±10km, mb4.2/6, Error ellipse: s-maj=14.1km s-min=11.6km az=95.0

ISC 12 12:58:02.5±0.8, 7.16S±0.09×129.45E±0.08, h150km, n23, σ1°75/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.01**	**114**	Pn	**Pn**	**12 58 38.5**	**+0.8**
FAKI	**Fak Fak**	**5.05**	**34**		**Pn**	**12 59 17.8**	**+1.1**
SOEI	**Soe**	**5.74**	**243**	Pn	**Pn**	**12 59 28.1**	**+2.2**
MTN	**Manton Dam**	**5.89**	**164**		**Pn**	**12 59 27.8**	**+0.1**
BATI	**Baumata**	**6.47**	**242**	Pn	**Pn**	**12 59 36.4**	**+0.9**
	2.8nm,0.3s,baz=37,slow=5.1,SNR=1.6						
BATI				Sn	**Sn**	**13 00 47.2**	**-1.2**
	9.0nm,0.3s,baz=148,slow=23,SNR=2.7						
	11nm,0.4s						
FITZ	**Fitzroy Crossi**	**11.49**	**198**	Pn	**Pn**	**13 00 39.5**	**-2.6**
WB0	**Warramunga Arr**	**13.42**	**160**		**Pn**	**13 01 04.3**	**-2.9**
WRA	**Warramunga Arr**	**13.57**	**160**	Pn	**Pn**	**13 01 07.2**	**-1.8**
WRA	**Warramunga Arr**	**13.57**	**160**	Pn	Pn	13 01 04.9	-4.1
	1.5nm,0.3s,baz=344,slow=13,SNR=31						
WRA				Sn	Sn	13 03 25.6	-14
	1.6nm,0.3s,baz=338,slow=20,SNR=8.6						
WRA				LR	LR	13 06 56.4	
	comp=Z,326nm,21.4s,baz=86,slow=40						
	2.0nm,0.4s						
WB2	**Warramunga Arr**	**13.57**	**160**	Pn	**Pn**	**13 01 07.0**	**-2.1**
WR0	**Warramunga Arr**	**13.65**	**159**	Pn	**Pn**	**13 01 08.1**	**-2.0**
COEN	**Coen**	**15.09**	**118**	Pn	**Pn**	**13 01 27.4**	**-0.7**
COEN				IAmb	IAmb	13 02 10.2	
	comp=Z,28nm,1.4s						
AS31	**Alice Springs**	**16.96**	**166**	P	**P**	**13 01 51.5**	**+1.0**
AS31				IAmb	IAmb	13 01 56.1	
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**16.96**	**166**	P	**P**	**13 01 50.4**	**-0.1**
ASAR	**Alice Springs**	**16.96**	**166**	P	**P**	**13 01 51.1**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=342,slow=11,SNR=48						
ASAR				S		13 04 49.8	-10
	comp=Z,0.9nm,0.4s,baz=323,slow=19,SNR=6.0						
ASAR				LR	LR	13 08 26.1	
	comp=Z,28nm,18.3s,baz=174,slow=37						
	comp=Z,2.6nm,0.6s						
PSA00	**Pilbara Seismi**	**17.07**	**212**	P	**P**	**13 01 52.4**	**+0.7**
PSA00				IAmb	IAmb	13 01 52.9	
	comp=Z,15nm,1.2s						
BBOO	**Buckleboo**	**26.25**	**167**	P	**P**	**13 03 26.1**	**+2.3**
STKA	**Stephens Creek**	**27.08**	**157**	P	**P**	**13 03 32.1**	**+1.0**
STKA	**Stephens Creek**	**27.08**	**157**	P	**P**	**13 03 33.0**	**+1.8**
	comp=Z,1.5nm,0.6s,baz=346,slow=11,SNR=3.6						
	comp=Z,1.5nm,0.6s						
CMAR	**Chiang Mai Arr**	**39.41**	**311**	LR	LR	13 25 22.9	
	comp=Z,14nm,18.2s,baz=115,slow=42						
USA0B	**Ussuriysk Arra**	**51.17**	**2**	P	**P**	**13 06 47.9**	**-2.3**
USA0B				IAmb	IAmb	13 06 48.9	
	comp=Z,4.0nm,0.7s						
GEYT	**Alibeck**	**79.89**	**310**	LR	LR	13 51 39.0	
	comp=Z,25nm,19.1s,baz=330,slow=40						
ABKAR	**Akbulak array**	**82.29**	**322**	P	**P**	**13 10 08.8**	**+1.6**

BGR 12 12:59:26.4±0.2, 50.27N×12.43E, h10km±1km, ML2.3/7, Error ellipse: s-maj=1.1km s-min=1.1km az=99.0
CLL 12 12:59:26.9±0.3, 50.29N×12.44E, h8km, ML2.4
PRU 12 12:59:26.1, 50.29N×12.43E, h10km, West Bohemia Swarm

WBNET 12 12:59:26.6, 50.27N×12.44E, h9km, Ml2.2, 7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**250**	⇓P	Pg	12 59 28.4	+0.2
LBCW				S	Sg	12 59 29.6	+0.2
NKC	**Novy Kostel**	**0.04**	**173**	*i* Pg	Pg	12 59 28.5	+0.1
NKC				*i* Sg	Sg	12 59 29.7	+0.1
NKC				IAML		12 59 30.1	
	comp=N,2μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**173**	*e*PG	Pg	12 59 28.5	+0.1
NKC				*e*SG	Sg	12 59 29.8	+0.2
	comp=N,819nm,0.4s						
NKC	**Novy Kostel**	**0.04**	**173**	*i* Pg	Pg	12 59 28.5	+0.1
NKC				*i* Sg	Sg	12 59 29.7	+0.1
	comp=N,2μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**173**	⇓P	Pg	12 59 28.5	+0.1
NKC				S	Sg	12 59 29.7	+0.1
WERN	**Wernitzgruen**	**0.04**	**291**	*i* Pg	Pg	12 59 28.6	+0.1
WERN				*i* Sg	Sg	12 59 29.8	+0.1
WERN				IAML		12 59 30.1	
	comp=N,2μm,0.2s						
WERN	**Wernitzgruen**	**0.04**	**291**	*i* Pg	Pg	12 59 28.6	+0.1
WERN				*i* Sg	Sg	12 59 29.8	+0.1
	comp=N,2μm,0.2s						
POCW	**Potky**	**0.05**	**350**	⇓P	Pg	12 59 28.6	+0.1
POCW				S	Sg	12 59 30.0	+0.1
STCW	**Studenec**	**0.05**	**104**	*i* Pg	Pg	12 59 28.6	+0.1
STCW				*i* Sg	Sg	12 59 29.8	-0.1
STCW	**Studenec**	**0.05**	**104**	*i* Pg	Pg	12 59 28.6	+0.1
STCW				*i* Sg	Sg	12 59 29.8	-0.1
STCW	**Studenec**	**0.05**	**104**	⇑P	Pg	12 59 28.8	+0.1
STCW				S	Sg	12 59 29.8	-0.1
VAC	**Vackov**	**0.06**	**227**	*i* Pg	Pg	12 59 28.6	+0.1
VAC				*i* Sg	Sg	12 59 29.9	0.0
VAC	**Vackov**	**0.06**	**227**	⇑P	Pg	12 59 28.6	+0.1
VAC				S	Sg	12 59 29.9	0.0
KVC	**Kvetna**	**0.08**	**144**	*i* Pg	Pg	12 59 28.9	+0.1
KVC				*i* Sg	Sg	12 59 30.4	0.0
KVC	**Kvetna**	**0.08**	**144**	⇑P	Pg	12 59 28.9	+0.1
KVC				S	Sg	12 59 30.4	0.0
KRCW	**Kraslice**	**0.08**	**44**	⇑P	Pg	12 59 28.9	0.0
KRCW				S	Sg	12 59 30.4	-0.1
ROHR	**Rohrbach**	**0.09**	**244**	*i* Pg	Pg	12 59 28.9	0.0
ROHR				*i* Sg	Sg	12 59 30.4	-0.1
ROHR				IAML		12 59 30.6	
	comp=E,3μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**244**	*i* Pg	Pg	12 59 28.9	0.0
ROHR				*i* Sg	Sg	12 59 30.4	-0.1
	comp=E,3μm,0.1s						
SKC	**Skalna**	**0.11**	**206**	⇑P	Pg	12 59 29.4	+0.1
SKC				S	Sg	12 59 31.2	+0.1
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	Pg	12 59 29.4	+0.1
GUNZ				*i* Sg	Sg	12 59 31.3	+0.1
GUNZ				IAML		12 59 31.5	
	comp=N,702nm,0.2s						
GUNZ	**Gunzen**	**0.12**	**323**	*i* Pg	Pg	12 59 29.4	+0.1
GUNZ				*i* Sg	Sg	12 59 31.3	+0.1
	comp=N,702nm,0.2s						
KOCW	**Kopaniny**	**0.13**	**267**	⇑P	Pg	12 59 29.6	0.0
KOCW				S	Sg	12 59 31.6	-0.1
MULD	**Muldenberg**	**0.14**	**351**	*i* Pg	Pg	12 59 29.7	0.0
MULD				*i* Sg	Sg	12 59 31.8	-0.2
MULD				IAML		12 59 31.9	
	comp=E,1μm,0.1s						
MULD	**Muldenberg**	**0.14**	**351**	*i* Pg	Pg	12 59 29.7	0.0
MULD				*i* Sg	Sg	12 59 31.8	-0.2
	comp=E,1μm,0.1s						
TANN	**Tannenbergstha**	**0.14**	**6**	*i* Pg	Pg	12 59 29.7	-0.1
TANN				*i* Sg	Sg	12 59 31.8	-0.2
TANN				IAML		12 59 31.9	
	comp=E,2μm,0.2s						
TANN	**Tannenbergstha**	**0.14**	**6**	*i* Pg	Pg	12 59 29.7	-0.1
TANN				*i* Sg	Sg	12 59 31.8	-0.2
	comp=E,2μm,0.2s						
TRCW	**Trojmez**	**0.19**	**279**	⇓P	Pg	12 59 30.6	0.0
TRCW				S	Sg	12 59 33.2	-0.1
WERD	**Werda**	**0.20**	**334**	*i* Pg	Pg	12 59 30.6	0.0
WERD				*e*Sg	Sg	12 59 33.2	-0.2
WERD				IAML		12 59 33.4	
	comp=E,264nm,0.2s						
WERD	**Werda**	**0.20**	**334**	*i* Pg	Pg	12 59 30.6	0.0
WERD				*e*Sg	Sg	12 59 33.2	-0.2
	comp=E,264nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**292**	*i* Pg	Pg	12 59 30.8	-0.1
TRIB				*i* Sg	Sg	12 59 33.7	-0.2
TRIB				IAML		12 59 33.9	
	comp=N,662nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**292**	*i* Pg	Pg	12 59 30.8	-0.1
TRIB				*i* Sg	Sg	12 59 33.7	-0.2
	comp=N,662nm,0.2s						
ZHC	**Zelena Hora**	**0.22**	**203**	⇑P	Pg	12 59 31.1	+0.1
ZHC				S	Sg	12 59 34.1	+0.1
VIEL	**Selb-Vielitz**	**0.23**	**248**	*i* Pg	Pg	12 59 31.2	-0.1
VIEL				*i* Sg	Sg	12 59 34.3	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**248**	*i* Pg	Pg	12 59 31.2	-0.1
VIEL				*i* Sg	Sg	12 59 34.3	-0.2
LACW	**Lazy**	**0.25**	**152**	*i* Pg	Pg	12 59 31.8	+0.2
LACW				*i* Sg	Sg	12 59 35.3	+0.2
LACW	**Lazy**	**0.25**	**152**	*i* Pg	Pg	12 59 31.8	+0.2
LACW				*i* Sg	Sg	12 59 35.3	+0.2
LACW	**Lazy**	**0.25**	**152**	⇓P	Pg	12 59 31.8	+0.2
LACW				S

VRAC	**Vranov**	**2.86**	**108**	*e*PN	Pn	13 00 12.0	-0.4		
VRAC	**Vranov**	**2.86**	**108**	*e*PN	Pg	13 00 20.3	-1.0		
VRAC				*e*SG	Sg	13 01 02.5	+4.1		
MORC	**Moravsky Berou**	**3.33**	**97**	*e*PN	Pb	13 00 26.8	+1.0		

PRU **12** *12:59:34.7,50˚.27N×12˚.43E,h10km, West Bohemia Swarm-felt*
VIE **12** *12:59:35.1±0.4,50˚.22N×12˚.41E,h10km,mb2.3/11, ml3.1/11,Error ellipse: s-maj=3.6km s-min=2.8km az=87.0*
BGR **12** *12:59:35.3±0.2,50˚.27N×12˚.44E,h10km±1km,ML2.7/7, Error ellipse: s-maj=2.2km s-min=1.1km az=99.0*
CLL **12** *12:59:35.8±0.3,50˚.28N×12˚.44E,h8km,ML2.7*
LDG **12** *12:59:36.2±0.1,50˚.24N×12˚.34E,h5km,Ml3.2/11,Error ellipse: s-maj=3.1km s-min=2.0km az=164.0*

WBNET 12 12:59:35.6,50˚.27N×12˚.44E,h9km,Ml2.8,5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**244**	⇓P	Pg	12 59 37.4	+0.2
LBCW				S	Sg	12 59 38.6	+0.2
NKC	**Novy Kostel**	**0.04**	**173**	*e*Pg	Pg	12 59 37.4	+0.1
NKC				*i* Sg	Sg	12 59 38.6	+0.1
NKC				IAML		12 59 39.1	
	comp=N,5μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**173**	*e*SG	Sg	12 59 38.7	+0.1
	comp=N,3μm,0.3s						
NKC	**Novy Kostel**	**0.04**	**173**	*e*Pg	Pg	12 59 37.4	+0.1
NKC				*i* Sg	Sg	12 59 38.6	+0.1
	comp=N,5μm,0.1s						
NKC	**Novy Kostel**	**0.04**	**173**	⇓P	Pg	12 59 37.5	+0.1
NKC				S	Sg	12 59 38.7	+0.1
WERN	**Wernitzgruen**	**0.04**	**288**	*i* Pg	Pg	12 59 37.5	+0.1
WERN				*i*		12 59 38.5	
WERN				*i* Sg	Sg	12 59 38.8	+0.1
WERN				IAML		12 59 38.9	
	comp=N,3μm,0.1s						
WERN	**Wernitzgruen**	**0.04**	**288**	*i* Pg	Pg	12 59 37.5	+0.1
WERN				*i* Sg	Sg	12 59 38.8	+0.1
	comp=N,3μm,0.1s						
POCW	**Potky**	**0.05**	**350**	⇓P	Pg	12 59 37.6	+0.1
POCW				S	Sg	12 59 38.9	+0.1
STCW	**Studenec**	**0.05**	**106**	*i* Pg	Pg	12 59 37.5	+0.1
STCW				*i* Sg	Sg	12 59 38.8	-0.1
STCW	**Studenec**	**0.05**	**106**	*i* Pg	Pg	12 59 37.5	+0.1
STCW				*i* Sg	Sg	12 59 38.8	-0.1
STCW	**Studenec**	**0.05**	**106**	⇑P	Pg	12 59 37.5	+0.1
STCW				S	Sg	12 59 38.8	-0.1
VAC	**Vackov**	**0.06**	**226**	*i* Pg	Pg	12 59 37.5	+0.1
VAC				*i* Sg	Sg	12 59 38.8	0.0
VAC	**Vackov**	**0.06**	**226**	⇑P	Pg	12 59 37.6	+0.1
VAC				S	Sg	12 59 38.8	0.0
KRCW	**Kraslice**	**0.08**	**45**	⇑P	Pg	12 59 37.9	0.0
KRCW				S	Sg	12 59 39.4	-0.1
KVC	**Kvetna**	**0.08**	**145**	*i* Pg	Pg	12 59 37.9	+0.1
KVC				*i* Sg	Sg	12 59 39.4	0.0
KVC	**Kvetna**	**0.08**	**145**	⇓P	Pg	12 59 37.9	+0.1
KVC				S	Sg	12 59 39.4	0.0
ROHR	**Rohrbach**	**0.09**	**243**	*e*Pg	Pg	12 59 37.9	0.0
ROHR				*i* Sg	Sg	12 59 39.4	-0.1
ROHR				IAML		12 59 39.6	
	comp=E,11μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**243**	*e*Pg	Pg	12 59 37.9	0.0
ROHR				*i* Sg	Sg	12 59 39.4	-0.1
	comp=E,11μm,0.1s						
GUNZ	**Gunzen**	**0.11**	**322**	*i* Pg	Pg	12 59 38.4	+0.1
GUNZ				*e*Sg	Sg	12 59 40.2	0.0
GUNZ				IAML		12 59 40.4	
	comp=N,925nm,0.3s						
GUNZ	**Gunzen**	**0.11**	**322**	*i* Pg	Pg	12 59 38.4	+0.1
GUNZ				*e*Sg	Sg	12 59 40.2	0.0
	comp=N,925nm,0.3s						
SKC	**Skalna**	**0.12**	**206**	⇑P	Pg	12 59 38.4	+0.1
SKC				S	Sg	12 59 40.2	+0.1
KOCW	**Kopaniny**	**0.13**	**266**	⇓P	Pg	12 59 40.5	0.0
KOCW				S	Sg	12 59 40.5	-0.1
MULD	**Muldenberg**	**0.14**	**351**	*i* Pg	Pg	12 59 38.7	0.0
MULD				*i* Sg	Sg	12 59 40.6	-0.2
MULD				IAML		12 59 40.8	
	comp=E,2μm,0.2s						
MULD	**Muldenberg**	**0.14**	**351**	*i* Pg	Pg	12 59 38.7	0.0
MULD				*i* Sg	Sg	12 59 40.6	-0.2
	comp=E,2μm,0.2s						
TANN	**Tannenbergstha**	**0.14**	**6**	*i* Pg	Pg	12 59 38.7	-0.1
TANN				*i* Sg	Sg	12 59 40.7	-0.2
TANN				IAML		12 59 40.9	
	comp=E,3μm,0.2s						
TANN	**Tannenbergstha**	**0.14**	**6**	*i* Pg	Pg	12 59 38.7	-0.1
TANN				*i* Sg	Sg	12 59 40.7	-0.2
	comp=E,3μm,0.2s						
TRCW	**Trojmez**	**0.19**	**279**	⇓P	Pg	12 59 39.5	0.0
TRCW				S	Sg	12 59 42.1	-0.1
WERD	**Werda**	**0.19**	**334**	*i* Pg	Pg	12 59 39.6	0.0
WERD				*e*Sg	Sg	12 59 42.2	-0.2
WERD				IAML		12 59 42.3	
	comp=E,436nm,0.2s						
WERD	**Werda**	**0.19**	**334**	*i* Pg	Pg	12 59 39.6	0.0
WERD				*e*Sg	Sg	12 59 42.2	-0.2
	comp=E,436nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**292**	*i* Pg	Pg	12 59 39.8	-0.1
TRIB				*i* Sg	Sg	12 59 42.6	-0.2
TRIB				IAML		12 59 42.9	
	comp=N,1μm,0.3s						
TRIB	**Obertriebel**	**0.21**	**292**	*i* Pg	Pg	12 59 39.8	-0.1
TRIB				*i* Sg	Sg	12 59 42.6	-0.2
	comp=N,1μm,0.3s						
ZHC	**Zelena Hora**	**0.22**	**203**	⇑P	Pg	12 59 40.1	+0.1
ZHC				S	Sg	12 59 43.1	+0.1
VIEL	**Selb-Vielitz**	**0.23**	**248**	*i* Pg	Pg	12 59 40.2	-0.1
VIEL				*i* Sg	Sg	12 59 43.3	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**248**	*i* Pg	Pg	12 59 40.2	-0.1
VIEL				*i* Sg	Sg	12 59 43.3	-0.2
LACW	**Lazy**	**0.25**	**152**	*i* Pg	Pg	12 59 40.8	+0.1
LACW				*i* Sg	Sg	12 59 44.3	+0.2
LACW	**Lazy**	**0.25**	**152**	*i* Pg	Pg	12 59 40.8	+0.1
LACW				*i* Sg	Sg	12 59 44.3	+0.2
LACW	**Lazy**	**0.25**	**152**	⇓P	Pg	12 59 40.8	+0.1
LACW				S	Sg	12 59 44.3	+0.2
PLN	**Plauen**	**0.28**	**320**	*i* Pg	Pg	12 59 41.0	-0.1
PLN				*i* Sg	Sg	12 59 44.9	0.0
PLN				IAML		12 59 45.2	
	comp=E,506nm,0.2s						
PLN	**Plauen**	**0.28**	**320**	*i* Pg	Pg	12 59 41.0	-0.1
PLN				*i* Sg	Sg	12 59 44.9	0.0
	comp=E,506nm,0.2s						
MANZ	**Manzenberg**	**0.36**	**217**	*e*Pg	Pg	12 59 42.5	-0.1
MANZ				*e*Sg	Sg	12 59 47.3	0.0
SCHF	**Schoenfels**	**0.40**	**357**	*i* Sg	Sg	12 59 48.7	-0.1
SCHF				IAML		12 59 49.3	
	comp=E,599nm,0.4s						
SCHF	**Schoenfels**	**0.40**	**357**	*i* Sg	Sg	12 59 48.7	-0.1
	comp=E,599nm,0.4s						
GRZ1	**Mausoleum Wald**	**0.44**	**342**	*i* Sg	Sg	12 59 49.5	-0.5
GRZ1				IAML		12 59 52.0	
	comp=N,382nm,0.4s						
GRZ1	**Mausoleum Wald**	**0.44**	**342**	*i* Sg	Sg	12 59 49.5	-0.5
	comp=N,382nm,0.4s						
ROTZ	**Rotzenmuhle**	**0.53**	**197**	*e*Sg	Sg	12 59 52.5	-0.2
MOX	**Moxa**	**0.65**	**305**	*e*Sg	Sg	12 59 56.5	0.0
HSKC	**Hora Svate Kat**	**0.72**	**62**	*e*SG	Sg	12 59 58.4	-0.3
	comp=N,200nm,0.3s						
FBE	**Freiberg**	**0.87**	**42**	*e*Pg	Pg	12 59 52.1	-0.2
FBE				*e*Sg	Sb	13 00 04.6	-0.1
GRF	**Grafenberg Arr**	**0.98**	**234**	*e*Pg	Pg	12 59 54.0	-0.3
GRF				*e*Sg	Sg	13 00 07.2	+0.1
CLL	**Collm**	**1.09**	**19**	*i* Pg	Pg	12 59 55.9	-0.7
CLL				*i* x	x	12 59 57.9	
CLL				*i* x	x	12 59 59.6	
CLL				*i* Sg	Sg	13 00 10.3	-0.5
	comp=Z,146nm,0.6s						
CLL				*i* x	x	13 00 14.0	
CLL	**Collm**	**1.09**	**19**	*e*Pg	Pg	12 59 56.0	-0.6
CLL				*e*Sg	Sg	13 00 10.7	-0.1
RICC	**Richard**	**1.09**	**75**	*e*SG	Sg	13 00 10.4	-0.4
	comp=Z,271nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	Pg	12 59 56.8	-0.5
BRG	**Berggiesshubel**	**1.13**	**57**	Sg	Sg	13 00 11.5	-0.4
BRG				Amp		13 00 13.0	
	comp=Z,124nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg	Pg	12 59 56.7	-0.5
BRG				*e*Sg	Sg	13 00 11.7	-0.2

WET	**Wettzell**	**1.17**	**166**	*e*Pg	Pb	12 59 57.7	-0.2		
WET				*e*Sg	Sg	13 00 12.5	-0.6		
PRA	**Prague**	**1.30**	**98**	*e*SG	Sb	13 00 16.1	-0.8		
	comp=Z,81nm,0.3s								
KHC	**Kasperske Hory**	**1.36**	**147**	*e*SG	Sb	13 00 18.0	-0.8		
	comp=Z,50nm,0.3s								
PRU	**Pruhonice**	**1.38**	**101**	*e*SG	Sb	13 00 19.3	-0.1		
	comp=Z,74nm,0.4s								
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	Pn	13 00 01.1	+0.1		
PRU				*e*Sg	Sn	13 00 19.5	0.0		
PVCC	**Panska Ves**	**1.39**	**79**	*e*SG	Sn	13 00 19.7	+0.1		
	comp=Z,180nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.55**	**103**	*e*SG	Sb	13 00 24.5	+0.2		
	comp=Z,110nm,0.3s								
GEC2	**GERESS Array S**	**1.65**	**150**	*e*Pg	Pb	13 00 05.7	-0.5		
GEC2				*e*Sg	Sb	13 00 26.7	-0.4		
CKRC	**Cesky Krumlov**	**1.90**	**139**	*e*SG	Sb	13 00 33.7	-0.5		
	comp=Z,35nm,0.3s								
UPC	**Upice**	**2.30**	**83**	*e*SG	Sb	13 00 47.2	+1.5		
	comp=Z,61nm,0.4s								
DPC	**Dobruska-Polom**	**2.49**	**87**	*e*SG	Sb	13 00 53.0	+1.7		
	comp=Z,40nm,0.3s								
BIOA	**Bad Ischl, Aus**	**2.70**	**163**	*e*Pn	Pn	13 00 16.6	-2.7		
	comp=Z,1.6nm,0.2s								
MOA	**Molln**	**2.71**	**153**	*e*Pn	Pn	13 00 16.6	-2.7		
	comp=Z,0.8nm,0.2s								
MOA				*e*Sg	Sb	13 00 59.2	+1.7		
	comp=Z,13nm,0.3s								
KRLC	**Kraliky**	**2.80**	**92**	*e*SG	Sg	13 01 04.8	-0.6		
	comp=Z,34nm,0.6s								
LESA	**Schwarzleotal**	**2.86**	**177**	*e*Pn	Pn	13 00 20.0	-1.4		
	comp=Z,0.4nm,0.1s								
LESA				*e*Pg	Pg	13 00 30.0	-0.3		
	comp=Z,3.9nm,0.3s								
LESA				*i* Sg	Sg	13 01 06.8	-0.4		
	comp=Z,19nm,0.3s								
RETA	**Reutte**	**3.00**	**202**	*e*Pn	Pn	13 00 21.6	-1.8		
	comp=Z,1.8nm,0.3s								
RETA				*e*Pg	Pg	13 00 32.0	-1.1		
	comp=Z,12nm,0.5s								
RETA				*e*Sn	Sn	13 00 58.2	-1.4		
	comp=Z,9.1nm,0.3s								
RETA				*e*Sg	Sg	13 01 13.4	+1.5		
	comp=Z,26nm,0.4s								
MOTA	**Moosalm**	**3.06**	**197**	*i* Pn	Pn	13 00 24.8	+0.5		
	comp=Z,0.9nm,0.2s								
MOTA				*i* Pg	Pg	13 00 33.2	-1.0		
	comp=Z,5.5nm,0.4s								
MOTA				*i* Sn	Sn	13 00 60.0	-1.2		
	comp=Z,3.9nm,0.2s								
MOTA				*e*Sg	Sg	13 01 13.9	+0.1		
	comp=Z,18nm,0.3s								
SQTA	**Sankt Quirin**	**3.16**	**195**	*i* Pn	Pn	13 00 24.9	-0.7		
	comp=Z,1.3nm,0.2s								
SQTA				*e*Pg	Pg	13 00 34.7	-1.4		
	comp=Z,6.3nm,0.2s								
SQTA				*e*Sn	Sn	13 01 03.1	-0.5		
	comp=Z,2.9nm,0.2s								
SQTA				*e*Sg	Sg	13 01 16.2	-0.9		
	comp=Z,13nm,0.2s								
CONA	**Conrad Observa**	**3.25**	**135**	*i* Pn	Pn	13 00 27.2	+0.4		
	comp=Z,1.1nm,0.2s								
CONA				*e*Pg	Pg	13 00 35.8	-2.1		
	comp=Z,3.5nm,0.3s								
KBA	**Koelnbreinsper**	**3.25**	**169**	*i* Pn	Pn	13 00 27.1	+0.2		
	comp=Z,0.9nm,0.2s								
KBA				*i* Sg	Sg	13 01 18.9	-1.1		
	comp=Z,12nm,0.5s								
DAVA	**Damuels**	**3.44**	**210**	*e*Pg	Pg	13 00 40.7	-0.7		
	comp=Z,5.3nm,0.3s								
DAVA				*i* Sn	Sn	13 01 09.5	-0.8		
	comp=Z,7.9nm,0.2s								
FETA	**Feichten**	**3.45**	**200**	*i* Pn	Pn	13 00 28.6	-1.0		
	comp=Z,0.6nm,0.2s								
ABTA	**Abfaltersbach**	**3.53**	**179**	*i* Sn	Sn	13 01 11.5	-1.0		
	comp=Z,4.0nm,0.2s								
ABTA				Sg	Sg	13 01 28.5	-0.4		
	comp=Z,52nm,0.8s								
MODS	**Modra-Piesok**	**3.69**	**119**	*e*SG	Sg	13 01 31.1	-3.0		
ZST	**Bratislava**	**3.70**	**122**	*e*SG	Sg	13 01 32.0	-2.2		
CDF	**Champ du Feu**	**3.86**	**243**	*e*Pn	Pn	13 00 33.2	-2.0		
CDF	**Champ du Feu**	**3.86**	**243**	*e*Pg	Pb	13 00 46.2	+2.4		
CDF				*e*Sn	Sn	13 01 15.8	-4.8		
CDF				*e*Sg	Sg	13 01 35.8	-3.5		
	comp=Z,16nm,0.3s								
HINF	**Hinteralfeld**	**4.42**	**238**	*e*Pn	Pn	13 00 40.6	-2.3		
HINF	**Hinteralfeld**	**4.42**	**238**	*e*Pg	Pb	13 00 56.8	+3.4		
HINF				*e*Sn	Sn	13 01 29.3	-5.2		
HINF				*e*Sg	Sg	13 01 52.9	-4.6		
	comp=Z,9.4nm,0.3s								
VYHS	**Vyhne**	**4.54**	**111**	*e*PN	Pn	13 00 45.1	+0.6		
VYHS				*e*SG	Sb	13 01 55.2	+4.9		
HAU	**Haudompre**	**4.60**	**243**	*e*Pn	Pn	13 00 43.4	-1.9		
HAU	**Haudompre**	**4.60**	**243**	*e*Pg	Pb	13 00 59.8	+3.4		
HAU				*e*Sn	Sn	13 01 33.2	-5.6		
HAU				*e*Sg	Sg	13 01 58.9	-4.2		
	comp=Z,7.6nm,0.3s								
LANS	**Liptovska Anna**	**4.70**	**101**	*e*SG	Sg	13 02 05.9	-0.4		
PAGF	**Fort de Pagny** baz=66	**4.71**	**251**	*e*Pn	Pn	13 00 44.6	-2.2		
PAGF	**Fort de Pagny** baz=67	**4.71**	**251**	*e*Pg	Pb	13 01 01.6	+3.3		
PAGF				*e*Sn	Sn	13 01 36.2	-5.3		
PAGF				*e*Sg	Sg	13 02 02.3	-4.4		
	comp=Z,23nm,0.7s								
GIVF	**Givet**	**4.90**	**271**	*e*Pg	Pb	13 01 05.3	+3.8		
GIVF				*e*Sg	Sg	13 02 07.9	-4.8		
MEZF	**Maizieres J'vi**	**5.14**	**253**	*e*Pg	Pg	13 01 10.0	-4.0		
MEZF				*e*Sg	Sg	13 02 15.6	-4.9		
	comp=Z,5.1nm,0.4s								
BAIF	**Baives**	**5.30**	**271**	*e*Pn	Pn	13 00 52.6	-2.2		
BAIF				*e*Sn	Sn	13 01 50.1	-5.8		
BAIF				*e*Sg	Sg	13 02 20.3	-5.2		
	comp=Z,5.4nm,0.4s								
CABF	**La Chapelle**	**5.59**	**231**	*e*Pn	Pn	13 00 56.8	-2.2		
CABF	**La Chapelle**	**5.59**	**231**	*e*Pg	Pg	13 01 18.7	-4.0		
CABF				*e*Sn	Sn	13 01 57.2	-6.3		
CABF				*e*Sg	Sg	13 02 30.3	-4.8		
	comp=Z,10nm,0.6s								
LOR	**Lormes** baz=60	**6.42**	**245**	*e*Pn	Pn	13 01 07.6	-2.7		
LOR	**Lormes** baz=59	**6.42**	**245**	*e*Pg	Pg	13 01 33.5	-4.9		
LOR				*e*Sg	Sg	13 02 55.5	-6.0		
	comp=Z,4.1nm,0.4s								
SSF	**Saint Saulge**	**6.73**	**245**	*e*Pn	Pn	13 01 12.1	-2.5		
SMF	**Signal de Mont**	**6.77**	**241**	*e*Pn	Pn	13 01 12.7	-2.4		
SMF	**Signal de Mont**	**6.77**	**241**	*e*Pg	Pg	13 01 39.9	-5.3		
SMF				*e*Sg	Sg	13 03 06.7	-6.1		
	comp=Z,8.3nm,0.5s								
AVF	**Avril sur Loir**	**6.97**	**243**	*e*Pg	Pg	13 01 43.6	-5.3		
AVF				*e*Sg	Sg	13 03 12.8	-6.3		
	comp=Z,2.6nm,0.5s								

NNC **12** *13:06:49.6±1.2,49˚.98N×78˚.72E,h0km,mb2.8,mpv2.4, Error ellipse: s-maj=22.5km s-min=6.1km az=77.0, Suspected Mining explosion.*
IDC **12** *13:06:50.3±1.2,50˚.01N×78˚.59E,h0km,mbtmp2.8/2, ML2.1/2,Error ellipse: s-maj=11.1km s-min=7.6km az=64.0*

ISC 12 13:06:49.8±1.0,49˚.95N±0˚.04×78˚.56E±0˚.07,h0km,n10, σ1ˢ79/11,5C-6D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.68**	**359**	⇑P	**Pg**	**13 07 02.0**	**-0.8**
	3.1nm,0.2s						
KURBB				⇑S	**Sg**	**13 07 11.8**	**+0.2**
	82nm,0.8s						
KURBB	**Kurchatov Arra**	**0.68**	**359**	Pg	**Pg**	**13 07 01.9**	**-0.8**
	0.8nm,0.3s,baz=177,slow=22,SNR=53						
KURBB				Lg	Lg	13 07 11.1	
	1.5nm,0.3s,baz=176,slow=32,SNR=19						
KURK	**Kurchatov**	**0.77**	**3**	⇑P	**Pg**	**13 07 03.5**	**-1.1**
	1.8nm,0.3s						
KURK				⇓S	**Sb**	**13 07 14.9**	**-2.3**
	33nm,0.9s						
MAKZ	**Makanchi**	**3.88**	**143**	⇓Pg	**Pg**	**13 08 01.4**	**-2.7**
	0.8nm,0.6s						
MAKZ				⇑Lg	Lg	13 08 50.1	
	8.1nm,0.8s						
MK31	**Makanchi Array**	**4.02**	**140**	⇓Pn	**Pn**	**13 07 54.2**	**+1.7**
	0.1nm,0.2s,baz=322,slow=10,SNR=22						
MK31				⇑Pg	**Pb**	**13 08 02.5**	**+1.1**
	0.2nm,0.3s,baz=321,slow=14,SNR=13						
MK31				⇓Lg	Lg	13 08 56.0	
	7.2nm,0.7s,baz=331,slow=27,SNR=18						
MKAR	**Makanchi Array**	**4.02**	**140**	Pn	**Pn**	**13 07 54.5**	**+1.9**
	0.1nm,0.3s,baz=326,slow=10,SNR=14						
MKAR				Lg	Lg	13 08 55.0	
	0.5nm,0.3s,baz=326,slow=28,SNR=4.1						
	0.2nm,0.2s						
OTUK	**Ortayu**	**4.43**	**250**	⇓Pg	**Pg**	**13 08 13.4**	**-1.2**
	0.3nm,0.3s						
OTUK				⇓Lg	Lg	13 09 13.4	
	5.3nm,0.8s						
I46RU	**ZALESOVO INFRA**	**5.57**	**42**	I	I	13 36 55.0	
	baz=223,slow=327,SNR=9.2						
ZALV	**Zalesovo Beam**	**5.57**	**42**	Pn	**Pn**	**13 08 15.2**	**+1.4**
	0.3nm,0.3s,baz=233,slow=14,SNR=3.3						
ZALV				Lg	Lg	13 09 46.2	
	0.1nm,0.3s,baz=222,slow=25,SNR=6.0						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**5.96**	**304**	Lg	Lg	13 09 58.5	
	baz=115,slow=27,SNR=2.6						

NSSP **12** *13:10:16.3,38˚.70N×43˚.47E,h20km,Ms3.5*
ISK **12** *13:10:17.0,38˚.78N×43˚.51E,h5km,ML3.3/6*
AFAD **12** *13:10:18.4±0.0,38˚.82N×43˚.46E,h7km±4km,MW3.6*
TEH **12** *13:10:18.0,38˚.79N×43˚.52E,h17km±34km,ML3.2*

ISC 12 13:10:18.6±0.9,38˚.79N±0˚.02×43˚.50E±0˚.02,h16km±7km, n55,σ1ˢ28/76,5C-7D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VMUR	**Van-Muradiye**	**0.21**	**16**	P	**Pg**	**13 10 23.1**	**-0.5**
VMUR				S	**Sb**	**13 10 27.7**	**-0.2**
VMUR				*i* AML	AML	13 10 28.0	
	comp=N,1μm,0.4s						
VMUR				*i* AML	AML	13 10 28.0	
	comp=E,2μm,0.2s						
VMUR	**Van-Muradiye**	**0.21**	**16**	Pg	**Pg**	**13 10 23.1**	**-0.5**
ERCV	**ERCIS-VAN**	**0.26**	**331**	Pg	**Pg**	**13 10 23.5**	**-1.0**
ERCV				Sg	**Sb**	**13 10 28.8**	**-0.6**
ERCV	**ERCIS-VAN**	**0.26**	**331**	Pg	**Pg**	**13 10 23.5**	**-1.0**
TVAN	**Van**	**0.27**	**196**	P	**Pb**	**13 10 24.5**	**-0.7**
TVAN				S	**Sb**	**13 10 29.2**	**-0.4**
TVAN				*i* AML	AML	13 10 35.0	
	comp=N,4μm,0.7s						
TVAN				*i* AML	AML	13 10 38.0	
	comp=E,6μm,0.5s						
TVAN	**Van**	**0.27**	**196**	Pg	**Pb**	**13 10 24.5**	**-0.7**
OZAP	**Van, Ozalp-Mer**	**0.41**	**108**	P	**Pb**	**13 10 27.3**	**-0.2**
OZAP				S	**Sn**	**13 10 35.7**	**-1.6**
OZAP				*i* AML	AML	13 10 38.0	
	comp=E,6μm,0.9s						
OZAP				*i* AML	AML	13 10 39.0	
	comp=N,3μm,0.5s						
CLDR	**Caldiran**	**0.48**	**42**	Pg	**Pg**	**13 10 27.8**	**-0.6**
CLDR				Sg	**Sb**	**13 10 35.5**	**-0.3**
CLDR	**Caldiran**	**0.48**	**42**	P	**Pg**	**13 10 27.7**	**-0.6**
CLDR				S	**Sb**	**13 10 35.3**	**-0.5**
CLDR				*i* AML	AML	13 10 36.0	
	comp=N,5μm,0.5s						
CLDR				*i* AML	AML	13 10 36.0	
	comp=E,5μm,0.5s						
CLDR	**Caldiran**	**0.48**	**42**	Pg	**Pg**	**13 10 27.7**	**-0.6**
GEVA	**Gevas**	**0.59**	**216**	P	**Pg**	**13 10 29.7**	**-0.6**
GEVA				S	**Sg**	**13 10 37.5**	**-0.6**
GEVA				*i* AML	AML	13 10 46.0	
	comp=E,616nm,0.6s						
GEVA				*i* AML	AML	13 10 50.0	
	comp=N,530nm,0.7s						
GEVA	**Gevas**	**0.59**	**216**	Pg	**Pg**	**13 10 29.6**	**-0.6**
ADCV	**BITLIS_Adilcev**	**0.61**	**272**	P	**Pb**	**13 10 30.4**	**-0.5**
ADCV				S	**Sb**	**13 10 38.9**	**-0.4**
ADCV				*i* AML	AML	13 10 40.0	
	comp=N,1μm,0.5s						
ADCV				*i* AML	AML	13 10 40.0	
	comp=E,1μm,0.5s						
ADCV	**BITLIS_Adilcev**	**0.61**	**272**	Pg	**Pb**	**13 10 30.4**	**-0.5**
AKDM	**Akdamar-Van**	**0.61**	**222**	Pg	**Pg**	**13 10 29.6**	**-1.1**
AKDM				Sg	**Sb**	**13 10 39.9**	**+0.4**
AKDM	**Akdamar-Van**	**0.61**	**222**	Pg	**Pg**	**13 10 30.0**	**-0.7**
DYDN	**Diyadin**	**0.77**	**11**	P	**Pg**	**13 10 32.7**	**-0.9**
DYDN				S	**Sg**	**13 10 42.6**	**-1.3**
DYDN				*i* AML	AML	13 10 50.0	
	comp=N,414nm,0.8s						
DYDN				*i* AML	AML	13 10 56.0	
	comp=E,372nm,0.6s						
DORK	**Agr/Tutak/Do**	**0.82**	**317**	P	**Pb**	**13 10 33.1**	**-1.5**
DORK				S	**Sb**	**13 10 44.1**	**-1.4**
DORK				*i* AML	AML	13 10 51.0	
	comp=N,656nm,0.5s						
DORK				*i* AML	AML	13 10 51.0	
	comp=E,763nm,0.7s						
MLAZ	**Malazgirt-MUS**	**0.82**	**296**	Pg	**Pg**	**13 10

*NEIC **12** 13:11:14.1±0.3, 19˚.346N×0˚.009×155˚.163W×0˚.009, h7km±1km, Error ellipse: s-maj=1.4km s-min=1.1km az=158.0*

HVO 12 13:11:13.9±0.6, 19˚.33N±0˚.02×155˚.166W×0˚.009, h4km±2km, Md2.0/9, ML2.6/26(NEIC), Error ellipse: s-maj=2.3km s-min=1.0km az=155.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.05**	**357**		**Pg**	13 11 15.6	+0.3
PUH	**Pauahi**	**0.07**	**314**		**Pg**	13 11 15.0	-0.4
PUH	comp=N,3μm,1.1s			IAML		13 11 15.7	
PUH	comp=E,3μm,0.5s			IAML		13 11 17.6	
STCH	**Steam Cracks**	**0.07**	**35**		**Pg**	13 11 15.7	+0.2
STCH	**Steam Cracks**	**0.07**	**35**	IAML		13 11 17.3	
STCH	comp=N,1μm,0.6s			IAML		13 11 17.3	
JCUZ	**Jacuzzi**	**0.08**	**48**	Pg	**Pg**	13 11 15.8	+0.2
NPOC	**North of Pu'u**	**0.08**	**40**		**Pg**	13 11 16.0	+0.3
NPOC	**North of Pu'u**	**0.08**	**40**	IAML		13 11 17.9	
NPOC	comp=E,840nm,0.5s			IAML		13 11 18.1	
HLP	**Hilina Pali**	**0.14**	**256**		**Pg**	13 11 17.1	+0.4
HLP	**Hilina Pali**	**0.14**	**256**	IAML		13 11 19.9	
HLP	comp=E,3μm,1.1s			IAML		13 11 21.2	
HTC	**Hot Caves**	**0.24**	**247**		**Pg**	13 11 19.1	+0.6
MLH	**Mauna Loa**	**0.27**	**308**		**Pg**	13 11 19.8	+0.7
MLH	**Mauna Loa**	**0.27**	**308**	IAML		13 11 24.4	
MLH	comp=N,2μm,1.4s			IAML		13 11 27.7	
HMH	**Humu'ula Sheep**	**0.40**	**312**	IAML		13 11 26.8	
HMH	comp=N,545nm,1.3s			IAML		13 11 35.7	
KHU	**Kahuku**	**0.43**	**259**	IAML		13 11 31.8	
KHU	comp=E,511nm,1.3s			IAML		13 11 36.0	
MLOA	**Mauna Loa Obse**	**0.44**	**298**	Pg	Pg	13 11 22.5	0.0
MLOA	comp=N,744nm,1.2s			IAML		13 11 29.2	
MLOA	comp=E,734nm,0.9s			IAML		13 11 33.5	
POHA	**Pohakuloa**	**0.55**	**321**	Pg	Pg	13 11 23.9	-0.6
CPH	**Captain Cook**	**0.73**	**283**		Pg	13 11 27.1	-0.7

RSNC 12 13:20:06.9±0.0, 7˚N±2˚×7˚3W±˚, h136km±4km, M2.2, mb3.7, ML2.2, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.19**	**193**	P	Pn	13 20 24.6	-1.2
BARC				S	Sn	13 20 39.0	-1.1
PAMC	**Pamplona, Colo**	**0.71**	**38**	P	Pn	13 20 27.5	-1.0
PAMC				S	Sn	13 20 44.3	-0.6
RUSC	**La Rusia**	**0.88**	**176**	P	Pn	13 20 28.8	-1.1
RUSC				S	Sn	13 20 46.9	-0.5
PTBC	**PUERTO BERRIO,**	**1.33**	**260**	P	Pn	13 20 31.2	-2.4
PTBC				S	Sn	13 20 52.4	-1.5
TAMC	**Tame, Arauca**	**1.38**	**104**	P	Pn	13 20 32.9	-1.3
TAMC				S	Sn	13 20 54.8	-0.2
SPBC	**San Pablo de B**	**1.45**	**220**	P	Pn	13 20 33.6	-1.4
SPBC				S	Sn	13 20 55.6	-0.9
ZARC	**Zaragoza, Cauc**	**1.85**	**293**	P	Pn	13 20 37.5	-1.9
ZARC				S	Sn	13 21 03.1	-1.1
NORC	**Norcasia**	**2.10**	**235**	P	Pn	13 20 40.8	-1.7
NORC				S	Sn	13 21 08.8	-1.0
CHIC	**Chingaza**	**2.22**	**195**	P	Pn	13 20 42.9	-1.4
CHIC				S	Sn	13 21 10.6	-2.3
ROSC	**El Rosal**	**2.26**	**211**	P	Pn	13 20 44.8	+0.1
UREC	**San Jos de Ur**	**2.56**	**292**	P	Pn	13 20 45.5	-2.7
UREC				S	Sn	13 21 16.9	-3.0
VILC	**Villavicencio,**	**2.71**	**192**	P	Pn	13 20 49.3	-0.9
VILC				S	Sn	13 21 22.6	-0.9
PTGC	**Puerto Gaitan,**	**2.75**	**159**	P	Pn	13 20 48.2	-2.4
PTGC				S	Sn	13 21 21.2	-3.1
DBBC	**Dabeiba**	**3.06**	**275**	P	Pn	13 20 53.3	-1.3
PRAC	**Prado**	**3.51**	**210**	P	Pn	13 20 58.4	-2.0
PRAC				S	Sn	13 21 41.4	-0.4
PLMC	**San Jos del P**	**3.64**	**239**	P	Pn	13 21 00.7	-1.4
PLMC				S	Sn	13 21 43.2	-1.7
SJCC	**San Jacinto, C**	**3.70**	**327**	P	Pn	13 20 59.2	-3.7
SJCC				S	Sn	13 21 40.4	-5.9
URMC	**La Uribe, Meta**	**3.72**	**199**	P	Pn	13 21 02.9	-0.3
FLOC	**Florencia**	**5.74**	**206**	P	Pn	13 21 28.4	-1.7

*IDC **12** 14:04:49.2±2.9, 34˚.34N×14˚.67E, h0km, mb3.6/4, mbtmp3.6/7, ML2.0/3, Error ellipse: s-maj=47.8km s-min=29.0km az=22.0*

ISC 12 14:04:50.2±1.3, 34˚.34N±0˚.09×14˚.70E±0˚.07, h10km, n18, σ1s23/25, mb3.5/4, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HPAC	**Pachino**	**2.38**	**8**	P	**Pn**	**14 05 29.9**	**+0.7**
HMDC	**Modica**	**2.62**	**2**	P	**Pn**	**14 05 33.2**	**+0.6**
HMDC				S	**Sn**	**14 06 04.0**	**-0.5**
MEU	**Monte Lauro**	**2.77**	**4**	P	**Pn**	**14 05 34.2**	**-0.4**
MEU	comp=E,124μm,0.4s			AML	AML		
MEU	comp=N,176μm,0.4s			AML	AML		
MEU	comp=E,124μm,0.4s			AML	AML		
MEU	comp=N,175μm,0.4s			AML	AML		
SSY	**Sortino**	**2.83**	**6**	P	**Pn**	**14 05 35.4**	**-0.1**
SSY				S	**Sn**	**14 06 08.6**	**-1.1**
SSY	comp=N,230μm,0.7s			AML	AML		
SSY	comp=E,120μm,0.6s			AML	AML		
HAGA	**Augusta**	**2.97**	**7**	P	**Pn**	**14 05 36.8**	**-0.5**
HLNI	**Lentini**	**3.01**	**3**	P	**Pn**	**14 05 37.2**	**-0.7**
HLNI				S	**Sn**	**14 06 12.9**	**-1.1**
HLNI	comp=E,78μm,0.7s			AML	AML		
HLNI	comp=N,83μm,0.4s			AML	AML		
VAE	**Valguarnera**	**3.14**	**356**	Pn	**Pn**	**14 05 41.5**	**+1.7**
VAE	comp=N,6.1nm,0.3s,baz=76,slow=4.7,SNR=8.8			Sn	**Sn**	**14 06 20.2**	**+2.7**
	comp=N,2.8nm,0.3s,baz=120,slow=19,SNR=4.2 comp=N,17nm,0.4s						
CMDO	**Montedoro**	**3.20**	**347**	P	**Pn**	**14 05 40.6**	**0.0**
CMDO	comp=E,76μm,0.8s			AML	AML		
CMDO	comp=N,146μm,0.9s			AML	AML		
CMDO	comp=E,76μm,0.8s			AML	AML		
GALF	**Gagliano Caste**	**3.37**	**358**	P	**Pn**	**14 05 43.7**	**+0.8**
GALF	comp=E,73μm,0.6s			AML	AML		
GALF	comp=N,107μm,0.7s			AML	AML		
GALF	comp=N,105μm,0.7s			AML	AML		
GALF	comp=E,73μm,0.6s			AML	AML		
AIO	**Antillo**	**3.65**	**7**	P	**Pn**	**14 05 46.8**	**0.0**
AIO				S	**Sn**	**14 06 27.3**	**-2.7**
AIO	comp=E,31μm,1.4s			AML	AML		
AIO	comp=N,56μm,0.7s			AML	AML		
AIO	comp=N,48μm,0.6s			AML	AML		
AIO	comp=E,54μm,0.6s			AML	AML		
AIO	comp=N,56μm,0.7s			AML	AML		
CEL	**Celeste**	**4.03**	**14**	P	**Pn**	**14 05 51.8**	**-0.2**
CEL	comp=E,52μm,1.3s			AML	AML		
CEL	comp=N,35μm,1.0s			AML	AML		
CEL	comp=E,52μm,0.7s			AML	AML		
CEL	comp=N,46μm,0.6s			AML	AML		
CEL	comp=E,48μm,0.6s			AML	AML		
KEST	**Kesra**	**4.60**	**289**	Pn	**Pn**	**14 06 00.5**	**+0.6**
KEST	comp=E,0.5nm,0.3s,baz=65,slow=11,SNR=4.4			Sn	**Sn**	**14 06 51.3**	**-2.2**
	comp=E,0.3nm,0.3s,baz=321,slow=21,SNR=6.2 comp=E,1.6nm,0.4s						
IDI	**Anoyia**	**8.44**	**81**	Pn	**Pn**	**14 06 53.8**	**+1.2**
IDI	comp=E,0.2nm,0.3s,baz=355,slow=20,SNR=1.7 comp=E,0.2nm,0.3s,baz=303,slow=19,SNR=1.2			Sn	**Sn**	**14 08 26.5**	**-1.5**
AKASG	**Malin Array Be**	**19.49**	**29**	P	**P**	**14 09 17.4**	**+0.2**
	comp=E,1.1nm,0.2s,baz=221,slow=11,SNR=6.8						
HFS	**Hagfors**	**25.82**	**359**	P	**P**	**14 10 20.8**	**-0.6**
	comp=E,0.9nm,0.7s,baz=179,slow=5.8,SNR=2.5 comp=E,0.9nm,0.7s						
FINES	**FINESS Array B**	**28.09**	**12**	P	**P**	**14 10 41.5**	**-0.3**
	comp=E,0.5nm,0.6s,baz=182,slow=12,SNR=2.1 comp=E,0.5nm,0.6s						
MKAR	**Makanchi Array**	**51.34**	**54**	P	**P**	**14 13 55.7**	**+1.0**
	comp=E,0.4nm,0.7s,baz=288,slow=5.9,SNR=4.0 comp=E,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**51.74**	**45**	P	**P**	**14 13 58.4**	**+0.8**
	comp=E,0.8nm,0.6s,baz=260,slow=5.9,SNR=4.1 comp=E,0.8nm,0.6s						

*NEIC **12** 14:22:20.7±2.3, 56˚.34N±0˚.08×148˚.6W±0˚.1, h21km±10km, ML3.5/60, ML3.2(AEIC), Error ellipse: s-maj=12.5km s-min=7.8km az=161.0*
*AEIC **12** 14:22:24.8±1.4, 56˚.41N±0˚.09×148˚.6W±0˚.1, h12km±7km, Error ellipse: s-maj=12.6km s-min=9.2km az=168.0*

ISC 12 14:22:19.1±1.6, 56˚.43N±0˚.09×148˚.63W±0˚.06, h10km, n187, σ1s47/185, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.55**	**304**		**Pn**	**14 23 01.3**	**+1.0**
KDAK					**Sn**	**14 23 29.8**	**-1.6**
OHAK	**Old Harbor**	**2.68**	**289**	P	**Pn**	**14 23 03.1**	**+0.9**
OHAK	**Old Harbor**	**2.68**	**289**		**Pn**	**14 23 02.9**	**+0.7**
OHAK					**Sn**	**14 23 32.2**	**-2.4**
OHAK	**Old Harbor** baz=106	**2.68**	**289**	P	**Pn**	**14 23 02.9**	**+0.7**
OHAK	baz=106			S	**Sn**	**14 23 32.2**	**-2.4**
SYI	**Shuyak Island**	**2.98**	**319**		**Pn**	**14 23 07.6**	**+1.2**
SYI					**Sn**	**14 23 42.0**	**-0.2**
Q20K	**Shuyak Island** baz=136	**2.98**	**319**	P	**Pn**	**14 23 07.6**	**+1.2**
Q20K	baz=136			S	**Sn**	**14 23 42.0**	**-0.2**
SII	**Sitkinak Islan**	**3.08**	**275**	P	**Pn**	**14 23 09.7**	**+2.0**
SII	**Sitkinak Islan**	**3.08**	**275**		**Pn**	**14 23 08.5**	**+0.8**
SII					**Sn**	**14 23 42.6**	**-2.0**
SII	**Sitkinak Islan** comp=E,102nm,0.9s	**3.08**	**275**	IAML		14 23 43.5	
SII	comp=N,112nm,1.1s			IAML		14 23 51.1	
SII	**Sitkinak Islan** baz=90	**3.08**	**275**	P	**Pn**	**14 23 08.5**	**+0.8**
Q23K	**Middleton Isla**	**3.25**	**21**		**Pn**	**14 23 09.9**	**-0.1**
Q23K					**Sn**	**14 23 46.9**	**-1.7**
Q23K	**Middleton Isla** comp=E,113nm,1.1s	**3.25**	**21**	IAML		14 24 26.7	
Q23K	comp=N,83nm,0.9s			IAML		14 25 06.4	
Q23K	**Middleton Isla** baz=203	**3.25**	**21**	P	**Pn**	**14 23 10.3**	**+0.3**
CNPM	**China Poot**	**3.40**	**337**		**Pn**	**14 23 13.1**	**+0.9**
CNPM					**Sn**	**14 23 51.5**	**-1.0**
BRSE	**Bradley Lake S**	**3.51**	**342**		**Pn**	**14 23 14.3**	**+0.7**
BRSE					**Sn**	**14 23 53.8**	**-1.4**
BRSE	**Bradley Lake S** baz=161	**3.51**	**342**	P	**Pn**	**14 23 14.3**	**+0.7**
BRSE	baz=161			S	**Sn**	**14 23 53.8**	**-1.4**
BRLK	**Bradley Lake**	**3.55**	**341**		**Pn**	**14 23 15.0**	**+0.7**
HOM	**Homer**	**3.61**	**335**		**Pn**	**14 23 16.4**	**+1.4**
HOM	**Homer** baz=152	**3.61**	**335**	P	**Pn**	**14 23 16.4**	**+1.4**
P23K	**Montague Islan**	**3.64**	**10**		**Pn**	**14 23 16.1**	**+0.7**
P23K	**Montague Islan** baz=191	**3.64**	**10**	P	**Pn**	**14 23 16.1**	**+0.7**
Q19K	**Cape Douglas,**	**3.68**	**315**		**Pn**	**14 23 17.6**	**+1.6**
Q19K	**Cape Douglas,** comp=E,113nm,1.0s	**3.68**	**315**	IAML		14 24 05.1	
Q19K	comp=N,91nm,0.9s			IAML		14 24 16.4	
Q19K	**Cape Douglas,** baz=131	**3.68**	**315**	P	**Pn**	**14 23 17.6**	**+1.6**
SEW	**Seward**	**3.71**	**354**		**Pn**	**14 23 16.9**	**+0.6**
SEW					**Sn**	**14 23 56.8**	**-3.3**
SEW	**Seward** baz=173	**3.71**	**354**	P	**Pn**	**14 23 16.9**	**+0.6**
SEW	baz=173			S	**Sn**	**14 23 56.8**	**-3.3**
P19K	**Oil Pt**	**4.05**	**325**		**Pn**	**14 23 22.9**	**+1.8**
P19K	**Oil Pt** comp=N,73nm,0.8s	**4.05**	**325**	IAML		14 24 15.4	
P19K	comp=E,67nm,0.7s			IAML		14 24 23.0	
P19K	**Oil Pt** baz=141	**4.05**	**325**	P	**Pn**	**14 23 22.9**	**+1.8**
O22K	**Cooper Landing**	**4.11**	**352**		**Pn**	**14 23 23.0**	**+1.2**
O22K	**Cooper Landing** baz=172	**4.11**	**352**	P	**Pn**	**14 23 23.0**	**+1.2**
KAIM	**Kayak Island**	**4.16**	**31**		**Pn**	**14 23 23.3**	**+0.7**
KAIM	**Kayak Island** comp=E,74nm,1.1s	**4.16**	**31**	IAML		14 24 15.9	
KAIM	comp=N,80nm,1.0s			IAML		14 24 19.9	
KAIM	**Kayak Island** baz=214	**4.16**	**31**	P	**Pn**	**14 23 23.3**	**+0.7**
SLKM	**Skilak Lake**	**4.18**	**349**		**Pn**	**14 23 23.5**	**+0.7**
O20K	**Slope Mountain**	**4.23**	**332**		**Pn**	**14 23 24.3**	**+0.8**
O20K	**Slope Mountain** baz=148	**4.23**	**332**	P	**Pn**	**14 23 24.3**	**+0.8**
IVE	**Illamna Volcan**	**4.28**	**329**		**Pn**	**14 23 24.8**	**+0.5**
CNTC	**Contact Creek**	**4.34**	**298**		**Pn**	**14 23 26.7**	**+1.6**
Q17K	**Contact Creek** baz=112	**4.34**	**298**	P	**Pn**	**14 23 26.7**	**+1.6**
EYAK	**Cordova Ski Ar**	**4.40**	**19**	P	**Pn**	**14 23 26.9**	**+1.1**
EYAK	**Cordova Ski Ar**	**4.40**	**19**		**Pn**	**14 23 26.7**	**+0.9**
EYAK	**Cordova Ski Ar** baz=201	**4.40**	**19**	P	**Pn**	**14 23 26.7**	**+0.9**
SUCK	**Suckling Hills**	**4.47**	**33**		**Pn**	**14 23 27.7**	**+0.9**
SUCK	**Suckling Hills** comp=E,44nm,1.0s	**4.47**	**33**	IAML		14 24 21.9	
SUCK	comp=N,42nm,1.1s			IAML		14 25 54.8	
FID	**Port Fidalgo**	**4.48**	**14**		**Pn**	**14 23 27.5**	**+0.5**
FID	**Port Fidalgo** comp=E,41nm,0.7s	**4.48**	**14**	IAML		14 24 21.9	
FID	comp=N,29nm,0.7s			IAML		14 24 23.5	
RAGM	**Ragged Mountai**	**4.48**	**26**		**Pn**	**14 23 28.1**	**+1.1**
GLI	**Glacier Island**	**4.54**	**10**		**Pn**	**14 23 28.4**	**+0.7**
GLI	**Glacier Island** comp=E,35nm,0.8s	**4.54**	**10**	IAML		14 24 20.4	
GLI	comp=N,41nm,1.1s			IAML		14 24 20.5	
GLI	**Glacier Island** baz=191	**4.54**	**10**	P	**Pn**	**14 23 28.4**	**+0.7**
NICHA	**Nichawak Mount**	**4.54**	**31**		**Pn**	**14 23 28.8**	**+1.0**
HMT	**Hamilton**	**4.55**	**29**		**Pn**	**14 23 29.4**	**+1.5**
CAPN	**Captain Cook N**	**4.55**	**344**		**Pn**	**14 23 30.3**	**+2.5**
CAPN	**Captain Cook N** baz=162	**4.55**	**344**	P	**Pn**	**14 23 30.3**	**+2.5**
RED	**Redoubt Volcan**	**4.56**	**333**		**Pn**	**14 23 28.6**	**+0.5**
P18K	**Big Mountain,**	**4.61**	**313**		**Pn**	**14 23 29.8**	**+1.1**
P18K	**Big Mountain,** baz=128	**4.61**	**313**	P	**Pn**	**14 23 29.8**	**+1.1**
RDWB	**Redoubt West**	**4.63**	**333**		**Pn**	**14 23 29.8**	**+0.6**
GOAT	**Goat Mountain**	**4.64**	**25**		**Pn**	**14 23 30.5**	**+1.3**
BGLC	**Bering Glacier**	**4.66**	**35**		**Pn**	**14 23 30.8**	**+1.5**
BGLC	**Bering Glacier** baz=220	**4.66**	**35**	P	**Pn**	**14 23 30.8**	**+1.5**
RC01	**Rabbit Creek A**	**4.71**	**353**		**Pn**	**14 23 31.5**	**+1.4**
RC01	**Rabbit Creek A** comp=E,42nm,0.4s	**4.71**	**353**	IAML		14 24 25.1	
RC01	comp=N,38nm,0.4s			IAML		14 24 25.6	
RC01	**Rabbit Creek A** baz=172	**4.71**	**353**	P	**Pn**	**14 23 31.5**	**+1.4**
NCT	**North Crescent**	**4.72**	**333**		**Pn**	**14 23 31.1**	**+0.8**
BERG	**Berg Lake**	**4.75**	**31**		**Pn**	**14 23 31.8**	**+1.1**
BERG	comp=N,51nm,0.5s			IAML		14 24 28.9	
O19K	**Port Alsworth**	**4.82**	**324**		**Pn**	**14 23 33.1**	**+1.4**
O19K	**Port Alsworth** comp=E,50nm,0.5s	**4.82**	**324**	IAML		14 24 41.7	
O19K	**Port Alsworth** baz=139	**4.82**	**324**	P	**Pn**	**14 23 33.1**	**+1.4**
SNH	**Sunshine Point**	**4.85**	**37**		**Pn**	**14 23 33.2**	**+1.2**
SNH	**Sunshine Point** comp=N,26nm,1.0s	**4.85**	**37**	IAML		14 24 35.6	
SNH	comp=E,23nm,1.1s			IAML		14 25 04.0	
O18K	**Koktuh Hills**	**4.89**	**317**		**Pn**	**14 23 33.8**	**+1.1**
O18K	**Koktuh Hills** baz=132	**4.89**	**317**	P	**Pn**	**14 23 33.7**	**+1.1**
P17K	**Kvichak River**	**5.01**	**307**		**Pn**	**14 23 35.6**	**+1.4**
P17K	**Kvichak River** baz=120	**5.01**	**307**	P	**Pn**	**14 23 35.6**	**+1.4**
BMRM	**Bremner River**	**5.01**	**23**		**Pn**	**14 23 35.2**	**+0.9**
BMRM	**Bremner River** baz=206	**5.01**	**23**	P	**Pn**	**14 23 35.2**	**+0.9**
WAX	**Waxell Ridge**	**5.05**	**35**		**Pn**	**14 23 35.9**	**+1.1**
WAX	comp=N,42nm,0.5s			IAML		14 24 43.5	
BARK	**Barkley Ridge**	**5.13**	**36**		**Pn**	**14 23 37.0**	**+1.0**
N20K	**Mount Spurr** baz=157	**5.13**	**340**	P	**Pn**	**14 23 37.0**	**+1.0**
SPCR	**Spurr Chakacha**	**5.13**	**340**		**Pn**	**14 23 37.0**	**+1.0**
MESA	**MESA**	**5.15**	**40**	Pn	**Pn**	**14 23 35.8**	**-0.6**
MESA	comp=N,23nm,1.0s			IAML		14 24 49.5	
MESA	comp=E,20nm,1.2s			IAML		14 24 59.6	
SUA	**Susitna One**	**5.17**	**349**		**Pn**	**14 23 37.4**	**+0.9**
SUA	**Susitna One** comp=E,12nm,1.0s	**5.17**	**349**	IAML		14 24 38.2	
SUA	**Susitna One** baz=167	**5.17**	**349**	P	**Pn**	**14 23 37.4**	**+0.9**
KLU	**Klutina**	**5.27**	**14**		**Pn**	**14 23 39.0**	**+1.2**
KLU	**Klutina** comp=N,23nm,0.4s	**5.27**	**14**	IAML		14 24 37.7	
KLU	comp=E,23nm,1.2s			IAML		14 24 43.5	
KLU	**Klutina** baz=197	**5.27**	**14**	P	**Pn**	**14 23 39.0**	**+1.2**
ISLE	**Juniper Island**	**5.33**	**36**		**Pn**	**14 23 39.8**	**+1.0**
ISLE	**Juniper Island** comp=E,14nm,1.1s	**5.33**	**36**	IAML		14 24 39.3	
ISLE	comp=N,16nm,1.0s			IAML		14 25 07.3	
STLK	**Strandline Lak**	**5.35**	**343**		**Pn**	**14 23 40.1**	**+1.2**
N19K	**Bonanza Creek**	**5.36**	**328**		**Pn**	**14 23 40.1**	**+1.0**
N19K	**Bonanza Creek** baz=143	**5.36**	**328**	P	**Pn**	**14 23 40.1**	**+1.0**
SPNN	**North Nagishla**	**5.38**	**339**		**Pn**	**14 23 40.7**	**+1.2**
SML	**Sawmill**	**5.40**	**2**		**Pn**	**14 23 41.0**	**+1.4**
SML	**Sawmill** baz=182	**5.40**	**2**	P	**Pn**	**14 23 41.0**	**+1.4**
SCM	**Sheep Creek Mo**	**5.46**	**7**	Pn	**Pn**	**14 23 42.7**	**+2.2**
VRDI	**Verde Repeater**	**5.51**	**27**		**Pn**	**14 23 42.1**	**+0.8**
SAMH	**Samovar Hills**	**5.56**	**45**		**Pn**	**14 23 42.8**	**+0.9**
KIAG	**Kiagna River**	**5.57**	**33**		**Pn**	**14 23 43.0**	**+0.9**
N25K	**Chitina, Valde**	**5.60**	**20**		**Pn**	**14 23 43.9**	**+1.5**
N25K	**Chitina, Valde** baz=204	**5.60**	**20**	P	**Pn**	**14 23 44.1**	**+1.7**
GLB	**Gilahina Butte**	**5.62**	**24**		**Pn**	**14 23 43.9**	**+1.3**
P16K	**Nushagak River**	**5.65**	**301**		**Pn**	**14 23 44.2**	**+1.3**
P16K	**Nushagak River** baz=114	**5.65**	**301**	P	**Pn**	**14 23 44.2**	**+1.3**
N18K	**Kilae Creek**	**5.71**	**321**		**Pn**	**14 23 44.9**	**+1.1**
N18K	**Kilae Creek** baz=135	**5.71**	**321**	P	**Pn**	**14 23 44.9**	**+1.1**
PTPK	**Patty Peak**	**5.75**	**31**		**Pn**	**14 23 45.5**	**+1.0**
MCARA	**McCarthy VSAT**	**5.76**	**28**		**Pn**	**14 23 45.6**	**+1.1**
MCARA	**McCarthy VSAT** baz=213	**5.76**	**28**	P	**Pn**	**14 23 45.6**	**+1.1**
M24K	**Tolsona, Glenn**	**5.83**	**11**		**Pn**	**14 23 47.6**	**+2.0**
M24K	**Tolsona, Glenn** baz=194	**5.83**	**11**	P	**Pn**	**14 23 47.6**	**+2.0**
PNL	**Peninsula**	**5.88**	**53**	P	**Pn**	**14 23 47.6**	**+1.4**
PNL	**Peninsula**	**5.88**	**53**		**Pn**	**14 23 47.6**	**+1.4**
PNL	**Peninsula** baz=240	**5.88**	**53**	P	**Pn**	**14 23 47.6**	**+1.4**
BARN	**Barnard Glacie**	**5.89**	**35**		**Pn**	**14 23 47.9**	**+1.4**
BCPM	**Bancas Point**	**5.93**	**50**		**Pn**	**14 23 47.9**	**+1.1**
CTG	**Chitna Glacier** baz=223	**5.93**	**37**	P	**Pn**	**14 23 48.1**	**+1.2**
M20K	**Styx River**	**5.94**	**339**		**Pn**	**14 23 48.3**	**+1.3**
M20K	**Styx River** baz=155	**5.94**	**339**	P	**Pn**	**14 23 48.3**	**+1.3**
O16K	**Kokwok River B**	**5.95**	**306**		**Pn**	**14 23 48.5**	**+1.5**
O16K	**Kokwok River B** baz=118	**5.95**	**306**	P	**Pn**	**14 23 48.5**	**+1.5**
WACK	**Wrangell Chich**	**6.00**	**20**		**Pn**	**14 23 49.7**	**+1.7**
O28M	**Mount Upton**	**6.20**	**42**		**Pn**	**14 23 51.6**	**+0.8**
O28M	**Mount Upton** baz=229	**6.20**	**42**	P	**Pn**	**14 23 51.6**	**+0.8**
M19K	**Big River Lodg**	**6.24**	**334**		**Pn**	**14 23 51.8**	**+0.7**
M19K	**Big River Lodg** baz=149	**6.24**	**334**	P	**Pn**	**14 23 51.8**	**+0.7**
M18K	**Stony River**	**6.29**	**327**		**Pn**	**14 23 52.6**	**+0.8**
M18K	**Stony River** baz=141	**6.29**	**327**	P	**Pn**	**14 23 52.6**	**+0.8**
CNBA	**Chernabura Isl**	**6.41**	**260**	Pn	**Pn**	**14 23 54.7**	**+1.3**
L19K	**White Mountain**	**6.59**	**334**		**Pn**	**14 23 56.8**	**+0.8**
L19K	**White Mountain** baz=148	**6.59**	**334**	P	**Pn**	**14 23 56.8**	**+0.8**
P29M	**Windy Craggy**	**6.62**	**56**		**Pn**	**14 23 56.9**	**+0.6**
P29M	**Windy Craggy** baz=246	**6.62**	**56**	P	**Pn**	**14 23 56.9**	**+0.6**
DHY	**Denali Highway**	**6.70**	**5**		**Pn**	**14 23 59.8**	**+2.2**
DHY	**Denali Highway** baz=186	**6.70**	**5**	P	**Pn**	**14 23 59.8**	**+2.2**
YUK2	**White River**	**6.70**	**33**		**Pn**	**14 23 59.8**	**+2.2**
M17K	**Holitna River**	**6.75**	**321**		**Pn**	**14 23 59.7**	**+1.6**
M17K	**Holitna River** baz=134	**6.75**	**321**	P	**Pn**	**14 23 59.7**	**+1.6**
YUK7	**Dusty Glacier**	**6.87**	**49**		**Pn**	**14 24 02.1**	**+2.2**
M27K	**Edge Creek, AK**	**6.87**	**27**		**Pn**	**14 24 01.8**	**+1.8**
M27K	**Edge Creek, AK** baz=213	**6.87**	**27**	P	**Pn**	**14 24 01.8**	**+1.8**
S31K	**Pelican**	**6.91**	**72**	Pn	**Pn**	**14 23 59.0**	**-1.3**
YUK6	**Outpost Mounta**	**7.01**	**46**		**Pn**	**14 24 03.6**	**+1.8**
YUK6	**Outpost Mounta** baz=234	**7.01**	**46**	P	**Pn**	**14 24 03.7**	**+1.8**
M16K	**Timber Creek**	**7.08**	**315**		**Pn**	**14 24 04.2**	**+1.7**
M16K	**Timber Creek** baz=126	**7.08**	**315**	P	**Pn**	**14 24 04.2**	**+1.7**
TRF	**Thorofare Moun**	**7.09**	**354**		**Pn**	**14 24 05.1**	**+2.1**
TRF	**Thorofare Moun** baz=173	**7.09**	**354**	P	**Pn**	**14 24 05.1**	**+2.1**
N15K	**Kwethluk River**	**7.11**	**307**	Pn	**Pn**	**14 24 05.5**	**+2.5**
YUK4	**Talbot Arm** baz=230	**7.14**	**42**	P	**Pn**	**14 24 07.1**	**+3.4**
CAST	**Castle Rocks**	**7.22**	**348**	Pn	**Pn**	**14 24 06.0**	**+1.4**
KTH	**Kantishna Hill**	**7.24**	**352**	Pn	**Pn**	**14 24 06.9**	**+2.0**
HYT	**Haines Junctio**	**7.29**	**48**	Pn	**Pn**	**14 24 07.4**	**+1.8**
SIT	**Sitka**	**7.35**	**80**	P	**Pn**	**14 24 04.1**	**-2.2**
SIT	**Sitka**	**7.35**	**80**	Pn	**Pn**	**14 24 04.4**	**-1.9**
L17K	**Donlin**	**7.56**	**323**		**Pn**	**14 24 10.8**	**+1.6**
L17K	**Donlin** baz=135	**7.56**	**323**	P	**Pn**	**14 24 10.8**	**+1.6**
SKAG	**Skagway**	**7.70**	**61**	P	**Pn**	**14 24 12.4**	**+1.3**
S32K	**Killisnoo**	**7.76**	**76**	Pn	**Pn**	**14 24 11.1**	**-0.8**
BPAW	**Bear Paw Mtn.**	**7.79**	**352**		**Pn**	**14 24 13.1**	**+0.8

	baz=138							
J20K	**Nowinta River**	**8.24**	**343**	Pn	**Pn**	**14 24 20.0**	**+1.5**
CCB	**Clear Creek Bu**	**8.26**	**2**	Pn	**Pn**	**14 24 21.5**	**+2.8**
WHY	**Whitehorse**	**8.35**	**54**	Pn	**Pn**	**14 24 22.0**	**+1.9**
N31M	**Braeburn, Yuko**	**8.35**	**47**	Pn	**Pn**	**14 24 22.0**	**+1.9**
IL31		**8.42**	**5**	Pn	**Pn**	**14 24 22.2**	**+1.3**
J26L	**Joseph Creek**	**8.48**	**15**		**Pn**	**14 24 23.7**	**+1.8**
COLA	**College**	**8.48**	**2**	P	**Pn**	**14 24 25.2**	**+3.4**
P32M	**Atlin**	**8.53**	**62**		**Pn**	**14 24 23.5**	**+1.0**
P32M	**Atlin**	**8.53**	**62**	P	**Pn**	**14 24 23.5**	**+1.0**
	baz=255							
U33K	**Whale Pass**	**8.64**	**86**	Pn	**Pn**	**14 24 22.2**	**-1.8**
P33M	**Teslin, Yukon**	**9.14**	**59**		**Pn**	**14 24 31.8**	**+0.8**
P33M	**Teslin, Yukon**	**9.14**	**59**	P	**Pn**	**14 24 31.8**	**+0.8**
	baz=252							
M31M	**Drury Creek, Y**	**9.29**	**46**	Pn	**Pn**	**14 24 35.2**	**+2.2**
H23K	**Yukon River**	**9.44**	**358**	Pn	**Pn**	**14 24 38.1**	**+3.1**
H21K	**Melozitna Rive**	**9.48**	**349**	Pn	**Pn**	**14 24 36.2**	**+0.8**
R33M	**Jennings River**	**9.86**	**65**	Pn	**Pn**	**14 24 42.3**	**+1.6**

IDC 12 14:23:53.4±10.0, **6°.95N**×**94°.74E, h0**km**, mb3.3**/2, **mbtmp3.3/3, ML3.8/1, Error ellipse: s-maj=250.2km s-min=42.6km az=85.0, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**12.15**	**19**	Pn	Pn	14 26 48.2	+0.3
	0.2nm,0.3s,baz=211,slow=15,SNR=6.2 0.3nm,0.3s						
H08S3	**Diego Garcia H**	**26.50**	**237**	T	T	14 56 22.3	
	baz=54,slow=76,SNR=8.3						
H08S2	**Diego Garcia H**	**26.50**	**237**	T	T	14 56 20.4	
	baz=54,slow=76,SNR=6.7						
H08S1	**Diego Carcia H**	**26.52**	**237**	T	T	14 56 18.5	
	baz=54,slow=76,SNR=7.0						
WRA	**Warramunga Arr**	**47.25**	**125**	P	P	14 32 28.4	-0.3
	0.3nm,0.7s,baz=306,slow=8.4,SNR=6.4 0.3nm,0.7s						
ASAR	**Alice Springs**	**48.87**	**130**	P	P	14 32 41.2	0.0
	0.2nm,0.5s,baz=306,slow=7.9,SNR=6.9 0.2nm,0.5s						
H04N2	**CROZET ISLANDS**	**65.25**	**211**	T	T	15 45 20.1	
	baz=46						
H04N1	**CROZET ISLANDS**	**65.25**	**211**	T	T	15 45 23.9	
	baz=46						
H04N3	**CROZET ISLANDS**	**65.26**	**211**	T	T	15 45 23.3	
	baz=46						

UPA ***12*** *14:25:25.4*±*0.6, 9°.01N*×*77°.87W, h66*km±*3km, MW3.0*
RSNC ***12*** *14:25:26.6*±*0.0, 9°.N*±*2°*×*7°.8W*±°*, h61*km±*7km, M2.4, mB4.8, mb4.0, ML2.4, Mw(mB)4.0*

ISC 12 14:25:24.4±1.3, **9°.07N**±0°.06×**77°.86W**±0°.03, **h73**km±12km, **n24,** σ1**9**16/33, **Near north coast of Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOTI	**Torti**	**0.46**	**253**	*e*P	Pn	14 25 37.1	0.0
TOTI				*e*S	**Sn**	**14 25 45.7**	**-0.9**
UPD2	**Meteti**	**0.54**	**196**	*e*P	Pn	14 25 37.6	-0.3
UPD2				*e*S	**Sn**	**14 25 47.0**	**-0.8**
CAPC	**Capurgana**	**0.66**	**130**	P	Pn	14 25 39.1	0.0
CAPC				S	**Sn**	**14 25 49.9**	**-0.1**
CHPO	**Chepo, Panama**	**1.24**	**275**	*e*S	**Sn**	**14 26 01.5**	**-0.9**
UPA	**Univ. de Panam**	**1.65**	**267**	*e*P	**Pn**	**14 25 51.9**	**+0.4**
UPA				*e*S	**Sn**	**14 26 11.0**	**-1.0**
FLAM	**Flamenco Islan**	**1.66**	**265**	*e*P	**Pn**	**14 25 52.0**	**+0.4**
FLAM				*e*S	**Sn**	**14 26 12.1**	**-0.2**
APAC	**Apartado, Choc**	**1.72**	**132**	P	Pn	14 25 54.4	+2.0
APAC				S	**Sn**	**14 26 17.1**	**+3.5**
FRIJ	**El Hiral**	**1.85**	**275**	*e*P	**Pn**	**14 25 55.0**	**+1.0**
PTAC	**Punta Ardita,**	**1.91**	**178**	P	**Pn**	**14 25 54.8**	**-0.1**
PTAC				S	**Sn**	**14 26 17.0**	**-1.2**
BCIP	**Isla Barro Col**	**1.95**	**273**	*e*P	**Pn**	**14 25 56.2**	**+0.7**
BCIP				*e*S	**Sn**	**14 26 19.9**	**+0.7**
BCIP	**Isla Barro Col**	**1.95**	**273**	P	**Pn**	**14 25 56.2**	**+0.7**
ZANG	**Zanguenga, Cho**	**1.98**	**267**	*e*P	Pn	14 25 57.1	+1.2
DBBC	**Dabeiba**	**2.61**	**141**	P	Pn	14 26 06.0	+1.5
UREC	**San Jos de Ur**	**2.65**	**119**	*e*P	**Pn**	**14 26 05.4**	**+0.5**
UREC				*e*S	**Sn**	**14 26 35.7**	**-0.4**
UREC	**San Jos de Ur**	**2.65**	**119**	P	**Pn**	**14 26 05.2**	**+0.3**
UREC				S	**Sn**	**14 26 36.1**	**0.0**
AZU	**Azuero**	**2.70**	**242**	*e*P	**Pn**	**14 26 06.0**	**+0.4**
AZU				*e*S	**Sn**	**14 26 36.3**	**-1.0**
AZU	**Azuero**	**2.70**	**242**	P	**Pn**	**14 26 06.2**	**+0.6**
AZU				S	**Sn**	**14 26 35.7**	**-1.6**
SJCC	**San Jacinto, C**	**2.77**	**73**	P	Pn	14 26 08.5	+1.9
SJCC				S	**Sn**	**14 26 38.4**	**-0.7**
ZARC	**Zaragoza, Cauc**	**3.36**	**118**	P	**Pn**	**14 26 15.0**	**+0.4**
ZARC				S	**Sn**	**14 26 51.7**	**-1.7**
CACAO	**El Cacao, Vera**	**3.43**	**240**	P	**Pn**	**14 26 16.2**	**+0.7**
CACAO				S	**Sn**	**14 26 55.2**	**+0.2**
SMRC	**Santa Marta, M**	**4.14**	**60**	P	Pn	14 26 27.2	+2.0
PTBC	**PUERTO BERRIO,**	**4.21**	**126**	P	**Pn**	**14 26 26.2**	**+0.1**
PTBC				S	**Sn**	**14 27 13.2**	**-0.9**
BARC	**Barichara**	**5.25**	**118**	P	**Pn**	**14 26 41.2**	**+0.6**
CRJC	**Cerrejon, Guaj**	**5.27**	**68**	P	**Pn**	**14 26 42.0**	**+1.2**
CRJC				S	**Sn**	**14 27 37.5**	**-2.8**

IDC ***12*** *14:39:58.2*±*1.0, 30°.79S*×*179°.28W, h247*km±*10km, mb3.7/4, mbtmp4.3/4, Error ellipse: s-maj=22.3km s-min=17.6km az=154.0*
NOU ***12*** *14:40:51.3, 35°.56S*×*178°.81E, h271*km*, ML4.4/10, Off E. Coast of N. Island, N.Z.*

ISC 12 14:39:54.7±0.9, **31°.5S**±0°.1×**178°.6W**±0°.2, **h250**km, **n62,** σ1**56**/61, **mb3.8/4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.32**	**15**	P	**Pn**	**14 40 39.9**	**-0.3**
	180nm,0.3s,baz=84,slow=23,SNR=2.7						
RAO				S	**S**	**14 41 12.9**	**-3.2**
	218nm,0.4s,baz=106,slow=17,SNR=5.2						
MXZ	**Matakaoa Point**	**6.57**	**202**	P	Pn	14 41 35.5	+5.7
WMGZ	**Waiomatatini S**	**6.77**	**201**	P	**Pn**	**14 41 34.4**	**+2.1**
HAZ	**Te Kaha**	**6.92**	**205**	P	**Pn**	**14 41 35.5**	**+1.3**
PKGZ	**Pakihiroa**	**6.94**	**202**	P	**Pn**	**14 41 35.5**	**+1.0**
PUZ	**Puketiti**	**7.05**	**201**	P	**Pn**	**14 41 36.4**	**+0.6**
RUGZ	**Raukumara Rang**	**7.14**	**204**	P	**Pn**	**14 41 38.5**	**+1.3**
TWGZ	**Tauwhareparae**	**7.23**	**202**	P	**Pn**	**14 41 40.0**	**+1.8**
CNGZ	**Carnagh Statio**	**7.44**	**200**	P	**Pn**	**14 41 42.0**	**+1.2**
MWZ	**Matawai**	**7.53**	**204**	P	**Pn**	**14 41 42.0**	**+0.1**
URZ	**Urewera**	**7.61**	**207**	P	**Pn**	**14 41 44.9**	**+2.0**
URZ	**Urewera**	**7.61**	**207**	P	**Pn**	**14 41 43.2**	**+0.3**
	6.3nm,0.3s,baz=319,slow=8.3,SNR=17						
URZ				S	**S**	**14 43 07.6**	**-2.4**
	5.4nm,0.3s,baz=77,slow=9.8,SNR=1.8						
URZ	**Urewera**	**7.61**	**207**	P	**Pn**	**14 41 43.2**	**+0.3**
RAGZ	**Rawiri**	**7.71**	**204**	P	**Pn**	**14 41 44.2**	**-0.1**
RIGZ	**Rimuhau**	**7.78**	**202**	P	**Pn**	**14 41 46.1**	**+0.9**
MUGZ	**Murupara**	**7.93**	**207**	P	**Pn**	**14 41 46.9**	**-0.1**
RTZ	**Ruatahuna**	**7.97**	**206**	P	**Pn**	**14 41 46.3**	**-1.2**
SNGZ	**Shannon Statio**	**7.99**	**204**	P	**Pn**	**14 41 47.5**	**-0.3**
PRRZ	**Plateau Road**	**8.10**	**209**	P	**Pn**	**14 41 50.2**	**+1.0**
MHGZ	**Mahia Peninsul**	**8.15**	**200**	P	**Pn**	**14 41 50.9**	**+1.1**
ALRZ	**Allen Road**	**8.18**	**209**	P	**Pn**	**14 41 45.9**	**-4.2**
RAHZ	**Arahi**	**8.20**	**204**	P	**Pn**	**14 41 50.7**	**+0.2**
MTHZ	**Maungataniwha**	**8.23**	**206**	P	**Pn**	**14 41 50.0**	**-0.9**
TLZ	**Tolley Road**	**8.35**	**214**	P	**Pn**	**14 41 56.1**	**+3.8**
MRHZ	**Matea Rd**	**8.38**	**208**	P	**Pn**	**14 41 53.1**	**+0.4**
NMHZ	**Naumai**	**8.46**	**205**	P	**Pn**	**14 41 52.9**	**-0.8**
ARHZ	**Aropaoanui**	**8.54**	**204**	P	**Pn**	**14 41 56.4**	**+1.7**
BKZ	**Black Stump Fm**	**8.64**	**206**	P	**Pn**	**14 41 57.0**	**+1.0**
BKZ	**Black Stump Fm**	**8.64**	**206**	P	**Pn**	**14 41 55.5**	**-0.5**
MCHZ	**McNeill Hill**	**8.81**	**205**	P	**Pn**	**14 42 01.5**	**+3.5**
HIZ	**Hauiti**	**8.82**	**216**	P	**Pn**	**14 42 00.0**	**+1.8**
HIZ	**Hauiti**	**8.82**	**216**	P	**Pn**	**14 42 00.0**	**+1.8**
KWHZ	**Kaweka Forest**	**8.89**	**206**	P	**Pn**	**14 41 57.5**	**-1.6**
TMVZ	**Te Maari**	**8.91**	**210**	P	**Pn**	**14 41 59.1**	**-0.4**
ETVZ	**East Tongariro**	**8.93**	**210**	P	**Pn**	**14 41 59.3**	**-0.4**
KAHZ	**Kahuranaki**	**9.06**	**203**	P	**Pn**	**14 41 59.7**	**-1.5**
BHHZ	**Black Hill Sta**	**9.08**	**207**	P	**Pn**	**14 42 00.6**	**-1.0**
FWVZ	**Far West T-bar**	**9.09**	**210**	P	**Pn**	**14 42 01.0**	**-0.9**
WNVZ	**Wahianoa**	**9.13**	**210**	P	**Pn**	**14 42 03.1**	**+0.7**
MOVZ	**Moawhango**	**9.14**	**209**	P	**Pn**	**14 42 01.9**	**-0.4**
PXZ	**Pawanui**	**9.28**	**202**	P	**Pn**	**14 42 03.0**	**-1.0**
PNHZ	**Pukenui**	**9.40**	**205**	P	**Pn**	**14 42 02.9**	**-2.7**
BFZ	**Birch Farm**	**10.07**	**203**	P	**Pn**	**14 42 13.4**	**-0.5**
MRZ	**Mangatainoka R**	**10.28**	**206**	P	**Pn**	**14 42 13.2**	**-3.5**
SNZO	**South Karori**	**11.18**	**207**	P	**Pn**	**14 42 27.3**	**-0.5**

QRZ	**Quartz Range**	**11.74**	**215**	P	**Pn**	**14 42 34.8**	**-0.2**
CTZ	**Chatham Island**	**12.31**	**173**	P	P	14 42 55.9	+11
KHZ	**Kahutara**	**12.57**	**208**	P	**Pn**	**14 42 43.8**	**-1.4**
RPZ	**Rata Peaks**	**14.68**	**211**	P	P	14 43 06.3	-4.5
	2.8nm,0.4s,baz=6.1,slow=21,SNR=1.1						
RPZ				S	S	14 45 40.9	-12
	5.8nm,0.3s,baz=314,slow=16,SNR=7.6						
ODZ	**Otahua Downs**	**15.93**	**209**	P	**Pn**	**14 43 25.8**	**+0.1**
STKA	**Stephens Creek**	**33.76**	**259**	P	**P**	**14 46 13.6**	**+0.6**
	6.9nm,0.6s,baz=103,slow=12,SNR=17 6.9nm,0.6s						
ASAR	**Alice Springs**	**42.56**	**268**	P	**P**	**14 47 25.1**	**-1.2**
	1.0nm,0.3s,baz=106,slow=7.5,SNR=43						
ASAR				PcP	**PcP**	**14 49 14.9**	**+1.1**
	0.4nm,0.5s,baz=114,slow=4.1,SNR=4.5 1.0nm,0.3s						
WRA	**Warramunga Arr**	**43.65**	**274**	P	**P**	**14 47 33.5**	**-1.6**
	2.1nm,0.5s,baz=111,slow=8.0,SNR=43 2.1nm,0.5s						
QSPA	**South Pole Qui**	**58.61**	**180**	P	P	14 49 34.1	+8.7
	1.6nm,0.6s,baz=268,slow=1.6,SNR=17 1.6nm,0.6s						
KURBB	**Kurchatov Arra**	**121.48**	**313**	PKP	**PKiKP**	**14 58 19.2**	**+1.2**
	0.1nm,0.3s,baz=109,slow=1.8,SNR=2.3						
FINES	**FINESS Array B**	**146.00**	**339**	PKPbc	**PKPab**	**14 59 05.3**	**0.0**
	4.1nm,0.6s,baz=56,slow=3.3,SNR=22						
NB2	**NORSAR Subarra**	**149.76**	**351**	PKP	**PKiKP**	**14 59 16.5**	**+1.4**
	comp=Z,0.5nm,0.5s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**149.76**	**351**	PKPbc	**PKiKP**	**14 59 16.3**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=18,slow=4.1,SNR=4.4						
HFS	**Hagfors**	**150.22**	**348**	PKPbc	**PKiKP**	**14 59 16.7**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=64,slow=3.4,SNR=5.2						
MMAI	**Mount Meron Ar**	**151.29**	**282**	PKPbc	**PKiKP**	**14 59 20.2**	**+1.0**
	comp=Z,0.6nm,0.4s,baz=67,slow=8.0,SNR=1.9						
AKASG	**Malin Array Be**	**151.86**	**321**	PKPbc	**PKiKP**	**14 59 20.1**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=20,slow=3.7,SNR=2.1						
BRTR	**Keskin Array B**	**152.66**	**296**	PKPbc	**PKiKP**	**14 59 23.6**	**+1.7**
	comp=Z,0.4nm,0.5s,baz=145,slow=4.4,SNR=2.8						

IDC ***12*** *15:34:27.0*±*2.2, 49°.89N*×*18°.64E, h0km, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=41.7km s-min=11.3km az=139.0*
VIE ***12*** *15:34:27.2*±*0.3, 49°.87N*×*18°.68E, h0km, mb2.1/3, ml2.3/2, Error ellipse: s-maj=7.4km s-min=1.8km az=152.0, Suspected Mining induced.*
IPEC ***12*** *15:34:27.8*±*0.2, 49°.99N*×*18°.59E, h1km, ML1.9/4, Error ellipse: s-maj=2.0km s-min=1.1km az=164.0*
PRU ***12*** *15:34:27.9, 49°.98N*×*18°.58E, h0km*

ISC 12 15:34:27.7±0.7, **49°.94N**±0°.03×**18°.53E**±0°.02, **h0**km, **n31,** σ1**9**19/54, **Czech and Slovak Republics**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.26**	**303**	*e*Pg	**Pb**	**15 34 34.2**	**-1.1**
RAC				*e*Sg	**Sb**	**15 34 39.1**	**-1.2**
OKC	**Ostrava-Krasne**	**0.27**	**247**	*e*Pg	**Pb**	**15 34 34.6**	**-0.9**
OKC				*e*Sg	**Sb**	**15 34 39.1**	**-1.5**
	comp=Z,62nm,0.3s						
MORC	**Moravsky Berou**	**0.66**	**256**	*e*Pg	**Pb**	**15 34 41.1**	**-1.1**
	baz=72						
MORC				*e*Sg	**Sg**	**15 34 50.0**	**+1.1**
	34nm,0.3s,baz=72						
OJC	**Ojcow**	**0.86**	**71**	*e*Pg	**Pg**	**15 34 43.5**	**-0.7**
OJC				*e*Sg	**Sg**	**15 34 51.6**	**-3.8**
LANS	**Liptovska Anna**	**1.00**	**142**	*e*PG	**Pb**	**15 34 48.0**	**+0.1**
LANS				*e*SG	**Sb**	**15 35 02.4**	**+0.8**
LANS				eLG	Lg	15 35 06.1	
KRLC	**Kraliky**	**1.14**	**277**	*e*SG	**Sb**	**15 35 05.1**	**-0.5**
JAVC	**Velka Javorina**	**1.22**	**208**	*e*PG	**Pn**	**15 34 52.1**	**-0.1**
JAVC	**Velka Javorina**	**1.22**	**208**	*e*Pg	**Pn**	**15 34 52.0**	**-0.1**
	baz=28						
NIE	**Niedzica**	**1.26**	**114**	*e*Pg	**Pn**	**15 34 52.3**	**-0.3**
NIE				*e*Sg	**Sg**	**15 35 08.1**	**-0.1**
VRAC	**Vranov**	**1.41**	**244**	Pg	**Pg**	**15 34 54.5**	**-0.2**
	4.3nm,0.3s,baz=63,slow=13,SNR=46						
VRAC				Lg	Lg	15 35 14.1	
	3.8nm,0.3s,baz=132,slow=18,SNR=11						
VRAC	**Vranov**	**1.41**	**244**	*e*Pg	**Pg**	**15 34 54.5**	**-0.2**
	baz=62						
VRAC				*e*Sg	**Sn**	**15 35 13.9**	**-0.1**
	11nm,0.2s,baz=62						
VYHS	**Vyhne**	**1.46**	**172**	*e*PG	**Pb**	**15 34 55.7**	**-0.1**
VYHS				*e*SG	**Sg**	**15 35 13.9**	**-0.8**
DPC	**Dobruska-Polom**	**1.48**	**287**	*e*PG	**Pg**	**15 34 55.4**	**-0.7**
DPC				*e*SG	**Sn**	**15 35 15.2**	**-0.5**
	comp=Z,19nm,0.7s						
OSTC	**Ostas**	**1.61**	**293**	*e*PG	**Pb**	**15 34 57.8**	**-0.5**
KRUC	**Moravsky**	**1.65**	**238**	*e*Pn	**Pb**	**15 34 58.6**	**-0.4**
	baz=56						
KRUC				*e*Sg	**Sg**	**15 35 21.3**	**+0.7**
	5.1nm,0.2s,baz=56						
UPC	**Upice**	**1.71**	**290**	*e*PG	**Pb**	**15 34 59.6**	**-0.5**
MODS	**Modra-Piesok**	**1.77**	**208**	*e*PG	**Pb**	**15 35 00.6**	**-0.5**
MODS				*e*SG	**Sg**	**15 35 26.2**	**+1.6**
STHS	**Stebnicka Huta**	**1.84**	**106**	*e*PN	**Pb**	**15 35 01.9**	**-0.3**
STHS				*e*SG	**Sg**	**15 35 31.8**	**+5.1**
KECS	**Kecovo**	**1.94**	**138**	*e*PN	**Pb**	**15 35 02.6**	**-1.4**
KECS				*e*SG	**Sb**	**15 35 28.9**	**+0.2**
CRVS	**Cervenica-Dubn**	**2.18**	**117**	*e*PG	**Pg**	**15 35 09.2**	**-0.2**
PRU	**Pruhonice**	**2.58**	**273**	*e*PN	**Pn**	**15 35 09.5**	**-1.2**
PRU				*e*PG	**Pb**	**15 35 14.2**	**-0.6**
PRU				*e*SG	**Sg**	**15 35 50.2**	**-0.3**
KOLS	**Kolonicke sedl**	**2.64**	**111**	*e*PN	**Pn**	**15 35 11.8**	**+0.2**
KOLS				*e*PG	**Pg**	**15 35 19.0**	**+0.7**
CONA	**Conrad Observa**	**2.68**	**222**	*i* Pn	**Pn**	**15 35 11.3**	**-0.8**
	0.1nm,0.1s						
CONA				*e*Sn	**Sn**	**15 35 46.7**	**+1.5**
	1.1nm,0.2s						
CKRC	**Cesky Krumlov**	**2.98**	**249**	*e*PN	**Pn**	**15 35 16.0**	**-0.2**
CKRC				*e*PG	**Pb**	**15 35 21.5**	**-0.1**
CKRC				*e*SG	**Sg**	**15 36 02.5**	**-0.9**
BRG	**Berggiesshubel**	**3.08**	**289**	Pg	**Pb**	**15 35 24.5**	**+1.2**
BRG				Sg	**Sg**	**15 36 06.2**	**-0.4**
BRG				Amp		15 36 10.3	
	comp=Z,4.4nm,0.5s						
KHC	**Kasperske Hory**	**3.33**	**258**	*e*PN	**Pn**	**15 35 21.1**	**+0.1**
KHC				*e*PG	**Pb**	**15 35 28.1**	**+0.5**
KHC				*e*SG	**Sg**	**15 36 13.6**	**-1.0**
	comp=Z,9.1nm,0.6s						
GERES	**GERESS Array B**	**3.34**	**253**	Pn	**Pn**	**15 35 20.9**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=74,slow=16,SNR=1.9						
GERES				Pg	**Pb**	**15 35 28.4**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=66,slow=18,SNR=12						
GERES				Lg	Lg	15 36 13.1	
	comp=Z,1.1nm,0.3s,baz=80,slow=35,SNR=2.0 comp=Z,0.4nm,0.3s						
MOA	**Molln**	**3.51**	**235**	*i* Pn	**Pn**	**15 35 22.7**	**-0.8**
	comp=Z,0.5nm,0.2s						
MOA				*i* Sn	**Sn**	**15 36 06.7**	**+1.0**
	comp=Z,0.1nm,0.1s						
FINES	**FINESS Array B**	**12.28**	**17**	Pn	Pn	15 37 17.8	-5.8
	comp=Z,0.1nm,0.3s,baz=198,slow=13,SNR=5.6 comp=Z,0.3nm,0.3s						
EKA	**Eskdalemuir Ar**	**14.21**	**301**	Pn	**Pn**	**15 37 51.2**	**+1.2**
	baz=102,slow=16 comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**19.94**	**7**	P	**P**	**15 38 59.0**	**-1.8**
	baz=212,slow=15,SNR=2.2 comp=Z,2.5nm,1.1s						

NEIC ***12*** *15:59:28.8*±*1.1, 8°.03S*±*0°.09*×*122°.48E*±*0°.09, h202*km±*8km, mb4.2/12, Error ellipse: s-maj=15.3km s-min=9.5km az=47.0*
IDC ***12*** *15:59:28.0*±*1.8, 7°.89S*×*122°.79E, h200*km±*19km, mb3.3/2, mbtmp4.1/6, MS3.1/1, Error ellipse: s-maj=111.6km s-min=11.2km az=57.0*
DJA ***12*** *15:59:29.7*±*0.6, 8°S*±*4°*×*12°2E*±*°, h184*km±*10km, M3.9/12, mb3.8/1, MLv4.0/12*

ISC 12 15:59:28.1±0.6, **8°.08S**±0°.05×**122°.51E**±0°.06, **h200**km, **n59,** σ1**9**31/62, **mb4.1/4, Flores region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.61**	**206**	P	**Pn**	**15 59 55.7**	**0.0**
MMRI	**Maumere**	**0.61**	**206**		**Pn**	**15 59 56.4**	**+0.7**
MMRI	**Maumere**	**0.61**	**206**	P	**Pn**	**15 59 56.2**	**+0.5**
EDFI	**Ende, Flores**	**1.05**	**231**	P	**Pn**	**15 59 58.9**	**+0.6**
BATI	**Baumata**	**2.40**	**152**	P	**Pn**	**16 00 12.6**	**+1.7**
	158nm,0.3s,baz=272,slow=2.6,SNR=83						
BATI				S	**Sn**	**16 00 45.7**	**+1.3**
	398nm,0.3s,baz=183,slow=4.4,SNR=7.2						
BATI	**Baumata**	**2.40**	**152**	P	**Pn**	**16 00 12.2**	**+1.3**

SOEI	**Soe**	**2.40**	**134**	P	**Pn**	**16 00 12.3**	**+1.2**
SOEI	**Soe**	**2.40**	**134**		**Pn**	**16 00 12.7**	**+1.7**
SOEI	**Soe**	**2.40**	**134**	P	**Pn**	**16 00 12.2**	**+1.2**
BBSI	**Bau Bau**	**2.58**	**1**	P	**Pn**	**16 00 14.7**	**+1.8**
BASI	**Baing, Sumba**	**2.85**	**222**	P	**Pn**	**16 00 15.7**	**-0.3**
BASI				S	**Sn**	**16 00 52.6**	**-1.0**
KAPI	**Kappang**	**4.10**	**318**		**Pn**	**16 00 32.7**	**+1.6**
KAPI	**Kappang**	**4.10**	**318**	P	**Pn**	**16 00 30.2**	**-0.9**
	36nm,0.7s,baz=134,slow=13,SNR=13						
PLAI	**Plampang**	**4.74**	**261**	P	**Pn**	**16 00 39.9**	**+0.7**
TTSI	**Tana Toraja**	**5.67**	**332**	P	**Pn**	**16 00 52.7**	**+1.5**
JAGI	**Jajag, Banyuwa**	**8.28**	**267**	Pn	**Pn**	**16 01 22.2**	**-1.8**
DRS	**Darwin Rock St**	**9.32**	**118**	P	**Pn**	**16 01 38.2**	**-0.3**
MTN	**Manton Dam**	**9.71**	**120**	P	**Pn**	**16 01 43.2**	**-0.4**
MTN	**Manton Dam**	**9.71**	**120**		**Pn**	**16 01 43.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**10.41**	**163**	Pn	**Pn**	**16 01 53.7**	**+1.0**
KDU	**Kakadu**	**10.81**	**116**	P	**Pn**	**16 01 56.9**	**-1.0**
FAKI	**Fak Fak**	**10.96**	**63**	Pn	**Pn**	**16 02 00.5**	**+0.7**
MBWA	**Marble Bar**	**13.28**	**191**	P	**P**	**16 02 33.2**	**+1.3**
MBWA	**Marble Bar**	**13.28**	**191**	P	**P**	**16 02 33.7**	**+1.8**
WB0	**Warramunga Arr**	**16.36**	**136**	P	**P**	**16 03 06.3**	**+0.3**
WB0				IAmb	IAmb	16 03 15.8	
	comp=Z,9.0nm,1.0s						
WRA	**Warramunga Arr**	**16.44**	**137**	P	**P**	**16 03 07.4**	**+0.5**
WRA	**Warramunga Arr**	**16.44**	**137**	P	**P**	**16 03 07.5**	**+0.5**
	comp=Z,1.5nm,0.3s,baz=321,slow=12,SNR=72						
WRA				S	**S**	**16 06 04.8**	**-4.1**
	comp=Z,1.6nm,0.5s,baz=311,slow=24,SNR=9.0						
WB2	**Warramunga Arr**	**16.45**	**137**	P	**P**	**16 03 07.8**	**+0.8**
WB2				IAmb	IAmb	16 03 09.3	
	comp=Z,7.4nm,0.8s						
GIRL	**Giralia**	**16.52**	**208**	P	**Pn**	**16 03 10.3**	**+1.6**
GIRL	**Giralia**	**16.52**	**208**		**Pn**	**16 03 09.3**	**+0.6**
WR0	**Warramunga Arr**	**16.59**	**137**	P	**P**	**16 03 09.1**	**+0.5**
WR0				IAmb	IAmb	16 03 27.5	
	comp=Z,3.7nm,0.7s						
WRKA	**Warakurna**	**17.74**	**163**	P	**P**	**16 03 23.0**	**+1.8**
MEEK	**Meekatharra**	**18.82**	**191**	P	**P**	**16 03 34.6**	**+1.7**
AS31	**Alice Springs**	**18.96**	**146**	P	**P**	**16 03 36.0**	**+1.5**
AS31				IAmb	IAmb	16 03 39.9	
	comp=Z,4.7nm,0.9s						
ASAR	**Alice Springs**	**18.96**	**146**	P	**P**	**16 03 35.9**	**+1.5**
	comp=Z,9.8nm,0.7s,baz=323,slow=11,SNR=313						
ASAR				S	**S**	**16 06 58.5**	**-0.7**
	comp=Z,1.7nm,0.9s,baz=325,slow=23,SNR=7.7						
QIS	**Mount Isa**	**20.66**	**129**	P	**P**	**16 03 53.5**	**+0.8**
COEN	**Coen**	**21.10**	**108**	P	**P**	**16 03 57.4**	**+0.1**
MORW	**Morawa**	**21.75**	**195**	P	**P**	**16 04 04.4**	**+0.5**
MORW	**Morawa**	**21.75**	**195**	P	**P**	**16 04 04.3**	**+0.5**
MORW				IAmb	IAmb	16 04 04.7	
	comp=Z,5.0nm,0.6s						
BLDU	**Ballidu**	**23.07**	**193**	P	**P**	**16 04 16.6**	**+0.6**
FORT	**Forrest**	**23.17**	**168**	P	**P**	**16 04 19.9**	**+2.9**
OOD	**Oodnadatta**	**23.23**	**149**	P	**P**	**16 04 18.5**	**+

YKA Lg Lg 16 15 55.2
baz=160,slow=27
comp=E,0.2nm,0.6s

IDC ***12*** *16:10:56.6±2.4, 1.45N×127.07E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=184.1km s-min=28.0km az=66.0*
DJA ***12*** *16:11:02.9±0.3, 1.1N±4.4×12.76E±.4, h10km, M3.2/6, MLv3.2/6*
ISC 12 16:11:04.3±1.2, 0.9N±0.1×126.22E±0.06, h35km, n8, σ1§83/9, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**1.16**	**98**	P	**Pn**	**16 11 25.7**	**+1.7**
LBMI	**Labuha**	**2.02**	**141**	P	**Pn**	**16 11 37.5**	**+1.7**
KMSI	**Cibinong**	**2.27**	**261**	P	**Pn**	**16 11 39.8**	**+0.5**
KMSI				S	**Sn**	**16 12 06.5**	**+0.5**
SANI	**Sanana**	**2.97**	**185**	P	**Pn**	**16 11 49.4**	**+0.5**
GTOI	**Gorontalo**	**3.22**	**265**	P	**Pn**	**16 11 55.3**	**+2.9**
WRA	**Warramunga Arr**	**22.22**	**159**	P	**P**	**16 15 56.9**	**-1.1**
	0.5nm,0.6s,baz=341,slow=11,SNR=6.9						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**25.56**	**163**	P	**P**	**16 16 30.0**	**-0.1**
	0.8nm,0.8s,baz=345,slow=11,SNR=16						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**59.57**	**326**	P	**P**	**16 21 02.5**	**-2.1**
	0.2nm,0.4s,baz=126,slow=7.8,SNR=2.3						
	0.2nm,0.4s						

NEIC ***12*** *16:19:56.5±0.4, 36.83N±0.01×97.75W±0.02, h3km±2km, Error ellipse: s-maj=1.9km s-min=1.6km az=93.0*
TUL 12 16:19:56.7±0.3, 36.840N±0.009×97.75W±0.01, h7km±2km, ML2.8, mb_Lg2.4/12(NEIC), ML2.6/51(NEIC), Error ellipse: s-maj=1.8km s-min=0.7km az=54.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.09**	**277**	Pg	Pg	16 19 59.0	+0.2
GC02				Sg	Sg	16 20 00.6	+0.5
KAN17	**Caldwell West**	**0.20**	**357**		Pg	16 20 01.4	+0.6
KAN17				IAML		16 20 04.6	
	comp=N,938nm,0.3s						
KAN14	**Manchester OK**	**0.20**	**305**		Pg	16 20 01.3	+0.5
KAN14				Sg	Sg	16 20 04.2	+0.7
KAN14				IAML		16 20 04.4	
	comp=N,2μm,0.1s						
KAN14				IAML		16 20 04.7	
	comp=E,1μm,0.1s						
KAN13	**South Haven SW**	**0.28**	**52**	Pg	Pg	16 20 02.7	+0.5
KAN13				IAML		16 20 07.0	
	comp=N,2μm,0.3s						
KAN13				IAML		16 20 07.0	
	comp=E,1μm,0.3s						
KAN05	**Bluff City Nor**	**0.28**	**340**	Pg	Pg	16 20 02.7	+0.4
KAN01	**Argonia South**	**0.31**	**359**	Pg	Pg	16 20 03.3	+0.4
KAN09	**Caldwell North**	**0.31**	**20**	Pg	Pg	16 20 03.3	+0.4
KAN09				IAML		16 20 11.1	
	comp=N,844nm,0.2s						
OK032	**Salt Plains WL**	**0.37**	**264**		Pg	16 20 04.0	+0.1
OK032				IAML		16 20 09.9	
	comp=N,605nm,0.1s						
OK032				IAML		16 20 13.7	
	comp=N,523nm,0.2s						
CROK	**Carrier**	**0.38**	**209**		Pg	16 20 04.2	0.0
CROK				Sg	Sg	16 20 09.8	+0.6
CROK				IAML		16 20 11.8	
	comp=N,1μm,0.2s						
KAN10	**Anthony SW Sta**	**0.39**	**316**	Pg	Pg	16 20 04.8	+0.4
KAN10				IAML		16 20 10.5	
	comp=E,644nm,0.2s						
KAN06	**Argonia West S**	**0.41**	**348**	Pg	Pg	16 20 05.3	+0.5
KAN06				IAML		16 20 14.4	
	comp=N,493nm,0.1s						
KAN08	**Anthony NE Sta**	**0.42**	**336**	Pg	Pg	16 20 05.4	+0.5
KAN08				IAML		16 20 11.7	
	comp=E,964nm,0.3s						
KAN08				IAML		16 20 11.7	
	comp=N,459nm,0.1s						
BLOK	**Blackwell**	**0.44**	**100**		Pg	16 20 05.5	+0.3
BLOK				IAML		16 20 15.6	
	comp=N,686nm,0.2s						
BLOK				IAML		16 20 20.9	
	comp=E,429nm,0.2s						
KAN12	**Harper NE Stat**	**0.50**	**337**	Pg	Pg	16 20 06.6	+0.3
KAN12				IAML		16 20 15.7	
	comp=N,742nm,0.4s						
OK048	**Pawnee Station**	**0.78**	**123**	Pg	Pg	16 20 11.6	0.0
OK048				IAML		16 20 22.0	
	comp=N,262nm,0.2s						
OK048				IAML		16 20 22.1	
	comp=N,242nm,0.2s						
OK038	**West end E0370**	**0.87**	**246**		Pg	16 20 13.2	-0.3
T35A	**Sooner Cattle**	**1.00**	**85**	Pg	Pg	16 20 15.7	-0.2
OK029	**Liberty Lake**	**1.07**	**167**	Pg	Pg	16 20 16.9	-0.3
OK029				IAML		16 20 35.7	
	comp=N,148nm,0.4s						
QUOK	**Quay**	**1.07**	**128**		Pg	16 20 17.2	-0.1
U32A	**Winter Ranch,**	**1.10**	**246**	Pg	Pg	16 20 17.4	-0.5
U32A				IAML		16 20 37.2	
	comp=N,131nm,0.1s						
U32A				IAML		16 20 37.7	
	comp=E,105nm,0.1s						
OK052	**Battle Ridge R**	**1.14**	**137**	Pg	Pg	16 20 18.2	-0.4
OK052				IAML		16 20 34.2	
	comp=E,255nm,0.2s						
OK031	**S. Brethren Rd**	**1.15**	**140**	Pg	Pg	16 20 18.4	-0.4
DEOK	**Depew**	**1.42**	**134**		Pn	16 20 22.9	-0.1
OKCSW	**OKLAHOMA CITY**	**1.46**	**170**		Pn	16 20 23.7	+0.3
FNO	**Franklin**	**1.61**	**170**		Pn	16 20 25.6	+0.1
FNO				IAmb_Lg		16 20 50.8	
	comp=Z,17nm,0.9s						
R32A	**Long Quarter,**	**1.75**	**335**	Pn	Pb	16 20 29.2	0.0
W35A	**Tecumseh**	**1.83**	**157**		Pn	16 20 29.2	+0.6
TUL3	**Leonard**	**1.83**	**120**	Pn	Pb	16 20 29.8	-0.8
WMOK	**Wichita Mounta**	**2.26**	**202**		Pn	16 20 34.8	+0.3
X37A	**Clayton**	**2.97**	**139**	IAmb_Lg		16 21 37.9	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**3.74**	**240**	IAmb_Lg		16 22 04.1	
	comp=Z,8.9nm,0.8s						
P38A	**Dawn**	**4.33**	**49**	IAmb_Lg		16 22 16.3	
	comp=Z,8.7nm,0.7s						
KSCO	**Kaye Shedlock'**	**4.42**	**301**	IAmb_Lg		16 22 28.4	
	comp=Z,8.8nm,0.9s						
WHAR	**Wooly Hollow**	**4.69**	**108**	IAmb_Lg		16 22 25.9	
	comp=Z,9.0nm,1.1s						

SJA ***12*** *16:27:14.7±0.7, 21.07S×67.51W, h190km±7km, ML4.0, MW3.7*
IDC ***12*** *16:27:15.2±1.1, 21.18S×67.35W, h174km±11km, mb3.2/3, mbtmp3.7/8, Error ellipse: s-maj=24.9km s-min=14.7km az=124.0*
SCB ***12*** *16:27:17.0±1.6, 21.16S×67.51W, h168km±17km, ML3.9/3, MW4.1, Error ellipse: s-maj=8.2km s-min=5.0km az=0.0*
GUC ***12*** *16:27:17.3±0.9, 21.14S×67.72W, h183km±10km, ML4.0*
ISC 12 16:27:15.7±0.8, 21.15S±0.04×67.52W±0.04, h186km±6km, n58, σ1§18/87, mb3.2/3, 6C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**1.72**	**248**	*eP*	**Pn**	**16 27 51.5**	**+0.9**
PB09				*eS*	**Sn**	**16 28 19.0**	**+1.4**
PB09	**IPOC Station P**	**1.72**	**248**	*↓iP*	**Pn**	**16 27 51.5**	**+0.9**
PB09				*eS*	**Sn**	**16 28 16.6**	**-1.0**
PB09	**IPOC Station P**	**1.72**	**248**	Pg	**Pn**	**16 27 51.8**	**+1.2**
MOCB	**Mochara**	**1.76**	**94**	Pg	**Pn**	**16 27 52.0**	**+0.7**
MOCB				Sg	**Sn**	**16 28 17.8**	**-0.9**
MOCB				IAML		16 28 18.9	
	283nm,0.4s						
PB08	**IPOC Station P**	**1.83**	**303**	*eP*	**Pn**	**16 27 53.0**	**+1.1**
PB08				*eS*	**Sn**	**16 28 20.9**	**+1.0**
PB08	**IPOC Station P**	**1.83**	**303**	*↑iP*	**Pn**	**16 27 52.8**	**+0.9**
PB08				*eS*	**Sn**	**16 28 19.8**	**-0.1**
PB08				IAML		16 28 20.9	
	comp=N,464nm,0.7s						
PB08	**IPOC Station P**	**1.83**	**303**	Pg	**Pn**	**16 27 53.0**	**+1.1**
PB01	**IPOC Station P**	**1.84**	**273**	*eP*	**Pn**	**16 27 51.6**	**0.0**
PB01				IAML		16 28 21.3	
	comp=Z,566nm,0.2s						
PB01	**IPOC Station P**	**1.84**	**273**	*↑iP*	**Pn**	**16 27 51.6**	**0.0**
PB01				*eS*	**Sn**	**16 28 18.1**	**-1.3**
PB01				IAML		16 28 21.1	
	comp=E,903nm,0.1s						
PB01	**IPOC Station P**	**1.84**	**273**	Pg	**Pn**	**16 27 52.1**	**+0.5**
PB01				Sg	**Sn**	**16 28 18.8**	**-0.6**
PB01				IAML		16 28 21.5	
	comp=E,675nm,0.2s						
LVC	**Limon Verde**	**1.94**	**221**	*eP*	**Pn**	**16 27 53.5**	**+0.5**
LVC				*eS*	**Sn**	**16 28 22.2**	**+0.2**
LVC	**Limon Verde**	**1.94**	**221**	P	**Pn**	**16 27 53.6**	**+0.7**
	comp=E,26nm,0.3s,baz=1.5,slow=9.2,SNR=155						
LVC				S	**Sn**	**16 28 21.4**	**-0.6**
	comp=E,56nm,0.2s,baz=214,slow=20,SNR=46						
LVC	**Limon Verde**	**1.94**	**221**	*↓iP*	**Pn**	**16 27 53.6**	**+0.7**
LVC				*eS*	**Sn**	**16 28 21.5**	**-0.4**
LVC				IAML		16 28 23.9	
	comp=E,467nm,0.3s						
YJA	**Yavi**	**2.13**	**119**	*eP*	**Pn**	**16 27 55.9**	**+0.8**
YJA				*eS*	**Sn**	**16 28 24.5**	**-1.2**
GO01	**Chusmiza**	**2.15**	**313**	*eP*	Pn	16 27 51.1	-4.3
GO01				*eS*	**Sn**	**16 28 28.9**	**+2.7**
GO01	**Chusmiza**	**2.15**	**313**	*↑iP*	**Pn**	**16 27 56.0**	**+0.5**
GO01				*eS*	**Sn**	**16 28 26.1**	**-0.1**
GO01				IAML		16 28 32.5	
	comp=N,901nm,0.1s						
GO01	**Chusmiza**	**2.15**	**313**	Pg	**Pn**	**16 27 56.5**	**+1.1**
PB02	**IPOC Station P**	**2.22**	**265**	*eP*	**Pn**	**16 27 55.8**	**+0.1**
PB02				*eS*	**Sn**	**16 28 26.1**	**-0.7**
PB02				IAML		16 28 28.4	
	comp=Z,953nm,0.2s						
PB02	**IPOC Station P**	**2.22**	**265**	*↑iP*	**Pn**	**16 27 56.0**	**+0.3**
PB02				*eS*	**Sn**	**16 28 25.5**	**-1.3**
PB02				IAML		16 28 30.1	
	comp=E,1μm,0.2s						
PB02	**IPOC Station P**	**2.22**	**265**	Pg	**Pn**	**16 27 56.2**	**+0.5**
PB02				Sg	**Sn**	**16 28 25.8**	**-1.0**
PB02				IAML		16 28 26.4	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**2.27**	**255**	*eP*	**Pn**	**16 27 56.5**	**+0.1**
PB07				*eS*	**Sn**	**16 28 26.7**	**-1.3**
PB07				IAML		16 28 28.1	
	comp=Z,662nm,0.4s						
PB07	**IPOC Station P**	**2.27**	**255**	*↓iP*	**Pn**	**16 27 56.5**	**+0.1**
PB07				*eS*	**Sn**	**16 28 26.6**	**-1.5**
PB07				IAML		16 28 27.8	
	comp=N,614nm,0.3s						
HMBC	**Humberstone**	**2.38**	**291**	*eP*	**Pn**	**16 27 57.2**	**-0.3**
HMBC				IAML		16 28 31.3	
	comp=Z,889nm,0.3s						
HMBC	**Humberstone**	**2.38**	**291**	*↑iP*	**Pn**	**16 27 57.2**	**-0.3**
HMBC				*eS*	**Sn**	**16 28 28.1**	**-1.9**
HMBC				IAML		16 28 30.7	
	comp=E,950nm,0.2s						
PB11	**IPOC Station P**	**2.43**	**304**	*eP*	**Pn**	**16 27 58.2**	**+0.1**
PB11				IAML		16 28 33.7	
	comp=Z,511nm,0.2s						
PB11	**IPOC Station P**	**2.43**	**304**	*↑iP*	**Pn**	**16 27 58.3**	**+0.1**
PB11				*eS*	**Sn**	**16 28 29.5**	**-1.7**
PB11				IAML		16 28 31.8	
	comp=N,2μm,0.1s						
PB11	**IPOC Station P**	**2.43**	**304**	Pg	**Pn**	**16 27 58.5**	**+0.3**
PB06	**IPOC Station P**	**2.45**	**230**	*eP*	**Pn**	**16 27 59.0**	**+0.6**
PB06				*eS*	**Sn**	**16 28 32.1**	**+0.5**
PB06				IAML		16 28 35.3	
	comp=Z,251nm,0.1s						
PB06	**IPOC Station P**	**2.45**	**230**	*↓iP*	**Pn**	**16 27 58.8**	**+0.4**
PB06				*eS*	**Sn**	**16 28 31.3**	**-0.3**
PB06				IAML		16 28 32.6	
	comp=E,730nm,0.1s						
PATCX	**Punta Patache**	**2.48**	**277**	*eP*	**Pn**	**16 27 58.9**	**+0.3**
PATCX				*eS*	**Sn**	**16 28 31.1**	**-0.9**
PATCX				IAML		16 28 34.7	
	comp=Z,322nm,0.3s						
TA01	**Diego Aracena**	**2.55**	**283**	*eP*	**Pn**	**16 27 58.6**	**-0.8**
TA01				*eS*	**Sn**	**16 28 31.4**	**-1.9**
TA01				IAML		16 28 34.5	
	comp=Z,246nm,0.2s						
TA02	**Huaiquique**	**2.59**	**289**	*eP*	**Pn**	**16 27 59.7**	**-0.1**
TA02				*eS*	**Sn**	**16 28 32.3**	**-1.9**
TA02				IAML		16 28 34.2	
	comp=Z,908nm,0.3s						
SOEO	**Opoqueri**	**2.60**	**352**	Pg	**Pn**	**16 28 02.2**	**+1.7**
PB04	**IPOC Station P**	**2.71**	**244**	*eP*	**Pn**	**16 28 01.8**	**+0.4**
PB04				*eS*	**Sn**	**16 28 35.8**	**-1.2**
PB04				IAML		16 28 37.3	
	comp=Z,331nm,0.2s						
PB15	**IPOC Station P**	**2.73**	**221**	*eP*	**Pn**	**16 28 02.8**	**+1.1**
PB15				*eS*	**Sn**	**16 28 37.8**	**+0.3**
PB15				IAML		16 28 41.4	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**2.73**	**221**	Pg	**Pn**	**16 28 02.8**	**+1.1**
HJA	**Humahuaca**	**2.83**	**137**	*eP*	**Pn**	**16 28 04.3**	**+1.2**
HJA				*eS*	**Sn**	**16 28 40.4**	**+0.4**
SOET	**ToroToro**	**3.42**	**28**	Pg	**Pn**	**16 28 10.5**	**+0.3**
PB12	**IPOC Station P**	**3.65**	**313**	*eP*	**Pn**	**16 28 11.6**	**-1.2**
PB12				*eS*	**Sn**	**16 28 54.6**	**-2.8**
PB12				IAML		16 28 57.2	
	comp=Z,115nm,0.4s						
AOEA	**Aiguile**	**3.66**	**37**	Pg	**Pn**	**16 28 13.3**	**+0.2**
PB10	**IPOC Station P**	**3.66**	**229**	*eP*	**Pn**	**16 28 13.1**	**+0.3**
PB10				*eS*	Sn	16 28 44.0	-13
AP01	**Chacalluta**	**3.83**	**316**	*eP*	**Pn**	**16 28 14.0**	**-0.9**
AP01				IAML		16 29 05.4	
	comp=Z,211nm,0.2s						
SOEJ	**Jacaque**	**4.20**	**351**	Pg	**Pn**	**16 28 22.3**	**+2.1**
BBOE	**La Paz, Chanca**	**4.34**	**354**	Pg	**Pn**	**16 28 23.9**	**+2.0**
GO02	**Mina Guanaco**	**4.42**	**205**	*eP*	**Pn**	**16 28 22.8**	**+0.1**
GO02				*eS*	**Sn**	**16 29 12.7**	**-2.5**
BBOD	**La Paz, Gloria**	**4.60**	**347**	Pg	**Pn**	**16 28 27.1**	**+1.8**
LPAZ	**La Paz**	**4.87**	**353**	*eP*	**Pn**	**16 28 30.2**	**+1.4**
LPAZ	**La Paz**	**4.87**	**353**	P	**Pn**	**16 28 30.0**	**+1.2**
	comp=Z,12nm,0.4s,baz=150,slow=5.4,SNR=72						
LPAZ	**La Paz**	**4.87**	**353**	Pg	**Pn**	**16 28 29.5**	**+0.7**
SIV	**San Ignacio**	**7.99**	**51**	P	**Pn**	**16 29 06.1**	**-2.8**
	comp=Z,3.1nm,0.4s,baz=243,slow=11,SNR=14						
SIV				S	Sn	16 30 29.8	-8.9
	comp=Z,1.4nm,0.2s,baz=127,slow=24,SNR=6.4						
BDFB	**Brasilia**	**19.30**	**77**	P	**P**	**16 31 25.2**	**-1.6**
	comp=Z,1.4nm,0.4s,baz=226,slow=9.1,SNR=3.2						
PLCA	**Paso Flores**	**19.69**	**187**	P	**Pn**	**16 31 32.2**	**-2.2**
	comp=Z,2.1nm,0.9s,baz=348,slow=9.7,SNR=5.0						
TXAR	**Lajitas Array**	**61.09**	**324**	P	**P**	**16 37 11.8**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=138,slow=9.6,SNR=2.8						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array**	**74.46**	**329**	P	**P**	**16 38 35.0**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=116,slow=6.1,SNR=2.0						
	comp=Z,0.2nm,0.4s						
YKA	**Yellowknife Ar**	**91.30**	**340**	P	**P**	**16 40 00.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=127,slow=3.8,SNR=12						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**130.81**	**206**	PKP	**PKiKP**	**16 46 05.7**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=119,slow=1.9,SNR=2.4						
ZALV	**Zalesovo Beam**	**141.08**	**26**	PKP	**PKiKP**	**16 46 25.0**	**-1.3**
	comp=Z,0.7nm,0.5s,baz=348,slow=4.3,SNR=3.0						
MKAR	**Makanchi Array**	**144.59**	**37**	PKP	**PKPdf**	**16 46 30.9**	**+0.9**
	comp=Z,1.5nm,0.5s,baz=338,slow=3.0,SNR=18						

IDC ***12*** *16:32:33.0±1.7, 2.20S×140.45E, h0km, mb3.6/3, mbtmp3.6/4, ML4.0/1, Error ellipse: s-maj=79.1km s-min=26.6km az=99.0*
DJA ***12*** *16:32:34.7±0.8, 3.3S±10.1×14.0E±.7, h77km±6km, M3.6/4, MLv3.6/4*
ISC 12 16:32:38.5±1.0, 2.22S±0.09×140.15E±0.06, h35km, n13, σ1§33/10, mb3.6/3, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.37**	**177**	P	**Pn**	**16 32 46.3**	**-1.1**
GENI				S	**Sn**	**16 32 54.4**	**+1.0**
JAY	**Jayapura**	**0.63**	**118**	P	**Pn**	**16 32 50.1**	**-0.8**
JAY				S	**Sn**	**16 33 01.1**	**+1.3**
SMPI	**Sarmi**	**1.46**	**279**	P	**Pn**	**16 33 00.9**	**-1.4**
SMPI				S	**Sn**	**16 33 22.1**	**+1.9**
WRA	**Warramunga Arr**	**18.51**	**197**	P	**Pn**	**16 36 51.7**	**-0.5**
	0.5nm,0.3s,baz=17,slow=12,SNR=20						
	1.7nm,0.7s						
ASAR	**Alice Springs**	**22.16**	**195**	P	**P**	**16 37 32.1**	**+0.5**
	1.9nm,0.7s,baz=27,slow=10,SNR=24						
	1.9nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**33.25**	**51**	T	T	17 14 25.1	
	baz=231						
H11S2	**WAKE ISLAND Hy**	**33.27**	**51**	T	T	17 14 26.4	
	baz=231						
H11S1	**WAKE ISLAND Hy**	**33.27**	**51**	T	T	17 14 25.6	
	baz=231						
H11N1	**WAKE ISLAND Hy**	**34.12**	**49**	T	T	17 15 24.7	
	baz=236						
H11N2	**WAKE ISLAND Hy**	**34.14**	**49**	T	T	17 15 22.8	
	baz=236						
H11N3	**WAKE ISLAND Hy**	**34.14**	**49**	T	T	17 15 30.2	
	baz=236						
MKAR	**Makanchi Array**	**70.29**	**322**	P	**P**	**16 43 49.5**	**+1.0**
	0.2nm,0.6s,baz=108,slow=8.2,SNR=2.9						
	0.2nm,0.6s						
ILAR	**Eielson Array**	**84.80**	**24**	P	**P**	**16 45 08.2**	**-0.8**
	0.5nm,0.8s,baz=248,slow=4.8,SNR=3.6						
	0.5nm,0.8s						

IDC 12 16:45:59.8±2.5, 17.97S×177.65W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=274.7km s-min=32.2km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.34**	**259**	P	P	16 54 19.7	-0.4
	0.5nm,0.4s,baz=96,slow=7.4,SNR=18						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**45.48**	**254**	P	P	16 54 21.3	+0.1
	2.4nm,0.5s,baz=88,slow=8.6,SNR=69						
	2.4nm,0.5s						
TXAR	**Lajitas Array**	**85.41**	**57**	P	P	16 58 39.7	0.0
	0.3nm,0.7s,baz=210,slow=4.8,SNR=5.2						
	0.3nm,0.7s						

IDC 12 16:46:27.5±2.6, 18.09S×177.56W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=277.3km s-min=32.8km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.39**	**260**	P	P	16 54 47.9	-0.3
	0.6nm,0.4s,baz=96,slow=7.3,SNR=14						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**45.52**	**254**	P	P	16 54 49.3	+0.1
	3.2nm,0.5s,baz=87,slow=8.8,SNR=34						
	3.2nm,0.5s						
TXAR	**Lajitas Array**	**85.41**	**57**	P	P	16 59 07.4	0.0
	0.3nm,0.7s,baz=230,slow=5.9,SNR=4.7						
	0.3nm,0.7s						

BJI ***12*** *16:49:36.3±0.0, 38.47N×141.80E, h61km, mb5.0/84, mB4.9/43, Ms4.1/55, Ms7 3.9/57*
MOS ***12*** *16:49:36.4±0.8, 38.62N×141.85E, h48km, mb5.2/58, Error ellipse: s-maj=6.1km s-min=3.6km az=111.6*
NEIC ***12*** *16:49:37.4±2.4, 38.49N±0.06×141.93E±0.10, h44km±5km, mb5.0/170, Error ellipse: s-maj=11.7km s-min=7.2km az=116.0*
NIED ***12*** *16:49:38.2, 38.53N×141.82E, h50km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr0.90; Mθθ-0.15; Mϕϕ-0.74; Mrθ0.40; Mθϕ-0.35; Mϕr0.92; Fault plane solution: M0 1.35000×10¹⁶ NP1:φs24.00000°, δ69.00000°, λ89.00000°. NP2:φs206.00000°, δ21.00000°, λ93.00000°.*
JMA ***12*** *16:49:38.2±0.1, 38.5N±0.2×141.8E±0.6, h50km, MD4.8/39, MW4.7/39, KINKAZAN REGION*
JMA Felt IV J1 at KINKAZAN REGION .
IDC ***12*** *16:49:38.6±1.6, 38.53N×141.78E, h57km±14km, mb4.5/30, mbtmp4.7/37, MS3.8/46, Error ellipse: s-maj=12.7km s-min=10.4km az=105.0*
GCMT ***12*** *16:49:40.3±0.4, 38.58N±0.02×141.93E±0.03, h58km±2km, MW4.8/76, Moment Tensor Solution. s35,c39; s76,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.46±.10; Mθθ-0.23±.07; Mϕϕ-1.23±.07; Mrθ0.40±.05; Mθϕ-0.59±.07; Mϕr0.87±.05; Best double couple: M0 1.76400×10¹⁶ NP1:φs25.00000°, δ61.00000°, λ90.00000°. NP2: φs205.00000°, δ29.00000°, λ90.00000°. Principal axes: T 1.7410, Plg74.0000°, Azm295.0000°; N 0.0420, Plg0.0000°, Azm25.0000°; P -1.7870, Plg16.0000°, Azm115.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 16:49:37.1±0.3, 38.52N±0.03×141.93E±0.03, h51km±2km, h51km:pP-P, n11116, σ1§50/1070, mb5.0/233, MS3.9/59, 73C-62D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.42**	**241**	*↓P*	**Pn**	**16 49 47.7**	**+0.2**
JIKH				*↓S*	**Sn**	**16 49 54.3**	**-0.6**
JIKH	**Ishinomakikobu**	**0.42**	**241**	A	A	16 49 47.7	
	comp=E,395nm,1.5s,comp=N,214nm,0.8s						
JIO	**Ouri**	**0.46**	**262**	*↓iP*	**Pn**	**16 49 48.0**	**+0.1**
JIO				*↓iS*	**Sn**	**16 49 54.7**	**-1.0**
JIO	**Ouri**	**0.46**	**262**	A	A	16 49 48.0	
	comp=E,311nm,0.4s,comp=N,188nm,0.5s						
JKMT	**Kesennumamotoy**	**0.46**	**310**	*↓iP*	**Pn**	**16 49 48.3**	**+0.3**
JKMT				*↓S*	**Sn**	**16 49 55.1**	**-0.7**
JKMT	**Kesennumamotoy**	**0.46**	**310**	A	A	16 49 48.3	
	comp=E,138nm,1.1s,comp=N,81nm,2.2s						
OFUJ	**Ofunato**	**0.60**	**340**	*↓iP*	**Pn**	**16 49 50.1**	**+0.5**
OFUJ				*↓S*	**Sn**	**16 49 58.4**	**-0.3**
OFUJ	**Ofunato**	**0.60**	**340**	A	A	16 49 50.1	
	comp=E,157nm,1.3s,comp=N,101nm,0.7s						
JMK	**Ichinoseki**	**0.70**	**308**	*↓iP*	**Pn**	**16 49 51.2**	**+0.2**
JMK				*↓S*	**Sn**	**16 50 00.3**	**-0.7**
JMK	**Ichinoseki**	**0.70**	**308**	A	A	16 49 51.2	
	comp=E,146nm,0.6s,comp=N,43nm,0.5s						
JOFO	**Osakifurukawao**	**0.80**	**276**	A	A	16 49 52.1	
	comp=E,174nm,0.7s,comp=N,258nm,0.9s						
JOU	**Okura**	**1.00**	**262**	*↓iP*	**Pn**	**16 49 54.8**	**-0.2**
JOU				*↓S*	**Sn**	**16 50 07.5**	**-0.6**
JOU	**Okura**	**1.00**	**262**	A	A	16 49 54.8	
	comp=E,52nm,0.6s,comp=N,77nm,1.2s						
MIYJ	**Miyakonagasawa**	**1.06**	**356**	A	A	16 49 56.7	
	comp=E,18nm,3.0s,comp=N,17nm,0.6s						
JOM	**Ohasama**	**1.07**	**333**	*↓iP*	**Pn**

JANG Nango 1.88 350 A A 16 50 08.4
comp=E,9.0nm,0.5s,comp=N,10.0nm,1.6s
JAH Hinai 1.95 329 A A 16 50 08.9
comp=E,12nm,2.4s,comp=N,11nm,1.7s
JTB Tobi-shima 1.97 291 A A 16 50 08.8
comp=E,17nm,1.8s,comp=N,12nm,1.0s
JFY Yanaizu 2.08 238 A A 16 50 10.6
comp=E,10.0nm,3.4s,comp=N,7.0nm,1.3s
JAW Awa shima 2.10 269 A A 16 50 10.7
comp=E,8.0nm,2.1s,comp=N,8.0nm,0.6s
JNS Sasagawa 2.17 252 A A 16 50 11.8
comp=E,10.0nm,0.5s,comp=N,8.0nm,2.1s
JHO Hitachi 2.19 210 A A 16 50 12.6
comp=E,5.0nm,1.1s,comp=N,10.0nm,0.7s
JSB Shiboa 2.22 226 A A 16 50 12.8
comp=E,16nm,0.8s,comp=N,18nm,2.7s
JNTW Noshirotokiwa 2.22 323 A A 16 50 12.7
comp=E,31nm,2.9s,comp=N,32nm,1.8s
JTM Tenmabayashi 2.36 344 P **Pn** **16 50 14.8 +1.4**
JTM Tenmabayashi 2.36 344 **Pn** **16 50 14.5 +1.0**
JTM Tenmabayashi 2.36 344 A A 16 50 15.1
comp=E,10.0nm,3.4s,comp=N,7.0nm,0.9s
JHYU Hitachinakayam 2.42 207 A A 16 50 16.0
comp=E,9.0nm,0.8s,comp=N,11nm,2.6s
JHHS Hirosakihyakuz 2.45 331 A A 16 50 16.1
comp=E,16nm,3.8s,comp=N,23nm,1.2s
JARK Aomorirokkasho 2.52 350 A A 16 50 17.5
comp=E,12nm,1.3s,comp=N,12nm,1.2s
JIW Iwasaki 2.55 325 A A 16 50 17.4
comp=E,9.0nm,0.8s,comp=N,8.0nm,1.0s
JOG3 Oga3 2.62 303 A A 16 50 11.6
comp=E,21nm,2.1s,comp=N,15nm,1.0s
JYT Yasato 2.67 212 A A 16 50 19.4
comp=E,19nm,0.4s,comp=N,11nm,0.8s
JIZZ Izumozaki 2.72 250 A A 16 50 19.6
comp=E,14nm,4.1s,comp=N,14nm,2.6s
JSD Sado 2.92 262 P **Pn** **16 50 21.1 0.0**
JSD Sado 2.92 262 Pn **Pn** **16 50 20.9 -0.2**
MAJO Matsushiro 3.55 237 P **Pn** **16 50 31.7 +1.9**
MAJO Matsushiro 3.55 237 Pn **Pn** **16 50 31.5 +1.7**
MAJO Matsushiro 3.55 237 *i*P **Pn** **16 50 31.3 +1.5**
MJAR Matsushiro Arr 3.55 237 P **Pn** **16 50 31.2 +1.4**
comp=N,199nm,1.0s,baz=32,slow=13,SNR=683
ERM Erimo 3.62 15 P **Pn** **16 50 32.3 +1.7**
ERM Erimo 3.62 15 Pn **Pn** **16 50 31.0 +0.4**
ERM Erimo 3.62 15 *ce*P **Pn** **16 50 31.7 +1.1**
ERM pmax pmax
comp=Z,74nm,1.0s
JEM Erimo 3.62 15 P **Pn** **16 50 32.4 +1.8**
JGF Kuroka 4.67 233 P **Pn** **16 50 48.1 +2.9**
JGF Kuroka 4.67 233 Pn **Pn** **16 50 47.1 +2.0**
JSG Sagara 4.88 219 P **Pn** **16 50 50.6 +2.7**
JSG Sagara 4.88 219 **Pn** **16 50 49.6 +1.7**
ASAJ Asahikawa 5.62 5 P **Pn** **16 50 58.9 +0.9**
comp=Z,44nm,0.4s,baz=226,slow=9.5,SNR=114
ASAJ S **Sn** **16 51 59.5 -1.7**
comp=Z,99nm,0.7s,baz=219,slow=10,SNR=4.4
JKA Kamikawa-asahi 5.62 5 Pn **Pn** **16 50 58.7 +0.6**
NMR Nemuro--Hokkai 5.64 29 *e*P **Pn** **16 50 57.5 -0.8**
NMR *e*S **Sn** **16 51 56.8 -4.9**
JHJ2 Mitsune 5.66 198 P **Pn** **16 50 59.0 +0.3**
JHJ2 Mitsune 5.66 198 Pn **Pn** **16 50 58.7 +0.1**
JHJ Hachijo jima 2 5.66 199 P **Pn** **16 50 58.7 0.0**
comp=Z,124nm,0.3s,baz=331,slow=16,SNR=39
JHJ S **Sn** **16 51 59.0 -3.3**
comp=Z,282nm,0.3s,baz=75,slow=23,SNR=7.4
RUSJ Misakicho 6.12 23 *e*P **Pn** **16 51 05.8 +0.9**
RUSJ *e*S **Sn** **16 52 13.0 -0.4**
YUK Yuzh-Kuril'sk 6.26 27 *e*P **Pn** **16 51 06.3 -0.5**
YUK *e*S **Sn** **16 52 13.3 -3.6**
YUK pmax pmax
comp=Z,307nm,0.5s
YUK pmax pmax
comp=N,120nm,0.2s
YUK pmax pmax
comp=E,92nm,0.1s
YUK smax smax
comp=N,2μm,0.5s
YUK smax smax
comp=E,2μm,0.5s
SHO Shikotan 6.50 33 *e*P **Pn** **16 51 08.7 -1.4**
SHO *e*S **Sn** **16 52 17.7 -5.2**
SHO pmax pmax
comp=E,68nm,0.4s
SHO pmax pmax
comp=Z,66nm,0.4s
SHO pmax pmax
comp=N,44nm,0.3s
SHO smax smax
comp=E,712nm,0.4s
SHO smax smax
comp=N,304nm,0.3s
TEY Ternei 7.63 330 *e*P **Pn** **16 51 27.9 +2.3**
TEY pmax pmax
comp=N,240nm,0.7s
TEY pmax pmax
comp=E,150nm,0.7s
TEY pmax pmax
comp=Z,250nm,0.7s
KUR Kuril'sk 8.04 32 *e*P **Pn** **16 51 31.9 +0.7**
KUR *e*S **Sn** **16 52 57.2 -3.5**
KUR pmax pmax
comp=Z,152nm,0.9s
KUR pmax pmax
comp=E,75nm,0.8s
KUR pmax pmax
comp=N,63nm,0.6s
KUR smax smax
comp=N,85nm,0.4s
KUR smax smax
comp=E,301nm,0.4s
JMN Monobe 8.07 236 P **Pn** **16 51 33.4 +1.6**
JMN Monobe 8.07 236 Pn **Pn** **16 51 33.0 +1.2**
YSS Yuzh-Sakhalins 8.45 4 P **Pn** **16 51 38.0 +1.1**
YSS Yuzh-Sakhalins 8.45 4 Pn **Pn** **16 51 37.1 +0.2**
YSS Yuzh-Sakhalins 8.45 4 *e*P **Pn** **16 51 37.4 +0.5**
YSS *e*S **Sn** **16 53 10.2 -0.6**
YSS pmax pmax
comp=Z,70nm,0.9s
YSS MLR MLR
comp=Z,200nm,14.0s
YSS MLR MLR
comp=N,200nm,12.0s
YSS MLR MLR
comp=E,200nm,13.0s
MSHR Mys Shultsa 9.15 300 *ce*P **Pn** **16 51 46.7 +0.3**
MSHR pmax pmax
comp=Z,46nm,1.0s
USA0B Ussuriysk Arra 9.38 310 **Pn** **16 51 50.4 +0.8**
USA0B Ussuriysk Arra 9.38 310 *i*P **Pn** **16 51 50.3 +0.7**
USRK Ussuriysk Ar. 9.38 310 P **Pn** **16 51 50.4 +0.8**
comp=Z,76nm,0.9s,baz=127,slow=13,SNR=88
JNU Nakatsue 10.46 242 P **Pn** **16 52 06.4 +2.0**
JNU Nakatsue 10.46 242 Pn **Pn** **16 52 06.1 +1.6**
JNU Nakatsue 10.46 242 P **Pn** **16 52 06.2 +1.7**
comp=Z,45nm,0.7s,baz=44,slow=2.1,SNR=42
JNU LR LR 16 56 26.4
comp=Z,740nm,21.1s,baz=47,slow=39
MDJ Mudanjiang 11.06 307 P **Pn** **16 52 14.8 +2.2**
MDJ Mudanjiang 11.06 307 P **Pn** **16 52 13.4 +0.8**
MDJ sP 16 52 28.2
MDJ S **Sn** **16 54 15.5 +0.7**
MDJ PcS **PcS** **17 01 41.9 +1.5**
MDJ ScS **ScS** **17 05 09.1 -1.0**
MDJ pmax pmax
comp=Z,46nm,1.1s
MDJ pmax pmax
comp=Z,160nm,3.9s
MDJ LR LR
comp=Z,290nm,11.1s
MDJ LR LR
comp=Z,290nm,10.6s
MDJ LR LR
comp=Z,830nm,10.6s
MDJ Mudanjiang 11.06 307 Pn **Pn** **16 52 14.7 +2.1**
KSRS Korea Array 11.11 269 P **Pn** **16 52 16.2 +3.0**
comp=Z,14nm,0.6s,baz=79,slow=14,SNR=82
KSRS LR LR 16 56 08.9
comp=Z,487nm,20.5s,baz=80,slow=35
KSRS PcP **PcP** **16 58 07.9 +1.0**
comp=Z,0.8nm,0.5s,baz=106,slow=1.1,SNR=4.5
KSAR Wonju Array Be 11.14 269 Pn **Pn** **16 52 15.9 +2.2**
KSAR Wonju Array Be 11.14 269 P **Pn** **16 52 15.9 +2.2**
KS19 Wonju Array Si 11.14 269 **Pn** **16 52 16.7 +3.0**
JCJ Chichijima 11.39 179 P **Pn** **16 52 18.1 +0.9**
JCJ Chichijima 11.39 179 Pn **Pn** **16 52 15.7 -1.5**
JCJ Chichijima 11.39 179 P Pn 16 52 10.7 -6.4
comp=Z,30nm,0.3s,baz=284,slow=22,SNR=23
JCJ S Sn 16 54 05.8 -17
comp=Z,75nm,0.5s,baz=317,slow=23,SNR=1.9
JCJ LR LR 16 59 41.6
comp=Z,40nm,19.0s,baz=28,slow=53
JSU Suzuyama 11.71 237 P **Pn** **16 52 21.6 0.0**
TJN Taejon 11.77 264 P **Pn** **16 52 23.6 +1.3**
TJN Taejon 11.77 264 Pn **Pn** **16 52 25.2 +2.9**
TJN Taejon 11.77 264 *ce*P **Pn** **16 52 24.4 +2.1**
TYV Tymovskoe 12.36 2 *e*P **Pn** **16 52 29.5 -0.7**
TYV pmax pmax
comp=Z,100nm,3.7s
TYV pmax pmax
comp=Z,6.0nm,0.8s
GRNR Gornyy 12.86 344 ⇑*i*P **Pn** **16 52 38.6 +1.6**
GRNR pmax pmax
comp=N,3.0nm,0.7s
GRNR pmax pmax
comp=Z,4.0nm,0.8s
BNX BinXian 12.96 308 ⇓P **Pn** **16 52 40.2 +1.7**
BNX pP **P** **16 52 49.6 +2.0**
BNX PP **PnPn** **16 52 52.0 +5.6**
BNX sP 16 52 58.0
BNX S **Sn** **16 55 04.2 +3.1**
BNX pmax pmax
comp=Z,14nm,1.1s
BNX pmax pmax
comp=Z,100nm,3.9s
BNX LR LR
comp=Z,220nm,10.9s
BNX LR LR
comp=Z,350nm,18.4s
BNX LR LR
comp=Z,480nm,20.6s
KLR Kul'dur 12.97 329 P **Pn** **16 52 38.5 -0.1**
comp=Z,2.1nm,0.4s,baz=151,slow=12,SNR=14
KLR LR LR 16 57 43.2
comp=Z,499nm,18.5s,baz=140,slow=38
KLR Kul'dur 12.97 329 *ce*P **Pn** **16 52 38.8 +0.2**
KLR pmax pmax
comp=Z,8.0nm,1.7s
CN2 Changchun 13.49 298 *e*P **Pn** **16 52 47.8 +2.1**
CN2 *ep*P P 16 52 57.8 +4.3
CN2 *e*S **Sn** **16 55 15.8 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,200nm,4.0s
SNY Shenyang 14.41 289 ⇑P **Pn** **16 53 00.5 +2.4**
SNY S **Sn** **16 55 37.2 +0.8**
SNY pmax pmax
comp=Z,9.0nm,0.7s
SNY LR LR
comp=Z,140nm,9.0s
SNY LR LR
comp=Z,370nm,14.0s
SNY LR LR
comp=Z,580nm,18.5s
HEH HeiHe 15.63 323 *e*P **Pn** **16 53 11.9 -2.0**
HEH pP **P** **16 53 19.3 +2.1**
HEH pmax pmax
comp=Z,12nm,1.0s
HEH pmax pmax
comp=Z,230nm,6.7s
HEH LR LR
comp=Z,290nm,15.6s
HEH LR LR
comp=Z,320nm,15.3s
HEH LR LR
comp=Z,490nm,15.1s
DL2 Dalian 15.85 278 P **Pn** **16 53 13.3 -3.5**
DL2 S **Sn** **16 56 06.2 -5.3**
DL2 pmax pmax
comp=Z,140nm,1.0s
DL2 pmax pmax
comp=Z,200nm,8.3s
DL2 LR LR
comp=Z,290nm,15.9s
DL2 LR LR
comp=Z,250nm,13.2s
DL2 LR LR
comp=Z,480nm,18.6s
JOW Kunigami 16.34 229 Pn **Pn** **16 53 21.8 -1.4**
JOW Kunigami 16.34 229 P **Pn** **16 53 23.8 +0.7**
comp=Z,15nm,0.7s,baz=68,slow=24,SNR=7.4
PEA0B Petropavlovsk- 18.21 32 P **P** **16 53 45.0 -0.7**
PEA0B Petropavlovsk- 18.21 32 P **P** **16 53 45.0 -0.7**
PEA0B pmax pmax
comp=Z,121nm,1.9s
PETK Petropavlovsk- 18.21 32 P **P** **16 53 44.6 -1.1**
comp=Z,6.0nm,0.9s,baz=226,slow=7.7,SNR=2.4
PETK LR LR 17 00 27.8
comp=Z,102nm,21.8s,baz=218,slow=36
ZEA Zeya 18.25 331 *e*P **P** **16 53 45.4 -0.8**
ZEA pmax pmax
comp=E,30nm,0.8s
ZEA pmax pmax
comp=N,60nm,0.7s
ZEA pmax pmax
comp=Z,100nm,0.7s
ZEA MLR MLR
comp=Z,200nm,14.0s
PET Petropavlovsk 18.55 33 P **Pn** **16 53 50.6 +0.5**
JMJ Miyako jima 2 19.63 231 P **P** **16 54 02.4 +0.9**
TIA Tai'an 19.84 271 ⇓P **P** **16 54 02.5 -1.2**
TIA pmax pmax
comp=Z,16nm,0.9s
TIA LR LR
comp=Z,150nm,12.9s
TIA LR LR
comp=Z,99nm,15.8s
TIA LR LR
comp=Z,170nm,18.0s
NJ2 Nanjing 19.88 258 ⇓P **P** **16 54 03.0 -1.2**
NJ2 pP **pP** **16 54 14.7 -1.1**
NJ2 pmax pmax
comp=Z,21nm,1.0s
NJ2 pmax pmax
comp=Z,120nm,3.9s
NJ2 LR LR
comp=Z,200nm,20.8s
NJ2 LR LR
comp=Z,310nm,21.8s
NJ2 LR LR
comp=Z,340nm,17.1s
BJI Beijing 19.98 282 P **P** **16 54 04.2 -0.9**
BJI pmax pmax
comp=Z,18nm,0.6s
BJI LR LR
comp=Z,52nm,12.7s
BJI LR LR
comp=Z,100nm,15.3s
BJI LR LR
comp=Z,75nm,15.4s
XLT XiLinHaoTe 20.14 294 *e*P **P** **16 54 05.1 -1.9**
XLT pP pP 16 54 22.1 +3.5
XLT sP sP 16 54 29.2 +4.1
XLT pmax pmax
comp=Z,26nm,0.8s
XLT pmax pmax
comp=Z,140nm,4.8s
XLT LR LR
comp=Z,14nm,10.5s
XLT LR LR
comp=Z,100nm,10.4s
XLT LR LR
comp=Z,140nm,8.6s
YOJ Yonaguni jima 21.31 234 P **P** **16 54 19.0 -0.6**
YOJ Yonaguni jima 21.31 234 P **P** **16 54 16.8 -2.8**
YOJ IAmb IAmb 16 54 25.2
comp=Z,91nm,1.4s
YOJ Yonaguni jima 21.31 234 P **P** **16 54 16.8 -2.8**
YOJ pmax pmax
comp=Z,91nm,1.4s
HNS HongShan 21.47 276 ⇑P **P** **16 54 18.7 -2.5**
HNS *e*S S 16 58 05.0 -12
HNS pmax pmax
comp=Z,23nm,0.7s
HNS LR LR
comp=Z,260nm,16.7s
HNS LR LR
comp=Z,250nm,15.1s
MA2 Magadan 21.82 12 P **P** **16 54 25.6 +0.8**
MA2 Magadan 21.82 12 P **P** **16 54 25.9 +1.0**
MA2 IAmb IAmb 16 54 44.5
comp=Z,58nm,0.7s
MA2 Magadan 21.82 12 P **P** **16 54 25.8 +1.0**
comp=Z,33nm,0.6s,baz=202,slow=9.9,SNR=19
MA2 LR LR 17 02 32.9
comp=Z,104nm,21.0s,baz=206,slow=36
comp=Z,33nm,0.6s
MA2 Magadan 21.82 12 *ce*P **P** **16 54 26.3 +1.5**
MA2 pmax pmax
comp=Z,44nm,0.8s
MA2 Magadan 21.82 12 P **P** **16 54 25.8 +1.0**
comp=Z,98nm,0.8s
YHNB Yeheng 22.23 238 P **P** **16 54 29.6 0.0**
YHNB Yeheng 22.23 238 P **P** **16 54 26.5 -3.0**
YHNB IAmb IAmb 16 54 47.3
comp=Z,44nm,0.9s
NACB Ninganchiao 22.43 236 P **P** **16 54 27.8 -3.8**
SSLB Suanglung 23.11 237 P **P** **16 54 38.2 -0.6**
SSLB Suanglung 23.11 237 P **P** **16 54 34.7 -4.1**
SSLB IAmb IAmb 16 54 56.8
comp=Z,38nm,0.9s
YULB Yu-li 23.17 235 P **P** **16 54 39.4 +0.1**
YULB Yu-li 23.17 235 P **P** **16 54 35.4 -3.9**
TIY Taiyuan 23.18 277 ⇑P **P** **16 54 41.2 +1.8**
TIY pmax pmax
comp=Z,55nm,0.7s
TIY LR LR
comp=Z,100nm,8.6s
TIY LR LR
comp=Z,190nm,17.8s
TIY LR LR
comp=Z,230nm,21.1s
TPUB Ta-pu 23.66 236 P **P** **16 54 44.7 +0.7**
TPUB Ta-pu 23.66 236 P **P** **16 54 41.4 -2.7**
TWGBT Beinan 23.72 235 P **P** **16 54 43.2 -1.3**
TWG Pinlang 23.72 235 P **P** **16 54 41.9 -2.6**
TWG IAmb IAmb 16 54 52.7
comp=Z,76nm,1.2s
CIT Chita 23.92 314 *e*P **P** **16 54 46.4 +0.2**
CIT *e* 16 55 00.5
CIT *e* 16 55 15.1
CIT *e* 16 55 29.9
CIT pmax pmax
comp=Z,110nm,1.4s
LYN LuoYang 23.95 270 ⇑*i*P **P** **16 54 45.6 -1.0**
LYN pP pP 16 55 00.8 +1.4
LYN sP sP 16 55 07.0 +1.5
LYN S **S** **16 58 49.8 -10**
LYN pmax pmax
comp=Z,160nm,0.7s
LYN pmax pmax
comp=Z,180nm,3.8s
LYN LR LR
comp=Z,280nm,12.6s
LYN LR LR
comp=Z,190nm,14.5s
LYN LR LR
comp=Z,470nm,25.6s
WHN Wuhan 24.01 259 ⇓P **P** **16 54 46.8 -0.3**
WHN pP **sP** **16 55 04.0 -2.1**
WHN S **S** **16 58 55.9 -4.7**
WHN pmax pmax
comp=Z,98nm,0.7s
WHN LR LR
comp=Z,850nm,21.4s
KNMB Chin-men Tao 24.39 242 P **P** **16 54 49.1 -1.6**
BTO Baotou 24.62 285 *e*P **P** **16 54 52.6 -0.2**
BTO pP **pP** **16 55 08.0 +2.3**
BTO sP **sP** **16 55 14.3 +2.5**
BTO PP **PnPn** **16 55 27.8 +1.6**
BTO S **S** **16 59 09.5 -1.0**
BTO SS **SnSn** **17 00 05.4 +5.7**
BTO pmax pmax
comp=Z,13nm,0.7s
BTO pmax pmax
comp=Z,280nm,6.9s
BTO LR LR
comp=Z,290nm,8.6s
BTO LR LR
comp=Z,720nm,13.9s
BTO LR LR
comp=Z,790nm,16.3s
YAK Yakutsk 24.72 346 P **P** **16 54 52.3 -1.0**
YAK Yakutsk 24.72 346 LR LR 17 05 01.0
comp=Z,201nm,19.0s,baz=148,slow=37
YAK Yakutsk 24.72 346 *e*P **P** **16 54 52.1 -1.2**
YAK *e**PP **pP** **16 55 09.8 +3.6**
YAK *e* 16 55 26.7
YAK *e* 16 58 26.3
YAK *e*S **S** **16 59 11.0 -0.5**
YAK *e**SS **sS** **16 59 31.2 -2.0**
YAK *e*SS **SnSn** **17 00 02.7 +1.0**
YAK pmax pmax
comp=Z,84nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.0s
YAK pmax pmax
comp=N,48nm,1.3s
YAK pmax pmax
comp=Z,19nm,0.6s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=N,10.0nm,0.6s
YAK smax smax
comp=E,11nm,1.1s
YAK smax smax
comp=N,21nm,1.3s
YAK MLR MLR
comp=Z,219nm,18.0s
YAK MLR MLR
comp=N,158nm,15.0s
YAK MLR MLR
comp=E,37nm,11.0s
SEY Seymchan 25.26 11 LR LR 17 05 44.5
comp=E,75nm,19.5s,baz=212,slow=38
SEY Seymchan 25.26 11 *ce*P **P** **16 54 59.6 +1.4**
SEY pmax pmax
comp=Z,56nm,1.0s
CNSH ChangSha 26.23 256 ⇓P **P** **16 55 07.2 -0.1**
CNSH pmax pmax
comp=Z,39nm,0.9s
BOD Bodaibo 26.51 326 *e*P **P** **16 55 09.5 -0.1**
BOD pmax pmax
comp=Z,47nm,0.8s
ULN Ulaanbaatar 26.89 302 P **P** **16 55 14.1 +0.8**
ULN Ulaanbaatar 26.89 302 *ce*P **P** **16 55 14.2 +0.8**
ULN pmax pmax
comp=Z,19nm,1.3s
XAN Xi'an 26.89 271 ⇓P **P** **16 55 12.9 -0.4**
XAN pP pP 16 55 24.5 -1.8
XAN pmax pmax
comp=Z,46nm,0.5s
XAN LR LR
comp=Z,320nm,16.5s
XAN LR LR
comp=Z,130nm,5.5s
XAN LR LR
comp=Z,310nm,23.1s
SONM Songino Array 27.33 301 P **P** **16 55 17.2 0.0**
SONM Songino Array 27.33 301 P **P** **16 55 16.3 -0.9**
comp=Z,6.1nm,0.7s,baz=104,slow=8.1,SNR=21
SONM PcP **PcP** **16 58 36.1 +0.8**
comp=Z,2.2nm,0.5s,baz=106,slow=3.7,SNR=5.5
SONM ScP **ScP** **17 02 11.5 0.0**
comp=Z,0.9nm,0.8s,baz=349,slow=1.5,SNR=4.1
comp=Z,6.1nm,0.7s
SONM Songino Array 27.33 301 P **P** **16 55 17.2 0.0**
SONM pmax pmax
comp=Z,7.0nm,0.8s
ENH Enshi 27.89 263 P **P** **16 55 22.0 -0.3**
ENH Enshi 27.89 263 P **P** **16 55 21.8 -0.5**
H11N2 WAKE ISLAND Hy 28.59 124 T T 17 25 43.2
baz=316,slow=75,SNR=5766
H11N1 WAKE ISLAND Hy 28.60 124 T T 17 25 46.5
baz=316,slow=75
H11N3 WAKE ISLAND Hy 28.61 124 T T 17 25 49.2
baz=316,slow=75,SNR=8815
H11S1 WAKE ISLAND Hy 29.36 126 T T 17 26 42.4
baz=318,slow=76,SNR=3998
H11S3 WAKE ISLAND Hy 29.36 126 T T 17 26 42.5
baz=318,slow=76,SNR=4561
H11S2 WAKE ISLAND Hy 29.38 126 T T 17 26 43.6
baz=318,slow=76,SNR=3575
ZAK Zakamensk 29.70 306 *e*P **P** **16 55 36.6 -1.6**
ZAK pmax pmax

comp=Z,11nm,1.3s
LZH Lanzhou 30.25 277 ⇑P **P** **16 55 43.3 0.0**
LZH pP pP 16 55 59.5 +3.1
LZH pmax pmax
comp=Z,50nm,1.4s
LZH LR LR
comp=Z,170nm,11.7s
LZH LR LR
comp=Z,95nm,12.7s
LZH LR LR
comp=Z,230nm,13.1s
MOY Mondy 31.32 308 *e*P **P** **16 55 52.0 -0.5**
MOY pmax pmax
comp=Z,16nm,2.0s
GYA Guiyang 31.89 258 ⇑P **P** **16 55 57.9 +0.1**
GYA pP pP 16 56 10.1 -0.9
GYA S **S** **17 01 04.5 -0.8**
GYA pmax pmax
comp=Z,62nm,1.2s
GYA pmax pmax
comp=Z,140nm,8.3s
GYA LR LR
comp=Z,72nm,17.2s
GYA LR LR
comp=Z,170nm,22.2s
GYA LR LR
comp=Z,200nm,20.6s
CD2 Chengdu 32.10 268 P **P** **16 55 58.8 -0.8**
CD2 S **S** **17 01 08.0 -0.4**
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 LR LR
comp=Z,220nm,17.6s
CD2 LR LR
comp=Z,150nm,13.7s
BILL Bilibino 32.49 17 P **P** **16 56 03.2 +0.7**
BILL Bilibino 32.49 17 *e*P **P** **16 56 03.7 +1.2**
BILL pmax pmax
comp=Z,10.0nm,1.0s
BILL Bilibino 32.49 17 P **P** **16 56 03.2 +0.7**
BILL PcP **PcP** **16 58 49.8 +1.6**
GTA Gaotai 32.54 285 *e*P **P** **16 56 04.9 +1.5**
GTA pP pP 16 56 14.6 -2.0
GTA PcP **PcP** **16 58 50.0 +1.0**
GTA pmax pmax
comp=Z,15nm,1.0s
GTA LR LR
comp=Z,130nm,20.7s
GTA LR LR
comp=Z,280nm,22.2s
GTA LR LR
comp=Z,340nm,21.1s
ATKA Atka Island 33.19 51 P **P** **16 56 08.4 -0.3**
TIXI Tiksi 33.87 353 P **P** **16 56 12.9 -1.5**
TIXI IAmb IAmb 16 56 15.1
comp=Z,11nm,0.8s
TIXI Tiksi 33.87 353 LR LR 17 11 18.7
comp=Z,99nm,20.2s,baz=179,slow=38
TIXI Tiksi 33.87 353 *ce*P **P** **16 56 14.3 -0.1**
TIXI pmax pmax
comp=Z,10.0nm,0.7s
TIXI Tiksi 33.87 353 P **P** **16 56 14.3 -0.1**
TIXI PcP **PcP** **16 58 53.3 +1.4**
QIZ Qiongzhong 33.92 244 P **P** **16 56 14.8 -0.7**
QIZ sP **sP** **16 56 34.2 -0.4**
QIZ LR LR
comp=Z,160nm,14.3s
QIZ LR LR
comp=Z,96nm,15.1s
QIZ LR LR
comp=Z,130nm,9.3s
DAV Davao City (W) 34.62 209 LR LR 17 10 37.6
comp=Z,56nm,20.4s,baz=48,slow=36
KMI Kunming 35.61 260 ⇓P **P** **16 56 30.3 +0.1**
KMI pP pP 16 56 43.2 -0.3
KMI pmax pmax
comp=Z,18nm,0.9s
KMI LR LR
comp=Z,160nm,14.7s
KMI LR LR
comp=Z,130nm,16.9s
KMI LR LR
comp=Z,230nm,23.5s
PZH PanZhiHua 35.68 262 P **P** **16 56 29.4 -1.3**
PZH pP **pP** **16 56 43.3 -0.6**
PZH S **S** **17 02 01.4 -2.5**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,100nm,6.3s
PZH LR LR
comp=Z,110nm,17.2s
PZH LR LR
comp=Z,160nm,16.2s
PZH LR LR
comp=Z,150nm,13.7s
P08K Saint George I 36.48 44 P **P** **16 56 36.7 -0.3**
baz=261
GOMU GeErMu 37.20 281 P **P** **16 56 44.4 +0.5**
GOMU pmax pmax
comp=Z,40nm,0.5s
UNV Unalaska Valle 37.95 49 P **P** **16 56 49.0 -0.5**
baz=268
M11K Mekoryuk 38.85 39 P **P** **16 56 56.3 -0.6**
baz=260
TNCH TengChong 38.93 263 ⇑P **P** **16 56 58.4 +0.1**
TNCH pP pP 16 57 11.4 -0.3
TNCH sP sP 16 57 16.0 -1.6
TNCH PP **PnPn** **16 58 34.9 +4.0**
TNCH S **S** **17 02 45.7 -7.7**
TNCH SS **SS** **17 05 34.8 -12**
TNCH pmax pmax
comp=Z,34nm,0.9s
TNCH pmax pmax
comp=Z,130nm,3.5s
TNCH LR LR
comp=Z,89nm,5.0s
TNCH LR LR
comp=Z,120nm,7.7s
TNCH LR LR
comp=Z,82nm,8.4s
TNA Tin City 39.37 30 P **P** **16 57 00.8 -0.4**
baz=252
FALS False Pass 39.79 47 P **P** **16 57 04.8 -0.1**
baz=269
DLV T Lat 39.81 237 P **P** **16 57 06.9 +1.1**
DLV IAmb IAmb 16 57 07.7
comp=Z,24nm,0.9s
DGZ Jazzator, Alta 39.87 304 *i* P **P** **16 57 06.7 +0.8**
DGZ pmax pmax
comp=Z,91nm,0.8s
ANM Nome 40.12 32 P **P** **16 57 09.9 +2.4**
ANM IAmb IAmb 16 57 31.0
comp=Z,34nm,1.2s
ANM Nome 40.12 32 P **P** **16 57 08.2 +0.6**
baz=256
ANM Nome 40.12 32 P **P** **16 57 09.9 +2.4**
ANM pmax pmax
comp=Z,33nm,1.2s
CRAI Chiangrai 40.14 255 P **P** **16 57 08.9 +0.7**
SWI Sorong 40.40 197 P **P** **16 57 11.2 +0.9**
comp=Z,29nm,0.7s
J14K Nanvaranak Lak 40.52 35 P **P** **16 57 11.3 +0.5**
baz=259
WMQ Urumqi 40.55 295 ⇑P **P** **16 57 12.4 +0.9**
WMQ pmax pmax
comp=Z,100nm,0.9s
WMQ pmax pmax
comp=Z,120nm,4.5s
WMQ LR LR
comp=Z,170nm,21.1s
WMQ Urumqi 40.55 295 P **P** **16 57 12.4 +0.9**
S12K Black Hills 40.58 46 P **P** **16 57 10.9 -0.5**
baz=269
L14K Kuka Creek 40.70 37 P **P** **16 57 12.2 -0.1**
baz=262
F15K North Star Dit 40.71 31 P **P** **16 57 13.1 +0.7**
baz=255
GENI Genyem 40.94 183 P **P** **16 57 15.6 +0.9**
comp=Z,15nm,0.8s
LBMI Labuha 41.16 202 P **P** **16 57 17.4 +0.8**
comp=Z,33nm,0.8s,comp=Z,743nm
ZAA0 Zalesovo Array 41.23 311 P **P** **16 57 15.7 -1.1**
ZAA0 IAmb IAmb 16 57 17.8
comp=Z,27nm,0.7s
ZALV Zalesovo Beam 41.23 311 P **P** **16 57 16.7 -0.1**
comp=Z,21nm,0.5s,baz=87,slow=7.5,SNR=99
ZALV PcP **PcP** **16 59 15.3 +0.5**
comp=Z,7.6nm,0.4s,baz=93,slow=3.2,SNR=9.3
comp=Z,21nm,0.5s
PHRA Phrae 41.29 253 P **P** **16 57 17.0 -0.7**
L15K Ungalak Mounta 41.31 37 P **P** **16 57 17.3 0.0**
baz=263
K15K Wolf Creek Mou 41.37 36 P **P** **16 57 18.4 +0.5**
baz=262
GTOI Gorontalo 41.51 209 P **P** **16 57 19.6 +0.2**
comp=Z,15nm,0.9s
M15K Kasigluk River 41.59 39 P **P** **16 57 20.5 +0.8**
baz=264
N15K Kwethluk River 41.84 39 P **P** **16 57 21.5 -0.2**
baz=266
D17K Noatak River 41.84 28 P **P** **16 57 21.8 +0.2**
baz=254
ZSN Zaisan 41.84 301 *e*P **P** **16 57 22.3 +0.3**
baz=301
ZSN Zaisan 41.84 301 *e*P **P** **16 57 22.3 +0.3**
O15K Ungalikthiuk R 41.91 41 P **P** **16 57 23.5 +1.2**
baz=267
J16K Anvik River 41.94 35 P **P** **16 57 22.9 +0.4**
baz=262
TOLI2 Tolitoli 41.97 213 P **P** **16 57 23.4 +0.1**
TOLI2 Tolitoli 41.97 213 P **P** **16 57 23.1 -0.2**
I17K Unalakleet 41.99 34 P **P** **16 57 23.1 +0.2**
baz=261
S14K Fog Glacier 41.99 45 P **P** **16 57 21.8 -1.3**
baz=270
CHNA Chernabura Isl 42.00 47 P **P** **16 57 23.2 +0.2**
baz=272
C17K DeLong Mountai 42.02 27 P **P** **16 57 23.3 +0.2**
baz=253
CHTO Chiang Mai 42.06 255 P **P** **16 57 24.3 +0.2**
CHTO IAmb IAmb 16 57 34.3
comp=Z,22nm,0.6s
CHTO Chiang Mai 42.06 255 P **P** **16 57 24.3 +0.2**
CHTO pmax pmax
comp=Z,22nm,0.6s
E17K Hotham Inlet 42.15 29 P **P** **16 57 25.1 +1.0**
baz=256,SNR=6.7
FAKI Fak Fak 42.19 194 P **P** **16 57 25.1 +0.1**
FAKI Fak Fak 42.19 194 P **P** **16 57 23.6 -1.4**
FAKI IAmb IAmb 16 57 50.8
comp=Z,20nm,0.8s
F17K Baldwin Pennin 42.23 30 P **P** **16 57 26.5 +1.7**
F17K IAmb IAmb 16 57 47.3
comp=Z,16nm,0.8s
F17K Baldwin Pennin 42.23 30 P **P** **16 57 25.2 +0.4**
baz=258
L16K Owhat River 42.27 37 P **P** **16 57 25.1 -0.1**
baz=264
CMAR Chiang Mai Arr 42.28 254 P **P** **16 57 25.9 +0.1**
comp=Z,1.7nm,0.7s,baz=45,slow=7.3,SNR=16
CMAR PcP **PcP** **16 59 20.0 +1.1**
comp=Z,2.6nm,0.7s,baz=18,slow=1.6,SNR=8.4
CMAR LR LR 17 15 43.4
comp=Z,43nm,18.1s,baz=65,slow=37
comp=Z,1.7nm,0.7s
G17K Kiwalik Mounta 42.28 31 P **P** **16 57 25.8 +0.6**
baz=259
M16K Timber Creek 42.46 38 P **P** **16 57 28.0 +1.3**
M16K Timber Creek 42.46 38 P **P** **16 57 26.4 -0.3**
baz=266
H17K Granite Mounta 42.49 32 P **P** **16 57 27.9 +1.0**
H17K Granite Mounta 42.49 32 P **P** **16 57 27.0 +0.1**
baz=261
LSA Lhasa 42.50 274 P **P** **16 57 29.0 +1.0**
LSA Lhasa 42.50 274 P **P** **16 57 28.2 +0.2**
LSA IAmb IAmb 16 57 49.9
comp=Z,23nm,1.0s
LSA Lhasa 42.50 274 P **P** **16 57 27.9 -0.2**
LSA Lhasa 42.50 274 P **P** **16 57 28.2 +0.2**
LSA pmax pmax
comp=Z,23nm,1.0s
N16K Nishlik Lake 42.51 39 P **P** **16 57 27.2 0.0**
baz=266
CHGN Chignik 42.63 45 P **P** **16 57 28.4 +0.3**
baz=271
J17K VABM Dome 42.63 35 P **P** **16 57 28.3 +0.2**
baz=263
E18K Tukpahlearik C 42.70 29 P **P** **16 57 30.2 +1.6**
E18K IAmb IAmb 16 57 51.7
comp=Z,29nm,1.2s
E18K Tukpahlearik C 42.70 29 P **P** **16 57 29.1 +0.5**
baz=257
B18K Kokolik River 42.75 26 P **P** **16 57 29.2 +0.2**
baz=254
C18K Utukok River 42.77 27 P **P** **16 57 31.1 +1.9**
C18K IAmb IAmb 16 57 50.9
comp=Z,17nm,0.8s
C18K Utukok River 42.77 27 P **P** **16 57 29.6 +0.3**
baz=255
O16K Kokwok River B 42.81 40 P **P** **16 57 31.9 +2.3**
L17K Donlin 42.86 37 P **P** **16 57 30.6 +0.6**
baz=265
F18K Selawik 42.89 30 P **P** **16 57 30.5 +0.4**
baz=259
K17K Iditarod 42.91 36 P **P** **16 57 29.4 -1.0**
baz=264
SANI Sanana 42.96 204 P **P** **16 57 30.4 -0.9**
G18K Tagagawik 43.17 31 IAmb IAmb 16 57 58.0
comp=Z,26nm,1.4s
G18K Tagagawik 43.17 31 P **P** **16 57 31.1 -1.3**
baz=261,SNR=7.8
H18K Honhosa River 43.17 32 P **P** **16 57 35.0 +2.5**
H18K Honhosa River 43.17 32 P **P** **16 57 32.1 -0.4**
baz=262
M17K Holitna River 43.22 38 P **P** **16 57 30.8 -2.1**
baz=267
A19K Wainwright 43.23 25 P **P** **16 57 32.3 -0.6**
baz=254
N17K Nushagak Hills 43.30 39 P **P** **16 57 33.3 -0.3**
baz=268
O17K Koliganek Bris 43.32 40 P **P** **16 57 32.4 -1.3**
baz=269
C19K Lookout Ridge 43.45 26 P **P** **16 57 33.8 -0.9**
baz=256
L18K Granite Mounta 43.62 37 P **P** **16 57 35.7 -0.4**
baz=266
P17K Kvichak River 43.65 41 P **P** **16 57 36.3 -0.1**
baz=270
F19K Shaleruckik Mo 43.67 30 P **P** **16 57 36.1 -0.3**
baz=261
MK31 Makanchi Array 43.69 301 IAmb IAmb 16 57 38.2
comp=Z,28nm,0.9s
MK31 Makanchi Array 43.69 301 *ce*P **P** **16 57 37.0 0.0**
MKAR Makanchi Array 43.69 301 P **P** **16 57 37.1 +0.2**
comp=Z,28nm,0.8s,baz=85,slow=9.5,SNR=175
MKAR PcP **PcP** **16 59 23.2 0.0**
comp=Z,3.3nm,0.8s,baz=40,slow=2.1,SNR=2.2
MKAR LR LR 17 16 22.7
comp=Z,78nm,21.4s,baz=116,slow=37
comp=Z,28nm,0.8s
J18K Inko River 43.70 35 P **P** **16 57 35.8 -1.0**
baz=265
G19K Purcell Mounta 43.84 31 P **P** **16 57 38.3 +0.5**
G19K Purcell Mounta 43.84 31 P **P** **16 57 36.9 -0.9**
baz=262
D19K Kuna River 43.84 27 P **P** **16 57 40.1 +2.2**
D19K IAmb IAmb 16 57 59.9
comp=Z,36nm,0.9s
D19K Kuna River 43.84 27 P **P** **16 57 37.3 -0.5**
baz=259
MAKZ Makanchi 43.90 301 P **P** **16 57 39.0 +0.4**
MAKZ IAmb IAmb 16 57 40.0
comp=Z,24nm,0.8s
MAKZ Makanchi 43.90 301 P **P** **16 57 39.0 +0.4**
MAKZ Makanchi 43.90 301 P **P** **16 57 38.9 +0.3**
MAKZ sP **sP** **16 57 56.4 -1.7**
N18K Kilae Creek 43.94 39 P **P** **16 57 38.4 -0.3**
baz=269
E19K Redstone River 43.98 29 P **P** **16 57 38.4 -0.5**
baz=261
M18K Stony River 44.00 38 P **P** **16 57 38.9 -0.3**
baz=266
H19K Roundabout Mou 44.02 32 IAmb IAmb 16 58 01.7
comp=Z,22nm,1.0s
H19K Roundabout Mou 44.02 32 P **P** **16 57 39.8 +0.5**
baz=263,SNR=12
J19K Poorman 44.23 34 P **P** **16 57 43.0 +2.1**
J19K Poorman 44.23 34 P **P** **16 57 41.9 +1.0**
baz=266,SNR=7.0
P18K Big Mountain, 44.27 41 P **P** **16 57 41.6 +0.2**
baz=271
O18K Koktuh Hills 44.28 40 P **P** **16 57 41.1 -0.4**
baz=270
SEM Semipalatinsk 44.38 306 *e*P **P** **16 57 42.3 -0.3**
comp=Z,5.8nm,0.3s,baz=306
SEM Semipalatinsk 44.38 306 *e*P **P** **16 57 42.3 -0.3**
SEM pmax pmax
comp=Z,6.0nm,0.3s
D20K Etivluk River 44.42 27 P **P** **16 57 42.8 +0.3**
baz=260
L19K White Mountain 44.48 37 P **P** **16 57 42.7 -0.3**
baz=268
B20K Meade River 44.48 25 P **P** **16 57 45.1 +2.2**
B20K IAmb IAmb 16 58 04.7
comp=Z,25nm,0.7s
B20K Meade River 44.48 25 P **P** **16 57 42.8 -0.1**
baz=258,SNR=6.0
F20K Avaraart Lake 44.50 30 P **P** **16 57 42.9 -0.2**
baz=262
E20K Nigu River 44.50 28 P **P** **16 57 41.9 -1.3**
baz=261
H20K Anotleneega Mo 44.66 32 P **P** **16 57 44.4 -0.1**
baz=265
M19K Big River Lodg 44.69 37 P **P** **16 57 44.4 -0.3**
baz=269
O19K Port Alsworth 44.72 40 P **P** **16 57 44.6 -0.3**
baz=271
K20K Telida 44.88 35 IAmb IAmb 16 58 09.5
comp=Z,67nm,2.0s
K20K Telida 44.88 35 P **P** **16 57 45.5 -0.6**
baz=268
J20K Nowinta River 44.88 34 P **P** **16 57 48.3 +2.2**
J20K Nowinta River 44.88 34 P **P** **16 57 45.4 -0.8**
baz=267,SNR=5.1
L20K Farewell, AK 44.94 36 P **P** **16 57 46.4 -0.3**
baz=269
C21K Knifeblade Rid 45.15 27 P **P** **16 57 47.9 -0.4**
baz=261,SNR=11
IMAR Indian Mountai 45.17 31 P **P** **16 57 49.4 +1.0**
B21K Ikpikpuk River 45.28 26 P **P** **16 57 48.4 -0.8**
baz=261,SNR=13
P19K Oil Pt 45.28 40 P **P** **16 57 47.5 -2.0**
baz=272
M20K Styx River 45.28 37 P **P** **16 57 49.4 -0.1**
baz=270
G21K Allakaket 45.31 31 P **P** **16 57 48.5 -1.1**
baz=265
E21K Killik River 45.34 28 P **P** **16 57 49.4 -0.4**
baz=263
KURK Kurchatov 45.35 307 P **P** **16 57 50.3 +0.2**
KURK Kurchatov 45.35 307 P **P** **16 57 50.4 +0.3**
KURK Kurchatov 45.35 307 *ce*P **P** **16 57 49.9 -0.2**
KURK pmax pmax
comp=Z,191nm,1.3s
KURK Kurchatov 45.35 307 P **P** **16 57 50.1 +0.1**
KURK sP **sP** **16 58 08.0 -1.5**
F21K Alatna River 45.39 30 P **P** **16 57 49.9 -0.3**
baz=264
A22K Sinclair Lake 45.40 24 P **P** **16 57 50.5 +0.4**
baz=259
OHAK Old Harbor 45.40 44 P **P** **16 57 49.9 -0.4**
baz=275
KURBB Kurchatov Arra 45.42 307 P **P** **16 57 50.7 +0.1**
comp=Z,103nm,0.7s,baz=81,slow=8.1,SNR=616
KURBB PcP **PcP** **16 59 29.4 +0.4**
comp=Z,5.1nm,0.7s,baz=82,slow=5.4,SNR=4.8
KURBB Kurchatov Arra 45.42 307 P **P** **16 57 50.4 -0.2**
H21K Melozitna Rive 45.54 32 P **P** **16 57 52.0 +0.6**
baz=267
O20K Slope Mountain 45.57 40 P **P** **16 57 51.5 -0.3**
baz=272
CHUM Lake Minchumin 45.68 34 P **P** **16 57 51.7 -0.8**
baz=269
PPLA Purkeypile 45.72 36 P **P** **16 57 51.7 -1.4**
baz=270
KDAK Kodiak Island 45.73 43 P **P** **16 57 54.0 +1.1**
KDAK IAmb IAmb 16 58 11.4
comp=Z,44nm,1.3s
KDAK Kodiak Island 45.73 43 P **P** **16 57 51.9 -1.1**
baz=275
KDAK Kodiak Island 45.73 43 P **P** **16 57 54.0 +1.1**
KDAK pmax pmax
comp=Z,44nm,1.3s
N20K Mount Spurr 45.74 38 P **P** **16 57 51.9 -1.1**
baz=272
Q20K Shuyak Island 45.77 42 P **P** **16 57 52.7 -0.5**
baz=274
SYI Shuyak Island 45.77 42 P **P** **16 57 53.5 +0.2**
CAST Castle Rocks 45.77 35 P **P** **16 57 51.7 -1.6**
baz=270
B22K Teshekpuk Lake 45.79 25 IAmb IAmb 16 58 15.1
comp=Z,17nm,0.7s
B22K Teshekpuk Lake 45.79 25 P **P** **16 57 52.8 -0.5**
baz=262
D22K Ayikyak River 45.86 27 P **P** **16 57 53.7 -0.2**
baz=264,SNR=17
F22K John River 45.92 29 P **P** **16 57 53.9 -0.4**
baz=265
SKT Skwentna 46.04 37 P **P** **16 57 53.3 -2.1**
baz=271
HOM Homer 46.09 40 P **P** **16 57 54.5 -1.3**
baz=274
E22K Anaktuvuk Pass 46.11 28 P **P** **16 57 55.4 -0.5**
baz=265,SNR=19
G22K Bettles 46.14 30 P **P** **16 57 55.5 -0.6**
baz=267
H22K Ishtalitna Cre 46.14 32 P **P** **16 57 56.4 +0.3**
baz=268
BPAW Bear Paw Mtn. 46.27 34 P **P** **16 57 58.4 +1.2**
BPAW Bear Paw Mtn. 46.27 34 P **P** **16 57 56.5 -0.7**
baz=270
KTH Kantishna Hill 46.30 35 IAmb IAmb 16 58 22.6
comp=Z,28nm,1.3s
MLY Manley 46.38 33 P **P** **16 57 57.5 -0.5**
baz=269
SUA Susitna One 46.43 38 P **P** **16 57 57.2 -1.4**
baz=272
PDGK Podgornoye 46.45 297 P **P** **16 57 58.3 -0.8**
SHLS Shalkode 46.52 297 *e*P **P** **16 57 57.3 -2.3**
comp=Z,5.7nm,0.4s,baz=296
SHLS Shalkode 46.52 297 *e*P **P** **16 57 57.3 -2.3**
SHLS pmax pmax
comp=Z,6.0nm,0.4s
BRSE Bradley Lake S 46.54 40 P **P** **16 57 58.6 -0.8**
baz=274
TRF Thorofare Moun 46.58 35 P **P** **16 57 58.9 -0.9**
baz=271
D23K Nanushuk River 46.59 27 P **P** **16 57 59.4 -0.2**
baz=265
CUT Chulitna 46.62 36 P **P** **16 58 00.1 +0.2**
baz=272
COLD Coldfoot 46.66 30 P **P** **16 58 00.4 +0.3**
baz=268
C23K Itkillik River 46.69 26 P **P** **16 57 60.0 -0.4**
baz=265,SNR=23
G23K Bananza Creek 46.71 30 P **P** **16 58 00.1 -0.5**
baz=268
M22K Willow 46.72 37 P **P** **16 58 00.5 -0.1**
baz=273
TDK Taldyqorghan 46.75 299 *e*P **P** **16 58 01.5 +0.3**
comp=Z,5.7nm,0.5s,baz=299
TDK Taldyqorghan 46.75 299 *e*P **P** **16 58 01.5 +0.3**
TDK pmax pmax
comp=Z,6.0nm,0.5s
UZB Uzynbulak 46.83 297 *e*P **P** **16 58 02.1 0.0**
comp=Z,6.0nm,0.7s,baz=297
UZB Uzynbulak 46.83 297 *e*P **P** **16 58 02.1 0.0**
UZB pmax pmax
comp=Z,6.0nm,0.7s
H23K Yukon River 46.89 32 P **P** **16 58 01.7 -0.3**
baz=270
RC01 Rabbit Creek A 46.94 38 P **P** **16 58 02.6 +0.2**
baz=274
I23K Minto, Yukon-K 46.97 33 P **P** **16 58 03.3 +0.8**
baz=270
TOLK Toolik Lake Re 46.97 28 P **P** **16 58 02.4 -0.3**
baz=267,SNR=6.1
O22K Cooper Landing 46.99 39 P **P** **16 58 02.6 -0.2**
baz=274
NEA2 Nenana 47.10 33 P **P** **16 58 05.9 +2.3**
NEA2 IAmb IAmb 16 58 26.9
comp=Z,23nm,1.5s
NEA2 Nenana 47.10 33 P **P** **16 58 04.1 +0.5**
baz=271
SEW Seward 47.16 40 P **P** **16 58 03.5 -0.5**
baz=275
MCK McKinley 47.18 35 P **P** **16 58 03.0 -1.2**
baz=272
RND Reindeer 47.23 35 IAmb IAmb 16 58 23.3

comp=Z,29nm,1.7s
D24K Happy Valley 47.27 27 P P 16 58 04.3 -0.6
baz=267,SNR=8.7
WUS Wushi 47.28 294 P P 16 58 06.4 +0.8
SATY Saty 47.29 297 *eP* P 16 58 05.8 +0.2
baz=297
SATY Saty 47.29 297 *eP* P 16 58 05.8 +0.2
C24K Franklin Bluff 47.34 26 P P 16 58 04.7 -0.7
baz=267
E24K Your Creek 47.35 29 IAmb IAmb 16 58 28.7
comp=Z,25nm,0.9s
E24K Your Creek 47.35 29 P P 16 58 04.4 -1.2
baz=268,SNR=13
WAT1 Susitna Watana 47.39 36 P P 16 58 03.3 -2.7
baz=273
MDM Murphy Dome 47.45 33 P P 16 58 06.2 -0.1
MDM IAmb IAmb 16 58 28.7
comp=Z,14nm,1.2s
SML Sawmill 47.56 37 P P 16 58 08.8 +1.5
SML Sawmill 47.56 37 P P 16 58 04.6 -2.7
baz=274
F24K Squaw Lake 47.56 29 P P 16 58 07.6 +0.4
baz=269
H24K Noodor Dome 47.58 32 P P 16 58 06.3 -1.1
baz=271
G24K Hadweenzic Riv 47.73 30 P P 16 58 08.0 -0.5
baz=271
POKR Poker Plat Res 47.78 33 P P 16 58 09.8 +0.9
POKR IAmb IAmb 16 58 31.5
comp=Z,13nm,0.8s
POKR Poker Plat Res 47.78 33 P P 16 58 08.7 -0.2
baz=272,SNR=5.7
WAT6 Susitna Watana 47.78 36 P P 16 58 09.1 -0.1
baz=274
M23K Glacier View 47.85 37 P P 16 58 08.6 -0.9
baz=275
DHY Denali Highway 47.91 35 P P 16 58 10.1 0.0
baz=274
PMG Port Moresby 47.92 173 LR LR 17 16 39.2
comp=Z,26nm,21.4s,baz=342,slow=34
HDA Harding Lake 48.02 34 P P 16 58 10.8 0.0
HDA Harding Lake 48.02 34 P P 16 58 07.2 -3.6
baz=273
IL31 48.03 33 IAmb IAmb 16 58 34.2
comp=Z,32nm,1.6s
ILAR Eielson Array 48.03 33 P P 16 58 12.6 +1.7
comp=Z,3.9nm,0.7s,baz=271,slow=6.4,SNR=50
ILAR PcP **PcP** 16 59 37.6 -0.4
comp=Z,1.5nm,0.6s,baz=271,slow=3.4,SNR=1.3
comp=Z,3.9nm,0.7s
SCM Sheep Creek Mo 48.04 37 P P 16 58 10.5 -0.5
baz=275
CHKK Chushkaly 48.04 298 *eP* P 16 58 11.3 0.0
baz=298
CHKK Chushkaly 48.04 298 *eP* P 16 58 11.2 0.0
D25K Kavik River 48.15 27 P P 16 58 13.0 +1.3
D25K IAmb IAmb 16 58 34.3
comp=Z,18nm,0.8s
D25K Kavik River 48.15 27 P P 16 58 11.0 -0.7
baz=269,SNR=12
P23K Montague Islan 48.19 40 P P 16 58 09.2 -2.9
baz=277
MDOK Medeo 48.21 297 *eP* P 16 58 13.0 +0.3
baz=297
MDOK Medeo 48.21 297 *eP* P 16 58 13.0 +0.3
GLI Glacier Island 48.24 38 P P 16 58 09.3 -3.2
baz=276
SRIT Nakonsritamara 48.27 243 P P 16 58 13.3 +0.1
G25K Bearman Lake 48.27 30 P P 16 58 08.8 -3.9
baz=272
AAA Alma-Ata 48.29 297 *eP* P 16 58 13.6 +0.4
comp=Z,7.7nm,0.5s,baz=298
AAA Alma-Ata 48.29 297 *eP* P 16 58 13.8 +0.6
TNSS Tian-Shan 48.32 297 *eP* P 16 58 13.9 0.0
baz=297
TNSS Tian-Shan 48.32 297 *eP* P 16 58 13.9 0.0
H25L Birch Creek 48.40 31 P P 16 58 11.6 -2.0
baz=272
F25K Christian Rive 48.43 29 P P 16 58 13.5 -0.4
baz=271,SNR=8.3
E25K Arctic Village 48.44 29 P P 16 58 15.5 +1.5
E25K IAmb IAmb 16 58 36.9
comp=Z,10nm,1.1s
E25K Arctic Village 48.44 29 P P 16 58 13.7 -0.3
baz=271,SNR=7.0
M24K Tolsona, Glenn 48.55 37 P P 16 58 14.1 -0.8
baz=276
PRP Porcupine Dome 48.56 32 P P 16 58 11.7 -3.3
baz=273
K24K Donnelly Dome 48.58 34 P P 16 58 13.8 -1.3
baz=275
C26K Camden Bay 48.66 26 P P 16 58 15.4 -0.2
baz=270
J25K Salcha River, 48.69 33 P P 16 58 12.3 -3.7
baz=274
KLU Klutina 48.74 37 P P 16 58 15.2 -1.2
baz=277
PAX Paxson 48.79 35 P P 16 58 15.8 -1.0
baz=276
Q23K Middleton Isla 48.79 40 P P 16 58 15.9 -0.8
baz=278
EYAK Cordova Ski Ar 48.94 39 P P 16 58 14.2 -3.6
baz=278
F26K Sheenjek River 48.99 29 P P 16 58 16.2 -2.1
baz=273,SNR=26
C27K Jago River 49.08 27 P P 16 58 17.6 -1.3
baz=271,SNR=16
G26K Porcupine Rive 49.18 30 P P 16 58 15.0 -4.6
baz=274
BOOM Boomskoye usch 49.19 297 IAmb IAmb 16 58 21.9
comp=Z,21nm,0.8s
TKM2 Tokmak 2 49.30 297 P P 16 58 22.0 +0.9
SNR=43
TKM2 Tokmak 2 49.30 297 P P 16 58 21.7 +0.6
SCRK Sand Creek 49.35 34 IAmb IAmb 16 58 57.4
comp=Z,6.7nm,0.6s
SCRK Sand Creek 49.35 34 P P 16 58 17.0 -4.1
baz=276,SNR=7.3
N25K Chitina, Valde 49.35 37 P P 16 58 18.1 -3.0
baz=278
BMRM Bremner River 49.44 38 P P 16 58 19.5 -2.2
baz=278
J26L Joseph Creek 49.48 33 P P 16 58 19.5 -2.6
baz=276
I26K Coal Creek Min 49.57 32 P P 16 58 17.9 -4.7
baz=276
KAIM Kayak Island 49.69 39 P P 16 58 20.3 -3.3
baz=279
BTLS Baital 49.70 301 *eP* P 16 58 23.7 -0.2
comp=Z,6.0nm,0.8s,baz=301
BTLS Baital 49.70 301 *eP* P 16 58 23.7 -0.2
BTLS pmax pmax
comp=Z,6.0nm,0.8s
L26K Log Cabin Wild 49.74 35 P P 16 58 23.3 -0.7
baz=277,SNR=5.9
SGDS Sogindy 49.80 298 *eP* P 16 58 24.9 +0.1
baz=298
SGDS Sogindy 49.80 298 *eP* P 16 58 24.8 0.0
KBK Karagaybulak 49.83 297 P P 16 58 25.9 +0.7
SNR=33
CHMS Chumysh 49.86 298 P P 16 58 25.5 +0.3
SNR=5.8
BVA0 Borovoye Array 49.89 311 P P 16 58 25.0 -0.2
BVAR Borovoye Array 49.89 311 P P 16 58 25.5 +0.3
comp=Z,12nm,0.6s
BVAR PcP **PcP** 16 59 44.7 -0.3
comp=Z,12nm,0.6s
OTUK Ortayu 49.90 305 P P 16 58 25.0 -0.4
KULM Kulim 49.92 239 P P 16 58 26.6 +0.7
E27K Coleen River 49.92 28 P P 16 58 22.9 -2.5
baz=275,SNR=7.7
BRVK Borovoye 49.94 312 P P 16 58 25.8 +0.2
BRVK IAmb IAmb 16 58 26.9
comp=Z,21nm,1.0s
BRVK Borovoye 49.94 312 P P 16 58 26.2 +0.6
BRVK P P 16 58 26.2 +0.6
BRVK Borovoye 49.94 312 *ceP* P 16 58 26.0 +0.4
BRVK pmax pmax
comp=Z,13nm,0.6s
BRVK Borovoye 49.94 312 P P 16 58 25.9 +0.2
BRVK pP **pP** 16 58 39.0 -0.4
BRVK PcP **PcP** 16 59 46.0 +0.9
USP Ospenovka 49.95 298 P P 16 58 26.1 +0.3
SNR=14
VRDI Verde Repeater 49.95 38 P P 16 58 28.0 +2.2
VRDI IAmb IAmb 16 58 51.2
comp=Z,12nm,1.1s

M26K Nabesna, AK 49.99 36 P P 16 58 22.2 -3.7
baz=278
G27K Doyon Strip 50.03 30 P P 16 58 23.3 -2.9
baz=276
D27M Malcolm River 50.07 27 P P 16 58 24.3 -2.1
baz=274
MCARA McCarthy VSAT 50.13 37 P P 16 58 23.7 -3.3
baz=279
H27K Steamboat Moun 50.14 31 P P 16 58 23.7 -3.3
baz=276
AAK Ala-Archa 50.16 297 P P 16 58 27.7 +0.1
SNR=7.4
AAK Ala-Archa 50.16 297 P P 16 58 26.3 -1.3
AAK IAmb IAmb 16 58 28.8
comp=Z,12nm,1.1s
AAK Ala-Archa 50.16 297 LR LR 17 21 33.9
comp=Z,68nm,18.8s,baz=78,slow=38
AAK Ala-Archa 50.16 297 P P 16 58 27.9 +0.3
AAK P P 16 58 27.9 +0.3
AAK Ala-Archa 50.16 297 *ceP* P 16 58 28.0 +0.4
AAK pmax pmax
comp=Z,6.0nm,0.7s
AAK Ala-Archa 50.16 297 P P 16 58 27.8 +0.1
AAK sP **sP** 16 58 45.3 -1.9
I27K Kandik River 50.17 32 P P 16 58 25.1 -2.2
baz=277
K27K Chicken 50.18 34 P P 16 58 25.5 -1.7
baz=278
KSH Kashi 50.19 293 P P 16 58 32.0 +4.2
KSH pmax pmax
comp=Z,14nm,0.8s
UCH Uchtor 50.28 297 P P 16 58 29.7 +0.8
SNR=9.3
L27K Beaver Creek, 50.43 35 P P 16 58 25.9 -3.3
baz=279,SNR=7.8
BCAR Beaver Creek A 50.45 35 P P 16 58 32.1 +2.8
EGAK Eagle 50.47 33 P P 16 58 29.2 -0.2
baz=278
M27K Edge Creek, AK 50.51 36 P P 16 58 32.2 +2.3
M27K Edge Creek, AK 50.51 36 P P 16 58 26.9 -3.1
baz=279,SNR=5.8
F28M Old Crow 50.63 29 P P 16 58 28.5 -2.1
baz=277
E28M Babbage River 50.65 28 IAmb IAmb 16 58 53.5
comp=Z,9.1nm,0.8s
E28M Babbage River 50.65 28 P P 16 58 26.1 -4.7
baz=276,SNR=7.6
EKS2 Erkin-Say 50.65 298 P P 16 58 31.6 +0.3
SNR=7.3
D28M Stokes Point 50.85 27 P P 16 58 29.8 -2.4
baz=276
MESA MESA 50.86 39 P P 16 58 29.5 -3.2
baz=281
I28M Miner Creek 50.89 32 P P 16 58 29.4 -3.4
baz=278,SNR=5.9
CTG Chitna Glacier 51.01 38 P P 16 58 26.9 -6.8
baz=281
E29M Blow River 51.27 28 IAmb IAmb 16 58 58.8
comp=Z,14nm,0.9s
E29M Blow River 51.27 28 P P 16 58 31.5 -3.9
baz=278,SNR=17
YUK3 Moose Creek 51.27 37 P P 16 58 30.0 -5.8
baz=281
H29M Whitestone 51.41 31 P P 16 58 38.7 +2.2
H29M IAmb IAmb 16 59 15.4
comp=Z,28nm,1.8s
H29M Whitestone 51.41 31 P P 16 58 31.8 -4.7
baz=279
G29M Pine Creek 51.44 30 P P 16 58 33.5 -3.2
baz=279
I29M Ogilvie Camp, 51.58 32 P P 16 58 37.1 -0.7
baz=280,SNR=7.6
O28M Mount Upton 51.60 38 P P 16 58 38.3 0.0
baz=282
ARSB Arslanbob 51.67 296 P P 16 58 39.6 +0.6
ARSB Arslanbob 51.67 296 P P 16 58 39.6 +0.6
ARSB pmax pmax
comp=Z,6.0nm,0.8s
YUK8 Steele Glacier 51.70 37 P P 16 58 37.2 -1.8
baz=282
KDU Kakadu 51.70 192 P P 16 58 40.1 +1.0
J29N Klondike Camp 51.77 33 P P 16 58 34.5 -4.8
baz=281
EPYK Eagle Plains 52.04 30 P P 16 58 39.4 -1.8
baz=280,SNR=11
M29M Somme Creek 52.06 35 P P 16 58 41.1 -0.5
baz=282,SNR=5.4
L29M L29M 52.07 35 IAmb IAmb 16 58 45.9
comp=Z,9.7nm,0.9s
L29M L29M 52.07 35 P P 16 58 39.3 -2.2
baz=282,SNR=10
MTN Manton Dam 52.08 193 P P 16 58 42.3 +0.3
MTN Manton Dam 52.08 193 P P 16 58 42.6 +0.6
G30M tAoh Zraii Nji 52.12 30 IAmb IAmb 16 59 04.8
comp=Z,28nm,1.3s
G30M tAoh Zraii Nji 52.12 30 P P 16 58 41.5 -0.3
baz=280,SNR=6.8
F30M Barrier River 52.18 29 P P 16 58 39.3 -2.9
baz=280,SNR=7.2
K29M Barlow Dome 52.19 34 P P 16 58 39.8 -2.7
baz=282,SNR=6.3
COEN Coen 52.21 178 P P 16 58 44.4 +1.5
comp=Z,20nm,2.2s
COEN Coen 52.21 178 P P 16 58 44.2 +1.3
YUK4 Talbot Arm 52.21 37 P P 16 58 42.0 -0.8
baz=283
PNL Peninsula 52.23 39 P P 16 58 41.2 -1.5
baz=283
DZA Taraz 52.26 299 *eP* P 16 58 43.3 +0.1
comp=Z,6.0nm,0.6s,baz=299
DZA Taraz 52.26 299 *eP* P 16 58 43.3 +0.1
DZA pmax pmax
comp=Z,6.0nm,0.6s
I30M Mount Dempster 52.40 32 P P 16 58 44.3 +0.3
baz=282,SNR=23
YUK6 Outpost Mounta 52.44 37 P P 16 58 43.8 -0.6
baz=283
J30M Hart River 52.55 33 P P 16 58 43.2 -2.0
baz=282
KK31 Karatay Array 52.74 299 IAmb IAmb 16 58 47.8
comp=Z,19nm,0.8s
KK31 Karatay Array 52.74 299 *i* P P 16 58 46.1 -0.7
KKAR Karatay Array 52.74 299 P P 16 58 46.5 -0.3
KKAR Karatay Array 52.74 299 P P 16 58 46.5 -0.3
HYT Haines Junctio 52.87 37 P P 16 58 47.8 +0.2
baz=284,SNR=6.9
INK Inuvik 52.88 28 IAmb IAmb 16 59 09.3
comp=Z,12nm,0.9s
INK Inuvik 52.88 28 P P 16 58 46.8 -0.6
baz=282,SNR=9.3
G31M Satah River 52.89 29 IAmb IAmb 16 59 09.3
comp=Z,11nm,1.1s
G31M Satah River 52.89 29 P P 16 58 47.2 -0.2
baz=282,SNR=6.5
N30M Aishikik Lake 52.91 36 P P 16 58 46.2 -1.6
baz=284
F31M Tsiigehtchic 52.98 29 IAmb IAmb 16 59 10.7
comp=Z,16nm,1.1s
F31M Tsiigehtchic 52.98 29 P P 16 58 46.7 -1.3
baz=282
P29M Windy Craggy 53.05 39 P P 16 58 47.6 -1.2
baz=285
H31M Peel River 53.10 31 IAmb IAmb 16 59 12.1
comp=Z,28nm,1.1s
H31M Peel River 53.10 31 P P 16 58 48.0 -1.1
baz=283,SNR=12
BRLS Borolday 53.23 299 *eP* P 16 58 51.9 +1.5
comp=Z,6.6nm,0.8s,baz=299
BRLS Borolday 53.23 299 *eP* P 16 58 51.9 +1.5
BRLS pmax pmax
comp=Z,7.0nm,0.8s
P30M Million Dollar 53.31 38 P P 16 58 49.1 -1.6
baz=285
IUG luzhnay 53.42 298 *eP* P 16 58 52.0 0.0
comp=Z,6.0nm,0.6s,baz=298
IUG luzhnay 53.42 298 *eP* P 16 58 51.9 0.0
IUG pmax pmax
comp=Z,6.0nm,0.6s
N31M Braeburn, Yuko 53.52 36 P P 16 58 50.7 -1.5
baz=285
O30N Mendenhall 53.55 37 P P 16 58 51.7 -0.8
baz=285
BTK Batken 53.67 296 IAmb IAmb 16 59 17.9
comp=Z,12nm,1.1s
PLBC Pleasant Camp 53.77 39 P P 16 58 53.7 -0.4
baz=286
SMRI Semarang 53.96 220 P P 16 58 56.8 +0.9

M31M Drury Creek, Y 53.97 35 P P 16 58 53.9 -1.5
baz=285,SNR=6.3
SVE Sverdlovsk 54.31 318 *eP* P 16 58 58.9 +0.9
SVE pmax pmax
comp=Z,62nm,0.9s
FARO Faro, Yukon 54.43 35 P P 16 58 58.0 -0.8
baz=286
NIL Nilore 54.55 287 P P 16 59 01.0 +0.9
NIL PcP **PcP** 17 00 03.4 +0.5
A36M Sachs Harbour 54.73 22 IAmb IAmb 16 59 23.9
comp=Z,13nm,0.8s
A36M Sachs Harbour 54.73 22 P P 16 58 58.4 -2.4
baz=286,SNR=12
N32M Quiet Lake 54.86 36 P P 16 59 01.7 -0.3
baz=287
GSI Gunungsitoli 54.91 239 P P 16 59 03.4 +0.5
GSI Gunungsitoli 54.91 239 P P 16 59 03.0 +0.1
MMPY Sheldon Lake, 55.24 34 P P 16 59 03.2 -1.6
baz=288
P33M Teslin, Yukon 55.27 37 P P 16 59 02.6 -2.4
baz=288
SIMJ Simiganj 55.51 295 P P 16 59 07.0 -0.1
SIMJ IAmb IAmb 16 59 08.1
comp=Z,15nm,0.7s
SIMJ Simiganj 55.51 295 P P 16 59 07.1 -0.1
ARU Arti 55.53 318 P P 16 59 06.9 +0.1
ARU Arti 55.53 318 LR LR 17 25 04.5
comp=Z,212nm,19.1s,baz=83,slow=38
ARU Arti 55.53 318 *c i* P P 16 59 06.9 +0.1
ARU *PP **pP** 16 59 20.2 -0.5
ARU 17 00 06.0
ARU 17 01 06.8
ARU S **S** 17 06 49.9 +1.7
ARU SS **SS** 17 10 32.4 -0.6
ARU pmax pmax
comp=Z,58nm,1.1s
ARU MLR MLR
comp=Z,204nm,19.0s
ARU Arti 55.53 318 P P 16 59 07.1 +0.3
ARU pP **pP** 16 59 20.4 -0.3
ARU sP **sP** 16 59 25.6 -0.9
ARU Arti 55.53 318 P P 16 59 07.1 +0.3
comp=Z,55nm,0.9s
C36M Paulatuk 55.92 25 IAmb IAmb 16 59 31.0
comp=Z,12nm,0.9s
C36M Paulatuk 55.92 25 P P 16 59 08.3 -1.0
baz=289,SNR=10
R33M Jennings River 56.42 38 P P 16 59 09.0 -4.3
baz=290
U33K Whale Pass 56.47 42 P P 16 59 09.3 -4.1
baz=290
CRAG Craig 56.69 43 P P 16 59 13.9 -1.2
baz=291
WRAK Wrangell Islan 56.76 41 P P 16 59 15.3 -0.3
baz=291
S34M Telegraph Cree 56.85 40 P P 16 59 15.9 -0.3
baz=291
TGTN Hyland Airport 56.93 35 P P 16 59 17.4 +0.6
baz=291
DLBC Dease Lake 57.21 39 P P 16 59 17.2 -1.7
baz=291
DLBC Dease Lake 57.21 39 LR LR 17 24 50.0
comp=Z,37nm,19.5s,baz=314,slow=37
KBL Kabul 57.27 290 P P 16 59 19.7 -0.1
SNR=12
KBL P P 16 59 19.7 -0.1
SNR=12
AB31 Akbulak array 57.30 310 *i* P P 16 59 19.0 -0.5
ABKAR Akbulak array 57.30 310 P P 16 59 19.4 -0.1
V35K Ketchikan 57.55 43 P P 16 59 20.6 -0.5
baz=292
T35M Bob Quinn 57.64 40 P P 16 59 20.2 -1.6
baz=292
AKTO Aktyubinsk 57.99 311 LR LR 17 25 12.9
comp=Z,101nm,19.2s,baz=155,slow=37
WB0 Warramunga Arr 58.40 188 P P 16 59 27.9 +0.4
WB2 Warramunga Arr 58.58 188 P P 16 59 28.7 0.0
WB2 IAmb IAmb 16 59 29.8
comp=Z,13nm,0.8s
WRA Warramunga Arr 58.58 188 P P 16 59 28.1 -0.6
WRA Warramunga Arr 58.58 188 P P 16 59 28.9 +0.2
comp=Z,16nm,0.8s,baz=5.2,slow=6.9,SNR=174
comp=Z,16nm,0.8s
WRA Warramunga Arr 58.58 188 *i* P P 16 59 28.8 +0.1
WRA pmax pmax
comp=Z,16nm,0.8s
ALE Alert 58.61 4 P P 16 59 29.4 +1.2
HYB Hyderabad 58.66 268 *eP* P 16 59 29.0 -0.5
QIS Mount Isa 58.80 183 P P 16 59 30.4 +0.2
SPITS Spitsbergen Ar 59.15 349 P P 16 59 31.4 -0.6
comp=Z,2.7nm,0.6s,baz=77,slow=11,SNR=6.5
SPITS LR LR 17 26 59.2
comp=Z,74nm,18.9s,baz=351,slow=38
comp=Z,2.7nm,0.6s
KBS Kingsbay 59.27 350 P P 16 59 34.3 +1.5
KBS sP **sP** 16 59 52.1 -0.5
KBS Kingsbay 59.27 350 *i* P P 16 59 33.8 +1.0
KIRV Kirov 59.32 323 LR LR 17 27 07.9
comp=Z,52nm,19.1s,baz=71,slow=38
KIRV Kirov 59.32 323 *ceP* P 16 59 33.9 +0.5
TOAD Toad River Com 59.36 37 P P 16 59 32.2 -1.6
baz=294
NOR Nord 59.60 356 *i* P P 16 59 35.0 -0.1
NOR IAmb IAmb 16 59 36.7
comp=Z,6.1nm,0.7s
BBB Bella Bella 60.72 45 LR LR 17 25 54.5
comp=Z,34nm,20.7s,baz=234,slow=36
LVZ Lovozero 60.93 336 P P 16 59 44.8 +0.4
RES Resolute Bay 61.06 15 P P 16 59 45.5 +0.4
RES IAmb IAmb 16 59 46.9
comp=Z,11nm,0.9s
RES Resolute Bay 61.06 15 LR LR 17 30 14.2
comp=Z,52nm,18.1s,baz=353,slow=40
RES Resolute Bay 61.06 15 P P 16 59 45.5 +0.4
RES pmax pmax
comp=Z,11nm,0.9s
VADS Vadso 61.33 339 *eP* P 16 59 47.1 +0.2
APA Apatity 61.51 336 *i* P P 16 59 46.2 -2.0
APA pmax pmax
comp=Z,13nm,0.7s
KEV Kevo 62.20 339 P P 16 59 53.5 +0.7
AS31 Alice Springs 62.31 188 P P 16 59 54.3 +0.1
ASAR Alice Springs 62.31 188 P P 16 59 54.4 +0.3
ASAR Alice Springs 62.31 188 P P 16 59 54.7 +0.6
comp=Z,6.0nm,0.7s,baz=355,slow=4.3,SNR=74
ASAR LR LR 17 26 28.9
comp=Z,40nm,21.8s,baz=25,slow=36
comp=Z,6.0nm,0.7s
ASAR Alice Springs 62.31 188 P P 16 59 54.4 +0.3
YKA Yellowknife Ar 62.33 31 P P 16 59 55.4 +1.7
comp=Z,3.7nm,0.7s,baz=304,slow=7.3,SNR=50
comp=Z,3.7nm,0.7s
KLMR Klimovskoe 62.72 327 *eP* P 16 59 53.9 -2.6
KLMR *e*PP **sP** 17 00 14.5 -1.9
KLMR *e* 17 02 12.1
KLMR pmax pmax
comp=Z,28nm,1.7s
ARCES ARCESS Array B 62.76 339 P P 16 59 57.1 +0.6
comp=Z,3.5nm,0.6s,baz=46,slow=7.5,SNR=22
ARCES LR LR 17 31 02.1
comp=Z,36nm,18.4s,baz=42,slow=40
comp=Z,3.5nm,0.6s
BELG Belogornoye 63.00 317 LR LR 17 29 26.3
comp=Z,157nm,18.2s,baz=66,slow=38
BELG Belogornoye 63.00 317 *i* P P 16 59 58.5 +0.1
BELG pmax pmax
comp=Z,6.0nm,0.9s
PALK Pallekele 63.09 257 P P 16 59 59.6 0.0
GEYT Alibeck 63.48 299 P P 17 00 02.3 +0.4
GEYT IAmb IAmb 17 00 02.7
comp=Z,9.5nm,0.7s
GEYT Alibeck 63.48 299 P P 17 00 02.2 +0.3
comp=Z,8.3nm,0.7s,baz=60,slow=8.8,SNR=17
GEYT LR LR 17 29 30.3
comp=Z,92nm,19.4s,baz=66,slow=38
comp=Z,8.3nm,0.7s
GEYT Alibeck 63.48 299 P P 17 00 02.3 +0.4
GEYT pmax pmax
comp=Z,9.0nm,0.7s
GYA0B ALIBECK ARRAY 63.48 299 P P 17 00 02.5 +0.6
GYA0B IAmb IAmb 17 00 03.1
comp=Z,10nm,0.9s
NEEM North Greenlan 64.03 3 *i* P P 17 00 05.2 0.0
NEEM IAmb IAmb 17 00 07.4
comp=Z,18nm,0.9s
DAG Danmarks Havn 64.33 355 *i* P P 17 00 07.0 +0.2

DAG IAmb IAmb 17 00 08.2
comp=Z,8.5nm,0.6s
TRO Tromso 64.45 341 *e*P **P 17 00 07.7 0.0**
NOUC Port Laguerre 64.49 155 P P **17 00 11.2 +2.7**
WRKA Warakurna 64.50 194 P P **17 00 09.1 +0.5**
DZM Mont Dzumac 64.51 155 LR LR 17 25 53.2
comp=Z,124nm,20.9s,baz=10.0,slow=34
JOF Joensuu 64.85 332 *e*P **P 17 00 11.0 +0.6**
VALR Valaam 65.94 330 *i* P **P 17 00 18.0 +0.6**
VALR pmax pmax
comp=Z,17nm,0.9s
OOD Oodnadatta 66.22 186 P P **17 00 19.4 -0.2**
MOS Moscow 66.31 323 *e*P **P 17 00 18.9 -1.0**
MOS *e* 17 00 34.3
MOS pmax pmax
comp=Z,31nm,0.7s
STEI Steigen 66.60 341 *e*P **P 17 00 22.1 +0.5**
VRH Novokhopyorsk 66.76 318 *e*P **P 17 00 20.9 -2.0**
VRH pmax pmax
comp=Z,20nm,1.0s
FAUS Fauske 66.99 340 *e*P **P 17 00 24.8 +0.7**
OBN Obninsk 67.16 323 LR LR 17 33 11.8
comp=Z,64nm,18.1s,baz=178,slow=39
OBN Obninsk 67.16 323 *de*P **P 17 00 25.7 +0.4**
OBN *e* 17 02 53.0
OBN *e*S S 17 09 39.1 +23
OBN pmax pmax
comp=Z,54nm,2.5s
OBN MLR MLR
comp=Z,74nm,18.0s
LPSR Galich'ya Gora 67.43 320 *e*P **P 17 00 26.1 -1.0**
LPSR pmax pmax
comp=Z,20nm,1.0s
KEF Keuruu 67.66 333 *e*P **P 17 00 28.5 +0.1**
FINES FINESS Array B 67.69 332 P P **17 00 28.9 +0.2**
comp=Z,12nm,0.6s,baz=51,slow=7.6,SNR=52
FINES PP **PP 17 02 55.5 -2.3**
comp=Z,4.9nm,0.8s,baz=46,slow=11,SNR=4.8
FINES LR LR 17 31 30.4
comp=Z,126nm,18.6s,baz=49,slow=37
comp=Z,12nm,0.6s
VORR Voronezh 67.81 319 *e*P **P 17 00 29.6 +0.1**
VORR pmax pmax
comp=Z,18nm,0.6s
VAF Ylistaro 67.83 335 *e*P **P 17 00 30.3 +0.9**
VSR Storozhevoye 68.09 319 *e*P **P 17 00 28.3 -3.0**
VSR pmax pmax
comp=Z,10.0nm,0.9s
MOR8 Moi Rana 68.11 340 *e*P **P 17 00 30.4 -0.9**
VORD Divnogorie 68.16 318 *e*P **P 17 00 29.9 -1.9**
VORD pmax pmax
comp=Z,10.0nm,0.9s
LCRK Leigh Creek 68.70 183 P P **17 00 37.2 +2.0**
JMIC Jan Mayen 68.76 350 LR LR 17 33 17.5
comp=Z,46nm,19.0s,baz=269,slow=38
NEW Newport 68.79 45 P P **17 00 33.6 -2.2**
baz=304
MULG Mulgathing 68.84 187 P P **17 00 37.2 +1.2**
ARBE Arbavere 69.04 331 *e*P **P 17 00 37.6 +0.5**
MEF Metsahovi 69.12 332 *e*P **P 17 00 38.1 +0.6**
SUMG Summit 69.20 0 P P **17 00 39.6 +1.2**
SUMG IAmb IAmb 17 00 40.8
comp=Z,22nm,0.8s
SUMG Summit 69.20 0 P P **17 00 39.6 +1.2**
SUMG pmax pmax
comp=Z,22nm,0.8s
SUMG Summit 69.20 0 *i* P P **17 00 39.0 +0.6**
SUMG IAmb IAmb 17 00 40.8
comp=Z,16nm,0.7s
VSU Vasula 69.38 329 *ce*P **P 17 00 40.1 +0.9**
VSU pmax pmax
comp=Z,31nm,1.7s
GOF Gofitskoye 69.41 312 *ce*P **P 17 00 40.3 +0.6**
RAF Rauma 69.53 333 *e*P **P 17 00 40.8 +0.8**
CMSA Cobar Meteorol 69.78 177 P P **17 00 42.7 +0.8**
JASK Jask - Hormozg 69.99 288 P P **17 00 44.7 +1.2**
STKA Stephens Creek 70.03 180 P P **17 00 43.7 +0.3**
comp=Z,1.3nm,0.5s,baz=345,slow=16,SNR=3.0
comp=Z,1.3nm,0.5s
NSS Namsos 70.04 339 *e*P **P 17 00 43.0 -0.1**
FORT Forrest 70.14 193 P P **17 00 44.7 +0.6**
comp=Z,45nm,0.9s
KIV Kislovodsk 70.25 311 ⇑P **P 17 00 45.8 +0.9**
KIV Kislovodsk 70.25 311 P P **17 00 43.5 -1.4**
KIV Kislovodsk 70.25 311 P P **17 00 46.6 +1.7**
KIV Kislovodsk 70.25 311 *c* *i*P **P 17 00 45.5 +0.6**
KIV *e*S SKiKP 17 10 12.1 -13
KIV pmax pmax
comp=Z,76nm,1.0s
KIV MLR MLR
comp=Z,53nm,16.0s
KIV Kislovodsk 70.25 311 P P **17 00 45.6 +0.7**
KIV pP **pP 17 00 58.9 -0.4**
KIV PcP **PcP 17 01 06.8 +0.3**
KIV Kislovodsk 70.25 311 P P **17 00 45.8 +0.9**
comp=Z,56nm,1.0s,comp=Z,432nm
KBZ Khabaz 70.25 310 P P **17 00 45.2 +0.5**
comp=Z,20nm,0.9s,baz=67,slow=4.0,SNR=40
KBZ LR LR 17 35 34.6
comp=Z,56nm,18.4s,baz=23,slow=39
comp=Z,20nm,0.9s
KBZ Khabaz 70.25 310 *ce*P **P 17 00 45.4 +0.6**
KBZ pmax pmax
comp=Z,21nm,0.9s
MTSE Matsula 70.36 331 *e*P **P 17 00 46.2 +1.1**
SHA1 Shidzhatmaz 70.39 311 *ce*P **P 17 00 46.4 +0.4**
ERBR Yeremizino-Bor 70.52 313 *e*P **P 17 00 47.1 +0.7**
ERBR *e**PP **pP 17 01 01.7 +0.9**
ERBR *e*S **S 17 09 56.9 +1.1**
ERBR pmax pmax
comp=Z,89nm,0.9s
UMMG Uummannaq 70.64 5 *i* P **P 17 00 47.1 +0.4**
UMMG IAmb IAmb 17 00 48.4
comp=Z,7.1nm,0.6s
SCO Scoresbysund 70.68 354 *i* P **P 17 00 47.4 +0.4**
SCO IAmb IAmb 17 00 50.6
comp=Z,3.3nm,0.8s
AAL Aland 70.75 333 *e*P **P 17 00 47.9 +0.4**
WSAR Wadi Sarin 70.88 285 LR LR 17 35 29.2
comp=Z,34nm,18.2s,baz=65,slow=39
JLN Jalan Bani Buh 70.90 283 P P **17 00 49.4 +0.3**
WBK Wadi Bani Khal 70.98 284 P P **17 00 51.0 +1.3**
SNR=8.6
LABN Labinsk 71.00 312 *e*P **P 17 00 49.8 +0.4**
LABN *e*S **S 17 10 01.8 +0.3**
LABN pmax pmax
comp=Z,58nm,0.7s
BIDO Bidbid 71.10 285 P P **17 00 48.8 -1.5**
BANOM Banah 71.12 288 P P **17 00 49.2 -1.3**
GNI Garni 71.15 307 LR LR 17 34 27.4
comp=Z,56nm,20.6s,baz=72,slow=38
SHME Shamm 71.17 289 P P **17 00 51.3 +0.6**
SNR=6.9
MSO Missoula 71.38 45 P P **17 00 50.2 -1.5**
baz=307
SMDO Samad 71.42 285 P P **17 00 54.0 +1.6**
SNR=5.7
IDID Didziasalis 71.46 327 *e*P **P 17 00 54.3 +2.4**
MDH Madha 71.48 288 P P **17 00 53.6 +1.1**
MNK Minsk 71.50 326 *i* P **P 17 00 51.7 -0.5**
MNK *i* *PP **pP 17 01 06.0 -0.5**
MNK *i* 17 03 30.7
MNK *i* PPP PPP 17 05 14.4
MNK *i* S **S 17 10 07.5 +0.7**
MNK *i* *SS **sS 17 10 32.0 +0.8**
MNK *i* 17 10 52.3
MNK *i* SS **SS 17 14 44.3 +2.8**
MNK pmax pmax
comp=E,11nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.9s
MNK pmax pmax
comp=N,7.0nm,0.8s
MNK MLR MLR
comp=E,66nm,16.0s
MNK MLR MLR
comp=N,85nm,16.0s
MNK MLR MLR
comp=Z,161nm,18.0s
TBLU Trondheim 71.51 339 *e*P **P 17 00 51.9 -0.2**
ISAL Salakas 71.55 327 *e*P **P 17 00 54.6 +2.1**
HOQ Hoqain 71.68 286 P P **17 00 54.4 +0.5**
SLIT Slitere, Latvi 71.69 330 *e*P **P 17 00 53.8 +0.5**
UOSS Minazif 71.75 288 P P **17 00 54.5 +0.3**

UOSS Minazif 71.75 288 P P **17 00 54.1 -0.1**
JMDO Jabal Madar 71.77 284 P P **17 00 54.5 +0.1**
UPP Uppsala 71.80 334 *e*P **P 17 00 54.6 +0.7**
HATD Hatta, Dubai 71.87 288 P P **17 00 55.3 +0.3**
SOHO SOHO 71.96 287 P P **17 00 54.5 -1.0**
ASHO Ashiyiah 72.00 287 P P **17 00 56.1 +0.3**
ILULI Ilulissat 72.15 5 ⇓*i*P P **17 00 56.3 +0.4**
ILULI IAmb IAmb 17 00 57.9
comp=Z,11nm,0.8s
VSVD Vaisvydziai 72.18 329 *e*P **P 17 00 57.1 +0.9**
BSY Bisya 72.24 285 P P **17 00 57.6 +0.3**
FAQ Al Faqa, Dubai 72.32 288 P P **17 00 58.0 +0.3**
ARQ Araqi 72.42 286 P P **17 00 58.7 +0.4**
ARQ P P **17 00 59.1 +0.8**
SNR=8.6
PABE Paberze 72.49 328 *e*P **P 17 00 59.2 +1.1**
FCC Fort Churchill 72.50 27 IAmb IAmb 17 01 00.1
comp=Z,19nm,1.2s
ALNE Al Ain 72.59 287 P P **17 00 59.7 +0.4**
MHTO MHTO 72.66 283 P P **17 01 00.3 +0.5**
MHTO P P **17 01 01.0 +1.3**
SNR=10
ICESG Greenland Ices 72.70 1 *i* P P **17 01 00.3 +0.7**
ICESG IAmb IAmb 17 01 01.7
comp=Z,22nm,0.6s
ANN Anapa 72.80 314 *e*P **P 17 01 00.0 -0.1**
ANN pmax pmax
comp=Z,20nm,0.6s
MOL Molde 72.81 340 *e*P **P 17 01 01.1 +1.3**
DOMB Dombas 72.81 339 *e*P **P 17 01 00.7 +0.7**
EGMT Eagleton 72.89 42 IAmb IAmb 17 01 04.1
comp=Z,15nm,0.9s
EGMT Eagleton 72.89 42 P P **17 00 56.7 -4.1**
baz=309
HFS Hagfors 72.91 336 P P **17 01 00.8 +0.3**
comp=Z,20nm,0.7s,baz=48,slow=4.4,SNR=86
HFS LR LR 17 35 57.8
comp=Z,166nm,19.2s,baz=42,slow=38
comp=Z,20nm,0.7s
NB201 NORSAR Array S 72.95 337 P P **17 01 01.5 +0.8**
NB2 NORSAR Subarra 72.98 337 P P **17 01 01.4 +0.4**
comp=Z,18nm,0.7s,baz=39,slow=6.2
NB2 NORSAR Subarra 72.98 337 P P **17 01 01.4 +0.4**
baz=38,slow=6.2
NOA NORSAR Array B 72.98 337 P P **17 01 01.5 +0.4**
comp=Z,15nm,0.7s,baz=39,slow=6.0,SNR=67
NOA PP **PP 17 03 42.7 -0.6**
comp=Z,1.4nm,0.8s,baz=42,slow=8.7,SNR=3.5
NOA LR LR 17 35 40.7
comp=Z,115nm,21.3s,baz=40,slow=38
comp=Z,15nm,0.7s
HLID Hailey 73.07 48 P P **17 01 00.4 -1.6**
baz=307
NBO00 NORSAR Array S 73.12 337 P P **17 01 01.8 0.0**
NBO00 IAmb IAmb 17 01 03.3
comp=Z,21nm,0.8s
NC602 NORSAR Array S 73.12 337 *e*P **P 17 01 02.0 +0.3**
VIKU Vikbolandet 73.13 333 *e*P **P 17 01 02.5 +0.7**
AK03 Malin Array Si 73.36 322 P P **17 01 03.4 +0.1**
AKASG Malin Array Be 73.38 322 P P **17 01 03.5 0.0**
comp=Z,9.8nm,0.5s,baz=46,slow=5.9,SNR=90
AKASG LR LR 17 36 12.8
comp=Z,103nm,19.1s,baz=48,slow=38
comp=Z,9.8nm,0.5s
AKBB Malin Array Si 73.38 322 IAmb IAmb 17 01 04.4
comp=Z,25nm,0.8s
AKBB Malin Array Si 73.38 322 *ce*P **P 17 01 03.6 +0.1**
AKBB Malin Array Si 73.38 322 P P **17 01 03.5 +0.1**
AK01 Malin Array Si 73.39 322 P P **17 01 03.5 0.0**
KIEV Kiev 73.39 322 ⇓P P **17 01 03.5 0.0**
KIEV Kiev 73.39 322 P P **17 01 03.5 0.0**
KIEV IAmb IAmb 17 01 04.4
comp=Z,23nm,0.8s
KIEV Kiev 73.39 322 P P **17 01 03.5 0.0**
KIEV pmax pmax
comp=Z,23nm,0.9s
KIEV Kiev 73.39 322 P P **17 01 03.6 +0.1**
comp=Z,113nm,0.8s
BOZ Bozeman (W) 73.40 45 P P **17 01 01.6 -2.3**
baz=308
AK09 Malin Array Si 73.40 322 P P **17 01 03.7 +0.1**
AK11 Malin Array Si 73.42 322 P P **17 01 03.7 0.0**
AK15 Malin Array Si 73.43 322 P P **17 01 03.8 +0.1**
AK19 Malin Array Si 73.46 322 P P **17 01 04.0 +0.1**
AK13 Malin Array Si 73.51 322 P P **17 01 04.4 +0.2**
NVAR Mina Array Bea 73.78 54 P P **17 01 07.9 +1.6**
comp=Z,8.8nm,0.8s,baz=282,slow=6.7,SNR=15
comp=Z,2.8nm,0.8s
MI30 MI30,Zelenitsa 73.84 323 P P **17 01 06.0 -0.2**
SUW Suwalki 73.86 327 *e*P **P 17 01 06.8 +0.6**
SUW Suwalki 73.86 327 *e*P **P 17 01 07.8 +1.6**
MLAC Mammoth, Mammo 73.91 55 P P **17 01 04.8 -2.4**
baz=306
MI28 Mi28,Pidlybu 73.96 323 P P **17 01 07.2 +0.3**
OSL Oslo 74.00 337 *e*P **P 17 01 07.5 +0.6**
SKAR Skarslia 74.13 338 *e*P **P 17 01 09.0 +1.2**
FOO Floro 74.28 340 *e*P **P 17 01 08.7 +0.2**
HYA Hoyanger 74.33 339 *e*P **P 17 01 09.6 +0.8**
SFJD Kangerlussuaq 74.38 5 P P **17 01 09.2 +0.2**
SFJD IAmb IAmb 17 01 10.7
comp=Z,22nm,1.0s
SFJD Kangerlussuaq 74.38 5 LR LR 17 35 44.3
comp=Z,37nm,20.4s,baz=321,slow=37
SFJD Kangerlussuaq 74.38 5 P P **17 01 09.2 +0.2**
SFJD pmax pmax
comp=Z,22nm,1.0s
SFJD Kangerlussuaq 74.38 5 *i* P P **17 01 09.4 +0.5**
SFJD IAmb IAmb 17 01 11.5
comp=Z,11nm,0.9s
RNPP9 Sopachiv 74.46 324 P P **17 01 09.4 -0.4**
SIM Simferopol' 74.56 315 *e*P **P 17 01 11.2 +0.7**
SIM pmax pmax
comp=Z,45nm,1.1s
KONO Kongsberg 74.57 337 *ce*P **P 17 01 11.5 +1.2**
KONO pmax pmax
comp=Z,8.0nm,1.3s
LUBAR Lubar, Ukraine 74.60 322 P P **17 01 10.8 +0.2**
H17A Grant Village 74.73 45 P P **17 01 09.4 -2.5**
baz=309
SUE Sulen 74.81 340 *e*P **P 17 01 12.6 +1.0**
MZR Muzera 74.90 287 P P **17 01 12.8 0.0**
PKM Mcpherson Peak 74.90 57 P P **17 01 09.8 -3.1**
baz=307
RLMT Red Lodge 74.99 44 P P **17 01 11.6 -1.7**
baz=310
CWC Cottonwood Cre 75.11 55 P P **17 01 12.1 -1.9**
baz=307
DY2G Dye2 75.15 3 *i* P P **17 01 14.0 +0.3**
DY2G IAmb IAmb 17 01 16.1
comp=Z,15nm,0.7s
ASK Askoy 75.17 339 *e*P **P 17 01 15.0 +1.3**
BER Bergen 75.21 339 *e*P **P 17 01 15.3 +1.3**
GRAC Grapevine Rang 75.23 54 P P **17 01 13.5 -1.0**
baz=307
SBC Santa Barbara 75.23 58 P P **17 01 14.4 -0.2**
baz=307
ODD1 Odda 75.24 338 *e*P **P 17 01 15.5 +1.3**
SORM Soroca 75.50 321 ⇑P **P 17 01 15.8 -0.1**
SORM Soroca 75.50 321 P P **17 01 15.7 -0.1**
SORM Soroca 75.50 321 P P **17 01 15.8 -0.1**
comp=Z,20nm,1.3s
R11B Troy Canyon, C 75.53 52 P P **17 01 13.0 -3.5**
baz=308
LAO LASA Array 75.59 41 P P **17 01 15.0 -1.5**
baz=311
DEL Delary 75.67 333 *e*P **P 17 01 16.9 +0.3**
MPMC Manual Prospec 75.72 55 P P **17 01 16.3 -1.2**
baz=307
FURC Furnace Creek, 75.87 55 P P **17 01 16.5 -1.7**
baz=308
LRMC Laurel Mtn Rad 75.94 56 P P **17 01 16.9 -1.9**
baz=307
DIKM Dikmen 76.00 312 ⇓P **P 17 01 19.4 +0.6**
SNCC San Nicolas Is 76.07 59 P P **17 01 17.7 -1.7**
baz=307
DUG Dugway, Tooele 76.08 50 P P **17 01 17.9 -1.6**
baz=309
EDW2 Edwards Air Fo 76.10 56 P P **17 01 18.2 -1.4**
baz=307
KMPD K-Podol'skiy 76.14 322 P P **17 01 19.6 +0.1**
QSM Queen of Sheba 76.17 55 P P **17 01 20.7 +0.8**
KMY Karmoy 76.22 339 *e*P **P 17 01 21.0 +1.4**
BORG Borgarnes 76.23 353 *ce*P **P 17 01 22.6 +2.9**
DECC Green Verdugo 76.26 57 P P **17 01 19.0 -1.5**
baz=307

ISOG Isortoq, Green 76.27 0 *i* P P **17 01 19.8 0.0**
ISOG IAmb IAmb 17 01 21.6
comp=Z,11nm,0.8s
BSD Bornholm Skovb 76.33 332 *e*P **P 17 01 21.2 +0.8**
BSD Bornholm Skovb 76.33 332 *i* P P **17 01 20.1 -0.3**
BW06 Boulder Array 76.34 46 P P **17 01 19.3 -1.7**
baz=310
PDAR Pinedale Array 76.34 46 P P **17 01 22.3 +1.3**
PDAR Pinedale Array 76.34 46 P P **17 01 22.8 +1.8**
comp=Z,3.6nm,0.6s,baz=270,slow=1.2,SNR=36
comp=Z,3.6nm,0.6s
SNART Snartemo 76.36 337 *e*P **P 17 01 21.7 +1.2**
LVV L'vov 76.42 324 *e*P **P 17 01 22.3 +1.2**
BEL Belsk 76.43 327 *e*P **P 17 01 22.2 +1.2**
FMP Fort Macarthur 76.61 58 P P **17 01 22.7 +0.3**
baz=308
GSC Goldstone, Bar 76.62 56 P P **17 01 20.7 -1.8**
baz=308
BFSC Mount Baldy Ra 76.71 57 P P **17 01 22.0 -1.1**
baz=308
CIS Catalina Islan 76.72 58 P P **17 01 22.1 -1.0**
baz=308
COP Copenhagen 76.78 333 *i* P P **17 01 22.9 -0.1**
SCI2 San Clemente I 76.89 58 P P **17 01 22.3 -1.7**
baz=308
DOK Doka 76.97 283 P P **17 01 23.8 -0.8**
TUQ Turquoise Moun 77.11 55 P P **17 01 25.3 0.0**
baz=308
LLD Lille Linde 77.14 333 *i* P P **17 01 25.6 +0.7**
LLD IAmb IAmb 17 01 26.7
comp=Z,16nm,0.8s
KWP Kalwaria Pacla 77.16 324 *e*P **P 17 01 27.2 +1.9**
VLDR Vladesti 77.19 319 ⇑P **P 17 01 26.4 +1.0**
HEC Hector,Ludlow 77.21 56 P P **17 01 24.8 -1.1**
baz=308
TLCR 77.25 318 ⇑P **P 17 01 26.7 +0.9**
TLCR 77.25 318 P P **17 01 26.6 +0.9**
MUD Monsted U'grnd 77.28 335 *i* P P **17 01 25.9 +0.2**
MUD IAmb IAmb 17 01 27.9
comp=Z,10.0nm,0.9s
BUR08 Bucovina Ar. S 77.39 322 IAmb IAmb 17 01 28.3
comp=Z,11nm,0.8s
BURAR Bucovina Array 77.40 322 ⇑P **P 17 01 27.7 +0.9**
BURAR Bucovina Array 77.40 322 P P **17 01 27.6 +0.9**
BURAR IAmb IAmb 17 01 28.3
comp=Z,12nm,0.7s
BURAR Bucovina Array 77.40 322 P P **17 01 27.6 +0.9**
MURC Murrieta 77.41 57 P P **17 01 26.0 -1.0**
baz=308
TESR Tescani 77.46 320 ⇑P **P 17 01 27.5 +0.5**
TESR Tescani 77.46 320 P P **17 01 27.4 +0.5**
comp=Z,29nm,1.0s
CFR Carcaliu 77.61 318 ⇓P P **17 01 28.4 +0.6**
CFR Carcaliu 77.61 318 P P **17 01 28.3 +0.6**
PANC Panciu 77.64 320 ⇓P P **17 01 29.5 +1.5**
GAZ Gaziantep 77.65 308 IAmb IAmb 17 01 30.5
comp=Z,18nm,0.9s
TPGR Topolog 77.68 318 ⇑P P **17 01 29.0 +0.8**
GMRC Granite Mounta 77.68 55 P P **17 01 27.4 -1.2**
baz=308
KOLS Kolonicke sedl 77.86 324 *e*P **P 17 01 30.0 +0.8**
KOLS Kolonicke sedl 77.86 324 *e*P **P 17 01 30.0 +0.8**
KOLS pmax pmax
comp=Z,9.0nm,1.0s
VRI Vrincioaia 77.86 320 ⇑P **P 17 01 29.9 +0.6**
VRI Vrincioaia 77.86 320 P P **17 01 29.8 +0.6**
VRI Vrincioaia 77.86 320 P P **17 01 30.4 +1.2**
comp=Z,13nm,1.2s
PFO Pinyon Flats O 77.88 57 P P **17 01 29.3 -0.4**
baz=308
TPFO Pinon Flats 77.89 57 P P **17 01 30.1 +0.4**
baz=308
109C Camp Elliot, M 77.90 58 P P **17 01 31.0 +1.3**
baz=308
PLOR Plostina 77.91 320 ⇓P P **17 01 30.5 +1.0**
PLOR Plostina 77.91 320 P P **17 01 30.5 +1.0**
BELC Belle Mtn. Jos 77.94 56 P P **17 01 29.7 -0.4**
baz=308
STHS Stebnicka Huta 77.98 325 *e*P **P 17 01 30.7 +0.9**
STHS Stebnicka Huta 77.98 325 *e*P **P 17 01 30.7 +0.9**
STHS pmax pmax
comp=Z,13nm,1.2s
OJC Ojcow 78.04 326 *e*P **P 17 01 31.1 +1.0**
OJC Ojcow 78.04 326 P P **17 01 31.1 +1.0**
comp=Z,28nm,1.0s,comp=Z,525nm
ULM Lac du Bonnet 78.04 34 P P **17 01 30.8 +0.6**
comp=Z,5.9nm,1.0s,baz=301,slow=6.8,SNR=7.6
comp=Z,5.9nm,1.0s
HARR Harsova 78.05 318 ⇑P P **17 01 30.9 +0.6**
HARR Harsova 78.05 318 P P **17 01 30.8 +0.6**
MDND Maddock 78.08 37 P P **17 01 29.6 -0.8**
baz=315
TURR Turia 78.09 320 ⇑P P **17 01 32.1 +1.6**
K22A Casper 78.11 45 P P **17 01 30.0 -0.9**
baz=312
COVR Voineasa-Covas 78.14 320 ⇓P P **17 01 32.0 +1.2**
BR131 Keskin Array S 78.17 312 IAmb IAmb 17 01 32.8
comp=Z,21nm,1.5s
BRTR Keskin Array B 78.17 312 P P **17 01 31.2 0.0**
BRTR Keskin Array B 78.17 312 P P **17 01 31.6 +0.4**
comp=Z,3.1nm,0.6s,baz=102,slow=3.3,SNR=26
BRTR PP **PP 17 04 26.6 -1.2**
comp=Z,1.6nm,1.0s,baz=80,slow=6.9,SNR=4.2
BRTR LR LR 17 39 30.5
comp=Z,51nm,19.4s,baz=76,slow=38
comp=Z,3.1nm,0.6s
BRTR Keskin Array B 78.17 312 P P **17 01 31.2 0.0**
OZUR 78.17 320 ⇑P P **17 01 32.8 +1.8**
BR106 Keskin Array S 78.18 312 P P **17 01 31.7 +0.4**
BR104 Keskin Array S 78.18 312 P P **17 01 31.7 +0.4**
ARCR ARCALIA 78.19 322 ⇓P P **17 01 33.0 +2.0**
BR105 Keskin Array S 78.19 312 P P **17 01 31.8 +0.5**
BOSR Bodos 78.25 320 ⇓P P **17 01 32.8 +1.4**
CRVS Cervenica-Dubn 78.25 324 *e*P **P 17 01 32.4 +1.0**
CRVS Cervenica-Dubn 78.25 324 *e*P **P 17 01 32.4 +1.0**
CRVS pmax pmax
comp=Z,15nm,1.1s
MONP2 Monument Peak 78.35 57 P P **17 01 32.5 0.0**
baz=308
NEE2 Needles Airpor 78.36 55 P P **17 01 32.5 +0.3**
baz=309
IRM Iron Mountain 78.40 56 P P **17 01 29.9 -2.5**
baz=309
NIE Niedzica 78.40 325 *e*P **P 17 01 33.4 +1.2**
NIE Niedzica 78.40 325 P P **17 01 33.5 +1.3**
comp=Z,8.4nm,0.9s
RSSD Black Hills 78.45 42 P P **17 01 30.8 -2.1**
baz=313
DOPR Dopca 78.47 320 ⇓P P **17 01 34.3 +1.7**
ISR Istrita 78.47 319 ⇑P P **17 01 34.1 +1.4**
ISR Istrita 78.47 319 P P **17 01 34.0 +1.4**
ISR Istrita 78.47 319 P P **17 01 34.0 +1.4**
comp=Z,38nm,0.8s
ICOR Ion Corvin 78.50 318 ⇓P P **17 01 34.4 +1.6**
BC3 Big Chuckawall 78.51 56 P P **17 01 30.9 -2.2**
baz=309
MLR Muntele Rosu 78.52 320 ⇑P P **17 01 33.2 +0.2**
MLR Muntele Rosu 78.52 320 LR LR 17 38 32.4
comp=Z,117nm,20.4s,baz=46,slow=37
MLR Muntele Rosu 78.52 320 P P **17 01 33.2 +0.2**
MLR Muntele Rosu 78.52 320 P P **17 01 33.9 +0.9**
comp=Z,8.6nm,1.0s
IKP In-Ko-Pah, Jac 78.71 57 P P **17 01 32.4 -1.8**
baz=309
SWSC Sam W. Stewart 78.73 57 P P **17 01 31.8 -2.4**
baz=309
O20A White River Ci 78.80 47 P P **17 01 32.3 -2.5**
baz=311
PDMCI Parker Dam,Lak 78.96 55 P P **17 01 32.2 -3.2**
baz=309
LANS Liptovska Anna 78.97 326 *e*P **P 17 01 37.3 +2.0**
LANS Liptovska Anna 78.97 326 *e*P **P 17 01 37.3 +2.0**
LANS pmax pmax
comp=Z,14nm,0.7s
VOIR 79.01 320 ⇑P P **17 01 37.3 +1.6**
VOIR 79.01 320 P P **17 01 37.2 +1.6**
VOIR 79.01 320 P P **17 01 36.8 +1.2**
comp=Z,7.7nm,1.0s
MARR Marisel-Cluj 79.08 322 ⇑P P **17 01 37.0 +0.9**
DRGR 79.19 322 ⇓P P **17 01 37.7 +1.1**
DRGR 79.19 322 P P **17 01 37.7 +1.1**
GLA Glamis 79.30 56 P P **17 01 33.8 -3.6**
baz=309
MORC Moravsky Berou 79.34 327 ⇑P P **17 01 38.4 +1.0**
MORC Moravsky Berou 79.34 327 IAmb IAmb 17 01 39.3

comp=Z,15nm,1.0s
MORC Moravsky Berou 79.34 327 *e*P **P 17 01 38.1 +0.8**
MORC Moravsky Berou 79.34 327 P **P 17 01 38.3 +1.0**
CHVC Chvalec 79.35 328 *e*P **P 17 01 38.6 +1.3**
CHVC Chvalec 79.35 328 *e*P **P 17 01 38.6 +1.3**
DPC Dobruska-Polom 79.42 328 *e*P **P 17 01 39.1 +1.3**
DPC Dobruska-Polom 79.42 328 *e*P **P 17 01 39.1 +1.3**
UPC Upice 79.43 328 *e*P **P 17 01 38.7 +1.0**
UPC Upice 79.43 328 *e*P **P 17 01 38.7 +1.0**
KRLC Kraliky 79.44 328 *e*P **P 17 01 38.9 +1.0**
KRLC Kraliky 79.44 328 *e*P **P 17 01 38.9 +1.0**
MAUC Maruska 79.53 327 *e*P **P 17 01 39.4 +1.1**
N23A Red Feather La 79.61 46 P **P 17 01 37.8 -1.4**
baz=312
LOT Lotru 79.64 321 ⇓P **P 17 01 40.0 +0.9**
PSZ Piszkesteto 79.69 325 ⇑P **P 17 01 40.5 +1.1**
PSZ Piszkesteto 79.69 325 IAmb IAmb 17 01 41.5
comp=Z,23nm,1.2s
PSZ Piszkesteto 79.69 325 P **P 17 01 40.4 +1.1**
VYHS Vyhne 79.74 326 *e*P **P 17 01 40.3 +0.8**
VYHS *e*PP **PP 17 04 39.0 -1.3**
VYHS Vyhne 79.74 326 *e*P **P 17 01 40.3 +0.8**
VYHS pmax pmax
comp=Z,8.0nm,0.9s
DEV Deva 79.75 322 ⇓P **P 17 01 40.1 +0.6**
DEV Deva 79.75 322 P **P 17 01 40.1 +0.6**
WUAZ Wupatki 79.93 53 P **P 17 01 38.3 -2.7**
baz=310
JAVC Velka Javorina 79.97 326 *e*P **P 17 01 42.6 +1.8**
BRG Berggiesshubel 79.98 330 *i* P **P 17 01 41.5 +0.8**
BRG Amp 17 01 42.1
comp=Z,9.8nm,0.9s
BRG Berggiesshubel 79.98 330 P P 17 01 50.9 +10
BRG Amp 17 01 53.0
comp=Z,2.6nm,0.7s
PVCC Panska Ves 80.00 329 *e*P **P 17 01 42.0 +1.2**
PVCC Panska Ves 80.00 329 *e*P **P 17 01 42.0 +1.2**
CLL Collm 80.01 330 ⇑*i*P **P 17 01 41.1 +0.2**
comp=Z,23nm,0.9s
CLL Collm 80.01 330 ⇑*i*P **P 17 01 41.1 +0.2**
CLL pmax pmax
comp=Z,23nm,0.9s
SIRR Siria 80.07 323 ⇓P **P 17 01 42.5 +1.1**
VRAC Vranov 80.10 327 *e*P **P 17 01 42.3 +0.9**
VRAC Vranov 80.10 327 LR LR 17 40 58.8
comp=Z,49nm,19.6s,baz=34,slow=38
GZR Gura Zlata 80.16 321 ⇓P **P 17 01 42.3 +0.4**
GZR Gura Zlata 80.16 321 P **P 17 01 42.3 +0.4**
RICC Richard 80.18 329 *e*P **P 17 01 43.9 +2.1**
SURR Surduc 80.22 322 ⇑P **P 17 01 43.0 +0.9**
ELND Elena 80.34 318 ⇓P **P 17 01 43.1 +0.3**
SMOL Smolenice 80.34 326 *e*P **P 17 01 44.0 +1.3**
KRUC Moravsky 80.37 327 *e*P **P 17 01 43.3 +0.4**
GOPC GO Pecny, Ondr 80.39 328 *e*P **P 17 01 44.1 +1.1**
GOPC GO Pecny, Ondr 80.39 328 *e*P **P 17 01 44.1 +1.1**
HSKC Hora Svate Kat 80.39 330 *e*P **P 17 01 44.0 +1.0**
PRU Pruhonice 80.43 329 *e*P **P 17 01 44.1 +0.9**
PRU Pruhonice 80.43 329 *e*P **P 17 01 44.1 +0.9**
SRO Srobarova 80.48 325 *e*P **P 17 01 45.1 +1.7**
SRO Srobarova 80.48 325 *e*P **P 17 01 45.1 +1.7**
SRO pmax pmax
comp=Z,15nm,0.7s
MODS Modra-Piesok 80.51 326 *e*P **P 17 01 45.1 +1.4**
MODS Modra-Piesok 80.51 326 *e*P **P 17 01 45.1 +1.4**
MODS pmax pmax
comp=Z,36nm,1.3s
ISCO Idaho Springs 80.53 46 P **P 17 01 41.0 -3.3**
baz=313
BZS Buzias 80.57 322 ⇓P **P 17 01 44.6 +0.7**
BZS Buzias 80.57 322 P **P 17 01 44.6 +0.7**
MVCO Mesa Verde 80.58 50 P **P 17 01 41.4 -3.1**
baz=312
HERR Herculane 80.71 321 ⇑P **P 17 01 45.0 +0.2**
ZST Bratislava 80.72 326 *e*P **P 17 01 45.8 +1.0**
ZST Bratislava 80.72 326 *e*P **P 17 01 45.9 +1.1**
SUSD Miller 80.83 39 P **P 17 01 41.7 -3.7**
baz=316
ZVC Zvikov 81.00 328 *e*P **P 17 01 47.5 +1.3**
MDVR Moldovita 81.13 321 ⇑P **P 17 01 47.7 +0.6**
W18A Petrified Fore 81.21 52 P **P 17 01 43.6 -4.2**
baz=311
214A Organ Pipe Nat 81.31 56 P **P 17 01 44.2 -4.0**
baz=310
MPLH Magyarpolny 81.31 325 P **P 17 01 48.7 +0.8**
comp=Z,33nm,1.2s
Q24A Divide 81.36 47 P P 17 01 43.2 -5.5
baz=313
CKRC Cesky Krumlov 81.43 328 *e*P **P 17 01 49.4 +0.8**
CKRC Cesky Krumlov 81.43 328 *e*P **P 17 01 49.4 +0.8**
MMAI Mount Meron Ar 81.44 305 P **P 17 01 49.2 +0.3**
comp=Z,6.3nm,0.6s,baz=54,slow=7.3,SNR=6.8
comp=Z,6.3nm,0.6s
RONA Rosalia, Austr 81.45 326 *e*P **P 17 01 50.1 +1.4**
comp=Z,17nm,0.8s,SNR=11
CONA Conrad Observa 81.47 327 *e*P **P 17 01 50.3 +1.4**
comp=Z,14nm,1.0s,SNR=5.2
BLKB Belogradchik 81.49 320 ⇓P **P 17 01 49.1 +0.1**
KHC Kasperske Hory 81.49 329 IAmb IAmb 17 01 50.9
comp=Z,14nm,0.9s
KHC Kasperske Hory 81.49 329 *e*P **P 17 01 49.9 +1.0**
KHC Kasperske Hory 81.49 329*ce*P **P 17 01 50.0 +1.0**
KHC pmax pmax
comp=Z,43nm,1.3s
KHC Kasperske Hory 81.49 329 P **P 17 01 49.9 +1.0**
comp=Z,19nm,1.3s
MORH Mrgy, Hungar 81.53 324 ⇓P **P 17 01 49.6 +0.6**
MORH Mrgy, Hungar 81.53 324 P **P 17 01 49.3 +0.3**
comp=Z,6.5nm,1.1s
GERES GERESS Array B 81.67 328 P **P 17 01 50.4 +0.5**
comp=Z,3.2nm,0.5s,baz=33,slow=5.1,SNR=10.0
GERES LR LR 17 40 25.0
comp=Z,100nm,20.5s,baz=44,slow=37
comp=Z,3.2nm,0.5s
EYMN Ely 81.67 33 P **P 17 01 47.2 -2.6**
baz=320
OGNE Ogallala 81.72 43 P **P 17 01 47.6 -2.7**
baz=315
FRGS Fruska Gora 81.77 323 ⇑P **P 17 01 50.9 +0.5**
FRGS Fruska Gora 81.77 323 ⇑*i*P **P 17 01 50.8 +0.5**
FRGS Fruska Gora 81.77 323 P **P 17 01 51.0 +0.6**
comp=Z,27nm,0.9s
EKA Eskdalemuir Ar 81.87 341 P **P 17 01 51.2 +0.5**
comp=Z,1.9nm,0.5s,baz=30,slow=4.6,SNR=21
comp=Z,1.9nm,0.5s
BOVS Bovan 81.97 321 ⇓P **P 17 01 51.0 -0.4**
GRFO Grafenberg 81.99 330 P **P 17 01 52.7 +1.2**
GRFO Grafenberg 81.99 330 P **P 17 01 52.7 +1.2**
GRFO pmax pmax
comp=Z,24nm,0.9s
ARSA Arzberg 82.13 326 *e*P **P 17 01 52.9 +0.7**
comp=Z,9.6nm,1.5s
MOA Molln 82.21 327 *i* P **P 17 01 53.6 +0.9**
comp=Z,9.8nm,1.1s
TEKS Tekeris 82.35 322 ⇑*i*P **P 17 01 53.4 -0.1**
ECSD EROS Data Cent 82.50 39 P **P 17 01 50.9 -3.3**
baz=318
BIOA Bad Ischl, Aus 82.60 328 *e*P **P 17 01 55.7 +1.0**
comp=Z,18nm,0.9s,SNR=7.3
E38A The Farm, Brul 82.68 34 IAmb IAmb 17 01 56.6
comp=Z,7.5nm,0.8s
GROS Grobnik 82.75 326 *i* P **P 17 01 55.9 +0.3**
PERS Pernice 82.79 326 *i* P **P 17 01 56.3 +0.5**
SOKA Soboth 82.79 326 *e*P **P 17 01 56.5 +0.8**
comp=Z,31nm,1.1s,SNR=19
BBLS Lazi&#263i 82.92 322 ⇑*i*P **P 17 01 57.2 +0.7**
URZ Urewera 82.98 153 LR LR 17 39 51.1
comp=Z,43nm,18.1s,baz=29,slow=36
T25A Trinidad 83.04 48 P **P 17 01 54.2 -3.2**
baz=314
SJES Sjenica 83.09 321 ⇑*i*P **P 17 01 58.0 +0.5**
RUDO Rudo 83.12 322 *e*P **P 17 01 57.6 +0.1**
BEBN Eben Emael 83.13 334 *d*P **P 17 01 57.9 +0.6**
OBKA Obir 83.13 326 *i* P **P 17 01 58.0 +0.4**
comp=Z,8.6nm,0.9s
BTNL Ternell 83.14 333 *d*P **P 17 01 57.8 +0.3**
comp=Z,8.9nm,0.9s
MEM Membach 83.17 333 *d*P **P 17 01 57.6 +0.1**
comp=Z,14nm,0.8s
KBA Koelnbreinsper 83.20 327 *e*P **P 17 01 59.2 +1.2**
comp=Z,14nm,0.7s,SNR=7.6
LESA Schwarzleotal 83.21 328 *i* P **P 17 01 58.8 +0.9**
comp=Z,14nm,0.7s
A051A Mrakovica 83.23 324 ⇑*i*P **P 17 01 58.0 -0.1**
BLY Banja Luka 83.31 324 *e*P **P 17 01 58.5 +0.1**
ANMO Albuquerque 83.33 50 P **P 17 01 54.3 -4.6**
baz=313
ANMO Albuquerque 83.33 50*ce*P **P 17 01 59.6 +0.7**
ANMO pmax pmax
comp=Z,3.0nm,1.3s
BSTI Sart Tilman 83.34 334 *d*P **P 17 01 58.9 +0.4**
comp=Z,2.8nm,0.6s
MYKA Terra Mystica 83.43 327 *i* P **P 17 01 59.1 0.0**
comp=Z,7.0nm,0.5s,SNR=6.0
BGNE Belgrade 83.44 41 P P 17 01 54.3 -4.8
baz=317
BCLA Clavier 83.57 334 *d*P **P 17 01 59.8 +0.2**
comp=Z,6.9nm,0.8s
BOJS Bojanci 83.60 325 *e*P **P 17 02 00.1 +0.2**
MGRS Mrkonjic Grad 83.61 324 *e*P **P 17 02 00.8 +0.8**
PRED Cave del Predi 83.61 327 IAmb IAmb 17 02 00.4
comp=Z,9.7nm,0.8s
Y22D IRIS PASSCAL I 83.63 51 P P 17 01 54.0 -6.4
baz=313
Y22F Passcal Instru 83.63 51 P P 17 01 54.4 -6.1
baz=313
UPM Unac-Piva 83.66 322 *e*P **P 17 02 00.4 -0.1**
BGES Gesves 83.68 334 *d*P **P 17 02 00.1 -0.1**
comp=Z,7.2nm,1.0s
BGES *d*PcP **PcP 17 02 03.9 -0.3**
WATA Walderalm 83.73 329 *i* P **P 17 02 01.2 +0.5**
comp=Z,4.1nm,0.5s
WTTA Wattenberg 83.77 328 *i* P **P 17 02 01.6 +0.7**
comp=Z,12nm,0.9s
GBRS Gornja Briga 83.78 326 *i* P **P 17 02 00.9 +0.1**
CEY Cerknica 83.78 326 ⇑*i*P **P 17 02 00.6 -0.3**
SCHQ Schefferville 83.80 16 P **P 17 02 01.5 +0.8**
comp=Z,6.3nm,0.7s,baz=320,slow=4.0,SNR=7.6
SCHQ LR LR 17 42 17.0
comp=Z,60nm,19.8s,baz=122,slow=38
comp=Z,6.3nm,0.7s
A050A Klekovaca 83.81 324 ⇑*i*P **P 17 02 01.2 +0.1**
ABTA Abfaltersbach 83.81 328 *i* P **P 17 02 00.7 -0.3**
comp=Z,14nm,1.2s
RCHB Reckert 83.82 334 *d*P **P 17 02 01.1 +0.2**
comp=Z,9.0nm,1.1s
I37A Lemond, Waseca 83.83 37 IAmb IAmb 17 02 03.5
comp=Z,14nm,0.7s
BMRD Maredsous 83.86 334 *d*P **P 17 02 01.4 +0.3**
comp=Z,12nm,1.0s
EIL Elat 83.91 303 LR LR 17 43 45.0
comp=Z,56nm,18.4s,baz=65,slow=39
MOTA Moosalm 83.92 329 *e*P **P 17 02 02.2 +0.5**
comp=Z,23nm,1.3s,SNR=6.4
RETA Reutte 83.94 329 *e*P **P 17 02 02.5 +0.8**
comp=Z,26nm,1.0s,SNR=14
SQTA Sankt Quirin 83.97 329 *e*P **P 17 02 02.5 +0.6**
comp=Z,7.4nm,0.6s,SNR=5.1
GIVF Givet 84.01 334 P **P 17 02 02.2 +0.3**
BRY Bratogost 84.06 322 ⇑*i*P **P 17 02 02.1 -0.4**
PDG Podgorica 84.07 321 ⇑P **P 17 02 02.8 +0.5**
PDG Podgorica 84.07 321 ⇑*i*P **P 17 02 02.5 +0.2**
DOU Dourbes 84.09 334 *d*P **P 17 02 02.5 +0.3**
comp=Z,5.5nm,1.2s
121A Cooke's Peak, D 84.14 53 P P 17 01 57.0 -6.1
baz=312
BFO Black Forest 84.21 331 P **P 17 02 03.4 +0.4**
BFO Black Forest 84.21 331 P **P 17 02 03.4 +0.4**
BFO pmax pmax
comp=Z,19nm,0.8s
BAIF Baives 84.25 334 P **P 17 02 03.1 0.0**
DRME Dracevica, Mon 84.28 321 ⇑*i*P **P 17 02 03.7 +0.3**
FETA Feichten 84.33 329 *e*P **P 17 02 04.3 +0.5**
comp=Z,14nm,1.0s,SNR=7.8
DAVA Damuels 84.46 329 *e*P **P 17 02 05.0 +0.6**
comp=Z,28nm,0.9s,SNR=11
STON Ston 84.49 322 ⇑*i*P **P 17 02 03.2 -1.2**
CTI Castel Tesino 84.73 328 IAmb IAmb 17 02 05.9
comp=Z,12nm,0.7s
ECH Echery 84.75 332 IAmb IAmb 17 02 07.0
comp=Z,15nm,0.8s
DAVOX Davos/Dischmat 84.87 329 LR LR 17 43 23.1
comp=Z,127nm,18.2s,baz=72,slow=38
TUE Stuetta 85.33 329 IAmb IAmb 17 02 12.8
comp=Z,13nm,0.9s
TUE Stuetta 85.33 329 P **P 17 02 09.2 +0.3**
comp=Z,71nm,0.9s
SCIA State Center 85.53 38 P **P 17 02 07.8 -1.9**
baz=320
KSU1 Kansas State U 85.93 42 P **P 17 02 11.7 0.0**
baz=318
JFWS Jewell Farm 86.14 36 P **P 17 02 13.0 +0.4**
baz=322
AMTX Amarillo 86.19 48 P **P 17 02 12.0 -1.2**
baz=315
MNTX Cornudas Mount 86.20 52 P **P 17 02 11.0 -2.2**
baz=314
LOR Lormes 86.75 333 P **P 17 02 15.7 +0.1**
LDF La Druitiere 86.95 336 P **P 17 02 16.6 0.0**
GLMI Grayling 87.03 31 P **P 17 02 16.4 -0.6**
baz=325
SSF Saint Saulge 87.05 333 P **P 17 02 17.1 0.0**
P38A Dawn 87.11 40 IAmb IAmb 17 02 19.7
comp=Z,8.0nm,0.7s
LPL La Plagne 87.15 330 P **P 17 02 18.1 +0.2**
LPG La Plagne 87.16 330 P **P 17 02 16.9 -1.1**
AVF Avril sur Loir 87.34 333 P **P 17 02 18.7 +0.3**
TIP Timpagrande 87.76 321 ⇓P **P 17 02 21.2 +0.5**
TIP Timpagrande 87.76 321 IAmb IAmb 17 02 22.7
comp=Z,5.4nm,0.8s
TIP Timpagrande 87.76 321 P **P 17 02 20.7 0.0**
comp=Z,6.2nm,0.9s
L44A Lake County Fo 87.78 35 P **P 17 02 18.0 -2.6**
baz=323
WMOK Wichita Mounta 87.95 46 P **P 17 02 19.8 -1.9**
baz=317
HDIL Hopedale 88.43 36 P **P 17 02 21.2 -2.6**
baz=322
TUL3 Leonard 88.74 43 P **P 17 02 24.2 -1.1**
baz=318
TX31 Lajitas Ar. Si 88.90 53 IAmb IAmb 17 02 59.4
comp=Z,19nm,1.8s
TXAR Lajitas Array 88.90 53 P **P 17 02 27.7 +1.4**
TXAR Lajitas Array 88.90 53 P **P 17 02 27.9 +1.6**
comp=Z,2.5nm,0.7s,baz=292,slow=3.7,SNR=25
comp=Z,2.5nm,0.7s
TXAR Lajitas Array 88.90 53 P **P 17 02 27.7 +1.4**
CEL Celeste 88.90 320 P **P 17 02 25.9 -0.2**
comp=Z,24nm,0.9s
ABTX Abilene, Hawle 88.99 48 P **P 17 02 25.7 -0.9**
baz=316
SAND Sanderson 89.42 51 P **P 17 02 27.5 -1.2**
CCM Cathedral Cave 89.45 39 P **P 17 02 26.4 -2.3**
baz=321
SFIN Lafayette 89.58 35 P **P 17 02 28.0 -1.1**
baz=324
VAE Valguarnera 90.25 321 LR LR 17 48 54.0
comp=Z,93nm,18.9s,baz=91,slow=39
BRDY Brady 90.34 48 IAmb IAmb 17 03 30.3
comp=Z,4.5nm,0.8s
JCT Junction City 90.44 49 P **P 17 02 31.9 -1.5**
baz=316
O48B Farmland 90.55 34 P **P 17 02 32.1 -1.6**
baz=325
LONY Lake Oconia 90.92 25 P **P 17 02 33.4 -2.0**
baz=332
MIAR Mount Ida 90.95 43 IAmb IAmb 17 02 37.7
comp=Z,5.3nm,0.8s
MIAR Mount Ida 90.95 43 P **P 17 02 33.1 -2.6**
baz=320
WHAR Wooly Hollow 91.06 42 IAmb IAmb 17 02 38.5
comp=Z,7.0nm,0.8s
H06N1 SOCORRO T-PHAS 91.09 65 T T 18 44 30.0
SNR=13
ERPA Erie 91.14 30 P **P 17 02 33.0 -3.4**
baz=328
H06E1 SOCORRO T-PHAS 91.18 65 T T 18 44 36.8
SNR=5.2
WVT Waverly 92.65 38 P **P 17 02 40.4 -3.1**
baz=323
KEST Kesra 94.09 323 P **P 17 02 49.9 -0.3**
comp=Z,4.6nm,1.0s,baz=4.9,slow=4.9,SNR=3.5
comp=Z,4.6nm,1.0s
TKL Tuckaleechee C 94.95 36 LR LR 17 48 56.4
comp=Z,28nm,18.6s,baz=209,slow=37
ESDC Sonseca Array 96.14 334 P **P 17 02 59.6 +0.2**
comp=Z,1.4nm,0.8s,baz=14,slow=3.9,SNR=7.4
ESDC LR LR 17 50 59.0
comp=Z,99nm,18.5s,baz=357,slow=38
comp=Z,1.4nm,0.8s
VNDA Vanda 116.42 175 PKP **PKiKP 17 08 14.0 +0.3**
comp=Z,0.5nm,0.7s,baz=12,slow=2.8,SNR=2.2
MAW Mawson 121.05 206 PKP **PKiKP 17 08 23.3 +0.3**
comp=Z,1.0nm,0.6s,baz=125,slow=5.9,SNR=7.3
DBIC Dimbokro 125.47 318 PKP **PKPdf 17 08 33.1 0.0**
comp=Z,2.6nm,0.8s,baz=344,slow=2.5,SNR=3.7
BOSA Boshof 127.23 261 PKP **PKiKP 17 08 36.7 0.0**
comp=Z,4.3nm,1.0s,baz=320,slow=0.8,SNR=5.3
QSPA South Pole Qui 128.26 180 PKPdf **PKiKP 17 08 37.1 -0.3**
QSPA South Pole Qui 128.26 180 PKP **PKPdf 17 08 36.4 -0.4**
comp=Z,3.2nm,0.9s,baz=311,slow=2.3,SNR=11
TROLL Troll, Antarti 140.76 199 ⇑PKPdf **PKPdf 17 08 57.8 -2.4**
comp=Z,179nm,0.6s
SNAA Sanae 142.28 197 ⇑PKPdf **PKPdf 17 08 58.5 -4.3**
comp=Z,58nm,0.5s
SNAA Sanae 142.28 197 PKhKP PKPpre 17 08 58.6
comp=Z,2.0nm,0.5s,baz=207,slow=6.8,SNR=12
VNA2 Neumayer--Watz 143.85 197 ⇑PKPdf PKPbc 17 09 03.8 +0.4
comp=Z,26nm,0.7s,baz=115,slow=2.7
VNA3 Neumayer Olymp 144.10 195 ⇑PKPdf PKPbc 17 09 04.2 +0.1
comp=Z,12nm,0.6s
VNA1 Neumayer--Stat 144.25 196 ⇑PKPdf PKPbc 17 09 05.2 +0.7
comp=Z,13nm,0.8s
LPAZ La Paz 145.58 58 **PKPab 17 09 12.4 +1.0**
LPAZ La Paz 145.58 58 PKPbc **PKPab 17 09 12.2 +0.7**
comp=Z,11nm,0.8s,baz=331,slow=3.0,SNR=42
PB12 IPOC Station P 145.68 64 PKPdf **PKPab 17 09 12.6 +1.5**
PRPB Parauapebas 146.09 21 *e*P **PKPbc 17 09 11.7 -0.3**
H03N2 Juan Fernandez 146.75 94 T T 19 53 46.8
baz=291,slow=76,SNR=34
H03N3 Juan Fernandez 146.76 94 T T 19 53 46.3
baz=291,slow=76,SNR=45
H03N1 Juan Fernandez 146.76 94 T T 19 53 47.1
baz=291,slow=76,SNR=78
NBPB Pedra_Branca-C 147.15 3 *e*P **PKPdf 17 09 13.2 +0.3**
RCBR Riachuelo 147.40 356 **PKPab 17 09 17.3 -0.4**
RCBR Riachuelo 147.40 356 PKP2 **PKPab 17 09 17.3 -0.4**
VILB Vilhena 147.84 44 *e*P **PKPdf 17 09 14.7 +0.7**
NBLV Livramento - P 148.96 358 *e*P **PKPdf 17 09 16.5 +0.5**
SMTB Santa Maria do 149.26 19 *e*P **PKPdf 17 09 16.9 +0.6**
LVC Limon Verde 149.26 68 *e*P **PKPdf 17 09 17.2 +0.7**
AC01 Pan de Azucar 150.03 75 PKPbc **PKPbc 17 09 21.4 -0.8**
PTLB Pontes e Lacer 150.47 45 *e*P **PKPdf 17 09 18.0 -0.1**
BBSD Serra de San D 151.01 49 *e*P **PKPdf 17 09 19.0 0.0**
SNDB Serra Nova Dou 151.06 28 *e*P **PKPdf 17 09 18.8 -0.3**
CO06 Fray Jorge 151.40 84 PKPbc **PKiKP 17 09 26.4 +0.6**
PLCA Paso Flores 154.96 105 PKPbc **PKiKP 17 09 35.4 +2.5**
comp=Z,0.6nm,0.5s,baz=241,slow=2.5,SNR=4.2
BDFB Brasilia 155.59 24 PKPab **PKPab 17 09 51.3 -0.4**
comp=Z,1.5nm,0.4s,baz=214,slow=9.6,SNR=3.6

PRU ***12*** *16:59:52.8,50°.24N×12°.46E,h10km, West Bohemia Swarm*
BGR ***12*** *16:59:52.8±0.2,50°.27N×12°.44E,h10km±1km, ML1.9/7, Error ellipse: s-maj=2.2km s-min=1.1km az=98.0*
WBNET ***12*** *16:59:53.1,50°.27N×12°.44E,h9km, Ml2.2*
CLL ***12*** *16:59:53.4±0.3,50°.27N×12°.44E,h8km, ML2.1*
ISC 12 16:59:52.9±0.8, **50°.27N**±0°.01×**12°.44E**±0°.02, **h10**km±3km, **n68**,**s048**/125, **4C-8D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**248**	⇓P		**Pg**	**16 59 54.9**	**+0.1**
LBCW				S		**Sg**	**16 59 56.2**	**0.0**
NKC	**Novy Kostel**	**0.04**	**171**	*i* Pg		**Pg**	**16 59 55.0**	**0.0**
NKC				*i* Sg		**Sg**	**16 59 56.2**	**-0.2**
NKC				IAML			16 59 56.6	
	comp=E,868nm,0.3s							
NKC	**Novy Kostel**	**0.04**	**171**	*e*PG		**Pg**	**16 59 54.9**	**0.0**
NKC				*e*SG		**Sg**	**16 59 56.2**	**-0.2**
	comp=E,232nm,0.2s							
NKC	**Novy Kostel**	**0.04**	**171**	*i* Pg		**Pg**	**16 59 55.0**	**0.0**
NKC				*i* Sg		**Sg**	**16 59 56.2**	**-0.2**
	comp=E,868nm,0.3s							
NKC	**Novy Kostel**	**0.04**	**171**	⇓P		**Pg**	**16 59 55.0**	**0.0**
NKC				S		**Sg**	**16 59 56.2**	**-0.2**
WERN	**Wernitzgruen**	**0.04**	**291**	*i* Pg		**Pg**	**16 59 55.1**	**+0.1**
WERN				*i*			16 59 56.1	
WERN				*i* Sg		**Sg**	**16 59 56.4**	**-0.1**
WERN				IAML			16 59 56.7	
	comp=N,692nm,0.2s							
WERN	**Wernitzgruen**	**0.04**	**291**	*i* Pg		**Pg**	**16 59 55.1**	**+0.1**
WERN				*i* Sg		**Sg**	**16 59 56.4**	**-0.1**
	comp=N,692nm,0.2s							
POCW	**Potky**	**0.05**	**352**	⇓P		**Pg**	**16 59 55.2**	**+0.1**
POCW				S		**Sg**	**16 59 56.6**	**0.0**
STCW	**Studenec**	**0.05**	**104**	*i* Pg		**Pg**	**16 59 55.1**	**0.0**
STCW				*i* Sg		**Sg**	**16 59 56.4**	**-0.3**
STCW	**Studenec**	**0.05**	**104**	*i* Pg		**Pg**	**16 59 55.1**	**0.0**
STCW				*i* Sg		**Sg**	**16 59 56.4**	**-0.3**
STCW	**Studenec**	**0.05**	**104**	⇑P		**Pg**	**16 59 55.1**	**0.0**
STCW				S		**Sg**	**16 59 56.4**	**-0.3**
VAC	**Vackov**	**0.06**	**226**	*i* Pg		**Pg**	**16 59 55.1**	**0.0**
VAC				*i* Sg		**Sg**	**16 59 56.4**	**-0.2**
VAC	**Vackov**	**0.06**	**226**	⇓P		**Pg**	**16 59 55.1**	**0.0**
VAC				S		**Sg**	**16 59 56.4**	**-0.2**
KVC	**Kvetna**	**0.08**	**143**	*e*Pg		**Pg**	**16 59 55.4**	**0.0**
KVC				*i* Sg		**Sg**	**16 59 56.9**	**-0.2**
KVC	**Kvetna**	**0.08**	**143**	⇓P		**Pg**	**16 59 55.4**	**0.0**
KVC				S		**Sg**	**16 59 56.9**	**-0.2**
KRCW	**Kraslice**	**0.08**	**45**	⇑P		**Pg**	**16 59 55.4**	**0.0**
KRCW				S		**Sg**	**16 59 57.0**	**-0.2**
ROHR	**Rohrbach**	**0.09**	**244**	*i* Pg		**Pg**	**16 59 55.4**	**0.0**
ROHR				*i* Sg		**Sg**	**16 59 57.0**	**-0.3**
ROHR				IAML			16 59 57.1	
	comp=E,2μm,0.1s							
ROHR	**Rohrbach**	**0.09**	**244**	*i* Pg		**Pg**	**16 59 55.4**	**0.0**
ROHR				*i* Sg		**Sg**	**16 59 57.0**	**-0.3**
	comp=E,2μm,0.1s							
GUNZ	**Gunzen**	**0.11**	**323**	*i* Pg		**Pg**	**16 59 55.9**	**+0.1**
GUNZ				*i* Sg		**Sg**	**16 59 57.8**	**-0.1**
GUNZ				IAML			16 59 57.9	
	comp=E,279nm,0.2s							
GUNZ	**Gunzen**	**0.11**	**323**	*i* Pg		**Pg**	**16 59 55.9**	**+0.1**
GUNZ				*i* Sg		**Sg**	**16 59 57.8**	**-0.1**
	comp=E,279nm,0.2s							
SKC	**Skalna**	**0.11**	**206**	⇑P		**Pg**	**16 59 55.8**	**+0.1**
SKC				S		**Sg**	**16 59 57.7**	**-0.1**
KOCW	**Kopaniny**	**0.13**	**267**	⇓P		**Pg**	**16 59 56.1**	**+0.1**
KOCW				S		**Sg**	**16 59 58.1**	**-0.2**
MULD	**Muldenberg**	**0.14**	**351**	*i* Pg		**Pg**	**16 59 56.3**	**0.0**
MULD				*i* Sg		**Sg**	**16 59 58.3**	**-0.2**
MULD				IAML			16 59 58.5	
	comp=E,810nm,0.1s							
MULD	**Muldenberg**	**0.14**	**351**	*i* Pg		**Pg**	**16 59 56.3**	**0.0**
MULD				*i* Sg		**Sg**	**16 59 58.3**	**-0.2**
	comp=E,810nm,0.1s							
TANN	**Tannenbergstha**	**0.14**	**6**	*i* Pg		**Pg**	**16 59 56.3**	**0.0**
TANN				*i* Sg		**Sg**	**16 59 58.4**	**-0.3**
TANN				IAML			16 59 58.6	
	comp=N,996nm,0.1s							
TANN	**Tannenbergstha**	**0.14**	**6**	*i* Pg		**Pg**	**16 59 56.3**	**0.0**
TANN				*i* Sg		**Sg**	**16 59 58.4**	**-0.3**
	comp=N,996nm,0.1s							
TRCW	**Trojmez**	**0.19**	**280**	⇓P		**Pg**	**16 59 57.0**	**0.0**
TRCW				S		**Sg**	**16 59 59.7**	**-0.1**
WERD	**Werda**	**0.20**	**334**	*i* Pg		**Pg**	**16 59 57.1**	**+0.1**
WERD				*e*Sg		**Sg**	**16 59 59.8**	**-0.2**
WERD				IAML			16 59 59.9	
	comp=E,164nm,0.3s							
WERD	**Werda**	**0.20**	**334**	*i* Pg		**Pg**	**16 59 57.1**	**+0.1**
WERD				*e*Sg		**Sg**	**16 59 59.8**	**-0.2**
	comp=E,164nm,0.3s							
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg		**Pg**	**16 59 57.3**	**0.0**
TRIB				*i* Sg		**Sg**	**17 00 00.2**	**-0.2**
TRIB				IAML			17 00 00.4	
	comp=N,240nm,0.2s							
TRIB	**Obertriebel**	**0.21**	**293**	*i* Pg		**Pg**	**16 59 57.3**	**0.0**
TRIB				*i* Sg		**Sg**	**17 00 00.2**	**-0.2**
	comp=N,240nm,0.2s							
ZHC	**Zelena Hora**	**0.22**	**202**	⇑P		**Pg**	**16 59 57.5**	**+0.1**
VIEL	**Selb-Vielitz**	**0.23**	**248**	*e*Pg		**Pg**	**16 59 57.7**	**0.0**
VIEL				*e*Sg		**Sg**	**17 00 00.8**	**-0.2**
VIEL	**Selb-Vielitz**	**0.23**	**248**	*e*Pg		**Pg**	**16 59 57.7**	**0.0**
VIEL				*e*Sg		**Sg**	**17 00 00.8**	**-0.2**
LACW	**Lazy**	**0.25**	**151**	*i* Pg		**Pg**	**16 59 58.2**	**+0.1**
LACW				*i* Sg		**Sg**	**17 00 01.8**	**+0.2**
LACW	**Lazy**	**0.25**	**151**	*i* Pg		**Pg**	**16 59 58.2**	**+0.1**
LACW				*i* Sg		**Sg**	**17 00 01.8**	**+0.2**
LACW	**Lazy**	**0.25**	**151**	⇓P		**Pg**	**16 59 58.3**	**+0.1**
PLN	**Plauen**	**0.28**	**320**	*i* Pg		**Pg**	**16 59 58.6**	**0.0**
PLN				*e*Sg		**Sg**	**17 00 02.5**	**+0.1**
PLN				IAML			17 00 02.8	
	comp=E,128nm,0.2s							
PLN	**Plauen**	**0.28**	**320**	*i* Pg		**Pg**	**16 59 58.6**	**0.0**

PLN					*e*Sg		**Sg**	**17 00 02.5**	**+0.1**
	comp=E,128nm,0.2s									
MANZ	**Manzenberg**	**0.36**	**217**		*e*Pg		**Pg**	**16 59 59.9**	**-0.1**
MANZ					*e*Sg		**Sg**	**17 00 04.7**	**0.0**
SCHF	**Schoenfels**	**0.41**	**357**		*i* Pg		**Pg**	**17 00 00.9**	**0.0**
SCHF					*i* Sg		**Sg**	**17 00 06.4**	**+0.1**
SCHF					IAML			17 00 06.6	
	comp=E,160nm,0.1s									
SCHF	**Schoenfels**	**0.41**	**357**		*i* Pg		**Pg**	**17 00 00.9**	**0.0**
SCHF					*i* Sg		**Sg**	**17 00 06.4**	**+0.1**
	comp=E,160nm,0.1s									
GRZ1	**Mausoleum Wald**	**0.44**	**342**		*i* Pg		**Pg**	**17 00 01.5**	**-0.1**
GRZ1					*i* Sg		**Sg**	**17 00 07.2**	**-0.3**
GRZ1					IAML			17 00 09.6	
	comp=N,63nm,0.4s									
GRZ1	**Mausoleum Wald**	**0.44**	**342**		*i* Pg		**Pg**	**17 00 01.5**	**-0.1**
GRZ1					*i* Sg		**Sg**	**17 00 07.2**	**-0.3**
	comp=N,63nm,0.4s									
ROTZ	**Rotzenmuhle**	**0.53**	**197**		*e*Pg		**Pg**	**17 00 03.0**	**-0.2**
ROTZ					*e*Sg		**Sg**	**17 00 09.9**	**-0.2**
MOX	**Moxa**	**0.65**	**306**		*e*Pg		**Pg**	**17 00 05.3**	**-0.1**
MOX					*e*Sg		**Sg**	**17 00 13.9**	**+0.1**
HSKC	**Hora Svate Kat**	**0.72**	**62**		*e*PG		**Pg**	**17 00 06.5**	**-0.3**
HSKC					*e*SG		**Sg**	**17 00 15.9**	**-0.3**
	comp=N,30nm,0.2s									
FBE	**Freiberg**	**0.87**	**42**		*e*Pg		**Pg**	**17 00 09.7**	**0.0**
FBE					*e*Sg		**Sg**	**17 00 21.6**	**+0.5**
GRF	**Grafenberg Arr**	**0.98**	**234**		*e*Pg		**Pg**	**17 00 11.7**	**0.0**
GRF					*e*Sg		**Sb**	**17 00 25.3**	**+0.5**
RICC	**Richard**	**1.10**	**75**		*e*SG		**Sg**	**17 00 27.9**	**-0.3**
	comp=N,37nm,0.3s									
CLL	**Collm**	**1.10**	**19**		*i* Pg		**Pb**	**17 00 13.5**	**-0.4**
CLL					*i* x		x	17 00 15.6	
CLL					*i* x		x	17 00 17.2	
CLL					*i* Sg		**Sg**	**17 00 27.7**	**-0.5**
	comp=Z,16nm,0.7s									
CLL					*i* x		x	17 00 31.6		
CLL	**Collm**	**1.10**	**19**		*e*Pg		**Pb**	**17 00 13.6**	**-0.4**
CLL					*e*Sg		**Sg**	**17 00 27.8**	**-0.5**
BRG	**Berggiesshubel**	**1.13**	**57**		Pg		**Pb**	**17 00 14.3**	**-0.3**
BRG					Sg		**Sb**	**17 00 29.0**	**-0.3**
BRG					Amp			17 00 29.7	
	comp=Z,14nm,0.3s									
BRG	**Berggiesshubel**	**1.13**	**57**		*e*Pg		**Pb**	**17 00 14.3**	**-0.3**
BRG					*e*Sg		**Sb**	**17 00 29.1**	**-0.2**
WET	**Wettzell**	**1.17**	**166**		*e*Pg		**Pb**	**17 00 14.6**	**-0.5**
WET					*e*Sg		**Sb**	**17 00 30.2**	**0.0**
PRA	**Prague**	**1.30**	**98**		*e*SG		**Sb**	**17 00 33.4**	**-0.7**
KHC	**Kasperske Hory**	**1.36**	**147**		*e*PG		**Pn**	**17 00 17.5**	**-0.5**
KHC					*e*SG		**Sb**	**17 00 35.0**	**-0.9**
PRU	**Pruhonice**	**1.38**	**101**		*e*SG		**Sb**	**17 00 36.0**	**-0.5**
PRU	**Pruhonice**	**1.38**	**101**		*e*Pg		**Pb**	**17 00 18.9**	**0.0**
PRU					*e*Sg		**Sn**	**17 00 37.0**	**+0.5**
PVCC	**Panska Ves**	**1.39**	**79**		*e*SG		**Sn**	**17 00 37.1**	**+0.5**
	comp=Z,26nm,0.2s									
GOPC	**GO Pecny, Ondr**	**1.56**	**102**		*e*SG		**Sb**	**17 00 41.8**	**+0.3**
GEC2	**GERESS Array S**	**1.65**	**150**		*e*Pg		**Pb**	**17 00 23.2**	**-0.2**
GEC2					*e*Sg		**Sb**	**17 00 44.0**	**-0.3**
CKRC	**Cesky Krumlov**	**1.90**	**139**		*e*SG		**Sb**	**17 00 51.1**	**-0.2**
UPC	**Upice**	**2.30**	**83**		*e*SG		**Sb**	**17 01 04.6**	**+1.7**
	comp=Z,4.3nm,0.3s									
OSTC	**Ostas**	**2.43**	**82**		*e*SG		**Sg**	**17 01 09.1**	**-1.9**
	comp=Z,3.0nm,0.4s									
DPC	**Dobruska-Polom**	**2.49**	**87**		*e*SG		**Sb**	**17 01 10.2**	**+1.8**
	comp=Z,4.0nm,0.2s									
KRUC	**Moravsky**	**2.84**	**114**		*e*PN		**Pn**	**17 00 38.1**	**-0.2**
KRUC					*e*SG		**Sb**	**17 01 21.1**	**+2.6**
VRAC	**Vranov**	**2.86**	**108**		*e*PN		**Pn**	**17 00 38.8**	**+0.3**
VRAC					*e*SG		**Sb**	**17 01 21.3**	**+2.3**

PRU 12 17:00:19.5,51°59N×16°08E,h0km,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**1.00**	**181**	*e*PG	Pg	17 00 37.7	-1.0
CHVC				*e*SG	Sg	17 00 51.4	-0.3
OSTC	**Ostas**	**1.04**	**175**	*e*PG	Pg	17 00 38.1	-1.3
OSTC				*e*SG	Sg	17 00 52.6	-0.2
	comp=Z,2.9nm,0.3s						
UPC	**Upice**	**1.08**	**182**	*e*PG	Pg	17 00 39.2	-1.1
UPC				*e*SG	Sg	17 00 53.7	-0.6
	comp=Z,5.4nm,0.2s						
KRLC	**Kraliky**	**1.58**	**163**	*e*PG	Pn	17 00 47.3	-1.5
KRLC				*e*SG	Sn	17 01 09.2	-0.8

IDC 12 17:05:25.2±5.4,28°98N×142°11E,h0km,mb3.4/4,
mbtmp3.3/5,ML1.7/1,Error ellipse: s-maj=201.1km
s-min=30.5km az=74.0,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**8.22**	**337**	Pn	Pn	17 07 25.0	-0.8
	baz=153,slow=11,SNR=1.8						
	0.6nm,0.6s						
SONM	**Songino Array**	**33.33**	**314**	P	P	17 12 04.9	0.0
	0.2nm,0.4s,baz=98,slow=6.0,SNR=2.2						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**49.21**	**190**	P	P	17 14 15.1	-0.3
	0.5nm,0.9s,baz=10.0,slow=7.1,SNR=2.1						
	0.5nm,0.9s						
MKAR	**Makanchi Array**	**49.24**	**308**	P	P	17 14 16.1	+0.6
	0.3nm,0.8s,baz=94,slow=5.8,SNR=2.8						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**51.69**	**313**	P	P	17 14 33.4	-0.5
	0.4nm,0.9s,baz=89,slow=6.9,SNR=2.6						
	0.4nm,0.9s						

*TEH **12** 17:11:32.1,34°35N×45°69E,h8km±27km,ML3.3*
*ISN **12** 17:11:32.5±0.9,34°37N×45°67E,h22km±6km,ML3.1*
ISC 12 17:11:32.4±0.9,34°36N±0°03×45°68E±0°03,h12km±8km,
n19,σ1°02/26,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.16**	**333**	Pg	**Pg**	**17 11 35.9**	**-0.2**
KGS1				Sg	**Sg**	**17 11 39.5**	**+0.7**
GLG1	**Gilan-e-Gharb**	**0.31**	**142**	Pg	**Pg**	**17 11 38.5**	**-0.2**
IDHR	**Dehrash**	**0.68**	**60**	Pg	**Pg**	**17 11 45.0**	**-0.5**
IGHG	**Ghaleghazi**	**0.74**	**92**	Pg	**Pg**	**17 11 46.8**	**+0.1**
ILBA	**Ilam Banvizeh**	**0.85**	**149**	Pg	**Pb**	**17 11 48.3**	**-0.9**
KCHF	**Cheshme Sefid,**	**1.13**	**94**	Pg	**Pg**	**17 11 54.2**	**+0.1**
KCHF				Sg	**Sn**	**17 12 10.1**	**+0.3**
ILIN	**Lien**	**1.20**	**62**	Pg	**Pg**	**17 11 55.4**	**0.0**
ILIN				Sg	**Sg**	**17 12 13.0**	**+2.0**
IBDR	**Badra**	**1.26**	**170**	*e*Pg	**Pn**	**17 11 55.0**	**-0.9**
IBDR				*e*Sg	**Sg**	**17 12 13.0**	**-0.1**
IBDR				AML	AML	17 12 21.3	
	comp=E,370nm,0.5s						
IBDR				AML	AML	17 12 24.9	
	comp=N,331nm,0.7s						
IKRK	**Kirkuk**	**1.51**	**314**	*e*Pg	**Pb**	**17 12 00.0**	**-0.4**
IKRK				*e*Sg	**Sb**	**17 12 19.0**	**-0.6**
IKRK				AML	AML	17 12 28.1	
	comp=E,490nm,0.4s						
IKRK				AML	AML	17 12 30.5	
	comp=N,302nm,0.8s						
BHD	**Baghdad**	**1.53**	**225**	*e*Pg	**Pb**	**17 12 00.0**	**-0.7**
BHD				*e*Sg	**Sb**	**17 12 20.0**	**-0.1**
BHD				AML	AML	17 12 29.8	
	comp=E,273nm,0.9s						
SNQR	**Sonqor, Kerman**	**1.68**	**72**	Pg	**Pg**	**17 12 04.1**	**-0.6**
SDS1	**Sardasht. Az.**	**1.79**	**355**	Pn	**Pg**	**17 12 06.6**	**-0.2**
IBZA	**Bozab**	**1.81**	**86**	Pg	**Pg**	**17 12 06.4**	**-0.7**
IKFM	**Kafar-mosalman**	**1.98**	**114**	Pn	**Pb**	**17 12 08.0**	**-0.4**
IDOB	**Doab**	**2.15**	**105**	Pn	**Pb**	**17 12 11.1**	**-0.3**
HSAM	**Samen**	**2.42**	**93**	Pn	**Pb**	**17 12 14.5**	**-1.6**
RAFI	**Al-Rafai**	**2.66**	**172**	*e*Pn	**Pn**	**17 12 16.5**	**+1.5**
RAFI				*e*Sn	**Sn**	**17 12 48.0**	**+0.9**
BDRS	**Dareh Seyedi**	**2.69**	**98**	Pn	**Pn**	**17 12 17.1**	**+1.4**
HAGD	**Aghdareh**	**2.89**	**80**	Pn	**Pb**	**17 12 21.5**	**-2.6**

*NORS **12** 17:19:18.6,42°62N×45°84E,h7km,MPVA4.2*
MOS 12 17:19:19.1,42°69N×45°86E,h14km,MPVA4.1,Eastern
Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.27**	**95**	*e*Pg	Pb	17 19 26.4	+0.7
BTLR				*e*Sg	Sb	17 19 31.4	+1.2
DVE	**Vedeno**	**0.33**	**36**	*e*Pg	Pb	17 19 27.1	+0.3
DVE				*e*Sg	Sb	17 19 32.7	+0.6
XNZR	**Khunzakh**	**0.64**	**103**	*e*Pg	Pn	17 19 33.5	-0.5
XNZR				*e*Sg	Sn	17 19 43.5	-0.5
DLMR	**Dylym**	**0.68**	**56**	*e*Pg	Pn	17 19 34.3	-0.1
DLMR				*e*Sg	Sn	17 19 44.6	-0.3
UNCR	**Uncukul**	**0.69**	**88**	*e*Pg	Pn	17 19 34.5	0.0
UNCR				*e*Sg	Sn	17 19 44.9	-0.1
DBC	**Dubki**	**0.78**	**65**	*e*Pg	Pn	17 19 36.2	+0.4
DBC				*e*Sg	Sn	17 19 48.1	+0.7
ARKR	**Arakani**	**0.84**	**95**	*e*Pg	Pn	17 19 37.2	+0.6
ARKR				*e*Sg	Sn	17 19 50.8	+2.0
GNBR	**Gunib**	**0.87**	**110**	*e*Pg	Pn	17 19 37.8	+0.8
GNBR				*e*Sg	Sn	17 19 50.9	+1.4
BUJR	**Buynaksk**	**0.93**	**81**	*e*Pg	Pn	17 19 39.1	+1.4
BUJR				*e*Sg	Sn	17 19 53.0	+2.1
VLKR	**Vladikavkaz**	**0.94**	**293**	*e*Pg	Pn	17 19 38.6	+0.6
VLKR				*e*Sg	Sn	17 19 52.2	+0.8
KMKR	**Kumukh**	**1.07**	**121**	*e*Pg	Pn	17 19 41.4	+1.5
KMKR				*e*Sg	Sn	17 19 56.5	+1.8
BTKR	**Batakoyurt**	**1.19**	**306**	*e*Pg	Pg	17 19 44.0	+2.1
BTKR				*e*Sg	Sg	17 20 01.3	+3.9
ARNR	**Ardon**	**1.26**	**294**	*e*Pg	Pg	17 19 44.5	+1.1
ARNR				*e*Sg	Sg	17 20 01.8	+2.1
KANR	**Karaman**	**1.30**	**66**	*e*Pg	Pg	17 19 45.7	+1.6
TRKR	**Terskaya**	**1.32**	**322**	*e*Pg	Pg	17 19 45.8	+1.2
TRKR				*e*Sg	Sg	17 20 05.0	+3.2
SGKR	**Sergokala**	**1.34**	**99**	*e*Pg	Pg	17 19 46.2	+1.3
SGKR				*e*Sg	Sg	17 20 05.2	+2.8
KORR	**Kora**	**1.38**	**287**	*e*Pg	Pg	17 19 46.0	+0.4
KORR				*e*Sg	Sg	17 20 05.5	+2.0
URKR	**Urkarakh**	**1.41**	**111**	*e*Pg	Pg	17 19 47.5	+1.3
URKR				*e*Sg	Sg	17 20 07.4	+2.8
STDR	**Stavd-Durt**	**1.48**	**298**	*i* Pg	Pg	17 19 48.1	+0.5
STDR				*e*Sg	Sg	17 20 07.6	+0.7
PRTR	**Priterechnaya**	**1.57**	**313**	*e*Pg	Pg	17 19 49.5	+0.3
PRTR				*e*Sg	Sg	17 20 11.8	+2.2
LSNR	**Lesken**	**1.61**	**292**	*e*Pg	Pg	17 19 49.8	-0.1
LSNR				*e*Sg	Sg	17 20 12.6	+1.7
AKT	**Akhty**	**1.84**	**130**	*e*Pg	Pg	17 19 54.7	+0.3
AKT				*e*Sg	Sg	17 20 19.9	+1.6
NCK	**Nalchik**	**1.85**	**297**	*e*Pg	Pg	17 19 53.7	-0.8
NCK				*e*Sg	Sg	17 20 18.6	+0.1
DRN	**Derbent**	**1.94**	**109**	*i* Pg	Pg	17 19 55.6	-0.7
DRN				*e*Sg	Sg	17 20 23.8	+2.2
KBTC	**Kuba-Taba**	**2.12**	**303**	*e*Pg	Pb	17 19 57.4	0.0
KBTC				*e*Sg	Sb	17 20 25.1	+1.6
KBZ	**Khabaz**	**2.41**	**297**	*i* Pn	Pb	17 20 01.1	-1.1
KBZ				*e*Sn	Sb	17 20 30.4	-1.3
PYA1	**Pyatigorsk**	**2.44**	**305**	*e*Pn	Pn	17 19 59.9	+1.3
PYA1				*e*Sn	Sn	17 20 30.3	+2.0
SHA1	**Shidzhatmaz**	**2.57**	**295**	*e*Pn	Pn	17 20 02.5	+1.9
SHA1				*e*Sn	Sb	17 20 36.2	-0.5
BEYR	**Belyy Ugol+**	**2.59**	**302**	*e*Pn	Pn	17 20 02.5	+1.9
BEYR				*e*Sn	Sn	17 20 34.3	+2.5
KIV	**Kislovodsk**	**2.64**	**300**	*e*Pn	Pn	17 20 03.7	+2.3
KIV				*e*Sn	Sn	17 20 34.9	+1.6
GNI	**Garni**	**2.67**	**199**	*i* Pn	Pb	17 20 06.0	-0.9
GNI				*e*Sn	Sb	17 20 41.2	+1.7
ALER	**Alexandrovskoy**	**2.98**	**315**	*e*Pn	Pn	17 20 07.7	+1.7
ALER				*e*Sn	Sn	17 20 42.0	+0.4
GOF	**Gofitskoye**	**3.13**	**320**	*e*Pn	Pn	17 20 08.6	+0.6
GOF				*i* Sn	Sn	17 20 46.0	+0.9
GRYR	**Gornoye**	**3.76**	**294**	*i* Pn	Pn	17 20 20.7	+4.0
GRYR				*e*Sn	Sn	17 21 03.2	+2.4

*NEIC **12** 17:19:27.1±1.8,41°49N±0°03×127°0W±0°2,h8km±9km,*
ML3.0/54,Error ellipse: s-maj=20.8km s-min=1.4km
az=79.0
*IDC **12** 17:19:28.1±2.8,41°77N×126°92W,h0km,mb3.2/4,*
mbtmp3.2/7,ML3.5/3,MS3.3/9,Error ellipse: s-maj=48.7km
s-min=19.3km az=42.0
ISC 12 17:19:28.0±1.7,41°50N±0°07×127°0W±0°2,h11km,n52,
σ1°21/40,mb3.1/4,MS3.3/5,Off coast of northern
California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**2.20**	**70**	Pn	**Pn**	**17 20 03.1**	**-1.6**
KBO				IAML		17 20 58.2	
	comp=N,93nm,2.0s						
KBO				IAML		17 21 27.2	
	comp=E,84nm,1.8s						
KRPM	**Rodgers**	**2.28**	**98**	Pn	**Pn**	**17 20 04.8**	**-0.9**
KRPM				IAML		17 20 38.9	
	comp=E,117nm,2.0s						
KRPM				IAML		17 21 09.1	
	comp=N,132nm,3.5s						
KRMB	**Red Mountain**	**2.34**	**88**	Pn	**Pn**	**17 20 05.4**	**-1.1**
JCC	**Jacoby Creek,**	**2.36**	**106**	Pn	**Pn**	**17 20 05.4**	**-1.2**
JCC				IAML		17 20 51.6	
	comp=E,75nm,1.9s						
KSXB	**Camp Six Broad**	**2.38**	**81**		**Pn**	**17 20 05.7**	**-1.3**
KMPM	**Mount Pierce**	**2.45**	**115**		**Pn**	**17 20 06.8**	**-1.2**
KMPM				IAML		17 21 03.0	
	comp=E,76nm,2.4s						
KMPM				IAML		17 21 05.5	
	comp=N,69nm,2.6s						
KHMM	**Horse Mountain**	**2.56**	**103**	Pn	**Pn**	**17 20 08.7**	**-0.9**
KHMM				IAML		17 20 31.1	
	comp=E,48nm,3.8s						
KHMM				IAML		17 21 37.9	
	comp=N,47nm,5.0s						
L02F	**Cave Junction**	**2.65**	**75**	Pn	**Pn**	**17 20 10.1**	**-0.6**
K02D	**Willamette Mer**	**2.77**	**63**	Pn	**Pn**	**17 20 11.2**	**-1.2**
KMRM	**Mail Ridge**	**2.82**	**116**		**Pn**	**17 20 12.4**	**-0.7**
KMRM				IAML		17 20 50.3	
	comp=N,52nm,2.1s						
KMRM				IAML		17 21 20.4	
	comp=E,55nm,4.7s						
J01E	**Myrtle Point**	**2.83**	**53**	Pn	**Pn**	**17 20 11.4**	**-1.7**
J01E				IAML		17 20 45.0	
	comp=E,38nm,4.3s						
J01E				IAML		17 21 38.4	
	comp=N,38nm,4.3s						
KCPM	**Cahto Peak**	**3.18**	**124**	Pn	**Pn**	**17 20 16.7**	**-1.4**
KCPM				IAML		17 20 57.7	
	comp=N,46nm,1.6s						
HUMO	**Hull Mountain**	**3.22**	**69**		**Pn**	**17 20 17.0**	**-1.5**
DBO	**Dodson Butte**	**3.23**	**59**	Pn	**Pn**	**17 20 17.8**	**-1.0**
DBO				IAML		17 21 31.0	
	comp=N,26nm,2.7s						
DBO				IAML		17 22 13.2	
	comp=E,28nm,3.9s						
YBH	**Yreka Blue Hor**	**3.24**	**85**		**Pn**	**17 20 19.5**	**+0.6**
YBH	**Yreka Blue Hor**	**3.24**	**85**	Pn	**Pn**	**17 20 19.6**	**+0.6**
	comp=E,1.7nm,0.3s,baz=276,slow=13,SNR=42						
YBH				LR	LR	17 21 22.9	
	comp=E,176nm,20.1s,baz=234,slow=36						
	comp=E,21nm,0.8s						
I03D	**Drain, OR**	**3.49**	**50**	Pn	**Pn**	**17 20 20.9**	**-1.3**
I03D				IAML		17 21 14.5	
	comp=N,23nm,4.9s						
I03D				IAML		17 21 54.5	
	comp=E,23nm,4.0s						
L04D	**Klamath Falls**	**3.59**	**77**		**Pn**	**17 20 24.3**	**+0.5**
L04D				IAML		17 21 44.2	
	comp=E,34nm,4.0s						
L04D				IAML		17 21 51.1	
	comp=N,28nm,4.8s						
HOPS	**Hopland Field**	**3.92**	**128**	Pn	**Pn**	**17 20 27.5**	**-0.7**
BUCK	**Buck Mountain**	**4.01**	**46**	Pn	**Pn**	**17 20 29.8**	**+0.4**
I04A	**Tendick Farm,**	**4.10**	**54**		**Pn**	**17 20 29.5**	**-1.1**
I04A				IAML		17 21 14.7	
	comp=N,14nm,4.7s						
I04A				IAML		17 21 46.0	
	comp=E,17nm,3.6s						
COR	**Corvallis**	**4.11**	**40**	Pn	**Pn**	**17 20 30.7**	**0.0**
H04D	**Lebanon**	**4.36**	**45**	Pn	**Pn**	**17 20 33.3**	**-0.9**
K05A	**Summer Lake**	**4.72**	**73**	Pn	**Pn**	**17 20 38.1**	**-1.2**
H04A	**Detroit Lake**	**4.76**	**46**	Pn	**Pn**	**17 20 39.7**	**0.0**
H04A				IAML		17 21 20.7	
	comp=N,15nm,0.1s						
H04A				IAML		17 22 03.0	
	comp=E,15nm,3.7s						
F03A	**Seaside**	**5.09**	**28**	Pn	**Pn**	**17 20 45.6**	**+1.5**
AFDM	**Forest Hills D**	**5.29**	**117**	Pn	**Pn**	**17 20 47.4**	**+0.5**
AFDM				IAML		17 21 40.0	
	comp=E,7.6nm,4.9s						
AFDM				IAML		17 22 49.3	
	comp=N,8.2nm,4.1s						
HOOD	**Mount Hood Mea**	**5.46**	**44**	Pn	**Pn**	**17 20 51.1**	**+1.6**

PNTR	**Pine Nut**	**6.16**	**111**		Pn		**Pn**	**17 20 58.7**	**-0.5**
WVOR	**Wild Horse Val**	**6.32**	**79**		Pn		**Pn**	**17 21 01.4**	**+0.2**
SAO	**San Andreas Ge**	**6.41**	**136**		Pn		**Pn**	**17 21 02.2**	**-0.2**
LON	**Longmire**	**6.45**	**34**				**Pn**	**17 21 03.3**	**+0.4**
YERR	**Yerington**	**6.46**	**110**		Pn		**Pn**	**17 21 01.3**	**-1.9**
B04A	**Port Angeles**	**7.01**	**20**		Pn		**Pn**	**17 21 09.7**	**-1.0**
KVN	**Kaiserville**	**7.25**	**107**		Pn		**Pn**	**17 21 14.3**	**+0.3**
NVAR	**Mina Array Bea**	**7.36**	**112**		Pn		**Pn**	**17 21 18.6**	**+3.0**
	comp=N,0.4nm,0.3s,baz=290,slow=13,SNR=5.2									
NVAR					LR		LR	17 24 25.6		
	comp=N,263nm,19.5s,baz=286,slow=40									
	comp=N,0.5nm,0.2s									
PDAR	**Pinedale Array**	**13.03**	**79**		Pn		Pn	17 22 37.6	+4.4	
	comp=N,0.1nm,0.3s,baz=269,slow=17,SNR=2.2									
PDAR					LR		LR	17 27 59.8		
	comp=N,88nm,19.0s,baz=267,slow=40									
	comp=N,0.2nm,0.4s									
ANMO	**Albuquerque**	**17.41**	**105**		LR		LR	17 31 09.4		
	comp=N,72nm,19.3s,baz=1.5,slow=40									
LPIG	**La Paz**	**22.26**	**136**		LR		LR	17 31 58.4		
	comp=N,97nm,19.9s,baz=208,slow=34									
YKA	**Yellowknife Ar**	**22.29**	**15**		P		**P**	**17 24 23.8**	**-1.2**	
	comp=N,0.6nm,1.0s,baz=207,slow=9.6,SNR=4.6									
	comp=N,0.6nm,1.0s									
TXAR	**Lajitas Array**	**22.50**	**115**		P		**P**	**17 24 30.2**	**+2.5**	
	comp=N,0.2nm,0.4s,baz=294,slow=11,SNR=2.2									
	comp=N,0.2nm,0.4s									
ULM	**Lac du Bonnet**	**23.24**	**57**		P		**P**	**17 24 35.0**	**-0.1**	
	comp=N,0.9nm,0.2s,baz=252,slow=9.6,SNR=3.2									
	comp=N,0.9nm,0.2s									
ILAR	**Eielson Array**	**25.95**	**341**		P		**P**	**17 24 59.6**	**-0.5**	
	comp=N,0.4nm,0.9s,baz=164,slow=9.4,SNR=4.4									
ILAR					LR		LR	17 33 17.0		
	comp=N,87nm,18.8s,baz=232,slow=32									
	comp=N,0.4nm,0.9s									
CMIG	**Matias Romero**	**36.76**	**122**		LR		LR	17 43 31.7		
	comp=N,65nm,18.6s,baz=14,slow=39									
JTS	**Las Juntas de**	**48.25**	**118**		LR		LR	17 52 33.3		
	comp=N,24nm,18.2s,baz=273,slow=41									
SEY	**Seymchan**	**49.97**	**324**		LR		LR	17 47 35.1		
	comp=N,40nm,21.0s,baz=336,slow=34									
H11N3	**WAKE ISLAND Hy**	**59.44**	**270**		T		T	18 33 42.6		
	baz=53,slow=75,SNR=49									
H11N2	**WAKE ISLAND Hy**	**59.44**	**270**		T		T	18 33 42.8		
	baz=53,slow=75,SNR=39									
H11N1	**WAKE ISLAND Hy**	**59.46**	**270**		T		T	18 33 43.9		
	baz=53,slow=75,SNR=43									
H11S1	**WAKE ISLAND Hy**	**60.33**	**269**		T		T	18 34 45.1		
	baz=52,slow=75,SNR=100									
H11S2	**WAKE ISLAND Hy**	**60.34**	**269**		T		T	18 34 45.6		
	baz=52,slow=75,SNR=59									
H11S3	**WAKE ISLAND Hy**	**60.35**	**269**		T		T	18 34 46.4		
	baz=52,slow=75,SNR=47									

*MDD **12** 17:21:36.8±0.3,39°66N×1°12W,h11km,mb_Lg2.3/8,*
Error ellipse: s-maj=2.6km s-min=2.3km az=15.0
*SFS **12** 17:21:37.2,39°60N×1°00W,h14km,ML2.1/7,ML2.7/7,*
MLv1.9/7
ISC 12 17:21:35.4±0.9,39°71N±0°03×1°08W±0°03,h13km±6km,
n17,σ1°39/32,Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHE	**Chera**	**0.14**	**144**	Pg	**Pg**	**17 21 38.9**	**-0.1**
ECHE				Sg	**Sg**	**17 21 40.8**	**-0.8**
ECHE	**Chera**	**0.14**	**144**	Pg	**Pg**	**17 21 38.9**	**-0.1**
ECHE				Sg	**Sg**	**17 21 40.9**	**-0.6**
ECHE				*i* Vmb_Lg		17 21 42.5	
EVIV	**Cofrentes, Val**	**0.44**	**184**	Pg	**Pg**	**17 21 43.8**	**-0.3**
EVIV				Sg	**Sg**	**17 21 50.1**	**+0.1**
EVIV				*i* Vmb_Lg		17 21 53.5	
EMOS	**Mosqueruela**	**0.81**	**35**	Pg	**Pn**	**17 21 52.6**	**0.0**
EMOS				Sg	**Sn**	**17 22 04.1**	**-0.5**
EMOS				*i* Vmb_Lg		17 22 07.4	
AFON	**Font Roja**	**1.12**	**158**	Pg	**Pn**	**17 21 57.4**	**+0.5**
AFON				Sg	**Sb**	**17 22 12.7**	**+1.5**
ETOB	**Tobarra**	**1.12**	**199**	Pg	**Pg**	**17 21 55.8**	**-1.2**
ETOB				Sg	**Sg**	**17 22 10.5**	**-1.1**
ETOB	**Tobarra**	**1.12**	**199**	Pg	**Pg**	**17 21 55.9**	**-1.1**
ETOB				Sg	**Sg**

NDT				*i* S		Sb	17 28 08.5	-0.7
	baz=326							
ENTT	**Nioudou**	**0.41**	**335**	*i* P		Pg	17 28 02.5	+0.6
	baz=335							
ENTT				*i* S		Sg	17 28 08.2	+0.8
	baz=335							
TWE	**Neicheng**	**0.46**	**350**	P		Pg	17 28 03.1	+0.3
	baz=351							
TWE				*e*S		Sg	17 28 08.6	-0.3
	baz=351							
WHF	**Hehuan Shan**	**0.47**	**255**	*i* P		Pg	17 28 03.4	+0.4
	baz=255							
WHF				S		Sg	17 28 08.9	-0.3
	baz=255							
FUSS	**Fushou**	**0.47**	**268**	*i* P		Pg	17 28 03.6	+0.5
	baz=268							
FUSS				*i* S		Sg	17 28 09.8	+0.5
	baz=268							
FUSB	**Fushanzhiwuyua**	**0.52**	**343**	*e*P		Pb	17 28 04.5	-0.5
	baz=342							
FUSB				*e*S		Sg	17 28 11.6	+0.9
	baz=342							
YHNB	**Yeheng**	**0.53**	**319**	*i* P		Pb	17 28 05.0	-0.2
	baz=319							
YHNB				S		Sb	17 28 12.3	-0.7
	baz=319							
ESL	**Shilin**	**0.54**	**213**	*i* P		Pg	17 28 04.0	-0.3
	baz=221							
ESL				S		Sb	17 28 12.6	-0.5
	baz=221							
NSK	**Sanguang**	**0.55**	**318**	*i* P		Pg	17 28 04.6	+0.1
	baz=319							
NSK				*i* S		Sg	17 28 11.9	+0.2
	baz=319							
NWLT	**Wulai**	**0.56**	**336**	P		Pb	17 28 05.4	-0.3
	baz=335							
NWLT				*i* S		Sg	17 28 12.6	+0.5
	baz=335							
CHGB	**Renai**	**0.57**	**249**	P		Pg	17 28 05.4	+0.4
	baz=241							
CHGB				S		Sb	17 28 14.0	-0.2
	baz=241							
WARBT	**Fenglin Townsh**	**0.64**	**212**	*i* P		Pg	17 28 06.0	-0.2
	baz=219							
WARBT				S		Sb	17 28 15.9	-0.1
	baz=219							
WUSB	**Renai**	**0.65**	**245**	P		Pb	17 28 06.9	-0.2
	baz=238							
WUSB				*e*S		Sb	17 28 16.3	+0.1
	baz=238							
WHP	**Taichung City**	**0.74**	**271**	*e*P		Pb	17 28 09.5	+0.7
	baz=271							
WHP				*i* S		Sb	17 28 19.6	+0.6
	baz=271							
VWDT	**VWDT**	**0.76**	**228**	*e*P		Pg	17 28 08.7	+0.2
	baz=228							
VWDT				*e*S		Sg	17 28 18.6	+0.1
	baz=228							

JMA 12 17:28:10.0±0.2, 24°.2N±0°.7×122°.8E±1°.0, h26km, MV1.4/9, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYNG	**Yonagunijimaku**	**0.27**	**35**	P	Pb	17 28 16.6	-0.1
YOJ	**Yonaguni jima**	**0.32**	**43**	*e*S	Sb	17 28 22.4	0.0
IRIF	**Iriomote-Funau**	**0.88**	**83**	*e*P	Pb	17 28 26.3	-0.3
HATJ	**Hateruma jima**	**0.96**	**100**	*e*P	Pn	17 28 27.1	-0.6
JKRS	**Kuro-shima**	**1.13**	**89**	*e*P	Pb	17 28 30.7	-0.1
JKRS				*e*S	Sb	17 28 46.0	+0.9
JIJ	**Ishigaki jima**	**1.26**	**84**	*e*P	Pn	17 28 32.0	+0.1
JIJ				S	Sb	17 28 49.1	+0.2
JISG	**Ishigakijimahi**	**1.45**	**75**	*e*P	Pn	17 28 34.5	0.0

*RSNC **12** 17:49:48.8±1.7, 2°.S±16°.7×78°.8W±1°.3, h190km±21km, M3.9, mb4.3, mB4.7, ML3.4, Mw(mB)3.9*
*IDC **12** 17:49:59.2±3.4, 1°.38S×77°.93W, h146km±33km, mb3.4/7, mbtmp3.9/9, Error ellipse: s-maj=41.8km s-min=19.2km az=58.0*
ISC 12 17:50:00.0±0.7, 1°.65S±0°.08×78°.01W±0°.10, h150km, n25, σ1§43/24, mb3.5/7, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CUSE	**Cuicocha Este**	**1.98**	**349**	P	**Pn**	**17 50 35.0**	**-0.4**
CUSE				S	Sn	17 51 16.6	+14
PAC1	**Pacto, Paraso**	**2.05**	**338**	P	**Pn**	**17 50 36.4**	**+0.4**
PAC1				S	**Sn**	**17 51 05.9**	**+2.3**
TULM	**Tulcn-Chalpat**	**2.35**	**5**	P	**Pn**	**17 50 41.7**	**+1.8**
CMBC	**Cumbal**	**2.58**	**4**	P	**Pn**	**17 50 44.4**	**+1.8**
GCUF	**Volcan Galeras**	**2.93**	**13**	P	**Pn**	**17 50 48.2**	**+1.2**
CRUC	**La Cruz**	**3.36**	**18**	P	**Pn**	**17 50 54.5**	**+2.1**
PTLC	**Puerto Leguiza**	**3.68**	**61**	P	**Pn**	**17 50 55.7**	**-0.5**
POPC	**Popayan, Colom**	**4.37**	**18**	P	**Pn**	**17 51 05.6**	**+0.2**
	11nm,0.6s						
GARC	**Garzon, Huila**	**4.56**	**33**	P	**Pn**	**17 51 09.0**	**+1.0**
	86nm,0.4s,1μm						
ATAH	**Atahualpa**	**5.47**	**184**	P	**Pn**	**17 51 22.4**	**+2.3**
	9.6nm,0.4s,baz=1.1,slow=9.9,SNR=11						
ATAH				S	Sn	17 52 16.6	-5.9
	16nm,0.6s,baz=343,slow=6.0,SNR=4.2						
MACC	**Macarena, Meta**	**5.61**	**48**	P	**Pn**	**17 51 22.3**	**+0.7**
LPAZ	**La Paz**	**17.50**	**147**	P	**P**	**17 53 56.6**	**+2.0**
	2.0nm,0.6s,baz=339,slow=12,SNR=8.8						
BDFB	**Brasilia**	**32.68**	**117**	P	**P**	**17 56 18.9**	**+0.4**
	2.1nm,0.4s,baz=269,slow=4.1,SNR=4.5						
	2.1nm,0.4s						
TXAR	**Lajitas Array**	**39.39**	**323**	P	**P**	**17 57 14.5**	**-0.8**
	0.2nm,0.7s,baz=134,slow=6.4,SNR=2.7						
	0.2nm,0.7s						
ULM	**Lac du Bonnet**	**53.92**	**346**	P	P	17 59 05.0	-2.9
	2.1nm,0.6s,baz=157,slow=8.2,SNR=4.4						
	2.1nm,0.6s						
YKA	**Yellowknife Ar**	**69.67**	**343**	P	P	18 00 51.0	-2.1
	0.4nm,0.7s,baz=138,slow=5.2,SNR=6.8						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**82.61**	**336**	P	**P**	**18 02 05.2**	**-1.0**
	0.4nm,0.6s,baz=142,slow=4.1,SNR=7.9						
	0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**82.77**	**34**	P	**P**	**18 02 05.6**	**-1.6**
	0.4nm,0.5s,baz=259,slow=4.0,SNR=4.0						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**88.42**	**180**	P	**P**	**18 02 35.8**	**+0.8**
	2.0nm,0.9s,baz=188,slow=1.6,SNR=6.5						
	2.0nm,0.9s						
ZALV	**Zalesovo Beam**	**125.98**	**12**	PKhKP	PKPpre	18 08 30.2	
	0.4nm,0.4s,baz=8.1,slow=2.1,SNR=3.8						
ZALV				PKP	**PKPdf**	**18 08 43.9**	**-0.4**
	0.4nm,0.4s,baz=318,slow=2.9,SNR=2.8						
KURBB	**Kurchatov Arra**	**127.31**	**19**	PKhKP	PKPpre	18 08 38.0	
	1.1nm,0.7s,baz=347,slow=2.4,SNR=20						
KURBB				PKP	**PKPdf**	**18 08 44.2**	**-2.7**
	0.8nm,0.7s,baz=334,slow=2.1,SNR=9.4						
MKAR	**Makanchi Array**	**131.86**	**18**	PKP	**PKPdf**	**18 08 55.1**	**-0.7**
	0.1nm,0.4s,baz=289,slow=4.6,SNR=4.3						
KSRS	**Korea Array**	**137.11**	**329**	PKP	**PKPdf**	**18 09 05.9**	**+0.1**
	0.6nm,0.8s,baz=57,slow=3.5,SNR=1.8						
ASAR	**Alice Springs**	**140.05**	**229**	PKhKP	PKPpre	18 09 03.1	
	0.3nm,0.8s,baz=124,slow=3.9,SNR=2.0						
ASAR				PKP	**PKPdf**	**18 09 11.2**	**-0.5**
	0.4nm,0.7s,baz=96,slow=3.2,SNR=5.1						
WRA	**Warramunga Arr**	**141.70**	**234**	PKP	**PKPdf**	**18 09 13.7**	**-1.0**
	0.5nm,0.7s,baz=121,slow=1.9,SNR=2.4						

*NEIC **12** 17:51:03.2±1.3, 19°.40N±0°.02×154°.99W±0°.02, h5km±1km, Error ellipse: s-maj=4.8km s-min=2.6km az=326.0*
HVO 12 17:51:02.6±1.4, 19°.40N±0°.03×154°.96W±0°.01, h3km±6km, Md2.0/9, ML2.8/32(NEIC), Error ellipse: s-maj=4.3km s-min=1.1km az=165.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.05**	**315**		Pg	17 51 04.3	+0.4
PAH	**Pahoa**	**0.10**	**9**		Pg	17 51 07.0	+2.4
PHO	**Puu Honuaula**	**0.11**	**39**		Pg	17 51 07.8	+2.9
JCUZ	**Jacuzzi**	**0.13**	**265**		Pg	17 51 05.3	+0.1
JCUZ				Sg	Sg	17 51 07.5	+0.6
NPOC	**North of Pu'u**	**0.14**	**269**		Pg	17 51 05.5	+0.1
NPOC					Sg	17 51 07.6	+0.4
NPOC				IAML		17 51 09.0	
	comp=E,2μm,0.8s						
STCH	**Steam Cracks**	**0.15**	**266**		Pg	17 51 05.7	0.0
STCH				IAML		17 51 07.7	
	comp=N,1μm,1.0s						
STCH					Sg	17 51 07.9	+0.3
STCH				IAML		17 51 08.3	
	comp=E,2μm,0.2s						
PUH	**Pauahi**	**0.24**	**265**		Pg	17 51 07.1	-0.2
PUH				IAML		17 51 09.6	
	comp=N,3μm,0.9s						
PUH					Sg	17 51 10.3	-0.2
PUH				IAML		17 51 13.1	
	comp=E,2μm,0.9s						
RSD	**Rainshed**	**0.30**	**283**		Pg	17 51 08.6	+0.1
RSD				IAML		17 51 17.0	
	comp=N,2μm,0.8s						
HLP	**Hilina Pali**	**0.34**	**253**		Pg	17 51 09.6	+0.4
HLP				Sg	Sg	17 51 14.5	+0.9
MLH	**Mauna Loa**	**0.41**	**284**		Pg	17 51 10.7	+0.1
MLH	**Mauna Loa**	**0.41**	**284**	Sg	Sg	17 51 16.4	+0.4
MLH				IAML		17 51 16.9	
	comp=E,1μm,1.0s						
MLH				IAML		17 51 21.8	
	comp=N,1μm,0.9s						
HTC	**Hot Caves**	**0.44**	**249**		Pg	17 51 11.2	+0.1
HMH	**Humu'ula Sheep**	**0.53**	**293**		Pg	17 51 12.7	-0.2
HMH				Sg	Sg	17 51 20.0	+0.2
HMH				IAML		17 51 20.6	
	comp=E,753nm,1.0s						
MLOA	**Mauna Loa Obse**	**0.59**	**284**		Sg	17 51 21.3	-0.5
MLOA				IAML		17 51 24.4	
	comp=E,753nm,0.9s						
MLOA				IAML		17 51 27.6	
	comp=N,691nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.59**	**284**		Pg	17 51 13.4	-0.7
MWH	**Moku'aweowe**	**0.60**	**279**		Pg	17 51 13.4	-0.9
MWH	**Moku'aweowe**	**0.60**	**279**	IAML		17 51 17.4	
	comp=E,2μm,0.9s						
MWH				IAML		17 51 29.8	
	comp=N,1μm,1.1s						
KHU	**Kahuku**	**0.63**	**256**		Pg	17 51 14.0	-0.8
KHU				IAML		17 51 24.3	
	comp=N,737nm,1.6s						
KHU				IAML		17 51 31.0	
	comp=E,631nm,1.6s						
POHA	**Pohakuloa**	**0.65**	**304**	Pg	Pg	17 51 14.0	-1.1
POHA				IAML		17 51 37.7	
	comp=E,593nm,0.9s						
POHA				IAML		17 51 38.3	
	comp=E,415nm,0.6s						
ALEP	**Alea Permanent**	**0.66**	**283**		Pg	17 51 14.3	-1.0
ALEP					Sg	17 51 23.9	0.0
HUH	**Hualalai**	**0.87**	**289**	Pg	Pg	17 51 18.1	-1.3
HPAH	**Hawaii Prepara**	**0.94**	**313**	Pg	Pg	17 51 17.4	-3.2
HPAH				IAML		17 51 42.2	
	comp=E,145nm,1.7s						
MHA	**Mahukona**	**1.18**	**312**	Pg	Pg	17 51 21.5	-3.9
HLK	**Haleakala**	**1.81**	**319**	Pn	Pn	17 51 29.8	-5.2

*IDC **12** 17:57:55.4±4.2, 6°.36S×147°.24E, h122km±49km, mb3.1/4, mbtmp3.4/6, MS3.1/1, Error ellipse: s-maj=53.5km s-min=33.9km az=129.0*
ISC 12 17:57:53.9±1.3, 6°.24S±0°.10×147°.1E±0°.3, h100km, n6, σ1§65/7, mb3.5/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.15**	**179**	P	**Pn**	**17 58 41.6**	**0.0**
	14nm,0.6s,baz=338,slow=10.0,SNR=13						
PMG				S	**Sn**	**17 59 19.4**	**+0.9**
	41nm,0.7s,baz=36,slow=14,SNR=2.1						
PMG				LR	LR	18 00 15.7	
	comp=Z,288nm,18.4s,baz=18,slow=46						
WRA	**Warramunga Arr**	**18.41**	**221**	P	**P**	**18 01 59.5**	**-1.9**
	0.5nm,0.7s,baz=46,slow=12,SNR=2.3						
ASAR	**Alice Springs**	**21.47**	**215**	P	**P**	**18 02 34.6**	**+0.1**
	0.5nm,0.9s,baz=53,slow=9.1,SNR=5.8						
	0.5nm,0.9s						
CMAR	**Chiang Mai Arr**	**53.44**	**298**	P	**P**	**18 07 03.8**	**-0.3**
	0.7nm,0.9s,baz=104,slow=6.6,SNR=2.3						
	0.7nm,0.9s						
SONM	**Songino Array**	**64.66**	**331**	P	**P**	**18 08 23.3**	**+2.1**
	0.3nm,0.5s,baz=134,slow=8.3,SNR=1.8						
	0.3nm,0.5s						
ILAR	**Eielson Array**	**85.67**	**23**	P	**P**	**18 10 19.8**	**-1.4**
	0.3nm,0.6s,baz=241,slow=6.1,SNR=5.0						
	0.3nm,0.6s						

*NEIC **12** 18:02:10.6±1.0, 19°.37N±0°.02×155°.11W±0°.01, h5km±1km, Error ellipse: s-maj=3.4km s-min=2.9km az=155.0*
HVO 12 18:02:10.1±0.8, 19°.34N±0°.02×155°.09W±0°.01, h4km±5km, Md2.1/12, ML2.8/32(NEIC), Error ellipse: s-maj=3.3km s-min=1.1km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.04**	**344**		Pg	18 02 11.6	+0.4
JCUZ				Sg	Sg	18 02 12.9	+0.9
NPOC	**North of Pu'u**	**0.05**	**339**		Pg	18 02 11.7	+0.3
NPOC				Sg	Sg	18 02 13.2	+0.9
NPOC				IAML		18 02 13.4	
	comp=N,4μm,0.6s						
STCH	**Steam Cracks**	**0.05**	**321**		Pg	18 02 11.8	+0.4
STCH				Sg	Sg	18 02 13.1	+0.8
STCH				IAML		18 02 13.3	
	comp=N,5μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.08**	**296**		Pg	18 02 12.2	+0.3
JOKA	**Jonika Flow**	**0.12**	**42**		Pg	18 02 12.8	+0.2
PUH	**Pauahi**	**0.12**	**284**		Pg	18 02 12.7	+0.1
PUH				IAML		18 02 16.5	
	comp=N,3μm,1.2s						
HLP	**Hilina Pali**	**0.21**	**257**		Pg	18 02 14.3	+0.1
HLP				Sg	Sg	18 02 18.1	+1.0
HLP				IAML		18 02 20.5	
	comp=N,3μm,2.0s						
RSD	**Rainshed**	**0.21**	**304**	Pg	Pg	18 02 14.9	+0.5
RSD				IAML		18 02 14.9	
	comp=E,3μm,1.3s						
RSD				IAML		18 02 16.5	
	comp=N,2μm,1.2s						
HTC	**Hot Caves**	**0.31**	**250**		Pg	18 02 16.5	+0.4
MLH	**Mauna Loa**	**0.32**	**298**		Pg	18 02 16.4	+0.1
MLH				Sg	Sg	18 02 21.3	+0.8
MLH				IAML		18 02 27.0	
	comp=E,1μm,0.9s						
HMH	**Humu'ula Sheep**	**0.45**	**305**		Sg	18 02 25.7	+0.9
HMH	**Humu'ula Sheep**	**0.45**	**305**		Pg	18 02 18.6	-0.3
HMH	**Humu'ula Sheep**	**0.45**	**305**	IAML		18 02 26.2	
	comp=N,2μm,0.8s						
HMH				IAML		18 02 26.3	
	comp=E,1μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.50**	**293**	Pg	Pg	18 02 19.3	-0.4
MLOA				IAML		18 02 22.7	
	comp=N,649nm,1.4s						
MLOA				IAML		18 02 24.9	
	comp=E,783nm,1.1s						
MLOA					Sg	18 02 26.4	+0.1
MWH	**Moku'aweowe**	**0.50**	**286**	Pg	Pg	18 02 19.4	-0.4
KHU	**Kahuku**	**0.51**	**259**		Pg	18 02 19.5	-0.4
KHU				Sg	Sg	18 02 26.8	+0.3
KHU				IAML		18 02 35.8	
	comp=N,698nm,1.2s						
KHU				IAML		18 02 36.5	
	comp=E,847nm,1.2s						
ALEP	**Alea Permanent**	**0.56**	**291**		Pg	18 02 20.1	-0.8
ALEP					Sg	18 02 28.6	+0.4
POHA	**Pohakuloa**	**0.59**	**315**	Pg	Pg	18 02 20.7	-0.7
POHA				Sg	Sg	18 02 28.5	-0.6
POHA				IAML		18 02 33.4	
	comp=E,731nm,0.9s						
POHA				IAML		18 02 37.3	
	comp=E,626nm,1.4s						
HUH	**Hualalai**	**0.78**	**296**	Pg	Pg	18 02 24.2	-0.9
HPAH	**Hawaii Prepara**	**0.89**	**320**	Pg	Pg	18 02 27.4	+0.1
HPAH				IAML		18 02 51.6	
	comp=E,199nm,1.7s						
MHA	**Mahukona**	**1.14**	**318**	Pg	Pg	18 02 29.9	-2.0
HLK	**Haleakala**	**1.78**	**322**	Pn	Pn	18 02 39.7	-2.2

*NEIC **12** 18:06:46.9±0.8, 19°.34N±0°.02×154°.99W±0°.02, h8km±1km, Error ellipse: s-maj=4.1km s-min=1.4km az=147.0*
HVO 12 18:06:47.1±1.4, 19°.37N±0°.02×154°.97W±0°.02, h6km±3km, ML3.2/12, MLH3.3/31(NEIC), Error ellipse: s-maj=3.5km s-min=1.3km az=144.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.07**	**332**		Pg	18 06 49.0	+0.1
JCUZ	**Jacuzzi**	**0.13**	**276**		Pg	18 06 49.6	-0.2
JCUZ				Sg	Sg	18 06 51.2	-0.5
JCUZ				IAML		18 06 54.2	
	comp=N,9μm,0.3s						
JCUZ				IAML		18 06 54.7	
	comp=E,9μm,0.1s						
PAH	**Pahoa**	**0.13**	**9**		Pg	18 06 51.8	+2.0
PHO	**Puu Honuaula**	**0.13**	**34**		Pg	18 06 50.4	+0.5
PHO					Sg	18 06 53.4	+1.6
PHO	**Puu Honuaula**	**0.13**	**34**		Pg	18 06 50.4	+0.5
NPOC	**North of Pu'u**	**0.14**	**280**		Pg	18 06 49.8	-0.2
NPOC				Sg	Sg	18 06 51.7	-0.1
NPOC				IAML		18 06 54.8	
	comp=N,15μm,0.2s						
STCH	**Steam Cracks**	**0.15**	**276**		Pg	18 06 49.9	-0.2
STCH				IAML		18 06 55.1	
	comp=E,12μm,0.6s						
STCH				IAML		18 06 55.6	
	comp=N,12μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.19**	**273**		Pg	18 06 52.0	+1.1
PUH	**Pauahi**	**0.23**	**271**		Sg	18 06 54.3	-0.6
PUH				IAML		18 06 57.0	
	comp=N,5μm,0.9s						
PUH	**Pauahi**	**0.23**	**271**		Pg	18 06 51.3	-0.4
RSD	**Rainshed**	**0.31**	**288**		Pg	18 06 52.7	-0.4
RSD				Sg	Sg	18 06 56.8	-0.4
RSD				IAML		18 07 00.4	
	comp=N,3μm,0.6s						
HLP	**Hilina Pali**	**0.33**	**257**		Pg	18 06 53.2	-0.3
HLP					Sg	18 06 58.0	+0.1
HLP				IAML		18 07 03.0	
	comp=E,5μm,0.6s						
MLH	**Mauna Loa**	**0.41**	**287**		Sg	18 07 00.7	+0.1
MLH				IAML		18 07 02.1	
	comp=N,3μm,0.8s						
MLH				IAML		18 07 03.7	
	comp=E,2μm,0.7s						
MLH	**Mauna Loa**	**0.41**	**287**		Pg	18 06 54.9	-0.2
HTC	**Hot Caves**	**0.43**	**252**		Pg	18 06 55.4	0.0
HMH	**Humu'ula Sheep**	**0.54**	**296**		Pg	18 06 57.1	-0.4
HMH				Sg	Sg	18 07 04.8	+0.2
HMH				IAML		18 07 05.6	
	comp=E,2μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.60**	**286**		Pg	18 06 57.8	-0.8
MLOA					Sg	18 07 05.8	-0.8
MLOA				IAML		18 07 06.3	
	comp=N,2μm,0.4s						
MLOA				IAML		18 07 06.6	
	comp=E,2μm,0.7s						
MWH	**Moku'aweowe**	**0.60**	**281**		Sg	18 07 06.0	-0.8
MWH	**Moku'aweowe**	**0.60**	**281**		Pg	18 06 57.9	-0.9
KHU	**Kahuku**	**0.62**	**259**		Pg	18 06 57.7	-1.4
KHU				Sg	Sg	18 07 06.1	-1.2
KHU				IAML		18 07 14.0	
	comp=N,1μm,1.1s						
KHU				IAML		18 07 15.7	
	comp=E,1μm,0.8s						
POHA	**Pohakuloa**	**0.66**	**306**	Pg	Pg	18 06 58.6	-1.2
POHA				IAML		18 07 14.2	
	comp=E,1μm,0.5s						
POHA				IAML		18 07 20.9	
	comp=E,1μm,0.6s						
ALEP	**Alea Permanent**	**0.66**	**285**		Pg	18 06 58.6	-1.3
HUH	**Hualalai**	**0.88**	**291**		Pg	18 07 02.6	-1.4
CPH	**Captain Cook**	**0.90**	**278**		Pb	18 07 05.7	+0.5
HPAH	**Hawaii Prepara**	**0.95**	**314**	Pg	Pg	18 07 02.2	-3.1
MHA	**Mahukona**	**1.20**	**313**	Pg	Pg	18 07 05.7	-4.4
HLK	**Haleakala**	**1.83**	**319**	Pn	Pn	18 07 14.7	-4.7
KEKH	**Kekaha**	**5.14**	**301**	Pn	Pn	18 08 00.8	-3.8

*BJI **12** 18:15:16.4±0.0, 0°.54N×127°.47E, h60km, mb4.4/40, mB5.0/18, Ms4.4/8, Ms7 4.1/8*
*IDC **12** 18:15:21.6±2.4, 1°.14N×127°.25E, h54km±22km, mb4.0/21, mbtmp4.3/23, ML4.3/2, MS3.8/34, Error ellipse: s-maj=23.0km s-min=11.0km az=78.0*
*DJA **12** 18:15:21.6±0.5, 1°.N±3°×12°.7E±°, h22km±5km, M4.7/15, mb5.0/7, mB5.1/6, MLv4.7/15, Mw(mB)4.4/6, MwMwp4.5/2, Mwp4.9/2*
*NEIC **12** 18:15:21.9±2.0, 1°.23N±0°.08×127°.09E±0°.07, h53km±8km, mb4.7/52, Error ellipse: s-maj=13.1km s-min=8.7km az=206.0*
*GCMT **12** 18:15:22.9±0.2, 1°.17N±0°.01×127°.09E±0°.01, h39km±1km, MW5.0/104, Moment Tensor Solution. s59,c75; s104,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.01±.16; $M_{\theta\theta}$2.24±.10; $M_{\phi\phi}$-0.23±.11; $M_{r\theta}$-0.55±.12; $M_{\theta\phi}$-2.43±.08; $M_{r\phi}$2.93±.16; Best double couple: M_o4.39800×10^{16} NP1:ϕ_s155.00000°, δ73.00000°, λ-53.00000°. NP2:ϕ_s267.00000°, δ40.00000°, λ-152.00000°. Principal axes: T 4.4400, Plg19.0000°, Azm219.0000°; N -0.0840, Plg35.0000°, Azm323.0000°; P -4.3570, Plg49.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 12 18:15:23.2±0.3, 1°.09N±0°.04×127°.04E±0°.05, h72km, n141, σ1§47/123, mb4.5/51, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.45**	**134**	Pn	**Pn**	**18 15 33.4**	**-2.4**
TNTI				Sn	**Sn**	**18 15 42.5**	**-2.6**
TNTI	**Ternate**	**0.45**	**134**	P	**Pn**	**18 15 34.2**	**-1.6**
TNTI				S	**Sn**	**18 15 43.1**	**-1.9**
LBMI	**Labuha**	**1.78**	**165**	P	**Pn**	**18 15 52.0**	**0.0**
LBMI				S	**Sn**	**18 16 16.7**	**+3.0**
SGSI	**Sangihe**	**2.99**	**330**	P	**Pn**	**18 16 05.5**	**-2.9**
KMSI	**Cibinong**	**3.10**	**261**	P	**Pn**	**18 16 08.3**	**-1.6**
SANI	**Sanana**	**3.29**	**199**	P	**Pn**	**18 16 10.6**	**-1.8**
GTOI	**Gorontalo**	**4.05**	**264**	P	**Pn**	**18 16 23.4**	**+0.5**
NLAI	**Namlea**	**4.30**	**179**	P	**Pn**	**18 16 25.6**	**-0.6**
SWI	**Sorong**	**4.64**	**115**	P	**Pn**	**18 16 31.3**	**+0.4**
LUWI	**Luwuk**	**4.76**	**244**	Pn	**Pn**	**18 16 33.2**	**+0.7**
LUWI	**Luwuk**	**4.76**	**244**	P	**Pn**	**18 16 33.2**	**+0.7**
TOLI2	**Tolitoli**	**6.26**	**270**	Pn	**Pn**	**18 16 51.0**	**-2.0**
BNDI	**Bandanaira**	**6.26**	**153**	P	**Pn**	**18 16 55.6**	**+2.5**
	124nm,0.8s,1.0nm						
FAKI	**Fak Fak**	**6.55**	**127**	Pn	**Pn**	**18 16 56.6**	**-0.5**
MPSI	**Mapaga**	**7.18**	**264**	P	**Pn**	**18 17 05.9**	**+0.3**
	27nm,0.5s,699nm2μm0.2nm						
BBSI	**Bau Bau**	**7.91**	**214**	P	**Pn**	**18 17 18.4**	**+2.8**
TTSI	**Tana Toraja**	**8.30**	**240**	P	**Pn**	**18 17 19.3**	**-1.7**

COEN	**Coen**	**21.89**	**134**	P	**P**	**18 20 09.4**	**-1.0**
COEN				lAmb	lAmb	18 20 31.6	
	comp=Z,39nm,1.2s						
WB0	**Warramunga Arr**	**21.95**	**161**	P	**P**	**18 20 10.9**	**-0.2**
WB0				lAmb	lAmb	18 20 14.0	
	comp=Z,25nm,0.8s						
WRAB	**Tennant Creek**	**22.09**	**161**	P	**P**	**18 20 12.6**	**0.0**
WRAB				lAmb	lAmb	18 20 42.1	
	comp=Z,57nm,1.4s						
WRA	**Warramunga Arr**	**22.09**	**161**	P	**P**	**18 20 12.3**	**-0.3**
WRA	**Warramunga Arr**	**22.09**	**161**	P	**P**	**18 20 12.1**	**-0.5**
	comp=Z,15nm,0.8s,baz=340,slow=11,SNR=44						
WRA				S	**S**	**18 24 10.8**	**-1.4**
	comp=Z,2.4nm,0.8s,baz=342,slow=17,SNR=4.6						
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**22.10**	**161**	P	**P**	**18 20 12.6**	**-0.1**
WB2				lAmb	lAmb	18 20 41.7	
	comp=Z,25nm,0.9s						
WR0	**Warramunga Arr**	**22.17**	**161**	P	**P**	**18 20 13.3**	**-0.2**
WR0				lAmb	lAmb	18 20 51.6	
	comp=Z,26nm,1.1s						
TWG	**Pinlang**	**22.37**	**345**	P	**P**	**18 20 13.3**	**-2.3**
PMG	**Port Moresby**	**22.59**	**118**	LR	LR	18 30 43.3	
	comp=Z,384nm,19.8s,baz=305,slow=41						
YULB	**Yu-li**	**22.86**	**346**	P	**P**	**18 20 18.1**	**-2.7**
TPUB	**Ta-pu**	**22.94**	**345**	P	**P**	**18 20 19.6**	**-2.0**
TPUB				lAmb	lAmb	18 20 29.3	
	comp=Z,18nm,0.9s						
MYKOM	**Kota Tinggi**	**23.19**	**272**	P	**P**	**18 20 25.0**	**+0.9**
MBWA	**Marble Bar**	**23.24**	**198**	P	**P**	**18 20 23.2**	**-1.3**
MBWA				lAmb	lAmb	18 20 51.3	
	comp=Z,41nm,1.3s						
SSLB	**Suanglung**	**23.32**	**346**	P	**P**	**18 20 22.8**	**-2.5**
PSA00	**Pilbara Seismi**	**23.59**	**197**	P	**P**	**18 20 26.7**	**-1.1**
PSA00				lAmb	lAmb	18 20 42.5	
	comp=Z,32nm,1.3s						
YHNB	**Yeheng**	**24.07**	**347**	P	**P**	**18 20 32.4**	**+0.3**
XMIS	**Christmas Isla**	**24.19**	**241**	P	**P**	**18 20 34.4**	**+1.2**
QIZ	**Qiongzhong**	**24.54**	**318**	P	**P**	**18 20 37.0**	**+0.7**
QIZ				S	**S**	**18 24 52.2**	**+0.1**
QIZ				pmax	pmax		
	comp=Z,160nm,3.7s						
QIZ				LR	LR		
	comp=Z,180nm,12.6s						
QIZ				LR	LR		
	comp=Z,110nm,9.3s						
QIZ				LR	LR		
	comp=Z,290nm,26.9s						
AS31	**Alice Springs**	**25.50**	**165**	P	**P**	**18 20 44.9**	**-0.2**
ASAR	**Alice Springs**	**25.50**	**165**	P	**P**	**18 20 44.8**	**-0.3**
ASAR	**Alice Springs**	**25.50**	**165**	P	**P**	**18 20 45.4**	**+0.4**
	comp=Z,7.2nm,0.7s,baz=350,slow=15,SNR=31						
ASAR				PcP	**PcP**	**18 24 15.2**	**0.0**
	comp=Z,1.1nm,0.6s,baz=355,slow=3.3,SNR=3.7						
ASAR				ScP	**ScP**	**18 27 51.2**	**+2.7**
	comp=Z,1.1nm,0.8s,baz=17,slow=2.5,SNR=5.2						
	comp=Z,7.2nm,0.7s						
JOW	**Kunigami**	**25.62**	**3**	P	**P**	**18 20 45.6**	**-0.5**
JOW				lAmb	lAmb	18 21 06.1	
	comp=Z,24nm,0.9s						
RABL	**Rabaul**	**25.65**	**102**	P	**P**	**18 20 45.5**	**-1.1**
RABL				lAmb	lAmb	18 21 06.8	
	comp=Z,21nm,0.9s						
JCJ	**Chichijima**	**29.67**	**28**	LR	LR	18 30 48.1	
	comp=Z,247nm,21.3s,baz=216,slow=31						
PHRA	**Phrae**	**31.49**	**305**	P	**P**	**18 21 37.5**	**-1.0**
NJ2	**Nanjing**	**31.75**	**347**	*e*P	**P**	**18 21 42.1**	**+1.5**
NJ2				pP	**pP**	**18 21 55.6**	**-1.5**
NJ2				sP	**pwP**	**18 22 00.6**	**+0.8**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,120nm,5.0s						
JNU	**Nakatsue**	**32.07**	**6**	LR	LR	18 37 28.7	
	comp=Z,125nm,18.8s,baz=170,slow=42						
CMAR	**Chiang Mai Arr**	**32.53**	**304**	P	**P**	**18 21 50.4**	**+2.8**
	comp=Z,1.9nm,1.0s,baz=127,slow=6.9,SNR=6.5						
	comp=Z,1.9nm,1.0s						
CHTO	**Chiang Mai**	**32.70**	**304**	P	**P**	**18 21 48.3**	**-0.8**
JHJ	**Hachijo jima 2**	**34.04**	**19**	LR	LR	18 35 27.9	
	comp=Z,111nm,19.7s,baz=308,slow=36						
PZH	**PanZhiHua**	**35.08**	**318**	P	**P**	**18 22 12.9**	**+3.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,130nm,7.5s						
STKA	**Stephens Creek**	**35.57**	**158**	P	**P**	**18 22 13.8**	**0.0**
STKA	**Stephens Creek**	**35.57**	**158**	P	**P**	**18 22 13.7**	**0.0**
	comp=Z,5.1nm,0.8s,baz=318,slow=9.0,SNR=10.0						
STKA				LR	LR	18 37 40.8	
	comp=Z,202nm,21.0s,baz=348,slow=38						
	comp=Z,5.1nm,0.8s						
TIA	**Tai'an**	**36.14**	**346**	P	**P**	**18 22 20.8**	**+2.2**
TIA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
KSRS	**Korea Array**	**36.20**	**1**	P	**P**	**18 22 19.1**	**+0.1**
	comp=Z,1.6nm,0.7s,baz=180,slow=9.9,SNR=9.8						
KSRS				LR	LR	18 37 45.8	
	comp=Z,69nm,21.8s,baz=175,slow=37						
	comp=Z,1.6nm,0.7s						
TNCH	**TengChong**	**36.40**	**313**	*e*P	**P**	**18 22 18.4**	**-2.8**
TNCH				pmax	pmax		
	comp=Z,130nm,5.4s						
MAJO	**Matsushiro**	**36.76**	**15**	P	**P**	**18 22 20.7**	**-3.2**
MAJO				lAmb	lAmb	18 22 39.8	
	comp=Z,14nm,1.2s						
MJAR	**Matsushiro Arr**	**36.76**	**15**	P	**P**	**18 22 22.0**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=189,slow=9.2,SNR=5.7						
MJAR				LR	LR	18 35 17.2	
	comp=Z,221nm,20.4s,baz=216,slow=33						
	comp=Z,0.7nm,0.5s						
MJB9	**Matsu-Tunnel**	**36.77**	**15**	P	**P**	**18 22 21.8**	**-2.1**
MJB9				lAmb	lAmb	18 22 40.8	
	comp=Z,13nm,1.2s						
HNS	**HongShan**	**37.88**	**344**	ǁP	**P**	**18 22 35.8**	**+2.5**
BJI	**Beijing**	**40.01**	**347**	P	**P**	**18 22 52.1**	**+1.0**
BJI				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SHL	**Shillong**	**41.72**	**309**	P	**P**	**18 23 05.3**	**-0.3**
SHL				lAmb	lAmb	18 23 12.2	
	comp=Z,6.7nm,0.7s						
HHC	**Hu-ho-hao-te**	**41.99**	**342**	*e*P	**P**	**18 23 09.0**	**+1.5**
HHC				pmax	pmax		
	comp=Z,17nm,0.9s						
USRK	**Ussuriysk Ar.**	**43.15**	**5**	P	**P**	**18 23 16.9**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=202,slow=9.5,SNR=7.9						
	comp=Z,3.6nm,0.8s						
MDJ	**Mudanjiang**	**43.40**	**3**	P	**P**	**18 23 19.4**	**+0.7**
MDJ				pP	pP	18 23 33.6	-2.1
MDJ				sP	pwP	18 23 40.7	+1.7
MDJ				S	**S**	**18 29 46.3**	**+4.8**
MDJ				sS	sS	18 30 09.2	-1.6
MDJ				ScS	**ScS**	**18 33 13.6**	**+1.9**
MDJ				pmax	pmax		
	comp=Z,6.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,130nm,3.5s						
MDJ				LR	LR		
	comp=Z,86nm,5.8s						
MDJ				LR	LR		
	comp=Z,120nm,5.8s						
MDJ				LR	LR		
	comp=Z,430nm,7.3s						
DZM	**Mont Dzumac**	**44.80**	**123**	*e*LR	LR	18 36 14.6	
	comp=Z,346nm,28.2s						
DZM	**Mont Dzumac**	**44.80**	**123**	LR	LR	18 42 15.5	
	comp=Z,166nm,20.3s,baz=316,slow=36						
ASAJ	**Asahikawa**	**45.02**	**16**	LR	LR	18 40 53.1	
	comp=Z,142nm,21.8s,baz=198,slow=34						
GTA	**Gaotai**	**45.52**	**330**	*e*P	P	18 23 41.8	+5.9
GTA				pP	pP	18 23 51.2	-2.0
GTA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
KLR	**Kul'dur**	**48.13**	**4**	LR	LR	18 47 19.6	
	comp=Z,34nm,18.6s,baz=208,slow=40						
HEH	**HeiHe**	**48.98**	**0**	*e*P	**P**	**18 24 02.7**	**+0.3**
HEH				pmax	pmax		
	comp=Z,3.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,150nm,5.4s						
ULN	**Ulaanbaatar**	**49.71**	**342**	P	**P**	**18 24 07.2**	**-1.0**
SONM	**Songino Array**	**49.89**	**342**	P	**P**	**18 24 10.1**	**+0.6**
	comp=Z,1.0nm,0.5s,baz=152,slow=6.7,SNR=4.8						
SONM				LR	LR	18 46 39.3	
	comp=Z,94nm,21.6s,baz=150,slow=38						
	comp=Z,1.0nm,0.5s						

WMQ	**Urumqi**	**55.06**	**326**	*e*P	**P**	**18 24 50.0**	**+2.2**
WMQ				LR	LR		
	comp=Z,130nm,17.5s						
PETK	**Petropavlovsk-**	**57.75**	**21**	P	**P**	**18 25 07.2**	**+0.6**
	comp=Z,2.5nm,0.8s,baz=192,slow=5.8,SNR=2.7						
PETK				LR	LR	18 49 02.8	
	comp=Z,58nm,20.9s,baz=197,slow=35						
	comp=Z,2.5nm,0.8s						
MK31	**Makanchi Array**	**59.90**	**326**	P	**P**	**18 25 21.2**	**-0.5**
MK31				lAmb	lAmb	18 25 28.1	
	comp=Z,6.8nm,0.8s						
MKAR	**Makanchi Array**	**59.90**	**326**	P	**P**	**18 25 21.2**	**-0.5**
MKAR	**Makanchi Array**	**59.90**	**326**	P	**P**	**18 25 22.3**	**+0.6**
	comp=Z,4.2nm,0.6s,baz=118,slow=6.9,SNR=36						
MKAR				LR	LR	18 53 43.9	
	comp=Z,31nm,20.5s,baz=117,slow=38						
	comp=Z,4.2nm,0.6s						
MAKZ	**Makanchi**	**60.08**	**326**	P	**P**	**18 25 22.9**	**0.0**
KSH	**Kashi**	**60.13**	**316**	P	**P**	**18 25 27.2**	**+3.6**
URZ	**Urewera**	**60.42**	**136**	LR	LR	18 52 58.3	
	comp=Z,173nm,18.4s,baz=31,slow=37						
RAO	**Raoul Island**	**60.56**	**125**	LR	LR	18 51 54.4	
	comp=Z,87nm,18.3s,baz=56,slow=36						
YAK	**Yakutsk**	**60.82**	**1**	P	**P**	**18 25 28.0**	**+0.4**
MA2	**Magadan**	**61.18**	**14**	LR	LR	18 48 58.0	
	comp=Z,53nm,22.0s,baz=215,slow=33						
ARSB	**Arslanbob**	**62.97**	**317**	P	**P**	**18 25 42.5**	**-0.2**
ZALV	**Zalesovo Beam**	**63.07**	**334**	P	**P**	**18 25 42.8**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=142,slow=5.6,SNR=4.0						
	comp=Z,0.7nm,0.4s						
KBL	**Kabul**	**63.38**	**308**	P	**P**	**18 25 45.1**	**-0.5**
BTK	**Batken**	**63.98**	**315**	P	**P**	**18 25 49.4**	**+0.1**
BTK				lAmb	lAmb	18 25 57.2	
	comp=Z,8.9nm,0.9s						
KURBB	**Kurchatov Arra**	**64.12**	**328**	P	**P**	**18 25 50.0**	**+0.1**
	comp=Z,5.3nm,0.5s,baz=126,slow=6.3,SNR=58						
	comp=Z,5.3nm,0.5s						
KURK	**Kurchatov**	**64.13**	**328**	P	**P**	**18 25 50.1**	**+0.2**
SEY	**Seynan**	**64.52**	**13**	LR	LR	18 50 10.2	
	comp=Z,54nm,21.2s,baz=153,slow=32						
SHEM	**Shemya Is, Ala**	**64.58**	**30**	LR	LR	18 48 13.0	
	comp=Z,125nm,21.2s,baz=156,slow=31						
SIMJ	**Simiganj**	**64.78**	**313**	P	**P**	**18 25 55.3**	**+0.7**
KK31	**Karatay Array**	**65.37**	**318**	P	**P**	**18 25 58.0**	**-0.3**
KK31				lAmb	lAmb	18 26 04.9	
	comp=Z,8.3nm,0.9s						
KKAR	**Karatay Array**	**65.37**	**318**	P	**P**	**18 25 58.2**	**0.0**
KKAR				lAmb	lAmb	18 26 04.9	
	comp=Z,8.3nm,0.9s						
KKAR	**Karatay Array**	**65.37**	**318**	P	**P**	**18 25 58.1**	**-0.1**
BVAR	**Borovoye Array**	**69.69**	**327**	P	**P**	**18 26 26.1**	**+0.8**
	comp=Z,3.1nm,0.7s,baz=103,slow=5.3,SNR=17						
	comp=Z,3.1nm,0.7s						
BRVK	**Borovoye**	**69.77**	**327**	P	**P**	**18 26 25.5**	**-0.2**
BRVK				lAmb	lAmb	18 26 33.6	
	comp=Z,6.0nm,0.8s						
TIXI	**Tiksi**	**70.46**	**1**	P	**P**	**18 26 28.9**	**-0.6**
TIXI	**Tiksi**	**70.46**	**1**	LR	LR	18 59 19.1	
	comp=Z,46nm,21.1s,baz=190,slow=38						
GEYT	**Alibeck**	**72.79**	**309**	P	**P**	**18 26 45.5**	**+1.2**
	comp=Z,0.9nm,0.5s,baz=217,slow=9.3,SNR=4.0						
	comp=Z,0.9nm,0.5s						
ABKAR	**Akbulak array**	**74.38**	**321**	P	**P**	**18 26 52.8**	**-0.6**
AKTO	**Aktyubinsk**	**75.91**	**322**	LR	LR	19 05 17.3	
	comp=Z,32nm,18.1s,baz=80,slow=39						
ARU	**Arti**	**77.32**	**328**	P	**P**	**18 27 08.7**	**-1.2**
ARU				lAmb	lAmb	18 27 15.0	
	comp=Z,5.5nm,1.0s						
ARU	**Arti**	**77.32**	**328**	LR	LR	19 01 59.0	
	comp=Z,28nm,21.7s,baz=86,slow=36						
VNDA	**Vanda**	**80.78**	**173**	P	**P**	**18 27 28.7**	**+0.2**
	comp=Z,1.9nm,0.9s,baz=306,slow=5.9,SNR=9.1						
	comp=Z,1.9nm,0.9s						
MAW	**Mawson**	**81.40**	**200**	P	**P**	**18 27 32.3**	**+0.5**
	comp=Z,0.7nm,0.5s,baz=89,slow=7.9,SNR=3.6						
MAW				LR	LR	18 59 24.3	
	comp=Z,74nm,20.2s,baz=64,slow=32						
	comp=Z,0.7nm,0.5s						
C19K	**Lookout Ridge**	**83.09**	**20**	P	**P**	**18 27 41.0**	**+0.2**
G19K	**Purcell Mounta**	**83.31**	**23**	P	**P**	**18 27 43.0**	**+1.0**
H19K	**Roundabout Mou**	**83.44**	**24**	P	**P**	**18 27 44.1**	**+1.5**
H19K				lAmb	lAmb	18 28 05.9	
	comp=Z,8.5nm,0.9s						
D19K	**Kuna River**	**83.46**	**21**	P	**P**	**18 27 42.7**	**0.0**
D19K				lAmb	lAmb	18 28 06.3	
	comp=Z,7.7nm,0.8s						
E19K	**Redstone River**	**83.54**	**22**	P	**P**	**18 27 42.2**	**-0.9**
E19K				lAmb	lAmb	18 28 06.9	
	comp=Z,9.4nm,0.8s						
KDAK	**Kodiak Island**	**83.94**	**32**	LR	LR	18 59 54.4	
	comp=Z,125nm,21.4s,baz=259,slow=32						
PPT2	**Papeete2**	**84.02**	**108**	*e*LR	LR	18 54 18.6	
	comp=Z,168nm,28.0s						
PPT2				*e*LR	LR	18 54 18.9	
	comp=Z,166nm,21.5s						
TBI	**Tubuai**	**84.46**	**113**	*e*LR	LR	18 54 31.4	
	comp=Z,685nm,22.8s						
TBI				*e*LR	LR	18 54 33.8	
	comp=Z,1μm,32.2s						
KBZ	**Khabaz**	**85.01**	**314**	LR	LR	19 11 12.4	
	comp=Z,27nm,20.1s,baz=76,slow=39						
QSPA	**South Pole Qui**	**91.01**	**180**	P	**P**	**18 28 20.2**	**+0.8**
	comp=Z,1.2nm,1.0s,baz=195,slow=0.4,SNR=2.8						
	comp=Z,1.2nm,1.0s						
EIL	**Elat**	**91.28**	**300**	LR	LR	19 13 59.1	
	comp=Z,23nm,20.2s,baz=65,slow=38						
BRTR	**Keskin Array B**	**91.93**	**310**	P	**P**	**18 28 25.3**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=116,slow=5.6,SNR=4.2						
BRTR				LR	LR	19 16 37.2	
	comp=Z,32nm,18.2s,baz=107,slow=40						
	comp=Z,0.6nm,0.8s						
INK	**Inuvik**	**92.49**	**22**	LR	LR	19 10 26.4	
	comp=Z,40nm,21.1s,baz=202,slow=36						
ARCES	**ARCESS Array B**	**93.02**	**340**	P	**P**	**18 28 27.5**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=83,slow=5.0,SNR=4.7						
	comp=Z,1.6nm,0.8s						
FINES	**FINESS Array B**	**94.29**	**332**	P	**P**	**18 28 35.6**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=50,slow=9.2,SNR=2.1						
	comp=Z,0.5nm,0.6s						
DLBC	**Dease Lake**	**95.83**	**31**	LR	LR	19 06 18.5	
	comp=Z,97nm,20.6s,baz=286,slow=32						
MLR	**Muntele Rosu**	**97.00**	**316**	LR	LR	19 18 34.1	
	comp=Z,36nm,21.6s,baz=74,slow=39						
BBB	**Bella Bella**	**98.21**	**37**	LR	LR	19 05 47.3	
	comp=Z,78nm,21.2s,baz=254,slow=31						
LSZ	**Lusaka**	**98.83**	**255**	LR	LR	19 07 39.1	
	comp=Z,104nm,20.3s,baz=116,slow=32						
PLCA	**Paso Flores**	**137.44**	**160**	PKP	**PKiKP**	**18 34 41.0**	**-0.2**
	comp=Z,0.8nm,0.7s,baz=44,slow=2.7,SNR=3.1						

*DJA **12** 18:19:46.6±0.7, 1°N±3°×12°7E±°, h14km±6km, M4.2/14, mb4.2/5, MLv4.2/14*
*NEIC **12** 18:19:47.7±1.7, 0.°99N±0.°08×126.°90E±0.°05, h52km±3km, mb4.4/27, Error ellipse: s-maj=13.1km s-min=5.4km az=208.0*
*IDC **12** 18:19:47.5±2.7, 1.°05N×127.°11E, h55km±24km, mb3.7/15, mbtmp4.0/16, ML3.9/1, Error ellipse: s-maj=27.4km s-min=12.9km az=81.0*

ISC 12 18:19:49.1±0.5, 0.°98N±0.°06×126.°94E±0.°06, h72km, n66, σ1°48/69, mb4.0/24, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.48**	**116**	Pn	**Pn**	**18 19 59.0**	**-2.9**
TNTI				Sn	**Sn**	**18 20 07.4**	**-3.8**
TNTI	**Ternate**	**0.48**	**116**	P	**Pn**	**18 19 59.1**	**-2.8**
LBMI	**Labuha**	**1.70**	**161**	P	**Pn**	**18 20 18.1**	**+1.3**
KMSI	**Cibinong**	**2.98**	**262**	P	**Pn**	**18 20 34.7**	**+0.6**
SGSI	**Sangihe**	**3.04**	**332**	P	**Pn**	**18 20 32.2**	**-2.6**
SANI	**Sanana**	**3.15**	**198**	P	**Pn**	**18 20 36.6**	**+0.2**
LUWI	**Luwuk**	**4.62**	**244**	Pn	Pn	18 20 53.1	-3.4
LUWI	**Luwuk**	**4.62**	**244**	P	**Pn**	**18 20 57.4**	**+0.9**
SWI	**Sorong**	**4.69**	**113**	P	**Pn**	**18 20 58.4**	**+1.0**
TOLI2	**Tolitoli**	**6.16**	**271**		**Pn**	**18 21 16.4**	**-1.1**
FAKI	**Fak Fak**	**6.57**	**126**	Pn	**Pn**	**18 21 20.5**	**-2.6**
FAKI	**Fak Fak**	**6.57**	**126**	P	**Pn**	**18 21 23.5**	**+0.3**
	26nm,1.2s,0.1nm						
MPSI	**Mapaga**	**7.07**	**265**	P	**Pn**	**18 21 30.5**	**+0.6**
	13nm,1.1s,0.1nm						
BBSI	**Bau Bau**	**7.76**	**214**	P	**Pn**	**18 21 41.6**	**+2.1**
	65nm,1.1s,0.3nm						
TTSI	**Tana Toraja**	**8.16**	**241**	P	**Pn**	**18 21 45.5**	**+0.6**
KAPI	**Kappang**	**9.32**	**230**	Pn	**Pn**	**18 22 00.4**	**-0.4**
KAPI	**Kappang**	**9.32**	**230**	P	**Pn**	**18 22 01.6**	**+0.8**
	1.1nm,0.3s,baz=344,slow=8.0,SNR=2.8						
KAPI				S	**Sn**	**18 23 38.3**	**-5.8**
	3.5nm,0.4s,baz=48,slow=22,SNR=1.5						
	6.3nm,0.5s						
SBUM	**Sibu**	**14.78**	**276**	P	**Pn**	**18 23 17.4**	**+3.0**
JAGI	**Jajag, Banyuwa**	**15.83**	**233**	P	**Pn**	**18 23 28.6**	**+0.8**
JAGI				lAmb	lAmb	18 23 57.2	
	comp=Z,58nm,1.3s						
KSM	**Kuching**	**16.63**	**272**	P	**Pn**	**18 23 36.9**	**-0.9**
FITZ	**Fitzroy Crossi**	**19.00**	**184**		P	**18 24 06.9**	**+1.8**
LEM	**Lembang**	**20.78**	**248**	P	**P**	**18 24 25.6**	**+0.9**
	comp=Z,17nm,0.7s,baz=123,slow=20,SNR=1.9						
	comp=Z,17nm,0.7s						
WB0	**Warramunga Arr**	**21.88**	**161**	P	**P**	**18 24 36.7**	**+0.5**
WB0				lAmb	lAmb	18 24 51.2	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**22.02**	**161**	P	**P**	**18 24 38.4**	**+0.6**
WRA	**Warramunga Arr**	**22.02**	**161**	P	**P**	**18 24 37.3**	**-0.4**
	comp=Z,3.2nm,0.6s,baz=339,slow=11,SNR=6.5						
	comp=Z,3.2nm,0.6s						
WB2	**Warramunga Arr**	**22.03**	**161**	P	**P**	**18 24 37.8**	**0.0**
WB2				lAmb	lAmb	18 24 40.7	
	comp=Z,14nm,1.0s						
WR0	**Warramunga Arr**	**22.10**	**161**	P	**P**	**18 24 38.0**	**-0.6**
WR0				lAmb	lAmb	18 25 00.6	
	comp=Z,14nm,1.1s						
TPUB	**Ta-pu**	**23.02**	**345**	P	**P**	**18 24 46.8**	**-1.5**
TPUB				lAmb	lAmb	18 25 11.8	
	comp=Z,31nm,1.5s						
PSA00	**Pilbara Seismi**	**23.46**	**197**	P	**P**	**18 24 52.7**	**+0.3**
PSA00				lAmb	lAmb	18 25 36.2	
	comp=Z,24nm,1.1s						
AS31	**Alice Springs**	**25.41**	**165**	P	**P**	**18 25 08.8**	**-1.4**
ASAR	**Alice Springs**	**25.42**	**165**	P	**P**	**18 25 08.5**	**-1.7**
ASAR	**Alice Springs**	**25.42**	**165**	P	**P**	**18 25 11.7**	**+1.5**
	comp=Z,1.8nm,0.7s,baz=348,slow=6.8,SNR=9.6						
ASAR				PcP	**PcP**	**18 28 40.3**	**-0.6**
	comp=Z,0.6nm,0.7s,baz=348,slow=2.0,SNR=2.7						
ASAR				ScP	**ScP**	**18 32 15.7**	**+1.6**
	comp=Z,1.2nm,0.6s,baz=346,slow=2.9,SNR=11						
	comp=Z,1.8nm,0.7s						
FORT	**Forrest**	**31.60**	**178**	P	**P**	**18 26 04.6**	**-0.5**
BBOO	**Buckleboo**	**34.69**	**166**	P	**P**	**18 26 32.6**	**+0.6**
STKA	**Stephens Creek**	**35.51**	**158**	P	**P**	**18 26 40.3**	**+1.2**
STKA	**Stephens Creek**	**35.51**	**158**	P	**P**	**18 26 38.8**	**-0.2**
	comp=Z,1.3nm,0.6s,baz=357,slow=13,SNR=2.2						
	comp=Z,1.3nm,0.6s						
KSRS	**Korea Array**	**36.31**	**1**	P	**P**	**18 26 44.6**	**-1.1**
	comp=Z,0.7nm,0.6s,baz=179,slow=9.5,SNR=4.2						
	comp=Z,0.7nm,0.6s						
MJAR	**Matsushiro Arr**	**36.90**	**15**	P	**P**	**18 26 48.4**	**-2.4**
	comp=Z,0.9nm,0.5s,baz=186,slow=10,SNR=5.2						
	comp=Z,0.9nm,0.5s						
ARMA	**Armidale**	**39.09**	**145**	P	**P**	**18 27 08.6**	**-0.9**
USA0B	**Ussuriysk Arra**	**43.27**	**5**	P	**P**	**18 27 45.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**43.27**	**5**	P	**P**	**18 27 45.4**	**+1.9**
USRK	**Ussuriysk Ar.**	**43.27**	**5**	P	**P**	**18 27 43.7**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=213,slow=10,SNR=2.7						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**49.96**	**342**	P	**P**	**18 28 36.9**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=148,slow=8.5,SNR=2.1						
	comp=Z,0.4nm,0.6s						
PETK	**Petropavlovsk-**	**57.89**	**21**	P	**P**	**18 29 33.3**	**-0.2**
	comp=Z,1.3nm,0.7s,baz=198,slow=4.6,SNR=5.9						
	comp=Z,1.3nm,0.7s						
LBZ	**Lake Benmore**	**59.31**	**145**	P	**P**	**18 29 43.7**	**+0.2**
TUWZ	**Tuamarina**	**59.90**	**141**	P	**P**	**18 29 47.6**	**0.0**
MK31	**Makanchi Array**	**59.93**	**326**	P	**P**	**18 29 48.1**	**+0.4**
MK31				lAmb	lAmb	18 29 49.7	
	comp=Z,2.1nm,1.0s						
MKAR	**Makanchi Array**	**59.93**	**326**	P	**P**	**18 29 47.8**	**0.0**
MKAR	**Makanchi Array**	**59.93**	**326**	P	**P**	**18 29 48.7**	**+0.9**
	comp=Z,1.1nm,0.6s,baz=124,slow=7.6,SNR=9.2						
	comp=Z,1.1nm,0.6s						
AMCZ	**Amberley**	**60.06**	**143**	P	**P**	**18 29 47.8**	**-0.9**
MAKZ	**Makanchi**	**60.11**	**326**	P	**P**	**18 29 49.4**	**+0.4**
MAKZ				lAmb	lAmb	18 29 51.4	
	comp=Z,5.1nm,1.1s						
RTZ	**Ruatahuna**	**60.50**	**136**	P	**P**	**18 29 52.5**	**+0.7**
ZALV	**Zalesovo Beam**	**63.12**	**334**	P	**P**	**18 30 09.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=97,slow=12,SNR=2.6						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**64.16**	**328**	P	**P**	**18 30 16.8**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=127,slow=6.1,SNR=10						
	comp=Z,2.0nm,0.6s						
**KUR

LSNR					*e*Sg	**Sb**	**18 29 54.9**	**+0.3**
KOPR	**Koprukoy-ERZUR**	**1.89**	**187**	Pn	**Pn**	**18 29 29.9**	**+0.5**
SHA1	**Shidzhatmaz**	**1.90**	**11**	*e*Pg	**Pg**	**18 29 32.8**	**+0.1**
SHA1				*e*Sg	**Sg**	**18 29 57.4**	**+0.1**
BAYT	**Aydıntepe-Bayb**	**2.12**	**227**	Pn	**Pn**	**18 29 32.8**	**+0.2**
KBTC	**Kuba-Taba**	**2.15**	**25**	*e*Pg	**Pb**	**18 29 35.9**	**+0.2**
KBTC				*e*Sg	**Sg**	**18 30 04.9**	**-0.4**

IDC ***12*** *18:54:16.2±4.8, 37.00N×71.01E±0.08, h133km±28km, mb3.3/4, mbtmp3.7/11, MS2.5/1, Error ellipse: s-maj=53.0km s-min=18.9km az=157.0*

NNC ***12*** *18:54:20.5±3.9, 37.19N×71.18E, h209km±72km, mb2.7, mpv3.8, Error ellipse: s-maj=39.7km s-min=25.3km az=24.0*

ISC 12 18:54:17.2±1.7, 37.00N±0.01×71.01E±0.08, h150km, n23, σ1.8 39/27, mb3.5/4, 4C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.88**	**26**	P	**Pn**	**18 55 44.5**	**+1.9**
	SNR=13						
EKS2	**Erkin-Say**	**6.04**	**20**	P	Pn	18 55 48.4	+3.9
	SNR=7.3						
KK31	**Karatay Array**	**6.10**	**357**	⇓P	**Pn**	**18 55 47.3**	**+2.1**
	5.9nm,0.3s,baz=180,slow=13,SNR=221						
KK31				⇓S	**Sn**	**18 56 56.1**	**+1.9**
	13nm,0.5s,baz=186,slow=18,SNR=21						
AAK	**Ala-Archa**	**6.23**	**24**	P	Pn	18 55 50.8	+3.7
	SNR=7.5						
AAK	**Ala-Archa**	**6.23**	**24**	⇑P	**Pn**	**18 55 48.4**	**+1.3**
	4.1nm,0.5s						
AAK				⇓S	**Sn**	**18 56 57.8**	**+0.3**
	36nm,1.0s						
AAK	**Ala-Archa**	**6.23**	**24**	P	**Pn**	**18 55 47.6**	**+0.5**
	4.7nm,0.3s,baz=196,slow=5.4,SNR=12						
AAK				S	**Sn**	**18 56 56.1**	**-1.3**
	7.6nm,0.3s,baz=329,slow=20,SNR=17						
KBK	**Karagaybulak**	**6.41**	**27**	P	Pn	18 55 53.0	+3.6
	SNR=5.2						
CHMS	**Chumysh**	**6.64**	**24**	⇑P	**Pn**	**18 55 52.0**	**-0.5**
	2.4nm,0.4s						
CHMS				⇓S	**Sn**	**18 57 06.1**	**-1.0**
	6.2nm,0.7s						
USP	**Ospenovka**	**6.80**	**22**	P	**Pn**	**18 55 55.7**	**+1.1**
	SNR=8.6						
TKM2	**Tokmak 2**	**6.88**	**29**	P	**Pn**	**18 55 57.6**	**+1.8**
	SNR=12						
TKM2	**Tokmak 2**	**6.88**	**29**	⇑P	**Pn**	**18 55 55.7**	**-0.1**
	3.3nm,0.5s						
TKM2				⇓S	**Sn**	**18 57 14.9**	**+1.8**
	5.6nm,0.8s						
GEYT	**Alibeck**	**10.29**	**279**	P	**Pn**	**18 56 40.4**	**-0.7**
	0.4nm,0.3s,baz=92,slow=7.4,SNR=2.8						
GEYT				S	**Sn**	**18 58 34.8**	**-0.1**
	0.4nm,0.3s,baz=70,slow=31,SNR=1.6						
MKAR	**Makanchi Array**	**12.88**	**37**	P	**Pn**	**18 57 12.8**	**-2.0**
	0.2nm,0.4s,baz=215,slow=12,SNR=3.9						
KURBB	**Kurchatov Arra**	**14.64**	**19**	P	**Pn**	**18 57 35.2**	**-1.8**
	0.8nm,0.6s,baz=206,slow=11,SNR=1.9						
AB31	**Akbulak array**	**14.65**	**330**	⇑P	**P**	**18 57 39.2**	**-0.2**
	0.6nm,0.5s,baz=145,slow=12,SNR=15						
AB31				⇓S	**Sn**	**19 00 16.5**	**-3.0**
	0.7nm,0.5s,baz=158,slow=21,SNR=4.4						
BVAR	**Borovoye Array**	**16.03**	**359**	P	**Pn**	**18 57 53.1**	**-0.9**
	0.5nm,0.3s,baz=166,slow=12,SNR=3.3						
AKTO	**Aktyubinsk**	**16.35**	**329**	P	**P**	**18 57 58.5**	**+0.3**
	0.7nm,0.4s,baz=132,slow=9.0,SNR=2.3						
AKTO				S	**Sn**	**19 01 00.3**	**+0.1**
	0.7nm,0.3s,baz=220,slow=12,SNR=1.7						
ZALV	**Zalesovo Beam**	**19.45**	**25**	P	**P**	**18 58 31.4**	**-0.6**
	3.7nm,0.3s,baz=212,slow=10,SNR=32						
FINES	**FINESS Array B**	**37.07**	**326**	P	**P**	**19 01 13.8**	**+1.4**
	0.3nm,0.4s,baz=134,slow=11,SNR=3.9						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**40.68**	**337**	P	**P**	**19 01 42.9**	**+0.5**
	2.9nm,1.2s,baz=66,slow=6.8,SNR=4.3						
	2.9nm,1.2s						
HFS	**Hagfors**	**42.67**	**322**	P	**P**	**19 01 59.8**	**+1.0**
	0.7nm,0.5s,baz=83,slow=11,SNR=7.1						
	0.7nm,0.5s						
NOA	**NORSAR Array B**	**43.98**	**323**	P	**P**	**19 02 09.8**	**+0.5**
	0.4nm,0.7s,baz=88,slow=9.8,SNR=2.0						
	0.4nm,0.7s						
KMBO	**Kilima Mbogo**	**49.18**	**227**	LR	LR	19 24 59.8	
	comp=Z,5.4nm,19.4s,baz=92,slow=38						

SJA ***12*** *18:59:09.5±0.6, 29.53S×72.37W, h10km, ML3.6, MW3.4*

GUC ***12*** *18:59:15.8±0.8, 29.68S×71.89W, h20km±9km, ML3.2*

ISC 12 18:59:12.3±1.5, 29.61S±0.02×72.03W±0.05, h1km±11km, n35, σ1.9 55/63, 2C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO05	**La Serena**	**0.75**	**115**	⇓*i*P	**Pb**	**18 59 27.7**	**-0.5**
CO05				*e*S	**Sg**	**18 59 35.9**	**-0.5**
CO05				IAML		18 59 36.6	
	comp=N,1μm,0.2s						
CO06	**Fray Jorge**	**1.11**	**162**	*e*P	**Pg**	**18 59 34.1**	**+0.4**
CO06				*e*S	**Sg**	**18 59 47.7**	**-0.5**
CO06				IAML		18 59 53.0	
	comp=E,894nm,0.3s						
GO04	**Tololo Observa**	**1.21**	**118**	*e*P	**Pg**	**18 59 35.7**	**+0.3**
GO04				*e*S	**Sg**	**18 59 51.2**	**+0.1**
GO04	**Tololo Observa**	**1.21**	**118**	*e*P	**Pg**	**18 59 35.1**	**-0.3**
GO04				*e*S	**Sg**	**18 59 49.7**	**-1.3**
LCO	**Las Campanas**	**1.30**	**63**	*e*P	**Pn**	**18 59 37.6**	**-0.2**
LCO				*e*S	**Sn**	**18 59 56.7**	**+0.8**
LCO				IAML		18 59 57.7	
	comp=Z,3μm,0.7s						
LCO	**Las Campanas**	**1.30**	**63**	*e*P	**Pb**	**18 59 37.1**	**-0.5**
LCO				*e*S	**Sb**	**18 59 54.3**	**-0.7**
AC04	**Llanos de Chal**	**1.63**	**31**	*e*P	**Pb**	**18 59 42.4**	**-0.7**
AC04				*e*S	**Sn**	**19 00 02.9**	**-0.7**
AC04				IAML		19 00 15.2	
	comp=Z,286nm,0.5s						
AC04	**Llanos de Chal**	**1.63**	**31**	⇑*i*P	**Pb**	**18 59 42.3**	**-0.8**
AC04				IAML		19 00 15.4	
	comp=E,353nm,0.4s						
CO03	**El Pedregal**	**1.69**	**137**	*e*P	**Pn**	**18 59 42.1**	**-0.9**
CO03				*e*S	**Sn**	**19 00 03.9**	**-1.3**
CO03				IAML		19 00 06.0	
	comp=Z,404nm,0.3s						
CO03	**El Pedregal**	**1.69**	**137**	*e*P	**Pn**	**18 59 42.6**	**-0.4**
CO03				*e*S	**Sn**	**19 00 03.1**	**-2.1**
CO03				IAML		19 00 05.0	
	comp=E,770nm,0.2s						
AC05	**El Transito**	**1.71**	**64**	*e*P	**Pb**	**18 59 44.5**	**-0.2**
AC05				*e*S	**Sb**	**19 00 06.7**	**-0.1**
AC05				IAML		19 00 07.6	
	comp=Z,197nm,0.5s						
AC05	**El Transito**	**1.71**	**64**	⇑*i*P	**Pb**	**18 59 44.4**	**-0.3**
AC05				*e*S	**Sn**	**19 00 05.8**	**-0.2**
AC05				IAML		19 00 07.8	
	comp=N,730nm,0.2s						
CO02	**Combarbal**	**1.82**	**151**	*e*P	**Pn**	**18 59 45.3**	**+0.5**
CO02				*e*S	**Sn**	**19 00 09.7**	**+1.1**
CO02				IAML		19 00 12.6	
	comp=Z,665nm,0.3s						
CO02	**Combarbal**	**1.82**	**151**	*i* P	**Pn**	**18 59 45.2**	**+0.5**
CO02				*e*S	**Sn**	**19 00 06.4**	**-2.2**
AROD	**Rodeo**	**2.29**	**105**	*e*P	**Pb**	**18 59 54.0**	**-0.5**
AROD				*e*S	**Sb**	**19 00 23.3**	**-0.1**
GO03	**Copiap**	**2.55**	**39**	*e*P	**Pb**	**18 59 56.7**	**-2.2**
GO03				*e*S	**Sb**	**19 00 29.5**	**-1.3**
GO03	**Copiap**	**2.55**	**39**	*e*P	**Pn**	**18 59 55.5**	**+0.7**
GO03				IAML		19 00 37.0	
	comp=N,209nm,0.2s						
ACDV	**Cuesta del Vie**	**2.59**	**103**	*e*P	**Pb**	**18 59 59.8**	**+0.3**
ACDV				*e*S	**Sg**	**19 00 35.3**	**-0.1**
ACDV				IAML		19 00 37.8	
	comp=Z,165nm,0.4s						
AC06	**Mina Casimiro**	**2.68**	**34**	*e*P	**Pn**	**18 59 57.8**	**+1.3**
AC06				IAML		19 00 43.6	
	comp=E,133nm,0.6s						
ACCO	**Cerro Coronel**	**2.75**	**112**	*e*P	**Pb**	**19 00 01.1**	**-1.2**
ACCO				*e*S	**Sg**	**19 00 40.2**	**-0.3**
DOCA	**Reserva Natura**	**2.88**	**118**	*e*P	**Pb**	**19 00 02.7**	**-1.9**
DOCA				*e*S	**Sb**	**19 00 41.7**	**+1.3**
DOCA				IAML		19 00 47.1	
	comp=Z,329nm,0.7s						
AGUA	**GUANDACOL**	**3.08**	**89**	*e*P	**Pb**	**19 00 06.7**	**-1.3**
AGUA				*e*S	**Sb**	**19 00 48.4**	**+2.3**
AGUA				*e*S	**Sg**	**19 00 53.1**	**+1.7**
AGUA				IAML		19 00 54.1	
	comp=Z,126nm,0.4s						
RTLS	**Leoncito**	**3.21**	**134**	*e*P	**Pb**	**19 00 07.5**	**-2.7**
RTLS				*e*S	**Sb**	**19 00 50.1**	**+0.1**
RTLS				IAML		19 00 57.2	
	comp=Z,324nm,0.5s						
VA03	**San Esteban**	**3.39**	**158**	*e*P	**Pn**	**19 00 08.1**	**+1.7**
VA03				*e*S	**Sb**	**19 00 53.1**	**-1.9**
VA03				IAML		19 01 04.2	
	comp=Z,150nm,0.5s						
VA03	**San Esteban**	**3.39**	**158**	*e*P	**Pn**	**19 00 08.0**	**+1.6**
VCA	**Vinchina**	**3.45**	**76**	*e*P	**Pb**	**19 00 12.4**	**-1.9**
VCA				*e*S	**Sb**	**19 00 52.8**	**-4.0**
VCA				IAML		19 01 06.6	
	comp=Z,124nm,1.3s						
ROC1	**El Roble**	**3.47**	**166**	*e*P	**Pn**	**19 00 08.4**	**+0.8**
ROC1				*e*S	**Sg**	**19 01 07.2**	**+3.5**
AC01	**Pan de Azucar**	**3.67**	**20**	*e*P	**Pn**	**19 00 09.8**	**-0.4**
AC01				*e*S	**Sb**	**19 01 04.4**	**+1.4**
AC01				IAML		19 01 14.3	
	comp=Z,49nm,1.0s						
MT02	**Curacav**	**3.72**	**168**	*e*P	**Pn**	**19 00 12.4**	**+1.6**
MT02				*e*S	**Sg**	**19 01 11.1**	**-0.7**
MT02				IAML		19 01 16.9	
	comp=Z,51nm,0.6s						
AC02	**Maricunga**	**3.76**	**43**	*e*P	**Pn**	**19 00 13.6**	**+1.7**
AC02				*e*S	**Sn**	**19 00 58.0**	**+0.9**
AC02	**Maricunga**	**3.76**	**43**	*e*P	**Pn**	**19 00 13.6**	**+1.7**
ASAL	**Salagasta**	**4.04**	**138**	*e*P	**Pn**	**19 00 19.4**	**+4.1**
ASAL				*e*S	**Sb**	**19 01 16.3**	**+2.6**
AVFE	**Valle Fertil**	**4.09**	**106**	*e*P	**Pn**	**19 00 18.4**	**+2.4**
AVFE				IAML		19 01 25.1	
	comp=Z,45nm,0.8s						
MT01	**Popeta**	**4.29**	**171**	*e*P	Pn	19 00 06.7	-12
MT01				*e*S	**Sb**	**19 01 19.5**	**-1.4**
MT01				IAML		19 01 27.0	
	comp=Z,26nm,0.8s						
BO02	**Sierra Bellavi**	**5.28**	**169**	*e*P	**Pn**	**19 00 34.4**	**+2.1**
BO02				IAML		19 02 09.0	
	comp=Z,27nm,0.9s						

ISK ***12*** *19:14:08.9, 38.68N×24.42E, h5km, ML3.3/25*

ATH ***12*** *19:14:11.5, 38.67N×24.42E, h11km±1km, ML3.4/21, Error ellipse: s-maj=1.2km s-min=0.6km az=147.0*

THE ***12*** *19:14:11.6, 38.65N×24.42E, h9km, ML3.5/22, Error ellipse: s-maj=0.9km s-min=0.4km az=151.0*

ISC 12 19:14:11.3±0.9, 38.67N±0.02×24.42E±0.02, h14km±7km, n150, σ0.9 93/202, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKY	**Skiros Island**	**0.23**	**27**	P	**Pg**	**19 14 16.6**	**+0.2**
SKY				S	**Sg**	**19 14 21.0**	**+1.1**
	25μm,0.4s						
SKY	**Skiros Island**	**0.23**	**27**	P	**Pg**	**19 14 16.6**	**+0.2**
SKY				S	**Sg**	**19 14 19.4**	**-0.5**
SKY				AML	AML	19 14 20.9	
	comp=E,47484μm,0.3s						
SKY				AML	AML	19 14 21.8	
	comp=N,41142μm,0.4s						
DION	**Dionisos Attik**	**0.70**	**213**	P	**Pb**	**19 14 25.5**	**+0.2**
DION				S	**Sb**	**19 14 35.6**	**+0.8**
	comp=N,23μm,0.3s						
DION	**Dionisos Attik**	**0.70**	**213**	P	**Pb**	**19 14 25.5**	**+0.2**
DION				S	**Sg**	**19 14 34.6**	**+0.4**
PTL	**Penteli**	**0.75**	**215**	P	**Pg**	**19 14 26.4**	**+0.4**
PTL				S	**Sb**	**19 14 36.7**	**+0.3**
	comp=N,5μm,0.4s						
PTL	**Penteli**	**0.75**	**215**	P	**Pg**	**19 14 26.4**	**+0.4**
PTL				S	**Sg**	**19 14 35.9**	**+0.1**
PTL				AML	AML	19 14 39.6	
	comp=E,11957μm,0.5s						
PTL				AML	AML	19 14 39.7	
	comp=N,8964μm,0.3s						
ATHU	**Athens Univers**	**0.86**	**216**	P	**Pg**	**19 14 27.2**	**-0.7**
ATHU				S	**Sg**	**19 14 38.7**	**-0.5**
	comp=N,2μm,0.3s						
ATHU	**Athens Univers**	**0.86**	**216**	P	**Pg**	**19 14 27.1**	**-0.7**
ATHU				S	**Sg**	**19 14 38.5**	**-0.6**
ATHU				AML	AML	19 14 41.2	
	comp=E,2297μm,0.3s						
ATHU				AML	AML	19 14 41.4	
	comp=N,7625μm,0.4s						
ATH	**Athens Observa**	**0.89**	**219**	P	**Pg**	**19 14 27.9**	**-0.6**
ATH				S	**Sg**	**19 14 40.1**	**+0.1**
	comp=N,5μm,0.3s						
ATH	**Athens Observa**	**0.89**	**219**	P	**Pg**	**19 14 27.8**	**-0.6**
ATH				S	**Sg**	**19 14 39.4**	**-0.6**
ATH				AML	AML	19 14 42.1	
	comp=E,9166μm,0.3s						
ATH				AML	AML	19 14 43.1	
	comp=N,11271μm,0.2s						
PSRA	**Psara**	**0.91**	**98**	P	**Pg**	**19 14 28.7**	**-0.1**
PSRA				S	**Sg**	**19 14 40.0**	**-0.7**
VLY	**Voula,Athens**	**0.95**	**211**	P	**Pg**	**19 14 28.7**	**-0.9**
VLY				S	**Sg**	**19 14 41.7**	**-0.3**
	comp=N,10μm,0.4s						
VLY	**Voula,Athens**	**0.95**	**211**	P	**Pg**	**19 14 28.9**	**-0.7**
VLY				S	**Sg**	**19 14 41.4**	**-0.6**
VLY				AML	AML	19 14 44.5	
	comp=E,19315μm,0.4s						
VLY				AML	AML	19 14 44.5	
	comp=N,21725μm,0.5s						
EFSA	**Agios Efstrati**	**0.98**	**27**	P	**Pg**	**19 14 30.0**	**-0.2**
EFSA				S	**Sg**	**19 14 42.4**	**-0.6**
EFSA				AML	AML	19 14 45.9	
	comp=E,3553μm,0.5s						
EFSA				AML	AML	19 14 47.3	
	comp=N,3927μm,0.4s						
VILL	**Villia**	**1.00**	**240**	P	**Pg**	**19 14 29.8**	**-0.8**
VILL				S	**Sb**	**19 14 44.9**	**+1.4**
	comp=N,7μm,0.9s						
VIL2	**Platees**	**1.01**	**244**	P	**Pg**	**19 14 30.2**	**-0.6**
VIL2				S	**Sg**	**19 14 43.2**	**-0.7**
VIL2				AML	AML	19 14 46.0	
	comp=N,10021μm,1.0s						
VIL2				AML	AML	19 14 50.1	
	comp=E,13314μm,0.8s						
NEO	**Neokhori**	**1.13**	**305**	P	**Pg**	**19 14 32.3**	**-0.8**
NEO				S	**Sn**	**19 14 48.9**	**+0.9**
	comp=E,2μm,0.6s						
NEO	**Neokhori**	**1.13**	**305**	P	**Pg**	**19 14 32.2**	**-0.8**
NEO				S	**Sg**	**19 14 46.6**	**-1.1**
NEO				AML	AML	19 14 51.1	
	comp=N,5021μm,0.5s						
NEO				AML	AML	19 14 53.4	
	comp=E,4731μm,0.6s						
XOR	**Xorichti**	**1.18**	**307**	P	**Pb**	**19 14 32.9**	**-0.6**
XOR				S	**Sg**	**19 14 49.4**	**-0.1**
	comp=E,2μm,0.7s						
XOR	**Xorichti**	**1.18**	**307**	P	**Pb**	**19 14 32.9**	**-0.6**
XOR				S	**Sg**	**19 14 49.0**	**-0.5**
XOR				AML	AML	19 14 54.0	
	comp=E,2756μm,0.5s						
XOR				AML	AML	19 14 55.6	
	comp=N,3496μm,0.5s						
SIGR	**SIGRI**	**1.25**	**64**	Pn	**Pn**	**19 14 34.3**	**0.0**
SIGR				Sn	**Sn**	**19 14 52.2**	**+1.3**
SIGR	**SIGRI**	**1.25**	**64**	P	**Pn**	**19 14 34.1**	**-0.2**
SIGR				S	**Sn**	**19 14 52.3**	**+1.3**
	comp=N,1μm,0.5s						
SIGR	**SIGRI**	**1.25**	**64**	P	**Pn**	**19 14 34.1**	**-0.2**
SIGR				S	**Sb**	**19 14 50.0**	**-0.6**
SIGR				AML	AML	19 14 53.8	
	comp=E,2065μm,0.5s						
SIGR				AML	AML	19 14 54.4	
	comp=N,3670μm,0.6s						
TNSA	**Tinos**	**1.27**	**152**	P	**Pn**	**19 14 34.1**	**-0.5**
TNSA				S	**Sb**	**19 14 50.0**	**-1.2**
LTK	**Loutraki**	**1.31**	**241**	P	**Pn**	**19 14 34.9**	**-0.3**
LTK				S	**Sb**	**19 14 51.0**	**-1.3**
LTK				AML	AML	19 14 58.0	
	comp=N,5788μm,0.3s						
LTK				AML	AML	19 14 59.4	
	comp=E,7705μm,0.6s						
CHOS	**Chios island**	**1.32**	**102**	Pn	**Pn**	**19 14 35.0**	**-0.3**
CHOS				Sn	**Sn**	**19 14 55.2**	**+2.5**
CHOS	**Chios island**	**1.32**	**102**	P	**Pn**	**19 14 35.4**	**+0.1**
CHOS	**Chios island**	**1.32**	**102**	P	**Pn**	**19 14 35.1**	**-0.3**
CHOS				S	**Sb**	**19 14 52.3**	**-0.3**
CHOS				AML	AML	19 14 58.9	
	comp=N,1334μm,0.6s						
CHOS				AML	AML	19 15 01.5	
	comp=E,1750μm,0.5s						
LOUT	**Loutraki**	**1.32**	**240**	P	**Pn**	**19 14 35.4**	**+0.1**
LOUT				S	**Sb**	**19 14 53.6**	**+0.9**
	comp=E,4μm,0.5s						
LOUT	**Loutraki**	**1.32**	**240**	P	**Pn**	**19 14 35.5**	**+0.1**
LOUT				S	**Sb**	**19 14 51.7**	**-1.0**
LOUT				AML	AML	19 14 56.5	
	comp=N,1327μm,0.5s						
LOUT				AML	AML	19 14 58.1	
	comp=E,1707μm,0.4s						
LIA	**Limnos Island**	**1.37**	**26**	P	**Pn**	**19 14 35.2**	**-0.7**
LIA				S	**Sb**	**19 14 54.8**	**+0.9**
	comp=E,2μm,0.5s						
LIA	**Limnos Island**	**1.37**	**26**	P	**Pn**	**19 14 35.3**	**-0.7**
LIA				S	**Sb**	**19 14 52.0**	**-1.9**
LIA				AML	AML	19 14 57.7	
	comp=E,3115μm,0.4s						
LIA				AML	AML	19 14 58.5	
	comp=N,4079μm,0.6s						
AXAR	**Agios Charalam**	**1.38**	**275**	P	**Pn**	**19 14 36.2**	**+0.1**
AXAR				S	**Sg**	**19 14 56.0**	**+0.3**
	comp=N,1μm,0.4s						
AXAR	**Agios Charalam**	**1.38**	**275**	P	**Pn**	**19 14 36.2**	**+0.1**
AXAR				S	**Sb**	**19 14 52.8**	**-1.5**
AXAR				AML	AML	19 15 01.4	
	comp=N,3035μm,0.4s						
AXAR				AML	AML	19 15 04.0	
	comp=E,2781μm,0.4s						
PAIG	**Paliouri**	**1.38**	**336**	Pn	**Pn**	**19 14 35.9**	**-0.3**
PAIG				Sn	**Sg**	**19 14 56.4**	**+0.6**
PAIG	**Paliouri**	**1.38**	**336**	P	**Pn**	**19 14 35.9**	**-0.3**
PAIG				S	**Sg**	**19 14 56.5**	**+0.6**
	comp=E,1μm,0.5s						
EAG1	**Polichnitos, L**	**1.47**	**73**	P	**Pn**	**19 14 37.5**	**+0.1**
EAG1				S	**Sn**	**19 14 56.6**	**+0.2**
THAL	**Thalero**	**1.52**	**246**	P	**Pn**	**19 14 38.1**	**+0.1**
THAL				S	**Sb**	**19 14 59.1**	**+0.9**
	comp=E,3μm,0.4s						
PRK	**Paraskevi**	**1.56**	**68**	P	**Pn**	**19 14 39.4**	**+0.8**
PRK				S	**Sb**	**19 15 00.5**	**+1.0**
	comp=E,702nm,0.9s						
PRK	**Paraskevi**	**1.56**	**68**	P	**Pn**	**19 14 38.5**	**0.0**
PRK				S	**Sn**	**19 14 58.2**	**-0.4**
PRK				AML	AML	19 15 09.2	
	comp=N,1212μm,0.9s						
PRK				AML	AML	19 15 10.2	
	comp=E,1470μm,0.7s						
KRND	**KRANIDI**	**1.63**	**218**	P	**Pn**	**19 14 39.2**	**-0.3**
KRND				S	**Sn**	**19 15 01.0**	**+0.8**
	comp=E,822nm,0.7s						
KRND	**KRANIDI**	**1.63**	**218**	P	**Pn**	**19 14 39.1**	**-0.3**
AGG	**Agios Georgios**	**1.67**	**283**	Pn	**Pn**	**19 14 40.0**	**-0.1**
AGG	**Agios Georgios**	**1.67**	**283**	P	**Pn**	**19 14 40.1**	**-0.1**
AGG	**Agios Georgios**	**1.67**	**283**	P	**Pn**	**19 14 40.0**	**-0.1**
AGG				S	**Sn**	**19 15 00.4**	**-0.9**
OUR	**Ouranopolis**	**1.70**	**349**	Pn	**Pn**	**19 14 40.7**	**+0.2**
OUR	**Ouranopolis**	**1.70**	**349**	P	**Pn**	**19 14 40.4**	**-0.1**
OUR				S	**Sn**	**19 15 03.5**	**+1.5**
	comp=E,820nm,0.5s						
OUR	**Ouranopolis**	**1.70**	**349**	P	**Pn**	**19 14 40.2**	**-0.3**
OUR				S	**Sn**	**19 15 02.8**	**+0.8**
OUR				AML	AML	19 15 10.4	
	comp=N,1848μm,0.5s						
OUR				AML	AML	19 15 10.8	
	comp=E,1459μm,0.4s						
GUR	**Goura**	**1.79**	**247**	P	**Pn**	**19 14 41.9**	**+0.1**
GUR				S	**Sn**	**19 15 05.5**	**+1.1**
	comp=E,1μm,0.5s						
GUR	**Goura**	**1.79**	**247**	P	**Pn**	**19 14 41.7**	**-0.1**
GUR				S	**Sn**	**19 15 03.4**	**-1.0**
GUR				AML	AML	19 15 06.8	
	comp=E,1906μm,0.3s						
GUR				AML	AML	19 15 14.6	
	comp=N,2729μm,0.6s						
MAKR	**Makrakomi, Fth**	**1.82**	**282**	P	**Pn**	**19 14 42.9**	**+0.7**
MAKR	**Makrakomi, Fth**	**1.82**	**282**	P	**Pn**	**19 14 42.9**	**+0.7**
MAKR				S	**Sn**	**19 15 04.4**	**-0.7**
MAKR				AML	AML	19 15 16.3	
	comp=N,979μm,0.6s						
MAKR				AML	AML	19 15 16.9	
	comp=E,601μm,0.4s						
APE	**Apeiranthos**	**1.82**	**151**	Pn	**Pn**	**19 14 42.2**	**-0.1**
APE	**Apeiranthos**	**1.82**	**151**	P	**Pn**	**19 14 42.3**	**-0.1**
APE				S	**Sn**	**19 15 03.8**	**-1.4**
	comp=E,442nm,0.6s						
APE	**Apeiranthos**	**1.82**	**151**	P	**Pn**	**19 14 42.2**	**-0.1**
TRIZ	**Trizonia**	**1.86**	**261**	P	**Pn**	**19 14 43.3**	**+0.5**
TRIZ	**Trizonia**	**1.86**	**261**	P	**Pn**	**19 14 42.6**	**-0.2**
EZN	**Ezine**	**1.88**	**51**	Pn	**Pn**	**19 14 42.8**	**-0.2**
EZN	**Ezine**	**1.88**	**51**	P	**Pn**	**19 14 43.3**	**+0.3**
KLV	**Kalavryta, Ach**	**1.89**	**251**	P	**Pn**	**19 14 43.4**	**+0.2**
KLV				S	**Sn**	**19 15 07.0**	**+0.2**
	comp=E,278nm,0.6s						
KLV	**Kalavryta, Ach**	**1.89**	**251**	P	**Pn**	**19 14 43.3**	**+0.2**
KLV				S	**Sn**	**19 15 05.6**	**-1.2**
KLV				AML	AML	19 15 09.5	
	comp=E,438μm,0.7s						
KLV				AML	AML	19 15 09.6	
	comp=N,538μm,0.5s						
GADA	**Gvkgeada**	**1.91**	**37**	Pn	**Pn**	**19 14 42.9**	**-0.5**
THAS	**Thassos island**	**1.95**	**7**	P	**Pn**	**19 14 43.2**	**-0.8**
THAS	**Thassos island**	**1.95**	**7**	P	**Pn**	**19 14 43.2**	**-0.8**
ANX	**Ano Chora**	**1.96**	**269**	P	**Pn**	**19 14 44.8**	**+0.7**
ANX	**Ano Chora**	**1.96**	**269**	P	**Pn**	**19 14 44.4**	**+0.3**
MHLO	**Agia Marina, M**	**1.97**	**180**	P	**Pn**	**19 14 44.3**	**0.0**
MHLO	**Agia Marina, M**	**1.97**	**180**	P	**Pn**	**19 14 44.2**	**-0.1**
EFP	**Efpalio**	**1.98**	**264**	P	**Pn**	**19 14 44.8**	**+0.4**
EFP	**Efpalio**	**1.98**	**264**	P	**Pn**	**19 14 44.7**	**+0.3**
EFP				S	**Sn**	**19 15

KNT	**Kendrikon**	**2.75**	**335**	P	**Pn**	**19 14 54.6**	**-0.4**
PYL	**PYLOS**	**2.76**	**231**	P	**Pn**	**19 14 56.7**	**+1.6**
PYL	**PYLOS**	**2.76**	**231**	P	**Pn**	**19 14 56.7**	**+1.6**
GRG	**Griva**	**2.76**	**326**	Pn	**Pn**	**19 14 55.6**	**+0.4**
GRG	**Griva**	**2.76**	**326**	P	**Pn**	**19 14 56.0**	**+0.8**
NYDR	**Nydri-Lefkada**	**2.91**	**272**	P	**Pn**	**19 15 00.5**	**+3.4**
NYDR	**Nydri-Lefkada**	**2.91**	**272**	P	**Pn**	**19 14 58.2**	**+1.1**
ANKY	**Antikythira Is**	**2.93**	**198**	P	**Pn**	**19 14 57.3**	**-0.2**
LKD2	**Lefkada island**	**2.94**	**274**	P	**Pn**	**19 15 01.1**	**+3.5**
EVGI	**Lefkada island**	**2.94**	**270**	P	**Pn**	**19 14 58.7**	**+1.1**
EVGI	**Lefkada island**	**2.94**	**270**	P	**Pn**	**19 14 58.3**	**+0.6**
TSLK	**Tsoukalades, L**	**2.94**	**274**	P	**Pn**	**19 15 01.1**	**+3.5**
TSLK	**Tsoukalades, L**	**2.94**	**274**	P	**Pn**	**19 14 58.8**	**+1.2**
LTHK	**Lithakia**	**2.98**	**252**	P	**Pn**	**19 15 00.5**	**+2.4**
UKOP	**Uzunkopru-Edir**	**2.99**	**34**	Pn	**Pn**	**19 14 58.7**	**+0.4**
DRAG	**Dragano-Lefkad**	**3.01**	**272**	P	**Pn**	**19 15 00.4**	**+1.9**
DRAG	**Dragano-Lefkad**	**3.01**	**272**	P	**Pn**	**19 14 58.8**	**+0.3**
FSK	**Fiskardo**	**3.03**	**267**	P	**Pn**	**19 15 00.9**	**+2.1**
FSK	**Fiskardo**	**3.03**	**267**	P	**Pn**	**19 14 59.2**	**+0.4**
VLS	**Valsamata**	**3.04**	**262**	P	**Pn**	**19 15 01.3**	**+2.3**
VLS	**Valsamata**	**3.04**	**262**	P	**Pn**	**19 14 59.4**	**+0.3**
PSDA	**Pessada-Kefalo**	**3.06**	**261**	P	**Pn**	**19 15 01.6**	**+2.4**
NEST	**Nestorio**	**3.13**	**305**	P	**Pn**	**19 15 00.8**	**+0.5**
RODP	**Rodopos**	**3.15**	**190**	Pn	**Pn**	**19 15 01.3**	**+0.9**
FNA	**Florina**	**3.16**	**313**	Pn	**Pn**	**19 15 01.4**	**+0.8**
FNA	**Florina**	**3.16**	**313**	P	**Pn**	**19 15 01.4**	**+0.8**
FNA	**Florina**	**3.16**	**313**	P	**Pn**	**19 15 01.6**	**+1.0**
DMLN	**Damoulianata-K**	**3.20**	**264**	P	**Pn**	**19 15 03.5**	**+2.3**
IMMV	**Iera Moni Meta**	**3.22**	**186**	Pn	**Pn**	**19 15 02.3**	**+0.9**
IGT	**Igoumenitsa**	**3.29**	**286**	P	**Pn**	**19 15 04.7**	**+2.3**
IDI	**Anoyia**	**3.40**	**173**	Pn	**Pn**	**19 15 04.1**	**+0.1**
IDI	**Anoyia**	**3.40**	**173**	P	**Pn**	**19 15 04.0**	**+0.1**
KNDR	**Palaiochora Ch**	**3.48**	**190**	Pn	**Pn**	**19 15 06.3**	**+1.3**
GVD	**Gavdhos**	**3.83**	**184**	Pn	**Pn**	**19 15 08.9**	**-0.9**

*KOLA **12** 19:17:47.0, 67°.63N×34°.34E, h0km, ML2.2, Error ellipse: s-maj=7.1km s-min=1.8km az=140.0, Murmansk region, Kirovsk district*
*HEL **12** 19:17:47.3±0.2, 67°.65N×34°.22E, h0km, ML1.9, Suspected explosion*
*IDC **12** 19:17:50.4±2.1, 67°.73N×33°.62E, h0km, mbtmp3.3/4, ML2.0/3, Error ellipse: s-maj=23.1km s-min=10.7km az=78.0*
ISC 12 19:17:46.7±1.0, **67°.66N**±0°.04×**34°.24E**±0°.04, **h0km, n26, σ1.9 31/43, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.28**	**33**	P	**Pg**	**19 17 52.6**	**+0.5**
LVZ				S	**Sg**	**19 17 56.5**	**+0.7**
LVZ	**Lovozero**	**0.28**	**33**	PG	**Pg**	**19 17 52.6**	**+0.5**
LVZ				SG	**Sg**	**19 17 56.8**	**+0.9**
APA	**Apatity**	**0.33**	**254**	P	**Pg**	**19 17 53.3**	**+0.2**
APA				S	**Sg**	**19 17 58.1**	**+0.7**
APA0	**Apatity Array**	**0.48**	**264**	P	**Pg**	**19 17 55.6**	**-0.3**
APA0				S	**Sg**	**19 18 03.1**	**+1.0**
TERR	**Teriberka**	**1.58**	**11**	P	**Pn**	**19 18 15.6**	**-0.4**
TERR				S	**Sn**	**19 18 36.1**	**-1.0**
VRF	**Varrio**	**1.77**	**275**	PG	**Pn**	**19 18 18.7**	**+0.1**
VRF				MSG		19 18 39.9	
	comp=Z,13nm,0.2s						
VRF				SG	**Sn**	**19 18 41.7**	**-0.1**
OLKF	**Oulanka, Finla**	**2.33**	**237**	PG	**Pn**	**19 18 27.7**	**+1.4**
OLKF				MSG		19 18 55.7	
	comp=Z,4.6nm,0.2s						
OLKF				SG	**Sb**	**19 18 59.4**	**+0.5**
RAJF	**Raja-Jooseppi**	**2.37**	**293**	PN	**Pn**	**19 18 27.2**	**+0.3**
RAJF				SB	**Sn**	**19 18 58.5**	**+1.9**
KU6	**Riekki**	**2.38**	**228**	PB	**Pn**	**19 18 28.1**	**+1.2**
	baz=47						
KU6				MSG		19 18 57.0	
	comp=Z,3.9nm,0.2s						
KU6				SG	**Sb**	**19 19 00.4**	**+0.1**
MSF	**Maaselka**	**2.71**	**232**	PB	**Pn**	**19 18 33.3**	**+1.8**
MSF				SG	**Sb**	**19 19 11.2**	**+1.5**
SGF	**Sodankyl**	**2.97**	**269**	PN	**Pn**	**19 18 36.5**	**+1.5**
SGF				SB	**Sb**	**19 19 16.8**	**-0.4**
KEV	**Kevo**	**3.38**	**312**	*e*P	**Pn**	**19 18 41.2**	**+0.7**
KEV	**Kevo**	**3.38**	**312**	PN	**Pn**	**19 18 41.4**	**+0.8**
KEV				SN	**Sn**	**19 19 21.9**	**+0.6**
RANF	**Ranua**	**3.38**	**244**	PN	**Pn**	**19 18 41.9**	**+1.2**
RANF				SG	**Sg**	**19 19 30.9**	**+2.0**
RNF	**Rovaniemi**	**3.38**	**256**	PN	**Pn**	**19 18 40.9**	**+0.2**
RNF				SN	**Sn**	**19 19 23.2**	**+1.8**
ARA0	**ARCESS Array S**	**3.71**	**304**	*e*P	**Pn**	**19 18 45.5**	**+0.2**
ARCES	**ARCESS Array B**	**3.71**	**304**	P	**Pn**	**19 18 45.2**	**0.0**
ARCES				S	**Sn**	**19 19 29.5**	**-0.2**
ARCES	**ARCESS Array B**	**3.71**	**304**	Pn	**Pn**	**19 18 45.4**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=120,slow=14,SNR=57						
ARCES				Sn	**Sn**	**19 19 27.8**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=122,slow=29,SNR=12						
ARCES				Lg	Lg	19 19 38.6	
	comp=Z,0.8nm,0.3s,baz=120,slow=27,SNR=6.5						
	comp=Z,0.4nm,0.3s						
RMF	**Romuvaara**	**3.88**	**209**	PN	**Pn**	**19 18 47.9**	**+0.3**
	baz=30						
HEF	**Hetta**	**4.05**	**286**	PN	**Pn**	**19 18 49.8**	**0.0**
HEF				SN	**Sn**	**19 19 38.7**	**+0.8**
OUL	**Oulu**	**4.24**	**236**	SG	**Sg**	**19 19 59.5**	**-3.2**
OBF4	**Vikkela, Lumij**	**4.67**	**237**	PN	**Pn**	**19 19 00.2**	**+1.8**
	baz=53						
FINES	**FINESS Array B**	**7.16**	**213**	Pn	**Pn**	**19 19 33.2**	**+0.6**
	comp=Z,0.1nm,0.3s,baz=28,slow=13,SNR=1.6						
FINES				Sn	**Sn**	**19 20 52.0**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=38,slow=23,SNR=5.0						
FINES				Lg	Lg	19 21 25.6	
	comp=Z,0.1nm,0.3s,baz=25,slow=33,SNR=1.5						
	comp=Z,0.4nm,0.6s						
I43RU	**DUBNA INFRASON**	**11.07**	**171**	I	I	20 23 00.0	
	baz=354,slow=314,SNR=3.2						
SPITS	**Spitsbergen Ar**	**11.70**	**342**	Pn	**Pn**	**19 20 32.2**	**-2.4**
	comp=Z,8.1nm,1.0s,baz=138,slow=15,SNR=1.5						
HFS	**Hagfors**	**11.72**	**240**	Pn	**Pn**	**19 20 32.0**	**-3.0**
	comp=Z,0.1nm,0.3s,baz=43,slow=28,SNR=2.2						
	comp=Z,1.6nm,1.0s						

IDC 12 19:21:32.6±1.1, **1°.48N**×**127°.77E, h0km, mb3.7/5, mbtmp3.7/5, MS2.7/2, Error ellipse: s-maj=73.0km s-min=19.5km az=74.0, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.28**	**231**	LR	LR	19 28 48.9	
	comp=Z,44nm,18.4s,baz=80,slow=42						
GUMO	**Guam**	**20.76**	**54**	LR	LR	19 34 04.0	
	comp=Z,13nm,18.1s,baz=185,slow=36						
WRA	**Warramunga Arr**	**22.24**	**163**	P	P	19 26 31.3	+0.1
	0.9nm,0.5s,baz=344,slow=10,SNR=15						
	0.9nm,0.5s						
ASAR	**Alice Springs**	**25.69**	**167**	P	P	19 27 04.4	-0.2
	0.4nm,0.4s,baz=346,slow=12,SNR=15						
	0.4nm,0.4s						
JNU	**Nakatsue**	**31.61**	**5**	P	P	19 27 57.5	0.0
	4.1nm,0.5s,baz=180,slow=3.0,SNR=8.5						
	4.1nm,0.5s						
MKAR	**Makanchi Array**	**59.99**	**326**	P	P	19 31 40.6	-0.4
	0.2nm,0.4s,baz=119,slow=8.4,SNR=2.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**64.19**	**328**	P	P	19 32 09.4	+0.3
	0.2nm,0.5s,baz=130,slow=6.1,SNR=7.4						
	0.2nm,0.5s						

*ISN **12** 19:26:21.4±0.8, 34°.93N×45°.82E, h5km±7km, ML2.8*
*TEH **12** 19:26:22.6, 34°.91N×45°.83E, h10km±87km, ML2.9*
ISC 12 19:26:23.1±1.4, **34°.90N**±0°.05×**45°.85E**±0°.04, **h4km**±14km, **n12, σ0.92/18, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.45**	**209**	Pg	**Pg**	**19 26 31.8**	**+0.2**
IDHR	**Dehrash**	**0.49**	**114**	Pg	**Pg**	**19 26 32.7**	**+0.3**
IDHR				Sg	**Sb**	**19 26 40.6**	**-1.3**
GLG1	**Gilan-e-Gharb**	**0.79**	**176**	Pg	**Pg**	**19 26 38.0**	**-0.1**
GLG1				Sg	**Sb**	**19 26 50.5**	**+0.1**
IGHG	**Ghaleghazi**	**0.82**	**133**	Pg	**Pb**	**19 26 39.2**	**-0.8**
ILIN	**Lien**	**0.92**	**88**	Pg	**Pb**	**19 26 41.5**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.16**	**122**	Pg	**Pb**	**19 26 45.3**	**-0.6**
ILBA	**Ilam Banvizeh**	**1.30**	**167**	Pg	**Pb**	**19 26 47.5**	**-0.7**
IKRK	**Kirkuk**	**1.33**	**292**	*e*Pn	**Pg**	**19 26 48.0**	**-0.6**
IKRK				*e*Sn	**Sg**	**19 27 07.5**	**+1.6**
IKRK				AML	AML	19 27 10.9	
	comp=N,296nm,0.4s						
IKRK				AML	AML	19 27 11.1	
	comp=E,339nm,0.7s						
IBZA	**Bozab**	**1.71**	**104**	Pg	**Pg**	**19 26 55.6**	**-0.3**
IBDR	**Badra**	**1.79**	**178**	*e*Pn	**Pb**	**19 26 55.0**	**-1.3**
IBDR				*e*Sn	**Sb**	**19 27 19.0**	**-0.1**
IBDR				AML	AML	19 27 30.5	
	comp=E,111nm,0.5s						
IBDR				AML	AML	19 27 32.9	
	comp=N,67nm,0.5s						
BHD	**Baghdad**	**2.03**	**217**	*e*Pn	**Pn**	**19 26 58.0**	**0.0**
BHD				*e*Sn	**Sb**	**19 27 25.0**	**-1.1**
RAFI	**Al-Rafai**	**3.17**	**176**	*e*Pn	**Pn**	**19 27 14.5**	**+0.7**
RAFI				*e*Sn	**Sn**	**19 27 53.5**	**+1.4**

*NEIC **12** 19:26:28.1±0.9, 19°.40N±0°.02×154°.99W±0°.01, h5km±1km, Error ellipse: s-maj=3.7km s-min=2.6km az=154.0*
HVO 12 19:26:27.4±0.8, **19°.39N**±0°.02×**154°.96W**±0°.01, **h5km**±4km, **Md2.0/7, ML2.9**/28(NEIC), **Error ellipse: s-maj=3.0km s-min=1.5km az=156.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.06**	**313**		Pg	19 26 29.3	+0.3
JCUZ	**Jacuzzi**	**0.14**	**266**	Pg	Pg	19 26 30.4	+0.1
JCUZ				Sg	Sg	19 26 32.3	+0.1
NPOC	**North of Pu'u**	**0.14**	**270**		Pg	19 26 30.5	+0.1
NPOC				Sg	Sg	19 26 32.8	+0.4
STCH	**Steam Cracks**	**0.16**	**267**		Pg	19 26 30.6	0.0
STCH				Sg	Sg	19 26 33.0	+0.2
STCH				IAML		19 26 33.1	
	comp=E,1μm,0.5s						
PUH	**Pauahi**	**0.24**	**266**		Pg	19 26 32.3	+0.1
PUH				IAML		19 26 39.8	
	comp=N,3μm,1.0s						
PUH				IAML		19 26 40.1	
	comp=E,2μm,0.8s						
RSD	**Rainshed**	**0.31**	**283**		Pg	19 26 33.9	+0.4
HLP	**Hilina Pali**	**0.34**	**254**		Pg	19 26 34.4	+0.2
MLH	**Mauna Loa**	**0.42**	**284**		Pg	19 26 35.5	0.0
MLH				IAML		19 26 45.9	
	comp=E,1μm,0.9s						
HTC	**Hot Caves**	**0.44**	**250**		Pg	19 26 36.0	0.0
HMH	**Humu'ula Sheep**	**0.54**	**293**		Pg	19 26 37.8	-0.1
HMH				IAML		19 26 43.3	
	comp=N,599nm,0.8s						
HMH				IAML		19 26 44.2	
	comp=E,689nm,0.8s						
HMH					Sg	19 26 45.6	+0.7
MLOA	**Mauna Loa Obse**	**0.60**	**284**	Pg	Pg	19 26 38.3	-0.8
MLOA				IAML		19 26 45.5	
	comp=N,730nm,1.1s						
MLOA				IAML		19 27 00.2	
	comp=E,592nm,1.0s						
MWH	**Moku'aweowe**	**0.61**	**279**		Pg	19 26 38.2	-1.1
KHU	**Kahuku**	**0.64**	**257**		Pg	19 26 38.9	-0.9
KHU				IAML		19 26 51.2	
	comp=E,718nm,1.1s						
KHU				IAML		19 26 58.0	
	comp=N,739nm,1.1s						
POHA	**Pohakuloa**	**0.65**	**304**	Pg	Pg	19 26 39.0	-1.1
POHA				IAML		19 26 49.8	
	comp=N,407nm,0.8s						
POHA				IAML		19 27 00.1	
	comp=N,676nm,1.1s						
HUH	**Hualalai**	**0.88**	**289**	Pg	Pg	19 26 43.5	-0.9
HUH				IAML		19 26 55.9	
	comp=E,440nm,1.1s						
HUH				IAML		19 27 15.1	
	comp=N,373nm,0.9s						

*NEIC **12** 19:37:41.1±1.4, 19°.41N±0°.02×154°.91W±0°.01, h5km±1km, Error ellipse: s-maj=3.6km s-min=2.9km az=351.0*
HVO 12 19:37:40.6±1.6, **19°.46N**±0°.02×**154°.91W**±0°.02, **h3km**±3km, **ML2.5/5, ML2.9**/18(NEIC), **Error ellipse: s-maj=2.5km s-min=2.1km az=189.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.03**	**47**		Pg	19 37 43.0	+1.5
PHO	**Puu Honuaula**	**0.03**	**47**		Pg	19 37 41.9	+0.5
PAH	**Pahoa**	**0.05**	**312**		Pg	19 37 42.3	+0.6
JOKA	**Jonika Flow**	**0.09**	**251**		Pg	19 37 44.3	+1.8
STCH	**Steam Cracks**	**0.22**	**249**	Pg	Pg	19 37 45.3	+0.4
RSD	**Rainshed**	**0.35**	**270**	Pg	Pg	19 37 48.2	+0.8
RSD				IAML		19 37 49.3	
	comp=E,2μm,1.1s						
HLP	**Hilina Pali**	**0.41**	**246**	Pg	Pg	19 37 49.2	+0.6
HLP					Sb	19 37 55.6	-1.6
HLP				IAML		19 38 02.5	
	comp=E,2μm,0.8s						
MLH	**Mauna Loa**	**0.45**	**274**		Pg	19 37 50.0	+0.6
MLH				IAML		19 37 57.7	
	comp=N,2μm,1.0s						
MLH				IAML		19 38 02.6	
	comp=E,973nm,1.0s						
HMH	**Humu'ula Sheep**	**0.56**	**284**	Pg	Pg	19 37 51.5	+0.1
HMH					Sg	19 38 00.1	+1.4
HMH				IAML		19 38 01.1	
	comp=N,686nm,0.8s						
HMH				IAML		19 38 03.9	
	comp=E,550nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.63**	**277**	Pg	Pg	19 37 52.5	-0.3
MLOA				IAML		19 38 02.8	
	comp=E,502nm,0.9s						
MLOA				IAML		19 38 03.0	
	comp=N,647nm,0.8s						
MWH	**Moku'aweowe**	**0.65**	**272**		Pg	19 37 53.0	-0.2
ALEP	**Alea Permanent**	**0.70**	**276**		Sg	19 38 04.1	+1.0
KHU	**Kahuku**	**0.70**	**252**	Pg	Pg	19 37 53.6	-0.5
KHU				IAML		19 38 09.9	
	comp=N,628nm,1.1s						
KHU				IAML		19 38 10.6	
	comp=E,558nm,1.2s						
HUH	**Hualalai**	**0.90**	**284**	Pg	Pg	19 37 58.1	+0.1

IDC 12 19:40:02.0±2.4, **5°.71S**×**151°.77E, h0km, mb3.3/3, mbtmp3.4/3, Error ellipse: s-maj=161.7km s-min=32.7km az=127.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.08**	**229**	P	P	19 44 59.0	+0.1
	0.5nm,0.7s,baz=56,slow=10,SNR=1.9						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**24.79**	**222**	P	P	19 45 25.9	0.0
	0.8nm,0.7s,baz=52,slow=9.6,SNR=8.5						
	0.8nm,0.7s						
ILAR	**Eielson Array**	**83.38**	**22**	P	P	19 52 30.9	0.0
	0.3nm,0.7s,baz=226,slow=3.6,SNR=3.3						
	0.3nm,0.7s						

*IDC **12** 20:01:01.5±0.7, 6°.51S×143°.19E, h0km, mb4.3/12, mbtmp4.3/14, ML1.9/1, MS3.2/8, Error ellipse: s-maj=28.4km s-min=14.8km az=76.0*
*NEIC **12** 20:01:04.1±2.2, 6°.54S±0°.08×142°.92E±0°.08, h10km±1km, mb4.6/32, Error ellipse: s-maj=14.2km s-min=12.6km az=124.0*
ISC 12 20:01:07.0±0.4, **6°.59S**±0°.05×**143°.03E**±0°.06, **h35km, n82, σ1.9 69/78, mb4.5/33, MS3.1/6, New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	**Tabubil**	**2.23**	**306**	P	**Pn**	**20 01 42.7**	**+1.2**
PMG	**Port Moresby**	**4.95**	**125**	Pn	**Pn**	**20 02 17.6**	**-1.3**
	3.5nm,0.3s,baz=329,slow=7.9,SNR=12						
PMG				Sn	**Sn**	**20 03 12.2**	**-2.7**
	10nm,0.3s,baz=198,slow=21,SNR=6.9						
PMG				LR	LR	20 04 21.4	
	comp=Z,67nm,20.6s,baz=234,slow=41						
	20nm,0.6s						
MANU	**Manus Island**	**6.25**	**44**		**Pn**	**20 02 37.0**	**+0.2**
COEN	**Coen**	**7.32**	**179**	P	**Pn**	**20 02 55.0**	**+3.5**
COEN	**Coen**	**7.32**	**179**		**Pn**	**20 02 51.7**	**+0.2**
RABL	**Rabaul**	**9.40**	**76**	Pn	**Pn**	**20 03 21.5**	**+1.5**
FAKI	**Fak Fak**	**11.35**	**288**	P	**Pn**	**20 03 47.1**	**+0.4**
FAKI	**Fak Fak**	**11.35**	**288**	Pn	**Pn**	**20 03 42.8**	**-4.0**
KDU	**Kakadu**	**12.04**	**239**	P	**Pn**	**20 03 55.6**	**-0.6**
MTN	**Manton Dam**	**13.27**	**241**	P	**Pn**	**20 04 12.9**	**-0.1**
MTN	**Manton Dam**	**13.27**	**241**		**Pn**	**20 04 10.0**	**-3.0**
QIS	**Mount Isa**	**14.28**	**193**	P	**Pn**	**20 04 28.2**	**+1.4**
WB0	**Warramunga Arr**	**15.56**	**212**	Pn	**Pn**	**20 04 42.4**	**-1.4**
WRA	**Warramunga Arr**	**15.73**	**212**	Pn	**Pn**	**20 04 44.5**	**-1.6**
WRA	**Warramunga Arr**	**15.73**	**212**	Pn	**Pn**	**20 04 41.8**	**-4.3**
	0.3nm,0.3s,baz=29,slow=14,SNR=6.0						
WRA				Sn	**Sn**	**20 07 40.8**	**+1.5**
	0.3nm,0.3s,baz=142,slow=10,SNR=2.4						
WRA				Lg	Lg	20 09 18.1	
	0.1nm,0.3s,baz=27,slow=30,SNR=4.8						
SOEI	**Soe**	**18.84**	**259**		**P**	**20 05 22.6**	**-1.5**
SOEI				IAmb	IAmb	20 05 42.5	
	comp=Z,39nm,0.9s						
AS31	**Alice Springs**	**19.11**	**206**		**P**	**20 05 26.6**	**-0.4**
ASAR	**Alice Springs**	**19.11**	**206**		**P**	**20 05 27.7**	**+0.6**
ASAR	**Alice Springs**	**19.11**	**206**	P	**Pn**	**20 05 28.2**	**+0.2**
	comp=Z,9.8nm,1.1s,baz=30,slow=12,SNR=24						
ASAR				S	**Sn**	**20 08 56.4**	**-4.9**
	comp=Z,2.5nm,0.9s,baz=16,slow=28,SNR=5.2						
ASAR				Lg	Lg	20 11 10.9	
	comp=Z,0.1nm,0.3s,baz=14,slow=29,SNR=4.3						
ASAR				LR	LR	20 13 28.1	
	comp=Z,226nm,20.9s,baz=20,slow=39						
GUMO	**Guam**	**20.13**	**5**	LR	LR	20 11 48.7	
	comp=Z,29nm,21.8s,baz=176,slow=32						
EIDS	**Eidsvold**	**20.20**	**158**	P	Pn	20 05 40.7	-0.2
PATS	**Pohnpei**	**20.26**	**49**	P	**P**	**20 05 37.7**	**-1.8**
FITZ	**Fitzroy Crossi**	**20.46**	**234**	P	**P**	**20 05 43.0**	**+1.3**
FITZ	**Fitzroy Crossi**	**20.46**	**234**	P	**P**	**20 05 42.1**	**+0.4**
LUWI	**Luwuk**	**20.95**	**284**	P	**P**	**20 05 46.9**	**-0.1**
LUWI				IAmb	IAmb	20 05 55.2	
	comp=Z,48nm,1.2s						
INKA	**Innaminka**	**21.15**	**186**	P	**P**	**20 05 52.8**	**+3.8**
OOD	**Oodnadatta**	**22.21**	**197**	P	**P**	**20 06 03.1**	**+2.6**
WRKA	**Warakurna**	**23.14**	**216**	P	**P**	**20 06 12.2**	**+1.8**
TOLI2	**Tolitoli**	**23.49**	**288**	P	**P**	**20 06 13.2**	**-0.6**
TOLI2				IAmb	IAmb	20 06 24.0	
	comp=Z,9.0nm,0.8s						
MULG	**Mulgathing**	**25.03**	**199**	P	**P**	**20 06 29.9**	**+2.0**
STKA	**Stephens Creek**	**25.19**	**183**	P	**P**	**20 06 30.5**	**+1.1**
STKA	**Stephens Creek**	**25.19**	**183**	P	**P**	**20 06 29.4**	**+0.1**
	comp=Z,3.5nm,1.1s,baz=355,slow=10,SNR=5.1						
STKA				LR	LR	20 17 38.2	
	comp=Z,124nm,18.9s,baz=24,slow=39						
	comp=Z,3.5nm,1.1s						
DZM	**Mont Dzumac**	**27.34**	**127**	*e*LR	LR	20 13 53.4	
	comp=Z,63nm,22.9s						
FORT	**Forrest**	**27.86**	**208**	P	**P**	**20 06 53.3**	**-0.1**
NWAO	**Narrogin (SRO)**	**35.52**	**219**	LR	LR	20 23 32.9	
	comp=Z,118nm,20.0s,baz=226,slow=38						
NJ2	**Nanjing**	**44.81**	**330**	*e*P	**P**	**20 09 18.2**	**+0.5**
NJ2				pP	**pP**	**20 09 22.1**	**-6.1**
NJ2				sP	sP	20 09 23.9	-8.5
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,100nm,5.2s						
KSRS	**Korea Array**	**46.03**	**343**	P	**P**	**20 09 26.6**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=154,slow=8.8,SNR=6.6						
KSRS				LR	LR	20 26 08.2	
	comp=Z,12nm,21.6s,baz=205,slow=33						
	comp=Z,2.2nm,1.0s						
PHRA	**Phrae**	**49.02**	**301**	P	**P**	**20 09 50.8**	**-0.1**
LYN	**LuoYang**	**50.08**	**327**	*e*P	**P**	**20 10 00.0**	**+1.4**
LYN				pmax	pmax		
	comp=Z,23nm,0.5s						
CMAR	**Chiang Mai Arr**	**50.10**	**301**	P	**P**	**20 09 59.0**	**0.0**
CMAR	**Chiang Mai Arr**	**50.10**	**301**	P	**P**	**20 09 59.3**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=121,slow=6.0,SNR=7.9						
	comp=Z,1.1nm,0.6s						
PZH	**PanZhiHua**	**51.81**	**311**	P	**P**	**20 10 13.9**	**+2.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.6s						
MDJ	**Mudanjiang**	**52.39**	**348**	P	**P**	**20 10 16.6**	**+0.9**
MDJ				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,110nm,3.9s						
HHC	**Hu-ho-hao-te**	**55.35**	**331**	*e*P	**P**	**20 10 41.5**	**+3.9**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,31nm,4.5s						
XLT	**XiLinHaoTe**	**55.85**	**337**	*e*PP	P	20 10 49.0	+7.9
XLT				pmax	pmax		
	comp=Z,13nm,0.7s						
XLT				pmax	pmax		
	comp=Z,45nm,4.9s						
KLR	**Kul'dur**	**56.46**	**351**	LR	LR	20 30 37.1	
	comp=Z,18nm,21.7s,baz=138,slow=32						
SHL	**Shillong**	**59.07**	**305**	P	**P**	**20 11 04.1**	**-0.2**
GTA	**Gaotai**	**60.74**	**323**	*e*P	**P**	**20 11 15.4**	**0.0**
GTA				pP	pP	20 11 20.6	-5.7
GTA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
PETK	**Petropavlovsk-**	**60.76**	**10**	P	**P**	**20 11 14.5**	**-0.7**
	comp=Z,4.7nm,0.9s,baz=182,slow=3.7,SNR=5.4						
	comp=Z,4.7nm,0.9s						
ULN	**Ulaanbaatar**	**62.80**	**334**	P	**P**	**20 11 29.9**	**+0.7

comp=Z,4.0nm,0.8s
CCB **Clear Creek Bu** **87.18** **24** P **P** **20 13 49.2 -0.1**
CCB IAmb IAmb 20 14 02.7
comp=Z,6.5nm,1.1s
ILAR **Eielson Array** **87.59** **24** P **P** **20 13 49.8 -1.4**
comp=Z,1.9nm,0.7s,baz=260,slow=5.3,SNR=8.6
comp=Z,1.9nm,0.7s
C23K **Itkillik River** **88.21** **19** P **P** **20 13 55.0 +0.9**
F24K **Squaw Lake** **88.21** **21** P **P** **20 13 55.0 +0.8**
F24K IAmb IAmb 20 13 56.2
comp=Z,3.3nm,0.8s
DBIC **Dimbokro** **148.11** **272** PKPbc **PKPbc** **20 20 50.8 +0.6**
comp=Z,8.7nm,1.0s,baz=107,slow=3.0,SNR=4.5

KNET ***12*** *20:14:12.0±0.3, 42.°82N×74.°32E, h21km±4km, ml3.1, Error ellipse: s-maj=2.8km s-min=2.2km az=157.0*
NNC ***12*** *20:14:12.7±0.4, 42.°83N×74.°33E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=2.6km s-min=1.6km az=104.0*
KRNET ***12*** *20:14:12.4±0.1, 42.°81N×74.°31E, h17km, mb3.2*
SOME ***12*** *20:14:12.7, 42.°85N×74.°30E, h15km*
ISC 12 20:14:12.8±1.0, **42.°82N**±0.°02×**74.°29E**±0.°01, **h6**km±8km, **n90**, σ1**s19**/169, **49C-38D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**0.23**	**141**	⇑P		**Pg**	**20 14 18.0**	**+0.5**
	529nm,0.1s,SNR=1274							
AAK				⇓S		**Sg**	**20 14 21.7**	**+1.1**
	7μm,0.3s							
AAK	**Ala-Archa**	**0.23**	**141**	⇑P		**Pg**	**20 14 18.0**	**+0.5**
	97nm,0.2s							
AAK				⇓S		**Sg**	**20 14 20.0**	**-0.6**
	2μm,0.3s							
AAK	**Ala-Archa**	**0.23**	**141**	⇑*i*P		**Pg**	**20 14 17.9**	**+0.5**
	baz=42							
AAK				⇑*i*S		**Sg**	**20 14 20.5**	**-0.1**
	baz=42							
FRU1	**Bishkek**	**0.25**	**92**	⇓*i*P		**Pg**	**20 14 17.9**	**+0.2**
	baz=90							
FRU1				⇓*i*S		**Sg**	**20 14 20.8**	**-0.2**
	baz=90							
CHMS	**Chumysh**	**0.38**	**62**	⇑P		**Pg**	**20 14 20.1**	**-0.1**
	123nm,0.2s,SNR=268							
CHMS				⇑S		**Sg**	**20 14 25.4**	**+0.1**
	1μm,0.2s							
CHMS	**Chumysh**	**0.38**	**62**	⇓P		**Pg**	**20 14 19.9**	**-0.3**
	32nm,0.2s							
CHMS				⇑S		**Sg**	**20 14 25.1**	**-0.1**
	184nm,0.3s							
CHMS				Lg		Lg	20 16 04.2	
	51nm,0.2s							
CHMS	**Chumysh**	**0.38**	**62**	⇓*i*P		**Pg**	**20 14 20.1**	**-0.1**
	baz=60							
CHMS				⇓*i*S		**Sg**	**20 14 25.0**	**-0.2**
	baz=60							
EKS2	**Erkin-Say**	**0.41**	**248**	⇑P		**Pg**	**20 14 21.3**	**+0.5**
	71nm,0.2s,SNR=406							
EKS2				⇓S		**Sg**	**20 14 27.1**	**+0.8**
	299nm,0.2s							
EKS2	**Erkin-Say**	**0.41**	**248**	⇑*i*P		**Pg**	**20 14 20.9**	**+0.1**
	baz=49							
EKS2				⇑*i*S		**Sg**	**20 14 27.0**	**+0.8**
	baz=49							
USP	**Ospenovka**	**0.47**	**19**	⇓P		**Pg**	**20 14 21.8**	**-0.1**
	78nm,0.1s,SNR=885							
USP				⇑S		**Sg**	**20 14 28.3**	**+0.2**
	2μm,0.1s							
USP	**Ospenovka**	**0.47**	**19**	⇓*i*P		**Pg**	**20 14 21.8**	**-0.1**
	baz=17							
USP				⇓*i*S		**Sg**	**20 14 28.3**	**+0.2**
	baz=17							
KBK	**Karagaybulak**	**0.51**	**108**	⇑P		**Pg**	**20 14 22.5**	**-0.1**
	827nm,0.1s,SNR=382							
KBK				⇓S		**Sg**	**20 14 30.0**	**+0.7**
	1μm,0.2s							
KBK	**Karagaybulak**	**0.51**	**108**	⇑*i*P		**Pg**	**20 14 21.8**	**-0.8**
	baz=8.0							
KBK				⇑*i*S		**Sg**	**20 14 29.0**	**-0.3**
	baz=8.0							
UCH	**Uchtor**	**0.61**	**165**	P		**Pg**	**20 14 24.7**	**+0.1**
	103nm,0.2s,SNR=490							
UCH				⇑S		**Sg**	**20 14 32.9**	**+0.2**
	1μm,0.2s							
UCH	**Uchtor**	**0.61**	**165**	⇑*i*P		**Pg**	**20 14 23.9**	**-0.8**
	baz=65							
UCH				⇑*i*S		**Sg**	**20 14 32.7**	**0.0**
	baz=65							
SGDS	**Sogindy**	**0.68**	**21**	P		**Pg**	**20 14 25.3**	**-0.5**
	56nm,0.1s							
SGDS				P		**Pg**	**20 14 25.4**	**-0.5**
SGDS				S		**Sg**	**20 14 33.6**	**-1.1**
	447nm,0.1s							
SGDS				S		**Sb**	**20 14 34.4**	**-2.3**
MRKS	**Merke**	**0.79**	**265**	P		**Pg**	**20 14 27.5**	**-0.4**
	64nm,0.2s							
MRKS				S		**Sg**	**20 14 38.5**	**+0.2**
	768nm,0.2s							
MRKS	**Merke**	**0.79**	**265**	*e*P		**Pg**	**20 14 27.5**	**-0.4**
	64nm,0.2s							
MRKS				*e*S		**Sg**	**20 14 38.5**	**+0.2**
	768nm,0.2s							
ARLS	**Aral**	**0.96**	**179**	⇓*i*P		**Pg**	**20 14 30.5**	**-0.7**
	baz=79							
ARLS				⇓*i*S		**Sg**	**20 14 43.5**	**-0.1**
	baz=79							
TKM2	**Tokmak 2**	**0.96**	**84**	⇑P		**Pg**	**20 14 30.1**	**-1.1**
	40nm,0.1s,SNR=112							
TKM2				⇑S		**Sg**	**20 14 43.3**	**-0.5**
	730nm,0.1s							
TKM2	**Tokmak 2**	**0.96**	**84**	⇓P		**Pg**	**20 14 29.9**	**-1.4**
	23nm,0.3s							
TKM2				⇓S		**Sg**	**20 14 42.9**	**-0.9**
	84nm,0.3s							
TKM2	**Tokmak 2**	**0.96**	**84**	⇓*i*P		**Pg**	**20 14 30.3**	**-1.0**
	baz=83							
TKM2				⇓*i*S		**Sg**	**20 14 43.5**	**-0.3**
	baz=83							
DGS	**Degeres**	**1.16**	**68**	P		**Pb**	**20 14 34.3**	**-1.0**
	46nm,0.2s							
DGS				P		**Pn**	**20 14 34.5**	**-1.2**
	54nm,0.2s							
DGS				S		**Sb**	**20 14 49.5**	**-1.2**
	253nm,0.3s							
DGS				S		**Sb**	**20 14 49.6**	**-1.2**
	339nm,0.3s							
DGS	**Degeres**	**1.16**	**68**	*e*P		**Pb**	**20 14 34.4**	**-1.0**
	46nm,0.2s							
DGS				*e*S		**Sb**	**20 14 49.6**	**-1.2**
	339nm,0.3s							
KST	**Kastek**	**1.25**	**79**	P		**Pn**	**20 14 35.6**	**-1.3**
	34nm,0.3s							
KST				S		**Sb**	**20 14 52.3**	**-0.9**
	390nm,0.3s							
KST	**Kastek**	**1.25**	**79**	*e*P		**Pn**	**20 14 35.6**	**-1.3**
	34nm,0.3s							
KST				*e*S		**Sb**	**20 14 52.3**	**-0.9**
	390nm,0.3s							
BOOM	**Boomskoye usch**	**1.26**	**105**	⇑*i*P		**Pn**	**20 14 35.9**	**-1.2**
	baz=4.0							
BOOM				⇑*i*S		**Sb**	**20 14 52.3**	**-1.2**
	baz=4.0							
MNAS	**Manas**	**1.36**	**256**	⇑*i*P		**Pn**	**20 14 37.6**	**-0.8**
	baz=57							
MNAS				⇑*i*S		**Sb**	**20 14 55.6**	**-0.8**
	baz=57							
ULHL	**Ulahol**	**1.55**	**111**	⇑P		**Pb**	**20 14 41.1**	**-0.9**
	88nm,0.2s,SNR=13							
ULHL				S		**Sb**	**20 15 01.4**	**-0.6**
	151nm,0.2s							
ULHL	**Ulahol**	**1.55**	**111**	⇓*i*P		**Pn**	**20 14 40.6**	**-0.5**
	baz=11							
ULHL				⇓*i*S		**Sb**	**20 15 01.4**	**-0.6**
	baz=11							
IZV	**Izvestkoviy**	**1.72**	**82**	P		**Pb**	**20 14 43.9**	**-0.9**
	35nm,0.2s							
IZV				P		**Pg**	**20 14 44.3**	**-1.4**
	35nm,0.3s							
IZV				S		**Sb**	**20 15 06.1**	**-0.7**
	322nm,0.3s							
IZV				S		**Sb**	**20 15 06.1**	**-0.7**
	383nm,0.5s							
IZV	**Izvestkoviy**	**1.72**	**82**	*e*P		**Pb**	**20 14 43.9**	**-0.9**
	35nm,0.2s							
IZV				*e*S		**Sb**	**20 15 06.1**	**-0.7**
	322nm,0.3s							
KASK	**Kaskelen**	**1.77**	**76**	⇓Pn		**Pb**	**20 14 45.0**	**-0.6**
KASK				⇑Sn		**Sg**	**20 15 09.4**	**-0.2**
ARSB	**Arslanbob**	**1.79**	**214**	⇑P		**Pb**	**20 14 45.0**	**-1.0**
	baz=14							
ARSB				⇑*i*S		**Sb**	**20 15 08.7**	**+0.1**
	baz=14							
NRN	**Naryn**	**1.88**	**137**	⇓*e*P		**Pb**	**20 14 46.5**	**-1.2**
	baz=38							
NRN				⇓*e*S		**Sb**	**20 15 11.0**	**-0.5**
	baz=38							
KTBS	**Karatobe**	**1.96**	**62**	P		**Pb**	**20 14 47.5**	**-1.4**
	42nm,0.2s							
KTBS				Pg		**Pb**	**20 14 48.0**	**-0.9**
	23nm,0.4s							
KTBS				S		**Sn**	**20 15 11.7**	**+0.2**
	421nm,0.4s							
KTBS				Lg		Lg	20 15 13.6	
	424nm,0.6s							
KTBS	**Karatobe**	**1.96**	**62**	*e*P		**Pb**	**20 14 48.0**	**-0.9**
	23nm,0.4s							
KTBS				*e*S		**Sb**	**20 15 13.6**	**0.0**
	424nm,0.6s							
TNSS	**Tian-Shan**	**1.96**	**83**	P		**Pb**	**20 14 48.3**	**-0.8**
	46nm,0.4s							
TNSS				S		**Sb**	**20 15 13.9**	**0.0**
	143nm,0.5s							
TNSS	**Tian-Shan**	**1.96**	**83**	*e*P		**Pb**	**20 14 48.3**	**-0.8**
	46nm,0.4s							
TNSS				*e*S		**Sb**	**20 15 13.9**	**0.0**
	143nm,0.5s							
AAA	**Alma-Ata**	**1.96**	**78**	Pg		**Pb**	**20 14 48.6**	**-0.3**
	100nm,0.3s							
AAA				Lg		Lg	20 15 14.1	
	676nm,0.6s							
AAA	**Alma-Ata**	**1.96**	**78**	*e*P		**Pb**	**20 14 48.6**	**-0.3**
	100nm,0.3s							
AAA				*e*S		**Sb**	**20 15 14.1**	**+0.4**
	676nm,0.6s							
KNDC	**Almaty**	**2.00**	**78**	⇑Pn		**Pb**	**20 14 48.8**	**-0.8**
	39nm,0.3s							
KNDC				⇑Sn		**Sg**	**20 15 16.1**	**-0.9**
	402nm,0.6s							
ARK	**Arkit**	**2.01**	**240**	⇑*e*P		**Pb**	**20 14 48.5**	**-1.2**
	baz=41							
ARK				⇑*e*S		**Sb**	**20 15 14.4**	**-0.6**
	baz=41							
MDOK	**Medeo**	**2.05**	**79**	Pn		**Pb**	**20 14 49.3**	**-1.2**
	20nm,0.3s							
MDOK				Pg		**Pb**	**20 14 49.7**	**-0.8**
	53nm,0.3s							
MDOK				Lg		Lg	20 15 17.1	
	295nm,0.4s							
MDOK				Sn		**Sg**	**20 15 17.2**	**-1.4**
	171nm,0.6s							
MDOK	**Medeo**	**2.05**	**79**	*e*P		**Pb**	**20 14 49.7**	**-0.8**
	53nm,0.3s							
MDOK				*e*S		**Sb**	**20 15 17.1**	**+0.8**
	295nm,0.4s							
KOTS	**Kotyrbulak**	**2.11**	**78**	Pg		**Pb**	**20 14 50.4**	**-1.1**
	31nm,0.3s							
KOTS				Pg		**Pg**	**20 14 50.8**	**-2.3**
	32nm,0.3s							
KOTS				Lg		Lg	20 15 17.2	
	556nm,0.5s							
KOTS				Lg		Lg	20 15 18.0	
	573nm,0.5s							
KOTS	**Kotyrbulak**	**2.11**	**78**	*e*P		**Pb**	**20 14 50.4**	**-1.1**
	31nm,0.3s							
KOTS				*e*S		**Sb**	**20 15 17.2**	**-0.7**
	556nm,0.5s							
DZA	**Taraz**	**2.18**	**273**	Pg		**Pb**	**20 14 52.5**	**-0.1**
	35nm,0.2s							
DZA				Lg		Lg	20 15 21.0	
	265nm,0.3s							
DZA	**Taraz**	**2.18**	**273**	*e*P		**Pb**	**20 14 52.5**	**-0.1**
	35nm,0.2s							
DZA				*e*S		**Sg**	**20 15 21.0**	**-1.8**
	265nm,0.3s							
CHKK	**Chushkaly**	**2.22**	**61**	Pg		**Pb**	**20 14 52.0**	**-1.3**
	7.5nm,0.3s							
CHKK				Lg		Lg	20 15 20.1	
	159nm,0.4s							
CHKK	**Chushkaly**	**2.22**	**61**	*e*P		**Pb**	**20 14 52.0**	**-1.3**
	7.5nm,0.3s							
CHKK				*e*S		**Sb**	**20 15 20.1**	**-1.0**
	159nm,0.4s							
BTLS	**Baital**	**2.23**	**355**	Pg		**Pb**	**20 14 52.9**	**-0.6**
BTLS				Lg		Lg	20 15 21.4	
BTLS	**Baital**	**2.23**	**355**	*e*P		**Pb**	**20 14 52.9**	**-0.6**
BTLS				*e*S		**Sb**	**20 15 21.4**	**+0.2**
KDJ	**Kajisay**	**2.24**	**107**	⇑*e*P		**Pn**	**20 14 51.5**	**+0.9**
	baz=7.0							
KDJ				⇑*e*S		**Sb**	**20 15 20.1**	**-1.8**
	baz=7.0							
ANVS	**Anan'yevo**	**2.48**	**90**	⇑*e*P		**Pn**	**20 14 54.9**	**+1.0**
	baz=90							
ANVS				⇑*e*S		**Sn**	**20 15 25.5**	**+0.9**
	baz=90							
OHH	**Osh**	**2.56**	**207**	⇑*i*P		**Pn**	**20 14 55.7**	**+0.9**
	baz=7.0							
OHH				⇑*i*S		**Sb**	**20 15 27.4**	**-3.4**
	baz=7.0							
TRKS	**Terek-Say**	**2.67**	**242**	⇓*i*P		**Pn**	**20 14 58.0**	**+1.5**
	baz=41							
TRKS				⇓*i*S		**Sb**	**20 15 30.8**	**-3.5**
	baz=41							
KK31	**Karatay Array**	**2.79**	**277**	Pg		**Pb**	**20 15 04.3**	**+1.3**
	11nm,0.3s,baz=99,slow=17,SNR=310							
KK31				⇑Lg		Lg	20 15 43.7	
	39nm,0.5s,baz=90,slow=31,SNR=16							
KKAR	**Karatay Array**	**2.79**	**277**	⇓*i*P		**Pn**	**20 14 59.1**	**+1.1**
	baz=77							
KKAR				⇓*i*S		**Sn**	**20 15 33.7**	**+1.8**
	baz=77							
SFK	**Sufi-Kurgan**	**2.87**	**192**	⇓*i*P		**Pn**	**20 15 00.3**	**+1.1**
	baz=92							
SFK				⇓*i*S		**Sn**	**20 15 35.0**	**+0.9**
	baz=92							
KURS	**Kuram**	**2.91**	**75**	Pg		**Pb**	**20 15 04.7**	**-0.5**
	4.8nm,0.5s							
KURS				Lg		Lg	20 15 41.7	
	57nm,0.5s							
KURS	**Kuram**	**2.91**	**75**	*e*P		**Pb**	**20 15 04.7**	**-0.5**
	4.8nm,0.5s							
KURS				*e*S		**Sb**	**20 15 41.7**	**+0.6**
	57nm,0.5s							
ARXS	**Arharly**	**2.92**	**60**	Pg		**Pb**	**20 15 04.9**	**-0.4**
	26nm,0.5s							
ARXS				Lg		Lg	20 15 42.4	
	152nm,0.6s							
ARXS	**Arharly**	**2.92**	**60**	*e*P		**Pb**	**20 15 04.9**	**-0.4**
	26nm,0.5s							
ARXS				*e*S		**Sb**	**20 15 42.4**	**+1.0**
	152nm,0.6s							
SATY	**Saty**	**3.03**	**84**	Pg		**Pb**	**20 15 06.8**	**-0.3**
	10nm,0.2s							
SATY				Lg		Lg	20 15 45.6	
	89nm,0.5s							
SATY	**Saty**	**3.03**	**84**	*e*P		**Pb**	**20 15 06.8**	**-0.3**
	10nm,0.2s							
SATY				*e*S		**Sb**	**20 15 45.6**	**+1.2**
	89nm,0.5s							
PRZ	**Przheval'sk**	**3.05**	**95**	⇓*e*P		**Pn**	**20 15 02.6**	**+0.9**
	baz=95							
PRZ				⇓*e*S		**Sn**	**20 15 39.2**	**+0.7**
	baz=95							
BRLS	**Borolday**	**3.28**	**275**	Pg		**Pb**	**20 15 12.9**	**+1.5**
	1.7nm,0.3s							
BRLS				Pg		**Pg**	**20 15 14.1**	**-1.5**
	5.2nm,0.2s							
BRLS				Lg		Lg	20 15 55.9	
	22nm,0.3s							
BRLS				Lg		Lg	20 15 57.2	
	22nm,0.4s							
BRLS	**Borolday**	**3.28**	**275**	*e*P		**Pg**	**20 15 13.8**	**-1.8**
	1.6nm,0.2s							
BRLS				*e*S		**Sg**	**20 15 57.6**	**-0.5**
	22nm,0.3s							
BLB	**Baldybastay**	**3.30**	**66**	Pg		**Pb**	**20 15 11.7**	**-0.2**
	40nm,0.4s							
BLB				Lg		Lg	20 15 54.0	
	153nm,0.6s							
UZB	**Uzynbulak**	**3.48**	**83**	Pg		**Pb**	**20 15 14.7**	**-0.2**
	7.1nm,0.3s							
UZB				Lg		Lg	20 15 59.6	
	52nm,0.2s							
UZB	**Uzynbulak**	**3.48**	**83**	*e*P		**Pb**	**20 15 14.7**	**-0.2**
	7.1nm,0.3s							
UZB				*e*S		**Sb**	**20 15 59.6**	**+2.0**
	52nm,0.2s							
CHM	**Chimkent**	**3.50**	**263**	*e*P		**Pg**	**20 15 17.2**	**-2.6**
	40nm,0.2s							
CHM				*e*S		**Sg**	**20 16 04.2**	**-0.9**
	51nm,0.2s							
TDK	**Taldyqorghan**	**3.69**	**52**	Pg		**Pb**	**20 15 18.3**	**0.0**
	11nm,0.3s							
TDK				Lg		Lg	20 16 05.3	
	66nm,0.5s							
TDK	**Taldyqorghan**	**3.69**	**52**	*e*P		**Pb**	**20 15 18.4**	**0.0**
	11nm,0.3s							
TDK				*e*S		**Sb**	**20 16 05.3**	**+2.1**
	66nm,0.5s							
BTK	**Batken**	**3.80**	**225**	⇑*i*P		**Pn**	**20 15 13.3**	**+1.4**
	baz=25							
BTK				⇑*i*S		**Sn**	**20 15 57.5**	**+0.6**
	baz=25							
SHLS	**Shalkode**	**3.81**	**83**	Pg		**Pg**	**20 15 26.7**	**+1.0**
SHLS				Pg		**Pg**	**20 15 26.9**	**+1.2**
SHLS				Lg		Lg	20 16 19.9	
	45nm,0.7s							
SHLS				Lg		Lg	20 16 21.1	
SHLS	**Shalkode**	**3.81**	**83**	*e*P		**Pg**	**20 15 26.7**	**+1.0**
	5.3nm,0.3s							
SHLS				*e*S		**Sg**	**20 16 19.9**	**+4.8**
	44nm,0.4s							
DRK	**Karamyk**	**3.83**	**210**	⇑*i*P		**Pn**	**20 15 13.3**	**+0.8**
	baz=10.0							
DRK				⇑*i*S		**Sn**	**20 15 58.3**	**+0.3**
	baz=10.0							
PDGK	**Podgornoye**	**3.84**	**81**	⇑Pg		**Pb**	**20 15 19.8**	**-1.2**
	6.7nm,0.5s							
PDGK				⇑Lg		Lg	20 16 11.9	
	52nm,0.7s							
KNOS	**Konyrlen**	**3.87**	**65**	Pg		**Pb**	**20 15 21.7**	**+0.2**
	10nm,0.5s							
KNOS				Lg		Lg	20 16 11.1	
	26nm,0.4s							
DJR	**Jarkent**	**4.27**	**67**	Pg		**Pb**	**20 15 27.5**	**-0.7**
	0.3nm,0.1s							
DJR				Lg		Lg	20 16 20.5	
	16nm,0.4s							
DJR	**Jarkent**	**4.27**	**67**	*e*P		**Pb**	**20 15 30.4**	**+2.1**
	3.0nm,0.2s							
DJR				*e*S		**Sg**	**20 16 25.8**	**-4.1**
	16nm,0.4s							
KAPS	**Kapalarasan**	**4.40**	**54**	Pg		**Pb**	**20 15 33.1**	**+2.6**
	3.3nm,0.6s							
KAPS				Lg		Lg	20 16 30.7	
	48nm,0.7s							
KAPS	**Kapalarasan**	**4.40**	**54**	*e*P		**Pb**	**20 15 33.1**	**+2.6**
	3.3nm,0.6s							
KAPS				*e*S		**Sg**	**20 16 30.7**	**-3.5**
	48nm,0.7s							
OTUK	**Ortayu**	**5.60**	**346**	⇑Pn		**Pn**	**20 15 38.0**	**+1.5**
	0.6nm,0.3s							
OTUK				⇓Lg		Lg	20 17 08.7	
	46nm,0.8s							
MAKZ	**Makanchi**	**6.76**	**51**	⇑Pn		**Pn**	20 15 57.0	+4.4
	0.3nm,0.4s							
MAKZ				⇑Sn		**Sn**	**20 17 11.2**	**+1.3**
	0.9nm,0.5s							
MAKZ				⇑Lg		Lg	20 17 44.4	
	8.3nm,0.9s							
MK31	**Makanchi Array**	**6.94**	**52**	⇓Pn		**Pn**	**20 15 55.0**	**+0.1**
	0.5nm,0.3s,baz=231,slow=12,SNR=77							
MK31				⇓Sn		**Sn**	**20 17 16.5**	**+2.4**
	2.4nm,0.7s,baz=242,slow=19,SNR=6.6							
MK31				⇓Lg		Lg	20 17 49.4	
	4.0nm,0.6s,baz=234,slow=27,SNR=4.0							
KURBB	**Kurchatov Arra**	**8.33**	**19**	⇓Pn		**Pn**	**20 16 13.3**	**-0.7**
	1.7nm,0.4s							
KURBB				⇑Lg		Lg	20 18 39.6	
	27nm,0.8s							
KURK	**Kurchatov**	**8.44**	**19**	⇓Pn		**Pn**	**20 16 14.3**	**-1.1**
	0.6nm,0.4s							
KURK				⇓Lg		Lg	20 18 42.5	
	18nm,0.7s							

SOME ***12*** *20:25:21.2, 39.°05N×76.°70E, h15km*
NNC ***12*** *20:25:25.6±1.6, 39.°25N×76.°76E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=11.2km s-min=9.1km az=155.0*
ISC 12 20:25:26.8±2.3, **39.°3N**±0.°1×**76.°68E**±0.°05, **h10**km, **n45**, σ1**s98**/68, **9C-6D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TKM2	**Tokmak 2**	**3.71**	**348**	⇓Pg		**Pb**	**20 26 34.8**	**+2.3**
	6.5nm,0.5s							
TKM2				⇓Lg		Lg	20 27 25.2	
	52nm,0.7s							
AAK	**Ala-Archa**	**3.72**	**334**	⇑Pg		**Pg**	**20 26 36.2**	**-1.9**
	12nm,0.5s							
AAK				⇓Lg		Lg	20 27 25.2	
	83nm,0.9s							
IZV	**Izvestkoviy**	**3.73**	**359**	Pg		**Pb**	**20 26 33.8**	**+0.9**
	2.8nm,0.4s							
IZV				Lg		Lg	20 27 26.8	
	34nm,0.7s							
IZV	**Izvestkoviy**	**3.73**	**359**	*e*P		**Pb**	**20 26 33.8**	**+0.9**
	2.8nm,0.4s							
IZV				*e*S		**Sg**	**20 27 26.8**	**+0.1**
	34nm,0.7s							
TNSS	**Tian-Shan**	**3.74**	**3**	Pg		**Pb**	**20 26 33.5**	**+0.4**
	13nm,0.5s							
TNSS				Lg		Lg	20 27 27.3	
	30nm,0.5s							
TNSS	**Tian-Shan**	**3.74**	**3**	*e*P		**Pb**	**20 26 34.8**	**+1.7**
	13nm,0.5s							
TNSS				*e*S		**Sg**	**20 27 28.3**	**+1.4**
	30nm,0.5s							
KST	**Kastek**	**3.78**	**352**	Pg		**Pb**	**20 26 34.2**	**+0.6**
	4.1nm,0.4s							
KST				Lg		Lg	20 27 28.5	
	54nm,0.5s							
KST	**Kastek**	**3.78**	**352**	*e*P		**Pb**	**20 26 34.2**	**+0.6**
	4.1nm,0.4s							
KST				*e*S		**Sg**	**20 27 28.5**	**+0.4**
	54nm,0.5s							
MDOK	**Medeo**	**3.87**	**4**	Pg		**Pb**	**20 26 36.4**	**+1.2**
	5.7nm,0.4s							
MDOK				Pg		**Pg**	**20 26 39.1**	**-1.8**
	5.9nm,0.4s							
MDOK				Lg		Lg	20 27 30.4	
	76nm,0.5s							
MDOK				Lg		Lg	20 27 31.1	
	55nm,0.6s							
MDOK	**Medeo**	**3.87**	**4**	*e*P		**Pb**	**20 26 36.4**	**+1.2**
	5.7nm,0.4s							
MDOK				*e*S		**Sg**	**20 27 31.1**	**0.0**
	55nm,0.6s							
KASK	**Kaskelen**	**3.92**	**360**	⇑Pg		**Pg**	**20 26 45.2**	**+3.4**
KASK				⇑Lg		Lg	20 27 31.9	
KNDC	**Almaty**	**3.92**	**3**	⇑Pg		**Pg**	**20 26 40.1**	**-1.8**
	26nm,0.5s							
KNDC				⇑Lg		Lg	20 27 31.9	
	260nm,0.5s							
KOTS	**Kotyrbulak**	**3.94**	**5**	Pg		**Pb**	**20 26 38.1**	**+1.6**
	10nm,0.4s							
KOTS				Pg		**Pg**	**20 26 40.4**	**-1.9**
	9.7nm,0.4s							
KOTS				Lg		Lg	20 27 33.8	
	103nm,0.4s							
KOTS				Lg		Lg	20 27 34.1	
	139nm,0.6s							
KOTS	**Kotyrbulak**	**3.94**	**5**	*e*P		**Pb**

DGS					Lg	Lg	20 27 37.4			
	60nm,0.6s									
DGS	**Degeres**	**4.00**	**350**	*eP*	**Pb**	**Pb**	**20 26 39.4**	**+2.0**		
	6.4nm,0.5s									
DGS					*eS*	**Sg**	**20 27 37.4**	**+2.2**		
	60nm,0.6s									
ZHN	**Zhinishke**	**4.08**	**18**	Pg	**Pb**	**Pb**	**20 26 39.6**	**+0.8**		
ZHN					Lg	Lg	20 27 36.4			
	886nm,0.4s									
ZHN	**Zhinishke**	**4.08**	**18**	*eP*	**Pb**	**Pb**	**20 26 39.6**	**+0.8**		
ZHN					*eS*	**Sg**	**20 27 36.4**	**-1.5**		
	886nm,0.4s									
UZB	**Uzynbulak**	**4.23**	**24**	Pg	**Pb**	**Pb**	**20 26 42.4**	**+1.0**		
	5.1nm,0.5s									
UZB					Lg	Lg	20 27 41.1			
	25nm,0.5s									
UZB	**Uzynbulak**	**4.23**	**24**	*eP*	**Pb**	**Pb**	**20 26 42.4**	**+1.0**		
	5.1nm,0.5s									
UZB					*eS*	**Sg**	**20 27 41.1**	**-1.5**		
	25nm,0.5s									
MRKS	**Merke**	**4.32**	**324**	Pg	**Pb**	**Pb**	**20 26 44.4**	**+1.5**		
	2.8nm,0.2s									
MRKS					Lg	Lg	20 27 44.8			
	49nm,0.6s									
MRKS	**Merke**	**4.32**	**324**	*eP*	**Pb**	**Pb**	**20 26 44.4**	**+1.5**		
	2.8nm,0.2s									
MRKS					*eS*	**Sg**	**20 27 44.8**	**-0.8**		
	49nm,0.6s									
KURS	**Kuram**	**4.33**	**14**	Pg	**Pb**	**Pb**	**20 26 44.0**	**+1.0**		
	5.1nm,0.7s									
KURS					Lg	Lg	20 27 44.1			
	23nm,0.6s									
KURS	**Kuram**	**4.33**	**14**	*eP*	**Pb**	**Pb**	**20 26 44.0**	**+1.0**		
	5.1nm,0.7s									
KURS					*eS*	**Sg**	**20 27 44.1**	**-1.7**		
	23nm,0.6s									
SHLS	**Shalkode**	**4.39**	**28**	Pg	**Pg**	**Pb**	**20 26 48.8**	**-2.0**		
	25nm,0.4s									
SHLS					Pg	**Pg**	**20 26 50.8**	**0.0**		
SHLS					Lg	Lg	20 27 52.2			
SHLS					Lg	Lg	20 27 52.4			
	50nm,0.5s									
SHLS	**Shalkode**	**4.39**	**28**	*eP*	**Pg**	**Pb**	**20 26 48.8**	**-2.0**		
	25nm,0.4s									
SHLS					*eS*	**Sg**	**20 27 52.4**	**+4.7**		
	50nm,0.5s									
KTBS	**Karatobe**	**4.41**	**360**	Pg	**Pb**	**Pb**	**20 26 46.0**	**+1.6**		
	3.7nm,0.5s									
KTBS					Pg	**Pg**	**20 26 46.6**	**-4.6**		
KTBS					Lg	Lg	20 27 46.5			
KTBS					Lg	Lg	20 27 47.5			
	48nm,0.6s									
KTBS	**Karatobe**	**4.41**	**360**	*eP*	**Pb**	**Pb**	**20 26 46.0**	**+1.6**		
	3.7nm,0.5s									
KTBS					*eS*	**Sg**	**20 27 47.5**	**-0.8**		
	48nm,0.6s									
SGDS	**Sogindy**	**4.43**	**340**	Pg	**Pb**	**Pb**	**20 26 45.8**	**+1.1**		
	3.2nm,0.4s									
SGDS					Lg	Lg	20 27 47.0			
	41nm,0.6s									
PDGK	**Podgornoye**	**4.55**	**27**	Pg	**Pb**	**Pb**	**20 26 48.3**	**+1.6**		
	14nm,0.4s									
PDGK					Lg	Lg	20 27 51.4			
	18nm,0.6s									
PDGK	**Podgornoye**	**4.55**	**27**	⇓Pg	**Pg**	**Pb**	**20 26 50.5**	**-3.3**		
	13nm,0.4s									
PDGK					⇓Lg	Lg	20 27 51.1			
	36nm,0.7s									
BLB	**Baldybastay**	**4.98**	**15**	Pg	**Pb**	**Pb**	**20 26 55.6**	**+1.5**		
	7.6nm,0.4s									
BLB					Lg	Lg	20 28 04.5			
	59nm,0.4s									
ARXS	**Arharly**	**4.98**	**10**	Pg	**Pb**	**Pb**	**20 26 55.6**	**+1.5**		
	11nm,0.5s									
ARXS					Lg	Lg	20 28 04.7			
	44nm,0.6s									
ARXS	**Arharly**	**4.98**	**10**	*eP*	**Pb**	**Pb**	**20 26 55.6**	**+1.5**		
	11nm,0.5s									
ARXS					*eS*	**Sg**	**20 28 04.7**	**-2.0**		
	44nm,0.6s									
KNOS	**Konyrlen**	**5.39**	**19**	Pg	**Pb**	**Pb**	**20 27 00.7**	**-0.3**		
	3.2nm,0.5s									
KNOS					Lg	Lg	20 28 12.9			
	13nm,0.4s									
DJR	**Jarkent**	**5.54**	**24**	Pg	**Pb**	**Pb**	**20 27 04.9**	**+1.3**		
	2.5nm,0.4s									
DJR					Lg	Lg	20 28 20.2			
	14nm,0.7s									
DJR	**Jarkent**	**5.54**	**24**	*eP*	**Pb**	**Pb**	**20 27 06.1**	**+2.5**		
	0.4nm,0.1s									
DJR					*eS*	**Sg**	**20 28 21.6**	**-2.9**		
	14nm,0.7s									
TDK	**Taldyqorghan**	**5.84**	**12**	Pg	**Pb**	**Pb**	**20 27 10.9**	**+2.2**		
	13nm,0.4s									
TDK					Lg	Lg	20 28 30.1			
	61nm,0.6s									
TDK	**Taldyqorghan**	**5.84**	**12**	*eP*	**Pb**	**Pb**	**20 27 12.9**	**+4.2**		
	10nm,0.4s									
TDK					*eS*	**Sg**	**20 28 33.0**	**-1.2**		
	61nm,0.6s									
KK31	**Karatay Array**	**6.01**	**311**	⇑Pn	**Pn**	**Pn**	**20 26 56.9**	**+1.2**		
	0.4nm,0.4s,baz=129,slow=13,SNR=7.2									
KK31				⇓Pg	**Pg**	**Pg**	**20 27 18.1**	**-3.8**		
	1.4nm,0.5s,baz=130,slow=15,SNR=12									
KK31				⇑Lg	Lg	Lg	20 28 37.9			
	4.3nm,0.5s,baz=126,slow=27,SNR=4.2									
BTLS	**Baital**	**6.06**	**342**	Pg	**Pb**	**Pb**	**20 27 15.6**	**+3.2**		
	0.9nm,0.3s									
BTLS					Lg	Lg	20 28 38.7			
	15nm,0.5s									
BTLS	**Baital**	**6.06**	**342**	*eP*	**Pb**	**Pb**	**20 27 15.6**	**+3.2**		
	0.9nm,0.3s									
BTLS					*eS*	**Sg**	**20 28 38.7**	**-2.6**		
	15nm,0.5s									

NEIC ***12*** *20:32:50.1±1.4,30°.47S±0°.08×178°.0W±0°.1,h57km±5km, mb5.0/39,Error ellipse: s-maj=17.3km s-min=11.2km az=88.0*

IDC ***12*** *20:32:51.2±1.2,30°.35S×178°.16W,h68km±9km,mb4.2/16, mbtmp4.4/16,MS3.6/35,Error ellipse: s-maj=18.5km s-min=12.8km az=104.0*

NOU ***12*** *20:33:04.6,30°.39S×177°.80W,h219km,mB4.9/10, Kermadec Islands, New Zealand*

ISC 12 20:32:49.1±0.6,30°.56S±0°.04×178°.08W±0°.08,h52km±4km, h52km:pP-P,n214,σ1°.79/202,mb4.9/41,MS3.7/32,4C-1D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**1.30**	**6**	P		**Pn**	**20 33 11.3**	**+0.4**
GLKZ				S		**Sn**	**20 33 24.5**	**-2.6**
RAO	**Raoul Island**	**1.31**	**6**			**Pn**	**20 33 10.8**	**-0.2**
RAO					Sn	**Sn**	**20 33 26.6**	**-0.9**
RAO	**Raoul Island**	**1.31**	**6**	P		**Pn**	**20 33 10.1**	**-0.9**
	3µm,0.2s,baz=147,slow=16,SNR=39							
RAO					S	**Sn**	**20 33 25.9**	**-1.5**
	12µm,0.2s,baz=66,slow=20,SNR=12							
RIZ	**Raoul Island**	**1.32**	**6**	P		**Pn**	**20 33 10.5**	**-0.6**
RIZ					S	**Sn**	**20 33 27.0**	**-0.6**
MXZ	**Matakaoa Point**	**7.60**	**202**	P		**Pn**	**20 34 35.0**	**-2.2**
MXZ					S	**Sn**	**20 36 01.5**	**-0.4**
WMGZ	**Waiomatatini S**	**7.80**	**201**	P		Pn	20 34 35.9	-4.0
WMGZ					S	**Sn**	**20 36 06.7**	**-0.2**
HAZ	**Te Kaha**	**7.96**	**204**	P		**Pn**	**20 34 39.8**	**-2.2**
HAZ					S	**Sn**	**20 36 11.8**	**+1.2**
PKGZ	**Pakihiroa**	**7.97**	**202**	P		**Pn**	**20 34 39.3**	**-3.1**
PKGZ					S	**Sn**	**20 36 09.0**	**-2.1**
PUZ	**Puketiti**	**8.08**	**201**	P		Pn	20 34 40.1	-3.7
PUZ					S	**Sn**	**20 36 11.0**	**-2.8**
RUGZ	**Raukumara Rang**	**8.18**	**204**	P		**Pn**	**20 34 42.7**	**-2.5**
RUGZ					S	**Sn**	**20 36 14.7**	**-1.6**
TWGZ	**Tauwhareparae**	**8.27**	**202**	P		**Pn**	**20 34 43.9**	**-2.5**
TWGZ					S	**Sn**	**20 36 16.6**	**-1.8**
CNGZ	**Carnagh Statio**	**8.48**	**200**	P		Pn	20 34 45.6	-3.6
MWZ	**Matawai**	**8.56**	**204**	P		Pn	20 34 46.2	-4.2
MWZ					S	**Sn**	**20 36 22.9**	**-2.7**
URZ	**Urewera**	**8.65**	**206**	P		Pn	20 34 47.7	-3.8
	4.3nm,0.3s,baz=120,slow=23,SNR=19							
URZ					S	**Sn**	**20 36 23.6**	**-4.0**
	113nm,0.7s,baz=291,slow=21,SNR=10							
URZ					LR		20 38 08.9	
	comp=Z,296nm,19.1s,baz=225,slow=36							
URZ	**Urewera**	**8.65**	**206**	P		**Pn**	**20 34 47.9**	**-3.6**
URZ					S	**Sn**	**20 36 25.0**	**-2.5**
MUGZ	**Murupara**	**8.97**	**207**	P		Pn	20 34 52.1	-3.8
MUGZ					S	**Sn**	**20 36 33.1**	**-2.4**
SNGZ	**Shannon Statio**	**9.03**	**203**	P		**Pn**	**20 34 53.9**	**-2.9**
SNGZ					S	**Sn**	**20 36 34.1**	**-2.9**
RAHZ	**Arahi**	**9.24**	**204**	P		**Pn**	**20 34 57.5**	**-2.1**
RAHZ					S	**Sn**	**20 36 39.1**	**-3.0**
MTHZ	**Maungataniwha**	**9.27**	**205**	P		**Pn**	**20 34 57.4**	**-2.6**
MTHZ					S	**Sn**	**20 36 40.7**	**-2.2**
BKZ	**Black Stump Fm**	**9.67**	**206**	P		**Pn**	**20 35 02.4**	**-3.2**
KWHZ	**Kaweka Forest**	**9.93**	**206**	P		Pn	20 35 04.6	-4.5
KWHZ					S	**Sn**	**20 36 55.0**	**-4.0**
OTVZ	**Oturere**	**10.00**	**209**	P		**Pn**	**20 35 09.0**	**-1.2**
KAHZ	**Kahuranaki**	**10.09**	**203**	P		Pn	20 35 06.6	-4.7
BHHZ	**Black Hill Sta**	**10.12**	**207**	P		**Pn**	**20 35 08.4**	**-3.3**
BHHZ					S	**Sn**	**20 37 00.3**	**-3.4**
KRHZ	**Kereru**	**10.14**	**205**	P		Pn	20 35 07.4	-4.5
KRHZ					S	**Sn**	**20 36 57.7**	**-6.4**
BFZ	**Birch Farm**	**11.10**	**203**	P		Pn	20 35 20.2	-4.9
BFZ					S	Sn	20 37 19.8	-7.9
NNZ	**Nelson**	**12.68**	**211**	P		**Pn**	**20 35 44.0**	**-2.7**
NNZ					S	Sn	20 37 56.6	-10
MRNZ	**Matariki Terra**	**13.11**	**212**	P		Pn	20 35 46.8	-5.7
MRNZ					S	Sn	20 38 05.2	-12
THZ	**Tophouse**	**13.33**	**211**	P		Pn	20 35 48.7	-6.9
THZ					S	Sn	20 38 11.2	-11
KHZ	**Kahutara**	**13.61**	**207**	P		P	20 36 12.1	+5.4
	52nm,2.9s							
KHZ	**Kahutara**	**13.61**	**207**	P		Pn	20 35 53.9	-5.4
KHZ					S	Sn	20 38 15.8	-13
GVZ	**Greta Valley S**	**14.27**	**207**	P		**Pn**	**20 36 05.8**	**-2.5**
GVZ					S	Sn	20 38 28.9	-16
LTZ	**Lake Taylor**	**14.44**	**210**	P		Pn	20 36 01.9	-8.6
LTZ					S	Sn	20 38 33.8	-15
INZ	**Inchbonnie**	**14.75**	**212**	P		**Pn**	**20 36 17.3**	**+2.8**
INZ					S	Sn	20 38 40.4	-16
OXZ	**Oxford**	**14.98**	**209**	P		**Pn**	**20 36 14.7**	**-2.8**
OXZ					S	Sn	20 38 44.8	-17
PINNC	**Pines Island,**	**15.17**	**298**	Pn		**Pn**	**20 36 21.1**	**+1.1**
PINNC				IAmb		IAmb	20 36 28.2	
	comp=Z,80nm,1.1s							
WVZ	**Waitaha Valley**	**15.35**	**212**	P		**P**	**20 36 25.3**	**-0.8**
WVZ					S	Sn	20 38 57.8	-13
RPZ	**Rata Peaks**	**15.71**	**210**	P		**Pn**	**20 36 24.0**	**-3.0**
	comp=Z,6.8nm,0.6s,baz=73,slow=4.2,SNR=1.8							
RPZ					S	Sn	20 39 03.1	-17
	comp=Z,4.9nm,0.4s,baz=26,slow=18,SNR=1.9							
RPZ					LR	LR	20 42 13.8	
	comp=Z,492nm,21.4s,baz=49,slow=36							
RPZ	**Rata Peaks**	**15.71**	**210**	P		**Pn**	**20 36 24.3**	**-2.6**
OUENC	**Ouen Island, N**	**15.74**	**297**	Pn		**Pn**	**20 36 28.7**	**+1.3**
ARCZ	**Arundel**	**15.85**	**210**	P		**Pn**	**20 36 28.9**	**+0.2**
ARCZ					S	Sn	20 39 06.4	-17
FOZ	**Fox Glacier**	**16.13**	**213**	P		**Pn**	**20 36 34.4**	**+2.1**
FOZ					S	Sn	20 39 14.2	-16
DZM	**Mont Dzumac**	**16.24**	**298**	P		**P**	**20 36 41.5**	**+5.3**
DZM	**Mont Dzumac**	**16.24**	**298**			**Pn**	**20 36 34.6**	**+0.8**
DZM	**Mont Dzumac**	**16.24**	**298**	P		**P**	**20 36 36.4**	**+0.3**
	comp=Z,16nm,1.0s,baz=66,slow=15,SNR=4.5							
DZM					LR	LR	20 41 38.4	
	comp=Z,520nm,18.3s,baz=122,slow=33							
NOUC	**Port Laguerre**	**16.33**	**297**	P		**P**	**20 36 42.4**	**+5.3**
KOUNC	**Koumac, New Ca**	**18.75**	**298**	P		**P**	**20 37 02.2**	**-1.6**
ARMA	**Armidale**	**26.07**	**263**	P		**P**	**20 38 18.5**	**+0.5**
ARMA				IAmb		IAmb	20 38 56.4	
	comp=Z,66nm,1.7s							
EIDS	**Eidsvold**	**27.68**	**273**	P		**P**	**20 38 35.1**	**+2.8**
EIDS	**Eidsvold**	**27.68**	**273**	P		**P**	**20 38 32.7**	**+0.4**
CAN	**Canberra**	**27.96**	**251**	P		**P**	**20 38 35.6**	**+0.8**
CAN				IAmb		IAmb	20 39 18.2	
	comp=Z,80nm,1.6s							
RK1H	**Rockhampton Ha**	**28.84**	**277**	P		**P**	**20 38 44.7**	**+2.0**
PPT	**Papeete**	**28.97**	**70**	LR		LR	20 47 25.3	
	comp=Z,68nm,21.2s,baz=149,slow=30							
TOO	**Toolangi**	**30.84**	**247**	P		**P**	**20 39 01.3**	**+1.0**
TOO				IAmb		IAmb	20 39 41.9	
	comp=Z,38nm,1.4s							
CMSA	**Cobar Meteorol**	**30.97**	**259**	P		**P**	**20 39 03.7**	**+2.2**
QLP	**Quilpie**	**33.23**	**267**	P		**P**	**20 39 23.0**	**+1.6**
	comp=Z,29nm,0.9s							
CTAO	**Charters Tower**	**33.76**	**280**	P		**P**	**20 39 27.6**	**+1.6**
CTAO				IAmb		IAmb	20 39 28.6	
	comp=Z,32nm,0.7s							
CTAO	**Charters Tower**	**33.76**	**280**	P		**P**	**20 39 27.6**	**+1.6**
CTAO				pP		**pP**	**20 39 40.7**	**+1.5**
STKA	**Stephens Creek**	**34.38**	**257**	P		**P**	**20 39 33.3**	**+2.0**
STKA	**Stephens Creek**	**34.38**	**257**	P		**P**	**20 39 32.6**	**+1.4**
STKA				IAmb		IAmb	20 39 35.5	
	comp=Z,7.3nm,0.8s							
STKA	**Stephens Creek**	**34.38**	**257**	P		**P**	**20 39 32.6**	**+1.4**
	comp=Z,34nm,0.7s,baz=97,slow=10,SNR=60							
STKA					LR	LR	20 51 43.1	
	comp=Z,95nm,21.4s,baz=41,slow=33							
	comp=Z,34nm,0.7s							
INKA	**Innaminka**	**35.93**	**264**	P		**P**	**20 39 46.7**	**+2.1**
HTT	**Hallett**	**36.39**	**254**	P		**P**	**20 39 49.8**	**+1.2**
PMG	**Port Moresby**	**38.61**	**296**	LR		LR	20 53 39.7	
	comp=Z,124nm,19.7s,baz=143,slow=32							
BBOO	**Buckleboo**	**38.86**	**254**	P		**P**	**20 40 09.4**	**0.0**
BBOO				IAmb		IAmb	20 40 13.0	
	comp=Z,18nm,0.7s							
COEN	**Coen**	**39.25**	**286**	P		**P**	**20 40 13.7**	**+0.9**
AS31	**Alice Springs**	**43.03**	**267**	P		**P**	**20 40 43.8**	**-0.1**
ASAR	**Alice Springs**	**43.03**	**267**	P		**P**	**20 40 43.6**	**-0.3**
	comp=Z,3.6nm,0.4s,baz=107,slow=7.3,SNR=43							
ASAR				PcP		**PcP**	**20 42 32.8**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=116,slow=4.2,SNR=3.4							
ASAR				ScP		**ScP**	**20 46 17.5**	**-2.7**
	comp=Z,0.7nm,0.7s,baz=115,slow=4.6,SNR=4.5							
	comp=Z,3.6nm,0.4s							
WR0	**Warramunga Arr**	**43.86**	**272**	P		**P**	**20 40 49.9**	**-0.6**
WR0				IAmb		IAmb	20 40 53.3	
	comp=Z,22nm,1.1s							
DRV	**Dumont d'Urvil**	**43.97**	**203**	P		**P**	**20 40 51.1**	**+0.4**
WRA	**Warramunga Arr**	**44.04**	**272**	P		**P**	**20 40 51.0**	**-0.9**
WRA	**Warramunga Arr**	**44.04**	**272**	P		**P**	**20 40 51.8**	**-0.2**
	comp=Z,12nm,0.5s,baz=111,slow=8.0,SNR=109							
WRA				PcP		**PP**	**20 42 35.6**	**+0.3**
	comp=Z,2.7nm,0.9s,baz=111,slow=2.9,SNR=3.0							
WRA				LR		LR	20 57 39.4	
	comp=Z,143nm,22.0s,baz=10,slow=34							
	comp=Z,12nm,0.5s							
FORT	**Forrest**	**45.94**	**255**	P		**P**	**20 41 06.8**	**-0.1**
FORT				IAmb		IAmb	20 41 08.5	
	comp=Z,21nm,0.7s							
SBA	**Scott Base**	**47.87**	**184**	P		**P**	**20 41 23.4**	**+2.1**
SBA				IAmb		IAmb	20 41 28.1	
	comp=Z,11nm,1.2s							
SBA	**Scott Base**	**47.87**	**184**	P		**P**	**20 41 26.0**	**+4.6**
VNDA	**Vanda**	**47.93**	**186**			**P**	**20 41 22.3**	**+0.5**
VNDA	**Vanda**	**47.93**	**186**	P		**P**	**20 41 24.6**	**+2.7**
	comp=Z,0.8nm,0.5s,baz=354,slow=6.9,SNR=11							
VNDA					LR	LR	20 59 15.0	
	comp=Z,40nm,19.4s,baz=9.0,slow=33							
	comp=Z,0.8nm,0.5s							
VNDA	**Vanda**	**47.93**	**186**	P		P	20 41 27.6	+5.7
VNDA				PcP		**PcP**	**20 42 55.0**	**+5.6**
MTN	**Manton Dam**	**49.94**	**279**	P		**P**	**20 41 36.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.29**	**270**	P		**P**	**20 41 54.8**	**-0.9**
CCD	**Concordia, Ant**	**52.78**	**196**	P		**P**	**20 41 59.9**	**+0.9**
CCD				pP		**pP**	**20 42 14.7**	**+2.6**
CCD				PcP		**PcP**	**20 43 08.6**	**+0.8**
NWAO	**Narrogin (SRO)**	**54.28**	**249**	LR		LR	21 03 40.6	
	comp=Z,104nm,18.7s,baz=40,slow=34							
FAKI	**Fak Fak**	**54.33**	**290**	P		**P**	**20 42 09.3**	**-1.4**
FAKI				IAmb		IAmb	20 42 16.1	
	comp=Z,24nm,1.1s							
CASY	**Casey**	**54.97**	**208**	P		**P**	**20 42 14.8**	**+0.3**
CASY				IAmb		IAmb	20 42 15.3	
	comp=Z,19nm,1.1s							
CASY	**Casey**	**54.97**	**208**	P		**P**	**20 42 14.6**	**+0.1**
CASY				pP		**pP**	**20 42 28.9**	**+1.0**
MBWA	**Marble Bar**	**56.14**	**264**	P		**P**	**20 42 22.2**	**-1.5**
GUMO	**Guam**	**56.55**	**315**	LR		LR	21 03 19.4	
	comp=Z,39nm,21.4s,baz=135,slow=32							
SOEI	**Soe**	**57.31**	**278**	P		**P**	**20 42 32.5**	**+0.4**
BATI	**Baumata**	**57.60**	**277**	LR		LR	21 07 22.6	
	comp=Z,205nm,18.7s,baz=138,slow=36							
RPN	**Rapa Nui**	**59.46**	**105**	LR		LR	21 02 04.9	
	comp=Z,42nm,21.9s,baz=43,slow=29							
QSPA	**South Pole Qui**	**59.55**	**180**	P		**P**	**20 42 49.0**	**+1.9**
QSPA				IAmb		IAmb	20 42 58.1	
	comp=Z,18nm,1.1s							
QSPA	**South Pole Qui**	**59.55**	**180**	P		**P**	**20 42 49.7**	**+2.7**
	comp=Z,5.9nm,0.5s,baz=298,slow=0.8,SNR=23							
	comp=Z,5.9nm,0.5s							
QSPA	**South Pole Qui**	**59.55**	**180**	P		**P**	**20 42 49.8**	**+2.7**
KAPI	**Kappang**	**63.57**	**280**	LR		LR	21 11 41.3	
	comp=Z,43nm,18.8s,baz=125,slow=37							
DAV	**Davao City (W)**	**65.63**	**295**	LR		LR	21 13 53.2	
	comp=Z,13nm,18.1s,baz=145,slow=38							
JCJ	**Chichijima**	**68.77**	**322**	LR		LR	21 09 09.2	
	comp=Z,59nm,21.2s,baz=126,slow=32							
BELA	**Belgrano 2**	**69.64**	**172**	P		**P**	**20 43 53.3**	**+0.8**
MAW	**Mawson**	**72.14**	**201**	P		**P**	**20 44 08.4**	**+0.7**
	comp=Z,4.0nm,0.9s,baz=127,slow=4.5,SNR=7.7							
MAW					LR	LR	21 13 27.4	
	comp=Z,49nm,21.8s,baz=132,slow=34							
	comp=Z,4.0nm,0.9s							
PMSA	**Palmer Station**	**72.15**	**156**	LR		LR	21 12 30.6	
	comp=Z,49nm,18.1s,baz=238,slow=33							
TROLL	**Troll, Antarti**	**77.71**	**180**	⇑P		**P**	**20 44 41.6**	**+1.5**
	comp=Z,355nm,0.8s							
SNAA	**Sanae**	**78.00**	**178**	P		**P**	**20 44 42.2**	**+0.6**
SNAA				IAmb		IAmb	20 44 48.3	
	comp=Z,36nm,1.7s							
SNAA	**Sanae**	**78.00**	**178**	⇑P		**P**	**20 44 43.9**	**+2.4**
	comp=Z,32nm,0.2s							
SNAA	**Sanae**	**78.00**	**178**	P		**P**	**20 44 42.3**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=177,slow=13,SNR=8.4							
SNAA					LR	LR	21 14 39.5	
	comp=Z,40nm,21.3s,baz=190,slow=32							
	comp=Z,2.1nm,0.6s							
JGF	**Kuroka**	**78.02**	**324**	P		**P**	**20 44 40.8**	**-1.3**
VNA3	**Neumayer Olymp**	**78.15**	**176**	⇑P		**P**	**20 44 43.6**	**+1.3**
	comp=Z,22nm,0.6s							
MJAR	**Matsushiro Arr**	**78.33**	**325**	P		**P**	**20 44 42.4**	**-1.4**
	comp=Z,3.9nm,1.0s,baz=154,slow=5.4,SNR=7.4							
MJAR					LR	LR	21 17 33.2	
	comp=Z,20nm,18.1s,baz=157,slow=34							
	comp=Z,3.9nm,1.0s							
VNA2	**Neumayer--Watz**	**78.58**	**177**	⇑P		**P**	**20 44 46.4**	**+1.7**
	comp=Z,2.1nm,0.6s,baz=183,slow=6.4							
TPUB	**Ta-pu**	**79.52**	**305**	P		**P**	**20 44 49.0**	**-1.5**
TPUB				IAmb		IAmb	20 44 49.5	
	comp=Z,18nm,0.9s							
SSLB	**Suanglung**	**79.60**	**305**	P		**P**	**20 44 48.8**	**-2.1**
SSLB				IAmb		IAmb	20 44 49.8	
	comp=Z,7.0nm,0.7s							
JNU	**Nakatsue**	**79.63**	**318**	LR		LR	21 14 52.6	
	comp=Z,38nm,20.5s,baz=162,slow=32							
H03S2	**Juan Fernandez**	**80.43**	**124**	T		T	22 14 08.2	
	baz=238,slow=74,SNR=82							
H03S1	**Juan Fernandez**	**80.44**	**124**	T		T	22 14 09.4	
	baz=238,slow=74,SNR=96							
H03S3	**Juan Fernandez**	**80.45**	**124**	T		T	22 14 08.2	
	baz=238,slow=74,SNR=95							
H03N3	**Juan Fernandez**	**80.63**	**123**	T		T	22 14 22.1	
	baz=242,slow=72,SNR=112							
H03N2	**Juan Fernandez**	**80.63**	**123**	T		T	22 14 21.1	
	baz=242,slow=72,SNR=108							
H03N1	**Juan Fernandez**	**80.64**	**123**	T		T	22 14 21.6	
	baz=242,slow=72,SNR=188							
PLCA	**Paso Flores**	**82.45**	**133**	P		**P**	**20 45 06.3**	**+0.2**
	comp=Z,1.5nm,0.9s,baz=242,slow=8.2,SNR=3.3							
PLCA					LR	LR	21 13 11.1	
	comp=Z,49nm,21.5s,baz=213,slow=29							
	comp=Z,1.5nm,0.9s							
ATKA	**Atka Island**	**82.48**	**2**	P		**P**	**20 45 04.8**	**-0.8**
ATKA				IAmb		IAmb	20 45 14.9	
	comp=Z,40nm,1.2s							
ASAJ	**Asahikawa**	**82.55**	**333**	LR		LR	21 16 30.1	
	comp=Z,30nm,19.9s,baz=192,slow=32							
SHEM	**Shemya Is, Ala**	**83.22**	**355**	LR		LR	21 14 37.1	
	comp=Z,50nm,21.9s,baz=73,slow=30							
KSRS	**Korea Array**	**84.42**	**320**	P		**P**	**20 45 15.6**	**-0.3**
	comp=Z,2.3nm,1.0s,baz=145,slow=5.3,SNR=6.0							
KSRS					LR	LR	21 19 13.8	
	comp=Z,12nm,20.7s,baz=130,slow=33							
	comp=Z,2.3nm,1.0s							
KULM	**Kulim**	**85.18**	**279**	P		**P**	**20 45 19.4**	**-

KBL	Kabul	124.22	293	PKPdf	PKPdf	20 51 41.2	-1.2
BTK	Batken	124.24	300	PKPdf	PKPdf	20 51 41.0	-1.1
KK31	Karatay Array	125.11	304		PKPdf	20 51 42.6	-1.0
KKAR	Karatay Array	125.11	304		PKPdf	20 51 42.3	-1.2
KKAR	Karatay Array	125.11	304		PKPdf	20 51 42.6	-1.0
BVAR	Borovoye Array	126.47	316	PKP	PKPdf	20 51 44.9	-0.9
	comp=Z,2.3nm,0.5s,baz=110,slow=2.3,SNR=18						
SPITS	Spitsbergen Ar	131.86	356	PKP	PKPdf	20 51 54.8	-0.7
	comp=Z,4.9nm,0.8s,baz=155,slow=2.8,SNR=1.6						
GEYT	Allbeck	133.56	295	PKP	PKPdf	20 51 58.8	-1.0
	comp=Z,1.7nm,0.7s,baz=240,slow=2.9,SNR=3.8						
BJO1	Bjornoya	135.15	354	*e*	PKiKP	20 52 23.9	+21
ARCES	ARCESS Array B	138.73	348	PKhKP	PKPpre	20 52 00.1	
	comp=Z,0.7nm,0.4s,baz=77,slow=3.0,SNR=11						
ARCES				PKP	PKPdf	20 52 08.9	+0.5
	comp=Z,1.4nm,0.6s,baz=64,slow=2.1,SNR=9.5						
KBZ	Khabaz	145.14	304	PKP	PKPbc	20 52 19.3	-1.0
	comp=Z,6.4nm,0.8s,baz=186,slow=3.3,SNR=15						
KIV	Kislovodsk	145.26	304		PKPbc	20 52 20.1	-0.7
FIA1	FINESS Array S	145.27	340		PKPbc	20 52 19.1	-0.9
FINES	FINESS Array B	145.27	340		PKPbc	20 52 18.9	-1.2
FINES	FINESS Array B	145.27	340	PKPbc	PKPbc	20 52 18.9	-1.1
	comp=Z,28nm,0.6s,baz=56,slow=3.7,SNR=362						
NSS	Namsos	145.43	352	*eP*	PKPbc	20 52 19.8	-0.7
DOMB	Dombas	148.16	354	*eP*	PKPbc	20 52 27.5	-1.0
AKN	Aaknes	148.20	355	*eP*	PKPbc	20 52 28.7	+0.1
NC303	NORSAR Array S	148.70	351		PKPbc	20 52 28.9	-1.0
NB201	NORSAR Array S	148.88	351		PKPbc	20 52 29.4	-0.9
FOO	Floro	148.89	357	*eP*	PKPbc	20 52 29.9	-0.4
NB2	NORSAR Subarra	148.90	351	PKP	PKPbc	20 52 29.4	-1.0
	comp=Z,11nm,0.9s,baz=15,slow=4.3						
NOA	NORSAR Array B	148.90	351	PKPbc	PKPbc	20 52 29.6	-0.8
	comp=Z,4.0nm,0.7s,baz=15,slow=4.2,SNR=20						
NC602	NORSAR Array S	149.15	351		PKPbc	20 52 30.1	-0.9
NC602	NORSAR Array S	149.15	351	*eP*	PKPbc	20 52 30.4	-0.7
HFS	Hagfors	149.39	348	PKPbc	PKPbc	20 52 30.7	-1.0
	comp=Z,10nm,0.8s,baz=146,slow=1.1,SNR=29						
SUE	Sulen	149.44	357	*eP*	PKPbc	20 52 31.5	-0.2
SKAR	Skarslia	149.58	354	*eP*	PKPbc	20 52 32.0	-0.1
ASK	Askoy	149.99	357	*eP*	PKPbc	20 52 32.7	-0.4
BER	Bergen	150.09	357	*eP*	PKPbc	20 52 33.5	+0.2
KONO	Kongsberg	150.45	352	*eP*	PKPbc	20 52 32.5	-1.7
PABE	Paberze	150.56	334		PKPbc	20 52 33.8	-0.7
KMY	Karmoy	151.26	356	*eP*	PKiKP	20 52 36.5	-0.1
AKASG	Malin Array Be	151.38	322		PKPbc	20 52 36.0	-0.7
AKASG	Malin Array Be	151.38	322	PKPbc	PKPbc	20 52 35.6	-1.1
	comp=Z,6.6nm,0.6s,baz=48,slow=2.6,SNR=39						
AKBB	Malin Array Si	151.38	322		PKPbc	20 52 34.7	-2.0
KIEV	Kiev	151.40	322		PKPbc	20 52 34.8	-1.9
MMAI	Mount Meron Ar	151.50	284	PKPbc	PKPbc	20 52 37.3	-0.3
	comp=Z,5.7nm,0.5s,baz=88,slow=4.9,SNR=10						
SNART	Snartemo	151.99	354	*eP*	PKPbc	20 52 37.8	0.0
BRTR	Keskin Array B	152.62	298		PKPbc	20 52 38.7	-1.3
BRTR	Keskin Array B	152.62	298	PKPbc	PKPbc	20 52 38.9	-1.1
	comp=Z,3.2nm,0.7s,baz=141,slow=3.9,SNR=16						
EKA	Eskdalemuir Ar	154.97	7	PKP	PKPdf	20 52 35.3	-0.3
	comp=Z,1.4nm,0.9s,baz=180,slow=1.8,SNR=1.7						
EKA				PKPbc	PKiKP	20 52 44.8	+0.4
	comp=Z,0.4nm,0.5s,baz=342,slow=2.1,SNR=5.1						
EKA				PKPab	pPKPbc	20 52 59.2	+0.3
	comp=Z,1.8nm,0.7s,baz=327,slow=3.0,SNR=6.1						
CONA	Conrad Observa	159.62	332	*e*PKP	PKPab	20 53 22.5	+2.1
	comp=Z,2.6nm,0.8s						
RONA	Rosalia, Austr	159.63	331	*e*PKP	PKPab	20 53 22.4	+2.0
	comp=Z,3.6nm,1.0s						
GERES	GERESS Array B	159.66	337	PKPab	PKPab	20 53 19.8	-0.7
	comp=Z,0.6nm,0.6s,baz=78,slow=4.5,SNR=3.9						
SOKA	Soboth	160.97	331	*e*PKP	PKPab	20 53 27.0	+0.7
	comp=Z,1.0nm,0.6s						
LESA	Schwarzleotal	161.23	337	*e*PKP	PKPab	20 53 27.7	+0.3
	comp=Z,2.1nm,0.9s						
OBKA	Obir	161.30	332	*e*PKP	PKPab	20 53 28.6	+0.8
	comp=Z,1.8nm,0.7s						
WATA	Walderalm	161.67	339	*e*PKP	PKPab	20 53 29.0	-0.4
	comp=Z,1.0nm,0.4s						
WTTA	Wattenberg	161.71	339	*i* PKP	PKPab	20 53 29.2	-0.5
	comp=Z,1.1nm,0.5s						
RETA	Reutte	161.78	341	*e*PKP	PKPab	20 53 29.4	-0.4
	comp=Z,1.5nm,0.7s						
MOTA	Moosalm	161.80	340	*e*PKP	PKPab	20 53 29.6	-0.4
	comp=Z,1.5nm,0.8s						
ABTA	Abfaltersbach	161.87	336	*e*PKP	PKPab	20 53 30.6	+0.4
	comp=Z,1.7nm,0.7s						
SQTA	Sankt Quirin	161.88	339	*e*PKP	PKPab	20 53 31.6	+1.3
	comp=Z,3.2nm,0.8s						
DAVA	Damuels	162.20	342	*e*PKP	PKPab	20 53 31.4	-0.4
	comp=Z,2.9nm,0.7s						
FETA	Feichten	162.21	340	*e*PKP	PKPab	20 53 31.5	-0.3
	comp=Z,0.7nm,0.4s						

WEL **12** *20:40:01.6±0.4,42°S×17°4E±°, h12km±4km, M4.2/17, ML4.5/17, MLv4.2/17, Error ellipse: s-maj=0.0km s-min=0.0km az=158.0, confirmed*

NOU **12** *20:40:01.4, 41°.83S×174°.31E, h14km, MLv4.6/14, Cook Strait, New Zealand*

NEIC **12** *20:40:01.7±1.9, 41°.70S±0°.02×174°.17E±0°.04, h18km±5km, mb4.2/3, Error ellipse: s-maj=4.7km s-min=1.0km az=126.0*

WEL **12** *20:40:01.6, 41°.68S×174°.14E, h20km, ML4.2, Mw4.1, Moment Tensor Solution. s5 Moment tensor: Mrr34.90; Mθθ163.22; Mϕϕ-198.11; Mrθ-16.86; Mθϕ26.63; Mϕr12.76; Fault plane solution: NP1:ϕs319.00000°, δ83.00000°, λ2.00000°. NP2:ϕs229.00000°, δ88.00000°, λ173.00000°. Principal axes: T 167.0900, Plg6.0000°, Azm184.0000°; N -200.8900, Plg83.0000°, Azm33.0000°; P 33.8100, Plg4.0000°, Azm274.0000°; SOUTH ISLAND*

ISC 12 20:40:01.7±0.9, 41.72S±0°.02×174.18E±0°.02, h18km±2km, n173, σ1s28/187, mb4.4/4, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	Cape Campbell	0.04	137		Pg	20 40 05.0	0.0
CMWZ				Sg	Sg	20 40 07.9	+0.6
CMWZ	Cape Campbell	0.04	137	P	Pg	20 40 05.0	0.0
BSWZ	Blackbirch Sta	0.23	272	Pg	Pg	20 40 06.6	-0.6
BSWZ				Sg	Sg	20 40 10.3	-0.5
BSWZ	Blackbirch Sta	0.23	272	P	Pg	20 40 06.5	-0.6
BSWZ				S	Sb	20 40 10.8	+0.1
TUWZ	Tuamarina	0.34	328		Pg	20 40 08.4	-0.7
TUWZ				Sg	Sg	20 40 13.3	-0.7
TUWZ	Tuamarina	0.34	328	P	Pg	20 40 08.4	-0.7
TUWZ				S	Sb	20 40 13.6	-0.9
TCW	Tory Channel	0.52	8		Pg	20 40 11.4	-0.8
TCW				Sg	Sb	20 40 18.8	-0.6
TCW	Tory Channel	0.52	8	P	Pg	20 40 11.4	-0.8
TCW				S	Sb	20 40 19.1	-0.3
SNZO	South Karori	0.57	44	P	Pb	20 40 13.1	0.0
SNZO	South Karori	0.57	44		Pb	20 40 13.0	0.0
SNZO				Sg	Sb	20 40 21.8	+1.0
BHW	Baring Head	0.60	59		Pb	20 40 13.9	+0.2
BHW	Baring Head	0.60	59	P	Pb	20 40 13.9	+0.2
BHW				S	Sb	20 40 23.5	+1.7
WEL	Wellington	0.62	45	P	Pb	20 40 14.0	+0.1
WEL				S	Sb	20 40 23.8	+1.5
NNZ	Nelson	0.79	310		Pg	20 40 16.0	-1.1
NNZ	Nelson	0.79	310	P	Pg	20 40 16.1	-1.1
NNZ				S	Sb	20 40 27.2	0.0
PLWZ	Palliser	0.82	79		Pb	20 40 17.8	+0.4
PLWZ	Palliser	0.82	79	P	Pb	20 40 17.8	+0.4
KHZ	Kahutara	0.84	214	P	Pb	20 40 18.6	+0.7
KHZ	Kahutara	0.84	214		Pb	20 40 18.5	+0.7
KHZ	Kahutara	0.84	214	P	Pb	20 40 18.5	+0.7
KHZ				S	Sn	20 40 31.5	+1.0
MSWZ	Moikau Station	0.86	69		Pb	20 40 18.7	+0.6
MSWZ	Moikau Station	0.86	69	P	Pn	20 40 18.8	-0.1
MSWZ				S	Sn	20 40 32.1	+1.2
CAW	Cannon Point	0.91	47	P	Pb	20 40 18.8	-0.1
CAW				S	Sn	20 40 32.7	+0.6
DUWZ	D'Urville Isla	0.94	348	P	Pb	20 40 18.6	-0.9
DUWZ				S	Sn	20 40 32.2	-0.9
THZ	Tophouse	0.96	267	Pn	Pb	20 40 19.3	-0.5
THZ	Tophouse	0.96	267	P	Pb	20 40 19.3	-0.5
PAWZ	Paruwai Farm	0.99	70	P	Pb	20 40 20.2	-0.2
KIW	Kapiti Island	1.02	33	P	Pb	20 40 20.4	-0.5
MRNZ	Matariki Terra	1.12	286		Pb	20 40 22.3	-0.2
MRNZ	Matariki Terra	1.12	286	P	Pb	20 40 22.3	-0.2
MTW	Mount Morrison	1.14	61	P	Pb	20 40 22.3	-0.6
TKNZ	Takaka Hill	1.15	306		Pb	20 40 22.5	-0.5
TKNZ	Takaka Hill	1.15	306	P	Pb	20 40 22.5	-0.5
OGWZ	Otaki Gorge	1.17	40	P	Pb	20 40 23.3	-0.2
TRWZ	Traveller	1.18	74	P	Pn	20 40 22.5	-0.8
HOWZ	Holdsworth Sta	1.30	51	P	Pn	20 40 24.5	-0.5
TMWZ	Te Maipa	1.43	65	P	Pn	20 40 25.8	-0.9
MRZ	Mangatainoka R	1.50	45		Pn	20 40 27.4	-0.3
MRZ	Mangatainoka R	1.50	45	P	Pn	20 40 27.4	-0.3
GVZ	Greta Valley S	1.51	214		Pn	20 40 27.4	-0.5
GVZ	Greta Valley S	1.51	214	P	Pn	20 40 27.4	-0.5
QRZ	Quartz Range	1.54	305	P	Pb	20 40 29.5	-0.1
QRZ	Quartz Range	1.54	305	Pn	Pb	20 40 28.9	-0.7
QRZ	Quartz Range	1.54	305	P	Pb	20 40 29.0	-0.7
TIWZ	Tintock	1.59	54	P	Pn	20 40 28.3	-0.8
CPWZ	Castlepoint	1.72	63	P	Pn	20 40 30.8	+0.1
OHWZ	Ohakea	1.74	30	P	Pb	20 40 30.4	-0.5
LTZ	Lake Taylor	1.77	233		Pn	20 40 31.4	-0.1
LTZ	Lake Taylor	1.77	233	P	Pn	20 40 31.3	-0.2
DSZ	Denniston Nort	1.78	269		Pn	20 40 32.5	+0.9
DSZ	Denniston Nort	1.78	269	P	Pn	20 40 32.7	+1.1
PRWZ	Pori Road	1.79	50	P	Pn	20 40 31.0	-0.7
POWZ	Post Office Ro	1.79	43	P	Pn	20 40 31.3	-0.4
AMCZ	Amberley	1.84	217		Pn	20 40 31.4	-1.0
AMCZ	Amberley	1.84	217	P	Pn	20 40 31.6	-0.8
BFZ	Birch Farm	1.87	57	P	Pn	20 40 31.6	-1.2
BFZ	Birch Farm	1.87	57		Pn	20 40 31.4	-1.4
BFZ	Birch Farm	1.87	57	P	Pn	20 40 31.4	-1.4
WAZ	Wanganui	2.06	17	P	Pb	20 40 37.6	-0.9
DVHZ	Dannevirke	2.07	47	P	Pn	20 40 34.4	-1.2
TSZ	Takapari Road	2.14	40	P	Pn	20 40 36.0	-0.5
ANWZ	Angora Road	2.14	55	P	Pn	20 40 35.2	-1.4
OXZ	Oxford	2.25	224		Pn	20 40 36.4	-1.7
OXZ	Oxford	2.25	224	P	Pn	20 40 36.6	-1.5
INZ	Inchbonnie	2.27	243		Pn	20 40 38.5	+0.2
INZ	Inchbonnie	2.27	243	P	Pn	20 40 38.4	+0.1
LREZ	Lake Rotokare	2.27	4	P	Pn	20 40 40.0	+1.8
MQZ	McQueen's Vall	2.28	209		Pn	20 40 36.4	-2.1
MQZ	McQueen's Vall	2.28	209	P	Pn	20 40 36.4	-2.1
NMEZ	Namu Road	2.32	354	P	Pb	20 40 42.3	-0.7
AKCZ	Akaroa Harbour	2.34	203	P	Pn	20 40 37.9	-1.5
PRHZ	Porangahau	2.36	53	P	Pn	20 40 37.9	-1.6
PNHZ	Pukenui	2.37	41	P	Pn	20 40 38.8	-0.9
PREZ	Palmer Road	2.38	360	P	Pb	20 40 42.5	-1.6
WPHZ	Waipukurau	2.38	47	P	Pn	20 40 39.0	-0.9
KHEZ	Kahui Hut	2.43	357	P	Pb	20 40 43.2	-1.7
KHEZ	Kahui Hut	2.43	357	P	Pb	20 40 43.2	-1.7
NEZ	North Egmont	2.45	358	P	Pb	20 40 44.5	-0.8
NBEZ	Newall Road No	2.46	354	P	Pb	20 40 44.3	-1.1
RACZ	Rakaia	2.50	216	P	Pn	20 40 39.7	-1.8
PKE	Pukeiti	2.53	357	P	Pn	20 40 43.7	+1.7
DREZ	Durham Road	2.53	0	P	Pb	20 40 45.8	-0.8
MTVZ	Mangateitei	2.53	20	P	Pb	20 40 45.6	-1.1
PKVZ	Pokaka	2.59	20	P	Pb	20 40 45.2	-2.5
MOVZ	Moawhango	2.60	28	P	Pn	20 40 43.2	+0.2
WNVZ	Wahianoa	2.63	25	P	Pn	20 40 45.3	+2.0
VRZ	Vera Road	2.63	10	P	Pn	20 40 45.4	+2.1
TRVZ	Turoa	2.64	24	P	Pn	20 40 45.9	+2.3
MHCZ	Mount Hutt	2.64	226	P	Pn	20 40 42.0	-1.5
PXZ	Pawanui	2.64	51	P	Pn	20 40 41.6	-1.8
MHEZ	Mangahewa	2.65	2	P	Pb	20 40 47.8	-0.7
BHHZ	Black Hill Sta	2.65	33	P	Pn	20 40 43.5	-0.1
KRHZ	Kereru	2.66	39	P	Pn	20 40 42.6	-1.1
WHVZ	Whangaehu Hut	2.66	24	P	Pb	20 40 47.9	-1.1
MAVZ	Matarangi	2.67	24	P	Pb	20 40 47.8	-1.4
FWVZ	Far West T-bar	2.68	23	P	Pb	20 40 47.3	-2.0
TUVZ	Tukino	2.70	25	P	Pn	20 40 45.7	+1.4
COVZ	Chateau Observ	2.73	23	P	Pn	20 40 46.9	+2.2
NGZ	Ngauruhoe	2.77	24	P	Pb	20 40 49.4	-1.3
OTVZ	Olurere	2.80	24	P	Pn	20 40 46.8	+1.1
WACZ	Wakanui South	2.81	217	P	Pn	20 40 44.0	-1.7
NNVZ	North Ngauruho	2.81	23	P	Pn	20 40 47.7	+1.9
KAHZ	Kahuranaki	2.81	48	P	Pn	20 40 44.1	-1.6
TWVZ	Taurewa	2.82	20	P	Pn	20 40 48.1	+2.1
WTVZ	West Tongariro	2.82	23	P	Pb	20 40 48.8	-2.8
ETVZ	East Tongariro	2.84	25	P	Pn	20 40 48.9	+2.7
KRVZ	Karewarewa	2.85	23	P	Pb	20 40 50.4	-1.8
TMVZ	Te Maari	2.85	25	P	Pn	20 40 48.8	+2.4
NTVZ	North Tongarir	2.86	24	P	Pn	20 40 47.8	+1.3
KWHZ	Kaweka Forest	2.86	37	P	Pn	20 40 45.4	-1.1
WVZ	Waitaha Valley	2.89	241	P	Pn	20 40 47.4	+0.6
KATZ	Kakaramea	2.98	23	P	Pb	20 40 54.1	-0.2
RITZ	Rihia Road	3.03	26	P	Pn	20 40 51.5	+2.8
RPZ	Rata Peaks	3.04	228	P	Pn	20 40 48.1	-0.9
RPZ	Rata Peaks	3.04	228		Pn	20 40 47.8	-1.2
RPZ	Rata Peaks	3.04	228	P	Pn	20 40 47.8	-1.2
RATZ	Rangitukua	3.10	24	P	Pb	20 40 55.5	-0.9
BKZ	Black Stump Fm	3.10	35	P	Pn	20 40 50.4	+0.6
BKZ	Black Stump Fm	3.10	35		Pn	20 40 48.5	-1.4
BKZ	Black Stump Fm	3.10	35	P	Pn	20 40 48.8	-1.0
ARCZ	Arundel	3.13	224	P	Pn	20 40 49.2	-1.0
HATZ	Hinemaiaia	3.18	28	P	Pb	20 40 57.6	-0.2
HIZ	Hauiti	3.25	9	P	Pn	20 40 53.4	+1.7
HIZ	Hauiti	3.25	9	Pn	Pn	20 40 52.9	+1.2
HIZ	Hauiti	3.25	9	P	Pn	20 40 53.5	+1.7
GCSZ	Gaunt Creek Bo	3.26	240	P	Pn	20 40 52.8	+0.8
MRHZ	Matea Rd	3.35	31	P	Pn	20 40 52.2	-1.1
MTHZ	Maungataniwha	3.52	36	P	Pb	20 41 02.0	-1.4
TMZ	Timaru	3.53	220	P	Pn	20 40 54.6	-1.1
TLZ	Tolley Road	3.55	18	P	Pn	20 40 57.7	+1.8
FOZ	Fox Glacier	3.69	239		Pn	20 40 57.6	-0.2
FOZ	Fox Glacier	3.69	239	P	Pn	20 40 58.1	+0.3
RTZ	Ruatahuna	3.77	36		Pn	20 40 59.2	+0.2
RTZ	Ruatahuna	3.77	36	P	Pb	20 41 05.8	-2.0
MUGZ	Murupara	3.80	32	P	Pn	20 40 58.0	-1.4
SNGZ	Shannon Statio	3.80	40	P	Pn	20 40 57.4	-2.0
LBZ	Lake Benmore	3.96	226		Pn	20 41 01.6	0.0
LBZ	Lake Benmore	3.96	226	P	Pn	20 41 01.3	-0.2
TOZ	Tahuroa Road	4.12	15	Pn	Pn	20 41 03.8	+0.2
TOZ	Tahuroa Road	4.12	15	P	Pn	20 41 05.4	+1.7
URZ	Urewera	4.13	34	P	Pn	20 41 04.6	+0.8
URZ	Urewera	4.13	34	P	Pn	20 41 03.3	-0.5
ODZ	Otahua Downs	4.20	217	P	Pn	20 41 03.5	-1.4
ODZ	Otahua Downs	4.20	217		Pn	20 41 03.1	-1.8
ODZ	Otahua Downs	4.20	217	P	Pn	20 41 02.8	-2.0
TGRZ	Tauranga	4.30	23	P	Pb	20 41 12.9	-3.8
TWGZ	Tauwhareparae	4.59	41	P	Pn	20 41 12.3	+2.1
JCZ	Jackson Bay	4.61	238	P	Pn	20 41 11.9	+1.4
JCZ	Jackson Bay	4.61	238	P	Pn	20 41 10.8	+0.2
RUGZ	Raukumara Rang	4.62	37	P	Pn	20 41 08.8	-1.9
KBAZ	Karaka Road Bo	4.66	7	P	Pn	20 41 13.2	+2.2
AWAZ	Awhitu Peninsu	4.67	5	P	Pn	20 41 13.2	+1.9
MKAZ	Moumakai	4.67	10	P	Pn	20 41 12.7	+1.4
WTAZ	Waiatarua	4.79	4	P	Pn	20 41 15.7	+2.7
ETAZ	East Tamaki Re	4.80	7	P	Pn	20 41 14.7	+1.9
WKZ	Wanaka	4.88	229	Pn	Pn	20 41 13.5	-0.7
RVAZ	Riverhead Bore	4.96	4	P	Pn	20 41 17.7	+2.5
WIAZ	Waiheke Island	4.98	9	P	Pn	20 41 17.6	+2.1
EAZ	Earnscleugh	4.99	224	P	Pn	20 41 14.0	-1.6
KUZ	Kuaotunu	5.11	14	P	Pn	20 41 19.3	+2.0
KUZ	Kuaotunu	5.11	14	P	Pn	20 41 19.4	+2.0
TUZ	Tuapeka	5.36	216	P	Pn	20 41 19.1	-1.6
MLZ	Mavora Lakes	5.72	228		Pn	20 41 24.5	-1.2
WCZ	Waipu Caves	5.78	1	P	Pn	20 41 31.6	+5.1
SYZ	Scrubby Hill	6.03	215	P	Pn	20 41 29.4	-0.5
WHZ	Wether Hill Ro	6.14	225	Pn	Pn	20 41 30.1	-1.3
CTZ	Chatham Island	7.07	110	P	Pn	20 41 43.5	-0.7
CTZ	Chatham Island	7.07	110	Pn	Pn	20 41 43.2	-1.0
CTZ	Chatham Island	7.07	110	P	Pn	20 41 42.9	-1.2
STKA	Stephens Creek	27.74	280	P	P	20 45 49.9	+0.7
STKA				IAmb	IAmb	20 45 56.6	
	comp=Z,2.1nm,1.4s						
WB2	Warramunga Arr	40.04	290	P	P	20 47 36.2	+0.4
WB2				IAmb	IAmb	20 47 40.1	
	comp=Z,7.5nm,1.1s						
QSPA	South Pole Qui	48.40	180	P	P	20 48 43.3	+0.8
QSPA				IAmb	IAmb	20 49 06.6	
	comp=Z,7.2nm,1.4s						
HHC	Hu-ho-hao-te	99.84	317	*e*P	Pdif	20 53 46.5	+1.7
HHC				pmax	pmax		
	comp=Z,4.0nm,0.6s						

IDC 12 20:45:35.6±50.0, 21°.60S×173°.50W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=955.2km s-min=178.9km az=86.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	41.13	246	P	P	20 53 20.1	-1.6
	1.1nm,0.6s,baz=105,slow=12,SNR=3.7						
	1.1nm,0.6s						
ASAR	Alice Springs	48.36	257	P	P	20 54 19.6	0.0
	0.4nm,0.4s,baz=93,slow=6.7,SNR=13						
	0.4nm,0.4s						
WRA	Warramunga Arr	48.61	262	P	P	20 54 22.2	+0.7
	1.3nm,0.4s,baz=98,slow=8.1,SNR=25						
	1.3nm,0.4s						

NEIC 12 21:04:24.9±1.4, 31°.29N±0°.04×103°.71W±0°.02, h5km±1km, mb_Lg2.9/48, ML2.9/56, Error ellipse: s-maj=7.5km s-min=3.0km az=13.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	Pecos	0.15	301		Pg	21 04 28.5	+0.5
PECS				Sg	Sg	21 04 32.9	+0.3
MNHN	Monahans	0.82	86		Pg	21 04 40.1	-0.5
ALPN	Alpine	0.92	176		Pg	21 04 41.4	-1.1
ALPN				Sg	Sg	21 04 53.5	-0.9
ALPN				IAML		21 04 56.9	
	315nm,0.5s						
ALPN				IAML		21 04 59.4	
	310nm,0.4s						
GDL2	Guadalupe Moun	1.06	329	Pg	Pg	21 04 45.3	0.0
CLN7	Carlsbad 7	1.12	356		Pb	21 04 46.9	+0.1
HTMS	Hat Mesa	1.18	3		Pg	21 04 47.3	-0.2
VHRN	Van Horn	1.20	246	Pg	Pg	21 04 46.9	-1.0
VHRN				Sg	Sg	21 05 03.5	-0.1
VHRN				IAML		21 05 09.3	
	263nm,0.6s						
ODSA	Odessa	1.29	50	Pg	Pg	21 04 49.2	-0.4
ODSA				IAML		21 05 32.2	
	198nm,0.8s						
SAND	Sanderson	1.91	134		Pn	21 04 59.1	+0.9
SAND					Sb	21 05 24.6	+0.1
SAND				IAmb_Lg		21 05 26.1	
	comp=Z,52nm,0.7s						
TX31	Lajitas Ar. Si	1.95	179		Pn	21 04 59.6	+0.9
TXAR	Lajitas Array	1.95	179		Pn	21 04 59.8	+1.0
OZNA	Ozona	2.25	99		Pn	21 05 03.7	+0.9
OZNA				IAmb_Lg		21 05 41.8	
	comp=Z,36nm,0.7s						
SGCY	Sterling City	2.29	74	Pn	Pn	21 05 04.8	+1.4
SGCY				IAmb_Lg		21 05 42.0	
	comp=Z,70nm,0.9s						
EPT	El Paso	2.43	282		Pn	21 05 05.2	-0.2
EPT				IAML		21 05 47.6	
	comp=N,58nm,1.2s						
EPT				IAML		21 05 47.6	
	comp=E,70nm,1.1s						
POST	Post	2.58	46		Pn	21 05 08.8	+1.5
POST				IAmb_Lg		21 05 46.5	
	comp=Z,32nm,0.8s						
MSTX	Muleshoe	2.79	16		Pn	21 05 11.5	+1.3
SN05	Snyder 5	2.88	56		Pn	21 05 12.9	+1.5
SN07	Snyder 07	2.99	52		Pn	21 05 14.4	+1.4
SN07				IAmb_Lg		21 06 02.5	
	comp=Z,40nm,0.7s						
DRIO	Del Rio	3.26	124	IAmb_Lg		21 06 12.6	
	comp=Z,34nm,0.7s						
DKNS	Dickens	3.34	44	Pn	Pn	21 05 18.7	+0.8
DKNS				IAmb_Lg		21 06 13.7	
	comp=Z,42nm,0.9s						
JCT	Junction City	3.46	103		Pn	21 05 21.4	+2.0
APMT	Aspermont	3.65	55	Pn	Pn	21 05 23.3	+1.2
APMT				IAmb_Lg		21 06 25.8	
	comp=Z,28nm,0.8s						
ABTX	Abilene, Hawle	3.71	68		Pn

ALIG				S	Sg	21 05 22.3	+0.1
KAPZ	**Kaputan**	**1.17**	**128**	⇑*i*P	**Pn**	**21 05 09.8**	**-0.8**
KAPZ				⇑*i*S	**Sg**	**21 05 25.9**	**0.0**
DAGI	**Agillar**	**1.20**	**272**	P	**Pn**	**21 05 10.2**	**-0.7**
DAGI				*i* AML	AML	21 05 27.0	
	comp=N,368nm,0.5s						
DAGI				*i* AML	AML	21 05 27.0	
	comp=E,170nm,0.4s						
DAGI				S	**S**	**21 05 27.0**	**+0.5**
SEAG	**Tbilisi Sea**	**1.21**	**54**	P	**Pn**	**21 05 10.6**	**-0.3**
SEAG				S	**Sg**	**21 05 27.4**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.21**	**152**	Pn	**Pn**	**21 05 10.5**	**-0.5**
TASB				Sn	**Sn**	**21 05 27.0**	**-0.3**
KOTA	**Agri, Merkez-K**	**1.27**	**190**	P	**Pb**	**21 05 12.1**	**-0.1**
KOTA				*i* AML	AML	21 05 35.0	
	comp=E,65nm,0.6s						
KOTA				*i* AML	AML	21 05 42.0	
	comp=N,75nm,0.8s						
GNI	**Garni**	**1.31**	**133**	⇓*i*P	**Pn**	**21 05 12.4**	**0.0**
GNI				⇑*i*S	**Sg**	**21 05 30.5**	**+0.2**
DDEM	**Demirkent**	**1.33**	**264**	P	**Pb**	**21 05 12.5**	**-0.6**
DDEM				*i* AML	AML	21 05 35.0	
	comp=E,731nm,0.4s						
DDEM				*i* AML	AML	21 05 37.0	
	comp=N,667nm,0.3s						
TKB	**Tkibuli**	**1.35**	**344**	P	**Pb**	**21 05 13.1**	**-0.2**
TKB				S	**Sg**	**21 05 31.7**	**+0.2**
DBAD	**Bademkaya**	**1.37**	**269**	P	**Pn**	**21 05 12.9**	**-0.3**
DBAD				S	**Sg**	**21 05 31.3**	**-0.9**
DBAD				*i* AML	AML	21 05 38.0	
	comp=E,260nm,0.4s						
DBAD				*i* AML	AML	21 05 41.0	
	comp=N,214nm,0.5s						
NRKZ	**NAREK**	**1.38**	**140**	⇑*i*P	**Pn**	**21 05 13.1**	**-0.2**
NRKZ				⇑*i*S	**Sb**	**21 05 31.9**	**+0.4**
EATA	**Eleskirt**	**1.42**	**213**	P	**Pn**	**21 05 13.8**	**-0.2**
EATA				S	**Sg**	**21 05 34.3**	**+0.4**
EATA				*i* AML	AML	21 05 38.0	
	comp=E,145nm,0.4s						
EATA				*i* AML	AML	21 05 42.0	
	comp=N,144nm,0.5s						
BATM	**Batumi**	**1.47**	**292**	P	**Pb**	**21 05 14.7**	**-0.7**
BATM				S	**Sg**	**21 05 34.3**	**-1.0**
BCA	**Borcka**	**1.47**	**286**	Pn	**Pb**	**21 05 14.8**	**-0.6**
BCA				Sn	**Sb**	**21 05 34.1**	**0.0**
ONI	**Oni**	**1.53**	**359**	P	**Pb**	**21 05 16.3**	**-0.2**
ONI				S	**Sg**	**21 05 37.1**	**-0.3**
HOMI	**Horasan**	**1.58**	**231**	P	**Pb**	**21 05 17.3**	**-0.2**
HOMI				*i* AML	AML	21 05 47.0	
	comp=N,168nm,0.6s						
HOMI				*i* AML	AML	21 05 53.0	
	comp=E,209nm,1.1s						
HOPA	**Hopa-Artvin**	**1.58**	**283**	Pn	**Pb**	**21 05 16.6**	**-0.7**
KOPR	**Koprukoy-ERZUR**	**1.65**	**230**	Pn	**Pn**	**21 05 17.1**	**0.0**
CHRG	**Chargali**	**1.66**	**40**	P	**Pb**	**21 05 18.5**	**-0.2**
CHRG				S	**Sg**	**21 05 41.0**	**-0.5**
DORK	**Agr/Tutak/Do**	**1.76**	**199**	P	**Pb**	**21 05 20.3**	**-0.1**
DORK				*i* AML	AML	21 05 47.0	
	comp=N,64nm,0.6s						
DORK				*i* AML	AML	21 05 52.0	
	comp=E,55nm,0.5s						
MTEO	**Meteo**	**1.80**	**25**	P	**Pb**	**21 05 21.7**	**+0.5**
MTEO				S	**Sg**	**21 05 46.8**	**+0.9**
LACR	**Lac**	**1.87**	**18**	*e*Pg	**Pb**	**21 05 22.4**	**+0.2**
LACR				*e*Sg	**Sg**	**21 05 47.1**	**-1.0**
CLDR	**Caldiran**	**1.94**	**170**	Pn	**Pn**	**21 05 20.2**	**-0.9**
SHTL	**Shatili**	**2.02**	**37**	P	**Pb**	**21 05 25.1**	**+0.2**
SHTL				S	**Sg**	**21 05 52.2**	**-0.9**
MLAZ	**Malazgirt-MUS**	**2.05**	**201**	Pn	**Pn**	**21 05 22.4**	**-0.2**
KORR	**Kora**	**2.07**	**12**	*e*Pg	**Pg**	**21 05 27.0**	**-0.9**
KORR				*e*Sg	**Sg**	**21 05 53.9**	**-0.8**
CHOM	**Cayeli-Rize**	**2.07**	**272**	Pn	**Pn**	**21 05 23.3**	**+0.5**
KRIK	**Erzurum-spir**	**2.08**	**251**	P	**Pb**	**21 05 25.8**	**-0.2**
KRIK				*i* AML	AML	21 06 03.0	
	comp=N,15nm,0.9s						
KRIK				*i* AML	AML	21 06 12.0	
	comp=E,16nm,1.1s						
EMRE	**Erzurum,Aziziy**	**2.18**	**243**	P	**Pg**	**21 05 29.4**	**-0.5**
VSHL	**Vashlovani**	**2.20**	**85**	P	**Pb**	**21 05 28.0**	**+0.2**
VSHL				S	**Sg**	**21 05 59.9**	**+1.2**
ARNR	**Ardon**	**2.20**	**15**	*e*Pg	**Pg**	**21 05 29.7**	**-0.6**
ARNR				*e*Sg	**Sg**	**21 05 57.0**	**-1.9**
ETEKE	**Tekederesi - E**	**2.20**	**236**	P	**Pb**	**21 05 26.9**	**-1.1**
ETEKE				S	**Sg**	**21 06 02.1**	**+3.2**
ETEKE				*i* AML	AML	21 06 04.0	
	comp=N,102nm,0.5s						
ETEKE				*i* AML	AML	21 06 11.0	
	comp=E,136nm,0.9s						
LGD	**Lagodekhi**	**2.20**	**68**	P	**Pb**	**21 05 27.6**	**-0.3**
LGD				S	**Sb**	**21 05 56.8**	**+1.6**
LSNR	**Lesken**	**2.23**	**6**	*e*Pg	**Pb**	**21 05 28.2**	**-0.2**
LSNR				*e*Sg	**Sb**	**21 05 57.0**	**+1.0**
KMGR	**Komgaron**	**2.24**	**27**	*e*Pg	**Pg**	**21 05 29.9**	**-1.2**
KMGR				*e*Sg	**Sb**	**21 05 57.3**	**+1.0**
IZDR	**Rize**	**2.24**	**264**	P	**Pb**	**21 05 28.5**	**-0.1**
IZDR				S	**Sb**	**21 05 57.2**	**+0.8**
IZDR				*i* AML	AML	21 06 02.0	
	comp=E,28nm,0.6s						
IZDR				*i* AML	AML	21 06 09.0	
	comp=N,30nm,0.8s						
NCK	**Nalchik**	**2.44**	**2**	*e*Pn	**Pb**	**21 05 32.9**	**+1.0**
NCK				*e*Sn	**Sn**	**21 05 58.8**	**+1.2**
BTKR	**Batakoyurt**	**2.44**	**18**	*e*Pn	**Pb**	**21 05 31.8**	**-0.2**
BTKR				*e*Sn	**Sb**	**21 06 01.3**	**-0.7**
BTLR	**Botlikh**	**2.59**	**51**	*e*Pn	**Pb**	**21 05 35.2**	**+0.7**
BTLR				*e*Sn	**Sg**	**21 06 09.2**	**-2.2**
KBZ	**Khabaz**	**2.71**	**351**	*e*Pn	**Pb**	**21 05 36.4**	**-0.1**
KBZ				*e*Sn	**Sb**	**21 06 06.6**	**-3.0**
DVE	**Vedeno**	**2.73**	**45**	*e*Pn	**Pb**	**21 05 37.2**	**+0.4**
DVE				*e*Sn	**Sb**	**21 06 11.2**	**+0.9**
XNZR	**Khunzakh**	**2.82**	**57**	*e*Pn	**Pb**	**21 05 39.7**	**+1.2**
XNZR				*e*Sn	**Sg**	**21 06 16.9**	**-1.8**
KMKR	**Kumukh**	**2.90**	**67**	*e*Pn	**Pb**	**21 05 40.3**	**+0.3**
KMKR				*e*Sn	**Sb**	**21 06 18.2**	**+2.7**
GNBR	**Gunib**	**2.91**	**62**	*e*Pn	**Pb**	**21 05 41.1**	**+1.0**
GNBR				*e*Sn	**Sg**	**21 06 18.8**	**-2.9**
KIV	**Kislovodsk**	**2.96**	**349**	*e*Pn	**Pb**	**21 05 38.0**	**-2.9**
KIV				*e*Sn	**Sb**	**21 06 13.5**	**-3.5**
UNCR	**Uncukul**	**2.96**	**55**	*e*Pn	**Pb**	**21 05 41.5**	**+0.6**
UNCR				*e*Sn	**Sg**	**21 06 20.6**	**-2.7**
BEYR	**Belyy Ugol+**	**3.00**	**351**	*e*Pn	**Pn**	**21 05 37.0**	**+1.5**
BEYR				*e*Sn	**Sn**	**21 06 14.1**	**+2.7**
PYA1	**Pyatigorsk**	**3.02**	**354**	*e*Pn	**Pb**	**21 05 42.0**	**+0.1**
PYA1				*e*Sn	**Sn**	**21 06 13.4**	**+1.5**
ARKR	**Arakani**	**3.03**	**58**	*e*Pn	**Pb**	**21 05 43.3**	**+1.2**
ARKR				*e*Sn	**Sb**	**21 06 20.3**	**+1.2**
DLMR	**Dylym**	**3.08**	**48**	*e*Pn	**Pb**	**21 05 42.1**	**-0.7**
DLMR				*e*Sn	**Sb**	**21 06 19.7**	**-0.7**
DBC	**Dubki**	**3.16**	**51**	*e*Pn	**Pb**	**21 05 44.5**	**+0.2**
DBC				*e*Sn	**Sb**	**21 06 25.4**	**+2.6**
AKT	**Akhty**	**3.22**	**81**	*e*Pn	**Pb**	**21 05 44.2**	**-1.0**
AKT				*e*Sn	**Sb**	**21 06 25.4**	**+0.9**
BUJR	**Buynaksk**	**3.22**	**56**	*e*Pn	**Pb**	**21 05 43.0**	**-2.2**
BUJR				*e*Sn	**Sb**	**21 06 24.9**	**+0.5**

*JMA **12** 21:18:44.4±0.3,24.°7N±0.°9×121.°9E±0.°7,h84km±3km, MV3.5/19,TAIWAN REGION*
*NIED **12** 21:18:44.4,24.°69N×121.°94E,h84km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.39; $M_{\theta\theta}$3.20; $M_{\phi\phi}$-2.81; $M_{r\theta}$4.33; $M_{\theta\phi}$-2.06; $M_{\phi r}$-6.24; Fault plane solution: M_o8.41000×10^{14} NP1: ϕ_s327.00000°,δ88.00000°,λ-65.00000°. NP2:ϕ_s61.00000°, δ25.00000°,λ-175.00000°.*
*TAP **12** 21:18:44.7,24.°73N×121.°95E,h79km,ML4.4,B*
*ASIES **12** 21:18:44.7,24.°73N×121.°95E,h79km,ML4.4,Mw3.9, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}3.90; $M_{\theta\theta}$0.46; $M_{\phi\phi}$-4.36; $M_{r\theta}$0.93; $M_{\theta\phi}$-1.97; $M_{\phi r}$-6.88; Fault plane solution: M_o8.32581×10^{21} NP1: ϕ_s176.52000°,δ75.04000°,λ73.92000°. NP2:ϕ_s44.67000°, δ21.83000°,λ136.03000°. Principal axes: T Plg57.0300°, Azm65.4180°; N Plg15.5230°, Azm180.7710°; P Plg28.2840°, Azm279.3670°;*
*IDC **12** 21:18:45.8±4.4,24.°75N×122.°06E,h91km±52km,mb3.1/5, mbtmp3.4/6,ML3.1/1,MS2.4/1 Error ellipse: s-maj=31.9km s-min=21.3km az=50.0*
ISC 12 21:18:44.9±0.8,**24.°75N**±0.°02×**121.°96E**±0.°02,**h81**km±4km, **n186,σ1§04**/353,**mb3.4**/5,**55C-9D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EGS		**0.10**	**347**	*i* P		**Pn**	**21 18 56.2**	**-0.3**
EGS	baz=5.0			*e*S		**Sn**	**21 19 03.7**	**-1.4**
NTC	**Toucheng**	**0.16**	**312**	*i* P		**Pn**	**21 18 56.6**	**-0.1**
NTC	baz=324			*i* S		**Sn**	**21 19 05.3**	**-0.2**
TWC	**Suao**	**0.17**	**215**	⇑*i*P		**Pn**	**21 18 56.7**	**-0.1**
TWC	baz=214			*i* S		**Sn**	**21 19 04.9**	**-0.6**
ILA	**Ilan**	**0.19**	**275**	*i* P		**Pn**	**21 18 57.0**	**+0.2**
ILA	baz=286			*i* S		**Sn**	**21 19 05.9**	**+0.2**
ESAO	**Su ao**	**0.20**	**211**	⇑P		**Pn**	**21 18 56.9**	**0.0**
ESAO	baz=212			S		**Sn**	**21 19 05.0**	**-0.7**
NDS	**Dongshan**	**0.25**	**242**	P		**Pn**	**21 18 57.5**	**+0.4**
NDS	baz=245			S		**Sn**	**21 19 06.7**	**+0.6**
TIPB	**Shuangxi**	**0.25**	**332**	⇑*i*P		**Pn**	**21 18 56.9**	**-0.3**
TIPB	baz=326			*i* S		**Sn**	**21 19 05.2**	**-1.0**
TWB1	**Santiao Chiao**	**0.26**	**6**	⇓*i*P		**Pn**	**21 18 56.8**	**-0.3**
TWB1	baz=13			*i* S		**Sn**	**21 19 05.2**	**-0.9**
TWE	**Neicheng**	**0.27**	**264**	⇑*i*P		**Pn**	**21 18 57.3**	**+0.1**
TWE	baz=266			*i* S		**Sn**	**21 19 06.2**	**0.0**
FUSB	**Fushanzhiwuyua**	**0.34**	**272**	⇑P		**Pn**	**21 18 57.7**	**0.0**
FUSB	baz=281			S		**Sn**	**21 19 06.6**	**-0.5**
EWUT	**Wuta**	**0.34**	**208**	⇑P		**Pn**	**21 18 57.8**	**+0.2**
EWUT	baz=204			S		**Sn**	**21 19 07.5**	**+0.4**
SXI1	**Grass Mountain**	**0.35**	**348**	⇑P		**Pn**	**21 18 57.2**	**-0.6**
SXI1	baz=340			S		**Sn**	**21 19 06.0**	**-1.3**
NWF	**Wu-fen Shan**	**0.36**	**334**	⇑*i*P		**Pn**	**21 18 57.5**	**-0.3**
NWF	baz=339			*i* S		**Sn**	**21 19 06.5**	**-0.9**
WFSB	**Wu-fen Shan**	**0.36**	**334**	⇑P		**Pn**	**21 18 57.5**	**-0.2**
WFSB	baz=339			S		**Sn**	**21 19 05.4**	**-1.8**
ENTT	**Nioudou**	**0.37**	**253**	⇑*i*P		**Pn**	**21 18 58.3**	**+0.4**
ENTT	baz=261			*i* S		**Sn**	**21 19 08.0**	**+0.6**
ENA	**Nanau**	**0.38**	**212**	⇑*i*P		**Pn**	**21 18 58.0**	**+0.1**
ENA	baz=207			*i* S		**Sn**	**21 19 08.0**	**+0.6**
TWA	**Mucha**	**0.41**	**304**	⇑*i*P		**Pn**	**21 18 57.9**	**-0.2**
TWA	baz=310			*i* S		**Sn**	**21 19 07.2**	**-0.7**
EOS2	**EOS2**	**0.41**	**143**	*e*P		**Pn**	**21 18 58.6**	**+0.7**
EOS2	baz=142			*e*S		**Sn**	**21 19 08.8**	**+1.2**
NWLT	**Wulai**	**0.41**	**274**	⇑P		**Pn**	**21 18 58.1**	**0.0**
NWLT	baz=284			S		**Sn**	**21 19 07.4**	**-0.6**
NDT	**Datong Townshi**	**0.43**	**250**	⇑P		**Pn**	**21 18 58.6**	**+0.4**
NDT	baz=262			S		**Sn**	**21 19 08.5**	**+0.4**
TNOU	**National Taiwa**	**0.43**	**337**	⇑P		**Pn**	**21 18 57.9**	**-0.4**
TNOU	baz=338			S		**Sn**	**21 19 07.2**	**-1.0**
LATG	**Datong**	**0.45**	**242**	⇑P		**Pn**	**21 18 58.8**	**+0.3**
LATG	baz=251			S		**Sn**	**21 19 09.6**	**+1.0**
NHY	**Taipei**	**0.46**	**309**	P		**Pn**	**21 18 58.4**	**-0.1**
NHY	baz=319			S		**Sn**	**21 19 08.3**	**-0.2**
EAHA	**Aohua**	**0.46**	**205**	⇑P		**Pn**	**21 18 58.3**	**-0.2**
EAHA	baz=199			S		**Sn**	**21 19 09.2**	**+0.7**
EHP	**Heping Village**	**0.48**	**204**	P		**Pn**	**21 18 58.7**	**0.0**
EHP	baz=195			S		**Sn**	**21 19 09.6**	**+0.8**
TATO	**Taipei**	**0.48**	**298**	P		**Pn**	**21 18 58.3**	**-0.3**
TATO	**Taipei**	**0.48**	**298**	⇑P		**Pn**	**21 18 58.5**	**-0.2**
TATO	baz=305			S		**Sn**	**21 19 08.3**	**-0.5**
TAP	**Taipei**	**0.50**	**305**	⇑*i*P		**Pn**	**21 18 58.6**	**-0.2**
TAP	baz=315			*i* S		**Sn**	**21 19 08.5**	**-0.6**
NWRT	**Kuosheng**	**0.53**	**329**	*e*P		**Pn**	**21 18 59.0**	**-0.1**
NWRT	baz=337			S		**Sn**	**21 19 09.0**	**-0.5**
BACT	**New Taipei Cit**	**0.53**	**298**	P		**Pn**	**21 18 59.2**	**+0.2**
BACT	baz=302			S		**Sn**	**21 19 10.2**	**+0.7**
YM01	**YM01**	**0.53**	**318**	⇑P		**Pn**	**21 18 58.9**	**-0.3**
YM01	baz=325			S		**Sn**	**21 19 08.9**	**-0.7**
YHNB	**Yeheng**	**0.54**	**262**	P		**Pn**	**21 18 58.8**	**-0.4**
YHNB	**Yeheng**	**0.54**	**262**	⇑P		**Pn**	**21 18 59.1**	**-0.1**
YHNB	baz=263			S		**Sn**	**21 19 09.3**	**-0.4**
NSK	**Sanguang**	**0.55**	**262**	⇑*i*P		**Pn**	**21 18 59.2**	**-0.1**
NSK	baz=264			*i* S		**Sn**	**21 19 09.3**	**-0.7**
YM08	**YM08**	**0.55**	**323**	⇑P		**Pn**	**21 18 58.7**	**-0.6**
YM08	baz=329			S		**Sn**	**21 19 08.5**	**-1.5**
EOS3	**EOS3**	**0.57**	**144**	⇓*e*P		**Pn**	**21 18 60.0**	**+0.8**
EOS3	baz=150			*e*S		**Sn**	**21 19 07.9**	**-1.9**
ANP	**Anpu**	**0.59**	**318**	*i* P		**Pn**	**21 18 59.3**	**-0.4**
ANP	baz=324			*i* S		**Sn**	**21 19 09.9**	**-0.8**
TWS1	**Kuangyinshan**	**0.60**	**306**	⇑*i*P		**Pn**	**21 18 59.8**	**+0.1**
TWS1	baz=314			*i* S		**Sn**	**21 19 11.1**	**+0.4**
NNSB	**Datong**	**0.61**	**239**	⇑P		**Pn**	**21 19 00.3**	**+0.3**
NNSB	baz=246			S		**Sn**	**21 19 11.1**	**0.0**
NNSH	**Datong**	**0.61**	**239**	⇑P		**Pn**	**21 19 00.2**	**+0.3**
NNSH	baz=246			*i* S		**Sn**	**21 19 11.2**	**+0.1**
NNS	**Nan Shan**	**0.61**	**240**	⇑*i*P		**Pn**	**21 19 00.3**	**+0.3**
NNS	baz=247			*i* S		**Sn**	**21 19 11.5**	**+0.3**
TWY	**Chenhua**	**0.62**	**328**	*i* P		**Pn**	**21 18 59.9**	**0.0**
TWY	baz=336			*i* S		**Sn**	**21 19 10.5**	**-0.5**
NTST	**Danshui**	**0.62**	**312**	⇑*i*P		**Pn**	**21 18 59.9**	**0.0**
NTST	baz=320			*i* S		**Sn**	**21 19 11.2**	**+0.2**
NSM	**Shimen**	**0.63**	**328**	P		**Pn**	**21 19 00.2**	**+0.2**
NSM	baz=329			S		**Sn**	**21 19 11.7**	**+0.5**
NTY	**Taoyuan**	**0.65**	**293**	P		**Pn**	**21 19 00.4**	**+0.2**
NTY	baz=294			S		**Sn**	**21 19 12.4**	**+0.9**
NACB	**Ninganchiao**	**0.66**	**210**	P		**Pn**	**21 18 59.7**	**-0.6**
NACB	**Ninganchiao**	**0.66**	**210**	⇑P		**Pn**	**21 18 59.7**	**-0.6**
NACB	baz=209			*e*S		**Sn**	**21 19 11.2**	**-0.5**
ETL	**Fush Village**	**0.66**	**207**	⇓P		**Pn**	**21 18 60.0**	**-0.4**
ETL	baz=218			S		**Sn**	**21 19 11.8**	**-0.1**
EOS4	**EOS4**	**0.71**	**152**	*e*P		**Pn**	**21 19 00.8**	**+0.4**
EOS4	baz=159			*e*S		**Sn**	**21 19 12.0**	**+0.1**
NCU	**National Centr**	**0.73**	**288**	⇑*i*P		**Pn**	**21 18 60.0**	**-1.1**
NCU	baz=280			*i* S		**Sn**	**21 19 12.5**	**-0.5**
NCUH	**Zhongli**	**0.73**	**287**	⇑*i*P		**Pn**	**21 19 01.1**	**+0.1**
NCUH	baz=280			*i* S		**Sn**	**21 19 13.2**	**+0.2**
TWD	**Chiawan**	**0.74**	**206**	⇑*i*P		**Pn**	**21 19 00.6**	**-0.6**
TWD	baz=215			*i* S		**Sn**	**21 19 12.5**	**-0.7**
NFF	**Wufeng Townshi**	**0.77**	**261**	⇑P		**Pn**	**21 19 01.4**	**-0.1**
NFF	baz=271			S		**Sn**	**21 19 13.4**	**-0.5**
NJD	**Zhudong**	**0.79**	**269**	⇑P		**Pn**	**21 19 01.9**	**+0.3**
NJD	baz=270			S		**Sn**	**21 19 14.7**	**+0.6**
FUSS	**Fushou**	**0.82**	**233**	⇑P		**Pn**	**21 19 02.6**	**+0.3**
FUSS	baz=225			S		**Sn**	**21 19 15.2**	**0.0**
HWA	**Hwalien**	**0.83**	**203**	⇓*i*P		**Pn**	**21 19 02.1**	**-0.1**
HWA	baz=190			S		**Sn**	**21 19 15.3**	**+0.4**
HSN1	**Hsinchu**	**0.85**	**272**	P		**Pn**	**21 19 02.6**	**+0.2**
HSN1	baz=273			S		**Sn**	**21 19 13.8**	**-1.5**
LIOB	**Emei**	**0.86**	**263**	⇑*i*P		**Pn**	**21 19 02.5**	**+0.1**
LIOB	baz=264			*i* S		**Sn**	**21 19 15.3**	**-0.3**
NHW	**Xinwu Township**	**0.86**	**287**	*i* P		**Pn**	**21 19 02.6**	**+0.1**
NHW	baz=288			*i* S		**Sn**	**21 19 15.8**	**+0.2**
TWT	**Tachien**	**0.87**	**235**	⇑*i*P		**Pn**	**21 19 03.5**	**+0.8**
TWT	baz=228			*i* S		**Sn**	**21 19 16.6**	**+0.6**
WHF	**Hehuan Shan**	**0.87**	**226**	⇓*i*P		**Pn**	**21 19 03.1**	**+0.1**
WHF	baz=220			*i* S		**Sn**	**21 19 16.6**	**+0.1**
LXIB	**Xiulin Townshi**	**0.88**	**214**	⇑P		**Pn**	**21 19 02.0**	**-0.8**
LXIB	baz=204			*e*S		**Sn**	**21 19 15.2**	**-0.9**
NSTT	**Nanjuang**	**0.88**	**262**	⇑*i*P		**Pn**	**21 19 02.5**	**-0.1**
NSTT	baz=263			*i* S		**Sn**	**21 19 15.6**	**-0.3**
TDCB	**Techi**	**0.88**	**236**	⇑P		**Pn**	**21 19 03.5**	**+0.6**
TDCB	baz=228			S		**Sn**	**21 19 16.3**	**+0.2**
PCYT	**Pengchaiyu**	**0.88**	**7**	*i* P		**Pn**	**21 19 02.7**	**0.0**
PCYT	baz=8.0			*e*S		**Sn**	**21 19 16.1**	**+0.2**
SBCB	**Hsinchu**	**0.88**	**273**	⇑P		**Pn**	**21 19 02.8**	**+0.1**
SBCB	baz=274			S		**Sn**	**21 19 16.2**	**+0.3**
ETM	**Tongmen**	**0.89**	**209**	⇑P		**Pn**	**21 19 01.8**	**-1.0**
ETM	baz=207			S		**Sn**	**21 19 16.1**	**+0.1**
HSN	**Hsinchu**	**0.90**	**274**	⇑*i*P		**Pn**	**21 19 02.6**	**-0.2**
HSN	baz=276			*i* S		**Sn**	**21 19 15.7**	**-0.6**
JYNG	**Yonagunijimaku**	**0.95**	**108**	*i* P		**Pn**	**21 19 03.3**	**-0.1**
JYNG				S		**Sn**	**21 19 16.8**	**-0.5**
CHGB	**Renai**	**0.99**	**226**	⇑P		**Pn**	**21 19 04.5**	**+0.3**
CHGB	baz=225			S		**Sn**	**21 19 18.6**	**+0.1**
NJN	**Zhunan**	**0.99**	**266**	P		**Pn**	**21 19 04.3**	**+0.4**
NJN	baz=267			S		**Sn**	**21 19 18.5**	**+0.4**
YOJ	**Yonaguni jima**	**1.00**	**106**	P		**Pn**	**21 19 03.8**	**-0.2**
YOJ	**Yonaguni jima**	**1.00**	**106**	P		**Pn**	**21 19 03.9**	**-0.1**
YOJ				*e*S		**Sn**	**21 19 17.7**	**-0.6**
YOJ	**Yonaguni jima**	**1.00**	**106**	⇓P		**Pn**	**21 19 03.9**	**-0.1**
YOJ	baz=102			S		**Sn**	**21 19 18.3**	**-0.1**
SHUL	**Shoufeng**	**1.02**	**201**	⇑P		**Pn**	**21 19 04.1**	**-0.3**
SHUL	baz=191			S		**Sn**	**21 19 18.9**	**+0.1**
WHP	**Taichung City**	**1.03**	**243**	⇑P		**Pn**	**21 19 05.3**	**+0.7**
WHP	baz=253			S		**Sn**	**21 19 19.7**	**+0.5**
ESL	**Shilin**	**1.05**	**207**	⇑*i*P		**Pn**	**21 19 03.3**	**-1.3**
ESL	baz=212			S		**Sn**	**21 19 18.0**	**-1.3**
OWD	**Renai**	**1.06**	**222**	⇑P		**Pn**	**21 19 05.1**	**+0.1**
OWD	baz=221			S		**Sn**	**21 19 20.1**	**+0.1**
WUSB	**Renai**	**1.07**	**226**	⇑P		**Pn**	**21 19 05.5**	**+0.4**
WUSB	baz=225			S		**Sn**	**21 19 19.6**	**-0.5**
NMLH	**Miaoli**	**1.08**	**259**	*i* P		**Pn**	**21 19 05.4**	**+0.4**
NMLH	baz=259			*i* S		**Sn**	**21 19 20.5**	**+0.4**
NSY	**Sanyi**	**1.14**	**253**	*i* P		**Pn**	**21 19 06.2**	**+0.5**
NSY	baz=253			*i* S		**Sn**	**21 19 20.7**	**-0.7**
TWQ1	**Liyutan**	**1.15**	**250**	*i* P		**Pn**	**21 19 06.2**	**+0.3**
TWQ1	baz=250			*i* S		**Sn**	**21 19 21.0**	**-0.6**
WARBT	**Fenglin Townsh**	**1.15**	**207**	⇑P		**Pn**	**21 19 04.4**	**-1.5**
WARBT	baz=205			S		**Sn**	**21 19 19.7**	**-2.0**
WPL	**Puli Township**	**1.17**	**231**	P		**Pn**	**21 19 07.1**	**+1.0**
WPL	baz=240			S		**Sn**	**21 19 23.1**	**+1.1**
WCS	**Beigang Elemen**	**1.18**	**234**	P		**Pn**	**21 19 07.2**	**+1.0**
WCS	baz=243			S		**Sn**	**21 19 22.9**	**+0.8**
DPDB	**Guoxing**	**1.18**	**233**	P		**Pn**	**21 19 07.3**	**+1.0**
DPDB	baz=241			S		**Sn**	**21 19 23.4**	**+1.0**
EGFH	**Guangfu**	**1.18**	**204**	P		**Pn**	**21 19 05.0**	**-1.3**
EGFH	baz=209			S		**Sn**	**21 19 22.0**	**-0.2**
VWDT	**VWDT**	**1.24**	**217**	⇑P		**Pn**	**21 19 07.2**	**+0.2**
	baz=209							

VWDT				S	Sn	21 19 23.7	+0.2
	baz=209						
WDJ	**Dajia District**	**1.26**	**252**	P	Pn	21 19 07.8	+0.5
WDJ	baz=252			*i* S	Sn	21 19 24.5	+0.4
	baz=252						
SMLT	**Sun Moon Lake**	**1.29**	**228** ⇑	*i* P	Pn	21 19 08.4	+0.7
SMLT	baz=237			*i* S	Sn	21 19 26.9	+2.0
	baz=237						
TYC	**Yuchr**	**1.31**	**230** ⇑	*i* P	Pn	21 19 08.3	+0.5
TYC	baz=238			*i* S	Sn	21 19 26.0	+0.9
	baz=238						
TCU	**Taichung**	**1.31**	**243**	*i* P	Pn	21 19 08.3	+0.4
TCU	baz=252			S	Sn	21 19 24.0	-1.1
	baz=252						
SSLB	**Suanglung**	**1.32**	**224**	P	Pn	21 19 08.9	+0.8
SSLB	**Suanglung**	**1.32**	**224**	P	Pn	21 19 08.6	+0.5
SSLB	baz=223			S	Sn	21 19 26.5	+0.9
	baz=223						
HGSD	**Ruisui**	**1.34**	**201**	P	Pn	21 19 07.9	-0.4
HGSD	baz=209			S	Sn	21 19 28.0	+2.1
	baz=209						
WWF	**Wufeng**	**1.35**	**239**	P	Pn	21 19 08.9	+0.6
WWF	baz=247			S	Sn	21 19 26.6	+0.7
	baz=247						
EHY	**Hungye**	**1.37**	**205**	*i* P	Pn	21 19 07.1	-1.5
EHY	baz=195			S	Sn	21 19 26.9	+0.4
	baz=195						
EHYH	**Wanrong**	**1.37**	**204**	P	Pn	21 19 07.5	-1.1
EHYH	baz=203			S	Sn	21 19 25.5	-1.0
	baz=203						
WCHH	**Zhanghua**	**1.44**	**243**	*i* P	Pn	21 19 09.9	+0.4
WCHH	baz=242			*i* S	Sn	21 19 28.1	+0.1
	baz=242						
WNT	**Mingjian**	**1.45**	**234**	*i* P	Pn	21 19 10.2	+0.5
WNT	baz=243			*i* S	Sn	21 19 29.1	+0.8
	baz=243						
WJS	**Zhushan**	**1.45**	**231**	*i* P	Pn	21 19 10.7	+1.0
WJS	baz=241			*i* S	Sn	21 19 29.6	+1.2
	baz=241						
WHYT	**Xinyi Township**	**1.45**	**224**	⇑P	Pn	21 19 11.0	+1.2
WHYT	baz=232			S	Sn	21 19 30.2	+1.7
	baz=232						
YULB	**Yu-li**	**1.48**	**204**	P	Pn	21 19 09.1	-1.0
YULB	**Yu-li**	**1.48**	**204**	P	Pn	21 19 08.3	-1.7
YULB	baz=194			S	Sn	21 19 28.3	-0.7
	baz=194						
WYL	**Yuanlin Townsh**	**1.48**	**238**	P	Pn	21 19 10.6	+0.5
WYL	baz=248			S	Sn	21 19 29.7	+0.7
	baz=248						
ECBN	**Changbin**	**1.50**	**198**	P	Pn	21 19 09.8	-0.5
ECBN	baz=204			S	Sn	21 19 28.8	-0.7
	baz=204						
EYUL	**Yuli**	**1.51**	**203**	*i* P	Pn	21 19 09.4	-1.1
EYUL	baz=207			S	Sn	21 19 29.0	-0.8
	baz=207						
TWF1	**Yuli**	**1.52**	**204**	*i* P	Pn	21 19 09.0	-1.6
TWF1	baz=208			S	Sn	21 19 28.2	-1.7
	baz=208						
ALS	**Alishan**	**1.62**	**221** ⇓	*i* P	Pn	21 19 13.0	+0.8
ALS	baz=229			*i* S	Sn	21 19 34.9	+2.1
	baz=229						
CHKH	**Chenggong**	**1.63**	**198**	P	Pn	21 19 11.1	-0.9
CHKH	baz=198			S	Sn	21 19 31.6	-0.9
	baz=198						
CHN5	**Tsauling**	**1.64**	**226**	*i* P	Pn	21 19 12.7	+0.5
CHN5	baz=234			*i* S	Sn	21 19 33.8	+1.0
	baz=234						
WGK	**Gukeng**	**1.66**	**231**	*i* P	Pn	21 19 12.7	+0.4
WGK	baz=239			*i* S	Sn	21 19 34.1	+1.0
	baz=239						
FULB	**Fuli**	**1.66**	**202**	*i* P	Pn	21 19 11.9	-0.5
FULB	baz=208			*i* S	Sn	21 19 32.6	-0.6
	baz=208						
IRIF	**Iriomote-Funau**	**1.67**	**104**	P	Pn	21 19 12.3	-0.2
WRL	**Guolierlin Hig**	**1.67**	**240**	P	Pn	21 19 12.4	-0.1
WRL	baz=239			S	Sn	21 19 32.6	-0.8
	baz=239						
WDLH	**Douliu**	**1.67**	**231**	*i* P	Pn	21 19 12.9	+0.4
WDLH	baz=241			*i* S	Sn	21 19 33.2	-0.2
	baz=241						
CHKT	**Chengkung**	**1.73**	**198**	*i* P	Pn	21 19 12.3	-1.0
CHKT	baz=196			*i* S	Sn	21 19 32.8	-2.0
	baz=196						
EHD	**Haiduan**	**1.73**	**203**	P	Pn	21 19 11.8	-1.6
EHD	baz=201			S	Sn	21 19 33.8	-1.2
	baz=201						
WTCT	**Ta-ch'eng**	**1.77**	**240**	*i* P	Pn	21 19 14.1	+0.4
WTCT	baz=239			*i* S	Sn	21 19 35.4	-0.2
	baz=239						
ELDTW	**Lidau**	**1.77**	**209**	*i* P	Pn	21 19 13.6	-0.5
ELDTW	baz=198			*i* S	Sn	21 19 36.1	0.0
	baz=198						
ECS	**Chishang**	**1.78**	**202**	P	Pn	21 19 13.7	-0.3
ECS	baz=190			S	Sn	21 19 36.9	+0.8
	baz=190						
WTK	**Tuku**	**1.78**	**234**	*i* P	Pn	21 19 14.3	+0.3
WTK	baz=233			*i* S	Sn	21 19 35.8	-0.1
	baz=233						
WCKO	**Fanlu**	**1.80**	**224**	P	Pn	21 19 14.2	0.0
WCKO	baz=222			S	Sn	21 19 36.8	+0.4
	baz=222						
CHN2	**Minshiung**	**1.82**	**228**	*i* P	Pn	21 19 15.4	+0.9
CHN2	baz=236			*i* S	Sn	21 19 38.4	+1.6
	baz=236						
HATJ	**Hateruma jima**	**1.82**	**112**	P	Pn	21 19 15.4	+1.0
HATJ				S	Sn	21 19 37.2	+0.3
EDH	**Donghe**	**1.87**	**199**	P	Pn	21 19 13.1	-2.0
EDH	baz=197			S	Sn	21 19 35.3	-2.7
	baz=197						
CHN4	**Tsaushan**	**1.87**	**222**	*i* P	Pn	21 19 16.2	+1.1
CHN4	baz=220			*i* S	Sn	21 19 39.9	+1.8
	baz=220						
TPUB	**Ta-pu**	**1.89**	**220**	P	Pn	21 19 16.5	+1.1
TPUB	**Ta-pu**	**1.89**	**220**	P	Pn	21 19 16.0	+0.7
TPUB	baz=229			S	Sn	21 19 40.2	+1.7
	baz=229						
STYH	**Taoyuan**	**1.91**	**215**	⇑P	Pn	21 19 16.5	+0.9
STYH	baz=203			S	Sn	21 19 40.3	+1.3
	baz=203						
STYT	**Tauyuan**	**1.92**	**215**	P	Pn	21 19 17.3	+1.4
STYT	baz=203			*e*S	Sn	21 19 40.3	+0.8
	baz=203						
WSF	**Szhu**	**1.93**	**235**	P	Pn	21 19 16.1	+0.1
WSF	baz=234			*i* S	Sn	21 19 39.8	+0.2
	baz=234						
WTP	**Ta-pu**	**1.94**	**220**	*i* P	Pn	21 19 16.9	+0.8
WTP	baz=229			*i* S	Sn	21 19 41.6	+1.8
	baz=229						
JKRS	**Kuro-shima**	**1.94**	**105**	P	Pn	21 19 16.2	+0.2
JKRS				*e*S	Sn	21 19 39.8	+0.1
LONT	**Longtian**	**1.98**	**203**	P	Pn	21 19 15.1	-1.6
LONT	baz=192			*i* S	Sn	21 19 38.5	-2.3
	baz=192						
TWK	**Hsinying**	**2.00**	**223**	*i* P	Pn	21 19 17.6	+0.7
TWK	baz=220			*i* S	Sn	21 19 42.2	+1.0
	baz=220						
SNST	**Tainan City**	**2.02**	**222**	P	Pn	21 19 18.5	+1.3
SNST	baz=220			S	Sn	21 19 43.3	+1.5
	baz=220						
JIJ	**Ishigaki jima**	**2.03**	**100**	P	Pn	21 19 16.9	-0.3
JIJ				*e*S	Sn	21 19 41.0	-0.8
CHN1	**Nanshi**	**2.03**	**220**	*i* P	Pn	21 19 18.0	+0.7
CHN1	baz=229			*i* S	Sn	21 19 43.8	+1.8
	baz=229						
SGST	**Jiashian**	**2.08**	**217**	*i* P	Pn	21 19 17.8	-0.2
SGST	baz=225			*i* S	Sn	21 19 43.7	+0.5
	baz=225						
TWG	**Pinlang**	**2.08**	**203**	*i* P	Pn	21 19 16.7	-1.3
TWG	baz=192			*i* S	Sn	21 19 41.7	-1.5
	baz=192						
TWGBT	**Beinan**	**2.08**	**203**	P	Pn	21 19 16.6	-1.4
TWGBT	baz=192			S	Sn	21 19 40.5	-2.7
	baz=192						
LDUT	**Ludao**	**2.11**	**192**	*i* P	Pn	21 19 16.8	-1.6
LDUT	baz=185			*i* S	Sn	21 19 40.0	-3.9
	baz=185						
SLGT	**Liugui**	**2.12**	**215**	P	Pn	21 19 20.5	+2.0
SLGT	baz=224			S	Sn	21 19 47.1	+3.0
	baz=224						
TTN	**Taitung**	**2.12**	**201**	*i* P	Pn	21 19 18.6	+0.2
TTN	baz=191			*i* S	Sn	21 19 44.0	-0.1
	baz=191						
JISG	**Ishigakijimahi**	**2.15**	**94**	P	Pn	21 19 18.8	0.0
JISG				*e*S	Sn	21 19 44.9	+0.2
CHN3	**Shinhua**	**2.21**	**222**	P	Pn	21 19 21.3	+1.6
CHN3	baz=230			S	Sn	21 19 47.8	+1.6
	baz=230						
SSHA	**Shanhua**	**2.22**	**224**	*e*P	Pn	21 19 21.5	+1.8
SSHA	baz=222			S	Sn	21 19 48.5	+2.2
	baz=222						
SCLT	**Jiali**	**2.25**	**226**	*i* P	Pn	21 19 20.8	+0.7
SCLT	baz=224			*i* S	Sn	21 19 48.1	+1.0
	baz=224						
VWUC	**VWUC**	**2.29**	**277**	⇓P	Pn	21 19 20.0	-0.7
VWUC	baz=276			S	Sn	21 19 45.9	-2.2
	baz=276						
MATB	**Ma-tsu**	**2.29**	**308**	⇓P	Pn	21 19 20.1	-0.6
MATB	baz=309			*e*S	Sn	21 19 47.3	-0.9
	baz=309						
ECL	**Taimali**	**2.33**	**203**	P	Pn	21 19 20.3	-1.0
ECL	baz=193			S	Sn	21 19 47.5	-1.6
	baz=193						
SSD	**Sandimen**	**2.33**	**212**	*i* P	Pn	21 19 22.6	+1.3
SSD	baz=209			*i* S	Sn	21 19 51.6	+2.4
	baz=209						
SGLT	**Jiouru**	**2.42**	**214**	P	Pn	21 19 24.0	+1.5
SGLT	baz=198			*e*S	Sn	21 19 55.1	+3.8
	baz=198						
MASBT	**Mashibuluo**	**2.45**	**210**	P	Pn	21 19 24.1	+1.2
MASBT	baz=208			S	Sn	21 19 53.7	+1.7
	baz=208						
PNG	**Penghu**	**2.49**	**242**	*i* P	Pn	21 19 22.8	-0.5
PNG	baz=241			S	Sn	21 19 50.7	-2.2
	baz=241						
JTJ	**Tarama**	**2.50**	**92**	P	Pn	21 19 24.7	+1.2
JTJ				*e*S	Sn	21 19 54.4	+1.3
PHUB	**P'eng-hu**	**2.50**	**241**	P	Pn	21 19 22.6	-1.0
PHUB	baz=239			S	Sn	21 19 50.8	-2.4
	baz=239						
EAST	**Anshuo**	**2.57**	**204**	*i* P	Pn	21 19 24.2	-0.2
EAST	baz=192			*e*S	Sn	21 19 55.0	+0.2
	baz=192						
WDGT	**Dungji**	**2.57**	**235**	*i* P	Pn	21 19 24.1	-0.4
WDGT	baz=233			S	Sn	21 19 53.1	-1.8
	baz=233						
TAW	**Tawu**	**2.57**	**202**	*i* P	Pn	21 19 23.9	-0.6
TAW	baz=192			S	Sn	21 19 53.2	-1.7
	baz=192						
PTMZ	**Houxiangcun**	**2.59**	**277**	P	Pn	21 19 24.1	-0.6
PTMZ	baz=277			S	Sn	21 19 54.5	-0.9
	baz=277						
SCZT	**Fangliau**	**2.67**	**208**	*i* P	Pn	21 19 27.0	+1.2
SCZT	baz=205			S	Sn	21 19 57.7	+0.5
	baz=205						
LYJJ	**Jianjiangzhen**	**2.67**	**313**	P	Pn	21 19 25.3	-0.6
LYJJ	baz=314			*e*S	Sn	21 19 57.9	+0.6
	baz=314						
XPSS	**Dashiqiu**	**2.69**	**324**	P	Pn	21 19 25.5	-0.6
XPSS	baz=325			S	Sn	21 19 57.2	-0.6
	baz=325						
LAY	**Lan-yu**	**2.72**	**188**	*i* P	Pn	21 19 25.4	-1.2
LAY	baz=181			*i* S	Sn	21 19 54.8	-3.8
	baz=181						
LYUB	**Lan-yu**	**2.76**	**187**	*i* P	Pn	21 19 24.9	-2.1
LYUB	baz=181			S	Sn	21 19 54.7	-4.6
	baz=181						
VCHM	**Qimei**	**2.77**	**237**	P	Pn	21 19 26.2	-1.0
VCHM	baz=235			S	Sn	21 19 58.0	-1.8
	baz=235						
JIRB	**Irabujima**	**2.92**	**88**	*e*P	Pn	21 19 30.4	+1.2
HEN	**Hengchun**	**2.95**	**203**	*i* P	Pn	21 19 31.1	+1.4
HEN	baz=199			S	Sn	21 20 03.7	-0.4
	baz=199						
MHZQ	**Yeshan**	**2.97**	**298**	P	Pn	21 19 29.1	-0.8
MHZQ	baz=298			*e*S	Sn	21 20 05.4	+0.9
	baz=298						
TWK1	**Hengchun**	**2.99**	**201**	*i* P	Pn	21 19 30.2	0.0
TWK1	baz=198			*i* S	Sn	21 20 04.8	-0.1
	baz=198						
TWKBT	**Hengchun**	**2.99**	**201**	P	Pn	21 19 29.9	-0.3
TWKBT	baz=198			S	Sn	21 20 05.0	+0.1
	baz=198						
JIKM	**Ikemajima**	**3.00**	**86**	*e*S	Sn	21 20 05.7	+0.6
JMJ2	**Miyako jima3**	**3.06**	**89**	*e*P	Pn	21 19 32.4	+1.3
JOGS	**Gusukube**	**3.14**	**89**	*e*S	Sn	21 20 08.9	+0.4
KNM	**Kinmen**	**3.23**	**265**	*i* P	Pn	21 19 34.2	+0.8
KNM	baz=264			*i* S	Sn	21 20 11.0	+0.3
	baz=264						
KNMB	**Chin-men Tao**	**3.26**	**266**	P	Pn	21 19 32.5	-1.3
KNMB	baz=265			S	Sn	21 20 10.0	-1.6
	baz=265						
ZPLA	**Ao Xicun**	**3.92**	**259**	P	Pn	21 19 42.1	-0.7
ZPLA	baz=257			S	Sn	21 20 24.0	-3.6
	baz=257						
JOW	**Kunigami**	**6.06**	**69**	P	Pn	21 20 12.2	+0.2
	1.1nm,0.3s,baz=124,slow=21,SNR=8.3						
JOW				S	Sn	21 21 19.5	-0.4
	5.0nm,0.5s,baz=107,slow=19,SNR=1.6						
	4.1nm,0.4s						
KSRS	**Korea Array**	**13.65**	**21**	LR	LR	21 27 36.5	
	comp=Z,16nm,18.3s,baz=105,slow=39						
CMAR	**Chiang Mai Arr**	**22.28**	**258**	P	P	21 23 36.9	+1.3
	0.7nm,0.8s,baz=61,slow=9.2,SNR=5.8						
	0.7nm,0.8s						
SONM	**Songino Array**	**26.13**	**336**	P	P	21 24 11.6	+0.2
	0.8nm,0.8s,baz=150,slow=6.8,SNR=5.5						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**38.43**	**315**	P	P	21 25 59.0	+0.4
	0.5nm,0.8s,baz=103,slow=7.2,SNR=3.4						
	0.5nm,0.8s						
WRA	**Warramunga Arr**	**46.03**	**164**	P	P	21 26 59.9	-0.6
	0.3nm,0.6s,baz=348,slow=8.8,SNR=2.4						
	0.3nm,0.6s						
ASAR	**Alice Springs**	**49.50**	**166**	P	P	21 27 27.0	-0.4
	0.3nm,0.8s,baz=354,slow=6.6,SNR=2.2						
	0.3nm,0.8s						

*JMA **12** 21:57:36.6±0.3, 44°N±1′×14°8E±′, h0km, MV3.9/30, SE OFF ETOROFU*
*SKHL **12** 21:57:37.1±0.2, 44°40N×148°30E, h45km±3km, mb4.6/3*
ISC 12 21:57:33.0±3.0, **44°30N**±0′09×**148°4E**±0′2, **h4**km±15km,
n17,σ1$=**62**/28, **Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**1.01**	**338**	*e*P	**Pg**	**21 57 52.2**	**-0.1**
KUR				AMB	AMB	21 57 52.7	
	400nm,0.3s						
KUR				*e*S	**Sg**	**21 58 03.6**	**-1.7**
KUR				A	A	21 58 05.3	
	540nm,0.4s						
KUR				A	A	21 58 05.3	
	1μm,0.4s						
SHO	**Shikotan**	**1.21**	**250**	*e*P	**Pn**	**21 57 57.0**	**+0.4**
SHO				AMB	AMB	21 57 58.7	
	40nm,0.2s						
SHO				*e*S	**Sg**	**21 58 11.7**	**0.0**
SHO				A	A	21 58 12.0	
	360nm,0.2s						
SHO				A	A	21 58 12.0	
	450nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.84**	**263**	*e*P	**Pn**	**21 58 05.6**	**+0.3**
YUK				AMB	AMB	21 58 08.1	
	270nm,0.2s						
YUK				*e*S	**Sn**	**21 58 27.1**	**-1.9**
YUK				A	A	21 58 30.5	
	380nm,0.3s						
YUK				A	A	21 58 30.5	
	470nm,0.3s						
NEM2	**Nemuro 2**	**2.13**	**245**	P	**Pn**	**21 58 09.8**	**+0.5**
NEM2				*e*S	**Sn**	**21 58 34.3**	**-1.9**
NMR	**Nemuro--Hokkai**	**2.14**	**245**	*e*P	**Pn**	**21 58 09.5**	**+0.1**
NMR				*e*S	**Sn**	**21 58 33.8**	**-2.6**
JRA	**Rausu**	**2.38**	**262**	P	**Pn**	**21 58 14.4**	**+1.6**
JRA				*e*S	**Sn**	**21 58 42.5**	**+0.1**
JNSB	**Nemuroshibetsu**	**2.50**	**259**	P	**Pn**	**21 58 16.0**	**+1.6**
JNSB				*e*S	**Sn**	**21 58 45.3**	**+0.1**
JKHN	**Kushirohamanak**	**2.64**	**244**	P	**Pn**	**21 58 17.3**	**+1.0**
JKHN				S	**Sn**	**21 58 47.8**	**-1.0**
JNK	**Nakash**	**2.75**	**256**	P	**Pn**	**21 58 19.3**	**+1.5**
AKK	**Akkeshi**	**2.88**	**245**	*e*P	**Pn**	**21 58 20.5**	**+0.9**
JAK	**Akkeshi**	**2.98**	**245**	P	**Pn**	**21 58 22.0**	**+1.0**
JAK				*e*S	**Sn**	**21 58 55.6**	**-1.5**
JTKR	**Abashiri--Toko**	**3.25**	**266**	P	**Pn**	**21 58 28.0**	**+3.4**
JAR	**Ashorobuto**	**3.50**	**255**	P	**Pn**	**21 58 30.5**	**+2.4**
JAR				*e*S	**Sn**	**21 59 10.2**	**+0.3**
JOB	**Onbets**	**3.59**	**249**	P	**Pn**	**21 58 31.3**	**+1.9**
JCH	**Churui**	**4.03**	**247**	P	**Pn**	**21 58 37.0**	**+1.6**
JCH				*e*S	**Sn**	**21 59 21.5**	**-1.6**
JNBK	**Urakawa-nobuka**	**4.59**	**246**	P	**Pn**	**21 58 45.2**	**+2.2**
JANG	**Nango**	**6.43**	**235**	P	**Pn**	**21 59 09.3**	**+0.9**
JANG				*e*S	Sn	22 00 17.9	-4.3

*NOU **12** 22:02:41.4, 39°37S×177°88E, h95km, MLv3.8/8, Off E. Coast of N. Island, N.Z.*
*WEL **12** 22:02:44.2±0.6, 39°S±4′×17°8E±′, h38km±5km, M3.4/19, ML3.8/21, MLv3.4/19, Error ellipse: s-maj=0.0km s-min=0.0km az=121.7, confirmed*
ISC 12 22:02:42.3±1.4, **39°34S**±0′03×**177°88E**±0′05, **h64**km±9km,
n116,σ1$=**24**/129, **Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHGZ	**Mahia Peninsul**	**0.19**	**6**	P	**Pn**	**22 02 52.6**	**+0.5**
KNZ	**Kokohu**	**0.36**	**333**	P	**Pn**	**22 02 53.0**	**-0.2**
PRGZ	**Paritu Road**	**0.42**	**0**	P	**Pn**	**22 02 53.9**	**+0.1**
WHHZ	**Waihua**	**0.57**	**297**	P	**Pn**	**22 02 55.6**	**+0.4**
WHHZ				S	**Sn**	**22 03 04.5**	**-0.2**
RIGZ	**Rimuhau**	**0.64**	**352**	P	**Pn**	**22 02 56.5**	**+0.5**
RIGZ				S	**Sn**	**22 03 06.0**	**-0.2**
ARHZ	**Aropaoanui**	**0.69**	**276**	P	**Pn**	**22 02 57.5**	**+0.9**
ARHZ				S	**Sn**	**22 03 07.5**	**+0.3**
CKHZ	**Cape Kidnapper**	**0.70**	**243**	P	**Pn**	**22 02 57.7**	**+1.0**
CKHZ				S	**Sn**	**22 03 08.6**	**+1.3**
SNGZ	**Shannon Statio**	**0.70**	**323**	P	**Pn**	**22 02 57.0**	**+0.3**
SNGZ				S	**Sn**	**22 03 06.3**	**-1.1**
RAHZ	**Arahi**	**0.75**	**304**	P	**Pn**	**22 02 57.8**	**+0.5**
RAHZ				S	**Sn**	**22 03 07.9**	**-0.6**
NMHZ	**Naumai**	**0.87**	**286**	P	**Pn**	**22 02 59.7**	**+0.8**
NMHZ				S	**Sn**	**22 03 11.1**	**0.0**
CNGZ	**Carnagh Statio**	**0.89**	**17**	P	**Pn**	**22 03 00.0**	**+1.0**
KAHZ	**Kahuranaki**	**0.90**	**239**	P	**Pn**	**22 03 00.3**	**+1.1**
RAGZ	**Rawiri**	**0.92**	**336**	P	**Pn**	**22 02 59.8**	**+0.3**
RAGZ				S	**Sn**	**22 03 10.8**	**-1.4**
MCHZ	**McNeill Hill**	**0.93**	**263**	P	**Pn**	**22 03 00.7**	**+1.2**
MCHZ				S	**Sn**	**22 03 13.1**	**+0.8**
MTHZ	**Maungataniwha**	**0.95**	**301**	P	**Pn**	**22 03 00.2**	**+0.4**
MTHZ				S	**Sn**	**22 03 11.8**	**-1.0**
RTZ	**Ruatahuna**	**1.01**	**316**	P	**Pn**	**22 03 01.0**	**+0.4**
RTZ				S	**Sn**	**22 03 13.0**	**-1.2**
MWZ	**Matawai**	**1.04**	**344**	P	**Pn**	**22 03 01.3**	**+0.3**
MWZ				S	**Sn**	**22 03 13.3**	**-1.6**
PXZ	**Pawanui**	**1.05**	**228**	P	**Pn**	**22 03 01.8**	**+0.8**
PXZ				S	**Sn**	**22 03 16.3**	**+1.3**
BKZ	**Black Stump Fm**	**1.09**	**279**	P	**Pn**	**22 03 02.4**	**+0.7**
BKZ	**Black Stump Fm**	**1.09**	**279**	P	**Pn**	**22 03 02.5**	**+0.7**
KWHZ	**Kaweka Forest**	**1.13**	**265**	P	**Pn**	**22 03 03.2**	**+0.9**
TWGZ	**Tauwhareparae**	**1.16**	**4**	P	**Pn**	**22 03 03.4**	**+0.8**
KRHZ	**Kereru**	**1.21**	**255**	P	**Pn**	**22 03 03.9**	**+0.7**
MUGZ	**Murupara**	**1.22**	**314**	P	**Pn**	**22 03 04.0**	**+0.6**
URZ	**Urewera**	**1.24**	**331**	P	**Pn**	**22 03 04.2**	**+0.7**
URZ	**Urewera**	**1.24**	**331**	P	**Pn**	**22 03 03.8**	**+0.3**
MRHZ	**Matea Rd**	**1.25**	**293**	P	**Pn**	**22 03 04.6**	**+0.9**
PUZ	**Puketiti**	**1.30**	**13**	P	**Pn**	**22 03 04.7**	**+0.3**
WPHZ	**Waipukurau**	**1.33**	**237**	P	**Pn**	**22 03 05.6**	**+0.9**
PRHZ	**Porangahau**	**1.33**	**226**	P	**Pn**	**22 03 05.5**	**+0.7**
RUGZ	**Raukumara Rang**	**1.38**	**353**	P	**Pn**	**22 03 05.5**	**-0.1**
BHHZ	**Black Hill Sta**	**1.42**	**263**	P	**Pn**	**22 03 07.0**	**+1.0**
PNHZ	**Pukenui**	**1.42**	**246**	P	**Pn**	**22 03 06.7**	**+0.8**
ALRZ	**Allen Road**	**1.43**	**302**	P	**Pn**	**22 03 07.9**	**+1.8**
PKGZ	**Pakihiroa**	**1.46**	**6**	P	**Pn**	**22 03 07.1**	**+0.6**
RRRZ	**Republican Roa**	**1.46**	**313**	P	**Pn**	**22 03 07.2**	**+0.6**
TARZ	**Mount Tarawera**	**1.54**	**315**	P	**Pn**	**22 03 08.9**	**+1.3**
ANWZ	**Angora Road**	**1.56**	**224**	P	**Pn**	**22 03 08.3**	**+0.5**
HRRZ	**Handcock Road**	**1.57**	**307**	P	**Pn**	**22 03 08.5**	**+0.6**
WPRZ	**Whakapapatarin**	**1.57**	**301**	P	**Pn**	**22 03 09.1**	**+1.1**
WMGZ	**Waiomatatini S**	**1.57**	**16**	P	**Pn**	**22 03 08.6**	**+0.5**
HAZ	**Te Kaha**	**1.58**	**357**	P	**Pn**	**22 03 08.5**	**+0.3**
RITZ	**Rihia Road**	**1.61**	**282**	P	**Pn**	**22 03 10.3**	**+1.7**
HLRZ	**Highlands Stat**	**1.62**	**312**	P	**Pn**	**22 03 11.7**	**+3.1**
DVHZ	**Dannevirke**	**1.63**	**234**	P	**Pn**	**22 03 09.4**	**+0.6**
HSRZ	**Hossack Road**	**1.64**	**308**	P	**Pn**	**22 03 09.8**	**+0.8**
TSZ	**Takapari Road**	**1.65**	**244**	P	**Pn**	**22 03 09.7**	**+0.7**
MOWZ	**Moawhango**	**1.65**	**267**	P	**Pn**	**22 03 10.7**	**+1.6**
ETVZ	**East Tongariro**	**1.70**	**276**	P	**Pn**	**22 03 11.5**	**+1.7**
TMVZ	**Te Maari**	**1.71**	**277**	P	**Pn**	**22 03 11.4**	**+1.5**
RATZ	**Rangitukua**	**1.71**	**285**	P	**Pn**	**22 03 10.9**	**+1.0**
TUVZ	**Tukino**	**1.73**	**272**	P	**Pn**	**22 03 11.9**	**+1.6**
NTVZ	**North Tongarir**	**1.73**	**277**	P	**Pn**	**22 03 11.6**	**+1.4**
OTVZ	**Oturere**	**1.73**	**275**	P	**Pn**	**22 03 11.7**	**+1.4**
KATZ	**Kakaramea**	**1.74**	**281**	P	**Pn**	**22 03 11.8**	**+1.4**
SNVZ	**South Ngauruho**	**1.75**	**274**	P	**Pn**	**22 03 12.0**	**+1.4**
KRVZ	**Karewarewa**	**1.76**	**277**	P	**Pn**	**22 03 11.9**	**+1.3**
WNVZ	**Wahianoa**	**1.77**	**270**	P	**Pn**	**22 03 12.3**	**+1.5**
NNVZ	**North Ngauruho**	**1.77**	**276**	P	**Pn**	**22 03 12.4**	**+1.5**
NGZ	**Ngauruhoe**	**1.78**	**275**	P	**Pn**	**22 03 12.3**	**+1.4**
WTVZ	**West Tongariro**	**1.79**	**276**	P	**Pn**	**22 03 15.7**	**+4.6**
MAVZ	**Matarangi**	**1.80**	**272**	P

MXZ	Matakaoa Point	1.81	11	P	Pn	22 03 11.7 +0.6
MXZ	Matakaoa Point	1.81	11	P	Pn	22 03 11.7 +0.6
FWVZ	Far West T-bar	1.81	272	P	Pn	22 03 12.7 +1.3
TRVZ	Turoa	1.81	271	P	Pn	22 03 12.8 +1.4
KUTZ	Kaahu Road	1.82	297	P	Pn	22 03 12.5 +1.2
OPRZ	Ohinepanea	1.82	325	P	Pn	22 03 11.5 +0.2
COVZ	Chateau Observ	1.82	274	P	Pn	22 03 12.7 +1.3
BFZ	Birch Farm	1.84	223	P	Pn	22 03 11.7 +0.1
BFZ	Birch Farm	1.84	223	P	Pn	22 03 11.7 +0.1
MTVZ	Mangateitei	1.87	268	P	Pn	22 03 11.3 -0.8
PRWZ	Pori Road	1.91	230	P	Pn	22 03 13.3 +0.8
TWVZ	Taurewa	1.92	277	P	Pn	22 03 13.7 +0.9
POWZ	Post Office Ro	1.94	236	P	Pn	22 03 13.7 +0.8
CPWZ	Castlepoint	2.03	219	P	Pn	22 03 14.5 +0.3
TIWZ	Tintock	2.10	226	P	Pn	22 03 15.4 +0.3
OHWZ	Ohakea	2.16	246	P	Pn	22 03 17.7 +1.8
MRZ	Mangatainoka R	2.21	233	P	Pn	22 03 16.9 +0.3
WAZ	Wanganui	2.28	259	P	Pn	22 03 19.9 +2.3
TMWZ	Te Maipa	2.33	220	P	Pn	22 03 17.2 -1.1
HOWZ	Holdsworth Sta	2.39	229	P	Pn	22 03 18.9 -0.2
VRZ	Vera Road	2.44	274	P	Pn	22 03 21.0 +1.3
HIZ	Hauiti	2.50	288	P	Pn	22 03 20.9 +0.3
OGWZ	Otaki Gorge	2.55	234	P	Pn	22 03 21.3 +0.1
MTW	Mount Morrison	2.57	224	P	Pn	22 03 20.7 -0.8
TRWZ	Traveller	2.65	219	P	Pn	22 03 21.6 -1.1
KIW	Kapiti Island	2.74	235	P	Pn	22 03 24.0 +0.2
PAWZ	Paruwai Farm	2.77	222	P	Pn	22 03 23.4 -0.8
CAW	Cannon Point	2.79	230	P	Pn	22 03 23.9 -0.5
PREZ	Palmer Road	2.89	269	P	Pn	22 03 28.1 +2.2
NEZ	North Egmont	2.94	270	P	Pn	22 03 29.6 +3.0
PLWZ	Palliser	3.00	221	P	Pn	22 03 26.0 -1.4
KHEZ	Kahui Hut	3.00	270	P	Pn	22 03 30.3 +2.8
SNZO	South Karori	3.13	230	P	Pn	22 03 28.5 -0.6
TCW	Tory Channel	3.33	235	P	Pn	22 03 31.1 -0.7
DUWZ	D'Urville Isla	3.37	243	P	Pn	22 03 32.1 -0.4
TUWZ	Tuamarina	3.66	234	P	Pn	22 03 35.1 -1.2
BSWZ	Blackbirch Sta	3.87	231	P	Pn	22 03 38.0 -1.2
NNZ	Nelson	3.92	240	P	Pn	22 03 39.4 -0.5
TKNZ	Takaka Hill	4.13	244	P	Pn	22 03 42.5 -0.4
QRZ	Quartz Range	4.37	248	P	Pn	22 03 44.9 -1.1
QRZ	Quartz Range	4.37	248	P	Pn	22 03 45.0 -1.0
MRNZ	Matariki Terra	4.42	241	P	Pn	22 03 46.2 -0.6
THZ	Tophouse	4.50	236	P	Pn	22 03 46.5 -1.3
KHZ	Kahutara	4.50	226	P	Pn	22 03 46.5 -1.4
KHZ	Kahutara	4.50	226	P	Pn	22 03 46.4 -1.4
GVZ	Greta Valley S	5.15	224	P	Pn	22 03 55.5 -1.3
DSZ	Denniston Nort	5.22	241	P	Pn	22 03 56.7 -1.0
AKCZ	Akaroa Harbour	5.86	218	P	Pn	22 04 05.1 -1.4
CTZ	Chatham Island	6.03	139	P	Pn	22 04 12.2 +3.5
MHCZ	Mount Hutt	6.33	227	P	Pn	22 04 11.3 -1.7
WACZ	Wakanui South	6.45	223	P	Pn	22 04 12.9 -1.7
RPZ	Rata Peaks	6.73	227	P	Pn	22 04 17.4 -1.0
ARCZ	Arundel	6.81	225	P	Pn	22 04 18.4 -1.1
TMZ	Timaru	7.19	223	P	Pn	22 04 22.8 -1.9

NEIC ***12*** *22:07:19.6±1.7, 3.˚53N±0.˚08×127.˚10E±0.˚09, h19km±5km, mb4.5/30, Error ellipse: s-maj=14.4km s-min=9.8km az=61.0*

DJA ***12*** *22:07:24.9±0.9, 4.˚N±9.˚×12.˚7E±.˚, h42km±20km, M4.5/10, mb4.7/4, mB5.6/2, MLv4.4/10, Mw(mB)5.1/2*

IDC ***12*** *22:07:27.2±2.3, 3.˚31N×126.˚65E, h84km±21km, mb3.8/16, mbtmp4.1/17, MS3.0/3, Error ellipse: s-maj=32.0km s-min=11.0km az=70.0*

ISC 12 22:07:22.9±0.4, 3.˚42N±0.˚04×126.˚98E±0.˚07, h48km, n76, σ1§62/75, mb4.3/30, MS2.7/3, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SGSI	**Sangihe**	**1.47**	**280**	P		**Pn**	**22**	**07 47.2**	**+0.2**
SGSI				S		**Sn**	**22**	**08 04.8**	**-0.3**
TNTI	**Ternate**	**2.66**	**172**	P		**Pn**	**22**	**08 06.1**	**+2.7**
TNTI	**Ternate**	**2.66**	**172**	Pn		**Pn**	**22**	**08 02.3**	**-1.1**
TNTI				Sn		**Sn**	**22**	**08 32.0**	**-2.5**
TNTI	**Ternate**	**2.66**	**172**	P		**Pn**	**22**	**08 05.9**	**+2.5**
TNTI				S		**Sn**	**22**	**08 37.4**	**+3.0**
DAV	**Davao City (W)**	**3.88**	**339**	P		Pn	22	08 25.7	+5.7
	85nm,0.3s,baz=173,slow=17,SNR=3.8								
DAV				S		**Sn**	**22**	**09 10.2**	**+5.8**
	99nm,0.4s,baz=198,slow=19,SNR=1.4								
LBMI	**Labuha**	**4.07**	**173**	P		**Pn**	**22**	**08 24.3**	**+1.6**
KMSI	**Cibinong**	**4.12**	**227**	P		**Pn**	**22**	**08 25.9**	**+2.5**
GTOI	**Gorontalo**	**4.83**	**235**	P		**Pn**	**22**	**08 35.4**	**+2.2**
SWI	**Sorong**	**6.04**	**135**	P		Pn	22	09 07.0	+17
LUWI	**Luwuk**	**6.11**	**224**	P		Pn	22	08 55.6	+4.9
LUWI	**Luwuk**	**6.11**	**224**	Pn		**Pn**	**22**	**08 53.8**	**+3.1**
LUWI	**Luwuk**	**6.11**	**224**	P		Pn	22	08 55.1	+4.4
	97nm,0.7s,8µm0.4nm								
TOLI2	**Tolitoli**	**6.60**	**250**	P		**Pn**	**22**	**08 58.5**	**+1.0**
TOLI2	**Tolitoli**	**6.60**	**250**	Pn		**Pn**	**22**	**08 58.4**	**+1.0**
MPSI	**Mapaga**	**7.71**	**247**	P		Pn	22	09 30.3	+18
FAKI	**Fak Fak**	**8.21**	**140**	P		**Pn**	**22**	**09 17.1**	**-2.5**
FAKI	**Fak Fak**	**8.21**	**140**	Pn		**Pn**	**22**	**09 17.0**	**-2.5**
PLAI	**Plampang**	**15.24**	**217**	P		**P**	**22**	**10 58.6**	**-0.6**
PLAI	**Plampang**	**15.24**	**217**	P		**P**	**22**	**10 57.3**	**-1.9**
DRS	**Darwin Rock St**	**16.23**	**166**	P		**P**	**22**	**11 09.3**	**-0.8**
TABU	**Tabubil**	**16.65**	**121**	P		Pn	22	11 01.8	-11
MTN	**Manton Dam**	**16.68**	**166**	Pn		**Pn**	**22**	**11 12.3**	**-1.1**
MTN				IAmb		IAmb	22	11 35.9	
	comp=Z,36nm,1.2s								
JAGI	**Jajag, Banyuwa**	**17.41**	**227**	Pn		**Pn**	**22**	**11 21.7**	**-0.9**
JAGI				IAmb		IAmb	22	11 22.8	
	comp=Z,73nm,1.4s								
TWG	**Pinlang**	**20.11**	**344**	P		**P**	**22**	**11 50.4**	**-2.4**
TWG				IAmb		IAmb	22	11 55.8	
	comp=Z,12nm,0.4s								
YULB	**Yu-li**	**20.60**	**345**	P		**P**	**22**	**11 55.5**	**-2.6**
YULB				IAmb		IAmb	22	11 57.1	
	comp=Z,8.6nm,0.5s								
TPUB	**Ta-pu**	**20.69**	**343**	P		**P**	**22**	**11 57.4**	**-1.8**
TPUB				IAmb		IAmb	22	11 59.4	
	comp=Z,14nm,0.5s								
FITZ	**Fitzroy Crossi**	**21.43**	**183**	P		**P**	**22**	**12 07.7**	**+0.6**
WB0	**Warramunga Arr**	**24.17**	**163**	P		**P**	**22**	**12 34.9**	**0.0**
UBPT	**Khong Chiam**	**24.24**	**300**	P		**P**	**22**	**12 34.3**	**-1.2**
WRA	**Warramunga Arr**	**24.32**	**163**	P		**P**	**22**	**12 35.0**	**-1.3**
WRA	**Warramunga Arr**	**24.32**	**163**	P		**P**	**22**	**12 36.4**	**+0.2**
	comp=Z,26nm,0.7s,baz=341,slow=11,SNR=64								
MBWA	**Marble Bar**	**25.44**	**196**	P		**P**	**22**	**12 46.3**	**-0.1**
PSA00	**Pilbara Seismi**	**25.80**	**195**	P		**P**	**22**	**12 50.1**	**+0.4**
AS31	**Alice Springs**	**27.76**	**166**	P		**P**	**22**	**13 08.0**	**+0.6**
AS31				IAmb		IAmb	22	13 13.2	
	comp=Z,2.3nm,0.3s								
ASAR	**Alice Springs**	**27.76**	**166**	P		**P**	**22**	**13 07.8**	**+0.5**
ASAR	**Alice Springs**	**27.76**	**166**	P		**P**	**22**	**13 07.5**	**+0.2**
	comp=Z,1.2nm,0.3s,baz=341,slow=7.9,SNR=22								
ASAR				PcP		**PcP**	**22**	**16 23.8**	**+0.7**
	comp=Z,0.4nm,0.6s,baz=325,slow=1.8,SNR=1.7								
	comp=Z,1.2nm,0.3s								
NJ2	**Nanjing**	**29.48**	**346**	*e*P		**P**	**22**	**13 23.2**	**+0.7**
NJ2				pP		**pP**	**22**	**13 31.9**	**-3.1**
NJ2				sP		**sP**	**22**	**13 36.3**	**-4.4**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.6s								
PHRA	**Phrae**	**30.16**	**302**	P		**P**	**22**	**13 28.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**31.24**	**301**	P		**P**	**22**	**13 36.5**	**-1.8**
	comp=Z,1.2nm,0.6s,baz=108,slow=6.9,SNR=12								
	comp=Z,1.2nm,0.6s								
CHTO	**Chiang Mai**	**31.39**	**301**	P		**P**	**22**	**13 38.1**	**-1.5**
CHTO				IAmb		IAmb	22	13 40.3	
	comp=Z,2.5nm,0.6s								
PZH	**PanZhiHua**	**33.33**	**316**	P		P	22	13 59.9	+3.2
PZH				pmax		pmax			
	comp=Z,10.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,100nm,4.5s								
KSRS	**Korea Array**	**33.88**	**1**	P		**P**	**22**	**14 02.0**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=172,slow=11,SNR=4.7								
KSRS				LR		LR	22	26 47.7	
	comp=Z,10nm,20.5s,baz=210,slow=34								
	comp=Z,0.8nm,0.8s								
FORT	**Forrest**	**34.03**	**178**	P		**P**	**22**	**14 03.0**	**+0.6**
MJAR	**Matsushiro Arr**	**34.55**	**16**	LR		LR	22	28 44.3	
	comp=Z,14nm,18.9s,baz=170,slow=37								
BBOO	**Buckleboo**	**37.05**	**167**	P		**P**	**22**	**14 28.9**	**+0.5**
BBOO				IAmb		IAmb	22	14 46.5	
	comp=Z,19nm,1.4s								
BJI	**Beijing**	**37.74**	**346**	P		**P**	**22**	**14 35.5**	**+1.4**
BJI				pmax		pmax			
	comp=Z,5.0nm,1.0s								
BJI				pmax		pmax			
	comp=Z,35nm,4.6s								
STKA	**Stephens Creek**	**37.76**	**159**	P		**P**	**22**	**14 35.0**	**+0.7**
STKA	**Stephens Creek**	**37.76**	**159**	P		**P**	**22**	**14 35.1**	**+0.7**
	comp=Z,3.7nm,0.6s,baz=339,slow=10,SNR=11								
STKA				LR		LR	22	34 12.7	
	comp=Z,74nm,18.5s,baz=17,slow=42								
	comp=Z,3.7nm,0.6s								
HHC	**Hu-ho-hao-te**	**39.76**	**342**	*e*P		**P**	**22**	**14 52.6**	**+1.4**
HHC				sP		sP	22	15 08.1	-1.2
HHC				pmax		pmax			
	comp=Z,3.0nm,0.8s								
HHC				pmax		pmax			
	comp=Z,56nm,5.4s								
USRK	**Ussuriysk Ar.**	**40.85**	**6**	P		**P**	**22**	**14 59.5**	**-0.5**
ARMA	**Armidale**	**41.08**	**147**	P		**P**	**22**	**15 03.5**	**+1.2**
ARMA				IAmb		IAmb	22	15 19.6	
	comp=Z,31nm,1.4s								
SONM	**Songino Array**	**47.66**	**341**	P		**P**	**22**	**15 53.7**	**-1.0**
SONM	**Songino Array**	**47.66**	**341**	P		**P**	**22**	**15 55.5**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=160,slow=9.1,SNR=7.2								
	comp=Z,0.9nm,0.5s								
PETK	**Petropavlovsk-**	**55.62**	**22**	P		**P**	**22**	**16 53.6**	**-0.2**
PETK	**Petropavlovsk-**	**55.62**	**22**	P		**P**	**22**	**16 55.8**	**+2.0**
	comp=Z,1.2nm,0.6s,baz=201,slow=5.2,SNR=5.7								
	comp=Z,1.2nm,0.6s								
MK31	**Makanchi Array**	**57.95**	**325**	P		**P**	**22**	**17 09.9**	**-0.5**
MKAR	**Makanchi Array**	**57.95**	**325**	P		**P**	**22**	**17 09.8**	**-0.7**
MKAR	**Makanchi Array**	**57.95**	**325**	P		**P**	**22**	**17 10.0**	**-0.5**
	comp=Z,1.6nm,0.4s,baz=119,slow=7.9,SNR=41								
	comp=Z,1.6nm,0.4s								
MAKZ	**Makanchi**	**58.13**	**325**	P		**P**	**22**	**17 11.3**	**-0.5**
MAKZ				IAmb		IAmb	22	17 14.0	
	comp=Z,5.9nm,1.2s								
ZALV	**Zalesovo Beam**	**60.97**	**333**	P		**P**	**22**	**17 30.1**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=109,slow=8.9,SNR=2.1								
	comp=Z,0.9nm,0.5s								
LBZ	**Lake Benmore**	**61.29**	**146**	P		**P**	**22**	**17 34.8**	**+1.3**
KURBB	**Kurchatov Arra**	**62.13**	**327**	P		**P**	**22**	**17 38.9**	**-0.1**
	comp=Z,1.6nm,0.2s,baz=125,slow=6.1,SNR=15								
	comp=Z,1.6nm,0.2s								
KURK	**Kurchatov**	**62.13**	**327**	P		**P**	**22**	**17 37.9**	**-1.1**
KURK				IAmb		IAmb	22	17 41.4	
	comp=Z,8.7nm,0.9s								
BVAR	**Borovoye Array**	**67.71**	**327**	P		**P**	**22**	**18 14.9**	**-0.4**
	comp=Z,1.6nm,0.6s,baz=122,slow=7.7,SNR=12								
	comp=Z,1.6nm,0.6s								
TIXI	**Tiksi**	**68.14**	**1**	P		**P**	**22**	**18 18.1**	**+0.5**
TIXI				IAmb		IAmb	22	18 19.4	
	comp=Z,4.1nm,0.6s								
CASY	**Casey**	**70.55**	**187**	P		**P**	**22**	**18 33.6**	**+1.1**
CASY				IAmb		IAmb	22	18 55.2	
	comp=Z,8.0nm,1.3s								
ABKAR	**Akbulak array**	**72.54**	**321**	P		**P**	**22**	**18 44.4**	**-0.5**
ABKAR	**Akbulak array**	**72.54**	**321**	P		**P**	**22**	**18 44.5**	**-0.4**
ABKAR				IAmb		IAmb	22	18 45.6	
	comp=Z,1.4nm,0.6s								
ARU	**Arti**	**75.33**	**328**	P		**P**	**22**	**19 00.2**	**-0.8**
ARU				IAmb		IAmb	22	19 01.4	
	comp=Z,2.6nm,0.8s								
VNDA	**Vanda**	**83.09**	**173**	P		**P**	**22**	**19 44.2**	**+1.2**
VNDA	**Vanda**	**83.09**	**173**	P		**P**	**22**	**19 43.9**	**+0.9**
	comp=Z,1.0nm,1.0s,baz=304,slow=9.6,SNR=3.5								
	comp=Z,1.0nm,1.0s								
ILAR	**Eielson Array**	**85.27**	**25**	P		**P**	**22**	**19 55.3**	**+1.0**
	comp=Z,0.4nm,0.9s,baz=246,slow=5.8,SNR=2.9								
	comp=Z,0.4nm,0.9s								
MMAI	**Mount Meron Ar**	**89.48**	**303**	P		**P**	**22**	**20 15.6**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=98,slow=8.9,SNR=1.7								
	comp=Z,1.5nm,0.7s								
BRTR	**Keskin Array B**	**90.40**	**310**	P		**P**	**22**	**20 19.3**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=99,slow=7.8,SNR=4.2								
	comp=Z,0.7nm,0.9s								
FINES	**FINESS Array B**	**92.22**	**332**	P		**P**	**22**	**20 27.7**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=67,slow=5.0,SNR=4.8								
	comp=Z,1.4nm,0.9s								
AKASG	**Malin Array De**	**92.28**	**321**	P		**P**	**22**	**20 27.5**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=81,slow=2.3,SNR=2.0								
	comp=Z,0.1nm,0.3s								

JMA 12 22:08:26.3±0.1, 27.˚3N±0.˚7×143.˚8E±0.˚5, h27km, MV4.2/21, NEAR CHICHIJIMA ISLAND, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
CBIJ	**Chichi jima**	**1.44**	**264**	P		Pn	22	08 51.2	+0.7
CBIJ				*e*S		Sn	22	09 09.0	+0.5
JHH2	**Haha-jima-NKT2**	**1.57**	**247**	*e*P		Pn	22	08 53.0	+0.7
JHU	**Hanno**	**9.38**	**337**	*e*P		Pn	22	10 42.9	+3.1
JRY	**Ryogami san**	**9.67**	**336**	*e*P		Pn	22	10 47.4	+3.7
JHO	**Hitachi**	**9.71**	**344**	*e*P		Pn	22	10 46.0	+1.8
JHO				*e*S		Sn	22	12 31.4	-1.0
JAG	**Ashikaga**	**9.85**	**339**	*e*P		Pn	22	10 48.7	+2.6

IDC ***12*** *22:12:09.9±0.6, 43.˚93S×40.˚60E, h0km, mb4.2/13, mbtmp4.1/15, ML3.3/2, MS4.0/39, Error ellipse: s-maj=24.2km s-min=16.6km az=54.0*

NEIC ***12*** *22:12:10.6±1.3, 44.˚00S±0.˚08×40.˚1E±0.˚2, h10km±1km, mb4.6/26, Error ellipse: s-maj=25.2km s-min=6.3km az=239.0*

GCMT ***12*** *22:12:13.6±0.2, 43.˚74S±0.˚01×40.˚57E±0.˚02, h17km±1km, MW5.0/106, Moment Tensor Solution. s34,c49; s106,c160; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=2.05±.15; Mθθ=0.61±.11; Mϕϕ=1.44±.11; Mrθ=0.14±.27; Mθϕ=-2.94±.08; Mrϕ=1.60±.29; Best double couple: M₀3.72200×10¹⁶ NP1:ϕs=171.00000°, δ67.00000°, λ=-45.00000°. NP2:ϕs=283.00000°, δ49.00000°, λ=-148.00000°. Principal axes: T 4.2010, Plg11.0000°, Azm231.0000°; N -0.9590, Plg40.0000°, Azm330.0000°; P -3.2440, Plg48.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 12 22:12:11.1±0.4, 43.˚93S±0.˚08×40.˚2E±0.˚1, h10km, n80, σ1§41/49, mb4.5/24, MS4.2/39, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
SUR	**Sutherland**	**19.07**	**301**	P		**P**	**22**	**16 31.4**	**-2.4**
SUR	**Sutherland**	**19.07**	**301**	P		**P**	**22**	**16 35.3**	**+1.5**
	0.1nm,0.3s,baz=125,slow=8.9,SNR=4.9								
SUR				LR		LR	22	22 24.6	
	comp=Z,370nm,20.4s,baz=127,slow=32								
	6.8nm,0.8s								
BOSA	**Boshof**	**19.42**	**317**	P		**P**	**22**	**16 35.9**	**-1.7**
BOSA	**Boshof**	**19.42**	**317**	P		**P**	**22**	**16 38.6**	**+1.1**
	baz=148,slow=13,SNR=5.5								
BOSA				LR		LR	22	22 59.8	
	comp=Z,574nm,18.2s,baz=152,slow=33								
	3.1nm,0.8s								
VOI	**Vohitsoka**	**22.64**	**16**	P		**P**	**22**	**17 10.1**	**-2.3**
VOI				IAmb		IAmb	22	17 24.1	
	comp=Z,37nm,1.2s								
ABPO	**Ambohimpanom**	**25.53**	**16**	P		**P**	**22**	**17 39.4**	**-0.7**
ABPO				IAmb		IAmb	22	17 48.4	
	comp=Z,12nm,0.8s								
OPO	**Ambohidratompo**	**25.96**	**15**	LR		LR	22	26 26.9	
	comp=Z,1µm,19.7s,baz=359,slow=33								
MAW	**Mawson**	**26.61**	**161**	P		**P**	**22**	**17 49.3**	**0.0**
	comp=Z,2.5nm,1.0s,baz=333,slow=12,SNR=4.8								
MAW				LR		LR	22	25 47.0	
	comp=Z,333nm,20.7s,baz=326,slow=31								
	comp=Z,2.5nm,1.0s								
LSZ	**Lusaka**	**30.34**	**337**	P		**P**	**22**	**18 22.0**	**-1.0**
LSZ				IAmb		IAmb	22	18 36.3	
	comp=Z,9.4nm,1.1s								
LSZ	**Lusaka**	**30.34**	**337**	LR		LR	22	28 49.0	
	comp=Z,170nm,19.5s,baz=172,slow=33								
TSUM	**Tsumeb**	**31.09**	**315**	P		**P**	**22**	**18 28.4**	**-1.3**
TSUM				IAmb		IAmb	22	18 31.4	
	comp=Z,11nm,1.2s								
TSUM	**Tsumeb**	**31.09**	**315**	LR		LR	22	30 04.0	
	comp=Z,366nm,18.3s,baz=155,slow=34								
SNAA	**Sanae**	**34.62**	**202**	P		**P**	**22**	**19 01.7**	**+1.7**
	comp=Z,2.4nm,0.9s,baz=66,slow=18,SNR=2.6								
SNAA				LR		LR	22	30 18.6	
	comp=Z,343nm,18.3s,baz=24,slow=31								
	comp=Z,2.4nm,0.9s								
CASY	**Casey**	**43.06**	**146**	P		**P**	**22**	**20 09.8**	**-0.8**
CASY				IAmb		IAmb	22	20 43.8	
	comp=Z,13nm,1.4s								
MBAR	**Mbarara**	**43.96**	**346**	LR		LR	22	38 10.8	
	comp=Z,130nm,18.4s,baz=154,slow=36								
QSPA	**South Pole Qui**	**46.28**	**180**	P		**P**	**22**	**20 34.8**	**-1.7**
QSPA				IAmb		IAmb	22	20 45.6	
	comp=Z,8.9nm,1.0s								
QSPA	**South Pole Qui**	**46.28**	**180**	P		**P**	**22**	**20 35.4**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=266,slow=3.5,SNR=2.0								
QSPA				LR		LR	22	38 40.6	
	comp=Z,251nm,19.1s,baz=254,slow=34								
	comp=Z,1.6nm,0.7s								
SHEL	**Horse Pasture**	**47.77**	**291**	P		**P**	**22**	**20 46.4**	**-2.1**
VNDA	**Vanda**	**53.68**	**167**	P		**P**	**22**	**21 31.9**	**-0.4**
VNDA	**Vanda**	**53.68**	**167**	P		**P**	**22**	**21 32.5**	**+0.2**
	comp=Z,1.6nm,1.1s,baz=254,slow=7.8,SNR=3.2								
VNDA				LR		LR	22	42 59.9	
	comp=Z,93nm,18.2s,baz=222,slow=34								
	comp=Z,1.6nm,1.1s								
SBA	**Scott Base**	**54.23**	**168**	P		**P**	**22**	**21 36.0**	**-0.4**
ATD	**Arta Tunnel**	**55.25**	**3**	LR		LR	22	43 10.3	
	comp=Z,17nm,20.5s,baz=166,slow=34								
H01W2	**Cape Leeuwin H**	**56.07**	**108**	T		T	23	22 07.5	
	baz=238,slow=75,SNR=26								
H01W3	**Cape Leeuwin H**	**56.08**	**108**	T		T	23	22 08.3	
	baz=238,slow=75,SNR=25								
H01W1	**Cape Leeuwin H**	**56.09**	**108**	T		T	23	22 08.8	
	baz=238,slow=75,SNR=27								
PMSA	**Palmer Station**	**56.74**	**210**	LR		LR	22	42 13.2	
	comp=Z,228nm,19.3s,baz=128,slow=32								
DBIC	**Dimbokro**	**64.71**	**309**	P		**P**	**22**	**22 48.2**	**-1.2**
DBIC	**Dimbokro**	**64.71**	**309**	P		**P**	**22**	**22 49.8**	**+0.3**
	comp=Z,3.2nm,0.9s,baz=127,slow=10,SNR=1.7								
DBIC				LR		LR	22	48 54.8	
	comp=Z,138nm,19.1s,baz=172,slow=34								
	comp=Z,3.2nm,0.9s								
WSAR	**Wadi Sarin**	**68.95**	**18**	LR		LR	22	47 19.2	
	comp=Z,156nm,20.8s,baz=218,slow=31								
LEM	**Lembang**	**69.07**	**79**	LR		LR	22	46 51.6	
	comp=Z,159nm,20.6s,baz=200,slow=30								
BBOO	**Buckleboo**	**71.89**	**118**	P		**P**	**22**	**23 33.9**	**-0.6**
EIL	**Elat**	**73.40**	**355**	LR		LR	22	53 09.8	
	comp=Z,70nm,20.8s,baz=241,slow=34								
PLCA	**Paso Flores**	**75.24**	**227**	LR		LR	22	50 37.9	
	comp=Z,194nm,18.7s,baz=144,slow=31								
RCBR	**Riachuelo**	**75.97**	**275**	LR		LR	22	48 49.4	
	comp=Z,67nm,19.2s,baz=110,slow=29								
STKA	**Stephens Creek**	**76.00**	**121**	P		**P**	**22**	**23 57.3**	**-1.1**
STKA	**Stephens Creek**	**76.00**	**121**	P		**P**	**22**	**23 56.9**	**-1.6**
	comp=Z,7.4nm,1.1s,baz=250,slow=11,SNR=5.3								
	comp=Z,7.4nm,1.1s								
ASAR	**Alice Springs**	**76.51**	**110**	P		**P**	**22**	**24 00.4**	**-1.1**
ASAR	**Alice Springs**	**76.51**	**110**	P		**P**	**22**	**24 00.2**	**-1.3**
	comp=Z,2.7nm,1.1s,baz=210,slow=6.5,SNR=8.9								
	comp=Z,2.7nm,1.1s								
CPUP	**Villa Florida**	**77.29**	**246**	P		**P**	**22**	**24 07.4**	**+1.6**
	comp=Z,2.6nm,1.1s,baz=127,slow=5.1,SNR=2.0								
CPUP				LR		LR	22	54 41.4	
	comp=Z,100nm,18.3s,baz=146,slow=33								
	comp=Z,2.6nm,1.1s								
BDFB	**Brasilia**	**78.06**	**260**	LR		LR	22	50 57.8	
	comp=Z,164nm,21.9s,baz=142,slow=30								
BATI	**Baumata**	**78.30**	**93**	LR		LR	22	52 21.9	
	comp=Z,135nm,20.4s,baz=182,slow=31								
KAPI	**Kappang**	**79.01**	**86**	LR		LR	22	54 24.8	
	comp=Z,83nm,18.7s,baz=248,slow=32				

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.60**	**207**	LR	LR	22 14 47.9	
	comp=Z,148nm,18.8s,baz=107,slow=40						
DZM	**Mont Dzumac**	**16.21**	**284**	LR	LR	22 21 56.1	
	comp=Z,88nm,19.2s,baz=1.5,slow=33						
ASAR	**Alice Springs**	**44.68**	**263**	P	**P**	**22 21 21.9**	**+1.3**
	0.2nm,0.4s,baz=95,slow=6.7,SNR=5.5						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**45.36**	**268**	P	**P**	**22 21 27.0**	**+0.9**
	0.6nm,0.6s,baz=108,slow=7.4,SNR=2.5						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**63.17**	**180**	P	**P**	**22 23 35.1**	**0.0**
	3.0nm,0.9s,baz=84,slow=2.3,SNR=6.4						
	3.0nm,0.9s						
NVAR	**Mina Array Bea**	**84.83**	**42**	P	**P**	**22 25 44.3**	**+2.3**
	0.2nm,0.3s,baz=221,slow=8.0,SNR=2.6						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**142.28**	**342**	PKP	**PKPdf**	**22 32 37.1**	**-1.8**
	0.2nm,0.3s,baz=43,slow=2.7,SNR=4.5						
NB2	**NORSAR Subarra**	**145.50**	**353**	PKP	PKiKP	22 32 58.1	+9.4
	comp=Z,0.5nm,0.6s,baz=11,slow=3.1						
NOA	**NORSAR Array B**	**145.50**	**353**	PKPbc	**PKPab**	**22 32 44.9**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=15,slow=4.5,SNR=1.7						
HFS	**Hagfors**	**146.07**	**351**	PKPbc	**PKiKP**	**22 32 47.7**	**-2.1**
	comp=Z,0.9nm,0.5s,baz=62,slow=7.0,SNR=3.2						
AKASG	**Malin Array Be**	**149.19**	**327**	PKPbc	**PKPbc**	**22 32 54.6**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=78,slow=1.1,SNR=1.8						
BRTR	**Keskin Array B**	**151.87**	**305**	PKPab	**PKPab**	**22 33 10.5**	**-1.0**
	comp=Z,0.6nm,1.0s,baz=115,slow=3.7,SNR=2.3						

JMA ***12*** *22:22:35.0±0.1,40.4N±0.3×142.1E±0.6, h51km, MV3.5/40, NE OFF IWATE PREF*
JMA Felt I J1 at NE OFF IWATE PREF .
NIED ***12*** *22:22:35.0, 40.36N×142.08E, h51km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}1.49; $M_{\theta\theta}$0.23; $M_{\phi\phi}$-1.72; $M_{r\theta}$1.24; $M_{r\phi}$-0.75; $M_{\theta\phi}$1.62; Fault plane solution: $M_0$2.69000×10^{14} NP1:ϕ_s34.00000°, δ71.00000°, λ104.00000°. NP2:ϕ_s178.00000°, δ24.00000°, λ56.00000°.*
IDC ***12*** *22:22:36.0±3.8, 40.38N×142.28E, h80km±19km, mb3.5/6, mbtmp3.7/9 Error ellipse: s-maj=61.0km s-min=18.3km az=112.0*

ISC 12 22:22:35.0±1.1**, 40°37N**±0°.04×**142°04E**±0°.08**, h52**km±8km**, n26,** σ1§**12**/28**, mb3.8/6, 11D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.30**	**237**	*i*P	**Pn**	**22 22 44.4**	**+0.2**
JKEN				S	**Sn**	**22 22 50.9**	**+0.1**
JANG	**Nango**	**0.40**	**271**	⇓P	**Pn**	**22 22 45.5**	**+0.2**
JANG				⇓S	**Sn**	**22 22 52.7**	**+0.1**
JTH	**Tanohata**	**0.45**	**197**	P	**Pn**	**22 22 45.7**	**-0.1**
JTH				S	**Sn**	**22 22 53.0**	**-0.4**
JKZ	**Kuzumaki**	**0.66**	**235**	⇓P	**Pn**	**22 22 48.8**	**+0.4**
JKZ				⇓S	**Sn**	**22 22 58.5**	**+0.4**
JARK	**Aomorirokkasho**	**0.82**	**322**	⇓P	**Pn**	**22 22 50.2**	**-0.1**
JARK				⇓S	**Sn**	**22 23 01.7**	**+0.1**
JTM	**Tenmabayashi**	**0.85**	**300**	⇓P	**Pn**	**22 22 50.8**	**0.0**
JTM				⇓S	**Sn**	**22 23 02.2**	**-0.1**
JOM	**Ohasama**	**1.06**	**213**	P	**Pn**	**22 22 54.0**	**+0.4**
JOM				S	**Sn**	**22 23 07.9**	**+0.6**
JAH	**Hinai**	**1.09**	**261**	⇓P	**Pn**	**22 22 54.4**	**+0.5**
JAH				⇓S	**Sn**	**22 23 08.8**	**+0.8**
JOT	**Ohata**	**1.26**	**324**	P	**Pn**	**22 22 56.1**	**-0.2**
JRG	**Rokugo**	**1.45**	**229**	⇓P	**Pn**	**22 22 59.5**	**+0.7**
ASAJ	**Asahikawa**	**3.77**	**6**	P	**Pn**	**22 23 31.3**	**+0.7**
	9.9nm,0.4s,baz=231,slow=9.6,SNR=23						
ASAJ				S	**Sn**	**22 24 15.0**	**+1.3**
	7.0nm,0.4s,baz=241,slow=31,SNR=2.0						
MJAR	**Matsushiro Arr**	**4.86**	**219**	P	**Pn**	**22 23 48.4**	**+2.8**
	2.0nm,0.6s,baz=28,slow=13,SNR=14						
USRK	**Ussuriysk Ar.**	**8.38**	**301**	P	**Pn**	**22 24 36.8**	**+3.1**
	2.7nm,0.7s,baz=107,slow=15,SNR=11						
KSRS	**Korea Array**	**11.38**	**260**	P	Pn	22 25 25.6	+11
	0.2nm,0.3s,baz=66,slow=15,SNR=1.3						
SONM	**Songjino Array**	**26.48**	**298**	P	**P**	**22 28 08.1**	**+0.7**
	0.3nm,0.5s,baz=91,slow=6.6,SNR=1.8						
	0.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.59**	**127**	T	T	22 59 26.2	
	baz=318,slow=76,SNR=56						
H11N1	**WAKE ISLAND Hy**	**29.60**	**127**	T	T	22 59 23.8	
	baz=318,slow=76,SNR=45						
H11N3	**WAKE ISLAND Hy**	**29.61**	**127**	T	T	22 59 25.2	
	baz=318,slow=76,SNR=45						
H11S1	**WAKE ISLAND Hy**	**30.41**	**129**	T	T	23 00 58.2	
	baz=322,slow=76,SNR=5.5						
H11S3	**WAKE ISLAND Hy**	**30.41**	**129**	T	T	23 00 54.5	
	baz=322,slow=76,SNR=3.9						
H11S2	**WAKE ISLAND Hy**	**30.42**	**129**	T	T	23 00 48.0	
	baz=322,slow=76,SNR=4.4						
ZALV	**Zalesovo Beam**	**40.10**	**310**	P	**P**	**22 30 04.5**	**-0.8**
	1.0nm,0.4s,baz=95,slow=9.3,SNR=5.5						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**42.84**	**299**	P	**P**	**22 30 27.3**	**-0.6**
	0.6nm,0.7s,baz=83,slow=9.8,SNR=6.7						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**44.40**	**305**	P	**P**	**22 30 38.3**	**-2.0**
	1.2nm,0.3s,baz=79,slow=8.8,SNR=7.6						
	1.2nm,0.3s						
BVAR	**Borovoye Array**	**48.74**	**310**	P	**P**	**22 31 13.8**	**-0.4**
	0.7nm,0.5s,baz=65,slow=8.6,SNR=4.1						
	0.7nm,0.5s						
FINES	**FINESS Array B**	**66.10**	**332**	P	**P**	**22 33 15.1**	**-1.2**
	0.4nm,0.6s,baz=46,slow=12,SNR=4.6						
	0.4nm,0.6s						

IDC ***12*** *22:35:60.0±18.0, 41.15N×141.69E, h98km±70km, mb3.2/5, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=318.0km s-min=36.0km az=169.0*
JMA ***12*** *22:36:22.8±0.2, 42.1N±0.6×139.8E±0.9, h180km±1km, MV2.6/30, SW OFF HOKKAIDO*

ISC 12 22:36:22.5±1.1**, 42°08N**±0°.08×**139°75E**±0°.08**, h183**km±7km**, n26,** σ0§**49**/24**, mb3.3/5, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSM	**Okushiri--Mats**	**0.20**	**270**	P	**Pn**	**22 36 46.7**	**0.0**
JOSM				*e*S	**Sn**	**22 37 05.2**	**-0.1**
JHST	**Hiyamasetana**	**0.35**	**16**	P	**Pn**	**22 36 47.2**	**+0.2**
JHST				*e*S	**Sn**	**22 37 05.8**	**-0.3**
JYM2	**Yakumo 2**	**0.47**	**85**	P	**Pn**	**22 36 47.8**	**+0.3**
JYM2				S	**Sn**	**22 37 06.9**	**+0.3**
JOMM	**Oshimamatsumae**	**0.59**	**161**	P	**Pn**	**22 36 48.2**	**+0.2**
JOMM				S	**Sn**	**22 37 07.2**	**-0.4**
JSH	**Shimam**	**0.60**	**21**	P	**Pn**	**22 36 48.2**	**+0.2**
JKB	**Kayabe**	**0.98**	**101**	P	**Pn**	**22 36 50.2**	**0.0**
JKB				*e*S	**Sn**	**22 37 11.6**	**-0.1**
JNB	**Noboribetsu**	**1.03**	**68**	P	**Pn**	**22 36 50.4**	**-0.3**
JOT	**Ohata**	**1.20**	**125**	P	**Pn**	**22 36 51.9**	**-0.1**
JEW	**Eniwo**	**1.47**	**58**	*e*P	**Pn**	**22 36 55.0**	**+0.6**
JIW	**Iwasaki**	**1.50**	**172**	P	**Pn**	**22 36 55.1**	**+0.4**
JTM	**Tenmabayashi**	**1.63**	**142**	P	**Pn**	**22 36 56.0**	**+0.1**
JIAM	**Iburiatsuma**	**1.70**	**71**	P	**Pn**	**22 36 57.2**	**+0.6**
JANG	**Nango**	**2.17**	**141**	P	**Pn**	**22 37 02.0**	**+0.4**
JNBK	**Urakawa-nobuka**	**2.24**	**84**	P	**Pn**	**22 37 02.0**	**-0.4**
USRK	**Ussuriysk Ar.**	**6.06**	**293**	P	**Pn**	**22 37 50.4**	**+0.2**
	0.4nm,0.3s,baz=104,slow=14,SNR=10						
	3.2nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**32.00**	**126**	T	T	23 14 06.8	
	baz=327						
H11N1	**WAKE ISLAND Hy**	**32.01**	**126**	T	T	23 14 10.7	
	baz=327						
H11N3	**WAKE ISLAND Hy**	**32.02**	**126**	T	T	23 14 08.6	
	baz=327						
H11S1	**WAKE ISLAND Hy**	**32.83**	**127**	T	T	23 15 17.1	
	baz=330						
H11S3	**WAKE ISLAND Hy**	**32.83**	**128**	T	T	23 15 16.9	
	baz=330						
H11S2	**WAKE ISLAND Hy**	**32.84**	**128**	T	T	23 15 15.5	
	baz=330						
ZALV	**Zalesovo Beam**	**37.68**	**308**	P	**P**	**22 43 18.8**	**-1.0**
	0.4nm,0.3s,baz=79,slow=7.5,SNR=2.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**40.51**	**297**	P	**P**	**22 43 42.6**	**-0.9**
	0.3nm,0.5s,baz=85,slow=9.4,SNR=4.9						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**42.01**	**303**	P	**P**	**22 43 54.9**	**-0.6**
	0.3nm,0.3s,baz=77,slow=8.7,SNR=1.2						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**46.01**	**35**	P	P	22 44 12.3	-15
	0.1nm,0.5s,baz=283,slow=8.2,SNR=1.7						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**46.32**	**309**	P	**P**	**22 44 30.6**	**+0.9**
	0.5nm,0.4s,baz=75,slow=8.3,SNR=2.8						
	0.5nm,0.4s						

VAO ***12*** *22:46:02.7±0.5, 20.87S×68.45W, h10km, mb4.4*
SJA ***12*** *22:46:07.8±0.7, 21.56S×68.29W, h134km±4km, ML3.5, MW3.5*
GUC ***12*** *22:46:10.7±0.8, 21.63S×68.41W, h126km±5km, ML3.5*

ISC 12 22:46:08.8±1.0**, 21°61S**±0°.03×**68°40W**±0°.05**, h139**km±9km**, n50,** σ1§**10**/75**, 4C-1D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.81**	**257**	*e*P	**Pn**	**22 46 30.8**	**-0.3**
PB09				*e*S	**Pn**	**22 46 31.4**	**+0.3**
PB09				IAML		22 46 32.0	
	comp=Z,480nm,0.3s						
PB09	**IPOC Station P**	**0.81**	**257**	⇑*i*P	**Pn**	**22 46 31.4**	**+0.3**
PB09				*e*S	**Sn**	**22 46 47.3**	**-0.8**
LVC	**Limon Verde**	**1.10**	**206**	*e*P	**Pn**	**22 46 34.1**	**+0.2**
LVC				*e*S	**Sn**	**22 46 53.4**	**+0.4**
LVC	**Limon Verde**	**1.10**	**206**	⇑*i*P	**Pn**	**22 46 34.1**	**+0.2**
LVC				*e*S	**Sn**	**22 46 52.0**	**-1.0**
LVC				IAML		22 46 53.4	
	comp=Z,2μm,0.4s						
LVC	**Limon Verde**	**1.10**	**206**	*e*P	**Pn**	**22 46 34.0**	**+0.2**
PB01	**IPOC Station P**	**1.17**	**299**	*e*P	Pn	22 46 19.1	-15
PB01				*e*S	**Sn**	**22 46 53.7**	**+0.2**
PB01				IAML		22 46 55.3	
	comp=Z,427nm,0.2s						
PB01	**IPOC Station P**	**1.17**	**299**	*e*P	**Pn**	**22 46 34.1**	**0.0**
PB01				*e*S	**Sn**	**22 46 52.7**	**-0.8**
PB01				IAML		22 46 56.2	
	comp=E,748nm,0.2s						
PB07	**IPOC Station P**	**1.39**	**265**	*e*P	**Pn**	**22 46 36.8**	**+0.2**
PB07				*e*S	**Sn**	**22 46 57.6**	**-0.1**
PB07				IAML		22 46 58.7	
	comp=Z,250nm,0.3s						
PB07	**IPOC Station P**	**1.39**	**265**	*e*P	**Pn**	**22 46 36.6**	**+0.1**
PB07				*e*S	**Sn**	**22 46 57.0**	**-0.8**
PB07				IAML		22 46 58.7	
	comp=N,638nm,0.2s						
PB02	**IPOC Station P**	**1.43**	**282**	*e*P	**Pn**	**22 46 37.0**	**+0.2**
PB02				*e*S	**Sn**	**22 46 59.2**	**+0.9**
PB02				IAML		22 47 02.3	
	comp=Z,923nm,0.3s						
PB02	**IPOC Station P**	**1.43**	**282**	*e*P	**Pn**	**22 46 36.8**	**0.0**
PB02				*e*S	**Sn**	**22 46 57.2**	**-1.0**
PB02				IAML		22 47 01.9	
	comp=E,977nm,0.2s						
PB06	**IPOC Station P**	**1.54**	**225**	*e*P	**Pn**	**22 46 38.8**	**+0.7**
PB06				*e*S	**Sn**	**22 47 01.4**	**+0.9**
PB06				IAML		22 47 02.5	
	comp=Z,172nm,0.1s						
PB06	**IPOC Station P**	**1.54**	**225**	⇑*i*P	**Pn**	**22 46 38.6**	**+0.5**
PB06				*e*S	**Sn**	**22 47 00.5**	**-0.1**
PB06				IAML		22 47 07.1	
	comp=E,294nm,0.1s						
PB08	**IPOC Station P**	**1.63**	**334**	*e*P	**Pn**	**22 46 40.1**	**+0.7**
PB08				*e*S	**Sn**	**22 47 04.0**	**+1.3**
PB08				IAML		22 47 08.4	
	comp=Z,115nm,0.2s						
PB08	**IPOC Station P**	**1.63**	**334**	⇓*i*P	**Pn**	**22 46 40.6**	**+1.2**
PB08				*e*S	**Sn**	**22 47 03.4**	**+0.7**
PB08				IAML		22 47 06.8	
	comp=E,392nm,0.2s						
PB04	**IPOC Station P**	**1.78**	**246**	*e*P	**Pn**	**22 46 41.1**	**+0.3**
PB04				*e*S	**Sn**	**22 47 06.8**	**+1.5**
PB04				IAML		22 47 08.1	
	comp=Z,202nm,0.2s						
PB04	**IPOC Station P**	**1.78**	**246**	*e*P	**Pn**	**22 46 41.0**	**+0.2**
PB04				IAML		22 47 12.4	
	comp=N,248nm,0.1s						
PATCX	**Punta Patache**	**1.82**	**295**	*e*P	**Pn**	**22 46 41.7**	**+0.5**
PATCX				*e*S	**Sn**	**22 47 06.7**	**+0.6**
PATCX				IAML		22 47 07.1	
	comp=Z,423nm,0.3s						
PATCX	**Punta Patache**	**1.82**	**295**	*e*P	**Pn**	**22 46 41.5**	**+0.3**
PATCX				*e*S	**Sn**	**22 47 05.4**	**-0.7**
PATCX				IAML		22 47 07.9	
	comp=N,887nm,0.2s						
PB15	**IPOC Station P**	**1.87**	**212**	*e*P	**Pn**	**22 46 43.0**	**+1.0**
PB15				*e*S	**Sn**	**22 47 08.8**	**+1.4**
PB15	**IPOC Station P**	**1.87**	**212**	*e*P	**Pn**	**22 46 42.8**	**+0.8**
HMBC	**Humberstone**	**1.93**	**313**	*e*P	**Pn**	**22 46 42.8**	**+0.3**
HMBC				*e*S	**Sn**	**22 47 08.0**	**-0.4**
HMBC				IAML		22 47 08.9	
	comp=Z,437nm,0.3s						
HMBC	**Humberstone**	**1.93**	**313**	*e*P	**Pn**	**22 46 42.7**	**+0.1**
HMBC				*e*S	**Sn**	**22 47 07.4**	**-0.9**
HMBC				IAML		22 47 11.7	
	comp=N,688nm,0.3s						
TA01	**Diego Aracena**	**1.97**	**302**	*e*P	**Pn**	**22 46 43.1**	**+0.3**
TA01				*e*S	**Sn**	**22 47 09.0**	**+0.1**
TA01				IAML		22 47 09.8	
	comp=Z,201nm,0.2s						
TA01	**Diego Aracena**	**1.97**	**302**	⇑*i*P	**Pn**	**22 46 43.0**	**+0.1**
TA01				*e*S	**Sn**	**22 47 08.1**	**-0.9**
GO01	**Chusmiza**	**2.08**	**339**	*e*P	**Pn**	**22 46 45.6**	**+1.0**
GO01				*e*S	**Sn**	**22 47 14.7**	**+2.6**
GO01	**Chusmiza**	**2.08**	**339**	*e*P	**Pn**	**22 46 46.0**	**+1.3**
TA02	**Huaiquique**	**2.10**	**309**	*e*P	**Pn**	**22 46 44.9**	**+0.4**
TA02				*e*S	**Sn**	**22 47 11.7**	**-0.2**
TA02				IAML		22 47 16.1	
	comp=Z,382nm,0.1s						
TA02	**Huaiquique**	**2.10**	**309**	*e*P	**Pn**	**22 46 44.4**	**-0.1**
PB11	**IPOC Station P**	**2.19**	**327**	*e*P	**Pn**	**22 46 45.6**	**-0.1**
PB11				*e*S	**Sn**	**22 47 14.5**	**+0.5**
PB11				IAML		22 47 15.8	
	comp=Z,232nm,0.2s						
PB11	**IPOC Station P**	**2.19**	**327**	*e*P	**Pn**	**22 46 46.1**	**+0.4**
PB11				*e*S	**Sn**	**22 47 13.8**	**-0.2**
PB11				IAML		22 47 15.7	
	comp=E,590nm,0.2s						
YJA	**Yavi**	**2.73**	**102**	*e*P	**Pn**	**22 46 54.5**	**+1.8**
YJA				*e*S	**Sn**	**22 47 24.9**	**-1.6**
PB10	**IPOC Station P**	**2.75**	**226**	*e*P	**Pn**	**22 46 54.0**	**+1.5**
PB10	**IPOC Station P**	**2.75**	**226**	*e*P	**Pn**	**22 46 53.2**	**+0.6**
HJA	**Humahuaca**	**3.19**	**120**	*e*P	**Pn**	**22 47 01.0**	**+2.5**
PB12	**IPOC Station P**	**3.49**	**328**	*e*P	**Pn**	**22 47 00.6**	**-0.6**
PB12				*e*S	**Sn**	**22 47 42.2**	**-1.4**
PB12				IAML		22 47 58.0	
	comp=Z,44nm,0.3s						
PB12	**IPOC Station P**	**3.49**	**328**	*e*P	**Pn**	**22 47 01.7**	**-0.6**
PB14	**IPOC Station P**	**3.52**	**211**	*e*P	**Pn**	**22 47 03.6**	**+0.8**
PB14				*e*S	**Sn**	**22 47 40.7**	**-3.9**
PB14				IAML		22 47 56.0	
	comp=Z,103nm,0.5s						
GO02	**Mina Guanaco**	**3.70**	**197**	*e*P	**Pn**	**22 47 06.1**	**+1.0**
GO02				*e*S	**Sn**	**22 47 49.4**	**+0.7**
AC02	**Maricunga**	**5.24**	**187**	*e*P	**Pn**	**22 47 27.0**	**+1.3**
AC02				*e*S	**Sn**	**22 48 25.9**	**+0.4**
LPAZ	**La Paz**	**5.30**	**3**	*e*P	**Pn**	**22 47 29.9**	**+3.2**
LPAZ	**La Paz**	**5.30**	**3**	*e*P	Pn	22 48 01.6	-15
BBSD	**Serra de San D**	**8.56**	**60**	*e*P	Pn	22 48 03.1	-6.7
BBRB	**Robore, Bolivi**	**8.73**	**69**	*e*P	Pn	22 48 07.1	-4.9
MURT	**Porto Murtinho**	**10.03**	**92**	*e*P	**Pn**	**22 48 27.5**	**-1.9**
PTLB	**Pontes e Lacer**	**10.71**	**57**	*e*P	Pn	22 48 32.5	-5.9
BDQN	**Bodoquena, MS**	**10.94**	**86**	*e*P	**Pn**	**22 48 39.3**	**-2.1**
VILB	**Vilhena**	**11.63**	**44**	*e*P	Pn	22 48 42.4	-8.3
SNDB	**Serra Nova Dou**	**18.95**	**62**	*e*P	**P**	**22 50 19.9**	**+0.6**
ITTB	**Itaituba**	**21.09**	**37**	*e*P	**P**	**22 50 41.5**	**-0.8**

IDC ***12*** *22:46:48.2±1.1, 6.04S×142.59E, h0km, mb3.8/4, mbtmp3.8/6, ML1.4/1, Error ellipse: s-maj=35.3km s-min=24.9km az=69.0*

ISC 12 22:46:49.5±1.0**, 6°2S**±0°.1×**142°5E**±0°.1**, h10**km**, n7,** σ1§**26**/8**, mb3.8/4, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.66**	**125**	Pn	**Pn**	**22 48 14.5**	**+0.8**
	0.7nm,0.3s,baz=278,slow=15,SNR=1.8						
PMG				Sn	**Sn**	**22 49 18.1**	**-0.6**
	0.6nm,0.3s,baz=241,slow=13,SNR=1.4						
	9.9nm,0.7s						
WRA	**Warramunga Arr**	**15.80**	**209**	Pn	**Pn**	**22 50 30.7**	**-1.5**
	0.3nm,0.3s,baz=28,slow=13,SNR=7.1						
WRA				Sn	Sn	22 53 14.4	-13
	0.1nm,0.3s,baz=55,slow=28,SNR=1.8						
WRA				Lg	Lg	22 55 12.1	
	baz=88,slow=32						
ASAR	**Alice Springs**	**19.24**	**204**	P	**Pn**	**22 51 16.4**	**+1.2**
	2.4nm,0.6s,baz=33,slow=11,SNR=19						
ASAR				S	Sn	22 54 40.1	-11
	0.4nm,0.4s,baz=17,slow=26,SNR=1.5						
ASAR				Lg	Lg	22 57 03.0	
	0.1nm,0.3s,baz=21,slow=32,SNR=1.5						
MKAR	**Makanchi Array**	**74.80**	**322**	P	**P**	**22 58 31.3**	**+1.2**
	0.5nm,0.7s,baz=103,slow=7.2,SNR=5.1						
	0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**78.70**	**324**	P	**P**	**22 58 52.5**	**+0.5**
	0.1nm,0.3s,baz=104,slow=4.1,SNR=3.2						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**84.28**	**325**	P	**P**	**22 59 21.1**	**-0.4**
	1.3nm,0.7s,baz=114,slow=6.6,SNR=8.5						
	1.3nm,0.7s						
ILAR	**Eielson Array**	**87.44**	**24**	P	**P**	**22 59 35.8**	**-1.1**
	0.5nm,0.7s,baz=251,slow=4.8,SNR=7.3						
	0.5nm,0.7s						

SOME ***12*** *22:55:03.8, 43.17N×78.42E, h15km*
NNC ***12*** *22:55:04.2±0.4, 43.20N×78.47E, h1km±3km, mpv2.7, Error ellipse: s-maj=2.2km s-min=1.5km az=37.0*

ISC 12 22:55:04.0±0.9**, 43°17N**±0°.04×**78°43E**±0°.03**, h14**km±7km**, n12,** σ0§**45**/24**, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SATY	**Saty**	**0.12**	**189**	P	**Pg**	**22 55 07.3**	**-0.2**
	23nm,0.1s						
SATY				S	**Sg**	**22 55 10.0**	**+0.1**
	584nm,0.1s						
SATY	**Saty**	**0.12**	**189**	*e*P	**Pg**	**22 55 07.3**	**-0.2**
	23nm,0.1s						
SATY				*e*S	**Sg**	**22 55 09.9**	**+0.1**
	584nm,0.1s						
KURS	**Kuram**	**0.37**	**329**	P	**Pg**	**22 55 11.4**	**-0.1**
	1.0nm,0.1s						
KURS				S	**Sg**	**22 55 16.7**	**+0.1**
	6.7nm,0.2s						
KURS	**Kuram**	**0.37**	**329**	*e*P	**Pg**	**22 55 11.4**	**-0.1**
	1.0nm,0.1s						
KURS				*e*S	**Sg**	**22 55 16.7**	**+0.1**
	6.7nm,0.2s						
UZB	**Uzynbulak**	**0.43**	**93**	P	**Pg**	**22 55 12.4**	**-0.3**
	2.7nm,0.1s						
UZB				S	**Sg**	**22 55 18.6**	**-0.1**
	44nm,0.1s						
UZB	**Uzynbulak**	**0.43**	**93**	*e*P	**Pg**	**22 55 12.4**	**-0.3**
	2.7nm,0.1s						
UZB				*e*S	**Sg**	**22 55 18.6**	**-0.1**
	44nm,0.1s						
PDGK	**Podgornoye**	**0.79**	**78**	P	**Pg**	**22 55 18.6**	**-0.7**
	0.5nm,0.2s						
PDGK				S	**Sg**	**22 55 29.4**	**-0.4**
	1.7nm,0.4s						
BLB	**Baldybastay**	**0.92**	**2**	P	**Pg**	**22 55 21.4**	**-0.6**
	8.3nm,0.2s						
BLB				S	**Sg**	**22 55 33.8**	**-0.2**
	4.6nm,0.3s						
KOTS	**Kotyrbulak**	**0.97**	**274**	*e*P	**Pg**	**22 55 21.9**	**-0.8**
	0.4nm,0.1s						
KOTS				*e*S	**Sg**	**22 55 34.8**	**-0.6**
	6.1nm,0.2s						
KNOS	**Konyrlen**	**1.30**	**24**	P	**Pn**	**22 55 28.2**	**+0.3**
	0.9nm,0.1s						
KNOS				S	**Sn**	**22 55 46.0**	**+0.7**
	2.8nm,0.2s						
KTBS	**Karatobe**	**1.38**	**294**	*e*P	**Pn**	**22 55 29.0**	**+0.1**
	0.2nm,0.1s						
KTBS				*e*S	**Sb**	**22 55 47.1**	**-0.1**
	1.5nm,0.2s						
KRBS	**Karabastau**	**2.07**	**286**	*e*P	**Pb**	**22 55 41.3**	**-0.1**
	0.1nm,0.1s						
KRBS				*e*S	**Sb**	**22 56 08.1**	**+1.0**
	1.4nm,0.1s						

MDD ***12*** *22:56:46.9±1.8, 37.13N×13.40W, h32km±95km, Mb4.0/4, M_mb3.3/4, Error ellipse: s-maj=47.3km s-min=11.1km az=63.0*
INMG ***12*** *22:56:47.1±0.8, 37.02N×13.63W, h10km, ML2.3, Error ellipse: s-maj=5.7km s-min=4.3km az=68.0*

ISC 12 22:56:47.4±4.1**, 37°3N**±0°.1×**13°1W**±0°.2**, h10**km**, n24,** σ1§**30**/36**, 4C, Azores-Cape St. Vincent Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.38**	**91**	*e*S	**Sn**	**22 58 20.2**	**-0.1**
PMAFR	**Mafra**	**3.41**	**59**	*e*P	**Pn**	**22 57 41.8**	**+1.1**
PMAFR				*e*S	**Sn**	**22 58 22.6**	**+1.4**
PMAFR				A	A	22 58 25.6	
	12nm,0.8s						
PTEO	**Sao Teotonio**	**3.46**	**84**	*e*S	**Sn**	**22 58 22.2**	**-0.1**
PTEO				A	A	22 58 23.3	
	8.0nm,0.6s						
PACT	**Alcochete**	**3.65**	**65**	*e*S	**Sn**	**22 58 29.1**	**+2.1**

TBG			*e*S		Sn	23 01 09.8 +1.8
SVN	**Savane Anatole**	**0.78**	**198**	*e*P	Pn	23 00 58.9 +1.9
SVN				*e*S	Sn	23 01 10.5 +1.5
CXM	**Morne La Croix**	**0.81**	**197**	*e*P	Pn	23 00 59.4 +1.9
CBE	**Ff, Capester**	**0.81**	**306**	*e*P	Pn	23 01 01.6 +4.3
CBE				*e*S	Sn	23 01 16.4 +6.8
ILAM	**Ilet Lapin Mar**	**0.81**	**177**	*e*P	Pn	23 00 59.0 +1.6
ILAM				*e*S	Sn	23 01 11.2 +1.8
FDF	**Fort de France**	**0.88**	**194**	*e*P	Pn	23 01 00.0 +1.8
ZAM	**Aeronautique**	**1.02**	**186**	*e*P	Pn	23 01 01.0 +1.2
ABD	**La Joyeuse, An**	**1.03**	**328**	*e*P	Pn	23 01 02.9 +2.9
ABD				*e*S	Sn	23 01 18.6 +4.4
BIM	**Bigot**	**1.08**	**188**	*e*P	Pn	23 01 02.3 +1.7
BIM				*e*S	Sn	23 01 17.4 +2.2
MPOM	**Morne Pois Mar**	**1.14**	**177**	*e*P	Pn	23 00 58.1 -3.3
MPOM				*e*S	Sn	23 01 10.3 -6.3
SLBI	**Saint Lucia, B**	**1.56**	**182**	*e*P	Pn	23 01 08.6 +1.8
SLBI				*e*S	Sn	23 01 28.0 +1.7
SLCP	**Castries, St.**	**1.57**	**182**	*e*P	Pn	23 01 08.0 +1.0
SLCP				*e*S	Sn	23 01 27.8 +1.1
ANBD	**Bethesda, Anti**	**1.66**	**331**	*e*P	Pn	23 01 08.7 +0.5
ANBD				*e*S	Sn	23 01 30.1 +1.4

IDC ***12*** *23:05:47.5±3.7, 6°.15S×146°.93E, h74km±35km, mb3.4/6, mbtmp3.7/8, ML3.5/1, MS3.3/1, Error ellipse: s-maj=36.4km s-min=25.4km az=80.0*

ISC 12 23:05:47.9±1.0, 6°.16S±0°.09×146°.9E±0°.3, h78km, n15, σ0883/10, mb3.6/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.23**	**175**	P	**Pn**	**23 06 36.3**	**-0.1**
	14nm,0.3s,baz=324,slow=8.0,SNR=9.9						
PMG				S	**Sn**	**23 07 14.4**	**+0.5**
	66nm,0.6s,baz=3.5,slow=19,SNR=7.6						
PMG				LR	LR	23 08 18.2	
	comp=Z,427nm,18.7s,baz=306,slow=46						
WRA	**Warramunga Arr**	**18.33**	**220**	P	**P**	**23 09 54.6**	**-1.6**
	0.2nm,0.3s,baz=45,slow=11,SNR=4.2						
	1.2nm,0.7s						
ASAR	**Alice Springs**	**21.41**	**214**	P	**P**	**23 10 29.9**	**+0.2**
	0.4nm,0.6s,baz=55,slow=8.8,SNR=7.7						
	0.4nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**31.34**	**38**	T	T	23 44 50.2	
	baz=220						
H11S2	**WAKE ISLAND Hy**	**31.35**	**38**	T	T	23 44 50.5	
	baz=220						
H11S1	**WAKE ISLAND Hy**	**31.36**	**38**	T	T	23 44 51.7	
	baz=220						
H11N1	**WAKE ISLAND Hy**	**32.40**	**37**	T	T	23 46 07.0	
	baz=218,slow=76,SNR=4.9						
H11N3	**WAKE ISLAND Hy**	**32.41**	**37**	T	T	23 46 09.6	
	baz=218,slow=76,SNR=8.8						
H11N2	**WAKE ISLAND Hy**	**32.41**	**37**	T	T	23 46 10.2	
	baz=218,slow=76,SNR=18						
CMAR	**Chiang Mai Arr**	**53.22**	**298**	P	**P**	**23 14 59.7**	**+0.9**
	1.7nm,0.3s,baz=124,slow=5.3,SNR=7.8						
	1.7nm,0.3s						
SONM	**Songino Array**	**64.48**	**331**	P	**P**	**23 16 16.8**	**+0.3**
	0.3nm,0.5s,baz=157,slow=7.8,SNR=2.1						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**77.54**	**321**	P	**P**	**23 17 34.7**	**-0.7**
	0.3nm,0.6s,baz=103,slow=9.5,SNR=3.8						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**83.81**	**180**	P	**P**	**23 18 08.8**	**+0.1**
	1.5nm,0.8s,baz=286,slow=3.5,SNR=7.6						
	1.5nm,0.8s						
ILAR	**Eielson Array**	**85.68**	**23**	P	**P**	**23 18 17.4**	**-0.5**
	0.6nm,0.6s,baz=250,slow=5.1,SNR=10.0						
	0.6nm,0.6s						
DBIC	**Dimbokro**	**151.90**	**273**	PKPbc	**PKiKP**	**23 25 36.1**	**+0.7**
	6.0nm,1.2s,baz=167,slow=3.6,SNR=3.5						

IDC ***12*** *23:13:45.9±0.8, 11°.07S×161°.99E, h0km, mb4.0/12, mbtmp4.0/13, ML3.5/1, MS3.6/20, Error ellipse: s-maj=27.9km s-min=19.8km az=96.0*
NEIC ***12*** *23:13:48.7±1.7, 11°.13S±0°.08×162°.1E±0°.1, h10km±1km, mb4.6/16, Error ellipse: s-maj=27.3km s-min=5.9km az=61.0*

ISC 12 23:13:50.9±0.6, 11°.18S±0°.07×162°.2E±0°.1, h36km, n47, σ1955/36, mb4.1/15, MS3.6/18, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.80**	**308**		**Pn**	**23 14 32.8**	**-0.5**
KOUNC	**Koumac, New Ca**	**9.53**	**168**	Pn	**Pn**	**23 16 07.2**	**+1.5**
DZM	**Mont Dzumac**	**11.57**	**160**	Pn	**Pn**	**23 16 35.1**	**+1.4**
DZM	**Mont Dzumac**	**11.57**	**160**	Pn	**Pn**	**23 16 34.5**	**+0.8**
	0.3nm,0.3s,baz=50,slow=9.6,SNR=6.8						
DZM				Sn	**Sn**	**23 18 35.7**	**-6.0**
	0.1nm,0.3s,baz=73,slow=22,SNR=1.6						
DZM				LR	LR	23 20 20.5	
	comp=Z,232nm,18.5s,baz=16,slow=34						
	2.7nm,0.6s						
ONTNC	**Ouen Toro**	**11.79**	**160**	Pn	**Pn**	**23 16 38.1**	**+1.5**
PMG	**Port Moresby**	**14.89**	**275**	LR	LR	23 22 45.3	
	comp=Z,713nm,20.7s,baz=106,slow=37						
EIDS	**Eidsvold**	**17.60**	**215**		**Pn**	**23 17 53.6**	**+0.2**
EIDS				IAmb	IAmb	23 17 58.8	
	comp=Z,22nm,1.2s						
CTAO	**Charters Tower**	**17.70**	**238**	P	**P**	**23 17 55.7**	**+0.4**
CTAO				IAmb	IAmb	23 18 00.6	
	comp=Z,45nm,1.1s						
PATS	**Pohnpei**	**18.31**	**348**	P	**P**	**23 18 01.1**	**-1.0**
PATS				IAmb	IAmb	23 18 26.1	
	comp=Z,113nm,1.5s						
COEN	**Coen**	**18.76**	**260**	P	**Pn**	**23 18 07.6**	**-0.1**
COEN				IAmb	IAmb	23 18 17.3	
	comp=Z,48nm,1.4s						
ARMA	**Armidale**	**21.51**	**206**	P	**P**	**23 18 38.8**	**+1.9**
ARMA				IAmb	IAmb	23 18 48.4	
	comp=Z,25nm,1.2s						
RAO	**Raoul Island**	**25.85**	**137**	LR	LR	23 28 50.0	
	comp=Z,62nm,18.7s,baz=60,slow=35						
STKA	**Stephens Creek**	**28.02**	**220**	P	**P**	**23 19 39.5**	**+0.8**
STKA	**Stephens Creek**	**28.02**	**220**	P	**P**	**23 19 38.0**	**-0.7**
	comp=Z,2.8nm,0.7s,baz=16,slow=8.1,SNR=4.3						
STKA				LR	LR	23 29 29.7	
	comp=Z,274nm,21.8s,baz=28,slow=34						
	comp=Z,2.8nm,0.7s						
WB0	**Warramunga Arr**	**28.07**	**249**	P	**P**	**23 19 38.9**	**-0.5**
WB0				IAmb	IAmb	23 19 54.6	
	comp=Z,25nm,1.5s						
WRA	**Warramunga Arr**	**28.17**	**249**	P	**P**	**23 19 40.3**	**+0.1**
WRA	**Warramunga Arr**	**28.17**	**249**	P	**P**	**23 19 38.9**	**-1.3**
	comp=Z,3.2nm,1.0s,baz=76,slow=9.2,SNR=5.1						
WRA				LR	LR	23 31 05.1	
	comp=Z,339nm,18.1s,baz=34,slow=37						
	comp=Z,3.2nm,1.0s						
AS31	**Alice Springs**	**29.63**	**241**	P	**P**	**23 19 51.6**	**-1.6**
ASAR	**Alice Springs**	**29.63**	**241**	P	**P**	**23 19 53.2**	**+0.1**
ASAR	**Alice Springs**	**29.63**	**241**	P	**P**	**23 19 52.3**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=76,slow=9.4,SNR=20						
ASAR				LR	LR	23 31 05.5	
	comp=Z,201nm,18.7s,baz=70,slow=35						
	comp=Z,3.0nm,0.8s						
GUMO	**Guam**	**30.01**	**325**	LR	LR	23 30 53.5	
	comp=Z,49nm,21.3s,baz=150,slow=34						
NNZ	**Nelson**	**31.50**	**164**	P	**P**	**23 20 08.5**	**-0.8**
BBOO	**Buckleboo**	**32.24**	**224**	P	**P**	**23 20 15.8**	**-0.3**
BBOO				IAmb	IAmb	23 20 16.9	
	comp=Z,36nm,1.4s						
FORT	**Forrest**	**37.13**	**233**	P	**P**	**23 20 57.8**	**-0.5**
DAV	**Davao City (W)**	**40.69**	**295**	LR	LR	23 39 03.4	
	comp=Z,33nm,18.2s,baz=24,slow=38						
MORW	**Morawa**	**46.50**	**240**	P	**P**	**23 22 14.9**	**-0.1**
NWAO	**Narrogin (SRO)**	**46.51**	**235**	LR	LR	23 41 30.1	
	comp=Z,157nm,21.3s,baz=246,slow=36						
TGY	**Tagaytay City**	**47.99**	**301**	LR	LR	23 42 02.0	
	comp=Z,54nm,22.0s,baz=290,slow=36						
YOJ	**Yonaguni jima**	**52.13**	**313**	P	**P**	**23 22 57.7**	**-0.2**
JNU	**Nakatsue**	**53.22**	**327**	LR	LR	23 42 32.8	
	comp=Z,28nm,21.7s,baz=106,slow=33						
LEM	**Lembang**	**54.01**	**270**	LR	LR	23 47 22.7	
	comp=Z,68nm,19.7s,baz=178,slow=38						
ASAJ	**Asahikawa**	**57.84**	**343**	LR	LR	23 46 44.6	
	comp=Z,24nm,21.2s,baz=188,slow=34						
KSRS	**Korea Array**	**58.08**	**328**	P	**P**	**23 23 41.2**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=150,slow=7.8,SNR=1.6						
	comp=Z,0.3nm,0.4s						
SHEM	**Shemya Is, Ala**	**64.47**	**8**	LR	LR	23 48 31.9	
	comp=Z,36nm,20.7s,baz=111,slow=32						

VNDA	**Vanda**	**66.33**	**180**	P	**P**	**23 24 36.6**	**+1.3**
	comp=Z,1.6nm,0.9s,baz=343,slow=7.6,SNR=4.9						
VNDA				LR	LR	23 51 19.9	
	comp=Z,32nm,18.1s,baz=31,slow=34						
	comp=Z,1.6nm,0.9s						
CMAR	**Chiang Mai Arr**	**68.98**	**295**	P	**P**	**23 24 52.0**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=100,slow=3.7,SNR=1.9						
CMAR				LR	LR	23 54 57.5	
	comp=Z,14nm,19.7s,baz=185,slow=36						
	comp=Z,0.6nm,0.3s						
SONM	**Songino Array**	**76.74**	**325**	P	**P**	**23 25 38.6**	**0.0**
SONM	**Songino Array**	**76.74**	**325**	P	**P**	**23 25 37.6**	**-1.1**
	comp=Z,0.3nm,0.4s,baz=152,slow=5.9,SNR=4.0						
SONM				LR	LR	23 57 20.5	
	comp=Z,27nm,20.6s,baz=92,slow=34						
	comp=Z,0.3nm,0.4s						
QSPA	**South Pole Qui**	**78.82**	**180**	P	**P**	**23 25 53.2**	**+3.1**
QSPA				IAmb	IAmb	23 25 58.6	
	comp=Z,8.3nm,1.2s						
QSPA	**South Pole Qui**	**78.82**	**180**	P	**P**	**23 25 51.8**	**+1.8**
	comp=Z,3.4nm,1.0s,baz=349,slow=3.5,SNR=5.6						
	comp=Z,3.4nm,1.0s						
MAW	**Mawson**	**83.28**	**202**	P	**P**	**23 26 14.8**	**+1.3**
	comp=Z,3.5nm,1.0s,baz=83,slow=8.1,SNR=4.8						
MAW				LR	LR	00 01 27.7	
	comp=Z,28nm,18.1s,baz=128,slow=34						
	comp=Z,3.5nm,1.0s						
ILAR	**Eielson Array**	**84.78**	**20**	P	**P**	**23 26 22.4**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=241,slow=5.3,SNR=4.9						
	comp=Z,0.2nm,0.4s						
NVAR	**Mina Array Bea**	**88.80**	**51**	P	**P**	**23 26 41.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=236,slow=6.0,SNR=4.9						
	comp=Z,0.8nm,0.6s						
MKAR	**Makanchi Array**	**91.24**	**317**	P	**P**	**23 26 50.8**	**-1.8**
	comp=Z,0.3nm,0.6s,baz=92,slow=5.6,SNR=4.5						
	comp=Z,0.3nm,0.6s						
ANMO	**Albuquerque**	**97.41**	**56**	LR	LR	00 07 40.3	
	comp=Z,45nm,18.1s,baz=17,slow=33						
TXAR	**Lajitas Array**	**98.97**	**62**	LR	LR	00 02 49.2	
	comp=Z,34nm,20.1s,baz=261,slow=30						
KEST	**Kesra**	**145.32**	**319**	PKPbc	**PKPbc**	**23 33 24.8**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=348,slow=2.1,SNR=4.5						

CATAC ***12*** *23:33:18.4±0.4, 13°.25N×88°.07W, h4km±3km, ML2.7*
SNET ***12*** *23:33:18.4±0.6, 13°.27N×88°.06W, h6km±8km, ML2.9*

ISC 12 23:33:18.4±1.0, 13°.25N±0°.05×88°.06W±0°.03, h12km±6km, n23, σ0946/33, 5C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.06**	**173**	↓*e*P	**Pg**	**23 33 20.4**	**-0.4**
INTP				*e*S	**Sg**	**23 33 22.0**	**-0.5**
LCND	**La Caada**	**0.18**	**71**	↑*i*P	**Pg**	**23 33 22.3**	**-0.1**
LCND				*e*S	**Sg**	**23 33 25.2**	**0.0**
LCND	**La Caada**	**0.18**	**71**	*i*P	**Pg**	**23 33 22.2**	**-0.2**
LCND				*i*S	**Sg**	**23 33 25.2**	**0.0**
LCND				IAML		23 33 26.8	
	comp=Z,4μm,1.0s						
CNCH	**Conchagua**	**0.22**	**84**	*e*P	**Pg**	**23 33 23.3**	**+0.1**
CNCH				*e*S	**Sg**	**23 33 27.1**	**+0.5**
CNCH	**Conchagua**	**0.22**	**84**	*i*P	**Pg**	**23 33 23.2**	**0.0**
CNCH				*i*S	**Sg**	**23 33 27.0**	**+0.5**
CNCH				IAML		23 33 29.9	
	comp=Z,5μm,1.0s						
CNRM	**Centro Naciona**	**0.24**	**334**	*i*P	**Pg**	**23 33 23.1**	**-0.5**
CNRM				*i*S	**Sg**	**23 33 27.8**	**+0.7**
CNRM				IAML		23 33 33.9	
	comp=Z,4μm,1.0s						
BLLM	**Bellamira**	**0.26**	**318**	↑*i*P	**Pg**	**23 33 23.8**	**0.0**
VSM	**San Miguel**	**0.27**	**310**	*e*P	**Pg**	**23 33 24.6**	**+0.4**
LCY	**Lacayo**	**0.28**	**307**	↑*e*P	**Pg**	**23 33 24.4**	**+0.1**
RANC	**El Ranchito**	**0.28**	**309**	↑*i*P	**Pg**	**23 33 24.5**	**+0.1**
RANC	**El Ranchito**	**0.28**	**309**	*i*P	**Pg**	**23 33 24.4**	**+0.1**
RANC				*i*S	**Sg**	**23 33 29.0**	**+0.6**
RANC				IAML		23 33 37.5	
	comp=Z,660nm,1.0s						
PACA	**Pacayal**	**0.33**	**310**	*e*P	**Pg**	**23 33 25.2**	**0.0**
PACA	**Pacayal**	**0.33**	**310**	*i*P	**Pg**	**23 33 25.4**	**+0.2**
PACA				IAML		23 33 43.9	
	comp=Z,3μm,1.0s						
AMPH	**Amapala**	**0.39**	**85**	*e*P	**Pg**	**23 33 26.3**	**0.0**
AMPH				*e*S	**Sg**	**23 33 32.3**	**+0.7**
TECA	**Tecapa**	**0.49**	**299**	*e*P	**Pg**	**23 33 28.2**	**+0.1**
COEB	**Comit de Eme**	**0.52**	**298**	IAML		23 33 23.8	
	comp=Z,230nm,1.0s						
COEB				*i*P	**Pg**	**23 33 28.4**	**-0.2**
COEB				*i*S	**Sg**	**23 33 35.8**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.79**	**305**	*i*P	**Pg**	**23 33 33.2**	**-0.5**
SCLA				IAML		23 33 33.7	
	comp=Z,59nm,1.0s						
COEG	**Centro de Oper**	**0.88**	**295**	*i*P	**Pg**	**23 33 34.9**	**-0.5**
COEG				*i*S	**Sg**	**23 33 47.0**	**+0.2**
COEG				IAML		23 33 50.0	
	comp=Z,150nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.11**	**44**	↑*i*P	**Pg**	**23 33 38.4**	**-1.4**
CRIN	**San Cristobal**	**1.13**	**119**	*i*P	**Pg**	**23 33 40.1**	**0.0**
CRIN				IAML		23 34 02.5	
	comp=Z,370nm,1.0s						
LOMA	**Loma Larga**	**1.15**	**290**	*i*P	**Pg**	**23 33 39.7**	**-0.8**
LOMA				IAML		23 33 57.5	
	comp=Z,210nm,1.0s						
QUEN	**Al S del Volca**	**1.35**	**119**	*i*P	**Pn**	**23 33 43.4**	**+0.3**
QUEN				IAML		23 34 03.1	
	comp=Z,69nm,1.0s						
NUBE	**Las Nubes**	**1.79**	**291**	*i*P	**Pb**	**23 33 51.0**	**-0.2**
NUBE				IAML		23 34 16.4	
	comp=Z,50nm,1.0s						

NEIC ***12*** *23:36:30.3±1.3, 19°.399N±0°.010×155°.271W±0°.009, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.8km az=199.0*

HVO 12 23:36:29.8±1.1, 19°.40N±0°.01×155°.272W±0°.009, h0km±2km, ML3.5/13, ML2.6/40(NEIC), Error ellipse: s-maj=1.8km s-min=0.8km az=210.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.00**	**211**	Pg	Pg	23 36 30.2	+0.3
KKO	**Keanakako`i**	**0.01**	**94**	Pg	Pg	23 36 30.4	+0.4
NPH	**North Pit**	**0.02**	**329**		Pg	23 36 30.4	+0.3
BYL	**Byron's Ledge**	**0.02**	**40**	Pg	Pg	23 36 30.7	+0.5
BYL				Sg	Sg	23 36 31.5	+1.1
OBL	**Observatory Le**	**0.02**	**330**	IAML		23 36 30.6	
	comp=N,22μm,0.8s						
OBL					Pg	23 36 30.8	+0.6
OBL				IAML		23 36 30.9	
	comp=E,23μm,0.6s						
SDHHI	**Sand Hill**	**0.02**	**247**		Pg	23 36 30.7	+0.5
SDHHI				IAML		23 36 30.7	
	comp=E,17μm,0.7s						
HATHI	**Halema'uma'u T**	**0.03**	**23**		Pg	23 36 30.7	+0.4
UWB	**Uwekahuna B**	**0.03**	**348**		Pg	23 36 30.9	+0.5
UWB				IAML		23 36 30.9	
	comp=N,12μm,0.6s						
UWB				Sg	Sg	23 36 32.0	+1.3
WRMHI	**West Rim**	**0.03**	**287**	IAML		23 36 30.6	
	comp=N,15μm,1.3s						
WRMHI					Pg	23 36 30.8	+0.5
WRMHI				IAML		23 36 30.9	
	comp=E,13μm,0.5s						
SBLHI	**Steaming Bluff**	**0.03**	**8**	IAML		23 36 30.8	
	comp=E,11μm,1.0s						
SBLHI					Pg	23 36 30.9	+0.5
UWE	**Uwekahuna**	**0.03**	**319**		Pg	23 36 31.0	+0.6
UWE				IAML		23 36 31.4	
	comp=E,11μm,0.5s						
PUH	**Pauahi**	**0.06**	**114**	Pg	Pg	23 36 31.8	+0.9
PUH				Sg	Sg	23 36 33.3	+1.6
RSD	**Rainshed**	**0.07**	**355**		Pg	23 36 32.0	+0.9
RSD				Sg	Sg	23 36 33.0	+1.1
KNHH	**Kane Nui o Ham**	**0.10**	**101**		Pg	23 36 33.0	+1.4
HLP	**Hilina Pali**	**0.11**	**198**		Pg	23 36 32.8	+0.9
HLP				IAML		23 36 33.2	
	comp=N,3μm,1.1s						
HLP				IAML		23 36 34.3	
	comp=E,3μm,1.1s						
STCH	**Steam Cracks**	**0.14**	**95**	Pg	Pg	23 36 33.4	+0.9
STCH				IAML		23 36 36.1	
	comp=E,2μm,0.5s						
STCH				IAML		23 36 36.5	
	comp=N,3μm,0.4s						
MLH	**Mauna Loa**	**0.14**	**312**		Pg	23 36 33.5	+0.9
MLH				IAML		23 36 36.4	
	comp=N,2μm,0.9s						
NPOC	**North of Pu'u**	**0.15**	**92**	Pg	Pg	23 36 33.5	+0.7
NPOC				IAML		23 36 36.6	
	comp=E,2μm,0.6s						
JCUZ	**Jacuzzi**	**0.16**	**95**	Pg	Pg	23 36 33.6	+0.7
JCUZ				IAML		23 36 37.2	
	comp=E,2μm,0.3s						
JCUZ				IAML		23 36 38.4	
	comp=N,2μm,0.9s						
HTC	**Hot Caves**	**0.20**	**217**		Pg	23 36 34.8	+1.2
JOKA	**Jonika Flow**	**0.26**	**82**		Pg	23 36 35.3	+0.6
HMH	**Humu'ula Sheep**	**0.28**	**316**		Pg	23 36 36.0	+0.8
HMH				IAML		23 36 39.5	
	comp=E,771nm,1.5s						
HMH					Sg	23 36 40.1	+1.1
HMH				IAML		23 36 43.8	
	comp=N,1μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.32**	**296**	Pg	Pg	23 36 36.8	+1.0
MLOA				IAML		23 36 44.6	
	comp=E,833nm,1.0s						
MWH	**Moku'aweowe**	**0.32**	**286**		Pg	23 36 36.9	+1.0
KHU	**Kahuku**	**0.36**	**245**		Pg	23 36 37.0	+0.4
KHU				IAML		23 36 47.2	
	comp=N,875nm,1.6s						
ALEP	**Alea Permanent**	**0.38**	**292**		Pg	23 36 37.8	+0.8
POHA	**Pohakuloa**	**0.43**	**326**	Pg	Pg	23 36 38.5	+0.4
HUH	**Hualalai**	**0.60**	**298**	Pg	Pg	23 36 42.1	+0.8
HPAH	**Hawaii Prepara**	**0.75**	**328**	Pg	Pg	23 36 43.6	-0.5

SDD ***13*** *00:00:51.9±1.1, 19°.04N×65°.00W, h63km±101km, MD3.7, ML3.2, MW3.4*
NEIC ***13*** *00:00:52.9±0.9, 18°.76N±0°.07×65°.23W±0°.06, h10km±2km, ML3.1/28, Md3.4/14(RSPR), Error ellipse: s-maj=11.5km s-min=9.5km az=15.0*
OSPL ***13*** *00:00:53.7±1.6, 18°.78N×65°.23W, h0km±219km, ML3.0*
RSPR ***13*** *00:00:53.7, 18°.95N×65°.14W, h10km±4km, MD3.4/14*

ISC 13 00:00:49.1±1.7, 18°.95N±0°.08×65°.11W±0°.04, h13km±10km, n56, σ1923/79, 11C-9D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.06**	**221**	↓*e*P	**Pg**	**00 01 10.9**	**+1.3**
HUMP	**Col San Antoni**	**1.06**	**221**	*e*S	**Sn**	**00 01 25.1**	**+0.6**
HUMP	**Col San Antoni**	**1.06**	**221**		**Pg**	**00 01 10.9**	**+1.3**
HUMP					**Sn**	**00 01 24.9**	**+0.5**
HUMP				IAML		00 01 26.0	
	comp=N,601nm,0.2s						
HUMP				IAML		00 01 27.7	
	comp=E,640nm,0.2s						
GCPR	**Guaynabo City**	**1.12**	**236**	↓*i*P	**Pg**	**00 01 11.3**	**+0.7**
GCPR	**Guaynabo City**	**1.12**	**236**	*e*S	**Sb**	**00 01 23.2**	**-1.5**
GCPR	**Guaynabo City**	**1.12**	**236**		**Pg**	**00 01 11.3**	**+0.7**
GCPR					**Sb**	**00 01 23.1**	**-1.7**
IGPR	**InterUniversit**	**1.36**	**224**	↑*e*P	**Pg**	**00 01 15.1**	**-0.1**
IGPR	**InterUniversit**	**1.36**	**224**	*e*S	**Sg**	**00 01 32.7**	**-0.2**
IGPR	**InterUniversit**	**1.36**	**224**		**Pg**	**00 01 15.0**	**-0.2**
IGPR					**Sn**	**00 01 29.9**	**-1.8**
IGPR				IAML		00 01 36.0	
	comp=N,661nm,0.2s						
EMPR	**Esperanza - Ma**	**1.42**	**251**	↑*i*P	**Pg**	**00 01 16.3**	**-0.1**
EMPR	**Esperanza - Ma**	**1.42**	**251**	*e*S	**Sg**	**00 01 33.9**	**-1.0**
EMPR	**Esperanza - Ma**	**1.42**	**251**		**Pg**	**00 01 16.4**	**-0.1**
EMPR					**Sb**	**00 01 33.4**	**-0.1**
EMPR				IAML		00 01 37.4	
	comp=E,358nm,0.5s						
EMPR				IAML		00 01 44.2	
	comp=N,316nm,0.8s						
CELP	**Cerrillos**	**1.64**	**238**	↑*i*P	**Pb**	**00 01 19.3**	**+0.1**
CELP	**Cerrillos**	**1.64**	**238**	*e*S	**Sb**	**00 01 39.2**	**-0.6**
CELP	**Cerrillos**	**1.64**	**238**		**Pb**	**00 01 19.3**	**+0.1**
CELP					**Sn**	**00 01 37.9**	**-0.7**
CELP				IAML		00 01 44.3	
	comp=N,193nm,0.4s						
CELP	**Cerrillos**	**1.64**	**238**	↓*e*Pg	**Pb**	**00 01 19.2**	**+0.1**
CELP				↑*e*Sg	**Sb**	**00 01 39.6**	**-0.2**
CELP				IAML		00 01 44.1	
	comp=N,188nm,0.4s						
AOPR	**Arecibo Observ**	**1.67**	**249**	↓*e*P	**Pb**	**00 01 19.4**	**-0.3**
AOPR	**Arecibo Observ**	**1.67**	**249**		**Pb**	**00 01 19.4**	**-0.3**
AOPR				IAML		00 01 43.7	
	comp=N,434nm,0.3s						
AOPR	**Arecibo Observ**	**1.67**	**249**	↓*e*Pg	**Pb**	**00 01 19.4**	**-0.3**
AOPR				↑*e*Sg	**Sg**	**00 01 41.2**	**-1.5**
AOPR				IAML		00 01 43.6	
	comp=N,410nm,0.3s						
AOPR	**Arecibo Observ**	**1.67**	**249**	*e*P	**Pb**	**00 01 19.4**	**-0.3**
AOPR				*e*S	**Sb**	**00 01 40.2**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.67**	**246**	↑*e*P	**Pb**	**00 01 19.4**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.67**	**246**	*e*S	**Sb**	**00 01 40.0**	**-0.9**
UUPR	**Utuado, UPR, P**	**1.67**	**246**		**Pb**	**00 01 19.4**	**-0.4**
UUPR					**Sb**	**00 01 39.5**	**-1.3**
OBIP	**Obispado Ponce**	**1.68**	**238**	↑*i*P	**Pb**	**00 01 19.9**	**0.0**
OBIP	**Obispado Ponce**	**1.68**	**238**	*e*S	**Sb**	**00 01 39.7**	**-1.2**
OBIP	**Obispado Ponce**	**1.68**	**238**		**Pb**	**00 01 19.8**	**0.0**
OBIP					**Sn**	**

CBE	**Ff, Capester**	**4.40**	**130**		**Pn**	**00 01 58.6**	**+2.8**
SDDR	**Presa de Saban**	**5.84**	**271**	Pn	**Pn**	**00 02 18.2**	**+2.7**
SDDR	**Presa de Saban**	**5.84**	**271**	*i* P	**Pn**	**00 02 19.1**	**+3.5**
SDDR				IAML		00 03 26.8	
	comp=Z,19nm,3.1s						

NEIC ***13*** *00:06:53.8±0.7, 19°32N±0′.01×155°19W±0′.01,* **h1** *km±6km,*
Md2.4*/10,****ML2.7****/26(NEIC),* **Error ellipse: s-maj=2.1km**
s-min=1.0km az=146.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**332**		Pg	00 06 55.4	+0.9
PUH				Sg	Sg	00 06 56.6	+1.2
KNHH	**Kane Nui o Ham**	**0.06**	**16**		Pg	00 06 55.4	+0.8
STCH	**Steam Cracks**	**0.09**	**43**		Pg	00 06 55.6	+0.6
STCH				IAML		00 06 57.6	
	comp=E,2μm,0.1s						
JCUZ	**Jacuzzi**	**0.10**	**53**		Pg	00 06 55.9	+0.6
JCUZ				Sg	Sg	00 06 57.7	+1.0
JCUZ				IAML		00 06 58.3	
	comp=E,2μm,0.8s						
NPOC	**North of Pu'u**	**0.10**	**46**		Pg	00 06 55.9	+0.6
NPOC				Sg	Sg	00 06 57.8	+1.2
HLP	**Hilina Pali**	**0.12**	**257**	IAML		00 06 56.1	
	comp=N,3μm,1.0s						
HLP					Pg	00 06 56.5	+0.9
HLP					Sg	00 06 58.9	+1.8
HLP				IAML		00 06 59.2	
	comp=E,3μm,0.9s						
HTC	**Hot Caves**	**0.22**	**247**		Pg	00 06 58.5	+1.0
MLH	**Mauna Loa**	**0.25**	**312**	Pg	Pg	00 06 58.7	+0.5
MLH				IAML		00 07 06.1	
	comp=E,1μm,0.9s						
HMH	**Humu'ula Sheep**	**0.40**	**315**		Pg	00 07 01.4	+0.5
HMH					Sg	00 07 07.4	+1.3
HMH				IAML		00 07 09.9	
	comp=N,933nm,1.3s						
HMH				IAML		00 07 10.2	
	comp=E,904nm,1.3s						
KHU	**Kahuku**	**0.41**	**260**		Pg	00 07 01.6	+0.4
KHU				IAML		00 07 12.4	
	comp=N,1μm,1.3s						
KHU				IAML		00 07 14.5	
	comp=E,704nm,1.0s						
MWH	**Moku'aweowe**	**0.42**	**293**		Pg	00 07 01.8	+0.4
MLOA	**Mauna Loa Obse**	**0.42**	**300**		Pg	00 07 02.0	+0.6
MLOA					Sg	00 07 08.6	+1.6
POHA	**Pohakuloa**	**0.54**	**323**	Pg	Pg	00 07 03.6	-0.1
POHA				IAML		00 07 11.3	
	comp=E,738nm,0.8s						
HUH	**Hualalai**	**0.71**	**301**	Pg	Pg	00 07 06.2	-0.7
HUH				IAML		00 07 17.4	
	comp=E,514nm,1.1s						
HUH				IAML		00 07 31.1	
	comp=N,531nm,0.9s						

TAP ***13*** *00:09:18.5, 23°57N×121°54E, h32km, ML3.3, C*
JMA ***13*** *00:09:18.0±0.1, 23°6N±0°.6×12°2E±°, h36km±2km,*
MV2.9/13, TAIWAN REGION
ISC 13 00:09:18.6±0.9,**23°58N**±0′.02×**121°55E**±0′.02,**h31**km±5km,
n86, σ0**°88**/137,**2C-8D, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HGSD	**Ruisui**	**0.14**	**235**	*i* P	**Pb**	**00 09 24.7**	**+0.4**
	baz=237						
HGSD				*i* S	**Sb**	**00 09 29.6**	**+1.3**
	baz=237						
WARBT	**Fenglin Townsh**	**0.21**	**314**	⇓*i* P	**Pb**	**00 09 24.8**	**-0.3**
	baz=310						
WARBT				*i* S	**Sb**	**00 09 29.1**	**-0.4**
	baz=310						
EHY	**Hungye**	**0.22**	**252**	*i* P	**Pb**	**00 09 25.0**	**-0.2**
	baz=261						
EHY				*i* S	**Sb**	**00 09 29.3**	**-0.4**
	baz=261						
ESL	**Shilin**	**0.26**	**336**	⇓*i* P	**Pn**	**00 09 25.4**	**-0.9**
	baz=334						
ESL				*i* S	**Sb**	**00 09 30.4**	**-0.1**
	baz=334						
ECBN	**Changbin**	**0.27**	**199**	P	**Pb**	**00 09 26.1**	**+0.3**
	baz=193						
ECBN				*i* S	**Sb**	**00 09 32.1**	**+1.4**
	baz=193						
TEYL	**Yanliau Villag**	**0.29**	**9**	⇓*i* P	**Pn**	**00 09 26.9**	**+0.2**
	baz=17						
TEYL				S	**Sb**	**00 09 33.6**	**+2.4**
	baz=17						
YULB	**Yu-li**	**0.29**	**232**	P	**Pb**	**00 09 26.0**	**-0.1**
YULB	**Yu-li**	**0.29**	**232**	⇑*i* P	**Pn**	**00 09 25.8**	**-1.0**
	baz=243						
YULB				*i* S	**Sb**	**00 09 30.7**	**-0.5**
	baz=243						
TWF1	**Yuli**	**0.32**	**226**	⇑*i* P	**Pb**	**00 09 26.1**	**-0.3**
	baz=236						
TWF1				*i* S	**Sb**	**00 09 31.4**	**-0.4**
	baz=236						
ETM	**Tongmen**	**0.39**	**352**	P	**Pb**	**00 09 27.1**	**-0.3**
	baz=346						
ETM				S	**Sb**	**00 09 33.0**	**-0.5**
	baz=346						
HWA	**Hwalien**	**0.40**	**7**	P	**Pn**	**00 09 28.2**	**0.0**
	baz=16						
HWA				S	**Sn**	**00 09 36.2**	**+1.4**
	baz=16						
VWDT	**VWDT**	**0.41**	**296**	⇓*i* P	**Pn**	**00 09 28.0**	**-0.4**
	baz=296						
VWDT				S	**Sn**	**00 09 34.0**	**-1.0**
	baz=296						
FULB	**Fuli**	**0.44**	**212**	P	**Pn**	**00 09 28.4**	**-0.4**
	baz=226						
FULB				*i* S	**Sn**	**00 09 37.1**	**+1.3**
	baz=226						
LXIB	**Xiulin Townshi**	**0.46**	**344**	⇓*i* P	**Pb**	**00 09 28.0**	**-0.6**
	baz=341						
LXIB				*i* S	**Sb**	**00 09 34.5**	**-1.0**
	baz=341						
CHKT	**Chengkung**	**0.50**	**200**	*i* P	**Pn**	**00 09 28.9**	**-0.7**
	baz=185						
CHKT				S	**Sb**	**00 09 36.0**	**-0.3**
	baz=185						
TWD	**Chiawan**	**0.51**	**5**	*i* P	**Pb**	**00 09 28.9**	**-0.2**
	baz=354						
TWD				*i* S	**Sn**	**00 09 37.9**	**+0.6**
	baz=354						
ECS	**Chishang**	**0.57**	**213**	P	**Pn**	**00 09 29.5**	**-1.0**
	baz=224						
ECS				S	**Sn**	**00 09 38.3**	**-0.5**
	baz=224						
WUSB	**Renai**	**0.57**	**316**	⇓*i* P	**Pb**	**00 09 30.2**	**-0.2**
	baz=317						
WUSB				*i* S	**Sn**	**00 09 38.3**	**-0.9**
	baz=317						
ETL	**Fush Village**	**0.59**	**7**	*e*P	**Pn**	**00 09 29.7**	**-1.1**
	baz=356						
ETL				*e*S	**Sb**	**00 09 38.2**	**-0.5**
	baz=356						
SSLB	**Suanglung**	**0.59**	**291**	P	**Pn**	**00 09 30.0**	**-0.8**
SSLB	**Suanglung**	**0.59**	**291**	*i* P	**Pn**	**00 09 30.0**	**-0.8**
	baz=292						
SSLB				S	**Sn**	**00 09 38.4**	**-0.9**
	baz=292						
CHGB	**Renai**	**0.59**	**325**	⇓*i* P	**Pb**	**00 09 30.6**	**-0.1**
	baz=332						
CHGB				S	**Sb**	**00 09 38.2**	**-0.9**
	baz=332						
NACB	**Ninganchiao**	**0.60**	**4**	P	**Pn**	**00 09 29.8**	**-1.1**
NACB	**Ninganchiao**	**0.60**	**4**	P	**Pn**	**00 09 29.8**	**-1.1**
	baz=355						
NACB				*e*S	**Sb**	**00 09 39.9**	**+0.9**
	baz=355						
ELDTW	**Lidau**	**0.62**	**232**	*i* P	**Pn**	**00 09 30.1**	**-1.3**
	baz=232						
WHF	**Hehuan Shan**	**0.62**	**335**	P	**Pn**	**00 09 30.8**	**-0.9**
	baz=336						
WHF				S	**Sb**	**00 09 39.6**	**-0.6**
	baz=336						
SMLT	**Sun Moon Lake**	**0.67**	**297**	*i* P	**Pb**	**00 09 31.7**	**-0.2**
	baz=300						
SMLT				*i* S	**Sb**	**00 09 41.6**	**+0.5**
	baz=300						
ALS	**Alishan**	**0.69**	**265**	*i* P	**Pb**	**00 09 32.5**	**+0.2**
	baz=272						
ALS				*i* S	**Sb**	**00 09 42.1**	**+0.4**
	baz=272						
TYC	**Yuchr**	**0.71**	**297**	*i* P	**Pb**	**00 09 32.6**	**+0.1**
	baz=298						
TYC				*i* S	**Sb**	**00 09 42.7**	**+0.6**
	baz=298						
TWT	**Tachien**	**0.76**	**333**	*i* P	**Pb**	**00 09 33.5**	**0.0**
	baz=332						
TWT				*i* S	**Sn**	**00 09 43.1**	**-0.7**
	baz=332						
TDCB	**Techi**	**0.77**	**332**	⇓*i* P	**Pb**	**00 09 33.4**	**-0.1**
	baz=332						
TDCB				*i* S	**Sn**	**00 09 43.0**	**-1.0**
	baz=332						
WNT	**Mingjian**	**0.85**	**291**	P	**Pb**	**00 09 35.3**	**+0.5**
	baz=291						
WNT				S	**Sb**	**00 09 47.7**	**+1.8**
	baz=291						
NNSB	**Datong**	**0.86**	**350**	P	**Pn**	**00 09 34.0**	**-0.7**
	baz=358						
NNSB				S	**Sn**	**00 09 45.2**	**-1.2**
	baz=358						
ENA	**Nanau**	**0.87**	**12**	*e*P	**Pn**	**00 09 34.0**	**-0.7**
	baz=359						
TWGBT	**Beinan**	**0.87**	**210**	P	**Pb**	**00 09 35.8**	**+0.6**
TWGBT	**Beinan**	**0.87**	**210**	*e*P	**Pn**	**00 09 32.3**	**-2.3**
	baz=199						
TWG	**Pinlang**	**0.87**	**210**	*e*P	**Pn**	**00 09 32.8**	**-1.9**
	baz=199						
NNS	**Nan Shan**	**0.88**	**349**	P	**Pn**	**00 09 33.1**	**-1.8**
	baz=359						
TPUB	**Ta-pu**	**0.89**	**252**	P	**Pb**	**00 09 35.4**	**-0.1**
TPUB	**Ta-pu**	**0.89**	**252**	P	**Pb**	**00 09 35.8**	**+0.2**
	baz=253						
TPUB				S	**Sb**	**00 09 47.2**	**+0.1**
	baz=253						
CHN4	**Tsaushan**	**0.91**	**256**	*i* P	**Pb**	**00 09 35.9**	**+0.1**
	baz=257						
CHN4				*i* S	**Sb**	**00 09 49.0**	**+1.4**
	baz=257						
WGK	**Gukeng**	**0.91**	**277**	*e*P	**Pb**	**00 09 37.1**	**+1.2**
	baz=278						
WGK				S	**Sb**	**00 09 49.2**	**+1.5**
	baz=278						
WTP	**Ta-pu**	**0.92**	**249**	P	**Pb**	**00 09 36.0**	**0.0**
	baz=250						
WTP				*i* S	**Sb**	**00 09 49.2**	**+1.2**
	baz=250						
LATG	**Datong**	**0.96**	**359**	P	**Pn**	**00 09 34.7**	**-1.2**
	baz=357						
LATG				*e*S	**Sn**	**00 09 47.2**	**-1.4**
	baz=357						
CHN2	**Minshiung**	**0.99**	**268**	P	**Pb**	**00 09 38.2**	**+1.0**
	baz=268						
CHN2				S	**Sb**	**00 09 52.8**	**+3.0**
	baz=268						
SGST	**Jiashian**	**1.01**	**241**	P	**Pb**	**00 09 36.9**	**-0.7**
	baz=242						
SGST				*e*S	**Sb**	**00 09 51.5**	**+0.8**
	baz=242						
CHN1	**Nanshi**	**1.02**	**248**	P	**Pb**	**00 09 37.8**	**+0.1**
	baz=249						
CHN1				S	**Sb**	**00 09 51.6**	**+0.9**
	baz=249						
TWK	**Hsinying**	**1.02**	**253**	P	**Pb**	**00 09 37.6**	**-0.2**
	baz=253						
TWK				S	**Sb**	**00 09 51.7**	**+0.8**
	baz=253						
TWQ1	**Liyutan**	**1.05**	**317**	*i* P	**Pb**	**00 09 38.8**	**+0.6**
	baz=325						
TWQ1				*i* S	**Sb**	**00 09 53.4**	**+1.8**
	baz=325						
ENTT	**Nioudou**	**1.06**	**1**	*e*P	**Pn**	**00 09 36.8**	**-0.5**
	baz=360						
TWC	**Suao**	**1.07**	**15**	*e*P	**Pb**	**00 09 37.8**	**-0.6**
	baz=3.0						
YHNB	**Yeheng**	**1.10**	**352**	P	**Pb**	**00 09 38.4**	**-0.7**
YHNB	**Yeheng**	**1.10**	**352**	P	**Pb**	**00 09 38.2**	**-0.9**
	baz=350						
YHNB				S	**Sb**	**00 09 52.5**	**-0.7**
	baz=350						
NSY	**Sanyi**	**1.11**	**319**	P	**Pb**	**00 09 39.9**	**+0.8**
	baz=332						
NSY				*e*S	**Sb**	**00 09 54.8**	**+1.6**
	baz=332						
NSK	**Sanguang**	**1.11**	**351**	P	**Pn**	**00 09 38.2**	**+0.1**
	baz=350						
NSK				*e*S	**Sn**	**00 09 52.0**	**-0.3**
	baz=350						
ECL	**Taimali**	**1.12**	**210**	*e*P	**Pn**	**00 09 37.8**	**-0.2**
	baz=200						
TWE	**Neicheng**	**1.15**	**5**	*e*P	**Pn**	**00 09 38.6**	**+0.1**
	baz=4.0						
NSTT	**Nanjuang**	**1.17**	**335**	P	**Pb**	**00 09 40.2**	**+0.1**
	baz=344						
NSTT				*e*S	**Sb**	**00 09 54.7**	**-0.2**
	baz=344						
LIOB	**Emei**	**1.17**	**335**	P	**Pb**	**00 09 40.3**	**0.0**
	baz=334						
LIOB				*e*S	**Sb**	**00 09 56.0**	**+0.8**
	baz=334						
FUSB	**Fushanzhiwuyua**	**1.18**	**2**	*e*P	**Pn**	**00 09 38.9**	**-0.1**
SSD	**Sandimen**	**1.18**	**226**	*e*P	**Pb**	**00 09 39.4**	**-1.0**
	baz=227						
WTCT	**Ta-ch'eng**	**1.20**	**284**	*e*P	**Pb**	**00 09 40.0**	**-0.7**
	baz=274						
WTCT				*e*S	**Sb**	**00 09 56.5**	**+0.7**
	baz=274						
WSF	**Szhu**	**1.22**	**273**	*e*P	**Pb**	**00 09 40.3**	**-0.7**
	baz=274						
WSF				S	**Sb**	**00 09 57.0**	**+0.5**
	baz=274						
CHN8	**Yiju**	**1.25**	**260**	*e*P	**Pb**	**00 09 41.0**	**-0.6**
	baz=261						
CHN8				*e*S	**Sb**	**00 09 57.8**	**+0.4**
	baz=261						
MASBT	**Mashibuluo**	**1.28**	**222**	P	**Pb**	**00 09 41.5**	**-0.5**
	baz=223						
EAST	**Anshuo**	**1.35**	**209**	*e*P	**Pb**	**00 09 42.2**	**-1.1**
	baz=202						
TIPB	**Shuangxi**	**1.41**	**10**	*e*P	**Pn**	**00 09 42.5**	**+0.3**
	baz=359						
SCZT	**Fangliau**	**1.47**	**216**	*e*P	**Pb**	**00 09 44.4**	**-1.0**
	baz=206						
SXI1	**Grass Mountain**	**1.54**	**11**	*e*P	**Pn**	**00 09 43.9**	**-0.1**
	baz=357						
JYNG	**Yonagunijimaku**	**1.55**	**55**	*e*P	**Pn**	**00 09 44.8**	**+0.9**
JYNG				S	**Sn**	**00 10 03.5**	**+0.6**
YM01	**YM01**	**1.56**	**1**	*e*P	**Pn**	**00 09 44.9**	**+0.6**
	baz=359						
YOJ	**Yonaguni jima**	**1.60**	**56**	P	**Pn**	**00 09 45.7**	**+1.0**
YOJ	**Yonaguni jima**	**1.60**	**56**	S	**Sn**	**00 10 05.1**	**+0.8**
YOJ	**Yonaguni jima**	**1.60**	**56**	*e*P	**Pn**	**00 09 45.4**	**+0.7**
	baz=59						
WDGT	**Dungji**	**1.76**	**260**	P	**Pn**	**00 09 47.8**	**+0.8**
	baz=261						
PHUB	**P'eng-hu**	**1.82**	**268**	*e*P	**Pn**	**00 09 48.5**	**+0.9**
	baz=269						
PNG	**Penghu**	**1.83**	**270**	*e*P	**Pn**	**00 09 48.6**	**+0.8**
	baz=271						
VCHM	**Qimei**	**1.98**	**260**	*e*P	**Pn**	**00 09 49.8**	**-0.1**
	baz=261						
HATJ	**Hateruma jima**	**2.12**	**76**	*e*S	**Sn**	**00 10 16.4**	**-0.8**
JKRS	**Kuro-shima**	**2.34**	**73**	*e*P	**Pn**	**00 09 55.6**	**+0.7**
JKRS				S	**Sn**	**00 10 23.2**	**+0.5**
VWUC	**VWUC**	**2.38**	**307**	*e*P	**Pn**	**00 09 55.6**	**+0.2**
	baz=307						
JIJ	**Ishigaki jima**	**2.50**	**71**	P	**Pn**	**00 09 57.6**	**+0.5**
JIJ				*e*S	**Sn**	**00 10 25.7**	**-0.8**
JISG	**Ishigakijimahi**	**2.72**	**68**	P	**Pn**	**00 09 59.9**	**-0.1**
JISG				*e*S	**Sn**	**00 10 30.8**	**-1.0**
MATB	**Ma-tsu**	**2.95**	**331**	*e*P	**Pn**	**00 10 03.1**	**-0.2**
	baz=330						
KNM	**Kinmen**	**2.97**	**287**	*e*P	**Pn**	**00 10 05.2**	**+1.7**
	baz=286						
KNMB	**Chin-men Tao**	**3.02**	**288**	*e*P	**Pn**	**00 10 04.2**	**-0.1**
	baz=287						

ANF ***13*** *00:28:55.8±0.1, 33°.06N×115°.90W, h15km±1km, Error*
ellipse: s-maj=1.1km s-min=0.8km az=144.0
NEIC ***13*** *00:28:56.3±1.2, 33°.05N±0′.01×115°.93W±0′.01, h5km±1km,*
Error ellipse: s-maj=3.0km s-min=1.8km az=68.0

PAS ***13*** *00:28:56.7±1.7, 33°.048N±0′.010×115°.92W±0′.01,*
h2km±5km, ML3.5/80, ML3.4/42(NEIC), Error ellipse:
s-maj=1.7km s-min=0.9km az=218.0
IDC ***13*** *00:28:57.9±1.6, 33°.13N×115°.95W, h0km, mbtmp2.7/4,*
ML3.1/2, Error ellipse: s-maj=19.0km s-min=9.7km
az=32.0
ISC 13 00:28:56.6±0.8,**33°07N**±0′.01×**115°90W**±0′.01,**h14**km±5km,
n111, σ1**°15**/149,**Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.08**	**56**		**Pg**	**00 29 59.5**	**-0.1**
SUP	**Superstition M**	**0.13**	**150**		**Pg**	**00 28 59.3**	**-0.9**
SWSC	**Sam W. Stewart**	**0.15**	**146**		**Pg**	**00 28 59.7**	**-0.7**
SWSC	**Sam W. Stewart**	**0.15**	**146**	P	**Pg**	**00 28 59.7**	**-0.7**
	baz=316,SNR=1000						
SWSC				S	**Sg**	**00 29 02.0**	**-1.1**
	baz=316						
CRR	**Carrizo Plain**	**0.19**	**197**		**Pg**	**00 29 00.4**	**-0.6**
SALN	**Salton City**	**0.22**	**341**		**Pg**	**00 29 01.8**	**+0.3**
SALN					**Sg**	**00 29 05.9**	**+1.1**
COK2	**Cook Ranch 2**	**0.27**	**146**		**Pg**	**00 29 02.3**	**+0.1**
WEMD	**Westmorland, C**	**0.27**	**97**		**Pb**	**00 29 03.1**	**-0.1**
CLI2	**Calipatria 2**	**0.28**	**80**		**Pb**	**00 29 03.4**	**+0.1**
SLH	**Sleepy Hollow**	**0.32**	**292**		**Pb**	**00 29 03.4**	**-0.7**
BOMB	**Bombay Beach**	**0.33**	**26**		**Pb**	**00 29 03.9**	**-0.3**
IMPE	**Imperial**	**0.33**	**121**		**Pb**	**00 29 04.3**	**0.0**
IMPE					**Sb**	**00 29 10.4**	**+0.9**
WESC	**Westside Schoo**	**0.34**	**155**		**Pg**	**00 29 03.7**	**+0.1**
YUH	**Yuha Desert**	**0.42**	**182**	Pg	**Pg**	**00 29 04.5**	**-0.6**
YUH				Sg	**Sg**	**00 29 10.2**	**-0.6**
SNR	**Schaffner Ranc**	**0.44**	**118**		**Pb**	**00 29 06.4**	**+0.2**
SNR					**Sb**	**00 29 13.9**	**+1.3**
IKP	**In-Ko-Pah, Jac**	**0.46**	**203**		**Sg**	**00 29 11.2**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.46**	**203**	P	**Pg**	**00 29 05.1**	**-0.6**
	baz=22,SNR=255						
IKP				S	**Sg**	**00 29 11.1**	**-0.7**
	baz=22						
DREC	**Desert Rsrch C**	**0.47**	**125**		**Pb**	**00 29 07.0**	**+0.5**
DREC					**Sb**	**00 29 15.2**	**+2.0**
MONP2	**Monument Peak**	**0.47**	**248**	P	**Pg**	**00 29 05.6**	**-0.4**
	baz=70,SNR=228						
MONP2				S	**Sg**	**00 29 12.0**	**-0.4**
	baz=70						
BORC	**Borrego Spring**	**0.47**	**295**		**Pg**	**00 29 05.9**	**-0.1**
BORC					**Sg**	**00 29 12.3**	**-0.1**
RMX	**La Rumorosa**	**0.49**	**198**		**Pg**	**00 29 06.4**	**0.0**
RMX				Sg	**Sg**	**00 29 12.7**	**-0.3**
5053	**Calexico**	**0.53**	**139**		**Pb**	**00 29 07.6**	**0.0**
UABX	**UABC, Campus M**	**0.59**	**138**		**Pb**	**00 29 08.5**	**-0.1**
UABX					**Sb**	**00 29 17.5**	**+0.8**
CTCC	**Cactus City**	**0.59**	**353**		**Pb**	**00 29 08.5**	**-0.2**
CTCC					**Sb**	**00 29 17.9**	**+1.1**
CTW	**Cottonwood Mou**	**0.60**	**2**		**Pb**	**00 29 08.6**	**-0.3**
5054	**Holtville Bond**	**0.61**	**128**		**Pb**	**00 29 09.1**	**+0.2**
HAY	**Hayfield**	**0.66**	**16**		**Sb**	**00 29 19.6**	**+0.7**
COA	**Coachella**	**0.69**	**107**		**Pb**	**00 29 10.1**	**-0.2**
COA					**Sb**	**00 29 20.9**	**+1.3**
BC3	**Big Chuckawall**	**0.69**	**33**		**Pb**	**00 29 10.2**	**-0.3**
BC3					**Sb**	**00 29 19.7**	**-0.3**
BC3	**Big Chuckawall**	**0.69**	**33**	P	**Pb**	**00 29 10.2**	**-0.3**
	baz=213,SNR=246						
BC3				S	**Sb**	**00 29 19.9**	**-0.1**
	baz=213						
PMD	**Palm Desert**	**0.70**	**325**		**Pg**	**00 29 09.9**	**-0.3**
PMD				Sg	**Sg**	**00 29 19.1**	**-0.4**
PMD				IAML		00 29 21.3	
	comp=N,1μm,1.0s						
PMD				IAML		00 29 21.4	
	comp=E,2μm,0.5s						
TPFO	**Pinon Flats**	**0.70**	**319**	P	**Pb**	**00 29 10.2**	**-0.6**
	baz=141,SNR=298						
PFO	**Pinyon Flats O**	**0.71**	**319**		**Pg**	**00 29 10.3**	**-0.3**
PFO				Sg	**Sg**	**00 29 19.8**	**-0.3**
PFO				IAML		00 29 21.5	
	comp=E,2μm,0.7s						
PFO				IAML		00 29 21.8	
	comp=E,3μm,0.6s						
PFO	**Pinyon Flats O**	**0.71**	**319**		**Pb**	**00 29 10.6**	**-0.3**
PFO					**Sg**	**00 29 19.7**	**-0.3**
PFO	**Pinyon Flats O**	**0.71**	**319**	P	**Pg**	**00 29 10.2**	**-0.3**
	baz=141,SNR=154						
PFO				S	**Sg**	**00 29 19.7**	**-0.3**
	baz=141						
PFO	**Pinyon Flats O**	**0.71**	**319**	Pg	**Pg**	**00 29 10.0**	**-0.5**
	comp=E,62nm,0.3s,baz=140,slow=15,SNR=289						
PFO				Lg	Lg	00 29 19.8	
	comp=E,353nm,0.3s,baz=82,slow=14,SNR=32						
BAR	**Barrett**	**0.76**	**239**		**Pg**	**00 29 10.4**	**-0.9**
BAR				Sg	**Sg**	**00 29 20.3**	**-1.0**
BAR				IAML		00 29 20.6	
	comp=N,1μm,0.7s						
BAR				IAML		00 29 23.3	
	comp=E,940nm,0.2s						
TKX	**Tecate**	**0.78**	**230**		**Pg**	**00 29 10.8**	**-0.9**
TKX				IAML		00 29 23.1	
	comp=N,3μm,0.4s						
TKX				IAML		00 29 23.6	
	comp=E,3μm,0.2s						
DNR	**Dunn Ranch,Anz**	**0.79**	**309**		**Pb**	**00 29 11.9**	**-0.2**
CPBX	**Cerro Prieto**	**0.82**	**142**		**Pg**	**00 29 11.9**	**-0.7**
CRY	**Cary Ranch**	**0.85**	**305**		**Sb**	**00 29 24.5**	**-0.2**
DUZA	**Dulzura**	**0.87**	**238**		**Sg**	**00 29 23.5**	**-1.3**
DPP	**Dos Picos Cty**	**0.88**	**266**		**Sg**	**00 29 24.3**	**-0.8**
GVDA	**Garner Valley**	**0.88**	**313**		**Pb**	**00 29 13.7**	**0.0**
GVDA					**Sg**	**00 29 25.0**	**-0.3**
GLA	**Glamis**	**0.90**	**91**		**Pg**	**00 29 13.4**	**-0.7**
GLA				IAML		00 29 32.3	
	comp=E,1μm,1.0s						
GLA				IAML		00 29 39.9	
	comp=N,892nm,0.9s						
GLA	**Glamis**	**0.90**	**91**		**Sb**	**00 29 25.8**	**-0.2**
GLA	**Glamis**	**0.90**	**91**	P	**Pg**	**00 29 13.4**	**-0.7**
	baz=270,SNR=157						
GLA				S	**Sb**	**00 29 25.7**	**-0.2**
	baz=270						
BELC	**Belle Mtn. Jos**	**0.93**	**355**		**Pb**	**00 29 14.2**	**-0.3**
BELC	**Belle Mtn. Jos**	**0.93**	**355**	P	**Pb**	**00 29 14.1**	**-0.5**
	baz=176,SNR=388						
BELC				S	**Sb**	**00 29 27.3**	**+0.4**
	baz=176						
SDRC	**San Diego Road**	**0.94**	**249**		**Sg**	**00 29 25.4**	**-1.6**
EW2	**E Wide Canyon**	**0.96**	**334**		**Pg**	**00 29 14.7**	**-0.6**
OLP	**Otay Lakes Par**	**0.98**	**242**		**Sg**	**00 29 26.8**	**-1.6**
CBX	**Cerro Bola**	**0.99**	**221**	Pg	**Pg**	**00 29 14.8**	**-1.0**
CBX					**Sg**	**00 29 28.0**	**-0.8**
MTRP	**Mission Trails**	**1.00**	**256**		**Pg**	**00 29 14.9**	**-1.1**
109C	**Camp Elliot, M**	**1.03**	**260**		**Pg**	**00 29 15.2**	**-1.3**
109C				IAML		00 29 30.4	
	comp=E,2μm,0.4s						
109C				IAML		00 29 30.6	
	comp=N,2μm,0.4s						
109C	**Camp Elliot, M**	**1.03**	**260**	P	**Pg**	**00 29 15.1**	**-1.3**
	baz=81,SNR=71						
109C				S	**Sg**	**00 29 28.8**	**-1.1**
	baz=81						
CPE	**Camp Elliot**	**1.03**	**260**		**Pg**	**00 29 15.2**	**-1.2**
ESJX	**Sierra Juarez**	**1.06**	**182**		**Pg**	**00 29 16.2**	**-1.0**
ESJX				IAML		00 29 31.1	
	comp=E,924nm,0.1s

BBRC				Sb	Sn	00 29 43.3	+1.6		
	baz=145								
VTX	Valle De La Tr	1.68	177		Pn	00 29 26.6	+1.0		
GMRC	Granite Mounta	1.72	7	P	Pn	00 29 25.6	-0.6		
	baz=187,SNR=115								
GMRC				Sg	Sg	00 29 53.4	+1.4		
	baz=187								
CSP	Cedar Springs	1.72	316		Pg	00 29 29.3	-0.4		
HEC	Hector,Ludlow	1.79	349	P	Pn	00 29 26.6	-0.5		
	baz=169,SNR=86								
HEC				Sg	Sg	00 29 55.6	+1.3		
	baz=169								
BFSC	Mount Baldy Ra	1.87	309	Pb	Pb	00 29 30.4	-0.2		
	baz=129								
BFSC				Sb	Sb	00 29 54.6	+0.7		
	baz=129								
PDMCI	Parker Dam,Lak	1.91	50	Sb	Sg	00 29 56.4	-1.8		
	baz=230								
NEE2	Needles Airpor	2.00	32	S	Sn	00 29 54.2	-0.5		
	baz=212								
RRX	Edison Barstow	2.02	333	Pg	Pg	00 29 34.4	-0.9		
	baz=154,SNR=27								
RRX				Sb	Sg	00 29 59.8	-1.7		
	baz=154								
FMP	Fort Macarthur	2.10	288	Pb	Pb	00 29 34.0	-0.4		
	baz=108								
FMP				Sb	Sb	00 30 01.3	+0.9		
	baz=108								
CIS	Catalina Islan	2.13	280	P	Pn	00 29 31.5	-0.2		
	baz=99,SNR=26								
CIS				S	Sn	00 29 58.3	+0.3		
	baz=99								
SFX	San Felipe	2.22	156		Pn	00 29 34.6	+1.7		
SCI2	San Clemente I	2.22	268	P	Pn	00 29 33.4	+0.4		
	baz=88								
DECC	Green Verdugo	2.35	301	Pg	Pg	00 29 40.9	-0.7		
	baz=120								
DECC				Sb	Sb	00 30 08.5	+1.0		
	baz=120								
GSC	Goldstone, Bar	2.35	342	Pn	Pn	00 29 36.1	+1.3		
GSC				IAML		00 30 22.5			
	comp=E,233nm,1.0s								
GSC				IAML		00 30 31.2			
	comp=N,173nm,1.4s								
GSC	Goldstone, Bar	2.35	342	Pg	Pg	00 29 40.4	-1.3		
	baz=162,SNR=22								
TUQ	Turquoise Moun	2.36	360	Pg	Pg	00 29 40.7	-1.1		
	baz=180,SNR=23								
EDW2	Edwards Air Fo	2.51	317	Pg	Pg	00 29 42.9	-1.8		
	baz=136,SNR=58								
EDW2				Sb	Sb	00 30 14.0	+1.9		
	baz=136								
W13A	Hualapai Mount	2.62	39		Pn	00 29 39.9	+1.1		
CCAC	Calif City Air	2.72	320		Pn	00 29 42.3	+2.5		
V12A	Nelson	2.79	18		Pn	00 29 42.0	+1.2		
OSI	Osito Audit: C	2.81	304	Pg	Pb	00 29 48.1	+1.6		
	baz=123,SNR=13								
OSI				Sb	Sb	00 30 23.6	+2.8		
	baz=123								
LRMC	Laurel Mtn Rad	2.82	329	Pg	Pg	00 29 49.0	-1.7		
	baz=149,SNR=25								
214A	Organ Pipe Nat	2.84	112		Pn	00 29 41.2	-0.3		
214A				IAML		00 30 42.7			
	comp=N,78nm,1.5s								
214A	Organ Pipe Nat	2.84	112	P	Pn	00 29 40.3	-1.2		
	baz=293								
214A				S	Sn	00 30 14.1	-1.4		
	baz=293								
SHOC	Shoshone, Teco	2.84	354	Pg	Pg	00 29 49.7	-1.3		
	baz=174,SNR=52								
QSM	Queen of Sheba	2.99	345		Pn	00 29 43.5	-0.2		
GWY	Greenwater Val	3.17	349	Pn	Pn	00 29 46.1	-0.1		
ARVC	Arvin	3.18	311	Pg	Pg	00 29 56.5	-1.0		
	baz=130,SNR=21								
MPMC	Manual Prospec	3.25	337	P	Pn	00 29 47.4	0.0		
	baz=156,SNR=28								
SBC	Santa Barbara	3.46	294	Pg	Pg	00 30 01.5	-1.3		
	baz=113								
BCW	Bitter Crk WRg	3.46	304		Pn	00 29 50.2	+0.1		
FURC	Furnace Creek,	3.48	347	Pg	Pg	00 30 02.2	-1.0		
	baz=167								
SHPR	Sheep Range	3.48	10		Pn	00 29 51.1	+0.6		
WCT	Wildcat Mounta	3.76	351		Pn	00 29 55.4	+1.2		
X16A	Lo Mia Camp, P	3.95	69	Pn	Pn	00 29 58.1	+1.1		
GRAC	Grapevine Rang	4.09	343		Pn	00 29 59.9	+1.1		
TUC	Tucson	4.38	99		Pn	00 30 03.9	+1.2		
LCH	Last Change Ra	4.39	342		Pn	00 30 03.5	+0.5		
U15A	North Rim	4.48	41	Pn	Pn	00 30 05.4	+1.1		
LCMT	Little Creek M	4.50	28		Pn	00 30 05.0	+0.7		
NVAR	Mina Array Bea	5.69	341	Pn	Pn	00 30 24.6	+3.7		
	comp=N,0.1nm,0.3s,baz=166,slow=16,SNR=3.1								
NVAR				Lg	Lg	00 31 56.2			
	comp=N,0.2nm,0.3s,baz=167,slow=13,SNR=0.8								
	comp=N,0.2nm,0.4s								
ELK	Elko	7.68	4	Pn	Pn	00 30 51.8	+3.6		
	comp=N,0.2nm,0.4s,baz=177,slow=17,SNR=1.0								
ELK				Pg	Pb	00 31 05.1	-4.5		
	comp=N,0.1nm,0.3s,baz=215,slow=12,SNR=1.9								
ELK				Lg	Lg	00 32 57.0			
	comp=N,0.1nm,0.3s,baz=177,slow=7.8,SNR=1.4								
PDAR	Pinedale Array	10.89	26	Pn	Pn	00 31 36.6	+4.4		
	baz=226,slow=16,SNR=1.7								
	comp=N,0.1nm,0.3s								
TXAR	Lajitas Array	11.12	106	Pn	Pn	00 31 41.2	+6.0		
	comp=N,0.4nm,1.1s,baz=287,slow=12,SNR=2.3								

IDC ***13*** *00:29:13.0±0.7,6˚.09S×142˚.85E,h0km,mb4.4/17, mbtmp4.4/20,ML4.1/1,MS3.6/13,Error ellipse: s-maj=24.8km s-min=13.2km az=87.0*

NEIC ***13*** *00:29:16.1±1.4,6˚.10S±0˚.04×142˚.73E±0˚.08,h10km±1km, mb4.8/49,Error ellipse: s-maj=13.4km s-min=5.6km az=111.0*

DJA ***13*** *00:29:22.5±0.3,6˚S±3˚×14˚3E±˚,h56km±5km,M5.1/21, mB5.5/8,mb4.7/21,MLv5.5/6,Mw(mB)4.9/8*

ISC 13 00:29:18.3±0.3,6˚18S±0˚05×142˚81E±0˚05,h35km,n375, σ1s56/365,mb4.7/54,MS3.5/10,4D,New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TABU	Tabubil	1.82	300	P	Pn	00 29 48.3	+1.1
MMPI	Merauke	3.31	227	P	Pn	00 30 14.4	+6.8
JAY	Jayapura	4.21	330	P	Pn	00 30 21.5	+1.5
GENI	Genyem	4.43	323	P	Pn	00 30 25.2	+2.1
GENI	Genyem	4.43	323	P	Pn	00 30 24.7	+1.6
PMG	Port Moresby	5.37	127	Pn	Pn	00 30 36.1	+0.2
	32nm,0.6s,baz=276,slow=0.7,SNR=7.9						
PMG				Sn	Sn	00 31 37.3	+0.7
	3.6nm,0.3s,baz=222,slow=23,SNR=9.4						
SMPI	Sarmi	5.84	315	P	Pn	00 30 43.7	+1.3
	309nm,1.3s,8µm1.2nm						
MANU	Manus Island	6.13	48	Pn	Pn	00 30 47.4	+0.9
COEN	Coen	7.73	177	Pn	Pn	00 31 10.7	+2.2
I40PG	Keravat	9.36	79	I	I	01 26 30.0	
	baz=258,slow=315,SNR=1.5						
RABL	Rabaul	9.53	78	Pn	Pn	00 31 34.6	+1.5
FAKI	Fak Fak	11.01	287	P	Pn	00 31 52.8	-0.7
	47nm,0.9s						
FAKI	Fak Fak	11.01	287		Pn	00 31 52.7	-0.7
FAKI	Fak Fak	11.01	287	P	Pn	00 31 55.6	+2.1
	47nm,0.9s						
KDU	Kakadu	12.07	237	P	Pn	00 32 08.0	+0.1
	58nm,0.9s						
SWI	Sorong	12.68	294	P	Pn	00 32 14.5	-1.7
	36nm,1.1s						
MTN	Manton Dam	13.28	239	P	Pn	00 32 24.7	+0.3
	32nm,0.7s						
MTN	Manton Dam	13.28	239	Pn	Pn	00 32 23.0	-1.5
DRS	Darwin Rock St	13.29	241	P	Pn	00 32 26.8	+2.2
	39nm,0.8s						
CTAO	Charters Tower	14.22	167	Pn	Pn	00 32 39.1	+1.7
QIS	Mount Isa	14.62	192	P	Pn	00 32 44.2	+1.4
	32nm,0.8s						
WB0	Warramunga Arr	15.79	210		Pn	00 32 58.6	+0.5
WRA	Warramunga Arr	15.96	210		Pn	00 32 59.5	-0.9
WRA	Warramunga Arr	15.96	210	Pn	Pn	00 32 58.3	-2.1
	0.9nm,0.3s,baz=29,slow=13,SNR=16						
WRA				Sn	Sn	00 35 50.5	-5.8
	0.9nm,0.3s,baz=28,slow=23,SNR=8.4						
WRA				Lg	Lg	00 37 41.8	
	baz=37,slow=24						
WRA				LR	LR	00 39 13.2	
	comp=Z,206nm,18.7s,baz=62,slow=37						
	3.7nm,0.6s						
SANI	Sanana	17.27	283	P	P	00 33 19.1	+1.0
	16nm,1.4s						
SOEI	Soe	18.70	258	P	P	00 33 33.3	-0.7
SOEI				IAmb	IAmb	00 33 43.5	
	comp=Z,75nm,1.3s						
SOEI	Soe	18.70	258	P	Pn	00 33 38.7	+4.1
	comp=Z,93nm,1.1s						
BATI	Baumata	19.36	257	LR	LR	00 43 20.9	
	comp=Z,236nm,21.0s,baz=134,slow=44						
AS31	Alice Springs	19.38	205		Pn	00 33 43.2	+0.6
ASAR	Alice Springs	19.38	205	P	Pn	00 33 43.5	+0.9
ASAR	Alice Springs	19.38	205	P	Pn	00 33 43.4	+0.7
	comp=Z,49nm,0.8s,baz=32,slow=11,SNR=139						
ASAR				S	S	00 37 13.3	-5.4
	comp=Z,3.8nm,0.9s,baz=18,slow=28,SNR=4.1						
ASAR				Lg	Lg	00 39 29.9	
	comp=Z,0.2nm,0.3s,baz=20,slow=31,SNR=0.9						
ASAR				LR	LR	00 41 58.7	
	comp=Z,486nm,21.2s,baz=32,slow=39						
FITZ	Fitzroy Crossi	20.52	233	P	P	00 33 54.3	+0.6
LUWI	Luwuk	20.63	284	P	P	00 33 54.7	-0.3
LUWI				IAmb	IAmb	00 34 07.2	
	comp=Z,40nm,0.8s						
LUWI	Luwuk	20.63	284	P	Pn	00 34 04.0	+6.6
EIDS	Eidsvold	20.66	158		P	00 33 54.6	-0.5
GTOI	Gorontalo	20.89	288	P	Pn	00 34 01.3	+0.9
	comp=Z,28nm,0.9s,comp=Z,244nm						
INKA	Innaminka	21.53	185	P	P	00 34 08.5	+4.0
	comp=Z,94nm,1.1s						
DAV	Davao City (W)	21.65	307	LR	LR	00 42 46.3	
	comp=Z,71nm,18.9s,baz=1.0,slow=38						
OOD	Oodnadatta	22.53	197	P	P	00 34 18.8	+3.5
	comp=Z,59nm,1.9s						
KAPI	Kappang	22.98	272	P	P	00 34 20.0	0.0
KAPI				IAmb	IAmb	00 34 40.4	
	comp=Z,38nm,1.1s						
KAPI	Kappang	22.98	272	P	P	00 34 18.6	-1.5
	comp=Z,7.8nm,0.2s,baz=146,slow=15,SNR=2.7						
KAPI				LR	LR	00 44 25.5	
	comp=Z,111nm,21.6s,baz=92,slow=40						
	comp=Z,7.8nm,0.2s						
TOLI2	Tolitoli	23.15	288	P	P	00 34 22.1	+0.2
TOLI2				IAmb	IAmb	00 34 28.1	
	comp=Z,29nm,1.0s						
WRKA	Warakurna	23.34	215	P	P	00 34 25.9	+2.2
	comp=Z,39nm,1.6s						
MPSI	Mapaga	23.77	285	P	P	00 34 31.6	+3.8
	comp=Z,15nm,0.9s,comp=Z,2µm						
LCRK	Leigh Creek	24.52	190	P	P	00 34 36.8	+2.2
	comp=Z,46nm,1.1s						
MULG	Mulgathing	25.35	198	P	P	00 34 45.8	+3.7
	comp=Z,21nm,1.0s						
STKA	Stephens Creek	25.59	182	P	P	00 34 45.1	+0.9
STKA	Stephens Creek	25.59	182	P	P	00 34 44.1	-0.2
	comp=Z,7.5nm,0.8s,baz=355,slow=10.0,SNR=10						
	comp=Z,7.5nm,0.8s						
BBOO	Buckleboo	27.23	192	P	P	00 35 04.6	+5.5
	comp=Z,23nm,1.9s						
BBOO	Buckleboo	27.23	192	P	P	00 34 59.7	+0.6
BBOO				IAmb	IAmb	00 35 04.8	
	comp=Z,32nm,1.3s						
DZM	Mont Dzumac	27.76	127	eLR	LR	00 42 20.8	
	comp=Z,219nm,24.7s						
DZM	Mont Dzumac	27.76	127	LR	LR	00 46 00.8	
	comp=Z,142nm,18.8s,baz=30,slow=36						
STKI	Sintang	31.88	280	P	P	00 35 46.0	+5.4
NWAO	Narrogin (SRO)	35.69	218	LR	LR	00 52 56.3	
	comp=Z,80nm,18.4s,baz=22,slow=40						
BKNI	Bangkinang	42.19	277	P	P	00 37 07.9	-0.3
MJAR	Matsushiro Arr	42.72	355	P	P	00 37 10.6	-1.5
	comp=Z,4.5nm,1.1s,baz=184,slow=9.8,SNR=10.0						
MJAR				LR	LR	00 52 02.8	
	comp=Z,17nm,19.9s,baz=166,slow=32						
	comp=Z,4.5nm,1.1s						
MAJO	Matsushiro	42.72	355	P	P	00 37 10.7	-1.5
MAJO				IAmb	IAmb	00 38 42.3	
	comp=Z,32nm,1.9s						
JSD	Sado	44.20	355	P	P	00 37 23.0	-1.0
JSD				IAmb	IAmb	00 37 24.2	
	comp=Z,12nm,0.9s						
NJ2	Nanjing	44.35	330	eP	P	00 37 26.3	+1.0
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
URZ	Urewera	44.56	141	LR	LR	00 56 47.7	
	comp=Z,106nm,18.5s,baz=29,slow=37						
TUWZ	Tuamarina	44.72	146	P	P	00 37 30.1	+1.9
SRIT	Nakonsritamara	45.51	288	P	P	00 37 34.5	-0.4
KSAR	Wonju Array Be	45.58	343	P	P	00 37 35.2	+0.2
KSRS	Korea Array	45.58	343	P	P	00 37 35.0	0.0
	comp=Z,5.7nm,1.0s,baz=163,slow=9.6,SNR=15						
KSRS				LR	LR	00 55 02.5	
	comp=Z,27nm,21.1s,baz=170,slow=34						
	comp=Z,5.7nm,1.0s						
PHRA	Phrae	48.62	301	P	P	00 37 59.4	+0.3
CRAI	Chiangrai	49.28	303	P	P	00 38 03.4	-0.8
CRAI				IAmb	IAmb	00 38 15.5	
	comp=Z,4.6nm,0.4s						
LYN	LuoYang	49.62	327	eP	P	00 38 11.2	+4.8
LYN				pmax	pmax		
	comp=Z,21nm,0.6s						
LYN				pmax	pmax		
	comp=Z,140nm,6.4s						
CM31	Chiang Mai Arr	49.70	300	P	P	00 38 07.4	0.0
CM31				IAmb	IAmb	00 38 13.7	
	comp=Z,5.4nm,0.8s						
CMAR	Chiang Mai Arr	49.70	300	P	P	00 38 07.6	+0.2
CMAR	Chiang Mai Arr	49.70	300	P	P	00 38 08.2	+0.8
	comp=Z,1.3nm,0.3s,baz=125,slow=5.8,SNR=14						
	comp=Z,1.3nm,0.3s						
CHTO	Chiang Mai	49.86	301	P	P	00 38 08.8	+0.3
KMI	Kunming	49.87	310	||P	P	00 38 11.4	+2.6
KMI				pP	pP	00 38 15.0	-4.7
KMI				pmax	pmax		
	comp=Z,12nm,1.1s						
HNS	HongShan	50.67	331	||P	P	00 38 19.6	+5.3
USA0B	Ussuriysk Arra	51.09	350	P	P	00 38 17.7	+0.3
USA0B				IAmb	IAmb	00 38 22.7	
	comp=Z,12nm,0.9s						
USRK	Ussuriysk Ar.	51.09	350	P	P	00 38 17.3	-0.1
USRK	Ussuriysk Ar.	51.09	350	P	P	00 38 17.1	-0.2
	comp=Z,6.9nm,0.9s,baz=161,slow=7.7,SNR=10						
	comp=Z,6.9nm,0.9s						
PZH	PanZhiHua	51.37	311	P	P	00 38 23.4	+3.4
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.4s						
MDJ	Mudanjiang	51.95	348	P	P	00 38 24.0	+0.2
MDJ				pmax	pmax		
	comp=Z,7.0nm,1.2s						
MDJ				pmax	pmax		
	comp=Z,130nm,5.7s						
BJT	Baijiatuan	52.12	334	P	P	00 38 25.0	-0.2
BJT				IAmb	IAmb	00 38 26.8	
	comp=Z,10nm,1.2s						
CN2	Changchun	52.17	344	P	P	00 38 23.0	-2.5
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BNX	BinXian	53.49	347	||P	P	00 38 35.3	+0.1
BNX				pmax	pmax		
	comp=Z,13nm,1.0s						
BNX				pmax	pmax		
	comp=Z,76nm,3.3s						
BTO	Baotou	55.46	330	eP	P	00 38 46.6	-3.1
BTO				pP	pP	00 38 56.2	-4.6
BTO				sP	sP	00 38 59.0	-6.1
BTO				PP	PP	00 40 57.7	+3.7
BTO				S	S	00 46 29.3	-3.1
BTO	Baotou	55.46	330	SS	SS	00 50 25.7	+7.9
BTO				pmax	pmax		
	comp=Z,15nm,0.5s						
BTO				pmax	pmax		
	comp=Z,170nm,4.8s						
BTO				LR	LR		
	comp=N,140nm,8.0s						
BTO				LR	LR		
	comp=E,130nm,8.3s						
BTO				LR	LR		
	comp=Z,230nm,7.3s						
LZH	Lanzhou	55.71	322	eP	P	00 38 52.1	+0.4
LZH				sP	pP	00 38 59.8	-3.0
LZH				pmax	pmax		
	comp=Z,17nm,1.4s						
HEH	HeiHe	57.77	348	eP	P	00 39 06.2	+0.4
HEH				pmax	pmax		
	comp=Z,5.0nm,0.7s						
SHL	Shillong	58.66	305	P	P	00 39 13.2	+0.4
PETK	Petropavlovsk-	60.40	10	P	P	00 39 24.4	+0.4
	comp=Z,5.5nm,0.9s,baz=270,slow=5.9,SNR=5.1						
	comp=Z,5.5nm,0.9s						
ULN	Ulaanbaatar	62.34	334	P	P	00 39 37.8	+0.3
ULN				IAmb	IAmb	00 39 43.7	
	comp=Z,4.8nm,0.9s						
SONM	Songino Array	62.61	333	P	P	00 39 39.8	+0.6
SONM	Songino Array	62.61	333	P	P	00 39 39.0	-0.2
	comp=Z,0.5nm,0.5s,baz=165,slow=5.5,SNR=7.3						
	comp=Z,0.5nm,0.5s						
MA2	Magadan	65.86	4	P	P	00 40 00.3	+0.2
PPT2	Papeete2	66.84	106	eLR	LR	01 00 16.3	
	comp=Z,131nm,24.8s						
TBI	Tubuai	67.14	113	eLR	LR	01 00 21.0	
	comp=Z,711nm,27.5s						
VNDA	Vanda	72.01	176	P	P	00 40 40.5	+2.4
VNDA				IAmb	IAmb	00 40 53.9	
	comp=Z,14nm,1.8s						
VNDA	Vanda	72.01	176	P	P	00 40 39.4	+1.3
	comp=Z,1.4nm,0.9s,baz=307,slow=5.8,SNR=4.8						
VNDA				LR	LR	01 11 26.7	
	comp=Z,51nm,18.1s,baz=18,slow=35						
	comp=Z,1.4nm,0.9s						
UNV	Unalaska Valle	73.32	29	P	P	00 40 47.7	+1.5
	baz=233						
MK31	Makanchi Array	75.02	322	P	P	00 40 57.0	+0.6
MKAR	Makanchi Array	75.02	322	P	P	00 40 57.1	+0.7
MKAR	Makanchi Array	75.02	322	P	P	00 40 56.5	+0.2
	comp=Z,3.7nm,0.9s,baz=111,slow=6.9,SNR=23						
	comp=Z,3.7nm,0.9s						
MAKZ	Makanchi	75.22	322	P	P	00 40 58.3	+0.8
MAKZ				IAmb	IAmb	00 41 03.6	
	comp=Z,7.0nm,0.9s						
S12K	Black Hills	76.49	29	P	P	00 41 06.1	+1.5
	baz=237						
ZAA0	Zalesovo Array	76.98	329	P	P	00 41 07.7	+0.4
ZALV	Zalesovo Beam	76.98	329	P	P	00 41 07.3	-0.1
ZALV	Zalesovo Beam	76.98	329	P	P	00 41 06.2	-1.2
	comp=Z,1.8nm,0.8s,baz=115,slow=5.6,SNR=8.8						
	comp=Z,1.8nm,0.8s						
O14K	Tigyukauivet M	78.79	26	P	P	00 41 18.5	+1.3
	baz=237						
KURK	Kurchatov	78.89	324	P	P	00 41 18.5	+0.4
KURBB	Kurchatov Arra	78.91	324	P	P	00 41 18.0	-0.1
	comp=Z,3.0nm,1.0s,baz=114,slow=4.5,SNR=20						
	comp=Z,3.0nm,1.0s						
L14K	Kuka Creek	79.37	24	P	P	00 41 22.0	+1.6
	baz=236						
N15K	Kwethluk River	79.79	25	P	P	00 41 23.8	+1.1
	baz=238						
L15K	Ungalak Mounta	80.03	24	P	P	00 41 25.4	+1.5
	baz=237						
TNA	Tin City	80.06	19	P	P	00 41 25.5	+1.4
	baz=230						
O16K	Kokwok River B	80.35	26	P	P	00 41 26.6	+0.9
	baz=240						
K15K	Wolf Creek Mou	80.36	23	P	P	00 41 26.6	+0.9
	baz=236						
MAW	Mawson	80.48	202	LR	LR	01 16 03.1	
	comp=Z,56nm,18.1s,baz=87,slow=35						
Q17K	Contact Creek	80.71	28	P	P	00 41 28.8	+1.0
	baz=242						
M16K	Timber Creek	80.71	25	P	P	00 41 28.9	+1.2
	baz=239						
SII	Sitkinak Islan	80.75	30	P	P	00 41 29.4	+1.4
	baz=244						
L16K	Owhat River	80.86	24	P	P	00 41 29.2	+0.8
	baz=238						
O17K	Koliganek Bris	80.88	26	P	P	00 41 28.8	+0.3
	baz=241						
P17K	Kvichak River	80.89	27	P	P	00 41 29.4	+0.7
	baz=242						
G15K	Niukluk	80.99	20	P	P	00 41 29.9	+0.8
	baz=234						
N17K	Nushagak Hills	81.21	26	P	P	00 41 31.4	+1.0
	baz=241						
J16K	Anvik River	81.26	22	P	P	00 41 31.3	+0.7
	baz=237						
H16K	Elim	81.41	21	P	P	00 41 32.8	+1.5
	baz=236						
OHAK	Old Harbor	81.48	30	P	P	00 41 32.4	+0.5
	baz=245						
P18K	Big Mountain,	81.54	27	P	P	00 41 32.9	+0.7
	baz=243						
M17K	Holitna River	81.54	25	P	P	00 41 33.3	+1.3
	baz=240						
L17K	Donlin	81.55	24	P	P	00 41 33.3	+1.2
	baz=239						
G16K	Koyuk River	81.80	20	P	P	00 41 34.9	+1.6
	baz=235						
N18K	Kilae Creek	81.85	26	P	P	00 41 35.6	+1.9
	baz=242						
K17K	Iditarod	81.85	23	P	P	00 41 35.5	+1.9
	baz=239						
J17K	VABM Dome	81.90	23	P	P	00 41 35.8	+1.9
	baz=239						
Q19K	Cape Douglas,	82.06	28	P	P	00 41 36.9	+2.0
	baz=244						
L18K	Granite Mounta	82.25	24	P	P	00 41 37.2	+1.4
	baz=241						
H17K	Granite Mounta	82.41	21	P	P	00 41 38.1	+1.5
	baz=238						
G17K	Kiwalik Mounta	82.45	21	P	P	00 41 38.3	+1.5
	baz=237						
Q20K	Shuyak Island	82.51	29	P	P	00 41 38.3	+1.1
	baz=245						
N19K	Bonanza Creek	82.52	26	P	P	00 41 38.4	+1.1
	baz=243						
P19K	Oil Pt	82.56	27	P	P	00 41 38.2	+0.7
	baz=244						
C16K	Ilsbunne Hills	82.57	17	P	P	00 41 38.7	+1.4
	baz=232						
F17K	Baldwin Pennin	82.77	20	P	P	00 41 39.7	+1.4
	baz=236						
J18K	Innoko River	82.85	23	P	P	00 41 39.7	+0.8
	baz=241						
D17K	Noatak River	82.90	18	P	P	00 41 39.5	+0.5
	baz=234						
E17K	Hotham Inlet	82.94	19	P	P	00 41 39.7	+0.4
	baz=236						
L19K	White Mountain	82.99	25	P	P	00 41 40.8	+1.1
	baz=243						
M19K	Big River Lodg	83.06	25	P	P	00 41 40.4	+0.4
	baz=243						
H18K	Honhosa River	83.08	21	P	P	00 41 40.5	+0.5
	baz=239						
RDOG	Red Dog Mine	83.17	18	P	P	00 41 40.8	+0.4
	baz=234						
HOM	Homer	83.30	28	P	P	00 41 41.5	+0.3
	baz=246						
C17K	DeLong Mountai	83.33	17	P	P	00 41 42.0	+0.7
	baz=234						
G18K	Tagagawik	83.36	21	P	P	00 41 42.1	+0.6
	baz=239						
F18K	Selawik	83.39	20	P	P	00 41 42.9	+1.3
	baz=238						
GCSA	Galena City Sc	83.42	22	P	P	00 41 42.5	+0.7
	baz=240						
E18K	Tukpahlearik C	83.53	19	P

baz=246
C18K **Utukok River** 84.03 18 P P 00 41 46.7 +1.8
baz=236
G19K **Purcell Mounta** 84.04 21 P P 00 41 46.1 +1.1
G19K IAmb IAmb 00 41 57.6
comp=Z,12nm,1.3s
G19K **Purcell Mounta** 84.04 21 P P 00 41 46.5 +1.5
baz=240
F19K **Shaleruckik Mo** 84.15 20 P P 00 41 46.6 +1.1
baz=239
J20K **Nowinta River** 84.19 23 P P 00 41 46.6 +0.9
J20K IAmb IAmb 00 41 48.2
comp=Z,7.2nm,1.1s
J20K **Nowinta River** 84.19 23 P P 00 41 47.0 +1.2
baz=243
B18K **Kokolik River** 84.25 17 P P 00 41 47.5 +1.6
baz=235
SKT **Skwentna** 84.31 26 P P 00 41 47.5 +1.1
baz=246
PPLA **Purkeypile** 84.42 25 P P 00 41 48.1 +1.0
baz=245
SUA **Susitna One** 84.44 26 P P 00 41 47.6 +0.3
baz=246
BVAR **Borovoye Array** 84.48 325 P P 00 41 48.1 +0.6
comp=Z,13nm,0.8s,baz=115,slow=5.7,SNR=48
comp=Z,13nm,0.8s
SEW **Seward** 84.49 28 P P 00 41 47.7 +0.4
baz=248
H20K **Anotleneega Mo** 84.52 22 P P 00 41 48.2 +0.8
baz=242
BRVK **Borovoye** 84.56 325 P P 00 41 48.4 +0.6
E19K **Redstone River** 84.65 20 P P 00 41 48.6 +0.6
baz=240
CAST **Castle Rocks** 84.68 24 P P 00 41 48.3 0.0
CAST IAmb IAmb 00 41 49.5
comp=Z,5.8nm,1.1s
CAST **Castle Rocks** 84.68 24 P P 00 41 49.0 +0.7
baz=245
RC01 **Rabbit Creek A** 84.74 27 P P 00 41 49.3 +0.7
baz=247
C19K **Lookout Ridge** 84.77 18 P P 00 41 49.5 +0.9
baz=238
CHUM **Lake Minchumin** 84.79 24 P P 00 41 49.9 +1.1
baz=245
M22K **Willow** 84.83 26 P P 00 41 50.1 +1.1
baz=247
D19K **Kuna River** 84.90 19 P P 00 41 50.4 +1.1
baz=239
A19K **Wainwright** 84.94 16 P P 00 41 50.7 +1.3
baz=236
F20K **Avaraart Lake** 84.96 20 P P 00 41 50.6 +1.0
F20K IAmb IAmb 00 41 55.9
comp=Z,6.7nm,1.4s
F20K **Avaraart Lake** 84.96 20 P P 00 41 51.3 +1.7
baz=241
IMAR **Indian Mountai** 85.17 22 P P 00 41 51.3 +0.7
H21K **Melozitna Rive** 85.37 22 P P 00 41 52.0 +0.3
baz=244
E20K **Nigu River** 85.40 19 P P 00 41 53.2 +1.4
baz=241
P23K **Montague Islan** 85.41 28 P P 00 41 53.4 +1.5
baz=250
BPAW **Bear Paw Mtn.** 85.41 24 P P 00 41 53.3 +1.4
baz=246
TRF **Thorofare Moun** 85.43 24 P P 00 41 53.4 +1.2
baz=247
I21K **Tanana** 85.47 23 P P 00 41 53.7 +1.6
baz=245
D20K **Etivluk River** 85.48 19 P P 00 41 53.5 +1.3
baz=240
G21K **Allakaket** 85.49 21 P P 00 41 52.8 +0.5
baz=243
SML **Sawmill** 85.64 26 P P 00 41 53.6 +0.4
SML **Sawmill** 85.64 26 P P 00 41 53.8 +0.6
baz=248
F21K **Alatna River** 85.82 20 P P 00 41 55.3 +1.4
baz=243
GLI **Glacier Island** 85.86 27 P P 00 41 55.3 +1.1
baz=250
MLY **Manley** 85.89 23 P P 00 41 54.7 +0.4
MLY IAmb IAmb 00 41 55.9
comp=Z,5.1nm,1.0s
MLY **Manley** 85.89 23 P P 00 41 55.3 +1.0
baz=246
M23K **Glacier View** 85.90 26 P P 00 41 55.5 +1.1
baz=249
WAT1 **Susitna Watana** 85.92 25 P P 00 41 55.5 +1.0
baz=248
B20K **Meade River** 85.97 17 P P 00 41 55.4 +0.8
baz=240
H22K **Ishtalitna Cre** 86.00 22 P P 00 41 55.9 +1.1
baz=246
RND **Reindeer** 86.01 25 P P 00 41 54.5 -0.5
RND IAmb IAmb 00 41 55.6
comp=Z,10.0nm,1.0s
SCM **Sheep Creek Mo** 86.09 27 P P 00 41 56.7 +1.2
baz=249
MCK **McKinley** 86.10 24 P P 00 41 56.4 +1.0
baz=248
WAT6 **Susitna Watana** 86.18 26 P P 00 41 56.8 +0.8
baz=249
E21K **Killik River** 86.21 19 P P 00 41 56.3 +0.5
baz=243
C21K **Knifeblade Rid** 86.28 19 P P 00 41 56.8 +0.7
baz=242
EYAK **Cordova Ski Ar** 86.37 28 P P 00 41 57.9 +1.2
baz=251
NEA2 **Nenana** 86.37 24 P P 00 41 57.7 +1.1
baz=248
G22K **Bettles** 86.39 21 P P 00 41 58.1 +1.4
baz=245
F22K **John River** 86.40 20 P P 00 41 58.2 +1.4
baz=245
I23K **Minto, Yukon-K** 86.47 23 P P 00 41 58.4 +1.3
baz=247
DHY **Denali Highway** 86.51 25 P P 00 41 57.7 +0.2
DHY **Denali Highway** 86.51 25 P P 00 41 58.8 +1.3
baz=249
B21K **Ikpikpuk River** 86.55 18 P P 00 41 58.9 +1.5
baz=242
KLU **Klutina** 86.60 27 P P 00 41 59.5 +1.5
baz=251
H23K **Yukon River** 86.66 22 P P 00 41 59.8 +1.7
baz=247
M24K **Tolsona, Glenn** 86.69 26 P P 00 41 59.9 +1.6
baz=250
A21K **Barrow** 86.79 16 P P 00 41 59.6 +1.1
baz=240
E22K **Anaktuvuk Pass** 86.79 20 P P 00 41 60.0 +1.2
baz=245
D22K **Ayikyak River** 86.83 19 P P 00 41 59.9 +1.1
D22K IAmb IAmb 00 42 01.6
comp=Z,12nm,1.5s
D22K **Ayikyak River** 86.83 19 P P 00 42 00.1 +1.3
baz=244
G23K **Bananza Creek** 86.83 22 P P 00 42 00.3 +1.3
baz=247
COLA **College** 86.96 24 P P 00 42 01.0 +1.5
baz=249
COLD **Coldfoot** 86.98 21 P P 00 42 00.9 +1.3
baz=246
BMRM **Bremner River** 87.03 28 P P 00 42 01.6 +1.5
baz=252
A22K **Sinclair Lake** 87.10 17 P P 00 42 01.5 +1.5
baz=242
HDA **Harding Lake** 87.16 24 P P 00 42 01.5 +1.0
baz=250
N25K **Chitina, Valde** 87.24 27 P P 00 42 01.6 +0.5
baz=252
HARP **HAARP** 87.24 26 P P 00 42 00.8 -0.2
baz=251
B22K **Teshekpuk Lake** 87.25 18 P P 00 42 01.7 +0.9
B22K **Teshekpuk Lake** 87.25 18 P P 00 42 00.8 0.0
baz=243,SNR=8.6
PAX **Paxson** 87.29 26 P P 00 42 01.7 +0.4
baz=251
H24K **Noodor Dome** 87.30 23 P P 00 42 01.6 +0.4
baz=249
ILAR **Eielson Array** 87.31 24 P P 00 42 00.3 -0.9
ILAR **Eielson Array** 87.31 24 P P 00 41 59.9 -1.3
comp=Z,3.3nm,0.9s,baz=256,slow=5.1,SNR=28
comp=Z,3.3nm,0.9s
K24K **Donnelly Dome** 87.44 25 P P 00 42 02.3 +0.4
baz=251
E23K **Chandalar** 87.51 20 P P 00 42 02.9 +0.6
baz=247
D23K **Nanushuk River** 87.52 19 P P 00 42 03.4 +1.3
baz=246
TOLK **Toolik Lake Re** 87.76 20 P P 00 42 04.6 +1.2
TOLK IAmb IAmb 00 42 10.5
comp=Z,6.3nm,1.1s
TOLK **Toolik Lake Re** 87.76 20 P P 00 42 05.2 +1.8
baz=247
G24K **Hadweenzic Riv** 87.77 22 P P 00 42 04.3 +0.9
baz=249
J25K **Salcha River,** 87.87 24 P P 00 42 04.4 +0.4
baz=251,SNR=6.5
MCARA **McCarthy VSAT** 87.89 28 P P 00 42 04.1 0.0
baz=253
C23K **Itkillik River** 87.90 19 P P 00 42 04.1 +0.2
baz=246,SNR=15
E24K **Your Creek** 87.91 20 P P 00 42 05.0 +0.8
baz=248
F24K **Squaw Lake** 87.92 21 P P 00 42 04.7 +0.5
baz=249,SNR=7.4
PRP **Porcupine Dome** 88.11 23 P P 00 42 04.4 -0.8
baz=251
M26K **Nabesna, AK** 88.20 27 P P 00 42 05.5 -0.1
baz=253
D24K **Happy Valley** 88.21 19 P P 00 42 05.8 +0.4
baz=248,SNR=12
L26K **Log Cabin Wild** 88.23 26 P P 00 42 05.9 +0.2
baz=253
H25L **Birch Creek** 88.24 23 P P 00 42 05.7 +0.1
baz=251
SCRK **Sand Creek** 88.24 25 P P 00 42 06.4 +0.6
baz=252
C24K **Franklin Bluff** 88.46 19 P P 00 42 07.2 +0.6
baz=248,SNR=6.0
CTG **Chitna Glacier** 88.56 28 P P 00 42 07.8 +0.4
baz=255
J26L **Joseph Creek** 88.58 25 P P 00 42 07.5 +0.1
baz=253,SNR=5.7
M27K **Edge Creek, AK** 88.69 27 P P 00 42 08.9 +0.8
M27K IAmb IAmb 00 42 10.7
comp=Z,8.2nm,1.1s
M27K **Edge Creek, AK** 88.69 27 P P 00 42 08.2 +0.2
baz=254
F25K **Christian Rive** 88.75 21 P P 00 42 08.3 +0.2
baz=251,SNR=6.3
L27K **Beaver Creek,** 88.90 26 P P 00 42 09.6 +0.7
baz=254,SNR=6.7
BCAR **Beaver Creek A** 88.92 26 P P 00 42 09.7 +0.7
E25K **Arctic Village** 88.95 21 P P 00 42 09.9 +0.8
baz=251,SNR=5.6
I26K **Coal Creek Min** 88.98 24 P P 00 42 08.9 -0.3
baz=253
O28M **Mount Upton** 89.05 29 P P 00 42 09.7 -0.3
baz=256
K27K **Chicken** 89.06 25 P P 00 42 09.9 +0.4
baz=254,SNR=7.0
D25K **Kavik River** 89.08 20 P P 00 42 10.0 +0.4
baz=250
BMAR **Burnt Mountain** 89.08 22 P P 00 42 10.9 +1.3
PNL **Peninsula** 89.17 30 P P 00 42 10.3 +0.1
baz=256
YUK3 **Moose Creek** 89.18 28 P P 00 42 10.6 +0.2
baz=256
G26K **Porcupine Rive** 89.23 22 P P 00 42 11.0 +0.8
baz=252,SNR=6.5
F26K **Sheenjek River** 89.33 21 P P 00 42 11.4 +0.6
baz=252,SNR=9.8
YUK8 **Steele Glacier** 89.38 28 P P 00 42 11.7 +0.2
baz=256
EGAK **Eagle** 89.65 25 P P 00 42 12.2 -0.1
baz=255
I27K **Kandik River** 89.68 24 P P 00 42 12.6 +0.1
baz=254,SNR=9.5
C26K **Camden Bay** 89.77 19 P P 00 42 13.7 +1.0
baz=251
H27K **Steamboat Moun** 89.89 23 P P 00 42 14.1 +0.6
baz=254,SNR=8.1
YUK4 **Talbot Arm** 89.92 28 P P 00 42 14.5 +0.6
baz=257
YUK6 **Outpost Mounta** 89.96 29 P P 00 42 14.1 -0.1
baz=257
P29M **Windy Craggy** 89.98 30 P P 00 42 13.4 -0.6
baz=258
G27K **Doyon Strip** 90.00 23 P P 00 42 14.9 +1.0
baz=254
ABKAR **Akbulak array** 90.00 319 P P 00 42 13.6 -0.6
ABKAR **Akbulak array** 90.00 319 P P 00 42 13.8 -0.4
C27K **Jago River** 90.07 20 P P 00 42 15.3 +1.1
baz=252
DAWY **Dawson** 90.21 25 P P 00 42 15.5 +0.5
baz=256
M29M **Somme Creek** 90.25 27 P P 00 42 15.7 +0.4
baz=257
I28M **Miner Creek** 90.32 24 P P 00 42 16.1 +0.6
baz=256
HYT **Haines Junctio** 90.35 29 P P 00 42 16.1 +0.3
baz=258
E27K **Coleen River** 90.39 21 P P 00 42 16.2 +0.5
baz=254
S31K **Pelican** 90.42 32 P P 00 42 16.8 +0.8
baz=259
P30M **Million Dollar** 90.47 30 P P 00 42 16.6 +0.3
baz=259
L29M **L29M** 90.55 27 P P 00 42 17.3 +0.7
baz=258
PLBC **Pleasant Camp** 90.63 30 P P 00 42 17.8 +0.8
baz=259
N30M **Aishikik Lake** 90.68 28 P P 00 42 18.1 +0.9
baz=258
F28M **Old Crow** 90.87 22 P P 00 42 19.1 +1.1
baz=256
D27M **Malcolm River** 90.89 20 P P 00 42 18.8 +0.7
baz=255
K29M **Barlow Dome** 90.97 26 P P 00 42 19.2 +0.6
baz=258,SNR=5.7
O30N **Mendenhall** 91.02 29 P P 00 42 19.3 +0.5
baz=259
H29M **Whitestone** 91.13 23 P P 00 42 19.6 +0.4
baz=257
S32K **Killisnoo** 91.20 32 P P 00 42 20.2 +0.6
baz=261
E28M **Babbage River** 91.24 21 P P 00 42 20.2 +0.6
baz=256
AKTO **Aktyubinsk** 91.41 320 P P 00 42 19.4 -1.4
comp=Z,0.8nm,0.5s,baz=29,slow=4.6,SNR=2.4
comp=Z,0.8nm,0.5s
G29M **Pine Creek** 91.41 23 P P 00 42 21.3 +0.8
baz=258
WHY **Whitehorse** 91.58 29 P P 00 42 21.6 0.0
baz=260
D28M **Stokes Point** 91.68 20 P P 00 42 22.4 +0.8
baz=257
I30M **Mount Dempster** 91.73 25 P P 00 42 22.3 +0.1
baz=259
U33K **Whale Pass** 91.78 34 P P 00 42 23.0 +0.7
baz=262
EPYK **Eagle Plains** 91.81 23 P P 00 42 21.8 -0.6
baz=259
ARU **Arti** 91.93 326 P P 00 42 21.5 -1.5
comp=Z,0.8nm,0.3s,baz=94,slow=4.9,SNR=4.3
comp=Z,0.8nm,0.3s
P32M **Atlin** 91.99 30 P P 00 42 20.0 -3.3
baz=261
M31M **Drury Creek, Y** 92.07 28 P P 00 42 20.9 -2.7
baz=261
G30M **tAoh Zraii Nji** 92.12 23 P P 00 42 21.1 -2.7
baz=259
F30M **Barrier River** 92.40 22 P P 00 42 21.9 -3.2
baz=260
P33M **Teslin, Yukon** 92.53 30 P P 00 42 23.0 -2.9
baz=262
N32M **Quiet Lake** 92.53 29 P P 00 42 24.1 -1.8
baz=262
ELIB **Princess Elisa** 92.91 196 *d*P P 00 42 29.5 +1.9
comp=Z,2.7nm,1.1s
PKM **Mcpherson Peak** 99.55 56 P Pdif 00 42 54.8 -3.8
baz=269
MLAC **Mammoth, Mammt** 100.36 53 P Pdif 00 42 59.2 -3.0
baz=270
ARVC **Arvin** 100.36 56 P Pdif 00 42 58.7 -3.2
baz=270
OSI **Osito Audit: C** 100.44 56 P Pdif 00 43 01.5 -0.8
baz=270
SCI2 **San Clemente I** 100.58 58 P Pdif 00 43 01.6 -1.2
baz=270
CIS **Catalina Islan** 100.69 57 P Pdif 00 43 01.9 -1.5
baz=270
FMP **Fort Macarthur** 100.80 57 P Pdif 00 43 02.9 -0.9
baz=270
TIN **Tinemaha, Big** 100.84 54 P Pdif 00 43 00.8 -3.3
baz=270
CWC **Cottonwood Cre** 100.97 54 P Pdif 00 43 02.7 -2.1
baz=270
GSC **Goldstone, Bar** 102.02 55 P Pdif 00 43 08.2 -1.1
baz=271
PFO **Pinyon Flats O** 102.33 57 P Pdif 00 43 09.4 -1.4
baz=271
TPFO **Pinon Flats** 102.33 57 P Pdif 00 43 09.2 -1.7
baz=271
MONP2 **Monument Peak** 102.37 58 P Pdif 00 43 10.2 -1.0
baz=271
RLMT **Red Lodge** 106.99 45 P PKiKP 00 47 40.0 -1.0
baz=279
O20A **White River Ci** 108.44 50 P PKiKP 00 47 42.7 -1.2
baz=278
MVCO **Mesa Verde** 108.59 53 P PKiKP 00 47 43.2 -1.0
baz=277
LAO **LASA Array** 108.82 43 P PKiKP 00 47 42.9 -1.3
baz=281
121A **Cookes Peak, D** 109.65 58 P PKiKP 00 47 45.0 -1.3
baz=275
DGMT **Dagmar** 109.78 41 P PKiKP 00 47 45.4 -0.5
baz=284
Y22D **IRIS PASSCAL I** 110.22 56 P PKiKP 00 47 46.1 -1.2
baz=276
Y22F **Passcal Instru** 110.22 56 P PKiKP 00 47 45.4 -1.8
baz=276
ISCO **Idaho Springs** 110.48 50 P PKiKP 00 47 46.0 -1.8
baz=279
ANMO **Albuquerque** 110.50 55 P PKiKP 00 47 46.6 -1.3
baz=277
RSSD **Black Hills** 110.84 45 P PKiKP 00 47 47.2 -1.1
baz=282
SDCO **Great Sand Dun** 110.89 52 P PKiKP 00 47 47.5 -1.1
baz=279
Q24A **Divide** 110.97 51 P PKiKP 00 47 47.2 -1.6
baz=279
MNTX **Cornudas Mount** 111.77 58 P PKiKP 00 47 48.7 -1.4
baz=276
T25A **Trinidad** 111.84 53 P PKiKP 00 47 47.4 -3.0
baz=279
MDND **Maddock** 112.91 40 P PKiKP 00 47 50.8 -1.0
baz=287
OGNE **Ogallala** 112.96 48 P PKiKP 00 47 50.0 -2.2
baz=282
AMTX **Amarillo** 114.39 55 P PKPdf 00 47 51.5 -3.6
baz=280
AGMN **Agassiz Nation** 115.14 39 P PKiKP 00 47 55.1 -1.0
baz=290
ECSD **EROS Data Cent** 116.13 44 P PKPdf 00 47 57.9 -0.2
baz=288
JCT **Junction City** 116.67 59 P PKPdf 00 47 58.1 -1.5
baz=279
833A **Chaparral WMA,** 117.34 61 P PKPdf 00 47 58.9 -1.9
baz=278
KSU1 **Kansas State U** 117.44 49 P PKPdf 00 47 58.3 -2.5
baz=286
EYMN **Ely** 117.99 38 P PKPdf 00 47 59.5 -2.0
baz=294
435B **Jarrell** 118.51 58 P PKPdf 00 48 00.9 -2.2
baz=280
TUL3 **Leonard** 118.88 52 P PKPdf 00 48 01.8 -1.8
baz=284
TZTN **Tazewell** 128.03 48 P PKPdf 00 48 18.7 -2.5
baz=294
O53A **New Philadelph** 128.03 42 P PKPdf 00 48 18.6 -2.4
baz=299
MCWV **Mont Chateau** 129.24 42 P PKPdf 00 48 21.1 -2.2
baz=300
GOGA **Godfrey** 129.31 51 P PKPdf 00 48 21.1 -2.5
baz=292
LONY **Lake Ozonia** 129.72 34 P PKPdf 00 48 21.0 -3.1
baz=308
SSPA **Standing Stone** 130.02 40 P PKPdf 00 48 21.9 -2.9
baz=302
BINY **Binghamton** 130.35 38 P PKPdf 00 48 22.2 -3.2
baz=305
LBNH **Lisbon** 131.43 33 P PKPdf 00 48 24.9 -2.4
baz=311
LPAZ **La Paz** 142.11 126 PKP PKPdf 00 48 46.2 -2.5
comp=Z,0.7nm,0.6s,baz=201,slow=6.9,SNR=4.9
DBIC **Dimbokro** 147.87 273 PKPbc PKiKP 00 49 02.9 +0.2
comp=Z,5.8nm,1.0s,baz=349,slow=5.2,SNR=1.5

NEIC ***13*** *00:30:52.7±1.5,56°.59N±0°.08×147°.8W±0°.1,h17km±7km, mb3.6/2,ML3.6/70,ML3.3(AEIC),Error ellipse: s-maj=11.6km s-min=7.5km az=158.0*
IDC ***13*** *00:30:52.3±1.4,56°.68N×147°.99W,h0km,mb3.8/7, mbtmp3.7/11,ML3.3/4,MS3.0/2,Error ellipse: s-maj=28.0km s-min=21.8km az=5.0*
AEIC ***13*** *00:30:57.1±1.4,56°.67N±0°.08×147°.9W±0°.1,h12km±7km, Error ellipse: s-maj=11.5km s-min=8.2km az=159.0*

ISC 13 00:30:53.7±0.8,56.75N±0°.07×147.97W±0°.05,h10km, n208,n0θ95/214,mb3.9/7,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.71**	**294**	Pn	**Pn**	**00 31 36.8**	**-0.4**
KDAK				Sn	**Sn**	**00 32 08.1**	**-2.0**
KDAK	**Kodiak Island**	**2.71**	**294**	S	**Sn**	**00 32 07.7**	**-2.4**
	baz=113						
KDAK	**Kodiak Island**	**2.71**	**294**	Pn	**Pn**	**00 31 35.8**	**-1.5**
	6.6nm,0.3s,baz=111,slow=6.7,SNR=132						
KDAK				Sn	**Sn**	**00 32 07.6**	**-2.5**
	6.8nm,0.3s,baz=107,slow=19,SNR=5.0						
KDAK				LR	LR	00 32 53.1	
	comp=Z,160nm,18.2s,baz=201,slow=44						
	14nm,0.4s						
Q23K	**Middleton Isla**	**2.82**	**17**	Pn	**Pn**	**00 31 37.8**	**-1.0**
Q23K				IAML		00 32 11.4	
	comp=E,141nm,1.3s						
Q23K	**Middleton Isla**	**2.82**	**17**		**Sn**	**00 32 09.9**	**-2.9**
Q23K	**Middleton Isla**	**2.82**	**17**	P	**Pn**	**00 31 37.5**	**-1.3**
	baz=196						
Q23K				S	**Sn**	**00 32 09.9**	**-2.9**
	baz=196						
OHAK	**Old Harbor**	**2.95**	**281**	P	**Pn**	**00 31 39.6**	**-0.9**
OHAK	**Old Harbor**	**2.95**	**281**	Pn	**Pn**	**00 31 39.3**	**-1.2**
OHAK				Sn	**Sn**	**00 32 12.5**	**-3.4**
OHAK	**Old Harbor**	**2.95**	**281**	P	**Pn**	**00 31 39.3**	**-1.2**
	baz=100						
OHAK				S	**Sn**	**00 32 13.3**	**-2.6**
	baz=100						
SYI	**Shuyak Island**	**3.02**	**310**	Pn	**Pn**	**00 31 41.4**	**0.0**
SYI				Sn	**Sn**	**00 32 16.3**	**-1.4**
SYI				IAML		00 32 18.1	
	comp=N,112nm,0.7s						
SYI				IAML		00 32 18.9	
	comp=E,96nm,0.6s						
Q20K	**Shuyak Island**	**3.02**	**310**	P	**Pn**	**00 31 41.5**	**0.0**
	baz=128						
Q20K				S	**Sn**	**00 32 16.4**	**-1.3**
	baz=128						
P23K	**Montague Islan**	**3.27**	**5**		**Pn**	**00 31 44.5**	**-0.4**
P23K					**Sn**	**00 32 21.3**	**-2.6**
P23K	**Montague Islan**	**3.27**	**5**	P	**Pn**	**00 31 44.5**	**-0.4**
	baz=184						
P23K				S	**Sn**	**00 32 21.3**	**-2.6**
	baz=184						
CNPM	**China Poot**	**3.28**	**330**	Pn	**Pn**	**00 31 45.1**	**0.0**
CNPM				Sn	**Sn**	**00 32 22.7**	**-1.4**
BRSE	**Bradley Lake S**	**3.34**	**335**		**Pn**	**00 31 45.7**	**-0.2**
BRSE					**Sn**	**00 32 24.2**	**-1.4**
BRSE	**Bradley Lake S**	**3.34**	**335**	P	**Pn**	**00 31 46.0**	**+0.1**
	baz=153						
BRSE				S	**Sn**	**00 32 24.3**	**-1.4**
	baz=153						
BRLK	**Bradley Lake**	**3.39**	**334**		**Pn**	**00 31 46.3**	**-0.3**
BRLK				Sn	**Sn**	**00 32 24.8**	**-2.1**
BRLK				IAML		00 32 29.5	
	comp=N,71nm,0.1s						
SII	**Sitkinak Islan**	**3.44**	**269**	P	**Pn**	**00 31 46.4**	**-0.8**
SII	**Sitkinak Islan**	**3.44**	**269**	Pn	**Pn**	**00 31 46.1**	**-1.2**
SII				Sn	**Sn**	**00 32 24.8**	**-3.2**
SII				IAML		00 33 57.9	
	comp=N,73nm,1.5s						
SII	**Sitkinak Islan**	**3.44**	**269**	P	**Pn**	**00 31 46.0**	**-1.2**
	baz=87						
SEW	**Seward**	**3.46**	**348**		**Sn**	**00 32 25.5**	**-2.8**
SEW	**Seward**	**3.46**	**348**	P	**Pn**	**00 31 47.5**	**+0.1**
	baz=166						
SEW				S	**Sn**	**00 32 26.8**	**-1.5**
	baz=166						
HOM	**Homer**	**3.51**	**328**	Pn	**Pn**	**00 31 48.8**	**+0.6**
HOM				IAML		00 32 32.1	
	comp=E,215nm,0.8s						

HOM	**Homer**	**3.51**	**328**	P	**Pn**	**00 31 48.6**	**+0.5**
	baz=145							
KAIM	**Kayak Island**	**3.70**	**29**	Pn	**Pn**	**00 31 50.2**	**-0.6**
KAIM				IAML		00 32 41.4		
	comp=N,98nm,1.1s							
KAIM				IAML		00 32 48.4		
	comp=E,80nm,1.5s							
KAIM	**Kayak Island**	**3.70**	**29**	P	**Pn**	**00 31 50.0**	**-0.8**
	baz=210							
HIN	**Hinchinbrook I**	**3.74**	**11**	Pn	**Pn**	**00 31 51.1**	**-0.3**
HIN				IAML		00 32 34.2		
	comp=N,168nm,0.6s							
Q19K	**Cape Douglas,**	**3.74**	**308**	Pn	**Pn**	**00 31 51.6**	**+0.1**
Q19K				IAML		00 32 51.8		
	comp=N,130nm,0.9s							
Q19K	**Cape Douglas,**	**3.74**	**308**	P	**Pn**	**00 31 51.5**	**+0.1**
	baz=125							
O22K	**Cooper Landing**	**3.85**	**347**	Pn	**Pn**	**00 31 53.0**	**0.0**
O22K	**Cooper Landing**	**3.85**	**347**	P	**Pn**	**00 31 53.2**	**+0.3**
	baz=165							
O22K				S	**Sn**	**00 32 38.0**	**-0.2**
	baz=165							
SLKM	**Skilak Lake**	**3.95**	**344**		**Pn**	**00 31 54.1**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.98**	**16**	P	**Pn**	**00 31 54.5**	**-0.2**
EYAK	**Cordova Ski Ar**	**3.98**	**16**		**Pn**	**00 31 54.3**	**-0.4**
EYAK	**Cordova Ski Ar**	**3.98**	**16**	P	**Pn**	**00 31 54.3**	**-0.4**
	baz=196							
SUCK	**Suckling Hills**	**4.00**	**32**		**Pn**	**00 31 54.6**	**-0.3**
SUCK				IAML		00 32 40.6		
	comp=E,65nm,1.5s							
SUCK				IAML		00 32 41.8		
	comp=N,74nm,0.6s							
P19K	**Oil Pt**	**4.03**	**318**	Pn	**Pn**	**00 31 55.9**	**+0.5**
P19K	**Oil Pt**	**4.03**	**318**	P	**Pn**	**00 31 55.6**	**+0.2**
	baz=135							
RAGM	**Ragged Mountai**	**4.04**	**24**	Pn	**Pn**	**00 31 55.4**	**-0.1**
RAGM				IAML		00 32 43.0		
	comp=E,107nm,0.7s							
NICHA	**Nichawak Mount**	**4.08**	**29**		**Pn**	**00 31 55.7**	**-0.3**
FID	**Port Fidalgo**	**4.09**	**10**	Pn	**Pn**	**00 31 55.6**	**-0.6**
FID				IAML		00 32 43.1		
	comp=E,95nm,0.6s							
FID				IAML		00 32 43.9		
	comp=N,68nm,0.5s							
HMT	**Hamilton**	**4.09**	**27**		**Pn**	**00 31 56.0**	**-0.2**
O20K	**Slope Mountain**	**4.14**	**326**		**Pn**	**00 31 57.3**	**+0.3**
O20K	**Slope Mountain**	**4.14**	**326**	P	**Pn**	**00 31 57.3**	**+0.3**
	baz=142							
GLI	**Glacier Island**	**4.17**	**6**	Pn	**Pn**	**00 31 57.0**	**-0.3**
GLI				IAML		00 32 43.9		
	comp=E,104nm,0.8s							
GLI				IAML		00 32 43.9		
	comp=N,41nm,0.9s							
GLI	**Glacier Island**	**4.17**	**6**	P	**Pn**	**00 31 57.0**	**-0.3**
	baz=186							
IVE	**Iliamna Volcan**	**4.22**	**323**		**Pn**	**00 31 57.8**	**-0.2**
BERG	**Berg Lake**	**4.28**	**30**		**Pn**	**00 31 58.3**	**-0.6**
BERG				IAML		00 32 48.4		
	comp=N,98nm,0.5s							
GRIN	**Grindle Hills**	**4.30**	**33**		**Pn**	**00 31 58.4**	**-0.7**
CAPN	**Captain Cook N**	**4.36**	**339**	Pn	**Pn**	**00 32 01.1**	**+1.3**
CHIR	**Chirikof Islan**	**4.36**	**261**	Pn	**Pn**	**00 31 58.7**	**-1.2**
CHIR				IAML		00 32 50.8		
	comp=N,64nm,1.0s							
CHIR				IAML		00 32 57.8		
	comp=E,62nm,1.5s							
CHIR	**Chirikof Islan**	**4.36**	**261**	P	**Pn**	**00 31 59.2**	**-0.7**
	baz=77							
SNH	**Sunshine Point**	**4.37**	**36**	Pn	**Pn**	**00 31 59.6**	**-0.5**
SNH				IAML		00 33 05.9		
	comp=E,41nm,1.2s							
SNH				IAML		00 33 21.7		
	comp=N,42nm,1.4s							
RC01	**Rabbit Creek A**	**4.45**	**349**	Pn	**Pn**	**00 32 01.3**	**+0.2**
RC01				IAML		00 32 51.7		
	comp=E,54nm,0.8s							
RC01				IAML		00 32 52.2		
	comp=N,58nm,0.8s							
RC01	**Rabbit Creek A**	**4.45**	**349**	P	**Pn**	**00 32 01.3**	**+0.2**
	baz=167							
RED	**Redoubt Volcan**	**4.46**	**328**		**Pn**	**00 32 01.1**	**-0.2**
RDT	**Redoubt**	**4.48**	**331**		**Pn**	**00 32 01.5**	**-0.2**
CNTC	**Contact Creek**	**4.53**	**293**		**Pn**	**00 32 02.5**	**+0.1**
Q17K	**Contact Creek**	**4.53**	**293**	P	**Pn**	**00 32 02.5**	**+0.1**
	baz=108							
RDWB	**Redoubt West**	**4.53**	**328**		**Pn**	**00 32 02.0**	**-0.4**
DIV	**Divide**	**4.54**	**14**		**Pn**	**00 32 02.1**	**-0.3**
WAX	**Waxell Ridge**	**4.58**	**34**		**Pn**	**00 32 02.4**	**-0.5**
WAX				IAML		00 32 54.9		
	comp=N,83nm,0.5s							
WAX				IAML		00 32 55.2		
	comp=E,63nm,0.4s							
BMRM	**Bremner River**	**4.58**	**21**		**Pn**	**00 32 02.2**	**-0.7**
BMRM	**Bremner River**	**4.58**	**21**	P	**Pn**	**00 32 02.2**	**-0.7**
	baz=202							
P18K	**Big Mountain,**	**4.68**	**308**	Pn	**Pn**	**00 32 03.8**	**-0.5**
P18K	**Big Mountain,**	**4.68**	**308**	P	**Pn**	**00 32 03.9**	**-0.5**
	baz=123							
O19K	**Port Alsworth**	**4.80**	**319**	Pn	**Pn**	**00 32 05.9**	**0.0**
O19K	**Port Alsworth**	**4.80**	**319**	P	**Pn**	**00 32 06.0**	**+0.1**
	baz=134							
ISLE	**Juniper Island**	**4.86**	**35**		**Pn**	**00 32 06.1**	**-0.7**
KLU	**Klutina**	**4.87**	**12**		**Pn**	**00 32 07.2**	**+0.2**
KLU				IAML		00 33 02.0		
	comp=E,56nm,0.4s							
KLU	**Klutina**	**4.87**	**12**	P	**Pn**	**00 32 07.1**	**0.0**
	baz=192							
O18K	**Koktuh Hills**	**4.93**	**312**	Pn	**Pn**	**00 32 07.4**	**-0.3**
O18K				IAML		00 33 07.0		
	comp=N,22nm,1.0s							
O18K	**Koktuh Hills**	**4.93**	**312**	P	**Pn**	**00 32 07.6**	**-0.1**
	baz=127							
SUA	**Susitna One**	**4.94**	**344**	Pn	**Pn**	**00 32 07.8**	**-0.1**
SUA				IAML		00 33 06.0		
	comp=E,25nm,0.7s							
SUA	**Susitna One**	**4.94**	**344**	P	**Pn**	**00 32 08.0**	**0.0**
	baz=162							
N20K	**Mount Spurr**	**4.97**	**336**	P	**Pn**	**00 32 08.5**	**+0.1**
	baz=152							
SPCR	**Spurr Chakacha**	**4.97**	**336**		**Pn**	**00 32 08.5**	**+0.1**
CKL	**Chakachamna La**	**5.00**	**335**		**Pn**	**00 32 09.0**	**+0.2**
SPCP	**Crater Peak Br**	**5.02**	**336**		**Pn**	**00 32 08.8**	**-0.3**
VRDI	**Verde Repeater**	**5.06**	**26**	Pn	**Pn**	**00 32 09.3**	**-0.4**
SML	**Sawmill**	**5.08**	**358**	Pn	**Pn**	**00 32 10.5**	**+0.7**
SML				IAML		00 33 08.6		
	comp=E,50nm,0.7s							
SML	**Sawmill**	**5.08**	**358**	P	**Pn**	**00 32 10.0**	**+0.2**
	baz=177							
KIAG	**Kiagna River**	**5.10**	**32**		**Pn**	**00 32 09.2**	**-1.1**
SCM	**Sheep Creek Mo**	**5.11**	**3**		**Pn**	**00 32 11.3**	**+1.0**
SCM				IAML		00 33 13.9		
	comp=E,40nm,0.9s							
SCM				IAML		00 33 14.8		
	comp=N,45nm,1.5s							
P17K	**Kvichak River**	**5.13**	**302**		**Pn**	**00 32 10.7**	**+0.2**
P17K	**Kvichak River**	**5.13**	**302**	P	**Pn**	**00 32 10.7**	**+0.2**
	baz=116							
STLK	**Strandline Lak**	**5.16**	**339**		**Pn**	**00 32 11.2**	**+0.2**
GLB	**Gilahina Butte**	**5.17**	**23**	Pn	**Pn**	**00 32 10.7**	**-0.4**
GLB				IAML		00 33 09.0		
	comp=N,20nm,0.4s							
GLB				IAML		00 33 09.1		
	comp=E,25nm,0.5s							
N25K	**Chitina, Valde**	**5.17**	**18**	Pn	**Pn**	**00 32 11.3**	**+0.2**
N25K				IAML		00 33 09.5		
	comp=N,39nm,0.5s							
N25K				IAML		00 33 09.8		
	comp=E,26nm,0.8s							
N25K	**Chitina, Valde**	**5.17**	**18**	P	**Pn**	**00 32 10.7**	**-0.4**
	baz=200							
SPNN	**North Nagishla**	**5.24**	**334**		**Pn**	**00 32 12.4**	**+0.4**
PTPK	**Patty Peak**	**5.28**	**30**		**Pn**	**00 32 12.2**	**-0.6**
R16K	**Pilot Point**	**5.29**	**283**	Pn	**Pn**	**00 32 14.2**	**+1.6**
N19K	**Bonanza Creek**	**5.30**	**323**	Pn	**Pn**	**00 32 12.3**	**-0.5**
N19K	**Bonanza Creek**	**5.30**	**323**	P	**Pn**	**00 32 12.9**	**+0.1**
	baz=138							
MCARA	**McCarthy VSAT**	**5.30**	**27**		**Pn**	**00 32 12.8**	**0.0**
MCARA	**McCarthy VSAT**	**5.30**	**27**	P	**Pn**	**00 32 12.2**	**-0.7**
	baz=209							
PNL	**Peninsula**	**5.40**	**54**	P	**Pn**	**00 32 13.0**	**-1.1**
PNL	**Peninsula**	**5.40**	**54**		**Pn**	**00 32 12.9**	**-1.2**
PNL	**Peninsula**	**5.40**	**54**	P	**Pn**	**00 32 12.9**	**-1.2**
	baz=239							
BARN	**Barnard Glacie**	**5.42**	**34**		**Pn**	**00 32 14.4**	**-0.2**
BCPM	**Bancas Point**	**5.44**	**50**	Pn	**Pn**	**00 32 14.2**	**-0.5**
CTGM	**Chitina Glacie**	**5.45**	**36**		**Pn**	**00 32 14.4**	**-0.6**
M24K	**Tolsona, Glenn**	**5.45**	**9**		**Pn**	**00 32 15.6**	**+0.6**
M24K	**Tolsona, Glenn**	**5.45**	**9**	P	**Pn**	**00 32 15.5**	**+0.6**
	baz=190							
LOGN	**Logan Glacier**	**5.46**	**39**		**Pn**	**00 32 14.4**	**-0.8**
SKT	**Skwentna**	**5.55**	**342**	Pn	**Pn**	**00 32 16.9**	**+0.6**
O17K	**Koliganek Bris**	**5.69**	**306**		**Pn**	**00 32 18.0**	**-0.1**
O17K	**Koliganek Bris**	**5.69**	**306**	P	**Pn**	**00 32 18.0**	**-0.1**
	baz=119							
N18K	**Kilae Creek**	**5.71**	**317**	Pn	**Pn**	**00 32 18.0**	**-0.4**
N18K	**Kilae Creek**	**5.71**	**317**	P	**Pn**	**00 32 18.1**	**-0.4**
	baz=131							
O28M	**Mount Upton**	**5.71**	**42**		**Pn**	**00 32 17.6**	**-1.1**
O28M	**Mount Upton**	**5.71**	**42**	P	**Pn**	**00 32 17.6**	**-1.1**
	baz=227							
M20K	**Styx River**	**5.79**	**335**	Pn	**Pn**	**00 32 19.8**	**+0.3**
CHGN	**Chignik**	**5.80**	**270**	Pn	**Pn**	**00 32 18.8**	**-0.8**
P16K	**Nushagak River**	**5.81**	**297**		**Pn**	**00 32 19.4**	**-0.4**
P16K	**Nushagak River**	**5.81**	**297**	P	**Pn**	**00 32 19.5**	**-0.4**
	baz=110							
O16K	**Kokwok River B**	**6.07**	**302**	Pn	**Pn**	**00 32 23.3**	**0.0**
O16K	**Kokwok River B**	**6.07**	**302**	P	**Pn**	**00 32 23.2**	**-0.1**
	baz=115							
N17K	**Nushagak Hills**	**6.12**	**312**	Pn	**Pn**	**00 32 23.6**	**-0.4**
N17K	**Nushagak Hills**	**6.12**	**312**	P	**Pn**	**00 32 23.9**	**-0.1**
	baz=125							
M19K	**Big River Lodg**	**6.12**	**330**	Pn	**Pn**	**00 32 23.9**	**-0.2**
P29M	**Windy Craggy**	**6.13**	**58**	Pn	**Pn**	**00 32 23.1**	**-1.2**
M18K	**Stony River**	**6.24**	**323**		**Pn**	**00 32 25.6**	**-0.1**
M18K	**Stony River**	**6.24**	**323**	P	**Pn**	**00 32 25.6**	**-0.1**
	baz=137							
DHY	**Denali Highway**	**6.36**	**2**		**Pn**	**00 32 28.1**	**+0.7**
DHY	**Denali Highway**	**6.36**	**2**	P	**Pn**	**00 32 27.7**	**+0.3**
	baz=182							
PAX	**Paxson**	**6.37**	**10**		**Pn**	**00 32 27.4**	**-0.1**
PAX	**Paxson**	**6.37**	**10**	P	**Pn**	**00 32 27.4**	**-0.1**
	baz=192							
M27K	**Edge Creek, AK**	**6.42**	**26**	Pn	**Pn**	**00 32 28.4**	**+0.1**
M27K	**Edge Creek, AK**	**6.42**	**26**	P	**Pn**	**00 32 27.4**	**-0.9**
	baz=210							
S31K	**Pelican**	**6.47**	**74**	Pn	Pn	00 32 25.3	-3.5
S31K	**Pelican**	**6.47**	**74**	P	Pn	00 32 25.6	-3.2
	baz=262							
L19K	**White Mountain**	**6.48**	**330**	Pn	**Pn**	**00 32 28.8**	**-0.2**
L19K	**White Mountain**	**6.48**	**330**	P	**Pn**	**00 32 28.6**	**-0.4**
	baz=144							
RND	**Reindeer**	**6.70**	**357**	Pn	**Pn**	**00 32 33.3**	**+1.4**
M17K	**Holitna River**	**6.75**	**318**		**Pn**	**00 32 32.6**	**-0.1**
M17K	**Holitna River**	**6.75**	**318**	P	**Pn**	**00 32 33.0**	**+0.3**
	baz=130							
O15K	**Ungalikthiuk R**	**6.76**	**296**		**Pn**	**00 32 33.5**	**+0.7**
O15K	**Ungalikthiuk R**	**6.76**	**296**	P	**Pn**	**00 32 33.5**	**+0.7**
	baz=107							
N16K	**Nishlik Lake**	**6.76**	**308**	P	**Pn**	**00 32 33.5**	**+0.7**
	baz=120							
HYT	**Haines Junctio**	**6.80**	**49**	Pn	**Pn**	**00 32 33.2**	**-0.3**
TRF	**Thorofare Moun**	**6.82**	**351**	Pn	**Pn**	**00 32 34.3**	**+0.5**
TRF	**Thorofare Moun**	**6.82**	**351**	P	**Pn**	**00 32 33.7**	**-0.2**
	baz=169							
CHNA	**Chernabura Isl**	**6.83**	**259**	P	**Pn**	**00 32 32.9**	**-0.8**
	baz=70							
CNBA	**Chernabura Isl**	**6.83**	**258**	Pn	**Pn**	**00 32 33.0**	**-0.8**
SIT	**Sitka**	**6.94**	**82**	P	Pn	00 32 31.4	-3.8
SIT	**Sitka**	**6.94**	**82**	Pn	Pn	00 32 31.1	-4.1
SIT	**Sitka**	**6.94**	**82**	P	Pn	00 32 31.1	-4.1
	baz=271							
KTH	**Kantishna Hill**	**6.98**	**349**	Pn	**Pn**	**00 32 36.8**	**+0.8**
CAST	**Castle Rocks**	**7.00**	**345**	Pn	**Pn**	**00 32 37.0**	**+0.8**
BCAR	**Beaver Creek A**	**7.06**	**24**	Pn	**Pn**	**00 32 36.5**	**-0.4**
M16K	**Timber Creek**	**7.12**	**312**	P	**Pn**	**00 32 38.4**	**+0.6**
	baz=123							
SDPT	**Sand Point**	**7.14**	**264**	Pn	**Pn**	**00 32 37.4**	**-0.7**
N15K	**Kwethluk River**	**7.22**	**303**	Pn	**Pn**	**00 32 39.9**	**+0.7**
N15K	**Kwethluk River**	**7.22**	**303**	P	**Pn**	**00 32 40.4**	**+1.3**
	baz=114							
N30M	**Aishikik Lake**	**7.32**	**45**	Pn	**Pn**	**00 32 40.4**	**-0.2**
N30M	**Aishikik Lake**	**7.32**	**45**	P	**Pn**	**00 32 40.6**	**0.0**
	baz=233							
S32K	**Killisnoo**	**7.33**	**79**	Pn	Pn	00 32 37.6	-3.0
O30N	**Mendenhall**	**7.37**	**52**	Pn	**Pn**	**00 32 40.8**	**-0.5**
M29M	**Somme Creek**	**7.47**	**36**	Pn	**Pn**	**00 32 42.8**	**+0.1**
M29M	**Somme Creek**	**7.47**	**36**	P	**Pn**	**00 32 43.0**	**+0.4**
	baz=223							
JIS	**Juneau Island**	**7.48**	**73**	P	**Pn**	**00 32 40.9**	**-1.7**
JIS	**Juneau Island**	**7.48**	**73**	Pn	**Pn**	**00 32 40.9**	**-1.7**
O14K	**Tigyukauivet M**	**7.50**	**295**	Pn	**Pn**	**00 32 43.2**	**+0.4**
BPAW	**Bear Paw Mtn.**	**7.53**	**350**	Pn	**Pn**	**00 32 43.6**	**+0.3**
BPAW	**Bear Paw Mtn.**	**7.53**	**350**	P	**Pn**	**00 32 43.7**	**+0.3**
	baz=167							
WHY	**Whitehorse**	**7.86**	**55**	Pn	**Pn**	**00 32 47.8**	**-0.2**
NEA2	**Nenana**	**7.89**	**357**		**Pn**	**00 32 48.6**	**+0.3**
S12K	**Black Hills**	**7.92**	**268**	Pn	**Pn**	**00 32 49.0**	**+0.2**
CCB	**Clear Creek Bu**	**7.93**	**1**	Pn	**Pn**	**00 32 49.1**	**+0.3**
K17K	**Iditarod**	**7.93**	**323**	Pn	**Pn**	**00 32 48.5**	**-0.4**
J18K	**Innoko River**	**8.02**	**331**	Pn	**Pn**	**00 32 50.5**	**+0.3**
J20K	**Nowinta River**	**8.05**	**340**	Pn	**Pn**	**00 32 51.4**	**+0.9**
P32M	**Atlin**	**8.05**	**63**	Pn	**Pn**	**00 32 49.6**	**-1.1**
L29M	**L29M**	**8.06**	**34**	Pn	**Pn**	**00 32 50.9**	**+0.2**
L29M	**L29M**	**8.06**	**34**	P	**Pn**	**00 32 50.7**	**0.0**
	baz=221							
ILAR	**Eielson Array**	**8.07**	**3**	Pn	**Pn**	**00 32 50.0**	**-0.8**
	comp=E,0.1nm,0.3s,baz=191,slow=14,SNR=3.8							
ILAR				Sn	**Sn**	**00 34 17.9**	**-4.0**
	comp=E,0.4nm,0.3s,baz=200,slow=16,SNR=7.6							
	comp=E,0.3nm,0.4s							
J26L	**Joseph Creek**	**8.07**	**14**	Pn	**Pn**	**00 32 51.0**	**+0.1**
J26L	**Joseph Creek**	**8.07**	**14**	P	**Pn**	**00 32 50.5**	**-0.4**
	baz=197							
U33K	**Whale Pass**	**8.26**	**88**	Pn	Pn	00 32 48.5	-4.8
CRAG	**Craig**	**8.40**	**93**	P	Pn	00 32 51.4	-3.9
CRAG	**Craig**	**8.40**	**93**	Pn	Pn	00 32 50.4	-4.8
P33M	**Teslin, Yukon**	**8.66**	**60**	Pn	**Pn**	**00 32 57.7**	**-1.2**
P33M	**Teslin, Yukon**	**8.66**	**60**	P	**Pn**	**00 32 57.5**	**-1.4**
	baz=252							
K29M	**Barlow Dome**	**8.79**	**32**	Pn	**Pn**	**00 33 01.1**	**+0.3**
K29M	**Barlow Dome**	**8.79**	**32**	P	**Pn**	**00 33 00.6**	**-0.2**
	baz=220							
L14K	**Kuka Creek**	**8.86**	**307**	Pn	**Pn**	**00 33 02.0**	**+0.5**
H21K	**Melozitna Rive**	**9.23**	**347**		**Pn**	**00 33 07.3**	**+0.5**
H21K	**Melozitna Rive**	**9.23**	**347**	P	**Pn**	**00 33 06.9**	**+0.1**
	baz=163							
R33M	**Jennings River**	**9.39**	**67**	Pn	**Pn**	**00 33 08.1**	**-0.9**
IMAR	**Indian Mountai**	**9.67**	**346**	Pn	**Pn**	**00 33 12.7**	**+0.1**
DLBC	**Dease Lake**	**9.78**	**73**	Pn	**Pn**	**00 33 13.5**	**-0.8**
DLBC	**Dease Lake**	**9.78**	**73**	Pn	**Pn**	**00 33 15.0**	**+0.7**
	comp=E,1.2nm,0.3s,baz=299,slow=8.7,SNR=9.5							
	comp=E,2.5nm,0.3s							
C36M	**Paulatuk**	**16.47**	**30**	Pn	**Pn**	**00 34 44.4**	**0.0**
C36M				IAmb	IAmb	00 34 53.4		
	comp=Z,4.8nm,1.3s							
YKA	**Yellowknife Ar**	**17.68**	**57**		**Pn**	**00 34 58.9**	**-0.8**
YKA	**Yellowknife Ar**	**17.68**	**57**	P	**Pn**	**00 35 00.6**	**+1.0**
	baz=268,slow=11,SNR=8.4							
	comp=Z,0.9nm,0.8s							
A36M	**Sachs Harbour**	**17.96**	**23**		**Pn**	**00 35 02.5**	**-0.6**
A36M				IAmb	IAmb	00 35 07.6		
	comp=Z,5.5nm,0.8s							
SUMG	**Summit**	**42.24**	**25**	*i* P	P	00 38 42.0	-4.8
ASAJ	**Asahikawa**	**44.08**	**284**	LR	LR	00 59 17.3		
	comp=Z,23nm,18.2s,baz=162,slow=39							
ARCES	**ARCESS Array B**	**53.93**	**3**	P	**P**	**00 40 16.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=17,slow=10,SNR=4.2							
	comp=Z,0.8nm,0.7s							
SONM	**Songino Array**	**58.89**	**311**	P	**P**	**00 40 53.9**	**+1.4**
	comp=Z,0.7nm,0.8s,baz=18,slow=6.5,SNR=2.4							
	comp=Z,0.7nm,0.8s							
FINES	**FINESS Array B**	**62.05**	**3**	P	**P**	**00 41 14.0**	**+0.3**
	comp=Z,1.0nm,0.6s,baz=6.1,slow=8.9,SNR=12							
	comp=Z,1.0nm,0.6s							
ARU	**Arti**	**65.16**	**344**	P	**P**	**00 41 35.5**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=351,slow=3.6,SNR=3.3							
	comp=Z,1.1nm,0.5s							
AKASG	**Malin Array Be**	**72.89**	**2**	P	**P**	**00 42 22.6**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=360,slow=6.5,SNR=4.1							
	comp=Z,0.9nm,0.6s							
ESDC	**Sonseca Array**	**79.24**	**27**	P	**P**	**00 42 59.9**	**+1.1**
	comp=Z,0.9nm,0.8s,baz=321,slow=4.6,SNR=3.8							
	comp=Z,0.9nm,0.8s							
BRTR	**Keskin Array B**	**83.88**	**359**	P	**P**	**00 43 23.9**	**+0.4**
	comp=Z,0.3nm,0.7s,baz=22,slow=2.9,SNR=1.7							
	comp=Z,0.3nm,0.7s							
QSPA	**South Pole Qui**	**146.54**	**180**	PKPbc	**PKPdf**	**00 50 33.2**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=341,slow=3.2,SNR=3.8							

IDC ***13*** *00:34:56.1±1.9, 32.99N×115.92W, h0km, mbtmp2.7/3, ML3.5/3, Error ellipse: s-maj=25.9km s-min=10.3km az=38.0*

NEIC ***13*** *00:34:57.0±1.1, 33.044N±0.009×115.92W±0.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.6km az=63.0*

ANF ***13*** *00:34:56.4±0.1, 33.06N×115.90W, h15km±1km, ML3.7/9, ML3.6/18, Error ellipse: s-maj=1.6km s-min=1.3km az=164.0*

PAS ***13*** *00:34:57.6±1.2, 33.045N±0.005×115.92W±0.01, h7km±5km, ML3.5/80, ML3.5/40(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=81.0*

NEIC ***13*** *00:35:03.2±1.6, 33.045N±0.007×115.922W±0.010, h10km±8km, Error ellipse: s-maj=1.5km s-min=0.7km az=130.0*

ISC 13 00:34:59.4±0.8, 33.05N±0.01×115.92W±0.01, h18km±1km, n182, σ218/220, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.11**	**48**			**Pg**	**00 34 60.0**	**-3.2**
ERRC	**Elmore Ranch**	**0.11**	**48**			**Pg**	**00 35 06.2**	**+3.0**
ERRC						**Sg**	**00 35 08.7**	**+3.0**
SUP	**Superstition M**	**0.12**	**139**			**Pb**	**00 35 01.9**	**+0.5**
SUP	**Superstition M**	**0.12**	**139**			**Pg**	**00 35 06.0**	**+2.6**
SUP						**Sg**	**00 35 08.0**	**+2.0**
SWSC	**Sam W. Stewart**	**0.14**	**135**			**Pg**	**00 35 06.3**	**+2.7**
SWSC						**Sg**	**00 35 08.6**	**+2.2**
SWSC	**Sam W. Stewart**	**0.14**	**135**	P		**Pb**	**00 35 00.2**	**-2.0**
	baz=315,SNR=696							
SWSC				S		**Sb**	**00 35 02.7**	**-1.1**
	baz=315							
SWSC	**Sam W. Stewart**	**0.14**	**135**	P		Pg	00 35 08.4	+4.8
	baz=313							
CRR	**Carrizo Plain**	**0.16**	**195**			**Pb**	**00 35 01.0**	**-2.0**
CRR	**Carrizo Plain**	**0.16**	**195**			**Pg**	**00 35 07.1**	**+3.2**
CRR						**Sg**	**00 35 09.9**	**+3.0**
SALN	**Salton City**	**0.24**	**346**			**Pb**	**00 35 02.4**	**-2.6**
SALN						**Sb**	**00 35 06.2**	**-2.4**
SALN	**Salton City**	**0.24**	**346**			**Sg**	**00 35 12.6**	**+3.7**
COK2	**Cook Ranch 2**	**0.25**	**141**			**Pb**	**00 35 03.0**	**-2.2**
COK2						**Sb**	**00 35 08.2**	**-0.8**
COK2	**Cook Ranch 2**	**0.25**	**141**			**Sn**	**00 35 13.3**	**-0.2**
WEMD	**Westmorland, C**	**0.28**	**91**			**Pg**	**00 35 03.9**	**-1.8**
WEMD	**Westmorland, C**	**0.28**	**91**			**Pn**	**00 35 09.3**	**+0.7**
WEMD						Sn	00 35 15.1	+0.8
CLI2	**Calipatria 2**	**0.29**	**75**			**Pg**	**00 35 04.1**	**-1.7**
CLI2						**Sb**	**00 35 10.0**	**-0.5**
CLI2	**Calipatria 2**	**0.29**	**75**			Sn	00 35 15.4	+0.8
SLH	**Sleepy Hollow**	**0.32**	**298**			**Pg**	**00 35 04.0**	**-2.3**
SLH	**Sleepy Hollow**	**0.32**	**298**			**Pn**	**00 35 09.1**	**0.0**
SLH						**Sn**	**00 35 14.9**	**-0.4**
WESC	**Westside Schoo**	**0.33**	**151**			**Pg**	**00 35 04.3**	**-2.1**
WESC						**Sg**	**00 35 10.3**	**-0.8**
WESC	**Westside Schoo**	**0.33**	**151**			**Sn**	**00 35 16.0**	**+0.6**
IMPE	**Imperial**	**0.33**	**116**			**Pg**	**00 35 05.0**	**-1.5**
IMPE						**Sb**	**00 35 11.1**	**-0.7**
BOMB	**Bombay Beach**	**0.35**	**26**			**Pg**	**00 35 04.5**	**-2.4**
YUH	**Yuha Desert**	**0.40**	**181**	Pg		**Pg**	**00 35 05.1**	**-2.6**
YUH				IAML			00 35 17.1	
	comp=E,3μm,0.5s							
YUH	**Yuha Desert**	**0.40**	**181**	Pg		**Pn**	**00 35 11.0**	**+0.8**
YUH	**Yuha Desert**	**0.40**	**181**			**Sn**	**00 35 16.9**	**-0.3**
IKP	**In-Ko-Pah, Jac**	**0.43**	**202**			**Pg**	**00 35 05.8**	**-2.5**
IKP						**Sg**	**00 35 11.9**	**-2.2**
IKP	**In-Ko-Pah, Jac**	**0.43**	**202**			**Sn**	**00 35 17.9**	**-0.2**
IKP	**In-Ko-Pah, Jac**	**0.43**	**202**	P		**Pg**	**

PFO				S		Sn	00 35 26.8	+1.3
	baz=142							
PFO	**Pinyon Flats O**	**0.72**	**321**	Pg		**Pb**	**00 35 10.8**	**-2.6**
	comp=E,126nm,0.3s,baz=143,slow=14,SNR=161							
PFO				Lg		Lg	00 35 22.3	
	comp=E,240nm,0.3s,baz=159,slow=17,SNR=15							
FRD	**Ford Ranch, An**	**0.73**	**308**			**Pn**	**00 35 17.4**	**+2.6**
BAR	**Barrett**	**0.73**	**240**			**Pb**	**00 35 11.0**	**-2.6**
BAR				IAML			00 35 28.8	
	comp=N,2µm,0.2s							
BAR				IAML			00 35 29.3	
	comp=E,2µm,0.3s							
BAR	**Barrett**	**0.73**	**240**			**Pn**	**00 35 17.1**	**+2.3**
TKX	**Tecate**	**0.75**	**231**			**Pb**	**00 35 11.5**	**-2.4**
TKX						**Sb**	**00 35 22.2**	**-1.6**
TKX				IAML			00 35 29.2	
	comp=N,4µm,0.3s							
TKX	**Tecate**	**0.75**	**231**			**Pn**	**00 35 16.8**	**+1.7**
TKX				IAML			00 35 29.2	
	comp=N,4µm,0.3s							
TKX				IAML			00 35 29.4	
	comp=E,5µm,0.2s							
BZNA	**Buzz No.'s Pla**	**0.77**	**306**			**Sb**	**00 35 23.4**	**-1.1**
BZNA	**Buzz No.'s Pla**	**0.77**	**306**			**Pn**	**00 35 18.3**	**+2.9**
SNDA	**J Saunders Pla**	**0.77**	**311**			**Sb**	**00 35 24.2**	**-0.3**
SNDA	**J Saunders Pla**	**0.77**	**311**			**Pn**	**00 35 18.7**	**+3.2**
SNDA						**Sn**	**00 35 29.2**	**+2.5**
DNR	**Dunn Ranch,Anz**	**0.79**	**311**			**Sb**	**00 35 24.4**	**-0.7**
DNR	**Dunn Ranch,Anz**	**0.79**	**311**			**Pn**	**00 35 19.0**	**+3.2**
DNR						**Sn**	**00 35 30.7**	**+3.5**
RUN	**Ruthven**	**0.79**	**95**			**Sb**	**00 35 24.0**	**-1.0**
RUN	**Ruthven**	**0.79**	**95**			**Pn**	**00 35 18.2**	**+2.6**
EML	**El Monte Cty P**	**0.80**	**259**			**Pn**	**00 35 18.0**	**+2.3**
EML						**Sn**	**00 35 28.4**	**+1.3**
CPBX	**Cerro Prieto**	**0.81**	**140**			**Pb**	**00 35 12.6**	**-2.3**
CPBX						**Sb**	**00 35 24.6**	**-0.9**
EMSC	**East Mesa**	**0.84**	**111**			**Sn**	**00 35 31.0**	**+2.8**
DUZA	**Dulzura**	**0.84**	**239**			**Pn**	**00 35 18.9**	**+2.5**
PLM	**Palomar**	**0.85**	**291**			**Pb**	**00 35 13.7**	**-2.0**
CRY	**Cary Ranch**	**0.86**	**307**			**Pb**	**00 35 13.8**	**-2.0**
CRY	**Cary Ranch**	**0.86**	**307**			**Sn**	**00 35 31.1**	**+2.3**
DPP	**Dos Picos Cty**	**0.86**	**267**			**Pn**	**00 35 19.3**	**+2.7**
DPP						**Sn**	**00 35 30.6**	**+1.8**
GVDA	**Garner Valley**	**0.89**	**315**			**Pb**	**00 35 14.2**	**-2.1**
GVDA	**Garner Valley**	**0.89**	**315**			**Pn**	**00 35 20.1**	**+3.0**
GVDA						**Sn**	**00 35 32.5**	**+3.0**
GLA	**Glamis**	**0.92**	**89**			**Pb**	**00 35 14.1**	**-2.7**
GLA				IAML			00 35 36.8	
	comp=E,2µm,0.6s							
GLA				IAML			00 35 37.3	
	comp=N,2µm,0.5s							
GLA	**Glamis**	**0.92**	**89**	Pg		Pn	00 35 20.4	+3.0
GLA				IAML			00 35 36.8	
	comp=E,2µm,0.6s							
GLA				IAML			00 35 37.4	
	comp=N,2µm,0.5s							
GLA	**Glamis**	**0.92**	**89**	P		**Pb**	**00 35 14.1**	**-2.7**
	baz=270,SNR=136							
GLA				S		**Sb**	**00 35 26.0**	**-2.6**
	baz=270							
GLA	**Glamis**	**0.92**	**89**	P		Pn	00 35 20.3	+3.0
	baz=270							
SDRC	**San Diego Road**	**0.92**	**251**			**Pg**	**00 35 20.1**	**+2.9**
BELC	**Belle Mtn. Jos**	**0.95**	**356**			**Pb**	**00 35 14.9**	**-2.6**
BELC	**Belle Mtn. Jos**	**0.95**	**356**	P		**Pb**	**00 35 14.8**	**-2.6**
	baz=176,SNR=286							
BELC	**Belle Mtn. Jos**	**0.95**	**356**	S		**Sn**	**00 35 33.9**	**+2.7**
	baz=176							
OLP	**Otay Lakes Par**	**0.96**	**243**			**Pg**	**00 35 21.1**	**+3.0**
CBX	**Cerro Bola**	**0.96**	**221**			**Pb**	**00 35 15.4**	**-2.2**
CBX	**Cerro Bola**	**0.96**	**221**	Pg		**Pg**	**00 35 21.9**	**+3.8**
CBX				IAML			00 35 36.1	
	comp=E,4µm,0.7s							
CBX				IAML			00 35 37.0	
	comp=N,4µm,0.4s							
EW2	**E Wide Canyon**	**0.98**	**335**			**Pg**	**00 35 21.6**	**+3.1**
MTRP	**Mission Trails**	**0.98**	**257**			**Pb**	**00 35 15.4**	**-2.5**
MTRP	**Mission Trails**	**0.98**	**257**			**Pg**	**00 35 21.4**	**+2.9**
109C	**Camp Elliot, M**	**1.01**	**261**			**Pb**	**00 35 15.9**	**-2.5**
109C				IAML			00 35 36.7	
	comp=N,2µm,0.6s							
109C	**Camp Elliot, M**	**1.01**	**261**	Pg		**Pg**	**00 35 21.9**	**+2.9**
109C				IAML			00 35 36.6	
	comp=E,3µm,0.3s							
109C				IAML			00 35 36.7	
	comp=N,2µm,0.6s							
109C	**Camp Elliot, M**	**1.01**	**261**	P		**Pb**	**00 35 15.9**	**-2.5**
	baz=81,SNR=32							
109C	**Camp Elliot, M**	**1.01**	**261**	S		**Sg**	**00 35 35.2**	**+2.9**
	baz=81							
CPE	**Camp Elliot**	**1.01**	**261**			**Pb**	**00 35 15.8**	**-2.5**
CPE						**Sb**	**00 35 29.3**	**-1.9**
CPE	**Camp Elliot**	**1.01**	**261**			**Pg**	**00 35 21.8**	**+2.7**
CPE						**Sg**	**00 35 35.1**	**+2.7**
ESJX	**Sierra Juarez**	**1.04**	**181**			**Pb**	**00 35 16.7**	**-2.2**
ESJX						**Sb**	**00 35 30.6**	**-1.7**
ESJX				IAML			00 35 38.1	
	comp=E,2µm,0.3s							
ESJX				IAML			00 35 38.5	
	comp=N,2µm,0.1s							
ESJX	**Sierra Juarez**	**1.04**	**181**	Pg		**Pg**	**00 35 23.0**	**+3.4**
ESJX				IAML			00 35 38.1	
	comp=E,2µm,0.3s							
ESJX				IAML			00 35 38.5	
	comp=N,2µm,0.1s							
POB	**Polly Butte**	**1.06**	**307**			**Sb**	**00 35 31.6**	**-1.1**
SDMC	**San Diego Miss**	**1.06**	**256**			**Pb**	**00 35 16.8**	**-2.3**
SDMC						**Sb**	**00 35 30.8**	**-1.9**
TJX	**Tijuana**	**1.10**	**241**			**Pn**	**00 35 17.8**	**-2.0**
TJX	**Tijuana**	**1.10**	**241**	Pg		**Pg**	**00 35 24.2**	**+3.5**
TJX				IAML			00 35 48.6	
	comp=N,4µm,0.8s							
TJX				IAML			00 35 52.2	
	comp=E,4µm,0.7s							
GORC	**Green Oak Ranc**	**1.11**	**276**			**Pn**	**00 35 17.4**	**-2.5**
GORC						**Sb**	**00 35 32.5**	**-1.5**
MURC	**Murrieta**	**1.20**	**298**	P		**Pn**	**00 35 18.9**	**-2.4**
	baz=117,SNR=126							
MURC				S		**Sb**	**00 35 35.7**	**-1.2**
	baz=117							
MURC	**Murrieta**	**1.20**	**298**	S		**Sg**	**00 35 41.2**	**+2.7**
	baz=117							
IRM	**Iron Mountain**	**1.28**	**30**	P		**Pn**	**00 35 19.6**	**-2.9**
	baz=210,SNR=60							
CCX	**Cicese**	**1.33**	**208**			**Pn**	**00 35 21.9**	**-1.1**
CCX						**Sn**	**00 35 39.5**	**-0.7**
BLYC	**Blythe**	**1.36**	**59**			**Pn**	**00 35 22.1**	**-1.3**
BLYC				IAML			00 35 49.0	
	comp=N,474nm,0.8s							
BLYC	**Blythe**	**1.36**	**59**			**Pg**	**00 35 29.2**	**+3.5**
BLYC				IAML			00 35 48.3	
	comp=E,460nm,0.4s							
BLYC				IAML			00 35 49.0	
	comp=N,474nm,0.8s							
ELS	**Elsinore Mount**	**1.40**	**296**			**Pn**	**00 35 22.5**	**-1.5**
ELS				IAML			00 35 48.4	
	comp=N,541nm,0.3s							
ELS	**Elsinore Mount**	**1.40**	**296**			**Pg**	**00 35 29.0**	**+2.6**
ELS				IAML			00 35 48.2	
	comp=E,444nm,0.5s							
ELS				IAML			00 35 48.4	
	comp=N,541nm,0.3s							
VTX	**Valle De La Tr**	**1.65**	**176**			**Pn**	**00 35 27.2**	**-0.3**
GMRC	**Granite Mounta**	**1.75**	**7**	P		**Pn**	**00 35 26.1**	**-2.9**
	baz=187							
113A	**Mohawk Valley,**	**1.83**	**98**	Pn		**Pn**	**00 35 27.1**	**-2.8**
RRX	**Edison Barstow**	**2.03**	**334**	Pg		**Pb**	**00 35 35.2**	**-0.6**
	baz=154							
FMP	**Fort Macarthur**	**2.10**	**289**	Pb		**Pn**	**00 35 34.7**	**+1.1**
	baz=108							
CIAC	**Catalina I. Ai**	**2.12**	**280**			**Pn**	**00 35 34.0**	**0.0**
CIS	**Catalina Islan**	**2.12**	**280**	Pb		**Pn**	**00 35 34.9**	**+0.9**
	baz=99							
RPV	**Rancho Palos V**	**2.19**	**289**			**Sn**	**00 36 02.4**	**+0.9**
SFX	**San Felipe**	**2.20**	**155**	Pn		**Pn**	**00 35 33.4**	**-1.5**
PASC	**Pasadena Art C**	**2.20**	**301**			**Pn**	**00 35 35.7**	**+0.7**
PASC				IAML			00 36 11.8	
	comp=N,233nm,0.8s							
PASC	**Pasadena Art C**	**2.20**	**301**			**Sn**	**00 36 03.0**	**+1.3**
SCI2	**San Clemente I**	**2.21**	**269**	P		**Pn**	**00 35 32.9**	**-2.2**
	baz=88							
BHPC	**Baldwin Hills**	**2.25**	**295**			**Sn**	**00 36 02.8**	**-0.1**
LCGC	**La Cienega, Cu**	**2.27**	**296**			**Sn**	**00 36 03.2**	**-0.1**
HYS	**Haystack Butte**	**2.27**	**323**			**Pb**	**00 35 38.7**	**-1.2**
GSC	**Goldstone, Bar**	**2.37**	**342**			**Pn**	**00 35 35.6**	**-1.8**
GSC				IAML			00 36 23.0	
	comp=E,257nm,0.9s							
GSC				IAML			00 36 32.5	
	comp=N,196nm,1.6s							
W13A	**Hualapai Mount**	**2.65**	**39**			**Pn**	**00 35 39.3**	**-2.2**
W13A	**Hualapai Mount**	**2.65**	**39**	Pn		**Pb**	**00 35 46.4**	**-0.1**
CCAC	**Calif City Air**	**2.73**	**321**	Pn		**Pb**	**00 35 47.7**	**0.0**
V12A	**Nelson**	**2.82**	**18**			**Pb**	**00 35 48.8**	**-0.4**
V12A				IAML			00 36 47.9	
	comp=E,130nm,1.1s							
214A	**Organ Pipe Nat**	**2.84**	**112**	Pn		**Pn**	**00 35 41.0**	**-2.8**
214A	**Organ Pipe Nat**	**2.84**	**112**	Pn		**Pb**	**00 35 49.0**	**-0.5**
214A				IAML			00 36 59.2	
	comp=E,77nm,1.4s							
214A				IAML			00 37 03.8	
	comp=N,72nm,1.2s							
214A	**Organ Pipe Nat**	**2.84**	**112**	P		**Pn**	**00 35 40.6**	**-3.2**
	baz=293							
QSM	**Queen of Sheba**	**3.02**	**345**			**Pn**	**00 35 44.1**	**-2.1**
QSM	**Queen of Sheba**	**3.02**	**345**	Pn		**Pb**	**00 35 52.6**	**0.0**
GWY	**Greenwater Val**	**3.19**	**349**	Pn		**Pn**	**00 35 46.6**	**-2.2**
GWY	**Greenwater Val**	**3.19**	**349**	Pn		**Pb**	**00 35 52.8**	**-2.9**
WTNK	**Soaring Height**	**3.23**	**13**			**Pn**	**00 35 46.5**	**-2.6**
MPMC	**Manual Prospec**	**3.27**	**337**	P		**Pn**	**00 35 47.3**	**-2.6**
	baz=156							
BCW	**Bitter Crk WRg**	**3.46**	**304**			**Pb**	**00 35 56.9**	**-3.3**
BCW				IAML			00 37 13.7	
	comp=N,202nm,1.6s							
SHPR	**Sheep Range**	**3.51**	**10**			**Pb**	**00 35 58.3**	**-2.7**
WCT	**Wildcat Mounta**	**3.78**	**351**			**Pb**	**00 36 01.3**	**-4.4**
X16A	**Lo Mia Camp, P**	**3.97**	**69**	Pn		**Pn**	**00 35 57.7**	**-1.8**
GRAC	**Grapevine Rang**	**4.12**	**344**			**Pn**	**00 35 59.8**	**-1.6**
TUC	**Tucson**	**4.39**	**98**			**Pn**	**00 36 02.9**	**-2.3**
TUC	**Tucson**	**4.39**	**98**	P		**Pn**	**00 36 02.8**	**-2.3**
	baz=281							
PRN	**Pahroc Range**	**4.41**	**9**			**Pn**	**00 36 03.9**	**-1.6**
LCH	**Last Change Ra**	**4.41**	**342**			**Pn**	**00 36 03.9**	**-1.6**
U15A	**North Rim**	**4.50**	**40**	Pn		**Pn**	**00 36 06.2**	**-0.8**
LCMT	**Little Creek M**	**4.52**	**28**			**Pn**	**00 36 06.2**	**-0.9**
LCMT	**Little Creek M**	**4.52**	**28**	Pn		Pn	00 36 12.0	+5.0
DSP	**Deep Springs**	**4.63**	**339**			**Pn**	**00 36 07.1**	**-1.3**
KNB	**Kanab**	**4.71**	**32**	Pn		**Pn**	**00 36 08.5**	**-1.1**
KNB	**Kanab**	**4.71**	**32**	Pn		Pb	00 36 15.0	-6.4
CCUT	**Cedar City**	**4.96**	**24**			Pn	00 36 18.0	+4.9
CCUT				IAML			00 37 55.8	
	comp=E,21nm,2.0s							
CCUT				IAML			00 38 04.8	
	comp=N,26nm,2.1s							
MDPB	**Devils Postpil**	**5.25**	**331**	Pn		Pn	00 36 22.2	+5.0
NVAR	**Mina Array Bea**	**5.71**	**341**	Pn		**Pn**	**00 36 24.5**	**+1.1**
	comp=N,0.3nm,0.3s,baz=167,slow=15,SNR=3.6							
NVAR				Lg		Lg	00 37 58.4	
	baz=168,slow=17 comp=N,0.2nm,0.4s							
PSUT	**Pine Spring**	**5.73**	**16**			Pn	00 36 28.9	+5.3
KVN	**Kaiserville**	**6.25**	**344**	Pn		Pn	00 36 36.0	+5.2
121A	**Cookes Peak, D**	**6.87**	**92**	Pn		**Pn**	**00 36 38.0**	**-1.3**
PDAR	**Pinedale Array**	**10.92**	**25**	Pn		**Pn**	**00 37 37.5**	**+2.6**
	comp=N,0.1nm,0.3s,baz=194,slow=13,SNR=2.8 comp=N,0.1nm,0.4s							
TXAR	**Lajitas Array**	**11.12**	**106**	Pn		**Pn**	**00 37 38.2**	**+0.6**
	comp=N,0.1nm,0.3s,baz=291,slow=12,SNR=2.5 comp=N,0.1nm,0.2s							

ANF ***13*** *00:37:10.5±0.1, 33°.06N×115°.92W, h12km±2km, Error ellipse: s-maj=1.5km s-min=1.1km az=135.0*
NEIC ***13*** *00:37:11.0±0.8, 33°.053N±0°.008×115°.93W±0°.01, h9km±6km, Error ellipse: s-maj=1.6km s-min=1.0km az=116.0*
PAS ***13*** *00:37:11.1±0.9, 33°.048N±0°.006×115°.924W±0°.007, h2km±3km, ML3.2/68, ML3.1/32(NEIC), Error ellipse: s-maj=1.2km s-min=0.4km az=46.0*

ISC 13 00:37:11.1±0.8, 33°.05N±0°.02×115°.93W±0°.02, h14km±5km, n68, σ0§61/92, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ERRC	**Elmore Ranch**	**0.11**	**53**			**Pg**	**00 37 13.8**	**-0.5**
ERRC						**Sg**	**00 37 16.5**	**0.0**
SUP	**Superstition M**	**0.13**	**139**			**Pg**	**00 37 15.7**	**+1.1**
SWSC	**Sam W. Stewart**	**0.15**	**136**			**Pg**	**00 37 14.1**	**-0.8**
SWSC						**Sg**	**00 37 16.6**	**-0.9**
SWSC	**Sam W. Stewart**	**0.15**	**136**	P		**Pg**	**00 37 14.2**	**-0.8**
	baz=315							
SWSC				S		**Sg**	**00 37 16.6**	**-0.9**
	baz=315							
CRR	**Carrizo Plain**	**0.17**	**193**			**Pg**	**00 37 14.8**	**-0.5**
SALN	**Salton City**	**0.23**	**347**			**Pg**	**00 37 16.0**	**-0.2**
SALN						**Sg**	**00 37 20.2**	**+0.6**
WEMD	**Westmorland, C**	**0.29**	**93**			**Sb**	**00 37 23.2**	**+0.5**
CLI2	**Calipatria 2**	**0.30**	**77**			**Pb**	**00 37 17.9**	**-0.4**
CLI2						**Sb**	**00 37 23.4**	**+0.4**
SLH	**Sleepy Hollow**	**0.31**	**297**			**Pg**	**00 37 17.7**	**+0.1**
WESC	**Westside Schoo**	**0.34**	**151**			**Sb**	**00 37 23.9**	**-0.2**
IMPE	**Imperial**	**0.34**	**116**			**Sb**	**00 37 24.6**	**+0.3**
BOMB	**Bombay Beach**	**0.35**	**28**			**Pg**	**00 37 18.4**	**+0.1**
YUH	**Yuha Desert**	**0.40**	**180**	Pg		**Pg**	**00 37 18.9**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**0.43**	**201**			**Pg**	**00 37 19.5**	**-0.3**
IKP						**Sg**	**00 37 25.8**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.43**	**201**	P		**Pg**	**00 37 19.5**	**-0.3**
	baz=21							
IKP				S		**Sg**	**00 37 25.9**	**+0.3**
	baz=21							
SGL	**Mount Signal**	**0.44**	**157**			**Pg**	**00 37 19.6**	**-0.2**
SGL						**Sg**	**00 37 25.7**	**0.0**
MONP2	**Monument Peak**	**0.45**	**249**			**Pg**	**00 37 19.9**	**-0.2**
MONP2						**Sg**	**00 37 26.4**	**+0.2**
MONP2	**Monument Peak**	**0.45**	**249**	P		**Pg**	**00 37 19.9**	**-0.2**
	baz=69							
MONP2				S		**Sg**	**00 37 26.4**	**+0.2**
	baz=69							
SNR	**Schaffner Ranc**	**0.45**	**115**			**Pb**	**00 37 20.9**	**+0.1**
SNR						**Sb**	**00 37 28.2**	**+0.7**
BORC	**Borrego Spring**	**0.47**	**298**			**Pg**	**00 37 20.4**	**0.0**
RMX	**La Rumorosa**	**0.47**	**196**			**Pg**	**00 37 20.7**	**+0.2**
RMX						**Sb**	**00 37 27.8**	**-0.3**
RMX				IAML			00 37 30.8	
	comp=E,1µm,0.7s							
DREC	**Desert Rsrch C**	**0.47**	**121**			**Pb**	**00 37 21.5**	**+0.3**
DREC						**Sb**	**00 37 29.9**	**+1.8**
5053	**Calexico**	**0.53**	**136**			**Pb**	**00 37 22.0**	**-0.1**
JUEM	**Julian Eagle M**	**0.57**	**273**			**Pg**	**00 37 22.3**	**0.0**
UABX	**UABC, Campus M**	**0.58**	**136**			**Pg**	**00 37 22.6**	**0.0**
UABX						**Sb**	**00 37 31.8**	**+0.5**
5054	**Holtville Bond**	**0.61**	**126**			**Pb**	**00 37 23.7**	**+0.1**
5054						**Sb**	**00 37 33.6**	**+1.6**
CTW	**Cottonwood Mou**	**0.62**	**4**			**Pg**	**00 37 23.0**	**-0.4**
CTW						**Sg**	**00 37 31.9**	**+0.2**
HAY	**Hayfield**	**0.68**	**17**			**Pg**	**00 37 24.3**	**-0.2**
COA	**Coachella**	**0.70**	**105**			**Pg**	**00 37 24.6**	**-0.2**
COA						**Sb**	**00 37 35.5**	**+0.9**
PMD	**Palm Desert**	**0.70**	**328**			**Pg**	**00 37 24.1**	**-0.7**
PMD						**Sg**	**00 37 33.3**	**-0.9**
PMD	**Palm Desert**	**0.70**	**328**	IAML			00 37 35.6	
	comp=E,905nm,0.4s							
PMD				IAML			00 37 35.6	
	comp=N,598nm,0.6s							
TPFO	**Pinon Flats**	**0.71**	**321**	P		**Pg**	**00 37 24.6**	**-0.4**
	baz=141							
XPFO	**Pion Flat**	**0.71**	**322**			**Sg**	**00 37 34.1**	**-0.4**
PFO	**Pinyon Flats O**	**0.71**	**321**			**Pg**	**00 37 24.7**	**-0.4**
PFO	**Pinyon Flats O**	**0.71**	**321**	P		**Pg**	**00 37 24.7**	**-0.4**
	baz=141							
PFO				S		**Sg**	**00 37 34.4**	**-0.2**
	baz=141							
BC3	**Big Chuckawall**	**0.72**	**33**			**Pg**	**00 37 24.6**	**-0.6**
BC3						**Sg**	**00 37 34.5**	**-0.2**
BC3	**Big Chuckawall**	**0.72**	**33**	P		**Pg**	**00 37 24.6**	**-0.6**
	baz=213							
BC3				S		**Sg**	**00 37 34.7**	**0.0**
	baz=213							
FRD	**Ford Ranch, An**	**0.72**	**308**			**Pg**	**00 37 24.9**	**-0.2**
FRD						**Sg**	**00 37 34.8**	**+0.1**
BAR	**Barrett**	**0.73**	**240**	IAML			00 37 36.6	
	comp=N,523nm,0.2s							
TKX	**Tecate**	**0.75**	**230**			**Pg**	**00 37 25.1**	**-0.6**
TKX				IAML			00 37 37.9	
	comp=E,1µm,0.2s							
TKX				IAML			00 37 38.1	
	comp=N,2µm,0.2s							
RUN	**Ruthven**	**0.80**	**96**			**Pg**	**00 37 25.9**	**-0.8**
RUN						**Sg**	**00 37 37.5**	**+0.3**
CPBX	**Cerro Prieto**	**0.82**	**140**			**Pg**	**00 37 26.2**	**-0.8**
PLM	**Palomar**	**0.84**	**291**			**Pg**	**00 37 27.2**	**-0.3**
DUZA	**Dulzura**	**0.84**	**238**			**Sg**	**00 37 37.8**	**-0.8**
EMSC	**East Mesa**	**0.85**	**111**			**Pg**	**00 37 26.9**	**-0.8**
EMSC						**Sb**	**00 37 39.4**	**+0.5**
DPP	**Dos Picos Cty**	**0.86**	**267**			**Pg**	**00 37 27.2**	**-0.5**
GVDA	**Garner Valley**	**0.88**	**315**			**Pg**	**00 37 27.8**	**-0.4**
GLA	**Glamis**	**0.92**	**90**			**Pg**	**00 37 27.9**	**-1.1**
GLA	**Glamis**	**0.92**	**90**	IAML			00 37 54.3	
	comp=N,596nm,0.9s							
GLA				IAML			00 37 57.4	
	comp=E,802nm,0.7s							
GLA	**Glamis**	**0.92**	**90**	P		**Pg**	**00 37 27.9**	**-1.1**
	baz=270							
BELC	**Belle Mtn. Jos**	**0.95**	**356**			**Pg**	**00 37 28.6**	**-0.9**
BELC	**Belle Mtn. Jos**	**0.95**	**356**	P		**Pg**	**00 37 28.7**	**-0.9**
	baz=176							
OLP	**Otay Lakes Par**	**0.96**	**243**			**Pg**	**00 37 28.8**	**-0.8**
CBX	**Cerro Bola**	**0.97**	**220**			**Pg**	**00 37 29.3**	**-0.6**
CBX						**Sg**	**00 37 42.2**	**-0.3**
EW2	**E Wide Canyon**	**0.97**	**336**			**Pg**	**00 37 29.3**	**-0.7**
MTRP	**Mission Trails**	**0.98**	**257**			**Pg**	**00 37 29.3**	**-0.8**
109C	**Camp Elliot, M**	**1.01**	**261**			**Pg**	**00 37 29.8**	**-0.7**
109C				IAML			00 37 44.7	
	comp=E,1µm,0.3s							
109C				IAML			00 37 48.8	
	comp=N,530nm,0.5s							
109C	**Camp Elliot, M**	**1.01**	**261**	P		**Pg**	**00 37 29.7**	**-0.9**
	baz=81							
109C				S		**Sg**	**00 37 43.1**	**-0.6**
	baz=81							
ESJX	**Sierra Juarez**	**1.04**	**181**			**Pg**	**00 37 30.6**	**-0.8**
ESJX				IAML			00 37 45.7	
	comp=E,690nm,0.3s							
ESJX				IAML			00 37 47.2	
	comp=N,358nm,0.3s							
TPC	**Twentynine Pal**	**1.05**	**354**			**Pg**	**00 37 30.6**	**-1.0**
TJX	**Tijuana**	**1.09**	**241**			**Pg**	**00 37 31.7**	**-0.6**
MURC	**Murrieta**	**1.20**	**298**	P		**Pb**	**00 37 33.4**	**-0.2**
	baz=117							
IRM	**Iron Mountain**	**1.28**	**30**	P		**Pn**	**00 37 34.2**	**-0.4**
	baz=210							
CCX	**Cicese**	**1.34**	**208**			**Pn**	**00 37 35.6**	**+0.3**
CCX						**Sb**	**00 37 53.4**	**+0.4**
BLYC	**Blythe**	**1.36**	**59**			**Pn**	**00 37 36.0**	**+0.2**
BLYC				IAML			00 38 15.0	
	comp=E,190nm,3.8s							
ELS	**Elsinore Mount**	**1.39**	**296**			**Pn**	**00 37 36.3**	**+0.1**
GSC	**Goldstone, Bar**	**2.36**	**342**	Pn		**Pn**	**00 37 51.0**	**+1.4**
GSC				IAML			00 38 45.5	
	comp=N,86nm,1.5s							
GSC				IAML			00 38 52.3	
	comp=E,102nm,1.0s							
V12A	**Nelson**	**2.81**	**18**	Pn		**Pn**	**00 37 56.1**	**+0.3**

IDC ***13*** *00:38:58.8±3.0, 36°.76N×68°.43E, h0km, mb3.6/10, mbtmp3.6/14, ML3.2/4, MS2.7/1, Error ellipse: s-maj=57.1km s-min=16.5km az=157.0*
NNC ***13*** *00:39:11.4±4.5, 37°.64N×68°.55E, h0km, mb4.1, mpv3.7, Error ellipse: s-maj=39.2km s-min=34.6km az=117.0*

ISC 13 00:39:05.8±1.7, 37°.2N±0°.2×68°.26E±0°.10, h30km, n17, σ1§47/22, mb3.4/8, 2C-4D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.18**	**15**	⇓Pn		**Pn**	**00 40 37.5**	**+2.5**
	1.2nm,0.4s,baz=200,slow=14,SNR=36							
KK31				⇓Sn		**Sn**	**00 41 43.4**	**-1.2**
	1.9nm,0.4s,baz=329,slow=62,SNR=4.3							
AAK	**Ala-Archa**	**7.27**	**39**	⇓Pn		**Pn**	**00 40 52.8**	**+2.7**
	3.1nm,0.4s							
AAK				⇑Sn		**Sn**	**00 42 12.0**	**+0.3**
	5.7nm,0.6s							
AAK	**Ala-Archa**	**7.27**	**39**	Pn		**Pn**	**00 40 50.8**	**+0.7**
	1.4nm,0.3s,baz=204,slow=2.6,SNR=7.5							
AAK				Sn		**Sn**	**00 42 10.6**	**-1.1**
	0.7nm,0.3s,baz=201,slow=12,SNR=2.0							
AAK				Lg		Lg	00 42 57.5	
	0.1nm,0.3s,baz=177,slow=21,SNR=1.8 3.5nm,0.5s							
TKM2	**Tokmak 2**	**8.04**	**42**	⇓Pn		**Pn**	**00 41 01.3**	**+0.5**
	5.6nm,0.6s							
TKM2				⇑

comp=N,1µm,0.8s
MLH IAML 00 45 40.2
comp=E,1µm,0.9s
HMH Humu'ula Sheep 0.33 322 Pg Pg 00 45 38.2 +0.3
HMH IAML 00 45 40.9
comp=E,642nm,1.2s
HMH IAML 00 45 45.2
comp=N,700nm,0.8s
MWH Moku'aweowe 0.34 295 Pg Pg 00 45 38.5 +0.4
KHU Kahuku 0.34 253 Pg Pg 00 45 38.5 +0.4
KHU IAML 00 45 42.3
comp=N,1µm,1.4s
KHU IAML 00 45 46.3
comp=E,1µm,1.3s
MLOA Mauna Loa Obse 0.34 304 Pg Pg 00 45 38.9 +0.7
MLOA IAML 00 45 46.5
comp=E,827nm,1.1s
MLOA IAML 00 45 49.2
comp=N,963nm,1.2s
ALEP Alea Permanent 0.40 299 Pg 00 45 40.4 +1.1
HUH Hualalai 0.63 303 Pg Pg 00 45 44.1 +0.5

*ANF **13** 00:48:05.8±0.1,33°.05N×115°.91W,h13km±1km,ML3.4/27, Error ellipse: s-maj=1.3km s-min=1.0km az=156.0*
*PAS **13** 00:48:06.8±1.6,33°.043N±0°.009×115°.92W±0°.01, h2km±3km,ML3.4/80,ML3.2/58(NEIC),Error ellipse: s-maj=1.4km s-min=1.2km az=55.0*
*NEIC **13** 00:48:06.6±1.4,33°.047N±0°.009×115°.93W±0°.01, h9km±7km,Error ellipse: s-maj=1.5km s-min=1.3km az=76.0*

ISC 13 00:48:06.6±0.8,**33°.05N**±0°.01×**115°.92W**±0°.01,**h13**km±5km, **n94**,σ0°**78**/126,**Southern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ERRC	**Elmore Ranch**	**0.11**	**49**		**Pg**	**00 48 09.5**	**-0.2**
ERRC					**Sg**	**00 48 12.2**	**+0.3**
SUP	**Superstition M**	**0.12**	**139**		**Pg**	**00 48 09.3**	**-0.6**
SUP					**Sg**	**00 48 11.4**	**-0.8**
SWSC	**Sam W. Stewart**	**0.14**	**135**	P	**Pg**	**00 48 09.6**	**-0.6**
	baz=314,SNR=248						
SWSC				S	**Sg**	**00 48 11.7**	**-1.0**
	baz=314						
CRR	**Carrizo Plain**	**0.17**	**195**		**Pg**	**00 48 10.4**	**-0.1**
SALN	**Salton City**	**0.24**	**347**		**Pg**	**00 48 11.9**	**+0.2**
SALN					**Sg**	**00 48 16.1**	**+0.8**
COK2	**Cook Ranch 2**	**0.25**	**141**		**Pg**	**00 48 12.2**	**+0.3**
CLI2	**Calipatria 2**	**0.29**	**75**		**Pb**	**00 48 13.4**	**-0.3**
CLI2					**Sb**	**00 48 19.0**	**+0.5**
SLH	**Sleepy Hollow**	**0.32**	**297**		**Pg**	**00 48 13.5**	**+0.4**
SLH					**Sb**	**00 48 18.5**	**-0.6**
WESC	**Westside Schoo**	**0.33**	**151**		**Sb**	**00 48 19.4**	**-0.1**
IMPE	**Imperial**	**0.33**	**116**		**Pb**	**00 48 14.3**	**-0.1**
IMPE					**Sb**	**00 48 20.3**	**+0.7**
BOMB	**Bombay Beach**	**0.35**	**27**		**Pg**	**00 48 14.0**	**+0.2**
YUH	**Yuha Desert**	**0.40**	**180**	Pg	**Pg**	**00 48 14.5**	**-0.1**
YUH				Sg	**Sg**	**00 48 20.2**	**+0.2**
YUH				IAML		00 48 20.5	
	comp=E,2µm,0.7s						
IKP	**In-Ko-Pah, Jac**	**0.43**	**202**	P	**Pg**	**00 48 15.1**	**0.0**
	baz=22,SNR=94						
IKP				S	**Sg**	**00 48 20.9**	**0.0**
	baz=22						
SGL	**Mount Signal**	**0.43**	**158**		**Pg**	**00 48 15.1**	**0.0**
SGL					**Sg**	**00 48 21.1**	**+0.2**
SNR	**Schaffner Ranc**	**0.45**	**114**		**Pb**	**00 48 16.4**	**+0.1**
MONP2	**Monument Peak**	**0.45**	**250**	P	**Pg**	**00 48 15.7**	**0.0**
	baz=70,SNR=104						
MONP2				S	**Sg**	**00 48 22.2**	**+0.5**
	baz=70						
RMX	**La Rumorosa**	**0.46**	**197**		**Pb**	**00 48 16.4**	**-0.3**
RMX				Sg	**Sb**	**00 48 22.9**	**-0.6**
RMX				IAML		00 48 23.7	
	comp=E,2µm,0.4s						
RMX				IAML		00 48 25.6	
	comp=N,1µm,0.3s						
DREC	**Desert Rsrch C**	**0.47**	**121**		**Sb**	**00 48 24.8**	**+1.4**
BORC	**Borrego Spring**	**0.47**	**298**		**Pg**	**00 48 16.0**	**0.0**
5053	**Calexico**	**0.52**	**136**		**Pb**	**00 48 17.5**	**-0.1**
UABX	**UABC, Campus M**	**0.58**	**136**	Pg	**Pg**	**00 48 18.0**	**+0.1**
UABX					**Sb**	**00 48 26.8**	**+0.1**
5054	**Holtville Bond**	**0.60**	**126**		**Sb**	**00 48 28.9**	**+1.6**
CTCC	**Cactus City**	**0.61**	**354**		**Pg**	**00 48 18.6**	**0.0**
CTCC					**Sb**	**00 48 28.2**	**+0.5**
CTW	**Cottonwood Mou**	**0.63**	**4**		**Pg**	**00 48 18.8**	**-0.2**
CTW					**Sg**	**00 48 27.5**	**+0.2**
HAY	**Hayfield**	**0.69**	**17**		**Pg**	**00 48 19.9**	**-0.2**
COA	**Coachella**	**0.69**	**105**		**Sb**	**00 48 30.8**	**+0.8**
PMD	**Palm Desert**	**0.71**	**327**		**Pg**	**00 48 20.1**	**-0.4**
PMD					**Sg**	**00 48 29.5**	**-0.3**
PMD	**Palm Desert**	**0.71**	**327**	IAML		00 48 31.5	
	comp=E,2µm,0.5s						
PMD				IAML		00 48 31.5	
	comp=N,724nm,0.4s						
XPFO	**Pion Flat**	**0.72**	**322**		**Pg**	**00 48 20.3**	**-0.3**
BC3	**Big Chuckawall**	**0.72**	**33**		**Pg**	**00 48 20.4**	**-0.4**
BC3					**Sg**	**00 48 30.3**	**0.0**
BC3	**Big Chuckawall**	**0.72**	**33**	P	**Pg**	**00 48 20.3**	**-0.4**
	baz=213,SNR=44						
BC3				S	**Sg**	**00 48 30.2**	**0.0**
	baz=213						
PFO	**Pinyon Flats O**	**0.72**	**321**		**Pg**	**00 48 20.5**	**-0.3**
PFO	**Pinyon Flats O**	**0.72**	**321**	P	**Pg**	**00 48 20.4**	**-0.3**
	baz=141,SNR=57						
PFO				S	**Sg**	**00 48 30.3**	**+0.1**
	baz=141						
BAR	**Barrett**	**0.73**	**240**		**Sg**	**00 48 30.4**	**-0.1**
BAR	**Barrett**	**0.73**	**240**	IAML		00 48 31.0	
	comp=N,2µm,0.2s						
BAR				IAML		00 48 32.6	
	comp=E,1µm,0.2s						
TKX	**Tecate**	**0.75**	**231**		**Pg**	**00 48 20.9**	**-0.3**
BZNA	**Buzz No.'s Pla**	**0.77**	**306**		**Sg**	**00 48 31.9**	**+0.2**
RUN	**Ruthven**	**0.80**	**95**		**Pg**	**00 48 21.4**	**-0.6**
CPBX	**Cerro Prieto**	**0.81**	**140**		**Pg**	**00 48 21.7**	**-0.7**
CRY	**Cary Ranch**	**0.86**	**307**		**Sb**	**00 48 34.8**	**-0.1**
DPP	**Dos Picos Cty**	**0.86**	**267**		**Sg**	**00 48 34.0**	**-0.6**
GVDA	**Garner Valley**	**0.89**	**315**		**Pg**	**00 48 23.6**	**-0.1**
GVDA					**Sg**	**00 48 35.4**	**0.0**
SDRC	**San Diego Road**	**0.92**	**250**		**Sg**	**00 48 35.9**	**-0.4**
GLA	**Glamis**	**0.92**	**89**		**Pg**	**00 48 23.4**	**-1.0**
GLA				IAML		00 48 38.7	
	comp=E,1µm,0.5s						
GLA				IAML		00 48 41.4	
	comp=N,695nm,0.6s						
GLA	**Glamis**	**0.92**	**89**	P	**Pg**	**00 48 23.4**	**-1.0**
	baz=270,SNR=88						
GLA				S	**Sg**	**00 48 35.8**	**-0.6**
	baz=270						
BELC	**Belle Mtn. Jos**	**0.95**	**356**		**Pg**	**00 48 24.4**	**-0.7**
BELC	**Belle Mtn. Jos**	**0.95**	**356**	P	**Pg**	**00 48 24.4**	**-0.7**
	baz=176,SNR=136						
BELC				S	**Sg**	**00 48 37.4**	**-0.2**
	baz=176						
OLP	**Otay Lakes Par**	**0.96**	**243**		**Sg**	**00 48 37.2**	**-0.4**
CBX	**Cerro Bola**	**0.96**	**221**		**Pg**	**00 48 24.8**	**-0.4**
MTRP	**Mission Trails**	**0.98**	**257**		**Pg**	**00 48 24.9**	**-0.8**
MTRP					**Sg**	**00 48 37.9**	**-0.5**
109C	**Camp Elliot, M**	**1.01**	**261**		**Pg**	**00 48 25.4**	**-0.8**
109C	**Camp Elliot, M**	**1.01**	**261**	P	**Pg**	**00 48 25.2**	**-0.9**
	baz=81,SNR=72						
109C				S	**Sg**	**00 48 38.8**	**-0.5**
	baz=81						
CPE	**Camp Elliot**	**1.01**	**261**		**Pg**	**00 48 25.3**	**-0.8**
CPE					**Sg**	**00 48 38.8**	**-0.4**
ESJX	**Sierra Juarez**	**1.04**	**181**	Pg	**Pg**	**00 48 26.2**	**-0.5**
ESJX				IAML		00 48 42.5	
	comp=N,585nm,0.5s						
SDMC	**San Diego Miss**	**1.06**	**256**		**Pg**	**00 48 26.3**	**-0.7**
BLAC	**Blackrock camp**	**1.09**	**339**		**Pg**	**00 48 26.4**	**-1.3**
TJX	**Tijuana**	**1.10**	**241**		**Pg**	**00 48 27.2**	**-0.5**
MURC	**Murrieta**	**1.20**	**298**		**Pb**	**00 48 28.2**	**-1.1**
MURC	**Murrieta**	**1.20**	**298**	P	**Pb**	**00 48 28.2**	**-1.1**
	baz=117,SNR=77						
MURC				S	**Sb**	**00 48 45.0**	**+0.2**
	baz=117						
IRM	**Iron Mountain**	**1.28**	**30**	P	**Pn**	**00 48 29.1**	**-1.2**
	baz=210,SNR=98						
IRM				S	**Sb**	**00 48 47.0**	**0.0**
	baz=210						
CCX	**Cicese**	**1.33**	**208**		**Pn**	**00 48 30.9**	**0.0**
CCX				IAML		00 48 51.7	
	comp=N,590nm,0.5s						
BLYC	**Blythe**	**1.36**	**59**		**Pn**	**00 48 31.7**	**+0.4**
BLYC				IAML		00 48 58.0	
	comp=N,253nm,0.8s						
ELS	**Elsinore Mount**	**1.40**	**296**	Pg	**Pn**	**00 48 31.4**	**-0.5**
ELS				IAML		00 48 52.0	
	comp=E,351nm,0.4s						
ELS				IAML		00 48 52.2	
	comp=N,284nm,0.3s						
BBRC	**Big Bear Solar**	**1.47**	**326**	Pg	**Pb**	**00 48 34.2**	**+0.2**
	baz=145						
BBRC				Sb	**Sg**	**00 48 53.8**	**-0.4**
	baz=145						
VTX	**Valle De La Tr**	**1.65**	**176**		**Pn**	**00 48 36.3**	**+0.9**
VTX				IAML		00 49 00.2	
	comp=E,404nm,0.7s						
VTX				IAML		00 49 03.2	
	comp=N,184nm,0.4s						
GMRC	**Granite Mounta**	**1.75**	**7**	P	**Pn**	**00 48 35.6**	**-1.1**
	baz=187,SNR=74						
GMRC				Sb	**Sb**	**00 49 01.3**	**+0.8**
	baz=187						
HEC	**Hector,Ludlow**	**1.81**	**349**	Pg	**Pb**	**00 48 40.4**	**+0.7**
	baz=169						
BFSC	**Mount Baldy Ra**	**1.88**	**310**	Sb	**Sb**	**00 49 04.7**	**+0.5**
	baz=129						
PDMCI	**Parker Dam,Lak**	**1.94**	**49**	Sb	**Sb**	**00 49 06.1**	**+0.2**
	baz=230						
NEE2	**Needles Airpor**	**2.03**	**32**	Sb	**Sb**	**00 49 09.7**	**+1.2**
	baz=212						
RRX	**Edison Barstow**	**2.03**	**334**	Pg	**Pg**	**00 48 44.7**	**-0.9**
	baz=154						
RRX				Sb	**Sb**	**00 49 09.4**	**+0.8**
	baz=154						
FMP	**Fort Macarthur**	**2.10**	**289**	Sb	**Sb**	**00 49 11.7**	**+1.3**
	baz=108						
CIS	**Catalina Islan**	**2.12**	**280**	Pb	**Pb**	**00 48 44.1**	**-0.8**
	baz=99						
CIS				Sb	**Sb**	**00 49 12.4**	**+1.3**
	baz=99						
SCI2	**San Clemente I**	**2.21**	**269**	P	**Pn**	**00 48 43.7**	**+0.8**
	baz=88						
SCI2				S	**Sn**	**00 49 10.8**	**+0.7**
	baz=88						
DECC	**Green Verdugo**	**2.35**	**302**	Pg	**Pg**	**00 48 50.6**	**-1.1**
	baz=120						
DECC				Sb	**Sb**	**00 49 19.1**	**+1.5**
	baz=120						
GSC	**Goldstone, Bar**	**2.37**	**342**		**Pn**	**00 48 46.4**	**+1.2**
GSC				IAML		00 49 28.0	
	comp=E,137nm,0.7s						
GSC	**Goldstone, Bar**	**2.37**	**342**	Pg	**Pg**	**00 48 50.7**	**-1.3**
	baz=162						
EDW2	**Edwards Air Fo**	**2.51**	**317**	Pg	**Pg**	**00 48 53.4**	**-1.5**
	baz=136						
EDW2				Sb	**Sb**	**00 49 24.5**	**+2.0**
	baz=136						
PIX	**Pinacate**	**2.56**	**125**	Pn	**Pn**	**00 48 47.9**	**+0.2**
W13A	**Hualapai Mount**	**2.65**	**39**		**Pn**	**00 48 50.1**	**+0.9**
OSI	**Osito Audit: C**	**2.81**	**305**	Sb	**Sb**	**00 49 33.8**	**+2.8**
	baz=123						
V12A	**Nelson**	**2.81**	**18**		**Pn**	**00 48 51.1**	**-0.3**
214A	**Organ Pipe Nat**	**2.84**	**112**	P	**Pn**	**00 48 50.6**	**-1.1**
	baz=293						
SHOC	**Shoshone, Teco**	**2.86**	**354**	Sb	**Sg**	**00 49 36.1**	**-2.4**
	baz=174						
QSM	**Queen of Sheba**	**3.02**	**345**		**Pn**	**00 48 53.3**	**-0.7**
QSM				IAML		00 49 52.7	
	comp=E,62nm,0.6s						
QSM				IAML		00 50 11.6	
	comp=N,54nm,0.9s						
ARVC	**Arvin**	**3.18**	**311**	Sb	**Sb**	**00 49 44.1**	**+2.3**
	baz=130						
GWY	**Greenwater Val**	**3.19**	**349**		**Pn**	**00 48 56.1**	**-0.5**
GWY				IAML		00 49 50.0	
	comp=E,60nm,0.6s						
GWY				IAML		00 50 03.7	
	comp=N,52nm,1.1s						
SHPR	**Sheep Range**	**3.51**	**10**		**Pn**	**00 49 01.1**	**+0.1**
X16A	**Lo Mia Camp, P**	**3.97**	**69**	Pn	**Pn**	**00 49 07.5**	**0.0**
X16A				IAML		00 50 30.6	
	comp=N,24nm,1.1s						
GRAC	**Grapevine Rang**	**4.12**	**344**		**Pn**	**00 49 09.7**	**+0.5**
GRAC				IAML		00 50 36.8	
	comp=N,49nm,0.1s						
GRAC				IAML		00 50 37.6	
	comp=E,41nm,0.9s						
TUC	**Tucson**	**4.39**	**98**		**Pn**	**00 49 13.2**	**+0.2**
U15A	**North Rim**	**4.50**	**41**	Pn	**Pn**	**00 49 15.7**	**+0.8**
U15A				IAML		00 50 47.2	
	comp=E,21nm,1.1s						
U15A				IAML		00 51 08.8	
	comp=N,15nm,1.2s						
LCMT	**Little Creek M**	**4.52**	**28**		**Pn**	**00 49 15.3**	**+0.4**
KNB	**Kanab**	**4.71**	**32**		**Pn**	**00 49 18.0**	**+0.6**
KNB				IAML		00 50 54.0	
	comp=E,17nm,3.6s						
KNB				IAML		00 51 15.2	
	comp=N,13nm,1.7s						

*IDC **13** 01:11:00.8±0.8,52°.66N×170°.98E,h0km,mb3.9/21, mbtmp3.9/23,ML3.5/2,MS3.3/8, Error ellipse: s-maj=22.0km s-min=13.1km az=178.0*
*NEIC **13** 01:11:06.9±1.9,52°.6N±0°.2×171°.0E±0°.1,h24km±7km, mb4.1/104, Error ellipse: s-maj=22.6km s-min=9.5km az=185.0*
*KRSC **13** 01:11:08.9±1.7,52°.66N×170°.13E,h31km±71km,Ml4.5*

ISC 13 01:11:06.5±0.6,**52°.62N**±0°.10×**170°.83E**±0°.05,**h35**km,**n167**, σ1°**62**/152,**mb4.0**/64,**MS3.5**/5,**Near Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.99**	**86**	Pn	**Pn**	**01 11 35.2**	**-2.4**
	122nm,0.3s,baz=220,slow=7.9,SNR=83						
SHEM				Sn	**Sn**	**01 11 59.8**	**-1.6**
	353nm,0.3s,baz=241,slow=16,SNR=24						
AMKA	**Amchitka**	**5.38**	**100**	Pn	**Pn**	**01 12 23.9**	**-0.2**
KBTR	**Krutoberegovo**	**5.90**	**311**	*eP*	**Pn**	**01 12 32.6**	**+1.3**
KBTR				*eS*	**Sn**	**01 13 35.6**	**-2.0**
SPN	**Mys Shipunski**	**6.57**	**278**	*eP*	**Pn**	**01 12 41.4**	**+1.0**
SPN				*eS*	**Sn**	**01 13 50.3**	**-3.7**
TUMD	**Tumrok D**	**6.69**	**297**	*eP*	**Pn**	**01 12 45.1**	**+3.0**
TUMD				*eS*	**Sn**	**01 13 56.4**	**-0.6**
TUMR	**Tumrok**	**6.85**	**297**	*eP*	**Pn**	**01 12 47.1**	**+2.6**
UGLR	**Uglovaya**	**7.29**	**279**	*eP*	**Pn**	**01 12 52.1**	**+1.6**
SMAR	**Somma**	**7.30**	**280**	*eP*	**Pn**	**01 12 52.4**	**+1.6**
KRER	**Koryakskii**	**7.33**	**280**	*eP*	**Pn**	**01 12 53.1**	**+1.9**
AVH	**Avacha**	**7.34**	**280**	*eP*	**Pn**	**01 12 53.3**	**+2.1**
KRX	**Arik**	**7.39**	**281**	*eP*	**Pn**	**01 12 53.6**	**+1.6**
KRX				*eS*	**Sn**	**01 14 11.5**	**-3.1**
PET	**Petropavlovsk**	**7.39**	**278**	Pn	**Pn**	**01 12 54.0**	**+2.2**
PET	**Petropavlovsk**	**7.39**	**278**	*eP*	**Pn**	**01 12 54.0**	**+2.2**
PET				*eS*	**Sn**	**01 14 12.6**	**-1.8**
KOK	**Koryaka**	**7.40**	**280**	*eP*	**Pn**	**01 12 54.0**	**+1.9**
SRDR	**Sredinnyy**	**7.46**	**304**	*eP*	**Pn**	**01 12 54.5**	**+1.7**
RUS	**Russkaya**	**7.52**	**273**	*eP*	**Pn**	**01 12 55.1**	**+1.6**
RUS				*eS*	**Sn**	**01 14 14.6**	**-2.9**
MTVR	**Mutnovka**	**7.72**	**274**	*eP*	**Pn**	**01 12 58.7**	**+2.3**
MTVR				*eS*	**Sn**	**01 14 20.5**	**-2.0**
KRMR	**Karymshinskiy**	**7.72**	**277**	*eP*	**Pn**	**01 12 58.6**	**+2.3**
KRMR				*eS*	**Sn**	**01 14 19.7**	**-2.7**
GRL	**Gorelyy**	**7.78**	**275**	*eP*	**Pn**	**01 12 59.8**	**+2.6**
GNL	**Ganaly**	**7.83**	**283**	*eP*	**Pn**	**01 13 01.3**	**+3.5**
KDTR	**Khodutka, Kamc**	**7.88**	**269**	*eP*	**Pn**	**01 13 00.3**	**+1.8**
KDTR				*eS*	**Sn**	**01 14 22.3**	**-4.1**
ASAK	**Asacha**	**7.90**	**273**	*eP*	**Pn**	**01 13 01.6**	**+2.8**
PEA0B	**Petropavlovsk-**	**7.97**	**279**		**Pn**	**01 13 02.1**	**+2.4**
PETK	**Petropavlovsk-**	**7.97**	**279**		**Pn**	**01 13 02.1**	**+2.4**
PETK	**Petropavlovsk-**	**7.97**	**279**	Pn	**Pn**	**01 13 00.8**	**+1.1**
	2.2nm,0.3s,baz=89,slow=20,SNR=72						
PETK				Sn	**Sn**	**01 14 27.0**	**-1.5**
	2.6nm,0.3s,baz=90,slow=39,SNR=7.7						
PETK				LR	LR	01 15 54.9	
	comp=Z,58nm,21.4s,baz=78,slow=36 14nm,0.6s						
APC	**Apacha**	**8.30**	**278**	*eS*	**Sn**	**01 14 35.3**	**-1.4**
ATKA	**Atka Island**	**9.16**	**87**	Pn	**Pn**	**01 13 16.0**	**0.0**
MA2	**Magadan**	**13.15**	**310**	LR	LR	01 19 10.1	
	comp=Z,96nm,19.5s,baz=117,slow=37						
SEY	**Seymchan**	**14.21**	**324**	Pn	**Pn**	**01 14 22.5**	**-2.4**
	0.3nm,0.3s,baz=166,slow=24,SNR=2.0						
SEY				LR	LR	01 19 25.6	
	comp=Z,86nm,20.5s,baz=161,slow=36 0.8nm,0.4s						
BILL	**Bilibino**	**15.63**	**354**	Pn	**Pn**	**01 14 45.5**	**+1.7**
BILL				IAmb	IAmb	01 14 47.8	
	comp=Z,9.3nm,0.7s						
K15K	**Wolf Creek Mou**	**17.60**	**46**		**P**	**01 15 10.6**	**+1.1**
K15K				IAmb	IAmb	01 15 12.5	
	comp=Z,12nm,0.9s						
N15K	**Kwethluk River**	**17.66**	**53**		**P**	**01 15 10.6**	**+0.5**
N15K				IAmb	IAmb	01 15 53.6	
	comp=Z,16nm,1.1s						
J16K	**Anvik River**	**18.36**	**43**	P	**Pn**	**01 15 20.9**	**+2.9**
M16K	**Timber Creek**	**18.40**	**51**	P	**Pn**	**01 15 18.7**	**+0.2**
M16K				IAmb	IAmb	01 15 48.7	
	comp=Z,17nm,1.4s						
J17K	**VABM Dome**	**19.04**	**44**	P	**Pn**	**01 15 26.1**	**-0.2**
K17K	**Iditarod**	**19.16**	**46**	P	**Pn**	**01 15 28.3**	**+0.7**
K17K				IAmb	IAmb	01 15 31.4	
	comp=Z,15nm,1.4s						
M17K	**Holitna River**	**19.20**	**50**	P	**Pn**	**01 15 27.8**	**-0.3**
L18K	**Granite Mounta**	**19.74**	**48**	P	**Pn**	**01 15 34.3**	**-0.2**
N18K	**Kilae Creek**	**19.80**	**53**	Pn	**Pn**	**01 15 36.0**	**+0.7**
N18K				IAmb	IAmb	01 15 39.1	
	comp=Z,16nm,1.5s						
H18K	**Honhosa River**	**20.00**	**39**	P	**P**	**01 15 36.1**	**+0.4**
J18K	**Innoko River**	**20.07**	**45**	P	Pn	01 15 37.9	-0.5
G18K	**Tagagawik**	**20.21**	**37**	P	**P**	**01 15 37.3**	**-0.7**
E18K	**Tukpahlearik C**	**20.29**	**32**	P	**P**	**01 15 38.1**	**-0.7**
ASAJ	**Asahikawa**	**20.49**	**257**	P	Pn	01 15 42.8	-0.7
	comp=Z,1.7nm,0.5s,baz=194,slow=12,SNR=1.5						
	comp=Z,1.7nm,0.5s						
N19K	**Bonanza Creek**	**20.51**	**53**	P	Pn	01 15 42.8	-0.9
L19K	**White Mountain**	**20.57**	**49**	P	**P**	**01 15 42.9**	**+1.0**
J19K	**Poorman**	**20.70**	**44**	P	**P**	**01 15 44.5**	**+1.2**
J19K				IAmb	IAmb	01 15 48.1	
	comp=Z,9.1nm,1.3s						
Q19K	**Cape Douglas,**	**20.76**	**58**	P	**P**	**01 15 45.0**	**+1.0**
C18K	**Utukok River**	**20.81**	**29**	P	**P**	**01 15 43.3**	**-1.2**
C18K				IAmb	IAmb	01 16 11.4	
	comp=Z,10nm,1.4s						
H19K	**Roundabout Mou**	**20.89**	**39**	P	**P**	**01 15 46.2**	**+1.0**
H19K				IAmb	IAmb	01 16 01.6	
	comp=Z,13nm,1.5s						
G19K	**Purcell Mounta**	**20.90**	**37**	P	Pn	01 15 48.7	+0.7
F19K	**Shaleruckik Mo**	**20.95**	**35**	P	**P**	**01 15 46.7**	**+0.7**
OHAK	**Old Harbor**	**20.96**	**63**	P	**P**	**01 15 46.0**	**-0.2**
P19K	**Oil Pt**	**21.01**	**56**	P	**P**	**01 15 48.8**	**+2.0**
K20K	**Telida**	**21.19**	**46**	P	**P**	**01 15 51.8**	**+3.3**
K20K				IAmb	IAmb	01 15 53.8	
	comp=Z,5.7nm,0.7s						
KDAK	**Kodiak Island**	**21.32**	**61**	P	**P**	**01 15 50.3**	**+0.3**
KDAK	**Kodiak Island**	**21.32**	**61**	P	**P**	**01 15 49.3**	**-0.6**
	comp=Z,2.8nm,0.4s,baz=316,slow=4.9,SNR=18						
	comp=Z,2.8nm,0.4s						
J20K	**Nowinta River**	**21.37**	**44**	P	**P**	**01 15 51.5**	**+1.0**
J20K				IAmb	IAmb	01 15 56.4	
	comp=Z,4.9nm,0.7s						
SYI	**Shuyak Island**	**21.41**	**59**	P	**P**	**01 15 51.0**	**+0.1**
E19K	**Redstone River**	**21.43**	**34**	P	**P**	**01 15 51.8**	**+0.6**
C19K	**Lookout Ridge**	**21.55**	**29**	P	**P**	**01 15 53.6**	**+1.1**
D19K	**Kuna River**	**21.66**	**31**	P	**P**	**01 15 54.2**	**+0.6**
D19K				IAmb	IAmb	01 16 04.6	
	comp=Z,4.7nm,0.8s						
F20K	**Avaraart Lake**	**21.77**	**36**	P	**P**	**01 15 56.0**	**+1.2**
IMAR	**Indian Mountai**	**22.09**	**39**	P	**P**	**01 15 59.5**	**+1.2**
H21K	**Melozitna Rive**	**22.35**	**40**	IAmb	IAmb	01 16 04.5	
	comp=Z,6.1nm,0.8s						
G21K	**Allakaket**	**22.37**	**38**	P	**P**	**01 16 02.9**	**+1.6**
SUA	**Susitna One**	**22.38**	**52**	P	**P**	**01 16 01.6**	**+0.1**
SUA				IAmb	IAmb	01 16 25.6	
	comp=Z,11nm,1.0s						
KTH	**Kantishna Hill**	**22.61**	**46**	P	**P**	**01 16 05.2**	**+1.3**
KTH				IAmb	IAmb	01 16 09.0	
	comp=Z,11nm,1.2s						
F21K	**Alatna River**	**22.64**	**36**	P	**P**	**01 16 04.8**	**+0.6**
RC01	**Rabbit Creek A**	**22.84**	**53**	P	**P**	**01 16 07.3**	**+1.1**
TRF	**Thorofare Moun**	**22.87**	**47**	P	**P**	**01 16 06.7**	**0.0**
TRF				IAmb	IAmb	01 16 10.4	
	comp=Z,6.0nm,1.1s						
B21K	**Ikpikpuk River**	**23.32**	**30**	P	**P**	**01 16 09.9**	**-1.1**
B21K				IAmb	IAmb	01 16 13.2	
	comp=Z,5.1nm,0.8s						
RND	**Reindeer**	**23.50**	**47**	P	**P**	**01 16 12.7**	**-0.2**
RND				IAmb	IAmb	01 16 15.8	
	comp=Z,3.7nm,0.8s						
D22K	**Ayikyak River**	**23.59**	**33**	IAmb	IAmb	01 16 16.2	
	comp=Z,4.6nm,0.9s						
I23K	**Minto, Yukon-K**	**23.61**	**43**	P	**P**	**01 16 14.2**	**+0.4**
NEA2	**Nenana**	**23.61**	**44**	P	**P**	**01 16 14.8**	**+1.0**
YAK	**Yakutsk**	**23.73**	**310**	LR	LR	01 25 40.3	
	comp=Z,62nm,19.7s,baz=292,slow=37						
G23K	**Bananza Creek**	**23.75**	**39**	P	**P**	**01 16 16.6**	**+1.3**
WRH	**Wood River Hil**	**24.00**	**44**	P	**P**	**01 16 17.9**	**+0.4**
WRH				IAmb	IAmb	01 16 20.7	
	comp=Z,4.5nm,0.9s						
B22K	**Teshekpuk Lake**	**24.03**	**29**	IAmb	IAmb	01 16 20.9	
	comp=Z,4.8nm,0.8s						
MDM	**Murphy Dome**	**24.04**	**43**	P	**P**	**01 16 16.5**	**-1.3**
MDM				IAmb	IAmb	01 16 21.0	
	comp=Z,5.7nm,0.8s						
SCM	**Sheep Creek Mo**	**24.04**	**51**	P	**P**	**01 16 18.3**	**+0.3**
GLI	**Glacier Island**	**24.12**	**53**	P	**P**	**01 16 18.8**	**+0.2**
DHY	**Denali Highway**	**24.12**	**48**	P	**P**	**01 16 18.8**	**0.0**
DHY				IAmb	IAmb	01 16 23.8	
	comp=Z,2.6nm,0.6s						
CCB	**Clear Creek Bu**	**24.16**	**

ISLE	Juniper Island	26.46	54	P		P		01 16 41.1	+1.0
M27K	Edge Creek, AK	26.62	50	P		P		01 16 43.5	+2.1
M27K				IAmb		IAmb		01 16 46.9	
	comp=Z,9.6nm,1.4s								
L27K	Beaver Creek,	26.64	48	P		P		01 16 42.5	+1.0
L27K				IAmb		IAmb		01 16 46.3	
	comp=Z,2.7nm,0.8s								
BCAR	Beaver Creek A	26.66	48	P		P		01 16 43.4	+1.7
BARN	Barnard Glacie	26.76	53	P		P		01 16 44.7	+1.8
BARN				IAmb		IAmb		01 16 48.8	
	comp=Z,5.6nm,0.8s								
CTGM	Chitina Glacie	26.93	53	P		P		01 16 45.8	+1.6
CTGM				IAmb		IAmb		01 16 47.9	
	comp=Z,5.2nm,1.0s								
EGAK	Eagle	27.00	45	P		P		01 16 45.4	+0.7
LOGN	Logan Glacier	27.10	53	P		P		01 16 47.7	+1.9
E27K	Coleen River	27.26	37	P		P		01 16 47.8	+0.8
I28M	Miner Creek	27.57	43	IAmb		IAmb		01 16 54.5	
	comp=Z,8.7nm,1.5s								
M29M	Somme Creek	28.20	50	P		P		01 16 56.5	+0.9
H29M	Whitestone	28.26	42	P		P		01 16 56.7	+0.7
L29M	L29M	28.32	48	P		P		01 16 58.6	+2.0
L29M				IAmb		IAmb		01 16 59.7	
	comp=Z,2.0nm,0.8s								
G29M	Pine Creek	28.45	40	P		P		01 16 59.4	+1.8
G29M				IAmb		IAmb		01 17 04.1	
	comp=Z,4.7nm,1.0s								
K29M	Barlow Dome	28.57	47	P		P		01 17 00.8	+1.9
E29M	Blow River	28.65	37	P		P		01 16 59.8	+0.4
HYT	Haines Junctio	28.80	53	P		P		01 17 01.5	+0.5
HYT				IAmb		IAmb		01 17 10.5	
	comp=Z,7.4nm,1.4s								
G31M	Satah River	29.93	40	P		P		01 17 10.6	-0.1
M31M	Drury Creek, Y	30.12	50	P		P		01 17 14.6	+2.1
M31M				IAmb		IAmb		01 17 16.0	
	comp=Z,3.3nm,0.8s								
INK	Inuvik	30.26	38	P		P		01 17 13.6	0.0
INK				IAmb		IAmb		01 17 30.6	
	comp=Z,3.6nm,1.4s								
MMPY	Sheldon Lake,	31.50	49	P		P		01 17 27.0	+2.3
H11N2	WAKE ISLAND Hy	32.97	187	T		T		01 52 58.0	
	baz=4.9,slow=76,SNR=516								
H11N3	WAKE ISLAND Hy	32.98	187	T		T		01 53 00.7	
	baz=4.9,slow=76,SNR=481								
H11N1	WAKE ISLAND Hy	34.19	187	T		T		01 52 59.3	
	baz=4.9,slow=76,SNR=495								
H11S1	WAKE ISLAND Hy	34.19	187	T		T		01 54 31.9	
	baz=5.1,slow=76,SNR=831								
H11S3	WAKE ISLAND Hy	34.21	187	T		T		01 54 33.5	
	baz=5.1,slow=76,SNR=476								
H11S2	WAKE ISLAND Hy	34.21	187	T		T		01 54 31.3	
	baz=5.1,slow=76,SNR=348								
YKA	Yellowknife Ar	38.98	45	P		P		01 18 27.7	-1.2
	comp=Z,0.7nm,0.6s,baz=292,slow=8.1,SNR=9.3								
	comp=Z,0.7nm,0.6s								
SONM	Songino Array	40.27	290	P		P		01 18 40.5	+0.5
	comp=Z,0.5nm,0.6s,baz=119,slow=5.8,SNR=2.8								
	comp=Z,0.5nm,0.6s								
RES	Resolute Bay	41.23	24	P		P		01 18 49.8	+2.5
RES				IAmb		IAmb		01 19 16.1	
	comp=Z,4.4nm,1.3s								
SPITS	Spitsbergen Ar	48.53	353	P		P		01 19 44.4	-1.1
	comp=Z,7.1nm,0.9s,baz=64,slow=7.7,SNR=7.6								
	comp=Z,7.1nm,0.9s								
SPB2	Spitsbergen Ar	48.54	353	P		P		01 19 44.8	-0.7
PDAR	Pinedale Array	51.88	67	P		P		01 20 10.7	-0.8
	comp=Z,0.4nm,0.8s,baz=347,slow=3.7,SNR=2.9								
	comp=Z,0.4nm,0.8s								
KURBB	Kurchatov Arra	53.46	308	P		P		01 20 22.5	-0.2
	comp=Z,0.8nm,0.8s,baz=48,slow=6.6,SNR=5.5								
	comp=Z,0.8nm,0.8s								
ARCES	ARCESS Array B	55.55	346	P		P		01 20 35.1	-2.6
	comp=Z,1.1nm,0.6s,baz=15,slow=18,SNR=2.1								
	comp=Z,1.1nm,0.6s								
BVAR	Borovoye Array	55.60	314	P		P		01 20 38.6	+0.4
	comp=Z,1.0nm,0.6s,baz=60,slow=8.5,SNR=2.0								
BVAR				LR		LR		01 45 59.3	
	comp=Z,59nm,19.6s,baz=16,slow=38								
	comp=Z,1.0nm,0.6s								
PZH	PanZhiHua	56.85	271	P		P		01 20 52.0	+4.3
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,100nm,4.8s								
SCHQ	Schefferville	62.75	33	P		P		01 21 26.4	-1.2
	comp=Z,3.2nm,0.8s,baz=337,slow=7.7,SNR=3.8								
	comp=Z,3.2nm,0.8s								
FINES	FINESS Array B	62.88	342	P		P		01 21 28.6	+0.3
	comp=Z,1.6nm,0.7s,baz=57,slow=7.7,SNR=4.9								
	comp=Z,1.6nm,0.7s								
TXAR	Lajitas Array	64.65	74	P		P		01 21 40.6	-0.2
	comp=Z,0.3nm,0.4s,baz=312,slow=4.9,SNR=8.4								
	comp=Z,0.3nm,0.4s								
NB2	NORSAR Subarra	65.53	349	P		P		01 21 45.7	-0.1
	comp=Z,0.5nm,0.5s,baz=13,slow=6.9								
NOA	NORSAR Array B	65.53	349	P		P		01 21 45.4	-0.5
	comp=Z,1.2nm,0.7s,baz=14,slow=6.6,SNR=9.3								
	comp=Z,1.2nm,0.7s								
HFS	Hagfors	66.11	348	P		P		01 21 48.7	-0.8
	comp=Z,1.3nm,0.6s,baz=54,slow=7.7,SNR=2.7								
	comp=Z,1.3nm,0.6s								
AKASG	Malin Array Be	72.07	335	P		P		01 22 25.9	-0.7
	comp=Z,0.6nm,0.4s,baz=24,slow=6.2,SNR=3.3								
	comp=Z,0.6nm,0.4s								
EKA	Eskdalemuir Ar	72.30	356	P		P		01 22 27.4	-0.5
	comp=Z,0.6nm,0.6s,baz=19,slow=5.4,SNR=4.2								
	comp=Z,0.6nm,0.6s								
GEYT	Alibeck	72.60	310	LR		LR		01 58 02.5	
	comp=Z,54nm,18.5s,baz=9.5,slow=39								
GNI	Garni	76.48	320	LR		LR		01 59 51.6	
	comp=Z,25nm,18.9s,baz=46,slow=38								
GERES	GERESS Array B	77.06	345	P		P		01 22 55.8	+0.1
	comp=Z,0.8nm,0.6s,baz=1.1,slow=6.7,SNR=3.9								
	comp=Z,0.8nm,0.6s								
WRA	Warramunga Arr	78.91	215	P		P		01 23 05.4	-0.7
	comp=Z,0.7nm,1.0s,baz=28,slow=6.6,SNR=2.4								
	comp=Z,0.7nm,1.0s								
BRTR	Keskin Array B	80.82	328	P		P		01 23 16.4	-0.2
	comp=Z,0.8nm,0.8s,baz=18,slow=2.3,SNR=4.5								
	comp=Z,0.8nm,0.8s								
ASAR	Alice Springs	82.50	214	P		P		01 23 23.8	-1.5
	comp=Z,0.3nm,1.0s,baz=17,slow=5.2,SNR=1.4								
	comp=Z,0.3nm,1.0s								
DBIC	Dimbokro	120.83	355	PKP		PKPdf		01 29 53.3	-1.8
	comp=Z,3.3nm,0.9s,baz=82,slow=3.6,SNR=3.1								
BOSA	Boshof	145.07	300	PKPbc		PKPdf		01 30 40.9	+1.0
	comp=Z,3.6nm,1.0s,baz=42,slow=9.1,SNR=4.6								

IDC **13** *01:13:43.0±1.0,30°.78N×51°.41E,h0km,mb3.9/22, mbtmp3.9/29,ML3.6/7,MS3.4/21,Error ellipse: s-maj=21.5km s-min=13.1km az=5.0*

TEH **13** *01:13:44.7,30°.86N×51°.57E,h6km±27km,ML4.1*

MOS **13** *01:13:44.6±1.5,30°.68N×51°.54E,h11km,mb4.5/31,Error ellipse: s-maj=7.1km s-min=4.8km az=96.3*

NEIC **13** *01:13:46.9±1.9,30°.62N±0°.04×51°.54E±0°.07,h10km±1km, mb4.4/39,Error ellipse: s-maj=11.4km s-min=4.7km az=250.0*

OMAN **13** *01:13:48.8±0.0,30°.63N×51°.74E,h10km,mb4.8/31, ms3.0/4,Error ellipse: s-maj=0.7km s-min=0.6km az=244.0*

DSN **13** *01:13:52.9±1.9,30°.23N×51°.54E,h15km,ML4.0/12,Error ellipse: s-maj=24.2km s-min=11.3km az=16.0*

ISC 13 01:13:46.9±1.1,**30°.80N**±0°.03×**51°.64E**±0°.04,**h11**km±7km, **n334,**σ1i**69**/359,**mb4.3**/83,**MS3.2**/21,**25C-10D,Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time			Res
				Op	ISC	h	m	s	ISC
KLNJ	Kolanjah	0.21	349	Pg	**Pg**	**01**	**13**	**49.6**	**-2.1**
IBRJ	Brojen	1.15	344	Pg	Pb	01	14	06.4	-2.6
KAZ2	Kazeron-Fars-I	1.18	179	Pg	**Pb**	**01**	**14**	**08.9**	**-0.4**
IRAM	Ramesheh	1.19	32	Pg	**Pb**	**01**	**14**	**07.8**	**-1.8**
SHI	Shiraz	1.38	146	Pg	**Pn**	**01**	**14**	**12.9**	**+0.8**
SHI				Sg	**Sg**	**01**	**14**	**35.9**	**+4.6**
IGAR	Gharneh	1.64	12	Pg	**Pn**	**01**	**14**	**16.2**	**+0.4**
IGAR				Sg	**Sn**	**01**	**14**	**38.8**	**+1.8**
JHBN	Jahan bin	1.65	330	Pg	**Pn**	**01**	**14**	**16.2**	**+0.1**
AHBU	AHRAM	1.95	189	Pn	**Pn**	**01**	**14**	**21.4**	**+1.5**
IPIR	Pirpir	1.99	341	Pn	**Pn**	**01**	**14**	**21.4**	**+0.7**
ISAD	Sadrabad	2.08	57	Pn	**Pn**	**01**	**14**	**23.6**	**+1.7**
IZEF	Zefreh	2.17	16	Pn	**Pn**	**01**	**14**	**24.5**	**+1.3**
DSBU	Dashti - Bushe	2.45	188	Pn	**Pn**	**01**	**14**	**27.7**	**+0.9**
IMEH	Mehriz	2.62	76	Pn	**Pn**	**01**	**14**	**31.9**	**+2.5**
AHWZ	Ahwaz	2.62	282	Pn	**Pn**	**01**	**14**	**29.8**	**+0.6**
ICHK	Chekchek	2.77	58	Pn	**Pn**	**01**	**14**	**33.1**	**+1.8**
JHRM	Jahrom	2.84	143	Pn	**Pn**	**01**	**14**	**34.6**	**+2.3**
ANAR	Anarak	2.97	36	Pn	**Pn**	**01**	**14**	**35.9**	**+1.8**
ISFB	Sefidab	3.58	8	Pn	**Pn**	**01**	**14**	**43.4**	**+1.0**
KBD	Kabd	3.79	246	P	**Pn**	**01**	**14**	**46.8**	**+1.6**
KBD				S	**Sn**	**01**	**15**	**32.1**	**+2.5**
LAR1	LAR	3.93	142	Pn	**Pn**	**01**	**14**	**49.4**	**+2.3**
IQOM	Qom	4.06	353	Pn	**Pn**	**01**	**14**	**50.4**	**+1.2**
IVRN	Varamin	4.19	1	Pn	**Pn**	**01**	**14**	**51.8**	**+1.1**
KHGB	Koh Gabri	4.19	95	Pn	**Pn**	**01**	**14**	**53.3**	**+2.3**
IKFM	Kafar-mosalman	4.21	311	Pn	**Pn**	**01**	**14**	**51.3**	**+0.3**
HSAM	Samen	4.26	324	Pn	**Pn**	**01**	**14**	**52.7**	**+0.8**
TVBK	TV Kerman	4.50	99	Pn	**Pn**	**01**	**14**	**57.7**	**+2.5**
HAGD	Aghdareh	4.53	333	Pn	**Pn**	**01**	**14**	**56.3**	**+0.7**
NGRK	Negar Kerman	4.55	103	Pn	**Pn**	**01**	**14**	**58.6**	**+2.5**
IHSB	Hasanabad	4.64	356	Pn	**Pn**	**01**	**14**	**58.3**	**+1.3**
IDMV	Damavand	4.78	4	Pn	**Pn**	**01**	**14**	**59.9**	**+0.8**
IRAZ	Razeghan	4.81	343	Pn	**Pn**	**01**	**15**	**00.0**	**+0.6**
TPRV	Parvadeh(Tabas	4.83	61	Pn	**Pn**	**01**	**15**	**02.3**	**+2.6**
IBZA	Bozab	4.86	320	Pn	**Pn**	**01**	**15**	**00.0**	**-0.1**
KRM1	Kerman Provinc	4.86	92	Pn	**Pn**	**01**	**15**	**02.4**	**+2.2**
SAKB	Bahrain	4.90	192	P	**Pn**	**01**	**15**	**02.5**	**+2.0**
SAKB				S	**Sn**	**01**	**15**	**56.5**	**-0.6**
IFIR	Firoozkooh	4.92	11	Pn	**Pn**	**01**	**15**	**02.0**	**+1.0**
SHMA	Al-Shehemyia	4.96	187	P	**Pn**	**01**	**15**	**02.9**	**+1.6**
	SNR=28								
SHMA				S	**Sn**	**01**	**15**	**59.7**	**+1.1**
CHMN	Cheshme madani	5.19	99	Pn	**Pn**	**01**	**15**	**05.7**	**+0.9**
QABG	Abgarm-Qazvin	5.19	341	Pn	**Pn**	**01**	**15**	**05.5**	**+0.9**
KCHF	Cheshme Sefid,	5.21	313	Pn	**Pn**	**01**	**15**	**05.6**	**+0.8**
TNSJ	Nastanj	5.26	52	Pn	**Pn**	**01**	**15**	**07.3**	**+1.8**
SNQR	Songor, Kerman	5.27	321	Pn	**Pn**	**01**	**15**	**06.2**	**+0.4**
ILBA	Ilam Banvizeh	5.40	303	Pn	**Pn**	**01**	**15**	**07.4**	**0.0**
TKDS	Koohdasht(Taba	5.43	57	Pn	**Pn**	**01**	**15**	**09.2**	**+1.4**
IPRN	Peran	5.46	6	Pn	**Pn**	**01**	**15**	**09.7**	**+1.4**
ILIN	Lien	5.69	317	Pn	**Pn**	**01**	**15**	**11.9**	**+0.3**
GLG1	Gilan-e-Gharb	5.86	306	Pn	**Pn**	**01**	**15**	**14.2**	**+0.4**
IDHR	Dehrash	5.89	313	Pn	**Pn**	**01**	**15**	**13.4**	**-0.9**
TRNA	Turayna	6.05	184	P	**Pn**	**01**	**15**	**17.7**	**+1.4**
	SNR=12								
TRNA				S	**Sn**	**01**	**16**	**26.1**	**+0.6**
SMRA	Abu-Samra	6.07	187	P	**Pn**	**01**	**15**	**17.6**	**+1.1**
SMRA				S	**Sn**	**01**	**16**	**25.3**	**-0.8**
	SNR=6.2								
KBAM	BAM	6.14	104	Pn	**Pn**	**01**	**15**	**20.3**	**+2.7**
SHME	Shamm	6.17	139	P	**Pn**	**01**	**15**	**18.6**	**+0.6**
SHME	Shamm	6.17	139	P	**Pn**	**01**	**15**	**18.2**	**+0.2**
SHME				S	**Sn**	**01**	**16**	**25.8**	**-2.7**
UMQ	Umm Al-Quwin	6.34	145	P	**Pn**	**01**	**15**	**21.4**	**+1.2**
BANOM	Banah	6.36	139	P	**Pn**	**01**	**15**	**22.2**	**+1.6**
BANOM				S	**Sn**	**01**	**16**	**30.3**	**-2.9**
ITEG	Tejag	6.40	69	Pn	**Pn**	**01**	**15**	**23.6**	**+2.3**
IKOO	Kooshah	6.49	74	Pn	**Pn**	**01**	**15**	**24.7**	**+2.2**
BSRN	Basiran	6.51	78	Pn	**Pn**	**01**	**15**	**24.8**	**+2.1**
SLWR	Sila	6.70	180	P	**Pn**	**01**	**15**	**25.5**	**+0.3**
MASF	Masafi	6.72	142	P	**Pn**	**01**	**15**	**25.8**	**+0.2**
	SNR=14								
MASF				S	**Sn**	**01**	**16**	**40.1**	**-1.9**
	SNR=12								
MSFE	Esma-Masafi	6.73	143	P	**Pn**	**01**	**15**	**25.2**	**-0.4**
AFRZ	Afriz	6.78	65	Pn	**Pn**	**01**	**15**	**28.9**	**+2.4**
NAZ	Nazwa, Dubai	6.79	147	P	**Pn**	**01**	**15**	**28.0**	**+1.6**
NAZ	Nazwa, Dubai	6.79	147	P	**Pn**	**01**	**15**	**28.4**	**+1.9**
NAZ				S	**Sn**	**01**	**16**	**42.3**	**-1.5**
MDH	Madha	6.85	142	P	**Pn**	**01**	**15**	**26.9**	**-0.4**
MDH	Madha	6.85	142	P	**Pn**	**01**	**15**	**27.2**	**-0.1**
	SNR=13								
MDH				S	**Sn**	**01**	**16**	**43.4**	**-1.9**
	SNR=12								
AJN	Ajban	6.88	154	P	**Pn**	**01**	**15**	**28.3**	**+0.6**
AJN				S	**Sn**	**01**	**16**	**44.9**	**-1.2**
	SNR=9.5								
GHWR	Ruwais	6.89	171	P	**Pn**	**01**	**15**	**28.6**	**+0.7**
GHWR				S	**Sn**	**01**	**16**	**45.0**	**-1.3**
ASUD	Al Ashush, Dub	6.96	151	P	**Pn**	**01**	**15**	**30.2**	**+1.3**
ASUD	Al Ashush, Dub	6.96	151	P	**Pn**	**01**	**15**	**30.1**	**+1.3**
ASUD				S	**Sn**	**01**	**16**	**46.6**	**-1.4**
FAQ	Al Faqa, Dubai	6.97	149	P	**Pn**	**01**	**15**	**31.0**	**+2.0**
FAQ	Al Faqa, Dubai	6.97	149	P	**Pn**	**01**	**15**	**30.9**	**+2.0**
FAQ				S	**Sn**	**01**	**16**	**45.7**	**-2.5**
	SNR=11								
UOSS	Minazif	7.09	144	Pn	**Pn**	**01**	**15**	**30.6**	**0.0**
UOSS	Minazif	7.09	144	P	**Pn**	**01**	**15**	**29.9**	**-0.7**
UOSS	Minazif	7.09	144	P	**Pn**	**01**	**15**	**30.7**	**0.0**
UOSS				S	**Sn**	**01**	**16**	**47.5**	**-3.7**
HATD	Hatta, Dubai	7.16	145	P	**Pn**	**01**	**15**	**32.4**	**+0.9**
HATD				S	**Sn**	**01**	**16**	**48.3**	**-4.5**
HATD	Hatta, Dubai	7.16	145	P	**Pn**	**01**	**15**	**33.4**	**+1.9**
HATD				S	**Sn**	**01**	**16**	**50.3**	**-2.4**
ASHO	Ashiyiah	7.24	146	P	**Pn**	**01**	**15**	**32.6**	**-0.1**
ASHO				S	**Sn**	**01**	**16**	**51.8**	**-3.1**
ASHO	Ashiyiah	7.24	146	P	**Pn**	**01**	**15**	**33.1**	**+0.5**
	SNR=14								
ASHO				S	**Sn**	**01**	**16**	**52.9**	**-2.0**
	SNR=12								
MZWR	Madinat Zayed	7.29	164	P	**Pn**	**01**	**15**	**34.0**	**+0.8**
MZWR				S	**Sn**	**01**	**16**	**54.7**	**-1.3**
JASK	Jask - Hormozg	7.36	130	P	**Pn**	**01**	**15**	**34.2**	**-0.1**
JASK				S	**Sn**	**01**	**16**	**56.3**	**-1.6**
SBZV	Sabzevar	7.48	40	Pn	**Pn**	**01**	**15**	**37.1**	**+1.0**
ALNE	Al Ain	7.64	150	P	**Pn**	**01**	**15**	**37.9**	**-0.3**
ALNE	Al Ain	7.64	150	P	**Pn**	**01**	**15**	**39.0**	**+0.8**
ALNE				S	**Sn**	**01**	**17**	**01.8**	**-3.0**
	SNR=5.3								
ISRB	Sarab	7.74	336	Pn	**Pn**	**01**	**15**	**40.6**	**+1.0**
MRVT	Maraveh tapeh	7.77	27	Pn	**Pn**	**01**	**15**	**41.9**	**+1.9**
SOHO	SOHO	7.93	146	P	**Pn**	**01**	**15**	**40.8**	**-1.4**
SOHO	SOHO	7.93	146	P	**Pn**	**01**	**15**	**42.4**	**+0.3**
SOHO				S	**Sn**	**01**	**17**	**09.0**	**-2.9**
MZR	Muzera	7.94	168	P	**Pn**	**01**	**15**	**42.3**	**+0.1**
MZR	Muzera	7.94	168	P	**Pn**	**01**	**15**	**42.6**	**+0.4**
MZR				S	**Sn**	**01**	**17**	**11.2**	**-0.8**
ZHDN	Zahedan	8.07	98	Pn	**Pn**	**01**	**15**	**46.7**	**+2.6**
TBJM	Torbat-e-JAM	8.55	56	Pn	**Pn**	**01**	**15**	**52.3**	**+1.6**
ARQ	Araqi	8.61	148	P	**Pn**	**01**	**15**	**50.9**	**-0.5**
	SNR=15								
ARQ				S	**Sn**	**01**	**17**	**25.2**	**-3.4**
HOQ	Hoqain	8.78	144	P	**Pn**	**01**	**15**	**53.3**	**-0.5**
HOQ				P	**Pn**	**01**	**15**	**53.3**	**-0.5**
HOQ				S	**Sn**	**01**	**17**	**29.4**	**-3.3**
HOQ				S	**Sn**	**01**	**17**	**29.4**	**-3.3**
GEYT	Alibeck	8.90	35	Pn	**Pn**	**01**	**15**	**59.0**	**+3.6**
GEYT	Alibeck	8.90	35	Pn	**Pn**	**01**	**15**	**56.4**	**+1.0**
	0.7nm,0.3s,baz=217,slow=14,SNR=8.6								
GEYT					Sn	**Sn**	**01**	**17**	**31.4**	**-4.3**
	0.2nm,0.3s,baz=239,slow=28,SNR=0.9								
GEYT					Lg	Lg		01 18	23.3	
	baz=207,slow=28								
	1.9nm,0.4s								
GEYT	Alibeck	8.90	35	P	**Pn**	**01**	**15**	**59.0**	**+3.6**
GYA0B	ALIBECK ARRAY	8.90	35	Pn	**Pn**	**01**	**15**	**58.4**	**+3.0**
IMYA	Miami	8.97	50	Pn	**Pn**	**01**	**15**	**58.2**	**+1.8**
RAYN	Ar Rayn	9.07	218	Pn	**Pn**	**01**	**15**	**55.3**	**-2.5**
RAYN	Ar Rayn	9.07	218	P	**Pn**	**01**	**15**	**55.5**	**-2.4**
RAYN	Ar Rayn	9.07	218	P	**Pn**	**01**	**15**	**55.9**	**-2.0**
RAYN	Ar Rayn	9.07	218	P	**Pn**	**01**	**15**	**55.3**	**-2.5**
BIDO	Bidbid	9.27	140	P	**Pn**	**01**	**15**	**59.7**	**-0.7**
BIDO				S	**Sn**	**01**	**17**	**40.0**	**-4.6**
BSY	Bisya	9.43	147	P	**Pn**	**01**	**16**	**03.4**	**+0.7**
BSY				P	**Pn**	**01**	**16**	**03.4**	**+0.7**
BSY				S	**Sn**	**01**	**17**	**44.1**	**-4.7**
BSY				S	**Sn**	**01**	**17**	**44.1**	**-4.7**
SMDO	Samad	9.60	142	P	**Pn**	**01**	**16**	**04.9**	**-0.2**
SMDO				P	**Pn**	**01**	**16**	**04.9**	**-0.2**
SMDO				S	**Sn**	**01**	**17**	**49.5**	**-3.5**
	SNR=8.1								
SMDO				S	**Sn**	**01**	**17**	**49.5**	**-3.5**
	SNR=8.1								
HRA	Herat	9.63	65	Pn	**Pn**	**01**	**16**	**08.3**	**+2.6**
WSAR	Wadi Sarin	9.77	139	Pn	**Pn**	**01**	**16**	**06.0**	**-1.4**
	1.4nm,0.3s,baz=323,slow=5.8,SNR=11								
WSAR					Sn	Sn		01 17	48.5	-8.7
	1.1nm,0.3s,baz=36,slow=8.7,SNR=6.8								
WSAR					LR	LR		01 20	34.8	
	comp=Z,180nm,18.4s,baz=329,slow=42								
	3.5nm,0.5s								
NGCH	Negor - Chabah	9.98	121	P	**Pn**	**01**	**16**	**09.9**	**-0.3**
	SNR=7.1								
JMDO	Jabal Madar	10.19	144	P	**Pn**	**01**	**16**	**13.2**	**0.0**
JMDO				S	**Sn**	**01**	**18**	**04.8**	**-2.6**
WBK	Wadi Bani Khal	10.46	139	P	**Pn**	**01**	**16**	**16.7**	**-0.1**
WBK				S	**Sn**	**01**	**18**	**11.4**	**-2.6**
GNI	Garni	10.89	331	LR	LR	01	20	31.0	
	comp=Z,38nm,18.4s,baz=144,slow=38								
GNI	Garni	10.89	331	*i* P	**Pn**	**01**	**16**	**22.5**	**-0.3**
GURO	Guroymak-BITLI	11.06	317	Pn	**Pn**	**01**	**16**	**26.0**	**+1.0**
MHTO	MHTO	11.30	148	P	**Pn**	**01**	**16**	**28.4**	**0.0**
	SNR=9.7								
MHTO				S	Sn	01	18	27.8	-6.9
DOK	Doka	12.34	169	P	**Pn**	**01**	**16**	**41.8**	**-0.7**
DOK				S	Sn	01	18	51.2	-8.8
MAK	Makhachkala	12.58	346	*eP*	**Pn**	**01**	**16**	**45.0**	**-0.7**
MAK				*eS*	**Sn**	**01**	**19**	**04.9**	**-0.8**
MAK				pmax	pmax				
	comp=Z,40nm,1.0s								
MAK				MLR	MLR				
	comp=Z,80nm,13.0s								
WHFO	Wadi Hawf	12.97	171	P	**Pn**	**01**	**16**	**49.9**	**-1.3**
WHFO				S	**Sn**	**01**	**19**	**11.2**	**-4.4**
SHAO	Shalim	13.22	163	P	**Pn**	**01**	**16**	**53.8**	**-0.8**
DMTO	DMTO	13.37	166	P	**Pn**	**01**	**16**	**54.6**	**-1.9**
	SNR=9.4								
ABTO	Aybut	13.47	173	P	**Pn**	**01**	**16**	**57.1**	**-0.9**
SHMJ	Saham	13.65	282	P	Pn	01	16	55.5	-4.8
QRNJ	Al-Qirein	13.79	281	P	**Pn**	**01**	**16**	**59.8**	**-2.4**
GHAJ	Ghor Haditha	13.79	276	Pn	**Pn**	**01**	**17**	**00.7**	**-1.5**
MMAI	Mount Meron Ar	13.97	283	Pn	Pn	01	17	01.3	-3.6
	comp=Z,0.8nm,0.3s,baz=114,slow=21,SNR=2.6								
	comp=Z,0.3nm,0.2s								
EIL	Elat	14.47	270	Pn	Pn	01	17	08.5	-3.2
	comp=Z,0.2nm,0.3s,baz=146,slow=15,SNR=1.6								
EIL				Sn	**Sn**	**01**	**19**	**52.0**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=173,slow=16,SNR=1.8								
	comp=Z,1.2nm,0.4s								
KBZ	Khabaz	14.65	334	Pn	**Pn**	**01**	**17**	**14.0**	**0.0**
	comp=Z,0.1nm,0.3s,baz=90,slow=22,SNR=2.0								
	comp=Z,1.2nm,0.8s								
KBZ	Khabaz	14.65	334	*i* P	**Pn**	**01**	**17**	**16.0**	**+2.0**
KBZ				pmax	pmax				
	comp=Z,10.0nm,1.5s								
KVAR	Kislovodsk Arr	14.92	334	Pn	**Pn**	**01**	**17**	**17.6**	**-0.2**
	baz=71,slow=22								
	comp=Z,6.0nm,1.2s								
KIV	Kislovodsk	14.92	334		**Pn**	**01**	**17**	**19.5**	**+1.7**
KIV				IAmb	IAmb	01	17	29.5	
	comp=Z,14nm,0.7s								
KIV	Kislovodsk	14.92	334	P	**Pn**	**01**	**17**	**20.9**	**+3.1**
KIV	Kislovodsk	14.92	334	*eP*	**Pn**	**01**	**17**	**19.9**	**+2.1**
KIV				*eS*	**Sn**	**01**	**20**	**07.2**	**+4.1**
KIV				pmax	pmax				
	comp=Z,12nm,0.9s	

ITM	**Ithomi**		**25.38**	**293**	P		**P**	**01 19 13.8**	**-0.4**
ITM					IAmb		IAmb	01 19 28.3	
	comp=Z,8.0nm,0.7s								
DOPR	**Dopca**		**25.40**	**314**	⇑P		**P**	**01 19 14.4**	**+0.2**
AK07	**Malin Array Si**		**25.88**	**326**	P		**P**	**01 19 18.5**	**0.0**
AK09	**Malin Array Si**		**25.88**	**326**	P		**P**	**01 19 18.0**	**-0.5**
AK08	**Malin Array Si**		**25.91**	**326**	P		**P**	**01 19 17.8**	**-0.9**
AK05	**Malin Array Si**		**25.92**	**326**	P		**P**	**01 19 17.9**	**-1.0**
AK12	**Malin Array Si**		**25.96**	**326**	P		**P**	**01 19 17.9**	**-1.3**
AK01	**Malin Array Si**		**25.97**	**326**	P		**P**	**01 19 18.2**	**-1.1**
AKASG	**Malin Array Be**		**25.97**	**326**	P		**P**	**01 19 19.2**	**-0.1**
AKASG	**Malin Array Be**		**25.97**	**326**	P		**P**	**01 19 16.4**	**-2.9**
	comp=Z,1.4nm,0.4s,baz=133,slow=9.2,SNR=17								
AKASG					LR		LR	01 29 56.2	
	comp=Z,54nm,18.5s,baz=128,slow=38								
	comp=Z,1.4nm,0.4s								
AKASG	**Malin Array Be**		**25.97**	**326**	*eP*		**P**	**01 19 18.0**	**-1.3**
AKASG					pmax		pmax		
	comp=Z,1.0nm,0.3s								
AKBB	**Malin Array Si**		**25.97**	**326**	P		**P**	**01 19 17.7**	**-1.5**
AKBB	**Malin Array Si**		**25.97**	**326**	*ceP*		**P**	**01 19 18.8**	**-0.5**
AKBB					pmax		pmax		
	comp=Z,8.0nm,0.9s								
AKBB	**Malin Array Si**		**25.97**	**326**	P		**P**	**01 19 18.0**	**-1.3**
KIEV	**Kiev**		**25.97**	**326**	⇓P		**P**	**01 19 18.7**	**-0.6**
KIEV	**Kiev**		**25.97**	**326**	P		**P**	**01 19 18.1**	**-1.2**
KIEV	**Kiev**		**25.97**	**326**	P		**P**	**01 19 18.1**	**-1.2**
KIEV					pmax		pmax		
	comp=Z,15nm,1.2s								
KIEV	**Kiev**		**25.97**	**326**	P		**P**	**01 19 18.1**	**-1.2**
	comp=Z,45nm,1.0s								
AK11	**Malin Array Si**		**25.98**	**326**	P		**P**	**01 19 18.2**	**-1.2**
BRVK	**Borovoye**		**26.06**	**26**	P		**P**	**01 19 21.0**	**+0.9**
BRVK					IAmb		IAmb	01 19 26.2	
	comp=Z,7.2nm,1.1s								
BRVK	**Borovoye**		**26.06**	**26**	P		**P**	**01 19 21.3**	**+1.1**
BRVK	**Borovoye**		**26.06**	**26**	*ceP*		**P**	**01 19 21.8**	**+1.7**
BRVK					pmax		pmax		
	comp=Z,6.0nm,1.0s								
BVAR	**Borovoye Array**		**26.08**	**26**	P		**P**	**01 19 19.6**	**-0.7**
	comp=Z,7.8nm,0.6s,baz=226,slow=6.6,SNR=33								
BVAR					LR		LR	01 31 32.8	
	comp=Z,44nm,18.8s,baz=225,slow=41								
	comp=Z,7.8nm,0.6s								
AK22	**Malin Array Si**		**26.08**	**326**	P		**P**	**01 19 19.2**	**-1.1**
ARU	**Arti**		**26.08**	**9**	LR		LR	01 31 51.8	
	comp=Z,62nm,18.2s,baz=210,slow=42								
ARU	**Arti**		**26.08**	**9**	*c iP*		**P**	**01 19 24.0**	**+3.8**
ARU								01 20 02.9	
ARU					SS			01 25 00.9	
ARU					pmax		pmax		
	comp=Z,12nm,1.8s								
AK19	**Malin Array Si**		**26.08**	**326**	P		**P**	**01 19 19.1**	**-1.2**
KMPD	**K-Podol'skiy**		**26.09**	**320**	P		**P**	**01 19 18.9**	**-1.5**
AK20	**Malin Array Si**		**26.10**	**326**	P		**P**	**01 19 19.5**	**-1.0**
LUBAR	**Lubar, Ukraine**		**26.19**	**324**	P		**P**	**01 19 20.1**	**-1.2**
BLKB	**Belogradchik**		**26.24**	**307**	⇓P		**P**	**01 19 22.6**	**+0.7**
SRE	**Strehaia**		**26.25**	**310**	⇓P		**P**	**01 19 23.5**	**+1.6**
SRE	**Strehaia**		**26.25**	**310**	P		**P**	**01 19 23.5**	**+1.6**
BURAR	**Bucovina Array**		**26.29**	**317**	⇑P		**P**	**01 19 22.6**	**+0.1**
BURAR	**Bucovina Array**		**26.29**	**317**	P		**P**	**01 19 24.0**	**+1.6**
BURAR					IAmb		IAmb	01 19 43.0	
	comp=Z,4.5nm,0.9s								
BURAR	**Bucovina Array**		**26.29**	**317**	P		**P**	**01 19 22.5**	**+0.1**
BUR08	**Bucovina Ar. S**		**26.32**	**317**	P		**P**	**01 19 22.8**	**+0.2**
MI30	**MI30,Zelenitsa**		**26.50**	**325**	P		**P**	**01 19 22.8**	**-1.3**
OBN	**Obninsk**		**26.57**	**340**	*i* P		**P**	**01 19 23.8**	**-0.9**
OBN					*i*			01 20 04.6	
OBN					pmax		pmax		
	comp=Z,6.0nm,1.1s								
HERR	**Herculane**		**26.85**	**310**	⇑P		**P**	**01 19 28.4**	**+1.0**
BOVS	**Bovan**		**26.91**	**307**	⇑P		**P**	**01 19 29.9**	**+2.0**
MARR	**Marisel-Cluj**		**27.12**	**314**	⇑P		**P**	**01 19 30.9**	**+1.1**
MDVR	**Moldovita**		**27.28**	**309**	⇑P		**P**	**01 19 31.6**	**+0.3**
DRGR			**27.42**	**314**	⇓P		**P**	**01 19 33.2**	**+0.7**
DRGR			**27.42**	**314**	P		**P**	**01 19 33.2**	**+0.7**
PUK	**Puka**		**27.75**	**303**	P		**P**	**01 19 38.3**	**+2.7**
PUK					IAmb		IAmb	01 20 07.8	
	comp=Z,8.8nm,1.2s								
KIRV	**Kirov**		**27.83**	**358**	LR		LR	01 34 23.1	
	comp=Z,44nm,18.0s,baz=149,slow=44								
KIRV	**Kirov**		**27.83**	**358**	*ceP*		**P**	**01 19 35.8**	**-0.1**
KURBB	**Kurchatov Arra**		**28.17**	**38**	P		**P**	**01 19 38.8**	**-0.2**
	comp=Z,3.0nm,0.9s,baz=238,slow=9.3,SNR=22								
KURBB					LR		LR	01 32 45.9	
	comp=Z,77nm,18.5s,baz=172,slow=40								
	comp=Z,3.0nm,0.9s								
KURK	**Kurchatov**		**28.27**	**38**	P		**P**	**01 19 41.8**	**+1.8**
KURK	**Kurchatov**		**28.27**	**38**	*ceP*		**P**	**01 19 41.3**	**+1.4**
KURK					pmax		pmax		
	comp=Z,16nm,2.5s								
MAKZ	**Makanchi**		**28.31**	**47**	P		**P**	**01 19 41.7**	**+1.2**
MAKZ					IAmb		IAmb	01 19 42.7	
	comp=Z,3.1nm,0.8s								
MAKZ	**Makanchi**		**28.31**	**47**	P		**P**	**01 19 41.7**	**+1.2**
MAKZ					pmax		pmax		
	comp=Z,3.0nm,0.8s								
SCTE	**Santa Cesarea**		**28.43**	**298**	P		**P**	**01 19 41.4**	**-0.2**
MK31	**Makanchi Array**		**28.50**	**47**	P		**P**	**01 19 43.4**	**+1.2**
MK31	**Makanchi Array**		**28.50**	**47**	*ceP*		**P**	**01 19 43.8**	**+1.6**
MKAR	**Makanchi Array**		**28.50**	**47**	P		**P**	**01 19 43.1**	**+0.9**
MKAR	**Makanchi Array**		**28.50**	**47**	P		**P**	**01 19 41.9**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=242,slow=7.7,SNR=20								
MKAR					LR		LR	01 32 28.9	
	comp=Z,54nm,19.6s,baz=323,slow=39								
	comp=Z,2.2nm,0.7s								
MKAR	**Makanchi Array**		**28.50**	**47**	*eP*		**P**	**01 19 43.5**	**+1.3**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
TIP	**Timpagrande**		**29.63**	**296**	P		**P**	**01 19 51.5**	**-0.8**
TIP					IAmb		IAmb	01 20 06.9	
	comp=Z,7.8nm,1.1s								
MORH	**Mrgy, Hungar**		**29.80**	**310**	⇑P		**P**	**01 19 53.6**	**-0.1**
CUC	**Castrocucco**		**30.44**	**297**	P		**P**	**01 19 59.6**	**+0.1**
CUC					IAmb		IAmb	01 20 05.0	
	comp=Z,4.2nm,0.8s								
KLMR	**Klimovskoe**		**31.12**	**349**	*eP*		P	01 20 02.0	-3.1
KLMR					*e*			01 21 03.0	
KLMR					pmax		pmax		
	comp=Z,12nm,1.1s								
WMQ	**Urumqi**		**31.23**	**55**	*eP*		**P**	**01 20 09.5**	**+3.1**
WMQ					pP		sP	01 20 15.4	+2.9
WMQ					pmax		pmax		
	comp=Z,13nm,0.7s								
WMQ					pmax		pmax		
	comp=Z,47nm,3.8s								
KOGS	**Kog**		**31.45**	**310**	*i* P		**P**	**01 20 07.5**	**-0.6**
RONA	**Rosalia, Austr**		**31.81**	**312**	*eP*		**P**	**01 20 10.5**	**-0.9**
	comp=Z,2.7nm,1.1s								
RONA					*e*PcP		**PcP**	**01 23 01.5**	**-0.8**
	comp=Z,0.8nm,0.5s								
BOJS	**Bojanci**		**31.86**	**308**	*i* P		**P**	**01 20 11.2**	**-0.6**
CONA	**Conrad Observa**		**32.16**	**312**	*eP*		**P**	**01 20 13.1**	**-1.5**
	comp=Z,2.1nm,1.7s								
CONA					*e*PcP		**PcP**	**01 23 00.4**	**-2.9**
	comp=Z,4.4nm,1.4s								
ARSA	**Arzberg**		**32.17**	**311**	*eP*		**P**	**01 20 14.3**	**-0.2**
	comp=Z,3.6nm,1.5s								
ARSA					*e*PcP		**PcP**	**01 23 03.5**	**+0.2**
	comp=Z,1.2nm,0.6s								
PDKS	**Podkum**		**32.17**	**309**	*i* P		**P**	**01 20 14.5**	**-0.2**
VRAC	**Vranov**		**32.19**	**315**	LR		LR	01 34 52.9	
	comp=Z,39nm,18.3s,baz=108,slow=40								
SOKA	**Soboth**		**32.32**	**310**	*eP*		**P**	**01 20 14.7**	**-1.2**
SOKA					*i* PcP		**PcP**	**01 23 05.0**	**+1.2**
	comp=Z,2.1nm,1.1s								
	comp=Z,4.4nm,1.4s								
OBKA	**Obir**		**32.59**	**309**	*eP*		**P**	**01 20 17.4**	**-1.0**
	comp=Z,2.0nm,1.0s								
OBKA					*e*PcP		**PcP**	**01 23 07.8**	**+3.3**
	comp=Z,1.9nm,0.6s								
DGZ	**Jazzator, Alta**		**32.79**	**45**	*i* P		**P**	**01 20 20.9**	**+0.8**
DGZ					pmax		pmax		
	comp=Z,2.0nm,0.9s								
SABO	**M.te Sabotino**		**33.10**	**308**	P		**P**	**01 20 22.2**	**-0.5**
SABO					IAmb		IAmb	01 20 33.6	
	comp=Z,6.9nm,0.9s								
MOA	**Molln**		**33.16**	**312**	*eP*		**P**	**01 20 22.1**	**-1.1**
	comp=Z,3.0nm,0.8s,SNR=4.2								
ZALV	**Zalesovo Beam**		**33.21**	**36**	P		**P**	**01 20 23.0**	**-0.6**
	comp=Z,1.9nm,0.4s,baz=243,slow=9.8,SNR=9.2								
	comp=Z,1.9nm,0.4s								
ZALV	**Zalesovo Beam**		**33.21**	**36**	*eP*		**P**	**01 20 24.1**	**+0.5**
ZALV					pmax		pmax		
	comp=Z,2.0nm,0.4s								

BIOA	**Bad Ischl, Aus**		**33.52**	**311**	*eP*		**P**	**01 20 25.3**	**-1.1**
	comp=Z,4.2nm,0.9s								
KBA	**Koelnbreinsper**		**33.54**	**310**	*eP*		**P**	**01 20 25.8**	**-1.0**
	comp=Z,3.8nm,0.6s								
KBA					*e*PcP		**PcP**	**01 23 07.6**	**+0.4**
	comp=Z,3.3nm,1.0s								
GERES	**GERESS Array B**		**33.82**	**313**	P		P	01 20 24.9	-4.1
	comp=Z,0.3nm,0.4s,baz=146,slow=14,SNR=4.0								
	comp=Z,0.3nm,0.4s								
ABTA	**Abfaltersbach**		**34.01**	**309**	*eP*		**P**	**01 20 29.4**	**-1.3**
	comp=Z,5.8nm,1.1s								
LESA	**Schwarzleotal**		**34.07**	**310**	*eP*		**P**	**01 20 29.7**	**-1.5**
	comp=Z,1.9nm,0.7s								
LESA					*e*PcP		**PcP**	**01 23 06.9**	**-1.8**
	comp=Z,2.5nm,1.0s								
CTI	**Castel Tesino**		**34.44**	**308**	P		**P**	**01 20 36.2**	**+1.8**
CTI					IAmb		IAmb	01 20 37.4	
	comp=Z,6.2nm,0.9s								
CTI	**Castel Tesino**		**34.44**	**308**	P		**P**	**01 20 36.2**	**+1.8**
CTI					pmax		pmax		
	comp=Z,6.0nm,0.9s								
WTTA	**Wattenberg**		**34.72**	**310**	*eP*		**P**	**01 20 35.3**	**-1.6**
	comp=Z,6.7nm,0.8s,SNR=8.3								
WATA	**Walderalm**		**34.77**	**310**	*eP*		**P**	**01 20 35.6**	**-1.8**
	comp=Z,14nm,1.3s,SNR=7.0								
WATA					*e*PcP		**PcP**	**01 23 08.2**	**-2.5**
	comp=Z,1.3nm,0.6s								
FINES	**FINESS Array B**		**34.94**	**339**	P		P	01 20 35.8	-2.6
	comp=Z,1.9nm,0.9s,baz=144,slow=11,SNR=11								
FINES					LR		LR	01 35 59.3	
	comp=Z,44nm,19.2s,baz=106,slow=38								
	comp=Z,1.9nm,0.9s								
FINES	**FINESS Array B**		**34.94**	**339**	*eP*		**P**	**01 20 37.5**	**-0.9**
FINES					pmax		pmax		
	comp=Z,1.0nm,0.4s								
SQTA	**Sankt Quirin**		**34.99**	**310**	*eP*		**P**	**01 20 37.7**	**-1.5**
	comp=Z,8.4nm,0.4s,SNR=6.2								
CLL	**Collm**		**35.06**	**317**	*eP*		**P**	**01 20 40.0**	**+0.3**
MOTA	**Moosalm**		**35.09**	**310**	*eP*		**P**	**01 20 38.1**	**-2.0**
	comp=Z,5.6nm,0.9s,SNR=11								
FETA	**Feichten**		**35.27**	**309**	*eP*		**P**	**01 20 40.5**	**-1.1**
	comp=Z,7.1nm,1.1s								
RETA	**Reutte**		**35.35**	**310**	*eP*		**P**	**01 20 40.5**	**-1.7**
	comp=Z,2.3nm,0.8s								
VSL	**Villasalto**		**35.36**	**296**	P		**P**	**01 20 42.5**	**+0.1**
VSL					IAmb		IAmb	01 20 50.7	
	comp=Z,6.1nm,1.0s								
FUORN	**Ofenpass-Fuorn**		**35.49**	**308**	P		**P**	**01 20 43.6**	**-0.2**
FUORN					IAmb		IAmb	01 20 50.7	
	comp=Z,4.7nm,0.9s								
KEST	**Kesra**		**35.50**	**289**	P		P	01 20 39.7	-4.1
	comp=Z,0.9nm,0.9s,baz=182,slow=7.7,SNR=2.3								
	comp=Z,0.9nm,0.9s								
DAVA	**Damuels**		**35.89**	**309**	*eP*		**P**	**01 20 45.1**	**-1.9**
	comp=Z,13nm,0.5s								
TUE	**Stuetta**		**36.09**	**308**	P		**P**	**01 20 48.9**	**+0.1**
TUE					IAmb		IAmb	01 21 01.7	
	comp=Z,5.0nm,0.8s								
SENIN	**Lac Senin/Sane**		**37.47**	**307**	P		**P**	**01 21 00.3**	**-0.2**
BNI	**Bardonecchia**		**37.73**	**305**	IAmb		IAmb	01 21 08.8	
	comp=Z,6.0nm,0.9s								
APA	**Apatity**		**38.36**	**349**	⇓*iP*		P	01 21 12.6	+5.1
APA					pmax		pmax		
	comp=Z,4.0nm,1.0s								
APA					MLR		MLR		
	comp=Z,300nm,14.0s								
HFS	**Hagfors**		**38.68**	**330**	P		P	01 21 07.0	-3.3
	comp=Z,0.6nm,0.3s,baz=136,slow=8.7,SNR=14								
	comp=Z,0.6nm,0.3s								
HFS	**Hagfors**		**38.68**	**330**	P		P	01 21 07.0	-3.3
GTA	**Gaotai**		**39.94**	**64**	*eP*		**P**	**01 21 22.7**	**+1.4**
GTA					pmax		pmax		
	comp=Z,6.0nm,1.3s								
NOA	**NORSAR Array B**		**40.19**	**331**	P		**P**	**01 21 20.6**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=182,slow=16,SNR=2.8								
NOA					LR		LR	01 38 50.3	
	comp=Z,28nm,20.2s,baz=110,slow=38								
	comp=Z,0.5nm,0.8s								
ARCES	**ARCESS Array B**		**41.53**	**346**	P		**P**	**01 21 31.9**	**-2.0**
	comp=Z,1.1nm,0.9s,baz=133,slow=7.9,SNR=5.7								
	comp=Z,1.1nm,0.9s								
ARCES	**ARCESS Array B**		**41.53**	**346**	*eP*		**P**	**01 21 33.2**	**-0.6**
ARCES					pmax		pmax		
	comp=Z,2.0nm,0.9s								
MOY	**Mondy**		**41.61**	**45**	*eP*		**P**	**01 21 36.4**	**+1.5**
ZAK	**Zakamensk**		**42.84**	**48**	*eP*		**P**	**01 21 44.4**	**-0.5**
ZAK					pmax		pmax		
	comp=Z,4.0nm,1.0s								
PZH	**PanZhiHua**		**43.89**	**83**	P		**P**	**01 21 56.0**	**+2.3**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,90nm,4.8s								
CMAR	**Chiang Mai Arr**		**44.42**	**95**	P		**P**	**01 21 57.2**	**-0.7**
	comp=Z,1.2nm,0.5s,baz=287,slow=9.0,SNR=8.0								
	comp=Z,1.2nm,0.5s								
CMAR	**Chiang Mai Arr**		**44.42**	**95**	*eP*		**P**	**01 21 57.9**	**0.0**
CMAR					pmax		pmax		
	comp=Z,1.0nm,0.3s								
SONM	**Songino Array**		**44.68**	**51**	P		**P**	**01 21 58.2**	**-1.6**
	comp=Z,0.7nm,0.8s,baz=278,slow=10.0,SNR=2.8								
	comp=Z,0.7nm,0.8s								
ULN	**Ulaanbaatar**		**45.12**	**51**	P		**P**	**01 22 03.4**	**+0.1**
ULN					IAmb		IAmb	01 22 05.1	
	comp=Z,6.7nm,1.4s								
ULN	**Ulaanbaatar**		**45.12**	**51**	*ceP*		**P**	**01 22 04.7**	**+1.3**
ULN					pmax		pmax		
	comp=Z,8.0nm,2.5s								
EKA	**Eskdalemuir Ar**		**45.45**	**319**	P		P	01 22 01.1	-4.5
	comp=Z,0.2nm,0.5s,baz=83,slow=13,SNR=1.6								
	comp=Z,0.2nm,0.5s								
PHRA	**Phrae**		**45.51**	**94**	P		**P**	**01 22 06.6**	**0.0**
ESDC	**Sonseca Array**		**45.64**	**297**	P		P	01 22 04.3	-3.1
	comp=Z,1.3nm,1.1s,baz=150,slow=10,SNR=3.4								
	comp=Z,1.3nm,1.1s								
LYN	**LuoYang**		**50.67**	**69**	*eP*		P	01 22 52.0	+5.7
LYN					pmax		pmax		
	comp=Z,19nm,0.5s								
LYN					pmax		pmax		
	comp=Z,110nm,5.7s								
LSZ	**Lusaka**		**51.06**	**210**	LR		LR	01 45 34.4	
	comp=Z,112nm,18.2s,baz=334,slow=38								
TIXI	**Tiksi**		**57.08**	**22**	LR		LR	01 50 48.5	
	comp=Z,50nm,18.7s,baz=296,slow=39								
TIXI	**Tiksi**		**57.08**	**22**	*ceP*		**P**	**01 23 33.2**	**+0.6**
TIXI					pmax		pmax		
	comp=Z,9.0nm,2.5s								
YAK	**Yakutsk**		**57.77**	**33**	*i* P		**P**	**01 23 40.0**	**+2.4**
YAK					pmax		pmax		
	comp=Z,8.0nm,0.8s								
DBIC	**Dimbokro**		**57.95**	**258**	P		**P**	**01 23 37.5**	**-2.2**
	comp=Z,3.7nm,0.8s,baz=39,slow=6.5,SNR=2.4								
	comp=Z,3.7nm,0.8s								
HEH	**HeiHe**		**58.24**	**47**	*eP*		**P**	**01 23 40.1**	**-1.0**
HEH					pmax		pmax		
	comp=Z,6.0nm,0.5s								
SUMG	**Summit**		**60.96**	**340**	P		**P**	**01 23 59.9**	**-0.1**
SUMG	**Summit**		**60.96**	**340**	P		**P**	**01 23 59.9**	**-0.1**
SUMG					pmax		pmax		
	comp=Z,14nm,1.2s								
SUMG	**Summit**		**60.96**	**340**	*i* P		**P**	**01 23 59.0**	**-1.0**
KLR	**Kul'dur**		**61.21**	**47**	*i* P		**P**	**01 24 03.8**	**+2.2**
KLR					pmax		pmax		
	comp=Z,1.0nm,0.9s								
KSRS	**Korea Array**		**61.91**	**61**	P		**P**	**01 24 05.0**	**-1.5**
	comp=Z,1.2nm,0.5s,baz=282,slow=6.5,SNR=5.4								
KSRS					LR		LR	01 54 36.0	
	comp=Z,27nm,19.1s,baz=130,slow=40								
	comp=Z,1.2nm,0.5s								
KSRS	**Korea Array**		**61.91**	**61**	*eP*		**P**	**01 24 05.8**	**-0.7**
KSRS					pmax		pmax		
	comp=Z,1.0nm,0.5s								
MSHR	**Mys Shultsa**		**62.67**	**55**	*i* P		**P**	**01 24 10.8**	**-0.7**
MSHR					pmax		pmax		
	comp=Z,5.0nm,1.2s								
JOW	**Kunigami**		**66.02**	**72**	LR		LR	01 58 46.1	
	comp=Z,58nm,20.4s,baz=257,slow=41								
SEY	**Seymchan**		**67.69**	**29**	*ceP*		**P**	**01 24 44.1**	**+0.4**
SEY					pmax		pmax		
	comp=Z,8.0nm,1.7s								
YSS	**Yuzh-Sakhalins**		**68.92**	**47**	*ceP*		**P**	**01 24 50.7**	**-1.0**
YSS					pmax		pmax		
	comp=Z,12nm,1.3s								
SUR	**Sutherland**		**69.29**	**208**	LR		LR	01 56 06.5	
	comp=Z,75nm,18.5s,baz=52,slow=37								
BILL	**Bilibino**		**70.30**	**21**	*eP*		**P**	**01 25 00.0**	**+0.1**
BILL					pmax		pmax		

	comp=Z,8.0nm,2.5s								
INK	**Inuvik**		**81.12**	**2**	LR		LR	02 10 16.4	
	comp=Z,23nm,18.2s,baz=192,slow=42								
ILAR	**Eielson Array**		**83.65**	**8**	P		P	01 26 12.5	-2.6
	comp=Z,0.2nm,0.6s,baz=340,slow=3.3,SNR=4.2								
ILAR					LR		LR	02 11 11.6	
	comp=Z,27nm,18.2s,baz=140,slow=41								
	comp=Z,0.2nm,0.6s								
ILAR	**Eielson Array**		**83.65**	**8**	*eP*		**P**	**01 26 15.3**	**+0.2**
YKA	**Yellowknife Ar**		**86.38**	**354**	P		P	01 26 26.1	-2.7
	comp=Z,1.0nm,0.9s,baz=4.5,slow=5.6,SNR=7.3								
	comp=Z,1.0nm,0.9s								
YKA	**Yellowknife Ar**		**86.38**	**354**	*eP*		**P**	**01 26 28.6**	**-0.2**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.8s								
KDAK	**Kodiak Island**		**89.44**	**13**	LR		LR	02 12 16.0	
	comp=Z,34nm,18.1s,baz=181,slow=39								

IDC 13 01:27:17.9±1.2, 14°.77S×177°.24W, h0km, mb3.7/4, mbtmp3.7/4, MS3.1/2, Error ellipse: s-maj=57.2km s-min=31.5km az=130.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**14.43**	**182**	LR	LR	01 35 21.0	
	comp=Z,76nm,21.7s,baz=86,slow=34						
ASAR	**Alice Springs**	**46.79**	**251**	P	P	01 35 49.7	+0.1
	0.6nm,0.6s,baz=85,slow=8.4,SNR=7.7						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**75.27**	**180**	P	P	01 39 02.5	-0.1
	2.4nm,1.1s,baz=53,slow=5.1,SNR=4.1						
	2.4nm,1.1s						
NVAR	**Mina Array Bea**	**76.39**	**44**	P	P	01 39 10.4	+0.8
	0.1nm,0.3s,baz=229,slow=5.4,SNR=2.4						
	0.1nm,0.3s						
KLR	**Kul'dur**	**78.01**	**329**	LR	LR	02 15 59.9	
	comp=Z,9.2nm,18.6s,baz=336,slow=38						
ILAR	**Eielson Array**	**82.59**	**13**	P	P	01 39 41.9	-0.6
	0.3nm,0.7s,baz=229,slow=5.3,SNR=6.8						
	0.3nm,0.7s						

IDC 13 01:28:39.2±2.2, 6°.03S×129°.70E, h0km, mb3.5/2, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=177.6km s-min=29.5km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.54**	**162**	Pn	Pn	01 32 08.2	+1.8
	0.2nm,0.3s,baz=345,slow=13,SNR=4.7						
WRA				Sn	Sn	01 34 33.9	-15
	0.6nm,0.3s,baz=333,slow=22,SNR=8.2						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**17.99**	**167**	P	Pn	01 32 49.8	-1.2
	0.1nm,0.3s,baz=345,slow=11,SNR=9.0						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**67.26**	**327**	P	P	01 39 36.1	+0.4
	0.4nm,0.4s,baz=125,slow=6.6,SNR=8.1						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**71.54**	**328**	P	P	01 40 01.5	-0.5
	0.1nm,0.4s,baz=138,slow=4.3,SNR=2.4						
	0.1nm,0.4s						

*SNET **13** 01:31:47.2±0.8, 13°.26N×88°.06W, h6km±3km, ML2.5*
*CATAC **13** 01:31:47.7±0.3, 13°.28N×88°.03W, h1km±2km, ML2.5*
ISC 13 01:31:47.5±0.9, 13°.26N±0°.04×88°.05W±0°.02, h8km±7km, n21, σ0°65/37, 3C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.06**	**184**	*eP*	**Pg**	**01 31 49.3**	**-0.1**
INTP				*e*S	**Sg**	**01 31 50.5**	**-0.3**
INTP				IAML		01 31 52.0	
	comp=Z,1μm,0.2s						
LCND	**La Caada**	**0.16**	**73**	⇑*iP*	**Pg**	**01 31 51.4**	**+0.5**
LCND				IAML		01 31

comp=Z,9.2nm,0.2s
VRF eS Sn 01 38 39.2 -1.6
TERR Teriberka 1.62 18 P Pn 01 38 20.0 -0.3
TERR S Sn 01 38 41.4 -0.5
OLKF Oulanka, Finla 2.18 233 ePG Pb 01 38 30.3 -0.5
OLKF MSG 01 38 55.2
comp=Z,6.6nm,0.2s
OLKF eSG Sb 01 38 58.0 -0.3
RAJF Raja-Jooseppi 2.19 294 eP Pn 01 38 28.6 +0.4
KU6 Riekki 2.25 224 ePB Pn 01 38 30.6 +1.6
KU6 MSG 01 38 57.8
comp=Z,4.4nm,0.2s
KU6 eSB Sb 01 38 59.3 -0.9
MSF Maaselka 2.56 229 ePB Pb 01 38 36.7 -0.7
MSF eSB Sb 01 39 08.9 -0.6
SGF Sodankyl 2.78 269 ePG Pb 01 38 40.0 -1.0
SGF eSB Sn 01 39 12.2 +1.8
KMNF Kaamanen 2.90 304 eP Pn 01 38 38.4 +0.4
KMNF eSG Sb 01 39 18.7 -0.4
VADS Vadso 2.93 329 S Sn 01 39 16.4 +2.3
RNF Rovaniemi 3.20 254 eP Pn 01 38 42.6 +0.6
RNF eS Sn 01 39 21.5 +0.7
KEV Kevo 3.23 314 eP Pn 01 38 43.2 +0.8
KEV MSG 01 39 23.9
comp=Z,4.8nm,0.2s
ARA0 ARCESS Array S 3.55 306 eP Pn 01 38 47.2 +0.3
ARCES ARCESS Array B 3.55 306 P Pn 01 38 47.0 +0.1
ARCES S Sn 01 39 28.7 -0.7
ARCES ARCESS Array B 3.55 306 Pn Pn 01 38 47.2 +0.3
comp=Z,0.8nm,0.3s,baz=122,slow=15,SNR=69
ARCES Pg Pb 01 38 55.8 +1.6
comp=Z,0.7nm,0.3s,baz=115,slow=15,SNR=16
ARCES Sn Sn 01 39 28.7 -0.7
comp=Z,0.7nm,0.3s,baz=117,slow=23,SNR=8.3
ARCES Lg Lg 01 39 40.2
comp=Z,1.6nm,0.3s,baz=123,slow=34,SNR=6.4
comp=Z,2.7nm,0.4s
HEF Hetta 3.86 286 eP Pn 01 38 50.7 -0.4
FINES FINESS Array B 7.06 211 Pn Pn 01 39 35.2 +0.2
baz=28,slow=13,SNR=4.4
FINES Lg Lg 01 41 27.2
comp=Z,0.7nm,0.3s,baz=24,slow=29,SNR=15
comp=Z,0.5nm,0.6s
HFS Hagfors 11.56 239 Lg Lg 01 43 48.4
comp=Z,0.1nm,0.3s,baz=51,slow=25,SNR=2.6
SPITS Spitsbergen Ar 11.63 342 Pn Pn 01 40 34.8 -2.8
comp=Z,3.2nm,0.7s,baz=149,slow=14,SNR=5.2
NOA NORSAR Array B 11.74 246 Pn Pn 01 40 34.6 -4.6
baz=45,slow=14,SNR=1.3
NOA Lg Lg 01 43 54.7
baz=48,slow=25,SNR=4.0
comp=Z,0.1nm,0.5s

SJA ***13*** *01:52:06.9±0.7, 30°.83S×65°.33W, h205km±5km, ML4.3, MW4.2*
NEIC ***13*** *01:52:07.0±1.3, 30°.80S±0°.06×65°.24W±0°.08, h180km±7km, mb4.4/146, Error ellipse: s-maj=10.3km s-min=8.9km az=109.0*
VAO ***13*** *01:52:07.1±0.5, 30°.83S×65°.32W, h192km±4km, mb4.5*
IDC ***13*** *01:52:07.7±0.5, 30°.74S×65°.12W, h192km±4km, mb4.1/16, mbtmp4.6/20, Error ellipse: s-maj=15.3km s-min=9.6km az=73.0*
ISC 13 01:52:07.2±0.4, **30°.80S**±0°.04×**65°.26W**±0°.04, **h188**km±4km, **n301**, σ1°**13**/326, **mb4.4**/83, **2C-5D**, **Cordoba Province**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TCA	**Tanti**	**0.78**	**133**	*eP*		**Pn**	**01 52 36.6**	**+2.2**
TCA				*eS*		**Sn**	**01 52 52.5**	**-3.0**
ACHE	**Chepes**	**1.26**	**253**	*eP*		**Pn**	**01 52 39.4**	**+1.5**
MRA	**San Martin**	**1.66**	**193**	*eP*		**Pn**	**01 52 42.8**	**+1.4**
MRA				*eS*		**Sn**	**01 53 04.0**	**-4.2**
MRA				IAML			01 53 09.1	
comp=Z,711nm,0.8s								
AVFE	**Valle Fertil**	**1.89**	**274**	*eP*		**Pn**	**01 52 44.9**	**+1.1**
AVFE				*eS*		**Sn**	**01 53 12.4**	**+0.2**
AVFE				IAML			01 53 12.5	
comp=Z,935nm,0.4s								
CYA	**Choya**	**2.40**	**349**	*eP*		**Pn**	**01 52 50.8**	**+1.6**
CYA				*eS*		**Sn**	**01 53 22.5**	**+0.5**
CYA				IAML			01 53 26.8	
comp=Z,671nm,0.7s								
SJA	**San Juan**	**2.92**	**255**	*eP*		**Pn**	**01 52 56.1**	**+0.8**
SJA				*eS*		**Sn**	**01 53 32.5**	**-0.3**
SJA				IAML			01 53 55.9	
comp=Z,465nm,1.3s								
GUSE	**Guasayan**	**2.93**	**7**	*eP*		**Pn**	**01 52 57.2**	**+1.8**
RTCV	**Cerro Valdivia**	**3.00**	**248**	*eP*		**Pn**	**01 52 58.5**	**+0.2**
RTCV				*eS*		**Sn**	**01 53 34.2**	**-0.3**
ZON	**Zonda**	**3.02**	**255**	Pn		**Pn**	**01 52 56.8**	**+0.3**
ZON				Sn		**Sn**	**01 53 33.7**	**-1.3**
ZON	**Zonda**	**3.02**	**255**	*eP*		**Pn**	**01 52 56.8**	**+0.3**
ZON				*eS*		**Sn**	**01 53 34.1**	**-0.9**
ZON				IAML			01 53 35.6	
comp=Z,1μm,0.4s								
AGUA	**GUANDACOL**	**3.09**	**294**	*eP*		**Pn**	**01 52 59.1**	**+1.7**
AGUA				*eS*		**Sn**	**01 53 33.1**	**-3.4**
AGUA				IAML			01 53 38.2	
comp=Z,490nm,1.3s								
ACCO	**Cerro Coronel**	**3.28**	**273**	*eP*		**Pn**	**01 53 00.7**	**+0.7**
ACCO				*eS*		**Sn**	**01 53 41.3**	**+0.1**
VCA	**Vinchina**	**3.28**	**308**	*eP*		**Pn**	**01 53 01.9**	**+2.1**
VCA				*eS*		**Sn**	**01 53 38.9**	**-2.0**
VCA				IAML			01 53 44.2	
comp=Z,382nm,1.1s								
DOCA	**Reserva Natura**	**3.29**	**266**	*eP*		**Pn**	**01 52 59.8**	**-0.3**
DOCA				*eS*		**Sn**	**01 53 40.4**	**-1.0**
ACDV	**Cuesta del Vie**	**3.39**	**280**	*eP*		**Pn**	**01 53 02.6**	**+1.5**
ACDV				*eS*		**Sn**	**01 53 43.9**	**+0.7**
ACDV				IAML			01 53 44.5	
comp=Z,502nm,0.7s								
ASAL	**Salagasta**	**3.53**	**239**	*eP*		**Pn**	**01 53 02.8**	**0.0**
ASAL				*eS*		**Sn**	**01 53 44.5**	**-1.8**
RTLS	**Leoncito**	**3.59**	**253**	*eP*		**Pn**	**01 53 04.3**	**+0.5**
RTLS				*eS*		**Sn**	**01 53 45.4**	**-2.6**
RTLS				IAML			01 53 53.0	
comp=Z,834nm,0.3s								
AROD	**Rodeo**	**3.69**	**279**	*eP*		**Pn**	**01 53 06.3**	**+1.3**
ARCO	**CERRO ARCO**	**3.73**	**236**	*eP*		**Pn**	**01 53 05.3**	**0.0**
ARCO				*eS*		**Sn**	**01 53 47.7**	**-3.1**
ARCO				IAML			01 53 50.9	
comp=Z,1μm,0.3s								
AAGR	**Agrelo**	**3.79**	**232**	*eP*		**Pn**	**01 53 06.1**	**0.0**
AAGR				*eS*		**Sn**	**01 53 50.7**	**-1.5**
AVIZ	**Vizcacheras**	**3.84**	**225**	*eP*		**Pn**	**01 53 06.9**	**+0.3**
AVIZ				*eS*		**Sn**	**01 53 48.9**	**-4.3**
AHML	**Horco Molle**	**4.00**	**359**	*eP*		**Pn**	**01 53 09.9**	**+1.2**
AHML				*eS*		**Sn**	**01 53 52.8**	**-4.0**
AHML				IAML			01 53 57.5	
comp=Z,159nm,0.6s								
CO01	**Juntas del Tor**	**4.25**	**280**			**Pn**	**01 53 12.4**	**+0.4**
CO03	**El Pedregal**	**4.67**	**268**	Pn		**Pn**	**01 53 17.6**	**+0.5**
AC05	**El Transito**	**4.77**	**293**			**Pn**	**01 53 19.4**	**+0.9**
AC05	**El Transito**	**4.77**	**293**	*eP*		**Pn**	**01 53 20.5**	**+1.9**
AC05				*eS*		**Sn**	**01 54 16.9**	**+2.3**
AC05				IAML			01 54 17.7	
comp=Z,90nm,0.6s								
RFA	**San Rafael**	**4.79**	**213**	*eP*		**Pn**	**01 53 17.9**	**-0.8**
RFA				IAML			01 54 41.8	
comp=Z,130nm,0.4s								
GO04	**Tololo Observa**	**4.82**	**276**			**Pn**	**01 53 19.3**	**0.0**
MT08	**Bocatoma Ro**	**4.82**	**236**			**Pn**	**01 53 18.9**	**-0.3**
VA03	**San Esteban**	**4.91**	**245**	Pn		**Pn**	**01 53 20.1**	**-0.1**
CO02	**Combarbal**	**4.94**	**264**	Pn		**Pn**	**01 53 20.9**	**+0.2**
LCO	**Las Campanas**	**5.05**	**289**			**Pn**	**01 53 23.0**	**+0.8**
LCO	**Las Campanas**	**5.05**	**289**	*eP*		**Pn**	**01 53 17.8**	**-4.4**
LCO				IAML			01 55 02.9	
comp=Z,64nm,0.6s								
PEL	**Peldehue**	**5.17**	**242**	Pn		**Pn**	**01 53 22.9**	**-0.6**
LMEL	**Las Melosas**	**5.17**	**233**			**Pn**	**01 53 22.9**	**-0.8**
MT13	**San Alfonso**	**5.17**	**234**			**Pn**	**01 53 23.4**	**-0.2**
MT16	**CCHEN**	**5.18**	**238**			**Pn**	**01 53 23.1**	**-0.5**
AC02	**Maricunga**	**5.21**	**318**			**Pn**	**01 53 26.3**	**+1.8**
CO05	**La Serena**	**5.24**	**278**			**Pn**	**01 53 23.9**	**-0.5**
MT05	**Renca**	**5.32**	**239**			**Pn**	**01 53 25.3**	**-0.1**
MT05	**Renca**	**5.32**	**239**	*eP*		**Pn**	**01 53 25.8**	**+0.4**
MT05				IAML			01 54 31.1	
comp=Z,237nm,0.3s								
GO03	**Copiap**	**5.39**	**305**			**Pn**	**01 53 26.9**	**+0.3**
VA06	**Catapilco**	**5.44**	**250**	Pn		**Pn**	**01 53 25.7**	**-1.2**
BO04	**La Punta**	**5.53**	**233**			**Pn**	**01 53 27.2**	**-0.9**
MT02	**Curacav**	**5.56**	**242**			**Pn**	**01 53 26.9**	**-1.6**
AC06	**Mina Casimiro**	**5.62**	**306**			**Pn**	**01 53 29.8**	**+0.4**
MT09	**Talagante**	**5.69**	**237**	Pn		**Pn**	**01 53 29.0**	**-1.2**
AC04	**Llanos de Chal**	**5.69**	**296**			**Pn**	**01 53 30.1**	**-0.2**
VA01	**Torpederas**	**5.86**	**246**			**Pn**	**01 53 29.9**	**-2.5**
MT01	**Popeta**	**5.92**	**237**			**Pn**	**01 53 30.6**	**-2.6**
BO01	**Tunca**	**6.08**	**232**			**Pn**	**01 53 33.1**	**-2.1**
VA05	**Santo Domingo**	**6.09**	**240**			**Pn**	**01 53 33.4**	**-2.0**
TICA	**Tres Isletas**	**6.14**	**46**	*eP*		**Pn**	**01 53 36.9**	**+0.8**
PSAL	**Palomas, Salto**	**6.58**	**94**	*eP*		**Pn**	**01 53 42.6**	**+0.8**
GO02	**Mina Guanaco**	**6.79**	**325**			**Pn**	**01 53 45.6**	**+0.6**
GO05	**Huala**	**7.00**	**231**	Pn		**Pn**	**01 53 43.6**	**-3.7**
ML02	**Panimavida**	**7.14**	**225**			**Pn**	**01 53 46.9**	**-2.3**
ITQB	**Itaqui**	**7.56**	**84**	Pn		**Pn**	**01 53 55.0**	**+0.3**
ITQB	**Itaqui**	**7.56**	**84**	*eP*		**Pn**	**01 53 55.0**	**+0.3**
TRQA	**Tornquist**	**7.73**	**160**	Pn		**Pn**	**01 53 56.6**	**-0.3**
TBOT	**Tacuaremb**	**8.03**	**99**	*eP*		**Pn**	**01 54 00.5**	**-0.4**
CPUP	**Villa Florida**	**8.27**	**59**	Pn		**Pn**	**01 54 03.9**	**-0.2**
CPUP	**Villa Florida**	**8.27**	**59**	P		**Pn**	**01 54 02.3**	**-1.8**
comp=Z,17nm,0.5s,baz=237,slow=12,SNR=36								
CPUP	**Villa Florida**	**8.27**	**59**	*eP*		**Pn**	**01 54 03.7**	**-0.4**
PB15	**IPOC Station P**	**8.44**	**333**			**Pn**	**01 54 07.0**	**+0.5**
PB10	**IPOC Station P**	**8.65**	**326**			**Pn**	**01 54 09.3**	**+0.2**
LVC	**Limon Verde**	**8.78**	**337**	Pn		**Pn**	**01 54 11.3**	**+0.1**
LVC	**Limon Verde**	**8.78**	**337**	P		**Pn**	**01 54 10.3**	**-0.8**
comp=Z,42nm,0.4s,baz=162,slow=7.0,SNR=113								
LVC				S		**Sn**	**01 55 45.8**	**-3.9**
comp=Z,4.5nm,0.4s,baz=121,slow=19,SNR=1.9								
LVC	**Limon Verde**	**8.78**	**337**	*eP*		**Pn**	**01 54 11.8**	**+0.6**
PB06	**IPOC Station P**	**8.93**	**333**			**Pn**	**01 54 12.9**	**0.0**
UNIS	**Unistalda (Bra**	**9.01**	**82**	*eP*		**Pn**	**01 54 13.4**	**-0.3**
PB09	**IPOC Station P**	**9.65**	**337**			**Pn**	**01 54 22.0**	**-0.3**
PB07	**IPOC Station P**	**9.94**	**334**			**Pn**	**01 54 25.1**	**-1.0**
PLTB	**Pedras Altas**	**10.02**	**98**	Pn		**Pn**	**01 54 26.6**	**-0.3**
PLTB	**Pedras Altas**	**10.02**	**98**	*eP*		**Pn**	**01 54 26.7**	**-0.3**
CPSB	**Cacapava Do Su**	**10.20**	**91**	*eP*		**Pn**	**01 54 29.3**	**+0.1**
PB02	**IPOC Station P**	**10.32**	**335**			**Pn**	**01 54 29.6**	**-1.4**
CRSM	**Crissiumal (Br**	**10.35**	**74**	*eP*		**Pn**	**01 54 32.0**	**+0.9**
PB01	**IPOC Station P**	**10.43**	**338**			**Pn**	**01 54 31.4**	**-1.0**
PLCA	**Paso Flores**	**10.80**	**202**	Pn		**Pn**	**01 54 36.5**	**-0.4**
PLCA	**Paso Flores**	**10.80**	**202**	P		**Pn**	**01 54 36.1**	**-0.9**
comp=Z,8.6nm,0.8s,baz=17,slow=12,SNR=19								
PLCA	**Paso Flores**	**10.80**	**202**	*eP*		**Pn**	**01 54 36.5**	**-0.4**
ALGR	**Alto Alegre (B**	**10.81**	**82**	*eP*		**Pn**	**01 54 37.4**	**+0.2**
PATCX	**Punta Patache**	**10.87**	**335**	Pn		**Pn**	**01 54 36.1**	**-1.9**
LR05	**Currie**	**10.89**	**208**	Pn		**Pn**	**01 54 35.3**	**-2.8**
TA01	**Diego Aracena**	**11.11**	**335**			**Pn**	**01 54 39.3**	**-1.7**
MURT	**Porto Murtinho**	**11.40**	**39**	*eP*		**Pn**	**01 54 46.0**	**+1.3**
LL04	**Puerto Octay**	**11.63**	**208**			**Pn**	**01 54 43.5**	**-4.0**
ITAB	**Concordia**	**12.03**	**76**	Pn		**Pn**	**01 54 53.8**	**+1.0**
ITAB	**Concordia**	**12.03**	**76**	*eP*		**Pn**	**01 54 53.0**	**+0.2**
AMBA	**Amambai (Brazi**	**12.06**	**52**	*eP*		**Pn**	**01 54 54.3**	**+1.1**
CNLB	**Canela**	**12.57**	**87**	*eP*		**Pn**	**01 55 00.1**	**+0.4**
BDQN	**Bodoquena, MS**	**12.85**	**39**	*eP*		**Pn**	**01 55 03.8**	**+0.5**
PTGB	**Pitanga**	**13.16**	**66**	*eP*		**Pn**	**01 55 08.4**	**+1.2**
AQDB	**Aquidauana**	**13.41**	**42**			**Pn**	**01 55 11.5**	**+1.2**
AQDB	**Aquidauana**	**13.41**	**42**	*eP*		**Pn**	**01 55 10.9**	**+0.6**
BBRB	**Robore, Bolivi**	**13.41**	**23**	*eP*		**Pn**	**01 55 10.6**	**+0.2**
PB18	**Visviri**	**13.70**	**343**			**Pn**	**01 55 14.1**	**-0.3**
TRCB	**Terra Rica**	**13.80**	**58**	*eP*		**Pn**	**01 55 16.3**	**+1.1**
GO07	**Mirabdeo Hill,**	**14.00**	**206**			**Pn**	**01 55 14.9**	**-2.5**
BBSD	**Serra de San D**	**14.20**	**18**	*eP*		**Pn**	**01 55 21.0**	**+0.8**
TER01	**Tubaro-SC**	**14.21**	**85**	*eP*		**Pn**	**01 55 20.4**	**+0.2**
LDASE	**Londrina, Braz**	**14.59**	**63**	*eP*		**Pn**	**01 55 25.4**	**+0.4**
LPAZ	**La Paz**	**14.68**	**349**	Pn		**Pn**	**01 55 25.9**	**-0.8**
LPAZ	**La Paz**	**14.68**	**349**	P		**Pn**	**01 55 25.2**	**-1.5**
comp=Z,3.5nm,0.3s,baz=162,slow=7.2,SNR=121								
LPAZ				S		**S**	**01 58 12.4**	**+0.6**
comp=Z,4.8nm,0.9s,baz=72,slow=16,SNR=3.6								
LPAZ	**La Paz**	**14.68**	**349**	*eP*		**Pn**	**01 55 25.9**	**-0.8**
RVDE	**Rio Verde (Bra**	**14.99**	**41**	*eP*		**Pn**	**01 55 30.0**	**+0.1**
SIV	**San Ignacio**	**15.23**	**16**	P		**Pn**	**01 55 31.6**	**-1.2**
comp=Z,8.4nm,0.6s,baz=193,slow=9.5,SNR=31								
PCMB	**Pacaembu**	**15.53**	**57**	*eP*		**P**	**01 55 37.3**	**+0.4**
FRTB	**Fartura**	**15.82**	**66**	*eP*		**Pn**	**01 55 40.8**	**+0.8**
PTLB	**Pontes e Lacer**	**16.28**	**22**	P		**Pn**	**01 55 46.6**	**+1.1**
PTLB				IAmb		IAmb	01 55 49.0	
comp=Z,27nm,0.9s								
PTLB	**Pontes e Lacer**	**16.28**	**22**	*eP*		**Pn**	**01 55 45.9**	**+0.3**
PET01	**Itanhaem-SP**	**17.21**	**72**	*eP*		**Pn**	**01 55 56.4**	**-0.2**
SALV	**Santo Antonio**	**17.22**	**33**	*eP*		**Pn**	**01 55 56.5**	**-0.3**
SPB	**Sao Paulo**	**17.40**	**70**	*eP*		**Pn**	**01 55 58.6**	**-0.2**
ITRB	**Iturama**	**17.41**	**54**	*eP*		**Pn**	**01 55 58.4**	**-0.7**
BB19B	**Bebedouro**	**17.88**	**61**	*eP*		**P**	**01 56 03.1**	**+0.4**
RCLB	**Rio Claro- Sao**	**17.90**	**66**	*eP*		**Pn**	**01 56 04.0**	**-0.9**
VAO	**Valinhos**	**18.06**	**69**			**P**	**01 56 06.4**	**-0.3**
VAO	**Valinhos**	**18.06**	**69**	*eP*		**P**	**01 56 05.5**	**+0.9**
VILB	**Vilhena**	**18.37**	**16**	P		**P**	**01 56 08.1**	**+0.2**
VILB				IAmb		IAmb	01 56 11.6	
comp=Z,13nm,0.7s								
VILB	**Vilhena**	**18.37**	**16**	*eP*		**P**	**01 56 07.7**	**-0.2**
GO08	**Villa O'Higgin**	**18.50**	**195**			**Pn**	**01 56 11.3**	**-0.2**
GO08				IAmb		IAmb	01 56 16.6	
comp=Z,10nm,0.8s								
PARB	**Paraibuna**	**18.99**	**72**	*eP*		**P**	**01 56 15.7**	**+1.0**
ARAG	**Araguaiana, MT**	**19.42**	**42**	*eP*		**P**	**01 56 19.2**	**-0.1**
IPMB	**Ipameri, GO**	**20.06**	**54**	*eP*		**P**	**01 56 25.5**	**-0.8**
MAN01	**Angra dos Reis**	**20.56**	**73**	*eP*		**P**	**01 56 31.7**	**+0.2**
BSCB	**Bom Sucesso**	**20.83**	**67**	*eP*		**P**	**01 56 34.4**	**0.0**
ETMB	**Extrema**	**20.90**	**357**	P		**P**	**01 56 35.4**	**+0.3**
ETMB				IAmb		IAmb	01 56 38.5	
comp=Z,14nm,0.7s								
ETMB	**Extrema**	**20.90**	**357**	*eP*		**P**	**01 56 34.6**	**-0.5**
PMNB	**Patos De Minas**	**20.98**	**59**	*eP*		**P**	**01 56 35.9**	**-0.1**
GO09	**Cerro Castillo**	**21.12**	**192**	P		**P**	**01 56 37.2**	**+0.1**
GO09				IAmb		IAmb	01 56 50.6	
comp=Z,12nm,1.1s								
VAS01	**Vassouras-RJ**	**21.26**	**72**	*eP*		**P**	**01 56 39.2**	**+0.3**
EFI	**East Falkland**	**21.53**	**168**	P		**P**	**01 56 41.2**	**-0.1**
MG05	**Puerto Natales**	**21.54**	**192**	P		**P**	**01 56 42.6**	**+1.1**
MG05				IAmb		IAmb	01 56 44.4	
comp=Z,17nm,0.7s								
SAML	**Samuel**	**21.83**	**6**	P		**P**	**01 56 42.0**	**-2.8**
SAML	**Samuel**	**21.83**	**6**	*eP*		**P**	**01 56 41.0**	**-3.7**
BDFB	**Brasilia**	**21.84**	**50**	P		**P**	**01 56 44.5**	**-0.5**
BDFB	**Brasilia**	**21.84**	**50**	P		**P**	**01 56 44.0**	**-1.0**
comp=Z,21nm,0.6s,baz=227,slow=9.2,SNR=48								
comp=Z,21nm,0.6s								
MG02	**Cerro Sombrero**	**22.16**	**186**	P		**P**	**01 56 48.5**	**+0.9**
DUB01	**Friburgo-RJ**	**22.23**	**72**	*eP*		**P**	**01 56 49.0**	**+0.4**
GO10	**Punta Arenas**	**22.73**	**189**	P		**P**	**01 56 53.8**	**+0.8**
SNDB	**Serra Nova Dou**	**22.76**	**38**	*eP*		**P**	**01 56 52.1**	**-1.5**
CAM01	**Campos-RJ**	**22.93**	**73**	*eP*		**P**	**01 56 55.7**	**+0.7**
DIAM	**Diamantina, MG**	**23.20**	**63**	*eP*		**P**	**01 56 57.8**	**+0.1**
MG03	**Isla Dawson**	**23.34**	**188**	P		**P**	**01 56 59.0**	**+0.6**
MG03				IAmb		IAmb	01 57 38.1	
comp=Z,23nm,1.3s								
CZSB	**Cruzeiro do Su**	**23.98**	**342**	P		**P**	**01 57 04.9**	**+0.2**
CZSB	**Cruzeiro do Su**	**23.98**	**342**	*eP*		**P**	**01 57 04.6**	**-0.1**
ALF01	**Guarapari-ES**	**24.27**	**71**	*eP*		**P**	**01 57 07.8**	**+0.6**
JANB	**Januaria**	**24.79**	**55**	*eP*		**P**	**01 57 11.4**	**-0.5**
SJMB	**Sao Joao De Ma**	**24.90**	**67**	*eP*		**P**	**01 57 12.8**	**-0.2**
NPGB	**Novo Progresso**	**25.39**	**23**	*eP*		**P**	**01 57 16.8**	**-0.6**
NAN01	**Guarapari, ES**	**26.21**	**66**	*eP*		**P**	**01 57 23.9**	**-0.8**
SDBA	**SAO DESIDERIO**	**26.25**	**50**	*eP*		**P**	**01 57 23.9**	**-1.2**
TEFE	**Tefe**	**27.15**	**1**	*eP*		**P**	**01 57 33.3**	**+0.1**
BOAV	**Boa Vista**	**33.32**	**9**	P		**P**	**01 58 26.2**	**-1.1**
BAUV	**El Baul**	**39.60**	**356**	P		**P**	**01 59 20.8**	**+0.3**
SDV	**Santo Domingo**	**39.79**	**352**			**P**	**01 59 21.7**	**-0.6**
SDV				IAmb		IAmb	01 59 25.5	
comp=Z,7.2nm,0.4s								
SRBA	**San Rafael, Bu**	**43.43**	**334**	P		**P**	**01 59 52.9**	**+1.1**
ORTG	**Ortega, Santa**	**45.29**	**331**	P		**P**	**02 00 06.9**	**+0.5**
ORTG				IAmb		IAmb	02 00 09.2	
comp=Z,9.9nm,0.9s								
MLPR	**Magueyes Islan**	**48.52**	**358**	P		**P**	**02 00 31.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**48.56**	**358**	P		**P**	**02 00 30.4**	**-1.1**
OBIP	**Obispado Ponce**	**48.58**	**358**	P		**P**	**02 00 31.4**	**-0.3**
CELP	**Cerrillos**	**48.61**	**358**	P		**P**	**02 00 31.9**	**-0.1**
CELP				IAmb		IAmb	02 00 53.8	
comp=Z,15nm,1.0s								
GCPR	**Guaynabo City**	**48.83**	**359**	P		**P**	**02 00 33.5**	**-0.1**
BELA	**Belgrano 2**	**49.12**	**172**	P		**P**	**02 00 36.3**	**+1.1**
VNA3	**Neumayer Olymp**	**50.25**	**160**	⇓P		**P**	**02 00 44.9**	**+1.1**
comp=Z,16nm,0.6s								
VNA3				⇑PcP		**PcP**	**02 01 59.5**	**-0.4**
comp=Z,4.8nm,0.9s								
VNA1	**Neumayer--Stat**	**50.46**	**159**	⇓P		**P**	**02 00 45.6**	**+0.2**
comp=Z,9.8nm,0.4s								
MTO3	**Montecristo**	**50.56**	**329**	P		**P**	**02 00 48.0**	**+1.0**
MTO3				IAmb		IAmb	02 00 48.6	
comp=Z,12nm,0.8s								
VNA2	**Neumayer--Watz**	**50.83**	**159**	⇓P		**P**	**02 00 49.2**	**+1.1**
comp=Z,13nm,0.5s,baz=282,slow=8.8								
VNA2				⇑PcP		**PcP**	**02 02 02.0**	**0.0**
comp=Z,3.0nm,0.6s,baz=306,slow=4.0								
SNAA	**Sanae**	**52.46**	**159**	P		**P**	**02 01 00.9**	**+0.7**
SNAA	**Sanae**	**52.46**	**159**	⇓P		**P**	**02 01 01.1**	**+0.9**
comp=Z,186nm,0.4s								
SNAA	**Sanae**	**52.46**	**159**	P		**P**	**02 01 00.8**	**+0.5**
comp=Z,7.1nm,0.5s,baz=294,slow=7.2,SNR=72								
comp=Z,7.1nm,0.5s								
TROLL	**Troll, Antarti**	**54.17**	**159**	⇓P		**P**	**02 01 13.8**	**+1.0**
comp=Z,644nm,0.5s								
TEIG	**Tepich**	**55.34**	**333**	P		**P**	**02 01 22.0**	**+0.3**
SOR	**Soroa**	**55.94**	**340**	P		**P**	**02 01 26.0**	**+0.2**
QSPA	**South Pole Qui**	**59.43**	**180**	P		**P**	**02 01 51.0**	**+1.1**
QSPA	**South Pole Qui**	**59.43**	**180**	P		**P**	**02 01 50.8**	**+0.9**
comp=Z,9.5nm,0.5s,baz=184,slow=1.1,SNR=102								
comp=Z,9.5nm,0.5s								
656A	**Willston**	**62.05**	**343**	P		**P**	**02 02 07.5**	**-0.2**
HBVL	**Hebbronville**	**65.80**	**327**	P		**P**	**02 02 33.4**	**+1.2**
GOGA	**Godfrey**	**66.14**	**343**	P		**P**	**02 02 33.6**	**-0.7**
W57A	**Gilead**	**67.05**	**347**	P		**P**	**02 02 40.6**	**+0.6**
W57A				IAmb		IAmb	02 02 41.3	
comp=Z,9.5nm,0.9s								
SBA	**Scott Base**	**67.31**	**190**	P		**P**	**02 02 43.1**	**+1.9**
Y49A	**Blount Mountai**	**67.34**	**341**	P		**P**	**02 02 42.4**	**+0.5**
Y49A				IAmb		IAmb	02 02 42.5	
comp=Z,4.3nm,0.8s								
V58A	**Windy Hill, Pi**	**67.51**	**348**	P		**P**	**02 02 43.0**	**+0.2**
V58A				IAmb		IAmb	02 02 44.1	
comp=Z,6.2nm,0.9s								
X51A	**Calhoun**	**67.59**	**343**	P		**P**	**02 02 43.7**	**+0.3**
X51A				PcP		PcP	02 02 43.8	-25
X51A				IAmb		IAmb	02 02 44.2	
comp=Z,8.5nm,0.8s								
FPAL	**Fort Paine**	**67.76**	**342**	P		**P**	**02 02 44.5**	**-0.1**
FPAL				IAmb		IAmb	02 02 44.6	
comp=Z,4.8nm,0.7s								
X48A	**Hartselle**	**68.08**	**341**	P		**P**	**02 02 46.5**	**0.0**
X48A				PcP		PcP	02 02 46.6	-24
X48A				IAmb		IAmb	02 02 47.5	
comp=Z,9.5nm,1.1s								
V53A	**Saluda**	**68.15**	**345**	IAmb		IAmb	02 02 47.7	
comp=Z,5.6nm,1.0s								
HNDO	**Hondo**	**68.18**	**328**	P		**P**	**02 02 48.2**	**+1.0**
Y45A	**Yeager Farm, C**	**68.28**	**338**	P		**P**	**02 02 48.3**	**+0.6**
VNDA	**Vanda**	**68.29**	**190**	P		**P**	**02 02 47.2**	**-0.1**
comp=Z,3.1nm,0.8s,baz=139,slow=6.4,SNR=18								
comp=Z,3.1nm,0.8s								
W50A	**Signal Mountai**	**68.31**	**342**	P		**P**	**02

comp=Z,6.1nm,0.8s
Q24A Divide 78.72 329 P **P** **02 03 49.0 +0.1**
Q24A IAmb IAmb 02 03 51.0
comp=Z,8.0nm,0.8s
I37A Lemond, Waseca 78.78 340 P **P** **02 03 48.5 -0.3**
MVCO Mesa Verde 78.83 326 P **P** **02 03 49.7 +0.2**
MVCO IAmb IAmb 02 03 51.5
comp=Z,4.9nm,0.8s
BLYC Blythe 79.27 320 P **P** **02 03 51.9 +0.2**
BLYC IAmb IAmb 02 03 54.4
comp=Z,13nm,1.2s
ECSD EROS Data Cent 79.53 337 P **P** **02 03 52.6 -0.3**
ECSD IAmb IAmb 02 03 53.3
comp=Z,7.2nm,0.5s
ISCO Idaho Springs 79.61 330 P **P** **02 03 54.3 +0.5**
SMCO Snowmass 79.71 328 P **P** **02 03 54.6 +0.2**
SMCO IAmb IAmb 02 03 56.9
comp=Z,6.0nm,0.8s
W13A Hualapai Mount 79.94 321 P **P** **02 03 56.3 +0.8**
W13A IAmb IAmb 02 03 57.6
comp=Z,4.0nm,0.7s
U15A North Rim 80.11 323 P **P** **02 03 57.3 +0.9**
HMU Henry Mountain 80.50 325 P **P** **02 03 59.1 +0.6**
HMU IAmb IAmb 02 04 00.8
comp=Z,4.7nm,0.7s
E38A The Farm, Brul 80.63 342 P **P** **02 03 58.5 -0.1**
E38A IAmb IAmb 02 03 59.4
comp=Z,6.0nm,0.7s
PHWY Pilot Hill 80.78 330 P **P** **02 04 00.1 +0.1**
PHWY IAmb IAmb 02 04 01.8
comp=Z,5.6nm,0.7s
KNB Kanab 80.83 323 P **P** **02 04 01.0 +0.9**
KNB IAmb IAmb 02 04 02.6
comp=Z,12nm,0.9s
V12A Nelson 80.93 321 P **P** **02 04 01.1 +0.5**
V12A IAmb IAmb 02 04 02.2
comp=Z,5.1nm,0.9s
LCMT Little Creek M 81.05 323 P **P** **02 04 01.9 +0.6**
O20A White River Ci 81.05 328 P **P** **02 04 01.9 +0.6**
O20A IAmb IAmb 02 04 03.9
comp=Z,8.4nm,1.2s
MTPU Mount Pierson 81.29 324 P **P** **02 04 03.0 +0.2**
SZCU Shurtz Canyon 81.41 323 P **P** **02 04 04.7 +1.4**
CCUT Cedar City 81.52 323 P **P** **02 04 04.5 +0.7**
CCUT IAmb IAmb 02 04 06.4
comp=Z,5.7nm,0.7s
P18A Preston Nutter 81.58 327 P **P** **02 04 04.7 +0.5**
P18A IAmb IAmb 02 04 06.3
comp=Z,6.8nm,0.7s
MSU Marysvale 81.65 325 P **P** **02 04 05.6 +1.1**
MVU Marysvale 81.66 325 P **P** **02 04 05.4 +0.8**
SHPR Sheep Range 81.67 321 P **P** **02 04 04.8 +0.2**
GSC Goldstone, Bar 81.69 320 P **P** **02 04 05.0 +0.4**
P17A Butcher Ranch, 81.70 326 P **P** **02 04 05.0 +0.4**
EYMN Ely 81.85 343 P **P** **02 04 04.7 -0.3**
EYMN IAmb IAmb 02 04 05.8
comp=Z,3.8nm,0.7s
RWWY Rawlins 81.85 330 P **P** **02 04 05.3 -0.3**
RWWY IAmb IAmb 02 04 06.5
comp=Z,14nm,1.1s
RDMU Red Mountain 82.01 327 P **P** **02 04 06.8 +0.5**
QSM Queen of Sheba 82.20 320 P **P** **02 04 07.2 +0.1**
GWY Greenwater Val 82.26 320 P **P** **02 04 07.8 +0.2**
PRN Pahroc Range 82.29 322 P **P** **02 04 08.7 +0.9**
PRN IAmb IAmb 02 04 10.1
comp=Z,7.5nm,1.0s
K22A Casper 82.34 331 P **P** **02 04 08.2 +0.3**
K22A IAmb IAmb 02 04 10.1
comp=Z,7.4nm,0.8s
PSUT Pine Spring 82.52 324 P **P** **02 04 10.3 +1.3**
PSUT IAmb IAmb 02 04 11.0
comp=Z,4.2nm,0.8s
BSUT Blindstream Ca 82.54 327 P **P** **02 04 10.0 +0.7**
BSUT IAmb IAmb 02 04 11.8
comp=Z,9.2nm,1.4s
WCT Wildcat Mounta 82.68 321 P **P** **02 04 10.0 +0.3**
CASY Casey 83.18 178 P **P** **02 04 12.7 +0.9**
CASY IAmb IAmb 02 04 13.4
comp=Z,11nm,1.1s
GRAC Grapevine Rang 83.23 320 P **P** **02 04 13.4 +0.9**
GRAC IAmb IAmb 02 04 14.1
comp=Z,3.5nm,0.7s
PDAR Pinedale Array 83.75 329 P **P** **02 04 15.6 +0.3**
comp=Z,2.1nm,0.5s,baz=123,slow=7.4,SNR=21
PDAR pP **pP** **02 05 03.0 +1.6**
comp=Z,0.5nm,0.6s,baz=134,slow=13,SNR=2.1
comp=Z,2.1nm,0.5s
LHV Little Huntoon 84.76 321 P **P** **02 04 21.1 +1.1**
LHV IAmb IAmb 02 04 22.0
comp=Z,5.2nm,0.8s
NVAR Mina Array Bea 84.78 321 P **P** **02 04 21.5 +1.0**
NVAR Mina Array Bea 84.78 321 P **P** **02 04 20.4 -0.1**
comp=Z,1.1nm,0.7s,baz=142,slow=3.5,SNR=7.0
comp=Z,1.1nm,0.7s
ELK Elko 84.88 324 P **P** **02 04 21.0 0.0**
comp=Z,1.7nm,0.6s,baz=112,slow=1.6,SNR=12
comp=Z,1.7nm,0.6s
LOHW Long Hollow 84.89 329 P **P** **02 04 21.2 +0.3**
LOHW IAmb IAmb 02 04 22.5
comp=Z,4.9nm,0.9s
ULM Lac du Bonnet 85.14 341 P **P** **02 04 21.4 -0.2**
comp=Z,3.2nm,0.5s,baz=139,slow=4.6,SNR=11
comp=Z,3.2nm,0.5s
SCHQ Schefferville 85.29 359 P **P** **02 04 21.7 -0.7**
comp=Z,2.2nm,0.6s,baz=159,slow=9.7,SNR=2.5
SCHQ pP **pP** **02 05 07.6 -1.0**
comp=Z,5.3nm,0.9s,baz=142,slow=7.3,SNR=4.1
comp=Z,2.2nm,0.6s
K05A Summer Lake 89.23 323 P **P** **02 04 42.9 +1.1**
YBH Yreka Blue Hor 89.50 321 P **P** **02 04 42.1 -0.9**
comp=Z,2.3nm,0.6s,baz=197,slow=3.4,SNR=8.0
comp=Z,2.3nm,0.6s
YKA Yellowknife Ar 101.01 339 P **Pdif** **02 05 34.9 +0.3**
comp=Z,0.8nm,0.7s,baz=132,slow=3.9,SNR=7.1
BRTR Keskin Array B 115.28 57 PKP **PKPdf** **02 10 25.5 -0.9**
comp=Z,0.3nm,0.6s,baz=193,slow=5.9,SNR=2.2
FINES FINESS Array B 117.16 33 PKP **PKiKP** **02 10 29.2 +0.1**
comp=Z,0.2nm,0.6s,baz=354,slow=1.4,SNR=5.0
FINES PKKPbc **PKKPbc** **02 20 54.3 -1.2**
comp=Z,0.3nm,0.7s,baz=104,slow=8.0,SNR=3.9
SPITS Spitsbergen Ar 118.21 13 PKP **PKPdf** **02 10 30.4 -0.4**
comp=Z,13nm,1.1s,baz=214,slow=4.0,SNR=2.3
ARCES ARCESS Array B 118.75 24 PKP **PKiKP** **02 10 32.2 +0.1**
comp=Z,3.0nm,1.0s,baz=297,slow=5.3,SNR=2.6
ARCES PKKPbc **PKKPab** **02 20 49.1 +0.2**
comp=Z,2.9nm,1.0s,baz=54,slow=6.2,SNR=3.7
ASAR Alice Springs 122.81 201 PKP **PKPdf** **02 10 40.5 -0.9**
comp=Z,1.5nm,0.4s,baz=141,slow=2.0,SNR=14
WRA Warramunga Arr 126.15 203 PKP **PKPdf** **02 10 47.2 -0.6**
comp=Z,4.6nm,0.5s,baz=166,slow=1.7,SNR=51
BVAR Borovoye Array 141.05 42 PKhKP PKPpre 02 11 09.8
comp=Z,0.9nm,0.4s,baz=252,slow=42,SNR=3.3
PETK Petropavlovsk- 141.83 318 PKhKP PKPpre 02 11 10.6
comp=Z,3.2nm,0.9s,baz=110,slow=13,SNR=2.3
KURBB Kurchatov Arra 146.62 43 PKPbc **PKPdf** **02 11 25.2 +0.9**
comp=Z,8.5nm,0.7s,baz=296,slow=3.4,SNR=41
KURBB pPKPbc pPKPbc 02 12 15.0 +0.4
comp=Z,1.7nm,0.7s,baz=298,slow=2.6,SNR=4.6
ZALV Zalesovo Beam 148.41 34 PKPbc **PKPbc** **02 11 31.1 +0.2**
comp=Z,5.1nm,0.4s,baz=304,slow=3.5,SNR=30
ZALV pPKPbc **pPKPbc** **02 12 18.4 -1.1**
comp=Z,0.4nm,0.4s,baz=318,slow=36,SNR=1.6
MKAR Makanchi Array 150.35 48 PKP **PKPdf** **02 11 31.0 +0.4**
comp=Z,0.5nm,0.7s,baz=257,slow=2.1,SNR=5.4
MKAR PKPbc **PKPbc** **02 11 36.3 +0.3**
comp=Z,5.6nm,0.6s,baz=285,slow=3.0,SNR=56

TRN 13 01:59:00.7, 18.78N×63.11W, h29km, MD4.0, North of Anguilla., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANBD	**Bethesda, Anti**	**2.14**	**143**	*eP*	Pn	01 59 35.1	+0.6
ANBD				*eS*	Sb	02 00 03.0	-2.0
MBFL	**Flemmings, Mon**	**2.19**	**157**	*eP*	Pb	01 59 38.1	-1.6
MBFL				*eS*	Sn	02 00 02.9	+1.6
TDBA	**Terre de Bas,**	**3.23**	**154**	*eP*	Pn	01 59 48.6	-0.9
AOPR	**Arecibo Observ**	**3.49**	**263**	*eP*	Pn	01 59 55.3	+2.3
AOPR				*eS*	Sn	02 00 34.6	+1.2

*IDC **13** 02:32:20.2±0.5, 5.80S×151.82E, h0km, mb4.7/22, mbtmp4.7/23, ML3.3/1, MS3.8/20, Error ellipse: s-maj=18.8km s-min=11.6km az=89.0*

*MOS **13** 02:32:21.3±1.0, 5.91S×151.78E, h10km, mb5.0/22, Error ellipse: s-maj=10.1km s-min=7.9km az=97.6*
*NEIC **13** 02:32:23.8±1.3, 5.96S±0.06×151.80E±0.07, h10km±1km, mb5.3/274, Error ellipse: s-maj=12.2km s-min=10.4km az=86.0*
*DJA **13** 02:32:23.9±1.7, 6°S±3°×15°2E±°, h15km±11km, M5.3/37, mB5.7/14, mb5.3/37, MLv5.5/1, Mw(mB)5.2/14*
*BJI **13** 02:32:26.1±0.0, 5.32S×152.07E, h24km, mb4.7/44, mB5.0/23, Ms4.7/18, Ms7 4.3/18*

ISC 13 02:32:23.2±0.3, 5.94S±0.04×151.82E±0.05, h10km, n678, σ1°04/566, mb5.3/198, MS4.0/26, 10C-5D, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I40PG	**Keravat**	**1.64**	**7**	Pg	**Pn**	**02 32 52.2**	**+0.1**
I40PG	baz=183,slow=29			I	I	02 41 40.0	
	baz=225,slow=314,SNR=3.7						
RABL	**Rabaul**	**1.77**	**11**	P	**Pn**	**02 32 54.6**	**+0.7**
RABL	**Rabaul**	**1.77**	**11**		**Pn**	**02 32 54.6**	**+0.7**
PMG	**Port Moresby**	**5.76**	**233**	Pn	**Pn**	**02 33 50.0**	**+1.2**
	50nm,0.3s,baz=47,slow=8.7,SNR=127						
PMG				Sn	**Sn**	**02 34 57.1**	**+2.1**
	36nm,0.3s,baz=329,slow=19,SNR=8.1						
	1µm,0.7s						
MANU	**Manus Island**	**5.89**	**311**	Pn	**Pn**	**02 33 55.0**	**+4.4**
HNR	**Honiara**	**8.77**	**114**	Pn	**Pn**	**02 34 31.4**	**+1.3**
HNR	**Honiara**	**8.77**	**114**	P	**Pn**	**02 34 31.4**	**+1.3**
COEN	**Coen**	**11.66**	**226**	Pn	**Pn**	**02 35 09.5**	**-0.3**
MTSU	**Mount Surprise**	**14.16**	**210**	P	**Pn**	**02 35 45.6**	**+1.6**
PATS	**Pohnpei**	**14.25**	**27**	Pn	**Pn**	**02 35 45.3**	**+0.1**
CTAO	**Charters Tower**	**15.07**	**201**	P	**Pn**	**02 35 58.8**	**+2.5**
CTAO	**Charters Tower**	**15.07**	**201**		**Pn**	**02 35 54.7**	**-1.6**
CTAO	**Charters Tower**	**15.07**	**201**	P	**Pn**	**02 35 54.7**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,51nm,0.9s						
QIS	**Mount Isa**	**18.75**	**218**	P	**P**	**02 36 43.1**	**+0.6**
EIDS	**Eidsvold**	**19.33**	**182**	P	**P**	**02 36 50.2**	**+1.4**
EIDS	**Eidsvold**	**19.33**	**182**	P	**P**	**02 36 48.2**	**-0.5**
FAKI	**Fak Fak**	**19.74**	**278**	P	**P**	**02 36 53.4**	**+0.1**
KDU	**Kakadu**	**20.22**	**249**	P	**P**	**02 36 58.5**	**-0.1**
GUMO	**Guam**	**20.59**	**340**	P	**P**	**02 37 02.8**	**+0.2**
GUMO	**Guam**	**20.59**	**340**	P	**P**	02 36 58.9	-3.7
	comp=Z,74nm,0.9s,baz=147,slow=22,SNR=1.6						
GUMO				LR	LR	02 43 28.5	
	comp=Z,147nm,20.4s,baz=166,slow=33						
	comp=Z,74nm,0.9s						
GUMO	**Guam**	**20.59**	**340**	P	**P**	**02 37 02.8**	**+0.2**
GUMO				pmax	pmax		
	comp=Z,361nm,1.2s						
LIFNC	**LIFOU**	**21.01**	**136**	P	**P**	**02 37 06.8**	**-0.2**
LIFNC				IAmb	IAmb	02 37 25.7	
	comp=Z,102nm,0.9s						
SWI	**Sorong**	**21.13**	**283**	P	**P**	**02 37 08.6**	**+0.2**
	comp=Z,100nm,0.9s,comp=Z,2µm						
SWI	**Sorong**	**21.13**	**283**	P	**P**	**02 37 11.5**	**+3.1**
NOUC	**Port Laguerre**	**21.31**	**140**	P	**P**	**02 37 11.8**	**+1.5**
DZM	**Mont Dzumac**	**21.38**	**140**	P	**P**	**02 37 12.4**	**+1.3**
DZM	**Mont Dzumac**	**21.38**	**140**	*eP*	**P**	**02 37 12.6**	**+1.5**
	comp=Z,126nm,1.4s						
DZM				*eS*	**S**	**02 41 06.9**	**-1.8**
	comp=Z,208nm,20.6s						
DZM				*e*LR	LR	02 42 17.3	
	comp=Z,839nm,24.1s						
DZM	**Mont Dzumac**	**21.38**	**140**	P	**P**	**02 37 11.0**	**-0.2**
DZM	**Mont Dzumac**	**21.38**	**140**	P	**P**	**02 37 11.4**	**+0.3**
	comp=Z,9.1nm,0.6s,baz=352,slow=14,SNR=6.6						
DZM				LR	LR	02 44 17.2	
	comp=Z,787nm,18.7s,baz=344,slow=33						
	comp=Z,9.1nm,0.6s						
MTN	**Manton Dam**	**21.52**	**250**	P	**P**	**02 37 12.4**	**-0.2**
MTN	**Manton Dam**	**21.52**	**250**	P	**P**	**02 37 11.8**	**-0.8**
MTN				IAmb	IAmb	02 37 25.9	
	comp=Z,190nm,1.0s						
DRS	**Darwin Rock St**	**21.62**	**251**	P	**P**	**02 37 14.5**	**+0.8**
QLP	**Quilpie**	**21.77**	**199**	P	**P**	**02 37 16.3**	**+1.1**
WB0	**Warramunga Arr**	**21.82**	**229**	P	**P**	**02 37 15.1**	**-0.8**
WB0				IAmb	IAmb	02 37 19.3	
	comp=Z,128nm,0.8s						
WR0	**Warramunga Arr**	**21.82**	**229**	P	**P**	**02 37 15.6**	**-0.3**
WR0				IAmb	IAmb	02 37 19.3	
	comp=Z,147nm,0.9s						
WRAB	**Tennant Creek**	**21.95**	**229**	P	**P**	**02 37 16.4**	**-0.8**
WRAB				IAmb	IAmb	02 37 21.2	
	comp=Z,90nm,0.8s						
WRAB	**Tennant Creek**	**21.95**	**229**	P	**P**	**02 37 16.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,90nm,0.8s						
WB2	**Warramunga Arr**	**21.95**	**229**	P	**P**	**02 37 16.4**	**-0.9**
WB2				IAmb	IAmb	02 37 21.4	
	comp=Z,80nm,0.8s						
WRA	**Warramunga Arr**	**21.96**	**229**	P	**P**	**02 37 16.4**	**-1.0**
WRA	**Warramunga Arr**	**21.96**	**229**	P	**P**	**02 37 15.6**	**-1.8**
	comp=Z,90nm,0.7s,baz=53,slow=9.9,SNR=71						
WRA				S	**S**	**02 41 15.4**	**-4.7**
	comp=Z,14nm,1.1s,baz=54,slow=18,SNR=8.6						
WRA				ScP	**ScP**	**02 44 56.0**	**+2.1**
	comp=Z,5.2nm,0.9s,baz=53,slow=3.1,SNR=9.2						
	comp=Z,90nm,0.7s						
WRA	**Warramunga Arr**	**21.96**	**229**	*i* P	**P**	**02 37 17.2**	**-0.2**
WRA				pmax	pmax		
	comp=Z,97nm,0.8s						
TARA	**Tarawa**	**22.28**	**72**	P	**P**	**02 37 21.3**	**+0.5**
TARA				IAmb	IAmb	02 37 23.7	
	comp=Z,175nm,0.9s						
ARMA	**Armidale**	**24.35**	**180**	P	**P**	**02 37 41.3**	**-0.3**
ARMA	**Armidale**	**24.35**	**180**	P	**P**	**02 37 42.4**	**+0.8**
ARMA				IAmb	IAmb	02 37 46.1	
	comp=Z,102nm,1.2s						
AS31	**Alice Springs**	**24.65**	**223**	P	**P**	**02 37 43.8**	**-0.5**
AS31				IAmb	IAmb	02 37 46.5	
	comp=Z,42nm,0.8s						
ASAR	**Alice Springs**	**24.66**	**223**	P	**P**	**02 37 44.2**	**-0.1**
ASAR	**Alice Springs**	**24.66**	**223**	P	**P**	**02 37 43.2**	**-1.1**
	comp=Z,122nm,0.8s,baz=54,slow=9.2,SNR=311						
ASAR				S	**S**	**02 42 04.5**	**-1.4**
	comp=Z,1.0nm,0.7s,baz=56,slow=18,SNR=4.2						
ASAR				ScP	**ScP**	**02 45 03.8**	**+2.7**
	comp=Z,4.3nm,0.9s,baz=49,slow=3.3,SNR=9.6						
	comp=Z,122nm,0.8s						
LBMI	**Labuha**	**24.83**	**281**	P	**P**	**02 37 47.4**	**+1.4**
	comp=Z,94nm,0.8s,comp=Z,4µm						
SANI	**Sanana**	**26.05**	**277**	P	**P**	**02 37 59.7**	**+2.7**
	comp=Z,31nm,0.8s						
CMSA	**Cobar Meteorol**	**26.11**	**192**	P	**P**	**02 37 57.5**	**+0.2**
OOD	**Dodnadatta**	**26.59**	**213**	P	**P**	**02 38 01.4**	**-0.4**
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**02 38 09.9**	**-0.2**
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**02 38 09.8**	**-0.3**
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**02 38 08.7**	**-1.4**
	comp=Z,38nm,0.9s,baz=17,slow=11,SNR=24						
STKA				LR	LR	02 48 48.1	
	comp=Z,348nm,19.3s,baz=9.2,slow=36						
	comp=Z,38nm,0.9s						
STKA	**Stephens Creek**	**27.52**	**199**	*i* P	**P**	**02 38 10.1**	**0.0**
LCRK	**Leigh Creek**	**27.53**	**206**	P	**P**	**02 38 10.5**	**+0.3**
SOEI	**Soe**	**27.55**	**260**	P	**P**	**02 38 13.9**	**+3.2**
	comp=Z,173nm,0.9s,comp=Z,3µm						
FITZ	**Fitzroy Crossi**	**28.26**	**242**	P	**P**	**02 38 16.3**	**-0.5**
DAV	**Davao City (W)**	**29.20**	**296**	LR	LR	02 48 18.4	
	comp=Z,205nm,19.2s,baz=152,slow=33						
LUWI	**Luwuk**	**29.39**	**278**	P	**P**	**02 38 28.0**	**+1.1**
LUWI				IAmb	IAmb	02 38 44.4	
	comp=Z,32nm,0.8s						
MULG	**Mulgathing**	**29.42**	**212**	P	**P**	**02 38 26.5**	**-0.6**
MMRI	**Maumere**	**29.46**	**263**	P	**P**	**02 38 26.9**	**-0.6**
MMRI	**Maumere**	**29.46**	**263**	P	**P**	**02 38 27.3**	**-0.3**
	comp=Z,169nm,1.1s						
WRKA	**Warakurna**	**29.47**	**227**	P	**P**	**02 38 27.0**	**-0.6**
GTOI	**Gorontalo**	**29.49**	**282**	P	**P**	**02 38 27.6**	**-0.3**
	comp=Z,7.9nm,1.2s,comp=Z,166nm						
HTT	**Hallett**	**29.86**	**202**	P	**P**	**02 38 30.9**	**-0.1**
EDFI	**Ende, Flores**	**30.01**	**263**	P	**P**	02 38 30.8	-1.7
	comp=Z,80nm,1.3s,comp=Z,876nm						
BBOO	**Buckleboo**	**30.50**	**207**	P	**P**	**02 38 36.3**	**-0.3**
BBOO	**Buckleboo**	**30.50**	**207**	P	**P**	**02 38 36.0**	**-0.6**
BBOO				IAmb	IAmb	02 38 36.8	
	comp=Z,31nm,0.8s						
TOLI2	**Tolitoli**	**31.77**	**282**	P	**P**	**02 38 47.4**	**-0.6**
KAPI	**Kappang**	**31.93**	**270**	P	**P**	**02 38 48.7**	**-0.7**
KAPI				IAmb	IAmb	02 38 56.7	
	comp=Z,28nm,1.1s						
KAPI	**Kappang**	**31.93**	**270**	LR	LR	02 52 12.1	
	comp=Z,153nm,21.6s,baz=91,slow=37						
KAPI	**Kappang**	**31.93**	**270**	P	**P**	**02 38 48.7**	**-0.7**
KAPI				pmax	pmax		
	comp=Z,28nm,1.1s						
ARPS	**Mount Arapiles**	**32.02**	**195**	P	**P**	**02 38 49.8**	**-0.1**
FORT	**Forrest**	**33.29**	**219**	P	**P**	**02 39 00.6**	**-0.5**
FORT	**Forrest**	**33.29**	**219**	P	P	02 38 59.9	-1.3
PLAI	**Plampang**	**33.87**	**263**	P	P	02 39 04.5	-1.9
PLAI	**Plampang**	**33.87**	**263**	P	P	02 39 04.2	-2.2
	comp=Z,129nm,0.8s,comp=Z,1µm						
MBWA	**Marble Bar**	**34.56**	**241**	P	**P**	**02 39 12.2**	**-0.1**
MBWA	**Marble Bar**	**34.56**	**241**	P	**P**	**02 39 11.9**	**-0.4**
PSA00	**Pilbara Seismi**	**34.62**	**240**	P	**P**	**02 39 12.9**	**+0.1**
PSA00	**Pilbara Seismi**	**34.62**	**240**	P	**P**	**02 39 12.1**	**-0.7**
PSA00				IAmb	IAmb	02 39 17.4	
	comp=Z,77nm,1.1s						
PSA00	**Pilbara Seismi**	**34.62**	**240**	P	**P**	**02 39 11.9**	**-0.9**
PSA00				IAmb	IAmb	02 39 17.4	
	comp=Z,40nm,1.2s						
TAU	**Tasmania Unive**	**37.03**	**185**	P	**P**	**02 39 33.2**	**0.0**
JAGI	**Jajag, Banyuwa**	**37.44**	**264**	IAmb	IAmb	02 39 53.7	
	comp=Z,68nm,0.8s						
JAGI	**Jajag, Banyuwa**	**37.44**	**264**	P	P	02 39 34.6	-2.5
	comp=Z,95nm,1.1s						
MEEK	**Meekatharra**	**37.74**	**233**	P	**P**	**02 39 39.1**	**-0.4**
TOZ	**Tahuroa Road**	**38.29**	**149**	P	**P**	**02 39 44.5**	**+0.6**
URZ	**Urewera**	**39.52**	**148**	P	**P**	**02 39 53.6**	**-0.7**
	comp=Z,17nm,1.0s,baz=43,slow=16,SNR=2.0						
	comp=Z,17nm,1.0s						
PWJI	**Pagerwojo**	**39.76**	**265**	P	P	02 39 55.1	-1.5
	comp=Z,63nm,0.8s						
GIRL	**Giralia**	**39.86**	**242**	P	P	02 39 56.2	-1.1
TUWZ	**Tuamarina**	**40.48**	**154**	P	**P**	**02 40 03.0**	**+0.9**
KLBR	**Kellerberrin**	**40.82**	**227**	P	**P**	**02 40 04.3**	**-0.9**
BHW	**Baring Head**	**40.87**	**153**	P	**P**	**02 40 04.8**	**-0.5**
BHW				IAmb	IAmb	02 40 06.0	
	comp=Z,78nm,1.3s						
MORW	**Morawa**	**40.88**	**231**	P	**P**	**02 40 05.3**	**-0.4**
MORW	**Morawa**	**40.88**	**231**	P	**P**	**02 40 04.7**	**-1.0**
BLDU	**Ballidu**	**41.10**	**229**	P	**P**	**02 40 06.7**	**-0.8**
YULB	**Yu-li**	**41.70**	**315**	P	**P**	**02 40 13.1**	**+0.6**
NWAO	**Narrogin (SRO)**	**41.90**	**226**	LR	LR	02 58 28.2	
	comp=Z,310nm,18.4s,baz=44,slow=37						
NACB	**Ninganchiao**	**42.00**	**317**	P	**P**	**02 40 15.2**	**+0.3**
KPJI	**Karang Pucung**	**42.61**	**266**	P	**P**	**02 40 20.4**	**+0.3**
	comp=Z,71nm,0.8s						
BBJI	**Bungbulang**	**43.88**	**265**	P	P	02 40 28.9	-1.5
LEM	**Lembang**	**43.92**	**266**	LR	LR	03 02 50.3	
	comp=Z,178nm,18.4s,baz=44,slow=42						
MJAR	**Matsushiro Arr**	**44.14**	**344**	P	P	02 40 28.4	-3.6
	comp=Z,1.6nm,0.9s,baz=169,slow=8.8,SNR=5.1						
MJAR				PcP	**PP**	**02 42 15.8**	**+0.7**
	comp=Z,4.1nm,0.8s,baz=156,slow=3.1,SNR=7.7						
MJAR				ScP	**ScP**	**02 46 08.1**	**-1.1**
	comp=Z,5.6nm,1.0s,baz=182,slow=5.1,SNR=11						
MJAR				LR	LR	02 56 46.1	
	comp=Z,97nm,20.6s,baz=170,slow=33						
	comp=Z,1.6nm,0.9s						
CNJI	**Cibinong**	**44.40**	**266**	P	P	02 40 33.1	-1.4
	comp=Z,75nm,1.1s						
KASI	**Kota Agung**	**47.08**	**268**	P	**P**	**02 40 56.1**	**+0.4**
	comp=Z,53nm,1.1s						
QIZ	**Qiongzhong**	**48.22**	**302**	P	**P**	**02 41 03.9**	**-0.6**
QIZ				PP	**PP**	**02 42 55.8**	**-1.2**
QIZ				S	**S**	**02 48 04.4**	**+0.2**
QIZ				pmax	pmax		
	comp=Z,15nm,2.0s						
QIZ				LR	LR		
	comp=Z,280nm,16.8s						
QIZ				LR	LR		
	comp=Z,150nm,10.1s						
QIZ				LR	LR		
	comp=Z,160nm,16.0s						
KSRS	**Korea Array**	**48.59**	**335**	P	**P**	**02 41 06.3**	**-0.7**
	comp=Z,1.8nm,0.8s,baz=144,slow=8.6,SNR=7.0						
KSRS				PcP	**PcP**	**02 42 31.9**	**-0.7**
	comp=Z,2.9nm,0.9s,baz=165,slow=2.3,SNR=5.7						
KSRS				ScP	**ScP**	**02 46 25.8**	**-1.9**
	comp=Z,2.5nm,1.0s,baz=132,slow=5.6,SNR=7.8						
	comp=Z,1.8nm,0.8s						
KSAR	**Wonju Array Be**	**48.59**	**334**	P	**P**	**02 41 06.7**	**-0.3**
KSAR	**Wonju Array Be**	**48.59**	**334**	P	**P**	**02 41 06.7**	**-0.3**
NJ2	**Nanjing**	**49.13**	**322**	*eP*	**P**	**02 41 11.4**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,12nm,0.5s						
ASAJ	**Asahikawa**	**50.52**	**351**	LR	LR	03 01 45.1	
	comp=Z,39nm,20.0s,baz=175,slow=35						
USRK	**Ussuriysk Ar.**	**53.02**	**342**	P	P	02 41 37.3	-2.9
	comp=Z,1.8nm,0.6s,baz=181,slow=12,SNR=5.3						
USRK				ScP	**ScP**	**02 46 45.7**	**-1.0**
	comp=Z,2.7nm,1.0s,baz=176,slow=3.1,SNR=7.3						
	comp=Z,1.8nm,0.6s						
YSS	**Yuzh-Sakhalins**	**53.27**	**352**	*i* P	**P**	**02 41 42.4**	**+0.3**
YSS				pmax	pmax		
	comp=Z,17nm,1.4s						
MDJ	**Mudanjiang**	**54.15**	**341**	P	**P**	**02 41 49.2**	**+0.6**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,100nm,10.3s						
GYA	**Guiyang**	**54.32**	**309**	||P	**P**	**02 41 53.5**	**+3.2**
GYA				pmax	pmax		
	comp=Z,22nm,1.0s						
GSI	**Gunungsitoli**	**54.64**	**276**	P	P	02 41 51.1	-1.6
GSI				IAmb	IAmb	02 41 52.6	
	comp=Z,17nm,0.8s						
HNS	**HongShan**	**55.28**	**324**	||P	**P**	**02 41 59.5**	**+2.6**
HNS				pmax	pmax		
	comp=Z,8.0nm,1.4s						
HNS				LR	LR		
	comp=Z,180nm,15.9s						
HNS				LR	LR		
	comp=Z,210nm,13.7s						
HNS				LR	LR		
	comp=Z,210nm,15.9s						
BNX	**BinXian**	**55.88**	**340**	||P	P	02 41 59.8	-1.3
BNX				pmax	pmax		
	comp=Z,10.0nm,1.1s						
BNX				pmax	pmax		
	comp=Z,75nm,5.5s						
XAN	**Xi'an**	**56.78**	**317**	||P	P	02 42 13.0	+5.2
XAN				pP	pwP	02 42 17.7	+2.0
XAN				pmax	pmax		
	comp=Z,9.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.49**	**296**	P	**P**	**02 42 12.0**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=124,slow

comp=Z,250nm,23.0s
XLT LR LR
comp=Z,160nm,16.2s
HHC Hu-ho-hao-te 59.41 325 *e*P **P** **02 42 28.9 +2.7**
HHC S **S** **02 50 33.6 -1.8**
HHC pmax pmax
comp=Z,48nm,3.8s
HHC LR LR
comp=Z,160nm,16.0s
HHC LR LR
comp=Z,110nm,16.8s
HHC LR LR
comp=Z,300nm,17.6s
HEH HeiHe 59.83 342 *e*P P 02 42 26.7 -2.0
HEH ScP **ScP** **02 47 14.3 -2.2**
HEH pmax pmax
comp=Z,7.0nm,0.7s
HEH pmax pmax
comp=Z,170nm,4.4s
BTO Baotou 60.14 324 *e*P **P** **02 42 33.8 +2.6**
BTO pP **pwP** **02 42 44.7 +5.6**
BTO PP **PP** **02 44 42.8 -1.2**
BTO pmax pmax
comp=Z,20nm,0.6s
BTO pmax pmax
comp=Z,240nm,4.5s
BTO LR LR
comp=Z,390nm,17.7s
BTO LR LR
comp=Z,330nm,11.5s
BTO LR LR
comp=Z,450nm,13.3s
LZH Lanzhou 61.37 317 *e*P P 02 42 50.1 +10
LZH pP pwP 02 42 55.9 +8.2
LZH pmax pmax
comp=Z,23nm,1.4s
LZH LR LR
comp=N,180nm,12.7s
LZH LR LR
comp=E,190nm,12.4s
LZH LR LR
comp=Z,190nm,12.7s
MA2 Magadan 65.31 359 P **P** **02 43 04.3 -0.9**
MA2 Magadan 65.31 359 LR LR 03 14 33.5
comp=Z,57nm,18.0s,baz=114,slow=39
MA2 Magadan 65.31 359 *ce*P **P** **02 43 05.6 +0.4**
MA2 pmax pmax
comp=Z,10.0nm,0.8s
SHL Shillong 66.05 301 P **P** **02 43 10.2 -0.7**
SHL IAmb IAmb 02 43 37.1
comp=Z,21nm,1.3s
SHL Shillong 66.05 301 P **P** **02 43 10.2 -0.7**
SHL pmax pmax
comp=Z,21nm,1.3s
ULN Ulaanbaatar 66.45 329 P **P** **02 43 13.1 +0.1**
ULN Ulaanbaatar 66.45 329 *ce*P **P** **02 43 13.1 +0.1**
ULN pmax pmax
comp=Z,11nm,1.3s
CASY Casey 66.65 197 P **P** **02 43 13.5 -0.2**
CASY IAmb IAmb 02 43 14.8
comp=Z,9.5nm,0.7s
SONM Songino Array 66.77 329 P **P** **02 43 15.0 0.0**
SONM Songino Array 66.77 329 P P 02 43 13.8 -1.2
comp=Z,5.4nm,0.9s,baz=127,slow=5.5,SNR=12
comp=Z,5.4nm,0.9s
SONM Songino Array 66.77 329 P **P** **02 43 15.0 0.0**
SONM pmax pmax
comp=Z,5.0nm,0.8s
NIKH Nikolski High 67.45 25 P **P** **02 43 20.6 +1.6**
baz=223
UNV Unalaska Valle 69.06 25 P **P** **02 43 29.8 +0.8**
baz=225
P08K Saint George I 69.87 22 P **P** **02 43 35.3 +1.3**
baz=221
YAK Yakutsk 69.90 349 LR LR 03 14 35.3
comp=Z,32nm,20.3s,baz=236,slow=36
YAK Yakutsk 69.90 349 *e*P P 02 43 31.7 -2.4
YAK *e**PP pP 02 43 39.4 +3.5
YAK *e* 02 43 55.9
YAK *e* 02 46 06.1
YAK *e*PPP PPP 02 47 48.6
YAK *e*S **S** **02 52 39.2 -4.5**
YAK *e* 02 53 31.8
YAK *e*SS **SS** **02 57 08.0 -4.9**
YAK *e*SSS SSS 03 00 20.7
YAK pmax pmax
comp=Z,14nm,0.8s
YAK pmax pmax
comp=N,3.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,1.5s
YAK pmax pmax
comp=Z,105nm,4.4s
YAK pmax pmax
comp=N,81nm,4.9s
YAK pmax pmax
comp=E,38nm,4.2s
YAK smax smax
comp=N,92nm,6.0s
YAK smax smax
comp=E,64nm,5.3s
ZAK Zakamensk 69.96 329 *e*P **P** **02 43 34.1 -0.8**
ZAK pmax pmax
comp=Z,12nm,1.3s
SPIA Saint Paul Isl 70.06 21 P **P** **02 43 36.1 +0.9**
baz=220
FALS False Pass 71.06 25 P **P** **02 43 42.9 +1.5**
baz=228
VNDA Vanda 71.73 178 P **P** **02 43 45.9 +0.8**
VNDA Vanda 71.73 178 P **P** **02 43 45.5 +0.4**
comp=Z,4.5nm,0.9s,baz=330,slow=6.8,SNR=35
comp=Z,4.5nm,0.9s
VNDA Vanda 71.73 178 P **P** **02 43 45.9 +0.8**
VNDA pmax pmax
comp=Z,11nm,1.1s
MOY Mondy 71.89 329 *e*P **P** **02 43 46.5 -0.1**
MOY pmax pmax
comp=Z,24nm,1.7s
S12K Black Hills 72.21 25 P **P** **02 43 48.6 +0.3**
baz=229
SBA Scott Base 72.30 177 P **P** **02 43 50.8 +2.3**
SBA Scott Base 72.30 177 P **P** **02 43 50.8 +2.3**
SBA pmax pmax
comp=Z,7.0nm,1.1s
SDPT Sand Point 72.67 26 P **P** **02 43 52.0 +1.0**
baz=230
CHNA Chernabura Isl 72.73 27 P **P** **02 43 51.6 +0.2**
baz=231
S14K Fog Glacier 73.66 26 P **P** **02 43 57.7 +0.7**
baz=231
M11K Mekoryuk 73.86 20 P **P** **02 43 58.9 +1.0**
baz=224
BILL Bilibino 74.51 6 P **P** **02 44 02.0 +0.4**
BILL Bilibino 74.51 6 *e*P **P** **02 44 02.6 +1.0**
BILL pmax pmax
comp=Z,9.0nm,1.3s
O14K Tigyukauivet M 74.88 23 P **P** **02 44 04.1 +0.2**
baz=229
M13K Dall Lake 74.88 21 P **P** **02 44 03.7 -0.2**
baz=227
CHIR Chirikof Islan 75.14 28 P **P** **02 44 06.4 +0.9**
baz=235
R16K Pilot Point 75.31 26 P **P** **02 44 06.6 +0.2**
baz=233
O15K Ungalikthiuk R 75.39 23 P **P** **02 44 06.8 0.0**
baz=230
M14K Bethel 75.61 21 P **P** **02 44 08.6 +0.5**
baz=228
L14K Kuka Creek 75.76 21 P **P** **02 44 10.1 +1.2**
L14K IAmb IAmb 02 44 11.4
comp=Z,29nm,0.9s
L14K Kuka Creek 75.76 21 P **P** **02 44 09.1 +0.3**
baz=227,SNR=8.7
WMQ Urumqi 75.92 318 *e*P **P** **02 44 12.6 +2.3**
N15K Kwethluk River 75.93 23 P **P** **02 44 10.3 +0.3**
N15K IAmb IAmb 02 44 15.8
comp=Z,28nm,1.1s
N15K Kwethluk River 75.93 23 P **P** **02 44 10.2 +0.3**
baz=230
P16K Nushagak River 76.03 24 P **P** **02 44 11.2 +0.7**
baz=232
M15K Kasigluk River 76.05 22 P **P** **02 44 11.1 +0.6**
baz=229
SII Sitkinak Islan 76.22 27 P **P** **02 44 12.0 +0.3**
baz=236
O16K Kokwok River B 76.34 24 P **P** **02 44 12.3 +0.1**
baz=232
L15K Ungalak Mounta 76.41 21 P **P** **02 44 12.9 +0.3**
baz=228,SNR=5.8
J14K Nanvaranak Lak 76.43 19 P **P** **02 44 13.6 +0.9**
J14K IAmb IAmb 02 44 15.6
comp=Z,32nm,1.0s
J14K Nanvaranak Lak 76.43 19 P **P** **02 44 13.5 +0.9**
baz=226,SNR=5.3
Q17K Contact Creek 76.45 25 P **P** **02 44 13.2 +0.2**
baz=234,SNR=26
N16K Nishlik Lake 76.63 23 P **P** **02 44 14.5 +0.6**
baz=231,SNR=9.1
P17K Kvichak River 76.77 25 P **P** **02 44 15.1 +0.4**
baz=233
K15K Wolf Creek Mou 76.81 20 P **P** **02 44 15.3 +0.4**
baz=228,SNR=14
O17K Koliganek Bris 76.85 24 P **P** **02 44 15.1 -0.1**
baz=233
M16K Timber Creek 76.90 22 P **P** **02 44 16.2 +0.8**
M16K Timber Creek 76.90 22 P **P** **02 44 16.0 +0.5**
baz=231,SNR=15
OHAK Old Harbor 77.00 27 P P 02 44 13.8 -2.3
OHAK IAmb IAmb 02 44 17.5
comp=Z,30nm,1.0s
OHAK Old Harbor 77.00 27 P **P** **02 44 16.9 +0.9**
baz=237,SNR=5.8
ANM Nome 77.15 18 P **P** **02 44 16.8 0.0**
baz=224
L16K Owhat River 77.15 22 P **P** **02 44 17.5 +0.7**
L16K IAmb IAmb 02 44 18.6
comp=Z,18nm,0.9s
L16K Owhat River 77.15 22 P **P** **02 44 17.1 +0.3**
baz=230,SNR=7.3
TNA Tin City 77.15 16 P **P** **02 44 16.3 -0.4**
baz=221
N17K Nushagak Hills 77.28 23 IAmb IAmb 02 44 19.8
comp=Z,19nm,0.9s
N17K Nushagak Hills 77.28 23 P **P** **02 44 18.1 +0.6**
baz=232,SNR=6.4
P18K Big Mountain, 77.39 25 P **P** **02 44 17.8 -0.4**
P18K IAmb IAmb 02 44 20.2
comp=Z,30nm,1.1s
P18K Big Mountain, 77.39 25 P P 02 44 16.9 -1.3
baz=234
F14K Arctic Creek 77.53 17 P P 02 44 17.3 -1.6
baz=223
KDAK Kodiak Island 77.63 27 P **P** **02 44 20.4 +0.9**
KDAK IAmb IAmb 02 44 21.1
comp=Z,40nm,1.1s
KDAK Kodiak Island 77.63 27 P P 02 44 18.2 -1.4
baz=237
KDAK Kodiak Island 77.63 27 P **P** **02 44 20.4 +0.9**
KDAK pmax pmax
comp=Z,41nm,1.1s
O18K Koktuh Hills 77.67 24 P **P** **02 44 18.7 -1.1**
baz=234
M17K Holitna River 77.72 22 IAmb IAmb 02 44 22.5
comp=Z,25nm,0.8s
M17K Holitna River 77.72 22 P **P** **02 44 20.9 +0.9**
baz=232,SNR=9.7
J16K Anvik River 77.78 20 P **P** **02 44 21.3 +1.0**
J16K IAmb IAmb 02 44 22.8
comp=Z,27nm,1.1s
J16K Anvik River 77.78 20 P **P** **02 44 21.3 +1.0**
baz=229,SNR=6.6
Q19K Cape Douglas, 77.79 26 P **P** **02 44 20.2 -0.3**
Q19K Cape Douglas, 77.79 26 P **P** **02 44 20.0 -0.5**
baz=236
L17K Donlin 77.85 22 P **P** **02 44 21.5 +0.7**
baz=231,SNR=11
N18K Kilae Creek 77.88 23 P **P** **02 44 21.7 +0.7**
N18K IAmb IAmb 02 44 23.3
comp=Z,40nm,1.1s
N18K Kilae Creek 77.88 23 P **P** **02 44 21.4 +0.4**
baz=234,SNR=14
I17K Unalakleet 78.15 19 P **P** **02 44 23.1 +0.7**
I17K IAmb IAmb 02 44 24.8
comp=Z,35nm,1.1s
I17K Unalakleet 78.15 19 P **P** **02 44 22.6 +0.2**
baz=228
Q20K Shuyak Island 78.16 26 P **P** **02 44 22.8 +0.3**
baz=237
H16K Elim 78.16 18 P **P** **02 44 22.4 0.0**
baz=227
SYI Shuyak Island 78.16 26 P **P** **02 44 22.8 +0.3**
F15K North Star Dit 78.19 17 P **P** **02 44 22.8 +0.3**
baz=224
K17K Iditarod 78.22 21 P **P** **02 44 23.4 +0.6**
baz=231,SNR=20
O19K Port Alsworth 78.23 24 IAmb IAmb 02 44 23.6
comp=Z,16nm,0.8s
SVW2 Sparrevohn 78.25 23 IAmb IAmb 02 44 28.4
comp=Z,15nm,0.7s
P19K Oil Pt 78.38 25 P **P** **02 44 24.1 +0.4**
P19K Oil Pt 78.38 25 P **P** **02 44 23.4 -0.3**
baz=236,SNR=6.0
J17K VABM Dome 78.38 20 P **P** **02 44 24.5 +0.8**
J17K IAmb IAmb 02 44 26.5
comp=Z,38nm,0.9s
J17K VABM Dome 78.38 20 P **P** **02 44 23.8 +0.2**
baz=230,SNR=22
M18K Stony River 78.39 23 P **P** **02 44 24.4 +0.7**
baz=234,SNR=10
DGZ Jazzator, Alta 78.40 323 *i* P **P** **02 44 24.1 -0.2**
DGZ pmax pmax
comp=Z,4.0nm,0.7s
L18K Granite Mounta 78.50 22 IAmb IAmb 02 44 26.7
comp=Z,34nm,0.9s
L18K Granite Mounta 78.50 22 P **P** **02 44 24.9 +0.6**
baz=233,SNR=22
N19K Bonanza Creek 78.52 24 IAmb IAmb 02 44 26.1
comp=Z,17nm,0.8s
N19K Bonanza Creek 78.52 24 P **P** **02 44 24.7 +0.1**
baz=235,SNR=9.3
G16K Koyuk River 78.65 18 IAmb IAmb 02 44 27.5
comp=Z,27nm,0.9s
G16K Koyuk River 78.65 18 P **P** **02 44 25.4 +0.3**
baz=227
O20K Slope Mountain 78.87 25 P **P** **02 44 26.7 +0.2**
baz=237,SNR=6.2
TIXI Tiksi 78.89 353 P **P** **02 44 25.9 -0.4**
TIXI Tiksi 78.89 353 *ce*P **P** **02 44 26.9 +0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.6s
HOM Homer 79.05 26 P **P** **02 44 27.5 +0.1**
baz=238
H17K Granite Mounta 79.10 19 IAmb IAmb 02 44 29.6
comp=Z,24nm,0.9s
H17K Granite Mounta 79.10 19 P **P** **02 44 28.4 +0.8**
baz=229,SNR=13
L19K White Mountain 79.17 23 IAmb IAmb 02 44 30.0
comp=Z,38nm,0.9s
L19K White Mountain 79.17 23 P **P** **02 44 28.4 +0.4**
baz=234,SNR=24
M19K Big River Lodg 79.19 23 IAmb IAmb 02 44 34.3
comp=Z,41nm,1.2s
M19K Big River Lodg 79.19 23 P **P** **02 44 29.3 +1.2**
baz=235
G17K Kiwalik Mounta 79.24 18 P **P** **02 44 28.8 +0.5**
baz=228,SNR=11
J18K Innoko River 79.25 21 IAmb IAmb 02 44 30.5
comp=Z,22nm,0.8s
J18K Innoko River 79.25 21 P **P** **02 44 29.2 +0.8**
baz=233,SNR=19
BRLK Bradley Lake 79.44 26 IAmb IAmb 02 44 30.7
comp=Z,33nm,0.8s
BRSE Bradley Lake S 79.49 26 P **P** **02 44 30.0 +0.2**
baz=238,SNR=6.2
N20K Mount Spurr 79.65 24 P **P** **02 44 30.0 -0.7**
baz=237
M20K Styx River 79.66 23 IAmb IAmb 02 44 32.6
comp=Z,28nm,1.0s
M20K Styx River 79.66 23 P **P** **02 44 31.2 +0.4**
baz=236
F17K Baldwin Pennin 79.69 17 IAmb IAmb 02 44 33.2
comp=Z,39nm,0.9s
F17K Baldwin Pennin 79.69 17 P **P** **02 44 30.9 +0.2**
baz=228
L20K Farewell, AK 79.71 23 P **P** **02 44 31.6 +0.6**
baz=235,SNR=14
H18K Honhosa River 79.75 19 P **P** **02 44 31.0 -0.1**
baz=230
C16K Lisburne Hills 79.85 15 P **P** **02 44 31.7 +0.1**
baz=223
CAPN Captain Cook N 79.85 25 P **P** **02 44 32.1 +0.4**
baz=238
J19K Poorman 79.96 21 P **P** **02 44 32.9 +0.7**
baz=233,SNR=18
E17K Hotham Inlet 79.96 17 P **P** **02 44 32.7 +0.5**
baz=227,SNR=24
GCSA Galena City Sc 79.98 20 P **P** **02 44 33.1 +0.7**
baz=232
D17K Noatak River 80.04 16 P **P** **02 44 33.2 +0.6**
baz=226,SNR=7.5
G18K Tagagawik 80.13 18 P **P** **02 44 33.5 +0.3**
baz=230,SNR=10.0
K20K Telida 80.15 22 IAmb IAmb 02 44 35.3
comp=Z,26nm,0.9s
K20K Telida 80.15 22 P **P** **02 44 33.6 +0.3**
baz=235
SEW Seward 80.23 26 P **P** **02 44 33.6 -0.2**
baz=240,SNR=6.2
F18K Selawik 80.28 18 P **P** **02 44 33.7 -0.2**
baz=229,SNR=5.2
RDOG Red Dog Mine 80.34 16 IAmb IAmb 02 44 36.5
comp=Z,26nm,0.8s
RDOG Red Dog Mine 80.34 16 P **P** **02 44 33.7 -0.5**
baz=226,SNR=5.8
SKT Skwentna 80.35 24 P **P** **02 44 33.7 -0.8**
baz=237,SNR=5.2
SUA Susitna One 80.39 24 IAmb IAmb 02 44 35.2
comp=Z,20nm,0.8s
SUA Susitna One 80.39 24 P **P** **02 44 33.9 -0.9**
baz=238,SNR=7.8
MK31 Makanchi Array 80.54 319 *ce*P **P** **02 44 35.5 -0.3**
MKAR Makanchi Array 80.54 319 P **P** **02 44 35.5 -0.3**
MKAR Makanchi Array 80.54 319 P P 02 44 33.7 -2.2
comp=Z,1.5nm,0.9s,baz=97,slow=6.3,SNR=11
comp=Z,1.5nm,0.9s
MKAR Makanchi Array 80.54 319 *ce*P **P** **02 44 35.5 -0.3**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
E18K Tukpahlearik C 80.54 17 IAmb IAmb 02 44 37.6
comp=Z,21nm,1.0s
E18K Tukpahlearik C 80.54 17 P **P** **02 44 35.4 0.0**
baz=228,SNR=12
C17K DeLong Mountai 80.56 15 P **P** **02 44 35.8 +0.3**
baz=226,SNR=6.3
J20K Nowinta River 80.59 21 IAmb IAmb 02 44 37.7
comp=Z,32nm,0.9s
J20K Nowinta River 80.59 21 P **P** **02 44 35.4 -0.3**
baz=235,SNR=32
PPLA Purkeypile 80.59 23 P **P** **02 44 35.4 -0.5**
baz=237
H19K Roundabout Mou 80.61 19 P **P** **02 44 36.5 +0.8**
H19K IAmb IAmb 02 44 38.0
comp=Z,35nm,1.0s
H19K Roundabout Mou 80.61 19 P **P** **02 44 35.9 +0.2**
baz=232,SNR=21
RC01 Rabbit Creek A 80.61 25 P **P** **02 44 36.0 +0.2**
RC01 Rabbit Creek A 80.61 25 P **P** **02 44 36.0 +0.2**
baz=239
MAKZ Makanchi 80.75 319 P **P** **02 44 37.4 +0.5**
MAKZ Makanchi 80.75 319 P **P** **02 44 37.4 +0.5**
MAKZ pmax pmax
comp=Z,5.0nm,1.0s
G19K Purcell Mounta 80.78 19 P **P** **02 44 37.5 +0.9**
G19K IAmb IAmb 02 44 39.1
comp=Z,32nm,1.1s
G19K Purcell Mounta 80.78 19 P **P** **02 44 36.8 +0.1**
baz=232,SNR=19
M22K Willow 80.80 24 P **P** **02 44 36.7 -0.1**
baz=239,SNR=7.8
I20K Naaghedeneel 80.84 20 P **P** **02 44 37.5 +0.6**
I20K IAmb IAmb 02 44 39.1
comp=Z,46nm,1.0s
CAST Castle Rocks 80.92 22 IAmb IAmb 02 44 38.3
comp=Z,29nm,1.0s
CAST Castle Rocks 80.92 22 P **P** **02 44 36.7 -0.8**
baz=237,SNR=33
F19K Shaleruckik Mo 81.00 18 IAmb IAmb 02 44 39.5
comp=Z,22nm,0.8s
F19K Shaleruckik Mo 81.00 18 P **P** **02 44 38.0 +0.2**
baz=231
P23K Montague Islan 81.07 26 P **P** **02 44 37.5 -0.8**
baz=242
CUT Chulitna 81.08 24 P **P** **02 44 37.9 -0.4**
CUT IAmb IAmb 02 44 39.2
comp=Z,37nm,1.0s
CUT Chulitna 81.08 24 P **P** **02 44 37.1 -1.2**
baz=238
CHUM Lake Minchumin 81.09 22 P **P** **02 44 38.1 -0.3**
baz=236,SNR=14
H20K Anofilenega Mo 81.11 20 P **P** **02 44 38.4 -0.1**
baz=234,SNR=12
C18K Utukok River 81.21 16 P **P** **02 44 39.5 +0.6**
C18K Utukok River 81.21 16 P **P** **02 44 38.5 -0.4**
baz=227
KTH Kantishna Hill 81.43 22 IAmb IAmb 02 44 40.5
comp=Z,25nm,0.9s
B18K Kokolik River 81.54 15 P **P** **02 44 40.9 +0.2**
baz=227
SML Sawmill 81.56 25 P **P** **02 44 40.5 -0.4**
baz=240,SNR=19
ZAA0 Zalesovo Array 81.56 327 P **P** **02 44 40.6 -0.4**
ZALV Zalesovo Beam 81.56 327 P P 02 44 38.5 -2.5
comp=Z,4.1nm,0.7s,baz=118,slow=5.1,SNR=15
ZALV LR LR 03 23 08.9
comp=Z,53nm,18.6s,baz=114,slow=37
comp=Z,4.1nm,0.7s
ZALV Zalesovo Beam 81.56 327 *i* P **P** **02 44 40.2 -0.8**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
E19K Redstone River 81.56 18 P **P** **02 44 40.6 -0.2**
baz=231,SNR=53
TRF Thorofare Moun 81.62 23 P P 02 44 39.8 -1.6
baz=238,SNR=9.6
GLI Glacier Island 81.63 26 P **P** **02 44 41.2 -0.1**
GLI Glacier Island 81.63 26 P **P** **02 44 40.9 -0.4**
baz=242,SNR=12
BPAW Bear Paw Mtn. 81.70 22 P **P** **02 44 41.5 -0.1**
baz=238,SNR=15
F20K Avaraart Lake 81.77 18 IAmb IAmb 02 44 43.8
comp=Z,17nm,0.9s
F20K Avaraart Lake 81.77 18 P **P** **02 44 42.0 +0.1**
baz=233,SNR=22
IMAR Indian Mountai 81.78 20 P **P** **02 44 41.5 -0.5**
M23K Glacier View 81.80 25 P **P** **02 44 42.1 -0.1**
baz=241,SNR=7.6
FID Port Fidalgo 81.83 26 IAmb IAmb 02 44 43.5
comp=Z,41nm,1.0s
H21K Melozitna Rive 81.91 20 P **P** **02 44 42.7 0.0**
baz=236,SNR=13
I21K Tanana 81.93 21 IAmb IAmb 02 44 45.1
comp=Z,29nm,1.0s
I21K Tanana 81.93 21 P **P** **02 44 43.1 +0.4**
baz=237
C19K Lookout Ridge 81.95 16 IAmb IAmb 02 44 45.1
comp=Z,25nm,0.9s
C19K Lookout Ridge 81.95 16 P **P** **02 44 43.1 +0.2**
baz=229,SNR=16
D19K Kuna River 81.96 17 IAmb IAmb 02 44 44.7
comp=Z,18nm,0.8s
D19K Kuna River 81.96 17 P **P** **02 44 43.3 +0.4**
baz=230,SNR=19
WAT1 Susitna Watana 81.98 24 P **P** **02 44 42.6 -0.5**
baz=240
SCM Sheep Creek Mo 81.99 25 P **P** **02 44 43.2 0.0**
SCM IAmb IAmb 02 44 44.7
comp=Z,42nm,1.0s
SCM Sheep Creek Mo 81.99 25 P **P** **02 44 43.4 +0.2**
baz=241,SNR=8.5
SCM Sheep Creek Mo 81.99 25 P **P** **02 44 43.2 0.0**
SCM pmax pmax
comp=Z,42nm,1.0s
EYAK Cordova Ski Ar 82.06 26 P **P** **02 44 42.3 -1.2**
baz=243
RND Reindeer 82.15 23 IAmb IAmb 02 44 44.5
comp=Z,36nm,0.9s
G21K Allakaket 82.17 19 P **P** **02 44 44.1 +0.2**
G21K IAmb IAmb 02 44 45.9
comp=Z,19nm,0.9s
G21K Allakaket 82.17 19 P **P** **02 44 43.8 -0.2**
baz=235,SNR=15
WAT6 Susitna Watana 82.18 24 P **P** **02 44 44.1 -0.2**
baz=241,SNR=20
MCK McKinley 82.28 23 P **P** **02 44 43.8 -0.9**
baz=240,SNR=34
MLY Manley 82.29 21 IAmb IAmb 02 44 45.8
comp=Z,24nm,0.7s
MLY Manley 82.29 21 P **P** **02 44 44.8 0.0**
baz=238,SNR=42
A19K Wainwright 82.30 15 P **P** **02 44 44.5 -0.1**
baz=227,SNR=8.8
BWN Browne 82.31 22 P **P** **02 44 45.5 +0.7**

E20K **Nigu River** 82.37 17 P P 02 44 44.8 -0.3
baz=232,SNR=32
KAIM **Kayak Island** 82.38 27 P P 02 44 44.8 -0.4
baz=244
KLU **Klutina** 82.42 25 P P 02 44 45.7 +0.2
baz=243,SNR=15
D20K **Etivluk River** 82.53 17 P P 02 44 45.7 -0.2
baz=232,SNR=8.5
H22K **Ishtalitna Cre** 82.53 20 P P 02 44 45.7 -0.2
baz=237
DHY **Denali Highway** 82.57 24 IAmb IAmb 02 44 47.5
comp=Z,27nm,1.0s
DHY **Denali Highway** 82.57 24 P P 02 44 46.0 -0.4
baz=241,SNR=23
F21K **Alatna River** 82.58 19 P P 02 44 46.1 -0.1
baz=235,SNR=13
M24K **Toisona, Glenn** 82.60 25 P P 02 44 46.4 0.0
baz=242,SNR=11
NEA2 **Nenana** 82.67 22 IAmb IAmb 02 44 47.0
comp=Z,26nm,0.8s
NEA2 **Nenana** 82.67 22 P P 02 44 46.1 -0.6
baz=239,SNR=27
BMRM **Bremner River** 82.75 26 P P 02 44 47.6 +0.4
baz=244,SNR=13
I23K **Minto, Yukon-K** 82.85 21 P P 02 44 47.4 -0.1
I23K **Minto, Yukon-K** 82.85 21 P P 02 44 46.8 -0.8
baz=239,SNR=10
WRH **Wood River Hil** 82.98 22 P P 02 44 47.5 -0.7
WRH IAmb IAmb 02 44 49.0
comp=Z,36nm,1.0s
N25K **Chitina, Valde** 83.04 26 IAmb IAmb 02 44 51.3
comp=Z,27nm,1.1s
N25K **Chitina, Valde** 83.04 26 P P 02 44 48.5 -0.2
baz=244,SNR=8.7
G22K **Bettles** 83.05 19 P P 02 44 48.9 +0.4
baz=237,SNR=7.1
H23K **Yukon River** 83.14 21 IAmb IAmb 02 44 50.5
comp=Z,19nm,0.9s
H23K **Yukon River** 83.14 21 P P 02 44 49.7 +0.6
baz=239,SNR=15
E21K **Killik River** 83.14 18 IAmb IAmb 02 44 50.6
comp=Z,22nm,0.9s
E21K **Killik River** 83.14 18 P P 02 44 48.8 -0.3
baz=234
HARP **HAARP** 83.16 25 P P 02 44 48.9 -0.3
baz=243
F22K **John River** 83.16 19 P P 02 44 49.3 +0.1
baz=236,SNR=21
MDM **Murphy Dome** 83.17 22 IAmb IAmb 02 44 49.4
comp=Z,17nm,1.1s
B20K **Meade River** 83.19 16 P P 02 44 48.8 -0.4
baz=231,SNR=7.6
SNH **Sunshine Point** 83.20 27 P P 02 44 49.3 -0.3
COLA **College** 83.27 22 P P 02 44 49.3 -0.4
COLA **College** 83.27 22 P P 02 44 48.9 -0.8
baz=240
COLA **College** 83.27 22 P P 02 44 49.3 -0.4
COLA pmax pmax
comp=Z,46nm,0.8s
PAX **Paxson** 83.29 24 P P 02 44 49.8 -0.2
baz=243,SNR=10
WAX **Waxell Ridge** 83.31 27 P P 02 44 50.6 +0.5
C21K **Knifeblade Rid** 83.32 17 P P 02 44 50.3 +0.4
baz=234,SNR=12
HDA **Harding Lake** 83.38 23 IAmb IAmb 02 44 52.8
comp=Z,19nm,0.7s
HDA **Harding Lake** 83.38 23 P P 02 44 49.1 -1.2
baz=241,SNR=15
G23K **Bananza Creek** 83.43 20 IAmb IAmb 02 44 52.2
comp=Z,23nm,0.9s
G23K **Bananza Creek** 83.43 20 P P 02 44 50.6 -0.1
baz=238,SNR=39
POKR **Poker Plat Res** 83.54 22 P P 02 44 50.1 -1.0
POKR IAmb IAmb 02 44 51.6
comp=Z,12nm,0.8s
POKR **Poker Plat Res** 83.54 22 P P 02 44 51.0 -0.1
baz=241,SNR=5.6
K24K **Donnelly Dome** 83.55 23 P P 02 44 50.9 -0.4
baz=242,SNR=9.2
IL31 83.58 22 IAmb IAmb 02 44 51.6
comp=Z,27nm,0.8s
ILAR **Eielson Array** 83.58 22 P P 02 44 49.6 -1.7
ILAR **Eielson Array** 83.58 22 P P 02 44 48.7 -2.7
comp=Z,22nm,0.8s,baz=251,slow=5.3,SNR=227
comp=Z,22nm,0.8s
ISLE **Juniper Island** 83.60 27 P P 02 44 51.9 +0.1
ISLE IAmb IAmb 02 44 53.2
comp=Z,30nm,0.9s
MESA **MESA** 83.61 27 P P 02 44 52.9 +1.1
MESA **MESA** 83.61 27 P P 02 44 52.0 +0.2
baz=246,SNR=5.4
MCARA **McCarthy VSAT** 83.62 26 P P 02 44 52.2 +0.5
baz=245,SNR=12
E22K **Anaktuvuk Pass** 83.62 18 IAmb IAmb 02 44 53.2
comp=Z,19nm,0.9s
E22K **Anaktuvuk Pass** 83.62 18 P P 02 44 51.9 +0.3
baz=236
B21K **Ikpikpuk River** 83.65 16 P P 02 44 52.5 +0.9
baz=234,SNR=9.9
COLD **Coldfoot** 83.65 19 P P 02 44 52.0 +0.3
baz=238,SNR=15
H24K **Noodor Dome** 83.73 21 IAmb IAmb 02 44 54.0
comp=Z,11nm,0.8s
H24K **Noodor Dome** 83.73 21 P P 02 44 52.4 +0.2
baz=240,SNR=15
D22K **Ayikyak River** 83.78 17 P P 02 44 52.5 +0.2
baz=236,SNR=38
MENT **Mentasta** 83.99 25 P P 02 44 54.1 +0.6
MENT IAmb IAmb 02 44 55.0
comp=Z,15nm,0.8s
QSPA **South Pole Qui** 84.03 180 P P 02 44 54.2 +0.3
QSPA IAmb IAmb 02 45 10.9
comp=Z,29nm,1.0s
QSPA **South Pole Qui** 84.03 180 P P 02 44 53.2 -0.7
comp=Z,13nm,0.7s,baz=342,slow=1.0,SNR=105
comp=Z,13nm,0.7s
M26K **Nabesna, AK** 84.06 25 P P 02 44 54.7 +0.7
M26K IAmb IAmb 02 44 56.1
comp=Z,16nm,1.2s
M26K **Nabesna, AK** 84.06 25 P P 02 44 54.0 0.0
baz=245,SNR=8.4
KURK **Kurchatov** 84.06 322 P P 02 44 54.2 +0.1
KURK **Kurchatov** 84.06 322 *ce*P P 02 44 54.7 +0.6
KURK pmax pmax
comp=Z,7.0nm,1.0s
J25K **Salcha River,** 84.08 23 P P 02 44 53.4 -0.6
baz=243,SNR=83
KURBB **Kurchatov Arra** 84.09 322 P P 02 44 51.9 -2.3
comp=Z,3.5nm,0.9s,baz=112,slow=4.2,SNR=20
comp=Z,3.5nm,0.9s
BARN **Barnard Glacie** 84.09 27 P P 02 44 54.7 +0.4
MAW **Mawson** 84.15 203 P P 02 44 53.5 -0.7
comp=Z,4.6nm,0.8s,baz=103,slow=6.7,SNR=15
MAW LR LR 03 19 42.0
comp=Z,77nm,21.2s,baz=105,slow=34
comp=Z,4.6nm,0.8s
A21K **Barrow** 84.15 15 P P 02 44 54.1 0.0
baz=232
L26K **Log Cabin Wild** 84.18 25 IAmb IAmb 02 44 56.0
comp=Z,19nm,0.8s
L26K **Log Cabin Wild** 84.18 25 P P 02 44 54.9 +0.4
baz=245,SNR=8.4
CTG **Chitna Glacier** 84.20 27 P P 02 44 55.1 +0.3
baz=247,SNR=28
E23K **Chandalar** 84.28 19 P P 02 44 55.2 +0.2
baz=238
LOGN **Logan Glacier** 84.29 27 P P 02 44 55.3 0.0
LOGN IAmb IAmb 02 44 57.0
comp=Z,22nm,0.8s
G24K **Hadweenzic Riv** 84.30 20 IAmb IAmb 02 44 56.5
comp=Z,21nm,0.8s
G24K **Hadweenzic Riv** 84.30 20 P P 02 44 55.7 +0.6
baz=241,SNR=33
SCRK **Sand Creek** 84.33 24 IAmb IAmb 02 44 56.5
comp=Z,19nm,0.9s
SCRK **Sand Creek** 84.33 24 P P 02 44 54.4 -1.0
baz=244,SNR=22
A22K **Sinclair Lake** 84.38 15 P P 02 44 55.0 -0.3
baz=233,SNR=8.3
B22K **Teshekpuk Lake** 84.40 16 P P 02 44 55.2 -0.2
baz=235,SNR=10
D23K **Nanushuk River** 84.43 18 P P 02 44 56.0 +0.4
baz=237
PRP **Porcupine Dome** 84.44 22 P P 02 44 55.4 -0.5
baz=243
M27K **Edge Creek, AK** 84.52 25 P P 02 44 56.8 +0.5
baz=246,SNR=49
F24K **Squaw Lake** 84.57 20 P P 02 44 56.7 +0.3
baz=240,SNR=58
TOLK **Toolik Lake Re** 84.60 18 IAmb IAmb 02 44 58.6
comp=Z,24nm,0.8s
TOLK **Toolik Lake Re** 84.60 18 P P 02 44 56.9 +0.3
baz=238,SNR=29
PNL **Peninsula** 84.60 28 P P 02 44 56.9 +0.2
baz=249,SNR=8.7
O28M **Mount Upton** 84.64 27 P P 02 44 57.0 -0.2
baz=248,SNR=21
E24K **Your Creek** 84.65 19 P P 02 44 56.6 -0.2
baz=240,SNR=19
H25L **Birch Creek** 84.68 21 P P 02 44 56.3 -0.6
baz=242
J26L **Joseph Creek** 84.73 23 IAmb IAmb 02 45 00.5
comp=Z,12nm,0.7s
J26L **Joseph Creek** 84.73 23 P P 02 44 57.2 -0.1
baz=244,SNR=22
AAK **Ala-Archa** 84.74 314 P P 02 44 58.4 +0.4
AAK **Ala-Archa** 84.74 314 LR LR 03 22 12.7
comp=Z,46nm,20.2s,baz=102,slow=35
AAK **Ala-Archa** 84.74 314 *ce*P P 02 44 58.1 +0.1
AAK pmax pmax
comp=Z,6.0nm,0.8s
G25K **Bearman Lake** 84.81 21 P P 02 44 58.0 +0.4
baz=242,SNR=13
L27K **Beaver Creek,** 84.83 25 IAmb IAmb 02 44 59.6
comp=Z,19nm,0.9s
L27K **Beaver Creek,** 84.83 25 P P 02 44 58.4 +0.6
baz=246,SNR=28
BCAR **Beaver Creek A** 84.84 25 P P 02 44 58.2 +0.3
YUK3 **Moose Creek** 84.90 26 P P 02 44 59.4 +0.9
baz=248,SNR=24
C23K **Itkillik River** 84.92 17 P P 02 44 58.5 +0.4
baz=237,SNR=33
YUK8 **Steele Glacier** 85.03 27 P P 02 44 59.7 +0.6
baz=248,SNR=19
D24K **Happy Valley** 85.10 18 IAmb IAmb 02 45 00.9
comp=Z,27nm,0.8s
D24K **Happy Valley** 85.10 18 P P 02 44 59.4 +0.4
baz=239,SNR=34
I26K **Coal Creek Min** 85.23 22 IAmb IAmb 02 45 00.7
comp=Z,16nm,0.8s
I26K **Coal Creek Min** 85.23 22 P P 02 44 59.5 -0.2
baz=245
F25K **Christian Rive** 85.36 20 P P 02 45 01.0 +0.6
baz=242,SNR=26
P29M **Windy Craggy** 85.37 29 IAmb IAmb 02 45 02.8
comp=Z,31nm,0.9s
P29M **Windy Craggy** 85.37 29 P P 02 45 00.7 +0.1
baz=250,SNR=13
C24K **Franklin Bluff** 85.42 18 P P 02 45 01.2 +0.7
baz=239
YUK6 **Outpost Mounta** 85.54 27 P P 02 45 01.7 0.0
baz=249,SNR=9.8
YUK4 **Tatot Arm** 85.55 27 P P 02 45 02.6 +0.9
baz=249,SNR=30
S31K **Pelican** 85.57 31 IAmb IAmb 02 45 03.8
comp=Z,37nm,1.1s
S31K **Pelican** 85.57 31 P P 02 45 01.4 -0.1
baz=252,SNR=5.1
E25K **Arctic Village** 85.63 19 IAmb IAmb 02 45 03.5
comp=Z,13nm,0.9s
E25K **Arctic Village** 85.63 19 P P 02 45 02.1 +0.4
baz=242,SNR=21
BMAR **Burnt Mountain** 85.65 20 P P 02 45 02.8 +1.0
G26K **Porcupine Rive** 85.71 21 P P 02 45 02.8 +0.7
baz=244,SNR=55
SIT **Sitka** 85.75 32 P P 02 45 03.0 +0.5
baz=252
EGAK **Eagle** 85.78 23 IAmb IAmb 02 45 04.6
comp=Z,34nm,0.9s
EGAK **Eagle** 85.78 23 P P 02 45 02.8 +0.3
baz=247,SNR=41
HYT **Haines Junctio** 85.89 28 P P 02 45 03.8 +0.5
baz=250,SNR=28
F26K **Sheenjek River** 85.92 20 P P 02 45 03.4 +0.3
baz=244,SNR=37
D25K **Kavik River** 85.94 18 IAmb IAmb 02 45 05.0
comp=Z,24nm,0.9s
D25K **Kavik River** 85.94 18 P P 02 45 03.0 -0.3
baz=242,SNR=41
I27K **Kandik River** 85.94 22 P P 02 45 04.2 +0.9
baz=242,SNR=53
PLBC **Pleasant Camp** 85.98 29 P P 02 45 04.6 +1.1
baz=251,SNR=8.2
M29M **Somme Creek** 86.02 26 IAmb IAmb 02 45 06.4
comp=Z,24nm,0.8s
M29M **Somme Creek** 86.02 26 P P 02 45 04.2 +0.3
baz=249,SNR=30
DAWY **Dawson** 86.22 24 P P 02 45 05.4 +0.6
baz=248,SNR=44
H27K **Steamboat Moun** 86.23 22 P P 02 45 05.5 +0.8
baz=246,SNR=55
S32K **Killisnoo** 86.26 31 P P 02 45 05.7 +0.7
S32K IAmb IAmb 02 45 07.4
comp=Z,34nm,0.9s
S32K **Killisnoo** 86.26 31 P P 02 45 05.8 +0.9
baz=253
N30M **Aishikik Lake** 86.29 27 IAmb IAmb 02 45 08.1
comp=Z,17nm,1.1s
N30M **Aishikik Lake** 86.29 27 P P 02 45 06.3 +1.1
baz=250,SNR=12
L29M **L29M** 86.40 25 P P 02 45 06.6 +1.0
baz=250,SNR=40
G27K **Doyon Strip** 86.42 21 IAmb IAmb 02 45 07.5
comp=Z,14nm,0.8s
G27K **Doyon Strip** 86.42 21 P P 02 45 06.7 +1.1
baz=246,SNR=25
CRAG **Craig** 86.47 33 P P 02 45 06.7 +0.7
baz=254
SKAG **Skagway** 86.48 29 IAmb IAmb 02 45 08.4
comp=Z,39nm,1.2s
SKAG **Skagway** 86.48 29 P P 02 45 07.2 +1.2
baz=252,SNR=5.5
I28M **Miner Creek** 86.52 23 IAmb IAmb 02 45 07.8
comp=Z,20nm,0.8s
I28M **Miner Creek** 86.52 23 P P 02 45 07.0 +0.7
baz=248,SNR=34
O30N **Mendenhall** 86.53 28 P P 02 45 07.3 +1.0
baz=252,SNR=30
R32K **Eaglecrest** 86.53 31 P P 02 45 07.5 +1.3
R32K IAmb IAmb 02 45 10.3
comp=Z,19nm,1.1s
R32K **Eaglecrest** 86.53 31 P P 02 45 07.1 +0.8
baz=253
JIS **Juneau Island** 86.60 31 P P 02 45 07.7 +1.2
JIS IAmb IAmb 02 45 10.7
comp=Z,23nm,1.0s
U33K **Whale Pass** 86.65 33 P P 02 45 07.7 +0.8
U33K **Whale Pass** 86.65 33 P P 02 45 07.7 +0.8
baz=254
C26K **Camden Bay** 86.67 18 P P 02 45 08.3 +1.6
baz=243,SNR=105
J29N **Klondike Camp** 86.84 24 P P 02 45 08.9 +1.1
J29N **Klondike Camp** 86.84 24 P P 02 45 08.6 +0.8
baz=249
N31M **Braeburn, Yuko** 86.90 27 P P 02 45 08.6 +0.5
baz=252,SNR=24
C27K **Jago River** 86.91 18 P P 02 45 08.8 +0.9
baz=244,SNR=49
K29M **Barlow Dome** 86.91 25 P P 02 45 09.5 +1.2
baz=250,SNR=99
T33K **Petersburg** 86.93 32 P P 02 45 08.9 +0.7
baz=254
E27K **Coleen River** 87.00 20 P P 02 45 09.4 +0.9
baz=246,SNR=54
WHY **Whitehorse** 87.06 28 IAmb IAmb 02 45 11.1
comp=Z,29nm,1.0s
WHY **Whitehorse** 87.06 28 P P 02 45 10.1 +1.1
baz=252,SNR=23
I29M **Ogilvie Camp,** 87.13 23 P P 02 45 09.8 +0.6
baz=249,SNR=46
WRAK **Wrangell Islan** 87.14 33 P P 02 45 10.8 +1.5
WRAK **Wrangell Islan** 87.14 33 P P 02 45 10.6 +1.3
baz=255,SNR=7.3
V35K **Ketchikan** 87.27 34 P P 02 45 10.9 +1.0
V35K **Ketchikan** 87.27 34 P P 02 45 11.5 +1.6
baz=256,SNR=10.0
P32M **Atlin** 87.31 29 P P 02 45 11.0 +0.9
P32M IAmb IAmb 02 45 12.3
comp=Z,25nm,1.0s
P32M **Atlin** 87.31 29 P P 02 45 11.7 +1.5
baz=254,SNR=7.6
F28M **Old Crow** 87.37 21 IAmb IAmb 02 45 12.6
comp=Z,21nm,0.8s
F28M **Old Crow** 87.37 21 P P 02 45 10.9 +0.7
baz=248,SNR=34
H29M **Whitestone** 87.41 22 IAmb IAmb 02 45 31.7
comp=Z,14nm,0.9s
H29M **Whitestone** 87.41 22 P P 02 45 11.3 +0.9
baz=249,SNR=6.6
MAYO **Mayo, Yukon** 87.52 25 P P 02 45 12.6 +1.6
MAYO **Mayo, Yukon** 87.52 25 P P 02 45 11.5 +0.5
baz=252,SNR=7.9
D27M **Malcolm River** 87.63 19 IAmb IAmb 02 45 13.6
comp=Z,29nm,0.9s
D27M **Malcolm River** 87.63 19 P P 02 45 12.2 +0.6
baz=247,SNR=14
J30M **Hart River** 87.65 24 P P 02 45 11.7 -0.1
baz=251,SNR=88
KKAR **Karatay Array** 87.70 314 P P 02 45 11.7 -0.7
KKAR **Karatay Array** 87.70 314 P P 02 45 12.0 -0.4
KKAR **Karatay Array** 87.70 314 P P 02 45 11.7 -0.7
KKAR pmax pmax
comp=Z,6.0nm,1.1s
M31M **Drury Creek, Y** 87.74 27 P P 02 45 13.1 +0.9
baz=253,SNR=32
G29M **Pine Creek** 87.78 22 P P 02 45 12.6 +0.3
baz=249,SNR=21
RUBB **Prince Rupert** 87.79 35 P P 02 45 13.2 +0.8
RUBB IAmb IAmb 02 45 15.6
comp=Z,22nm,0.9s
I30M **Mount Dempster** 87.84 24 IAmb IAmb 02 45 14.2
comp=Z,26nm,0.9s
I30M **Mount Dempster** 87.84 24 P P 02 45 13.2 +0.6
baz=251,SNR=35
E28M **Babbage River** 87.86 20 IAmb IAmb 02 45 14.5
comp=Z,21nm,0.9s
E28M **Babbage River** 87.86 20 P P 02 45 13.6 +1.0
baz=248,SNR=34
P33M **Teslin, Yukon** 87.91 29 IAmb IAmb 02 45 15.5
comp=Z,23nm,1.2s
P33M **Teslin, Yukon** 87.91 29 P P 02 45 13.4 +0.3
baz=254,SNR=14
N32M **Quiet Lake** 88.04 28 P P 02 45 14.2 +0.6
baz=254
EPYK **Eagle Plains** 88.09 22 P P 02 45 14.2 +0.5
baz=251,SNR=37
S34M **Telegraph Cree** 88.16 31 P P 02 45 15.7 +1.5
S34M **Telegraph Cree** 88.16 31 P P 02 45 14.9 +0.7
baz=256,SNR=12
FARO **Faro, Yukon** 88.22 27 P P 02 45 14.8 +0.4
baz=254,SNR=17
E29M **Blow River** 88.35 20 IAmb IAmb 02 45 18.8
comp=Z,25nm,1.4s
E29M **Blow River** 88.35 20 P P 02 45 14.5 -0.3
baz=250,SNR=15
D28M **Stokes Point** 88.40 19 P P 02 45 15.6 +0.5
baz=249,SNR=18
T35M **Bob Quinn** 88.41 32 P P 02 45 16.8 +1.4
T35M IAmb IAmb 02 45 18.8
comp=Z,33nm,1.4s
T35M **Bob Quinn** 88.41 32 P P 02 45 16.4 +1.0
baz=257,SNR=6.6
G30M **tAoh Zrail Nji** 88.47 22 IAmb IAmb 02 45 17.4
comp=Z,29nm,1.1s
G30M **tAoh Zrail Nji** 88.47 22 P P 02 45 15.3 -0.2
baz=251,SNR=20
R33M **Jennings River** 88.61 30 IAmb IAmb 02 45 19.0
comp=Z,22nm,1.0s
R33M **Jennings River** 88.61 30 P P 02 45 17.5 +1.0
baz=256,SNR=14
H31M **Peel River** 88.83 23 IAmb IAmb 02 45 18.6
comp=Z,18nm,0.8s
H31M **Peel River** 88.83 23 P P 02 45 17.7 +0.5
baz=253,SNR=12
F30M **Barrier River** 88.84 21 P P 02 45 17.2 0.0
baz=252,SNR=18
DLBC **Dease Lake** 88.86 31 P P 02 45 18.4 +0.8
baz=257,SNR=13
G31M **Satah River** 89.19 22 IAmb IAmb 02 45 20.1
comp=Z,25nm,0.9s
G31M **Satah River** 89.19 22 P P 02 45 19.2 +0.4
baz=253,SNR=27
MMPY **Sheldon Lake,** 89.26 27 IAmb IAmb 02 45 21.5
comp=Z,22nm,1.1s
MMPY **Sheldon Lake,** 89.26 27 P P 02 45 20.0 +0.7
baz=256,SNR=15
F31M **Tsiigehtchic** 89.53 22 P P 02 45 20.1 -0.3
baz=253,SNR=17
BVAR **Borovoye Array** 89.56 323 P P 02 45 18.9 -2.0
comp=Z,5.1nm,0.8s,baz=104,slow=6.3,SNR=22
BVAR S SKSac 02 55 45.0 -6.4
comp=Z,0.3nm,0.3s,baz=136,slow=21,SNR=1.2
comp=Z,5.1nm,0.8s
BVAR **Borovoye Array** 89.56 323 P P 02 45 19.0 -1.9
BRVK **Borovoye** 89.63 323 P P 02 45 20.6 -0.6
BRVK **Borovoye** 89.63 323 *ce*P P 02 45 20.7 -0.5
BRVK pmax pmax
comp=Z,4.0nm,0.8s
WTLY **Watson Lake, Y** 89.84 29 IAmb IAmb 02 45 25.1
comp=Z,30nm,1.0s
WTLY **Watson Lake, Y** 89.84 29 P P 02 45 22.5 +0.4
baz=258
INK **Inuvik** 89.86 21 IAmb IAmb 02 45 23.5
comp=Z,30nm,1.2s
INK **Inuvik** 89.86 21 P P 02 45 22.1 +0.2
baz=254,SNR=32
INK **Inuvik** 89.86 21 LR LR 03 24 26.2
comp=Z,52nm,18.8s,baz=236,slow=35
TGTN **Hyland Airport** 90.38 28 P P 02 45 25.0 +0.4
baz=258
HUMO **Hull Mountain** 90.47 47 P P 02 45 28.0 +2.6
YBH **Yreka Blue Hor** 90.54 48 LR LR 03 21 17.0
comp=Z,137nm,19.2s,baz=296,slow=32
LIRD **Liard River Hi** 91.05 30 P P 02 45 28.1 +0.4
baz=260
TOAD **Toad River Com** 91.39 31 P P 02 45 30.1 +0.7
baz=261,SNR=5.9
AFDM **Forest Hills D** 91.52 51 P P 02 45 32.9 +2.5
J05D **Fort Rock, OR** 91.81 47 P P 02 45 32.8 +1.0
J05D IAmb IAmb 02 45 47.7
comp=Z,15nm,1.0s
K05A **Summer Lake** 92.00 47 IAmb IAmb 02 45 59.9
comp=Z,23nm,1.2s
PKM **Mcpherson Peak** 92.02 55 P P 02 45 33.2 +0.2
baz=264
SBC **Santa Barbara** 92.06 56 P P 02 45 32.8 -0.1
baz=264
PINE **Pine Mountain** 92.08 46 IAmb IAmb 02 45 36.3
comp=Z,25nm,1.4s
VES **Vestal, Richgr** 92.70 54 P P 02 45 36.0 +0.1
baz=265
WRGLY **Wrigley** 92.88 27 IAmb IAmb 02 45 38.2
comp=Z,15nm,0.8s
WRGLY **Wrigley** 92.88 27 P P 02 45 36.4 +0.4
baz=263
I07A **Izee** 93.14 46 IAmb IAmb 02 46 05.3
comp=Z,15nm,1.4s
LHV **Little Huntoon** 93.38 52 IAmb IAmb 02 45 42.0
comp=Z,16nm,1.2s
A36M **Sachs Harbour** 93.42 18 P P 02 45 38.1 -0.2
baz=262
C36M **Paulatuk** 93.43 21 IAmb IAmb 02 45 39.4
comp=Z,17nm,0.9s
C36M **Paulatuk** 93.43 21 P P 02 45 38.7 +0.2
baz=262
EDW2 **Edwards Air Fo** 93.51 55 P P 02 45 39.8 +0.1
baz=265
NVAR **Mina Array Bea** 93.55 52 P P 02 45 41.3 +1.2
NVAR **Mina Array Bea** 93.55 52 P P 02 45 39.4 -0.7
comp=Z,3.6nm,0.9s,baz=260,slow=6.2,SNR=20
comp=Z,3.6nm,0.9s
CWC **Cottonwood Cre** 93.57 54 P P 02 45 40.5 +0.4
baz=265
NV11 **Mina Array Sit** 93.67 52 IAmb IAmb 02 45 54.9
comp=Z,13nm,1.4s
BFSC **Mount Baldy Ra** 93.73 56 P P 02 45 41.2 +0.3
baz=265
MPMC **Manual Prospec** 94.01 54 P P 02 45 42.5 +0.2
baz=266
MURC **Murrieta** 94.07 57 P P 02 45 42.7 +0.4
baz=266
TPH **Tonopah** 94.37 52 IAmb IAmb 02 45 48.2
comp=Z,23nm,1.1s
GSC **Goldstone, Bar** 94.51 55 P P 02 45 44.5 +0.1
baz=266
FURC **Furnace Creek,** 94.55 54 P P 02 45 45.1 +0.8
baz=266
MONP2 **Monument Peak** 94.66 58 P P 02 45 45.6 +0.4
baz=266
PFO **Pinyon Flats O** 94.68 57 P P 02 45 46.4 +1.2
baz=266
TPFO **Pinon Flats** 94.68 57 P P 02 45 46.0 +0.7
baz=266
BMO **Blue Mountains** 94.77 46 IAmb IAmb 02 45 59.1

comp=Z,15nm,1.4s
SHOC Shoshone, Teco 94.98 55 P P 02 45 47.0 +0.6
baz=266
BELC Belle Mtn. Jos 95.09 56 P P 02 45 47.6 +0.5
baz=266
NEW Newport 95.09 42 P P 02 45 47.8 +1.1
baz=267
SWSC Sam W. Stewart 95.19 58 P P 02 45 48.0 +0.6
baz=266
TUQ Turquoise Moun 95.24 55 P P 02 45 49.1 +1.3
baz=266
GMRC Granite Mounta 95.42 56 P P 02 45 49.4 +0.8
baz=266
ELIB Princess Elisa 95.47 194 *d*P P 02 45 47.4 -0.7
comp=Z,5.2nm,1.2s
BC3 Big Chuckawall 95.52 57 P P 02 45 50.0 +0.9
baz=267
R11B Troy Canyon, C 95.68 52 P P 02 45 50.2 +0.5
baz=267
IRM Iron Mountain 95.81 56 P P 02 45 50.9 +0.7
baz=267
GEYT Alibeck 96.53 307 LR LR 03 31 05.7
comp=Z,51nm,19.8s,baz=160,slow=37
SPR3 Spring Creek 3 96.69 52 IAmb IAmb 02 45 58.4
comp=Z,8.2nm,1.1s
ARU Arti 96.71 326 LR LR 03 29 05.0
comp=Z,58nm,21.8s,baz=90,slow=35
ARU Arti 96.71 326 P P 02 45 54.2 +0.4
ARU 02 49 47.5
ARU S **SKSac** 02 56 30.5 -0.2
HLID Hailey 96.78 47 P P 02 45 55.4 +0.8
baz=268
YKA Yellowknife Ar 96.88 28 P P 02 45 54.8 +0.4
YKA Yellowknife Ar 96.88 28 P P 02 45 52.2 -2.2
comp=Z,2.2nm,0.8s,baz=279,slow=5.1,SNR=19
comp=Z,2.2nm,0.8s
YKA Yellowknife Ar 96.88 28 *i* P P 02 45 55.0 +0.6
YKA pmax pmax
comp=Z,3.0nm,0.9s
MSO Missoula 97.19 44 P P 02 45 57.5 +1.1
baz=269
SZCU Shurtz Canyon 97.62 53 IAmb IAmb 02 46 02.5
comp=Z,7.3nm,1.2s
214A Organ Pipe Nat 97.66 59 P P 02 45 59.1 +0.4
baz=268
DUG Dugway, Tooele 97.89 50 P P 02 45 59.8 +0.1
baz=269
PKCU Pink Cliffs 98.23 53 IAmb IAmb 02 46 07.1
comp=Z,9.5nm,1.1s
BOZ Bozeman (W) 98.79 45 P P 02 46 04.3 +0.7
baz=270
HMU Henry Mountain 99.48 53 IAmb IAmb 02 46 10.6
comp=Z,10nm,1.5s
BW06 Boulder Array 100.33 48 P Pdif 02 46 10.9 +0.3
baz=272
PDAR Pinedale Array 100.33 48 P Pdif 02 46 08.9 -1.7
comp=Z,1.1nm,0.8s,baz=241,slow=1.6,SNR=7.6
PDAR PP PP 02 50 16.2 -0.7
comp=Z,0.2nm,0.5s,baz=270,slow=5.9,SNR=3.6
O20A White River Ci 101.40 50 P Pdif 02 46 15.2 -0.2
baz=272
121A Cookes Peak, D 101.93 58 P Pdif 02 46 17.6 -0.3
baz=270
LAO LASA Array 102.50 44 P Pdif 02 46 20.2 +0.2
baz=275
ECSD EROS Data Cent 109.62 46 P PKiKP 02 50 54.6 0.0
baz=281
FINES FINESS Array B 111.67 335 Pdiff Pdif 02 46 59.4 -0.9
comp=Z,0.7nm,0.5s,baz=36,slow=7.5,SNR=5.0
MIAR Mount Ida 113.57 55 P PKiKP 02 51 01.9 -0.4
baz=279
JFWS Jewell Farm 114.33 45 P PKPdf 02 51 03.3 -0.2
baz=285
BRTR Keskin Array B 115.32 311 PKP PKiKP 02 51 05.0 -0.7
comp=Z,0.4nm,0.8s,baz=90,slow=1.2,SNR=4.0
HDIL Hopedale 115.64 48 P PKiKP 02 51 06.0 -0.1
baz=285
L44A Lake County Fo 116.20 46 P PKPdf 02 51 06.6 -0.5
baz=287
OXF Oxford 116.96 54 P PKPdf 02 51 08.1 -0.7
baz=282
HFS Hagfors 117.37 338 PKP PKPdf 02 51 04.6 -4.3
comp=Z,0.7nm,0.7s,baz=188,slow=2.9,SNR=3.7
HFS SKP 02 54 42.4
comp=Z,0.4nm,0.3s,baz=68,slow=8.6,SNR=6.2
NOA NORSAR Array B 117.64 340 PKP PKPdf 02 51 05.1 -4.3
comp=Z,0.2nm,0.5s,baz=45,slow=1.8,SNR=2.7
WVT Waverly 117.86 52 P PKPdf 02 51 09.5 -1.0
baz=284
WCI Wyandotte Cave 118.50 50 P PKPdf 02 51 11.4 -0.3
baz=286
O48B Farmland 118.75 47 P PKPdf 02 51 11.2 -0.9
baz=288
LRAL Lakeview Retre 119.24 55 P PKPdf 02 51 12.6 -0.6
baz=283
PLCA Paso Flores 119.45 144 PKP PKPdf 02 51 11.6 -2.0
comp=Z,1.6nm,1.0s,baz=180,slow=1.0,SNR=1.9
BRAL Brewton 119.59 58 P PKPdf 02 51 13.1 -0.9
baz=282
ACSO Alum Creek Sta 120.34 46 P PKPdf 02 51 14.1 -1.1
baz=290
TZTN Tazewell 121.08 51 P PKPdf 02 51 15.3 -1.4
baz=287
M53A WI Miller and 121.54 44 P PKPdf 02 51 16.9 -0.5
baz=292
O53A New Philadelph 121.60 46 P PKPdf 02 51 16.3 -1.3
baz=291
VYHS Vyhne 121.86 325 *e*PKP PKPdf 02 51 19.7 +1.8
VYHS Vyhne 121.86 325 *e*PKiKP PKPdf 02 51 19.7 +1.8
GOGA Godfrey 122.02 54 P PKPdf 02 51 18.0 -0.6
baz=285
MCWV Mont Chateau 122.80 46 P PKPdf 02 51 19.3 -0.6
baz=292
KMSC Kings Mountain 123.21 52 P PKPdf 02 51 20.1 -0.8
baz=288
BLA Blacksburg 123.24 49 P PKPdf 02 51 20.3 -0.6
baz=290
RONA Rosalia, Austr 123.73 325 *e*PKiKP PKPdf 02 51 22.6 +1.1
comp=Z,3.2nm,1.1s
SSPA Standing Stone 123.80 44 P PKPdf 02 51 21.5 -0.3
baz=294
FNA Florina 123.84 316 PKPdf 02 51 21.6 -0.3
FNA Florina 123.84 316 PKiKP PKPdf 02 51 21.6 -0.3
CONA Conrad Observa 123.84 326 *e*PKP PKPdf 02 51 21.9 +0.1
comp=Z,0.7nm,0.8s
LONY Lake Ozonia 124.18 39 P PKPdf 02 51 21.5 -1.0
baz=300
BINY Binghamton 124.42 42 P PKPdf 02 51 22.2 -0.8
baz=297
GERES GERESS Array B 124.50 328 PKP PKPdf 02 51 19.9 -3.1
comp=Z,1.0nm,0.8s,baz=69,slow=14,SNR=5.5
SOKA Soboth 125.01 325 *e*PKiKP PKPdf 02 51 25.1 +1.1
comp=Z,2.3nm,0.9s
OBKA Obir 125.38 325 *e*PKiKP PKPdf 02 51 25.9 +1.1
comp=Z,1.7nm,0.9s
LESA Schwarzleotal 125.90 327 *e*PKP PKPdf 02 51 25.6 -0.1
comp=Z,1.8nm,1.0s
LBNH Lisbon 126.01 38 P PKPdf 02 51 25.2 -0.8
baz=302
PAL Palisades 126.35 42 P PKPdf 02 51 25.7 -0.9
baz=298
ABTA Abfaltersbach 126.39 326 *e*PKiKP PKPdf 02 51 27.1 +0.4
comp=Z,2.1nm,1.0s
L61B Northampton 126.46 40 P PKPdf 02 51 25.8 -1.0
baz=300
WATA Walderalm 126.55 327 *e*PKP PKPdf 02 51 26.9 -0.1
comp=Z,4.4nm,1.8s
WTTA Wattenberg 126.56 327 *e*PKP PKPdf 02 51 26.7 -0.4
comp=Z,4.0nm,1.3s
STAL STALIGIAL 126.56 326 PKPdf 02 51 26.8 -0.2
MOTA Moosalm 126.79 327 *e*PKP PKPdf 02 51 26.9 -0.6
comp=Z,2.1nm,1.0s
SQTA Sankt Quirin 126.81 327 *e*PKP PKPdf 02 51 27.2 -0.4
comp=Z,2.0nm,1.0s
EKA Eskdalemuir Ar 126.83 342 PKP PKPdf 02 51 23.9 -3.2
comp=Z,0.4nm,0.6s,baz=36,slow=2.4,SNR=3.3
PKME Peaks-Kenny Pk 127.02 36 P PKPdf 02 51 27.8 +0.1
baz=305
FETA Feichten 127.19 327 *e*PKiKP PKPdf 02 51 29.6 +1.3
comp=Z,1.6nm,0.7s
DAVA Damuels 127.48 328 *e*PKiKP PKPdf 02 51 30.1 +1.3
comp=Z,5.0nm,1.0s
LPAZ La Paz 134.72 120 PKP PKPdf 02 51 42.0 -2.0
comp=Z,1.6nm,0.8s,baz=317,slow=2.4,SNR=8.6
LPAZ SKP 02 55 13.7
comp=Z,0.8nm,0.8s,baz=301,slow=7.3,SNR=4.3
LPAZ La Paz 134.72 120 PKIKP PKPdf 02 51 42.0 -2.0
TAM Tamanrasset 143.44 301 PKPdf PKPab 02 51 58.5 +3.2
TAM Tamanrasset 143.44 301 PKIKP PKPab 02 51 58.5 +3.2
BDFB Brasilia 150.92 138 PKPbc **PKPdf** 02 52 16.0 +4.3
comp=Z,2.2nm,0.7s,baz=285,slow=7.2,SNR=3.9
DBIC Dimbokro 156.81 273 PKPab **PKPab** 02 52 48.5 -1.1
comp=Z,5.2nm,0.8s,baz=61,slow=4.6,SNR=3.8

*NEIC **13** 02:45:49.1±1.7, 16.7N±0.1×123.0E±0.2, h23km±6km, mb4.2/7, Error ellipse: s-maj=26.3km s-min=14.6km az=107.0*
*IDC **13** 02:45:56.9±3.5, 16.52N×122.47E, h84km±34km, mb3.5/9, mbtmp3.8/10, Error ellipse: s-maj=44.7km s-min=17.2km az=72.0*
ISC 13 02:45:51.4±0.7, 16.59N±0.05×122.3E±0.1, h29km, n30, σ1$40/27, mb3.9/14, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIPP	**Brgy, Tapao**	**2.21**	**307**	*e*P	**Pb**	**02 46 29.6**	**-1.1**
SIPP				*e*S	**Sb**	**02 46 58.9**	**+1.3**
PIP	**Pasuquin**	**2.36**	**317**	*e*P	**Pb**	**02 46 31.4**	**-1.9**
PIP				*i* S	**Sb**	**02 47 03.0**	**+1.0**
LQP	**Lukban**	**2.58**	**197**	*e*P	**Pn**	**02 46 31.3**	**0.0**
GQP	**Guinayangan**	**2.68**	**177**	*e*P	**Pb**	**02 46 38.7**	**+0.1**
GQP				*i* S	**Sn**	**02 47 03.1**	**-0.9**
TGY	**Tagaytay City**	**2.81**	**208**	P	**Pb**	**02 46 39.6**	**-1.3**
	141nm,0.4s,baz=202,slow=8.2,SNR=3.9						
TGY				S	**Sb**	**02 47 17.1**	**+2.2**
	503nm,0.6s,baz=40,slow=15,SNR=6.2						
KSRS	**Korea Array**	**21.36**	**12**	P	**P**	**02 50 37.8**	**+1.4**
	1.1nm,0.7s,baz=197,slow=12,SNR=5.6						
	1.1nm,0.7s						
SONM	**Songino Array**	**33.80**	**341**	P	**P**	**02 52 33.0**	**+2.0**
SONM	**Songino Array**	**33.80**	**341**	P	**P**	**02 52 31.6**	**+0.6**
	0.6nm,0.5s,baz=164,slow=11,SNR=5.1						
	0.6nm,0.5s						
WB0	**Warramunga Arr**	**38.03**	**161**	P	**P**	**02 53 04.8**	**-2.6**
WRA	**Warramunga Arr**	**38.18**	**162**	P	**P**	**02 53 07.1**	**-1.5**
	1.6nm,0.9s,baz=340,slow=9.3,SNR=5.2						
	1.6nm,0.9s						
WB2	**Warramunga Arr**	**38.19**	**161**	P	P	02 53 03.6	-5.0
WB2				IAmb	IAmb	02 53 13.8	
	comp=Z,3.3nm,0.9s						
ASAR	**Alice Springs**	**41.59**	**164**	P	**P**	**02 53 36.4**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=352,slow=7.9,SNR=2.0						
	comp=Z,0.3nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**42.28**	**81**	T	T	03 38 55.5	
	baz=275,slow=74,SNR=63						
H11S1	**WAKE ISLAND Hy**	**42.29**	**81**	T	T	03 38 53.1	
	baz=275,slow=74,SNR=53						
H11S2	**WAKE ISLAND Hy**	**42.30**	**81**	T	T	03 38 56.8	
	baz=275,slow=74,SNR=65						
H11N1	**WAKE ISLAND Hy**	**42.39**	**79**	T	T	03 38 59.4	
	baz=273,slow=74,SNR=530						
H11N2	**WAKE ISLAND Hy**	**42.39**	**79**	T	T	03 38 59.7	
	baz=273,slow=74,SNR=333						
H11N3	**WAKE ISLAND Hy**	**42.41**	**79**	T	T	03 39 00.7	
	baz=273,slow=74,SNR=334						
MK31	**Makanchi Array**	**44.70**	**321**	P	**P**	**02 54 01.9**	**0.0**
MK31				IAmb	IAmb	02 54 04.0	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**44.70**	**321**	P	**P**	**02 54 02.5**	**+0.6**
MKAR	**Makanchi Array**	**44.70**	**321**	P	**P**	**02 54 02.8**	**+0.9**
	comp=Z,0.8nm,0.7s,baz=118,slow=9.0,SNR=8.7						
	comp=Z,0.8nm,0.7s						
KURK	**Kurchatov**	**48.71**	**324**	P	**P**	**02 54 33.7**	**+0.5**
KURK				IAmb	IAmb	02 54 35.2	
	comp=Z,3.7nm,0.8s						
KURBB	**Kurchatov Arra**	**48.72**	**324**	P	**P**	**02 54 34.2**	**+1.0**
	comp=Z,3.3nm,0.7s,baz=121,slow=8.0,SNR=25						
	comp=Z,3.3nm,0.7s						
BVAR	**Borovoye Array**	**54.31**	**324**	P	**P**	**02 55 15.8**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=97,slow=11,SNR=6.6						
	comp=Z,0.9nm,0.5s						
BRVK	**Borovoye**	**54.38**	**324**	P	**P**	**02 55 15.6**	**+0.1**
BRVK				IAmb	IAmb	02 55 18.1	
	comp=Z,3.5nm,1.1s						
ABKAR	**Akbulak array**	**59.62**	**318**	P	**P**	**02 55 53.4**	**+0.7**
FINES	**FINESS Array B**	**78.53**	**331**	P	**P**	**02 57 49.9**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=67,slow=6.9,SNR=12						
	comp=Z,0.6nm,0.5s						
NB2	**NORSAR Subarra**	**85.41**	**333**	P	**P**	**02 58 23.5**	**-2.5**
	comp=Z,0.6nm,0.6s,baz=66,slow=4.8						
NOA	**NORSAR Array B**	**85.41**	**333**	P	**P**	**02 58 23.7**	**-2.3**
	comp=Z,0.6nm,0.7s,baz=65,slow=4.9,SNR=4.2						
	comp=Z,0.6nm,0.7s						
RES	**Resolute Bay**	**85.95**	**9**	P	**P**	**02 58 29.0**	**+0.6**
RES				IAmb	IAmb	02 58 30.5	
	comp=Z,2.0nm,0.8s						

*IDC **13** 02:53:33.7±4.1, 10.94S×166.18E, h107km±36km, mb4.0/22, mbtmp4.4/23, MS3.6/12, Error ellipse: s-maj=19.7km s-min=13.8km az=91.0*
*GCMT **13** 02:53:34.1±0.3, 10.79S±0.02×165.87E±0.02, h96km±3km, MW4.9/93, Moment Tensor Solution. s33,c35; s93,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.58±.09; $M_{\theta\theta}$1.20±.14; $M_{\phi\phi}$-2.78±.13; $M_{r\theta}$0.91±.07; $M_{\theta\phi}$-1.50±.13; $M_{\phi r}$-0.77±.08; Best double couple: M≥3.04500×10^{16} NP1:ϕs163.00000°, δ65.00000°, λ38.00000°. NP2: ϕs55.00000°, δ56.00000°, λ149.00000°. Principal axes: T 2.7670, Plg44.0000°, Azm22.0000°; N 0.5570, Plg46.0000°, Azm192.0000°; P -3.3240, Plg5.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **13** 02:53:35.1±1.2, 10.90S±0.08×166.11E±0.09, h106km±6km, mb4.6/175 Error ellipse: s-maj=12.6km s-min=12.1km az=86.0*
*NOU **13** 02:53:37.9, 11.07S×166.28E, h126km, mb4.8/14, Santa Cruz Islands*
ISC 13 02:53:33.3±0.4, 10.93S±0.05×166.19E±0.07, h100km, n518, σ1$48/390, mb4.6/111, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**6.32**	**283**	Pn	**Pn**	**02 55 02.8**	**-1.2**
HNR				Sn	**Sn**	**02 56 14.6**	**-0.2**
DVP	**Devils Point**	**7.03**	**164**	P	**Pn**	**02 55 16.0**	**+2.4**
KOUNC	**Koumac, New Ca**	**9.74**	**191**	P	**Pn**	**02 55 53.0**	**+2.5**
KOUNC	**Koumac, New Ca**	**9.74**	**191**	Pn	**Pn**	**02 55 52.0**	**+1.5**
LIFNC	**LIFOU**	**9.85**	**174**	Pn	**Pn**	**02 55 52.8**	**+0.8**
DZM	**Mont Dzumac**	**11.08**	**179**	P	**Pn**	**02 56 10.9**	**+2.0**
DZM	**Mont Dzumac**	**11.08**	**179**		**Pn**	**02 56 10.3**	**+1.5**
DZM	**Mont Dzumac**	**11.08**	**179**	P	**Pn**	**02 56 09.6**	**+0.7**
	16nm,0.4s,baz=357,slow=7.1,SNR=149						
DZM				S	**Sn**	**02 58 04.5**	**-6.4**
	3.6nm,0.3s,baz=118,slow=24,SNR=2.0						
DZM				LR	LR	02 59 60.0	
	comp=Z,161nm,19.3s,baz=232,slow=35						
NOUC	**Port Laguerre**	**11.11**	**179**	P	**Pn**	**02 56 10.7**	**+1.6**
ONTNC	**Ouen Toro**	**11.32**	**179**	P	**Pn**	**02 56 14.4**	**+2.5**
ONTNC	**Ouen Toro**	**11.32**	**179**		**Pn**	**02 56 13.3**	**+1.3**
OUENC	**Ouen Island, N**	**11.44**	**177**	P	**Pn**	**02 56 16.0**	**+2.4**
OUENC	**Ouen Island, N**	**11.44**	**177**		**Pn**	**02 56 15.1**	**+1.5**
PINNC	**Pines Island,**	**11.68**	**174**	P	**Pn**	**02 56 19.0**	**+2.2**
PINNC	**Pines Island,**	**11.68**	**174**	Pn	**Pn**	**02 56 18.7**	**+1.9**
PATS	**Pohnpei**	**19.31**	**336**	P	**P**	**02 57 50.5**	**-0.1**
CTAO	**Charters Tower**	**21.23**	**242**	P	**P**	**02 58 11.9**	**+0.5**
COEN	**Coen**	**22.67**	**260**	P	**P**	**02 58 27.3**	**+0.7**
COEN				IAmb	IAmb	02 58 48.9	
	comp=Z,41nm,1.4s						
SYDH	**Sydney Hard Ro**	**26.77**	**210**	P	**P**	**02 59 05.0**	**+1.2**
	comp=Z,19nm,1.2s						
QIS	**Mount Isa**	**27.28**	**246**	P	**P**	**02 59 11.6**	**+3.0**
URZ	**Urewera**	**28.92**	**162**	P	**P**	**02 59 23.9**	**+0.9**
RTZ	**Ruatahuna**	**29.21**	**163**	P	**P**	**02 59 26.1**	**+0.5**
H11S2	**WAKE ISLAND Hy**	**29.24**	**1**	T	T	03 30 12.2	
	baz=182,slow=76,SNR=43						
H11S3	**WAKE ISLAND Hy**	**29.24**	**1**	T	T	03 30 12.5	
	baz=182,slow=76,SNR=22						
H11S1	**WAKE ISLAND Hy**	**29.25**	**1**	T	T	03 30 13.6	
	baz=182,slow=76,SNR=24						
BKZ	**Black Stump Fm**	**29.58**	**164**	P	**P**	**02 59 29.8**	**+0.9**
BKZ	**Black Stump Fm**	**29.58**	**164**	P	**P**	**02 59 29.8**	**+0.9**
H11N1	**WAKE ISLAND Hy**	**30.46**	**1**	T	T	03 31 43.7	
	baz=182,slow=76,SNR=34						
H11N3	**WAKE ISLAND Hy**	**30.46**	**1**	T	T	03 31 40.6	
	baz=182,slow=76,SNR=20						
H11N2	**WAKE ISLAND Hy**	**30.47**	**1**	T	T	03 31 45.1	
	baz=182,slow=76,SNR=24						
MRZ	**Mangatainoka R**	**30.76**	**166**	P	**P**	**02 59 40.5**	**+1.4**
STKA	**Stephens Creek**	**30.82**	**224**	P	**P**	**02 59 38.9**	**-1.0**
	comp=Z,0.5nm,0.2s,baz=45,slow=13,SNR=1.3						
STKA				LR	LR	03 12 15.3	
	comp=Z,92nm,18.5s,baz=27,slow=36						
	comp=Z,0.5nm,0.2s						
NNZ	**Nelson**	**30.83**	**169**	P	**P**	**02 59 42.0**	**+2.2**
BFZ	**Birch Farm**	**30.94**	**165**	P	**P**	**02 59 40.8**	**0.0**
BFZ	**Birch Farm**	**30.94**	**165**	P	**P**	**02 59 40.3**	**-0.4**
TUWZ	**Tuamarina**	**31.14**	**169**	P	**P**	**02 59 43.3**	**+0.8**
THZ	**Tophouse**	**31.28**	**170**	P	**P**	**02 59 44.7**	**+0.9**
BSWZ	**Blackbirch Sta**	**31.40**	**169**	P	**P**	**02 59 45.3**	**+0.5**
WB0	**Warramunga Arr**	**31.84**	**250**	P	**P**	**02 59 48.5**	**-0.5**
WB0				IAmb	IAmb	02 59 54.4	
	comp=Z,13nm,0.8s						
WB2	**Warramunga Arr**	**31.92**	**250**	P	**P**	**02 59 49.3**	**-0.4**
WB2				IAmb	IAmb	02 59 55.4	
	comp=Z,11nm,0.9s						
WRA	**Warramunga Arr**	**31.93**	**250**	P	**P**	**02 59 49.0**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=80,slow=9.0,SNR=19						
	comp=Z,3.7nm,0.7s						
INZ	**Inchbonnie**	**32.01**	**173**	P	**P**	**02 59 50.6**	**+0.5**
KHZ	**Kahutara**	**32.02**	**170**	P	**P**	**02 59 52.3**	**+2.1**
LTZ	**Lake Taylor**	**32.17**	**172**	P	**P**	**02 59 52.6**	**+0.9**
MQZ	**McQueen's Vall**	**33.14**	**171**	P	**P**	**03 00 00.9**	**+0.9**
AS31	**Alice Springs**	**33.23**	**243**	P	**P**	**03 00 00.4**	**-0.7**
ASAR	**Alice Springs**	**33.23**	**243**	P	**P**	**02 59 59.9**	**-1.2**
ASAR	**Alice Springs**	**33.23**	**243**	P	**P**	**03 00 00.3**	**-0.8**
	comp=Z,4.6nm,0.9s,baz=64,slow=10,SNR=26						
ASAR				PcP	**PcP**	**03 02 40.9**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=87,slow=3.0,SNR=5.0						
ASAR				LR	LR	03 14 33.8	
	comp=Z,69nm,18.4s,baz=74,slow=38						
	comp=Z,4.6nm,0.9s						
BBOO	**Buckleboo**	**35.22**	**227**	P	**P**	**03 00 19.1**	**+0.9**
BBOO	**Buckleboo**	**35.22**	**227**	P	**P**	**03 00 18.6**	**+0.5**
FITZ	**Fitzroy Crossi**	**39.83**	**255**	P	**P**	**03 00 57.7**	**+0.5**
PSA00	**Pilbara Seismi**	**45.58**	**251**	P	**P**	**03 01 44.0**	**+0.4**
MBWA	**Marble Bar**	**45.64**	**251**	P	**P**	**03 01 44.7**	**+0.5**
JOW	**Kunigami**	**52.57**	**316**	LR	LR	03 24 14.1	
	comp=Z,18nm,18.0s,baz=26,slow=35						
MJAR	**Matsushiro Arr**	**54.07**	**332**	P	**P**	**03 02 47.0**	**-0.7**
	comp=Z,3.8nm,1.0s,baz=156,slow=6.5,SNR=9.3						
	comp=Z,3.8nm,1.0s						
ASAJ	**Asahikawa**	**58.83**	**340**	P	**P**	**03 03 21.6**	**+0.3**
	comp=Z,5.3nm,0.6s,baz=238,slow=5.2,SNR=6.6						
	comp=Z,5.3nm,0.6s						
KSRS	**Korea Array**	**60.02**	**325**	P	**P**	**03 03 30.3**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=137,slow=8.1,SNR=3.3						
	comp=Z,0.7nm,0.7s						
NJ2	**Nanjing**	**62.24**	**315**	*e*P	**P**	**03 03 45.9**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,11nm,0.5s						
USRK	**Ussuriysk Ar.**	**63.04**	**333**	P	**P**	**03 03 50.0**	**+0.2**
USRK	**Ussuriysk Ar.**	**63.04**	**333**	P	**P**	**03 03 49.4**	**-0.4**
	comp=Z,4.6nm,0.7s,baz=134,slow=5.5,SNR=10						
	comp=Z,4.6nm,0.7s						
USA0B	**Ussuriysk Arra**	**63.04**	**333**	P	**P**	**03 03 50.4**	**+0.6**
USA0B				IAmb	IAmb	03 03 51.5	
	comp=Z,9.0nm,0.8s						
PETK	**Petropavlovsk-**	**64.19**	**354**	P	**P**	**03 03 57.1**	**-0.1**
PETK	**Petropavlovsk-**	**64.19**	**354**	P	**P**	**03 03 56.8**	**-0.4**
	comp=Z,4.7nm,0.9s,baz=117,slow=12,SNR=4.5						
	comp=Z,4.7nm,0.9s						
MDJ	**Mudanjiang**	**64.45**	**332**	P	**P**	**03 04 00.1**	**+1.0**
MDJ				pmax	pmax		
	comp=Z,12nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,100nm,6.5s						
CN2	**Changchun**	**65.86**	**329**	P	**P**	**03 04 07.0**	**-1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.8s						
VNDA	**Vanda**	**66.62**	**181**	P	**P**	**03 04 13.1**	**+0.5**
VNDA	**Vanda**	**66.62**	**181**	P	**P**	**03 04 12.7**	**+0.1**
	comp=Z,3.4nm,1.2s,baz=332,slow=8.5,SNR=5.4						
VNDA				LR	LR	03 28 53.3	
	comp=Z,56nm,19.1s,baz=20,slow=32						
	comp=Z,3.4nm,1.2s						
CASY	**Casey**	**66.64**	**201**	P	**P**	**03 04 13.4**	**+0.5**
CASY				IAmb	IAmb	03 04 54.8	
	comp=Z,6.2nm,0.7s						
SBA	**Scott Base**	**66.92**	**180**	P	**P**	**03 04 16.4**	**+2.0**
SBA				IAmb	IAmb	03 04 16.8	
	comp=Z,8.9nm,1.2s						
KLR	**Kul'dur**	**67.12**	**336**	P	**P**	**03 04 16.1**	**0.0**
	comp=Z,4.8nm,1.1s,baz=121,slow=6.7,SNR=7.8						
	comp=Z,4.8nm,1.1s						
NIKH	**Nikolski High**	**67.14**	**16**	P	**P**	**03 04 16.3**	**+0.2**
	baz=207						
UNV	**Unalaska Valle**	**68.57**	**17**	P	**P**	**03 04 25.5**	**+0.4**
	baz=209						
P08K	**Saint George I**	**70.23**	**14**	P	**P**	**03 04 36.0**	**+0.7**
	baz=205						
MA2	**Magadan**	**71.35**	**352**	LR	LR	03 28 30.9	
	comp=Z,40nm,21.7s,baz=118,slow=29						
CHNA	**Chernabura Isl**	**71.57**	**20**	P	**P**	**03 04 44.4**	**+1.0**
SDPT	**Sand Point**	**71.70**	**19**	P	**P**	**03 04 45.8**	**+1.6**
	baz=215						
HHC	**Hu-ho-hao-te**	**72.02**	**319**	*e*P	**P**	**03 04 49.9**	**+3.3**
HHC				pmax	pmax		
	comp=Z,93nm,5.5s						
CMAR	**Chiang Mai Arr**	**72.46**	**293**	P	**P**	**03 04 49.5**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=114,slow=4.3,SNR=8.1						
	comp=Z,0.9nm,0.3s						
S14K	**Fog Glacier**	**72.77**	**19**	P	**P**	**03 04 51.7**	**+1.1**
	baz=215						
PZH	**PanZhiHua**	**72.78**	**302**	P	**P**	**03 04 53.0**	**+1.6**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
CHGN	**Chignik**	**73.15**	**20**	P	**P**	**03 04 51.2**	**-1.6**
SEY	**Seymchan**	**74.41**	**353**	LR	LR	03 32 54.1	
	comp=Z,18nm,19.2s,baz=154,slow=32						
M11K	**Mekoryuk**	**74.41**	**14**	P	**P**	**03 05 02.2**	**+2.2**
	baz=208						
R16K	**Pilot Point**	**74.44**	**19**	P	**P**	**03 05 01.1**	**+0.8**
	baz=217						
SII	**Sitkinak Islan**	**74.81**	**21**	P	**P**	**03 05 02.7**	**+0.2**
	baz=220						
LZH	**Lanzhou**	**75.00**	**312**	*e*P	**P**	**03 05 05.6**	**+1.3**
LZH				pP	pP	03 05 29.1	-0.8
LZH				pmax	pmax		
	comp=Z,18nm,1.3s						
O15K	**Ungalikthiuk R**	**75.06**	**17**	P	**P**	**03 05 04.3**	**+0.5**
	baz=215						
M13K	**Dall Lake**	**75.13**	**15**	P	**P**	**03 05 04.6**	**+0.4**
	baz=211						
N14K	**Kuskokwak Cree**	**75.16**	**16**	P	**P**	**03 05 05.1**	**+0.7**
	baz=213						
P16K	**Nushagak River**	**75.49**	**18**	P	**P**	**03 05 07.4**	**+1.1**
	baz=216						
Q17K	**Contact Creek**	**75.55**	**20**	P	**P**	**03 05 07.3**	**+0.5**
	baz=219						
OHAK	**Old Harbor**	**75.64**	**21**	P	**P**	**03 05 07.9**	**+0.7**
	baz=221						
M14K	**Bethel**	**75.78**	**16**	P	**P**	**03 05 08.5**	**+0.6**
	baz=212						
N15K	**Kwethluk River**	**75.80**	**17**	P	**P**	**03 05 09.7**	**+1.6**
N15K

comp=Z,16nm,1.0s
M16K Timber Creek 76.82 17 P **P** 03 05 13.4 -0.5
baz=215
N17K Nushagak Hills 76.94 18 P **P** 03 05 14.0 -0.5
baz=217
Q20K Shuyak Island 77.00 21 P **P** 03 05 14.7 -0.1
baz=222
O18K Koktuh Hills 77.01 19 P **P** 03 05 15.3 +0.4
baz=219
J14K Nanvaranak Lak 77.10 14 P **P** 03 05 16.0 +0.7
baz=211
K15K Wolf Creek Mou 77.20 15 P **P** 03 05 17.2 +1.3
K15K IAmb IAmb 03 05 19.1
comp=Z,15nm,1.3s
K15K Wolf Creek Mou 77.20 15 P **P** 03 05 16.2 +0.3
baz=213
L16K Owhat River 77.25 16 P **P** 03 05 16.0 -0.2
baz=215
N18K Kilae Creek 77.45 18 P **P** 03 05 16.6 -0.8
N18K Kilae Creek 77.45 18 P **P** 03 05 16.7 -0.7
baz=218
P19K Oil Pt 77.50 20 P **P** 03 05 17.3 -0.4
baz=221
O19K Port Alsworth 77.56 19 P **P** 03 05 17.6 -0.3
baz=220
M17K Holitna River 77.56 17 P **P** 03 05 20.3 +2.3
M17K Holitna River 77.56 17 P **P** 03 05 17.7 -0.3
baz=217
L17K Donlin 77.92 16 P **P** 03 05 18.9 -1.1
baz=216
N19K Bonanza Creek 77.98 19 P **P** 03 05 20.2 -0.2
N19K IAmb IAmb 03 05 51.1
comp=Z,14nm,1.4s
N19K Bonanza Creek 77.98 19 P **P** 03 05 21.1 +0.7
baz=220
O20K Slope Mountain 78.02 20 P **P** 03 05 21.2 +0.5
baz=221
M18K Stony River 78.11 18 P **P** 03 05 20.9 0.0
baz=218
J16K Anvik River 78.27 15 P **P** 03 05 23.2 +1.4
J16K IAmb IAmb 03 05 24.3
comp=Z,9.5nm,0.9s
J16K Anvik River 78.27 15 P **P** 03 05 21.7 -0.2
baz=213
BRLK Bradley Lake 78.38 21 P **P** 03 05 23.1 +0.5
K17K Iditarod 78.39 16 P **P** 03 05 24.1 +1.6
K17K IAmb IAmb 03 05 24.9
comp=Z,11nm,0.9s
K17K Iditarod 78.39 16 P **P** 03 05 22.7 +0.2
baz=216
BRSE Bradley Lake S 78.41 21 P **P** 03 05 23.3 +0.6
baz=223
L18K Granite Mounta 78.43 17 P **P** 03 05 24.5 +1.8
L18K Granite Mounta 78.43 17 P **P** 03 05 23.3 +0.5
baz=217
TNA Tin City 78.68 11 P **P** 03 05 24.8 +0.8
baz=206
J17K VABM Dome 78.75 15 P **P** 03 05 25.3 +0.8
J17K IAmb IAmb 03 05 26.9
comp=Z,9.3nm,0.9s
J17K VABM Dome 78.75 15 P **P** 03 05 23.6 -0.9
baz=215
SONM Songino Array 78.83 324 P **P** 03 05 25.2 -0.2
SONM Songino Array 78.83 324 P **P** 03 05 25.4 -0.1
comp=Z,1.8nm,0.6s,baz=133,slow=5.1,SNR=14
comp=Z,1.8nm,0.6s
M19K Big River Lodg 78.86 18 P **P** 03 05 23.8 -1.4
baz=220
F14K Arctic Creek 78.90 11 P **P** 03 05 23.9 -1.3
baz=208
L19K White Mountain 78.94 17 P **P** 03 05 26.9 +1.3
L19K IAmb IAmb 03 05 27.7
comp=Z,7.7nm,0.9s
L19K White Mountain 78.94 17 P P 03 05 21.9 -3.7
baz=219
N20K Mount Spurr 79.00 19 P **P** 03 05 23.6 -2.4
baz=222
CAPN Captain Cook N 79.02 20 P **P** 03 05 24.7 -1.3
baz=223
H16K Elim 79.03 13 P **P** 03 05 23.2 -2.7
baz=212
QSPA South Pole Qui 79.08 180 P **P** 03 05 26.6 0.0
QSPA IAmb IAmb 03 05 54.0
comp=Z,10nm,1.1s
QSPA South Pole Qui 79.08 180 P **P** 03 05 26.0 -0.5
comp=Z,4.7nm,1.1s,baz=180,slow=1.7,SNR=8.8
comp=Z,4.7nm,1.1s
SEW Seward 79.12 21 P **P** 03 05 24.8 -1.8
baz=224
M20K Styx River 79.22 18 P **P** 03 05 24.4 -2.9
baz=221
GTA Gaotai 79.29 314 eP **P** 03 05 29.5 +1.3
GTA pmax pmax
comp=Z,11nm,1.0s
J18K Innoko River 79.42 16 P **P** 03 05 29.2 +1.0
J18K IAmb IAmb 03 05 30.1
comp=Z,9.4nm,1.1s
J18K Innoko River 79.42 16 P **P** 03 05 25.4 -2.8
baz=217
L20K Farewell, AK 79.45 18 P **P** 03 05 26.1 -2.4
baz=220
G16K Koyuk River 79.65 13 P **P** 03 05 28.0 -1.3
baz=212
SUA Susitna One 79.67 19 **P** 03 05 29.7 0.0
SUA Susitna One 79.67 19 P P 03 05 26.3 -3.4
baz=223
RC01 Rabbit Creek A 79.73 20 P P 03 05 26.2 -3.7
baz=224
Q23K Middleton Isla 79.78 23 P **P** 03 05 28.8 -1.3
baz=227
P23K Montague Islan 79.78 22 P **P** 03 05 27.4 -2.8
baz=226
SKT Skwentna 79.80 19 P **P** 03 05 27.5 -2.8
baz=222
H17K Granite Mounta 79.82 14 P **P** 03 05 27.5 -2.8
baz=214
K20K Telida 80.08 17 P **P** 03 05 29.8 -1.9
baz=220
M22K Willow 80.09 19 P **P** 03 05 29.5 -2.3
baz=224
G17K Kiwalik Mounta 80.12 13 P **P** 03 05 30.5 -1.4
baz=213
J19K Poorman 80.14 16 P **P** 03 05 29.3 -2.8
baz=218
PPLA Purkeypile 80.28 18 P **P** 03 05 30.5 -2.5
baz=222
PMR Palmer 80.30 20 P P 03 05 38.0 +5.1
H18K Honhosa River 80.37 14 P P 03 05 30.0 -3.3
baz=215
GCSA Galena City Sc 80.41 15 P **P** 03 05 31.1 -2.3
baz=217
GLI Glacier Island 80.50 21 P **P** 03 05 35.0 +1.0
GLI IAmb IAmb 03 05 59.9
comp=Z,15nm,1.2s
GLI Glacier Island 80.50 21 P **P** 03 05 31.2 -2.8
baz=226
J20K Nowinta River 80.69 16 P **P** 03 05 35.9 +1.0
J20K Nowinta River 80.69 16 P **P** 03 05 32.6 -2.3
baz=220
CAST Castle Rocks 80.70 18 P **P** 03 05 35.3 +0.2
CAST IAmb IAmb 03 05 38.1
comp=Z,6.9nm,0.8s
CAST Castle Rocks 80.70 18 P P 03 05 31.8 -3.3
baz=222
SML Sawmill 80.72 20 P **P** 03 05 37.0 +1.7
SML Sawmill 80.72 20 P **P** 03 05 32.4 -2.9
baz=225
F17K Baldwin Pennin 80.78 13 IAmb IAmb 03 05 37.6
comp=Z,9.5nm,0.8s
F17K Baldwin Pennin 80.78 13 P P 03 05 32.1 -3.2
baz=212
KAIM Kayak Island 80.84 23 P **P** 03 05 33.5 -2.4
baz=229
G18K Tagagawik 80.91 14 P P 03 05 32.4 -3.8
baz=215
M23K Glacier View 80.92 20 P P 03 05 32.5 -3.8
baz=226
CHUM Lake Minchumin 80.99 17 P **P** 03 05 34.2 -2.3
baz=221
SCM Sheep Creek Mo 81.08 20 P **P** 03 05 37.8 +0.6
SCM IAmb IAmb 03 05 38.7
comp=Z,12nm,1.0s
SCM Sheep Creek Mo 81.08 20 P P 03 05 33.8 -3.4
baz=226
I20K Naaghedeneel 81.08 16 P **P** 03 05 35.1 -1.8
baz=219
H19K Roundabout Mou 81.15 15 P **P** 03 05 34.6 -2.8
baz=217
E17K Hotham Inlet 81.20 12 P **P** 03 05 35.3 -2.3
baz=212
F18K Selawik 81.26 13 P **P** 03 05 35.6 -2.3
baz=214
TRF Thorofare Moun 81.27 18 P **P** 03 05 35.7 -2.6
baz=223
KLU Klutina 81.33 21 P **P** 03 05 36.1 -2.5
baz=228
WAT1 Susitna Watana 81.37 19 P **P** 03 05 36.2 -2.4
baz=225
BGLC Bering Glacier 81.40 23 P P 03 05 35.5 -3.3
baz=230
BMRM Bremner River 81.46 22 P P 03 05 34.9 -4.3
baz=229
WAT6 Susitna Watana 81.46 20 P P 03 05 36.3 -3.1
baz=226
D17K Noatak River 81.48 11 P **P** 03 05 36.3 -2.8
baz=211
G19K Purcell Mounta 81.48 14 P P 03 05 34.9 -4.2
baz=216
H20K Anotleneega Mo 81.52 15 P **P** 03 05 36.5 -2.9
baz=219
BPAW Bear Paw Mtn. 81.54 18 P P 03 05 35.3 -4.3
baz=222
C16K Lisburne Hills 81.57 10 P P 03 05 36.3 -3.3
baz=208
M24K Tolsona, Glenn 81.66 21 P **P** 03 05 37.8 -2.5
baz=227
RND Reindeer 81.69 19 P **P** 03 05 41.4 +1.0
E18K Tukpahlearik C 81.75 12 IAmb IAmb 03 05 42.6
comp=Z,6.7nm,0.8s
E18K Tukpahlearik C 81.75 12 P **P** 03 05 37.7 -2.8
baz=213
WAX Waxell Ridge 81.78 23 P **P** 03 05 41.9 +1.0
WAX IAmb IAmb 03 05 46.1
comp=Z,9.2nm,0.8s
RDOG Red Dog Mine 81.82 11 P P 03 05 37.1 -3.8
baz=211
F19K Shaleruckik Mo 81.88 14 IAmb IAmb 03 05 43.0
comp=Z,14nm,1.1s
F19K Shaleruckik Mo 81.88 14 P P 03 05 36.5 -4.7
baz=216
N25K Chitina, Valde 81.88 21 IAmb IAmb 03 05 43.2
comp=Z,11nm,0.9s
N25K Chitina, Valde 81.88 21 P P 03 05 37.5 -3.9
baz=229,SNR=5.9
MCK McKinley 81.90 18 P P 03 05 38.0 -3.4
baz=224
DHY Denali Highway 81.93 19 P **P** 03 05 39.1 -2.6
baz=226
MESA MESA 81.95 23 P P 03 05 38.4 -3.6
baz=231
VRDI Verde Repeater 82.05 22 P **P** 03 05 43.5 +1.0
GLB Gilahina Butte 82.06 22 IAmb IAmb 03 05 43.8
comp=Z,9.7nm,0.9s
I21K Tanana 82.06 17 IAmb IAmb 03 05 44.1
comp=Z,10nm,1.2s
I21K Tanana 82.06 17 P P 03 05 36.6 -5.6
baz=221
ISLE Juniper Island 82.07 23 P **P** 03 05 43.2 +0.7
ISLE IAmb IAmb 03 05 44.0
comp=Z,10nm,1.0s
C17K DeLong Mountai 82.14 11 P P 03 05 38.3 -4.3
baz=210
H21K Melozitna Rive 82.20 16 **P** 03 05 44.1 +1.2
H21K Melozitna Rive 82.20 16 P P 03 05 39.1 -3.8
baz=221
IMAR Indian Mountai 82.20 15 P **P** 03 05 43.7 +0.8
HARP HAARP 82.21 21 P P 03 05 36.9 -6.1
baz=228
MLY Manley 82.30 17 P P 03 05 38.7 -4.8
baz=223
MCARA McCarthy VSAT 82.31 22 P P 03 05 39.3 -4.3
baz=230
NEA2 Nenana 82.47 18 P P 03 05 39.6 -4.7
baz=224
PAX Paxson 82.49 20 P P 03 05 39.7 -4.9
baz=228
E19K Redstone River 82.51 13 IAmb IAmb 03 05 46.7
comp=Z,8.1nm,0.8s
E19K Redstone River 82.51 13 P P 03 05 39.8 -4.7
baz=216,SNR=8.8
F20K Avaaart Lake 82.54 14 P P 03 05 38.5 -6.1
baz=218
BARN Barnard Glacie 82.62 23 IAmb IAmb 03 05 47.3
comp=Z,13nm,1.0s
C18K Utukok River 82.67 11 P **P** 03 05 46.4 +1.1
C18K IAmb IAmb 03 05 47.0
comp=Z,13nm,1.1s
C18K Utukok River 82.67 11 P P 03 05 39.2 -6.2
baz=212
G21K Allakaket 82.67 15 P **P** 03 05 46.5 +1.1
G21K IAmb IAmb 03 05 47.3
comp=Z,10nm,1.5s
G21K Allakaket 82.67 15 P P 03 05 39.7 -5.7
baz=220
CTG Chitna Glacier 82.68 23 P P 03 05 38.0 -7.7
baz=232,SNR=8.1
WRH Wood River Hil 82.68 18 IAmb IAmb 03 05 47.1
comp=Z,9.1nm,1.0s
LOGN Logan Glacier 82.72 23 IAmb IAmb 03 05 47.7
comp=Z,12nm,1.0s
H22K Ishtalitna Cre 82.76 16 P P 03 05 39.7 -6.1
baz=222
I23K Minto, Yukon-K 82.79 17 P P 03 05 40.8 -5.2
baz=224
CCB Clear Creek Bu 82.89 18 P **P** 03 05 46.8 +0.3
CCB IAmb IAmb 03 05 47.9
comp=Z,6.7nm,1.0s
SIT Sitka 82.95 28 P P 03 05 41.3 -5.7
baz=238
K24K Donnelly Dome 82.95 19 P P 03 05 41.2 -5.7
baz=227
M26K Nabesna, AK 82.98 21 P P 03 05 42.7 -4.4
baz=230,SNR=13
MDM Murphy Dome 82.99 18 P **P** 03 05 47.8 +0.8
MDM IAmb IAmb 03 05 48.2
comp=Z,7.3nm,1.0s
HDA Harding Lake 83.00 19 P P 03 05 42.3 -4.8
baz=226,SNR=21
O28M Mount Upton 83.01 23 P P 03 05 43.3 -4.2
baz=233,SNR=9.5
COLA College 83.04 18 P P 03 05 43.5 -3.8
baz=225
SNCC San Nicolas Is 83.11 54 P P 03 05 42.1 -6.3
baz=252
B18K Kokolik River 83.16 11 P P 03 05 44.0 -3.8
baz=212
D19K Kuna River 83.17 13 IAmb IAmb 03 05 49.7
comp=Z,10nm,0.8s
D19K Kuna River 83.17 13 P P 03 05 44.5 -3.4
baz=215,SNR=5.9
CRAG Craig 83.17 30 P P 03 05 44.2 -3.9
baz=240
F21K Alatna River 83.22 15 P P 03 05 42.5 -5.7
baz=220
H23K Yukon River 83.22 17 P P 03 05 42.1 -6.2
baz=224
L26K Log Cabin Wild 83.25 21 P **P** 03 05 46.4 -2.0
baz=230,SNR=11
ILAR Eielson Array 83.27 18 P **P** 03 05 48.9 +0.5
ILAR Eielson Array 83.27 18 P **P** 03 05 47.5 -1.0
comp=Z,3.0nm,0.9s,baz=228,slow=6.6,SNR=42
comp=Z,3.0nm,0.9s
P29M Windy Craggy 83.32 25 P P 03 05 45.9 -3.0
baz=235
POKR Poker Plat Res 83.34 18 IAmb IAmb 03 05 49.3
comp=Z,5.7nm,0.9s
POKR Poker Plat Res 83.34 18 P P 03 05 44.5 -4.3
baz=226,SNR=6.6
M27K Edge Creek, AK 83.35 22 P P 03 05 45.1 -4.0
baz=231,SNR=14
C19K Lookout Ridge 83.37 12 IAmb IAmb 03 05 51.1
comp=Z,7.9nm,0.8s
C19K Lookout Ridge 83.37 12 P P 03 05 44.1 -4.8
baz=214,SNR=8.2
PKM Mcpherson Peak 83.38 53 P P 03 05 46.7 -3.2
baz=252
E20K Nigu River 83.39 13 P **P** 03 05 46.1 -3.0
baz=217,SNR=12
YUK8 Steele Glacier 83.48 23 P P 03 05 46.2 -3.8
baz=233,SNR=11
U33K Whale Pass 83.50 29 P **P** 03 05 47.3 -2.5
baz=240
YUK3 Moose Creek 83.51 23 P P 03 05 46.8 -3.2
baz=232,SNR=12
S32K Killisnoo 83.52 28 P P 03 05 46.0 -3.9
baz=238
J25K Salcha River, 83.63 19 P **P** 03 05 51.1 +0.7
J25K IAmb IAmb 03 05 51.8
comp=Z,10.0nm,0.9s
J25K Salcha River, 83.63 19 P P 03 05 47.4 -3.0
baz=228,SNR=14
SCRK Sand Creek 83.66 20 P **P** 03 05 51.4 +0.7
baz=229,SNR=20
D20K Etivluk River 83.67 13 P **P** 03 05 48.4 -2.0
baz=217,SNR=11
H24K Noodor Dome 83.71 17 P **P** 03 05 49.6 -1.1
baz=225
G23K Bananza Creek 83.74 16 IAmb IAmb 03 05 54.5
comp=Z,10nm,1.4s
G23K Bananza Creek 83.74 16 P **P** 03 05 52.2 +1.3
baz=223,SNR=9.0
F22K John River 83.77 15 P **P** 03 05 49.4 -1.6
baz=221
PLBC Pleasant Camp 83.80 26 P **P** 03 05 49.2 -2.0
baz=236
SCI2 San Clemente I 83.81 55 P P 03 05 48.4 -3.5
baz=253
L27K Beaver Creek, 83.81 21 IAmb IAmb 03 05 53.3
comp=Z,6.9nm,1.0s
L27K Beaver Creek, 83.81 21 P **P** 03 05 49.7 -1.6
baz=231,SNR=9.9
YUK6 Outpost Mounta 83.83 24 P **P** 03 05 50.3 -1.4
baz=234
BCAR Beaver Creek A 83.83 21 P **P** 03 05 52.8 +1.4
V35K Ketchikan 83.85 31 P **P** 03 05 52.7 +1.1
baz=241
P30M Million Dollar 83.93 25 P **P** 03 05 53.3 +1.3
baz=236
YUK4 Talbot Arm 83.95 23 P P 03 05 48.1 -4.2
baz=234
R32K Eaglecrest 83.97 27 P **P** 03 05 52.5 +0.3
baz=238
A19K Wainwright 84.01 11 P **P** 03 05 50.1 -2.0
baz=212
WRAK Wrangell Islan 84.03 29 P P 03 05 45.8 -6.7
baz=240
E21K Killik River 84.05 14 P P 03 05 48.1 -4.4
baz=219
COLD Coldfoot 84.07 16 P P 03 05 48.2 -4.3
baz=223
HYT Haines Junctio 84.10 24 P P 03 05 47.5 -5.5
baz=235
J26L Joseph Creek 84.14 20 P P 03 05 48.1 -4.9
baz=229
PRP Porcupine Dome 84.20 18 P P 03 05 49.8 -3.6
baz=228
ARVC Arvin 84.22 53 P P 03 05 50.5 -3.5
baz=252
FMP Fort Macarthur 84.22 54 P P 03 05 50.5 -3.5
baz=253
BBB Bella Bella 84.24 34 LR LR 03 42 34.0
comp=Z,50nm,18.1s,baz=232,slow=35
VES Vestal, Richgr 84.24 52 P P 03 05 49.2 -4.8
baz=252
SKAG Skagway 84.25 26 P P 03 05 49.6 -3.9
baz=237
E22K Anaktuvuk Pass 84.33 15 P P 03 05 50.4 -3.5
baz=221
C21K Knifeblade Rid 84.42 13 P **P** 03 05 52.7 -1.6
baz=218,SNR=12
G24K Hadweenzic Riv 84.44 17 P **P** 03 05 51.9 -2.5
baz=226,SNR=7.4
B20K Meade River 84.60 12 P **P** 03 05 56.1 +1.0
B20K IAmb IAmb 03 05 57.3
comp=Z,6.1nm,0.8s
B20K Meade River 84.60 12 P **P** 03 05 52.6 -2.4
baz=216,SNR=6.6
H25L Birch Creek 84.62 18 P **P** 03 05 55.1 -0.1
baz=227
N30M Aishikik Lake 84.63 24 P **P** 03 05 53.8 -1.7
baz=236
O30N Mendenhall 84.65 25 P **P** 03 05 53.5 -2.2
baz=237
M29M Somme Creek 84.67 23 P **P** 03 05 53.1 -2.7
baz=234
D22K Ayikyak River 84.69 14 P **P** 03 05 57.3 +1.7
D22K IAmb IAmb 03 05 58.1
comp=Z,5.8nm,0.9s
D22K Ayikyak River 84.69 14 P **P** 03 05 54.0 -1.6
baz=220
I26K Coal Creek Min 84.80 19 P **P** 03 05 54.2 -2.0
baz=230
EDW2 Edwards Air Fo 84.81 53 P P 03 05 53.9 -3.1
baz=253
B21K Ikpikpuk River 84.83 13 IAmb IAmb 03 05 58.5
comp=Z,8.1nm,0.8s
B21K Ikpikpuk River 84.83 13 P **P** 03 05 54.7 -1.5
baz=219,SNR=12
E23K Chandalar 84.83 15 P **P** 03 05 54.8 -1.7
baz=224
PNTR Pine Nut 84.86 49 P **P** 03 05 58.1 +0.7
G25K Bearman Lake 84.88 17 P **P** 03 05 55.0 -1.5
baz=227
BFSC Mount Baldy Ra 84.88 54 P P 03 05 53.8 -3.7
baz=253
F24K Squaw Lake 84.90 16 P **P** 03 05 58.6 +1.8
F24K Squaw Lake 84.90 16 P P 03 05 52.8 -3.9
baz=225
U35K Hyder 84.92 30 P **P** 03 05 55.8 -1.2
baz=242
109C Camp Elliot, M 84.94 55 P P 03 05 53.6 -4.0
baz=254
MLAC Mammoth, Mammo 84.98 50 P **P** 03 05 55.2 -2.9
baz=252
MAW Mawson 84.99 202 P **P** 03 05 57.1 -0.2
comp=Z,3.0nm,0.8s,baz=98,slow=6.4,SNR=6.1
MAW LR LR 03 39 59.0
comp=Z,42nm,19.2s,baz=88,slow=33
comp=Z,3.0nm,0.8s
P32M Atlin 85.02 26 P P 03 05 54.4 -3.1
baz=239
J05D Fort Rock, OR 85.06 44 P **P** 03 05 58.8 +0.5
J05D IAmb IAmb 03 06 00.5
comp=Z,11nm,1.0s
MURC Murrieta 85.07 55 P P 03 05 54.7 -3.6
baz=254
WHY Whitehorse 85.09 25 P **P** 03 05 55.2 -2.7
baz=238
EGAK Eagle 85.12 20 P **P** 03 05 55.8 -2.0
baz=232,SNR=13
E24K Your Creek 85.14 16 P P 03 05 54.4 -3.5
baz=225
N31M Braeburn, Yuko 85.17 24 P P 03 05 53.7 -4.5
baz=237
L29M L29M 85.18 22 P **P** 03 05 58.7 +0.4
L29M L29M 85.18 22 P **P** 03 05 58.4 +0.2
baz=234,SNR=6.6
CWC Cottonwood Cre 85.20 52 P **P** 03 05 56.8 -2.3
baz=253
LRMC Laurel Mtn Rad 85.22 53 P **P** 03 05 57.8 -1.4
baz=253
D23K Nanushuk River 85.23 14 P **P** 03 05 55.4 -3.0
baz=222
TIN Tinemaha, Big 85.26 51 P **P** 03 05 56.6 -2.7
baz=253
TOLK Toolik Lake Re 85.27 15 P **P** 03 05 56.5 -2.1
baz=224
DAWY Dawson 85.29 21 P **P** 03 05 58.5 -0.3
baz=233,SNR=5.1
T35M Bob Quinn 85.31 29 P **P** 03 05 59.0 0.0
baz=242
S34M Telegraph Cree 85.34 28 P **P** 03 05 58.3 -0.8
baz=241
I27K Kandik River 85.49 19 P **P** 03 06 01.0 +1.2
baz=231,SNR=6.7
MONP2 Monument Peak 85.50 55 P **P** 03 06 00.1 -0.6
baz=254
MPMC Manual Prospec 85.54 52 P **P** 03 05 58.9 -1.9
baz=253
DSP Deep Springs 85.56 51 P **P** 03 06 01.6 +1.0
DSP IAmb IAmb 03 06 03.1
comp=Z,6.6nm,1.0s
F25K Christian Rive 85.58 17 P **P** 03 05 59.8 -0.3
baz=227,SNR=8.5
NVAR Mina Array Bea 85.62 50 P **P** 03 06 01.8 +0.5
NVAR Mina Array Bea 85.62 50 P **P** 03 06 01.1 -0.1
comp=Z,4.2nm,1.0s,baz=233,slow=8.1,SNR=17
NVAR LR LR 03 40 14.6
comp=Z,65nm,18.6s,baz=247,slow=33
comp=Z,4.2nm,1.0s
B22K Teshekpuk Lake 85.65 13 P **P** 03 06 00.9 +0.7
B22K Teshekpuk Lake 85.65 13 P **P** 03 05 58.3 -2.0
baz=220,SNR=6.8

PFO	Pinyon Flats O	85.66	55	P	P	03 05 57.2	-4.2
	baz=254						
PFO	Pinyon Flats O	85.66	55	LR	LR	03 37 26.0	
	comp=Z,64nm,18.9s,baz=200,slow=31						
TPFO	Pinon Flats	85.67	55	P	**P**	**03 05 59.1**	**-2.4**
	baz=254						
G26K	Porcupine Rive	85.68	18	P	**P**	**03 05 58.5**	**-2.0**
	baz=229,SNR=17						
IKP	In-Ko-Pah, Jac	85.68	56	P	P	03 05 58.2	-3.3
	baz=254						
P33M	Teslin, Yukon	85.72	26	P	**P**	**03 06 01.6**	**+0.6**
	baz=240						
NV11	Mina Array Sit	85.73	50	IAmb	IAmb	03 06 03.8	
	comp=Z,7.3nm,1.1s						
BMAR	Burnt Mountain	85.77	17	P	**P**	**03 06 02.6**	**+1.5**
D24K	Happy Valley	85.83	15	P	**P**	**03 06 02.4**	**+1.1**
D24K				IAmb	IAmb	03 06 03.8	
	comp=Z,7.0nm,1.1s						
D24K	Happy Valley	85.83	15	P	**P**	**03 05 58.3**	**-3.0**
	baz=224,SNR=6.7						
K29M	Barlow Dome	85.83	22	IAmb	IAmb	03 06 04.1	
	comp=Z,8.3nm,1.5s						
K29M	Barlow Dome	85.83	22	P	**P**	**03 06 02.3**	**+0.7**
	baz=235						
A22K	Sinclair Lake	85.84	12	P	**P**	**03 05 59.2**	**-2.0**
	baz=218,SNR=5.1						
GSC	Goldstone, Bar	85.86	53	P	**P**	**03 06 00.9**	**-1.4**
	baz=254						
C23K	Itkillik River	85.89	14	P	**P**	**03 06 03.0**	**+1.5**
C23K	Itkillik River	85.89	14	P	**P**	**03 06 00.4**	**-1.1**
	baz=222,SNR=9.5						
H27K	Steamboat Moun	85.91	19	P	**P**	**03 06 01.0**	**-0.8**
	baz=231,SNR=7.7						
I28M	Miner Creek	85.94	20	P	**P**	**03 06 02.4**	**+0.4**
I28M	Miner Creek	85.94	20	P	**P**	**03 06 00.3**	**-1.8**
	baz=233						
E25K	Arctic Village	85.96	16	P	**P**	**03 06 03.2**	**+1.2**
E25K	Arctic Village	85.96	16	P	**P**	**03 06 00.3**	**-1.7**
	baz=227,SNR=9.1						
KVN	Kaiserville	85.96	49	P	**P**	**03 06 03.8**	**+1.0**
KVN				IAmb	IAmb	03 06 04.7	
	comp=Z,7.0nm,1.1s						
SWSC	Sam W. Stewart	86.01	56	P	**P**	**03 06 01.2**	**-1.8**
	baz=254						
TIXI	Tiksi	86.06	349	P	**P**	**03 06 02.3**	**0.0**
TIXI				IAmb	IAmb	03 06 03.7	
	comp=Z,9.8nm,1.5s						
F26K	Sheenjek River	86.07	17	P	**P**	**03 06 00.9**	**-1.7**
	baz=229						
GMN	Gold Mountain	86.08	51	P	**P**	**03 06 03.5**	**-0.1**
N32M	Quiet Lake	86.09	25	P	**P**	**03 06 01.1**	**-1.7**
	baz=239						
HEC	Hector,Ludlow	86.10	54	P	**P**	**03 06 01.2**	**-2.3**
	baz=254						
MZP	Montezuma Peak	86.10	51	P	**P**	**03 06 04.1**	**+0.5**
DLBC	Dease Lake	86.10	28	P	**P**	**03 06 00.7**	**-2.3**
	baz=242						
M31M	Drury Creek, Y	86.11	24	P	**P**	**03 06 01.6**	**-1.2**
	baz=238						
R33M	Jennings River	86.13	27	P	**P**	**03 06 02.6**	**-0.5**
	baz=241						
BELC	Belle Mtn. Jos	86.14	54	P	**P**	**03 06 01.8**	**-1.9**
	baz=254						
FURC	Furnace Creek,	86.14	52	P	**P**	**03 06 02.3**	**-1.2**
	baz=254						
G27K	Doyon Strip	86.23	18	P	**P**	**03 06 04.8**	**+1.4**
G27K	Doyon Strip	86.23	18	P	**P**	**03 06 01.7**	**-1.7**
	baz=231,SNR=6.0						
C24K	Franklin Bluff	86.27	14	P	**P**	**03 06 01.8**	**-1.6**
	baz=224						
MAYO	Mayo, Yukon	86.29	22	P	**P**	**03 06 02.0**	**-1.7**
	baz=237						
WCT	Wildcat Mounta	86.42	52	P	**P**	**03 06 05.7**	**+0.7**
WCT				IAmb	IAmb	03 06 07.0	
	comp=Z,7.6nm,1.4s						
I29M	Ogilvie Camp,	86.44	20	IAmb	IAmb	03 06 06.0	
	comp=Z,9.1nm,0.9s						
I29M	Ogilvie Camp,	86.44	20	P	**P**	**03 06 05.9**	**+1.5**
	baz=234						
SHOC	Shoshone, Teco	86.44	53	P	**P**	**03 06 03.3**	**-1.8**
	baz=254						
BC3	Big Chuckawall	86.48	55	P	**P**	**03 06 04.0**	**-1.5**
	baz=254						
I07A	Izee	86.51	44	P	**P**	**03 06 04.8**	**-0.5**
I07A				IAmb	IAmb	03 06 07.5	
	comp=Z,5.3nm,1.0s						
FARO	Faro, Yukon	86.54	24	P	**P**	**03 06 02.8**	**-2.2**
	baz=239						
D25K	Kavik River	86.57	15	P	**P**	**03 06 05.6**	**+0.6**
D25K	Kavik River	86.57	15	P	**P**	**03 06 02.3**	**-2.6**
	baz=226,SNR=8.2						
TUQ	Turquoise Moun	86.59	53	P	**P**	**03 06 04.5**	**-1.5**
	baz=254						
WVOR	Wild Horse Val	86.60	46	P	**P**	**03 06 06.7**	**+0.9**
WVOR				IAmb	IAmb	03 06 08.0	
	comp=Z,7.1nm,1.2s						
GMRC	Granite Mounta	86.62	54	P	P	03 06 03.3	-2.9
	baz=254						
J30M	Hart River	86.67	21	P	**P**	**03 06 03.8**	**-1.8**
	baz=236						
GLA	Glamis	86.83	56	P	**P**	**03 06 07.3**	**+0.2**
GLA				IAmb	IAmb	03 06 09.2	
	comp=Z,9.5nm,1.1s						
GLA	Glamis	86.83	56	P	P	03 06 03.8	-3.2
	baz=255						
IRM	Iron Mountain	86.86	55	P	**P**	**03 06 04.4**	**-2.8**
	baz=255						
H29M	Whitestone	86.92	20	P	**P**	**03 06 04.1**	**-2.6**
	baz=234						
J08A	Circle Bar Ran	87.00	45	P	**P**	**03 06 08.4**	**+0.7**
J08A				IAmb	IAmb	03 06 09.6	
	comp=Z,5.8nm,1.0s						
I30M	Mount Dempster	87.02	21	IAmb	IAmb	03 06 08.9	
	comp=Z,5.3nm,1.0s						
I30M	Mount Dempster	87.02	21	P	P	03 06 04.1	-3.2
	baz=236,SNR=5.6						
E27K	Coleen River	87.12	17	P	**P**	**03 06 08.5**	**+0.8**
E27K				IAmb	IAmb	03 06 10.3	
	comp=Z,8.6nm,1.0s						
E27K	Coleen River	87.12	17	P	**P**	**03 06 06.4**	**-1.3**
	baz=231,SNR=11						
F28M	Old Crow	87.28	18	P	**P**	**03 06 09.9**	**+1.5**
F28M	Old Crow	87.28	18	P	**P**	**03 06 08.1**	**-0.3**
	baz=233						
C26K	Camden Bay	87.35	15	P	**P**	**03 06 07.9**	**-0.7**
	baz=228,SNR=16						
G29M	Pine Creek	87.44	19	P	**P**	**03 06 09.4**	**+0.2**
G29M				IAmb	IAmb	03 06 11.8	
	comp=Z,11nm,1.1s						
G29M	Pine Creek	87.44	19	P	**P**	**03 06 07.9**	**-1.3**
	baz=234						
C27K	Jago River	87.47	16	P	**P**	**03 06 07.6**	**-1.7**
	baz=229,SNR=6.7						
SHPR	Sheep Range	87.47	52	P	**P**	**03 06 10.5**	**+0.3**
V12A	Nelson	87.51	53	P	**P**	**03 06 11.0**	**+0.7**
EPYK	Eagle Plains	87.55	20	P	**P**	**03 06 10.6**	**+0.8**
EPYK				IAmb	IAmb	03 06 11.3	
	comp=Z,7.5nm,1.1s						
EPYK	Eagle Plains	87.55	20	P	**P**	**03 06 10.1**	**+0.4**
	baz=236						
MMPY	Sheldon Lake,	87.58	24	P	**P**	**03 06 08.6**	**-1.4**
	baz=241						
R11B	Troy Canyon, C	87.64	50	P	**P**	**03 06 11.8**	**+0.7**
R11B	Troy Canyon, C	87.64	50	P	**P**	**03 06 12.0**	**+0.9**
	baz=254						
PDMCI	Parker Dam,Lak	87.70	55	P	**P**	**03 06 08.9**	**-2.3**
	baz=255						
PRN	Pahroc Range	87.80	51	P	**P**	**03 06 12.3**	**+0.6**
PRN				IAmb	IAmb	03 06 14.2	
	comp=Z,13nm,1.3s						
D27M	Malcolm River	87.97	17	P	**P**	**03 06 11.9**	**+0.2**
D27M				IAmb	IAmb	03 06 20.5	
	comp=Z,5.0nm,0.8s						
D27M	Malcolm River	87.97	17	P	**P**	**03 06 10.8**	**-0.9**
	baz=232						
E28M	Babbage River	87.98	17	P	**P**	**03 06 12.4**	**+0.7**
E28M	Babbage River	87.98	17	P	**P**	**03 06 10.0**	**-1.7**
	baz=233,SNR=5.7						
H31M	Peel River	88.05	21	P	**P**	**03 06 13.7**	**+1.6**
	baz=238						
G30M	tAoh Zraii Nji	88.06	19	IAmb	IAmb	03 06 14.0	
	comp=Z,8.5nm,1.1s						
G30M	tAoh Zraii Nji	88.06	19	P	**P**	**03 06 12.8**	**+0.6**
	baz=236,SNR=6.5						
W13A	Hualapai Mount	88.11	54	P	**P**	**03 06 14.0**	**+0.6**
W13A				IAmb	IAmb	03 06 15.7	
	comp=Z,6.4nm,1.3s						
214A	Organ Pipe Nat	88.20	57	P	**P**	**03 06 14.6**	**+0.9**
214A				IAmb	IAmb	03 06 16.5	
	comp=Z,7.4nm,0.9s						
214A	Organ Pipe Nat	88.20	57	P	**P**	**03 06 12.6**	**-1.0**
	baz=256						
BMO	Blue Mountains	88.25	44	P	**P**	**03 06 13.9**	**+0.2**
E29M	Blow River	88.34	18	P	**P**	**03 06 11.7**	**-1.7**
	baz=234						
Q12A	Willow Creek R	88.40	50	P	**P**	**03 06 15.3**	**+0.7**
ELK	Elko	88.55	48	P	**P**	**03 06 15.9**	**+0.5**
F30M	Barrier River	88.55	19	P	**P**	**03 06 13.2**	**-1.3**
	baz=236						
D28M	Stokes Point	88.65	17	P	**P**	**03 06 12.2**	**-2.6**
	baz=234						
G31M	Satah River	88.67	20	P	**P**	**03 06 12.8**	**-2.2**
	baz=238						
SPR3	Spring Creek 3	88.76	50	P	**P**	**03 06 17.3**	**+0.8**
SPR3				IAmb	IAmb	03 06 18.5	
	comp=Z,7.2nm,1.1s						
MFID	Camas Ranch	88.86	45	P	**P**	**03 06 17.0**	**+0.5**
PSUT	Pine Spring	89.00	51	P	**P**	**03 06 18.4**	**+0.9**
PSUT				IAmb	IAmb	03 06 19.6	
	comp=Z,3.8nm,1.0s						
LCMT	Little Creek M	89.09	52	P	**P**	**03 06 18.8**	**+1.0**
LCMT				IAmb	IAmb	03 06 20.2	
	comp=Z,6.3nm,1.0s						
F31M	Tsiigehtchic	89.12	20	P	**P**	**03 06 17.1**	**0.0**
	baz=238						
CCUT	Cedar City	89.13	52	P	**P**	**03 06 18.8**	**+0.7**
CCUT				IAmb	IAmb	03 06 20.8	
	comp=Z,5.4nm,1.0s						
PLID	Pearl Lake	89.20	44	P	**P**	**03 06 18.6**	**+0.3**
SZCU	Shurtz Canyon	89.35	52	P	**P**	**03 06 20.1**	**+1.0**
KNB	Kanab	89.42	52	P	**P**	**03 06 20.6**	**+1.2**
KNB				IAmb	IAmb	03 06 22.1	
	comp=Z,9.6nm,1.2s						
INK	Inuvik	89.65	19	IAmb	IAmb	03 06 20.0	
	comp=Z,5.7nm,1.4s						
INK	Inuvik	89.65	19	P	**P**	**03 06 16.9**	**-2.6**
	baz=239						
U15A	North Rim	89.69	53	P	**P**	**03 06 22.4**	**+1.6**
HLID	Hailey	89.89	46	P	**P**	**03 06 22.1**	**+0.7**
HLID	Hailey	89.89	46	P	**P**	**03 06 19.1**	**-2.4**
	baz=255						
X16A	Lo Mia Camp, P	89.90	55	P	**P**	**03 06 22.8**	**+1.1**
X16A				IAmb	IAmb	03 06 24.4	
	comp=Z,4.6nm,0.9s						
PKCU	Pink Cliffs	89.92	52	P	**P**	**03 06 22.5**	**+0.5**
TUC	Tucson	89.96	57	P	**P**	**03 06 19.9**	**-2.0**
	baz=257						
TCRU	Three Creeks R	90.09	51	P	**P**	**03 06 23.7**	**+1.1**
MTPU	Mount Pierson	90.16	51	P	**P**	**03 06 24.0**	**+0.9**
MTPU				IAmb	IAmb	03 06 26.1	
	comp=Z,6.3nm,0.9s						
DUG	Dugway, Tooele	90.20	49	P	P	03 06 20.1	-2.9
	baz=256						
WUAZ	Wupatki	90.20	54	P	**P**	**03 06 23.3**	**+0.2**
WUAZ				IAmb	IAmb	03 06 25.6	
	comp=Z,7.2nm,1.1s						
WUAZ	Wupatki	90.20	54	P	**P**	**03 06 24.1**	**+1.0**
	baz=257						
MVU	Marysvale	90.24	51	P	**P**	**03 06 24.1**	**+0.8**
MSU	Marysvale	90.27	51	P	**P**	**03 06 24.7**	**+1.3**
HVU	Hansel Valley	90.61	48	P	**P**	**03 06 24.7**	**-0.2**
NLU	North Lily Min	90.69	50	P	**P**	**03 06 26.0**	**+0.7**
NLU				IAmb	IAmb	03 06 27.6	
	comp=Z,5.8nm,1.0s						
BRLDA	Berland Lookou	90.93	35	P	**P**	**03 06 26.4**	**+0.4**
WRGLY	Wrigley	91.06	25	P	**P**	**03 06 23.4**	**-2.7**
	baz=248						
TMUT	Trail Mountain	91.19	50	P	**P**	**03 06 28.6**	**+0.8**
TMUT				IAmb	IAmb	03 06 31.6	
	comp=Z,3.7nm,1.0s						
BPMT	Black Pine Rid	91.28	43	P	**P**	**03 06 27.3**	**-0.7**
JLU	Jordanelle	91.30	49	P	**P**	**03 06 28.0**	**-0.2**
JLU				IAmb	IAmb	03 06 30.3	
	comp=Z,6.4nm,1.1s						
W18A	Petrified Fore	91.42	55	P	P	03 06 24.8	-4.0
	baz=258						
HWUT	Hardware Ranch	91.45	48	P	**P**	**03 06 28.9**	**+0.1**
HWUT				IAmb	IAmb	03 06 30.4	
	comp=Z,2.9nm,1.0s						
BSUT	Blindstream Ca	91.80	49	P	**P**	**03 06 31.5**	**+0.8**
BSUT				IAmb	IAmb	03 06 33.2	
	comp=Z,3.4nm,1.0s						
BOZ	Bozeman (W)	92.31	44	IAmb	IAmb	03 06 34.7	
	comp=Z,3.2nm,1.1s						
BOZ	Bozeman (W)	92.31	44	P	P	03 06 29.3	-3.3
	baz=257						
121A	Cookes Peak, D	92.49	58	P	**P**	**03 06 31.6**	**-2.2**
	baz=259						
H17A	Grant Village	92.78	45	P	**P**	**03 06 35.4**	**+0.4**
H17A				IAmb	IAmb	03 06 38.4	
	comp=Z,2.3nm,0.8s						
H17A	Grant Village	92.78	45	P	P	03 06 31.0	-4.0
	baz=256						
MVCO	Mesa Verde	92.83	53	P	P	03 06 31.8	-3.6
	baz=259						
BW06	Boulder Array	93.16	47	P	P	03 06 31.8	-4.9
	baz=258						
PDAR	Pinedale Array	93.16	47	P	**P**	**03 06 35.2**	**-1.5**
	comp=Z,1.0nm,0.9s,baz=228,slow=1.8,SNR=6.9						
	comp=Z,1.0nm,0.9s						
C36M	Paulatuk	93.18	19	P	P	03 06 32.2	-3.7
	baz=247						
O20A	White River Ci	93.60	50	P	P	03 06 35.7	-3.1
	baz=259						
ZAA0	Zalesovo Array	93.71	324	IAmb	IAmb	03 06 39.1	
	comp=Z,3.8nm,0.9s						
ZALV	Zalesovo Beam	93.71	324	P	**P**	**03 06 37.8**	**-0.8**
ZALV	Zalesovo Beam	93.71	324	P	**P**	**03 06 37.0**	**-1.6**
	comp=Z,2.9nm,0.8s,baz=104,slow=5.0,SNR=9.6						
	comp=Z,2.9nm,0.8s						
MK31	Makanchi Array	93.73	317	P	**P**	**03 06 38.9**	**-0.1**
MKAR	Makanchi Array	93.73	317	P	**P**	**03 06 38.6**	**-0.4**
MKAR	Makanchi Array	93.73	317	P	**P**	**03 06 38.0**	**-1.0**
	comp=Z,5.6nm,0.8s,baz=97,slow=6.4,SNR=41						
	comp=Z,5.6nm,0.8s						
RLMT	Red Lodge	93.84	45	P	**P**	**03 06 38.6**	**-1.2**
	baz=258						
A36M	Sachs Harbour	93.86	17	P	**P**	**03 06 38.6**	**-0.3**
A36M	Sachs Harbour	93.86	17	P	**P**	**03 06 36.6**	**-2.3**
	baz=246						
MAKZ	Manchi	93.94	317	P	**P**	**03 06 39.9**	**0.0**
ANMO	Albuquerque	94.03	55	P	**P**	**03 06 39.5**	**-1.3**
	baz=260						
EGMT	Eagleton	94.09	42	P	**P**	**03 06 40.8**	**+0.1**
EGMT	Eagleton	94.09	42	P	**P**	**03 06 38.8**	**-1.9**
	baz=258						
MNTX	Cornudas Mount	94.34	59	P	P	03 06 38.6	-3.5
	baz=260						
YKA	Yellowknife Ar	94.67	27	P	**P**	**03 06 41.2**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=262,slow=4.4,SNR=7.9						
	comp=Z,0.6nm,0.7s						
SDCO	Great Sand Dun	95.27	53	P	P	03 06 43.3	-3.3
	baz=260						
TXAR	Lajitas Array	95.39	61	P	**P**	**03 06 47.5**	**+0.3**
	comp=Z,0.3nm,0.8s,baz=236,slow=5.9,SNR=4.0						
	comp=Z,0.3nm,0.8s						
ISCO	Idaho Springs	95.53	51	P	**P**	**03 06 45.8**	**-1.9**
	baz=260						
Q24A	Divide	95.75	52	P	**P**	**03 06 46.8**	**-1.9**
	baz=261						
T25A	Trinidad	96.03	53	P	P	03 06 47.2	-2.8
	baz=261						
KURBB	Kurchatov Arra	96.87	320	P	**P**	**03 06 52.3**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=27,slow=0.6,SNR=2.4						
	comp=Z,0.3nm,0.5s						
RSSD	Black Hills	97.35	47	P	**P**	**03 06 53.5**	**-2.3**
	baz=262						
ABTX	Abilene, Hawle	99.29	59	P	**Pdif**	**03 07 04.5**	**0.0**
	baz=263						
BVAR	Borovoye Array	102.12	322	Pdiff	**Pdif**	**03 07 15.4**	**-1.2**
	comp=Z,0.5nm,0.6s,baz=48,slow=8.7,SNR=2.2						
ARCES	ARCESS Array B	116.33	346	PKP	**PKPdf**	**03 12 04.0**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=74,slow=1.8,SNR=21						
FINES	FINESS Array B	121.82	339	PKP	**PKPdf**	**03 12 14.9**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=98,slow=1.9,SNR=10						
NOA	NORSAR Array B	126.70	345	PKP	**PKPdf**	**03 12 24.2**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=32,slow=1.9,SNR=3.9						
BRTR	Keskin Array B	129.20	313	PKP	**PKPdf**	**03 12 28.3**	**-2.1**
	comp=Z,0.5nm,0.8s,baz=69,slow=7.0,SNR=4.7						
KEST	Kesra	147.58	323	PKPbc	**PKPdf**	**03 13 06.8**	**+3.0**
	comp=Z,8.9nm,1.0s,baz=315,slow=2.1,SNR=12						
ESDC	Sonseca Array	150.06	345	PKPbc	**PKPbc**	**03 13 12.3**	**-0.5**
	comp=Z,1.8nm,0.9s,baz=35,slow=1.5,SNR=8.4						

IDC 13 03:07:33.0±2.0, 6.05S×130.23E, h0km, mb3.9/2, mbtmp3.8/4, ML3.7/2, MS2.9/1, Error ellipse: s-maj=141.9km s-min=28.7km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	Davao City (W)	13.83	340	LR	LR	03 16 54.3	
	comp=Z,52nm,18.7s,baz=160,slow=41						
WRA	Warramunga Arr	14.38	164	Pn	Pn	03 10 57.2	-0.7
	0.3nm,0.3s,baz=347,slow=13,SNR=11						
WRA				Sn	Sn	03 13 27.4	-11
	1.0nm,0.3s,baz=353,slow=23,SNR=9.8						
	0.7nm,0.4s						
ASAR	Alice Springs	17.87	169	P	P	03 11 43.6	-0.4
	0.4nm,0.3s,baz=351,slow=11,SNR=19						
	1.4nm,0.7s						
MKAR	Makanchi Array	67.56	327	P	P	03 18 31.7	+0.4
	1.7nm,0.6s,baz=124,slow=7.9,SNR=21						
	1.7nm,0.6s						
KURBB	Kurchatov Arra	71.83	328	P	P	03 18 57.0	-0.5
	0.4nm,0.6s,baz=113,slow=4.8,SNR=5.1						
	0.4nm,0.6s						

KRNET 13 03:22:16.8±0.1, 39.45N×71.83E, h16km, mb3.1
NNC 13 03:22:22.9±3.1, 39.57N×71.77E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=22.5km s-min=11.9km az=7.0
SOME 13 03:22:23.9, 39.65N×71.90E, h10km
ISC 13 03:22:17.6±1.7, 39.41N±0.08×71.89E±0.03, h10km, n27, σ1§87/50, 28C-15D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DRK	Karamyk	0.10	315	⇑*i*P	Pg	03 22 18.5	-2.1
DRK	baz=34			⇑*i*S	Sg	03 22 19.4	-3.3
BTK	Batken	1.05	308	⇑*i*P	Pg	03 22 35.6	-2.3
BTK	baz=8.0			⇑*i*S	Sg	03 22 49.2	-2.5
OHH	Osh	1.31	31	⇑*i*P	Pn	03 22 41.2	-0.9
OHH	baz=34			⇑*i*S	Sn	03 22 59.1	-0.6
SFK	Sufi-Kurgan	1.38	63	⇑*i*P	Pn	03 22 43.0	-0.2
SFK	baz=66			⇑*i*S	Sg	03 23 02.3	+0.2
ARSB	Arslanbob	2.09	23	⇓*i*P	Pb	03 22 54.0	-1.7
ARSB	baz=25			⇓*i*S	Sb	03 23 21.2	-0.6
TRKS	Terek-Say	2.20	345	⇑*e*P	Pn	03 22 54.3	-0.1
TRKS	baz=46			⇑*i*S	Sn	03 23 21.6	-0.1
ARK	Arkit	2.39	1	⇓*e*P	Pn	03 22 58.4	+1.4
ARK	baz=3.0			⇓*e*S	Sb	03 23 29.1	-1.3
ARLS	Aral	3.07	36	⇓*i*P	Pn	03 23 08.0	+1.6
ARLS	baz=38			⇓*i*S	Sn	03 23 45.2	+2.0
IUG	Iuzhnay	3.08	333	Pg	Pg	03 23 16.7	0.0
IUG	15nm,0.4s			Lg	Lg	03 23 54.9	
IUG	Iuzhnay	3.08	333	*e*P	Pg	03 23 16.7	0.0
IUG	15nm,0.4s			*e*S	Sg	03 23 54.9	-1.7
MNAS	Manas	3.11	8	⇓*i*P	Pn	03 23 08.2	+1.3
MNAS	baz=9.0			⇓*i*S	Sn	03 23 45.8	+1.6
UCH	Uchtor	3.45	34	⇑*i*P	Pn	03 23 13.5	+1.7
UCH	baz=35			⇑*i*S	Sn	03 23 54.7	+1.7
MRKS	Merke	3.48	16	*e*P	Pg	03 23 23.5	-0.9
MRKS	2.0nm,0.1s			*e*S	Sg	03 24 06.2	-3.3
EKS2	Erkin-Say	3.55	23	⇑*i*P	Pn	03 23 14.4	+1.5
EKS2	baz=24			⇑*i*S	Sn	03 23 56.5	+1.5
NRN	Naryn	3.73	56	⇑*e*P	Pn	03 23 17.5	+1.9
NRN	baz=57			⇑*e*S	Sn	03 24 01.7	+1.9
AAK	Ala-Archa	3.78	31	⇓Pg	Pg	03 23 27.5	-2.5
AAK	3.2nm,0.4s			⇑Lg	Lg	03 24 19.4	
AAK	Ala-Archa	3.78	31	⇓*i*P	Pn	03 23 17.7	+1.6
AAK	baz=31			⇓*i*S	Sn	03 24 02.3	+1.6
KK31	Karatay Array	3.84	345	⇑Pn	Pn	03 23 20.5	+3.7
KK31	0.8nm,0.3s,baz=164,slow=12,SNR=23			⇑Pg	Pg	03 23 32.2	+1.0
KK31	2.1nm,0.4s,baz=156,slow=18,SNR=15			⇑Sn	Sn	03 24 04.8	+2.8
KK31	1.1nm,0.3s,baz=129,slow=13,SNR=4.6			⇓Lg	Lg	03 24 17.3	
KKAR	3.8nm,0.4s,baz=149,slow=28,SNR=6.7	3.84	345	⇑*i*P	Pn	03 23 17.8	+1.0
KKAR	Karatay Array						
KKAR	baz=45			⇑*i*S	Sn	03 24 02.5	+0.6
BRLS	Borolday	3.94	337	Pg	Pb	03 23 29.2	+2.1
BRLS	2.9nm,0.3s			Lg	Lg	03 24 16.2	
BRLS	Borolday	3.94	337	*e*P	Pb	03 23 29.2	+2.1
BRLS	2.9nm,0.3s			*e*S	Sb	03 24 16.2	+1.3
KBK	Karagaybulak	3.98	34	⇓*i*P	Pn	03 23 20.6	+1.7
KBK	baz=35			⇓*i*S	Sn	03 24 07.1	+1.3
CHMS	Chumysh	4.18	30	⇑Pn	Pn	03 23 26.1	+4.5
CHMS	2.3nm,0.3s			⇓Sn	Sb	03 24 18.8	-3.2
CHMS	7.4nm,0.9s			⇑Lg	Lg	03 24 33.3	
USP	Ospenovka	4.33	26	⇑*i*P	Pn	03 23 25.0	+1.5
USP	baz=27			⇑*i*S	Sn	03 24 15.2	+1.2
TKM2	Tokmak 2	4.49	37	⇑Pg	Pg	03 23 43.7	+0.1
TKM2	2.2nm,0.7s			⇑Lg	Lg	03 24 45.2	
DGS	3.3nm,0.7s Degeres	4.82	36	Pg	Pg	03 23 49.2	-0.6
DGS	3.7nm,0.6s			Lg	Lg	03 24 50.8	
DGS	4.8nm,0.5s Degeres	4.82	36	*e*P	Pg	03 23 49.2	-0.6
DGS	3.7nm,0.6s			*e*S	Sg	03 24 50.8	-1.5
	4.8nm,0.5s						

NEIC 13 03:39:26.7±0.7, 19.375N±0.010×155.243W±0.009, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.8km az=54.0
HVO 13 03:39:26±0.8, 19.36N±0.01×155.24W±0.01, h1km±7km, ML2.8/4, ML2.6/40(NEIC), Error ellipse: s-maj=2.2km s-min=0.9km az=147.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	Pauahi	0.03

RIM				Pg	Pg	03 39 27.7	+0.6
RIM				IAML		03 39 28.7	
	comp=N,10μm,0.9s						
RIM				Sg	Sg	03 39 29.1	+1.2
BYL	**Byron's Ledge**	**0.06**	**339**	IAML		03 39 27.6	
	comp=E,7μm,0.9s						
BYL				IAML		03 39 27.6	
	comp=N,7μm,0.8s						
BYL				Pg	Pg	03 39 28.4	+1.2
BYL				Sg	Sg	03 39 29.1	+1.1
SDHHI	**Sand Hill**	**0.06**	**302**	IAML		03 39 27.4	
	comp=N,8μm,0.6s						
SDHHI				Pg	Pg	03 39 27.9	+0.6
SDHHI				Sg	Sg	03 39 29.5	+1.4
KNHH	**Kane Nui o Ham**	**0.07**	**70**		Pg	03 39 28.2	+0.8
HATHI	**Halema'uma'u T**	**0.07**	**341**	Pg	Pg	03 39 27.7	+0.2
OBL	**Observatory Le**	**0.07**	**324**	Pg	Pg	03 39 28.2	+0.7
SBLHI	**Steaming Bluff**	**0.08**	**338**	Pg	Pg	03 39 27.5	0.0
SBLHI				IAML		03 39 27.9	
	comp=E,6μm,0.9s						
SBLHI				IAML		03 39 28.6	
	comp=N,6μm,0.5s						
UWB	**Uwekahuna B**	**0.08**	**331**	Pg	Pg	03 39 28.2	+0.6
UWB				IAML		03 39 28.7	
	comp=N,3μm,0.9s						
WRMHI	**West Rim**	**0.08**	**310**	Pg	Pg	03 39 28.4	+0.8
HLP	**Hilina Pali**	**0.09**	**228**	IAML		03 39 28.6	
	comp=E,3μm,1.2s						
HLP				Pg	Pg	03 39 28.6	+0.9
HLP				Sg	Sg	03 39 30.6	+1.6
STCH	**Steam Cracks**	**0.11**	**75**	Pg	Pg	03 39 28.8	+0.7
STCH				Sg	Sg	03 39 31.3	+1.7
NPOC	**North of Pu'u**	**0.13**	**73**	Pg	Pg	03 39 28.8	+0.3
NPOC				Sg	Sg	03 39 31.6	+1.5
JCUZ	**Jacuzzi**	**0.13**	**78**	Pg	Pg	03 39 29.0	+0.5
HTC	**Hot Caves**	**0.19**	**232**		Pg	03 39 30.6	+0.9
MLH	**Mauna Loa**	**0.20**	**314**	Pg	Pg	03 39 30.4	+0.6
MLH				IAML		03 39 31.2	
	comp=E,993nm,1.1s						
HMH	**Humu'ula Sheep**	**0.34**	**317**	Pg	Pg	03 39 33.1	+0.6
HMH				IAML		03 39 34.7	
	comp=N,673nm,1.3s						
HMH				IAML		03 39 35.8	
	comp=E,640nm,1.4s						
MWH	**Moku'aweowe**	**0.36**	**291**	Pg	Pg	03 39 33.7	+0.6
MWH				IAML		03 39 40.7	
	comp=N,1μm,1.1s						
MLOA	**Mauna Loa Obse**	**0.37**	**299**	Pg	Pg	03 39 33.3	+0.2
MLOA				IAML		03 39 35.5	
	comp=E,815nm,1.1s						
MLOA				IAML		03 39 44.6	
	comp=N,625nm,0.9s						
KHU	**Kahuku**	**0.37**	**253**	Pg	Pg	03 39 33.8	+0.6
KHU				IAML		03 39 43.3	
	comp=N,859nm,1.4s						
ALEP	**Alea Permanent**	**0.43**	**296**		Pg	03 39 34.5	+0.3
POHA	**Pohakuloa**	**0.49**	**325**	Pg	Pg	03 39 35.7	+0.3
POHA				IAML		03 39 38.5	
	comp=N,367nm,1.3s						
POHA				IAML		03 39 51.0	
	comp=N,570nm,1.1s						
HUH	**Hualalai**	**0.65**	**300**	Pg	Pg	03 39 39.2	+0.7

IDC ***13*** *03:40:50.3±5.7,21.˝35S×68.˚08W,h140km±45km,mb2.5/1, mbtmp3.4/3,Error ellipse: s-maj=90.2km s-min=24.0km az=58.0*
SJA ***13*** *03:40:52.9±0.7,20.˝91S×67.˝58W,h201km±7km,ML3.7, MW3.5*
GUC ***13*** *03:40:55.6±0.8,20.˝97S×67.˝74W,h198km±7km,ML3.9*
SCB ***13*** *03:40:56.7±1.2,20.˝98S×67.˝58W,h154km±14km,ML3.8/3, MW4.1,Error ellipse: s-maj=5.8km s-min=3.5km az=0.0*

ISC 13 03:40:54.9±0.9,21.00S±0.˚03×67.˚64W±0.˚04,h187km±8km, n53,σ1§15/86,7C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.66**	**301**	*eP*	**Pn**	**03 41 29.9**	**+0.4**
PB08	**IPOC Station P**	**1.66**	**301**	⇑*iP*	**Pn**	**03 41 29.8**	**+0.4**
PB08				*i* S	**Sn**	**03 41 56.0**	**-0.1**
PB08	**IPOC Station P**	**1.66**	**301**	Pg	**Pn**	**03 41 30.1**	**+0.7**
PB09	**IPOC Station P**	**1.69**	**242**	*eP*	**Pn**	**03 41 30.5**	**+1.0**
PB09				*eS*	**Sn**	**03 41 57.6**	**+1.3**
PB09	**IPOC Station P**	**1.69**	**242**	*eP*	**Pn**	**03 41 30.3**	**+0.8**
PB09				*i* S	**Sn**	**03 41 57.1**	**+0.8**
PB09	**IPOC Station P**	**1.69**	**242**	Pg	**Pn**	**03 41 30.7**	**+1.2**
PB01	**IPOC Station P**	**1.73**	**268**	*eP*	**Pn**	**03 41 29.6**	**-0.2**
PB01				IAML		03 41 58.6	
	comp=Z,347nm,0.1s						
PB01	**IPOC Station P**	**1.73**	**268**	⇑*iP*	**Pn**	**03 41 29.6**	**-0.2**
PB01				*i* S	**Sn**	**03 41 56.0**	**-0.8**
PB01				IAML		03 41 58.8	
	comp=N,378nm,0.2s						
PB01	**IPOC Station P**	**1.73**	**268**	Pg	**Pn**	**03 41 30.0**	**+0.2**
PB01				Sg	**Sn**	**03 41 56.2**	**-0.6**
PB01				IAML		03 41 58.9	
	comp=N,304nm,0.2s						
MOCB	**Mochara**	**1.89**	**98**	Pg	**Pn**	**03 41 31.3**	**-0.5**
MOCB				Sg	**Sn**	**03 41 57.2**	**-3.1**
MOCB				IAML		03 41 58.2	
	comp=N,393nm,0.4s						
GO01	**Chusmiza**	**1.97**	**312**	*eP*	**Pn**	**03 41 33.0**	**+0.3**
GO01	**Chusmiza**	**1.97**	**312**	⇑*iP*	**Pn**	**03 41 32.8**	**0.0**
GO01				*i* S	**Sn**	**03 42 05.3**	**+3.3**
GO01				IAML		03 42 11.2	
	comp=N,437nm,0.1s						
GO01	**Chusmiza**	**1.97**	**312**	Pg	**Pn**	**03 41 33.0**	**+0.3**
LVC	**Limon Verde**	**1.99**	**216**	*eP*	**Pn**	**03 41 33.5**	**+0.7**
LVC				*eS*	**Sn**	**03 42 02.9**	**+0.7**
PB02	**IPOC Station P**	**2.13**	**261**	*eP*	**Pn**	**03 41 34.2**	**+0.2**
PB02				IAML		03 42 08.5	
	comp=Z,662nm,0.3s						
PB02	**IPOC Station P**	**2.13**	**261**	⇑*iP*	**Pn**	**03 41 33.9**	**-0.1**
PB02				*i* S	**Sn**	**03 42 03.4**	**-1.0**
PB02				IAML		03 42 04.3	
	comp=N,924nm,0.5s						
PB02	**IPOC Station P**	**2.13**	**261**	Pg	**Pn**	**03 41 34.7**	**+0.7**
PB02				Sg	**Sn**	**03 42 03.7**	**-0.6**
PB02				IAML		03 42 04.2	
	comp=N,793nm,0.5s						
PB07	**IPOC Station P**	**2.22**	**251**	*eP*	**Pn**	**03 41 35.2**	**+0.2**
PB07				*eS*	**Sn**	**03 42 05.8**	**-0.4**
PB07				IAML		03 42 06.9	
	comp=Z,200nm,0.3s						
PB07	**IPOC Station P**	**2.22**	**251**	*eP*	**Pn**	**03 41 35.1**	**+0.1**
PB07				*i* S	**Sn**	**03 42 05.1**	**-1.1**
PB07				IAML		03 42 06.1	
	comp=N,222nm,0.3s						
HMBC	**Humberstone**	**2.23**	**288**	*eP*	**Pn**	**03 41 34.6**	**-0.5**
HMBC				*eS*	**Sn**	**03 42 05.7**	**-0.5**
HMBC				IAML		03 42 07.6	
	comp=Z,343nm,0.3s						
HMBC	**Humberstone**	**2.23**	**288**	⇑*eP*	**Pn**	**03 41 34.5**	**-0.5**
HMBC				*eS*	**Sn**	**03 42 04.5**	**-1.8**
HMBC				IAML		03 42 07.1	
	comp=N,529nm,0.4s						
PB11	**IPOC Station P**	**2.26**	**303**	*eP*	**Pn**	**03 41 35.2**	**-0.3**
PB11				IAML		03 42 09.3	
	comp=Z,239nm,0.2s						
PB11	**IPOC Station P**	**2.26**	**303**	⇑*iP*	**Pn**	**03 41 35.2**	**-0.3**
PB11				*eS*	**Sn**	**03 42 05.4**	**-1.6**
PB11				IAML		03 42 08.9	
	comp=N,758nm,0.2s						
PB11	**IPOC Station P**	**2.26**	**303**	Pg	**Pn**	**03 41 35.6**	**+0.1**
YJA	**Yavi**	**2.30**	**121**	*eP*	**Pn**	**03 41 36.1**	**-0.1**
YJA				*eS*	Sn	03 41 58.1	-10
PATCX	**Punta Patache**	**2.36**	**274**	*eP*	**Pn**	**03 41 35.8**	**-0.7**
PATCX				*eS*	**Sn**	**03 42 08.4**	**-0.4**
PATCX				IAML		03 42 11.4	
	comp=Z,182nm,0.4s						
PATCX	**Punta Patache**	**2.36**	**274**	*i* P	**Pn**	**03 41 35.9**	**-0.6**
PATCX				*eS*	**Sn**	**03 42 06.7**	**-2.1**
PATCX				IAML		03 42 10.3	
	comp=E,568nm,0.3s						
TA01	**Diego Aracena**	**2.42**	**280**	*eP*	**Pn**	**03 41 36.7**	**-0.3**
TA01				*eS*	**Sn**	**03 42 08.4**	**-1.4**
TA01				IAML		03 42 09.3	
	comp=Z,174nm,0.6s						
TA01	**Diego Aracena**	**2.42**	**280**	⇑*iP*	**Pn**	**03 41 36.8**	**-0.3**
TA01				*eS*	**Sn**	**03 42 07.7**	**-2.2**
TA01				IAML		03 42 10.3	
	comp=N,366nm,0.3s						
SOEO	**Opoqueri**	**2.44**	**354**	Pg	**Pn**	**03 41 38.7**	**+0.9**
TA02	**Huaiquique**	**2.44**	**287**	*eP*	**Pn**	**03 41 37.2**	**-0.2**
TA02				*eS*	**Sn**	**03 42 09.6**	**-0.8**
TA02				IAML		03 42 11.1	
	comp=Z,596nm,0.1s						
TA02	**Huaiquique**	**2.44**	**287**	*eP*	**Pn**	**03 41 37.1**	**-0.3**
TA02				*i* S	**Sn**	**03 42 08.6**	**-1.8**
PB06	**IPOC Station P**	**2.47**	**226**	*eP*	**Pn**	**03 41 38.5**	**+0.7**
PB06				*eS*	**Sn**	**03 42 12.0**	**+0.7**
PB06				IAML		03 42 14.2	
	comp=Z,58nm,0.2s						
PB06	**IPOC Station P**	**2.47**	**226**	*i* P	**Pn**	**03 41 38.5**	**+0.7**
PB06				*i* S	**Sn**	**03 42 10.8**	**-0.5**
PB06				IAML		03 42 12.9	
	comp=E,142nm,0.1s						
PB04	**IPOC Station P**	**2.69**	**240**	*eP*	**Pn**	**03 41 41.3**	**+1.0**
PB04				*eS*	**Sn**	**03 42 15.0**	**-0.7**
PB04				IAML		03 42 17.2	
	comp=Z,109nm,0.1s						
PB04	**IPOC Station P**	**2.69**	**240**	*eP*	**Pn**	**03 41 40.1**	**-0.2**
PB04				*eS*	**Sn**	**03 42 13.6**	**-2.1**
PB15	**IPOC Station P**	**2.78**	**217**	*eP*	**Pn**	**03 41 42.5**	**+1.0**
PB15				*eS*	**Sn**	**03 42 18.8**	**+1.0**
PB15				IAML		03 42 20.1	
	comp=Z,321nm,0.2s						
PB15	**IPOC Station P**	**2.78**	**217**	*eP*	**Pn**	**03 41 41.7**	**+0.3**
PB15				*eS*	**Sn**	**03 42 17.6**	**-0.2**
PB15	**IPOC Station P**	**2.78**	**217**	Pg	**Pn**	**03 41 43.3**	**+1.8**
HJA	**Humahuaca**	**3.02**	**137**	*eP*	**Pn**	**03 41 44.8**	**+0.3**
HJA				*eS*	**Sn**	**03 42 21.6**	**-1.6**
HJA				IAML		03 42 23.6	
	comp=Z,88nm,0.5s						
PB12	**IPOC Station P**	**3.47**	**313**	*eP*	**Pn**	**03 41 48.4**	**-1.4**
PB12				*eS*	**Sn**	**03 42 31.2**	**-1.5**
PB12				IAML		03 42 33.5	
	comp=Z,61nm,0.2s						
PB12	**IPOC Station P**	**3.47**	**313**	*eP*	**Pn**	**03 41 48.2**	**-1.6**
PB12				*eS*	**Sn**	**03 42 28.8**	**-3.6**
SOEJ	**Jacaque**	**4.04**	**352**	Pg	**Pn**	**03 41 58.9**	**+1.6**
BBOE	**La Paz, Chanca**	**4.18**	**355**	Pg	**Pn**	**03 42 00.7**	**+1.6**
PB14	**IPOC Station P**	**4.42**	**215**	*eP*	**Pn**	**03 42 02.2**	**+0.3**
PB14				*eS*	**Sn**	**03 42 52.2**	**-2.3**
PB14				IAML		03 42 56.2	
	comp=Z,31nm,0.7s						
BBOD	**La Paz, Gloria**	**4.43**	**348**	Pg	**Pn**	**03 42 03.8**	**+1.4**
GO02	**Mina Guanaco**	**4.52**	**203**	*eP*	**Pn**	**03 42 02.9**	**-0.2**
GO02				*eS*	**Sn**	**03 42 55.4**	**-1.3**
LPAZ	**La Paz**	**4.71**	**354**	*eP*	**Pn**	**03 42 06.5**	**+0.5**
LPAZ	**La Paz**	**4.71**	**354**	P	**Pn**	**03 42 06.4**	**+0.4**
	comp=Z,12nm,0.4s,baz=156,slow=4.7,SNR=115						
LPAZ				S	**Sn**	**03 43 02.0**	**+0.4**
	comp=Z,2.4nm,0.6s,baz=230,slow=17,SNR=1.3						
LPAZ	**La Paz**	**4.71**	**354**	Pg	**Pn**	**03 42 06.5**	**+0.5**
CPUP	**Villa Florida**	**10.83**	**121**	P	**Pn**	**03 43 24.8**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=289,slow=13,SNR=5.7						
TXAR	**Lajitas Array**	**60.91**	**324**	P	**P**	**03 50 49.4**	**+1.1**
	comp=Z,0.1nm,0.5s,baz=134,slow=7.8,SNR=3.4						
	comp=Z,0.1nm,0.5s						
MKAR	**Makanchi Array**	**144.53**	**36**	PKPbc	**PKPdf**	**04 00 09.1**	**0.0**
	comp=Z,0.5nm,0.7s,baz=315,slow=2.0,SNR=4.3						

IDC 13 03:45:02.0±2.1,7.˝98S×129.˝27E,h0km,mb3.9/1, mbtmp3.4/3,ML3.3/2,Error ellipse: s-maj=102.2km s-min=29.1km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**12.87**	**158**	Pn	Pn	03 48 07.6	+1.2
	0.2nm,0.3s,baz=337,slow=14,SNR=6.9						
WRA				Sn	Sn	03 50 29.8	-0.7
	0.2nm,0.3s,baz=47,slow=13,SNR=4.7						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**16.22**	**165**	Pn	Pn	03 48 51.0	-0.5
	0.1nm,0.3s,baz=334,slow=10,SNR=4.2						
	0.1nm,0.4s						
SONM	**Songino Array**	**59.14**	**342**	P	P	03 55 04.5	-0.1
	0.6nm,0.4s,baz=165,slow=6.0,SNR=2.4						
	0.6nm,0.4s						

IDC ***13*** *03:54:31.2±0.8,30.˚53S×71.˚86W,h0km,mb4.2/5, mbtmp4.0/10,ML3.6/5,MS3.7/5,Error ellipse: s-maj=34.4km s-min=17.6km az=99.0*
NEIC ***13*** *03:54:31.4±1.7,30.˚490S±0.˚005×72.˚25W±0.˚06, h10km±1km,mb4.3/14,Error ellipse: s-maj=8.5km s-min=2.9km az=273.0*
GUC ***13*** *03:54:33.5±0.7,30.˚60S×72.˚07W,h17km±3km,ML4.3*

ISC 13 03:54:30.5±1.8,30.˚47S±0.˚03×72.˚08W±0.˚06,h1km±11km, n109,σ1§12/123,mb4.4/10,11C-7D,Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.43**	**118**		**Pb**	**03 54 41.5**	**+0.6**
CO06	**Fray Jorge**	**0.43**	**118**	⇓*iP*	**Pb**	**03 54 41.6**	**+0.7**
CO06				*eS*	**Sb**	**03 54 46.8**	**-1.1**
CO05	**La Serena**	**0.91**	**53**	Pn	**Pn**	**03 54 51.5**	**+1.1**
CO05	**La Serena**	**0.91**	**53**	⇓*iP*	**Pn**	**03 54 51.5**	**+1.1**
CO05				*i* S	**Sn**	**03 55 04.2**	**0.0**
CO05				IAML		03 55 07.7	
	comp=E,9μm,0.5s						
GO04	**Tololo Observa**	**1.14**	**75**	Pn	**Pn**	**03 54 54.5**	**+0.7**
GO04	**Tololo Observa**	**1.14**	**75**	⇓*iP*	**Pn**	**03 54 54.6**	**+0.7**
GO04				*i* S	**Sn**	**03 55 10.7**	**+0.4**
GO04				IAML		03 55 17.9	
	comp=E,13μm,0.6s						
CO02	**Combarbal**	**1.18**	**129**		**Pb**	**03 54 53.5**	**-0.3**
CO02	**Combarbal**	**1.18**	**129**	⇓*iP*	**Pb**	**03 54 53.5**	**-0.3**
CO02				*eS*	**Sb**	**03 55 08.1**	**-1.5**
CO02				IAML		03 55 17.3	
	comp=E,13μm,0.3s						
CO03	**El Pedregal**	**1.25**	**107**	Pn	**Pb**	**03 54 54.5**	**-0.5**
CO03	**El Pedregal**	**1.25**	**107**	⇓*iP*	**Pb**	**03 54 54.8**	**-0.2**
CO03				*eS*	**Sn**	**03 55 11.1**	**-1.6**
CO01	**Juntas del Tor**	**1.78**	**74**	Pn	**Pg**	**03 55 04.9**	**+0.2**
LCO	**Las Campanas**	**1.88**	**40**	Pn	**Pb**	**03 55 05.2**	**-0.7**
LCO	**Las Campanas**	**1.88**	**40**	⇑*iP*	**Pb**	**03 55 06.0**	**+0.1**
LCO				*eS*	**Sg**	**03 55 33.2**	**+2.1**
LCO				IAML		03 55 40.1	
	comp=E,6μm,0.2s						
VA06	**Catapilco**	**2.19**	**163**	Pn	**Pn**	**03 55 06.3**	**-1.7**
VA06	**Catapilco**	**2.19**	**163**	⇑*iP*	**Pn**	**03 55 07.7**	**-0.3**
VA06				*eS*	**Sn**	**03 55 34.6**	**-1.1**
VA06				IAML		03 55 44.9	
	comp=E,3μm,0.7s						
AC05	**El Transito**	**2.26**	**44**		**Pb**	**03 55 11.4**	**-0.9**
AC05	**El Transito**	**2.26**	**44**	⇑*iP*	**Pb**	**03 55 11.7**	**-0.6**
AC05				*eS*	**Sg**	**03 55 42.9**	**-0.3**
AC05				IAML		03 55 49.0	
	comp=N,1μm,0.4s						
AC04	**Llanos de Chal**	**2.42**	**21**	⇑*iP*	**Pn**	**03 55 12.5**	**+1.3**
AC04				*i* S	**Sn**	**03 55 42.1**	**+0.5**
VA01	**Torpederas**	**2.57**	**172**	Pn	**Pn**	**03 55 12.2**	**-1.1**
VA03	**San Esteban**	**2.63**	**151**	Pn	**Pn**	**03 55 14.5**	**+0.3**
VA03	**San Esteban**	**2.63**	**151**	⇑*eP*	**Pn**	**03 55 14.9**	**+0.7**
VA03				*eS*	**Sn**	**03 55 46.6**	**-0.2**
VA03				IAML		03 55 55.0	
	comp=E,2μm,0.7s						
ROCH	**El Roble**	**2.65**	**160**	*eP*	**Pn**	**03 55 14.4**	**-0.2**
ROCH				⇑*eP*	Pb	03 55 14.6	-4.4
ROCH				*i* S	**Sn**	**03 55 47.7**	**+0.1**
ROCH				IAML		03 56 01.0	
	comp=N,1μm,0.6s						
MT02	**Curacav**	**2.89**	**164**	Pn	**Pn**	**03 55 17.5**	**-0.2**
MT02	**Curacav**	**2.89**	**164**	*eP*	**Pn**	**03 55 18.0**	**+0.3**
MT02				*eS*	**Sn**	**03 55 54.1**	**+0.9**
PEL	**Peldehue**	**2.91**	**156**	Pn	**Pn**	**03 55 18.2**	**+0.1**
PEL	**Peldehue**	**2.91**	**156**	⇑*iP*	**Pn**	**03 55 18.7**	**+0.7**
PEL				*i* S	**Sn**	**03 55 53.3**	**-0.5**
PEL				IAML		03 56 11.3	
	comp=E,1μm,0.7s						
ZON	**Zonda**	**3.11**	**111**	Pn	**Pn**	**03 55 22.4**	**+1.6**
MT05	**Renca**	**3.12**	**159**		**Pn**	**03 55 21.4**	**+0.4**
MT14	**Cerro Cal¡n**	**3.19**	**156**	⇑*eP*	**Pn**	**03 55 22.5**	**+0.5**
MT14				*eS*	**Sn**	**03 56 01.1**	**+0.3**
VA05	**Santo Domingo**	**3.20**	**173**	Pn	**Pn**	**03 55 20.7**	**-1.3**
VA05	**Santo Domingo**	**3.20**	**173**	*eP*	**Pn**	**03 55 18.8**	**-3.1**
FCH	**Farellones**	**3.23**	**152**	*eP*	**Pn**	**03 55 23.6**	**+1.0**
FCH				*eS*	**Sn**	**03 56 02.3**	**+0.4**
FCH				IAML		03 56 23.1	
	comp=E,377nm,0.6s						
MT16	**CCHEN**	**3.23**	**156**	Pn	**Pn**	**03 55 23.1**	**+0.7**
MT16	**CCHEN**	**3.23**	**156**	⇑*eP*	**Pn**	**03 55 23.1**	**+0.7**
MT16				*eS*	**Sn**	**03 56 01.1**	**-0.4**
MT16				IAML		03 56 15.4	
	comp=E,682nm,0.6s						
GO03	**Copiap**	**3.29**	**30**	Pn	**Pn**	**03 55 24.4**	**+1.2**
GO03	**Copiap**	**3.29**	**30**	*eP*	**Pn**	**03 55 24.9**	**+1.7**
GO03				*i* S	**Sn**	**03 56 03.5**	**+0.5**
GO03				IAML		03 56 28.6	
	comp=E,465nm,0.6s						
MT15	**Las Vizcachas**	**3.39**	**157**	*eP*	**Pn**	**03 55 25.6**	**+1.0**
MT15				*i* S	**Sn**	**03 56 04.2**	**-1.3**
MT15				IAML		03 56 27.1	
	comp=E,1μm,0.4s						
MT09	**Talagante**	**3.42**	**165**	Pn	**Pn**	**03 55 25.4**	**+0.3**
MT08	**Bocatoma Ro**	**3.44**	**150**	Pn	**Pn**	**03 55 27.1**	**+1.6**
AC06	**Mina Casimiro**	**3.45**	**26**	Pn	**Pn**	**03 55 26.6**	**+1.1**
AC06	**Mina Casimiro**	**3.45**	**26**	⇑*iP*	**Pn**	**03 55 27.1**	**+1.7**
AC06				IAML		03 56 38.7	
	comp=E,257nm,0.1s						
MT01	**Popeta**	**3.45**	**169**	Pn	**Pn**	**03 55 24.7**	**-0.8**
MT13	**San Alfonso**	**3.60**	**156**	Pn	**Pn**	**03 55 28.4**	**+0.8**
BO04	**La Punta**	**3.72**	**161**	Pn	**Pn**	**03 55 29.2**	**+0.1**
BO04	**La Punta**	**3.72**	**161**	*eP*	**Pn**	**03 55 29.5**	**+0.4**
BO04				*eS*	**Sn**	**03 56 12.5**	**-1.1**
BO04				IAML		03 56 29.7	
	comp=E,392nm,0.5s						
LMEL	**Las Melosas**	**3.72**	**155**	Pn	**Pn**	**03 55 30.1**	**+0.8**
VCA	**Vinchina**	**3.79**	**64**	*eP*	**Pb**	**03 55 35.7**	**-2.6**
BO01	**Tunca**	**4.00**	**168**	Pn	**Pn**	**03 55 32.2**	**-0.7**
BO01	**Tunca**	**4.00**	**168**	*eP*	**Pn**	**03 55 32.8**	**-0.1**
BO02	**Sierra Bellavi**	**4.44**	**166**	Pn	**Pn**	**03 55 40.2**	**+1.0**
BO02	**Sierra Bellavi**	**4.44**	**166**	*eP*	**Pn**	**03 55 39.8**	**+0.7**
AC02	**Maricunga**	**4.45**	**36**	Pn	**Pn**	**03 55 40.9**	**+1.3**
AC02	**Maricunga**	**4.45**	**36**	*eP*	**Pn**	**03 55 42.0**	**+2.4**
AC01	**Pan de Azucar**	**4.50**	**17**	⇑*iP*	**Pn**	**03 55 39.8**	**-0.1**
GO05	**Huala**	**4.53**	**178**	Pn	**Pn**	**03 55 38.2**	**-2.0**
GO05	**Huala**	**4.53**	**178**	*eP*	**Pn**	**03 55 38.6**	**-1.6**
ML02	**Panimavida**	**5.30**	**174**	Pn	**Pn**	**03 55 49.9**	**-1.0**
GO02	**Mina Guanaco**	**5.73**	**23**	Pn	**Pn**	**03 55 56.7**	**-0.3**
PB14	**IPOC Station P**	**6.01**	**15**	Pn	**Pn**	**03 55 59.8**	**-1.1**
H03N1	**Juan Fernandez**	**6.52**	**241**	T	T	04 03 09.3	
	baz=71,slow=72,SNR=357						
H03N2	**Juan Fernandez**	**6.54**	**241**	T	T	04 03 06.1	
	baz=71,slow=72,SNR=256						
H03N3	**Juan Fernandez**	**6.54**	**241**	T	T	04 03 06.8	
	baz=71,slow=72,SNR=281						
VA04	**Juan Fernndez**	**6.55**	**239**	Pn	**Pn**	**03 56 05.0**	**-2.9**
PB10	**IPOC Station P**	**7.06**	**11**	Pn	**Pn**	**03 56 15.8**	**+0.8**
PB15	**IPOC Station P**	**7.60**	**18**	Pn	**Pn**	**03 56 23.0**	**+0.4**
PB06	**IPOC Station P**	**8.05**	**17**	Pn	**Pn**	**03 56 29.7**	**+0.9**
LVC	**Limon Verde**	**8.33**	**21**	Pn	**Pn**	**03 56 32.2**	**-0.6**
LVC	**Limon Verde**	**8.33**	**21**	Pn	**Pn**	**03 56 32.0**	**-0.8**
	comp=E,0.3nm,0.3s,baz=139,slow=9.3,SNR=1.6						
LVC				Sn	**Sn**	**03 58 04.9**	**-2.8**
	baz=207,slow=20						
	comp=E,1.6nm,0.4s						
PB07	**IPOC Station P**	**8.93**	**13**	Pn	**Pn**	**03 56 39.5**	**-1.4**
PB09	**IPOC Station P**	**9.01**	**17**	Pn	**Pn**	**03 56 42.2**	**+0.3**
GO06	**Curarrehue**	**9.10**	**177**	Pn	**Pn**	**03 56 42.0**	**-1.1**
PB01	**IPOC Station P**	**9.67**	**15**	Pn	**Pn**	**03 56 51.7**	**+0.7**
LR05	**Currie**	**9.74**	**180**	Pn	**Pn**	**03 56 51.0**	**-0.7**
PLCA	**Paso Flores**	**10.31**	**174**	Pn	**Pn**	**03 56 58.9**	**-0.8**
	comp=E,0.3nm,0.3s,baz=334,slow=11,SNR=11						
PLCA				LR	LR	04 01 16.7	
	comp=E,203nm,18.3s,baz=24,slow=40						
	comp=E,0.9nm,0.3s						
TRQA	**Tornquist**	**11.26**	**135**	Pn	**Pn**	**03 57 11.6**	**-1.0**
ITQB	**Itaqui**	**13.41**	**90**	Pn	**Pn**	**03 57 40.7**	**-1.2**
CPUP	**Villa Florida**	**13.62**	**76**	Pn	**Pn**	**03 57 43.0**	**-1.8**
	comp=E,0.1nm,0.3s,baz=231,slow=13,SNR=1.7						
CPUP				LR	LR	04 03 20.7	
	comp=E,183nm,20.0s,baz=248,slow=39						
	comp=E,1.6nm,1.0s						
LPAZ	**La Paz**	**14.57**	**15**		**Pn**	**03 58 01.9**	**+3.4**
LPAZ	**La Paz**	**14.57**	**15**	Pn	**Pn**	**03 57 57.4**	**-1.2**
	baz=93,slow=7.6,SNR=1.9						
	comp=E,0.3nm,0.4s						
SIV	**San Ignacio**	**17.59**	**37**	P	**P**	**03 58 38.1**	**0.0**
	comp=E,0.1nm,0.3s,baz=213,slow=10,SNR=42						
SIV				LR	LR	04 06 40.9	
	comp=E,202nm,18.5s,baz=286,slow=42						
	comp=E,9.9nm,0.9s						
ITAB	**Concordia**	**17.77**	**84**	Pn	**Pn**	**03 58 38.7**	**-0.4**
ITAB				IAmb	IAmb	03 58 54.0	
	comp=Z,20

MSVF	**Nonsavu**	**7.22**	**265**	Pn	**Pn**	**03 57 54.5**	**+4.4**	
DZM	**Mont Dzumac**	**18.67**	**252**		**P**	**04 00 13.1**	**-0.6**	
DZM				IAmb	IAmb	04 00 45.7		
	comp=Z,15nm,1.1s							
KOUNC	**Koumac, New Ca**	**20.43**	**257**	P	**P**	**04 00 32.0**	**-0.7**	
KOUNC				IAmb	IAmb	04 00 44.2		
	comp=Z,20nm,1.1s							
RPZ	**Rata Peaks**	**29.14**	**202**	LR	LR	04 13 52.7		
	comp=Z,78nm,18.9s,baz=142,slow=37							
EIDS	**Eidsvold**	**33.09**	**250**	P	**P**	**04 02 28.9**	**+0.1**	
EIDS				IAmb	IAmb	04 02 29.2		
	comp=Z,4.5nm,0.8s							
ARMA	**Armidale**	**33.60**	**241**	P	**P**	**04 02 33.3**	**0.0**	
CTAO	**Charters Tower**	**37.33**	**259**	P	**P**	**04 03 04.4**	**-0.8**	
TOO	**Toolangi**	**40.58**	**232**	P	**P**	**04 03 30.7**	**-1.3**	
STKA	**Stephens Creek**	**42.31**	**241**	P	**P**	**04 03 45.0**	**-1.1**	
STKA	**Stephens Creek**	**42.31**	**241**	P	**P**	**04 03 45.3**	**-0.8**	
	comp=Z,4.5nm,0.8s,baz=102,slow=13,SNR=9.3							
	comp=Z,4.5nm,0.8s							
BBOO	**Buckleboo**	**47.08**	**241**	P	**P**	**04 04 22.7**	**-1.2**	
BBOO				IAmb	IAmb	04 04 56.8		
	comp=Z,18nm,1.5s							
WB0	**Warramunga Arr**	**48.48**	**259**	P	**P**	**04 04 33.4**	**-1.5**	
WB2	**Warramunga Arr**	**48.50**	**258**	P	**P**	**04 04 32.8**	**-2.3**	
WB2				IAmb	IAmb	04 04 48.2		
	comp=Z,15nm,1.4s							
WRA	**Warramunga Arr**	**48.51**	**258**	P	**P**	**04 04 33.8**	**-1.4**	
WRA	**Warramunga Arr**	**48.51**	**258**	P	**P**	**04 04 33.1**	**-2.0**	
	comp=Z,1.6nm,0.6s,baz=96,slow=7.3,SNR=22							
WRA				PcP	**PcP**	**04 05 58.4**	**-0.5**	
	comp=Z,0.3nm,0.4s,baz=97,slow=3.7,SNR=2.0							
	comp=Z,1.6nm,0.6s							
AS31	**Alice Springs**	**48.65**	**253**	P	**P**	**04 04 35.1**	**-1.1**	
AS31				IAmb	IAmb	04 04 35.9		
	comp=Z,4.3nm,0.7s							
ASAR	**Alice Springs**	**48.65**	**253**	P	**P**	**04 04 35.2**	**-0.9**	
ASAR	**Alice Springs**	**48.65**	**253**	P	**P**	**04 04 35.0**	**-1.1**	
	comp=Z,16nm,0.7s,baz=87,slow=8.6,SNR=157							
ASAR				PcP	**PcP**	**04 05 58.7**	**-0.7**	
	comp=Z,0.7nm,0.5s,baz=101,slow=4.0,SNR=5.9							
	comp=Z,16nm,0.7s							
MBWA	**Marble Bar**	**61.94**	**255**	P	**P**	**04 06 10.6**	**-0.7**	
MJAR	**Matsushiro Arr**	**69.72**	**321**	P	**P**	**04 06 59.2**	**-1.5**	
	comp=Z,0.8nm,0.6s,baz=150,slow=6.5,SNR=3.6							
	comp=Z,0.8nm,0.6s							
UGM	**Wanagama**	**73.50**	**267**	P	**P**	**04 07 23.3**	**-0.6**	
PETK	**Petropavlovsk-**	**74.07**	**343**	P	**P**	**04 07 25.3**	**-1.0**	
	comp=Z,2.9nm,0.9s,baz=94,slow=12,SNR=4.2							
	comp=Z,2.9nm,0.9s							
NVAR	**Mina Array Bea**	**76.32**	**42**	P	**P**	**04 07 39.8**	**0.0**	
NVAR	**Mina Array Bea**	**76.32**	**42**	P	**P**	**04 07 40.4**	**+0.6**	
	comp=Z,0.7nm,0.7s,baz=223,slow=8.2,SNR=6.1							
	comp=Z,0.7nm,0.7s							
KVN	**Kaiserville**	**76.81**	**42**	P	**P**	**04 07 42.3**	**-0.2**	
J05D	**Fort Rock, OR**	**77.45**	**37**	P	**P**	**04 07 46.5**	**+0.5**	
J16K	**Anvik River**	**80.97**	**6**	P	**P**	**04 08 04.4**	**0.0**	
J17K	**VABM Dome**	**81.25**	**7**	P	**P**	**04 08 05.2**	**-0.6**	
SCM	**Sheep Creek Mo**	**81.68**	**13**	P	**P**	**04 08 07.1**	**-1.1**	
SCM				IAmb	IAmb	04 08 35.4		
	comp=Z,14nm,1.4s							
K20K	**Telida**	**81.88**	**9**	P	**P**	**04 08 08.4**	**-0.7**	
K20K				IAmb	IAmb	04 08 32.6		
	comp=Z,7.6nm,1.4s							
N25K	**Chitina, Valde**	**82.07**	**14**	P	**P**	**04 08 09.7**	**-0.7**	
N25K				IAmb	IAmb	04 08 10.4		
	comp=Z,4.0nm,0.7s							
GLB	**Gilahina Butte**	**82.11**	**14**	P	**P**	**04 08 09.6**	**-0.9**	
GLB				IAmb	IAmb	04 08 12.8		
	comp=Z,7.3nm,1.3s							
BARN	**Barnard Glacie**	**82.31**	**15**	P	**P**	**04 08 10.7**	**-1.0**	
BARN				IAmb	IAmb	04 08 13.9		
	comp=Z,5.1nm,1.1s							
TXAR	**Lajitas Array**	**82.42**	**56**	P	**P**	**04 08 12.7**	**-0.3**	
	comp=Z,0.2nm,0.6s,baz=217,slow=10,SNR=2.5							
	comp=Z,0.2nm,0.6s							
TRF	**Thorofare Moun**	**82.58**	**11**	P	**P**	**04 08 11.8**	**-1.3**	
TRF				IAmb	IAmb	04 08 24.2		
	comp=Z,8.2nm,1.4s							
J20K	**Nowinta River**	**82.64**	**9**	P	**P**	**04 08 12.1**	**-1.0**	
RND	**Reindeer**	**82.80**	**11**	P	**P**	**04 08 13.0**	**-1.1**	
RND				IAmb	IAmb	04 08 14.0		
	comp=Z,14nm,1.5s							
WRH	**Wood River Hil**	**83.92**	**11**	P	**P**	**04 08 18.5**	**-1.1**	
WRH				IAmb	IAmb	04 08 19.7		
	comp=Z,4.1nm,1.0s							
HDA	**Harding Lake**	**84.08**	**12**	P	**P**	**04 08 19.9**	**-0.6**	
HDA				IAmb	IAmb	04 08 20.7		
	comp=Z,3.4nm,0.9s							
CCB	**Clear Creek Bu**	**84.13**	**11**	P	**P**	**04 08 19.0**	**-1.7**	
CCB				IAmb	IAmb	04 08 19.9		
	comp=Z,3.0nm,0.7s							
H21K	**Melozitna Rive**	**84.23**	**9**	P	**P**	**04 08 20.8**	**-0.5**	
PDAR	**Pinedale Array**	**84.26**	**42**	P	**P**	**04 08 21.8**	**-0.4**	
	comp=Z,0.5nm,0.6s,baz=262,slow=3.0,SNR=4.0							
	comp=Z,0.5nm,0.6s							
IMAR	**Indian Mountai**	**84.41**	**8**	P	**P**	**04 08 21.4**	**-0.7**	
IL31		**84.41**	**11**	P	**P**	**04 08 20.9**	**-1.2**	
IL31				IAmb	IAmb	04 08 22.0		
	comp=Z,7.6nm,1.4s							
ILAR	**Eielson Array**	**84.41**	**11**	P	**P**	**04 08 21.8**	**-0.3**	
ILAR	**Eielson Array**	**84.41**	**11**	P	**P**	**04 08 20.8**	**-1.4**	
	comp=Z,0.6nm,0.5s,baz=229,slow=5.9,SNR=17							
	comp=Z,0.6nm,0.5s							
CMAR	**Chiang Mai Arr**	**92.27**	**288**	P	**P**	**04 09 01.8**	**+1.1**	
	comp=Z,1.1nm,0.3s,baz=76,slow=2.3,SNR=5.1							
	comp=Z,1.1nm,0.3s							
ARCES	**ARCESS Array B**	**126.27**	**351**	PKP	**PKPdf**	**04 14 50.0**	**-1.2**	
	comp=Z,2.5nm,1.0s,baz=60,slow=5.3,SNR=3.6							
FINES	**FINESS Array B**	**133.50**	**347**	PKP	**PKPdf**	**04 15 05.2**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=333,slow=6.6,SNR=4.2							
BRTR	**Keskin Array B**	**146.92**	**318**	PKPbc	**PKPdf**	**04 15 31.9**	**+1.8**	
	comp=Z,1.3nm,0.6s,baz=137,slow=3.6,SNR=9.7							
GERES	**GERESS Array B**	**147.78**	**350**	PKPbc	**PKPdf**	**04 15 33.8**	**+2.5**	
	comp=Z,0.4nm,0.6s,baz=18,slow=6.3,SNR=4.5							
CONA	**Conrad Observa**	**148.24**	**347**	*i* PKP	**PKPdf**	**04 15 35.4**	**+3.4**	
	comp=Z,1.8nm,0.6s							
RONA	**Rosalia, Austr**	**148.36**	**346**	*i* PKP	**PKPbc**	**04 15 35.7**	**0.0**	
	comp=Z,2.6nm,0.8s							
MOA	**Molln**	**148.64**	**349**	*i* PKP	**PKPdf**	**04 15 36.1**	**+3.6**	
	comp=Z,1.1nm,0.6s							
BIOA	**Bad Ischl, Aus**	**148.90**	**349**	*e*PKP	**PKPdf**	**04 15 36.5**	**+3.4**	
	comp=Z,1.1nm,0.4s							
WATA	**Walderalm**	**149.57**	**352**	*e*PKP	**PKPdf**	**04 15 38.3**	**+4.0**	
	comp=Z,1.5nm,0.5s							
SOKA	**Soboth**	**149.61**	**347**	*i* PKP	**PKPdf**	**04 15 38.1**	**+3.8**	
	comp=Z,2.5nm,1.0s							
MOTA	**Moosalm**	**149.62**	**353**	*e*PKP	**PKPdf**	**04 15 38.4**	**+4.1**	
	comp=Z,4.2nm,1.1s							
WTTA	**Wattenberg**	**149.63**	**352**	*e*PKP	**PKPbc**	**04 15 38.7**	**-0.5**	
	comp=Z,3.9nm,0.5s							
SQTA	**Sankt Quirin**	**149.73**	**352**	*e*PKP	**PKPbc**	**04 15 39.1**	**-0.2**	
	comp=Z,1.2nm,0.5s							
DAVA	**Damuels**	**149.81**	**354**	*e*PKP	**PKPbc**	**04 15 39.5**	**0.0**	
	comp=Z,2.7nm,0.7s							
MYKA	**Terra Mystica**	**149.93**	**349**	*i* PKP	**PKPdf**	**04 15 38.1**	**+3.3**	
	comp=Z,1.0nm,0.4s							
FETA	**Feichten**	**149.99**	**353**	*e*PKP	**PKPbc**	**04 15 39.7**	**-0.3**	
	comp=Z,3.2nm,1.0s							
ABTA	**Abfaltersbach**	**150.01**	**350**	*i* PKP	**PKPdf**	**04 15 39.1**	**+4.2**	
	comp=Z,3.2nm,0.6s							

IDC ***13*** *04:28:00.0±0.5,12°.83S×45°.49E,h0km,mb4.2/24, mbtmp4.2/27,ML2.9/2,MS3.6/32,Error ellipse: s-maj=18.6km s-min=12.2km az=81.0*
NEIC ***13*** *04:28:02.3±2.2, 12°.94S±0°.07×45°.41E±0°.08,h10km±1km, mb4.6/39,Error ellipse: s-maj=12.9km s-min=11.8km az=279.0*

ISC 13 04:28:01.8±0.3,12°.98S±0°.05×45°.36E±0°.06,h10km,n126, σ1§69/111,mb4.6/57,MS3.6/31,4D,Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.83**	**163**	Pn	**Pn**	**04 29 29.8**	**+1.3**
	7.5nm,0.3s,baz=338,slow=12,SNR=76						
OPO				Sn	**Sn**	**04 30 28.9**	**-6.7**
	18nm,0.3s,baz=305,slow=16,SNR=7.8						
ABPO	**Ambohimpanom**	**6.26**	**164**	Pn	**Pn**	**04 29 34.7**	**+0.3**
ABPO				Sn	**Sn**	**04 30 41.9**	**-4.4**
ABPO	**Ambohimpanom**	**6.26**	**164**	*e*P	**Pn**	**04 29 35.5**	**+1.1**
VOI	**Vohitsoka**	**8.98**	**171**	Pn	**Pn**	**04 30 12.6**	**+0.8**
VOI	**Vohitsoka**	**8.98**	**171**	*e*P	**Pn**	**04 30 12.3**	**+0.6**
FOMA	**Nahampoana Res**	**12.03**	**173**	Pn	**Pn**	**04 30 52.3**	**-1.0**
KIBK	**Kibwezi**	**12.81**	**325**	Pn	**Pn**	**04 31 01.7**	**-2.5**
KIBK	**Kibwezi**	**12.81**	**325**	*e*P	**Pn**	**04 31 01.5**	**-2.7**
KIBK				*e*S	Sn	04 33 09.4	-18
RER	**Riviere de l'E**	**12.83**	**131**	Pn	**Pn**	**04 31 01.5**	**-2.9**
MSEY	**Mahe Island**	**12.96**	**51**	*e*P	**Pn**	**04 31 08.1**	**+1.8**
KMBO	**Kilima Mbogo**	**14.26**	**325**	Pn	**Pn**	**04 31 21.7**	**-2.4**
	baz=163,slow=20,SNR=1.4						
LSZ	**Lusaka**	**16.81**	**260**	Pn	**Pn**	**04 31 57.7**	**+0.2**
LSZ				IAmb	IAmb	04 32 04.2	
	comp=Z,26nm,0.8s						
LSZ	**Lusaka**	**16.81**	**260**	Pn	**Pn**	**04 31 58.0**	**+0.4**
	comp=Z,9.9nm,0.7s,baz=86,slow=10,SNR=21						
LSZ				Sn	**Sn**	**04 34 57.4**	**-7.1**
	comp=Z,0.7nm,0.3s,baz=1.5,slow=20,SNR=3.4						
LSZ				LR	LR	04 38 15.4	
	comp=Z,314nm,20.1s,baz=92,slow=36						
MOPA	**Mopani**	**16.88**	**230**	*e*P	**Pn**	**04 32 00.1**	**+1.8**
MPHEP	**Siloam, Limpop**	**17.48**	**234**	*e*P	**P**	**04 32 08.3**	**+1.2**
MATP	**Matopo**	**17.75**	**243**	P	**P**	**04 32 11.3**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=193,slow=11,SNR=3.9						
MATP				S	Sn	04 35 19.4	-8.0
	comp=Z,1.1nm,0.5s,baz=340,slow=18,SNR=2.2						
	comp=Z,1.8nm,0.6s						
PILG	**Pilgrimsrest,**	**18.23**	**227**	*e*P	**P**	**04 32 17.7**	**+2.2**
MBAR	**Mbarara**	**19.00**	**309**	P	**P**	**04 32 23.5**	**-0.5**
MBAR	**Mbarara**	**19.00**	**309**	P	**P**	**04 32 23.6**	**-0.4**
	comp=Z,5.1nm,0.2s,baz=118,slow=13,SNR=16						
MBAR				S	Sn	04 35 41.8	-16
	comp=Z,3.7nm,0.2s,baz=72,slow=20,SNR=2.3						
MBAR				LR	LR	04 39 12.3	
	comp=Z,284nm,20.4s,baz=118,slow=35						
LODK	**Lodwar**	**19.08**	**328**		**Pn**	**04 32 26.6**	**+1.0**
POGA	**Pongola**	**19.17**	**220**	P	**P**	**04 32 25.8**	**+0.2**
POGA				IAmb	IAmb	04 32 31.2	
	comp=Z,54nm,1.5s						
MTLB	**Matlabas, Limp**	**20.41**	**236**	*e*P	**P**	**04 32 40.7**	**+1.5**
HRAO	**HartRAO**	**21.00**	**230**	*e*P	**P**	**04 32 48.3**	**+2.6**
FURI	**Furi**	**22.73**	**343**	P	**P**	**04 33 05.2**	**+0.7**
BOSA	**Boshof**	**24.33**	**227**	P	**P**	**04 33 20.8**	**+0.8**
BOSA	**Boshof**	**24.33**	**227**	*e*P	**P**	**04 33 21.7**	**+1.7**
BOSA				IAmb	IAmb	04 33 22.2	
	comp=Z,181nm,2.8s						
BOSA	**Boshof**	**24.33**	**227**	P	**P**	**04 33 20.9**	**+0.9**
	comp=Z,4.5nm,0.6s,baz=54,slow=8.4,SNR=26						
BOSA				S	S	04 37 52.0	+13
	comp=Z,2.7nm,0.9s,baz=4.7,slow=14,SNR=2.8						
BOSA				LR	LR	04 43 04.2	
	comp=Z,120nm,18.9s,baz=44,slow=37						
	comp=Z,4.5nm,0.6s						
ATD	**Arta Tunnel**	**24.48**	**354**	P	**P**	**04 33 20.2**	**-1.1**
ATD				IAmb	IAmb	04 33 21.9	
	comp=Z,28nm,1.3s						
ATD	**Arta Tunnel**	**24.48**	**354**	LR	LR	04 41 57.0	
	comp=Z,5.8nm,21.0s,baz=170,slow=34						
TSUM	**Tsumeb**	**27.37**	**253**	LR	LR	04 43 19.5	
	comp=Z,66nm,21.3s,baz=103,slow=33						
SUR	**Sutherland**	**29.63**	**225**	P	**P**	**04 34 10.0**	**+2.3**
SUR	**Sutherland**	**29.63**	**225**	*e*P	**P**	**04 34 10.5**	**+2.8**
SUR				IAmb	IAmb	04 34 11.2	
	comp=Z,30nm,0.8s						
SUR	**Sutherland**	**29.63**	**225**	LR	LR	04 45 52.7	
	comp=Z,94nm,18.5s,baz=53,slow=36						
WSAR	**Wadi Sarin**	**38.27**	**20**	LR	LR	04 47 50.9	
	comp=Z,117nm,20.9s,baz=200,slow=31						
EIL	**Elat**	**43.58**	**347**	LR	LR	04 51 23.4	
	comp=Z,43nm,21.2s,baz=232,slow=32						
GEYT	**Alibeck**	**52.04**	**13**	P	**P**	**04 37 12.3**	**+0.6**
GEYT				IAmb	IAmb	04 37 23.1	
	comp=Z,6.7nm,1.3s						
GEYT	**Alibeck**	**52.04**	**13**	LR	LR	04 57 59.7	
	comp=Z,38nm,20.8s,baz=326,slow=35						
TAM	**Tamanrasset**	**52.79**	**312**	P	**P**	**04 37 18.4**	**+0.7**
GNI	**Garni**	**52.86**	**359**	LR	LR	05 00 15.2	
	comp=Z,89nm,21.3s,baz=170,slow=37						
BR131	**Keskin Array S**	**53.56**	**349**	P	**P**	**04 37 22.8**	**-0.3**
BRTR	**Keskin Array B**	**53.56**	**349**	P	**P**	**04 37 22.2**	**-0.8**
BRTR	**Keskin Array B**	**53.56**	**349**	P	**P**	**04 37 22.4**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=171,slow=10,SNR=8.8						
BRTR				LR	LR	05 00 18.7	
	comp=Z,40nm,18.4s,baz=152,slow=36						
	comp=Z,1.2nm,0.7s						
DBIC	**Dimbokro**	**53.57**	**288**	P	**P**	**04 37 23.9**	**+0.5**
DBIC				IAmb	IAmb	04 37 59.2	
	comp=Z,18nm,1.4s						
DBIC	**Dimbokro**	**53.57**	**288**	LR	LR	04 59 33.4	
	comp=Z,81nm,19.2s,baz=112,slow=35						
ITM	**Ithomi**	**54.55**	**337**	P	**P**	**04 37 29.3**	**-0.8**
ITM				IAmb	IAmb	04 38 08.2	
	comp=Z,11nm,1.2s						
BALB	**Balikesir**	**54.82**	**344**	P	**P**	**04 37 31.5**	**-0.5**
MAW	**Mawson**	**55.78**	**172**	P	**P**	**04 37 40.0**	**+1.5**
	comp=Z,2.0nm,0.7s,baz=309,slow=8.6,SNR=5.2						
MAW				LR	LR	04 56 20.5	
	comp=Z,66nm,20.1s,baz=330,slow=30						
	comp=Z,2.0nm,0.7s						
SIMJ	**Simiganj**	**55.93**	**22**	P	**P**	**04 37 39.2**	**-1.1**
AGG	**Agios Georgios**	**56.02**	**338**	P	**P**	**04 37 40.2**	**-0.6**
AGG				IAmb	IAmb	04 37 41.0	
	comp=Z,3.5nm,0.9s						
KBZ	**Khabaz**	**56.48**	**358**	P	**P**	**04 37 43.5**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=189,slow=6.3,SNR=4.0						
KBZ				LR	LR	05 03 12.7	
	comp=Z,66nm,19.7s,baz=156,slow=38						
	comp=Z,2.4nm,0.9s						
MNAI	**Manna**	**57.47**	**87**	P	**P**	**04 37 49.5**	**-2.1**
	comp=Z,123nm,1.3s						
KEST	**Kesra**	**59.22**	**326**	P	**P**	**04 38 04.3**	**+0.9**
	comp=Z,4.2nm,1.1s,baz=154,slow=4.2,SNR=3.4						
KEST				LR	LR	05 04 24.1	
	comp=Z,88nm,18.2s,baz=261,slow=37						
	comp=Z,4.2nm,1.1s						
PUK	**Puka**	**59.56**	**338**	P	**P**	**04 38 06.2**	**+0.6**
PUK				IAmb	IAmb	04 38 09.3	
	comp=Z,3.3nm,0.6s						
PDG	**Podgorica**	**60.13**	**338**	P	**P**	**04 38 09.4**	**0.0**
PDG				IAmb	IAmb	04 38 17.3	
	comp=Z,4.1nm,0.8s						
KK31	**Karatay Array**	**60.38**	**21**	P	**P**	**04 38 12.8**	**+1.6**
KK31				IAmb	IAmb	04 38 18.3	
	comp=Z,6.8nm,1.0s						
KKAR	**Karatay Array**	**60.38**	**21**	P	**P**	**04 38 12.7**	**+1.6**
KKAR				IAmb	IAmb	04 38 18.3	
	comp=Z,6.7nm,1.0s						
ELIB	**Princess Elisa**	**60.41**	**188**	*d*P	**P**	**04 38 13.2**	**+2.0**
	comp=Z,5.1nm,1.0s						
MLR	**Muntele Rosu**	**60.79**	**344**	LR	LR	05 06 50.9	
	comp=Z,44nm,18.6s,baz=199,slow=38						
CMAR	**Chiang Mai Arr**	**61.38**	**60**	P	**P**	**04 38 17.4**	**-1.0**
	comp=Z,1.5nm,0.3s,baz=236,slow=6.4,SNR=1.4						
	comp=Z,1.5nm,0.3s						
AAK	**Ala-Archa**	**61.47**	**24**	P	**P**	**04 38 20.1**	**+1.3**
AAK				IAmb	IAmb	04 38 25.9	
	comp=Z,3.0nm,1.0s						
INTR	**Introdacqua**	**61.91**	**334**	P	**P**	**04 38 20.8**	**-0.8**
INTR				IAmb	IAmb	04 38 22.0	
	comp=Z,6.7nm,1.2s						
VSL	**Villasalto**	**62.03**	**329**	P	**P**	**04 38 22.7**	**+0.3**
VSL				IAmb	IAmb	04 38 25.5	
	comp=Z,9.6nm,1.4s						
BURAR	**Bucovina Array**	**62.95**	**345**	P	**P**	**04 38 28.4**	**-0.1**
ABKAR	**Akbulak array**	**63.29**	**11**	P	**P**	**04 38 28.6**	**-2.0**
AKTO	**Aktyubinsk**	**64.11**	**9**	LR	LR	05 09 32.3	
	comp=Z,41nm,19.2s,baz=128,slow=39						
TROLL	**Troll, Antarti**	**64.26**	**194**	⇓P	**P**	**04 38 39.6**	**+2.7**
	comp=Z,463nm,0.6s						
AKASG	**Malin Array Be**	**64.96**	**349**	P	**P**	**04 38 39.7**	**-1.9**
	comp=Z,1.1nm,0.7s,baz=170,slow=6.4,SNR=4.3						
AKASG				LR	LR	05 06 54.0	
	comp=Z,26nm,18.2s,baz=48,slow=36						
	comp=Z,1.1nm,0.7s						
BELG	**Belgornoye**	**65.13**	**2**	LR	LR	05 09 30.3	
	comp=Z,55nm,19.4s,baz=179,slow=38						
SOKA	**Soboth**	**65.33**	**338**	*e*P	**P**	**04 38 43.4**	**-0.7**
	comp=Z,2.0nm,0.7s						
SNAA	**Sanae**	**65.33**	**195**	P	**P**	**04 38 45.5**	**+1.6**
	comp=Z,1.8nm,0.8s,baz=16,slow=7.4,SNR=2.6						
SNAA				LR	LR	05 05 22.2	
	comp=Z,68nm,18.1s,baz=13,slow=34						
	comp=Z,1.8nm,0.8s						
OBKA	**Obir**	**65.37**	**337**	*e*P	**P**	**04 38 43.9**	**-0.5**
	comp=Z,2.8nm,0.9s						
ARSA	**Arzberg**	**65.63**	**338**	*e*P	**P**	**04 38 45.3**	**-0.7**
	comp=Z,1.9nm,0.6s						
RONA	**Rosalia, Austr**	**65.73**	**339**	*e*P	**P**	**04 38 46.1**	**-0.6**
	comp=Z,6.0nm,0.8s						
MDT	**Midelt**	**65.94**	**315**	LR	LR	05 07 44.3	
	comp=Z,69nm,18.3s,baz=142,slow=36						
MODS	**Modra-Piesok**	**65.98**	**340**	*e*P	**P**	**04 38 48.4**	**+0.2**
CONA	**Conrad Observa**	**66.08**	**339**	*e*P	**P**	**04 38 48.3**	**-0.7**
	comp=Z,3.9nm,1.0s						
VNA2	**Neumayer--Watz**	**66.12**	**197**	⇓P	**P**	**04 38 51.2**	**+2.3**
	comp=Z,2.4nm,0.6s,baz=49,slow=6.8						
MOA	**Molln**	**66.59**	**338**	*e*P	**P**	**04 38 50.9**	**-1.3**
	comp=Z,2.8nm,0.8s						
VNA3	**Neumayer Olymp**	**66.92**	**197**	⇓P	**P**	**04 38 56.1**	**+2.1**
	comp=Z,6.9nm,0.7s						
VRAC	**Vranov**	**67.01**	**340**	LR	LR	05 10 52.9	
	comp=Z,36nm,18.2s,baz=162,slow=38						
MORC	**Moravsky Berou**	**67.11**	**341**	P	**P**	**04 38 54.0**	**-1.5**
MORC				IAmb	IAmb	04 38 55.4	
	comp=Z,3.8nm,0.8s						
SQTA	**Sankt Quirin**	**67.26**	**335**	*e*P	**P**	**04 38 55.2**	**-1.4**
	comp=Z,2.3nm,0.8s						
FETA	**Feichten**	**67.30**	**335**	*e*P	**P**	**04 38 55.9**	**-0.9**
	comp=Z,5.9nm,1.0s						
PZH	**PanZhiHua**	**67.39**	**54**	P	**P**	**04 39 00.8**	**+3.0**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,3.9s						
GEC2	**GERESS Array S**	**67.63**	**338**	P	**P**	**04 38 57.2**	**-1.7**
GEC2				IAmb	IAmb	04 38 58.8	
	comp=Z,3.8nm,1.0s						
GERES	**GERESS Array B**	**67.63**	**338**	P	**P**	**04 38 57.1**	**-1.7**
GERES	**GERESS Array B**	**67.63**	**338**	P	**P**	**04 38 57.6**	**-1.3**
	comp=Z,1.4nm,0.7s,baz=142,slow=6.8,SNR=7.5						
GERES				LR	LR	05 12 00.5	
	comp=Z,36nm,18.2s,baz=108,slow=39						
	comp=Z,1.4nm,0.7s						
RETA	**Reutte**	**67.66**	**335**	*e*P	**P**	**04 38 57.5**	**-1.5**
	comp=Z,3.7nm,1.0s						
MAKZ	**Makanchi**	**67.97**	**26**	P	**P**	**04 39 01.5**	**+0.5**
MAKZ				IAmb	IAmb	04 39 08.2	
	comp=Z,5.7nm,0.9s						
MK31	**Makanchi Array**	**68.09**	**26**	P	**P**	**04 39 02.8**	**+1.1**
MK31				IAmb	IAmb	04 39 08.2	
	comp=Z,3.9nm,0.9s						
MKAR	**Makanchi Array**	**68.09**	**26**	P	**P**	**04 39 02.8**	**+1.1**
MKAR	**Makanchi Array**	**68.09**	**26**	P	**P**	**04 39 01.7**	**-0.1**
	comp=Z,1.4nm,0.8s,baz=214,slow=10,SNR=2.7						
	comp=Z,1.4nm,0.8s						
BVAR	**Borovoye Array**	**69.17**	**16**	P	**P**	**04 39 06.0**	**-2.3**
	comp=Z,0.3nm,0.4s,baz=318,slow=6.0,SNR=9.9						
	comp=Z,0.3nm,0.4s						
ESDC	**Sonseca Array**	**69.61**	**321**	P	**P**	**04 39 11.4**	**+0.1**
	comp=Z,1.8nm,1.0s,baz=138,slow=4.9,SNR=5.7						
ESDC				LR	LR	05 10 55.1	
	comp=Z,43nm,18.2s,baz=130,slow=37						
	comp=Z,1.8nm,1.0s						
KURBB	**Kurchatov Arra**	**69.66**	**22**	P	**P**	**04 39 09.6**	**-1.8**
	comp=Z,0.8nm,0.2s,baz=224,slow=6.6,SNR=6.3						
	comp=Z,0.8nm,0.2s						
ARU	**Arti**	**70.03**	**8**	P	**P**	**04 39 14.8**	**+1.3**
ARU	**Arti**	**70.03**	**8**	LR	LR	05 11 46.9	
	comp=Z,37nm,20.4s,baz=201,slow=38						
KIRV	**Kirov**	**71.39**	**2**	LR	LR	05 12 34.2	
	comp=Z,39nm,20.5s,baz=193,slow=38						
ZALV	**Zalesovo Beam**	**74.64**	**23**	P	**P**	**04 39 41.6**	**+0.4**
ZALV	**Zalesovo Beam**	**74.64**	**23**	P	**P**	**04 39 41.2**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=218,slow=6.4,SNR=1.6						
	comp=Z,0.4nm,0.4s						
BELA	**Belgrano 2**	**75.29**	**192**	P	**P**	**04 39 45.5**	**+

JGF Kuroka 7.19 327 Pn Pn 04 45 53.3 +0.1
MJAR Matsushiro Arr 7.63 335 Pn Pn 04 45 59.0 -0.3
0.5nm,0.3s,baz=160,slow=11,SNR=38
MJAR Sn Sn 04 47 22.7 -2.0
baz=190,slow=20,SNR=1.8
3.4nm,0.3s
MAJO Matsushiro 7.64 335 Pn Pn 04 45 59.0 -0.3
MJB9 Matsu-Tunnel 7.64 335 Pn Pn 04 46 00.8 +1.5
JMM Marumori 8.27 352 Pn Pn 04 46 05.1 -2.9
JSD Sado 8.97 340 Pn Pn 04 46 15.3 -2.3
JNU Nakatsue 10.26 293 LR LR 04 50 46.6
comp=Z,88nm,18.3s,baz=123,slow=39
KSRS Korea Array 14.20 307 Pn Pn 04 47 29.6 +0.5
0.2nm,0.3s,baz=116,slow=12,SNR=2.2
KSRS LR LR 04 52 52.0
comp=Z,26nm,18.9s,baz=110,slow=37
1.1nm,0.8s
USRK Ussuriysk Ar. 16.63 334 Pn P 04 48 01.7 -1.3
0.4nm,0.3s,baz=149,slow=17,SNR=1.5
1.1nm,0.5s
YULB Yu-li 19.69 256 P Pn 04 48 37.6 -0.9
SSLB Suanglung 19.83 258 P Pn 04 48 40.9 +0.7
SSLB IAmb IAmb 04 48 50.0
comp=Z,8.1nm,0.6s
KLR Kul'dur 21.11 341 P P 04 48 52.2 +0.1
comp=Z,1.6nm,0.5s,baz=150,slow=11,SNR=5.7
comp=Z,1.6nm,0.5s
TGY Tagaytay City 24.99 236 LR LR 04 58 04.2
comp=Z,91nm,19.1s,baz=164,slow=34
SONM Songino Array 32.91 314 P P 04 50 42.4 +0.6
comp=Z,2.3nm,0.9s,baz=120,slow=8.5,SNR=4.0
comp=Z,2.3nm,0.9s
KAPI Kappang 40.64 216 LR LR 05 12 46.1
comp=Z,28nm,18.0s,baz=248,slow=42
CMAR Chiang Mai Arr 40.81 264 LR LR 05 09 28.4
comp=Z,29nm,18.2s,baz=185,slow=37
KULM Kulim 46.05 246 P P 04 52 32.1 +0.7
ZALV Zalesovo Beam 47.58 318 P P 04 52 43.1 +0.3
comp=Z,0.9nm,0.6s,baz=90,slow=6.5,SNR=4.1
ZALV PcP PcP 04 54 10.9 -1.4
comp=Z,0.5nm,0.4s,baz=73,slow=4.8,SNR=2.0
comp=Z,0.9nm,0.6s
MK31 Makanchi Array 48.88 308 P P 04 52 53.4 +0.3
MKAR Makanchi Array 48.88 308 P P 04 52 52.5 -0.5
MKAR Makanchi Array 48.88 308 P P 04 52 53.5 +0.5
comp=Z,1.2nm,0.6s,baz=90,slow=9.2,SNR=12
comp=Z,1.2nm,0.6s
MAKZ Makanchi 49.09 308 P P 04 52 54.6 -0.1
MAKZ IAmb IAmb 04 52 56.3
comp=Z,6.0nm,1.5s
WB0 Warramunga Arr 49.70 190 P P 04 53 00.2 +0.7
WR0 Warramunga Arr 49.87 189 P P 04 53 00.3 -0.4
WB2 Warramunga Arr 49.88 190 P P 04 53 01.1 +0.3
WRA Warramunga Arr 49.88 190 P P 04 52 59.1 -1.8
WRA Warramunga Arr 49.88 190 P P 04 53 01.6 +0.8
comp=Z,2.5nm,0.6s,baz=7.1,slow=7.8,SNR=29
WRA PcP PcP 04 54 22.7 +1.6
comp=Z,0.3nm,0.5s,baz=1.6,slow=4.0,SNR=1.3
comp=Z,2.5nm,0.6s
KURK Kurchatov 51.22 313 P P 04 53 10.2 -0.4
KURK IAmb IAmb 04 53 12.8
comp=Z,5.6nm,0.9s
KURBB Kurchatov Arra 51.28 313 P P 04 53 11.4 +0.4
comp=Z,3.4nm,0.7s,baz=90,slow=7.4,SNR=24
comp=Z,3.4nm,0.7s
B20K Meade River 52.49 22 P P 04 53 20.1 +0.2
IMAR Indian Mountai 52.78 28 P P 04 53 22.0 0.0
B21K Ikpikpuk River 53.24 23 P P 04 53 25.7 +0.4
B21K IAmb IAmb 04 53 30.8
comp=Z,3.5nm,1.1s
ASAR Alice Springs 53.61 189 P P 04 53 28.8 +0.2
ASAR PcP PcP 04 54 35.7 +0.8
comp=Z,0.4nm,0.3s,baz=4.2,slow=5.9,SNR=7.4
comp=Z,0.5nm,0.8s,baz=351,slow=4.2,SNR=1.8
comp=Z,0.4nm,0.3s
D22K Ayikyak River 53.74 24 P P 04 53 30.0 +0.9
D22K IAmb IAmb 04 53 32.7
comp=Z,6.5nm,1.5s
B22K Teshekpuk Lake 53.81 22 P P 04 53 29.4 -0.2
B22K IAmb IAmb 04 53 40.5
comp=Z,6.6nm,1.4s
E22K Anaktuvuk Pass 53.91 25 P P 04 53 31.4 +0.9
E22K IAmb IAmb 04 53 37.5
comp=Z,4.9nm,1.4s
G23K Bananza Creek 54.38 27 P P 04 53 34.8 +0.9
C23K Itkillik River 54.65 23 P P 04 53 35.9 +0.3
C23K IAmb IAmb 04 53 40.8
comp=Z,5.5nm,1.4s
F24K Squaw Lake 55.30 26 P P 04 53 41.3 +0.8
ILAR Eielson Array 55.49 29 P P 04 53 41.5 -0.3
comp=Z,0.4nm,0.7s,baz=271,slow=6.2,SNR=5.3
comp=Z,0.4nm,0.7s
D25K Kavik River 56.05 24 P P 04 53 46.5 +0.7
D25K IAmb IAmb 04 53 58.6
comp=Z,3.4nm,1.4s
BVAR Borovoye Array 56.18 316 P P 04 53 47.8 +0.8
comp=Z,1.8nm,0.6s,baz=81,slow=8.6,SNR=10.0
comp=Z,1.8nm,0.6s
BMAR Burnt Mountain 56.57 26 P P 04 53 51.1 +1.5
SCRK Sand Creek 56.73 30 P P 04 53 51.0 +0.1
SCRK IAmb IAmb 04 54 11.3
comp=Z,4.2nm,1.5s
KK31 Karatay Array 57.61 305 P P 04 53 56.9 -0.4
KKAR Karatay Array 57.61 305 P P 04 53 58.0 +0.7
E27K Coleen River 57.72 25 P P 04 53 59.0 +1.3
E27K IAmb IAmb 04 54 00.5
comp=Z,3.1nm,1.4s
I28M Miner Creek 58.43 29 P P 04 54 03.3 +0.5
E28M Babbage River 58.48 25 P P 04 54 04.2 +1.2
E28M IAmb IAmb 04 54 23.3
comp=Z,3.8nm,1.3s
EPYK Eagle Plains 59.69 27 P P 04 54 12.2 +0.9
EPYK IAmb IAmb 04 54 55.1
comp=Z,2.6nm,1.1s
I30M Mount Dempster 59.94 29 P P 04 54 14.0 +0.8
I30M IAmb IAmb 04 54 49.7
comp=Z,3.7nm,1.4s
G31M Satah River 60.60 27 P P 04 54 18.2 +0.7
INK Inuvik 60.72 25 P P 04 54 18.3 0.0
INK IAmb IAmb 04 54 18.8
comp=Z,4.1nm,1.4s
FORT Forrest 61.58 194 P P 04 54 25.3 +0.7
BBOO Buckleboo 62.39 186 P P 04 54 31.3 +1.3
ABKAR Akbulak array 63.33 313 P P 04 54 36.5 +0.3
EUNU Eureka 67.38 8 P P 04 55 01.5 -0.5
EUNU IAmb IAmb 04 55 13.1
comp=Z,6.8nm,1.5s
YKA Yellowknife Ar 69.91 29 P P 04 55 17.7 -0.2
comp=Z,0.2nm,0.8s,baz=299,slow=7.6,SNR=3.1
comp=Z,0.2nm,0.8s
OBN Obninsk 74.44 325 LR LR 05 29 01.3
comp=Z,30nm,20.8s,baz=55,slow=36
FIA1 FINESS Array S 75.66 334 P P 04 55 52.1 0.0
FINES FINESS Array B 75.66 334 P P 04 55 51.7 -0.4
FINES FINESS Array B 75.66 334 P P 04 55 52.5 +0.4
comp=Z,0.5nm,0.4s,baz=52,slow=6.9,SNR=8.2
comp=Z,0.5nm,0.4s
KBZ Khabaz 76.28 313 P P 04 55 57.2 +1.3
comp=Z,2.0nm,0.7s,baz=55,slow=4.6,SNR=5.2
comp=Z,2.0nm,0.7s
NVAR Mina Array Bea 78.95 52 P P 04 56 12.4 +1.2
comp=Z,0.3nm,0.6s,baz=300,slow=6.7,SNR=3.9
comp=Z,0.3nm,0.6s
AKASG Malin Array Be 80.56 324 P P 04 56 20.4 +0.9
comp=Z,1.0nm,0.7s,baz=47,slow=5.4,SNR=5.6
comp=Z,1.0nm,0.7s
HFS Hagfors 81.08 337 P P 04 56 22.5 +0.4
comp=Z,0.7nm,0.5s,baz=64,slow=9.8,SNR=6.2
comp=Z,0.7nm,0.5s
NOA NORSAR Array B 81.24 338 P P 04 56 23.6 +0.6
comp=Z,0.5nm,0.6s,baz=42,slow=5.3,SNR=3.3
NOA LR LR 05 36 42.1
comp=Z,8.5nm,18.6s,baz=270,slow=39
comp=Z,0.5nm,0.6s
BR131 Keskin Array S 84.27 313 P P 04 56 40.4 +1.1
BR131 IAmb IAmb 04 56 50.7
comp=Z,2.8nm,0.9s
BRTR Keskin Array B 84.27 313 P P 04 56 39.4 +0.2
BRTR Keskin Array B 84.27 313 P P 04 56 40.1 +0.9
comp=Z,1.3nm,0.7s,baz=87,slow=5.3,SNR=8.9
comp=Z,1.3nm,0.7s
TXAR Lajitas Array 94.08 53 P P 04 57 27.6 +1.5
comp=Z,0.4nm,0.8s,baz=316,slow=3.5,SNR=5.7
comp=Z,0.4nm,0.8s

*JMA **13** 04:58:43.9±0.2,25°N±2°×122°7E±0'.6,h173km±2km,*

MV3.8/18,NW OFF ISHIGAKIJIMA IS
*TAP **13** 04:58:43.8,25°17N×122°71E,h171km,ML3.9,C*
ISC 13 04:58:43.2±1.5,**25°10N**±0°05×**122°69E**±0°03,**h177**km±7km,
n135,σ0**89**/241,**Taiwan region**

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

TWB1 Santiao Chiao 0.64 262 P Pn 04 59 08.7 +0.4
baz=263
TWB1 eS Sn 04 59 27.1 -0.6
baz=263
JYNG Yonagunijimaku 0.69 160 P Pn 04 59 08.8 +0.1
JYNG S Sn 04 59 28.2 0.0
YOJ Yonaguni jima 0.70 155 eP Pn 04 59 08.8 0.0
YOJ eS Sn 04 59 28.1 -0.2
YOJ Yonaguni jima 0.70 155 *i* P Pn 04 59 09.0 +0.3
baz=155
YOJ eS Sn 04 59 27.9 -0.4
baz=155
SXI1 Grass Mountain 0.73 270 P Pn 04 59 09.3 +0.3
baz=268
SXI1 S Sn 04 59 29.2 +0.4
baz=268
PCYT Pengchaiyu 0.77 313 eP Pn 04 59 08.6 -0.4
baz=303
PCYT eS Sn 04 59 28.5 -0.5
baz=303
TIPB Shuangxi 0.79 261 *i* P Pn 04 59 09.7 +0.5
baz=259
TIPB eS Sn 04 59 28.7 -0.6
baz=259
EOS2 EOS2 0.80 211 eP Pn 04 59 09.8 +0.7
baz=208
EOS2 eS Sn 04 59 29.6 +0.6
baz=208
NWF Wu-fen Shan 0.82 268 eP Pn 04 59 10.2 +0.7
baz=268
WFSB Wu-fen Shan 0.82 268 eP Pn 04 59 10.3 +0.9
baz=266
TNOU National Taiwa 0.83 273 eP Pn 04 59 09.5 +0.1
baz=268
TNOU eS Sn 04 59 29.0 -0.6
baz=268
EOS3 EOS3 0.88 203 P Pn 04 59 10.6 +1.0
baz=210
EOS3 *i* S Sn 04 59 30.7 +0.7
baz=210
TWC Suao 0.91 237 eP Pn 04 59 10.1 +0.2
baz=227
TWC eS Sn 04 59 29.3 -1.2
baz=227
ILA Ilan 0.92 249 eP Pn 04 59 10.4 +0.4
baz=245
ILA eS Sn 04 59 31.1 +0.5
baz=245
ESAO Su ao 0.93 236 eP Pn 04 59 10.8 +0.7
baz=227
ESAO eS Sn 04 59 29.4 -1.4
baz=227
NDS Dongshan 1.00 242 eP Pn 04 59 11.4 +0.8
baz=233
NDS eS Sn 04 59 30.6 -1.1
baz=233
YM08 YM08 1.00 275 eP Pn 04 59 11.5 +0.9
baz=273
TWE Neicheng 1.00 248 *i* P Pn 04 59 11.1 +0.4
baz=244
TWE *i* S Sn 04 59 31.2 -0.5
baz=244
TWA Mucha 1.01 263 eP Pn 04 59 11.2 +0.4
baz=250
TWA eS Sn 04 59 31.3 -0.6
baz=250
YM01 YM01 1.01 273 eP Pn 04 59 11.5 +0.7
baz=271
YM01 eS Sn 04 59 31.1 -0.9
baz=271
EOS4 EOS4 1.03 199 eP Pn 04 59 10.8 +0.3
baz=205
EOS4 eS Sn 04 59 30.9 -0.7
baz=205
EWUT Wuta 1.05 232 *i* P Pn 04 59 11.7 +0.6
baz=225
EWUT *i* S Sn 04 59 31.8 -0.7
baz=225
FUSB Fushanzhiwuyua 1.05 251 *i* P Pn 04 59 11.4 +0.3
baz=248
FUSB eS Sn 04 59 32.0 -0.6
baz=248
ENA Nanau 1.09 232 eP Pn 04 59 11.9 +0.5
baz=225
ENA eS Sn 04 59 32.5 -0.5
baz=225
ENTT Nioudou 1.12 246 *i* P Pn 04 59 12.2 +0.6
baz=243
ENTT eS Sn 04 59 33.4 0.0
baz=243
NWLT Wulai 1.12 253 *i* P Pn 04 59 11.8 +0.1
baz=250
NWLT eS Sn 04 59 31.8 -1.8
baz=250
TWS1 Kuangyinshan 1.15 270 eP Pn 04 59 12.5 +0.7
baz=262
TWS1 eS Sn 04 59 35.8 +1.9
baz=262
EAHA Aohua 1.16 228 P Pn 04 59 12.3 +0.5
baz=226
EAHA S Sn 04 59 33.6 -0.4
baz=226
NDT Datong Townshi 1.18 245 *i* P Pn 04 59 12.8 +0.7
baz=242
NDT *i* S Sn 04 59 34.1 -0.2
baz=242
LATG Datong 1.20 242 *i* P Pn 04 59 13.3 +1.0
baz=246
LATG S Sn 04 59 35.2 +0.4
baz=246
YHNB Yeheng 1.27 250 P Pn 04 59 13.2 +0.3
YHNB Yeheng 1.27 250 *i* P Pn 04 59 13.3 +0.3
baz=241
YHNB eS Sn 04 59 34.8 -0.9
baz=241
NSK Sanguang 1.28 251 *i* P Pn 04 59 13.3 +0.3
baz=240
NSK *i* S Sn 04 59 34.8 -1.2
baz=240
ETL Fush Village 1.35 226 eP Pn 04 59 13.7 0.0
baz=220
ETL eS Sn 04 59 36.4 -0.7
baz=220
NACB Ninganchiao 1.36 227 P Pn 04 59 14.0 +0.4
NACB Ninganchiao 1.36 227 *i* P Pn 04 59 13.8 +0.1
baz=221
NACB *i* S Sn 04 59 36.1 -1.0
baz=221
NNSB Datong 1.36 241 *i* P Pn 04 59 14.6 +0.8
baz=245
NNSB S Sn 04 59 37.0 -0.4
baz=245
NNS Nan Shan 1.36 241 *i* P Pn 04 59 14.6 +0.8
baz=245
NNS S Sn 04 59 37.0 -0.4
baz=245
NCUH Zhongli 1.37 265 eP Pn 04 59 14.9 +1.2
baz=270
NCUH *i* S Sn 04 59 37.4 +0.1
baz=270
TWD Chiawan 1.42 225 eP Pn 04 59 14.4 +0.2
baz=221
TWD *i* S Sn 04 59 37.2 -1.0
baz=221
HATJ Hateruma jima 1.46 135 P Pn 04 59 15.4 +0.8
HATJ S Sn 04 59 38.3 -0.4
JKRS Kuro-shima 1.48 125 P Pn 04 59 15.6 +0.8
JKRS S Sn 04 59 38.6 -0.5
HWA Hwalien 1.49 222 eP Pn 04 59 15.4 +0.5
baz=220
HWA eS Sn 04 59 39.7 +0.4
baz=220
NFF Wufeng Townshi 1.50 252 *i* P Pn 04 59 15.3 +0.3
baz=249
NFF *i* S Sn 04 59 38.4 -1.1
baz=249
JIJ Ishigaki jima 1.52 119 *i* P Pn 04 59 15.3 +0.3
JIJ S Sn 04 59 38.1 -1.6
JISG Ishigakijimahi 1.56 109 *i* P Pn 04 59 15.8 +0.3
JISG S Sn 04 59 39.6 -0.9
ETM Tongmen 1.57 224 eP Pn 04 59 15.7 0.0
baz=223
ETM eS Sn 04 59 39.1 -1.6
baz=223
SBCB Hsinchu 1.57 259 eP Pn 04 59 16.6 +1.0
baz=249
SBCB eS Sn 04 59 40.6 -0.1
baz=249
LXIB Xiulin Townshi 1.58 227 P Pn 04 59 15.9 0.0
baz=219
LXIB S Sn 04 59 40.7 -0.5
baz=219
LIOB Emei 1.58 254 *i* P Pn 04 59 16.3 +0.5
baz=245
LIOB eS Sn 04 59 40.0 -1.0
baz=245
NSTT Nanjuang 1.60 253 eP Pn 04 59 16.0 +0.1
baz=244
NSTT S Sn 04 59 39.9 -1.3
baz=244
WHF Hehuan Shan 1.61 234 eP Pn 04 59 17.2 +0.7
baz=231
WHF S Sn 04 59 41.5 -0.6
baz=231
TWT Tachien 1.61 239 eP Pn 04 59 17.8 +1.5
baz=242
TWT S Sn 04 59 42.2 +0.4
baz=242
TDCB Techi 1.63 239 eP Pn 04 59 17.8 +1.4
baz=241
TDCB eS Sn 04 59 42.1 +0.1
baz=241
SHUL Shoufeng 1.66 218 eP Pn 04 59 17.0 +0.5
baz=211
SHUL S Sn 04 59 42.3 -0.1
baz=211
ESL Shilin 1.72 222 *i* P Pn 04 59 16.8 -0.3
baz=225
ESL S Sn 04 59 41.7 -1.7
baz=225
CHGB Renai 1.72 233 *i* P Pn 04 59 18.7 +1.2
baz=231
CHGB *i* S Sn 04 59 44.1 +0.2
baz=231
WHP Taichung City 1.78 243 eP Pn 04 59 19.7 +1.8
baz=246
WHP S Sn 04 59 44.7 0.0
baz=246
OWD Renai 1.79 231 eP Pn 04 59 18.9 +0.9
baz=226
OWD eS Sn 04 59 44.1 -0.8
baz=226
WUSB Renai 1.81 233 *i* P Pn 04 59 19.4 +1.3
baz=234
WUSB *i* S Sn 04 59 45.4 +0.2
baz=234
NMLH Miaoli 1.81 252 eP Pn 04 59 18.8 +0.7
baz=243
NMLH *i* S Sn 04 59 44.2 -0.9
baz=243
WARBT Fenglin Townsh 1.82 221 *i* P Pn 04 59 17.8 -0.4
baz=224
WARBT *i* S Sn 04 59 43.2 -2.1
baz=224
EGFH Guangfu 1.83 219 eP Pn 04 59 18.4 +0.1
baz=225
EGFH S Sn 04 59 44.3 -1.2
baz=225
NSY Sanyi 1.88 249 eP Pn 04 59 19.7 +0.9
baz=240
NSY eS Sn 04 59 46.1 -0.2
baz=240
JTJ Tarama 1.89 104 P Pn 04 59 19.5 +0.6
JTJ S Sn 04 59 45.9 -0.5
TWQ1 Liyutan 1.90 247 eP Pn 04 59 19.7 +0.7
baz=245
TWQ1 S Sn 04 59 46.0 -0.7
baz=245
WCS Beigang Elemen 1.92 238 *i* P Pn 04 59 20.5 +1.3
baz=236
WCS *i* S Sn 04 59 47.2 +0.1
baz=236
VWDT VWDT 1.95 227 P Pn 04 59 20.7 +1.2
baz=221
VWDT *i* S Sn 04 59 47.7 +0.1
baz=221
HGSD Ruisui 1.97 216 *i* P Pn 04 59 20.4 +0.6
baz=213
HGSD S Sn 04 59 48.5 +0.3
baz=213
WDJ Dajia District 2.01 248 eP Pn 04 59 20.9 +0.8
baz=246
EHYH Wanrong 2.02 218 eP Pn 04 59 21.5 +1.2
baz=223
EHY Hungye 2.02 218 eP Pn 04 59 20.2 -0.1
baz=223
SMLT Sun Moon Lake 2.03 234 *i* P Pn 04 59 21.8 +1.2
baz=232
SMLT *i* S Sn 04 59 50.6 +1.2
baz=232
TYC Yuchr 2.05 235 *i* P Pn 04 59 21.7 +1.1
baz=233
TYC *i* S Sn 04 59 49.8 +0.2
baz=233
SSLB Suanglung 2.05 231 *i* P Pn 04 59 22.0 +1.3
baz=232
SSLB eS Sn 04 59 49.7 0.0
baz=232
TCU Taichung 2.06 243 eP Pn 04 59 21.5 +0.7
baz=245
TCU eS Sn 04 59 49.5 -0.4
baz=245
ECBN Changbin 2.11 213 eP Pn 04 59 21.8 +0.6
baz=212
ECBN eS Sn 04 59 50.5 -0.3
baz=212
YULB Yu-li 2.12 217 P Pn 04 59 21.5 0.0
YULB Yu-li 2.12 217 eP Pn 04 59 21.2 -0.3
baz=216
YULB eS Sn 04 59 49.0 -2.2
baz=216
EYUL Yuli 2.15 216 *i* P Pn 04 59 22.4 +0.6
baz=221
EYUL eS Sn 04 59 50.0 -1.6
baz=221
TWF1 Yuli 2.15 216 eP Pn 04 59 21.8 0.0
baz=221
WHYT Xinyi Township 2.18 230 *i* P Pn 04 59 23.4 +1.2
baz=236
WHYT S Sn 04 59 53.1 +0.8
baz=236
WCHH Zhanghua 2.19 243 eP Pn 04 59 22.8 +0.6
baz=246
WCHH eS Sn 04 59 52.1 -0.2
baz=246
WJS Zhushan 2.19 235 eP Pn 04 59 23.4 +1.2
baz=233
WJS eS Sn 04 59 53.0 +0.5
baz=233
WNT Mingjian 2.19 237 eP Pn 04 59 23.3 +1.1
baz=235
WNT eS Sn 04 59 52.8 +0.3
baz=235
CHKH Chenggong 2.24 212 eP Pn 04 59 23.1 +0.4
baz=211
CHKH S Sn 04 59 52.6 -0.9
baz=211
JIRB Irabujima 2.27 96 P Pn 04 59 23.8 +0.7
JIRB eS Sn 04 59 53.0 -1.1
FULB Fuli 2.28 214 eP Pn 04 59 24.3 +1.0
baz=220
FULB eS Sn 04 59 54.1 -0.3
baz=220
JIKM Ikemajima 2.33 94 eP Pn 04 59 24.7 +1.0
JIKM S Sn 04 59 54.9 -0.3
CHKT Chengkung 2.33 211 eP Pn 04 59 24.1 +0.3
baz=206
CHKT *i* S Sn 04 59 54.3 -1.0
baz=206
ALS Alishan 2.34 228 *i* P Pn 04 59 25.4 +1.2
baz=221
ALS eS Sn 04 59 55.5 -0.4
baz=221
EHD Haiduan 2.37 215 P Pn 04 59 24.2 -0.1
baz=214
EHD eS Sn 04 59 54.6 -1.6
baz=214
WGK Gukeng 2.40 234 eP Pn 04 59 25.9 +1.3
baz=233

WGK				*e*S		**Sn**	04 59 58.3	+1.6
	baz=233							
ECS	**Chishang**	**2.41**	**214**	*e*P		**Pn**	04 59 24.9	+0.2
	baz=214							
WDLH	**Douliu**	**2.41**	**235**	*i* P		**Pn**	04 59 25.8	+1.0
	baz=233							
WDLH				*e*S		**Sn**	04 59 57.5	+0.5
	baz=233							
WRL	**Guolierlin Hig**	**2.42**	**241**	*i* P		**Pn**	04 59 25.2	+0.4
	baz=239							
WRL				S		**Sn**	04 59 56.0	-1.1
	baz=239							
JMJ2	**Miyako jima3**	**2.42**	**98**	*e*P		**Pn**	04 59 25.6	+0.7
JMJ2				S		**Sn**	04 59 56.6	-0.5
ELDTW	**Lidau**	**2.44**	**219**	P		**Pn**	04 59 25.8	+0.6
	baz=214							
ELDTW				*e*S		**Sn**	04 59 56.5	-1.2
	baz=214							
EDH	**Donghe**	**2.47**	**211**	*e*P		**Pn**	04 59 26.1	+0.7
	baz=206							
EDH				*e*S		**Sn**	04 59 56.1	-2.1
	baz=206							
JOGS	**Gusukube**	**2.49**	**97**	*e*P		**Pn**	04 59 26.9	+1.2
JOGS				S		**Sn**	04 59 58.2	-0.4
WCKO	**Fanlu**	**2.52**	**229**	*e*P		**Pn**	04 59 27.3	+1.3
	baz=228							
WCKO				*e*S		**Sn**	04 59 59.4	+0.1
	baz=228							
WTK	**Tuku**	**2.52**	**237**	*i* P		**Pn**	04 59 26.8	+0.7
	baz=235							
WTK				*i* S		**Sn**	04 59 59.1	-0.2
	baz=235							
CHN4	**Tsaushan**	**2.59**	**228**	*e*P		**Pn**	04 59 27.8	+1.0
	baz=233							
STYH	**Taoyuan**	**2.60**	**223**	*e*P		**Pn**	04 59 28.6	+1.6
	baz=217							
TPUB	**Ta-pu**	**2.60**	**227**	P		**Pn**	04 59 27.8	+0.9
TPUB	**Ta-pu**	**2.60**	**227**	*e*P		**Pn**	04 59 28.0	+1.0
	baz=232							
TPUB				*e*S		**Sn**	05 00 01.0	+0.1
	baz=232							
LONT	**Longtian**	**2.61**	**213**	*e*P		**Pn**	04 59 26.9	-0.1
	baz=213							
WTP	**Ta-pu**	**2.65**	**226**	*e*P		**Pn**	04 59 28.4	+0.9
	baz=232							
WTP				*e*S		**Sn**	05 00 02.3	+0.3
	baz=232							
LDUT	**Ludao**	**2.66**	**205**	*i* P		**Pn**	04 59 28.0	+0.3
	baz=207							
LDUT				S		**Sn**	05 00 01.4	-0.9
	baz=207							
WSF	**Szhu**	**2.68**	**238**	*e*P		**Pn**	04 59 28.5	+0.6
	baz=236							
WSF				*e*S		**Sn**	05 00 02.2	-0.3
	baz=236							
MATB	**Ma-tsu**	**2.69**	**293**	*e*P		**Pn**	04 59 28.5	+0.6
	baz=290							
TWGBT	**Beinan**	**2.71**	**213**	*e*P		**Pn**	04 59 28.3	0.0
	baz=215							
TWGBT				*e*S		**Sn**	05 00 00.5	-2.8
	baz=215							
TWG	**Pinlang**	**2.71**	**213**	*e*P		**Pn**	04 59 28.1	-0.1
	baz=215							
TWG				*e*S		**Sn**	05 00 00.7	-2.6
	baz=215							
TWK	**Hsinying**	**2.71**	**228**	*e*P		**Pn**	04 59 29.2	+0.8
	baz=227							
TWK				*e*S		**Sn**	05 00 03.8	+0.3
	baz=227							
WSL	**Shuilin Townsh**	**2.74**	**235**	*e*P		**Pn**	04 59 29.2	+0.7
	baz=240							
WSL				*e*S		**Sn**	05 00 04.2	+0.3
	baz=240							
SNST	**Tainan City**	**2.74**	**227**	*i* P		**Pn**	04 59 29.8	+1.1
	baz=232							
SNST				S		**Sn**	05 00 04.2	+0.3
	baz=232							
CHN1	**Nanshi**	**2.74**	**226**	*e*P		**Pn**	04 59 29.7	+1.0
	baz=232							
SGST	**Jiashian**	**2.78**	**224**	*e*P		**Pn**	04 59 29.5	+0.4
	baz=231							
SLGT	**Liugui**	**2.81**	**222**	*e*P		**Pn**	04 59 30.6	+1.2
	baz=227							
VWUC	**VWUC**	**2.94**	**269**	*e*P		**Pn**	04 59 31.1	+0.1
	baz=266							
VWUC				S		**Sn**	05 00 06.2	-1.9
	baz=266							
ECL	**Taimali**	**2.96**	**213**	*e*P		**Pn**	04 59 31.1	-0.1
	baz=213							
SCST	**Cishan**	**2.98**	**223**	*e*P		**Pn**	04 59 33.0	+1.5
	baz=230							
LYJJ	**Jianjiangzhen**	**3.01**	**299**	*e*P		**Pn**	04 59 31.5	-0.3
	baz=296							
SSD	**Sandimen**	**3.01**	**219**	*e*P		**Pn**	04 59 33.0	+1.2
	baz=218							
TSCK	**Chigu Township**	**3.07**	**231**	*e*P		**Pn**	04 59 33.7	+1.1
	baz=230							
TSCK				*e*S		**Sn**	05 00 11.0	-0.1
	baz=230							
MASBT	**Mashibuluo**	**3.11**	**218**	*e*P		**Pn**	04 59 34.2	+1.0
	baz=217							
EAST	**Anshuo**	**3.19**	**212**	*e*P		**Pn**	04 59 35.5	+1.4
	baz=209							
EAST				*e*S		**Sn**	05 00 13.1	-0.7
	baz=209							
PTMZ	**Houxiangcun**	**3.23**	**270**	*e*P		**Pn**	04 59 34.8	+0.2
	baz=267							
PNG	**Penghu**	**3.24**	**243**	*e*P		**Pn**	04 59 34.5	-0.2
	baz=236							
LYUB	**Lan-yu**	**3.25**	**198**	*e*P		**Pn**	04 59 35.1	+0.3
	baz=194							
LYUB				*e*S		**Sn**	05 00 14.4	-0.7
	baz=194							
PHUB	**P'eng-hu**	**3.25**	**242**	*i* P		**Pn**	04 59 34.9	+0.1
	baz=235							
PHUB				*e*S		**Sn**	05 00 12.1	-3.0
	baz=235							
SCZT	**Fangliau**	**3.31**	**215**	*e*P		**Pn**	04 59 37.0	+1.4
	baz=215							
WDGT	**Dungji**	**3.32**	**237**	P		**Pn**	04 59 36.0	+0.4
	baz=235							
WDGT				*e*S		**Sn**	05 00 15.6	-0.9
	baz=235							
VCHM	**Qimei**	**3.52**	**238**	*i* P		**Pn**	04 59 38.7	+0.5
	baz=233							
TWKBT	**Hengchun**	**3.59**	**209**	*e*P		**Pn**	04 59 41.1	+2.0
	baz=208							

NEIC ***13*** *05:10:42.5±1.7, 41.°59S±0.°03×174.°55E±0.°05, h10km±1km, mb4.2/6, Error ellipse: s-maj=5.8km s-min=5.1km az=65.0*
NOU ***13*** *05:10:43.1, 41.°65S×174.°56E, h7km, MLv4.3/14, Cook Strait, New Zealand*
WEL ***13*** *05:10:44.2±0.6, 41.°5±3.°×17.°4E±.°, h11km±5km, M3.9/13, ML4.3/13, MLv3.9/13, Error ellipse: s-maj=0.0km s-min=0.0km az=158.3, confirmed*

ISC 13 05:10:43.4±1.1**, 41.°57S**±0.°03×**174.°51E**±0.°02**, h15**km±7km**, n182**, σ1s**09**/188**, mb4.3/5, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CMWZ	**Cape Campbell**	**0.28**	**231**			**Pb**	**05 10 49.5**	**-0.6**
CMWZ	**Cape Campbell**	**0.28**	**231**	P		**Pn**	**05 10 52.0**	**-0.9**
CMWZ				S		**Sn**	**05 10 58.0**	**-1.0**
SNZO	**South Karori**	**0.30**	**30**	P		**Pb**	**05 10 50.2**	**-0.2**
SNZO	**South Karori**	**0.30**	**30**			**Pg**	**05 10 48.9**	**-0.8**
SNZO				Sg		**Sb**	**05 10 54.6**	**-0.5**
BHW	**Baring Head**	**0.32**	**59**			**Pg**	**05 10 49.1**	**-0.9**
BHW	**Baring Head**	**0.32**	**59**	P		**Pb**	**05 10 51.5**	**+0.8**
BHW				S		**Sb**	**05 10 56.4**	**+0.7**
WEL	**Wellington**	**0.35**	**35**	P		**Pb**	**05 10 51.4**	**+0.1**
WEL				S		**Sb**	**05 10 56.7**	**+0.2**
TCW	**Tory Channel**	**0.40**	**334**			**Pg**	**05 10 51.0**	**-0.4**
TCW				Sg		**Sg**	**05 10 55.5**	**-1.4**
TCW	**Tory Channel**	**0.40**	**334**	P		**Pg**	**05 10 51.1**	**-0.4**
TCW				S		**Sg**	**05 10 55.6**	**-1.3**
TUWZ	**Tuamarina**	**0.45**	**288**			**Pg**	**05 10 51.9**	**-0.3**
TUWZ	**Tuamarina**	**0.45**	**288**	P		**Pg**	**05 10 52.0**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.49**	**253**			**Pb**	**05 10 54.3**	**+0.6**
BSWZ	**Blackbirch Sta**	**0.49**	**253**	P		**Pb**	**05 10 54.3**	**+0.6**
BSWZ				S		**Sb**	**05 11 01.8**	**+1.0**
PLWZ	**Palliser**	**0.56**	**90**			**Pn**	**05 10 56.6**	**-0.2**
PLWZ	**Palliser**	**0.56**	**90**	P		**Pn**	**05 10 56.7**	**-0.2**
MSWZ	**Moikau Station**	**0.58**	**75**			**Pn**	**05 10 56.6**	**-0.4**
MSWZ	**Moikau Station**	**0.58**	**75**	P		**Pn**	**05 10 56.7**	**-0.3**
MSWZ				S		**Sn**	**05 11 05.6**	**-0.7**
CAW	**Cannon Point**	**0.63**	**42**	P		**Pb**	**05 10 56.1**	**+0.1**
CAW				S		**Sb**	**05 11 04.7**	**+0.1**
PAWZ	**Paruwai Farm**	**0.72**	**75**	P		**Pn**	**05 10 59.1**	**+0.1**
KIW	**Kapiti Island**	**0.77**	**23**	P		**Pg**	**05 10 58.1**	**-0.3**
MTW	**Mount Morrison**	**0.85**	**61**	P		**Pn**	**05 11 01.1**	**+0.3**
DUWZ	**D'Urville Isla**	**0.89**	**330**	P		**Pg**	**05 10 59.6**	**-1.0**
TRWZ	**Traveller**	**0.90**	**79**	P		**Pn**	**05 11 01.9**	**+0.4**
OGWZ	**Otaki Gorge**	**0.91**	**34**	P		**Pg**	**05 11 00.6**	**-0.4**
NNZ	**Nelson**	**0.92**	**292**			**Pg**	**05 11 00.3**	**-0.9**
NNZ	**Nelson**	**0.92**	**292**	P		**Pg**	**05 11 00.2**	**-0.9**
HOWZ	**Holdsworth Sta**	**1.02**	**49**	P		**Pg**	**05 11 03.0**	**0.0**
KHZ	**Kahutara**	**1.11**	**220**	P		**Pg**	**05 11 05.1**	**+0.3**
KHZ	**Kahutara**	**1.11**	**220**	Pn		**Pg**	**05 11 05.0**	**+0.3**
KHZ	**Kahutara**	**1.11**	**220**	P		**Pg**	**05 11 05.2**	**+0.3**
TMWZ	**Te Maipa**	**1.14**	**66**	P		**Pb**	**05 11 04.8**	**0.0**
THZ	**Tophouse**	**1.22**	**260**			**Pn**	**05 11 05.5**	**-0.4**
THZ	**Tophouse**	**1.22**	**260**	P		**Pn**	**05 11 05.5**	**-0.4**
MRZ	**Mangatainoka R**	**1.22**	**42**			**Pn**	**05 11 05.9**	**0.0**
MRZ	**Mangatainoka R**	**1.22**	**42**	P		**Pn**	**05 11 06.1**	**+0.3**
TKNZ	**Takaka Hill**	**1.28**	**294**			**Pn**	**05 11 06.2**	**-0.6**
TKNZ	**Takaka Hill**	**1.28**	**294**	P		**Pn**	**05 11 06.2**	**-0.6**
TIWZ	**Tintock**	**1.31**	**53**	P		**Pn**	**05 11 07.0**	**-0.1**
MRNZ	**Matariki Terra**	**1.32**	**277**			**Pn**	**05 11 06.9**	**-0.4**
MRNZ	**Matariki Terra**	**1.32**	**277**	P		**Pn**	**05 11 07.0**	**-0.3**
CPWZ	**Castlepoint**	**1.44**	**63**	P		**Pn**	**05 11 09.0**	**+0.1**
OHWZ	**Ohakea**	**1.50**	**24**	P		**Pb**	**05 11 11.1**	**+0.3**
PRWZ	**Pori Road**	**1.50**	**48**	P		**Pn**	**05 11 09.8**	**+0.1**
POWZ	**Post Office Ro**	**1.52**	**39**	P		**Pn**	**05 11 10.1**	**+0.2**
BFZ	**Birch Farm**	**1.59**	**57**	P		**Pn**	**05 11 10.3**	**-0.6**
BFZ	**Birch Farm**	**1.59**	**57**			**Pn**	**05 11 10.3**	**-0.6**
BFZ	**Birch Farm**	**1.59**	**57**	P		**Pn**	**05 11 10.3**	**-0.6**
QRZ	**Quartz Range**	**1.67**	**296**	P		**Pn**	**05 11 12.3**	**+0.3**
QRZ	**Quartz Range**	**1.67**	**296**			**Pn**	**05 11 12.3**	**+0.3**
QRZ	**Quartz Range**	**1.67**	**296**	P		**Pn**	**05 11 12.4**	**+0.3**
GVZ	**Greta Valley S**	**1.77**	**218**			**Pn**	**05 11 13.7**	**+0.2**
GVZ	**Greta Valley S**	**1.77**	**218**	P		**Pn**	**05 11 13.9**	**+0.4**
DVHZ	**Dannevirke**	**1.79**	**45**	P		**Pn**	**05 11 13.1**	**-0.6**
WAZ	**Wanganui**	**1.85**	**12**	P		**Pb**	**05 11 16.0**	**-0.8**
ANWZ	**Angora Road**	**1.86**	**54**	P		**Pn**	**05 11 13.9**	**-0.8**
TSZ	**Takapari Road**	**1.87**	**37**	P		**Pn**	**05 11 14.8**	**0.0**
DSZ	**Denniston Nort**	**2.03**	**264**			**Pn**	**05 11 17.7**	**+0.7**
DSZ	**Denniston Nort**	**2.03**	**264**	P		**Pn**	**05 11 18.0**	**+1.0**
LTZ	**Lake Taylor**	**2.06**	**233**	Pn		**Pn**	**05 11 17.8**	**+0.4**
LTZ	**Lake Taylor**	**2.06**	**233**	P		**Pn**	**05 11 17.8**	**+0.4**
PRHZ	**Porangahau**	**2.07**	**52**	P		**Pn**	**05 11 16.7**	**-0.9**
PNHZ	**Pukenui**	**2.10**	**38**	P		**Pn**	**05 11 17.6**	**-0.4**
WPHZ	**Waipukurau**	**2.10**	**45**	P		**Pn**	**05 11 17.5**	**-0.5**
LREZ	**Lake Rotokare**	**2.11**	**358**	P		**Pb**	**05 11 21.4**	**+0.1**
AMCZ	**Amberley**	**2.11**	**220**			**Pn**	**05 11 18.1**	**0.0**
AMCZ	**Amberley**	**2.11**	**220**	P		**Pn**	**05 11 18.2**	**0.0**
NMEZ	**Namu Road**	**2.21**	**347**	P		**Pb**	**05 11 22.1**	**-0.8**
PREZ	**Palmer Road**	**2.24**	**353**	P		**Pb**	**05 11 23.1**	**-0.5**
MTVZ	**Mangateitei**	**2.30**	**19**	P		**Pb**	**05 11 23.2**	**-1.5**
KHEZ	**Kahui Hut**	**2.31**	**350**	P		**Pb**	**05 11 23.8**	**-0.9**
KHEZ	**Kahui Hut**	**2.31**	**350**	P		**Pb**	**05 11 23.6**	**-1.1**
NEZ	**North Egmont**	**2.32**	**352**	P		**Pb**	**05 11 24.0**	**-1.0**
NBEZ	**Newall Road No**	**2.35**	**348**	P		**Pb**	**05 11 23.7**	**-1.7**
PXZ	**Pawanui**	**2.36**	**50**	P		**Pn**	**05 11 20.4**	**-1.1**
MOVZ	**Moawhango**	**2.36**	**24**	P		**Pn**	**05 11 21.9**	**+0.3**
PKVZ	**Pokaka**	**2.37**	**16**	P		**Pb**	**05 11 25.1**	**-0.6**
DREZ	**Durham Road**	**2.39**	**354**	P		**Pb**	**05 11 25.6**	**-0.5**
WNVZ	**Wahianoa**	**2.39**	**21**	P		**Pn**	**05 11 23.1**	**+1.0**
KRHZ	**Kereru**	**2.39**	**37**	P		**Pn**	**05 11 21.3**	**-0.7**
BHHZ	**Black Hill Sta**	**2.39**	**30**	P		**Pn**	**05 11 22.2**	**+0.1**
TRVZ	**Turoa**	**2.41**	**20**	P		**Pn**	**05 11 24.4**	**+2.0**
PKE	**Pukeiti**	**2.41**	**350**	P		**Pn**	**05 11 24.2**	**+1.9**
WHVZ	**Whangaehu Hut**	**2.43**	**20**	P		**Pb**	**05 11 26.2**	**-0.7**
MAVZ	**Mataroa**	**2.44**	**20**	P		**Pn**	**05 11 26.7**	**-0.4**
FWVZ	**Far West T-bar**	**2.45**	**19**	P		**Pn**	**05 11 24.4**	**+1.4**
VRZ	**Vera Road**	**2.45**	**5**	P		**Pb**	**05 11 25.0**	**-2.1**
TUVZ	**Tukino**	**2.46**	**21**	P		**Pn**	**05 11 24.2**	**+1.1**
COVZ	**Chateau Observ**	**2.50**	**19**	P		**Pb**	**05 11 27.4**	**-0.6**
KAHZ	**Kahuranaki**	**2.53**	**46**	P		**Pn**	**05 11 22.8**	**-1.2**
OXZ	**Oxford**	**2.53**	**225**			**Pn**	**05 11 23.1**	**-0.8**
OXZ	**Oxford**	**2.53**	**225**	P		**Pn**	**05 11 23.1**	**-0.8**
MQZ	**McQueen's Vall**	**2.53**	**212**			**Pn**	**05 11 22.8**	**-1.1**
MQZ	**McQueen's Vall**	**2.53**	**212**	P		**Pn**	**05 11 22.8**	**-1.1**
NGZ	**Ngauruhoe**	**2.54**	**20**	P		**Pn**	**05 11 25.2**	**+1.1**
SNVZ	**South Ngauruho**	**2.54**	**20**	P		**Pn**	**05 11 25.2**	**+1.1**
INZ	**Inchbonnie**	**2.55**	**242**	Pn		**Pn**	**05 11 24.5**	**+0.4**
INZ	**Inchbonnie**	**2.55**	**242**	P		**Pn**	**05 11 24.7**	**+0.5**
OTVZ	**Oturere**	**2.56**	**21**	P		**Pb**	**05 11 28.4**	**-0.7**
NNVZ	**North Ngauruho**	**2.58**	**20**	P		**Pn**	**05 11 26.0**	**+1.3**
AKCZ	**Akaroa Harbour**	**2.58**	**207**	P		**Pn**	**05 11 24.2**	**-0.4**
WTVZ	**West Tongariro**	**2.59**	**19**	P		**Pn**	**05 11 28.4**	**-1.1**
KWHZ	**Kaweka Forest**	**2.59**	**35**	P		**Pn**	**05 11 23.5**	**-1.3**
TWVZ	**Taurewa**	**2.60**	**16**	P		**Pn**	**05 11 26.6**	**+1.7**
ETVZ	**East Tongariro**	**2.60**	**21**	P		**Pn**	**05 11 26.0**	**+1.1**
TMVZ	**Te Maari**	**2.62**	**21**	P		**Pn**	**05 11 26.1**	**+0.9**
KRVZ	**Karewarewa**	**2.62**	**20**	P		**Pb**	**05 11 29.1**	**-1.0**
NTVZ	**North Tongarir**	**2.63**	**20**	P		**Pn**	**05 11 26.2**	**+0.9**
KATZ	**Kakaramea**	**2.75**	**20**	P		**Pb**	**05 11 32.2**	**0.0**
RACZ	**Rakaia**	**2.77**	**218**	P		**Pn**	**05 11 26.2**	**-1.0**
RITZ	**Rihia Road**	**2.79**	**22**	P		**Pb**	**05 11 33.7**	**+0.8**
BKZ	**Black Stump Fm**	**2.84**	**33**	P		**Pn**	**05 11 29.0**	**+0.8**
BKZ	**Black Stump Fm**	**2.84**	**33**	Pn		**Pn**	**05 11 27.1**	**-1.1**
BKZ	**Black Stump Fm**	**2.84**	**33**	P		**Pb**	**05 11 32.8**	**-1.0**
RATZ	**Rangitukua**	**2.87**	**20**	P		**Pb**	**05 11 34.0**	**-0.3**
MHCZ	**Mount Hutt**	**2.92**	**227**	P		**Pn**	**05 11 28.7**	**-0.6**
HATZ	**Hinemaiaia**	**2.94**	**25**	P		**Pb**	**05 11 35.5**	**0.0**
NMHZ	**Naumai**	**3.03**	**36**	P		**Pg**	**05 11 41.4**	**-0.1**
HIZ	**Hauiti**	**3.07**	**5**	P		**Pn**	**05 11 34.2**	**+3.0**
HIZ	**Hauiti**	**3.07**	**5**	P		**Pb**	**05 11 34.6**	**-3.0**
WACZ	**Wakanui South**	**3.08**	**219**	P		**Pn**	**05 11 31.1**	**-0.3**
MRHZ	**Matea Rd**	**3.10**	**29**	P		**Pn**	**05 11 30.8**	**-1.0**
WHTZ	**Whakaora**	**3.11**	**21**	P		**Pn**	**05 11 40.5**	**+2.2**
WVZ	**Waitaha Valley**	**3.17**	**240**	P		**Pn**	**05 11 32.8**	**+0.1**
KUTZ	**Kaahu Road**	**3.24**	**19**	P		**Pb**	**05 11 41.2**	**+0.6**
MTHZ	**Maungataniwha**	**3.25**	**34**	P		**Pn**	**05 11 32.7**	**-1.1**
MTHZ						P	Pb	05 11 33.2 -7.6
WPRZ	**Whakapapatarin**	**3.30**	**23**	P		**Pb**	**05 11 42.7**	**+1.1**
RAHZ	**Arahi**	**3.31**	**38**	P		**Pg**	**05 11 46.6**	**-0.1**
ALRZ	**Allen Road**	**3.32**	**26**	P		**Pb**	**05 11 40.0**	**-1.9**
RPZ	**Rata Peaks**	**3.33**	**229**	P		**Pn**	**05 11 34.3**	**-0.6**
RPZ	**Rata Peaks**	**3.33**	**229**	Pn		**Pn**	**05 11 34.5**	**-0.4**
RPZ	**Rata Peaks**	**3.33**	**229**	P		**Pn**	**05 11 34.2**	**-0.6**
TLZ	**Tolley Road**	**3.33**	**14**	P		**Pb**	**05 11 41.1**	**-1.1**
PRRZ	**Plateau Road**	**3.39**	**26**	P		**Pb**	**05 11 44.4**	**+1.2**
ARCZ	**Arundel**	**3.41**	**225**	P		**Pn**	**05 11 35.7**	**-0.3**
RTZ	**Ruatahuna**	**3.51**	**34**	P		**Pg**	**05 11 47.1**	**-1.5**
HSRZ	**Pbsack Road**	**3.52**	**23**	P		**Pb**	**05 11 47.5**	**+2.2**
SNGZ	**Shannon Statio**	**3.53**	**39**	P		**Pg**	**05 11 52.1**	**+1.1**
MUGZ	**Murupara**	**3.54**	**30**	P		**Pb**	**05 11 48.3**	**+2.5**
GCSZ	**Gaunt Creek Bo**	**3.55**	**239**	P		**Pn**	**05 11 38.5**	**+0.6**
RRRZ	**Republican Roa**	**3.58**	**26**	P		**Pb**	**05 11 46.4**	**+0.1**
UTU	**Utuhina**	**3.63**	**22**	P		**Pg**	**05 11 53.7**	**+0.8**
TARZ	**Mount Tarawera**	**3.67**	**25**	P		**Pb**	**05 11 49.6**	**+1.7**
RAGZ	**Rawiri**	**3.80**	**37**	P		**Pn**	**05 11 40.0**	**-1.4**
TMZ	**Timaru**	**3.81**	**221**	P		**Pn**	**05 11 41.1**	**-0.4**
URZ	**Urewera**	**3.87**	**32**	P		**Pn**	**05 11 42.9**	**+0.7**
URZ	**Urewera**	**3.87**	**32**	P		**Pn**	**05 11 41.5**	**-0.7**
KMRZ	**Kaimai**	**3.88**	**17**	P		**Pb**	**05 11 53.6**	**+2.0**
TOZ	**Tahuroa Road**	**3.91**	**12**			**Pn**	**05 11 42.7**	**-0.2**
TOZ	**Tahuroa Road**	**3.91**	**12**	P		**Pn**	**05 11 46.5**	**+3.6**
FOZ	**Fox Glacier**	**3.98**	**239**	Pn		**Pn**	**05 11 43.5**	**-0.3**
FOZ	**Fox Glacier**	**3.98**	**239**	P		**Pn**	**05 11 43.6**	**-0.3**
LBZ	**Lake Benmore**	**4.24**	**227**	Pn		**Pn**	**05 11 47.3**	**-0.1**
LBZ	**Lake Benmore**	**4.24**	**227**	P		**Pn**	**05 11 47.6**	**+0.3**
ODZ	**Otahua Downs**	**4.47**	**218**	P		**Pn**	**05 11 49.7**	**-0.8**
ODZ	**Otahua Downs**	**4.47**	**218**	Pn		**Pn**	**05 11 49.3**	**-1.3**
ODZ	**Otahua Downs**	**4.47**	**218**	P		**Pn**	**05 11 49.4**	**-1.1**
KBAZ	**Karaka Road Bo**	**4.48**	**4**	P		**Pn**	05 11 55.6	+4.9
MKAZ	**Moumakai**	**4.49**	**7**	P		**Pn**	**05 11 53.2**	**+2.4**
AWAZ	**Awhitu Peninsu**	**4.50**	**1**	P		**Pn**	**05 11 53.4**	**+2.5**
ETAZ	**East Tamaki Re**	**4.62**	**4**	P		**Pn**	**05 11 56.3**	**+3.6**
RVAZ	**Riverhead Bore**	**4.79**	**1**	P		**Pn**	05 12 00.9	+5.9
WIAZ	**Waiheke Island**	**4.80**	**6**	P		**Pn**	**05 11 58.8**	**+3.7**
JCZ	**Jackson Bay**	**4.89**	**237**	P		**Pn**	**05 11 56.6**	**+0.1**
JCZ	**Jackson Bay**	**4.89**	**237**	P		**Pn**	**05 11 56.1**	**-0.4**
KUZ	**Kuaotunu**	**4.91**	**11**	P		**Pn**	**05 11 59.0**	**+2.4**
KUZ	**Kuaotunu**	**4.91**	**11**	P		Pn	05 12 02.8	+6.2
WKZ	**Wanaka**	**5.17**	**229**	Pn		**Pn**	**05 11 59.2**	**-0.9**
WKZ	**Wanaka**	**5.17**	**229**	P		**Pn**	**05 11 58.8**	**-1.3**
EAZ	**Earnscleugh**	**5.26**	**224**	P		**Pn**	**05 12 00.7**	**-0.7**
TUZ	**Tuapeka**	**5.63**	**217**	P		**Pn**	**05 12 06.3**	**0.0**
MLZ	**Mavora Lakes**	**6.00**	**229**	P		**Pn**	**05 12 10.3**	**-1.2**
SYZ	**Scrubby Hill**	**6.29**	**216**	P		**Pn**	**05 12 16.2**	**+0.7**
WHZ	**Wether Hill Ro**	**6.42**	**226**	Pn		**Pn**	**05 12 16.2**	**-1.1**
CTZ	**Chatham Island**	**6.89**	**111**	P		**Pn**	**05 12 24.2**	**+0.4**
CTZ	**Chatham Island**	**6.89**	**111**	P		**Pn**	**05 12 24.0**	**+0.2**
COEN	**Coen**	**38.68**	**306**	P		**P**	**05 18 05.5**	**-1.0**
WB2	**Warramunga Arr**	**40.21**	**290**	P		**P**	**05 18 17.6**	**-1.8**
WB2				IAmb		IAmb	05 18 37.1	
	comp=Z,8.6nm,1.1s							
WRA	**Warramunga Arr**	**40.22**	**290**	P		**P**	**05 18 17.8**	**-1.6**
WB0	**Warramunga Arr**	**40.30**	**290**	P		**P**	**05 18 19.0**	**-1.1**
WB0				IAmb		IAmb	05 18 28.7	
	comp=Z,6.9nm,1.1s							
CASY	**Casey**	**42.46**	**213**	P		**P**	**05 18 36.9**	**-0.3**
CASY				IAmb		IAmb	05 18 52.0	
	comp=Z,4.4nm,1.1s							
QSPA	**South Pole Qui**	**48.56**	**180**	P		**P**	**05 19 26.6**	**+0.9**
QSPA				IAmb		IAmb	05 19 49.9	
	comp=Z,2.2nm,1.1s							
PZH	**PanZhiHua**	**95.40**	**301**	P		**P**	**05 24 10.0**	**+2.7**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							

IDC 13 05:15:22.8±2.4**, 7.°47S**×**129.°96E, h0**km**, mb3.3**/1**, mbtmp3.3**/3**, ML3.4**/2**, Error ellipse: s-maj=139.6km s-min=33.9km az=68.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**13.11**	**162**	Pn		Pn	05 18 29.8	-0.7
	0.2nm,0.3s,baz=344,slow=14,SNR=8.5							
WRA				Sn		Sn	05 20 50.2	-7.0
	0.2nm,0.3s,baz=331,slow=22,SNR=1.3							
	0.4nm,0.4s							
ASAR	**Alice Springs**	**16.55**	**167**	Pn		Pn	05 19 17.3	+0.8
	0.1nm,0.3s,baz=348,slow=8.7,SNR=6.3							
	0.2nm,0.5s							
MKAR	**Makanchi Array**	**68.59**	**327**	P		P	05 26 27.6	0.0
	0.1nm,0.3s,baz=127,slow=7.1,SNR=2.6							
	0.1nm,0.3s							

NEIC ***13*** *05:25:39.0±0.7, 19.°21N±0.°05×155.°53W±0.°06, h33km±4km, Error ellipse: s-maj=8.5km s-min=7.1km az=130.0*
HVO 13 05:25:39.8±0.8**, 19.°18N**±0.°04×**155.°49W**

PNIG	**Pinotepa**	**3.14**	**288**	*eP*		**Pn**	**05 43 51.5**	**-1.0**
PNIG				*eS*		**Sn**	**05 44 24.2**	**-4.6**
SMSP	**San Marcos**	**3.15**	**98**	*eP*		**Pn**	**05 43 57.4**	**+4.6**
TXIG	**Tlaxiaco**	**3.20**	**305**			**Pn**	**05 43 54.1**	**+0.7**
TXIG						**Sn**	**05 44 27.3**	**-3.2**
TXIG	**Tlaxiaco**	**3.20**	**305**	*eP*		**Pn**	**05 43 54.1**	**+0.7**
TXIG				*eS*		**Sn**	**05 44 27.3**	**-3.2**
TOIG	**Toxpalan**	**3.29**	**324**			**Pn**	**05 43 56.5**	**+1.9**
TOIG						Sn	05 44 42.1	+10
TOIG	**Toxpalan**	**3.29**	**324**	*eP*		**Pn**	**05 43 56.5**	**+1.9**
TOIG				*eS*		**Sn**	**05 44 36.1**	**+3.6**
RTAL	**Retalhuleu**	**3.33**	**105**			**Pn**	**05 43 54.9**	**-0.1**
RTAL	**Retalhuleu**	**3.33**	**105**	*eP*		**Pn**	**05 43 54.1**	**-0.9**
HUEH	**Huehuetenango**	**3.39**	**92**			**Pn**	**05 43 57.1**	**+1.1**
HUEH	**Huehuetenango**	**3.39**	**92**	*eP*		**Pn**	**05 43 57.1**	**+1.1**
HLIG	**Huajuapan de L**	**3.58**	**312**			**Pn**	**05 43 59.3**	**+0.7**
HLIG						Sn	05 44 51.8	+12
HLIG	**Huajuapan de L**	**3.58**	**312**	*eP*		**Pn**	**05 43 59.3**	**+0.7**
HLIG				*eS*		**Sn**	**05 44 41.8**	**+2.1**
TPIG	**Tehuac#an**	**3.72**	**323**			**Pn**	**05 44 02.5**	**+2.1**
TPIG						**Sn**	**05 44 47.6**	**+4.4**
TPIG	**Tehuac#an**	**3.72**	**323**	*eP*		**Pn**	**05 44 02.5**	**+2.1**
TPIG				*eS*		**Sn**	**05 44 47.6**	**+4.4**
FTIG	**Fresnillo de T**	**3.87**	**310**			**Sn**	**05 44 45.9**	**-0.9**
FTIG	**Fresnillo de T**	**3.87**	**310**	*eP*		Pn	05 44 10.3	+7.8
FTIG				*eS*		**Sn**	**05 44 45.9**	**-0.9**
TLIG	**Tlapa**	**4.01**	**302**	Pn		**Pn**	**05 44 05.7**	**+1.2**
TLIG	**Tlapa**	**4.01**	**302**	*eP*		**Pn**	**05 44 05.1**	**+0.6**
TLIG				*eS*		**Sn**	**05 44 46.0**	**-4.3**
JAUV	**Jalcomulco**	**4.26**	**337**	*eP*		**Pn**	**05 44 04.9**	**-2.9**
JAUV				*i S*		**Sn**	**05 44 54.5**	**-1.9**
APG	**El Apazote**	**4.41**	**95**	Pn		**Pn**	**05 44 11.1**	**+1.0**
	0.5nm,0.3s,baz=217,slow=14,SNR=12							
APG				Sn		**Sn**	**05 45 05.3**	**+5.0**
	0.5nm,0.3s,baz=183,slow=13,SNR=4.2							
APG				LR		LR	05 45 59.2	
	comp=Z,9.0nm,18.3s,baz=252,slow=40							
DAIG	**Los Arroyos**	**4.73**	**290**			**Pn**	**05 44 13.1**	**-1.1**
DAIG						Sn	05 44 58.0	-10
DAIG	**Los Arroyos**	**4.73**	**290**	*eP*		**Pn**	**05 44 13.1**	**-1.1**
DAIG				*eS*		Sn	05 44 58.0	-10
PPM	**Popocatepetl**	**4.99**	**317**	*eP*		**Pn**	**05 44 21.4**	**+3.1**
PPIG	**Popocatepetl**	**4.99**	**317**			**Pn**	**05 44 21.4**	**+3.1**
PETF	**Flores**	**5.15**	**73**			**Pn**	**05 44 20.2**	**+0.1**
YAIG	**Yautepec**	**5.16**	**312**			**Pn**	**05 44 21.7**	**+1.5**
YAIG						**Sn**	**05 45 12.5**	**-6.2**
YAIG	**Yautepec**	**5.16**	**312**	*eP*		**Pn**	**05 44 21.7**	**+1.5**
YAIG				*eS*		**Sn**	**05 45 12.5**	**-6.2**
PLIG	**Platanillo**	**5.21**	**305**			**Pn**	**05 44 16.8**	**-4.1**
PLIG						**Sn**	**05 45 15.0**	**-4.7**
PLIG	**Platanillo**	**5.21**	**305**	*eP*		**Pn**	**05 44 16.8**	**-4.1**
PLIG				*eS*		**Sn**	**05 45 15.0**	**-4.7**
ESQI	**Esquipulas**	**5.55**	**98**	Pn		**Pn**	**05 44 26.2**	**+0.6**
MTO3	**Montecristo**	**5.56**	**100**	Pn		**Pn**	**05 44 26.6**	**+0.7**
ARIG	**Puente Sto Nin**	**5.84**	**300**			**Pn**	**05 44 30.4**	**+0.9**
ARIG						**Sn**	**05 45 30.5**	**-4.7**
ARIG	**Puente Sto Nin**	**5.84**	**300**	*eP*		**Pn**	**05 44 30.4**	**+0.9**
ARIG				*eS*		**Sn**	**05 45 30.5**	**-4.7**
TEIG	**Tepich**	**7.98**	**52**	Pn		**Pn**	**05 44 57.1**	**-1.8**
HZTE	**Horizontes, Gu**	**10.30**	**116**	Pn		**Pn**	**05 45 32.0**	**+1.2**
ORTG	**Ortega, Santa**	**10.59**	**117**	Pn		**Pn**	**05 45 36.0**	**+1.1**
833A	**Chaparral WMA,**	**13.45**	**343**	Pn		**Pn**	**05 46 12.5**	**-1.2**
435B	**Jarrell**	**15.45**	**352**			**Pn**	**05 46 40.0**	**-0.6**
435B				IAmb		IAmb	05 46 41.5	
	comp=Z,8.2nm,0.6s							
TXAR	**Lajitas Array**	**15.96**	**331**	Pn		**Pn**	**05 46 47.9**	**+0.5**
	baz=152,slow=8.2,SNR=4.4							
	comp=Z,0.5nm,0.9s							
BRDY	**Brady**	**16.19**	**348**			**Pn**	**05 46 50.3**	**+0.2**
ALPN	**Alpine**	**16.84**	**333**			**Pn**	**05 46 58.5**	**0.0**
BRAL	**Brewton**	**17.26**	**24**	P		**Pn**	**05 47 03.5**	**-0.2**
BRAL				IAmb		IAmb	05 47 04.4	
	comp=Z,26nm,1.0s							
Z41A	**Richland Creek**	**17.85**	**6**	P		**Pn**	**05 47 10.6**	**-0.3**
Z41A				IAmb		IAmb	05 47 15.4	
	comp=Z,6.0nm,0.8s							
X37A	**Clayton**	**19.07**	**359**			**P**	**05 47 24.1**	**-0.6**
X37A				IAmb		IAmb	05 47 44.9	
	comp=Z,5.1nm,0.6s							
FCAR	**Ozark Folk Cen**	**20.52**	**7**	P		**P**	**05 47 40.7**	**+0.1**
FCAR				IAmb		IAmb	05 47 56.1	
	comp=Z,2.4nm,0.6s							
OK052	**Battle Ridge R**	**20.53**	**356**	P		**P**	**05 47 40.4**	**-0.2**
OK052				IAmb		IAmb	05 47 40.6	
	comp=Z,7.3nm,0.5s							
SDCO	**Great Sand Dun**	**24.08**	**339**	P		**P**	**05 48 17.9**	**+0.1**
NVAR	**Mina Array Bea**	**30.74**	**323**	P		**P**	**05 49 18.2**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=130,slow=9.5,SNR=5.7							
	comp=Z,0.7nm,0.8s							
LPAZ	**La Paz**	**41.21**	**139**	P		**P**	**05 50 49.6**	**+2.0**
	comp=Z,0.5nm,0.7s,baz=337,slow=7.7,SNR=2.3							
	comp=Z,0.5nm,0.7s							
YKA	**Yellowknife Ar**	**48.99**	**348**	P		**P**	**05 51 47.6**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=155,slow=7.4,SNR=3.8							
	comp=Z,0.3nm,0.8s							
EKA	**Eskdalemuir Ar**	**78.50**	**36**	P		**P**	**05 55 04.3**	**+1.7**
	comp=Z,0.9nm,0.8s,baz=295,slow=6.8,SNR=1.7							
	comp=Z,0.9nm,0.8s							

NEIC **13** *05:50:33.2,21˙.16S×173˙.80W,h10km*
BJI **13** *05:50:33.2±0.0,20˙.78S×174˙.05W,h4km,mb5.5/65, mB5.7/62,Ms5.3/77,Ms7 5.0/77*
IDC **13** *05:50:33.5±0.4,21˙.14S×174˙.44W,h0km,mb5.2/22, mbtmp5.2/24,ML5.3/2,MS5.0/59,Error ellipse: s-maj=16.2km s-min=13.2km az=114.0*
NEIC **13** *05:50:33.2±2.2,21˙.16S±0˙.05×173˙.80W±0˙.08,h10km±1km, mb5.6/231,Ms_20 5.3/940,Mwb5.5/84,Mww5.5/25,Error ellipse: s-maj=12.8km s-min=7.8km az=97.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr2.03; Mθθ-0.02; Mφφ-2.01; Mrθ0.69; Mrφ-0.66; Mθφ0.60; Fault plane solution: M₀2.31000×10¹⁷ NP1: ϕs183.84000°, δ36.38000°, λ68.99000°. NP2:ϕs29.34000°, δ56.37000°, λ104.79000°. Principal axes: T 2.2702, Plg74.0000°, Azm340.0000°; N 0.0771, Plg12.0000°, Azm201.0000°; P -2.3473, Plg10.0000°, Azm109.0000°;*
NEIC **13** *05:50:33.2,21˙.16S×173˙.80W,h26km*
NEIC **13** *05:50:33.2,21˙.36S×173˙.69W,h26km,Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10¹⁷Nm; Mrr2.37; Mθθ-0.39; Mφφ-1.98; Mrθ0.73; Mrφ-1.05; Mθφ0.47; Fault plane solution: M₀2.58000×10¹⁷ NP1:ϕs36.62000°, δ54.37000°, λ102.28000°. NP2:ϕs196.14000°, δ37.42000°, λ73.47000°. Principal axes: T 2.5560, Plg77.0000°, Azm348.0000°; N 0.0538, Plg10.0000°, Azm209.0000°; P -2.6098, Plg9.0000°, Azm118.0000°;*
MOS **13** *05:50:34.5±1.1,21˙.20S×174˙.49W,h13km,mb5.5/48, MS5.2/22 Error ellipse: s-maj=10.0km s-min=8.4km az=105.9*
NOU **13** *05:50:38.8,20˙.97S×173˙.65W,h83km,mb5.2/53,Tonga Islands*
GCMT **13** *05:50:40.2±0.1,21˙.29S±0˙.01×173˙.86W,h18km, MW5.5/157,Moment Tensor Solution. s134,c254; s157,c317; Duration: 1s4 Moment tensor: Scale 10¹⁷ Nm; Mrr2.20±.03; Mθθ-0.35±.02; Mφφ-1.84±.02; Mrθ0.50±.05; Mθφ-1.11±.01; Mrφ1.00±.04; Best double couple: M₀2.57000×10¹⁷ NP1:ϕs27.00000°, δ58.00000°, λ89.00000°. NP2:ϕs209.00000°, δ32.00000°, λ91.00000°. Principal axes: T 2.4540, Plg77.0000°, Azm295.0000°; N 0.2380, Plg1.0000°, Azm28.0000°; P -2.6860, Plg13.0000°, Azm118.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 13 05:50:33.7±0.3,21˙.22S±0˙.04×174˙.08W±0˙.04,h10km±1km, h10km:pP-P,n1512,σ1s1.51/1037,mb5.6/190,MS5.3/548, 83C-59D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.45**	**62**	P	**Pn**	**05 51 37.5**	**-3.7**
NIUE	**Niue**	**4.45**	**62**	Pn	**Pn**	**05 51 36.6**	**-4.6**
TAVE	**Taveuni**	**7.11**	**308**	P	Pn	05 52 23.3	+5.5
AFI	**Afiamalu**	**7.60**	**17**	P	**Pn**	**05 52 21.8**	**-2.8**
AFI	**Afiamalu**	**7.60**	**17**	Pn	**Pn**	**05 52 21.8**	**-2.8**
AFI	**Afiamalu**	**7.60**	**17**	P	**Pn**	**05 52 21.8**	**-2.8**
MSVF	**Nonsavu**	**8.20**	**294**	P	Pn	05 52 38.6	+5.8
MSVF	**Nonsavu**	**8.20**	**294**		Pn	05 52 37.9	+5.1
MSVF	**Nonsavu**	**8.20**	**294**	*d iP*	**Pn**	**05 52 35.8**	**+3.0**
RAO	**Raoul Island**	**8.72**	**203**		**Pn**	**05 52 40.4**	**+0.5**
RAO	**Raoul Island**	**8.72**	**203**	Pn	**Pn**	**05 52 38.7**	**-1.1**
	71nm,0.3s,baz=8.7,slow=22,SNR=5.8						
RAO				Sn	**Sn**	**05 54 13.9**	**-4.3**
	232nm,0.3s,baz=37,slow=20,SNR=12						
RAO				LR	LR	05 56 08.2	
	comp=Z,6μm,18.6s,baz=26,slow=39						
	207nm,0.4s						
RAO	**Raoul Island**	**8.72**	**203**	P	**Pn**	**05 52 40.4**	**+0.5**
GLKZ	**Green Lake**	**8.73**	**203**	P	**Pn**	**05 52 39.9**	**-0.1**
GLKZ				S	Sn	05 54 12.7	-5.8
YSA	**Yasawairara**	**9.09**	**298**	P	Pn	05 52 50.2	+5.2
RAR	**Rarotonga**	**13.34**	**93**	P	**Pn**	**05 53 39.6**	**-3.6**
RAR	**Rarotonga**	**13.34**	**93**		**Pn**	**05 53 39.0**	**-4.3**
RAR	**Rarotonga**	**13.34**	**93**	Pn	**Pn**	**05 53 39.7**	**-3.5**
	29nm,0.3s,baz=247,slow=8.4,SNR=39						
RAR				Sn	Sn	05 55 54.9	-17
	1.8nm,0.3s,baz=68,slow=15,SNR=1.8						
RAR				LR	LR	05 59 50.5	
	comp=Z,5μm,18.3s,baz=254,slow=41						
RAR	**Rarotonga**	**13.34**	**93**	P	**Pn**	**05 53 39.0**	**-4.3**
MARNC	**Mare, Loyalty**	**16.67**	**266**	P	**P**	**05 54 32.8**	**+2.9**
DVP	**Devils Point**	**17.08**	**279**	P	**P**	**05 54 36.9**	**+2.5**
PINNC	**Pines Island,**	**17.20**	**262**	P	**Pn**	**05 54 37.0**	**+2.8**
LIFNC	**LIFOU**	**17.45**	**268**	P	**P**	**05 54 41.9**	**+3.3**
LIFNC	**LIFOU**	**17.45**	**268**		**Pn**	**05 54 39.8**	**+2.5**
OUZ	**Omahuta**	**17.65**	**215**	P	**Pn**	**05 54 41.5**	**+1.8**
OUENC	**Ouen Island, N**	**17.76**	**263**	P	**Pn**	**05 54 43.4**	**+2.2**
WMGZ	**Waiomatatini S**	**17.77**	**200**	P	**Pn**	**05 54 41.8**	**+0.6**
WCZ	**Waipu Caves**	**17.82**	**212**	P	**P**	**05 54 44.8**	**+2.3**
HAZ	**Te Kaha**	**17.92**	**201**	P	**Pn**	**05 54 40.3**	**-2.7**
PUZ	**Puketiti**	**18.05**	**200**	P	**Pn**	**05 54 42.1**	**-2.6**
ONTNC	**Ouen Toro**	**18.12**	**263**	P	**Pn**	**05 54 47.0**	**+1.4**
DZM	**Mont Dzumac**	**18.13**	**264**	P	**P**	**05 54 49.9**	**+3.7**
DZM	**Mont Dzumac**	**18.13**	**264**	P	**Pn**	**05 54 47.2**	**+1.4**
DZM	**Mont Dzumac**	**18.13**	**264**	P	**Pn**	**05 54 46.0**	**+0.2**
	52nm,1.0s,baz=85,slow=16,SNR=23						
DZM				LR	LR	06 00 35.8	
	comp=Z,8μm,19.5s,baz=94,slow=34						
WIAZ	**Waiheke Island**	**18.14**	**209**	P	**P**	**05 54 49.3**	**+3.2**
TWGZ	**Tauwhareparae**	**18.24**	**200**	P	**P**	**05 54 48.6**	**+1.4**
TWGZ				S	Sn	05 57 56.9	-14
MKAZ	**Moumakai**	**18.38**	**208**	P	**Pn**	**05 54 53.1**	**+4.3**
MWZ	**Matawai**	**18.53**	**201**	P	**P**	**05 54 51.6**	**+1.2**
MWZ				S	Sn	05 58 01.1	-17
URZ	**Urewera**	**18.61**	**202**	P	**Pn**	**05 54 53.6**	**+2.2**
URZ	**Urewera**	**18.61**	**202**	P	**P**	**05 54 52.0**	**+0.8**
	4.6nm,0.3s,baz=330,slow=3.4,SNR=18						
URZ				S	Sn	05 58 05.2	-14
	9.9nm,0.4s,baz=60,slow=20,SNR=11						
	10nm,0.3s						
URZ	**Urewera**	**18.61**	**202**	P	**P**	**05 54 51.9**	**+0.8**
URZ				S	Sn	05 58 00.6	-19
RAGZ	**Rawiri**	**18.71**	**201**	P	**Pn**	**05 54 55.9**	**+3.0**
RAGZ				S	Sn	05 58 04.9	-17
TOZ	**Tahuroa Road**	**18.76**	**206**	P	**P**	**05 54 54.1**	**+1.2**
RIGZ	**Rimuhau**	**18.79**	**200**	P	**P**	**05 54 54.0**	**+0.7**
RIGZ				S	Sn	05 58 07.6	-16
RTZ	**Ruatahuna**	**18.97**	**202**	P	**P**	**05 54 55.9**	**+0.6**
SNGZ	**Shannon Statio**	**19.00**	**201**	P	**Pn**	**05 54 57.7**	**+1.5**
SNGZ				S	Sn	05 58 11.9	-17
RAHZ	**Arahi**	**19.20**	**201**	P	**P**	**05 54 58.3**	**+0.5**
RAHZ				S	Sn	05 58 16.7	-17
MTHZ	**Maungataniwha**	**19.23**	**202**	P	**Pn**	**05 54 60.0**	**+0.9**
MTHZ				S	Sn	05 58 14.0	-21
NMHZ	**Naumai**	**19.46**	**202**	P	**Pn**	**05 55 03.3**	**+1.4**
NMHZ				S	S	05 58 23.1	-18
BKZ	**Black Stump Fm**	**19.63**	**202**	P	**Pn**	**05 55 04.6**	**+0.7**
BKZ	**Black Stump Fm**	**19.63**	**202**		**P**	**05 55 02.4**	**-0.1**
BKZ	**Black Stump Fm**	**19.63**	**202**	P	**P**	**05 55 03.6**	**+1.1**
BKZ				S	S	05 58 29.0	-15
HIZ	**Hauiti**	**19.70**	**207**	P	**Pn**	**05 55 05.7**	**+1.1**
HIZ	**Hauiti**	**19.70**	**207**	P	**P**	**05 55 04.5**	**+1.3**
HIZ				IAmb	IAmb	05 55 15.9	
	comp=Z,428nm,1.8s						
HIZ	**Hauiti**	**19.70**	**207**	P	**Pn**	**05 55 06.6**	**+2.0**
NTVZ	**North Tongarir**	**19.87**	**204**	P	Pn	05 55 07.6	+0.8
ETVZ	**East Tongariro**	**19.89**	**204**	P	**P**	**05 55 04.2**	**-1.2**
ETVZ				S	S	05 58 38.1	-11
SNVZ	**South Ngauruho**	**19.96**	**204**	P	**P**	**05 55 07.6**	**+1.3**
SNVZ				S	**S**	**05 58 43.0**	**-7.9**
KAHZ	**Kahuranaki**	**20.06**	**201**	P	Pn	05 55 10.4	+1.4
KAHZ				S	S	05 58 37.6	-15
BHHZ	**Black Hill Sta**	**20.07**	**203**	P	**P**	**05 55 07.3**	**0.0**
BHHZ				S	S	05 58 34.4	-18
KOUNC	**Koumac, New Ca**	**20.23**	**268**	P	**P**	**05 55 10.9**	**+1.9**
KOUNC				IAmb	IAmb	05 55 28.9	
	comp=Z,311nm,1.5s						
KOUNC				IAMs_20	IAMs_20	06 01 29.8	
	comp=Z,10μm,20.0s						
KHEZ	**Kahui Hut**	**20.71**	**207**	P	**P**	**05 55 16.8**	**+2.6**
BFZ	**Birch Farm**	**21.07**	**201**	P	**P**	**05 55 21.1**	**+3.0**
BFZ	**Birch Farm**	**21.07**	**201**	P	**P**	**05 55 18.7**	**+0.6**
MRZ	**Mangatainoka R**	**21.28**	**202**	P	**P**	**05 55 19.7**	**-0.6**
SNZO	**South Karori**	**22.16**	**203**	P	**P**	**05 55 30.8**	**+1.0**
SNZO	**South Karori**	**22.16**	**203**	P	**P**	**05 55 30.1**	**+0.3**
SNZO				IAmb	IAmb	05 55 45.2	
	comp=Z,382nm,1.4s						
PLWZ	**Palliser**	**22.20**	**202**	P	**P**	**05 55 30.4**	**+0.1**
TCW	**Tory Channel**	**22.24**	**204**	P	**P**	**05 55 29.0**	**-1.6**
TUWZ	**Tuamarina**	**22.55**	**204**	P	**P**	**05 55 31.8**	**-2.1**
NNZ	**Nelson**	**22.59**	**205**	P	**P**	**05 55 32.0**	**-2.3**
QRZ	**Quartz Range**	**22.61**	**207**	P	**P**	**05 55 35.4**	**+0.8**
QRZ	**Quartz Range**	**22.61**	**207**	P	**P**	**05 55 34.9**	**+0.3**
THZ	**Tophouse**	**23.24**	**205**	P	**P**	**05 55 39.6**	**-1.6**
PPT	**Papeete**	**23.39**	**85**	P	**P**	**05 55 46.7**	**+3.8**
	comp=Z,79nm,0.9s,baz=313,slow=7.2,SNR=3.6						
PPT				LR	LR	06 04 37.2	
	comp=Z,3μm,18.3s,baz=266,slow=36						
	comp=Z,79nm,0.9s						
KHZ	**Kahutara**	**23.55**	**203**	P	**P**	**05 55 45.2**	**+1.0**
KHZ	**Kahutara**	**23.55**	**203**	P	**P**	**05 55 42.6**	**-1.7**
DSZ	**Denniston Nort**	**23.68**	**207**	P	**P**	**05 55 43.6**	**-1.9**
DSZ				IAmb	IAmb	05 55 55.5	
	comp=Z,249nm,1.1s						
DSZ				IAMs_20	IAMs_20	06 05 17.8	
	comp=Z,8μm,18.0s						
LTZ	**Lake Taylor**	**24.35**	**205**	IAmb	IAmb	05 56 05.0	
	comp=Z,66nm,0.8s						
INZ	**Inchbonnie**	**24.64**	**206**	P	**P**	**05 55 54.1**	**-0.3**
INZ				IAMs_20	IAMs_20	06 05 07.2	
	comp=Z,7μm,20.0s						
OXZ	**Oxford**	**24.90**	**205**	P	**P**	**05 55 55.6**	**-1.2**
OXZ				IAmb	IAmb	05 56 16.6	
	comp=Z,104nm,0.9s						
RPZ	**Rata Peaks**	**25.62**	**205**	P	**P**	**05 56 04.2**	**+0.9**
RPZ	**Rata Peaks**	**25.62**	**205**	P	**P**	**05 56 04.2**	**+0.9**
RPZ				IAmb	IAmb	05 56 22.9	
	comp=Z,176nm,1.5s						
RPZ				IAMs_20	IAMs_20	06 06 41.1	
	comp=Z,9μm,19.0s						
RPZ	**Rata Peaks**	**25.62**	**205**	LR	LR	06 05 59.9	
	comp=Z,7μm,19.1s,baz=22,slow=36						
TARA	**Tarawa**	**25.79**	**329**	P	**P**	**05 56 03.7**	**-1.4**
TARA				IAmb	IAmb	05 56 05.8	
	comp=Z,156nm,0.9s						
TARA	**Tarawa**	**25.79**	**329**	IAMs_20	IAMs_20	06 04 25.5	
	comp=Z,7μm,18.0s						
FOZ	**Fox Glacier**	**25.98**	**207**	P	**P**	**05 56 08.2**	**+1.7**
FOZ				IAMs_20	IAMs_20	06 06 43.9	
	comp=Z,9μm,19.0s						
LBZ	**Lake Benmore**	**26.52**	**206**	IAMs_20	IAMs_20	06 06 16.1	
	comp=Z,9μm,19.0s						
JCZ	**Jackson Bay**	**26.86**	**208**	P	**P**	**05 56 15.5**	**+0.8**
ODZ	**Otahua Downs**	**26.89**	**204**	P	**P**	**05 56 16.2**	**+1.4**
WKZ	**Wanaka**	**27.37**	**207**	IAmb	IAmb	05 56 37.5	
	comp=Z,234nm,1.3s						
MLZ	**Mavora Lakes**	**28.18**	**207**	IAmb	IAmb	05 56 33.4	
	comp=Z,84nm,1.0s						
XMAS	**Kiritimati**	**28.28**	**37**	IAMs_20	IAMs_20	06 06 43.3	
	comp=Z,6μm,19.0s						
WHZ	**Wether Hill Ro**	**28.67**	**207**	IAmb	IAmb	05 56 48.9	
	comp=Z,75nm,0.9s						
DCZ	**Deep Cove**	**28.68**	**208**	IAmb	IAmb	05 56 38.5	
	comp=Z,126nm,1.5s						
SYZ	**Scrubby Hill**	**28.72**	**205**	P	**P**	**05 56 31.9**	**+0.8**
PYZ	**Puysegur Point**	**29.43**	**208**	IAMs_20	IAMs_20	06 08 10.1	
	comp=Z,5μm,18.0s						
ARMA	**Armidale**	**32.10**	**246**	P	**P**	**05 57 02.8**	**+1.5**
EIDS	**Eidsvold**	**32.21**	**256**	P	**P**	**05 57 01.5**	**-0.7**
	baz=32,SNR=4.3						
EIDS	**Eidsvold**	**32.21**	**256**	P	**P**	**05 57 00.9**	**-1.3**
CAN	**Canberra**	**35.21**	**238**	P	**P**	**05 57 28.7**	**+0.4**
CAN	**Canberra**	**35.21**	**238**	P	**P**	**05 57 28.3**	**0.0**
CAN				pmax	pmax		
	comp=Z,53nm,1.2s						
CAN				MLR	MLR		
	comp=Z,3μm,18.0s						
CTAO	**Charters Tower**	**37.07**	**264**	P	**P**	**05 57 44.2**	**-0.1**
CTAO	**Charters Tower**	**37.07**	**264**	P	**P**	**05 57 43.3**	**-1.0**
CTAO	**Charters Tower**	**37.07**	**264**	P	**P**	**05 57 43.3**	**-1.0**
CTAO				pmax	pmax		
	comp=Z,17nm,0.8s						
CTAO				MLR	MLR		
	comp=Z,3μm,18.0s						
CMSA	**Cobar Meteorol**	**37.30**	**246**	P	**P**	**05 57 45.1**	**-1.0**
	baz=37,SNR=15						
CMSA	**Cobar Meteorol**	**37.30**	**246**	P	**P**	**05 57 47.5**	**+1.4**
QLP	**Quilpie**	**38.36**	**254**	P	**P**	**05 57 53.5**	**-1.7**
	baz=38,SNR=6.5						
QLP	**Quilpie**	**38.36**	**254**	P	**P**	**05 57 54.8**	**-0.4**
TOO	**Toolangi**	**38.48**	**236**	P	**P**	**05 57 55.7**	**-0.4**
	baz=38,SNR=4.9						
TOO	**Toolangi**	**38.48**	**236**	P	**P**	**05 57 55.0**	**-1.1**
TOO	**Toolangi**	**38.48**	**236**	P	**P**	**05 57 56.4**	**+0.3**
TOO	**Toolangi**	**38.48**	**236**	P	**P**	**05 57 56.4**	**+0.3**
TOO				pmax	pmax		
	comp=Z,31nm,1.2s						
MOO	**Moorlands**	**38.67**	**228**	P	**P**	**05 57 58.4**	**+0.8**
	baz=38						
TAU	**Tasmania Unive**	**38.75**	**227**	P	**P**	**05 57 58.5**	**+0.2**
TAU	**Tasmania Unive**	**38.75**	**227**	P	**P**	**05 57 59.1**	**+0.9**
TAU	**Tasmania Unive**	**38.75**	**227**	P	**P**	**05 57 59.2**	**+0.9**
TAU				pmax	pmax		
	comp=Z,81nm,1.5s						
PMG	**Port Moresby**	**39.08**	**281**	LR	LR	06 12 17.4	
	comp=Z,2μm,18.7s,baz=150,slow=34						
MTSU	**Mount Surprise**	**39.22**	**267**	P	**P**	**05 58 00.8**	**-1.7**
	baz=39,SNR=10						
MTSU	**Mount Surprise**	**39.22**	**267**	P	**P**	**05 58 01.4**	**-1.1**
STKA	**Stephens Creek**	**40.80**	**245**	P	**P**	**05 58 14.3**	**-1.2**
	baz=40,SNR=13						
STKA	**Stephens Creek**	**40.80**	**245**	P	**P**	**05 58 16.1**	**+0.6**
STKA	**Stephens Creek**	**40.80**	**245**	P	**P**	**05 58 14.3**	**-1.2**
STKA	**Stephens Creek**	**40.80**	**245**	P	**P**	**05 58 13.7**	**-1.8**
	comp=Z,21nm,1.1s,baz=90,slow=9.5,SNR=19						
STKA				LR	LR	06 13 47.0	
	comp=Z,2μm,18.2s,baz=79,slow=34						
	comp=Z,21nm,1.1s						
STKA	**Stephens Creek**	**40.80**	**245**	*d iP*	**P**	**05 58 14.5**	**-1.0**
ARPS	**Mount Arapiles**	**41.18**	**238**	P	**P**	**05 58 17.9**	**-0.6**
	baz=41,SNR=6.9						
COEN	**Coen**	**41.28**	**273**	P	**P**	**05 58 18.2**	**-1.4**
	baz=41,SNR=8.4						
COEN	**Coen**	**41.28**	**273**	P	**P**	**05 58 18.6**	**-1.0**
COEN	**Coen**	**41.28**	**273**	P	**P**	**05 58 18.2**	**-1.4**
MANU	**Manus Island**	**42.11**	**292**	P	**P**	**05 58 25.3**	**-1.1**
MANU	**Manus Island**	**42.11**	**292**	P	**P**	**05 58 25.6**	**-0.8**
QIS	**Mount Isa**	**43.16**	**262**	P	**P**	**05 58 33.3**	**-1.6**
	baz=42,SNR=4.6						
QIS	**Mount Isa**	**43.16**	**262**	P	**P**	**05 58 34.4**	**-0.5**
HTT	**Hallett**	**43.16**	**243**	P	**P**	**05 58 33.2**	**-1.6**
	baz=43,SNR=9.4						
HTT	**Hallett**	**43.16**	**243**	P	**P**	**05 58 33.7**	**-1.1**
LCRK	**Leigh Creek**	**43.64**	**248**	P	**P**	**05 58 37.5**	**-1.2**
H11S2	**WAKE ISLAND Hy**	**43.73**	**333**	T	T	06 46 29.0	
	baz=148,slow=74						
H11S3	**WAKE ISLAND Hy**	**43.74**	**333**	T	T	06 46 27.5	
	baz=148,slow=74						
H11S1	**WAKE ISLAND Hy**	**43

FORT	Forrest	52.38	247	P	P	05 59 44.8	-1.5		
	baz=52,SNR=7.1								
FORT	Forrest	52.38	247	P	P	05 59 45.6	-0.7		
FORT	Forrest	52.38	247	P	P	05 59 45.0	-1.3		
FORT				IAmb	IAmb	05 59 47.9			
	comp=Z,60nm,0.9s								
WRKA	Warakurna	52.80	254	P	P	05 59 47.0	-2.6		
	baz=52,SNR=51								
WRKA	Warakurna	52.80	254	P	P	05 59 47.9	-1.7		
MTN	Manton Dam	52.83	270	IAMs_20	IAMs_20	06 19 48.7			
	comp=Z,3μm,21.0s								
GUMO	Guam	53.12	307	LR	LR	06 19 13.4			
	comp=Z,1μm,21.7s,baz=130,slow=33								
FAKI	Fak Fak	55.23	282	P	P	06 00 06.2	-1.3		
FAKI				IAmb	IAmb	06 00 16.8			
	comp=Z,48nm,1.1s								
FITZ	Fitzroy Crossi	56.56	262	P	P	06 00 15.3	-1.6		
	baz=56,SNR=9.7								
FITZ	Fitzroy Crossi	56.56	262	P	P	06 00 16.3	-0.6		
FITZ	Fitzroy Crossi	56.56	262	P	P	06 00 15.9	-0.9		
SBA	Scott Base	57.43	185	P	P	06 00 22.2	+0.1		
SBA				IAmb	IAmb	06 00 40.8			
	comp=Z,85nm,1.4s								
SBA	Scott Base	57.43	185	P	P	06 00 22.2	+0.1		
SBA				pmax	pmax				
	comp=Z,85nm,1.4s								
VNDA	Vanda	57.55	186	P	P	06 00 23.6	+0.7		
VNDA	Vanda	57.55	186	P	P	06 00 25.6	+2.6		
	comp=Z,14nm,1.0s,baz=15,slow=7.3,SNR=22								
VNDA				LR	LR	06 25 07.3			
	comp=Z,435nm,18.6s,baz=24,slow=36								
	comp=Z,14nm,1.0s								
VNDA	Vanda	57.55	186	P	P	06 00 23.7	+0.7		
VNDA				pmax	pmax				
	comp=Z,30nm,1.3s								
KMBL	Kambalda	57.60	246	P	P	06 00 23.4	-0.8		
	baz=57,SNR=43								
KMBL	Kambalda	57.60	246	P	P	06 00 24.3	+0.2		
VA02	Isla de Pascua	58.71	110	IAMs_20	IAMs_20	06 22 12.0			
	comp=Z,1μm,18.0s								
RPN	Rapa Nui	58.80	110	LR	LR	06 21 48.0			
	comp=Z,2μm,18.1s,baz=258,slow=32								
BATI	Baumata	60.60	270	LR	LR	06 27 03.7			
	comp=Z,2μm,18.6s,baz=133,slow=36								
PSAC2	Pilbara Seismi	61.02	256	IAMs_20	IAMs_20	06 23 09.8			
	comp=Z,2μm,18.0s								
PSAA3	Pilbara Seismi	61.06	256	IAMs_20	IAMs_20	06 27 22.9			
	comp=Z,2μm,19.0s								
PSAB2	Pilbara Seismi	61.06	256	IAMs_20	IAMs_20	06 27 22.8			
	comp=Z,2μm,18.0s								
PSA00	Pilbara Seismi	61.07	256	P	P	06 00 47.9	-0.4		
PSA00	Pilbara Seismi	61.07	256	P	P	06 00 46.8	-1.4		
PSA00				IAmb	IAmb	06 00 53.4			
	comp=Z,42nm,1.1s								
KLBR	Kellerberrin	61.07	245	P	P	06 00 47.7	-0.4		
	baz=60,SNR=16								
KLBR	Kellerberrin	61.07	245	P	P	06 00 48.4	+0.3		
PSAA2	Pilbara Seismi	61.07	256	IAMs_20	IAMs_20	06 27 22.1			
	comp=Z,3μm,22.0s								
PSAA1	Pilbara Seismi	61.08	256	IAMs_20	IAMs_20	06 27 34.3			
	comp=Z,2μm,18.0s								
PSAC1	Pilbara Seismi	61.11	256	IAMs_20	IAMs_20	06 29 29.2			
	comp=Z,2μm,18.0s								
PSAD3	Pilbara Seismi	61.12	256	IAMs_20	IAMs_20	06 27 34.3			
	comp=Z,2μm,18.0s								
MEEK	Meekatharra	61.14	251	P	P	06 00 48.2	-0.5		
TNTI	Ternate	61.19	283	P	P	06 00 48.2	-0.9		
MBWA	Marble Bar	61.27	257	P	P	06 00 49.2	-0.4		
MBWA	Marble Bar	61.27	257	P	P	06 00 48.0	-1.6		
MBWA				IAmb	IAmb	06 00 49.6			
	comp=Z,47nm,0.9s								
MBWA	Marble Bar	61.27	257	IAMs_20	IAMs_20	06 26 20.3			
	comp=Z,2μm,19.0s								
NWAO	Narrogin (SRO)	61.32	243	P	P	06 00 50.5	+0.7		
NWAO	Narrogin (SRO)	61.32	243	P	P	06 00 49.9	+0.1		
NWAO				IAmb	IAmb	06 00 51.4			
	comp=Z,59nm,1.2s								
NWAO	Narrogin (SRO)	61.32	243	IAMs_20	IAMs_20	06 26 21.9			
	comp=Z,2μm,18.0s								
NWAO	Narrogin (SRO)	61.32	243	LR	LR	06 26 25.3			
	comp=Z,2μm,18.6s,baz=60,slow=35								
NWAO	Narrogin (SRO)	61.32	243	P	P	06 00 49.9	+0.1		
NWAO				pmax	pmax				
	comp=Z,59nm,1.2s								
BLDU	Ballidu	62.11	246	P	P	06 00 54.8	-0.3		
	baz=62,SNR=10								
BLDU	Ballidu	62.11	246	P	P	06 00 55.0	-0.1		
MUN	Mundaring	62.32	244	P	P	06 00 56.6	+0.1		
	baz=62,SNR=14								
EDFI	Ende, Flores	62.91	271	P	P	06 00 59.2	-1.7		
	comp=Z,38nm,1.1s,comp=Z,829nm								
MORW	Morawa	62.94	247	P	P	06 00 59.5	-1.2		
	baz=62,SNR=6.6								
MORW	Morawa	62.94	247	P	P	06 01 01.7	+1.0		
MORW	Morawa	62.94	247	P	P	06 01 00.5	-0.2		
JCJ	Chichijima	64.03	317	LR	LR	06 24 45.7			
	comp=Z,945nm,20.5s,baz=108,slow=32								
LUWI	Luwuk	64.67	279	P	P	06 01 11.7	-0.6		
	comp=Z,142nm,1.2s,comp=Z,2μm								
CASY	Casey	64.89	206	P	P	06 01 12.3	-0.6		
CASY				IAmb	IAmb	06 01 16.3			
	comp=Z,52nm,1.1s								
DAV	Davao City (W)	65.53	289	LR	LR	06 28 09.4			
	comp=Z,719nm,19.0s,baz=108,slow=35								
GIRL	Giralia	65.88	254	P	P	06 01 18.1	-1.9		
	baz=65,SNR=3.3								
GIRL	Giralia	65.88	254	P	P	06 01 20.1	0.0		
GIRL	Giralia	65.88	254	P	P	06 01 20.4	+0.4		
KAPI	Kappang	66.00	274	LR	LR	06 29 36.2			
	comp=Z,808nm,20.4s,baz=110,slow=36								
PLAI	Plampang	66.54	269	P	P	06 01 23.1	-1.3		
	comp=Z,57nm,1.4s								
TOLI2	Tolitoli	67.34	281	P	P	06 01 27.7	-1.8		
TOLI2	Tolitoli	67.34	281	P	P	06 01 28.2	-1.3		
TOLI2				IAmb	IAmb	06 01 30.1			
	comp=Z,40nm,1.1s								
QSPA	South Pole Qui	68.85	180	P	P	06 01 36.5	-1.9		
QSPA				IAmb	IAmb	06 01 44.1			
	comp=Z,63nm,1.2s								
QSPA	South Pole Qui	68.85	180	P	P	06 01 41.1	+2.8		
	comp=Z,34nm,1.0s,baz=35,slow=2.6,SNR=42								
QSPA				LR	LR	06 31 07.5			
	comp=Z,676nm,18.0s,baz=42,slow=35								
	comp=Z,34nm,1.0s								
JHJ2	Mitsune	69.68	320	P	P	06 01 43.5	-0.2		
JSG	Sagara	71.74	320	P	P	06 01 54.8	-1.4		
JMM	Marumori	72.48	324	IAmb	IAmb	06 02 02.1			
	comp=Z,54nm,0.9s								
TGY	Tagaytay City	72.80	293	LR	LR	06 33 07.1			
	comp=Z,461nm,18.7s,baz=188,slow=35								
JGF	Kuroka	72.86	320	P	P	06 02 02.9	0.0		
MJAR	Matsushiro Arr	73.01	321	P	P	06 02 03.9	+0.1		
	comp=Z,47nm,0.9s,baz=156,slow=5.8,SNR=135								
MJAR				LR	LR	06 33 01.1			
	comp=Z,456nm,18.1s,baz=123,slow=35								
	comp=Z,47nm,0.9s								
MAJO	Matsushiro	73.01	321	P	P	06 02 03.5	-0.3		
MAJO				IAmb	IAmb	06 02 05.1			
	comp=Z,80nm,0.9s								
MAJO	Matsushiro	73.01	321	*i* P	P	06 02 04.4	+0.6		
MAJO				pmax	pmax				
	comp=Z,81nm,0.9s								
MJB9	Matsu-Tunnel	73.01	321	P	P	06 02 05.0	+1.2		
MJB9				IAmb	IAmb	06 02 06.5			
	comp=Z,77nm,0.9s								
ATKA	Atka Island	73.11	360	P	P	06 02 03.4	-0.5		
ATKA				IAmb	IAmb	06 02 05.4			
	comp=Z,68nm,1.0s								
JOW	Kunigami	73.47	308	LR	LR	06 29 01.8			
	comp=Z,862nm,21.9s,baz=144,slow=32								
JSD	Sado	74.02	323	P	P	06 02 09.8	+0.2		
JSD				IAmb	IAmb	06 02 11.5			
	comp=Z,94nm,1.0s								
NIKH	Nikolski High	74.02	3	P	P	06 02 09.8	+0.5		
	baz=185								
ERM	Erimo	74.31	328	IAMs_20	IAMs_20	06 30 39.4			
	comp=Z,2μm,20.0s								
JEM	Erimo	74.31	328	IAMs_20	IAMs_20	06 30 32.3			
	comp=Z,2μm,20.0s								
SHEM	Shemya Is, Ala	74.35	353	LR	LR	06 30 31.8			
	comp=Z,2μm,20.0s,baz=125,slow=32								
JTM	Tenmabayashi	74.45	326	IAmb	IAmb	06 02 14.2			
	comp=Z,69nm,1.0s								
JTM				IAMs_20	IAMs_20	06 28 54.6			
	comp=Z,1μm,20.0s								
UNV	Unalaska Valle	75.04	5	P	P	06 02 15.8	+0.6		
	baz=187								
SNCC	San Nicolas Is	75.11	45	P	P	06 02 15.0	-1.1		
	baz=232								
JNU	Nakatsue	75.35	315	P	P	06 02 16.7	-0.8		
JNU				IAmb	IAmb	06 02 19.0			
	comp=Z,60nm,1.1s								
JNU	Nakatsue	75.35	315	LR	LR	06 31 02.7			
	comp=Z,271nm,21.5s,baz=131,slow=32								
STKI	Sintang	75.53	276	P	P	06 02 18.5	-0.5		
SCI2	San Clemente I	75.59	46	P	P	06 02 18.5	-0.4		
	baz=232								
SBC	Santa Barbara	75.72	44	P	P	06 02 20.9	+1.3		
	baz=231								
SBUM	Sibu	75.74	278	P	P	06 02 19.4	-0.7		
CIS	Catalina Islan	75.93	45	P	P	06 02 22.3	+1.4		
	baz=232,SNR=5.2								
PKM	Mcpherson Peak	75.93	43	P	P	06 02 21.7	+0.6		
	baz=231,SNR=11								
SMMC	Simmler	76.08	43	P	P	06 02 23.6	+1.8		
	baz=231,SNR=7.2								
MCCM	Marconi Confer	76.14	39	IAMs_20	IAMs_20	06 31 52.0			
	comp=Z,1μm,19.0s								
JKA	Kamikawa-asahi	76.16	329	IAmb	IAmb	06 02 57.2			
	comp=Z,102nm,1.6s								
JKA				IAMs_20	IAMs_20	06 34 20.3			
	comp=Z,1μm,19.0s								
ASAJ	Asahikawa	76.16	329	LR	LR	06 35 07.1			
	comp=Z,991nm,18.1s,baz=162,slow=35								
FALS	False Pass	76.32	6	P	P	06 02 24.4	+1.9		
	baz=190								
OSI	Osito Audit: C	76.47	44	P	P	06 02 24.1	+0.2		
	baz=232,SNR=5.3								
DECC	Green Verdugo	76.50	45	P	P	06 02 24.9	+0.7		
	baz=232								
109C	Camp Elliot, M	76.50	47	P	P	06 02 24.9	+0.8		
	baz=233								
VTX	Valle De La Tr	76.54	48	IAMs_20	IAMs_20	06 36 22.5			
	comp=Z,1μm,18.0s								
LPIG	La Paz	76.66	57	LR	LR	06 31 18.8			
	comp=Z,1μm,18.1s,baz=204,slow=32								
LEM	Lembang	76.68	268	LR	LR	06 36 34.5			
	comp=Z,1μm,19.4s,baz=134,slow=36								
ARVC	Arvin	76.72	44	P	P	06 02 26.4	+1.2		
	baz=232,SNR=7.1								
CNBA	Chernabura Isl	76.74	9	IAmb	IAmb	06 02 26.9			
	comp=Z,61nm,1.2s								
CHNA	Chernabura Isl	76.75	9	P	P	06 02 26.3	+1.4		
	baz=194								
ESJX	Sierra Juarez	76.78	48	IAMs_20	IAMs_20	06 30 26.8			
	comp=Z,997nm,18.0s								
MURC	Murrieta	76.87	46	P	P	06 02 27.9	+1.7		
	baz=233,SNR=15								
TWG	Pinlang	76.88	301	P	P	06 02 24.8	-1.6		
TWG				IAMs_20	IAMs_20	06 33 50.1			
	comp=Z,1μm,19.0s								
BFSC	Mount Baldy Ra	76.94	45	P	P	06 02 27.8	+1.1		
	baz=233,SNR=11								
MONP2	Monument Peak	76.97	47	P	P	06 02 28.3	+1.3		
	baz=234,SNR=13								
YULB	Yu-li	76.98	302	P	P	06 02 26.4	-0.7		
VES	Vestal, Richgr	76.99	43	P	P	06 02 28.4	+1.6		
	baz=231,SNR=33								
IKP	In-Ko-Pah, Jac	77.04	47	P	P	06 02 28.8	+1.6		
	baz=234,SNR=5.6								
VOG	Valley Oaks Go	77.10	43	P	P	06 02 28.3	+0.9		
	baz=231								
EDW2	Edwards Air Fo	77.11	44	P	P	06 02 29.1	+1.5		
	baz=232,SNR=25								
NACB	Ninganchiao	77.14	302	P	P	06 02 27.1	-0.8		
NACB				IAmb	IAmb	06 02 28.9			
	comp=Z,48nm,0.8s								
KSM	Kuching	77.14	277	P	P	06 02 27.8	-0.3		
KSM				IAmb	IAmb	06 02 39.3			
	comp=Z,39nm,1.0s								
SDPT	Sand Point	77.14	8	P	P	06 02 26.0	-1.1		
SDPT	Sand Point	77.14	8	P	P	06 02 29.0	+1.9		
	baz=193								
YUH	Yuha Desert	77.17	47	P	P	06 02 23.0	-4.8		
CCAC	Calif City Air	77.26	44	IAMs_20	IAMs_20	06 34 11.6			
	comp=Z,2μm,19.0s								
S12K	Black Hills	77.30	7	IAMs_20	IAMs_20	06 40 26.2			
	comp=Z,1μm,18.0s								
S12K	Black Hills	77.30	7	P	P	06 02 28.3	+0.2		
	baz=191								
PFO	Pinyon Flats O	77.37	46	P	P	06 02 29.6	+0.4		
	baz=234,SNR=6.9								
PFO	Pinyon Flats O	77.37	46	LR	LR	06 31 05.6			
	comp=Z,849nm,18.4s,baz=238,slow=31								
PFO	Pinyon Flats O	77.37	46	*i* P	P	06 02 29.8	+0.7		
PFO				pmax	pmax				
	comp=Z,59nm,1.3s								
TPFO	Pinon Flats	77.37	46	P	P	06 02 29.3	+0.2		
	baz=234,SNR=10.0								
SWSC	Sam W. Stewart	77.43	47	P	P	06 02 30.7	+1.4		
	baz=234								
TPUB	Ta-pu	77.47	301	IAMs_20	IAMs_20	06 34 43.9			
	comp=Z,1μm,18.0s								
GUVIX	Guadalupe Vict	77.55	48	IAMs_20	IAMs_20	06 31 25.4			
	comp=Z,2μm,21.0s								
YHNB	Yeheng	77.56	303	IAmb	IAmb	06 02 35.0			
	comp=Z,38nm,0.9s								
CMB	Columbia Colle	77.56	41	IAMs_20	IAMs_20	06 34 04.6			
	comp=Z,2μm,19.0s								
P08K	Saint George I	77.61	3	P	P	06 02 32.8	+3.1		
	baz=184								
TATO	Taipei	77.62	303	IAMs_20	IAMs_20	06 33 34.7			
	comp=Z,1μm,19.0s								
PET	Petropavlovsk	77.63	344	IAMs_20	IAMs_20	06 32 30.3			
	comp=Z,1μm,20.0s								
PET	Petropavlovsk	77.63	344	*e*P	P	06 02 29.4	-0.5		
PET				*e*S	S	06 12 23.0	+1.6		
PET				*e*SS	SS	06 17 21.7	0.0		
PET				pmax	pmax				
	comp=Z,400nm,11.8s								
PET				MLR	MLR				
	comp=Z,800nm,16.0s								
LRMC	Laurel Mtn Rad	77.67	44	P	P	06 02 30.8	0.0		
	baz=232,SNR=12								
RRX	Edison Barstow	77.76	45	P	P	06 02 32.0	+0.9		
	baz=233								
AFDM	Forest Hills D	77.79	40	IAMs_20	IAMs_20	06 35 46.8			
	comp=Z,2μm,18.0s								
KRMB	Red Mountain	77.81	36	IAMs_20	IAMs_20	06 31 29.5			
	comp=Z,2μm,19.0s								
ORV	Orrville	77.87	39	IAMs_20	IAMs_20	06 35 52.9			
	comp=Z,1μm,18.0s								
BELC	Belle Mtn. Jos	77.91	46	P	P	06 02 33.4	+1.2		
	baz=234,SNR=27								
PEA0B	Petropavlovsk-	77.97	343	P	P	06 02 32.2	+0.3		
PEA0B	Petropavlovsk-	77.97	343	*i* P	P	06 02 32.0	+0.2		
PETK	Petropavlovsk-	77.97	343	P	P	06 02 31.4	-0.4		
PETK	Petropavlovsk-	77.97	343	P	P	06 02 32.0	+0.2		
	comp=Z,33nm,1.0s,baz=124,slow=7.9,SNR=21								
PETK				LR	LR	06 33 53.9			
	comp=Z,551nm,19.4s,baz=162,slow=33								
	comp=Z,33nm,1.0s								
PETK	Petropavlovsk-	77.97	343	P	P	06 02 32.0	+0.2		
CWC	Cottonwood Cre	78.00	43	P	P	06 02 33.2	+0.5		
	baz=232								
BC3	Big Chuckawall	78.07	47	P	P	06 02 34.3	+1.2		
	baz=234,SNR=14								
GSC	Goldstone, Bar	78.14	45	P	P	06 02 33.8	+0.5		
	baz=233,SNR=18								
MPMC	Manual Prospec	78.15	44	P	P	06 02 33.4	-0.1		
	baz=232,SNR=48								
GLA	Glamis	78.15	48	P	P	06 02 34.0	+0.6		
	baz=235,SNR=8.2								
SPIA	Saint Paul Isl	78.16	2	P	P	06 02 34.1	+1.3		
	baz=183								
HEC	Hector,Ludlow	78.17	45	P	P	06 02 33.6	+0.1		
	baz=234,SNR=9.0								
S14K	Fog Glacier	78.17	8	P	P	06 02 34.9	+1.9		
	baz=194								
YSS	Yuzh-Sakhalins	78.23	331	P	P	06 02 33.9	+0.5		
YSS	Yuzh-Sakhalins	78.23	331	*ce*P	P	06 02 34.9	+1.5		
YSS				*e*		06 02 40.4			
YSS				*e*		06 05 25.6			
YSS				*e*S	S	06 12 26.2	-2.0		
YSS				*e*PS	PnS	06 13 02.1	-7.3		
YSS				*e*SSS	SSS	06 20 48.4			
YSS				pmax	pmax				
	comp=Z,600nm,5.9s								
YSS				pmax	pmax				
	comp=N,200nm,3.8s								
YSS				pmax	pmax				
	comp=Z,70nm,1.3s								
MLAC	Mammoth, Mammo	78.26	42	P	P	06 02 34.7	+0.5		
	baz=231,SNR=16								
TIN	Tinemaha, Big	78.28	43	P	P	06 02 34.5	+0.4		
	baz=232								
CHIR	Chirikof Islan	78.32	11	IAMs_20	IAMs_20	06 33 11.9			
	comp=Z,2μm,20.0s								
CHIR	Chirikof Islan	78.32	11	P	P	06 02 34.8	+1.1		
	baz=197								
CHGN	Chignik	78.35	9	IAmb	IAmb	06 02 35.8			
	comp=Z,47nm,1.0s								
CHGN	Chignik	78.35	9	P	P	06 02 34.5	+0.7		
	baz=195								
BELA	Belgrano 2	78.35	172	P	P	06 02 34.0	+0.2		
IRM	Iron Mountain	78.57	46	P	P	06 02 37.4	+1.7		
	baz=234,SNR=23								
MPK	Martis Peak	78.58	40	IAMs_20	IAMs_20	06 35 21.4			
	comp=Z,2μm,18.0s								
GMRC	Granite Mounta	78.59	46	P	P	06 02 36.4	+0.5		
	baz=234,SNR=11								
YBH	Yreka Blue Hor	78.62	37	IAMs_20	IAMs_20	06 32 35.7			
	comp=Z,1μm,20.0s								
YBH	Yreka Blue Hor	78.62	37	LR	LR	06 32 54.4			
	comp=Z,1μm,18.3s,baz=235,slow=32								
HSIG		78.72	53	IAMs_20	IAMs_20	06 32 56.1			
	comp=Z,1μm,19.0s								
113A	Mohawk Valley,	78.73	48	IAMs_20	IAMs_20	06 39 57.5			
	comp=Z,1μm,18.0s								
GRAC	Grapevine Rang	78.79	43	IAMs_20	IAMs_20	06 33 37.2			
	comp=Z,2μm,19.0s								
GRAC	Grapevine Rang	78.79	43	P	P	06 02 38.5	+1.6		
	baz=232,SNR=47								
FURC	Furnace Creek,	78.80	44	P	P	06 02 38.5	+1.7		
	baz=233,SNR=15								
TUQ	Turquoise Moun	78.80	45	P	P	06 02 38.7	+1.6		
	baz=234								
SHOC	Shoshone, Teco	78.84	44	P	P	06 02 38.2	+1.1		
	baz=233,SNR=10								
214A	Organ Pipe Nat	78.95	49	IAMs_20	IAMs_20	06 33 31.2			
	comp=Z,2μm,19.0s								
214A	Organ Pipe Nat	78.95	49	P	P	06 02 38.7	+0.9		
	baz=236								
HUMO	Hull Mountain	79.07	36	IAMs_20	IAMs_20	06 33 33.7			
	comp=Z,1μm,18.0s								
RYN	Ryan	79.07	41	IAMs_20	IAMs_20	06 35 03.6			
	comp=Z,2μm,18.0s								
NVAR	Mina Array Bea	79.08	41	P	P	06 02 40.9	+2.3		
	comp=Z,43nm,1.0s,baz=224,slow=8.7,SNR=176								
NVAR				LR	LR	06 33 04.6			
	comp=Z,1μm,18.5s,baz=220,slow=32								
	comp=Z,43nm,1.0s								
WCT	Wildcat Mounta	79.14	44	IAMs_20	IAMs_20	06 36 16.5			
	comp=Z,2μm,22.0s								
PMSA	Palmer Station	79.15	156	LR	LR	06 34 48.5			
	comp=Z,515nm,18.3s,baz=251,slow=34								
L04D	Klamath Falls	79.17	36	IAMs_20	IAMs_20	06 39 13.3			
	comp=Z,2μm,18.0s								
PAHR	Pah Rah Range	79.22	40	IAMs_20	IAMs_20	06 35 51.7			
	comp=Z,2μm,18.0s								
DBO	Dodson Butte	79.26	35	IAMs_20	IAMs_20	06 38 24.7			
	comp=Z,2μm,18.0s								
SII	Sitkinak Islan	79.28	11	IAMs_20	IAMs_20	06 41 29.1			
	comp=Z,2μm,19.0s								
SII	Sitkinak Islan	79.28	11	P	P	06 02 39.5	+0.5		
	baz=199								
NEE2	Needles Airpor	79.28	46	P	P	06 02 40.4	+0.8		
	baz=235								
PDMCI	Parker Dam,Lak	79.34	47	P	P	06 02 40.2	+0.4		
	baz=235,SNR=13								
KVN	Kaiserville	79.59	41	IAMs_20	IAMs_20	06 32 56.3			
	comp=Z,1μm,19.0s								
I03D	Drain, OR	79.59	35	IAMs_20	IAMs_20	06 33 10.6			
	comp=Z,2μm,18.0s								
TJN	Taejon	79.61	316	*ce*P	P	06 02 40.7	-0.6		
R16K	Pilot Point	79.69	9	P	P	06 02 43.0	+1.8		
	baz=195								
K04D	Chiloquin, OR	79.74	36	IAMs_20	IAMs_20	06 37 51.7			
	comp=Z,2μm,18.0s								
TEY	Ternei	79.78	327	*e*P	P	06 02 41.7	-0.2		
TEY				*e*		06 12 55.5			
KSRS	Korea Array	79.89	317	P	P	06 02 43.6	+0.9		
	comp=Z,38nm,1.1s,baz=138,slow=6.0,SNR=90								
	comp=Z,38nm,1.1s								
QZH	Quanzhou	79.89	302	⇑ *i* P	P	06 02 43.1	+0.1		
QZH				pmax	pmax				
	comp=Z,510nm,6.6s								
QZH				LR	LR				
	comp=Z,600nm,19.6s								
QZH				LR	LR				
	comp=Z,880nm,17.9s								
QZH				LR	LR				
	comp=Z,950nm,18.5s								
KSAR	Wonju Array Be	79.91	317	P	P	06 02 41.3	-1.5		
KSAR	Wonju Array Be	79.91	317	P	P	06 02 41.3	-1.5		
KS19	Wonju Array Si	79.95	317	P	P	06 02 43.4	+0.3		
KS19				IAmb	IAmb	06 02 45.7			
	comp=Z,99nm,1.3s								
KASI	Kota Agung	80.04	268	P	P	06 02 43.2	-1.0		
	comp=Z,84nm,1.1s								
OHAK	Old Harbor	80.07	11	IAMs_20	IAMs_20	06 41 47.0			
	comp=Z,1μm,18.0s								
OHAK	Old Harbor	80.07	11	P	P	06 02 44.2	+1.0		
	baz=199								
BUCK

TYV smax smax
comp=E,300nm,4.5s
PSTR Posyet 81.33 322 *i* P P 06 02 51.0 +0.7
P17K Kvichak River 81.43 9 P P 06 02 50.6 +0.2
baz=196,SNR=20
N14K Kuskokwak Cree 81.48 6 P P 06 02 52.6 +1.8
baz=191
Q20K Shuyak Island 81.54 11 P P 06 02 52.0 +1.0
baz=200
SYI Shuyak Island 81.54 11 IAMs_20 IAMs_20 06 38 27.8
comp=Z,1µm,19.0s
M11K Mekoryuk 81.56 4 P P 06 02 52.3 +1.2
baz=187
O16K Kokwok River B 81.58 8 P P 06 02 51.5 +0.2
O16K IAmb IAmb 06 02 53.0
comp=Z,43nm,1.0s
O16K Kokwok River B 81.58 8 P P 06 02 51.9 +0.6
baz=195,SNR=14
Q12A Willow Creek R 81.62 43 IAMs_20 IAMs_20 06 37 21.1
comp=Z,2µm,18.0s
Q19K Cape Douglas, 81.62 11 P P 06 02 52.5 +0.9
baz=199
USA0B Ussuriysk Arra 81.66 324 P P 06 02 52.5 +0.4
USA0B IAmb IAmb 06 03 04.1
comp=Z,71nm,1.4s
USA0B Ussuriysk Arra 81.66 324 *i* P P 06 02 52.7 +0.6
USRK Ussuriysk Ar. 81.66 324 P P 06 02 52.5 +0.5
USRK Ussuriysk Ar. 81.66 324 P P 06 02 53.8 +1.7
comp=Z,9.9nm,1.0s,baz=114,slow=4.6,SNR=18
USRK LR LR 06 34 54.9
comp=Z,430nm,20.0s,baz=131,slow=33
comp=Z,9.9nm,1.0s
GO08 Villa O'Higgin 81.69 139 IAMs_20 IAMs_20 06 35 07.3
comp=Z,1µm,20.0s
DSRI Dabo 81.75 273 P P 06 02 53.6 +0.3
comp=Z,48nm,1.5s
P18K Big Mountain, 81.80 10 P P 06 02 52.6 +0.1
P18K IAmb IAmb 06 02 54.6
comp=Z,75nm,1.1s
P18K Big Mountain, 81.80 10 P P 06 02 53.2 +0.7
baz=198,SNR=7.9
M13K Dall Lake 81.81 5 P P 06 02 53.8 +1.4
baz=190
O17K Koliganek Bris 81.89 9 P P 06 02 54.0 +1.1
baz=196
N15K Kwethluk River 81.89 7 P P 06 02 54.9 +1.9
baz=193,SNR=6.1
WUAZ Wupatki 81.90 47 P P 06 02 54.6 +0.8
baz=237
SPR3 Spring Creek 3 81.91 43 IAMs_20 IAMs_20 06 35 15.9
comp=Z,2µm,20.0s
PSUT Pine Spring 81.94 43 IAMs_20 IAMs_20 06 40 02.8
comp=Z,2µm,19.0s
J08A Circle Bar Ran 82.05 37 IAMs_20 IAMs_20 06 34 41.9
comp=Z,2µm,19.0s
MOIG Morelia 82.06 65 IAMs_20 IAMs_20 06 39 57.1
comp=Z,1µm,18.0s
G06A Carlson Farm, 82.07 35 IAMs_20 IAMs_20 06 40 29.3
comp=Z,2µm,18.0s
MAW Mawson 82.10 199 P P 06 02 55.1 +0.9
comp=Z,8.2nm,0.7s,baz=142,slow=7.5,SNR=6.3
MAW LR LR 06 38 37.1
comp=Z,918nm,18.6s,baz=110,slow=35
comp=Z,8.2nm,0.7s
AY03 Cochrane 82.13 138 IAMs_20 IAMs_20 06 35 05.0
comp=Z,2µm,18.0s
O18K Koktuh Hills 82.25 9 P P 06 02 55.5 +0.7
baz=198,SNR=13
ZAIG Zacatecas 82.26 62 IAMs_20 IAMs_20 06 41 32.9
comp=Z,970nm,18.0s
HKPS Hong Kong Po S 82.27 297 IAmb IAmb 06 02 59.4
comp=Z,84nm,1.2s
HKPS IAMs_20 IAMs_20 06 34 43.2
comp=Z,1µm,20.0s
M14K Bethel 82.27 6 P P 06 02 56.4 +1.6
baz=191,SNR=6.4
M15K Kasigluk River 82.34 7 P P 06 02 56.6 +1.3
baz=192,SNR=26
N16K Nishlik Lake 82.35 8 P P 06 02 56.6 +1.2
baz=194,SNR=9.6
P19K Oil Pt 82.37 11 IAMs_20 IAMs_20 06 38 33.0
comp=Z,1µm,20.0s
P19K Oil Pt 82.37 11 P P 06 02 56.4 +0.9
baz=199
H03S2 Juan Fernandez 82.55 123 T T 07 35 15.2
baz=247,slow=75,SNR=9.2
H03S1 Juan Fernandez 82.56 123 T T 07 35 24.8
baz=247,slow=75,SNR=8.7
H03S3 Juan Fernandez 82.56 123 T T 07 35 11.4
baz=247,slow=75,SNR=7.4
N17K Nushagak Hills 82.61 8 P P 06 02 56.1 -0.6
baz=196,SNR=6.9
CNPM China Poot 82.61 12 IAMs_20 IAMs_20 06 38 52.1
comp=Z,1µm,19.0s
HOM Homer 82.66 11 IAMs_20 IAMs_20 06 41 53.4
comp=Z,1µm,19.0s
HOM Homer 82.66 11 P P 06 02 58.1 +1.2
baz=201
H03N2 Juan Fernandez 82.68 123 T T 07 35 07.9
baz=269
H03N3 Juan Fernandez 82.68 123 T T 07 35 08.4
baz=269
H03N1 Juan Fernandez 82.70 123 T T 07 35 17.0
baz=269
O19K Port Alsworth 82.71 10 P P 06 02 57.9 +0.8
baz=198,SNR=18
CLRS Cowichan Lake 82.72 31 IAMs_20 IAMs_20 06 42 46.7
comp=Z,1µm,18.0s
L14K Kuka Creek 82.78 6 P P 06 02 59.1 +1.6
baz=190,SNR=13
W18A Petrified Fore 82.81 48 IAMs_20 IAMs_20 06 42 25.7
comp=Z,1µm,18.0s
DLV T Lat 82.84 286 IAmb IAmb 06 03 09.3
comp=Z,35nm,1.1s
M16K Timber Creek 82.86 7 P P 06 02 59.7 +1.7
baz=194,SNR=38
121A Cookes Peak, D 82.86 51 P P 06 02 58.1 -0.8
baz=239
O20K Slope Mountain 82.88 11 P P 06 02 59.0 +0.9
baz=200
TCRU Three Creeks R 82.90 44 IAMs_20 IAMs_20 06 35 43.9
comp=Z,1µm,19.0s
BRLK Bradley Lake 82.90 12 IAMs_20 IAMs_20 06 39 28.3
comp=Z,1µm,20.0s
BRSE Bradley Lake S 82.90 12 P P 06 02 59.1 +0.9
baz=202,SNR=13
N18K Kilae Creek 82.93 9 P P 06 02 58.9 +0.5
baz=197,SNR=6.1
G08A Pilot Rock 83.01 36 IAMs_20 IAMs_20 06 34 56.2
comp=Z,1µm,18.0s
NJ2 Nanjing 83.19 308 *e*P P 06 03 01.0 +0.7
NJ2 sP PcP 06 03 06.3 +1.4
NJ2 S S 06 13 23.3 +2.6
NJ2 pmax pmax
comp=Z,54nm,1.1s
NJ2 pmax pmax
comp=Z,390nm,3.6s
NJ2 LR LR
comp=Z,360nm,18.0s
NJ2 LR LR
comp=Z,380nm,18.0s
NJ2 LR LR
comp=Z,710nm,17.3s
L15K Ungalak Mounta 83.23 6 P P 06 03 00.5 +0.6
baz=192,SNR=30
MDJ Mudanjiang 83.25 323 P P 06 03 01.5 +1.1
MDJ pP PcP 06 03 03.8 -1.0
MDJ sP sP 06 03 05.8 +2.6
MDJ pmax pmax
comp=Z,33nm,1.1s
MDJ pmax pmax
comp=Z,46nm,5.4s
MDJ LR LR
comp=Z,110nm,9.8s
MDJ LR LR
comp=Z,580nm,20.4s
MDJ LR LR
comp=Z,780nm,16.2s
MDJ Mudanjiang 83.25 323 P P 06 03 01.3 +0.9
LL07 Hotel Espejo d 83.25 133 IAMs_20 IAMs_20 06 36 12.4
comp=Z,2µm,19.0s
MYKOM Kota Tinggi 83.25 275 P P 06 03 01.1 0.0
MYKOM IAmb IAmb 06 03 03.2
comp=Z,79nm,1.3s
N19K Bonanza Creek 83.27 10 IAmb IAmb 06 03 02.3
comp=Z,70nm,1.2s
N19K IAMs_20 IAMs_20 06 42 53.8
comp=Z,961nm,18.0s
N19K Bonanza Creek 83.27 10 P P 06 03 00.6 +0.4
baz=198,SNR=19
BBB Bella Bella 83.36 26 LR LR 06 36 53.7
comp=Z,570nm,18.1s,baz=233,slow=33
TLIG Tlapa 83.41 68 IAMs_20 IAMs_20 06 37 39.3
comp=Z,2µm,18.0s
M17K Holitna River 83.42 8 P P 06 03 02.5 +1.7
baz=195,SNR=14
EPT El Paso 83.42 52 IAMs_20 IAMs_20 06 35 48.6
comp=Z,1µm,18.0s
L16K Owhat River 83.47 7 P P 06 03 02.4 +1.3
baz=193,SNR=27
SEW Seward 83.49 12 P P 06 03 02.1 +0.9
baz=203,SNR=5.7
DUG Dugway, Tooele 83.56 43 IAMs_20 IAMs_20 06 38 33.4
comp=Z,1µm,18.0s
DUG Dugway, Tooele 83.56 43 P P 06 03 02.8 +0.6
baz=235,SNR=18
UNM Universidad Na 83.62 67 IAMs_20 IAMs_20 06 36 35.8
comp=Z,1µm,19.0s
BMO Blue Mountains 83.64 37 IAMs_20 IAMs_20 06 35 13.0
comp=Z,1µm,19.0s
M18K Stony River 83.72 9 P P 06 03 02.9 +0.5
baz=197,SNR=14
O22K Cooper Landing 83.78 12 IAMs_20 IAMs_20 06 42 39.2
comp=Z,939nm,19.0s
O22K Cooper Landing 83.78 12 P P 06 03 05.0 +2.3
baz=202
CAPN Captain Cook N 83.78 11 P P 06 03 04.3 +1.7
baz=201
LL05 Los Muermos 83.80 132 IAMs_20 IAMs_20 06 34 22.0
comp=Z,1µm,19.0s
P23K Montague Islan 83.81 13 P P 06 03 03.7 +0.9
baz=205
K15K Wolf Creek Mou 83.83 6 P P 06 03 04.7 +1.7
baz=192,SNR=57
BGU Big Grassy Mou 83.83 42 IAMs_20 IAMs_20 06 36 30.8
comp=Z,2µm,18.0s
GRNR Gornyy 83.87 331 ⇑*i*P P 06 03 04.4 +1.0
GRNR pmax pmax
comp=Z,20nm,1.1s
NLU North Lily Min 83.89 43 IAMs_20 IAMs_20 06 38 54.2
comp=Z,2µm,18.0s
CRAG Craig 83.95 22 P P 06 03 04.5 +0.8
baz=218
N20K Mount Spurr 84.01 10 P P 06 03 03.6 -0.3
baz=200,SNR=27
L17K Donlin 84.02 7 P P 06 03 05.8 +1.9
baz=194,SNR=19
J14K Nanvaranak Lak 84.10 5 P P 06 03 05.6 +1.4
baz=190,SNR=5.5
LL01 San Ignacio de 84.15 133 IAMs_20 IAMs_20 06 39 48.3
comp=Z,929nm,18.0s
MPU Maple Canyon 84.20 43 IAMs_20 IAMs_20 06 39 12.6
comp=Z,2µm,19.0s
LL02 Futaleuf 84.21 134 IAMs_20 IAMs_20 06 39 21.9
comp=Z,1µm,18.0s
MNTX Cornudas Mount 84.22 53 P P 06 03 05.0 -0.7
baz=241
E09A Wood Farm, Sta 84.22 35 IAMs_20 IAMs_20 06 38 59.3
comp=Z,2µm,18.0s
Y22D IRIS PASSCAL I 84.26 50 IAMs_20 IAMs_20 06 36 25.0
comp=Z,1µm,18.0s
Y22D IRIS PASSCAL I 84.26 50 P P 06 03 07.4 +1.3
baz=240
Y22F Passcal Instru 84.26 50 P P 06 03 07.1 +1.1
baz=240
L18K Granite Mounta 84.30 8 P P 06 03 06.6 +1.2
baz=196,SNR=24
M19K Big River Lodg 84.32 9 P P 06 03 07.3 +1.8
baz=198
RC01 Rabbit Creek A 84.34 12 P P 06 03 06.5 +0.9
baz=202,SNR=9.2
HIN Hinchinbrook I 84.36 13 IAMs_20 IAMs_20 06 36 18.3
comp=Z,1µm,20.0s
V35K Ketchikan 84.38 23 P P 06 03 07.1 +1.2
baz=219
F10A Beach Ranch, E 84.38 36 IAMs_20 IAMs_20 06 33 45.5
comp=Z,1µm,20.0s
TXAR Lajitas Array 84.39 56 P P 06 03 08.4 +1.6
comp=Z,9.8nm,1.1s,baz=211,slow=7.0,SNR=53
TXAR LR LR 06 35 09.6
comp=Z,404nm,18.2s,baz=236,slow=32
comp=Z,9.8nm,1.1s
KAIM Kayak Island 84.41 15 IAMs_20 IAMs_20 06 36 42.5
comp=Z,2µm,19.0s
KAIM Kayak Island 84.41 15 P P 06 03 07.6 +1.7
baz=207
U33K Whale Pass 84.46 22 P P 06 03 08.0 +1.7
baz=218
P17A Butcher Ranch, 84.48 44 IAMs_20 IAMs_20 06 35 00.8
comp=Z,1µm,20.0s
SIT Sitka 84.48 20 P P 06 03 07.4 +1.1
baz=216
M20K Styx River 84.50 10 IAmb IAmb 06 03 08.4
comp=Z,33nm,1.2s
M20K IAMs_20 IAMs_20 06 42 58.4
comp=Z,958nm,19.0s
M20K Styx River 84.50 10 P P 06 03 07.3 +0.8
baz=199
CTU Camp Tracy 84.51 43 IAMs_20 IAMs_20 06 41 21.6
comp=Z,1µm,18.0s
QIZ Qiongzhong 84.51 293 P P 06 03 07.8 +0.4
QIZ sP PcP 06 03 12.8 +1.8
QIZ S S 06 13 35.8 +1.3
QIZ pmax pmax
comp=Z,390nm,8.2s
QIZ LR LR
comp=Z,250nm,17.7s
QIZ LR LR
comp=Z,250nm,16.7s
QIZ LR LR
comp=Z,260nm,15.1s
SUA Susitna One 84.51 11 IAMs_20 IAMs_20 06 36 41.4
comp=Z,979nm,20.0s
SUA Susitna One 84.51 11 P P 06 03 08.5 +1.9
baz=202,SNR=17
L19K White Mountain 84.52 9 P P 06 03 07.2 +0.7
baz=198,SNR=13
HLID Hailey 84.52 39 IAMs_20 IAMs_20 06 44 53.2
comp=Z,1µm,18.0s
HLID Hailey 84.52 39 P P 06 03 07.8 +0.7
baz=234,SNR=84
K17K Iditarod 84.58 7 P P 06 03 08.7 +1.9
baz=194,SNR=17
LL03 Petrohue 84.65 132 IAMs_20 IAMs_20 06 40 54.4
comp=Z,942nm,18.0s
EYAK Cordova Ski Ar 84.66 14 P P 06 03 08.0 +0.9
baz=206,SNR=5.8
GLI Glacier Island 84.67 13 IAMs_20 IAMs_20 06 36 37.6
comp=Z,947nm,20.0s
GLI Glacier Island 84.67 13 P P 06 03 08.3 +1.1
baz=205,SNR=21
FID Port Fidalgo 84.69 13 IAMs_20 IAMs_20 06 36 36.7
comp=Z,1µm,20.0s
SUCK Suckling Hills 84.69 15 IAMs_20 IAMs_20 06 36 41.8
comp=Z,1µm,20.0s
MVCO Mesa Verde 84.76 47 P P 06 03 08.1 -0.5
baz=238
DL2 Dalian 84.80 315 P P 06 03 09.6 +1.2
DL2 SS SS 06 19 05.1 -4.2
DL2 pmax pmax
comp=Z,67nm,1.5s
DL2 pmax pmax
comp=Z,590nm,4.8s
DL2 LR LR
comp=Z,600nm,17.5s
DL2 LR LR
comp=Z,260nm,17.4s
DL2 LR LR
comp=Z,620nm,19.4s
HMT Hamilton 84.81 14 IAMs_20 IAMs_20 06 39 14.0
comp=Z,2µm,19.0s
BGLC Bering Glacier 84.85 15 P P 06 03 09.2 +1.1
baz=208
SKT Skwentna 84.85 10 IAmb IAmb 06 03 09.7
comp=Z,38nm,1.1s
SKT IAMs_20 IAMs_20 06 40 10.5
comp=Z,985nm,19.0s
SKT Skwentna 84.85 10 P P 06 03 08.1 -0.1
baz=201,SNR=20
P18A Preston Nutter 84.89 44 IAMs_20 IAMs_20 06 35 04.6
comp=Z,1µm,20.0s
M22K Willow 84.89 11 IAMs_20 IAMs_20 06 45 00.4
comp=Z,1µm,18.0s
M22K Willow 84.89 11 P P 06 03 09.0 +0.7
baz=202,SNR=25
J16K Anvik River 84.89 6 P P 06 03 10.0 +1.7
baz=192,SNR=14
S31K Pelican 84.94 19 P P 06 03 10.0 +1.4
baz=215
L20K Farewell, AK 84.95 9 P P 06 03 09.1 +0.4
baz=199,SNR=25
TCUT Toone Canyon 84.96 42 IAMs_20 IAMs_20 06 37 10.5
comp=Z,2µm,22.0s
WRAK Wrangell Islan 84.97 22 P P 06 03 10.3 +1.5
baz=218,SNR=5.6
BERG Berg Lake 84.99 15 IAMs_20 IAMs_20 06 37 00.8
comp=Z,1µm,20.0s
SNH Sunshine Point 85.01 15 IAMs_20 IAMs_20 06 39 16.3
comp=Z,2µm,20.0s
ANMO Albuquerque 85.03 50 IAMs_20 IAMs_20 06 37 34.3
comp=Z,1µm,21.0s
ANMO Albuquerque 85.03 50 P P 06 03 11.0 +1.1
baz=240
ANMO Albuquerque 85.03 50 LR LR 06 37 02.5
comp=Z,607nm,18.3s,baz=337,slow=33
ANMO Albuquerque 85.03 50 *i* P P 06 03 08.8 -1.2
ANMO pmax pmax
comp=Z,36nm,1.1s
BSUT Blindstream Ca 85.05 43 IAMs_20 IAMs_20 06 44 16.9
comp=Z,1µm,19.0s
KLR Kul'dur 85.05 328 LR LR 06 37 30.4
comp=Z,818nm,20.1s,baz=144,slow=33
KLR Kul'dur 85.05 328 *e*P P 06 03 10.1 +0.7
KLR pmax pmax
comp=Z,14nm,1.3s
S32K Killisnoo 85.06 20 P P 06 03 10.1 +0.9
baz=216
CN2 Changchun 85.14 321 P P 06 03 11.0 +1.0
CN2 S S 06 13 38.0 -1.8
CN2 pmax pmax
comp=Z,80nm,1.3s
CN2 pmax pmax
comp=Z,600nm,3.0s
CN2 LR LR
comp=Z,300nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,300nm,17.0s
SNY Shenyang 85.15 318 ⇑P P 06 03 10.3 +0.2
SNY S S 06 13 39.8 -0.1
SNY pmax pmax
comp=Z,34nm,1.6s
SNY pmax pmax
comp=Z,500nm,5.3s
SNY LR LR
comp=Z,310nm,17.1s
SNY LR LR
comp=Z,400nm,16.9s
SNY LR LR
comp=Z,730nm,18.6s
J17K VABM Dome 85.16 7 P P 06 03 11.5 +1.9
baz=194,SNR=25
BNX BinXian 85.16 323 ⇑P P 06 03 10.8 +0.7
BNX sP PcP 06 03 16.3 +3.1
BNX S S 06 13 42.9 +3.0
BNX pmax pmax
comp=Z,39nm,1.1s
BNX pmax pmax
comp=Z,610nm,7.0s
BNX LR LR
comp=Z,290nm,18.5s
BNX LR LR
comp=Z,260nm,16.7s
BNX LR LR
comp=Z,510nm,19.6s
MESA MESA 85.23 15 IAMs_20 IAMs_20 06 36 29.0
comp=Z,1µm,20.0s
MESA MESA 85.23 15 P P 06 03 10.8 +0.5
baz=210,SNR=8.3
WAX Waxell Ridge 85.24 15 IAMs_20 IAMs_20 06 36 50.4
comp=Z,2µm,18.0s
SML Sawmill 85.27 12 IAmb IAmb 06 03 13.0
comp=Z,68nm,1.5s
SML Sawmill 85.27 12 P P 06 03 11.1 +0.8
baz=204,SNR=8.9
LR03 Panguipulli 85.29 131 IAMs_20 IAMs_20 06 36 38.3
comp=Z,1µm,19.0s
BMRM Bremner River 85.29 14 P P 06 03 10.7 +0.3
baz=207,SNR=34
LR05 Currie 85.29 131 IAMs_20 IAMs_20 06 36 41.4
comp=Z,1µm,19.0s
BKNI Bangkinang 85.34 272 IAMs_20 IAMs_20 06 42 46.1
comp=Z,990nm,19.0s
M23K Glacier View 85.38 12 P P 06 03 11.6 +0.8
baz=204,SNR=13
PDSI Padang 85.44 271 P P 06 03 10.9 -1.4
comp=Z,42nm,1.0s,comp=Z,2µm
PNL Peninsula 85.45 17 P P 06 03 12.3 +1.1
baz=212,SNR=8.2
R31K City Hall, Gus 85.46 19 P P 06 03 11.9 +0.7
baz=215
CUT Chulitna 85.47 11 IAMs_20 IAMs_20 06 37 31.8
comp=Z,1µm,20.0s
CUT Chulitna 85.47 11 P P 06 03 11.6 +0.5
baz=202,SNR=8.8
I17K Unalakleet 85.47 6 IAmb IAmb 06 03 14.8
comp=Z,35nm,1.1s
I17K Unalakleet 85.47 6 P P 06 03 12.7 +1.5
baz=192
KLU Klutina 85.47 13 IAmb IAmb 06 03 14.2
comp=Z,48nm,1.2s
KLU Klutina 85.47 13 P P 06 03 12.1 +0.7
baz=206,SNR=19
SCM Sheep Creek Mo 85.49 12 P P 06 03 12.2 +0.7
baz=205,SNR=30
ISLE Juniper Island 85.50 15 IAmb IAmb 06 03 14.6
comp=Z,72nm,1.2s
ISLE IAMs_20 IAMs_20 06 37 08.3
comp=Z,1µm,19.0s
MA2 Magadan 85.50 343 IAMs_20 IAMs_20 06 37 38.8
comp=Z,966nm,20.0s
MA2 Magadan 85.50 343 LR LR 06 37 50.8
comp=Z,875nm,19.7s,baz=154,slow=33
MA2 Magadan 85.50 343 *i* P P 06 03 12.1 +0.7
MA2 pmax pmax
comp=Z,12nm,1.0s
J18K Innoko River 85.50 8 P P 06 03 12.3 +0.9
baz=196
PPLA Purkeypile 85.60 10 P P 06 03 12.3 +0.2
baz=200,SNR=5.2
BCPM Bancas Point 85.63 17 IAMs_20 IAMs_20 06 36 22.5
comp=Z,1µm,19.0s
R32K Eaglecrest 85.72 20 P P 06 03 13.8 +1.3
baz=216
K20K Telida 85.75 9 IAmb IAmb 06 03 15.5
comp=Z,61nm,1.1s
K20K Telida 85.75 9 P P 06 03 12.6 0.0
baz=198,SNR=52
ANM Nome 85.77 4 P P 06 03 15.1 +2.4
baz=188
VRDI Verde Repeater 85.78 14 IAmb IAmb 06 03 16.0
comp=Z,75nm,1.2s
VRDI IAMs_20 IAMs_20 06 37 28.9
comp=Z,1µm,19.0s
BI05 Punta Hualpn 85.82 128 IAMs_20 IAMs_20 06 38 18.4
comp=Z,991nm,18.0s
RDMU Red Mountain 85.83 44 IAMs_20 IAMs_20 06 37 11.6
comp=Z,2µm,19.0s
WHN Wuhan 85.84 305 P P 06 03 14.3 +0.5
WHN sP pwP 06 03 21.0 -0.2
WHN S S 06 13 41.3 -6.0
WHN pmax pmax
comp=Z,170nm,1.1s
WHN pmax pmax
comp=Z,1µm,4.5s
WHN LR LR
comp=Z,4µm,22.5s
WHN LR LR
comp=Z,1µm,14.5s
WHN LR LR
comp=Z,2µm,20.4s
NEW Newport 85.86 34 P P 06 03 14.2 +0.6
baz=231,SNR=6.8
NEW Newport 85.86 34 LR LR 06 37 27.7
comp=Z,1µm,18.4s,baz=230,slow=33
N25K Chitina, Valde 85.86 14 IAmb IAmb 06 03 16.3
comp=Z,79nm,1.2s
N25K IAMs_20 IAMs_20 06 36 55.0
comp=Z,936nm,19.0s
N25K Chitina, Valde 85.86 14 P P 06 03 14.2 +0.9
baz=207,SNR=30
P29M Windy Craggy 85.88 18 IAMs_20 IAMs_20 06 35 51.0
comp=Z,1µm,20.0s

P29M	**Windy Craggy**	**85.88**	**18**	P		**P**		**06 03 14.9**	**+1.5**
	baz=213,SNR=17								
CNSH	**ChangSha**	**85.88**	**302**	⇓P		**P**		**06 03 15.8**	**+1.7**
CNSH				S		**S**		**06 13 50.0**	**+2.3**
CNSH				pmax		pmax			
	comp=Z,38nm,1.2s								
CNSH				LR		LR			
	comp=Z,440nm,17.6s								
CNSH				LR		LR			
	comp=Z,430nm,17.9s								
CNSH				LR		LR			
	comp=Z,570nm,18.1s								
GLB	**Gilahina Butte**	**85.89**	**14**	IAmb		IAmb		06 03 16.4	
	comp=Z,68nm,1.3s								
GO06	**Curarrehue**	**85.93**	**131**	IAMs_20		IAMs_20		06 36 40.2	
	comp=Z,2µm,19.0s								
M24K	**Tolsona, Glenn**	**85.98**	**13**	P		**P**		**06 03 15.2**	**+1.4**
	baz=206,SNR=24								
LOGN	**Logan Glacier**	**86.02**	**16**	IAMs_20		IAMs_20		06 37 33.1	
	comp=Z,1µm,19.0s								
MCARA	**McCarthy VSAT**	**86.02**	**14**	IAmb		IAmb		06 03 17.8	
	comp=Z,51nm,1.2s								
MCARA				IAMs_20		IAMs_20		06 37 26.1	
	comp=Z,912nm,20.0s								
MCARA	**McCarthy VSAT**	**86.02**	**14**	P		**P**		**06 03 15.2**	**+1.2**
	baz=209,SNR=17								
CTG	**Chitna Glacier**	**86.06**	**15**	P		**P**		**06 03 15.6**	**+1.2**
	baz=210,SNR=24								
AHID	**Auburn Hatcher**	**86.06**	**41**	IAMs_20		IAMs_20		06 40 03.8	
	comp=Z,1µm,18.0s								
CTGM	**Chitina Glacie**	**86.06**	**15**	IAmb		IAmb		06 03 17.5	
	comp=Z,63nm,1.2s								
CTGM				IAMs_20		IAMs_20		06 36 55.1	
	comp=Z,905nm,20.0s								
BARN	**Barnard Glacie**	**86.06**	**15**	IAMs_20		IAMs_20		06 37 15.2	
	comp=Z,1µm,20.0s								
H16K	**Elim**	**86.07**	**5**	P		**P**		**06 03 14.7**	**+0.6**
	baz=191,SNR=5.4								
WAT6	**Susitna Watana**	**86.09**	**12**	P		**P**		**06 03 15.4**	**+0.8**
	baz=204,SNR=69								
PLCA	**Paso Flores**	**86.10**	**132**	IAMs_20		IAMs_20		06 42 22.7	
	comp=Z,1µm,18.0s								
PLCA	**Paso Flores**	**86.10**	**132**	P		**P**		**06 03 18.5**	**+3.3**
	comp=Z,12nm,1.1s,baz=254,slow=6.6,SNR=9.0								
PLCA				LR		LR		06 37 44.6	
	comp=Z,551nm,18.0s,baz=232,slow=33								
	comp=Z,12nm,1.1s								
PLCA	**Paso Flores**	**86.10**	**132**	*e*P		**P**		**06 03 18.1**	**+3.0**
CAST	**Castle Rocks**	**86.11**	**10**	P		**P**		**06 03 13.6**	**-0.8**
CAST				IAmb		IAmb		06 03 15.7	
	comp=Z,46nm,1.0s								
CAST				IAMs_20		IAMs_20		06 44 34.9	
	comp=Z,1µm,18.0s								
CAST	**Castle Rocks**	**86.11**	**10**	P		**P**		**06 03 14.7**	**+0.3**
	baz=200,SNR=57								
PLBC	**Pleasant Camp**	**86.13**	**18**	P		**P**		**06 03 16.1**	**+1.6**
	baz=215,SNR=19								
T35M	**Bob Quinn**	**86.14**	**22**	P		**P**		**06 03 16.5**	**+1.8**
	baz=220,SNR=6.5								
J19K	**Poorman**	**86.15**	**8**	IAmb		IAmb		06 03 17.9	
	comp=Z,68nm,1.3s								
J19K	**Poorman**	**86.15**	**8**	P		**P**		**06 03 16.0**	**+1.4**
	baz=197,SNR=26								
WAT1	**Susitna Watana**	**86.17**	**11**	P		**P**		**06 03 15.1**	**+0.3**
	baz=204								
O28M	**Mount Upton**	**86.18**	**16**	P		**P**		**06 03 15.7**	**+0.6**
	baz=211,SNR=20								
ELIB	**Princess Elisa**	**86.31**	**185**	*d*P		**P**		**06 03 17.7**	**+2.0**
	comp=Z,22nm,1.1s								
KTH	**Kantishna Hill**	**86.43**	**10**	IAmb		IAmb		06 03 17.8	
	comp=Z,52nm,1.0s								
KTH				IAMs_20		IAMs_20		06 44 37.1	
	comp=Z,1µm,18.0s								
SKAG	**Skagway**	**86.44**	**19**	P		**P**		**06 03 18.0**	**+2.0**
	baz=216,SNR=18								
CMIG	**Matias Romero**	**86.44**	**70**	LR		LR		06 35 01.4	
	comp=Z,745nm,18.5s,baz=238,slow=31								
TRF	**Thorofare Moun**	**86.44**	**10**	IAMs_20		IAMs_20		06 43 52.4	
	comp=Z,1µm,18.0s								
TRF	**Thorofare Moun**	**86.44**	**10**	P		**P**		**06 03 16.7**	**+0.5**
	baz=202,SNR=60								
HARP	**HAARP**	**86.45**	**13**	P		**P**		**06 03 17.6**	**+1.4**
	baz=207,SNR=7.5								
O20A	**White River Ci**	**86.46**	**44**	P		**P**		**06 03 17.5**	**+0.6**
	baz=238								
TIA	**Tai'an**	**86.49**	**311**	⇑P		**P**		**06 03 18.0**	**+1.1**
TIA				pmax		pmax			
	comp=Z,37nm,1.3s								
TIA				pmax		pmax			
	comp=Z,280nm,8.3s								
TIA				LR		LR			
	comp=Z,140nm,19.1s								
TIA				LR		LR			
	comp=Z,200nm,20.1s								
TIA				LR		LR			
	comp=Z,250nm,17.6s								
P30M	**Million Dollar**	**86.50**	**18**	P		**P**		**06 03 18.2**	**+1.7**
	baz=214								
CHUM	**Lake Minchumin**	**86.51**	**9**	P		**P**		**06 03 17.5**	**+1.2**
	baz=200,SNR=22								
J20K	**Nowinta River**	**86.52**	**9**	P		**P**		**06 03 18.6**	**+2.3**
	baz=198,SNR=56								
S34M	**Telegraph Cree**	**86.55**	**21**	P		**P**		**06 03 18.1**	**+1.4**
	baz=219,SNR=23								
SISI	**Saibi**	**86.57**	**270**	P		**P**		**06 03 18.6**	**+0.8**
	comp=Z,63nm,1.6s								
H17K	**Granite Mounta**	**86.58**	**6**	IAmb		IAmb		06 03 19.5	
	comp=Z,74nm,1.5s								
H17K				IAMs_20		IAMs_20		06 44 58.5	
	comp=Z,808nm,18.0s								
H17K	**Granite Mounta**	**86.58**	**6**	P		**P**		**06 03 18.3**	**+1.7**
	baz=193,SNR=14								
FXWY	**Fox Creek**	**86.59**	**40**	IAMs_20		IAMs_20		06 39 36.7	
	comp=Z,1µm,19.0s								
DHY	**Denali Highway**	**86.62**	**12**	IAmb		IAmb		06 03 19.7	
	comp=Z,59nm,1.3s								
DHY				IAMs_20		IAMs_20		06 44 25.0	
	comp=Z,946nm,18.0s								
DHY	**Denali Highway**	**86.62**	**12**	P		**P**		**06 03 18.9**	**+1.8**
	baz=205,SNR=24								
F14K	**Arctic Creek**	**86.62**	**3**	P		**P**		**06 03 18.1**	**+1.3**
	baz=187								
TNA	**Tin City**	**86.64**	**3**	P		**P**		**06 03 18.3**	**+1.4**
	baz=186								
GULI	**GuiLin**	**86.69**	**299**	⇓P		**P**		**06 03 19.3**	**+1.2**
GULI				S		**S**		**06 13 52.9**	**-2.9**
GULI				pmax		pmax			
	comp=Z,70nm,1.2s								
GULI				LR		LR			
	comp=Z,250nm,17.4s								
GULI				LR		LR			
	comp=Z,290nm,18.1s								
GULI				LR		LR			
	comp=Z,490nm,18.6s								
MSO	**Missoula**	**86.71**	**37**	IAMs_20		IAMs_20		06 35 22.2	
	comp=Z,1µm,20.0s								
MSO	**Missoula**	**86.71**	**37**	P		**P**		**06 03 18.6**	**+0.7**
	baz=234								
GCSA	**Galena City Sc**	**86.72**	**7**	P		**P**		**06 03 18.7**	**+1.4**
	baz=196,SNR=9.1								
YUK8	**Steele Glacier**	**86.73**	**16**	P		**P**		**06 03 19.5**	**+1.7**
	baz=212,SNR=33								
IMW	**Indian Meadow**	**86.78**	**40**	IAMs_20		IAMs_20		06 39 42.8	
	comp=Z,1µm,18.0s								
YUK6	**Outpost Mounta**	**86.81**	**17**	P		**P**		**06 03 19.4**	**+1.3**
	baz=213,SNR=14								
G16K	**Koyuk River**	**86.81**	**5**	P		**P**		**06 03 18.5**	**+0.8**
	baz=191								
MOOW	**Moose Ponds**	**86.82**	**40**	IAMs_20		IAMs_20		06 40 37.9	
	comp=Z,1µm,18.0s								
UBPT	**Khong Chiam**	**86.84**	**288**	IAmb		IAmb		06 03 21.6	
	comp=Z,45nm,1.1s								
PAX	**Paxson**	**86.90**	**13**	P		**P**		**06 03 19.3**	**+0.9**
	baz=206,SNR=30								
M26K	**Nabesna, AK**	**86.92**	**14**	IAmb		IAmb		06 03 21.7	
	comp=Z,76nm,1.2s								
M26K	**Nabesna, AK**	**86.92**	**14**	P		**P**		**06 03 19.8**	**+1.4**
	baz=209,SNR=67								
BPAW	**Bear Paw Mtn.**	**86.93**	**10**	IAMs_20		IAMs_20		06 44 53.4	
	comp=Z,850nm,18.0s								
BPAW	**Bear Paw Mtn.**	**86.93**	**10**	P		**P**		**06 03 18.9**	**+0.5**
	baz=201,SNR=23								
MCK	**McKinley**	**86.93**	**11**	P		**P**		**06 03 19.5**	**+1.0**
	baz=203,SNR=69								
HYT	**Haines Junctio**	**86.94**	**17**	P		**P**		**06 03 20.1**	**+1.4**
	baz=214,SNR=27								
H18K	**Honhosa River**	**86.94**	**7**	IAmb		IAmb		06 03 21.1	
	comp=Z,56nm,1.2s								
H18K	**Honhosa River**	**86.94**	**7**	P		**P**		**06 03 18.9**	**+0.5**
	baz=194,SNR=13								
F15K	**North Star Dit**	**86.95**	**4**	P		**P**		**06 03 19.9**	**+1.5**
	baz=189								
YUK3	**Moose Creek**	**86.98**	**15**	P		**P**		**06 03 20.5**	**+1.6**
	baz=211,SNR=52								
TROLL	**Troll, Antarti**	**86.98**	**179**	⇓P		**P**		**06 03 21.0**	**+2.0**
	comp=Z,183nm,0.6s								
BW06	**Boulder Array**	**87.01**	**42**	P		**P**		**06 03 20.6**	**+1.0**
	baz=237								
PDAR	**Pinedale Array**	**87.01**	**42**	P		**P**		**06 03 18.3**	**-1.3**
PDAR	**Pinedale Array**	**87.01**	**42**	P		**P**		**06 03 21.2**	**+1.6**
	comp=Z,13nm,1.0s,baz=204,slow=3.3,SNR=50								
PDAR				LR		LR		06 37 58.4	
	comp=Z,794nm,18.4s,baz=242,slow=33								
	comp=Z,13nm,1.0s								
P32M	**Atlin**	**87.03**	**19**	P		**P**		**06 03 20.5**	**+1.4**
	baz=217,SNR=14								
FLWY	**Flagg Ranch**	**87.03**	**40**	IAMs_20		IAMs_20		06 41 02.5	
	comp=Z,1µm,18.0s								
G17K	**Kiwalik Mounta**	**87.06**	**6**	P		**P**		**06 03 20.2**	**+1.2**
	baz=192,SNR=11								
I20K	**Naaghedeneel**	**87.07**	**8**	P		**P**		**06 03 20.2**	**+1.2**
	baz=198,SNR=15								
YUK4	**Talbot Arm**	**87.07**	**16**	P		**P**		**06 03 21.2**	**+1.8**
	baz=213,SNR=14								
SDCO	**Great Sand Dun**	**87.09**	**48**	P		**P**		**06 03 20.1**	**-0.1**
	baz=240								
M27K	**Edge Creek, AK**	**87.14**	**14**	IAMs_20		IAMs_20		06 38 12.7	
	comp=Z,1µm,19.0s								
M27K	**Edge Creek, AK**	**87.14**	**14**	P		**P**		**06 03 21.3**	**+1.7**
	baz=210,SNR=70								
VNA3	**Neumayer Olymp**	**87.15**	**175**	⇓P		**P**		**06 03 21.6**	**+1.9**
	comp=Z,12nm,0.9s								
YFT	**Old Faithful**	**87.15**	**40**	IAMs_20		IAMs_20		06 37 42.7	
	comp=Z,1µm,19.0s								
SNAA	**Sanae**	**87.16**	**177**	P		**P**		**06 03 19.3**	**-0.4**
SNAA	**Sanae**	**87.16**	**177**	⇓P		**P**		**06 03 21.7**	**+2.1**
	comp=Z,230nm,1.1s								
SNAA	**Sanae**	**87.16**	**177**	P		**P**		**06 03 21.8**	**+2.1**
	comp=Z,17nm,1.1s,baz=183,slow=6.0,SNR=8.6								
SNAA				LR		LR		06 37 15.5	
	comp=Z,683nm,22.0s,baz=193,slow=32								
	comp=Z,17nm,1.1s								
SNAA	**Sanae**	**87.16**	**177**	*ce*P		**P**		**06 03 20.4**	**+0.7**
SNAA				pmax		pmax			
	comp=Z,32nm,1.7s								
MSTX	**Muleshoe**	**87.23**	**52**	P		**P**		**06 03 19.9**	**-0.8**
	baz=242								
MENT	**Mentasta**	**87.24**	**13**	IAmb		IAmb		06 03 23.2	
	comp=Z,46nm,1.0s								
MENT				IAMs_20		IAMs_20		06 37 41.3	
	comp=Z,908nm,20.0s								
BWN	**Browne**	**87.25**	**11**	IAMs_20		IAMs_20		06 38 39.6	
	comp=Z,1µm,20.0s								
H17A	**Grant Village**	**87.28**	**40**	P		**P**		**06 03 21.6**	**+0.7**
	baz=236,SNR=5.7								
833A	**Chaparral WMA,**	**87.28**	**58**	P		**P**		**06 03 20.7**	**-0.2**
	baz=244								
O30N	**Mendenhall**	**87.28**	**18**	IAMs_20		IAMs_20		06 36 36.3	
	comp=Z,946nm,19.0s								
O30N	**Mendenhall**	**87.28**	**18**	P		**P**		**06 03 22.2**	**+1.9**
	baz=215,SNR=38								
BOZ	**Bozeman (W)**	**87.32**	**39**	IAMs_20		IAMs_20		06 37 04.2	
	comp=Z,1µm,19.0s								
BOZ	**Bozeman (W)**	**87.32**	**39**	P		**P**		**06 03 21.9**	**+0.9**
	baz=236,SNR=18								
DLBC	**Dease Lake**	**87.33**	**21**	P		**P**		**06 03 22.1**	**+1.5**
	baz=220,SNR=21								
DLBC	**Dease Lake**	**87.33**	**21**	LR		LR		06 36 56.8	
	comp=Z,352nm,19.2s,baz=243,slow=32								
L26K	**Log Cabin Wild**	**87.39**	**13**	IAmb		IAmb		06 03 24.0	
	comp=Z,49nm,1.1s								
L26K				IAMs_20		IAMs_20		06 38 36.5	
	comp=Z,1µm,19.0s								
L26K	**Log Cabin Wild**	**87.39**	**13**	P		**P**		**06 03 22.1**	**+1.4**
	baz=208,SNR=36								
GO05	**Huala**	**87.46**	**127**	IAMs_20		IAMs_20		06 41 27.7	
	comp=Z,1µm,18.0s								
KULM	**Kulim**	**87.50**	**277**	P		**P**		**06 03 22.1**	**-0.2**
KULM				IAmb		IAmb		06 03 24.8	
	comp=Z,41nm,1.0s								
H19K	**Roundabout Mou**	**87.52**	**7**	P		**P**		**06 03 22.6**	**+1.4**
	baz=196,SNR=39								
ML02	**Panimavida**	**87.53**	**127**	IAMs_20		IAMs_20		06 39 20.6	
	comp=Z,1µm,18.0s								
WHY	**Whitehorse**	**87.54**	**18**	P		**P**		**06 03 22.5**	**+0.9**
	baz=216,SNR=18								
T25A	**Trinidad**	**87.55**	**49**	IAMs_20		IAMs_20		06 43 54.1	
	comp=Z,1µm,18.0s								
T25A	**Trinidad**	**87.55**	**49**	P		**P**		**06 03 22.2**	**-0.2**
	baz=241								
N30M	**Aishikik Lake**	**87.58**	**17**	IAMs_20		IAMs_20		06 37 45.1	
	comp=Z,875nm,18.0s								
N30M	**Aishikik Lake**	**87.58**	**17**	P		**P**		**06 03 23.1**	**+1.5**
	baz=214,SNR=12								
K24K	**Donnelly Dome**	**87.58**	**12**	P		**P**		**06 03 22.6**	**+0.9**
	baz=206,SNR=21								
VNA2	**Neumayer--Watz**	**87.63**	**176**	⇓P		**P**		**06 03 24.1**	**+2.2**
	comp=Z,21nm,1.1s,baz=192,slow=3.0								
G18K	**Tagagawik**	**87.64**	**6**	IAmb		IAmb		06 03 24.5	
	comp=Z,61nm,1.2s								
G18K	**Tagagawik**	**87.64**	**6**	P		**P**		**06 03 22.7**	**+0.9**
	baz=194,SNR=29								
H20K	**Anotleneega Mo**	**87.68**	**8**	P		**P**		**06 03 23.1**	**+1.1**
	baz=198,SNR=33								
NEA2	**Nenana**	**87.70**	**11**	IAmb		IAmb		06 03 25.7	
	comp=Z,39nm,1.3s								
NEA2				IAMs_20		IAMs_20		06 38 31.8	
	comp=Z,1µm,21.0s								
NEA2	**Nenana**	**87.70**	**11**	P		**P**		**06 03 22.5**	**+0.3**
	baz=203,SNR=21								
YMP	**Mirror Lake Pl**	**87.72**	**40**	IAMs_20		IAMs_20		06 41 02.6	
	comp=Z,1µm,18.0s								
R33M	**Jennings River**	**87.75**	**20**	P		**P**		**06 03 24.1**	**+1.5**
	baz=219,SNR=21								
L27K	**Beaver Creek,**	**87.77**	**14**	IAmb		IAmb		06 03 25.8	
	comp=Z,44nm,1.2s								
L27K	**Beaver Creek,**	**87.77**	**14**	P		**P**		**06 03 23.6**	**+1.1**
	baz=210,SNR=45								
BCAR	**Beaver Creek A**	**87.78**	**14**	P		**P**		**06 03 23.8**	**+1.2**
I21K	**Tanana**	**87.78**	**9**	IAmb		IAmb		06 03 25.1	
	comp=Z,44nm,1.1s								
I21K	**Tanana**	**87.78**	**9**	P		**P**		**06 03 22.2**	**-0.3**
	baz=200								
P33M	**Teslin, Yukon**	**87.80**	**19**	P		**P**		**06 03 21.1**	**-1.6**
	baz=218,SNR=14								
MLY	**Manley**	**87.83**	**10**	IAmb		IAmb		06 03 24.8	
	comp=Z,31nm,1.2s								
MLY	**Manley**	**87.83**	**10**	P		**P**		**06 03 22.6**	**-0.2**
	baz=201,SNR=30								
VNA1	**Neumayer--Stat**	**87.83**	**175**	⇓P		**P**		**06 03 24.5**	**+1.6**
	comp=Z,39nm,1.2s								
HEH	**HeiHe**	**87.88**	**327**	*e*P		**P**		**06 03 24.0**	**+0.7**
HEH				PP		**PP**		**06 06 48.8**	**-0.9**
HEH				S		**S**		**06 13 59.3**	**-6.9**
HEH				pmax		pmax			
	comp=Z,32nm,1.3s								
HEH				pmax		pmax			
	comp=Z,460nm,5.1s								
HEH				LR		LR			
	comp=Z,380nm,18.3s								
HEH				LR		LR			
	comp=Z,420nm,20.4s								
HEH				LR		LR			
	comp=Z,910nm,20.9s								
JCT	**Junction City**	**87.90**	**56**	IAMs_20		IAMs_20		06 40 32.2	
	comp=Z,1µm,18.0s								
JCT	**Junction City**	**87.90**	**56**	P		**P**		**06 03 23.3**	**-0.7**
	baz=244								
HDA	**Harding Lake**	**87.91**	**11**	IAmb		IAmb		06 03 25.6	
	comp=Z,56nm,1.2s								
HDA	**Harding Lake**	**87.91**	**11**	P		**P**		**06 03 24.2**	**+1.1**
	baz=205,SNR=32								
F17K	**Baldwin Pennin**	**87.93**	**5**	IAmb		IAmb		06 03 26.1	
	comp=Z,57nm,1.4s								
F17K	**Baldwin Pennin**	**87.93**	**5**	P		**P**		**06 03 24.2**	**+1.1**
	baz=192								
Q24A	**Divide**	**87.93**	**47**	IAMs_20		IAMs_20		06 40 26.1	
	comp=Z,1µm,19.0s								
Q24A	**Divide**	**87.93**	**47**	P		**P**		**06 03 23.9**	**-0.4**
	baz=240								
RWWY	**Rawlins**	**87.93**	**44**	P		**P**		**06 03 24.9**	**+0.7**
RWWY				IAmb		IAmb		06 03 26.8	
	comp=Z,27nm,1.1s								
SEY	**Seymchan**	**87.95**	**345**	LR		LR		06 38 23.7	
	comp=Z,883nm,19.9s,baz=152,slow=33								
SEY	**Seymchan**	**87.95**	**345**	*ce*P		**P**		**06 03 23.8**	**+0.5**
SEY				pmax		pmax			
	comp=Z,46nm,1.3s								
N31M	**Braeburn, Yuko**	**87.96**	**17**	IAMs_20		IAMs_20		06 42 54.1	
	comp=Z,894nm,18.0s								
N31M	**Braeburn, Yuko**	**87.96**	**17**	P		**P**		**06 03 24.9**	**+1.5**
	baz=215,SNR=18								
CCB	**Clear Creek Bu**	**87.97**	**11**	IAMs_20		IAMs_20		06 38 29.9	
	comp=Z,990nm,20.0s								
ISCO	**Idaho Springs**	**88.03**	**46**	P		**P**		**06 03 23.5**	**-1.2**
	baz=240								
G19K	**Purcell Mounta**	**88.04**	**7**	P		**P**		**06 03 25.1**	**+1.3**
	baz=196,SNR=44								
M29M	**Somme Creek**	**88.04**	**16**	IAmb		IAmb		06 03 27.2	
	comp=Z,39nm,1.1s								
M29M				IAMs_20		IAMs_20		06 38 13.4	
	comp=Z,1µm,19.0s								
M29M	**Somme Creek**	**88.04**	**16**	P		**P**		**06 03 25.1**	**+1.2**
	baz=213,SNR=34								
SCRK	**Sand Creek**	**88.10**	**13**	IAMs_20		IAMs_20		06 38 49.2	
	comp=Z,912nm,20.0s								
SCRK	**Sand Creek**	**88.10**	**13**	P		**P**		**06 03 25.0**	**+0.8**
	baz=208,SNR=32								
H21K	**Melozitna Rive**	**88.12**	**9**	IAmb		IAmb		06 03 27.3	
	comp=Z,67nm,1.4s								
H21K				IAMs_20		IAMs_20		06 46 35.0	
	comp=Z,860nm,18.0s								
H21K	**Melozitna Rive**	**88.12**	**9**	P		**P**		**06 03 25.9**	**+1.8**
	baz=200,SNR=31								
KVTX	**Kingsville**	**88.15**	**60**	IAMs_20		IAMs_20		06 45 11.9	
	comp=Z,1µm,18.0s								
I23K	**Minto, Yukon-K**	**88.17**	**10**	P		**P**		**06 03 25.1**	**+0.8**
	baz=203,SNR=18								
RPSI	**Rantau Prapat**	**88.17**	**274**	IAMs_20		IAMs_20		06 44 56.9	
	comp=Z,998nm,20.0s								
COLA	**College**	**88.17**	**11**	P		**P**		**06 03 24.3**	**0.0**
COLA	**College**	**88.17**	**11**	IAMs_20		IAMs_20		06 38 35.2	
	comp=Z,934nm,20.0s								
COLA	**College**	**88.17**	**11**	P		**P**		**06 03 25.1**	**+0.8**
	baz=204								
COLA	**College**	**88.17**	**11**	*i* P		**P**		**06 03 24.6**	**+0.3**
COLA				pmax		pmax			
	comp=Z,62nm,1.1s								
MDM	**Murphy Dome**	**88.18**	**11**	IAMs_20		IAMs_20		06 39 06.6	
	comp=Z,979nm,20.0s								
F18K	**Selawik**	**88.22**	**6**	P		**P**		**06 03 25.7**	**+1.2**
	baz=193,SNR=9.3								
VA05	**Santo Domingo**	**88.25**	**125**	IAMs_20		IAMs_20		06 36 53.6	
	comp=Z,992nm,19.0s								
ILAR	**Eielson Array**	**88.25**	**11**	P		**P**		**06 03 24.9**	**+0.2**
ILAR	**Eielson Array**	**88.25**	**11**	P		**P**		**06 03 25.9**	**+1.1**
	comp=Z,53nm,1.2s,baz=216,slow=4.9,SNR=84								
ILAR				LR		LR		06 36 42.8	
	comp=Z,408nm,20.8s,baz=201,slow=31								
	comp=Z,53nm,1.2s								
ILAR	**Eielson Array**	**88.25**	**11**	P		**P**		**06 03 24.9**	**+0.2**
IMAR	**Indian Mountai**	**88.30**	**8**	P		**P**		**06 03 25.1**	**+0.2**
BO01	**Tunca**	**88.35**	**126**	IAMs_20		IAMs_20		06 44 13.2	
	comp=Z,824nm,18.0s								
N23A	**Red Feather La**	**88.35**	**45**	P		**P**		**06 03 25.5**	**-0.7**
	baz=240								
J25K	**Salcha River,**	**88.39**	**12**	IAMs_20		IAMs_20		06 44 38.0	
	comp=Z,821nm,18.0s								
J25K	**Salcha River,**	**88.39**	**12**	P		**P**		**06 03 26.1**	**+0.7**
	baz=206,SNR=49								
EF01	**Eagle Ford 01**	**88.43**	**58**	IAMs_20		IAMs_20		06 38 53.3	
	comp=Z,1µm,19.0s								
MT01	**Popeta**	**88.44**	**126**	IAMs_20		IAMs_20		06 45 39.6	
	comp=Z,1µm,18.0s								
AMTX	**Amarillo**	**88.45**	**52**	P		**P**		**06 03 25.8**	**-0.7**
	baz=243								
RLMT	**Red Lodge**	**88.45**	**40**	IAMs_20		IAMs_20		06 42 07.1	
	comp=Z,1µm,19.0s								
RLMT	**Red Lodge**	**88.45**	**40**	P		**P**		**06 03 25.6**	**-0.8**
	baz=237								
N32M	**Quiet Lake**	**88.46**	**19**	P		**P**		**06 03 26.3**	**+0.5**
	baz=218								
POKR	**Poker Plat Res**	**88.47**	**11**	P		**P**		**06 03 26.7**	**+1.0**
	baz=204,SNR=6.9								
VA01	**Torpederas**	**88.48**	**125**	IAMs_20		IAMs_20		06 38 58.0	
	comp=Z,1µm,19.0s								
E17K	**Hotham Inlet**	**88.51**	**5**	P		**P**		**06 03 27.7**	**+1.8**
	baz=191,SNR=12								
H22K	**Ishtalitna Cre**	**88.54**	**9**	P		**P**		**06 03 27.1**	**+1.0**
	baz=223,SNR=23								
CCIG	**Comitan**	**88.55**	**72**	IAMs_20		IAMs_20		06 39 17.4	
	comp=Z,864nm,19.0s								
K27K	**Chicken**	**88.55**	**13**	IAMs_20		IAMs_20		06 38 31.0	
	comp=Z,976nm,20.0s								
K27K	**Chicken**	**88.55**	**13**	P		**P**		**06 03 28.0**	**+1.8**
	baz=209								
F19K	**Shaleruckik Mo**	**88.64**	**6**	IAmb		IAmb		06 03 29.2

comp=Z,1µm,19.0s
H24K Noodor Dome 89.05 10 P P 06 03 29.4 +0.9
F20K Avaraart Lake 89.07 7 IAmb IAmb 06 03 31.5
comp=Z,35nm,1.1s
F20K Avaraart Lake 89.07 7 P P 06 03 30.1 +1.6
baz=197
LYN LuoYang 89.07 308 ⇓P P 06 03 31.5 +2.2
LYN sP pwP 06 03 39.3 +2.6
LYN SKS SKSac 06 14 01.4 +2.1
LYN sS ScS 06 14 29.6 +6.4
LYN pmax pmax
comp=Z,140nm,0.9s
LYN pmax pmax
comp=Z,690nm,4.9s
LYN LR LR
comp=Z,640nm,18.6s
LYN LR LR
comp=Z,550nm,18.2s
LYN LR LR
comp=Z,550nm,18.2s
PEL Peldehue 89.17 125 IAMs_20 IAMs_20 06 39 50.2
comp=Z,1µm,19.0s
MT16 CCHEN 89.17 126 IAMs_20 IAMs_20 06 40 25.0
comp=Z,1µm,18.0s
PRP Porcupine Dome 89.18 11 P P 06 03 30.9 +1.7
baz=206,SNR=57
DAWY Dawson 89.19 14 IAMs_20 IAMs_20 06 40 59.8
comp=Z,861nm,19.0s
DAWY Dawson 89.19 14 P P 06 03 31.2 +2.0
baz=212,SNR=69
MT13 San Alfonso 89.22 126 IAMs_20 IAMs_20 06 45 32.3
comp=Z,1µm,18.0s
LMEL Las Melosas 89.24 126 IAMs_20 IAMs_20 06 37 00.7
comp=Z,955nm,18.0s
FARO Faro, Yukon 89.24 18 P P 06 03 31.2 +1.7
baz=217,SNR=13
E19K Redstone River 89.30 6 IAmb IAmb 06 03 32.6
comp=Z,47nm,0.9s
E19K IAMs_20 IAMs_20 06 47 09.4
comp=Z,854nm,19.0s
E19K Redstone River 89.30 6 P P 06 03 31.4 +1.8
baz=195,SNR=50
TOAD Toad River Com 89.33 23 P P 06 03 32.1 +2.1
baz=224,SNR=101
RDOG Red Dog Mine 89.39 4 IAMs_20 IAMs_20 06 37 08.2
comp=Z,946nm,22.0s
RDOG Red Dog Mine 89.39 4 P P 06 03 31.4 +1.4
baz=190
EGAK Eagle 89.40 13 IAmb IAmb 06 03 33.4
comp=Z,56nm,1.1s
EGAK IAMs_20 IAMs_20 06 39 17.6
comp=Z,908nm,20.0s
EGAK Eagle 89.40 13 P P 06 03 32.0 +1.9
baz=210,SNR=43
LIRD Liard River Hi 89.42 22 P P 06 03 32.4 +2.1
baz=224
I26K Coal Creek Min 89.45 12 P P 06 03 32.5 +2.2
baz=208
K29M Barlow Dome 89.45 15 IAMs_20 IAMs_20 06 39 15.7
comp=Z,1µm,20.0s
K29M Barlow Dome 89.45 15 P P 06 03 32.8 +2.3
baz=214,SNR=105
CO06 Fray Jorge 89.46 123 IAMs_20 IAMs_20 06 40 54.6
comp=Z,1µm,18.0s
C16K Lisburne Hills 89.47 3 P P 06 03 32.6 +2.2
baz=188
G22K Bettles 89.49 9 P P 06 03 32.6 +2.1
baz=201
ENH Enshi 89.49 303 P P 06 03 31.2 -0.2
F21K Alatna River 89.51 8 P P 06 03 32.3 +1.7
baz=199,SNR=16
G23K Bananza Creek 89.51 9 IAmb IAmb 06 03 33.9
comp=Z,57nm,1.7s
G23K Bananza Creek 89.51 9 P P 06 03 32.6 +1.9
baz=202,SNR=14
MT08 Bocatoma Ro 89.55 126 IAMs_20 IAMs_20 06 37 20.0
comp=Z,1µm,18.0s
APG El Apazote 89.56 74 LR LR 06 34 56.6
comp=Z,24nm,20.2s,baz=236,slow=30
MAYO Mayo, Yukon 89.66 16 IAMs_20 IAMs_20 06 39 31.1
comp=Z,971nm,19.0s
MAYO Mayo, Yukon 89.66 16 P P 06 03 33.1 +1.7
baz=215
KSCO Kaye Shedlock' 89.68 48 P P 06 03 32.7 +0.5
baz=242
EGMT Eagleton 89.73 37 P P 06 03 30.2 -2.0
EGMT IAMs_20 IAMs_20 06 39 52.1
comp=Z,1µm,19.0s
EGMT Eagleton 89.73 37 P P 06 03 33.2 +1.0
baz=237
435B Jarrell 89.75 57 P P 06 03 33.5 +0.9
baz=245
C17K DeLong Mountai 89.79 4 P P 06 03 33.3 +1.4
baz=190
J29N Klondike Camp 89.79 15 IAMs_20 IAMs_20 06 41 37.8
comp=Z,956nm,19.0s
J29N Klondike Camp 89.79 15 P P 06 03 34.5 +2.4
baz=213,SNR=5.3
H25L Birch Creek 89.80 11 P P 06 03 33.2 +1.3
baz=206
G24K Hadweenzic Riv 89.90 10 IAMs_20 IAMs_20 06 43 45.1
comp=Z,1µm,19.0s
G24K Hadweenzic Riv 89.90 10 P P 06 03 33.9 +1.4
baz=204,SNR=5.6
F22K John River 89.95 8 P P 06 03 34.3 +1.6
baz=200
COLD Coldfoot 89.96 9 P P 06 03 34.8 +2.1
baz=202,SNR=14
I27K Kandik River 90.02 13 P P 06 03 34.6 +1.5
baz=210,SNR=26
ZEA Zeya 90.07 330 eP P 06 03 35.5 +2.0
ZEA pmax pmax
comp=E,10.0nm,1.0s
ZEA pmax pmax
comp=N,20nm,0.8s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZEA pmax pmax
comp=E,100nm,5.5s
ZEA pmax pmax
comp=Z,100nm,7.3s
C18K Utukok River 90.10 5 IAmb IAmb 06 03 36.0
comp=Z,36nm,1.2s
C18K Utukok River 90.10 5 P P 06 03 34.8 +1.4
baz=192,SNR=14
BILL Bilibino 90.17 353 P P 06 03 33.7 +0.1
BILL IAMs_20 IAMs_20 06 39 52.0
comp=Z,1µm,20.0s
BILL Bilibino 90.17 353 eP P 06 03 34.7 +1.1
BILL pmax pmax
comp=Z,10.0nm,1.0s
E20K Nigu River 90.18 7 P P 06 03 35.5 +1.7
baz=196,SNR=51
G25K Bearman Lake 90.20 11 P P 06 03 35.4 +1.6
baz=206,SNR=5.9
GYA Guiyang 90.20 298 ⇓P P 06 03 36.8 +1.8
GYA S S 06 14 27.0 -2.3
GYA pmax pmax
comp=Z,45nm,1.5s
GYA pmax pmax
comp=Z,410nm,10.1s
GYA LR LR
comp=Z,210nm,15.2s
GYA LR LR
comp=Z,310nm,21.8s
GYA LR LR
comp=Z,330nm,20.5s
D19K Kuna River 90.22 6 IAmb IAmb 06 03 36.6
comp=Z,38nm,0.9s
D19K Kuna River 90.22 6 P P 06 03 35.0 +1.1
baz=195,SNR=33
TGTN Hyland Airport 90.24 20 P P 06 03 36.2 +2.0
baz=222,SNR=20
I28M Miner Creek 90.25 14 IAmb IAmb 06 03 37.2
comp=Z,27nm,0.9s
I28M IAMs_20 IAMs_20 06 39 54.9
comp=Z,958nm,20.0s
I28M Miner Creek 90.25 14 P P 06 03 35.8 +1.6
baz=211,SNR=24
FW03 Perrin-Whitt E 90.34 55 IAMs_20 IAMs_20 06 40 30.7
comp=Z,1µm,19.0s
J30M Hart River 90.35 15 IAmb IAmb 06 03 38.2
comp=Z,35nm,1.1s
J30M IAMs_20 IAMs_20 06 40 32.5
comp=Z,1µm,19.0s
J30M Hart River 90.35 15 P P 06 03 36.6 +1.9
baz=215,SNR=41
WHTX Lake Whitney, 90.36 56 IAMs_20 IAMs_20 06 43 48.4
comp=Z,1µm,18.0s
WHTX Lake Whitney, 90.36 56 P P 06 03 35.4 0.0
baz=245
FW07 Weatherford 90.41 55 IAMs_20 IAMs_20 06 39 44.6
comp=Z,1µm,19.0s
SNSI Sinabang, Aceh 90.48 272 P P 06 03 38.2 +1.8
comp=Z,136nm,1.4s
TIY Taiyuan 90.51 311 ⇑P P 06 03 37.8 +1.7
TIY SKS SKSac 06 14 03.8 -4.0
TIY SS SS 06 20 32.5 -0.5
TIY pmax pmax
comp=Z,31nm,0.6s
TIY pmax pmax
comp=Z,320nm,6.7s
TIY LR LR
comp=Z,480nm,17.5s
TIY LR LR
comp=Z,310nm,17.1s
TIY LR LR
comp=Z,360nm,16.3s
WMOK Wichita Mounta 90.52 53 IAMs_20 IAMs_20 06 43 25.7
comp=Z,760nm,18.0s
WMOK Wichita Mounta 90.52 53 P P 06 03 36.3 +0.2
baz=244
SLVN Son La 90.53 293 IAmb IAmb 06 03 40.6
comp=Z,53nm,1.2s
I29M Ogilvie Camp, 90.54 14 IAmb IAmb 06 03 38.4
comp=Z,46nm,1.2s
I29M IAMs_20 IAMs_20 06 39 43.5
comp=Z,1µm,19.0s
I29M Ogilvie Camp, 90.54 14 P P 06 03 37.1 +1.6
baz=213,SNR=41
D20K Etivluk River 90.57 6 P P 06 03 37.1 +1.5
baz=196,SNR=32
F24K Squaw Lake 90.58 10 IAmb IAmb 06 03 39.1
comp=Z,38nm,1.6s
F24K Squaw Lake 90.58 10 P P 06 03 37.5 +1.8
baz=204,SNR=13
H27K Steamboat Moun 90.58 13 P P 06 03 37.6 +1.9
baz=210,SNR=66
E22K Anaktuvuk Pass 90.59 8 IAmb IAmb 06 03 38.7
comp=Z,39nm,1.0s
E22K IAMs_20 IAMs_20 06 48 57.5
comp=Z,918nm,18.0s
E22K Anaktuvuk Pass 90.59 8 P P 06 03 37.0 +1.3
baz=200
E21K Killik River 90.61 7 IAmb IAmb 06 03 38.4
comp=Z,33nm,1.1s
E21K Killik River 90.61 7 P P 06 03 37.1 +1.4
baz=198
KOTAN Kotaneelee Air 90.66 23 P P 06 03 37.9 +1.8
baz=225
C19K Lookout Ridge 90.68 5 IAmb IAmb 06 03 39.1
comp=Z,50nm,0.9s
C19K IAMs_20 IAMs_20 06 48 11.0
comp=Z,978nm,19.0s
C19K Lookout Ridge 90.68 5 P P 06 03 37.9 +1.8
baz=193,SNR=36
FW06 Azle 90.69 55 IAMs_20 IAMs_20 06 40 30.2
comp=Z,1µm,18.0s
EDM Edmonton 90.76 32 IAMs_20 IAMs_20 06 47 03.4
comp=Z,824nm,18.0s
B18K Kokolik River 90.76 4 P P 06 03 37.8 +1.4
baz=191
G26K Porcupine Rive 90.78 11 P P 06 03 38.6 +2.1
baz=208,SNR=39
HKT Hockley 90.79 58 IAMs_20 IAMs_20 06 40 58.8
comp=Z,1µm,18.0s
HKT Hockley 90.79 58 iP P 06 03 36.4 -1.0
HKT pmax pmax
comp=Z,25nm,1.5s
E23K Chandalar 90.82 9 P P 06 03 38.1 +1.3
baz=202
I30M Mount Dempster 90.87 15 IAMs_20 IAMs_20 06 40 41.4
comp=Z,1µm,19.0s
I30M Mount Dempster 90.87 15 P P 06 03 38.5 +1.3
baz=214,SNR=71
AC04 Llanos de Chal 90.92 121 IAMs_20 IAMs_20 06 38 50.4
comp=Z,1µm,19.0s
XLT XiLinHaoTe 90.93 317 eP P 06 03 39.6 +1.7
XLT pP pwP 06 03 44.6 -0.6
XLT sP sP 06 03 48.4 +7.7
XLT SKS SKSac 06 14 09.6 -0.3
XLT pmax pmax
comp=Z,26nm,1.0s
XLT pmax pmax
comp=Z,230nm,4.8s
XLT LR LR
comp=Z,450nm,19.6s
XLT LR LR
comp=Z,460nm,19.6s
OGNE Ogallala 90.98 46 IAMs_20 IAMs_20 06 43 16.8
comp=Z,1µm,18.0s
OGNE Ogallala 90.98 46 P P 06 03 37.9 -0.3
baz=242
E24K Your Creek 91.00 9 IAMs_20 IAMs_20 06 48 09.3
comp=Z,1µm,18.0s
E24K Your Creek 91.00 9 P P 06 03 39.5 +1.8
baz=204
F25K Christian Rive 91.02 11 P P 06 03 39.7 +2.0
baz=206,SNR=16
BMAR Burnt Mountain 91.06 11 P P 06 03 39.8 +1.9
G27K Doyon Strip 91.06 12 IAmb IAmb 06 03 41.4
comp=Z,26nm,1.1s
G27K IAMs_20 IAMs_20 06 40 35.5
comp=Z,880nm,20.0s
G27K Doyon Strip 91.06 12 P P 06 03 39.8 +1.9
baz=210,SNR=32
MLSI Meulaboh, Aceh 91.08 274 P P 06 03 39.7 +0.5
comp=Z,101nm,1.0s
Z35A Perchaven, San 91.08 55 IAMs_20 IAMs_20 06 40 24.3
comp=Z,1µm,18.0s
LAO LASA Array 91.08 40 P P 06 03 39.4 +0.9
baz=240
RSSD Black Hills 91.16 43 P P 06 03 39.8 +0.6
baz=241
D22K Ayikyak River 91.18 8 IAmb IAmb 06 03 41.7
comp=Z,36nm,1.1s
D22K Ayikyak River 91.18 8 P P 06 03 40.1 +1.7
baz=200,SNR=37
C21K Knifeblade Rid 91.19 7 P P 06 03 40.7 +2.3
baz=198,SNR=28
H29M Whitestone 91.25 14 IAMs_20 IAMs_20 06 46 28.3
comp=Z,891nm,19.0s
H29M Whitestone 91.25 14 P P 06 03 40.6 +1.8
baz=213,SNR=56
TOLK Toolik Lake Re 91.37 9 IAmb IAmb 06 03 42.4
comp=Z,30nm,1.2s
TOLK Toolik Lake Re 91.37 9 P P 06 03 40.8 +1.5
baz=202,SNR=18
F26K Sheenjek River 91.37 11 P P 06 03 41.8 +2.5
baz=208,SNR=31
ZON Zonda 91.39 125 IAMs_20 IAMs_20 06 40 38.5
comp=Z,1µm,18.0s
XAN Xi'an 91.50 306 ⇑P P 06 03 42.3 +1.6
XAN sP pwP 06 03 49.4 +1.3
XAN SKS SKSac 06 14 12.6 -1.0
XAN pmax pmax
comp=Z,160nm,1.1s
XAN pmax pmax
comp=Z,590nm,5.0s
XAN LR LR
comp=Z,180nm,12.8s
XAN LR LR
comp=Z,470nm,19.1s
XAN LR LR
comp=Z,540nm,22.0s
E25K Arctic Village 91.51 10 IAmb IAmb 06 03 43.5
comp=Z,38nm,1.2s
E25K IAMs_20 IAMs_20 06 41 40.5
comp=Z,826nm,20.0s
E25K Arctic Village 91.51 10 ⇑P P 06 03 41.9 +2.0
baz=206,SNR=36
D23K Nanushuk River 91.52 8 P P 06 03 41.9 +2.0
baz=202,SNR=22
CBKS Cedar Bluff 91.60 49 IAMs_20 IAMs_20 06 43 29.2
comp=Z,1µm,19.0s
CBKS Cedar Bluff 91.60 49 P P 06 03 41.9 +0.8
baz=244
237A Washetta, Mont 91.64 56 IAMs_20 IAMs_20 06 42 55.3
comp=Z,1µm,18.0s
A19K Wainwright 91.64 4 P P 06 03 41.7 +1.3
baz=192,SNR=10
B21K Ikpikpuk River 91.66 7 IAMs_20 IAMs_20 06 48 36.8
comp=Z,1µm,19.0s
B21K Ikpikpuk River 91.66 7 P P 06 03 42.0 +1.5
baz=198,SNR=10
EPYK Eagle Plains 91.74 14 IAMs_20 IAMs_20 06 40 58.4
comp=Z,773nm,19.0s
EPYK Eagle Plains 91.74 14 P P 06 03 42.9 +1.8
baz=214,SNR=35
B20K Meade River 91.77 6 IAmb IAmb 06 03 44.0
comp=Z,34nm,1.0s
B20K IAMs_20 IAMs_20 06 50 12.1
comp=Z,744nm,18.0s
B20K Meade River 91.77 6 P P 06 03 42.5 +1.5
baz=196
H31M Peel River 91.84 15 IAmb IAmb 06 04 03.3
comp=Z,24nm,1.1s
H31M IAMs_20 IAMs_20 06 41 28.0
comp=Z,1µm,18.0s
H31M Peel River 91.84 15 P P 06 03 43.0 +1.5
baz=216,SNR=12
GO03 Copiap 91.85 120 IAMs_20 IAMs_20 06 45 43.0
comp=Z,1µm,18.0s
G29M Pine Creek 91.90 13 IAmb IAmb 06 03 44.9
comp=Z,43nm,1.1s
G29M IAMs_20 IAMs_20 06 43 31.7
comp=Z,1µm,18.0s
G29M Pine Creek 91.90 13 P P 06 03 43.6 +1.8
baz=213,SNR=40
D24K Happy Valley 91.95 9 P P 06 03 43.8 +1.9
baz=203,SNR=15
F28M Old Crow 92.11 12 IAmb IAmb 06 03 46.0
comp=Z,34nm,1.0s
F28M IAMs_20 IAMs_20 06 41 36.3
comp=Z,1µm,20.0s
F28M Old Crow 92.11 12 P P 06 03 44.7 +1.9
baz=211,SNR=33
R32A Long Quarter, 92.15 50 IAMs_20 IAMs_20 06 44 27.9
comp=Z,1µm,18.0s
E27K Coleen River 92.27 12 IAmb IAmb 06 03 47.1
comp=Z,48nm,1.1s
E27K Coleen River 92.27 12 P P 06 03 45.8 +2.3
baz=210,SNR=60
NNA Nana 92.33 104 LR LR 06 37 18.2
comp=Z,492nm,18.3s,baz=245,slow=30
C23K Itkillik River 92.34 8 IAmb IAmb 06 03 47.0
comp=Z,46nm,1.4s
C23K IAMs_20 IAMs_20 06 41 39.6
comp=Z,885nm,20.0s
C23K Itkillik River 92.34 8 P P 06 03 45.9 +2.2
baz=202,SNR=21
G30M tAoh Zraii Nji 92.36 14 P P 06 03 45.7 +1.8
baz=215,SNR=103
NATX Nacogdoches 92.44 57 P P 06 03 45.1 0.0
baz=246
D25K Kavik River 92.46 10 IAMs_20 IAMs_20 06 49 03.8
comp=Z,1µm,18.0s
D25K Kavik River 92.46 10 P P 06 03 46.1 +1.7
baz=206,SNR=16
ARNL Arenillas 92.47 95 IAMs_20 IAMs_20 06 38 06.2
comp=Z,807nm,18.0s
OK031 S. Brethren Rd 92.47 52 IAMs_20 IAMs_20 06 41 11.3
comp=Z,1µm,18.0s
B22K Teshekpuk Lake 92.47 7 IAmb IAmb 06 03 47.3
comp=Z,42nm,1.2s
B22K Teshekpuk Lake 92.47 7 P P 06 03 46.0 +1.8
baz=199,SNR=27
C24K Franklin Bluff 92.49 9 P P 06 03 46.4 +2.0
baz=203
HHC Hu-ho-hao-te 92.50 313 eP P 06 03 46.6 +1.3
HHC SKS SKSac 06 14 18.3 -0.7
HHC S S 06 14 47.3 -2.2
HHC SS SS 06 21 03.3 +1.7
HHC pmax pmax
comp=Z,40nm,4.6s
HHC LR LR
comp=Z,410nm,16.0s
HHC LR LR
comp=Z,420nm,15.3s
HHC LR LR
comp=Z,350nm,16.8s
OK052 Battle Ridge R 92.52 52 IAMs_20 IAMs_20 06 46 52.5
comp=Z,1µm,18.0s
ATAH Atahualpa 92.71 99 LR LR 06 38 18.3
comp=Z,549nm,18.3s,baz=246,slow=31
G31M Satah River 92.76 15 IAMs_20 IAMs_20 06 41 50.3
comp=Z,1µm,20.0s
G31M Satah River 92.76 15 P P 06 03 47.7 +2.1
baz=216,SNR=56
JTS Las Juntas de 92.86 80 LR LR 06 39 06.0
comp=Z,362nm,18.1s,baz=248,slow=31
A22K Sinclair Lake 92.94 6 P P 06 03 48.1 +1.7
baz=198,SNR=19
KMI Kunming 92.95 296 ⇑P P 06 03 50.0 +2.1
KMI SKS SKSac 06 14 23.4 +0.9
KMI pmax pmax
comp=Z,77nm,1.0s
KMI pmax pmax
comp=Z,290nm,3.9s
KMI LR LR
comp=Z,540nm,20.0s
KMI LR LR
comp=Z,830nm,19.6s
KMI LR LR
comp=Z,1µm,19.5s
F30M Barrier River 92.97 14 P P 06 03 48.4 +1.7
baz=215,SNR=13
E28M Babbage River 93.03 12 IAMs_20 IAMs_20 06 43 03.5
comp=Z,928nm,20.0s
E28M Babbage River 93.03 12 P P 06 03 49.5 +2.6
baz=212,SNR=69
WRGLY Wrigley 93.03 21 IAMs_20 IAMs_20 06 48 38.8
comp=Z,735nm,18.0s
WRGLY Wrigley 93.03 21 P P 06 03 48.7 +1.7
baz=226
A21K Barrow 93.09 6 P P 06 03 49.0 +1.9
baz=196
DGMT Dagmar 93.16 39 IAMs_20 IAMs_20 06 41 54.6
comp=Z,1µm,19.0s
DGMT Dagmar 93.16 39 P P 06 03 50.0 +2.0
baz=241
C27K Jago River 93.16 10 P P 06 03 49.8 +2.3
baz=208,SNR=28
E29M Blow River 93.17 13 IAmb IAmb 06 03 50.3
comp=Z,28nm,1.1s
E29M IAMs_20 IAMs_20 06 42 09.2
comp=Z,1µm,20.0s
E29M Blow River 93.17 13 P P 06 03 49.4 +1.8
baz=213,SNR=34
CRAI Chiangrai 93.19 290 IAmb IAmb 06 03 51.6
comp=Z,51nm,1.2s
TRQA Tornquist 93.22 133 IAMs_20 IAMs_20 06 44 27.3
comp=Z,1µm,18.0s
C26K Camden Bay 93.23 10 P P 06 03 49.9 +2.1
baz=207,SNR=35
TUL3 Leonard 93.23 53 IAMs_20 IAMs_20 06 41 45.4
comp=Z,1µm,18.0s
TUL3 Leonard 93.23 53 P P 06 03 49.4 +0.8
baz=246
PB10 IPOC Station P 93.30 117 IAMs_20 IAMs_20 06 43 02.2
comp=Z,986nm,18.0s
F31M Tsiigehtchic 93.30 14 IAMs_20 IAMs_20 06 45 18.5
comp=Z,908nm,19.0s
F31M Tsiigehtchic 93.30 14 P P 06 03 49.8 +1.6
baz=217,SNR=55
D27M Malcolm River 93.30 11 IAmb IAmb 06 03 51.9
comp=Z,46nm,1.2s
D27M Malcolm River 93.30 11 P P 06 03 50.3 +2.1
baz=210,SNR=16
K30B Basset 93.37 45 IAMs_20 IAMs_20 06 47 15.1
comp=Z,713nm,18.0s
GO02 Mina Guanaco 93.40 118 IAMs_20 IAMs_20 06 40 37.1
comp=Z,1µm,19.0s
TEIG Tepich 93.41 70 LR LR 06 40 33.4
comp=Z,3µm,18.5s,baz=248,slow=32
BTO Baotou 93.45 312 eP P 06 03 51.8 +2.1
BTO pP pwP 06 03 55.9 -1.1
BTO sP sP 06 04 01.0 +8.5
BTO SKS SKSac 06 14 25.4 +1.1
BTO sS sS 06 15 05.9 +4.5
BTO pmax pmax
comp=Z,36nm,1.2s
BTO pmax pmax
comp=Z,570nm,4.7s
BTO LR LR
comp=Z,470nm,20.5s
BTO LR LR
comp=Z,390nm,14.0s
BTO LR LR
comp=Z,720nm,20.4s
D28M Stokes Point 93.79 12 P P 06 03 52.1 +1.7
baz=212,SNR=21
BGNE Belgrade 93.81 47 IAMs_20 IAMs_20 06 40 45.8

comp=Z,842nm,19.0s
BGNE Belgrade 93.81 47 P **P** **06 03 52.2 +0.9**
baz=245
CMAR Chiang Mai Arr 93.82 288 P **P** **06 03 51.6 -0.1**
CMAR Chiang Mai Arr 93.82 288 P **P** **06 03 52.1 +0.4**
comp=Z,29nm,0.9s,baz=117,slow=2.9,SNR=128
CMAR LR LR 06 41 50.4
comp=Z,180nm,21.7s,baz=95,slow=33
comp=Z,29nm,0.9s
CMAR Chiang Mai Arr 93.82 288 *ce*P **P** **06 03 53.9 +2.2**
CMAR pmax pmax
comp=Z,31nm,0.9s
KSU1 Kansas State U 93.93 50 IAMs_20 IAMs_20 06 41 48.9
comp=Z,1µm,18.0s
KSU1 Kansas State U 93.93 50 P **P** **06 03 52.4 +0.6**
baz=246
CHTO Chiang Mai 93.94 289 P **P** **06 03 52.8 +0.5**
CHTO Chiang Mai 93.94 289 P **P** **06 03 52.8 +0.5**
CHTO pmax pmax
comp=Z,48nm,1.0s
INK Inuvik 94.04 14 IAmb IAmb 06 03 54.2
comp=Z,31nm,1.1s
INK IAMs_20 IAMs_20 06 48 56.2
comp=Z,756nm,19.0s
INK Inuvik 94.04 14 P **P** **06 03 53.5 +2.0**
baz=217,SNR=27
INK Inuvik 94.04 14 LR LR 06 43 38.0
comp=Z,568nm,18.4s,baz=184,slow=34
YAK Yakutsk 94.18 337 LR LR 06 43 39.0
comp=Z,338nm,18.9s,baz=138,slow=34
YAK Yakutsk 94.18 337 *e*P **P** **06 03 52.0 -0.3**
YAK *e**PP **sP** **06 03 57.5 +2.3**
YAK *e* 06 07 39.7
YAK *e*S **SKSac** **06 14 27.1 +0.1**
YAK *e* 06 15 06.5
YAK *e*SS **SS** **06 21 20.1 -4.3**
YAK *e*SSS SSS 06 25 10.6
YAK pmax pmax
comp=Z,15nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.8s
YAK pmax pmax
comp=E,4.0nm,1.8s
YAK pmax pmax
comp=Z,298nm,4.8s
YAK pmax pmax
comp=N,172nm,6.0s
YAK pmax pmax
comp=E,113nm,4.6s
YAK smax smax
comp=E,117nm,6.4s
YAK smax smax
comp=N,111nm,5.3s
YAK MLR MLR
comp=Z,350nm,17.0s
YAK MLR MLR
comp=N,277nm,21.0s
YAK MLR MLR
comp=E,150nm,20.0s
CD2 Chengdu 94.28 301 P **P** **06 03 54.0 +0.4**
CD2 pP sP 06 03 57.4 +0.9
CD2 S **S** **06 15 06.8 +1.3**
CD2 pmax pmax
comp=E,10.0nm,0.4s
CD2 pmax pmax
comp=E,220nm,7.0s
CD2 LR LR
comp=E,460nm,16.8s
CD2 LR LR
comp=E,460nm,18.4s
CD2 LR LR
comp=E,390nm,16.0s
PZH PanZhiHua 94.30 297 P **P** **06 03 55.5 +1.6**
PZH SKS **SKSac** **06 14 27.6 -2.0**
PZH S **S** **06 15 01.6 -4.4**
PZH pmax pmax
comp=E,40nm,1.1s
PZH pmax pmax
comp=E,190nm,4.0s
PZH LR LR
comp=E,420nm,20.0s
PZH LR LR
comp=E,390nm,21.0s
PZH LR LR
comp=E,570nm,21.1s
PB15 IPOC Station P 94.33 117 IAMs_20 IAMs_20 06 43 10.5
comp=Z,1µm,20.0s
MIAR Mount Ida 94.36 55 IAMs_20 IAMs_20 06 46 28.3
comp=Z,1µm,18.0s
MIAR Mount Ida 94.36 55 P **P** **06 03 54.0 +0.2**
baz=247
E28A Huff 94.39 42 IAMs_20 IAMs_20 06 41 15.1
comp=Z,1µm,19.0s
Z41A Richland Creek 94.47 56 IAMs_20 IAMs_20 06 40 52.1
comp=Z,977nm,20.0s
U38A Gravette 94.49 53 IAMs_20 IAMs_20 06 46 24.6
comp=Z,1µm,18.0s
SUSD Miller 94.56 44 IAMs_20 IAMs_20 06 46 32.7
comp=Z,980nm,18.0s
SUSD Miller 94.56 44 P **P** **06 03 55.0 +0.4**
baz=245
PB07 IPOC Station P 94.60 115 IAMs_20 IAMs_20 06 40 08.8
comp=Z,1µm,19.0s
HHAR Hobbs 94.76 53 IAMs_20 IAMs_20 06 42 41.8
comp=Z,1µm,19.0s
X40A Basin Creek Fa 94.91 55 IAMs_20 IAMs_20 06 45 53.7
comp=Z,950nm,18.0s
TA02 Huaiquique 95.00 114 IAMs_20 IAMs_20 06 40 10.3
comp=Z,1µm,18.0s
LVC Limon Verde 95.05 116 LR LR 06 39 54.5
comp=Z,541nm,18.5s,baz=244,slow=31
LVC Limon Verde 95.05 116 *e*P **P** **06 04 00.8 +2.9**
LVC *e*pP pwP 06 04 56.2 +50
L34A Svendsen Farm, 95.25 47 IAMs_20 IAMs_20 06 42 44.9
comp=Z,801nm,19.0s
N35A Tabor 95.32 48 IAMs_20 IAMs_20 06 50 56.6
comp=Z,775nm,18.0s
143A Socs Landing, 95.35 57 IAMs_20 IAMs_20 06 46 47.5
comp=Z,1µm,18.0s
UALR University of 95.39 55 IAMs_20 IAMs_20 06 47 08.5
comp=Z,1µm,18.0s
PB12 IPOC Station P 95.52 112 IAMs_20 IAMs_20 06 39 46.0
comp=Z,1µm,20.0s
IMBA Imbabura, San 95.58 92 IAMs_20 IAMs_20 06 43 02.8
comp=Z,802nm,18.0s
AP01 Chacalluta 95.61 112 IAMs_20 IAMs_20 06 43 33.3
comp=Z,1µm,21.0s
MDND Maddock 95.61 41 P **P** **06 03 59.7 +0.4**
baz=244
YKA Yellowknife Ar 95.66 24 P **P** **06 03 58.3 -0.8**
YKA Yellowknife Ar 95.66 24 P **P** **06 04 00.6 +1.5**
comp=Z,10.0nm,0.9s,baz=244,slow=4.0,SNR=98
YKA LR LR 06 42 22.3
comp=Z,438nm,19.3s,baz=244,slow=32
comp=Z,10.0nm,0.9s
S39A Bolivar 95.75 52 IAMs_20 IAMs_20 06 43 38.1
comp=Z,1µm,18.0s
ECSD EROS Data Cent 95.80 45 P **P** **06 04 01.3 +1.0**
ECSD IAmb IAmb 06 04 04.4
comp=Z,35nm,1.1s
ECSD EROS Data Cent 95.80 45 IAMs_20 IAMs_20 06 49 20.5
comp=Z,1µm,18.0s
ECSD EROS Data Cent 95.80 45 P **P** **06 04 00.9 +0.7**
baz=246
VBMS Vicksburg 95.87 58 IAMs_20 IAMs_20 06 44 36.2
comp=Z,1µm,19.0s
VBMS Vicksburg 95.87 58 P **P** **06 04 00.4 -0.4**
baz=249
FCAR Ozark Folk Cen 95.97 54 IAMs_20 IAMs_20 06 42 52.9
comp=Z,1µm,19.0s
TULM Tulcn-Chalpat 96.13 92 IAMs_20 IAMs_20 06 40 05.2
comp=Z,1µm,19.0s
LZH Lanzhou 96.13 306 *e*P **P** **06 04 03.4 +1.2**
LZH sP pwP 06 04 14.3 +4.8
LZH SKS **SKSac** **06 14 41.5 +2.5**
LZH pmax pmax
comp=Z,34nm,1.4s
LZH LR LR
comp=Z,310nm,15.8s
LZH LR LR
comp=Z,410nm,16.1s
LZH LR LR
comp=Z,310nm,14.4s
346A Big Creek Wild 96.41 59 IAMs_20 IAMs_20 06 47 43.5
comp=Z,918nm,18.0s
TNCH TengChong 96.49 294 *e*P **P** **06 04 04.4 +0.4**
TNCH sP pwP 06 04 10.6 -0.8
TNCH pmax pmax
comp=Z,190nm,3.5s
PB18 Visviri 96.67 112 IAMs_20 IAMs_20 06 43 27.6
comp=Z,1µm,19.0s
R40A Maddies Statio 96.75 52 IAMs_20 IAMs_20 06 44 27.5
comp=Z,1µm,18.0s
LCAR Lake Charles 96.77 54 IAMs_20 IAMs_20 06 43 37.0
comp=Z,1µm,19.0s
F33A 5 Mile Ranch, 96.85 43 IAmb IAmb 06 04 22.0
comp=Z,27nm,1.4s
F33A IAMs_20 IAMs_20 06 46 57.3
comp=Z,1µm,18.0s
D32A Dogwood Acres, 96.91 42 IAMs_20 IAMs_20 06 46 14.9
comp=Z,963nm,18.0s
N38A Joes South For 96.98 49 IAMs_20 IAMs_20 06 44 16.6
comp=Z,1µm,18.0s
C36M Paulatuk 97.11 16 IAmb IAmb 06 04 08.9
comp=Z,18nm,1.1s
C36M IAMs_20 IAMs_20 06 43 42.1
comp=Z,814nm,20.0s
C36M Paulatuk 97.11 16 P **P** **06 04 07.0 +1.5**
baz=226
146A Union 97.17 58 IAMs_20 IAMs_20 06 45 26.7
comp=Z,859nm,18.0s
Y45A Yeager Farm, C 97.22 57 IAMs_20 IAMs_20 06 43 16.0
comp=Z,769nm,20.0s
FFC Flin Flon 97.28 34 IAMs_20 IAMs_20 06 41 18.9
comp=Z,912nm,21.0s
MET Memphis--Engin 97.36 55 IAMs_20 IAMs_20 06 44 04.7
comp=Z,790nm,19.0s
SCIA State Center 97.41 48 P Pdif 06 04 07.4 -0.3
baz=248
CCM Cathedral Cave 97.41 52 IAMs_20 IAMs_20 06 44 49.1
comp=Z,1µm,18.0s
CCM Cathedral Cave 97.41 52 P Pdif 06 04 07.7 -0.1
baz=249
OXF Oxford 97.55 56 IAMs_20 IAMs_20 06 43 31.7
comp=Z,872nm,19.0s
OXF Oxford 97.55 56 P Pdif 06 04 07.9 -0.6
baz=249
PBMO Poplar Bluff 97.57 54 IAMs_20 IAMs_20 06 43 52.2
comp=Z,1µm,19.0s
CZSB Cruzeiro do Su 97.72 101 IAMs_20 IAMs_20 06 48 30.3
comp=Z,766nm,18.0s
PEBM Periscott Bayo 97.76 54 IAMs_20 IAMs_20 06 45 26.3
comp=Z,1µm,18.0s
AGMN Agassiz Nation 98.09 41 IAmb IAmb 06 04 27.6
comp=Z,15nm,1.4s
AGMN Agassiz Nation 98.09 41 P Pdif 06 04 10.5 0.0
baz=247
HALT Halls 98.09 55 IAMs_20 IAMs_20 06 47 44.0
comp=Z,1µm,18.0s
BRAL Brewton 98.27 60 P Pdif 06 04 11.1 -0.6
baz=250
ULN Ulaanbaatar 98.32 318 *ce*P Pdif 06 04 12.5 +0.7
ULN pmax pmax
comp=Z,13nm,2.1s
CGM3 Cape Girardeau 98.33 53 IAMs_20 IAMs_20 06 43 58.3
comp=Z,962nm,21.0s
LPAZ La Paz 98.39 111 IAMs_20 IAMs_20 06 41 51.1
comp=Z,925nm,19.0s
LPAZ La Paz 98.39 111 P Pdif 06 04 16.6 +3.2
comp=Z,2.3nm,1.1s,baz=256,slow=4.9,SNR=4.7
LPAZ LR LR 06 42 01.3
comp=Z,825nm,18.2s,baz=260,slow=31
comp=Z,2.3nm,1.1s
LPAZ La Paz 98.39 111 *e*P Pdif 06 04 17.3 +3.9
UTMT University of 98.60 54 IAMs_20 IAMs_20 06 48 58.5
comp=Z,1µm,18.0s
F36A Milaca 98.65 44 IAMs_20 IAMs_20 06 47 46.9
comp=Z,1µm,18.0s
A36M Sachs Harbour 98.68 14 IAMs_20 IAMs_20 06 45 02.8
comp=Z,888nm,19.0s
A36M Sachs Harbour 98.68 14 P Pdif 06 04 14.0 +1.5
baz=225
SONM Songino Array 98.72 318 P **P** **06 04 13.0 -0.5**
SONM IAmb IAmb 06 04 25.5
comp=Z,30nm,1.9s
SONM Songino Array 98.72 318 P **P** **06 04 13.2 -0.3**
comp=Z,0.7nm,0.3s,baz=130,slow=5.8,SNR=2.0
SONM LR LR 06 48 19.9
comp=Z,248nm,18.5s,baz=120,slow=35
comp=Z,0.7nm,0.3s
SONM Songino Array 98.72 318 P **P** **06 04 13.0 -0.5**
SONM pmax pmax
comp=Z,30nm,1.9s
PLAL Pickwick Lake 98.74 56 IAMs_20 IAMs_20 06 48 11.3
comp=Z,1µm,18.0s
S44A Carbondale 98.76 53 IAMs_20 IAMs_20 06 45 24.8
comp=Z,920nm,18.0s
SIUC Southern Illin 98.80 53 IAMs_20 IAMs_20 06 45 16.8
comp=Z,800nm,20.0s
ULM Lac du Bonnet 98.83 39 P Pdif 06 04 15.9 +2.2
comp=Z,0.7nm,0.4s,baz=265,slow=5.7,SNR=3.1
ULM LR LR 06 44 55.0
comp=Z,1µm,18.8s,baz=264,slow=33
comp=Z,0.7nm,0.4s
L40A Anamosa 98.85 48 IAMs_20 IAMs_20 06 50 41.1
comp=Z,833nm,18.0s
SPMN Marine on St. 98.89 45 IAMs_20 IAMs_20 06 46 24.3
comp=Z,868nm,19.0s
LRAL Lakeview Retre 98.94 58 IAMs_20 IAMs_20 06 46 42.5
comp=Z,940nm,19.0s
WVT Waverly 99.31 55 IAMs_20 IAMs_20 06 45 23.4
comp=Z,1µm,18.0s
X48A Hartselle 99.37 57 IAMs_20 IAMs_20 06 46 08.8
comp=Z,883nm,18.0s
B35A Bob, Littlefor 99.43 42 IAMs_20 IAMs_20 06 58 21.5
comp=Z,862nm,18.0s
Y49A Blount Mountai 99.67 58 IAMs_20 IAMs_20 06 46 30.9
comp=Z,962nm,18.0s
JFWS Jewell Farm 99.82 48 IAMs_20 IAMs_20 06 48 53.7
comp=Z,883nm,18.0s
L42A Oliver, Polo 99.92 49 IAMs_20 IAMs_20 06 45 52.3
comp=Z,949nm,18.0s
V48A Smith Brothers 99.96 56 IAMs_20 IAMs_20 06 45 43.5
comp=Z,885nm,19.0s
OLIL Olney 99.97 52 IAMs_20 IAMs_20 06 46 10.7
comp=Z,1µm,19.0s
T47A Sharon Grove 100.14 54 IAMs_20 IAMs_20 06 46 15.4
comp=Z,1µm,18.0s
GTA Gaotai 100.28 308 *e*P **Pdif** **06 04 21.8 +1.1**
GTA sP pwP 06 04 27.8 -0.2
GTA SKS **SKSac** **06 14 59.4 -0.5**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA pmax pmax
comp=Z,120nm,8.4s
GTA LR LR
comp=Z,190nm,19.3s
GTA LR LR
comp=Z,260nm,21.8s
GTA LR LR
comp=Z,370nm,21.4s
TIXI Tiksi 100.41 344 *i* P **Pdif** **06 04 20.8 +0.6**
TIXI pmax pmax
comp=Z,2.0nm,1.1s
CLTN Cedars of Leba 100.45 55 IAMs_20 IAMs_20 06 46 15.5
comp=Z,1µm,18.0s
SWET Sewanee 100.48 56 IAMs_20 IAMs_20 06 49 05.3
comp=Z,1µm,18.0s
FPAL Fort Paine 100.52 57 IAMs_20 IAMs_20 06 46 54.3
comp=Z,884nm,18.0s
G40A Rib Lake 100.63 46 IAMs_20 IAMs_20 06 48 59.4
comp=Z,954nm,18.0s
EYMN Ely 100.69 43 IAMs_20 IAMs_20 06 47 35.7
comp=Z,1µm,18.0s
EYMN Ely 100.69 43 P **Pdif** **06 04 21.8 -0.2**
baz=250
CBCY The Bluff, Cay 100.78 73 IAMs_20 IAMs_20 06 47 33.4
comp=Z,880nm,18.0s
ROSC El Rosal 100.82 89 IAMs_20 IAMs_20 06 44 19.7
comp=Z,697nm,18.0s
W50A Signal Mountai 100.96 57 IAMs_20 IAMs_20 06 49 30.9
comp=Z,1µm,18.0s
U49A Red Boiling Sp 101.00 55 IAMs_20 IAMs_20 06 47 43.2
comp=Z,1µm,18.0s
I42A Draeger Farm, 101.06 47 IAMs_20 IAMs_20 06 46 59.5
comp=Z,861nm,19.0s
K43A Burlington 101.08 49 IAMs_20 IAMs_20 06 51 43.1
comp=Z,858nm,18.0s
X51A Calhoun 101.11 57 IAMs_20 IAMs_20 06 47 40.1
comp=Z,708nm,18.0s
HQIL Hanson Quary C 101.13 49 IAMs_20 IAMs_20 06 45 58.5
comp=Z,1µm,19.0s
WCI Wyandotte Cave 101.15 53 P **Pdif** **06 04 23.8 -0.5**
baz=252
L44A Lake County Fo 101.21 49 IAMs_20 IAMs_20 06 50 09.5
comp=Z,989nm,18.0s
SFIN Lafayette 101.23 51 IAMs_20 IAMs_20 06 51 47.1
comp=Z,1µm,18.0s
Y52A Lilburn 101.53 58 IAMs_20 IAMs_20 06 49 18.0
comp=Z,897nm,18.0s
COWI Conover 101.61 45 IAMs_20 IAMs_20 06 48 17.1
comp=Z,992nm,20.0s
TBTG Tabatinga, AM 101.64 99 IAMs_20 IAMs_20 06 44 46.2
comp=Z,1µm,19.0s
CPCT Cooper Cave 101.65 56 IAMs_20 IAMs_20 06 46 29.2
comp=Z,734nm,19.0s
W52A Murphy 102.00 57 IAMs_20 IAMs_20 06 49 39.7
comp=Z,906nm,18.0s
R49A Shelbyville 102.01 54 IAMs_20 IAMs_20 06 47 14.8
comp=Z,1µm,18.0s
H43A Windswept, Lux 102.02 47 IAMs_20 IAMs_20 06 54 31.0
comp=Z,1µm,18.0s
F42A Maple Grove Fa 102.17 46 IAMs_20 IAMs_20 06 47 42.9
comp=Z,929nm,18.0s
D41A Chassel 102.28 44 IAMs_20 IAMs_20 06 46 06.0
comp=Z,1µm,19.0s
N47A Urbana 102.40 51 IAMs_20 IAMs_20 06 47 35.0
comp=Z,1µm,18.0s
V52A Sevierville 102.48 56 IAMs_20 IAMs_20 06 47 03.4
comp=Z,700nm,19.0s
CPUP Vila Florida 102.60 125 IAMs_20 IAMs_20 06 49 19.4
comp=Z,627nm,18.0s
R50A Paris 102.64 54 IAMs_20 IAMs_20 06 47 44.5
comp=Z,1µm,18.0s
P49A Miami Univ. Ec 102.72 52 IAMs_20 IAMs_20 06 47 20.5
comp=Z,1µm,18.0s
TZTN Tazewell 102.73 56 IAMs_20 IAMs_20 06 50 27.8
comp=Z,1µm,18.0s
BG3 Lake Jocassee 102.75 57 IAMs_20 IAMs_20 06 48 56.5
comp=Z,1µm,18.0s
I45A Fountain 102.94 48 IAMs_20 IAMs_20 06 48 05.4
comp=Z,825nm,20.0s
V53A Saluda 103.04 57 IAMs_20 IAMs_20 06 47 15.2
comp=Z,678nm,19.0s
E43A Lone Tree Farm 103.11 45 IAMs_20 IAMs_20 06 50 47.8
comp=Z,856nm,18.0s
PAULI Pauline 103.58 58 IAMs_20 IAMs_20 06 48 59.5
comp=Z,820nm,18.0s
G45A Suttons Bay 103.62 47 IAMs_20 IAMs_20 06 48 39.5
comp=Z,971nm,18.0s
KMSC Kings Mountain 104.05 58 IAMs_20 IAMs_20 06 51 37.9
comp=Z,1µm,18.0s
U54A Nelsons Funny 104.06 56 IAMs_20 IAMs_20 06 51 27.9
comp=Z,748nm,18.0s
ACSO Alum Creek Sta 104.19 52 IAMs_20 IAMs_20 06 49 06.6
comp=Z,976nm,19.0s
GLMI Grayling 104.28 47 IAMs_20 IAMs_20 06 56 33.7
comp=Z,884nm,19.0s
Q52A Bidwell 104.38 54 IAMs_20 IAMs_20 06 48 40.5
comp=Z,961nm,18.0s
M50A Fremont 104.47 51 IAMs_20 IAMs_20 06 49 51.8
comp=Z,1µm,19.0s
Y57A Sumter 104.49 59 IAMs_20 IAMs_20 06 51 53.5
comp=Z,887nm,18.0s
P52A Corning 104.66 53 P **Pdif** **06 04 39.2 -0.7**
baz=254
E46A Sault Ste Mari 104.90 46 IAMs_20 IAMs_20 06 54 18.1
comp=Z,1µm,18.0s
Y58A Scranton 105.04 59 IAMs_20 IAMs_20 06 52 45.1
comp=Z,779nm,18.0s
W57A Gilead 105.11 58 IAMs_20 IAMs_20 06 51 48.0
comp=Z,828nm,18.0s
U56A King 105.12 57 IAMs_20 IAMs_20 06 52 27.3
comp=Z,725nm,18.0s
I49A Point Hope 105.28 48 IAMs_20 IAMs_20 06 59 10.4
comp=Z,659nm,18.0s
BLA Blacksburg 105.32 56 IAMs_20 IAMs_20 06 52 50.5
comp=Z,1µm,18.0s
BLA Blacksburg 105.32 56 P **PKiKP** **06 08 56.1 -0.9**
baz=255
SAML Samuel 105.85 106 IAMs_20 IAMs_20 06 46 16.9
comp=Z,781nm,19.0s
N53A Lisbon 105.92 52 IAMs_20 IAMs_20 06 49 37.3
comp=Z,1µm,20.0s
V58A Windy Hill, Pi 105.97 57 IAMs_20 IAMs_20 06 50 47.7
comp=Z,687nm,19.0s
T57A Hurt 106.17 56 IAMs_20 IAMs_20 06 53 08.9
comp=Z,955nm,18.0s
M53A WI Miller and 106.20 51 IAMs_20 IAMs_20 06 50 19.6
comp=Z,1µm,18.0s
M53A WI Miller and 106.20 51 P **PKiKP** **06 08 57.5 -1.0**
baz=256
Y60A Bolivia 106.23 59 IAMs_20 IAMs_20 06 52 14.6
comp=Z,634nm,18.0s
W59A Clinton 106.34 58 IAMs_20 IAMs_20 06 53 00.6
comp=Z,925nm,18.0s
S57A Dark Hollow, R 106.59 55 IAMs_20 IAMs_20 06 52 48.0
comp=Z,880nm,18.0s
Q56A Snyder Ridge, 106.72 54 IAMs_20 IAMs_20 06 49 29.5
comp=Z,1µm,19.0s
VILB Vilhena 106.74 111 IAMs_20 IAMs_20 06 49 45.4
comp=Z,670nm,19.0s
PALK Pallekele 106.75 271 IAMs_20 IAMs_20 06 54 24.6
comp=Z,813nm,20.0s
AQDB Aquidauana 106.90 120 IAMs_20 IAMs_20 06 52 48.4
comp=Z,686nm,18.0s
R58B Mineral 107.46 55 IAMs_20 IAMs_20 06 51 35.2
comp=Z,836nm,18.0s
RES Resolute Bay 107.48 16 IAMs_20 IAMs_20 06 49 43.2
comp=Z,962nm,20.0s
T59A Double "B" Far 107.48 57 IAMs_20 IAMs_20 06 53 41.7
comp=Z,938nm,18.0s
M55A Ridgway 107.60 52 IAMs_20 IAMs_20 06 49 53.7
comp=Z,957nm,18.0s
CBN Corbin Frederi 107.91 55 IAMs_20 IAMs_20 06 50 31.9
comp=Z,936nm,18.0s
V61A Roper 107.97 58 IAMs_20 IAMs_20 06 53 58.7
comp=Z,952nm,18.0s
WUPA West Chester U 109.62 54 IAMs_20 IAMs_20 06 51 44.2
comp=Z,996nm,18.0s
WMQ Urumqi 110.18 310 *e*P **PKiKP** **06 09 05.4 -0.5**
WMQ LR LR
comp=Z,520nm,23.5s
TRNY Table Rock, Ra 110.88 53 IAMs_20 IAMs_20 06 52 24.7
comp=Z,1µm,18.0s
NCB Newcomb 111.36 50 IAMs_20 IAMs_20 06 52 53.3
comp=Z,957nm,19.0s
TRQ Mont Tremblant 111.48 47 IAMs_20 IAMs_20 06 52 06.4
comp=Z,1µm,20.0s
SPB Sao Paulo 111.57 128 IAMs_20 IAMs_20 06 55 38.3
comp=Z,765nm,18.0s
FRNY Flat Rock 111.95 49 IAMs_20 IAMs_20 06 53 54.7
comp=Z,957nm,18.0s
MNTQ Montreal, Queb 112.02 48 IAMs_20 IAMs_20 06 56 14.6
comp=Z,981nm,19.0s
L61B Northampton 112.24 52 P **PKiKP** **06 09 08.0 -1.8**
baz=261
UCCT U. Connecticut 112.47 52 IAMs_20 IAMs_20 06 54 15.7
comp=Z,842nm,19.0s
ZSN Zaisan 112.69 314 *e*PKiKP **PKiKP** **06 09 10.5 -0.1**
baz=314
ZSN Zaisan 112.69 314 *i* PKiKP **PKiKP** **06 09 10.4 -0.1**
HNH Hanover 112.71 50 IAMs_20 IAMs_20 06 56 59.9
comp=Z,927nm,18.0s
GCPR Guaynabo City 112.72 78 IAMs_20 IAMs_20 07 06 36.8
comp=Z,608nm,20.0s
BOAV Boa Vista 112.80 97 IAMs_20 IAMs_20 06 51 47.1
comp=Z,563nm,18.0s
LBNH Lisbon 113.04 50 P **PKiKP** **06 09 09.5 -1.7**
baz=262
HRV Adam Dziewonsk 113.07 52 P **PKiKP** **06 09 10.1 -1.3**
baz=262
ZALV Zalesovo Beam 113.36 321 PKiKP **PKiKP** **06 09 11.8 +0.3**
comp=Z,1.9nm,0.6s,baz=96,slow=1.5,SNR=9.6
ZALV PP **PP** **06 10 02.1 -0.5**
comp=Z,1.2nm,0.6s,baz=104,slow=6.3,SNR=3.7
I62A Tamworth 113.41 50 IAMs_20 IAMs_20 06 54 04.6
comp=Z,939nm,19.0s
G62A West of Eustis 114.14 49 IAMs_20 IAMs_20 06 54 38.9
comp=Z,810nm,19.0s
MK31 Makanchi Array 114.36 313 *c i* PKiKP **PKiKP** **06 09 13.7 0.0**
MKAR Makanchi Array 114.36 313 PKP PKPdf 06 09 13.4 -0.3
comp=Z,2.8nm,0.9s,baz=72,slow=4.0,SNR=18
MKAR PKKPab **PKKPab** **06 20 00.8 +2.3**
comp=Z,0.7nm,1.0s,baz=288,slow=6.0,SNR=4.1
MKAR Makanchi Array 114.36 313 *c i* PKiKP **PKiKP** **06 09 14.1 +0.4**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
MAKZ Makanchi 114.58 313 ⇓PKiKP PKPdf 06 09 13.8 -0.4
F63A Nahmakanta, Br 115.19 48 IAMs_20 IAMs_20 06 58 43.5
comp=Z,616nm,18.0s
BDFB Brasilia 115.64 120 IAMs_20 IAMs_20 06 57 53.1
comp=Z,682nm,18.0s

F64A Sherman 115.73 48 IAMs_20 IAMs_20 06 53 00.9
comp=Z,774nm,20.0s
EMMW East Machias 116.27 50 IAMs_20 IAMs_20 06 55 15.1
comp=Z,936nm,19.0s
UZB Uzynbulak 116.34 309 *e*PKP **PKiKP 06 09 17.9 +0.1**
baz=309
UZB Uzynbulak 116.34 309 *e*PKIKP **PKiKP 06 09 17.9 +0.1**
SATY Saty 116.78 308 *e*PKIKP **PKiKP 06 09 18.6 -0.1**
SATY Saty 116.78 308 *e*PKP **PKiKP 06 09 18.6 -0.1**
baz=308
TDK Taldyqorghan 116.92 311 *e*PKIKP **PKPdf 06 09 18.4 -0.3**
TDK Taldyqorghan 116.92 311 *e*PKP **PKPdf 06 09 18.4 -0.3**
baz=311
KURK Kurchatov 117.01 317*c i*PKIKP **PKiKP 06 09 18.7 0.0**
KURK pmax pmax
comp=Z,10.0nm,1.3s
KURBB Kurchatov Arra 117.07 317 PKP **PKPdf 06 09 18.5 -0.3**
comp=Z,4.9nm,0.9s,baz=93,slow=1.9,SNR=30
KURBB PP **PP 06 10 22.0 -6.8**
comp=Z,1.2nm,0.9s,baz=92,slow=6.5,SNR=4.2
MDOK Medeo 117.78 309 *e*PKP **PKPdf 06 09 20.2 -0.4**
baz=308
MDOK Medeo 117.78 309 *e*PKIKP **PKPdf 06 09 20.2 -0.4**
KSH Kashi 118.31 304 PKP **PKiKP 06 09 23.3 +1.6**
KSH PP **PP 06 10 41.0 +3.0**
KSH AMB AMB
comp=Z,200nm,6.9s
KSH LR LR
comp=Z,630nm,18.6s
KSH LR LR
comp=Z,410nm,17.5s
KSH LR LR
comp=Z,530nm,18.7s
BOOM Boomskoye usch 118.56 308 PKPdf **PKiKP 06 09 22.8 +0.6**
BOOM Boomskoye usch 118.56 308 PKIKP **PKiKP 06 09 22.8 +0.6**
SGDS Sogindy 119.56 309 *e*PKP **PKiKP 06 09 24.0 0.0**
baz=309
SGDS Sogindy 119.56 309 *e*PKIKP **PKiKP 06 09 24.0 0.0**
AAK Ala-Archa 119.63 308 PKPdf 06 09 22.8 -1.4
AAK Ala-Archa 119.63 308*c i*PKIKP **PKiKP 06 09 24.9 +0.6**
AAK pmax pmax
comp=Z,6.0nm,1.3s
BTLS Baital 120.02 311 *e*PKP **PKiKP 06 09 24.7 -0.1**
baz=311
BTLS *e*PP **PP 06 10 48.6 -0.7**
baz=311
BTLS Baital 120.02 311 *e*PKIKP **PKiKP 06 09 24.6 -0.1**
BTLS *e* 06 10 48.6
BRZS Berezniki 120.83 316 *e*PKP **PKPdf 06 09 25.8 -0.3**
baz=316
BRZS *e*PP **PP 06 10 54.3 -0.5**
baz=316
BRZS Berezniki 120.83 316 *e*PKIKP **PKPdf 06 09 25.7 -0.3**
BRZS *e* 06 10 54.3
DZA Taraz 121.96 308 *e*PKP **PKPdf 06 09 28.2 -0.4**
baz=308
DZA Taraz 121.96 308 *e*PKIKP **PKPdf 06 09 28.1 -0.4**
BVAR Borovoye Array 121.99 320 PKP **PKiKP 06 09 28.5 +0.1**
comp=Z,10nm,0.9s,baz=80,slow=1.8,SNR=36
BRVK Borovoye 122.05 320 PKPdf **PKPdf 06 09 27.8 -0.5**
BRVK Borovoye 122.05 320*c i*PKIKP **PKiKP 06 09 28.8 +0.4**
BRVK pmax pmax
comp=Z,15nm,1.0s
KK31 Karatay Array 122.56 308 PKiKP 06 09 29.9 +0.1
KK31 Karatay Array 122.56 308 PKIKP **PKiKP 06 09 29.9 +0.1**
KKAR Karatay Array 122.56 308 PKPdf **PKiKP 06 09 30.1 +0.3**
KKAR Karatay Array 122.56 308 PKIKP **PKiKP 06 09 30.1 +0.3**
SUMG Summit 122.96 15 PKPdf **PKiKP 06 09 31.3 +1.1**
SUMG Summit 122.96 15 PKIKP **PKiKP 06 09 31.3 +1.1**
SUMG Summit 122.96 15 *i* P **PKiKP 06 09 31.0 +0.8**
SUMG IAmb IAmb 06 09 32.7
comp=Z,3.6nm,1.0s
BRLS Boroldav 123.06 308 *e*PKP **PKiKP 06 09 30.9 +0.1**
baz=308
BRLS *e*PP **PP 06 11 10.5 +0.2**
baz=308
BRLS Boroldav 123.06 308 *e*PKIKP **PKiKP 06 09 30.9 +0.1**
BRLS *e* 06 11 10.4
CHM Chimkent 123.24 307 *e*PKP **PKPdf 06 09 30.4 -0.5**
baz=307
CHM Chimkent 123.24 307 *e*PKIKP **PKPdf 06 09 30.4 -0.5**
DY2G Dye2 124.00 22 *i* P **PKiKP 06 09 31.8 -0.5**
ICESG Greenland Ices 124.77 18 *i* P **PKiKP 06 09 33.0 -0.8**
MSEY Mahe Island 125.04 248 IAMs_20 IAMs_20 07 01 23.0
comp=Z,831nm,19.0s
IVI Ivigtut 125.44 29 *i* P **PKiKP 06 09 34.0 -0.8**
SVE Sverdlovsk 126.65 326 *i* PKIKP **PKiKP 06 09 38.4 +1.0**
SVE pmax pmax
comp=Z,33nm,1.2s
BOSA Boshof 127.06 201 PKP **PKiKP 06 09 40.2 +0.8**
comp=Z,10nm,1.1s,baz=259,slow=1.9,SNR=7.1
ARU Arti 127.86 326 PKiKP 06 09 40.2 +0.3
ARU IAMs_20 IAMs_20 07 11 43.5
comp=Z,620nm,18.0s
ARU Arti 127.86 326 PKP **PKiKP 06 09 40.0 +0.1**
comp=Z,6.8nm,0.6s,baz=99,slow=0.8,SNR=25
ARU Arti 127.86 326 *i* PKIKP **PKiKP 06 09 40.5 +0.6**
ARU 06 11 44.2
ARU 06 16 51.4
ARU SP SP 06 21 45.3 -0.4
ARU SS **SS 06 28 51.0 -3.1**
ARU MLR MLR
comp=Z,530nm,20.0s
NBPB Pedra_Branca-C 128.05 116 *e*P **PKiKP 06 09 41.0 -0.6**
ABKAR Akbulak array 129.12 317 PKPdf **PKiKP 06 09 43.0 +0.4**
LVZ Lovozero 129.99 346 ⇑PKHKP PKPpre 06 09 15.3
AKTO Aktyubinsk 130.03 319 PKP **PKiKP 06 09 44.5 +0.1**
comp=Z,4.2nm,0.8s,baz=122,slow=0.6,SNR=12
ARCES ARCESS Array B 130.24 351 PKP PKiKP 06 09 44.0 -0.3
comp=Z,6.8nm,1.0s,baz=29,slow=2.8,SNR=9.1
ARCES ARCESS Array B 130.24 351 PKiKP 06 09 44.0 -0.3
APA Apatity 130.54 347 ⇓*i*PKIKP **PKiKP 06 09 44.5 -0.4**
APA *i* 06 11 56.0
APA pmax pmax
comp=Z,7.0nm,1.0s
KIRV Kirov 131.38 331 PKP **PKiKP 06 09 46.5 -0.3**
comp=Z,13nm,0.6s,baz=231,slow=3.2,SNR=5.7
KIRV Kirov 131.38 331*c i*PKIKP **PKiKP 06 09 47.8 +1.0**
GEYT Alibeck 132.26 302 PKP **PKPdf 06 09 48.6 +0.3**
comp=Z,3.4nm,0.8s,baz=277,slow=2.5,SNR=6.0
KLMR Klimovskoe 133.97 338 *e*PKIKP **PKPdf 06 09 43.8 -6.9**
KLMR *e* 06 12 26.7
KLMR pmax pmax
comp=Z,22nm,1.5s
BELG Belogornoye 135.34 325 *e*PKIKP **PKiKP 06 09 54.5 -0.5**
BELG pmax pmax
comp=Z,8.0nm,1.0s
VALR Valaam 136.29 343 *i* PKIKP **PKPdf 06 09 55.3 +0.3**
FINES FINESS Array B 137.43 346 PKhKP PKPpre 06 09 46.7
comp=Z,1.4nm,0.9s,baz=178,slow=34,SNR=4.4
FINES PKP **PKiKP 06 09 58.5 -0.6**
comp=Z,16nm,1.2s,baz=56,slow=3.4,SNR=12
FINES FINESS Array B 137.43 346*c i*PKIKP **PKiKP 06 09 58.9 -0.2**
FINES pmax pmax
comp=Z,16nm,1.2s
MOS Moscow 138.22 334 *i* PKIKP **PKPdf 06 09 59.1 +0.3**
MOS *e* 06 12 48.1
MOS MLR MLR
comp=Z,500nm,20.0s
TSUM Tsumeb 138.24 197 IAMs_20 IAMs_20 07 08 01.3
comp=Z,770nm,21.0s
OBN Obninsk 139.09 333 IAMs_20 IAMs_20 07 14 19.9
comp=Z,718nm,21.0s
OBN Obninsk 139.09 333 *i* PKIKP **PKPdf 06 09 59.6 -0.8**
OBN *i* 06 12 56.9
OBN pmax pmax
comp=Z,16nm,1.2s
VRH Novokhopyorsk 139.09 326 *e*PKIKP **PKPdf 06 10 00.0 -0.5**
VRH pmax pmax
comp=Z,10.0nm,0.5s
MAK Makhachkala 139.17 312 *e*P **Pdif 06 07 07.1 -6.2**
MAK *i* 06 09 58.9
MAK *e* 06 12 50.8
MAK *e*PPP PPP 06 15 58.0
MAK *e* 06 17 11.9
MAK *e*SSS SSS 06 36 13.8
MAK pmax pmax
comp=Z,94nm,1.2s
LPSR Galich'ya Gora 139.68 329 *e*PKIKP **PKPdf 06 10 01.0 -0.5**
LPSR pmax pmax
comp=Z,20nm,1.3s
NB2 NORSAR Subarra1 140.04 356 PKP **PKPdf 06 09 54.7 -7.3**
comp=Z,8.0nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B 140.04 356 PKhKP PKPpre 06 09 54.0
comp=Z,4.4nm,1.1s,baz=17,slow=4.3,SNR=6.8

VORR Voronezh 140.11 328 *e*PKIKP **PKPdf 06 10 02.5 +0.1**
VORR pmax pmax
comp=Z,53nm,1.6s
VSR Storozhevoye 140.40 327 *e*PKIKP **PKPdf 06 10 02.6 -0.3**
VSR pmax pmax
comp=Z,10.0nm,1.1s
VORD Divnogorie 140.49 327 *e*PKIKP **PKPdf 06 10 03.8 +0.7**
VORD pmax pmax
comp=Z,10.0nm,1.1s
HFS Hagfors 140.74 354 PKhKP PKPpre 06 09 55.9
comp=Z,5.8nm,0.8s,baz=67,slow=5.0,SNR=17
KIBK Kibwezi 140.80 237 PKPdf 06 10 01.5 -3.5
KIBK IAMs_20 IAMs_20 07 12 23.3
comp=Z,527nm,18.0s
KBZ Khabaz 142.02 315 PKhKP PKPpre 06 10 01.1
comp=Z,3.5nm,0.9s,baz=196,slow=2.6,SNR=5.7
GNI Garni 142.03 309*c i*PKIKP **PKPdf 06 10 07.7 +1.3**
GNI pmax pmax
comp=Z,12nm,1.3s
KIV Kislovodsk 142.06 315 IAMs_20 IAMs_20 07 16 36.5
comp=Z,417nm,19.0s
KIV Kislovodsk 142.06 315 *e*PKIKP **PKPdf 06 10 03.3 -3.0**
KIV *e* 06 13 15.7
KIV pmax pmax
comp=Z,9.0nm,1.1s
SHA1 Shidzhatmaz 142.17 315*c i*PKIKP **PKiKP 06 10 08.7 -1.0**
ERBR Yeremizino-Bor 142.66 319 *i* PKIKP **PKPdf 06 10 06.2 -1.0**
ERBR pmax pmax
comp=Z,26nm,0.6s
MNK Minsk 142.84 339 *i* PKIKP **PKPdf 06 10 04.9 -2.3**
MNK *i* 06 13 13.8
MNK *i* SS SS 06 31 52.4 -0.5
MNK *i* SSS SSS 06 37 12.4
MNK pmax pmax
comp=Z,27nm,0.9s
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,4.0nm,0.9s
LABN Labinsk 143.03 317 *i* PKIKP PKiKP 06 10 20.4 +9.3
LABN pmax pmax
comp=Z,112nm,2.0s
PABE Paberze 143.19 343 PKPdf PKPbc 06 10 05.4 +0.7
ATD Arta Tunnel 143.37 261 IAMs_20 IAMs_20 07 10 19.0
comp=Z,444nm,20.0s
RAYN Ar Rayn 143.40 281 PKPdf PKPbc 06 10 07.1 +0.7
RAYN Ar Rayn 143.40 281 PKIKP PKPbc 06 10 07.1 +0.7
SOC Sochi 144.16 316 *e*PKIKP **PKPab 06 10 07.6 +0.1**
SOC *e* 06 13 21.2
SOC *e*PPP PPP 06 16 37.9
SOC *e*SS SS 06 32 10.5 +1.1
SOC *e*SSS SSS 06 37 34.2
SUW Suwalki 144.72 342 *e*PKP **PKPdf 06 10 10.0 -0.5**
SUW Suwalki 144.72 342 PKPdf 06 10 10.4 -0.1
SUW IAMs_20 IAMs_20 07 15 49.1
comp=Z,661nm,21.0s
SUW Suwalki 144.72 342 PKIKP **PKPdf 06 10 10.4 -0.1**
SUW MLR MLR
comp=Z,700nm,21.0s
MUD Monsted U'grnd 144.73 357 *i* P **PKPdf 06 10 09.9 -0.5**
ANN Anapa 144.98 320 *e*PKIKP **PKPdf 06 10 10.8 -0.4**
ANN pmax pmax
comp=Z,143nm,1.0s
ANN MLR MLR
comp=E,436nm,19.0s
COP Copenhagen 145.24 354 *i* P **PKPdf 06 10 11.7 +0.4**
EKA Eskdalemuir Ar 145.26 9 PKPbc **PKPdf 06 10 11.6 +0.2**
comp=E,55nm,0.9s,baz=330,slow=3.0,SNR=90
AKASG Malin Array Be 145.35 334 PKPbc **PKPab 06 10 11.4 -0.2**
comp=E,72nm,0.9s,baz=38,slow=4.2,SNR=189
AKBB Malin Array Si 145.35 334 IAMs_20 IAMs_20 07 17 23.5
comp=Z,538nm,19.0s
AKBB Malin Array Si 145.35 334 *i* PKIKP **PKPdf 06 10 11.3 -0.4**
KIEV Kiev 145.36 334 ⇑P **PKPab 06 10 11.7 0.0**
KIEV Kiev 145.36 334 PKPab 06 10 11.4 -0.3
KIEV Kiev 145.36 334 IAMs_20 IAMs_20 07 17 24.5
comp=Z,478nm,19.0s
KIEV Kiev 145.36 334 PKIKP **PKPab 06 10 11.4 -0.3**
KIEV MLR MLR
comp=Z,500nm,19.0s
BSD Bornholm Skovb 145.49 351 *i* P **PKPab 06 10 12.2 +0.2**
LLD Lille Linde 145.61 354 *i* P **PKPab 06 10 12.7 +0.2**
SSRD Sdr. Stenderup 145.68 356 *i* P **PKPab 06 10 13.4 +0.8**
FURI Furi 146.16 254 IAMs_20 IAMs_20 07 14 57.8
comp=Z,437nm,20.0s
LODK Lodwar 146.35 242 IAMs_20 IAMs_20 07 16 49.4
comp=Z,362nm,19.0s
GKP Gorka Klasztor 146.85 348 *e*PKP **PKPab 06 10 16.1 -1.1**
SIM Simferopol' 146.86 322 *e*PKP2 **PKiKP 06 10 18.2 -0.7**
SIM pmax pmax
comp=Z,168nm,1.0s
SIM pmax pmax
comp=Z,102nm,0.9s
BEL Belsk 147.32 343 *e*PKP **PKPab 06 10 18.6 -0.5**
MBAR Mbarara 147.46 231 IAMs_20 IAMs_20 07 14 45.2
comp=Z,552nm,18.0s
MBAR Mbarara 147.46 231*c i*PKIKP **PKPdf 06 10 17.7 +1.0**
MBAR *i* 06 10 20.5
MBAR pmax pmax
comp=Z,51nm,1.7s
SORM Soroca 147.66 331 ⇑P **PKPbc 06 10 17.1 -1.3**
SORM Soroca 147.66 331 ⇑PKIKP **PKPbc 06 10 17.1 -1.3**
DIKM Dikmen 147.97 316 ⇓P **PKPbc 06 10 18.0 -1.4**
LVV L'vov 148.06 338 *e*PKP2 **PKiKP 06 10 20.5 -0.7**
PURM Purcari 148.10 328 ⇑P **PKiKP 06 10 21.3 -0.1**
KIS Kishinev 148.28 330 ⇑*i*PKP **PKiKP 06 10 20.8 -1.0**
comp=Z,120nm,1.0s
KIS Kishinev 148.28 330 PMPM 06 10 27.0
comp=Z,260nm,6.6s
KIS *e*L L 07 08 56.0
KIS LRM MLR 07 15 30.0
comp=Z,200nm,21.0s
MILM Milestii Mici 148.34 329 ⇑P **PKiKP 06 10 21.3 -0.6**
MILM Milestii Mici 148.34 329 *i* PKP **PKiKP 06 10 20.8 -1.1**
comp=Z,300nm,1.6s
KWP Kalwaria Pacla 148.67 339 *e*PKP **PKiKP 06 10 23.1 +0.6**
KWP Kalwaria Pacla 148.67 339 PKiKP 06 10 22.4 -0.1
KWP Kalwaria Pacla 148.67 339 PKP2 **PKiKP 06 10 22.5 -0.1**
VASR Vaslui 149.03 330 ⇑P **PKiKP 06 10 23.2 -0.1**
OJC Ojcow 149.05 343 *e*PKP **PKPbc 06 10 20.8 -1.2**
PRAR RASCA 149.18 333 ⇓P **PKiKP 06 10 24.2 +0.5**
STHS Stebnicka Huta 149.34 340 *e*PKP **PKiKP 06 10 24.3 +0.4**
STHS Stebnicka Huta 149.34 340 *e*PKP2 **PKiKP 06 10 24.3 +0.4**
BUR08 Bucovina Ar. S 149.39 334 PKPbc 06 10 22.0 -1.1
BURAR Bucovina Array 149.41 334 ⇑P **PKiKP 06 10 24.2 -0.1**
BURAR Bucovina Array 149.41 334 PKPab 06 10 25.9 -1.9
KOLS Kolonicke sedl 149.42 339 *e*PKP **PKPbc 06 10 20.9 -2.1**
KOLS *e* 06 10 25.2
KOLS *e* 06 10 29.6
KOLS Kolonicke sedl 149.42 339 *e*PKIKP **PKPbc 06 10 20.9 -2.1**
KOLS *e* 06 10 25.2
KOLS *e* 06 10 29.6
CLL Collm 149.46 351 *e*PKIKP **PKPdf 06 10 20.0 +1.5**
CLL *i* 06 10 23.8
CLL *i* 06 10 28.3
CLL pmax pmax
comp=Z,12nm,1.3s
OSTC Ostas 149.62 347 ⇑*e*PKP **PKiKP 06 10 25.7 +1.2**
OSTC AMS AMS 07 28 50.0
comp=Z,500nm,18.0s
OSTC Ostas 149.62 347 *e*PKP2 **PKiKP 06 10 25.7 +1.2**
OSTC MLR MLR
comp=Z,500nm,18.0s
CHVC Chvalec 149.62 347 ⇑*e*PKP **PKiKP 06 10 25.5 +1.0**
CHVC AMS AMS 07 21 20.0
comp=Z,400nm,16.4s
CHVC Chvalec 149.62 347 *e*PKP2 **PKiKP 06 10 25.5 +1.0**
CHVC MLR MLR
comp=Z,400nm,16.4s
NIE Niedzica 149.63 341 *e*PKP **PKiKP 06 10 25.1 +0.5**
TESR Tescani 149.65 331 ⇓P **PKiKP 06 10 25.1 +0.5**
TATR Tatarca 149.66 328 ⇑P **PKiKP 06 10 25.8 +1.2**
UPC Upice 149.71 347 ⇑*e*PKP **PKiKP 06 10 25.8 +1.2**
UPC AMS AMS 07 21 40.0
comp=Z,600nm,19.7s
UPC Upice 149.71 347 *e*PKP2 **PKiKP 06 10 25.8 +1.2**
UPC MLR MLR
comp=Z,600nm,19.7s
CRVS Cervenica-Dubn 149.72 339 *e*PKP **PKPbc 06 10 21.7 -2.0**
CRVS *e* 06 10 25.5
CRVS Cervenica-Dubn 149.72 339 *e*PKHKP PKPpre 06 10 21.7
CRVS *e* 06 10 25.5
NEGRR Negrea 149.79 329 ⇑P **PKiKP 06 10 25.4 +0.4**
DPC Dobruska-Polom 149.79 347 ⇑*e*PKP **PKiKP 06 10 26.0 +1.1**

DPC AMS AMS 07 25 10.0
comp=Z,500nm,19.0s
DPC Dobruska-Polom 149.79 347 *e*PKP2 **PKiKP 06 10 26.0 +1.1**
DPC MLR MLR
comp=Z,500nm,19.0s
SLCR Slobozia Conac 149.80 329 ⇑P **PKiKP 06 10 26.8 +1.8**
SCHL Schela 149.84 329 ⇓P **PKiKP 06 10 25.8 +0.8**
OKC Ostrava-Krasne 149.84 344 ⇑*e*PKP **PKiKP 06 10 25.6 +0.7**
OKC AMS AMS 07 20 00.0
comp=Z,400nm,18.0s
OKC Ostrava-Krasne 149.84 344 *e*PKP2 **PKiKP 06 10 25.6 +0.7**
OKC MLR MLR
comp=Z,400nm,18.0s
SCHLR Schela 149.86 328 ⇑P **PKiKP 06 10 26.1 +1.0**
CFR Carcaliu 149.92 328 ⇑P **PKiKP 06 10 25.4 +0.2**
CFR Carcaliu 149.92 328 ⇑PKP2 **PKiKP 06 10 25.4 +0.2**
KRLC Kraliky 149.95 346 ⇑*e*PKP **PKiKP 06 10 26.0 +0.8**
KRLC ⇑*e*PKP **sPKPbc 06 10 26.2 -0.5**
KRLC AMS AMS 07 21 00.0
comp=Z,500nm,16.7s
KRLC Kraliky 149.95 346 *e*PKP2 **PKiKP 06 10 26.0 +0.8**
KRLC MLR MLR
comp=Z,500nm,16.7s
PVCC Panska Ves 149.97 349 ⇑*e*PKP **PKiKP 06 10 26.3 +1.1**
PVCC Panska Ves 149.97 349 *e*PKP2 **PKiKP 06 10 26.3 +1.1**
TPGR Topolog 150.00 327 ⇓P **PKiKP 06 10 26.5 +1.1**
BRTR Keskin Array B 150.00 314 PKiKP 06 10 26.5 +0.7
BRTR Keskin Array B 150.00 314 PKPbc **PKiKP 06 10 25.9 +0.2**
comp=Z,23nm,0.9s,baz=146,slow=4.0,SNR=58
BRTR Keskin Array B 150.00 314 PKP2 **PKiKP 06 10 26.5 +0.7**
RICC Richard 150.03 350 ⇑*e*PKP **PKiKP 06 10 26.9 +1.6**
BMR Baia Mare 150.04 336 ⇓P **PKiKP 06 10 26.4 +1.0**
BMR Baia Mare 150.04 336 ⇓PKP2 **PKiKP 06 10 26.4 +1.0**
MORC Moravsky Berou 150.05 345 ⇑P **PKPbc 06 10 23.2 -1.3**
MORC Moravsky Berou 150.05 345 PKiKP 06 10 27.0 +1.6
MORC IAMs_20 IAMs_20 07 19 39.7
comp=Z,608nm,20.0s
MORC Moravsky Berou 150.05 345 *e*PKP **PKPdf 06 10 20.7 +1.1**
MORC *e* 06 10 26.3
MORC Moravsky Berou 150.05 345 PKP2 **PKiKP 06 10 27.0 +1.6**
MORC MLR MLR
comp=Z,600nm,20.0s
HSKC Hora Svate Kat 150.08 350 ⇑*e*PKP **PKiKP 06 10 26.1 +0.7**
HSKC AMS AMS 07 26 00.0
comp=Z,700nm,18.3s
VRI Vrincioaia 150.09 330 ⇓P **PKiKP 06 10 25.4 -0.2**
VRI Vrincioaia 150.09 330 ⇓PKP2 **PKiKP 06 10 25.4 -0.2**
LANS Liptovska Anna 150.11 342 *e*PKP **PKiKP 06 10 27.2 +1.6**
LANS Liptovska Anna 150.11 342 *e*PKP2 **PKiKP 06 10 27.2 +1.6**
PLOR Plostina 150.14 330 ⇑P **PKiKP 06 10 25.8 +0.1**
ARCR ARCALIA 150.18 334 ⇑P **PKiKP 06 10 27.0 +1.2**
TURR Turia 150.28 331 ⇓P **PKiKP 06 10 27.0 +1.0**
TIRR Tirgusor 150.28 326 IAMs_20 IAMs_20 07 31 43.5
comp=Z,598nm,18.0s
OZUR 150.35 331 ⇓P **PKiKP 06 10 26.7 +0.5**
COVR Voineasa-Covas 150.35 331 ⇑P **PKiKP 06 10 26.1 -0.1**
MAUC Maruska 150.36 344 ⇑*e*PKP **PKiKP 06 10 27.5 +1.4**
HARR Harsova 150.37 327 ⇓P **PKiKP 06 10 26.3 +0.2**
HARR Harsova 150.37 327 ⇓PKIKP **PKiKP 06 10 26.3 +0.2**
KECS Kecovo 150.40 340 *e*PKP **PKiKP 06 10 27.9 +1.8**
KECS Kecovo 150.40 340 *e*PKIKP **PKiKP 06 10 27.9 +1.8**
PRA Prague 150.43 349 ⇑*e*PKP **PKiKP 06 10 26.9 +0.8**
PRA AMS AMS 07 32 00.0
comp=Z,500nm,18.1s
PRA Prague 150.43 349 *e*PKIKP **PKiKP 06 10 26.9 +0.8**
PRA MLR MLR
comp=Z,500nm,18.1s
BEBN Eben Emael 150.48 0 *d*PKiKP **PKiKP 06 10 25.7 -0.5**
BEBN *d*PKP **sPKPab 06 10 32.9 -1.4**
PRU Pruhonice 150.49 349 ⇑*e*PKP **PKiKP 06 10 27.2 +0.9**
PRU AMS AMS 07 22 50.0
comp=Z,400nm,17.8s
PRU Pruhonice 150.49 349 *e*PKIKP **PKiKP 06 10 27.2 +0.9**
PRU MLR MLR
comp=Z,400nm,17.8s
ANTO Ankara 150.49 315 ⇑P **PKiKP 06 10 27.0 +0.3**
ANTO Ankara 150.49 315 ⇑PKIKP **PKiKP 06 10 27.0 +0.3**
NEHR Nehoiu 150.62 330 ⇓P **PKiKP 06 10 27.0 +0.3**
DOPR Dopca 150.62 332 ⇓P **PKiKP 06 10 27.2 +0.5**
MEM Membach 150.67 360 *d*PKiKP **PKiKP 06 10 27.5 +0.9**
BTNL Ternell 150.69 360 *d*PKiKP **PKiKP 06 10 27.3 +0.6**
BSTI Sart Tilman 150.70 0 *d*PKiKP **PKiKP 06 10 27.1 +0.4**
VRAC Vranov 150.71 346 ⇑P **PKiKP 06 10 27.5 +0.7**
VRAC Vranov 150.71 346 *e*PKP **PKPdf 06 10 21.5 +0.9**
VRAC *e* 06 10 27.8
VRAC Vranov 150.71 346 ⇑PKIKP **PKiKP 06 10 27.5 +0.7**
ISR Istrita 150.74 329 ⇓P **PKiKP 06 10 27.7 +0.7**
MLR Muntele Rosu 150.74 330 ⇑P **PKPdf 06 10 22.8 +1.9**
MLR Muntele Rosu 150.74 330 IAMs_20 IAMs_20 07 19 38.7
comp=Z,723nm,21.0s
MLR Muntele Rosu 150.74 330 ⇑PKIKP **PKPdf 06 10 22.8 +1.9**
CJR Cluj-Napoca 150.79 335 ⇓P **PKiKP 06 10 28.0 +0.9**
BCLA Clavier 150.86 1 *d*PKiKP **PKPbc 06 10 25.9 -0.5**
BCLA *d*PKP **sPKPab 06 10 34.5 -1.3**
JAVC Velka Javorina 150.87 344 *e*PKP **PKPbc 06 10 23.3 -3.2**
JAVC *e* 06 10 29.3
VYHS Vyhne 150.88 342 *e*PKP **PKPdf 06 10 23.0 +2.1**
VYHS *e* 06 10 28.3
VYHS Vyhne 150.88 342 *e*PKIKP **PKPdf 06 10 23.0 +2.1**
VYHS *e* 06 10 28.3
BGES Gesves 150.89 1 *d*PKiKP **PKiKP 06 10 27.9 +0.8**
BGES *d*PKP **sPKPab 06 10 34.6 -1.4**
BHOU Houvegnez 150.93 360 *d*PKiKP **PKiKP 06 10 28.4 +1.2**
BMRD Maredsous 150.96 2 *d*PKiKP **PKiKP 06 10 27.4 +0.2**
BMRD *d*PKP **sPKPab 06 10 34.9 -1.4**
KRUC Moravsky 150.99 346 *e*PKP **PKPdf 06 10 22.1 +1.1**
KRUC *e* 06 10 28.4
PSN Preselentsi 151.00 326 *e*P **PKiKP 06 10 28.7 +1.2**
MARR Marisel-Cluj 151.01 335 ⇑P **PKiKP 06 10 27.7 +0.1**
DRGR 151.07 336 ⇑P **PKiKP 06 10 28.4 +0.8**
DRGR 151.07 336 ⇑PKIKP **PKiKP 06 10 28.4 +0.8**
PSZ Piszkesteto 151.08 340 ⇓P **PKiKP 06 10 28.7 +1.0**
PSZ Piszkesteto 151.08 340 IAMs_20 IAMs_20 07 18 47.8
comp=Z,566nm,20.0s
PSZ Piszkesteto 151.08 340 ⇓PKIKP **PKiKP 06 10 28.7 +1.0**
ZVC Zvikov 151.08 349 ⇑*e*PKP **PKiKP 06 10 28.8 +1.3**
ZVC AMS AMS 07 24 50.0
comp=Z,400nm,22.2s
RCHB Rochefort 151.12 1 *d*PKiKP **PKiKP 06 10 28.3 +0.8**
RCHB *d*PKP **sPKPab 06 10 35.0 -2.0**
DOU Dourbes 151.17 2 *d*PKP **PKiKP 06 10 28.6 +1.0**
VOIR 151.19 331 ⇑P **PKiKP 06 10 28.0 0.0**
VOIR 151.19 331 ⇑PKIKP **PKiKP 06 10 28.0 0.0**
MMAI Mount Meron Ar 151.35 300 PKPbc **PKiKP 06 10 29.7 +1.0**
comp=Z,27nm,0.8s,baz=59,slow=3.2,SNR=17
MODS Modra-Piesok 151.41 344 *e*PKP **PKPdf 06 10 24.1 +2.4**
MODS *e* 06 10 30.1
MODS Modra-Piesok 151.41 344 *e*PKIKP **PKPdf 06 10 24.1 +2.4**
MODS *e* 06 10 30.1
KHC Kasperske Hory 151.49 349 IAMs_20 IAMs_20 07 25 10.9
comp=Z,584nm,20.0s
KHC Kasperske Hory 151.49 349 ⇑*e*PKP **PKiKP 06 10 29.6 +1.2**
KHC *e*PKPAB **sPKPab 06 10 38.4 -0.2**
KHC AMS AMS 07 31 00.0
comp=Z,600nm,17.6s
KHC Kasperske Hory 151.49 349 *e*PKIKP **PKiKP 06 10 29.6 +1.2**
KHC *e* 06 10 38.4
KHC MLR MLR
comp=Z,600nm,17.6s
WLF Walferdange 151.62 360 *d*PKiKP **PKPbc 06 10 27.4 -0.7**
WLF *d*PKP **sPKPab 06 10 37.5 -1.5**
SRO Srobarova 151.65 342 *e*PKP **PKiKP 06 10 31.5 +2.8**
SRO *e* 06 10 39.7
SRO Srobarova 151.65 342 *e*PKIKP **PKiKP 06 10 31.5 +2.8**
SRO *e* 06 10 39.7
CKRC Cesky Krumlov 151.66 348 ⇑*e*PKP **PKiKP 06 10 30.2 +1.5**
CKRC AMS AMS 07 32 10.0
comp=Z,500nm,21.1s
CKRC Cesky Krumlov 151.66 348 *e*PKIKP **PKiKP 06 10 30.2 +1.5**
CKRC MLR MLR
comp=Z,500nm,21.1s
PRD Provadia 151.71 326 *e*P **PKiKP 06 10 30.5 +1.5**
GERES GERESS Array B 151.74 349 PKP **PKPdf 06 10 23.3 +1.0**
comp=Z,1.1nm,0.8s,baz=0.0,slow=1.3,SNR=5.4
GERES PKPbc **sPKPbc 06 10 29.9 -1.2**
comp=Z,15nm,0.9s,baz=29,slow=3.0,SNR=36
SIRR Siria 151.90 336 ⇓P **PKiKP 06 10 29.6 +0.3**
SURR Surduc 152.16 335 ⇑P **PKiKP 06 10 30.1 +0.3**
CONA Conrad Observa 152.18 346 *e*pPKP **pPKPdf 06 10 24.1 -0.6**
comp=Z,10nm,1.4s,SNR=7.4
CONA *e*PKiKP sPKPbc 06 10 31.1 -0.9
comp=Z,24nm,1.0s

GZR	Gura Zlata	152.19	334	⇑P		PKPdf	06 10 24.4	+1.4
GZR	Gura Zlata	152.19	334	⇑PKiKP		PKPdf	06 10 24.4	+1.4
RONA	Rosalia, Austr	152.29	345	*e*pPKP		pPKPdf	06 10 24.2	-0.6
	comp=Z,9.1nm,1.2s,SNR=6.6							
RONA				*e*PKiKP	sPKPbc		06 10 31.2	-1.0
	comp=Z,24nm,0.9s							
CSS	Mathiatis	152.32	306		IAMs_20	IAMs_20	07 26 31.0	
	comp=Z,365nm,19.0s							
SZH	Strazhitsa	152.37	327	*e*P		PKiKP	06 10 31.1	+0.7
BZS	Buzias	152.47	336	⇓P		PKPdf	06 10 24.8	+1.5
BZS	Buzias	152.47	336	⇓PKiKP		PKPdf	06 10 24.8	+1.5
MOA	Molln	152.59	348	*i* pPKP		pPKPdf	06 10 25.1	-0.2
	comp=Z,6.5nm,1.4s							
MOA				*i* PKiKP	sPKPbc		06 10 31.7	-1.2
	comp=Z,13nm,1.1s,SNR=5.2							
SRE	Strehaia	152.60	333	⇓P		PKiKP	06 10 31.3	+0.5
SRE	Strehaia	152.60	333	⇓PKiKP		PKiKP	06 10 31.3	+0.5
ELND	Elena	152.67	327	⇓P		PKiKP	06 10 32.4	+1.4
HERR	Herculane	152.76	334	⇓P		PKPdf	06 10 25.8	+2.0
BIOA	Bad Ischl, Aus	152.87	349	*e*pPKP		pPKPdf	06 10 25.5	-0.2
	comp=Z,5.2nm,1.0s							
BIOA				*e*PKiKP	sPKPbc		06 10 32.4	-1.0
	comp=Z,12nm,1.1s,SNR=5.0							
ARSA	Arzberg	152.89	346	*i* PKP		PKPdf	06 10 24.3	+0.3
	comp=Z,7.4nm,1.4s							
ARSA				*e*PKiKP		pPKPbc	06 10 31.3	-1.6
	comp=Z,6.1nm,1.1s							
MORH	Mrgy, Hungar	152.99	340	⇓P		PKPdf	06 10 25.6	+1.5
ISP	Isparta	153.07	313		IAMs_20	IAMs_20	07 29 03.0	
	comp=Z,538nm,20.0s							
MDVR	Moldovita	153.13	335	⇑P		PKPdf	06 10 26.0	+1.6
LESA	Schwarzleotal	153.29	350	*i* PKP		PKPdf	06 10 25.4	+0.8
	comp=Z,12nm,1.5s							
LESA				*i* PKiKP		sPKPbc	06 10 33.5	-1.0
	comp=Z,16nm,1.2s							
MPEP	Malo Peshtene	153.39	330	*e*P		PKPab	06 10 53.3	+8.9
KOGS	Kog	153.46	344	*i* PKPdf		PKPdf	06 10 25.0	+0.3
KOGS				*i* PKPbc		sPKPbc	06 10 33.4	-1.4
RETA	Reutte	153.50	353	*i* PKiKP		PKiKP	06 10 33.9	+1.2
	comp=Z,6.5nm,0.8s,SNR=5.7							
KBA	Koelnbreinsper	153.51	349	*i* PKP		PKPdf	06 10 25.7	+0.6
	comp=Z,7.6nm,1.2s,SNR=5.2							
KBA				*i* PKiKP		sPKPbc	06 10 33.7	-1.4
	comp=Z,14nm,1.1s							
FRGS	Fruska Gora	153.53	338	⇓P		PKiKP	06 10 35.3	+2.6
SOKA	Soboth	153.54	346	*i* PKP		PKPdf	06 10 25.7	+0.7
	comp=Z,4.9nm,1.1s,SNR=8.7							
SOKA				*i* PKiKP		sPKPbc	06 10 33.7	-1.3
	comp=Z,12nm,1.1s							
WATA	Walderalm	153.55	351	*i* PKP		PKPdf	06 10 25.7	+0.6
	comp=Z,6.4nm,1.0s							
WATA				*i* PKiKP		sPKPbc	06 10 34.0	-1.1
	comp=Z,15nm,1.1s							
MOTA	Moosalm	153.60	352	*e*PKP		PKPdf	06 10 25.9	+0.8
	comp=Z,4.4nm,1.1s							
MOTA				*i* PKiKP		sPKPbc	06 10 34.1	-1.1
	comp=Z,28nm,1.1s,SNR=7.7							
WTTA	Wattenberg	153.61	351	*e*pPKP		pPKPdf	06 10 26.1	-0.9
	comp=Z,7.0nm,1.3s							
WTTA				*i* PKiKP	sPKPbc		06 10 34.3	-1.0
	comp=Z,20nm,1.0s,SNR=7.0							
BLKB	Belogradchik	153.66	332	⇑P		PKPdf	06 10 25.8	+0.6
SQTA	Sankt Quirin	153.71	352	*e*pPKP		pPKPdf	06 10 26.1	-0.9
	comp=Z,6.9nm,1.3s							
SQTA				*e*PKiKP	sPKPbc		06 10 34.5	-0.9
	comp=Z,20nm,1.0s,SNR=6.6							
DAVA	Damuels	153.80	354	*e*PKiKP		PKiKP	06 10 34.8	+1.4
	comp=Z,30nm,1.2s,SNR=8.3							
OBKA	Obir	153.81	346	*i* PKP		PKPdf	06 10 25.8	+0.4
	comp=Z,4.3nm,1.2s							
KDZ	Kurdzhali	153.87	326	*e*P		PKPdf	06 10 15.7	-10
MYKA	Terra Mystica	153.88	348	*i* PKP		PKPdf	06 10 26.0	+0.6
	comp=Z,9.9nm,1.5s							
MYKA				*i* PKiKP		pPKPbc	06 10 34.0	-1.2
	comp=Z,9.5nm,1.1s							
FETA	Feichten	153.97	352	*i* pPKP		pPKPdf	06 10 26.8	-0.7
	comp=Z,9.3nm,1.4s							
FETA				*i* pPKP	sPKPbc		06 10 35.2	-0.9
	comp=Z,13nm,1.1s							
ABTA	Abfaltersbach	153.98	350	*i* PKP		PKPdf	06 10 26.1	+0.5
	comp=Z,13nm,1.4s,SNR=7.3							
ABTA				*i* PKiKP		pPKPbc	06 10 34.2	-1.2
	comp=Z,17nm,1.0s							
BOVS	Bovan	154.07	333	⇑P		PKPdf	06 10 25.8	+0.1
RDO	Rodhopi	154.11	325		IAMs_20	IAMs_20	07 32 48.2	
	comp=Z,486nm,18.0s							
VTS	Vitosha	154.19	330	*e*P		PKPdf	06 10 22.8	-3.3
LJU	Ljubljana	154.26	346	*i* PKPdf		PKPdf	06 10 26.5	+0.6
LJU				*i* PKPbc		sPKPbc	06 10 35.0	-1.5
LJU				*i* PKPab		PKPab	06 10 47.4	-0.5
STAL	STALIGIAL	154.41	349		IAMs_20	IAMs_20	07 21 44.4	
	comp=Z,558nm,19.0s							
SABO	M.te Sabotino	154.52	347		IAMs_20	IAMs_20	07 24 12.0	
	comp=Z,669nm,19.0s							
BOJS	Bojanci	154.59	345	*i* PKPdf		PKPdf	06 10 27.5	+1.1
BOJS				*i* PKPbc		sPKPbc	06 10 35.8	-1.4
MMB	Musomishta	154.75	327	*e*P		PKiKP	06 10 35.4	0.0
SKO	Skopje	155.53	331	*e*P		PKPdf	06 10 29.8	+2.0
PDG	Podgorica	156.07	335	PKPdf		PKPdf	06 10 26.8	-1.6
PDG				PKPab		pPKPab	06 10 56.6	-1.3
PDG					IAMs_20	IAMs_20	07 28 53.7	
	comp=Z,425nm,19.0s							
PGAV	Gavieira, Arco	156.11	27	*e*LR		LR	07 12 16.3	
	comp=Z,602nm,18.0s							
PMOZ	Porto Moniz, M	156.44	56	*e*PKPab		PKPab	06 10 55.2	-2.7
PMOZ	Porto Moniz, M	156.44	56	eLR		LR	07 14 13.6	
	comp=Z,437nm,18.0s							
OHR	Ohrid	156.50	331	*i* P		PKPdf	06 10 30.8	+1.6
POLO	Lamas de Olo	156.80	27	*e*PKPab		PKPab	06 11 01.3	+2.2
PBRG	Braganca	156.86	25	*e*PKPab		PKPab	06 11 01.0	+1.7
PVRL	Vila Real	156.91	27	*e*PKPab		PKPab	06 11 00.4	+0.9
PMPST	Porto Santo, M	157.00	54	*e*PKPab		PKPab	06 11 01.9	+1.7
MVO	Moncorvo	157.29	26	*e*PKPab		PKPab	06 11 03.7	+2.5
MVO	Moncorvo	157.29	26	eLR		LR	07 13 24.7	
	comp=Z,519nm,18.0s							
PVIS	Viseu	157.30	28	*e*PKPab		PKPab	06 11 03.1	+1.9
GUMA	Gualdo di Mace	157.35	346		IAMs_20	IAMs_20	07 29 27.7	
	comp=Z,415nm,20.0s							
FDMO	Fiordimonte	157.44	346		IAMs_20	IAMs_20	07 30 06.8	
	comp=Z,433nm,20.0s							
MTE	Manteigas	157.71	28	eLR		LR	07 12 35.0	
	comp=Z,493nm,20.0s							
CESX	Cesi	157.95	347		IAMs_20	IAMs_20	07 29 25.4	
	comp=Z,424nm,20.0s							
PMRV	Marv??o	158.57	29	*e*PKPab		PKPab	06 11 08.4	+1.7
PMRV	Marv??o	158.57	29	eLR		LR	07 12 28.5	
	comp=Z,419nm,18.0s							
PESTR	Estremoz	158.92	30	*e*PKPab		PKPab	06 11 09.8	+1.6
CUC	Castrocucco	159.47	338	PKPab		PKPab	06 11 10.6	0.0
CUC					IAMs_20	IAMs_20	07 24 48.2	
	comp=Z,592nm,20.0s							
PBAR	Barrancos	159.74	31	*e*PKPab		PKPab	06 11 13.6	+1.8
ESDC	Sonseca Array	159.75	23	PKP		PKPdf	06 10 33.4	+0.2
	comp=Z,2.4nm,1.1s,baz=5.7,slow=3.9,SNR=5.4							
ESDC				PKPab		sPKPab	06 11 13.8	-0.4
	comp=Z,8.9nm,1.1s,baz=316,slow=3.7,SNR=13							
TIP	Timpagrande	159.83	335		IAMs_20	IAMs_20	07 32 00.3	
	comp=Z,624nm,20.0s							
PVAQ	Vaqueiros	160.00	33	eLR		LR	07 12 52.9	
	comp=Z,568nm,20.0s							
PBDV	Barranco-do-Ve	160.01	34	*e*PKPab		PKPab	06 11 15.0	+1.9
LIC	Lamto	161.71	143	⇑*i*PKiKP		PKPdf	06 10 37.0	+1.0
	comp=Z,57nm,1.2s							
KIC	Kosan Boka	161.98	144	⇑*i*PKiKP		PKPdf	06 10 37.3	+1.0
	comp=Z,52nm,1.1s							
TIC	Toumodi	162.05	142	⇑*i*PKiKP		PKPdf	06 10 36.7	+0.3
	comp=Z,3.2nm,0.2s							
DBIC	Dimbokro	162.17	143	PKP		PKPdf	06 10 37.4	+0.9
	comp=Z,17nm,1.2s,baz=215,slow=1.4,SNR=5.3							
DBIC				PKPab		sPKPab	06 11 24.4	-0.9
	comp=Z,14nm,1.1s,baz=206,slow=5.6,SNR=4.7							
KEST	Kesra	165.23	349	PKPab		PKPab	06 11 34.6	-1.3
	comp=Z,5.9nm,1.0s,baz=315,slow=4.3,SNR=3.7							

IDC ***13*** *05:52:41.4±0.6,41°.46N×33°.55E,h0km,mb3.8/8, mbtmp3.8/16,ML3.5/7,MS2.7/4, Error ellipse: s-maj=8.8km s-min=6.9km az=75.0*
ISK ***13*** *05:52:41.3,41°.49N×33°.73E,h5km,ML3.8/21*
AFAD ***13*** *05:52:41.0±0.0,41°.55N×33°.71E,h19km±1km,MW3.8*
MCSM ***13*** *05:52:43.5±0.3,41°.N±2°×3°.4E±°,h10km,mb4.4,mB4.6, MLv4.1,Mw(mB)3.8*
CFUSG ***13*** *05:52:45.7,41°.53N×33°.71E,h33km,mb3.0/7,Northern Turkey Magtype MSH 3.2 from 7 stations*

ISC 13 05:52:41.7±1.2,41°.52N±0°.03×33°.70E±0°.02,h2km±9km, n125,σ1°50/150,mb3.7/7,15C-15D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
KMON	Kastamonu	0.16	156		Pg	Pg	05 52 44.4	-0.5
KMON					Sg	Sg	05 52 46.6	-0.4
PELI	Kastamonı-Ara	0.36	232		P	Pg	05 52 49.2	+0.5
PELI					S	Sg	05 52 53.7	+0.2
PELI				*i* AML	AML		05 52 59.0	
	comp=N,2μm,0.3s							
PELI				*i* AML	AML		05 52 59.0	
	comp=E,2μm,0.4s							
TOS	Tosya	0.55	153		Pg	Pg	05 52 51.4	-0.7
KAGI	orum-Kargı	0.70	123		P	Pg	05 52 54.8	-0.4
KAGI					S	Sg	05 53 03.8	-0.4
KAGI				*i* AML	AML		05 53 06.0	
	comp=N,5μm,0.4s							
KAGI				*i* AML	AML		05 53 11.0	
	comp=E,2μm,0.5s							
BOYA	Sinop/Boyabat-	0.74	89		P	Pg	05 52 55.9	0.0
BOYA					S	Sg	05 53 05.8	+0.4
BOYA				*i* AML	AML		05 53 08.0	
	comp=N,3μm,0.4s							
BOYA				*i* AML	AML		05 53 09.0	
	comp=E,4μm,0.6s							
KURC	Kurucasile-Bar	0.78	295		Pg	Pb	05 52 58.3	+0.3
SAFT	Safranbolu	0.81	250		Pg	Pg	05 52 57.2	0.0
YENC	ankr-Yen	0.85	172		P	Pg	05 52 57.9	0.0
YENC					S	Sb	05 53 11.1	+0.1
YENC				*i* AML	AML		05 53 15.0	
	comp=E,2μm,0.6s							
YENC				*i* AML	AML		05 53 17.0	
	comp=N,2μm,0.6s							
ELDT	Eldivan	1.05	191		P	Pg	05 53 01.7	-0.1
ELDT					S	Sb	05 53 17.6	+0.6
ELDT				*i* AML	AML		05 53 22.0	
	comp=N,3μm,0.7s							
ELDT				*i* AML	AML		05 53 22.0	
	comp=E,3μm,0.7s							
BTIN	Bartın	1.09	276	P		Pb	05 53 03.4	+0.2
BTIN				S		Sn	05 53 20.6	+1.1
SINP	Sinop	1.14	66	Pn		Pn	05 53 04.5	-0.1
DIKM	Dikmen	1.18	83	⇓P		Pb	05 53 04.7	0.0
DIKM				⇓S		Sb	05 53 20.7	+0.3
DIKM	Dikmen	1.18	83	Pn		Pg	05 53 04.2	0.0
CTAK	Corum_Osmancik	1.21	136	P		Pn	05 53 05.7	0.0
CTAK				S		Sn	05 53 24.5	+1.9
SUNG	orum-Sungurl	1.40	162	P		Pn	05 53 07.6	-0.6
SUNG				*i* AML	AML		05 53 30.0	
	comp=E,347nm,0.6s							
SUNG				*i* AML	AML		05 53 37.0	
	comp=N,432nm,1.2s							
CORM	Corum	1.52	152	Pn		Pn	05 53 09.9	0.0
BOLU	Bolu-Merkez-Mu	1.70	245	P		Pb	05 53 13.3	-0.3
BOLU				*i* AML	AML		05 53 43.0	
	comp=E,596nm,0.7s							
BOLU				*i* AML	AML		05 53 44.0	
	comp=N,332nm,0.8s							
YARM	Yarimca-Ladik(	1.72	110	Pn		Pn	05 53 13.0	+0.4
YIGI	Dzce	1.79	252	P		Pb	05 53 14.4	-0.7
YIGI				S		Sg	05 53 40.5	+1.5
YIGI				*i* AML	AML		05 53 42.0	
	comp=E,237nm,0.7s							
YIGI				*i* AML	AML		05 53 47.0	
	comp=N,348nm,1.0s							
ANTO	Ankara	1.79	203	⇑P		Pb	05 53 15.0	-0.2
ANTO	Ankara	1.79	203	Pn		Pb	05 53 14.8	-0.4
BR106	Keskin Array S	1.79	182	Pn		Pn	05 53 13.2	-0.4
BRTR	Keskin Array B	1.80	181	Pg		Pn	05 53 13.1	-0.7
	23nm,0.3s,baz=4.4,slow=14,SNR=546							
BRTR				Lg		Lg	05 53 39.2	
	27nm,0.3s,baz=16,slow=25,SNR=14							
KIZO	Buyukkizoglu-L	1.80	110	Pn		Pn	05 53 14.5	+0.8
BR105	Keskin Array S	1.81	182	Pn		Pn	05 53 13.4	-0.5
BR104	Keskin Array S	1.82	181	Pn		Pn	05 53 13.4	-0.6
KVT	Kavak	1.83	103	Pn		Pn	05 53 14.7	+0.6
KESK	Krkkale-Ke	1.89	183	P		Pn	05 53 14.6	-0.3
KESK				S		Sn	05 53 39.4	0.0
YUVA	Yuva-Kibriscik	1.90	234	Pn		Pb	05 53 16.3	-0.7
CDAG	Cicekdag	1.97	165	P		Pn	05 53 16.3	+0.3
CDAG				S		Sb	05 53 43.3	+0.1
CDAG				*i* AML	AML		05 53 55.0	
	comp=N,157nm,0.8s							
CDAG				*i* AML	AML		05 54 04.0	
	comp=E,216nm,0.7s							
AKPI	Kirsehir/Akpin	2.03	173	P		Pn	05 53 16.9	0.0
AKPI				S		Sn	05 53 42.8	-0.1
AKPI				*i* AML	AML		05 53 48.0	
	comp=N,83nm,0.6s							
AKPI				*i* AML	AML		05 53 49.0	
	comp=E,180nm,1.0s							
AFSR	Afar-Bala (An	2.13	193	Pn		Pn	05 53 19.0	+0.7
KAMT	Kaman	2.15	180	Pn		Pn	05 53 19.7	+1.1
MDUB	Mudurnu	2.16	242	Pn		Pn	05 53 20.0	+1.2
TOKT	Tokat	2.47	118	Pn		Pn	05 53 23.7	+0.8
KOZK	Kozakli-Nevseh	2.48	158	Pn		Pn	05 53 23.6	+0.5
KULU	Kulu	2.54	192	Pn		Pn	05 53 24.9	+1.0
SERE	Sereflikochisa	2.58	182	Pn		Pn	05 53 25.1	+0.6
YAYX	Yaylak	2.58	178	Pn		Pn	05 53 25.5	+0.9
GULT	Gulveren	2.64	247	Pn		Pn	05 53 27.4	+2.1
SVRH	Sivrihisar-ESK	2.66	219	Pn		Pn	05 53 26.4	+0.9
SAUV	Serdivan-Sakar	2.66	254	Pn		Pn	05 53 27.6	+2.1
YAL	Yalta	2.98	6	*e*P		Pn	05 53 32.2	+2.3
YAL				Pm			05 53 33.5	
	comp=Z,31nm,0.4s							
YAL				*e*S		Sn	05 54 07.3	+1.2
YAL				Sm			05 54 11.5	
	comp=N,43nm,0.3s							
YAL				Sm			05 54 11.5	
	comp=E,243nm,0.4s							
SEV	Sevastopol'	3.02	360	⇑*i*P		Pn	05 53 31.9	+1.5
SEV				Pm			05 53 36.8	
	comp=Z,25nm,0.4s							
SEV				*e*S		Sn	05 54 06.9	-0.2
SEV				Sm			05 54 12.1	
	comp=N,102nm,0.4s							
SEV				Sm			05 54 12.1	
	comp=E,6.0nm,0.2s							
ALU	Alushta	3.20	9	*e*P		Pn	05 53 33.9	+1.0
ALU				Pm			05 53 40.3	
	comp=Z,15nm,0.2s							
ALU				*e*S		Sn	05 54 10.9	-0.6
ALU				Sm			05 54 14.9	
	comp=N,62nm,0.3s							
ALU				Sm			05 54 14.9	
	comp=E,29nm,0.4s							
SIM	Simferopol'	3.44	5	*e*P		Pn	05 53 38.5	+2.3
SIM				Pm			05 53 43.3	
	comp=Z,84nm,0.4s							
SIM				*e*S		Sn	05 54 18.7	+1.3
SIM				Sm			05 54 21.9	
	comp=N,249nm,0.5s							
SIM				Sm			05 54 21.9	
	comp=E,46nm,0.3s							
SUDU	Sudak	3.50	15	*e*P		Pn	05 53 38.9	+1.9
SUDU				Pm			05 53 45.7	
	comp=Z,77nm,0.5s							
SUDU				*e*S		Sn	05 54 19.8	+0.9
SUDU				Sm			05 54 23.8	
	comp=N,230nm,0.6s							
SUDU				Sm			05 54 23.8	
	comp=E,50nm,0.4s							
FEO	Feodosiya	3.71	19	*e*P		Pn	05 53 43.1	+3.3
FEO				Pm			05 53 44.9	
	comp=Z,56nm,0.3s							
FEO				*e*S		Sn	05 54 26.3	+2.3
FEO				Sm			05 54 32.6	
	comp=N,81nm,0.3s							
FEO				Sm			05 54 32.6	
	comp=E,44nm,0.3s							
TARU	Tarkhankut	3.94	348	*e*P		Pn	05 53 46.1	+3.0
TARU				Pm			05 53 54.1	
	comp=Z,9.0nm,0.2s							
TARU				*e*S		Sn	05 54 31.7	+1.8
TARU				Sm			05 54 36.3	
	comp=N,119nm,0.5s							
TARU				Sm			05 54 36.4	
	comp=E,22nm,0.3s							
CTYL	Yalikoy Yolu	4.06	271	Pn		Pn	05 53 46.5	+1.8
MANR	Mangalia	4.41	303	⇑P		Pn	05 53 50.3	+0.8
MANR				⇓S		Sn	05 54 41.6	+0.3
PSN	Preselentsi	4.62	299	*e*P		Pn	05 53 52.9	+0.5
PSN				S		Sn	05 54 44.6	-1.9
PRD	Provadia	4.94	291	*e*P		Pn	05 53 59.4	+2.6
PRD				S		Sn	05 54 54.7	+0.3
NEF	NEVSHA	5.06	292	*e*P		Pn	05 54 00.0	+1.5
NEF				S		Sn	05 54 58.4	+0.9
TPGR	Topolog	5.09	313	⇓P		Pn	05 53 59.3	+0.3
TPGR				⇓S		Sn	05 54 58.1	-0.3
TLCR		5.10	317	⇓P		Pn	05 53 58.9	-0.1
TLCR				⇓S		Sn	05 54 57.4	-1.1
HARR	Harsova	5.27	309	⇑P		Pn	05 54 01.8	+0.4
CFR	Carcaliu	5.46	314	⇑P		Pn	05 54 04.0	+0.1
CFR				⇓S		Sn	05 55 07.4	+0.3
NE56	Odesa	5.53	340	Pn		Pn	05 54 06.5	+1.6
ELND	Elena	5.97	286	⇓P		Pn	05 54 11.4	+0.4
SZH	Strazhitsa	5.97	289	*e*P		Pn	05 54 06.0	-5.0
KDZ	Kurdzhali	6.27	274	*e*P		Pn	05 54 14.6	-0.5
ISR	Istrita	6.33	307	⇓P		Pn	05 54 16.4	+0.4
ISR	Istrita	6.33	307	Pn		Pn	05 54 17.9	+1.9
	comp=E,46nm,0.7s,comp=E,0.2nm							
MILM	Milestii Mici	6.43	329	⇓P		Pn	05 54 17.9	+0.6
VASR	Vaslui	6.65	322	⇑P		Pn	05 54 20.4	+0.1
VRI	Vrincioaia	6.66	313	⇑P		Pn	05 54 21.2	+0.8
VRI	Vrincioaia	6.66	313	Pn		Pn	05 54 21.7	+1.3
	comp=E,16nm,1.3s,comp=E,0.1nm							
PLOR5	Plostina Array	6.68	313	Pn		Pn	05 54 22.0	+1.2
	comp=E,20nm,0.7s,comp=E,0.1nm							
PLOR	Plostina	6.69	313	⇓P		Pn	05 54 21.1	+0.2
PLOR3	Plostina Array	6.70	313	Pn		Pn	05 54 23.2	+2.2
	comp=E,11nm,0.8s,comp=E,0.1nm							
MLR	Muntele Rosu	6.89	308	⇑P		Pn	05 54 24.4	+0.7
MLR	Muntele Rosu	6.89	308	Pn		Pn	05 54 24.2	+0.5
	comp=E,1.7nm,0.5s,baz=141,slow=14							
MLR					Sn	Sn	05 55 42.8	+0.1
	comp=E,0.6nm,0.3s,baz=115,slow=19,SNR=1.5							
MLR	Muntele Rosu	6.89	308	Pn		Pn	05 54 24.9	+1.2
	comp=E,9.9nm,0.9s,comp=E,0.1nm							
COVR	Voineasa-Covas	6.94	311	⇑P		Pn	05 54 25.1	+0.9
BAL3X	Bal3x, Balta	7.04	337	Pn		Pn	05 54 26.5	+0.9
KVAR	Kislovodsk Arr	7.06	67	Pn		Pn	05 54 30.0	+4.0
	baz=283,slow=23							
KVAR					Sn	Sn	05 55 52.0	+5.2
	baz=256,slow=19							
	comp=E,1.7nm,0.4s							
TESR	Tescani	7.12	317	⇑P		Pn	05 54 27.0	+0.3
TESR	Tescani	7.12	317	Pn		Pn	05 54 26.8	+0.1
	comp=E,16nm,1.8s,comp=E,0.1nm							
KBZ	Khabaz	7.13	69	Pn		Pn	05 54 29.7	+2.8
	comp=E,0.2nm,0.3s,baz=249,slow=16,SNR=4.1							
KBZ					Sn	Sn	05 55 54.5	+6.0
	comp=E,0.2nm,0.3s,baz=232,slow=12,SNR=3.6							
KBZ					LR	LR	05 58 08.9	
	comp=E,78nm,18.3s,baz=244,slow=45							
	comp=E,2.2nm,0.7s							
TURR	Turia	7.17	312	⇑P		Pn	05 54 27.3	-0.2
VOIR		7.40	305	⇓P		Pn	05 54 31.3	+0.6
VOIR		7.40	305	Pn		Pn	05 54 31.3	+0.6
DOPR	Dopca	7.47	309	⇓P		Pn	05 54 32.0	+0.4
GNI	Garni	8.49	96	LR		LR	05 58 19.2	
	comp=E,48nm,18.4s,baz=276,slow=39							
BURAR	Bucovina Array	8.58	318	⇑P		Pn	05 54 47.2	+0.3
MMAI	Mount Meron Ar	8.60	170	Pn		Pn	05 54 46.9	-0.3
	comp=E,1.2nm,0.3s,baz=354,slow=12,SNR=1.5							
MMAI					LR	LR	05 58 59.7	
	comp=E,54nm,19.6s,baz=272,slow=44							
	comp=E,0.6nm,0.3s							
GZR	Gura Zlata	8.83	300	⇓P		Pn	05 54 51.3	+1.0
MARR	Marisel-Cluj	9.19	308	⇑P		Pn	05 54 55.1	0.0
DRGR		9.49	307	⇑P		Pn	05 54 59.1	-0.2
AK07	Malin Array Si	9.55	342	Pn		Pn	05 54 58.7	-1.3
AK10	Malin Array Si	9.59	343	Pn		Pn	05 54 59.2	-1.3
AK09	Malin Array Si	9.59	343	Pn		Pn	05 54 59.3	-1.3
AK05	Malin Array Si	9.62	343	Pn		Pn	05 54 59.5	-1.4
AK08	Malin Array Si	9.62	343	Pn		Pn	05 54 59.5	-1.4
AK13	Malin Array Si	9.64	342	Pn		Pn	05 55 00.5	-0.8
AK12	Malin Array Si	9.65	342	Pn		Pn	05 55 00.1	-1.3
AK02	Malin Array Si	9.65	343	Pn		Pn	05 55 00.1	-1.3
AK11	Malin Array Si	9.68	343	Pn		Pn	05 55 00.6	-1.2
AK01	Malin Array Si	9.68	343	Pn		Pn	05 55 00.6	-1.2
KIEV	Kiev	9.68	343	⇓P		Pn	05

*OSPL **13** 06:20:03.8±0.3, 18°.97N×66°.77W, h20km±2km, ML1.6*
ISC 13 06:20:01.5±2.5, **19°.1N**±0°.1×**66°.85W**±0°.07, **h29km**, **n21**, σ0**833**/22, **3C-5D, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.63**	**203**	*iP*	**Pn**	**06 20 14.7**	**+0.2**
AGPR	**Aguadilla, PR**	**0.63**	**203**	*eS*	**Sn**	**06 20 23.4**	**0.0**
AGPR	**Aguadilla, PR**	**0.63**	**203**	*i* P	**Pn**	**06 20 14.6**	**+0.2**
AGPR				IAML		06 20 27.3	
	comp=Z,16nm,0.3s						
EMPR	**Esperanza - Ma**	**0.64**	**152**	*eP*	**Pn**	**06 20 14.5**	**-0.1**
EMPR	**Esperanza - Ma**	**0.64**	**152**	*eS*	**Sn**	**06 20 24.5**	**+0.6**
AOPR	**Arecibo Observ**	**0.70**	**172**	*eP*	**Pn**	**06 20 15.5**	**0.0**
AOPR	**Arecibo Observ**	**0.70**	**172**	*eS*	**Sn**	**06 20 25.7**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.80**	**171**	*eP*	**Pb**	**06 20 17.3**	**+0.5**
UUPR	**Utuado, UPR, P**	**0.80**	**171**	*eS*	**Sn**	**06 20 27.3**	**-0.4**
LSP	**Las Mesas**	**0.89**	**194**	*eP*	**Pb**	**06 20 18.5**	**+0.1**
LSP	**Las Mesas**	**0.89**	**194**	*eS*	**Sb**	**06 20 30.5**	**+0.5**
CELP	**Cerrillos**	**1.00**	**165**	*eP*	**Pb**	**06 20 20.1**	**-0.2**
CELP	**Cerrillos**	**1.00**	**165**	*eS*	**Sb**	**06 20 32.7**	**-0.4**
OBIP	**Obispado Ponce**	**1.03**	**167**	*eP*	**Pb**	**06 20 20.5**	**-0.1**
OBIP	**Obispado Ponce**	**1.03**	**167**	*eS*	**Sb**	**06 20 33.5**	**-0.2**
CRPR	**Cabo Rojo, PR**	**1.06**	**193**	*eP*	**Pb**	**06 20 21.3**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.06**	**193**	*eS*	**Sb**	**06 20 35.0**	**+0.2**
CRPR	**Cabo Rojo, PR**	**1.06**	**193**	*i* P	**Pb**	**06 20 21.2**	**-0.1**
CRPR				*eS*	**Sb**	**06 20 34.1**	**-0.7**
CRPR				IAML		06 20 38.0	
	comp=Z,15nm,0.6s						
MLPR	**Magueyes Islan**	**1.09**	**190**	*eP*	**Pb**	**06 20 21.5**	**-0.1**
MLPR	**Magueyes Islan**	**1.09**	**190**	*eS*	**Sb**	**06 20 35.2**	**-0.3**
PCDR	**Punta Cana, DR**	**1.54**	**250**	*i* P	**Pb**	**06 20 29.3**	**-0.1**
PCDR				IAML		06 20 55.8	
	comp=Z,94nm,2.3s						

*WEL **13** 06:55:43.3, 42°.5S±4°.×17°.4E±°, h14km±5km, M2.6/20, ML2.9/26, MLv2.6/20, Error ellipse: s-maj=0.0km s-min=0.0km az=121.7*
*NOU **13** 06:55:46.0, 41°.76S×173°.93E, h0km, MLv3.5/5, South Island, New Zealand*
ISC 13 06:55:43.2±1.0, **41°.75S**±0°.03×**174°.17E**±0°.03, **h10km**, **n53**, σ1**912**/53, **Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.03**	**97**	P	**Pg**	**06 55 46.7**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.23**	**278**	P	**Pg**	**06 55 48.2**	**+0.4**
TUWZ	**Tuamarina**	**0.36**	**331**	P	**Pg**	**06 55 50.1**	**-0.2**
TCW	**Tory Channel**	**0.54**	**8**	P	**Pg**	**06 55 53.1**	**-0.6**
BHW	**Baring Head**	**0.62**	**57**	P	**Pg**	**06 55 55.6**	**+0.4**
WEL	**Wellington**	**0.64**	**44**	P	**Pg**	**06 55 56.0**	**+0.4**
NNZ	**Nelson**	**0.80**	**311**	P	**Pg**	**06 55 57.8**	**-0.8**
KHZ	**Kahutara**	**0.82**	**215**	P	**Pb**	**06 56 00.2**	**+0.7**
KHZ	**Kahutara**	**0.82**	**215**	P	**Pb**	**06 56 00.1**	**+0.7**
PLWZ	**Palliser**	**0.83**	**78**	P	**Pg**	**06 55 59.7**	**+0.5**
CAW	**Cannon Point**	**0.93**	**47**	P	**Pg**	**06 56 00.8**	**-0.2**
THZ	**Tophouse**	**0.95**	**269**	P	**Pg**	**06 56 00.9**	**-0.5**
DUWZ	**D'Urville Isla**	**0.96**	**349**	P	**Pg**	**06 56 00.4**	**-1.2**
PAWZ	**Paruwai Farm**	**1.01**	**69**	P	**Pg**	**06 56 02.2**	**-0.3**
KIW	**Kapiti Island**	**1.04**	**32**	P	**Pg**	**06 56 02.2**	**-1.0**
MRNZ	**Matariki Terra**	**1.12**	**288**	P	**Pb**	**06 56 04.0**	**-0.6**
MTW	**Mount Morrison**	**1.16**	**60**	P	**Pb**	**06 56 04.1**	**-1.2**
OGWZ	**Otaki Gorge**	**1.19**	**39**	P	**Pn**	**06 56 05.1**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.32**	**50**	P	**Pn**	**06 56 06.5**	**-1.2**
TMWZ	**Te Maipa**	**1.44**	**64**	P	**Pn**	**06 56 07.9**	**-1.4**
GVZ	**Greta Valley S**	**1.48**	**214**	P	**Pn**	**06 56 09.4**	**-0.6**
MRZ	**Mangatainoka R**	**1.52**	**45**	P	**Pn**	**06 56 09.2**	**-1.2**
QRZ	**Quartz Range**	**1.54**	**306**	P	**Pn**	**06 56 10.9**	**+0.1**
QRZ	**Quartz Range**	**1.54**	**306**	P	**Pn**	**06 56 10.9**	**+0.1**
TIWZ	**Tintock**	**1.61**	**54**	P	**Pn**	**06 56 11.0**	**-0.8**
LTZ	**Lake Taylor**	**1.75**	**233**	P	**Pn**	**06 56 13.6**	**0.0**
DSZ	**Denniston Nort**	**1.77**	**269**	P	**Pn**	**06 56 14.5**	**+0.5**
POWZ	**Post Office Ro**	**1.81**	**42**	P	**Pn**	**06 56 13.3**	**-1.1**
BFZ	**Birch Farm**	**1.89**	**56**	P	**Pg**	**06 56 20.2**	**+0.8**
WAZ	**Wanganui**	**2.08**	**17**	P	**Pn**	**06 56 20.5**	**+2.4**
TSZ	**Takapari Road**	**2.16**	**39**	P	**Pb**	**06 56 22.8**	**+0.4**
OXZ	**Oxford**	**2.23**	**224**	P	**Pb**	**06 56 24.1**	**+0.5**
INZ	**Inchbonnie**	**2.25**	**243**	P	**Pb**	**06 56 22.8**	**-1.1**
KHEZ	**Kahui Hut**	**2.45**	**357**	P	**Pb**	**06 56 28.4**	**+1.0**
KHEZ	**Kahui Hut**	**2.45**	**357**	P	**Pb**	**06 56 27.0**	**-0.4**
NEZ	**North Egmont**	**2.47**	**359**	P	**Pb**	**06 56 29.0**	**+1.3**
NBEZ	**Newall Road No**	**2.49**	**355**	P	**Pb**	**06 56 29.0**	**+1.1**
PKE	**Pukeiti**	**2.55**	**357**	P	**Pn**	**06 56 27.4**	**+2.7**
MOVZ	**Moawhango**	**2.63**	**28**	P	**Pb**	**06 56 29.2**	**-1.2**
WWZ	**Wahianoa**	**2.65**	**25**	P	**Pb**	**06 56 28.0**	**+2.7**
VRZ	**Vera Road**	**2.66**	**10**	P	**Pb**	**06 56 28.2**	**+2.2**
BHHZ	**Black Hill Sta**	**2.67**	**33**	P	**Pb**	**06 56 30.0**	**-1.2**
NGZ	**Ngauruhoe**	**2.79**	**23**	P	**Pb**	**06 56 32.5**	**-0.7**
SNVZ	**South Ngauruho**	**2.79**	**24**	P	**Pb**	**06 56 31.6**	**-1.6**
NNVZ	**North Ngauruho**	**2.83**	**23**	P	**Pb**	**06 56 33.0**	**-1.0**
WTVZ	**West Tongariro**	**2.84**	**23**	P	**Pb**	**06 56 33.2**	**-0.8**
ETVZ	**East Tongariro**	**2.86**	**25**	P	**Pb**	**06 56 33.4**	**-1.0**
WVZ	**Waitaha Valley**	**2.87**	**241**	P	**Pb**	**06 56 32.6**	**-1.8**
KRVZ	**Karewarewa**	**2.88**	**23**	P	**Pb**	**06 56 33.8**	**-0.9**
NTVZ	**North Tongarir**	**2.88**	**24**	P	**Pb**	**06 56 34.3**	**-0.5**
KWHZ	**Kaweka Forest**	**2.88**	**37**	P	**Pb**	**06 56 35.1**	**+0.3**
BKZ	**Black Stump Fm**	**3.13**	**35**	P	**Pb**	**06 56 39.0**	**+0.1**
BKZ	**Black Stump Fm**	**3.13**	**35**	P	**Pb**	**06 56 38.9**	**+0.1**

*DNK **13** 06:56:07.3±0.8, 59°.78N×24°.75E, h0km, ML2.8(UPP), Suspected explosion*
*UPP **13** 06:56:08.8±2.8, 59°.80N×24°.58E, h0km, ML2.8*
*EST **13** 06:56:11.2, 59°.74N×24°.26E, h0km, ML2.5(HEL), Explosion*
*HEL **13** 06:56:11.2±0.0, 59°.74N×24°.26E, h0km, ML2.5, Explosion*
*IDC **13** 06:56:11.5±1.1, 59°.77N×24°.40E, h0km, mbtmp3.1/4, ML2.8/4, Error ellipse: s-maj=12.6km s-min=6.7km az=138.0*
*BER **13** 06:56:12.4±2.5, 59°.73N×24°.43E, h0km, ML2.0, ML2.5(HEL), Suspected explosion*
ISC 13 06:56:09.1±0.6, **59°.73N**±0°.02×**24°.28E**±0°.02, **h0km**, **n83**, σ1**971**/127, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.50**	**7**	*eP*	**Pg**	**06 56 19.9**	**+1.3**
MEF				*eS*	**Sg**	**06 56 26.1**	**+1.1**
MEF	**Metsahovi**	**0.50**	**7**	*eP*	**Pg**	**06 56 19.3**	**+0.7**
MEF	**Metsahovi**	**0.50**	**7**	*eP*	**Pg**	**06 56 19.9**	**+1.3**
MEF				*eS*	**Sg**	**06 56 26.1**	**+1.1**
HEL1	**Helsinki**	**0.55**	**34**	*eP*	**Pg**	**06 56 20.8**	**+1.2**
HEL1				*eS*	**Sg**	**06 56 27.6**	**+1.0**
HEL1	**Helsinki**	**0.55**	**34**	*eP*	**Pg**	**06 56 20.8**	**+1.2**
HEL1				*eS*	**Sg**	**06 56 27.6**	**+1.0**
EE02	**Kiisa, Saku**	**0.58**	**158**	*eP*	**Pg**	**06 56 21.6**	**+1.5**
EE02				*eS*	**Sg**	**06 56 29.3**	**+1.7**
EE01	**Perakula, Nova**	**0.62**	**213**	*eP*	**Pg**	**06 56 22.0**	**+1.0**
EE01				*eS*	**Sg**	**06 56 30.1**	**+1.1**
NUR	**Nurmijrvi**	**0.81**	**13**	*eP*	**Pg**	**06 56 25.4**	**+0.9**
NUR				*eS*	**Sg**	**06 56 35.7**	**+0.7**
NUR	**Nurmijrvi**	**0.81**	**13**	*eP*	**Pg**	**06 56 25.4**	**+0.9**
NUR				*eS*	**Sg**	**06 56 35.7**	**+0.7**
ARBE	**Arbavere**	**0.92**	**108**	*eP*	**Pb**	**06 56 27.8**	**0.0**
ARBE				*eS*	**Sg**	**06 56 39.5**	**+1.0**
ARBE	**Arbavere**	**0.92**	**108**	*eP*	**Pb**	**06 56 27.8**	**0.0**
ARBE	**Arbavere**	**0.92**	**108**	*eP*	**Pb**	**06 56 27.8**	**0.0**
ARBE				*eS*	**Sg**	**06 56 39.5**	**+1.0**
MTSE	**Matsula**	**1.04**	**193**	*eP*	**Pg**	**06 56 30.0**	**+1.0**
MTSE				*eS*	**Sg**	**06 56 43.5**	**+0.9**
MTSE	**Matsula**	**1.04**	**193**	*eP*	**Pg**	**06 56 30.7**	**+1.6**
MTSE	**Matsula**	**1.04**	**193**	*eP*	**Pg**	**06 56 30.0**	**+1.0**
MTSE				*eS*	**Sg**	**06 56 43.5**	**+0.9**
PVF	**Pernaja**	**1.14**	**43**	*eP*	**Pg**	**06 56 31.5**	**+0.5**
PVF				*eS*	**Sg**	**06 56 46.0**	**+0.3**
PVF	**Pernaja**	**1.14**	**43**	*eP*	**Pg**	**06 56 31.5**	**+0.5**
PVF				*eS*	**Sg**	**06 56 46.0**	**+0.3**
EE08	**Sarghaua, Vand**	**1.18**	**155**	*eP*	**Pg**	**06 56 32.5**	**+0.8**
EE08				*eS*	**Sb**	**06 56 48.5**	**+0.4**
EE03	**Tooma soojaam,**	**1.33**	**129**	*eP*	**Pg**	**06 56 35.2**	**+0.6**
EE03				*eS*	**Sb**	**06 56 53.1**	**+0.6**
VSU	**Vasula**	**1.79**	**134**	*eP*	**Pb**	**06 56 43.3**	**+0.5**
VSU				*eS*	**Sg**	**06 57 06.9**	**+0.2**
VSU	**Vasula**	**1.79**	**134**	*eP*	**Pb**	**06 56 43.3**	**+0.5**
VSU				*eS*	**Sg**	**06 57 06.9**	**+0.2**
RAF	**Rauma**	**1.80**	**317**	*eP*	**Pn**	**06 56 43.0**	**+1.6**
RAF				*eS*	**Sn**	**06 57 06.7**	**+1.7**
RAF				MSG		06 57 10.7	
	comp=Z,44nm,0.2s						
RAF	**Rauma**	**1.80**	**317**	*eP*	**Pb**	**06 56 44.4**	**+1.4**
RAF	**Rauma**	**1.80**	**317**	*eP*	**Pn**	**06 56 43.0**	**+1.6**
RAF				*eS*	**Sn**	**06 57 06.7**	**+1.7**
RAF				MSG		06 57 10.7	
	comp=Z,44nm,0.2s						
VJF	**Virojoki**	**1.83**	**62**	*eP*	**Pb**	**06 56 43.4**	**0.0**
VJF				*eS*	**Sb**	**06 57 07.4**	**+0.5**
VJF				MSG		06 57 11.3	
	comp=Z,43nm,0.2s						
VJF	**Virojoki**	**1.83**	**62**	*eP*	**Pb**	**06 56 43.4**	**0.0**
VJF				*eS*	**Sb**	**06 57 07.4**	**+0.5**
VJF				MSG		06 57 11.3	
	comp=Z,43nm,0.2s						
FIA0	**FINESS Array S**	**1.94**	**26**	*ePG*	**Pb**	**06 56 45.6**	**+0.4**
FIA0				*eSG*	**Sb**	**06 57 11.0**	**+1.0**
FIA0				MSG		06 57 14.8	
	comp=Z,28nm,0.2s						
FIA0	**FINESS Array S**	**1.94**	**26**	*ePG*	**Pb**	**06 56 45.6**	**+0.4**
FIA0				*eSG*	**Sb**	**06 57 11.0**	**+1.0**
FIA0				MSG		06 57 14.8	
	comp=Z,28nm,0.2s						
FINES	**FINESS Array B**	**1.94**	**26**	Pg	**Pb**	**06 56 45.8**	**+0.5**
	comp=Z,18nm,0.3s,baz=205,slow=14,SNR=1072						
FINES				Lg	Lg	06 57 10.3	
	comp=Z,12nm,0.3s,baz=206,slow=25,SNR=8.6						
FINES				Rg	Rg	06 57 21.2	
	comp=Z,16nm,0.7s,baz=204,slow=31,SNR=16						
AAL	**Aland**	**2.20**	**284**	*eP*	**Pn**	**06 56 48.9**	**+2.1**
AAL				*eSG*	**Sb**	**06 57 18.2**	**+0.6**
AAL	**Aland**	**2.20**	**284**	*eP*	**Pn**	**06 56 49.5**	**+2.7**
AAL	**Aland**	**2.20**	**284**	*eP*	**Pn**	**06 56 48.9**	**+2.1**
AAL				*eSG*	**Sb**	**06 57 18.2**	**+0.6**
AAL	**Aland**	**2.20**	**284**	P	**Pn**	**06 56 49.0**	**+2.1**
AAL				S	**Sb**	**06 57 18.1**	**+0.6**
AAL	**Aland**	**2.20**	**284**	P	**Pn**	**06 56 49.0**	**+2.1**
AAL				S	**Sb**	**06 57 18.1**	**+0.6**
SLIT	**Slitere, Latvi**	**2.35**	**207**	*ePB*	**Pb**	**06 56 51.9**	**-0.3**
SLIT				*eSG*	**Sb**	**06 57 23.0**	**+1.3**
SLIT	**Slitere, Latvi**	**2.35**	**207**	*eP*	**Pb**	**06 56 51.8**	**-0.3**
SLIT	**Slitere, Latvi**	**2.35**	**207**	*ePB*	**Pb**	**06 56 51.9**	**-0.3**
SLIT				*eSG*	**Sb**	**06 57 23.0**	**+1.3**
KPF	**Kankaanpaa**	**2.38**	**334**	*eSG*	**Sb**	**06 57 23.5**	**+1.0**
KPF				MSG		06 57 26.4	
	comp=Z,30nm,0.2s						
KPF	**Kankaanpaa**	**2.38**	**334**	*eSG*	**Sb**	**06 57 23.5**	**+1.0**
KPF				MSG		06 57 26.4	
	comp=Z,30nm,0.2s						
KEF	**Keuruu**	**2.47**	**6**	*ePB*	**Pb**	**06 56 54.2**	**-0.1**
KEF				*eSG*	**Sb**	**06 57 26.2**	**+1.1**
KEF				MSG		06 57 28.8	
	comp=Z,31nm,0.2s						
KEF	**Keuruu**	**2.47**	**6**	*eP*	**Pn**	**06 56 53.2**	**+2.7**
KEF	**Keuruu**	**2.47**	**6**	*ePB*	**Pb**	**06 56 54.2**	**-0.1**
KEF				*eSG*	**Sb**	**06 57 26.2**	**+1.1**
KEF				MSG		06 57 28.8	
	comp=Z,31nm,0.2s						
NRTU	**Norrtaelje**	**2.86**	**271**	*eP*	**Pn**	**06 56 57.2**	**+1.3**
NRTU				*eSB*	**Sb**	**06 57 36.9**	**+0.4**
NRTU	**Norrtaelje**	**2.86**	**271**	*eP*	**Pn**	**06 56 57.2**	**+1.3**
NRTU				*eSB*	**Sb**	**06 57 36.9**	**+0.4**
NRTU	**Norrtaelje**	**2.86**	**271**	P	**Pn**	**06 56 57.8**	**+1.9**
NRTU	**Norrtaelje**	**2.86**	**271**	P	**Pn**	**06 56 57.8**	**+1.9**
GRAU	**Graesoe**	**2.94**	**284**	P	**Pn**	**06 56 58.0**	**+0.9**
GRAU	**Graesoe**	**2.94**	**284**	P	**Pn**	**06 56 58.0**	**+0.9**
FLYU	**Flymyra**	**3.24**	**280**	P	**Pn**	**06 57 02.6**	**+1.4**
FLYU	**Flymyra**	**3.24**	**280**	P	**Pn**	**06 57 02.6**	**+1.4**
NYNU	**Nynaeshamn**	**3.29**	**260**	P	**Pn**	**06 57 03.5**	**+1.7**
NYNU	**Nynaeshamn**	**3.29**	**260**	P	**Pn**	**06 57 03.5**	**+1.7**
UPP	**Uppsala**	**3.37**	**275**	*eP*	**Pn**	**06 57 05.8**	**+3.0**
VAF	**Ylistaro**	**3.42**	**348**	*eP*	**Pn**	**06 57 07.8**	**+4.3**
FIBU	**Brunna**	**3.50**	**276**	P	**Pn**	**06 57 06.5**	**+1.8**
FIBU	**Brunna**	**3.50**	**276**	P	**Pn**	**06 57 06.5**	**+1.8**
GOTU	**Gotland**	**3.61**	**238**	*eP*	**Pn**	**06 57 08.3**	**+2.1**
GOTU				*eS*	**Sn**	**06 57 51.2**	**+1.7**
GOTU	**Gotland**	**3.61**	**238**	*eP*	**Pn**	**06 57 08.3**	**+2.1**
GOTU				*eS*	**Sn**	**06 57 51.2**	**+1.7**
OSTU	**Oestervaala**	**3.62**	**281**	P	**Pn**	**06 57 07.7**	**+1.3**
OSTU	**Oestervaala**	**3.62**	**281**	P	**Pn**	**06 57 07.7**	**+1.3**
PBUR	**Paburge**	**3.92**	**200**	*eP*	**Pn**	**06 57 13.8**	**+3.4**
VIKU	**Vikbolandet**	**4.09**	**256**	*eP*	**Pn**	**06 57 16.4**	**+3.5**
HEMU	**Hemsoen**	**4.23**	**317**	*eP*	**Pn**	**06 57 17.1**	**+2.4**
HEMU	**Hemsoen**	**4.23**	**317**	*eP*	**Pn**	**06 57 17.1**	**+2.4**
HUSU	**Husum**	**4.36**	**328**	*eP*	**Pn**	**06 57 19.1**	**+2.6**
HUSU	**Husum**	**4.36**	**328**	*eP*	**Pn**	**06 57 19.1**	**+2.6**
JOF	**Joensuu**	**4.66**	**44**	*eP*	**Pn**	**06 57 22.1**	**+1.4**
HFS	**Hagfors**	**5.34**	**279**	Pn	**Pn**	**06 57 31.5**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=96,slow=10,SNR=48						
HFS				Sn	**Sn**	**06 58 32.7**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=94,slow=24,SNR=7.7						
HFS				Lg	Lg	06 58 52.6	
	comp=Z,1.4nm,0.3s,baz=96,slow=28,SNR=9.0						
	comp=Z,1.0nm,0.2s						
DEL	**Delary**	**6.41**	**244**	*eP*	**Pn**	**06 57 46.1**	**+1.4**
NC602	**NORSAR Array S**	**6.42**	**285**	*eP*	**Pn**	**06 57 45.9**	**+1.0**
NC602				*eS*	**Sn**	**06 58 57.4**	**-1.4**
NOA	**NORSAR Array B**	**6.61**	**287**	Pn	**Pn**	**06 57 47.9**	**+0.5**
	baz=99,slow=11,SNR=14						
NOA				Sn	**Sn**	**06 59 01.4**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=102,slow=19,SNR=4.8						
NOA				Lg	Lg	06 59 31.8	
	comp=Z,0.1nm,0.3s,baz=56,slow=15,SNR=5.0						
	comp=Z,0.2nm,0.3s						
BSD	**Bornholm Skovb**	**6.85**	**232**	*eP*	**Pn**	**06 57 51.5**	**+0.8**
KONO	**Kongsberg**	**7.43**	**276**	*eP*	**Pn**	**06 58 00.2**	**+1.5**
NSS	**Namsos**	**7.51**	**315**	*eP*	**Pn**	**06 58 01.2**	**+1.5**
MOR8	**Moi Rana**	**7.86**	**330**	*eP*	**Pn**	**06 58 06.5**	**+1.9**
SKAR	**Skarslia**	**8.01**	**284**	*eP*	**Pn**	**06 58 06.7**	**0.0**
SKAR				*eS*	**Sn**	**06 59 33.3**	**-4.7**
SKAR				IAML		06 59 42.5	
	comp=Z,1.3nm,0.4s						
KONS	**Konsvik**	**8.46**	**328**	*eP*	**Pn**	**06 58 14.0**	**+1.3**
KONS				*eS*	**Sn**	**06 59 46.5**	**-2.2**
KONS				IAML		06 59 53.4	
	comp=Z,1.7nm,0.4s						
SNART	**Snartemo**	**8.91**	**268**	*eP*	**Pn**	**06 58 18.5**	**-0.4**
SNART				*eS*	**Sn**	**06 59 54.4**	**-5.4**
AKASG	**Malin Array Be**	**9.47**	**161**	Pn	**Pn**	**06 58 24.0**	**-2.6**
	comp=Z,0.7nm,0.3s,baz=341,slow=13,SNR=2.4						
	comp=Z,0.2nm,0.3s						
LOF	**Lofoten**	**9.65**	**335**	*eP*	**Pn**	**06 58 29.0**	**0.0**
ARA0	**ARCESS Array S**	**9.86**	**3**	*eP*	**Pn**	**06 58 32.7**	**+0.7**
ARCES	**ARCESS Array B**	**9.86**	**3**	Pn	**Pn**	**06 58 30.4**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=178,slow=13,SNR=43						
ARCES				Sn	**Sn**	**07 00 17.0**	**-6.2**
	comp=Z,0.2nm,0.3s,baz=188,slow=23,SNR=6.0						
	comp=Z,0.5nm,0.3s						
JETT	**Jettan, Norway**	**10.01**	**352**	*eP*	**Pn**	**06 58 34.5**	**+0.6**
JETT				*eS*	**Sn**	**07 00 22.5**	**-4.3**

*IDC **13** 06:57:18.5±1.2, 24°.16N×142°.44E, h0km, mb3.7/7, mbtmp3.6/8, ML2.7/1, Error ellipse: s-maj=56.6km s-min=22.5km az=86.0*
ISC 13 06:57:23.8±1.2, **24°.2N**±0°.1×**142°.4E**±0°.4, **h35km**, **n8**, σ0**949**/8, **mb3.5/7, Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**12.86**	**345**	Pn	**Pn**	**07 00 23.9**	**-0.2**
	baz=186,slow=12,SNR=2.0						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**44.52**	**191**	P	**P**	**07 05 32.1**	**0.0**
	0.3nm,0.4s,baz=9.7,slow=8.1,SNR=5.8						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**48.24**	**190**	P	**P**	**07 06 01.3**	**0.0**
	0.4nm,1.0s,baz=16,slow=7.1,SNR=2.3						
	0.4nm,1.0s						
KURBB	**Kurchatov Arra**	**55.24**	**316**	P	**P**	**07 06 53.3**	**0.0**
	0.3nm,0.3s,baz=93,slow=7.7,SNR=2.6						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**60.34**	**319**	P	**P**	**07 07 29.0**	**-0.1**
	1.1nm,0.4s,baz=77,slow=7.8,SNR=6.9						
	1.1nm,0.4s						
YKA	**Yellowknife Ar**	**74.64**	**28**	P	**P**	**07 08 59.0**	**-0.2**
	0.2nm,0.7s,baz=296,slow=7.2,SNR=3.8						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**76.37**	**341**	P	**P**	**07 09 10.1**	**+1.0**
	1.5nm,0.9s,baz=76,slow=8.4,SNR=4.8						
	1.5nm,0.9s						
FINES	**FINESS Array B**	**80.66**	**334**	P	**P**	**07 09 32.5**	**-0.3**
	0.2nm,0.4s,baz=72,slow=6.2,SNR=4.8						
	0.2nm,0.4s						

IDC 13 07:07:45.6±2.3, **7°.32S**×**129°.35E**, **h0km**, **mb3.3**/1, **mbtmp3.2**/3, **ML3.3**/2, **Error ellipse: s-maj=112.0km s-min=34.2km az=67.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.45**	**159**	Pn	Pn	07 10 56.7	-1.2
	0.2nm,0.3s,baz=338,slow=14,SNR=10						
WRA				Sn	Sn	07 13 20.5	-7.8
	0.3nm,0.3s,baz=354,slow=23,SNR=6.4						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**16.83**	**165**	Pn	P	07 11 44.2	-0.9
	0.1nm,0.3s,baz=351,slow=11,SNR=1.9						
ASAR				Sn	Sn	07 14 46.8	-3.9
	0.1nm,0.3s,baz=358,slow=28,SNR=2.1						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**68.14**	**327**	P	P	07 18 47.6	0.0
	0.2nm,0.6s,baz=122,slow=5.2,SNR=2.3						
	0.2nm,0.6s						

*NEIC **13** 07:12:19.8±1.3, 19°.34N±0°.01×155°.263W±0°.009, h3km±3km, Error ellipse: s-maj=1.9km s-min=1.0km az=151.0*
HVO 13 07:12:19.1±1.0, **19°.34N**±0°.01×**155°.277W**±0°.008, **h0km**±6km, **ML3.1**/33, **ML3.0**/50(NEIC), **Error ellipse: s-maj=1.9km s-min=0.8km az=158.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDHHI	**Sand Hill**	**0.05**	**341**	IAML		07 12 20.3	
	comp=N,13μm,0.9s						
SDHHI				IAML		07 12 20.7	
	comp=E,11μm,0.6s						
SDHHI					Pg	07 12 21.3	+1.2
RIM	**Rim**	**0.05**	**3**	IAML		07 12 20.9	
	comp=N,17μm,1.0s						
RIM					Pg	07 12 21.1	+1.0
KKO	**Keanakako`i**	**0.06**	**11**	Pg	Pg	07 12 20.9	+0.7
KKO					Sg	07 12 21.3	+0.4
KKO				IAML		07 12 21.7	
	comp=E,9μm,0.7s						
HLP	**Hilina Pali**	**0.06**	**211**	Pg	Pg	07 12 21.3	+1.1
PUH	**Pauahi**	**0.07**	**63**	Pg	Pg	07 12 21.3	+1.0
PUH				IAML		07 12 21.9	
	comp=E,7μm,0.1s						
PUH				IAML		07 12 22.0	
	comp=N,11μm,0.1s						
WRMHI	**West Rim**	**0.07**	**341**	Pg	Pg	07 12 21.1	+0.7
WRMHI					Sg	07 12 21.6	+0.3
WRMHI				IAML		07 12 21.9	
	comp=N,17μm,1.1s						
NPH	**North Pit**	**0.07**	**357**	IAML		07 12 21.4	
	comp=N,9μm,0.5s						
NPH					Pg	07 12 21.6	+1.2
BYL	**Byron's Ledge**	**0.07**	**13**		Pg	07 12 21.4	+1.0
BYL					Sg	07 12 21.7	+0.3
BYL				IAML		07 12 22.4	
	comp=N,13μm,0.9s						
BYL				IAML		07 12 22.6	
	comp=E,17μm,0.4s						
OBL	**Observatory Le**	**0.07**	**355**	Pg	Pg	07 12 21.1	+0.5
UWE	**Uwekahuna**	**0.08**	**349**		Pg	07 12 21.3	+0

JCUZ			IAML			07 22 22.9	
	comp=N,2µm,0.8s						
HTC	**Hot Caves**	**0.16 230**		Pg		07 22 19.3	+1.1
MLH	**Mauna Loa**	**0.19 323**		Pg		07 22 18.4	-0.3
MLH			IAML			07 22 23.8	
	comp=E,2µm,0.8s						
MLH			IAML			07 22 25.0	
	comp=N,3µm,1.0s						
HMH	**Humu'ula Sheep**	**0.33 321**		Pg		07 22 20.3	-1.1
HMH			IAML			07 22 29.8	
	comp=N,1µm,1.0s						
HMH			IAML			07 22 30.8	
	comp=E,913nm,0.5s						
KHU	**Kahuku**	**0.34 254**		Pg		07 22 21.8	+0.2
KHU			IAML			07 22 26.6	
	comp=E,1µm,1.4s						
MWH	**Moku'aweowe**	**0.34 294**	Pg	Pg		07 22 20.4	-1.2
MLOA	**Mauna Loa Obse**	**0.35 303**	Pg	Pg		07 22 21.1	-0.7
MLOA			IAML			07 22 30.1	
	comp=E,1µm,0.8s						
MLOA			IAML			07 22 30.3	
	comp=N,1µm,0.8s						
ALEP	**Alea Permanent**	**0.41 299**		Sb		07 22 30.7	-1.6
HUH	**Hualalai**	**0.64 302**		Pg		07 22 28.1	+0.8
HPAH	**Hawaii Prepara**	**0.80 329**	Pg	Pg		07 22 30.3	0.0

*CATAC **13** 07:30:07.3±0.2, 13°.18N×87°.98W, h1km±1km, ML2.7*
*SNET **13** 07:30:07.5±0.8, 13°.23N×88°.00W, h2km±2km, ML2.9*
ISC 13 07:30:06.4±0.8,**13°.18N**±0°.04×**88°.00W**±0°.02,**h13**km±5km,
n38,σ0°**48**/67,**4C-1D**,**Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.06**	**287**	⇑*i*P	**Pg**	**07 30 09.1**	**+0.1**
INTP				*e*S	**Sg**	**07 30 10.7**	**-0.1**
LCND	**La Caada**	**0.17**	**39**	⇑*i*P	**Pg**	**07 30 10.7**	**+0.3**
LCND				*e*S	**Sg**	**07 30 13.2**	**+0.1**
LCND	**La Caada**	**0.17**	**39**	*i*P	**Pg**	**07 30 10.5**	**+0.1**
LCND				*i*P		07 30 10.7	
LCND				*i*S	**Sg**	**07 30 12.5**	**-0.6**
LCND				IAML		07 30 14.8	
	comp=Z,2µm,1.0s						
CNCH	**Conchagua**	**0.18**	**59**	⇑*i*P	**Pg**	**07 30 11.3**	**+0.5**
CNCH				*e*S	**Sg**	**07 30 14.2**	**+0.5**
CNCH	**Conchagua**	**0.18**	**59**	*i*P	**Pg**	**07 30 11.2**	**+0.5**
CNCH				*i*S	**Sg**	**07 30 12.9**	**-0.8**
CNCH				IAML		07 30 16.5	
	comp=Z,6µm,1.0s						
JUCU	**Jucuarın**	**0.26**	**287**	⇓*i*P	**Pb**	**07 30 12.8**	**-0.1**
JUCU				*e*S	**Sb**	**07 30 16.8**	**-0.5**
JUCU	**Jucuarın**	**0.26**	**287**	*i*P	**Pb**	**07 30 12.7**	**-0.3**
JUCU				*i*S	**Sg**	**07 30 15.8**	**+0.2**
JUCU				IAML		07 30 19.1	
	comp=Z,970nm,1.0s						
CNRM	**Centro Naciona**	**0.34**	**330**	*i*P	**Pb**	**07 30 14.0**	**-0.3**
CNRM				*i*S	**Sg**	**07 30 18.3**	**+0.4**
CNRM				IAML		07 30 23.6	
	comp=Z,4µm,1.0s						
AMPH	**Amapala**	**0.35**	**72**	⇑*i*P	**Pb**	**07 30 14.3**	**-0.1**
AMPH				*e*S	**Sb**	**07 30 19.7**	**-0.2**
BLLM	**Bellamira**	**0.35**	**318**	*e*P	**Pb**	**07 30 14.7**	**0.0**
LCY	**Lacayo**	**0.38**	**310**	*e*P	**Pb**	**07 30 15.2**	**+0.1**
RANC	**El Ranchito**	**0.38**	**312**	*e*P	**Pb**	**07 30 15.2**	**+0.1**
RANC				*e*S	**Sb**	**07 30 21.4**	**+0.4**
RANC	**El Ranchito**	**0.38**	**312**	*i*P	**Pb**	**07 30 15.1**	**0.0**
RANC				*i*S	**Sg**	**07 30 19.3**	**0.0**
RANC				IAML		07 30 26.0	
	comp=Z,490nm,1.0s						
PACA	**Pacayal**	**0.43**	**312**	*e*P	**Pb**	**07 30 16.1**	**+0.1**
PACA				*e*S	**Sb**	**07 30 22.6**	**+0.2**
PACA	**Pacayal**	**0.43**	**312**	*i*P	**Pb**	**07 30 15.9**	**-0.1**
PACA				*i*S	**Sg**	**07 30 21.0**	**+0.2**
PACA				IAML		07 30 25.9	
	comp=Z,2µm,1.0s						
COEB	**Comit de Eme**	**0.61**	**301**	*e*P	**Pb**	**07 30 19.1**	**+0.1**
COEB				*e*S	**Sb**	**07 30 27.8**	**+0.2**
COEB	**Comit de Eme**	**0.61**	**301**	*i*P	**Pb**	**07 30 19.5**	**+0.5**
COEB				*i*S	**Sb**	**07 30 27.4**	**-0.1**
COEB				IAML		07 30 32.6	
	comp=Z,190nm,1.0s						
PQSS	**Presa 15 de Se**	**0.70**	**309**	*i*P	**Pb**	**07 30 20.8**	**+0.2**
PQSS				*i*S	**Sb**	**07 30 30.5**	**+0.3**
PQSS				IAML		07 30 31.5	
	comp=Z,67nm,1.0s						
TECO	**Alcaldia de Te**	**0.84**	**295**	*e*P	**Pb**	**07 30 23.0**	**0.0**
TECO				*e*S	**Sb**	**07 30 34.7**	**+0.5**
TECO	**Alcaldia de Te**	**0.84**	**295**	*i*P	**Pb**	**07 30 23.5**	**-0.5**
TECO				*i*S	**Sb**	**07 30 34.1**	**-0.1**
TECO				IAML		07 30 37.2	
	comp=Z,160nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.88**	**306**	*i*P	**Pn**	**07 30 24.7**	**+0.1**
SCLA				*i*S	**Sn**	**07 30 36.6**	**-0.7**
SCLA				IAML		07 30 41.7	
	comp=Z,51nm,1.0s						
UESV	**Universidad de**	**0.89**	**301**	*i*P	**Pn**	**07 30 24.5**	**-0.3**
UESV				*i*S	**Sn**	**07 30 36.7**	**-0.9**
UESV				IAML		07 30 37.5	
	comp=Z,180nm,1.0s						
COEG	**Centro de Oper**	**0.96**	**297**	*e*P	**Pn**	**07 30 25.4**	**-0.4**
COEG				*e*S	**Sn**	**07 30 38.8**	**-0.6**
COEG	**Centro de Oper**	**0.96**	**297**	*i*P	**Pn**	**07 30 26.1**	**+0.3**
COEG				*i*S	**Sn**	**07 30 38.9**	**-0.5**
COEG				IAML		07 30 41.9	
	comp=Z,230nm,1.0s						
CRIN	**San Cristobal**	**1.04**	**117**	*i*P	**Pn**	**07 30 27.1**	**+0.3**
CRIN				*i*S	**Sg**	**07 30 40.5**	**+0.4**
CRIN				IAML		07 30 46.2	
	comp=Z,300nm,1.0s						
PAVA	**Las Pavas**	**1.06**	**300**	*i*P	**Pn**	**07 30 27.6**	**+0.5**
PAVA				*i*S	**Sn**	**07 30 42.3**	**+0.5**
PAVA				IAML		07 30 44.9	
	comp=Z,550nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.12**	**39**	*i*P	**Pb**	**07 30 27.6**	**-0.2**
TGUH				*i*S	**Sb**	**07 30 42.7**	**+0.4**
TGUH				IAML		07 30 45.3	
	comp=Z,200nm,1.0s						
PANCS	**Alcalda de**	**1.23**	**291**	*i*P	Pg	07 30 38.9	+8.8
LOMA	**Loma Larga**	**1.23**	**292**	*i*P	**Pg**	**07 30 30.9**	**+0.7**
LOMA				*i*S	**Sg**	**07 30 47.4**	**+1.1**
LOMA				IAML		07 30 50.4	
	comp=Z,110nm,1.0s						
PMON	**Piamonte**	**1.39**	**293**	*i*P	**Pg**	**07 30 33.5**	**+0.4**
PMON				*i*S	**Sg**	**07 30 52.3**	**+1.1**
PMON				IAML		07 31 07.3	
	comp=Z,170nm,1.0s						
CNGN	**Cerro Negro**	**1.44**	**118**	*i*P	**Pb**	**07 30 32.9**	**-0.2**
CNGN				*i*S	**Sg**	**07 30 53.0**	**+0.2**
CNGN				IAML		07 30 59.3	
	comp=Z,86nm,1.0s						
MACN	**El Madrono**	**1.47**	**119**	*i*P	**Pb**	**07 30 33.4**	**-0.3**
MACN				IAML		07 30 37.8	
	comp=Z,54nm,1.0s						
MOMN	**Momotombo**	**1.61**	**118**	*i*P	**Pb**	**07 30 36.2**	**0.0**
MOMN				IAML		07 30 38.3	
	comp=Z,3.4nm,1.0s						
MOMN				*i*S	**Sb**	**07 30 57.1**	**+0.6**
BRAN	**Las Pilas**	**1.67**	**106**	*i*P	Pg	07 30 49.1	+11
COPN	**Copaltepe**	**1.69**	**126**	*i*P	**Pb**	**07 30 37.1**	**-0.4**
MTO3	**Montecristo**	**1.79**	**313**	*i*P	**Pb**	**07 30 39.8**	**+0.5**
MTO3				*i*S	**Sg**	**07 31 03.9**	**-0.4**
MTO3				IAML		07 31 04.3	
	comp=Z,37nm,1.0s						
NUBE	**Las Nubes**	**1.88**	**293**	*i*P	**Pb**	**07 30 40.2**	**-0.5**
NUBE				*i*S	**Sg**	**07 31 05.6**	**-1.3**
NUBE				IAML		07 31 13.5	
	comp=Z,65nm,1.0s						
RTAL	**Retalhuleu**	**3.83**	**291**	*i*P	**Pn**	**07 31 04.1**	**-1.1**

*IDC **13** 07:31:25.1±1.9, 22°.57S×172°.88E, h0km, mb4.1/5, mbtmp4.0/6, ML2.6/1, Error ellipse: s-maj=51.3km s-min=30.5km az=20.0*
*NEIC **13** 07:31:27.4±0.6, 22°.7S±0°.2×173°.13E±0°.04, h10km±2km, mb4.3/11, Error ellipse: s-maj=35.3km s-min=6.9km az=355.0*
ISC 13 07:31:32.4±1.5,**22°.7S**±0°.2×**172°.8E**±0°.1,**h35**km,**n22**,
σ1s**50**/**23**,**mb4.2/9**,**Southeast of Loyalty Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**5.47**	**289**	Pn	**Pn**	**07 32 54.0**	**+2.5**
OUENC	**Ouen Island, N**	**5.48**	**272**	Pn	**Pn**	**07 32 53.3**	**+1.8**
ONTNC	**Ouen Toro**	**5.84**	**273**	Pn	**Pn**	**07 32 58.7**	**+2.1**
DZM	**Mont Dzumac**	**5.88**	**275**		**Pn**	**07 32 59.1**	**+1.9**
DZM	**Mont Dzumac**	**5.88**	**275**	Pn	**Pn**	**07 32 56.8**	**-0.4**
	0.2nm,0.3s,baz=106,slow=14,SNR=15						
DZM				Sn	**Sn**	**07 34 01.3**	**-2.0**
	0.2nm,0.3s,baz=89,slow=15,SNR=2.2						
	4.4nm,0.8s						
EIDS	**Eidsvold**	**19.98**	**258**	P	**Pn**	**07 36 03.8**	**+0.1**
EIDS				IAmb	IAmb	07 36 04.3	
	comp=Z,8.3nm,0.9s						
RPZ	**Rata Peaks**	**21.02**	**183**	P	**P**	**07 36 15.8**	**+2.8**
RPZ				IAmb	IAmb	07 36 36.4	
	comp=Z,11nm,1.0s						
STKA	**Stephens Creek**	**29.09**	**245**	P	**P**	**07 37 30.7**	**+0.9**
STKA	**Stephens Creek**	**29.09**	**245**	P	**P**	**07 37 28.4**	**-1.4**
	comp=Z,1.6nm,0.6s,baz=80,slow=12,SNR=5.7						
	comp=Z,1.6nm,0.6s						
BBOO	**Buckleboo**	**33.86**	**245**	P	**P**	**07 38 11.9**	**+0.1**
BBOO				IAmb	IAmb	07 38 38.4	
	comp=Z,3.5nm,1.0s						
AS31	**Alice Springs**	**35.66**	**261**	P	**P**	**07 38 27.8**	**+0.3**
ASAR	**Alice Springs**	**35.66**	**261**	P	**P**	**07 38 26.4**	**-1.0**
	comp=Z,2.7nm,0.8s,baz=90,slow=9.3,SNR=22						
	comp=Z,2.7nm,0.8s						
WB2	**Warramunga Arr**	**35.82**	**267**	P	**P**	**07 38 29.4**	**+0.5**
WB2				IAmb	IAmb	07 38 46.1	
	comp=Z,4.1nm,0.9s						
WRA	**Warramunga Arr**	**35.83**	**267**	P	**P**	**07 38 26.8**	**-2.2**
	comp=Z,1.1nm,1.0s,baz=97,slow=8.7,SNR=2.8						
	comp=Z,1.1nm,1.0s						
FITZ	**Fitzroy Crossi**	**44.26**	**267**	P	**P**	**07 39 39.1**	**+0.2**
NWAO	**Narrogin (SRO)**	**49.67**	**245**	P	**P**	**07 40 21.4**	**+0.4**
MORW	**Morawa**	**51.02**	**250**	P	**P**	**07 40 30.8**	**-0.5**
MORW				IAmb	IAmb	07 40 48.9	
	comp=Z,4.6nm,1.0s						
QSPA	**South Pole Qui**	**67.38**	**180**	P	**P**	**07 42 23.7**	**-0.3**
QSPA				IAmb	IAmb	07 42 25.9	
	comp=Z,2.1nm,0.9s						
QSPA	**South Pole Qui**	**67.38**	**180**	P	**P**	**07 42 23.4**	**-0.6**
	comp=Z,2.5nm,1.0s,baz=301,slow=5.9,SNR=5.3						
	comp=Z,2.5nm,1.0s						
SNAA	**Sanae**	**85.84**	**181**	P	**P**	**07 44 06.6**	**-1.5**
SNAA				IAmb	IAmb	07 44 07.0	
	comp=Z,3.0nm,0.9s						
SNAA	**Sanae**	**85.84**	**181**	P	**P**	**07 44 06.4**	**-1.7**
	comp=Z,3.0nm,0.9s,baz=124,slow=11,SNR=2.4						
	comp=Z,3.0nm,0.9s						
EKA	**Eskdalemuir Ar**	**147.26**	**356**	PKPbc	**PKPdf**	**07 51 09.4**	**0.0**
	comp=Z,1.7nm,1.0s,baz=335,slow=3.1,SNR=3.8						

*IDC **13** 07:33:39.0±17.0, 19°.13N×155°.96W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=347.0km s-min=52.7km az=37.0*
*HVO **13** 07:33:41.9±0.8, 19°.34N±0°.03×155°.27W±0°.04, h-1km±7km, ML3.6/46, ML3.0/46(NEIC), Error ellipse: s-maj=5.0km s-min=3.6km az=109.0*
*NEIC **13** 07:33:43.1±1.1, 19°.339N±0°.008×155°.26W±0°.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.8km az=98.0*
ISC 13 07:33:42.7±1.4,**19°.35N**±0°.03×**155°.29W**±0°.03,**h2**km±10km,
n33,σ0°**87**/33,**mb3.8**/4,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDHHI	**Sand Hill**	**0.04**	**348**	IAML		07 33 43.4	
	comp=E,12µm,0.6s						
SDHHI					**Pg**	**07 33 44.1**	**+0.5**
RIM	**Rim**	**0.05**	**12**	IAML		07 33 43.3	
	comp=E,11µm,0.8s						
RIM					**Pg**	**07 33 44.1**	**+0.3**
RIM				IAML		07 33 44.3	
	comp=N,11µm,0.6s						
KKO	**Keanakako`i**	**0.05**	**20**	IAML		07 33 43.7	
	comp=N,9µm,1.0s						
KKO					**Pg**	**07 33 44.3**	**+0.5**
HLP	**Hilina Pali**	**0.06**	**203**		**Pg**	**07 33 44.2**	**+0.3**
WRMHI	**West Rim**	**0.06**	**346**	IAML		07 33 43.8	
	comp=N,13µm,0.8s						
WRMHI					**Pg**	**07 33 44.5**	**+0.5**
WRMHI				IAML		07 33 44.8	
	comp=E,16µm,1.0s						
NPH	**North Pit**	**0.06**	**3**		**Pg**	**07 33 44.5**	**+0.5**
BYL	**Byron's Ledge**	**0.07**	**20**	IAML		07 33 43.8	
	comp=E,9µm,1.1s						
BYL					**Pg**	**07 33 44.6**	**+0.5**
OBL	**Observatory Le**	**0.07**	**0**	IAML		07 33 43.8	
	comp=E,17µm,1.0s						
OBL					**Pg**	**07 33 45.4**	**+1.2**
OBL				IAML		07 33 45.6	
	comp=N,22µm,0.8s						
PUH	**Pauahi**	**0.07**	**69**	Pg	**Pg**	**07 33 44.5**	**+0.4**
UWE	**Uwekahuna**	**0.07**	**354**	IAML		07 33 44.8	
	comp=E,16µm,0.7s						
UWE					**Pg**	**07 33 45.4**	**+1.1**
UWE				IAML		07 33 45.5	
	comp=N,19µm,0.9s						
UWB	**Uwekahuna B**	**0.08**	**5**		**Pg**	**07 33 45.7**	**+1.4**
HATHI	**Halema'uma'u T**	**0.08**	**17**	IAML		07 33 43.9	
	comp=N,17µm,0.6s						
HATHI				IAML		07 33 44.0	
	comp=E,21µm,0.7s						
HATHI					**Pg**	**07 33 44.9**	**+0.5**
SBLHI	**Steaming Bluff**	**0.08**	**11**		**Pg**	**07 33 45.2**	**+0.8**
SBLHI				IAML		07 33 45.5	
	comp=E,13µm,0.7s						
SBLHI				IAML		07 33 45.8	
	comp=N,15µm,0.5s						
KNHH	**Kane Nui o Ham**	**0.11**	**74**		**Pg**	**07 33 45.3**	**+0.4**
RSD	**Rainshed**	**0.11**	**3**		**Pg**	**07 33 45.8**	**+0.8**
RSD				IAML		07 33 47.4	
	comp=N,5µm,0.9s						
RSD				IAML		07 33 47.5	
	comp=E,5µm,1.0s						
HTC	**Hot Caves**	**0.15**	**224**		**Pg**	**07 33 47.1**	**+1.4**
STCH	**Steam Cracks**	**0.15**	**76**		**Pg**	**07 33 45.8**	**+0.1**
STCH				IAML		07 33 49.2	
	comp=N,4µm,0.9s						
NPOC	**North of Pu'u**	**0.17**	**75**		**Pg**	**07 33 46.2**	**+0.1**
NPOC				IAML		07 33 49.2	
	comp=E,7µm,1.1s						
NPOC				IAML		07 33 49.7	
	comp=N,3µm,1.4s						
MLH	**Mauna Loa**	**0.17**	**327**	Pg	**Pg**	**07 33 47.0**	**+0.8**
MLH				IAML		07 33 51.3	
	comp=N,5µm,0.7s						
MLH				IAML		07 33 51.3	
	comp=E,8µm,1.3s						
JCUZ	**Jacuzzi**	**0.18**	**78**		**Pg**	**07 33 46.2**	**+0.1**
JCUZ				IAML		07 33 50.3	
	comp=N,3µm,0.8s						
HMH	**Humu'ula Sheep**	**0.32**	**324**		**Pg**	**07 33 49.2**	**+0.4**
MWH	**Moku'aweowe**	**0.33**	**295**		**Pg**	**07 33 49.4**	**+0.4**
KHU	**Kahuku**	**0.33**	**252**		**Pb**	**07 33 49.9**	**-1.6**
KHU				IAML		07 33 59.3	
	comp=N,3µm,1.0s						
MLOA	**Mauna Loa Obse**	**0.33**	**304**		**Pg**	**07 33 49.6**	**+0.4**
ALEP	**Alea Permanent**	**0.39**	**300**		**Pg**	**07 33 50.3**	**0.0**
POHA	**Pohakuloa**	**0.47**	**330**		**Pb**	**07 33 52.4**	**-1.5**
HUH	**Hualalai**	**0.62**	**303**		**Pb**	**07 33 55.7**	**-0.7**
I59US	**HAWAII INFRASO**	**0.62**	**293**	Pg	**Pg**	**07 33 54.7**	**0.0**
	baz=123,slow=26						
HPAH	**Hawaii Prepara**	**0.78**	**330**		**Pg**	**07 33 57.3**	**-0.5**
PDAR	**Pinedale Array**	**44.91**	**48**	P	**P**	**07 42 00.6**	**+1.3**
	comp=N,1.1nm,0.9s,baz=238,slow=5.1,SNR=8.2						
	comp=N,1.1nm,0.9s						
ILAR	**Eielson Array**	**45.74**	**5**	P	**P**	**07 42 04.1**	**-1.2**
	comp=N,1.4nm,1.0s,baz=199,slow=6.5,SNR=7.7						
	comp=N,1.4nm,1.0s						
TXAR	**Lajitas Array**	**47.74**	**68**	P	**P**	**07 42 23.3**	**+1.6**
	comp=N,2.4nm,1.0s,baz=260,slow=6.2,SNR=16						
	comp=N,2.4nm,1.0s						
YKA	**Yellowknife Ar**	**51.38**	**23**	P	**P**	**07 42 48.2**	**-0.5**
	comp=N,0.8nm,1.0s,baz=236,slow=7.5,SNR=7.6						
	comp=N,0.8nm,1.0s						

NEIC 13 07:45:24.2±1.1,**31°.27N**±0°.01×**103°.71W**±0°.02,**h5**km±1km,
mb_Lg2.8/42,**ML2.8**/20,**Error ellipse: s-maj=3.2km s-min=2.3km az=307.0,Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.17**	**306**	Pg	Pg	07 45 27.9	+0.2
PECS				Sg	Sg	07 45 31.3	+1.4
PECS				IAML		07 45 32.2	
	2µm,0.5s						
PECS				IAML		07 45 32.9	
	3µm,0.5s						
MNHN	**Monahans**	**0.81**	**85**	Pg	Pg	07 45 39.1	-0.6
MNHN				IAML		07 45 58.8	
	578nm,0.9s						
MNHN				IAML		07 46 00.5	
	270nm,0.6s						
ALPN	**Alpine**	**0.89**	**176**	Pg	Pg	07 45 40.9	-0.5
ALPN				Sg	Sg	07 45 53.2	+0.2
VHRN	**Van Horn**	**1.20**	**247**	Pg	Pg	07 45 46.3	-0.8
VHRN				IAML		07 46 08.3	
	130nm,0.6s						
VHRN				IAML		07 46 08.8	
	99nm,0.7s						
ODSA	**Odessa**	**1.30**	**49**		Pn	07 45 47.9	-1.2
ODSA				Sg	Sn	07 46 06.9	0.0
ODSA				IAML		07 46 10.0	
	284nm,0.5s						
ODSA				IAML		07 46 10.2	
	181nm,0.5s						
SAND	**Sanderson**	**1.89**	**133**	Pn	Pb	07 45 58.2	-1.0
SAND				IAML		07 46 55.9	
	65nm,1.3s						
TX31	**Lajitas Ar. Si**	**1.93**	**179**	Pn	Pb	07 45 59.1	-0.8
TXAR	**Lajitas Array**	**1.93**	**179**	Pn	Pb	07 45 59.1	-0.8
OZNA	**Ozona**	**2.24**	**98**	Pn	Pn	07 46 03.3	+1.3
OZNA				IAmb_Lg		07 46 37.7	
	comp=Z,40nm,1.1s						
OZNA				IAML		07 46 46.2	
	comp=Z,68nm,0.8s						
SGCY	**Sterling City**	**2.29**	**73**	Pn	Pn	07 46 03.7	+0.9
SGCY				IAmb_Lg		07 46 42.4	
	comp=Z,53nm,0.9s						
POST	**Post**	**2.59**	**46**	Pn	Pn	07 46 08.8	+2.0
POST				IAmb_Lg		07 46 45.8	
	comp=Z,25nm,0.7s						
MSTX	**Muleshoe**	**2.81**	**16**		Pn	07 46 12.2	+2.3
SN05	**Snyder 5**	**2.88**	**55**	IAmb_Lg		07 46 56.8	
	comp=Z,28nm,0.8s						
SN07	**Snyder 07**	**3.00**	**52**	IAmb_Lg		07 47 00.3	
	comp=Z,29nm,0.7s						
DRIO	**Del Rio**	**3.24**	**124**	IAmb_Lg		07 47 15.7	
	comp=Z,21nm,0.7s						
DKNS	**Dickens**	**3.35**	**44**	IAmb_Lg		07 47 13.2	
	comp=Z,31nm,0.9s						
APMT	**Aspermont**	**3.66**	**55**	IAmb_Lg		07 47 29.7	
	comp=Z,22nm,0.9s						
121A	**Cookes Peak, D**	**3.69**	**291**	IAmb_Lg		07 47 28.8	
	comp=Z,28nm,0.8s						
ABTX	**Abilene, Hawle**	**3.71**	**68**	IAmb_Lg		07 47 26.2	
	comp=Z,22nm,1.0s						
AMTX	**Amarillo**	**3.99**	**25**	IAmb_Lg		07 47 36.2	
	comp=Z,32nm,0.7s						
HNDO	**Hondo**	**4.20**	**113**	IAmb_Lg		07 47 43.6	
	comp=Z,16nm,0.8s						
SMWD	**Samnorwood**	**4.80**	**36**	IAmb_Lg		07 48 09.5	
	comp=Z,21nm,0.9s						
EF01	**Eagle Ford 01**	**5.08**	**113**	IAmb_Lg		07 48 05.7	
	comp=Z,17nm,0.8s						
FW14	**Alvarado**	**5.66**	**77**	IAmb_Lg		07 48 39.4	
	comp=Z,20nm,0.8s						
T25A	**Trinidad**	**5.88**	**355**	IAmb_Lg		07 48 47.1	
	comp=Z,23nm,1.1s						
U32A	**Winter Ranch,**	**6.43**	**36**	IAmb_Lg		07 48 48.7	
	comp=Z,11nm,0.8s						
FNO	**Franklin**	**6.61**	**51**	IAmb_Lg		07 49 07.6	
	comp=Z,10nm,0.7s						

*CATAC **13** 07:52:29.7±0.2, 13°.22N×87°.99W, h6km±2km, ML2.5*
*SNET **13** 07:52:29.9±0.8, 13°.22N×88°.00W, h2km±4km, ML2.6*
ISC 13 07:52:29.8±0.8,**13°.24N**±0°.04×**87°.98W**±0°.02,**h8**km±6km,
n31,σ0°**81**/59,**3C-1D**,**Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.08**	**240**	⇑*i*P	**Pg**	**07 52 31.4**	**-0.5**
INTP				*e*S	**Sg**	**07 52 33.1**	**-0.3**
LCND	**La Caada**	**0.12**	**52**	⇑*i*P	**Pg**	**07 52 33.0**	**+0.6**
LCND				*e*S	**Sg**	**07 52 35.6**	**+1.3**
LCND	**La Caada**	**0.12**	**52**	*i*P	**Pg**	**07 52 28.4**	**-4.0**
LCND				*i*P	**Pg**	**07 52 33.0**	**+0.6**
LCND				*i*S	**Sg**	**07 52 35.6**	**+1.3**
LCND				IAML		07 52 38.4	
	comp=Z,2µm,1.0s						
CNCH	**Conchagua**	**0.15**	**75**	⇑*i*P	**Pg**	**07 52 33.6**	**+0.5**
CNCH				*e*S	**Sg**	**07 52 36.6**	**+1.2**
CNCH	**Conchagua**	**0.15**	**75**	*i*P	**Pg**	**07 52 33.5**	**+0.4**
CNCH				*i*S	**Sg**	**07 52 36.0**	**+0.6**
CNCH				IAML		07 52 48.2	
	comp=Z,2µm,1.0s						
JUCU	**Jucuarın**	**0.26**	**274**	⇓*i*P	**Pg**	**07 52 35.2**	**+0.2**
JUCU				*e*S	**Sg**	**07 52 39.3**	**+0.8**
JUCU	**Jucuarın**	**0.26**	**274**	*i*P	**Pg**	**07 52 35.2**	**+0.2**
JUCU				*i*S	**Sg**	**07 52 39.6**	**+1.1**
JUCU				IAML		07 52 43.7	
	comp=Z,570nm,1.0s						
CNRM	**Centro Naciona**	**0.30**	**322**	*i*P	**Pb**	**07 52 36.7**	**-0.7**
CNRM				*i*S	**Sb**	**07 52 41.5**	**-0.9**
CNRM				IAML		07 52 44.3	
	comp=Z,4µm,1.0s						
BLLM	**Bellamira**	**0.32**	**310**	*e*P	**Pg**	**07 52 37.0**	**+0.8**
AMPH	**Amapala**	**0.32**	**81**	*e*P	**Pg**	**07 52 36.7**	**+0.6**
AMPH				*e*S	**Sb**	**07 52 42.1**	**-1.0**
RANC	**El Ranchito**	**0.35**	**303**	*i*P	**Pg**	**07 52 37.3**	**+0.5**
RANC				*i*S	**Sb**	**07 52 43.4**	**-0.8**
RANC				IAML		07 52 46.3	
	comp=Z,280nm,1.0s						
PACA	**Pacayal**	**0.40**	**305**	*e*P	**Pg**	**07 52 38.4**	**+0.8**
PACA				*e*S	**Sb**	**07 52 44.9**	**-0.7**
PACA	**Pacayal**	**0.40**	**305**	*i*P	**Pg**	**07 52 38.5**	**+0.8**
PACA				*i*S	**Sg**	**07 52 43.3**	**+0.3**
PACA				IAML		07 52 50.3	
	comp=Z,2µm,1.0s						
COEB	**Comit de Eme**	**0.59

MACN	**El Madrono**	**1.49**	**121**	*i* P	**Pn**	**07 52 56.5**	**-0.4**
MACN				IAML		07 53 05.1	
	comp=Z,26nm,1.0s						
MACN				*i* S	**Sn**	**07 53 16.1**	**-0.5**
COPN	**Copaltepe**	**1.72**	**128**	*i* P	**Pn**	**07 53 00.2**	**+0.2**
NUBE	**Las Nubes**	**1.87**	**291**	*i* P	**Pn**	**07 53 02.6**	**+0.4**
NUBE				*i* S	**Sn**	**07 53 26.4**	**+0.4**
NUBE				IAML		07 53 34.1	
	comp=Z,38nm,1.0s						

IDC ***13*** *07:53:54.4±2.0,0.°13N×125.°48E, h0km, mb3.2/3, mbtmp3.3/3, MS3.1/1, Error ellipse: s-maj=176.9km s-min=28.4km az=64.0*
DJA ***13*** *07:53:54.6±0.4, 1.°1N±5.°5×12.°6E±.°, h10km, M3.4/7, MLv3.4/7*
ISC 13 07:53:55.0±1.4,**0.°8N**±0.°1×**126.°15E**±0.°10,**h10**km,**n9,**
σ2**°39/8,mb3.4/3,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.94**	**136**	P	**Pn**	**07 54 28.2**	**+0.1**
KMSI	**Cibinong**	**2.18**	**265**	P	**Pn**	**07 54 29.8**	**-1.6**
SANI	**Sanana**	**2.80**	**183**	P	**Pn**	**07 54 42.1**	**+2.2**
GTOI	**Gorontalo**	**3.15**	**268**	P	**Pn**	**07 54 45.8**	**+1.2**
LUWI	**Luwuk**	**3.83**	**242**	P	**Pn**	**07 54 54.6**	**+0.5**
WRA	**Warramunga Arr**	**22.09**	**159**	P	**P**	**07 58 47.3**	**-3.3**
	0.6nm,0.6s,baz=336,slow=11,SNR=9.3 0.6nm,0.6s						
ASAR	**Alice Springs**	**25.43**	**163**	P	**P**	**07 59 20.9**	**-2.2**
	0.4nm,0.5s,baz=334,slow=7.9,SNR=6.7 0.4nm,0.5s						
JOW	**Kunigami**	**26.00**	**4**	LR	LR	08 11 03.7	
	comp=Z,38nm,19.1s,baz=282,slow=39						
MKAR	**Makanchi Array**	**59.67**	**327**	P	**P**	**08 04 01.7**	**+2.0**
	0.1nm,0.3s,baz=110,slow=8.3,SNR=2.4 0.1nm,0.3s						

IDC ***13*** *07:56:08.2±1.4,2.°06N×67.°18E, h0km, mb3.8/10, mbtmp3.8/10, MS3.7/10, Error ellipse: s-maj=44.1km s-min=21.7km az=47.0*
ISC 13 07:56:09.7±1.6,**2.°1N**±0.°3×**67.°2E**±0.°2,**h10**km,**n26,**
σ0°68/11,**mb4.0**/10,**MS3.8**/10,**Carlsberg Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**35.16**	**60**	P	**P**	**08 03 03.6**	**-0.5**
	0.8nm,0.3s,baz=252,slow=12,SNR=1.8						
CMAR				LR	LR	08 15 41.9	
	comp=Z,58nm,21.4s,baz=285,slow=33 0.8nm,0.3s						
MBAR	**Mbarara**	**36.51**	**266**	LR	LR	08 16 03.5	
	comp=Z,115nm,19.9s,baz=93,slow=33						
LSZ	**Lusaka**	**42.22**	**245**	LR	LR	08 18 59.4	
	comp=Z,199nm,19.0s,baz=106,slow=32						
MKAR	**Makanchi Array**	**46.48**	**14**	P	**P**	**08 04 37.1**	**0.0**
	0.2nm,0.6s,baz=198,slow=9.1,SNR=2.1 0.2nm,0.6s						
KBZ	**Khabaz**	**46.77**	**336**	P	**P**	**08 04 38.8**	**-0.6**
	1.6nm,0.8s,baz=151,slow=10,SNR=2.5 1.6nm,0.8s						
BRTR	**Keskin Array B**	**48.30**	**325**	P	**P**	**08 04 51.9**	**+0.3**
	0.7nm,0.6s,baz=142,slow=8.2,SNR=4.9 0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**49.35**	**10**	P	**P**	**08 04 58.2**	**-1.0**
	0.5nm,0.8s,baz=200,slow=8.6,SNR=1.6 0.5nm,0.8s						
H04N2	**CROZET ISLANDS**	**49.90**	**194**	T	T	08 57 58.1	
	baz=18,slow=75,SNR=6.1						
H04N1	**CROZET ISLANDS**	**49.90**	**194**	T	T	08 58 08.0	
	baz=18,slow=75,SNR=5.6						
H04N3	**CROZET ISLANDS**	**49.91**	**194**	T	T	08 57 56.9	
	baz=18,slow=75,SNR=5.7						
BOSA	**Boshof**	**50.43**	**230**	LR	LR	08 24 16.7	
	comp=Z,81nm,18.1s,baz=17,slow=34						
TSUM	**Tsumeb**	**53.08**	**244**	LR	LR	08 25 25.9	
	comp=Z,117nm,18.3s,baz=97,slow=33						
ZALV	**Zalesovo Beam**	**53.73**	**13**	P	**P**	**08 05 31.6**	**-0.4**
	0.6nm,0.5s,baz=237,slow=5.1,SNR=3.8 0.6nm,0.5s						
SUR	**Sutherland**	**55.62**	**228**	LR	LR	08 26 17.0	
	comp=Z,104nm,18.8s,baz=60,slow=32						
SONM	**Songino Array**	**56.78**	**31**	P	**P**	**08 05 55.7**	**+1.4**
	0.5nm,0.5s,baz=202,slow=7.2,SNR=3.1 0.5nm,0.5s						
H01W3	**Cape Leeuwin H**	**57.29**	**134**	T	T	09 07 44.7	
	baz=300,slow=75,SNR=38						
H01W2	**Cape Leeuwin H**	**57.30**	**134**	T	T	09 07 45.1	
	baz=300,slow=75,SNR=39						
H01W1	**Cape Leeuwin H**	**57.31**	**134**	T	T	09 07 46.1	
	baz=300,slow=75,SNR=34						
DAV	**Davao City (W)**	**58.41**	**83**	LR	LR	08 33 09.3	
	comp=Z,31nm,18.4s,baz=206,slow=38						
WRA	**Warramunga Arr**	**69.35**	**112**	P	**P**	**08 07 18.3**	**+0.1**
	2.5nm,1.0s,baz=285,slow=5.8,SNR=7.5 2.5nm,1.0s						
ASAR	**Alice Springs**	**69.66**	**116**	P	**P**	**08 07 19.9**	**-0.2**
	0.9nm,0.7s,baz=284,slow=5.7,SNR=8.6 0.9nm,0.7s						
HFS	**Hagfors**	**70.82**	**335**	P	**P**	**08 07 26.5**	**+0.1**
	1.3nm,0.6s,baz=147,slow=6.9,SNR=5.3 1.3nm,0.6s						
KLR	**Kul'dur**	**72.06**	**38**	LR	LR	08 39 15.0	
	comp=Z,63nm,18.4s,baz=320,slow=36						
MJAR	**Matsushiro Arr**	**73.59**	**53**	LR	LR	08 43 09.4	
	comp=Z,44nm,18.7s,baz=326,slow=38						
MDT	**Midelt**	**73.59**	**304**	LR	LR	08 37 37.8	
	comp=Z,30nm,18.9s,baz=152,slow=34						
TXAR	**Lajitas Array**	**147.58**	**345**	PKPbc	**PKPbc**	**08 15 55.2**	**0.0**
	1.5nm,0.7s,baz=54,slow=1.7,SNR=23						

IDC ***13*** *08:03:31.6±3.7, 14.°23N×93.°61W, h0km, mb3.7/7, mbtmp3.6/9, ML3.1/3, Error ellipse: s-maj=84.2km s-min=24.1km az=18.0*
MEX ***13*** *08:03:33.4±0.8, 14.°23N×93.°78W, h15km, MD4.0*
CATAC ***13*** *08:03:40.6±0.9, 14.°47N×93.°20W, h15km±8km, ML3.8*
ISC 13 08:03:33.1±3.2,**14.°32N**±0.°06×**93.°64W**±0.°04,**h15**km±21km,
n32,σ2**°07/54,mb3.7/7,Near coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.43**	**16**	*i* P	**Pn**	**08 03 57.1**	**-1.5**
PCIG				*i* S	**Sn**	**08 04 16.2**	**-0.9**
THIG		**1.45**	**66**	*e*P	**Pn**	**08 03 58.1**	**-0.7**
THIG				*e*S	**Sb**	**08 04 17.6**	**-0.4**
PATR	**El Naranjo**	**1.57**	**60**	*i* P	**Pn**	**08 03 59.4**	**-1.3**
PATR				*i* S	**Sn**	**08 04 19.9**	**-0.9**
CHUJ	**Union Juarez**	**1.66**	**62**	*i* P	**Pn**	**08 04 00.6**	**-1.3**
CHUJ				*i* S	**Sn**	**08 04 22.7**	**-0.5**
RTAL	**Retalhuleu**	**1.89**	**84**	*i* P	**Pn**	**08 04 04.4**	**-0.5**
RTAL				*i* S	**Sn**	**08 04 26.8**	**-1.7**
RTAL	**Retalhuleu**	**1.89**	**84**	*i* P	**Pb**	**08 04 06.6**	**-0.7**
RTAL				*i* S	**Sn**	**08 04 25.2**	**-3.3**
RTAL				IAML		08 04 38.4	
	comp=Z,620nm,1.0s						
SMSP	**San Marcos**	**1.91**	**70**	*i* P	**Pn**	**08 04 04.6**	**-0.7**
SMSP				*i* S	**Sn**	**08 04 29.1**	**-0.2**
SMSP	**San Marcos**	**1.91**	**70**	*i* P	**Pb**	**08 04 06.7**	**-1.1**
SMSP				*i* S	**Sn**	**08 04 25.5**	**-3.8**
SMSP				IAML		08 04 37.8	
	comp=Z,2μm,1.0s						
CARR	**Arriaga**	**1.93**	**352**	*i* P	**Pn**	**08 04 04.6**	**-0.8**
CARR				*i* S	**Sn**	**08 04 27.3**	**-2.1**
HUEH	**Huehuetenango**	**2.29**	**64**	*i* P	**Pn**	**08 04 10.7**	**+0.2**
HUEH				*i* S	**Sn**	**08 04 38.4**	**-0.2**
HUEH	**Huehuetenango**	**2.29**	**64**	*i* P	**Pn**	**08 04 11.8**	**+1.3**
HUEH				*i* S	**Sn**	**08 04 35.1**	**-3.5**
HUEH				IAML		08 04 57.9	
	comp=Z,1μm,1.0s						
CCIG	**Comitan**	**2.42**	**36**	*e*P	**Pn**	**08 04 14.2**	**+1.8**
CCIG				*i* S	**Sb**	**08 04 46.1**	**-0.3**
CCIG	**Comitan**	**2.42**	**36**	*i* P	**Pn**	**08 04 14.1**	**+1.8**
CCIG				*i* S	**Sn**	**08 04 42.0**	**+0.1**
CCIG				IAML		08 04 52.8	
	comp=Z,650nm,1.0s						
TGIG		**2.49**	**11**	*i* P	**Pn**	**08 04 13.9**	**+0.7**
TGIG				*i* S	**Sn**	**08 04 42.4**	**-0.9**
HUIG	**Huatulco**	**2.79**	**301**	*i* P	**Pn**	**08 04 16.0**	**-1.2**
HUIG				*i* S	**Sn**	**08 04 43.8**	**-6.8**
CMIG	**Matias Romero**	**3.00**	**337**	Pn	**Pn**	**08 04 19.7**	**-0.5**
	comp=Z,4.6nm,0.3s,baz=182,slow=13,SNR=80						
CMIG				Sn	**Sn**	**08 04 51.9**	**-4.0**
	comp=Z,8.1nm,0.3s,baz=150,slow=15,SNR=7.2 comp=Z,15nm,0.3s						

CMIG	**Matias Romero**	**3.00**	**337**	*i* P	**Pn**	**08 04 19.5**	**-0.7**
CMIG				*i* S	**Sn**	**08 04 51.4**	**-4.6**
UXUV	**UXUV**	**3.02**	**351**	*e*P	**Pn**	**08 04 22.0**	**+1.6**
UXUV				*i* S	**Sn**	**08 04 59.4**	**+3.1**
APG	**El Apazote**	**3.14**	**77**	Pn	**Pn**	**08 04 23.0**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=330,slow=16,SNR=15						
APG				Sn	**Sb**	**08 05 03.2**	**-3.8**
	comp=Z,0.5nm,0.3s,baz=81,slow=17,SNR=2.4						
GUNB	**GUNB**	**3.20**	**85**	*i* P	**Pn**	**08 04 24.5**	**+1.4**
GUNB				IAML		08 05 10.9	
	comp=Z,150nm,1.0s						
NUBE	**Las Nubes**	**3.76**	**96**	*i* P	**Pn**	**08 04 32.4**	**+1.6**
NUBE				*i* S	**Sn**	**08 05 13.4**	**-1.5**
NUBE				IAML		08 05 26.1	
	comp=Z,89nm,1.0s						
PEIG	**Puerto Escondi**	**3.78**	**297**	*i* P	**Pn**	**08 04 33.7**	**+2.8**
PEIG				*i* S	Sn	08 05 05.7	-9.4
MTO3	**Montecristo**	**4.14**	**88**	*i* P	**Pn**	**08 04 37.0**	**+0.9**
MTO3				IAML		08 05 18.1	
	comp=Z,44nm,1.0s						
MTO3				*i* S	**Sn**	**08 05 22.1**	**-2.3**
PETF	**Flores**	**4.45**	**54**	*i* P	**Pn**	**08 04 41.2**	**+1.1**
PETF				IAML		08 04 49.8	
	comp=Z,100nm,1.0s						
PETF				*i* S	**Sn**	**08 05 29.5**	**-2.2**
TXAR	**Lajitas Array**	**17.59**	**330**	P	**P**	**08 07 40.1**	**+1.3**
	baz=148,slow=12,SNR=7.2 comp=Z,0.4nm,0.7s						
ANMO	**Albuquerque**	**23.56**	**333**	P	**P**	**08 08 43.3**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=140,slow=13,SNR=1.6 comp=Z,0.3nm,0.4s						
PDAR	**Pinedale Array**	**31.49**	**337**	P	**P**	**08 09 55.4**	**+0.7**
	comp=Z,1.2nm,1.1s,baz=133,slow=6.5,SNR=3.6 comp=Z,1.2nm,1.1s						
NVAR	**Mina Array Bea**	**32.44**	**322**	P	**P**	**08 10 05.4**	**+2.4**
	comp=Z,0.4nm,0.7s,baz=128,slow=7.0,SNR=4.1 comp=Z,0.4nm,0.7s						
YKA	**Yellowknife Ar**	**50.36**	**348**	P	**P**	**08 12 29.7**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=154,slow=6.6,SNR=24 comp=Z,1.1nm,0.8s						
ILAR	**Eielson Array**	**61.92**	**337**	P	**P**	**08 13 53.0**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=148,slow=4.1,SNR=5.4 comp=Z,0.4nm,0.7s						
NOA	**NORSAR Array B**	**84.61**	**28**	P	**P**	**08 16 06.4**	**+0.5**
	comp=Z,0.9nm,0.8s,baz=292,slow=4.8,SNR=3.6 comp=Z,0.9nm,0.8s						
ARCES	**ARCESS Array B**	**86.32**	**18**	P	**P**	**08 16 14.5**	**+0.2**
	comp=Z,2.5nm,1.1s,baz=289,slow=3.7,SNR=4.0 comp=Z,2.5nm,1.1s						

TRN 13 08:13:53.8,15.°87N×61.°43W, h158km, MD3.7, 1C, South of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MAGL	**Barre de l'ile**	**0.17**	**60**	*e*P	Pn	08 14 16.6	+1.6
TDBA	**Terre de Bas,**	**0.20**	**265**	*e*P	Pn	08 14 16.1	+1.1
TDBA				*e*S	Sn	08 14 32.7	+1.5
TBG	**Guadaloupe-3**	**0.21**	**267**	*e*P	Pn	08 14 16.0	+1.0
CBE	**Ff, Capester**	**0.27**	**320**	*e*P	Pn	08 14 18.1	+2.9
CBE				*e*S	Sn	08 14 35.0	+3.4
ABD	**La Joyeuse, An**	**0.61**	**355**	*e*P	Pn	08 14 25.0	+8.3
ABD				*e*S	Sn	08 14 47.3	+13
SVN	**Savane Anatole**	**1.05**	**166**	*e*P	Pn	08 14 21.1	+1.2
SVN				*e*S	Sn	08 14 41.0	+1.2
CXM	**Morne La Croix**	**1.08**	**166**	*e*P	Pn	08 14 21.2	+1.0
MBFL	**Flemmings, Mon**	**1.16**	**320**	*e*P	Pn	08 14 22.5	+1.8
FDF	**Fort de France**	**1.16**	**166**	*e*P	Pn	08 14 21.5	+0.7
ILAM	**Ilet Lapin Mar**	**1.21**	**153**	*e*P	Pn	08 14 22.2	+1.0
ILAM				*e*S	Sn	08 14 42.0	-0.2
ANBD	**Bethesda, Anti**	**1.22**	**345**	*e*P	Pn	08 14 22.7	+1.5
ANBD				*e*S	Sn	08 14 42.2	-0.1
ANDO	**Antigua, Disas**	**1.30**	**343**	*e*P	Pn	08 14 23.2	+1.2
ANDO				*e*S	Sn	08 14 43.5	-0.2
ZAM	**Aeronautique**	**1.34**	**163**	*e*P	Pn	08 14 23.3	+0.9
LPMF	**Morne Lapointe**	**1.36**	**161**	*e*P	Pn	08 14 23.1	+0.5
BIM	**Bigot**	**1.38**	**165**	*e*P	Pn	08 14 23.4	+0.5
BIM				*e*S	Sn	08 14 46.0	+0.7
MPOM	**Morne Pois Mar**	**1.52**	**159**	*e*P	Pn	08 14 16.1	-8.1
MPOM				*e*S	Sn	08 14 31.4	-16
SLBI	**Saint Lucia, B**	**1.88**	**166**	*e*P	Pn	08 14 28.6	+0.4
SLBI				*e*S	Sn	08 14 56.2	+1.7

IDC 13 08:18:34.6±2.3,**17.°15S**×**174.°93W, h0km, mb3.7**/4,
mbtmp3.7/4,**Error ellipse: s-maj=134.0km**
s-min=29.2km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**48.04**	**258**	P	P	08 27 15.3	-0.7
	0.3nm,0.2s,baz=97,slow=7.8,SNR=12 0.3nm,0.2s						
ASAR	**Alice Springs**	**48.19**	**253**	P	P	08 27 17.8	+0.5
	1.5nm,0.5s,baz=86,slow=8.2,SNR=39 1.5nm,0.5s						
TXAR	**Lajitas Array**	**82.80**	**56**	P	P	08 31 01.2	0.0
	0.2nm,0.8s,baz=258,slow=4.5,SNR=2.5 0.2nm,0.8s						
ILAR	**Eielson Array**	**84.44**	**12**	P	P	08 31 08.5	-0.1
	0.3nm,0.9s,baz=216,slow=4.7,SNR=4.8 0.3nm,0.9s						

IDC ***13*** *08:25:39.7±1.3,3.°74N×77.°04W, h0km, mb3.3/2, mbtmp3.5/3, ML2.6/1, Error ellipse: s-maj=39.3km s-min=32.6km az=70.0*
RSNC ***13*** *08:25:45.2±0.0,4.°1N±1.°7×7.°7W±.°, h-1km±2km, M3.0, mb4.0, Mjma3.7, ML4.0, ML3.0, MLh3.5, MLv3.7, Ms(BB)3.7*
ISC 13 08:25:42.3±1.2,**3.70N**±0.°02×**76.°67W**±0.°02,**h8**km±9km,**n45,**
σ1°82/80,**Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAMC	**Jamundi, Valle**	**0.48**	**181**	P	**Pb**	**08 25 53.8**	**+0.7**
JAMC				S	**Sb**	**08 26 01.2**	**+0.8**
MALC	**Bahia Malaga**	**0.74**	**295**	P	**Pn**	**08 25 59.9**	**+0.9**
MALC				S	**Sn**	**08 26 14.5**	**+4.1**
POPC	**Popayan, Colom**	**1.15**	**181**	P	**Pg**	**08 26 04.2**	**-0.2**
POPC				S	**Sg**	**08 26 19.2**	**-0.2**
POPC				S	**Sg**	**08 26 19.2**	**-0.2**
PLMC	**San Jos del P**	**1.26**	**18**	P	**Pn**	**08 26 04.5**	**-1.8**
PLMC				S	**Sg**	**08 26 20.7**	**-2.2**
PIZC	**Pizarro, Choco**	**1.44**	**331**	P	**Pg**	**08 26 09.5**	**-0.4**
PIZC				S	**Sg**	**08 26 32.5**	**+3.9**
BETC	**Betania**	**1.58**	**129**	P	**Pn**	**08 26 11.1**	**+0.4**
BETC				S	**Sn**	**08 26 31.5**	**+0.1**
GR1C	**Gorgona, Isla**	**1.65**	**245**	P	**Pn**	**08 26 11.3**	**-0.3**
GR1C				S	**Sn**	**08 26 32.4**	**-0.5**
PRAC	**Prado**	**1.78**	**89**	P	**Pn**	**08 26 13.6**	**+0.3**
PRAC				S	**Sn**	**08 26 35.9**	**-0.2**
CMAN1	**Manizales, Cal**	**1.78**	**40**	P	**Pb**	**08 26 14.8**	**-0.5**
CMAN1				S	**Sb**	**08 26 37.7**	**-0.2**
NIZA	**Niza - Manizal**	**1.80**	**41**	P	**Pb**	**08 26 15.3**	**-0.4**
NIZA				S	**Sn**	**08 26 35.2**	**-1.9**
GARC	**Garzon, Huila**	**1.90**	**142**	P	**Pb**	**08 26 17.2**	**-0.2**
GARC				S	**Sg**	**08 26 43.2**	**-0.4**
CRUC	**La Cruz**	**2.13**	**188**	P	**Pb**	**08 26 21.4**	**0.0**
CRUC				S	**Sg**	**08 26 55.5**	**+4.5**
URMC	**La Uribe, Meta**	**2.33**	**101**	P	**Pn**	**08 26 21.8**	**+0.9**
URMC				S	**Sn**	**08 26 51.6**	**+1.8**
FLOC	**Florencia**	**2.33**	**154**	P	**Pb**	**08 26 23.3**	**-1.3**
FLOC				P	**Pn**	**08 26 23.6**	**+2.6**
FLOC				S	**Sb**	**08 26 55.6**	**+2.0**
GCUF	**Volcan Galeras**	**2.55**	**195**	P	**Pb**	**08 26 28.5**	**-0.1**
GCUF				S	**Sg**	**08 27 03.6**	**-0.7**
NORC	**Norcasia**	**2.58**	**44**	P	**Pn**	**08 26 25.5**	**+1.1**
NORC				S	**Sb**	**08 27 00.0**	**-0.7**
ROSC	**El Rosal**	**2.60**	**64**	Pn	**Pb**	**08 26 27.8**	**-1.6**
	17nm,0.3s,baz=339,slow=7.2,SNR=26						
ROSC				Sn	**Sb**	**08 27 01.0**	**-0.6**
	8.7nm,0.3s,baz=222,slow=23,SNR=5.9 33nm,0.3s						
ROSC	**El Rosal**	**2.60**	**64**	P	**Pn**	**08 26 27.4**	**+2.4**
ROSC				S	**Sn**	**08 26 59.7**	**+2.7**
TUMC	**Tumaco**	**2.77**	**228**	P	**Pn**	**08 26 28.1**	**+1.1**
TUMC				S	**Sb**	**08 27 04.8**	**-1.5**
CMBC	**Cumbal**	**2.97**	**203**	P	**Pb**	**08 26 34.2**	**-1.6**
CMBC				S	**Sb**	**08 27 11.1**	**-1.4**
VILC	**Villavicencio,**	**2.99**	**82**	P	**Pn**	**08 26 32.3**	**+2.1**
VILC				S	**Sb**	**08 27 13.9**	**+1.1**
CHIC	**Chingaza**	**3.07**	**72**	P	**Pn**	**08 26 32.7**	**+1.2**
CHIC				S	**Sn**	**08 27 10.4**	**+1.8**

TULM	**Tulcn-Chalpat**	**3.17**	**201**	P	**Pb**	**08 26 38.3**	**-0.8**
MACC	**Macarena, Meta**	**3.21**	**119**	P	**Pn**	**08 26 33.6**	**+0.6**
MACC				S	**Sb**	**08 27 20.1**	**+1.2**
SPBC	**San Pablo de B**	**3.23**	**53**	P	**Pn**	**08 26 34.7**	**+1.3**
SPBC				S	**Sb**	**08 27 18.2**	**-1.4**
DBBC	**Dabeiba**	**3.33**	**8**	P	**Pn**	**08 26 36.0**	**+1.2**
DBBC				S	**Sn**	**08 27 16.6**	**+2.0**
PTBC	**PUERTO BERRIO,**	**3.58**	**38**	P	**Pn**	**08 26 39.8**	**+1.6**
PTBC				S	**Sn**	**08 27 22.7**	**+2.0**
CUSE	**Cuicocha Este**	**3.79**	**207**	P	**Pn**	**08 26 44.1**	**+2.7**
CUSE				S	**Sn**	**08 27 29.7**	**+3.3**
PTLC	**Puerto Leguiza**	**3.97**	**152**	P	**Pb**	**08 26 48.7**	**-3.8**
PAC1	**Pacto, Paraso**	**4.02**	**212**	P	**Pn**	**08 26 45.6**	**+1.3**
PAC1				S	**Sn**	**08 27 31.2**	**-0.4**
APAC	**Apartado, Choc**	**4.18**	**1**	P	**Pn**	**08 26 47.6**	**+1.3**
APAC				S	**Sn**	**08 27 38.4**	**+3.0**
ZARC	**Zaragoza, Cauc**	**4.18**	**25**	P	**Pn**	**08 26 49.3**	**+2.9**
ZARC				S	**Sn**	**08 27 39.5**	**+4.1**
RUSC	**La Rusia**	**4.18**	**58**	P	**Pn**	**08 26 49.0**	**+2.1**
UREC	**San Jos de Ur**	**4.18**	**16**	P	**Pn**	**08 26 48.2**	**+1.8**
UREC				S	**Sn**	**08 27 38.2**	**+2.7**
GUVC	**San Jose del G**	**4.19**	**106**	P	**Pn**	**08 26 47.9**	**+1.3**
GUVC				S	**Sb**	**08 27 48.5**	**+1.3**
BARC	**Barichara**	**4.51**	**50**	P	**Pn**	**08 26 53.2**	**+2.1**
PTGC	**Puerto Gaitan,**	**4.55**	**84**	P	**Pn**	**08 26 53.0**	**+1.5**
PTGC				S	**Sb**	**08 27 57.6**	**+0.2**
AZU	**Azuero**	**5.43**	**319**	P	**Pn**	**08 27 03.1**	**-0.4**
CACAO	**El Cacao, Vera**	**5.53**	**311**	P	**Pn**	**08 27 04.1**	**-0.8**
OCAC	**Ocana**	**5.61**	**36**	P	**Pn**	**08 27 07.4**	**+1.2**
GMAL	**Guarumal, Vera**	**6.08**	**312**	P	**Pn**	**08 27 13.4**	**+0.9**
LPAZ	**La Paz**	**21.58**	**157**	P	**P**	**08 30 34.0**	**+0.8**
	0.8nm,0.8s,baz=321,slow=6.5,SNR=2.4 0.8nm,0.8s						
YKA	**Yellowknife Ar**	**65.03**	**342**	P	**P**	**08 36 20.7**	**-2.1**
	0.3nm,0.7s,baz=130,slow=5.7,SNR=7.9 0.3nm,0.7s						
ASAR	**Alice Springs**	**144.43**	**233**	PKP	**PKPab**	**08 45 16.6**	**-1.7**
	0.5nm,0.5s,baz=119,slow=4.0,SNR=14						
WRA	**Warramunga Arr**	**145.73**	**239**	PKPbc	**PKPdf**	**08 45 20.1**	**-2.3**
	0.3nm,0.4s,baz=110,slow=3.2,SNR=4.8						

IDC ***13*** *08:28:01.0±0.7, 37.°49N×98.°33E, h0km, mb3.9/13, mbtmp3.9/19, ML3.9/6, MS3.4/6, Error ellipse: s-maj=24.5km s-min=13.0km az=51.0*
BJI ***13*** *08:28:01.4±0.0, 37.°55N×98.°14E, h9km, mb4.5/14, mB4.5/8, ML4.0/17, Ms3.9/17, Ms7 3.6/17*
NEIC ***13*** *08:28:03.6±1.1, 37.°58N±0.°07×98.°11E±0.°08, h15km±6km, mb4.0/17, Error ellipse: s-maj=13.3km s-min=2.9km az=138.0*
ISC 13 08:28:03.5±0.5,**37.°55N**±0.°05×**98.°09E**±0.°03,**h10**km,**n56,**
σ1°93/61,**mb4.0**/15,**MS3.7**/3,**Qinghai**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTA	**Gaotai**	**2.30**	**36**	Pg	**Pn**	**08 28 43.3**	**+1.8**
GTA				Sg	**Sn**	**08 29 13.3**	**+3.3**
GTA				smax	smax		
	comp=N,410nm,0.7s						
GTA				smax	smax		
	comp=E,570nm,0.9s						
GOMU	**GeErMu**	**2.95**	**244**	Pn	**Pn**	**08 28 51.0**	**+0.3**
GOMU				Pg	**Pb**	**08 28 55.3**	**-1.1**
GOMU				Sn	**Sn**	**08 29 32.6**	**+6.2**
GOMU				Sg	**Sb**	**08 29 37.6**	**+4.9**
GOMU				smax	smax		
	comp=N,4μm,0.7s						
GOMU				smax	smax		
	comp=E,2μm,0.6s						
LZH	**Lanzhou**	**4.84**	**106**	Pn	**Pn**	**08 29 16.6**	**0.0**
LZH				Pg	**Pb**	**08 29 29.4**	**+0.9**
LZH				Sg	**Sb**	**08 30 28.9**	**+2.0**
LZH				smax	smax		
	comp=N,440nm,1.4s						
LZH				smax	smax		
	comp=E,320nm,1.5s						
LZH				LR	LR		
	comp=N,470nm,4.5s						
LZH				LR	LR		
	comp=E,850nm,5.5s						
LZH				LR	LR		
	comp=Z,500nm,5.8s						
LSA	**Lhasa**	**9.73**	**218**	Pn	**Pn**	**08 30 24.0**	**0.0**
BTO	**Baotou**	**9.77**	**68**	*e*P	**Pn**	**08 30 23.0**	**-1.1**
BTO				pP		08 30 26.8	
BTO				sP		08 30 28.1	
BTO				S	**Sn**	**08 32 13.6**	**-0.2**
BTO				pmax	pmax		
	comp=Z,27nm,0.6s						
BTO				LR	LR		
	comp=N,890nm,7.3s						
BTO				LR	LR		
	comp=E,560nm,7.0s						
BTO				LR	LR		
	comp=Z,670nm,12.7s						
WMQ	**Urumqi**	**10.07**	**312**	*e*P	**Pn**	**08 30 28.3**	**+0.1**
WMQ				S	**Sn**	**08 32 21.4**	**+0.2**
WMQ				pmax	pmax		
	comp=Z,70nm,0.7s						
WMQ	

AAK				LR	LR	08 39 31.4		
	comp=Z,60nm,18.4s,baz=110,slow=36							
	comp=Z,0.8nm,0.3s							
ZAA0	**Zalesovo Array**	**18.78**	**335**	P	**P**	**08 32 21.2**	**-1.5**	
ZAA0				IAmb	IAmb	08 32 26.8		
	comp=Z,5.9nm,0.7s							
ZALV	**Zalesovo Beam**	**18.78**	**335**	P	**P**	**08 32 21.7**	**-0.9**	
ZALV	**Zalesovo Beam**	**18.78**	**335**	P	**P**	**08 32 22.7**	**0.0**	
	comp=Z,0.9nm,0.3s,baz=142,slow=12,SNR=15							
ZALV				LR	LR	08 40 01.3		
	comp=Z,70nm,20.8s,baz=162,slow=38							
	comp=Z,6.4nm,0.6s							
CM31	**Chiang Mai Arr**	**19.04**	**178**	P	**P**	**08 32 25.4**	**-0.4**	
CMAR	**Chiang Mai Arr**	**19.04**	**178**	P	**P**	**08 32 24.3**	**-1.4**	
	comp=Z,0.4nm,0.3s,baz=354,slow=9.9,SNR=5.0							
CMAR				LR	LR	08 40 12.2		
	comp=Z,63nm,18.9s,baz=15,slow=39							
	comp=Z,0.7nm,0.3s							
KURBB	**Kurchatov Arra**	**19.11**	**319**	P	**P**	**08 32 26.3**	**0.0**	
	comp=Z,0.3nm,0.3s,baz=126,slow=12,SNR=37							
	comp=Z,8.6nm,0.8s							
KURK	**Kurchatov**	**19.12**	**320**	P	**P**	**08 32 25.4**	**-1.0**	
KURK				IAmb	IAmb	08 32 32.7		
	comp=Z,12nm,0.8s							
HIA	**Hailar**	**19.53**	**46**	P	**P**	**08 32 29.5**	**-1.6**	
HIA				IAmb	IAmb	08 32 51.2		
	comp=Z,5.1nm,0.7s							
DRK	**Karamyk**	**20.64**	**283**	P	**P**	**08 32 42.8**	**-0.6**	
DRK				IAmb	IAmb	08 33 02.0		
	comp=Z,9.5nm,0.9s							
QIZ	**Qiongzhong**	**21.12**	**148**	P	**P**	**08 32 49.0**	**+0.6**	
QIZ				pmax	pmax			
	comp=Z,92nm,6.7s							
QIZ				LR	LR			
	comp=Z,150nm,12.6s							
QIZ				LR	LR			
	comp=Z,180nm,11.8s							
QIZ				LR	LR			
	comp=Z,140nm,12.6s							
BTK	**Batken**	**21.37**	**285**	P	**P**	**08 32 50.4**	**-0.7**	
BTK				IAmb	IAmb	08 32 57.9		
	comp=Z,8.1nm,0.9s							
KK31	**Karatay Array**	**21.69**	**293**	P	**P**	**08 32 52.7**	**-1.7**	
KK31				IAmb	IAmb	08 33 02.2		
	comp=Z,4.0nm,0.9s							
KKAR	**Karatay Array**	**21.69**	**293**	P	**P**	**08 32 53.0**	**-1.5**	
SIMJ	**Simiganj**	**22.87**	**282**	P	**P**	**08 33 06.5**	**-0.7**	
KS19	**Wonju Array Si**	**23.58**	**81**	P	**P**	**08 33 13.2**	**-1.0**	
KSRS	**Korea Array**	**23.63**	**81**	P	**P**	**08 33 12.1**	**-2.5**	
	comp=Z,2.6nm,0.7s,baz=276,slow=8.6,SNR=16							
	comp=Z,2.6nm,0.7s							
BVAR	**Borovoye Array**	**24.67**	**318**	P	**P**	**08 33 25.7**	**+1.5**	
	comp=Z,3.5nm,0.8s,baz=108,slow=9.5,SNR=13							
	comp=Z,3.5nm,0.8s							
BRVK	**Borovoye**	**24.74**	**318**	P	**P**	**08 33 24.5**	**-0.4**	
ABKAR	**Akbulak array**	**29.77**	**305**	P	**P**	**08 34 08.6**	**-1.5**	
JHJ	**Hachijo jima 2**	**34.10**	**85**	LR	LR	08 50 20.2		
	comp=Z,247nm,19.4s,baz=70,slow=40							
ARCES	**ARCESS Array B**	**49.32**	**334**	P	**P**	**08 36 51.8**	**-0.5**	
	comp=Z,1.4nm,0.7s,baz=83,slow=8.6,SNR=8.0							
	comp=Z,1.4nm,0.7s							
BRTR	**Keskin Array B**	**49.41**	**294**	P	**P**	**08 36 54.5**	**+1.0**	
	comp=Z,0.8nm,0.7s,baz=92,slow=7.5,SNR=5.1							
	comp=Z,0.8nm,0.7s							
AKASG	**Malin Array Be**	**49.41**	**309**	LR	LR	08 58 50.2		
	comp=Z,68nm,18.2s,baz=44,slow=37							
FINES	**FINESS Array B**	**49.45**	**323**	P	**P**	**08 36 53.5**	**+0.1**	
FINES	**FINESS Array B**	**49.45**	**323**	P	**P**	**08 36 53.0**	**-0.3**	
	comp=Z,1.6nm,0.6s,baz=90,slow=7.5,SNR=11							
	comp=Z,1.6nm,0.6s							
HFS	**Hagfors**	**55.65**	**323**	P	**P**	**08 37 40.5**	**+1.2**	
	comp=Z,0.8nm,0.6s,baz=85,slow=7.8,SNR=2.7							
	comp=Z,0.8nm,0.6s							
NOA	**NORSAR Array B**	**56.55**	**324**	P	**P**	**08 37 45.5**	**-0.3**	
	comp=Z,0.3nm,0.5s,baz=75,slow=6.9,SNR=3.1							
	comp=Z,0.3nm,0.5s							
ILAR	**Eielson Array**	**66.16**	**25**	P	**P**	**08 38 49.6**	**-1.1**	
	comp=Z,0.4nm,0.7s,baz=293,slow=5.4,SNR=4.0							
	comp=Z,0.4nm,0.7s							
WRA	**Warramunga Arr**	**66.60**	**143**	P	**P**	**08 38 52.2**	**-1.9**	
	comp=Z,3.5nm,0.8s,baz=342,slow=6.7,SNR=22							
	comp=Z,3.5nm,0.8s							
ASAR	**Alice Springs**	**69.59**	**145**	P	**P**	**08 39 11.2**	**-1.6**	
	comp=Z,2.1nm,0.8s,baz=340,slow=6.9,SNR=19							
	comp=Z,2.1nm,0.8s							
YKA	**Yellowknife Ar**	**76.88**	**15**	P	**P**	**08 39 55.1**	**-0.3**	
	comp=Z,0.4nm,0.9s,baz=331,slow=5.8,SNR=4.7							
	comp=Z,0.4nm,0.9s							
STKA	**Stephens Creek**	**80.13**	**144**	P	P	08 40 11.2	-2.4	
	comp=Z,2.3nm,0.7s,baz=333,slow=5.7,SNR=6.9							
	comp=Z,2.3nm,0.7s							
PDAR	**Pinedale Array**	**96.19**	**20**	P	P	08 41 29.7	-2.4	
	comp=Z,0.1nm,0.4s,baz=301,slow=2.3,SNR=1.7							
	comp=Z,0.1nm,0.4s							

CATAC ***13*** *08:28:34.2±0.2, 13°.19N×88°.01W, h3km±2km, ML2.5*
SNET ***13*** *08:28:34.0±1.0, 13°.22N×88°.00W, h1km±3km, ML2.7*
ISC 13 08:28:33.6±0.9, 13°.16N±0°.04×88°.00W±0°.02, h10km±6km, n32, σ0°56/57, 4C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.06**	**310**	**⇑***i*P		**Pg**	**Sg**	**08 28 35.9**	**+0.1**
INTP				*e*S		**Sg**	**Sg**	**08 28 37.5**	**+0.2**
LCND	**La Caada**	**0.19**	**36**	**⇑***i*P		**Pg**	**Sg**	**08 28 37.5**	**-0.1**
LCND				*e*S		**Sg**	**Sg**	**08 28 40.1**	**-0.2**
LCND	**La Caada**	**0.19**	**36**	*i* P		**Pg**	**Sg**	**08 28 37.7**	**+0.1**
LCND				*i* S		**Sg**	**Sg**	**08 28 40.1**	**-0.2**
LCND				IAML				08 28 42.8	
	comp=Z,2μm,1.0s								
CNCH	**Conchagua**	**0.20**	**54**	**⇑***i*P		**Pg**	**Sg**	**08 28 38.1**	**+0.2**
CNCH				*e*S		**Sg**	**Sg**	**08 28 41.2**	**+0.3**
CNCH	**Conchagua**	**0.20**	**54**	*i* P		**Pg**	**Sg**	**08 28 38.0**	**+0.1**
CNCH				*i* S		**Sg**	**Sg**	**08 28 41.1**	**+0.2**
CNCH				IAML				08 28 47.5	
	comp=Z,2μm,1.0s								
JUCU	**Jucuarįn**	**0.26**	**292**	**⇓***i*P		**Pg**	**Sb**	**08 28 39.5**	**+0.7**
JUCU				*e*S		**Sb**	**Sb**	**08 28 43.7**	**-1.2**
JUCU	**Jucuarįn**	**0.26**	**292**	*i* S		**Sg**	**Sg**	**08 28 42.5**	**+0.1**
CNRM	**Centro Naciona**	**0.36**	**333**	*i* P		**Pg**	**Sg**	**08 28 40.5**	**-0.1**
CNRM				*i* S		**Sg**	**Sg**	**08 28 45.8**	**+0.4**
CNRM				IAML				08 28 50.5	
	comp=Z,3μm,1.0s								
AMPH	**Amapala**	**0.36**	**69**	**⇑***i*P		**Pg**	**Sg**	**08 28 41.2**	**+0.5**
AMPH				*e*S		**Sg**	**Sg**	**08 28 46.5**	**+1.0**
BLLM	**Bellamira**	**0.36**	**321**	*e*P		**Pg**	**Sg**	**08 28 41.3**	**+0.5**
RANC	**El Ranchito**	**0.39**	**315**	*e*P		**Pg**	**Sg**	**08 28 42.0**	**+0.7**
RANC				*e*S		**Sg**	**Sg**	**08 28 48.1**	**+1.5**
RANC	**El Ranchito**	**0.39**	**315**	*i* P		**Pg**	**Sg**	**08 28 42.1**	**+0.7**
RANC				*i* S		**Sg**	**Sg**	**08 28 46.7**	**+0.1**
RANC				IAML				08 28 53.1	
	comp=Z,340nm,1.0s								
PACA	**Pacayal**	**0.44**	**315**	*e*P		**Pb**	**Pb**	**08 28 43.3**	**-0.2**
PACA				*e*S		**Sg**	**Sg**	**08 28 49.3**	**+1.2**
PACA	**Pacayal**	**0.44**	**315**	*i* P		**Pg**	**Sg**	**08 28 42.2**	**0.0**
PACA				*i* S		**Sg**	**Sg**	**08 28 48.1**	**0.0**
PACA				IAML				08 28 54.7	
	comp=Z,2μm,1.0s								
COEB	**Comit de Eme**	**0.61**	**304**	*e*P		**Pg**	**Pg**	**08 28 46.1**	**+0.5**
COEB				*e*S		**Sb**	**Sb**	**08 28 54.7**	**-0.6**
COEB	**Comit de Eme**	**0.61**	**304**	*i* P		**Pg**	**Pg**	**08 28 46.0**	**+0.5**
COEB				*i* S		**Sg**	**Sg**	**08 28 54.1**	**+0.4**
COEB				IAML				08 28 57.0	
	comp=Z,160nm,1.0s								
PQSS	**Presa 15 de Se**	**0.71**	**311**	*i* P		**Pg**	**Pg**	**08 28 47.7**	**+0.3**
PQSS				*i* S		**Sg**	**Sg**	**08 28 56.7**	**0.0**
PQSS				IAML				08 29 00.0	
	comp=Z,54nm,1.0s								
TECO	**Alcaldia de Te**	**0.85**	**297**	*e*P		**Pg**	**Pg**	**08 28 49.8**	**0.0**
TECO				*e*S		**Sb**	**Sb**	**08 29 01.6**	**-0.2**
TECO	**Alcaldia de Te**	**0.85**	**297**	*i* P		**Pg**	**Pg**	**08 28 49.9**	**0.0**
TECO				*i* S		**Sg**	**Sg**	**08 29 01.2**	**+0.3**
TECO				IAML				08 29 04.1	
	comp=Z,120nm,1.0s								
SCLA	**Alcaldia de Sa**	**0.89**	**308**	*e*P		**Pg**	**Pg**	**08 28 51.0**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.89**	**308**	*i* P		**Pg**	**Pg**	**08 28 50.6**	**-0.1**
SCLA				*i* S		**Sg**	**Sg**	**08 29 02.7**	**+0.4**
SCLA				IAML				08 29 08.5	
	comp=Z,38nm,1.0s								
CRIN	**San Cristobal**	**1.03**	**116**	*e*P		**Pn**	**Pn**	**08 28 54.2**	**0.0**
CRIN	**San Cristobal**	**1.03**	**116**	*i* P		**Pn**	**Pn**	**08 28 54.0**	**-0.2**
CRIN				*i* S		**Sn**	**Sn**	**08 29 09.1**	**+0.3**
CRIN				IAML				08 29 16.5	
	comp=Z,260nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.14**	**38**	*e*P		**Pb**	**Pb**	**08 28 54.7**	**-0.8**
LOMA	**Loma Larga**	**1.23**	**293**	*i* P		**Pg**	**Pg**	**08 28 57.1**	**-0.2**
LOMA				*i* S		**Sn**	**Sn**	**08 29 13.9**	**+0.1**
LOMA				IAML				08 29 15.0	
	comp=Z,100nm,1.0s								
PMON	**Piamonte**	**1.39**	**294**	*i* P		**Pg**	**Pg**	**08 29 00.0**	**-0.3**
PMON				*i* S		**Sb**	**Sb**	**08 29 17.3**	**-0.3**
PMON				IAML				08 29 22.1	
	comp=Z,84nm,1.0s								
CNGN	**Cerro Negro**	**1.43**	**117**	*i* P		**Pb**	**Pb**	**08 29 00.5**	**+0.1**
CNGN				IAML				08 29 03.2	
	comp=Z,60nm,1.0s								
CNGN				*i* S		**Sg**	**Sg**	**08 29 20.3**	**+0.7**
MACN	**El Madrono**	**1.47**	**118**	*i* P		**Pb**	**Pb**	**08 29 01.0**	**0.0**
MACN				IAML				08 29 10.3	
	comp=Z,35nm,1.0s								
JAYA	**Jayaque - finc**	**1.49**	**290**	*i* P		**Pn**	**Pn**	**08 29 00.5**	**-0.1**
JAYA				*i* S		**Sb**	**Sb**	**08 29 20.1**	**-0.4**
COPN	**Copaltepe**	**1.69**	**125**	*i* P		**Pb**	**Pb**	**08 29 03.8**	**-0.9**
MTO3	**Montecristo**	**1.81**	**313**	*i* P		**Pn**	**Pn**	**08 29 05.9**	**+0.9**
MTO3				*i* S		**Sn**	**Sn**	**08 29 29.1**	**+1.0**
MTO3				IAML				08 29 32.8	
	comp=Z,33nm,1.0s								
NUBE	**Las Nubes**	**1.88**	**293**	*i* P		**Pb**	**Pb**	**08 29 07.2**	**-0.9**
NUBE				*i* S		**Sb**	**Sb**	**08 29 30.7**	**-1.0**
NUBE				IAML				08 29 40.2	
	comp=Z,40nm,1.0s								

HVO ***13*** *08:41:19.2±1.1, 19°.353N×0°.006×155°.255W±0°.007, h-0km±6km, ML3.2/6, ML2.7/34(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=132.0*
NEIC 13 08:41:20.1±0.9, 19°.36N±0°.01×155°.267W±0°.006, h1km±5km, Error ellipse: s-maj=1.8km s-min=0.8km az=183.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.03**	**348**				Pg	08 41 20.9	0.0
RIM				IAML				08 41 21.0	
	comp=N,11μm,0.6s								
KKO	**Keanakako'i**	**0.04**	**1**	IAML				08 41 20.3	
	comp=E,8μm,1.3s								
KKO						Pg	Pg	08 41 21.4	+0.6
KKO							Sg	08 41 21.9	+0.5
SDHHI	**Sand Hill**	**0.04**	**316**				Pg	08 41 21.0	+0.1
SDHHI				IAML				08 41 21.1	
	comp=N,11μm,1.1s								
BYL	**Byron's Ledge**	**0.05**	**7**	Pg		Pg	Pg	08 41 19.9	-1.3
BYL				IAML				08 41 21.5	
	comp=N,6μm,0.5s								
BYL				IAML				08 41 22.0	
	comp=E,9μm,1.3s								
PUH	**Pauahi**	**0.05**	**77**				Pg	08 41 20.8	-0.3
NPH	**North Pit**	**0.05**	**344**	Pg		Pg	Pg	08 41 20.1	-1.1
NPH				IAML				08 41 20.9	
	comp=N,6μm,0.5s								
NPH				IAML				08 41 21.7	
	comp=E,5μm,0.7s								
WRMHI	**West Rim**	**0.05**	**324**	Pg		Pg	Pg	08 41 20.0	-1.2
OBL	**Observatory Le**	**0.06**	**343**	Pg		Pg	Pg	08 41 20.2	-1.2
HATHI	**Halema'uma'u T**	**0.06**	**5**	Pg		Pg	Pg	08 41 20.2	-1.3
HATHI				IAML				08 41 21.4	
	comp=N,7μm,0.6s								
HATHI				IAML				08 41 21.9	
	comp=E,8μm,0.5s								
HLP	**Hilina Pali**	**0.08**	**210**				Pg	08 41 21.9	+0.2
STCH	**Steam Cracks**	**0.14**	**81**				Pg	08 41 22.5	-0.3
STCH				IAML				08 41 23.4	
	comp=N,2μm,1.3s								
NPOC	**North of Pu'u**	**0.15**	**79**	Pg		Pg	Pg	08 41 22.8	-0.3
MLH	**Mauna Loa**	**0.17**	**319**	Pg		Pg	Pg	08 41 22.6	-0.9
MLH				IAML				08 41 26.5	
	comp=E,1μm,1.1s								
MLH				IAML				08 41 28.2	
	comp=N,2μm,1.5s								
HTC	**Hot Caves**	**0.18**	**225**				Pg	08 41 23.6	+0.1
HMH	**Humu'ula Sheep**	**0.31**	**319**	Pg		Pg	Pg	08 41 26.2	0.0
HMH				IAML				08 41 28.7	
	comp=N,802nm,0.8s								
HMH				IAML				08 41 29.6	
	comp=E,564nm,1.4s								
MWH	**Moku'aweowe**	**0.33**	**291**	Pg		Pg	Pg	08 41 26.6	0.0
MLOA	**Mauna Loa Obse**	**0.34**	**301**	Pg		Pg	Pg	08 41 26.6	-0.1
MLOA				IAML				08 41 29.7	
	comp=N,871nm,0.9s								
MLOA				IAML				08 41 36.7	
	comp=E,707nm,0.9s								
KHU	**Kahuku**	**0.35**	**251**				Pg	08 41 26.3	-0.5
KHU				IAML				08 41 30.5	
	comp=N,911nm,1.5s								
KHU				IAML				08 41 34.0	
	comp=E,990nm,2.0s								
HUH	**Hualalai**	**0.62**	**301**	Pg		Pg	Pg	08 41 31.4	-0.8

SNET ***13*** *08:54:01.9±1.0, 13°.24N×88°.01W, h4km±2km, ML2.9*
CATAC ***13*** *08:54:01.8±0.2, 13°.20N×88°.00W, h6km±1km, ML2.9*
ISC 13 08:54:01.9±0.8, 13°.21N±0°.04×88°.00W±0°.02, h11km±5km, n43, σ0°71/74, 4C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.06**	**257**	**⇑***i*P		**Pg**	**Sg**	**08 54 03.6**	**-0.5**
INTP				*e*S		**Sg**	**Sg**	**08 54 05.2**	**-0.6**
INTP				IAML				08 54 05.7	
	comp=Z,7μm,0.3s								
LCND	**La Caada**	**0.14**	**47**	**⇑***i*P		**Pg**	**Sg**	**08 54 05.3**	**+0.1**
LCND				*e*S		**Sg**	**Sg**	**08 54 07.5**	**-0.1**
LCND				IAML				08 54 08.2	
	comp=Z,4μm,0.3s								
LCND	**La Caada**	**0.14**	**47**	*i* P		**Pg**	**Sg**	**08 54 05.0**	**-0.2**
LCND				*i* P		**Pg**	**Sg**	**08 54 05.3**	**+0.1**
LCND				*i* S		**Sg**	**Sg**	**08 54 08.0**	**+0.4**
LCND				IAML				08 54 10.3	
	comp=Z,3μm,1.0s								
CNCH	**Conchagua**	**0.17**	**68**	**⇑***i*P		**Pg**	**Sg**	**08 54 05.9**	**+0.1**
CNCH				IAML				08 54 17.8	
	comp=Z,8μm,0.5s								
CNCH	**Conchagua**	**0.17**	**68**	*i* P		**Pg**	**Sg**	**08 54 06.1**	**+0.3**
CNCH				*i* S		**Sg**	**Sg**	**08 54 09.6**	**+1.1**
CNCH				IAML				08 54 17.5	
	comp=Z,7μm,1.0s								
JUCU	**Jucuarįn**	**0.25**	**280**	**⇓***e*P		**Pg**	**Sg**	**08 54 07.3**	**+0.2**
JUCU				*e*S		**Sg**	**Sg**	**08 54 11.5**	**+0.9**
JUCU				IAML				08 54 16.9	
	comp=Z,2μm,0.3s								
JUCU	**Jucuarįn**	**0.25**	**280**	*i* P		**Pg**	**Sg**	**08 54 07.5**	**+0.4**
JUCU				*i* S		**Sg**	**Sg**	**08 54 11.8**	**+1.2**
JUCU				IAML				08 54 16.6	
	comp=Z,2μm,1.0s								
CNRM	**Centro Naciona**	**0.31**	**327**	*e*P		**Pg**	**Pg**	**08 54 08.6**	**+0.3**
CNRM	**Centro Naciona**	**0.31**	**327**	*i* P		**Pg**	**Pg**	**08 54 08.8**	**+0.6**
CNRM				*i* S		**Sg**	**Sb**	**08 54 13.9**	**-0.8**
CNRM				IAML				08 54 18.4	
	comp=Z,6μm,1.0s								
BLLM	**Bellamira**	**0.33**	**314**	*e*P		**Pg**	**Pg**	**08 54 09.1**	**+0.5**
AMPH	**Amapala**	**0.34**	**77**	**⇑***e*P		**Pg**	**Pg**	**08 54 09.0**	**+0.3**
AMPH				*e*S		**Sb**	**Sb**	**08 54 14.4**	**-0.9**
LCY	**Lacayo**	**0.36**	**306**	*e*P		**Pg**	**Pg**	**08 54 09.5**	**+0.4**
RANC	**El Ranchito**	**0.36**	**308**	*e*P		**Pg**	**Pg**	**08 54 09.7**	**+0.5**
RANC				IAML				08 54 22.6	
	comp=Z,720nm,0.6s								
RANC	**El Ranchito**	**0.36**	**308**	*i* P		**Pb**	**Pb**	**08 54 10.0**	**-0.5**
RANC				*i* S		**Sb**	**Sb**	**08 54 15.8**	**-0.4**
RANC				IAML				08 54 21.7	
	comp=Z,750nm,1.0s								
PACA	**Pacayal**	**0.41**	**309**	*e*P		**Pg**	**Pg**	**08 54 10.6**	**+0.5**
PACA				IAML				08 54 24.5	
	comp=Z,4μm,0.5s								
PACA	**Pacayal**	**0.41**	**309**	*i* P		**Pb**	**Pb**	**08 54 11.0**	**-0.3**
PACA				*i* S		**Sb**	**Sb**	**08 54 16.8**	**-0.8**
PACA				IAML				08 54 22.6	
	comp=Z,4μm,1.0s								
COEB	**Comit de Eme**	**0.59**	**299**	*e*P		**Pg**	**Pg**	**08 54 13.7**	**+0.2**
COEB				*e*S		**Sb**	**Sb**	**08 54 22.2**	**-0.8**
COEB				IAML				08 54 27.4	
	comp=Z,293nm,0.3s								
COEB	**Comit de Eme**	**0.59**	**299**	*i* P		**Pg**	**Pg**	**08 54 13.8**	**+0.2**
COEB				*i* S		**Sb**	**Sb**	**08 54 22.1**	**-0.8**
COEB				IAML				08 54 28.6	
	comp=Z,260nm,1.0s								
PQSS	**Presa 15 de Se**	**0.69**	**307**	*i* P		**Pg**	**Pg**	**08 54 15.3**	**+0.1**
PQSS				*i* S		**Sg**	**Sg**	**08 54 24.5**	**+0.3**
PQSS				IAML				08 54 33.1	
	comp=Z,100nm,1.0s								
TECO	**Alcaldia de Te**	**0.83**	**293**	*i* P		**Pg**	**Pg**	**08 54 17.5**	**-0.5**
TECO				*i* S		**Sb**	**Sb**	**08 54 29.3**	**-0.3**
TECO				IAML				08 54 32.0	
	comp=Z,240nm,1.0s								
SCLA	**Alcaldia de Sa**	**0.86**	**305**	*e*P		**Pg**	**Pg**	**08 54 18.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.86**	**305**	*i* P		**Pg**	**Pb**	**08 54 18.9**	**-0.1**
SCLA				*i* S		**Sb**	**Sb**	**08 54 30.5**	**-0.1**
SCLA				IAML				08 54 40.9	
	comp=Z,82nm,1.0s								
UESV	**Universidad de**	**0.88**	**299**	*i* P		**Pb**	**Pb**	**08 54 19.5**	**+0.3**
UESV				*i* S		**Sb**	**Sb**	**08 54 31.2**	**+0.2**
UESV				IAML				08 54 32.2	
	comp=Z,230nm,1.0s								
COEG	**Centro de Oper**	**0.95**	**295**	*e*P		**Pg**	**Pg**	**08 54 20.1**	**-0.2**
COEG				*e*S		**Sb**	**Sb**	**08 54 33.4**	**+0.2**
COEG				IAML				08 54 36.9	
	comp=Z,521nm,0.3s								
COEG	**Centro de Oper**	**0.95**	**295**	*i* P		**Pg**	**Pg**	**08 54 20.3**	**0.0**
COEG				*i* S		**Sg**	**Sg**	**08 54 32.8**	**+0.1**
COEG				IAML				08 54 36.6	
	comp=Z,450nm,1.0s								
PAVA	**Las Pavas**	**1.04**	**299**	*i* P		**Pg**	**Pg**	**08 54 22.0**	**0.0**
PAVA				*i* S		**Sb**	**Sb**	**08 54 36.5**	**+0.6**
PAVA				IAML				08 54 39.6	
	comp=Z,840nm,1.0s								
CRIN	**San Cristobal**	**1.05**	**119**	*e*P		**Pb**	**Pb**	**08 54 22.4**	**+0.2**
CRIN	**San Cristobal**	**1.05**	**119**	*i* S		**Sg**	**Sg**	**08 54 35.8**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.10**	**40**	*e*P		**Pg**	**Pg**	**08 54 22.2**	**-0.9**
TGUH	**Tegucigalpa,Un**	**1.10**	**40**	*i* P		**Pg**	**Pg**	**08 54 22.6**	**-0.5**
TGUH				*i* S		**Sb**	**Sb**	**08 54 37.6**	**+0.2**
LOMA	**Loma Larga**	**1.22**	**291**	*i* P		**Pb**	**Pb**	**08 54 25.2**	**0.0**
LOMA				*i* S		**Sn**	**Sn**	**08 54 41.7**	**0.0**
LOMA				IAML				08 54 42.8	
	comp=Z,200nm,1.0s								
PMON	**Piamonte**	**1.38**	**291**	*i* P		**Pn**	**Pn**	**08 54 26.9**	**-0.3**
PMON				*i* S		**Sb**	**Sb**	**08 54 44.9**	**-0.5**
PMON				IAML				08 54 50.0	
	comp=Z,210nm,1.0s								
CNGN	**Cerro Negro**	**1.45**	**119**	*e*P		**Pb**	**Pb**	**08 54 28.9**	**-0.1**
CNGN	**Cerro Negro**	**1.45**	**119**	*i* P		**Pn**	**Pn**	**08 54 28.3**	**+0.1**
CNGN				*i* S		**Sn**	**Sn**	**08 54 47.5**	**+0.2**
CNGN				IAML				08 55 41.5	
	comp=Z,140nm,1.0s								
JAYA	**Jayaque - finc**	**1.48**	**287**	*i* P		**Pn**	**Pn**	**08 54 29.2**	**+0.5**
JAYA				*i* S		**Sb**	**Sb**	**08 54 48.5**	**0.0**
JAYA				IAML				08 54 54.2	
	comp=Z,350nm,1.0s								
MACN	**El Madrono**	**1.49**	**120**	*i* P		**Pn**	**Pn**	**08 54 29.1**	**+0.4**
MACN				IAML				08 54 32.2	
	comp=Z,71nm,1.0s								
MACN				*i* S		**Sn**	**Sn**	**08 54 47.6**	**-0.6**
MOMN	**Momotombo**	**1.63**	**119**	*i* S		**Sb**	**Sb**	**08 54 52.5**	**-0.2**
CEVE	**Cerro Verde**	**1.70**	**291**	*i* P		**Pn**	**Pn**	**08 54 27.5**	**-4.3**
CEVE				*i* S		**Sb**	**Sb**	**08 54 54.6**	**-0.3**
CEVE				IAML				08 55 07.6	
	comp=Z,120nm,1.0s								
COPN	**Copaltepe**	**1.71**	**127**	*i* P		**Pn**	**Pn**	**08 54 31.8**	**+0.1**
MTO3	**Montecristo**	**1.77**	**312**	*i* P		**Pn**	**Pn**	**08 54 33.1**	**+0.3**
MTO3				*i* S		**Sb**	**Sb**	**08 54 57.5**	**+0.4**
NUBE	**Las Nubes**	**1.87**	**292**	*i* P		**Pn**	**Pn**	**08 54 34.9**	**+0.9**
NUBE				*i* S		**Sb**	**Sb**	**08 54 59.5**	**-0.1**
NUBE				IAML				08 55 06.3	
	comp=Z,91nm,1.0s								
SAPS	**Ciudad Sandino**	**1.87**	**124**	*i* P		**Pn**	**Pn**	**08 54

comp=Z,140nm,1.0s

NEIC ***13*** *09:33:28.5±1.5, 19°.370N×0°.009×155°.257W±0°.009, h4km±1km, Error ellipse: s-maj=1.5km s-min=1.0km az=152.0*

HVO 13 09:33:27.7±1.3, 19°.355N±0°.007×155°.261W±0°.007, h0km±6km, ML3.1/9, ML2.6/42(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=210.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.04**	**342**	Pg	Pg	09 33 28.0	-0.6
KKO	**Keanakako`i**	**0.04**	**353**		Pg	09 33 28.7	+0.1
KKO	**Keanakako`i**	**0.04**	**353**		Sg	09 33 30.7	+1.5
PUH	**Pauahi**	**0.05**	**66**	Pg	Pg	09 33 29.4	+0.8
PUH					Sg	09 33 29.7	+0.5
SDHHI	**Sand Hill**	**0.05**	**317**	IAML		09 33 29.0	
	comp=E,10μm,0.5s						
SDHHI				Pg	Pg	09 33 29.4	+0.7
SDHHI	**Sand Hill**	**0.05**	**317**		Sg	09 33 30.9	+1.6
BYL	**Byron's Ledge**	**0.06**	**1**	IAML		09 33 29.4	
	comp=N,5μm,0.7s						
BYL				Pg	Pg	09 33 29.5	+0.7
BYL	**Byron's Ledge**	**0.06**	**1**		Sg	09 33 31.3	+1.7
NPH	**North Pit**	**0.06**	**341**	IAML		09 33 29.6	
	comp=N,7μm,0.8s						
NPH				Pg	Pg	09 33 30.2	+1.4
NPH				IAML		09 33 30.3	
	comp=E,4μm,0.7s						
WRMHI	**West Rim**	**0.06**	**324**	Pg	Pg	09 33 29.9	+0.9
OBL	**Observatory Le**	**0.07**	**340**	Pg	Pg	09 33 29.7	+0.7
UWB	**Uwekahuna B**	**0.07**	**347**		Sg	09 33 31.7	+1.7
UWB	**Uwekahuna B**	**0.07**	**347**	Pg	Pg	09 33 29.2	+0.1
UWB				IAML		09 33 29.7	
	comp=N,4μm,1.3s						
UWB				IAML		09 33 30.1	
	comp=E,3μm,0.6s						
SBLHI	**Steaming Bluff**	**0.07**	**354**	Pg	Pg	09 33 28.6	-0.6
SBLHI				IAML		09 33 29.9	
	comp=E,6μm,1.1s						
SBLHI				IAML		09 33 31.2	
	comp=N,7μm,0.5s						
UWE	**Uwekahuna**	**0.07**	**335**		Pg	09 33 29.2	0.0
HLP	**Hilina Pali**	**0.07**	**217**	IAML		09 33 31.0	
	comp=N,4μm,0.5s						
HLP	**Hilina Pali**	**0.07**	**217**		Sg	09 33 32.4	+2.3
HLP	**Hilina Pali**	**0.07**	**217**		Pg	09 33 30.3	+1.1
KNHH	**Kane Nui o Ham**	**0.09**	**74**		Pg	09 33 30.5	+1.0
RSD	**Rainshed**	**0.11**	**351**	Pg	Pg	09 33 30.0	+0.2
RSD				IAML		09 33 30.6	
	comp=N,4μm,0.8s						
STCH	**Steam Cracks**	**0.13**	**77**		Pg	09 33 31.1	+0.9
STCH	**Steam Cracks**	**0.13**	**77**	IAML		09 33 34.3	
	comp=N,1μm,0.6s						
STCH				IAML		09 33 34.4	
	comp=E,2μm,0.8s						
NPOC	**North of Pu'u**	**0.15**	**75**		Pg	09 33 31.4	+0.9
NPOC					Sg	09 33 34.5	+2.0
NPOC	**North of Pu'u**	**0.15**	**75**	IAML		09 33 34.9	
	comp=E,2μm,1.0s						
NPOC				IAML		09 33 35.2	
	comp=N,1μm,1.1s						
JCUZ	**Jacuzzi**	**0.15**	**79**		Pg	09 33 31.7	+1.0
JCUZ	**Jacuzzi**	**0.15**	**79**	IAML		09 33 35.1	
	comp=N,1μm,0.7s						
JCUZ				IAML		09 33 35.2	
	comp=E,1μm,0.8s						
HTC	**Hot Caves**	**0.17**	**228**		Pg	09 33 32.1	+1.1
MLH	**Mauna Loa**	**0.18**	**319**	Pg	Pg	09 33 30.9	-0.4
MLH				IAML		09 33 32.4	
	comp=N,2μm,0.8s						
HMH	**Humu'ula Sheep**	**0.32**	**320**	Pg	Pg	09 33 33.4	-0.5
HMH				IAML		09 33 40.7	
	comp=N,690nm,1.1s						
HMH				IAML		09 33 44.3	
	comp=E,735nm,0.8s						
MWH	**Moku'aweowe**	**0.34**	**292**		Pg	09 33 34.8	+0.6
MLOA	**Mauna Loa Obse**	**0.35**	**301**	Pg	Pg	09 33 35.1	+0.8
MLOA				IAML		09 33 42.9	
	comp=E,828nm,0.5s						
MLOA				IAML		09 33 45.6	
	comp=N,666nm,0.8s						
KHU	**Kahuku**	**0.35**	**252**		Pg	09 33 35.6	+1.2
KHU	**Kahuku**	**0.35**	**252**	IAML		09 33 37.1	
	comp=E,796nm,2.0s						
KHU				IAML		09 33 45.3	
	comp=N,629nm,0.9s						
POHA	**Pohakuloa**	**0.47**	**327**		Sg	09 33 44.8	+1.8
HUH	**Hualalai**	**0.63**	**301**		Pb	09 33 41.2	-0.5
HPAH	**Hawaii Prepara**	**0.79**	**329**	Pg	Pg	09 33 41.0	-1.8

NOU ***13*** *09:36:09.9, 41°.82S×174°.39E, h11km, MLv3.9/9, Cook Strait, New Zealand*

WEL ***13*** *09:36:10.2±0.4, 42°.3S×17°.4E±°, h9km±4km, M3.1/16, ML3.5/16, MLv3.1/16, Error ellipse: s-maj=0.0km s-min=0.0km az=156.9, confirmed*

ISC 13 09:36:09.5±0.9, 41°.71S±0°.03×174°.29E±0°.03, h16km±7km, n99, σ1§37/111, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.07**	**235**	P	**Pg**	**09 36 13.5**	**+0.9**
BSWZ	**Blackbirch Sta**	**0.31**	**269**	P	**Pg**	**09 36 15.1**	**-0.9**
BSWZ				S	**Sg**	**09 36 19.1**	**-1.3**
TUWZ	**Tuamarina**	**0.38**	**318**	P	**Pg**	**09 36 16.8**	**-0.4**
TUWZ				S	**Sg**	**09 36 21.9**	**-0.7**
TCW	**Tory Channel**	**0.50**	**359**	P	**Pb**	**09 36 19.8**	**-0.1**
TCW				S	**Sb**	**09 36 27.1**	**+0.2**
SNZO	**South Karori**	**0.51**	**38**	P	**Pn**	**09 36 21.3**	**-0.7**
BHW	**Baring Head**	**0.53**	**56**	P	**Pn**	**09 36 22.3**	**-0.1**
WEL	**Wellington**	**0.56**	**41**	P	**Pn**	**09 36 22.4**	**-0.3**
WEL				S	**Sn**	**09 36 32.3**	**+0.6**
PLWZ	**Palliser**	**0.74**	**79**	P	**Pn**	**09 36 26.3**	**+1.1**
NNZ	**Nelson**	**0.84**	**306**	P	**Pg**	**09 36 24.5**	**-1.3**
NNZ				S	**Sg**	**09 36 36.4**	**-0.5**
CAW	**Cannon Point**	**0.84**	**44**	P	**Pn**	**09 36 27.3**	**+0.6**
CAW				S	**Sn**	**09 36 41.3**	**+2.6**
KHZ	**Kahutara**	**0.90**	**218**	P	**Pg**	**09 36 27.2**	**+0.3**
KHZ	**Kahutara**	**0.90**	**218**	P	**Pg**	**09 36 27.2**	**+0.3**
KHZ				S	**Sg**	**09 36 40.0**	**+1.4**
PAWZ	**Paruwai Farm**	**0.92**	**69**	P	**Pn**	**09 36 28.8**	**+1.1**
PAWZ				S	**Sn**	**09 36 43.6**	**+3.0**
DUWZ	**D'Urville Isla**	**0.95**	**343**	P	**Pg**	**09 36 27.1**	**-0.8**
DUWZ				S	**Sg**	**09 36 40.5**	**+0.2**
KIW	**Kapiti Island**	**0.97**	**29**	P	**Pn**	**09 36 28.8**	**+0.4**
KIW				S	**Sn**	**09 36 43.7**	**+1.9**
THZ	**Tophouse**	**1.03**	**267**	P	**Pg**	**09 36 27.8**	**-1.7**
MTW	**Mount Morrison**	**1.07**	**59**	P	**Pn**	**09 36 30.7**	**+1.0**
MTW				S	**Sn**	**09 36 46.8**	**+2.5**
TRWZ	**Traveller**	**1.10**	**74**	P	**Pn**	**09 36 31.0**	**+0.8**
OGWZ	**Otaki Gorge**	**1.12**	**37**	P	**Pn**	**09 36 31.7**	**+1.3**
MRNZ	**Matariki Terra**	**1.19**	**285**	P	**Pg**	**09 36 30.8**	**-1.6**
MRNZ				S	**Sg**	**09 36 46.3**	**-1.6**
TKNZ	**Takaka Hill**	**1.21**	**304**	P	**Pg**	**09 36 31.4**	**-1.4**
HOWZ	**Holdsworth Sta**	**1.23**	**49**	P	**Pn**	**09 36 33.0**	**+0.9**
TMWZ	**Te Maipa**	**1.35**	**64**	P	**Pb**	**09 36 34.5**	**+0.1**
MRZ	**Mangatainoka R**	**1.43**	**43**	P	**Pg**	**09 36 35.8**	**-1.2**
TIWZ	**Tintock**	**1.53**	**53**	P	**Pg**	**09 36 36.8**	**-2.1**
GVZ	**Greta Valley S**	**1.56**	**216**	P	**Pn**	**09 36 35.9**	**-0.6**
QRZ	**Quartz Range**	**1.59**	**303**	P	**Pn**	**09 36 38.0**	**+1.1**
QRZ	**Quartz Range**	**1.59**	**303**	P	**Pn**	**09 36 37.4**	**+0.5**
OHWZ	**Ohakea**	**1.69**	**28**	P	**Pg**	**09 36 41.0**	**-1.0**
PRWZ	**Pori Road**	**1.72**	**48**	P	**Pn**	**09 36 39.4**	**-1.2**
POWZ	**Post Office Ro**	**1.73**	**41**	P	**Pb**	**09 36 40.0**	**-0.8**
BFZ	**Birch Farm**	**1.80**	**56**	P	**Pn**	**09 36 40.1**	**+0.3**
BFZ	**Birch Farm**	**1.80**	**56**	P	**Pn**	**09 36 39.9**	**+0.1**
LTZ	**Lake Taylor**	**1.84**	**234**	P	**Pn**	**09 36 40.0**	**-0.4**
DSZ	**Denniston Nort**	**1.86**	**268**	P	**Pn**	**09 36 41.3**	**+0.6**
AMCZ	**Amberley**	**1.90**	**219**	P	**Pn**	**09 36 40.2**	**-0.9**
DVHZ	**Dannevirke**	**2.00**	**46**	P	**Pn**	**09 36 42.9**	**+0.2**
WAZ	**Wanganui**	**2.03**	**15**	P	**Pb**	**09 36 46.0**	**+0.2**
ANWZ	**Angora Road**	**2.08**	**54**	P	**Pn**	**09 36 43.9**	**+0.4**
TSZ	**Takapari Road**	**2.08**	**38**	P	**Pn**	**09 36 44.4**	**+0.7**
LREZ	**Lake Rotokare**	**2.25**	**2**	P	**Pb**	**09 36 49.9**	**+0.2**
PNHZ	**Pukenui**	**2.31**	**40**	P	**Pn**	**09 36 47.5**	**+0.6**
OXZ	**Oxford**	**2.31**	**225**	P	**Pn**	**09 36 45.1**	**-1.8**
NMEZ	**Namu Road**	**2.32**	**352**	P	**Pb**	**09 36 51.2**	**+0.4**
WPHZ	**Waipukurau**	**2.32**	**46**	P	**Pn**	**09 36 47.4**	**+0.4**
MQZ	**McQueen's Vall**	**2.33**	**211**	P	**Pn**	**09 36 44.9**	**-2.1**
INZ	**Inchbonnie**	**2.34**	**243**	P	**Pn**	**09 36 47.2**	**0.0**
PREZ	**Palmer Road**	**2.37**	**358**	P	**Pb**	**09 36 51.0**	**-0.8**
KHEZ	**Kahui Hut**	**2.42**	**355**	P	**Pb**	**09 36 52.2**	**-0.5**
KHEZ	**Kahui Hut**	**2.42**	**355**	P	**Pb**	**09 36 52.2**	**-0.5**
NEZ	**North Egmont**	**2.44**	**357**	P	**Pb**	**09 36 52.7**	**-0.3**
NBEZ	**Newall Road No**	**2.46**	**352**	P	**Pb**	**09 36 53.5**	**+0.2**
MTVZ	**Mangateitei**	**2.49**	**22**	P	**Pb**	**09 36 52.6**	**-1.3**
DREZ	**Durham Road**	**2.52**	**359**	P	**Pb**	**09 36 54.1**	**-0.2**
PKE	**Pukeiti**	**2.52**	**355**	P	**Pb**	**09 36 54.4**	**0.0**
PKVZ	**Pokaka**	**2.55**	**19**	P	**Pg**	**09 36 56.1**	**-2.3**
MOVZ	**Moawhango**	**2.56**	**26**	P	**Pb**	**09 36 53.1**	**-1.9**
PXZ	**Pawanui**	**2.58**	**50**	P	**Pg**	**09 36 58.3**	**-0.5**
WNVZ	**Wahianoa**	**2.58**	**23**	P	**Pb**	**09 36 53.5**	**-2.0**
TRVZ	**Turoa**	**2.59**	**22**	P	**Pb**	**09 36 55.1**	**-0.6**
BHHZ	**Black Hill Sta**	**2.60**	**32**	P	**Pn**	**09 36 51.9**	**+1.1**
KRHZ	**Kereru**	**2.60**	**38**	P	**Pn**	**09 36 51.1**	**+0.2**
VRZ	**Vera Road**	**2.61**	**8**	P	**Pb**	**09 36 53.9**	**-2.0**
WHVZ	**Whangaehu Hut**	**2.62**	**23**	P	**Pb**	**09 36 56.3**	**+0.1**
MAVZ	**Matarangi**	**2.63**	**22**	P	**Pb**	**09 36 57.2**	**+0.8**
FWVZ	**Far West T-bar**	**2.64**	**22**	P	**Pb**	**09 36 55.6**	**-0.8**
TUVZ	**Tukino**	**2.66**	**24**	P	**Pb**	**09 36 56.4**	**-0.3**
COVZ	**Chateau Observ**	**2.69**	**21**	P	**Pb**	**09 36 58.2**	**+1.0**
MHCZ	**Mount Hutt**	**2.71**	**227**	P	**Pn**	**09 36 50.6**	**-1.7**
NGZ	**Ngauruhoe**	**2.73**	**22**	P	**Pb**	**09 36 57.0**	**-0.9**
SNVZ	**South Ngauruho**	**2.73**	**23**	P	**Pn**	**09 36 55.0**	**+2.3**
KAHZ	**Kahuranaki**	**2.75**	**47**	P	**Pn**	**09 36 52.5**	**-0.4**
OTVZ	**Oturere**	**2.75**	**23**	P	**Pn**	**09 36 55.2**	**+2.2**
NNVZ	**North Ngauruho**	**2.77**	**22**	P	**Pb**	**09 36 56.5**	**-2.2**
WTVZ	**West Tongariro**	**2.78**	**21**	P	**Pb**	**09 36 58.8**	**0.0**
TWVZ	**Taurewa**	**2.78**	**19**	P	**Pg**	**09 37 00.6**	**-2.2**
ETVZ	**East Tongariro**	**2.79**	**23**	P	**Pb**	**09 36 58.6**	**-0.4**
KWHZ	**Kaweka Forest**	**2.81**	**36**	P	**Pn**	**09 36 54.0**	**+0.3**
TMVZ	**Te Maari**	**2.81**	**23**	P	**Pb**	**09 37 00.4**	**+1.1**
KRVZ	**Karewarewa**	**2.81**	**22**	P	**Pb**	**09 37 00.2**	**+0.9**
NTVZ	**North Tongarir**	**2.82**	**23**	P	**Pn**	**09 36 56.2**	**+2.3**
WACZ	**Wakanui South**	**2.87**	**218**	P	**Pn**	**09 36 52.9**	**-1.5**
KATZ	**Kakaramea**	**2.94**	**22**	P	**Pg**	**09 37 03.3**	**-2.5**
WVZ	**Waitaha Valley**	**2.96**	**241**	P	**Pn**	**09 36 59.0**	**+3.3**
RITZ	**Rihia Road**	**2.98**	**24**	P	**Pb**	**09 37 03.3**	**+1.0**
BKZ	**Black Stump Fm**	**3.05**	**34**	P	**Pg**	**09 37 05.5**	**-2.4**
RATZ	**Rangitukua**	**3.06**	**22**	P	**Pg**	**09 37 05.2**	**-2.9**
RPZ	**Rata Peaks**	**3.11**	**229**	P	**Pn**	**09 36 59.0**	**+1.2**
RPZ	**Rata Peaks**	**3.11**	**229**	P	**Pn**	**09 36 57.1**	**-0.7**
ARCZ	**Arundel**	**3.20**	**225**	P	**Pn**	**09 36 57.5**	**-1.5**
HIZ	**Hauiti**	**3.23**	**8**	P	**Pn**	**09 37 02.4**	**+3.0**
HIZ	**Hauiti**	**3.23**	**8**	P	**Pn**	**09 37 01.8**	**+2.4**
TLZ	**Tolley Road**	**3.51**	**16**	P	**Pb**	**09 37 09.1**	**-2.2**
TMZ	**Timaru**	**3.59**	**221**	P	**Pn**	**09 37 03.2**	**-1.2**
FOZ	**Fox Glacier**	**3.77**	**240**	P	**Pn**	**09 37 08.0**	**+1.2**
ODZ	**Otahua Downs**	**4.26**	**217**	P	**Pn**	**09 37 13.2**	**-0.4**
ODZ	**Otahua Downs**	**4.26**	**217**	P	**Pn**	**09 37 11.6**	**-2.0**
JCZ	**Jackson Bay**	**4.68**	**238**	P	**Pn**	**09 37 21.6**	**+2.1**
JCZ	**Jackson Bay**	**4.68**	**238**	P	**Pn**	**09 37 21.4**	**+1.9**

RSNC 13 09:38:10.5±0.0, 5°N±1°×7°6W±°, h105km±3km, M2.9, mb3.6, mB4.7, ML2.5, Mw(mB)3.9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PLMC	**San Jos del P**	**0.02**	**130**	P	Pn	09 38 23.4	-1.7
PLMC				S	Sn	09 38 35.0	-1.0
CMAN1	**Manizales, Cal**	**0.79**	**79**	P	Pn	09 38 29.1	-0.4
CMAN1				S	Sn	09 38 42.5	-1.3
NIZA	**Niza - Manizal**	**0.84**	**81**	P	Pn	09 38 30.7	+0.7
NIZA				S	Sn	09 38 44.4	-0.2
PIZC	**Pizarro, Choco**	**1.06**	**272**	P	Pn	09 38 31.5	-0.4
PIZC				S	Sn	09 38 47.7	-0.4
MALC	**Bahia Malaga**	**1.37**	**229**	P	Pn	09 38 35.0	-0.5
MALC				S	Sn	09 38 55.3	+0.9
NORC	**Norcasia**	**1.56**	**66**	P	Pn	09 38 36.4	-1.4
NORC				S	Sn	09 38 56.8	-1.8
JAMC	**Jamundi, Valle**	**1.73**	**192**	P	Pn	09 38 38.0	-2.2
JAMC				S	Sn	09 39 02.6	-0.1
PRAC	**Prado**	**1.85**	**130**	P	Pn	09 38 39.3	-2.1
PRAC				S	Sn	09 39 01.9	-3.1
ROSC	**El Rosal**	**1.98**	**92**	P	Pn	09 38 43.6	+0.3
DBBC	**Dabeiba**	**2.09**	**2**	P	Pn	09 38 44.5	0.0
DBBC				S	Sn	09 39 11.1	+0.7
SPBC	**San Pablo de B**	**2.33**	**72**	P	Pn	09 38 46.3	-1.4
BETC	**Betania**	**2.38**	**159**	P	Pn	09 38 46.9	-1.4
BETC				S	Sn	09 39 14.2	-3.1
POPC	**Popayan, Colom**	**2.39**	**189**	P	Pn	09 38 46.8	-1.8
POPC				S	Sn	09 39 14.9	-2.9
PTBC	**PUERTO BERRIO,**	**2.44**	**49**	P	Pn	09 38 47.3	-1.7
PTBC				S	Sn	09 39 16.2	-2.4
URMC	**La Uribe, Meta**	**2.54**	**131**	P	Pn	09 38 48.2	-2.1
URMC				S	Sn	09 39 17.3	-3.6
GR1C	**Gorgona, Isla**	**2.66**	**224**	P	Pn	09 38 49.0	-2.9
PTAC	**Punta Ardita,**	**2.67**	**326**	P	Pn	09 38 50.4	-1.7
PTAC				S	Sn	09 39 21.4	-2.6
VILC	**Villavicencio,**	**2.72**	**107**	P	Pn	09 38 52.6	-0.2
GARC	**Garzon, Huila**	**2.83**	**163**	P	Pn	09 38 52.2	-2.2
GARC				S	Sn	09 39 25.0	-3.2
UREC	**San Jos de Ur**	**2.92**	**15**	P	Pn	09 38 54.9	-0.4
UREC				S	Sn	09 39 29.1	-0.7
ZARC	**Zaragoza, Cauc**	**2.93**	**29**	P	Pn	09 38 54.3	-1.2
ZARC				S	Sn	09 39 29.1	-1.0
APAC	**Apartado, Choc**	**2.97**	**355**	P	Pn	09 38 57.2	+1.1
APAC				S	Sn	09 39 34.4	+3.3
RUSC	**La Rusia**	**3.34**	**73**	P	Pn	09 39 01.0	-0.4
FLOC	**Florencia**	**3.38**	**169**	P	Pn	09 38 59.4	-2.1
FLOC				S	Sn	09 39 38.0	-2.9
CRUC	**La Cruz**	**3.39**	**191**	P	Pn	09 39 01.8	-0.2
CRUC				S	Sn	09 39 39.9	-1.8
BARC	**Barichara**	**3.52**	**62**	P	Pn	09 39 02.4	-1.1
MACC	**Macarena, Meta**	**3.69**	**138**	P	Pn	09 39 02.8	-2.8
MACC				S	Sn	09 39 44.2	-4.1
GCUF	**Volcan Galeras**	**3.81**	**196**	P	Pn	09 39 06.2	-1.6
GCUF				S	Sn	09 39 48.6	-3.4
CAPC	**Capurgana**	**3.84**	**344**	P	Pn	09 39 07.5	-0.1
OCAC	**Ocana**	**4.43**	**42**	P	Pn	09 39 24.4	+6.6
OCAC				S	Sn	09 40 04.4	-2.0
AZU	**Azuero**	**4.87**	**306**	P	Pn	09 39 20.6	-1.0
AZU				S	Sn	09 40 15.1	-1.7
CACAO	**El Cacao, Vera** 16nm,1.7s	**5.13**	**298**	P	Pn	09 39 23.5	-1.6
CACAO	16nm,1.7s			S	Sn	09 40 20.6	-2.6
PAC1	**Pacto, Paraso**	**5.25**	**208**	P	Pn	09 39 26.5	-0.4
PAC1				S	Sn	09 40 18.9	-7.4
GMAL	**Guarumal, Vera**	**5.66**	**300**	P	Pn	09 39 32.5	+0.3
GMAL				S	Sn	09 40 37.3	+1.4

SNET ***13*** *09:44:31.7±0.8, 13°.21N×88°.00W, h6km±3km, ML2.8*

CATAC ***13*** *09:44:31.9±0.2, 13°.18N×87°.98W, h3km±1km, ML3.0*

ISC 13 09:44:31.7±0.8, 13°.18N±0°.04×87°.98W±0°.02, h11km±6km, n37, σ0§56/64, 5C, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.07**	**286**	eP	**Pg**	**09 44 33.6**	**-0.5**
INTP				eS	**Sg**	**09 44 35.2**	**-0.7**
INTP				IAML		09 44 37.0	
	comp=Z,8μm,0.2s						
LCND	**La Caada**	**0.16**	**34**	iP	**Pg**	**09 44 35.2**	**-0.1**
LCND				eS	**Sg**	**09 44 37.8**	**0.0**
LCND				IAML		09 44 38.5	
	comp=Z,4μm,0.3s						
LCND	**La Caada**	**0.16**	**34**	i P	**Pg**	**09 44 35.0**	**-0.3**
LCND				i S	**Sg**	**09 44 37.8**	**0.0**
LCND				IAML		09 44 40.3	
	comp=Z,5μm,1.0s						
CNCH	**Conchagua**	**0.17**	**55**	iP	**Pg**	**09 44 35.8**	**+0.2**
CNCH				IAML		09 44 46.0	
	comp=Z,8μm,0.3s						
CNCH	**Conchagua**	**0.17**	**55**	i P	**Pg**	**09 44 35.8**	**+0.2**
CNCH				i S	**Sg**	**09 44 39.2**	**+0.9**
CNCH				IAML		09 44 45.5	
	comp=Z,7μm,1.0s						
JUCU	**Jucuarįn**	**0.27**	**286**	eP	**Pg**	**09 44 37.3**	**-0.1**
JUCU				eS	**Sg**	**09 44 41.4**	**+0.3**
JUCU				IAML		09 44 46.8	
	comp=Z,2μm,0.3s						
JUCU	**Jucuarįn**	**0.27**	**286**	i P	**Pg**	**09 44 37.2**	**-0.1**
JUCU				i S	**Sg**	**09 44 41.9**	**+0.8**
JUCU				IAML		09 44 46.5	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**0.33**	**71**	eP	**Pg**	**09 44 38.9**	**+0.5**
AMPH				eS	**Sb**	**09 44 44.4**	**-0.6**
CNRM	**Centro Naciona**	**0.35**	**328**	eP	**Pg**	**09 44 38.5**	**-0.1**
CNRM				i S	**Sg**	**09 44 43.7**	**+0.3**
CNRM				IAML		09 44 47.2	
	comp=Z,7μm,1.0s						
BLLM	**Bellamira**	**0.36**	**317**	eP	**Pg**	**09 44 39.0**	**0.0**
VSM	**San Miguel**	**0.38**	**311**	eP	**Pg**	**09 44 39.7**	**+0.4**
LCY	**Lacayo**	**0.39**	**309**	eP	**Pg**	**09 44 39.8**	**+0.3**
RANC	**El Ranchito**	**0.40**	**310**	eP	**Pg**	**09 44 39.6**	**0.0**
RANC	**El Ranchito**	**0.40**	**310**	i P	**Pg**	**09 44 39.8**	**+0.2**
RANC				i S	**Sg**	**09 44 45.6**	**+0.7**
RANC				IAML		09 44 51.6	
	comp=Z,680nm,1.0s						
PACA	**Pacayal**	**0.44**	**311**	eP	**Pg**	**09 44 40.5**	**0.0**
PACA				IAML		09 44 53.3	
	comp=Z,5μm,0.3s						
PACA	**Pacayal**	**0.44**	**311**	i P	**Pg**	**09 44 40.4**	**-0.1**
PACA				i S	**Sg**	**09 44 47.0**	**+0.6**
PACA				IAML		09 44 50.5	
	comp=Z,5μm,1.0s						
COEB	**Comit de Eme**	**0.62**	**301**	eP	**Pg**	**09 44 43.6**	**-0.2**
COEB				eS	**Sg**	**09 44 52.5**	**+0.4**
COEB				IAML		09 44 55.3	
	comp=Z,323nm,0.2s						
TECO	**Alcaldia de Te**	**0.86**	**295**	eP	**Pg**	**09 44 47.6**	**-0.7**
TECO				eS	**Sg**	**09 44 59.4**	**-0.1**
TECO				IAML		09 45 02.1	
	comp=Z,113nm,0.3s						
SCLA	**Alcaldia de Sa**	**0.90**	**306**	eP	**Pg**	**09 44 48.6**	**-0.4**
SCLA				eS	**Sb**	**09 45 02.0**	**+0.6**
SCLA				IAML		09 45 11.1	
	comp=Z,40nm,0.4s						
UESV	**Universidad de**	**0.91**	**300**	i P	**Pg**	**09 44 49.2**	**0.0**
UESV				i S	**Sg**	**09 45 01.0**	**-0.1**
UESV				IAML		09 45 02.2	
	comp=Z,240nm,1.0s						
COEG	**Centro de Oper**	**0.98**	**297**	eP	**Pg**	**09 44 50.1**	**-0.5**
COEG				eS	**Sg**	**09 45 03.4**	**0.0**
COEG				IAML		09 45 06.8	
	comp=Z,430nm,0.2s						
COEG	**Centro de Oper**	**0.98**	**297**	i P	**Pg**	**09 44 49.7**	**-0.9**
COEG				i S	**Sg**	**09 45 03.1**	**-0.3**
COEG				IAML		09 45 06.5	
	comp=Z,400nm,1.0s						
PAVA	**Las Pavas**	**1.07**	**300**	i P	**Pg**	**09 44 52.1**	**-0.3**
PAVA				i S	**Sg**	**09 45 06.7**	**+0.3**
PAVA				IAML		09 45 08.6	
	comp=Z,830nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.11**	**38**	eP	**Pg**	**09 44 52.2**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.11**	**38**	i P	**Pg**	**09 44 52.2**	**-1.0**
TGUH				i S	**Sg**	**09 45 07.5**	**-0.2**
TGUH				IAML		09 45 17.7	
	comp=Z,360nm,1.0s						
QUEN	**Al S del Volca**	**1.24**	**118**	i P	**Pn**	**09 44 54.7**	**-0.4**
QUEN				IAML		09 44 58.4	
	comp=Z,270nm,1.0s						
QUEN				i S	**Sb**	**09 45 08.9**	**-2.4**
LOMA	**Loma Larga**	**1.25**	**292**	i P	**Pn**	**09 44 55.1**	**-0.2**
LOMA				i S	**Sb**	**09 45 11.5**	**-0.1**
LOMA				IAML		09 46 09.0	
	comp=Z,310nm,1.0s						
LLGN	**La Laguna**	**1.36**	**316**	i P	**Pn**	**09 44 56.4**	**-0.3**
LLGN				i S	**Sb**	**09 45 14.1**	**-0.5**
LLGN				IAML		09 46 11.4	
	comp=Z,300nm,1.0s						
PMON	**Piamonte**	**1.40**	**292**	i P	**Pb**	**09 44 58.2**	**+0.2**
PMON				i S	**Sb**	**09 45 15.4**	**-0.6**
PMON				IAML		09 46 18.6	
	comp=Z,340nm,1.0s						
MACN	**El Madrono**	**1.46**	**119**	i P	**Pb**	**09 44 59.2**	**+0.3**
MACN				i S	**Sg**	**09 45 18.8**	**+0.2**
MACN				IAML		09 46 03.5	
	comp=Z,120nm,1.0s						
MOMN	**Momotombo**	**1.60**	**118**	i P	**Pn**	**09 45 00.9**	**+0.9**
MOMN				i S	**Sb**	**09 45 22.5**	**+0.9**
MOMN				IAML		09 46 21.9	
	comp=Z,6.4nm,1.0s						
COPN	**Copaltepe**	**1.68**	**126**	i P	**Pn**	**09 45 01.6**	**+0.6**
MTO3	**Montecristo**

OBL					IAML		09 53 48.1	
	comp=N,93µm,0.7s							
UWE	**Uwekahuna**	**0.31**	**264**	Pg	**Pg**		**09 53 38.5**	**+0.2**
SDHHI	**Sand Hill**	**0.32**	**258**		**Pg**		**09 53 38.5**	**+0.1**
SDHHI					**Sb**		**09 53 45.8**	**+2.0**
SDHHI	**Sand Hill**	**0.32**	**258**	IAML			09 53 46.4	
	comp=E,97µm,0.5s							
SDHHI				IAML			09 53 48.7	
	comp=N,129µm,0.6s							
WRMHI	**West Rim**	**0.32**	**262**		**Pg**		**09 53 38.7**	**+0.2**
WRMHI				IAML			09 53 46.8	
	comp=E,87µm,0.6s							
WRMHI				IAML			09 53 50.0	
	comp=N,50µm,0.7s							
WRMHI	**West Rim**	**0.32**	**262**		**Sb**		**09 53 44.8**	**+0.9**
HLP	**Hilina Pali**	**0.36**	**244**		**Pb**		**09 53 39.1**	**-0.5**
HLP					**Sb**		**09 53 45.3**	**+0.2**
HLP	**Hilina Pali**	**0.36**	**244**	IAML			09 53 46.1	
	comp=E,86µm,0.3s							
HLP				IAML			09 53 54.5	
	comp=N,69µm,0.6s							
MLH	**Mauna Loa**	**0.40**	**276**		**Pg**		**09 53 40.1**	**+0.2**
MLH					**Sg**		**09 53 47.1**	**+1.5**
HTC	**Hot Caves**	**0.46**	**242**		**Pb**		**09 53 40.4**	**-0.9**
HMH	**Humu'ula Sheep**	**0.51**	**287**		**Pg**		**09 53 42.0**	**0.0**
HMH					**Sb**		**09 53 51.6**	**+2.0**
HMH	**Humu'ula Sheep**	**0.51**	**287**	IAML			09 54 01.8	
	comp=E,34µm,0.5s							
MLOA	**Mauna Loa Obse**	**0.58**	**278**		**Pg**		**09 53 42.8**	**-0.6**
MLOA					**Sg**		**09 53 51.6**	**+0.4**
MLOA	**Mauna Loa Obse**	**0.58**	**278**	IAML			09 53 51.9	
	comp=N,24µm,0.4s							
MLOA				IAML			09 54 01.9	
	comp=E,14µm,0.4s							
MWH	**Moku'aweowe**	**0.60**	**273**		**Pg**		**09 53 42.8**	**-0.9**
MWH					Pn		09 53 52.0	+6.2
MWH	**Moku'aweowe**	**0.60**	**273**	IAML			09 54 02.1	
	comp=E,27µm,0.7s							
MWH				IAML			09 54 02.7	
	comp=N,24µm,0.5s							
POHA	**Pohakuloa**	**0.62**	**299**		**Pg**		**09 53 43.1**	**-0.7**
ALEP	**Alea Permanent**	**0.65**	**278**		**Pg**		**09 53 43.4**	**-1.1**
ALEP					**Sb**		**09 53 54.8**	**+1.2**
KHU	**Kahuku**	**0.65**	**252**		**Pg**		**09 53 42.8**	**-1.7**
KHU					**Sg**		**09 53 51.8**	**-1.3**
I59US	**HAWAII INFRASO**	**0.89**	**279**	Pg	**Pb**		**09 53 46.2**	**-2.4**
	baz=84,slow=17							
CPH	**Captain Cook**	**0.90**	**272**		**Pb**		**09 53 46.3**	**-2.5**
KKH	**Kailua Kona**	**1.02**	**282**		**Pb**		**09 53 48.0**	**-2.7**
H11N3	**WAKE ISLAND Hy**	**35.87**	**277**	T	T		10 37 47.2	
	baz=84,slow=73,SNR=110							
H11N2	**WAKE ISLAND Hy**	**35.88**	**277**	T	T		10 37 49.2	
	baz=84,slow=73,SNR=124							
H11N1	**WAKE ISLAND Hy**	**35.89**	**277**	T	T		10 37 48.7	
	baz=84,slow=73,SNR=77							
H11S2	**WAKE ISLAND Hy**	**36.21**	**275**	T	T		10 38 10.1	
	baz=83,slow=74,SNR=31							
H11S1	**WAKE ISLAND Hy**	**36.22**	**275**	T	T		10 38 02.6	
	baz=83,slow=74,SNR=24							
H11S3	**WAKE ISLAND Hy**	**36.23**	**275**	T	T		10 38 12.0	
	baz=83,slow=74,SNR=38							
NVAR	**Mina Array Bea**	**36.92**	**51**	P	**P**		**10 00 41.9**	**+2.0**
	comp=N,0.3nm,0.7s,baz=237,slow=13,SNR=2.4							
	comp=N,0.3nm,0.7s							
KDAK	**Kodiak Island**	**38.32**	**2**	LR	LR		10 13 13.1	
	comp=N,32nm,20.3s,baz=207,slow=31							
KTH	**Kantishna Hill**	**44.15**	**3**	P	**P**		**10 01 39.9**	**+0.7**
M29M	**Somme Creek**	**44.45**	**11**	P	**P**		**10 01 42.8**	**+1.2**
M29M				IAmb	IAmb		10 01 44.3	
	comp=Z,2.0nm,0.7s							
L27K	**Beaver Creek,**	**44.50**	**8**	P	**P**		**10 01 42.2**	**+0.4**
BCAR	**Beaver Creek A**	**44.51**	**9**	P	**P**		**10 01 43.0**	**+1.0**
PDAR	**Pinedale Array**	**44.62**	**48**	P	**P**		**10 01 43.8**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=238,slow=5.2,SNR=2.2							
	comp=Z,0.2nm,0.4s							
BPAW	**Bear Paw Mtn.**	**44.70**	**2**	P	**P**		**10 01 43.6**	**+0.2**
BPAW				IAmb	IAmb		10 01 45.1	
	comp=Z,3.5nm,1.2s							
SCRK	**Sand Creek**	**45.11**	**7**	P	**P**		**10 01 47.4**	**+0.6**
SCRK				IAmb	IAmb		10 01 57.1	
	comp=Z,4.9nm,1.4s							
CCB	**Clear Creek Bu**	**45.42**	**4**	P	**P**		**10 01 49.5**	**+0.4**
CCB				IAmb	IAmb		10 01 51.2	
	comp=Z,5.6nm,1.3s							
J25K	**Salcha River,**	**45.59**	**6**	P	**P**		**10 01 51.1**	**+0.5**
J25K				IAmb	IAmb		10 01 52.5	
	comp=Z,2.5nm,0.7s							
IL31		**45.61**	**5**	P	**P**		**10 01 51.3**	**+0.7**
ILAR	**Eielson Array**	**45.61**	**5**	P	**P**		**10 01 51.2**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=196,slow=7.2,SNR=15							
	comp=Z,1.0nm,0.6s							
MDM	**Murphy Dome**	**45.70**	**4**	P	**P**		**10 01 51.7**	**+0.3**
MDM				IAmb	IAmb		10 01 52.7	
	comp=Z,2.3nm,0.7s							
TX31	**Lajitas Ar. Si**	**47.42**	**68**	P	**P**		**10 02 06.7**	**+1.2**
TXAR	**Lajitas Array**	**47.42**	**68**	P	**P**		**10 02 07.4**	**+1.9**
TXAR	**Lajitas Array**	**47.42**	**68**	P	**P**		**10 02 09.1**	**+3.6**
	comp=Z,1.1nm,0.7s,baz=254,slow=8.7,SNR=21							
	comp=Z,1.1nm,0.7s							
ALPN	**Alpine**	**47.45**	**66**	P	**P**		**10 02 07.0**	**+1.1**
ALPN				IAmb	IAmb		10 02 12.3	
	comp=Z,1.4nm,0.7s							
H29M	**Whitestone**	**47.98**	**9**	P	**P**		**10 02 10.0**	**+0.8**
C18K	**Utukok River**	**49.34**	**357**	P	**P**		**10 02 20.9**	**+1.2**
C18K				IAmb	IAmb		10 02 57.2	
	comp=Z,5.9nm,1.3s							
PEA0B	**Petropavlovsk-**	**49.48**	**324**	P	**P**		**10 02 21.6**	**+0.7**
PETK	**Petropavlovsk-**	**49.48**	**324**	P	**P**		**10 02 21.4**	**+0.4**
PETK	**Petropavlovsk-**	**49.48**	**324**	P	**P**		**10 02 21.9**	**+1.0**
	comp=Z,1.2nm,0.6s,baz=108,slow=12,SNR=4.9							
	comp=Z,1.2nm,0.6s							
INK	**Inuvik**	**50.66**	**10**	LR	LR		10 20 34.3	
	comp=Z,27nm,19.6s,baz=176,slow=32							
YKA	**Yellowknife Ar**	**51.17**	**23**	P	**P**		**10 02 34.2**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=236,slow=7.3,SNR=19							
	comp=Z,0.9nm,0.6s							
MDJ	**Mudanjiang**	**66.35**	**311**	P	**P**		**10 04 16.9**	**-2.6**
MDJ				pmax	pmax			
	comp=Z,6.0nm,1.2s							
MDJ				pmax	pmax			
	comp=Z,77nm,11.0s							
XLT	**XiLinHaoTe**	**76.04**	**312**	*e*P	**P**		**10 05 18.6**	**+0.3**
XLT				pP	sP		10 05 24.5	-1.5
XLT				sP	pwP		10 05 26.6	+2.7
XLT				PcP	**PcP**		**10 05 30.3**	**-0.3**
XLT				pmax	pmax			
	comp=Z,11nm,0.9s							
XLT				pmax	pmax			
	comp=Z,67nm,4.9s							
NJ2	**Nanjing**	**76.81**	**300**	*e*P	**P**		**10 05 22.4**	**-0.3**
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**80.08**	**310**	*e*P	**P**		**10 05 39.4**	**-1.4**
HHC				pmax	pmax			
	comp=Z,50nm,5.0s							
ASAR	**Alice Springs**	**81.51**	**241**	P	**P**		**10 05 45.5**	**-3.1**
ASAR	**Alice Springs**	**81.51**	**241**	P	**P**		**10 05 48.2**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=57,slow=6.5,SNR=1.6							
	comp=Z,0.2nm,0.6s							
H03N2	**Juan Fernandez**	**89.49**	**126**	T	T		11 45 21.5	
	baz=298,slow=76,SNR=389							
H03N3	**Juan Fernandez**	**89.50**	**126**	T	T		11 45 22.4	
	baz=298,slow=76,SNR=389							
H03N1	**Juan Fernandez**	**89.51**	**126**	T	T		11 45 25.0	
	baz=298,slow=76,SNR=374							
PZH	**PanZhiHua**	**92.72**	**299**	P	**P**		**10 06 43.3**	**-0.2**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,100nm,4.8s							

NOU 13 09:57:38.6, 21.40S×169.73E, h0km, ML3.7/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.58**	**267**	P	Pn	09 58 07.0	-1.0
LIFNC	**LIFOU**	**2.41**	**284**	P	Pn	09 58 18.2	-1.0
PINNC	**Pines Island,**	**2.44**	**240**	P	Pn	09 58 19.3	-0.4
OUENC	**Ouen Island, N**	**2.87**	**249**	P	Pn	09 58 25.9	+0.3
DZM	**Mont Dzumac**	**3.13**	**257**	P	Pn	09 58 29.2	-0.1
ONTNC	**Ouen Toro**	**3.17**	**253**	P	Pn	09 58 29.6	-0.2
NOUC	**Port Laguerre**	**3.26**	**257**	P	Pn	09 58 31.1	+0.1
KOUNC	**Koumac, New Ca**	**5.16**	**278**	P	Pn	09 58 58.4	+1.3

*IDC **13** 10:02:46.0±0.6, 33.85S×93.03W, h0km, mb4.2/12, mbtmp4.1/13, ML3.7/1, MS3.5/3, Error ellipse: s-maj=32.4km s-min=15.6km az=78.0*
*NEIC **13** 10:02:46.7±1.1, 33.9S±0.1×93.4W±0.2, h10km±1km, mb4.4/13, Error ellipse: s-maj=25.1km s-min=23.2km az=284.0*

ISC 13 10:02:46.9±0.6, 33.9S±0.1×93.4W±0.1, h10km, n37, σ1 23/31, mb4.3/14, Southeastcentral Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03N2	**Juan Fernandez**	**12.05**	**92**	T	T	10 17 45.2	
	baz=268,slow=73,SNR=64						
H03N3	**Juan Fernandez**	**12.06**	**92**	T	T	10 17 32.8	
	baz=268,slow=73,SNR=86						
H03N1	**Juan Fernandez**	**12.07**	**92**	T	T	10 17 32.7	
	baz=268,slow=73,SNR=87						
VA04	**Juan Fernndez**	**12.12**	**93**	Pn	**Pn**	**10 05 42.5**	**+2.9**
RPN	**Rapa Nui**	**15.30**	**292**	LR	LR	10 10 56.6	
	comp=Z,49nm,18.2s,baz=14,slow=32						
GO05	**Huala**	**17.73**	**100**		**P**	**10 06 53.9**	**-0.9**
BO01	**Tunca**	**18.47**	**98**	P	**Pn**	**10 07 01.5**	**-1.4**
BO01				IAmb	IAmb	10 07 07.2	
	comp=Z,26nm,1.1s						
MT09	**Talagante**	**18.61**	**96**	P	**Pn**	**10 07 04.9**	**+0.1**
MT09				IAmb	IAmb	10 07 06.2	
	comp=Z,22nm,1.1s						
LMEL	**Las Melosas**	**19.25**	**96**	P	**P**	**10 07 10.8**	**-0.8**
PLCA	**Paso Flores**	**19.38**	**117**	P	**P**	**10 07 11.8**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=301,slow=12,SNR=5.9						
	comp=Z,3.2nm,0.9s						
LCO	**Las Campanas**	**19.94**	**82**	P	**P**	**10 07 18.9**	**-0.4**
LCO				IAmb	IAmb	10 07 23.1	
	comp=Z,24nm,1.3s						
AC02	**Maricunga**	**22.05**	**78**		**P**	**10 07 42.0**	**-0.4**
AC02				IAmb	IAmb	10 07 51.3	
	comp=Z,14nm,1.0s						
NNA	**Nana**	**26.52**	**39**	LR	LR	10 15 58.4	
	comp=Z,43nm,19.3s,baz=224,slow=30						
LPAZ	**La Paz**	**28.69**	**59**	P	**P**	**10 08 44.3**	**-0.6**
LPAZ	**La Paz**	**28.69**	**59**	P	**P**	**10 08 43.8**	**-1.1**
	comp=Z,1.2nm,0.7s,baz=236,slow=3.6,SNR=6.3						
	comp=Z,1.2nm,0.7s						
QSPA	**South Pole Qui**	**56.33**	**180**	P	**P**	**10 12 29.5**	**+1.7**
QSPA				IAmb	IAmb	10 12 30.4	
	comp=Z,2.9nm,0.7s						
QSPA	**South Pole Qui**	**56.33**	**180**	P	**P**	**10 12 29.4**	**+1.6**
	comp=Z,3.0nm,0.6s,baz=168,slow=9.3,SNR=24						
	comp=Z,3.0nm,0.6s						
SNAA	**Sanae**	**58.41**	**158**	P	**P**	**10 12 42.1**	**-0.1**
SNAA	**Sanae**	**58.41**	**158**	P	**P**	**10 12 41.9**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=270,slow=6.5,SNR=6.0						
	comp=Z,2.6nm,0.7s						
VNDA	**Vanda**	**60.30**	**194**	P	**P**	**10 12 52.1**	**-3.0**
VNDA				IAmb	IAmb	10 13 07.9	
	comp=Z,3.2nm,1.1s						
VNDA	**Vanda**	**60.30**	**194**	P	**P**	**10 12 56.1**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=291,slow=20,SNR=3.1						
	comp=Z,0.9nm,0.9s						
TXAR	**Lajitas Array**	**63.62**	**350**	P	**P**	**10 13 18.7**	**+0.6**
TXAR	**Lajitas Array**	**63.62**	**350**	P	**P**	**10 13 19.1**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=171,slow=9.0,SNR=6.8						
	comp=Z,0.6nm,0.8s						
250A	**Grady**	**65.85**	**7**	P	**P**	**10 13 32.2**	**-0.3**
LRAL	**Lakeview Retre**	**66.83**	**6**	P	**P**	**10 13 38.4**	**-0.4**
ANMO	**Albuquerque**	**69.56**	**349**	P	**P**	**10 13 57.0**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=262,slow=7.8,SNR=8.7						
	comp=Z,2.0nm,0.8s						
URZ	**Urewera**	**69.64**	**237**	LR	LR	10 36 22.0	
	comp=Z,289nm,19.7s,baz=32,slow=29						
U38A	**Gravette**	**69.97**	**359**	P	**P**	**10 13 58.0**	**-0.4**
U38A				IAmb	IAmb	10 13 59.0	
	comp=Z,4.8nm,1.0s						
NVAR	**Mina Array Bea**	**75.58**	**340**	P	**P**	**10 14 33.8**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=174,slow=6.5,SNR=18						
	comp=Z,1.8nm,0.7s						
ELK	**Elko**	**76.95**	**343**	P	**P**	**10 14 41.2**	**+1.5**
	comp=Z,2.8nm,0.8s,baz=185,slow=5.1,SNR=18						
	comp=Z,2.8nm,0.8s						
MAW	**Mawson**	**77.25**	**171**	P	**P**	**10 14 41.1**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=192,slow=3.8,SNR=4.3						
	comp=Z,1.8nm,0.6s						
PDAR	**Pinedale Array**	**77.71**	**348**	P	**P**	**10 14 44.5**	**+0.7**
	comp=Z,2.1nm,0.6s,baz=162,slow=6.2,SNR=19						
	comp=Z,2.1nm,0.6s						
ULM	**Lac du Bonnet**	**83.80**	**358**	P	**P**	**10 15 15.3**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=195,slow=5.1,SNR=4.8						
	comp=Z,3.1nm,0.8s						
YKA	**Yellowknife Ar**	**97.55**	**350**	P	**P**	**10 16 19.3**	**-1.3**
	comp=Z,0.2nm,0.8s,baz=160,slow=5.1,SNR=3.8						
	comp=Z,0.2nm,0.8s						
KBZ	**Khabaz**	**144.90**	**61**	PKP	**PKPab**	**10 22 22.5**	**-0.6**
	comp=Z,2.9nm,0.9s,baz=240,slow=6.5,SNR=3.5						
KSRS	**Korea Array**	**146.44**	**288**	PKPbc	**PKiKP**	**10 22 30.8**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=103,slow=2.3,SNR=1.8						
AKTO	**Aktyubinsk**	**153.34**	**43**	PKPbc	**PKPbc**	**10 22 44.6**	**-0.2**
	comp=Z,2.2nm,0.7s,baz=272,slow=3.6,SNR=5.3						

*NAO **13** 10:16:02.5±3.2, 73.22N×7.46E, ML2.7*
*BER **13** 10:16:04.8±2.1, 73.20N×7.16E, h10km, mb(Pn)4.0, ML2.7(NAO), Confirmed Earthquake*

ISC 13 10:16:03.5±1.8, 73.16N±0.08×7.6E±0.1, h10km, n29, σ0 9 4/33, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.47**	**62**	Pn	**Pn**	**10 16 57.9**	**+0.5**
BJO1				*e*P	Pb	10 16 58.4	-6.4
BJO1	**Bjornoya**	**3.47**	**62**	Pn	**Pn**	**10 16 57.9**	**+0.5**
TRO	**Tromso**	**5.07**	**129**	*e*P	**Pn**	**10 17 20.6**	**+1.3**
TRO				IAML		10 17 20.6	
	comp=Z,6.2nm,0.2s						
TRO				Sn	**Sn**	**10 18 16.7**	**-1.0**
TRO	**Tromso**	**5.07**	**129**	Pn	**Pn**	**10 17 20.6**	**+1.3**
TRO				Sn	**Sn**	**10 18 16.7**	**-1.0**
LOF	**Lofoten**	**5.42**	**156**	*e*P	**Pn**	**10 17 23.8**	**-0.4**
LOF				IAML		10 17 25.4	
	comp=Z,2.7nm,0.6s						
LOF	**Lofoten**	**5.42**	**156**	Pn	**Pn**	**10 17 24.0**	**-0.2**
JETT	**Jettan, Norway**	**5.47**	**125**	*e*P	**Pn**	**10 17 26.4**	**+1.5**
JETT				IAML		10 17 27.4	
	comp=Z,3.0nm,0.3s						
JETT	**Jettan, Norway**	**5.47**	**125**	Pn	**Pn**	**10 17 26.6**	**+1.7**
SPA0	**Spitsbergen Ar**	**5.49**	**19**	Pn	**Pn**	**10 17 24.2**	**-0.9**
	baz=196,slow=14						
SPA0				IAML		10 17 24.7	
	comp=Z,3.7nm,0.8s						
SPA0	**Spitsbergen Ar**	**5.49**	**19**	Pn	**Pn**	**10 17 24.2**	**-0.9**
	baz=196,slow=14						
HAMF	**Hammerfest**	**5.61**	**109**	Pn	**Pn**	**10 17 27.6**	**+0.8**
HAMF	**Hammerfest**	**5.61**	**109**	Pn	**Pn**	**10 17 27.6**	**+0.8**
STEI	**Steigen**	**5.84**	**150**	*e*P	**Pn**	**10 17 29.5**	**-0.4**
STEI				IAML		10 17 31.1	
	comp=Z,4.7nm,0.2s						
KBS	**Kingsbay**	**5.89**	**8**	Pn	**Pn**	**10 17 31.2**	**+0.6**
KBS	**Kingsbay**	**5.89**	**8**	Pn	**Pn**	**10 17 31.2**	**+0.6**
KIF	**Kilpisjarvi**	**5.98**	**128**	Pn	**Pn**	**10 17 32.9**	**+1.1**
KIF	**Kilpisjarvi**	**5.98**	**128**	Pn	**Pn**	**10 17 32.9**	**+1.1**
ARA0	**ARCESS Array S**	**6.78**	**114**	Pn	**Pn**	**10 17 43.5**	**+0.6**
	baz=313,slow=12						
ARA0				Sn	**Sn**	**10 18 59.5**	**-0.5**
	baz=311,slow=22						
ARA0	**ARCESS Array S**	**6.78**	**114**	Pn	**Pn**	**10 17 43.5**	**+0.6**
	baz=313,slow=12						
ARA0				Sn	**Sn**	**10 18 59.5**	**-0.5**
	baz=311,slow=22						
SALU	**Saltoluokta**	**6.87**	**142**	*e*P	**Pn**	**10 17 44.9**	**+0.9**
KONS	**Konsvik**	**6.96**	**161**	*e*P	**Pn**	**10 17 45.1**	**-0.1**
KONS				IAML		10 17 45.9	
	comp=Z,6.1nm,0.2s						
KEV	**Kevo**	**7.05**	**109**	*e*P	**Pn**	**10 17 47.3**	**+0.8**
KEV	**Kevo**	**7.05**	**109**	Pn	**Pn**	**10 17 47.9**	**+1.4**
HEF	**Hetta**	**7.11**	**124**	Pn	**Pn**	**10 17 48.9**	**+1.5**
HEF	**Hetta**	**7.11**	**124**	Pn	**Pn**	**10 17 48.9**	**+1.5**
APA0	**Apatity Array**	**10.12**	**111**	Pn	**Pn**	**10 18 28.8**	**+0.3**
	baz=322,slow=14						
APA0	**Apatity Array**	**10.12**	**111**	Pn	**Pn**	**10 18 28.8**	**+0.3**
	baz=322,slow=14						
HFS	**Hagfors**	**13.29**	**167**	Pn	**Pn**	**10 19 12.0**	**+0.1**
HFS	**Hagfors**	**13.29**	**167**	Pn	**Pn**	**10 19 12.0**	**+0.1**

CATAC 13 10:22:47.5±0.2, 12.02N×86.78W, h86km±4km, ML3.6,

Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.24**	**50**	*i* P	Pn	10 23 00.9	+0.7
COPN				IAML		10 23 15.2	
	comp=Z,2µm,1.0s						
BC86	**Nagarote**	**0.32**	**42**	*i* P	Pn	10 23 02.9	+2.3
BC86				*i* S	Sn	10 23 13.1	+2.8
BC86				IAML		10 23 34.2	
	comp=Z,6µm,1.0s						
SAPS	**Ciudad Sandino**	**0.40**	**68**	*i* P	Pn	10 23 02.4	+1.3
SAPS				*i* S	Sn	10 23 14.6	+3.4
SAPS				IAML		10 23 18.0	
	comp=Z,5µm,1.0s						
MOMN	**Momotombo**	**0.45**	**32**	*i* P	Pn	10 23 02.9	+1.4
MOMN				*i* S	Sn	10 23 14.4	+2.5
MOMN				IAML		10 23 17.8	
	comp=Z,91nm,1.0s						
MACN	**El Madrono**	**0.45**	**14**	*i* P	Pn	10 23 03.1	+1.5
MACN				*i* S	Sn	10 23 15.1	+3.1
MACN				IAML		10 23 22.5	
	comp=Z,1µm,1.0s						
APYN	**Apoyeque**	**0.47**	**64**	*i* P	Pn	10 23 03.0	+1.3
APYN				*i* S	Sn	10 23 15.2	+3.0
APYN				IAML		10 23 18.3	
	comp=Z,4µm,1.0s						
APQ3	**Volcan Apoyequ**	**0.48**	**58**	*i* P	Pn	10 23 02.6	+1.0
APQ3				*i* S	Sn	10 23 15.1	+2.9
APQ3				IAML		10 23 19.9	
	comp=Z,3µm,1.0s						
CNGN	**Cerro Negro**	**0.48**	**10**	*i* P	Pn	10 23 03.3	+1.5
CNGN				*i* S	Sn	10 23 15.9	+3.5
CNGN				IAML		10 23 19.9	
	comp=Z,2µm,1.0s						
RE6B4	**Centro civico**	**0.49**	**78**	*i* P	Pn	10 23 02.9	+1.2
RE6B4				IAML		10 23 04.5	
	comp=Z,3µm,1.0s						
MOM2	**El Cardon**	**0.51**	**35**	*i* P	Pn	10 23 03.2	+1.3
MOM2				IAML		10 23 03.5	
	comp=Z,1µm,1.0s						
MOM2				*i* S	Sn	10 23 16.1	+3.5
RB28C	**Hialeah**	**0.51**	**79**	*i* P	Pn	10 23 03.5	+1.6
RB28C				IAML		10 23 04.6	
	comp=Z,5µm,1.0s						
USIM	**UNAN**	**0.51**	**79**	*i* P	Pn	10 23 03.2	+1.3
USIM				*i* S	Sn	10 23 16.1	+3.5
USIM				IAML		10 23 25.0	
	comp=Z,7µm,1.0s						
ALLN	**Telcor Managua**	**0.52**	**75**	*i* S	Sn	10 23 15.5	+2.8
TISN	**Laguna Tiscapa**	**0.52**	**77**	*i* P	Pn	10 23 03.1	+1.1
TISN				IAML		10 23 03.5	
	comp=Z,260nm,1.0s						
ENAN	**Enatrel Managu**	**0.52**	**80**	*i* P	Pn	10 23 02.6	+0.6
ENAN				*i* S	Sn	10 23 16.2	+3.4
ENAN				IAML		10 23 24.1	
	comp=Z,7µm,1.0s						
MGA1	**Managua**	**0.54**	**76**	*i* P	Pn	10 23 03.0	+0.9
MGA1				*i* S	Sn	10 23 15.5	+2.5
MGA1				IAML		10 23 39.9	
	comp=Z,6µm,1.0s						
R4DEC	**Barrio San Lui**	**0.54**	**76**	*i* P		10 23 04.1	
R4DEC				*i* P	Pn	10 23 03.6	+1.4
R4DEC				IAML		10 23 03.8	
	comp=Z,2µm,1.0s						
R4DEC				IAML		10 23 05.9	
	comp=Z,2µm,1.0s						
R4DEC				*i* S	Sn	10 23 15.7	+2.6
QUEN	**Al S del Volca**	**0.57**	**353**	*i* P	Pn	10 23 04.3	+1.8
QUEN				*i* S	Sn	10 23 16.9	+3.3
QUEN				IAML		10 23 19.6	
	comp=Z,3µm,1.0s						
MAS3	**Al N del Volca**	**0.59**	**90**	*i* P	Pn	10 23 03.9	+1.2
MAS3				*i* S	Sn	10 23 17.2	+3.2
MAS3				IAML		10 23 18.3	
	comp=Z,2µm,1.0s						
WILN	**Americas 2**	**0.60**	**77**	*i* P	Pn	10 23 03.9	+1.2
WILN				*i* S	Sn	10 23 16.6	+2.6
WILN				IAML		10 23 27.0	
	comp=Z,1µm,1.0s						
RB213	**Mirador 2 Volc**	**0.60**	**94**	*i* P	Pn	10 23 03.1	+0.3
RB213				IAML		10 23 04.7	
	comp=Z,4µm,1.0s						
MASN	**Masaya**	**0.62**	**93**	*i* P	Pn	10 23 04.1	+1.2
MASN				*i* S	Sn	10 23 17.0	+2.6
MASN				IAML		10 23 23.1	
	comp=Z,760nm,1.0s						
CRIN	**San Cristobal**	**0.72**	**339**	*i* P	Pn	10 23 05.5	+1.5
CRIN				*i* S	Sn	10 23 17.3	+1.1
CRIN				IAML		10 23 22.4	
	comp=Z,5µm,1.0s						
BRAN	**Las Pilas**	**0.81**	**31**	IAML		10 23 01.7	
	comp=Z,8µm,1.0s						
BRAN				*i* P	Pn	10 23 02.0	-2.9
BRAN				*i* S	Sn	10 23 14.0	-3.8
JAPN	**Al SSO del Vol**	**1.19**	**114**	*i* P	Pn	10 23 09.7	+0.5
JAPN				IAML		10 23 43.6	
	comp=

comp=Z,41nm,1.0s

ESQI			*i* S	Sn	10 24 21.5	+0.1
OCHAL	**Ojochal**	**4.24 133**	*i* P	Pn	10 23 49.9	+0.1
OCHAL			*i* S	Sn	10 24 38.7	+0.6
OCHAL			IAML		10 24 42.0	

comp=Z,83nm,1.0s

NOU ***13*** *10:30:29.1,32.43S×176.87W,h89km,mb4.6/9, South of Kermadec Islands*
IDC ***13*** *10:30:34.1±0.6,32.18S×178.26W,h0km,mb4.1/9, mbtmp4.2/10,ML4.6/1,MS3.6/14, Error ellipse: s-maj=24.8km s-min=19.3km az=96.0*
WEL ***13*** *10:30:37.4±1.1,33.5S±10×17.7W±1.4,h161km±24km, M4.2/34,mB4.8/19,ML5.3/36,MLv4.9/34,Mw(mB)4.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=120.1, confirmed*
NEIC ***13*** *10:30:41.6±1.3,32.57S±0.05×178.4W±0.2,h35km±2km, mb4.9/16,Error ellipse: s-maj=27.5km s-min=7.4km az=101.0*

ISC 13 10:30:38.4±0.6,32.75S±0.07×177.87W±0.09,h35km, n146,σ1§86/152,mb4.7/17,MS3.6/12,2C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.49 359**		Pn		**Pn**	**10 31 29.4**	**-0.7**
RAO	**Raoul Island**	**3.49 359**		Pn		Pn	10 31 22.8	-7.4
	93nm,0.3s,baz=198,slow=19,SNR=3.1							
RAO				Sn		Sn	10 31 59.4	-11
	144nm,0.3s,baz=93,slow=22,SNR=6.8 198nm,0.3s							
MXZ	**Matakaoa Point**	**5.73 212**		P		**Pn**	**10 32 01.0**	**0.0**
	88nm,1.2s							
MXZ	**Matakaoa Point**	**5.73 212**		Pn		**Pn**	**10 32 00.8**	**-0.2**
PKGZ	**Pakihiroa**	**6.11 212**		P		**Pn**	**10 32 05.2**	**+1.0**
PKGZ				S		**Sn**	**10 33 17.4**	**+2.6**
HAZ	**Te Kaha**	**6.13 214**		P		**Pn**	**10 32 05.9**	**-0.6**
HAZ				S		**Sn**	**10 33 16.8**	**+1.5**
PUZ	**Puketiti**	**6.18 210**		P		**Pn**	**10 32 05.7**	**-1.5**
PUZ				S		**Sn**	**10 33 17.9**	**+1.3**
RUGZ	**Raukumara Rang**	**6.35 214**		P		**Pn**	**10 32 09.5**	**-0.1**
RUGZ				S		**Sn**	**10 33 22.0**	**+1.0**
TWGZ	**Tauwhareparae**	**6.39 211**		P		**Pn**	**10 32 09.4**	**-0.6**
TWGZ				S		**Sn**	**10 33 24.2**	**+2.5**
CNGZ	**Carnagh Statio**	**6.55 208**		P		**Pn**	**10 32 11.5**	**-0.8**
KUZ	**Kuaotunu**	**6.61 231**		P		**Pn**	**10 32 15.1**	**+2.0**
	84nm,1.0s							
MWZ	**Matawai**	**6.72 213**		P		**Pn**	**10 32 12.5**	**-2.1**
MWZ				S		**Sn**	**10 33 30.2**	**+0.3**
OPRZ	**Ohinepanea**	**6.83 220**		P		**Pn**	**10 32 16.7**	**+0.7**
URZ	**Urewera**	**6.85 215**		P		**Pn**	**10 32 16.6**	**+0.2**
	74nm,0.7s							
URZ	**Urewera**	**6.85 215**		Pn		**Pn**	**10 32 15.1**	**-1.3**
	6.3nm,0.3s,baz=15,slow=2.3,SNR=30							
URZ				Sn		**Sn**	**10 33 32.6**	**-0.5**
	8.4nm,0.3s,baz=318,slow=16,SNR=7.8							
URZ	**Urewera**	**6.85 215**		P		**Pn**	**10 32 14.5**	**-1.9**
URZ				S		**Sn**	**10 33 31.7**	**-1.4**
RAGZ	**Rawiri**	**6.90 213**		P		**Pn**	**10 32 16.8**	**-0.4**
RAGZ				S		**Sn**	**10 33 36.1**	**+1.7**
RIGZ	**Rimuhau**	**6.92 210**		P		**Pn**	**10 32 15.5**	**-1.9**
RIGZ				S		**Sn**	**10 33 35.8**	**+0.8**
PRGZ	**Paritu Road**	**7.06 208**		P		**Pn**	**10 32 17.0**	**-2.2**
PRGZ				S		**Sn**	**10 33 37.2**	**-1.1**
KARZ	**Kaharoa**	**7.12 221**		P		**Pn**	**10 32 23.4**	**+3.2**
TARZ	**Mount Tarawera**	**7.14 218**		P		**Pn**	**10 32 23.7**	**+3.3**
SNGZ	**Shannon Statio**	**7.17 212**		P		**Pn**	**10 32 19.9**	**-0.9**
SNGZ				S		**Sn**	**10 33 41.6**	**+0.6**
MKAZ	**Moumakai**	**7.19 231**		P		**Pn**	**10 32 25.1**	**+4.2**
MUGZ	**Murupara**	**7.19 216**		P		**Pn**	**10 32 19.1**	**-1.9**
MUGZ				S		**Sn**	**10 33 40.7**	**-0.8**
RTZ	**Ruatahuna**	**7.20 214**				**Pn**	**10 32 20.1**	**-1.1**
RTZ	**Ruatahuna**	**7.20 214**		P		**Pn**	**10 32 18.9**	**-2.3**
MHGZ	**Mahia Peninsul**	**7.25 207**		P		**Pn**	**10 32 21.1**	**-0.7**
RAHZ	**Arahi**	**7.39 212**		P		**Pn**	**10 32 24.7**	**+0.9**
RAHZ				S		**Sn**	**10 33 47.0**	**+0.5**
PRRZ	**Plateau Road**	**7.40 218**		P		**Pn**	**10 32 25.0**	**+1.1**
PRRZ				S		**Sn**	**10 33 48.8**	**+2.2**
MTHZ	**Maungataniwha**	**7.45 214**		P		**Pn**	**10 32 23.8**	**-0.9**
MTHZ				S		**Sn**	**10 33 48.9**	**+1.0**
OUZ	**Omahuta**	**7.51 249**		P		**Pn**	**10 32 28.0**	**+2.6**
	90nm,0.8s							
OUZ	**Omahuta**	**7.51 249**		P		**Pn**	**10 32 27.1**	**+1.7**
MRHZ	**Matea Rd**	**7.64 216**		P		**Pn**	**10 32 26.7**	**-0.6**
MRHZ				S		**Sn**	**10 33 52.1**	**-0.5**
NMHZ	**Naumai**	**7.67 213**		P		**Pn**	**10 32 27.8**	**+0.2**
NMHZ				S		**Sn**	**10 33 53.9**	**+0.7**
ARHZ	**Aropaoanui**	**7.72 211**		P		**Pn**	**10 32 28.9**	**+0.7**
ARHZ				S		**Sn**	**10 33 55.0**	**+0.6**
BKZ	**Black Stump Fm**	**7.87 214**		P		**Pn**	**10 32 31.7**	**+1.4**
BKZ	**Black Stump Fm**	**7.87 214**				**Pn**	**10 32 31.8**	**+1.5**
BKZ	**Black Stump Fm**	**7.87 214**		P		**Pn**	**10 32 30.2**	**-0.2**
BKZ				S		**Sn**	**10 33 58.4**	**+0.3**
RATZ	**Rangitukua**	**8.00 218**		P		**Pn**	**10 32 32.8**	**+0.7**
MCHZ	**McNeill Hill**	**8.00 212**		P		**Pn**	**10 32 29.0**	**-3.1**
MCHZ				S		**Sn**	**10 34 01.2**	**-0.1**
RITZ	**Rihia Road**	**8.03 218**		P		**Pn**	**10 32 34.0**	**+1.4**
KWHZ	**Kaweka Forest**	**8.11 213**		P		**Pn**	**10 32 31.5**	**-2.1**
KWHZ				S		**Sn**	**10 34 03.3**	**-0.7**
KAHZ	**Kahuranaki**	**8.21 210**		P		**Pn**	**10 32 31.4**	**-3.6**
TMVZ	**Te Maari**	**8.22 218**		P		**Pn**	**10 32 35.3**	**+0.1**
NTVZ	**North Tongariro**	**8.22 218**		P		**Pn**	**10 32 35.1**	**-0.1**
ETVZ	**East Tongariro**	**8.23 217**		P		**Pn**	**10 32 35.1**	**-0.2**
KRVZ	**Karewarewa**	**8.23 218**		P		**Pn**	**10 32 35.7**	**+0.3**
HIZ	**Hauiti**	**8.25 224**		P		**Pn**	**10 32 37.6**	**+2.0**
HIZ	**Hauiti**	**8.25 224**		Pn		**Pn**	**10 32 35.7**	**0.0**
HIZ	**Hauiti**	**8.25 224**		P		**Pn**	**10 32 37.5**	**+1.9**
OTVZ	**Oturere**	**8.27 218**		P		**Pn**	**10 32 36.0**	**0.0**
NNVZ	**North Ngauruho**	**8.27 218**		P		**Pn**	**10 32 36.6**	**+0.5**
SNVZ	**South Ngauruho**	**8.30 218**		P		**Pn**	**10 32 37.5**	**+1.1**
KRHZ	**Kereru**	**8.31 212**		P		**Pn**	**10 32 34.3**	**-2.0**
NGZ	**Ngauruhoe**	**8.31 218**		P		**Pn**	**10 32 37.8**	**+1.3**
BHHZ	**Black Hill Sta**	**8.32 214**		P		**Pn**	**10 32 36.3**	**-0.4**
MOVZ	**Moawhango**	**8.41 216**		P		**Pn**	**10 32 38.5**	**+0.7**
PXZ	**Pawanui**	**8.41 209**		P		**Pn**	**10 32 35.5**	**-2.3**
WNVZ	**Wahianoa**	**8.43 217**		P		**Pn**	**10 32 38.3**	**+0.1**
PNHZ	**Pukenui**	**8.60 212**		P		**Pn**	**10 32 38.4**	**-2.0**
WPHZ	**Waipukurau**	**8.62 211**		P		**Pn**	**10 32 36.8**	**-3.9**
PRHZ	**Porangahau**	**8.71 209**		P		**Pn**	**10 32 40.9**	**-0.9**
TSZ	**Takapari Road**	**8.83 213**		P		**Pn**	**10 32 42.1**	**-1.4**
DVHZ	**Dannevirke**	**8.93 211**		P		**Pn**	**10 32 42.8**	**-2.1**
ANWZ	**Angora Road**	**8.94 209**		P		**Pn**	**10 32 44.6**	**-0.3**
WAZ	**Wanganui**	**9.06 218**		P		**Pn**	**10 32 46.7**	**0.0**
POWZ	**Post Office Ro**	**9.18 212**		P		**Pn**	**10 32 47.3**	**-1.1**
BFZ	**Birch Farm**	**9.22 209**		Pn		**Pn**	**10 32 46.4**	**-2.4**
BFZ	**Birch Farm**	**9.22 209**		P		**Pn**	**10 32 45.1**	**-3.7**
TIWZ	**Tintock**	**9.45 210**		P		**Pn**	**10 32 49.2**	**-2.8**
MRZ	**Mangatainoka R**	**9.48 212**				**Pn**	**10 32 49.0**	**-3.5**
MRZ	**Mangatainoka R**	**9.48 212**		P		**Pn**	**10 32 48.8**	**-3.6**
HOWZ	**Holdsworth Sta**	**9.71 211**		P		**Pn**	**10 32 52.6**	**-2.9**
TMWZ	**Te Maipa**	**9.72 209**		P		**Pn**	**10 32 54.0**	**-1.7**
OGWZ	**Otaki Gorge**	**9.79 213**		P		**Pn**	**10 32 53.8**	**-2.9**
PAWZ	**Paruwai Farm**	**10.14 210**		P		**Pn**	**10 32 58.8**	**-2.7**
SNZO	**South Karori**	**10.40 213**		Pn		**Pn**	**10 33 05.8**	**+0.8**
TUWZ	**Tuamarina**	**10.85 215**				**Pn**	**10 33 09.2**	**-2.0**
TUWZ	**Tuamarina**	**10.85 215**		P		**Pn**	**10 33 09.1**	**-2.0**
MRNZ	**Matariki Terra**	**11.42 218**		P		**Pn**	**10 33 16.6**	**-2.3**
THZ	**Tophouse**	**11.61 217**				**Pn**	**10 33 19.8**	**-1.8**
THZ	**Tophouse**	**11.61 217**		P		**Pn**	**10 33 18.4**	**-3.3**
KHZ	**Kahutara**	**11.81 213**		P		**Pn**	**10 33 21.6**	**-2.6**
GVZ	**Greta Valley S**	**12.47 213**		P		**Pn**	**10 33 29.3**	**-4.0**
LTZ	**Lake Taylor**	**12.68 215**		P		**Pn**	**10 33 33.4**	**-2.9**
RPZ	**Rata Peaks**	**13.97 215**		P		**Pn**	**10 33 51.8**	**-2.0**
	26nm,1.9s							
RPZ	**Rata Peaks**	**13.97 215**		Pn		**Pn**	**10 33 50.1**	**-3.8**
RPZ	**Rata Peaks**	**13.97 215**		Pn		**Pn**	**10 33 50.2**	**-3.6**
	0.8nm,0.3s,baz=135,slow=18,SNR=1.7							
RPZ				Sn		Sn	10 36 14.7	-13
	0.8nm,0.3s,baz=182,slow=21,SNR=2.7							
ODZ	**Otahua Downs**	**15.17 213**		P		**Pn**	**10 34 08.1**	**-1.8**
	28nm,1.0s							
JCZ	**Jackson Bay**	**15.38 219**		P		**Pn**	**10 34 10.5**	**-2.3**
	52nm,1.2s							
DZM	**Mont Dzumac**	**17.51 303**		LR		LR	10 40 15.8	
	comp=Z,549nm,18.4s,baz=178,slow=34							
RAR	**Rarotonga**	**19.77 59**		LR		LR	10 40 55.7	
	comp=Z,136nm,20.6s,baz=135,slow=31							
EIDS	**Eidsvold**	**28.05 277**		P		**P**	**10 36 24.7**	**-1.8**
STKA	**Stephens Creek**	**34.13 260**		P		**P**	**10 37 17.4**	**-2.6**
	0.7nm,0.6s,baz=165,slow=16,SNR=1.6							
	0.7nm,0.6s							
CTAO	**Charters Tower**	**34.35 283**		P		**P**	**10 37 21.4**	**-0.7**
CTAO	**Charters Tower**	**34.35 283**		P		**P**	**10 37 21.8**	**-0.3**
CTAO				pP		**pwP**	**10 37 35.7**	**-2.2**
BBOO	**Buckleboo**	**38.50 257**		P		**P**	**10 37 55.8**	**-1.6**
PMG	**Port Moresby**	**39.76 298**		LR		LR	10 53 09.2	
	comp=Z,43nm,18.1s,baz=113,slow=35							
COEN	**Coen**	**40.08 289**		P		**P**	**10 38 09.4**	**-1.3**
COEN				IAmb		IAmb	10 38 26.6	
	comp=Z,18nm,1.1s							
AS31	**Alice Springs**	**43.15 269**		P		**P**	**10 38 34.6**	**-1.2**
ASAR	**Alice Springs**	**43.15 269**		P		**P**	**10 38 34.2**	**-1.6**
ASAR	**Alice Springs**	**43.15 269**		P		**P**	**10 38 33.9**	**-2.0**
	comp=Z,1.9nm,0.4s,baz=109,slow=7.5,SNR=53 comp=Z,1.9nm,0.4s							
WB2	**Warramunga Arr**	**44.34 274**		P		**P**	**10 38 43.5**	**-1.9**
WB2				IAmb		IAmb	10 38 57.8	
	comp=Z,20nm,0.9s							
WRAB	**Tennant Creek**	**44.34 274**		P		**P**	**10 38 43.6**	**-1.8**
WRAB				IAmb		IAmb	10 38 57.8	
	comp=Z,15nm,0.8s							
WRA	**Warramunga Arr**	**44.35 274**		P		**P**	**10 38 44.2**	**-1.3**
WRA	**Warramunga Arr**	**44.35 274**		P		**P**	**10 38 43.1**	**-2.4**
	comp=Z,4.2nm,0.3s,baz=114,slow=8.1,SNR=55 comp=Z,4.2nm,0.3s							
WB0	**Warramunga Arr**	**44.38 275**		P		**P**	**10 38 44.2**	**-1.5**
WB0				IAmb		IAmb	10 38 56.5	
	comp=Z,19nm,0.7s							
FORT	**Forrest**	**45.60 257**		P		**P**	**10 38 53.4**	**-1.8**
FORT				IAmb		IAmb	10 38 57.9	
	comp=Z,16nm,0.7s							
MTN	**Manton Dam**	**50.50 281**		P		**P**	**10 39 32.3**	**-1.0**
CCD	**Concordia, Ant**	**50.74 197**		P		P	10 39 41.3	+6.5
CCD				pP		pwP	10 39 54.4	+1.9
FITZ	**Fitzroy Crossi**	**52.51 272**		P		**P**	**10 39 47.1**	**-1.2**
CASY	**Casey**	**53.13 209**		P		**P**	**10 39 54.3**	**+2.1**
CASY				IAmb		IAmb	10 40 08.4	
	comp=Z,18nm,1.4s							
CASY	**Casey**	**53.13 209**		P		**P**	**10 39 55.1**	**+2.9**
CASY				pP		**pwP**	**10 40 08.6**	**-0.3**
MORW	**Morawa**	**56.00 255**		P		**P**	**10 40 12.8**	**-0.9**
QSPA	**South Pole Qui**	**57.37 180**		P		**P**	**10 40 27.7**	**+4.7**
QSPA				IAmb		IAmb	10 40 50.2	
	comp=Z,10nm,0.8s							
QSPA	**South Pole Qui**	**57.37 180**		P		**P**	**10 40 27.4**	**+4.5**
	comp=Z,1.1nm,0.8s,baz=12,slow=2.2,SNR=2.7 comp=Z,1.1nm,0.8s							
RPN	**Rapa Nui**	**58.73 104**		LR		LR	11 00 13.3	
	comp=Z,35nm,20.6s,baz=142,slow=30							
KAPI	**Kappang**	**64.16 281**		LR		LR	11 07 31.8	
	comp=Z,64nm,19.4s,baz=96,slow=35							
MAW	**Mawson**	**70.16 201**		P		P	10 41 52.3	+5.3
	comp=Z,1.4nm,0.6s,baz=214,slow=3.6,SNR=13 comp=Z,1.4nm,0.6s							
LEM	**Lembang**	**73.32 273**		LR		LR	11 15 42.0	
	comp=Z,79nm,18.1s,baz=172,slow=37							
SNAA	**Sanae**	**75.81 178**		P		P	10 42 27.7	+7.3
SNAA				IAmb		IAmb	10 42 46.7	
	comp=Z,29nm,1.6s							
SNAA	**Sanae**	**75.81 178**		P		P	10 42 26.3	+5.8
	comp=Z,2.2nm,0.9s,baz=224,slow=3.9,SNR=1.6 comp=Z,2.2nm,0.9s							
VNA3	**Neumayer Olymp**	**75.96 176**		⇑P		**P**	**10 42 23.8**	**+2.6**
	comp=Z,4.9nm,0.6s							
VNA2	**Neumayer--Watz**	**76.39 177**		⇑P		**P**	**10 42 24.2**	**+0.5**
	comp=Z,4.8nm,0.6s,baz=176,slow=6.5							
PLCA	**Paso Flores**	**80.83 133**		P		**P**	**10 42 52.5**	**+3.7**
	comp=Z,2.3nm,0.9s,baz=254,slow=7.4,SNR=3.3 comp=Z,2.3nm,0.9s							
KSRS	**Korea Array**	**86.21 320**		LR		LR	11 20 06.1	
	comp=Z,13nm,18.1s,baz=145,slow=35							
PFO	**Pinyon Flats O**	**87.71 47**		LR		LR	11 21 06.8	
	comp=Z,68nm,18.2s,baz=230,slow=35							
PETK	**Petropavlovsk-**	**88.11 346**		P		**P**	**10 43 24.1**	**-0.8**
	comp=Z,1.9nm,0.7s,baz=149,slow=9.2,SNR=2.2							
PETK				LR		LR	11 17 47.1	
	comp=Z,19nm,19.0s,baz=139,slow=32 comp=Z,1.9nm,0.7s							
YBH	**Yreka Blue Hor**	**89.81 38**		LR		LR	11 19 08.1	
	comp=Z,30nm,18.3s,baz=190,slow=32							
NVAR	**Mina Array Bea**	**89.88 43**		P		**P**	**10 43 33.8**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=223,slow=8.1,SNR=3.6 comp=Z,0.3nm,0.7s							
NNA	**Nana**	**92.67 106**		LR		LR	11 20 45.6	
	comp=Z,19nm,18.9s,baz=207,slow=32							
MA2	**Magadan**	**95.58 345**		LR		LR	11 19 46.5	
	comp=Z,22nm,22.0s,baz=166,slow=31							
LPAZ	**La Paz**	**97.08 114**		LR		LR	11 21 50.0	
	comp=Z,20nm,18.3s,baz=201,slow=32							
PDAR	**Pinedale Array**	**97.75 44**		LR		LR	11 21 46.0	
	comp=Z,29nm,19.0s,baz=266,slow=32							
MKAR	**Makanchi Array**	**119.35 309**		PKP		**PKPdf**	**10 49 23.3**	**-0.4**
	comp=Z,0.2nm,0.6s,baz=96,slow=1.4,SNR=2.3							
KURBB	**Kurchatov Arra**	**122.77 313**		PKP		**PKPdf**	**10 49 29.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=114,slow=1.9,SNR=5.4							
BVAR	**Borovoye Array**	**128.15 314**		PKP		**PKPdf**	**10 49 40.3**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=42,slow=2.4,SNR=3.7							
ARCES	**ARCESS Array B**	**140.90 347**		PKhKP		PKPpre	10 49 57.2	
	comp=Z,4.4nm,1.2s,baz=59,slow=3.1,SNR=3.8							
ARCES				PKP		**PKiKP**	**10 50 05.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=46,slow=3.5,SNR=4.0							
FINES	**FINESS Array B**	**147.38 339**		PKPbc		**PKPbc**	**10 50 16.8**	**-0.8**
	comp=Z,2.7nm,0.4s,baz=46,slow=3.9,SNR=32							
NB2	**NORSAR Subarra**	**151.08 351**		PKP		**PKPbc**	**10 50 26.4**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=15,slow=2.6							
NOA	**NORSAR Array B**	**151.08 351**		PKPbc		**PKPbc**	**10 50 26.7**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=15,slow=4.2,SNR=5.0							
HFS	**Hagfors**	**151.56 348**		PKPbc		**PKPbc**	**10 50 27.2**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=84,slow=5.9,SNR=7.6							
MMAI	**Mount Meron Ar**	**152.12 280**		PKPbc		**PKPbc**	**10 50 30.6**	**+0.2**
	comp=Z,1.4nm,0.4s,baz=117,slow=5.5,SNR=1.9							
AKASG	**Malin Array Be**	**153.20 320**		PKPbc		**PKiKP**	**10 50 32.2**	**0.0**
	comp=Z,0.3nm,0.3s,baz=37,slow=3.3,SNR=2.0							
BRTR	**Keskin Array B**	**153.75 294**		PKPbc		**PKiKP**	**10 50 34.3**	**+0.4**
	comp=Z,1.5nm,0.9s,baz=126,slow=5.2,SNR=4.2							
TORD	**Torodi Ar. Bea**	**160.48 179**		PKPab		**PKPab**	**10 51 17.1**	**+1.1**
	comp=Z,1.3nm,0.8s,baz=172,slow=2.8,SNR=4.3							

NOU 13 10:36:05.4,20.49S×169.71E,h0km,mb3.9/6,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MARNC	**Mare, Loyalty**	**1.85 238**		P		Pn	10 36 38.1	-0.3
LIFNC	**LIFOU**	**2.33 263**		P		Pn	10 36 43.8	-1.2
PINNC	**Pines Island,**	**2.98 225**		P		Pn	10 36 53.5	-0.5
OUENC	**Ouen Island, N**	**3.29 234**		P		Pn	10 36 58.6	+0.4
NOUC	**Port Laguerre**	**3.56 243**		P		Pn	10 37 02.1	+0.2
KOUNC	**Koumac, New Ca**	**5.08 268**		P		Pn	10 37 23.5	+0.6

SNET ***13*** *10:38:55.2±1.0,13.23N×88.00W,h2km±4km,ML3.0*
CATAC ***13*** *10:38:55.2±0.2,13.19N×87.98W,h3km±1km,ML2.9*

ISC 13 10:38:55.2±0.9,13.19N±0.03×87.99W±0.02,h8km±6km, n39,σ0§63/69,3C,Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
INTP	**Intipuca**	**0.07 277**		*i* P		**Pg**	**10 38 56.9**	**-0.2**
INTP				*e* S		**Sg**	**10 38 58.4**	**-0.1**
LCND	**La Caada**	**0.15 38**		*i* P		**Pg**	**10 38 58.5**	**0.0**
LCND				*e* S		**Sg**	**10 39 00.7**	**+0.1**
LCND	**La Caada**	**0.15 38**		*i* P		**Pg**	**10 38 57.7**	**-0.7**
LCND				*i* S		**Sg**	**10 39 01.0**	**+0.4**
LCND				IAML			10 39 02.6	
	comp=Z,3μm,1.0s							
CNCH	**Conchagua**	**0.17 60**		⇑*i* P		**Pg**	**10 38 59.0**	**+0.2**
CNCH				*e* S		**Sg**	**10 39 01.9**	**+0.6**
CNCH	**Conchagua**	**0.17 60**		*i* P		**Pg**	**10 38 58.2**	**-0.6**
CNCH				*i* S		**Sg**	**10 39 01.8**	**+0.5**
CNCH				IAML			10 39 04.3	
	comp=Z,10μm,1.0s							
JUCU	**Jucuarįn**	**0.26 284**		*e* P		**Pg**	**10 39 00.5**	**0.0**
JUCU				*e* S		**Sg**	**10 39 04.4**	**+0.4**
JUCU	**Jucuarįn**	**0.26 284**		*i* P		**Pg**	**10 39 00.6**	**+0.1**
JUCU				*i* S		**Sg**	**10 39 04.6**	**+0.6**
JUCU				IAML			10 39 06.4	
	comp=Z,2μm,1.0s							
AMPH	**Amapala**	**0.33 73**		*e* P		**Pg**	**10 39 02.1**	**+0.3**
AMPH				*e* S		**Sg**	**10 39 07.4**	**+1.3**
CNRM	**Centro Naciona**	**0.34 328**		*i* P		**Pg**	**10 39 01.4**	**-0.4**
CNRM				*i* S		**Sg**	**10 39 07.0**	**+0.7**
CNRM				IAML			10 39 11.5	
	comp=Z,6μm,1.0s							

BLLM	**Bellamira**	**0.35 316**		*e* P		**Pg**	**10 39 02.3**	**+0.2**
RANC	**El Ranchito**	**0.38 310**		*e* P		**Pg**	**10 39 03.0**	**+0.3**
RANC	**El Ranchito**	**0.38 310**		*i* P		**Pb**	**10 39 03.4**	**-1.0**
RANC				*i* S		**Sg**	**10 39 08.6**	**+0.8**
RANC				IAML			10 39 14.1	
	comp=Z,840nm,1.0s							
PACA	**Pacayal**	**0.43 310**		*e* S		**Sg**	**10 39 09.9**	**+0.6**
PACA	**Pacayal**	**0.43 310**		*i* P		**Pg**	**10 39 03.7**	**+0.1**
PACA				*i* S		**Sb**	**10 39 10.5**	**-1.4**
PACA				IAML			10 39 15.8	
	comp=Z,4μm,1.0s							
TECA	**Tecapa**	**0.59 301**		*e* P		**Pg**	**10 39 06.6**	**0.0**
COEB	**Comit de Eme**	**0.61 300**		*e* P		**Pg**	**10 39 07.1**	**0.0**
COEB				*e* S		**Sg**	**10 39 15.1**	**0.0**
COEB	**Comit de Eme**	**0.61 300**		*i* P		**Pg**	**10 39 06.9**	**-0.2**
COEB				*i* S		**Sg**	**10 39 15.3**	**+0.2**
COEB				IAML			10 39 23.1	
	comp=Z,340nm,1.0s							
PQSS	**Presa 15 de Se**	**0.71 308**		*i* P		**Pg**	**10 39 08.9**	**+0.1**
PQSS				*i* S		**Sb**	**10 39 18.8**	**-0.9**
PQSS				IAML			10 39 21.8	
	comp=Z,110nm,1.0s							
TECO	**Alcaldia de Te**	**0.85 294**		*i* P		**Pg**	**10 39 10.9**	**-0.6**
TECO				*i* S		**Sg**	**10 39 22.6**	**0.0**
TECO				IAML			10 39 27.7	
	comp=Z,240nm,1.0s							
SCLA	**Alcaldia de Sa**	**0.88 305**		*e* P		**Pg**	**10 39 11.9**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.88 305**		*i* P		**Pg**	**10 39 11.9**	**-0.3**
SCLA				*i* S		**Sb**	**10 39 24.7**	**-0.2**
SCLA				IAML			10 39 33.0	
	comp=Z,110nm,1.0s							
UESV	**Universidad de**	**0.90 300**		*i* P		**Pg**	**10 39 12.5**	**0.0**
UESV				*i* S		**Sg**	**10 39 24.3**	**+0.1**
UESV				IAML			10 39 25.3	
	comp=Z,300nm,1.0s							
COEG	**Centro de Oper**	**0.97 296**		*e* P		**Pg**	**10 39 13.0**	**-0.9**
COEG				*e* S		**Sg**	**10 39 26.3**	**-0.2**
COEG	**Centro de Oper**	**0.97 296**		*i* P		**Pg**	**10 39 13.3**	**-0.6**
COEG				*i* S		**Sg**	**10 39 26.4**	**-0.1**
COEG				IAML			10 39 29.7	
	comp=Z,320nm,1.0s							
CRIN	**San Cristobal**	**1.03 118**		*e* P		**Pg**	**10 39 15.2**	**+0.1**
CRIN	**San Cristobal**	**1.03 118**		*i* P		**Pg**	**10 39 15.3**	**+0.2**
CRIN				*i* S		**Sg**	**10 39 28.3**	**-0.2**
CRIN				IAML			10 39 34.0	
	comp=Z,570nm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.11 39**		*e* P		**Pg**	**10 39 15.3**	**-1.2**
TGUH	**Tegucigalpa,Un**	**1.11 39**		*i* P		**Pg**	**10 39 15.7**	**-0.8**
TGUH				*i* S		**Sg**	**10 39 30.8**	**-0.1**
TGUH				IAML			10 39 35.3	
	comp=Z,350nm,1.0s							
LOMA	**Loma Larga**	**1.24 292**		*i* P		**Pg**	**10 39 18.4**	**-0.6**
LOMA				*i* S		**Sg**	**10 39 34.9**	**-0.2**

LCND				*e*S		**Sb**	**10 49 47.3**	**-0.9**
LCND	**La Caada**	**0.41**	**18**	*i* P		**Pb**	**10 49 40.4**	**-1.2**
LCND				*i* S		**Sb**	**10 49 46.3**	**-2.0**
LCND				IAML			10 49 49.8	
	comp=Z,4μm,1.0s							
AMPH	**Amapala**	**0.51**	**43**	*e*P		**Pn**	**10 49 48.5**	**+2.7**
AMPH				*e*S		**Sb**	**10 49 54.2**	**+3.2**
BLLM	**Bellamira**	**0.57**	**338**	*e*P		**Pn**	**10 49 46.8**	**+0.1**
CNRM	**Centro Naciona**	**0.58**	**345**	*i* P		**Pb**	**10 49 43.5**	**-0.9**
CNRM				*i* S		**Sb**	**10 49 52.2**	**-0.8**
CNRM				IAML			10 49 54.4	
	comp=Z,3μm,1.0s							
RANC	**El Ranchito**	**0.58**	**333**	*e*P		**Pn**	**10 49 47.3**	**+0.4**
RANC	**El Ranchito**	**0.58**	**333**	*i* P		**Pb**	**10 49 44.1**	**-0.5**
RANC				*i* S		**Sb**	**10 49 52.4**	**-0.8**
RANC				IAML			10 49 53.4	
	comp=Z,400nm,1.0s							
PACA	**Pacayal**	**0.63**	**332**	*i* P		**Pb**	**10 49 44.8**	**-0.5**
PACA				*i* S		**Sb**	**10 49 53.4**	**-1.1**
PACA				IAML			10 49 59.7	
	comp=Z,2μm,1.0s							
COEB	**Comit de Eme**	**0.77**	**320**	*i* P		**Pg**	**10 49 46.9**	**+0.4**
COEB				*i* S		**Sb**	**10 49 57.9**	**-0.6**
COEB				IAML			10 50 01.4	
	comp=Z,180nm,1.0s							
TECO	**Alcaldia de Te**	**0.97**	**310**	*i* P		**Pg**	**10 49 50.5**	**+0.2**
TECO				*i* S		**Sb**	**10 50 04.9**	**+0.7**
TECO				IAML			10 50 13.7	
	comp=Z,69nm,1.0s							
CRIN	**San Cristobal**	**0.97**	**102**	*i* P		**Pg**	**10 49 49.6**	**-0.7**
CRIN				*i* S		**Sg**	**10 50 02.5**	**-0.4**
CRIN				IAML			10 50 28.5	
	comp=Z,260nm,1.0s							
COEG	**Centro de Oper**	**1.09**	**310**	*i* P		**Pg**	**10 49 52.9**	**+0.2**
COEG				*i* S		**Sb**	**10 50 08.7**	**+0.8**
COEG				IAML			10 50 11.6	
	comp=Z,81nm,1.0s							
PANCS	**Alcalda de**	**1.33**	**302**	*i* P		**Pg**	**10 49 57.4**	**+0.2**
PANCS				*i* S		**Sb**	**10 50 15.7**	**+1.1**
PANCS				IAML			10 50 45.0	
	comp=Z,1μm,1.0s							
LOMA	**Loma Larga**	**1.34**	**303**	*i* P		**Pg**	**10 49 57.3**	**-0.1**
LOMA				IAML			10 50 04.3	
	comp=Z,120nm,1.0s							
LOMA				*i* S		**Sb**	**10 50 15.6**	**+0.6**
TGUH	**Tegucigalpa,Un**	**1.35**	**32**	*e*P		**Pn**	**10 50 01.2**	**+3.8**
TGUH	**Tegucigalpa,Un**	**1.35**	**32**	*i* P		**Pg**	**10 49 56.2**	**-1.4**
TGUH				*i* S		**Sn**	**10 50 15.5**	**-0.4**
TGUH				IAML			10 50 24.1	
	comp=Z,170nm,1.0s							
PMON	**Piamonte**	**1.49**	**302**	*i* P		**Pn**	**10 49 59.3**	**-0.1**
PMON				*i* S		**Sg**	**10 50 19.6**	**-0.1**
PMON				IAML			10 50 30.9	
	comp=Z,170nm,1.0s							
LLGN	**La Laguna**	**1.54**	**324**	*i* P		**Pn**	**10 49 59.2**	**-0.8**
LLGN				IAML			10 50 03.5	
	comp=Z,170nm,1.0s							
LLGN				*i* S		**Sn**	**10 50 21.4**	**+1.0**
JAYA	**Jayaque - finc**	**1.57**	**298**	*i* P		**Pn**	**10 50 01.0**	**+0.4**
JAYA				*i* S		**Sg**	**10 50 21.8**	**-0.6**
MTO3	**Montecristo**	**1.97**	**319**	*i* P		**Pn**	**10 50 05.9**	**-0.2**
MTO3				IAML			10 50 25.2	
	comp=Z,19nm,1.0s							
MTO3				*i* S		**Sb**	**10 50 32.8**	**-0.5**

NEIC ***13*** *10:57:18.1±0.6,19°.32N×0°.02×155°.20W±0°.02,h4km±4km, Error ellipse: s-maj=4.0km s-min=1.4km az=140.0*
HVO 13 10:57:17.6±0.8,19°.31N±0°.02×155°.18W±0°.02,h8km±2km, Md2.0/3,ML2.8/20(NEIC)**, Error ellipse: s-maj=4.0km s-min=1.4km az=128.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.07**	**5**		Pg	10 57 19.7	0.0
PUH	**Pauahi**	**0.08**	**330**		Pg	10 57 19.6	-0.1
PUH	**Pauahi**	**0.08**	**330**	IAML		10 57 20.9	
	comp=E,2μm,1.2s						
PUH				IAML		10 57 21.5	
	comp=N,4μm,1.4s						
STCH	**Steam Cracks**	**0.09**	**31**		Pg	10 57 20.0	+0.1
STCH	**Steam Cracks**	**0.09**	**31**	IAML		10 57 20.7	
	comp=N,2μm,1.4s						
STCH				IAML		10 57 20.9	
	comp=E,1μm,1.3s						
NPOC	**North of Pu'u**	**0.11**	**36**		Pg	10 57 20.3	+0.2
HLP	**Hilina Pali**	**0.13**	**265**	Pg	Pg	10 57 20.4	0.0
HLP				IAML		10 57 21.6	
	comp=E,3μm,1.5s						
HLP				IAML		10 57 23.7	
	comp=N,3μm,1.2s						
HTC	**Hot Caves**	**0.22**	**252**		Pg	10 57 22.5	+0.4
MLH	**Mauna Loa**	**0.27**	**313**		Pg	10 57 23.0	-0.1
MLH	**Mauna Loa**	**0.27**	**313**	IAML		10 57 25.6	
	comp=N,2μm,1.3s						
MLH				IAML		10 57 31.0	
	comp=E,1μm,1.4s						
HMH	**Humu'ula Sheep**	**0.41**	**315**		Pg	10 57 25.7	-0.1
HMH	**Humu'ula Sheep**	**0.41**	**315**	IAML		10 57 28.2	
	comp=E,770nm,1.0s						
HMH				IAML		10 57 28.7	
	comp=N,705nm,1.1s						
KHU	**Kahuku**	**0.42**	**262**		Sg	10 57 31.9	+0.6
KHU	**Kahuku**	**0.42**	**262**		Pg	10 57 25.5	-0.4
KHU				IAML		10 57 32.5	
	comp=N,1μm,1.4s						
KHU	**Kahuku**	**0.42**	**262**	IAML		10 57 31.2	
	comp=E,1μm,1.4s						
MWH	**Moku'aweowe**	**0.44**	**294**		Pg	10 57 26.0	-0.2
MWH	**Moku'aweowe**	**0.44**	**294**	IAML		10 57 32.8	
	comp=N,2μm,0.9s						
MWH				IAML		10 57 34.9	
	comp=E,3μm,1.2s						
MLOA	**Mauna Loa Obse**	**0.44**	**301**		Sg	10 57 32.7	+0.6
MLOA	**Mauna Loa Obse**	**0.44**	**301**	Pg	Pg	10 57 26.0	-0.3
MLOA				IAML		10 57 27.9	
	comp=N,968nm,0.8s						
MLOA				IAML		10 57 29.5	
	comp=E,710nm,1.3s						
ALEP	**Alea Permanent**	**0.50**	**298**		Pg	10 57 26.6	-0.8
ALEP					Sg	10 57 34.5	+0.5
POHA	**Pohakuloa**	**0.56**	**323**		Sg	10 57 35.6	-0.3
POHA	**Pohakuloa**	**0.56**	**323**	Pg	Pg	10 57 27.6	-0.9
POHA				IAML		10 57 32.1	
	comp=E,638nm,1.1s						
POHA				IAML		10 57 46.2	
	comp=E,609nm,1.1s						
HUH	**Hualalai**	**0.73**	**301**	Pg	Pg	10 57 30.3	-1.4

IDC 13 11:34:13.8±8.7,19°.93S×177°.17W,h0km,mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=381.6km s-min=41.4km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.41**	**256**	P	P	11 42 34.1	-0.6
	0.3nm,0.8s,baz=100,slow=7.6,SNR=2.4 0.3nm,0.8s						
WRA	**Warramunga Arr**	**45.46**	**261**	P	P	11 42 35.2	+0.2
	0.8nm,0.8s,baz=96,slow=8.1,SNR=7.1 0.8nm,0.8s						
ILAR	**Eielson Array**	**87.59**	**12**	P	P	11 47 03.4	0.0
	0.2nm,0.7s,baz=216,slow=5.6,SNR=4.5 0.2nm,0.7s						

NOU 13 11:38:09.0,21°.27S×169°.42E,h0km,MLv3.3/8, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.31**	**261**	P	Pg	11 38 33.2	-1.0
LIFNC	**LIFOU**	**2.10**	**283**	P	Pn	11 38 44.4	-1.0
PINNC	**Pines Island,**	**2.27**	**234**	P	Pn	11 38 47.5	-0.2
DZM	**Mont Dzumac**	**2.88**	**253**	P	Pn	11 38 56.1	-0.2
ONTNC	**Ouen Toro**	**2.94**	**249**	P	Pn	11 38 57.4	+0.3
NOUC	**Port Laguerre**	**3.02**	**254**	P	Pn	11 38 57.4	-0.6
KOUNC	**Koumac, New Ca**	**4.85**	**278**	P	Pn	11 39 24.3	+1.0

SFS ***13*** *11:53:26.1,34°.95N×3°.89W,h16km,ML3.0/13,ML3.1/13, MLv3.0/13*

MDD ***13*** *11:53:26.9±0.6,35°.06N×3°.85W,h0km±5km,mb_Lg2.5/11, Error ellipse: s-maj=5.2km s-min=3.4km az=167.0*
CNRM ***13*** *11:53:27.1,35°.16N×3°.84W,h16km,ML2.3*
INMG ***13*** *11:53:27.1±1.5,34°.95N×3°.83W,h21km,ML2.1, Error ellipse: s-maj=4.4km s-min=3.0km az=116.0*
ISC 13 11:53:25.7±1.3,35°.07N±0°.02×3°.87W±0°.02,h15km±10km, n68,σ1°38/92, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALE	**Palemas**	**0.15**	**337**	P	Pb	**11 53 30.5**	**+0.2**
PALE	**Palemas**	**0.15**	**337**	S	Sb	**11 53 33.5**	**+0.1**
PALE	**Palemas**	**0.15**	**337**	P	Pb	**11 53 30.5**	**+0.2**
PALE	**Palemas**	**0.15**	**337**	P	Pb	**11 53 30.5**	**+0.2**
PVLZ	**Peæn de**	**0.37**	**286**	Pg	Pb	**11 53 34.4**	**+0.4**
AKLM	**AKL**	**0.56**	**180**	P	Pb	**11 53 37.6**	**+0.4**
AKLM	**AKL**	**0.56**	**180**	S	Sb	**11 53 45.7**	**+0.6**
AKLM	**AKL**	**0.56**	**180**	P	Pb	**11 53 38.0**	**+0.7**
AKLM	**AKL**	**0.56**	**180**	P	Pb	**11 53 38.0**	**+0.7**
GOG	**Mont Gurugu**	**0.73**	**78**	P	Pg	**11 53 39.6**	**-0.3**
GOG	**Mont Gurugu**	**0.73**	**78**	S	Sb	**11 53 49.9**	**0.0**
GOG	**Mont Gurugu**	**0.73**	**78**	P	Pn	**11 53 41.0**	**-0.5**
GOG	**Mont Gurugu**	**0.73**	**78**	P	Pn	**11 53 41.0**	**-0.5**
EMEL	**Melilla**	**0.78**	**73**	P	Pn	**11 53 41.2**	**-0.9**
EMEL				S	Sn	**11 53 53.0**	**-0.5**
EMLI	**Melilla**	**0.78**	**73**	Pg	Pb	**11 53 41.0**	**0.0**
EMLI				Sg	Sn	**11 53 53.6**	**0.0**
WMELI	**Melilla**	**0.79**	**72**	Pg	Pg	**11 53 40.4**	**-0.6**
WMELI				Sg	Sn	**11 53 53.8**	**+0.1**
CHAS	**Isla Isabel II**	**1.18**	**84**	Pn	Pn	**11 53 47.2**	**-0.4**
CHAS				Sn	Sg	**11 54 03.9**	**0.0**
CHEFC	**Chefchaouen**	**1.21**	**272**	P	Pn	**11 53 47.2**	**-0.9**
CHEFC	**Chefchaouen**	**1.21**	**272**	S	Sb	**11 54 03.0**	**-0.7**
TAF	**Taforalt**	**1.22**	**102**	P	Pb	**11 53 48.0**	**-0.4**
TAF	**Taforalt**	**1.22**	**102**	P	Pg	**11 53 50.0**	**+0.8**
TAF	**Taforalt**	**1.22**	**102**	P	Pg	**11 53 50.0**	**+0.8**
JBK	**JBK**	**1.30**	**124**	P	Pn	**11 53 49.1**	**-0.3**
JBK	**JBK**	**1.30**	**124**	S	Sn	**11 54 06.2**	**-0.4**
JBK	**JBK**	**1.30**	**124**	P	Pg	**11 53 50.0**	**-0.7**
JBK	**JBK**	**1.30**	**124**	P	Pg	**11 53 50.0**	**-0.7**
SMIR	**Smir Dam**	**1.38**	**297**	P	Pn	**11 53 49.3**	**-1.1**
SMIR	**Smir Dam**	**1.38**	**297**	S	Sn	**11 54 07.4**	**-0.9**
CEU	**Ceuta**	**1.48**	**304**	Pn	Pn	**11 53 49.4**	**-2.3**
ECEU	**Ceuta**	**1.48**	**304**	Pn	Pn	**11 53 50.5**	**-1.3**
ECEU	**Ceuta**	**1.48**	**304**	S	Sn	**11 54 08.4**	**-2.4**
ECEU				*i* Vmb_Lg		11 54 11.3	
RSA	**Sarsar**	**1.62**	**264**	P	Pn	**11 53 53.8**	**+0.1**
EMIJ	**Mijas**	**1.66**	**334**	Pn	Pn	**11 53 54.9**	**+0.6**
EMIJ	**Mijas**	**1.66**	**334**	P	Pb	**11 53 55.4**	**-0.5**
EMIJ				S	Sn	**11 54 15.2**	**-0.1**
EMIJ				*i* Vmb_Lg		11 54 20.8	
ELGU	**Los Guajares,**	**1.80**	**6**	Pn	Pn	**11 53 56.4**	**+0.1**
ELGU	**Los Guajares,**	**1.80**	**6**	P	Pn	**11 53 57.2**	**+0.9**
ELGU				S	Sb	**11 54 20.5**	**-0.3**
ELGU				*i* Vmb_Lg		11 54 25.7	
EJIF	**Jimena Fronter**	**1.89**	**317**	P	Pn	**11 53 58.5**	**+1.1**
EJIF				S	Sb	**11 54 24.9**	**+1.5**
EBER	**Berja**	**1.98**	**23**	Pn	Pn	**11 53 59.2**	**+0.3**
EBER				Sn	Sn	**11 54 23.2**	**-0.4**
EBER	**Berja**	**1.98**	**23**	P	Pn	**11 53 59.4**	**+0.5**
EBER				S	Sb	**11 54 24.9**	**-1.3**
EBER				*i* Vmb_Lg		11 54 28.2	
EGOR	**Sierra Gorda,**	**2.04**	**355**	Pn	Pn	**11 54 00.1**	**+0.5**
EGOR	**Sierra Gorda,**	**2.04**	**355**	P	Pn	**11 54 00.4**	**+0.8**
EGOR				S	Sb	**11 54 27.8**	**0.0**
EGOR				*i* Vmb_Lg		11 54 35.3	
CZD	**Col de Zad**	**2.26**	**206**	P	Pn	**11 54 03.5**	**+0.8**
MD31	**MD31**	**2.32**	**199**	P	Pn	**11 54 04.5**	**+1.0**
MD31	**MD31**	**2.32**	**199**	S	Sb	**11 54 34.5**	**-1.4**
ESPR	**Espera**	**2.41**	**319**	S	Sn	**11 54 36.2**	**+2.4**
ESPR				*i* Vmb_Lg		11 54 48.0	
EQES	**Quesada**	**2.80**	**13**	P	Pb	**11 54 13.3**	**-2.1**
EQES				S	Sn	**11 54 46.3**	**+2.7**
EQES				*i* Vmb_Lg		11 54 52.0	
EADA	**Adamuz**	**3.14**	**350**	Pn	Pn	**11 54 16.8**	**+2.2**
EADA	**Adamuz**	**3.14**	**350**	P	Pn	**11 54 16.6**	**+2.0**
EADA				S	Sn	**11 54 55.3**	**+3.5**
EADA				*i* Vmb_Lg		11 55 08.9	
ECAB	**El Cabril**	**3.25**	**338**	Pn	Pn	**11 54 17.6**	**+1.5**
ECAB				Sn	Sn	**11 54 54.1**	**-0.3**
ECAB	**El Cabril**	**3.25**	**338**	P	Pn	**11 54 19.3**	**+3.2**
ECAB				S	Sn	**11 54 54.2**	**-0.3**
ECAB				*i* Vmb_Lg		11 55 03.9	
PVAQ	**Vaqueiros**	**3.88**	**308**	*e*Pn	Pn	**11 54 26.3**	**+1.5**
PVAQ				*e*Sn	Sn	**11 55 07.9**	**-2.3**
PVAQ				A	A	11 55 13.7	
	3.0nm,0.8s						
PVAQ	**Vaqueiros**	**3.88**	**308**	Sn	Sn	**11 55 07.6**	**-2.5**
PBDV	**Barranco-do-Ve**	**3.94**	**305**	*e*Sn	Sn	**11 55 11.1**	**-0.4**
PBAR	**Barrancos**	**4.01**	**321**	*e*Pn	Pn	**11 54 29.7**	**+3.2**
PBAR				*e*Sn	Sn	**11 55 12.5**	**-0.8**
PBAR				A	A	11 55 28.8	
	1.9nm,0.8s						
PBAR	**Barrancos**	**4.01**	**321**	Sn	Sn	**11 55 11.2**	**-2.1**
PCVE	**Castro Verde**	**4.23**	**308**	*e*Sn	Sn	**11 55 17.7**	**-0.9**
EBAD	**Badajoz**	**4.46**	**326**	Pn	Pn	**11 54 34.5**	**+1.9**
EBAD				Sn	Sn	**11 55 22.7**	**-1.5**
EBAD	**Badajoz**	**4.46**	**326**	P	Pn	**11 54 35.6**	**+3.0**
EBAD				S	Sn	**11 55 22.8**	**-1.5**
EBAD				*i* Vmb_Lg		11 55 37.8	
MESJ	**Messejana**	**4.46**	**309**	*e*Pn	Pn	**11 54 34.3**	**+1.5**
MESJ				*e*Sn	Sn	**11 55 23.9**	**-0.6**
PTEO	**Sao Teotonio**	**4.63**	**304**	*e*Pn	Pn	**11 54 36.4**	**+1.3**
OUZM	**OUZ**	**4.81**	**211**	P	Pn	**11 54 39.9**	**+2.2**
PESTR	**Estremoz**	**4.82**	**323**	*e*Pn	Pn	**11 54 39.1**	**+1.4**
PESTR	**Estremoz**	**4.82**	**323**	Pn	Pn	**11 54 38.4**	**+0.7**
PESTR				Sn	Sn	**11 55 31.4**	**-1.8**
PNCL	**Nicolau / Gran**	**4.82**	**310**	*e*Pn	Pn	**11 54 39.0**	**+1.3**
PNCL				*e*Sn	Sn	**11 55 31.3**	**-2.0**
PNCL	**Nicolau / Gran**	**4.82**	**310**	Pn	Pn	**11 54 38.4**	**+0.7**
PNCL				Sn	Sn	**11 55 31.3**	**-2.0**
PMRV	**Marv??o**	**5.18**	**328**	*e*Pn	Pn	**11 54 44.7**	**+2.1**
PMTG	**Montargil**	**5.29**	**320**	*e*Pn	Pn	**11 54 45.1**	**+0.9**
PMTG				*e*Sn	Sn	**11 55 45.5**	**+0.6**
PSBE	**So Bento**	**5.92**	**320**	*e*Pn	Pn	**11 54 54.4**	**+1.6**
PSBE				*e*Sn	Sn	**11 55 59.1**	**-1.3**

BJI ***13*** *11:55:13.9±0.0,21°.64S×179°.76E,h615km,mb4.7/39, mB4.6/19*
NEIC ***13*** *11:55:14.9±2.5,22°.0S±0°.1×179°.5E±0°.1,h610km±6km, mb4.7/62, Error ellipse: s-maj=16.0km s-min=14.6km az=104.0*
NOU ***13*** *11:55:15.7,21°.96S×179°.53E,h636km,mb4.9/97, South of Fiji Islands*
IDC ***13*** *11:55:16.1±1.0,21°.90S×179°.45E,h625km±10km, mb3.9/24,mbtmp4.9/26, Error ellipse: s-maj=12.1km s-min=9.4km az=97.0*
ISC 13 11:55:13.5±0.3,21°.89S±0°.05×179°.48E±0°.05,h599km, n665,σ1°12/708,mb4.7/89,31C-47D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.35**	**342**	P	P	11 56 47.5	+5.8
MSVF	**Nonsavu**	**4.35**	**342**	P	P	11 56 47.0	+5.3
TAVE	**Taveuni**	**5.19**	**7**	P	P	11 56 54.3	+6.3
YSA	**Yasawairara**	**5.47**	**341**	P	P	11 56 55.5	+5.2
RAO	**Raoul Island**	**7.69**	**163**	P	P	**11 57 12.5**	**+2.7**
RAO	**Raoul Island**	**7.69**	**163**	P	P	**11 57 12.0**	**+2.2**
RAO	**Raoul Island**	**7.69**	**163**	P	P	**11 57 12.6**	**+2.8**
	224nm,0.2s,baz=35,slow=23,SNR=8.0						
RAO				S	S	**11 58 44.0**	**-1.2**
	175nm,0.3s,baz=93,slow=23,SNR=2.8						
NIUE	**Niue**	**10.32**	**76**	P	P	**11 57 38.1**	**+2.6**
	baz=10						
NIUE	**Niue**	**10.32**	**76**	P	P	**11 57 37.5**	**+2.0**
MARNC	**Mare, Loyalty**	**10.65**	**270**	P	P	**11 57 41.6**	**+2.8**
PINNC	**Pines Island,**	**11.17**	**264**	P	P	**11 57 46.6**	**+2.7**
PINNC	**Pines Island,**	**11.17**	**264**	P	P	**11 57 46.2**	**+2.3**
LIFNC	**LIFOU**	**11.46**	**273**	P	P	**11 57 48.8**	**+1.9**
LIFNC	**LIFOU**	**11.46**	**273**	P	P	**11 57 48.4**	**+1.5**
AFI	**Afiamalu**	**11.50**	**48**	P	P	**11 57 48.2**	**+0.7**
AFI	**Afiamalu**	**11.50**	**48**	P	P	**11 57 48.2**	**+0.7**
OUENC	**Ouen Island, N**	**11.72**	**265**	P	P	**11 57 51.6**	**+2.1**
ONTNC	**Ouen Toro**	**12.08**	**266**	P	P	**11 57 55.8**	**+2.7**
ONTNC	**Ouen Toro**	**12.08**	**266**	P	P	**11 57 54.0**	**+0.9**
DZM	**Mont Dzumac**	**12.10**	**267**	P	P	**11 57 55.6**	**+2.2**
DZM	**Mont Dzumac**	**12.10**	**267**	*e*P	P	**11 57 55.2**	**+1.8**
	66nm,0.7s						
DZM				*e*S	S	**12 00 05.2**	**+0.5**
	299nm,25.8s						
DZM	**Mont Dzumac**	**12.10**	**267**	P	P	**11 57 55.7**	**+2.2**
DZM	**Mont Dzumac**	**12.10**	**267**	P	P	**11 57 55.6**	**+2.2**
	53nm,0.5s,baz=125,slow=14,SNR=66						
NOUC	**Port Laguerre**	**12.22**	**267**	P	P	**11 57 57.0**	**+2.4**
KOUNC	**Koumac, New Ca**	**14.23**	**273**	P	P	**11 58 17.1**	**+2.4**
OUZ	**Omahuta**	**14.24**	**200**	P	P	**11 58 16.5**	**+1.9**
KUZ	**Kuaotunu**	**15.15**	**192**	P	P	**11 58 25.1**	**+2.1**
MXZ	**Matakaoa Point**	**15.65**	**183**	P	P	**11 58 26.8**	**-0.7**
URZ	**Urewera**	**16.44**	**187**	P	P	**11 58 34.6**	**-0.1**
URZ	**Urewera**	**16.44**	**187**	P	P	**11 58 32.6**	**-2.1**
	29nm,0.3s,baz=334,slow=0.9,SNR=42						
URZ				S	S	**12 01 12.9**	**-5.6**
	30nm,0.6s,baz=292,slow=22,SNR=12						
RTZ	**Ruatahuna**	**16.80**	**187**	P	P	**11 58 38.0**	**-0.1**
HIZ	**Hauiti**	**17.03**	**192**	P	P	**11 58 40.3**	**+0.1**
BKZ	**Black Stump Fm**	**17.41**	**188**	P	P	**11 58 43.1**	**-0.6**
KHEZ	**Kahui Hut**	**17.96**	**194**	P	P	**11 58 50.5**	**+1.7**
BFZ	**Birch Farm**	**18.93**	**188**	P	P	**11 58 56.1**	**-1.3**
BFZ	**Birch Farm**	**18.93**	**188**	P	P	**11 58 56.2**	**-1.2**
BFZ				IAmb	IAmb	11 59 28.1	
	comp=Z,62nm,1.2s						
QRZ	**Quartz Range**	**19.77**	**196**	P	P	**11 59 06.2**	**+1.1**
QRZ	**Quartz Range**	**19.77**	**196**	P	P	**11 59 05.7**	**+0.7**
QRZ				IAmb	IAmb	11 59 29.1	
	comp=Z,28nm,1.1s						
NNZ	**Nelson**	**19.94**	**194**	P	P	**11 59 06.6**	**0.0**
JCZ	**Jackson Bay**	**23.83**	**199**	P	P	**11 59 41.7**	**+0.4**
TARA	**Tarawa**	**23.98**	**344**	P	P	**11 59 44.6**	**+1.7**
GC1S	**Gold Coast 1 S**	**24.32**	**250**	P	P	**11 59 47.8**	**+2.0**
EIDS	**Eidsvold**	**26.22**	**257**	P	P	**12 00 04.0**	**+1.3**
	baz=26,SNR=25						
EIDS	**Eidsvold**	**26.22**	**257**	P	P	**12 00 03.9**	**+1.3**
ARMA	**Armidale**	**26.35**	**245**	P	P	**12 00 06.1**	**+2.3**
	baz=26,SNR=57						
ARMA	**Armidale**	**26.35**	**245**	P	P	**12 00 05.7**	**+1.9**
ARMA	**Armidale**	**26.35**	**245**	P	P	**12 00 05.2**	**+1.5**
RK1H	**Rockhampton Ha**	**26.77**	**261**	P	P	**12 00 08.8**	**+1.3**
MGCD	**Mangrove Creek**	**27.48**	**240**	P	P	**12 00 15.7**	**+2.2**
	baz=28,SNR=13						
MGCD	**Mangrove Creek**	**27.48**	**240**	P	P	**12 00 15.3**	**+1.8**
SYDH	**Sydney Hard Ro**	**27.93**	**239**	P	P	**12 00 19.3**	**+1.9**
TBI	**Tubuai**	**28.68**	**99**	*e*sS	sS	12 07 34.8	+6.4
	comp=Z,346nm,24.8s						
PPT2	**Papeete2**	**29.41**	**87**	*e*sS	sS	12 07 46.9	+6.3
	comp=Z,75nm,24.2s						
CNB	**Canberra Magne**	**29.50**	**236**	P	P	**12 00 32.9**	**+1.8**
	baz=30,SNR=52						
CNB	**Canberra Magne**	**29.50**	**236**	P	P	**12 00 32.6**	**+1.5**
CAN	**Canberra**	**29.78**	**237**	P	P	**12 00 35.0**	**+1.5**
TV1H	**Townsville Har**	**30.68**	**269**	P	P	**12 00 42.1**	**+0.8**
CTAO	**Charters Tower**	**31.04**	**267**	P	P	**12 00 45.2**	**+0.8**
CMSA	**Cobar Meteorol**	**31.56**	**245**	P	P	**12 00 49.9**	**+1.3**
	baz=32,SNR=107						
CMSA	**Cobar Meteorol**	**31.56**	**245**	P	P	**12 00 49.6**	**+0.9**
QLP	**Quilpie**	**32.41**	**255**	P	P	**12 00 56.7**	**+0.7**
	baz=32,SNR=114						
QLP	**Quilpie**	**32.41**	**255**	P	P	**12 00 56.6**	**+0.7**
GLAD	**Gladstone**	**32.66**	**227**	P	P	**12 00 58.6**	**+0.8**
TOO	**Toolangi**	**33.18**	**234**	P	P	**12 01 03.5**	**+1.2**
	baz=33,SNR=68						
TOO	**Toolangi**	**33.18**	**234**	P	P	**12 01 03.4**	**+1.2**
TOO	**Toolangi**	**33.18**	**234**	P	P	**12 01 02.8**	**+0.5**
MTSU	**Mount Surprise**	**33.20**	**270**	P	P	**12 01 03.8**	**+1.1**
	baz=33,SNR=69						
MTSU	**Mount Surprise**	**33.20**	**270**	P	P	**12 01 03.5**	**+0.8**
MOO	**Moorlands**	**33.86**	**225**	P	P	**12 01 08.6**	**+0.8**
	baz=34,SNR=3.6						
MOO	**Moorlands**	**33.86**	**225**	P	P	**12 01 09.0**	**+1.2**
TAU	**Tasmania Unive**	**33.99**	**224**	P	P	**12 01 09.7**	**+0.8**
BRAT	**Ballarat**	**34.35**	**235**	P	P	**12 01 13.2**	**+1.2**
STKA	**Stephens Creek**	**35.07**	**245**	P	P	**12 01 19.3**	**+1.2**
	baz=35,SNR=100						
STKA	**Stephens Creek**	**35.07**	**245**	P	P	**12 01 19.0**	**+0.9**
STKA	**Stephens Creek**	**35.07**	**245**	P	P	**12 01 18.8**	**+0.7**
STKA	**Stephens Creek**	**35.07**	**245**	P	P	**12 01 19.3**	**+1.2**
	comp=Z,22nm,0.4s,baz=94,slow=11,SNR=89						
STKA				ScP	**ScP**	**12 06 19.9**	**-2.1**
	comp=Z,4.3nm,0.8s,baz=31,slow=1.1,SNR=7.3 comp=Z,22nm,0.4s						
PATS	**Pohnpei**	**35.30**	**322**	P	P	**12 01 20.2**	**+0.1**
COEN	**Coen**	**35.36**	**277**	P	P	**12 01 21.9**	**+1.2**
	baz=35,SNR=17						
COEN	**Coen**	**35.36**	**277**	P	P	**12 01 21.9**	**+1.2**
COEN	**Coen**	**35.36**	**277**	P	P	**12 01 21.5**	**+0.8**
COEN				IAmb	IAmb	12 01 23.1

KMBL Kambalda 51.85 247 P P 12 03 27.4 -0.3
baz=52,SNR=6.7
SOEI Soe 54.22 274 P P 12 03 45.2 +0.3
SOEI Soe 54.22 274 P P 12 03 46.0 +1.1
SOEI Soe 54.22 274 P P 12 03 46.2 +1.3
comp=Z,112nm,0.6s
BATI Baumata 54.62 273 P P 12 03 48.3 +0.7
comp=Z,120nm,0.8s
LBMI Labuha 54.82 285 P P 12 03 49.3 +0.4
comp=Z,84nm,0.9s,comp=Z,930nm
PSA00 Pilbara Seismi 55.07 258 P P 12 03 50.1 -0.5
PSA00 Pilbara Seismi 55.07 258 P P 12 03 50.1 -0.5
PSA00 IAmb IAmb 12 03 50.5
comp=Z,28nm,0.7s
PSA00 Pilbara Seismi 55.07 258 P P 12 03 49.5 -1.1
PSA00 IAmb IAmb 12 03 51.0
comp=Z,24nm,1.2s
MEEK Meekatharra 55.25 252 P P 12 03 50.8 -1.0
baz=55,SNR=12
MEEK Meekatharra 55.25 252 P P 12 03 50.8 -1.0
MBWA Marble Bar 55.26 259 P P 12 03 51.3 -0.6
MBWA Marble Bar 55.26 259 P P 12 03 51.1 -0.9
MBWA IAmb IAmb 12 03 52.2
comp=Z,53nm,0.7s
KLBR Kellerberrin 55.34 246 P P 12 03 51.9 -0.4
baz=55,SNR=30
KLBR Kellerberrin 55.34 246 P P 12 03 51.9 -0.4
SANI Sanana 55.57 283 P P 12 03 53.8 -0.4
SANI Sanana 55.57 283 P P 12 03 53.7 -0.4
comp=Z,61nm,1.0s,comp=Z,720nm
TNTI Ternate 55.57 287 P P 12 03 54.2 +0.1
comp=Z,46nm,0.9s
NWAO Narrogin (SRO) 55.64 244 P P 12 03 54.1 -0.3
baz=56,SNR=13
NWAO P P 12 03 54.1 -0.3
baz=56,SNR=13
NWAO Narrogin (SRO) 55.64 244 P P 12 03 54.1 -0.3
NWAO Narrogin (SRO) 55.64 244 P P 12 03 53.9 -0.5
NWAO Narrogin (SRO) 55.64 244 P P 12 03 53.8 -0.6
NWAO IAmb IAmb 12 03 55.0
comp=Z,40nm,1.4s
VNDA Vanda 56.33 185 P P 12 03 59.5 +1.2
VNDA Vanda 56.33 185 P P 12 03 59.8 +1.4
comp=Z,3.5nm,0.5s,baz=356,slow=7.7,SNR=33
VNDA PcP PcP 12 04 46.6 0.0
comp=Z,1.9nm,0.6s,baz=3.0,slow=1.6,SNR=5.9
comp=Z,3.5nm,0.5s
BLDU Ballidu 56.34 247 P P 12 03 58.6 -0.6
baz=56,SNR=89
BLDU Ballidu 56.34 247 P P 12 03 58.6 -0.6
SBA Scott Base 56.34 183 P P 12 04 00.4 +2.0
MMRI Maumere 56.48 274 P P 12 04 00.0 -0.4
MMRI Maumere 56.48 274 P P 12 04 00.0 -0.4
comp=Z,81nm,0.9s
MUN Mundaring 56.60 245 P P 12 04 00.9 -0.1
baz=57,SNR=16
MUN Mundaring 56.60 245 P P 12 04 00.5 -0.5
EDFI Ende, Flores 56.95 274 P P 12 04 03.3 -0.4
comp=Z,64nm,0.9s,comp=Z,739nm
MORW Morawa 57.13 249 P P 12 04 04.1 -0.5
baz=57,SNR=11
MORW Morawa 57.13 249 P P 12 04 04.2 -0.4
MORW Morawa 57.13 249 P P 12 04 04.1 -0.5
LUWI Luwuk 58.91 283 P P 12 04 16.7 -0.1
comp=Z,43nm,0.9s
GTOI Gorontalo 59.41 284 P P 12 04 20.8 +0.7
comp=Z,20nm,0.6s,comp=Z,184nm
BKSI Bulukumba 59.63 277 P P 12 04 21.0 -0.6
comp=Z,31nm,0.7s
GIRL Giralia 59.92 256 P P 12 04 24.2 +0.8
baz=60,SNR=6.9
GIRL Giralia 59.92 256 P P 12 04 24.0 +0.6
GIRL Giralia 59.92 256 P P 12 04 23.7 +0.3
PLAI Plampang 60.55 272 P P 12 04 27.2 -0.5
TOLI2 Tolitoli 61.62 284 P P 12 04 34.1 -0.6
TOLI2 Tolitoli 61.62 284 P P 12 04 33.9 -0.7
TOLI2 IAmb IAmb 12 04 36.4
comp=Z,29nm,0.6s
JAGI Jajag, Banyuwa 64.04 271 P P 12 04 48.9 -1.3
PWJI Pagerwojo 66.37 271 P P 12 05 04.2 -0.5
comp=Z,59nm,0.7s
UGM Wanagama 67.60 270 P P 12 05 11.6 -0.7
UGM Wanagama 67.60 270 P P 12 05 11.7 -0.6
comp=Z,168nm,2.1s
QSPA South Pole Qui 68.18 180 P P 12 05 15.6 +0.5
QSPA IAmb IAmb 12 05 16.6
comp=Z,26nm,0.8s
QSPA South Pole Qui 68.18 180 P P 12 05 15.7 +0.7
comp=Z,21nm,0.7s,baz=213,slow=1.3,SNR=195
comp=Z,21nm,0.7s
KPJI Karang Pucung 69.28 270 P P 12 05 21.9 -0.5
comp=Z,58nm,1.0s
JOW Kunigami 69.30 312 P P 12 05 23.1 +0.9
MJAR Matsushiro Arr 69.98 326 P P 12 05 26.4 +0.3
comp=Z,10nm,0.8s,baz=158,slow=5.7,SNR=23
comp=Z,10nm,0.8s
MAJO Matsushiro 69.98 326 P P 12 05 25.9 -0.1
BBJI Bungbulang 70.42 270 P P 12 05 28.4 -0.9
YOJ Yonaguni jima 71.65 307 P P 12 05 36.7 +0.7
JTM Tenmabayashi 71.86 330 P P 12 05 37.4 +0.4
JTM IAmb IAmb 12 05 38.8
comp=Z,26nm,0.7s
YULB Yu-li 72.33 305 P P 12 05 39.1 -1.0
YULB Yu-li 72.33 305 P P 12 05 39.0 -1.0
YULB IAmb IAmb 12 05 39.5
comp=Z,17nm,1.1s
NACB Ninganchiao 72.54 306 P P 12 05 40.9 -0.3
TPUB Ta-pu 72.79 305 P P 12 05 41.7 -1.0
SSLB Suanglung 72.81 305 P P 12 05 42.3 -0.5
YHNB Yeheng 72.99 306 P P 12 05 44.4 +0.5
JKA Kamikawa-asahi 73.86 333 P P 12 05 50.4 +2.1
JKA IAmb IAmb 12 05 51.5
comp=Z,31nm,0.9s
ATKA Atka Island 73.98 4 P P 12 05 47.5 -1.2
ATKA Atka Island 73.98 4 P P 12 05 48.6 -0.2
ATKA IAmb IAmb 12 05 49.4
comp=Z,35nm,0.8s
NIKH Nikolski High 75.24 7 P P 12 05 55.5 -0.3
NIKH Nikolski High 75.24 7 P P 12 05 55.1 -0.7
baz=191,SNR=6.4
UNV Unalaska Valle 76.39 8 P P 12 06 01.6 -0.5
UNV Unalaska Valle 76.39 8 P P 12 06 01.4 -0.7
baz=193
KSRS Korea Array 76.41 320 P P 12 06 03.7 +1.1
comp=Z,4.8nm,0.8s,baz=133,slow=5.7,SNR=31
comp=Z,4.8nm,0.8s
KSAR Wonju Array Be 76.42 320 P P 12 06 02.6 0.0
KS19 Wonju Array Si 76.47 320 P P 12 06 02.9 0.0
PET Petropavlovsk 76.77 347 P P 12 06 04.4 +0.3
PET Petropavlovsk 76.77 347 P P 12 06 03.8 -0.3
PET IAmb IAmb 12 06 45.6
comp=Z,25nm,1.2s
PEA0B Petropavlovsk- 77.05 347 P P 12 06 06.2 +0.5
PEA0B IAmb IAmb 12 06 07.2
comp=Z,20nm,0.7s
PETK Petropavlovsk- 77.05 347 P P 12 06 05.7 0.0
comp=Z,16nm,0.7s,baz=114,slow=7.2,SNR=45
comp=Z,16nm,0.7s
SMAI San Martin Ant 78.14 159 P P 12 06 12.3 +0.8
SMAI IAmb IAmb 12 06 13.4
comp=Z,27nm,0.8s
BELA Belgrano 2 78.47 173 P P 12 06 12.6 -0.5
BELA IAmb IAmb 12 06 13.4
comp=Z,22nm,0.7s
CNBA Chernabura Isl 78.48 12 P P 12 06 12.9 -0.4
CNBA IAmb IAmb 12 06 31.4
comp=Z,30nm,1.3s
CHNA Chernabura Isl 78.49 12 P P 12 06 11.7 -1.7
baz=200
SDPT Sand Point 78.81 12 P P 12 06 14.4 -0.6
SDPT IAmb IAmb 12 06 32.1
comp=Z,46nm,1.3s
SDPT Sand Point 78.81 12 P P 12 06 14.3 -0.8
baz=199
USRK Ussuriysk Ar. 78.83 327 P P 12 06 16.5 +1.1
USRK Ussuriysk Ar. 78.83 327 P P 12 06 16.0 +0.5
comp=Z,9.7nm,0.8s,baz=119,slow=4.1,SNR=13
comp=Z,9.7nm,0.8s
S12K Black Hills 78.87 11 P P 12 06 14.3 -1.1
baz=197
NJ2 Nanjing 78.98 311 eP P 12 06 17.6 +1.0
NJ2 pmax pmax
comp=Z,19nm,0.6s
SPIA Saint Paul Isl 79.24 6 P P 12 06 15.6 -1.7
baz=190
MAW Mawson 79.45 200 P P 12 06 18.7 +0.3
comp=Z,4.1nm,0.7s,baz=135,slow=6.4,SNR=11
comp=Z,4.1nm,0.7s
S14K Fog Glacier 79.87 12 P P 12 06 19.3 -1.5
baz=200
CHGN Chignik 80.11 12 P P 12 06 21.6 -0.2
CHGN IAmb IAmb 12 06 27.4
comp=Z,24nm,1.1s
CHGN Chignik 80.11 12 P P 12 06 21.0 -0.9
baz=201
MDJ Mudanjiang 80.34 326 P P 12 06 24.5 +1.2
MDJ pmax pmax
comp=Z,17nm,0.9s
MDJ pmax pmax
comp=Z,84nm,4.4s
IPM Ipoh 80.99 279 P P 12 06 27.2 -0.3
KMPM Mount Pierce 81.20 40 P P 12 06 29.6 +1.6
KMPM IAmb IAmb 12 06 30.9
comp=Z,71nm,1.3s
SII Sitkinak Islan 81.25 14 P P 12 06 28.9 +1.1
baz=205
ARVC Arvin 81.45 47 P P 12 06 30.2 +0.9
baz=236
VES Vestal, Richgr 81.68 46 P P 12 06 31.7 +1.3
baz=235
CN2 Changchun 81.99 324 ⇓P P 12 06 32.4 +0.5
CN2 pmax pmax
comp=Z,10.0nm,0.6s
OHAK Old Harbor 82.06 15 P P 12 06 32.3 +0.5
OHAK Old Harbor 82.06 15 P P 12 06 32.4 +0.6
baz=205
BNX BinXian 82.23 326 ⇑P P 12 06 33.4 +0.4
BNX pmax pmax
comp=Z,23nm,0.9s
BNX pmax pmax
comp=Z,67nm,5.4s
Q17K Contact Creek 82.44 13 P P 12 06 34.1 +0.2
baz=203,SNR=14
O15K Ungalikthiuk R 82.56 11 P P 12 06 35.6 +1.3
baz=199
Q16K King Salmon 82.67 12 P P 12 06 35.4 +0.5
baz=202,SNR=10
CWC Cottonwood Cre 82.69 46 P P 12 06 36.1 +0.3
baz=236
KDAK Kodiak Island 82.73 15 P P 12 06 35.8 +0.6
baz=206
KDAK Kodiak Island 82.73 15 P P 12 06 35.6 +0.4
comp=Z,5.5nm,0.8s,baz=292,slow=5.5,SNR=6.7
comp=Z,5.5nm,0.8s
P16K Nushagak River 82.75 12 P P 12 06 35.4 +0.2
baz=201
M11K Mekoryuk 82.81 7 P P 12 06 36.8 +1.3
baz=193
YBH Yreka Blue Hor 82.85 40 P P 12 06 37.4 +1.1
comp=Z,4.1nm,0.7s,baz=197,slow=2.5,SNR=13
comp=Z,4.1nm,0.7s
N14K Kuskokwak Cree 82.97 9 P P 12 06 37.2 +0.9
baz=198
P17K Kvichak River 83.19 12 P P 12 06 37.6 +0.1
baz=202,SNR=5.6
O16K Kokwok River B 83.25 11 P P 12 06 36.9 -0.8
O16K Kokwok River B 83.25 11 P P 12 06 37.2 -0.5
baz=201
N15K Kwethluk River 83.45 10 P P 12 06 39.8 +1.0
N15K IAmb IAmb 12 06 40.7
comp=Z,32nm,0.8s
N15K Kwethluk River 83.45 10 P P 12 06 39.1 +0.3
baz=199,SNR=11
Q20K Shuyak Island 83.52 14 P P 12 06 38.6 -0.5
baz=206
Q19K Cape Douglas, 83.53 14 P P 12 06 38.3 -0.9
baz=205
O17K Koliganek Bris 83.61 12 P P 12 06 38.8 -0.7
baz=202
P18K Big Mountain, 83.62 13 P P 12 06 39.1 -0.5
baz=204
NVAR Mina Array Bea 83.66 44 P P 12 06 41.6 +1.0
comp=Z,1.1nm,0.5s,baz=228,slow=9.1,SNR=4.3
comp=Z,1.1nm,0.5s
M15K Kasigluk River 83.86 10 P P 12 06 40.9 +0.1
baz=198
N16K Nishlik Lake 83.96 11 P P 12 06 41.7 +0.4
baz=200,SNR=7.0
O18K Koktuh Hills 84.05 13 P P 12 06 41.5 -0.3
O18K IAmb IAmb 12 06 43.0
comp=Z,12nm,0.7s
O18K Koktuh Hills 84.05 13 P P 12 06 41.9 +0.2
baz=204
L14K Kuka Creek 84.18 9 P P 12 06 42.8 +0.5
baz=197
N17K Nushagak Hills 84.29 11 P P 12 06 43.6 +0.8
baz=202
M16K Timber Creek 84.44 10 P P 12 06 44.9 +1.3
M16K Timber Creek 84.44 10 P P 12 06 43.8 +0.2
baz=200
MA2 Magadan 84.52 346 P P 12 06 43.8 -0.3
comp=Z,11nm,0.8s,baz=196,slow=4.1,SNR=5.4
comp=Z,11nm,0.8s
MA2 Magadan 84.52 346 P P 12 06 43.9 -0.1
comp=Z,24nm,1.0s
O19K Port Alsworth 84.54 13 P P 12 06 44.0 -0.1
baz=204,SNR=6.6
CNPM China Poot 84.61 15 P P 12 06 44.4 -0.1
CNPM IAmb IAmb 12 06 45.6
comp=Z,11nm,0.7s
HOM Homer 84.64 14 P P 12 06 44.6 0.0
baz=207
J05D Fort Rock, OR 84.66 39 P P 12 06 46.4 +1.1
J05D IAmb IAmb 12 06 47.6
comp=Z,10nm,0.8s
L15K Ungalak Mounta 84.67 9 P P 12 06 44.6 -0.1
baz=198
N18K Kilae Creek 84.68 12 P P 12 06 44.5 -0.3
baz=203
HNS HongShan 84.78 314 ⇓P P 12 06 46.8 +1.0
HNS pmax pmax
comp=Z,12nm,1.0s
O20K Slope Mountain 84.80 14 P P 12 06 45.3 -0.2
baz=206
LYN LuoYang 84.83 310 eP P 12 06 47.8 +1.7
LYN pmax pmax
comp=Z,25nm,0.5s
LYN pmax pmax
comp=Z,96nm,5.1s
BRSE Bradley Lake S 84.92 15 P P 12 06 45.4 -0.6
baz=208
ELIB Princess Elisa 84.98 187 dP P 12 06 45.8 -0.6
comp=Z,6.5nm,0.0s
L16K Owhat River 85.01 10 P P 12 06 46.3 -0.1
baz=200
M17K Holitna River 85.06 11 P P 12 06 46.6 0.0
baz=201
N19K Bonanza Creek 85.07 12 P P 12 06 46.7 -0.1
baz=204
BJI Beijing 85.25 317 P P 12 06 49.0 +1.0
BJI pmax pmax
comp=Z,4.0nm,0.7s
K15K Wolf Creek Mou 85.26 9 P P 12 06 48.7 +1.2
K15K IAmb IAmb 12 06 49.2
comp=Z,8.9nm,0.7s
K15K Wolf Creek Mou 85.26 9 P P 12 06 48.4 +0.8
baz=198
HEH HeiHe 85.28 329 eP P 12 06 48.1 +0.2
HEH pmax pmax
comp=Z,14nm,0.6s
HEH pmax pmax
comp=Z,120nm,4.7s
R11B Troy Canyon, C 85.40 46 P P 12 06 48.3 -0.7
baz=237
J14K Nanvaranak Lak 85.42 8 P P 12 06 48.7 +0.4
baz=196
M18K Stony River 85.44 12 P P 12 06 48.9 +0.5
baz=203
SEW Seward 85.55 15 P P 12 06 49.7 +0.8
baz=209
L17K Donlin 85.60 10 P P 12 06 50.1 +0.9
baz=201
GAMB Gambell 85.66 4 P P 12 06 49.9 +0.6
baz=188
CAPN Captain Cook N 85.74 14 P P 12 06 50.3 +0.5
baz=207
Q23K Middleton Isla 85.75 17 P P 12 06 49.4 -0.5
baz=212
O22K Cooper Landing 85.81 15 P P 12 06 49.9 -0.3
baz=208
N20K Mount Spurr 85.90 13 P P 12 06 50.7 0.0
baz=206
L18K Granite Mounta 85.96 11 P P 12 06 51.2 +0.4
L18K Granite Mounta 85.96 11 P P 12 06 51.0 +0.1
baz=202
P23K Montague Islan 85.96 16 P P 12 06 51.6 +0.7
baz=210
M19K Big River Lodg 86.09 12 P P 12 06 51.3 -0.2
M19K Big River Lodg 86.09 12 P P 12 06 51.7 +0.2
baz=204
K17K Iditarod 86.15 10 P P 12 06 52.2 +0.5
baz=201
L19K White Mountain 86.26 12 P P 12 06 52.6 +0.3
baz=204,SNR=8.8
M20K Styx River 86.32 13 P P 12 06 52.4 -0.3
baz=205
TROLL Troll, Antarti 86.32 181 ⇑P P 12 06 52.0 -0.8
comp=Z,387nm,0.5s
RC01 Rabbit Creek A 86.35 14 P P 12 06 52.6 -0.1
baz=208
SUA Susitna One 86.45 14 P P 12 06 52.8 -0.6
baz=208,SNR=6.6
J17K VABM Dome 86.67 9 P P 12 06 54.3 +0.1
baz=200
SNAA Sanae 86.67 179 P P 12 06 52.9 -1.5
SNAA Sanae 86.67 179 ⇑P P 12 06 53.0 -1.3
comp=Z,76nm,0.4s
SNAA Sanae 86.67 179 P P 12 06 53.1 -1.3
comp=Z,3.7nm,0.5s,baz=208,slow=7.6,SNR=38
comp=Z,3.7nm,0.5s
KAIM Kayak Island 86.70 17 P P 12 06 54.7 +0.3
baz=213
L20K Farewell, AK 86.72 12 P P 12 06 54.6 +0.1
baz=205
SKT Skwentna 86.74 13 P P 12 06 54.3 -0.3
baz=207
GLI Glacier Island 86.80 16 P P 12 06 54.8 -0.1
GLI Glacier Island 86.80 16 P P 12 06 54.3 -0.6
baz=211,SNR=8.0
M22K Willow 86.85 14 P P 12 06 54.4 -0.6
baz=208
EYAK Cordova Ski Ar 86.86 16 P P 12 06 55.4 +0.3
EYAK Cordova Ski Ar 86.86 16 P P 12 06 54.6 -0.5
baz=212
VNA3 Neumayer Olymp 86.89 177 ⇑P P 12 06 54.1 -1.3
comp=Z,5.1nm,0.3s
VNA3 ⇑pP pwP 12 09 08.5 +2.4
comp=Z,3.4nm,0.7s
ELK Elko 86.90 44 P P 12 06 56.6 +0.4
comp=Z,2.5nm,0.8s,baz=267,slow=5.8,SNR=12
comp=Z,2.5nm,0.8s
J18K Innoko River 87.11 10 P P 12 06 56.5 +0.2
J18K IAmb IAmb 12 06 57.3
comp=Z,7.4nm,0.8s
J18K Innoko River 87.11 10 P P 12 06 55.8 -0.5
baz=202
XAN Xi'an 87.12 308 ⇓P P 12 06 58.1 +1.0
XAN pmax pmax
comp=Z,15nm,0.8s
SEY Seymchan 87.22 348 P P 12 06 57.0 +0.2
comp=Z,11nm,0.7s,baz=137,slow=5.0,SNR=41
comp=Z,11nm,0.7s
SML Sawmill 87.31 15 P P 12 06 56.4 -0.9
baz=210
VNA2 Neumayer--Watz 87.31 178 ⇑P P 12 06 56.4 -0.9
comp=Z,5.0nm,0.6s,baz=187,slow=4.6
CUT Chulitna 87.39 14 P P 12 06 58.2 +0.6
baz=208
U33K Whale Pass 87.42 24 P P 12 06 57.7 -0.2
baz=223
PPLA Purkeypile 87.43 13 P P 12 06 57.5 -0.5
baz=206
M23K Glacier View 87.44 15 P P 12 06 57.8 0.0
baz=210
V35K Ketchikan 87.44 26 P P 12 06 57.2 -0.8
baz=224
XLT XiLinHaoTe 87.45 320 eP P 12 06 58.6 +0.1
XLT PP PP 12 10 40.5 +5.5
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,42nm,3.9s
K20K Telida 87.48 12 P P 12 06 58.0 -0.1
K20K Telida 87.48 12 P P 12 06 57.7 -0.3
baz=204
BMRM Bremner River 87.52 17 P P 12 06 58.0 -0.3
baz=213,SNR=5.1
VNA1 Neumayer--Stat 87.55 177 ⇑P P 12 06 57.6 -0.8
comp=Z,6.8nm,0.7s
SCM Sheep Creek Mo 87.57 15 P P 12 06 59.0 +0.5
SCM Sheep Creek Mo 87.57 15 P P 12 06 58.4 -0.1
baz=211,SNR=10
MESA MESA 87.60 18 P P 12 06 58.7 -0.2
baz=215
KLU Klutina 87.62 16 P P 12 06 58.6 -0.2
baz=212
J19K Poorman 87.79 11 P P 12 06 59.6 +0.2
baz=203
CAST Castle Rocks 87.92 12 P P 12 06 59.3 -0.8
baz=206
N25K Chitina, Valde 88.06 16 P P 12 07 00.9 +0.1
N25K IAmb IAmb 12 07 02.0
comp=Z,7.5nm,0.6s
N25K Chitina, Valde 88.06 16 P P 12 07 00.2 -0.6
baz=213,SNR=6.0
WAT6 Susitna Watana 88.12 15 P P 12 07 00.7 -0.5
baz=210,SNR=8.1
GLB Gilahina Butte 88.13 17 P P 12 07 01.2 +0.1
GLB IAmb IAmb 12 07 02.2
comp=Z,6.5nm,0.7s
WAT1 Susitna Watana 88.15 14 P P 12 07 01.6 +0.4
baz=209
DUG Dugway, Tooele 88.19 45 P P 12 07 00.9 -1.2
baz=239
J20K Nowinta River 88.22 11 P P 12 07 01.5 +0.1
baz=204
CHUM Lake Minchumin 88.29 12 P P 12 07 01.7 -0.1
baz=206
MCARA McCarthy VSAT 88.29 17 P P 12 07 01.2 -0.6
baz=214
TRF Thorofare Moun 88.32 13 P P 12 07 01.6 -0.5
TRF IAmb IAmb 12 07 02.2
comp=Z,11nm,0.8s
TRF Thorofare Moun 88.32 13 P P 12 07 01.1 -1.0
baz=208,SNR=7.0
CMAR Chiang Mai Arr 88.38 291 P P 12 07 03.5 +0.3
CMAR Chiang Mai Arr 88.38 291 P P 12 07 04.7 +1.4
comp=Z,7.9nm,0.9s,baz=130,slow=2.8,SNR=50
CMAR PP PP 12 10 43.4 +0.7
comp=Z,0.7nm,0.4s,baz=120,slow=5.4,SNR=5.5
comp=Z,7.9nm,0.9s
BARN Barnard Glacie 88.41 18 P P 12 07 02.3 -0.3
BARN IAmb IAmb 12 07 04.0
comp=Z,7.9nm,0.8s
CTG Chitna Glacier 88.42 18 P P 12 07 02.1 -0.5
baz=216
P29M Windy Craggy 88.45 20 P P 12 07 03.2 +0.5
baz=219
CHTO Chiang Mai 88.52 291 P P 12 07 04.2 +0.3
CHTO IAmb IAmb 12 07 05.9
comp=Z,15nm,0.8s
RND Reindeer 88.58 14 P P 12 07 02.9 -0.3
RND IAmb IAmb 12 07 03.8
comp=Z,12nm,0.8s
O28M Mount Upton 88.60 19 P P 12 07 03.3 -0.4
baz=217,SNR=6.7
DHY Denali Highway 88.63 14 P P 12 07 03.0 -0.6
baz=210
HHC Hu-ho-hao-te 88.66 315 eP P 12 07 07.5 +3.3
HHC pmax pmax
comp=Z,5.0nm,1.5s
HHC pmax pmax
comp=Z,58nm,4.1s
I20K Naaghedeneel 88.72 11 P P 12 07 03.5 -0.3
baz=204
BPAW Bear Paw Mtn. 88.75 13 P P 12 07 03.5 -0.5
baz=207
PLBC Pleasant Camp 88.77 21 P P 12 07 04.4 +0.3
baz=220
MCK McKinley 88.85 13 P P 12 07 04.7 +0.3
baz=209
HLID Hailey 88.92 42 P P 12 07 04.7 -0.7
baz=238
PAX Paxson 88.99 15 P P 12 07 04.9 -0.3
baz=212
H19K Roundabout Mou 89.07 10 P P 12 07 04.7 -0.6
baz=202
P30M Million Dollar 89.08 20 P P 12 07 05.2 -0.5
baz=220
YUK8 Steele Glacier 89.13 18 P P 12 07 05.3 -0.8
baz=217
M26K Nabesna, AK 89.14 16 P P 12 07 05.2 -0.6

baz=214
T35M **Bob Quinn** 89.16 25 P P 12 07 05.6 -0.4
baz=226
H20K **Anotleneega Mo** 89.30 10 P P 12 07 06.7 +0.2
baz=204
PZH **PanZhiHua** 89.30 299 P P 12 07 08.0 +0.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.0s
YUK3 **Moose Creek** 89.33 18 P P 12 07 06.6 -0.3
baz=217,SNR=6.4
M27K **Edge Creek, AK** 89.41 17 P P 12 07 06.8 -0.4
baz=215,SNR=5.5
HYT **Haines Junctio** 89.45 20 P P 12 07 06.8 -0.7
baz=219
MNTX **Cornudas Mount** 89.47 55 P P 12 07 07.2 -0.9
baz=244
S34M **Telegraph Cree** 89.47 24 P P 12 07 06.9 -0.5
baz=225
YUK4 **Talbot Arm** 89.51 19 P P 12 07 07.9 +0.2
baz=218
I21K **Tanana** 89.53 12 P P 12 07 07.0 -0.4
baz=206
G19K **Purcell Mounta** 89.55 9 P P 12 07 07.7 +0.1
baz=202
L26K **Log Cabin Wild** 89.57 16 P P 12 07 07.8 0.0
baz=214
NEA2 **Nenana** 89.58 13 P P 12 07 07.3 -0.5
baz=209
K24K **Donnelly Dome** 89.63 15 P P 12 07 07.6 -0.4
baz=212
MLY **Manley** 89.63 12 P P 12 07 07.9 -0.1
baz=207
P32M **Atlin** 89.76 22 P P 12 07 08.8 +0.1
baz=223
TXAR **Lajitas Array** 89.79 58 P P 12 07 11.2 +1.5
comp=Z,3.5nm,0.7s,baz=215,slow=6.4,SNR=40
TXAR pP pP 12 09 24.6 +5.8
comp=Z,0.7nm,1.0s,baz=214,slow=4.2,SNR=3.2
comp=Z,3.5nm,0.7s
E17K **Hotham Inlet** 89.81 7 P P 12 07 08.9 +0.2
baz=197
H21K **Melozitna Rive** 89.81 11 P P 12 07 09.2 +0.4
baz=206
O30N **Mendenhall** 89.86 20 P P 12 07 09.1 -0.1
baz=220
HDA **Harding Lake** 89.88 14 P P 12 07 08.6 -0.5
baz=211
NEW **Newport** 89.88 37 P P 12 07 08.9 -0.7
baz=236
L27K **Beaver Creek,** 90.00 17 P P 12 07 09.1 -0.6
baz=215
PLCA **Paso Flores** 90.00 134 P P 12 07 11.4 +0.8
comp=Z,5.0nm,0.7s,baz=229,slow=7.8,SNR=12
comp=Z,5.0nm,0.7s
I23K **Minto, Yukon-K** 90.01 13 P P 12 07 09.7 0.0
baz=209
COLA **College** 90.08 13 P P 12 07 09.9 -0.1
COLA **College** 90.08 13 P P 12 07 10.1 +0.1
baz=210
F19K **Shaleruckik Mo** 90.09 9 P P 12 07 09.6 -0.4
baz=201
ANMO **Albuquerque** 90.11 52 P P 12 07 09.9 -1.3
baz=243
WHY **Whitehorse** 90.16 21 P P 12 07 10.1 -0.6
baz=222
SCRK **Sand Creek** 90.20 15 P P 12 07 10.3 -0.5
baz=214
ILAR **Eielson Array** 90.20 14 P P 12 07 10.2 -0.4
comp=Z,1.2nm,0.4s,baz=211,slow=5.2,SNR=40
ILAR PP PP 12 10 52.2 -3.8
comp=Z,0.2nm,0.9s,baz=220,slow=5.6,SNR=4.0
comp=Z,1.2nm,0.4s
D17K **Noatak River** 90.26 7 P P 12 07 10.2 -0.6
baz=196
DLBC **Dease Lake** 90.26 24 P P 12 07 10.4 -0.7
baz=226
H22K **Ishtalitna Cre** 90.28 12 P P 12 07 11.0 +0.1
baz=207
POKR **Poker Plat Res** 90.38 13 P P 12 07 11.5 0.0
baz=210
J25K **Salcha River,** 90.41 14 P P 12 07 11.2 -0.5
baz=212
M29M **Somme Creek** 90.43 18 P P 12 07 11.1 -0.7
baz=218,SNR=8.3
G21K **Allakaket** 90.46 10 P P 12 07 11.8 0.0
baz=205
N31M **Braeburn, Yuko** 90.50 20 P P 12 07 11.8 -0.3
baz=221
P33M **Teslin, Yukon** 90.52 22 P P 12 07 11.8 -0.6
baz=223
H23K **Yukon River** 90.57 12 P P 12 07 12.2 -0.1
baz=208
R33M **Jennings River** 90.59 23 P P 12 07 12.3 -0.4
baz=225
C16K **Lisburne Hills** 90.59 6 P P 12 07 12.4 +0.1
baz=194
F20K **Avaraart Lake** 90.59 9 P P 12 07 12.3 -0.1
baz=203
RDOG **Red Dog Mine** 90.62 7 P P 12 07 12.5 0.0
baz=196
K27K **Chicken** 90.72 16 P P 12 07 13.0 0.0
baz=215
J26L **Joseph Creek** 90.74 15 P P 12 07 12.8 -0.4
baz=214
E19K **Redstone River** 90.75 9 P P 12 07 12.9 -0.2
baz=202
H24K **Noodor Dome** 90.92 13 P P 12 07 14.4 +0.4
baz=210
MSO **Missoula** 90.92 39 P P 12 07 13.9 -0.6
baz=238
C17K **DeLong Mountai** 91.00 6 P P 12 07 14.7 +0.5
baz=196
L29M **L29M** 91.05 18 P P 12 07 14.6 0.0
baz=219,SNR=6.0
F21K **Alatna River** 91.11 10 P P 12 07 14.7 -0.1
baz=205
N32M **Quiet Lake** 91.12 21 P P 12 07 15.7 +0.7
baz=223
PRP **Porcupine Dome** 91.14 14 P P 12 07 16.0 +0.9
baz=212
G22K **Bettles** 91.18 11 P P 12 07 15.5 +0.4
baz=207
O20A **White River Ci** 91.22 47 P P 12 07 15.2 -1.0
baz=242
G23K **Bananza Creek** 91.26 12 P P 12 07 15.1 -0.5
baz=208
C18K **Utukok River** 91.38 7 P P 12 07 14.8 -1.2
baz=198
DAWY **Dawson** 91.45 17 P P 12 07 16.0 -0.4
baz=218
M31M **Drury Creek, Y** 91.47 20 P P 12 07 16.7 +0.1
baz=222
I26K **Coal Creek Min** 91.51 15 P P 12 07 16.5 -0.1
baz=214
EGAK **Eagle** 91.56 16 P P 12 07 17.3 +0.5
baz=216
F22K **John River** 91.59 11 P P 12 07 17.5 +0.5
baz=206
BW06 **Boulder Array** 91.59 44 P P 12 07 16.5 -1.4
baz=241
PDAR **Pinedale Array** 91.59 44 P P 12 07 17.9 +0.1
comp=Z,1.1nm,0.6s,baz=238,slow=2.9,SNR=12
comp=Z,1.1nm,0.6s
D19K **Kuna River** 91.61 8 P P 12 07 17.9 +0.8
baz=201
E20K **Nigu River** 91.65 9 P P 12 07 17.6 +0.3
baz=202
BOZ **Bozeman (W)** 91.67 41 P P 12 07 17.0 -1.1
baz=240
COLD **Coldfoot** 91.69 11 P P 12 07 17.7 +0.3
baz=208
G24K **Hadweenzic Riv** 91.75 13 P P 12 07 18.2 +0.5
baz=210
K29M **Barlow Dome** 91.79 18 P P 12 07 18.6 +0.5
baz=219
FARO **Faro, Yukon** 91.83 20 P P 12 07 18.7 +0.5
baz=223
B18K **Kokolik River** 92.00 7 P P 12 07 18.8 0.0
baz=197
C19K **Lookout Ridge** 92.00 7 P P 12 07 18.7 -0.2
baz=199
D20K **Etivluk River** 92.01 9 P P 12 07 18.6 -0.3
baz=202
SDCO **Great Sand Dun** 92.05 50 P P 12 07 19.6 -0.6
baz=244
G25K **Bearman Lake** 92.08 13 P P 12 07 19.0 -0.2
baz=212
I27K **Kandik River** 92.12 15 P P 12 07 19.7 +0.1
baz=216
E21K **Killik River** 92.14 10 P P 12 07 19.9 +0.4
baz=204
E22K **Anaktuvuk Pass** 92.21 10 P P 12 07 20.2 +0.3
baz=206
F24K **Squaw Lake** 92.38 12 P P 12 07 20.9 +0.3
baz=210
TOAD **Toad River Com** 92.39 25 P P 12 07 21.1 +0.3
baz=230
I28M **Miner Creek** 92.42 16 P P 12 07 21.0 0.0
baz=217
E23K **Chandalar** 92.53 11 P P 12 07 21.4 0.0
baz=208
T25A **Trinidad** 92.56 51 P P 12 07 21.1 -1.3
baz=244
H27K **Steamboat Moun** 92.66 15 P P 12 07 21.7 -0.2
baz=216
C21K **Knifeblade Rid** 92.68 9 P P 12 07 21.9 -0.1
baz=204
J30M **Hart River** 92.69 18 P P 12 07 22.3 +0.1
baz=220
G26K **Porcupine Rive** 92.73 14 P P 12 07 22.7 +0.5
baz=214
D22K **Ayikyak River** 92.75 10 P P 12 07 22.3 0.0
baz=206
E24K **Your Creek** 92.75 12 P P 12 07 21.8 -0.5
baz=210
I29M **Ogilvie Camp,** 92.77 16 P P 12 07 21.9 -0.6
baz=219
ISCO **Idaho Springs** 92.87 48 P P 12 07 22.4 -1.5
baz=244
A19K **Wainwright** 92.88 7 P P 12 07 22.6 -0.1
baz=198
F25K **Christian Rive** 92.88 13 P P 12 07 23.1 +0.1
baz=212
RLMT **Red Lodge** 92.90 42 P P 12 07 23.1 -0.7
baz=242
TOLK **Toolik Lake Re** 93.05 11 P P 12 07 23.9 +0.2
baz=209
G27K **Doyon Strip** 93.10 14 P P 12 07 24.2 +0.2
baz=216
N23A **Red Feather La** 93.13 47 P P 12 07 23.2 -1.9
baz=244
B21K **Ibpikpuk River** 93.13 9 P P 12 07 24.2 +0.3
baz=204
D23K **Nanushuk River** 93.15 10 P P 12 07 24.4 +0.3
baz=208
B20K **Meade River** 93.15 8 P P 12 07 24.8 +0.8
baz=202
I30M **Mount Dempster** 93.17 17 P P 12 07 24.8 +0.4
baz=220
F26K **Sheenjek River** 93.28 13 P P 12 07 24.8 0.0
baz=213
E25K **Arctic Village** 93.35 12 P P 12 07 25.2 +0.1
baz=212
H29M **Whitestone** 93.42 16 P P 12 07 25.4 0.0
baz=219
C23K **Itkillik River** 93.93 10 P P 12 07 27.6 0.0
baz=208
B22K **Teshekpuk Lake** 93.96 9 P P 12 07 28.1 +0.4
baz=205
EPYK **Eagle Plains** 93.96 16 P P 12 07 27.8 -0.1
baz=220
EGMT **Eagleton** 93.98 39 P P 12 07 27.3 -1.1
baz=241
C24K **Franklin Bluff** 94.15 11 P P 12 07 29.1 +0.6
baz=209
H31M **Peel River** 94.17 17 P P 12 07 29.1 +0.2
baz=222
D25K **Kavik River** 94.22 12 P P 12 07 29.8 +0.8
baz=212
ABTX **Abilene, Hawle** 94.28 57 P P 12 07 29.1 -1.1
baz=247
A22K **Sinclair Lake** 94.35 8 P P 12 07 29.8 +0.4
baz=204
G30M **tAoh Zraii Nji** 94.56 16 P P 12 07 30.4 -0.2
baz=221
C27K **Jago River** 94.98 12 P P 12 07 32.3 -0.1
baz=214
C26K **Camden Bay** 95.00 12 P P 12 07 32.9 +0.5
baz=206
G31M **Satah River** 95.02 17 P P 12 07 33.0 +0.4
baz=222
E28M **Babbage River** 95.03 14 P P 12 07 33.4 +0.7
baz=218
SONM **Songino Array** 95.27 320 P P 12 07 34.4 +0.1
comp=Z,0.5nm,0.6s,baz=145,slow=5.4,SNR=4.8
comp=Z,0.5nm,0.6s
LAO **LASA Array** 95.50 42 P P 12 07 35.1 -0.2
baz=244
F31M **Tsiigehtchic** 95.55 16 P P 12 07 35.5 +0.6
baz=223
RSSD **Black Hills** 95.79 45 P P 12 07 36.2 -0.7
baz=245
YKA **Yellowknife Ar** 98.77 25 P P 12 07 49.3 -0.2
comp=Z,0.2nm,0.7s,baz=253,slow=4.3,SNR=4.0
comp=Z,0.2nm,0.7s
ZALV **Zalesovo Beam** 110.10 321 PKiKP PKiKP 12 12 36.0 -1.6
comp=Z,0.9nm,0.3s,baz=136,slow=1.2,SNR=6.0
MKAR **Makanchi Array** 110.44 313 PKiKP PKiKP 12 12 36.9 -1.7
comp=Z,1.1nm,0.5s,baz=133,slow=0.5,SNR=21
MKAR PKKPbc PKKPbc 12 23 39.6 -1.6
comp=Z,0.6nm,0.6s,baz=279,slow=3.5,SNR=7.3
KURBB **Kurchatov Arra** 113.46 317 PKiKP PKiKP 12 12 42.6 -1.6
comp=Z,1.6nm,0.5s,baz=109,slow=1.7,SNR=15
KURBB PP PP 12 13 39.8 -7.9
comp=Z,0.3nm,0.4s,baz=98,slow=7.4,SNR=1.9
KSH **Kashi** 113.75 305 PKP PKiKP 12 12 45.8 +0.5
KK31 **Karatay Array** 118.26 308 PKPdf PKPdf 12 12 51.7 -2.1
KKAR **Karatay Array** 118.26 308 PKPdf PKPdf 12 12 52.3 -1.5
BVAR **Borovoye Array** 118.61 319 PKP PKPdf 12 12 52.8 -1.3
comp=Z,6.3nm,0.4s,baz=129,slow=1.3,SNR=31
BDFB **Brasilia** 120.35 125 PKP PKPdf 12 12 57.5 -1.2
comp=Z,1.7nm,0.5s,baz=212,slow=2.1,SNR=4.3
SPITS **Spitsbergen Ar** 123.09 356 PKP PKPdf 12 13 01.2 -0.9
comp=Z,4.4nm,0.5s,baz=90,slow=4.4,SNR=15
SPITS PKKPbc PKKPab 12 22 55.9 0.0
comp=Z,5.1nm,0.9s,baz=171,slow=5.8,SNR=6.5
BOSA **Boshof** 123.96 207 PKP PKPdf 12 13 04.9 -0.5
comp=Z,2.5nm,0.7s,baz=153,slow=2.3,SNR=3.8
ARU **Arti** 124.98 324 PKPdf 12 13 05.3 -0.9
ABKAR **Akbulak array** 125.45 316 PKPdf PKPdf 12 13 06.1 -1.2
GEYT **Alibeck** 127.53 302 PKP PKPdf 12 13 11.2 -0.5
comp=Z,2.5nm,0.7s,baz=48,slow=2.2,SNR=6.5
ARA0 **ARCESS Array S** 129.83 348 *e*P PKPdf 12 13 14.1 -1.0
ARCES **ARCESS Array B** 129.83 348 PKhKP PKPpre 12 13 02.7
comp=Z,0.7nm,0.7s,baz=343,slow=1.3,SNR=7.3
ARCES PKP PKPdf 12 13 14.1 -1.0
comp=Z,4.9nm,0.5s,baz=66,slow=1.9,SNR=45
ARCES PP PP 12 15 38.3 +2.2
comp=Z,11nm,0.9s,baz=34,slow=5.0,SNR=18
TRO **Tromso** 130.83 351 *e*P PKPdf 12 13 16.4 -0.6
FIA1 **FINESS Array S** 136.40 342 PKPdf 12 13 27.9 +0.3
FINES **FINESS Array B** 136.40 342 PKPdf 12 13 27.5 -0.1
FINES **FINESS Array B** 136.40 342 PKhKP PKPpre 12 13 13.5
comp=Z,0.4nm,0.4s,baz=52,slow=3.1,SNR=7.4
FINES PKP PKPdf 12 13 27.4 -0.2
comp=Z,1.7nm,0.3s,baz=57,slow=1.0,SNR=16
FINES SKPbc SKPbc 12 16 01.6 -2.8
comp=Z,2.6nm,0.7s,baz=46,slow=5.5,SNR=9.3
KBZ **Khabaz** 138.11 312 SKPbc SKPbc 12 16 07.0 -2.9
comp=Z,1.7nm,0.8s,baz=82,slow=4.0,SNR=2.7
NB2 **NORSAR Subarra** 140.03 351 PKP PKPdf 12 13 26.9 -7.4
comp=Z,0.5nm,0.4s,baz=17,slow=2.6
NB2 SKPa 12 16 12.0
comp=Z,0.9nm,0.7s,baz=21,slow=2.9
NOA **NORSAR Array B** 140.03 351 PKhKP PKPpre 12 13 27.3
comp=Z,0.7nm,0.5s,baz=20,slow=3.9,SNR=7.2
NOA PKP PKPdf 12 13 35.3 +1.0
comp=Z,1.1nm,0.4s,baz=14,slow=3.8,SNR=3.3
NOA SKPbc SKPbc 12 16 11.2 -3.4
comp=Z,3.0nm,1.0s,baz=16,slow=4.2,SNR=4.7
HFS **Hagfors** 140.49 349 PKhKP PKPpre 12 13 28.2
comp=Z,5.0nm,0.4s,baz=58,slow=3.7,SNR=62
HFS SKPbc SKPbc 12 16 12.0 -3.8
comp=Z,3.7nm,0.8s,baz=318,slow=2.0,SNR=7.4
ASK **Askoy** 141.23 355 *e*P PKPdf 12 13 31.8 -4.5
BLS5 **Blasjo** 142.18 354 *e*P PKPdf 12 13 34.7 -3.5
KMY **Karmoy** 142.49 355 *e*P PKPdf 12 13 35.5 -3.1
AKASG **Malin Array Be** 143.02 328 PKP PKPab 12 13 37.0 -0.7
comp=Z,19nm,0.5s,baz=43,slow=4.4,SNR=90
AKASG SKPbc SKPbc 12 16 18.9 -3.5
comp=Z,4.9nm,0.8s,baz=46,slow=2.2,SNR=11
KIEV **Kiev** 143.04 328 ⇓P PKPab 12 13 37.1 -0.6
SNART **Snartemo** 143.17 353 *e*P PKPab 12 13 37.9 -0.1
SUW **Suwalki** 143.24 337 *e*PKPbc PKPab 12 13 38.1 -0.3
SUW **Suwalki** 143.24 337 PKPab 12 13 38.2 -0.3
LEWI **Lewis, Hebride** 143.50 6 *e*P PKPab 12 13 38.9 -0.4
GAZ **Gaziantep** 144.07 304 PKPbc 12 13 41.0 -1.0
MCD **Coleburn Disti** 144.30 3 *e*P PKPdf 12 13 40.5 -1.3
KPL **Plockton** 144.40 5 *e*P PKPdf 12 13 41.4 -0.7
DRUM **Mains of Drumt** 145.00 2 *e*P PKPdf 12 13 42.7 -0.4
SORM **Soroca** 145.09 326 ⇓P PKPdf 12 13 43.5 0.0
PURM **Purcari** 145.21 322 ⇑P PKPbc 12 13 44.6 -0.4
INVG **Invergeldie, C** 145.41 3 *e*P PKPbc 12 13 44.3 -1.0
LAWE **Loch Awe, Argy** 145.49 5 *e*P PKPbc 12 13 44.4 -1.0
BEL **Belsk** 145.85 336 *e*PKPbc PKPbc 12 13 46.7 +0.1
BR131 **Keskin Array S** 145.96 309 PKPbc 12 13 46.5 -1.0
BRTR **Keskin Array B** 145.96 309 PKPdf 12 13 46.2 +0.7
BRTR **Keskin Array B** 145.96 309 PKPbc PKPbc 12 13 46.6 -1.0
comp=Z,4.8nm,0.7s,baz=131,slow=4.7,SNR=28
BRTR SKPbc SKPbc 12 16 27.3 -2.4
comp=Z,0.4nm,0.6s,baz=86,slow=2.2,SNR=3.7
PGBU **Glenifferbraes** 146.00 4 *e*P PKPdf 12 13 45.3 +0.5
VASR **Vaslui** 146.31 324 ⇓P PKPbc 12 13 47.8 -0.3
MMAI **Mount Meron Ar** 146.40 297 PKPbc PKPbc 12 13 49.1 +0.3
comp=Z,18nm,0.6s,baz=90,slow=4.3,SNR=10
ANTO **Ankara** 146.51 310 ⇓P PKPbc 12 13 49.0 0.0
EKA **Eskdalemuir Ar** 146.55 3 PKPbc PKPbc 12 13 47.4 -1.0
comp=Z,2.6nm,0.3s,baz=354,slow=2.0,SNR=45
ESK **Eskdalemuir** 146.56 3 *e*P PKPbc 12 13 47.0 -1.5
TLCR 146.58 321 ⇑P PKPbc 12 13 48.4 -0.4
CLGH **Cloghs, Cushen** 146.59 6 *e*P PKPbc 12 13 48.1 -0.4
VLDR **Vladesti** 146.62 323 ⇓P PKPbc 12 13 49.6 +0.7
NEWG **New Galloway** 146.71 4 *e*P PKPbc 12 13 47.7 -1.1
SCTR **Scanteiesti** 146.77 322 ⇑P PKPbc 12 13 49.6 +0.3
KWP **Kalwaria Pacla** 146.78 332 *e*PKPbc PKPbc 12 13 49.5 +0.2
KWP **Kalwaria Pacla** 146.78 332 PKPbc 12 13 49.0 -0.2
GHRR 146.87 323 ⇓P PKPbc 12 13 50.0 +0.4
GAL1 **Galloway** 146.93 4 *e*P PKPbc 12 13 48.2 -1.2
CFR **Carcaliu** 146.98 322 ⇓P PKPbc 12 13 49.5 -0.4
TPGR **Topolog** 147.00 321 ⇑P PKPbc 12 13 50.1 +0.1
TESR **Tescani** 147.01 325 ⇓P PKPbc 12 13 49.6 -0.3
BUR08 **Bucovina Ar. S** 147.03 327 PKPbc 12 13 50.3 +0.2
BURAR **Bucovina Array** 147.04 327 ⇓P PKiKP 12 13 51.0 -0.9
BURAR **Bucovina Array** 147.04 327 PKPbc 12 13 49.9 -0.2
VRI **Vrincioaia** 147.37 324 ⇓P PKPbc 12 13 50.4 -0.5
MFTR **Murfatlar** 147.38 320 ⇑P PKPbc 12 13 50.5 -0.5
HARR **Harsova** 147.38 321 ⇑P PKPbc 12 13 50.6 -0.3
PLOR **Plostina** 147.42 324 ⇑P PKPbc 12 13 50.6 -0.5
KOLS **Kolonicke sedl** 147.49 332 *e*PKP PKPbc 12 13 51.6 +0.5
GDLE **Glaisdale, N Y** 147.52 0 *e*P PKPbc 12 13 50.4 -0.6
OJC **Ojcow** 147.52 335 *e*PKPbc PKPbc 12 13 50.7 -0.5
OJC *e*PKPab PKPab 12 13 55.2 -0.2
OJC **Ojcow** 147.52 335 PKPbc 12 13 50.7 -0.5
IOMK **Kirk Michael** 147.54 4 *e*P PKPbc 12 13 50.0 -1.0
STHS **Stebnicka Huta** 147.57 333 *e*PKP PKPbc 12 13 50.8 -0.5
STHS *e* 12 13 56.1
TURR **Turia** 147.64 324 ⇑P PKPbc 12 13 52.0 +0.4
WIM **Isle of Man** 147.64 5 *e*P PKPbc 12 13 50.6 -0.7
COVR **Voineasa-Covas** 147.67 324 ⇓P PKPbc 12 13 51.3 -0.4
CSS **Mathiatis** 147.67 301 PKPbc 12 13 51.4 -0.7
CRVS **Cervenica-Dubn** 147.87 332 *e*PKP PKPbc 12 13 52.2 +0.1
CRVS *e* 12 13 57.4
NIE **Niedzica** 147.96 334 *e*PKPbc PKPbc 12 13 52.7 +0.4
NIE *e*PKPab PKPab 12 13 57.7 +0.4
HPK **Haverah Park** 147.97 1 *e*P PKPbc 12 13 51.0 -1.2
DOPR **Dopca** 148.03 325 ⇓P PKPbc 12 13 52.8 +0.2
MLR **Muntele Rosu** 148.03 324 ⇓P PKPbc 12 13 51.8 -1.0
MLR **Muntele Rosu** 148.03 324 PKPbc 12 13 52.1 -0.7
WPS **Cemaes, Angles** 148.40 5 *e*P PKPbc 12 13 51.6 -1.6
WME **Myndd Eilian** 148.42 4 *e*P PKPbc 12 13 52.3 -1.0
OKC **Ostrava-Krasne** 148.46 337⇑*e*PKP PKPbc 12 13 53.5 0.0
CJR **Cluj-Napoca** 148.46 327 ⇓P PKPbc 12 13 53.7 0.0
LANS **Liptovska Anna** 148.50 335 *e*PKP PKiKP 12 13 54.6 -0.2
LANS *e* 12 14 00.5
WLF1 **Llynfaes** 148.52 4 *e*P PKPbc 12 13 52.1 -1.4
OSTC **Ostas** 148.52 339⇑*e*PKP PKPbc 12 13 53.9 +0.2
LBWR **Ladybower, Pea** 148.53 1 *e*P PKPbc 12 13 52.9 -0.7
CHVC **Chvalec** 148.55 340⇑*e*PKP PKPbc 12 13 54.0 +0.3
VOIR 148.55 324 ⇓P PKPbc 12 13 53.3 -0.7
DPC **Dobruska-Polom** 148.66 339⇑*e*PKP PKPbc 12 13 54.3 +0.2
MARR **Marisel-Cluj** 148.72 328 ⇑P PKPbc 12 13 53.7 -0.7
MORC **Moravsky Berou** 148.73 337 ⇑P PKPbc 12 13 54.2 -0.1
MORC **Moravsky Berou** 148.73 337 PKPdf PKPdf 12 13 47.0 -2.6
MORC PKPbc 12 13 53.7 -0.5
MORC PKPab PKPab 12 14 01.0 +0.6
MORC **Moravsky Berou** 148.73 337 *e*PKP PKPbc 12 13 54.1 -0.1
MORC *e* 12 14 00.7
KRLC **Kraliky** 148.74 338⇑*e*PKP PKPbc 12 13 54.4 +0.1
CLL **Collm** 148.80 344⇓*i*PKPbc PKPbc 12 13 54.2 -0.1
comp=Z,32nm,0.7s
CLL ⇑*i*PKPab PKPab 12 14 00.7 +0.1
comp=Z,13nm,0.7s
CLL *e*pPKPab pPKPab 12 16 19.0 +7.1
DRGR 148.84 328 ⇓P PKPbc 12 13 54.1 -0.6
BRG **Berggiesshubel** 148.94 342 *i* PKP PKPbc 12 13 54.6 -0.1
BRG Amp 12 13 55.4
comp=Z,19nm,0.7s
BRG **Berggiesshubel** 148.94 342 P PKPab 12 14 01.4 +0.2
BRG Amp 12 14 02.1
comp=Z,13nm,1.0s
FOEL **Foel Wylfa** 148.99 3 *e*P PKPbc 12 13 54.0 -0.7
LLW **Llanuwchllyn** 149.00 4 *e*P PKPbc 12 13 53.2 -1.5
HUMR **Humele** 149.17 323 ⇓P PKPbc 12 13 54.4 -1.0
CWF **Charnwood Fore** 149.20 1 *e*P PKPbc 12 13 54.0 -1.2
LOT **Lotru** 149.23 326 ⇓P PKPbc 12 13 54.5 -1.2
VYHS **Vyhne** 149.28 334 *e*PKP PKPbc 12 13 55.4 -0.2
VYHS *e* 12 14 03.3
PSZ **Piszkesteto** 149.29 333 ⇑P PKPbc 12 13 55.2 -0.5
HSKC **Hora Svate Kat** 149.32 342⇑*e*PKP PKPbc 12 13 55.4 -0.2
HLM1 **Long Mynd** 149.38 3 *e*P PKPbc 12 13 54.5 -1.2
JAVC **Velka Javorina** 149.44 336 *e*PKP PKiKP 12 13 56.9 +0.2
VRAC **Vranov** 149.46 338 ⇑P PKPbc 12 13 55.5 -0.4
VRAC **Vranov** 149.46 338 *e*PKP PKPbc 12 13 55.7 -0.3
VRAC *e* 12 14 03.9
VRAC **Vranov** 149.46 338 PKPbc PKPbc 12 13 55.8 -0.1
comp=Z,4.4nm,0.6s,baz=17,slow=1.6,SNR=6.9
GOPC **GO Pecny, Ondr** 149.54 340⇑*e*PKP PKPbc 12 13 56.1 0.0
PRU **Pruhonice** 149.55 341⇑*e*PKP PKPbc 12 13 55.8 -0.3
SIRR **Siria** 149.72 329 ⇓P PKPbc 12 13 56.7 0.0
KRUC **Moravsky** 149.73 338 *e*PKP PKPbc 12 13 56.3 -0.3
KRUC *e* 12 14 04.9
GZR **Gura Zlata** 149.78 326 ⇓P PKPbc 12 13 56.0 -0.9
RSBS **Rosebush, Pemb** 149.82 5 *e*P PKPbc 12 13 54.6 -2.1
SURR **Surduc** 149.86 328 ⇓P PKPbc 12 13 56.4 -0.6
NKC **Novy Kostel** 149.93 343⇑*e*PKP PKiKP 12 13 57.1 -0.6
NKC *e*PKPab PKPab 12 14 05.7 +0.3
MODS **Modra-Piesok** 149.99 336 *e*PKP PKiKP 12 13 57.3 -0.5
MODS *e* 12 14 06.7
SRO **Srobarova** 150.03 334 *e*PKP PKPbc 12 13 57.1 -0.2
SRO *e* 12 14 06.7
MONM **Monmouth** 150.06 3 *e*P PKPbc 12 13 56.2 -1.0
BZS **Buzias** 150.21 328 ⇓P PKPbc 12 13 57.4 -0.4
HERR **Herculane** 150.32 326 ⇑P PKPbc 12 13 57.2 -0.9
KHC **Kasperske Hory** 150.60 341⇑*e*PKP PKPbc 12 13 58.4 -0.3
WOL **Wolverton** 150.63 1 *e*P PKPbc 12 13 57.6 -0.9
MDVR **Moldovita** 150.75 327 ⇓P PKPbc 12 13 58.6 -0.6
GERES **GERESS Array B** 150.81 341 PKPdf 12 13 50.9 -2.0
GERES PKPbc PKPbc 12 13 58.7 -0.6
GERES **GERESS Array B** 150.81 341 PKPbc PKPbc 12 13 58.9 -0.4
comp=Z,5.3nm,0.6s,baz=17,slow=3.1,SNR=18
CONA **Conrad Observa** 150.88 337 *i* PKP PKPbc 12 13 59.0 -0.4
comp=Z,5.3nm,0.5s,SNR=9.6
CONA *i* PKP PKPab 12 14 10.3 +0.7
comp=Z,5.5nm,0.7s
MEM **Membach** 150.89 351 *d*PKPdf PKPdf 12 13 53.0 +0.1
MEM *d*PKPbc PKPbc 12 13 58.6 -0.6
MEM *d*PKPab PKPab 12 14 09.3 0.0
BTNL **Ternell** 150.89 351 *d*PKPbc PKPbc 12 13 58.7 -0.6
RONA **Rosalia, Austr** 150.91 336 *i* PKP PKPbc 12 13 59.1 -0.3
comp=Z,8.4nm,0.4s,SNR=9.4
RONA *e*PKP PKPab 12 14 10.3 +0.7
comp=Z,9.0nm,0.9s
BSTI **Sart Tilman** 150.97 352 *d*PKPbc PKPbc 12 13 58.8 -0.6
BLKB **Belogradchik** 151.02 324 ⇓P PKPbc 12 13 59.1 -0.7
BHOU **Houvegnez** 151.14 351 *d*PKPbc PKPbc 12 13 59.4 -0.4
BHOU *d*PKP PKPab 12 14 10.5 0.0
MORH **Mrgy, Hungar** 151.16 332 ⇓P PKPbc 12 13 59.4 -0.5
BCLA **Clavier** 151.16 352 *d*PKPbc PKPbc 12 13 59.0 -0.8
BCLA *d*PKP PKPab 12 14 10.0 -0.5
SBD **Saint Breward** 151.20 6 *e*P PKPbc 12 13 58.9 -1.0
BGES **Gesves** 151.22 353 *d*PKPbc PKPbc 12 13 59.0 -1.0
BGES *d*PKP PKPab 12 14 10.2 -0.6
BMRD **Maredsous** 151.34 353 *d*PKPbc PKPbc 12 14 00.0 -0.2
BMRD *d*PKP PKPab 12 14 10.8 -0.5
MOA **Molln** 151.50 339 *e*PKP PKPbc 12 13 59.8 -0.9
comp=Z,2.5nm,0.5s

BOVS	**Bovan**	**151.54**	**325**	ǁP	**PKPbc**	**12 13 59.8**	**-1.1**
DOU	**Dourbes**	**151.57**	**353**	*d*PKPbc	**PKPbc**	**12 14 00.3**	**-0.4**
DOU				*d*PKP	**PKPab**	**12 14 11.4**	**-0.8**
ARSA	**Arzberg**	**151.58**	**337**	*e*PKP	**PKPab**	**12 14 12.5**	**+0.1**
	comp=Z,2.1nm,0.7s						
WLF	**Walferdange**	**151.79**	**351**	*d*PKP	**PKiKP**	**12 14 01.4**	**-0.1**
SOKA	**Soboth**	**152.24**	**337**	*i* PKP	**PKPbc**	**12 14 01.2**	**-1.3**
	comp=Z,2.4nm,0.5s						
SOKA				*e*PKP	**PKPab**	**12 14 15.2**	**-0.1**
	comp=Z,4.2nm,1.0s						
LESA	**Schwarzleotal**	**152.39**	**340**	*e*PKP	**PKPbc**	**12 14 01.8**	**-1.0**
	comp=Z,3.1nm,0.5s						
LESA				*e*PKP	**PKPab**	**12 14 16.3**	**+0.3**
	comp=Z,6.9nm,1.4s						
KBA	**Koelnbreinsper**	**152.48**	**339**	*e*PKP	**PKPbc**	**12 14 01.5**	**-1.6**
	comp=Z,2.2nm,0.5s						
MYKA	**Terra Mystica**	**152.78**	**338**	*i* PKP	**PKPbc**	**12 14 02.1**	**-1.5**
	comp=Z,3.2nm,0.5s						
WATA	**Walderalm**	**152.80**	**342**	*i* PKP	**PKPbc**	**12 14 02.5**	**-1.2**
	comp=Z,3.5nm,0.5s						
WATA				*i* PKP	**PKPab**	**12 14 17.9**	**+0.1**
	comp=Z,3.9nm,0.5s						
WTTA	**Wattenberg**	**152.85**	**342**	*i* PKP	**PKPbc**	**12 14 03.1**	**-0.8**
	comp=Z,7.3nm,0.4s,SNR=7.1						
WTTA				*i* PKP	**PKPab**	**12 14 18.4**	**+0.4**
	comp=Z,6.5nm,0.5s						
RETA	**Reutte**	**152.89**	**343**	*i* PKP	**PKPab**	**12 14 18.2**	**+0.1**
	comp=Z,5.6nm,0.6s						
MOTA	**Moosalm**	**152.93**	**342**	*i* PKP	**PKPbc**	**12 14 02.9**	**-1.1**
	comp=Z,4.8nm,0.9s						
MOTA				*i* PKP	**PKPab**	**12 14 18.4**	**+0.1**
	comp=Z,9.2nm,1.4s						
LJU	**Ljubljana**	**152.96**	**337**	*i* PKPbc	**PKPbc**	**12 14 03.1**	**-0.8**
SQTA	**Sankt Quirin**	**153.01**	**342**	*i* PKP	**PKPbc**	**12 14 03.0**	**-1.1**
	comp=Z,3.1nm,0.5s						
SQTA				*i* PKP	**PKPab**	**12 14 18.9**	**+0.2**
	comp=Z,9.5nm,1.3s						
ABTA	**Abfaltersbach**	**153.04**	**340**	*e*PKP	**PKPbc**	**12 14 02.8**	**-1.4**
	comp=Z,4.7nm,0.5s						
ABTA				*e*PKP	**PKPab**	**12 14 18.4**	**-0.3**
	comp=Z,5.6nm,1.2s						
BOJS	**Bojanci**	**153.14**	**335**	*i* PKPdf	**PKPdf**	**12 13 55.8**	**-0.5**
BOJS				*i* PKPbc	**PKPbc**	**12 14 03.8**	**-0.5**
BOJS				*i* PKPab	**PKPab**	**12 14 19.1**	**0.0**
CEY	**Cerknica**	**153.26**	**336**	*i* PKPbc	**PKPbc**	**12 14 03.7**	**-0.9**
CEY				*i* PKPab	**PKPab**	**12 14 19.3**	**-0.3**
DAVA	**Damuels**	**153.31**	**344**	*i* PKP	**PKPab**	**12 14 20.0**	**+0.1**
	comp=Z,8.7nm,0.6s						
FETA	**Feichten**	**153.33**	**343**	*i* PKP	**PKPbc**	**12 14 04.1**	**-0.8**
	comp=Z,2.4nm,0.5s						
DAVOX	**Davos/Dischmat**	**153.78**	**344**	PKPbc	**PKPbc**	**12 14 05.6**	**-0.4**
	comp=Z,4.8nm,0.6s,baz=117,slow=1.4,SNR=13						
DAVOX				PKPab	**PKPab**	**12 14 22.5**	**+0.4**
	comp=Z,8.2nm,0.5s,baz=359,slow=2.5,SNR=15						
FUORN	**Ofenpass-Fuorn**	**153.82**	**343**	PKPdf	**PKPdf**	**12 13 56.8**	**-0.8**
FUORN				PKPbc	**PKPbc**	**12 14 05.4**	**-0.7**
FUORN				PKPab	**PKPab**	**12 14 22.4**	**+0.1**
TUE	**Stuetta**	**154.20**	**344**	PKPdf	**PKPdf**	**12 13 55.8**	**-2.2**
TUE					**PKPab**	**12 14 24.8**	**+1.0**
ESDC	**Sonseca Array**	**162.03**	**9**	PKPab	**PKPab**	**12 14 57.8**	**-0.1**
	comp=Z,1.2nm,0.8s,baz=348,slow=4.5,SNR=7.8						
KEST	**Kesra**	**163.74**	**330**	PKPab	**PKPab**	**12 15 05.8**	**+0.2**
	comp=Z,5.6nm,1.0s,baz=32,slow=4.0,SNR=4.5						
DBIC	**Dimbokro**	**164.30**	**164**	PKPab	**PKPab**	**12 15 07.9**	**-0.5**
	comp=Z,1.8nm,0.5s,baz=161,slow=6.7,SNR=3.9						
MDT	**Midelt**	**168.53**	**18**	PKPab	**PKPab**	**12 15 27.5**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=350,slow=5.2,SNR=5.1						
TORD	**Torodi Ar. Bea**	**171.05**	**194**	PKP	**PKPdf**	**12 14 13.2**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=2.0,slow=1.5,SNR=5.9						
TORD				PKPab	**PKPab**	**12 15 37.8**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=173,slow=4.2,SNR=6.5						

*ANF **13** 12:05:46.6±0.1,33°.07N×115°.90W,h14km±1km, ML3.5/30, Error ellipse: s-maj=1.2km s-min=1.0km az=135.0*
*NEIC **13** 12:05:47.4±1.2,33°.065N±0°.006×115°.925W±0°.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.4km az=115.0*
*PAS **13** 12:05:47.3±1.0,33°.056N±0°.007×115°.919W±0°.007, h2km±1km, ML3.5/78, ML3.4/44(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=223.0*

ISC 13 12:05:46.7±0.8,33°.08N±0°.01×115°.91W±0°.01,h14km±5km, n122,σ0°68/176,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUP	**Superstition M**	**0.14**	**149**		**Pg**	**12 05 50.1**	**-0.3**
SUP					**Sg**	**12 05 52.3**	**-0.6**
SWSC	**Sam W. Stewart**	**0.16**	**145**		**Pg**	**12 05 50.5**	**-0.2**
SWSC					**Sg**	**12 05 53.0**	**-0.3**
SWSC	**Sam W. Stewart**	**0.16**	**145**	P	**Pg**	**12 05 50.5**	**-0.2**
	baz=318,SNR=726						
SWSC				S	**Sg**	**12 05 52.9**	**-0.5**
	baz=318						
SALN	**Salton City**	**0.21**	**343**		**Pb**	**12 05 52.1**	**-0.3**
SALN					**Sb**	**12 05 56.0**	**-0.2**
COK2	**Cook Ranch 2**	**0.27**	**146**		**Pg**	**12 05 53.1**	**+0.6**
COK2					**Sb**	**12 05 58.0**	**+0.1**
WEMD	**Westmorland, C**	**0.28**	**98**		**Pb**	**12 05 53.8**	**+0.2**
WEMD					**Sb**	**12 05 59.2**	**+1.1**
CLI2	**Calipatria 2**	**0.28**	**81**		**Pb**	**12 05 54.0**	**+0.4**
CLI2					**Sb**	**12 05 59.5**	**+1.3**
BOMB	**Bombay Beach**	**0.33**	**28**		**Pb**	**12 05 54.7**	**+0.3**
IMPE	**Imperial**	**0.34**	**121**		**Pb**	**12 05 55.1**	**+0.5**
IMPE					**Sb**	**12 06 01.2**	**+1.3**
WESC	**Westside Schoo**	**0.35**	**154**		**Pg**	**12 05 54.5**	**+0.7**
WESC					**Sb**	**12 06 00.3**	**+0.1**
YUH	**Yuha Desert**	**0.43**	**181**		**Pg**	**12 05 55.3**	**0.0**
SNR	**Schaffner Ranc**	**0.45**	**118**		**Pb**	**12 05 57.2**	**+0.7**
SNR					**Sb**	**12 06 04.8**	**+1.7**
SGL	**Mount Signal**	**0.45**	**160**		**Pg**	**12 05 56.0**	**+0.2**
SGL					**Sg**	**12 06 02.2**	**+0.4**
IKP	**In-Ko-Pah, Jac**	**0.46**	**201**		**Pg**	**12 05 55.9**	**+0.1**
IKP	**In-Ko-Pah, Jac**	**0.46**	**201**	P	**Pg**	**12 05 55.9**	**+0.1**
	baz=21,SNR=258						
IKP				S	**Sg**	**12 06 02.4**	**+0.4**
	baz=21						
BORC	**Borrego Spring**	**0.47**	**294**		**Pg**	**12 05 56.4**	**+0.4**
BORC					**Sg**	**12 06 03.1**	**+0.9**
MONP2	**Monument Peak**	**0.47**	**247**		**Pg**	**12 05 56.4**	**+0.3**
MONP2					**Sg**	**12 06 03.0**	**+0.6**
MONP2	**Monument Peak**	**0.47**	**247**	P	**Pg**	**12 05 56.3**	**+0.3**
	baz=69,SNR=247						
MONP2				S	**Sg**	**12 06 02.7**	**+0.3**
	baz=69						
DREC	**Desert Rsrch C**	**0.47**	**125**		**Pb**	**12 05 57.7**	**+0.8**
DREC					**Sn**	**12 06 05.9**	**-1.4**
RMX	**La Rumorosa**	**0.49**	**197**		**Pg**	**12 05 57.2**	**+0.7**
RMX					**Sb**	**12 06 04.3**	**-0.1**
RMX	**La Rumorosa**	**0.49**	**197**	IAML		12 06 06.7	
	comp=N,2μm,0.3s						
RMX				IAML		12 06 06.9	
	comp=E,3μm,0.3s						
5053	**Calexico**	**0.54**	**139**		**Pb**	**12 05 58.3**	**+0.4**
5053					**Sb**	**12 06 07.1**	**+1.6**
JUEM	**Julian Eagle M**	**0.58**	**271**		**Pg**	**12 05 58.6**	**+0.5**
CTCC	**Cactus City**	**0.58**	**354**		**Pb**	**12 05 58.9**	**+0.1**
CTCC					**Sb**	**12 06 08.0**	**+1.2**
UABX	**UABC, Campus M**	**0.59**	**138**		**Pb**	**12 05 59.3**	**+0.4**
UABX					**Sb**	**12 06 08.6**	**+1.4**
CTW	**Cottonwood Mou**	**0.60**	**3**		**Pb**	**12 05 59.1**	**0.0**
CTW					**Sb**	**12 06 07.9**	**+0.4**
5054	**Holtville Bond**	**0.62**	**128**		**Pb**	**12 05 59.9**	**+0.7**
5054					**Sn**	**12 06 10.1**	**-0.7**
MATG	**Mataguay Scout**	**0.63**	**281**		**Pg**	**12 05 59.6**	**+0.5**
MATG					**Sb**	**12 06 08.7**	**+0.4**
HAY	**Hayfield**	**0.66**	**17**		**Pb**	**12 06 00.5**	**+0.5**
PMD	**Palm Desert**	**0.69**	**326**		**Pg**	**12 06 00.4**	**+0.2**
PMD				IAML		12 06 11.7	
	comp=N,1000nm,0.2s						
PMD				IAML		12 06 12.0	
	comp=E,3μm,0.4s						
PMD	**Palm Desert**	**0.69**	**326**		**Sg**	**12 06 09.5**	**+0.1**
BC3	**Big Chuckawall**	**0.69**	**33**		**Pb**	**12 06 00.7**	**0.0**
BC3					**Sb**	**12 06 10.8**	**+0.6**
BC3	**Big Chuckawall**	**0.69**	**33**	P	**Pb**	**12 06 00.6**	**-0.1**
	baz=213,SNR=266						
BC3				S	**Sb**	**12 06 10.5**	**+0.3**
	baz=213						
COA	**Coachella**	**0.70**	**108**		**Pb**	**12 06 00.8**	**+0.2**
COA					**Sn**	**12 06 11.6**	**-1.1**
XPFO	**Pion Flat**	**0.70**	**320**		**Pb**	**12 06 00.9**	**+0.1**
XPFO					**Sb**	**12 06 10.6**	**+0.2**
PFO	**Pinyon Flats O**	**0.70**	**319**		**Pg**	**12 06 00.5**	**0.0**
PFO				IAML		12 06 12.2	
	comp=E,1μm,0.5s						
PFO				IAML		12 06 12.6	
	comp=E,2μm,0.6s						
PFO	**Pinyon Flats O**	**0.70**	**319**		**Pb**	**12 06 01.2**	**+0.3**
PFO					**Sb**	**12 06 11.0**	**+0.5**
PFO	**Pinyon Flats O**	**0.70**	**319**	P	**Pg**	**12 06 00.7**	**+0.3**
	baz=141,SNR=491						
PFO				S	**Sb**	**12 06 11.0**	**+0.5**
	baz=141						
FRD	**Ford Ranch, An**	**0.71**	**306**		**Pb**	**12 06 01.2**	**+0.1**
FRD					**Sb**	**12 06 10.8**	**+0.1**
BAR	**Barrett**	**0.75**	**238**		**Pg**	**12 06 01.2**	**-0.2**
BAR				IAML		12 06 13.5	
	comp=N,2μm,0.2s						
BAR				IAML		12 06 14.7	
	comp=E,1μm,0.3s						
BAR	**Barrett**	**0.75**	**238**		**Sg**	**12 06 11.1**	**-0.2**
SNDA	**J Saunders Pla**	**0.76**	**309**		**Pb**	**12 06 02.1**	**+0.3**
SNDA					**Sn**	**12 06 13.3**	**-1.1**
BZNA	**Buzz No.'s Pla**	**0.76**	**303**		**Pb**	**12 06 02.0**	**+0.3**
BZNA					**Sb**	**12 06 12.2**	**+0.2**
DNR	**Dunn Ranch,Anz**	**0.78**	**309**		**Pb**	**12 06 02.6**	**+0.5**
TKX	**Tecate**	**0.78**	**229**		**Pg**	**12 06 01.8**	**0.0**
TKX					**Sg**	**12 06 11.8**	**-0.2**
RUN	**Ruthven**	**0.79**	**97**		**Pg**	**12 06 02.1**	**0.0**
RUN					**Sb**	**12 06 13.3**	**+0.4**
EML	**El Monte Cty P**	**0.81**	**257**		**Pg**	**12 06 02.2**	**-0.2**
EML					**Sg**	**12 06 12.8**	**-0.1**
CPBX	**Cerro Prieto**	**0.83**	**142**		**Pg**	**12 06 02.6**	**-0.3**
PLM	**Palomar**	**0.84**	**289**		**Pb**	**12 06 03.6**	**+0.3**
PLM					**Sb**	**12 06 15.5**	**+0.9**
CRY	**Cary Ranch**	**0.85**	**305**		**Pb**	**12 06 03.6**	**+0.3**
CRY					**Sb**	**12 06 15.2**	**+0.6**
EMSC	**East Mesa**	**0.85**	**113**		**Pg**	**12 06 03.0**	**-0.2**
EMSC					**Sn**	**12 06 15.6**	**-1.0**
DUZA	**Dulzura**	**0.86**	**237**		**Pb**	**12 06 03.1**	**-0.5**
DUZA					**Sg**	**12 06 13.5**	**-0.4**
DPP	**Dos Picos Cty**	**0.87**	**265**		**Pb**	**12 06 03.5**	**-0.2**
GVDA	**Garner Valley**	**0.87**	**313**		**Pb**	**12 06 04.0**	**+0.3**
GVDA					**Sb**	**12 06 15.3**	**0.0**
GLA	**Glamis**	**0.91**	**91**		**Pb**	**12 06 04.1**	**-0.3**
GLA				IAML		12 06 17.1	
	comp=E,2μm,0.3s						
GLA				IAML		12 06 18.0	
	comp=N,2μm,0.4s						
GLA	**Glamis**	**0.91**	**91**		**Sg**	**12 06 16.3**	**0.0**
GLA	**Glamis**	**0.91**	**91**	P	**Pb**	**12 06 04.0**	**-0.4**
	baz=271,SNR=133						
GLA				S	**Sg**	**12 06 16.5**	**+0.1**
	baz=271						
BELC	**Belle Mtn. Jos**	**0.92**	**356**		**Pg**	**12 06 04.7**	**0.0**
BELC	**Belle Mtn. Jos**	**0.92**	**356**	P	**Pg**	**12 06 04.7**	**0.0**
	baz=176,SNR=422						
BELC				S	**Sn**	**12 06 17.7**	**-1.0**
	baz=176						
SDRC	**San Diego Road**	**0.93**	**249**		**Pb**	**12 06 04.2**	**-0.4**
EW2	**E Wide Canyon**	**0.96**	**334**		**Pg**	**12 06 05.6**	**+0.3**
OLP	**Otay Lakes Par**	**0.98**	**242**		**Pb**	**12 06 05.1**	**-0.4**
CBX	**Cerro Bola**	**0.99**	**220**		**Pb**	**12 06 05.8**	**0.0**
109C	**Camp Elliot, M**	**1.02**	**260**		**Pb**	**12 06 05.8**	**-0.4**
109C				IAML		12 06 21.4	
	comp=E,1μm,0.3s						
109C				IAML		12 06 21.5	
	comp=N,2μm,0.2s						
109C	**Camp Elliot, M**	**1.02**	**260**	P	**Pb**	**12 06 05.9**	**-0.4**
	baz=80,SNR=226						
109C				S	**Sb**	**12 06 19.5**	**0.0**
	baz=80						
CPE	**Camp Elliot**	**1.02**	**260**		**Pb**	**12 06 05.9**	**-0.3**
CPE					**Sb**	**12 06 19.4**	**0.0**
TPC	**Twentynine Pal**	**1.03**	**354**		**Pb**	**12 06 06.1**	**-0.1**
POB	**Polly Butte**	**1.04**	**306**		**Pn**	**12 06 07.2**	**+0.2**
GUVIX	**Guadalupe Vict**	**1.04**	**137**		**Pb**	**12 06 06.4**	**-0.2**
GUVIX				IAML		12 06 30.5	
	comp=E,2μm,0.6s						
BLAC	**Blackrock camp**	**1.07**	**338**		**Pb**	**12 06 06.9**	**-0.2**
ESJX	**Sierra Juarez**	**1.07**	**182**		**Pb**	**12 06 06.8**	**-0.4**
ESJX				IAML		12 06 22.0	
	comp=E,879nm,0.3s						
SDMC	**San Diego Miss**	**1.07**	**255**		**Sb**	**12 06 21.2**	**+0.2**
DGR	**Domenigoni Val**	**1.08**	**302**		**Pg**	**12 06 07.8**	**+0.1**
DGR					**Sg**	**12 06 22.2**	**+0.4**
BACC	**Bachelor Mtn.**	**1.09**	**300**		**Pb**	**12 06 07.2**	**-0.2**
BACC					**Sn**	**12 06 22.4**	**0.0**
GORC	**Green Oak Ranc**	**1.11**	**274**		**Pb**	**12 06 07.7**	**0.0**
GORC					**Sb**	**12 06 22.6**	**+0.6**
HMTC	**Hemet**	**1.11**	**305**		**Pg**	**12 06 08.3**	**+0.2**
HMTC					**Sn**	**12 06 23.3**	**+0.2**
TJX	**Tijuana**	**1.12**	**240**		**Pb**	**12 06 08.1**	**+0.3**
MURC	**Murrieta**	**1.20**	**296**		**Pg**	**12 06 10.0**	**+0.3**
MURC	**Murrieta**	**1.20**	**296**	P	**Pn**	**12 06 08.7**	**-0.4**
	baz=117,SNR=395						
MURC				S	**Sg**	**12 06 25.8**	**+0.5**
	baz=117						
BBSC	**Beaumont Base**	**1.23**	**314**		**Pg**	**12 06 10.9**	**+0.5**
IRM	**Iron Mountain**	**1.25**	**30**	P	**Pn**	**12 06 09.2**	**-0.7**
	baz=211,SNR=91						
IRM				S	**Sg**	**12 06 27.9**	**+0.7**
	baz=211						
GTM	**Goat Mountain**	**1.27**	**343**		**Pn**	**12 06 10.3**	**+0.1**
PEC	**Perris**	**1.32**	**308**		**Pg**	**12 06 12.0**	**-0.2**
BLYC	**Blythe**	**1.34**	**60**		**Pb**	**12 06 11.3**	**-0.4**
BLYC				IAML		12 06 32.8	
	comp=E,387nm,0.4s						
CCX	**Cicese**	**1.36**	**208**		**Pb**	**12 06 12.2**	**+0.2**
CFT	**Crafton Hills**	**1.39**	**314**		**Pb**	**12 06 14.0**	**+0.6**
ELS	**Elsinore Mount**	**1.39**	**295**		**Pn**	**12 06 12.2**	**+0.4**
BBRC	**Big Bear Solar**	**1.45**	**325**	Pg	**Pg**	**12 06 14.8**	**+0.1**
	baz=145,SNR=24						
BBRC				Sb	**Sg**	**12 06 34.1**	**+0.5**
	baz=145						
RVR	**Riverside**	**1.53**	**307**		**Pg**	**12 06 15.7**	**-0.4**
VTX	**Valle De La Tr**	**1.68**	**176**		**Pb**	**12 06 17.4**	**-0.1**
GMRC	**Granite Mounta**	**1.72**	**7**	P	**Pn**	**12 06 16.0**	**-0.4**
	baz=187						
SS2	**San Sevaine**	**1.74**	**311**		**Pb**	**12 06 19.4**	**+1.0**
HEC	**Hector,Ludlow**	**1.78**	**349**	Pg	**Pg**	**12 06 21.0**	**0.0**
	baz=169						
113A	**Mohawk Valley,**	**1.83**	**99**		**Pn**	**12 06 17.4**	**-0.4**
BFSC	**Mount Baldy Ra**	**1.86**	**309**	P	**Pn**	**12 06 18.4**	**0.0**
	baz=129						
BFSC				Sb	**Sg**	**12 06 45.9**	**-0.8**
	baz=129						
PDMCI	**Parker Dam,Lak**	**1.92**	**50**	Sb	**Sg**	**12 06 46.9**	**-1.5**
	baz=230						
NEE2	**Needles Airpor**	**2.00**	**32**	Pb	**Pb**	**12 06 23.5**	**+0.6**
	baz=213						
RRX	**Edison Barstow**	**2.01**	**334**	Pg	**Pg**	**12 06 25.4**	**+0.2**
	baz=154,SNR=17						
FMP	**Fort Macarthur**	**2.09**	**288**	P	**Pn**	**12 06 21.6**	**+0.2**
	baz=108						
CIS	**Catalina Islan**	**2.12**	**279**	P	**Pn**	**12 06 21.8**	**0.0**
	baz=99,SNR=38						
PASC	**Pasadena Art C**	**2.19**	**301**		**Pb**	**12 06 26.2**	**+0.1**
SCI2	**San Clemente I**	**2.22**	**268**	P	**Pn**	**12 06 23.0**	**-0.1**
	baz=87,SNR=13						
SCI2				S	**Sn**	**12 06 52.3**	**+2.0**
	baz=87						
DECC	**Green Verdugo**	**2.34**	**301**	Pb	**Pb**	**12 06 29.2**	**+0.6**
	baz=120,SNR=23						
DECC				Sb	**Sg**	**12 06 59.9**	**-1.9**
	baz=120						
GSC	**Goldstone, Bar**	**2.34**	**342**		**Pb**	**12 06 27.2**	**-1.6**
GSC				IAML		12 07 12.2	
	comp=E,222nm,1.2s						
GSC				IAML		12 07 16.9	
	comp=N,126nm,1.2s						
GSC	**Goldstone, Bar**	**2.34**	**342**	Pg	**Pg**	**12 06 30.9**	**-0.7**
	baz=162,SNR=31						
TUQ	**Turquoise Moun**	**2.35**	**360**	Pg	**Pg**	**12 06 31.8**	**-0.1**
	baz=180,SNR=15						
EDW2	**Edwards Air Fo**	**2.50**	**317**	Pb	**Pb**	**12 06 32.6**	**+1.2**
	baz=136,SNR=78						
EDW2				Sb	**Sg**	**12 07 05.3**	**-1.7**
	baz=136						
W13A	**Hualapai Mount**	**2.63**	**39**		**Pn**	**12 06 31.0**	**+2.1**
V12A	**Nelson**	**2.79**	**18**		**Pn**	**12 06 32.7**	**+1.7**
LRMC	**Laurel Mtn Rad**	**2.81**	**329**	Pg	**Pg**	**12 06 39.9**	**-0.7**
	baz=148,SNR=39						
SHOC	**Shoshone, Teco**	**2.83**	**354**	Pg	**Pg**	**12 06 40.5**	**-0.5**
	baz=174,SNR=51						
214A	**Organ Pipe Nat**	**2.85**	**112**		**Pn**	**12 06 31.8**	**-0.1**
214A				IAML		12 07 39.3	
	comp=N,76nm,1.4s						
214A	**Organ Pipe Nat**	**2.85**	**112**	P	**Pn**	**12 06 31.0**	**-0.8**
	baz=294						
GWY	**Greenwater Val**	**3.16**	**349**	Pn	**Pn**	**12 06 36.6**	**+0.3**
ARVC	**Arvin**	**3.17**	**311**	Pg	**Pg**	**12 06 46.8**	**-0.7**
	baz=130						
MPMC	**Manual Prospec**	**3.25**	**337**	P	**Pn**	**12 06 36.8**	**-0.7**
	baz=156,SNR=5.4						
X16A	**Lo Mia Camp, P**	**3.96**	**69**		**Pn**	**12 06 47.9**	**+0.6**
LCH	**Last Change Ra**	**4.38**	**342**		**Pn**	**12 06 53.8**	**+0.7**
TUC	**Tucson**	**4.39**	**99**	Pn	**Pn**	**12 06 52.8**	**-0.3**
TUC	**Tucson**	**4.39**	**99**	P	**Pn**	**12 06 50.1**	**-3.0**
	baz=281						
U15A	**North Rim**	**4.48**	**41**		**Pn**	**12 06 56.2**	**+1.7**
LCMT	**Little Creek M**	**4.49**	**28**	Pn	**Pn**	**12 06 54.7**	**+0.2**

*SNET **13** 12:22:07.2±0.8, 13°.20N×88°.73W, h100km±3km, ML3.4*
*CATAC **13** 12:22:08.6±0.2, 13°.16N×88°.71W, h64km±3km, ML3.5*

ISC 13 12:22:07.1±1.3,13°.18N±0°.07×88°.73W±0°.04,h97km±7km, n78,σ1ǂ11/125,1C,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.36**	**353**	*e*P	**Pn**	**12 22 21.7**	**-0.1**
TECO				*e*S	**Sn**	**12 22 33.4**	**+0.7**
TECO	**Alcaldia de Te**	**0.36**	**353**	*i* P	**Pn**	**12 22 22.2**	**+0.4**
TECO				*i* S	**Sn**	**12 22 32.4**	**-0.3**
TECO				IAML		12 22 38.6	
	comp=Z,770nm,1.0s						
COEB	**Comit de Eme**	**0.38**	**32**	*e*P	**Pn**	**12 22 22.2**	**+0.3**
COEB				*e*S	**Sn**	**12 22 34.6**	**+1.7**
COEB	**Comit de Eme**	**0.38**	**32**	*i* P	**Pn**	**12 22 22.2**	**+0.3**
COEB				*i* S	**Sn**	**12 22 32.5**	**-0.5**
COEB				IAML		12 22 38.6	
	comp=Z,630nm,1.0s						
TECA	**Tecapa**	**0.39**	**36**	*e*P	**Pn**	**12 22 22.5**	**+0.4**
TECA				*e*S	**Sn**	**12 22 34.7**	**+1.5**
SNVI	**San Vicente**	**0.44**	**347**	*e*P	**Pn**	**12 22 22.9**	**+0.5**
UESV	**Universidad de**	**0.46**	**353**	*e*P	**Pn**	**12 22 22.7**	**+0.3**
UESV				*e*S	**Sn**	**12 22 34.9**	**+1.2**
UESV	**Universidad de**	**0.46**	**353**	*i* P	**Pn**	**12 22 22.6**	**+0.2**
UESV				*i* S	**Sn**	**12 22 31.5**	**-2.3**
UESV				IAML		12 22 44.4	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**0.46**	**342**	*e*P	**Pn**	**12 22 22.8**	**+0.3**
COEG				*e*S	**Sn**	**12 22 34.6**	**+0.7**
COEG				IAML		12 22 38.0	
	comp=Z,1μm,0.4s						
COEG	**Centro de Oper**	**0.46**	**342**	*i* P	**Pn**	**12 22 22.9**	**+0.4**
COEG				*i* S	**Sn**	**12 22 32.5**	**-1.4**
COEG				IAML		12 22 36.1	
	comp=Z,840nm,1.0s						
PQSS	**Presa 15 de Se**	**0.47**	**21**	*e*P	**Pn**	**12 22 22.9**	**+0.4**
PQSS				IAML		12 22 38.5	
	comp=Z,324nm,0.1s						
PQSS	**Presa 15 de Se**	**0.47**	**21**	*i* P	**Pn**	**12 22 23.2**	**+0.8**
PQSS				*i* S	**Sn**	**12 22 34.1**	**+0.2**
PQSS				IAML		12 22 38.5	
	comp=Z,810nm,1.0s						
JUCU	**Jucuarın**	**0.48**	**81**	*e*P	**Pn**	**12 22 22.9**	**+0.4**
JUCU				*e*S	**Sn**	**12 22 35.5**	**+1.5**
JUCU	**Jucuarın**	**0.48**	**81**	*i* P	**Pn**	**12 22 23.2**	**+0.7**
JUCU				*i* S	**Sn**	**12 22 31.6**	**-2.5**
JUCU				IAML		12 22 41.6	
	comp=Z,1μm,1.0s						
LCY	**Lacayo**	**0.49**	**60**	*e*P	**Pn**	**12 22 23.3**	**+0.7**
LCY				*e*S	**Sn**	**12 22 35.6**	**+1.3**
PACA	**Pacayal**	**0.49**	**54**	*e*P	**Pn**	**12 22 23.5**	**+0.8**
PACA				*e*S	**Sn**	**12 22 36.0**	**+1.6**
PACA	**Pacayal**	**0.49**	**54**	*i* P	**Pn**	**12 22 23.5**	**+0.8**
PACA				*i* S	**Sn**	**12 22 33.0**	**-1.4**
PACA				IAML		12 22 41.9	
	comp=Z,6μm,1.0s						
RANC	**El Ranchito**	**0.50**	**59**	*e*P	**Pn**	**12 22 23.2**	**+0.5**
RANC	**El Ranchito**	**0.50**	**59**	*i* P	**Pn**	**12 22 23.3**	**+0.5**
RANC				*i* S	**Sn**	**12 22 32.2**	**-2.3**
RANC				IAML		12 22 44.9	
	comp=Z,1μm,1.0s						
VSM	**San Miguel**	**0.51**	**61**	*e*P	**Pn**	**12 22 23.6**	**+0.5**
VSM				*e*S	**S

comp=Z,1μm,1.0s
SBLS San Blas 1.09 307 *e*P **Pn** **12 22 29.1 +0.5**
SNJE San Jose 1.09 309 *e*P **Pn** **12 22 28.8 +0.2**
UNIC Universidad Ca 1.12 315 *e*P **Pn** **12 22 29.1 +0.3**
RTR El Retiro 1.14 309 *e*P **Pn** **12 22 29.9 +0.8**
NUBE Las Nubes 1.25 305 *e*P **Pn** **12 22 30.7 +0.4**
NUBE Las Nubes 1.25 305 *i*P **Pn** **12 22 30.7 +0.4**
NUBE *i*S **Sn** **12 22 46.2 -1.6**
NUBE IAML 12 22 51.8
comp=Z,710nm,1.0s
SLOZ Alcaldia de Sa 1.32 310 *e*P **Pn** **12 22 31.4 +0.3**
MTO3 Montecristo 1.36 333 *e*P **Pn** **12 22 32.2 +0.5**
MTO3 Montecristo 1.36 333 *i*P **Pn** **12 22 32.3 +0.6**
MTO3 IAML 12 22 32.3
comp=Z,390nm,1.0s
MTO3 *i*S **Sn** **12 22 49.0 -1.3**
ESQI Esquipulas 1.50 337 *i*P **Pn** **12 22 34.1 +0.8**
ESQI IAML 12 22 34.3
comp=Z,370nm,1.0s
ESQI *i*S **Sn** **12 22 52.8 -0.3**
TGUH Tegucigalpa,Un 1.67 58 *e*P **Pn** **12 22 35.8 +0.4**
TGUH Tegucigalpa,Un 1.67 58 *i*P **Pn** **12 22 36.2 +0.8**
TGUH IAML 12 22 36.3
comp=Z,320nm,1.0s
TGUH *i*S **Sn** **12 22 56.6 -0.4**
CRIN San Cristobal 1.71 106 *i*P **Pn** **12 22 36.8 +0.9**
CRIN *i*S **Sn** **12 22 57.3 -0.5**
CRIN IAML 12 23 10.0
comp=Z,1μm,1.0s
QUEN Al S del Volca 1.93 107 *i*P **Pn** **12 22 39.2 +0.6**
QUEN *i*S **Sn** **12 23 00.8 -1.9**
QUEN IAML 12 23 06.3
comp=Z,980nm,1.0s
CNGN Cerro Negro 2.10 109 *i*P **Pn** **12 22 41.4 +0.5**
CNGN *i*S **Sn** **12 23 04.9 -1.8**
CNGN IAML 12 23 14.9
comp=Z,340nm,1.0s
GUNB GUNB 2.11 312 *i*P **Pn** **12 22 41.6 +0.3**
GUNB IAML 12 22 41.7
comp=Z,370nm,1.0s
GUNB *i*S **Sn** **12 23 07.7 +0.4**
MACN El Madrono 2.13 109 *i*P **Pn** **12 22 41.8 +0.5**
MACN IAML 12 23 20.4
comp=Z,240nm,1.0s
MOMN Momotombo 2.27 109 *i*P **Pn** **12 22 43.6 +0.4**
MOMN IAML 12 22 45.4
comp=Z,19nm,1.0s
MOMN *i*S **Sn** **12 23 10.3 -0.5**
COPN Copaltepe 2.31 115 *i*P **Pn** **12 22 44.5 +0.8**
COPN IAML 12 22 44.9
comp=Z,410nm,1.0s
MOM2 El Cardon 2.31 108 *i*P **Pn** **12 22 44.5 +0.8**
MOM2 IAML 12 22 46.0
comp=Z,140nm,1.0s
MOM2 *i*S **Sn** **12 23 10.8 -0.9**
BRAN Las Pilas 2.37 101 *i*P **Pn** **12 22 45.4 +1.0**
BRAN IAML 12 22 45.7
comp=Z,2μm,1.0s
BRAN *i*S **Sn** **12 23 16.1 +3.1**
SAPS Ciudad Sandino 2.48 114 *i*P **Pn** **12 22 47.1 +1.2**
SAPS IAML 12 22 47.5
comp=Z,510nm,1.0s
SAPS *i*S **Sn** **12 23 15.0 -0.7**
APYN Apoyeque 2.51 112 *i*P **Pn** **12 22 47.2 +0.9**
APYN IAML 12 22 47.8
comp=Z,440nm,1.0s
APYN *i*S **Sn** **12 23 15.4 -0.9**
TISN Laguna Tiscapa 2.62 113 *i*P **Pn** **12 22 48.7 +1.0**
TISN IAML 12 22 49.2
comp=Z,66nm,1.0s
RB213 Mirador 2 Volc 2.77 115 *i*P **Pn** **12 22 48.6 -1.2**
RB213 IAML 12 22 49.2
comp=Z,1μm,1.0s
RTAL Retalhuleu 3.17 295 *i*P **Pn** **12 22 56.2 +1.1**
RTAL *i*S **Sn** **12 23 32.8 +0.6**
RTAL IAML 12 23 50.8
comp=Z,200nm,1.0s
MORN Al O del Volca 3.42 118 *i*P **Pn** **12 22 58.2 -0.3**
CONN Concepcion 3.43 118 *i*P **Pn** **12 22 58.9 +0.3**
CONN IAML 12 24 57.7
comp=Z,1μm,1.0s

DJA 13 12:32:05.3±0.3, 0°S±4°×12°7E±°, h10km, M3.9/8, mb4.4/3, MLv3.7/8, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**0.88**	**115**	P	Pg	12 32 20.7	-1.7
TNTI	**Ternate**	**1.22**	**33**	P	Pg	12 32 29.4	+0.6
SANI	**Sanana**	**1.92**	**202**	P	Pn	12 32 38.8	+0.8
KMSI	**Cibinong**	**2.84**	**287**	P	Pn	12 32 51.3	+0.5
LUWI	**Luwuk**	**4.00**	**259**	P	Pn	12 33 07.8	+1.0
KMPI	**Kaimana, Papua** 154nm,0.7s,0.6nm	**7.77**	**116**	P	Pn	12 33 58.8	+0.2

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*IDC **13** 12:35:54.3±24.0, 20°.90N×38°.38E, h0km, mb3.6/4, mbtmp3.6/4, MS3.1/6, Error ellipse: s-maj=544.6km s-min=274.3km az=78.0*
*SGS **13** 12:35:55.0, 21°.36N×38°.29E, h25km, MI2.2*
ISC 13 12:35:57.6±1.6, 21°40N±0°.06×38°43E±0°.10, h10km, n29, σ1s22/24, mb3.7/4, MS2.9/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLS	**Khulais**	**1.03**	**51**	S	**Sn**	**12 36 32.8**	**+0.1**
KHLS	**Khulais**	**1.03**	**51**	P	**Pb**	**12 36 16.6**	**-1.0**
SHMS		**1.17**	**87**	P	**Pb**	**12 36 19.4**	**-0.6**
SHMS		**1.17**	**87**	S	**Sn**	**12 36 37.1**	**+0.9**
SHBS		**1.23**	**108**	P	**Pn**	**12 36 19.7**	**-1.2**
SHBS		**1.23**	**108**	S	**Sg**	**12 36 37.7**	**+0.4**
JURS	**JURS**	**1.35**	**70**	P	**Pn**	**12 36 21.4**	**-1.2**
JURS	**JURS**	**1.35**	**70**	S	**Sg**	**12 36 41.7**	**+0.4**
FRJS	**Jabal Farasan**	**1.47**	**36**	P	**Pn**	**12 36 22.4**	**-1.8**
FRJS	**Jabal Farasan**	**1.47**	**36**	S	**Sn**	**12 36 42.4**	**-1.0**
SADE2	**SADE2**	**1.61**	**118**	S	**Sn**	**12 36 46.4**	**-0.6**
SADE2				P	**Pn**	**12 36 24.6**	**-1.5**
SHRS	**SHRS**	**1.65**	**86**	P	**Pn**	**12 36 26.5**	**-0.3**
SADE1	**SADE1**	**1.71**	**119**	S	**Sn**	**12 36 48.7**	**-0.7**
SADE1	**SADE1**	**1.71**	**119**	P	**Pn**	**12 36 25.7**	**-1.7**
NLITH	**NLITH**	**1.77**	**123**	S	**Sn**	**12 36 49.9**	**-1.0**
NLITH	**NLITH**	**1.77**	**123**	P	**Pn**	**12 36 26.4**	**-1.8**
HAJR	**Hajar**	**1.88**	**37**	P	**Pn**	**12 36 28.2**	**-1.8**
FRAS	**Faraa**	**1.98**	**99**	P	**Pn**	**12 36 31.1**	**-0.2**
GHMGH	**GHMGH**	**2.10**	**112**	P	**Pn**	**12 36 32.4**	**-0.4**
EIL	**Elat**	**8.81**	**340**	LR	LR	12 41 00.3	
	comp=Z,68nm,18.7s,baz=246,slow=33						
KBZ	**Khabaz**	**22.58**	**8**	LR	LR	12 49 15.4	
	comp=Z,26nm,20.4s,baz=118,slow=35						
MBAR	**Mbarara**	**23.12**	**200**	LR	LR	12 49 12.5	
	comp=Z,38nm,20.7s,baz=90,slow=35						
GEYT	**Alibeck**	**23.67**	**42**	LR	LR	12 51 41.2	
	comp=Z,58nm,18.9s,baz=328,slow=39						
ARU	**Arti**	**38.03**	**18**	LR	LR	13 03 06.9	
	comp=Z,21nm,21.2s,baz=230,slow=42						
KURBB	**Kurchatov Arra** 1.0nm,0.8s,baz=247,slow=8.6,SNR=5.3 1.0nm,0.8s	**42.80**	**37**	P	**P**	**12 43 57.0**	**+1.5**
MKAR	**Makanchi Array** 0.7nm,0.9s,baz=251,slow=7.0,SNR=2.6 0.7nm,0.9s	**43.51**	**44**	P	**P**	**12 44 02.7**	**+1.4**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=248,slow=7.6,SNR=1.5 0.3nm,0.3s	**47.74**	**35**	P	**P**	**12 44 36.4**	**+1.8**
SUR	**Sutherland** comp=Z,63nm,19.2s,baz=242,slow=39	**56.07**	**198**	LR	LR	13 11 52.7	
SONM	**Songino Array** 0.4nm,0.5s,baz=257,slow=5.8,SNR=2.4 0.4nm,0.5s	**59.76**	**46**	P	**P**	**12 46 03.8**	**+0.9**

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*IDC **13** 12:40:06.9±0.9, 6°.20S×124°.85E, h606km±9km, mb3.8/13, mbtmp4.9/18, Error ellipse: s-maj=19.7km s-min=7.2km az=64.0*
*NEIC **13** 12:40:06.8±1.5, 6°.14S±0°.10×124°.9E±0°.1, h602km±7km, mb4.7/50, Error ellipse: s-maj=16.7km s-min=12.7km az=52.0*
*DJA **13** 12:40:06.3±0.1, 6°S±2°×12°5E±°, h602km±2km, M4.7/73, mb5.0/73, mB5.2/36, MLv5.2/24, Mw(mB)4.6/36, MwMwp4.6/4, Mwp5.0/4*
ISC 13 12:40:06.4±0.3, 6°22S±0°.05×124°86E±0°.06, h600km, n256, σ0s97/261, mb4.6/47, 1C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBSI	**Bau Bau**	**2.39**	**288**	P	**P**	**12 41 24.4**	**+2.0**
MMRI	**Maumere**	**3.54**	**227**	P	**P**	**12 41 29.7**	**+0.9**
MMRI	**Maumere**	**3.54**	**227**	P	**P**	**12 41 29.3**	**+0.5**
SOEI	**Soe**	**3.56**	**189**	P	**P**	**12 41 29.9**	**+0.8**
SOEI	**Soe**	**3.56**	**189**	P	**P**	**12 41 29.5**	**+0.5**
SOEI	**Soe**	**3.56**	**189**	P	**P**	**12 41 29.7**	**+0.6**
EDFI	**Ende, Flores**	**4.02**	**231**	P	**P**	**12 41 31.9**	**-0.2**
BATI	**Baumata** 75nm,0.3s,baz=306,slow=1.4,SNR=14	**4.13**	**197**	P	**P**	**12 41 33.8**	**+0.9**
BATI				S	**S**	**12 42 40.1**	**-3.2**
	619nm,0.6s,baz=225,slow=2.2,SNR=7.3						
BATI	**Baumata**	**4.13**	**197**	P	**P**	**12 41 34.2**	**+1.4**
SANI	**Sanana**	**4.29**	**15**	P	**P**	**12 41 33.6**	**-0.4**
SANI	**Sanana**	**4.29**	**15**	P	**P**	**12 41 33.4**	**-0.6**
BKSI	**Bulukumba**	**4.79**	**280**	P	**P**	**12 41 38.5**	**+0.8**
KAPI	**Kappang**	**5.22**	**283**	P	**P**	**12 41 42.8**	**+1.8**
KAPI	**Kappang**	**5.22**	**283**	P	**P**	**12 41 42.4**	**+1.4**
KAPI	**Kappang** 209nm,0.6s,baz=132,slow=3.8,SNR=65	**5.22**	**283**	P	**P**	**12 41 42.8**	**+1.8**
KAPI				S	**S**	**12 43 00.7**	**+2.5**
	46nm,0.8s,baz=284,slow=20,SNR=14						
BNDI	**Bandanaira**	**5.30**	**72**	P	**P**	**12 41 41.7**	**0.0**
BNDI	**Bandanaira** 1μm,0.8s,14μm6.6nm	**5.30**	**72**	P	**P**	**12 41 41.4**	**-0.3**
LUWI	**Luwuk**	**5.55**	**338**	P	**P**	**12 41 44.7**	**+0.9**
LUWI	**Luwuk**	**5.55**	**338**	P	**P**	**12 41 44.2**	**+0.4**
LUWI	**Luwuk** 677nm,0.9s,6μm2.1nm	**5.55**	**338**	P	**P**	**12 41 44.1**	**+0.4**
BASI	**Baing, Sumba** 264nm,0.6s,10nm	**5.81**	**227**	P	**P**	**12 41 45.8**	**-0.1**
TTSI	**Tana Toraja** 183nm,0.6s,2μm0.6nm	**5.93**	**302**	P	**P**	**12 41 48.2**	**+1.2**
LBMI	**Labuha** 1μm,1.0s,9μm3.4nm	**6.14**	**26**	P	**P**	**12 41 49.4**	**+0.6**
SAUI	**Saumlaki**	**6.63**	**106**	P	**P**	**12 41 54.4**	**+1.3**
SAUI	**Saumlaki**	**6.63**	**106**	P	**P**	**12 41 53.5**	**+0.4**
SAUI	**Saumlaki** 1μm,0.7s,5.1nm	**6.63**	**106**	P	**P**	**12 41 53.9**	**+0.8**
KMSI	**Cibinong** 2μm,1.1s,15μm1μm6.1nm	**6.81**	**353**	P	**P**	**12 41 55.3**	**+0.6**
TNTI	**Ternate**	**7.38**	**20**	P	**P**	**12 41 59.5**	**-0.5**
TNTI	**Ternate**	**7.38**	**20**	P	**P**	**12 41 59.1**	**-0.9**
TNTI	**Ternate** 83nm,1.0s,1μm0.4nm	**7.38**	**20**	P	**P**	**12 41 59.1**	**-0.9**
PLAI	**Plampang**	**7.48**	**249**	P	**P**	**12 42 00.0**	**-0.9**
PLAI	**Plampang** 243nm,0.8s,4μm2.4nm	**7.48**	**249**	P	**P**	**12 41 59.9**	**-0.9**
FAKI	**Fak Fak**	**8.07**	**66**	P	**P**	**12 42 05.4**	**-1.0**
FAKI	**Fak Fak**	**8.07**	**66**	P	**P**	**12 42 05.3**	**-1.0**
FAKI	**Fak Fak** 779nm,0.8s,7μm2μm	**8.07**	**66**	P	**P**	**12 42 04.7**	**-1.7**
SWI	**Sorong** 167nm,0.8s,2μm	**8.32**	**50**	P	**P**	**12 42 08.3**	**-0.5**
TOLI2	**Tolitoli**	**8.34**	**331**	P	**P**	**12 42 08.5**	**-0.5**
TOLI2	**Tolitoli**	**8.34**	**331**	P	**P**	**12 42 08.1**	**-1.0**
DRS	**Darwin Rock St**	**8.58**	**136**	P	**P**	**12 42 11.7**	**+0.4**
MTN	**Manton Dam** baz=9.1,SNR=44	**9.03**	**137**	P	**P**	**12 42 15.4**	**-0.2**
MTN	**Manton Dam**	**9.03**	**137**	P	**P**	**12 42 15.6**	**-0.1**
MTN	**Manton Dam**	**9.03**	**137**	P	**P**	**12 42 15.5**	**-0.2**
KMPI	**Kaimana, Papua** 892nm,0.7s,8μm	**9.18**	**74**	P	**P**	**12 42 16.3**	**-0.8**
SRBI	**Singaraja** 81nm,1.3s	**9.75**	**258**	P	**P**	**12 42 22.1**	**-0.6**
SGSI	**Sangihe** 501nm,0.9s,4μm	**9.86**	**4**	P	**P**	**12 42 23.2**	**-0.7**
KDU	**Kakadu** baz=9.9,SNR=29	**9.88**	**131**	P	**P**	**12 42 23.1**	**-0.9**
KDU	**Kakadu**	**9.88**	**131**	P	**P**	**12 42 23.4**	**-0.6**
ABJI	**Asem Bagus** 121nm,0.9s	**10.66**	**261**	P	**P**	**12 42 31.6**	**-0.1**
JAGI	**Jajag, Banyuwa**	**10.85**	**257**	P	**P**	**12 42 32.5**	**-1.2**
JAGI	**Jajag, Banyuwa**	**10.85**	**257**	P	**P**	**12 42 31.7**	**-1.9**
JAGI	**Jajag, Banyuwa** 239nm,0.6s,3μm	**10.85**	**257**	P	**P**	**12 42 31.8**	**-1.9**
MTKI	**Muara Teweh, K** 89nm,0.7s,13μm	**11.24**	**297**	P	**P**	**12 42 36.7**	**-0.9**
FITZ	**Fitzroy Crossi** baz=12,SNR=494	**11.83**	**176**	P	**P**	**12 42 43.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**11.83**	**176**	P	**P**	**12 42 43.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**11.83**	**176**	P	**P**	**12 42 43.2**	**-0.2**
GRJI	**Gresik** 319nm,0.6s	**12.31**	**266**	P	**P**	**12 42 48.1**	**-0.3**
PWJI	**Pagerwojo** 87nm,0.6s	**13.07**	**261**	P	**P**	**12 42 53.1**	**-2.9**
UGM	**Wanagama**	**14.32**	**262**	P	**P**	**12 43 07.5**	**-1.0**
UGM	**Wanagama**	**14.32**	**262**	P	**P**	**12 43 06.8**	**-1.7**
UGM	**Wanagama** 203nm,2.2s	**14.32**	**262**	P	**P**	**12 43 06.8**	**-1.7**
SMRI	**Semarang**	**14.34**	**266**	P	**P**	**12 43 09.8**	**+1.2**
SMRI	**Semarang**	**14.34**	**266**	P	**P**	**12 43 08.4**	**-0.3**
SMRI	**Semarang** 164nm,0.6s	**14.34**	**266**	P	**P**	**12 43 07.3**	**-1.3**
SMPI	**Sarmi** 110nm,1.2s,2μm	**14.44**	**74**	P	**P**	**12 43 08.9**	**-0.6**
YOGI	**Yogyakarta** 252nm,0.7s	**14.54**	**263**	P	**P**	**12 43 09.1**	**-1.3**
STKI	**Sintang** 194nm,0.8s	**14.74**	**295**	P	**P**	**12 43 12.3**	**0.0**
SBUM	**Sibu** comp=Z,13nm,0.9s	**15.28**	**304**	P	**P**	**12 43 17.8**	**+0.6**
SBUM				IAmb	IAmb	12 43 20.4	
MBWA	**Marble Bar**	**15.66**	**198**	P	**P**	**12 43 21.4**	**+0.8**
MBWA	**Marble Bar**	**15.66**	**198**	P	**P**	**12 43 21.4**	**+0.8**
GENI	**Genyem** comp=Z,169nm,1.1s,comp=Z,2μm	**15.68**	**77**	P	**P**	**12 43 20.4**	**-0.6**
KPJI	**Karang Pucung** comp=Z,436nm,0.7s,comp=Z,4μm	**15.85**	**265**	P	**P**	**12 43 22.2**	**-0.3**
PSA00	**Pilbara Seismi**	**16.01**	**197**	P	**P**	**12 43 24.7**	**+0.8**
PSA00	**Pilbara Seismi**	**16.01**	**197**	P	**P**	**12 43 24.6**	**+0.8**
JAY	**Jayapura** comp=Z,39nm,1.0s	**16.22**	**78**	P	**P**	**12 43 25.0**	**-1.0**
TABU	**Tabubil**	**16.31**	**88**	P	**P**	**12 43 27.5**	**+0.7**
WB0	**Warramunga Arr**	**16.35**	**146**	P	**P**	**12 43 26.1**	**-0.8**
CMJI	**Cimerak** comp=Z,409nm,0.6s,comp=Z,4μm	**16.36**	**264**	P	**P**	**12 43 25.6**	**-1.5**
WRAB	**Tennant Creek** comp=Z,50nm,0.7s	**16.46**	**147**	P	**P**	**12 43 27.5**	**-0.5**
WRAB				IAmb	IAmb	12 43 29.4	
WRA	**Warramunga Arr** comp=Z,9.4nm,0.8s	**16.46**	**147**	P	**P**	**12 43 28.1**	**+0.1**
WRA				IAmb	IAmb	12 43 29.4	
WRA	**Warramunga Arr** comp=Z,39nm,0.6s,baz=337,slow=8.7,SNR=670	**16.46**	**147**	P	**P**	**12 43 28.0**	**0.0**
WRA				S	**S**	**12 46 10.5**	**-1.7**
	comp=Z,8.1nm,0.8s,baz=328,slow=16,SNR=8.6						
BBJI	**Bungbulang**	**17.13**	**265**	P	**P**	**12 43 34.5**	**+0.2**
LEM	**Lembang** comp=Z,159nm,0.7s,baz=33,slow=10,SNR=22	**17.14**	**267**	P	**P**	**12 43 34.4**	**-0.1**
LEM	**Lembang** comp=Z,184nm,1.0s,comp=Z,2μm	**17.14**	**267**	P	**P**	**12 43 34.1**	**-0.4**
CNJI	**Cibinong** comp=Z,241nm,1.1s,comp=Z,2μm	**17.64**	**265**	P	**P**	**12 43 38.0**	**-0.8**
CBJI	**Citeko** comp=Z,324nm,0.9s	**17.90**	**268**	P	**P**	**12 43 40.7**	**-0.5**
SKJI	**Sukabumi** comp=Z,434nm,0.7s,comp=Z,4μm	**18.20**	**267**	P	**P**	**12 43 42.7**	**-1.2**
WRKA	**Warakurna** baz=19,SNR=578	**19.00**	**170**	P	**P**	**12 43 51.8**	**+0.7**
WRKA	**Warakurna**	**19.00**	**170**	P	**P**	**12 43 52.1**	**+1.0**
GIRL	**Giralia**	**19.28**	**211**	P	**P**	**12 43 54.7**	**+1.1**
AS31	**Alice Springs**	**19.41**	**154**	P	**P**	**12 43 55.4**	**+0.6**
ASAR	**Alice Springs** comp=Z,38nm,0.5s,baz=343,slow=14,SNR=1302	**19.41**	**154**	P	**P**	**12 43 55.1**	**+0.3**
ASAR				S	**S**	**12 47 00.6**	**+0.9**
	comp=Z,8.5nm,0.7s,baz=347,slow=23,SNR=6.0						
ASAR				ScP	**ScP**	**12 50 25.4**	**-1.7**
	comp=Z,3.1nm,0.6s,baz=330,slow=2.0,SNR=7.1						
XMIS	**Christmas Isla**	**19.46**	**256**	P	**P**	**12 43 56.3**	**+0.9**
XMIS	**Christmas Isla**	**19.46**	**256**	P	**P**	**12 43 56.4**	**+0.9**
COEN	**Coen** baz=20,SNR=23	**19.59**	**115**	P	**P**	**12 43 55.9**	**-0.7**
COEN	**Coen**	**19.59**	**115**	P	**P**	**12 43 56.6**	**0.0**
QIS	**Mount Isa** baz=20,SNR=53	**20.20**	**136**	P	**P**	**12 44 01.6**	**-0.4**
QIS	**Mount Isa**	**20.20**	**136**	P	**P**	**12 44 02.0**	**0.0**
LWLI	**Liwa** comp=Z,80nm,0.6s	**20.73**	**272**	P	**P**	**12 44 06.1**	**-0.9**
MEEK	**Meekatharra** baz=21,SNR=20	**21.16**	**196**	P	**P**	**12 44 10.8**	**+0.3**
MEEK	**Meekatharra**	**21.16**	**196**	P	**P**	**12 44 10.8**	**+0.3**
MTSU	**Mount Surprise** baz=22,SNR=20	**22.38**	**124**	P	**P**	**12 44 21.5**	**0.0**
MTSU	**Mount Surprise**	**22.38**	**124**	P	**P**	**12 44 21.8**	**+0.3**
MYKOM	**Kota Tinggi**	**22.43**	**290**	P	**P**	**12 44 22.2**	**+0.2**
MYKOM				IAmb	IAmb	12 44 24.5	
	comp=Z,16nm,0.8s						
OOD	**Oodnadatta**	**23.79**	**156**	P	**P**	**12 44 34.6**	**+0.7**
MORW	**Morawa** baz=24,SNR=15	**24.20**	**199**	P	**P**	**12 44 37.9**	**+0.3**
MORW	**Morawa**	**24.20**	**199**	P	**P**	**12 44 38.1**	**+0.5**
MORW	**Morawa**	**24.20**	**199**	P	**P**	**12 44 37.9**	**+0.3**
MORW				IAmb	IAmb	12 44 38.8	
	comp=Z,20nm,0.5s						
FORT	**Forrest** baz=25,SNR=322	**24.61**	**173**	P	**P**	**12 44 41.6**	**+0.5**
FORT	**Forrest**	**24.61**	**173**	P	**P**	**12 44 41.7**	**+0.5**
FORT	**Forrest**	**24.61**	**173**	P	**P**	**12 44 41.1**	**-0.1**
PDSI	**Padang** comp=Z,29nm,0.7s	**24.90**	**281**	P	**P**	**12 44 42.3**	**-1.7**
CTAO	**Charters Tower**	**24.94**	**126**	P	**P**	**12 44 44.7**	**+0.5**
CTAO	**Charters Tower**	**24.94**	**126**	P	**P**	**12 44 43.8**	**-0.3**
CTAO				IAmb	IAmb	12 44 45.9	
	comp=Z,26nm,0.8s						
TV1H	**Townsville Har**	**24.97**	**123**	P	**P**	**12 44 44.9**	**+0.4**
KMBL	**Kambalda** baz=25,SNR=93	**25.17**	**186**	P	**P**	**12 44 46.5**	**+0.4**
KMBL	**Kambalda**	**25.17**	**186**	P	**P**	**12 44 46.7**	**+0.6**
BLDU	**Ballidu** baz=26,SNR=64	**25.45**	**197**	P	**P**	**12 44 48.9**	**+0.5**
BLDU	**Ballidu**	**25.45**	**197**	P	**P**	**12 44 49.1**	**+0.6**
MULG	**Mulgathing**	**25.45**	**161**	P	**P**	**12 44 49.4**	**+0.9**
IPM	**Ipoh**	**26.06**	**294**	P	**P**	**12 44 54.4**	**+0.3**
IPM	**Ipoh**	**26.06**	**294**	P	**P**	**12 44 53.2**	**-1.0**
IPM				IAmb	IAmb	12 44 56.0	
	comp=Z,28nm,0.9s						
KLBR	**Kellerberrin** baz=26,SNR=42	**26.10**	**194**	P	**P**	**12 44 54.7**	**+0.4**
KLBR	**Kellerberrin**	**26.10**	**194**	P	**P**	**12 44 55.1**	**+0.9**
INKA	**Innaminka**	**26.19**	**147**	P	**P**	**12 44 56.3**	**+1.3**
KULM	**Kulim**	**26.73**	**295**	P	**P**	**12 45 00.1**	**+0.1**
KULM				IAmb	IAmb	12 45 01.3	
	comp=Z,34nm,0.8s						
MUN	**Mundaring** baz=27,SNR=38	**26.87**	**196**	P	**P**	**12 45 01.6**	**+0.6**
MUN	**Mundaring**	**26.87**	**196**	P	**P**	**12 45 01.5**	**+0.6**
LCRK	**Leigh Creek**	**27.18**	**154**	P	**P**	**12 45 04.5**	**+0.8**
PBSI	**Pulau Batu** comp=Z,77nm,0.7s	**27.22**	**282**	P	**P**	**12 45 03.1**	**-1.2**
PSI	**Prapat**	**27.40**	**288**	P	**P**	**12 45 06.5**	**+0.5**
QLP	**Quilpie** baz=28,SNR=118	**27.41**	**140**	P	**P**	**12 45 06.4**	**+0.7**
QLP	**Quilpie**	**27.41**	**140**	P	**P**	**12 45 06.6**	**+0.9**
NWAO	**Narrogin (SRO)** baz=28,SNR=22	**27.50**	**194**	P	**P**	**12 45 07.2**	**+0.8**
NWAO				P	**P**	**12 45 07.2**	**+0.8**
	baz=28,SNR=22						
NWAO	**Narrogin (SRO)**	**27.50**	**194**	P	**P**	**12 45 07.2**	**+0.8**
NWAO	**Narrogin (SRO)**	**27.50**	**194**	P	**P**	**12 45 06.9**	**+0.4**
NWAO				IAmb	IAmb	12 45 08.3	
	comp=Z,32nm,0.8s						
GSI	**Gunungsitoli**	**28.24**	**284**	P	**P**	**12 45 12.6**	**-0.6**
GSI	**Gunungsitoli**	**28.24**	**284**	P	**P**	**12 45 12.3**	**-0.9**
GSI	**Gunungsitoli** comp=Z,152nm,0.8s	**28.24**	**284**	P	**P**	**12 45 12.3**	**-0.9**
BBOO	**Buckleboo** baz=29,SNR=114	**28.44**	**160**	P	**P**	**12 45 14.7**	**+0.1**
BBOO	**Buckleboo**	**28.44**	**160**	P	**P**	**12 45 15.1**	**+0.5**
BBOO	**Buckleboo**	**28.44**	**160**	P	**P**	**12 45 14.7**	**+0.1**
KCSI	**Kotacane, Aceh** comp=Z,23nm,0.7s,comp=Z,2μm	**28.72**	**289**	P	**P**	**12 45 16.4**	**-1.0**
SRIT	**Nakonsritamara**	**29.16**	**300**	P	**P**	**12 45 21.1**	**0.0**
WHYH	**Whyalla**	**29.18**	**158**	P	**P**	**12 45 21.9**	**+0.9**
STKA	**Stephens Creek** baz=30,SNR=110	**29.94**	**151**	P	**P**	**12 45 28.1**	**+0.5**
STKA	**Stephens Creek**	**29.94**	**151**	P	**P**	**12 45 28.0**	**+0.4**
STKA	**Stephens Creek**	**29.94**	**151**	P	**P**	**12 45 28.1**	**+0.5**
STKA				IAmb	IAmb	12 45 29.6	
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek** comp=Z,61nm,0.6s,baz=325,slow=8.9,SNR=158 comp=Z,61nm,0.6s	**29.94**	**151**	P	**P**	**12 45 28.1**	**+0.5**
RK1H	**Rockhampton Ha**	**30.00**	**127**	P	**P**	**12 45 27.5**	**-0.7**
HTT	**Hallett** baz=30,SNR=199	**30.06**	**156**	P	**P**	**12 45 29.6**	**+0.9**
HTT	**Hallett**	**30.06**	**156**	P	**P**	**12 45 29.7**	**+1.0**
MLSI	**Meulaboh, Aceh** comp=Z,153nm,0.5s	**30.26**	**289**	P	**P**	**12 45 29.4**	**-1.2**
CMSA	**Cobar Meteorol** baz=32,SNR=36	**31.85**	**145**	P	**P**	**12 45 44.5**	**+0.6**
CMSA	**Cobar Meteorol**	**31.85**	**145**	P	**P**	**12 45 44.8**	**+0.9**
ARPS	**Mount Arapiles** baz=34,SNR=96	**34.14**	**155**	P	**P**	**12 46 03.9**	**+0.8**
ARPS	**Mount Arapiles**	**34.14**	**155**	P	**P**	**12 46 04.1**	**+1.1**
ARMA	**Armidale** baz=35,SNR=4.8	**34.82**	**137**	P	**P**	**12 46 10.7**	**+1.8**
ARMA	**Armidale**	**34.82**	**137**	P	**P**	**12 46 09.6**	**+0.7**
ARMA	**Armidale**	**34.82**	**137**	P	**P**	**12 46 10.0**	**+1.0**
ARMA				IAmb	IAmb	12 46 12.0	
	comp=Z,23nm,0.8s						
YNG	**Young** baz=36,SNR=45	**35.42**	**145**	P	**P**	**12 46 15.0**	**+1.3**
YNG	**Young**	**35.42**	**145**	P	**P**	**12 46 14.8**	**+1.1**
CM31	**Chiang Mai Arr**	**35.42**	**314**	P	**P**	**12 46 13.5**	**-0.4**
CM31				IAmb	IAmb	12 46 15.6	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**35.42**	**314**	P	**P**	**12 46 13.1**	**-0.8**
CMAR	**Chiang Mai Arr** comp=Z,9.8nm,0.8s,baz=146,slow=6.7,SNR=64	**35.42**	**314**	P	**P**	**12 46 14.1**	**+0.1**
CMAR				ScP	**ScP**	**12 51 17.1**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=156,slow=3.1,SNR=9.2 comp=Z,9.8nm,0.8s						
CRAI	**Chiangrai**	**35.64**	**318**	P	**P**	**12 46 15.5**	**-0.3**
CRAI				IAmb	IAmb	12 46 17.7	
	comp=Z,12nm,0.9s						
CHTO	**Chiang Mai**	**35.66**	**315**	P	**P**	**12 46 15.3**	**-0.5**
CHTO				IAmb	IAmb	12 46 17.4	
	comp=Z,13nm,0.8s						
BRAT	**Ballarat**	**35.70**	**154**	P	**P**	**12 46 16.9**	**+

DZM				IAmb	IAmb	12 47 17.1	
	comp=Z,17nm,0.9s						
KSRS	**Korea Array**	**43.54**	**4**	ScP	**ScP**	**12 51 47.1**	**-0.5**
	comp=Z,0.9nm,0.9s,baz=182,slow=4.9,SNR=5.6						
PALK	**Pallekele**	**46.04**	**286**	P	**P**	**12 47 37.5**	**-0.6**
PALK				IAmb	IAmb	12 47 53.6	
	comp=Z,12nm,0.9s						
LZH	**Lanzhou**	**46.48**	**336**	⇑P	**P**	**12 47 42.3**	**+1.2**
LZH				sP	sP	12 50 28.8	-5.8
LZH				pmax	pmax		
	comp=Z,21nm,1.4s						
HHC	**Hu-ho-hao-te**	**48.41**	**347**	*e*P	**P**	**12 47 58.5**	**+3.2**
TARA	**Tarawa**	**48.57**	**83**	P	**P**	**12 47 57.4**	**+0.4**
GTA	**Gaotai**	**50.97**	**335**	*e*P	**P**	**12 48 13.8**	**-0.3**
GTA				pP	pP	12 50 04.1	-0.2
GTA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
MSVF	**Nonsavu**	**53.11**	**107**	P	**P**	**12 48 29.3**	**-0.5**
MSVF				IAmb	IAmb	12 48 31.7	
	comp=Z,25nm,0.8s						
DCZ	**Deep Cove**	**53.56**	**144**	P	**P**	**12 48 32.4**	**0.0**
DCZ				IAmb	IAmb	12 48 34.4	
	comp=Z,42nm,1.3s						
JCZ	**Jackson Bay**	**53.79**	**142**	P	**P**	**12 48 35.4**	**+1.2**
WHZ	**Wether Hill Ro**	**54.26**	**144**	P	**P**	**12 48 37.5**	**+0.1**
WHZ				IAmb	IAmb	12 48 38.6	
	comp=Z,29nm,0.8s						
QRZ	**Quartz Range**	**54.68**	**137**	P	**P**	**12 48 42.3**	**+2.0**
RPZ	**Rata Peaks**	**55.03**	**140**	P	**P**	**12 48 43.5**	**+0.7**
ODZ	**Otahua Downs**	**55.43**	**142**	P	**P**	**12 48 45.6**	**+0.1**
ULN	**Ulaanbaatar**	**56.10**	**346**	P	**P**	**12 48 50.2**	**0.0**
SONM	**Songino Array**	**56.23**	**345**	P	**P**	**12 48 51.0**	**-0.1**
	comp=Z,3.0nm,0.9s,baz=165,slow=7.9,SNR=13						
SONM				ScP	**ScP**	**12 52 41.3**	**-0.8**
	comp=Z,1.4nm,1.1s,baz=144,slow=3.7,SNR=4.9						
	comp=Z,3.0nm,0.9s						
HEH	**HeiHe**	**56.29**	**2**	*e*P	**P**	**12 48 51.8**	**+0.6**
HEH				pmax	pmax		
	comp=Z,6.0nm,0.9s						
URZ	**Urewera**	**56.94**	**132**	P	**P**	**12 48 55.6**	**-0.3**
CASY	**Casey**	**60.78**	**187**	P	**P**	**12 49 21.5**	**+0.4**
KSH	**Kashi**	**64.06**	**320**	P	**P**	**12 49 43.4**	**+0.6**
KSH				pmax	pmax		
	comp=Z,14nm,0.8s						
TARG	**Taragay, Kyrgy**	**64.17**	**323**	P	**P**	**12 49 43.5**	**-0.3**
MK31	**Makanchi Array**	**64.86**	**329**	P	**P**	**12 49 47.4**	**-0.2**
MKAR	**Makanchi Array**	**64.86**	**329**	P	**P**	**12 49 47.3**	**-0.3**
	comp=Z,9.2nm,0.8s,baz=130,slow=7.4,SNR=75						
	comp=Z,9.2nm,0.8s						
MAKZ	**Makanchi**	**65.03**	**329**	P	**P**	**12 49 47.8**	**-0.8**
PETK	**Petropavlovsk-**	**65.31**	**21**	P	**P**	**12 49 50.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=193,slow=4.4,SNR=7.3						
BOOM	**Boomskoye usch**	**65.74**	**322**	P	**P**	**12 49 53.1**	**-0.2**
ZAA0	**Zalesovo Array**	**68.71**	**336**	P	**P**	**12 50 10.2**	**-0.8**
ZALV	**Zalesovo Beam**	**68.71**	**336**	P	**P**	**12 50 09.9**	**-1.0**
	comp=Z,5.9nm,0.8s,baz=128,slow=4.5,SNR=32						
	comp=Z,5.9nm,0.8s						
KURBB	**Kurchatov Arra**	**69.25**	**330**	P	**P**	**12 50 14.0**	**-0.3**
	comp=Z,5.5nm,0.9s,baz=134,slow=4.9,SNR=46						
	comp=Z,5.5nm,0.9s						
KURK	**Kurchatov**	**69.26**	**331**	P	**P**	**12 50 13.9**	**-0.4**
KURK				IAmb	IAmb	12 50 15.9	
	comp=Z,11nm,0.9s						
MAW	**Mawson**	**73.84**	**201**	P	**P**	**12 50 40.7**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=110,slow=4.1,SNR=12						
	comp=Z,3.9nm,0.7s						
VNDA	**Vanda**	**73.87**	**172**	P	**P**	**12 50 40.8**	**+0.1**
VNDA	**Vanda**	**73.87**	**172**	P	**P**	**12 50 40.5**	**-0.2**
	comp=Z,4.9nm,0.7s,baz=312,slow=6.4,SNR=30						
	comp=Z,4.9nm,0.7s						
BVAR	**Borovoye Array**	**74.74**	**329**	P	**P**	**12 50 45.8**	**-0.2**
	comp=Z,11nm,0.9s,baz=138,slow=7.4,SNR=41						
	comp=Z,11nm,0.9s						
BRVK	**Borovoye**	**74.81**	**329**	P	**P**	**12 50 45.7**	**-0.6**
BRVK				IAmb	IAmb	12 50 47.9	
	comp=Z,14nm,1.1s						
GEYT	**Alibeck**	**75.84**	**311**	P	**P**	**12 50 52.7**	**+0.2**
	comp=Z,5.0nm,0.7s,baz=111,slow=8.1,SNR=12						
	comp=Z,5.0nm,0.7s						
GYA0B	**ALIBECK ARRAY**	**75.84**	**311**	P	**P**	**12 50 52.5**	**0.0**
VOI	**Vohitsoka**	**76.65**	**249**	P	**P**	**12 50 57.1**	**-0.3**
VOI				IAmb	IAmb	12 50 58.9	
	comp=Z,9.8nm,0.7s						
TIXI	**Tiksi**	**77.76**	**1**	P	**P**	**12 51 00.5**	**-1.6**
ABKAR	**Akbulak array**	**78.76**	**323**	P	**P**	**12 51 07.0**	**-0.9**
ABKAR	**Akbulak array**	**78.76**	**323**	P	**P**	**12 51 07.1**	**-0.8**
QSPA	**South Pole Qui**	**83.75**	**180**	P	**P**	**12 51 33.4**	**+0.1**
QSPA				IAmb	IAmb	12 51 34.2	
	comp=Z,16nm,0.7s						
QSPA	**South Pole Qui**	**83.75**	**180**	P	**P**	**12 51 33.0**	**-0.3**
	comp=Z,14nm,0.7s,baz=308,slow=1.5,SNR=134						
	comp=Z,14nm,0.7s						
BRTR	**Keskin Array B**	**94.86**	**309**	P	**P**	**12 52 25.0**	**-0.7**
	comp=Z,1.3nm,0.8s,baz=122,slow=6.8,SNR=8.1						
	comp=Z,1.3nm,0.8s						
SNAA	**Sanae**	**95.18**	**195**	P	**P**	**12 52 26.6**	**+0.2**
SNAA				IAmb	IAmb	12 53 09.0	
	comp=Z,12nm,1.3s						
SNAA	**Sanae**	**95.18**	**195**	P	**P**	**12 52 26.2**	**-0.1**
	comp=Z,2.6nm,0.8s,baz=135,slow=7.1,SNR=2.3						
	comp=Z,2.6nm,0.8s						
NVAR	**Mina Array Bea**	**114.78**	**51**	PKP	**PKiKP**	**12 57 41.0**	**+0.5**
	comp=Z,0.1nm,0.5s,baz=209,slow=0.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**123.65**	**282**	PKP	**PKPdf**	**12 57 57.3**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=146,slow=4.3,SNR=6.5						
TXAR	**Lajitas Array**	**128.86**	**57**	PKP	**PKPdf**	**12 58 07.7**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=214,slow=0.9,SNR=5.8						
TXAR				SKPbc	SKiKP	13 00 32.3	-16
	comp=Z,0.5nm,0.7s,baz=260,slow=1.8,SNR=7.8						
DBIC	**Dimbokro**	**130.04**	**273**	SKPbc	**SKPbc**	**13 00 37.2**	**-0.7**
	comp=Z,7.7nm,1.1s,baz=123,slow=7.4,SNR=4.2						
SCHQ	**Scheffer ville**	**130.62**	**9**	PKP	**PKPdf**	**12 58 10.1**	**+0.1**
	comp=Z,2.5nm,0.9s,baz=56,slow=3.6,SNR=2.3						
SCHQ				SKPbc	**SKPbc**	**13 00 37.7**	**-1.0**
	comp=Z,7.8nm,1.0s,baz=324,slow=4.4,SNR=7.3						
AC05	**El Transito**	**142.22**	**158**		**PKPdf**	**12 58 29.7**	**-2.6**
W57A	**Gilead**	**143.22**	**35**		PKPab	12 58 30.5	-1.3
GO03	**Copiap**	**143.35**	**157**		PKPab	12 58 31.6	-1.0
AC06	**Mina Casimiro**	**143.52**	**157**		PKPbc	12 58 33.5	+0.2
ITQB	**Itaqui**	**144.29**	**178**		PKPbc	12 58 35.3	-0.3
AC02	**Maricunga**	**144.46**	**158**		PKPbc	12 58 37.3	+0.4
AC01	**Pan de Azucar**	**144.50**	**156**		**PKPdf**	**12 58 36.3**	**+0.1**
CPUP	**Villa Florida**	**147.57**	**176**		**PKPbc**	**12 58 44.6**	**-0.3**
CPUP	**Villa Florida**	**147.57**	**176**	PKPbc	**PKPbc**	**12 58 44.8**	**-0.2**
	comp=Z,5.3nm,0.7s,baz=181,slow=2.8,SNR=13						
LVC	**Limon Verde**	**148.34**	**155**	PKPbc	**PKPbc**	**12 58 47.6**	**+0.1**
	comp=Z,2.1nm,0.4s,baz=209,slow=6.8,SNR=4.6						
NNA	**Nana**	**151.84**	**130**	PKPbc	**PKPbc**	**12 58 54.8**	**-0.6**
	comp=Z,9.4nm,0.7s,baz=253,slow=1.6,SNR=6.5						
LPAZ	**La Paz**	**154.21**	**150**	PKP	**PKPdf**	**12 58 52.5**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=270,slow=1.0,SNR=3.7						
LPAZ				PKPbc	**PKiKP**	**12 59 01.0**	**-0.2**
	comp=Z,0.8nm,0.5s,baz=152,slow=2.5,SNR=4.8						
LPAZ				PKPab	**PKPab**	**12 59 17.9**	**-0.1**
	comp=Z,5.6nm,0.7s,baz=16,slow=1.5,SNR=4.9						
BDFB	**Brasilia**	**157.16**	**198**	PKPab	**PKPab**	**12 59 29.6**	**-0.5**
	comp=Z,1.9nm,0.5s,baz=231,slow=2.7,SNR=5.1						
SIV	**San Ignacio**	**157.16**	**165**	PKPab	**PKPab**	**12 59 29.9**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=190,slow=4.8,SNR=20						

***IDC* 13 13:07:34.0±4.2, 6°25S×141°92E, h0km, mb3.9/2, mbtmp3.9/4, ML3.7/2, Error ellipse: s-maj=154.3km s-min=29.5km az=98.0, New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.48**	**208**	Pn	Pn	13 11 12.6	-1.1
	0.2nm,0.3s,baz=31,slow=13,SNR=16						
WRA				Sn	Sn	13 14 06.0	-0.1
	0.1nm,0.3s,baz=28,slow=21,SNR=2.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**18.96**	**203**	P	P	13 11 57.2	+0.3
	0.7nm,0.3s,baz=31,slow=10,SNR=47						
	7.0nm,0.7s						
MKAR	**Makanchi Array**	**74.53**	**322**	P	P	13 19 15.1	+0.5
	0.4nm,0.7s,baz=115,slow=8.1,SNR=3.5						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**84.03**	**325**	P	P	13 20 06.2	-0.2
	1.6nm,0.7s,baz=102,slow=6.6,SNR=7.3						
	1.6nm,0.7s						

NEIC ***13*** *13:13:17.4±1.6, 6°2S±0°.2×148°.8E±0°.2, h78km±11km, mb4.3/13, Error ellipse: s-maj=32.1km s-min=11.8km az=133.0*

IDC ***13*** *13:13:17.6±2.0, 6°.19S×148°.85E, h86km±17km, mb3.5/4, mbtmp3.8/6, MS2.5/1, Error ellipse: s-maj=48.9km s-min=11.8km az=122.0*

ISC 13 13:13:14.9±0.7, 6°.0S±0°.1×148°.6E±0°.1, h50km, n24, σ1°.08/27, mb4.3/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.70**	**202**	P	**Pn**	**13 14 11.4**	**+1.8**
	42nm,0.3s,baz=47,slow=5.8,SNR=22						
PMG				S	**Sn**	**13 14 53.3**	**+1.2**
	164nm,0.7s,baz=33,slow=14,SNR=11						
PMG				LR	LR	13 15 30.8	
	comp=Z,74nm,20.6s,baz=44,slow=37						
RABL	**Rabaul**	**3.98**	**64**	Pn	**Pn**	**13 14 15.1**	**+1.6**
COEN	**Coen**	**9.56**	**213**	Pn	**Pn**	**13 15 30.2**	**+0.2**
MTN	**Manton Dam**	**18.51**	**247**		**Pn**	**13 17 29.0**	**+1.1**
MTN				IAmb	IAmb	13 18 12.1	
	comp=Z,36nm,1.4s						
WB0	**Warramunga Arr**	**19.46**	**224**	Pn	**P**	**13 17 38.9**	**+1.3**
WRAB	**Tennant Creek**	**19.60**	**224**		**P**	**13 17 39.5**	**+0.3**
WRAB				IAmb	IAmb	13 17 42.2	
	comp=Z,12nm,1.3s						
WB2	**Warramunga Arr**	**19.61**	**224**		**P**	**13 17 39.7**	**+0.5**
WB2				IAmb	IAmb	13 18 19.7	
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**19.61**	**224**	P	**P**	**13 17 39.8**	**+0.4**
	comp=Z,1.2nm,0.5s,baz=52,slow=11,SNR=5.9						
WRA				S	**S**	**13 21 16.9**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=48,slow=21,SNR=1.8						
AS31	**Alice Springs**	**22.57**	**217**	P	**P**	**13 18 10.9**	**-0.2**
ASAR	**Alice Springs**	**22.57**	**217**	P	**P**	**13 18 11.0**	**-0.2**
ASAR	**Alice Springs**	**22.57**	**217**	P	**P**	**13 18 11.2**	**0.0**
	comp=Z,1.0nm,0.6s,baz=54,slow=9.0,SNR=13						
ASAR				S	**S**	**13 22 13.1**	**-2.3**
	comp=Z,1.8nm,1.1s,baz=32,slow=24,SNR=5.1						
	comp=Z,1.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.43**	**240**	P	**P**	**13 18 38.3**	**+0.2**
JTM	**Tenmabayashi**	**47.02**	**352**	P	**P**	**13 21 41.8**	**+0.6**
PEA0B	**Petropavlovsk-**	**59.34**	**6**	P	**P**	**13 23 12.3**	**+0.5**
PETK	**Petropavlovsk-**	**59.34**	**6**	P	**P**	**13 23 12.3**	**+0.5**
PETK	**Petropavlovsk-**	**59.34**	**6**	P	**P**	**13 23 12.1**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=171,slow=6.2,SNR=8.0						
	comp=Z,2.1nm,0.9s						
QSPA	**South Pole Qui**	**84.01**	**180**	P	**P**	**13 25 38.2**	**-1.7**
QSPA	**South Pole Qui**	**84.01**	**180**	P	**P**	**13 25 38.4**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=292,slow=1.8,SNR=7.7						
	comp=Z,0.9nm,0.7s						
ILAR	**Eielson Array**	**84.83**	**23**	P	**P**	**13 25 42.2**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=252,slow=4.8,SNR=6.1						
	comp=Z,0.3nm,0.6s						
B22K	**Teshekpuk Lake**	**85.33**	**17**	P	**P**	**13 25 46.0**	**-0.2**
B22K				IAmb	IAmb	13 26 20.8	
	comp=Z,7.3nm,1.4s						
J25K	**Salcha River,**	**85.35**	**23**	P	**P**	**13 25 45.7**	**-0.8**
J25K				IAmb	IAmb	13 26 07.0	
	comp=Z,3.7nm,1.4s						
TOLK	**Toolik Lake Re**	**85.64**	**19**	P	**P**	**13 25 47.8**	**-0.1**
TOLK				IAmb	IAmb	13 26 21.7	
	comp=Z,4.4nm,1.4s						
E27K	**Coleen River**	**88.13**	**21**	P	**P**	**13 25 59.1**	**-0.9**
E27K				IAmb	IAmb	13 26 34.4	
	comp=Z,4.8nm,1.5s						
TORD	**Torodi Ar. Bea**	**146.59**	**285**	PKPbc	**PKPdf**	**13 32 49.9**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=70,slow=2.8,SNR=1.6						

ISN ***13*** *13:13:40.0±0.3, 34°.72N×46°.11E, h12km±4km, ML2.6*
TEH ***13*** *13:13:40.7, 34°.70N×46°.07E, h14km±88km, ML2.7*

ISC 13 13:13:41.9±1.2, 34°.70N±0°.06×46°.10E±0°.06, h10km, n7, σ0°.81/11, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.24**	**89**	Pg	**Pg**	**13 13 46.6**	**-0.2**
IGHG	**Ghaleghazi**	**0.53**	**133**	Pg	**Pg**	**13 13 52.1**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.60**	**195**	Pg	**Pg**	**13 13 52.6**	**-1.0**
GLG1				Sg	**Sg**	**13 14 01.5**	**0.0**
KCHF	**Cheshme Sefid,**	**0.89**	**118**	Pg	**Pg**	**13 13 58.1**	**-0.9**
IBDR	**Badra**	**1.59**	**185**	*e*Pn	**Pn**	**13 14 10.0**	**-0.1**
IBDR				*e*Sn	**Sn**	**13 14 32.0**	**+1.3**
IKRK	**Kirkuk**	**1.60**	**296**	*e*Pn	**Pn**	**13 14 10.0**	**-0.3**
IKRK				*e*Sn	**Sn**	**13 14 32.0**	**+0.9**
IKRK				AML	AML	13 14 35.2	
	comp=N,98nm,0.3s						
IKRK				AML	AML	13 14 39.8	
	comp=E,85nm,0.4s						
BHD	**Baghdad**	**2.02**	**226**	*e*Pn	**Pn**	**13 14 16.0**	**+0.1**
BHD				*e*Sn	**Sn**	**13 14 42.0**	**+0.8**

***IDC* 13 13:31:40.9±5.2, 1°.79S×138°.97E, h0km, mb3.4/2, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=211.3km s-min=29.9km az=86.0, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.60**	**194**	P	P	13 35 59.9	0.0
	0.1nm,0.3s,baz=16,slow=11,SNR=7.5						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**22.29**	**192**	P	P	13 36 40.0	0.0
	0.9nm,0.9s,baz=19,slow=11,SNR=18						
	0.9nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**33.91**	**52**	T	T	14 14 50.4	
	baz=236,slow=76,SNR=5.4						
H11S2	**WAKE ISLAND Hy**	**33.92**	**52**	T	T	14 14 52.9	
	baz=236,slow=76,SNR=6.4						
H11S1	**WAKE ISLAND Hy**	**33.93**	**52**	T	T	14 14 54.9	
	baz=236,slow=76,SNR=4.2						
MKAR	**Makanchi Array**	**69.23**	**322**	P	P	13 42 49.8	0.0
	0.7nm,0.9s,baz=96,slow=10,SNR=3.7						
	0.7nm,0.9s						

RSNC 13 13:37:00.8±0.0, 2°N±6°, 7°9W±°, h13km±7km, M3.1, mB5.2, mb3.8, ML2.6, Mw(mB)4.6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMC	**Tumaco**	**0.81**	**126**	P	Pg	13 37 15.2	-1.4
TUMC				S	Sn	13 37 30.5	+0.6
GR1C	**Gorgona, Isla**	**1.39**	**60**	P	Pn	13 37 20.5	-5.5
GR1C				S	Sn	13 37 40.6	-3.6
PAC1	**Pacto, Paraso**	**2.11**	**164**	P	Pn	13 37 33.7	-2.3
PAC1				S	Sn	13 37 58.2	-4.1
CUSE	**Cuicocha Este**	**2.22**	**154**	P	Pn	13 37 35.5	-2.2
CUSE				S	Sn	13 38 02.9	-2.4
TULM	**Tulcn-Chalpat**	**2.25**	**135**	P	Pn	13 37 39.3	+1.2
GCUF	**Volcan Galeras**	**2.30**	**118**	P	Pn	13 37 37.6	-1.3
GCUF				S	Sn	13 38 08.9	+1.5
CRUC	**La Cruz**	**2.54**	**107**	P	Pn	13 37 41.2	-0.8
CRUC				S	Sb	13 38 18.1	+0.4
MALC	**Bahia Malaga**	**2.65**	**50**	P	Pn	13 37 39.5	-3.8
POPC	**Popayan, Colom**	**2.71**	**85**	P	Pn	13 37 41.1	-3.2
POPC				S	Sn	13 38 17.2	+0.1
JAMC	**Jamundi, Valle**	**2.85**	**72**	P	Pn	13 37 42.0	-4.2
JAMC				S	Sn	13 38 17.0	-3.5
FLOC	**Florencia**	**3.79**	**101**	P	Pn	13 37 58.9	-0.2
FLOC				S	Sn	13 38 46.2	+2.6
GARC	**Garzon, Huila**	**3.89**	**92**	P	Pn	13 38 00.4	-0.1
PLMC	**San Jos del P**	**4.03**	**50**	P	Pn	13 38 00.6	-1.7
PLMC				S	Sn	13 38 45.6	-3.8
PRAC	**Prado**	**4.70**	**73**	P	Pn	13 38 10.1	-1.4
PRAC				S	Sn	13 39 07.0	+1.0
URMC	**La Uribe, Meta**	**5.08**	**79**	P	Pn	13 38 17.0	+0.2
	5.4nm,0.5s						
MACC	**Macarena, Meta**	**5.53**	**92**	P	Pn	13 38 22.4	-0.5
	24nm,0.7s,2µm						
NORC	**Norcasia**	**5.54**	**54**	P	Pn	13 38 20.7	-2.4
VILC	**Villavicencio,**	**5.95**	**72**	P	Pn	13 38 28.9	+0.1
PTBC	**PUERTO BERRIO,**	**6.46**	**49**	P	Pn	13 38 33.2	-2.5
PTBC				S	Sn	13 39 48.7	-0.7
ZARC	**Zaragoza, Cauc**	**6.84**	**41**	P	Pn	13 38 37.6	-3.3
RUSC	**La Rusia**	**7.22**	**60**	P	Pn	13 38 45.0	-1.5

IDC ***13*** *13:48:22.6±6.0, 20°.04S×177°.66W, h505km±63km, mb3.3/7, mbtmp4.2/8, Error ellipse: s-maj=34.7km s-min=21.5km az=65.0*

NEIC ***13*** *13:48:23.3±1.2, 20°.0S±0°.1×177°.6W±0°.2, h516km±9km, mb4.3/32, Error ellipse: s-maj=26.7km s-min=19.2km az=115.0*

ISC 13 13:48:22.1±0.8, 20°.0S±0°.1×177°.7W±0°.2, h500km, n49, σ0°.83/48, mb4.2/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.61**	**298**	P	P	13 49 54.8	+8.9
URZ	**Urewera**	**18.75**	**193**	P	**P**	**13 52 08.6**	**-0.6**
	4.0nm,0.4s,baz=23,slow=3.6,SNR=8.5						
BFZ	**Birch Farm**	**21.26**	**193**	P	**P**	**13 52 31.0**	**-1.1**
QRZ	**Quartz Range**	**22.38**	**200**	P	**P**	**13 52 42.4**	**+0.2**
THZ	**Tophouse**	**23.12**	**198**	P	**P**	**13 52 49.1**	**+0.3**
THZ				IAmb	IAmb	13 53 04.7	
	comp=Z,28nm,1.2s						
DSZ	**Denniston Nort**	**23.44**	**200**	P	**P**	**13 52 51.9**	**+0.2**
LTZ	**Lake Taylor**	**24.24**	**198**	P	**P**	**13 52 57.3**	**-1.5**
LTZ				IAmb	IAmb	13 53 05.1	
	comp=Z,39nm,1.4s						
WHZ	**Wether Hill Ro**	**28.41**	**201**	P	**P**	**13 53 36.7**	**+1.2**
EIDS	**Eidsvold**	**29.26**	**254**	P	**P**	**13 53 44.1**	**+1.0**
EIDS				IAmb	IAmb	13 53 54.7	
	comp=Z,9.4nm,1.2s						
CAN	**Canberra**	**33.03**	**235**	P	**P**	**13 54 14.3**	**-1.1**
CTAO	**Charters Tower**	**33.83**	**264**	P	**P**	**13 54 23.2**	**+0.8**
CTAO				IAmb	IAmb	13 54 23.6	
	comp=Z,15nm,1.2s						
TOO	**Toolangi**	**36.42**	**233**	P	**P**	**13 54 44.2**	**+0.3**
TOO				IAmb	IAmb	13 55 09.2	
	comp=Z,25nm,1.4s						
COEN	**Coen**	**37.84**	**273**	P	**P**	**13 54 56.8**	**+1.0**
WR0	**Warramunga Arr**	**44.76**	**261**	P	**P**	**13 55 50.6**	**-0.2**
WR0				IAmb	IAmb	13 55 52.1	
	comp=Z,9.5nm,1.2s						
AS31	**Alice Springs**	**44.91**	**256**	P	**P**	**13 55 51.9**	**-0.1**
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**13 55 51.8**	**-0.2**
ASAR	**Alice Springs**	**44.91**	**256**	P	**P**	**13 55 52.2**	**+0.2**
	comp=Z,4.0nm,0.8s,baz=90,slow=8.1,SNR=50						
ASAR				PcP	**PcP**	**13 57 22.2**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=108,slow=3.9,SNR=8.1						
	comp=Z,4.0nm,0.8s						
WB0	**Warramunga Arr**	**44.93**	**262**	P	**P**	**13 55 52.0**	**-0.1**
WB0				IAmb	IAmb	13 55 52.2	
	comp=Z,9.3nm,1.1s						
WB2	**Warramunga Arr**	**44.94**	**261**	P	**P**	**13 55 52.0**	**-0.2**
WB2				IAmb	IAmb	13 56 16.7	
	comp=Z,12nm,1.4s						
WRAB	**Tennant Creek**	**44.95**	**261**	P	**P**	**13 55 51.9**	**-0.3**
WRAB				IAmb	IAmb	13 56 31.9	
	comp=Z,4.8nm,0.8s						
WRA	**Warramunga Arr**	**44.95**	**261**	P	**P**	**13 55 52.0**	**-0.3**
WRA	**Warramunga Arr**	**44.95**	**261**	P	**P**	**13 55 52.2**	**-0.1**
	comp=Z,2.7nm,0.6s,baz=98,slow=8.1,SNR=52						
WRA				PcP	**PcP**	**13 57 22.7**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=104,slow=3.4,SNR=1.9						
	comp=Z,2.7nm,0.6s						
MTN	**Manton Dam**	**49.45**	**270**	P	**P**	**13 56 24.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**53.38**	**262**	P	**P**	**13 56 54.0**	**-0.7**
PSA00	**Pilbara Seismi**	**58.06**	**257**	P	**P**	**13 57 26.6**	**-0.6**
PSA00				IAmb	IAmb	13 58 04.4	
	comp=Z,31nm,1.5s						
MJAR	**Matsushiro Arr**	**69.97**	**323**	P	**P**	**13 58 43.0**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=159,slow=5.9,SNR=8.4						
	comp=Z,1.7nm,0.6s						
QSPA	**South Pole Qui**	**70.07**	**180**	P	**P**	**13 58 43.2**	**0.0**
QSPA	**South Pole Qui**	**70.07**	**180**	P	**P**	**13 58 43.7**	**+0.5**
	comp=Z,2.4nm,0.9s,baz=13,slow=0.1,SNR=7.3						
	comp=Z,2.4nm,0.9s						
YULB	**Yu-li**	**73.46**	**303**	P	**P**	**13 59 02.5**	**-1.1**
YULB				IAmb	IAmb	13 59 25.3	
	comp=Z,17nm,1.5s						
NACB	**Ninganchiao**	**73.63**	**304**	P	**P**	**13 59 03.1**	**-1.3**
NACB				IAmb	IAmb	13 59 04.2	
	comp=Z,24nm,1.4s						
TPUB	**Ta-pu**	**73.94**	**303**	P	**P**	**13 59 04.9**	**-1.4**
TPUB				IAmb	IAmb	13 59 06.2	
	comp=Z,10nm,0.8s						
PETK	**Petropavlovsk-**	**75.86**	**345**	P	**P**	**13 59 16.5**	**+0.1**
USRK	**Ussuriysk Ar.**	**78.71**	**326**	P	**P**	**13 59 33.6**	**+1.6**
	comp=Z,3.0nm,0.8s,baz=115,slow=7.2,SNR=4.4						
	comp=Z,3.0nm,0.8s						
L18K	**Granite Mounta**	**83.62**	**10**	P	**P**	**13 59 57.8**	**+0.

JMN	**Monobe**	**1.70**	**273**		P		**P**	**14 04 43.5**	**+1.0**
JMN	**Monobe**	**1.70**	**273**				**P**	**14 04 43.4**	**+1.0**
JMN	**Monobe**	**1.70**	**273**	*i*	P		**P**	**14 04 43.6**	**+1.0**
JMN					S		**S**	**14 05 28.3**	**+0.9**
JYTA	**Yamagatataniai**	**2.06**	**19**		P		**P**	**14 04 45.2**	**+0.9**
JYTA					S		**S**	**14 05 30.7**	**-0.2**
JSG	**Sagara**	**2.14**	**61**		P		**P**	**14 04 46.7**	**+1.8**
JSG	**Sagara**	**2.14**	**61**		P		**P**	**14 04 45.9**	**+1.0**
JGF	**Kuroka**	**2.29**	**31**		P		**P**	**14 04 46.6**	**+0.8**
JGF	**Kuroka**	**2.29**	**31**				**P**	**14 04 46.4**	**+0.6**
JKG	**Kaga**	**2.65**	**7**		P		**P**	**14 04 48.8**	**+0.5**
JKG					S		**S**	**14 05 37.8**	**-0.3**
JHS	**Saijyo**	**2.69**	**301**		P		**P**	**14 04 49.5**	**+0.9**
JTO	**Tosashimizu**	**2.73**	**254**		P		**P**	**14 04 50.0**	**+1.0**
JTO					S		**S**	**14 05 39.3**	**0.0**
JYN	**Shimob**	**2.85**	**49**		P		**P**	**14 04 50.4**	**+0.5**
JNA	**Nagahama**	**2.87**	**269**		P		**P**	**14 04 51.3**	**+1.3**
JNA					S		**S**	**14 05 41.6**	**+0.3**
JHT	**Toyohira**	**3.08**	**290**		P		**P**	**14 04 52.5**	**+0.9**
JHT					S		**S**	**14 05 43.9**	**-0.4**
JOD2	**Odawara 2**	**3.08**	**57**		P		**P**	**14 04 52.6**	**+0.9**
JGT2	**ShimaneMisato**	**3.16**	**298**		P		**P**	**14 04 52.9**	**+0.6**
JGT2					S		**S**	**14 05 45.5**	**0.0**
JHJ	**Hachijo jima 2**	**3.27**	**98**		P		**P**	**14 04 54.5**	**+1.2**
	463nm,0.6s,baz=297,slow=9.0,SNR=17								
JHJ					S		**S**	**14 05 49.6**	**+2.4**
	54nm,0.3s,baz=66,slow=21,SNR=1.1								
JHJ2	**Mitsune**	**3.30**	**98**		P		**P**	**14 04 54.8**	**+1.3**
JHJ2	**Mitsune**	**3.30**	**98**				**P**	**14 04 53.7**	**+0.2**
JHJ2	**Mitsune**	**3.30**	**98**		P		**P**	**14 04 54.8**	**+1.3**
JRY	**Ryogami san**	**3.41**	**45**		P		**P**	**14 04 55.0**	**+0.7**
JRY				*e*	S		**S**	**14 05 48.9**	**-0.5**
MAJO	**Matsushiro**	**3.45**	**32**		P		**P**	**14 04 55.1**	**+0.4**
MAJO	**Matsushiro**	**3.45**	**32**				**P**	**14 04 54.7**	**+0.1**
MAJO	**Matsushiro**	**3.45**	**32**	*d*	*i*	P	**P**	**14 04 54.8**	**+0.1**
MAT	**Matsushiro**	**3.45**	**32**	*i*	P		**P**	**14 04 55.0**	**+0.3**
MAT					S		**S**	**14 05 49.1**	**-0.8**
MJAR	**Matsushiro Arr**	**3.45**	**32**		P		**P**	**14 04 55.1**	**+0.4**
	69nm,0.5s,baz=189,slow=9.6,SNR=210								
MJAR					S		**S**	**14 05 51.4**	**+1.4**
	25nm,0.7s,baz=358,slow=23,SNR=9.9								
MJB9	**Matsu-Tunnel**	**3.45**	**32**				**P**	**14 04 54.7**	**0.0**
JNU	**Nakatsue**	**4.25**	**264**		P		**P**	**14 05 03.2**	**+1.2**
JNU	**Nakatsue**	**4.25**	**264**				**P**	**14 05 02.6**	**+0.6**
JNU	**Nakatsue**	**4.25**	**264**		P		**P**	**14 05 03.1**	**+1.0**
	34nm,0.4s,baz=153,slow=1.0,SNR=79								
JNU					S		**S**	**14 06 03.8**	**+0.5**
	33nm,0.9s,baz=252,slow=17,SNR=4.6								
BSO1	**Boso 1**	**4.32**	**75**		P		**P**	**14 05 00.4**	**-1.5**
BSO1					S		**S**	**14 06 01.8**	**-1.5**
JSD	**Sado**	**4.78**	**23**		P		**P**	**14 05 07.4**	**+0.4**
JSD	**Sado**	**4.78**	**23**				**P**	**14 05 07.1**	**0.0**
JTU	**Tsushima**	**5.48**	**281**		P		**P**	**14 05 15.1**	**+0.9**
JTU	**Tsushima**	**5.48**	**281**		P		**P**	**14 05 14.7**	**+0.4**
JMM	**Marumori**	**5.79**	**42**		P		**P**	**14 05 16.7**	**-0.6**
JMM	**Marumori**	**5.79**	**42**				**P**	**14 05 16.5**	**-0.9**
TJN	**Taejon**	**7.53**	**294**		P		**P**	**14 05 37.4**	**+0.4**
TJN	**Taejon**	**7.53**	**294**				**P**	**14 05 36.8**	**-0.2**
TJN	**Taejon**	**7.53**	**294**	*d*	*i*	P	**P**	**14 05 37.3**	**+0.3**
KSRS	**Korea Array**	**7.55**	**303**		P		**P**	**14 05 37.6**	**+0.5**
	11nm,0.6s,baz=119,slow=11,SNR=88								
KSRS					S		**S**	**14 07 07.8**	**+0.9**
	2.9nm,1.0s,baz=111,slow=21,SNR=4.9								
KSAR	**Wonju Array Be**	**7.57**	**302**		P		**P**	**14 05 36.8**	**-0.6**
KSAR	**Wonju Array Be**	**7.57**	**302**		P		**P**	**14 05 36.8**	**-0.6**
KS19	**Wonju Array Si**	**7.61**	**303**		P		**P**	**14 05 37.2**	**-0.7**
JTM	**Tenmabayashi**	**8.23**	**28**		P		**P**	**14 05 44.2**	**-0.3**
JTM	**Tenmabayashi**	**8.23**	**28**		P		**P**	**14 05 43.7**	**-0.8**
JCJ	**Chichijima**	**8.47**	**139**		P		**P**	**14 05 46.0**	**-1.5**
JCJ	**Chichijima**	**8.47**	**139**		P		P	14 05 39.3	-8.2
	25nm,0.2s,baz=12,slow=18,SNR=20								
JCJ					S		S	14 07 13.4	-13
	231nm,0.5s,baz=280,slow=20,SNR=19								
INCN	**Inchon**	**8.48**	**299**				**P**	**14 05 47.7**	**+0.3**
INCN	**Inchon**	**8.48**	**299**		P		**P**	**14 05 47.7**	**+0.3**
JMZ	**Minamidaito 2**	**8.80**	**209**		P		**P**	**14 05 52.3**	**+1.3**
JOW	**Kunigami**	**9.47**	**226**		P		**P**	**14 05 59.5**	**+1.0**
JOW	**Kunigami**	**9.47**	**226**				**P**	**14 05 58.4**	**-0.1**
JOW	**Kunigami**	**9.47**	**226**		P		**P**	**14 05 59.5**	**+1.0**
	30nm,0.6s,baz=65,slow=9.5,SNR=28								
JOW					S		**S**	**14 07 47.4**	**+0.4**
	9.1nm,0.8s,baz=87,slow=30,SNR=6.3								
MSHR	**Mys Shultsa**	**9.68**	**339**	⇓	*e*	P	**P**	**14 06 00.2**	**-0.3**
PSTR	**Posyet**	**9.85**	**337**	*c*	*i*	P	**P**	**14 06 02.5**	**+0.1**
ERM	**Erimo**	**10.13**	**32**		P		**P**	**14 06 04.5**	**-1.0**
ERM	**Erimo**	**10.13**	**32**		P		**P**	**14 06 04.5**	**-1.0**
ERM	**Erimo**	**10.13**	**32**	*ce*	P		**P**	**14 06 04.3**	**-1.2**
ERM						pmax	pmax		
	comp=Z,37nm,0.6s								
JEM	**Erimo**	**10.13**	**32**		P		**P**	**14 06 04.8**	**-0.7**
USA0B	**Ussuriysk Arra**	**10.98**	**345**		P		**P**	**14 06 14.4**	**-0.4**
USA0B	**Ussuriysk Arra**	**10.98**	**345**	*c*	*i*	P	**P**	**14 06 14.5**	**-0.4**
USRK	**Ussuriysk Ar.**	**10.98**	**345**		P		**P**	**14 06 14.5**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.98**	**345**		P		**P**	**14 06 15.0**	**+0.2**
	comp=Z,43nm,1.0s,baz=153,slow=9.9,SNR=48								
TEY	**Ternei**	**11.39**	**2**	*e*	P		**P**	**14 06 15.3**	**-4.1**
ASAJ	**Asahikawa**	**11.68**	**24**		P		**P**	**14 06 22.2**	**-0.3**
	comp=Z,25nm,0.4s,baz=230,slow=11,SNR=47								
ASAJ					S		**S**	**14 08 27.0**	**-4.1**
	comp=Z,29nm,0.9s,baz=346,slow=28,SNR=11								
JKA	**Kamikawa-asahi**	**11.68**	**24**		P		**P**	**14 06 21.9**	**-0.7**
MDJ	**Mudanjiang**	**12.01**	**338**		P		**P**	**14 06 25.6**	**-0.5**
NMR	**Nemuro--Hokkai**	**12.37**	**35**	*e*	P		**P**	**14 06 30.5**	**+0.3**
NMR					*e*	S	**S**	**14 08 43.2**	**-1.9**
RUSJ	**Misakicho**	**12.72**	**32**	*e*	P		**P**	**14 06 37.4**	**+3.5**
RUSJ					*e*	S	**S**	**14 08 52.7**	**+0.7**
JMJ	**Miyako jima 2**	**12.78**	**229**		P		**P**	**14 06 36.0**	**+1.1**
YUK	**Yuzh-Kuril'sk**	**12.94**	**34**	*e*	P		**P**	**14 06 38.1**	**+1.7**
YUK					*e*	S	**S**	**14 08 56.5**	**0.0**
YUK						pmax	pmax		
	comp=Z,80nm,0.5s								
YUK						pmax	pmax		
	comp=E,36nm,0.3s								
SHO	**Shikotan**	**13.28**	**37**	*e*	P		**P**	**14 06 40.2**	**+0.1**
SHO					*e*	S	**S**	**14 09 05.2**	**+1.8**
SHO						pmax	pmax		
	comp=Z,15nm,0.4s								
SHO						pmax	pmax		
	comp=E,12nm,0.2s								
YSS	**Yuzh-Sakhalins**	**14.28**	**19**		P		**P**	**14 06 51.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**14.28**	**19**		P		**P**	**14 06 51.3**	**+0.4**
YSS	**Yuzh-Sakhalins**	**14.28**	**19**	*ce*	P		**P**	**14 06 51.6**	**+0.7**
YSS					*e*	S	**S**	**14 09 23.7**	**+0.6**
YSS						pmax	pmax		
	comp=Z,100nm,3.0s								
YSS						pmax	pmax		
	comp=Z,40nm,0.8s								
YSS						smax	smax		
	comp=E,10.0nm,0.8s								
YOJ	**Yonaguni jima**	**14.52**	**234**		P		**P**	**14 06 51.6**	**-2.2**
YHNB	**Yeheng**	**15.52**	**239**		P		**P**	**14 07 04.2**	**-0.5**
YHNB	**Yeheng**	**15.52**	**239**		P		**P**	**14 07 03.4**	**-1.4**
TIA	**Tai'an**	**15.63**	**285**		P		**P**	**14 07 04.8**	**-0.9**
TIA						pmax	pmax		
	comp=Z,13nm,0.9s								
KLR	**Kul'dur**	**15.88**	**350**		P		**P**	**14 07 07.3**	**-0.9**
	comp=Z,18nm,0.5s,baz=170,slow=9.5,SNR=69								
KLR	**Kul'dur**	**15.88**	**350**	*ce*	P		**P**	**14 07 06.7**	**-1.5**
KLR						pmax	pmax		
	comp=Z,9.0nm,0.5s								
UGL	**Uglegorsk**	**16.09**	**15**	*e*	P		**P**	**14 07 12.0**	**+1.6**
UGL						pmax	pmax		
	comp=Z,150nm,0.6s								
SSLB	**Suanglung**	**16.38**	**237**		P		**P**	**14 07 12.2**	**-1.6**
SSLB	**Suanglung**	**16.38**	**237**		P		**P**	**14 07 11.7**	**-2.2**
SSLB						IAmb	IAmb	14 07 19.4	
	comp=Z,18nm,1.0s								
YULB	**Yu-li**	**16.39**	**235**		P		**P**	**14 07 11.5**	**-2.5**
YULB	**Yu-li**	**16.39**	**235**		IAmb		IAmb	14 07 17.3	
	comp=Z,16nm,1.0s								
TPUB	**Ta-pu**	**16.92**	**236**		P		**P**	**14 07 17.5**	**-2.1**
TPUB	**Ta-pu**	**16.92**	**236**		P		**P**	**14 07 17.3**	**-2.3**
TWGBT	**Beinan**	**16.93**	**234**		P		**P**	**14 07 17.9**	**-1.8**
BJI	**Beijing**	**17.03**	**298**		P		**P**	**14 07 20.3**	**-0.3**
BJI						pmax	pmax		
	comp=Z,10.0nm,0.6s								
BJT	**Baijiatuan**	**17.03**	**298**		P		**P**	**14 07 21.3**	**+0.7**
BJT	**Baijiatuan**	**17.03**	**298**		P		**P**	**14 07 20.2**	**-0.4**
BJT	**Baijiatuan**	**17.03**	**298**		P		**P**	**14 07 20.2**	**-0.4**
BJT						pmax	pmax		
	comp=Z,29nm,1.1s								
GRNR	**Gornyy**	**17.12**	**1**	⇓	*i*	P	**P**	**14 07 21.6**	**+0.2**
GRNR						pmax	pmax		
	comp=Z,20nm,0.7s								
HEH	**HeiHe**	**17.74**	**342**		*e*	P	**P**	**14 07 26.3**	**-1.7**
HEH						pmax	pmax		
	comp=Z,15nm,0.9s								
HEH						pmax	pmax		
	comp=Z,110nm,4.2s								
TYV	**Tymovskoe**	**17.90**	**14**		*e*	P	**P**	**14 07 31.7**	**+2.1**
TYV						pmax	pmax		
	comp=Z,8.0nm,0.9s								
TYV						pmax	pmax		
	comp=Z,100nm,4.1s								
WHN	**Wuhan**	**18.53**	**266**	⇓	*i*	P	**P**	**14 07 36.3**	**-0.2**
WHN						pmax	pmax		
	comp=Z,330nm,0.7s								
LYN	**LuoYang**	**19.44**	**279**		*e*	P	**P**	**14 07 45.3**	**0.0**
LYN						pmax	pmax		
	comp=Z,25nm,0.7s								
LYN						pmax	pmax		
	comp=Z,130nm,3.9s								
HIA	**Hailar**	**19.70**	**327**	*d*	*i*	P	**P**	**14 07 47.1**	**-0.5**
HIA						pmax	pmax		
	comp=Z,9.0nm,0.8s								
HHC	**Hu-ho-hao-te**	**20.64**	**297**		*e*	P	**P**	**14 07 56.0**	**-0.4**
HHC						pmax	pmax		
	comp=Z,6.0nm,0.7s								
HHC						pmax	pmax		
	comp=Z,190nm,5.0s								
ZEA	**Zeya**	**21.02**	**346**		*e*	P	**P**	**14 07 59.9**	**+0.5**
ZEA						pmax	pmax		
	comp=E,10.0nm,0.4s								
ZEA						pmax	pmax		
	comp=N,40nm,0.7s								
ZEA						pmax	pmax		
	comp=Z,80nm,0.6s								
BTO	**Baotou**	**21.74**	**296**		*e*	P	**P**	**14 08 07.8**	**+1.4**
BTO						sP	**sP**	**14 09 59.9**	**-1.8**
BTO						S	**S**	**14 11 40.3**	**+2.8**
BTO						pmax	pmax		
	comp=Z,23nm,0.6s								
BTO						pmax	pmax		
	comp=Z,200nm,4.0s								
BTO						LR	LR		
	comp=N,110nm,4.7s								
BTO						LR	LR		
	comp=E,120nm,5.2s								
BTO						LR	LR		
	comp=Z,150nm,4.8s								
ENH	**Enshi**	**22.66**	**269**		P		**P**	**14 08 14.6**	**-0.1**
PEA0B	**Petropavlovsk-**	**24.91**	**32**	⇑	*e*	P	**P**	**14 08 34.4**	**-0.2**
PETK	**Petropavlovsk-**	**24.91**	**32**		P		**P**	**14 08 35.2**	**+0.6**
	comp=Z,6.1nm,0.7s,baz=237,slow=5.1,SNR=17								
	comp=Z,6.1nm,0.7s								
PET	**Petropavlovsk**	**25.28**	**33**	⇑	*e*	P	**P**	**14 08 34.7**	**-3.1**
ULN	**Ulaanbaatar**	**25.89**	**312**	⇑	*e*	P	**P**	**14 08 44.9**	**+1.3**
ULN						pmax	pmax		
	comp=Z,2.0nm,0.6s								
SONM	**Songino Array**	**26.29**	**311**		P		**P**	**14 08 48.5**	**+1.4**
	comp=Z,1.0nm,0.4s,baz=120,slow=10.0,SNR=7.0								
	comp=Z,1.0nm,0.4s								
MA2	**Magadan**	**27.74**	**16**		P		**P**	**14 08 59.6**	**0.0**
MA2	**Magadan**	**27.74**	**16**	*ce*	P		**P**	**14 08 59.8**	**+0.2**
MA2						pmax	pmax		
	comp=Z,30nm,1.7s								
YAK	**Yakutsk**	**28.69**	**354**		P		**P**	**14 09 07.2**	**-0.6**
YAK	**Yakutsk**	**28.69**	**354**		*e*	P	**P**	**14 09 07.2**	**-0.6**
YAK						pmax	pmax		
	comp=Z,15nm,0.8s								
YAK						pmax	pmax		
	comp=N,4.0nm,1.1s								
YAK						pmax	pmax		
	comp=E,2.0nm,0.9s								
GTA	**Gaotai**	**29.45**	**292**		*e*	P	**P**	**14 09 14.8**	**-0.2**
GTA						pP	PP	14 10 33.3	+1.6
GTA						pmax	pmax		
	comp=Z,6.0nm,1.1s								
PZH	**PanZhiHua**	**30.32**	**266**		P		**P**	**14 09 21.9**	**-0.9**
PZH						pmax	pmax		
	comp=Z,10.0nm,0.7s								
PZH						pmax	pmax		
	comp=Z,90nm,4.8s								
SEY	**Seymchan**	**31.09**	**15**	⇓	*e*	P	**P**	**14 09 29.7**	**+0.9**
SEY						pmax	pmax		
	comp=Z,8.0nm,1.0s								
UBPT	**Khong Chiam**	**33.02**	**244**		IAmb		IAmb	14 09 47.1	
	comp=Z,8.2nm,0.8s								
TNCH	**TengChong**	**33.57**	**265**	⇓	P		**P**	**14 09 50.5**	**-0.3**
TNCH						sP	sP	14 11 57.1	+2.8
TNCH						S	**S**	**14 14 39.6**	**-3.0**
TNCH						pmax	pmax		
	comp=Z,22nm,0.9s								
TNCH						pmax	pmax		
	comp=Z,47nm,3.9s								
GOMU	**GeErMu**	**33.62**	**286**		P		**P**	**14 09 52.0**	**+0.6**
GOMU						pmax	pmax		
	comp=Z,25nm,0.7s								
CRAI	**Chiangrai**	**34.21**	**256**		IAmb		IAmb	14 09 57.5	
	comp=Z,14nm,0.8s								
PHRA	**Phrae**	**35.23**	**254**		P		**P**	**14 10 04.6**	**-0.1**
CHTO	**Chiang Mai**	**36.09**	**255**		P		**P**	**14 10 11.8**	**-0.2**
CHTO						IAmb	IAmb	14 10 12.7	
	comp=Z,6.6nm,0.8s								
CHTO	**Chiang Mai**	**36.09**	**255**		P		**P**	**14 10 11.8**	**-0.2**
CHTO						pmax	pmax		
	comp=Z,7.0nm,0.9s								
CM31	**Chiang Mai Arr**	**36.28**	**255**		IAmb		IAmb	14 10 14.3	
	comp=Z,8.3nm,0.6s								
CMAR	**Chiang Mai Arr**	**36.28**	**255**		P		**P**	**14 10 13.2**	**-0.3**
CMAR	**Chiang Mai Arr**	**36.28**	**255**		P		**P**	**14 10 13.7**	**+0.1**
	comp=Z,6.3nm,0.6s,baz=48,slow=7.9,SNR=34								
	comp=Z,6.3nm,0.6s								
FAKI	**Fak Fak**	**36.53**	**186**		P		**P**	**14 10 15.8**	**+0.2**
TIXI	**Tiksi**	**38.26**	**356**		P		**P**	**14 10 28.4**	**-0.7**
TIXI						IAmb	IAmb	14 10 29.5	
	comp=Z,10.0nm,0.8s								
TIXI	**Tiksi**	**38.26**	**356**	⇑	*e*	P	**P**	**14 10 28.8**	**-0.3**
TIXI						pmax	pmax		
	comp=Z,8.0nm,0.6s								
BILL	**Bilibino**	**38.58**	**18**		P		**P**	**14 10 32.4**	**+0.6**
BILL	**Bilibino**	**38.58**	**18**	*i*	P		**P**	**14 10 32.7**	**+0.8**
BILL						pmax	pmax		
	comp=Z,22nm,1.0s								
DGZ	**Jazzator, Alta**	**38.89**	**309**	⇑	*e*	P	**P**	**14 10 34.8**	**0.0**
DGZ						pmax	pmax		
	comp=Z,4.0nm,1.8s								
ATKA	**Atka Island**	**40.06**	**47**		P		**P**	**14 10 44.3**	**+0.3**
ZALV	**Zalesovo Beam**	**41.02**	**316**		P		**P**	**14 10 51.7**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=95,slow=7.2,SNR=2.6								
ZALV						PcP	**PcP**	**14 12 40.7**	**-1.7**
	comp=Z,0.9nm,0.6s,baz=90,slow=4.4,SNR=4.4								
	comp=Z,0.5nm,0.4s								
MK31	**Makanchi Array**	**42.22**	**305**		P		**P**	**14 11 01.8**	**+0.1**
MK31	**Makanchi Array**	**42.22**	**305**	*de*	P		**P**	**14 11 01.7**	**+0.1**
MKAR	**Makanchi Array**	**42.22**	**305**		P		**P**	**14 11 01.8**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=88,slow=10,SNR=16								
MKAR						ScP	**ScP**	**14 15 56.0**	**-1.1**
	comp=Z,0.4nm,0.5s,baz=88,slow=2.3,SNR=5.0								
	comp=Z,1.0nm,0.5s								
SPIA	**Saint Paul Isl**	**43.06**	**40**		P		**P**	**14 11 07.1**	**-0.9**
	baz=260								
P08K	**Saint George I**	**43.35**	**41**		P		**P**	**14 11 10.1**	**-0.2**
	baz=262								
NIKH	**Nikolski High**	**43.37**	**46**		P		**P**	**14 11 10.8**	**+0.3**
NIKH	**Nikolski High**	**43.37**	**46**		P		**P**	**14 11 09.8**	**-0.8**
	baz=266								
GAMB	**Gambell**	**43.92**	**30**		P		**P**	**14 11 14.1**	**-0.5**
	baz=252								
KURK	**Kurchatov**	**44.59**	**310**		P		**P**	**14 11 20.8**	**+0.7**
KURBB	**Kurchatov Arra**	**44.65**	**310**		P		**P**	**14 11 20.8**	**+0.2**
	comp=Z,0.5nm,0.3s,baz=89,slow=8.2,SNR=2.7								
	comp=Z,0.5nm,0.3s								
UNV	**Unalaska Valle**	**44.83**	**45**		P		**P**	**14 11 21.5**	**-0.4**
	baz=267								
M11K	**Mekoryuk**	**45.66**	**36**		P		**P**	**14 11 27.8**	**-0.4**
	baz=261								
KDU	**Kakadu**	**46.19**	**185**		P		**P**	**14 11 32.8**	**0.0**
F14K	**Arctic Creek**	**46.62**	**29**		P		**P**	**14 11 35.1**	**-0.4**
	baz=256								
ANM	**Nome**	**46.81**	**30**		P		**P**	**14 11 36.3**	**-0.6**
	baz=258								
M13K	**Dall Lake**	**47.07**	**36**		P		**P**	**14 11 38.5**	**-0.4**
	baz=264								
J14K	**Nanvaranak Lak**	**47.28**	**33**		P		**P**	**14 11 40.2**	**-0.3**
	baz=261								
F15K	**North Star Dit**	**47.35**	**29**		P		**P**	**14 11 40.6**	**-0.5**
	baz=258								
L14K	**Kuka Creek**	**47.50**	**35**		P		**P**	**14 11 40.7**	**-1.5**
	baz=264								
C16K	**Lisburne Hills**	**47.70**	**25**		P		**P**	**14 11 43.6**	**-0.1**
	baz=255								
KSH	**Kashi**	**47.73**	**295**		P		**P**	**14 11 48.6**	**+4.1**
KSH						pmax	pmax		
	comp=Z,5.0nm,0.7s								
M14K	**Bethel**	**47.78**	**36**		P		**P**	**14 11 44.1**	**-0.3**
	baz=265								
N14K	**Kuskokwak Cree**	**47.85**	**37**		P		**P**	**14 11 43.9**	**-1.0**
	baz=266								
O14K	**Tigyukauivet M**	**48.02**	**38**		P		**P**	**14 11 45.1**	**-1.1**
	baz=267								
L15K	**Ungalak Mounta**	**48.10**	**35**		P		**P**	**14 11 46.3**	**-0.5**
	baz=264								
K15K	**Wolf Creek Mou**	**48.15**	**34**		P		**P**	**14 11 46.7**	**-0.5**
	baz=264								
AAK	**Ala-Archa**	**48.20**	**300**	⇑	*e*	P	**P**	**14 11 47.9**	**-0.2**
AAK						pmax	pmax		
	comp=Z,3.0nm,1.3s								
GSI	**Gunungsitoli**	**48.20**	**236**		P		**P**	**14 11 47.4**	**-0.8**
G16K	**Koyuk River**	**48.23**	**30**		P		**P**	**14 11 46.7**	**-1.0**
	baz=260								
SDPT	**Sand Point**	**48.36**	**43**		P		**P**	**14 11 47.7**	**-1.1**
	baz=271								
D17K	**Noatak River**	**48.39**	**27**		P		**P**	**14 11 48.1**	**-0.8**
	baz=257								
M15K	**Kasigluk River**	**48.40**	**36**		P		**P**	**14 11 48.5**	**-0.6**
	baz=266								
C17K	**DeLong Mountai**	**48.53**	**25**		P		**P**	**14 11 49.5**	**-0.5**
	baz=257								
RDOG	**Red Dog Mine**	**48.53**	**26**		P		**P**	**14 11 49.7**	**-0.3**
	baz=257								
N15K	**Kwethluk River**	**48.66**	**37**		P		**P**	**14 11 50.5**	**-0.6**
	baz=267								
J16K	**Anvik River**	**48.68**	**33**		P		**P**	**14 11 51.1**	**0.0**
	baz=264								
I17K	**Unalakleet**	**48.71**	**32**		P		**P**	**14 11 51.5**	**+0.1**
	baz=263								
E17K	**Hotham Inlet**	**48.74**	**27**		P		**P**	**14 11 51.1**	**-0.4**
	baz=259								
O15K	**Ungalikthiuk R**	**48.76**	**38**		P		**P**	**14 11 51.6**	**-0.2**
	baz=268								
F17K	**Baldwin Pennin**	**48.85**	**28**		P		**P**	**14 11 51.7**	**-0.6**
	baz=260								
S14K	**Fog Glacier**	**48.87**	**42**		P		**P**	**14 11 52.5**	**-0.3**
	baz=271								
CHNA	**Chernabura Isl**	**48.88**	**44**		P		**P**	**14 11 52.0**	**-0.7**
	baz=272								
G17K	**Kiwalik Mounta**	**48.95**	**30**		P		**P**	**14 11 53.2**	**+0.1**
	baz=262								
L16K	**Owhat River**	**49.06**	**35**		P		**P**	**14 11 53.6**	**-0.4**
	baz=266								
H17K	**Granite Mounta**	**49.18**	**30**		P		**P**	**14 11 54.7**	**-0.1**
	baz=263								
B18K	**Kokolik River**	**49.22**	**24**		P		**P**	**14 11 55.7**	**+0.7**
	baz=257								
M16K	**Timber Creek**	**49.27**	**36**		P		**P**	**14 11 55.2**	**-0.4**
	baz=267								
E18K	**Tukpahlearik C**	**49.27**	**27**		IAmb		IAmb	14 11 58.1	
	comp=Z,9.7nm,0.6s								
E18K	**Tukpahlearik C**	**49.27**	**27**		P		**P**	**14 11 54.8**	**-0.6**
	baz=260,SNR=6.2								
C18K	**Utukok River**	**49.28**	**25**		IAmb		IAmb	14 11 57.6	
	comp=Z,12nm,0.7s								
C18K	**Utukok River**	**49.28**	**25**		P		**P**	**14 11 55.4**	**-0.3**
	baz=258,SNR=11								
N16K	**Nishlik Lake**	**49.34**	**36**		P		**P**	**14 11 56.1**	**0.0**
	baz=268								
J17K	**VABM Dome**	**49.38**	**33**		IAmb		IAmb	14 11 59.0	
	comp=Z,8.2nm,0.7s								
J17K	**VABM Dome**	**49.38**	**33**		P		**P**	**14 11 56.4**	**+0.1**
	baz=265								
CHGN	**Chignik**	**49.50**	**42**		P		**P**	**14 11 56.9**	**-0.5**
	baz=272								
F18K	**Selawik**	**49.51**	**28**		P		**P**	**14 11 57.5**	**+0.3**
	baz=262,SNR=7.5								
BVAR	**

baz=270
O19K **Port Alsworth** 51.55 37 IAmb IAmb 14 12 14.8
comp=Z,6.5nm,0.7s
O19K **Port Alsworth** 51.55 37 P P 14 12 12.6 +0.2
baz=272
J20K **Nowinta River** 51.61 32 IAmb IAmb 14 12 15.3
comp=Z,12nm,0.8s
J20K **Nowinta River** 51.61 32 P P 14 12 13.4 +0.6
baz=269,SNR=14
K20K **Telida** 51.63 33 IAmb IAmb 14 12 15.6
comp=Z,13nm,0.7s
K20K **Telida** 51.63 33 P P 14 12 13.6 +0.7
baz=270,SNR=14
C21K **Knifeblade Rid** 51.65 25 P P 14 12 13.2 +0.2
baz=264,SNR=10
L20K **Farewell, AK** 51.72 34 P P 14 12 13.0 -0.6
baz=270,SNR=6.8
B21K **Ikpikpuk River** 51.76 25 IAmb IAmb 14 12 16.1
comp=Z,16nm,0.7s
B21K **Ikpikpuk River** 51.76 25 P P 14 12 14.4 +0.6
baz=264,SNR=26
A22K **Sinclair Lake** 51.80 23 P P 14 12 14.3 +0.3
baz=263,SNR=11
IMAR **Indian Mountai** 51.83 29 P P 14 12 15.1 +0.8
SII **Sitkinak Islan** 51.83 41 P P 14 12 14.3 -0.2
baz=275
E21K **Killik River** 51.88 26 P P 14 12 14.8 0.0
baz=266
G21K **Allakaket** 51.95 29 IAmb IAmb 14 12 17.6
comp=Z,8.0nm,0.9s
G21K **Allakaket** 51.95 29 P P 14 12 15.0 -0.2
baz=268,SNR=5.3
Q19K **Cape Douglas,** 51.95 38 P P 14 12 14.8 -0.6
baz=274
F21K **Alatna River** 51.99 28 P P 14 12 15.8 +0.3
baz=267,SNR=6.1
M20K **Styx River** 52.08 35 P P 14 12 16.3 0.0
baz=272
P19K **Oil Pt** 52.12 37 P P 14 12 16.1 -0.6
baz=273
H21K **Melozitna Rive** 52.21 30 P P 14 12 18.3 +1.2
H21K **Melozitna Rive** 52.21 30 P P 14 12 17.3 +0.1
baz=269,SNR=7.9
B22K **Teshekpuk Lake** 52.24 24 P P 14 12 17.7 +0.5
baz=265
OHAK **Old Harbor** 52.27 41 P P 14 12 17.9 +0.3
OHAK **Old Harbor** 52.27 41 P P 14 12 18.0 +0.4
baz=275
O20K **Slope Mountain** 52.40 37 P P 14 12 19.1 +0.4
baz=273
CHUM **Lake Minchumin** 52.41 32 P P 14 12 19.0 +0.4
baz=271,SNR=7.1
PPLA **Purkeypile** 52.49 33 P P 14 12 19.4 0.0
baz=272
F22K **John River** 52.51 27 P P 14 12 19.5 +0.3
baz=268
CAST **Castle Rocks** 52.52 33 P P 14 12 20.0 +0.5
baz=271,SNR=7.3
N20K **Mount Spurr** 52.55 35 P P 14 12 20.3 +0.5
baz=273,SNR=6.0
I21K **Tanana** 52.55 30 P P 14 12 19.9 +0.4
baz=270
KDAK **Kodiak Island** 52.59 40 P P 14 12 20.3 +0.2
KDAK **Kodiak Island** 52.59 40 P P 14 12 19.8 -0.2
baz=275
KDAK **Kodiak Island** 52.59 40 *ce* P P 14 12 20.2 +0.2
KDAK pmax pmax
comp=Z,20nm,0.8s
Q20K **Shuyak Island** 52.62 39 P P 14 12 19.7 -0.5
baz=275
E22K **Anaktuvuk Pass** 52.67 27 IAmb IAmb 14 12 22.4
comp=Z,8.4nm,0.5s
E22K **Anaktuvuk Pass** 52.67 27 P P 14 12 20.6 +0.1
baz=268,SNR=15
G22K **Bettles** 52.75 28 P P 14 12 22.2 +1.2
baz=269
H22K **Ishtalitna Cre** 52.80 29 P P 14 12 21.5 +0.1
baz=270,SNR=18
SKT **Skwentna** 52.83 34 P P 14 12 21.3 -0.4
baz=273
HOM **Homer** 52.92 37 P P 14 12 21.6 -0.8
baz=275
BPAW **Bear Paw Mtn.** 52.99 32 P P 14 12 23.1 +0.3
baz=272,SNR=8.5
MLY **Manley** 53.07 31 IAmb IAmb 14 12 25.9
comp=Z,7.0nm,0.8s
MLY **Manley** 53.07 31 P P 14 12 23.5 0.0
baz=271,SNR=14
CAPN **Captain Cook N** 53.09 36 P P 14 12 23.7 +0.2
baz=274
D23K **Nanushuk River** 53.11 26 P P 14 12 24.1 +0.5
baz=268,SNR=6.8
C23K **Itkillik River** 53.16 25 P P 14 12 24.2 +0.2
baz=266,SNR=8.1
SUA **Susitna One** 53.23 35 IAmb IAmb 14 12 27.7
comp=Z,16nm,0.8s
SUA **Susitna One** 53.23 35 P P 14 12 25.5 +0.8
baz=274,SNR=12
COLD **Coldfoot** 53.27 28 P P 14 12 25.7 +0.9
baz=270
WRA **Warramunga Arr** 53.30 182 P P 14 12 25.4 -0.2
comp=Z,1.3nm,0.3s,baz=360,slow=7.6,SNR=45
comp=Z,1.3nm,0.3s
WRA **Warramunga Arr** 53.30 182 *i* P P 14 12 25.2 -0.4
WRA pmax pmax
comp=Z,2.0nm,0.3s
TRF **Thorofare Moun** 53.33 33 P P 14 12 25.9 +0.4
baz=273
G23K **Bananza Creek** 53.34 28 P P 14 12 26.1 +0.8
baz=271,SNR=11
BRSE **Bradley Lake S** 53.37 37 P P 14 12 26.1 +0.5
baz=275
CUT **Chulitna** 53.40 34 P P 14 12 27.0 +1.3
baz=274
E23K **Chandalar** 53.49 27 P P 14 12 27.3 +0.8
baz=270
TOLK **Toolik Lake Re** 53.51 26 IAmb IAmb 14 12 28.9
comp=Z,14nm,1.5s
TOLK **Toolik Lake Re** 53.51 26 P P 14 12 27.3 +0.8
baz=270,SNR=6.0
M22K **Willow** 53.51 35 P P 14 12 27.2 +0.7
baz=274,SNR=5.9
H23K **Yukon River** 53.55 30 IAmb IAmb 14 12 29.8
comp=Z,11nm,0.8s
H23K **Yukon River** 53.55 30 P P 14 12 27.8 +1.0
baz=272,SNR=11
I23K **Minto, Yukon-K** 53.65 30 P P 14 12 29.2 +1.7
baz=272,SNR=5.6
RC01 **Rabbit Creek A** 53.75 35 P P 14 12 29.0 +0.7
baz=275
D24K **Happy Valley** 53.78 25 IAmb IAmb 14 12 30.7
comp=Z,17nm,0.8s
D24K **Happy Valley** 53.78 25 P P 14 12 29.2 +0.9
baz=270,SNR=24
NEA2 **Nenana** 53.80 31 IAmb IAmb 14 12 30.9
comp=Z,17nm,0.8s
NEA2 **Nenana** 53.80 31 P P 14 12 29.5 +0.9
baz=273,SNR=25
C24K **Franklin Bluff** 53.83 25 P P 14 12 29.3 +0.7
baz=270
E24K **Your Creek** 53.91 27 P P 14 12 30.3 +0.9
baz=271,SNR=10
MCK **McKinley** 53.92 32 P P 14 12 30.6 +1.2
baz=274,SNR=5.7
RND **Reindeer** 53.98 33 IAmb IAmb 14 12 31.3
comp=Z,15nm,0.8s
SEW **Seward** 53.98 37 P P 14 12 29.7 -0.3
baz=276
F24K **Squaw Lake** 54.16 27 P P 14 12 31.6 +0.4
baz=272,SNR=12
WAT1 **Susitna Watana** 54.16 33 P P 14 12 31.2 0.0
baz=275
WRH **Wood River Hil** 54.23 31 IAmb IAmb 14 12 34.7
comp=Z,12nm,1.2s
H24K **Noodor Dome** 54.24 30 IAmb IAmb 14 12 34.4
comp=Z,6.4nm,0.7s
H24K **Noodor Dome** 54.24 30 P P 14 12 32.5 +0.7
baz=273,SNR=9.6
COLA **College** 54.31 31 P P 14 12 33.5 +1.4
COLA **College** 54.31 31 P P 14 12 33.6 +1.4
COLA IAmb IAmb 14 12 34.7
comp=Z,8.7nm,0.7s
COLA **College** 54.31 31 P P 14 12 33.0 +0.8
baz=274
COLA **College** 54.31 31 *de* P P 14 12 33.3 +1.1
COLA pmax pmax
comp=Z,4.0nm,0.9s
SML **Sawmill** 54.35 35 P P 14 12 33.3 +0.7
baz=276
G24K **Hadweenzic Riv** 54.35 28 P P 14 12 33.5 +1.0
baz=273,SNR=5.4
POKR **Poker Plat Res** 54.47 30 P P 14 12 34.2 +0.9
baz=274,SNR=6.2
WAT6 **Susitna Watana** 54.55 34 P P 14 12 34.7 +0.5
baz=276
D25K **Kavik River** 54.65 25 IAmb IAmb 14 12 36.7
comp=Z,7.1nm,0.7s
D25K **Kavik River** 54.65 25 P P 14 12 35.3 +0.7
baz=272,SNR=14
DHY **Denali Highway** 54.67 33 P P 14 12 35.4 +0.4
baz=276,SNR=5.4
ILAR **Eielson Array** 54.73 31 P P 14 12 35.1 -0.1
ILAR **Eielson Array** 54.73 31 P P 14 12 35.2 0.0
comp=Z,1.8nm,0.4s,baz=259,slow=6.0,SNR=43
comp=Z,1.8nm,0.4s
HDA **Harding Lake** 54.73 31 IAmb IAmb 14 12 36.2
comp=Z,10nm,0.9s
HDA **Harding Lake** 54.73 31 P P 14 12 35.5 +0.3
baz=275,SNR=14
SCM **Sheep Creek Mo** 54.82 34 P P 14 12 36.3 +0.3
baz=277,SNR=5.4
G25K **Bearman Lake** 54.89 28 P P 14 12 37.3 +1.1
baz=274
E25K **Arctic Village** 55.01 27 P P 14 12 38.1 +1.0
baz=274,SNR=6.5
F25K **Christian Rive** 55.01 27 P P 14 12 38.1 +0.8
baz=274,SNR=15
P23K **Montague Islan** 55.02 37 P P 14 12 38.0 +0.7
baz=278
H25L **Birch Creek** 55.05 29 P P 14 12 38.0 +0.6
baz=275
GLI **Glacier Island** 55.05 36 P P 14 12 38.3 +0.8
baz=278
C26K **Camden Bay** 55.14 24 P P 14 12 39.7 +1.8
baz=273,SNR=5.9
PRP **Porcupine Dome** 55.23 30 P P 14 12 39.4 +0.5
baz=276,SNR=6.8
K24K **Donnelly Dome** 55.31 32 P P 14 12 39.2 -0.1
baz=276
M24K **Tolsona, Glenn** 55.33 34 P P 14 12 39.8 +0.3
baz=277
J25K **Salcha River,** 55.39 31 P P 14 12 40.4 +0.4
baz=276
BMAR **Burnt Mountain** 55.43 27 P P 14 12 41.7 +1.6
KLU **Klutina** 55.53 35 P P 14 12 41.5 +0.5
baz=278,SNR=5.7
PAX **Paxson** 55.55 33 P P 14 12 41.6 +0.5
baz=277
C27K **Jago River** 55.57 25 P P 14 12 41.6 +0.6
baz=274
F26K **Sheenjek River** 55.58 27 P P 14 12 42.1 +1.0
baz=275,SNR=16
EYAK **Cordova Ski Ar** 55.75 36 P P 14 12 43.7 +1.3
EYAK **Cordova Ski Ar** 55.75 36 P P 14 12 42.8 +0.4
baz=279
HARP **HAARP** 55.77 34 P P 14 12 42.9 +0.3
baz=278
G26K **Porcupine Rive** 55.79 28 P P 14 12 43.7 +1.1
baz=276,SNR=5.2
SCRK **Sand Creek** 56.07 32 IAmb IAmb 14 12 46.3
comp=Z,11nm,1.0s
SCRK **Sand Creek** 56.07 32 P P 14 12 45.4 +0.6
baz=276,SNR=14
N25K **Chitina, Valde** 56.14 34 IAmb IAmb 14 13 18.3
comp=Z,14nm,0.9s
N25K **Chitina, Valde** 56.14 34 P P 14 12 46.2 +0.9
baz=279,SNR=6.0
J26L **Joseph Creek** 56.18 31 P P 14 12 45.9 +0.4
baz=278,SNR=8.8
BMRM **Bremner River** 56.24 35 P P 14 12 46.5 +0.6
baz=279,SNR=12
I26K **Coal Creek Min** 56.24 30 P P 14 12 45.8 0.0
baz=278
E27K **Coleen River** 56.48 26 P P 14 12 47.7 +0.3
baz=277,SNR=7.9
L26K **Log Cabin Wild** 56.50 33 IAmb IAmb 14 12 50.0
comp=Z,11nm,0.8s
L26K **Log Cabin Wild** 56.50 33 P P 14 12 48.1 +0.4
baz=279,SNR=12
GLB **Gilahina Butte** 56.54 35 IAmb IAmb 14 13 28.4
comp=Z,8.8nm,0.8s
D27M **Malcolm River** 56.58 25 P P 14 12 48.4 +0.3
baz=277
MBWA **Marble Bar** 56.64 198 P P 14 12 48.7 -0.4
G27K **Doyon Strip** 56.64 28 P P 14 12 50.0 +1.4
baz=278
ABKAR **Akbulak array** 56.70 310 P P 14 12 48.7 -0.6
VRDI **Verde Repeater** 56.75 35 IAmb IAmb 14 12 51.3
comp=Z,10nm,0.6s
M26K **Nabesna, AK** 56.76 33 IAmb IAmb 14 12 51.8
comp=Z,14nm,0.7s
M26K **Nabesna, AK** 56.76 33 P P 14 12 49.7 +0.2
baz=280,SNR=18
H27K **Steamboat Moun** 56.78 29 P P 14 12 49.6 0.0
baz=279,SNR=7.9
I27K **Kandik River** 56.84 29 P P 14 12 49.9 -0.1
baz=279,SNR=6.6
K27K **Chicken** 56.90 31 P P 14 12 50.5 +0.1
baz=280
MCARA **McCarthy VSAT** 56.92 35 P P 14 12 50.5 -0.1
baz=280,SNR=9.2
BGLC **Bering Glacier** 57.04 36 P P 14 12 51.6 +0.3
baz=281
EGAK **Eagle** 57.16 30 P P 14 12 52.7 +0.5
baz=280
L27K **Beaver Creek,** 57.17 32 IAmb IAmb 14 12 54.7
comp=Z,5.9nm,0.8s
L27K **Beaver Creek,** 57.17 32 P P 14 12 53.0 +0.6
baz=280,SNR=14
E28M **Babbage River** 57.18 26 P P 14 12 53.0 +0.8
baz=279,SNR=5.2
BCAR **Beaver Creek A** 57.19 32 P P 14 12 53.6 +1.2
F28M **Old Crow** 57.21 27 P P 14 12 53.3 +0.8
baz=279
M27K **Edge Creek, AK** 57.28 33 P P 14 12 53.7 +0.5
baz=281,SNR=16
D28M **Stokes Point** 57.35 25 P P 14 12 53.7 +0.4
baz=279
I28M **Miner Creek** 57.55 30 IAmb IAmb 14 12 57.5
comp=Z,12nm,1.1s
I28M **Miner Creek** 57.55 30 P P 14 12 55.6 +0.6
baz=280,SNR=8.6
CTG **Chitna Glacier** 57.81 35 P P 14 12 57.4 +0.6
baz=282
E29M **Blow River** 57.81 26 P P 14 12 57.3 +0.8
baz=280,SNR=5.6
G29M **Pine Creek** 58.04 28 IAmb IAmb 14 13 01.0
comp=Z,2nm,0.7s
G29M **Pine Creek** 58.04 28 P P 14 12 59.1 +0.9
baz=281,SNR=6.4
H29M **Whitestone** 58.04 28 P P 14 12 59.7 +1.5
baz=281
DAWY **Dawson** 58.05 31 P P 14 12 58.3 -0.1
baz=282
YUK3 **Moose Creek** 58.05 34 P P 14 12 58.5 -0.1
baz=282
I29M **Ogilvie Camp,** 58.24 29 P P 14 13 00.4 +0.8
baz=282
O28M **Mount Upton** 58.40 35 P P 14 13 01.5 +0.4
baz=283
J29N **Klondike Camp** 58.47 30 P P 14 13 01.7 +0.5
baz=283
YUK8 **Steele Glacier** 58.48 34 P P 14 13 02.1 +0.4
baz=283
EPYK **Eagle Plains** 58.66 28 IAmb IAmb 14 13 04.6
comp=Z,13nm,0.8s
EPYK **Eagle Plains** 58.66 28 P P 14 13 03.0 +0.6
baz=283,SNR=17
G30M **tAoh Zrail Nji** 58.72 27 IAmb IAmb 14 13 04.8
comp=Z,18nm,1.3s
G30M **tAoh Zrail Nji** 58.72 27 P P 14 13 03.0 +0.1
baz=283,SNR=12
F30M **Barrier River** 58.74 27 P P 14 13 04.3 +1.3
baz=283,SNR=6.2
WRKA **Warakurna** 58.80 188 P P 14 13 03.9 0.0
L29M **L29M** 58.81 32 IAmb IAmb 14 13 06.6
comp=Z,14nm,1.1s
L29M **L29M** 58.81 32 P P 14 13 04.5 +0.9
baz=283,SNR=10
M29M **Somme Creek** 58.82 33 IAmb IAmb 14 13 06.5
comp=Z,7.9nm,0.7s
M29M **Somme Creek** 58.82 33 P P 14 13 04.4 +0.7
baz=284,SNR=12
K29M **Barlow Dome** 58.90 31 IAmb IAmb 14 13 06.8
comp=Z,8.7nm,1.0s
K29M **Barlow Dome** 58.90 31 P P 14 13 04.7 +0.4
baz=284,SNR=8.6
YUK4 **Talbot Arm** 58.99 34 P P 14 13 05.5 +0.4
baz=284
PNL **Peninsula** 59.05 36 P P 14 13 05.8 +0.6
baz=284
I30M **Mount Dempster** 59.06 29 IAmb IAmb 14 13 07.7
comp=Z,5.3nm,0.8s
I30M **Mount Dempster** 59.06 29 P P 14 13 05.3 0.0
baz=284,SNR=12
YUK6 **Outpost Mounta** 59.23 35 P P 14 13 07.0 +0.3
baz=284,SNR=6.1
J30M **Hart River** 59.23 30 P P 14 13 07.7 +1.2
baz=284
INK **Inuvik** 59.41 26 IAmb IAmb 14 13 08.5
comp=Z,3.9nm,0.5s
INK **Inuvik** 59.41 26 P P 14 13 08.2 +0.8
baz=284,SNR=7.1
G31M **Satah River** 59.48 27 IAmb IAmb 14 13 08.9
comp=Z,5.0nm,0.5s
G31M **Satah River** 59.48 27 P P 14 13 07.9 0.0
baz=284,SNR=8.2
HYT **Haines Junctio** 59.66 35 IAmb IAmb 14 13 12.2
comp=Z,11nm,1.1s
HYT **Haines Junctio** 59.66 35 P P 14 13 09.3 -0.1
baz=285,SNR=6.5
N30M **Ashikik Lake** 59.69 34 P P 14 13 09.6 +0.1
baz=285
H31M **Peel River** 59.74 28 IAmb IAmb 14 13 11.7
comp=Z,12nm,0.8s
H31M **Peel River** 59.74 28 P P 14 13 10.2 +0.4
baz=285,SNR=13
P29M **Windy Craggy** 59.87 36 P P 14 13 10.3 -0.5
baz=286
P30M **Million Dollar** 60.11 35 P P 14 13 12.9 +0.5
baz=286,SNR=5.7
N31M **Braeburn, Yuko** 60.29 34 IAmb IAmb 14 13 16.6
comp=Z,13nm,0.9s
N31M **Braeburn, Yuko** 60.29 34 P P 14 13 13.6 +0.1
baz=286,SNR=6.2
O30N **Mendenhall** 60.34 34 P P 14 13 14.1 +0.2
baz=286
PLBC **Pleasant Camp** 60.59 36 P P 14 13 16.2 +0.7
baz=287,SNR=6.0
M31M **Drury Creek, Y** 60.71 33 IAmb IAmb 14 13 18.6
comp=Z,4.9nm,0.8s
M31M **Drury Creek, Y** 60.71 33 P P 14 13 16.8 +0.5
baz=287,SNR=7.3
WHY **Whitehorse** 60.95 34 P P 14 13 19.4 +1.4
WHY IAmb IAmb 14 13 20.5
comp=Z,8.6nm,0.7s
WHY **Whitehorse** 60.95 34 P P 14 13 18.2 +0.2
baz=287,SNR=6.0
A36M **Sachs Harbour** 61.04 21 P P 14 13 18.7 +0.5
baz=290,SNR=32
SKAG **Skagway** 61.09 36 IAmb IAmb 14 13 21.6
comp=Z,7.0nm,0.8s
SKAG **Skagway** 61.09 36 P P 14 13 19.3 +0.5
baz=288
FARO **Faro, Yukon** 61.17 32 IAmb IAmb 14 13 21.7
comp=Z,7.2nm,0.8s
FARO **Faro, Yukon** 61.17 32 P P 14 13 19.9 +0.6
baz=288,SNR=12
N32M **Quiet Lake** 61.63 33 P P 14 13 23.7 +1.2
baz=289
P32M **Atlin** 61.84 35 P P 14 13 24.6 +0.8
baz=289
R32K **Eaglecrest** 61.87 37 P P 14 13 24.3 +0.4
baz=289
P33M **Teslin, Yukon** 62.06 34 P P 14 13 26.6 +1.3
P33M IAmb IAmb 14 13 27.7
comp=Z,4.8nm,0.8s
P33M **Teslin, Yukon** 62.06 34 P P 14 13 24.4 -0.9
baz=288,SNR=6.4
S32K **Killisnoo** 62.10 38 P P 14 13 25.0 -0.5
baz=289
C36M **Paulatuk** 62.35 23 P P 14 13 27.4 +0.6
C36M **Paulatuk** 62.35 23 P P 14 13 27.0 +0.1
baz=292,SNR=36
SPITS **Spitsbergen Ar** 62.95 348 P P 14 13 31.1 +0.3
comp=Z,18nm,1.1s,baz=69,slow=7.9,SNR=5.9
comp=Z,18nm,1.1s
R33M **Jennings River** 63.22 35 P P 14 13 33.1 +0.2
baz=291
U33K **Whale Pass** 63.32 39 P P 14 13 33.9 +0.5
baz=291
CRAG **Craig** 63.55 39 P P 14 13 36.9 +1.9
WRAK **Wrangell Islan** 63.62 38 P P 14 13 35.7 +0.4
baz=292
TGTN **Hyland Airport** 63.67 32 P P 14 13 36.2 +0.5
baz=292,SNR=5.8
S34M **Telegraph Cree** 63.68 36 P P 14 13 36.1 +0.3
baz=292
WTLY **Watson Lake, Y** 63.97 34 P P 14 13 38.1 +0.4
baz=292
DLBC **Dease Lake** 64.03 36 P P 14 13 37.9 -0.2
baz=292
T35M **Bob Quinn** 64.47 37 P P 14 13 41.5 +0.6
baz=293
ARCES **ARCESS Array B** 65.55 339 P P 14 13 47.6 0.0
comp=Z,2.8nm,0.5s,baz=61,slow=8.8,SNR=36
comp=Z,2.8nm,0.5s
TOAD **Toad River Com** 66.15 34 P P 14 13 51.6 +0.1
baz=296
RES **Resolute Bay** 66.95 13 IAmb IAmb 14 13 57.5
comp=Z,8.7nm,0.8s
YKA **Yellowknife Ar** 68.95 28 P P 14 14 08.9 +0.3
comp=Z,1.7nm,0.8s,baz=302,slow=6.5,SNR=26
comp=Z,1.7nm,0.8s
YKA **Yellowknife Ar** 68.95 28 *ce* P P 14 14 09.0 +0.4
YKA pmax pmax
comp=Z,2.0nm,0.8s
FIA1 **FINESS Array S** 69.66 331 P P 14 14 12.4 -0.5
FINES **FINESS Array B** 69.66 331 P P 14 14 12.4 -0.6
FINES **FINESS Array B** 69.66 331 P P 14 14 12.6 -0.4
comp=Z,4.7nm,0.4s,baz=58,slow=6.1,SNR=85
comp=Z,4.7nm,0.4s
VSU **Vasula** 71.03 328 *ce* P P 14 14 21.6 +0.4
VSU pmax pmax
comp=Z,9.0nm,0.9s
SUMG **Summit** 74.00 358 P P 14 14 39.8 +1.0
SUMG IAmb IAmb 14 14 41.8
comp=Z,9.5nm,1.0s
SUMG **Summit** 74.00 358 P P 14 14 39.8 +1.0
SUMG pmax pmax
comp=Z,9.0nm,1.0s
SUMG **Summit** 74.00 358 *i* P P 14 14 39.0 +0.3
AKASG **Malin Array Be** 74.15 321 P P 14 14 38.9 -0.5
comp=Z,0.7nm,0.4s,baz=51,slow=5.8,SNR=5.2
comp=Z,0.7nm,0.4s
HFS **Hagfors** 75.24 334 P P 14 14 45.0 -0.5
comp=Z,4.8nm,0.4s,baz=64,slow=3.4,SNR=36
comp=Z,4.8nm,0.4s
NB2 **NORSAR Subarra** 75.49 336 P P 14 14 46.5 -0.5
comp=Z,2.6nm,0.5s,baz=44,slow=5.9
NB2 **NORSAR Subarra** 75.49 336 P P 14 14 46.3 -0.6
NOA **NORSAR Array B** 75.49 336 P P 14 14 46.4 -0.5
comp=Z,3.9nm,0.7s,baz=45,slow=5.6,SNR=16
comp=Z,3.9nm,0.7s
NEW **Newport** 75.66 41 P P 14 14 49.0 +0.9
baz=305
BRTR **Keskin Array B** 77.63 310 P P 14 14 59.9 +0.5
comp=Z,1.0nm,1.0s,baz=132,slow=6.1,SNR=3.9
comp=Z,1.0nm,1.0s
J08A **Circle Bar Ran** 77.67 46 P P 14 15 00.4 +1.0
J08A IAmb IAmb 14 15 01.2
comp=Z,3.4nm,0.6s
EGMT **Eagleton** 79.75 38 P P 14 15 11.3 +0.8
baz=310
HLID **Hailey** 79.95 44 P P 14 15 12.6 +0.8
HLID **Hailey** 79.95 44 P P 14 15 11.8 +0.1
baz=307
BOZ **Bozeman (W)** 80.27 41 P P 14 15 13.2 -0.2
baz=309
NVAR **Mina Array Bea** 80.61 50 P P 14 15 16.4 +1.0
comp=Z,0.9nm,0.5s,baz=299,slow=5.1,SNR=4.6
comp=Z,0.9nm,0.5s
VYHS **Vyhne** 80.85 323 *e* P P 14 15 16.4 +0.2
VYHS **Vyhne** 80.85 323 *e* P P 14 15 16.4 +0.2
PKM **Mcpherson Peak** 81.67 54 P P 14 15 20.0 -0.9
baz=305
RLMT **Red Lodge** 81.86 40 P P 14 15 21.1 -0.7
baz=310
CWC **Cottonwood Cre** 81.91 52 P P 14 15 21.9 -0.2
baz=306
SBC **Santa Barbara** 81.99 54 P P 14 15 22.4 +0.1
baz=305
R11B **Troy Canyon, C** 82.38 49 P P 14 15 25.5 +1.0
baz=307

MPMC	**Manual Prospec**	**82.52**	**52**	P		**P**	**14 15 25.7**	**+0.4**
	baz=306							
FURC	**Furnace Creek,**	**82.69**	**51**	P		**P**	**14 15 27.0**	**+1.2**
	baz=307							
LRMC	**Laurel Mtn Rad**	**82.74**	**52**	P		**P**	**14 15 27.3**	**+0.9**
	baz=306							
EDW2	**Edwards Air Fo**	**82.89**	**53**	P		**P**	**14 15 27.9**	**+0.9**
	baz=306							
DUG	**Dugway, Tooele**	**82.95**	**46**	P		**P**	**14 15 28.1**	**+0.8**
	baz=309							
KHC	**Kasperske Hory**	**82.96**	**326**	ļ	*e*P	**P**	**14 15 27.2**	**+0.2**
KHC					pmax	pmax		
	comp=Z,16nm,3.0s							
QSM	**Queen of Sheba**	**82.98**	**51**		IAmb	IAmb	14 15 29.0	
	comp=Z,4.2nm,0.9s							
GERES	**GERESS Array B**	**83.10**	**326**		P	**P**	**14 15 27.4**	**-0.4**
	comp=Z,0.7nm,0.5s,baz=27,slow=6.8,SNR=5.3							
	comp=Z,0.7nm,0.5s							
BW06	**Boulder Array**	**83.22**	**42**	P		**P**	**14 15 28.9**	**+0.2**
	baz=310							
PDAR	**Pinedale Array**	**83.22**	**42**	P		**P**	**14 15 28.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=308,slow=2.5,SNR=12							
	comp=Z,1.3nm,0.7s							
PSUT	**Pine Spring**	**83.34**	**48**		IAmb	IAmb	14 15 30.7	
	comp=Z,3.4nm,0.6s							
GSC	**Goldstone, Bar**	**83.42**	**52**		IAmb	IAmb	14 15 31.1	
	comp=Z,3.6nm,0.9s							
GSC	**Goldstone, Bar**	**83.42**	**52**	P		**P**	**14 15 30.2**	**+0.5**
	baz=307							
BFSC	**Mount Baldy Ra**	**83.49**	**53**	P		**P**	**14 15 30.6**	**+0.5**
	baz=306							
RRX	**Edison Barstow**	**83.55**	**52**	P		**P**	**14 15 30.4**	**+0.2**
	baz=307							
HEC	**Hector,Ludlow**	**84.01**	**52**	P		**P**	**14 15 33.4**	**+0.8**
	baz=307							
MURC	**Murrieta**	**84.17**	**53**	P		**P**	**14 15 34.3**	**+0.8**
	baz=307							
GMRC	**Granite Mounta**	**84.48**	**52**	P		**P**	**14 15 35.6**	**+0.6**
	baz=308							
P17A	**Butcher Ranch,**	**84.65**	**46**		IAmb	IAmb	14 15 37.8	
	comp=Z,4.4nm,0.7s							
PFO	**Pinyon Flats O**	**84.66**	**53**	P		**P**	**14 15 36.4**	**+0.5**
	baz=307							
TPFO	**Pinon Flats**	**84.67**	**53**	P		**P**	**14 15 36.5**	**+0.5**
	baz=307							
EKA	**Eskdalemuir Ar**	**84.70**	**338**	P		**P**	**14 15 34.7**	**-0.8**
	comp=Z,1.6nm,0.5s,baz=43,slow=4.5,SNR=20							
	comp=Z,1.6nm,0.5s							
BELC	**Belle Mtn. Jos**	**84.73**	**52**	P		**P**	**14 15 36.7**	**+0.3**
	baz=307							
P18A	**Preston Nutter**	**84.84**	**45**		IAmb	IAmb	14 15 39.1	
	comp=Z,4.2nm,0.6s							
KNB	**Kanab**	**84.93**	**48**		IAmb	IAmb	14 15 39.6	
	comp=Z,4.6nm,1.1s							
SRU	**San Rafael Swe**	**85.01**	**46**		IAmb	IAmb	14 15 39.2	
	comp=Z,3.9nm,0.7s							
MONP2	**Monument Peak**	**85.12**	**54**	P		**P**	**14 15 37.8**	**-0.5**
	baz=307							
HMU	**Henry Mountain**	**85.62**	**47**		IAmb	IAmb	14 15 46.0	
	comp=Z,2.7nm,0.8s							
O20A	**White River Ci**	**85.68**	**44**	P		**P**	**14 15 40.8**	**-0.1**
	baz=311							
N23A	**Red Feather La**	**86.48**	**42**	P		**P**	**14 15 44.4**	**-0.5**
	baz=313							
EYMN	**Ely**	**88.36**	**30**	P		**P**	**14 15 52.4**	**-0.7**
	baz=322							
OGNE	**Ogallala**	**88.59**	**40**	P		**P**	**14 15 53.2**	**-1.3**
	baz=315							
SDCO	**Great Sand Dun**	**88.87**	**44**	P		**P**	**14 15 54.8**	**-1.3**
	baz=313							
TUC	**Tucson**	**89.20**	**51**	P		**P**	**14 15 56.4**	**-1.1**
	baz=310							
ECSD	**EROS Data Cent**	**89.31**	**35**	P		**P**	**14 15 57.1**	**-0.7**
	baz=319							
T25A	**Trinidad**	**89.91**	**44**	P		**P**	**14 16 00.4**	**-0.6**
	baz=314							
AMTX	**Amarillo**	**93.07**	**44**	P		**P**	**14 16 15.3**	**0.0**
	baz=315							
TXAR	**Lajitas Array**	**95.74**	**49**	P		**P**	**14 16 28.4**	**+0.8**
	comp=Z,0.7nm,0.8s,baz=282,slow=3.3,SNR=7.8							
	comp=Z,0.7nm,0.8s							
TZTN	**Tazewell**	**101.05**	**31**	P		**Pdif**	**14 16 49.9**	**-1.2**
	baz=327							
BLA	**Blacksburg**	**101.80**	**29**	P		**Pdif**	**14 16 52.9**	**-1.6**
	baz=330							
CBN	**Corbin Frederi**	**102.11**	**26**	P		**Pdif**	**14 16 54.3**	**-1.4**
	baz=332							
LRAL	**Lakeview Retre**	**102.36**	**36**	P		**Pdif**	**14 16 55.3**	**-1.6**
	baz=325							
LPAZ	**La Paz**	**152.29**	**57**		PKPbc	**PKiKP**	**14 22 57.5**	**+1.3**
	comp=Z,0.6nm,0.4s,baz=11,slow=4.0,SNR=4.1							

*NEIC **13** 14:05:25.2±1.8,20.7°S±0.1°×178.1°W±0.1°,h524km±6km, mb4.7/196, Error ellipse: s-maj=17.1km s-min=14.6km az=116.0*
*NOU **13** 14:05:26.5,20.64°S×178.18°W,h542km,mb4.8/83, Fiji Islands Region*
*IDC **13** 14:05:28.5±1.6,20.66°S×178.40°W,h554km±17km, mb4.1/25, mbtmp4.9/26, Error ellipse: s-maj=10.5km s-min=8.8km az=110.0*

ISC 13 14:05:25.9±0.5,20.67S±0.05×178.18W±0.05, h537km±5km,h538km;pP-P,n782,σ0§83/737,mb4.7/154, 35C-56D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TAVE	**Taveuni**	**4.27**	**337**	P		**P**	**14 06 49.8**	**+0.7**
MSVF	**Nonsavu**	**4.61**	**309**	P		**P**	**14 06 51.8**	**-0.1**
YSA	**Yasawairara**	**5.64**	**314**	P		**P**	**14 07 00.7**	**0.0**
NIUE	**Niue**	**7.92**	**80**	P		P	14 07 28.6	+6.0
	baz=7.9,SNR=3.3							
RAO	**Raoul Island**	**8.55**	**178**	P		**P**	**14 07 27.9**	**-0.8**
	139nm,0.3s,baz=134,slow=20,SNR=2.0							
RAO				S		**S**	**14 09 11.4**	**+1.9**
	248nm,0.5s,baz=278,slow=22,SNR=2.0							
AFI	**Afiamalu**	**9.09**	**43**	P		**P**	**14 07 31.6**	**-2.9**
MARNC	**Mare, Loyalty**	**12.90**	**264**	P		**P**	**14 08 14.1**	**+0.3**
DVP	**Devils Point**	**13.21**	**281**	P		**P**	**14 08 18.0**	**+0.9**
PINNC	**Pines Island,**	**13.51**	**259**	P		**P**	**14 08 21.1**	**+1.0**
PINNC	**Pines Island,**	**13.51**	**259**	P		**P**	**14 08 20.7**	**+0.6**
LIFNC	**LIFOU**	**13.64**	**267**	P		**P**	**14 08 21.3**	**-0.3**
OUENC	**Ouen Island, N**	**14.05**	**260**	P		**P**	**14 08 26.9**	**+1.1**
OUENC	**Ouen Island, N**	**14.05**	**260**				**14 08 25.9**	**+0.2**
DZM	**Mont Dzumac**	**14.39**	**262**	P		**P**	**14 08 29.3**	**-0.2**
DZM	**Mont Dzumac**	**14.39**	**262**	*e*P		**P**	**14 08 29.1**	**-0.4**
	59nm,0.9s							
DZM				*e*S		**S**	**14 10 58.1**	**-2.7**
	90nm,1.2s							
DZM	**Mont Dzumac**	**14.39**	**262**			**P**	**14 08 29.1**	**-0.4**
DZM	**Mont Dzumac**	**14.39**	**262**	P		**P**	**14 08 28.9**	**-0.6**
	23nm,0.6s,baz=154,slow=4.5,SNR=27							
DZM				S		**S**	**14 11 00.0**	**-0.8**
	18nm,1.1s,baz=310,slow=20,SNR=3.1							
ONTNC	**Ouen Toro**	**14.40**	**261**	P		**P**	**14 08 30.1**	**+0.7**
ONTNC	**Ouen Toro**	**14.40**	**261**	P		**P**	**14 08 28.9**	**-0.5**
NOUC	**Port Laguerre**	**14.53**	**262**	P		**P**	**14 08 30.8**	**+0.1**
OUZ	**Omahuta**	**16.20**	**205**	P		**P**	**14 08 49.1**	**+1.5**
KOUNC	**Koumac, New Ca**	**16.42**	**267**	P		**P**	**14 08 51.0**	**+1.1**
KOUNC	**Koumac, New Ca**	**16.42**	**267**	P		**P**	**14 08 49.8**	**-0.1**
KUZ	**Kuaotunu**	**16.88**	**197**	P		**P**	**14 08 55.1**	**+1.1**
RAR	**Rarotonga**	**17.20**	**95**	P		**P**	**14 08 58.1**	**+0.9**
	28nm,0.7s,baz=270,slow=10,SNR=2.8							
TOZ	**Tahuroa Road**	**17.86**	**197**			**P**	**14 09 03.7**	**+0.7**
URZ	**Urewera**	**18.00**	**192**	P		**P**	**14 09 04.2**	**0.0**
URZ	**Urewera**	**18.00**	**192**	P		**P**	**14 09 01.3**	**-2.9**
	30nm,0.5s,baz=330,slow=5.0,SNR=1.1							
URZ				S		**S**	**14 11 55.1**	**-6.8**
	8.4nm,0.5s,baz=145,slow=22,SNR=5.7							
HIZ	**Hauiti**	**18.77**	**197**	P		**P**	**14 09 12.1**	**+0.8**
HIZ	**Hauiti**	**18.77**	**197**			**P**	**14 09 12.4**	**+1.2**
BKZ	**Black Stump Fm**	**18.99**	**193**	P		**P**	**14 09 12.4**	**-1.0**
BKZ	**Black Stump Fm**	**18.99**	**193**			**P**	**14 09 11.1**	**-2.3**
BKZ					IAmb	IAmb	14 09 18.9	
	comp=Z,22nm,1.1s							
BFZ	**Birch Farm**	**20.50**	**192**	P		**P**	**14 09 26.9**	**-0.1**
SNZO	**South Karori**	**21.44**	**195**	P		**P**	**14 09 35.3**	**-0.1**
QRZ	**Quartz Range**	**21.59**	**199**	P		**P**	**14 09 36.9**	**+0.1**
TKNZ	**Takaka Hill**	**21.65**	**198**	P		**P**	**14 09 35.7**	**-1.6**
NNZ	**Nelson**	**21.70**	**197**			**P**	**14 09 37.0**	**-0.8**
TUWZ	**Tuamarina**	**21.75**	**196**			**P**	**14 09 37.4**	**-0.8**
MRNZ	**Matariki Terra**	**22.05**	**198**			**P**	**14 09 39.8**	**-1.1**
THZ	**Tophouse**	**22.34**	**198**	P		**P**	**14 09 43.4**	**-0.2**
KHZ	**Kahutara**	**22.77**	**196**	P		**P**	**14 09 48.0**	**+0.6**
LTZ	**Lake Taylor**	**23.46**	**198**			**P**	**14 09 51.5**	**-2.0**
LTZ					IAmb	IAmb	14 09 55.9	
	comp=Z,25nm,1.0s							
HNR	**Honiara**	**23.86**	**295**	P		**P**	**14 09 57.1**	**-0.4**
OXZ	**Oxford**	**24.03**	**198**	P		**P**	**14 09 56.9**	**-1.6**
OXZ					IAmb	IAmb	14 10 08.9	
	comp=Z,26nm,0.7s							
RPZ	**Rata Peaks**	**24.67**	**199**	P		**P**	**14 10 04.8**	**+0.5**
RPZ	**Rata Peaks**	**24.67**	**199**	P		**P**	**14 10 05.0**	**+0.7**
	comp=Z,11nm,0.5s,baz=19,slow=3.5,SNR=12							
	comp=Z,11nm,0.5s							
JCZ	**Jackson Bay**	**25.74**	**202**	P		**P**	**14 10 13.9**	**+0.1**
ODZ	**Otahua Downs**	**26.00**	**198**	P		**P**	**14 10 17.1**	**+1.1**
TBI	**Tubuai**	**26.74**	**101**	*es*	S	sS	14 17 04.0	-0.8
	comp=Z,1μm,39.2s							
PPT2	**Papeete2**	**27.18**	**88**	*es*	S	sS	14 17 03.2	-9.2
	comp=Z,382nm,27.0s							
PPT2				*es*	S	sS	14 17 10.9	-1.5
	comp=Z,170nm,44.8s							
PPTF	**Pamatai, Papee**	**27.19**	**88**	P		**P**	**14 10 27.9**	**+1.0**
WHZ	**Wether Hill Ro**	**27.61**	**201**	P		**P**	**14 10 29.6**	**-0.6**
EIDS	**Eidsvold**	**28.64**	**255**	P		**P**	**14 10 39.3**	**-0.1**
	baz=29,SNR=27							
EIDS	**Eidsvold**	**28.64**	**255**	P		**P**	**14 10 39.4**	**-0.1**
EIDS	**Eidsvold**	**28.64**	**255**	P		**P**	**14 10 39.1**	**-0.3**
ARMA	**Armidale**	**28.84**	**244**	P		**P**	**14 10 42.2**	**+0.9**
	baz=29,SNR=24							
ARMA	**Armidale**	**28.84**	**244**	P		**P**	**14 10 42.4**	**+1.2**
RK1H	**Rockhampton Ha**	**29.14**	**259**	P		**P**	**14 10 43.7**	**0.0**
MGCD	**Mangrove Creek**	**29.98**	**239**	P		**P**	**14 10 51.9**	**+1.1**
	baz=30,SNR=5.2							
MGCD	**Mangrove Creek**	**29.98**	**239**	P		**P**	**14 10 52.1**	**+1.2**
SYDH	**Sydney Hard Ro**	**30.43**	**238**	P		**P**	**14 10 54.8**	**0.0**
CNB	**Canberra Magne**	**31.99**	**236**	P		**P**	**14 11 09.1**	**+0.9**
	baz=32,SNR=33							
CNB	**Canberra Magne**	**31.99**	**236**	P		**P**	**14 11 09.1**	**+0.9**
CAN	**Canberra**	**32.28**	**236**	P		**P**	**14 11 10.3**	**-0.3**
TV1H	**Townsville Har**	**32.91**	**266**	P		**P**	**14 11 16.0**	**-0.2**
RABL	**Rabaul**	**33.17**	**296**	P		**P**	**14 11 18.9**	**+0.5**
RABL	**Rabaul**	**33.17**	**296**	P		**P**	**14 11 18.2**	**-0.3**
CTAO	**Charters Tower**	**33.31**	**265**	P		**P**	**14 11 20.0**	**+0.5**
CTAO	**Charters Tower**	**33.31**	**265**	P		**P**	**14 11 19.4**	**-0.1**
CMSA	**Cobar Meteorol**	**34.06**	**244**	P		**P**	**14 11 25.9**	**+0.2**
	baz=34,SNR=60							
CMSA	**Cobar Meteorol**	**34.06**	**244**	P		**P**	**14 11 25.6**	**-0.1**
QLP	**Quilpie**	**34.85**	**253**	P		**P**	**14 11 32.3**	**0.0**
	baz=35,SNR=27							
QLP	**Quilpie**	**34.85**	**253**	P		**P**	**14 11 32.4**	**+0.1**
MTSU	**Mount Surprise**	**35.41**	**268**	P		**P**	**14 11 37.3**	**+0.2**
	baz=35,SNR=85							
MTSU	**Mount Surprise**	**35.41**	**268**	P		**P**	**14 11 37.4**	**+0.2**
TOO	**Toolangi**	**35.66**	**234**	P		**P**	**14 11 39.4**	**+0.4**
	baz=36,SNR=22							
TOO	**Toolangi**	**35.66**	**234**	P		**P**	**14 11 39.5**	**+0.5**
TOO	**Toolangi**	**35.66**	**234**	P		**P**	**14 11 38.9**	**-0.1**
TAU	**Tasmania Unive**	**36.39**	**225**	P		**P**	**14 11 46.0**	**+1.2**
BRAT	**Ballarat**	**36.84**	**235**	P		**P**	**14 11 49.4**	**+0.8**
COEN	**Coen**	**37.43**	**274**	P		**P**	**14 11 54.1**	**+0.3**
	baz=37,SNR=24							
COEN	**Coen**	**37.43**	**274**	P		**P**	**14 11 53.8**	**0.0**
COEN	**Coen**	**37.43**	**274**	P		**P**	**14 11 54.0**	**+0.2**
STKA	**Stephens Creek**	**37.56**	**244**	P		**P**	**14 11 55.2**	**+0.5**
	baz=38,SNR=39							
STKA	**Stephens Creek**	**37.56**	**244**	P		**P**	**14 11 55.2**	**+0.5**
STKA	**Stephens Creek**	**37.56**	**244**	P		**P**	**14 11 55.0**	**+0.3**
STKA	**Stephens Creek**	**37.56**	**244**	P		**P**	**14 11 55.1**	**+0.5**
	comp=Z,19nm,0.5s,baz=93,slow=10,SNR=62							
STKA					PcP	**PcP**	**14 13 59.3**	**+0.8**
	comp=Z,2.1nm,0.5s,baz=88,slow=4.8,SNR=4.2							
	comp=Z,19nm,0.5s							
ARPS	**Mount Arapiles**	**38.25**	**236**	P		**P**	**14 12 00.4**	**+0.2**
	baz=38,SNR=5.7							
ARPS	**Mount Arapiles**	**38.25**	**236**	P		**P**	**14 12 00.1**	**-0.1**
MANU	**Manus Island**	**38.37**	**294**	P		**P**	**14 12 01.3**	**-0.2**
QIS	**Mount Isa**	**39.43**	**262**	P		**P**	**14 12 09.3**	**-0.7**
	baz=39,SNR=12							
QIS	**Mount Isa**	**39.43**	**262**	P		**P**	**14 12 09.5**	**-0.5**
HTT	**Hallett**	**40.00**	**242**	P		**P**	**14 12 14.5**	**+0.1**
	baz=40,SNR=29							
HTT	**Hallett**	**40.00**	**242**	P		**P**	**14 12 14.9**	**+0.5**
LCRK	**Leigh Creek**	**40.31**	**247**	P		**P**	**14 12 17.5**	**+0.6**
BBOO	**Buckleboo**	**42.32**	**244**	P		**P**	**14 12 32.5**	**-0.2**
	baz=42,SNR=94							
BBOO	**Buckleboo**	**42.32**	**244**	P		**P**	**14 12 32.6**	**-0.2**
BBOO	**Buckleboo**	**42.32**	**244**	P		**P**	**14 12 32.3**	**-0.5**
OOD	**Oodnadatta**	**42.47**	**251**	P		**P**	**14 12 34.6**	**+0.6**
MULG	**Mulgathing**	**43.90**	**247**	P		**P**	**14 12 45.1**	**-0.1**
JAY	**Jayapura**	**43.94**	**289**	P		**P**	**14 12 45.6**	**-0.1**
	comp=Z,105nm,0.7s,comp=Z,1μm							
AS31	**Alice Springs**	**44.32**	**257**		IAmb	IAmb	14 12 49.1	
	comp=Z,24nm,0.7s							
ASAR	**Alice Springs**	**44.32**	**257**	P		**P**	**14 12 48.4**	**-0.2**
	comp=Z,90nm,0.7s,baz=94,slow=7.9,SNR=1249							
ASAR					PcP	**PcP**	**14 14 21.4**	**+0.3**
	comp=Z,13nm,0.7s,baz=106,slow=3.8,SNR=12							
ASAR					ScP	**ScP**	**14 17 22.9**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=102,slow=4.7,SNR=5.3							
ASAR					S	**S**	**14 18 41.2**	**-2.5**
	comp=Z,8.3nm,0.8s,baz=91,slow=15,SNR=26							
	comp=Z,90nm,0.7s							
GENI	**Genyem**	**44.38**	**288**	P		**P**	**14 12 49.6**	**+0.5**
	comp=Z,105nm,1.6s,comp=Z,3μm							
WRAB	**Tennant Creek**	**44.40**	**262**	P		**P**	**14 12 48.3**	**-0.9**
WRA	**Warramunga Arr**	**44.41**	**262**	P		**P**	**14 12 48.3**	**-1.0**
WRA	**Warramunga Arr**	**44.41**	**262**	P		**P**	**14 12 48.6**	**-0.7**
	comp=Z,34nm,0.5s,baz=97,slow=7.8,SNR=324							
WRA					PcP	**PcP**	**14 14 21.4**	**0.0**
	comp=Z,7.2nm,0.8s,baz=97,slow=3.9,SNR=6.4							
WRA					S	**S**	**14 18 41.3**	**-3.9**
	comp=Z,5.8nm,1.0s,baz=96,slow=13,SNR=8.4							
	comp=Z,34nm,0.5s							
SMPI	**Sarmi**	**45.95**	**288**	P		**P**	**14 13 00.6**	**-0.5**
	comp=Z,76nm,1.4s							
KDU	**Kakadu**	**47.79**	**271**	P		**P**	**14 13 14.6**	**-0.3**
	baz=48,SNR=20							
KDU	**Kakadu**	**47.79**	**271**	P		**P**	**14 13 14.8**	**-0.1**
MTN	**Manton Dam**	**49.00**	**271**	P		**P**	**14 13 23.1**	**-0.8**
	baz=49,SNR=19							
MTN	**Manton Dam**	**49.00**	**271**	P		**P**	**14 13 23.7**	**-0.3**
MTN	**Manton Dam**	**49.00**	**271**	P		**P**	**14 13 23.2**	**-0.8**
FORT	**Forrest**	**49.07**	**247**	P		**P**	**14 13 23.6**	**-0.7**
	baz=49,SNR=41							
FORT	**Forrest**	**49.07**	**247**	P		**P**	**14 13 24.8**	**+0.5**
FORT	**Forrest**	**49.07**	**247**	P		**P**	**14 13 23.6**	**-0.7**
WRKA	**Warakurna**	**49.26**	**254**	P		**P**	**14 13 25.6**	**-0.3**
	baz=49,SNR=46							
WRKA	**Warakurna**	**49.26**	**254**	P		**P**	**14 13 25.9**	**+0.1**
DRS	**Darwin Rock St**	**49.33**	**271**	P		**P**	**14 13 26.0**	**-0.4**
GUMO	**Guam**	**49.78**	**310**	P		**P**	**14 13 29.4**	**-0.3**
GUMO	**Guam**	**49.78**	**310**	P		**P**	**14 13 29.7**	**0.0**
	comp=Z,49nm,0.7s,baz=158,slow=8.8,SNR=7.6							
	comp=Z,49nm,0.7s							
FAKI	**Fak Fak**	**51.38**	**283**	P		**P**	**14 13 41.7**	**+0.3**
FAKI	**Fak Fak**	**51.38**	**283**	P		**P**	**14 13 40.8**	**-0.6**
FITZ	**Fitzroy Crossi**	**52.84**	**263**	P		**P**	**14 13 51.9**	**0.0**
	baz=53,SNR=14							
SWI	**Sorong**	**53.13**	**285**	P		**P**	**14 13 53.9**	**0.0**
	comp=Z,284nm,1.0s,comp=Z,2μm							
KMBL	**Kambalda**	**54.34**	**246**	P		**P**	**14 14 01.6**	**-0.7**
	baz=54,SNR=4.6							
SOEI	**Soe**	**56.34**	**272**	P		**P**	**14 14 17.1**	**+0.5**
SOEI	**Soe**	**56.34**	**272**	P		**P**	**14 14 17.2**	**+0.6**
	comp=Z,196nm,0.9s,comp=Z,2μm							
LBMI	**Labuha**	**56.63**	**283**	P		**P**	**14 14 18.9**	**+0.4**
	comp=Z,115nm,0.9s,comp=Z,2μm							
BATI	**Baumata**	**56.76**	**271**	P		**P**	**14 14 19.6**	**+0.2**
	comp=Z,96nm,0.8s							
TNTI	**Ternate**	**57.34**	**285**	P		**P**	**14 14 22.4**	**-0.9**
TNTI	**Ternate**	**57.34**	**285**	P		**P**	**14 14 23.2**	**-0.1**
	comp=Z,88nm,1.0s,comp=Z,858nm							
SANI	**Sanana**	**57.45**	**281**	P		**P**	**14 14 23.9**	**-0.2**
SANI	**Sanana**	**57.45**	**281**	P		**P**	**14 14 23.2**	**-0.9**
	comp=Z,84nm,1.2s,comp=Z,736nm							
PSA00	**Pilbara Seismi**	**57.47**	**257**	P		**P**	**14 14 23.9**	**-0.2**
PSA00	**Pilbara Seismi**	**57.47**	**257**	P		**P**	**14 14 22.8**	**-1.3**
PSA00					IAmb	IAmb	14 14 24.6	
	comp=Z,35nm,1.0s							
PSA00	**Pilbara Seismi**	**57.47**	**257**		IAmb	IAmb	14 14 24.6	
	comp=Z,76nm,0.9s							
MBWA	**Marble Bar**	**57.65**	**258**	P		**P**	**14 14 24.7**	**-0.7**
MBWA	**Marble Bar**	**57.65**	**258**	P		**P**	**14 14 24.5**	**-0.9**
MBWA					IAmb	IAmb	14 14 25.8	
	comp=Z,53nm,0.8s							
SBA	**Scott Base**	**57.69**	**184**	P		**P**	**14 14 25.8**	**+1.2**
SBA					IAmb	IAmb	14 14 29.0	
	comp=Z,28nm,1.2s							
MEEK	**Meekatharra**	**57.70**	**251**	P		**P**	**14 14 24.8**	**-0.8**
	baz=58,SNR=6.4							
MEEK	**Meekatharra**	**57.70**	**251**	P		**P**	**14 14 25.0**	**-0.7**
VNDA	**Vanda**	**57.72**	**185**	P		**P**	**14 14 25.5**	**+0.6**
VNDA	**Vanda**	**57.72**	**185**	P		**P**	**14 14 26.6**	**+1.7**
	comp=Z,3.5nm,0.5s,baz=0.5,slow=8.1,SNR=38							
	comp=Z,3.5nm,0.5s							
KLBR	**Kellerberrin**	**57.83**	**245**	P		**P**	**14 14 26.1**	**-0.3**
	baz=58,SNR=14							
KLBR	**Kellerberrin**	**57.83**	**245**	P		**P**	**14 14 26.7**	**+0.3**
NWAO	**Narrogin (SRO)**	**58.14**	**243**	P		**P**	**14 14 28.6**	**0.0**
	baz=58,SNR=6.0							
NWAO					P	**P**	**14 14 28.6**	**0.0**
	baz=58,SNR=6.0							
NWAO	**Narrogin (SRO)**	**58.14**	**243**	P		**P**	**14 14 28.6**	**0.0**
NWAO	**Narrogin (SRO)**	**58.14**	**243**	P		**P**	**14 14 28.5**	**0.0**
NWAO					IAmb	IAmb	14 14 29.5	
	comp=Z,51nm,1.1s							
MMRI	**Maumere**	**58.59**	**272**	P		**P**	**14 14 30.9**	**-0.9**
	comp=Z,103nm,1.0s,comp=Z,2μm							
BLDU	**Ballidu**	**58.83**	**246**	P		**P**	**14 14 32.8**	**-0.4**
	baz=59,SNR=13							
BLDU	**Ballidu**	**58.83**	**246**	P		**P**	**14 14 32.8**	**-0.4**
EDFI	**Ende, Flores**	**59.07**	**272**	P		**P**	**14 14 34.1**	**-1.0**
	comp=Z,73nm,0.9s							
MUN	**Mundaring**	**59.10**	**244**	P		**P**	**14 14 35.1**	**+0.2**
	baz=59,SNR=6.4							
MUN	**Mundaring**	**59.10**	**244**	P		**P**	**14 14 35.1**	**+0.2**
MTKN	**Mount Kenneth**	**59.47**	**244**	P		**P**	**14 14 37.9**	**+0.5**
MORW	**Morawa**	**59.61**	**248**	P		**P**	**14 14 38.0**	**-0.4**
	baz=60,SNR=5.1							
MORW	**Morawa**	**59.61**	**248**	P		**P**	**14 14 38.7**	**+0.3**
MORW	**Morawa**	**59.61**	**248**		IAmb	IAmb	14 14 38.5	
	comp=Z,36nm,1.1s							
KMSI	**Cibinong**	**60.34**	**283**	P		**P**	**14 14 43.4**	**0.0**
	comp=Z,97nm,0.8s							
LUWI	**Luwuk**	**60.80**	**281**	P		**P**	**14 14 46.9**	**+0.4**
LUWI	**Luwuk**	**60.80**	**281**	P		**P**	**14 14 46.1**	**-0.4**
LUWI	**Luwuk**	**60.80**	**281**	P		**P**	**14 14 46.8**	**+0.3**
	comp=Z,131nm,1.0s,comp=Z,1μm							
GTOI	**Gorontalo**	**61.25**	**283**	P		**P**	**14 14 50.0**	**+0.6**
	comp=Z,36nm,0.8s,comp=Z,425nm							
GIRL	**Giralia**	**62.34**	**255**	P		**P**	**14 14 57.6**	**+1.1**
	baz=62,SNR=3.6							
GIRL	**Giralia**	**62.34**	**255**	P		**P**	**14 14 56.4**	**-0.1**
PLAI	**Plampang**	**62.71**	**271**	P		**P**	**14 14 59.3**	**+0.4**
PLAI	**Plampang**	**62.71**	**271**	P		**P**	**14 14 58.4**	**-0.5**
	comp=Z,131nm,0.9s							
TTSI	**Tana Toraja**	**62.77**	**277**	P		**P**	**14 14 59.2**	**-0.2**
	comp=Z,16nm,1.4s							
TOLI2	**Tolitoli**	**63.48**	**282**	P		**P**	**14 15 03.6**	**-0.3**
TOLI2	**Tolitoli**	**63.48**	**282**	P		**P**	**14 15 03.1**	**-0.7**
CASY	**Casey**	**63.74**	**205**	P		**P**	**14 15 04.9**	**+0.3**
CASY					IAmb	IAmb	14 15 06.3	
	comp=Z,39nm,1.3s							
QSPA	**South Pole Qui**	**69.40**	**180**	P		**P**	**14 15 41.4**	**+1.6**
	comp=Z,18nm,0.6s,baz=304,slow=0.4,SNR=135							
	comp=Z,18nm,0.6s							
JOW	**Kunig

baz=238
Q16K **King Salmon** 81.04 11 P P 14 16 44.4 +0.1
baz=200
GRAC **Grapevine Rang** 81.06 45 P P 14 16 45.4 +0.2
baz=236
P16K **Nushagak River** 81.14 10 P P 14 16 45.0 +0.1
baz=199
NVAR **Mina Array Bea** 81.26 43 P P 14 16 47.4 +1.0
NVAR **Mina Array Bea** 81.26 43 P P 14 16 48.4 +2.0
comp=Z,2.3nm,0.8s,baz=222,slow=9.0,SNR=14
comp=Z,2.3nm,0.8s
MAW **Mawson** 81.35 200 P P 14 16 46.9 +0.9
comp=Z,6.3nm,0.8s,baz=151,slow=5.3,SNR=12
comp=Z,6.3nm,0.8s
M11K **Mekoryuk** 81.35 6 P P 14 16 46.1 +0.2
baz=191
N14K **Kuskokwak Cree** 81.43 8 P P 14 16 46.4 0.0
baz=196
P17K **Kvichak River** 81.56 11 P P 14 16 47.6 +0.5
baz=200,SNR=8.3
O16K **Kokwok River B** 81.65 10 P P 14 16 47.5 -0.1
baz=199,SNR=5.3
TPH **Tonopah** 81.76 44 IAmb IAmb 14 16 51.9
comp=Z,22nm,0.9s
PDMCI **Parker Dam,Lak** 81.81 49 P P 14 16 48.4 -0.5
baz=238
Q19K **Cape Douglas,** 81.85 13 P P 14 16 49.4 +0.7
baz=203
N15K **Kwethluk River** 81.89 9 P P 14 16 49.9 +1.1
N15K IAmb IAmb 14 16 51.2
comp=Z,60nm,1.5s
N15K **Kwethluk River** 81.89 9 P P 14 16 49.5 +0.7
baz=197
P18K **Big Mountain,** 81.97 12 IAmb IAmb 14 16 50.4
comp=Z,19nm,1.1s
P18K **Big Mountain,** 81.97 12 P P 14 16 49.5 +0.3
baz=202
O17K **Koliganek Bris** 81.99 11 P P 14 16 49.3 0.0
baz=200
M14K **Bethel** 82.19 8 P P 14 16 51.0 +0.8
baz=195
M15K **Kasigluk River** 82.31 9 P P 14 16 51.6 +0.7
baz=196,SNR=8.0
CN2 **Changchun** 82.33 323 ⇓P P 14 16 52.1 +0.7
CN2 epP pwP 14 18 49.0 -0.5
CN2 eS S 14 26 24.3 +1.5
CN2 pmax pmax
comp=Z,20nm,0.7s
CN2 pmax pmax
comp=Z,100nm,3.0s
N16K **Nishlik Lake** 82.38 10 P P 14 16 51.9 +0.7
baz=198,SNR=12
O18K **Koktuh Hills** 82.40 11 IAmb IAmb 14 16 52.8
comp=Z,35nm,1.1s
O18K **Koktuh Hills** 82.40 11 P P 14 16 52.0 +0.6
baz=202,SNR=9.1
WHN **Wuhan** 82.41 306 P P 14 16 53.4 +1.3
BNX **BinXian** 82.47 325 ⇑P P 14 16 52.8 +0.8
BNX pmax pmax
comp=Z,15nm,1.0s
BNX pmax pmax
comp=Z,82nm,6.6s
KLR **Kul'dur** 82.59 330 P P 14 16 53.4 +0.8
comp=Z,4.4nm,0.9s,baz=65,slow=3.6,SNR=12
comp=Z,4.4nm,0.9s
P19K **Oil Pt** 82.60 12 P P 14 16 52.5 +0.1
baz=203
L14K **Kuka Creek** 82.67 7 P P 14 16 53.5 +0.9
baz=194
N17K **Nushagak Hills** 82.69 10 P P 14 16 53.9 +1.1
baz=200
M16K **Timber Creek** 82.87 9 P P 14 16 54.5 +0.8
baz=198,SNR=12
O19K **Port Alsworth** 82.89 12 P P 14 16 54.1 +0.3
baz=202,SNR=14
HOM **Homer** 82.94 13 P P 14 16 54.8 +0.7
baz=205
R11B **Troy Canyon, C** 82.99 45 P P 14 16 54.6 -0.5
baz=237
UBPT **Khong Chiam** 83.03 289 IAmb IAmb 14 16 57.6
comp=Z,14nm,1.0s
N18K **Kilae Creek** 83.05 11 P P 14 16 54.8 +0.2
baz=201
O20K **Slope Mountain** 83.12 13 P P 14 16 54.6 -0.5
baz=204
L15K **Ungalak Mounta** 83.15 8 P P 14 16 55.4 +0.4
baz=196,SNR=5.3
BRSE **Bradley Lake S** 83.21 14 P P 14 16 55.6 +0.1
baz=206
N19K **Bonanza Creek** 83.43 11 P P 14 16 56.2 -0.4
N19K **Bonanza Creek** 83.43 11 P P 14 16 56.5 -0.1
baz=202,SNR=7.1
L16K **Owhat River** 83.45 9 IAmb IAmb 14 16 59.0
comp=Z,21nm,1.2s
L16K **Owhat River** 83.45 9 P P 14 16 57.3 +0.7
baz=198,SNR=6.4
M17K **Holitna River** 83.47 10 IAmb IAmb 14 16 59.4
comp=Z,38nm,1.3s
M17K **Holitna River** 83.47 10 P P 14 16 57.7 +1.0
baz=199,SNR=8.0
KULM **Kulim** 83.63 278 IAmb IAmb 14 17 00.1
comp=Z,15nm,0.9s
K15K **Wolf Creek Mou** 83.74 8 IAmb IAmb 14 17 00.6
comp=Z,19nm,0.9s
K15K **Wolf Creek Mou** 83.74 8 P P 14 16 58.5 +0.5
baz=196
SEW **Seward** 83.82 14 P P 14 16 59.1 +0.7
baz=207
M18K **Stony River** 83.82 11 P P 14 16 58.5 +0.1
baz=201
MA2 **Magadan** 83.91 345 P P 14 16 58.8 0.0
comp=Z,15nm,1.0s,baz=343,slow=22,SNR=5.3
comp=Z,15nm,1.0s
MA2 **Magadan** 83.91 345 P P 14 16 58.4 -0.5
comp=Z,22nm,1.3s
J14K **Nanvaranak Lak** 83.94 7 P P 14 16 59.0 +0.1
baz=194
L17K **Donlin** 84.03 9 P P 14 17 00.5 +1.0
baz=199
O22K **Cooper Landing** 84.10 14 P P 14 17 01.2 +1.4
baz=207
N20K **Mount Spurr** 84.23 12 P P 14 17 00.5 -0.1
baz=204,SNR=6.4
L18K **Granite Mounta** 84.36 10 IAmb IAmb 14 17 03.4
comp=Z,13nm,1.1s
L18K **Granite Mounta** 84.36 10 P P 14 17 02.0 +0.9
baz=200,SNR=6.4
M19K **Big River Lodg** 84.46 11 P P 14 17 02.3 +0.7
baz=202
K17K **Iditarod** 84.59 9 P P 14 17 02.7 +0.5
baz=199
DUN6 **Lazy B Ranch** 84.59 52 IAmb IAmb 14 17 06.4
comp=Z,22nm,1.1s
L19K **White Mountain** 84.64 11 IAmb IAmb 14 17 04.4
comp=Z,17nm,1.1s
L19K **White Mountain** 84.64 11 P P 14 17 02.9 +0.5
baz=202,SNR=9.7
RC01 **Rabbit Creek A** 84.64 13 IAmb IAmb 14 17 04.1
comp=Z,26nm,1.2s
RC01 **Rabbit Creek A** 84.64 13 P P 14 17 02.7 +0.2
baz=206
M20K **Styx River** 84.67 12 P P 14 17 02.6 -0.1
baz=203
SUA **Susitna One** 84.76 13 IAmb IAmb 14 17 04.3
comp=Z,12nm,1.0s
SUA **Susitna One** 84.76 13 P P 14 17 02.9 -0.3
baz=206,SNR=6.4
J16K **Anvik River** 84.81 8 P P 14 17 03.0 -0.2
baz=196
KAIM **Kayak Island** 84.90 16 P P 14 17 03.6 -0.2
baz=211
CRAG **Craig** 84.94 24 P P 14 17 03.0 -1.0
baz=222
GLI **Glacier Island** 85.06 15 P P 14 17 04.0 -0.5
baz=209
GSI **Gunungsitoli** 85.07 273 P P 14 17 06.4 +0.7
SKT **Skwentna** 85.07 12 P P 14 17 04.5 0.0
baz=205
L20K **Farewell, AK** 85.09 11 P P 14 17 04.9 +0.3
baz=203,SNR=6.4
EYAK **Cordova Ski Ar** 85.09 15 P P 14 17 05.1 +0.4
baz=210
J17K **VABM Dome** 85.12 9 P P 14 17 05.6 +0.9
baz=198
M22K **Willow** 85.16 13 IAmb IAmb 14 17 06.7
comp=Z,32nm,1.0s
M22K **Willow** 85.16 13 P P 14 17 05.3 +0.4
baz=206,SNR=6.3

HEH **HeiHe** 85.37 328 eP P 14 17 06.8 +0.6
HEH pmax pmax
comp=Z,14nm,1.1s
HEH pmax pmax
comp=Z,92nm,4.7s
V35K **Ketchikan** 85.42 25 P P 14 17 07.3 +1.0
baz=223
U33K **Whale Pass** 85.42 23 P P 14 17 07.2 +0.9
baz=222
J18K **Innoko River** 85.53 9 IAmb IAmb 14 17 08.6
comp=Z,13nm,1.2s
J18K **Innoko River** 85.53 9 P P 14 17 07.6 +0.8
baz=200,SNR=7.7
HNS **HongShan** 85.54 313 ⇓P P 14 17 08.5 +1.1
HNS SKS SKSac 14 26 44.3 +2.9
HNS eS S 14 26 54.5 +0.1
HNS pmax pmax
comp=Z,15nm,1.1s
SML **Sawmill** 85.59 14 P P 14 17 07.9 +0.8
baz=208
CUT **Chulitna** 85.71 13 P P 14 17 07.6 0.0
baz=206
M23K **Glacier View** 85.71 14 P P 14 17 08.3 +0.6
baz=208
LYN **LuoYang** 85.73 309 eP P 14 17 10.3 +1.9
LYN pmax pmax
comp=Z,65nm,0.5s
LYN pmax pmax
comp=Z,150nm,4.6s
BMRM **Bremner River** 85.74 16 P P 14 17 08.0 +0.2
baz=211
MESA **MESA** 85.78 17 P P 14 17 09.0 +0.7
baz=214
PPLA **Purkeypile** 85.78 12 P P 14 17 08.5 +0.4
baz=204
SCM **Sheep Creek Mo** 85.84 14 IAmb IAmb 14 17 10.1
comp=Z,32nm,1.3s
SCM **Sheep Creek Mo** 85.84 14 P P 14 17 07.9 -0.4
baz=209
K20K **Telida** 85.87 11 IAmb IAmb 14 17 10.0
comp=Z,20nm,1.2s
K20K **Telida** 85.87 11 P P 14 17 08.3 0.0
baz=202,SNR=8.6
KLU **Klutina** 85.87 15 P P 14 17 08.6 +0.1
baz=210
BJI **Beijing** 85.90 315 P P 14 17 09.8 +0.8
BJI pmax pmax
comp=Z,5.0nm,1.3s
BJI pmax pmax
comp=Z,64nm,6.8s
S32K **Killisnoo** 85.92 22 P P 14 17 09.0 +0.3
baz=220
H16K **Elim** 85.92 7 P P 14 17 09.3 +0.8
baz=195
WRAK **Wrangell Islan** 85.94 24 P P 14 17 08.9 +0.1
baz=222
J19K **Poorman** 86.20 10 IAmb IAmb 14 17 11.3
comp=Z,13nm,1.4s
J19K **Poorman** 86.20 10 P P 14 17 10.7 +0.8
baz=201
F10A **Beach Ranch, E** 86.24 38 IAmb IAmb 14 17 13.5
comp=Z,11nm,0.9s
VRDI **Verde Repeater** 86.26 16 IAmb IAmb 14 17 12.4
comp=Z,15nm,1.2s
CAST **Castle Rocks** 86.28 11 IAmb IAmb 14 17 10.5
comp=Z,15nm,1.2s
CAST **Castle Rocks** 86.28 11 P P 14 17 09.8 -0.5
baz=204,SNR=14
N25K **Chitina, Valde** 86.29 15 IAmb IAmb 14 17 12.4
comp=Z,8.2nm,0.7s
N25K **Chitina, Valde** 86.29 15 P P 14 17 10.5 0.0
baz=211,SNR=6.1
TNA **Tin City** 86.32 4 P P 14 17 11.0 +0.6
baz=190
M24K **Tolsona, Glenn** 86.35 14 P P 14 17 10.7 -0.1
baz=210
GLB **Gilahina Butte** 86.35 16 IAmb IAmb 14 17 11.9
comp=Z,14nm,1.4s
WAT6 **Susitna Watana** 86.41 14 P P 14 17 10.8 -0.3
baz=208,SNR=9.3
WAT1 **Susitna Watana** 86.45 13 P P 14 17 11.8 +0.7
baz=208
ELIB **Princess Elisa** 86.45 187 dP P 14 17 11.0 -0.4
comp=Z,24nm,0.8s
H17K **Granite Mounta** 86.49 8 P P 14 17 11.6 +0.4
baz=197
MCARA **McCarthy VSAT** 86.50 16 P P 14 17 12.1 +0.6
baz=213
SEY **Seymchan** 86.50 347 P P 14 17 11.9 +0.6
comp=Z,14nm,0.5s,baz=143,slow=6.3,SNR=67
comp=Z,14nm,0.5s
R32K **Eaglecrest** 86.56 21 P P 14 17 12.9 +1.2
baz=220
HLID **Hailey** 86.56 41 P P 14 17 12.3 -0.1
baz=237,SNR=6.3
P29M **Windy Craggy** 86.57 19 P P 14 17 12.3 +0.5
baz=217
GYA **Guiyang** 86.59 300 ⇑P P 14 17 14.0 +1.2
GYA pmax pmax
comp=Z,12nm,1.8s
BARN **Barnard Glacie** 86.59 17 IAmb IAmb 14 17 14.9
comp=Z,22nm,1.3s
CTG **Chitna Glacier** 86.60 17 P P 14 17 12.9 +0.8
baz=214
J20K **Nowinta River** 86.61 10 P P 14 17 11.7 -0.1
baz=202
KTH **Kantishna Hill** 86.62 12 IAmb IAmb 14 17 12.5
comp=Z,13nm,1.1s
G16K **Koyuk River** 86.65 7 P P 14 17 12.1 +0.2
baz=195
TRF **Thorofare Moun** 86.65 12 IAmb IAmb 14 17 12.6
comp=Z,14nm,0.9s
TRF **Thorofare Moun** 86.65 12 P P 14 17 12.1 -0.2
baz=206,SNR=10
CHUM **Lake Minchumin** 86.66 11 P P 14 17 11.8 -0.2
baz=204,SNR=5.2
O28M **Mount Upton** 86.77 18 P P 14 17 13.0 0.0
baz=215
HARP **HAARP** 86.84 15 P P 14 17 13.3 +0.3
baz=211
PLBC **Pleasant Camp** 86.86 20 P P 14 17 13.3 +0.2
baz=219
H18K **Honhosa River** 86.90 8 P P 14 17 13.3 +0.1
baz=198
DHY **Denali Highway** 86.92 14 IAmb IAmb 14 17 14.9
comp=Z,12nm,1.3s
DHY **Denali Highway** 86.92 14 P P 14 17 12.8 -0.8
baz=209
G17K **Kiwalik Mounta** 86.94 7 P P 14 17 13.2 -0.2
baz=196
MNTX **Comudas Mount** 86.99 55 P P 14 17 14.0 -0.5
baz=243
BPAW **Bear Paw Mtn.** 87.11 12 P P 14 17 14.6 +0.4
baz=205
I20K **Naaghedeneel** 87.14 10 P P 14 17 14.7 +0.5
baz=202
T35M **Bob Quinn** 87.14 24 P P 14 17 14.4 -0.2
baz=224
MCK **McKinley** 87.18 13 P P 14 17 14.6 +0.1
baz=207,SNR=9.7
P30M **Million Dollar** 87.20 19 P P 14 17 15.0 +0.3
baz=218
SKAG **Skagway** 87.20 20 P P 14 17 14.9 +0.2
baz=220
MVCO **Mesa Verde** 87.23 49 P P 14 17 14.5 -1.3
baz=241
PAX **Paxson** 87.26 14 P P 14 17 14.9 -0.1
baz=210
TXAR **Lajitas Array** 87.29 57 P P 14 17 15.7 -0.3
TXAR **Lajitas Array** 87.29 57 P P 14 17 17.8 +1.8
comp=Z,3.2nm,0.9s,baz=219,slow=6.0,SNR=28
comp=Z,3.2nm,0.9s
YUK8 **Steele Glacier** 87.30 17 P P 14 17 15.4 -0.1
baz=216
M26K **Nabesna, AK** 87.37 16 IAmb IAmb 14 17 17.6
comp=Z,15nm,1.2s
M26K **Nabesna, AK** 87.37 16 P P 14 17 15.8 +0.2
baz=213,SNR=6.2
YUK6 **Outpost Mounta** 87.43 18 P P 14 17 17.2 +1.1
baz=217
S34M **Telegraph Cree** 87.49 23 P P 14 17 16.7 +0.6
baz=223
YUK3 **Moose Creek** 87.51 17 P P 14 17 16.8 +0.3
baz=215,SNR=12
H19K **Roundabout Mou** 87.52 9 IAmb IAmb 14 17 17.8
comp=Z,10.0nm,1.1s
H19K **Roundabout Mou** 87.52 9 P P 14 17 16.3 +0.3
baz=200

TROLL **Troll, Antarti** 87.56 180 ⇓P P 14 17 16.8 +0.2
comp=Z,165nm,0.3s
TROLL ⇑pP pwP 14 19 17.2 +0.3
comp=Z,306nm,0.9s
G18K **Tagagawik** 87.56 8 P P 14 17 16.2 -0.1
baz=198
HYT **Haines Junctio** 87.59 19 P P 14 17 17.0 +0.3
baz=218
NEW **Newport** 87.61 36 P P 14 17 17.1 +0.2
baz=235
M27K **Edge Creek, AK** 87.62 16 P P 14 17 17.5 +0.7
baz=214,SNR=11
ANMO **Albuquerque** 87.64 51 P P 14 17 16.8 -0.9
baz=243
MENT **Mentasta** 87.65 15 IAmb IAmb 14 17 18.9
comp=Z,11nm,1.3s
YUK4 **Talbot Arm** 87.67 18 P P 14 17 18.2 +1.0
baz=217
H20K **Anotleneega Mo** 87.72 10 P P 14 17 18.5 +1.4
baz=202
F17K **Baldwin Pennin** 87.78 7 P P 14 17 17.2 -0.1
baz=196
L26K **Log Cabin Wild** 87.81 15 IAmb IAmb 14 17 19.5
comp=Z,9.7nm,1.3s
L26K **Log Cabin Wild** 87.81 15 P P 14 17 18.0 +0.5
baz=212
P32M **Atlin** 87.83 21 P P 14 17 18.1 +0.3
baz=221
SNAA **Sanae** 87.84 179 ⇓P P 14 17 17.6 -0.2
comp=Z,30nm,0.6s
SNAA **Sanae** 87.84 179 P P 14 17 17.9 +0.1
comp=Z,0.9nm,0.4s,baz=205,slow=11,SNR=14
comp=Z,0.9nm,0.4s
I21K **Tanana** 87.91 11 P P 14 17 17.6 -0.3
baz=204
K24K **Donnelly Dome** 87.91 14 P P 14 17 18.1 +0.1
baz=210,SNR=6.8
NEA2 **Nenana** 87.92 12 P P 14 17 17.6 -0.4
baz=207,SNR=6.1
XLT **XiLinHaoTe** 87.96 319 eP P 14 17 18.4 -0.4
XLT pmax pmax
comp=Z,10.0nm,0.6s
XLT pmax pmax
comp=Z,110nm,5.0s
O30N **Mendenhall** 87.98 19 IAmb IAmb 14 17 20.9
comp=Z,21nm,1.5s
O30N **Mendenhall** 87.98 19 P P 14 17 18.7 +0.3
baz=219,SNR=5.4
VNA3 **Neumayer Olymp** 87.98 176 ⇓P P 14 17 18.7 +0.3
comp=Z,44nm,0.7s
VNA3 ⇑pP pwP 14 19 19.1 0.0
comp=Z,5.8nm,0.8s
MLY **Manley** 88.00 11 IAmb IAmb 14 17 19.0
comp=Z,10nm,1.2s
MLY **Manley** 88.00 11 P P 14 17 18.1 -0.3
baz=206,SNR=12
G19K **Purcell Mounta** 88.01 8 IAmb IAmb 14 17 20.5
comp=Z,8.7nm,1.1s
G19K **Purcell Mounta** 88.01 8 P P 14 17 18.7 +0.3
baz=200
XAN **Xi'an** 88.10 307 ⇓P P 14 17 20.8 +1.2
XAN pmax pmax
comp=Z,33nm,1.2s
XAN LR LR
comp=N,520nm,11.8s
XAN LR LR
comp=E,320nm,14.7s
XAN LR LR
comp=Z,420nm,11.6s
F18K **Selawik** 88.12 7 P P 14 17 18.6 -0.2
baz=197
HDA **Harding Lake** 88.19 13 P P 14 17 18.9 -0.3
baz=205,SNR=12
H21K **Melozitna Rive** 88.21 10 IAmb IAmb 14 17 22.0
comp=Z,9.8nm,1.2s
H21K **Melozitna Rive** 88.21 10 P P 14 17 19.4 0.0
baz=204,SNR=5.7
N30M **Aishikik Lake** 88.22 18 P P 14 17 19.3 -0.2
baz=218
L27K **Beaver Creek,** 88.22 16 IAmb IAmb 14 17 22.1
comp=Z,11nm,1.4s
L27K **Beaver Creek,** 88.22 16 P P 14 17 19.9 +0.5
baz=214,SNR=7.1
BCAR **Beaver Creek A** 88.23 16 P P 14 17 20.5 +1.0
WHY **Whitehorse** 88.27 20 P P 14 17 20.1 +0.3
baz=220
DLBC **Dease Lake** 88.27 23 P P 14 17 20.1 +0.2
baz=224
E17K **Hotham Inlet** 88.34 6 P P 14 17 18.9 -1.0
baz=195
IMAR **Indian Mountai** 88.35 10 P P 14 17 20.2 +0.2
I23K **Minto, Yukon-K** 88.36 12 IAmb IAmb 14 17 20.8
comp=Z,11nm,1.3s
I23K **Minto, Yukon-K** 88.36 12 P P 14 17 19.5 -0.5
baz=207,SNR=5.5
MDM **Murphy Dome** 88.41 12 IAmb IAmb 14 17 21.0
comp=Z,19nm,1.0s
COLA **College** 88.41 12 P P 14 17 20.0 -0.2
COLA **College** 88.41 12 P P 14 17 20.4 +0.2
COLA **College** 88.41 12 P P 14 17 19.9 -0.2
baz=208
VNA2 **Neumayer--Watz** 88.42 177 ⇓P P 14 17 21.0 +0.6
comp=Z,16nm,0.6s,baz=187,slow=4.4
VNA2 pP pwP 14 19 21.8 +0.5
comp=Z,2.3nm,0.6s
SCRK **Sand Creek** 88.47 14 P P 14 17 19.7 -1.0
baz=212
IL31 88.52 13 IAmb IAmb 14 17 21.7
comp=Z,11nm,1.1s
ILAR **Eielson Array** 88.52 13 P P 14 17 20.7 0.0
ILAR **Eielson Array** 88.52 13 P P 14 17 20.6 -0.2
comp=Z,2.6nm,0.5s,baz=214,slow=5.2,SNR=72
comp=Z,2.6nm,0.5s
F19K **Shaleruckik Mo** 88.57 8 P P 14 17 21.3 +0.4
baz=199
P33M **Teslin, Yukon** 88.60 21 P P 14 17 20.9 -0.4
baz=222
M29M **Somme Creek** 88.61 17 IAmb IAmb 14 17 23.6
comp=Z,19nm,1.4s
M29M **Somme Creek** 88.61 17 P P 14 17 21.9 +0.6
baz=217,SNR=8.5
MSO **Missoula** 88.61 38 P P 14 17 20.1 -1.6
baz=237
R33M **Jennings River** 88.63 22 IAmb IAmb 14 17 25.2
comp=Z,15nm,1.5s
R33M **Jennings River** 88.63 22 P P 14 17 22.4 +0.9
baz=223
N31M **Braeburn, Yuko** 88.63 19 IAmb IAmb 14 17 23.7
comp=Z,22nm,1.4s
N31M **Braeburn, Yuko** 88.63 19 P P 14 17 21.3 -0.1
baz=219
VNA1 **Neumayer--Stat** 88.65 177 ⇓P P 14 17 21.4 0.0
comp=Z,23nm,0.9s
VNA1 pP pwP 14 19 23.2 +0.9
comp=Z,6.1nm,0.7s
H22K **Ishtalitna Cre** 88.67 11 P P 14 17 22.0 +0.5
baz=205,SNR=13
J25K **Salcha River,** 88.70 14 IAmb IAmb 14 17 23.2
comp=Z,9.9nm,1.2s
J25K **Salcha River,** 88.70 14 P P 14 17 22.1 +0.4
baz=210,SNR=7.0
POKR **Poker Plat Res** 88.71 12 P P 14 17 21.4 -0.2
baz=208
E18K **Tukpahlearik C** 88.80 7 P P 14 17 22.0 0.0
baz=196
O20A **White River Ci** 88.80 46 P P 14 17 22.8 -0.1
baz=242
D17K **Noatak River** 88.81 6 P P 14 17 21.2 -0.9
baz=194
G21K **Allakaket** 88.88 10 IAmb IAmb 14 17 24.0
comp=Z,12nm,1.1s
G21K **Allakaket** 88.88 10 P P 14 17 22.0 -0.4
baz=203,SNR=7.8
H23K **Yukon River** 88.93 11 P P 14 17 21.9 -0.8
baz=207
K27K **Chicken** 88.97 15 P P 14 17 23.2 +0.3
baz=213
J26L **Joseph Creek** 89.01 14 P P 14 17 23.2 0.0
baz=212,SNR=20
F20K **Avaraart Lake** 89.05 9 IAmb IAmb 14 17 24.8
comp=Z,7.8nm,1.1s
F20K **Avaraart Lake** 89.05 9 P P 14 17 23.2 0.0
baz=201,SNR=8.9
FLWY **Flagg Ranch** 89.13 42 IAmb IAmb 14 17 27.7
comp=Z,6.8nm,1.0s
RDOG **Red Dog Mine** 89.18 6 P P 14 17 23.8 0.0
baz=194
C16K **Lisburne Hills** 89.19 5 P P 14 17 24.3 +0.5

baz=192
BILL Bilibino 89.19 354 P P 14 17 24.3 +0.5
BILL IAmb IAmb 14 17 26.1
comp=Z,4.4nm,0.6s
BW06 Boulder Array 89.20 43 P P 14 17 24.3 -0.5
baz=240
PDAR Pinedale Array 89.20 43 P P 14 17 25.3 +0.5
PDAR Pinedale Array 89.20 43 P P 14 17 26.2 +1.4
comp=Z,2.1nm,0.7s,baz=225,slow=3.4,SNR=17
comp=Z,2.1nm,0.7s
N32M Quiet Lake 89.22 20 P P 14 17 24.9 +0.8
baz=221
E19K Redstone River 89.23 8 IAmb IAmb 14 17 25.7
comp=Z,14nm,1.0s
E19K Redstone River 89.23 8 P P 14 17 24.8 +0.8
baz=200,SNR=12
L29M L29M 89.23 17 P P 14 17 24.5 +0.3
baz=217,SNR=13
H24K Noodor Dome 89.26 12 P P 14 17 25.0 +0.7
baz=208
KMI Kunming 89.28 297 ⇑P P 14 17 26.1 +0.6
KMI pmax pmax
comp=Z,19nm,1.0s
BOZ Bozeman (W) 89.33 40 P P 14 17 24.9 -0.3
baz=239,SNR=5.8
HHC Hu-ho-hao-te 89.35 314 eP P 14 17 27.3 +1.9
HHC pmax pmax
comp=Z,69nm,5.7s
CRAI Chiangrai 89.42 292 IAmb IAmb 14 17 28.6
comp=Z,13nm,1.2s
PRP Porcupine Dome 89.45 13 IAmb IAmb 14 17 27.1
comp=Z,11nm,1.2s
PRP Porcupine Dome 89.45 13 P P 14 17 25.7 +0.4
baz=210,SNR=9.1
F21K Alatna River 89.54 9 P P 14 17 25.9 +0.4
baz=203,SNR=7.2
C17K DeLong Mountai 89.56 5 P P 14 17 26.3 +0.8
baz=194
G22K Bettles 89.58 10 P P 14 17 26.6 +1.0
baz=205
SDCO Great Sand Dun 89.59 49 P P 14 17 25.7 -1.1
baz=243
M31M Drury Creek, Y 89.60 19 P P 14 17 26.6 +0.7
baz=220
G23K Bananza Creek 89.64 11 IAmb IAmb 14 17 28.4
comp=Z,9.5nm,1.3s
G23K Bananza Creek 89.64 11 P P 14 17 26.5 +0.5
baz=206,SNR=5.4
DAWY Dawson 89.67 16 IAmb IAmb 14 17 28.1
comp=Z,12nm,1.2s
DAWY Dawson 89.67 16 P P 14 17 26.4 +0.2
baz=216,SNR=11
DRIO Del Rio 89.74 58 IAmb IAmb 14 17 29.6
comp=Z,5.2nm,0.8s
I26K Coal Creek Min 89.79 14 P P 14 17 27.3 +0.6
baz=212
EGAK Eagle 89.81 15 IAmb IAmb 14 17 28.6
comp=Z,21nm,1.3s
EGAK Eagle 89.81 15 P P 14 17 26.6 -0.2
baz=214,SNR=9.6
WTLY Watson Lake, Y 89.91 22 P P 14 17 26.9 -0.5
baz=225
C18K Utukok River 89.92 6 P P 14 17 26.3 -1.0
baz=196
FARO Faro, Yukon 89.94 19 P P 14 17 26.5 -1.0
baz=221
MSTX Muleshoe 89.95 54 P P 14 17 27.6 -0.7
baz=245
K29M Barlow Dome 89.99 17 IAmb IAmb 14 17 30.6
comp=Z,12nm,1.2s
K29M Barlow Dome 89.99 17 P P 14 17 27.9 +0.2
baz=218,SNR=13
F22K John River 90.01 10 P P 14 17 25.8 -1.9
baz=204
CMAR Chiang Mai Arr 90.02 290 P P 14 17 28.9 +0.1
CMAR Chiang Mai Arr 90.02 290 P P 14 17 30.4 +1.6
comp=Z,10.0nm,1.0s,baz=116,slow=2.9,SNR=60
comp=Z,10.0nm,1.0s
H25L Birch Creek 90.04 13 P P 14 17 26.5 -1.3
baz=210
COLD Coldfoot 90.08 11 P P 14 17 27.3 -0.7
baz=206,SNR=9.5
G24K Hadweenzic Riv 90.10 12 P P 14 17 26.8 -1.3
baz=208
T25A Trinidad 90.10 50 P P 14 17 27.9 -1.2
baz=244
D19K Kuna River 90.11 7 P P 14 17 26.6 -1.6
baz=199
E20K Nigu River 90.12 8 P P 14 17 26.9 -1.3
baz=200,SNR=16
CHTO Chiang Mai 90.14 290 P P 14 17 30.5 +1.1
MAYO Mayo, Yukon 90.24 18 P P 14 17 30.5 +1.7
baz=219
J29N Klondike Camp 90.29 16 P P 14 17 27.0 -2.1
baz=217
833A Chaparral WMA, 90.29 60 P P 14 17 26.9 -3.0
baz=247
TOAD Toad River Com 90.37 25 P P 14 17 28.5 -1.1
baz=228
Q24A Divide 90.38 48 P P 14 17 29.7 -0.7
baz=243
I27K Kandik River 90.39 14 P P 14 17 28.1 -1.4
baz=214,SNR=5.7
G25K Bearman Lake 90.42 12 P P 14 17 29.2 -0.4
baz=210
ISCO Idaho Springs 90.44 47 P P 14 17 28.4 -2.3
baz=243
D20K Etivluk River 90.50 8 P P 14 17 28.6 -1.3
baz=200,SNR=8.4
C19K Lookout Ridge 90.53 7 IAmb IAmb 14 17 31.9
comp=Z,16nm,1.1s
C19K Lookout Ridge 90.53 7 P P 14 17 28.2 -1.9
baz=197,SNR=7.4
RLMT Red Lodge 90.53 41 P P 14 17 28.1 -2.8
baz=241
B18K Kokolik River 90.55 6 P P 14 17 29.2 -0.9
baz=195
E21K Killik River 90.60 9 P P 14 17 29.4 -1.0
baz=202
E22K Anaktuvuk Pass 90.64 10 IAmb IAmb 14 17 32.3
comp=Z,12nm,1.1s
E22K Anaktuvuk Pass 90.64 10 P P 14 17 29.0 -1.6
baz=204,SNR=10.0
PZH PanZhiHua 90.64 298 P P 14 17 32.6 +0.9
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,100nm,4.7s
I28M Miner Creek 90.66 15 IAmb IAmb 14 17 32.3
comp=Z,14nm,1.4s
I28M Miner Creek 90.66 15 P P 14 17 30.2 -0.6
baz=215,SNR=6.2
N23A Red Feather La 90.70 46 P P 14 17 30.3 -1.6
baz=243
F24K Squaw Lake 90.75 11 P P 14 17 30.3 -0.8
baz=208
HNDO Hondo 90.86 59 IAmb IAmb 14 17 35.4
comp=Z,5.4nm,0.9s
J30M Hart River 90.89 17 IAmb IAmb 14 17 33.9
comp=Z,7.4nm,1.3s
J30M Hart River 90.89 17 P P 14 17 31.5 -0.4
baz=219
E23K Chandalar 90.92 10 P P 14 17 31.5 -0.5
baz=206
H27K Steamboat Moun 90.94 14 P P 14 17 30.3 -1.7
baz=214,SNR=7.8
I29M Ogilvie Camp, 90.99 16 IAmb IAmb 14 17 34.4
comp=Z,8.2nm,1.3s
I29M Ogilvie Camp, 90.99 16 P P 14 17 31.1 -1.1
baz=217
G26K Porcupine Rive 91.05 13 P P 14 17 32.0 -0.4
baz=212,SNR=7.8
E24K Your Creek 91.13 11 P P 14 17 32.1 -0.8
baz=208
C21K Knifeblade Rid 91.15 8 P P 14 17 32.2 -0.7
baz=202,SNR=8.9
D22K Ayikyak River 91.19 9 IAmb IAmb 14 17 35.1
comp=Z,11nm,1.2s
D22K Ayikyak River 91.19 9 P P 14 17 32.1 -1.0
baz=204,SNR=9.1
F25K Christian Rive 91.23 12 P P 14 17 33.8 +0.4
baz=210
BMAR Burnt Mountain 91.30 12 P P 14 17 34.0 +0.4
I30M Mount Dempster 91.38 16 P P 14 17 33.5 -0.7
baz=218,SNR=5.0
G27K Doyon Strip 91.39 14 P P 14 17 33.0 -1.1
baz=214
A19K Wainwright 91.44 6 P P 14 17 32.9 -1.2
baz=196
TOLK Toolik Lake Re 91.45 10 IAmb IAmb 14 17 36.1
comp=Z,6.8nm,1.2s
TOLK Toolik Lake Re 91.45 10 P P 14 17 32.4 -2.0
baz=207
D23K Nanushuk River 91.57 10 P P 14 17 34.0 -0.8
baz=206,SNR=6.2
B21K Ikpikpuk River 91.61 8 IAmb IAmb 14 17 36.7
comp=Z,8.1nm,1.3s
B21K Ikpikpuk River 91.61 8 P P 14 17 34.1 -0.9
baz=202
F26K Sheenjek River 91.61 12 P P 14 17 34.0 -1.1
baz=212
B20K Meade River 91.66 7 IAmb IAmb 14 17 36.9
comp=Z,12nm,1.1s
B20K Meade River 91.66 7 P P 14 17 34.3 -0.8
baz=200,SNR=5.5
EGMT Eagleton 91.66 39 P P 14 17 34.5 -1.4
baz=240
H29M Whitestone 91.67 15 IAmb IAmb 14 17 37.1
comp=Z,11nm,1.2s
H29M Whitestone 91.67 15 P P 14 17 34.7 -0.6
baz=217,SNR=6.9
E25K Arctic Village 91.70 12 P P 14 17 34.3 -1.2
baz=210
ABTX Abilene, Hawle 91.79 56 P P 14 17 35.1 -1.6
baz=246
D24K Happy Valley 92.04 10 P P 14 17 35.6 -1.3
baz=207
KSCO Kaye Shedlock' 92.18 49 P P 14 17 36.4 -2.1
baz=245
EPYK Eagle Plains 92.19 15 IAmb IAmb 14 17 39.4
comp=Z,9.3nm,1.2s
EPYK Eagle Plains 92.19 15 P P 14 17 37.2 -0.6
baz=221
YAK Yakutsk 92.21 338 P P 14 17 37.9 0.0
YAK Yakutsk 92.21 338 P P 14 17 37.8 0.0
comp=Z,15nm,0.6s,baz=70,slow=2.3,SNR=10
comp=Z,15nm,0.6s
G29M Pine Creek 92.31 15 P P 14 17 37.7 -0.6
baz=217
C23K Itkillik River 92.37 9 IAmb IAmb 14 17 48.6
comp=Z,16nm,1.5s
C23K Itkillik River 92.37 9 P P 14 17 37.9 -0.6
baz=206
H31M Peel River 92.37 17 P P 14 17 37.4 -1.2
baz=220
B22K Teshekpuk Lake 92.43 8 P P 14 17 38.5 -0.2
baz=203
F28M Old Crow 92.45 14 P P 14 17 38.3 -0.6
baz=215
E27K Coleen River 92.55 13 IAmb IAmb 14 17 40.8
comp=Z,7.6nm,1.4s
E27K Coleen River 92.55 13 P P 14 17 39.3 0.0
baz=214
C24K Franklin Bluff 92.56 10 P P 14 17 38.6 -0.7
baz=207
D25K Kavik River 92.60 11 P P 14 17 38.7 -0.9
baz=210
435B Jarrell 92.69 58 P P 14 17 38.8 -2.1
baz=248
G30M tAoh Zraii Nji 92.80 15 IAmb IAmb 14 17 42.6
comp=Z,14nm,1.2s
G30M tAoh Zraii Nji 92.80 15 P P 14 17 39.4 -1.2
baz=219,SNR=9.7
A22K Sinclair Lake 92.85 7 P P 14 17 39.7 -0.9
baz=202
G31M Satah River 93.24 16 IAmb IAmb 14 17 43.9
comp=Z,10nm,1.1s
G31M Satah River 93.24 16 P P 14 17 41.1 -1.4
baz=220,SNR=7.0
WMOK Wichita Mounta 93.28 54 P P 14 17 41.1 -2.4
baz=247
E28M Babbage River 93.33 13 IAmb IAmb 14 17 44.8
comp=Z,9.7nm,1.4s
E28M Babbage River 93.33 13 P P 14 17 41.5 -1.4
baz=216
C27K Jago River 93.35 11 P P 14 17 41.6 -1.4
baz=212
C26K Camden Bay 93.38 11 P P 14 17 42.9 -0.1
baz=211
F30M Barrier River 93.40 15 P P 14 17 43.0 -0.3
baz=219
E29M Blow River 93.52 14 IAmb IAmb 14 17 44.9
comp=Z,6.0nm,1.4s
E29M Blow River 93.52 14 P P 14 17 44.4 +0.6
baz=217
D27M Malcolm River 93.56 12 P P 14 17 43.7 -0.3
baz=214
F31M Tsiigehtchic 93.77 16 P P 14 17 44.8 0.0
baz=221
WRGLY Wrigley 93.90 22 P P 14 17 45.5 -0.1
baz=230
D28M Stokes Point 94.09 13 P P 14 17 44.9 -1.4
baz=216
INK Inuvik 94.48 15 IAmb IAmb 14 17 49.9
comp=Z,8.0nm,1.4s
INK Inuvik 94.48 15 P P 14 17 46.6 -1.5
baz=221
SONM Sogino Array 95.77 319 P P 14 17 55.1 +0.4
comp=Z,0.5nm,0.5s,baz=146,slow=2.9,SNR=4.0
comp=Z,0.5nm,0.5s
TUL3 Leonard 95.98 54 P P 14 17 52.2 -3.5
baz=249
BGNE Belgrade 96.27 48 P P 14 17 54.2 -2.7
baz=248
GTA Gaotai 96.95 309 eP P 14 18 00.9 +0.7
GTA pmax pmax
comp=Z,3.0nm,1.1s
MIAR Mount Ida 97.20 56 P P 14 17 58.5 -2.7
baz=250
C36M Paulatuk 97.66 17 P Pdif 14 18 01.6 -0.8
baz=230
ECSD EROS Data Cent 98.17 46 P Pdif 14 18 03.2 -2.1
baz=249
VBMS Vicksburg 98.85 59 P Pdif 14 18 06.0 -2.5
baz=251
A36M Sarns Harbour 99.09 15 P Pdif 14 18 08.2 -0.4
baz=229
NEEM North Greenlan 117.78 11 i P PKiKP 14 23 10.8 0.0
BVAR Borovoye Array 119.10 320 PKP PKPdf 14 23 13.3 -0.3
comp=Z,7.7nm,0.4s,baz=114,slow=1.4,SNR=21
SPITS Spitsbergen Ar 122.03 356 PKP PKPdf 14 23 18.6 0.0
comp=Z,19nm,1.1s,baz=95,slow=3.8,SNR=5.1
DAG Danmarks Havn 122.92 6 i P PKPdf 14 23 19.8 -0.5
SFJD Kangerlussuaq 123.16 22 i P PKiKP 14 23 21.0 -0.1
SUMG Summit 123.36 13 PKPdf PKPdf 14 23 21.8 +0.1
SUMG Summit 123.36 13 i P PKiKP 14 23 22.0 0.0
DY2G Dye2 124.93 21 i P PKiKP 14 23 25.4 +0.4
DBG Dameborg 125.03 7 i P PKiKP 14 23 24.6 -0.1
ARU Arti 125.25 325 PKP PKPdf 14 23 25.2 -0.1
comp=Z,11nm,0.4s,baz=107,slow=3.5,SNR=6.3
BOSA Boshof 126.03 206 PKP PKPdf 14 23 27.8 0.0
comp=Z,1.9nm,0.9s,baz=165,slow=3.3,SNR=4.5
AKTO Aktyubinsk 127.08 318 PKP PKiKP 14 23 29.4 -0.1
comp=Z,6.9nm,0.7s,baz=25,slow=1.4,SNR=5.4
ISOG Isortoq, Green 127.89 20 i P PKiKP 14 23 30.4 -0.2
GEYT Alibeck 128.74 303 PKP PKiKP 14 23 33.0 -0.3
comp=Z,4.7nm,0.7s,baz=250,slow=4.3,SNR=3.9
KIRV Kiruna 129.03 330 PKP PKiKP 14 23 33.0 -0.1
comp=Z,9.6nm,0.5s,baz=91,slow=2.0,SNR=7.5
ARCES ARCESS Array B 129.06 350 PKPdf 14 23 32.0 -0.2
ARCES ARCESS Array B 129.06 350 PKP PKPdf 14 23 32.2 0.0
comp=Z,3.0nm,0.5s,baz=33,slow=1.0,SNR=42
BELG Belogornoye 132.64 323 PKP PKiKP 14 23 40.1 -0.5
comp=Z,21nm,0.9s,baz=124,slow=0.5,SNR=4.2
FINES FINESS Array B 135.89 344 PKPdf 14 23 44.4 -0.8
FINES FINESS Array B 135.89 344 PKhKP PKPpre 14 23 32.7
comp=Z,0.6nm,0.6s,baz=21,slow=2.7,SNR=7.4
FINES PKP sPdif 14 23 45.9 +0.6
comp=Z,2.8nm,0.4s,baz=71,slow=2.9,SNR=24
NB2 NORSAR Subarra1 139.13 353 PKP PKPpre 14 23 42.7
comp=Z,0.8nm,0.5s,baz=6.5,slow=3.8
NOA NORSAR Array B 139.13 353 PKhKP PKPpre 14 23 42.5
comp=Z,2.2nm,0.8s,baz=16,slow=2.4,SNR=7.6
NOA PKP **PKiKP 14 23 53.3 -0.3**
comp=Z,0.5nm,0.5s,baz=16,slow=4.0,SNR=4.5
HFS Hagfors 139.68 351 PKhKP PKPpre 14 23 44.4
comp=Z,4.7nm,0.4s,baz=72,slow=4.8,SNR=41
SUW Suwalki 142.94 339 ePKPdf PKPdf 14 23 56.3 -1.9
MCD Coleburn Disti 142.95 5 eP PKPdf 14 23 55.0 -3.1
KPL Plockton 142.97 7 eP PKPdf 14 23 55.3 -2.8
AKASG Malin Array Be 143.08 331 PKPpre PKPpre 14 23 55.5
AKASG Malin Array Be 143.08 331 PKhKP PKPpre 14 23 55.9
comp=Z,31nm,0.4s,baz=42,slow=4.1,SNR=200
KIEV Kiev 143.09 331 ⇓P PKPab 14 23 56.1 -0.1
KIEV Kiev 143.09 331 PKPpre PKPpre 14 23 55.6
LODK Lodwar 143.12 247 PKPbc 14 23 58.5 +0.5

DRUM Mains of Drumt 143.67 4 eP PKPab 14 23 57.8 -0.3
MUD Monsted U'grnd 143.85 353 i P PKPab 14 23 59.0 +0.1
INVG Invergeldie, C 144.03 6 eP PKPab 14 23 59.6 0.0
LAWE Loch Awe, Argy 144.06 7 eP PKPab 14 23 59.7 0.0
BSD Bornholm Skovb 144.22 347 i P PKPbc 14 23 59.8 -0.2
PGBU Glenifferbraes 144.59 6 eP PKPdf 14 24 00.8 -0.2
EKA Eskdalemuir Ar 145.19 5 PKPbc PKPbc 14 24 02.8 -0.2
comp=Z,7.5nm,0.8s,baz=337,slow=2.8,SNR=20
SORM Soroca 145.26 328 ⇑P PKPbc 14 24 03.3 -0.1
NEWG New Galloway 145.31 6 eP PKPbc 14 24 03.3 0.0
PURM Purcari 145.53 325 ⇓P PKPbc 14 24 04.2 -0.1
BEL Belsk 145.56 339 ePKPbc PKPab 14 24 04.9 -0.6
EDMD Edmundbyers 145.78 4 eP PKPbc 14 24 04.2 +0.6
MILM Milestii Mici 145.84 326 ⇓P PKPbc 14 24 05.3 +0.1
IOMK Kirk Michael 146.12 7 eP PKPbc 14 24 05.5 -0.2
WIM Isle of Man 146.22 7 eP PKPbc 14 24 06.1 +0.2
LEOM Leova 146.43 326 ⇓P PKPbc 14 24 07.7 +0.9
VASR Vaslui 146.55 327 ⇑P PKPbc 14 24 07.7 +0.6
KWP Kalwaria Pacla 146.67 335 ePKPbc PKPbc 14 24 08.4 +1.0
KWP ePKPab **PKPab 14 24 11.5 +1.4**
BR131 Keskin Array S 146.83 312 PKPbc 14 24 07.9 -0.4
BRTR Keskin Array B 146.83 312 PKPbc PKPbc 14 24 07.8 -0.4
BRTR Keskin Array B 146.83 312 PKPbc PKPbc 14 24 08.2 -0.2
comp=Z,13nm,0.6s,baz=140,slow=4.5,SNR=64
VLDR Vladesti 146.93 325 ⇑P PKPbc 14 24 08.6 +0.5
TLCR 146.95 324 ⇑P PKPbc 14 24 08.9 +0.7
SCTR Scanteiesti 147.08 325 ⇓P PKiKP 14 24 09.5 -0.9
WLF1 Llynfaes 147.09 7 eP PKPbc 14 24 08.4 +0.1
BURAR Bucovina Array 147.13 330 ⇓P PKiKP 14 24 10.3 -0.3
BURAR Bucovina Array 147.13 330 PKPbc 14 24 09.0 +0.2
GHRR 147.14 326 ⇓P PKiKP 14 24 10.0 -0.5
LBWR Ladybower, Pea 147.21 4 eP PKPbc 14 24 08.7 0.0
TESR Tescani 147.22 328 ⇓P PKPbc 14 24 09.3 +0.4
NEGRR Negrea 147.24 325 ⇓P PKiKP 14 24 09.9 -0.8
SLCR Slobozia Conac 147.26 325 ⇓P PKiKP 14 24 10.2 -0.6
OJC Ojcow 147.26 338 ePKPbc PKPbc 14 24 09.3 +0.3
OJC ePKPab **PKPab 14 24 13.1 +0.6**
CFR Carcaliu 147.33 324 ⇓P PKPbc 14 24 09.6 +0.4
ANTO Ankara 147.35 313 ⇑P PKPbc 14 24 10.3 +0.6
ANTO Ankara 147.35 313 PKPbc 14 24 09.8 +0.2
TPGR Topolog 147.38 324 ⇓P PKPbc 14 24 10.0 +0.6
KOLS Kolonicke sedl 147.40 335 ePKP PKiKP 14 24 10.4 -0.6
KOLS e 14 24 13.7
PANC Panciu 147.40 326 ⇑P PKiKP 14 24 10.3 -0.8
STHS Stebnicka Huta 147.41 336 ePKP PKPbc 14 24 09.5 +0.1
STHS e 14 24 14.0
ODBI Odobesti 147.52 326 ⇑P PKiKP 14 24 11.3 0.0
LLW Llanuwychllyn 147.60 6 eP PKPbc 14 24 09.4 -0.3
FOEL Foel Wylfa 147.61 6 eP PKPbc 14 24 09.8 +0.1
VRI Vrincioaia 147.62 327 ⇑P PKPbc 14 24 10.6 +0.5
PLOR Plostina 147.67 327 ⇑P PKPbc 14 24 10.6 +0.4
CRVS Cervenica-Dubn 147.74 335 ePKP PKiKP 14 24 11.2 -0.5
CRVS e 14 24 15.4
MMAI Mount Meron Ar 147.75 299 PKPbc PKiKP 14 24 11.7 -0.6
comp=Z,42nm,0.6s,baz=72,slow=5.5,SNR=36
NIE Niedzica 147.75 337 ePKPbc PKiKP 14 24 11.3 -0.5
NIE ePKPab **PKPab 14 24 15.6 +1.0**
TURR Turia 147.85 328 ⇓P PKiKP 14 24 11.5 -0.6
BMR Baia Mare 147.86 332 ⇑P PKiKP 14 24 11.3 -0.7
COVR Voineasa-Covas 147.90 327 ⇓P PKPbc 14 24 10.9 +0.1
ARCR ARCALIA 147.92 330 ⇑P PKiKP 14 24 12.0 -0.1
OZUR 147.94 328 ⇓P PKiKP 14 24 11.6 -0.7
HLM1 Long Mynd 148.00 5 eP PKPbc 14 24 10.5 -0.2
BOSR Bodos 148.01 328 ⇓P PKiKP 14 24 12.0 -0.4
OSTC Ostas 148.08 343 ⇑ePKP PKiKP 14 24 12.0 -0.4
CHVC Chvalec 148.10 343 ⇑ePKP PKiKP 14 24 12.0 -0.4
CHVC ePKPab **PKPab 14 24 17.2 +1.3**
UPC Upice 148.19 343 ⇑ePKP PKiKP 14 24 12.2 -0.3
CLL Collm 148.19 347 ePKPdf PKPdf 14 24 08.0 +0.8
CLL i PKPbc **PKPbc 14 24 11.5 +0.3**
comp=Z,65nm,1.1s
CLL i PKPab **PKPab 14 24 16.1 -0.1**
comp=Z,22nm,0.6s
CLL ePKPab **pPKPab 14 26 17.0 -0.1**
ISR Istrita 148.22 326 ⇓P PKiKP 14 24 12.3 -0.6
DOPR Dopca 148.23 328 ⇓P PKiKP 14 24 12.8 0.0
DPC Dobruska-Polom 148.24 342 ⇑ePKP PKiKP 14 24 12.5 -0.2
DPC ePKPAB **PKPab 14 24 17.7 +1.2**
LANS Liptovska Anna 148.28 338 ePKP PKiKP 14 24 13.3 +0.5
LANS e 14 24 18.3
MLR Muntele Rosu 148.28 327 ⇑P PKPbc 14 24 11.9 0.0
RSBS Rosebush, Pemb 148.36 8 eP PKPbc 14 24 11.5 -0.1
MORC Moravsky Berou 148.38 340 ⇓P PKPbc 14 24 12.1 +0.2
MORC Moravsky Berou 148.38 340 ePKIKP PKiKP 14 24 12.5 -0.5
MCH1 Michaelchurch 148.51 6 eP PKPbc 14 24 11.5 -0.5
CJR Cluj-Napoca 148.54 331 ⇓P PKiKP 14 24 13.2 -0.3
PVCC Panska Ves 148.55 344 ⇑ePKP PKiKP 14 24 13.1 -0.2
PVCC ePKPAB **PKPab 14 24 18.9 +1.2**
MAUC Maruska 148.65 340 ⇑ePKP PKiKP 14 24 13.6 0.0
MONM Monmouth 148.68 6 eP PKPbc 14 24 12.1 -0.4
HSKC Hora Svate Kat 148.75 346 ⇑ePKP PKiKP 14 24 13.5 -0.2
VOIR 148.77 328 ⇓P PKPbc 14 24 13.4 +0.4
MARR Marisel-Cluj 148.78 331 ⇓P PKPbc 14 24 13.4 +0.4
CSS Mathiatis 148.86 304 PKPbc 14 24 13.2 -0.3
DRGR 148.88 332 ⇓P PKiKP 14 24 13.7 -0.5
PRD Provadia 149.00 322 eP PKPbc 14 24 13.9 +0.4
NEF NEVSHA 149.01 322 eP PKiKP 14 24 14.2 -0.3
PRU Pruhonice 149.05 344 ⇑ePKP PKiKP 14 24 14.1 -0.2
PRU ePKPAB **PKPab 14 24 20.8 +1.0**
VYHS Vyhne 149.06 338 ePKP PKPdf 14 24 08.9 +0.2
VYHS e 14 24 14.3
VYHS e 14 24 20.8
VYHS e 14 25 32.0
VRAC Vranov 149.09 341 ⇑P PKiKP 14 24 14.0 -0.4
VRAC Vranov 149.09 341 ePKIKP PKiKP 14 24 14.2 -0.3
JAVC Velka Javorina 149.14 339 ePKIKP PKiKP 14 24 15.6 +1.0
PSZ Piszkesteto 149.15 336 ⇑P PKiKP 14 24 14.6 -0.1
NKC Novy Kostel 149.32 347 ⇑ePKP PKiKP 14 24 14.9 0.0
WOL Wolverton 149.33 4 eP PKPbc 14 24 13.9 -0.1
KRUC Moravsky 149.37 341 ePKIKP PKiKP 14 24 14.7 -0.3
DEV Deva 149.48 330 ⇑P PKiKP 14 24 15.3 0.0
ZVC Zvikov 149.65 344 ⇑ePKP PKiKP 14 24 15.7 +0.1
MODS Modra-Piesok 149.69 339 ePKP PKiKP 14 24 16.4 +0.7
MODS e 14 24 24.0
SBD Saint Breward 149.73 8 eP PKPbc 14 24 15.1 +0.1
SIRR Siria 149.75 332 ⇓P PKiKP 14 24 16.0 +0.1
GZR Gura Zlata 149.91 330 ⇓P PKPbc 14 24 15.8 +0.1
SURR Surduc 149.94 331 ⇑P PKiKP 14 24 16.0 -0.2
MEM Membach 149.94 355 dPKPdf PKPdf 14 24 10.6 +0.6
MEM dPKiKP **PKiKP 14 24 16.0 -0.2**
MEM dPKP **PKPab 14 24 22.8 -0.7**
BTNL Ternell 149.95 355 dPKiKP PKiKP 14 24 15.7 +0.1
BSTI Sart Tilman 150.00 355 dPKiKP PKiKP 14 24 16.3 0.0
ELND Elena 150.02 323 ⇓P PKiKP 14 24 16.5 -0.1
KHC Kasperske Hory 150.09 344 ⇑ePKP PKiKP 14 24 16.7 +0.1
KHC ePKPAB **PKPab 14 24 25.3 +1.1**
GRFO Grafenberg 150.09 348 PKPbc 14 24 16.1 +0.2
CKRC Cesky Krumlov 150.18 343 ⇑ePKP PKiKP 14 24 16.9 +0.2
CKRC ePKPAB **PKPab 14 24 25.0 +0.4**
BCLA Clavier 150.19 356 dPKiKP PKiKP 14 24 16.5 -0.1
BCLA dPKP **PKPab 14 24 24.4 0.0**
BHOU Houvegnez 150.20 355 dPKiKP PKiKP 14 24 16.9 +0.2
BHOU dPKP **PKPab 14 24 25.1 +0.5**
SRE Strehaia 150.24 328 ⇓P PKiKP 14 24 17.1 +0.1
BGES Gesves 150.24 356 dPKiKP PKPbc 14 24 16.2 0.0
BZS Buzias 150.27 331 ⇓P PKiKP 14 24 16.8 -0.2
GERES GERESS Array B 150.32 344 PKPbc PKPbc 14 24 16.4 -0.2
GERES GERESS Array B 150.32 344 PKP PKPdf 14 24 10.9 +0.1
comp=Z,1.8nm,0.9s,baz=22,slow=7.5,SNR=3.8
GERES PKPbc **PKiKP 14 24 17.0 -0.1**
comp=Z,6.5nm,0.6s,baz=20,slow=1.6,SNR=32
BMRD Maredsous 150.34 356 dPKiKP PKPbc 14 24 16.7 +0.2
BMRD dPKP **PKPab 14 24 25.1 0.0**
RCHB Rochefort 150.46 356 dPKiKP PKiKP 14 24 17.1 -0.1
HERR Herculane 150.46 330 ⇓P PKPbc 14 24 17.0 +0.1
CONA Conrad Observa 150.54 341 ePKP PKiKP 14 24 17.7 +0.1
comp=Z,8.6nm,0.5s,SNR=16
DOU Dourbes 150.56 356 dPKiKP PKPbc 14 24 17.4 0.0
RONA Rosalia, Austr 150.60 340 ePKP PKiKP 14 24 17.8 +0.1
comp=Z,14nm,0.5s,SNR=14
DIM Dimitrovgrad 150.75 322 eP PKPbc 14 24 17.7 0.0
VALD Valchedram 150.82 327 eP PKiKP 14 24 18.1 -0.1
MDVR Moldovita 150.86 330 ⇓P PKiKP 14 24 18.3 0.0
WLF Walferdange 150.87 354 dPKiKP PKiKP 14 24 18.7 +0.6
MORH Mrgy, Hungar 151.04 335 ⇓P PKiKP 14 24 18.5 0.0
MOA Molln 151.08 343 i P PKPbc 14 24 18.4 +0.1
comp=Z,4.3nm,0.4s
ARSA Arzberg 151.24 340 ePKP PKPbc 14 24 18.5 -0.2
comp=Z,3.2nm,0.7s
BLKB Belogradchik 151.25 327 ⇑P PKPbc 14 24 18.9 +0.1

BIOA	**Bad Ischl, Aus**	**151.40**	**343**	*i* PKP	**PKPbc**	**14 24 18.8**	**-0.2**
	comp=Z,3.7nm,0.4s							
FRGS	**Fruska Gora**	**151.42**	**333**	⇓P	**PKiKP**	**14 24 19.5**	**+0.1**
VTS	**Vitosha**	**151.67**	**325**	*e*P	**PKPbc**	**14 24 19.4**	**-0.5**
BOVS	**Bovan**	**151.72**	**329**	⇑P	**PKPbc**	**14 24 19.2**	**-0.6**
LESA	**Schwarzleotal**	**151.90**	**344**	*e*PKP	**PKPdf**	**14 24 12.9**	**-0.3**
	comp=Z,5.1nm,1.3s							
LESA				*i* PKP	**PKPbc**	**14 24 20.2**	**0.0**
	comp=Z,7.0nm,0.6s							
LESA				*i* PKP	**PKPab**	**14 24 32.6**	**+0.6**
	comp=Z,1.9nm,0.5s							
SOKA	**Soboth**	**151.91**	**340**	*e*PKP	**PKPbc**	**14 24 19.9**	**-0.3**
	comp=Z,3.8nm,0.5s,SNR=7.7							
SOKA				*i* PKP	**PKPab**	**14 24 32.3**	**+0.4**
	comp=Z,12nm,1.2s							
BFO	**Black Forest**	**151.91**	**351**		**PKPbc**	**14 24 19.9**	**-0.2**
BFO					**PKPab**	**14 24 31.7**	**-0.2**
KBA	**Koelnbreinsper**	**152.04**	**343**	*e*PKP	**PKPdf**	**14 24 12.8**	**-0.7**
	comp=Z,4.9nm,1.4s							
KBA				*i* PKP	**PKPbc**	**14 24 20.1**	**-0.6**
	comp=Z,6.7nm,0.6s,SNR=6.2							
KBA				*e*PKP	**PKPab**	**14 24 33.2**	**+0.6**
	comp=Z,7.2nm,0.6s							
WATA	**Walderalm**	**152.25**	**346**	*e*PKP	**PKPbc**	**14 24 20.9**	**-0.2**
	comp=Z,5.2nm,0.4s,SNR=6.7							
WATA				*e*PKP	**PKPab**	**14 24 34.0**	**+0.5**
	comp=Z,19nm,1.3s							
KKB	**Krupnik**	**152.26**	**324**	*e*P	**PKPbc**	**14 24 20.6**	**-0.5**
RETA	**Reutte**	**152.28**	**347**	*e*PKP	**PKPbc**	**14 24 21.0**	**0.0**
	comp=Z,3.8nm,0.6s							
RETA				*i* PKP	**PKPab**	**14 24 33.9**	**+0.4**
	comp=Z,7.2nm,0.8s							
WTTA	**Wattenberg**	**152.30**	**346**	*e*PKP	**PKPbc**	**14 24 21.2**	**0.0**
	comp=Z,8.6nm,0.5s,SNR=5.9							
WTTA				*i* PKP	**PKPab**	**14 24 34.1**	**+0.3**
	comp=Z,12nm,0.6s							
MOTA	**Moosalm**	**152.34**	**346**	*e*PKP	**PKPdf**	**14 24 13.6**	**-0.4**
	comp=Z,3.7nm,0.9s							
MOTA				*e*PKP	**PKPbc**	**14 24 21.1**	**-0.2**
	comp=Z,8.0nm,0.8s							
MOTA				*i* PKP	**PKPab**	**14 24 34.1**	**+0.2**
	comp=Z,6.9nm,0.6s							
MYKA	**Terra Mystica**	**152.37**	**342**	*e*PKP	**PKPbc**	**14 24 20.6**	**-0.7**
	comp=Z,4.4nm,0.5s,SNR=6.5							
MYKA				*i* PKP	**PKPab**	**14 24 33.8**	**-0.1**
	comp=Z,5.8nm,0.6s							
SQTA	**Sankt Quirin**	**152.44**	**346**	*e*PKP	**PKiKP**	**14 24 21.6**	**0.0**
	comp=Z,6.9nm,0.6s							
CRES	**Cresnjev**	**152.52**	**339**	*e*PKPdf	**PKPdf**	**14 24 14.6**	**+0.5**
CRES				*i* PKPbc	**PKPbc**	**14 24 21.5**	**0.0**
CRES				*i* PKPab	**PKPab**	**14 24 34.7**	**+0.2**
ABTA	**Abfaltersbach**	**152.57**	**344**	*e*PKP	**PKPdf**	**14 24 13.7**	**-0.4**
	comp=Z,5.4nm,0.9s							
ABTA				*e*PKP	**PKPbc**	**14 24 21.2**	**-0.5**
	comp=Z,14nm,0.6s,SNR=7.0							
ABTA				*i* PKP	**PKPab**	**14 24 34.5**	**-0.2**
	comp=Z,13nm,1.0s							
DAVA	**Damuels**	**152.66**	**348**	*e*PKiKP	**PKiKP**	**14 24 22.6**	**+0.5**
	comp=Z,3.4nm,0.5s							
FETA	**Feichten**	**152.73**	**347**	*e*PKP	**PKPdf**	**14 24 14.5**	**0.0**
	comp=Z,4.2nm,0.8s							
FETA				*e*PKP	**PKiKP**	**14 24 22.4**	**+0.1**
	comp=Z,4.5nm,0.6s							
BOJS	**Bojanci**	**152.88**	**339**	*i* PKPdf	**PKPdf**	**14 24 15.3**	**+0.8**
BOJS				*i* PKPbc	**PKiKP**	**14 24 22.7**	**+0.3**
BOJS				*i* PKPab	**PKPab**	**14 24 36.2**	**+0.2**
ESDC	**Sonseca Array**	**160.42**	**13**	PKPab	**PKPab**	**14 25 09.1**	**+0.2**
ESDC	**Sonseca Array**	**160.42**	**13**	PKP	**PKPdf**	**14 24 25.1**	**+0.7**
	comp=Z,1.3nm,1.1s,baz=252,slow=0.4,SNR=4.3							
ESDC				PKPab	**PKPab**	**14 25 09.3**	**+0.4**
	comp=Z,3.2nm,1.0s,baz=343,slow=5.8,SNR=9.0							
KEST	**Kesra**	**163.61**	**338**	PKPab	**PKPab**	**14 25 23.1**	**+0.1**
	comp=Z,4.1nm,0.7s,baz=309,slow=1.9,SNR=5.1							
DBIC	**Dimbokro**	**164.65**	**154**	PKPab	**PKPab**	**14 25 29.2**	**+1.3**
	comp=Z,2.3nm,0.7s,baz=210,slow=3.6,SNR=3.1							
TORD	**Torodi Ar. Bea**	**172.52**	**179**	PKP	**PKPdf**	**14 24 33.4**	**-0.7**
	comp=Z,2.9nm,0.8s,baz=301,slow=1.3,SNR=12							
TORD				PKPab	**PKPab**	**14 26 03.2**	**+0.5**
	comp=Z,4.4nm,0.9s,baz=179,slow=3.6,SNR=12							
TORD				PP	**PP**	**14 29 54.1**	**+0.8**
	comp=Z,1.1nm,0.8s,baz=190,slow=3.4,SNR=3.5							

MOS ***13*** *14:17:02.2±1.2,43.81N×86.41E,h9km,mb4.6/16,Error ellipse: s-maj=7.0km s-min=5.1km az=110.3*
IDC ***13*** *14:17:02.1±0.6,43.81N×86.49E,h0km,mb4.0/18, mbtmp4.1/23,ML3.5/5,MS3.5/39,Error ellipse: s-maj=17.5km s-min=9.1km az=43.0*
BJI ***13*** *14:17:04.3±0.0,43.82N×86.44E,h19km,mb4.5/43, mB4.5/23,ML4.5/12,Ms4.0/30,Ms7 3.8/28*
NNC ***13*** *14:17:04.9±1.7,43.98N×86.49E,h0km,mb4.8,mpv4.6, Error ellipse: s-maj=13.7km s-min=8.8km az=106.0*
NEIC ***13*** *14:17:04.6±1.8,43.88N±0.07×86.54E±0.09,h10km±1km, mb4.6/34,Error ellipse: s-maj=13.7km s-min=9.8km az=215.0*
SOME ***13*** *14:17:12.1,44.28N×85.97E,h10km,MS3.3*
ISC 13 14:17:04.6±0.3,43.78N±0.03×86.48E±0.02,h10km,n226,
α2s16/208,mb4.4/65,MS3.6/40,27C-21D,Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WMQ	**Urumqi**	**0.88**	**87**	Pg	**Pg**	**14 17 22.8**	**+1.3**
WMQ				Sg	**Sg**	**14 17 35.3**	**+2.4**
WMQ				smax	smax		
	comp=N,5μm,0.5s						
WMQ				smax	smax		
	comp=E,6μm,0.7s						
ZSN	**Zaisan**	**3.85**	**343**	Pg	**Pb**	**14 18 16.3**	**+3.9**
	202nm,0.5s						
ZSN				Lg	Lg	14 19 04.2	
	279nm,0.9s						
ZSN	**Zaisan**	**3.85**	**343**	*e*P	**Pb**	**14 18 14.4**	**+1.9**
	222nm,0.6s						
ZSN				*e*S	**Sb**	**14 18 59.6**	**+0.5**
	178nm,0.7s						
MK31	**Makanchi Array**	**4.23**	**317**	Pn	**Pn**	**14 18 09.2**	**+0.1**
	20nm,0.6s,baz=134,slow=14,SNR=511						
MK31				Pg	**Pb**	**14 18 19.4**	**+0.4**
	119nm,0.6s,baz=128,slow=16,SNR=15						
MK31				⇑Sn	**Sn**	**14 18 57.8**	**-0.7**
	170nm,0.8s,baz=37,slow=60,SNR=5.8						
MK31				Lg	Lg	14 19 16.7	
	159nm,0.6s,baz=132,slow=27,SNR=7.2						
MK31	**Makanchi Array**	**4.23**	**317**		**Pn**	**14 18 09.3**	**+0.3**
MK31	**Makanchi Array**	**4.23**	**317**	*d*iP	**Pn**	**14 18 09.5**	**+0.5**
MKAR	**Makanchi Array**	**4.23**	**317**	Pn	**Pn**	**14 18 09.6**	**+0.5**
	5.4nm,0.3s,baz=137,slow=14,SNR=324						
MKAR				Sn	**Sn**	**14 18 57.9**	**-0.5**
	32nm,0.3s,baz=126,slow=26,SNR=9.0						
MKAR				Lg	Lg	14 19 15.2	
	45nm,0.3s,baz=130,slow=28,SNR=9.4						
MKAR				LR	LR	14 20 17.0	
	comp=Z,597nm,20.8s,baz=156,slow=46						
	42nm,0.7s						
MAKZ	**Makanchi**	**4.39**	**315**	⇑Pn	**Pn**	**14 18 11.7**	**+0.4**
	75nm,0.8s						
MAKZ				⇓Sn	**Sn**	**14 19 01.6**	**-0.9**
	82nm,0.5s						
MAKZ				⇓Lg	Lg	14 19 20.7	
	312nm,1.2s						
MAKZ	**Makanchi**	**4.39**	**315**		**Pn**	**14 18 11.6**	**+0.4**
MAKZ	**Makanchi**	**4.39**	**315**	P	**Pn**	**14 18 11.6**	**+0.3**
DJR	**Jarkent**	**4.86**	**279**	*e*P	Pb	14 18 34.1	+4.4
	37nm,0.5s						
DJR				*e*S	**Sb**	**14 19 34.9**	**+6.6**
	159nm,0.8s						
PDGK	**Podgornoye**	**5.10**	**267**	⇓Pn	**Pn**	**14 18 21.0**	**-0.2**
	22nm,0.7s						
PDGK				⇑Pg	**Pb**	**14 18 37.5**	**+3.5**
	80nm,0.8s						
PDGK				⇓Lg	Lg	14 19 46.8	
	306nm,1.2s						
PDGK	**Podgornoye**	**5.10**	**267**	P	**Pn**	**14 18 22.0**	**+0.8**
SHLS	**Shalkode**	**5.15**	**266**	Pg	**Pb**	**14 18 36.9**	**+2.1**
	193nm,0.7s						
SHLS				Lg	Lg	14 19 39.9	
	340nm,0.9s						
SHLS	**Shalkode**	**5.15**	**266**	*e*P	**Pb**	**14 18 34.4**	**-0.4**
	64nm,0.4s						
SHLS				*e*S	**Sb**	**14 19 34.4**	**-2.2**
	174nm,0.5s						
KNOS	**Konyrlen**	**5.29**	**279**	Pg	Pb	14 18 43.2	+6.0
	32nm,0.2s						
KNOS				Lg	Lg	14 19 50.7	
	96nm,0.3s						
UZB	**Uzynbulak**	**5.47**	**266**	*e*P	Pb	14 18 46.2	+6.0
	34nm,0.5s						
UZB				*e*S	Sb	14 19 55.5	+10
	128nm,0.8s						
ZHN	**Zhinishke**	**5.89**	**267**	Pg	Pb	14 18 54.4	+7.0
	13nm,0.2s						
ZHN				Lg	Lg	14 20 09.9	
	87nm,0.2s						
ZHN	**Zhinishke**	**5.89**	**267**	*e*P	**Pg**	**14 18 56.2**	**-1.1**
	9.9nm,0.1s						
ZHN				*e*S	**Sg**	**14 20 11.9**	**-1.6**
	117nm,0.6s						
TDK	**Taldyqorghan**	**5.92**	**285**	Pg	**Pg**	**14 18 57.5**	**-0.3**
	112nm,0.4s						
TDK				Lg	Lg	14 20 14.9	
	783nm,1.3s						
TDK	**Taldyqorghan**	**5.92**	**285**	*e*P	**Pg**	**14 18 56.0**	**-1.9**
	99nm,0.5s						
TDK				*e*S	**Sg**	**14 20 11.4**	**-3.0**
	377nm,0.9s						
SATY	**Saty**	**5.93**	**266**	Pg	**Pg**	**14 18 57.5**	**-0.5**
	48nm,0.6s						
SATY				Lg	Lg	14 20 14.3	
	196nm,0.9s						
SATY	**Saty**	**5.93**	**266**	*e*P	**Pg**	**14 18 57.5**	**-0.5**
	48nm,0.6s						
SATY				*e*S	**Sg**	**14 20 14.3**	**-0.5**
	196nm,0.9s						
DGZ	**Jazzator, Alta**	**5.96**	**6**	*d*iP	**Pn**	**14 18 34.4**	**+1.4**
KURS	**Kuram**	**6.04**	**270**	*e*P	**Pg**	**14 18 58.5**	**-1.7**
	20nm,0.5s						
KURS				*e*S	**Sg**	**14 20 16.1**	**-2.3**
	96nm,0.9s						
ARXS	**Arharly**	**6.26**	**277**	*e*P	Pg	14 19 01.9	-2.5
	23nm,0.6s						
ARXS				*e*S	**Sg**	**14 20 22.2**	**-3.2**
	188nm,0.7s						
CUR	**Chagan-Uzun**	**6.45**	**11**	P	**Pn**	**14 18 40.8**	**+1.1**
CHBI	**Chibit, Altay**	**6.58**	**6**	P	**Pn**	**14 18 42.0**	**+0.6**
KOTS	**Kotyrbulak**	**6.84**	**269**	*e*P	Pg	14 19 13.5	-1.9
	23nm,0.5s						
KOTS				*e*S	**Sg**	**14 20 41.6**	**-2.3**
	136nm,0.7s						
CHKK	**Chushkaly**	**6.87**	**274**	*e*P	Pg	14 19 13.9	-2.2
	9.1nm,0.4s						
CHKK				*e*S	**Sg**	**14 20 42.0**	**-3.0**
	28nm,0.3s						
MDOK	**Medeo**	**6.89**	**268**	⇑Pn	**Pn**	**14 18 45.4**	**-0.4**
	16nm,0.7s						
MDOK				⇑Pg	Pb	14 19 12.8	+8.3
	39nm,0.9s						
MDOK				Pg	Pg	14 19 13.4	-3.1
	15nm,0.8s						
MDOK				⇓Lg	Lg	14 20 41.3	
	187nm,1.2s						
MDOK				Lg	Lg	14 20 41.9	
	115nm,1.1s						
MDOK	**Medeo**	**6.89**	**268**	*e*P	**Pg**	**14 19 14.9**	**-1.6**
	15nm,0.8s						
MDOK				*e*S	**Sg**	**14 20 43.8**	**-2.0**
	54nm,0.9s						
MDOK	**Medeo**	**6.89**	**268**	P	**Pn**	**14 18 45.4**	**-0.4**
ULGR	**Ulagan, Altay**	**6.92**	**8**	P	**Pn**	**14 18 48.7**	**+2.6**
KNDC	**Almaty**	**6.94**	**269**	⇑Pn	**Pn**	**14 18 48.4**	**+2.0**
	95nm,0.8s						
KNDC				⇓Lg	Lg	14 20 44.1	
	182nm,1.2s						
TNSS	**Tian-Shan**	**6.99**	**267**	Pg	Pg	14 19 15.6	-2.7
	19nm,0.5s						
TNSS				Lg	Lg	14 20 45.6	
	35nm,0.9s						
TNSS	**Tian-Shan**	**6.99**	**267**	*e*P	Pg	14 19 15.6	-2.7
	19nm,0.5s						
TNSS				*e*S	**Sg**	**14 20 45.6**	**-3.1**
	35nm,0.9s						
KTBS	**Karatobe**	**7.10**	**273**	*e*P	Pg	14 19 17.8	-2.6
	7.4nm,0.6s						
KTBS				*e*S	**Sg**	**14 20 48.8**	**-3.5**
	76nm,0.7s						
IZV	**Izvestkoviy**	**7.23**	**268**	Pg	Pb	14 19 18.9	+8.7
	13nm,0.6s						
IZV				Lg	Lg	14 20 51.7	
	76nm,1.0s						
IZV	**Izvestkoviy**	**7.23**	**268**	*e*P	Pg	14 19 20.6	-2.3
	6.3nm,0.4s						
IZV				*e*S	**Sg**	**14 20 53.8**	**-2.7**
	44nm,1.1s						
UKR	**Ust'-Kan**	**7.26**	**351**	P	**Pn**	**14 18 51.2**	**+0.5**
KST	**Kastek**	**7.70**	**268**	Pg	Pg	14 19 29.1	-2.8
	14nm,0.9s						
KST				Lg	Lg	14 21 08.5	
	88nm,1.3s						
KST	**Kastek**	**7.70**	**268**	*e*P	Pg	14 19 29.1	-2.8
	14nm,0.9s						
KST				*e*S	**Sg**	**14 21 08.5**	**-3.0**
	88nm,1.3s						
BOOM	**Boomskoye usch**	**7.82**	**264**	Pn	**Pn**	**14 18 58.5**	**0.0**
BOOM	**Boomskoye usch**	**7.82**	**264**	P	**Pn**	**14 18 58.5**	**0.0**
KRBS	**Karabastau**	**7.83**	**273**	Pg	Pg	14 19 32.0	-2.4
	11nm,0.7s						
KRBS				Lg	Lg	14 21 13.6	
	36nm,0.9s						
KRBS	**Karabastau**	**7.83**	**273**	*e*P	Pg	14 19 32.0	-2.4
	11nm,0.7s						
KRBS				*e*S	**Sg**	**14 21 13.6**	**-2.1**
	36nm,0.9s						
SEM	**Semipalatinsk**	**7.88**	**330**	*e*P	**Pb**	**14 19 25.4**	**+4.1**
SEM				*e*S	**Sb**	**14 21 01.7**	**+6.5**
TKM2	**Tokmak 2**	**7.98**	**268**	⇑Pn	**Pn**	**14 19 01.4**	**+0.6**
	20nm,0.7s						
TKM2				⇑Lg	Lg	14 21 16.7	
	65nm,0.9s						
TKM2	**Tokmak 2**	**7.98**	**268**	P	**Pn**	**14 19 01.4**	**+0.6**
CHMS	**Chumysh**	**8.58**	**269**	⇑Pg	Pg	14 19 43.2	-5.5
	13nm,0.8s						
CHMS				⇓Lg	Lg	14 21 33.7	
	57nm,0.8s						
KURBB	**Kurchatov Arra**	**8.73**	**324**	⇓Pn	**Pn**	**14 19 08.3**	**-2.4**
	20nm,0.6s						
KURBB				⇑Lg	Lg	14 21 38.4	
	249nm,0.8s						
KURBB	**Kurchatov Arra**	**8.73**	**324**	Pn	**Pn**	**14 19 09.2**	**-1.6**
	0.4nm,0.3s,baz=131,slow=13,SNR=45						
KURBB				Sn	**Sn**	**14 20 46.7**	**-2.4**
	0.6nm,0.3s,baz=152,slow=16,SNR=1.9						
KURBB				Lg	Lg	14 21 35.4	
	0.7nm,0.3s,baz=289,slow=26,SNR=4.5						
KURBB				LR	LR	14 22 59.8	
	comp=Z,410nm,19.5s,baz=158,slow=41						
	4.4nm,0.8s						
KURK	**Kurchatov**	**8.76**	**325**	⇑Pn	**Pn**	**14 19 08.9**	**-2.3**
	25nm,1.2s						
KURK				⇓Lg	Lg	14 21 39.7	
	171nm,0.9s						
KURK	**Kurchatov**	**8.76**	**325**	Pn	**Pn**	**14 19 09.1**	**-2.0**
KURK	**Kurchatov**	**8.76**	**325**	*d*iP	**Pn**	**14 19 08.9**	**-2.3**
AAK	**Ala-Archa**	**8.83**	**267**	⇓Pn	**Pn**	**14 19 12.1**	**-0.3**
	13nm,0.8s						
AAK				⇑Lg	Lg	14 21 44.5	
	64nm,1.2s						
AAK	**Ala-Archa**	**8.83**	**267**	Pn	**Pn**	**14 19 13.7**	**+1.3**
AAK	**Ala-Archa**	**8.83**	**267**	Pn	**Pn**	**14 19 12.4**	**+0.1**
	0.4nm,0.3s,baz=109,slow=9.1,SNR=5.2						
AAK				Lg	Lg	14 21 43.2	
	0.5nm,0.3s,baz=103,slow=20,SNR=2.3						
AAK				LR	LR	14 23 02.2	
	comp=Z,174nm,20.2s,baz=76,slow=41						
	1.5nm,0.6s						
AAK	**Ala-Archa**	**8.83**	**267**	*ce*P	**Pn**	**14 19 11.9**	**-0.5**
KSH	**Kashi**	**8.94**	**245**	P	Pn	14 19 22.8	+8.9
KSH				pmax	pmax		
	comp=Z,19nm,0.8s						
BTLS	**Baital**	**8.99**	**282**	*e*P	Pg	14 19 52.7	-3.9
	4.7nm,0.4s						
BTLS				*e*S	**Sg**	**14 21 48.8**	**-4.3**
	15nm,0.8s						
GOMU	**GeErMu**	**9.90**	**137**	P	**Pn**	**14 19 28.3**	**+1.1**
GOMU				pP		14 19 32.0	
GOMU				pmax	pmax		
	comp=Z,66nm,0.8s						
GOMU				LR	LR		
	comp=N,1μm,13.4s						
GOMU				LR	LR		
	comp=E,750nm,10.7s						
GOMU				LR	LR		
	comp=Z,2μm,14.2s						
ZAA0	**Zalesovo Array**	**10.24**	**354**	Pn	**Pn**	**14 19 29.2**	**-2.2**
	5.6nm,0.3s,baz=175,slow=13,SNR=191						
ZALV	**Zalesovo Beam**	**10.24**	**354**	Pn	**Pn**	**14 19 29.1**	**-2.3**
ZALV				Sn	**Sn**	**14 21 19.5**	**-6.7**
	3.5nm,0.3s,baz=171,slow=22,SNR=10.0						
ZALV				Lg	Lg	14 22 27.2	
	baz=162,slow=26						
ZALV				LR	LR	14 23 51.0	
	comp=Z,251nm,19.3s,baz=178,slow=40						
	52nm,0.7s						
OTUK	**Ortayu**	**10.80**	**299**	⇓Pn	Pn	14 19 36.6	-2.6
	12nm,0.8s						
OTUK				⇑Lg	Lg	14 22 45.5	
	64nm,0.9s						
OTUK	**Ortayu**	**10.80**	**299**	P	Pn	14 19 36.6	-2.6
GTA	**Gaotai**	**10.89**	**109**	*e*P	**Pn**	**14 19 41.3**	**+0.7**
GTA				pP		14 19 46.3	
GTA				sS	Sn	14 21 51.0	+8.4
GTA				pmax	pmax		
	comp=Z,11nm,0.9s						
GTA				LR	LR		
	comp=N,340nm,9.1s						
GTA				LR	LR		
	comp=E,390nm,10.9s						
GTA				LR	LR		
	comp=Z,460nm,11.6s						
KK31	**Karatay Array**	**11.63**	**272**	⇓Pn	**Pn**	**14 19 51.6**	**+1.0**
	2.7nm,0.7s,baz=62,slow=13,SNR=10						
KK31				⇓Lg	Lg	14 23 11.9	
	11nm,0.8s,baz=84,slow=22,SNR=5.2						
KK31	**Karatay Array**	**11.63**	**272**	Pn	**Pn**	**14 19 50.8**	**+0.2**
KK31	**Karatay Array**	**11.63**	**272**	P	**Pn**	**14 19 50.8**	**+0.2**
KKAR	**Karatay Array**	**11.63**	**272**	Pn	**Pn**	**14 19 50.6**	**+0.1**
KKAR	**Karatay Array**	**11.63**	**272**	Pn	**Pn**	**14 19 50.8**	**+0.1**
KKAR	**Karatay Array**	**11.63**	**272**	P	**Pn**	**14 19 50.7**	**+0.1**
MOY	**Mondy**	**12.54**	**46**	*e*P	**Pn**	**14 20 05.6**	**+2.5**
MOY				*e*S	**Sn**	**14 22 27.8**	**+5.0**
ZAK	**Zakamensk**	**13.20**	**54**	*e*P	**Pn**	**14 20 13.2**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s						
SIMJ	**Simiganj**	**14.11**	**255**	Pn	**Pn**	**14 20 24.0**	**-0.5**
BVA0	**Borovoye Array**	**14.11**	**317**	⇑Pn	Pn	14 20 21.2	-3.2
	comp=Z,7.6nm,0.8s,baz=114,slow=14,SNR=12						
BVA0				⇓Lg	Lg	14 24 29.5	
	comp=Z,36nm,1.3s,baz=81,slow=32,SNR=4.0						
BVA0	**Borovoye Array**	**14.11**	**317**	P	Pn	14 20 21.2	-3.1
BVAR	**Borovoye Array**	**14.11**	**317**	Pn	Pn	14 20 21.9	-2.5
	comp=Z,0.1nm,0.3s,baz=117,slow=13,SNR=10						
BVAR				Lg	Lg	14 24 30.0	
	baz=114,slow=27,SNR=1.2						
	comp=Z,1.8nm,0.7s						
BRVK	**Borovoye**	**14.18**	**317**	⇑Pn	**Pn**	**14 20 26.8**	**+1.5**
	comp=Z,6.1nm,0.6s						
BRVK				⇑Lg	Lg	14 24 30.5	
	comp=Z,40nm,1.0s						
BRVK	**Borovoye**	**14.18**	**317**	Pn	Pn	14 20 22.1	-3.2
BRVK	**Borovoye**	**14.18**	**317**	*ce*P	Pn	14 20 22.8	-2.5
BRVK				pmax	pmax		
	comp=Z,9.0nm,1.9s						
SONM	**Songino Array**	**14.46**	**67**	Pn	**Pn**	**14 20 28.2**	**-1.1**
SONM	**Songino Array**	**14.46**	**67**	Pn	**Pn**	**14 20 32.3**	**+3.0**
	comp=Z,0.2nm,0.3s,baz=252,slow=14,SNR=18						
SONM				Lg	Lg	14 24 42.2	
	comp=Z,0.5nm,0.3s,baz=273,slow=27,SNR=4.2						
SONM	**Songino Array**	**14.46**	**67**	P	**Pn**	**14 20 28.2**	**-1.1**
LSA	**Lhasa**	**14.53**	**164**	P	**P**	**14 20 40.8**	**+3.4**
LSA	**Lhasa**	**14.53**	**164**	P	**P**	**14 20 39.2**	**+1.8**
LSA	**Lhasa**	**14.53**	**164**	P	**P**	**14 20 39.2**	**+1.8**
IRK	**Irkutsk**	**14.58**	**48**	*e*P	**Pn**	**14 20 32.6**	**+1.8**
IRK				*e*S	**Sn**	**14 23 18.4**	**+6.0**
IRK				pmax	pmax		
	comp=Z,26nm,1.6s						
ULN	**Ulaanbaatar**	**14.90**	**67**	P	**P**	**14 20 41.4**	**+0.3**
ULN	**Ulaanbaatar**	**14.90**	**67**	P	**P**	**14 20 41.4**	**+0.3**
LZH	**Lanzhou**	**15.36**	**114**	*e*P	**Pn**	**14 20 41.8**	**+0.4**
LZH				sP	P	14 20 47.9	+1.7
LZH				pmax	pmax		
	comp=Z,15nm,1.4s						
LZH				LR	LR		
	comp=Z,500nm,9.6s						
LZH				LR	LR		
	comp=Z,310nm,10.3s						
LZH				LR	LR		
	comp=Z,240nm,11.0s						
KBL	**Kabul**	**16.34**	**242**	Pn	**Pn**	**14 20 54.4**	**+0.1**
KBL	**Kabul**	**16.34**	**242**	P	**Pn**	**14 20 54.4**	**+0.1**
KBL				pmax	pmax		
	comp=Z,19nm,1.1s						
BTO	**Baotou**	**17.71**	**92**	*e*P	**Pn**	**14 21 08.3**	**-3.1**
BTO				PP	**PnPn**	**14 21 26.6**	**+4.9**
BTO				S	**Sn**	**14 24 22.1**	**-6.6**
BTO				pmax	pmax		
	comp=Z,12nm,0.5s						
BTO				pmax	pmax		
	comp=Z,190nm,5.0s						
BTO				LR	LR		
	comp=Z,250nm,9.3s						
BTO				LR	LR		
	comp=Z,260nm,10.9s						
BTO				LR	LR		
	comp=Z,320nm,20.6s						
HHC	**Hu-ho-hao-te**	**18.76**	**90**	*e*P	**P**	**14 21 22.6**	**-1.1**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,59nm,4.4s						
ABKAR	**Akbulak array**	**19.02**	**296**	P	**P**	**14 21 24.7**	**-1.7**
ABKAR	**Akbulak array**	**19.02**	**296**		**P**	**14 21 25.0**	**-1.3**
XAN	**Xi'an**	**19.93**	**112**	⇑P	**P**	**14 21 37.9**	**+1.4**
XAN				pmax	pmax		
	comp=Z,18nm,0.9s						
XAN				LR	LR		
	comp=Z,530nm,12.2s						
XAN				LR	LR		
	comp=Z,320nm,14.3s						
XAN				LR	LR		
	comp=Z,420nm,11.4s						
AKTO	**Aktyubinsk**	**20.41**	**299**	P	**P**	**14 21 41.4**

XLT					LR	LR			
	comp=Z,230nm,11.5s								
ARU	**Arti**	**21.75**	**315**		P	**P**	**14 21 56.0**	**+0.1**	
	comp=Z,5.1nm,0.6s,baz=131,slow=3.0,SNR=6.8								
ARU					Lg	Lg	14 28 32.7		
	baz=276,slow=14,SNR=4.3								
ARU					LR	LR	14 30 26.6		
	comp=Z,73nm,20.7s,baz=120,slow=37								
	comp=Z,5.1nm,0.6s								
ARU	**Arti**	**21.75**	**315**	*c*	*i*P	**P**	**14 21 56.2**	**+0.3**	
ARU							14 22 15.0		
ARU					S	**S**	**14 25 59.4**	**+3.1**	
ARU					SS	**SnSn**	**14 26 23.8**	**+3.2**	
ARU					pmax	pmax			
	comp=Z,7.0nm,0.7s								
LYN	**LuoYang**	**22.08**	**106**	*e*	P	**P**	**14 22 00.8**	**+1.1**	
LYN					pmax	pmax			
	comp=Z,25nm,0.5s								
LYN					pmax	pmax			
	comp=Z,150nm,5.2s								
BOD	**Bodaibo**	**22.16**	**41**	*e*	P	**P**	**14 21 58.9**	**-1.4**	
BOD					pmax	pmax			
	comp=Z,14nm,1.4s								
GEYT	**Alibeck**	**22.18**	**264**		P	**P**	**14 22 00.3**	**-0.4**	
	comp=Z,1.1nm,0.6s,baz=84,slow=4.6,SNR=3.8								
GEYT					LR	LR	14 31 49.6		
	comp=Z,119nm,18.9s,baz=22,slow=40								
	comp=Z,1.1nm,0.6s								
KMI	**Kunming**	**22.86**	**139**	⇑	P	**P**	**14 22 09.3**	**+1.0**	
KMI					pmax	pmax			
	comp=Z,11nm,1.0s								
KMI					LR	LR			
	comp=Z,160nm,13.5s								
KMI					LR	LR			
	comp=Z,160nm,13.8s								
KMI					LR	LR			
	comp=Z,190nm,14.2s								
WHN	**Wuhan**	**25.70**	**112**		P	**P**	**14 22 35.8**	**+1.0**	
CRAI	**Chiangrai**	**26.19**	**149**		P	**P**	**14 22 39.9**	**+0.5**	
CHTO	**Chiang Mai**	**27.00**	**153**		P	**P**	**14 22 47.0**	**+0.3**	
CHTO	**Chiang Mai**	**27.00**	**153**		P	**P**	**14 22 47.0**	**+0.3**	
CHTO					pmax	pmax			
	comp=Z,7.0nm,1.1s								
KIRV	**Kirov**	**27.12**	**316**		LR	LR	14 33 44.2		
	comp=Z,69nm,18.3s,baz=104,slow=37								
CM31	**Chiang Mai Arr**	**27.34**	**154**		P	**P**	**14 22 50.0**	**+0.3**	
CM31					IAmb	IAmb	14 22 51.7		
	comp=Z,14nm,1.1s								
CMAR	**Chiang Mai Arr**	**27.34**	**154**		P	**P**	**14 22 50.3**	**+0.6**	
CMAR	**Chiang Mai Arr**	**27.34**	**154**		P	**P**	**14 22 50.6**	**+1.0**	
	comp=Z,5.5nm,1.0s,baz=332,slow=9.2,SNR=28								
CMAR					LR	LR	14 34 45.9		
	comp=Z,83nm,18.7s,baz=25,slow=39								
	comp=Z,5.5nm,1.0s								
CMAR	**Chiang Mai Arr**	**27.34**	**154**		P	**P**	**14 22 50.3**	**+0.6**	
PHRA	**Phrae**	**27.73**	**151**		P	**P**	**14 22 53.8**	**+0.6**	
NJ2	**Nanjing**	**27.92**	**104**	*e*	P	**P**	**14 22 55.9**	**+1.1**	
NJ2					pmax	pmax			
	comp=Z,11nm,0.5s								
HEH	**HeiHe**	**28.37**	**62**	*e*	P	P	14 22 55.8	-2.8	
HEH					pmax	pmax			
	comp=Z,4.0nm,0.9s								
HEH					pmax	pmax			
	comp=Z,120nm,4.8s								
HEH					LR	LR			
	comp=Z,140nm,11.3s								
HEH					LR	LR			
	comp=Z,380nm,11.5s								
HEH					LR	LR			
	comp=Z,470nm,12.8s								
WSAR	**Wadi Sarin**	**30.73**	**237**		LR	LR	14 37 38.0		
	comp=Z,53nm,21.9s,baz=66,slow=40								
GNI	**Garni**	**31.01**	**278**		LR	LR	14 37 52.2		
	comp=Z,43nm,19.2s,baz=71,slow=40								
YAK	**Yakutsk**	**31.02**	**39**		LR	LR	14 36 16.8		
	comp=Z,83nm,21.0s,baz=248,slow=37								
YAK	**Yakutsk**	**31.02**	**39**	*ce*	P	**P**	**14 23 20.4**	**-1.6**	
YAK					pmax	pmax			
	comp=Z,6.0nm,0.8s								
KBZ	**Khabaz**	**31.21**	**285**		P	**P**	**14 23 23.3**	**-0.6**	
	comp=Z,1.3nm,0.7s,baz=110,slow=6.2,SNR=3.5								
KBZ					LR	LR	14 38 20.0		
	comp=Z,146nm,18.6s,baz=63,slow=41								
	comp=Z,1.3nm,0.7s								
KLR	**Kul'dur**	**31.26**	**64**	⇑	*e*P	P	14 23 20.9	-3.4	
KLR					pmax	pmax			
	comp=Z,9.0nm,3.7s								
KIV	**Kislovodsk**	**31.30**	**286**	⇓	*e*P	**P**	**14 23 23.7**	**-1.1**	
KIV					*e*		14 24 26.4		
KIV					pmax	pmax			
	comp=Z,4.0nm,1.1s								
KSRS	**Korea Array**	**31.83**	**87**		P	**P**	**14 23 28.8**	**-0.6**	
	comp=Z,1.0nm,0.7s,baz=280,slow=8.4,SNR=9.3								
KSRS					LR	LR	14 36 56.6		
	comp=Z,22nm,19.0s,baz=295,slow=38								
	comp=Z,1.0nm,0.7s								
USRK	**Ussuriysk Ar.**	**32.42**	**73**		LR	LR	14 37 50.9		
	comp=Z,124nm,20.8s,baz=266,slow=38								
KLMR	**Klimovskoe**	**32.52**	**318**	*e*	P	**P**	**14 23 33.2**	**-2.0**	
KLMR					pmax	pmax			
	comp=Z,11nm,1.5s								
OBN	**Obninsk**	**33.67**	**308**		LR	LR	14 38 16.8		
	comp=Z,139nm,18.5s,baz=200,slow=38								
OBN	**Obninsk**	**33.67**	**308**	⇑	*i*P	**P**	**14 23 44.8**	**-0.4**	
OBN					*i*		14 24 54.6		
OBN					*i*		14 26 30.1		
OBN					pmax	pmax			
	comp=Z,15nm,1.6s								
OBN					MLR	MLR			
	comp=Z,192nm,17.0s								
TIXI	**Tiksi**	**34.57**	**22**		P	**P**	**14 23 51.8**	**-1.1**	
TIXI					IAmb	IAmb	14 24 00.7		
	comp=Z,13nm,1.4s								
TIXI	**Tiksi**	**34.57**	**22**		LR	LR	14 38 27.7		
	comp=Z,109nm,19.9s,baz=220,slow=37								
TIXI	**Tiksi**	**34.57**	**22**	⇓	*e*P	**P**	**14 23 51.6**	**-1.3**	
TIXI					pmax	pmax			
	comp=Z,10.0nm,1.4s								
JNU	**Nakatsue**	**35.97**	**92**		LR	LR	14 40 24.8		
	comp=Z,69nm,18.3s,baz=206,slow=39								
PALK	**Pallekele**	**36.71**	**190**		P	**P**	**14 24 12.7**	**+0.8**	
PALK					IAmb	IAmb	14 24 29.7		
	comp=Z,16nm,1.2s								
PALK	**Pallekele**	**36.71**	**190**		P	**P**	**14 24 12.7**	**+0.8**	
PALK					pmax	pmax			
	comp=Z,16nm,1.2s								
VALR	**Valaam**	**36.75**	**318**	*ce*	P	**P**	**14 24 10.3**	**-1.4**	
VALR					pmax	pmax			
	comp=Z,6.0nm,1.0s								
SIM	**Simferopol'**	**36.92**	**291**	*e*	P	P	14 24 00.1	-13	
SIM					*e*		14 24 03.5		
SIM					pmax	pmax			
	comp=Z,193μm,1.0s								
SIM					pmax	pmax			
	comp=Z,83μm,1.3s								
DIKM	**Dikmen**	**37.21**	**285**	⇓	P	P	14 24 03.1	-13	
JOW	**Kunigami**	**37.62**	**103**		LR	LR	14 41 22.7		
	comp=Z,97nm,19.1s,baz=328,slow=39								
VSU	**Vasula**	**38.89**	**314**	⇑	*e*P	**P**	**14 24 29.5**	**-0.3**	
VSU					pmax	pmax			
	comp=Z,5.0nm,1.0s								
FINES	**FINESS Array B**	**39.06**	**318**		P	**P**	**14 24 31.2**	**0.0**	
FINES	**FINESS Array B**	**39.06**	**318**		LR	LR	14 40 40.2		
	comp=Z,46nm,18.0s,baz=94,slow=36								
FINES	**FINESS Array B**	**39.06**	**318**		P	**P**	**14 24 31.2**	**0.0**	
BR131	**Keskin Array S**	**39.08**	**283**	*de*	P	**P**	**14 24 31.6**	**-0.3**	
BRTR	**Keskin Array B**	**39.08**	**283**		P	**P**	**14 24 31.5**	**-0.3**	
	comp=Z,2.6nm,0.7s,baz=88,slow=8.0,SNR=5.2								
	comp=Z,2.6nm,0.7s								
BRTR	**Keskin Array B**	**39.08**	**283**	*i*	P	**P**	**14 24 31.8**	**-0.1**	
BRTR					pmax	pmax			
	comp=Z,3.0nm,0.6s								
ASAJ	**Asahikawa**	**39.72**	**69**		LR	LR	14 42 30.1		
	comp=Z,135nm,18.6s,baz=192,slow=38								
ARCES	**ARCESS Array B**	**39.74**	**331**		P	**P**	**14 24 34.9**	**-2.0**	
	comp=Z,0.6nm,0.5s,baz=101,slow=8.4,SNR=1.4								
ARCES					LR	LR	14 42 31.3		
	comp=Z,118nm,20.1s,baz=108,slow=38								
	comp=Z,0.6nm,0.5s								
KULM	**Kulim**	**40.31**	**158**		P	**P**	**14 24 42.1**	**0.0**	
KULM					IAmb	IAmb	14 24 43.2		
	comp=Z,15nm,1.2s								
MA2	**Magadan**	**41.11**	**44**		LR	LR	14 43 06.8		
	comp=Z,55nm,18.7s,baz=294,slow=38								
IPM	**Ipoh**	**41.19**	**158**		P	**P**	**14 24 48.4**	**-0.9**	
IPM					IAmb	IAmb	14 24 49.2		
	comp=Z,6.5nm,0.6s								
SEY	**Seymchan**	**41.55**	**39**		LR	LR	14 43 08.5		
	comp=Z,102nm,19.4s,baz=240,slow=38								
MLR	**Muntele Rosu**	**42.22**	**294**		LR	LR	14 46 19.6		
	comp=Z,81nm,18.5s,baz=102,slow=42								
GSI	**Gunungsitoli**	**43.43**	**164**			**P**	**14 25 06.9**	**-0.7**	
OJC	**Ojcow**	**44.56**	**303**		P	**P**	**14 25 15.9**	**-0.5**	
OJC					IAmb	IAmb	14 25 22.8		
	comp=Z,9.2nm,0.6s								
OJC	**Ojcow**	**44.56**	**303**		P	**P**	**14 25 15.9**	**-0.5**	
OJC					pmax	pmax			
	comp=Z,9.0nm,0.6s								
HFS	**Hagfors**	**45.24**	**318**		LR	LR	14 45 11.7		
	comp=Z,100nm,18.7s,baz=86,slow=37								
NB2	**NORSAR Subarra**	**46.22**	**319**		P	**P**	**14 25 27.9**	**-1.5**	
	comp=Z,9.7nm,1.4s,baz=76,slow=7.9								
NOA	**NORSAR Array B**	**46.22**	**319**		P	**P**	**14 25 27.9**	**-1.5**	
	comp=Z,1.4nm,0.9s,baz=76,slow=7.7,SNR=6.5								
NOA					LR	LR	14 45 51.1		
	comp=Z,62nm,19.6s,baz=80,slow=37								
	comp=Z,1.4nm,0.9s								
PETK	**Petropavlovsk-**	**46.32**	**52**		LR	LR	14 46 22.5		
	comp=Z,109nm,19.1s,baz=275,slow=38								
BILL	**Bilibino**	**46.60**	**31**	*e*	P	**P**	**14 25 32.0**	**-0.3**	
BILL					pmax	pmax			
	comp=Z,6.0nm,1.6s								
VRAC	**Vranov**	**46.82**	**303**		LR	LR	14 47 37.9		
	comp=Z,44nm,18.4s,baz=62,slow=39								
IDI	**Anoyia**	**47.28**	**282**		P	**P**	**14 25 36.9**	**-1.2**	
RONA	**Rosalia, Austr**	**47.61**	**301**	*ep*	P	**P**	**14 25 40.9**	**+0.4**	
	comp=Z,4.5nm,0.8s								
CONA	**Conrad Observa**	**47.79**	**301**	*ep*	P	**P**	**14 25 42.7**	**+0.8**	
	comp=Z,2.5nm,0.8s								
CLL	**Collm**	**48.24**	**306**	*e*	P	**P**	**14 25 45.0**	**-0.3**	
CLL					*ex*	x	14 25 51.0		
CLL	**Collm**	**48.24**	**306**	*e*	P	**P**	**14 25 45.0**	**-0.3**	
CLL					*e*		14 25 51.0		
ARSA	**Arzberg**	**48.27**	**300**	*e*	P	**P**	**14 25 45.1**	**-0.4**	
	comp=Z,2.5nm,0.6s								
GERES	**GERESS Array B**	**48.76**	**303**		LR	LR	14 49 12.0		
	comp=Z,34nm,20.4s,baz=88,slow=40								
SOKA	**Soboth**	**48.80**	**300**	*e*	P	**P**	**14 25 49.2**	**-0.5**	
	comp=Z,1.7nm,0.6s								
OBKA	**Obir**	**49.18**	**300**		P	**P**	**14 25 52.4**	**-0.2**	
	comp=Z,1.6nm,0.8s								
KBA	**Koelnbreinsper**	**49.69**	**301**	*e*	P	**P**	**14 25 56.1**	**-0.6**	
	comp=Z,5.4nm,1.4s								
LESA	**Schwarzleotal**	**49.96**	**302**	*e*	P	**P**	**14 25 58.3**	**-0.3**	
	comp=Z,1.5nm,0.6s								
ABTA	**Abfaltebaach**	**50.35**	**301**	*ep*	P	**P**	**14 26 01.7**	**+0.2**	
	comp=Z,5.2nm,1.3s								
WTTA	**Wattenberg**	**50.67**	**302**	*e*	P	**P**	**14 26 04.0**	**-0.1**	
	comp=Z,4.5nm,0.6s								
WATA	**Walderalm**	**50.68**	**302**	*ep*	P	**P**	**14 26 04.2**	**+0.1**	
	comp=Z,2.2nm,0.7s								
SQTA	**Sankt Quirin**	**50.95**	**302**	*e*	P	**P**	**14 26 06.1**	**-0.1**	
	comp=Z,3.6nm,0.7s								
MOTA	**Moosalm**	**50.97**	**302**	*e*	P	**P**	**14 26 05.3**	**-1.0**	
	comp=Z,2.6nm,1.0s								
RETA	**Reutte**	**51.11**	**302**	*ep*	P	**P**	**14 26 07.7**	**+0.4**	
	comp=Z,2.9nm,0.9s								
CUC	**Castrocucco**	**51.28**	**292**		P	**P**	**14 26 08.3**	**-0.2**	
CUC					IAmb	IAmb	14 26 16.9		
	comp=Z,6.7nm,0.8s								
FUORN	**Ofenpass-Fuorn**	**51.80**	**302**		P	**P**	**14 26 13.2**	**+0.5**	
CEL	**Celeste**	**52.07**	**290**		P	**P**	**14 26 14.5**	**-0.1**	
CEL					IAmb	IAmb	14 26 22.9		
	comp=Z,11nm,1.0s								
EKA	**Eskdalemuir Ar**	**55.36**	**316**		P	**P**	**14 26 37.4**	**-0.9**	
	comp=Z,1.2nm,0.7s,baz=52,slow=6.7,SNR=5.0								
	comp=Z,1.2nm,0.7s								
B20K	**Meade River**	**57.54**	**21**			**P**	**14 26 53.1**	**-0.4**	
B20K					IAmb	IAmb	14 27 01.4		
	comp=Z,4.0nm,0.8s								
GUMO	**Guam**	**57.98**	**102**		LR	LR	14 51 12.2		
	comp=Z,12nm,21.7s,baz=82,slow=35								
B22K	**Teshekpuk Lake**	**58.28**	**20**		P	**P**	**14 26 58.5**	**-0.3**	
B22K					IAmb	IAmb	14 27 14.3		
	comp=Z,10nm,1.4s								
B21K	**Ikpikpuk River**	**58.46**	**21**			**P**	**14 26 59.1**	**-0.9**	
TOLK	**Toolik Lake Re**	**60.44**	**20**		P	**P**	**14 27 13.4**	**-0.4**	
TOLK					IAmb	IAmb	14 27 20.1		
	comp=Z,6.4nm,1.4s								
E24K	**Your Creek**	**61.13**	**21**		P	**P**	**14 27 17.6**	**-1.0**	
RES	**Resolute Bay**	**61.82**	**0**		LR	LR	14 56 15.6		
	comp=Z,72nm,18.3s,baz=26,slow=38								
K20K	**Telida**	**62.95**	**26**		P	**P**	**14 27 31.3**	**+0.5**	
K20K					IAmb	IAmb	14 28 02.7		
	comp=Z,4.8nm,1.3s								
E29M	**Blow River**	**63.35**	**17**		P	**P**	**14 27 33.1**	**-0.2**	
E29M					IAmb	IAmb	14 27 41.5		
	comp=Z,4.4nm,0.8s								
ILAR	**Eielson Array**	**64.05**	**22**		P	**P**	**14 27 37.1**	**-0.8**	
	comp=Z,0.4nm,0.7s,baz=309,slow=5.4,SNR=8.2								
ILAR					LR	LR	14 58 09.5		
	comp=Z,72nm,19.1s,baz=302,slow=38								
	comp=Z,0.4nm,0.7s								
ESDC	**Sonseca Array**	**64.28**	**301**		P	**P**	**14 27 39.0**	**-1.0**	
	comp=Z,0.4nm,0.5s,baz=47,slow=6.1,SNR=6.6								
	comp=Z,0.4nm,0.5s								
INK	**Inuvik**	**64.30**	**15**		LR	LR	14 59 26.9		
	comp=Z,23nm,18.4s,baz=185,slow=40								
SFJD	**Kangerlussuaq**	**64.83**	**343**		LR	LR	14 59 54.7		
	comp=Z,58nm,18.3s,baz=46,slow=40								
C36M	**Paulatuk**	**64.96**	**11**		P	**P**	**14 27 42.0**	**-1.8**	
H29M	**Whitestone**	**65.04**	**18**		P	**P**	**14 27 44.0**	**-0.5**	
H29M					IAmb	IAmb	14 28 02.1		
	comp=Z,9.0nm,1.4s								
DHY	**Denali Highway**	**65.21**	**24**		P	**P**	**14 27 45.0**	**-0.8**	
DHY					IAmb	IAmb	14 28 05.0		
	comp=Z,4.8nm,1.2s								
G31M	**Satah River**	**65.34**	**16**		P	**P**	**14 27 45.6**	**-0.7**	
G31M					IAmb	IAmb	14 27 54.9		
	comp=Z,3.9nm,0.8s								
I30M	**Mount Dempster**	**66.33**	**18**		P	**P**	**14 27 51.7**	**-1.3**	
I30M					IAmb	IAmb	14 28 09.8		
	comp=Z,3.6nm,0.9s								
BCAR	**Beaver Creek A**	**66.78**	**22**		P	**P**	**14 27 56.1**	**+0.3**	
KDAK	**Kodiak Island**	**67.50**	**30**		LR	LR	15 02 08.4		
	comp=Z,5.5nm,18.3s,baz=327,slow=40								
FITZ	**Fitzroy Crossi**	**71.25**	**141**		P	**P**	**14 28 23.4**	**-0.6**	
YKA	**Yellowknife Ar**	**72.73**	**10**		P	**P**	**14 28 31.4**	**-1.0**	
	comp=Z,0.4nm,0.7s,baz=340,slow=6.7,SNR=6.4								
	comp=Z,0.4nm,0.7s								
YKA	**Yellowknife Ar**	**72.73**	**10**	*i*	P	**P**	**14 28 35.0**	**+2.6**	
YKA					pmax	pmax			
	comp=Z,1.0nm,0.6s								
WRA	**Warramunga Arr**	**77.08**	**134**		P	**P**	**14 28 57.3**	**-0.7**	
WRA	**Warramunga Arr**	**77.08**	**134**		P	**P**	**14 28 57.2**	**-0.8**	
	comp=Z,4.8nm,0.7s,baz=334,slow=5.2,SNR=32								
	comp=Z,4.8nm,0.7s								
WB2	**Warramunga Arr**	**77.09**	**134**		P	**P**	**14 28 57.3**	**-0.8**	
WR0	**Warramunga Arr**	**77.20**	**134**		P	**P**	**14 28 57.7**	**-1.0**	
WR0					IAmb	IAmb	14 28 58.7		
	comp=Z,5.7nm,0.8s								
TORD	**Torodi Ar. Bea**	**77.30**	**276**		P	**P**	**14 28 57.7**	**-1.7**	
	comp=Z,1.7nm,0.7s,baz=39,slow=4.7,SNR=7.3								
	comp=Z,1.7nm,0.7s								
ASAR	**Alice Springs**	**79.97**	**137**		P	**P**	**14 29 13.8**	**-0.1**	
ASAR	**Alice Springs**	**79.97**	**137**		P	**P**	**14 29 13.1**	**-0.8**	
	comp=Z,2.2nm,0.7s,baz=336,slow=5.7,SNR=25								
	comp=Z,2.2nm,0.7s								
DBIC	**Dimbokro**	**86.40**	**276**		P	**P**	**14 29 45.6**	**-1.8**	
DBIC	**Dimbokro**	**86.40**	**276**		P	**P**	**14 29 45.5**	**-2.0**	
	comp=Z,4.5nm,0.7s,baz=27,slow=5.7,SNR=4.4								
	comp=Z,4.5nm,0.7s								
DBIC	**Dimbokro**	**86.40**	**276**		P	**P**	**14 29 45.6**	**-1.8**	
DBIC					pmax	pmax			
	comp=Z,9.0nm,1.2s								
STKA	**Stephens Creek**	**90.56**	**136**		P	**P**	**14 30 04.9**	**-1.8**	
	comp=Z,2.1nm,0.7s,baz=237,slow=8.7,SNR=5.7								
STKA					LR	LR	15 17 26.9		
	comp=Z,25nm,18.7s,baz=205,slow=40								
	comp=Z,2.1nm,0.7s								
YBH	**Yreka Blue Hor**	**90.92**	**21**		LR	LR	15 15 13.1		
	comp=Z,21nm,21.6s,baz=332,slow=38								
PDAR	**Pinedale Array**	**92.65**	**12**		LR	LR	15 17 19.2		
	comp=Z,38nm,18.1s,baz=322,slow=39								
LPAZ	**La Paz**	**145.15**	**314**		PKPbc	**PKPbc**	**14 36 40.5**	**-2.3**	
	comp=Z,0.7nm,0.5s,baz=47,slow=4.5,SNR=4.1								

SKHL ***13*** *14:17:13.5±0.3, 45.50N×151.00E, h149km±4km, mb4.5/3, msha5.0/3*
IDC ***13*** *14:17:14.9±3.5, 46.45N×150.31E, h152km±43km, mb3.1/1, mbtmp3.5/6, Error ellipse: s-maj=59.2km s-min=25.3km az=150.0*

ISC 13 14:17:09.6±2.0, 45.5N±0.2×151.3E±0.2, h150km, n12, σ2s10/14, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.41**	**264**	*e*	P	**Pn**	**Pn**	**14 17 52.2**	**+2.7**
KUR					AMB	AMB	AMB	14 17 54.4	
	30nm,0.3s								
KUR				*i*	S	**Sn**		**14 18 20.3**	**0.0**
KUR					A	A		14 18 28.1	
	90nm,0.5s								
KUR					A	A		14 18 28.1	
	150nm,0.5s								
SHO	**Shikotan**	**3.56**	**244**	*e*	P	**Pn**		**14 18 05.7**	**+1.6**
SHO					AMB	AMB		14 18 10.2	
	20nm,0.3s								
SHO				*e*	S	**Sn**		**14 18 45.0**	**-1.4**
SHO					A	A		14 18 56.8	
	30nm,0.3s								
SHO					A	A		14 18 56.8	
	80nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**4.12**	**251**	*e*	P	**Pn**		**14 18 13.5**	**+2.2**
YUK					AMB	AMB		14 18 17.4	
	70nm,0.4s								
YUK				*e*	S	**Sn**		**14 18 58.7**	**-0.6**
YUK					A	A		14 19 09.7	
	90nm,0.5s								
YUK					A	A		14 19 09.7	
	40nm,0.5s								
NMR	**Nemuro--Hokkai**	**4.51**	**244**	*e*	P	**Pn**		**14 18 17.5**	**+1.1**
NMR				*e*	S	**Sn**		**14 19 05.5**	**-2.9**
AKK	**Akkeshi**	**5.24**	**244**	*e*	P	**Pn**		**14 18 27.7**	**+1.5**
YSS	**Yuzh-Sakhalins**	**6.08**	**287**	*e*	P	**Pn**		**14 18 38.5**	**+1.3**
ASAJ	**Asahikawa**	**6.32**	**260**		P	**Pn**		**14 18 40.7**	**+0.2**
	3.0nm,0.4s,baz=71,slow=15,SNR=11								
PETK	**Petropavlovsk-**	**8.58**	**27**		P	**Pn**		**14 19 11.0**	**-0.9**
	0.6nm,0.7s,baz=198,slow=9.2,SNR=1.0								
KLR	**Kul'dur**	**13.73**	**293**		P	Pn		14 20 10.7	-7.2
	1.3nm,0.5s,baz=76,slow=13,SNR=5.4								
USRK	**Ussuriysk Ar.**	**13.74**	**271**		P	**Pn**		**14 20 14.6**	**-3.5**
	1.3nm,0.5s,baz=76,slow=13,SNR=5.4								
KSRS	**Korea Array**	**19.20**	**253**		P	**P**		**14 21 24.1**	**+2.3**
	0.8nm,0.5s,baz=52,slow=12,SNR=10								
ASAR	**Alice Springs**	**70.64**	**197**		P	P		14 28 18.0	+9.3
	0.3nm,0.6s,baz=6.8,slow=5.7,SNR=4.4								
	0.3nm,0.6s								

IDC ***13*** *14:23:13.7±1.6, 42.90S×83.51W, h0km, mb3.9/5, mbtmp3.9/5, MS3.7/14, Error ellipse: s-maj=58.0km s-min=33.5km az=162.0*
NEIC ***13*** *14:23:16.8±1.4, 42.65±0.1×83.7W±0.2, h10km±1km, mb4.5/32, Error ellipse: s-maj=22.4km s-min=19.0km az=235.0*

ISC 13 14:23:16.1±0.8, 42.6S±0.1×83.7W±0.1, h10km, n66, σ0s95/46, mb4.5/18, MS3.6/13, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LL02	**Futaleuf**	**8.71**	**98**			Pn	**Pn**	**14 25 21.4**	**-0.7**
AY03	**Cochrane**	**9.15**	**125**			Pn	**Pn**	**14 25 29.6**	**+1.5**
H03S1	**Juan Fernandez**	**9.49**	**25**			T	T	14 35 24.9	
	baz=199,slow=73,SNR=131								
H03S2	**Juan Fernandez**	**9.49**	**25**			T	T	14 35 22.8	
	baz=199,slow=73,SNR=136								
H03S3	**Juan Fernandez**	**9.51**	**25**			T	T	14 35 24.4	
	baz=199,slow=73,SNR=144								
GO08	**Villa O'Higgin**	**9.78**	**131**			Pn	**Pn**	**14 25 35.7**	**-0.9**
H03N3	**Juan Fernandez**	**9.85**	**24**			T	T	14 35 59.6	
	baz=215,slow=79,SNR=18								
H03N2	**Juan Fernandez**	**9.86**	**24**			T	T	14 35 46.5	
	baz=215,slow=79,SNR=25								
H03N1	**Juan Fernandez**	**9.86**	**24**			T	T	14 36 10.5	
	baz=215,slow=79,SNR=22								
PLCA	**Paso Flores**	**10.00**	**84**		LR	LR		14 28 49.6	
	comp=Z,657nm,18.4s,baz=203,slow=34								
CO03	**El Pedregal**	**15.65**	**46**		P	**P**		**14 27 01.0**	**0.0**
ZON	**Zonda**	**16.24**	**52**			**P**		**14 27 07.8**	**+0.3**
LCO	**Las Campanas**	**17.12**	**42**		P	**P**		**14 27 18.2**	**+0.7**
AC05	**El Transito**	**17.48**	**43**			**P**		**14 27 23.3**	**+2.0**
AC02	**Maricunga**	**19.70**	**42**		P	**P**		**14 27 44.5**	**-1.5**
PB14	**IPOC Station P**	**21.00**	**36**		P	**P**		**14 28 00.8**	**+0.8**
PB14					IAmb	IAmb		14 28 05.0	
	comp=Z,35nm,1.5s								
LVC	**Limon Verde**	**23.41**	**36**		P	**P**		**14 28 24.6**	**-1.1**
LVC					IAmb	IAmb		14 28 34.5	
	com

PDAR	**Pinedale Array**	**88.09**	**341**	P	**P**	14 36 07.3	**+0.6**
PDAR	**Pinedale Array**	**88.09**	**341**	P	**P**	14 36 07.7	**+1.0**
	comp=Z,0.1nm,0.3s,baz=133,slow=5.0,SNR=1.6						
	comp=Z,0.1nm,0.3s						
FXWY	**Fox Creek**	**89.27**	**341**	P	**P**	14 36 12.6	**+0.4**
FXWY				IAmb	IAmb	14 36 20.0	
	comp=Z,7.1nm,1.4s						
IMW	**Indian Meadow**	**89.49**	**341**	P	**P**	14 36 14.3	**+1.0**
FLWY	**Flagg Ranch**	**89.61**	**341**	P	**P**	14 36 15.0	**+1.3**
FLWY				IAmb	IAmb	14 36 21.9	
	comp=Z,5.2nm,0.9s						
HLID	**Hailey**	**90.08**	**338**	P	**P**	14 36 16.5	**+0.5**
HLID				IAmb	IAmb	14 36 24.6	
	comp=Z,4.2nm,1.1s						
WVOR	**Wild Horse Val**	**90.29**	**335**	P	**P**	14 36 17.1	**+0.2**
WVOR				IAmb	IAmb	14 36 54.7	
	comp=Z,7.0nm,1.4s						
H11S2	**WAKE ISLAND Hyl**	**16.60**	**271**	T	T	16 49 23.9	
	baz=129,slow=76,SNR=17						
H11S1	**WAKE ISLAND Hyl**	**16.62**	**271**	T	T	16 49 21.8	
	baz=129,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hyl**	**16.62**	**271**	T	T	16 49 21.3	
	baz=129,slow=76,SNR=13						
GERES	**GERESS Array B**	**124.67**	**53**	PKP	**PKPdf**	**14 42 13.6**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=242,slow=4.1,SNR=1.4						
MJAR	**Matsushiro Arr**	**147.40**	**274**	PKPbc	**PKPbc**	**14 42 59.5**	**-0.4**
	comp=Z,3.1nm,1.1s,baz=141,slow=3.0,SNR=4.8						
KURBB	**Kurchatov Arra**	**165.39**	**50**	PKP	**PKPdf**	**14 43 18.7**	**-1.3**
	comp=Z,0.8nm,1.0s,baz=304,slow=1.3,SNR=4.8						
ZALV	**Zalesovo Beam**	**166.31**	**30**	PKP	**PKPdf**	**14 43 18.6**	**-2.0**
	comp=Z,0.2nm,0.3s,baz=267,slow=2.9,SNR=1.8						

*NEIC **13** 14:33:23.4±2.2, 33.04N±0.01×115.92W±0.01, h20km±5km, Error ellipse: s-maj=1.9km s-min=1.6km az=221.0*
*PAS **13** 14:33:23.8±1.4, 33.045N±0.008×115.929W±0.010, h1km±1km, ML3.3/81, ML3.0/66(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=222.0*
*ANF **13** 14:33:23.1±0.2, 33.07N×115.93W, h0km±2km, ML3.2/29, Error ellipse: s-maj=1.7km s-min=1.4km az=141.0*

ISC 13 14:33:24.1±0.8, **33.06N**±0.01×**115.93W**±0.01, **h16**km±5km, **n148**, σ1**05**/206, **Southern California**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SUP	**Superstition M**	**0.14**	**141**				**Pg**	**14 33 28.4**	**+0.5**
SWSC	**Sam W. Stewart**	**0.16**	**138**				**Pg**	**14 33 29.2**	**+1.0**
SWSC	**Sam W. Stewart**	**0.16**	**138**	P		**Pg**	**Pg**	**14 33 26.8**	**-1.4**
	baz=313,SNR=316								
SWSC				S			**Sg**	**14 33 28.8**	**-2.1**
	baz=313								
CRR	**Carrizo Plain**	**0.18**	**191**				**Pg**	**14 33 27.5**	**-1.0**
SALN	**Salton City**	**0.22**	**347**				**Pg**	**14 33 28.9**	**-0.3**
SALN							**Sg**	**14 33 32.9**	**+0.3**
COK2	**Cook Ranch 2**	**0.27**	**142**				**Pg**	**14 33 29.4**	**-0.4**
COK2							**Sb**	**14 33 34.2**	**-0.8**
WEMD	**Westmorland, C**	**0.29**	**95**				**Pb**	**14 33 30.4**	**-0.5**
WEMD							**Sb**	**14 33 35.8**	**+0.3**
CLI2	**Calipatria 2**	**0.30**	**79**				**Pb**	**14 33 30.7**	**-0.4**
CLI2							**Sb**	**14 33 36.2**	**+0.5**
BOMB	**Bombay Beach**	**0.34**	**29**				**Pg**	**14 33 31.1**	**-0.8**
WESC	**Westside Schoo**	**0.34**	**151**				**Pg**	**14 33 30.9**	**-0.3**
WESC							**Sb**	**14 33 36.7**	**-0.4**
IMPE	**Imperial**	**0.35**	**117**				**Pb**	**14 33 31.5**	**-0.4**
IMPE							**Sb**	**14 33 37.7**	**+0.5**
YUH	**Yuha Desert**	**0.41**	**179**				**Pg**	**14 33 31.5**	**-1.0**
YUH				IAML				14 33 37.6	
	comp=E,2μm,0.5s								
YUH				IAML				14 33 37.7	
	comp=N,1μm,0.2s								
YUH	**Yuha Desert**	**0.41**	**179**				**Sg**	**14 33 37.3**	**-0.8**
IKP	**In-Ko-Pah, Jac**	**0.44**	**200**				**Pg**	**14 33 32.2**	**-0.8**
IKP							**Sg**	**14 33 38.3**	**-0.6**
IKP	**In-Ko-Pah, Jac**	**0.44**	**200**	P		**Pg**	**Pg**	**14 33 32.2**	**-0.8**
	baz=21,SNR=100								
IKP				S			**Sg**	**14 33 38.2**	**-0.7**
	baz=21								
SGL	**Mount Signal**	**0.45**	**158**				**Pg**	**14 33 32.3**	**-0.7**
SGL							**Sg**	**14 33 38.6**	**-0.5**
MONP2	**Monument Peak**	**0.45**	**248**				**Pg**	**14 33 32.7**	**-0.5**
MONP2	**Monument Peak**	**0.45**	**248**	P		**Pg**	**Pg**	**14 33 32.7**	**-0.5**
	baz=70,SNR=128								
MONP2				S			**Sg**	**14 33 38.8**	**-0.5**
	baz=70								
SNR	**Schaffner Ranc**	**0.46**	**116**				**Pb**	**14 33 33.4**	**-0.4**
SNR							**Sb**	**14 33 41.2**	**+0.8**
BORC	**Borrego Spring**	**0.46**	**297**				**Pb**	**14 33 33.1**	**-0.8**
RMX	**La Rumorosa**	**0.48**	**196**				**Pg**	**14 33 33.4**	**-0.3**
RMX				IAML				14 33 41.4	
	comp=N,1μm,0.2s								
RMX				IAML				14 33 43.0	
	comp=E,1μm,0.2s								
RMX	**La Rumorosa**	**0.48**	**196**				**Sb**	**14 33 40.5**	**-0.6**
DREC	**Desert Rsrch C**	**0.48**	**122**				**Pb**	**14 33 34.1**	**-0.1**
DREC							**Sb**	**14 33 42.1**	**+1.2**
5053	**Calexico**	**0.54**	**137**				**Pb**	**14 33 34.8**	**-0.4**
5053							**Sb**	**14 33 43.3**	**+0.7**
JUEM	**Julian Eagle M**	**0.56**	**272**				**Pb**	**14 33 35.1**	**-0.6**
JUEM							**Sb**	**14 33 43.5**	**0.0**
CTCC	**Cactus City**	**0.59**	**355**				**Pb**	**14 33 35.7**	**-0.5**
CTCC							**Sb**	**14 33 45.2**	**+0.8**
UABX	**UABC, Campus M**	**0.59**	**136**				**Pg**	**14 33 35.4**	**-0.4**
UABX	**UABC, Campus M**	**0.59**	**136**				**Sb**	**14 33 44.7**	**+0.4**
CTW	**Cottonwood Mou**	**0.61**	**4**				**Pb**	**14 33 35.9**	**-0.6**
CTW							**Sb**	**14 33 44.8**	**-0.2**
5054	**Holtville Bond**	**0.62**	**126**				**Pb**	**14 33 36.2**	**-0.3**
5054							**Sb**	**14 33 46.3**	**+1.3**
MATG	**Mataguay Scout**	**0.62**	**283**				**Pb**	**14 33 36.1**	**-0.6**
HAY	**Hayfield**	**0.67**	**18**				**Pb**	**14 33 37.1**	**-0.4**
HAY							**Sb**	**14 33 46.8**	**+0.1**
PMD	**Palm Desert**	**0.69**	**327**				**Pg**	**14 33 37.0**	**-0.7**
PMD				IAML				14 33 48.5	
	comp=E,750nm,0.5s								
XPFO	**Pion Flat**	**0.70**	**321**				**Pg**	**14 33 37.4**	**-0.5**
XPFO							**Sb**	**14 33 48.5**	**+0.8**
COA	**Coachella**	**0.70**	**106**				**Pg**	**14 33 37.4**	**-0.5**
COA							**Sb**	**14 33 48.2**	**+0.7**
PFO	**Pinyon Flats O**	**0.71**	**321**	Pg		**Pg**	**Pg**	**14 33 37.2**	**-0.8**
PFO				IAML				14 33 48.9	
	comp=E,696nm,0.5s								
PFO				IAML				14 33 49.3	
	comp=E,436nm,0.5s								
PFO	**Pinyon Flats O**	**0.71**	**321**				**Pg**	**14 33 37.4**	**-0.5**
PFO	**Pinyon Flats O**	**0.71**	**321**	P		**Pg**	**Pg**	**14 33 37.4**	**-0.5**
	baz=142,SNR=175								
PFO				S			**Sb**	**14 33 47.8**	**+0.1**
	baz=142								
BC3	**Big Chuckawall**	**0.71**	**34**				**Pg**	**14 33 37.4**	**-0.6**
BC3							**Sb**	**14 33 47.4**	**-0.5**
BC3	**Big Chuckawall**	**0.71**	**34**	P		**Pg**	**Pg**	**14 33 37.4**	**-0.6**
	baz=213,SNR=60								
BC3				S			**Sb**	**14 33 47.5**	**-0.3**
	baz=213								
FRD	**Ford Ranch, An**	**0.71**	**307**				**Pg**	**14 33 37.0**	**-1.1**
FRD							**Sg**	**14 33 46.6**	**-0.9**
FRD	**Ford Ranch, An**	**0.71**	**307**				**Pb**	**14 33 37.8**	**-0.4**
FRD							**Sb**	**14 33 47.6**	**-0.2**
BAR	**Barrett**	**0.73**	**239**				**Pg**	**14 33 37.3**	**-1.1**
BAR				IAML				14 33 49.6	
	comp=N,1μm,0.1s								
BAR				IAML				14 33 51.3	
	comp=E,911nm,0.3s								
BAR	**Barrett**	**0.73**	**239**				**Sg**	**14 33 47.5**	**-0.6**
BZNA	**Buzz No.'s Pla**	**0.75**	**305**				**Pb**	**14 33 38.6**	**-0.3**
BZNA							**Sb**	**14 33 49.1**	**+0.1**
SNDA	**J Saunders Pla**	**0.75**	**311**				**Pb**	**14 33 38.6**	**-0.3**
SNDA							**Sb**	**14 33 49.9**	**+0.8**
TKX	**Tecate**	**0.76**	**229**				**Pg**	**14 33 37.6**	**-1.2**
TKX	**Tecate**	**0.76**	**229**				**Sg**	**14 33 47.9**	**-0.9**
DNR	**Dunn Ranch,Anz**	**0.77**	**311**				**Pb**	**14 33 39.0**	**-0.2**
DNR							**Sb**	**14 33 51.0**	**+1.3**
EML	**El Monte Cty P**	**0.79**	**258**				**Pg**	**14 33 38.6**	**-0.9**
EML							**Sg**	**14 33 48.7**	**-1.2**
RUN	**Ruthven**	**0.80**	**96**				**Pg**	**14 33 38.8**	**-1.0**
RUN							**Sg**	**14 33 49.9**	**-0.4**
CPBX	**Cerro Prieto**	**0.83**	**141**				**Pg**	**14 33 39.0**	**-1.2**
PLM	**Palomar**	**0.83**	**291**				**Pb**	**14 33 40.0**	**-0.3**
PLM							**Sb**	**14 33 51.4**	**0.0**
CRY	**Cary Ranch**	**0.84**	**307**				**Pb**	**14 33 40.1**	**-0.3**
CRY							**Sb**	**14 33 52.0**	**+0.4**
DUZA	**Dulzura**	**0.85**	**238**				**Pg**	**14 33 39.5**	**-1.1**
DUZA							**Sg**	**14 33 50.7**	**-1.0**
DPP	**Dos Picos Cty**	**0.85**	**266**				**Pg**	**14 33 39.9**	**-0.8**
DPP							**Sg**	**14 33 51.2**	**-0.8**
EMSC	**East Mesa**	**0.86**	**112**				**Pg**	**14 33 39.6**	**-1.1**
EMSC							**Sg**	**14 33 51.8**	**-0.2**
GVDA	**Garner Valley**	**0.87**	**314**				**Pb**	**14 33 40.7**	**-0.3**
SDRC	**San Diego Road**	**0.91**	**249**				**Pg**	**14 33 40.7**	**-1.1**
SDRC							**Sg**	**14 33 52.7**	**-1.1**
GLA	**Glamis**	**0.92**	**90**				**Pg**	**14 33 40.5**	**-1.5**
GLA					IAML			14 33 54.4	
	comp=N,486nm,0.5s								
GLA					IAML			14 33 58.6	
	comp=E,908nm,0.6s								
GLA	**Glamis**	**0.92**	**90**				**Sg**	**14 33 53.4**	**-0.8**
GLA	**Glamis**	**0.92**	**90**	P			**Pg**	**14 33 40.7**	**-1.4**
	baz=270,SNR=40								
GLA				S			**Sg**	**14 33 53.4**	**-0.8**
	baz=270								
BELC	**Belle Mtn. Jos**	**0.94**	**356**				**Pg**	**14 33 41.4**	**-0.9**
BELC	**Belle Mtn. Jos**	**0.94**	**356**	P			**Pg**	**14 33 41.4**	**-0.9**
	baz=176,SNR=113								
BELC				S			**Sb**	**14 33 54.5**	**+0.2**
	baz=176								
OLP	**Otay Lakes Par**	**0.96**	**242**				**Pg**	**14 33 41.5**	**-1.2**
OLP							**Sg**	**14 33 54.8**	**-0.4**
EW2	**E Wide Canyon**	**0.96**	**335**				**Pg**	**14 33 41.9**	**-0.8**
CBX	**Cerro Bola**	**0.97**	**220**				**Pg**	**14 33 41.7**	**-1.2**
CBX	**Cerro Bola**	**0.97**	**220**				**Sg**	**14 33 55.5**	**-0.2**
109C	**Camp Elliot, M**	**1.00**	**260**				**Pg**	**14 33 42.1**	**-1.4**
109C	**Camp Elliot, M**	**1.00**	**260**	P			**Pg**	**14 33 42.3**	**-1.2**
	baz=81,SNR=79								
109C				S			**Sg**	**14 33 55.8**	**-0.9**
	baz=81								
CPE	**Camp Elliot**	**1.00**	**260**				**Pg**	**14 33 42.3**	**-1.2**
CPE							**Sg**	**14 33 55.8**	**-0.9**
POB	**Polly Butte**	**1.04**	**307**				**Pg**	**14 33 43.0**	**-1.2**
GUVIX	**Guadalupe Vict**	**1.04**	**136**	Pg			**Pg**	**14 33 42.8**	**-1.5**
TPC	**Twentynine Pal**	**1.04**	**354**				**Pg**	**14 33 43.1**	**-1.3**
ESJX	**Sierra Juarez**	**1.05**	**181**				**Pg**	**14 33 42.9**	**-1.7**
ESJX	**Sierra Juarez**	**1.05**	**181**				**Sg**	**14 33 56.9**	**-1.4**
BLAC	**Blackrock camp**	**1.07**	**339**				**Pb**	**14 33 44.3**	**-0.1**
DGR	**Domenigoni Val**	**1.08**	**303**				**Pg**	**14 33 43.5**	**-1.4**
DGR							**Sb**	**14 33 59.0**	**+0.7**
BACC	**Bachelor Mtn.**	**1.08**	**301**				**Pb**	**14 33 44.4**	**0.0**
BACC							**Sb**	**14 33 59.1**	**+0.7**
GORC	**Green Oak Ranc**	**1.10**	**275**				**Pg**	**14 33 44.2**	**-1.1**
GORC							**Sg**	**14 33 58.6**	**-1.0**
TJX	**Tijuana**	**1.10**	**240**				**Pg**	**14 33 44.0**	**-1.3**
HMTC	**Hemet**	**1.11**	**306**				**Pg**	**14 33 43.9**	**-1.6**
HMTC							**Sb**	**14 33 59.6**	**+0.4**
MURC	**Murrieta**	**1.19**	**297**				**Pg**	**14 33 45.1**	**-2.0**
MURC							**Sb**	**14 34 02.2**	**+0.7**
MURC	**Murrieta**	**1.19**	**297**	P			**Pg**	**14 33 44.9**	**-2.1**
	baz=117,SNR=94								
MURC				S			**Sb**	**14 34 01.9**	**+0.4**
	baz=117								
IRM	**Iron Mountain**	**1.27**	**31**	P			**Pg**	**14 33 46.3**	**-2.3**
	baz=211,SNR=59								
IRM				S			**Sb**	**14 34 04.5**	**+0.6**
	baz=211								
GTM	**Goat Mountain**	**1.28**	**344**				**Pb**	**14 33 47.9**	**0.0**
PEC	**Perris**	**1.32**	**309**				**Pg**	**14 33 47.1**	**-2.5**
CCX	**Cicese**	**1.34**	**208**				**Pg**	**14 33 47.9**	**-2.0**
CCX	**Cicese**	**1.34**	**208**		IAML			14 34 13.1	
	comp=N,390nm,0.5s								
CCX					IAML			14 34 15.0	
	comp=E,411nm,0.7s								
BLYC	**Blythe**	**1.36**	**59**				**Pg**	**14 33 48.3**	**-2.0**
BLYC					IAML			14 34 09.4	
	comp=E,171nm,1.8s								
ELS	**Elsinore Mount**	**1.38**	**295**				**Pg**	**14 33 48.8**	**-1.9**
ELS					IAML			14 34 08.9	
	comp=E,186nm,0.5s								
ELS	**Elsinore Mount**	**1.38**	**295**				**Sg**	**14 34 07.2**	**-1.6**
CFT	**Crafton Hills**	**1.39**	**315**				**Pb**	**14 33 50.3**	**+0.6**
BBRC	**Big Bear Solar**	**1.46**	**326**				**Pg**	**14 33 51.0**	**-1.2**
BBRC	**Big Bear Solar**	**1.46**	**326**	P			**Pn**	**14 33 49.4**	**-0.6**
	baz=146,SNR=26								
BBRC				S			**Sn**	**14 34 12.0**	**+3.1**
	baz=146								
CLTC	**Calectric**	**1.55**	**312**				**Pg**	**14 33 54.4**	**+0.5**
VTX	**Valle De La Tr**	**1.67**	**176**				**Pn**	**14 33 53.5**	**+0.7**
VTX					IAML			14 34 16.9	
	comp=E,296nm,0.8s								
VTX					IAML			14 34 18.9	
	comp=N,158nm,0.3s								
GMRC	**Granite Mounta**	**1.73**	**7**	P			**Pn**	**14 33 52.8**	**-1.0**
	baz=187,SNR=56								
GMRC				S			**Sg**	**14 34 18.8**	**-1.2**
	baz=187								
SS2	**San Sevaine**	**1.74**	**311**				**Pn**	**14 33 53.5**	**-0.2**
HEC	**Hector,Ludlow**	**1.79**	**349**	Pb			**Pb**	**14 33 56.9**	**+0.3**
	baz=169								
HEC				Sb			**Sg**	**14 34 22.7**	**+0.8**
	baz=169								
113A	**Mohawk Valley,**	**1.84**	**99**				**Pn**	**14 33 53.4**	**-1.7**
BFSC	**Mount Baldy Ra**	**1.86**	**310**	Pb			**Pb**	**14 33 57.6**	**-0.2**
	baz=129								
BFSC				S			**Sb**	**14 34 21.7**	**+0.7**
	baz=129								
SSK	**Sunset Peak**	**1.86**	**308**				**Pn**	**14 33 55.6**	**0.0**
PDMCI	**Parker Dam,Lak**	**1.94**	**50**	S			**Sb**	**14 34 24.0**	**+1.0**
	baz=230								
RRX	**Edison Barstow**	**2.01**	**334**				**Pg**	**14 34 01.4**	**-1.4**
RRX	**Edison Barstow**	**2.01**	**334**	Pg			**Pg**	**14 34 01.4**	**-1.4**
	baz=154								
RRX				Sb			**Sg**	**14 34 28.8**	**-0.2**
	baz=154								
NEE2	**Needles Airpor**	**2.02**	**32**	S			**Sb**	**14 34 25.7**	**+0.3**
	baz=213								
FMP	**Fort Macarthur**	**2.08**	**289**	S			**Sn**	**14 34 26.7**	**+2.7**
	baz=108								
CIS	**Catalina Islan**	**2.11**	**280**	Pb			**Pb**	**14 34 02.2**	**+0.1**
	baz=99								
CIS				S			**Sn**	**14 34 27.6**	**+2.8**
	baz=99								
PASC	**Pasadena Art C**	**2.18**	**301**				**Pn**	**14 34 01.1**	**+1.3**
PASC					IAML			14 34 33.4	
	comp=N,86nm,0.6s								
PASC					IAML			14 34 38.6	
	comp=E,60nm,0.6s								
SCI2	**San Clemente I**	**2.20**	**269**	P			**Pn**	**14 34 01.2**	**+1.2**
	baz=88								
SCI2				S			**Sn**	**14 34 29.4**	**+2.4**
	baz=88								
SFX	**San Felipe**	**2.22**	**155**	Pn			**Pn**	**14 34 00.9**	**+0.7**
HYS	**Haystack Butte**	**2.26**	**323**				**Pg**	**14 34 05.6**	**-1.8**
SBB	**Saddle Back Bu**	**2.26**	**316**				**Pn**	**14 34 01.5**	**+0.5**
DECC	**Green Verdugo**	**2.33**	**301**	Pb			**Pb**	**14 34 06.1**	**+0.3**
	baz=120								
DECC				Sb			**Sg**	**14 34 37.7**	**-1.4**
	baz=120								
GSC	**Goldstone, Bar**	**2.35**	**342**				**Pn**	**14 34 02.5**	**+0.3**
GSC					IAML			14 34 52.7	
	comp=E,101nm,1.5s								
GSC					IAML			14 34 53.2	
	comp=N,58nm,1.2s								
GSC	**Goldstone, Bar**	**2.35**	**342**	Pb			**Pb**	**14 34 07.1**	**+1.0**
	baz=162,SNR=24								
GSC				Sb			**Sg**	**14 34 38.8**	**-0.9**
	baz=162								
TUQ	**Turquoise Moun**	**2.37**	**0**	S			**Sb**	**14 34 35.2**	**-0.3**
	baz=180								
EDW2	**Edwards Air Fo**	**2.50**	**317**	Pb			**Pb**	**14 34 09.1**	**+0.5**
	baz=136,SNR=33								
EDW2				Sb			**Sg**	**14 34 42.3**	**-2.1**
	baz=136								
W13A	**Hualapai Mount**	**2.65**	**39**				**Pn**	**14 34 06.4**	**0.0**
W13A					IAML			14 34 54.8	
	comp=N,40nm,1.7s								
OSI	**Osito Audit: C**	**2.79**	**304**	Sb			**Sg**	**14 34 51.8**	**-2.1**
	baz=123								
V12A	**Nelson**	**2.80**	**18**	Pn			**Pn**	**14 34 09.2**	**+0.8**
LRMC	**Laurel Mtn Rad**	**2.81**	**329**	Sb			**Sg**	**14 34 52.6**	**-1.9**
	baz=149								
SHOC	**Shoshone, Teco**	**2.84**	**354**	Sb			**Sg**	**14 34 54.1**	**-1.4**
	baz=174								
214A	**Organ Pipe Nat**	**2.85**	**112**	Pn			**Pn**	**14 34 07.6**	**-1.4**
SNCC	**San Nicolas Is**	**3.02**	**274**	Sb			**Sg**	**14 34 58.8**	**-2.4**
	baz=93								
ARVC	**Arvin**	**3.17**	**311**	Sb			**Sg**	**14 35 03.2**	**-2.7**
	baz=130								
GWY	**Greenwater Val**	**3.17**	**349**	Pn			**Pn**	**14 34 13.3**	**-0.3**
MPMC	**Manual Prospec**	**3.25**	**337**	Sb			**Sg**	**14 35 06.3**	**-2.3**
	baz=156								
SHPR	**Sheep Range**	**3.49**	**10**	Pn			**Pn**	**14 34 18.0**	**0.0**
WCT	**Wildcat Mounta**	**3.77**	**351**	Pn			**Pn**	**14 34 22.2**	**+0.6**
X16A	**Lo Mia Camp, P**	**3.98**	**69**	Pn			**Pn**	**14 34 24.6**	**0.0**
X16A				IAML				14 35 47.8	
	comp=N,13nm,1.2s								
GRAC	**Grapevine Rang**	**4.10**	**344**	Pn			**Pn**	**14 34 27.0**	**+0.9**
GMN	**Gold Mountain**	**4.37**	**346**				**Pn**	**14 34 30.4**	**+0.4**
LCH	**Last Change Ra**	**4.39**	**342**				**Pn**	**14 34 30.7**	**+0.4**
PRN	**Pahroc Range**	**4.39**	**9**	Pn			**Pn**	**14 34 31.1**	**+0.8**
TUC	**Tucson**	**4.40**	**98**	Pn			**Pn**	**14 34 30.1**	**-0.3**
U15A	**North Rim**	**4.50**	**41**	Pn			**Pn**	**14 34 32.5**	**+0.7**
U15A				IAML				14 35 59.4	
	comp=N,10nm,0.9s								
U15A				IAML				14 36 19.0	
	comp=E,15nm,2.6s								
LCMT	**Little Creek M**	**4.51**	**28**				**Pn**	**14 34 32.6**	**+0.6**
LCMT				IAML				14 35 58.3	
	comp=E,8.4nm,1.9s								
DSP	**Deep Springs**	**4.61**	**339**	Pn			**Pn**	**14 34 33.8**	**+0.6**
KNB	**Kanab**	**4.70**	**32**	Pn			**Pn**	**14 34 35.3**	**+0.8**
KNB				IAML				14 36 26.6	
	comp=N,19nm,3.6s								
KNB				IAML				14 36 36.5	
	comp=E,11nm,2.2s								
MZP	**Montezuma Peak**	**4.78**	**346**	Pn			**Pn**	**14 34 37.1**	**+1.3**
CCUT	**Cedar City**	**4.94**	**24**	Pn			**Pn**	**14 34 38.8**	**+0.8**
X18A	**Snowflake**	**5.19**	**72**	Pn			**Pn**	**14 34 42.2**	**+1.0**
LHV	**Little Huntoon**	**5.58**	**339**	Pn			**Pn**	**14 34 47.9**	**+1.4**
DUN6	**Lazy B Ranch**	**5.78**	**93**	Pn			**Pn**	**14 34 49.7**	**+0.3**
RYN	**Ryan**	**5.94**	**340**	Pn			**Pn**	**14 34 52.1**	**+0.5**
121A	**Cookes Peak, D**	**6.88**	**92**	Pn			**Pn**	**14 35 04.8**	**+0.4**

*IDC **13** 14:48:09.3±1.6, 1.08N×126.93E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=166.7km s-min=19.8km az=66.0*
*NEIC **13** 14:48:16.2±0.2, 1.2N±0.1×127.01E±0.04, h59km±11km, mb4.0/7, Error ellipse: s-maj=15.5km s-min=4.6km az=169.0*
*DJA **13** 14:48:16.0±0.5, 1.1N±3°×12.7E±°, h29km±6km, M3.8/13, mb3.9/1, MLv3.8/13*

ISC 13 14:48:16.9±0.9, **1.10N**±0.07×**127.05E**±0.07, **h72**km, **n26**, σ1**09**/28, **mb3.8/9**, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.46**	**136**				**Pn**	**14 48 28.5**	**-1.0**
TNTI							**Sn**	**14 48 37.0**	**-1.8**
TNTI	**Ternate**	**0.46**	**136**	P			**Pn**	**14 48 28.5**	**-1.0**
TNTI				S			**Sn**	**14 48 36.1**	**-2.7**
LBMI	**Labuha**	**1.79**	**165**	P			**Pn**	**14 48 46.7**	**+0.9**
SGSI	**Sangihe**	**2.98**	**329**	P			**Pn**	**14 49 01.4**	**-0.6**
KMSI	**Cibinong**	**3.11**	**260**	P			**Pn**	**14 49 03.5**	**-0.2**
SANI	**Sanana**	**3.31**	**199**	P			**Pn**	**14 49 05.3**	**-1.1**
GTOI	**Gorontalo**	**4.07**	**263**	P			**Pn**	**14 49 17.3**	**+0.6**
NLAI	**Namlea**	**4.31**	**179**	P			**Pn**	**14 49 20.2**	**+0.1**
SWI	**Sorong**	**4.64**	**115**	P			**Pn**	**14 49 24.8**	**+0.2**
LUWI	**Luwuk**	**4.78**	**244**	Pn			**Pn**	**14 49 25.5**	**-1.0**
LUWI	**Luwuk**	**4.78**	**244**	P			**Pn**	**14 49 26.1**	**-0.4**
TOLI2	**Tolitoli**	**6.27**	**270**	Pn			**Pn**	**14 49 45.1**	**-1.7**
WB0	**Warramunga Arr**	**21.96**	**161**	P			**P**	**14 53 05.7**	**+0.8**
WB0				IAmb		IAmb	IAmb	14 53 09.3	
	comp=Z,11nm,1.2s								
WRA	**Warramunga Arr**	**22.10**	**162**	P		**P**	**P**	**14 53 06.8**	**+0.3**
WRA	**Warramunga Arr**	**22.10**	**162**	P		**P**	**P**	**14 53 06.6**	**+0.2**
	comp=Z,2.4nm,0.6s,baz=339,slow=10,SNR=15								
	comp=Z,2.4nm,0.6s								
WB2	**Warramunga Arr**	**22.11**	**161**	P		**P**	**P**	**14 53 07.0**	**+0.4**
WB2				IAmb		IAmb	IAmb	14 53 40.0	
	comp=Z,12nm,1.3s								
WR0

*SOME **13** 15:08:20.6,44˚.07N×85˚.35E,h15km*
*NNC **13** 15:08:25.2±2.5,43˚.92N×86˚.24E,h0km,mb3.4,mpv3.0, Error ellipse: s-maj=18.5km s-min=11.7km az=103.0*
ISC 13 15:08:22.7±2.8,**43˚.90N**±0˚.09×**85˚.8E**±0˚.1,**h17**km,**n10**, σ2s**39**/18,**4C-4D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.61**	**350**	*eP*	**Pb**	**15 09 23.7**	**-2.3**
	7.0nm,0.3s						
ZSN				*eS*	**Sb**	**15 10 09.2**	**-0.2**
	5.7nm,0.3s						
MK31	**Makanchi Array**	**3.81**	**321**	Pn	**Pb**	**15 09 27.3**	**-2.0**
	0.7nm,0.3s,baz=132,slow=14,SNR=41						
MK31				⇑Sn	**Sb**	**15 10 16.5**	**+1.3**
	1.9nm,0.3s,baz=135,slow=26,SNR=4.9						
MK31				⇑Lg	Lg	15 10 34.6	
	2.2nm,0.3s,baz=130,slow=30,SNR=7.7						
MAKZ	**Makanchi**	**3.96**	**318**	⇑Pn	**Pb**	**15 09 29.6**	**-2.4**
	1.4nm,0.4s						
MAKZ				⇑Sn	**Sb**	**15 10 20.3**	**+0.6**
	5.5nm,0.4s						
MAKZ				⇓Lg	Lg	15 10 38.9	
	5.6nm,0.6s						
DJR	**Jarkent**	**4.35**	**278**	*eP*	**Pb**	**15 09 34.8**	**-3.9**
	0.9nm,0.2s						
DJR				*eS*	**Sb**	**15 10 28.1**	**-2.8**
	3.4nm,0.1s						
PDGK	**Podgornoye**	**4.62**	**265**	⇓Pn	**Pb**	**15 09 42.2**	**-1.1**
	2.4nm,0.9s						
PDGK				⇓Sn	**Sb**	**15 10 39.2**	**+0.5**
	4.3nm,0.5s						
PDGK				⇓Lg	Lg	15 10 59.8	
	4.0nm,0.5s						
SHLS	**Shalkode**	**4.67**	**263**	*eP*	**Pn**	**15 09 35.4**	**+2.9**
	2.9nm,0.2s						
SHLS				*eS*	**Sn**	**15 10 29.1**	**+2.7**
	4.9nm,0.2s						
UZB	**Uzynbulak**	**4.99**	**264**	*eS*	**Sb**	**15 10 48.1**	**-1.2**
	2.9nm,0.2s						
UZB	**Uzynbulak**	**4.99**	**264**	*eP*	**Pb**	**15 09 46.4**	**-3.2**
	2.1nm,0.2s						
SATY	**Saty**	**5.45**	**264**	*eP*	**Pb**	**15 09 54.3**	**-3.1**
	1.0nm,0.1s						
SATY				*eS*	**Sb**	**15 11 01.5**	**-1.0**
	6.6nm,0.2s						
ARXS	**Arharly**	**5.75**	**276**	*eP*	**Pb**	**15 10 01.1**	**-1.5**
	2.0nm,0.2s						
ARXS				*eS*	**Sb**	**15 11 13.2**	**+1.9**
	3.9nm,0.2s						

*NNC **13** 15:12:56.2±1.2,43˚.92N×86˚.28E,h0km,mb3.7,mpv3.3, Error ellipse: s-maj=9.2km s-min=6.0km az=101.0*
*SOME **13** 15:12:58.4,44˚.32N×85˚.10E,h20km*
ISC 13 15:12:58.8±3.4,**44˚.0N**±0˚.1×**86˚.3E**±0˚.2,**h10**km,**n11**, σ2s**01**/19,**9C-4D,Northern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZSN	**Zaisan**	**3.63**	**344**	*eP*	**Pn**	**15 13 55.8**	**+0.7**
	11nm,0.0s						
ZSN				*eS*	**Sn**	**15 14 36.9**	**-1.1**
	13nm,0.6s						
MK31	**Makanchi Array**	**4.02**	**316**	Pn	**Pn**	**15 13 59.0**	**-1.3**
	1.3nm,0.5s,baz=324,slow=16,SNR=68						
MK31				⇓Pg	**Pb**	**15 14 10.2**	**+0.6**
	10nm,0.7s,baz=139,slow=14,SNR=14						
MK31				⇑Sn	**Sn**	**15 14 47.5**	**+0.1**
	5.3nm,0.5s,baz=17,slow=42,SNR=3.9						
MK31				⇑Lg	Lg	15 15 06.2	
	19nm,0.7s,baz=131,slow=30,SNR=7.3						
MAKZ	**Makanchi**	**4.18**	**314**	⇑Pn	**Pn**	**15 14 01.9**	**-0.8**
	2.8nm,0.4s						
MAKZ				⇑Sn	**Sn**	**15 14 51.8**	**+0.2**
	11nm,0.5s						
MAKZ				⇑Lg	Lg	15 15 09.9	
	22nm,1.1s						
DJR	**Jarkent**	**4.72**	**277**	*eP*	**Pn**	**15 14 07.8**	**-2.3**
	0.9nm,0.1s						
DJR				*eS*	Sn	15 14 57.1	-7.9
	3.6nm,0.2s						
PDGK	**Podgornoye**	**5.01**	**265**	⇓Pn	**Pn**	**15 14 11.8**	**-2.2**
	0.8nm,0.3s						
PDGK				⇑Sn	**Sn**	**15 15 11.8**	**-0.2**
	11nm,0.6s						
PDGK				⇑Lg	Lg	15 15 33.4	
	35nm,1.1s						
SHLS	**Shalkode**	**5.06**	**263**	*eP*	**Pn**	**15 14 10.9**	**-3.9**
	9.8nm,0.3s						
SHLS				*eS*	Sn	15 15 02.6	-11
	11nm,0.2s						
TDK	**Taldyqorghan**	**5.77**	**283**	*eP*	**Pn**	**15 14 25.9**	**+1.6**
	17nm,0.4s						
TDK				*eS*	**Sn**	**15 15 28.2**	**-2.4**
	11nm,0.1s						
SATY	**Saty**	**5.84**	**264**	*eP*	**Pn**	**15 14 28.7**	**+3.2**
	1.8nm,0.1s						
SATY				*eS*	**Sn**	**15 15 33.3**	**+0.8**
	12nm,0.0s						
ARXS	**Arharly**	**6.13**	**275**	*eP*	**Pn**	**15 14 32.8**	**+3.3**
	1.6nm,0.3s						
ARXS				*eS*	**Sn**	**15 15 40.1**	**+0.4**
	5.5nm,0.2s						
KURBB	**Kurchatov Arra**	**8.51**	**324**	⇑Pn	**Pn**	**15 15 00.7**	**-1.3**
	1.8nm,0.6s						
KURBB				⇑Lg	Lg	15 17 29.2	
	15nm,0.6s						
KURK	**Kurchatov**	**8.54**	**325**	⇓Sn	**Sn**	**15 16 40.1**	**+1.3**
	2.3nm,0.6s						
KURK				⇓Lg	Lg	15 17 29.5	
	10nm,0.8s						

*BJI **13** 15:33:27.3±0.0,5˚.08N×125˚.57E,h180km,mb4.8/80, mB4.8/51*
*MAN **13** 15:33:30.9,5˚.33N×125˚.58E,h174km,mb5.9,ML4.9, MS5.3*
MAN INTENSITY II - DAVAO CITY; GENERAL SANTOS CITY; GLAN SARANGANI.
*MOS **13** 15:33:30.4±1.0,5˚.40N×125˚.24E,h183km,mb5.0/52,Error ellipse: s-maj=9.0km s-min=4.7km az=109.8*
*NEIC **13** 15:33:31.3±2.3,5˚.36N±0˚.06×125˚.44E±0˚.08,h169km±5km, mb5.1/251,Mww5.2/34,Error ellipse: s-maj=11.4km s-min=8.7km az=74.0*
*GCMT **13** 15:33:31.3±0.1,5˚.43N±0˚.01×125˚.44E±0˚.01,h174km, MW5.2/143,Moment Tensor Solution. s106,c159; s143,c243; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr~0.68±.01; Mθθ0.48±.01; Mϕϕ0.19±.01; Mrθ0.21±.01; Mθϕ~0.32±.01; Mϕr~0.48±.01; Best double couple: M0:0.86200×10^17 NP1:ϕs321.00000°,δ64.00000°, λ~73.00000°. NP2:ϕs107.00000°,δ31.00000°, λ~121.00000°. Principal axes: T 0.8290, Plg17.0000°, Azm39.0000°; N 0.0660, Plg15.0000°, Azm134.0000°; P ~0.8950, Plg67.0000°, Azm263.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **13** 15:33:32.0±0.2,5˚N±2˚×12˚5E±˚,h175km±2km,M5.0/96, mB5.5/50,mb5.2/96,MLv5.7/11,Mw(mB)5.0/50, MwMwp4.8/13,Mwp5.2/13*
*IDC **13** 15:33:32.2±0.4,5˚.41N×125˚.38E,h186km±3km,mb4.5/34, mbtmp5.0/37,MS3.9/23,Error ellipse: s-maj=9.7km s-min=5.4km az=81.0*
*NEIC **13** 15:33:32.3,5˚.30N×125˚.66E,h170km,Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16Nm; Mrr~6.07; Mθθ4.21; Mϕϕ 1.86; Mrθ2.46; Mθϕ~3.98; Mϕr~3.18; Fault plane solution: M0~7.77000×10^16 NP1: ϕs315.90000°,δ60.84000°,λ~79.96000°. NP2: ϕs115.92000°,δ30.70000°,λ~107.36000°. Principal axes: T 8.2424, Plg15.0000°, Azm39.0000°; N -0.9494, Plg9.0000°, Azm131.0000°; P -7.2930, Plg72.0000°, Azm250.0000°;*
*NEIC **13** 15:33:32.3,5˚.40N×125˚.46E,h170km*
ISC 13 15:33:32.3±0.3,**5˚.40N**±0˚.02×**125˚.42E**±0˚.03,**h186**km±2km, **h187**km:**pP-P,n1017,**σ1s**55**/1045,**mb5.0**/236,**69C-47D, Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDMP	**Don Marcelino,**	**0.75**	**22**	⇓*eP*	**Pn**	**15 33 57.7**	**-1.4**
DDMP				*eS*	**Sn**	**15 34 17.0**	**-2.9**
GSPH	**General Santos**	**0.83**	**325**	⇓*iP*	**Pn**	**15 33 58.2**	**-1.5**
GSPH				*iS*	**Sn**	**15 34 18.7**	**-2.2**
SKMP	**Bagumbayan, Su**	**1.41**	**322**	*eP*	**Pn**	**15 34 03.2**	**-0.8**
SKMP				*eS*	**Sn**	**15 34 26.4**	**-2.2**
KCP	**Kidapawan**	**1.63**	**348**	⇓*iP*	**Pn**	**15 34 05.4**	**-0.8**
KCP				*iS*	**Sn**	**15 34 30.8**	**-1.7**
DAV	**Davao City (W)**	**1.66**	**5**	P	**Pn**	**15 34 06.4**	**0.0**
DAV	**Davao City (W)**	**1.66**	**5**	Pn	**Pn**	**15 34 06.0**	**-0.4**
DAV	**Davao City (W)**	**1.66**	**5**	P	**Pn**	**15 34 06.3**	**-0.2**
	3μm,0.5s,baz=216,slow=1.9,SNR=101						
DAV				*S*	**Sn**	**15 34 32.3**	**-0.7**
	22μm,0.4s,baz=314,slow=22,SNR=16						
DAV				*LR*	LR	15 34 46.9	
	comp=Z,7μm,19.4s,baz=96,slow=45						
SGSI	**Sangihe**	**1.71**	**176**	P	**Pn**	**15 34 05.4**	**-1.5**
SGSI				*S*	**Sn**	**15 34 31.3**	**-2.5**
MATI	**Mati**	**1.74**	**28**	⇓*eP*	**Pn**	**15 34 05.5**	**-1.7**
MATI				*eS*	**Sn**	**15 34 30.6**	**-3.8**
PICP	**Pikit**	**1.81**	**336**	⇓*iP*	**Pn**	**15 34 06.9**	**-0.9**
PICP				*iS*	**Sn**	**15 34 33.5**	**-2.0**
CDOP	**Cateel, Davao**	**2.57**	**23**	⇑*eP*	**Pn**	**15 34 15.7**	**-0.6**
CDOP				*eS*	**Sn**	**15 34 48.3**	**-2.3**
BIPH	**Bislig**	**2.92**	**19**	⇓*eP*	**Pn**	**15 34 19.5**	**-0.8**
BIPH				*iS*	**Sn**	**15 34 56.0**	**-1.8**
TASP	**Talacogon, Agu**	**3.05**	**7**	⇑*eP*	**Pn**	**15 34 22.4**	**+0.4**
TASP				*eS*	**Sn**	**15 35 00.5**	**-0.4**
BLNP	**Bacolod Lanao**	**3.06**	**333**	⇓*eP*	**Pn**	**15 34 22.8**	**+0.8**
BLNP				*iS*	**Sn**	**15 35 02.7**	**+1.7**
CGP	**Cagayan de Oro**	**3.12**	**347**	⇓*iP*	**Pn**	**15 34 23.3**	**+0.6**
CGP				*iS*	**Sn**	**15 35 01.0**	**-1.1**
ZCP	**Zamboanga City**	**3.66**	**295**	⇑*iP*	**Pn**	**15 34 29.1**	**-0.2**
ZCP				*iS*	**Sn**	**15 35 13.7**	**-0.3**
DCPH	**Dipolog City**	**3.77**	**327**	⇑*iP*	**Pn**	**15 34 33.2**	**+2.4**
DCPH				*iS*	**Sn**	**15 35 22.1**	**+5.6**
LSIP	**Lazi, Siquijor**	**4.11**	**334**	⇑*eP*	**Pn**	**15 34 35.8**	**+0.8**
LSIP				*eS*	**Sn**	**15 35 26.5**	**+2.2**
GHBP	**Garcia Hernand**	**4.34**	**346**	⇑*iP*	**Pn**	**15 34 38.1**	**+0.1**
GHBP				*eS*	**Sn**	**15 35 23.1**	**-6.5**
SCPH	**Surigao**	**4.35**	**1**	⇑*eP*	**Pn**	**15 34 37.1**	**-1.0**
SCPH				*eS*	**Sn**	**15 35 28.3**	**-1.6**
GLSP	**General Luna,**	**4.41**	**9**	⇑*iP*	**Pn**	**15 34 38.5**	**-0.4**
GLSP				*eS*	**Sn**	**15 35 28.5**	**-2.6**
SNPH	**Sibulan**	**4.47**	**331**	⇑*eP*	**Pn**	**15 34 41.0**	**+1.3**
TBP	**Tagbilaran**	**4.53**	**340**	⇑*eP*	**Pn**	**15 34 43.0**	**-0.1**
TBP				*iS*	**Sn**	**15 35 33.6**	**-0.4**
DACP	**Dalaguete, Ceb**	**4.73**	**337**	⇑*iP*	**Pn**	**15 34 43.5**	**+0.5**
DACP				*eS*	**Sn**	**15 35 39.9**	**+1.3**
TABP	**Talibon, Bohol**	**4.78**	**347**	*eP*	**Pn**	**15 34 43.3**	**-0.3**
TABP				*eS*	**Sn**	**15 35 33.6**	**-6.1**
LDIP	**Loreto**	**4.96**	**2**	⇑*eP*	**Pn**	**15 34 45.2**	**-0.7**
LDIP				*eS*	**Sn**	**15 35 44.5**	**+0.5**
TNTI	**Ternate**	**4.99**	**157**	P	**Pn**	**15 34 44.5**	**-1.9**
TNTI	**Ternate**	**4.99**	**157**	Pn	**Pn**	**15 34 44.0**	**-2.4**
TNTI	**Ternate**	**4.99**	**157**	P	**Pn**	**15 34 44.1**	**-2.3**
KMSI	**Cibinong**	**5.01**	**197**	P	**Pn**	**15 34 46.0**	**-0.6**
	3μm,1.1s,23μm6μm11nm						
LLP	**Lapu-Lapu**	**5.09**	**344**	⇑*eP*	**Pn**	**15 34 48.0**	**+0.3**
LLP				*iS*	**Sn**	**15 35 48.8**	**+1.8**
CNOP	**Candoni, Negro**	**5.19**	**328**	⇑*eP*	**Pn**	**15 34 49.6**	**+0.7**
CNOP				*eS*	Sn	15 35 37.8	+11
GNOP	**Guihulngan Cit**	**5.25**	**336**	⇑*iP*	**Pn**	**15 34 50.4**	**+0.7**
GNOP				*eS*	**Sn**	**15 35 48.9**	**-1.9**
SFCP	**San Francisco,**	**5.31**	**349**	⇑*iP*	**Pn**	**15 34 51.3**	**+0.9**
SFCP				*eS*	**Sn**	**15 35 53.5**	**+1.6**
GTOI	**Gorontalo**	**5.31**	**207**	P	**Pn**	**15 34 49.5**	**-1.0**
	1μm,1.2s,11μm3μm3.9nm						
BTTP	**Bongao, Tawi-T**	**5.64**	**266**	⇑*iP*	**Pn**	**15 34 55.7**	**+0.9**
BTTP				*iS*	**Sn**	**15 36 01.7**	**+1.9**
OCLP	**Ormoc**	**5.67**	**352**	⇑*eP*	**Pn**	**15 34 56.2**	**+1.1**
PLP	**Palo**	**5.74**	**356**	⇑*eP*	**Pn**	**15 34 56.3**	**+0.3**
PLP				*eS*	**Sn**	**15 36 09.1**	**+6.9**
CADP	**Cadiz City**	**5.87**	**339**	⇑*eP*	**Pn**	**15 34 58.7**	**+0.9**
CADP				*eS*	**Sn**	**15 36 08.1**	**+2.9**
MECP	**Medelin, Cebu**	**5.90**	**346**	⇑*eP*	**Pn**	**15 34 58.6**	**+0.5**
MECP				*eS*	**Sn**	**15 36 10.4**	**+4.6**
BESP	**Borongan**	**6.16**	**0**	⇑*eP*	**Pn**	**15 35 02.0**	**+0.5**
BESP				*eS*	**Sn**	**15 36 14.3**	**+2.4**
TOLI2	**Tolitoli**	**6.29**	**228**	P	**Pn**	**15 35 02.9**	**-0.4**
TOLI2	**Tolitoli**	**6.29**	**228**	Pn	**Pn**	**15 35 02.5**	**-0.9**
JAP	**San Jose, Anti**	**6.33**	**327**	⇑*eP*	**Pn**	**15 35 05.0**	**+1.3**
LBMI	**Labuha**	**6.35**	**161**	P	**Pn**	**15 35 01.2**	**-2.8**
	450nm,0.7s,10μm5.7nm						
RCP	**Roxas**	**6.67**	**337**	⇑*iP*	**Pn**	**15 35 09.4**	**+1.2**
LUWI	**Luwuk**	**6.93**	**203**	P	**Pn**	**15 35 13.5**	**+1.9**
LUWI	**Luwuk**	**6.93**	**203**	Pn	**Pn**	**15 35 09.0**	**-2.5**
LUWI	**Luwuk**	**6.93**	**203**	P	**Pn**	**15 35 12.6**	**+1.0**
	883nm,1.0s,17μm3.9nm						
MMPH	**Masbate**	**7.13**	**346**	⇑*eP*	**Pn**	**15 35 16.0**	**+1.7**
IBAJ	**Ibajay, Aklan**	**7.14**	**333**	⇓*iP*	**Pn**	**15 35 16.3**	**+2.0**
SANI	**Sanana**	**7.42**	**176**	P	**Pn**	**15 35 13.4**	**-4.7**
MPSI	**Mapaga**	**7.46**	**228**	P	**Pn**	**15 35 18.4**	**-0.2**
OTRP	**Odiongan**	**7.69**	**334**	⇑*eP*	**Pn**	**15 35 21.9**	**+0.4**
PVCP	**Virac**	**8.24**	**351**	⇑*eP*	**Pn**	**15 35 29.2**	**+0.4**
PVCP				*eS*	**Sn**	**15 37 07.1**	**+5.9**
SCSP	**San Jose Seism**	**8.41**	**347**	⇑*eP*	**Pn**	**15 35 32.2**	**+1.2**
SCSP				*eS*	Sn	15 36 52.2	-13
SWI	**Sorong**	**8.53**	**137**	P	**Pn**	**15 35 31.3**	**-1.3**
	354nm,1.1s,3μm2μm						
SWI	**Sorong**	**8.53**	**137**	P	**Pn**	**15 35 32.2**	**-0.4**
NLAI	**Namlea**	**8.75**	**169**	P	**Pn**	**15 35 33.2**	**-2.3**
	340nm,1.0s,13μm						
GQP	**Guinayangan**	**8.94**	**341**	⇓*eP*	**Pn**	**15 35 40.3**	**+2.3**
JCNP	**Jose Panganiba**	**9.23**	**343**	⇓*eP*	**Pn**	**15 35 45.2**	**+3.4**
JCNP				*eS*	**Sn**	**15 35 29.8**	**+4.9**
LQP	**Lukban**	**9.46**	**336**	⇓*eP*	**Pn**	**15 35 47.3**	**+2.4**
LBLP	**Los Banos, Lag**	**9.64**	**335**	⇑*eP*	**Pn**	**15 35 48.8**	**+1.6**
TGY	**Tagaytay City**	**9.71**	**333**	P	**Pn**	**15 35 49.2**	**+1.1**
	103nm,0.7s,baz=36,slow=7.3,SNR=4.9						
TGY				*LR*	LR	15 40 49.5	
	comp=Z,630nm,18.2s,baz=68,slow=45						
TGY	**Tagaytay City**	**9.71**	**333**	⇑*eP*	**Pn**	**15 35 52.5**	**+4.5**
LUBP	**Lubang**	**9.72**	**329**	⇑*eP*	**Pn**	**15 35 50.0**	**+1.7**
MACP	**Maragondon, Ca**	**9.95**	**333**	⇓*eP*	**Pn**	**15 35 54.0**	**+2.9**
TTSI	**Tana Toraja**	**10.09**	**214**	P	**Pn**	**15 35 54.8**	**+1.8**
	752nm,1.4s,10μm						
QVP	**Quezon City--P**	**10.14**	**335**	⇓*eP*	**Pn**	**15 35 55.0**	**+1.4**
RTBP	**Dona Remedios**	**10.43**	**336**	⇑*eP*	**Pn**	**15 35 58.9**	**+1.6**
RTBP				*eS*	**S**	**15 37 55.8**	**+1.6**
ABPP	**Abucay Bataan**	**10.49**	**333**	⇑*iP*	**Pn**	**15 36 00.1**	**+1.9**
ABPP				*eS*	**S**	**15 37 55.4**	**-0.3**
FAKI	**Fak Fak**	**10.72**	**140**	P	**Pn**	**15 36 02.3**	**+1.1**
FAKI	**Fak Fak**	**10.72**	**140**	Pn	**Pn**	**15 36 00.9**	**-0.3**
FAKI	**Fak Fak**	**10.72**	**140**	P	**Pn**	**15 36 01.6**	**+0.4**
	82nm,1.1s,922nm						
BKB	**Balikpapan**	**10.79**	**232**	P	**Pn**	**15 36 02.7**	**+0.7**
BKB	**Balikpapan**	**10.79**	**232**	Pn	**Pn**	**15 35 59.3**	**-2.8**
BKB	**Balikpapan**	**10.79**	**232**	P	**Pn**	**15 36 04.0**	**+2.0**
CAAP	**Casiguran, Aur**	**11.24**	**343**	⇑*eP*	**Pn**	**15 36 08.4**	**+0.5**
IBZP	**Iba, Zambales**	**11.26**	**332**	⇑*eP*	**Pn**	**15 36 10.2**	**+2.0**
IBZP				*eS*	**S**	**15 38 18.6**	**+1.2**
KAPI	**Kappang**	**11.79**	**209**	P	**Pn**	**15 36 17.9**	**+5.7**
KAPI	**Kappang**	**11.79**	**209**	Pn	**Pn**	**15 36 16.7**	**+1.4**
KAPI	**Kappang**	**11.79**	**209**	P	**Pn**	**15 36 16.4**	**+1.4**
	84nm,1.0s,baz=20,slow=9.0,SNR=22						
KAPI				*S*	**Sn**	**15 38 26.4**	**+0.1**
	6.7nm,0.7s,baz=206,slow=19,SNR=0.8						
BKSI	**Bulukumba**	**11.89**	**206**	P	**Pn**	**15 36 16.6**	**+0.3**
	90nm,1.0s,1μm						
CAUP	**Cauayan**	**12.00**	**343**	⇑*eP*	**Pn**	**15 36 19.6**	**+1.9**
MTKI	**Muara Teweh, K**	**12.26**	**239**	P	**P**	**15 36 25.4**	**-0.3**
SAMP	**Sagada Mountai**	**12.42**	**339**	⇓*eP*	**Pn**	**15 36 24.9**	**+1.9**
SAMP				*eS*	S	15 38 55.8	+11
SIPP	**Brgy, Tapao**	**13.36**	**339**	⇑*eP*	**Pn**	**15 36 35.6**	**+0.8**
SIPP				*eS*	**S**	**15 39 11.9**	**+5.7**
SBUM	**Sibu**	**13.49**	**258**	P	**P**	**15 36 39.8**	**+4.4**
PACPP	**Pamplona Cagay**	**13.57**	**343**	*eP*	**Pn**	**15 36 38.2**	**+0.7**
PACPP				*eS*	**S**	**15 39 11.0**	**-0.1**
MMRI	**Maumere**	**14.30**	**193**	P	**P**	**15 36 48.0**	**-0.5**
MMRI	**Maumere**	**14.30**	**193**		**Pn**	**15 36 46.8**	**+0.2**
MMRI	**Maumere**	**14.30**	**193**	P	**Pn**	**15 36 46.2**	**-0.4**
	204nm,0.8s,4μm2μm						
CICP	**Calayan Island**	**14.30**	**345**	⇑*eP*	**Pn**	**15 36 46.9**	**+0.3**
CICP				*eS*	**Sn**	**15 39 19.1**	**-7.1**
EDFI	**Ende, Flores**	**14.54**	**195**	P	**Pn**	**15 36 49.7**	**0.0**
	70nm,1.0s,1μm						
STKI	**Sintang**	**14.90**	**250**	P	**P**	**15 36 56.3**	**+1.2**
	44nm,1.1s,2μm						
SOEI	**Soe**	**15.10**	**184**	P	**P**	**15 36 59.0**	**+1.6**
SOEI	**Soe**	**15.10**	**184**		**Pn**	**15 36 55.6**	**-1.0**
SOEI	**Soe**	**15.10**	**184**	P	**P**	**15 36 58.4**	**+1.0**
	408nm,1.2s,4μm						
SMPI	**Sarmi**	**15.17**	**119**	P	**P**	**15 36 57.9**	**-0.2**
	97nm,0.9s,1μm						
BBPB	**Basco Batanes**	**15.32**	**348**	⇑*eP*	**P**	**15 37 00.8**	**+1.1**
KSM	**Kuching**	**15.58**	**256**	P	**P**	**15 37 03.9**	**+1.3**
BATI	**Baumata**	**15.61**	**186**	P	**P**	**15 37 04.3**	**+1.4**
	345nm,0.6s,baz=47,slow=2.1,SNR=44						
BATI				*S*	**S**	**15 39 52.8**	**-3.8**
	18nm,0.6s,baz=55,slow=18,SNR=0.7						
BATI	**Baumata**	**15.61**	**186**	P	**P**	**15 37 03.2**	**+0.3**
	369nm,0.6s,4μm						
PLAI	**Plampang**	**16.06**	**208**	P	**Pn**	**15 37 09.6**	**+1.5**
PLAI	**Plampang**	**16.06**	**208**	P	**Pn**	**15 37 08.3**	**+0.2**
	148nm,1.3s						
GENI	**Genyem**	**16.73**	**118**	P	**Pn**	**15 37 17.5**	**+1.2**
GENI	**Genyem**	**16.73**	**118**	P	**Pn**	**15 37 16.5**	**+0.2**
	351nm,1.0s,3μm1μm						
SRBI	**Singaraja**	**16.83**	**217**	P	**Pn**	**15 37 18.4**	**+1.0**
	82nm,0.9s						
JAY	**Jayapura**	**17.17**	**117**	P	**Pn**	**15 37 21.3**	**-0.2**
	117nm,1.0s,867nm						
ABJI	**Asem Bagus**	**17.22**	**221**	P	**Pn**	**15 37 23.4**	**+1.4**
	106nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.78**	**219**	P	**P**	**15 37 27.7**	**+0.9**
JAGI	**Jajag, Banyuwa**	**17.78**	**219**	P	**P**	**15 37 26.0**	**-0.9**
JAGI	**Jajag, Banyuwa**	**17.78**	**219**	P	**P**	**15 37 26.2**	**-0.6**
	130nm,1.2s						
GRJI	**Gresik**	**17.79**	**227**	P	**Pn**	**15 37 29.3**	**+0.5**
	516nm,1.1s,5μm3μm						
TWGBT	**Beinan**	**17.81**	**347**	P	**Pn**	**15 37 28.6**	**-0.3**
DLV	**T Lat**	**17.95**	**292**	P	**Pn**	**15 37 30.9**	**+0.1**
DLV	**T Lat**	**17.95**	**292**	Pn	**Pn**	**15 37 31.0**	**+0.2**
YULB	**Yu-li**	**18.32**	**348**	P	**Pn**	**15 37 34.2**	**-0.7**
YULB	**Yu-li**	**18.32**	**348**	P	**P**	**15 37 29.7**	**-2.9**
TPUB	**Ta-pu**	**18.38**	**346**	P	**Pn**	**15 37 34.7**	**-1.0**
TPUB	**Ta-pu**	**18.38**	**346**	P	**P**	**15 37 31.4**	**-1.9**
DRS	**Darwin Rock St**	**18.54**	**163**	P	**Pn**	**15 37 37.1**	**-0.4**
SSLB	**Suanglung**	**18.78**	**347**	P	**P**	**15 37 37.9**	**+0.3**
SSLB	**Suanglung**	**18.78**	**347**	P	**P**	**15 37 35.0**	**-2.6**
NGJI	**Ngawi**	**18.84**	**228**	P	**Pn**	**15 37 41.0**	**-0.1**
	155nm,1.0s						
MTN	**Manton Dam**	**19.00**	**163**	P	**P**	**15 37 41.0**	**+1.0**
	baz=19,SNR=11						
MTN	**Manton Dam**	**19.00**	**163**	P	**P**	**15 37 41.3**	**+1.3**
MTN	**Manton Dam**	**19.00**	**163**		**P**	**15 37 40.9**	**+1.0**
TABU	**Tabubil**	**19.01**	**124**	P	**Pn**	**15 37 41.9**	**-1.2**
PWJI	**Pagerwojo**	**19.04**	**226**	P	**Pn**	**15 37 42.5**	**-0.9**
	42nm,1.1s						
KDU	**Kakadu**	**19.29**	**159**	P	**P**	**15 37 43.4**	**+0.3**
	baz=19,SNR=40						
KDU	**Kakadu**	**19.29**	**159**	P	**P**	**15 37 44.7**	**+1.6**
SMRI	**Semarang**	**19.40**	**231**	P	**Pn**	**15 37 46.5**	**-1.3**
SMRI	**Semarang**	**19.40**	**231**	P	**P**	**15 37 46.0**	**+1.6**
SMRI	**Semarang**	**19.40**	**231**	P	**P**	**15 37 45.8**	**+1.4**
	114nm,1.0s						
YHNB	**Yeheng**	**19.55**	**349**	P	**P**	**15 37 45.8**	**-0.1**
YHNB	**Yeheng**	**19.55**	**349**	P	**P**	**15 37 45.0**	**-0.9**
UGM	**Wanagama**	**19.89**	**228**	P	**Pn**	**15 37 51.9**	**-1.8**
	197nm,0.4s						
HKPS	**Hong Kong Po S**	**20.01**	**328**	P	**P**	**15 37 52.4**	**+1.5**
HKPS	**Hong Kong Po S**	**20.01**	**328**	P	**P**	**15 37 50.9**	**+0.1**
MMPI	**Merauke**	**20.31**	**133**	P	**P**	**15 37 55.4**	**+1.3**
	653nm,0.8s,7μm						
QIZ	**Qiongzhong**	**20.35**	**313**	P	**P**	**15 37 55.6**	**+1.1**
QIZ	**Qiongzhong**	**20.35**	**313**	P	**P**	**15 37 55.3**	**+0.8**
QIZ				*sP*	**sP**	**15 38 47.8**	**-1.7**
QIZ				*S*	**S**	**15 41 33.9**	**+1.5**
QIZ				*pmax*	pmax		
	comp=Z,82nm,0.8s						
QIZ				*pmax*	pmax		
	comp=Z,340nm,3.3s						
QZH	**Quanzhou**	**20.50**	**342**	*eP*

WRA Warramunga Arr 26.67 161 P **P** **15 38 52.6 -1.6**
WRA pmax pmax
comp=Z,2.0nm,1.1s
WB2 Warramunga Arr 26.67 161 IAmb IAmb 15 38 55.1
comp=Z,55nm,0.8s
WR0 Warramunga Arr 26.75 161 IAmb IAmb 15 38 56.5
comp=Z,87nm,1.4s
JCJ Chichijima 26.84 35 P **P** **15 38 57.8 +2.1**
JCJ Chichijima 26.84 35 LR LR 15 50 13.2
comp=Z,182nm,19.3s,baz=188,slow=37
MBWA Marble Bar 26.98 192 P **P** **15 38 57.4 +0.5**
MBWA Marble Bar 26.98 192 P **P** **15 38 55.6 -1.3**
MBWA IAmb IAmb 15 38 58.4
comp=Z,60nm,1.1s
WHN Wuhan 27.09 339 ⇑P **P** **15 38 59.0 +1.2**
WHN pP **pP** **15 39 36.8 +1.0**
WHN sP **sP** **15 39 58.0 +0.5**
WHN S **S** **15 43 21.6 -0.5**
WHN pmax pmax
comp=Z,72nm,1.1s
SISI Saibi 27.14 256 P **P** **15 38 58.9 +0.5**
comp=Z,176nm,0.8s,comp=Z,3µm
NJ2 Nanjing 27.21 348 *e*P **P** **15 39 00.6 +1.7**
NJ2 pP **pP** **15 39 37.3 +0.3**
NJ2 pmax pmax
comp=Z,15nm,0.5s
PSA00 Pilbara Seismi 27.36 191 P **P** **15 39 00.1 -0.2**
SRDT SRDT 27.36 291 P **P** **15 39 02.9 +2.5**
GYA Guiyang 27.56 321 ⇓P **P** **15 39 04.1 +2.0**
GYA pP pP 15 39 43.5 +3.2
GYA S **S** **15 43 29.3 -0.4**
GYA pmax pmax
comp=Z,15nm,1.1s
GYA pmax pmax
comp=Z,160nm,6.8s
GYA LR LR
comp=Z,220nm,19.0s
GYA LR LR
comp=Z,250nm,16.4s
GYA LR LR
comp=Z,360nm,21.0s
KCSI Kotacane, Aceh 27.63 267 P **P** **15 39 03.0 +0.2**
comp=Z,260nm,1.2s,comp=Z,3µm
PBSI Pulau Batu 27.64 260 P **P** **15 39 02.8 -0.1**
comp=Z,100nm,1.6s
JNU Nakatsue 28.04 10 P **P** **15 39 07.5 +1.2**
JNU Nakatsue 28.04 10 IAmb IAmb 15 39 16.5
comp=Z,32nm,0.9s
GSI Gunungsitoli 28.09 263 P **P** **15 39 07.4 +0.5**
GSI Gunungsitoli 28.09 263 P **P** **15 39 06.8 -0.1**
comp=Z,400nm,1.1s
RABL Rabaul 28.36 109 P **P** **15 39 11.7 +2.4**
RABL Rabaul 28.36 109 P **P** **15 39 09.1 -0.2**
RABL IAmb IAmb 15 39 54.5
comp=Z,52nm,0.8s
CMAR Chiang Mai Arr 28.91 299 P **P** **15 39 15.4 +1.2**
CMAR Chiang Mai Arr 28.91 299 P **P** **15 39 15.7 +1.5**
comp=Z,62nm,1.0s,baz=119,slow=7.4,SNR=259
CMAR ScP **ScP** **15 45 42.7 0.0**
comp=Z,4.3nm,1.1s,baz=150,slow=2.1,SNR=6.8
comp=Z,62nm,1.0s
CMAR Chiang Mai Arr 28.91 299 *i*P **P** **15 39 15.6 +1.4**
CMAR pmax pmax
comp=Z,65nm,1.0s
MLSI Meulaboh, Aceh 28.93 269 P **P** **15 39 14.4 0.0**
comp=Z,178nm,0.8s
ENH Enshi 28.94 331 P **P** **15 39 15.3 +1.0**
CHTO Chiang Mai 29.06 300 P **P** **15 39 16.4 +1.0**
CHTO Chiang Mai 29.06 300 P **P** **15 39 16.4 +1.0**
CHTO pmax pmax
comp=Z,80nm,0.9s
SNSI Sinabang, Aceh 29.18 265 P **P** **15 39 17.2 +0.7**
comp=Z,200nm,0.5s,comp=Z,5µm
JMN Monobe 29.26 15 P **P** **15 39 18.5 +1.4**
JMN Monobe 29.26 15 P **P** **15 39 17.2 +0.2**
JMN IAmb IAmb 15 39 29.7
comp=Z,41nm,0.9s
KMI Kunming 29.28 314 ⇓P **P** **15 39 19.1 +1.5**
KMI pP pP 15 40 00.3 +4.1
KMI S **S** **15 43 57.8 +0.7**
KMI sS sS 15 45 04.9 0.0
KMI pmax pmax
comp=Z,29nm,1.3s
KMI pmax pmax
comp=Z,170nm,3.6s
KMI LR LR
comp=Z,230nm,14.4s
KMI LR LR
comp=Z,200nm,10.8s
KMI LR LR
comp=Z,250nm,12.6s
QIS Mount Isa 29.32 152 P **P** **15 39 17.7 -0.1**
baz=30,SNR=12
QIS Mount Isa 29.32 152 P **P** **15 39 18.9 +1.2**
MTSU Mount Surprise 29.91 142 P **P** **15 39 23.5 +0.5**
baz=30,SNR=10
MTSU Mount Surprise 29.91 142 P **P** **15 39 24.8 +1.9**
GIRL Giralia 29.95 201 P **P** **15 39 24.1 +0.9**
baz=30,SNR=3.4
ASAR Alice Springs 30.05 164 P **P** **15 39 24.0 -0.1**
ASAR Alice Springs 30.05 164 P **P** **15 39 23.8 -0.4**
comp=Z,13nm,0.8s,baz=342,slow=6.8,SNR=149
ASAR pP **pP** **15 40 01.9 -0.6**
comp=Z,6.2nm,0.6s,baz=349,slow=8.8,SNR=3.6
ASAR PcP **PcP** **15 42 21.6 0.0**
comp=Z,9.8nm,0.7s,baz=349,slow=2.1,SNR=6.1
ASAR S **S** **15 44 08.5 -0.3**
comp=Z,1.5nm,0.8s,baz=298,slow=45,SNR=3.8
ASAR ScP **ScP** **15 45 46.5 +0.2**
comp=Z,6.3nm,0.9s,baz=347,slow=2.8,SNR=11
comp=Z,13nm,0.8s
WRKA Warakurna 30.39 175 P **P** **15 39 27.0 0.0**
baz=31,SNR=41
WRKA Warakurna 30.39 175 P **P** **15 39 27.7 +0.6**
PZH PanZhiHua 30.84 315 P **P** **15 39 31.6 +0.4**
PZH pP **pP** **15 40 13.3 +3.3**
PZH S **S** **15 44 19.3 -2.0**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,100nm,3.5s
PZH LR LR
comp=Z,270nm,15.1s
PZH LR LR
comp=Z,200nm,15.0s
PZH LR LR
comp=Z,160nm,16.2s
TJN Taejon 30.88 3 ⇓*e*P **P** **15 39 31.6 +0.4**
LYN LuoYang 31.39 339 *e*P **P** **15 39 35.8 +0.1**
LYN pP pP 15 40 15.1 +0.7
LYN sP sP 15 40 38.3 +2.4
LYN S **S** **15 44 26.6 -2.7**
LYN sS sS 15 45 40.1 +2.8
LYN pmax pmax
comp=Z,36nm,0.9s
LYN pmax pmax
comp=Z,170nm,3.6s
TIA Tai'an 31.59 347 *e*P **P** **15 39 36.3 -1.2**
TIA pmax pmax
comp=Z,8.0nm,1.1s
TIA LR LR
comp=Z,140nm,18.4s
TIA LR LR
comp=Z,220nm,16.9s
TIA LR LR
comp=Z,180nm,25.0s
KSAR Wonju Array Be 31.97 4 P **P** **15 39 41.0 +0.3**
KSAR Wonju Array Be 31.97 4 P **P** **15 39 41.0 +0.3**
KSRS Korea Array 31.98 4 P **P** **15 39 41.2 +0.4**
comp=Z,14nm,1.0s,baz=182,slow=10,SNR=48
KSRS pP **pP** **15 40 20.4 +1.2**
comp=Z,4.5nm,0.7s,baz=186,slow=8.7,SNR=2.9
KSRS PcP **PcP** **15 42 27.0 +0.7**
comp=Z,4.5nm,0.7s,baz=178,slow=2.7,SNR=12
KSRS ScP **ScP** **15 45 52.7 +0.4**
comp=Z,2.0nm,0.8s,baz=183,slow=4.1,SNR=6.2
comp=Z,14nm,1.0s
TV1H Townsville Har 32.31 140 P **P** **15 39 45.7 +1.8**
XAN Xi'an 32.35 334 ⇓P **P** **15 39 43.4 -0.8**
XAN pP pP 15 40 19.8 -3.1
XAN PP **PP** **15 41 00.4 -0.9**
XAN S **S** **15 44 40.1 -4.3**
XAN pmax pmax
comp=Z,77nm,0.9s
XAN pmax pmax
comp=Z,190nm,3.6s
XAN LR LR
comp=Z,440nm,12.6s
XAN LR LR
comp=Z,370nm,10.8s
XAN LR LR
comp=Z,510nm,10.9s
XAN Xi'an 32.35 334 P **P** **15 39 43.7 -0.5**
TNCH TengChong 32.35 310 ⇓P **P** **15 39 44.8 +0.3**
TNCH pP pP 15 40 24.0 +0.6
TNCH sP sP 15 40 41.0 -3.9
TNCH S **S** **15 44 39.6 -5.3**
TNCH sS sS 15 45 49.1 -3.9
TNCH PcS **PcS** **15 46 13.0 -0.4**
TNCH SS **SnSn** **15 46 55.9 -5.2**
TNCH pmax pmax
comp=Z,35nm,1.2s
TNCH pmax pmax
comp=Z,130nm,3.6s
MEEK Meekatharra 32.53 191 P **P** **15 39 45.3 -0.5**
baz=33,SNR=20
MEEK Meekatharra 32.53 191 P **P** **15 39 46.7 +0.9**
CD2 Chengdu 32.53 324 P **P** **15 39 46.5 +0.7**
CD2 S **S** **15 44 44.5 -2.8**
CD2 pmax pmax
comp=Z,20nm,0.5s
CD2 pmax pmax
comp=Z,200nm,5.0s
CD2 LR LR
comp=Z,290nm,9.6s
CD2 LR LR
comp=Z,220nm,7.5s
CTAO Charters Tower 32.58 142 P **P** **15 39 47.9 +1.6**
CTAO Charters Tower 32.58 142 P **P** **15 39 45.9 -0.4**
CTAO IAmb IAmb 15 39 49.0
comp=Z,37nm,1.0s
CTAO Charters Tower 32.58 142 P **P** **15 39 45.9 -0.4**
CTAO pmax pmax
comp=Z,37nm,1.0s
CTAO Charters Tower 32.58 142 P **P** **15 39 47.6 +1.3**
CTAO PcP **PcP** **15 42 30.1 +1.7**
CTAO ScP **ScP** **15 45 56.8 +2.0**
MJAR Matsushiro Arr 33.14 19 P **P** **15 39 52.0 +1.0**
comp=Z,9.6nm,0.9s,baz=194,slow=9.1,SNR=36
MJAR PcP **PcP** **15 42 29.9 +0.3**
comp=Z,4.2nm,0.8s,baz=184,slow=3.0,SNR=4.2
MJAR ScP **ScP** **15 45 57.2 +0.7**
comp=Z,4.5nm,1.0s,baz=197,slow=4.4,SNR=6.9
comp=Z,9.6nm,0.9s
MAJO Matsushiro 33.14 19 P **P** **15 39 51.2 +0.2**
MAJO Matsushiro 33.14 19 P **P** **15 39 50.1 -0.8**
MAJO IAmb IAmb 15 39 51.4
comp=Z,24nm,0.9s
MAJO Matsushiro 33.14 19 *ce*P **P** **15 39 50.2 -0.8**
MAJO pmax pmax
comp=Z,29nm,1.0s
MAJO Matsushiro 33.14 19 P **P** **15 39 50.2 -0.8**
MAJO PcP **PcP** **15 42 30.5 +0.9**
MAJO ScP **ScP** **15 45 57.9 +1.4**
HNS HongShan 33.32 344 ⇑P **P** **15 39 52.8 +0.3**
HNS S **S** **15 44 53.0 -6.1**
HNS ScP **ScP** **15 45 57.6 +0.6**
HNS pmax pmax
comp=Z,25nm,1.1s
HNS LR LR
comp=Z,200nm,15.9s
HNS LR LR
comp=Z,240nm,17.5s
HNS LR LR
comp=Z,260nm,17.7s
DL2 Dalian 33.53 355 P **P** **15 39 54.3 0.0**
DL2 sP **sP** **15 40 53.3 -1.4**
DL2 PP **PnPn** **15 41 09.8 -3.5**
DL2 S **S** **15 45 00.3 -2.0**
DL2 pmax pmax
comp=Z,44nm,0.9s
DL2 pmax pmax
comp=Z,140nm,3.7s
OOD Oodnadatta 34.46 164 P **P** **15 40 03.2 +0.8**
JSD Sado 34.52 18 P **P** **15 40 03.0 +0.1**
JSD Sado 34.52 18 IAmb IAmb 15 40 05.7
comp=Z,39nm,0.9s
JMM Marumori 35.22 21 P **P** **15 40 10.1 +1.3**
MORW Morawa 35.44 194 P **P** **15 40 10.3 -0.6**
baz=36,SNR=20
MORW Morawa 35.44 194 P **P** **15 40 11.4 +0.6**
MORW Morawa 35.44 194 IAmb IAmb 15 40 11.8
comp=Z,51nm,0.9s
BJT Baijiatuao 35.46 348 P **P** **15 40 11.2 +0.4**
BJT Baijiatuao 35.46 348 P **P** **15 40 11.4 +0.6**
BJI Beijing 35.48 348 P **P** **15 40 11.0 0.0**
BJI PcP **PcP** **15 42 37.6 +1.4**
BJI pmax pmax
comp=Z,9.0nm,0.8s
FORT Forrest 36.06 176 P **P** **15 40 16.3 +0.2**
baz=36,SNR=25
FORT Forrest 36.06 176 P **P** **15 40 17.7 +1.6**
INKA Innaminka 36.12 157 P **P** **15 40 18.1 +1.5**
SNY Shenyang 36.31 358 ⇓P **P** **15 40 18.3 +0.3**
SNY pP **pP** **15 40 55.6 -1.6**
SNY S **S** **15 45 40.8 -4.0**
SNY pmax pmax
comp=Z,26nm,0.7s
SNY pmax pmax
comp=Z,67nm,3.7s
SNY LR LR
comp=Z,180nm,20.0s
SNY LR LR
comp=Z,260nm,13.4s
SNY LR LR
comp=Z,300nm,18.6s
LZH Lanzhou 36.41 330 ⇓P **P** **15 40 20.4 +1.2**
LZH pP pP 15 40 54.8 -3.7
LZH S **S** **15 45 46.0 -0.9**
LZH sS sS 15 46 58.3 +2.4
LZH pmax pmax
comp=Z,78nm,1.5s
LZH LR LR
comp=Z,170nm,13.7s
LZH LR LR
comp=Z,310nm,14.4s
LZH LR LR
comp=Z,330nm,14.1s
MULG Mulgathing 36.43 167 P **P** **15 40 21.0 +1.8**
QLP Quilpie 36.65 151 P **P** **15 40 21.8 +0.6**
baz=37,SNR=16
QLP Quilpie 36.65 151 P **P** **15 40 22.8 +1.7**
KMBL Kambalda 36.72 185 P **P** **15 40 21.5 -0.2**
baz=37,SNR=15
KMBL Kambalda 36.72 185 P **P** **15 40 22.3 +0.6**
BLDU Ballidu 36.77 193 P **P** **15 40 21.6 -0.5**
baz=37,SNR=24
BLDU Ballidu 36.77 193 P **P** **15 40 24.0 +1.9**
MSHR Mys Shultsa 37.37 7 *de*P **P** **15 40 28.7 +1.7**
MSHR pmax pmax
comp=Z,18nm,1.0s
PSTR Posyet 37.40 7 *ce*P **P** **15 40 28.7 +1.5**
HHC Hu-ho-hao-te 37.42 343 *e*P **P** **15 40 30.8 +3.2**
HHC pmax pmax
comp=Z,89nm,4.3s
KLBR Kellerberrin 37.51 191 P **P** **15 40 28.0 -0.3**
baz=38,SNR=9.8
KLBR Kellerberrin 37.51 191 P **P** **15 40 29.4 +1.1**
RK1H Rockhampton Ha 37.66 140 P **P** **15 40 31.3 +1.6**
BTO Baotou 37.68 341 *e*P **P** **15 40 32.1 +2.3**
BTO pP **pP** **15 41 09.5 +0.2**
BTO sP **sP** **15 41 34.6 +4.0**
BTO PP **PnPn** **15 42 05.1 +1.8**
BTO S **S** **15 46 10.9 +5.0**
BTO pmax pmax
comp=Z,15nm,0.9s
BTO pmax pmax
comp=Z,210nm,4.3s
BTO LR LR
comp=Z,530nm,18.0s
BTO LR LR
comp=Z,270nm,9.8s
BTO LR LR
comp=Z,610nm,17.5s
LCRK Leigh Creek 37.70 162 P **P** **15 40 31.8 +1.9**
JTM Tenmabayashi 37.92 19 P **P** **15 40 33.2 +1.6**
JTM Tenmabayashi 37.92 19 IAmb IAmb 15 40 34.4
comp=Z,79nm,1.4s
MUN Mundaring 38.20 193 P **P** **15 40 33.8 -0.2**
baz=38,SNR=16
MUN Mundaring 38.20 193 P **P** **15 40 34.7 +0.7**
CN2 Changchun 38.24 0 *e*P **P** **15 40 35.8 +1.5**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
NWAO Narrogin (SRO) 38.90 191 P **P** **15 40 40.1 +0.1**
baz=39,SNR=19
NWAO P **P** **15 40 40.1 +0.1**
baz=39,SNR=19
NWAO Narrogin (SRO) 38.90 191 P **P** **15 40 41.2 +1.3**
NWAO Narrogin (SRO) 38.90 191 P **P** **15 40 41.4 +1.5**
NWAO Narrogin (SRO) 38.90 191 P **P** **15 40 40.0 0.0**
NWAO Narrogin (SRO) 38.90 191 P **P** **15 40 40.0 +0.1**
NWAO pmax pmax
comp=Z,129nm,1.1s
USA0B Ussuriysk Arra 39.07 8 IAmb IAmb 15 40 44.5
comp=Z,21nm,0.8s
USA0B Ussuriysk Arra 39.07 8 *ce*P **P** **15 40 41.7 +0.6**
USRK Ussuriysk Ar. 39.07 8 P **P** **15 40 41.7 +0.6**
USRK Ussuriysk Ar. 39.07 8 P **P** **15 40 41.9 +0.8**
comp=Z,19nm,0.7s,baz=191,slow=6.7,SNR=24
USRK pP **pP** **15 41 21.5 +1.0**
comp=Z,8.8nm,0.7s,baz=191,slow=7.8,SNR=2.6
comp=Z,19nm,0.7s
XLT XiLinHaoTe 39.21 349 *e*P **P** **15 40 44.0 +1.5**
XLT pP pP 15 41 22.1 -0.2
XLT PP **PnPn** **15 42 22.3 +1.1**
XLT PcP **PcP** **15 42 48.0 +0.2**
XLT S **S** **15 46 23.3 -5.5**
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,100nm,4.5s
MDJ Mudanjiang 39.23 5 P **P** **15 40 44.2 +1.7**
MDJ Mudanjiang 39.23 5 P **P** **15 40 43.3 +0.8**
MDJ S **S** **15 46 25.6 -3.2**
MDJ pmax pmax
comp=Z,23nm,1.1s
MDJ pmax pmax
comp=Z,61nm,3.6s
MDJ LR LR
comp=Z,95nm,5.5s
MDJ LR LR
comp=Z,110nm,5.6s
MDJ Mudanjiang 39.23 5 P **P** **15 40 43.9 +1.4**
MDJ pP **pP** **15 41 22.7 +0.9**
MDJ sP **sP** **15 41 40.9 -2.0**
MDJ PcP **PcP** **15 42 48.4 +0.7**
BBOO Buckleboo 39.32 166 P **P** **15 40 44.0 +0.6**
baz=40,SNR=190
BBOO Buckleboo 39.32 166 P **P** **15 40 44.1 +0.6**
EIDS Eidsvold 39.46 142 P **P** **15 40 45.3 +0.6**
baz=40,SNR=8.8
EIDS Eidsvold 39.46 142 P **P** **15 40 45.9 +1.2**
EIDS Eidsvold 39.46 142 P **P** **15 40 44.6 0.0**
EIDS IAmb IAmb 15 40 46.1
comp=Z,28nm,0.9s
ERM Erimo 39.73 21 P **P** **15 40 48.0 +1.4**
ERM IAmb IAmb 15 41 20.1
comp=Z,96nm,1.6s
ERM Erimo 39.73 21 ⇑*e*P **P** **15 40 47.4 +0.8**
ERM pmax pmax
comp=Z,26nm,1.1s
ERM Erimo 39.73 21 P **P** **15 40 48.8 +2.1**
WHYH Whyalla 39.93 164 P **P** **15 40 49.9 +1.5**
STKA Stephens Creek 40.15 158 P **P** **15 40 51.0 +0.8**
baz=40,SNR=60
STKA Stephens Creek 40.15 158 P **P** **15 40 52.0 +1.8**
STKA Stephens Creek 40.15 158 P **P** **15 40 50.7 +0.5**
STKA Stephens Creek 40.15 158 P **P** **15 40 51.1 +0.9**
comp=Z,57nm,0.8s,baz=333,slow=8.3,SNR=101
STKA pP **pP** **15 41 29.9 -0.1**
comp=Z,33nm,0.8s,baz=349,slow=5.5,SNR=5.2
comp=Z,57nm,0.8s
STKA Stephens Creek 40.15 158 *di*P **P** **15 40 50.8 +0.5**
BNX BinXian 40.22 2 ⇑P **P** **15 40 51.1 +0.5**
BNX S **S** **15 46 41.5 -2.0**
BNX sS **sS** **15 47 54.4 +1.1**
BNX pmax pmax
comp=Z,18nm,1.1s
BNX pmax pmax
comp=Z,72nm,5.5s
LSA Lhasa 40.36 311 P **P** **15 40 55.3 +2.6**
HTT Hallett 40.69 163 P **P** **15 40 55.6 +0.9**
baz=41,SNR=40
HTT Hallett 40.69 163 P **P** **15 40 56.6 +1.9**
AULRC Lightning Ridg 40.86 149 P **P** **15 40 57.6 +1.5**
GTA Gaotai 41.00 329 ⇓P **P** **15 40 57.4 +0.1**
GTA pP pP 15 41 39.1 +1.7
GTA sP sP 15 42 02.0 +3.4
GTA PcP **PcP** **15 42 54.4 +0.7**
GTA ScP **ScP** **15 46 25.4 -0.5**
GTA PcS **PcS** **15 46 46.9 +1.8**
GTA S **S** **15 46 53.1 -2.5**
GTA sS sS 15 48 08.4 +2.9
GTA ScS **ScS** **15 50 38.8 -3.1**
GTA pmax pmax
comp=Z,13nm,1.0s
GTA LR LR
comp=Z,180nm,14.5s
GTA LR LR
comp=Z,200nm,16.0s
GTA LR LR
comp=Z,340nm,15.6s
ASAJ Asahikawa 41.41 19 P **P** **15 41 01.8 +1.4**
ASAJ pmax pmax
comp=Z,47nm,1.2s
JKA Kamikawa-asahi 41.41 19 P **P** **15 41 01.8 +1.4**
JKA IAmb IAmb 15 41 04.8
comp=Z,47nm,1.2s
CMSA Cobar Meteorol 41.52 153 P **P** **15 41 02.9 +1.5**
baz=42,SNR=26
CMSA Cobar Meteorol 41.52 153 P **P** **15 41 03.0 +1.6**
GOMU GeErMu 41.57 322 P **P** **15 41 03.6 +1.3**
GOMU S **S** **15 47 05.5 +0.9**
GOMU pmax pmax
comp=Z,23nm,1.1s
GOMU LR LR
comp=Z,260nm,14.5s
GOMU LR LR
comp=Z,340nm,18.0s
GOMU LR LR
comp=Z,420nm,17.9s
GHSS Government Hou 41.99 164 P **P** **15 41 07.1 +2.0**
H11S3 WAKE ISLAND Hy 42.30 68 T T 16 26 00.3
baz=257,slow=75,SNR=48
H11S1 WAKE ISLAND Hy 42.31 68 T T 16 25 56.8
baz=257,slow=75,SNR=31
H11S2 WAKE ISLAND Hy 42.31 68 T T 16 25 55.1
baz=257,slow=75,SNR=25
H11N1 WAKE ISLAND Hy 42.76 67 T T 16 26 14.8
baz=264,slow=75,SNR=21
H11N2 WAKE ISLAND Hy 42.77 67 T T 16 26 35.8
baz=264,slow=75,SNR=15
H11N3 WAKE ISLAND Hy 42.78 67 T T 16 26 33.3
baz=264,slow=75,SNR=17
AUDCS Dubbo College 43.46 151 P **P** **15 41 19.3 +2.2**
ARMA Armidale 43.57 146 P **P** **15 41 19.8 +1.6**
baz=44,SNR=8.3
ARMA Armidale 43.57 146 P **P** **15 41 19.7 +1.6**
ARMA Armidale 43.57 146 P **P** **15 41 18.1 0.0**
ARMA IAmb IAmb 15 41 20.9
comp=Z,58nm,1.0s
HIA Hailar 43.97 355 P **P** **15 41 22.0 +1.0**
HIA Hailar 43.97 355 *di*P **P** **15 41 21.1 +0.1**
HIA pmax pmax
comp=Z,19nm,1.1s
KLR Kul'dur 44.00 6 *ci*P **P** **15 41 21.2 +0.1**
KLR pmax pmax
comp=Z,29nm,1.7s
YSS Yuzh-Sakhalins 44.01 17 P **P** **15 41 22.4 +1.2**
YSS Yuzh-Sakhalins 44.01 17 P **P** **15 41 21.7 +0.4**
YSS Yuzh-Sakhalins 44.01 17 *e*P **P** **15 41 21.9 +0.7**
YSS *e**PP **pP** **15 42 02.2 +1.0**
YSS *e*S **S** **15 47 39.0 0.0**
YSS *e*SS **SS** **15 51 03.0 +0.3**
YSS pmax pmax
comp=Z,20nm,0.8s
YSS pmax pmax
comp=Z,100nm,3.7s
YSS smax smax
comp=N,200nm,5.9s
YSS smax smax
comp=E,100nm,5.5s
YSS Yuzh-Sakhalins 44.01 17 P **P** **15 41 22.0 +0.7**
YSS pP **pwP** **15 42 03.1 -0.6**
PALK Pallekele 44.47 275 P **P** **15 41 25.2 -0.3**

PALK **Pallekele** 44.47 275 P **P** 15 41 25.2 -0.3
PALK pmax pmax
comp=Z,21nm,1.2s
ARPS **Mount Arapiles** 44.67 161 P **P** 15 41 27.9 +1.2
baz=45,SNR=76
ARPS **Mount Arapiles** 44.67 161 P **P** 15 41 28.4 +1.8
HEH **HeiHe** 44.73 2 *e*P **P** 15 41 27.0 +0.1
HEH ScP **ScP** 15 46 40.0 -0.6
HEH S **S** 15 47 47.8 -1.5
HEH sS **sS** 15 49 01.6 +1.4
HEH ScS **ScS** 15 51 01.8 -2.5
HEH pmax pmax
comp=Z,42nm,1.1s
HEH pmax pmax
comp=Z,100nm,5.5s
YNG **Young** 45.06 153 P **P** 15 41 31.5 +1.8
baz=45,SNR=18
YNG **Young** 45.06 153 P **P** 15 41 31.6 +1.8
AUMAG **Moama Anglican** 45.09 158 P **P** 15 41 32.4 +2.5
ULN **Ulaanbaatar** 45.14 343‖ *e*P **P** 15 41 30.0 -0.4
ULN pmax pmax
comp=Z,20nm,2.5s
SONM **Songino Array** 45.31 342 P **P** 15 41 30.8 -0.9
SONM **Songino Array** 45.31 342 P **P** 15 41 31.3 -0.4
comp=Z,2.9nm,0.8s,baz=162,slow=8.8,SNR=14
SONM PcP **PcP** 15 43 07.9 -0.2
comp=Z,4.2nm,0.7s,baz=151,slow=3.7,SNR=4.7
SONM ScP **ScP** 15 46 42.5 -0.7
comp=Z,0.5nm,0.4s,baz=170,slow=6.3,SNR=1.6
SONM LR LR 16 01 59.3
comp=Z,208nm,20.0s,baz=156,slow=38
comp=Z,2.9nm,0.8s
SONM **Songino Array** 45.31 342 P **P** 15 41 30.8 -0.9
SONM pmax pmax
comp=Z,14nm,1.2s
BRAT **Ballarat** 46.08 159 P **P** 15 41 39.6 +1.9
GRNR **Gornyy** 46.14 10⇑ *i*P **P** 15 41 39.2 +1.2
GRNR pmax pmax
comp=Z,9.0nm,1.2s
GRNR MLR MLR
comp=Z,130nm,14.0s
CAN **Canberra** 46.18 153 P **P** 15 41 41.1 +2.5
CAN **Canberra** 46.18 153 IAmb IAmb 15 41 42.1
comp=Z,64nm,0.9s
CAN **Canberra** 46.18 153 P **P** 15 41 41.0 +2.4
CNB **Canberra Magne** 46.34 153 P **P** 15 41 40.4 +0.6
baz=46,SNR=7.8
CNB **Canberra Magne** 46.34 153 P **P** 15 41 40.1 +0.2
TOO **Toolangi** 46.67 158 P **P** 15 41 43.4 +1.1
baz=47,SNR=24
TOO **Toolangi** 46.67 158 P **P** 15 41 43.9 +1.6
TOO **Toolangi** 46.67 158 IAmb IAmb 15 41 45.9
comp=Z,66nm,1.0s
MLBS **Spotswood, Mel** 46.67 159 P **P** 15 41 44.2 +1.9
GEXS **Deakin Univers** 46.79 160 P **P** 15 41 45.7 +2.5
HYB **Hyderabad** 47.34 289‖ *e*P **P** 15 41 48.5 +0.7
HYB IVmB_BB 15 41 48.7
comp=Z,433nm,1.9s
TYV **Tymovskoe** 47.55 15 *e*P **P** 15 41 50.4 +1.6
TYV pmax pmax
comp=Z,9.0nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.3s
ZEA **Zeya** 48.21 1 *e*P **P** 15 41 53.9 0.0
ZEA pmax pmax
comp=Z,10.0nm,1.0s
NOUC **Port Laguerre** 48.46 126 P **P** 15 41 58.3 +2.0
NOUC **Port Laguerre** 48.46 126 P **P** 15 41 57.5 +1.2
NOUC pP **pP** 15 42 37.3 +0.8
ZAK **Zakamensk** 48.53 341 *e*P **P** 15 41 55.3 -1.2
ZAK pmax pmax
comp=Z,4.0nm,1.2s
DZM **Mont Dzumac** 48.56 126 P **P** 15 41 59.1 +1.9
DZM **Mont Dzumac** 48.56 126 IAmb IAmb 15 41 59.8
comp=Z,25nm,0.8s
DZM **Mont Dzumac** 48.56 126 P **P** 15 41 58.7 +1.5
DZM pP **pwP** 15 42 40.1 -1.9
LIFNC **LIFOU** 48.60 124 P **P** 15 41 59.1 +1.7
MOY **Mondy** 50.38 340 *e*P **P** 15 42 10.0 -0.5
MOY pmax pmax
comp=Z,18nm,1.9s
WMQ **Urumqi** 50.62 325 *e*P **P** 15 42 13.0 +0.6
WMQ pmax pmax
comp=Z,24nm,1.1s
WMQ LR LR
comp=Z,610nm,16.9s
WMQ LR LR
comp=Z,170nm,18.7s
CORO **Coronation Par** 50.69 159 P **P** 15 42 14.4 +1.6
TAU **Tasmania Unive** 52.03 160 P **P** 15 42 23.2 +0.5
TAU **Tasmania Unive** 52.03 160 P **P** 15 42 23.2 +0.5
TAU pmax pmax
comp=Z,225nm,2.0s
TAU **Tasmania Unive** 52.03 160 P **P** 15 42 24.8 +2.0
BOD **Bodaibo** 53.04 352 *e*P **P** 15 42 29.6 -0.3
BOD pmax pmax
comp=Z,14nm,1.3s
PEA0B **Petropavlovsk-** 54.40 23 IAmb IAmb 15 42 48.2
comp=Z,39nm,1.1s
PEA0B **Petropavlovsk-** 54.40 23‖ *e*P **P** 15 42 40.8 +0.9
PETK **Petropavlovsk-** 54.40 23 P **P** 15 42 40.6 +0.7
PETK **Petropavlovsk-** 54.40 23 P **P** 15 42 41.1 +1.2
comp=Z,9.5nm,0.8s,baz=193,slow=2.8,SNR=35
PETK pP **pP** 15 43 20.8 -0.8
comp=Z,13nm,0.8s,baz=179,slow=3.9,SNR=4.2
comp=Z,9.5nm,0.8s
DGZ **Jazzator, Alta** 54.51 331 *de*P **P** 15 42 40.6 -0.3
DGZ pmax pmax
comp=Z,13nm,1.2s
MK31 **Makanchi Array** 55.45 325 IAmb IAmb 15 42 48.6
comp=Z,23nm,1.0s
MK31 **Makanchi Array** 55.45 325 *de*P **P** 15 42 47.1 -0.5
MKAR **Makanchi Array** 55.45 325 P **P** 15 42 46.9 -0.7
MKAR **Makanchi Array** 55.45 325 P **P** 15 42 47.3 -0.3
comp=Z,21nm,0.8s,baz=123,slow=7.8,SNR=121
MKAR ScP **ScP** 15 47 25.6 -1.1
comp=Z,3.8nm,1.0s,baz=116,slow=6.6,SNR=3.6
comp=Z,21nm,0.8s
MAKZ **Makanchi** 55.63 325 P **P** 15 42 48.4 -0.5
MAKZ IAmb IAmb 15 42 50.5
comp=Z,37nm,1.0s
MAKZ **Makanchi** 55.63 325 P **P** 15 42 48.4 -0.5
MAKZ pmax pmax
comp=Z,37nm,1.0s
MAKZ **Makanchi** 55.63 325 P **P** 15 42 48.7 -0.2
MAKZ pP **pP** 15 43 29.6 -2.0
MAKZ ScP **ScP** 15 47 30.1 +2.7
KSH **Kashi** 55.95 315 P **P** 15 42 52.5 +1.1
KSH pP pP 15 43 35.8 +1.6
KSH S **S** 15 50 28.0 +3.1
KSH pmax pmax
comp=Z,17nm,1.3s
YAK **Yakutsk** 56.59 2 P **P** 15 42 55.1 -0.2
YAK **Yakutsk** 56.59 2 *e*P **P** 15 42 55.7 +0.4
YAK *e**PP **pP** 15 43 37.2 -0.8
YAK *e* 15 43 50.2
YAK *e* 15 45 04.0
YAK *e*PPP PPP 15 46 20.9
YAK *e*S **S** 15 50 32.5 +0.2
YAK *e* 15 52 22.6
YAK *e*SS **SS** 15 54 23.6 +0.8
YAK pmax pmax
comp=Z,127nm,1.1s
YAK pmax pmax
comp=N,38nm,1.3s
YAK pmax pmax
comp=E,11nm,1.6s
YAK pmax pmax
comp=N,104nm,4.9s
YAK pmax pmax
comp=E,72nm,4.5s
YAK smax smax
comp=N,327nm,2.5s
YAK smax smax
comp=E,124nm,7.2s
YAK **Yakutsk** 56.59 2 P **P** 15 42 55.6 +0.2
YAK pP **pP** 15 43 37.6 -0.4
YAK ScP **ScP** 15 47 33.5 +2.2
ARXS **Arharly** 56.78 321 *e*P **P** 15 42 56.6 -0.6
MA2 **Magadan** 57.42 15 *de*P **P** 15 43 02.7 +1.5
MA2 pmax pmax
comp=Z,38nm,2.5s
MA2 **Magadan** 57.42 15 P **P** 15 43 03.0 +1.7
MA2 pP **pP** 15 43 43.5 +0.1
TKM2 **Tokmak 2** 57.64 318 P **P** 15 43 03.9 +0.5
SNR=25
KBK **Karagaybulak** 57.95 318 P **P** 15 43 06.3 +0.8
SNR=14
UCH **Uchtor** 58.07 317 P **P** 15 43 07.8 +1.1
SNR=40
CHMS **Chumysh** 58.23 318 P **P** 15 43 07.4 +0.2
SNR=8.3
AAK **Ala-Archa** 58.25 318 P **P** 15 43 08.2 +0.7
SNR=5.8
AAK **Ala-Archa** 58.25 318 P **P** 15 43 07.0 -0.5
AAK IAmb IAmb 15 43 09.2
comp=Z,27nm,1.4s
AAK **Ala-Archa** 58.25 318 LR LR 16 11 13.3
comp=Z,118nm,18.3s,baz=114,slow=39
AAK **Ala-Archa** 58.25 318 *de*P **P** 15 43 07.8 +0.2
AAK pmax pmax
comp=Z,20nm,1.7s
AAK **Ala-Archa** 58.25 318 P **P** 15 43 07.6 +0.1
AAK pP **pP** 15 43 50.6 0.0
USP **Ospenovka** 58.51 318 P **P** 15 43 09.4 +0.2
SNR=29
ZALV **Zalesovo Beam** 58.52 333 P **P** 15 43 06.9 -2.1
ZALV **Zalesovo Beam** 58.52 333 P **P** 15 43 07.7 -1.3
comp=Z,2.3nm,0.3s,baz=122,slow=6.3,SNR=23
ZALV PKP2bc 16 12 52.9
comp=Z,2.5nm,0.8s,baz=316,slow=4.0,SNR=9.5
comp=Z,2.3nm,0.3s
ZALV **Zalesovo Beam** 58.52 333 *i*P **P** 15 43 08.3 -0.6
ZALV pmax pmax
comp=Z,2.0nm,0.3s
EKS2 **Erkin-Say** 58.74 317 P **P** 15 43 11.8 +0.8
SNR=19
KBL **Kabul** 59.48 307 P **P** 15 43 15.4 -0.8
KBL IAmb IAmb 15 43 17.2
comp=Z,28nm,0.9s
KBL **Kabul** 59.48 307 P **P** 15 43 15.4 -0.8
KBL pmax pmax
comp=Z,29nm,0.9s
KURBB **Kurchatov Array** 59.64 327 P **P** 15 43 16.6 -0.1
comp=Z,28nm,0.9s,baz=126,slow=5.8,SNR=97
KURBB PKPPKP **P'P'df** 16 12 42.2 -1.2
comp=Z,0.3nm,0.2s,baz=283,slow=2.9,SNR=4.8
comp=Z,28nm,0.9s
KURK **Kurchatov** 59.64 328 P **P** 15 43 15.8 -0.9
KURK **Kurchatov** 59.64 328 *d*iP **P** 15 43 16.0 -0.7
KURK pmax pmax
comp=Z,64nm,1.3s
KURK **Kurchatov** 59.64 328 P **P** 15 43 16.3 -0.4
SIMJ **Simiganj** 60.70 312 P **P** 15 43 23.5 -0.9
SIMJ IAmb IAmb 15 43 25.3
comp=Z,42nm,1.4s
SIMJ **Simiganj** 60.70 312 P **P** 15 43 23.9 -0.5
SIMJ pP **pP** 15 44 08.1 +0.4
SEY **Seymchan** 60.72 14 LR LR 16 10 09.3
comp=Z,68nm,20.0s,baz=242,slow=36
SEY **Seymchan** 60.72 14‖ *e*P **P** 15 43 25.5 +1.7
SEY pmax pmax
comp=Z,22nm,1.7s
KK31 **Karatay Array** 61.13 317 P **P** 15 43 25.9 -1.1
KK31 IAmb IAmb 15 43 27.8
comp=Z,35nm,1.2s
KK31 **Karatay Array** 61.13 317 P **P** 15 43 25.9 -1.1
KK31 pmax pmax
comp=Z,35nm,1.2s
KKAR **Karatay Array** 61.13 317 P **P** 15 43 26.4 -0.6
KKAR **Karatay Array** 61.13 317 IAmb IAmb 15 43 27.8
comp=Z,35nm,1.2s
KKAR **Karatay Array** 61.13 317 P **P** 15 43 26.4 -0.6
MKAZ **Moumakai** 62.73 137 P **P** 15 43 40.1 +2.4
JCZ **Jackson Bay** 62.81 146 P **P** 15 43 40.3 +2.0
LBZ **Lake Benmore** 63.79 146 P **P** 15 43 45.5 +0.9
RPZ **Rata Peaks** 63.87 145 P **P** 15 43 45.8 +0.7
RPZ **Rata Peaks** 63.87 145 P **P** 15 43 46.4 +1.3
comp=Z,28nm,0.8s,baz=8.6,slow=2.5,SNR=10
comp=Z,28nm,0.8s
BHHZ **Black Hill Sta** 64.57 139 P **P** 15 43 51.4 +1.6
URZ **Urewera** 64.65 137 P **P** 15 43 50.5 +0.3
comp=Z,16nm,0.9s,baz=318,slow=4.2,SNR=5.7
comp=Z,16nm,0.9s
URZ **Urewera** 64.65 137 P **P** 15 43 51.0 +0.8
BKZ **Black Stump Fm** 64.69 138 P **P** 15 43 51.7 +1.1
BKZ **Black Stump Fm** 64.69 138 P **P** 15 43 50.6 0.0
BKZ IAmb IAmb 15 43 52.7
comp=Z,32nm,0.9s
BKZ **Black Stump Fm** 64.69 138 P **P** 15 43 53.0 +2.4
RTZ **Ruatahuna** 64.74 137 P **P** 15 43 51.9 +1.0
MTHZ **Maungataniwha** 64.76 138 P **P** 15 43 52.7 +1.6
KWHZ **Kaweka Forest** 64.78 138 P **P** 15 43 52.5 +1.4
KRHZ **Kereru** 64.86 139 P **P** 15 43 52.4 +0.8
NMHZ **Naumai** 64.86 138 P **P** 15 43 54.2 +2.5
HRA **Herat** 64.91 305 IAmb IAmb 15 43 53.0
comp=Z,23nm,1.0s
RAHZ **Arahi** 64.96 138 P **P** 15 43 54.3 +2.0
MWZ **Matawai** 64.97 137 P **P** 15 43 53.1 +0.7
SNGZ **Shannon Statio** 65.06 137 P **P** 15 43 54.9 +1.9
BVAR **Borovoye Array** 65.22 327 P **P** 15 43 52.7 -1.0
comp=Z,26nm,0.9s,baz=126,slow=7.5,SNR=69
BVAR PKP2bc 16 12 36.8
comp=Z,0.7nm,0.6s,baz=264,slow=1.5,SNR=4.8
BVAR LR LR 16 15 04.7
comp=Z,94nm,18.0s,baz=111,slow=38
comp=Z,26nm,0.9s
KAHZ **Kahuranaki** 65.27 138 P **P** 15 43 55.4 +1.1
BRVK **Borovoye** 65.29 327 P **P** 15 43 52.9 -1.2
BRVK IAmb IAmb 15 43 55.9
comp=Z,33nm,1.0s
BRVK **Borovoye** 65.29 327 *d*iP **P** 15 43 53.3 -0.8
BRVK pmax pmax
comp=Z,46nm,1.3s
BRVK **Borovoye** 65.29 327 P **P** 15 43 53.4 -0.8
TIXI **Tiksi** 66.20 1 P **P** 15 43 58.5 -1.1
TIXI IAmb IAmb 15 44 00.3
comp=Z,33nm,0.9s
TIXI **Tiksi** 66.20 1 *d*iP **P** 15 43 58.9 -0.7
TIXI pmax pmax
comp=Z,69nm,1.7s
TIXI **Tiksi** 66.20 1 P **P** 15 43 59.1 -0.4
ATKA **Atka Island** 67.88 35 P **P** 15 44 12.0 +1.5
ATKA **Atka Island** 67.88 35 P **P** 15 44 10.8 +0.3
BILL **Bilibino** 68.29 15 P **P** 15 44 12.7 -0.1
BILL **Bilibino** 68.29 15 *e*P **P** 15 44 13.2 +0.4
BILL pmax pmax
comp=Z,18nm,1.7s
BILL **Bilibino** 68.29 15 P **P** 15 44 13.3 +0.5
BILL pP **pP** 15 44 55.4 -1.7
GEYT **Alibeck** 68.84 309 P **P** 15 44 16.6 -0.3
GEYT **Alibeck** 68.84 309 P **P** 15 44 17.0 +0.1
comp=Z,29nm,1.0s,baz=122,slow=5.4,SNR=59
GEYT LR LR 16 17 08.6
comp=Z,58nm,18.1s,baz=115,slow=38
comp=Z,29nm,1.0s
GEYT **Alibeck** 68.84 309 P **P** 15 44 16.6 -0.3
GEYT pmax pmax
comp=Z,59nm,1.1s
GYA0B **ALIBECK ARRAY** 68.84 309 IAmb IAmb 15 44 18.9
comp=Z,50nm,1.1s
ABKAR **Akbulak array** 70.04 321 P **P** 15 44 22.5 -1.4
ABKAR **Akbulak array** 70.04 321 IAmb IAmb 15 44 25.0
comp=Z,17nm,0.8s
NIKH **Nikolski High** 71.21 36 P **P** 15 44 31.7 +0.8
baz=253
SPIA **Saint Paul Isl** 71.74 31 P **P** 15 44 35.1 +1.1
baz=251
SVE **Sverdlovsk** 71.86 328 *e*P **P** 15 44 34.1 -0.6
SVE pmax pmax
comp=Z,25nm,1.0s
CASY **Casey** 72.32 186 P **P** 15 44 37.8 +0.6
CASY IAmb IAmb 15 44 39.3
comp=Z,29nm,0.8s
UNV **Unalaska Valle** 72.80 35 P **P** 15 44 41.3 +1.0
baz=255
ARU **Arti** 72.83 328 P **P** 15 44 39.1 -1.4
ARU **Arti** 72.83 328 LR LR 16 19 25.4
comp=Z,76nm,18.7s,baz=105,slow=38
ARU **Arti** 72.83 328 *c*iP **P** 15 44 38.8 -1.7
ARU 15 44 58.6
ARU S **S** 15 53 49.7 -1.4
ARU SS **SS** 15 58 29.0 -6.1
ARU pmax pmax
comp=Z,11nm,0.6s
FALS **False Pass** 74.80 35 P **P** 15 44 52.7 +0.8
baz=258
TNA **Tin City** 75.57 23 P **P** 15 44 57.5 +1.4
baz=251
S12K **Black Hills** 75.73 34 P **P** 15 44 58.1 +0.8
baz=258
M13K **Dall Lake** 76.10 29 P **P** 15 45 00.1 +0.8
baz=256
F14K **Arctic Creek** 76.17 24 P **P** 15 45 01.2 +1.6
baz=252
LKRN **Lenkeran, Azer** 76.22 308 P **P** 15 44 59.7 -0.7
ANM **Nome** 76.29 25 P **P** 15 45 01.4 +1.2
baz=253
SDPT **Sand Point** 76.55 34 P **P** 15 45 03.2 +1.3
SDPT **Sand Point** 76.55 34 IAmb IAmb 15 45 03.6
comp=Z,46nm,0.8s
SDPT **Sand Point** 76.55 34 P **P** 15 45 02.6 +0.8
baz=260,SNR=5.5
J14K **Nanvaranak Lak** 76.58 27 P **P** 15 45 03.1 +1.3
baz=255
L14K **Kuka Creek** 76.64 28 P **P** 15 45 04.3 +2.1
baz=256,SNR=6.4
N14K **Kuskokwak Cree** 76.80 30 P **P** 15 45 04.7 +1.5
baz=258
M14K **Bethel** 76.85 29 IAmb IAmb 15 45 06.3
comp=Z,30nm,0.9s
M14K **Bethel** 76.85 29 P **P** 15 45 05.3 +1.9
baz=257
O14K **Tigyukauivet M** 76.87 30 P **P** 15 45 05.0 +1.4
baz=258
F15K **North Star Dit** 76.91 24 P **P** 15 45 05.3 +1.6
baz=254
G15K **Niukluk** 76.96 24 P **P** 15 45 05.4 +1.4
baz=254
CHNA **Chernabura Isl** 76.97 35 P **P** 15 45 05.3 +1.1
baz=261
S14K **Fog Glacier** 77.23 34 P **P** 15 45 07.0 +1.2
baz=260
L15K **Ungalak Mounta** 77.27 28 P **P** 15 45 06.7 +1.0
baz=258
K15K **Wolf Creek Mou** 77.39 27 P **P** 15 45 07.7 +1.3
baz=257
C16K **Lisburne Hills** 77.39 21 P **P** 15 45 07.8 +1.5
baz=252
M15K **Kasigluk River** 77.45 29 P **P** 15 45 08.2 +1.4
baz=258,SNR=5.5
O15K **Ungalikthiuk R** 77.58 31 P **P** 15 45 08.9 +1.3
baz=260
SEKA **Sheki** 77.60 311 P **P** 15 45 07.0 -1.2
H16K **Elim** 77.61 25 P **P** 15 45 08.9 +1.2
baz=256
N15K **Kwethluk River** 77.64 30 IAmb IAmb 15 45 57.0
comp=Z,26nm,1.1s
N15K **Kwethluk River** 77.64 30 P **P** 15 45 09.6 +1.8
baz=259
G16K **Koyuk River** 77.75 24 P **P** 15 45 09.8 +1.5
baz=256
CHGN **Chignik** 77.86 34 IAmb IAmb 15 45 56.8
comp=Z,32nm,1.0s
CHGN **Chignik** 77.86 34 P **P** 15 45 09.9 +0.8
baz=261
J16K **Anvik River** 78.02 26 P **P** 15 45 10.9 +1.0
baz=258
D17K **Noatak River** 78.05 22 P **P** 15 45 11.9 +2.0
baz=255,SNR=13
ZKTA **Zakatala** 78.06 311 P **P** 15 45 09.9 -0.7
I17K **Unalakleet** 78.10 26 P **P** 15 45 12.1 +1.8
baz=258
KIRV **Kirov** 78.12 329 LR LR 16 23 47.5
comp=Z,69nm,18.6s,baz=90,slow=39
KIRV **Kirov** 78.12 329 *d*iP **P** 15 45 09.1 -1.4
RDOG **Red Dog Mine** 78.21 21 IAmb IAmb 15 46 00.1
comp=Z,36nm,1.3s
RDOG **Red Dog Mine** 78.21 21 P **P** 15 45 12.4 +1.5
baz=255
L16K **Owhat River** 78.22 28 IAmb IAmb 15 46 01.1
comp=Z,28nm,1.1s
L16K **Owhat River** 78.22 28 P **P** 15 45 12.9 +1.9
baz=259,SNR=7.1
C17K **DeLong Mountai** 78.22 21 P **P** 15 45 12.4 +1.5
baz=254
GANJ **Ganja** 78.23 310 P **P** 15 45 10.8 -0.8
BELG **Belogornoye** 78.30 322 *ce*P **P** 15 45 11.3 -0.3
BELG pmax pmax
comp=Z,10.0nm,0.9s
N16K **Nishlik Lake** 78.34 29 P **P** 15 45 14.0 +2.2
baz=260,SNR=9.1
M16K **Timber Creek** 78.34 29 IAmb IAmb 15 46 00.3
comp=Z,29nm,0.9s
M16K **Timber Creek** 78.34 29 P **P** 15 45 13.6 +1.8
baz=260,SNR=8.9
E17K **Hotham Inlet** 78.36 22 P **P** 15 45 13.8 +2.0
baz=256,SNR=6.7
F17K **Baldwin Pennin** 78.44 23 P **P** 15 45 13.9 +1.9
baz=257
G17K **Kiwalik Mounta** 78.47 24 P **P** 15 45 14.2 +1.9
baz=258,SNR=6.3
P16K **Nushagak River** 78.49 31 P **P** 15 45 14.2 +1.7
baz=261
R16K **Pilot Point** 78.50 32 P **P** 15 45 14.5 +1.9
baz=262
O16K **Kokwok River B** 78.53 30 P **P** 15 45 14.2 +1.5
baz=261,SNR=6.1
RAYN **Ar Rayn** 78.63 293 P **P** 15 45 13.0 -1.2
RAYN IAmb IAmb 15 45 14.3
comp=Z,32nm,1.1s
RAYN **Ar Rayn** 78.63 293 P **P** 15 45 13.0 -1.2
RAYN pmax pmax
comp=Z,32nm,1.1s
H17K **Granite Mounta** 78.65 25 P **P** 15 45 15.2 +1.9
baz=258,SNR=6.7
J17K **VABM Dome** 78.71 26 P **P** 15 45 15.6 +1.9
baz=259,SNR=9.0
NAX **Nakhchivan** 78.80 309 P **P** 15 45 14.0 -0.8
L17K **Donlin** 78.84 28 P **P** 15 45 16.7 +2.3
baz=260,SNR=11
E18K **Tukpahlearik C** 78.91 22 P **P** 15 45 16.5 +1.8
baz=257,SNR=9.1
B18K **Kokolik River** 78.93 20 P **P** 15 45 16.8 +2.0
baz=256
K17K **Iditarod** 78.94 27 IAmb IAmb 15 45 18.3
comp=Z,30nm,0.9s
K17K **Iditarod** 78.94 27 P **P** 15 45 16.9 +2.0
baz=260,SNR=10
C18K **Utukok River** 78.97 21 P **P** 15 45 16.3 +1.2
baz=256,SNR=7.4
O17K **Koliganek Bris** 79.06 30 P **P** 15 45 17.3 +1.7
baz=262,SNR=6.9
F18K **Selawik** 79.10 23 P **P** 15 45 17.2 +1.6
baz=258,SNR=7.4
N17K **Nushagak Hills** 79.12 29 IAmb IAmb 15 46 05.8
comp=Z,37nm,1.2s
N17K **Nushagak Hills** 79.12 29 P **P** 15 45 18.3 +2.3
baz=262,SNR=8.1
M17K **Holitna River** 79.13 29 IAmb IAmb 15 46 05.8
comp=Z,30nm,1.2s
M17K **Holitna River** 79.13 29 P **P** 15 45 18.1 +2.1
baz=261
P17K **Kvichak River** 79.31 31 P **P** 15 45 18.3 +1.4
baz=262,SNR=5.7
H18K **Honhosa River** 79.34 25 P **P** 15 45 18.7 +1.6
baz=260,SNR=6.1
CHIR **Chirikof Islan** 79.35 34 P **P** 15 45 17.6 +0.3
baz=264
G18K **Tagagawik** 79.36 24 P **P** 15 45 18.6 +1.4
baz=259
A19K **Wainwright** 79.38 19 P **P** 15 45 19.1 +1.9
baz=256,SNR=5.9
GNI **Garni** 79.42 310⇑ *e*P **P** 15 45 18.7 +0.5
GNI pmax pmax
comp=Z,28nm,1.2s
Q17K **Contact Creek** 79.48 32 P **P** 15 45 18.5 +0.4
baz=263,SNR=10.0
L18K **Granite Mounta** 79.60 28 IAmb IAmb 15 46 08.4
comp=Z,98nm,1.9s
L18K **Granite Mounta** 79.60 28 P **P** 15 45 20.5 +2.0
baz=262,SNR=9.8
C19K **Lookout Ridge** 79.64 21 P **P** 15 45 20.9 +2.2
baz=258,SNR=18
J18K **Innoko River** 79.77 26 P **P** 15 45 20.7 +1.3
baz=262,SNR=15
N18K **Kilae Creek** 79.77 29 P **P** 15 45 21.1 +1.6
baz=263,SNR=6.2
F19K **Shaleruckik Mo** 79.87 23 P **P** 15 45 21.3 +1.4
baz=260
GCSA **Galena City Sc** 79.89 25 P **P** 15 45 21.9 +1.9
baz=261
M18K **Stony River** 79.91 29 P **P** 15 45 22.2 +2.0
baz=263,SNR=10
P18K **Big Mountain,** 79.95 31 P **P** 15 45 21.1 +0.6
baz=264
O18K **Koktuh Hills** 80.01 30 IAmb IAmb 15 46 09.6
comp=Z,33nm,0.8s

O18K **Koktuh Hills** 80.01 30 P P 15 45 21.5 +0.7
baz=264,SNR=12
G19K **Purcell Mounta** 80.03 24 IAmb IAmb 15 45 25.2
comp=Z,24nm,0.9s
G19K **Purcell Mounta** 80.03 24 P P 15 45 21.8 +1.0
baz=261,SNR=15
D19K **Kuna River** 80.05 21 P P 15 45 22.4 +1.5
baz=259
E19K **Redstone River** 80.19 22 P P 15 45 23.4 +1.8
baz=260
H19K **Roundabout Mou** 80.19 24 IAmb IAmb 15 46 13.9
comp=Z,30nm,0.8s
H19K **Roundabout Mou** 80.19 24 P P 15 45 23.8 +2.2
baz=261,SNR=25
SII **Sitkinak Islan** 80.22 34 P P 15 45 23.6 +1.6
baz=265
J19K **Poorman** 80.33 26 P P 15 45 24.2 +1.8
baz=262,SNR=12
L19K **White Mountain** 80.45 28 IAmb IAmb 15 45 26.3
comp=Z,28nm,1.1s
L19K **White Mountain** 80.45 28 P P 15 45 25.3 +2.1
baz=263,SNR=18
N19K **Bonanza Creek** 80.47 29 IAmb IAmb 15 46 13.9
comp=Z,68nm,1.2s
N19K **Bonanza Creek** 80.47 29 P P 15 45 25.1 +1.8
baz=264,SNR=12
O19K **Port Alsworth** 80.49 30 IAmb IAmb 15 46 13.1
comp=Z,36nm,1.3s
O19K **Port Alsworth** 80.49 30 P P 15 45 24.6 +1.3
baz=264
D20K **Etivluk River** 80.63 21 P P 15 45 25.5 +1.5
baz=261
M19K **Big River Lodg** 80.64 28 P P 15 45 26.1 +2.0
baz=264
ABPO **Ambohimpanom** 80.65 250 P P 15 45 24.4 -0.8
ABPO IAmb IAmb 15 45 25.7
comp=Z,54nm,1.6s
ABPO **Ambohimpanom** 80.65 250 P P 15 45 24.4 -0.8
ABPO pmax pmax
comp=Z,54nm,1.7s
B20K **Meade River** 80.65 20 IAmb IAmb 15 45 26.9
comp=Z,24nm,0.9s
B20K **Meade River** 80.65 20 P P 15 45 25.4 +1.4
baz=260,SNR=18
F20K **Avaraart Lake** 80.70 23 P P 15 45 26.3 +2.0
baz=262,SNR=16
E20K **Nigu River** 80.71 22 P P 15 45 26.2 +1.8
baz=261
Q19K **Cape Douglas,** 80.72 31 P P 15 45 25.0 +0.4
baz=265
OHAK **Old Harbor** 80.77 33 IAmb IAmb 15 46 13.7
comp=Z,36nm,1.0s
OHAK **Old Harbor** 80.77 33 P P 15 45 26.0 +1.2
baz=266
H20K **Anotlenesga Mo** 80.83 25 P P 15 45 26.9 +1.8
baz=263,SNR=17
KBZ **Khabaz** 80.89 313 P P 15 45 25.3 -0.5
comp=Z,7.2nm,1.0s,baz=67,slow=4.0,SNR=12
comp=Z,7.2nm,1.0s
KBZ **Khabaz** 80.89 313 *ce* P P 15 45 25.4 -0.4
KBZ pmax pmax
comp=Z,19nm,1.3s
I20K **Naaghedeneel** 80.92 25 IAmb IAmb 15 45 28.8
comp=Z,52nm,0.9s
I20K **Naaghedeneel** 80.92 25 P P 15 45 27.3 +1.8
baz=263,SNR=12
L20K **Farewell, AK** 80.93 28 P P 15 45 26.9 +1.2
baz=264,SNR=15
K20K **Telida** 80.94 27 P P 15 45 27.7 +2.0
baz=264,SNR=15
J20K **Nowinta River** 80.99 26 IAmb IAmb 15 46 16.6
comp=Z,42nm,1.2s
J20K **Nowinta River** 80.99 26 P P 15 45 28.1 +2.2
baz=264,SNR=14
KIV **Kislovodsk** 81.05 314 P P 15 45 25.9 -0.9
KIV IAmb IAmb 15 45 28.1
comp=Z,61nm,1.8s
KIV **Kislovodsk** 81.05 314 ⇓ *e* P P 15 45 26.6 -0.2
KIV *e* 15 48 34.5
KIV *e* SS SS 16 00 44.1 +4.6
KIV pmax pmax
comp=Z,23nm,1.3s
A21K **Barrow** 81.06 19 P P 15 45 27.9 +1.8
baz=260
SHA1 **Shidzhatmaz** 81.06 313 *ce* P P 15 45 26.3 -0.7
KDAK **Kodiak Island** 81.19 32 P P 15 45 28.1 +1.1
KDAK IAmb IAmb 15 46 15.9
comp=Z,51nm,1.1s
KDAK **Kodiak Island** 81.19 32 P P 15 45 28.3 +1.3
baz=266
KDAK **Kodiak Island** 81.19 32 LR LR 16 18 01.0
comp=Z,70nm,20.4s,baz=266,slow=33
KDAK **Kodiak Island** 81.19 32 P P 15 45 28.1 +1.1
KDAK pmax pmax
comp=Z,51nm,1.1s
M20K **Styx River** 81.23 28 IAmb IAmb 15 46 20.0
comp=Z,36nm,1.1s
M20K **Styx River** 81.23 28 P P 15 45 29.5 +2.1
baz=265,SNR=16
O20K **Slope Mountain** 81.33 30 P P 15 45 29.0 +1.1
baz=266
Q20K **Shuyak Island** 81.34 32 P P 15 45 29.1 +1.2
baz=266
C21K **Knifebiade Rid** 81.35 21 P P 15 45 29.4 +1.7
baz=262,SNR=8.1
IMAR **Indian Mountai** 81.36 24 P P 15 45 29.1 +1.3
B21K **Ikpikpuk River** 81.47 20 IAmb IAmb 15 45 31.2
comp=Z,27nm,0.8s
B21K **Ikpikpuk River** 81.47 20 P P 15 45 30.0 +1.7
baz=262,SNR=31
GURO **Guroymak-BITLI** 81.49 308 IAmb IAmb 15 45 31.4
comp=Z,40nm,1.2s
VOI **Vohitsoka** 81.51 247 P P 15 45 30.6 +1.0
VOI **Vohitsoka** 81.51 247 P P 15 45 28.6 -1.1
VOI IAmb IAmb 15 45 30.9
comp=Z,89nm,1.6s
G21K **Allakaket** 81.51 24 P P 15 45 30.2 +1.6
baz=264
A22K **Sinclair Lake** 81.53 19 P P 15 45 30.6 +2.0
baz=262
E21K **Killik River** 81.55 22 P P 15 45 30.0 +1.2
baz=263
F21K **Alatna River** 81.60 23 P P 15 45 29.4 +0.4
baz=264,SNR=11
N20K **Mount Spurr** 81.61 29 P P 15 45 30.3 +1.0
baz=266,SNR=11
H21K **Melozitna Rive** 81.71 24 IAmb IAmb 15 46 19.4
comp=Z,31nm,1.1s
H21K **Melozitna Rive** 81.71 24 P P 15 45 31.7 +2.0
baz=265,SNR=14
PPLA **Purkeypile** 81.75 27 P P 15 45 31.3 +1.2
baz=266,SNR=8.7
CHUM **Lake Minchumin** 81.77 26 P P 15 45 31.8 +1.9
baz=265,SNR=13
HOM **Homer** 81.79 31 P P 15 45 30.2 0.0
baz=267
CAST **Castle Rocks** 81.83 27 IAmb IAmb 15 45 33.1
comp=Z,28nm,0.9s
CAST **Castle Rocks** 81.83 27 P P 15 45 31.6 +1.2
baz=266,SNR=36
VRH **Novokhopyorsk** 81.87 321 *e* P P 15 45 28.4 -2.4
VRH pmax pmax
comp=Z,30nm,1.0s
B22K **Teshekpuk Lake** 81.96 20 IAmb IAmb 15 45 34.4
comp=Z,20nm,0.7s
B22K **Teshekpuk Lake** 81.96 20 P P 15 45 32.3 +1.4
baz=263,SNR=31
SKT **Skwentna** 81.99 28 IAmb IAmb 15 46 19.4
comp=Z,33nm,1.0s
SKT **Skwentna** 81.99 28 P P 15 45 31.7 +0.4
baz=266,SNR=21
CNPM **China Poot** 81.99 31 IAmb IAmb 15 45 33.0
comp=Z,26nm,0.7s
I21K **Tanana** 82.01 25 P P 15 45 33.1 +1.9
baz=266
D22K **Ayikyak River** 82.07 21 P P 15 45 33.6 +2.1
baz=264,SNR=11
F22K **John River** 82.13 23 P P 15 45 33.7 +1.9
baz=265
BRLK **Bradley Lake** 82.18 31 IAmb IAmb 15 46 20.4
comp=Z,56nm,1.1s
BRSE **Bradley Lake S** 82.25 31 P P 15 45 33.4 +0.7
baz=267,SNR=5.8
E22K **Anaktuvuk Pass** 82.32 22 P P 15 45 34.4 +1.5
baz=265,SNR=16
H22K **Ishtalitna Cre** 82.32 24 P P 15 45 35.0 +2.2
baz=266,SNR=17
SUA **Susitna One** 82.33 29 IAmb IAmb 15 45 35.4
comp=Z,45nm,0.9s
SUA **Susitna One** 82.33 29 P P 15 45 33.8 +0.7
baz=267,SNR=26
G22K **Bettles** 82.34 23 P P 15 45 34.3 +1.4
baz=266
KTH **Kantishna Hill** 82.36 27 IAmb IAmb 15 46 22.9
comp=Z,40nm,1.2s
BPAW **Bear Paw Mtn.** 82.37 26 P P 15 45 34.2 +1.0
baz=267,SNR=35
LABN **Labinsk** 82.46 314 *e* P P 15 45 31.4 -2.6
LABN pmax pmax
comp=Z,34nm,0.9s
MLY **Manley** 82.53 25 IAmb IAmb 15 45 36.8
comp=Z,26nm,0.9s
MLY **Manley** 82.53 25 P P 15 45 35.7 +1.7
baz=267,SNR=46
CUT **Chulitna** 82.60 28 P P 15 45 35.9 +1.5
baz=267
ERBR **Yeremizino-Bor** 82.63 315 *e* P P 15 45 33.9 -1.0
ERBR *e**PP pP 15 46 19.3 -1.1
ERBR *e*S S 15 55 34.3 -2.3
ERBR pmax pmax
comp=Z,53nm,1.8s
TRF **Thorofare Moun** 82.64 27 IAmb IAmb 15 46 23.5
comp=Z,36nm,1.0s
TRF **Thorofare Moun** 82.64 27 P P 15 45 35.7 +0.9
baz=267,SNR=16
M22K **Willow** 82.64 29 P P 15 45 35.2 +0.7
baz=268,SNR=18
O22K **Cooper Landing** 82.79 30 P P 15 45 36.2 +0.8
baz=268,SNR=6.0
D23K **Nanushuk River** 82.79 21 P P 15 45 37.3 +2.1
baz=266,SNR=19
RC01 **Rabbit Creek A** 82.81 29 IAmb IAmb 15 45 37.2
comp=Z,40nm,0.9s
RC01 **Rabbit Creek A** 82.81 29 P P 15 45 35.9 +0.5
baz=268,SNR=14
COLD **Coldfoot** 82.87 23 P P 15 45 37.9 +2.2
baz=267,SNR=24
C23K **Itkillik River** 82.88 20 P P 15 45 37.6 +2.0
baz=266,SNR=29
G23K **Bananza Creek** 82.91 24 IAmb IAmb 15 46 27.3
comp=Z,34nm,0.9s
G23K **Bananza Creek** 82.91 24 P P 15 45 38.2 +2.2
baz=267,SNR=34
SEW **Seward** 82.92 30 P P 15 45 36.9 +0.9
baz=268,SNR=9.3
H23K **Yukon River** 83.07 24 IAmb IAmb 15 45 40.0
comp=Z,36nm,0.9s
H23K **Yukon River** 83.07 24 P P 15 45 38.8 +2.1
baz=268,SNR=30
I23K **Minto, Yukon-K** 83.12 25 P P 15 45 38.8 +1.8
baz=268,SNR=37
E23K **Chandalar** 83.14 22 P P 15 45 39.5 +2.4
baz=267
TOLK **Tolik Lake Re** 83.18 22 P P 15 45 39.0 +1.7
baz=267,SNR=30
NEA2 **Nenana** 83.22 26 IAmb IAmb 15 45 40.7
comp=Z,34nm,0.9s
NEA2 **Nenana** 83.22 26 P P 15 45 37.9 +0.4
baz=268,SNR=44
MCK **McKinley** 83.26 27 P P 15 45 38.6 +0.9
baz=268,SNR=24
KLMR **Klimovskoe** 83.32 331 *e* P P 15 45 33.6 -4.4
KLMR *e*S SKSac 15 55 36.8 -5.6
KLMR pmax pmax
comp=Z,59nm,1.1s
WAT1 **Susitna Watana** 83.41 27 P P 15 45 39.0 +0.5
baz=269
VORR **Voronezh** 83.45 321 *e* P P 15 45 37.7 -1.2
VORR pmax pmax
comp=Z,20nm,1.0s
D24K **Happy Valley** 83.47 21 IAmb IAmb 15 45 41.9
comp=Z,41nm,0.8s
D24K **Happy Valley** 83.47 21 P P 15 45 41.0 +2.3
baz=268,SNR=48
VSR **Storozhevoye** 83.48 321 *e* P P 15 45 34.0 -5.1
VSR pmax pmax
comp=Z,10.0nm,1.1s
SML **Sawmill** 83.50 28 P P 15 45 40.1 +1.1
baz=269,SNR=14
C24K **Franklin Bluff** 83.53 20 P P 15 45 40.6 +1.6
baz=268
E24K **Your Creek** 83.56 22 P P 15 45 40.8 +1.6
baz=268,SNR=20
MDM **Murphy Dome** 83.59 25 IAmb IAmb 15 46 29.2
comp=Z,49nm,1.4s
LPSR **Galich'ya Gora** 83.61 322 *e* P P 15 45 37.5 -2.2
LPSR pmax pmax
comp=Z,20nm,1.0s
COLA **College** 83.75 25 P P 15 45 42.2 +2.0
COLA **College** 83.75 25 P P 15 45 40.5 +0.3
COLA IAmb IAmb 15 45 43.2
comp=Z,15nm,0.7s
COLA **College** 83.75 25 P P 15 45 41.6 +1.4
baz=269
COLA **College** 83.75 25 *c* *i* P P 15 45 40.8 +0.6
COLA pmax pmax
comp=Z,12nm,0.8s
H24K **Noodor Dome** 83.75 24 P P 15 45 42.2 +1.9
baz=269,SNR=38
F24K **Squaw Lake** 83.78 23 IAmb IAmb 15 45 43.6
comp=Z,20nm,0.8s
F24K **Squaw Lake** 83.78 23 P P 15 45 42.3 +2.0
baz=268,SNR=35
WAT6 **Susitna Watana** 83.78 28 P P 15 45 41.6 +1.0
baz=270,SNR=19
M23K **Glacier View** 83.78 29 P P 15 45 41.5 +1.0
baz=270,SNR=7.7
G24K **Hadweenzic Riv** 83.92 24 IAmb IAmb 15 45 44.2
comp=Z,39nm,0.9s
G24K **Hadweenzic Riv** 83.92 24 P P 15 45 43.2 +2.1
baz=269,SNR=43
POKR **Poker Plat Res** 83.93 25 P P 15 45 42.8 +1.7
baz=270
P23K **Montague Islan** 83.94 30 P P 15 45 42.5 +1.2
baz=270
DHY **Denali Highway** 83.95 27 P P 15 45 42.2 +0.8
baz=270,SNR=8.8
SCM **Sheep Creek Mo** 83.97 28 P P 15 45 42.4 +0.9
baz=270,SNR=5.7
GLI **Glacier Island** 84.09 29 P P 15 45 43.1 +1.1
baz=270,SNR=12
HDA **Harding Lake** 84.14 26 IAmb IAmb 15 45 44.4
comp=Z,28nm,0.8s
HDA **Harding Lake** 84.14 26 P P 15 45 42.2 0.0
baz=270,SNR=40
IL31 84.16 25 IAmb IAmb 15 46 30.1
comp=Z,31nm,1.3s
ILAR **Eielson Array** 84.16 25 P P 15 45 42.1 -0.2
ILAR **Eielson Array** 84.16 25 P P 15 45 41.9 -0.4
comp=Z,5.5nm,0.8s,baz=244,slow=4.6,SNR=62
comp=Z,5.5nm,0.8s
ILAR **Eielson Array** 84.16 25 P P 15 45 42.1 -0.2
MOS **Moscow** 84.33 325 *e* P P 15 45 39.4 -3.9
MOS *e*S SKSac 15 55 46.2 -2.9
MOS pmax pmax
comp=Z,47nm,1.0s
D25K **Kavik River** 84.35 21 IAmb IAmb 15 46 33.2
comp=Z,61nm,1.7s
D25K **Kavik River** 84.35 21 P P 15 45 44.7 +1.5
baz=270,SNR=21
ARPR **Arapgir-MALATY** 84.37 309 IAmb IAmb 15 45 46.4
comp=Z,62nm,1.5s
G25K **Bearman Lake** 84.47 23 P P 15 45 45.6 +1.8
baz=271,SNR=17
M24K **Tolsona, Glenn** 84.52 28 P P 15 45 45.9 +1.7
baz=271,SNR=8.6
H25L **Birch Creek** 84.59 24 P P 15 45 46.4 +2.0
baz=271,SNR=29
F25K **Christian Rive** 84.64 23 P P 15 45 46.8 +2.1
baz=271,SNR=20
KLU **Klutina** 84.65 29 IAmb IAmb 15 46 34.3
comp=Z,35nm,1.1s
KLU **Klutina** 84.65 29 P P 15 45 46.3 +1.4
baz=271
E25K **Arctic Village** 84.66 22 IAmb IAmb 15 46 35.9
comp=Z,43nm,1.1s
E25K **Arctic Village** 84.66 22 P P 15 45 46.6 +1.9
baz=271,SNR=26
K24K **Donnelly Dome** 84.66 26 P P 15 45 45.4 +0.5
baz=271,SNR=6.4
PRP **Porcupine Dome** 84.73 25 P P 15 45 46.1 +0.8
baz=271
EYAK **Cordova Ski Ar** 84.76 30 P P 15 45 46.6 +1.3
baz=272
ANN **Anapa** 84.80 314 *e* P P 15 45 43.2 -2.7
ANN pmax pmax
comp=Z,72nm,1.3s
J25K **Salcha River,** 84.82 26 P P 15 45 45.2 -0.4
baz=272,SNR=20
PAX **Paxson** 84.82 27 P P 15 45 46.9 +1.1
baz=272,SNR=8.5
C26K **Camden Bay** 84.85 20 P P 15 45 48.0 +2.4
baz=272,SNR=22
MAW **Mawson** 84.87 200 P P 15 45 46.0 +0.4
comp=Z,15nm,1.0s,baz=86,slow=5.8,SNR=19
comp=Z,15nm,1.0s
MAW **Mawson** 84.87 200 P P 15 45 46.0 +0.4
OBN **Obninsk** 84.95 325 P P 15 45 45.2 -1.2
OBN IAmb IAmb 15 45 46.1
comp=Z,49nm,1.1s
OBN **Obninsk** 84.95 325 ⇓ *i* P P 15 45 45.0 -1.4
OBN pmax pmax
comp=Z,56nm,1.3s
OBN MLR MLR
comp=Z,88nm,20.0s
HARP **HAARP** 84.98 28 P P 15 45 47.6 +1.1
baz=272
BMAR **Burnt Mountain** 85.05 23 P P 15 45 47.9 +1.2
F26K **Sheenjek River** 85.21 23 P P 15 45 49.5 +2.0
baz=272,SNR=13
VNDA **Vanda** 85.24 173 P P 15 45 47.5 +0.1
VNDA **Vanda** 85.24 173 P P 15 45 48.0 +0.6
comp=Z,7.1nm,0.7s,baz=317,slow=5.5,SNR=40
VNDA LR LR 16 21 19.4
comp=Z,30nm,21.8s,baz=338,slow=34
comp=Z,7.1nm,0.7s
VNDA **Vanda** 85.24 173 P P 15 45 47.5 +0.1
VNDA pmax pmax
comp=Z,8.0nm,0.8s
C27K **Jago River** 85.28 21 P P 15 45 49.8 +2.0
baz=273,SNR=13
N25K **Chitina, Valde** 85.28 29 IAmb IAmb 15 46 37.7
comp=Z,46nm,1.1s
N25K **Chitina, Valde** 85.28 29 P P 15 45 48.4 +0.3
baz=272
BMRM **Bremner River** 85.30 29 P P 15 45 48.9 +0.7
baz=273
LVZ **Lovozero** 85.32 338 ⇑ *e* P P 15 45 47.7 -0.4
LVZ pmax pmax
comp=Z,15nm,1.0s
G26K **Porcupine Rive** 85.38 23 P P 15 45 50.1 +1.8
baz=273,SNR=9.2
KAIM **Kayak Island** 85.45 30 P P 15 45 50.4 +1.6
baz=273
SCRK **Sand Creek** 85.45 26 IAmb IAmb 15 46 38.2
comp=Z,37nm,1.4s
SCRK **Sand Creek** 85.45 26 P P 15 45 49.4 +0.5
baz=273,SNR=9.4
J26L **Joseph Creek** 85.60 26 IAmb IAmb 15 46 38.8
comp=Z,28nm,1.2s
J26L **Joseph Creek** 85.60 26 P P 15 45 50.0 +0.4
baz=273,SNR=17
MENT **Mentasta** 85.62 27 P P 15 45 51.5 +1.9
MENT **Mentasta** 85.62 27 IAmb IAmb 15 46 38.4
comp=Z,33nm,1.5s
GLB **Gilahina Butte** 85.66 29 IAmb IAmb 15 46 40.0
comp=Z,42nm,1.0s
I26K **Coal Creek Min** 85.73 25 P P 15 45 50.7 +0.6
baz=274
L26K **Log Cabin Wild** 85.79 27 P P 15 45 51.0 +0.6
baz=274
APA **Apatity** 85.82 337 ⇓ *i* P P 15 45 48.9 -1.5
APA pmax pmax
comp=Z,7.0nm,1.1s
M26K **Nabesna, AK** 85.99 28 P P 15 45 52.0 +0.5
baz=274
BGLC **Bering Glacier** 86.00 30 P P 15 45 52.8 +1.3
baz=274
E27K **Coleen River** 86.14 22 IAmb IAmb 15 46 42.2
comp=Z,23nm,0.9s
E27K **Coleen River** 86.14 22 P P 15 45 53.3 +1.2
baz=275,SNR=20
SBA **Scott Base** 86.16 172 P P 15 45 53.3 +1.4
SBA IAmb IAmb 15 45 55.1
comp=Z,82nm,1.9s
SBA **Scott Base** 86.16 172 P P 15 45 53.3 +1.4
SBA pmax pmax
comp=Z,82nm,1.9s
G27K **Doyon Strip** 86.23 23 P P 15 45 53.8 +1.2
baz=275,SNR=20
D27M **Malcolm River** 86.27 21 IAmb IAmb 15 46 43.0
comp=Z,64nm,1.7s
D27M **Malcolm River** 86.27 21 P P 15 45 53.9 +1.1
baz=275,SNR=6.7
BNN **Bunyan** 86.32 309 IAmb IAmb 15 45 54.9
comp=Z,48nm,1.2s
H27K **Steamboat Moun** 86.33 24 P P 15 45 54.6 +1.6
baz=275,SNR=17
I27K **Kandik River** 86.35 25 P P 15 45 54.8 +1.6
baz=275,SNR=40
L27K **Beaver Creek,** 86.47 27 IAmb IAmb 15 46 43.9
comp=Z,44nm,1.7s
L27K **Beaver Creek,** 86.47 27 P P 15 45 54.8 +0.9
baz=275,SNR=13
BCAR **Beaver Creek A** 86.49 27 P P 15 45 54.8 +0.9
M27K **Edge Creek, AK** 86.51 28 P P 15 45 54.7 +0.5
baz=275
EGAK **Eagle** 86.61 25 P P 15 45 54.8 +0.4
baz=275,SNR=8.1
BARN **Barnard Glacie** 86.73 29 IAmb IAmb 15 45 58.1
comp=Z,16nm,0.8s
F28M **Old Crow** 86.84 22 IAmb IAmb 15 46 45.9
comp=Z,18nm,0.8s
F28M **Old Crow** 86.84 22 P P 15 45 56.9 +1.4
baz=276,SNR=36
E28M **Babbage River** 86.85 21 IAmb IAmb 15 46 44.8
comp=Z,27nm,1.4s
E28M **Babbage River** 86.85 21 P P 15 45 56.9 +1.4
baz=277,SNR=14
PPT **Papeete** 86.87 108 LR LR 16 22 41.3
comp=Z,64nm,19.1s,baz=327,slow=34
CTG **Chitna Glacier** 86.89 29 P P 15 45 57.3 +1.3
baz=275,SNR=9.0
CTGM **Chitina Glacie** 86.90 29 IAmb IAmb 15 46 46.3
comp=Z,24nm,0.8s
BVCY **Beaver Creek** 86.98 28 P P 15 45 57.3 +1.0
baz=276
D28M **Stokes Point** 87.05 21 P P 15 45 57.9 +1.5
baz=277
I28M **Miner Creek** 87.06 25 P P 15 45 58.0 +1.3
baz=276,SNR=36
JOF **Joensuu** 87.11 333 *e* P P 15 45 55.5 -1.2
YUK3 **Moose Creek** 87.23 28 P P 15 45 58.1 +0.4
baz=276
DAWY **Dawson** 87.45 26 P P 15 45 59.3 +0.8
baz=277,SNR=9.6
O28M **Mount Upton** 87.47 29 P P 15 45 59.8 +0.8
baz=276
E29M **Blow River** 87.48 22 P P 15 45 59.0 +0.5
baz=278,SNR=7.3
H29M **Whitestone** 87.60 24 IAmb IAmb 15 46 01.1
comp=Z,15nm,0.9s
H29M **Whitestone** 87.60 24 P P 15 45 59.2 0.0
baz=278,SNR=19
KIBK **Kibwezi** 87.61 267 IAmb IAmb 15 46 02.3
comp=Z,20nm,1.0s
YUK8 **Steele Glacier** 87.62 29 P P 15 45 59.9 +0.3
baz=277
G29M **Pine Creek** 87.64 23 P P 15 46 00.3 +1.0
baz=278,SNR=24
I29M **Ogilvie Camp,** 87.75 25 IAmb IAmb 15 46 49.9
comp=Z,14nm,0.9s
I29M **Ogilvie Camp,** 87.75 25 P P 15 46 00.8 +0.9
baz=278,SNR=14
EIL **Elat** 87.77 299 LR LR 16 31 53.3
comp=Z,31nm,18.2s,baz=66,slow=40
BR131 **Keskin Array S** 87.96 310 ⇓ *e* P P 15 46 01.5 -0.1
BRTR **Keskin Array B** 87.96 310 P P 15 45 59.5 -2.1
BRTR **Keskin Array B** 87.96 310 P P 15 45 59.8 -1.7
comp=Z,3.1nm,0.8s,baz=108,slow=2.5,SNR=14
comp=Z,3.1nm,0.8s
BRTR **Keskin Array B** 87.96 310 *i* P P 15 45 59.5 -2.1
BRTR pmax pmax
comp=Z,3.0nm,0.8s
PNL **Peninsula** 88.00 30 P P 15 46 01.7 +0.5
baz=277
M29M **Somme Creek** 88.08 28 P P 15 46 02.9 +1.2
baz=278,SNR=9.3
L29M **L29M** 88.14 27 IAmb IAmb 15 46 52.6
comp=Z,15nm,0.9s
L29M **L29M** 88.14 27 P P 15 46 03.1 +1.3
baz=278,SNR=11
YUK4 **Talbot Arm** 88.15 29 P P 15 46 03.4 +1.4
baz=278

EPYK	**Eagle Plains**	**88.24**	**24**	IAmb	IAmb	15 46 52.2		
	comp=Z,25nm,1.1s							
EPYK	**Eagle Plains**	**88.24**	**24**	P	**P**	**15 46 02.6**	**+0.5**	
	baz=279,SNR=12							
K29M	**Barlow Dome**	**88.30**	**26**	P	**P**	**15 46 03.3**	**+0.7**	
	baz=279							
G30M	**tAoh Zraii Nji**	**88.33**	**23**	P	**P**	**15 46 03.2**	**+0.6**	
	baz=280,SNR=9.0							
YUK6	**Outpost Mounta**	**88.34**	**29**	P	**P**	**15 46 04.1**	**+1.1**	
	baz=278							
F30M	**Barrier River**	**88.39**	**22**	P	**P**	**15 46 03.3**	**+0.4**	
	baz=280,SNR=8.2							
ARA0	**ARCESS Array S**	**88.44**	**340**	*e*P	**P**	**15 46 01.4**	**-1.7**	
ARCES	**ARCESS Array B**	**88.44**	**340**	P	**P**	**15 46 00.5**	**-2.5**	
ARCES	**ARCESS Array B**	**88.44**	**340**	P	**P**	**15 46 01.1**	**-2.0**	
	comp=Z,6.8nm,0.8s,baz=71,slow=5.3,SNR=16							
ARCES				LR	LR	16 29 50.0		
	comp=Z,72nm,18.7s,baz=84,slow=38							
	comp=Z,6.8nm,0.8s							
ARCES	**ARCESS Array B**	**88.44**	**340**	P	**P**	**15 46 00.5**	**-2.5**	
ARCES				pmax	pmax			
	comp=Z,13nm,1.1s							
I30M	**Mount Dempster**	**88.57**	**25**	P	**P**	**15 46 04.3**	**+0.4**	
	baz=280,SNR=9.1							
SPITS	**Spitsbergen Ar**	**88.59**	**349**	P	**P**	**15 46 02.0**	**-1.6**	
	comp=Z,7.9nm,0.8s,baz=89,slow=6.9,SNR=9.8							
SPITS				LR	LR	16 33 02.5		
	comp=Z,49nm,18.6s,baz=20,slow=40							
	comp=Z,7.9nm,0.8s							
J30M	**Hart River**	**88.70**	**25**	P	**P**	**15 46 04.3**	**-0.2**	
	baz=280							
HYT	**Haines Junctio**	**88.77**	**29**	P	**P**	**15 46 05.7**	**+0.8**	
	baz=279,SNR=6.9							
HAMF	**Hammerfest**	**88.82**	**341**	*e*P	**P**	**15 46 03.1**	**-1.6**	
P29M	**Windy Craggy**	**88.84**	**30**	IAmb	IAmb	15 46 08.2		
	comp=Z,14nm,0.9s							
P29M	**Windy Craggy**	**88.84**	**30**	P	**P**	**15 46 05.0**	**-0.1**	
	baz=279							
N30M	**Aishikik Lake**	**88.87**	**28**	P	**P**	**15 46 06.2**	**+0.9**	
	baz=279,SNR=7.0							
INK	**Inuvik**	**89.09**	**21**	IAmb	IAmb	15 46 55.5		
	comp=Z,20nm,1.1s							
INK	**Inuvik**	**89.09**	**21**	P	**P**	**15 46 06.4**	**+0.4**	
	baz=282,SNR=9.5							
G31M	**Satah River**	**89.10**	**23**	IAmb	IAmb	15 46 55.3		
	comp=Z,21nm,0.9s							
G31M	**Satah River**	**89.10**	**23**	P	**P**	**15 46 06.1**	**0.0**	
	baz=282,SNR=13							
P30M	**Million Dollar**	**89.15**	**30**	P	**P**	**15 46 07.3**	**+0.7**	
	baz=279							
F31M	**Tsiigehtchic**	**89.19**	**22**	P	**P**	**15 46 06.7**	**+0.2**	
	baz=282							
H31M	**Peel River**	**89.30**	**24**	P	**P**	**15 46 07.5**	**+0.3**	
	baz=282,SNR=6.0							
O30N	**Mendenhall**	**89.46**	**29**	P	**P**	**15 46 08.4**	**+0.3**	
	baz=280							
N31M	**Braeburn, Yuko**	**89.48**	**28**	IAmb	IAmb	15 46 58.2		
	comp=Z,20nm,1.1s							
N31M	**Braeburn, Yuko**	**89.48**	**28**	P	**P**	**15 46 09.1**	**+1.0**	
	baz=280,SNR=7.1							
PLBC	**Pleasant Camp**	**89.56**	**30**	P	**P**	**15 46 08.9**	**+0.5**	
	baz=280							
LODK	**Lodwar**	**89.74**	**273**	P	**P**	**15 46 09.5**	**-0.9**	
FINES	**FINESS Array B**	**89.75**	**332**	P	**P**	**15 46 07.1**	**-2.2**	
	comp=Z,8.0nm,0.9s,baz=90,slow=6.7,SNR=26							
FINES				LR	LR	16 29 43.4		
	comp=Z,139nm,20.7s,baz=80,slow=38							
	comp=Z,8.0nm,0.9s							
FINES	**FINESS Array B**	**89.75**	**332**	*i* P	**P**	**15 46 07.3**	**-2.0**	
FINES				pmax	pmax			
	comp=Z,8.0nm,0.9s							
AKASG	**Malin Array Be**	**89.78**	**321**	P	**P**	**15 46 07.7**	**-1.9**	
	comp=Z,4.0nm,1.0s,baz=68,slow=4.2,SNR=9.0							
AKASG				LR	LR	16 28 56.2		
	comp=Z,64nm,20.7s,baz=52,slow=37							
	comp=Z,4.0nm,1.0s							
AKBB	**Malin Array Si**	**89.78**	**321**⇑	*e*P	**P**	**15 46 07.5**	**-2.1**	
KIEV	**Kiev**	**89.79**	**321**	⇑P	**P**	**15 46 06.7**	**-3.0**	
KIEV	**Kiev**	**89.79**	**321**	P	**P**	**15 46 07.2**	**-2.5**	
KIEV	**Kiev**	**89.79**	**321**	P	**P**	**15 46 07.2**	**-2.5**	
KIEV				pmax	pmax			
	comp=Z,7.0nm,1.0s							
VSU	**Vasula**	**89.97**	**329**⇑	*e*P	**P**	**15 46 08.9**	**-1.4**	
VSU				pmax	pmax			
	comp=Z,13nm,1.0s							
M31M	**Drury Creek, Y**	**90.00**	**27**	P	**P**	**15 46 10.9**	**+0.4**	
	baz=282							
WHY	**Whitehorse**	**90.07**	**29**	IAmb	IAmb	15 46 13.4		
	comp=Z,15nm,0.8s							
WHY	**Whitehorse**	**90.07**	**29**	P	**P**	**15 46 11.8**	**+0.9**	
	baz=281,SNR=11							
SKAG	**Skagway**	**90.08**	**30**	P	**P**	**15 46 13.1**	**+2.3**	
SKAG	**Skagway**	**90.08**	**30**	P	**P**	**15 46 11.9**	**+1.1**	
	baz=281							
KEF	**Keuruu**	**90.17**	**333**	*e*P	**P**	**15 46 10.0**	**-1.2**	
JETT	**Jettan, Norway**	**90.17**	**340**	*e*P	**P**	**15 46 09.4**	**-1.8**	
FARO	**Faro, Yukon**	**90.47**	**27**	IAmb	IAmb	15 47 02.1		
	comp=Z,24nm,0.9s							
FARO	**Faro, Yukon**	**90.47**	**27**	P	**P**	**15 46 13.9**	**+1.2**	
	baz=282,SNR=22							
SIT	**Sitka**	**90.52**	**33**	P	**P**	**15 46 13.3**	**+0.3**	
	baz=281							
ISP	**Isparta**	**90.58**	**308**⇑	*e*P	**P**	**15 46 12.9**	**-1.0**	
ISP				pmax	pmax			
	comp=Z,4.0nm,0.8s							
R32K	**Eaglecrest**	**90.72**	**31**	IAmb	IAmb	15 47 28.5		
	comp=Z,18nm,0.7s							
R32K	**Eaglecrest**	**90.72**	**31**	P	**P**	**15 46 14.3**	**+0.4**	
	baz=281							
A36M	**Sachs Harbour**	**90.78**	**17**	P	**P**	**15 46 14.4**	**+0.6**	
	baz=290							
MEF	**Metsahovi**	**90.80**	**331**	*e*P	**P**	**15 46 12.6**	**-1.6**	
N32M	**Quiet Lake**	**90.83**	**28**	P	**P**	**15 46 15.0**	**+0.7**	
	baz=283							
S32K	**Kiliinoo**	**90.84**	**32**	P	**P**	**15 46 15.0**	**+0.6**	
	baz=281							
P32M	**Atlin**	**90.86**	**30**	P	**P**	**15 46 15.4**	**+0.8**	
	baz=282							
VAF	**Ylistaro**	**90.97**	**334**	*e*P	**P**	**15 46 13.4**	**-1.5**	
P33M	**Teslin, Yukon**	**91.16**	**29**	P	**P**	**15 46 16.9**	**+0.9**	
	baz=283							
NOR	**Nord**	**91.32**	**355**	*i* P	**P**	**15 46 13.8**	**-2.4**	
NOR				IAmb	IAmb	15 46 17.2		
	comp=Z,5.0nm,0.8s							
MTSE	**Matsula**	**91.42**	**329**	*e*P	**P**	**15 46 15.8**	**-1.2**	
RAF	**Rauma**	**91.88**	**332**	*e*P	**P**	**15 46 17.8**	**-1.3**	
U33K	**Whale Pass**	**91.91**	**33**	P	**P**	**15 46 20.1**	**+0.8**	
	baz=282							
VSVD	**Vaisvydziai**	**91.95**	**327**	*e*P	**P**	**15 46 18.5**	**-1.1**	
PABE	**Paberze**	**92.04**	**326**	*e*P	**P**	**15 46 18.7**	**-1.3**	
CRAG	**Craig**	**92.05**	**34**	P	**P**	**15 46 21.1**	**+1.1**	
	baz=282							
C36M	**Paulatuk**	**92.08**	**19**	P	**P**	**15 46 20.2**	**+0.3**	
	baz=291							
TESR	**Tescani**	**92.13**	**317**	⇑P	**P**	**15 46 19.5**	**-1.2**	
VRI	**Vrincioaia**	**92.19**	**316**	⇑P	**P**	**15 46 20.2**	**-0.8**	
VRI	**Vrincioaia**	**92.19**	**316**	⇑P	**P**	**15 46 20.2**	**-0.8**	
WRAK	**Wrangell Islan**	**92.26**	**33**	P	**P**	**15 46 21.6**	**+0.6**	
	baz=283							
R33M	**Jennings River**	**92.27**	**30**	IAmb	IAmb	15 46 23.9		
	comp=Z,9.2nm,0.9s							
R33M	**Jennings River**	**92.27**	**30**	P	**P**	**15 46 22.5**	**+1.3**	
	baz=284							
STEI	**Steigen**	**92.48**	**339**	*e*P	**P**	**15 46 20.2**	**-1.6**	
S34M	**Telegraph Cree**	**92.55**	**31**	IAmb	IAmb	15 46 25.0		
	comp=Z,8.3nm,0.9s							
S34M	**Telegraph Cree**	**92.55**	**31**	P	**P**	**15 46 24.2**	**+1.9**	
	baz=284							
MLR	**Muntele Rosu**	**92.80**	**316**	⇑P	**P**	**15 46 22.8**	**-1.2**	
MLR	**Muntele Rosu**	**92.80**	**316**	LR	LR	16 33 51.3		
	comp=Z,83nm,19.6s,baz=54,slow=39							
MLR	**Muntele Rosu**	**92.80**	**316**	⇑P	**P**	**15 46 22.8**	**-1.2**	
SUW	**Suwalki**	**92.81**	**325**	*e*P	**P**	**15 46 22.4**	**-1.2**	
BURAR	**Bucovina Array**	**92.89**	**318**	⇓P	**P**	**15 46 23.4**	**-0.9**	
BURAR	**Bucovina Array**	**92.89**	**318**	P	**P**	**15 46 22.0**	**-2.3**	
BURAR	**Bucovina Array**	**92.89**	**318**	⇓P	**P**	**15 46 23.4**	**-0.9**	
V35K	**Ketchikan**	**92.92**	**34**	P	**P**	**15 46 25.5**	**+1.5**	
	baz=284							
TGTN	**Hyland Airport**	**92.97**	**27**	P	**P**	**15 46 25.7**	**+1.4**	
	baz=287							
DLBC	**Dease Lake**	**92.98**	**31**	IAmb	IAmb	15 47 14.2		
	comp=Z,15nm,1.1s							
DLBC	**Dease Lake**	**92.98**	**31**	P	**P**	**15 46 25.4**	**+1.0**	
	baz=285							
WTLY	**Watson Lake, Y**	**93.13**	**29**	P	**P**	**15 46 26.2**	**+1.1**	
	baz=286							
T35M	**Bob Quinn**	**93.25**	**32**	IAmb	IAmb	15 46 28.2		
	comp=Z,8.4nm,0.8s							
T35M	**Bob Quinn**	**93.25**	**32**	P	**P**	**15 46 27.2**	**+1.5**	
	baz=285							
UPP	**Uppsala**	**94.18**	**331**	*e*P	**P**	**15 46 28.1**	**-1.7**	
LIRD	**Liard River Hi**	**94.65**	**29**	P	**P**	**15 46 33.2**	**+1.2**	
	baz=289							
MBAR	**Mbarara**	**94.72**	**270**	LR	LR	16 25 47.8		
	comp=Z,41nm,22.0s,baz=66,slow=33							
DRGR		**94.73**	**318**	⇓P	**P**	**15 46 31.5**	**-1.2**	
DRGR		**94.73**	**318**	⇓P	**P**	**15 46 31.5**	**-1.2**	
CRVS	**Cervenica-Dubn**	**95.06**	**320**	*e*P	**P**	**15 46 33.5**	**-0.6**	
CRVS	**Cervenica-Dubn**	**95.06**	**320**	*e*P	**P**	**15 46 33.5**	**-0.6**	
STHS	**Stebnicka Huta**	**95.07**	**321**	*e*P	**P**	**15 46 34.3**	**+0.1**	
STHS	**Stebnicka Huta**	**95.07**	**321**	*e*P	**P**	**15 46 34.4**	**+0.2**	
TOAD	**Toad River Com**	**95.25**	**30**	P	**P**	**15 46 35.8**	**+1.0**	
	baz=289							
QSPA	**South Pole Qui**	**95.30**	**180**	P	**P**	**15 46 35.3**	**+0.4**	
	comp=Z,5.2nm,0.7s,baz=17,slow=1.4,SNR=15							
	comp=Z,5.2nm,0.7s							
DAG	**Danmarks Havn**	**95.43**	**352**	*i* P	**P**	**15 46 33.0**	**-2.2**	
DAG				IAmb	IAmb	15 46 36.0		
	comp=Z,8.1nm,0.8s							
SIRR	**Siria**	**95.56**	**317**	⇓P	**P**	**15 46 35.2**	**-1.2**	
BZS	**Buzias**	**95.75**	**317**	⇑P	**P**	**15 46 35.6**	**-1.7**	
BZS	**Buzias**	**95.75**	**317**	⇑P	**P**	**15 46 35.6**	**-1.7**	
MDVR	**Moldovita**	**95.88**	**316**	⇑P	**P**	**15 46 36.6**	**-1.4**	
HFS	**Hagfors**	**95.94**	**332**	P	**P**	**15 46 35.7**	**-2.1**	
	comp=Z,3.6nm,0.8s,baz=113,slow=3.4,SNR=8.2							
HFS				LR	LR	16 32 34.4		
	comp=Z,102nm,21.2s,baz=54,slow=37							
	comp=Z,3.6nm,0.8s							
RES	**Resolute Bay**	**96.41**	**10**	IAmb	IAmb	15 46 41.9		
	comp=Z,14nm,1.5s							
NB2	**NORSAR Subarra**	**96.72**	**333**	P	**P**	**15 46 38.5**	**-2.9**	
	comp=Z,5.7nm,0.9s,baz=67,slow=4.6							
NB2	**NORSAR Subarra**	**96.72**	**333**	P	**P**	**15 46 38.5**	**-2.9**	
	baz=67,slow=4.6							
NB2	**NORSAR Subarra**	**96.72**	**333**	P	**P**	**15 46 40.2**	**-1.2**	
NOA	**NORSAR Array B**	**96.72**	**333**	P	**P**	**15 46 39.1**	**-2.2**	
	comp=Z,3.5nm,0.9s,baz=66,slow=4.6,SNR=10							
NOA				LR	LR	16 34 57.5		
	comp=Z,69nm,19.0s,baz=65,slow=38							
	comp=Z,3.5nm,0.9s							
VYHS	**Vyhne**	**96.85**	**320**	*e*P	**P**	**15 46 42.5**	**+0.3**	
VYHS	**Vyhne**	**96.85**	**320**	*e*P	**P**	**15 46 42.5**	**+0.3**	
NEEM	**North Greenlan**	**97.25**	**359**	*i* P	**P**	**15 46 43.0**	**-0.8**	
NEEM				IAmb	IAmb	15 46 45.0		
	comp=Z,9.6nm,0.6s							
MORH	**Mrgy, Hungar**	**97.60**	**318**	⇑P	**P**	**15 46 44.3**	**-1.3**	
DBG	**Daneborg**	**97.68**	**351**	*i* P	**P**	**15 46 43.8**	**-1.6**	
DBG				IAmb	IAmb	15 46 46.7		
	comp=Z,3.1nm,0.9s							
JMIC	**Jan Mayen**	**97.93**	**346**	LR	LR	16 37 21.2		
	comp=Z,25nm,18.4s,baz=104,slow=39							
AKN	**Aaknes**	**98.03**	**335**	*e*P	**P**	**15 46 46.9**	**-0.4**	
YKA	**Yellowknife Ar**	**98.52**	**24**	P	Pdif	15 46 50.4	+1.0	
	comp=Z,2.6nm,0.8s,baz=300,slow=5.1,SNR=26							
YKA				pP	pP	15 47 37.0	+0.8	
	comp=Z,4.7nm,0.8s,baz=304,slow=5.2,SNR=11							
YKA				PKKP	**PKKPbc**	**16 03 17.3**	**-3.7**	
	comp=Z,0.8nm,0.7s,baz=115,slow=2.6,SNR=12							
	comp=Z,2.6nm,0.8s							
BRG	**Berggiesshubel**	**99.13**	**323**	*e*P	**Pdif**	**15 46 51.6**	**-0.7**	
BRG				Amp		15 46 52.4		
	comp=Z,3.1nm,0.8s							
CLL	**Collm**	**99.53**	**324**	*e*Pdif	**Pdif**	**15 46 54.0**	**-0.1**	
CLL	**Collm**	**99.53**	**324**	*e*P	**Pdif**	**15 46 54.0**	**-0.1**	
BLS5	**Blasjo**	**99.56**	**333**	*e*Pdif	**Pdif**	**15 46 53.1**	**-1.0**	
GERES	**GERESS Array B**	**99.97**	**321**	P	**Pdif**	**15 46 54.5**	**-1.8**	
	comp=Z,0.8nm,0.6s,baz=64,slow=6.2,SNR=4.1							
	comp=Z,0.8nm,0.6s							
SUMG	**Summit**	**101.48**	**355**	*i* P	**Pdif**	**15 47 02.3**	**-0.6**	
SUMG				IAmb	IAmb	15 47 05.1		
	comp=Z,2.8nm,1.1s							
NEW	**Newport**	**103.72**	**38**	P	**Pdif**	**15 47 13.7**	**+0.8**	
	baz=295							
NVAR	**Mina Array Bea**	**106.75**	**47**	Pdiff	**Pdif**	**15 47 27.2**	**+0.4**	
	comp=Z,0.4nm,0.7s,baz=246,slow=11,SNR=4.1							
NVAR				PKKPab	**PKKPab**	**16 03 10.2**	**-1.9**	
	comp=Z,1.0nm,0.9s,baz=148,slow=5.1,SNR=5.5							
R11B	**Troy Canyon, C**	**108.76**	**47**	P	**PKiKP**	**15 51 39.9**	**0.0**	
	baz=293							
BC3	**Big Chuckawall**	**110.65**	**51**	P	**PKiKP**	**15 51 43.1**	**-0.4**	
	baz=292							
IRM	**Iron Mountain**	**110.70**	**51**	P	**PKiKP**	**15 51 42.9**	**-0.6**	
	baz=292							
NEE2	**Needles Airpor**	**110.87**	**50**	P	**PKiKP**	**15 51 43.7**	**0.0**	
	baz=293							
BW06	**Boulder Array**	**110.94**	**40**	P	**PKiKP**	**15 51 44.1**	**+0.2**	
	baz=299							
PDAR	**Pinedale Array**	**110.94**	**40**	PKKPbc	PKKPbc	16 02 41.0	-2.3	
	comp=Z,0.5nm,0.6s,baz=76,slow=6.3,SNR=5.9							
PDAR				PKKPab	**PKKPab**	**16 02 51.5**	**-2.1**	
	comp=Z,3.2nm,1.0s,baz=113,slow=5.6,SNR=12							
LAO	**LASA Array**	**110.94**	**35**	P	**PKiKP**	**15 51 44.3**	**+0.6**	
	baz=303							
K22A	**Casper**	**112.93**	**39**	P	**PKiKP**	**15 51 48.0**	**+0.3**	
	baz=302							
WUAZ	**Wupatki**	**113.00**	**48**	P	**PKiKP**	**15 51 48.1**	**+0.1**	
	baz=295							
O20A	**White River Ci**	**113.09**	**42**	P	**PKiKP**	**15 51 48.3**	**+0.2**	
	baz=299							
RSSD	**Black Hills**	**113.65**	**37**	P	**PKiKP**	**15 51 49.7**	**+0.6**	
	baz=304							
N23A	**Red Feather La**	**114.22**	**40**	P	**PKiKP**	**15 51 50.9**	**+0.6**	
	baz=302							
MVCO	**Mesa Verde**	**114.32**	**45**	P	**PKiKP**	**15 51 51.3**	**+0.7**	
	baz=298							
W18A	**Petrified Fore**	**114.38**	**48**	P	**PKiKP**	**15 51 51.5**	**+0.8**	
	baz=296							
TUC	**Tucson**	**114.78**	**51**	P	PKPdf	15 51 51.8	+0.3	
	baz=294							
ISCO	**Idaho Springs**	**115.00**	**41**	P	**PKPdf**	**15 51 52.0**	**+0.1**	
	baz=301							
SDCO	**Great Sand Dun**	**116.14**	**43**	P	**PKiKP**	**15 51 54.5**	**+0.4**	
	baz=301							
SUSD	**Miller**	**116.39**	**34**	P	**PKiKP**	**15 51 54.8**	**+0.8**	
	baz=309							
ANMO	**Albuquerque**	**116.84**	**46**	P	**PKPdf**	**15 51 55.4**	**-0.1**	
	baz=299							
Y22D	**IRIS PASSCAL I**	**116.92**	**47**	P	**PKiKP**	**15 51 56.3**	**+0.7**	
	baz=298							
Y22F	**Passcal Instru**	**116.92**	**47**	P	**PKiKP**	**15 51 56.1**	**+0.6**	
	baz=298							
121A	**Cookes Peak, D**	**116.98**	**49**	P	**PKiKP**	**15 51 56.0**	**+0.2**	
	baz=297							
T25A	**Trinidad**	**117.19**	**43**	P	**PKiKP**	**15 51 56.6**	**+0.5**	
	baz=301							
EYMN	**Ely**	**117.77**	**27**	P	**PKiKP**	**15 51 57.0**	**+0.3**	
	baz=318							
ECSD	**EROS Data Cent**	**118.14**	**33**	PKPdf	**PKiKP**	**15 51 57.5**	**0.0**	
ECSD	**EROS Data Cent**	**118.14**	**33**	P	**PKiKP**	**15 51 58.3**	**+0.8**	
	baz=311							
MNTX	**Cornudas Mount**	**119.17**	**49**	P	**PKiKP**	**15 52 00.5**	**+0.7**	
	baz=298,SNR=9.2							
CBKS	**Cedar Bluff**	**119.35**	**39**	P	**PKiKP**	**15 52 01.1**	**+1.0**	
	baz=306							
VHRN	**Van Horn**	**119.90**	**50**	PKPdf	**PKiKP**	**15 52 01.5**	**+0.1**	
MSTX	**Muleshoe**	**119.97**	**46**	P	**PKiKP**	**15 52 01.9**	**+0.5**	
	baz=301							
AMTX	**Amarillo**	**120.26**	**44**	P	**PKiKP**	**15 52 02.4**	**+0.4**	
	baz=302							
E43A	**Lone Tree Farm**	**120.96**	**26**	PKPdf	**PKiKP**	**15 52 03.1**	**+0.3**	
ALPN	**Alpine**	**121.11**	**50**	PKPdf	**PKiKP**	**15 52 04.6**	**+0.7**	
TORD	**Torodi Ar. Bea**	**121.16**	**289**	PKP	**PKPdf**	**15 52 02.7**	**-1.3**	
	comp=Z,5.1nm,0.9s,baz=45,slow=2.1,SNR=20							
TORD				pPKP	**pPKPdf**	**15 52 51.9**	**+0.3**	
	comp=Z,2.5nm,0.7s,baz=51,slow=2.3,SNR=3.8							
TORD				PKKPab	**PKKPab**	**16 02 09.2**	**+1.0**	
	comp=Z,1.8nm,0.8s,baz=286,slow=4.0,SNR=6.9							
TORD				PKKP	PKKPdf	16 02 49.4	+9.0	
	comp=Z,2.2nm,0.9s,baz=238,slow=8.4,SNR=7.3							
SCIA	**State Center**	**121.22**	**33**	P	**PKiKP**	**15 52 04.2**	**+0.6**	
	baz=313							
TXAR	**Lajitas Array**	**121.58**	**51**	PKP	**PKiKP**	**15 52 05.2**	**+0.4**	
	comp=Z,2.5nm,0.7s,baz=236,slow=0.9,SNR=34							
TXAR				PKKPbc	**PKKPbc**	**16 02 04.8**	**-0.7**	
	comp=Z,1.2nm,0.9s,baz=128,slow=5.7,SNR=9.3							
JFWS	**Jewell Farm**	**122.06**	**30**	P	**PKiKP**	**15 52 05.7**	**+0.6**	
	baz=317							
WMOK	**Wichita Mounta**	**122.33**	**43**	PKPdf	**PKiKP**	**15 52 06.0**	**0.0**	
WMOK	**Wichita Mounta**	**122.33**	**43**	P	**PKiKP**	**15 52 06.3**	**+0.4**	
	baz=305							
WMOK	**Wichita Mounta**	**122.33**	**43**	PKIKP	**PKiKP**	**15 52 06.0**	**0.0**	
ABTX	**Abilene, Hawle**	**122.90**	**45**	P	**PKiKP**	**15 52 07.3**	**+0.2**	
	baz=303							
GLMI	**Grayling**	**123.20**	**25**	P	**PKiKP**	**15 52 07.6**	**+0.2**	
	baz=324							
TUL3	**Leonard**	**123.60**	**40**	P	**PKiKP**	**15 52 08.5**	**+0.1**	
	baz=308							
JCT	**Junction City**	**123.93**	**48**	P	**PKiKP**	**15 52 09.6**	**+0.3**	
	baz=302							
HDIL	**Hopedale**	**124.26**	**32**	P	**PKPdf**	**15 52 09.1**	**-0.2**	
	baz=317							
CCM	**Cathedral Cave**	**124.96**	**35**	PKPdf	**PKPdf**	**15 52 10.7**	**0.0**	
CCM	**Cathedral Cave**	**124.96**	**35**	P	**PKPdf**	**15 52 10.7**	**0.0**	
	baz=314							
CCM	**Cathedral Cave**	**124.96**	**35**	PKIKP	**PKPdf**	**15 52 10.7**	**0.0**	
833A	**Chaparral WMA,**	**125.35**	**50**	P	**PKiKP**	**15 52 12.3**	**+0.2**	
	baz=301							
MIAR	**Mount Ida**	**125.87**	**40**	P	**PKiKP**	**15 52 12.6**	**0.0**	
	baz=310,SNR=8.7							
O48B	**Farmland**	**126.57**	**29**	P	**PKPdf**	**15 52 13.6**	**-0.1**	
	baz=321							
LONY	**Lake Ozonia**	**127.06**	**18**	P	**PKPdf**	**15 52 14.6**	**+0.1**	
	baz=335							
P49A	**Miami Univ. Ec**	**127.34**	**29**	P	**PKiKP**	**15 52 15.6**	**-0.2**	
	baz=321							
ERPA	**Erie**	**127.34**	**24**	P	**PKPdf**	**15 52 14.8**	**-0.3**	
	baz=328							
WCI	**Wyandotte Cave**	**127.55**	**31**	P	**PKPdf**	**15 52 15.6**	**0.0**	
	baz=319							
ACSO	**Alum Creek Sta**	**127.61**	**27**	P	**PKPdf**	**15 52 15.8**	**+0.1**	
	baz=323,SNR=5.4							
M53A	**WI Miller and**	**127.63**	**25**	P	**PKPdf**	**15 52 15.7**	**0.0**	
	baz=326							
PKME	**Peaks-Kenny Pk**	**127.87**	**13**	P	**PKPdf**	**15 52 16.1**	**+0.1**	
	baz=341							
LBNH	**Lisbon**	**128.17**	**16**	P	**PKPdf**	**15 52 16.5**	**-0.1**	
	baz=338							
WVT	**Waverly**	**128.25**	**34**	P	**PKPdf**	**15 52 16.8**	**-0.3**	
	baz=316							
O53A	**New Philadelph**	**128.39**	**26**	P	**PKPdf**	**15 52 17.4**	**+0.3**	
	baz=325							
OXF	**Oxford**	**128.47**	**37**	P	**PKPdf**	**15 52 17.6**	**+0.1**	
	baz=314							
P52A	**Corning**	**128.48**	**27**	P	**PKPdf**	**15 52 17.2**	**-0.2**	
	baz=324,SNR=6.6							
BINY	**Binghamton**	**128.77**	**20**	P	**PKPdf**	**15 52 18.1**	**+0.3**	
	baz=332							
DBIC	**Dimbokro**	**128.94**	**283**	PKP	**PKPdf**	**15 52 18.8**	**-0.2**	
	comp=Z,6.1nm,0.9s,baz=26,slow=3.8,SNR=4.7							
VBMS	**Vicksburg**	**129.32**	**40**	P	**PKPdf**	**15 52 18.9**	**-0.2**	
	baz=311							
SSPA	**Standing Stone**	**129.43**	**23**	P	**PKiKP**	**15 52 20.2**	**+0.2**	
	baz=329							
MCWV	**Mont Chateau**	**129.46**	**25**	P	**PKiKP**	**15 52 20.0**	**0.0**	
	baz=327							
L61B	**Northampton**	**129.61**	**17**	P	**PKiKP**	**15 52 20.3**	**+0.1**	
	baz=336							
HRV	**Adam Dziewonsk**	**129.88**	**16**	P	**PKiKP**	**15 52 20.8**	**0.0**	
	baz=338							
TZTN	**Tazewell**	**130.24**	**31**	P	**PKiKP**	**15 52 21.4**	**-0.3**	
	baz=321							
PAL	**Palisades**	**130.53**	**19**	P	**PKPdf**	**15 52 21.6**	**+0.4**	
	baz=334							
TKL	**Tuckaleechee C**	**130.81**	**32**	PKP	**PKiKP**	**15 52 22.4**	**-0.4**	
	comp=Z,9.1nm,0.9s,baz=55,slow=7.3,SNR=11							
BLA	**Blacksburg**	**131.23**	**28**	P	**PKPdf**	**15 52 23.0**	**+0.3**	
	baz=325							
KMSC	**Kings Mountain**	**132.45**	**30**	P	**PKiKP**	**15 52 26.2**	**0.0**	
	baz=323							
TIGA	**Tifton**	**134.08**	**35**	P	**PKiKP**	**15 52 29.0**	**-0.5**	
	baz=318							
DWPF	**Disney Wildern**	**137.80**	**36**	P	**PKPdf**	**15 52 35.8**	**+0.6**	
	baz=318							
PLCA	**Paso Flores**	**142.02**	**160**	PKhKP	PKPpre	15 52 39.0		
	comp=Z,2.9nm,0.9s,baz=228,slow=4.2,SNR=5.9							
ROSC	**El Rosal**	**157.81**	**63**	PKP	**PKPdf**	**15 53 08.3**	**+0.1**	
	comp=Z,1.1nm,0.6s,baz=93,slow=7.6,SNR=6.2							
SDV	**Santo Domingo**	**158.61**	**49**	PKP	**PKPdf**	**15 53 09.2**	**+0.3**	
	comp=Z,4.2nm,0.3s,baz=169,slow=5.0,SNR=5.3							
CPUP	**Villa Florida**	**159.02**

SDHHI Pg Pg 15 45 11.0 +0.7
HLP Hilina Pali 0.07 223 Pg Pg 15 45 11.4 +0.9
HLP IAML 15 45 12.7
comp=E,5μm,0.6s
HLP IAML 15 45 12.8
comp=N,8μm,0.5s
BYL Byron's Ledge 0.07 0 Pg 15 45 11.2 +0.7
BYL IAML 15 45 12.3
comp=N,7μm,0.8s
BYL IAML 15 45 12.8
comp=E,5μm,0.9s
NPH North Pit 0.07 344 Pg Pg 15 45 09.9 -0.7
NPH IAML 15 45 12.0
comp=N,6μm,0.9s
WRMHI West Rim 0.07 328 Pg Pg 15 45 11.2 +0.5
OBL Observatory Le 0.08 343 Pg Pg 15 45 10.8 +0.1
OBL IAML 15 45 11.4
comp=E,11μm,0.8s
HATHI Halema'uma'u T 0.08 359 Pg 15 45 11.5 +0.8
UWB Uwekahuna B 0.08 348 Pg Pg 15 45 10.8 0.0
SBLHI Steaming Bluff 0.08 355 IAML 15 45 11.7
comp=N,9μm,1.1s
SBLHI Pg 15 45 11.9 +1.1
SBLHI IAML 15 45 13.9
comp=E,9μm,0.7s
UWE Uwekahuna 0.08 338 Pg Pg 15 45 10.8 0.0
KNHH Kane Nui o Ham 0.09 68 Pg 15 45 12.2 +1.2
STCH Steam Cracks 0.13 72 Pg 15 45 12.8 +1.0
STCH Steam Cracks 0.13 72 IAML 15 45 13.8
comp=N,1μm,0.8s
STCH IAML 15 45 15.8
comp=E,1μm,0.6s
NPOC North of Pu'u 0.15 71 Pg Pg 15 45 12.6 +0.5
NPOC IAML 15 45 16.7
comp=E,2μm,0.9s
JCUZ Jacuzzi 0.15 75 Pg Pg 15 45 13.1 +0.9
JCUZ IAML 15 45 17.0
comp=N,3μm,0.9s
HTC Hot Caves 0.17 231 Pg 15 45 13.6 +1.2
MLH Mauna Loa 0.19 321 Pg Pg 15 45 14.1 +1.2
MLH IAML 15 45 16.8
comp=N,2μm,1.8s
MLH IAML 15 45 18.2
comp=E,2μm,0.8s
HMH Humu'ula Sheep 0.33 321 Pg 15 45 16.3 +0.7
HMH IAML 15 45 26.3
comp=E,1μm,1.2s
MWH Moku'aweowe 0.35 294 Pg Pg 15 45 16.5 +0.6
KHU Kahuku 0.35 254 Pg 15 45 16.4 +0.5
KHU IAML 15 45 23.8
comp=N,1μm,1.7s
KHU IAML 15 45 24.5
comp=E,1μm,1.6s
MLOA Mauna Loa Obse 0.35 303 Pg Pg 15 45 16.6 +0.6
MLOA IAML 15 45 27.7
comp=E,2μm,1.7s
MLOA IAML 15 45 28.2
comp=N,2μm,1.0s
ALEP Alea Permanent 0.41 298 Pg 15 45 17.6 +0.5
POHA Pohakuloa 0.48 328 Sg 15 45 26.2 +1.4
POHA Pohakuloa 0.48 328 Pg Pg 15 45 19.0 +0.5
POHA IAML 15 45 29.3
comp=N,550nm,1.1s
POHA IAML 15 45 34.5
comp=N,903nm,0.9s
CPH Captain Cook 0.64 283 Pg 15 45 21.8 +0.3
HUH Hualalai 0.64 302 Pg 15 45 21.8 +0.3

*IDC **13** 15:47:41.7±2.5, 12˚.72N×87˚.87W, h0km, mb4.0/7, mbtmp4.0/8, ML2.8/2, MS3.9/1, Error ellipse: s-maj=56.4km s-min=35.9km az=19.0*
*CATAC **13** 15:47:55.5±0.6, 12˚.91N×88˚.75W, h30km±6km, ML4.4*
*SNET **13** 15:47:55.5±0.9, 12˚.87N×88˚.78W, h44km, ML4.4*
*NEIC **13** 15:47:56.2±2.3, 12˚.99N±0˚.07×88˚.74W±0˚.07, h77km±7km, mb4.3/98, Error ellipse: s-maj=13.1km s-min=6.8km az=223.0*
*GCG **13** 15:47:56.8±0.3, 13˚.58N×88˚.95W, h201km±12km, MD4.2*
ISC 13 15:47:55.0±0.8, 12˚.97N±0˚.06×88˚.72W±0˚.04, h70km±6km, n405, s0˚90/416, mb4.3/51, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JUCU	**Jucuar¡n**	**0.54**	**58**	*i* P		**Pn**	**15 48 08.2**	**0.0**
JUCU				*e*S		**Sn**	**15 48 18.7**	**+0.7**
JUCU	**Jucuar¡n**	**0.54**	**58**	*i* P		**Pn**	**15 48 08.2**	**0.0**
JUCU				IAML			15 48 22.0	
comp=Z,17μm,1.0s								
COEB	**Comit de Eme**	**0.56**	**19**	*e*P		**Pn**	**15 48 08.7**	**+0.2**
COEB				*e*S		**Sn**	**15 48 19.4**	**+1.0**
COEB	**Comit de Eme**	**0.56**	**19**	*i* P		**Pn**	**15 48 08.7**	**+0.2**
COEB				IAML			15 48 10.1	
comp=Z,6μm,1.0s								
TECO	**Alcaldia de Te**	**0.57**	**354**	*i* P		**Pn**	**15 48 08.5**	**0.0**
TECO				IAML			15 48 20.3	
comp=Z,15μm,1.0s								
LCY	**Lacayo**	**0.61**	**43**	*e*P		**Pn**	**15 48 09.4**	**+0.4**
RANC	**El Ranchito**	**0.62**	**42**	*i* P		**Pn**	**15 48 09.6**	**+0.4**
RANC				IAML			15 48 25.5	
comp=Z,10μm,1.0s								
PACA	**Pacayal**	**0.63**	**38**	*i* P		**Pn**	**15 48 09.8**	**+0.6**
PACA				IAML			15 48 23.3	
comp=Z,100μm,1.0s								
BLLM	**Bellamira**	**0.66**	**45**	*i* P		**Pn**	**15 48 10.0**	**+0.5**
COEG	**Centro de Oper**	**0.66**	**346**	*e*P		**Pn**	**15 48 09.7**	**+0.2**
COEG	**Centro de Oper**	**0.66**	**346**	*i* P		**Pn**	**15 48 09.4**	**-0.2**
COEG				IAML			15 48 24.7	
comp=Z,7μm,1.0s								
UESV	**Universidad de**	**0.67**	**354**	*i* P		**Pn**	**15 48 09.8**	**+0.3**
UESV				IAML			15 48 23.0	
comp=Z,15μm,1.0s								
PQSS	**Presa 15 de Se**	**0.67**	**13**	*i* P		**Pn**	**15 48 10.2**	**+0.7**
PQSS				IAML			15 48 23.0	
comp=Z,15μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.73**	**359**	*i* P		**Pn**	**15 48 11.0**	**+0.7**
SCLA				IAML			15 48 25.6	
comp=Z,6μm,1.0s								
CNRM	**Centro Naciona**	**0.73**	**47**	*e*P		**Pn**	**15 48 10.9**	**+0.7**
CNRM				*e*S		**Sn**	**15 48 23.6**	**+2.1**
CNRM	**Centro Naciona**	**0.73**	**47**	*i* P		**Pn**	**15 48 10.9**	**+0.7**
CNRM				IAML			15 48 25.5	
comp=Z,67μm,1.0s								
PAVA	**Las Pavas**	**0.77**	**344**	*e*P		**Pn**	**15 48 11.3**	**+0.5**
PAVA				*e*S		**Sn**	**15 48 24.1**	**+1.7**
PAVA	**Las Pavas**	**0.77**	**344**	*i* P		**Pn**	**15 48 11.3**	**+0.5**
PAVA				IAML			15 48 25.8	
comp=Z,19μm,1.0s								
PANCS	**Alcalda de**	**0.78**	**325**	*i* P		**Pn**	**15 48 10.6**	**-0.2**
PANCS				IAML			15 48 22.2	
comp=Z,10μm,1.0s								
LALI	**Alcalda de L**	**0.78**	**311**	*e*P		**Pn**	**15 48 10.7**	**-0.1**
LALI				*e*S		**Sn**	**15 48 22.1**	**-0.3**
LALI	**Alcalda de L**	**0.78**	**311**	*i* P		**Pn**	**15 48 10.6**	**-0.1**
LALI				IAML			15 48 21.9	
comp=Z,2μm,1.0s								
LOMA	**Loma Larga**	**0.80**	**327**	*i* P		**Pn**	**15 48 11.2**	**0.0**
LOMA				IAML			15 48 26.0	
comp=Z,11μm,1.0s								
AEIL	**Aeropuerto Ilo**	**0.82**	**332**	*e*P		**Pn**	**15 48 11.9**	**+0.5**
AEIL				*e*S		**Sn**	**15 48 25.4**	**+2.0**
IGN	**Direccin Gen**	**0.86**	**329**	*i* P		**Pn**	**15 48 12.2**	**+0.4**
IGN				IAML			15 48 27.1	
comp=Z,24μm,1.0s								
LFU	**La Fuente**	**0.86**	**334**	*e*P		**Pn**	**15 48 12.4**	**+0.6**
LFU				*e*S		**Sn**	**15 48 25.6**	**+1.2**
UTEC	**Universidad Te**	**0.86**	**327**	*i* P		**Pn**	**15 48 12.4**	**+0.5**
UTEC				IAML			15 48 30.2	
comp=Z,6μm,1.0s								
SNET	**Serv Nac Est T**	**0.87**	**325**			**Pn**	**15 48 11.8**	**-0.1**
SNET					Sn	**Sn**	**15 48 22.8**	**-1.7**
SNET	**Serv Nac Est T**	**0.87**	**325**	*i* P		**Pn**	**15 48 12.2**	**+0.3**
SNET				IAML			15 48 25.2	
comp=Z,11μm,1.0s								
LCND	**La Caada**	**0.88**	**67**	*e*P		**Pn**	**15 48 12.7**	**+0.7**
LCND				*e*S		**Sn**	**15 48 26.2**	**+1.7**
LCND	**La Caada**	**0.88**	**67**	*i* P		**Pn**	**15 48 12.6**	**+0.7**
LCND				IAML			15 49 13.9	
comp=Z,31μm,1.0s								
ITCA	**Escuela Especi**	**0.89**	**322**	*i* P		**Pn**	**15 48 12.4**	**+0.2**
ITCA				IAML			15 48 28.9	
comp=Z,10μm,1.0s								
UEES	**Universidad Ev**	**0.90**	**326**	*i* P		**Pn**	**15 48 12.7**	**+0.4**
UEES				*i* S		**Sn**	**15 48 25.7**	**+0.6**
UEES				IAML			15 48 28.4	
comp=Z,4μm,1.0s								
CNCH	**Conchagua**	**0.92**	**71**	*i* P		**Pn**	**15 48 13.0**	**+0.5**
CNCH				*e*S		**Sn**	**15 48 26.7**	**+1.2**
CNCH	**Conchagua**	**0.92**	**71**	*i* P		**Pn**	**15 48 13.0**	**+0.5**
CNCH				IAML			15 48 30.6	
comp=Z,50μm,1.0s								
BOQS	**Boqueron**	**0.94**	**324**	*e*P		**Pn**	**15 48 13.4**	**+0.5**
PMON	**Piamonte**	**0.94**	**322**	*i* P		**Pn**	**15 48 13.0**	**+0.2**
PMON				IAML			15 48 31.4	
comp=Z,8μm,1.0s								
QUEZ	**Alcaldia de Qu**	**1.01**	**328**	*i* P		**Pn**	**15 48 14.5**	**+0.8**
QUEZ				IAML			15 48 31.1	
comp=Z,11μm,1.0s								
CEDA	**San Andres**	**1.06**	**322**	*e*P		**Pn**	**15 48 15.0**	**+0.8**
CEDA	**San Andres**	**1.06**	**322**	*i* P		**Sn**	**15 48 29.4**	**+0.9**
AMPH	**Amapala**	**1.08**	**73**	*e*P		**Pn**	**15 48 15.3**	**+0.8**
AMPH				*e*S		**Sn**	**15 48 31.3**	**+2.3**
LLGN	**La Laguna**	**1.21**	**350**	*i* P		**Pn**	**15 48 16.9**	**+0.7**
LLGN				IAML			15 48 36.2	
comp=Z,2μm,1.0s								
CEVE	**Cerro Verde**	**1.22**	**314**	*i* P		**Pn**	**15 48 17.4**	**+0.8**
CEVE				IAML			15 48 42.1	
comp=Z,4μm,1.0s								
UNIC	**Universidad Ca**	**1.29**	**321**	*i* P		**Pn**	**15 48 17.7**	**+0.5**
UNIC				IAML			15 48 36.7	
comp=Z,1μm,1.0s								
NUBE	**Las Nubes**	**1.39**	**312**	*i* P		**Pn**	**15 48 19.0**	**+0.4**
NUBE				IAML			15 48 40.8	
comp=Z,3μm,1.0s								
LOAL	**Lomas de Alarc**	**1.45**	**315**	*i* P		**Pn**	**15 48 20.5**	**+1.1**
LOAL				IAML			15 48 44.8	
comp=Z,4μm,1.0s								
MTO3	**Montecristo**	**1.55**	**336**	Pn		**Pn**	**15 48 21.4**	**+0.6**
MTO3	**Montecristo**	**1.55**	**336**	*i* P		**Pn**	**15 48 21.5**	**+0.6**
MTO3				IAML			15 48 42.0	
comp=Z,730nm,1.0s								
CRIN	**San Cristobal**	**1.65**	**99**			**Pn**	**15 48 23.1**	**+1.1**
CRIN	**San Cristobal**	**1.65**	**99**	*i* P		**Pn**	**15 48 23.2**	**+1.1**
CRIN				IAML			15 48 53.9	
comp=Z,12μm,1.0s								
ESQI	**Esquipulas**	**1.69**	**339**			**Pn**	**15 48 23.4**	**+0.8**
ESQI	**Esquipulas**	**1.69**	**339**	*i* P		**Pn**	**15 48 23.9**	**+1.3**
ESQI				IAML			15 48 53.8	
comp=Z,2μm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.77**	**52**			**Pn**	**15 48 24.5**	**+0.8**
TGUH	**Tegucigalpa,Un**	**1.77**	**52**	*i* P		**Pn**	**15 48 25.0**	**+1.3**
TGUH				IAML			15 48 54.1	
comp=Z,3μm,1.0s								
QUEN	**Al S del Volca**	**1.86**	**101**	*i* P		**Pn**	**15 48 25.5**	**+0.7**
QUEN				IAML			15 48 51.0	
comp=Z,8μm,1.0s								
CNGN	**Cerro Negro**	**2.03**	**103**			**Pn**	**15 48 27.4**	**+0.4**
CNGN	**Cerro Negro**	**2.03**	**103**	*i* P		**Pn**	**15 48 27.5**	**+0.4**
CNGN				IAML			15 48 54.4	
comp=Z,2μm,1.0s								
MACN	**El Madrono**	**2.06**	**104**	*i* P		**Pn**	**15 48 28.0**	**+0.6**
MACN				IAML			15 48 59.8	
comp=Z,2μm,1.0s								
LEVN	**Ruinas Leon Vi**	**2.13**	**105**	*i* P		**Pn**	**15 48 29.3**	**+0.9**
LEVN				IAML			15 49 04.0	
comp=Z,3μm,1.0s								
MOMN	**Momotombo**	**2.20**	**104**	*i* P		**Pn**	**15 48 29.8**	**+0.4**
MOMN				IAML			15 48 57.9	
comp=Z,86nm,1.0s								
COPN	**Copaltepe**	**2.22**	**110**	*i* P		**Pn**	**15 48 29.8**	**+0.2**
COPN				IAML			15 48 59.5	
comp=Z,1μm,1.0s								
MOM2	**El Cardon**	**2.25**	**103**	*i* P		**Pn**	**15 48 30.7**	**+0.8**
MOM2				IAML			15 49 02.4	
comp=Z,900nm,1.0s								
MRL	**Marmol**	**2.30**	**336**	*i* P		**Pn**	**15 48 33.3**	**+2.4**
BRAN	**Las Pilas**	**2.33**	**96**	*i* P		**Pn**	**15 48 31.3**	**+0.3**
SAPS	**Ciudad Sandino**	**2.40**	**109**	*i* P		**Pn**	**15 48 32.5**	**+0.5**
SAPS				IAML			15 49 07.1	
comp=Z,2μm,1.0s								
APYN	**Apoyeque**	**2.43**	**107**	*i* P		**Pn**	**15 48 33.1**	**+0.7**
APYN				IAML			15 49 07.6	
comp=Z,1μm,1.0s								
FUG	**Fuego 3**	**2.53**	**306**	*i* P		**Pn**	**15 48 36.9**	**+3.0**
FUG				*i* S		**Sn**	**15 49 08.2**	**+4.4**
TISN	**Laguna Tiscapa**	**2.53**	**109**	*i* P		**Pn**	**15 48 34.5**	**+0.7**
TISN				IAML			15 49 05.5	
comp=Z,98nm,1.0s								
APG	**El Apazote**	**2.64**	**320**	Pn		**Pn**	**15 48 37.0**	**+1.6**
comp=Z,0.3nm,0.3s,baz=144,slow=7.9,SNR=11								
MAS3	**Al N del Volca**	**2.66**	**110**	*i* P		**Pn**	**15 48 36.4**	**+0.8**
MAS3				IAML			15 49 09.9	
comp=Z,1μm,1.0s								
STG3	**Santiaguito 3,**	**3.26**	**302**	*i* P		**Pn**	**15 48 47.4**	**+3.4**
STG3				*i* S		**Sn**	**15 49 23.6**	**+1.8**
RTAL	**Retalhuleu**	**3.28**	**298**			**Pn**	**15 48 43.5**	**-0.5**
CONN	**Concepcion**	**3.33**	**114**	*i* P		**Pn**	**15 48 46.8**	**+2.1**
CONN				IAML			15 49 31.6	
comp=Z,3μm,1.0s								
ACON	**Acoyapa**	**3.60**	**106**			**Pn**	**15 48 48.2**	**-0.2**
HZTE	**Horizontes, Gu**	**3.79**	**126**	Pn		**Pn**	**15 48 53.0**	**+2.0**
PETF	**Flores**	**4.08**	**344**			**Pn**	**15 48 55.9**	**+1.1**
ORTG	**Ortega, Santa**	**4.11**	**129**			**Pn**	**15 48 56.6**	**+1.1**
DUNO	**Dulce Nombre,**	**4.27**	**132**			**Pn**	**15 48 59.1**	**+1.5**
ESPN	**Las Esperanzas**	**4.38**	**100**			**Pn**	**15 49 00.1**	**+1.1**
INDI	**Punta indio, G**	**4.41**	**134**	*i* P		**Pn**	**15 49 00.9**	**+1.4**
INDI				IAML			15 50 15.0	
comp=Z,370nm,1.0s								
JACO	**JACO, Garabito**	**5.16**	**129**	Pn		**Pn**	**15 49 11.1**	**+1.3**
HDC	**Herea**	**5.39**	**123**	Pn		**Pn**	**15 49 14.5**	**+1.4**
LCR2	**La Lucha 2**	**5.63**	**124**			**Pn**	**15 49 18.3**	**+2.0**
PEZE	**Perez Zeledon,**	**6.10**	**125**			**Pn**	**15 49 23.6**	**+1.0**
SRBA	**San Rafael, Bu**	**6.44**	**125**			**Pn**	**15 49 28.9**	**+1.6**
CMIG	**Matias Romero**	**7.23**	**305**	Pn		**Pn**	**15 49 40.9**	**+2.9**
comp=Z,0.5nm,0.3s,baz=99,slow=10,SNR=2.8								
comp=Z,2.0nm,0.3s								
TEIG	**Tepich**	**7.23**	**3**			**Pn**	**15 49 40.4**	**+2.4**
TEIG	**Tepich**	**7.23**	**3**	LR		LR	15 52 44.1	
comp=Z,978nm,20.4s,slow=40								
MTDJ	**Mount Denham**	**11.97**	**63**	Pn		**Pn**	**15 50 44.8**	**+1.9**
MOIG	**Morelia**	**13.70**	**301**	Pn		**Pn**	**15 51 05.6**	**-0.7**
735A	**Kenedy**	**17.93**	**333**	P		**P**	**15 51 57.5**	**-1.8**
BRAL	**Brewton**	**18.18**	**5**	P		**Pn**	**15 52 03.9**	**+1.3**
baz=185								
833A	**Chaparral WMA,**	**18.23**	**329**	P		**Pn**	**15 52 04.4**	**+1.2**
baz=145								
352A	**Blakely**	**18.75**	**10**	P		**Pn**	**15 52 09.6**	**+0.1**
TIGA	**Tifton**	**18.98**	**14**	P		**Pn**	**15 52 13.1**	**+0.9**
baz=196								
435B	**Jarrell**	**19.52**	**337**	P		**Pn**	**15 52 18.6**	**-0.1**
baz=153								
146A	**Union**	**19.58**	**359**	P		**Pn**	**15 52 18.7**	**-0.6**
146A				IAmb		IAmb	15 52 23.1	
comp=Z,23nm,1.1s								
DRIO	**Del Rio**	**19.75**	**328**			**Pn**	**15 52 20.4**	**-0.9**
DRIO				IAmb		IAmb	15 52 26.9	
comp=Z,7.8nm,0.6s								
LRAL	**Lakeview Retre**	**20.04**	**4**			Pn	15 52 23.6	-1.1
LRAL	**Lakeview Retre**	**20.04**	**4**	P		**P**	**15 52 22.3**	**0.0**
baz=185								
BRDY	**Brady**	**20.54**	**334**	P		**P**	**15 52 28.8**	**+0.9**
WHTX	**Lake Whitney,**	**20.56**	**338**	P		Pn	15 52 29.8	-1.1
baz=155								
BAUV	**El Baul**	**20.69**	**99**			**P**	**15 52 27.5**	**-2.1**
BAUV				IAmb		IAmb	15 52 30.5	
comp=Z,15nm,0.7s								
Y49A	**Blount Mountai**	**20.90**	**5**	P		**P**	**15 52 31.8**	**+0.2**
GOGA	**Godfrey**	**20.91**	**12**	P		**P**	**15 52 33.1**	**+1.4**
GOGA				IAmb		IAmb	15 52 35.8	
comp=Z,8.7nm,0.7s								
GOGA	**Godfrey**	**20.91**	**12**	P		**P**	**15 52 32.9**	**+1.2**
baz=194								
SAND	**Sanderson**	**20.97**	**326**	P		**P**	**15 52 33.7**	**+1.1**
Y52A	**Lilburn**	**21.23**	**11**	P		**P**	**15 52 36.3**	**+1.1**
Y52A				IAmb		IAmb	15 52 39.4	
comp=Z,9.7nm,0.8s								
TX31	**Lajitas Ar. Si**	**21.39**	**322**	P		**P**	**15 52 38.5**	**+1.4**
TXAR	**Lajitas Array**	**21.39**	**322**	P		**P**	**15 52 38.2**	**+1.1**
TXAR	**Lajitas Array**	**21.39**	**322**	P		**P**	**15 52 38.8**	**+1.6**
comp=Z,2.5nm,0.7s,baz=144,slow=7.8,SNR=23								
comp=Z,2.5nm,0.7s								
OXF	**Oxford**	**21.45**	**358**	P		**P**	**15 52 39.5**	**+1.9**
baz=178								
FPAL	**Fort Paine**	**21.66**	**7**	P		**P**	**15 52 41.0**	**+1.2**
FPAL				IAmb		IAmb	15 52 43.4	
comp=Z,5.6nm,0.6s								
MIAR	**Mount Ida**	**21.93**	**349**	P		**P**	**15 52 43.5**	**+0.9**
MIAR				IAmb		IAmb	15 53 05.9	
comp=Z,7.1nm,0.8s								
MIAR	**Mount Ida**	**21.93**	**349**	P		**P**	**15 52 44.2**	**+1.6**
baz=167								
HODGE	**Hodges**	**21.97**	**14**	P		**P**	**15 52 44.5**	**+1.5**
ABTX	**Abilene, Hawle**	**21.97**	**335**	P		**P**	**15 52 44.6**	**+1.4**
baz=151								
X37A	**Clayton**	**22.35**	**345**	P		**P**	**15 52 49.3**	**+2.0**
X37A				IAmb		IAmb	15 52 59.1	
comp=Z,9.6nm,1.1s								
MNHN	**Monahans**	**22.39**	**327**	P		**P**	**15 52 49.7**	**+1.9**
MNHN				IAmb		IAmb	15 52 51.0	
comp=Z,11nm,0.7s								
WHAR	**Wooly Hollow**	**22.45**	**352**	P		**P**	**15 52 48.3**	**0.0**
WHAR				IAmb		IAmb	15 53 07.6	
comp=Z,19nm,1.5s								
BG3	**Lake Jocassee**	**22.54**	**12**	P		**P**	**15 52 50.3**	**+1.0**
BG3				IAmb		IAmb	15 52 51.2	
comp=Z,10nm,1.2s								
CPCT	**Cooper Cave**	**22.70**	**9**	P		**P**	**15 52 50.8**	**-0.2**
V48A	**Smith Brothers**	**22.74**	**4**	P		**P**	**15 52 52.4**	**+1.1**
BIRD	**Birdtown, Kers**	**22.84**	**18**	P		**P**	**15 52 52.5**	**+0.1**
BIRD				IAmb		IAmb	15 52 53.8	
comp=Z,8.8nm,0.7s								
FCAR	**Ozark Folk Cen**	**23.03**	**353**	P		**P**	**15 52 54.2**	**0.0**
FCAR				IAmb		IAmb	15 52 55.6	
comp=Z,6.0nm,0.7s								
TKL	**Tuckaleechee C**	**23.03**	**10**	P		**P**	**15 52 54.5**	**+0.3**
KMSC	**Kings Mountain**	**23.07**	**16**	P		**P**	**15 52 55.3**	**+0.7**
KMSC	**Kings Mountain**	**23.07**	**16**	P		**P**	**15 52 55.4**	**+0.8**
baz=199								
WVT	**Waverly**	**23.07**	**2**	P		**P**	**15 52 55.1**	**+0.4**
baz=182								
LCAR	**Lake Charles**	**23.10**	**355**	P		**P**	**15 52 54.7**	**-0.3**
WMOK	**Wichita Mounta**	**23.51**	**339**	P		**P**	**15 52 59.0**	**+0.2**
WMOK	**Wichita Mounta**	**23.51**	**339**	P		**P**	**15 52 58.8**	**0.0**
baz=155								
FNO	**Franklin**	**23.54**	**342**	P		**P**	**15 52 59.6**	**+0.6**
HHAR	**Hobbs**	**23.68**	**349**	P		**P**	**15 53 01.6**	**+1.3**
HHAR				IAmb		IAmb	15 53 03.4	
comp=Z,6.2nm,0.7s								
TUL3	**Leonard**	**23.71**	**346**	P		**P**	**15 53 01.8**	**+1.1**
baz=163								
V55A	**Taylorsville**	**23.77**	**15**	P		**P**	**15 53 01.7**	**+0.6**
TZTN	**Tazewell**	**23.93**	**10**	P		**P**	**15 53 04.0**	**+1.4**
baz=192								
T47A	**Sharon Grove**	**23.96**	**3**	P		**P**	**15 53 02.6**	**-0.3**
T47A				IAmb		IAmb	15 53 03.0	
comp=Z,7.2nm,0.7s								
MNTX	**Cornudas Mount**	**24.12**	**323**	P		**P**	**15 53 05.4**	**+1.0**
baz=137								
CNNC	**Cliffs of the**	**24.24**	**22**	P		**P**	**15 53 06.5**	**+1.1**
baz=206								
U54A	**Nelsons Funny**	**24.26**	**14**	P		**P**	**15 53 06.0**	**+0.4**
U54A				IAmb		IAmb	15 53 08.5	
comp=Z,10nm,0.7s								
MGMO	**Mountain Grove**	**24.29**	**353**	P		**P**	**15 53 06.2**	**+0.4**
V58A	**Windy Hill, Pi**	**24.32**	**19**	P		**P**	**15 53 06.4**	**+0.3**
SMWD	**Samnorwood**	**24.38**	**337**	P		**P**	**15 53 07.9**	**+1.2**
MSTX	**Muleshoe**	**24.50**	**331**	P		**P**	**15 53 08.4**	**+0.5**
MSTX				IAmb		IAmb	15 53 08.7	
comp=Z,11nm,1.1s								
MSTX	**Muleshoe**	**24.50**	**331**	P		**P**	**15 53 08.6**	**+0.6**
baz=145								
AMTX	**Amarillo**	**24.77**	**334**	P		**P**	**15 53 11.1**	**+0.7**
baz=149								
S39A	**Bolivar**	**24.96**	**351**	P		**P**	**15 53 13.4**	**+1.5**
S39A				IAmb		IAmb	15 53 15.0	
comp=Z,10.0nm,0.7s								
CCM	**Cathedral Cave**	**25.08**	**355**	P		**P**	**15 53 12.5**	**-0.5**
CCM				IAmb		IAmb	15 53 31.7	
comp=Z,11nm,0.8s								
CCM	**Cathedral Cave**	**25.08**	**355**	P		**P**	**15 53 13.6**	**+0.5**
baz=174								
WCI	**Wyandotte Cave**	**25.25**	**4**	P		**P**	**15 53 14.6**	**+0.1**
baz=186								
BLA	**Blacksburg**	**25.26**	**16**	P		**P**	**15 53 15.2**	**+0.5**
baz=199								
T57A	**Hurt**	**25.39**	**18**	P		**P**	**15 53 16.2**	**+0.4**
T57A				IAmb		IAmb	15 53 41.8	
comp=Z,9.4nm,1.2s								
P40A	**Paris**	**26.62**	**354**	P		**P**	**15 53 26.5**	**-0.4**
P40A				IAmb		IAmb	15 53 45.4	
comp=Z,7.9nm,0.8s								
P52A	**Corning**	**27.19**	**11**	P		**P**	**15 53 32.9**	**+0.9**
baz=194								
Q56A	**Snyder Ridge,**	**27.31**	**16**	P		**P**	**15 53 33.9**	**+0.8**
Q56A				IAmb		IAmb	15 53 41.3	
comp=Z,12nm,1.3s								
CBKS	**Cedar Bluff**	**27.53**	**341**	P		**P**	**15 53 36.1**	**+0.9**
baz=156								
MCWV	**Mont Chateau**	**27.71**	**15**	P		**P**	**15 53 37.3**	**+0.6**
baz=199								
T25A	**Trinidad**	**27.87**	**332**	P		**P**	**15 53 40.2**	**+1.9**
T25A	**Trinidad**	**27.87**	**332**	P		**P**	**15 53 38.8**	**+0.4**
baz=146								
O53A	**New Philadelph**	**27.96**	**12**	P		**P**	**15 53 39.8**	**+0.9**
baz=196								
N38A	**Joes South For**	**28.00**	**353**	P		**P**	**15 53 39.3**	**+0.1**
KSCO	**Kaye Shedlock'**	**28.71**	**337**	P		**P**	**15 53 46.9**	**+1.0**
baz=151								
SDCO	**Great Sand Dun**	**28.86**	**332**	P		**P**	**15 53 48.1**	**+0.8**
baz=144								
M57A	**Sunshine Farm,**	**30.02**	**18**	P		**P**	**15 53 57.4**	**+0.2**
M57A				IAmb		IAmb	15 54 40.0	
comp=Z,5.1nm,0.9s								
ISCO	**Idaho Springs**	**30.60**	**334**	P		**P**	**15 54 03.0**	**+0.3**
baz=146								
SMCO	**Snowmass**	**30.70**	**332**	P		**P**	**15 54 05.1**	**+1.4**
PAL	**Palis

comp=Z,3.8nm,0.6s,baz=173,slow=10,SNR=5.9
comp=Z,3.8nm,0.6s
BOZ Bozeman (W) 37.89 334 P P 15 55 06.4 +1.0
BOZ IAmb IAmb 15 55 09.4
comp=Z,2.5nm,0.7s
BOZ Bozeman (W) 37.89 334 P P 15 55 06.5 +1.0
baz=142
EGMT Eagleton 39.10 338 P P 15 55 16.2 +0.7
EGMT Eagleton 39.10 338 P P 15 55 16.0 +0.5
baz=146
LYMT Lyon Mountain 39.25 334 P P 15 55 17.3 +0.4
NEW Newport 42.36 332 P P 15 55 41.9 -0.4
baz=137
FFC Flin Flon 42.94 349 P P 15 55 46.5 -0.3
EDM Edmonton 44.68 339 P P 15 56 00.2 -0.7
SCHQ Schefferville 45.15 18 P P 15 56 02.6 -2.0
SCHQ IAmb IAmb 15 56 03.4
comp=Z,4.7nm,0.8s
SCHQ Schefferville 45.15 18 P P 15 56 01.2 -3.3
comp=Z,3.6nm,0.7s,baz=211,slow=12,SNR=4.5
comp=Z,3.6nm,0.7s
FCC Fort Churchill 45.88 356 P P 15 56 09.1 -1.1
BRLDA Berland Lookou 46.84 337 P P 15 56 17.8 -0.2
YKA Yellowknife Ar 52.79 345 P P 15 57 01.9 -0.9
YKA Yellowknife Ar 52.79 345 P P 15 57 01.6 -1.2
comp=Z,2.3nm,0.7s,baz=138,slow=7.0,SNR=51
comp=Z,2.3nm,0.7s
TOAD Toad River Com 53.29 337 P P 15 57 06.3 -0.3
baz=134
ITAB Concordia 53.46 139 P P 15 57 08.8 +0.6
T35M Bob Quinn 54.12 333 P P 15 57 13.0 +0.3
baz=127
DLBC Dease Lake 54.91 335 P P 15 57 19.1 +0.6
baz=128
P32M Atlin 57.13 335 P P 15 57 34.6 +0.4
baz=125
N32M Quiet Lake 57.79 336 P P 15 57 39.4 +0.5
baz=126
MMPY Sheldon Lake, 58.01 338 P P 15 57 40.4 0.0
MMPY Sheldon Lake, 58.01 338 P P 15 57 40.4 0.0
baz=129
WHY Whitehorse 58.22 335 P P 15 57 41.8 -0.2
baz=124
O30N Mendenhall 58.78 335 P P 15 57 46.9 +1.1
O30N Mendenhall 58.78 335 P P 15 57 46.2 +0.5
baz=123
P30M Million Dollar 58.79 334 P P 15 57 46.4 +0.5
baz=122
HYT Haines Junctio 59.39 335 P P 15 57 49.9 -0.2
baz=122
N30M Aishikik Lake 59.56 335 P P 15 57 51.1 0.0
baz=122
PNL Peninsula 59.62 333 P P 15 57 51.6 0.0
baz=119
O28M Mount Upton 60.51 334 P P 15 57 57.7 -0.2
baz=119
YUK8 Steele Glacier 60.58 334 P P 15 57 58.0 -0.3
baz=120
C36M Paulatuk 60.62 346 P P 15 57 58.0 -0.2
baz=140
M29M Somme Creek 60.63 336 P P 15 57 58.3 -0.3
M29M IAmb IAmb 15 57 59.1
comp=Z,2.3nm,0.8s
M29M Somme Creek 60.63 336 P P 15 57 58.2 -0.3
baz=121
L29M L29M 60.85 337 P P 15 57 59.8 -0.1
baz=122
J30M Hart River 61.00 339 P P 15 58 01.0 0.0
baz=125
K29M Barlow Dome 61.02 338 P P 15 58 01.3 +0.1
baz=123
H31M Peel River 61.04 340 P P 15 58 01.5 +0.3
baz=127
CTG Chitna Glacier 61.09 334 P P 15 58 01.5 -0.2
baz=118
I30M Mount Dempster 61.38 339 P P 15 58 03.2 -0.4
I30M IAmb IAmb 15 58 03.8
comp=Z,1.7nm,0.8s
I30M Mount Dempster 61.38 339 P P 15 58 03.3 -0.3
baz=125
BGLC Bering Glacier 61.57 332 P P 15 58 05.0 +0.2
baz=116
G31M Satah River 61.70 341 P P 15 58 04.4 -1.1
G31M Satah River 61.70 341 P P 15 58 05.2 -0.3
baz=128,SNR=5.4
RES Resolute Bay 61.80 358 P P 15 58 04.5 -1.6
RES IAmb IAmb 15 58 05.0
comp=Z,2.1nm,0.9s
DAWY Dawson 61.84 337 P P 15 58 06.0 -0.6
baz=121
M27K Edge Creek, AK 61.97 335 P P 15 58 08.0 +0.4
baz=118
KAIM Kayak Island 62.01 332 P P 15 58 08.2 +0.5
baz=114
MCARA McCarthy VSAT 62.01 334 P P 15 58 08.4 +0.6
baz=116
I29M Ogilvie Camp, 62.13 339 P P 15 58 07.6 -0.9
baz=123
EPYK Eagle Plains 62.16 340 P P 15 58 08.2 -0.5
baz=125
BCAR Beaver Creek A 62.27 336 P P 15 58 09.2 -0.3
L27K Beaver Creek, 62.28 336 P P 15 58 08.7 -0.8
baz=118
INK Inuvik 62.34 343 P P 15 58 09.6 -0.1
baz=129
G30M tAoh Zraii Nji 62.35 341 P P 15 58 09.3 -0.6
baz=126
GLB Gilahina Butte 62.38 334 P P 15 58 09.2 -1.0
M26K Nabesna, AK 62.45 335 P P 15 58 09.6 -1.1
baz=117
F30M Barrier River 62.59 342 P P 15 58 11.5 0.0
baz=126,SNR=5.9
H29M Whitestone 62.62 340 P P 15 58 11.2 -0.6
H29M IAmb IAmb 15 58 20.2
comp=Z,4.4nm,1.4s
H29M Whitestone 62.62 340 P P 15 58 11.0 -0.7
baz=123
I28M Miner Creek 62.76 339 P P 15 58 12.9 +0.2
I28M Miner Creek 62.76 339 P P 15 58 12.4 -0.4
baz=121
N25K Chitina, Valde 62.79 334 P P 15 58 12.5 -0.5
baz=115
K27K Chicken 62.84 337 P P 15 58 11.6 -1.7
baz=118
EYAK Cordova Ski Ar 62.87 332 P P 15 58 11.9 -1.5
baz=113
A36M Sachs Harbour 62.89 348 P P 15 58 11.9 -1.4
baz=139
G29M Pine Creek 62.89 340 P P 15 58 13.0 -0.5
baz=124
I27K Kandik River 63.44 338 P P 15 58 17.3 +0.1
baz=120
SCRK Sand Creek 63.57 336 P P 15 58 18.1 -0.1
SCRK Sand Creek 63.57 336 P P 15 58 18.0 -0.1
baz=117
J26L Joseph Creek 63.64 337 P P 15 58 18.4 -0.2
baz=117
E29M Blow River 63.69 342 P P 15 58 18.1 -0.6
E29M IAmb IAmb 15 58 19.3
comp=Z,2.1nm,0.8s
E29M Blow River 63.69 342 P P 15 58 18.9 +0.1
baz=125,SNR=5.6
H27K Steamboat Moun 63.72 339 P P 15 58 19.1 +0.1
baz=120,SNR=5.7
PAX Paxson 63.73 335 P P 15 58 19.0 -0.3
baz=115
I26K Coal Creek Min 63.86 338 P P 15 58 19.8 -0.1
baz=118
F28M Old Crow 63.88 341 P P 15 58 19.4 -0.7
F28M Old Crow 63.88 341 P P 15 58 20.1 0.0
baz=122,SNR=12
G27K Doyon Strip 64.06 339 P P 15 58 20.6 -0.7
G27K Doyon Strip 64.06 339 P P 15 58 20.9 -0.3
baz=120
K24K Donnelly Dome 64.21 336 P P 15 58 22.5 +0.3
baz=115
M23K Glacier View 64.23 333 P P 15 58 22.2 -0.2
baz=112
E28M Babbage River 64.31 342 P P 15 58 21.8 -1.0
E28M IAmb IAmb 15 58 23.2
comp=Z,2.7nm,0.8s
E28M Babbage River 64.31 342 P P 15 58 21.9 -1.0
baz=123
J25K Salcha River, 64.39 336 P P 15 58 22.6 -0.9
J25K IAmb IAmb 15 58 24.3
comp=Z,1.9nm,0.7s
J25K Salcha River, 64.39 336 P P 15 58 23.7 +0.2
baz=116
SEW Seward 64.42 331 P P 15 58 24.0 +0.4
baz=110
D28M Stokes Point 64.47 342 P P 15 58 24.0 +0.2
baz=124
SML Sawmill 64.50 333 P P 15 58 24.2 0.0
baz=111
WAT6 Susitna Watana 64.53 334 P P 15 58 24.1 -0.5
baz=112
O22K Cooper Landing 64.67 331 P P 15 58 25.3 0.0
baz=109
E27K Coleen River 64.74 341 P P 15 58 25.1 -0.6
E27K IAmb IAmb 15 58 26.5
comp=Z,3.1nm,0.8s
E27K Coleen River 64.74 341 P P 15 58 26.0 +0.4
baz=121
PMR Palmer 64.78 333 P P 15 58 26.0 +0.1
baz=110
PRP Porcupine Dome 64.84 337 P P 15 58 25.9 -0.6
PRP IAmb IAmb 15 58 26.9
comp=Z,2.0nm,0.7s
PRP Porcupine Dome 64.84 337 P P 15 58 26.0 -0.6
baz=116
G26K Porcupine Rive 64.86 339 P P 15 58 26.6 +0.2
baz=118
RC01 Rabbit Creek A 64.88 332 P P 15 58 26.5 -0.1
RC01 Rabbit Creek A 64.88 332 P P 15 58 26.6 -0.1
baz=110
HDA Harding Lake 64.92 336 P P 15 58 26.5 -0.4
baz=114
ILAR Eielson Array 65.05 336 P P 15 58 25.8 -1.8
comp=Z,1.1nm,0.8s,baz=170,slow=5.0,SNR=20
comp=Z,1.1nm,0.8s
D27M Malcolm River 65.09 342 P P 15 58 27.6 -0.3
D27M IAmb IAmb 15 58 39.6
comp=Z,5.1nm,1.2s
D27M Malcolm River 65.09 342 P P 15 58 28.0 0.0
baz=122
KDAK Kodiak Island 65.27 328 P P 15 58 29.0 -0.2
baz=106
H25L Birch Creek 65.28 338 P P 15 58 29.1 0.0
baz=116
F26K Sheenjek River 65.34 340 P P 15 58 29.4 -0.1
baz=118
BMAR Burnt Mountain 65.36 339 P P 15 58 29.1 -0.6
Q20K Shuyak Island 65.40 329 P P 15 58 30.3 +0.3
baz=106
MCK McKinley 65.47 335 P P 15 58 29.6 -0.9
baz=112
SUA Susitna One 65.47 332 P P 15 58 30.3 -0.3
baz=109
G25K Bearman Lake 65.59 338 P P 15 58 31.0 -0.2
baz=116
F25K Christian Rive 65.80 339 P P 15 58 32.8 +0.2
baz=116,SNR=6.2
NEA2 Nenana 65.84 336 P P 15 58 32.6 -0.2
baz=112
H24K Noodor Dome 65.86 337 P P 15 58 32.5 -0.5
H24K IAmb IAmb 15 58 48.0
comp=Z,5.0nm,1.4s
H24K Noodor Dome 65.86 337 P P 15 58 32.3 -0.7
baz=114
O20K Slope Mountain 65.92 330 P P 15 58 33.4 -0.1
baz=106
TRF Thorofare Moun 65.93 334 P P 15 58 32.6 -1.0
baz=110
E25K Arctic Village 66.01 340 P P 15 58 34.0 +0.1
baz=117
N20K Mount Spurr 66.06 332 P P 15 58 34.1 -0.2
baz=107
G24K Hadweenzic Riv 66.06 338 P P 15 58 34.5 +0.3
baz=114
C27K Jago River 66.12 342 P P 15 58 34.6 0.0
baz=119
I23K Minto, Yukon-K 66.17 336 P P 15 58 34.5 -0.4
I23K IAmb IAmb 15 58 35.1
comp=Z,2.4nm,0.8s
I23K Minto, Yukon-K 66.17 336 P P 15 58 34.4 -0.4
baz=112
BPAW Bear Paw Mtn. 66.45 335 P P 15 58 36.2 -0.6
baz=110
H23K Yukon River 66.49 337 P P 15 58 36.5 -0.4
baz=112
F24K Squan Lake 66.55 339 P P 15 58 37.6 +0.3
baz=114
C26K Camden Bay 66.63 342 P P 15 58 37.8 +0.1
baz=118
MLY Manley 66.67 336 P P 15 58 37.4 -0.8
MLY IAmb IAmb 15 58 38.0
comp=Z,3.0nm,0.8s
MLY Manley 66.67 336 P P 15 58 37.8 -0.4
baz=110
M20K Styx River 66.68 332 P P 15 58 37.8 -0.5
baz=107
CAST Castle Rocks 66.69 334 P P 15 58 37.0 -1.3
baz=108
D25K Kavik River 66.81 341 P P 15 58 39.0 0.0
D25K Kavik River 66.81 341 P P 15 58 39.0 0.0
baz=116,SNR=10.0
CHUM Lake Minchumin 66.93 334 P P 15 58 39.3 -0.4
baz=108
E24K Your Creek 66.98 339 P P 15 58 39.7 -0.4
baz=114
G23K Bananza Creek 67.00 338 P P 15 58 40.1 -0.1
G23K IAmb IAmb 15 58 40.1
comp=Z,4.9nm,1.4s
G23K Bananza Creek 67.00 338 P P 15 58 39.5 -0.7
baz=112
Q17K Contact Creek 67.09 328 P P 15 58 40.0 -1.1
baz=103
O18K Koktuh Hills 67.12 330 P P 15 58 40.3 -0.8
baz=104
L20K Farewell, AK 67.19 333 P P 15 58 40.9 -0.5
baz=106
H22K Ishtalitna Cre 67.22 337 P P 15 58 41.1 -0.4
baz=110
COLD Coldfoot 67.26 338 P P 15 58 42.1 +0.3
baz=112
M19K Big River Lodg 67.26 332 P P 15 58 41.7 -0.2
baz=106
E23K Chandalar 67.36 339 P P 15 58 42.2 -0.4
baz=113
K20K Telida 67.52 334 P P 15 58 42.8 -0.7
baz=106
D24K Happy Valley 67.53 340 P P 15 58 42.9 -0.6
baz=114
L19K White Mountain 67.54 332 P P 15 58 43.4 -0.3
baz=105
TOLK Toolik Lake Re 67.58 340 P P 15 58 43.2 -0.6
TOLK IAmb IAmb 15 58 44.7
comp=Z,3.0nm,0.9s
TOLK Toolik Lake Re 67.58 340 P P 15 58 43.5 -0.3
baz=113
N18K Kilae Creek 67.65 331 P P 15 58 43.5 -0.9
baz=104
H21K Melozitna Rive 67.69 336 P P 15 58 43.8 -0.8
baz=109
C24K Franklin Bluff 67.72 341 P P 15 58 44.6 -0.1
baz=114
J20K Nowinta River 67.79 335 P P 15 58 44.9 -0.2
baz=107
M18K Stony River 67.81 331 P P 15 58 44.1 -1.3
baz=104
O17K Koliganek Bris 68.03 330 P P 15 58 46.3 -0.4
baz=102
CHGN Chignik 68.05 326 P P 15 58 46.6 -0.4
baz=100
F22K John River 68.07 338 P P 15 58 46.7 -0.2
baz=110
I20K Naaghedeneel 68.10 335 P P 15 58 46.8 -0.3
baz=107
E22K Anaktuvuk Pass 68.16 339 P P 15 58 47.5 0.0
E22K Anaktuvuk Pass 68.16 339 P P 15 58 47.3 -0.2
baz=111
G21K Allakaket 68.24 337 P P 15 58 47.7 -0.3
baz=108
J19K Poorman 68.36 334 P P 15 58 48.2 -0.6
baz=105
C23K Ikpillik River 68.38 341 P P 15 58 48.6 -0.2
baz=112
L18K Granite Mounta 68.39 332 P P 15 58 48.8 -0.2
baz=104
F21K Alatna River 68.45 338 P P 15 58 49.1 -0.2
baz=109
H20K Anotleneega Mo 68.47 336 P P 15 58 49.2 -0.3
baz=107
CHNA Chernabura Isl 68.48 324 P P 15 58 49.0 -0.7
baz=98
O16K Kokwok River B 68.49 329 P P 15 58 49.1 -0.6
baz=101
D22K Ayikyak River 68.72 340 P P 15 58 50.5 -0.4
baz=110
E21K Killik River 69.02 339 P P 15 58 52.5 -0.3
baz=109
SDPT Sand Point 69.06 324 P P 15 58 52.7 -0.6
baz=98
L17K Donlin 69.10 332 P P 15 58 52.6 -0.8
baz=102
H19K Roundabout Mou 69.11 336 P P 15 58 52.7 -0.7
baz=105
F20K Avaraart Lake 69.24 337 P P 15 58 53.4 -0.8
baz=106
B22K Teshekpuk Lake 69.46 341 P P 15 58 54.8 -0.7
B22K IAmb IAmb 15 58 55.2
comp=Z,3.6nm,0.9s
B22K Teshekpuk Lake 69.46 341 P P 15 58 54.9 -0.6
baz=110
C21K Knifeblade Rid 69.53 340 P P 15 58 55.6 -0.3
baz=108
N15K Kwethluk River 69.58 330 P P 15 58 55.9 -0.5
baz=100
B21K Ikpikpuk River 69.61 340 P P 15 58 55.5 -0.9
B21K IAmb IAmb 15 58 56.4
comp=Z,3.0nm,0.8s
B21K Ikpikpuk River 69.61 340 P P 15 58 56.2 -0.3
baz=108
E20K Nigu River 69.75 338 P P 15 58 57.2 -0.2
baz=106
E19K Redstone River 69.91 338 P P 15 58 58.2 -0.1
baz=105
F19K Shaleruckik Mo 69.96 337 P P 15 58 58.3 -0.3
baz=104
D20K Etivluk River 70.03 339 P P 15 58 58.9 -0.1
baz=106
G18K Tagagawik 70.08 336 P P 15 58 59.1 -0.3
baz=103
A22K Sinclair Lake 70.17 341 P P 15 58 59.3 -0.5
baz=108
N14K Kuskokwak Cree 70.34 329 P P 15 59 01.1 +0.1
baz=98
J16K Anvik River 70.37 333 P P 15 59 01.3 +0.1
baz=100
H17K Granite Mounta 70.39 335 P P 15 59 00.7 -0.5
baz=102
D19K Kuna River 70.50 339 P P 15 59 01.4 -0.5
baz=105
L15K Ungalak Mounta 70.50 331 P P 15 59 01.4 -0.6
baz=99
B20K Meade River 70.57 340 P P 15 59 01.8 -0.4
B20K IAmb IAmb 15 59 04.8
comp=Z,2.9nm,0.9s
B20K Meade River 70.57 340 P P 15 59 02.1 -0.2
baz=106
M14K Bethel 70.59 330 P P 15 59 02.6 +0.1
baz=98
K15K Wolf Creek Mou 70.62 332 P P 15 59 02.7 0.0
baz=99
L14K Kuka Creek 71.02 331 P P 15 59 05.2 +0.1
baz=98
C19K Lookout Ridge 71.17 339 P P 15 59 06.2 +0.1
baz=103
F17K Baldwin Pennin 71.23 336 P P 15 59 06.4 +0.1
baz=101
G16K Koyuk River 71.49 335 P P 15 59 07.0 -0.9
baz=100
E17K Hotham Inlet 71.57 337 P P 15 59 08.0 -0.4
baz=100
J14K Nanvaranak Lak 71.62 332 P P 15 59 08.0 -0.7
baz=98
A19K Wainwright 71.92 340 P P 15 59 10.4 0.0
baz=102
B18K Kokolik River 72.00 339 P P 15 59 10.9 0.0
baz=101
G15K Niukluk 72.13 334 P P 15 59 11.5 -0.2
baz=98
D17K Noatak River 72.16 337 P P 15 59 11.8 0.0
baz=100
C17K DeLong Mountai 72.32 338 P P 15 59 13.2 +0.3
baz=100
F15K North Star Dit 72.48 335 P P 15 59 13.5 -0.3
baz=98
WRA Warramunga Arr 138.22 255 PKP **PKPdf 16 07 12.4 -0.7**
comp=Z,0.7nm,0.7s,baz=86,slow=1.9,SNR=10
ASAR Alice Springs 138.30 249 PKP **PKPdf 16 07 12.6 -0.6**
comp=Z,0.4nm,0.7s,baz=85,slow=1.6,SNR=7.4
CMAR Chiang Mai Arr 147.87 346 PKPbc **PKPdf 16 07 29.8 -0.3**
comp=Z,0.5nm,0.5s,baz=340,slow=4.6,SNR=5.0

NEIC ***13*** *15:55:49.5±0.9, 19°.25N±0°.05×155°.55W±0°.05, h28km±9km, Error ellipse: s-maj=8.8km s-min=6.2km az=144.0*
HVO 13 15:55:49.4±0.7, **19°.21N**±0°.06×**155°.55W**±0°.07, **h35**km±7km, **Md2.3**/5, **ML2.8**/18(NEIC), **Error ellipse: s-maj=11.6km s-min=6.6km az=126.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHU	**Kahuku**	**0.08**	**299**		Pb	15 55 54.9	-0.7
KHU					Sb	15 55 59.0	-0.9
KHU	**Kahuku**	**0.08**	**299**	IAML		15 56 02.9	
KHU	comp=E,798nm,1.4s			IAML		15 56 04.1	
	comp=N,984nm,1.2s						
HTC	**Hot Caves**	**0.14**	**78**		Pb	15 55 55.1	-0.6
HLP	**Hilina Pali**	**0.24**	**69**		Pn	15 55 55.7	-0.7
MWH	**Moku'aweowe**	**0.28**	**350**		Pn	15 55 56.4	-1.0
MWH	**Moku'aweowe**	**0.28**	**350**	IAML		15 56 07.3	
	comp=N,1μm,0.8s						
MLH	**Mauna Loa**	**0.32**	**28**		Sn	15 56 02.2	-0.9
MLH	**Mauna Loa**	**0.32**	**28**		Pn	15 55 56.7	-1.1
MLH				IAML		15 55 59.4	
	comp=E,2μm,1.1s						
MLH				IAML		15 56 07.4	
	comp=N,2μm,1.2s						
MLOA	**Mauna Loa Obse**	**0.33**	**355**		Pn	15 55 56.8	-1.3
MLOA				IAML		15 56 00.1	
	comp=N,818nm,1.2s						
ALEP	**Alea Permanent**	**0.34**	**344**		Pb	15 55 56.9	-1.3
HMH	**Humu'ula Sheep**	**0.40**	**8**	IAML		15 56 10.7	
	comp=N,956nm,1.2s						
HMH				IAML		15 56 15.4	
	comp=E,531nm,0.9s						
HMH	**Humu'ula Sheep**	**0.40**	**8**		Pb	15 55 57.9	-1.0
HMH					Sn	15 56 04.3	-1.1
CPH	**Captain Cook**	**0.45**	**308**		Pb	15 55 57.9	-1.5
HUH	**Hualalai**	**0.55**	**330**		Pn	15 55 59.7	-1.3
HUH	**Hualalai**	**0.55**	**330**	IAML		15 56 20.3	
	comp=N,457nm,1.0s						

SNET ***13*** *15:59:45.2±2.5, 12°.66N×87°.20W, h198km, ML4.5*
NEIC ***13*** *15:59:48.5±1.7, 12°.9N±0°.1×87°.2W±0°.1, h192km±6km, mb4.7/171, Error ellipse: s-maj=21.1km s-min=9.2km az=218.0*
IDC ***13*** *15:59:48.8±1.4, 12°.97N×87°.29W, h206km±13km, mb3.6/11, mbtmp4.2/13, MS3.5/1, Error ellipse: s-maj=20.6km s-min=11.8km az=51.0*
CATAC ***13*** *15:59:49.1±0.7, 12°.83N×87°.29W, h180km±8km, ML4.1*
ISC 13 15:59:47.8±0.6, **12°.92N**±0°.06×**87°.26W**±0°.05, **h199**km±5km, **n323**, σ**0°75**/265, **mb4.7**/83, **Near coast of Nicaragua**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.30**	**136**	Pn	**Pn**	**16 00 13.7**	**-0.6**
CRIN	**San Cristobal**	**0.30**	**136**	*i* P	**Pn**	**16 00 13.8**	**-0.4**
CRIN				IAML		16 00 40.2	
	comp=Z,10μm,1.0s						
QUEN	**Al S del Volca**	**0.51**	**129**	*i* P	**Pn**	**16 00 14.4**	**-0.5**
QUEN				IAML		16 00 19.0	
	comp=Z,5μm,1.0s						
AMPH	**Amapala**	**0.54**	**313**	*e*P	**Pn**	**16 00 14.5**	**-0.4**
AMPH				*e*S	**Sn**	**16 00 35.6**	**-0.3**
CNCH	**Conchagua**	**0.67**	**303**	*e*P	**Pn**	**16 00 17.9**	**+2.4**
CNCH	**Conchagua**	**0.67**	**303**	*i* P	**Pn**	**16 00 15.0**	**-0.6**
CNCH				IAML		16 00 49.3	
	comp=Z,5μm,1.0s						
CNGN	**Cerro Negro**	**0.69**	**127**		**Pn**	**16 00 14.9**	**-0.8**
CNGN	**Cerro Negro**	**0.69**	**127**	*i* P	**Pn**	**16 00 15.0**	**-0.6**
CNGN				IAML		16 00 51.0	
	comp=Z,4μm,1.0s						
LEVN	**Ruinas Leon Vi**	**0.81**	**129**	*i* P	**Pn**	**16 00 15.8**	**-0.4**
LEVN				IAML		16 00 42.4	
	comp=Z,6μm,1.0s						

MOMN Momotombo 0.86 126 *i* P **Pn 16 00 16.1 -0.5**
MOMN IAML 16 00 16.8
comp=Z,200nm,1.0s
MOM2 El Cardon 0.89 122 *i* P **Pn 16 00 16.5 -0.2**
MOM2 IAML 16 00 17.5
comp=Z,5µm,1.0s
COPN Copaltepe 0.98 138 *i* P **Pn 16 00 16.6 -0.7**
COPN IAML 16 00 40.5
comp=Z,3µm,1.0s
JUCU Jucuarįn 1.02 289 *eP* **Pn 16 00 17.0 -0.7**
JUCU *eS* **Sn 16 00 40.1 -0.6**
JUCU Jucuarįn 1.02 289 *i* P **Pn 16 00 16.9 -0.7**
JUCU IAML 16 00 17.4
comp=Z,7µm,1.0s
CNRM Centro Naciona 1.05 302 *i* P **Pn 16 00 17.7 0.0**
CNRM IAML 16 00 18.0
comp=Z,8µm,1.0s
BLLM Bellamira 1.09 299 *eP* **Pn 16 00 17.9 -0.2**
APYN Apoyeque 1.12 127 *i* P **Pn 16 00 17.8 -0.5**
APYN IAML 16 00 18.5
comp=Z,3µm,1.0s
RANC El Ranchito 1.13 297 *i* P **Pn 16 00 18.5 0.0**
RANC IAML 16 00 19.0
comp=Z,5µm,1.0s
TGUH Tegucigalpa,Un 1.14 359 Pn **Pn 16 00 18.6 +0.1**
TGUH Tegucigalpa,Un 1.14 359 *i* P **Pn 16 00 18.6 +0.1**
TGUH IAML 16 00 19.1
comp=Z,3µm,1.0s
PACA Pacayal 1.17 298 *eP* **Pn 16 00 19.1 +0.3**
PACA Pacayal 1.17 298 *i* P **Pn 16 00 18.9 +0.1**
PACA IAML 16 00 52.6
comp=Z,14µm,1.0s
RE6B4 Centro civico 1.22 130 *i* P **Pn 16 00 18.9 -0.2**
RE6B4 IAML 16 00 19.0
comp=Z,6µm,1.0s
TISN Laguna Tiscapa 1.23 128 *i* P **Pn 16 00 18.8 -0.4**
TISN IAML 16 00 19.3
comp=Z,320nm,1.0s
RB28C Hialeah 1.24 129 *i* P **Pn 16 00 18.9 -0.3**
RB28C IAML 16 00 19.2
comp=Z,7µm,1.0s
R4DEC Barrio San Lui 1.25 128 *i* P 16 00 21.1
R4DEC *i* P **Pn 16 00 19.1 -0.1**
R4DEC IAML 16 00 19.3
comp=Z,2µm,1.0s
WILN Americas 2 1.29 126 *i* P **Pn 16 00 19.4 -0.2**
WILN IAML 16 00 19.7
comp=Z,2µm,1.0s
COEB Comit de Eme 1.37 295 *eP* **Pn 16 00 20.4 0.0**
COEB *eS* **Sn 16 00 48.1 +2.5**
COEB Comit de Eme 1.37 295 *i* P **Pn 16 00 20.2 -0.1**
COEB IAML 16 00 50.3
comp=Z,2µm,1.0s
MAS3 Al N del Volca 1.38 130 *i* P **Pn 16 00 19.7 -0.7**
MAS3 IAML 16 00 48.6
comp=Z,2µm,1.0s
RB213 Mirador 2 Volc 1.41 131 *i* P **Pn 16 00 18.8 -1.9**
RB213 IAML 16 00 19.1
comp=Z,5µm,1.0s
PQSS Presa 15 de Se 1.45 299 *i* P **Pn 16 00 21.1 +0.2**
PQSS IAML 16 00 21.2
comp=Z,3µm,1.0s
TECO Alcaldia de Te 1.60 293 *i* P **Pn 16 00 22.1 -0.3**
TECO IAML 16 00 22.6
comp=Z,2µm,1.0s
SCLA Alcaldia de Sa 1.63 299 *i* P **Pn 16 00 22.8 +0.2**
SCLA IAML 16 01 01.5
comp=Z,690nm,1.0s
UESV Universidad de 1.65 296 *i* P **Pn 16 00 22.8 0.0**
UESV IAML 16 00 23.5
comp=Z,2µm,1.0s
COEG Centro de Oper 1.73 294 *eP* **Pn 16 00 23.6 +0.1**
COEG *eS* **Sn 16 00 51.8 +0.5**
COEG Centro de Oper 1.73 294 *i* P **Pn 16 00 23.6 +0.1**
COEG IAML 16 00 24.3
comp=Z,2µm,1.0s
PAVA Las Pavas 1.82 296 *i* P **Pn 16 00 24.7 +0.2**
PAVA IAML 16 00 24.8
comp=Z,2µm,1.0s
PANCS Alcalda de 1.99 291 *i* P **Pn 16 00 26.0 -0.2**
PANCS IAML 16 00 57.3
comp=Z,3µm,1.0s
LOMA Loma Larga 2.00 291 *i* P **Pn 16 00 26.3 0.0**
LOMA IAML 16 01 02.3
comp=Z,3µm,1.0s
IGN Direccin Gen 2.02 293 *i* P **Pn 16 00 27.0 +0.5**
IGN IAML 16 01 08.5
comp=Z,6µm,1.0s
LLGN La Laguna 2.06 307 *i* P **Pn 16 00 27.3 +0.4**
LLGN IAML 16 01 09.8
comp=Z,370nm,1.0s
SNET Serv Nac Est T 2.07 292 Pn 16 00 26.6 -0.4
SNET Serv Nac Est T 2.07 292 *i* P **Pn 16 00 26.3 -0.7**
SNET IAML 16 01 00.3
comp=Z,4µm,1.0s
MORN Al O del Volca 2.08 131 *i* P **Pn 16 00 26.0 -1.1**
MORN IAML 16 01 04.9
comp=Z,2µm,1.0s
UEES Universidad Ev 2.08 293 *i* P **Pn 16 00 27.3 +0.1**
UEES IAML 16 01 08.8
comp=Z,980nm,1.0s
CONN Concepcion 2.09 130 *i* P **Pn 16 00 27.1 0.0**
CONN IAML 16 01 05.5
comp=Z,5µm,1.0s
LALI Alcalda de L 2.09 286 *eP* **Pn 16 00 26.6 -0.5**
LALI *eS* **Sn 16 00 57.2 -0.5**
LALI Alcalda de L 2.09 286 *i* P **Pn 16 00 26.6 -0.5**
LALI IAML 16 00 56.9
comp=Z,620nm,1.0s
BOQS Boqueron 2.13 293 *eP* **Pn 16 00 28.1 +0.3**
PMON Piamonte 2.15 292 *i* P **Pn 16 00 28.1 +0.2**
PMON IAML 16 01 09.6
comp=Z,3µm,1.0s
ACON Acoyapa 2.24 115 Pn 16 00 28.5 -0.3
ACON Acoyapa 2.24 115 *i* P **Pn 16 00 28.8 0.0**
ACON IAML 16 00 29.3
comp=Z,330nm,1.0s
JAYA Jayaque - finc 2.25 289 *eP* **Pn 16 00 28.9 -0.1**
JAYA *eS* **Sn 16 01 01.6 +0.4**
JAYA Jayaque - finc 2.25 289 *i* P **Pn 16 00 28.8 -0.3**
UNIC Universidad Ca 2.47 296 *i* P **Pn 16 00 31.6 +0.3**
UNIC IAML 16 00 31.8
comp=Z,410nm,1.0s
CEVE Cerro Verde 2.47 292 *eP* **Pn 16 00 31.9 +0.3**
CEVE *eS* **Sn 16 01 09.2 +3.5**
CEVE Cerro Verde 2.47 292 *i* P **Pn 16 00 31.8 +0.3**
CEVE IAML 16 01 15.2
comp=Z,3µm,1.0s
MTO3 Montecristo 2.52 306 Pn **Pn 16 00 32.2 +0.2**
MTO3 Montecristo 2.52 306 *i* P **Pn 16 00 32.8 +0.8**
MTO3 IAML 16 00 33.2
comp=Z,300nm,1.0s
ESQI Esquipulas 2.60 309 Pn 16 00 33.2 +0.4
NUBE Las Nubes 2.64 292 *i* P **Pn 16 00 33.3 -0.1**
NUBE IAML 16 01 13.0
comp=Z,1µm,1.0s
HZTE Horizontes, Gu 2.73 143 Pn 16 00 34.5 +0.2
ESPN Las Esperanzas 2.98 104 Pn 16 00 37.2 +0.1
ESPN Las Esperanzas 2.98 104 *i* P **Pn 16 00 37.3 +0.2**
ESPN IAML 16 00 37.7
comp=Z,440nm,1.0s
ORTG Ortega, Santa 3.09 145 Pn **Pn 16 00 38.8 +0.2**
DUNO Dulce Nombre, 3.31 148 Pn 16 00 41.2 +0.1
INDI Punta indio, G 3.49 150 *i* P **Pn 16 00 43.4 +0.2**
INDI IAML 16 00 43.8
comp=Z,600nm,1.0s
COVE Coope Vega, Sa 3.55 128 *i* P **Pn 16 00 45.0 +1.0**
SOCE Pocosol 3.61 134 Pn **Pn 16 00 45.0 +0.2**
APG El Apazote 3.74 304 P **Pn 16 00 48.0 +1.4**
comp=Z,1.6nm,0.5s,baz=129,slow=11,SNR=18
APG S **Sn 16 01 33.4 +0.8**
comp=Z,2.1nm,0.4s,baz=82,slow=17,SNR=6.7
JACO JACO, Garabito 4.12 141 Pn 16 00 51.4 +0.4
LCR2 La Lucha 2 4.49 134 Pn 16 00 56.4 +0.5
PEZE Perez Zeledon, 4.97 135 Pn 16 01 03.0 +1.1
SRBA San Rafael, Bu 5.30 133 Pn **Pn 16 01 07.0 +0.9**
CMIG Matias Romero 8.46 300 P **Pn 16 01 47.1 +0.1**
comp=Z,3.3nm,0.3s,baz=153,slow=10,SNR=12
CMIG S **Sn 16 03 19.2 -2.8**
comp=Z,3.0nm,0.4s,baz=277,slow=23,SNR=6.0
DWPF Disney Wildern 16.07 19 P **Pn 16 03 23.1 +0.1**
baz=201
SDV Santo Domingo 16.81 102 Pn 16 03 31.7 -0.5
SDV IAmb IAmb 16 03 34.2
comp=Z,17nm,0.7s
SDV Santo Domingo 16.81 102 P **Pn 16 03 31.9 -0.3**
comp=Z,10nm,0.3s,baz=284,slow=6.5,SNR=6.8
HBVL Hebbronville 17.68 324 P **Pn 16 03 42.0 -0.1**
BRAL Brewton 18.17 1 P **Pn 16 03 46.7 -1.1**
baz=181
352A Blakely 18.60 6 P **Pn 16 03 51.8 -1.0**
HKT Hockley 18.72 336 P **Pn 16 03 53.4 -0.8**
TIGA Tifton 18.74 10 P **P 16 03 53.1 +1.3**
baz=191,SNR=14
250A Grady 19.00 3 P **P 16 03 55.9 +1.4**
250A IAmb IAmb 16 04 00.6
comp=Z,30nm,0.9s
833A Chaparral WMA, 19.05 325 P **P 16 03 55.8 +0.6**
baz=141
BAUV El Baul 19.27 100 P **P 16 03 57.2 -0.5**
255A Hazlehurst 19.43 12 P **P 16 03 59.6 +0.6**
VBMS Vicksburg 19.44 352 P **P 16 04 01.0 +1.7**
baz=170
HNDO Hondo 19.94 328 P **P 16 04 04.7 0.0**
NATX Nacogdoches 19.95 341 P **P 16 04 05.8 +1.1**
NATX Nacogdoches 19.95 341 P **P 16 04 06.3 +1.6**
baz=158
LRAL Lakeview Retre 20.03 1 P **P 16 04 06.9 +1.3**
LRAL IAmb IAmb 16 04 10.2
comp=Z,30nm,1.2s
LRAL Lakeview Retre 20.03 1 P **P 16 04 06.8 +1.2**
baz=181,SNR=14
435B Jarrell 20.18 333 IAmb IAmb 16 04 08.8
comp=Z,16nm,0.7s
Z47A Carrollton 20.20 358 IAmb IAmb 16 04 11.0
comp=Z,16nm,0.7s
GOGA Godfrey 20.69 9 P **P 16 04 13.5 +0.9**
GOGA Godfrey 20.69 9 P **P 16 04 14.0 +1.4**
baz=190,SNR=35
Y45A Yeager Farm, C 20.96 355 IAmb IAmb 16 04 18.4
comp=Z,22nm,1.0s
JCT Junction City 20.98 328 P **P 16 04 17.0 +1.3**
baz=144
WHTX Lake Whitney, IAmb IAmb 16 04 20.5
comp=Z,30nm,1.0s
WHTX Lake Whitney, 21.17 335 P **P 16 04 19.4 +1.8**
baz=152
BRDY Brady 21.24 331 P **P 16 04 18.1 -0.4**
BRDY IAmb IAmb 16 04 21.4
comp=Z,17nm,0.8s
WLAR White Oak Lake 21.36 346 IAmb IAmb 16 04 22.0
comp=Z,16nm,0.8s
X48A Hartselle 21.44 0 IAmb IAmb 16 04 21.9
comp=Z,2nm,0.8s
Z38A Mt. Pleasant 21.45 342 IAmb IAmb 16 04 23.8
comp=Z,36nm,0.9s
FPAL Fort Paine 21.58 4 P **P 16 04 22.2 +0.3**
FPAL IAmb IAmb 16 04 23.6
comp=Z,9.7nm,0.6s
OXF Oxford 21.59 355 P **P 16 04 21.4 -0.6**
OXF IAmb IAmb 16 04 23.5
comp=Z,29nm,0.9s
OXF Oxford 21.59 355 P **P 16 04 22.4 +0.4**
baz=174,SNR=6.5
X51A Calhoun 21.66 5 IAmb IAmb 16 04 26.6
comp=Z,12nm,0.7s
HODGE Hodges 21.70 11 IAmb IAmb 16 04 25.6
comp=Z,39nm,1.0s
JSC Jenkinsville 21.96 13 IAmb IAmb 16 04 27.7
comp=Z,15nm,0.7s
PLAL Pickwick Lake 21.98 358 P **P 16 04 25.5 -0.4**
SWET Sewanee 22.24 3 IAmb IAmb 16 04 30.2
comp=Z,16nm,0.5s
PLPT Palo Pinto 22.24 335 P **P 16 04 28.8 +0.4**
PLPT IAmb IAmb 16 04 30.1
comp=Z,18nm,0.8s
Z35A Perchaven, San 22.28 337 IAmb IAmb 16 04 31.5
comp=Z,19nm,0.7s
MIAR Mount Ida 22.28 346 P **P 16 04 28.5 -0.2**
MIAR IAmb IAmb 16 04 30.7
comp=Z,17nm,0.8s
MIAR Mount Ida 22.28 346 P **P 16 04 29.0 +0.3**
baz=164,SNR=18
W52A Murphy 22.29 7 IAmb IAmb 16 04 31.1
comp=Z,29nm,1.0s
BG3 Lake Jocassee 22.33 9 P **P 16 04 30.4 +1.3**
PCRV Puerto La Cruz 22.33 95 P **P 16 04 31.3 +1.9**
comp=Z,4.7nm,0.6s,baz=277,slow=2.6,SNR=2.5
comp=Z,4.7nm,0.6s
TXAR Lajitas Array 22.34 320 P **P 16 04 30.1 +0.6**
TXAR Lajitas Array 22.34 320 P **P 16 04 30.8 +1.3**
comp=Z,2.7nm,0.6s,baz=138,slow=9.2,SNR=38
comp=Z,2.7nm,0.6s
TX31 Lajitas Ar. Si 22.34 320 P **P 16 04 30.4 +0.9**
PAULI Pauline 22.36 12 IAmb IAmb 16 04 31.8
comp=Z,26nm,0.7s
BIRD Birdtown, Kers 22.50 15 IAmb IAmb 16 04 32.7
comp=Z,27nm,0.7s
CPCT Cooper Cave 22.57 6 IAmb IAmb 16 04 34.3
comp=Z,30nm,0.9s
ABTX Abilene, Hawle 22.66 332 IAmb IAmb 16 04 34.4
comp=Z,15nm,0.8s
ABTX Abilene, Hawle 22.66 332 P **P 16 04 32.8 +0.6**
baz=147,SNR=6.2
V48A Smith Brothers 22.73 1 IAmb IAmb 16 04 35.0
comp=Z,11nm,0.8s
KMSC Kings Mountain 22.77 13 IAmb IAmb 16 04 35.4
comp=Z,24nm,0.8s
KMSC Kings Mountain 22.77 13 P **P 16 04 34.0 +0.9**
baz=195,SNR=14
X37A Clayton 22.80 343 IAmb IAmb 16 04 36.4
comp=Z,16nm,0.8s
LOOK Love County 22.84 338 IAmb IAmb 16 04 36.3
comp=Z,19nm,0.7s
TKL Tuckaleechee C 22.86 7 P **P 16 04 34.9 +1.0**
comp=Z,13nm,0.6s,baz=176,slow=7.7,SNR=25
comp=Z,13nm,0.6s
V53A Saluda 23.01 9 IAmb IAmb 16 04 38.6
comp=Z,37nm,1.2s
V52A Sevierville 23.07 8 IAmb IAmb 16 04 39.2
comp=Z,14nm,0.8s
W57A Gilead 23.10 15 IAmb IAmb 16 04 37.9
comp=Z,23nm,0.7s
WVT Waverly 23.12 359 P **P 16 04 36.3 0.0**
WVT Waverly 23.12 359 P **P 16 04 37.2 +1.0**
baz=178
MNHN Monahans 23.24 325 IAmb IAmb 16 04 40.8
comp=Z,11nm,0.8s
FCAR Ozark Folk Cen 23.29 350 IAmb IAmb 16 04 38.5
comp=Z,7.6nm,0.6s
LCAR Lake Charles 23.32 352 IAmb IAmb 16 04 38.7
comp=Z,8.1nm,0.6s
APMT Aspermont 23.46 332 IAmb IAmb 16 04 41.6
comp=Z,15nm,0.6s
V55A Taylorsville 23.48 12 IAmb IAmb 16 04 43.2
comp=Z,20nm,0.7s
TZTN Tazewell 23.76 7 IAmb IAmb 16 04 46.2
comp=Z,23nm,0.7s
TZTN Tazewell 23.76 7 P **P 16 04 43.3 +1.2**
baz=189,SNR=15
CNNC Cliffs of the 23.79 19 P **P 16 04 43.4 +1.1**
baz=203
W35A Tecumseh 23.79 340 IAmb IAmb 16 04 45.0
comp=Z,13nm,0.8s
POST Post 23.91 329 IAmb IAmb 16 04 47.0
comp=Z,14nm,0.6s
PBMO Poplar Bluff 23.93 354 IAmb IAmb 16 04 45.6
comp=Z,13nm,0.6s
T47A Sharon Grove 23.97 0 IAmb IAmb 16 04 46.9
comp=Z,15nm,0.6s
WMOK Wichita Mounta 24.11 336 IAmb IAmb 16 04 49.0
comp=Z,32nm,1.1s
WMOK Wichita Mounta 24.11 336 P **P 16 04 46.0 +0.7**
baz=152,SNR=27
U56A King 24.14 14 IAmb IAmb 16 04 50.0
comp=Z,18nm,0.8s
TUL3 Leonard 24.15 343 IAmb IAmb 16 04 46.6
comp=Z,17nm,1.1s
TUL3 Leonard 24.15 343 P **P 16 04 46.1 +0.4**
baz=159
DEOK Depew 24.30 342 IAmb IAmb 16 04 47.5
comp=Z,18nm,0.6s
CGM3 Cape Girardeau 24.38 355 IAmb IAmb 16 04 49.1
comp=Z,6.7nm,0.5s
OK029 Liberty Lake 24.57 340 IAmb IAmb 16 04 50.0
comp=Z,23nm,0.7s
OK033 Mehan 24.62 341 IAmb IAmb 16 04 51.0
comp=Z,23nm,1.1s
S44A Carbondale 24.74 356 IAmb IAmb 16 05 34.8
comp=Z,13nm,1.0s
SIUC Southern Illin 24.76 356 IAmb IAmb 16 05 35.0
comp=Z,16nm,1.1s
S51A Beattyville 24.84 7 IAmb IAmb 16 04 53.5
comp=Z,14nm,0.8s
BLA Blacksburg 24.96 13 P **P 16 04 53.5 +0.5**
baz=196
T57A Hurt 25.03 15 IAmb IAmb 16 04 55.6
comp=Z,32nm,1.5s
MNTX Cornudas Mount 25.04 321 P **P 16 04 54.6 +0.8**
baz=134
WCI Wyandotte Cave 25.23 2 P **P 16 04 55.1 -0.3**
WCI IAmb IAmb 16 04 56.4
comp=Z,8.1nm,0.7s
WCI Wyandotte Cave 25.23 2 P **P 16 04 55.4 +0.1**
baz=182
S39A Bolivar 25.26 349 IAmb IAmb 16 04 56.8
comp=Z,13nm,0.7s
MSTX Muleshoe 25.27 329 IAmb IAmb 16 04 57.9
comp=Z,13nm,1.0s
MSTX Muleshoe 25.27 329 P **P 16 04 56.4 +0.5**
baz=142
CCM Cathedral Cave 25.29 353 P **P 16 04 55.5 -0.4**
CCM IAmb IAmb 16 04 57.1
comp=Z,16nm,1.3s
CCM Cathedral Cave 25.29 353 P **P 16 04 56.1 +0.2**
baz=171
AMTX Amarillo 25.48 332 IAmb IAmb 16 05 02.6
comp=Z,28nm,1.1s
AMTX Amarillo 25.48 332 P **P 16 04 57.6 -0.2**
baz=146
ELIS Ellis County 25.52 337 IAmb IAmb 16 05 03.1
comp=Z,20nm,0.8s
OK032 Salt Plains WL 25.74 339 IAmb IAmb 16 05 00.4
comp=Z,12nm,0.8s
R55A Marlinton 26.05 13 IAmb IAmb 16 05 05.2
comp=Z,13nm,0.8s
Q52A Bidwell 26.32 9 IAmb IAmb 16 05 06.9
comp=Z,19nm,0.8s
Q54A Coxs Mills 26.58 11 IAmb IAmb 16 05 09.3
comp=Z,15nm,0.8s
P49A Miami Univ. Ec 26.61 4 P **P 16 05 08.3 +0.6**
baz=186
CBN Corbin Frederi 26.68 18 P **P 16 05 09.4 +1.0**
baz=202
Q56A Snyder Ridge, 26.99 14 IAmb IAmb 16 05 13.7
comp=Z,13nm,0.9s
P52A Corning 27.00 9 P **P 16 05 12.1 +0.9**
baz=191,SNR=11
O48B Farmland 27.30 4 P **P 16 05 14.7 +0.8**
baz=184
KSU1 Kansas State U 27.36 344 P **P 16 05 15.2 +0.7**
baz=160
MCWV Mont Chateau 27.43 12 P **P 16 05 15.4 +0.3**
baz=196
ACSO Alum Creek Sta 27.47 7 IAmb IAmb 16 05 16.8
comp=Z,15nm,0.6s
ACSO Alum Creek Sta 27.47 7 P **P 16 05 15.8 +0.3**
baz=189,SNR=7.1
O52A Adamsville 27.51 9 IAmb IAmb 16 05 17.2
comp=Z,15nm,0.8s
P57A Homestead Farm 27.70 16 IAmb IAmb 16 05 20.0
comp=Z,16nm,0.6s
O53A New Philadelph 27.74 10 P **P 16 05 18.2 +0.3**
baz=193,SNR=7.3
ANMO Albuquerque 27.98 325 P **P 16 05 20.6 +0.3**
baz=137
N49A Columbus Grove 28.03 5 IAmb IAmb 16 05 21.4
comp=Z,16nm,0.7s
N53A Lisbon 28.35 10 IAmb IAmb 16 05 24.2
comp=Z,11nm,0.5s
SSPA Standing Stone 28.81 15 P **P 16 05 28.1 +0.8**
SSPA IAmb IAmb 16 05 29.1
comp=Z,12nm,0.7s
SSPA Standing Stone 28.81 15 P **P 16 05 27.8 +0.5**
baz=199
M53A WI Miller and 28.99 10 P **P 16 05 29.7 +0.8**
baz=193
SCIA State Center 29.35 351 P **P 16 05 32.9 +0.9**
baz=168
AAM Ann Arbor 29.45 5 P **P 16 05 33.5 +0.6**
baz=187
M57A Sunshine Farm, 29.67 16 IAmb IAmb 16 05 36.9
comp=Z,12nm,0.7s
ERPA Erie 29.77 11 P **P 16 05 36.6 +0.8**
baz=194
X16A Lo Mia Camp, P 30.65 318 P **P 16 05 44.8 +1.0**
BINY Binghamton 30.78 16 IAmb IAmb 16 05 46.8
comp=Z,10nm,0.7s
BINY Binghamton 30.78 16 P **P 16 05 45.2 +0.6**
baz=202,SNR=5.2
I42A Draeger Farm, 30.90 358 IAmb IAmb 16 05 47.0
comp=Z,14nm,1.1s
I37A Lemond, Waseca 31.44 351 IAmb IAmb 16 05 51.3
comp=Z,9.1nm,0.7s
ECSD EROS Data Cent 31.75 347 P **P 16 05 53.0 -0.1**
baz=162,SNR=13
PDMCI Parker Dam,Lak 32.38 316 P **P 16 05 58.8 +0.1**
baz=125
SPMN Marine on St. 32.55 353 P **P 16 06 00.2 +0.2**
baz=170,SNR=6.6
O20A White River Ci 32.80 330 P **P 16 06 02.5 -0.1**
baz=140
SUSD Miller 32.98 345 P **P 16 06 03.3 -0.5**
baz=159
TPFO Pinon Flats 33.62 313 P **P 16 06 10.2 +0.5**
baz=121
E38A The Farm, Brul 33.78 355 IAmb IAmb 16 06 10.8
comp=Z,9.1nm,0.8s
LBNH Lisbon 33.87 20 P **P 16 06 11.8 +0.3**
baz=207
K22A Casper 34.01 334 P **P 16 06 13.0 0.0**
baz=145
MURC Murrieta 34.15 312 P **P 16 06 14.2 0.0**
baz=120
RSSD Black Hills 34.27 338 P **P 16 06 15.6 +0.4**
baz=150
LPAZ La Paz 34.64 146 P **P 16 06 19.4 +0.3**
comp=Z,0.6nm,0.4s,baz=0.0,slow=6.1,SNR=2.6
comp=Z,0.6nm,0.4s
G62A West of Eustis 35.21 21 IAmb IAmb 16 06 25.1
comp=Z,36nm,1.4s
PDAR Pinedale Array 35.45 331 P **P 16 06 25.4 -0.1**
comp=Z,1.3nm,0.6s,baz=131,slow=10,SNR=11
comp=Z,1.3nm,0.6s
BW06 Boulder Array 35.46 331 P **P 16 06 26.2 +0.8**
baz=140
PKME Peaks-Kenny Pk 35.69 22 P **P 16 06 28.0 +1.0**
baz=211
G65A Princeton 36.28 24 IAmb IAmb 16 06 34.5
comp=Z,28nm,1.2s
MDND Maddock 36.32 346 P **P 16 06 33.0 +0.5**
baz=159,SNR=5.3
RLMT Red Lodge 37.17 334 P **P 16 06 39.3 -0.6**
baz=143
D62A Allapoint, All 37.34 21 IAmb IAmb 16 06 42.6
comp=Z,16nm,1.0s
NVAR Mina Array Bea 37.48 318 P **P 16 06 43.2 +0.6**
comp=Z,0.5nm,0.5s,baz=145,slow=8.3,SNR=4.3
NVAR LR LR 16 23 46.0
comp=Z,70nm,19.9s,baz=222,slow=38
comp=Z,0.5nm,0.5s
ULM Lac du Bonnet 37.89 351 IAmb IAmb 16 06 45.1
comp=Z,9.8nm,0.7s
ULM Lac du Bonnet 37.89 351 P **P 16 06 44.3 -1.3**
comp=Z,10nm,0.7s,baz=162,slow=8.6,SNR=14
comp=Z,10nm,0.7s
HLID Hailey 38.45 328 P **P 16 06 50.0 -0.5**
baz=134
BOZ Bozeman (W) 38.58 332 P **P 16 06 51.2 -0.4**
baz=140,SNR=5.3
WVOR Wild Horse Val 40.04 323 P **P 16 07 04.4 +0.7**
FFC Flin Flon 43.29 348 P **P 16 07 29.6 0.0**
SCHQ Schefferville 44.78 17 P **P 16 07 40.6 -0.9**
SCHQ IAmb IAmb 16 07 41.8
comp=Z,14nm,0.7s
SCHQ Schefferville 44.78 17 P **P 16 07 40.9 -0.7**
comp=Z,13nm,0.5s,baz=215,slow=5.9,SNR=35
comp=Z,13nm,0.5s
FCC Fort Churchill 46.05 355 P **P 16 07 50.8 -0.5**
YKA Yellowknife Ar 53.22 345 P **P 16 08 45.0 -0.4**
comp=Z,1.7nm,0.8s,baz=136,slow=7.0,SNR=24
YKA ScP **ScP 16 13 28.2 -1.0**
comp=Z,0.5nm,0.9s,baz=142,slow=3.9,SNR=7.3
comp=Z,1.7nm,0.8s
PLCA Paso Flores 55.58 165 P **P 16 09 03.1 +0.4**
comp=Z,0.9nm,0.6s,baz=318,slow=12,SNR=4.7
comp=Z,0.9nm,0.6s
MMPY Sheldon Lake, 58.59 338 P **P 16 09 23.2 -0.4**
baz=128
YUK6 Outpost Mounta 60.48 334 P **P 16 09 35.9 -0.8**

baz=119
YUK4 **Talbot Arm** 60.80 334 P P 16 09 39.0 +0.1
baz=119
C36M **Paulatuk** 61.01 346 P P 16 09 40.4 +0.5
baz=138
M29M **Somme Creek** 61.27 336 P P 16 09 41.4 -0.4
baz=120
L29M **L29M** 61.47 336 P P 16 09 43.1 0.0
baz=121
J30M **Hart River** 61.57 338 P P 16 09 43.0 -0.9
baz=123
H31M **Peel River** 61.58 340 P P 16 09 43.6 -0.1
baz=126
RES **Resolute Bay** 61.91 358 P P 16 09 44.8 -1.0
I30M **Mount Dempster** 61.94 339 P P 16 09 45.7 -0.6
baz=123
G31M **Satah River** 62.21 341 P P 16 09 46.8 -1.1
baz=126
EPYK **Eagle Plains** 62.70 340 P P 16 09 50.3 -1.0
baz=124
I29M **Ogilvie Camp,** 62.70 338 P P 16 09 50.0 -1.3
baz=121
INK **Inuvik** 62.82 342 P P 16 09 51.0 -0.9
baz=128
G30M **tAoh Zraii Nji** 62.87 341 P P 16 09 51.1 -1.3
baz=124
L27K **Beaver Creek,** 62.92 335 P P 16 09 51.6 -1.2
baz=117
F30M **Barrier River** 63.09 341 P P 16 09 53.8 0.0
baz=125
M26K **Nabesna, AK** 63.12 334 P P 16 09 53.5 -0.5
baz=115
H29M **Whitestone** 63.18 339 P P 16 09 54.2 -0.2
baz=122
A36M **Sachs Harbour** 63.25 348 P P 16 09 54.7 0.0
baz=138
I28M **Miner Creek** 63.33 338 P P 16 09 54.8 -0.8
baz=120
G29M **Pine Creek** 63.43 340 P P 16 09 55.9 -0.2
baz=122
K27K **Chicken** 63.46 336 P P 16 09 56.5 +0.2
baz=117
I27K **Kandik River** 64.02 338 P P 16 09 59.8 -0.1
baz=118
E29M **Blow River** 64.19 341 P P 16 10 00.7 -0.2
baz=123
SCRK **Sand Creek** 64.20 336 P P 16 10 00.8 -0.4
baz=115
J26L **Joseph Creek** 64.26 336 P P 16 10 01.3 -0.2
baz=116
H27K **Steamboat Moun** 64.29 339 P P 16 10 01.4 -0.2
baz=118
F28M **Old Crow** 64.41 340 P P 16 10 02.5 +0.1
F28M **Old Crow** 64.41 340 P P 16 10 02.7 +0.3
baz=121
G27K **Doyon Strip** 64.61 339 P P 16 10 03.9 +0.1
baz=119
E28M **Babbage River** 64.82 341 P P 16 10 04.9 -0.2
baz=122
J25K **Salcha River,** 65.01 336 P P 16 10 06.1 -0.3
baz=114
SEW **Seward** 65.16 331 P P 16 10 06.6 -0.8
baz=108
E27K **Coleen River** 65.26 340 P P 16 10 07.1 -0.8
baz=119
G26K **Porcupine Rive** 65.42 339 P P 16 10 08.7 -0.2
baz=117
PRP **Porcupine Dome** 65.44 337 P P 16 10 08.3 -1.0
baz=114
HDA **Harding Lake** 65.56 336 P P 16 10 08.5 -1.3
baz=112
ILAR **Eielson Array** 65.67 336 P P 16 10 09.7 -0.9
comp=Z,0.6nm,0.8s,baz=148,slow=6.0,SNR=9.6
comp=Z,0.6nm,0.8s
H25L **Birch Creek** 65.86 338 P P 16 10 11.3 -0.4
baz=114
F26K **Sheenjek River** 65.88 339 P P 16 10 11.4 -0.5
baz=116
MCK **McKinley** 66.12 335 P P 16 10 13.7 +0.2
baz=110
G25K **Bearman Lake** 66.17 338 P P 16 10 13.7 0.0
baz=114
F25K **Christian Rive** 66.35 339 P P 16 10 14.5 -0.4
baz=115
H24K **Noodor Dome** 66.47 337 P P 16 10 15.1 -0.5
baz=112
NEA2 **Nenana** 66.48 336 P P 16 10 15.5 -0.2
baz=110
E25K **Arctic Village** 66.55 340 P P 16 10 16.1 0.0
baz=115
TRF **Thorofare Moun** 66.60 334 P P 16 10 16.2 -0.5
baz=109
C27K **Jago River** 66.63 341 P P 16 10 16.8 +0.3
baz=118
SII **Sitkinak Islan** 66.64 326 P P 16 10 16.9 +0.1
baz=102
G24K **Hadweenzic Riv** 66.64 338 P P 16 10 16.6 -0.1
baz=113
I23K **Minto, Yukon-K** 66.79 336 P P 16 10 17.4 -0.2
baz=110
P19K **Oil Pt** 66.86 330 P P 16 10 17.7 -0.6
baz=104
H23K **Yukon River** 67.10 337 P P 16 10 18.9 -0.8
baz=110
BPAW **Bear Paw Mtn.** 67.10 335 P P 16 10 18.2 -1.5
baz=108
PPLA **Purkeypile** 67.25 333 P P 16 10 19.6 -1.2
baz=107
MLY **Manley** 67.30 336 P P 16 10 20.1 -0.8
baz=109
D25K **Kavik River** 67.33 341 P P 16 10 20.7 -0.4
baz=115
CAST **Castle Rocks** 67.36 334 P P 16 10 20.0 -1.3
baz=107
G23K **Bananza Creek** 67.59 338 P P 16 10 21.4 -1.3
baz=110
H22K **Ishtalitna Cre** 67.83 336 P P 16 10 23.7 -0.5
baz=109
COLD **Coldfoot** 67.84 338 P P 16 10 23.6 -0.6
baz=110
L20K **Farewell, AK** 67.89 333 P P 16 10 24.0 -0.6
baz=105
E23K **Chandalar** 67.92 339 P P 16 10 24.4 -0.5
baz=111
C24K **Franklin Bluff** 68.24 341 P P 16 10 26.6 -0.1
baz=113
H21K **Melozitna Rive** 68.32 336 P P 16 10 26.6 -0.7
baz=107
J20K **Nowinta River** 68.45 334 P P 16 10 27.9 -0.1
baz=105
F22K **John River** 68.65 338 P P 16 10 29.0 -0.3
baz=108
G21K **Allakaket** 68.85 337 P P 16 10 30.5 0.0
baz=107
F21K **Alatna River** 69.05 338 P P 16 10 31.7 0.0
baz=107
M16K **Timber Creek** 69.94 331 P P 16 10 37.2 0.0
baz=100
B22K **Teshekpuk Lake** 69.98 341 P P 16 10 37.9 +0.6
baz=108
G19K **Purcell Mounta** 70.14 336 P P 16 10 38.3 -0.1
baz=103
B21K **Ikpikpuk River** 70.15 340 P P 16 10 38.3 0.0
baz=107
L16K **Owhat River** 70.30 331 P P 16 10 39.2 -0.2
baz=100
E20K **Nigu River** 70.32 338 P P 16 10 39.4 -0.2
baz=105
D20K **Etivluk River** 70.59 339 P P 16 10 40.8 -0.3
baz=105
C19K **Lookout Ridge** 71.73 339 P P 16 10 47.6 -0.4
baz=102
NJ2 **Nanjing** 128.77 331 *e*P **PKPdf** 16 18 31.1 -1.0
STKA **Stephens Creek** 131.49 239 PKP **PKiKP** 16 18 37.8 -0.4
comp=Z,1.6nm,0.5s,baz=110,slow=5.5,SNR=9.1
WRA **Warramunga Arr** 139.57 254 PKhKP PKPpre 16 18 45.7
comp=Z,0.6nm,0.6s,baz=91,slow=3.6,SNR=10.0
WRA PKP **PKPdf** 16 18 53.3 +0.7
comp=Z,3.2nm,0.5s,baz=90,slow=2.3,SNR=15
ASAR **Alice Springs** 139.61 249 PKhKP PKPpre 16 18 45.1
comp=Z,1.9nm,0.7s,baz=108,slow=3.6,SNR=11
ASAR PKP **PKPdf** 16 18 53.5 +0.9
comp=Z,1.9nm,0.6s,baz=93,slow=1.8,SNR=25
CMAR **Chiang Mai Arr** 148.23 349 PKPbc **PKPbc** 16 19 10.5 -0.7
comp=Z,0.7nm,0.7s,baz=341,slow=3.3,SNR=4.7

*NORS **13** 16:08:18.2,42.˙49N×43.˙37E,h5km,MPVA3.7*

*AFAD **13** 16:08:21.8±0.0,42.˙47N×43.˙01E,h10km±2km,ML2.7*
ISC 13 16:08:19.4±1.2,42.˚52N±0.˚03×43.˚42E±0.˚05,h1km±11km,
n17,σ0.˚56/32,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
DIGR	**Digorskoe uzhe**	**0.40**	**18**	*i* Pg		**Pg**	**16 08 26.7**	**-0.3**
DIGR				*e*Sg		**Sg**	**16 08 32.9**	**+0.7**
LACR	**Lac**	**0.72**	**65**	*e*Pg		**Pg**	**16 08 32.3**	**-0.9**
LACR				*e*Sg		**Sg**	**16 08 41.9**	**-0.5**
KORR	**Kora**	**0.74**	**40**	*e*Pg		**Pg**	**16 08 33.4**	**-0.2**
KORR				*e*Sg		**Sb**	**16 08 45.0**	**-0.7**
LSNR	**Lesken**	**0.81**	**21**	*e*Pg		**Pg**	**16 08 34.9**	**-0.1**
LSNR				*e*Sg		**Sb**	**16 08 47.2**	**-0.7**
ARNR	**Ardon**	**0.92**	**44**	*e*Pg		**Pg**	**16 08 37.5**	**+0.5**
ARNR				*e*Sg		**Sb**	**16 08 51.2**	**+0.5**
STDR	**Stavd-Durt**	**0.97**	**29**	*e*Pg		**Pb**	**16 08 38.9**	**-0.2**
STDR				*e*Sg		**Sn**	**16 08 54.4**	**-0.2**
NCK	**Nalchik**	**0.98**	**8**	*e*Pg		**Pb**	**16 08 38.7**	**-0.6**
NCK				*e*Sg		**Sb**	**16 08 53.1**	**+0.4**
VLKR	**Vladikavkaz**	**1.06**	**60**	*e*Pg		**Pg**	**16 08 40.2**	**+0.4**
VLKR				*e*Sg		**Sb**	**16 08 55.6**	**+0.6**
EPOS	**Posof**	**1.14**	**207**	P		**Pg**	**16 08 41.0**	**-0.3**
EPOS				S		**Sg**	**16 08 56.7**	**+0.6**
KBTC	**Kuba-Taba**	**1.29**	**360**	*e*Pg		**Pb**	**16 08 44.3**	**-0.3**
KBTC				*e*Sg		**Sn**	**16 09 03.0**	**+0.3**
SHA1	**Shidzhatmaz**	**1.34**	**336**	*e*Pg		**Pb**	**16 08 45.2**	**-0.2**
SHA1				*e*Sg		**Sn**	**16 09 03.1**	**-0.9**
AHAN	**Ardahan-Merkez**	**1.48**	**204**	P		**Pn**	**16 08 47.6**	**+0.2**
AHAN				S		**Sb**	**16 09 06.2**	**-1.0**
AHAN				*i* AML		AML	16 09 08.0	
	comp=N,94nm,1.0s							
AHAN				*i* AML		AML	16 09 08.0	
	comp=E,122nm,1.1s							
GOLE	**Ardahan-Gȳle**	**1.79**	**200**	P		**Pb**	**16 08 52.9**	**-0.3**
DAGI	**Agillar**	**1.83**	**218**	P		**Pn**	**16 08 52.6**	**+0.5**
DAGI				S		**Sn**	**16 09 15.4**	**-0.5**
EAK	**Akyaka**	**1.84**	**176**	P		**Pn**	**16 08 52.8**	**+0.5**
DBAD	**Bademkaya**	**1.98**	**221**	P		**Pn**	**16 08 54.7**	**+0.6**
DBAD				S		**Sn**	**16 09 20.1**	**+0.4**
DBAD				*i* AML		AML	16 09 23.0	
	comp=N,92nm,0.5s							
DBAD				*i* AML		AML	16 09 23.0	
	comp=E,104nm,0.6s							
DDEM	**Demirkent**	**2.05**	**218**	P		**Pn**	**16 08 55.9**	**+0.8**
DDEM				S		**Sn**	**16 09 21.7**	**+0.2**
DDEM				*i* AML		AML	16 09 27.0	
	comp=N,123nm,0.7s							
DDEM				*i* AML		AML	16 09 28.0	
	comp=E,70nm,0.4s							

*NEIC **13** 16:17:21.4±0.8,19.˚473N±0.˚009×155.˚362W±0.˚008,*
h5km±1km,Error ellipse: s-maj=3.0km s-min=1.7km
az=36.0
HVO 13 16:17:20.6±0.9,19.˚48N±0.˚02×155.˚360W±0.˚008,
h0km±9km,ML2.7/2,ML2.8/39(NEIC),Error ellipse:
s-maj=3.0km s-min=0.9km az=191.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
MLH	**Mauna Loa**	**0.03**	**303**			Pg	16 17 22.2	+1.0
RSD	**Rainshed**	**0.08**	**101**			Sg	16 17 25.5	+2.4
RSD	**Rainshed**	**0.08**	**101**			Pg	16 17 23.5	+1.3
UWE	**Uwekahuna**	**0.08**	**132**	IAML			16 17 22.9	
	comp=N,8μm,1.4s							
UWE				Pg		Pg	16 17 23.5	+1.2
WRMHI	**West Rim**	**0.09**	**142**			Pg	16 17 23.4	+1.1
OBL	**Observatory Le**	**0.09**	**130**	Pg		Pg	16 17 23.4	+1.0
OBL				IAML			16 17 23.9	
	comp=N,9μm,0.8s							
UWB	**Uwekahuna B**	**0.09**	**124**			Pg	16 17 23.5	+1.1
UWB	**Uwekahuna B**	**0.09**	**124**	IAML			16 17 24.3	
	comp=E,4μm,1.2s							
UWB				IAML			16 17 24.9	
	comp=N,6μm,1.4s							
SBLHI	**Steaming Bluff**	**0.10**	**120**			Pg	16 17 23.7	+1.2
SDHHI	**Sand Hill**	**0.11**	**145**			Pg	16 17 23.9	+1.2
SDHHI	**Sand Hill**	**0.11**	**145**	IAML			16 17 24.6	
	comp=N,11μm,0.7s							
SDHHI				IAML			16 17 25.1	
	comp=E,11μm,0.8s							
HATHI	**Halema'uma'u T**	**0.11**	**120**	IAML			16 17 25.4	
	comp=N,8μm,1.3s							
HATHI	**Halema'uma'u T**	**0.11**	**120**			Pg	16 17 23.9	+1.2
PUH	**Pauahi**	**0.17**	**127**	IAML			16 17 24.8	
	comp=N,2μm,0.8s							
PUH				Pg		Pg	16 17 24.9	+1.0
PUH				IAML			16 17 29.5	
	comp=E,2μm,1.0s							
HMH	**Humu'ula Sheep**	**0.17**	**317**			Pg	16 17 25.1	+1.2
HMH	**Humu'ula Sheep**	**0.17**	**317**			Sg	16 17 28.4	+2.2
HMH	**Humu'ula Sheep**	**0.17**	**317**	IAML			16 17 28.3	
	comp=N,1μm,0.8s							
HLP	**Hilina Pali**	**0.19**	**165**	Pg		Pg	16 17 25.1	+0.8
HLP				IAML			16 17 26.1	
	comp=N,3μm,1.3s							
HLP				IAML			16 17 28.2	
	comp=E,3μm,1.2s							
KNHH	**Kane Nui o Ham**	**0.20**	**118**			Pg	16 17 25.5	+0.9
MLOA	**Mauna Loa Obse**	**0.21**	**286**			Sg	16 17 29.8	+2.3
MLOA	**Mauna Loa Obse**	**0.21**	**286**	Pg		Pg	16 17 25.5	+0.8
MLOA				IAML			16 17 29.6	
	comp=N,1μm,1.5s							
MLOA	**Mauna Loa Obse**	**0.21**	**286**	IAML			16 17 32.3	
	comp=E,909nm,0.3s							
MWH	**Moku'aweowe**	**0.22**	**272**	IAML			16 17 26.8	
	comp=E,2μm,1.3s							
MWH				IAML			16 17 31.5	
	comp=N,2μm,1.1s							
MWH	**Moku'aweowe**	**0.22**	**272**			Pg	16 17 26.0	+1.0
MWH	**Moku'aweowe**	**0.22**	**272**			Sg	16 17 31.1	+3.3
STCH	**Steam Cracks**	**0.24**	**112**			Pg	16 17 26.0	+0.8
STCH				IAML			16 17 32.7	
	comp=E,1μm,1.1s							
STCH	**Steam Cracks**	**0.24**	**112**			Sg	16 17 30.1	+1.7
STCH	**Steam Cracks**	**0.24**	**112**	IAML			16 17 30.0	
	comp=N,1μm,1.3s							
NPOC	**North of Pu'u**	**0.25**	**110**			Sg	16 17 30.4	+1.7
NPOC	**North of Pu'u**	**0.25**	**110**	Pg		Pg	16 17 26.0	+0.5
NPOC				IAML			16 17 26.8	
	comp=E,1μm,1.2s							
NPOC	**North of Pu'u**	**0.25**	**110**	IAML			16 17 31.1	
	comp=N,1μm,1.5s							
JCUZ	**Jacuzzi**	**0.26**	**111**			Sg	16 17 30.6	+1.6
JCUZ	**Jacuzzi**	**0.26**	**111**	Pg		Pg	16 17 26.3	+0.6
JCUZ				IAML			16 17 26.5	
	comp=E,876nm,1.2s							
JCUZ	**Jacuzzi**	**0.26**	**111**	IAML			16 17 32.6	
	comp=N,2μm,1.4s							
ALEP	**Alea Permanent**	**0.28**	**283**			Pg	16 17 26.6	+0.7
POHA	**Pohakuloa**	**0.32**	**330**	Pg		Pg	16 17 23.6	-3.3
POHA				IAML			16 17 38.2	
	comp=N,766nm,1.4s							
KHU	**Kahuku**	**0.33**	**226**	Pg		Pg	16 17 27.1	+0.1
KHU				IAML			16 17 32.7	
	comp=N,1μm,1.3s							
KHU				IAML			16 17 34.2	
	comp=E,1μm,1.4s							
HUH	**Hualalai**	**0.49**	**295**	Pg		Pg	16 17 31.2	+1.1
HUH				IAML			16 17 44.8	
	comp=E,540nm,1.3s							
HUH				IAML			16 17 44.9	
	comp=N,488nm,1.4s							

*IDC **13** 16:18:56.3±0.7,1.˚14N×127.˚08E,h0km,mb3.8/9,*
mbtmp3.9/10,ML4.4/1,MS3.2/15,Error ellipse:
s-maj=38.7km s-min=10.6km az=74.0
*DJA **13** 16:19:01.4±0.5,1.˚1N±3.˚×12.˚7E±.˚,h12km±4km,M4.4/13,*
mb4.7/6,mB4.7/3,MLv4.2/13,Mw(mB)4.0/3
*NEIC **13** 16:19:02.2±2.9,0.˚87N±0.˚10×126.˚76E±0.˚05,h35km±6km,*
mb4.3/20,Error ellipse: s-maj=14.4km s-min=7.2km
az=184.0
ISC 13 16:19:03.0±0.5,1.˚11N±0.˚05×126.˚92E±0.˚06,h35km,n68,
σ1.˚72/60,mb4.2/20,MS3.1/14,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
							h m s	ISC
TNTI	**Ternate**	**0.56**	**127**	Pn		**Pn**	**16 19 14.5**	**0.0**
TNTI				Sn		**Sn**	**16 19 20.8**	**-1.8**
TNTI	**Ternate**	**0.56**	**127**	P		**Pn**	**16 19 14.6**	**0.0**
TNTI				S		**Sn**	**16 19 23.1**	**+0.5**
LBMI	**Labuha**	**1.83**	**161**	P		**Pn**	**16 19 33.3**	**+1.3**
LBMI				S		**Sn**	**16 19 57.5**	**+3.5**
SGSI	**Sangihe**	**2.91**	**332**	P		**Pn**	**16 19 47.1**	**+0.3**
KMSI	**Cibinong**	**2.98**	**260**	P		**Pn**	**16 19 49.1**	**+1.3**
SANI	**Sanana**	**3.27**	**196**	P		**Pn**	**16 19 51.6**	**-0.2**
GTOI	**Gorontalo**	**3.93**	**263**	P		**Pn**	**16 20 03.6**	**+2.7**
LUWI	**Luwuk**	**4.66**	**243**	Pn		Pn	16 20 05.5	-5.4
SWI	**Sorong**	**4.77**	**114**	P		**Pn**	**16 20 13.1**	**+0.8**
TOLI2	**Tolitoli**	**6.13**	**270**	Pn		**Pn**	**16 20 29.1**	**-2.1**
FAKI	**Fak Fak**	**6.67**	**127**	P		**Pn**	**16 20 41.6**	**+3.1**
	39nm,0.9s,0.1nm							
BBSI	**Bau Bau**	**7.86**	**213**	P		**Pn**	**16 20 55.8**	**+0.9**
	158nm,1.1s,0.5nm							
TTSI	**Tana Toraja**	**8.21**	**240**	P		**Pn**	**16 20 59.9**	**+0.3**
	29nm,0.7s,499nm							
BKSI	**Bulukumba**	**9.32**	**227**	P		**Pn**	**16 21 16.5**	**+1.6**
	43nm,0.6s,689nm							
KAPI	**Kappang**	**9.39**	**230**	Pn		Pn	16 21 10.2	-5.7
KAPI	**Kappang**	**9.39**	**230**	Pn		**Pn**	**16 21 17.1**	**+1.2**
	3.7nm,0.3s,baz=46,slow=7.6,SNR=5.1							
KAPI				Sn		**Sn**	**16 22 57.8**	**-2.6**
	0.4nm,0.3s,baz=250,slow=14,SNR=1.2							
KAPI				LR		LR	16 25 29.1	
	comp=Z,87nm,21.7s,baz=39,slow=41							
	15nm,0.5s							
EDFI	**Ende, Flores**	**11.09**	**208**	P		**Pn**	**16 21 41.7**	**+2.4**
SBUM	**Sibu**	**14.75**	**275**	P		**Pn**	**16 22 33.5**	**+4.3**
MANU	**Manus Island**	**20.69**	**99**	P		**P**	**16 23 40.8**	**+0.6**
MANU				IAmb		IAmb	16 24 02.5	
	comp=Z,19nm,1.4s							
LEM	**Lembang**	**20.81**	**247**	LR		LR	16 31 59.2	
	comp=Z,170nm,19.4s,baz=24,slow=37							
GUMO	**Guam**	**21.67**	**54**	LR		LR	16 30 59.0	
	comp=Z,70nm,21.5s,baz=226,slow=34							
WB0	**Warramunga Arr**	**22.01**	**161**	P		**P**	**16 23 53.1**	**-1.3**
WB0				IAmb		IAmb	16 24 19.2	
	comp=Z,21nm,1.4s							
WRA	**Warramunga Arr**	**22.15**	**161**	P		**P**	**16 23 53.7**	**-2.3**
WRA	**Warramunga Arr**	**22.15**	**161**	P		**P**	**16 23 53.9**	**-2.0**
	comp=Z,1.6nm,0.4s,baz=340,slow=11,SNR=38							
WRA				S		**S**	**16 27 59.4**	**+1.2**
	comp=Z,0.5nm,0.9s,baz=341,slow=15,SNR=3.2							
	comp=Z,1.6nm,0.4s							
WB2	**Warramunga Arr**	**22.16**	**161**	P		**P**	**16 23 54.1**	**-1.8**
WB2				IAmb		IAmb	16 24 21.9	
	comp=Z,8.7nm,0.8s							
WR0	**Warramunga Arr**	**22.23**	**161**	P		**P**	**16 23 55.2**	**-1.7**
WR0				IAmb		IAmb	16 24 14.5	
	comp=Z,11nm,1.2s							
PMG	**Port Moresby**	**22.71**	**118**	LR		LR	16 33 13.3	
	comp=Z,104nm,22.0s,baz=292,slow=38							
YULB	**Yu-li**	**22.81**	**347**	P		**P**	**16 24 04.3**	**+1.4**
YULB				IAmb		IAmb	16 24 39.5	
	comp=Z,17nm,1.5s							
MBWA	**Marble Bar**	**23.22**	**197**	P		**P**	**16 24 04.2**	**-2.9**
AS31	**Alice Springs**	**25.55**	**165**	P		**P**	**16 24 27.1**	**-1.5**
ASAR	**Alice Springs**	**25.55**	**165**	P		**P**	**16 24 27.6**	**-1.1**
ASAR	**Alice Springs**	**25.55**	**165**	P		**P**	**16 24 27.1**	**-1.6**
	comp=Z,1.7nm,0.6s,baz=344,slow=9.2,SNR=28							
ASAR				S		**S**	**16 28 56.4**	**+2.2**
	comp=Z,2.7nm,1.0s,baz=351,slow=24,SNR=9.4							
	comp=Z,1.7nm,0.6s							
JOW	**Kunigami**	**25.61**	**3**	LR		LR	16 40 07.1	
	comp=Z,16nm,18.1s,baz=274,slow=50							
JCJ	**Chichijima**	**29.71**	**28**	LR		LR	16 34 17.3	
	comp=Z,39nm,20.6s,baz=124,slow=31							
BBOO	**Buckleboo**	**34.83**	**166**	P		**P**	**16 25 48.2**	**-2.5**
PZH	**PanZhiHua**	**34.98**	**318**	P		**P**	**16 25 54.5**	**+2.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
NWAO	**Narrogin (SRO)**	**35.07**	**194**	P		**P**	**16 25 50.5**	**-2.2**
STKA	**Stephens Creek**	**35.64**	**158**	P		**P**	**16 25 57.4**	**-0.3**
STKA	**Stephens Creek**	**35.64**	**158**	P		**P**	**16 25 57.0**	**-0.6**
	comp=Z,1.2nm,0.7s,baz=343,slow=12,SNR=2.9							
	comp=Z,1.2nm,0.7s							
KSRS	**Korea Array**	**36.18**	**1**	LR		LR	16 44 46.3	
	comp=Z,7.1nm,18.2s,baz=165,slow=43							
MJAR	**Matsushiro Arr**	**36.77**	**15**	LR		LR	16 39 31.1	
	comp=Z,29nm,20.8s,baz=198,slow=34							
HHC	**Hu-ho-hao-te**	**41.93**	**343**	*e*P		**P**	**16 26 52.9**	**+2.5**
HHC				pmax		pmax		
	comp=Z,140nm,5.4s							
USA0B	**Ussuriysk Arra**	**43.14**	**5**	P		**P**	**16 27 00.2**	**+0.1**
USA0B				IAmb		IAmb	16 27 15.9	
	comp=Z,6.4nm,1.3s							
USRK	**Ussuriysk Ar.**	**43.14**	**5**	P		P	16 26 58.0	-2.0
	comp=Z,0.7nm,0.7s,baz=177,slow=7.2,SNR=4.2							
	comp=Z,0.7nm,0.7s							
XLT	**XiLinHaoTe**	**43.68**	**349**	*e*P		**P**	**16 27 03.3**	**-1.3**
XLT				pP		pP	16 27 14.5	+0.1
XLT				sP		sP	16 27 23.9	+5.6
XLT				PcP		**PP**	**16 28 47.5**	**+0.8**
XLT				pmax		pmax		
	comp=Z,8.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,54nm,5.5s							
ASAJ	**Asahikawa**	**45.03**	**16**	LR		LR	16 43 48.4	
	comp=Z,38nm,20.4s,baz=168,slow=33							
KLR	**Kul'dur**	**48.12**	**4**	LR		LR	16 49 16.0	
	comp=Z,13nm,19.7s,baz=146,slow=38							
SONM	**Songino Array**	**49.83**	**342**	P		**P**	**16 27 52.9**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=134,slow=4.2,SNR=1.6							
	comp=Z,0.2nm,0.4s							
PETK	**Petropavlovsk-**	**57.78**	**21**	P		**P**	**16 28 49.0**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=201,slow=5.2,SNR=4.5							
PETK				LR		LR	16 52 35.8	
	comp=Z,12nm,20.9s,baz=168,slow=35							
	comp=Z,1.3nm,0.9s							
MK31	**Makanchi Array**	**59.81**	**326**	P		**P**	**16 29 03.1**	**-1.7**
MKAR	**Makanchi Array**	**59.81**	**326**	P		**P**	**16 29 03.2**	**-1.7**
MKAR	**Makanchi Array**	**59.81**	**326**	P		**P**	**16 29 03.3**	**-1.6**
	comp=Z,1.1nm,0.6s,baz=119,slow=7.4,SNR=12							
MKAR				LR		LR	16 55 27.1	
	comp=Z,38nm,21.8s,baz=50,slow=37							
	comp=Z,1.1nm,0.6s							
MAKZ	**Makanchi**	**59.99**	**326**	P		**P**	**16 29 04.7**	**-1.4**
MAKZ				IAmb		IAmb	16 29 21.9	
	comp=Z,4.2nm,1.3s							
AAK	**Ala-Archa**	**62.42**	**319**	LR		LR	16 59 00.9	
	comp=Z,16nm,19.2s,baz=124,slow=38							
KURBB	**Kurchatov Arra**	**64.04**	**328**	P		**P**	**16 29 31.2**	**-2.0**
	comp=Z,0.9nm,0.6s,baz=128,slow=6.0,SNR=8.6							
	comp=Z,0.9nm,0.6s							
KKAR	**Karatay Array**	**65.27**	**318**	P		**P**	**16 29 40.4**	**-1.0**
BVAR	**Borovoye Array**	**69.61**	**327**	P		**P**	**16 30 07.9**	**-0.7**
	comp=Z,1.0nm,0.5s,baz=94,slow=4.5,SNR=6.7							
	comp=Z,1.0nm,0.5s							
GEYT	**Allbeck**	**72.68**	**309**	LR		LR	17 07 07.0	
	comp=Z,29nm,18.2s,baz=276,slow=40							
ABKAR	**Akbulak array**	**74.29**	**321**	P		**P**	**16 30 35.5**	**-1.2**
L18K	**Granite Mounta**	**82.69**	**27**	P		**P**	**16 31 23.6**	**+0.8**
J18K	**Innoko River**	**82.93**	**26**	P		**P**	**16 31 25.2**	**+1.2**
J18K				IAmb		IAmb	16 31 40.1	
	comp=Z,3.2nm,1.1s							
KDAK	**Kodiak Island**	**83.99**	**32**	LR		LR	17 00 12.4	
	comp=Z,30nm,22.0s,baz=251,slow=30							
B20K	**Meade River**	**84.16**	**20**	P		**P**	**16 31 29.4**	**-0.8**
B21K	**Ikpikpuk River**	**84.95**	**20**	P		**P**	**16 31 33.0**	**-1.2**
B21K				IAmb		IAmb	16 32 02.4	
	comp=Z,4.9nm,1.4s							
C23K	**Itkillik River**	**86.36**	**20**	P		**P**	**16 31 40.3**	**-0.9**
H24K	**Noodor Dome**	**87.02**	**24**	P		**P**	**16 31 45.3**	**+0.7**
H24K				IAmb		IAmb	16 32 13.9	
	comp=Z,5.3nm,1.4s							
BMAR	**Burnt Mountain**	**88.41**	**23**	P		**P**	**16 31 50.6**	**-0.6**
BCAR	**Beaver Creek A**	**89.61**	**27**	P		**P**	**16 31 57.3**	**+0.4**

*AFAD **13** 16:22:17.6±0.0,42.˚40N×43.˚37E,h7km±2km,ML3.0*
*NORS **13** 16:22:18.4,42.˚47N×43.˚46E,h5km,MPVA3.9*
*MOS **13** 16:22:18.3,42.˚49N×43.˚37E,h5km,MPVA3.9*
ISC 13 16:22:16.6±1.1,42.˚43N±0.˚02×43.˚31E±0.˚03,h17km±10km,
n25,σ0.˚90/47,Western Caucasus

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

ARNR	**Ardon**	**1.04**	**43**	*e*Pg	**Pg**	**16 22 37.0**	**+0.2**
ARNR				*e*Sg	**Sn**	**16 22 50.8**	**+0.1**
NCK	**Nalchik**	**1.09**	**11**	*e*Pg	**Pn**	**16 22 37.2**	**0.0**
NCK				*e*Sg	**Sg**	**16 22 52.6**	**+0.6**
BTKR	**Batakoyurt**	**1.31**	**43**	*e*Pg	**Pg**	**16 22 43.2**	**+1.3**
BTKR				*e*Sg	**Sb**	**16 22 57.9**	**+0.4**
KBZ	**Khabaz**	**1.34**	**347**	*e*Pg	**Pg**	**16 22 42.4**	**0.0**
KBZ				*e*Sg	**Sg**	**16 22 59.5**	**-0.3**
AHAN	**Ardahan-Merkez**	**1.36**	**202**	P	**Pb**	**16 22 42.3**	**+0.5**
AHAN				S	**Sb**	**16 23 00.1**	**+1.2**
AHAN				*i* AML	AML	16 23 09.0	
	comp=E,183nm,1.2s						
KIV	**Kislovodsk**	**1.59**	**344**	*e*Pg	**Pg**	**16 22 47.8**	**+0.5**
KIV				*e*Sg	**Sg**	**16 23 08.5**	**+0.4**
PYA1	**Pyatigorsk**	**1.64**	**355**	*e*Pg	**Pg**	**16 22 47.9**	**-0.3**
PYA1				*e*Sg	**Sg**	**16 23 09.1**	**-0.5**
GOLE	**Ardahan-G¶le**	**1.67**	**199**	P	**Pn**	**16 22 46.4**	**+1.0**
DAGI	**Agillar**	**1.70**	**218**	P	**Pb**	**16 22 47.8**	**+0.2**
DAGI				S	**Sb**	**16 23 08.7**	**0.0**
EAK	**Akyaka**	**1.75**	**172**	P	**Pn**	**16 22 47.2**	**+0.9**
EAK				S	**Sn**	**16 23 08.8**	**+0.4**
BOZK	**Kars-Merkez-Bo**	**1.85**	**188**	P	**Pb**	**16 22 49.6**	**-0.5**
DBAD	**Bademkaya**	**1.85**	**221**	P	**Pb**	**16 22 49.8**	**-0.3**
DBAD				S	**Sb**	**16 23 12.1**	**-0.9**
DBAD				*i* AML	AML	16 23 23.0	
	comp=N,104nm,0.7s						
DBAD				*i* AML	AML	16 23 23.0	
	comp=E,136nm,0.5s						
DDEM	**Demirkent**	**1.92**	**218**	P	**Pb**	**16 22 51.6**	**+0.2**
DDEM				S	**Sb**	**16 23 16.1**	**+1.1**
DDEM				*i* AML	AML	16 23 27.0	
	comp=N,223nm,0.3s						
DDEM				*i* AML	AML	16 23 29.0	
	comp=E,134nm,0.3s						
BTLR	**Botlikh**	**2.17**	**83**	*e*Pg	**Pb**	**16 22 57.1**	**+1.6**
BTLR				*e*Sg	**Sb**	**16 23 23.5**	**+1.5**
GNI	**Garni**	**2.52**	**154**	*e*Pn	**Pg**	**16 23 04.3**	**-0.6**
GNI				*e*Sn	**Sg**	**16 23 37.6**	**0.0**
UNCR	**Uncukul**	**2.59**	**82**	*e*Pn	**Pb**	**16 23 02.4**	**-0.3**
UNCR				*e*Sn	**Sb**	**16 23 32.6**	**-1.6**
IZDR	**Rize**	**2.63**	**232**	P	**Pn**	**16 22 57.1**	**-1.3**
IZDR				S	**Sn**	**16 23 30.7**	**+0.8**
DBC	**Dubki**	**2.66**	**76**	*e*Pn	**Pb**	**16 23 03.6**	**-0.3**
DBC				*e*Sn	**Sb**	**16 23 35.1**	**-1.3**
GNBR	**Gunib**	**2.71**	**90**	*e*Pn	**Pb**	**16 23 03.5**	**-1.1**
GNBR				*e*Sn	**Sb**	**16 23 35.8**	**-1.8**
KRIK	**Erzurum-spir**	**2.75**	**221**	P	**Pb**	**16 23 03.1**	**-2.4**
GUZR	**Guzeripl'**	**2.81**	**305**	*e*Pn	**Pb**	**16 23 05.3**	**-1.0**
GUZR				*e*Sn	**Sb**	**16 23 41.9**	**+1.4**

*HVO **13** 16:27:55.4±1.0, 19°.349N±0°.005×155°.245W±0°.005, h-1km±7km, ML3.2/6, ML2.6/24(NEIC), Error ellipse: s-maj=0.9km s-min=0.5km az=148.0*
NEIC 13 16:27:56.1±0.9, 19°.376N±0°.010×155°.257W±0°.006, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.6km az=46.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.02**	**338**	Pg	Pg	16 27 56.6	-0.6
RIM	**Rim**	**0.03**	**320**	Pg	Pg	16 27 57.0	-0.3
BYL	**Byron's Ledge**	**0.04**	**356**	Pg	Pg	16 27 56.3	-1.0
BYL				IAML		16 27 58.0	
	comp=E,8μm,1.1s						
BYL				IAML		16 27 58.2	
	comp=N,6μm,1.3s						
SDHHI	**Sand Hill**	**0.04**	**291**		Pg	16 27 56.5	-0.8
PUH	**Pauahi**	**0.04**	**94**		Pg	16 27 56.8	-0.5
NPH	**North Pit**	**0.04**	**328**	Pg	Pg	16 27 57.1	-0.4
HATHI	**Halema'uma'u T**	**0.05**	**355**		Pg	16 27 57.3	-0.2
WRMHI	**West Rim**	**0.05**	**306**	Pg	Pg	16 27 57.2	-0.3
SBLHI	**Steaming Bluff**	**0.05**	**348**		Pg	16 27 56.6	-1.0
UWB	**Uwekahuna B**	**0.05**	**338**	Pg	Pg	16 27 56.7	-0.8
KNHH	**Kane Nui o Ham**	**0.08**	**88**		Pg	16 27 58.2	+0.2
RSD	**Rainshed**	**0.09**	**347**	Pg	Pg	16 27 57.6	-0.5
RSD				IAML		16 27 59.7	
	comp=N,2μm,1.0s						
HLP	**Hilina Pali**	**0.09**	**211**		Pg	16 27 58.1	-0.1
HLP				IAML		16 27 59.1	
	comp=N,4μm,1.2s						
HLP				IAML		16 27 59.2	
	comp=E,4μm,1.0s						
STCH	**Steam Cracks**	**0.12**	**86**		Pg	16 27 58.6	-0.1
NPOC	**North of Pu'u**	**0.14**	**83**	Pg	Pg	16 27 59.0	0.0
JCUZ	**Jacuzzi**	**0.15**	**87**		Pg	16 27 59.0	-0.1
MLH	**Mauna Loa**	**0.17**	**314**	IAML		16 27 59.8	
	comp=N,2μm,1.4s						
MLH				Pg	Pg	16 28 00.0	+0.5
MLH				IAML		16 28 00.1	
	comp=E,1μm,1.4s						
HTC	**Hot Caves**	**0.19**	**224**		Pg	16 28 00.1	+0.2
HMH	**Humu'ula Sheep**	**0.31**	**317**	Pg	Pg	16 28 01.9	-0.4
HMH				IAML		16 28 04.1	
	comp=E,690nm,1.0s						
MWH	**Moku'aweowe**	**0.34**	**289**	Pg	Pg	16 28 02.8	-0.1
MLOA	**Mauna Loa Obse**	**0.34**	**298**	Pg	Pg	16 28 03.2	+0.4
MLOA				IAML		16 28 12.9	
	comp=E,854nm,1.0s						
MLOA				IAML		16 28 15.0	
	comp=N,723nm,0.8s						
KHU	**Kahuku**	**0.36**	**249**		Pg	16 28 03.2	0.0
KHU				IAML		16 28 04.6	
	comp=E,595nm,1.5s						
KHU				IAML		16 28 14.9	
	comp=N,798nm,1.5s						
HUH	**Hualalai**	**0.63**	**299**		Pg	16 28 08.1	0.0

*DNK **13** 16:33:49.8±2.5, 79°.04N×2°.92E, h38km±51km, ML1.5*
FCIAR 13 16:33:51.0, 78.89N×4°.01E, h10km, station ZFI2 has station magnitude of 3.40, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.54**	**85**	*e*P	Pn	16 34 17.6	-0.8
KBS				*e*S	Sn	16 34 37.3	-1.0
KBS	**Kingsbay**	**1.54**	**85**	*i* P	Pn	16 34 18.1	-0.3
KBS				*i* S	Sn	16 34 36.5	-1.8
SPA0	**Spitsbergen Ar**	**2.57**	**100**	*e*P	Pn	16 34 33.1	+0.5
SPA0				*e*S	Sn	16 35 03.7	-0.1
NOR	**Nord**	**4.42**	**318**	*e*	Pn	16 34 47.4	-11
	baz=105,slow=16						
NOR				*i* P	Pb	16 34 50.0	-19
NOR				*i* S	Sn	16 35 34.8	-14
NOR				IAML		16 35 36.9	
	comp=Z,1.3nm,0.3s						
DAG	**Danmarks Havn**	**5.22**	**257**	*e*P	Pn	16 35 01.9	-6.9
DAG				*i* S	Sn	16 35 54.8	-14
DAG				IAML		16 36 01.1	
	comp=Z,3.0nm,0.3s						
DBG	**Daneborg**	**7.20**	**243**	*i* P	Pn	16 35 29.6	-6.5
DBG				*i* S	Sn	16 36 42.2	-16
DBG				IAML		16 36 50.0	
	comp=Z,1.9nm,0.4s						
ZFI2	**Zemlya Franca-**	**7.77**	**55**	*e*P	Pn	16 35 42.2	-1.7
ZFI2				*e*S	Sn	16 37 04.1	-7.7
	comp=Z,11nm,1.3s						
OMEGA	**Omega**	**7.79**	**55**	*e*P	Pn	16 35 42.4	-1.7
OMEGA				*e*S	Sn	16 37 03.8	-8.3
NEEM	**North Greenlan**	**11.03**	**290**	*i* P	Pn	16 36 17.4	-11
NEEM				*i*		16 38 10.2	
NEEM				IAML		16 38 13.2	
	comp=Z,0.8nm,0.3s						

*IDC **13** 16:37:32.0±1.4, 17°.95S×167°.78E, h0km, mb3.6/4, mbtmp3.6/5, ML3.1/1, MS3.6/2, Error ellipse: s-maj=47.5km s-min=25.4km az=130.0*
*NOU **13** 16:37:34.4, 17°.90S×167°.61E, h0km, MLv4.1/12, Vanuatu Islands*
ISC 13 16:37:35.6±1.0, 17°.86S±0°.09×167°.7E±0°.1, h23km, n15, σ1°.23/15, mb3.6/4, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.49**	**74**	P	**Pn**	**16 37 46.7**	**-0.5**
LIFNC	**LIFOU**	**2.93**	**188**	P	**Pn**	**16 38 21.8**	**+0.9**
MARNC	**Mare, Loyalty**	**3.62**	**175**	P	**Pn**	**16 38 30.6**	**+0.3**
KOUNC	**Koumac, New Ca**	**4.19**	**230**	P	**Pn**	**16 38 37.9**	**-0.2**
DZM	**Mont Dzumac**	**4.35**	**195**	P	**Pn**	**16 38 39.6**	**-0.9**
DZM	**Mont Dzumac**	**4.35**	**195**	Pn	**Pn**	**16 38 39.4**	**-1.1**
	1.1nm,0.3s,baz=90,slow=11,SNR=27						
DZM					Sn	**Sn**	**16 39 27.8**	**-2.8**
	9.7nm,0.3s,baz=166,slow=22,SNR=12						
	4.0nm,0.3s						
NOUC	**Port Laguerre**	**4.42**	**197**	P		**Pn**	**16 38 41.3**	**0.0**
ONTNC	**Ouen Toro**	**4.58**	**195**	P		**Pn**	**16 38 44.4**	**+0.9**
OUENC	**Ouen Island, N**	**4.61**	**190**	P		**Pn**	**16 38 46.0**	**+2.1**
PINNC	**Pines Island,**	**4.73**	**183**	P		**Pn**	**16 38 46.6**	**+1.0**
RPZ	**Rata Peaks**	**25.93**	**174**	LR		LR	16 52 03.6	
	comp=Z,182nm,21.1s,baz=134,slow=34						
WRA	**Warramunga Arr**	**31.60**	**261**	P		**P**	**16 43 57.4**	**+0.4**
	0.7nm,1.0s,baz=90,slow=9.5,SNR=1.8						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**32.07**	**254**	P		**P**	**16 44 01.5**	**+0.4**
	0.6nm,0.7s,baz=82,slow=8.2,SNR=19						
ASAR				LR		LR	16 56 27.4	
	comp=Z,63nm,18.6s,baz=73,slow=35						
	0.6nm,0.7s						
NVAR	**Mina Array Bea**	**89.00**	**49**	P		**P**	**16 50 29.9**	**+0.8**
	0.5nm,0.8s,baz=225,slow=7.3,SNR=3.6						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**89.36**	**18**	P		**P**	**16 50 29.6**	**-0.3**
	0.2nm,0.6s,baz=235,slow=4.8,SNR=5.2						
	0.2nm,0.6s						

*JMA **13** 16:51:55.6±0.1, 22°.8N±0°.7×122°.0E±0°.5, h42km, MV3.1/17, TAIWAN REGION*
*TAP **13** 16:51:56.1, 22°.72N×121°.94E, h35km, ML2.8, C*
ISC 13 16:51:54.5±1.2, 22°.73N±0°.02×121°.99E±0°.03, h23km±13km, n105, σ0°.88/177, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDUT	**Ludao**	**0.48**	**263**	P	**Pb**	**16 52 05.2**	**+0.8**
	baz=273						
LDUT				*e*S	**Sb**	**16 52 11.2**	**+0.1**
	baz=273						
EDH	**Donghe**	**0.68**	**291**	P	**Pb**	**16 52 08.0**	**+0.4**
	baz=294						
EDH				S	**Sb**	**16 52 16.4**	**-0.2**
	baz=294						
CHKT	**Chengkung**	**0.68**	**303**	⇓ *i* P	**Pb**	**16 52 07.8**	**0.0**
	baz=306						
CHKT				S	**Sb**	**16 52 16.0**	**-0.8**
	baz=306						
CHKH	**Chenggong**	**0.71**	**310**	*i* P	**Pb**	**16 52 08.2**	**0.0**
	baz=314						
CHKH				*e*S	**Sb**	**16 52 17.1**	**-0.6**
	baz=314						
ECBN	**Changbin**	**0.77**	**320**	*i* P	**Pb**	**16 52 09.1**	**-0.1**
	baz=323						
ECBN				*e*S	**Sb**	**16 52 19.1**	**-0.1**
	baz=323						
TTN	**Taitung**	**0.78**	**272**	S	**Sb**	**16 52 19.4**	**-0.2**
	baz=279						
ECS	**Chishang**	**0.80**	**297**	*i* P	**Pb**	**16 52 10.1**	**+0.4**
	baz=300						
ECS				S	**Sb**	**16 52 21.1**	**+0.9**
	baz=300						
LAY	**Lan-yu**	**0.80**	**211**	P	**Pb**	**16 52 09.4**	**-0.4**
	baz=207						
LAY				*e*S	**Sb**	**16 52 18.3**	**-1.9**
	baz=207						
LONT	**Longtian**	**0.81**	**283**	*e*P	**Pn**	**16 52 10.7**	**+0.2**
	baz=285						
LONT				*e*S	**Sb**	**16 52 21.4**	**+0.8**
	baz=285						
LYUB	**Lan-yu**	**0.82**	**207**	⇑ *i* P	**Pb**	**16 52 09.5**	**-0.6**
	baz=213						
LYUB				*e*S	**Sb**	**16 52 18.9**	**-1.8**
	baz=213						
EHD	**Haiduan**	**0.83**	**300**	*e*P	**Pb**	**16 52 10.4**	**0.0**
	baz=303						
EHD				*e*S	**Sb**	**16 52 20.5**	**-0.7**
	baz=303						
TWGBT	**Beinan**	**0.84**	**276**	*e*P	**Pb**	**16 52 10.7**	**+0.2**
	baz=283						
TWGBT				*e*S	**Sb**	**16 52 21.3**	**-0.2**
	baz=283						
TWG	**Pinlang**	**0.85**	**276**	P	**Pb**	**16 52 11.0**	**+0.4**
	baz=283						
TWG				*e*S	**Sb**	**16 52 20.9**	**-0.8**
	baz=283						
EYUL	**Yuli**	**0.87**	**315**	P	**Pb**	**16 52 11.0**	**0.0**
	baz=323						
TWF1	**Yuli**	**0.89**	**314**	P	**Pb**	**16 52 11.0**	**-0.3**
	baz=326						
TWF1				*e*S	**Sb**	**16 52 22.3**	**-0.4**
	baz=326						
YULB	**Yu-li**	**0.92**	**316**	*i* P	**Pb**	**16 52 11.6**	**-0.2**
	baz=327						
YULB				S	**Sb**	**16 52 23.5**	**0.0**
	baz=327						
HGSD	**Ruisui**	**0.92**	**326**	P	**Pb**	**16 52 11.0**	**-0.8**
	baz=335						
HGSD				*e*S	**Sb**	**16 52 22.1**	**-1.5**
	baz=335						
EHYH	**Wanrong**	**0.96**	**322**	*e*P	**Pn**	**16 52 13.2**	**+0.6**
	baz=325						
EHYH				*e*S	**Sb**	**16 52 25.3**	**+0.4**
	baz=325						
ECL	**Taimali**	**0.97**	**262**	P	**Pb**	**16 52 12.2**	**-0.4**
	baz=276						
ECL				S	**Sb**	**16 52 23.5**	**-1.5**
	baz=276						
EHY	**Hungye**	**0.99**	**322**	*e*P	**Pb**	**16 52 12.5**	**-0.4**
	baz=329						
EHY				*e*S	**Sb**	**16 52 24.9**	**-0.6**
	baz=329						
ELDTW	**Lidau**	**1.01**	**297**	⇓ *i* P	**Pb**	**16 52 12.6**	**-0.7**
	baz=300						
ELDTW				*e*S	**Sb**	**16 52 24.4**	**-1.8**
	baz=300						
EGFH	**Guangfu**	**1.07**	**331**	*e*P	**Pn**	**16 52 13.6**	**-0.4**
	baz=339						
TAW	**Tawu**	**1.08**	**250**	*e*P	**Pn**	**16 52 13.9**	**-0.3**
	baz=259						
TAWH	**Dawu Township**	**1.09**	**249**	*e*P	**Pn**	**16 52 14.2**	**-0.2**
	baz=259						
EAST	**Anshuo**	**1.11**	**252**	*e*P	**Pn**	**16 52 14.5**	**-0.1**
	baz=261						
SHUL	**Shoufeng**	**1.12**	**340**	*e*P	**Pn**	**16 52 14.6**	**-0.2**
	baz=342						
SHUL				*e*S	**Sb**	**16 52 28.5**	**-0.9**
	baz=342						
WARBT	**Fenglin Townsh**	**1.13**	**331**	P	**Pn**	**16 52 14.6**	**-0.3**
	baz=340						
WARBT				*e*S	**Sb**	**16 52 28.3**	**-1.3**
	baz=340						
TEYL	**Yanliau Villag**	**1.19**	**342**	*e*P	**Pn**	**16 52 15.4**	**-0.2**
	baz=345						
TEYL				*e*S	**Sn**	**16 52 30.6**	**-0.5**
	baz=345						
ESL	**Shilin**	**1.19**	**335**	*e*P	**Pn**	**16 52 15.4**	**-0.4**
	baz=346						
ESL				*e*S	**Sn**	**16 52 29.4**	**-1.8**
	baz=346						
STYH	**Taoyuan**	**1.20**	**292**	P	**Pn**	**16 52 16.2**	**+0.3**
	baz=297						
STYH				*e*S	**Sn**	**16 52 30.4**	**-1.1**
	baz=297						
SLIU	**Shizi**	**1.22**	**245**	P	**Pn**	**16 52 16.2**	**+0.1**
	baz=245						
STYT	**Tauyuan**	**1.22**	**291**	*i* P	**Pn**	**16 52 16.5**	**+0.3**
	baz=297						
STYT				S	**Sn**	**16 52 31.0**	**-0.9**
	baz=297						
SSD	**Sandimen**	**1.25**	**271**	*e*P	**Pn**	**16 52 16.4**	**-0.2**
	baz=272						
MASBT	**Mashibuluo**	**1.26**	**265**	P	**Pn**	**16 52 16.8**	**+0.2**
	baz=266						
SLGT	**Liugui**	**1.27**	**282**	*e*P	**Pn**	**16 52 17.4**	**+0.6**
	baz=285						
SLGT				*e*S	**Sn**	**16 52 32.5**	**-0.6**
	baz=285						
VWDT	**VWDT**	**1.28**	**323**	P	**Pn**	**16 52 17.5**	**+0.5**
	baz=332						
VWDT				*e*S	**Sn**	**16 52 32.9**	**-0.6**
	baz=332						
ETM	**Tongmen**	**1.31**	**340**	*e*P	**Pn**	**16 52 17.5**	**+0.1**
	baz=350						
ETM				*e*S	**Sn**	**16 52 32.6**	**-1.6**
	baz=350						
SCZT	**Fangliau**	**1.32**	**254**	*e*P	**Pn**	**16 52 17.7**	**+0.2**
	baz=254						
ALS	**Alishan**	**1.34**	**306**	P	**Pb**	**16 52 19.0**	**-0.1**
	baz=308						
ALS				*e*S	**Sn**	**16 52 35.4**	**+0.1**
	baz=308						
SGST	**Jiashian**	**1.34**	**285**	*e*P	**Pn**	**16 52 18.4**	**+0.5**
	baz=292						
TWKBT	**Hengchun**	**1.34**	**234**	*e*P	**Pn**	**16 52 18.3**	**+0.4**
	baz=233						
TWKBT				*e*S	**Sn**	**16 52 34.6**	**-0.4**
	baz=233						
TWK1	**Hengchun**	**1.35**	**235**	*e*P	**Pn**	**16 52 18.5**	**+0.6**
	baz=233						
TWK1				*e*S	**Sn**	**16 52 34.6**	**-0.5**
	baz=233						
HEN	**Hengchun**	**1.37**	**238**	*e*P	**Pb**	**16 52 19.4**	**0.0**
	baz=230						
HEN				*e*S	**Sn**	**16 52 34.8**	**-0.7**
	baz=230						
WTP	**Ta-pu**	**1.37**	**292**	*e*P	**Pb**	**16 52 19.7**	**+0.3**
	baz=303						
WTP				*e*S	**Sb**	**16 52 37.4**	**+0.9**
	baz=303						
TPUB	**Ta-pu**	**1.38**	**295**	P	**Pb**	**16 52 19.8**	**+0.2**
	baz=304						
TPUB				S	**Sb**	**16 52 37.2**	**+0.5**
	baz=304						
LXIB	**Xiulin Townshi**	**1.39**	**338**	P	**Pn**	**16 52 18.4**	**-0.2**
	baz=349						
LXIB				*e*S	**Sn**	**16 52 34.4**	**-2.0**
	baz=349						
SCST	**Cishan**	**1.39**	**277**	*e*P	**Pb**	**16 52 20.4**	**+0.6**
	baz=272						
TWD	**Chiawan**	**1.39**	**345**	*e*P	**Pn**	**16 52 18.1**	**-0.4**
	baz=347						
TWD				*e*S	**Sn**	**16 52 34.5**	**-1.6**
	baz=347						
SSLB	**Suanglung**	**1.42**	**318**	P	**Pn**	**16 52 19.5**	**+0.6**
	baz=320						
SSLB				*e*S	**Sn**	**16 52 36.6**	**-0.3**
	baz=320						
WHYT	**Xinyi Township**	**1.42**	**313**	*e*P	**Pb**	**16 52 20.1**	**-0.2**
	baz=321						
CHN1	**Nanshi**	**1.42**	**289**	P	**Pb**	**16 52 20.9**	**+0.5**
	baz=298						
CHN1				S	**Sb**	**16 52 38.9**	**+0.8**
	baz=298						
CHN4	**Tsaushan**	**1.43**	**296**	*e*P	**Pb**	**16 52 20.9**	**+0.5**
	baz=305						
CHN4				*e*S	**Sb**	**16 52 39.4**	**+1.2**
	baz=305						
OWD	**Renai**	**1.43**	**329**	P	**Pn**	**16 52 19.4**	**+0.3**
	baz=339						
OWD				*e*S	**Sn**	**16 52 35.5**	**-1.8**
	baz=339						
WCKO	**Fanlu**	**1.46**	**299**	*e*P	**Pb**	**16 52 20.5**	**-0.4**
	baz=301						
WCKO				*e*S	**Sb**	**16 52 39.3**	**+0.3**
	baz=301						
NACB	**Ninganchiao**	**1.48**	**346**	*e*P	**Pn**	**16 52 19.1**	**-0.7**
	baz=356						
NACB				*e*S	**Sn**	**16 52 36.7**	**-1.6**
	baz=356						
TWK	**Hsinying**	**1.48**	**291**	*e*P	**Pb**	**16 52 21.4**	**0.0**
	baz=300						
TWK				*e*S	**Sb**	**16 52 39.6**	**-0.3**
	baz=300						
WUSB	**Renai**	**1.49**	**328**	P	**Pn**	**16 52 20.6**	**+0.6**
	baz=338						
WUSB				*e*S	**Sn**	**16 52 37.5**	**-1.3**
	baz=338						
CHGB	**Renai**	**1.52**	**331**	P	**Pn**	**16 52 21.2**	**+0.7**
	baz=340						
CHGB				*e*S	**Sn**	**16 52 38.8**	**-0.9**
	baz=340						
SMLT	**Sun Moon Lake**	**1.52**	**319**	*e*P	**Pn**	**16 52 21.5**	**+1.1**
	baz=327						
SHHT	**Tainan City**	**1.54**	**281**	*e*S	**Sb**	**16 52 45.5**	**+4.0**
	baz=283						
TWP	**Hsiaoliuchiu**	**1.55**	**256**	*e*P	**Pb**	**16 52 24.5**	**+2.0**
	baz=256						
WHF	**Hehuan Shan**	**1.56**	**335**	*e*P	**Pn**	**16 52 21.1**	**-0.1**
	baz=348						
WHF				*e*S	**Sn**	**16 52 40.5**	**-0.4**
	baz=348						
TYC	**Yuchr**	**1.56**	**318**	*e*P	**Pb**	**16 52 22.3**	**-0.5**
	baz=325						
EAHA	**Aohua**	**1.61**	**352**	*e*S	**Sn**	**16 52 40.6**	**-0.8**
	baz=354						
WGK	**Gukeng**	**1.62**	**306**	P	**Pb**	**16 52 24.3**	**+0.6**
	baz=308						
WGK				*e*S	**Sb**	**16 52 45.1**	**+1.3**
	baz=308						
WDLH	**Douliu**	**1.64**	**306**	P	**Pb**	**16 52 24.5**	**+0.5**
	baz=307						
WDLH				*e*S	**Sb**	**16 52 45.7**	**+1.3**
	baz=307						
WCS	**Beigang Elemen**	**1.65**	**323**	*e*P	**Pn**	**16 52 23.1**	**+1.0**
	baz=333						
FUSS	**Fushou**	**1.66**	**336**	*e*P	**Pn**	**16 52 23.1**	**+0.7**
	baz=347						
FUSS				*e*S	**Sn**	**16 52 42.2**	**-0.9**
	baz=347						
WNT	**Mingjian**	**1.66**	**314**	P	**Pb**	**16 52 24.5**	**+0.2**
	baz=316						
WNT				*e*S	**Sb**	**16 52 45.6**	**+0.8**
	baz=316						
TWT	**Tachien**	**1.69**	**334**	*e*P	**Pn**	**16 52 24.0**	**+1.2**
	baz=345						
TWT				*e*S	**Sn**	**16 52 43.1**	**-0.7**
	baz=345						
TDCB	**Techi**	**1.70**	**333**	*e*P	**Pn**	**16 52 22.9**	**+0.1**
	baz=345						
TDCB				*e*S	**Sn**	**16 52 43.0**	**-0.9**
	baz=345						
ENA	**Nanau**	**1.70**	**352**	*e*P	**Pn**	**16 52 23.2**	**+0.4**
	baz=354						
ENA				*e*S	**Sn**	**16 52 43.0**	**-0.9**
	baz=354						
EWUT	**Wuta**	**1.72**	**354**	*e*P	**Pn**	**16 52 23.5**	**+0.6**
	baz=355						
EWUT				*e*S	**Sn**	**16 52 43.1**	**-1.1**
	baz=355						
NNSB	**Datong**	**1.78**	**342**	P	**Pn**	**16 52 24.5**	**+0.6**
	baz=343						
NNSB				*e*S	**Sn**	**16 52 44.8**	**-1.1**
	baz=343						
NNS	**Nan Shan**	**1.79**	**342**	*e*P	**Pn**	**16 52 24.2**	**+0.1**
	baz=343						
NNS				*e*S	**Sn**	**16 52 45.4**	**-0.9**
	baz=343						
WHP	**Taichung City**	**1.81**	**328**	*e*P	**Pb**	**16 52 27.6**	**+0.6**
	baz=335						
LATG	**Datong**	**1.84**	**347**	*e*P	**Pn**	**16 52 25.7**	**+0.8**
	baz=348						
LATG				*e*S	**Sn**	**16 52 47.2**	**-0.4**
	baz=348						
TWC	**Suao**	**1.87**	**356**	*e*P	**Pn**	**16 52 26.1**	**+1.0**
	baz=358						
TWC				*e*S	**Sn**	**16 52 48.3**	**+0.3**
	baz=358						
NDT	**Datong Townshi**	**1.91**	**347**	*e*P	**Pn**	**16 52 26.9**	**+1.2**
	baz=348						
JYNG	**Yonagunijimaku**	**1.92**	**27**	P	**Pn**	**16 52 26.8**	**+1.0**
JYNG				*e*S	**Sn**	**16 52 49.1**	**-0.1**
ENTT	**Nioudou**	**1.94**	**348**	*e*P	**Pn**	**16 52 26.9**	**+0.9**
	baz=350						
ENTT				*e*S	**Sn**	**16 52 48.7**	**-1.0**
	baz=350						
TWQ1	**Liyutan**	**1.96**	**325**	P	**Pb**	**16 52 29.1**	**-0.4**
	baz=338						
TWQ1

	baz=351							
FUSB					*e*S		**Sn**	**16 52 51.9 -0.7**
	baz=351							
NFF	**Wufeng Townshi**	**2.05**	**337**	*e*P			**Pb**	**16 52 30.6 -0.6**
	baz=346							
NFF					*e*S		**Sn**	**16 52 52.8 +0.2**
	baz=346							
NWLT	**Wulai**	**2.08**	**348**	*e*P			**Pn**	**16 52 29.0 +0.9**
	baz=349							
NWLT					*e*S		**Sn**	**16 52 52.8 -0.6**
	baz=349							
NSTT	**Nanjuang**	**2.10**	**335**	*e*P			**Pb**	**16 52 30.6 -1.3**
	baz=343							
NSTT					*e*S		**Sn**	**16 52 54.2 +0.6**
	baz=343							
LIOB	**Emei**	**2.10**	**335**	*e*P			**Pb**	**16 52 30.9 -1.1**
	baz=343							
LIOB					*e*S		**Sb**	**16 52 56.2 -1.5**
	baz=343							
HATJ	**Hateruma jima**	**2.12**	**51**	*e*P			**Pn**	**16 52 29.6 +1.0**
IRIF	**Iriomote-Funau**	**2.26**	**45**	*e*P			**Pn**	**16 52 31.7 +1.3**
SXI1	**Grass Mountain**	**2.35**	**357**	*e*P			**Pn**	**16 52 33.2 +1.4**
	baz=9.0							
PHUB	**P'eng-hu**	**2.36**	**290**	*e*P			**Pn**	**16 52 32.0 +0.3**
	baz=281							
PHUB					*e*S		**Sn**	**16 52 59.4 -0.7**
	baz=281							
JKRS	**Kuro-shima**	**2.38**	**51**	P			**Pn**	**16 52 33.3 +1.2**
VCHM	**Qimei**	**2.41**	**282**	*e*P			**Pn**	**16 52 33.8 +1.4**
	baz=283							
JIJ	**Ishigaki jima**	**2.56**	**50**	*e*P			**Pn**	**16 52 35.3 +0.8**
JISG	**Ishigakijimahi**	**2.82**	**49**	*e*P			**Pn**	**16 52 38.7 +0.6**
JISG					*e*S		**Sn**	**16 53 11.5 +0.2**
JTJ	**Tarama**	**3.13**	**52**	P			**Pn**	**16 52 43.5 +1.2**
JIRB	**Irabujima**	**3.58**	**54**	*e*P			**Pn**	**16 52 49.8 +1.1**
JMJ2	**Miyako jima3**	**3.65**	**56**	*e*P			**Pn**	**16 52 50.6 +1.0**
JOGS	**Gusukube**	**3.72**	**56**	*e*P			**Pn**	**16 52 51.7 +1.2**

BER ***13*** *16:53:44.8±2.3, 79.°63N×1.°71E, h10km, mb(Pn)2.9, Confirmed Earthquake*
DNK ***13*** *16:53:46.1±2.0, 79.°79N×2.°06E, h36km±40km, ML1.1*
ISC 13 16:53:41.9±2.2, 79.°5N±0.°3×1.°67E±0.°05, h10km, n7, σ1s82/15, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KBS	**Kingsbay**	**2.01**	**100**	*e*P		**Pn**	**16 54 16.6**	**+0.8**
KBS				*e*S		**Sn**	**16 54 39.9**	**-1.0**
KBS				IAML			16 54 43.2	
	comp=Z,3.7nm,0.4s							
KBS	**Kingsbay**	**2.01**	**100**	*i* P		**Pb**	**16 54 16.9**	**-1.5**
KBS				*e*S		**Sn**	**16 54 39.4**	**-1.5**
BRBB	**Barentsburg B**	**2.81**	**113**	*e*P		**Pb**	**16 54 31.1**	**-1.0**
BRBB				*i* P		**Pb**	**16 54 31.1**	**-1.0**
BRBB				*e*S		**Sn**	**16 55 01.9**	**+1.3**
SPA0	**Spitsbergen Ar**	**3.13**	**107**	*e*P		**Pn**	**16 54 33.2**	**+2.0**
SPA0				*e*S		**Sn**	**16 55 08.4**	**-0.2**
SPA0				IAML			16 55 09.3	
	comp=Z,4.4nm,1.1s							
DAG	**Danmarks Havn**	**4.97**	**248**	*e*P		**Pn**	**16 54 58.6**	**+2.2**
DAG				*e*S		**Sn**	**16 55 51.9**	**-1.8**
DAG	**Danmarks Havn**	**4.97**	**248**	*e*		**Pn**	**16 54 56.8**	**+0.4**
	baz=51,slow=16							
DAG				*i* P		Pb	16 54 58.6	-10
DAG				*e*S		**Sn**	**16 55 52.5**	**-1.2**
DAG				IAML			16 55 57.3	
	comp=Z,1.1nm,0.4s							
DBG	**Daneborg**	**7.12**	**235**	*i* P		**Pn**	**16 55 29.5**	**+3.6**
DBG				*i* S		**Sn**	**16 56 44.9**	**-1.8**
DBG				IAML			16 56 50.4	
	comp=Z,0.5nm,0.3s							

IDC ***13*** *16:55:22.9±3.0, 19.°98S×176.°00W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=155.3km s-min=44.8km az=147.0*
ISC 13 16:55:48.8±3.1, 20.°S±1.°×176.°6W±0.°7, h200km, n6, σ1s33/7, mb3.9/3, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**39.23**	**244**	P		**P**	**17 02 58.6**	**+0.7**
	0.8nm,0.5s,baz=71,slow=9.5,SNR=3.2							
	0.8nm,0.5s							
ASAR	**Alice Springs**	**45.96**	**256**	P		**P**	**17 03 52.0**	**-0.3**
	4.9nm,0.6s,baz=91,slow=8.2,SNR=147							
ASAR				PcP		**PcP**	**17 05 24.3**	**-1.4**
	0.6nm,0.5s,baz=108,slow=3.6,SNR=6.9							
	4.9nm,0.6s							
WRA	**Warramunga Arr**	**46.02**	**261**	P		**P**	**17 03 52.1**	**-0.5**
	2.6nm,0.6s,baz=97,slow=7.7,SNR=51							
	2.6nm,0.6s							
AKASG	**Malin Array Be**	**143.20**	**333**	PKP		**PKPdf**	**17 14 58.0**	**-0.9**
	1.5nm,0.5s,baz=39,slow=3.3,SNR=9.2							
BRTR	**Keskin Array B**	**147.48**	**314**	PKPbc		**PKPbc**	**17 15 10.6**	**+0.9**
	0.8nm,0.6s,baz=114,slow=3.6,SNR=5.8							
MMAI	**Mount Meron Ar**	**148.72**	**301**	PKPbc		**PKPbc**	**17 15 14.6**	**+1.7**
	1.3nm,0.4s,baz=62,slow=7.7,SNR=2.6							

IDC ***13*** *17:04:15.2±0.9, 6.°05S×143.°11E, h0km, mb4.1/8, mbtmp4.1/10, ML1.2/1, MS3.6/1, Error ellipse: s-maj=32.2km s-min=19.4km az=70.0*
ISC 13 17:04:20.0±0.7, 6.°41S±0.°08×142.°76E±0.°09, h35km, n12, σ2s12/14, mb4.1/8, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.28**	**125**	Pn		**Pn**	**17 05 36.7**	**+0.2**
	0.6nm,0.3s,baz=308,slow=12,SNR=1.8							
PMG				Sn		**Sn**	**17 06 35.7**	**-0.4**
	1.7nm,0.3s,baz=247,slow=15,SNR=1.5							
	8.5nm,0.7s							
WRA	**Warramunga Arr**	**15.75**	**211**	Pn		**P**	**17 08 00.9**	**-2.0**
	0.3nm,0.3s,baz=32,slow=13,SNR=24							
WRA				Sn		**Sn**	**17 10 50.1**	**-2.7**
	0.3nm,0.3s,baz=40,slow=22,SNR=5.2							
WRA				Lg		Lg	17 12 47.9	
	baz=35,slow=27							
ASAR	**Alice Springs**	**19.16**	**205**	P		**Pn**	**17 08 46.1**	**+4.5**
	4.4nm,0.7s,baz=33,slow=9.6,SNR=49							
ASAR				S		**S**	**17 12 13.9**	**-2.1**
	1.4nm,0.9s,baz=22,slow=28,SNR=4.6							
ASAR				Lg		Lg	17 14 35.6	
	baz=28,slow=26,SNR=2.2							
NWAO	**Narrogin (SRO)**	**35.49**	**219**	LR		LR	17 27 08.2	
	comp=Z,87nm,19.9s,baz=193,slow=38							
KSRS	**Korea Array**	**45.78**	**343**	P		**P**	**17 12 36.5**	**-1.7**
	1.1nm,0.7s,baz=164,slow=10.0,SNR=7.9							
	1.1nm,0.7s							
CMAR	**Chiang Mai Arr**	**49.77**	**301**	P		**P**	**17 13 11.3**	**+1.7**
	1.1nm,0.7s,baz=117,slow=6.3,SNR=11							
	1.1nm,0.7s							
SONM	**Songino Array**	**62.79**	**333**	P		**P**	**17 14 41.9**	**-0.2**
	0.3nm,0.4s,baz=157,slow=7.8,SNR=2.0							
	0.3nm,0.4s							
MKAR	**Makanchi Array**	**75.17**	**322**	P		**P**	**17 15 59.6**	**+0.7**
	1.7nm,0.6s,baz=106,slow=7.7,SNR=18							
	1.7nm,0.6s							
KURBB	**Kurchatov Arra**	**79.06**	**324**	P		**P**	**17 16 20.1**	**-0.5**
	0.8nm,0.6s,baz=118,slow=4.7,SNR=9.3							
	0.8nm,0.6s							
QSPA	**South Pole Qui**	**83.56**	**180**	P		**P**	**17 16 46.3**	**+1.8**
	2.0nm,1.0s,baz=292,slow=0.7,SNR=6.2							
	2.0nm,1.0s							
BVAR	**Borovoye Array**	**84.64**	**325**	P		**P**	**17 16 50.4**	**+0.5**
	6.3nm,0.8s,baz=112,slow=6.8,SNR=35							
	6.3nm,0.8s							
ILAR	**Eielson Array**	**87.53**	**24**	P		**P**	**17 17 02.0**	**-1.9**
	0.9nm,0.7s,baz=264,slow=4.7,SNR=10							
	0.9nm,0.7s							

VAO ***13*** *17:07:30.5±0.6, 22.°82S×67.°75W, h13km±5km, mb4.5*
IDC ***13*** *17:07:31.6±0.7, 22.°99S×67.°94W, h110km±8km, mb3.9/11, mbtmp4.3/15, MS3.4/1, Error ellipse: s-maj=16.8km s-min=13.4km az=127.0*
GUC ***13*** *17:07:31.8±0.9, 23.°08S×68.°17W, h132km±4km, ML4.2*
SJA ***13*** *17:07:31.9±1.8, 23.°07S×68.°09W, h100km, ML4.0, MW4.1*
NEIC ***13*** *17:07:32.3±1.2, 23.°08S±0.°06×68.°2W±0.°1, h123km±7km, mb4.5/8, Error ellipse: s-maj=15.7km s-min=8.9km az=93.0*
ISC 13 17:07:31.5±0.6, 23.°05S±0.°03×68.°08W±0.°04, h118km±5km, n147, σ1s78/194, mb4.3/13, 11C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AF01	**San Pedro de A**	**0.13**	**315**	Pn		**Pn**	**17 07 49.3**	**+1.0**
AF01	**San Pedro de A**	**0.13**	**315**	⇓*i*P		**Pn**	**17 07 49.4**	**+1.2**
AF01				*e*S		**Sn**	**17 08 02.6**	**+1.8**
AF01				IAML			17 08 03.6	
	comp=N,12μm,0.4s							
LVC	**Limon Verde**	**0.88**	**299**	*e*P		**Pn**	**17 07 54.7**	**+2.0**
LVC				*e*S		**Sn**	**17 08 10.2**	**+1.5**
LVC				IAML			17 08 15.1	
	comp=Z,1μm,1.2s							
LVC	**Limon Verde**	**0.88**	**299**	P		**Pn**	**17 07 53.5**	**+0.8**
	comp=Z,1μm,0.5s,baz=105,slow=6.3,SNR=1999							
LVC				S		**Sn**	**17 08 09.2**	**+0.5**
	comp=Z,1μm,0.4s,baz=108,slow=20,SNR=91							
LVC				LR		LR	17 08 10.1	
	comp=Z,92nm,20.7s,baz=154,slow=40							
LVC	**Limon Verde**	**0.88**	**299**	⇑*e*P		**Pn**	**17 07 53.1**	**+0.3**
LVC				*e*S		**Sn**	**17 08 09.3**	**+0.6**
LVC				IAML			17 08 10.9	
	comp=Z,17μm,0.4s							
LVC	**Limon Verde**	**0.88**	**299**	*e*P		**Pn**	**17 07 51.8**	**-1.0**
LVC				*e*S		**Sn**	**17 08 09.1**	**+0.4**
PB15	**IPOC Station P**	**1.29**	**263**			**Pn**	**17 07 57.3**	**+0.6**
PB15	**IPOC Station P**	**1.29**	**263**	*e*P		**Pn**	**17 07 55.6**	**-1.2**
PB15				*e*P		**Pn**	**17 07 57.3**	**+0.6**
PB15				*e*S		**Sn**	**17 08 16.9**	**+1.0**
PB15	**IPOC Station P**	**1.29**	**263**	⇑*i*P		**Pn**	**17 07 57.4**	**+0.6**
PB15				*e*S		**Sn**	**17 08 16.2**	**+0.4**
PB06	**IPOC Station P**	**1.42**	**283**			**Pn**	**17 07 58.6**	**+0.6**
PB06	**IPOC Station P**	**1.42**	**283**	*e*P		**Pn**	**17 07 55.6**	**-2.5**
PB06				*e*P		**Pn**	**17 07 58.7**	**+0.6**
PB06				*e*S		**Sn**	**17 08 18.9**	**+0.6**
PB06				IAML			17 08 20.1	
	comp=Z,2μm,0.3s							
PB06	**IPOC Station P**	**1.42**	**283**	⇑*i*P		**Pn**	**17 07 58.7**	**+0.6**
PB06				*e*S		**Sn**	**17 08 18.3**	**0.0**
PB06				IAML			17 08 20.8	
	comp=N,5μm,0.6s							
PB09	**IPOC Station P**	**1.65**	**319**			**Pn**	**17 08 02.0**	**+1.3**
PB09	**IPOC Station P**	**1.65**	**319**	*e*P		**Pn**	**17 08 02.1**	**+1.3**
PB09				*e*S		**Sn**	**17 08 25.8**	**+2.8**
PB09				IAML			17 08 28.0	
	comp=Z,933nm,0.7s							
PB09	**IPOC Station P**	**1.65**	**319**	⇓*i*P		**Pn**	**17 08 02.0**	**+1.3**
PB09				*e*S		**Sn**	**17 08 24.0**	**+1.0**
PB04	**IPOC Station P**	**2.04**	**290**	Pn		**Pn**	**17 08 05.5**	**-0.1**
PB04	**IPOC Station P**	**2.04**	**290**	*e*P		**Pn**	**17 08 05.7**	**+0.1**
PB04				*e*S		**Sn**	**17 08 31.9**	**+0.3**
PB04				IAML			17 08 41.7	
	comp=Z,1μm,0.6s							
PB04	**IPOC Station P**	**2.04**	**290**	⇑*i*P		**Pn**	**17 08 05.7**	**+0.1**
PB04				*e*S		**Sn**	**17 08 31.4**	**-0.3**
PB04				IAML			17 08 38.0	
	comp=N,2μm,0.4s							
PB07	**IPOC Station P**	**2.13**	**308**			**Pn**	**17 08 07.2**	**+0.5**
PB07	**IPOC Station P**	**2.13**	**308**	*e*P		**Pn**	**17 08 07.2**	**+0.5**
PB07				*e*S		**Sn**	**17 08 33.8**	**+0.2**
PB07				IAML			17 08 36.3	
	comp=Z,991nm,0.4s							
PB07	**IPOC Station P**	**2.13**	**308**	⇓*i*P		**Pn**	**17 08 07.2**	**+0.5**
PB07				*e*S		**Sn**	**17 08 33.6**	**0.0**
PB07				IAML			17 08 35.8	
	comp=E,1μm,0.4s							
PB10	**IPOC Station P**	**2.33**	**258**			**Pn**	**17 08 08.6**	**-0.4**
PB10	**IPOC Station P**	**2.33**	**258**	*e*P		**Pn**	**17 08 08.7**	**-0.3**
PB10				*e*S		**Sn**	**17 08 41.6**	**+3.8**
PB10				IAML			17 08 43.4	
	comp=Z,471nm,0.4s							
PB10	**IPOC Station P**	**2.33**	**258**	*i* P		**Pn**	**17 08 08.3**	**-0.7**
PB10				*i* S		**Sn**	**17 08 34.4**	**-3.3**
PB10				IAML			17 08 53.7	
	comp=N,769nm,0.5s							
PB01	**IPOC Station P**	**2.38**	**326**			**Pn**	**17 08 10.9**	**+0.9**
PB01	**IPOC Station P**	**2.38**	**326**	*e*P		**Pn**	**17 08 10.8**	**+0.9**
PB01				*e*S		**Sn**	**17 08 41.1**	**+1.8**
PB01				IAML			17 08 43.7	
	comp=Z,298nm,0.2s							
PB01	**IPOC Station P**	**2.38**	**326**	⇓*i*P		**Pn**	**17 08 10.8**	**+0.9**
PB01				*e*S		**Sn**	**17 08 39.2**	**-0.1**
PB01				IAML			17 08 45.8	
	comp=N,575nm,0.3s							
PB02	**IPOC Station P**	**2.41**	**315**			**Pn**	**17 08 10.6**	**+0.4**
PB02	**IPOC Station P**	**2.41**	**315**	*e*P		**Pn**	**17 08 10.7**	**+0.5**
PB02				*e*S		**Sn**	**17 08 41.1**	**+1.2**
PB02				IAML			17 08 49.1	
	comp=Z,1μm,0.4s							
PB02	**IPOC Station P**	**2.41**	**315**	⇑*i*P		**Pn**	**17 08 10.6**	**+0.4**
PB02				*e*S		**Sn**	**17 08 40.0**	**+0.2**
PB02				IAML			17 08 48.1	
	comp=E,1μm,0.5s							
HJA	**Humahuaca**	**2.46**	**94**	*e*P		Pn	17 08 01.5	-10
GO02	**Mina Guanaco**	**2.52**	**213**	Pn		**Pn**	**17 08 11.9**	**+0.1**
GO02	**Mina Guanaco**	**2.52**	**213**	*e*P		**Pn**	**17 08 12.0**	**+0.1**
GO02				*e*S		**Sn**	**17 08 42.8**	**0.0**
GO02				IAML			17 08 48.4	
	comp=Z,1μm,0.3s							
GO02	**Mina Guanaco**	**2.52**	**213**	⇑*i*P		**Pn**	**17 08 12.1**	**+0.2**
GO02				*e*S		**Sn**	**17 08 42.5**	**-0.3**
YJA	**Yavi**	**2.52**	**70**	*e*P		**Pn**	**17 08 15.5**	**+3.5**
PB14	**IPOC Station P**	**2.65**	**233**	Pn		**Pn**	**17 08 12.8**	**-0.7**
PB14	**IPOC Station P**	**2.65**	**233**	*e*P		**Pn**	**17 08 13.0**	**-0.5**
PB14				*e*S		**Sn**	**17 08 46.3**	**+0.6**
PB14				IAML			17 09 12.4	
	comp=Z,924nm,0.8s							
PB14	**IPOC Station P**	**2.65**	**233**	⇑*i*P		**Pn**	**17 08 12.7**	**-0.8**
PB14				*e*S		**Sn**	**17 08 43.4**	**-2.3**
PB14				IAML			17 08 54.8	
	comp=E,352nm,0.2s							
SLA	**San Lorenzo**	**2.89**	**126**	*e*P		**Pn**	**17 08 20.6**	**+4.2**
PATCX	**Punta Patache**	**2.94**	**319**			**Pn**	**17 08 17.8**	**+0.7**
PATCX	**Punta Patache**	**2.94**	**319**	*e*P		**Pn**	**17 08 17.5**	**+0.4**
PATCX				*e*S		Sn	17 08 42.1	-10
PATCX				IAML			17 08 51.7	
	comp=Z,367nm,0.4s							
PATCX	**Punta Patache**	**2.94**	**319**	*e*P		**Pn**	**17 08 17.1**	**+0.1**
PATCX				*e*S		**Sn**	**17 08 47.4**	**-4.6**
PATCX				IAML			17 08 55.7	
	comp=E,440nm,0.5s							
PB08	**IPOC Station P**	**3.06**	**341**			**Pn**	**17 08 20.8**	**+1.8**
PB08	**IPOC Station P**	**3.06**	**341**	*e*P		**Pn**	**17 08 20.7**	**+1.8**
PB08				*e*S		**Sn**	**17 08 54.6**	**-0.9**
PB08	**IPOC Station P**	**3.06**	**341**	*e*P		**Pn**	**17 08 20.5**	**+1.6**
PB08				*e*S		**Sn**	**17 08 56.6**	**+1.2**
PB08				IAML			17 09 03.8	
	comp=E,216nm,0.6s							
TA01	**Diego Aracena**	**3.15**	**321**			**Pn**	**17 08 19.8**	**0.0**
TA01	**Diego Aracena**	**3.15**	**321**	*e*P		**Pn**	**17 08 19.9**	**+0.1**
TA01				*e*S		Sn	17 08 46.1	-11
TA01				IAML			17 09 21.6	
	comp=Z,229nm,0.8s							
HMBC	**Humberstone**	**3.23**	**328**	Pn		**Pn**	**17 08 20.7**	**-0.2**
HMBC	**Humberstone**	**3.23**	**328**	*e*P		**Pn**	**17 08 20.5**	**-0.5**
HMBC				*e*S		Sn	17 08 45.2	-14
HMBC				IAML			17 08 56.6	
	comp=Z,296nm,0.5s							
GO01	**Chusmiza**	**3.52**	**343**			**Pn**	**17 08 26.1**	**+0.9**
GO01	**Chusmiza**	**3.52**	**343**	*e*P		**Pn**	**17 08 26.4**	**+1.3**
GO01				*e*S		Sn	17 08 55.4	-11
GO01				IAML			17 09 10.5	
	comp=Z,142nm,0.8s							
PB11	**IPOC Station P**	**3.58**	**335**	Pn		**Pn**	**17 08 25.5**	**-0.2**
PB11	**IPOC Station P**	**3.58**	**335**	*e*P		**Pn**	**17 08 25.5**	**-0.2**
PB11				*e*S		Sn	17 08 55.6	-12
PB11				IAML			17 09 44.5	
	comp=Z,180nm,1.1s							
AC01	**Pan de Azucar**	**3.85**	**216**	Pn		**Pn**	**17 08 27.2**	**-1.9**
AC01	**Pan de Azucar**	**3.85**	**216**	*e*P		**Pn**	**17 08 27.6**	**-1.5**
AC01				*e*S		**Sn**	**17 09 11.8**	**-1.8**
AC01				IAML			17 09 32.3	
	comp=Z,204nm,0.3s							
AC01	**Pan de Azucar**	**3.85**	**216**	*i* P		**Pn**	**17 08 27.7**	**-1.4**
AC01				*i* S		Sn	17 09 03.9	-10
AC02	**Maricunga**	**3.89**	**194**	Pn		**Pn**	**17 08 30.5**	**+0.4**
AC02	**Maricunga**	**3.89**	**194**	*e*P		**Pn**	**17 08 30.6**	**+0.5**
AC02				*e*S		Sn	17 09 26.6	+11
AC02				IAML			17 09 32.1	
	comp=Z,950nm,1.0s							
AHML	**Horco Molle**	**4.48**	**147**	*e*P		**Pn**	**17 08 35.6**	**-1.9**
AHML				*e*P			17 08 39.2	
AC06	**Mina Casimiro**	**4.76**	**205**	Pn		**Pn**	**17 08 38.5**	**-2.9**
PB12	**IPOC Station P**	**4.88**	**334**	Pn		**Pn**	**17 08 42.1**	**-1.0**
PB12	**IPOC Station P**	**4.88**	**334**	*e*P		**Pn**	**17 08 42.3**	**-0.8**
PB12				IAML			17 10 16.3	
	comp=Z,97nm,0.8s							
GO03	**Copiap**	**4.93**	**203**			**Pn**	**17 08 41.4**	**-2.2**
GO03	**Copiap**	**4.93**	**203**	*e*P		**Pn**	**17 08 41.7**	**-2.0**
GO03				*e*S		**Sn**	**17 09 36.9**	**-2.8**
GO03				IAML			17 09 51.5	
	comp=Z,158nm,0.3s							
AC04	**Llanos de Chal**	**5.81**	**207**	Pn		**Pn**	**17 08 51.2**	**-4.1**
AC05	**El Transito**	**6.10**	**198**	Pn		**Pn**	**17 08 57.0**	**-2.4**
LCO	**Las Campanas**	**6.39**	**201**	Pn		**Pn**	**17 08 59.9**	**-3.6**
LPAZ	**La Paz**	**6.72**	**360**	Pn		**Pn**	**17 09 09.8**	**+1.5**
LPAZ	**La Paz**	**6.72**	**360**	P		**Pn**	**17 09 09.6**	**+1.2**
	comp=Z,13nm,0.5s,baz=175,slow=8.1,SNR=49							
LPAZ	**La Paz**	**6.72**	**360**	*e*P		**Pn**	**17 09 06.1**	**-2.2**
LPAZ				*e*S		**Sn**	**17 10 21.9**	**-2.0**
CO05	**La Serena**	**7.41**	**202**	Pn		**Pn**	17 09 11.7	-5.2
GO04	**Tololo Observa**	**7.50**	**198**			**Pn**	17 09 13.4	-5.2
TICA	**Tres Isletas**	**7.75**	**117**	*e*P		**Pn**	**17 09 19.7**	**-1.9**
TICA				*e*S		**Sn**	**17 10 47.2**	**-0.5**
CO03	**El Pedregal**	**8.11**	**196**	Pn		**Pn**	**17 09 22.4**	**-4.1**
CO06	**Fray Jorge**	**8.23**	**202**	Pn		Pn	17 09 22.0	-6.1
CO02	**Combarbal**	**8.53**	**197**	Pn		Pn	17 09 27.1	-5.2
BBRB	**Robore, Bolivi**	**9.08**	**60**	*e*P		**Pn**	**17 09 36.7**	**-2.9**
BBRB				*e*S		**Sn**	**17 11 16.2**	**-4.0**
BBSD	**Serra de San D**	**9.12**	**52**	*e*P		**Pn**	**17 09 37.5**	**-2.8**
BBSD				*e*S		**Sn**	**17 11 15.7**	**-3.5**
SIV	**San Ignacio**	**9.63**	**44**	P		**Pn**	**17 09 44.5**	**-2.8**
	comp=Z,25nm,0.3s,baz=220,slow=6.5,SNR=61							
SIV				S		**Sn**	**17 11 28.8**	**-4.9**
	comp=Z,4.6nm,0.4s,baz=172,slow=18,SNR=2.6							
MURT	**Porto Murtinho**	**9.79**	**84**	*e*P		**Pn**	**17 09 47.6**	**-1.6**
MURT				*e*S		**Sn**	**17 11 34.1**	**-3.1**
VA03	**San Esteban**	**9.93**	**192**			**Pn**	**17 09 47.2**	**-3.9**
CPUP	**Villa Florida**	**10.30**	**111**	P		**Pn**	**17 09 55.8**	**-0.4**
	comp=Z,1.9nm,0.9s,baz=294,slow=12,SNR=3.8							
CPUP	**Villa Florida**	**10.30**	**111**	*e*P		**Pn**	**17 09 55.9**	**-0.3**
CPUP				*e*S		**Sn**	**17 11 49.2**	**-0.6**
MT02	**Curacav**	**10.53**	**194**	Pn		Pn	17 09 52.8	-6.3
BDQN	**Bodoquena, MS**	**10.84**	**78**	*e*P		**Pn**	**17 10 00.5**	**-3.0**
BDQN				*e*S		**Sn**	**17 11 59.8**	**-3.1**
MT09	**Talagante**	**10.99**	**193**	Pn		Pn	17 09 59.5	-6.1
BO04	**La Punta**	**11.13**	**191**	Pn		Pn	17 10 01.1	-6.1
MT01	**Popeta**	**11.13**	**194**	Pn		Pn	17 10 00.7	-6.6
PTLB	**Pontes e Lacer**	**11.33**	**50**	Pn		**Pn**	**17 10 07.9**	**-2.1**
PTLB	**Pontes e Lacer**	**11.33**	**50**	*e*P		**Pn**	**17 10 07.8**	**-2.1**
PTLB				*e*S		**Sn**	**17 12 10.6**	**-4.1**
BO01	**Tunca**	**11.61**	**192**	Pn		Pn	17 10 06.8	-6.7
AQDB	**Aquidauana**	**11.78**	**80**	Pn		**Pn**	**17 10 15.6**	**-0.4**
AQDB	**Aquidauana**	**11.78**	**80**	*e*P		**Pn**	**17 10 13.8**	**-2.1**
AQDB				*e*S		**Sn**	**17 12 23.1**	**-2.5**
AMBA	**Amambai (Brazi**	**12.06**	**92**	*e*P		**Pn**	**17 10 18.9**	**-0.7**
AMBA				*e*S		**Sn**	**17 12 30.7**	**-1.6**
PSAL	**Palomas, Salto**	**12.29**	**133**	*e*P		**Pn**	**17 10 23.7**	**+1.2**
PSAL				*e*S		**Sn**	**17 12 41.8**	**+4.0**
VILB	**Vilhena**	**12.52**	**38**	Pn		**Pn**	**17 10 24.3**	**-1.4**
VILB	**Vilhena**	**12.52**	**38**	*e*P		**Pn**	**17 10 23.9**	**-1.8**
VILB				*e*S		**Sn**	**17 12 40.4**	**-3.3**
RVDE	**Rio Verde (Bra**	**12.90**	**74**	*e*P		**Pn**	**17 10 29.3**	**-1.4**
RVDE				*e*S		**Sn**	**17 12 50.0**	**-2.8**
ETMB	**Extrema**	**13.28**	**8**	Pn		**Pn**	**17 10 32.4**	**-3.1**
ETMB	**Extrema**	**13.28**	**8**	*e*P		**Pn**	**17 10 32.5**	**-3.1**
ETMB				*e*S		**Sn**	**17 13 01.7**	**-0.2**
CRSM	**Crissiumal (Br**	**13.45**	**112**	*e*P		**Pn**	**17 10 38.3**	**+0.6**
CRSM				*e*S		**Sn**	**17 13 07.4**	**+1.5**
RODS	**Rosario do Sul**	**13.61**	**125**	*e*P		**P**	**17 10 41.9**	**-2.6**
RODS				*e*S		**Sn**	**17 13 12.7**	**+2.9**
SALV	**Santo Antonio**	**13.66**	**61**	*e*P		**Pn**	**17 10 40.2**	**-0.4**
SALV				*e*S		**Sn**	**17 13 08.4**	**-2.9**
ALGR	**Alto Alegre (B**	**14.70**	**116**	*e*P		**P**	**17 10 56.1**	**-0.6**

comp=Z,0.2nm,0.3s,baz=0.0,slow=1.7,SNR=3.6
SONM PKPab **PKPab 17 27 35.9 +1.2**
comp=Z,0.7nm,0.7s,baz=323,slow=5.3,SNR=4.3
CMAR Chiang Mai Arr 167.03 108 PKP **PKPdf 17 27 25.0 +0.9**
comp=Z,0.2nm,0.5s,baz=254,slow=2.5,SNR=2.4

CATAC ***13*** *17:10:38.9±1.9, 17°37'N×95°19'W, h83km±55km, MB5.5, mb5.1, ML5.6*
NEIC ***13*** *17:10:40.2±2.8, 16°97'N±0°01×95°12'W±0°05, h107km±8km, mb4.5/130, Md5.0/30(MEX), Error ellipse: s-maj=6.4km s-min=1.8km az=88.0*
IDC ***13*** *17:10:40.4±0.3, 17°11N×94°88W, h108km±4km, mb3.9/19, mbtmp4.3/21, MS3.4/4, Error ellipse: s-maj=15.4km s-min=9.1km az=56.0*
MEX ***13*** *17:10:41.2±1.4, 16°98N×95°12W, h104km±8km, MD5.0*
GCG ***13*** *17:10:46.4±3.1, 17°48N×94°36W, h50km±999km, MD4.9*
ISC 13 17:10:39.7±0.6, 17°06N±0°03×95°11W±0°03, h109km±6km, n438,σ1s58/458, mb4.5/60, 21C-12D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.22**	**81**	P		**Pn**	**17 10 55.6**	**+0.6**
	5μm,0.3s,baz=311,slow=19							
CMIG				S		**Sn**	**17 11 06.7**	**+0.2**
	10μm,0.4s,baz=0.0,slow=20,SNR=40							
CMIG	**Matias Romero**	**0.22**	**81**	↓*i*	*P*	**Pn**	**17 10 55.6**	**+0.6**
CMIG				*i*	S	**Sn**	**17 11 06.7**	**+0.2**
NEUV	**Arroyo Zacate**	**0.93**	**315**	↓*i*	*P*	**Pn**	**17 11 00.0**	**0.0**
NEUV				*i*	S	**Sn**	**17 11 14.5**	**-0.9**
MIHL	**Minatitlan**	**1.07**	**30**	*e*	*P*	**Pn**	**17 11 02.6**	**+1.1**
MIHL				*e*	S	**Sn**	**17 11 19.6**	**+1.5**
TUIG	**Tuzandepetl**	**1.17**	**34**	*i*	*P*	**Pn**	**17 11 03.5**	**+0.9**
TUIG				*e*	S	**Sn**	**17 11 20.8**	**+0.8**
CARR	**Arriaga**	**1.40**	**125**	*i*	*P*	**Pn**	**17 11 05.9**	**+0.6**
CARR				*i*	S	**Sn**	**17 11 24.0**	**-0.6**
PMUV	**Sontecomapan**	**1.48**	**360**	↓*i*	*P*	**Pn**	**17 11 06.3**	**0.0**
PMUV				*i*	S	**Sn**	**17 11 25.8**	**-0.7**
OXLC	**Oaxaca**	**1.52**	**270**	*i*	*P*	**Pn**	**17 11 07.9**	**+1.0**
OXLC				*i*	S	**Sn**	**17 11 28.4**	**+0.8**
OXBJ	**Oaxaca**	**1.54**	**271**			**Pn**	**17 11 08.0**	**+0.8**
OXBJ						**Sn**	**17 11 28.9**	**+0.9**
OXBJ	**Oaxaca**	**1.54**	**271**	*i*	*P*	**Pn**	**17 11 08.0**	**+0.8**
OXBJ				*i*	S	**Sn**	**17 11 28.9**	**+0.9**
VHO	**Vista Hermosa**	**1.55**	**271**	↑*i*	*P*	**Pn**	**17 11 08.2**	**+1.0**
VHO				*e*	S	**Sn**	**17 11 27.9**	**-0.3**
VHO				*i*	S		17 11 28.6	
HUIG	**Huatulco**	**1.60**	**217**			**Pn**	**17 11 06.1**	**-1.5**
HUIG						**Sn**	**17 11 27.4**	**-1.5**
HUIG	**Huatulco**	**1.60**	**217**	↑*i*	*P*	**Pn**	**17 11 06.1**	**-1.5**
HUIG				*i*	S	**Sn**	**17 11 27.4**	**-1.5**
TGIG		**1.92**	**98**			**Pn**	**17 11 12.3**	**+0.6**
TGIG						**Sn**	**17 11 35.3**	**-0.9**
TGIG		**1.92**	**98**	↑*i*	*P*	**Pn**	**17 11 12.3**	**+0.6**
TGIG				*i*	S	**Sn**	**17 11 35.3**	**-0.9**
TGBT	**Tuxtla Gutierr**	**1.96**	**98**			**Pn**	**17 11 12.8**	**+0.8**
TGBT						**Sn**	**17 11 36.3**	**-0.4**
TGBT	**Tuxtla Gutierr**	**1.96**	**98**	*i*	*P*	**Pn**	**17 11 12.8**	**+0.8**
TGBT				*i*	S	**Sn**	**17 11 36.3**	**-0.4**
TOIG	**Toxpalan**	**2.13**	**299**			**Pn**	**17 11 15.4**	**+1.0**
TOIG						**Sn**	**17 11 40.8**	**-0.1**
TOIG	**Toxpalan**	**2.13**	**299**	↓*i*	*P*	**Pn**	**17 11 15.4**	**+1.0**
TOIG				*i*	S	**Sn**	**17 11 40.8**	**-0.1**
PEIG	**Puerto Escondi**	**2.22**	**242**			**Pn**	**17 11 13.6**	**-1.9**
PEIG						**Sn**	**17 11 40.6**	**-2.3**
PEIG	**Puerto Escondi**	**2.22**	**242**	↑*i*	*P*	**Pn**	**17 11 13.6**	**-1.9**
PEIG				*i*	S	**Sn**	**17 11 40.6**	**-2.3**
PCIG		**2.26**	**126**	↑*i*	*P*	**Pn**	**17 11 16.6**	**+0.6**
PCIG				*e*	S	**Sn**	**17 11 43.6**	**-0.1**
VHSA	**Villahermosa**	**2.27**	**66**	*i*	*P*	**Pn**	**17 11 16.9**	**+0.9**
VHSA				*i*	S	**Sn**	**17 11 44.8**	**+0.9**
YOIG	**Yosondua**	**2.34**	**265**	↑*i*	*P*	**Pn**	**17 11 17.2**	**0.0**
YOIG				*e*	S	**Sn**	**17 11 44.9**	**-1.1**
TPIG	**Tehuac#an**	**2.54**	**303**	↓*e*	*P*	**Pn**	**17 11 20.9**	**+1.2**
TPIG				*e*	S	**Sn**	**17 11 49.9**	**-0.5**
TXIG	**Tlaxiaco**	**2.55**	**275**	↑*i*	*P*	**Pn**	**17 11 20.8**	**+0.8**
TXIG				*e*	S	**Sn**	**17 11 49.2**	**-1.7**
HLIG	**Huajuapan de L**	**2.68**	**287**	↑*i*	*P*	**Pn**	**17 11 22.9**	**+1.2**
HLIG				*e*	S	**Sn**	**17 11 51.9**	**-2.0**
JAUV	**Jalcomulco**	**2.80**	**325**	↓*i*	*P*	**Pn**	**17 11 22.4**	**-0.6**
JAUV				*i*	S	**Sn**	**17 11 54.1**	**-2.4**
LVIG	**Laguna Verde**	**2.93**	**335**	↓*i*	*P*	**Pn**	**17 11 23.3**	**-1.4**
LVIG				*e*	S	**Sn**	**17 11 55.0**	**-4.3**
CCIG	**Comitan**	**2.95**	**105**			**Pn**	**17 11 25.9**	**+0.7**
CCIG				Sn		**Sn**	**17 12 01.4**	**+1.4**
CCIG	**Comitan**	**2.95**	**105**	↑*i*	*P*	**Pn**	**17 11 26.2**	**+1.0**
CCIG				*e*	S	**Sn**	**17 12 00.8**	**+0.6**
CCIG	**Comitan**	**2.95**	**105**	*i*	*P*	**Pn**	**17 11 26.2**	**+1.0**
CCIG				*i*	S	**Sn**	**17 12 02.5**	**+2.3**
CCIG				IAML			17 12 07.3	
	comp=Z,7μm,1.0s							
PNIG	**Pinotepa**	**2.96**	**258**	↑*i*	*P*	**Pn**	**17 11 23.8**	**-1.4**
PNIG				*e*	S	**Sn**	**17 11 57.3**	**-3.0**
FTIG	**Fresnillo de T**	**3.01**	**287**	↑*i*	*P*	**Pn**	**17 11 27.1**	**+1.2**
FTIG				*e*	S	**Sn**	**17 11 58.2**	**-3.2**
TLIG	**Tlapa**	**3.34**	**279**	*i*	*Pn*	**Pn**	**17 11 31.1**	**+0.9**
TLIG	**Tlapa**	**3.34**	**279**	↑*i*	*P*	**Pn**	**17 11 31.2**	**+0.9**
TLIG				*e*	S	**Sn**	**17 12 07.0**	**-2.4**
PATR	**El Naranjo**	**3.37**	**125**	*e*	*P*	**Pn**	**17 11 31.4**	**+0.6**
PATR				*e*	S	**Sn**	**17 12 10.4**	**0.0**
HMTT	**Tlapaneco**	**3.37**	**283**	*e*	*P*	**Pn**	**17 11 31.8**	**+1.1**
HMTT				*e*	S	**Sn**	**17 12 06.0**	**-4.2**
PAVE	**Pavencul**	**3.38**	**123**	*e*	*P*	**Pn**	**17 11 31.8**	**+0.9**
PAVE				*e*	S	**Sn**	**17 12 11.5**	**+1.2**
THIG		**3.47**	**128**	*i*	*P*	**Pn**	**17 11 33.5**	**+1.6**
THIG				*e*	S	**Sn**	**17 12 11.7**	**-0.7**
CHUJ	**Union Juarez**	**3.48**	**124**	*e*	*P*	**Pn**	**17 11 33.0**	**+0.7**
CHUJ				*e*	S	**Sn**	**17 12 13.9**	**+0.9**
PHPU	**Puebla**	**3.52**	**305**	*e*	*P*	**Pn**	**17 11 35.5**	**+2.7**
PHPU				*e*	S	**Sn**	**17 12 13.5**	**-0.3**
SMSP	**San Marcos**	**3.81**	**122**	*e*	*P*	**Pn**	**17 11 38.4**	**+1.6**
SMSP				*e*	S	**Sn**	**17 12 22.1**	**+1.1**
SMSP	**San Marcos**	**3.81**	**122**	*i*	*P*	**Pn**	**17 11 38.9**	**+2.1**
SMSP				IAML			17 12 28.9	
	comp=Z,7μm,1.0s							
CRIG	**Cruz Grande**	**3.86**	**266**	↑*i*	*P*	**Pn**	**17 11 35.9**	**-1.3**
CRIG				*e*	S	**Sn**	**17 12 16.8**	**-4.9**
HUEH	**Huehuetenango**	**3.87**	**116**			**Pn**	**17 11 37.3**	**-0.2**
HUEH	**Huehuetenango**	**3.87**	**116**	*e*	*P*	**Pn**	**17 11 37.8**	**+0.2**
HUEH				*e*	S	**Sn**	**17 12 20.4**	**-1.9**
HUEH	**Huehuetenango**	**3.87**	**116**	*i*	*P*	**Pn**	**17 11 38.0**	**+0.5**
HUEH				IAML			17 12 35.8	
	comp=Z,13μm,1.0s							
PPM	**Popocatepetl**	**3.90**	**301**	↓*i*	*P*	**Pn**	**17 11 41.1**	**+3.0**
PPM				*e*	S	**Sn**	**17 12 25.4**	**+2.2**
STG3	**Santiaguito 3,**	**4.13**	**124**	*i*	*P*	**Pn**	**17 11 43.2**	**+2.2**
RTAL	**Retalhuleu**	**4.14**	**127**	*Pn*		**Pn**	**17 11 42.2**	**+1.2**
RTAL	**Retalhuleu**	**4.14**	**127**	*e*	*P*	**Pn**	**17 11 42.6**	**+1.7**
RTAL				*e*	S	**Sn**	**17 12 29.7**	**+1.3**
RTAL	**Retalhuleu**	**4.14**	**127**	*i*	*P*	**Pn**	**17 11 42.8**	**+1.9**
RTAL				IAML			17 12 34.4	
	comp=Z,3μm,1.0s							
YAIG	**Yautepec**	**4.17**	**296**	↑*i*	*P*	**Pn**	**17 11 43.6**	**+2.2**
YAIG				*e*	S	**Sn**	**17 12 25.2**	**-4.2**
SCIG	**Sabancuy**	**4.19**	**62**	↑*i*	*P*	**Pn**	**17 11 40.6**	**-0.9**
SCIG				*e*	S	**Sn**	**17 12 25.3**	**-4.2**
DAIG	**Los Arroyos**	**4.34**	**270**	↑*i*	*P*	**Pn**	**17 11 43.0**	**-0.6**
DAIG				*e*	S	**Sn**	**17 12 25.5**	**-7.9**
SULM	**Suchitepequez,**	**4.38**	**128**	*i*	*P*	**Pn**	**17 11 46.8**	**+2.7**
MEIG	**Mezcala**	**4.39**	**282**	↑*i*	*P*	**Pn**	**17 11 45.6**	**+1.3**
MEIG				*e*	S	**Sn**	**17 12 29.4**	**-5.1**
PLIG	**Platanillo**	**4.39**	**288**	↑*i*	*P*	**Pn**	**17 11 45.8**	**+1.5**
PLIG				*e*	S	**Sn**	**17 12 28.7**	**-5.9**
ACP2	**Acapulco**	**4.57**	**268**	*e*	*P*	**Pn**	**17 11 45.1**	**-1.6**
ACP2				*e*	S	**Sn**	**17 12 32.8**	**-6.1**
FUG	**Fuego 3**	**4.86**	**122**	*i*	*P*	**Pn**	**17 11 53.8**	**+3.0**
APG	**El Apazote**	**4.91**	**114**	*P*		**Pn**	**17 11 50.8**	**-0.7**
	comp=Z,4.9nm,0.2s,baz=235,slow=19,SNR=78							
APG				S		**Sn**	**17 12 43.2**	**-4.2**
	comp=Z,68nm,0.3s,baz=221,slow=18,SNR=23							
DEIG	**Demacu**	**4.92**	**312**	*e*	*P*	**Pn**	**17 11 54.1**	**+2.5**
DEIG				*e*	S	Sn	17 12 32.9	-15
CAIG	**El Cayaco**	**4.93**	**271**	↑*i*	*P*	**Pn**	**17 11 50.9**	**-0.7**
CAIG				*e*	S	**Sn**	**17 12 41.5**	**-6.0**
PETF	**Flores**	**5.02**	**91**			**Pn**	**17 11 52.5**	**-0.2**
PETF	**Flores**	**5.02**	**91**	*e*	*P*	**Pn**	**17 11 52.6**	**-0.2**
PETF				*e*	S	**Sn**	**17 12 45.6**	**-4.0**
PETF	**Flores**	**5.02**	**91**	*i*	*P*	**Pn**	**17 11 52.8**	**0.0**
PETF				IAmb		IAmb	17 11 53.7	
	comp=Z,1μm,0.4s							
PETF				IAML			17 12 49.9	
	comp=Z,4μm,1.0s							
PETF				IVmB_BB			17 12 50.0	
	comp=Z,42μm,1.0s							
ARIG	**Puente Sto Nin**	**5.14**	**284**	↑*i*	*P*	**Pn**	**17 11 56.3**	**+1.9**
ARIG				*e*	S	**Sn**	**17 12 48.5**	**-4.1**
TEJU	**Tejupilco**	**5.14**	**292**	*e*	*P*	**Pn**	**17 11 56.8**	**+2.3**
TEJU				*e*	S	**Sn**	**17 12 48.9**	**-3.9**
NBG	**Las Nubes**	**5.20**	**118**	*i*	*P*	**Pn**	**17 11 57.5**	**+2.1**
CTUV	**Llano Grande**	**5.35**	**326**	*e*	*P*	**Pn**	**17 11 56.5**	**-0.7**
CTUV				*e*	S	**Sn**	**17 12 56.7**	**-1.0**
MRL	**Marmol**	**5.58**	**110**	*i*	*P*	**Pn**	**17 12 00.2**	**-0.3**
MRL				*i*	S	**Sn**	**17 12 59.1**	**-4.3**
PET2	**Petatlan**	**5.90**	**276**	*e*	*P*	**Pn**	**17 12 04.4**	**-0.2**
PET2				*e*	S	Sn	17 12 59.6	-11
NUBE	**Las Nubes**	**6.02**	**121**	*i*	*P*	**Pn**	**17 12 08.0**	**+1.5**
NUBE				IAmb		IAmb	17 12 34.1	
	comp=Z,120nm,0.7s							
NUBE				IVmB_BB			17 12 55.9	
	comp=Z,9μm,1.0s							
NUBE				IAML			17 13 23.0	
	comp=Z,420nm,1.0s							
ESQI	**Esquipulas**	**6.08**	**113**	*i*	*P*	**Pn**	**17 12 09.1**	**+1.8**
ESQI				IVmB_BB			17 12 10.0	
	comp=Z,5μm,1.0s							
ESQI				IAmb		IAmb	17 12 10.9	
	comp=Z,190nm,0.5s							
ESQI				IAML			17 13 19.1	
	comp=Z,870nm,1.0s							
ZIIG	**Zihuatanejo**	**6.09**	**276**	↑*e*	*P*	**Pn**	**17 12 07.8**	**+0.6**
ZIIG				*e*	S	**Sn**	**17 13 17.1**	**+1.4**
MTO3	**Montecristo**	**6.13**	**115**		Pn	**Pn**	**17 12 06.6**	**-1.5**
MTO3	**Montecristo**	**6.13**	**115**	*i*	*P*	**Pn**	**17 12 06.6**	**-1.5**
CEVE	**Cerro Verde**	**6.19**	**121**	*i*	*P*	**Pn**	**17 12 11.1**	**+2.3**
CEVE				IAmb		IAmb	17 12 30.8	
	comp=Z,110nm,0.5s							
CEVE				IVmB_BB			17 12 45.5	
	comp=Z,4μm,1.0s							
CEVE				IAML			17 13 38.8	
	comp=Z,570nm,1.0s							
JRQG	**Juriquilla Cam**	**6.22**	**307**			**Pn**	**17 12 12.1**	**+2.9**
MOIG	**Morelia**	**6.33**	**295**			**Pn**	**17 12 13.9**	**+3.1**
MOIG	**Morelia**	**6.33**	**295**	*e*	*P*	**Pn**	**17 12 13.3**	**+2.5**
MOIG				*e*	S	**Sn**	**17 13 25.2**	**+3.4**
MYIG	**Mrida**	**6.39**	**52**	*e*	*P*	**Pn**	**17 12 11.9**	**+0.5**
MYIG				*e*	S	**Sn**	**17 13 20.3**	**-2.6**
IZABA	**Izabal, Puerto**	**6.40**	**101**	*e*	*P*	**Pn**	**17 12 10.2**	**-1.3**
IZABA				*e*	S	**Sn**	**17 13 16.6**	**-6.5**
JAYA	**Jayaque - finc**	**6.42**	**121**	*i*	*P*	**Pn**	**17 12 14.5**	**+2.5**
JAYA				IAmb		IAmb	17 12 43.8	
	comp=Z,130nm,0.5s							
JAYA				IAML			17 13 33.2	
	comp=Z,1μm,1.0s							
RPIG	**Rio Verde**	**6.65**	**317**	↓*e*	*P*	**Pn**	**17 12 17.6**	**+2.7**
RPIG				*e*	S	Sn	17 13 44.6	+15
TEIG	**Tepich**	**7.20**	**63**		Pn	**Pn**	**17 12 20.2**	**-2.1**
TEIG	**Tepich**	**7.20**	**63**		LR	LR	17 15 50.1	
	comp=Z,629nm,19.3s,slow=44							
TEIG	**Tepich**	**7.20**	**63**	*e*	*P*	**Pn**	**17 12 19.9**	**-2.4**
TEIG				*e*	S	**Sn**	**17 13 35.1**	**-7.5**
MMIG	**Aquila**	**7.95**	**280**	*e*	*P*	**Pn**	**17 12 32.1**	**-0.3**
MMIG				*e*	S	**Sn**	**17 13 55.3**	**-5.4**
CRIN	**San Cristobal**	**8.91**	**118**		Pn	**Pn**	**17 12 47.5**	**+1.8**
CRIN	**San Cristobal**	**8.91**	**118**	*i*	*P*	**Pn**	**17 12 49.4**	**+3.7**
ZAIG	**Zacatecas**	**9.03**	**310**		Pn	**Pn**	**17 12 49.8**	**+2.4**
CNGN	**Cerro Negro**	**9.31**	**118**			**Pn**	**17 12 52.8**	**+1.7**
CNGN	**Cerro Negro**	**9.31**	**118**	*i*	*P*	**Pn**	**17 12 54.0**	**+3.0**
MACN	**El Madrono**	**9.35**	**118**	*i*	*P*	**Pn**	**17 12 53.8**	**+2.3**
CIHU	**Emiliano Zapat**	**9.41**	**285**	*e*	*P*	**Pn**	**17 12 50.8**	**-1.6**
CIHU				*e*	S	**Sn**	**17 14 36.8**	**+0.5**
MOMN	**Momotombo**	**9.49**	**118**	*i*	*P*	**Pn**	**17 12 55.5**	**+2.0**
MOMN				IAmb		IAmb	17 12 57.0	
	comp=Z,1.9nm,0.5s							
MOMN				IVmB_BB			17 12 58.9	
	comp=Z,62nm,1.0s							
MOM2	**El Cardon**	**9.52**	**118**	*i*	*P*	**Pn**	**17 12 56.6**	**+2.7**
COPN	**Copaltepe**	**9.56**	**119**	*i*	*P*	**Pn**	**17 12 55.5**	**+1.1**
CJM	**Chamela**	**9.74**	**286**	*e*	*P*	**Pn**	**17 12 57.8**	**+1.0**
CJM				*e*	S	**Sn**	**17 14 43.0**	**-1.4**
ESTA	**Talpa de Allen**	**9.80**	**291**	*e*	*P*	**Pn**	**17 13 00.5**	**+2.7**
ESTA				*e*	S	**Sn**	**17 14 49.4**	**+3.3**
HBVL	**Hebbronville**	**10.49**	**342**		Pn	**Pn**	**17 13 09.3**	**+2.4**
CONN	**Concepcion**	**10.69**	**119**	*i*	*P*	**Pn**	**17 13 10.2**	**+0.5**
ACON	**Acoyapa**	**10.87**	**116**			**Pn**	**17 13 12.8**	**+0.7**
HZTE	**Horizontes, Gu**	**11.18**	**123**			**Pn**	**17 13 17.8**	**+1.4**
ORTG	**Ortega, Santa**	**11.50**	**124**		Pn	**Pn**	**17 13 21.5**	**+0.9**
ESPN	**Las Esperanzas**	**11.52**	**113**			**Pn**	**17 13 21.6**	**+0.7**
INDI	**Punta indio, G**	**11.76**	**126**	*i*	*P*	**Pn**	**17 13 25.1**	**+1.0**
833A	**Chaparral WMA,**	**11.89**	**341**		*P*	**Pn**	**17 13 26.4**	**+0.8**
	baz=159,SNR=27							
JACO	**JACO, Garabito**	**12.54**	**125**		Pn	**Pn**	**17 13 34.7**	**+0.4**
SOR	**Soroa**	**12.73**	**61**		Pn	**Pn**	**17 13 33.3**	**-3.5**
DRIO	**Del Rio**	**13.30**	**339**		Pn	**Pn**	**17 13 44.9**	**+0.6**
435B	**Jarrell**	**13.85**	**351**		*P*	**Pn**	**17 13 52.7**	**+1.4**
	baz=170							
JCT	**Junction City**	**14.03**	**343**		Pn	**P**	**17 13 56.8**	**-1.3**
JCT	**Junction City**	**14.03**	**343**		*P*	**Pn**	**17 13 54.0**	**+0.3**
	baz=161,SNR=22							
TXAR	**Lajitas Array**	**14.52**	**329**		Pn	**Pn**	**17 14 01.4**	**+1.3**
TXAR	**Lajitas Array**	**14.52**	**329**		*P*	**P**	**17 14 02.3**	**-1.3**
	comp=Z,4.9nm,0.7s,baz=150,slow=13,SNR=59							
NATX	**Nacogdoches**	**14.64**	**2**		*P*	**Pn**	**17 14 01.8**	**+0.4**
	baz=181,SNR=5.4							
WHTX	**Lake Whitney,**	**15.02**	**352**		*P*	**Pn**	**17 14 06.9**	**+0.7**
	baz=171,SNR=16							
ALPN	**Alpine**	**15.38**	**331**		IAmb	IAmb	17 14 13.9	
	comp=Z,34nm,0.7s							
BRAL	**Brewton**	**15.85**	**26**		*P*	**Pn**	**17 14 16.9**	**+0.3**
	baz=209							
061Z	**Ochoppi**	**15.85**	**54**		Pn	**Pn**	**17 14 16.7**	**0.0**
ABTX	**Abilene, Hawle**	**16.03**	**346**		*P*	**Pn**	**17 14 18.8**	**-0.1**
	baz=164,SNR=11							
553A	**Crawfordville**	**16.31**	**35**		Pn	**Pn**	**17 14 22.7**	**+0.4**
553A					IAmb	IAmb	17 15 00.1	
	comp=Z,76nm,1.4s							
VHRN	**Van Horn**	**16.36**	**328**		IAmb	IAmb	17 14 29.9	
	comp=Z,25nm,0.8s							
ODSA	**Odessa**	**16.44**	**337**			**P**	**17 14 25.5**	**+0.7**
DWPF	**Disney Wildern**	**16.73**	**47**		*P*	**Pn**	**17 14 26.5**	**-1.0**
	baz=232							
SN07	**Snyder 07**	**16.80**	**343**		IAmb	IAmb	17 14 31.2	
	comp=Z,26nm,0.6s							
250A	**Grady**	**16.88**	**27**		Pn	**Pn**	**17 14 28.6**	**-0.7**
250A					IAmb	IAmb	17 14 38.4	
	comp=Z,16nm,0.7s							
POST	**Post**	**16.95**	**341**		IAmb	IAmb	17 14 31.9	
	comp=Z,40nm,1.0s							
MNTX	**Cornudas Mount**	**17.30**	**329**		*P*	**P**	**17 14 34.6**	**+0.3**
	baz=145,SNR=11							
MIAR	**Mount Ida**	**17.47**	**4**		*P*	**P**	**17 14 36.6**	**+0.6**
MIAR					IAmb	IAmb	17 14 46.7	
	comp=Z,47nm,1.1s							
MIAR	**Mount Ida**	**17.47**	**4**		*P*	**P**	**17 14 36.1**	**+0.1**
	baz=184,SNR=32							
LRAL	**Lakeview Retre**	**17.51**	**23**		IAmb	IAmb	17 14 43.1	
	comp=Z,11nm,0.5s							
LRAL	**Lakeview Retre**	**17.51**	**23**		*P*	**P**	**17 14 36.5**	**0.0**
	baz=206,SNR=8.5							
TIGA	**Tifton**	**17.74**	**34**		*P*	**P**	**17 14 38.3**	**-0.6**
	baz=219							
UALR	**University of**	**17.82**	**7**			**P**	**17 14 40.7**	**+0.8**
UALR					IAmb	IAmb	17 15 04.2	
	comp=Z,20nm,0.8s							
WMOK	**Wichita Mounta**	**17.91**	**350**		*P*	**P**	**17 14 41.5**	**+0.6**
	baz=168,SNR=5.3							
OXF	**Oxford**	**18.12**	**15**		*P*	**P**	**17 14 43.4**	**+0.3**
	baz=197,SNR=5.2							
MSTX	**Muleshoe**	**18.19**	**339**		IAmb	IAmb	17 14 48.4	
	comp=Z,56nm,1.3s							
MSTX	**Muleshoe**	**18.19**	**339**		*P*	**P**	**17 14 44.7**	**+0.6**
	baz=156,SNR=13							
WHAR	**Wooly Hollow**	**18.33**	**7**			**Pn**	**17 14 47.2**	**+0.4**
WHAR					IAmb	IAmb	17 14 56.6	
	comp=Z,47nm,1.2s							
AMTX	**Amarillo**	**18.70**	**343**		*P*	**P**	**17 14 50.4**	**+0.8**
	baz=160							
TUL3	**Leonard**	**18.79**	**358**		*P*	**P**	**17 14 50.7**	**+0.3**
	baz=178							
FCAR	**Ozark Folk Cen**	**18.94**	**7**		IAmb	IAmb	17 15 18.8	
	comp=Z,23nm,0.8s							
RLO	**Rose Lookout**	**19.03**	**0**		IAmb	IAmb	17 15 08.9	
	comp=Z,19nm,0.7s							
121A	**Cookes Peak, D**	**19.20**	**326**		IAmb	IAmb	17 14 59.0	
	comp=Z,19nm,0.8s							
121A	**Cookes Peak, D**	**19.20**	**326**		*P*	**P**	**17 14 56.2**	**+1.0**
	baz=140,SNR=16							
LCAR	**Lake Charles**	**19.26**	**10**		IAmb	IAmb	17 15 09.6	
	comp=Z,17nm,0.7s							
GOGA	**Godfrey**	**19.37**	**31**		*P*	**P**	**17 14 56.1**	**-0.6**
	baz=215,SNR=6.9							
Y52A	**Lilburn**	**19.46**	**29**		IAmb	IAmb	17 15 10.6	
	comp=Z,23nm,0.8s							
SWET	**Sewanee**	**19.85**	**23**		IAmb	IAmb	17 15 02.7	
	comp=Z,8.7nm,0.5s							
Y22D	**IRIS PASSCAL I**	**19.99**	**330**		P	**P**	**17 15 04.8**	**+1.1**
	baz=145							
Y22F	**Passcal Instru**	**19.99**	**330**		P	**P**	**17 15 04.9**	**+1.2**
	baz=145							
WVT	**Waverly**	**20.07**	**17**		P	**P**	**17 15 03.7**	**-0.7**
WVT					IAmb	IAmb	17 15 09.3	
	comp=Z,27nm,0.6s							
WVT	**Waverly**	**20.07**	**17**		*P*	**P**	**17 15 04.5**	**+0.2**
	baz=200							
PBMO	**Poplar Bluff**	**20.08**	**11**		IAmb	IAmb	17 15 05.6	
	comp=Z,17nm,1.0s							
ANMO	**Albuquerque**	**20.50**	**333**		P	**P**	**17 15 10.2**	**+1.0**
ANMO					IAmb	IAmb	17 15 14.8	
	comp=Z,14nm,0.9s							
ANMO	**Albuquerque**	**20.50**	**333**		*P*	**P**	**17 15 10.4**	**+1.1**
	baz=147							
ANMO	**Albuquerque**	**20.50**	**333**		*P*	Pn	**17 15 11.3**	**-1.0**
	comp=Z,12nm,0.7s,baz=130,slow=8.3,SNR=22							
	comp=Z,12nm,0.7s							
CGM3	**Cape Girardeau**	**20.73**	**12**		IAmb	IAmb	17 15 40.6	
	comp=Z,22nm,1.4s							
TUC	**Tucson**	**20.78**	**320**		*P*	**P**	**17 15 13.8**	**+1.6**
	baz=133							
BG3	**Lake Jocassee**	**20.91**	**29**		IAmb	IAmb	17 15 29.7	
	comp=Z,26nm,0.9s							
U49A	**Red Boiling Sp**	**21.07**	**21**		IAmb	IAmb	17 15 16.3	
	comp=Z,17nm,0.6s							
T47A	**Sharon Grove**	**21.08**	**18**		IAmb	IAmb	17 15 17.4	
	comp=Z,21nm,0.9s							
TKL	**Tuckaleechee C**	**21.09**	**26**		P	**P**	**17 15 15.3**	**-0.1**
TKL	**Tuckaleechee C**	**21.09**	**26**		*P*	**P**	**17 15 15.1**	**-0.3**
	comp=Z,4.6nm,0.5s,baz=216,slow=9.2,SNR=9.9							
TKL					S	**S**	**17 19 05.4**	**+1.3**
	comp=Z,5.2nm,0.9s,baz=234,slow=8.7,SNR=3.5							
	comp=Z,4.6nm,0.5s							
CCM	**Cathedral Cave**	**21.19**	**8**		*P*	**P**	**17 15 16.1**	**-0.3**
CCM	**Cathedral Cave**	**21.19**	**8**		*P*	**P**	**17 15 17.0**	**+0.5**
	baz=190							
T25A	**Trinidad**	**21.62**	**339**		*P*	**P**	**17 15 22.1**	**+0.8**
	baz=155							

HEC	Hector,Ludlow	25.93	317	P	P	17 16 02.2	+0.2	
	baz=127							
O53A	New Philadelph	26.06	25	IAmb	IAmb	17 16 44.6		
	comp=Z,8.4nm,0.8s							
O53A	New Philadelph	26.06	25	P	P	17 16 01.6	-1.3	
	baz=211							
JFWS	Jewell Farm	26.10	8	P	P	17 16 02.4	-0.9	
	baz=190,SNR=6.0							
MCWV	Mont Chateau	26.14	27	P	P	17 16 02.5	-1.1	
	baz=215							
SCI2	San Clemente I	26.41	311	P	P	17 16 06.9	+0.8	
	baz=121							
L48A	N Adams	26.44	18	IAmb	IAmb	17 16 47.9		
	comp=Z,18nm,0.8s							
BFSC	Mount Baldy Ra	26.47	315	P	P	17 16 07.1	+0.3	
	baz=124							
CIS	Catalina Islan	26.54	312	P	P	17 16 08.1	+0.7	
	baz=122							
ECSD	EROS Data Cent	26.62	358	IAmb	IAmb	17 16 49.3		
	comp=Z,15nm,0.7s							
ECSD	EROS Data Cent	26.62	358	P	P	17 16 07.7	-0.2	
	baz=176							
N53A	Lisbon	26.68	25	IAmb	IAmb	17 16 09.1		
	comp=Z,11nm,0.9s							
SNCC	San Nicolas Is	27.25	311	P	P	17 16 14.3	+0.6	
	baz=120							
M53A	WI Miller and	27.29	24	P	P	17 16 13.0	-0.9	
	baz=211							
FURC	Furnace Creek,	27.29	319	P	P	17 16 14.6	+0.7	
	baz=129							
K22A	Casper	27.31	341	P	P	17 16 14.4	+0.1	
	baz=155							
MPMC	Manual Prospec	27.43	318	P	P	17 16 16.0	+0.5	
	baz=128							
DUG	Dugway, Tooele	27.70	330	P	P	17 16 18.4	+0.7	
	baz=141							
ARVC	Arvin	27.77	315	P	P	17 16 19.4	+1.2	
	baz=124							
R11B	Troy Canyon, C	27.78	324	P	P	17 16 19.3	+0.7	
	baz=134							
SSPA	Standing Stone	27.82	29	P	P	17 16 18.3	-0.4	
	baz=217							
GRAC	Grapevine Rang	27.94	320	P	P	17 16 20.5	+0.7	
	baz=129							
SBC	Santa Barbara	28.00	313	P	P	17 16 20.9	+0.6	
	baz=122							
RSSD	Black Hills	28.01	346	P	P	17 16 20.7	+0.1	
	baz=161							
ERPA	Erie	28.13	24	P	P	17 16 20.0	-1.5	
	baz=212							
SPMN	Marine on St.	28.15	3	P	P	17 16 21.4	-0.1	
	baz=184							
PDAR	Pinedale Array	28.43	337	P	P	17 16 25.3	+0.9	
	comp=Z,0.4nm,0.7s,baz=148,slow=11,SNR=1.7							
	comp=Z,0.4nm,0.7s							
ATAH	Atahualpa	29.17	144	P	P	17 16 31.6	+0.3	
	comp=Z,5.9nm,0.7s,baz=331,slow=10,SNR=4.1							
	comp=Z,5.9nm,0.7s							
NVAR	Mina Array Bea	29.42	321	P	P	17 16 36.1	+2.9	
	comp=Z,1.7nm,0.7s,baz=124,slow=9.0,SNR=15							
	comp=Z,1.7nm,0.7s							
E38A	The Farm, Brul	29.61	5	IAmb	IAmb	17 17 01.1		
	comp=Z,6.7nm,0.7s							
BINY	Binghamton	29.93	29	P	P	17 16 35.3	-2.1	
	baz=219							
EYMN	Ely	30.95	5	P	P	17 16 45.7	-0.6	
	baz=186							
LAO	LASA Array	30.95	345	P	P	17 16 46.6	+0.2	
	baz=159							
HLID	Hailey	31.08	332	P	P	17 16 47.1	-0.5	
	baz=142							
L61B	Northampton	31.74	32	P	P	17 16 52.3	-0.9	
	baz=224							
M65A	Busby, Falmout	32.21	36	P	P	17 16 56.1	-1.3	
	baz=228							
LONY	Lake Ozonia	32.45	28	P	P	17 16 57.9	-1.6	
	baz=218							
ULM	Lac du Bonnet	33.12	359	P	P	17 17 04.8	-0.4	
	comp=Z,1.8nm,0.5s,baz=183,slow=14,SNR=2.1							
	comp=Z,1.8nm,0.5s							
EGMT	Eagleton	33.14	342	P	P	17 17 05.0	-0.5	
	baz=154							
LBNH	Lisbon	33.41	31	P	P	17 17 07.2	-0.7	
	baz=223							
MSO	Missoula	33.53	336	P	P	17 17 09.2	+0.3	
	baz=146							
PKME	Peaks-Kenny Pk	35.46	32	P	P	17 17 24.6	-0.8	
	baz=226							
NEW	Newport	35.96	335	P	P	17 17 29.7	-0.1	
	baz=142							
LPAZ	La Paz	42.49	140	P	P	17 18 25.3	+0.3	
LPAZ				IAmb	IAmb	17 18 30.0		
	comp=Z,6.9nm,0.7s							
LPAZ	La Paz	42.49	140	P	P	17 18 25.4	+0.3	
	comp=Z,7.2nm,0.6s,baz=336,slow=5.0,SNR=16							
	comp=Z,7.2nm,0.6s							
PB16	IPOC Station P	43.26	143	IAmb	IAmb	17 18 39.3		
	comp=Z,7.7nm,0.7s							
SCHQ	Scheffervill	43.52	23	P	P	17 18 30.3	-1.9	
	comp=Z,1.4nm,0.4s,baz=234,slow=9.2,SNR=8.4							
	comp=Z,1.4nm,0.4s							
PB11	IPOC Station P	44.32	145	P	P	17 18 39.6	+0.4	
PB11				IAmb	IAmb	17 18 46.2		
	comp=Z,12nm,0.8s							
GO01	Chusmiza	44.50	144	P	P	17 18 42.4	+1.4	
V35K	Ketchikan	47.26	332	P	P	17 19 01.1	-0.6	
	baz=129							
YKA	Yellowknife Ar	47.40	348	P	P	17 19 03.0	+0.4	
	comp=Z,1.4nm,0.7s,baz=150,slow=6.5,SNR=20							
	comp=Z,1.4nm,0.7s							
T35M	Bob Quinn	47.76	335	P	P	17 19 05.5	-0.1	
	baz=132							
KOTAN	Kotaneelee Air	47.83	341	P	P	17 19 04.9	-1.1	
	baz=141							
CRAG	Craig	48.02	332	P	P	17 19 07.1	-0.5	
	baz=127							
WRAK	Wrangell Islan	48.27	333	P	P	17 19 09.2	-0.3	
	baz=129							
U33K	Whale Pass	48.42	333	P	P	17 19 09.4	-1.2	
	baz=128							
DLBC	Dease Lake	48.66	336	P	P	17 19 11.5	-1.1	
	baz=133							
WTLY	Watson Lake, Y	49.39	339	P	P	17 19 17.5	-0.5	
	baz=136							
S32K	Killisnoo	49.88	333	P	P	17 19 21.1	-0.6	
	baz=127							
SIT	Sitka	49.96	333	P	P	17 19 21.4	-1.0	
	baz=126							
P33M	Teslin, Yukon	50.91	337	P	P	17 19 28.9	-0.7	
	baz=131							
N32M	Quiet Lake	51.63	338	P	P	17 19 34.6	-0.3	
	baz=131							
WHY	Whitehorse	51.99	336	P	P	17 19 36.7	-1.0	
	baz=129							
MMPY	Sheldon Lake,	52.00	340	P	P	17 19 36.8	-0.9	
	baz=134							
P29M	Windy Craggy	52.50	334	P	P	17 19 40.4	-1.0	
	baz=125							
HYT	Haines Junctio	53.11	336	P	P	17 19 43.9	-2.1	
	baz=126							
N30M	Aishikik Lake	53.33	336	P	P	17 19 45.6	-1.9	
	baz=127							
YUK6	Outpost Mounta	53.52	335	P	P	17 19 47.1	-2.0	
	baz=125							
YUK8	Steele Glacier	54.27	335	P	P	17 19 52.2	-2.4	
	baz=124							
M29M	Somme Creek	54.44	337	P	P	17 19 54.0	-1.6	
	baz=126							
L29M	L29M	54.71	338	P	P	17 19 55.8	-1.6	
	baz=127							
YUK3	Moose Creek	54.83	336	P	P	17 19 57.3	-1.2	
	baz=124							
J30M	Hart River	55.00	340	P	P	17 19 57.0	-2.7	
	baz=130							
C36M	Paulatuk	55.28	348	P	P	17 19 59.8	-1.6	
	baz=146							
KAIM	Kayak Island	55.53	332	P	P	17 20 03.2	-0.1	
	baz=118							
MCARA	McCarthy VSAT	55.65	334	P	P	17 20 04.5	+0.3	
	baz=120							
DAWY	Dawson	55.74	338	P	P	17 20 05.0	+0.2	
	baz=126							
G31M	Satah River	55.92	343	P	P	17 20 05.8	-0.2	
	baz=133							
L27K	Beaver Creek,	56.07	336	P	P	17 20 07.1	-0.1	
	baz=123							
Q23K	Middleton Isla	56.17	331	P	P	17 20 08.3	+0.5	
	baz=116							
EPYK	Eagle Plains	56.28	341	P	P	17 20 08.5	-0.2	
	baz=130							
N25K	Chitina, Valde	56.42	334	P	P	17 20 09.9	+0.1	
	baz=119							
G30M	tAoh Zraii Nji	56.53	342	P	P	17 20 10.6	+0.2	
	baz=131							
CPUP	Villa Florida	56.64	139	P	P	17 20 12.7	+1.0	
	comp=Z,4.6nm,0.7s,baz=309,slow=7.7,SNR=9.4							
	comp=Z,4.6nm,0.7s							
INK	Inuvik	56.68	344	P	P	17 20 11.3	-0.1	
	baz=134							
BDFB	Brasilia	56.68	122	P	P	17 20 10.9	-1.4	
	comp=Z,2.4nm,0.7s,baz=297,slow=4.5,SNR=4.2							
BDFB				LR	LR	17 45 16.3		
	comp=Z,59nm,19.9s,baz=155,slow=37							
	comp=Z,2.4nm,0.7s							
K27K	Chicken	56.69	337	P	P	17 20 12.3	+0.8	
	baz=123							
H29M	Whitestone	56.70	341	P	P	17 20 12.0	+0.4	
	baz=128							
I28M	Miner Creek	56.75	339	P	P	17 20 12.1	+0.1	
	baz=126							
EGAK	Eagle	56.78	338	P	P	17 20 12.6	+0.5	
	baz=124							
F30M	Barrier River	56.82	343	P	P	17 20 13.2	+0.8	
	baz=132							
G29M	Pine Creek	57.03	341	P	P	17 20 14.5	+0.6	
	baz=129							
HARP	HAARP	57.04	335	P	P	17 20 14.9	+0.9	
	baz=119							
SCRK	Sand Creek	57.37	337	P	P	17 20 16.8	+0.3	
	baz=121							
PAX	Paxson	57.44	335	P	P	17 20 17.6	+0.6	
	baz=119							
J26L	Joseph Creek	57.49	337	P	P	17 20 17.4	+0.1	
	baz=122							
A36M	Sachs Harbour	57.69	349	P	P	17 20 18.6	+0.2	
	baz=145							
H27K	Steamboat Moun	57.74	340	P	P	17 20 18.8	-0.1	
	baz=125							
I26K	Coal Creek Min	57.78	338	P	P	17 20 19.2	+0.1	
	baz=123							
E29M	Blow River	57.94	343	P	P	17 20 20.6	+0.4	
	baz=130							
G27K	Down Strip	58.11	340	P	P	17 20 21.6	+0.1	
	baz=125							
DHY	Denali Highway	58.26	335	P	P	17 20 22.4	-0.4	
	baz=117							
E28M	Babbage River	58.54	342	P	P	17 20 24.9	+0.5	
	baz=128							
HDA	Harding Lake	58.71	336	P	P	17 20 26.2	+0.5	
	baz=118							
PRP	Porcupine Dome	58.73	338	P	P	17 20 26.1	+0.1	
	baz=120							
Q20K	Shuyak Island	58.73	329	P	P	17 20 26.2	+0.3	
	baz=110							
D28M	Stokes Point	58.77	343	P	P	17 20 26.4	+0.5	
	baz=129							
ILAR	Eielson Array	58.86	337	P	P	17 20 27.0	+0.3	
	comp=Z,0.8nm,1.0s,baz=128,slow=5.8,SNR=5.7							
	comp=Z,0.8nm,1.0s							
SUA	Susitna One	59.00	332	P	P	17 20 27.3	-0.6	
	baz=113							
MCK	McKinley	59.18	335	P	P	17 20 29.4	+0.5	
	baz=116							
H25L	Birch Creek	59.22	339	P	P	17 20 29.3	+0.2	
	baz=120							
POKR	Poker Plat Res	59.23	337	P	P	17 20 29.4	+0.1	
	baz=118							
D27M	Malcolm River	59.34	343	P	P	17 20 30.6	+0.5	
	baz=127							
SKT	Skwentna	59.55	333	P	P	17 20 31.4	-0.1	
	baz=112							
N20K	Mount Spurr	59.56	332	P	P	17 20 31.2	-0.4	
	baz=111							
G25K	Bearman Lake	59.57	339	P	P	17 20 31.4	-0.1	
	baz=120							
TRF	Thorofare Moun	59.61	335	P	P	17 20 33.1	+1.0	
TRF	Thorofare Moun	59.61	335	P	P	17 20 32.0	-0.1	
	baz=114							
NEA2	Nenana	59.62	336	P	P	17 20 31.7	-0.2	
	baz=116							
H24K	Noodor Dome	59.74	338	P	P	17 20 31.7	-1.0	
	baz=118							
F25K	Christian Rive	59.84	340	P	P	17 20 32.5	-0.9	
	baz=121							
I23K	Minto, Yukon-K	59.97	337	P	P	17 20 33.9	-0.4	
	baz=116							
G24K	Hadweenzic Riv	60.01	339	P	P	17 20 34.4	-0.2	
	baz=119							
E25K	Arctic Village	60.10	341	P	P	17 20 35.7	+0.6	
	baz=122							
BPAW	Bear Paw Mtn.	60.16	335	P	P	17 20 36.2	+0.6	
	baz=114							
M20K	Styx River	60.22	332	P	P	17 20 37.1	+0.9	
	baz=111							
CAST	Castle Rocks	60.34	334	P	P	17 20 37.5	+0.7	
	baz=112							
C27K	Jago River	60.36	342	P	P	17 20 37.6	+0.7	
	baz=124							
MLY	Manley	60.45	336	P	P	17 20 38.5	+0.9	
	baz=115							
N19K	Bonanza Creek	60.46	331	P	P	17 20 38.3	+0.5	
	baz=109							
O18K	Koktuh Hills	60.50	330	P	P	17 20 38.2	+0.1	
	baz=108							
F24K	Squaw Lake	60.55	339	P	P	17 20 37.9	-0.4	
	baz=119							
CHUM	Lake Minchumin	60.61	335	P	P	17 20 39.1	+0.4	
	baz=112							
L20K	Farewell, AK	60.75	333	P	P	17 20 40.4	+0.7	
	baz=110							
M19K	Big River Lodg	60.78	332	P	P	17 20 40.6	+0.7	
	baz=109							
C26K	Camden Bay	60.87	342	P	P	17 20 40.9	+0.6	
	baz=123							
P17K	Kvichak River	60.91	329	P	P	17 20 41.7	+1.0	
	baz=106							
G23K	Bananza Creek	60.91	338	P	P	17 20 41.5	+0.8	
	baz=116							
D25K	Kavik River	60.98	342	P	P	17 20 41.9	+0.8	
	baz=121							
E24K	Your Creek	61.02	340	P	P	17 20 41.9	+0.4	
	baz=118							
H22K	Ishtalitna Cre	61.05	337	P	P	17 20 42.6	+0.9	
	baz=114							
N18K	Kiliz Creek	61.08	331	P	P	17 20 41.3	-0.6	
	baz=107							
L19K	White Mountain	61.08	332	P	P	17 20 42.8	+0.9	
	baz=109							
K20K	Telida	61.14	334	P	P	17 20 42.1	-0.2	
	baz=110							
E23K	Chandalar	61.39	340	P	P	17 20 44.6	+0.6	
	baz=117							
O17K	Koliganek Bris	61.39	329	P	P	17 20 44.6	+0.6	
	baz=106							
J20K	Nowinta River	61.47	335	P	P	17 20 45.1	+0.6	
	baz=111							
CHNA	Chernabura Isl	61.56	324	P	P	17 20 45.6	+0.4	
	baz=101							
P16K	Nushagak River	61.64	328	P	P	17 20 46.2	+0.5	
	baz=104							
TOLK	Toolik Lake Re	61.64	340	P	P	17 20 45.4	-0.3	
	baz=118							
D24K	Happy Valley	61.65	341	P	P	17 20 45.7	+0.1	
	baz=119							
O16K	Kokwok River B	61.83	329	P	P	17 20 46.9	-0.1	
	baz=105							
PLCA	Paso Flores	61.86	159	P	P	17 20 48.1	+0.6	
	comp=Z,5.0nm,0.9s,baz=335,slow=10,SNR=8.0							
	comp=Z,5.0nm,0.9s							
F22K	John River	62.02	339	P	P	17 20 48.0	-0.1	
	baz=114							
E22K	Anaktuvuk Pass	62.16	339	P	P	17 20 48.9	-0.2	
	baz=115							
H20K	Anotleneega Mo	62.23	336	P	P	17 20 49.9	+0.3	
	baz=111							
F21K	Alatna River	62.36	338	P	P	17 20 51.5	+1.0	
	baz=113							
C23K	Itkillik River	62.53	341	P	P	17 20 52.3	+0.8	
	baz=117							
O15K	Ungalikthiuk R	62.59	328	P	P	17 20 52.6	+0.6	
	baz=103							
L17K	Donlin	62.61	332	P	P	17 20 52.6	+0.5	
	baz=106							
M16K	Timber Creek	62.62	331	P	P	17 20 54.0	+1.8	
	baz=105							
D22K	Ayikyak River	62.77	340	P	P	17 20 54.0	+0.9	
	baz=115							
K17K	Iditarod	62.77	332	P	P	17 20 54.8	+1.6	
	baz=106							
GCSA	Galena City Sc	62.78	335	P	P	17 20 54.3	+1.2	
	baz=108							
H19K	Roundabout Mou	62.86	336	P	P	17 20 55.8	+2.1	
	baz=109							
N15K	Kwethluk River	62.95	329	P	P	17 20 55.1	+0.7	
	baz=103							
L16K	Owhat River	63.03	331	P	P	17 20 55.8	+0.9	
	baz=104							
F20K	Avaraart Lake	63.11	337	P	P	17 20 56.1	+0.7	
	baz=111							
J17K	VABM Dome	63.30	333	P	P	17 20 57.6	+0.9	
	baz=106							
G19K	Purcell Mounta	63.31	336	P	P	17 20 57.7	+1.0	
	baz=109							
C21K	Knifeblade Rid	63.57	340	P	P	17 20 59.7	+1.3	
	baz=113							
N14K	Kuskokwak Cree	63.68	329	P	P	17 21 00.5	+1.3	
	baz=102							
B21K	Ikpikpuk River	63.70	340	P	P	17 20 59.7	+0.5	
	baz=113							
E20K	Nigu River	63.71	339	P	P	17 21 00.5	+1.2	
	baz=111							
E19K	Redstone River	63.80	338	P	P	17 21 00.4	+0.5	
	baz=109							
J16K	Anvik River	63.93	333	P	P	17 21 00.7	-0.1	
	baz=104							
D20K	Etivluk River	64.02	339	P	P	17 21 02.0	+0.6	
	baz=111							
K15K	Wolf Creek Mou	64.11	332	P	P	17 21 02.8	+0.8	
	baz=103							
A22K	Sinclair Lake	64.36	342	P	P	17 21 04.3	+0.8	
	baz=113							
L14K	Kuka Creek	64.45	330	P	P	17 21 05.2	+1.0	
	baz=101							
D19K	Kuna River	64.46	339	P	P	17 21 05.1	+0.8	
	baz=109							
B20K	Meade River	64.66	340	P	P	17 21 06.9	+1.5	
B20K				IAmb	IAmb	17 21 46.9		
	comp=Z,7.7nm,0.9s							
F17K	Baldwin Pennin	65.01	336	P	P	17 21 07.9	+0.1	
	baz=105							
RDOG	Red Dog Mine	66.04	338	P	P	17 21 16.1	+1.6	
	baz=104							
C17K	DeLong Mountai	66.25	338	P	P	17 21 18.4	+2.6	
	baz=104							
C16K	Lisburne Hills	66.98	338	P	P	17 21 22.0	+1.6	
	baz=102							
SPIA	Saint Paul Isl	67.78	325	P	P	17 21 27.5	+1.9	
	baz=93							
JMIC	Jan Mayen	72.90	20	LR	LR	17 56 12.3		
	comp=Z,10nm,18.2s,baz=218,slow=38							
ESK	Eskdalemuir	77.23	36	P	P	17 22 21.3	-0.4	
EKB	Eskdalemuir	77.23	36	P	P	17 22 20.1	-1.6	
EKB				IAmb	IAmb	17 22 59.9		
	comp=Z,10nm,1.3s							
EKA	Eskdalemuir Ar	77.25	36	P	P	17 22 20.2	-1.6	
	comp=Z,0.9nm,0.4s,baz=273,slow=5.8,SNR=18							
	comp=Z,0.9nm,0.4s							
PAB	San Pablo	79.92	52	P	P	17 22 37.3	+0.4	
PAB				IAmb	IAmb	17 22 38.2		
	comp=Z,6.5nm,0.7s							
ESDC	Sonseca Array	80.18	52	P	P	17 22 38.6	+0.3	
ESDC				IAmb	IAmb	17 22 39.6		
	comp=Z,6.3nm,1.1s							
ESDC	Sonseca Array	80.18	52	P	P	17 22 38.3	+0.1	
	comp=Z,4.9nm,1.0s,baz=290,slow=6.2,SNR=17							
	comp=Z,4.9nm,1.0s							
NB2	NORSAR Subarra	82.89	28	P	P	17 22 53.9	+1.8	
	comp=Z,0.6nm,0.6s,baz=294,slow=5.3							
NOA	NORSAR Array B	82.89	28	P	P	17 22 52.9	+0.8	
	comp=Z,1.0nm,0.8s,baz=292,slow=5.3,SNR=5.9							
NOA				LR	LR	18 00 38.6		
	comp=Z,12nm,18.5s,baz=315,slow=36							
	comp=Z,1.0nm,0.8s							
ARCES	ARCESS Array B	84.17	18	P	P	17 22 58.9	+0.5	
ARCES				IAmb	IAmb	17 23 36.0		
	comp=Z,13nm,1.4s							
ARCES	ARCESS Array B	84.17	18	P	P	17 22 58.5	0.0	
	comp=Z,1.4nm,0.6s,baz=311,slow=3.5,SNR=8.2							
	comp=Z,1.4nm,0.6s							
FUORN	Ofenpass-Fuorn	87.91	42	P	P	17 23 17.6	0.0	
TIC	Toumodi	88.17	84	↓*i*P	P	17 23 20.0	+0.9	
	comp=Z,12nm,0.8s							
LIC	Lamto	88.28	84	↓*i*P	P	17 23 20.7	+1.1	
	comp=Z,38nm,0.8s							
DBIC	Dimbokro	88.31	84	P	P	17 23 19.9	+0.2	
DBIC	Dimbokro	88.31	84	P	P	17 23 20.9	+1.2	
	comp=Z,11nm,0.7s,baz=278,slow=6.4,SNR=12							
	comp=Z,11nm,0.7s							
KIC	Kosan Boka	88.51	84	↓*i*P	P	17 23 21.9	+1.2	
	comp=Z,19nm,0.7s							
TORD	Torodi Ar. Bea	92.55	76	P	P	17 23 38.0	-1.5	
	comp=Z,0.7nm,0.6s,baz=280,slow=5.1,SNR=2.7							
	comp=Z,0.7nm,0.6s							
HHC	Hu-ho-hao-te	117.29	337	*e*P	PKiKP	17 29 14.5	+1.7	
HHC				pmax	pmax			
	comp=Z,12nm,0.7s							
HHC				pmax	pmax			
	comp=Z,220nm,6.6s							
NJ2	Nanjing	121.31	326	*e*P	PKiKP	17 29 22.3	+1.6	
NJ2				pmax	pmax			
	comp=Z,13nm,0.5s							
WRA	Warramunga Arr	133.15	258	PKP	PKPdf	17 29 43.2	-0.2	
	comp=Z,0.6nm,1.0s,baz=87,slow=3.1,SNR=4.8							
PZH	PanZhiHua	133.71	339	PKP	PKPdf	17 29 44.1	-0.4	
ASAR	Alice Springs	133.76	253	PKP	PKPdf	17 29 45.1	+0.6	
	comp=Z,0.5nm,0.9s,baz=100,slow=2.5,SNR=2.8							

NEIC 13 17:13:40.3±0.4, 37°35N±0'.01×97°979W±0'.008, h7km±1km, mb_Lg2.6/36, ML2.7/34, Error ellipse: s-maj=2.1km s-min=0.8km az=167.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time		Res
				Op	ISC	h	m s	ISC
KAN12	Harper NE Stat	0.05	196		Pg	17 13	42.2	+0.3
KAN12				Sg	Sg	17 13	43.5	+0.5
KAN12				IAML		17 13	43.7	
	comp=N,6μm,0.4s							
KAN08	Anthony NE Sta	0.12	177		Pg	17 13	43.4	+0.5
KAN06	Argonia West S	0.14	136		Pg	17 13	43.7	+0.6
KAN06				Sg	Sg	17 13	46.1	+0.9
KAN10	Anthony SW Sta	0.24	202		Pg	17 13	45.6	+0.6
KAN05	Bluff City Nor	0.25	160		Pg	17 13	45.9	+0.6
KAN05				IAML		17 13	52.8	
	comp=E,1μm,0.2s							
KAN01	Argonia South	0.26	138		Pg	17 13	46.0	+0.6
KAN01				Sg	Sg	17 13	49.9	+1.0
KAN01				IAML		17 13	50.0	
	comp=N,2μm,0.1s							
KAN01				IAML		17 13	50.0	
	comp=E,2μm,0.3s							
KAN17	Caldwell West	0.35	151		Pg	17 13	47.6	+0.5
KAN17				IAML		17 13	53.7	
	comp=N,760nm,0.2s							
KAN17				IAML		17 13	58.9	
	comp=E,970nm,0.3s							
KAN09	Caldwell North	0.36	126	Pg	Pg	17 13	47.8	+0.5
KAN09				IAML		17 13	53.0	
	comp=N,1μm,0.2s							
KAN09				IAML		17 13	54.0	
	comp=E,1μm,0.2s							
KAN14	Manchester OK	0.39	178		Pg	17 13	48.4	+0.5
GC02	Grant County #	0.51	169		Pg	17 13	50.4	+0.4
OK032	Salt Plains WL	0.57	199		Pg	17 13	51.6	+0.3
OK032				IAML		17 14	01.8	
	comp=E,388nm,0.4s							
OK032				IAML		17 14	01.9	
	comp=E,493nm,0.5s							
CROK	Carrier	0.84	180		Pg	17 13	56.5	+0.1
CROK				IAML		17 14	17.0	
	comp=E,208nm,0.3s	

comp=E,142nm,0.3s
QUOK **Quay** 1.56 139 Pb 17 14 09.4 0.0
OK029 **Liberty Lake** 1.61 165 Pn 17 14 09.2 +0.1
OK052 **Battle Ridge R** 1.65 145 Pn 17 14 08.6 -1.1
ADOK **Arcadia Dam** 1.76 164 Pn Pn 17 14 11.7 +0.4
TUL3 **Leonard** 2.27 129 IAmb_Lg 17 14 54.2
comp=Z,22nm,0.9s
W35A **Tecumseh** 2.37 158 IAmb_Lg 17 15 01.7
comp=Z,32nm,0.8s
RLO **Rose Lookout** 2.65 116 IAmb_Lg 17 15 05.4
comp=Z,16nm,0.8s
SMWD **Samnorwood** 2.89 220 IAmb_Lg 17 15 12.6
comp=Z,22nm,0.8s
U38A **Gravette** 3.02 106 IAmb_Lg 17 15 23.7
comp=Z,17nm,0.8s
HHAR **Hobbs** 3.41 107 IAmb_Lg 17 15 37.8
comp=Z,12nm,0.8s
LOOK **Love County** 3.41 169 Pn 17 14 32.3 -1.7
LOOK IAmb_Lg 17 15 27.4
comp=Z,18nm,0.8s
X37A **Clayton** 3.47 142 Pn Pn 17 14 37.5 +2.8
X37A IAmb_Lg 17 15 38.8
comp=Z,22nm,0.8s
S39A **Bolivar** 3.72 83 Pn 17 14 38.7 +0.5
AMTX **Amarillo** 3.88 232 IAmb_Lg 17 15 51.4
comp=Z,19nm,1.0s
RTBA **Rita Blanca** 3.92 258 IAmb_Lg 17 15 50.2
comp=Z,14nm,1.0s
N35A **Tabor** 3.95 27 IAmb_Lg 17 15 46.7
comp=Z,11nm,0.7s
KSCO **Kaye Shedlock'** 4.02 296 IAmb_Lg 17 15 55.6
comp=Z,13nm,0.7s
P38A **Dawn** 4.16 56 IAmb_Lg 17 15 60.0
comp=Z,15nm,0.8s
MGMO **Mountain Grove** 4.56 91 Pn Pn 17 14 51.4 +1.6
P40A **Paris** 5.14 63 IAmb_Lg 17 16 30.2
comp=Z,11nm,0.9s
CCM **Cathedral Cave** 5.39 80 IAmb_Lg 17 16 32.8
comp=Z,11nm,0.9s
ECSD **EROS Data Cent** 6.46 9 IAmb_Lg 17 17 01.8
comp=Z,8.6nm,0.9s
JFWS **Jewell Farm** 8.12 44 IAmb_Lg 17 17 57.2
comp=Z,6.5nm,0.7s

*IDC **13** 17:32:46.5±2.2,4.˝26S×143.˝80E,h118km±21km,mb3.6/15, mbtmp4.0/17,Error ellipse: s-maj=20.2km s-min=10.3km az=93.0*
*NEIC **13** 17:32:48.2±2.3,4.˝2S±0.˝1×143.˝6E±0.˝1,h125km±8km, mb4.1/22,Error ellipse: s-maj=18.3km s-min=11.9km az=126.0*
ISC 13 17:32:45.5±0.5,**4.˝23S**±0.˝06×**143.˝64E**±0.˝07,**h100**km,**n60,** σ1ᵽ**34**/59,**mb4.0**/23,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TABU	**Tabubil**	**2.62**	**247**	P		**Pn**	**17 33 29.2**	**+3.0**
MANU	**Manus Island**	**4.31**	**60**	Pn		**Pn**	**17 33 52.7**	**+3.8**
PMG	**Port Moresby**	**6.22**	**146**	P		**Pn**	**17 34 14.8**	**0.0**
	6.0nm,0.3s,baz=321,slow=13,SNR=7.7							
PMG				S		**Sn**	**17 35 23.3**	**-1.1**
	10nm,0.5s,baz=319,slow=20,SNR=1.3							
COEN	**Coen**	**9.68**	**183**	P		**Pn**	**17 35 05.0**	**+3.2**
COEN	**Coen**	**9.68**	**183**	Pn		**Pn**	**17 35 05.1**	**+3.2**
MTSU	**Mount Surprise**	**13.83**	**177**	P		**Pn**	**17 36 01.5**	**+4.1**
KDU	**Kakadu**	**13.87**	**232**	P		**Pn**	**17 35 56.8**	**-1.0**
MTN	**Manton Dam**	**15.03**	**235**	Pn		**Pn**	**17 36 11.9**	**-0.8**
OIS	**Mount Isa**	**16.70**	**193**	P		**Pn**	**17 36 33.4**	**-0.1**
WB0	**Warramunga Arr**	**17.88**	**210**	P		**P**	**17 36 47.1**	**0.0**
WB0				IAmb		IAmb	17 36 49.9	
	comp=Z,15nm,0.9s							
WR0	**Warramunga Arr**	**17.97**	**209**	P		**P**	**17 36 48.3**	**+0.1**
WB2	**Warramunga Arr**	**18.05**	**209**	P		**P**	**17 36 47.8**	**-1.3**
WRA	**Warramunga Arr**	**18.06**	**209**	P		**P**	**17 36 47.9**	**-1.2**
WRA	**Warramunga Arr**	**18.06**	**209**	P		**P**	**17 36 48.9**	**-0.2**
	comp=Z,5.1nm,0.5s,baz=31,slow=12,SNR=90							
BATI	**Baumata**	**20.68**	**252**	P		**P**	**17 37 18.7**	**+1.0**
	comp=Z,9.1nm,0.4s,baz=90,slow=4.0,SNR=9.9							
	comp=Z,9.1nm,0.4s							
AS31	**Alice Springs**	**21.48**	**205**	P		**P**	**17 37 25.9**	**-0.4**
AS31				IAmb		IAmb	17 37 32.9	
	comp=Z,6.2nm,0.6s							
ASAR	**Alice Springs**	**21.49**	**205**	P		**P**	**17 37 25.0**	**-1.3**
ASAR	**Alice Springs**	**21.49**	**205**	P		**P**	**17 37 25.8**	**-0.5**
	comp=Z,1.8nm,0.3s,baz=26,slow=12,SNR=70							
ASAR				S		**S**	**17 41 19.5**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=28,slow=18,SNR=4.8							
	comp=Z,1.8nm,0.3s							
EIDS	**Eidsvold**	**22.20**	**162**	P		**P**	**17 37 36.0**	**+2.2**
EIDS	**Eidsvold**	**22.20**	**162**	P		**P**	**17 37 34.4**	**+0.6**
EIDS				IAmb		IAmb	17 37 36.8	
	comp=Z,10nm,1.1s							
QLP	**Quilpie**	**22.23**	**179**	P		**P**	**17 37 35.4**	**+1.3**
FITZ	**Fitzroy Crossi**	**22.36**	**231**	P		**P**	**17 37 34.2**	**-1.4**
TOLI2	**Tolitoli**	**23.45**	**283**	P		**P**	**17 37 45.8**	**-0.4**
TOLI2				IAmb		IAmb	17 37 47.6	
	comp=Z,7.4nm,0.6s							
OOD	**Oodnadatta**	**24.63**	**197**	P		**P**	**17 37 57.1**	**+0.4**
WRKA	**Warakurna**	**25.41**	**214**	P		**P**	**17 38 03.5**	**-0.4**
LCRK	**Leigh Creek**	**26.57**	**191**	P		**P**	**17 38 14.7**	**+0.4**
MULG	**Mulgathing**	**27.45**	**198**	P		**P**	**17 38 22.4**	**+0.3**
STKA	**Stephens Creek**	**27.57**	**184**	P		**P**	**17 38 24.5**	**+1.3**
STKA	**Stephens Creek**	**27.57**	**184**	P		**P**	**17 38 23.6**	**+0.4**
	comp=Z,0.7nm,0.3s,baz=3.0,slow=13,SNR=4.7							
	comp=Z,0.7nm,0.3s							
BBOO	**Buckleboo**	**29.30**	**193**	P		**P**	**17 38 37.4**	**-1.2**
BBOO				IAmb		IAmb	17 38 44.9	
	comp=Z,3.1nm,0.8s							
CAN	**Canberra**	**31.33**	**172**	P		**P**	**17 38 57.1**	**+0.6**
MORW	**Morawa**	**35.99**	**224**	P		**P**	**17 39 36.4**	**-0.5**
KSRS	**Korea Array**	**43.98**	**342**	P		**P**	**17 40 43.3**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=160,slow=9.1,SNR=10							
	comp=Z,1.9nm,0.8s							
USRK	**Ussuriysk Ar.**	**49.34**	**349**	P		**P**	**17 41 24.1**	**-0.5**
	comp=Z,1.4nm,0.7s,baz=156,slow=7.7,SNR=4.6							
	comp=Z,1.4nm,0.7s							
CMAR	**Chiang Mai Ar**	**49.47**	**299**	P		**P**	**17 41 25.7**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=114,slow=6.2,SNR=4.8							
	comp=Z,0.4nm,0.6s							
PETK	**Petropavlovsk-**	**58.35**	**10**	P		**P**	**17 42 30.3**	**+0.3**
PETK	**Petropavlovsk-**	**58.35**	**10**	P		**P**	**17 42 29.4**	**-0.6**
	comp=Z,1.4nm,0.8s,baz=174,slow=7.1,SNR=9.3							
	comp=Z,1.4nm,0.8s							
SONM	**Songino Array**	**61.27**	**332**	P		**P**	**17 42 51.1**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=147,slow=8.1,SNR=2.1							
	comp=Z,0.2nm,0.6s							
VNDA	**Vanda**	**73.88**	**176**	P		**P**	**17 44 07.2**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=342,slow=4.0,SNR=1.2							
	comp=Z,0.2nm,0.5s							
MK31	**Makanchi Array**	**74.02**	**321**	P		**P**	**17 44 09.7**	**-0.7**
MK31				IAmb		IAmb	17 44 25.2	
	comp=Z,1.4nm,1.1s							
MKAR	**Makanchi Array**	**74.02**	**321**	P		**P**	17 44 07.7	-2.7
MKAR	**Makanchi Array**	**74.02**	**321**	P		**P**	**17 44 10.3**	**-0.2**
	comp=Z,0.6nm,0.5s,baz=106,slow=6.4,SNR=9.2							
	comp=Z,0.6nm,0.5s							
MAKZ	**Makanchi**	**74.22**	**321**	P		**P**	17 44 09.8	-1.8
ZALV	**Zalesovo Beam**	**75.75**	**329**	P		**P**	**17 44 19.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=131,slow=5.9,SNR=2.7							
	comp=Z,0.4nm,0.4s							
O16K	**Kokwok River B**	**78.25**	**26**	P		**P**	**17 44 34.0**	**-0.1**
OHAK	**Old Harbor**	**79.39**	**30**	P		**P**	**17 44 40.2**	**-0.1**
OHAK				IAmb		IAmb	17 44 49.4	
	comp=Z,3.7nm,1.0s							
J17K	**VABM Dome**	**79.79**	**23**	P		**P**	**17 44 42.8**	**+0.4**
J17K				IAmb		IAmb	17 44 43.4	
	comp=Z,3.9nm,0.8s							
L18K	**Granite Mounta**	**80.14**	**24**	P		**P**	**17 44 44.0**	**-0.3**
L19K	**White Mountain**	**80.88**	**25**	P		**P**	**17 44 48.6**	**+0.3**
L19K				IAmb		IAmb	17 44 49.2	
	comp=Z,2.4nm,1.1s							
MAW	**Mawson**	**82.59**	**202**	P		**P**	**17 44 56.6**	**-0.5**
	comp=Z,1.5nm,0.6s,baz=76,slow=4.2,SNR=3.0							
	comp=Z,1.5nm,0.6s							
BVAR	**Borovoye Array**	**83.38**	**324**	P		**P**	**17 45 00.9**	**-0.6**
	comp=Z,1.2nm,0.5s,baz=111,slow=6.9,SNR=13							
	comp=Z,1.2nm,0.5s							
ILAR	**Eielson Array**	**85.20**	**24**	P		**P**	**17 45 08.8**	**-1.7**
ILAR	**Eielson Array**	**85.20**	**24**	P		P	17 45 07.9	-2.5
	comp=Z,0.8nm,0.7s,baz=257,slow=4.6,SNR=14							
	comp=Z,0.8nm,0.7s							
QSPA	**South Pole Qui**	**85.72**	**180**	P		**P**	**17 45 12.0**	**-1.3**
QSPA				IAmb		IAmb	17 45 30.1	
	comp=Z,1.5nm,0.9s							
QSPA	**South Pole Qui**	**85.72**	**180**	P		**P**	**17 45 11.7**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=45,slow=2.9,SNR=15							
	comp=Z,1.5nm,0.6s							
C23K	**Itkillik River**	**85.80**	**18**	P		**P**	**17 45 13.4**	**+0.1**
C23K				IAmb		IAmb	17 45 13.8	
	comp=Z,1.4nm,0.5s							
BCAR	**Beaver Creek A**	**86.82**	**26**	P		**P**	**17 45 17.6**	**-0.9**
BMAR	**Burnt Mountain**	**86.98**	**22**	P		**P**	**17 45 18.6**	**-0.6**
EKA	**Eskdalemuir Ar**	**122.48**	**338**	PKP		**PKPdf**	**17 51 27.7**	**-1.4**
	comp=Z,1.6nm,0.9s,baz=57,slow=2.6,SNR=3.9							
PLCA	**Paso Flores**	**125.40**	**148**	PKP		**PKPdf**	**17 51 34.9**	**-0.4**
	comp=Z,1.6nm,0.9s,baz=225,slow=11,SNR=4.6							

*CATAC **13** 17:38:08.3±0.5, 13.˝31N×88.˝06W,h9km±3km,ML2.5*
*SNET **13** 17:38:08.0±0.5, 13.˝28N×88.˝08W,h10km±5km,ML2.6*
ISC 13 17:38:08.5±0.9,**13.˝28N**±0.˝06×**88.˝06W**±0.˝02,**h14**km±7km, **n17,** σ0ᵽ**66**/29,**El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
INTP	**Intipuca**	**0.08**	**173**	*e*P		**Pg**	**17 38 10.7**	**-0.8**
INTP				*e*S		**Sg**	**17 38 13.0**	**-0.5**
INTP				IAML			17 38 18.2	
	comp=Z,659nm,0.3s							
LCND	**La Caada**	**0.17**	**80**	*e*P		**Pg**	**17 38 11.9**	**-0.7**
LCND				*e*S		**Sg**	**17 38 15.9**	**+0.5**
LCND				IAML			17 38 17.6	
	comp=Z,1µm,0.3s							
LCND	**La Caada**	**0.17**	**80**	*i* P		**Pg**	**17 38 12.1**	**-0.5**
LCND				*i* S		**Sg**	**17 38 16.5**	**+1.1**
LCND				IAML			17 38 17.3	
	comp=Z,1µm,1.0s							
JUCU	**Jucuarįn**	**0.18**	**262**	*i* P		**Pg**	**17 38 12.5**	**-0.3**
JUCU				*i* S		**Sg**	**17 38 17.4**	**+1.6**
JUCU				IAML			17 38 20.3	
	comp=Z,450nm,1.0s							
CNCH	**Conchagua**	**0.23**	**91**	*e*P		**Pg**	**17 38 13.5**	**-0.1**
CNCH				*e*S		**Sg**	**17 38 18.0**	**+1.0**
CNCH				IAML			17 38 20.7	
	comp=Z,3µm,0.3s							
CNCH	**Conchagua**	**0.23**	**91**	*i* P		**Pg**	**17 38 13.3**	**-0.2**
CNCH				IAML			17 38 20.4	
	comp=Z,2µm,1.0s							
BLLM	**Bellamira**	**0.23**	**314**	*e*P		**Pg**	**17 38 13.3**	**-0.4**
VSM	**San Miguel**	**0.25**	**306**	*e*P		**Pg**	**17 38 14.1**	**0.0**
LCY	**Lacayo**	**0.27**	**302**	*e*P		**Pg**	**17 38 14.0**	**-0.2**
RANC	**El Ranchito**	**0.27**	**305**	*e*P		**Pg**	**17 38 14.1**	**-0.1**
RANC				*e*S		**Sb**	**17 38 19.2**	**-0.4**
RANC				IAML			17 38 29.7	
	comp=Z,728nm,0.5s							
RANC	**El Ranchito**	**0.27**	**305**	*i* P		**Pg**	**17 38 14.2**	**-0.1**
RANC				*i* S		**Sb**	**17 38 19.2**	**-0.4**
RANC				IAML			17 38 29.4	
	comp=Z,750nm,1.0s							
PACA	**Pacayal**	**0.31**	**307**	*e*P		**Pg**	**17 38 14.8**	**-0.2**
PACA				*e*S		**Sb**	**17 38 20.1**	**-0.9**
PACA				IAML			17 38 25.3	
	comp=Z,3µm,0.3s							
PACA	**Pacayal**	**0.31**	**307**	*i* P		**Pg**	**17 38 14.9**	**-0.2**
PACA				*i* S		**Sb**	**17 38 21.2**	**+0.3**
PACA				IAML			17 38 22.7	
	comp=Z,3µm,1.0s							
AMPH	**Amapala**	**0.40**	**89**	*e*P		**Pg**	**17 38 16.3**	**-0.1**
AMPH				*e*S		**Sb**	**17 38 23.0**	**-0.1**
COEB	**Comit de Eme**	**0.50**	**296**	*i* P		**Pb**	**17 38 18.5**	**-0.6**
COEB				IAML			17 38 21.7	
	comp=Z,140nm,1.0s							
COEB				*i* S		**Sb**	**17 38 25.8**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.09**	**45**	*i* P		**Pg**	**17 38 28.5**	**-1.1**
TGUH				IAML			17 38 30.0	
	comp=Z,120nm,1.0s							
TGUH				*i* S		**Sb**	**17 38 43.3**	**0.0**
CRIN	**San Cristobal**	**1.15**	**120**	*i* P		**Pn**	**17 38 30.9**	**+0.8**
CRIN				IAML			17 38 32.0	
	comp=Z,180nm,1.0s							

*AZER **13** 17:39:26.1,41.˝94N×49.˝62E,h7km,ml2.0*
*MOS **13** 17:39:27.7,41.˝89N×49.˝36E,h2km,MPVA3.4*
*DRS **13** 17:39:30.5,41.˝86N×49.˝84E,h22km*
ISC 13 17:39:28.2±2.8,**41.˝90N**±0.˝07×**49.˝6E**±0.˝1,**h0**km±15km,**n13,** σ0ᵽ**79**/26,**Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SIZA	**Siyzn**	**0.97**	**212**	P		**Pb**	**17 39 47.5**	**-0.5**
SIZA				S		**Sn**	**17 40 02.8**	**-0.8**
QUBA	**Quba, Azerbaij**	**0.98**	**237**	P		**Pb**	**17 39 48.0**	**-0.1**
QUBA				S		**Sn**	**17 40 03.9**	**+0.1**
QSAR	**Qusar**	**1.06**	**249**	P		**Pg**	**17 39 48.9**	**+0.4**
QSAR				S		**Sn**	**17 40 06.2**	**+0.4**
ATGJ	**Altiaghaj**	**1.15**	**205**	P		**Pn**	**17 39 51.5**	**-0.1**
ATGJ				S		**Sn**	**17 40 08.8**	**+0.8**
XNQ	**Khinaliq**	**1.30**	**236**	P		**Pn**	**17 39 52.9**	**-1.0**
XNQ				S		**Sn**	**17 40 12.3**	**+0.2**
PQL	**Pirkuli**	**1.34**	**214**	P		**Pn**	**17 39 53.4**	**-0.8**
PQL				S		**Sn**	**17 40 14.8**	**+2.0**
AKT	**Akhty**	**1.45**	**254**	*e*Pg		**Pn**	**17 39 54.7**	**-1.1**
AKT				*e*Sg		**Sn**	**17 40 14.9**	**-0.6**
URKR	**Urkarakh**	**1.47**	**281**	*e*Pg		**Pn**	**17 39 55.5**	**-0.7**
URKR				*e*Sg		**Sn**	**17 40 15.9**	**-0.3**
KMKR	**Kumukh**	**1.86**	**278**	*e*Pg		**Pn**	**17 40 01.2**	**-0.4**
KMKR				*e*Sg		**Sb**	**17 40 26.6**	**-0.6**
GNBR	**Gunib**	**2.01**	**285**	*e*Pg		**Pb**	**17 40 05.0**	**-0.6**
GNBR				*e*Sg		**Sb**	**17 40 32.1**	**+1.0**
ARKR	**Arakani**	**2.04**	**291**	*e*Pg		**Pb**	**17 40 05.8**	**-0.4**
ARKR				*e*Sg		**Sb**	**17 40 33.2**	**+1.0**
DBC	**Dubki**	**2.32**	**300**	*e*Pg		**Pb**	**17 40 10.6**	**-0.4**
DBC				*e*Sg		**Sb**	**17 40 40.5**	**+0.3**
BTLR	**Botlikh**	**2.61**	**288**	*e*Pn		**Pn**	**17 40 12.1**	**+0.5**
BTLR				*e*Sn		**Sb**	**17 40 49.0**	**+0.6**

*IDC **13** 18:12:30.4±1.7,33.˝74N×135.˝72E,h0km,mb3.5/1, mbtmp3.5/5,ML3.1/4,Error ellipse: s-maj=34.0km s-min=25.7km az=177.0*
*JMA **13** 18:12:35.9±0.1,34.˝0N±0.˝2×135.˝6E±0.˝2,h55km,MV3.3/40, SOUTHERN NARA PREF*
JMA Felt I J1 at SOUTHERN NARA PREF .
*NIED **13** 18:12:35.9,34.˝01N×135.˝62E,h55km,MW3.4,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr0.64; Mθθ0.49; Mφφ-1.13; Mrθ-0.39; Mθφ-0.74; Mφr0.37; Fault plane solution: M0 1.33000×10¹⁴ NP1: ϕ345.00000°,δ67.00000°,λ36.00000°. NP2: ϕ239.00000°,δ57.00000°,λ152.00000°.*
ISC 13 18:12:35.2±1.1,**33.˝99N**±0.˝04×**135.˝65E**±0.˝03,**h59**km±6km, **n26,** σ1ᵽ**56**/38,**14D,Near south coast of western Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTNC	**Tanabenakahech**	**0.17**	**190**	ǁP		**Pn**	**18 12 44.8**	**+0.3**
JTNC				ǁS		**Sn**	**18 12 51.0**	**-0.1**
JWY	**Kouya**	**0.23**	**349**	P		**Pn**	**18 12 45.0**	**+0.1**
JWY				S		**Sn**	**18 12 51.2**	**-0.7**
JWM	**Minabe**	**0.28**	**240**	ǁP		**Pn**	**18 12 45.2**	**+0.1**
JWM				ǁS		**Sn**	**18 12 51.7**	**-0.5**
JNTK	**Naratenkawa**	**0.34**	**35**	P		**Pn**	**18 12 45.7**	**+0.1**
JNTK				S		**Sn**	**18 12 52.7**	**-0.6**
JKN2	**Miekihoku**	**0.58**	**64**	*i* P		**Pn**	**18 12 48.2**	**+0.3**
JKN2				S		**Sn**	**18 12 57.0**	**-0.2**
JHE	**Heguri**	**0.66**	**3**	*i* P		**Pn**	**18 12 48.9**	**-0.1**
JHE				S		**Sn**	**18 12 58.2**	**-0.8**
JAWN	**Awajishima-nag**	**0.79**	**309**	ǁ*i*P		**Pn**	**18 12 50.7**	**+0.2**
JAWN				ǁS		**Sn**	**18 13 01.4**	**-0.3**
TSUJ	**Tsu 2**	**0.96**	**42**	*i* P		**Pn**	**18 12 52.8**	**+0.1**
TSUJ				S		**Sn**	**18 13 05.1**	**-0.5**
JIE	**Ise**	**0.97**	**65**	*i* P		**Pn**	**18 12 53.1**	**+0.4**
JIE				S		**Sn**	**18 13 05.4**	**-0.4**
JAI	**Aioi**	**1.01**	**259**	*i* P		**Pn**	**18 12 53.9**	**+0.5**
JAI				S		**Sn**	**18 13 06.9**	**+0.1**
TTO1	**TONANKAI O.B.S**	**1.02**	**111**	ǁP		**Pn**	**18 12 54.0**	**+0.8**
TTO1				ǁ*e*S		**Sn**	**18 13 08.6**	**+2.1**
TTO2	**TONANKAI O.B.S**	**1.18**	**102**	ǁP		**Pn**	**18 12 56.1**	**+0.8**
TTO2				ǁ*e*S		**Sn**	**18 13 12.3**	**+2.1**
JKS	**Kasai**	**1.19**	**326**	ǁ*i*P		**Pn**	**18 12 55.8**	**+0.1**
JKS				ǁS		**Sn**	**18 13 10.2**	**-0.8**
JWT	**Wachi**	**1.30**	**351**	*i* P		**Pn**	**18 12 57.4**	**+0.1**
JWT				S		**Sn**	**18 13 13.2**	**-0.6**
JJS	**Sakaide**	**1.47**	**286**	ǁ*i*P		**Pn**	**18 12 59.6**	**+0.1**
JJS				ǁS		**Sn**	**18 13 17.1**	**-0.7**
MJAR	**Matsushiro Arr**	**3.30**	**39**	Pn		**Pn**	**18 13 24.9**	**+0.5**
	0.3nm,0.3s,baz=213,slow=13,SNR=21							
MJAR				Sn		**Sn**	**18 14 04.4**	**+2.0**
	0.3nm,0.3s,baz=225,slow=27,SNR=6.4							
	2.0nm,0.4s							
JHJ	**Hachijo jima 2**	**3.56**	**103**	Pn		**Pn**	**18 13 27.6**	**-0.4**
	16nm,0.3s,baz=242,slow=17,SNR=8.3							
JHJ				Sn		**Sn**	**18 14 01.2**	**-7.6**
	8.5nm,0.3s,baz=246,slow=19,SNR=1.9							
	177nm,0.9s							
JNU	**Nakatsue**	**4.07**	**259**	Pn		**Pn**	**18 13 35.6**	**+0.6**
	2.4nm,0.3s,baz=79,slow=18,SNR=39							
JNU				Sn		**Sn**	**18 14 20.0**	**-1.5**
	0.6nm,0.3s,baz=38,slow=18,SNR=1.7							
	4.6nm,0.3s							
KSRS	**Korea Array**	**7.17**	**301**	Pn		**Pn**	**18 14 19.2**	**+1.9**
	0.3nm,0.3s,baz=116,slow=14,SNR=7.6							
	0.9nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**31.14**	**109**	T		T	18 51 26.4	
	baz=303							
H11N1	**WAKE ISLAND Hy**	**31.15**	**109**	T		T	18 51 21.4	
	baz=303							
H11N3	**WAKE ISLAND Hy**	**31.16**	**109**	T		T	18 51 25.0	
	baz=303							
H11S3	**WAKE ISLAND Hy**	**31.68**	**111**	T		T	18 52 05.1	
	baz=305,slow=75,SNR=5.8							
H11S1	**WAKE ISLAND Hy**	**31.68**	**111**	T		T	18 52 05.3	
	baz=305,slow=75,SNR=4.6							
H11S2	**WAKE ISLAND Hy**	**31.69**	**111**	T		T	18 52 06.4	
	baz=305,slow=75,SNR=4.2							
WRA	**Warramunga Arr**	**53.65**	**182**	P		**P**	**18 21 51.0**	**+0.3**
	0.7nm,1.0s,baz=1.1,slow=7.6,SNR=1.8							
	0.7nm,1.0s							

*IDC **13** 18:14:45.6±2.6, 13.˝66S×76.˝38W,h50km±19km,mb3.4/3, mbtmp3.9/7,ML4.0/4,MS3.0/5,Error ellipse: s-maj=46.5km s-min=10.2km az=55.0*
ISC 13 18:14:44.2±1.2,**13.˝8S**±0.˝1×**76.˝6W**±0.˝1,**h35**km,**n19,** σ1ᵽ**39**/12,**mb3.3/3,Near coast of Peru**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
NNA	**Nana**	**1.81**	**351**	P		**Pn**	**18 15 12.3**	**-0.7**
	214nm,0.3s,baz=157,slow=14,SNR=65							
NNA				S		**Sn**	**18 15 34.2**	**-0.7**
	1µm,0.3s,baz=185,slow=18,SNR=21							
NNA				LR		LR	18 16 04.5	
	comp=Z,208nm,21.9s,baz=150,slow=46							
ATAH	**Atahualpa**	**6.86**	**344**	P		**Pn**	**18 16 24.6**	**+1.9**
	2.8nm,0.3s,baz=163,slow=6.0,SNR=12							
ATAH				S		**Sn**	**18 17 40.1**	**+0.3**
	31nm,0.6s,baz=153,slow=4.5,SNR=2.7							
ATAH				LR		LR	18 19 15.2	
	comp=Z,46nm,19.3s,baz=161,slow=40							
	7.5nm,0.3s							
LPAZ	**La Paz**	**8.50**	**108**	P		**Pn**	**18 16 46.7**	**+1.2**
	1.9nm,0.3s,baz=290,slow=8.8,SNR=30							
LPAZ				S		**Sn**	**18 18 21.6**	**+1.1**
	9.7nm,1.0s,baz=239,slow=11,SNR=2.4							
LPAZ				LR		LR	18 20 27.8	
	comp=Z,100nm,20.0s,baz=286,slow=41							
	8.5nm,0.5s							
LVC	**Limon Verde**	**11.38**	**142**	P		**Pn**	**18 17 25.6**	**+0.9**
	0.4nm,0.3s,baz=309,slow=18,SNR=1.7							
LVC				S		**Sn**	**18 19 29.7**	**-1.1**
	5.2nm,0.7s,baz=94,slow=21,SNR=3.3							
LVC				LR		LR	18 21 18.8	
	comp=Z,55nm,18.4s,baz=238,slow=34							
	1.3nm,0.4s							
SIV	**San Ignacio**	**15.12**	**100**	P		**Pn**	**18 18 13.6**	**-1.7**
	baz=276,slow=18,SNR=3.1							
	0.9nm,0.4s							
H03N1	**Juan Fernandez**	**19.68**	**186**	T		T	18 39 16.2	
	baz=7.9,slow=74,SNR=78							
H03N2	**Juan Fernandez**	**19.68**	**186**	T		T	18 38 58.0	
	baz=7.9,slow=74,SNR=87							
H03N3	**Juan Fernandez**	**19.70**	**186**	T		T	18 39 12.6	
	baz=7.9,slow=74,SNR=86							
BDFB	**Brasilia**	**27.65**	**97**	LR		LR	18 32 15.6	
	comp=Z,51nm,20.9s,baz=224,slow=38							
MDP	**Montagnes des**	**30.25**	**53**	LR		LR	18 33 15.8	
	comp=Z,63nm,20.3s,baz=239,slow=37							
TXAR	**Lajitas Array**	**50.24**	**329**	P		**P**	**18 23 38.1**	**+1.0**
	0.2nm,0.7s,baz=149,slow=9.0,SNR=3.1							
	0.2nm,0.7s							
YKA	**Yellowknife Ar**	**81.64**	**343**	P		**P**	**18 26 57.3**	**-1.0**
	0.2nm,0.6s,baz=142,slow=5.6,SNR=5.5							
	0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**81.99**	**74**	P		**P**	**18 26 59.5**	**-1.7**
	2.5nm,0.8s,baz=260,slow=4.7,SNR=8.6							
	2.5nm,0.8s

PSI	**Prapat**	**7.10**	**132**	P	**Pn**	**18 22 40.7**	**+0.7**
RPSI	**Rantau Prapat**	**7.17**	**133**	Pn	**Pn**	**18 22 40.7**	**-0.2**
KULM	**Kulim**	**7.31**	**108**	Pn	**Pn**	**18 22 43.2**	**+0.4**
KULM				Sn	**Sn**	**18 24 02.4**	**-1.9**
GSI	**Gunungsitoli**	**7.40**	**148**	P	**Pn**	**18 22 43.5**	**-0.5**
GSI	**Gunungsitoli**	**7.40**	**148**	Pn	**Pn**	**18 22 40.6**	**-3.4**
GSI				Sn	**Sn**	**18 23 59.7**	**-6.9**
GSI	**Gunungsitoli**	**7.40**	**148**	P	**Pn**	**18 22 40.4**	**-3.6**
	68nm,0.7s,0.9nm						
IPM	**Ipoh**	**7.95**	**113**	P	**Pn**	**18 22 51.2**	**-0.4**
IPM	**Ipoh**	**7.95**	**113**	Pn	**Pn**	**18 22 51.4**	**-0.2**
IPM				Sn	**Sn**	**18 24 15.7**	**-4.4**
SRDT	**SRDT**	**8.53**	**38**	P	**Pn**	**18 23 02.9**	**+3.4**
BKNI	**Bangkinang**	**10.33**	**134**	P	**Pn**	**18 23 25.2**	**+1.1**
BKNI	**Bangkinang**	**10.33**	**134**	Pn	**Pn**	**18 23 19.8**	**-4.3**
BKNI	**Bangkinang**	**10.33**	**134**	P	**Pn**	**18 23 21.8**	**-2.3**
	178nm,0.6s						
SISI	**Saibi**	**10.42**	**149**	P	**Pn**	**18 23 23.3**	**-2.0**
	25nm,0.8s						
PDSI	**Padang**	**10.86**	**141**	P	**Pn**	**18 23 28.9**	**-2.5**
	58nm,0.6s						
MYKOM	**Kota Tinggi**	**11.68**	**119**	Pn	**Pn**	**18 23 40.7**	**-1.9**
CM31	**Chiang Mai Arr**	**11.90**	**25**		**Pn**	**18 23 45.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**11.90**	**25**	P	**Pn**	**18 23 46.7**	**+1.2**
	81nm,0.8s,baz=213,slow=14,SNR=104						
CMAR				LR	LR	18 28 14.5	
	comp=Z,586nm,19.7s,baz=205,slow=37						
CMAR				ScP	**ScP**	**18 32 56.4**	**+0.5**
	3.4nm,0.8s,baz=232,slow=2.9,SNR=14						
CHTO	**Chiang Mai**	**12.22**	**24**	Pn	**Pn**	**18 23 51.4**	**+1.5**
CHTO	**Chiang Mai**	**12.22**	**24**	P	**Pn**	**18 23 51.4**	**+1.5**
PHRA	**Phrae**	**12.53**	**30**	Pn	**Pn**	**18 23 54.4**	**+0.3**
PALK	**Pallekele**	**12.88**	**269**		**Pn**	**18 23 56.8**	**-2.1**
PALK	**Pallekele**	**12.88**	**269**	P	**Pn**	**18 23 59.1**	**+0.1**
PALK	**Pallekele**	**12.88**	**269**	P	**Pn**	**18 23 56.8**	**-2.1**
DSRI	**Dabo**	**13.54**	**126**	P	**Pn**	**18 24 06.7**	**-1.1**
	123nm,0.7s,1µm						
UBPT	**Khong Chiam**	**13.81**	**56**	P	**Pn**	**18 24 14.0**	**+2.5**
UBPT	**Khong Chiam**	**13.81**	**56**	Pn	**Pn**	**18 24 13.3**	**+1.8**
CRAI	**Chiangrai**	**14.09**	**27**		**Pn**	**18 24 16.4**	**+1.3**
VIS	**Vishakhapatnam**	**14.21**	**316**	*eP*	**Pn**	**18 24 16.4**	**-0.3**
VIS				IAmb	IAmb	18 24 18.1	
	comp=Z,476nm,0.4s						
VIS				*ex*	x	18 26 38.5	
MDRS	**Chennai**	**14.27**	**293**	*eP*	**Pn**	**18 24 17.1**	**-0.4**
MDRS				IAmb	IAmb	18 24 32.1	
	comp=Z,416nm,0.8s						
MDRS				*ex*	x	18 26 38.2	
MNAI	**Manna**	**15.10**	**142**	P	**Pn**	**18 24 29.3**	**+1.0**
MNAI				IAmb	IAmb	18 24 34.1	
	comp=Z,203nm,0.6s						
DLV	**T Lat**	**15.20**	**73**	P	**P**	**18 24 32.3**	**-1.2**
DLV	**T Lat**	**15.20**	**73**	P	**Pn**	**18 24 30.8**	**+1.0**
VJD	**Vijayawada**	**15.48**	**306**	*eP*	**Pn**	**18 24 32.6**	**-0.6**
BELO	**BELONIA**	**15.66**	**352**	*eP*	**Pn**	**18 24 33.6**	**-1.8**
KOD	**Kodaikanal**	**16.22**	**280**	*eP*	**Pn**	**18 24 42.8**	**-0.1**
KOD				IAmb	IAmb	18 24 48.4	
	comp=Z,137nm,0.9s						
LWLI	**Liwa**	**16.29**	**140**	P	**Pn**	**18 24 42.6**	**-1.0**
	comp=Z,395nm,0.7s,comp=Z,3µm						
SLVN	**Son La**	**16.81**	**35**	Pn	**Pn**	**18 24 49.0**	**-0.9**
KASI	**Kota Agung**	**16.96**	**140**	P	**Pn**	**18 24 49.6**	**-2.1**
	comp=Z,134nm,0.7s,comp=Z,1µm						
JHSG	**JHARSUGUGA**	**16.98**	**327**	*eP*	**P**	**18 24 53.1**	**+0.1**
JHSG				IAmb	IAmb	18 24 56.4	
	comp=Z,417nm,0.6s						
JHSG				*eS*	**Sn**	**18 27 52.9**	**-7.1**
IMP	**Imphal**	**17.09**	**1**	*eP*	**Pn**	**18 24 50.4**	**-3.0**
IMP				IAmb	IAmb	18 25 03.6	
	comp=Z,64nm,1.1s						
IMP				*eS*	**Sn**	**18 27 56.0**	**-6.8**
IMP				*eS*	**S**	**18 28 00.3**	**-8.8**
HYB	**Hyderabad**	**17.66**	**305**	*eP*	**Pn**	**18 25 00.2**	**-0.2**
HYB				IVmB_BB		18 25 03.5	
	comp=Z,1µm,1.0s						
HYB				*e*		18 28 13.7	
HYB				*eS*	**Sn**	**18 28 17.2**	**+0.6**
HYB	**Hyderabad**	**17.66**	**305**	*eP*	**P**	**18 25 01.4**	**+0.8**
HYB				IAmb	IAmb	18 25 03.9	
	comp=Z,60nm,0.9s						
KSM	**Kuching**	**17.66**	**110**	P	**P**	**18 25 02.1**	**+1.5**
KSM	**Kuching**	**17.66**	**110**	Pn	**Pn**	**18 24 57.6**	**-2.8**
BOK	**Bokaro**	**17.71**	**336**	*eP*	**P**	**18 25 02.4**	**+1.3**
BOK				IAmb	IAmb	18 25 08.2	
	comp=Z,86nm,0.8s						
TNCH	**TengChong**	**17.89**	**14**	P	**Pn**	**18 25 04.0**	**+0.7**
TNCH				pP	pP	18 25 14.5	-1.6
TNCH				sP	sP	18 25 24.3	+0.3
TNCH				S	**S**	**18 28 24.5**	**-0.5**
TNCH				sS	sS	18 28 38.6	-8.5
TNCH				pmax	pmax		
	comp=Z,59nm,1.3s						
TNCH				pmax	pmax		
	comp=Z,210nm,3.2s						
TNCH				LR	LR		
	comp=Z,470nm,21.5s						
TNCH				LR	LR		
	comp=Z,320nm,16.7s						
TNCH				LR	LR		
	comp=Z,1µm,27.8s						
SHL	**Shillong**	**17.90**	**355**		**P**	**18 25 00.2**	**-3.0**
SHL	**Shillong**	**17.90**	**355**	*eP*	**P**	**18 25 01.5**	**-1.8**
SHL				IAmb	IAmb	18 25 03.0	
	comp=Z,74nm,0.8s						
SHL				*eS*	**Sn**	**18 28 13.6**	**-8.9**
SHL	**Shillong**	**17.90**	**355**	P	**Pn**	**18 25 05.9**	**+2.4**
	SNR=13						
SHL	**Shillong**	**17.90**	**355**	P	**P**	**18 25 00.3**	**-3.0**
SHL				pmax	pmax		
	comp=Z,94nm,0.7s						
KOHI	**KOHIMA**	**17.98**	**1**	*eP*	**P**	**18 25 00.6**	**-3.5**
KOHI				IAmb	IAmb	18 25 11.3	
	comp=Z,190nm,0.5s						
KOHI				*eS*	**Sn**	**18 28 18.3**	**-6.1**
SBUM	**Sibu**	**19.17**	**105**	P	**P**	**18 25 17.6**	**+0.5**
STKI	**Sintang**	**19.27**	**112**	P	**P**	**18 25 19.0**	**+0.7**
	comp=Z,56nm,0.7s,comp=Z,2µm						
QIZ	**Qiongzhong**	**19.35**	**53**	P	**Pn**	**18 25 21.2**	**+0.5**
QIZ	**Qiongzhong**	**19.35**	**53**	P	**Pn**	**18 25 21.6**	**+0.9**
QIZ				pP	**pwP**	**18 25 33.3**	**-1.2**
QIZ				S	**Sn**	**18 29 01.1**	**+3.8**
QIZ				pmax	pmax		
	comp=Z,120nm,1.1s						
QIZ				pmax	pmax		
	comp=Z,510nm,8.0s						
QIZ				LR	LR		
	comp=Z,1µm,13.5s						
QIZ				LR	LR		
	comp=Z,310nm,13.5s						
QIZ				LR	LR		
	comp=Z,840nm,29.4s						
QIZ	**Qiongzhong**	**19.35**	**53**	P	**Pn**	**18 25 20.5**	**-0.2**
QIZ				IAmb	IAmb	18 25 23.0	
	comp=Z,206nm,1.3s						
ITAN	**ITANAGAR**	**19.39**	**0**	*eP*	**P**	**18 25 18.1**	**-1.4**
ITAN				IAmb	IAmb	18 25 26.2	
	comp=Z,213nm,0.7s						
KMI	**Kunming**	**19.41**	**25**	⇑P	**Pn**	**18 25 22.5**	**+0.9**
KMI				pmax	pmax		
	comp=Z,38nm,0.7s						
KMI				pmax	pmax		
	comp=Z,250nm,3.2s						
KMI				LR	LR		
	comp=Z,430nm,24.9s						
KMI				LR	LR		
	comp=Z,480nm,17.5s						
KMI				LR	LR		
	comp=Z,620nm,23.2s						
ZIRO	**ZIRO**	**19.77**	**0**	*eP*	**P**	**18 25 21.7**	**-2.1**
ZIRO				IAmb	IAmb	18 25 31.2	
	comp=Z,132nm,0.4s						
ZIRO			⇑	*eS*	**S**	**18 28 56.2**	**-7.2**
LATR	**Latur**	**19.80**	**304**	*eP*	**P**	**18 25 23.9**	**0.0**
LATR				IAmb	IAmb	18 25 28.1	
	comp=Z,107nm,0.9s						
LEM	**Lembang**	**20.00**	**136**	P	**P**	**18 25 23.9**	**-2.4**
	comp=Z,12nm,0.4s,baz=315,slow=19,SNR=4.3						
LEM				ScP	**ScP**	**18 33 11.4**	**-0.1**
	comp=Z,9.1nm,0.6s,baz=324,slow=19,SNR=3.6						
LEM				LR	LR	18 34 01.4	
	comp=Z,2µm,20.7s,baz=317,slow=39						
LEM	**Lembang**	**20.00**	**136**	P	**P**	**18 25 23.3**	**-3.0**
	comp=Z,36nm,1.5s						
GTK	**Tadong**	**20.15**	**347**	*eP*	**P**	**18 25 28.4**	**+0.5**
GTK				IAmb	IAmb	18 25 39.2	
	comp=Z,82nm,0.6s						
PZH	**PanZhiHua**	**20.26**	**21**	P	**P**	**18 25 30.3**	**+1.3**
PZH				S	**S**	**18 29 11.4**	**-1.5**
PZH				SS	**SnSn**	**18 29 45.6**	**+10**
PZH				ScP	**ScP**	**18 33 10.5**	**-1.4**
PZH				ScS	**ScS**	**18 36 52.3**	**-2.7**
PZH				pmax	pmax		
	comp=Z,100nm,0.9s						
PZH				pmax	pmax		
	comp=Z,280nm,3.5s						
PZH				LR	LR		
	comp=Z,470nm,21.4s						
PZH				LR	LR		
	comp=Z,300nm,19.8s						
PZH				LR	LR		
	comp=Z,780nm,28.4s						
BBJI	**Bungbulang**	**20.48**	**137**	P	**P**	**18 25 32.0**	**+0.6**
AKL	**Akola**	**20.70**	**311**	*eP*	Pn	18 25 35.2	-1.3
AKL				IAmb	IAmb	18 25 40.2	
	comp=Z,96nm,1.1s						
AKL				*ex*	**S**	**18 29 14.2**	**-7.2**
GOA	**Goa**	**20.94**	**294**	*eP*	**P**	**18 25 36.1**	**-0.3**
KAD	**Karad**	**21.30**	**299**	*eP*	**P**	**18 25 40.3**	**+0.1**
KAD				IAmb	IAmb	18 25 45.9	
	comp=Z,186nm,0.9s						
XMIS	**Christmas Isla**	**21.59**	**146**	P	**P**	**18 25 41.7**	**-1.6**
XMIS				IAmb	IAmb	18 25 44.6	
	comp=Z,121nm,1.0s						
KAAM	**Kaadhehdhoo**	**21.81**	**252**	P	**P**	**18 25 44.1**	**-1.6**
KAAM				IAmb	IAmb	18 25 49.6	
	comp=Z,217nm,1.0s						
KAAM	**Kaadhehdhoo**	**21.81**	**252**	P	**P**	**18 25 46.5**	**+0.8**
BHPL	**Bhopal**	**22.00**	**317**	*eP*	**P**	**18 25 48.8**	**+1.0**
BHPL				IAmb	IAmb	18 25 54.1	
	comp=Z,102nm,1.0s						
BHPL				*eS*	**S**	**18 29 47.3**	**+0.2**
LSA	**Lhasa**	**22.07**	**354**	P	**P**	**18 25 48.1**	**-0.7**
LSA	**Lhasa**	**22.07**	**354**	P	**P**	**18 25 48.2**	**-0.5**
LSA	**Lhasa**	**22.07**	**354**	P	**P**	**18 25 48.4**	**-0.3**
LSA	**Lhasa**	**22.07**	**354**	P	**P**	**18 25 48.2**	**-0.5**
LSA	**Lhasa**	**22.07**	**354**	P	**P**	**18 25 48.2**	**-0.5**
LSA				pmax	pmax		
	comp=Z,60nm,0.8s						
LSA				MLR	MLR		
	comp=Z,200nm,20.0s						
SMRI	**Semarang**	**22.19**	**131**	P	**P**	**18 25 50.6**	**+0.8**
SMRI	**Semarang**	**22.19**	**131**	P	**P**	**18 25 50.0**	**+0.2**
GYA	**Guiyang**	**22.41**	**32**	⇑P	**P**	**18 25 54.3**	**+2.1**
GYA				S	**S**	**18 29 56.1**	**+1.7**
GYA				pmax	pmax		
	comp=Z,64nm,0.7s						
GYA				pmax	pmax		
	comp=Z,360nm,5.7s						
GYA				LR	LR		
	comp=Z,560nm,20.0s						
GYA				LR	LR		
	comp=Z,340nm,22.7s						
GYA				LR	LR		
	comp=Z,920nm,21.3s						
MTKI	**Muara Teweh, K**	**22.81**	**111**	P	**P**	**18 25 56.3**	**-0.1**
	comp=Z,114nm,0.7s						
UGM	**Wanagama**	**22.82**	**132**	P	**P**	**18 25 57.3**	**+0.8**
JHNI	**Jhansi**	**22.86**	**323**	*eP*	**P**	**18 25 57.9**	**+1.1**
JHNI				IAmb	IAmb	18 25 59.0	
	comp=Z,95nm,0.6s						
PWJI	**Pagerwojo**	**23.85**	**130**	P	**P**	**18 26 06.1**	**-0.1**
	comp=Z,54nm,0.8s						
HKPS	**Hong Kong Po S**	**24.49**	**51**	P	**P**	**18 26 14.5**	**+2.5**
HKPS	**Hong Kong Po S**	**24.49**	**51**	P	**P**	**18 26 11.9**	**-0.1**
HKPS				IAmb	IAmb	18 26 15.6	
	comp=Z,109nm,1.3s						
BKB	**Balikpapan**	**24.79**	**110**	IAMs_20	IAMs_20	18 36 46.0	
	comp=Z,930nm,21.0s						
BLJI	**Banyuglugur**	**25.06**	**127**	P	**P**	**18 26 16.1**	**-1.1**
	comp=Z,196nm,0.9s						
LGTI	**Lohaghat**	**25.10**	**331**	*eP*	**P**	**18 26 18.1**	**+0.6**
LGTI				IAmb	IAmb	18 26 21.3	
	comp=Z,86nm,0.8s						
PTH	**Pithoragarh**	**25.20**	**332**	*eP*	**P**	**18 26 19.5**	**+0.9**
ABJI	**Asem Bagus**	**25.60**	**126**	P	**P**	**18 26 21.6**	**-0.5**
SONA	**Sohna**	**25.80**	**325**	*eP*	**P**	**18 26 23.6**	**-0.2**
JAGI	**Jajag, Banyuwa**	**25.93**	**128**	P	**P**	**18 26 23.7**	**-1.4**
JAGI	**Jajag, Banyuwa**	**25.93**	**128**	P	**P**	**18 26 23.6**	**-1.6**
JAGI				IAmb	IAmb	18 26 32.9	
	comp=Z,74nm,1.0s						
JAGI	**Jajag, Banyuwa**	**25.93**	**128**	P	**P**	**18 26 23.8**	**-1.4**
	comp=Z,54nm,0.8s						
H08S3	**Diego Garcia H**	**26.02**	**235**	T	T	18 53 16.5	
	baz=54,slow=76,SNR=1431						
H08S2	**Diego Garcia H**	**26.02**	**235**	T	T	18 53 19.2	
	baz=54,slow=76,SNR=739						
H08S1	**Diego Carcia H**	**26.04**	**235**	T	T	18 53 18.0	
	baz=54,slow=76,SNR=1553						
AJM	**Ajmer**	**26.05**	**318**	*eP*	**P**	**18 26 28.2**	**+2.1**
KUDL	**Kundal**	**26.07**	**324**	*eP*	**P**	**18 26 25.7**	**-0.5**
SRBI	**Singaraja**	**26.55**	**126**	P	**P**	**18 26 29.2**	**-1.5**
	comp=Z,129nm,0.7s						
ENH	**Enshi**	**26.95**	**31**	P	**P**	**18 26 34.5**	**+0.3**
ENH	**Enshi**	**26.95**	**31**	P	**P**	**18 26 34.2**	**0.0**
ENH				IAmb	IAmb	18 26 43.3	
	comp=Z,70nm,0.8s						
ENH				IAMs_20	IAMs_20	18 37 16.8	
	comp=Z,742nm,22.0s						
CNSH	**ChangSha**	**27.35**	**39**	⇑P	**P**	**18 26 38.4**	**+0.6**
CNSH				S	**S**	**18 31 16.0**	**+2.8**
CNSH				pmax	pmax		
	comp=Z,27nm,0.8s						
CNSH				LR	LR		
	comp=Z,250nm,23.6s						
CNSH				LR	LR		
	comp=Z,250nm,17.2s						
CNSH				LR	LR		
	comp=Z,410nm,34.8s						
TGY	**Tagaytay City**	**27.50**	**74**	LR	LR	18 36 30.1	
	comp=Z,560nm,21.9s,baz=256,slow=34						
TOLI2	**Tolitoli**	**27.77**	**102**	P	**P**	**18 26 42.3**	**+0.6**
TOLI2	**Tolitoli**	**27.77**	**102**	P	**P**	**18 26 41.0**	**-0.8**
TOLI2				PcP	**PcP**	**18 29 57.2**	**+0.1**
TOLI2				ScP	**ScP**	**18 33 29.9**	**-2.6**
SMLA	**Simla**	**28.00**	**329**	*eP*	**P**	**18 26 44.3**	**+0.8**
LQP	**Lukban**	**28.08**	**74**	⇑*eP*	**P**	**18 26 46.2**	**+1.6**
IBAJ	**Ibajay, Aklan**	**28.37**	**79**	⇑*iP*	**P**	**18 26 48.8**	**+1.7**
GOMU	**GeErMu**	**28.44**	**2**	P	**P**	**18 26 48.3**	**+0.5**
GOMU				S	**S**	**18 31 25.3**	**-5.6**
GOMU				pmax	pmax		
	comp=Z,22nm,0.6s						
GOMU				LR	LR		
	comp=Z,250nm,17.8s						
GOMU				LR	LR		
	comp=Z,360nm,15.1s						
GOMU				LR	LR		
	comp=Z,560nm,15.7s						
KAPI	**Kappang**	**28.89**	**115**	P	**P**	**18 26 50.6**	**-1.1**
KAPI				PcP	**PcP**	**18 30 00.0**	**+0.2**
RCP	**Roxas**	**28.91**	**80**	⇑*iP*	**P**	**18 26 53.8**	**+2.0**
KNMB	**Chin-men Tao**	**28.95**	**52**	IAMs_20	IAMs_20	18 39 23.6	
	comp=Z,574nm,18.0s						
QZH	**Quanzhou**	**29.36**	**51**	*eP*	**P**	**18 26 57.0**	**+1.3**
QZH				*eS*	**S**	**18 31 50.3**	**+5.4**
QZH				LR	LR		
	comp=Z,510nm,16.2s						
QZH				LR	LR		
	comp=Z,680nm,14.4s						
QZH				LR	LR		
	comp=Z,990nm,16.0s						
THN	**Thein Dam**	**29.78**	**328**	*eP*	**P**	**18 26 59.9**	**+0.5**
THN				IAmb	IAmb	18 27 07.2	
	comp=Z,37nm,0.5s						
LZH	**Lanzhou**	**29.79**	**17**	⇑P	**P**	**18 27 00.0**	**+0.4**
LZH				sP	sP	18 27 22.9	+1.0
LZH				ScP	**ScP**	**18 33 39.5**	**+0.9**
LZH				pmax	pmax		
	comp=Z,110nm,1.4s						
LZH				LR	LR		
	comp=Z,300nm,15.5s						
LZH				LR	LR		
	comp=Z,290nm,14.4s						
LZH				LR	LR		
	comp=Z,530nm,16.5s						
XAN	**Xi'an**	**29.79**	**26**	⇑P	**P**	**18 26 59.3**	**-0.2**
XAN				S	**S**	**18 31 52.0**	**+0.4**
XAN				sS	sS	18 32 12.0	-5.9
XAN				pmax	pmax		
	comp=Z,250nm,0.9s						
XAN				pmax	pmax		
	comp=Z,150nm,3.8s						
XAN				LR	LR		
	comp=Z,400nm,20.2s						
XAN				LR	LR		
	comp=Z,620nm,20.6s						
XAN				LR	LR		
	comp=Z,980nm,23.7s						
WHN	**Wuhan**	**29.89**	**38**	⇑*iP*	**P**	**18 27 01.5**	**+1.2**
WHN				S	**S**	**18 31 52.0**	**-1.1**
WHN				pmax	pmax		
	comp=Z,100nm,0.8s						
WHN				LR	LR		
	comp=Z,1µm,23.7s						
TBP	**Tagbilaran**	**29.90**	**84**	⇑*eP*	**P**	**18 27 01.8**	**+1.2**
GTOI	**Gorontalo**	**30.05**	**102**	P	**P**	**18 27 01.3**	**-0.7**
	comp=Z,57nm,1.1s,comp=Z,582nm						
TPUB	**Ta-pu**	**30.19**	**56**	P	**P**	**18 27 06.0**	**+2.9**
TPUB	**Ta-pu**	**30.19**	**56**	P	**P**	**18 27 03.0**	**-0.1**
LUWI	**Luwuk**	**30.27**	**105**	P	**P**	**18 27 05.2**	**+1.3**
LUWI	**Luwuk**	**30.27**	**105**	P	**P**	**18 27 03.3**	**-0.6**
LUWI	**Luwuk**	**30.27**	**105**	P	**P**	**18 27 04.2**	**+0.3**
	comp=Z,187nm,0.9s,comp=Z,2µm						
TWGBT	**Beinan**	**30.35**	**57**	P	**P**	**18 27 07.5**	**+3.0**
JMU	**Jammu**	**30.43**	**328**	*eP*	**P**	**18 27 05.7**	**+0.6**
SSLB	**Suanglung**	**30.67**	**55**	P	**P**	**18 27 10.6**	**+3.2**
SSLB	**Suanglung**	**30.67**	**55**	P	**P**	**18 27 08.1**	**+0.7**
SSLB				IAmb	IAmb	18 27 11.0	
	comp=Z,108nm,1.6s						
SSLB				IAMs_20	IAMs_20	18 38 46.2	
	comp=Z,577nm,22.0s						
CGP	**Cagayan de Oro**	**30.71**	**86**	⇓*eP*	**P**	**18 27 08.7**	**+0.9**
YULB	**Yu-li**	**30.78**	**56**	P	**P**	**18 27 10.2**	**+1.9**
YULB	**Yu-li**	**30.78**	**56**	P	**P**	**18 27 07.7**	**-0.6**
YULB				IAmb	IAmb	18 27 12.2	
	comp=Z,143nm,1.6s						
YULB				IAMs_20	IAMs_20	18 40 57.0	
	comp=Z,602nm,18.0s						
KMSI	**Cibinong**	**31.01**	**102**	P	**P**	**18 27 11.7**	**+1.3**
	comp=Z,308nm,1.1s,comp=Z,3µm						
PLP	**Palo**	**31.06**	**81**	⇓*eP*	**P**	**18 27 12.1**	**+1.2**
KCP	**Kidapawan**	**31.15**	**89**	⇓*iP*	**P**	**18 27 13.5**	**+1.7**
NACB	**Ninganchiao**	**31.37**	**55**	P	**P**	**18 27 16.3**	**+2.8**
NACB	**Ninganchiao**	**31.37**	**55**	P	**P**	**18 27 13.4**	**-0.1**
NACB				IAMs_20	IAMs_20	18 39 30.7	
	comp=Z,613nm,21.0s						
YHNB	**Yeheng**	**31.42**	**54**	P	**P**	**18 27 16.2**	**+2.2**
YHNB	**Yeheng**	**31.42**	**54**	P	**P**	**18 27 14.6**	**+0.6**
YHNB				IAmb	IAmb	18 27 17.5	
	comp=Z,66nm,1.4s						
YHNB				IAMs_20	IAMs_20	18 40 13.0	
	comp=Z,656nm,20.0s						
DAV	**Davao City (W)**	**31.64**	**89**	LR	LR	18 42 21.4	
	comp=Z,179nm,19.5s,baz=242,slow=41						
TATO	**Taipei**	**31.65**	**54**	P	**P**	**18 27 18.4**	**+2.5**
TATO	**Taipei**	**31.65**	**54**	P	**P**	**18 27 16.9**	**+1.0**
TATO				IAmb	IAmb	18 27 19.7	
	comp=Z,95nm,1.3s						
TATO				IAMs_20	IAMs_20	18 40 10.4	
	comp=Z,659nm,20.0s						
LYN	**LuoYang**	**31.87**	**30**	⇑P	**P**	**18 27 19.4**	**+1.6**
LYN				PcP	**PcP**	**18 30 08.3**	**+1.0**
LYN				S	**S**	**18 32 28.6**	**+4.5**
LYN				ScP	**ScP**	**18 33 45.0**	**-0.3**
LYN				ScS	**ScS**	**18 37 37.3**	**-6.5**
LYN				pmax	pmax		
	comp=Z,190nm,1.0s						
LYN				pmax	pmax		
	comp=Z,150nm,5.8s						
LYN				LR	LR		
	comp=Z,690nm,20.6s						
LYN				LR	LR		
	comp=Z,610nm,21.0s						
LYN				LR	LR		
	comp=Z,1µm,20.6s						
NIL	**Nilore**	**32.03**	**327**	P	**P**	**18 27 19.2**	**-0.1**
NIL	**Nilore**	**32.03**	**327**	P	**P**	**18 27 19.6**	**+0.3**
NIL	**Nilore**	**32.03**	**327**	P	**P**	**18 27 19.2**	**-0.1**
NIL				pmax	pmax		
	comp=Z,123nm,0.6s						
GTA	**Gaotai**	**32.10**	**9**	⇑P	**P**	**18 27 20.3**	**+0.4**
GTA				pP	pP	18 27 35.8	+0.4
GTA				S	**S**	**18 32 27.8**	**0.0**
GTA				ScP	**ScP**	**18 33 46.5**	**+0.3**
GTA				ScS	**ScS**	**18 37 43.5**	**-1.6**
GTA				pmax	pmax		
	comp=Z,31nm,1.1s						
GTA				LR	LR		
	comp=Z,310nm,19.3s						
GTA				LR	LR		
	comp=Z,120nm,18.9s						
GTA				LR	LR		
	comp=Z,380nm,19.6s						
EDFI	**Ende, Flores**	**32.32**	**120**	P	**P**	**18 27 19.1**	**-2.9**
	comp=Z,36nm,1.2s						
YOJ	**Yonaguni jima**	**32.65**	**56**	P	**P**	**18 27 25.4**	**+0.6**
YOJ				IAmb	IAmb	18 27 51.1	
	comp=Z,50nm,1.0s						
YOJ	**Yonaguni jima**	**32.65**	**56**	P	**P**	**18 27 25.4**	**+0.6**
YOJ				pmax	pmax		
	comp=Z,50nm,1.0s						
SANI	**Sanana**	**33.64**	**105**	P	**P**	**18 27 32.9**	**-0.6**
SANI	**Sanana**	**33.64**	**105**	P	**P**	**18 27 32.3**	**-1.1**
	comp=Z,27nm,0.8s						
NJ2	**Nanjing**	**33.74**	**41**	⇑P	**P**	**18 27 35.5**	**+1.4**
NJ2				S	**S**	**18 32 50.4**	**-2.7**
NJ2				ScP	**ScP**	**18 33 51.3**	**-0.5**
NJ2				pmax	pmax		
	comp=Z,76nm,0.9s						
NJ2				LR	LR		
	comp=Z,310nm,14.2s						
NJ2				LR	LR		
	comp=Z,320nm,15.6s						
NJ2				LR	LR		
	comp=Z,300nm,17.1s						
TNTI	**Ternate**	**34.26**	**100**	P	**P**	**18 27 39.8**	**+0.9**
TNTI	**Ternate**	**34.26**	**100**	P	**P**	**18 27 37.9**	**-0.9**
TNTI				IAmb	IAmb	18 27 38.8	
	comp=Z,33nm,1.0s						
TNTI	**Ternate**	**34.26**	**100**	P	**P**	**18 27 37.5**	**-1.4**
	comp=Z,37nm,1.2s,comp=Z,397nm						
TIY	**Taiyuan**	**34.42**	**27**	⇑P	**P**	**18 27 41.9**	**+1.9**
TIY				pmax	pmax		
	comp=Z,74nm,0.6s						
TIY				LR	LR		
	comp=Z,390nm,20.6s						
TIY				LR	LR		

KSH pmax pmax
comp=Z,13nm,0.6s
KSH LR LR
comp=Z,130nm,15.8s
KSH LR LR
comp=Z,280nm,18.7s
KSH LR LR
comp=Z,310nm,18.2s
TIA Tai'an 35.59 34 ⇑P **P 18 27 51.1 +1.1**
TIA pmax pmax
comp=Z,33nm,0.9s
TIA LR LR
comp=Z,130nm,17.1s
TIA LR LR
comp=Z,110nm,16.7s
TIA LR LR
comp=Z,230nm,27.0s
NGCH Negor - Chabah 35.68 303 P **P 18 27 54.7 +3.7**
WUS Wushi 35.80 341 P **P 18 27 52.5 +0.6**
WUS pP **pP 18 28 08.8 +1.0**
BTO Baotou 35.91 21 *e*P **P 18 27 53.3 +0.4**
BTO pP **pP 18 28 09.6 +1.4**
BTO sP **sP 18 28 14.0 -1.5**
BTO PP **PP 18 29 17.8 +2.2**
BTO S **S 18 33 28.3 +1.7**
BTO SS **SS 18 35 57.5 -8.0**
BTO pmax pmax
comp=Z,180nm,0.8s
BTO pmax pmax
comp=Z,230nm,4.4s
BTO LR LR
comp=Z,730nm,21.8s
BTO LR LR
comp=Z,360nm,12.2s
BTO LR LR
comp=Z,880nm,21.0s
JLN Jalan Bani Buh 36.01 297 P **P 18 27 56.9 +3.1**
GIRL Giralia 36.21 147 P **P 18 27 57.0 +1.5**
baz=36,SNR=4.0
GIRL Giralia 36.21 147 P **P 18 27 55.0 -0.4**
WMQ Urumqi 36.41 353 *e*P **P 18 27 58.4 +1.4**
WMQ pP pP 18 28 14.8 +2.0
WMQ S **S 18 33 33.0 -1.0**
WMQ pmax pmax
comp=Z,34nm,0.7s
WMQ LR LR
comp=Z,250nm,18.5s
WMQ LR LR
comp=Z,350nm,20.1s
WMQ LR LR
comp=Z,260nm,22.1s
WBK Wadi Bani Khal 36.54 298 P **P 18 28 01.6 +3.2**
HHC Hu-ho-hao-te 36.70 23 *e*P **P 18 27 59.6 0.0**
HHC S **S 18 33 38.0 -0.6**
HHC pmax pmax
comp=Z,78nm,5.7s
HHC LR LR
comp=Z,260nm,19.9s
HHC LR LR
comp=Z,240nm,19.9s
HHC LR LR
comp=Z,300nm,19.9s
TARG Taragay, Kyrgy 36.74 340 P **P 18 27 59.8 -0.5**
TARG Taragay, Kyrgy 36.74 340 P **P 18 27 59.8 -0.5**
TARG pmax pmax
comp=Z,16nm,0.7s
MHTO MHTO 36.95 295 P **P 18 28 03.9 +2.0**
MHTO P **P 18 28 03.9 +2.0**
WSAR Wadi Sarin 37.04 299 LR LR 18 42 20.9
comp=Z,310nm,20.9s,baz=120,slow=34
DQM DQM 37.07 293 P **P 18 28 05.6 +2.7**
JMDO Jabal Madar 37.23 297 P **P 18 28 07.0 +2.8**
DRK Karamyk 37.29 332 P **P 18 28 06.0 +1.2**
DRK Karamyk 37.29 332 P **P 18 28 06.0 +1.2**
DRK pmax pmax
comp=Z,78nm,0.8s
SMDO Samad 37.48 298 P **P 18 28 09.4 +2.9**
SHLS Shalkode 37.51 343 *e*P **P 18 28 05.4 -1.1**
baz=343
SHLS Shalkode 37.51 343 *e*P **P 18 28 05.3 -1.1**
BIDO Bidbid 37.56 299 P **P 18 28 10.1 +3.0**
SNR=5.5
UZB Uzynbulak 37.63 342 *e*P **P 18 28 07.2 -0.3**
baz=342
UZB Uzynbulak 37.63 342 *e*P **P 18 28 07.2 -0.3**
PDGK Podgornoye 37.66 343 P **P 18 28 07.1 -0.6**
SATY Saty 37.74 342 *e*P **P 18 28 08.2 -0.3**
comp=Z,8.2nm,0.5s,baz=342
SATY Saty 37.74 342 *e*P **P 18 28 08.1 -0.3**
SATY pmax pmax
comp=Z,8.0nm,0.5s
JOW Kunigami 37.96 56 P **P 18 28 12.0 +1.7**
JOW Kunigami 37.96 56 P **P 18 28 11.3 +1.0**
JOW IAmb IAmb 18 28 13.2
comp=Z,42nm,1.0s
JOW Kunigami 37.96 56 LR LR 18 45 41.0
comp=Z,374nm,18.3s,baz=242,slow=39
BJT Baijiatuan 38.00 28 P **P 18 28 12.2 +1.8**
BJT Baijiatuan 38.00 28 P **P 18 28 12.8 +2.4**
BJT pP **pwP 18 28 28.7 -0.1**
BJT PcP **PcP 18 30 26.1 +1.2**
BJI Beijing 38.02 28 P **P 18 28 12.6 +2.0**
BJI pP **pwP 18 28 28.4 -0.6**
BJI PP **PnPn 18 29 44.0 +3.4**
BJI PcP **PcP 18 30 26.0 +1.0**
BJI S **S 18 34 01.5 +3.1**
BJI pmax pmax
comp=Z,57nm,0.7s
BJI pmax pmax
comp=Z,160nm,3.9s
BJI LR LR
comp=Z,130nm,23.1s
BJI LR LR
comp=Z,99nm,22.7s
BJI LR LR
comp=Z,210nm,20.4s
SIMJ Simiganj 38.05 328 P **P 18 28 10.0 -1.1**
SIMJ IAmb IAmb 18 28 18.1
comp=Z,35nm,0.6s
SIMJ Simiganj 38.05 328 P **P 18 28 10.8 -0.3**
SIMJ pP **pP 18 28 27.1 +0.1**
SIMJ ScP **ScP 18 34 08.2 +0.5**
BSY Bisya 38.13 297 P **P 18 28 14.9 +3.0**
SNR=7.2
BSY P **P 18 28 14.9 +3.0**
SNR=7.2
TNSS Tian-Shan 38.20 340 *e*P **P 18 28 11.8 -0.8**
baz=340
TNSS Tian-Shan 38.20 340 *e*P **P 18 28 11.8 -0.8**
BTK Batken 38.21 331 P **P 18 28 14.2 +1.8**
BTK IAmb IAmb 18 28 32.3
comp=Z,72nm,0.8s
BTK Batken 38.21 331 P **P 18 28 14.2 +1.8**
BTK pmax pmax
comp=Z,72nm,0.9s
ARSB Arslanbob 38.25 335 P **P 18 28 13.8 +1.1**
ARSB Arslanbob 38.25 335 P **P 18 28 13.8 +1.1**
ARSB pmax pmax
comp=Z,26nm,0.8s
MDOK Medeo 38.27 340 *e*P **P 18 28 12.6 -0.4**
baz=340
MDOK Medeo 38.27 340 *e*P **P 18 28 12.5 -0.4**
HOQ Hoqain 38.29 299 P **P 18 28 16.4 +3.2**
AAA Alma-Ata 38.36 340 *e*P **P 18 28 13.4 -0.2**
comp=Z,9.2nm,0.3s,baz=340
AAA Alma-Ata 38.36 340 *e*P **P 18 28 13.3 -0.2**
AAA pmax pmax
comp=Z,9.0nm,0.3s
UCH Uchtor 38.38 337 P **P 18 28 15.2 +1.0**
SNR=19
MBWA Marble Bar 38.39 139 P **P 18 28 12.8 -1.2**
SWI Sorong 38.42 101 P **P 18 28 14.2 -0.1**
comp=Z,167nm,1.0s,comp=Z,1um
SWI Sorong 38.42 101 P **P 18 28 14.2 -0.1**
SHAO Shalim 38.43 289 P **P 18 28 17.1 +2.7**
TKM2 Tokmak 2 38.57 339 P **P 18 28 16.2 +0.7**
SNR=25
TKM2 Tokmak 2 38.57 339 P **P 18 28 14.9 -0.6**
KBK Karagaybulak 38.58 338 P **P 18 28 16.9 +1.4**
SNR=59
JASK Jask - Hormozg 38.60 302 P **P 18 28 18.9 +3.2**
AAK Ala-Archa 38.74 337 P **P 18 28 18.8 +1.9**
SNR=14
AAK Ala-Archa 38.74 337 P **P 18 28 17.5 +0.7**
AAK Ala-Archa 38.74 337 *i* P **P 18 28 18.1 +1.3**
SNR=16
AAK Ala-Archa 38.74 337 P **P 18 28 17.9 +1.0**
comp=Z,9.3nm,0.6s,baz=153,slow=4.5,SNR=32
AAK ScP **ScP 18 34 11.2 +0.9**
comp=Z,5.2nm,0.8s,baz=184,slow=4.3,SNR=8.6
AAK LR LR 18 46 13.0
comp=Z,296nm,20.6s,baz=156,slow=39
comp=Z,9.3nm,0.6s
AAK Ala-Archa 38.74 337 P **P 18 28 18.8 +1.9**
AAK P **P 18 28 18.8 +1.9**
AAK Ala-Archa 38.74 337 *ce*P **P 18 28 17.8 +1.0**
AAK pmax pmax
comp=Z,17nm,1.0s
AAK Ala-Archa 38.74 337 P **P 18 28 18.1 +1.3**
AAK pP **pP 18 28 34.5 +1.8**
PSA00 Pilbara Seismi 38.76 139 P **P 18 28 16.4 -0.7**
PSA00 Pilbara Seismi 38.76 139 P **P 18 28 16.5 -0.6**
PSA00 IAmb IAmb 18 28 17.3
comp=Z,46nm,0.8s
PSA00 Pilbara Seismi 38.76 139 P **P 18 28 15.0 -2.1**
PSA00 IAmb IAmb 18 28 17.4
comp=Z,20nm,0.9s
FRU1 Bishkek 38.83 337 P **P 18 28 19.1 +1.6**
ARQ Araqi 38.91 298 P **P 18 28 21.5 +3.1**
CHKK Chushkaly 38.91 341 *e*P **P 18 28 17.6 -0.6**
baz=341
CHKK Chushkaly 38.91 341 *e*P **P 18 28 17.5 -0.6**
CHMS Chumysh 38.95 338 P **P 18 28 19.3 +0.8**
SNR=10
ARXS Arharly 38.96 342 *e*P **P 18 28 18.6 0.0**
DMTO DMTO 39.02 289 P **P 18 28 21.9 +2.6**
EKS2 Erkin-Say 39.04 336 P **P 18 28 20.6 +1.3**
SNR=18
SOHO SOHO 39.14 299 *i* P **P 18 28 23.0 +2.7**
SNR=8.8
SOHO SOHO 39.14 299 P **P 18 28 23.4 +3.1**
USP Ospenovka 39.27 338 P **P 18 28 22.0 +0.9**
SNR=28
SGDS Sogindy 39.38 338 *e*P **P 18 28 21.8 -0.3**
baz=338
SGDS Sogindy 39.38 338 *e*P **P 18 28 21.8 -0.3**
TDK Taldyqorghan 39.51 343 *e*P **P 18 28 23.1 0.0**
baz=343
TDK Taldyqorghan 39.51 343 *e*P **P 18 28 23.0 0.0**
RBK Rabkut 39.68 288 P **P 18 28 27.4 +2.5**
UOSS Minazif 39.69 300 P **P 18 28 26.3 +1.5**
UOSS Minazif 39.69 300 P **P 18 28 27.6 +2.8**
HATD Hatta, Dubai 39.71 300 P **P 18 28 27.6 +2.6**
HATD Hatta, Dubai 39.71 300 P **P 18 28 28.0 +3.0**
MDH Madha 39.72 301 P **P 18 28 25.9 +0.7**
MDH Madha 39.72 301 P **P 18 28 27.0 +1.9**
ASHO Ashiyiah 39.73 300 P **P 18 28 28.0 +2.8**
ALNE Al Ain 39.80 299 *i* P **P 18 28 28.6 +2.9**
SNR=14
ALNE Al Ain 39.80 299 P **P 18 28 29.6 +3.8**
SNR=5.3
MSFE Esma-Masafi 39.86 301 P **P 18 28 29.3 +3.0**
MASF Masafi 39.87 301 P **P 18 28 29.5 +3.2**
FAKI Fak Fak 39.88 104 P **P 18 28 27.6 +1.0**
FAKI Fak Fak 39.88 104 P **P 18 28 26.5 -0.1**
FAKI IAmb IAmb 18 28 27.3
comp=Z,75nm,1.1s
FAKI Fak Fak 39.88 104 P **P 18 28 25.7 -0.9**
comp=Z,82nm,0.9s
UMZA Um Al Zommool 39.93 296 P **P 18 28 29.5 +2.6**
DOK Doka 39.94 290 P **P 18 28 29.5 +2.5**
SNR=5.6
DL2 Dalian 40.01 35 P **P 18 28 29.1 +1.8**
DL2 S **S 18 34 29.0 +0.6**
DL2 pmax pmax
comp=Z,190nm,0.9s
DL2 pmax pmax
comp=Z,460nm,3.9s
DL2 LR LR
comp=Z,270nm,18.0s
DL2 LR LR
comp=Z,340nm,13.9s
DL2 LR LR
comp=Z,340nm,16.7s
MSEY Mahe Island 40.03 253 P **P 18 28 26.4 -1.5**
SHME Shamm 40.11 302 P **P 18 28 30.9 +2.6**
SHME Shamm 40.11 302 P **P 18 28 31.3 +3.0**
FAQ Al Faqa, Dubai 40.15 300 P **P 18 28 31.0 +2.4**
FAQ Al Faqa, Dubai 40.15 300 P **P 18 28 31.6 +2.9**
WHFO Wadi Hawf 40.15 289 P **P 18 28 31.1 +2.3**
SNR=11
NAZ Nazwa, Dubai 40.17 300 P **P 18 28 31.1 +2.3**
MK31 Makanchi Array 40.21 348 P **P 18 28 29.0 +0.1**
MK31 Makanchi Array 40.21 348 *c* *i*P **P 18 28 28.6 -0.3**
MK31 pmax pmax
comp=Z,5.0nm,0.6s
MKAR Makanchi Array 40.21 348 P **P 18 28 28.9 +0.1**
MKAR Makanchi Array 40.21 348 P **P 18 28 28.6 -0.3**
comp=Z,8.0nm,0.6s,baz=169,slow=8.3,SNR=59
MKAR ScP **ScP 18 34 15.9 +0.2**
comp=Z,1.6nm,0.8s,baz=127,slow=4.3,SNR=4.3
MKAR LR LR 18 47 17.3
comp=Z,187nm,21.3s,baz=177,slow=39
comp=Z,8.0nm,0.6s
MKAR Makanchi Array 40.21 348 *ce*P **P 18 28 28.7 -0.2**
MKAR pmax pmax
comp=Z,8.0nm,0.6s
IUG luznay 40.22 332 *e*P **P 18 28 28.7 -0.4**
comp=Z,8.1nm,0.4s,baz=333
IUG luznay 40.22 332 *e*P **P 18 28 28.6 -0.5**
IUG pmax pmax
comp=Z,8.0nm,0.4s
DZA Taraz 40.24 334 *e*P **P 18 28 28.7 -0.5**
baz=334
DZA Taraz 40.24 334 *e*P **P 18 28 28.6 -0.5**
MAKZ Makanchi 40.29 348 P **P 18 28 29.4 -0.1**
MAKZ Makanchi 40.29 348 P **P 18 28 29.4 -0.1**
MAKZ pmax pmax
comp=Z,9.0nm,0.8s
MAKZ MLR MLR
comp=Z,200nm,21.0s
MAKZ Makanchi 40.29 348 P **P 18 28 29.4 -0.1**
MAKZ pP **pP 18 28 45.4 -0.1**
MAKZ ScP **ScP 18 34 16.4 +0.4**
ASUD Al Ashush, Dub 40.34 299 *i* P **P 18 28 33.2 +3.0**
SNR=16
ASUD Al Ashush, Dub 40.34 299 P **P 18 28 33.3 +3.1**
SNR=5.1
ZSN Zaisan 40.37 351 *e*P **P 18 28 30.2 +0.1**
baz=351
ZSN Zaisan 40.37 351 *e*P **P 18 28 30.2 +0.1**
ABTO Aybut 40.51 288 P **P 18 28 34.2 +2.4**
ABTO P **P 18 28 34.2 +2.4**
CHM Chimkent 40.55 332 *e*P **P 18 28 31.5 -0.3**
baz=332
CHM Chimkent 40.55 332 *e*P **P 18 28 31.4 -0.3**
AJN Ajban 40.62 299 *i* P **P 18 28 34.6 +2.1**
SNR=9.5
AJN Ajban 40.62 299 P **P 18 28 35.4 +2.9**
FITZ Fitzroy Crossi 40.62 129 P **P 18 28 31.0 -1.5**
baz=41,SNR=20
FITZ Fitzroy Crossi 40.62 129 P **P 18 28 31.0 -1.5**
FITZ PcP **PcP 18 30 34.5 +0.9**
FITZ ScP **ScP 18 34 17.4 -0.3**
KK31 Karatay Array 40.76 334 P **P 18 28 34.2 +0.7**
KK31 Karatay Array 40.76 334 P **P 18 28 34.2 +0.7**
KK31 pmax pmax
comp=Z,20nm,0.8s
KKAR Karatay Array 40.76 334 P **P 18 28 33.6 +0.2**
KKAR Karatay Array 40.76 334 P **P 18 28 34.1 +0.6**
KKAR IAmb IAmb 18 28 52.0
comp=Z,19nm,0.8s
KKAR Karatay Array 40.76 334 P **P 18 28 33.6 +0.2**
KKAR pmax pmax
comp=Z,19nm,0.8s
BTLS Baital 40.96 339 *e*P **P 18 28 35.0 -0.1**
comp=Z,5.1nm,0.7s,baz=339
BTLS Baital 40.96 339 *e*P **P 18 28 34.9 -0.1**
BTLS pmax pmax
comp=Z,5.0nm,0.7s
BRLS Boroldaу 41.00 333 *e*P **P 18 28 33.9 -1.6**
baz=333
BRLS Boroldaу 41.00 333 *e*P **P 18 28 33.8 -1.6**
XLT XiLinHaoTe 41.08 25 ⇑*i*P **P 18 28 37.8 +1.7**
XLT pP pwP 18 28 53.8 -0.9
XLT sP sP 18 28 59.1 +0.6
XLT PcP **PcP 18 30 35.8 +1.0**
XLT S **S 18 34 43.1 -1.3**
XLT sS sS 18 35 14.1 +2.8
XLT pmax pmax
comp=Z,120nm,0.8s
XLT pmax pmax
comp=Z,120nm,4.5s
XLT LR LR
comp=Z,38nm,23.0s
XLT LR LR
comp=Z,290nm,15.3s
XLT LR LR
comp=Z,600nm,22.1s
MZWR Madinat Zayed 41.35 297 P **P 18 28 41.4 +2.8**
MZWR P **P 18 28 41.4 +2.8**
SONM Songino Array 41.48 13 P **P 18 28 39.6 +0.1**
SONM PcP **PcP 18 30 37.4 +1.3**
SONM Songino Array 41.48 13 P **P 18 28 39.5 +0.1**
comp=Z,20nm,0.7s,baz=194,slow=8.5,SNR=119
SONM PcP **PcP 18 30 37.1 +1.0**
comp=Z,10nm,0.7s,baz=193,slow=3.8,SNR=8.9
SONM ScP **ScP 18 34 20.4 -0.4**
comp=Z,5.8nm,0.9s,baz=201,slow=3.9,SNR=13
comp=Z,20nm,0.7s
MZR Muzera 41.50 296 *i* P **P 18 28 42.2 +2.4**
SNR=24
MZR Muzera 41.50 296 P **P 18 28 42.8 +3.0**
SNR=5.8
MZR P **P 18 28 42.8 +3.0**
SNR=5.8
ULN Ulaanbaatar 41.66 14 P **P 18 28 40.6 -0.2**
ULN Ulaanbaatar 41.66 14 *c* *i*P **P 18 28 40.7 -0.2**
ULN pmax pmax
comp=Z,18nm,0.7s
ULN Ulaanbaatar 41.66 14 P **P 18 28 40.7 -0.2**
ULN PcP **PcP 18 30 37.7 +1.0**
MEEK Meekatharra 41.79 146 P **P 18 28 42.3 +0.2**
baz=42,SNR=15
MEEK Meekatharra 41.79 146 P **P 18 28 42.2 +0.1**
TJN Taejon 41.95 42 P **P 18 28 44.1 +0.8**
TJN Taejon 41.95 42 P **P 18 28 44.3 +1.0**
TJN Taejon 41.95 42 *c* *i*P **P 18 28 44.0 +0.8**
INCN Inchon 42.12 40 P **P 18 28 45.5 +0.9**
INCN Inchon 42.12 40 IAMs_20 IAMs_20 18 47 55.1
comp=Z,333nm,18.0s
DGZ Jazzator, Alta 42.24 354 *c* *i*P **P 18 28 46.1 +0.5**
DGZ pmax pmax
comp=Z,5.0nm,0.8s
GHWR Ruwais 42.29 297 P **P 18 28 48.7 +2.5**
GHWR P **P 18 28 48.7 +2.5**
JTU Tsushima 42.35 46 P **P 18 28 48.5 +2.0**
JTU Tsushima 42.35 46 P **P 18 28 47.8 +1.3**
JTU IAmb IAmb 18 28 49.9
comp=Z,60nm,0.8s
MORW Morawa 42.39 150 P **P 18 28 47.4 +0.5**
baz=42,SNR=11
MORW Morawa 42.39 150 P **P 18 28 47.2 +0.3**
MORW PcP **PcP 18 30 39.5 +0.2**
MTN Manton Dam 42.41 118 P **P 18 28 45.4 -2.0**
baz=42,SNR=16
MTN Manton Dam 42.41 118 P **P 18 28 45.5 -1.9**
JNU Nakatsue 42.73 48 P **P 18 28 51.2 +1.4**
JNU Nakatsue 42.73 48 P **P 18 28 51.3 +1.6**
JNU IAmb IAmb 18 28 52.1
comp=Z,61nm,0.8s
JNU Nakatsue 42.73 48 LR LR 18 47 53.2
comp=Z,208nm,18.6s,baz=230,slow=38
KSAR Wonju Array Be 42.90 41 P **P 18 28 51.8 +0.8**
KSAR ScP **ScP 18 34 26.4 -0.2**
KS19 Wonju Array Si 42.92 41 P **P 18 28 51.8 +0.6**
KSRS Korea Array 42.93 41 P **P 18 28 51.4 +0.2**
comp=Z,14nm,0.8s,baz=231,slow=9.1,SNR=80
KSRS PcP **PcP 18 30 41.1 +0.2**
comp=Z,2.3nm,0.6s,baz=226,slow=2.4,SNR=7.3
KSRS ScP **ScP 18 34 25.7 -0.9**
comp=Z,3.0nm,0.9s,baz=240,slow=4.7,SNR=14
KSRS LR LR 18 47 31.9
comp=Z,217nm,19.5s,baz=230,slow=37
comp=Z,14nm,0.8s
ZAK Zakamensk 43.34 9 *e*P **P 18 28 54.0 -0.5**
ZAK pmax pmax
comp=Z,12nm,1.3s
SLWR Sila 43.36 297 P **P 18 28 57.4 +2.5**
SLWR P **P 18 28 57.4 +2.5**
KDU Kakadu 43.52 117 P **P 18 28 55.4 -0.9**
baz=44,SNR=6.3
TRNA Turayna 43.96 298 P **P 18 29 01.9 +2.2**
BLDU Ballidu 43.99 151 P **P 18 29 00.0 +0.2**
baz=44,SNR=9.2
GEYT Alibeck 44.07 319 P **P 18 29 01.7 +1.3**
GEYT IAmb IAmb 18 29 20.3
comp=Z,44nm,0.7s
GEYT Alibeck 44.07 319 P **P 18 29 01.7 +1.3**
comp=Z,25nm,0.6s,baz=138,slow=6.7,SNR=98
GEYT pP **pP 18 29 17.6 +1.0**
comp=Z,31nm,0.7s,baz=143,slow=8.4,SNR=9.1
GEYT ScP **ScP 18 34 30.3 -1.0**
comp=Z,1.3nm,0.7s,baz=29,slow=3.3,SNR=3.7
GEYT S **S 18 35 29.8 +1.4**
comp=Z,1.0nm,0.7s,baz=128,slow=9.3,SNR=4.0
comp=Z,25nm,0.6s
GYA0B ALIBECK ARRAY 44.07 319 IAmb IAmb 18 29 20.2
comp=Z,37nm,0.7s
MOY Mondy 44.30 7 *e*P **P 18 29 02.4 +0.3**
MOY pmax pmax
comp=Z,18nm,1.5s
SMRA Abu-Samra 44.30 298 P **P 18 29 04.5 +2.1**
OTUK Ortayu 44.32 340 P **P 18 29 02.5 +0.3**
KURBB Kurchatov Arra 44.66 346 P **P 18 29 05.2 +0.4**
comp=Z,13nm,0.8s,baz=165,slow=7.5,SNR=99
KURBB pP **pP 18 29 21.9 +1.0**
comp=Z,26nm,0.8s,baz=167,slow=7.2,SNR=13
KURBB PcP **PcP 18 30 47.2 +0.7**
comp=Z,3.0nm,0.7s,baz=155,slow=3.1,SNR=4.5
KURBB ScP **ScP 18 34 33.9 +0.5**
comp=Z,1.9nm,0.5s,baz=164,slow=3.5,SNR=10.0
KURBB S **S 18 35 36.6 +0.2**
comp=Z,0.3nm,0.2s,baz=167,slow=13,SNR=2.2
KURBB LR LR 18 50 55.2
comp=Z,146nm,21.1s,baz=168,slow=40
comp=Z,13nm,0.8s
KURBB Kurchatov Arra 44.66 346 P **P 18 29 05.5 +0.7**
KURK Kurchatov 44.72 346 P **P 18 29 06.0 +0.7**
KURK Kurchatov 44.72 346 P **P 18 29 06.1 +0.8**
KURK Kurchatov 44.72 346 *c* *i*P **P 18 29 05.7 +0.4**
KURK pmax pmax
comp=Z,42nm,1.7s
KURK Kurchatov 44.72 346 P **P 18 29 05.7 +0.4**
KURK pP **pP 18 29 22.4 +1.1**
KURK sP **sP 18 29 30.0 +1.4**
KURK ScP **ScP 18 34 34.6 +1.0**
SAKB Bahrain 44.88 299 P **P 18 29 08.9 +1.9**
MUN Mundaring 44.89 153 P **P 18 29 07.7 +0.8**
baz=45,SNR=19
MUN Mundaring 44.89 153 P **P 18 29 07.7 +0.8**
JMN Monobe 45.25 49 P **P 18 29 11.3 +1.4**
JMN Monobe 45.25 49 P **P 18 29 11.7 +1.8**
KLBR Kellerberrin 45.30 151 P **P 18 29 10.8 +0.5**
baz=45,SNR=15
KLBR Kellerberrin 45.30 151 P **P 18 29 10.7 +0.5**
IRK Irkutsk 45.30 9 *e*P **P 18 29 10.0 0.0**
IRK *e* 18 30 48.0
IRK pmax pmax
comp=Z,34nm,2.3s
CN2 Changchun 45.46 32 ⇑P **P 18 29 12.3 +0.9**
CN2 *e*pP pP 18 29 27.8 +1.0
CN2 *e*S **S 18 35 49.6 +1.3**
CN2 pmax pmax
comp=Z,60nm,0.7s
CN2 pmax pmax
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,100nm,13.0s
BRZS Berezniki 45.70 341 *e*P **P 18 29 13.1 -0.2**
baz=341
BRZS Berezniki 45.70 341 *e*P **P 18 29 13.0 -0.2**
SMPI Sarmi 45.93 100 P **P 18 29 15.3 -0.2**
comp=Z,126nm,0.8s,comp=Z,1um
NWAO Narrogin (SRO) 46.16 152 P **P 18 29 17.4 +0.4**
baz=46,SNR=29
NWAO P **P 18 29 17.4 +0.4**
baz=46,SNR=29
NWAO Narrogin (SRO) 46.16 152 P **P 18 29 17.3 +0.4**
NWAO Narrogin (SRO) 46.16 152 P **P 18 29 17.5 +0.5**
NWAO Narrogin (SRO) 46.16 152 P **P 18 29 17.4 +0.4**

NWAO IAmb IAmb 18 29 18.4
comp=Z,59nm,0.8s
NWAO Narrogin (SRO) 46.16 152 LR LR 18 45 25.1
comp=Z,279nm,21.6s,baz=3.5,slow=32
NWAO Narrogin (SRO) 46.16 152 P **P** **18 29 17.4 +0.4**
NWAO pmax pmax
comp=Z,59nm,0.9s
NWAO Narrogin (SRO) 46.16 152 P **P** **18 29 17.3 +0.4**
ZAA0 Zalesovo Array 46.72 353 P **P** **18 29 21.8 +0.7**
ZAA0 IAmb IAmb 18 29 22.7
comp=Z,48nm,0.6s
ZALV Zalesovo Beam 46.72 353 P **P** **18 29 21.7 +0.6**
ZALV ScP **ScP** **18 34 42.4 +0.5**
ZALV Zalesovo Beam 46.72 353 P **P** **18 29 21.6 +0.6**
comp=Z,34nm,0.4s,baz=170,slow=8.0,SNR=180
ZALV PcP **PcP** **18 30 53.9 +0.3**
comp=Z,3.7nm,0.5s,baz=167,slow=4.7,SNR=1.0
ZALV ScP **ScP** **18 34 41.4 -0.5**
comp=Z,3.4nm,0.7s,baz=171,slow=3.4,SNR=6.2
ZALV S **S** **18 36 06.8 +0.7**
comp=Z,2.6nm,0.9s,baz=168,slow=14,SNR=4.5
ZALV ScS **ScS** **18 39 05.9 -3.8**
comp=Z,4.4nm,1.0s,baz=190,slow=4.2,SNR=9.6
ZALV LR LR 18 52 43.6
comp=Z,177nm,21.9s,baz=180,slow=41
comp=Z,34nm,0.4s
WRKA Warakurna 46.81 135 P **P** **18 29 21.9 -0.4**
baz=47,SNR=85
WRKA Warakurna 46.81 135 P **P** **18 29 22.8 +0.5**
HIA Hailar 46.91 23 P **P** **18 29 24.1 +1.4**
HIA Hailar 46.91 23 P **P** **18 29 22.2 -0.5**
HIA Hailar 46.91 23 IAms_20 IAms_20 18 50 05.9
comp=Z,350nm,21.0s
HIA Hailar 46.91 23 P **P** **18 29 22.2 -0.5**
HIA pmax pmax
comp=Z,78nm,0.8s
HIA MLR MLR
comp=Z,400nm,21.0s
HIA Hailar 46.91 23 P **P** **18 29 23.6 +0.9**
HIA pP **pwP** **18 29 39.9 -0.7**
HIA PcP **PcP** **18 30 55.3 +0.8**
CIT Chita 47.16 17 *e*P **P** **18 29 20.6 -4.0**
CIT *e* 18 29 31.8
CIT *e* 18 29 38.6
CIT *e* 18 30 56.2
CIT *e* 18 31 13.0
CIT pmax pmax
comp=Z,63nm,1.2s
KMBL Kambalda 47.25 147 P **P** **18 29 26.1 +0.5**
baz=47,SNR=20
KMBL Kambalda 47.25 147 P **P** **18 29 26.0 +0.5**
GENI Genyem 47.48 101 P **P** **18 29 28.4 +0.8**
GENI Genyem 47.48 101 P **P** **18 29 26.7 -0.9**
comp=Z,20nm,0.8s,comp=Z,2um
PSTR Posyet 47.75 37 *de*P **P** **18 29 30.3 +1.0**
BNX BinXian 47.80 32 ⇑P **P** **18 29 30.3 +0.7**
BNX PP **PP** **18 31 22.0 +0.1**
BNX pmax pmax
comp=Z,110nm,0.9s
MSHR Mys Shultsa 47.92 37 *ce*P **P** **18 29 31.6 +1.0**
MSHR pmax pmax
comp=Z,18nm,0.7s
JAY Jayapura 47.98 100 P **P** **18 29 30.0 -1.6**
comp=Z,23nm,1.2s,comp=Z,320nm
KBD Kabd 48.21 302 P **P** **18 29 34.0 +1.0**
MDJ Mudanjiang 48.25 34 P **P** **18 29 34.9 +1.8**
MDJ Mudanjiang 48.25 34 P **P** **18 29 34.4 +1.3**
MDJ pmax pmax
comp=Z,100nm,3.6s
MDJ LR LR
comp=Z,140nm,15.4s
MDJ LR LR
comp=Z,180nm,21.5s
MDJ LR LR
comp=Z,280nm,22.6s
MDJ Mudanjiang 48.25 34 P **P** **18 29 34.8 +1.8**
MDJ PcP **PcP** **18 31 00.5 +1.2**
WB0 Warramunga Arr 48.46 125 P **P** **18 29 33.7 -1.4**
WRA Warramunga Arr 48.50 125 P **P** **18 29 34.1 -1.3**
WRA Warramunga Arr 48.50 125 P **P** **18 29 34.2 -1.2**
comp=Z,31nm,0.7s,baz=305,slow=9.1,SNR=503
WRA PcP **PcP** **18 30 59.9 -0.8**
comp=Z,5.3nm,0.8s,baz=302,slow=2.8,SNR=4.3
WRA ScP **ScP** **18 34 48.0 -2.1**
comp=Z,5.5nm,0.9s,baz=315,slow=3.6,SNR=10
WRA S **S** **18 36 26.4 -5.9**
comp=Z,2.4nm,0.8s,baz=297,slow=15,SNR=6.7
WRA LR LR 18 51 47.3
comp=Z,142nm,18.4s,baz=304,slow=38
comp=Z,31nm,0.7s
WRA Warramunga Arr 48.50 125 P **P** **18 29 34.1 -1.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WB2 Warramunga Arr 48.51 125 P **P** **18 29 34.3 -1.2**
baz=48
WB2 Warramunga Arr 48.51 125 P **P** **18 29 34.6 -0.9**
WB2 IAmb IAmb 18 29 35.3
comp=Z,64nm,0.9s
WB2 ScP **ScP** **18 34 49.5 -0.7**
JGF Kuroka 48.63 49 P **P** **18 29 37.8 +1.5**
JGF Kuroka 48.63 49 P **P** **18 29 36.6 +0.4**
JGF IAmb IAmb 18 29 38.0
comp=Z,36nm,0.8s
WR0 Warramunga Arr 48.67 125 P **P** **18 29 35.8 -1.0**
RAYN Ar Rayn 48.77 295 P **P** **18 29 39.6 +2.1**
RAYN Ar Rayn 48.77 295 *i* P **P** **18 29 39.5 +2.1**
SNR=88
RAYN Ar Rayn 48.77 295 P **P** **18 29 39.6 +2.1**
RAYN S **S** **18 36 38.9 +2.8**
RAYN Ar Rayn 48.77 295 P **P** **18 29 39.6 +2.1**
RAYN pmax pmax
comp=Z,67nm,0.7s
RAYN Ar Rayn 48.77 295 P **P** **18 29 39.4 +1.9**
RAYN pP **pP** **18 29 55.8 +2.0**
BVA0 Borovoye Array 49.06 342 *i* P **P** **18 29 38.8 -0.4**
BVAR Borovoye Array 49.06 342 P **P** **18 29 39.1 -0.1**
comp=Z,14nm,0.9s,baz=145,slow=8.6,SNR=29
BVAR PcP **PcP** **18 31 02.8 +0.8**
comp=Z,4.2nm,0.5s,baz=158,slow=4.0,SNR=7.8
BVAR ScP **ScP** **18 34 51.9 +0.1**
comp=Z,3.3nm,0.7s,baz=145,slow=6.6,SNR=7.0
BVAR S **S** **18 36 39.2 0.0**
comp=Z,1.1nm,0.7s,baz=134,slow=16,SNR=3.7
BVAR LR LR 18 52 35.5
comp=Z,130nm,20.4s,baz=149,slow=39
comp=Z,14nm,0.9s
BRVK Borovoye 49.12 342 P **P** **18 29 39.8 +0.1**
BRVK Borovoye 49.12 342 P **P** **18 29 39.8 +0.1**
BRVK Borovoye 49.12 342 ⇑ *e*P **P** **18 29 38.8 -0.8**
BRVK pmax pmax
comp=Z,4.0nm,0.4s
BRVK Borovoye 49.12 342 P **P** **18 29 39.7 +0.1**
BRVK pP **pP** **18 29 56.1 +0.1**
TABU Tabubil 49.13 104 P **P** **18 29 41.3 +0.9**
USA0B Ussuriysk Arra 49.36 36 P **P** **18 29 42.7 +1.1**
USA0B IAmb IAmb 18 29 43.6
comp=Z,34nm,0.8s
USA0B PcP **PcP** **18 31 03.1 -0.2**
USA0B Ussuriysk Arra 49.36 36 *c i*P **P** **18 29 42.3 +0.7**
USRK Ussuriysk Ar. 49.36 36 P **P** **18 29 42.6 +1.0**
USRK PcP **PcP** **18 31 03.3 0.0**
USRK Ussuriysk Ar. 49.36 36 P **P** **18 29 42.3 +0.7**
comp=Z,25nm,0.8s,baz=236,slow=6.8,SNR=42
USRK PcP **PcP** **18 31 02.5 -0.9**
comp=Z,4.6nm,0.6s,baz=219,slow=3.1,SNR=6.4
USRK LR LR 18 52 11.8
comp=Z,148nm,18.4s,baz=235,slow=38
comp=Z,25nm,0.8s
JHJ Hachijo jima 2 49.56 53 LR LR 18 53 52.6
comp=Z,324nm,18.8s,baz=80,slow=40
MJB9 Matsu-Tunnel 49.65 48 P **P** **18 29 45.2 +1.2**
MJB9 IAmb IAmb 18 29 47.0
comp=Z,29nm,1.0s
MAJO Matsushiro 49.65 48 P **P** **18 29 46.0 +2.0**
MAJO Matsushiro 49.65 48 IAMs_20 IAMs_20 18 51 17.7
comp=Z,250nm,21.0s
MAJO Matsushiro 49.65 48 *de*P **P** **18 29 45.0 +1.0**
MAJO pmax pmax
comp=Z,74nm,1.9s
MAJO Matsushiro 49.65 48 P **P** **18 29 45.2 +1.2**
MAJO PcP **PcP** **18 31 05.1 +0.5**
MJAR Matsushiro Arr 49.65 48 P **P** **18 29 44.6 +0.6**
comp=Z,19nm,0.7s,baz=234,slow=7.1,SNR=70
MJAR PcP **PcP** **18 31 05.2 +0.6**
comp=Z,13nm,0.8s,baz=250,slow=3.3,SNR=11

MJAR ScP **ScP** **18 34 53.5 -1.3**
comp=Z,4.5nm,0.9s,baz=232,slow=3.1,SNR=7.7
MJAR LR LR 18 52 11.4
comp=Z,152nm,18.4s,baz=238,slow=38
comp=Z,19nm,0.7s
JCJ Chichijima 49.80 61 P **P** **18 29 47.0 +1.7**
JCJ Chichijima 49.80 61 LR LR 18 48 28.7
comp=Z,124nm,21.9s,baz=233,slow=33
AS31 Alice Springs 50.12 130 P **P** **18 29 46.8 -1.0**
ASAR Alice Springs 50.12 130 P **P** **18 29 46.2 -1.6**
ASAR ScP **ScP** **18 34 56.6 -0.5**
ASAR Alice Springs 50.12 130 P **P** **18 29 46.6 -1.2**
comp=Z,21nm,0.6s,baz=303,slow=8.1,SNR=796
ASAR PcP **PcP** **18 31 06.7 +0.2**
comp=Z,7.5nm,0.6s,baz=300,slow=3.6,SNR=8.5
ASAR ScP **ScP** **18 34 55.0 -2.0**
comp=Z,6.8nm,0.9s,baz=310,slow=4.5,SNR=14
ASAR S **S** **18 36 50.9 -4.0**
comp=Z,1.4nm,0.8s,baz=301,slow=14,SNR=6.0
ASAR LR LR 18 53 27.1
comp=Z,141nm,19.0s,baz=298,slow=39
comp=Z,21nm,0.6s
AB31 Akbulak array 50.21 332 *e*P **P** **18 29 48.6 +0.6**
ABKAR Akbulak array 50.21 332 P **P** **18 29 48.7 +0.7**
ABKAR ScP **ScP** **18 34 56.7 -0.1**
ABKAR Akbulak array 50.21 332 IAmb IAmb 18 30 07.2
comp=Z,23nm,0.8s
ATD Arta Tunnel 50.22 279 IAMs_20 IAMs_20 18 46 47.0
comp=Z,270nm,22.0s
ATD Arta Tunnel 50.22 279 LR LR 18 48 19.8
comp=Z,8.9nm,21.9s,baz=87,slow=33
ATD Arta Tunnel 50.22 279 P **P** **18 29 51.4 +2.7**
JSD Sado 50.31 46 P **P** **18 29 50.2 +1.3**
JSD Sado 50.31 46 P **P** **18 29 49.7 +0.8**
FORT Forrest 50.45 141 P **P** **18 29 50.8 +0.8**
baz=50,SNR=64
FORT Forrest 50.45 141 P **P** **18 29 51.0 +1.0**
FORT Forrest 50.45 141 P **P** **18 29 50.9 +0.8**
GUMO Guam 50.58 79 P **P** **18 29 50.9 -0.4**
GUMO Guam 50.58 79 P **P** **18 29 50.9 -0.4**
GUMO pmax pmax
comp=Z,131nm,1.5s
HEH HeiHe 50.91 27 *e*P **P** **18 29 53.9 +0.7**
HEH ScP **ScP** **18 34 58.3 -1.5**
HEH ScS **ScS** **18 39 33.8 -4.2**
HEH pmax pmax
comp=Z,78nm,0.7s
HEH pmax pmax
comp=Z,130nm,4.6s
AKTO Aktyubinsk 51.93 332 P **P** **18 30 01.0 +0.1**
comp=Z,6.5nm,0.7s,baz=123,slow=9.2,SNR=16
AKTO PcP **PcP** **18 31 13.4 +0.6**
comp=Z,5.8nm,0.7s,baz=149,slow=5.9,SNR=1.5
AKTO ScP **ScP** **18 35 03.8 -0.4**
comp=Z,2.1nm,0.7s,baz=154,slow=4.2,SNR=3.8
AKTO LR LR 18 55 44.1
comp=Z,83nm,20.1s,baz=123,slow=40
comp=Z,6.5nm,0.7s
JMM Marumori 52.07 47 P **P** **18 30 03.4 +1.3**
JMM Marumori 52.07 47 P **P** **18 30 03.1 +1.0**
JMM PcP **PcP** **18 31 13.9 +0.4**
KLR Kul'dur 52.31 31 LR LR 18 53 26.0
comp=Z,170nm,21.2s,baz=232,slow=37
KLR Kul'dur 52.31 31 *c i*P **P** **18 30 04.8 +1.1**
KLR pmax pmax
comp=Z,46nm,1.3s
BOD Bodaibo 52.47 14 *e*P **P** **18 30 04.7 -0.1**
BOD pmax pmax
comp=Z,40nm,1.0s
OPO Ambohidratompo 52.74 240 LR LR 18 48 34.6
comp=Z,162nm,21.4s,baz=212,slow=31
ABPO Ambohimpanom 52.90 239 P **P** **18 30 11.0 +2.2**
ABPO pP **pP** **18 30 27.2 +2.1**
SEKA Sheki 53.01 317 P **P** **18 30 08.6 -0.5**
QIS Mount Isa 53.13 123 P **P** **18 30 09.2 -1.0**
baz=53,SNR=28
QIS Mount Isa 53.13 123 P **P** **18 30 09.6 -0.7**
ZEA Zeya 53.34 24 *e*P **P** **18 30 12.2 +0.9**
ZEA pmax pmax
comp=Z,100nm,2.1s
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=E,20nm,0.8s
ZEA pmax pmax
comp=Z,50nm,0.8s
ZEA MLR MLR
comp=Z,200nm,14.0s
JTM Tenmabayashi 53.44 44 P **P** **18 30 14.1 +1.9**
ZKTA Zakatala 53.58 317 P **P** **18 30 13.2 -0.1**
MAK Makhachkala 53.59 319 *e*P **P** **18 30 13.1 -0.1**
MAK *e**PP **pP** **18 30 26.0 -3.8**
MAK *e**SP **sP** **18 30 33.0 -4.1**
MAK *e* 18 32 17.3
MAK *e*S **S** **18 37 43.4 +1.5**
MAK *e**SS **sS** **18 38 06.8 -2.9**
MAK *e*SS **SS** **18 41 25.5 +2.4**
MAK *e*SSS SSS 18 43 20.3
MAK pmax pmax
comp=Z,56nm,0.7s
OOD Oodnadatta 53.76 133 P **P** **18 30 14.1 -0.6**
MULG Mulgathing 54.06 136 P **P** **18 30 16.6 -0.3**
GNI Garni 54.27 315 P **P** **18 30 19.3 +0.8**
GNI Garni 54.27 315 ⇑ *e*P **P** **18 30 19.1 +0.6**
GNI pmax pmax
comp=Z,33nm,1.1s
GNI Garni 54.27 315 P **P** **18 30 19.1 +0.6**
comp=Z,35nm,1.2s
FURI Furi 54.41 275 IAMs_20 IAMs_20 18 50 31.6
comp=Z,507nm,22.0s
MANU Manus Island 54.41 98 P **P** **18 30 21.2 +1.5**
MANU Manus Island 54.41 98 P **P** **18 30 20.0 +0.3**
MANU IAmb IAmb 18 30 21.8
comp=Z,60nm,1.0s
ERM Erimo 55.38 43 P **P** **18 30 28.0 +1.7**
ERM Erimo 55.38 43 P **P** **18 30 28.2 +1.9**
ERM IAmb IAmb 18 30 28.7
comp=Z,25nm,0.7s
ERM Erimo 55.38 43 *ce*P **P** **18 30 27.5 +1.3**
ERM pmax pmax
comp=Z,26nm,0.7s
ERM Erimo 55.38 43 P **P** **18 30 27.9 +1.7**
JEM Erimo 55.38 43 P **P** **18 30 27.9 +1.7**
SVE Sverdlovsk 55.44 339 *e*P **P** **18 30 27.4 +1.0**
SVE pmax pmax
comp=Z,52nm,0.9s
GRNR Gornyy 55.64 31 ⇑ *i*P **P** **18 30 28.1 +0.1**
GRNR pmax pmax
comp=Z,20nm,1.0s
ASAJ Asahikawa 55.88 41 LR LR 18 55 26.4
comp=Z,120nm,20.1s,baz=278,slow=37
ASAJ Asahikawa 55.88 41 P **P** **18 30 31.2 +1.4**
ASAJ pmax pmax
comp=Z,89nm,1.4s
JKA Kamikawa-asahi 55.88 41 P **P** **18 30 31.2 +1.4**
JKA IAmb IAmb 18 30 32.5
comp=Z,89nm,1.4s
PMG Port Moresby 55.90 107 P **P** **18 30 28.9 -1.5**
comp=Z,23nm,0.6s,baz=286,slow=18,SNR=13
PMG PcP **PcP** **18 31 28.9 +0.3**
comp=Z,30nm,1.1s,baz=281,slow=5.2,SNR=2.4
PMG LR LR 18 57 32.7
comp=Z,71nm,20.4s,baz=269,slow=39
comp=Z,23nm,0.6s
ARU Arti 55.92 337 P **P** **18 30 29.9 +0.1**
ARU IAmb IAmb 18 30 47.5
comp=Z,27nm,0.9s
ARU Arti 55.92 337 P **P** **18 30 30.2 +0.4**
comp=Z,5.2nm,0.4s,baz=135,slow=5.7,SNR=25
ARU LR LR 18 56 43.6
comp=Z,233nm,20.9s,baz=134,slow=38
comp=Z,5.2nm,0.4s
ARU Arti 55.92 337 *d i*P **P** **18 30 29.9 +0.1**
ARU *PP **pP** **18 30 44.5 -2.1**
ARU 18 31 27.6
ARU S **S** **18 38 15.4 +2.6**
ARU 18 40 12.4
ARU SS **SS** **18 42 02.0 +2.6**
ARU pmax pmax
comp=Z,29nm,1.1s
ARU MLR MLR
comp=Z,217nm,19.0s
ARU Arti 55.92 337 P **P** **18 30 30.0 +0.1**
ARU pP **pP** **18 30 46.5 -0.1**
ARU Arti 55.92 337 P **P** **18 30 30.0 +0.1**

comp=Z,32nm,0.8s,comp=Z,334nm
MTSU Mount Surprise 56.16 118 P **P** **18 30 32.3 +0.1**
baz=56,SNR=9.8
MTSU Mount Surprise 56.16 118 P **P** **18 30 32.4 +0.2**
KIBK Kibwezi 56.38 262 IAMs_20 IAMs_20 18 50 14.7
comp=Z,359nm,22.0s
KIBK Kibwezi 56.38 262 P **P** **18 30 35.7 +1.7**
KBZ Khabaz 56.95 318 P **P** **18 30 37.4 0.0**
comp=Z,7.4nm,0.9s,baz=90,slow=1.0,SNR=15
comp=Z,7.4nm,0.9s
KBZ Khabaz 56.95 318 *d i*P **P** **18 30 37.0 -0.4**
KBZ pmax pmax
comp=Z,10.0nm,1.0s
BBOO Buckleboo 56.95 137 P **P** **18 30 37.0 -0.6**
baz=57,SNR=42
BBOO Buckleboo 56.95 137 P **P** **18 30 37.2 -0.4**
BBOO Buckleboo 56.95 137 P **P** **18 30 37.0 -0.6**
BBOO IAmb IAmb 18 30 38.0
comp=Z,36nm,0.9s
LCRK Leigh Creek 57.08 134 P **P** **18 30 39.4 +0.9**
SHA1 Shidzhatmaz 57.11 318 *ce*P **P** **18 30 39.5 +0.6**
KIV Kislovodsk 57.18 318 ⇑P **P** **18 30 38.6 -0.6**
KIV Kislovodsk 57.18 318 *i* P **P** **18 30 39.3 +0.1**
SNR=7.4
KIV Kislovodsk 57.18 318 P **P** **18 30 39.6 +0.4**
KIV P **P** **18 30 39.6 +0.4**
KIV Kislovodsk 57.18 318 *de*P **P** **18 30 38.8 -0.4**
KIV *i* 18 30 55.4
KIV *e* 18 32 44.5
KIV *e*SS **SS** **18 42 15.9 -4.1**
KIV pmax pmax
comp=Z,24nm,1.0s
KIV MLR MLR
comp=Z,114nm,21.0s
KIV Kislovodsk 57.18 318 P **P** **18 30 39.1 -0.1**
KIV pP **pP** **18 30 56.4 +0.5**
YSS Yuzh-Sakhalins 57.24 38 P **P** **18 30 41.3 +1.9**
YSS Yuzh-Sakhalins 57.24 38 P **P** **18 30 40.9 +1.5**
YSS Yuzh-Sakhalins 57.24 38 ⇑ *e*P **P** **18 30 40.7 +1.3**
YSS *e* 18 31 33.3
YSS *e*S **S** **18 38 31.7 +1.2**
YSS pmax pmax
comp=Z,80nm,1.0s
YSS pmax pmax
comp=N,20nm,0.7s
YSS pmax pmax
comp=E,30nm,0.7s
YSS MLR MLR
comp=N,100nm,12.0s
YSS MLR MLR
comp=Z,200nm,12.0s
YSS MLR MLR
comp=E,100nm,14.0s
YSS Yuzh-Sakhalins 57.24 38 P **P** **18 30 40.5 +1.1**
YSS PcP **PcP** **18 31 36.6 +3.4**
INKA Innaminka 57.50 130 P **P** **18 30 42.3 +0.8**
UGL Uglegorsk 57.83 36 *e*P **P** **18 30 45.2 +1.7**
UGL pmax pmax
comp=Z,70nm,1.0s
WHYH Whyalla 58.11 137 P **P** **18 30 45.7 0.0**
LODK Lodwar 58.16 269 IAMs_20 IAMs_20 18 52 24.1
comp=Z,192nm,20.0s
LODK Lodwar 58.16 269 P **P** **18 30 49.1 +2.5**
SNR=5.9
BELG Belogornoye 58.27 329 P **P** **18 30 45.9 -0.6**
comp=Z,23nm,0.8s,baz=146,slow=3.6,SNR=14
BELG LR LR 18 59 10.4
comp=Z,150nm,21.8s,baz=111,slow=39
comp=Z,23nm,0.8s
BELG Belogornoye 58.27 329 *de*P **P** **18 30 45.7 -0.8**
BELG pmax pmax
comp=Z,4.0nm,0.9s
CTAO Charters Tower 58.59 119 P **P** **18 30 47.9 -1.5**
CTAO IAmb IAmb 18 30 49.8
comp=Z,18nm,0.9s
CTAO PcP **PcP** **18 31 39.6 +0.5**
CTAO Charters Tower 58.59 119 P **P** **18 30 47.9 -1.5**
CTAO 18 31 39.6
CTAO pmax pmax
comp=Z,18nm,0.9s
CTAO Charters Tower 58.59 119 P **P** **18 30 48.5 -0.8**
CTAO PcP **PcP** **18 31 39.2 +0.1**
LABN Labinsk 58.74 318 *e*P **P** **18 30 47.6 -2.4**
LABN pmax pmax
comp=Z,15nm,0.5s
GHAJ Ghor Haditha 58.90 302 IAMs_20 IAMs_20 18 55 01.7
comp=Z,253nm,18.0s
TYV Tymovskoe 59.03 34 *e*P **P** **18 30 53.7 +1.9**
TYV pmax pmax
comp=Z,19nm,1.4s
TYV pmax pmax
comp=Z,100nm,3.4s
SOC Sochi 59.03 317 *e*P **P** **18 30 49.3 -2.7**
SOC *e* 18 32 59.7
SOC *e*S **S** **18 38 52.5 -1.6**
SOC *e*SS **SS** **18 42 50.4 +1.5**
SOC MLR MLR
comp=Z,110nm,21.0s
EIL Elat 59.14 300 LR LR 18 58 08.3
comp=Z,203nm,19.4s,baz=70,slow=38
HTT Hallett 59.26 136 P **P** **18 30 53.7 -0.1**
baz=59,SNR=18
HTT Hallett 59.26 136 P **P** **18 30 54.0 +0.2**
ERBR Yeremizino-Bor 59.31 319 *e*P **P** **18 30 53.0 -0.9**
ERBR pmax pmax
comp=Z,25nm,0.9s
MMAI Mount Meron Ar 59.36 304 P **P** **18 30 55.5 +0.9**
comp=Z,3.6nm,0.6s,baz=88,slow=8.8,SNR=5.4
comp=Z,3.6nm,0.6s
RABL Rabaul 59.52 99 P **P** **18 30 56.7 +0.8**
RABL Rabaul 59.52 99 P **P** **18 30 56.2 +0.3**
RABL IAmb IAmb 18 30 58.6
comp=Z,27nm,0.6s
QLP Quilpie 59.66 127 P **P** **18 30 56.7 0.0**
baz=60,SNR=45
QLP Quilpie 59.66 127 P **P** **18 30 56.6 0.0**
GHSS Government Hou 59.91 138 P **P** **18 30 58.9 +0.8**
STKA Stephens Creek 60.28 133 P **P** **18 31 00.5 -0.4**
baz=60,SNR=6.4
STKA Stephens Creek 60.28 133 P **P** **18 31 01.2 +0.4**
STKA Stephens Creek 60.28 133 P **P** **18 31 00.1 -0.7**
STKA Stephens Creek 60.28 133 P **P** **18 31 00.4 -0.4**
comp=Z,21nm,0.7s,baz=311,slow=8.4,SNR=48
comp=Z,21nm,0.7s
STKA Stephens Creek 60.28 133 *ce*P **P** **18 31 00.2 -0.6**
YAK Yakutsk 60.35 19 LR LR 18 59 38.7
comp=Z,140nm,18.5s,baz=234,slow=38
YAK Yakutsk 60.35 19 *c i*P **P** **18 31 00.2 -0.5**
YAK *e**PP **pP** **18 31 16.2 -0.8**
YAK *e* 18 31 44.9
YAK *e* 18 33 13.7
YAK *e*S **S** **18 39 10.5 +0.1**
YAK *e**SS **sS** **18 39 38.5 +1.1**
YAK *e* 18 40 41.6
YAK *e*SS **SS** **18 43 10.0 +1.2**
YAK pmax pmax
comp=Z,75nm,1.3s
YAK pmax pmax
comp=N,45nm,1.5s
YAK pmax pmax
comp=E,42nm,1.5s
YAK pmax pmax
comp=Z,178nm,7.3s
YAK pmax pmax
comp=N,98nm,7.4s
YAK pmax pmax
comp=E,88nm,5.3s
YAK smax smax
comp=E,103nm,4.6s
YAK smax smax
comp=N,48nm,4.5s
YAK Yakutsk 60.35 19 P **P** **18 31 00.4 -0.3**
VRH Novokhopyorsk 60.85 325 *e*P **P** **18 31 02.9 -1.4**
VRH pmax pmax
comp=Z,10.0nm,0.6s
ANN Anapa 60.99 317 *e*P **P** **18 31 09.7 +4.3**
ANN *e**PP **pP** **18 31 21.9 -0.4**
ANN *e* 18 31 44.9
ANN *e*S S 18 39 29.5 +10
ANN pmax pmax
comp=Z,54nm,1.2s
ANN MLR MLR
comp=Z,131nm,14.0s
ANN MLR MLR
comp=N,120nm,15.0s

KIRV Kirov 61.03 335 P P 18 31 05.7 +0.4
comp=N,17nm,0.5s,baz=120,slow=2.0,SNR=11
KIRV LR LR 18 59 36.6
comp=N,126nm,19.9s,baz=142,slow=38
comp=N,17nm,0.5s
KIRV Kirov 61.03 335*de*P P 18 31 05.3 0.0
CSS Mathiatis 61.44 306 IAMs_20 IAMs_20 19 00 05.8
comp=Z,292nm,20.0s
VORD Divnogorie 62.13 324 *e*P P **18 31 10.1 -2.9**
VORD pmax pmax
comp=Z,9.0nm,0.6s
BR131 Keskin Array S 62.23 311 P P **18 31 12.9 -1.2**
BR131 Keskin Array S 62.23 311*de*P P **18 31 12.9 -1.2**
BRTR Keskin Array B 62.23 311 P P **18 31 12.9 -1.2**
BRTR Keskin Array B 62.23 311 P P **18 31 13.1 -0.9**
comp=Z,6.1nm,0.7s,baz=125,slow=7.1,SNR=52
BRTR pP **pP 18 31 30.2 -0.8**
comp=Z,8.8nm,0.8s,baz=126,slow=7.8,SNR=10
BRTR PcP **PcP 18 31 54.0 +0.4**
comp=Z,4.0nm,0.8s,baz=143,slow=5.8,SNR=5.0
comp=Z,6.1nm,0.7s
VSR Storozhevoye 62.31 325 *e*P P **18 31 11.0 -3.1**
VSR pmax pmax
comp=Z,10.0nm,1.0s
VORR Voronezh 62.48 325 *e*P P **18 31 13.9 -1.3**
VORR *e**PP **pP 18 31 30.1 -2.0**
VORR pmax pmax
comp=Z,12nm,1.3s
LPSR Galich'ya Gora 63.02 326 *e*P P **18 31 16.5 -2.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
ARPS Mount Arapiles 63.12 138 P P **18 31 20.1 +0.4**
baz=63,SNR=20
ARPS Mount Arapiles 63.12 138 P P **18 31 20.4 +0.7**
CMSA Cobar Meteorol 63.12 131 P P **18 31 20.1 +0.3**
baz=63,SNR=30
CMSA Cobar Meteorol 63.12 131 P P **18 31 20.3 +0.4**
SIM Simferopol' 63.28 317 *e*P P **18 31 19.5 -1.2**
SIM *e*S **S 18 39 47.6 -0.4**
SIM pmax pmax
comp=Z,22nm,1.0s
MBAR Mbarara 63.29 265 LR LR 18 55 23.7
comp=Z,382nm,21.9s,baz=65,slow=33
MBAR Mbarara 63.29 265 P P **18 31 23.8 +2.3**
MBAR Mbarara 63.29 265*de*P P 18 31 23.3 +1.7
MBAR pmax pmax
comp=Z,35nm,1.4s
MBAR Mbarara 63.29 265 P P **18 31 23.9 +2.3**
MBAR pP **pP 18 31 40.7 +2.2**
AULRC Lightning Ridg 63.90 128 P P **18 31 25.7 +0.7**
ISP Isparta 64.21 308⇑ *e*P P **18 31 26.7 -0.4**
ISP pmax pmax
comp=Z,30nm,1.7s
ELL Elmali 64.50 307 P P **18 31 29.2 +0.1**
ELL Elmali 64.50 307 P P **18 31 29.2 +0.1**
ELL pmax pmax
comp=Z,128nm,0.9s
AUMAG Moama Anglican 64.73 136 P P **18 31 31.3 +1.0**
EIDS Eidsvold 64.73 123 P P **18 31 30.5 -0.1**
baz=65,SNR=5.4
EIDS Eidsvold 64.73 123 P P **18 31 30.7 +0.1**
EIDS Eidsvold 64.73 123 P P **18 31 30.4 -0.1**
EIDS IAmb IAmb 18 31 31.7
comp=Z,56nm,1.9s
BRAT Ballarat 64.94 138 P P **18 31 32.4 +0.7**
MOS Moscow 65.04 329 *e*P P **18 31 30.9 -1.1**
MOS *e* 18 31 46.7
MOS *e*S **S 18 40 07.5 -1.8**
H04N2 CROZET ISLANDS 65.30 211 T T 19 42 35.2
baz=45,slow=75,SNR=58
H04N1 CROZET ISLANDS 65.31 211 T T 19 42 39.4
baz=45,slow=75,SNR=66
H04N3 CROZET ISLANDS 65.32 211 T T 19 42 34.6
baz=45,slow=75,SNR=63
OBN Obninsk 65.33 328 P P **18 31 33.7 -0.2**
comp=Z,12nm,0.5s,baz=100,slow=6.1,SNR=6.5
comp=Z,12nm,0.5s
OBN Obninsk 65.33 328 *i* P P **18 31 33.8 -0.1**
OBN *i* 18 31 48.4
OBN *i* 18 32 10.0
OBN *i* S S 18 40 03.9 -8.9
OBN pmax pmax
comp=Z,11nm,0.9s
OBN MLR MLR
comp=Z,164nm,19.0s
AUDCS Dubbo College 65.65 130 P P **18 31 37.2 +0.8**
H04S1 CROZET ISLANDS 65.71 210 T T 19 43 08.0
baz=46,slow=76,SNR=20
H04S3 CROZET ISLANDS 65.72 210 T T 19 42 58.9
baz=46,slow=76,SNR=44
H04S2 CROZET ISLANDS 65.73 210 T T 19 43 08.1
baz=46,slow=76,SNR=22
TOO Toolangi 66.00 137 P P **18 31 39.9 +1.3**
baz=66,SNR=23
TOO Toolangi 66.00 137 P P **18 31 39.8 +1.1**
TOO Toolangi 66.00 137 P P **18 31 39.7 +1.1**
TOO IAmb IAmb 18 31 41.0
comp=Z,52nm,0.9s
TOO Toolangi 66.00 137 P P **18 31 39.7 +1.1**
TOO pmax pmax
comp=Z,52nm,1.0s
YNG Young 66.43 132 P P **18 31 42.3 +0.9**
KLMR Klimovskoe 66.46 334 *e*P P **18 31 39.4 -1.7**
KLMR *e**PP **pP 18 31 55.2 -3.0**
KLMR *e*S **S 18 40 23.0 -3.5**
KLMR pmax pmax
comp=Z,44nm,1.4s
KARP Karpathos 66.51 305 P P **18 31 42.5 +0.5**
PURM Purcari 66.57 318⇓ P P **18 31 41.7 -0.4**
SKR Severo-Kuril's 66.81 38⇓ *e*P P **18 31 44.7 +1.2**
TIRR Tirgusor 67.09 315 IAMs_20 IAMs_20 19 05 20.8
comp=Z,312nm,19.0s
AUWSH Wavell State H 67.13 124 P P **18 31 46.8 +0.9**
MA2 Magadan 67.17 28 P P **18 31 46.9 +1.2**
MA2 Magadan 67.17 28 P P **18 31 46.4 +0.8**
MA2 Magadan 67.17 28 LR LR 19 03 44.3
comp=Z,84nm,18.8s,baz=252,slow=38
MA2 Magadan 67.17 28*c i*P P **18 31 46.1 +0.4**
MA2 pmax pmax
comp=Z,82nm,0.9s
MA2 Magadan 67.17 28 P P **18 31 46.1 +0.4**
ARMA Armidale 67.18 127 P P **18 31 47.4 +1.1**
baz=67,SNR=6.8
ARMA Armidale 67.18 127 P P **18 31 48.1 +1.7**
CAN Canberra 67.35 133 P P **18 31 48.0 +0.8**
CAN Canberra 67.35 133 P P **18 31 47.7 +0.5**
CAN IAmb IAmb 18 31 48.7
comp=Z,56nm,0.8s
CAN Canberra 67.35 133 P P **18 31 47.7 +0.5**
CAN pmax pmax
comp=Z,56nm,0.8s
CAN Canberra 67.35 133 P P **18 31 47.6 +0.3**
MILM Milestii Mici 67.37 318⇑ P P **18 31 46.3 -0.9**
MILM Milestii Mici 67.37 318⇓ *i*P P **18 31 46.0 -1.1**
comp=Z,17nm,0.6s
MILM Milestii Mici 67.37 318 P P **18 31 46.2 -0.9**
CFR Carcaliu 67.44 316⇓ P P **18 31 47.2 -0.4**
CFR Carcaliu 67.44 316 P P **18 31 47.2 -0.4**
TIXI Tiksi 67.54 11 P P **18 31 47.4 -0.4**
TIXI Tiksi 67.54 11 IAMs_20 IAMs_20 19 05 28.7
comp=Z,224nm,21.0s
TIXI Tiksi 67.54 11 LR LR 19 05 40.2
comp=Z,164nm,19.5s,baz=230,slow=40
TIXI Tiksi 67.54 11*c i*P P **18 31 47.2 -0.5**
TIXI pmax pmax
comp=Z,61nm,0.6s
TIXI MLR MLR
comp=Z,164nm,19.0s
TIXI Tiksi 67.54 11 P P **18 31 47.3 -0.4**
TIXI pP **pP 18 32 04.2 -0.4**
CNB Canberra Magne 67.61 133 P P **18 31 49.3 +0.4**
baz=68,SNR=17
VLDR Vladesti 67.62 316⇓ P P **18 31 48.6 -0.1**
SYDH Sydney Hard Ro 67.92 131 P P **18 31 51.7 +0.9**
MGCD Mangrove Creek 67.96 130 P P **18 31 52.2 +1.2**
baz=68,SNR=5.1
SORM Soroca 67.96 319⇑ P P **18 31 49.9 -1.0**
SORM Soroca 67.96 319 P P **18 31 49.8 -1.0**
AKASG Malin Array Be 68.05 322 P P **18 31 50.0 -1.3**
comp=Z,1.2nm,0.5s,baz=92,slow=6.4,SNR=14
AKASG PP **PP 18 34 21.4 -0.6**
comp=Z,1.1nm,0.6s,baz=97,slow=6.0,SNR=4.3
AKASG LR LR 19 06 50.8
comp=Z,85nm,18.4s,baz=94,slow=40
comp=Z,1.2nm,0.5s

AKASG Malin Array Be 68.05 322 P P **18 31 50.0 -1.3**
AKBB Malin Array Si 68.05 322*de*P P **18 31 49.6 -1.7**
KIEV Kiev 68.06 322⇑ P P **18 31 50.1 -1.3**
KIEV Kiev 68.06 322 P P **18 31 49.8 -1.5**
KIEV Kiev 68.06 322 P P **18 31 50.1 -1.3**
KIEV Kiev 68.06 322 P P **18 31 49.9 -1.5**
KIEV pP **pP 18 32 07.0 -1.5**
IDI Anoyia 68.32 305 P P **18 31 53.6 +0.1**
IDI IAmb IAmb 18 32 11.7
comp=Z,38nm,0.7s
PEA0B Petropavlovsk- 68.45 36 P P **18 31 53.3 -0.5**
PEA0B Petropavlovsk- 68.45 36 P P **18 31 53.3 -0.5**
PEA0B pmax pmax
comp=Z,32nm,1.4s
PETK Petropavlovsk- 68.45 36 P P **18 31 52.5 -1.3**
comp=Z,3.1nm,0.8s,baz=252,slow=2.4,SNR=5.2
PETK LR LR 19 03 30.7
comp=Z,79nm,19.4s,baz=252,slow=37
comp=Z,3.1nm,0.8s
VRI Vrincioaia 68.55 316⇑ P P **18 31 54.9 +0.3**
VRI Vrincioaia 68.55 316 P P **18 31 54.9 +0.3**
PLOR Plostina 68.60 316⇓ P P **18 31 55.2 +0.3**
PLOR Plostina 68.60 316 P P **18 31 55.2 +0.3**
ELND Elena 68.61 313⇑ P P **18 31 54.8 -0.2**
TESR Tescani 68.73 317⇑ P P **18 31 55.3 -0.4**
LSZ Lusaka 68.77 250 P P **18 31 58.1 +1.5**
LSZ Lusaka 68.77 250 P P **18 31 58.0 +1.5**
LSZ pP **pP 18 32 15.3 +1.5**
COVR Voineasa-Covas 68.90 316⇑ P P **18 31 56.8 0.0**
PET Petropavlovsk 68.98 36*de*P P **18 31 57.1 0.0**
PET pmax pmax
comp=Z,22nm,1.0s
PET Petropavlovsk 68.98 36 P P **18 31 57.3 +0.2**
MLR Muntele Rosu 69.02 316⇓ P P **18 31 57.9 +0.2**
MLR Muntele Rosu 69.02 316 P P **18 31 57.8 +0.2**
MLR IAmb IAmb 18 32 16.5
comp=Z,54nm,1.1s
MLR IAMs_20 IAMs_20 19 04 33.6
comp=Z,194nm,21.0s
MLR Muntele Rosu 69.02 316 LR LR 19 07 24.8
comp=Z,85nm,21.3s,baz=86,slow=40
MLR Muntele Rosu 69.02 316 P P **18 31 57.8 +0.2**
TURR Turia 69.07 316⇓ P P **18 31 57.7 -0.2**
SEY Seymchan 69.32 25 LR LR 19 04 14.7
comp=Z,201nm,21.1s,baz=220,slow=38
SEY Seymchan 69.32 25⇓ *e*P P **18 31 58.8 -0.2**
SEY pmax pmax
comp=Z,30nm,1.1s
GLAD Gladstone 69.44 139 P P **18 32 01.6 +1.5**
DOPR Dopca 69.49 316⇓ P P **18 32 00.0 -0.4**
HUMR Humele 69.52 315⇓ P P **18 32 00.2 -0.4**
VOIR 69.62 316⇑ P P **18 32 00.7 -0.6**
VOIR 69.62 316 P P **18 32 00.7 -0.6**
MNK Minsk 69.86 325 *i* P P **18 32 02.1 -0.4**
comp=E,5.0nm,1.0s
MNK *i* P P **18 32 02.1 -0.4**
comp=N,4.0nm,0.8s
MNK *i* P P **18 32 02.1 -0.4**
comp=Z,15nm,0.9s,baz=106
MNK *i* PcP **pP 18 32 18.1 -1.5**
MNK *i* PP **PP 18 34 36.4 -1.2**
MNK *i* PPP PPP 18 36 17.9
MNK *i* S **S 18 41 12.5 +5.4**
MNK *i* SS **SS 18 45 33.6 -3.3**
MNK *i* SSS SSS 18 48 18.4
MNK *i* LQ LQ 18 59 34.8
MNK *i* LR LR 19 03 10.2
MNK *i* LRM MLR 19 06 23.6
comp=Z,140nm,19.1s
MNK *i* LRM MLR 19 07 04.3
comp=E,48nm,18.0s
MNK *i* LRM MLR 19 07 10.6
comp=N,68nm,19.9s
MNK Minsk 69.86 325*d i*P P **18 32 02.0 -0.5**
BURAR Bucovina Array 69.91 318⇓ P P **18 32 03.1 +0.1**
BURAR Bucovina Array 69.91 318 P P **18 32 03.2 +0.1**
BURAR Bucovina Array 69.91 318 P P **18 32 03.1 +0.1**
TAU Tasmania Unive 70.00 141 P P **18 32 04.2 +0.7**
TAU IAmb IAmb 18 32 05.4
comp=Z,25nm,0.8s
TAU Tasmania Unive 70.00 141 P P **18 32 04.2 +0.7**
TAU pmax pmax
comp=Z,25nm,0.9s
NACGM Naroch 70.58 326⇑ *i*P P **18 32 06.8 -0.1**
comp=Z,24nm,0.9s,baz=105
IDID Didziasalis 70.71 326 *e*P P **18 32 08.0 +0.4**
LIT Litokhoron 70.73 310 P P **18 32 07.4 -0.8**
LIT IAmb IAmb 18 32 25.1
comp=Z,49nm,0.8s
LIT Litokhoron 70.73 310 P P **18 32 07.4 -0.8**
LIT pmax pmax
comp=Z,49nm,0.8s
AGG Agios Georgios 70.74 309 P P **18 32 06.5 -1.8**
AGG Agios Georgios 70.74 309 P P **18 32 06.5 -1.8**
AGG pmax pmax
comp=Z,8.0nm,0.8s
JOF Joensuu 70.86 335 *e*P P **18 32 08.2 -0.2**
ITM Ithomi 70.89 307 IAmb IAmb 18 32 28.7
comp=Z,67nm,1.2s
BLKB Belogradchik 71.03 313⇑ P P **18 32 09.9 0.0**
MARR Marisel-Cluj 71.16 317⇑ P P **18 32 11.1 +0.4**
DRGR 71.45 317⇓ P P **18 32 12.6 +0.1**
DRGR 71.45 317 P P **18 32 12.5 +0.1**
VSU Vasula 71.55 329*de*P P **18 32 12.3 -0.4**
VSU pmax pmax
comp=Z,18nm,1.0s
LVZ Lovozero 71.61 340 P P **18 32 12.9 -0.1**
LVZ IAmb IAmb 18 32 34.3
comp=Z,25nm,0.8s
LVZ Lovozero 71.61 340*c i*P P **18 32 13.0 +0.1**
LVZ pmax pmax
comp=Z,35nm,1.7s
LVZ MLR MLR
comp=Z,170nm,18.0s
LVZ Lovozero 71.61 340 P P **18 32 13.1 +0.1**
SURR Surduc 71.70 316⇑ P P **18 32 13.9 +0.1**
BOVS Bovan 71.72 313⇓ P P **18 32 13.1 -1.0**
MDVR Moldovita 71.86 315⇑ P P **18 32 14.6 -0.3**
APA Apatity 71.90 339⇓ *i*P P **18 32 13.6 -1.0**
APA *i* 18 32 32.5
APA pmax pmax
comp=Z,19nm,0.7s
APA MLR MLR
comp=Z,300nm,13.0s
KWP Kalwaria Pacla 71.91 320 *e*P P **18 32 15.5 +0.4**
KWP *e*pP **pP 18 32 32.4 +0.1**
KOLS Kolonicke sedl 72.07 319 *e*P P **18 32 15.8 -0.3**
KOLS *e*pP **PcP 18 32 34.8 +0.6**
KOLS Kolonicke sedl 72.07 319 *e*P P **18 32 15.8 -0.3**
KOLS pmax pmax
comp=Z,7.0nm,0.7s
SIRR Siria 72.09 316⇑ P P **18 32 16.3 +0.1**
ARBE Arbavere 72.19 330 *e*P P **18 32 17.2 +0.8**
PABE Paberze 72.29 326 *e*P P **18 32 17.6 +0.4**
VSVD Vaisvydziai 72.41 326 *e*P P **18 32 18.1 +0.2**
SUW Suwalki 72.42 324 *e*P P **18 32 17.6 -0.4**
SUW *e*pP **pP 18 32 34.5 -0.8**
SUW Suwalki 72.42 324 *e*P P **18 32 17.6 -0.4**
CRVS Cervenica-Dubn 72.60 319 *e*P P **18 32 19.7 +0.5**
CRVS *e*pP **pP 18 32 36.8 +0.3**
CRVS Cervenica-Dubn 72.60 319 *e*P P **18 32 19.7 +0.5**
CRVS pmax pmax
comp=Z,14nm,1.0s
FINES FINESS Array B 72.70 332 P P **18 32 19.3 -0.1**
comp=Z,6.2nm,0.7s,baz=100,slow=5.9,SNR=39
FINES pP **PcP 18 32 36.5 0.0**
comp=Z,13nm,0.7s,baz=96,slow=4.7,SNR=8.3
FINES LR LR 19 09 14.5
comp=Z,99nm,19.8s,baz=113,slow=40
comp=Z,6.2nm,0.7s
MTSE Matsula 73.09 329 *e*P P **18 32 21.1 -0.8**
MEF Metsahovi 73.17 331 *e*P P **18 32 21.4 -0.8**
PDG Podgorica 73.39 312⇑ P P **18 32 23.3 -0.7**
NIE Niedzica 73.43 319 *e*P P **18 32 24.4 +0.3**
NIE *e*pP **pP 18 32 41.2 -0.2**
KEF Keuruu 73.45 333 *e*P P **18 32 24.1 +0.2**
PSZ Piszkesteto 73.50 318⇑ P P **18 32 24.1 -0.6**
PSZ Piszkesteto 73.50 318 P P **18 32 24.0 -0.6**
PBUR Paburge 73.52 326 *e*P P **18 32 24.9 +0.5**
OJC Ojcow 73.86 320 *e*P P **18 32 26.5 0.0**
OJC *e*pP **pP 18 32 43.6 -0.3**
OJC Ojcow 73.86 320 IAmb IAmb 18 32 44.6
comp=Z,35nm,1.0s

LANS Liptovska Anna 73.93 319 *e*pP pP 18 32 44.4 0.0
MORH Mrgy, Hungar 74.17 316⇓ P P **18 32 28.6 +0.2**
VADS Vadso 74.27 341 *e*P P **18 32 29.7 +1.1**
SRO Srobarova 74.55 317 *e*P P **18 32 31.2 +0.6**
SRO *e*pP **pP 18 32 47.7 -0.2**
SRO Srobarova 74.55 317 *e*P P **18 32 31.2 +0.6**
SRO pmax pmax
comp=Z,17nm,1.2s
RAF Rauma 74.62 331 *e*P P **18 32 31.1 +0.4**
VAF Ylistaro 74.65 333 *e*P P **18 32 31.6 +0.7**
CASY Casey 74.76 173 P P **18 32 32.1 +0.7**
KOUNC Koumac, New Ca 74.79 114 P P **18 32 34.0 +1.5**
KOUNC Koumac, New Ca 74.79 114 P P **18 32 33.6 +1.1**
KOUNC IAmb IAmb 18 32 34.8
comp=Z,38nm,0.9s
KEV Kevo 74.90 341 P P **18 32 32.4 +0.2**
KEV IAmb IAmb 18 32 51.4
comp=Z,41nm,1.0s
KEV Kevo 74.90 341 *e*P P **18 32 33.0 +0.8**
KEV *e*pP **pP 18 32 48.8 -0.6**
KEV Kevo 74.90 341 P P **18 32 32.4 +0.2**
KEV pmax pmax
comp=Z,41nm,1.0s
JAVC Velka Javorina 75.08 318 *e*P P **18 32 34.7 +0.9**
BOSA Boshof 75.08 238 IAmb IAmb 18 32 36.5
comp=Z,34nm,0.8s
BOSA Boshof 75.08 238 P P **18 32 35.4 +1.2**
comp=Z,27nm,0.6s,baz=77,slow=7.5,SNR=84
BOSA pP **pP 18 32 52.4 +0.8**
comp=Z,36nm,1.0s,baz=79,slow=6.8,SNR=9.2
BOSA LR LR 18 59 40.3
comp=Z,194nm,21.0s,baz=64,slow=31
comp=Z,27nm,0.6s
MORC Moravsky Berou 75.25 319⇑ P P **18 32 35.1 +0.3**
MORC Moravsky Berou 75.25 319 IAmb IAmb 18 32 53.2
comp=Z,34nm,1.1s
MORC Moravsky Berou 75.25 319 *e*P P **18 32 35.0 +0.3**
MORC Moravsky Berou 75.25 319 P P **18 32 35.0 +0.3**
MODS Modra-Piesok 75.29 318 *e*P P **18 32 35.4 +0.4**
MODS *e*pP **pP 18 32 52.3 0.0**
MODS Modra-Piesok 75.29 318 *e*P P **18 32 35.4 +0.4**
MODS pmax pmax
comp=Z,22nm,1.4s
AAL Aland 75.31 330 *e*P P **18 32 35.0 +0.3**
ARA0 ARCESS Array S 75.32 340 *e*P P **18 32 35.6 +0.9**
ARCES ARCESS Array B 75.32 340 P P **18 32 33.9 -0.8**
ARCES IAmb IAmb 18 32 54.1
comp=Z,50nm,1.1s
ARCES ARCESS Array B 75.32 340 P P **18 32 35.5 +0.8**
comp=Z,5.1nm,0.6s,baz=96,slow=7.1,SNR=55
ARCES pP **pP 18 32 52.0 0.0**
comp=Z,6.4nm,0.4s,baz=119,slow=4.3,SNR=12
ARCES LR LR 19 09 10.0
comp=Z,169nm,18.2s,baz=112,slow=38
comp=Z,5.1nm,0.6s
ARCES ARCESS Array B 75.32 340 P P **18 32 33.9 -0.8**
ARCES pmax pmax
comp=Z,50nm,1.1s
ZST Bratislava 75.39 318 *e*P P **18 32 35.5 0.0**
ZST *e*pP **pP 18 32 53.4 +0.6**
ZST Bratislava 75.39 318 *e*P P **18 32 35.5 0.0**
ZST pmax pmax
comp=Z,41nm,1.0s
KRLC Kraliky 75.77 320 *e*P P **18 32 38.4 +0.7**
KRLC Kraliky 75.77 320 *e*P P **18 32 38.4 +0.7**
VRAC Vranov 75.82 319 *e*P P **18 32 38.1 +0.1**
VRAC Vranov 75.82 319 LR LR 19 10 10.8
comp=Z,46nm,21.7s,baz=105,slow=39
RONA Rosalia, Austr 75.89 317 *e*P P **18 32 38.4 0.0**
comp=Z,1.8nm,0.6s
RONA *e*pP **pP 18 32 55.3 -0.5**
comp=Z,11nm,1.1s
KRUC Moravsky 75.93 319 *e*P P **18 32 38.7 +0.1**
DPC Dobruska-Polom 76.08 320 *e*P P **18 32 40.5 +1.0**
DPC Dobruska-Polom 76.08 320 *e*P P **18 32 40.5 +1.0**
OSTC Ostas 76.17 320 *e*P P **18 32 40.8 +0.9**
OSTC Ostas 76.17 320 *e*P P **18 32 40.8 +0.9**
CONA Conrad Observa 76.20 317 *e*P P **18 32 40.0 -0.2**
comp=Z,1.1nm,0.6s
CONA *e*pP **pP 18 32 57.0 -0.7**
comp=Z,12nm,1.1s
HAMF Hammerfest 76.25 341 *e*P P **18 32 40.9 +1.0**
CHVC Chvalec 76.28 320 *e*P P **18 32 41.2 +0.7**
CHVC Chvalec 76.28 320 *e*P P **18 32 41.2 +0.7**
ARSA Arzberg 76.39 317 *e*P P **18 32 41.4 +0.1**
comp=Z,6.6nm,1.1s,SNR=5.8
ARSA *e*pP **pP 18 32 57.4 -1.2**
comp=Z,26nm,1.2s
UPP Uppsala 76.43 330 *e*P P **18 32 41.6 +0.5**
BILL Bilibino 76.46 22 P P **18 32 41.5 +0.3**
BILL IAmb IAmb 18 32 42.2
comp=Z,85nm,1.8s
BILL Bilibino 76.46 22 IAMs_20 IAMs_20 19 08 38.1
comp=Z,143nm,21.0s
BILL Bilibino 76.46 22 *e*P P **18 32 41.5 +0.3**
BILL pmax pmax
comp=Z,32nm,1.3s
BOJS Bojanci 76.48 315 *i* P P **18 32 41.5 -0.2**
BOJS *e*pP **pP 18 32 58.6 -0.5**
SOKA Soboth 76.69 316 *e*P P **18 32 43.4 +0.3**
comp=Z,9.7nm,1.1s,SNR=12
SOKA *e*pP **pP 18 33 00.3 -0.1**
comp=Z,28nm,1.0s
VIKU Vikbolandet 76.72 328 *e*P P **18 32 43.5 +0.7**
VAE Valguarnera 76.88 307 LR LR 19 10 27.3
comp=Z,49nm,20.3s,baz=88,slow=38
NOUC Port Laguerre 76.99 115 P P **18 32 46.1 +1.1**
LJU Ljubljana 77.01 315 *e*P P **18 32 44.9 +0.1**
LJU *e*pP **pP 18 33 01.9 -0.2**
OBKA Obir 77.02 316 *e*P P **18 32 45.1 +0.2**
comp=Z,4.6nm,0.8s,SNR=6.0
OBKA *e*pP **pP 18 33 02.3 0.0**
comp=Z,18nm,0.9s
JETT Jettan, Norway 77.06 340 *e*P P **18 32 45.4 +0.8**
DZM Mont Dzumac 77.11 115 P P **18 32 46.9 +1.1**
DZM Mont Dzumac 77.11 115 *e*P P **18 32 44.8 -1.0**
comp=Z,46nm,28.1s
DZM *e*S **S 18 42 24.2 -6.2**
comp=Z,58nm,25.6s
DZM Mont Dzumac 77.11 115 *e*LR LR 18 56 42.9
comp=Z,270nm,31.8s
DZM Mont Dzumac 77.11 115 LR LR 19 10 16.4
comp=Z,43nm,18.4s,baz=283,slow=38
ONTNC Uuen Toro 77.17 115 P P **18 32 47.1 +1.0**
PRU Pruhonice 77.20 319 *e*P P **18 32 46.2 +0.5**
PRU Pruhonice 77.20 319 *e*P P **18 32 46.2 +0.5**
MOA Molln 77.27 317 *e*P P **18 32 45.9 -0.3**
comp=Z,4.8nm,1.1s
MOA *e*pP **pP 18 33 02.7 -0.9**
comp=Z,16nm,1.1s
CKRC Cesky Krumlov 77.29 318 *e*P P **18 32 42.9 -3.4**
CKRC Cesky Krumlov 77.29 318 *e*P P **18 32 42.9 -3.4**
TRO Tromso 77.58 340 *e*P P **18 32 47.4 0.0**
BRG Berggiesshubel 77.63 320 *e*P P **18 32 48.5 +0.3**
BRG Amp 18 32 49.6
comp=Z,4.2nm,0.9s
BRG Berggiesshubel 77.63 320 P P 18 32 54.4 +6.3
BRG Amp 18 32 55.1
comp=Z,5.4nm,0.9s
BRG Berggiesshubel 77.63 320 P P 18 32 57.0 +8.9
BRG Amp 18 32 58.1
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 77.63 320 P P 18 33 05.8 +18
BRG Amp 18 33 06.8
comp=Z,15nm,0.9s
MYKA Terra Mystica 77.65 316 *e*P P **18 32 48.2 -0.2**
comp=Z,4.4nm,0.9s
MYKA *e*pP **pP 18 33 05.4 -0.4**
comp=Z,11nm,0.9s
SABO M.te Sabotino 77.65 315 IAmb IAmb 18 33 06.0
comp=Z,21nm,0.8s
BIOA Bad Ischl, Aus 77.69 317 *e*P P **18 32 48.2 -0.3**
comp=Z,2.4nm,0.7s
BIOA *e*pP **pP 18 33 05.3 -0.7**
comp=Z,17nm,1.0s
GEC2 GERESS Array S 77.69 318 IAmb IAmb 18 33 07.1
comp=Z,31nm,1.0s
GERES GERESS Array B 77.69 318 P P **18 32 48.3 -0.3**
comp=Z,6.0nm,0.8s,baz=90,slow=5.9,SNR=16
GERES pP **pP 18 33 06.9 +0.9**
comp=Z,18nm,0.9s,baz=91,slow=4.9,SNR=12
GERES LR LR 19 11 09.7
comp=Z,65nm,22.0s,baz=74,slow=39
comp=Z,6.0nm,0.8s
PRED Cave del Predi 77.69 316 IAmb IAmb 18 33 06.1

comp=Z,33nm,1.0s
KHC Kasperske Hory 77.78 319 *e*P **P** **18 32 49.0 -0.1**
KHC *e*pP **pP** **18 33 05.5 -1.0**
KHC Kasperske Hory 77.78 319 *e*P **P** **18 32 49.0 -0.1**
KHC *e* 18 33 05.5
RUE Ruedersdorf 77.83 322 *e*P **P** **18 32 50.2 +1.1**
KBA Koelnbreinsper 77.86 316 *e*P **P** **18 32 49.2 -0.5**
comp=Z,2.6nm,0.6s
KBA *e*pP **pP** **18 33 06.3 -0.9**
comp=Z,19nm,1.1s
DEL Delary 78.04 326 *e*P **P** **18 32 50.7 +0.5**
SHEM Shemya Is, Ala 78.15 38 LR LR 19 08 10.0
comp=Z,53nm,21.6s,baz=321,slow=36
MAW Mawson 78.22 192 P **P** **18 32 52.2 +1.3**
comp=Z,3.4nm,0.7s,baz=51,slow=13,SNR=7.2
MAW LR LR 19 01 52.9
comp=Z,72nm,18.7s,baz=25,slow=31
comp=Z,3.4nm,0.7s
CLL Collm 78.25 321 *e*P **P** **18 32 51.0 -0.5**
comp=Z,4.0nm,1.1s
CLL *e*PcP **PcP** **18 32 59.0 -1.7**
CLL *i* (pP) **pP** **18 33 08.2 -0.8**
comp=Z,22nm,1.3s
CLL *e*x x 18 33 16.0
CLL Collm 78.25 321 *e*P **P** **18 32 51.0 -0.5**
CLL *i* *PP **pP** **18 33 08.2 -0.8**
CLL pmax pmax
comp=Z,4.0nm,1.1s
STAL STALIGIAL 78.28 316 P **P** **18 32 51.7 -0.2**
LESA Schwarzleotal 78.33 317 *e*P **P** **18 32 51.6 -0.6**
comp=Z,4.1nm,0.6s
LESA *e*pP **pP** **18 33 08.2 -1.4**
comp=Z,20nm,1.4s
HFS Hagfors 78.42 330 P **P** **18 32 52.2 0.0**
comp=Z,5.0nm,0.5s,baz=96,slow=6.0,SNR=30
HFS pP **pP** **18 33 09.6 -0.2**
comp=Z,15nm,0.6s,baz=96,slow=5.8,SNR=14
HFS LR LR 19 12 11.7
comp=Z,124nm,18.5s,baz=102,slow=39
comp=Z,5.0nm,0.5s
ABTA Abfaltersbach 78.43 316 *e*P **P** **18 32 52.0 -0.7**
comp=Z,4.6nm,0.8s
ABTA *e*pP **pP** **18 33 09.0 -1.1**
comp=Z,15nm,1.0s
STEI Steigen 78.61 338 *e*P **P** **18 32 53.5 +0.4**
CTI Castel Tesino 79.01 315 IAmb IAmb 18 33 14.4
comp=Z,56nm,1.1s
WTTA Wattenberg 79.03 317 *e*P **P** **18 32 55.5 -0.6**
comp=Z,8.2nm,0.6s,SNR=9.0
WTTA *e*pP **pP** **18 33 12.8 -0.9**
comp=Z,32nm,1.0s
WATA Walderalm 79.08 317 *e*P **P** **18 32 55.5 -0.8**
comp=Z,3.9nm,0.6s,SNR=5.4
WATA *i* pP **pP** **18 33 12.8 -1.0**
comp=Z,22nm,0.9s
LOF Lofoten 79.27 338 *e*P **P** **18 32 56.9 +0.2**
SQTA Sankt Quirin 79.33 317 *e*P **P** **18 32 57.1 -0.6**
comp=Z,8.4nm,0.7s,SNR=6.9
SQTA *e*pP **pP** **18 33 14.5 -0.6**
comp=Z,27nm,0.9s
MOTA Moosalm 79.40 317 *e*P **P** **18 32 57.3 -0.8**
comp=Z,11nm,0.9s,SNR=7.0
MOTA *e*pP **pP** **18 33 14.8 -0.7**
comp=Z,42nm,1.0s
NC405 NORSAR Array S 79.47 331 IAmb IAmb 18 33 15.9
comp=Z,36nm,0.9s
ZCCA Zocca 79.49 314 IAmb IAmb 18 33 18.3
comp=Z,44nm,0.8s
TSUM Tsumeb 79.52 249 LR LR 19 04 40.3
comp=Z,190nm,20.3s,baz=76,slow=33
NC602 NORSAR Array S 79.53 330 P **P** **18 32 58.1 -0.2**
NC602 IAmb IAmb 18 33 16.0
comp=Z,39nm,1.1s
NC602 NORSAR Array S 79.53 330 *e*P **P** **18 32 58.5 +0.1**
NSS Namsos 79.57 334 *e*P **P** **18 32 59.3 +0.8**
RETA Reutte 79.63 317 *e*P **P** **18 32 58.8 -0.5**
comp=Z,7.2nm,0.6s,SNR=9.7
RETA *e*pP **pP** **18 33 16.1 -0.6**
comp=Z,32nm,0.9s
FETA Feichten 79.65 316 *e*P **P** **18 32 59.2 -0.3**
comp=Z,9.8nm,1.2s,SNR=6.4
FETA *i* pP **pP** **18 33 16.4 -0.6**
comp=Z,24nm,0.9s
NB2 NORSAR Subarra 79.70 331 P **P** **18 32 58.7 -0.6**
comp=Z,1.7nm,0.6s,baz=96,slow=5.3
NOA NORSAR Array B 79.70 331 P **P** **18 32 58.8 -0.6**
comp=Z,1.5nm,0.6s,baz=95,slow=5.0,SNR=15
NOA LR LR 19 12 35.0
comp=Z,100nm,20.2s,baz=110,slow=39
comp=Z,1.5nm,0.6s
SUR Sutherland 79.83 235 P **P** **18 33 00.2 -0.5**
SUR IAmb IAmb 18 33 21.0
comp=Z,76nm,1.2s
SUR Sutherland 79.83 235 LR LR 19 02 52.5
comp=Z,157nm,19.8s,baz=88,slow=32
NAO01 NORSAR Array S 79.86 330 *e*pP pP 18 33 16.6 -1.1
NB000 NORSAR Array S 79.92 331 *e*P **P** **18 33 01.0 +0.6**
SPB2 Spitsbergen Ar 79.96 348 P **P** **18 33 00.5 +0.1**
SPB2 IAmb IAmb 18 33 01.8
comp=Z,77nm,1.3s
SPA0 Spitsbergen Ar 79.96 348 *e*P **P** **18 33 01.5 +1.1**
SPITS Spitsbergen Ar 79.96 348 P **P** **18 33 01.0 +0.5**
SPITS LR LR 19 15 50.5
comp=Z,113nm,19.6s,baz=82,slow=41
comp=Z,11nm,0.5s
SPITS Spitsbergen Ar 79.96 348 P **P** **18 33 01.1 +0.7**
SPITS pmax pmax
comp=Z,87nm,1.4s
DAVA Damuels 80.23 317 *i* P **P** **18 33 02.6 0.0**
comp=Z,5.1nm,0.7s,SNR=5.2
DAVA *e*pP **pP** **18 33 19.6 -0.5**
comp=Z,52nm,1.1s
DAVOX Davos/Dischmat 80.24 316 LR LR 19 15 16.9
comp=Z,28nm,20.6s,baz=80,slow=41
KONO Kongsberg 80.46 329|| *e*P **P** **18 33 04.1 +0.8**
KONO pmax pmax
comp=Z,19nm,2.5s
KEST Kesra 81.00 305 P **P** **18 33 07.6 +0.7**
comp=Z,9.1nm,0.9s,baz=72,slow=3.2,SNR=4.8
KEST LR LR 19 14 37.6
comp=Z,26nm,18.0s,baz=295,slow=40
comp=Z,9.1nm,0.9s
BTNL Ternell 82.60 320 *d*pP pP 18 33 32.5 0.0
WLF Walferdange 82.63 319 *d*pP pP 18 33 33.2 +0.5
MEM Membach 82.67 320 *d*P **P** **18 33 16.0 +0.8**
MEM *d*PcP **PcP** **18 33 21.1 +1.1**
MEM *d*pP **pP** **18 33 32.5 -0.4**
BCLA Clavier 83.13 320 *d*P **P** **18 33 16.2 -1.4**
BCLA *d*pP **pP** **18 33 32.7 -2.5**
RCHB Rochefort 83.20 320 *d*pP pP 18 33 35.0 -0.6
BGES Gesves 83.27 320 *d*PcP **PcP** **18 33 24.9 +2.2**
BGES *d*pP **pP** **18 33 36.1 +0.1**
BMRD Maredsous 83.48 320 *d*pP pP 18 33 35.3 -1.8
DOU Dourbes 83.61 320 *d*pP pP 18 33 37.6 -0.1
ATKA Atka Island 85.32 38 P **P** **18 33 27.9 -0.7**
ATKA IAmb IAmb 18 34 38.0
comp=Z,70nm,1.8s
NOR Nord 85.41 352 *i* P **P** **18 33 27.5 -1.1**
NOR IAmb IAmb 18 33 29.6
comp=Z,10nm,0.7s
TNA Tin City 86.56 24 P **P** **18 33 35.0 +0.5**
baz=281
JMIC Jan Mayen 86.77 341 LR LR 19 14 25.1
comp=Z,69nm,20.8s,baz=56,slow=37
LTZ Lake Taylor 86.85 134 P **P** **18 33 36.2 -0.3**
SPIA Saint Paul Isl 86.92 33 P **P** **18 33 36.7 +0.3**
baz=279
C16K Lisburne Hills 86.99 21 P **P** **18 33 37.0 +0.4**
baz=283
THZ Tophouse 87.08 133 P **P** **18 33 37.3 -0.3**
THZ IAmb IAmb 18 33 37.9
comp=Z,42nm,1.0s
F14K Arctic Creek 87.23 24 P **P** **18 33 37.7 -0.1**
baz=282
P08K Saint George I 87.39 33 P **P** **18 33 38.3 -0.4**
baz=280
DAG Danmarks Havn 87.60 348 *i* P **P** **18 33 38.7 -0.6**
DAG IAmb IAmb 18 33 40.2
comp=Z,4.7nm,0.7s
EKA Eskdalemuir Ar 87.65 325 P **P** **18 33 40.5 +0.5**
comp=Z,1.2nm,0.4s,baz=90,slow=5.3,SNR=23
EKA pP **pP** **18 33 57.2 -0.6**
comp=Z,15nm,0.7s,baz=92,slow=5.4,SNR=20
comp=Z,1.2nm,0.4s
C17K DeLong Mountai 87.72 21 P **P** **18 33 40.2 +0.1**
baz=285,SNR=8.8

ANM Nome 87.82 25 P **P** **18 33 41.4 +0.8**
baz=283
F15K North Star Dit 87.86 24 P **P** **18 33 40.4 -0.4**
F15K North Star Dit 87.86 24 P **P** **18 33 41.7 +0.9**
baz=284
RDOG Red Dog Mine 87.93 21 P **P** **18 33 41.8 +0.7**
baz=285
D17K Noatak River 87.96 22 P **P** **18 33 42.3 +1.0**
baz=285,SNR=9.7
B18K Kokolik River 87.96 20 P **P** **18 33 41.7 +0.5**
baz=286,SNR=17
A19K Wainwright 87.97 19 P **P** **18 33 42.8 +1.6**
baz=287
G15K Niukluk 88.28 25 P **P** **18 33 43.5 +0.8**
baz=284
C18K Utukok River 88.38 21 IAmb IAmb 18 33 45.4
comp=Z,21nm,0.8s
C18K Utukok River 88.38 21 P **P** **18 33 44.0 +0.7**
baz=287,SNR=15
M11K Mekoryuk 88.38 29 P **P** **18 33 42.7 -0.6**
baz=283
NIKH Nikolski High 88.43 37 P **P** **18 33 44.9 +1.2**
NIKH Nikolski High 88.43 37 P **P** **18 33 43.6 -0.1**
baz=281,SNR=7.3
E17K Hotham Inlet 88.59 22 P **P** **18 33 44.1 -0.1**
baz=286,SNR=7.3
K13K Kusilvak Mount 88.75 28 P **P** **18 33 45.6 +0.5**
baz=284
C19K Lookout Ridge 88.79 20 IAmb IAmb 18 33 47.3
comp=Z,13nm,0.7s
C19K Lookout Ridge 88.79 20 P **P** **18 33 45.9 +0.7**
baz=288
G16K Koyuk River 88.86 24 P **P** **18 33 46.0 +0.5**
baz=286
E18K Tukpahlearik C 88.95 22 IAMs_20 IAMs_20 19 15 19.2
comp=Z,248nm,22.0s
E18K Tukpahlearik C 88.95 22 P **P** **18 33 46.6 +0.6**
baz=287
DBG Daneborg 88.97 346 *i* P **P** **18 33 48.5 +2.6**
DBG IAmb IAmb 18 33 51.0
comp=Z,2.1nm,0.9s
A21K Barrow 89.00 18 P **P** **18 33 46.2 +0.1**
baz=291
F17K Baldwin Pennin 89.00 23 P **P** **18 33 47.0 +0.9**
baz=287
J14K Nanvaranak Lak 89.05 27 P **P** **18 33 47.1 +0.6**
baz=285
H16K Elim 89.11 25 P **P** **18 33 47.1 +0.4**
baz=286
B20K Meade River 89.30 19 P **P** **18 33 48.4 +0.9**
baz=291
D19K Kuna River 89.50 21 P **P** **18 33 49.5 +1.0**
D19K Kuna River 89.50 21 P **P** **18 33 49.3 +0.8**
baz=290
G17K Kiwalik Mounta 89.51 24 P **P** **18 33 48.9 +0.4**
baz=287
RTZ Ruatahuna 89.52 129 P **P** **18 33 48.1 -1.1**
RTZ IAmb IAmb 18 33 50.4
comp=Z,26nm,0.9s
URZ Urewera 89.56 129 LR LR 19 13 59.4
comp=Z,152nm,21.7s,baz=31,slow=36
F18K Selawik 89.56 22 P **P** **18 33 49.5 +0.8**
baz=288,SNR=24
A22K Sinclair Lake 89.61 18 P **P** **18 33 49.7 +0.8**
baz=293
UNV Unaska Valle 89.63 36 P **P** **18 33 50.1 +0.7**
baz=282
M13K Dall Lake 89.75 29 P **P** **18 33 49.5 -0.2**
baz=285
L14K Kuka Creek 89.82 28 P **P** **18 33 50.4 +0.3**
baz=286
D20K Etivluk River 89.94 20 P **P** **18 33 51.4 +0.8**
baz=291
I17K Unalakleet 89.97 25 P **P** **18 33 51.8 +1.0**
baz=287
H17K Granite Mounta 89.98 24 P **P** **18 33 51.8 +1.0**
baz=288,SNR=7.4
K15K Wolf Creek Mou 90.08 27 P **P** **18 33 52.3 +1.0**
baz=287
G18K Tagagawik 90.17 23 P **P** **18 33 52.6 +0.9**
baz=289
E19K Redstone River 90.17 21 P **P** **18 33 52.8 +1.1**
baz=291
F19K Shaleruckik Mo 90.19 22 P **P** **18 33 52.6 +0.9**
baz=290,SNR=17
J16K Anvik River 90.19 26 IAmb IAmb 18 33 54.4
comp=Z,23nm,1.0s
J16K Anvik River 90.19 26 P **P** **18 33 53.2 +1.3**
baz=288
TORD Torodi Ar. Bea 90.21 283 P **P** **18 33 53.1 +0.2**
comp=Z,5.2nm,0.9s,baz=85,slow=5.0,SNR=16
TORD pP **pP** **18 34 11.8 +1.1**
comp=Z,9.7nm,1.1s,baz=92,slow=5.2,SNR=7.6
TORD PP **PP** **18 37 29.7 +2.3**
comp=Z,2.6nm,1.2s,baz=76,slow=7.5,SNR=4.2
TORD PKKPbc **PKKPbc** **18 51 22.0 -0.2**
comp=Z,0.6nm,0.5s,baz=291,slow=1.6,SNR=4.4
comp=Z,5.2nm,0.9s
E20K Nigu River 90.25 20 P **P** **18 33 53.3 +1.2**
baz=292
B21K Ikpikpuk River 90.26 19 P **P** **18 33 53.3 +1.3**
baz=293,SNR=22
L15K Ungalak Mounta 90.27 27 P **P** **18 33 53.1 +0.9**
baz=287
M14K Bethel 90.32 28 P **P** **18 33 52.8 +0.4**
baz=286
B22K Teshekpuk Lake 90.35 18 P **P** **18 33 52.9 +0.5**
baz=294,SNR=13
C21K Knifeblade Rid 90.39 19 P **P** **18 33 53.7 +1.0**
baz=293
H18K Honhosa River 90.53 24 P **P** **18 33 54.4 +1.0**
baz=290
N14K Kuskokwak Cree 90.68 29 P **P** **18 33 55.1 +1.0**
baz=286
G19K Purcell Mounta 90.69 23 P **P** **18 33 54.8 +0.8**
baz=291,SNR=20
J17K VABM Dome 90.81 25 P **P** **18 33 55.7 +1.0**
baz=289,SNR=6.6
F20K Avaraart Lake 90.86 22 P **P** **18 33 56.1 +1.3**
baz=292,SNR=47
M15K Kasigluk River 90.93 28 P **P** **18 33 56.0 +0.7**
baz=287
E21K Killik River 90.94 20 P **P** **18 33 55.2 0.0**
E21K Killik River 90.94 20 P **P** **18 33 56.1 +0.8**
baz=294
ESDC Sonseca Array 91.02 310 P **P** **18 33 56.1 -0.2**
ESDC IAmb IAmb 18 34 15.2
comp=Z,14nm,1.0s
ESDC Sonseca Array 91.02 310 P **P** **18 33 56.9 +0.6**
comp=Z,3.7nm,0.8s,baz=62,slow=4.1,SNR=25
ESDC pP **pP** **18 34 14.2 +0.2**
comp=Z,15nm,1.0s,baz=63,slow=3.7,SNR=18
ESDC LR LR 19 19 25.7
comp=Z,51nm,19.5s,baz=80,slow=38
comp=Z,3.7nm,0.8s
O14K Tigyukauivet M 91.08 30 P **P** **18 33 56.7 +0.7**
baz=287
H19K Roundabout Mou 91.15 23 P **P** **18 33 57.8 +1.6**
baz=291,SNR=36
L16K Owhat River 91.18 27 IAmb IAmb 18 33 58.8
comp=Z,27nm,1.6s
L16K Owhat River 91.18 27 P **P** **18 33 57.1 +0.7**
baz=288
D22K Ayikyak River 91.19 19 P **P** **18 33 57.1 +0.7**
baz=295,SNR=14
ELIB Princess Elisa 91.24 197 *d*P **P** **18 33 58.6 +2.0**
comp=Z,8.0nm,1.2s
GCSA Galena City Sc 91.27 24 P **P** **18 33 57.9 +1.1**
baz=291
K17K Iditarod 91.37 26 P **P** **18 33 58.5 +1.2**
baz=290
N15K Kwethluk River 91.37 29 IAmb IAmb 18 33 59.8
comp=Z,29nm,1.2s
N15K Kwethluk River 91.37 29 P **P** **18 33 58.5 +1.1**
baz=288
C23K Itkillik River 91.44 18 IAmb IAmb 18 33 59.6
comp=Z,36nm,1.6s
C23K Itkillik River 91.44 18 P **P** **18 33 58.6 +1.1**
baz=297,SNR=13
L17K Donlin 91.57 27 P **P** **18 33 59.2 +0.9**
baz=290
F21K Alatna River 91.60 21 IAmb IAmb 18 34 01.7
comp=Z,9.9nm,0.8s
F21K Alatna River 91.60 21 P **P** **18 33 58.8 +0.5**
baz=294,SNR=16
M16K Timber Creek 91.64 28 P **P** **18 33 59.2 +0.7**
baz=289
S12K Black Hills 91.67 33 P **P** **18 33 59.8 +0.9**

baz=286
H20K Anotleneega Mo 91.77 23 P **P** **18 34 00.5 +1.4**
baz=293,SNR=30
J18K Innoko River 91.79 25 IAmb IAmb 18 34 01.6
comp=Z,42nm,1.5s
J18K Innoko River 91.79 25 P **P** **18 33 59.9 +0.7**
baz=291,SNR=12
E22K Anaktuvuk Pass 91.80 20 P **P** **18 33 59.9 +0.7**
E22K IAmb IAmb 18 34 01.3
comp=Z,15nm,1.4s
E22K Anaktuvuk Pass 91.80 20 P **P** **18 34 00.3 +1.0**
baz=296,SNR=7.5
D23K Nanushuk River 91.81 19 P **P** **18 34 00.2 +1.0**
baz=297
O15K Ungalikthiuk R 91.81 30 P **P** **18 34 00.3 +0.9**
baz=288
G21K Allakaket 91.88 22 P **P** **18 34 00.7 +1.1**
baz=294
N16K Nishlik Lake 91.90 28 P **P** **18 34 01.2 +1.3**
baz=289,SNR=9.7
F22K John River 91.94 21 P **P** **18 34 00.9 +1.0**
baz=295,SNR=28
IMAR Indian Mountai 92.01 22 P **P** **18 34 01.3 +1.1**
J19K Poorman 92.05 24 P **P** **18 34 02.1 +1.6**
J19K IAmb IAmb 18 34 03.1
comp=Z,25nm,1.0s
J19K Poorman 92.05 24 P **P** **18 34 02.0 +1.6**
baz=292,SNR=22
C24K Franklin Bluff 92.08 18 P **P** **18 34 01.2 +0.8**
baz=299
I20K Naaghedeneel 92.20 23 P **P** **18 34 03.1 +2.0**
I20K Naaghedeneel 92.20 23 P **P** **18 34 02.5 +1.4**
baz=293,SNR=12
M17K Holitna River 92.20 27 P **P** **18 34 02.6 +1.5**
baz=290,SNR=5.3
L18K Granite Mounta 92.25 26 P **P** **18 34 03.0 +1.6**
L18K IAmb IAmb 18 34 03.9
comp=Z,39nm,1.6s
L18K Granite Mounta 92.25 26 P **P** **18 34 02.6 +1.3**
baz=291,SNR=8.6
RAO Raoul Island 92.30 119 LR LR 19 15 16.1
comp=Z,146nm,21.4s,baz=16,slow=35
D24K Happy Valley 92.31 19 IAmb IAmb 18 34 03.6
comp=Z,10.0nm,0.8s
D24K Happy Valley 92.31 19 P **P** **18 34 02.6 +1.1**
baz=298,SNR=12
TOLK Toolik Lake Re 92.31 19 IAmb IAmb 18 34 03.7
comp=Z,14nm,0.8s
TOLK Toolik Lake Re 92.31 19 P **P** **18 34 02.8 +1.2**
baz=298,SNR=18
G22K Bettles 92.43 21 P **P** **18 34 03.2 +1.1**
baz=296
H21K Melozitna Rive 92.50 22 P **P** **18 34 03.8 +1.3**
baz=295,SNR=18
O16K Kokwok River B 92.51 29 IAmb IAmb 18 34 05.7
comp=Z,38nm,1.6s
O16K Kokwok River B 92.51 29 P **P** **18 34 03.2 +0.5**
baz=290,SNR=5.3
E23K Chandalar 92.57 20 P **P** **18 34 03.9 +1.0**
baz=298
J20K Nowinta River 92.58 24 P **P** **18 34 04.3 +1.5**
baz=293,SNR=23
N17K Nushagak Hills 92.62 28 IAmb IAmb 18 34 05.9
comp=Z,21nm,1.1s
N17K Nushagak Hills 92.62 28 P **P** **18 34 04.6 +1.4**
baz=290,SNR=7.7
SDPT Sand Point 92.64 33 P **P** **18 34 03.9 +0.6**
baz=287
PBRG Braganca 92.65 313 *e*pP pP 18 34 22.1 +0.5
P16K Nushagak River 92.75 29 P **P** **18 34 05.2 +1.5**
baz=290
NEEM North Greenlan 92.75 353 *i* P **P** **18 34 04.1 +0.3**
NEEM IAmb IAmb 18 34 06.5
comp=Z,9.5nm,0.6s
COLD Coldfoot 92.76 20 P **P** **18 34 04.2 +0.6**
baz=297,SNR=10
VNDA Vanda 92.80 168 P **P** **18 34 04.5 +1.0**
VNDA Vanda 92.80 168 P **P** **18 34 04.2 +0.7**
comp=Z,1.9nm,0.7s,baz=290,slow=7.6,SNR=10
VNDA LR LR 19 12 52.1
comp=Z,86nm,18.4s,baz=319,slow=34
comp=Z,1.9nm,0.7s
VNDA Vanda 92.80 168 P **P** **18 34 04.6 +1.0**
VNDA pmax pmax
comp=Z,5.0nm,1.2s
MDT Midelt 92.81 303 LR LR 19 24 51.5
comp=Z,23nm,18.1s,baz=131,slow=41
S14K Fog Glacier 92.85 32 P **P** **18 34 05.6 +1.3**
baz=288
M18K Stony River 92.89 27 P **P** **18 34 05.6 +1.2**
baz=292,SNR=7.5
O17K Koliganek Bris 92.93 29 P **P** **18 34 05.1 +0.5**
baz=290
H22K Ishtalitna Cre 92.93 22 P **P** **18 34 05.9 +1.4**
baz=296,SNR=21
K20K Telida 92.93 25 P **P** **18 34 05.2 +0.6**
K20K Telida 92.93 25 P **P** **18 34 06.1 +1.5**
baz=293
E24K Your Creek 92.94 19 IAMs_20 IAMs_20 19 16 30.4
comp=Z,178nm,22.0s
E24K Your Creek 92.94 19 P **P** **18 34 05.4 +0.8**
baz=299,SNR=17
D25K Kavik River 92.99 18 P **P** **18 34 05.6 +0.9**
baz=293,SNR=47
MVO Moncorvo 93.00 312 *e*pP pP 18 34 23.1 -0.1
G23K Bananza Creek 93.05 21 P **P** **18 34 06.4 +1.3**
baz=297,SNR=11
L19K White Mountain 93.06 26 IAmb IAmb 18 34 07.8
comp=Z,16nm,0.9s
L19K White Mountain 93.06 26 P **P** **18 34 06.7 +1.5**
baz=293,SNR=15
C26K Camden Bay 93.11 17 P **P** **18 34 06.8 +1.6**
baz=302,SNR=15
N18K Kilae Creek 93.16 28 IAmb IAmb 18 34 08.0
comp=Z,9.5nm,0.7s
N18K Kilae Creek 93.16 28 P **P** **18 34 06.5 +0.8**
baz=292,SNR=5.5
CHNA Chernabura Isl 93.28 34 P **P** **18 34 06.8 +0.6**
baz=288
L20K Farewell, AK 93.36 25 P **P** **18 34 08.0 +1.5**
baz=294,SNR=13
M19K Big River Lodg 93.37 26 P **P** **18 34 08.0 +1.4**
baz=293
F24K Squaw Lake 93.41 20 P **P** **18 34 08.0 +1.3**
baz=299,SNR=12
CHUM Lake Minchumin 93.43 24 P **P** **18 34 08.2 +1.5**
baz=295,SNR=11
CHGN Chignik 93.44 32 P **P** **18 34 06.7 -0.3**
P17K Kvichak River 93.44 29 P **P** **18 34 08.3 +1.4**
baz=291,SNR=11
POLO Lamas de Olo 93.52 312 *e*pP pP 18 34 25.4 -0.2
MLY Manley 93.55 23 IAmb IAmb 18 34 09.7
comp=Z,23nm,1.7s
MLY Manley 93.55 23 P **P** **18 34 08.1 +0.7**
baz=296,SNR=8.6
MTE Manteigas 93.56 311 *e*pP pP 18 34 26.2 +0.4
C27K Jago River 93.62 17 P **P** **18 34 08.7 +1.1**
baz=303,SNR=15
PCBR Castelo Branco 93.63 311 *e*pP pP 18 34 26.8 +0.8
H23K Yukon River 93.64 22 P **P** **18 34 08.9 +1.2**
H23K IAmb IAmb 18 34 10.2
comp=Z,32nm,1.6s
H23K Yukon River 93.64 22 P **P** **18 34 08.8 +1.1**
baz=298,SNR=8.6
PBAR Barrancos 93.67 309 *e*pP pP 18 34 27.1 +0.9
CAST Castle Rocks 93.72 24 P **P** **18 34 09.6 +1.4**
CAST IAmb IAmb 18 34 10.5
comp=Z,17nm,0.8s
CAST Castle Rocks 93.72 24 P **P** **18 34 09.2 +1.0**
baz=295,SNR=21
N19K Bonanza Creek 93.75 27 P **P** **18 34 09.5 +1.0**
baz=293,SNR=34
O18K Koktuh Hills 93.79 28 P **P** **18 34 09.6 +1.0**
baz=292,SNR=10
E25K Arctic Village 93.86 19 P **P** **18 34 09.2 +0.5**
baz=301,SNR=11
BPAW Bear Paw Mtn. 93.87 23 IAmb IAmb 18 34 11.8
comp=Z,14nm,0.9s
BPAW Bear Paw Mtn. 93.87 23 P **P** **18 34 09.9 +1.0**
baz=296,SNR=12
PPLA Purkeypile 93.90 25 P **P** **18 34 10.0 +0.9**
baz=295
SBA Scott Base 93.90 168 **P** **18 34 08.8 +0.3**
SBA IAmb IAmb 18 34 11.8
comp=Z,36nm,1.6s
SBA Scott Base 93.90 168 P **P** **18 34 08.9 +0.3**
SBA pmax pmax

	comp=Z,36nm,1.6s									
M20K	**Styx River**	93.92	26	P		**P**		18 34 10.2	+0.9	
	baz=294									
G24K	**Hadweenzic Riv**	93.95	20	P		**P**		18 34 10.3	+1.2	
	baz=300,SNR=12									
P18K	**Big Mountain,**	93.95	29	P		**P**		18 34 09.8	+0.5	
	baz=292									
I23K	**Minto, Yukon-K**	94.02	22	P		**P**		18 34 10.3	+0.9	
	baz=298									
Q17K	**Contact Creek**	94.05	30	P		**P**		18 34 09.7	-0.2	
	baz=291,SNR=6.7									
O19K	**Port Alsworth**	94.07	28	P		**P**		18 34 10.6	+0.8	
	baz=293									
F25K	**Christian Rive**	94.11	19	P		**P**		18 34 11.0	+1.0	
	baz=301,SNR=18									
H24K	**Noodor Dome**	94.23	21	P		**P**		18 34 11.8	+1.2	
	baz=299,SNR=7.3									
SUMG	**Summit**	94.26	347	*i* P		**P**		18 34 13.0	+2.1	
SUMG				IAmb		IAmb		18 34 17.6		
	comp=Z,3.2nm,0.7s									
NEA2	**Nenana**	94.39	23	P		**P**		18 34 12.1	+0.9	
	baz=298									
G25K	**Bearman Lake**	94.39	20	P		**P**		18 34 12.3	+1.2	
	baz=301,SNR=6.7									
TRF	**Thorofare Moun**	94.44	24	P		**P**		18 34 12.2	+0.6	
	baz=297									
F26K	**Sheenjek River**	94.55	19	P		**P**		18 34 13.1	+1.2	
	baz=303,SNR=18									
SKT	**Skwentna**	94.57	25	IAmb		IAmb		18 34 13.3		
	comp=Z,23nm,0.9s									
SKT	**Skwentna**	94.57	25	P		**P**		18 34 12.5	+0.4	
	baz=296,SNR=12									
N20K	**Mount Spurr**	94.61	26	P		**P**		18 34 12.9	+0.6	
	baz=295,SNR=6.4									
D27M	**Malcolm River**	94.64	17	P		**P**		18 34 13.1	+0.7	
	baz=306,SNR=8.7									
H25L	**Birch Creek**	94.75	20	P		**P**		18 34 13.8	+1.1	
	baz=301									
POKR	**Poker Plat Res**	94.75	22	P		**P**		18 34 13.2	+0.3	
	baz=300									
P19K	**Oil Pt**	94.79	28	P		**P**		18 34 13.4	+0.3	
	baz=294									
FYU	**Fort Yukon**	94.79	20	IAMs_20		IAMs_20		19 18 27.4		
	comp=Z,177nm,21.0s									
WRH	**Wood River Hil**	94.82	23	IAMs_20		IAMs_20		19 18 38.3		
	comp=Z,192nm,21.0s									
MCK	**McKinley**	94.84	23	P		**P**		18 34 14.5	+1.2	
	baz=298									
Q19K	**Cape Douglas,**	94.88	29	P		**P**		18 34 13.2	-0.5	
Q19K	**Cape Douglas,**	94.88	29	P		**P**		18 34 14.2	+0.6	
	baz=293									
O20K	**Slope Mountain**	94.89	27	P		**P**		18 34 14.4	+0.8	
	baz=294									
G26K	**Porcupine Rive**	95.07	19	P		**P**		18 34 15.3	+1.1	
	baz=303,SNR=16									
E27K	**Coleen River**	95.07	18	P		**P**		18 34 14.7	+0.4	
	baz=305,SNR=7.2									
CHIR	**Chirikof Islan**	95.08	32	P		**P**		18 34 14.9	+0.4	
	baz=292									
ILAR	**Eielson Array**	95.12	22	P		**P**		18 34 14.0	-0.6	
ILAR	**Eielson Array**	95.12	22	P		**P**		18 34 13.8	-0.8	
	comp=Z,2.0nm,0.6s,baz=299,slow=4.3,SNR=26									
ILAR				PP		**PP**		18 38 03.4	-1.0	
	comp=Z,1.8nm,0.9s,baz=296,slow=7.0,SNR=8.3									
ILAR				LR		LR		19 19 46.2		
	comp=Z,112nm,21.1s,baz=292,slow=37									
	comp=Z,2.0nm,0.6s									
ILAR	**Eielson Array**	95.12	22	P		**P**		18 34 14.0	-0.6	
SUA	**Susitna One**	95.13	26	P		**P**		18 34 15.5	+0.7	
SUA				IAmb		IAmb		18 34 16.2		
	comp=Z,21nm,0.8s									
SUA	**Susitna One**	95.13	26	P		**P**		18 34 15.3	+0.5	
	baz=296,SNR=9.4									
D28M	**Stokes Point**	95.22	16	P		**P**		18 34 16.0	+1.1	
	baz=308									
PRP	**Porcupine Dome**	95.24	21	P		**P**		18 34 16.0	+0.8	
PRP				IAmb		IAmb		18 34 17.1		
	comp=Z,8.0nm,0.9s									
PRP	**Porcupine Dome**	95.24	21	P		**P**		18 34 16.3	+1.1	
	baz=301,SNR=12									
CAPN	**Captain Cook N**	95.26	26	P		**P**		18 34 15.8	+0.6	
	baz=296									
M22K	**Willow**	95.27	25	P		**P**		18 34 16.0	+0.8	
	baz=297,SNR=6.9									
HDA	**Harding Lake**	95.28	22	P		**P**		18 34 16.0	+0.8	
	baz=300									
WAT1	**Susitna Watana**	95.42	24	P		**P**		18 34 15.9	-0.1	
	baz=298									
E28M	**Babbage River**	95.44	17	P		**P**		18 34 16.6	+0.7	
E28M				IAmb		IAmb		18 34 17.9		
	comp=Z,9.2nm,0.8s									
E28M	**Babbage River**	95.44	17	P		**P**		18 34 16.5	+0.5	
	baz=307,SNR=9.3									
HOM	**Homer**	95.52	28	P		**P**		18 34 16.8	+0.4	
	baz=295									
SII	**Sitkinak Islan**	95.55	31	P		**P**		18 34 16.4	-0.3	
	baz=293									
Q20K	**Shuyak Island**	95.61	29	P		**P**		18 34 17.0	+0.2	
	baz=294									
RC01	**Rabbit Creek A**	95.74	26	IAmb		IAmb		18 34 18.9		
	comp=Z,18nm,0.8s									
RC01	**Rabbit Creek A**	95.74	26	P		**P**		18 34 17.6	+0.1	
	baz=297									
OHAK	**Old Harbor**	95.74	30	P		**P**		18 34 17.6	+0.2	
	baz=294									
CNPM	**China Poot**	95.76	28	P		**P**		18 34 17.6	0.0	
J25K	**Salcha River,**	95.77	22	P		**P**		18 34 18.2	+0.6	
	baz=301									
DHY	**Denali Highway**	95.78	24	P		**P**		18 34 18.3	+0.5	
	baz=299									
BRLK	**Bradley Lake**	95.82	27	P		**P**		18 34 18.1	+0.2	
G27K	**Doyon Strip**	95.85	19	P		**P**		18 34 18.7	+0.8	
	baz=305,SNR=6.5									
KDAK	**Kodiak Island**	95.86	30	P		**P**		18 34 18.8	+0.8	
	baz=294									
KDAK	**Kodiak Island**	95.86	30	LR		LR		19 21 57.7		
	comp=Z,44nm,19.0s,baz=311,slow=38									
WAT6	**Susitna Watana**	95.87	24	P		**P**		18 34 18.5	+0.3	
	baz=299									
BRSE	**Bradley Lake S**	95.89	27	P		**P**		18 34 18.6	+0.4	
	baz=296									
F28M	**Old Crow**	95.94	18	P		**P**		18 34 18.8	+0.6	
	baz=307,SNR=8.1									
SML	**Sawmill**	96.00	25	P		**P**		18 34 19.3	+0.6	
	baz=298									
O22K	**Cooper Landing**	96.02	26	P		**P**		18 34 19.4	+0.7	
	baz=297									
K24K	**Donnelly Dome**	96.03	23	P		**P**		18 34 19.4	+0.7	
	baz=301									
E29M	**Blow River**	96.05	17	P		**P**		18 34 19.4	+0.8	
	baz=309									
I26K	**Coal Creek Min**	96.19	21	P		**P**		18 34 20.0	+0.6	
	baz=304									
H27K	**Steamboat Moun**	96.22	20	P		**P**		18 34 20.4	+0.8	
	baz=305,SNR=11									
M23K	**Glacier View**	96.26	25	P		**P**		18 34 20.2	+0.4	
	baz=299									
SEW	**Seward**	96.31	27	P		**P**		18 34 21.0	+0.9	
	baz=297									
SCM	**Sheep Creek Mo**	96.41	25	P		**P**		18 34 21.3	+0.8	
	baz=299									
J26L	**Joseph Creek**	96.48	21	P		**P**		18 34 21.3	+0.5	
	baz=303									
I27K	**Kandik River**	96.55	20	P		**P**		18 34 22.0	+0.8	
	baz=305,SNR=6.3									
A36M	**Sachs Harbour**	96.56	11	P		**P**		18 34 21.1	+0.2	
	baz=321									
PAX	**Paxson**	96.58	23	P		**P**		18 34 21.7	+0.3	
	baz=301									
SCRK	**Sand Creek**	96.61	22	P		**P**		18 34 22.7	+1.2	
	baz=303,SNR=6.3									
M24K	**Tolsona, Glenn**	96.74	24	P		**P**		18 34 22.5	+0.5	
	baz=300									
G29M	**Pine Creek**	96.94	18	P		**P**		18 34 23.1	+0.3	
	baz=308,SNR=5.8									
GLI	**Glacier Island**	96.97	25	P		**P**		18 34 23.4	+0.4	
	baz=299									
HARP	**HAARP**	97.00	24	P		Pdif		18 34 23.3	+0.1	
	baz=301									
KLU	**Klutina**	97.16	25	P		Pdif		18 34 25.0	+1.0	
	baz=301									
F30M	**Barrier River**	97.16	17	P		Pdif		18 34 24.5	+0.7	
	baz=311									
EGAK	**Eagle**	97.19	21	P		Pdif		18 34 24.3	+0.4	
	baz=305									
I28M	**Miner Creek**	97.21	20	P		Pdif		18 34 24.6	+0.3	
	baz=306,SNR=8.2									
H29M	**Whitestone**	97.26	19	P		Pdif		18 34 24.7	+0.4	
	baz=308,SNR=6.7									
MENT	**Mentasta**	97.28	23	P		Pdif		18 34 25.8	+1.3	
K27K	**Chicken**	97.29	22	P		Pdif		18 34 25.1	+0.7	
	baz=304									
FID	**Port Fidalgo**	97.30	25	IAMs_20		IAMs_20		19 25 02.1		
	comp=Z,197nm,20.0s									
INK	**Inuvik**	97.33	16	IAmb		IAmb		18 34 25.9		
	comp=Z,15nm,1.4s									
INK	**Inuvik**	97.33	16	P		Pdif		18 34 25.0	+0.5	
	baz=313,SNR=9.7									
INK	**Inuvik**	97.33	16	LR		LR		19 24 40.0		
	comp=Z,69nm,18.1s,baz=1.0,slow=39									
L26K	**Log Cabin Wild**	97.37	23	P		Pdif		18 34 25.5	+0.6	
	baz=303									
G30M	**tAoh Zraii Nji**	97.44	18	P		**P**		18 34 25.0	-0.1	
G30M	**tAoh Zraii Nji**	97.44	18	P		Pdif		18 34 25.4	+0.3	
	baz=310,SNR=6.9									
DBIC	**Dimbokro**	97.52	278	LR		LR		19 19 18.3		
	comp=Z,127nm,18.2s,baz=66,slow=36									
QSPA	**South Pole Qui**	97.55	180			Pdif		18 34 26.7	+1.1	
QSPA				IAmb		IAmb		18 36 00.9		
	comp=Z,15nm,1.6s									
QSPA	**South Pole Qui**	97.55	180	P		Pdif		18 34 26.6	+0.9	
	comp=Z,0.8nm,0.8s,baz=281,slow=5.2,SNR=1.7									
QSPA				LR		LR		19 13 27.5		
	comp=Z,100nm,20.1s,baz=275,slow=32									
	comp=Z,0.8nm,0.8s									
N25K	**Chitina, Valde**	97.64	24	P		**P**		18 34 26.2	0.0	
	baz=302									
RES	**Resolute Bay**	97.64	2	IAmb		IAmb		18 34 27.6		
	comp=Z,9.2nm,0.9s									
RES	**Resolute Bay**	97.64	2	P		Pdif		18 34 26.7	+0.9	
	comp=Z,7.9nm,0.8s,baz=351,slow=6.2,SNR=37									
RES				LR		LR		19 21 53.4		
	comp=Z,86nm,22.0s,baz=3.0,slow=37									
	comp=Z,7.9nm,0.8s									
EPYK	**Eagle Plains**	97.68	18	P		Pdif		18 34 26.6	+0.4	
EPYK				IAmb		IAmb		18 34 27.5		
	comp=Z,8.0nm,0.7s									
EPYK	**Eagle Plains**	97.68	18	P		**P**		18 34 26.2	0.0	
	baz=310,SNR=8.2									
EYAK	**Cordova Ski Ar**	97.71	25	P		**P**		18 34 26.3	-0.1	
	baz=301									
I29M	**Ogilvie Camp,**	97.81	19	P		Pdif		18 34 27.3	+0.5	
	baz=308									
M26K	**Nabesna, AK**	97.85	23	P		Pdif		18 34 27.9	+0.8	
	baz=303									
F31M	**Tsiigehtchic**	97.86	17	P		Pdif		18 34 27.5	+0.6	
	baz=313									
L27K	**Beaver Creek,**	97.93	22	P		Pdif		18 34 28.6	+1.2	
	baz=304									
BMRM	**Bremner River**	97.97	25	P		Pdif		18 34 28.2	+0.6	
	baz=302									
G31M	**Satah River**	98.06	17	IAmb		IAmb		18 34 28.9		
	comp=Z,17nm,1.6s									
G31M	**Satah River**	98.06	17	P		Pdif		18 34 28.1	+0.3	
	baz=312									
DAWY	**Dawson**	98.23	21	P		Pdif		18 34 28.8	+0.1	
	baz=307									
M27K	**Edge Creek, AK**	98.31	23	P		Pdif		18 34 29.8	+0.6	
	baz=304									
MCARA	**McCarthy VSAT**	98.40	24	P		**P**		18 34 29.2	-0.3	
	baz=303									
J29N	**Klondike Camp**	98.40	20	P		Pdif		18 34 30.2	+0.7	
	baz=308									
I30M	**Mount Dempster**	98.53	19	P		Pdif		18 34 30.1	0.0	
	baz=310									
KAIM	**Kayak Island**	98.60	26	P		Pdif		18 34 31.0	+0.6	
	baz=302									
H31M	**Peel River**	98.79	18	P		Pdif		18 34 31.7	+0.6	
	baz=312									
C36M	**Paulatuk**	98.88	13	P		Pdif		18 34 31.7	+0.3	
	baz=312									
J30M	**Hart River**	98.96	20	P		Pdif		18 34 32.4	+0.3	
	baz=310									
K29M	**Barlow Dome**	99.02	20	P		**Pdif**		18 34 32.4	+0.1	
	baz=309									
BARN	**Barnard Glacie**	99.13	24	IAMs_20		IAMs_20		19 17 40.3		
	comp=Z,222nm,22.0s									
L29M	**L29M**	99.26	21	P		**Pdif**		18 34 33.3	0.0	
	baz=308									
SNAA	**Sanae**	99.27	199	LR		LR		19 13 51.3		
	comp=Z,38nm,19.1s,baz=14,slow=32									
CTG	**Chitna Glacier**	99.31	24	P		**Pdif**		18 34 34.2	+0.5	
	baz=305									
MESA	**MESA**	99.51	25	P		**Pdif**		18 34 34.6	0.0	
	baz=304									
M29M	**Somme Creek**	99.55	22	P		**Pdif**		18 34 34.9	+0.2	
	baz=308									
YUK8	**Steele Glacier**	99.75	23	P		**Pdif**		18 34 35.9	+0.1	
	baz=306									
O28M	**Mount Upton**	99.88	24	P		**Pdif**		18 34 36.5	+0.1	
	baz=306									
YUK4	**Talbot Arm**	100.15	23	P		**Pdif**		18 34 37.4	-0.1	
	baz=307									
YUK6	**Outpost Mounta**	100.50	23	P		**Pdif**		18 34 38.6	-0.6	
	baz=307									
N30M	**Aishikik Lake**	100.67	22	P		**Pdif**		18 34 39.5	-0.1	
	baz=309									
PNL	**Peninsula**	100.85	24	P		**Pdif**		18 34 40.0	-0.4	
	baz=305									
HYT	**Haines Junctio**	100.90	23	P		**Pdif**		18 34 40.6	-0.2	
	baz=308									
N31M	**Braeburn, Yuko**	101.14	22	P		**Pdif**		18 34 42.4	+0.7	
	baz=310									
M31M	**Drury Creek, Y**	101.17	21	P		**Pdif**		18 34 42.5	+0.7	
	baz=311									
O30N	**Mendenhall**	101.48	22	P		**Pdif**		18 34 43.3	+0.1	
	baz=310									
FARO	**Faro, Yukon**	101.52	20	P		**Pdif**		18 34 43.1	-0.2	
	baz=312									
P29M	**Windy Craggy**	101.55	24	P		**Pdif**		18 34 43.4	-0.1	
	baz=308									
P30M	**Million Dollar**	101.55	23	P		**Pdif**		18 34 44.1	+0.5	
	baz=309									
MMPY	**Sheldon Lake,**	101.95	20	P		**Pdif**		18 34 45.3	0.0	
	baz=314									
WHY	**Whitehorse**	102.00	22	P		**Pdif**		18 34 45.7	0.0	
	baz=311									
PLBC	**Pleasant Camp**	102.20	24	P		**Pdif**		18 34 46.3	-0.1	
	baz=309									
N32M	**Quiet Lake**	102.34	21	P		**Pdif**		18 34 46.9	-0.2	
	baz=312									
SKAG	**Skagway**	102.61	23	P		**Pdif**		18 34 48.6	+0.4	
	baz=310									
P33M	**Teslin, Yukon**	103.07	22	P		**Pdif**		18 34 50.4	0.0	
	baz=312									
P32M	**Atlin**	103.15	23	P		**Pdif**		18 34 50.0	-0.7	
	baz=312									
S31K	**Pelican**	103.20	25	P		**Pdif**		18 34 50.9	0.0	
	baz=309									
R32K	**Eaglecrest**	103.70	24	P		**Pdif**		18 34 53.3	+0.2	
	baz=311									
SIT	**Sitka**	104.15	25	P		**Pdif**		18 34 54.9	-0.2	
	baz=310									
S32K	**Killisnoo**	104.20	25	P		**Pdif**		18 34 55.7	+0.4	
	baz=310									
R33M	**Jennings River**	104.31	22	P		**Pdif**		18 34 55.3	-0.7	
	baz=314									
S34M	**Telegraph Cree**	105.28	23	P		**PKiKP**		18 39 13.4	-0.4	
	baz=314									
U33K	**Whale Pass**	105.69	25	P		**PKiKP**		18 39 14.9	+0.3	
	baz=312									
CRAG	**Craig**	106.12	26	P		**PKiKP**		18 39 15.7	+0.2	
	baz=311									
YKA	**Yellowknife Ar**	106.75	13	PP		**PP**		18 39 29.2	-2.7	
	comp=Z,0.5nm,1.0s,baz=334,slow=8.4,SNR=4.2									
YKA				PKKPbc		**PKKPbc**		18 50 34.4	-3.3	
	comp=Z,0.2nm,0.6s,baz=158,slow=3.1,SNR=3.9									
YKA				PKKPab		**PKKPab**		18 50 51.3	-1.4	
	comp=Z,0.3nm,0.6s,baz=150,slow=3.1,SNR=4.2									
V35K	**Ketchikan**	106.86	25	P		**PKiKP**		18 39 16.8	0.0	
	baz=313									
SCHQ	**Schefferville**	115.65	348	PKP		**PKPdf**		18 39 34.3	+0.8	
	comp=Z,1.7nm,0.6s,baz=359,slow=2.4,SNR=4.6									
PPT2	**Papeete2**	117.72	106	*e*LR		LR		19 15 31.3		
	comp=Z,286nm,33.5s									
PPT2				*e*LR		LR		19 15 40.7		
	comp=Z,151nm,33.5s									
MSO	**Missoula**	120.46	22	P		**PKPdf**		18 39 42.8	-0.4	
	baz=328									
BMO	**Blue Mountains**	120.76	25	IAMs_20		IAMs_20		19 14 32.7		
	comp=Z,100nm,18.0s									
EGMT	**Eagleton**	120.83	18	P		**PKPdf**		18 39 43.5	-0.4	
	baz=333									
MOD	**Modoc Plateau**	121.71	29	IAMs_20		IAMs_20		19 38 58.1		
	comp=Z,130nm,21.0s									
ULM	**Lac du Bonnet**	121.75	7	PKP		**PKiKP**		18 39 45.6	+0.1	
	comp=Z,4.4nm,0.7s,baz=341,slow=3.7,SNR=6.3									
DGMT	**Dagmar**	121.95	14	P		**PKPdf**		18 39 45.8	-0.1	
	baz=339									
BOZ	**Bozeman (W)**	122.34	21	P		**PKiKP**		18 39 47.5	+0.4	
	baz=330									
HLID	**Hailey**	123.01	24	P		**PKiKP**		18 39 48.6	+0.1	
	baz=326									
LAO	**LASA Array**	123.07	16	P		**PKiKP**		18 39 48.6	+0.1	
	baz=336									
MDND	**Maddock**	123.51	11	P		**PKiKP**		18 39 49.8	+0.6	
	baz=344									
RLMT	**Red Lodge**	123.56	19	P		**PKiKP**		18 39 49.6	0.0	
	baz=332									
H17A	**Grant Village**	123.76	21	P		**PKiKP**		18 39 50.0	-0.1	
	baz=331									
EYMN	**Ely**	124.46	4	P		**PKiKP**		18 39 50.9	-0.1	
	baz=354									
PKME	**Peaks-Kenny Pk**	125.15	345	P		**PKPdf**		18 39 52.0	0.0	
	baz=21									
NVAR	**Mina Array Bea**	125.34	31	PKP		**PKiKP**		18 39 54.1	+0.8	
	comp=Z,2.7nm,0.8s,baz=336,slow=2.0,SNR=17									
NVAR				SKP				18 43 23.8		
	comp=Z,1.8nm,0.8s,baz=318,slow=1.2,SNR=5.0									
BW06	**Boulder Array**	125.54	21	P		**PKPdf**		18 39 53.3	0.0	
	baz=331,SNR=7.6									
PDAR	**Pinedale Array**	125.54	21	PKP		**PKPdf**		18 39 53.4	+0.1	
	comp=Z,2.6nm,0.8s,baz=8.5,slow=1.8,SNR=22									
RSSD	**Black Hills**	126.04	16	P		**PKiKP**		18 39 54.4	-0.2	
	baz=338									
DUG	**Dugway, Tooele**	126.48	25	P		**PKiKP**		18 39 55.3	-0.2	
	baz=327,SNR=7.0									
K22A	**Casper**	126.66	19	P		**PKiKP**		18 39 55.6	-0.2	
	baz=335									
R11B	**Troy Canyon, C**	126.74	29	P		**PKiKP**		18 39 56.0	-0.1	
	baz=323,SNR=11									
VES	**Vestal, Richgr**	126.88	33	P		**PKiKP**		18 39 56.6	+0.4	
	baz=318									
LONY	**Lake Ozonia**	126.91	350	P		**PKiKP**		18 39 56.2	+0.2	
	baz=15									
SUSD	**Miller**	126.91	11	P		**PKiKP**		18 39 56.2	+0.1	
	baz=344									
CWC	**Cottonwood Cre**	126.97	32	P		**PKiKP**		18 39 56.5	-0.1	
	baz=319									
PKM	**Mcpherson Peak**	127.17	35	P		**PKPdf**		18 39 56.7	+0.2	
	baz=317									
MPMC	**Manual Prospec**	127.57	32	P		**PKiKP**		18 39 57.8	-0.1	
	baz=320,SNR=6.0									
FURC	**Furnace Creek,**	127.58	31	P		**PKiKP**		18 39 57.5	-0.1	
	baz=321									
GLMI	**Grayling**	127.75	358	P		**PKPdf**		18 39 57.1	0.0	
	baz=2.2									
LRMC	**Laurel Mtn Rad**	127.91	33	P		**PKPdf**		18 39 58.0	+0.1	
	baz=319									
ECSD	**EROS Data Cent**	128.01	9	P		**PKiKP**		18 39 58.0	-0.2	
	baz=347,SNR=11									
HRV	**Adam Dziewonsk**	128.30	346	P		**PKPdf**		18 39 58.0	-0.2	
	baz=19									
O20A	**White River Ci**	128.32	21	P		**PKPdf**		18 39 58.7	+0.1	
	baz=332,SNR=5.9									
SHOC	**Shoshone, Teco**	128.32	31	P		**PKPdf**		18 39 58.5	0.0	
	baz=321									
N23A	**Red Feather La**	128.43	19	P		**PKPdf**		18 39 59.0	+0.1	
	baz=335									
GSC	**Goldstone, Bar**	128.51	32	P		**PKiKP**		18 39 59.3	-0.3	
	baz=320									
L61B	**Northampton**	128.61	347	P		**PKPdf**		18 39 58.6	-0.2	
	baz=18									
TUQ	**Turquoise Moun**	128.86	31	P		**PKPdf**		18 39 59.9	+0.2	
	baz=321									
FMP	**Fort Macarthur**	128.89	35	P		**PKiKP**		18 40 00.3	0.0	
	baz=318									
SCI2	**San Clemente I**	129.28	35	P		**PKPdf**		18 40 00.0	-0.3	
	baz=317									
BINY	**Binghamton**	129.50	350	P		**PKPdf**		18 40 00.2	-0.4	
	baz=13									
GMRC	**Granite Mounta**	129.50	32	P		**PKPdf**		18 40 00.8	-0.2	
	baz=321									
ISCO	**Idaho Springs**	129.53	19	P		**PKPdf**		18 40 01.2	+0.1	
	baz=335									
OGNE	**Ogallala**	129.53	15	P		**PKPdf**		18 40 00.7	-0.1	
	baz=340									
JFWS	**Jewell Farm**	129.55	4	P		**PKPdf**		18 40 00.6	0.0	
	baz=355									
BELC	**Belle Mtn. Jos**	129.93	32	P		**PKPdf**		18 40 01.9	+0.1	
	baz=320									
PFO	**Pinyon Flats O**	129.98	33	P		**PKPdf**		18 40 02.0	+0.2	
	baz=320									
TPFO	**Pinon Flats**	129.99	33	P		**PKPdf**		18 40 01.8	-0.1	
	baz=320									
109C	**Camp Elliot, M**	130.17	34	P		**PKiKP**		18 40

OXF	**Oxford**	**137.97**	**4**	P		**PKiKP**	**18 40 17.9**	**-0.7**
	baz=356							
ABTX	**Abilene, Hawle**	**137.99**	**17**	P		**PKiKP**	**18 40 18.0**	**-0.7**
	baz=340							
GOGA	**Godfrey**	**139.08**	**356**	P		**PKPdf**	**18 40 19.5**	**+0.8**
	baz=4.5							
WHTX	**Lake Whitney,**	**139.17**	**15**	P		**PKiKP**	**18 40 20.4**	**-0.8**
	baz=343							
LRAL	**Lakeview Retre**	**139.54**	**1**	P		**PKiKP**	**18 40 21.0**	**-0.9**
	baz=359							
TXAR	**Lajitas Array**	**139.61**	**24**	PKhKP	PKPpre		18 40 12.4	
	comp=Z,0.9nm,0.6s,baz=358,slow=0.8,SNR=14							
TXAR				PKP		**PKPdf**	**18 40 20.7**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=321,slow=0.6,SNR=8.0							
TXAR				SKPbc		**SKPbc**	**18 43 49.8**	**-0.4**
	comp=Z,8.4nm,1.0s,baz=302,slow=1.7,SNR=24							
JCT	**Junction City**	**139.94**	**18**	P		**PKiKP**	**18 40 22.0**	**-0.8**
	baz=339							
NATX	**Nacogdoches**	**140.01**	**11**	P		**PKiKP**	**18 40 22.0**	**-0.9**
	baz=347							
VBMS	**Vicksburg**	**140.16**	**6**	P		**PKPdf**	**18 40 21.8**	**+1.1**
	baz=354							
435B	**Jarrell**	**140.29**	**15**	P		**PKiKP**	**18 40 22.7**	**-0.8**
	baz=342							
TIGA	**Tifton**	**141.05**	**356**	P		**PKPdf**	**18 40 23.6**	**+1.3**
	baz=4.4							
BRAL	**Brewton**	**141.40**	**1**	P		**PKiKP**	**18 40 24.6**	**-1.2**
	baz=359							
SMTB	**Santa Maria do**	**141.66**	**265**	*eP*		**PKiKP**	**18 40 26.2**	**-0.5**
BDFB	**Brasilia**	**141.71**	**254**	PKP		**PKPdf**	**18 40 25.3**	**+1.3**
	comp=Z,4.0nm,0.6s,baz=72,slow=3.2,SNR=5.8							
BDFB				SKPbc		**SKPbc**	**18 43 54.7**	**-1.3**
	comp=Z,5.7nm,1.0s,baz=101,slow=5.4,SNR=3.6							
833A	**Chaparral WMA,**	**142.07**	**19**	P		**PKiKP**	**18 40 26.5**	**-0.7**
	baz=339							
LDASE	**Londrina, Braz**	**142.78**	**241**	*eP*		**PKiKP**	**18 40 27.5**	**-1.3**
PLCA	**Paso Flores**	**144.18**	**201**	PKP		**PKPdf**	**18 40 27.6**	**-0.1**
	comp=Z,4.4nm,0.7s,baz=164,slow=2.6,SNR=8.2							
PLCA				SKPbc		**SKPbc**	**18 44 00.5**	**-0.8**
	comp=Z,3.5nm,0.8s,baz=185,slow=1.7,SNR=4.5							
PLCA	**Paso Flores**	**144.18**	**201**	*eP*		**PKPdf**	**18 40 28.6**	**+0.9**
ITQB	**Itaqui**	**144.54**	**228**	*eP*		**PKPdf**	**18 40 29.1**	**+0.6**
MCPB	**Macapa, AP**	**145.09**	**280**	*eP*		**PKPdf**	**18 40 30.4**	**+0.5**
SNDB	**Serra Nova Dou**	**145.24**	**260**	*eP*		**PKPdf**	**18 40 30.4**	**+0.3**
ARAG	**Araguaiana, MT**	**145.31**	**253**	*eP*		**PKPab**	**18 40 31.0**	**+0.8**
AMBA	**Amambai (Brazi**	**146.29**	**240**	*eP*		**PKPbc**	**18 40 32.6**	**-0.3**
CPUP	**Villa Florida**	**146.76**	**233**	PKPbc		**PKPbc**	**18 40 34.0**	**-0.2**
	comp=Z,8.0nm,0.8s,baz=127,slow=2.3,SNR=16							
CPUP				SKPbc		**SKPbc**	**18 44 07.1**	**-0.4**
	comp=Z,4.3nm,0.9s,baz=78,slow=1.6,SNR=4.1							
AQDB	**Aquidauana**	**147.75**	**244**	*eP*		**PKPbc**	**18 40 35.9**	**-1.1**
BDQN	**Bodoquena, MS**	**148.69**	**243**	*eP*		**PKPbc**	**18 40 37.7**	**-1.8**
SALV	**Santo Antonio**	**148.95**	**252**	*eP*		**PKPbc**	**18 40 38.6**	**-1.7**
MURT	**Porto Murtinho**	**149.01**	**240**	*eP*		**PKPbc**	**18 40 38.6**	**-1.7**
TICA	**Tres Isletas**	**149.09**	**230**	*eP*		**PKPdf**	**18 40 37.7**	**+1.5**
NPGB	**Novo Progresso**	**149.29**	**269**	*eP*		**PKPdf**	**18 40 36.4**	**-0.6**
ITTB	**Itaituba**	**149.42**	**274**	*eP*		**PKPbc**	**18 40 39.7**	**-1.9**
CLDB	**Colider**	**149.72**	**262**	*eP*		**PKPdf**	**18 40 39.7**	**+2.1**
BBRB	**Robore, Bolivi**	**152.13**	**245**	*eP*		**PKPdf**	**18 40 44.1**	**+3.0**
PTLB	**Pontes e Lacer**	**152.29**	**251**	*eP*		**PKPdf**	**18 40 43.0**	**+1.6**
BOAV	**Boa Vista**	**152.40**	**290**	*eP*		**PKPdf**	**18 40 42.1**	**+0.4**
BBSD	**Serra de San D**	**153.20**	**247**	*eP*		**PKPdf**	**18 40 43.7**	**+0.9**
VILB	**Vilhena**	**153.78**	**256**	*eP*		**PKPdf**	**18 40 46.1**	**+2.5**
SAML	**Samuel**	**157.07**	**265**	*eP*		**PKPdf**	**18 40 48.2**	**+0.1**
ETMB	**Extrema**	**160.01**	**262**	*eP*		**PKPdf**	**18 40 53.5**	**+1.9**
LPAZ	**La Paz**	**160.26**	**243**	PKP		**PKPdf**	**18 40 52.8**	**+0.2**
	comp=Z,2.7nm,0.7s,baz=123,slow=1.2,SNR=12							
LPAZ				PKPab		**PKPab**	**18 41 34.4**	**+1.2**
	comp=Z,4.2nm,0.9s,baz=119,slow=9.9,SNR=4.7							

JMA 13 18:29:15.8±0.2, 36.7N±0.4, 137.9E±0.5, h11km±1km,
NORTHERN NAGANO PREF, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAT	**Matsushiro**	**0.26**	**117**	*eP*		Pg 18 29 21.1	0.0
MAT				*eS*		Sg 18 29 24.7	+0.1
JNG	**Nsakai**	**0.29**	**151**	P		Pg 18 29 21.7	0.0

IDC ***13*** *18:36:44.5±1.3, 10.32S×112.57E, h0km, mb3.8/8, mbtmp3.9/10, ML4.3/2, Error ellipse: s-maj=53.6km s-min=15.2km az=43.0*
DJA ***13*** *18:36:45.6±1.9, 11.°S±6.°×11.°2E±.°, h25km±21km, M4.6/20, mb4.8/9, mbS5.3/2, MLv4.5/20, Mw(mB)4.7/2*
NEIC ***13*** *18:36:46.9±2.9, 10.°71S±0.°08×112.°13E±0.°09, h35km±2km, mb4.3/12, Error ellipse: s-maj=18.1km s-min=9.5km az=52.0*

ISC 13 18:36:46.5±0.6, 10.69S±0.°06×112.°25E±0.°05, h35km, n66,
σ1s45/68, mb4.0/11, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**2.69**	**351**	P		**Pn**	**18 37 25.1**	**-2.2**
JAGI	**Jajag, Banyuwa**	**2.90**	**41**	P		**Pn**	**18 37 30.8**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.90**	**41**			**Pn**	**18 37 30.8**	**+0.6**
JAGI	**Jajag, Banyuwa**	**2.90**	**41**	P		**Pn**	**18 37 30.3**	**+0.1**
JAGI				S		**Sn**	**18 38 00.8**	**-3.1**
BLJI	**Banyuglugur**	**3.21**	**25**	P		**Pn**	**18 37 33.8**	**-0.8**
BLJI				S		**Sn**	**18 38 10.3**	**-1.4**
UGM	**Wanagama**	**3.24**	**328**	P		**Pn**	**18 37 34.0**	**-1.0**
UGM	**Wanagama**	**3.24**	**328**			**Pn**	**18 37 34.0**	**-1.0**
UGM	**Wanagama**	**3.24**	**328**	P		**Pn**	**18 37 33.8**	**-1.2**
NGJI	**Ngawi**	**3.39**	**347**	P		**Pn**	**18 37 37.9**	**+0.9**
YOGI	**Yogyakarta**	**3.44**	**326**	P		**Pn**	**18 37 36.6**	**-1.2**
ABJI	**Asem Bagus**	**3.48**	**34**	P		**Pn**	**18 37 38.6**	**+0.4**
ABJI				S		**Sn**	**18 38 19.4**	**+1.1**
GRJI	**Gresik**	**3.76**	**4**	P		**Pn**	**18 37 42.0**	**-0.1**
SRBI	**Singaraja**	**3.91**	**49**	P		**Pn**	**18 37 45.2**	**+1.1**
SRBI				S		**Sn**	**18 38 28.3**	**-0.5**
SMRI	**Semarang**	**4.03**	**334**	P		**Pn**	**18 37 45.9**	**0.0**
SMRI	**Semarang**	**4.03**	**334**	P		**Pn**	**18 37 45.3**	**-0.6**
KPJI	**Karang Pucung**	**4.67**	**315**	P		**Pn**	**18 37 53.8**	**-0.9**
CMJI	**Cimerak**	**4.73**	**307**	P		**Pn**	**18 37 53.4**	**-2.1**
BWJI	**Bawean**	**4.83**	**5**	P		**Pn**	**18 37 55.8**	**-0.9**
BBJI	**Bungbulang**	**5.56**	**305**	P		**Pn**	**18 38 05.8**	**-1.1**
PLAI	**Plampang**	**5.76**	**72**	P		**Pn**	**18 38 09.9**	**+0.3**
PLAI	**Plampang**	**5.76**	**72**	P		**Pn**	**18 38 09.5**	**-0.1**
	58nm,0.6s,0.3nm							
LEM	**Lembang**	**5.97**	**310**	Pn		Pn	18 38 16.0	+3.4
	5.3nm,0.3s,baz=71,slow=7.3,SNR=4.4							
LEM				Sn		**Sn**	**18 39 19.9**	**0.0**
	3.8nm,0.3s,baz=180,slow=20,SNR=2.7 12nm,0.3s							
LEM	**Lembang**	**5.97**	**310**	P		**Pn**	**18 38 11.8**	**-0.9**
	21nm,0.7s,0.2nm							
CNJI	**Cibinong**	**6.07**	**303**	P		**Pn**	**18 38 12.8**	**-1.0**
	28nm,0.6s,2µm0.2nm							
XMIS	**Christmas Isla**	**6.49**	**271**	P		**Pn**	**18 38 18.0**	**-1.6**
KASI	**Kota Agung**	**9.23**	**303**	P		**Pn**	**18 38 54.9**	**-2.4**
	24nm,0.8s							
EDFI	**Ende, Flores**	**9.51**	**79**	P		**Pn**	**18 39 03.1**	**+1.9**
	29nm,0.5s							
LWLI	**Liwa**	**9.87**	**304**	P		**Pn**	**18 39 06.2**	**0.0**
MMRI	**Maumere**	**10.06**	**79**	P		**Pn**	**18 39 09.3**	**+0.7**
MMRI	**Maumere**	**10.06**	**79**	Pn		**Pn**	**18 39 08.6**	**-0.1**
MNAI	**Manna**	**11.15**	**304**	P		**Pn**	**18 39 21.8**	**-1.8**
MNAI	**Manna**	**11.15**	**304**	Pn		**Pn**	**18 39 22.3**	**-1.3**
BATI	**Baumata**	**11.24**	**89**	Pn		**Pn**	**18 39 24.3**	**-0.6**
	2.6nm,0.3s,baz=279,slow=19,SNR=4.7							
BATI				Sn		**Sn**	**18 41 25.0**	**-4.4**
	2.7nm,0.3s,baz=251,slow=18,SNR=1.7 12nm,0.5s							
GIRL	**Giralia**	**12.04**	**171**	P		**Pn**	**18 39 35.7**	**0.0**
GIRL	**Giralia**	**12.04**	**171**	Pn		**Pn**	**18 39 35.9**	**+0.2**
MBWA	**Marble Bar**	**12.65**	**146**	P		**Pn**	**18 39 42.9**	**-1.2**
MBWA	**Marble Bar**	**12.65**	**146**	Pn		**Pn**	**18 39 42.4**	**-1.7**
PSA00	**Pilbara Seismi**	**13.05**	**147**	P		**Pn**	**18 39 49.1**	**-0.4**
PSA00	**Pilbara Seismi**	**13.05**	**147**	Pn		**Pn**	**18 39 47.5**	**-2.0**
TOLI2	**Tolitoli**	**14.47**	**36**	P		**P**	**18 40 15.1**	**-0.2**
FITZ	**Fitzroy Crossi**	**14.91**	**121**	Pn		**Pn**	**18 40 14.3**	**-0.6**
MEEK	**Meekatharra**	**16.96**	**160**	P		**Pn**	**18 40 40.0**	**-1.3**
MTN	**Manton Dam**	**18.61**	**98**	P		**Pn**	**18 41 00.7**	**-0.9**
MTN	**Manton Dam**	**18.61**	**98**	P		**Pn**	**18 41 02.1**	**+0.5**
MTN				IAmb		IAmb	18 41 08.3	
	comp=Z,51nm,1.4s							
MORW	**Morawa**	**18.63**	**170**	P		**P**	**18 40 59.5**	**-1.7**
MORW				IAmb		IAmb	18 41 35.2	
	comp=Z,8.3nm,1.0s							
FAKI	**Fak Fak**	**21.30**	**70**	P		**P**	**18 41 29.3**	**-1.1**
WB0	**Warramunga Arr**	**23.17**	**116**	P		**P**	**18 41 51.6**	**+1.3**
WB0				IAmb		IAmb	18 42 22.7	
	comp=Z,11nm,1.2s							
WRA	**Warramunga Arr**	**23.18**	**116**	P		**P**	**18 41 51.6**	**+1.2**
WRA	**Warramunga Arr**	**23.18**	**116**	P		**P**	**18 41 52.0**	**+1.6**
	comp=Z,4.5nm,0.9s,baz=294,slow=11,SNR=28 comp=Z,4.5nm,0.9s							
WB2	**Warramunga Arr**	**23.20**	**116**	P		**P**	**18 41 51.4**	**+0.9**
WB2				IAmb		IAmb	18 42 20.5	
	comp=Z,14nm,1.2s							
WR0	**Warramunga Arr**	**23.37**	**116**	P		**P**	**18 41 53.9**	**+1.7**
WR0				IAmb		IAmb	18 41 54.7	
	comp=Z,12nm,1.0s							
ASAR	**Alice Springs**	**24.34**	**125**	P		**P**	**18 42 02.8**	**+1.5**
ASAR	**Alice Springs**	**24.34**	**125**	P		**P**	**18 42 03.8**	**+2.5**
	comp=Z,1.9nm,0.5s,baz=303,slow=9.2,SNR=40 comp=Z,1.9nm,0.5s							
AS31	**Alice Springs**	**24.34**	**125**	P		**P**	**18 42 03.6**	**+2.2**
PHRA	**Phrae**	**31.33**	**338**	P		**P**	**18 43 03.6**	**-0.2**
CMAR	**Chiang Mai Arr**	**31.80**	**336**	P		**P**	**18 43 09.2**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=168,slow=7.8,SNR=7.9 comp=Z,0.8nm,0.6s							
STKA	**Stephens Creek**	**34.34**	**132**	P		**P**	**18 43 31.4**	**+1.3**
STKA	**Stephens Creek**	**34.34**	**132**	P		**P**	**18 43 33.1**	**+3.0**
	comp=Z,1.2nm,0.4s,baz=320,slow=9.6,SNR=7.9 comp=Z,1.2nm,0.4s							
H08S2	**Diego Garcia H**	**39.34**	**271**	T		T	19 26 14.2	
	baz=96,slow=74,SNR=4.3							
H08S3	**Diego Garcia H**	**39.35**	**271**	T		T	19 26 13.8	
	baz=96,slow=74,SNR=4.3							
H08S1	**Diego Carcia H**	**39.36**	**271**	T		T	19 26 33.5	
	baz=96,slow=74,SNR=3.6							
SONM	**Songino Array**	**58.49**	**355**	P		**P**	**18 46 39.3**	**0.0**
	comp=Z,0.5nm,0.6s,baz=178,slow=10,SNR=3.6 comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**63.18**	**337**	P		**P**	**18 47 09.6**	**-1.5**
MKAR	**Makanchi Array**	**63.18**	**337**	P		**P**	**18 47 13.8**	**+2.7**
	comp=Z,0.5nm,0.4s,baz=151,slow=7.6,SNR=13 comp=Z,0.5nm,0.4s							
KURBB	**Kurchatov Arra**	**67.75**	**338**	P		**P**	**18 47 42.1**	**+1.7**
	comp=Z,0.2nm,0.3s,baz=146,slow=6.3,SNR=2.8 comp=Z,0.2nm,0.3s							
BVAR	**Borovoye Array**	**72.82**	**335**	P		**P**	**18 48 13.1**	**+1.6**
	comp=Z,0.4nm,0.6s,baz=147,slow=6.2,SNR=2.6 comp=Z,0.4nm,0.6s							

BJI ***13*** *18:46:04.5±0.0, 7.°48N×93.°56E, h73km, mb4.9/71, mB4.9/26, Ms4.0/12, Ms7 3.7/10*
MOS ***13*** *18:46:05.7±0.9, 7.°52N×93.°60E, h80km, mb4.7/27, Error ellipse: s-maj=10.0km s-min=6.2km az=90.7*
IDC ***13*** *18:46:06.1±1.4, 7.°61N×93.°74E, h61km±10km, mb4.1/32, mbtmp4.4/33, MS3.5/29, Error ellipse: s-maj=14.5km s-min=11.2km az=53.0*
NEIC ***13*** *18:46:07.3±2.2, 7.°55N±0.°07×93.°61E±0.°06, h71km±5km, mb5.0/69, Error ellipse: s-maj=11.8km s-min=6.2km az=216.0*
DJA ***13*** *18:46:07.1±0.4, 8.°N±3.°×9.°4E±.°, h63km±4km, M4.9/29, mB5.4/6, mb4.9/29, MLv4.9/7, Mw(mB)4.8/6*
NDI ***13*** *18:46:10.3±2.9, 7.°71N×93.°48E, h70km, mb4.8, MW4.2, mb5.0(NEIC)*

ISC 13 18:46:06.7±0.4, 7.57N±0.°04×93.60E±0.°04, h68km±3km,
h68km:pP-P, n500, σ1s14/502, mb4.8/112, 19C-9D,
Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**4.15**	**348**	Pn		**Pn**	**18 47 08.0**	**+0.4**
PBA				Sn		**Sn**	**18 47 54.6**	**-0.2**
PBA	**Port Blair**	**4.15**	**348**	*eP*		**Pn**	**18 47 08.2**	**+0.6**
PBA				*eS*		**Sn**	**18 47 54.1**	**-0.7**
MLSI	**Meulaboh, Aceh**	**4.30**	**139**	P		**Pn**	**18 47 09.1**	**-0.6**
KCSI	**Kotacane, Aceh**	**5.78**	**134**	P		**Pn**	**18 47 30.3**	**+0.4**
	119nm,0.8s,0.4nm							
SRIT	**Nakonsritamara**	**6.03**	**80**	P		**Pn**	**18 47 34.0**	**+0.6**
SRIT	**Nakonsritamara**	**6.03**	**80**	Pn		**Pn**	**18 47 33.5**	**+0.1**
PSI	**Prapat**	**7.11**	**131**	P		**Pn**	**18 47 48.1**	**-0.1**
KULM	**Kulim**	**7.36**	**107**	Pn		**Pn**	**18 47 50.8**	**-0.8**
GSI	**Gunungsitoli**	**7.38**	**147**	Pn		**Pn**	**18 47 51.3**	**-0.5**
IPM	**Ipoh**	**8.00**	**112**	P		**Pn**	**18 47 59.1**	**-1.2**
IPM	**Ipoh**	**8.00**	**112**	Pn		**Pn**	**18 47 58.9**	**-1.4**
SRDT	**SRDT**	**8.65**	**38**	P		**Pn**	**18 48 10.5**	**+1.3**
PDSI	**Padang**	**10.85**	**141**	P		**Pn**	**18 48 39.7**	**+0.4**
	16nm,0.6s							
CM31	**Chiang Mai Arr**	**12.01**	**25**			**Pn**	**18 48 56.8**	**+1.7**
CMAR	**Chiang Mai Arr**	**12.01**	**25**			**Pn**	**18 48 56.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**12.01**	**25**	P		**Pn**	**18 48 55.2**	**+0.1**
	14nm,0.7s,baz=212,slow=14,SNR=65							
CMAR				LR		LR	18 53 31.9	
	comp=Z,83nm,19.4s,baz=200,slow=37							
CMAR				ScP		**ScP**	**18 58 04.5**	**+1.2**
	1.0nm,0.8s,baz=235,slow=3.2,SNR=7.2							
CMAR	**Chiang Mai Arr**	**12.01**	**25**	*i P*		**Pn**	**18 48 57.5**	**+2.4**
CMAR				pmax		pmax		
	comp=Z,16nm,0.6s							
CHTO	**Chiang Mai**	**12.33**	**24**	Pn		**Pn**	**18 49 01.3**	**+1.8**
CHTO	**Chiang Mai**	**12.33**	**24**	P		**Pn**	**18 49 01.3**	**+1.8**
PALK	**Pallekele**	**12.79**	**270**	Pn		**Pn**	**18 49 05.8**	**0.0**
PALK	**Pallekele**	**12.79**	**270**	P		**Pn**	**18 49 05.8**	**0.0**
UBPT	**Khong Chiam**	**13.93**	**56**	P		**Pn**	**18 49 22.6**	**+1.6**
CRAI	**Chiangrai**	**14.20**	**27**			**Pn**	**18 49 25.0**	**+0.5**
VIS	**Vishakhapatnam**	**14.21**	**316**	*eP*		**Pn**	**18 49 24.4**	**-0.3**
VIS				IAmb		IAmb	18 49 25.9	
	comp=Z,129nm,0.4s							
VIS				*eS*		Sn	18 51 44.1	-17
MDRS	**Chennai**	**14.22**	**294**	*eP*		**Pn**	**18 49 26.4**	**+1.6**
MDRS				IAmb		IAmb	18 49 40.5	
	comp=Z,57nm,0.7s							
MDRS				*eS*		Sn	18 51 47.5	-14
KOD	**Kodaikanal**	**16.16**	**281**	*eP*		**P**	**18 49 52.6**	**+0.6**
KOD				IAmb		IAmb	18 49 56.1	
	comp=Z,31nm,0.9s							
KOD				*eS*		Sn	18 52 32.9	-16
LWLI	**Liwa**	**16.29**	**140**	P		**Pn**	**18 49 52.0**	**+0.6**
	comp=Z,99nm,0.7s							
SLVN	**Son La**	**16.93**	**35**	P		**P**	**18 50 01.0**	**+0.7**
JHSG	**JHARSUGUGA**	**17.00**	**327**	*eP*		**P**	**18 50 01.8**	**+0.8**
JHSG				IAmb		IAmb	18 50 04.2	
	comp=Z,81nm,0.5s							
IMP	**Imphal**	**17.17**	**11**	*ex*		x	18 49 58.7	
IMP				IAmb		IAmb	18 50 02.8	
	comp=Z,23nm,1.0s							
KSM	**Kuching**	**17.72**	**109**	P		**P**	**18 50 12.3**	**+3.3**
SHL	**Shillong**	**17.98**	**355**	IAmb		IAmb	18 50 11.2	
	comp=Z,24nm,0.7s							
SHL				*eP*		**Pn**	**18 50 14.6**	**+2.4**
TNCH	**TengChong**	**17.99**	**15**	P		**P**	**18 50 11.8**	**-0.3**
TNCH				pP		pP	18 50 24.4	-0.8
TNCH				sP		sP	18 50 32.9	-0.5
TNCH				S		**Sn**	**18 53 29.8**	**-2.9**
TNCH				sS		sS	18 53 50.3	-7.7
TNCH				pmax		pmax		
	comp=Z,17nm,1.0s							
TNCH				pmax		pmax		
	comp=Z,74nm,5.0s							
TNCH				LR		LR		
	comp=Z,88nm,5.0s							
TNCH				LR		LR		
	comp=Z,71nm,5.0s							
TNCH				LR		LR		
	comp=Z,150nm,13.7s							
KOHI	**KOHIMA**	**18.06**	**1**	*ex*		**P**	**18 50 08.4**	**-4.4**
KOHI				IAmb		IAmb	18 50 24.2	
	comp=Z,34nm,0.8s							
KOHI				*ex*		x	18 53 23.5	
SBUM	**Sibu**	**19.23**	**104**	P		**Pn**	**18 50 26.8**	**-0.4**
QIZ	**Qiongzhong**	**19.47**	**53**	P		**Pn**	**18 50 29.5**	**-0.4**
QIZ	**Qiongzhong**	**19.47**	**53**	P		**Pn**	**18 50 29.3**	**-0.6**
QIZ				sP		**sP**	**18 50 50.3**	**+0.2**
QIZ				S		**S**	**18 54 02.8**	**-2.0**
QIZ				pmax		pmax		
	comp=Z,26nm,1.3s							
QIZ				pmax		pmax		
	comp=Z,120nm,11.9s							
QIZ				LR		LR		
	comp=Z,160nm,9.3s							
QIZ				LR		LR		
	comp=Z,120nm,10.1s							
QIZ				LR		LR		
	comp=Z,150nm,15.1s							
ITAN	**ITANAGAR**	**19.47**	**0**	*eP*		**Pn**	**18 50 31.8**	**+1.9**
KMI	**Kunming**	**19.52**	**26**	P		**Pn**	**18 50 31.3**	**+0.5**
KMI				LR		LR		
	comp=Z,140nm,16.7s							
KMI				LR		LR		
	comp=Z,84nm,19.7s							
KMI				LR		LR		
	comp=Z,210nm,29.8s							
ZIRO	**ZIRO**	**19.86**	**1**	*ex*		**P**	**18 50 30.0**	**-2.4**
ZIRO				IAmb		IAmb	18 50 38.1	
	comp=Z,40nm,0.8s							
ZIRO				*ex*		x	18 54 02.7	
LEM	**Lembang**	**20.00**	**135**	LR		LR	18 59 20.3	
	comp=Z,288nm,21.3s,baz=347,slow=40							
GTK	**Tadong**	**20.21**	**347**	*ex*		pP	18 50 48.5	-2.0
PZH	**PanZhiHua**	**20.36**	**21**	P		**P**	**18 50 38.1**	**+0.1**
PZH				S		**S**	**18 54 25.5**	**+2.9**
PZH				pmax		pmax		
	comp=Z,30nm,1.0s							
PZH				pmax		pmax		
	comp=Z,100nm,5.0s							
PZH				LR		LR		
	comp=Z,130nm,16.3s							
PZH				LR		LR		
	comp=Z,60nm,14.3s							
PZH				LR		LR		
	comp=Z,210nm,16.7s							
AKL	**Akola**	**20.68**	**311**	*eP*		Pn	18 50 51.6	+7.3
AKL				*ex*		x	18 54 23.9	
KAD	**Karad**	**21.27**	**299**	*ex*		**P**	**18 50 52.5**	**+4.9**
KAD				IAmb		IAmb	18 50 53.5	
	comp=Z,32nm,0.8s							
SMRI	**Semarang**	**22.20**	**130**	P		**P**	**18 50 58.9**	**+1.2**
SMRI	**Semarang**	**22.20**	**130**	P		**P**	**18 50 58.5**	**+0.8**
	comp=Z,74nm,0.9s							
GYA	**Guiyang**	**22.53**	**32**	P		**P**	**18 51 03.1**	**+1.9**
GYA				pmax		pmax		
	comp=Z,21nm,1.4s							
MTKI	**Muara Teweh, K**	**22.86**	**111**	P		**P**	**18 51 04.0**	**-0.7**
	comp=Z,20nm,0.6s							
H08S3	**Diego Garcia H**	**25.90**	**235**	T		T	19 18 26.0	
	baz=54,slow=76,SNR=669							
H08S2	**Diego Garcia H**	**25.91**	**235**	T		T	19 18 20.9	
	baz=54,slow=76,SNR=703							
H08S1	**Diego Carcia H**	**25.92**	**235**	T		T	19 18 25.7	
	baz=54,slow=76,SNR=1167							
TGY	**Tagaytay City**	**27.61**	**74**	LR		LR	19 01 48.3	
	comp=Z,121nm,20.5s,baz=256,slow=34							
TOLI2	**Tolitoli**	**27.84**	**102**	P		**P**	**18 51 53.7**	**+3.7**
GOMU	**GeErMu**	**28.52**	**2**	P		**P**	**18 51 56.1**	**-0.2**
GOMU				pmax		pmax		
	comp=Z,9.0nm,0.8s							
KAPI	**Kappang**	**28.93**	**115**	LR		LR	19 04 53.1	
	comp=Z,48nm,18.5s,baz=286,slow=39							
LZH	**Lanzhou**	**29.89**	**17**	*eP*		**P**	**18 52 07.4**	**-0.8**
LZH				pP		pP	18 52 23.8	-0.5
LZH				pmax		pmax		
	comp=Z,19nm,1.4s							
XAN	**Xi'an**	**29.90**	**26**	P		**P**	**18 52 07.1**	**-1.1**
XAN				pmax		pmax		
	comp=Z,65nm,0.9s							
WHN	**Wuhan**	**30.01**	**38**	P		**P**	**18 52 09.6**	**+0.5**
LUWI	**Luwuk**	**30.33**	**105**	P		**P**	**18 52 12.8**	**+0.7**
	comp=Z,40nm,0.9s,comp=Z,2µm							
YULB	**Yu-li**	**30.89**	**56**	P		**P**	**18 52 19.0**	**+2.0**
YULB	**Yu-li**	**30.89**	**56**	P		**P**	**18 52 18.2**	**+1.1**
YULB				IAmb		IAmb	18 52 19.8	
	comp=Z,46nm,1.6s							
KMSI	**Cibinong**	**31.07**	**102**	P		**P**	**18 52 19.4**	**+0.7**
	comp=Z,68nm,0.7s							
DAV	**Davao City (W)**	**31.72**	**89**	LR		LR	19 06 18.2	
	comp=Z,42nm,21.8s,baz=264,slow=38							
LYN	**LuoYang**	**31.99**	**30**	*eP*		**P**	**18 52 27.1**	**+0.6**
LYN				pmax		pmax		
	comp=Z,48nm,0.9s							
LYN				pmax		pmax		
	comp=Z,180nm,4.1s							
GTA	**Gaotai**	**32.20**	**9**	P		**P**	**18 52 27.9**	**-0.5**
GTA				pP		pP	18 52 43.3	-1.4
GTA				PcP		**PcP**	**18 55 17.3**	**+1.5**
GTA				ScP		**ScP**	**18

comp=Z,3.3nm,0.8s,baz=167,slow=8.4,SNR=27
MKAR PcP **PcP** **18 55 40.1 +0.4**
comp=Z,1.1nm,0.8s,baz=175,slow=3.7,SNR=3.2
MKAR ScP **ScP** **18 59 23.1 -0.1**
comp=Z,0.3nm,0.8s,baz=164,slow=5.8,SNR=2.7
MKAR LR LR 19 13 00.4
comp=Z,44nm,20.8s,baz=140,slow=40
comp=Z,3.3nm,0.8s
MKAR Makanchi Array 40.27 348 *i* P **P** **18 53 36.4 -0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MAKZ Makanchi 40.35 348 P **P** **18 53 36.4 -1.3**
MAKZ Makanchi 40.35 348 P **P** **18 53 36.4 -1.3**
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MAKZ Makanchi 40.35 348 P **P** **18 53 37.0 -0.7**
MAKZ pP **pP** **18 53 53.1 -1.3**
KKAR Karatay Array 40.80 334 P **P** **18 53 42.3 +0.8**
KKAR Karatay Array 40.80 334 P **P** **18 53 42.3 +0.8**
XLT XiLinHaoTe 41.19 25 *e*P **P** **18 53 45.1 +0.4**
XLT pP pP 18 54 02.1 +1.3
XLT sP sP 18 54 06.8 -1.5
XLT PP **PnPn** **18 55 28.3 +2.4**
XLT PcP **PcP** **18 55 46.9 +4.1**
XLT S **S** **19 00 01.6 +8.2**
XLT pmax pmax
comp=Z,32nm,0.8s
XLT pmax pmax
comp=Z,88nm,7.0s
SONM Songino Array 41.58 13 P **P** **18 53 47.5 -0.4**
SONM PcP **PcP** **18 55 45.1 +1.0**
SONM ScP **ScP** **18 59 28.1 -0.4**
SONM Songino Array 41.58 13 P **P** **18 53 47.1 -0.8**
comp=Z,6.2nm,0.7s,baz=195,slow=8.6,SNR=43
SONM PcP **PcP** **18 55 44.8 +0.8**
comp=Z,3.4nm,0.7s,baz=200,slow=3.8,SNR=10
SONM ScP **ScP** **18 59 28.9 +0.4**
comp=Z,1.2nm,0.9s,baz=191,slow=3.6,SNR=6.6
comp=Z,6.2nm,0.7s
SONM Songino Array 41.58 13 P **P** **18 53 47.5 -0.4**
SONM 18 55 45.1
SONM pmax pmax
comp=Z,8.0nm,1.0s
ULN Ulaanbaatar 41.76 14 P **P** **18 53 48.4 -1.0**
ULN PcP **PcP** **18 55 45.6 +1.0**
ULN ScP **ScP** **18 59 30.0 +0.8**
ULN Ulaanbaatar 41.76 14*c i*P **P** **18 53 48.4 -1.0**
ULN pmax pmax
comp=Z,5.0nm,0.6s
ULN Ulaanbaatar 41.76 14 P **P** **18 53 48.5 -1.0**
TJN Taejon 42.07 42 P **P** **18 53 51.8 -0.1**
TJN Taejon 42.07 42 P **P** **18 53 51.8 -0.1**
TJN Taejon 42.07 42*c i*P **P** **18 53 51.7 -0.1**
DGZ Jazzator, Alta 42.31 354⇑ *e*P **P** **18 53 53.8 -0.1**
DGZ pmax pmax
comp=Z,3.0nm,0.6s
MTN Manton Dam 42.45 118 P **P** **18 53 53.1 -2.2**
JNU Nakatsue 42.85 48 P **P** **18 53 58.1 -0.3**
JNU IAmb IAmb 18 54 02.3
comp=Z,14nm,0.8s
JNU Nakatsue 42.85 48 P **P** **18 53 57.6 -0.8**
comp=Z,11nm,0.7s,baz=75,slow=20,SNR=11
JNU LR LR 19 12 30.6
comp=Z,55nm,20.3s,baz=213,slow=37
comp=Z,11nm,0.7s
KS19 Wonju Array Si 43.04 41 P **P** **18 54 00.2 +0.4**
KS19 IAmb IAmb 18 54 00.6
comp=Z,53nm,1.9s
KSRS Korea Array 43.05 41 P **P** **18 53 59.1 -0.8**
comp=Z,3.0nm,0.6s,baz=233,slow=8.7,SNR=22
KSRS PcP **PcP** **18 55 49.1 +0.2**
comp=Z,0.6nm,0.6s,baz=238,slow=2.5,SNR=4.4
KSRS LR LR 19 12 48.8
comp=Z,38nm,18.5s,baz=240,slow=37
comp=Z,3.0nm,0.6s
ZAK Zakamensk 43.44 9 *e*P **P** **18 54 02.0 -0.9**
ZAK *e* 18 55 49.8
ZAK pmax pmax
comp=Z,4.0nm,1.2s
ZAK pmax pmax
comp=Z,2.0nm,1.0s
GEYT Alibeck 44.07 319 P **P** **18 54 08.9 +0.7**
GEYT Alibeck 44.07 319 P **P** **18 54 09.2 +1.1**
GEYT LR LR 19 14 43.4
comp=Z,72nm,18.6s,baz=155,slow=39
comp=Z,1.9nm,0.4s
GEYT Alibeck 44.07 319 P **P** **18 54 08.9 +0.7**
GEYT pmax pmax
comp=Z,7.0nm,0.8s
KURBB Kurchatov Arra 44.72 346 P **P** **18 54 12.8 -0.1**
comp=Z,5.5nm,0.9s,baz=165,slow=7.1,SNR=38
KURBB PcP **PcP** **18 55 55.0 +0.7**
comp=Z,2.1nm,0.9s,baz=163,slow=2.9,SNR=5.5
KURBB ScP **ScP** **18 59 41.6 +0.7**
comp=Z,0.3nm,0.4s,baz=164,slow=3.9,SNR=5.7
comp=Z,5.5nm,0.9s
KURK Kurchatov 44.78 347*de*P **P** **18 54 13.8 +0.3**
KURK pmax pmax
comp=Z,15nm,1.7s
KURK Kurchatov 44.78 347 P **P** **18 54 13.6 +0.1**
KURK pP **pP** **18 54 30.3 -0.2**
CN2 Changchun 45.58 32 *e*P **P** **18 54 22.3 +2.4**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
SMPI Sarmi 45.99 100 P **P** **18 54 23.6 -0.1**
comp=Z,29nm,0.7s
NWAO Narrogin (SRO) 46.12 152 P **P** **18 54 25.0 +0.6**
NWAO Narrogin (SRO) 46.12 152 P **P** **18 54 25.0 +0.6**
NWAO pmax pmax
comp=Z,117nm,2.0s
ZAA0 Zalesovo Array 46.79 353 IAmb IAmb 18 54 30.2
comp=Z,17nm,0.7s
ZALV Zalesovo Beam 46.79 353 P **P** **18 54 29.3 0.0**
ZALV Zalesovo Beam 46.79 353 P **P** **18 54 29.1 -0.2**
comp=Z,12nm,0.4s,baz=176,slow=7.9,SNR=66
ZALV PcP **PcP** **18 56 01.4 -0.1**
comp=Z,2.2nm,0.8s,baz=157,slow=4.7,SNR=1.9
ZALV ScP **ScP** **18 59 49.4 -0.1**
comp=Z,0.9nm,0.7s,baz=177,slow=5.5,SNR=3.8
comp=Z,12nm,0.4s
HIA Hailar 47.02 23 P **P** **18 54 33.5 +2.3**
HIA Hailar 47.02 23 P **P** **18 54 31.2 +0.1**
HIA IAmb IAmb 18 54 32.2
comp=Z,20nm,0.8s
HIA Hailar 47.02 23*c i*P **P** **18 54 31.3 +0.1**
HIA pmax pmax
comp=Z,18nm,0.9s
HIA Hailar 47.02 23 P **P** **18 54 31.4 +0.3**
PSTR Posyet 47.87 37⇑ *e*P **P** **18 54 37.5 -0.4**
BNX BinXian 47.91 32 ⇓P **P** **18 54 38.3 +0.1**
BNX pmax pmax
comp=Z,27nm,1.0s
BNX pmax pmax
comp=Z,170nm,12.9s
MSHR Mys Shultsa 48.04 37⇑ *i*P **P** **18 54 38.6 -0.6**
MSHR pmax pmax
comp=Z,17nm,1.7s
MDJ Mudanjiang 48.36 34 P **P** **18 54 43.6 +1.9**
MDJ Mudanjiang 48.36 34 P **P** **18 54 41.9 +0.2**
MDJ pmax pmax
comp=Z,25nm,1.8s
MDJ pmax pmax
comp=Z,91nm,7.2s
MDJ Mudanjiang 48.36 34 P **P** **18 54 42.9 +1.2**
WB0 Warramunga Arr 48.48 125 P **P** **18 54 41.4 -1.5**
WB0 IAmb IAmb 18 54 42.2
comp=Z,12nm,0.5s
WRA Warramunga Arr 48.52 125 P **P** **18 54 40.6 -2.7**
WRA Warramunga Arr 48.52 125 P **P** **18 54 41.9 -1.3**
comp=Z,8.5nm,0.7s,baz=304,slow=8.5,SNR=101
WRA PcP **PcP** **18 56 08.5 +0.1**
comp=Z,1.2nm,0.6s,baz=314,slow=3.1,SNR=3.9
WRA ScP **ScP** **18 59 55.7 -1.8**
comp=Z,1.1nm,0.7s,baz=311,slow=3.7,SNR=9.1
comp=Z,8.5nm,0.7s
WRA Warramunga Arr 48.52 125 *i* P **P** **18 54 42.0 -1.3**
WRA pmax pmax
comp=Z,11nm,0.6s
WB2 Warramunga Arr 48.53 125 P **P** **18 54 42.1 -1.3**
WB2 IAmb IAmb 18 54 42.8
comp=Z,12nm,0.7s
WR0 Warramunga Arr 48.70 125 P **P** **18 54 43.5 -1.1**
WR0 IAmb IAmb 18 54 44.1
comp=Z,11nm,0.7s
RAYN Ar Rayn 48.72 295 P **P** **18 54 45.3 +0.5**
RAYN IAmb IAmb 18 54 48.0
comp=Z,11nm,0.7s
RAYN Ar Rayn 48.72 295 P **P** **18 54 45.3 +0.5**
RAYN pmax pmax
comp=Z,11nm,0.7s
RAYN Ar Rayn 48.72 295 P **P** **18 54 47.2 +2.3**
BVAR Borovoye Array 49.11 342 P **P** **18 54 46.7 -0.5**
comp=Z,2.1nm,0.7s,baz=142,slow=7.3,SNR=12
BVAR PcP **PcP** **18 56 10.8 +0.9**
comp=Z,1.3nm,0.6s,baz=147,slow=3.4,SNR=4.5
BVAR ScP **ScP** **19 00 00.5 +1.2**
comp=Z,0.7nm,0.6s,baz=160,slow=4.6,SNR=4.9
comp=Z,2.1nm,0.7s
BRVK Borovoye 49.17 342*de*P **P** **18 54 47.5 -0.2**
BRVK pmax pmax
comp=Z,2.0nm,0.6s
USA0B Ussuriysk Arra 49.48 36*de*P **P** **18 54 50.4 +0.2**
USRK Ussuriysk Ar. 49.48 36 P **P** **18 54 49.4 -0.8**
USRK Ussuriysk Ar. 49.48 36 P **P** **18 54 50.0 -0.2**
comp=Z,7.5nm,0.8s,baz=235,slow=5.1,SNR=10
comp=Z,7.5nm,0.8s
USRK Ussuriysk Ar. 49.48 36 P **P** **18 54 49.4 -0.8**
MJAR Matsushiro Arr 49.77 48 P **P** **18 54 52.3 -0.3**
comp=Z,5.1nm,0.7s,baz=233,slow=7.0,SNR=22
MJAR PcP **PcP** **18 56 12.7 0.0**
comp=Z,3.7nm,0.8s,baz=252,slow=3.8,SNR=7.3
MJAR LR LR 19 17 18.9
comp=Z,47nm,18.3s,baz=227,slow=38
comp=Z,5.1nm,0.7s
JCJ Chichijima 49.92 61 P **P** **18 54 51.4 -2.5**
JCJ Chichijima 49.92 61 LR LR 19 16 20.6
comp=Z,22nm,19.4s,baz=150,slow=36
AS31 Alice Springs 50.13 129 P **P** **18 54 53.7 -1.8**
ASAR Alice Springs 50.13 129 P **P** **18 54 53.7 -1.9**
ASAR Alice Springs 50.13 129 P **P** **18 54 54.1 -1.5**
comp=Z,4.8nm,0.6s,baz=302,slow=7.2,SNR=96
ASAR PcP **PcP** **18 56 14.1 -0.2**
comp=Z,2.0nm,0.6s,baz=305,slow=3.6,SNR=8.3
ASAR ScP **ScP** **19 00 03.4 -0.9**
comp=Z,1.2nm,0.7s,baz=302,slow=4.8,SNR=7.5
comp=Z,4.8nm,0.6s
ASAR Alice Springs 50.13 129 P **P** **18 54 53.7 -1.9**
ABKAR Akbulak array 50.24 332 P **P** **18 54 55.9 0.0**
ABKAR Akbulak array 50.24 332 P **P** **18 54 55.6 -0.3**
JSD Sado 50.43 46 P **P** **18 54 56.6 -0.9**
FORT Forrest 50.44 141 P **P** **18 54 59.2 +1.6**
FORT Forrest 50.44 141 P **P** **18 54 57.5 -0.1**
GUMO Guam 50.68 79 LR LR 19 13 21.1
comp=Z,15nm,21.0s,baz=259,slow=32
HEH HeiHe 51.02 27 *e*P **P** **18 55 01.8 +0.1**
HEH pmax pmax
comp=Z,24nm,1.0s
HEH pmax pmax
comp=Z,140nm,8.3s
JMM Marumori 52.19 47 P **P** **18 55 11.2 +0.5**
KLR Kul'dur 52.42 31 P **P** **18 55 12.5 +0.3**
comp=Z,4.6nm,0.7s,baz=227,slow=6.3,SNR=16
KLR LR LR 19 18 47.2
comp=Z,29nm,19.6s,baz=230,slow=38
comp=Z,4.6nm,0.7s
KLR Kul'dur 52.42 31*c i*P **P** **18 55 12.5 +0.3**
KLR pmax pmax
comp=Z,11nm,1.3s
OPO Ambohidratompo 52.63 240 LR LR 19 15 59.4
comp=Z,40nm,18.3s,baz=176,slow=34
ZEA Zeya 53.45 24 *e*P **P** **18 55 19.8 +0.1**
ZEA pmax pmax
comp=N,10.0nm,0.9s
ZEA pmax pmax
comp=Z,10.0nm,0.7s
JTM Tenmabayashi 53.56 44 P **P** **18 55 21.6 +0.8**
OOD Oodnadatta 53.77 133 P **P** **18 55 22.2 -0.2**
MULG Mulgathing 54.06 136 P **P** **18 55 24.3 -0.3**
GNI Garni 54.27 315 LR LR 19 20 45.4
comp=Z,26nm,19.8s,baz=122,slow=38
MANU Manus Island 54.48 98 P **P** **18 55 29.3 +1.4**
SVE Sverdlovsk 55.49 339 *e*P **P** **18 55 35.4 +1.0**
SVE pmax pmax
comp=Z,19nm,0.9s
ARU Arti 55.96 337 P **P** **18 55 38.1 +0.2**
ARU IAmb IAmb 18 55 38.9
comp=Z,9.7nm,0.9s
ARU Arti 55.96 337 LR LR 19 21 09.4
comp=Z,41nm,18.8s,baz=142,slow=38
ARU Arti 55.96 337*c i*P **P** **18 55 37.7 -0.1**
ARU *PP **pP** **18 55 53.9 -1.5**
ARU 18 56 32.6
ARU 18 57 42.8
ARU S **S** **19 03 22.5 +1.8**
ARU SS **SS** **19 07 01.3 -6.2**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 55.96 337 P **P** **18 55 37.8 -0.1**
ARU pP **pP** **18 55 54.8 -0.6**
ARU Arti 55.96 337 P **P** **18 55 37.9 +0.1**
comp=Z,12nm,1.2s
ASAJ Asahikawa 56.00 41 LR LR 19 20 41.7
comp=Z,26nm,18.5s,baz=230,slow=37
BBOO Buckleboo 56.95 137 P **P** **18 55 44.4 -0.9**
BBOO IAmb IAmb 18 57 07.1
comp=Z,39nm,1.8s
KBZ Khabaz 56.95 318 P **P** **18 55 46.9 +1.8**
comp=Z,1.5nm,0.9s,baz=90,slow=7.1,SNR=2.3
comp=Z,1.5nm,0.9s
KBZ Khabaz 56.95 318⇑ *e*P **P** **18 55 46.3 +1.2**
KBZ pmax pmax
comp=Z,3.0nm,1.3s
YSS Yuzh-Sakhalins 57.35 38 P **P** **18 55 49.1 +1.2**
YSS Yuzh-Sakhalins 57.35 38 P **P** **18 55 46.8 -1.0**
YSS IAmb IAmb 18 55 49.3
comp=Z,16nm,0.8s
YSS Yuzh-Sakhalins 57.35 38⇑ *e*P **P** **18 55 48.2 +0.3**
YSS pmax pmax
comp=Z,20nm,1.1s
YSS Yuzh-Sakhalins 57.35 38 P **P** **18 55 48.2 +0.3**
INKA Innaminka 57.52 130 P **P** **18 55 49.4 +0.1**
EIL Elat 59.11 300 LR LR 19 23 17.1
comp=Z,39nm,20.3s,baz=65,slow=38
QLP Quilpie 59.68 127 P **P** **18 56 05.3 +0.9**
STKA Stephens Creek 60.29 133 P **P** **18 56 08.5 +0.1**
STKA Stephens Creek 60.29 133 P **P** **18 56 07.8 -0.6**
comp=Z,4.1nm,0.7s,baz=300,slow=8.8,SNR=13
STKA LR LR 19 22 43.2
comp=Z,37nm,21.8s,baz=345,slow=36
comp=Z,4.1nm,0.7s
YAK Yakutsk 60.46 19 P **P** **18 56 08.2 -0.9**
YAK Yakutsk 60.46 19 *e*P **P** **18 56 07.7 -1.4**
YAK *e*PP **pP** **18 56 25.9 -0.6**
YAK *e* 18 56 51.5
YAK *e* 18 58 22.8
YAK *e*S **S** **19 04 17.6 -1.4**
YAK *e*SS **sS** **19 04 50.6 +2.5**
YAK *e* 19 05 51.8
YAK *e*SS **SS** **19 08 18.7 +0.8**
YAK pmax pmax
comp=Z,31nm,1.5s
YAK pmax pmax
comp=N,10.0nm,0.9s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK pmax pmax
comp=Z,109nm,4.9s
YAK pmax pmax
comp=N,82nm,5.3s
YAK pmax pmax
comp=E,65nm,5.2s
YAK smax smax
comp=E,74nm,5.8s
YAK smax smax
comp=N,62nm,5.4s
YAK Yakutsk 60.46 19 P **P** **18 56 08.1 -0.9**
BRTR Keskin Array B 62.22 311 P **P** **18 56 20.9 -0.8**
comp=N,0.7nm,0.7s,baz=122,slow=7.2,SNR=5.0
BRTR PcP **PcP** **18 57 02.8 +1.7**
comp=N,1.3nm,0.7s,baz=122,slow=7.1,SNR=4.1
comp=N,0.7nm,0.7s
VSR Storozhevoye 62.33 325 *e*P **P** **18 56 18.7 -3.2**
VSR pmax pmax
comp=Z,3.0nm,0.5s
CMSA Cobar Meteorol 63.13 131 P **P** **18 56 28.2 +0.6**
H04N2 CROZET ISLANDS 65.19 211 T T 20 07 41.8
baz=45,slow=75,SNR=54
H04N1 CROZET ISLANDS 65.20 211 T T 20 07 44.1
baz=45,slow=75,SNR=191
H04N3 CROZET ISLANDS 65.20 211 T T 20 07 42.6
baz=45,slow=75,SNR=72
AUDCS Dubbo College 65.66 130 P **P** **18 56 44.7 +0.6**
TOO Toolangi 66.00 137 P **P** **18 56 46.1 -0.2**
TOO IAmb IAmb 18 58 51.4
comp=Z,41nm,1.7s
TOO Toolangi 66.00 137 P **P** **18 56 46.1 -0.2**
TOO pmax pmax
comp=Z,41nm,1.7s
KLMR Klimovskoe 66.50 334 *e*P **P** **18 56 47.6 -1.4**
MA2 Magadan 67.29 28 P **P** **18 56 54.8 +0.8**
MA2 Magadan 67.29 28*c i*P **P** **18 56 53.8 -0.2**
MA2 pmax pmax
comp=Z,21nm,1.0s
MA2 Magadan 67.29 28 P **P** **18 56 54.0 0.0**
MA2 Magadan 67.29 28 P **P** **18 56 54.1 0.0**
CAN Canberra 67.35 133 P **P** **18 56 55.3 +0.4**
CAN Canberra 67.35 133 P **P** **18 56 55.3 +0.4**
CAN pmax pmax
comp=Z,69nm,1.5s
CAN Canberra 67.35 133 P **P** **18 56 55.5 +0.6**
TIXI Tiksi 67.64 11 P **P** **18 56 55.1 -0.9**
TIXI Tiksi 67.64 11 LR LR 19 31 17.1
comp=Z,38nm,18.4s,baz=204,slow=40
TIXI Tiksi 67.64 11*ce*P **P** **18 56 55.1 -0.9**
TIXI pmax pmax
comp=Z,19nm,1.2s
TIXI Tiksi 67.64 11 P **P** **18 56 55.0 -0.9**
PETK Petropavlovsk- 68.57 36 P **P** **18 57 01.1 -1.1**
PETK Petropavlovsk- 68.57 36 P **P** **18 57 01.2 -1.0**
comp=Z,3.2nm,0.9s,baz=250,slow=4.2,SNR=3.7
comp=Z,3.2nm,0.9s
PETK Petropavlovsk- 68.57 36 P **P** **18 57 01.1 -1.1**
SEY Seymchan 69.43 25⇓ *e*P **P** **18 57 06.8 -0.5**
SEY pmax pmax
comp=Z,12nm,1.7s
JOF Joensuu 70.89 335 *e*P **P** **18 57 16.1 -0.2**
LVZ Lovozero 71.66 340 P **P** **18 57 20.5 -0.4**
LVZ IAmb IAmb 18 58 22.4
comp=Z,11nm,0.9s
LVZ Lovozero 71.66 340 P **P** **18 57 20.5 -0.4**
LVZ pmax pmax
comp=Z,11nm,0.9s
APA Apatity 71.95 339⇓ *i*P **P** **18 57 20.5 -2.0**
PABE Paberze 72.31 326 *e*P **P** **18 57 24.6 -0.3**
FINES FINESS Array B 72.73 332 P **P** **18 57 27.2 -0.1**
FINES FINESS Array B 72.73 332 P **P** **18 57 26.9 -0.4**
comp=Z,1.0nm,0.6s,baz=98,slow=7.2,SNR=12
comp=Z,1.0nm,0.6s
FINES FINESS Array B 72.73 332 *i* P **P** **18 57 27.1 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.7s
MEF Metsahovi 73.20 331 *e*P **P** **18 57 30.9 +0.9**
KEF Keuruu 73.48 333 *e*P **P** **18 57 31.1 -0.6**
OJC Ojcow 73.86 320 *e*P **P** **18 57 34.2 0.0**
OJC *e*PcP **pP** **18 57 51.1 -1.4**
VYHS Vyhne 74.28 318 *e*P **P** **18 57 37.6 +0.9**
VYHS *e*pP **pP** **18 57 53.9 -1.1**
VYHS Vyhne 74.28 318 *e*P **P** **18 57 37.6 +0.9**
VYHS *e* 18 57 53.9
RAF Rauma 74.65 331 *e*P **P** **18 57 38.5 -0.1**
VAF Ylistaro 74.69 333 *e*P **P** **18 57 39.5 +0.7**
BOSA Boshof 74.97 238 P **P** **18 57 43.2 +2.0**
comp=Z,4.5nm,0.7s,baz=87,slow=6.6,SNR=15
BOSA LR LR 19 23 44.3
comp=Z,70nm,21.8s,baz=22,slow=30
comp=Z,4.5nm,0.7s
JAVC Velka Javorina 75.08 318 *e*P P 18 57 50.8 +9.4
MORC Moravsky Berou 75.26 319 *e*P P 18 57 48.6 +6.2
MODS Modra-Piesok 75.30 318 *e*P **P** **18 57 43.1 +0.5**
MODS Modra-Piesok 75.30 318 *e*P **P** **18 57 43.1 +0.5**
ARCES ARCESS Array B 75.37 340 P **P** **18 57 43.2 +0.6**
ARCES IAmb IAmb 18 58 21.6
comp=Z,41nm,1.9s
ARCES ARCESS Array B 75.37 340 P **P** **18 57 42.3 -0.3**
comp=Z,1.9nm,0.6s,baz=84,slow=9.2,SNR=12
comp=Z,1.9nm,0.6s
ARCES ARCESS Array B 75.37 340 P **P** **18 57 43.2 +0.6**
ARCES pmax pmax
comp=Z,41nm,1.9s
VRAC Vranov 75.83 319 *e*P P 18 57 52.8 +7.2
KRUC Moravsky 75.94 319 *e*P P 18 57 52.9 +6.7
BILL Bilibino 76.57 22 P **P** **18 57 49.4 0.0**
SOKA Soboth 76.69 316 *e*P **P** **18 57 51.4 +0.7**
comp=Z,3.1nm,1.1s
VIKU Vikbolandet 76.74 328 *e*P **P** **18 57 51.3 +0.8**
DZM Mont Dzumac 77.15 115 *e*LR LR 19 21 50.6
comp=Z,64nm,22.8s
DZM Mont Dzumac 77.15 115 LR LR 19 33 35.7
comp=Z,30nm,19.6s,baz=344,slow=37
GERES GERESS Array B 77.70 318 P **P** **18 57 56.8 +0.5**
comp=Z,0.7nm,0.6s,baz=22,slow=5.4,SNR=2.6
comp=Z,0.7nm,0.6s
CLL Collm 78.26 321 *e*PcP **PcP** **18 58 08.0 -0.4**
CLL *e*pP **pP** **18 58 18.0 +0.4**
HFS Hagfors 78.45 330 P **P** **18 58 00.4 +0.3**
comp=Z,0.7nm,0.3s,baz=101,slow=6.0,SNR=6.8
comp=Z,0.7nm,0.3s
WTTA Wattenberg 79.03 317 *e*P **P** **18 58 03.9 +0.1**
comp=Z,5.1nm,1.2s
WATA Walderalm 79.08 317 *e*P **P** **18 58 04.3 +0.3**
comp=Z,5.1nm,1.5s
MOTA Moosalm 79.40 317 *e*P **P** **18 58 05.8 +0.1**
comp=Z,7.1nm,1.5s
TSUM Tsumeb 79.42 249 LR LR 19 31 08.5
comp=Z,30nm,18.4s,baz=140,slow=34
RETA Reutte 79.63 317 *e*P **P** **18 58 07.0 +0.1**
comp=Z,1.0nm,0.5s
SUR Sutherland 79.72 235 LR LR 19 30 48.6
comp=Z,24nm,21.3s,baz=120,slow=34
NB2 NORSAR Subarra 79.73 331 P **P** **18 58 06.5 -0.7**
comp=Z,5.9nm,1.0s,baz=93,slow=5.9
NOA NORSAR Array B 79.73 331 P **P** **18 58 06.4 -0.7**
comp=Z,0.6nm,0.8s,baz=98,slow=5.5,SNR=2.6
comp=Z,0.6nm,0.8s
SPITS Spitsbergen Ar 80.03 348 P **P** **18 58 07.9 -0.5**
comp=Z,3.0nm,0.5s,baz=112,slow=6.4,SNR=12
comp=Z,3.0nm,0.5s
DAVA Damuels 80.23 317 *e*P **P** **18 58 09.9 -0.4**
comp=Z,6.1nm,1.1s
DAVOX Davos/Dischmat 80.24 316 P **P** **18 58 11.4 +1.0**
comp=Z,1.4nm,0.5s,baz=119,slow=19,SNR=2.6
comp=Z,1.4nm,0.5s
TNA Tin City 86.67 24 P **P** **18 58 42.7 +0.1**
baz=281
SPIA Saint Paul Isl 87.03 33 P **P** **18 58 44.2 -0.4**
baz=279
C16K Lisburne Hills 87.10 21 P **P** **18 58 44.6 -0.1**
baz=283
P08K Saint George I 87.50 33 P **P** **18 58 46.7 -0.2**
baz=280
EKA Eskdalemuir Ar 87.67 325 P **P** **18 58 47.6 -0.1**
comp=Z,0.7nm,0.6s,baz=98,slow=5.3,SNR=4.7
comp=Z,0.7nm,0.6s
C17K DeLong Mountai 87.83 21 P **P** **18 58 47.8 -0.4**
baz=285
D17K Noatak River 88.07 22 P **P** **18 58 49.3 -0.1**
baz=285
B18K Kokolik River 88.07 20 P **P** **18 58 49.4 +0.1**
baz=286
A19K Wainwright 88.07 19 P **P** **18 58 49.8 +0.4**
baz=287
G15K Niukluk 88.39 25 P **P** **18 58 50.9 0.0**
baz=284
C18K Utukok River 88.48 21 IAmb IAmb 18 58 53.0
comp=Z,8.0nm,0.8s
C18K Utukok River 88.48 21 P **P** **18 58 51.2 -0.2**
baz=287
M11K Mekoryuk 88.49 29 P **P** **18 58 50.9 -0.6**
baz=283
E17K Hotham Inlet 88.70 22 P **P** **18 58 51.6 -0.8**
baz=286
K13K Kusilvak Mount 88.87 28 P **P** **18 58 53.1 -0.2**
baz=284
C19K Lookout Ridge 88.90 20 IAmb IAmb 19 01 19.7
comp=Z,20nm,1.8s
C19K Lookout Ridge 88.90 20 P **P** **18 58 53.2 -0.2**
baz=288
G16K Koyuk River 88.97 24 P **P** **18 58 53.3 -0.4**
baz=286
E18K Tukpahlearik C 89.06 22 P **P** **18 58 54.2 +0.1**
baz=287
J14K Nanvaranak Lak 89.16 27 P **P** **18 58 54.1 -0.5**
baz=285
H16K Elim 89.22 25 P **P** **18 58 54.5 -0.4**
baz=286
B20K Meade River 89.40 19 P **P** **18 58 55.7 +0.2**
baz=291

URZ	Urewera	89.57	129	LR	LR	19 42 39.4	
	comp=Z,34nm,18.6s,baz=28,slow=38						
D19K	Kuna River	89.61	20	P	P	18 58 57.0	+0.3
D19K				IAmb	IAmb	18 58 57.8	
	comp=Z,4.7nm,0.7s						
D19K	Kuna River	89.61	20	P	P	18 58 56.9	+0.3
	baz=290						
G17K	Kiwalik Mounta	89.62	24	P	P	18 58 56.9	+0.2
	baz=287						
F18K	Selawik	89.67	22	P	P	18 58 57.0	+0.1
	baz=288						
A22K	Sinclair Lake	89.72	18	P	P	18 58 56.6	-0.4
	baz=293						
D20K	Etivluk River	90.05	20	P	P	18 58 58.3	-0.4
	baz=291						
I17K	Unalakleet	90.08	25	P	P	18 58 58.7	-0.2
	baz=287						
H17K	Granite Mounta	90.09	24	P	P	18 58 58.7	-0.2
	baz=288						
TORD	Torodi Ar. Bea	90.14	283	P	P	18 59 01.0	+0.8
	comp=Z,0.7nm,0.9s,baz=69,slow=7.9,SNR=3.4						
	comp=Z,0.7nm,0.9s						
K15K	Wolf Creek Mou	90.19	27	P	P	18 58 59.8	+0.3
	baz=287						
E19K	Redstone River	90.28	21	P	P	18 59 00.3	+0.5
	baz=290						
G18K	Tagagawik	90.28	23	P	P	18 59 00.3	+0.5
	baz=289						
F19K	Shaleruckik Mo	90.30	22	P	P	18 59 00.3	+0.4
	baz=290						
J16K	Anvik River	90.31	26	P	P	18 59 00.5	+0.6
	baz=288						
E20K	Nigu River	90.36	20	P	P	18 59 00.3	+0.1
	baz=292						
B21K	Ikpikpuk River	90.37	19	IAmb	IAmb	18 59 01.9	
	comp=Z,7.7nm,1.1s						
B21K	Ikpikpuk River	90.37	19	P	P	18 59 00.3	+0.2
	baz=293,SNR=6.0						
L15K	Ungalak Mounta	90.39	27	P	P	18 59 00.4	0.0
	baz=287						
M14K	Bethel	90.43	28	P	P	18 59 00.2	-0.3
	baz=286						
B22K	Teshekpuk Lake	90.45	18	P	P	18 59 00.5	0.0
	baz=294						
C21K	Knifeblade Rid	90.49	19	P	P	18 59 00.7	-0.1
	baz=293						
H18K	Honhosa River	90.64	24	P	P	18 59 00.7	-0.8
	baz=290						
G19K	Purcell Mounta	90.80	23	IAmb	IAmb	18 59 04.0	
	comp=Z,12nm,1.1s						
G19K	Purcell Mounta	90.80	23	P	P	18 59 01.8	-0.4
	baz=291,SNR=5.5						
J17K	VABM Dome	90.92	25	P	P	18 59 03.2	+0.3
	baz=289						
F20K	Avaraart Lake	90.97	22	IAmb	IAmb	18 59 04.6	
	comp=Z,8.1nm,0.8s						
F20K	Avaraart Lake	90.97	22	P	P	18 59 03.6	+0.6
	baz=292,SNR=13						
ESDC	Sonseca Array	91.00	310	P	P	18 59 04.7	+0.9
	comp=Z,1.9nm,1.2s,baz=70,slow=4.0,SNR=5.5						
	comp=Z,1.9nm,1.2s						
M15K	Kasigluk River	91.04	28	P	P	18 59 03.7	+0.3
	baz=287						
E21K	Killik River	91.05	20	IAmb	IAmb	18 59 04.7	
	comp=Z,7.2nm,0.7s						
E21K	Killik River	91.05	20	P	P	18 59 04.0	+0.6
	baz=294,SNR=5.6						
H19K	Roundabout Mou	91.26	23	P	P	18 59 04.7	+0.4
	baz=291,SNR=6.4						
D22K	Ayikyak River	91.30	19	IAmb	IAmb	18 59 06.3	
	comp=Z,7.3nm,1.1s						
D22K	Ayikyak River	91.30	19	P	P	18 59 04.3	-0.2
	baz=295						
GCSA	Galena City Sc	91.37	24	P	P	18 59 04.9	0.0
	baz=291						
K17K	Iditarod	91.48	26	P	P	18 59 05.4	0.0
	baz=290						
N15K	Kwethluk River	91.49	29	P	P	18 59 05.7	+0.1
	baz=288						
C23K	Itkillik River	91.54	18	P	P	18 59 05.5	0.0
	baz=297						
L17K	Donlin	91.68	27	P	P	18 59 06.9	+0.5
	baz=290						
F21K	Alatna River	91.71	21	IAmb	IAmb	18 59 08.4	
	comp=Z,19nm,1.9s						
F21K	Alatna River	91.71	21	P	P	18 59 07.3	+0.9
	baz=294						
M16K	Timber Creek	91.75	28	P	P	18 59 07.1	+0.4
	baz=289						
H20K	Anotleneega Mo	91.88	23	P	P	18 59 07.6	+0.3
	baz=293,SNR=8.5						
J18K	Innoko River	91.90	25	P	P	18 59 08.3	+0.9
	baz=291						
E22K	Anaktuvuk Pass	91.91	20	P	P	18 59 08.1	+0.7
	baz=296						
D23K	Nanushuk River	91.91	19	P	P	18 59 07.2	-0.1
	baz=297						
O15K	Ungalikthiuk R	91.92	30	P	P	18 59 07.4	-0.1
	baz=288						
G21K	Allakaket	91.99	22	P	P	18 59 07.9	+0.2
	baz=294						
N16K	Nishlik Lake	92.01	28	P	P	18 59 08.0	0.0
	baz=289						
F22K	John River	92.05	21	P	P	18 59 08.0	0.0
	baz=295,SNR=6.6						
J19K	Poorman	92.16	24	IAmb	IAmb	18 59 11.2	
	comp=Z,11nm,1.3s						
J19K	Poorman	92.16	24	P	P	18 59 08.6	+0.1
	baz=292						
I20K	Naaghedeneel	92.31	23	P	P	18 59 09.6	+0.5
	baz=293						
M17K	Holitna River	92.31	27	P	P	18 59 09.8	+0.5
	baz=290						
L18K	Granite Mounta	92.36	26	P	P	18 59 09.5	0.0
	baz=291						
D24K	Happy Valley	92.42	19	P	P	18 59 10.4	+0.8
	baz=298						
TOLK	Toolik Lake Re	92.42	19	P	P	18 59 10.8	+1.1
	baz=298						
G22K	Bettles	92.54	21	P	P	18 59 11.5	+1.2
	baz=296						
H21K	Melozitna Rive	92.61	22	IAmb	IAmb	18 59 12.2	
	comp=Z,3.9nm,0.8s						
H21K	Melozitna Rive	92.61	22	P	P	18 59 10.5	-0.1
	baz=295,SNR=6.2						
O16K	Kokwok River B	92.63	29	P	P	18 59 11.1	+0.3
	baz=290						
E23K	Chandalar	92.68	20	P	P	18 59 11.3	+0.3
	baz=298						
J20K	Nowinta River	92.69	24	IAmb	IAmb	18 59 12.8	
	comp=Z,6.3nm,0.7s						
J20K	Nowinta River	92.69	24	P	P	18 59 10.7	-0.3
	baz=293,SNR=7.4						
N17K	Nushagak Hills	92.73	28	P	P	18 59 10.5	-0.8
	baz=290						
VNDA	Vanda	92.74	168	P	P	18 59 11.1	+0.2
	comp=Z,0.6nm,0.8s,baz=285,slow=11,SNR=2.2						
	comp=Z,0.6nm,0.8s						
COLD	Coldfoot	92.86	20	P	P	18 59 11.0	-0.7
	baz=297						
M18K	Stony River	93.00	27	P	P	18 59 12.3	-0.2
	baz=292						
H22K	Ishtalitna Cre	93.04	22	P	P	18 59 12.4	-0.2
	baz=296						
O17K	Koliganek Bris	93.04	29	P	P	18 59 12.7	0.0
	baz=290						
E24K	Your Creek	93.04	19	P	P	18 59 12.9	+0.3
E24K	Your Creek	93.04	19	P	P	18 59 12.3	-0.4
	baz=299						
K20K	Telida	93.04	25	P	P	18 59 12.6	-0.1
	baz=293						
D25K	Kavik River	93.09	18	P	P	18 59 13.0	+0.2
D25K				IAmb	IAmb	18 59 14.3	
	comp=Z,8.0nm,0.9s						
D25K	Kavik River	93.09	18	P	P	18 59 13.1	+0.2
	baz=301						
G23K	Bananza Creek	93.16	21	P	P	18 59 12.6	-0.6
	baz=297						
L19K	White Mountain	93.17	26	P	P	18 59 12.8	-0.5
	baz=293						
C26K	Camden Bay	93.22	17	P	P	18 59 12.7	-0.6
	baz=302						
N18K	Kilae Creek	93.28	27	P	P	18 59 14.2	+0.4
N18K				IAmb	IAmb	18 59 40.7	
	comp=Z,14nm,1.4s						
N18K	Kilae Creek	93.28	27	P	P	18 59 13.1	-0.8
	baz=292						
L20K	Farewell, AK	93.47	25	P	P	18 59 14.4	-0.3
	baz=293						
M19K	Big River Lodg	93.48	26	P	P	18 59 15.1	+0.3
M19K	Big River Lodg	93.48	26	P	P	18 59 14.1	-0.6
	baz=293						
F24K	Squaw Lake	93.51	20	P	P	18 59 14.7	-0.1
	baz=299						
CHUM	Lake Minchumin	93.54	24	P	P	18 59 14.5	-0.4
	baz=295						
P17K	Kvichak River	93.56	29	P	P	18 59 15.0	0.0
	baz=291						
CHGN	Chignik	93.56	32	P	P	18 59 14.8	-0.3
	baz=289						
MLY	Manley	93.66	23	P	P	18 59 15.1	-0.4
	baz=296						
C27K	Jago River	93.73	17	P	P	18 59 15.9	+0.2
	baz=303						
H23K	Yukon River	93.74	22	P	P	18 59 15.8	0.0
	baz=298						
CAST	Castle Rocks	93.83	24	P	P	18 59 16.0	-0.3
	baz=295						
N19K	Bonanza Creek	93.86	27	P	P	18 59 16.3	-0.3
	baz=293,SNR=10						
O18K	Koktuh Hills	93.90	28	P	P	18 59 17.4	+0.7
	baz=292						
E25K	Arctic Village	93.97	19	P	P	18 59 17.6	+0.8
	baz=301						
BPAW	Bear Paw Mtn.	93.98	23	P	P	18 59 16.6	-0.4
	baz=296						
PPLA	Purkeypile	94.01	25	P	P	18 59 17.3	0.0
	baz=295						
M20K	Styx River	94.03	26	P	P	18 59 16.6	-0.8
M20K				IAmb	IAmb	18 59 25.7	
	comp=Z,18nm,1.6s						
M20K	Styx River	94.03	26	P	P	18 59 16.6	-0.8
	baz=294						
G24K	Hadweenzic Riv	94.06	20	P	P	18 59 16.4	-0.9
	baz=300						
P18K	Big Mountain,	94.06	29	P	P	18 59 16.9	-0.6
	baz=292						
I23K	Minto, Yukon-K	94.13	22	P	P	18 59 17.0	-0.5
	baz=298						
Q17K	Contact Creek	94.17	30	P	P	18 59 17.7	-0.4
	baz=291						
O19K	Port Alsworth	94.18	28	P	P	18 59 17.6	-0.3
	baz=293						
F25K	Christian Rive	94.22	19	P	P	18 59 18.3	+0.3
	baz=301						
H24K	Noodor Dome	94.34	21	P	P	18 59 18.6	-0.1
	baz=299						
G25K	Bearman Lake	94.50	20	P	P	18 59 19.4	+0.1
	baz=301						
F26K	Sheenjek River	94.65	19	P	P	18 59 19.4	-0.6
	baz=303						
BMAR	Burnt Mountain	94.65	19		P	18 59 21.0	+1.0
SKT	Skwentna	94.68	25	IAmb	IAmb	18 59 21.5	
	comp=Z,3.3nm,0.9s						
SKT	Skwentna	94.68	25	P	P	18 59 19.6	-0.7
	baz=296						
N20K	Mount Spurr	94.72	26	P	P	18 59 20.2	-0.3
	baz=295						
D27M	Malcolm River	94.75	17	P	P	18 59 18.9	-1.6
	baz=306						
H25L	Birch Creek	94.85	20	P	P	18 59 20.6	-0.2
	baz=301						
MCK	McKinley	94.95	23	P	P	18 59 20.9	-0.6
	baz=298						
O20K	Slope Mountain	95.00	27	P	P	18 59 20.6	-1.2
	baz=294						
E27K	Coleen River	95.17	18	P	P	18 59 20.8	-1.6
	baz=305						
G26K	Porcupine Rive	95.17	19	P	P	18 59 21.6	-0.7
	baz=303						
CHIR	Chirikof Islan	95.19	32	P	P	18 59 21.4	-1.3
	baz=292						
ILAR	Eielson Array	95.23	22	P	P	18 59 21.3	-1.4
	comp=Z,0.6nm,0.6s,baz=314,slow=4.5,SNR=7.7						
ILAR				PP	PP	19 03 10.7	-2.2
	comp=Z,0.4nm,0.8s,baz=297,slow=8.0,SNR=3.2						
	comp=Z,0.6nm,0.6s						
SUA	Susitna One	95.24	26	P	P	18 59 22.8	-0.2
	baz=296						
D28M	Stokes Point	95.33	16	P	P	18 59 22.1	-0.9
	baz=308						
PRP	Porcupine Dome	95.34	21	P	P	18 59 22.9	-0.5
	baz=301						
M22K	Willow	95.38	25	P	P	18 59 22.4	-1.0
	baz=297						
E28M	Babbage River	95.54	17	P	P	18 59 23.3	-0.8
	baz=307						
RC01	Rabbit Creek A	95.85	26	P	P	18 59 24.9	-0.6
	baz=297						
G27K	Doyon Strip	95.95	19	P	P	18 59 25.5	-0.5
	baz=305						
WAT6	Susitna Watana	95.98	24	P	P	18 59 26.3	0.0
	baz=299						
F28M	Old Crow	96.04	18	P	P	18 59 26.6	+0.2
	baz=307						
E29M	Blow River	96.15	17	P	P	18 59 25.6	-1.2
	baz=309						
I26K	Coal Creek Min	96.30	21	P	P	18 59 26.7	-0.8
	baz=304						
H27K	Steamboat Moun	96.33	20	P	P	18 59 26.8	-0.9
	baz=305						
M23K	Glacier View	96.37	25	P	P	18 59 26.8	-1.1
	baz=299						
J26L	Joseph Creek	96.59	21	P	P	18 59 28.0	-1.0
	baz=303						
A36M	Sachs Harbour	96.66	11	P	P	18 59 28.0	-0.9
	baz=321						
I27K	Kandik River	96.66	20	P	P	18 59 28.5	-0.7
	baz=305						
PAX	Paxson	96.69	23	P	P	18 59 28.7	-0.8
	baz=301						
SCRK	Sand Creek	96.72	22	P	P	18 59 28.4	-1.3
	baz=303						
M24K	Tolsona, Glenn	96.85	24	P	P	18 59 29.3	-0.9
	baz=300						
G29M	Pine Creek	97.04	18	P	P	18 59 30.5	-0.4
	baz=308						
GLI	Glacier Island	97.08	25	P	P	18 59 30.6	-0.6
	baz=299						
EGAK	Eagle	97.29	21	P	P	18 59 31.4	-0.6
	baz=305						
I28M	Miner Creek	97.32	20	P	P	18 59 31.3	-1.0
	baz=306						
H29M	Whitestone	97.36	19	P	P	18 59 31.9	-0.4
	baz=308						
K27K	Chicken	97.40	22	P	P	18 59 32.1	-0.4
	baz=304						
INK	Inuvik	97.43	16	P	P	18 59 32.0	-0.6
	baz=313						
INK	Inuvik	97.43	16	P	P	18 59 32.3	-0.3
	comp=Z,0.9nm,0.5s,baz=325,slow=5.2,SNR=7.4						
	comp=Z,0.9nm,0.5s						
L26K	Log Cabin Wild	97.48	23	P	P	18 59 32.8	-0.2
	baz=303						
G30M	Toh Zraii Nji	97.55	18	P	P	18 59 32.9	-0.2
	baz=310						
RES	Resolute Bay	97.73	2	IAmb	IAmb	18 59 35.3	
	comp=Z,2.9nm,0.8s						
RES	Resolute Bay	97.73	2	P	Pdif	18 59 34.3	+0.5
	comp=Z,2.8nm,0.9s,baz=352,slow=5.4,SNR=13						
	comp=Z,2.8nm,0.9s						
EPYK	Eagle Plains	97.79	18	P	P	18 59 32.8	-1.5
	baz=310						
Q23K	Middleton Isla	98.13	27	P	P	18 59 33.9	-1.9
	baz=300						
G31M	Satah River	98.16	17	P	P	18 59 33.8	-2.0
	baz=312						
I30M	Mount Dempster	98.63	19	P	P	18 59 36.4	-1.8
	baz=310						
H31M	Peel River	98.89	18	P	P	18 59 38.0	-1.2
	baz=312						
C36M	Paulatuk	98.98	13	P	P	18 59 38.0	-1.4
	baz=322						
M29M	Somme Creek	99.65	22	P	Pdif	18 59 41.7	-1.1
	baz=308						
PNL	Peninsula	100.96	24	P	Pdif	18 59 47.2	-1.4
	baz=306						
TOAD	Toad River Com	106.84	20	P	PKiKP	19 04 23.6	-0.8
	baz=320						
YKA	Yellowknife Ar	106.85	13	PP	PP	19 04 36.3	-4.0
	comp=Z,0.1nm,0.4s,baz=342,slow=9.2,SNR=3.3						
PPT2	Papeete2	117.78	106	eLR	LR	19 40 46.4	
	comp=Z,136nm,29.2s						
PPT2				eLR	LR	19 40 51.3	
	comp=Z,61nm,23.5s						
NEW	Newport	118.17	23	P	PKPdf	19 04 45.1	-1.2
	baz=325						
EGMT	Eagleton	120.94	18	P	PKPdf	19 04 50.3	-1.4
	baz=333						
BOZ	Bozeman (W)	122.45	21	P	PKPdf	19 04 53.3	-1.4
	baz=330						
HLID	Hailey	123.12	24	P	PKPdf	19 04 54.8	-1.3
	baz=326						
MDND	Maddock	123.61	11	P	PKPdf	19 04 55.6	-1.1
	baz=344						
EYMN	Ely	124.55	4	P	PKPdf	19 04 57.4	-1.1
	baz=354						
PKME	Peaks-Kenny Pk	125.21	345	P	PKPdf	19 04 59.0	-0.8
	baz=21						
NVAR	Mina Array Bea	125.46	31	PKP	PKPdf	19 04 59.6	-1.2
	comp=Z,0.9nm,0.8s,baz=318,slow=1.2,SNR=5.4						
PDAR	Pinedale Array	125.64	21	SKP		19 08 32.3	
	comp=Z,0.1nm,0.3s,baz=4.8,slow=5.4,SNR=1.8						
DUG	Dugway, Tooele	126.59	25	P	PKPdf	19 05 01.6	-1.3
	baz=327						
LBNH	Lisbon	126.80	347	P	PKPdf	19 05 02.2	-0.7
	baz=18						
R11B	Troy Canyon, C	126.85	29	P	PKPdf	19 05 02.0	-1.5
	baz=323						
LONY	Lake Ozonia	126.97	349	P	PKPdf	19 05 02.9	-0.4
	baz=15						
MPMC	Manual Prospec	127.69	32	P	PKPdf	19 05 03.8	-1.3
	baz=320						
LRMC	Laurel Mtn Rad	128.02	33	P	PKPdf	19 05 04.6	-1.1
	baz=319						
ECSD	EROS Data Cent	128.11	9	P	PKPdf	19 05 04.6	-0.9
	baz=347						
FMP	Fort Macarthur	129.00	35	P	PKPdf	19 05 06.8	-0.6
	baz=318						
GMRC	Granite Mounta	129.62	31	P	PKPdf	19 05 07.6	-1.2
	baz=321						
JFWS	Jewell Farm	129.64	4	P	PKPdf	19 05 07.9	-0.4
	baz=355						
MURC	Murrieta	129.70	34	P	PKPdf	19 05 07.6	-1.2
	baz=319						
BGNE	Belgrade	130.09	12	P	PKPdf	19 05 08.6	-0.7
	baz=345						
PFO	Pinyon Flats O	130.09	33	P	PKPdf	19 05 08.7	-1.0
	baz=320						
IRM	Iron Mountain	130.37	32	P	PKPdf	19 05 09.3	-0.7
	baz=321						
BC3	Big Chuckawall	130.60	32	P	PKPdf	19 05 10.2	-0.4
	baz=321						
PDMCI	Parker Dam,Lak	130.77	31	P	PKPdf	19 05 10.0	-0.8
	baz=323						
M53A	WI Miller and	130.95	354	P	PKPdf	19 05 10.1	-0.9
	baz=7.5						
WUAZ	Wupatki	131.11	27	P	PKPdf	19 05 10.3	-1.3
	baz=326						
P52A	Corning	132.87	356	P	PKPdf	19 05 13.5	-1.1
	baz=5.7						
WVT	Waverly	136.52	2	P	PKPdf	19 05 20.7	-0.8
	baz=358						
MNTX	Cornudas Mount	136.95	24	P	PKPdf	19 05 22.3	-0.1
	baz=332						
MIAR	Mount Ida	137.57	9	P	PKPdf	19 05 22.6	-0.9
	baz=349						
GOGA	Godfrey	139.15	356	P	PKPdf	19 05 25.5	-1.0
	baz=4.4						
TXAR	Lajitas Array	139.72	24	PKhKP	PKPpre	19 05 19.9	
	comp=Z,0.2nm,0.4s,baz=273,slow=1.5,SNR=5.3						
TXAR				PKP	PKPdf	19 05 28.8	+1.1
	comp=Z,0.5nm,0.8s,baz=325,slow=1.1,SNR=5.3						
TXAR				SKPbc	SKPbc	19 08 58.5	+0.8
	comp=Z,1.4nm,0.9s,baz=298,slow=1.9,SNR=12						
PLCA	Paso Flores	144.07	201	PKP	PKPdf	19 05 36.0	+0.9
	comp=Z,1.6nm,0.8s,baz=198,slow=9.6,SNR=3.4						
CPUP	Villa Florida	146.65	232	PKPbc	PKPab	19 05 42.9	+0.3
	comp=Z,1.8nm,0.9s,baz=129,slow=6.5,SNR=3.3						
CPUP				SKPbc	SKiKP	19 09 15.0	+0.3
	comp=Z,2.8nm,1.0s,baz=110,slow=5.5,SNR=2.8						
LPAZ	La Paz	160.15	242	PKP	PKPdf	19 06 01.4	+1.3
	comp=Z,0.7nm,0.7s,baz=38,slow=3.6,SNR=3.9						

NEIC ***13*** *19:18:50.5±1.6, 19°.410N±0°.007×155°.28W±0°.01, h5km±1km, Error ellipse: s-maj=3.2km s-min=1.5km az=70.0*

HVO 13 19:18:50±1.0, 19°.405N±0°.008×155°.289W±0°.009, h0km±3km, ML3.2/18, ML2.7/16(NEIC), Error ellipse: s-maj=1.5km s-min=1.1km az=115.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	North Pit	0.01	44		Pg	19 18 50.5	+0.2
WRMHI	West Rim	0.01	279		Pg	19 18 50.6	+0.3
OBL	Observatory Le	0.01	18		Pg	19 18 50.7	+0.3
SDHHI	Sand Hill	0.02	199		Pg	19 18 51.0	+0.6
RIM	Rim	0.02	124		Pg	19 18 50.9	+0.6
UWE	Uwekahuna	0.02	345		Pg	19 18 51.0	+0.6
KKO	Keanakako`i	0.02	108		Pg	19 18 51.0	+0.5
UWB	Uwekahuna B	0.02	26		Pg	19 18 51.1	+0.6
SBLHI	Steaming Bluff	0.03	41		Pg	19 18 51.5	+0.9
HATHI	Halema`uma`u T	0.03	55	IAML		19 18 51.3	
	comp=E,15μm,0.8s						
HATHI					Pg	19 18 51.3	+0.7
RSD	Rainshed	0.06	10		Pg	19 18 52.0	+0.9
PUH	Pauahi	0.07	114		Pg	19 18 52.4	+1.0
PUH				IAML		19 18 53.3	
	comp=E,5μm,0.8s						
HLP	Hilina Pali	0.11	190	Pg	Pg	19 18 53.3	+1.2
KNHH	Kane Nui o Ham	0.12	103		Pg	19 18 53.3	+1.1
MLH	Mauna Loa	0.13	314	IAML		19 18 53.4	
	comp=N,3μm,1.6s						
MLH					Pg	19 18 53.8	+1.3
MLH				IAML		19 18 54.6	
	comp=E,3μm,1.1s						
STCH	Steam Cracks	0.16	97	Pg	Pg	19 18 54.0	+1.0
STCH				IAML		19 18 56.8	
	comp=E,2μm,1.0s						
STCH				IAML		19 18 57.3	
	comp=N,3μm,1.1s						
HTC	Hot Caves	0.20	212		Pg	19 18 54.7	+1.0
HMH	Humu`ula Sheep	0.27	317	Pg	Pg	19 18 56.2	+1.1
HMH				IAML		19 19 01.3	
	comp=E,1μm,0.5s						
HMH				IAML		19 19 01.3	
	comp=N,1μm,1.0s						
KHU	Kahuku	0.35	243		Pg	19 18 57.0	+0.4
ALEP	Alea Permanent	0.36	292		Pg	19 18 58.2	+1.3
HUH	Hualalai	0.59	298		Pg	19 19 01.8	+0.5
MHA	Mahukona	0.97	324	Pg	Pg	19 19 07.1	-1.6

JMA 13 19:20:50.1±0.1, 24°N×2°×122°.5E±0°.5, h45km±3km, MV1.4/10, NW OFF ISHIGAKIJIMA IS, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	Yonagunijimaku	0.44	57	eP	Pn	19 21 00.3	-0.1
JYNG				eS	Sn	19 21 07.5	-0.1
IRIF	Iriomote-Funau	1.09	83	eP	Pn	19 21 09.3	+0.3
IRIF				eS	Sn	19 21 23.7	+0.8
JKRS	Kuro-shima	1.34	89	eP	Pn	19 21 13.4	+1.0
JKRS				eS	Sn	19 21 30.5	+1.4
JIJ	Ishigaki jima	1.47	84	eP	Pn	19 21 14.7	+0.5
JIJ				eS	Sn	19 21 32.0	-0.2
JISG	Ishigakijimahi	1.66	77	eP	Pn	19 21 16.6	-0.2

TAP 13 19:21:19.7, 24°.14N×121°.38E, h18km±1km, ML0.9, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WHF	Hehuan Shan	0.10	273	P	Pg	19 21 23.4	-0.5
WHF	baz=271			*i* S	Sg	19 21 25.9	-0.9
LXIB	baz=271 Xiulin Townshi	0.12	164	*e*P	Pb	19 21 21.7	-1.1
LXIB	baz=164			S	Sg	19 21 26.4	-0.2
CHGB	baz=164 Renai	0.20	247	*i* P	Pb	19 21 24.3	-0.4
CHGB	baz=246			*e*S	Sg	19 21 29.1	+0.7
TWT	baz=246 Tachien	0.21	302	P	Pb	19 21 24.2	-0.8
TWT	baz=299			*e*S	Sb	19 21 28.2	-0.3
WUSB	baz=299 Renai	0.28	238	*e*P	Pb	19 21 26.8	+0.6
	baz=237						

WUSB				*e*S	Sg	19 21 30.1	-0.2
	baz=237							
WHP	**Taichung City**	**0.42**	**289**	*i* P	Pg	19 21 28.0	-0.3
	baz=289							
WHP				*i* S	Sb	19 21 34.5	-0.2
	baz=289							
LATG	**Datong**	**0.42**	**19**	*e*P	Pb	19 21 28.6	-0.1
	baz=19							
LATG				S	Sg	19 21 34.2	0.0
	baz=19							
YHNB	**Yeheng**	**0.53**	**360**	P	Pg	19 21 30.2	-0.2
	baz=359							
YHNB				S	Sg	19 21 37.4	-0.2
	baz=359							

IDC 13 19:52:12.6±2.0, 8°56.56S×128°05.85E, h0km, mb3.1/1, mbtmp3.9/4, ML4.1/3, MS2.4/1, Error ellipse: s-maj=36.3km s-min=26.5km az=62.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**4.62**	**249**	Pn	Pn	19 53 23.5	-0.3
	2.4nm,0.3s,baz=90,slow=4.0,SNR=2.2						
BATI				Sn	Sn	19 54 17.8	-0.5
	8.6nm,0.3s,baz=68,slow=19,SNR=12 8.7nm,0.3s						
WRA	**Warramunga Arr**	**12.85**	**152**	Pn	Pn	19 55 16.7	+0.1
	1.7nm,0.3s,baz=324,slow=14,SNR=51						
WRA				Sn	Sn	19 57 42.6	+2.1
	0.8nm,0.3s,baz=337,slow=23,SNR=5.3 5.5nm,0.5s						
ASAR	**Alice Springs**	**16.03**	**160**	Pn	Pn	19 55 59.6	0.0
	0.7nm,0.3s,baz=340,slow=12,SNR=47						
ASAR				Sn	Sn	19 58 59.1	+1.0
	0.2nm,0.3s,baz=344,slow=26,SNR=3.4 2.5nm,0.6s						
KSRS	**Korea Array**	**45.78**	**360**	LR	LR	20 20 28.2	
	comp=Z,4.2nm,20.3s,baz=235,slow=37						
SONM	**Songino Array**	**59.34**	**343**	P	P	20 02 16.7	+0.1
	0.1nm,0.3s,baz=157,slow=7.8,SNR=1.9 0.1nm,0.3s						

IDC 13 20:23:55.2±1.9, 3°51N×123°85E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=215.2km s-min=25.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.48**	**157**	P	P	20 29 25.2	-0.2
	0.9nm,0.5s,baz=335,slow=10,SNR=30 0.9nm,0.5s						
ASAR	**Alice Springs**	**28.73**	**161**	P	P	20 29 54.8	+0.1
	0.3nm,0.3s,baz=338,slow=8.6,SNR=11 0.3nm,0.3s						
MKAR	**Makanchi Array**	**56.13**	**327**	P	P	20 33 36.6	0.0
	0.3nm,0.5s,baz=118,slow=8.5,SNR=6.6 0.3nm,0.5s						

NEIC ***13*** *20:40:18.2±1.5, 19°.39N±0°.01×155°.26W±0°.02, h1km±3km, Error ellipse: s-maj=3.0km s-min=1.2km az=59.0*
HVO 13 20:40:17.6±1.2, 19°.40N±0°.01×155°.27W±0°.02, h0km±9km, ML3.4/15, ML2.5/28(NEIC), Error ellipse: s-maj=2.9km s-min=1.1km az=49.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.00**	**189**		Pg	20 40 18.0	+0.3
KKO	**Keanakako`i**	**0.01**	**80**		Pg	20 40 18.0	+0.1
NPH	**North Pit**	**0.02**	**336**		Pg	20 40 17.9	-0.1
BYL	**Byron's Ledge**	**0.02**	**40**		Pg	20 40 18.4	+0.3
SDHHI	**Sand Hill**	**0.02**	**250**		Pg	20 40 18.0	-0.1
SDHHI				IAML		20 40 18.2	
	comp=N,11μm,0.8s						
OBL	**Observatory Le**	**0.02**	**335**		Pg	20 40 18.4	+0.2
OBL				IAML		20 40 18.5	
	comp=E,18μm,0.5s						
OBL				IAML		20 40 18.9	
	comp=N,14μm,0.4s						
WRMHI	**West Rim**	**0.03**	**292**	IAML		20 40 18.4	
	comp=E,15μm,1.0s						
WRMHI					Pg	20 40 18.7	+0.5
UWB	**Uwekahuna B**	**0.03**	**352**		Pg	20 40 18.2	0.0
HATHI	**Halema'uma'u T**	**0.03**	**25**	IAML		20 40 18.6	
	comp=N,10μm,1.1s						
HATHI					Pg	20 40 18.6	+0.4
UWE	**Uwekahuna**	**0.03**	**323**	IAML		20 40 18.6	
	comp=N,10μm,0.7s						
UWE				IAML		20 40 18.7	
	comp=E,11μm,0.5s						
UWE					Pg	20 40 18.9	+0.7
SBLHI	**Steaming Bluff**	**0.03**	**10**		Pg	20 40 18.6	+0.3
PUH	**Pauahi**	**0.06**	**112**	Pg	Pg	20 40 19.4	+0.7
RSD	**Rainshed**	**0.07**	**357**		Pg	20 40 19.5	+0.6
RSD				IAML		20 40 20.7	
	comp=E,4μm,1.8s						
KNHH	**Kane Nui o Ham**	**0.10**	**100**		Pg	20 40 20.9	+1.3
HLP	**Hilina Pali**	**0.10**	**198**		Pg	20 40 20.9	+1.2
HLP	**Hilina Pali**	**0.10**	**198**	IAML		20 40 22.2	
	comp=N,3μm,1.3s						
HLP				IAML		20 40 23.3	
	comp=E,4μm,0.7s						
STCH	**Steam Cracks**	**0.14**	**95**	Pg	Pg	20 40 21.0	+0.7
STCH				IAML		20 40 22.9	
	comp=E,2μm,1.3s						
STCH				IAML		20 40 23.6	
	comp=N,3μm,1.5s						
MLH	**Mauna Loa**	**0.14**	**313**	IAML		20 40 21.4	
	comp=N,2μm,1.4s						
MLH				IAML		20 40 25.6	
	comp=E,2μm,0.5s						
MLH	**Mauna Loa**	**0.14**	**313**		Pg	20 40 21.9	+1.5
NPOC	**North of Pu'u**	**0.15**	**91**		Pg	20 40 21.5	+0.9
JCUZ	**Jacuzzi**	**0.16**	**94**		Pg	20 40 21.5	+0.8
JCUZ				IAML		20 40 24.9	
	comp=E,1μm,0.9s						
HTC	**Hot Caves**	**0.20**	**216**		Pg	20 40 23.1	+1.7
KHU	**Kahuku**	**0.35**	**245**		Pg	20 40 25.1	+0.6
ALEP	**Alea Permanent**	**0.38**	**292**		Pb	20 40 26.2	-1.2
HUH	**Hualalai**	**0.60**	**299**	Pg	Pg	20 40 29.7	+0.5

SNET ***13*** *20:44:08.0±1.2, 13°.25N×88°.06W, h2km, ML3.6*
CATAC ***13*** *20:44:08.4±0.2, 13°.21N×88°.05W, h5km±2km, ML3.5*
ISC 13 20:44:08.6±0.9, 13°.24N±0°.06×88°.05W±0°.02, h15km±6km, n33, σ0°37/48, 1C, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**66**	*e*P	**Pg**	**20 44 12.7**	**-0.1**
LCND				*e*P	**Pg**	**20 44 12.8**	**-0.1**
LCND				*e*S	**Sg**	**20 44 15.8**	**+0.2**
LCND				*e*S	**Sg**	**20 44 15.8**	**+0.2**
LCND	**La Caada**	**0.17**	**66**	*i* P	**Pg**	**20 44 12.7**	**-0.1**
LCND				*i* P	**Pg**	**20 44 12.7**	**-0.1**
LCND				*i* S	**Sg**	**20 44 15.8**	**+0.2**
LCND				IAML		20 44 17.1	
	comp=Z,22μm,1.0s						
JUCU	**Jucuar¡n**	**0.19**	**274**	*e*P	**Pg**	**20 44 13.0**	**-0.1**
JUCU				*e*S	**Sg**	**20 44 16.4**	**+0.2**
JUCU	**Jucuar¡n**	**0.19**	**274**	*i* P	**Pg**	**20 44 13.1**	**-0.1**
JUCU				*i* S	**Sg**	**20 44 16.5**	**+0.2**
JUCU				IAML		20 44 17.4	
	comp=Z,20μm,1.0s						
CNRM	**Centro Naciona**	**0.26**	**333**	*i* P	**Pg**	**20 44 14.4**	**+0.2**
CNRM				*i* S	**Sb**	**20 44 19.3**	**0.0**
CNRM				IAML		20 44 26.6	
	comp=Z,31μm,1.0s						
BLLM	**Bellamira**	**0.27**	**318**	*i* P	**Pg**	**20 44 14.7**	**+0.3**
RANC	**El Ranchito**	**0.30**	**310**	*i* P	**Pg**	**20 44 15.3**	**+0.3**
RANC				IAML		20 44 15.5	
	comp=Z,4μm,1.0s						
PACA	**Pacayal**	**0.35**	**311**	*i* P	**Pg**	**20 44 16.1**	**+0.3**
PACA				IAML		20 44 30.6	
	comp=Z,19μm,1.0s						
AMPH	**Amapala**	**0.38**	**83**	*i* P	**Pg**	**20 44 16.4**	**+0.1**
AMPH				*e*S	**Sb**	**20 44 22.5**	**-0.3**
COEB	**Comit de Eme**	**0.53**	**299**	*e*P	**Pg**	**20 44 19.3**	**+0.1**
COEB				*e*S	**Sb**	**20 44 27.1**	**-0.2**
COEB	**Comit de Eme**	**0.53**	**299**	*i* P	**Pg**	**20 44 19.2**	**+0.1**
COEB				*i* S	**Sb**	**20 44 27.1**	**-0.2**
COEB				IAML		20 44 32.9	
	comp=Z,2μm,1.0s						
TECO	**Alcaldia de Te**	**0.77**	**293**	*i* P	**Pb**	**20 44 23.2**	**-0.5**
TECO				IAML		20 44 36.6	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.80**	**305**	*i* P	**Pb**	**20 44 24.1**	**-0.2**
SCLA				IAML		20 44 38.0	
	comp=Z,420nm,1.0s						
UESV	**Universidad de**	**0.82**	**299**	*i* P	**Pb**	**20 44 24.3**	**-0.2**
UESV				IAML		20 44 37.3	
	comp=Z,1μm,1.0s						
COEG	**Centro de Oper**	**0.89**	**295**	*e*P	**Pb**	**20 44 25.1**	**-0.7**
COEG				*e*S	**Sg**	**20 44 38.0**	**+0.3**
COEG	**Centro de Oper**	**0.89**	**295**	*i* P	**Pb**	**20 44 25.5**	**-0.3**
COEG				*i* S	**Sg**	**20 44 38.1**	**+0.5**
COEG				IAML		20 44 39.3	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**0.98**	**299**	*i* P	**Pb**	**20 44 27.5**	**+0.1**
PAVA				IAML		20 44 43.2	
	comp=Z,4μm,1.0s						
CRIN	**San Cristobal**	**1.11**	**119**	*i* P	**Pn**	**20 44 29.7**	**0.0**
CRIN				IAML		20 44 31.6	
	comp=Z,3μm,1.0s						
CRIN				*i* S	**Sg**	**20 44 45.2**	**+0.6**
LOMA	**Loma Larga**	**1.16**	**290**	*i* P	**Pn**	**20 44 30.4**	**0.0**
LOMA				*i* S	**Sg**	**20 44 46.4**	**+0.1**
LOMA				IAML		20 44 47.2	
	comp=Z,2μm,1.0s						
UEES	**Universidad Ev**	**1.25**	**292**	*i* P	**Pb**	**20 44 32.3**	**+0.4**
UEES				IAML		20 44 56.1	
	comp=Z,650nm,1.0s						
LLGN	**La Laguna**	**1.26**	**317**	*i* P	**Pn**	**20 44 31.5**	**-0.3**
LLGN				IAML		20 45 00.2	
	comp=Z,330nm,1.0s						
PMON	**Piamonte**	**1.32**	**291**	*i* P	**Pb**	**20 44 33.2**	**+0.1**
PMON				IAML		20 44 54.5	
	comp=Z,1μm,1.0s						
QUEN	**Al S del Volca**	**1.33**	**119**	*i* P	**Pn**	**20 44 32.2**	**-0.5**
CNGN	**Cerro Negro**	**1.51**	**119**	*i* P	**Pn**	**20 44 34.5**	**-0.6**
CNGN				IAML		20 45 07.5	
	comp=Z,410nm,1.0s						
MACN	**El Madrono**	**1.55**	**120**	*i* P	**Pn**	**20 44 35.1**	**-0.5**
MACN				IAML		20 45 08.0	
	comp=Z,220nm,1.0s						
CEVE	**Cerro Verde**	**1.64**	**291**	*i* P	**Pb**	**20 44 38.7**	**+0.1**
CEVE				IAML		20 45 04.5	
	comp=Z,750nm,1.0s						
MOMN	**Momotombo**	**1.69**	**119**	*i* P	**Pn**	**20 44 38.0**	**+0.4**
MOMN				IAML		20 45 03.9	
	comp=Z,13nm,1.0s						
MOM2	**El Cardon**	**1.72**	**117**	*i* P	**Pn**	**20 44 37.8**	**-0.2**
MOM2				IAML		20 45 05.6	
	comp=Z,220nm,1.0s						
COPN	**Copaltepe**	**1.77**	**126**	*i* P	**Pn**	**20 44 38.8**	**+0.1**
COPN				IAML		20 45 06.7	
	comp=Z,150nm,1.0s						
NUBE	**Las Nubes**	**1.81**	**292**	*i* P	**Pb**	**20 44 40.6**	**-0.8**
NUBE				IAML		20 45 11.0	
	comp=Z,330nm,1.0s						
ESQI	**Esquipulas**	**1.81**	**316**	*i* P	**Pb**	**20 44 41.4**	**-0.2**
ESQI				IAML		20 44 44.2	
	comp=Z,250nm,1.0s						
SAPS	**Ciudad Sandino**	**1.93**	**123**	*i* P	**Pn**	**20 44 41.7**	**+0.9**
SAPS				IAML		20 45 20.0	
	comp=Z,300nm,1.0s						
APYN	**Apoyeque**	**1.94**	**121**	*i* P	**Pn**	**20 44 41.9**	**+0.9**
APYN				IAML		20 44 43.6	
	comp=Z,370nm,1.0s						

NEIC ***13*** *20:54:44.4±1.4, 41°.37N±0°.04×116°.27W±0°.03, h5km±2km, Error ellipse: s-maj=6.6km s-min=4.3km az=353.0*
REN 13 20:54:46.3±2.7, 41°.29N±0°.04×116°.26W±0°.03, h11km±8km, ML3.2/9, ML3.1/60(NEIC), Error ellipse: s-maj=6.2km s-min=3.2km az=173.0, Nevada

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELK	**Elko**	**0.94**	**125**		Pg	20 55 04.2	-0.3
ELK					Sg	20 55 16.8	+0.1
ELK				IAML		20 55 18.8	
	677nm,0.2s						
ELK				IAML		20 55 19.4	
	818nm,0.3s						
BMN	**Battle Mountai**	**1.13**	**221**		Pb	20 55 07.1	-0.8
BMN	**Battle Mountai**	**1.13**	**221**		Sg	20 55 22.6	-0.1
BMN	**Battle Mountai**	**1.13**	**221**	IAML		20 55 23.9	
	comp=E,360nm,0.6s						
BMN				IAML		20 55 24.6	
	comp=N,269nm,0.5s						
WVOR	**Wild Horse Val**	**2.12**	**304**		Pb	20 55 23.5	-1.2
WVOR				IAML		20 55 57.8	
	comp=N,100nm,0.8s						
WVOR				IAML		20 56 00.3	
	comp=N,87nm,0.7s						
MFID	**Camas Ranch**	**2.15**	**8**	Pn	Pb	20 55 24.8	-0.5
MFID				IAML		20 55 58.1	
	comp=N,196nm,0.6s						
MFID				IAML		20 55 59.8	
	comp=N,207nm,0.5s						
Q12A	**Willow Creek R**	**2.50**	**154**		Pn	20 55 28.3	+1.2
Q12A				IAML		20 56 10.7	
	comp=E,138nm,0.5s						
Q09A	**Carvers**	**2.55**	**196**		Pn	20 55 26.2	-1.6
J08A	**Circle Bar Ran**	**2.64**	**322**		Pb	20 55 32.2	-1.5
KVN	**Kaiserville**	**2.65**	**213**	Pn	Pn	20 55 28.6	-0.5
HLID	**Hailey**	**2.65**	**30**	Pn	Pn	20 55 28.9	-0.3
HLID				IAML		20 56 15.7	
	comp=E,50nm,0.7s						
HVU	**Hansel Valley**	**2.66**	**78**		Pn	20 55 29.3	+0.1
SPR3	**Spring Creek 3**	**2.72**	**147**		Pb	20 55 33.1	-2.1
SPR3				IAML		20 56 18.5	
	comp=N,84nm,0.8s						
SPR3				IAML		20 56 18.5	
	comp=E,83nm,0.5s						
DUG	**Dugway, Tooele**	**2.83**	**112**		Pn	20 55 32.3	+0.6
DUG				IAML		20 56 20.4	
	comp=E,90nm,1.1s						
DUG				IAML		20 56 23.1	
	comp=E,73nm,1.3s						
PAHR	**Pah Rah Range**	**2.86**	**237**		Pn	20 55 30.7	-1.3
SPUT	**South Promonto**	**2.87**	**88**		Pn	20 55 32.2	0.0
SPUT				IAML		20 56 19.4	
	comp=E,72nm,0.5s						
SPUT				IAML		20 56 19.6	
	comp=N,117nm,0.5s						
R11B	**Troy Canyon, C**	**2.98**	**170**		Pn	20 55 34.6	+0.8
R11B				IAML		20 56 25.4	
	comp=E,45nm,0.5s						
R11B				IAML		20 56 25.5	
	comp=N,55nm,0.4s						
RYN	**Ryan**	**3.18**	**214**		Pn	20 55 36.0	-0.4
RYN				IAML		20 56 30.9	
	comp=N,78nm,0.4s						
RYN				IAML		20 56 33.6	
	comp=E,43nm,0.4s						
NV11	**Mina Array Sit**	**3.21**	**208**		Pn	20 55 35.5	-1.3
LKVW	**Lakeview**	**3.21**	**288**		Pn	20 55 36.9	+0.1
YERR	**Yerington**	**3.25**	**226**		Pn	20 55 36.8	-0.6
YERR				IAML		20 56 32.1	
	comp=E,36nm,0.6s						
YERR				IAML		20 56 35.4	
	comp=N,36nm,0.9s						
NVAR	**Mina Array Bea**	**3.26**	**210**		Pn	20 55 37.3	-0.3
NV09	**Mina Array Sit**	**3.27**	**210**		Pn	20 55 37.3	-0.4
PEAR	**Peavine Mounta**	**3.29**	**240**		Pn	20 55 37.1	-0.8
NV08	**Mina Array Sit**	**3.29**	**210**		Pn	20 55 37.6	-0.4
TPH	**Tonopah**	**3.30**	**193**	Pn	Pn	20 55 38.8	+0.7
PSUT	**Pine Spring**	**3.31**	**145**		Pn	20 55 39.5	+1.2
PNTR	**Pine Nut**	**3.38**	**230**	Pn	Pn	20 55 37.5	-1.6
PNTR				IAML		20 56 35.1	
	comp=N,40nm,0.8s						
PNTR				IAML		20 56 38.0	
	comp=E,40nm,1.0s						
BEKR	**Beckworth**	**3.43**	**247**		Pn	20 55 39.2	-0.7
LHV	**Little Huntoon**	**3.49**	**210**		Pn	20 55 39.0	-1.5
LHV				IAML		20 56 48.1	
	comp=N,62nm,0.6s						
MPK	**Martis Peak**	**3.51**	**237**	Pn	Pn	20 55 40.1	-0.9
MPK				IAML		20 56 38.4	
	comp=E,30nm,0.6s						
MPK				IAML		20 56 47.0	
	comp=N,36nm,0.9s						
HWUT	**Hardware Ranch**	**3.54**	**83**		Pn	20 55 40.6	-0.8
HWUT				IAML		20 56 44.5	
	comp=N,30nm,0.7s						
HWUT				IAML		20 56 51.1	
	comp=N,25nm,0.9s						
MSU	**Marysvale**	**4.19**	**130**		Pn	20 55 51.0	+0.6
SGV	**South Grapevin**	**4.34**	**188**		Pn	20 55 53.1	+0.7
MTPU	**Mount Pierson**	**4.51**	**135**	Pn	Pn	20 55 54.5	-0.5
AMDNV	**Amargosa**	**4.83**	**180**		Pn	20 56 00.8	+1.9
SHPR	**Sheep Range**	**4.85**	**170**		Pn	20 56 02.2	+2.8
V12A	**Nelson**	**5.66**	**168**		Pn	20 56 13.5	+3.0

NEIC ***13*** *20:55:03.1±0.3, 19°.330N±0°.009×155°.193W±0°.009, h4km±3km, Error ellipse: s-maj=1.4km s-min=1.2km az=136.0*
HVO 13 20:55:02.7±0.3, 19°.32N±0°.02×155°.192W±0°.009, h3km±2km, Md2.3/9, ML2.8/28(NEIC), Error ellipse: s-maj=2.4km s-min=1.1km az=163.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**335**		Pg	20 55 04.4	+0.4
KNHH	**Kane Nui o Ham**	**0.06**	**21**		Pg	20 55 04.5	+0.4
STCH	**Steam Cracks**	**0.09**	**46**		Pg	20 55 04.9	+0.3
STCH	**Steam Cracks**	**0.09**	**46**	IAML		20 55 06.5	
	comp=N,2μm,1.8s						
STCH				IAML		20 55 06.9	
	comp=E,2μm,0.4s						
JCUZ	**Jacuzzi**	**0.10**	**55**	Pg	Pg	20 55 05.1	+0.2
NPOC	**North of Pu'u**	**0.10**	**48**	Pg	Pg	20 55 05.1	+0.3
NPOC				IAML		20 55 07.3	
	comp=E,2μm,1.3s						
RIM	**Rim**	**0.10**	**313**	Pg	Pg	20 55 05.2	+0.3
HLP	**Hilina Pali**	**0.11**	**256**		Pg	20 55 05.5	+0.5
HLP	**Hilina Pali**	**0.11**	**256**	IAML		20 55 06.5	
	comp=N,4μm,1.2s						
HLP				IAML		20 55 08.1	
	comp=E,3μm,0.7s						
SDHHI	**Sand Hill**	**0.12**	**304**	Pg	Pg	20 55 05.2	+0.1
HTC	**Hot Caves**	**0.21**	**246**		Pg	20 55 07.4	+0.5
MLH	**Mauna Loa**	**0.25**	**313**		Sg	20 55 12.3	+1.3
MLH	**Mauna Loa**	**0.25**	**313**		Pg	20 55 07.8	+0.2
MLH				IAML		20 55 15.4	
	comp=E,2μm,1.5s						
MLH	**Mauna Loa**	**0.25**	**313**	IAML		20 55 11.1	
	comp=N,2μm,1.4s						
HMH	**Humu'ula Sheep**	**0.39**	**315**	IAML		20 55 17.1	
	comp=N,929nm,0.2s						
HMH				IAML		20 55 17.1	
	comp=E,589nm,0.3s						
KHU	**Kahuku**	**0.41**	**259**	IAML		20 55 14.9	
	comp=E,752nm,2.1s						
KHU				IAML		20 55 23.7	
	comp=N,953nm,1.4s						
MLOA	**Mauna Loa Obse**	**0.42**	**300**	Pg	Pg	20 55 10.9	0.0
MLOA				IAML		20 55 12.7	
	comp=E,686nm,1.2s						
MLOA				IAML		20 55 17.6	
	comp=N,1μm,1.6s						
POHA	**Pohakuloa**	**0.54**	**323**	Pg	Pg	20 55 12.5	-0.6
POHA				IAML		20 55 20.7	
	comp=N,692nm,0.6s						
HUH	**Hualalai**	**0.71**	**301**	Pg	Pg	20 55 15.4	-0.9
HUH				IAML		20 55 28.6	
	comp=E,561nm,0.8s						
HUH				IAML		20 55 36.6	
	comp=N,630nm,0.8s						

MOS ***13*** *21:13:36.8, 42°.56N×43°.46E, h8km, MPVA3.3*
NORS ***13*** *21:13:38.6, 42°.65N×43°.55E, h12km, MPVA3.4*
AFAD ***13*** *21:13:38.5±0.0, 42°.41N×43°.24E, h12km±1km, ML2.4*
ISC 13 21:13:36.2±1.2, 42°.53N±0°.02×43°.46E±0°.03, h2km±10km, n24, σ0°.79/46, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIGR	**Digorskoe uzhe**	**0.38**	**13**	*i* Pg	**Pg**	**21 13 43.7**	**+0.1**
DIGR				*e*Sg	**Sg**	**21 13 48.4**	**-0.2**
LACR	**Lac**	**0.68**	**64**	*e*Pg	**Pg**	**21 13 49.1**	**-0.2**
LACR				*e*Sg	**Sg**	**21 13 58.4**	**+0.2**
KORR	**Kora**	**0.71**	**38**	*i* Pg	**Pg**	**21 13 50.4**	**+0.5**
KORR				*e*Sg	**Sb**	**21 14 00.9**	**-0.8**
LSNR	**Lesken**	**0.80**	**19**	*e*Pg	**Pg**	**21 13 51.8**	**+0.3**
LSNR				*i* Sg	**Sb**	**21 14 02.9**	**-1.2**
ARNR	**Ardon**	**0.89**	**42**	*e*Pg	**Pb**	**21 13 54.3**	**-0.1**
ARNR				*e*Sg	**Sn**	**21 14 08.1**	**-1.1**
STDR	**Stavd-Durt**	**0.95**	**27**	*e*Pg	**Pn**	**21 13 56.1**	**-0.5**
STDR				*e*Sg	**Sn**	**21 14 11.2**	**+0.4**
NCK	**Nalchik**	**0.97**	**6**	*e*Pg	**Pg**	**21 13 54.9**	**0.0**
NCK				*e*Sg	**Sb**	**21 14 08.4**	**-0.7**
BTKR	**Batakoyurt**	**1.16**	**43**	*e*Pg	**Pn**	**21 13 59.9**	**+0.5**
BTKR				*e*Sg	**Sg**	**21 14 13.3**	**-0.1**
EPOS	**Posof**	**1.16**	**208**	P	**Pg**	**21 13 58.0**	**-0.3**
EPOS				S	**Sg**	**21 14 11.9**	**-1.5**
KMGR	**Komgaron**	**1.16**	**62**	*e*Pg	**Pb**	**21 13 59.4**	**+0.4**
KMGR				*e*Sg	**Sb**	**21 14 14.7**	**+0.2**
KBZ	**Khabaz**	**1.27**	**341**	*e*Pg	**Pg**	**21 14 00.3**	**-0.3**
KBZ				*e*Sg	**Sb**	**21 14 17.1**	**-0.6**
KBTC	**Kuba-Taba**	**1.29**	**358**	*e*Pg	**Pn**	**21 14 01.6**	**+0.3**
KBTC				*e*Sg	**Sn**	**21 14 19.6**	**+0.4**
SHA1	**Shidzhatmaz**	**1.35**	**334**	*e*Pg	**Pg**	**21 14 01.9**	**-0.1**
SHA1				*e*Sg	**Sb**	**21 14 20.1**	**0.0**
AHAN	**Ardahan-Merkez**	**1.50**	**205**	P	**Pn**	**21 14 04.7**	**+0.4**
AHAN				S	**Sn**	**21 14 22.9**	**-1.6**
AHAN				*i* AML	AML	21 14 30.0	
	comp=N,41nm,0.7s						
AHAN				*i* AML	AML	21 14 31.0	
	comp=E,47nm,0.6s						
KIV	**Kislovodsk**	**1.54**	**339**	*e*Pg	**Pn**	**21 14 04.7**	**0.0**
KIV				*e*Sg	**Sg**	**21 14 25.1**	**-0.5**
BEYR	**Belyy Ugol+**	**1.56**	**343**	*e*Pg	**Pn**	**21 14 05.2**	**+0.3**
BEYR				*e*Sg	**Sg**	**21 14 26.3**	**+0.1**
PYA1	**Pyatigorsk**	**1.56**	**350**	*e*Pg	**Pn**	**21 14 05.5**	**+0.5**
PYA1				*e*Sg	**Sg**	**21 14 25.9**	**-0.3**
GOLE	**Ardahan-G¶le**	**1.81**	**201**	P	**Pn**	**21 14 09.5**	**+0.9**
EAK	**Akyaka**	**1.84**	**177**	P	**Pn**	**21 14 09.8**	**+0.8**
EAK				S	**Sn**	**21 14 31.4**	**-1.5**
DAGI	**Agillar**	**1.85**	**219**	P	**Pn**	**21 14 09.9**	**+0.8**
DAGI				S	**Sn**	**21 14 33.1**	**-0.1**
DBAD	**Bademkaya**	**2.00**	**222**	P	**Pn**	**21 14 11.8**	**+0.7**
DBAD				*i* AML	AML	21 14 45.0	
	comp=N,44nm,0.7s						
DBAD				*i* AML	AML	21 14 45.0	
	comp=E,40nm,0.3s						
BTLR	**Botlikh**	**2.04**	**85**	*e*Pg	**Pg**	**21 14 15.2**	**-0.1**
BTLR				*e*Sg	**Sb**	**21 14 39.7**	**-0.2**
DDEM	**Demirkent**	**2.08**	**219**	P	**Pn**	**21 14 13.6**	**+1.5**
DDEM				S	**Sn**	**21 14 40.4**	**+1.8**
DDEM				*i* AML	AML	21 14 47.0	
	comp=E,42nm,0.3s						
DDEM				*i* AML	AML	21 14 49.0	
	comp=N,58nm,0.3s						
UNCR	**Uncukul**	**2.46**	**84**	*e*Pn	**Pb**	**21 14 22.5**	**+1.3**
UNCR				*

	comp=E,11µm,1.0s							
SDHHI				IAML			21 18 37.5	
	comp=N,16µm,0.7s							
HATHI	**Halema'uma'u T**	**0.12**	**328**		Pg		21 18 36.3	+0.6
HTC	**Hot Caves**	**0.21**	**246**		Pg		21 18 39.3	+1.9
MLH	**Mauna Loa**	**0.25**	**313**		Pg		21 18 38.6	+0.5
MLH	**Mauna Loa**	**0.25**	**313**	IAML			21 18 39.0	
	comp=E,1µm,1.0s							
MLH				IAML			21 18 44.5	
	comp=N,3µm,1.8s							
HMH	**Humu'ula Sheep**	**0.39**	**316**		Sg		21 18 47.4	+1.4
HMH	**Humu'ula Sheep**	**0.39**	**316**	Pg	Pg		21 18 41.7	+0.8
HMH				IAML			21 18 48.1	
	comp=N,1µm,0.2s							
HMH				IAML			21 18 48.2	
	comp=E,1µm,0.2s							
KHU	**Kahuku**	**0.40**	**259**		Sg		21 18 47.6	+1.2
KHU	**Kahuku**	**0.40**	**259**	Pg	Pg		21 18 41.6	+0.4
KHU				IAML			21 18 43.5	
	comp=E,1µm,1.6s							
KHU				IAML			21 18 50.7	
	comp=N,896nm,1.4s							
MWH	**Moku'aweowe**	**0.41**	**293**		Pg		21 18 41.6	+0.2
MWH					Sg		21 18 48.6	+1.9
MWH	**Moku'aweowe**	**0.41**	**293**	IAML			21 18 49.3	
	comp=N,2µm,0.7s							
MWH				IAML			21 18 50.0	
	comp=E,2µm,0.8s							
MLOA	**Mauna Loa Obse**	**0.42**	**300**		Pg		21 18 41.9	+0.5
MLOA	**Mauna Loa Obse**	**0.42**	**300**	IAML			21 18 46.4	
	comp=E,997nm,1.0s							
MLOA				IAML			21 18 48.6	
	comp=N,1µm,0.6s							
ALEP	**Alea Permanent**	**0.47**	**297**		Pg		21 18 42.6	0.0
ALEP					Sg		21 18 49.8	+1.0
POHA	**Pohakuloa**	**0.54**	**324**		Sg		21 18 51.2	+0.5
CPH	**Captain Cook**	**0.70**	**284**		Pg		21 18 46.7	-0.1

*TRN **13** 21:48:33.7, 9.°82N×63.′00W, h3km, MD3.6, Venezuela.*
*FUNV **13** 21:48:34.3, 9.°80N×62.′97W, h15km, MW3.9*

ISC 13 21:48:34.6±2.1, 9.°80N±0.′09×63.′09W±0.′05, h24km±16km, n16, σ1°41/28, 4C-3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.88**	**350**	⇓*e*P	**Pb**	**21 48 49.9**	**-1.4**
CRUV				*e*S	**Sb**	**21 49 01.2**	**-1.4**
CRUV	**Carupano**	**0.88**	**350**	*e*P	**Pb**	**21 48 49.9**	**-1.4**
CRUV				*e*S	**Sn**	**21 49 02.9**	**-0.7**
CUMV	**Cumana_UDO**	**1.25**	**300**	⇓*e*P	**Pb**	**21 48 57.8**	**+0.2**
CUMV				*e*S	**Sb**	**21 49 16.6**	**+3.2**
PCRV	**Puerto La Cruz**	**1.57**	**284**	⇓*e*P	**Pb**	**21 49 02.3**	**-0.8**
PCRV				*e*S	**Sb**	**21 49 23.5**	**+1.0**
TRN	**Trinidad (W)**	**1.86**	**63**	*e*P	**Pn**	**21 49 05.0**	**0.0**
TRN				*e*S	**Sn**	**21 49 28.3**	**+0.5**
GRGR	**Grenville**	**2.71**	**31**	*e*P	**Pn**	**21 49 17.1**	**+0.3**
GRGR				*e*S	**Sn**	**21 49 50.5**	**+1.7**
GCMP	**Grenada, Carri**	**3.12**	**31**	*e*P	**Pn**	**21 49 23.6**	**+1.1**
GCMP				*e*S	**Sn**	**21 49 58.7**	**-0.4**
FUNV	**FUNVISIS**	**3.73**	**281**	*e*P	**Pn**	**21 49 32.0**	**+1.2**
FUNV				*e*S	**Sn**	**21 50 14.6**	**+0.5**
TACV	**Tcata**	**3.90**	**275**	*e*P	**Pn**	**21 49 34.4**	**+1.2**
TACV				*e*S	**Sn**	**21 50 18.1**	**-0.1**
CACV	**CAICARA DEL OR**	**4.08**	**237**	⇑*e*P	Pn	21 49 30.0	-5.6
CACV				*e*S	Sn	21 50 12.4	-10
LUEV	**Luepa**	**4.25**	**158**	*e*P	Pn	21 49 36.8	-1.4
LUEV				*e*S	Sn	21 50 23.2	-4.0
BENV	**Beln**	**4.45**	**272**	⇑*e*P	**Pn**	**21 49 42.4**	**+1.6**
BENV				*e*S	**Sn**	**21 50 30.7**	**-1.2**
TURV	**Turiamo**	**4.72**	**278**	⇑*e*P	**Pn**	**21 49 45.5**	**+1.0**
TURV				*e*S	**Sn**	**21 50 37.6**	**-1.0**
BAUV	**El Baul**	**4.96**	**261**	⇑*e*P	**Pn**	**21 49 48.3**	**+0.5**
BAUV				*e*S	**Sn**	**21 50 43.2**	**-1.3**
MAPV	**Macapo**	**5.29**	**271**	*e*P	**Pn**	**21 49 52.9**	**+0.5**
MAPV				*e*S	**Sn**	**21 50 50.2**	**-2.5**
TEPV	**Terepaima**	**6.02**	**272**	*e*P	**Pn**	**21 50 02.3**	**0.0**
TEPV				*e*S	**Sn**	**21 51 07.8**	**-2.7**

*PRU **13** 21:56:53.9, 50.′25N×12.′43E, h10km, West Bohemia Swarm*
*VIE **13** 21:56:54.2±0.2, 50.′24N×12.′40E, h10km, mb2.2/2, ml2.5/5, Error ellipse: s-maj=4.0km s-min=2.2km az=39.0*
*CLL **13** 21:56:54.8±0.3, 50.′27N×12.′44E, h9km, ML2.0*
*BGR **13** 21:56:54.2±0.2, 50.′26N×12.′44E, h12km±1km, ML1.9/7, Error ellipse: s-maj=2.2km s-min=1.1km az=96.0*

WBNET 13 21:56:54.5, 50.′26N×12.′44E, h10km, Ml2.0, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**280**	⇓P	Pg	21 56 56.4	+0.1
LBCW				S	Sg	21 56 57.7	+0.1
NKC	**Novy Kostel**	**0.03**	**174**	*i* Pg	Pg	21 56 56.4	+0.1
NKC				*i* Sg	Sg	21 56 57.7	+0.1
NKC				IAML		21 56 58.1	
	comp=E,991nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**174**	*e*PG	Pg	21 56 56.4	+0.1
NKC				*e*SG	Sg	21 56 57.7	+0.1
	comp=E,427nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**174**	*i* Pg	Pg	21 56 56.4	+0.1
NKC				*i* Sg	Sg	21 56 57.7	+0.1
	comp=E,991nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**174**	⇓P	Pg	21 56 56.4	+0.1
NKC				S	Sg	21 56 57.7	+0.1
STCW	**Studenec**	**0.05**	**93**	*i* Pg	Pg	21 56 56.5	0.0
STCW				*i* Sg	Sg	21 56 57.9	-0.1
STCW	**Studenec**	**0.05**	**93**	*i* Pg	Pg	21 56 56.5	0.0
STCW				*i* Sg	Sg	21 56 57.9	-0.1
STCW	**Studenec**	**0.05**	**93**	⇑P	Pg	21 56 56.6	+0.1
STCW				S	Sg	21 56 57.9	-0.1
WERN	**Wernitzgruen**	**0.05**	**301**	*i* Pg	Pg	21 56 56.6	+0.1
WERN				*i* Sg	Sg	21 56 58.0	0.0
WERN				IAML		21 56 58.2	
	comp=E,1µm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**301**	*i* Pg	Pg	21 56 56.6	+0.1
WERN				*i* Sg	Sg	21 56 58.0	0.0
	comp=E,1µm,0.2s						
VAC	**Vackov**	**0.05**	**237**	*i* Pg	Pg	21 56 56.5	0.0
VAC				*i* Sg	Sg	21 56 57.9	-0.1
VAC	**Vackov**	**0.05**	**237**	⇓P	Pg	21 56 56.5	0.0
VAC				S	Sg	21 56 57.9	-0.1
POCW	**Potky**	**0.06**	**350**	⇓P	Pg	21 56 56.7	+0.1
POCW				S	Sg	21 56 58.3	+0.1
KVC	**Kvetna**	**0.07**	**140**	*i* Pg	Pg	21 56 56.8	0.0
KVC				*i* Sg	Sg	21 56 58.3	-0.1
KVC	**Kvetna**	**0.07**	**140**	⇑P	Pg	21 56 56.8	+0.1
KVC				S	Sg	21 56 58.3	0.0
ROHR	**Rohrbach**	**0.09**	**251**	*i* Pg	Pg	21 56 56.9	0.0
ROHR				*i* Sg	Sg	21 56 58.5	-0.2
ROHR				IAML		21 56 58.6	
	comp=E,1µm,0.1s						
ROHR	**Rohrbach**	**0.09**	**251**	*i* Pg	Pg	21 56 56.9	0.0
ROHR				*i* Sg	Sg	21 56 58.5	-0.2
	comp=E,1µm,0.1s						
KRCW	**Kraslice**	**0.09**	**39**	⇑P	Pg	21 56 57.0	0.0
KRCW				S	Sg	21 56 58.6	-0.1
SKC	**Skalna**	**0.11**	**210**	⇑P	Pg	21 56 57.2	+0.1
SKC				S	Sg	21 56 59.0	0.0
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	Pg	21 56 57.5	+0.1
GUNZ				*i* Sg	Sg	21 56 59.5	-0.1
GUNZ				IAML		21 56 59.6	
	comp=E,508nm,0.2s						
GUNZ	**Gunzen**	**0.12**	**325**	*i* Pg	Pg	21 56 57.5	+0.1
GUNZ				*i* Sg	Sg	21 56 59.5	-0.1
	comp=E,508nm,0.2s						
KOCW	**Kopaniny**	**0.13**	**271**	⇓P	Pg	21 56 57.6	0.0
KOCW				S	Sg	21 56 59.6	-0.1
MULD	**Muldenberg**	**0.15**	**351**	*i* Pg	Pg	21 56 57.9	0.0
MULD				*i* Sg	Sg	21 57 00.0	-0.2
MULD				IAML		21 57 00.2	
	comp=E,543nm,0.1s						
MULD	**Muldenberg**	**0.15**	**351**	*i* Pg	Pg	21 56 57.9	0.0
MULD				*i* Sg	Sg	21 57 00.0	-0.2
	comp=E,543nm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	Pg	21 56 57.8	-0.1
TANN				*i* Sg	Sg	21 57 00.0	-0.3
TANN	**Tannenbergstha**	**0.15**	**4**	*i* Pg	Pg	21 56 57.8	-0.1
TANN				*i* Sg	Sg	21 57 00.0	-0.3
	comp=E,504nm,0.2s						
TRCW	**Trojmez**	**0.20**	**282**	⇓P	Pg	21 56 58.6	0.0
TRCW				S	Sg	21 57 01.3	-0.1
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	21 56 58.7	-0.1
WERD				*e*Sg	Sg	21 57 01.4	-0.3
WERD				IAML		21 57 01.6	
	comp=E,176nm,0.1s						
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	21 56 58.7	-0.1
WERD				*e*Sg	Sg	21 57 01.4	-0.3
	comp=E,176nm,0.1s						
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	21 57 01.5	+2.7
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	21 57 01.5	+2.7
ZHC	**Zelena Hora**	**0.21**	**204**	⇑P	Pg	21 56 58.9	0.0
ZHC				S	Sg	21 57 01.8	0.0
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	21 56 58.9	-0.1
TRIB				*i* Sg	Sg	21 57 01.7	-0.3
TRIB				IAML		21 57 01.9	
	comp=N,143nm,0.3s						
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	21 56 58.9	-0.1
TRIB				*i* Sg	Sg	21 57 01.7	-0.3
	comp=N,143nm,0.3s						
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	21 57 01.6	+2.7
TRIB	**Obertriebel**	**0.22**	**295**	*i* Pg	Pg	21 57 01.6	+2.7
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg	Pg	21 56 59.1	-0.1
VIEL				*e*Sg	Sg	21 57 02.2	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg	Pg	21 56 59.1	-0.1
VIEL				*e*Sg	Sg	21 57 02.2	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg	Pg	21 57 02.3	+3.0
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg	Pg	21 57 02.3	+3.0
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	21 56 59.6	+0.1
LACW				*i* Sg	Sg	21 57 03.0	+0.2
LACW	**Lazy**	**0.24**	**151**	*i* Pg	Pg	21 56 59.6	+0.1
LACW				*i* Sg	Sg	21 57 03.0	+0.2
LACW	**Lazy**	**0.24**	**151**	⇑P	Pg	21 56 59.6	+0.1
LACW				S	Sg	21 57 03.0	+0.2
PLN	**Plauen**	**0.29**	**321**	*i* Pg	Pg	21 57 00.1	-0.2
PLN				*e*Sg	Sg	21 57 04.1	-0.1
PLN				IAML		21 57 04.3	
	comp=E,168nm,0.2s						
PLN	**Plauen**	**0.29**	**321**	*i* Pg	Pg	21 57 00.1	-0.2
PLN				*e*Sg	Sg	21 57 04.1	-0.1
	comp=E,168nm,0.2s						
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg	Pg	21 57 01.3	-0.1
MANZ				*e*Sg	Sg	21 57 06.0	-0.1
SCHF	**Schoenfels**	**0.42**	**357**	*i* Pg	Pg	21 57 02.5	-0.2
SCHF				*i* Sg	Sg	21 57 08.1	-0.1
SCHF				IAML		21 57 08.3	
	comp=E,97nm,0.2s						
SCHF	**Schoenfels**	**0.42**	**357**	*i* Pg	Pg	21 57 02.5	-0.2
SCHF				*i* Sg	Sg	21 57 08.1	-0.1
	comp=E,97nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	21 57 03.1	-0.3
GRZ1				*i* Sg	Sg	21 57 08.9	-0.5
GRZ1				IAML		21 57 09.6	
	comp=N,53nm,0.1s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	21 57 03.1	-0.3
GRZ1				*i* Sg	Sg	21 57 08.9	-0.5
	comp=N,53nm,0.1s						
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Pg	Pg	21 57 04.3	-0.2
ROTZ				*e*Sg	Sg	21 57 11.2	-0.2
MOX	**Moxa**	**0.65**	**306**	*e*Pg	Pg	21 57 06.9	-0.3
MOX				*e*Sg	Sg	21 57 15.2	-0.5
HSKC	**Hora Svate Kat**	**0.72**	**61**	*e*SG	Sg	21 57 17.4	-0.4
	comp=N,63nm,0.2s						
FBE	**Freiberg**	**0.88**	**41**	*e*Pg	Pg	21 57 11.3	-0.2
FBE				*e*Sg	Sg	21 57 22.4	-0.5
GRF	**Grafenberg Arr**	**0.97**	**235**	*e*Pg	Pg	21 57 12.9	-0.3
GRF				*e*Sg	Sg	21 57 25.4	-0.5
RICC	**Richard**	**1.10**	**74**	*e*SG	Sg	21 57 29.7	-0.1
CLL	**Collm**	**1.11**	**19**	*i* Pg	Pb	21 57 15.1	-0.6
CLL				*i* x	x	21 57 17.1	
CLL				*i* x	x	21 57 18.9	
CLL				*i* Sg	Sg	21 57 29.8	-0.3
	comp=Z,21nm,0.3s						
CLL	**Collm**	**1.11**	**19**	*e*Pg	Pb	21 57 15.1	-0.7
CLL				*e*Sg	Sg	21 57 30.0	-0.1
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pb	21 57 15.8	-0.5
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg	Pb	21 57 15.7	-0.6
WET	**Wettzell**	**1.15**	**166**	*e*Pg	Pb	21 57 15.9	-0.6
WET				*e*Sg	Sb	21 57 31.3	-0.3
PRA	**Prague**	**1.29**	**98**	*e*SG	Sn	21 57 35.9	-0.1
KHC	**Kasperske Hory**	**1.35**	**147**	*e*SG	Sb	21 57 36.7	-0.6
	comp=Z,10nm,0.2s						
PRU	**Pruhonice**	**1.38**	**101**	*e*SG	Sn	21 57 38.3	+0.2
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	Pn	21 57 19.8	-0.1
PRU				*e*Sg	Sb	21 57 37.6	-0.4
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG	Sg	21 57 39.0	-0.1
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	*e*SG	Sb	21 57 43.4	+0.4
GEC2	**GERESS Array S**	**1.64**	**149**	*e*Pg	Pg	21 57 25.6	-0.3
GEC2				*e*Sg	Sb	21 57 45.3	-0.3
CKRC	**Cesky Krumlov**	**1.89**	**139**	*e*SG	Sb	21 57 52.1	-0.6
UPC	**Upice**	**2.30**	**82**	*e*SG	Sb	21 58 06.1	+1.6
OSTC	**Ostas**	**2.43**	**82**	*e*SG	Sg	21 58 10.6	-2.0
	comp=Z,4.9nm,0.4s						
MOA	**Molln**	**2.70**	**153**	*e*Pn	Pn	21 57 38.0	+0.1
	comp=Z,0.1nm,0.1s						
MOA				Pg	Pg	21 57 46.5	+0.3
	comp=Z,0.3nm,0.1s						
KRLC	**Kraliky**	**2.80**	**92**	*e*SG	Sg	21 58 23.7	-0.5
KRUC	**Moravsky**	**2.83**	**114**	*e*PN	Pn	21 57 39.4	-0.4
KRUC				*e*SG	Sb	21 58 22.7	+2.8
LESA	**Schwarzleotal**	**2.84**	**177**	Pg	Pg	21 57 48.6	-0.4
	comp=Z,0.6nm,0.1s						
VRAC	**Vranov**	**2.85**	**108**	*e*PN	Pn	21 57 39.6	-0.5
VRAC				*e*SG	Sg	21 58 23.4	-2.7
MOTA	**Moosalm**	**3.05**	**197**	Pg	Pg	21 57 51.9	-1.1
	comp=Z,0.9nm,0.3s						
SQTA	**Sankt Quirin**	**3.15**	**195**	*e*Pg	Pg	21 57 53.8	-1.1
	comp=Z,1.2nm,0.2s						
CONA	**Conrad Observa**	**3.24**	**135**	*e*Pn	Pn	21 57 44.8	-0.7
	comp=Z,0.4nm,0.4s						
CONA				Pg	Pg	21 57 56.4	-0.2
	comp=Z,1.0nm,0.3s						

*PRU **13** 21:56:56.6, 50.′29N×12.′44E, h10km, West Bohemia Swarm*
*CLL **13** 21:56:57.7±0.3, 50.′27N×12.′43E, h8km±1km, ML2.3*
*BGR **13** 21:56:57.1±0.2, 50.′27N×12.′43E, h11km±1km, ML2.2/8, Error ellipse: s-maj=2.2km s-min=1.1km az=95.0*

WBNET 13 21:56:57.4, 50.′27N×12.′44E, h9km, Ml2.1, 3C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**262**	⇓P	Pg	21 56 59.3	+0.1
LBCW				S	Sg	21 57 00.6	+0.2
NKC	**Novy Kostel**	**0.04**	**171**	*e*Sg	Sg	21 57 00.6	0.0
NKC				IAML		21 57 01.1	
	comp=E,894nm,0.3s						
NKC	**Novy Kostel**	**0.04**	**171**	*e*SG	Sg	21 57 00.6	+0.1
	comp=E,342nm,0.2s						
NKC	**Novy Kostel**	**0.04**	**171**	*e*Sg	Sg	21 57 00.6	0.0
	comp=E,894nm,0.3s						
NKC	**Novy Kostel**	**0.04**	**171**	⇓P	Pg	21 56 59.4	+0.1
NKC				S	Sg	21 57 00.6	+0.1
WERN	**Wernitzgruen**	**0.04**	**296**	*i* Pg	Pg	21 56 59.4	+0.1
WERN				*i* Sg	Sg	21 57 00.8	+0.1
WERN				IAML		21 57 01.0	
	comp=E,2µm,0.2s						
WERN	**Wernitzgruen**	**0.04**	**296**	*i* Pg	Pg	21 56 59.4	+0.1
WERN				*i* Sg	Sg	21 57 00.8	+0.1
	comp=E,2µm,0.2s						
VAC	**Vackov**	**0.05**	**230**	*e*Pg	Pg	21 56 59.4	0.0
VAC				*e*Sg	Sg	21 57 00.8	-0.1
VAC	**Vackov**	**0.05**	**230**	⇓P	Pg	21 56 59.4	0.0
VAC				S	Sg	21 57 00.8	-0.1
POCW	**Potky**	**0.05**	**352**	⇓P	Pg	21 56 59.6	+0.1
POCW				S	Sg	21 57 01.0	+0.1
STCW	**Studenec**	**0.05**	**100**	*i* Pg	Pg	21 56 59.5	0.0
STCW				*i* Sg	Sg	21 57 00.8	-0.1
STCW	**Studenec**	**0.05**	**100**	*i* Pg	Pg	21 56 59.5	0.0
STCW				*i* Sg	Sg	21 57 00.8	-0.1
STCW	**Studenec**	**0.05**	**100**	⇑P	Pg	21 56 59.5	0.0
STCW				S	Sg	21 57 00.8	-0.1
KVC	**Kvetna**	**0.08**	**142**	*i* Sg	Sg	21 57 01.3	-0.1
KVC	**Kvetna**	**0.08**	**142**	⇑P	Pg	21 56 59.9	+0.2
KVC				S	Sg	21 57 01.3	0.0
ROHR	**Rohrbach**	**0.09**	**247**	*e*Pg	Pg	21 56 59.7	0.0
ROHR				*i* Sg	Sg	21 57 01.3	-0.2
ROHR				IAML		21 57 01.4	
	comp=E,2µm,0.1s						
ROHR	**Rohrbach**	**0.09**	**247**	*e*Pg	Pg	21 56 59.7	0.0
ROHR				*i* Sg	Sg	21 57 01.3	-0.2
	comp=E,2µm,0.1s						
KRCW	**Kraslice**	**0.09**	**43**	⇑P	Pg	21 56 59.8	0.0
KRCW				S	Sg	21 57 01.5	-0.1
SKC	**Skalna**	**0.11**	**207**	⇓P	Pg	21 57 00.2	+0.1
SKC				S	Sg	21 57 02.0	0.0
GUNZ	**Gunzen**	**0.12**	**324**	*i* Pg	Pg	21 57 00.3	0.0
GUNZ				*i* Sg	Sg	21 57 02.2	-0.1
GUNZ				IAML		21 57 02.3	
	comp=E,780nm,0.3s						
GUNZ	**Gunzen**	**0.12**	**324**	*i* Pg	Pg	21 57 00.3	0.0
GUNZ				*i* Sg	Sg	21 57 02.2	-0.1
	comp=E,780nm,0.3s						
KOCW	**Kopaniny**	**0.13**	**269**	⇓P	Pg	21 57 00.4	0.0
KOCW				S	Sg	21 57 02.5	-0.1
MULD	**Muldenberg**	**0.15**	**351**	*i* Sg	Sg	21 57 02.8	-0.2
MULD				IAML		21 57 02.9	
	comp=E,2µm,0.1s						
MULD	**Muldenberg**	**0.15**	**351**	*i* Sg	Sg	21 57 02.8	-0.2
	comp=E,2µm,0.1s						
TANN	**Tannenbergstha**	**0.15**	**6**	*i* Pg	Pg	21 57 00.7	-0.1
TANN				*i* Sg	Sg	21 57 02.8	-0.3
TANN				IAML		21 57 03.0	
	comp=E,2µm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**6**	*i* Pg	Pg	21 57 00.7	-0.1
TANN				*i* Sg	Sg	21 57 02.8	-0.3
	comp=E,2µm,0.2s						
TRCW	**Trojmez**	**0.19**	**281**	⇓P	Pg	21 57 01.4	0.0
TRCW				S	Sg	21 57 04.1	-0.1
WERD	**Werda**	**0.20**	**335**	*i* Sg	Sg	21 57 04.1	-0.3
WERD				IAML		21 57 04.4	
	comp=E,387nm,0.1s						
WERD	**Werda**	**0.20**	**335**	*i* Sg	Sg	21 57 04.1	-0.3
	comp=E,387nm,0.1s						
TRIB	**Obertriebel**	**0.21**	**294**	*i* Sg	Sg	21 57 04.5	-0.2
TRIB				IAML		21 57 04.8	
	comp=N,276nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**294**	*i* Sg	Sg	21 57 04.5	-0.2
	comp=N,276nm,0.2s						
ZHC	**Zelena Hora**	**0.21**	**203**	S	Sg	21 57 04.9	0.0
VIEL	**Selb-Vielitz**	**0.23**	**249**	*i* Sg	Sg	21 57 05.1	-0.3
VIEL	**Selb-Vielitz**	**0.23**	**249**	*i* Sg	Sg	21 57 05.1	-0.3
LACW	**Lazy**	**0.25**	**151**	*i* Pg	Pg	21 57 02.6	+0.1
LACW				*i* Sg	Sg	21 57 06.0	+0.2
LACW	**Lazy**	**0.25**	**151**	*i* Pg	Pg	21 57 02.6	+0.1
LACW				*i* Sg	Sg	21 57 06.0	+0.2
LACW	**Lazy**	**0.25**	**151**	⇓P	Pg	21 57 02.6	+0.1
LACW				S	Sg	21 57 06.1	+0.2
PLN	**Plauen**	**0.28**	**320**	*i* Pg	Pg	21 57 02.9	-0.2
PLN				*i* Sg	Sg	21 57 06.8	-0.1
PLN				IAML		21 57 07.0	
	comp=E,294nm,0.1s						
PLN	**Plauen**	**0.28**	**320**	*i* Pg	Pg	21 57 02.9	-0.2
PLN				*i* Sg	Sg	21 57 06.8	-0.1
	comp=E,294nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**217**	*e*Pg	Pg	21 57 04.2	-0.2
MANZ				*e*Sg	Sg	21 57 08.9	-0.1
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	Pg	21 57 05.3	-0.2
SCHF				*i* Sg	Sg	21 57 10.8	-0.1
SCHF				IAML		21 57 10.9	
	comp=E,400nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	Pg	21 57 05.3	-0.2
SCHF				*i* Sg	Sg	21 57 10.8	-0.1
	comp=E,400nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	21 57 05.9	-0.3
GRZ1				*i* Sg	Sg	21 57 11.6	-0.5
GRZ1				IAML		21 57 12.3	
	comp=N,145nm,0.1s						
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	21 57 05.9	-0.3
GRZ1				*i* Sg	Sg	21 57 11.6	-0.5
	comp=N,145nm,0.1s						
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Sg	Sg	21 57 14.2	-0.2
MOX	**Moxa**	**0.65**	**306**	*e*Pg	Pg	21 57 09.7	-0.3
MOX				*e*Sg	Sg	21 57 18.3	-0.1
HSKC	**Hora Svate Kat**	**0.72**	**61**	*e*SG	Sg	21 57 20.3	-0.4
	comp=N,70nm,0.2s						
FBE	**Freiberg**	**0.88**	**41**	*e*Pg	Pg	21 57 14.0	-0.3
GRF	**Grafenberg Arr**	**0.97**	**234**	*e*Pg	Pg	21 57 15.9	-0.2
GRF				*e*Sg	Sg	21 57 27.6	-1.2
CLL	**Collm**	**1.10**	**19**	*i* Pg	Pg	21 57 17.9	-0.7
CLL				*i* x	x	21 57 20.0	
CLL				*i* x	x	21 57 21.4	
CLL				*i* Sg	Sg	21 57 32.6	-0.3
	comp=Z,36nm,0.5s						
CLL				*i* x	x	21 57 36.3	
CLL	**Collm**	**1.10**	**19**	*e*Pg	Pg	21 57

PCVE				S		**Sn**	**22 03 32.2**	**+0.8**
PBAR	**Barrancos**	**1.72**	**349**	*e*S		**Sn**	**22 03 35.1**	**+1.0**
PBAR				A		A	22 03 37.2	
	1.4nm,0.3s							
PBAR	**Barrancos**	**1.72**	**349**	P		**Pn**	**22 03 13.4**	**+0.2**
PBAR				S		**Sn**	**22 03 35.0**	**+0.9**
PBEJ	**Beja**	**1.83**	**327**	*e*S		**Sn**	**22 03 37.5**	**+0.6**
ECAB	**El Cabril**	**1.85**	**31**	P		**Pn**	**22 03 15.4**	**+0.3**
ECAB				S		**Sn**	**22 03 36.9**	**-0.5**
ECAB	**El Cabril**	**1.85**	**31**	P		**Pn**	**22 03 15.1**	**0.0**
ECAB				S		**Sn**	**22 03 38.0**	**+0.6**
ECAB				*i* Vmb_Lg			22 03 44.0	
MESJ	**Messejana**	**1.86**	**317**	*e*P		**Pn**	**22 03 15.6**	**+0.4**
MESJ				*e*S		**Sn**	**22 03 37.8**	**+0.2**
MESJ				A		A	22 03 39.0	
	1.3nm,0.1s							
MESJ	**Messejana**	**1.86**	**317**	*e*P		**Pn**	**22 03 15.6**	**+0.4**
MESJ				*e*S		**Sn**	**22 03 37.4**	**-0.1**
MESJ				IAML			22 03 38.0	
	comp=N,0.8nm,0.1s							
PTEO	**Sao Teotonio**	**1.99**	**303**	*e*P		**Pn**	**22 03 16.9**	**0.0**
PTEO				*e*S		**Sn**	**22 03 40.7**	**0.0**
EGOR	**Sierra Gorda,**	**2.11**	**72**	S		**Sn**	**22 03 44.1**	**+0.3**
EGOR	**Sierra Gorda,**	**2.11**	**72**	S		**Sn**	**22 03 44.2**	**+0.4**
PNCL	**Nicolau / Gran**	**2.23**	**317**	*e*P		**Pn**	**22 03 20.7**	**+0.5**
PNCL				*e*S		**Sn**	**22 03 46.3**	**-0.3**
PNCL	**Nicolau / Gran**	**2.23**	**317**	P		**Pn**	**22 03 20.2**	**+0.1**
PNCL				S		**Sn**	**22 03 45.8**	**-0.8**
EBAD	**Badajoz**	**2.29**	**352**	S		**Sn**	**22 03 47.8**	**-0.2**
EBAD				P		**Pn**	**22 03 22.5**	**+1.5**
EBAD	**Badajoz**	**2.29**	**352**	S		**Sn**	**22 03 48.7**	**+0.6**
EBAD				*i* Vmb_Lg			22 03 50.6	
EVO	**Evora**	**2.33**	**332**	*e*S		**Sn**	**22 03 50.5**	**+1.5**
EVO				A		A	22 03 50.7	
	comp=N,4.0nm,0.3s							
EVO	**Evora**	**2.33**	**332**	P		**Pn**	**22 03 21.8**	**+0.3**
EVO				S		**Sn**	**22 03 48.0**	**-1.0**
EADA	**Adamuz**	**2.34**	**43**	P		**Pn**	**22 03 21.9**	**+0.2**
EADA				S		**Sn**	**22 03 48.7**	**-0.6**
EADA	**Adamuz**	**2.34**	**43**	P		**Pn**	**22 03 22.2**	**+0.5**
EADA				S		**Sn**	**22 03 48.8**	**-0.5**
EADA				*i* Vmb_Lg			22 03 52.5	
PESTR	**Estremoz**	**2.50**	**342**	*e*S		**Sn**	**22 03 53.7**	**+0.4**
PESTR	**Estremoz**	**2.50**	**342**	P		**Pn**	**22 03 19.5**	**-4.4**
PESTR	**Estremoz**	**2.50**	**342**	S		**Sn**	**22 03 51.5**	**-1.8**
EQES	**Quesada**	**3.12**	**64**	S		**Sn**	**22 04 07.0**	**-1.8**
EQES				*i* Vmb_Lg			22 04 15.4	
PSIM	**Granatula de C**	**3.25**	**43**	P		**Pn**	**22 03 35.1**	**+0.8**
PSIM				S		**Sn**	**22 04 10.1**	**-1.9**
MD31	**MD31**	**3.92**	**156**	P		Pn	22 03 35.3	-8.2
MD31	**MD31**	**3.92**	**156**	S		Sn	22 04 18.6	-10

HVO ***13*** *22:06:55.7±0.4, 19°19N±0°01×155°452W±0°009, h-1km±7km, Md2.1/5, ML2.8/6(NEIC), Error ellipse: s-maj=2.1km s-min=1.2km az=170.0*

NEIC 13 22:06:56.6±0.6, 19°18N±0°03×155°47W±0°03, h7km±20km, Error ellipse: s-maj=6.5km s-min=1.5km az=221.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**49**		Pg	22 06 58.5	-0.3
KHU	**Kahuku**	**0.15**	**294**		Pg	22 07 00.2	+0.2
KHU				IAML		22 07 04.1	
	comp=N,2μm,1.4s						
MLH	**Mauna Loa**	**0.32**	**14**		Pg	22 07 03.0	-0.1
MLH				IAML		22 07 04.4	
	comp=E,2μm,0.9s						
ALEP	**Alea Permanent**	**0.40**	**335**		Pg	22 07 04.0	-0.5
ALEP					Sg	22 07 10.3	+0.6
HMH	**Humu'ula Sheep**	**0.42**	**358**		Pg	22 07 04.8	-0.1
HMH				IAML		22 07 07.7	
	comp=E,857nm,1.4s						
HMH				IAML		22 07 14.5	
	comp=N,807nm,0.9s						

BJI ***13*** *22:12:47.3±0.0, 8°34N×123°05E, h55km, mb4.7/61, mB4.8/30, Ms4.2/44, Ms7 4.1/45*

DJA ***13*** *22:12:48.5±1.9, 8°N±3°×12°3E±°, h19km±15km, M5.0/26, mB5.5/11, mb4.8/26, MLv5.2/6, Mw(mB)4.9/11*

NEIC ***13*** *22:12:53.0±1.3, 8°57N±0°08×122°87E±0°09, h72km±6km, mb4.7/105, Error ellipse: s-maj=13.8km s-min=9.9km az=58.0*

IDC ***13*** *22:12:53.7±2.0, 8°58N×122°76E, h82km±18km, mb4.2/25, mbtmp4.5/29, MS3.8/20, Error ellipse: s-maj=18.0km s-min=9.0km az=67.0*

ISC 13 22:12:45.3±1.2, 8°54N±0°03×122°79E±0°04, h14km±7km, n458, σ1§14/483, mb4.7/88, MS3.9/31, 22C-15D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	**Dipolog City**	**0.56**	**86**	⇓*i*P	**Pn**	**22 12 60.0**	**+1.1**
DCPH				*i* S	**Sn**	**22 13 11.2**	**+3.2**
SNPH	**Sibulan**	**0.91**	**29**	⇓*i*P	**Pn**	**22 13 05.6**	**+1.8**
SNPH				*i* S	Sn	22 13 25.3	+8.4
TBP	**Tagbilaran**	**1.56**	**43**	⇓*e*P	**Pg**	**22 13 15.5**	**+0.2**
TBP				*i* S	**Sg**	**22 13 38.3**	**+2.7**
ZCP	**Zamboanga City**	**1.75**	**204**	⇓*i*P	**Pn**	**22 13 15.8**	**+0.6**
ZCP				*i* S	**Sn**	**22 13 37.3**	**-0.1**
CGP	**Cagayan de Oro**	**1.89**	**92**	⇑*i*P	**Pg**	**22 13 20.4**	**-1.1**
CGP				*i* S	**Pg**	**22 13 20.4**	**-1.1**
LLP	**Lapu-Lapu**	**2.11**	**33**	⇓*e*P	**Pb**	**22 13 23.2**	**-0.2**
LLP				*i* S	**Sg**	**22 13 52.1**	**-1.2**
JAP	**San Jose, Anti**	**2.34**	**339**	⇑*e*P	**Pn**	**22 13 24.1**	**+0.6**
KCP	**Kidapawan**	**2.74**	**124**	⇓*i*P	**Pb**	**22 13 32.7**	**-1.5**
KCP				*i* S	**Sg**	**22 14 11.8**	**-1.7**
SCPH	**Surigao**	**2.94**	**65**	⇑*e*P	**Pb**	**22 13 35.0**	**-2.5**
RCP	**Roxas**	**3.00**	**359**	⇑*i*P	**Pn**	**22 13 34.6**	**+2.1**
RCP				*e*S	**Sb**	**22 14 12.0**	**-3.2**
DAV	**Davao City (W)**	**3.13**	**118**		**Pb**	**22 13 39.1**	**-1.7**
DAV				Sn	**Sb**	**22 14 14.6**	**-4.0**
DAV	**Davao City (W)**	**3.13**	**118**	P	**Pb**	**22 13 39.5**	**-1.3**
	215nm,0.5s,baz=284,slow=8.7,SNR=9.3						
DAV				S	**Sb**	**22 14 20.5**	**+1.7**
	469nm,0.5s,baz=75,slow=21,SNR=3.8						
DAV				LR	LR	22 15 12.9	
	comp=Z,2μm,19.4s,baz=345,slow=44						
GSPH	**General Santos**	**3.25**	**139**	⇑*i*P	**Pb**	**22 13 43.0**	**+0.2**
IBAJ	**Ibajay, Aklan**	**3.31**	**349**	⇑*e*P	**Pn**	**22 13 38.7**	**+1.9**
IBAJ				*e*S	**Sn**	**22 14 18.4**	**+2.3**
PLP	**Palo**	**3.38**	**39**	⇑*e*P	**Pb**	**22 13 41.2**	**-3.9**
PLP				*e*S	**Sg**	**22 14 35.0**	**+0.9**
BIPH	**Bislig**	**3.55**	**95**	⇓*e*P	**Pb**	**22 13 45.4**	**-2.7**
BIPH				*e*S	**Sb**	**22 14 32.0**	**+0.9**
MMPH	**Masbate**	**3.88**	**12**	⇑*e*P	**Pb**	**22 13 49.5**	**-4.1**
MMPH				*e*S	**Sn**	**22 14 30.3**	**+0.2**
GQP	**Guinayangan**	**5.34**	**356**	⇑*e*P	**Pn**	**22 14 09.1**	**+4.3**
SGSI	**Sangihe**	**5.54**	**150**	P	**Pn**	**22 14 10.4**	**+2.9**
	215nm,0.6s,8μm2.4nm						
LQP	**Lukban**	**5.67**	**348**	⇓*e*P	**Pn**	**22 14 11.4**	**+1.9**
TGY	**Tagaytay City**	**5.82**	**342**	P	Pb	22 14 20.6	-6.0
	114nm,0.3s,baz=247,slow=7.7,SNR=4.2						
GTOI	**Gorontalo**	**7.86**	**178**	P	**Pn**	**22 14 37.8**	**-1.5**
	65nm,0.6s,579nm0.2nm						
KMSI	**Cibinong**	**8.00**	**171**	P	**Pn**	**22 14 43.4**	**+2.1**
	457nm,0.6s,5μm1.8nm						
TNTI	**Ternate**	**8.96**	**149**	P	**Pn**	**22 14 57.7**	**+3.2**
	65nm,0.6s,3μm						
LUWI	**Luwuk**	**9.52**	**180**	Pn	Pn	22 15 08.5	+6.4
LUWI	**Luwuk**	**9.52**	**180**	P	**Pn**	**22 15 02.2**	**+0.1**
	443nm,0.9s						
SIPP	**Brgy, Tapao**	**9.60**	**347**	⇑*e*P	**Pn**	**22 15 05.1**	**+1.9**
LBMI	**Labuha**	**10.26**	**153**	P	**Pn**	**22 15 15.2**	**+3.0**
	61nm,1.1s,1μm						
SANI	**Sanana**	**10.99**	**163**	P	**Pn**	**22 15 23.9**	**+1.6**
	34nm,1.3s						
SBUM	**Sibu**	**12.13**	**241**	Pn	**Pn**	**22 15 38.0**	**+0.1**
SWI	**Sorong**	**12.59**	**137**	P	**Pn**	**22 15 47.8**	**+3.6**
	11nm,1.0s						
KAPI	**Kappang**	**13.80**	**193**	P	**P**	**22 16 07.7**	**-1.5**
	3.3nm,0.3s,baz=344,slow=18,SNR=2.4						
KAPI				LR	LR	22 21 30.0	
	comp=Z,521nm,19.7s,baz=356,slow=37						
FAKI	**Fak Fak**	**14.78**	**140**	P	**P**	**22 16 18.1**	**-2.1**
	66nm,1.1s						
TPUB	**Ta-pu**	**14.82**	**352**	Pn	**Pn**	**22 16 17.1**	**+2.4**
YULB	**Yu-li**	**14.84**	**355**	Pn	**Pn**	**22 16 16.6**	**+1.7**
SSLB	**Suanglung**	**15.26**	**354**		**P**	**22 16 24.4**	**-1.1**
SSLB				IAmb	IAmb	22 16 29.2	
	comp=Z,32nm,0.9s						
YHNB	**Yeheng**	**16.10**	**355**	Pn	**P**	**22 16 33.9**	**-0.9**
YHNB				IAmb	IAmb	22 16 37.2	
	comp=Z,56nm,1.2s						
QIZ	**Qiongzhong**	**16.32**	**311**	P	**P**	**22 16 36.8**	**-0.4**
QIZ				S	**Sn**	**22 19 37.3**	**+1.9**
QIZ				LR	LR		
	comp=Z,460nm,15.1s						
QIZ				LR	LR		
	comp=Z,520nm,17.7s						
QIZ				LR	LR		
	comp=Z,850nm,16.0s						
QZH	**Quanzhou**	**16.80**	**347**	⇓*i*P	**P**	**22 16 44.4**	**+2.0**
QZH				*e*S	**S**	**22 19 56.6**	**-0.9**
QZH				pmax	pmax		
	comp=Z,220nm,7.8s						
QZH				LR	LR		
	comp=Z,710nm,16.5s						
QZH				LR	LR		
	comp=Z,280nm,16.8s						
QZH				LR	LR		
	comp=Z,980nm,16.1s						
UBPT	**Khong Chiam**	**18.21**	**293**		**P**	**22 17 00.8**	**+2.7**
BATI	**Baumata**	**18.64**	**177**	P	**Pn**	**22 17 06.3**	**+3.1**
	comp=Z,97nm,0.6s,baz=328,slow=2.9,SNR=14						
BATI	**Baumata**	**18.64**	**177**	P	**Pn**	**22 17 05.0**	**+1.8**
	comp=Z,126nm,0.7s						
JOW	**Kunigami**	**18.92**	**15**		**Pn**	**22 17 07.4**	**+0.9**
JOW				IAmb	IAmb	22 17 11.5	
	comp=Z,40nm,0.7s						
JOW	**Kunigami**	**18.92**	**15**	P	**Pn**	**22 17 08.3**	**+1.8**
	comp=Z,27nm,0.6s,baz=207,slow=8.0,SNR=16						
JOW				LR	LR	22 24 58.9	
	comp=Z,256nm,18.4s,baz=173,slow=38						
SMPI	**Sarmi**	**19.01**	**123**	P	**Pn**	**22 17 10.1**	**+2.4**
	comp=Z,35nm,1.2s						
MYKOM	**Kota Tinggi**	**20.01**	**251**		**P**	**22 17 18.7**	**+0.8**
MYKOM				IAmb	IAmb	22 17 23.1	
	comp=Z,41nm,1.2s						
GENI	**Genyem**	**20.56**	**122**	P	Pn	22 17 27.1	+1.0
	comp=Z,65nm,0.9s,comp=Z,3μm						
KPJI	**Karang Pucung**	**20.96**	**222**	P	**P**	**22 17 27.8**	**-0.4**
	comp=Z,40nm,1.2s						
JAY	**Jayapura**	**20.97**	**121**	P	Pn	22 17 33.6	+2.6
	comp=Z,25nm,1.0s						
IPM	**Ipoh**	**21.99**	**261**	P	**P**	**22 17 42.3**	**+3.0**
SLVN	**Son La**	**22.21**	**307**	P	**P**	**22 17 41.5**	**-0.2**
MTN	**Manton Dam**	**22.80**	**159**	P	**P**	**22 17 48.8**	**+0.9**
	baz=23,SNR=3.4						
KDU	**Kakadu**	**23.18**	**155**	P	**P**	**22 17 52.3**	**+0.4**
	baz=23,SNR=3.6						
WHN	**Wuhan**	**23.27**	**341**	P	**P**	**22 17 53.0**	**+0.4**
WHN				S	**S**	**22 22 03.6**	**-1.1**
WHN				pmax	pmax		
	comp=Z,50nm,0.8s						
WHN				LR	LR		
	comp=Z,1μm,20.8s						
WHN				LR	LR		
	comp=Z,1μm,17.0s						
WHN				LR	LR		
	comp=Z,2μm,18.1s						
GYA	**Guiyang**	**23.49**	**321**	⇓P	**P**	**22 17 56.0**	**+1.0**
GYA				pmax	pmax		
	comp=Z,11nm,2.0s						
NJ2	**Nanjing**	**23.68**	**352**	*e*P	**P**	**22 17 58.5**	**+1.8**
NJ2				pmax	pmax		
	comp=Z,18nm,0.6s						
NJ2				LR	LR		
	comp=Z,300nm,15.2s						
NJ2				LR	LR		
	comp=Z,290nm,13.3s						
NJ2				LR	LR		
	comp=Z,590nm,18.0s						
PHRA	**Phrae**	**24.04**	**297**	P	**P**	**22 18 00.6**	**+0.3**
PDSI	**Padang**	**24.15**	**248**	P	**P**	**22 18 01.4**	**0.0**
	comp=Z,29nm,0.9s						
CRAI	**Chiangrai**	**24.59**	**301**	P	**P**	**22 18 05.3**	**0.0**
ENH	**Enshi**	**24.95**	**332**	P	**P**	**22 18 07.8**	**-0.7**
CMAR	**Chiang Mai Arr**	**25.16**	**296**	P	**P**	**22 18 10.9**	**+0.4**
CMAR				PcP	**PcP**	**22 21 44.7**	**+0.1**
CMAR	**Chiang Mai Arr**	**25.16**	**296**	P	**P**	**22 18 11.2**	**+0.7**
	comp=Z,2.5nm,0.9s,baz=119,slow=7.5,SNR=14						
CMAR				PcP	**PcP**	**22 21 45.1**	**+0.5**
	comp=Z,2.4nm,0.8s,baz=130,slow=0.6,SNR=14						
	comp=Z,2.5nm,0.9s						
KMI	**Kunming**	**25.24**	**313**	⇑P	**P**	**22 18 12.9**	**+1.5**
KMI				S	**S**	**22 22 38.8**	**+1.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.7s						
KMI				pmax	pmax		
	comp=Z,78nm,7.1s						
KMI				LR	LR		
	comp=Z,270nm,16.2s						
KMI				LR	LR		
	comp=Z,320nm,15.3s						
KMI				LR	LR		
	comp=Z,470nm,14.5s						
CHTO	**Chiang Mai**	**25.29**	**296**	P	**P**	**22 18 11.9**	**+0.3**
CHTO				PcP	**PcP**	**22 21 43.5**	**-1.3**
JNU	**Nakatsue**	**25.58**	**16**	LR	LR	22 28 42.7	
	comp=Z,180nm,20.6s,baz=208,slow=37						
JCJ	**Chichijima**	**26.03**	**42**	LR	LR	22 26 52.9	
	comp=Z,170nm,21.7s,baz=264,slow=32						
FITZ	**Fitzroy Crossi**	**26.62**	**174**	P	**P**	**22 18 23.7**	**+0.1**
	baz=27,SNR=6.9						
PZH	**PanZhiHua**	**26.79**	**314**	P	**P**	**22 18 28.6**	**+3.3**
PZH				S	**S**	**22 22 58.6**	**-2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,70nm,4.3s						
PZH				LR	LR		
	comp=Z,270nm,16.8s						
PZH				LR	LR		
	comp=Z,190nm,16.5s						
PZH				LR	LR		
	comp=Z,340nm,15.7s						
LYN	**LuoYang**	**27.57**	**341**	*e*P	**P**	**22 18 32.4**	**+0.3**
LYN				sP	pwP	22 18 55.9	+17
LYN				pmax	pmax		
	comp=Z,30nm,0.8s						
LYN				pmax	pmax		
	comp=Z,89nm,4.2s						
LYN				LR	LR		
	comp=Z,560nm,15.8s						
LYN				LR	LR		
	comp=Z,320nm,19.2s						
LYN				LR	LR		
	comp=Z,750nm,15.5s						
TNCH	**TengChong**	**28.35**	**308**	*e*P	**P**	**22 18 39.1**	**-0.3**
TNCH				pP	pwP	22 18 53.4	+6.7
TNCH				sP	sP	22 19 00.8	+16
TNCH				S	**S**	**22 23 28.6**	**+2.5**
TNCH				sS	sS	22 23 49.8	+19
TNCH				pmax	pmax		
	comp=Z,4.0nm,1.0s						
TNCH				pmax	pmax		
	comp=Z,71nm,4.6s						
TNCH				LR	LR		
	comp=Z,110nm,12.8s						
TNCH				LR	LR		
	comp=Z,99nm,11.6s						
TNCH				LR	LR		
	comp=Z,210nm,14.1s						
XAN	**Xi'an**	**28.41**	**335**	⇓P	**P**	**22 18 39.1**	**-0.6**
XAN				pP	pwP	22 18 53.3	+6.9
XAN				pmax	pmax		
	comp=Z,26nm,1.3s						
XAN				pmax	pmax		
	comp=Z,190nm,4.6s						
XAN				LR	LR		
	comp=Z,360nm,13.9s						
XAN				LR	LR		
	comp=Z,360nm,14.1s						
XAN				LR	LR		
	comp=Z,700nm,17.5s						
JHJ	**Hachijo jima 2**	**29.07**	**30**	LR	LR	22 29 22.6	
	comp=Z,273nm,21.4s,baz=92,slow=34						
KSRS	**Korea Array**	**29.16**	**8**	P	**P**	**22 18 45.3**	**-0.9**
	comp=Z,1.1nm,0.8s,baz=180,slow=10,SNR=5.3						
KSRS				LR	LR	22 31 25.8	
	comp=Z,163nm,19.5s,baz=195,slow=38						
	comp=Z,1.1nm,0.8s						
HNS	**HongShan**	**29.65**	**347**	⇑P	**P**	**22 18 50.6**	**+0.1**
HNS				*e*S	**S**	**22 23 47.6**	**+1.9**
HNS				pmax	pmax		
	comp=Z,10.0nm,0.7s						
HNS				LR	LR		
	comp=Z,600nm,16.2s						
HNS				LR	LR		
	comp=Z,190nm,18.1s						
HNS				LR	LR		
	comp=Z,590nm,16.7s						
WRA	**Warramunga Arr**	**30.50**	**158**	P	**P**	**22 18 57.8**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=331,slow=11,SNR=19						
WRA				PcP	**PcP**	**22 21 56.0**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=327,slow=2.8,SNR=6.1						
	comp=Z,1.5nm,0.4s						
WB2	**Warramunga Arr**	**30.51**	**158**	P	**P**	**22 18 57.5**	**-0.8**
	baz=31						
MJAR	**Matsushiro Arr**	**31.21**	**24**	LR	LR	22 31 09.0	
	comp=Z,292nm,19.2s,baz=207,slow=35						
BJT	**Baijiatuau**	**31.90**	**350**	P	**P**	**22 19 10.5**	**+0.1**
BJI	**Beijing**	**31.92**	**350**	P	**P**	**22 19 10.3**	**-0.2**
BJI				pmax	pmax		
	comp=Z,7.0nm,1.2s						
BJI				LR	LR		
	comp=Z,60nm,13.5s						
BJI				LR	LR		
	comp=Z,62nm,13.9s						
BJI				LR	LR		
	comp=Z,76nm,14.1s						
LZH	**Lanzhou**	**32.41**	**331**	⇑P	**P**	**22 19 15.8**	**+0.7**
LZH				pP	pwP	22 19 29.1	+7.3
LZH				PcP	**PcP**	**22 22 03.3**	**+0.7**
LZH				pmax	pmax		
	comp=Z,13nm,1.4s						
LZH				LR	LR		
	comp=Z,320nm,13.1s						
LZH				LR	LR		
	comp=Z,190nm,13.4s						
LZH				LR	LR		
	comp=Z,180nm,13.1s						
HHC	**Hu-ho-hao-te**	**33.69**	**345**	*e*P	**P**	**22 19 27.6**	**+1.4**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,93nm,4.3s						
HHC				LR	LR		
	comp=Z,180nm,16.1s						
HHC				LR	LR		
	comp=Z,160nm,16.0s						
HHC				LR	LR		
	comp=Z,240nm,17.6s						
AS31	**Alice Springs**	**33.80**	**161**	P	**P**	**22 19 27.5**	**+0.3**
ASAR	**Alice Springs**	**33.80**	**161**	P	**P**	**22 19 27.1**	**-0.1**
ASAR					**PcP**	**22 22 05.3**	**-1.1**
ASAR	**Alice Springs**	**33.80**	**161**	P	**P**	**22 19 27.4**	**+0.2**
	comp=Z,7.9nm,0.6s,baz=341,slow=7.2,SNR=87						
ASAR				PcP	**PcP**	**22 22 05.6**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=345,slow=2.9,SNR=14						
	comp=Z,7.9nm,0.6s						
WRKA	**Warakurna**	**33.80**	**171**	P	**P**	**22 19 27.5**	**+0.3**
	baz=34,SNR=28						
SHL	**Shillong**	**33.92**	**304**	P	**P**	**22 19 28.5**	**0.0**
MEEK	**Meekatharra**	**35.20**	**186**	P	**P**	**22 19 38.7**	**-0.6**
	baz=35,SNR=3.6						
XLT	**XiLinHaoTe**	**35.71**	**352**	*e*P	**P**	**22 19 43.8**	**+0.2**
XLT				pP	sP	22 19 59.8	+11
XLT				sP	pP	22 20 04.9	+18
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT				pmax	pmax		
	comp=Z,130nm,5.1s						
LSA	**Lhasa**	**36.35**	**310**	P	**P**	**22 19 50.9**	**+1.1**
LSA				IAmb	IAmb	22 19 53.0	
	comp=Z,7.0nm,1.0s						
LSA				PcP	**PcP**	**22 22 14.4**	**0.0**
USRK	**Ussuriysk Ar.**	**36.42**	**11**	P	**P**	**22 19 49.1**	**-0.4**
	comp=Z,2.4nm,0.7s,baz=191,slow=6.5,SNR=8.4						
USRK				LR	LR	22 34 52.9	
	comp=Z,78nm,21.3s,baz=191,slow=36						
	comp=Z,2.4nm,0.7s						
GTA	**Gaotai**	**36.99**	**330**	⇑P	**P**	**22 19 55.4**	**+0.7**
GTA				pP	pwP	22 20 07.5	+6.1
GTA				PcP	**PcP**	**22 22 16.4**	**+0.7**
GTA				pmax	pmax		
	comp=Z,8.0nm,1.5s						
GTA				LR	LR		
	comp=Z,180nm,14.9s						
GTA				LR	LR		
	comp=Z,150nm,16.4s						
GTA				LR	LR		
	comp=Z,280nm,16.4s						
BNX	**BinXian**	**37.28**	**5**	⇓P	**P**	**22 19 56.0**	**-0.8**
BNX				pmax	pmax		
	comp=Z,9.0nm,1.2s						
BNX				pmax	pmax		
	comp=Z,81nm,8.8s						
GOMU	**GeErMu**	**37.51**	**321**	P	**P**	**22 20 00.3**	**+0.9**
GOMU				pmax	pmax		
	comp=Z,21nm,0.9s						
GOMU				LR	LR		
	comp=Z,500nm,14.8s						
GOMU				LR	LR		
	comp=Z,390nm,16.5s						
GOMU				LR	LR		
	comp=Z,740nm,16.4s						
MORW	**Morawa**	**37.95**	**190**	P	**P**	**22 20 02.5**	**-0.1**
	baz=38,SNR=4.6						
MORW	**Morawa**	**37.95**	**190**	P	**P**	**22 20 02.6**	**-0.1**
BLDU	**Ballidu**	**39.37**	**188**	P	**P**	**22 20 13.8**	**-0.7**
	baz=40						
ASAJ	**Asahikawa**	**39.41**	**23**	LR	LR	22 36 50.2	
	comp=Z,143nm,19.5s,baz=203,slow=36						
FORT	**Forrest**	**39.42**	**173**	P	**P**	**22 20 15.3**	**+0.3**
	baz=40,SNR=11						
FORT	**Forrest**	**39.42**	**173**	P	**P**	**22 20 15.5**	**+0.5**
FORT				PcP	**PcP**	**22 22 22.7**	**-0.5**
KMBL	**Kambalda**	**39.69**	**181**	P	**P**	**22 20 17.1**	**-0.1**
	baz=40,SNR=6.6						
KLBR	**Kellerberrin**	**40.19**	**187**	P	**P**	**22 20 21.2**	**-0.3**
	baz=40,SNR=7.3						
KLR	**Kul'dur**	**41.25**	**9**	LR	LR	22 39 42.7	
	comp=Z,78nm,18.8s,baz=182,slow=39						
ULN	**Ulaanbaatar**	**41.40**	**344**	P	**P**	**22 20 32.2**	**+0.7**
ULN				IAmb	IAmb	22 20 32.7	
	comp=Z,13nm,0.9s						
SONM	**Songino Array**	**41.56**	**343**	P	**P**	**22 20 33.1**	**+0.4**
SONM				IAmb	IAmb	22 20 33.9	
	comp=Z,9.4nm,1.0s						
SONM	**Songino Array**	**41.56**	**343**	P	**P**	**22 20 32.7**	**0.0**
	comp=Z,7.3nm,0.8s,baz=162,slow=9.2,SNR=36						
SONM				PcP	**PcP**	**22 22 29.4**	**-0.6**
	comp=Z,2.3nm,0.8s,baz=166,slow=3.3,SNR=6.2						
SONM				LR	LR	22 39 15.0	
	comp=Z,158nm,19.3s,baz=149,slow=38						
	comp=Z,7.3nm,0.8s						
NWAO	**Narrogin (SRO)**	**41.57**	**187**	P	**P**	**22 20 33.0**	**+0.2**
	baz=42,SNR=5.7						
NWAO				P	**P**	**22 20 33.0**	**+0.2**
	baz=42,SNR=5.7						
HEH	**HeiHe**	**41.76**	**4**	*e*P	**P**	**22 20 33.3**	**-0.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.1s			

MK31	**Makanchi Array**	**51.40**	**325**	P	**P**	**22 21 50.6**	**+0.7**
MK31				PcP	**PcP**	**22 23 04.4**	**0.0**
MKAR	**Makanchi Array**	**51.40**	**325**	P	**P**	**22 21 50.6**	**+0.8**
MKAR	**Makanchi Array**	**51.40**	**325**	P	**P**	**22 21 50.3**	**+0.5**
	comp=Z,10nm,0.8s,baz=132,slow=8.2,SNR=78						
MKAR				PcP	**PcP**	**22 23 04.1**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=120,slow=3.9,SNR=12						
MKAR				LR	LR	22 45 02.2	
	comp=Z,210nm,18.4s,baz=96,slow=38						
	comp=Z,10nm,0.8s						
TARG	**Taragay, Kyrgy**	**51.58**	**318**	P	**P**	**22 21 54.3**	**+2.5**
TARG				IAmb	IAmb	22 22 03.8	
	comp=Z,5.6nm,1.0s						
MAKZ	**Makanchi**	**51.58**	**325**	P	**P**	**22 21 52.3**	**+1.0**
MAKZ				PcP	**PcP**	**22 23 04.4**	**-0.6**
KSH	**Kashi**	**51.90**	**314**	P	**P**	**22 21 56.0**	**+2.1**
KSH				PcP	**PcP**	**22 23 08.0**	**+1.4**
KSH				S	**S**	**22 29 16.1**	**-0.4**
KSH				pmax	pmax		
	comp=Z,6.0nm,1.5s						
NIL	**Nilore**	**51.92**	**306**	P	**P**	**22 21 54.8**	**+0.7**
DZM	**Mont Dzumac**	**52.51**	**126**	*e*LR	LR	22 37 18.3	
	comp=Z,445nm,31.5s						
PETK	**Petropavlovsk-**	**52.65**	**26**	P	**P**	**22 21 59.9**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=217,slow=5.7,SNR=7.0						
PETK				LR	LR	22 45 14.5	
	comp=Z,96nm,19.7s,baz=220,slow=37						
	comp=Z,1.9nm,0.8s						
TKM2	**Tokmak 2**	**53.57**	**318**	P	**P**	**22 22 07.6**	**+1.3**
	SNR=7.7						
YAK	**Yakutsk**	**53.63**	**4**	LR	LR	22 46 09.6	
	comp=Z,97nm,20.0s,baz=194,slow=37						
KBK	**Karagaybulak**	**53.89**	**317**	P	**P**	**22 22 09.8**	**+1.2**
	SNR=7.7						
UCH	**Uchtor**	**54.01**	**317**	P	**P**	**22 22 11.4**	**+1.6**
	SNR=16						
AAK	**Ala-Archa**	**54.19**	**317**	P	**P**	**22 22 11.7**	**+0.9**
AAK				IAmb	IAmb	22 22 13.2	
	comp=Z,6.5nm,1.0s						
USP	**Ospenovka**	**54.45**	**318**	P	**P**	**22 22 13.3**	**+0.8**
	SNR=8.8						
ZAA0	**Zalesovo Array**	**54.56**	**333**	P	**P**	**22 22 12.6**	**-0.4**
ZAA0				IAmb	IAmb	22 22 13.2	
	comp=Z,10nm,0.9s						
ZALV	**Zalesovo Beam**	**54.56**	**333**	P	**P**	**22 22 12.8**	**-0.2**
ZALV				PcP	**PcP**	**22 23 14.8**	**-1.3**
ZALV	**Zalesovo Beam**	**54.56**	**333**	P	**P**	**22 22 12.5**	**-0.5**
	comp=Z,6.6nm,0.7s,baz=128,slow=6.8,SNR=38						
ZALV				PcP	**PcP**	**22 23 14.5**	**-1.6**
	comp=Z,2.1nm,0.6s,baz=116,slow=3.4,SNR=4.9						
	comp=Z,6.6nm,0.7s						
EKS2	**Erkin-Say**	**54.68**	**317**	P	**P**	**22 22 15.6**	**+1.3**
	SNR=5.8						
ARSB	**Arslanbob**	**54.70**	**315**	P	**P**	**22 22 15.0**	**+0.5**
DRK	**Karamyk**	**54.88**	**313**	P	**P**	**22 22 16.6**	**+0.5**
MA2	**Magadan**	**55.14**	**17**	LR	LR	22 48 07.4	
	comp=Z,33nm,18.8s,baz=264,slow=38						
KBL	**Kabul**	**55.52**	**306**	P	**P**	**22 22 20.7**	**0.0**
KBL				IAmb	IAmb	22 22 22.0	
	comp=Z,12nm,1.1s						
KURBB	**Kurchatov Arra**	**55.60**	**327**	P	**P**	**22 22 20.9**	**+0.3**
	comp=Z,22nm,0.8s,baz=127,slow=6.5,SNR=201						
	comp=Z,22nm,0.8s						
KURK	**Kurchatov**	**55.61**	**328**	P	**P**	**22 22 21.2**	**+0.6**
BTK	**Batken**	**55.79**	**313**	P	**P**	**22 22 22.4**	**+0.1**
BTK				IAmb	IAmb	22 22 25.0	
	comp=Z,9.8nm,1.0s						
SIMJ	**Simiganj**	**56.68**	**311**	P	**P**	**22 22 29.1**	**+0.3**
SIMJ				IAmb	IAmb	22 22 55.2	
	comp=Z,6.8nm,1.1s						
KK31	**Karatay Array**	**57.07**	**316**	P	**P**	**22 22 31.5**	**+0.2**
KKAR	**Karatay Array**	**57.07**	**316**	P	**P**	**22 22 31.6**	**+0.3**
KKAR	**Karatay Array**	**57.07**	**316**	P	**P**	**22 22 31.6**	**+0.3**
SEY	**Seymchan**	**58.36**	**15**	LR	LR	22 46 47.0	
	comp=Z,52nm,21.7s,baz=236,slow=35						
SHEM	**Shemya Is, Ala**	**60.45**	**33**	LR	LR	22 43 12.2	
	comp=Z,69nm,21.9s,baz=312,slow=30						
HRA	**Herat**	**60.98**	**305**	P	**P**	**22 22 58.2**	**-0.6**
HRA				IAmb	IAmb	22 22 59.8	
	comp=Z,3.6nm,0.8s						
BVAR	**Borovoye Array**	**61.18**	**327**	P	**P**	**22 22 59.4**	**-0.2**
	comp=Z,12nm,0.9s,baz=126,slow=11,SNR=57						
BVAR				PcP	**PcP**	**22 23 42.0**	**-0.2**
	comp=Z,3.9nm,0.7s,baz=108,slow=4.7,SNR=5.9						
	comp=Z,12nm,0.9s						
BRVK	**Borovoye**	**61.25**	**327**	P	**P**	**22 23 00.3**	**+0.3**
TIXI	**Tiksi**	**63.16**	**2**	P	**P**	**22 23 11.1**	**-1.4**
TIXI	**Tiksi**	**63.16**	**2**	LR	LR	22 51 41.0	
	comp=Z,130nm,20.7s,baz=196,slow=37						
GEYT	**Alibeck**	**64.86**	**308**	P	**P**	**22 23 25.0**	**+0.7**
GEYT				IAmb	IAmb	22 23 25.8	
	comp=Z,7.2nm,0.9s						
GEYT	**Alibeck**	**64.86**	**308**	P	**P**	**22 23 24.7**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=124,slow=7.2,SNR=14						
	comp=Z,2.9nm,0.7s						
ABKAR	**Akbulak array**	**65.97**	**320**	P	**P**	**22 23 30.6**	**-0.7**
ABKAR				IAmb	IAmb	22 23 32.3	
	comp=Z,7.4nm,1.0s						
ABKAR	**Akbulak array**	**65.97**	**320**	P	**P**	**22 23 31.3**	**0.0**
ARU	**Arti**	**68.80**	**328**	P	**P**	**22 23 48.2**	**-0.9**
ARU	**Arti**	**68.80**	**328**	P	**P**	**22 23 48.2**	**-0.9**
	comp=Z,21nm,1.0s						
NIKH	**Nikolski High**	**70.24**	**37**	P	**P**	**22 23 57.9**	**-0.1**
	baz=258						
P08K	**Saint George I**	**70.68**	**33**	P	**P**	**22 24 00.3**	**-0.4**
	baz=256						
ANM	**Nome**	**74.56**	**25**	P	**P**	**22 24 22.4**	**-1.2**
	baz=257						
S12K	**Black Hills**	**74.63**	**35**	P	**P**	**22 24 24.0**	**-0.1**
	baz=262						
M13K	**Dall Lake**	**74.66**	**30**	P	**P**	**22 24 24.1**	**-0.1**
	baz=260						
J14K	**Nanvaranak Lak**	**74.98**	**27**	P	**P**	**22 24 26.1**	**+0.1**
	baz=259						
RAYN	**Ar Rayn**	**75.03**	**292**	P	**P**	**22 24 26.6**	**-0.6**
L14K	**Kuka Creek**	**75.14**	**29**	P	**P**	**22 24 26.5**	**-0.5**
	baz=260						
M14K	**Bethel**	**75.39**	**29**	P	**P**	**22 24 27.9**	**-0.5**
	baz=261						
N14K	**Kuskokwak Cree**	**75.41**	**30**	P	**P**	**22 24 27.8**	**-0.7**
	baz=262						
C16K	**Lisburne Hills**	**75.43**	**21**	P	**P**	**22 24 27.8**	**-0.7**
	baz=256						
L15K	**Ungalak Mounta**	**75.76**	**28**	P	**P**	**22 24 30.4**	**-0.2**
	baz=261						
K15K	**Wolf Creek Mou**	**75.83**	**28**	P	**P**	**22 24 30.4**	**-0.6**
	baz=261						
H16K	**Elim**	**75.90**	**25**	P	**P**	**22 24 30.5**	**-0.8**
	baz=260						
G16K	**Koyuk River**	**75.99**	**25**	P	**P**	**22 24 31.3**	**-0.5**
	baz=260						
M15K	**Kasigluk River**	**76.00**	**30**	P	**P**	**22 24 31.3**	**-0.6**
	baz=262						
D17K	**Noatak River**	**76.14**	**22**	P	**P**	**22 24 31.7**	**-0.9**
	baz=258						
N15K	**Kwethluk River**	**76.23**	**30**	P	**P**	**22 24 33.0**	**-0.3**
	baz=263						
O15K	**Ungalikthiuk R**	**76.25**	**31**	P	**P**	**22 24 33.1**	**-0.3**
	baz=264						
C17K	**DeLong Mountai**	**76.26**	**21**	P	**P**	**22 24 32.5**	**-0.9**
	baz=258						
RDOG	**Red Dog Mine**	**76.27**	**22**	P	**P**	**22 24 32.6**	**-0.8**
	baz=258						
J16K	**Anvik River**	**76.40**	**27**	P	**P**	**22 24 33.4**	**-0.7**
	baz=262						
E17K	**Hotham Inlet**	**76.50**	**23**	P	**P**	**22 24 34.0**	**-0.7**
	baz=260						
F17K	**Baldwin Pennin**	**76.61**	**24**	P	**P**	**22 24 34.5**	**-0.8**
	baz=260						
G17K	**Kiwalik Mounta**	**76.70**	**25**	P	**P**	**22 24 35.2**	**-0.7**
	baz=261						
L16K	**Owhat River**	**76.72**	**29**	P	**P**	**22 24 36.1**	**+0.1**
	baz=263						
KBZ	**Khabaz**	**76.85**	**313**	P	**P**	**22 24 37.0**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=65,slow=4.7,SNR=6.2						
	comp=Z,2.5nm,0.9s						
M16K	**Timber Creek**	**76.88**	**29**	P	**P**	**22 24 36.0**	**-1.0**
	baz=264						
N16K	**Nishlik Lake**	**76.92**	**30**	P	**P**	**22 24 36.4**	**-0.8**
	baz=264						
B18K	**Kokolik River**	**76.92**	**21**	P	**P**	**22 24 36.5**	**-0.5**
	baz=259,SNR=5.5						
H17K	**Granite Mounta**	**76.93**	**25**	P	**P**	**22 24 36.4**	**-0.7**
	baz=262						
C18K	**Utukok River**	**77.01**	**21**	P	**P**	**22 24 36.9**	**-0.7**
C18K				IAmb	IAmb	22 24 37.9	
	comp=Z,6.1nm,0.7s						
C18K	**Utukok River**	**77.01**	**21**	P	**P**	**22 24 36.5**	**-1.1**
	baz=260						
KIV	**Kislovodsk**	**77.01**	**313**	⇑P	**P**	**22 24 39.2**	**+1.1**
KIV	**Kislovodsk**	**77.01**	**313**	P	**P**	**22 24 38.1**	**0.0**
KIV				IAmb	IAmb	22 24 56.2	
	comp=Z,10nm,0.9s						
KIV	**Kislovodsk**	**77.01**	**313**	P	**P**	**22 24 38.7**	**+0.6**
	comp=Z,9.8nm,1.0s						
E18K	**Tukpahlearik C**	**77.02**	**23**	P	**P**	**22 24 36.4**	**-1.3**
	baz=261						
J17K	**VABM Dome**	**77.10**	**27**	P	**P**	**22 24 37.0**	**-1.1**
	baz=263						
O16K	**Kokwok River B**	**77.17**	**31**	P	**P**	**22 24 38.3**	**-0.3**
	baz=265						
P16K	**Nushagak River**	**77.18**	**31**	P	**P**	**22 24 38.0**	**-0.6**
	baz=265						
F18K	**Selawik**	**77.27**	**24**	P	**P**	**22 24 36.9**	**-2.0**
	baz=262						
L17K	**Donlin**	**77.31**	**28**	P	**P**	**22 24 37.9**	**-1.5**
	baz=264						
A19K	**Wainwright**	**77.33**	**20**	P	**P**	**22 24 37.8**	**-1.4**
	baz=260						
K17K	**Iditarod**	**77.37**	**28**	P	**P**	**22 24 38.3**	**-1.4**
	baz=264						
GURO	**Guroymak-BITLI**	**77.52**	**308**	P	**P**	**22 24 41.1**	**-0.1**
G18K	**Tagagawik**	**77.58**	**24**	P	**P**	**22 24 40.0**	**-0.8**
	baz=263						
M17K	**Holitna River**	**77.65**	**29**	P	**P**	**22 24 40.8**	**-0.5**
	baz=265						
C19K	**Lookout Ridge**	**77.66**	**21**	P	**P**	**22 24 41.4**	**+0.2**
C19K				IAmb	IAmb	22 24 42.3	
	comp=Z,9.2nm,0.7s						
C19K	**Lookout Ridge**	**77.66**	**21**	P	**P**	**22 24 40.7**	**-0.5**
	baz=261						
N17K	**Nushagak Hills**	**77.70**	**30**	P	**P**	**22 24 41.3**	**-0.3**
	baz=266						
P17K	**Kvichak River**	**77.99**	**31**	P	**P**	**22 24 42.4**	**-0.7**
	baz=266						
F19K	**Shaleruckik Mo**	**78.04**	**23**	P	**P**	**22 24 42.7**	**-0.6**
	baz=264						
L18K	**Granite Mounta**	**78.07**	**28**	P	**P**	**22 24 42.2**	**-1.4**
	baz=266						
D19K	**Kuna River**	**78.11**	**22**	P	**P**	**22 24 42.4**	**-1.4**
D19K	**Kuna River**	**78.11**	**22**	P	**P**	**22 24 42.9**	**-0.8**
	baz=263						
GCSA	**Galena City Sc**	**78.20**	**26**	P	**P**	**22 24 43.7**	**-0.5**
	baz=265						
Q17K	**Coast Creek**	**78.22**	**32**	P	**P**	**22 24 44.1**	**-0.5**
	baz=267						
G19K	**Purcell Mounta**	**78.24**	**24**	P	**P**	**22 24 43.9**	**-0.6**
	baz=264						
CHIR	**Chirikof Islan**	**78.26**	**35**	P	**P**	**22 24 43.7**	**-1.0**
	baz=268						
E19K	**Redstone River**	**78.32**	**23**	P	**P**	**22 24 44.6**	**-0.3**
E19K				IAmb	IAmb	22 24 45.6	
	comp=Z,10nm,1.2s						
E19K	**Redstone River**	**78.32**	**23**	P	**P**	**22 24 44.6**	**-0.3**
	baz=264						
N18K	**Kilae Creek**	**78.35**	**30**	P	**P**	**22 24 44.8**	**-0.4**
	baz=267						
M18K	**Stony River**	**78.43**	**29**	P	**P**	**22 24 45.3**	**-0.3**
	baz=266						
H19K	**Roundabout Mou**	**78.45**	**25**	P	**P**	**22 24 44.6**	**-0.9**
H19K				IAmb	IAmb	22 24 46.4	
	comp=Z,6.2nm,0.8s						
H19K	**Roundabout Mou**	**78.45**	**25**	P	**P**	**22 24 44.9**	**-0.6**
	baz=265						
B20K	**Meade River**	**78.62**	**20**	P	**P**	**22 24 46.2**	**-0.2**
B20K				IAmb	IAmb	22 24 47.1	
	comp=Z,5.5nm,0.8s						
B20K	**Meade River**	**78.62**	**20**	P	**P**	**22 24 45.7**	**-0.7**
	baz=264,SNR=6.5						
O18K	**Koktuh Hills**	**78.65**	**31**	P	**P**	**22 24 47.2**	**+0.3**
	baz=267						
D20K	**Etivluk River**	**78.68**	**22**	P	**P**	**22 24 46.9**	**0.0**
	baz=264						
J19K	**Poorman**	**78.69**	**26**	P	**P**	**22 24 46.8**	**-0.1**
	baz=266						
E20K	**Nigu River**	**78.79**	**22**	P	**P**	**22 24 46.8**	**-0.7**
	baz=265						
F20K	**Avaraart Lake**	**78.86**	**23**	P	**P**	**22 24 46.6**	**-1.2**
F20K	**Avaraart Lake**	**78.86**	**23**	P	**P**	**22 24 47.3**	**-0.6**
	baz=265						
L19K	**White Mountain**	**78.93**	**28**	P	**P**	**22 24 48.0**	**-0.4**
	baz=267						
N19K	**Banza Creek**	**79.05**	**30**	P	**P**	**22 24 48.2**	**-0.9**
	baz=268						
H20K	**Anotleneega Mo**	**79.10**	**25**	P	**P**	**22 24 48.9**	**-0.3**
	baz=266						
M19K	**Big River Lodg**	**79.14**	**29**	P	**P**	**22 24 49.0**	**-0.4**
	baz=268						
J20K	**Nowinta River**	**79.34**	**26**	P	**P**	**22 24 49.9**	**-0.7**
	baz=267						
K20K	**Telida**	**79.34**	**27**	P	**P**	**22 24 50.2**	**-0.4**
	baz=268						
C21K	**Knifeblade Rid**	**79.37**	**21**	P	**P**	**22 24 50.9**	**+0.2**
	baz=266,SNR=6.2						
A22K	**Sinclair Lake**	**79.45**	**19**	P	**P**	**22 24 50.1**	**-0.8**
	baz=265						
B21K	**Ikpikpuk River**	**79.47**	**21**	P	**P**	**22 24 50.9**	**-0.2**
B21K				IAmb	IAmb	22 24 51.8	
	comp=Z,9.1nm,0.8s						
B21K	**Ikpikpuk River**	**79.47**	**21**	P	**P**	**22 24 51.0**	**-0.2**
	baz=266,SNR=11						
E21K	**Killik River**	**79.62**	**22**	P	**P**	**22 24 51.9**	**-0.2**
E21K				IAmb	IAmb	22 24 52.5	
	comp=Z,6.4nm,0.8s						
E21K	**Killik River**	**79.62**	**22**	P	**P**	**22 24 51.2**	**-0.9**
	baz=267,SNR=6.8						
P19K	**Oil Pt**	**79.64**	**31**	P	**P**	**22 24 50.8**	**-1.5**
	baz=269						
G21K	**Allakaket**	**79.71**	**24**	P	**P**	**22 24 52.4**	**-0.1**
G21K				IAmb	IAmb	22 24 53.6	
	comp=Z,6.8nm,0.8s						
G21K	**Allakaket**	**79.71**	**24**	P	**P**	**22 24 51.7**	**-0.8**
	baz=268						
M20K	**Styx River**	**79.73**	**29**	P	**P**	**22 24 51.7**	**-1.1**
	baz=269						
F21K	**Alatna River**	**79.75**	**23**	P	**P**	**22 24 51.6**	**-1.1**
	baz=268						
B22K	**Teshekpuk Lake**	**79.92**	**20**	P	**P**	**22 24 53.1**	**-0.4**
B22K				IAmb	IAmb	22 24 54.1	
	comp=Z,8.1nm,0.9s						
B22K	**Teshekpuk Lake**	**79.92**	**20**	P	**P**	**22 24 52.4**	**-1.1**
	baz=267,SNR=8.5						
O20K	**Slope Mountain**	**79.95**	**30**	P	**P**	**22 24 52.1**	**-1.9**
	baz=270						
H21K	**Melozitna Rive**	**79.97**	**25**	P	**P**	**22 24 52.4**	**-1.6**
	baz=268						
KDAK	**Kodiak Island**	**79.97**	**33**	P	**P**	**22 24 51.9**	**-2.2**
	baz=270						
Q20K	**Shuyak Island**	**80.07**	**32**	P	**P**	**22 24 53.4**	**-1.1**
	baz=270						
D22K	**Ayikyak River**	**80.11**	**21**	P	**P**	**22 24 54.7**	**0.0**
D22K	**Ayikyak River**	**80.11**	**21**	P	**P**	**22 24 54.3**	**-0.4**
	baz=268						
CHUM	**Lake Minchumin**	**80.14**	**27**	P	**P**	**22 24 54.7**	**-0.2**
	baz=269						
N20K	**Mount Spurr**	**80.17**	**29**	P	**P**	**22 24 54.9**	**-0.2**
	baz=270						
CAST	**Castle Rocks**	**80.24**	**27**	P	**P**	**22 24 55.3**	**-0.1**
CAST				IAmb	IAmb	22 24 55.7	
	comp=Z,5.3nm,0.8s						
CAST	**Castle Rocks**	**80.24**	**27**	P	**P**	**22 24 54.7**	**-0.8**
	baz=269						
F22K	**John River**	**80.26**	**23**	P	**P**	**22 24 55.0**	**-0.5**
	baz=269						
E22K	**Anaktuvuk Pass**	**80.41**	**22**	P	**P**	**22 24 55.5**	**-0.9**
E22K				IAmb	IAmb	22 24 57.2	
	comp=Z,8.8nm,1.4s						
E22K	**Anaktuvuk Pass**	**80.41**	**22**	P	**P**	**22 24 55.7**	**-0.7**
	baz=269						
SKT	**Skwentna**	**80.49**	**29**	P	**P**	**22 24 56.7**	**-0.1**
	baz=270						
H22K	**Ishtalitna Cre**	**80.56**	**25**	P	**P**	**22 24 56.8**	**-0.3**
	baz=270						
BPAW	**Bear Paw Mtn.**	**80.73**	**26**	P	**P**	**22 24 57.8**	**-0.3**
BPAW	**Bear Paw Mtn.**	**80.73**	**26**	P	**P**	**22 24 57.3**	**-0.8**
	baz=270						
MLY	**Manley**	**80.83**	**25**	P	**P**	**22 24 58.5**	**-0.2**
MLY	**Manley**	**80.83**	**25**	P	**P**	**22 24 57.1**	**-1.5**
	baz=270						
D23K	**Nanushuk River**	**80.84**	**21**	P	**P**	**22 24 57.4**	**-1.2**
	baz=270						
C23K	**Itkillik River**	**80.87**	**21**	P	**P**	**22 24 58.5**	**-0.1**
C23K				IAmb	IAmb	22 24 59.2	
	comp=Z,6.9nm,0.8s						
C23K	**Itkillik River**	**80.87**	**21**	P	**P**	**22 24 57.4**	**-1.3**
	baz=270,SNR=10						
SUA	**Susitna One**	**80.87**	**29**	P	**P**	**22 24 57.5**	**-1.5**
	baz=271						
OBN	**Obninsk**	**80.90**	**325**	P	**P**	**22 24 58.0**	**-1.1**
BRSE	**Bradley Lake S**	**80.91**	**31**	P	**P**	**22 24 57.4**	**-1.7**
	baz=271						
COLD	**Coldfoot**	**81.03**	**23**	P	**P**	**22 24 58.9**	**-0.7**
	baz=270						
TRF	**Thorofare Moun**	**81.05**	**27**	P	**P**	**22 24 59.0**	**-1.0**
	baz=271						
G23K	**Bananza Creek**	**81.10**	**24**	P	**P**	**22 24 59.5**	**-0.5**
G23K	**Bananza Creek**	**81.10**	**24**	P	**P**	**22 24 59.3**	**-0.7**
	baz=271						
M22K	**Willow**	**81.16**	**29**	P	**P**	**22 24 59.9**	**-0.5**
	baz=272						
E23K	**Chandalar**	**81.24**	**22**	P	**P**	**22 25 00.3**	**-0.6**
	baz=271						
TOLK	**Toolik Lake Re**	**81.25**	**22**	P	**P**	**22 25 00.3**	**-0.5**
TOLK				IAmb	IAmb	22 25 01.5	
	comp=Z,4.9nm,0.8s						
TOLK	**Toolik Lake Re**	**81.25**	**22**	P	**P**	**22 25 00.2**	**-0.6**
	baz=271						
H23K	**Yukon River**	**81.31**	**25**	P	**P**	**22 25 00.1**	**-1.1**
	baz=271						
RC01	**Rabbit Creek A**	**81.37**	**29**	P	**P**	**22 25 00.7**	**-0.8**
	baz=272						
I23K	**Minto, Yukon-K**	**81.41**	**25**	P	**P**	**22 25 01.9**	**+0.2**
I23K	**Minto, Yukon-K**	**81.41**	**25**	P	**P**	**22 25 00.4**	**-1.2**
	baz=272						
D24K	**Happy Valley**	**81.50**	**21**	P	**P**	**22 25 02.2**	**+0.2**
D24K				IAmb	IAmb	22 25 02.9	
	comp=Z,6.6nm,0.8s						
D24K	**Happy Valley**	**81.50**	**21**	P	**P**	**22 25 01.1**	**-1.0**
	baz=272,SNR=6.2						
C24K	**Franklin Bluff**	**81.53**	**21**	P	**P**	**22 25 01.6**	**-0.6**
	baz=272						
SEW	**Seward**	**81.54**	**30**	P	**P**	**22 25 01.2**	**-1.2**
	baz=272						
NEA2	**Nenana**	**81.55**	**26**	P	**P**	**22 25 01.6**	**-0.8**
	baz=272						
MCK	**McKinley**	**81.64**	**27**	P	**P**	**22 25 02.1**	**-0.8**
	baz=272						
E24K	**Your Creek**	**81.66**	**22**	P	**P**	**22 25 02.8**	**-0.3**
E24K	**Your Creek**	**81.66**	**22**	P	**P**	**22 25 02.5**	**-0.5**
	baz=272,SNR=7.7						
WAT1	**Susitna Watana**	**81.86**	**28**	P	**P**	**22 25 02.7**	**-1.4**
	baz=273						
F24K	**Squaw Lake**	**81.91**	**23**	P	**P**	**22 25 04.6**	**+0.3**
F24K	**Squaw Lake**	**81.91**	**23**	P	**P**	**22 25 03.6**	**-0.8**
	baz=273,SNR=10						
H24K	**Noodor Dome**	**82.00**	**25**	P	**P**	**22 25 03.7**	**-1.1**
	baz=273						
SML	**Sawmill**	**82.01**	**29**	P	**P**	**22 25 04.0**	**-0.9**
	baz=273						
COLA	**College**	**82.06**	**26**	P	**P**	**22 25 04.6**	**-0.4**
	baz=273						
G24K	**Hadweenzic Riv**	**82.12**	**24**	P	**P**	**22 25 05.7**	**+0.4**
G24K	**Hadweenzic Riv**	**82.12**	**24**	P	**P**	**22 25 04.5**	**-0.9**
	baz=273						
POKR	**Poker Flat Res**	**82.22**	**25**	P	**P**	**22 25 04.9**	**-1.1**
	baz=273						
WAT6	**Susitna Watana**	**82.24**	**28**	P	**P**	**22 25 04.7**	**-1.6**
	baz=273						
BNN	**Bunyan**	**82.34**	**308**	P	**P**	**22 25 06.5**	**-0.8**
BNN				IAmb	IAmb	22 25 25.4	
	comp=Z,14nm,1.1s						
D25K	**Kavik River**	**82.37**	**21**	P	**P**	**22 25 06.5**	**-0.2**
D25K				IAmb	IAmb	22 25 07.3	
	comp=Z,6.3nm,0.8s						
D25K	**Kavik River**	**82.37**	**21**	P	**P**	**22 25 05.5**	**-1.2**
	baz=274,SNR=10						
HDA	**Harding Lake**	**82.48**	**26**	P	**P**	**22 25 07.1**	**-0.2**
	baz=274						
ILAR	**Eielson Array**	**82.48**	**26**	P	**P**	**22 25 05.2**	**-2.0**
	comp=Z,0.6nm,0.9s,baz=250,slow=5.1,SNR=7.8						
	comp=Z,0.6nm,0.9s						
G25K	**Bearman Lake**	**82.66**	**24**	P	**P**	**22 25 07.0**	**-1.2**
	baz=274						
E25K	**Arctic Village**	**82.75**	**22**	P	**P**	**22 25 08.1**	**-0.6**
E25K	**Arctic Village**	**82.75**	**22**	P	**P**	**22 25 08.1**	**-0.6**
	baz=275,SNR=8.3						
F25K	**Christian Rive**	**82.77**	**23**	P	**P**	**22 25 07.7**	**-1.2**
	baz=275,SNR=6.9						
H25L	**Birch Creek**	**82.81**	**24**	P	**P**	**22 25 08.0**	**-0.9**
	baz=275						
C26K	**Camden Bay**	**82.83**	**20**	P	**P**	**22 25 07.9**	**-1.1**
	baz=275						
PRP	**Porcupine Dome**	**82.99**	**25**	P	**P**	**22 25 09.1**	**-1.1**
	baz=275						
JOF	**Joensuu**	**83.14**	**333**	*e*P	**P**	**22 25 09.9**	**-0.8**
J25K	**Salcha River,**	**83.14**	**26**	P	**P**	**22 25 09.6**	**-1.2**
	baz=275						
BMAR	**Burnt Mountain**	**83.19**	**23**	P	**P**	**22 25 10.4**	**-0.6**
PAX	**Paxson**	**83.25**	**27**	P	**P**	**22 25 10.5**	**-1.0**
	baz=275						
C27K	**Jago River**	**83.28**	**21**	P	**P**	**22 25 10.7**	**-0.6**
	baz=276,SNR=9.0						
F26K	**Sheenjek River**	**83.33**	**23**	P	**P**	**22 25 10.3**	**-1.4**
	baz=276						
EYAK	**Cordova Ski Ar**	**83.35**	**30**	P	**P**	**22 25 10.7**	**-1.2**
	baz=275						
HARP	**HAARP**	**83.45**	**28**	P	**P**	**22 25 10.7**	**-1.7**
	baz=276						
G26K	**Porcupine Rive**	**83.55**	**23**	P	**P**	**22 25 11.8**	**-1.0**
	baz=276						
N25K	**Chitina, Valde**	**83.80**	**29**	P	**P**	**22 25 12.7**	**-1.6**
	baz=276						
SCRK	**Sand Creek**	**83.81**	**26**	P	**P**	**22 25 12.4**	**-1.9**
	baz=277						
BMRM	**Bremner River**	**83.87**	**29**	P	**P**	**22 25 13.1**	**-1.5**
	baz=276						
J26L	**Joseph Creek**	**83.93**	**26**	P	**P**

comp=Z,6.9nm,1.2s
EGAK Eagle 84.92 25 P P 22 25 19.2 -0.5
baz=279
F28M Old Crow 84.96 22 P P 22 25 20.0 0.0
F28M Old Crow 84.96 22 P P 22 25 19.1 -0.9
baz=280,SNR=25
M27K Edge Creek, AK 84.97 28 P P 22 25 19.3 -1.0
baz=279
SPITS Spitsbergen Ar 85.03 349 P P 22 25 20.1 0.0
comp=Z,10nm,0.8s,baz=56,slow=3.6,SNR=6.7
comp=Z,10nm,0.8s
D28M Stokes Point 85.06 21 P P 22 25 19.8 -0.5
baz=281
MESA MESA 85.27 30 P P 22 25 21.0 -0.9
baz=279
I28M Miner Creek 85.31 25 P P 22 25 21.8 -0.1
I28M IAmb IAmb 22 25 22.9
comp=Z,9.7nm,0.9s
I28M Miner Creek 85.31 25 P P 22 25 21.2 -0.7
baz=280,SNR=11
CTG Chitna Glacier 85.44 29 P P 22 25 21.9 -0.8
baz=279
E29M Blow River 85.54 22 P P 22 25 22.7 -0.1
E29M IAmb IAmb 22 25 23.5
comp=Z,5.7nm,1.0s
E29M Blow River 85.54 22 P P 22 25 22.1 -0.7
baz=282,SNR=9.9
AKASG Malin Array Be 85.71 320 P P 22 25 22.5 -1.5
AKASG IAmb IAmb 22 25 24.2
comp=Z,15nm,1.4s
AKASG Malin Array Be 85.71 320 P P 22 25 22.9 -1.2
comp=Z,3.4nm,0.7s,baz=73,slow=4.4,SNR=21
comp=Z,3.4nm,0.7s
AKBB Malin Array Si 85.71 320 P P 22 25 22.9 -1.1
AKBB IAmb IAmb 22 25 23.9
comp=Z,11nm,1.1s
KIEV Kiev 85.72 320 ⇑P P 22 25 22.7 -1.4
KIEV Kiev 85.72 320 P P 22 25 22.4 -1.7
KIEV IAmb IAmb 22 25 23.9
comp=Z,10nm,1.1s
YUK3 Moose Creek 85.73 28 P P 22 25 23.4 -0.8
baz=280
FIA1 FINESS Array S 85.76 331 P P 22 25 23.9 -0.1
FINES FINESS Array B 85.77 331 P P 22 25 23.8 -0.3
comp=Z,3.9nm,0.8s,baz=82,slow=3.1,SNR=33
comp=Z,3.9nm,0.8s
DAWY Dawson 85.80 26 P P 22 25 23.9 -0.3
baz=281
G29M Pine Creek 85.80 23 P P 22 25 23.0 -1.2
G29M Pine Creek 85.80 23 P P 22 25 23.5 -0.7
baz=282,SNR=14
H29M Whitestone 85.80 24 P P 22 25 23.8 -0.4
H29M IAmb IAmb 22 25 24.8
comp=Z,6.3nm,0.9s
H29M Whitestone 85.80 24 P P 22 25 23.4 -0.8
baz=281,SNR=5.6
PURM Purcari 85.87 316 ⇓P P 22 25 24.4 -0.4
I29M Ogilvie Camp, 86.00 25 P P 22 25 24.2 -1.0
I29M Ogilvie Camp, 86.00 25 P P 22 25 24.6 -0.6
baz=282
O28M Mount Upton 86.03 29 P P 22 25 24.8 -1.0
baz=280
ARBE Arbavere 86.16 329 *eP* P 22 25 25.6 -0.5
KEF Keuruu 86.20 332 *eP* P 22 25 25.6 -0.6
EPYK Eagle Plains 86.42 23 P P 22 25 26.6 -0.7
EPYK IAmb IAmb 22 25 27.8
comp=Z,3.6nm,0.8s
EPYK Eagle Plains 86.42 23 P P 22 25 26.5 -0.7
baz=283
BCPM Bancas Point 86.45 30 P P 22 25 24.5 -3.0
G30M tAoh Zraii Nji 86.47 23 P P 22 25 27.0 -0.6
G30M IAmb IAmb 22 25 27.3
comp=Z,12nm,1.4s
G30M tAoh Zraii Nji 86.47 23 P P 22 25 26.7 -0.9
baz=283
IDID Didziasalis 86.48 325 *eP* P 22 25 29.0 +1.3
F30M Barrier River 86.49 22 P P 22 25 26.9 -0.6
baz=284
M29M Somme Creek 86.52 27 P P 22 25 26.5 -1.5
baz=282
L29M L29M 86.54 27 P P 22 25 27.4 -0.6
baz=282
PNL Peninsula 86.62 30 P P 22 25 27.8 -0.6
baz=281
K29M Barlow Dome 86.65 26 P P 22 25 28.2 -0.3
baz=282
SORM Soroca 86.66 318 ⇑P P 22 25 27.5 -1.2
YUK4 Talbot Arm 86.66 29 P P 22 25 28.0 -0.8
baz=282
MEF Metsahovi 86.80 330 *eP* P 22 25 28.7 -0.5
I30M Mount Dempster 86.82 24 P P 22 25 27.9 -1.5
baz=283
YUK6 Outpost Mounta 86.88 29 P P 22 25 28.7 -1.2
baz=282
J30M Hart River 86.99 25 P P 22 25 29.1 -1.1
baz=283
VAF Ylistaro 87.01 333 *eP* P 22 25 29.4 -0.7
INK Inuvik 87.14 21 P P 22 25 30.1 -0.5
INK IAmb IAmb 22 25 30.9
comp=Z,3.3nm,0.8s
INK Inuvik 87.14 21 P P 22 25 30.1 -0.5
baz=286
G31M Satah River 87.23 23 P P 22 25 30.2 -1.0
baz=285
HYT Haines Junctio 87.31 29 P P 22 25 30.7 -1.2
baz=283
MTSE Matsula 87.40 329 *eP* P 22 25 31.4 -0.7
P29M Windy Craggy 87.46 30 P P 22 25 31.8 -0.6
baz=282
H31M Peel River 87.50 24 P P 22 25 31.6 -0.9
baz=285
P30M Million Dollar 87.73 30 P P 22 25 32.1 -1.7
baz=283
RAF Rauma 87.89 331 *eP* P 22 25 33.5 -0.9
PABE Paberze 87.99 326 *eP* P 22 25 34.5 -0.5
O30N Mendenhall 88.00 29 P P 22 25 33.5 -1.6
baz=284
TESR Tescani 88.07 317 ⇑P P 22 25 35.1 -0.6
VRI Vrincioaia 88.13 316 ⇑P P 22 25 36.4 +0.4
PLOR Plostina 88.19 316 ⇑P P 22 25 36.5 +0.2
A36M Sachs Harbour 88.56 17 P P 22 25 36.8 -0.6
baz=293
TURR Turia 88.59 316 ⇓P P 22 25 38.2 0.0
S31K Pelican 88.60 32 P P 22 25 37.2 -0.6
baz=284
VNDA Vanda 88.68 172 P P 22 25 37.3 -0.5
VNDA IAmb IAmb 22 25 41.2
comp=Z,4.9nm,1.1s
VNDA Vanda 88.68 172 P P 22 25 36.9 -0.8
comp=Z,1.5nm,0.7s,baz=318,slow=6.6,SNR=7.0
comp=Z,1.5nm,0.7s
MLR Muntele Rosu 88.74 316 ⇓P P 22 25 38.3 -0.7
SUW Suwalki 88.76 324 *eP* P 22 25 38.1 -0.6
BURAR Bucovina Array 88.83 318 ⇑P P 22 25 39.1 -0.2
BURAR Bucovina Array 88.83 318 P P 22 25 39.5 +0.2
BURAR IAmb IAmb 22 25 40.2
comp=Z,4.0nm,0.8s
BUR08 Bucovina Ar. S 88.83 318 P P 22 25 39.0 -0.4
BUR08 IAmb IAmb 22 25 40.0
comp=Z,4.9nm,0.9s
AAL Aland 88.95 331 *eP* P 22 25 38.4 -1.1
SIT Sitka 89.30 32 P P 22 25 40.1 -1.0
baz=284
N32M Quiet Lake 89.32 28 P P 22 25 40.5 -0.7
baz=286
R32K Eaglecrest 89.40 31 P P 22 25 40.6 -1.0
baz=285
P32M Atlin 89.45 30 P P 22 25 40.8 -1.1
baz=286
S32K Kilisnoo 89.58 32 P P 22 25 42.0 -0.4
baz=285
C36M Paulatuk 90.00 19 P P 22 25 43.3 -0.9
C36M IAmb IAmb 22 25 58.8
comp=Z,5.8nm,1.4s
C36M Paulatuk 90.00 19 P P 22 25 44.0 -0.2
baz=294
PPT2 Papeete2 90.31 108 *e*LR LR 22 54 48.4
comp=Z,91nm,24.0s
MARR Marisel-Cluj 90.42 317 ⇑P P 22 25 46.0 -0.8
CRVS Cervenica-Dubn 90.99 320 *eP* P 22 25 51.3 +2.0
HFS Hagfors 91.96 332 P P 22 25 52.2 -1.3
comp=Z,1.6nm,0.6s,baz=73,slow=5.0,SNR=6.3
comp=Z,1.6nm,0.6s
DAG Danmarks Havn 91.98 352 *i* P P 22 25 52.0 -1.3
U35K Hyder 92.44 33 P P 22 25 54.8 -0.9
NB2 NORSAR Subarra 92.76 333 P P 22 25 55.5 -1.7
comp=Z,6.9nm,1.1s,baz=70,slow=4.8
NOA NORSAR Array B 92.76 333 P P 22 25 56.0 -1.3
comp=Z,2.1nm,0.9s,baz=67,slow=4.6,SNR=5.1
comp=Z,2.1nm,0.9s
RES Resolute Bay 93.77 9 P P 22 26 00.9 -0.6
KOTAN Kotaneelee Air 93.84 27 P P 22 26 01.2 -1.0
baz=294
BBB Bella Bella 94.76 36 LR LR 23 13 05.0
comp=Z,14nm,18.3s,baz=302,slow=38
YKA Yellowknife Ar 96.71 23 P P 22 26 14.7 -0.5
comp=Z,1.0nm,0.9s,baz=305,slow=5.4,SNR=11
comp=Z,1.0nm,0.9s
QSPA South Pole Qui 98.42 180 P P 22 26 22.9 0.0
comp=Z,0.9nm,0.7s,baz=296,slow=1.2,SNR=6.6
comp=Z,0.9nm,0.7s
NEW Newport 102.80 36 P Pdif 22 26 41.6 -1.3
baz=299
TORD Torodi Ar. Bea 117.66 290 PKP PKPdf 22 31 30.9 -1.3
comp=Z,1.5nm,0.9s,baz=75,slow=2.6,SNR=6.4
TXAR Lajitas Array 121.54 48 PKP PKPdf 22 31 38.5 -0.9
comp=Z,0.4nm,0.7s,baz=205,slow=1.9,SNR=6.7
PLCA Paso Flores 145.81 162 PKPbc PKPdf 22 32 24.4 +0.2
comp=Z,13nm,0.8s,baz=219,slow=3.7,SNR=26
CPUP Villa Florida 162.31 180 PKP PKPdf 22 32 46.6 -0.8
comp=Z,2.0nm,0.9s,baz=162,slow=3.2,SNR=3.3
CPUP PKPab PKPab 22 33 33.2 -1.1
comp=Z,3.1nm,1.1s,baz=180,slow=6.0,SNR=4.4
LPAZ La Paz 166.85 127 PKP PKPdf 22 32 52.4 -0.1
comp=Z,2.5nm,0.9s,baz=337,slow=3.3,SNR=9.1
LPAZ PKPab PKPab 22 33 57.0 +1.4
comp=Z,0.6nm,0.4s,baz=275,slow=0.9,SNR=3.7

DJA 13 22:13:26.7±1.2,1°S±3°×12°1E±°,h18km±10km,M3.7/7, mb3.5/1,mB4.8/1,MLv3.8/7,Mw(mB)4.0/1,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**1.94**	**208**	P	Pn	22 13 59.3	+0.4
TTSI				S	Sb	22 14 24.3	-1.3
LUWI	**Luwuk**	**2.05**	**82**	P	Pn	22 14 00.0	-0.3
LUWI				S	Sn	22 14 25.6	+0.2
GTOI	**Gorontalo**	**2.99**	**49**	P	Pn	22 14 14.1	+0.9
KMSI	**Cibinong**	**3.75**	**60**	P	Pn	22 14 24.3	+0.6
BKB	**Balikpapan**	**3.84**	**271**	P	Pn	22 14 24.1	-0.9
SANI	**Sanana**	**5.30**	**98**	P	Pn	22 14 45.1	+0.1

NEIC ***13*** *22:22:24.5±0.8,19°.45N±0°.02×155°.30W±0°.01,h5km±1km, Error ellipse: s-maj=3.6km s-min=1.4km az=155.0*

HVO 13 22:22:24.5±0.8,19°.400N±0°.009×155°.29W±0°.01, h1km±2km,ML3.3/3,ML2.4/12(NEIC),Error ellipse: s-maj=1.6km s-min=1.2km az=125.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDHHI	**Sand Hill**	**0.01**	**207**		Pg	22 22 25.5	+0.5
WRMHI	**West Rim**	**0.01**	**299**	Pg	Pg	22 22 25.4	+0.4
NPH	**North Pit**	**0.01**	**31**		Pg	22 22 25.3	+0.3
RIM	**Rim**	**0.01**	**110**		Pg	22 22 25.5	+0.5
OBL	**Observatory Le**	**0.02**	**13**		Pg	22 22 26.1	+1.1
KKO	**Keanakako'i**	**0.02**	**97**		Pg	22 22 25.6	+0.6
UWE	**Uwekahuna**	**0.02**	**348**		Pg	22 22 25.7	+0.6
UWB	**Uwekahuna B**	**0.03**	**22**		Pg	22 22 25.8	+0.7
BYL	**Byron's Ledge**	**0.03**	**66**		Pg	22 22 26.1	+0.9
SBLHI	**Steaming Bluff**	**0.03**	**36**		Pg	22 22 26.5	+1.3
HATHI	**Halema'uma'u T**	**0.03**	**49**		Pg	22 22 25.9	+0.7
HATHI				IAML		22 22 25.9	
	comp=N,6μm,0.7s						
PUH	**Pauahi**	**0.07**	**111**		Pg	22 22 26.8	+0.8
PUH				IAML		22 22 27.3	
	comp=N,3μm,1.2s						
PUH					Sg	22 22 28.6	+1.7
HLP	**Hilina Pali**	**0.10**	**190**		Pg	22 22 27.5	+1.0
HLP	**Hilina Pali**	**0.10**	**190**	IAML		22 22 27.6	
	comp=E,3μm,0.8s						
HLP					Sg	22 22 29.2	+1.2
MLH	**Mauna Loa**	**0.13**	**315**		Pg	22 22 28.1	+1.0
MLH				IAML		22 22 29.4	
	comp=E,2μm,1.4s						
STCH	**Steam Cracks**	**0.15**	**95**		Pg	22 22 27.6	+0.1
STCH				IAML		22 22 28.4	
	comp=N,1μm,1.4s						
STCH				IAML		22 22 32.5	
	comp=E,1μm,1.0s						
HTC	**Hot Caves**	**0.19**	**213**		Pg	22 22 29.1	+0.8

BJI ***13*** *22:27:26.3±0.0,29°.62S×60°.58E,h16km,mb5.0/60, mB5.3/30,Ms4.8/19,Ms7 4.4/19*

IDC ***13*** *22:27:27.0±0.4,29°.60S×60°.93E,h0km,mb5.0/31, mbtmp4.9/32,ML4.6/1,MS4.2/59,Error ellipse: s-maj=13.6km s-min=10.8km az=81.0*

MOS ***13*** *22:27:28.4±0.8,29°.45S×60°.97E,h16km,mb5.5/84, MS4.4/5,Error ellipse: s-maj=10.3km s-min=4.5km az=99.3*

NEIC ***13*** *22:27:29.8±1.6,29°.43S±0°.09×60°.93E±0°.09,h10km±1km, mb5.4/138,Mww5.2/23,Error ellipse: s-maj=14.8km s-min=12.9km az=186.0*

NEIC ***13*** *22:27:29.8,29°.73S×60°.82E,h18km,Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 1016 Nm; Mrr=6.86; Mθθ5.22; Mϕϕ1.64; Mrθ-2.82; Mθϕ1.85; Mϕr~1.66; Fault plane solution: M0 7.22000×1016 NP1: ϕs63.93000°,δ58.46000°,λ-92.97000°. NP2:ϕs249.59000°, δ31.66000°,λ-85.18000°. Principal axes: T 6.7787, Plg13.0000°, Azm156.0000°; N 0.8735, Plg3.0000°, Azm65.0000°; P -7.6523, Plg76.0000°, Azm325.0000°;*

GCMT ***13*** *22:27:29.8±0.2,29°.48S±0°.01×60°.73E±0°.02,h12km, MW5.1/117,Moment Tensor Solution. s73,c102; s117,c202; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-4.98±.09; Mθθ4.32±.08; Mϕϕ0.66±.09; Mrθ0.33±.24; Mθϕ2.18±.07; Mϕr0.13±.31; Best double couple: M0 5.17000×1016 NP1:ϕs245.00000°,δ47.00000°, λ-90.00000°. NP2:ϕs65.00000°,δ43.00000°,λ-90.00000°. Principal axes: T 5.3490, Plg2.0000°, Azm335.0000°; N -0.3560, Plg0.0000°, Azm65.0000°; P -4.9920, Plg88.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC ***13*** *22:27:29.8,29°.43S×60°.93E,h18km*

ISC 13 22:27:29.8±0.2,29°.53S±0°.05×60°.85E±0°.05,h14km,n1211, σ0s85/1179,mb5.3/196,MS4.3/67,47C-83D,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.53**	**330**		Pn	22 29 43.6	-3.0
FOMA	**Nahampoana Res**	**13.15**	**287**	Pn	Pn	22 30 34.4	-1.8
VOI	**Vohitsoka**	**14.76**	**298**	P	Pn	22 30 59.2	+0.8
VOI	**Vohitsoka**	**14.76**	**298**	Pn	Pn	22 30 58.5	+0.1
VOI	**Vohitsoka**	**14.76**	**298**	*eP*	Pn	22 30 58.3	-0.1
ABPO	**Ambohimpanom**	**16.23**	**307**		Pn	22 31 17.5	-0.1
ABPO	**Ambohimpanom**	**16.23**	**307**	*eP*	P	22 31 20.0	-0.7
ABPO	**Ambohimpanom**	**16.23**	**307**	P	Pn	22 31 17.5	-0.1
ABPO				pmax	pmax		
	comp=Z,101nm,1.2s						
OPO	**Ambohidratompo**	**16.56**	**308**	Pn	Pn	22 31 21.2	-0.7
	comp=Z,0.2nm,0.3s,baz=122,slow=14,SNR=19						
OPO				Sn	Sn	22 34 11.3	-14
	comp=Z,0.4nm,0.3s,baz=168,slow=19,SNR=3.9						
OPO				LR	LR	22 36 18.4	
	comp=Z,756nm,21.8s,baz=3.0,slow=32						
	comp=Z,13nm,0.6s						
H04N2	**CROZET ISLANDS**	**18.06**	**201**	T	T	22 50 24.7	
	baz=28,slow=75,SNR=3763						
H04N1	**CROZET ISLANDS**	**18.06**	**201**	T	T	22 50 25.7	
	baz=28,slow=75,SNR=2452						
H04N3	**CROZET ISLANDS**	**18.08**	**201**	T	T	22 50 24.4	
	baz=28,slow=75,SNR=2195						
H08S1	**Diego Carcia H**	**24.36**	**29**	T	T	22 57 50.0	
	baz=204,slow=75,SNR=134						
H08S2	**Diego Garcia H**	**24.36**	**29**	T	T	22 57 50.4	
	baz=204,slow=75,SNR=34						
H08S3	**Diego Garcia H**	**24.38**	**29**	T	T	22 57 51.5	
	baz=204,slow=75,SNR=50						
POGA	**Pongola**	**25.70**	**268**	P	P	22 32 59.3	-0.3
POGA				IAmb	IAmb	22 33 02.8	
	comp=Z,170nm,1.4s						
POGA	**Pongola**	**25.70**	**268**	⇓*i* P	P	22 33 00.1	+0.5
POGA				IAmb	IAmb	22 33 02.4	
	comp=Z,171nm,1.4s						
PMBG Pietermaritzbu 26.37 262 *eP* P 22 33 05.6 -0.2
MOPA Mopani 26.98 276 ⇓*i* P P 22 33 11.7 +0.4
MOPA IAmb IAmb 22 33 12.5
comp=Z,146nm,0.8s
PILG Pilgrimsrest, 27.15 272 *eP* P 22 33 13.1 +0.1
PILG IAmb IAmb 22 33 14.1
comp=Z,56nm,1.1s
KSTD Kokstad 27.28 260 *eP* P 22 33 13.1 -1.0
KSTD IAmb IAmb 22 33 18.7
comp=Z,16nm,0.6s
CRLN Carolina, Mapu 27.47 270 *eP* P 22 33 15.5 -0.3
MUSN Musina, Limpop 28.74 277 ⇓*i* P P 22 33 27.0 0.0
MUSN IAmb IAmb 22 33 27.5
comp=Z,24nm,0.8s
GRHM Grahamstown, E 29.58 254 *eP* P 22 33 34.7 +0.2
LEPH Lephalale, Lim 30.00 273 *eP* P 22 33 38.5 +0.1
LEPH IAmb IAmb 22 33 38.9
comp=Z,33nm,0.9s
HVD Gariep Dam 30.55 259 *eP* P 22 33 45.4 +2.3
MATP Matopo 30.61 280 LR LR 22 44 22.2
comp=Z,604nm,21.1s,baz=92,slow=33
BUFB Buffelsbos 30.92 252 *eP* P 22 33 47.7 +1.5
BOSA Boshof 31.05 263 P P 22 33 47.5 -0.1
BOSA IAmb IAmb 22 33 48.6
comp=Z,106nm,1.8s
BOSA Boshof 31.05 263 *eP* P 22 33 47.7 +0.1
BOSA Boshof 31.05 263 P P 22 33 47.0 -0.6
comp=Z,12nm,0.9s,baz=106,slow=8.1,SNR=15
BOSA LR LR 22 43 49.0
comp=Z,539nm,21.7s,baz=107,slow=32
comp=Z,12nm,0.9s
BOSA Boshof 31.05 263 P P 22 33 47.5 -0.1
BOSA pmax pmax
comp=Z,106nm,1.8s
BFON Badsfontein, M 31.95 256 *eP* P 22 33 55.8 +0.3
ROOI Rooidraai Farm 32.00 255 *eP* P 22 33 56.2 +0.3
ROOI IAmb IAmb 22 33 56.8
comp=Z,75nm,1.3s
BRAK Brakfontein 32.63 256 *eP* P 22 34 01.9 +0.6
LSZ Lusaka 33.23 288 P P 22 34 07.2 +0.4
LSZ Lusaka 33.23 288 P P 22 34 07.2 +0.4
LSZ pmax pmax
comp=Z,143nm,1.6s
SUR Sutherland 34.32 255 *eP* P 22 34 18.7 +2.4
SUR Sutherland 34.32 255 LR LR 22 45 40.7
comp=Z,436nm,20.3s,baz=102,slow=32
CER Ceres 35.50 253 *eP* P 22 34 26.0 -0.2
PRTV Porterville,We 35.69 253 *eP* P 22 34 28.0 +0.1
PRTV IAmb IAmb 22 34 28.8
comp=Z,348nm,2.7s
MAW Mawson 38.12 179 P P 22 34 48.3 +0.3
comp=Z,6.9nm,0.8s,baz=356,slow=13,SNR=9.5
MAW LR LR 22 47 14.0
comp=Z,618nm,19.3s,baz=344,slow=31
comp=Z,6.9nm,0.8s
WIN Windhoek 39.74 270 P P 22 35 02.1 -0.3
WIN Windhoek 39.74 270 P P 22 35 02.1 -0.3
WIN pmax pmax
comp=Z,44nm,1.5s
TSUM Tsumeb 40.53 275 P P 22 35 09.9 +1.0
TSUM IAmb IAmb 22 35 11.1
comp=Z,84nm,1.4s
TSUM Tsumeb 40.53 275 *eP* P 22 35 10.4 +1.5
TSUM Tsumeb 40.53 275 LR LR 22 50 18.6
comp=Z,515nm,20.4s,baz=118,slow=34
MBAR Mbarara 40.63 310 P P 22 35 09.3 -0.4
MBAR Mbarara 40.63 310 *eP* P 22 35 12.6 +2.9
MBAR Mbarara 40.63 310 LR LR 22 50 23.9
comp=Z,670nm,19.7s,baz=124,slow=34
MBAR Mbarara 40.63 310 *de*P P 22 35 11.2 +1.4
MBAR pmax pmax
comp=Z,12nm,1.0s
LODK Lodwar 40.87 319 P P 22 35 11.2 -0.4
ATD Arta Tunnel 44.36 334 P P 22 35 39.5 -0.4
ATD Arta Tunnel 44.36 334 LR LR 22 51 13.8
comp=Z,40nm,20.3s,baz=162,slow=32
H01W2 Cape Leeuwin H 44.96 111 T T 23 23 16.1
baz=261,slow=75,SNR=239
H01W3 Cape Leeuwin H 44.97 111 T T 23 23 22.3
baz=261,slow=75,SNR=170
H01W1 Cape Leeuwin H 44.98 111 T T 23 23 23.4
baz=261,slow=75,SNR=208
ELIB Princess Elisa 47.04 195 *d*P P 22 36 01.6 +1.0
comp=Z,7.9nm,1.1s
PDSI Padang 47.23 60 P P 22 36 04.5 +1.9
comp=Z,26nm,1.1s
NWAO Narrogin (SRO) 47.85 109 LR LR 22 52 24.0
comp=Z,275nm,18.5s,baz=82,slow=31
BKNI Bangkinang 48.47 60 P P 22 36 14.2 +2.0
BKNI Bangkinang 48.47 60 P P 22 36 14.3 +2.0
comp=Z,114nm,1.2s
PSI Prapat 48.58 55 P P 22 36 14.5 +1.2
CBJI Citeko 48.99 71 P P 22 36 17.8 +1.5
comp=Z,57nm,0.5s
LEM Lembang 49.40 72 LR LR 22 53 52.0
comp=Z,103nm,20.4s,baz=232,slow=32
LEM Lembang 49.40 72 P P 22 36 21.6 +2.0
comp=Z,36nm,1.4s
HYB Hyderabad 49.70 22 *eP* P 22 36 21.4 -0.2
HYB IVmB_BB 22 36 22.0
comp=Z,482nm,1.1s
MEEK Meekatharra 50.59 102 P P 22 36 29.6 +1.2
IPM Ipoh 51.25 56 P P 22 36 34.9 +1.5
IPM Ipoh 51.25 56 P P 22 36 32.9 -0.6
IPM IAmb IAmb 22 36 35.5
comp=Z,33nm,1.0s
KMBL Kambalda 52.04 108 P P 22 36 40.4 +1.2
WSAR Wadi Sarin 52.51 357 LR LR 22 53 20.2
comp=Z,177nm,21.0s,baz=198,slow=30
MZR Muzera 52.71 351 *i* P P 22 36 43.4 -0.7
SNR=8.0
SOHO SOHO 53.51 355 *i* P P 22 36 50.0 +0.1
SNR=6.7
SNAA Sanae 54.03 201 P P 22 36 54.1 +0.8
SNAA Sanae 54.03 201 *eP* P 22 36 52.9 -0.4
SNAA Sanae 54.03 201 ⇑P P 22 36 50.6 -2.7
comp=Z,189nm,1.0s
SNAA Sanae 54.03 201 P P 22 36 52.8 -0.5
comp=Z,8.5nm,0.9s,baz=76,slow=4.2,SNR=6.4
SNAA LR LR 22 55 49.4
comp=Z,251nm,19.5s,baz=14,slow=32
comp=Z,8.5nm,0.9s
SNAA Sanae 54.03 201 ⇓*eP* P 22 36 53.7 +0.4
SNAA pmax pmax
comp=Z,19nm,1.2s
AJN Ajban 54.07 353 P P 22 36 54.9 +0.8
ASHO Ashiyiah 54.10 355 *i* P P 22 36 53.7 -0.5
SNR=10
ASUD Al Ashush, Dub 54.10 354 P P 22 36 54.9 +0.6
FAQ Al Faqa, Dubai 54.20 354 P P 22 36 54.6 -0.3
HATD Hatta, Dubai 54.23 355 P P 22 36 54.6 -0.6
UOSS Minazif 54.34 355 P P 22 36 55.7 -0.4
UOSS IAmb IAmb 22 36 56.2
comp=Z,36nm,1.4s
UOSS Minazif 54.34 355 P P 22 36 55.5 -0.5
NAZ Nazwa, Dubai 54.43 354 *i* P P 22 36 58.0 +1.4
SNR=6.8
MSFE Esma-Masafi 54.76 355 *i* P P 22 36 58.2 -0.9
SNR=15
RAYN Ar Rayn 54.77 343 P P 22 36 58.8 -0.4
RAYN IAmb IAmb 22 37 00.9
comp=Z,52nm,1.6s
RAYN Ar Rayn 54.77 343 *i* P P 22 36 58.8 -0.4
SNR=17
RAYN Ar Rayn 54.77 343 P P 22 36 58.8 -0.4
RAYN pmax pmax
comp=Z,51nm,1.6s
KSM Kuching 56.37 66 P P 22 37 11.6 +0.7
SRDT SRDT 57.15 46 P P 22 37 16.9 +0.6
FORT Forrest 57.30 109 P P 22 37 17.1 -0.2
FORT IAmb IAmb 22 37 19.8
comp=Z,40nm,0.8s
CM31 Chiang Mai Arr 60.21 42 P P 22 37 37.1 -0.5
CMAR Chiang Mai Arr 60.21 42 P P 22 37 37.0 -0.7
CMAR Chiang Mai Arr 60.21 42 P P 22 37 37.1 -0.5
comp=Z,7.6nm,0.9s,baz=231,slow=7.0,SNR=32
CMAR S S 22 45 54.4 +3.2
comp=Z,0.9nm,0.3s,baz=217,slow=12,SNR=5.0
CMAR LR LR 22 59 24.4
comp=Z,75nm,21.6s,baz=230,slow=32
comp=Z,7.6nm,0.9s
CHTO Chiang Mai 60.49 42 P P 22 37 38.9 -0.6
CHTO Chiang Mai 60.49 42 P P 22 37 38.9 -0.6
CHTO pmax pmax
comp=Z,7.0nm,0.9s

KAPI Kappang 60.59 78 LR LR 23 01 14.1
comp=Z,59nm,19.0s,baz=215,slow=34
QSPA South Pole Qui 60.63 180 P **P** **22 37 40.9 +0.8**
QSPA IAmb IAmb 22 37 49.1
comp=Z,28nm,0.9s
QSPA South Pole Qui 60.63 180 P **P** **22 37 39.4 -0.7**
comp=Z,26nm,0.8s,baz=264,slow=1.6,SNR=82
QSPA S **S** **22 45 51.8 -4.0**
comp=Z,1.4nm,1.0s,baz=230,slow=16,SNR=2.4
QSPA LR LR 23 01 11.7
comp=Z,416nm,18.9s,baz=266,slow=33
comp=Z,26nm,0.8s
UBPT Khong Chiam 61.95 50 P **P** **22 37 49.2 -0.2**
UBPT Khong Chiam 61.95 50 P **P** **22 37 48.6 -0.8**
UBPT IAmb IAmb 22 37 50.2
comp=Z,39nm,1.3s
SOEI Soe 62.16 85 P **P** **22 37 52.4 +1.2**
comp=Z,40nm,1.1s
SHL Shillong 62.35 32 P **P** **22 37 51.4 -0.8**
SHL Shillong 62.35 32 P **P** **22 37 51.4 -0.8**
CRAI Chiangrai 62.43 42 P **P** **22 37 51.6 -1.0**
BELA Belgrano 2 62.51 194 P **P** **22 37 52.6 +0.1**
BBOO Buckleboo 63.14 114 P **P** **22 37 57.0 -0.4**
BBOO IAmb IAmb 22 37 58.8
comp=Z,16nm,0.8s
HRA Herat 63.58 1 P **P** **22 37 59.3 -0.9**
VNDA Vanda 63.74 166 P **P** **22 38 01.6 +1.0**
VNDA Vanda 63.74 166 P **P** **22 38 00.4 -0.2**
comp=Z,10nm,0.8s,baz=262,slow=7.5,SNR=47
VNDA PKP2bc 23 06 57.3
comp=Z,3.9nm,1.2s,baz=111,slow=3.5,SNR=5.6
comp=Z,10nm,0.8s
VNDA Vanda 63.74 166 P **P** **22 38 01.6 +1.0**
VNDA pmax pmax
comp=Z,12nm,0.9s
EIL Elat 63.84 335 LR LR 23 02 10.4
comp=Z,393nm,19.5s,baz=209,slow=33
NIL Nilore 63.92 12 P **P** **22 38 01.7 -0.6**
NIL IAmb IAmb 22 38 02.5
comp=Z,33nm,1.0s
NIL Nilore 63.92 12 P **P** **22 38 01.7 -0.6**
NIL pmax pmax
comp=Z,33nm,1.0s
KBL Kabul 64.19 8 P **P** **22 38 03.3 -1.0**
KBL IAmb IAmb 22 38 05.6
comp=Z,20nm,0.9s
KBL Kabul 64.19 8 P **P** **22 38 03.3 -1.0**
KBL pmax pmax
comp=Z,20nm,0.9s
ASAR Alice Springs 64.62 104 P **P** **22 38 06.3 -1.0**
comp=Z,22nm,0.7s,baz=243,slow=6.0,SNR=76
ASAR LR LR 23 03 08.8
comp=Z,207nm,18.3s,baz=252,slow=33
ASAR PKP2bc 23 06 53.0
comp=Z,2.0nm,1.1s,baz=33,slow=5.5,SNR=5.1
comp=Z,22nm,0.7s
AS31 Alice Springs 64.62 104 P **P** **22 38 06.5 -0.8**
SBA Scott Base 64.62 167 P **P** **22 38 07.6 +1.3**
SBA IAmb IAmb 22 38 15.6
comp=Z,14nm,0.8s
SBA Scott Base 64.62 167 P **P** **22 38 07.6 +1.3**
SBA pmax pmax
comp=Z,14nm,0.9s
TOLI2 Tolitoli 64.71 73 P **P** **22 38 07.7 -0.2**
TOLI2 Tolitoli 64.71 73 P **P** **22 38 06.3 -1.6**
TOLI2 IAmb IAmb 22 38 09.7
comp=Z,33nm,1.5s
GHAJ Ghor Haditha 65.10 336 P **P** **22 38 09.7 -0.2**
HTT Hallett 65.19 116 P **P** **22 38 11.9 +1.0**
TNCH TengChong 65.19 38 ⇑P **P** **22 38 11.5 +0.5**
TNCH pP sP 22 38 17.0 +1.9
TNCH S **S** **22 46 58.8 +4.8**
TNCH sS sS 22 47 02.6 +4.1
TNCH pmax pmax
comp=Z,12nm,0.8s
TNCH pmax pmax
comp=Z,110nm,4.0s
TNCH LR LR
comp=Z,89nm,5.3s
TNCH LR LR
comp=Z,71nm,7.2s
TNCH LR LR
comp=Z,150nm,14.7s
SLVN Son La 65.39 44 P **P** **22 38 11.6 -0.6**
LSA Lhasa 65.61 29 P **P** **22 38 12.8 -1.1**
LSA Lhasa 65.61 29 P **P** **22 38 12.8 -1.1**
LSA pmax pmax
comp=Z,15nm,1.0s
LCRK Leigh Creek 65.68 112 P **P** **22 38 13.9 -0.1**
ARPS Mount Arapiles 66.30 120 P **P** **22 38 18.6 +0.7**
WRA Warramunga Arr 66.46 100 P **P** **22 38 18.5 -0.7**
WRA Warramunga Arr 66.46 100 P **P** **22 38 18.1 -1.2**
comp=Z,31nm,0.7s,baz=247,slow=5.7,SNR=76
WRA LR LR 23 04 06.3
comp=Z,300nm,18.5s,baz=296,slow=33
WRA PKP2bc 23 06 55.7
comp=Z,5.7nm,1.0s,baz=65,slow=2.8,SNR=12
comp=Z,31nm,0.7s
WRA Warramunga Arr 66.46 100 P **P** **22 38 18.5 -0.7**
WRA pmax pmax
comp=Z,6.0nm,1.5s
WB2 Warramunga Arr 66.47 100 P **P** **22 38 18.7 -0.6**
WB0 Warramunga Arr 66.58 100 P **P** **22 38 18.6 -1.4**
WR0 Warramunga Arr 66.63 100 P **P** **22 38 19.3 -1.0**
MMAI Mount Meron Ar 66.72 337 P **P** **22 38 21.6 +1.2**
comp=Z,20nm,0.7s,baz=148,slow=8.4,SNR=34
comp=Z,20nm,0.7s
GEYT Alibeck 67.15 358 P **P** **22 38 22.2 -0.9**
GEYT IAmb IAmb 22 38 25.1
comp=Z,23nm,1.1s
GEYT Alibeck 67.15 358 P **P** **22 38 22.8 -0.3**
comp=Z,11nm,0.8s,baz=186,slow=5.4,SNR=20
GEYT LR LR 23 05 12.8
comp=Z,209nm,21.3s,baz=180,slow=34
comp=Z,11nm,0.8s
GEYT Alibeck 67.15 358 P **P** **22 38 22.2 -0.9**
GEYT pmax pmax
comp=Z,23nm,1.1s
GYA0B ALIBECK ARRAY 67.15 358 P **P** **22 38 22.2 -0.9**
GYA0B IAmb IAmb 22 38 25.0
comp=Z,21nm,1.1s
QIZ Qiongzhong 67.53 51 P **P** **22 38 26.0 +0.1**
QIZ S **S** **22 47 21.5 -0.7**
QIZ LR LR
comp=Z,120nm,18.0s
QIZ LR LR
comp=Z,110nm,21.3s
QIZ LR LR
comp=Z,120nm,16.4s
KMI Kunming 67.60 41 ⇑P **P** **22 38 26.5 +0.1**
KMI sP pwP 22 38 33.5 -2.8
KMI pmax pmax
comp=Z,9.0nm,1.1s
BRAT Ballarat 67.60 121 P **P** **22 38 28.7 +2.6**
STKA Stephens Creek 67.85 115 P **P** **22 38 28.2 +0.3**
STKA Stephens Creek 67.85 115 P **P** **22 38 26.9 -0.9**
STKA Stephens Creek 67.85 115 P **P** **22 38 27.1 -0.9**
comp=Z,10nm,0.8s,baz=265,slow=5.3,SNR=19
STKA LR LR 23 03 39.5
comp=Z,238nm,18.2s,baz=221,slow=32
comp=Z,10nm,0.8s
STKA Stephens Creek 67.85 115 P **P** **22 38 27.0 -0.9**
STKA pmax pmax
comp=Z,3.0nm,1.1s
PZH PanZhiHua 68.11 39 P **P** **22 38 28.6 -0.9**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,130nm,3.8s
SIMJ Simiganj 68.26 7 P **P** **22 38 29.4 -0.8**
SIMJ IAmb IAmb 22 38 31.5
comp=Z,18nm,0.8s
CUKT Cukurca 68.36 345 *eP* **P** **22 38 31.7 +0.8**
INKA Innaminka 68.74 111 P **P** **22 38 33.6 +0.1**
TOO Toolangi 68.75 122 P **P** **22 38 35.9 +2.4**
TOO Toolangi 68.75 122 P **P** **22 38 33.5 0.0**
TOO IAmb IAmb 22 38 36.3
comp=Z,16nm,0.8s
TOO Toolangi 68.75 122 P **P** **22 38 33.5 0.0**
TOO pmax pmax
comp=Z,16nm,0.9s
CSS Mathiatis 69.20 336 *eP* **P** **22 38 36.5 +0.5**
CSS Mathiatis 69.20 336 P **P** **22 38 35.8 -0.2**
MAZI Mazidag 69.33 343 *eP* **P** **22 38 37.7 +0.9**
DRK Karamyk 69.41 9 P **P** **22 38 36.3 -1.2**
DRK IAmb IAmb 22 38 38.1
comp=Z,25nm,0.8s
DRK Karamyk 69.41 9 P **P** **22 38 36.3 -1.2**
DRK pmax pmax
comp=Z,25nm,0.8s
LFK Lefkose 69.42 336 *eP* **P** **22 38 38.7 +1.3**
LBMI Labuha 69.46 79 P **P** **22 38 38.3 +0.2**
AKDM Akdamar-Van 69.54 345 *eP* **P** **22 38 39.8 +1.6**
VANB Van 69.70 345 *eP* **P** **22 38 40.4 +1.2**
URFA Urfa 69.75 341 *eP* **P** **22 38 40.0 +0.6**
NAX Nakhchivan 69.83 347 P **P** **22 38 42.1 +2.2**
BTK Batken 69.85 8 P **P** **22 38 39.2 -0.8**
BTK Batken 69.85 8 P **P** **22 38 39.2 -0.8**
BTK pmax pmax
comp=Z,20nm,1.3s
GAZ Gaziantep 69.96 340 *eP* **P** **22 38 41.6 +0.9**
GAZ Gaziantep 69.96 340 P **P** **22 38 40.5 -0.1**
GURO Guroymak-BITLI 69.97 344 *eP* **P** **22 38 42.4 +1.6**
GURO Guroymak-BITLI 69.97 344 P **P** **22 38 41.0 +0.2**
CLDR Caldiran 70.12 346 *eP* **P** **22 38 42.9 +1.1**
CEYT Ceyhan 70.25 339 *eP* **P** **22 38 43.9 +1.5**
KMRS Kahramanmaras 70.36 340 *eP* **P** **22 38 43.7 +0.6**
KEBE Keben-Mersin 70.41 337 *eP* **P** **22 38 44.1 +0.6**
MLAZ Malazgirt-MUS 70.42 345 *eP* **P** **22 38 45.3 +1.7**
BERE Bereket-Mersin 70.49 337 *eP* **P** **22 38 43.1 -0.9**
VRTB Varto-Mus 70.69 344 *eP* **P** **22 38 47.4 +2.2**
DIS Mount Isa 70.70 103 P **P** **22 38 45.7 0.0**
BNGB Bingl 70.72 343 *eP* **P** **22 38 46.5 +1.2**
GNI Garni 70.92 347 P **P** **22 38 47.3 +0.7**
GNI Garni 70.92 347 P **P** **22 38 47.7 +1.1**
GNI Garni 70.92 347 LR LR 23 08 08.0
comp=Z,436nm,19.8s,baz=177,slow=34
GNI Garni 70.92 347 *de*P **P** **22 38 46.7 +0.1**
GNI pmax pmax
comp=Z,83nm,1.1s
PTK Pertek 70.95 342 *eP* **P** **22 38 48.1 +1.2**
TORD Torodi Ar. Bea 71.07 298 P **P** **22 38 48.0 +0.1**
comp=Z,24nm,0.8s,baz=110,slow=5.6,SNR=111
comp=Z,24nm,0.8s
CMRD Camardi-Nigde 71.09 339 *eP* **P** **22 38 48.2 +0.5**
MNGR Mingechevir, A 71.10 349 P **P** **22 38 49.8 +2.3**
GANJ Ganja 71.11 348 P **P** **22 38 49.9 +2.3**
DARE Darende-Malaty 71.18 341 *eP* **P** **22 38 49.6 +1.5**
CMSA Cobar Meteorol 71.20 116 P **P** **22 38 50.3 +1.7**
KRMN Karaman 71.22 337 *eP* **P** **22 38 48.6 +0.2**
HDMB Hadim 71.30 336 *eP* **P** **22 38 49.3 +0.2**
SARI SarD1z-Kayseri 71.34 340 *eP* **P** **22 38 50.3 +1.1**
ARSB Arslanbob 71.38 10 P **P** **22 38 48.7 -0.7**
ARSB Arslanbob 71.38 10 P **P** **22 38 48.7 -0.7**
ARSB pmax pmax
comp=Z,13nm,1.1s
KOPR Koprukoy-ERZUR 71.39 345 *eP* **P** **22 38 51.6 +2.1**
ARPP Arapgir-MALATY 71.42 342 *eP* **P** **22 38 50.5 +0.8**
ARPR Arapgir-MALATY 71.42 342 P **P** **22 38 50.0 +0.3**
SEKA Seki 71.51 349 P **P** **22 38 52.2 +2.2**
ILIC ilic-Erzincan 71.70 342 *eP* **P** **22 38 51.9 +0.6**
KARS Kars 71.72 346 P **P** **22 38 51.8 +0.4**
KARS Kars 71.72 346 P **P** **22 38 51.8 +0.4**
KARS pmax pmax
comp=Z,86nm,0.9s
SENK Senkaya-Erzuru 71.82 345 *eP* **P** **22 38 53.2 +1.1**
IUG Iuzhnay 71.82 7 *eP* **P** **22 38 52.0 0.0**
comp=Z,18nm,0.8s,baz=7.2
IUG Iuzhnay 71.82 7 *eP* **P** **22 38 51.9 0.0**
IUG pmax pmax
comp=Z,18nm,0.8s
BNN Bunyan 71.92 340 *eP* **P** **22 38 53.4 +0.8**
BNN Bunyan 71.92 340 P **P** **22 38 52.6 -0.1**
SEYD Seydisehir-KON 71.92 336 *eP* **P** **22 38 52.5 -0.2**
CHM Chimkent 71.94 7 *eP* **P** **22 38 52.9 +0.3**
comp=Z,15nm,0.8s,baz=6.8
CHM Chimkent 71.94 7 *eP* **P** **22 38 52.9 +0.3**
CHM pmax pmax
comp=Z,15nm,0.8s
DAV Davao City (W) 71.98 71 LR LR 23 05 31.4
comp=Z,33nm,21.6s,baz=234,slow=32
ELL Elmali 72.05 334 P **P** **22 38 52.6 -0.8**
ELL Elmali 72.05 334 P **P** **22 38 52.6 -0.8**
ELL pmax pmax
comp=Z,108nm,1.3s
QLP Quilpie 72.05 111 P **P** **22 38 53.9 +0.1**
SULT Sultanhani-AKS 72.06 338 *eP* **P** **22 38 54.4 +0.9**
KARP Karpathos 72.09 332 P **P** **22 38 53.6 -0.1**
YNG Young 72.18 120 P **P** **22 38 57.2 +2.7**
KONT Konya--Tatoy 72.22 337 *eP* **P** **22 38 55.0 +0.6**
ARG Arkhangelos 72.27 333 P **P** **22 38 54.7 0.0**
ARG Arkhangelos 72.27 333 P **P** **22 38 54.7 0.0**
ARG pmax pmax
comp=Z,99nm,1.1s
BCK Bucak 72.42 335 *eP* **P** **22 38 54.8 -0.8**
CAME Cameli-Denizli 72.45 334 *eP* **P** **22 38 56.3 +0.4**
LADK Ladik-KONYA 72.45 337 *eP* **P** **22 38 56.3 +0.5**
UCH Uchtor 72.50 11 P **P** **22 38 56.6 +0.1**
SNR=9.5
KOZK Kozakli-Nevseh 72.55 339 *eP* **P** **22 38 57.1 +0.7**
SVSK Karacayir 72.56 341 *eP* **P** **22 38 57.4 +1.1**
DBIC Dimbokro 72.57 288 P **P** **22 38 57.1 +0.2**
DBIC IAmb IAmb 22 38 59.1
comp=Z,20nm,0.8s
DBIC Dimbokro 72.57 288 P **P** **22 38 57.8 +0.8**
comp=Z,9.9nm,0.5s,baz=107,slow=4.1,SNR=26
DBIC LR LR 23 09 33.9
comp=Z,366nm,19.5s,baz=106,slow=35
comp=Z,9.9nm,0.5s
DBIC Dimbokro 72.57 288 P **P** **22 38 57.1 +0.2**
DBIC pmax pmax
comp=Z,20nm,0.8s
TARG Taragay, Kyrgy 72.61 13 P **P** **22 38 55.1 -2.0**
TARG Taragay, Kyrgy 72.61 13 P **P** **22 38 55.1 -2.0**
TARG pmax pmax
comp=Z,8.0nm,1.0s
BRLS Borolday 72.67 7 ⇓ *i*P **P** **22 38 54.9 -2.1**
comp=Z,11nm,1.0s,baz=6.8
BRLS Borolday 72.67 7 *d i*P **P** **22 38 54.8 -2.1**
BRLS pmax pmax
comp=Z,11nm,1.0s
DZA Taraz 72.70 8 *eP* **P** **22 38 57.0 -0.1**
comp=Z,10nm,0.7s,baz=8.0
DZA Taraz 72.70 8 *eP* **P** **22 38 57.0 -0.1**
DZA pmax pmax
comp=Z,10.0nm,0.7s
SERE Serefiikochisa 72.72 338 *eP* **P** **22 38 57.9 +0.5**
GOMU GeErMu 72.76 28 P **P** **22 38 57.6 -0.4**
GOMU pP sP 22 39 03.3 +1.1
GOMU sP pwP 22 39 04.9 -2.9
GOMU pmax pmax
comp=Z,8.0nm,1.1s
ISP Isparta 72.77 335 P **P** **22 38 56.5 -1.2**
ISP Isparta 72.77 335 P **P** **22 38 56.5 -1.2**
ISP pmax pmax
comp=Z,16nm,0.9s
EKS2 Erkin-Say 72.81 10 P **P** **22 38 58.5 +0.6**
SNR=52
KK31 Karatay Array 72.82 7 P **P** **22 38 57.7 -0.1**
KK31 IAmb IAmb 22 38 59.2
comp=Z,40nm,1.1s
KK31 Karatay Array 72.82 7 P **P** **22 38 57.7 -0.1**
KK31 pmax pmax
comp=Z,40nm,1.1s
KKAR Karatay Array 72.82 7 P **P** **22 38 57.7 -0.1**
KKAR IAmb IAmb 22 38 59.2
comp=Z,39nm,1.1s
KKAR Karatay Array 72.82 7 P **P** **22 38 57.6 -0.2**
KKAR Karatay Array 72.82 7 P **P** **22 38 57.6 -0.2**
KKAR 22 38 57.7
KKAR pmax pmax
comp=Z,39nm,1.1s
BCA Borcka 72.82 345 ⇑P **P** **22 38 58.8 +1.0**
BCA Borcka 72.82 345 *eP* **P** **22 38 58.4 +0.6**
KTUT Trabzon 72.83 343 ⇓P **P** **22 38 58.8 +1.0**
KTUT Trabzon 72.83 343 *eP* **P** **22 38 58.9 +1.0**
IDI Anoyia 72.84 330 *eP* **P** **22 38 59.1 +1.0**
IDI Anoyia 72.84 330 P **P** **22 38 58.0 -0.1**
AAK Ala-Archa 72.90 10 P **P** **22 38 59.0 +0.5**
SNR=21
AAK Ala-Archa 72.90 10 P **P** **22 38 58.2 -0.3**
AAK IAmb IAmb 22 39 00.2
comp=Z,40nm,1.2s
AAK Ala-Archa 72.90 10 *i*P **P** **22 38 59.0 +0.5**
SNR=24
AAK Ala-Archa 72.90 10 LR LR 23 07 38.0
comp=Z,165nm,21.6s,baz=200,slow=33
AAK Ala-Archa 72.90 10 *d i*P **P** **22 38 58.9 +0.5**
AAK pmax pmax
comp=Z,41nm,1.3s
APMY Acipayam-Deniz 72.91 334 *eP* **P** **22 38 58.5 0.0**
RSDY Resadiye-TOKAT 72.92 341 *eP* **P** **22 38 59.3 +0.9**
KBK Karagaybulak 72.99 11 P **P** **22 38 59.4 +0.4**
SNR=12
BOOM Boomskoye usch 73.00 12 P **P** **22 38 57.9 -1.1**
BOOM Boomskoye usch 73.00 12 P **P** **22 38 57.9 -1.1**
BOOM pmax pmax
comp=Z,19nm,1.2s
ESPY Espiye-Giresun 73.03 343 *eP* **P** **22 38 59.4 +0.3**
TOKT Tokat 73.07 341 *eP* **P** **22 39 00.0 +0.6**
FRU1 Bishkek 73.09 11 P **P** **22 38 59.2 -0.3**
FRU1 IAmb IAmb 22 39 00.5
comp=Z,22nm,1.0s
FRU1 Bishkek 73.09 11 P **P** **22 38 59.2 -0.3**
FRU1 pmax pmax
comp=Z,22nm,1.0s
MAK Makhachkala 73.17 350 *eP* P 22 38 54.5 -5.3
MAK *e*S **S** **22 48 21.7 -5.4**
MAK *e*SSS SSS 22 56 23.6
MAK pmax pmax
comp=Z,118nm,0.9s
MAK MLR MLR
comp=Z,195nm,16.0s
KIZT Kizilcal 73.23 337 *eP* **P** **22 39 00.6 +0.2**
AFSR Afar-Bala (An 73.34 338 *eP* **P** **22 39 01.4 +0.4**
TKM2 Tokmak 2 73.36 11 P **P** **22 39 01.2 0.0**
SNR=25
SHUT Suhut-Afyon 73.40 336 *eP* **P** **22 39 01.2 -0.3**
BR131 Keskin Array S 73.40 338 P **P** **22 39 01.0 -0.4**
BR131 IAmb IAmb 22 39 02.5
comp=Z,45nm,0.9s
BR131 Keskin Array S 73.40 338 *d*⇓P **P** **22 39 01.2 -0.3**
BRTR Keskin Array B 73.40 338 P **P** **22 39 00.8 -0.7**
BRTR Keskin Array B 73.40 338 P **P** **22 39 01.2 -0.3**
comp=Z,26nm,0.9s,baz=164,slow=8.6,SNR=153
comp=Z,26nm,0.9s
CORM Corum 73.51 339 *eP* **P** **22 39 02.9 +0.9**
USP Ospenovka 73.51 10 P **P** **22 39 02.2 +0.3**
SNR=36
TNSS Tian-Shan 73.71 12 *eP* **P** **22 39 03.1 -0.4**
baz=12
TNSS Tian-Shan 73.71 12 *eP* **P** **22 39 03.1 -0.4**
SGDS Sogindy 73.72 10 *eP* **P** **22 39 03.1 -0.1**
baz=10
SGDS Sogindy 73.72 10 *eP* **P** **22 39 03.0 -0.1**
ANTO Ankara 73.81 338 ⇑P **P** **22 39 03.9 +0.1**
ANTO Ankara 73.81 338 P **P** **22 39 03.4 -0.4**
ANTO IAmb IAmb 22 39 05.2
comp=Z,41nm,0.9s
ANTO Ankara 73.81 338 P **P** **22 39 03.4 -0.4**
ANTO pmax pmax
comp=Z,41nm,0.9s
MDOK Medeo 73.85 12 *i*P **P** **22 39 04.2 +0.1**
baz=12
MDOK Medeo 73.85 12 *i*P **P** **22 39 04.1 +0.1**
SVRH Sivrihisar-ESK 73.86 337 *eP* **P** **22 39 04.3 +0.2**
AAA Alma-Ata 73.87 12 *eP* **P** **22 39 04.2 +0.2**
comp=Z,16nm,0.8s,baz=12
AAA Alma-Ata 73.87 12 *eP* **P** **22 39 04.2 +0.2**
AAA pmax pmax
comp=Z,16nm,0.8s
AYDB Zeytinkoy-Aydi 73.87 333 *eP* **P** **22 39 04.8 +0.6**
KVT Kavak 73.91 341 *eP* **P** **22 39 05.1 +0.8**
CIFT Cifteler, Eski 73.94 336 *eP* **P** **22 39 04.1 -0.5**
SATY Saty 74.01 13 *eP* **P** **22 39 05.1 +0.1**
comp=Z,12nm,0.8s,baz=13
SATY Saty 74.01 13 *eP* **P** **22 39 05.0 +0.1**
SATY pmax pmax
comp=Z,12nm,0.8s
KULA Kula-Manisa 74.07 334 *eP* **P** **22 39 05.5 +0.2**
APE Apeiranthos 74.07 331 ⇓P **P** **22 39 05.6 +0.2**
APE Apeiranthos 74.07 331 P **P** **22 39 05.5 +0.2**
ODEM Odemis-Izmir 74.08 334 *eP* **P** **22 39 06.2 +0.8**
ZHN Zhinishke 74.12 13 *eP* **P** **22 39 05.5 -0.1**
baz=13
ZHN Zhinishke 74.12 13 *eP* **P** **22 39 05.5 -0.1**
UZB Uzynbulak 74.22 14 *eP* **P** **22 39 06.2 -0.1**
comp=Z,13nm,0.9s,baz=14
UZB Uzynbulak 74.22 14 *eP* **P** **22 39 06.1 -0.1**
UZB pmax pmax
comp=Z,13nm,0.9s
SHLS Shalkode 74.32 14 *eP* **P** **22 39 07.6 +0.8**
comp=Z,14nm,1.0s,baz=14
SHLS Shalkode 74.32 14 *eP* **P** **22 39 07.6 +0.8**
SHLS pmax pmax
comp=Z,14nm,1.0s
TAM Tamanrasset 74.42 308 P **P** **22 39 06.7 -1.1**
TAM Tamanrasset 74.42 308 P **P** **22 39 06.7 -1.1**
TAM pmax pmax
comp=Z,32nm,1.7s
CHKK Chushkaly 74.51 12 *eP* **P** **22 39 07.4 -0.3**
baz=12
CHKK Chushkaly 74.51 12 *eP* **P** **22 39 07.4 -0.3**
BLCB Balcova 74.58 333 *eP* **P** **22 39 08.8 +0.6**
GORD Gordes-Manisa 74.59 334 *eP* **P** **22 39 09.1 +0.7**
DIKM Dikmen 74.67 340 ⇓P **P** **22 39 09.3 +0.6**
SRCK Saricakaya, Es 74.70 336 *eP* **P** **22 39 09.3 +0.4**
KBZ Khabaz 74.73 347 P **P** **22 39 09.2 +0.3**
comp=Z,22nm,0.9s,baz=172,slow=5.0,SNR=41
KBZ LR LR 23 09 56.9
comp=Z,424nm,21.8s,baz=149,slow=34
comp=Z,22nm,0.9s
KBZ Khabaz 74.73 347 *d i*P **P** **22 39 09.3 +0.3**
KBZ pmax pmax
comp=Z,29nm,1.0s
SHA1 Shidzhatmaz 74.79 346 *ce*P **P** **22 39 10.4 +0.8**
MDUB Mudurnu 74.88 337 *eP* **P** **22 39 10.2 +0.1**
MDUB Mudurnu 74.88 337 P **P** **22 39 09.7 -0.4**
CHOS Chios island 74.98 332 *eP* **P** **22 39 10.8 +0.2**
KVAR Kislovodsk Arr 74.99 347 LR LR 23 10 53.3
comp=Z,178nm,20.3s,baz=56,slow=35
KIV Kislovodsk 75.00 347 ⇑P **P** **22 39 11.0 +0.3**
KIV Kislovodsk 75.00 347 P **P** **22 39 10.2 -0.4**
KIV Kislovodsk 75.00 347 *i*P **P** **22 39 11.0 +0.3**
SNR=29
KIV Kislovodsk 75.00 347 *d i*P **P** **22 39 10.9 +0.3**
KIV *e* 22 41 58.4
KIV *e*S **S** **22 48 54.0 +6.1**
KIV *e*SS **SS** **22 53 41.4 +4.0**
KIV pmax pmax
comp=Z,81nm,1.0s
KIV MLR MLR
comp=Z,262nm,18.0s
ARXS Arharly 75.01 13 *eP* **P** **22 39 09.7 -1.0**
SOMA Soma-Manisa 75.06 334 *eP* **P** **22 39 11.6 +0.7**
GULT Gulveren 75.08 336 *eP* **P** **22 39 11.4 +0.2**
BTLS Baital 75.18 10 ⇓ *i*P **P** **22 39 11.6 0.0**
comp=Z,12nm,0.9s,baz=9.6
BTLS Baital 75.18 10 *d i*P **P** **22 39 11.5 0.0**
BTLS pmax pmax
comp=Z,12nm,0.9s
SOC Sochi 75.29 344 *eP* **P** **22 39 09.8 -2.4**
SOC *e* 22 41 58.3
SOC *e*PPP PPP 22 43 44.4
SOC *e*S **SS** **22 53 45.9 +4.2**
SOC *e*SSS SSS 22 57 00.5
SOC pmax pmax
comp=Z,45nm,0.9s
BALB Balikesir 75.34 334 *eP* **P** **22 39 13.2 +0.6**
BALB Balikesir 75.34 334 P **P** **22 39 12.5 -0.1**
ADVT Abdulvahap 75.36 336 *eP* **P** **22 39 13.2 +0.6**
ENH Enshi 75.38 42 P **P** **22 39 11.7 -1.4**
SUSR Susurluk-Balik 75.55 335 *eP* **P** **22 39 13.9 +0.1**
KCTX Karacabey (Bur 75.71 335 *eP* **P** **22 39 14.7 0.0**
HRT Hereke 75.73 336 *eP* **P** **22 39 15.0 +0.2**
ITM Ithomi 75.73 329 *eP* **P** **22 39 15.0 +0.1**
ITM Ithomi 75.73 329 P **P** **22 39 14.7 -0.3**
MTSU Mount Surprise 75.76 103 P **P** **22 39 16.5 +0.9**
SIGR SIGRI 75.76 333 *eP* **P** **22 39 15.4 +0.4**
ARMT Armutlu 75.79 335 *eP* **P** **22 39 13.9 -1.3**
TDK Taldyqorghan 75.88 13 *eP* **P** **22 39 15.3 -0.2**
comp=Z,14nm,0.8s,baz=13
TDK Taldyqorghan 75.88 13 *eP* **P** **22 39 15.3 -0.2**
TDK pmax pmax
comp=Z,14nm,0.8s
CNSH ChangSha 75.97 46 ⇓P **P** **22 39 16.8 +0.4**
CNSH pmax pmax
comp=Z,11nm,0.5s
EDC Edincik 75.97 335 *eP* **P** **22 39 16.2 +0.1**
CANM Can-anakkale 75.98 334 *eP* **P** **22 39 18.2 +2.0**
GOF Gofitskoye 75.98 347 *ce*P **P** **22 39 16.2 +0.1**
LABN Labinsk 76.07 345 *eP* **P** **22 39 17.0 +0.4**

LABN pmax pmax
comp=Z,109nm,1.5s
LABN MLR MLR
comp=Z,274nm,16.0s
EZN Ezine 76.10 333 *e*P **P 22 39 17.1 +0.2**
ISK Istanbul-Kandi 76.16 336 *e*P **P 22 39 17.1 -0.1**
COMU Canakkale 76.28 334 *e*P **P 22 39 18.4 +0.4**
MRMT Marmara Adasi 76.29 335 *e*P **P 22 39 17.9 -0.2**
CTKS Kestanelik-??a 76.51 335 *e*P **P 22 39 19.1 -0.1**
CTAO Charters Tower 76.52 106 P **P 22 39 21.4 +1.5**
RKY Sarkoy-Tekirda 76.52 334 *e*P **P 22 39 19.4 +0.1**
GELI Tayfur-Gelibol 76.54 334 *e*P **P 22 39 19.5 +0.1**
PMSA Palmer Station 76.74 201 LR LR 23 03 59.2
comp=Z,259nm,21.9s,baz=122,slow=29
ERIK Erikli-Kesan 76.76 334 *e*P **P 22 39 20.5 -0.1**
LZH Lanzhou 76.77 35 ⇑P **P 22 39 21.1 +0.1**
LZH sP pwP 22 39 31.3 +0.5
LZH pmax pmax
comp=Z,13nm,1.4s
LZH pmax pmax
comp=Z,200nm,4.1s
ANN Anapa 77.00 343 *e*P **P 22 39 20.0 -1.8**
ANN *e**PP **pP 22 39 24.0 -0.8**
ANN *e* 22 39 30.7
ANN *e*S **S 22 49 08.4 -1.2**
ANN pmax pmax
comp=Z,56nm,1.1s
WMQ Urumqi 77.02 20 *e*P **P 22 39 22.5 +0.4**
WMQ pmax pmax
comp=Z,14nm,1.1s
WMQ LR LR
comp=Z,290nm,20.7s
WMQ LR LR
comp=Z,210nm,23.5s
AGG Agios Georgios 77.08 330 *e*P **P 22 39 22.3 -0.2**
AGG Agios Georgios 77.08 330 P **P 22 39 21.8 -0.7**
AGG IAmb IAmb 22 39 23.2
comp=Z,36nm,1.0s
AGG Agios Georgios 77.08 330 P **P 22 39 21.8 -0.7**
AGG pmax pmax
comp=Z,36nm,1.0s
ERBR Yeremizino-Bor 77.14 346 *e*P **P 22 39 22.3 -0.3**
ERBR pmax pmax
comp=Z,136nm,1.0s
RDO Rodhopi 77.55 333 *e*P **P 22 39 24.9 -0.1**
RDO Rodhopi 77.55 333 P **P 22 39 24.3 -0.7**
RDO IAmb IAmb 22 39 25.9
comp=Z,30nm,1.1s
GTA Gaotai 77.59 30 ⇓P **P 22 39 25.3 -0.2**
GTA pP sP 22 39 29.6 0.0
GTA pmax pmax
comp=Z,11nm,1.4s
GTA pmax pmax
comp=Z,95nm,4.6s
GTA LR LR
comp=Z,120nm,18.2s
GTA LR LR
comp=Z,58nm,17.8s
GTA LR LR
comp=Z,150nm,16.4s
EDRB Edirne 77.69 335 *e*P **P 22 39 25.8 0.0**
XAN Xi'an 77.85 39 ⇓P **P 22 39 25.8 -1.2**
XAN pP pP 22 39 29.8 -0.2
XAN pmax pmax
comp=Z,18nm,1.0s
LIT Litokhoron 77.90 331 P **P 22 39 26.4 -0.7**
LIT IAmb IAmb 22 39 27.8
comp=Z,47nm,1.0s
LIT Litokhoron 77.90 331 P **P 22 39 26.4 -0.7**
LIT pmax pmax
comp=Z,47nm,1.0s
KDZ Kurdzhali 78.04 334 *e*P **P 22 39 27.8 0.0**
EIDS Eidsvold 78.12 112 P **P 22 39 29.3 +0.5**
EIDS Eidsvold 78.12 112 P **P 22 39 28.2 -0.7**
JMB Yambol 78.32 335 *i*P **P 22 39 27.9 -1.4**
RZN Rozhen 78.33 333 *i*P **P 22 39 29.6 0.0**
MAKZ Makanchi 78.34 15 P **P 22 39 28.4 -1.0**
MAKZ IAmb IAmb 22 39 30.4
comp=Z,41nm,1.6s
MAKZ Makanchi 78.34 15 P **P 22 39 28.4 -1.0**
MAKZ pmax pmax
comp=Z,41nm,1.6s
YULB Yu-li 78.38 55 P **P 22 39 31.4 +1.3**
YULB Yu-li 78.38 55 P **P 22 39 29.6 -0.6**
SSLB Suanglung 78.39 54 P **P 22 39 31.3 +1.1**
SSLB Suanglung 78.39 54 P **P 22 39 29.9 -0.3**
SSLB IAmb IAmb 22 39 35.2
comp=Z,43nm,1.0s
MK31 Makanchi Array 78.40 15 P **P 22 39 29.0 -0.7**
MK31 Makanchi Array 78.40 15*d*i P **P 22 39 28.8 -0.9**
MKAR Makanchi Array 78.40 15 P **P 22 39 29.2 -0.5**
MKAR Makanchi Array 78.40 15 P **P 22 39 28.6 -1.1**
comp=Z,8.5nm,0.8s,baz=189,slow=4.7,SNR=66
MKAR LR LR 23 10 44.7
comp=Z,153nm,20.0s,baz=216,slow=33
comp=Z,8.5nm,0.8s
MKAR Makanchi Array 78.40 15*ce*P **P 22 39 29.2 -0.5**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
ABKAR Akbulak array 78.43 359 P **P 22 39 29.6 -0.2**
WHN Wuhan 78.50 45 ⇑P **P 22 39 30.8 +0.2**
WHN pmax pmax
comp=Z,44nm,0.9s
PRD Provadia 78.58 336 P **P 22 39 30.5 -0.2**
MMB Musomishta 78.59 332 *i*P **P 22 39 30.5 -0.4**
KNT Kendrikon 78.62 332 *e*P **P 22 39 29.6 -1.4**
GRG Griva 78.65 331 *e*P **P 22 39 31.2 0.0**
PLD Plovdiv 78.71 333 *e*P **P 22 39 31.4 0.0**
VAY Valandovo 78.89 332 *i*P **P 22 39 32.5 0.0**
FNA Florina 78.94 331 *e*P **P 22 39 32.5 -0.4**
FNA Florina 78.94 331 P **P 22 39 32.2 -0.7**
FNA IAmb IAmb 22 39 33.7
comp=Z,30nm,1.0s
FNA Florina 78.94 331 P **P 22 39 32.2 -0.7**
FNA pmax pmax
comp=Z,30nm,1.0s
ELND Elena 78.94 335 ⇓P **P 22 39 32.8 0.0**
NACB Ninganchiao 79.08 54 P **P 22 39 34.2 +0.3**
NACB Ninganchiao 79.08 54 P **P 22 39 33.0 -0.9**
NACB IAmb IAmb 22 39 35.8
comp=Z,48nm,1.2s
KKB Krupnik 79.09 332 *i*P **P 22 39 32.2 -1.4**
RAFF Raffo Rosso 79.42 324 P **P 22 39 35.3 -0.2**
CEL Celeste 79.45 326 P **P 22 39 35.5 -0.2**
OHR Ohrid 79.46 330 *i*P **P 22 39 37.2 +1.6**
JURR Jurilovca 79.48 337 ⇑P **P 22 39 36.0 +0.4**
TLBR Topalu 79.57 337 ⇑P **P 22 39 35.8 -0.3**
ZSN Zaisan 79.62 16 ⇓*i*P **P 22 39 36.6 +0.3**
baz=16
ZSN Zaisan 79.62 16*d*i P **P 22 39 36.6 +0.3**
AKTO Aktyubinsk 79.65 358 LR LR 23 11 52.1
comp=Z,178nm,21.8s,baz=186,slow=33
VTS Vitosha 79.70 333 *i*P **P 22 39 36.5 -0.6**
TPGR Topolog 79.72 337 ⇑P **P 22 39 36.7 -0.3**
HARR Harsova 79.74 337 ⇓P **P 22 39 37.0 -0.1**
HARR Harsova 79.74 337 P **P 22 39 36.9 -0.1**
TIP Timpagrande 79.75 327 ⇑P **P 22 39 38.0 +0.7**
TIP Timpagrande 79.75 327 P **P 22 39 37.5 +0.2**
TIP IAmb IAmb 22 39 39.0
comp=Z,32nm,1.2s
BRZS Berezniki 79.85 8 *e*P **P 22 39 37.5 -0.1**
baz=7.7
BRZS Berezniki 79.85 8 *e*P **P 22 39 37.4 -0.1**
SKO Skopje 79.90 331 *i*P **P 22 39 38.2 +0.2**
SGRR Singureni 80.02 335 ⇓P **P 22 39 38.9 +0.3**
CFR Carcaliu 80.10 337 ⇓P **P 22 39 39.2 +0.2**
CFR Carcaliu 80.10 337 P **P 22 39 39.1 +0.2**
MPEP Malo Peshtene 80.12 333 P **P 22 39 39.5 +0.3**
LYN LuoYang 80.22 41 *e*P **P 22 39 40.3 +0.4**
LYN pmax pmax
comp=Z,15nm,1.0s
LYN pmax pmax
comp=Z,210nm,4.2s
COPA Copaceanca 80.23 335 ⇓P **P 22 39 39.4 -0.3**
VALD Valchedram 80.53 333 P **P 22 39 40.9 -0.4**
IZVR Izvoarele 80.54 337 ⇓P **P 22 39 41.2 -0.1**
SCTR Scanteiesti 80.58 337 ⇓P **P 22 39 41.4 -0.1**
SLCR Slobozia Conac 80.58 337 ⇓P **P 22 39 41.7 +0.2**
ISR Istrita 80.59 336 ⇑P **P 22 39 42.1 +0.4**
ISR Istrita 80.59 336 P **P 22 39 42.1 +0.4**
HUMR Humele 80.65 335 ⇑P **P 22 39 41.7 -0.2**
VLDR Vladesti 80.70 337 ⇓P **P 22 39 42.1 -0.1**
PURM Purcari 80.72 339 ⇓P **P 22 39 42.1 -0.2**

BLKB Belogradchik 80.77 333 ⇓P **P 22 39 42.4 -0.3**
VARL Varlezi 80.83 337 ⇓P **P 22 39 43.2 +0.4**
ULC Ulcinj 80.83 330 ⇓*i*P **P 22 39 43.2 +0.2**
CUC Castrocucco 80.84 327 P **P 22 39 42.4 -0.7**
BAIL Bailesti 80.84 334 ⇑P **P 22 39 43.6 +0.6**
MATE Matera 80.93 328 ⇑P **P 22 39 43.1 -0.4**
ODBI Odobesti 80.98 337 ⇑P **P 22 39 44.4 +0.8**
KEST Kesra 81.01 320 P **P 22 39 44.6 +0.4**
KEST Kesra 81.01 320 P **P 22 39 45.5 +1.3**
comp=Z,7.4nm,0.9s,baz=143,slow=1.3,SNR=7.0
KEST LR LR 23 17 01.3
comp=Z,402nm,18.3s,baz=88,slow=37
comp=Z,7.4nm,0.9s
DRME Dracevica, Mon 81.04 330 ⇑*i*P **P 22 39 44.7 +0.6**
GHRR 81.12 337 ⇓P **P 22 39 45.3 +0.9**
MLR Muntele Rosu 81.13 336 ⇑P **P 22 39 44.9 +0.3**
MLR Muntele Rosu 81.13 336 *e*P **P 22 39 44.8 +0.1**
MLR Muntele Rosu 81.13 336 P **P 22 39 44.2 -0.5**
MLR IAmb IAmb 22 39 45.8
comp=Z,84nm,1.5s
MLR Muntele Rosu 81.13 336 LR LR 23 15 40.8
comp=Z,133nm,18.3s,baz=166,slow=36
MLR Muntele Rosu 81.13 336 P **P 22 39 44.2 -0.5**
MLR pmax pmax
comp=Z,83nm,1.5s
BOVS Bovan 81.17 332 ⇑P **P 22 39 44.1 -0.6**
VRI Vrincioaia 81.18 337 ⇑P **P 22 39 44.8 0.0**
VRI Vrincioaia 81.18 337 *e*P **P 22 39 45.0 +0.2**
VRI Vrincioaia 81.18 337 P **P 22 39 44.7 0.0**
PLOR Plostina 81.19 337 ⇓P **P 22 39 44.9 0.0**
PLOR Plostina 81.19 337 P **P 22 39 44.9 0.0**
PDG Podgorica 81.20 330 ⇑P **P 22 39 44.8 -0.2**
PDG Podgorica 81.20 330 P **P 22 39 44.7 -0.2**
PDG IAmb IAmb 22 39 46.5
comp=Z,25nm,1.1s
PDG Podgorica 81.20 330 *e*P **P 22 39 45.1 +0.2**
PDG Podgorica 81.20 330 ⇓*i*P **P 22 39 45.3 +0.4**
BUM Brajici-Budva 81.26 330 ⇓*i*P **P 22 39 45.6 +0.3**
IVA Berane 81.29 331 ⇓*i*P **P 22 39 45.4 -0.1**
KURBB Kurchatov Arra 81.32 11 P **P 22 39 45.0 -0.3**
comp=Z,14nm,0.9s,baz=207,slow=5.9,SNR=79
KURBB LR LR 23 12 29.2
comp=Z,120nm,21.8s,baz=182,slow=33
comp=Z,14nm,0.9s
COVR Voineasa-Covas 81.34 336 ⇓P **P 22 39 45.3 -0.4**
VOIR 81.40 335 ⇑P **P 22 39 45.6 -0.5**
VOIR 81.40 335 P **P 22 39 45.6 -0.5**
MILM Milestii Mici 81.41 338 ⇓P **P 22 39 45.6 -0.3**
MILM Milestii Mici 81.41 338 ⇓*i*P **P 22 39 45.0 -0.9**
comp=Z,20nm,1.5s
MILM Milestii Mici 81.41 338 P **P 22 39 45.6 -0.3**
SEM Semipalatinsk 81.42 12 *e*P **P 22 39 46.2 0.0**
comp=Z,14nm,0.9s,baz=12
SEM Semipalatinsk 81.42 12 *e*P **P 22 39 46.2 0.0**
SEM pmax pmax
comp=Z,14nm,0.9s
KURK Kurchatov 81.42 11 P **P 22 39 45.1 -0.8**
KURK IAmb IAmb 22 39 47.2
comp=Z,47nm,1.1s
KURK Kurchatov 81.42 11*d*i P **P 22 39 45.9 0.0**
KURK pmax pmax
comp=Z,68nm,1.7s
KOME Kolasin 81.43 331 ⇓*i*P **P 22 39 46.3 0.0**
CEME Cevo 81.44 330 ⇓*i*P **P 22 39 46.6 +0.3**
KIS Kishinev 81.48 338 ⇓P **P 22 39 46.0 -0.4**
KIS Kishinev 81.48 338 ⇓*i*P **P 22 39 45.9 -0.4**
comp=Z,110nm,1.4s
KIS Kishinev 81.48 338 P **P 22 39 45.9 -0.4**
VASR Vaslui 81.50 338 ⇓P **P 22 39 46.6 +0.2**
SJES Sjenica 81.57 331 ⇓*i*P **P 22 39 46.8 -0.3**
TURR Turia 81.59 336 ⇓P **P 22 39 46.6 -0.4**
NKME Niksic 81.61 330 ⇓*i*P **P 22 39 47.5 +0.3**
OZUR 81.71 336 ⇑P **P 22 39 47.1 -0.5**
BOSR Bodos 81.73 336 ⇓P **P 22 39 47.3 -0.4**
DOPR Dopca 81.74 336 ⇑P **P 22 39 46.8 -0.9**
PLE Pljevlja 81.88 331 ⇑*i*P **P 22 39 48.9 +0.2**
LOT Lotru 81.88 335 ⇑P **P 22 39 47.8 -0.8**
BRY Bratogost 81.90 330 *e*P **P 22 39 49.2 +0.4**
BRY Bratogost 81.90 330 ⇓*i*P **P 22 39 48.8 0.0**
HERR Herculane 81.92 333 ⇓P **P 22 39 48.1 -0.6**
UPM Unac-Piva 81.98 330 *e*P **P 22 39 49.5 +0.2**
UPM Unac-Piva 81.98 330 ⇑*i*P **P 22 39 49.3 0.0**
IAS Iasi 82.06 338 ⇓P **P 22 39 48.7 -0.7**
IAS Iasi 82.06 338 P **P 22 39 48.6 -0.7**
MDVR Moldovita 82.12 333 ⇑P **P 22 39 50.0 +0.2**
RUDO Rudo 82.12 331 *e*P **P 22 39 49.1 -0.7**
VRH Novokhopyorsk 82.13 348 *e*P **P 22 39 49.2 -0.4**
VRH pmax pmax
comp=Z,140nm,1.5s
GZR Gura Zlata 82.21 334 ⇓P **P 22 39 50.2 -0.2**
GZR Gura Zlata 82.21 334 P **P 22 39 50.1 -0.2**
PMG Port Moresby 82.24 96 LR LR 23 14 18.1
comp=Z,222nm,18.3s,baz=241,slow=34
STON Ston 82.24 330 *e*P P 22 39 58.7 +8.3
PAOL Paolisi 82.24 327 P **P 22 39 49.9 -0.7**
BBLS Lazi&#263i 82.31 331 ⇓*i*P **P 22 39 51.1 +0.3**
NJ2 Nanjing 82.34 47 *e*P **P 22 39 50.6 -0.6**
NJ2 pmax pmax
comp=Z,24nm,0.8s
DGZ Jazzator, Alta 82.35 17*d i*P **P 22 39 51.4 +0.4**
DGZ pmax pmax
comp=Z,30nm,1.3s
VORD Divnogorie 82.38 346 *e*P **P 22 39 50.5 -0.4**
VORD pmax pmax
comp=Z,40nm,0.8s
BELG Belogornoye 82.39 352 LR LR 23 19 17.8
comp=Z,98nm,18.0s,baz=163,slow=38
BELG Belogornoye 82.39 352*d i*P **P 22 39 50.7 -0.2**
BELG pmax pmax
comp=Z,25nm,1.1s
TIY Taiyuan 82.48 39 ⇑P **P 22 39 52.3 +0.4**
DEV Deva 82.58 334 ⇑P **P 22 39 52.4 +0.2**
DEV Deva 82.58 334 P **P 22 39 52.3 +0.2**
BVAR Borovoye Array 82.62 6 P **P 22 39 51.9 -0.3**
comp=Z,18nm,0.7s,baz=173,slow=6.1,SNR=121
BVAR LR LR 23 13 55.1
comp=Z,268nm,20.9s,baz=201,slow=34
comp=Z,18nm,0.7s
SORM Soroca 82.63 339 ⇑P **P 22 39 51.5 -0.8**
SORM Soroca 82.63 339 P **P 22 39 51.5 -0.8**
VSR Storozhevoye 82.64 346 *e*P **P 22 39 51.3 -1.0**
VSR pmax pmax
comp=Z,90nm,1.4s
BRVK Borovoye 82.65 6 P **P 22 39 52.2 -0.1**
BRVK IAmb IAmb 22 39 52.7
comp=Z,13nm,0.7s
BRVK Borovoye 82.65 6*d i*P **P 22 39 52.0 -0.3**
BRVK pmax pmax
comp=Z,25nm,1.3s
PRAR RASCA 82.65 337 ⇑P **P 22 39 51.9 -0.6**
SURR Surduc 82.77 334 ⇑P **P 22 39 52.9 -0.2**
TEKS Tekeris 82.81 332 *e*P **P 22 39 51.6 -1.8**
BANR Banloc 82.84 333 ⇑P **P 22 39 54.2 +0.8**
BZS Buzias 82.85 333 ⇑P **P 22 39 53.2 -0.3**
BZS Buzias 82.85 333 *e*P **P 22 39 53.5 0.0**
BZS Buzias 82.85 333 P **P 22 39 53.2 -0.3**
VORR Voronezh 83.06 347 *e*P **P 22 39 54.4 -0.1**
VORR pmax pmax
comp=Z,82nm,1.4s
ARCR ARCALIA 83.06 336 ⇑P **P 22 39 54.7 +0.1**
RPZ Rata Peaks 83.14 137 LR LR 23 09 53.8
comp=Z,543nm,18.2s,baz=217,slow=31
MARR Marisel-Cluj 83.17 335 ⇓P **P 22 39 55.2 0.0**
FRGS Fruska Gora 83.19 332 ⇓P **P 22 39 55.2 -0.1**
FRGS Fruska Gora 83.19 332 ⇓*i*P **P 22 39 54.9 -0.5**
BURAR Bucovina Array 83.21 337 ⇓P **P 22 39 55.9 +0.4**
BURAR Bucovina Array 83.21 337 P **P 22 39 55.7 +0.2**
BURAR Bucovina Array 83.21 337 P **P 22 39 55.9 +0.4**
BUR08 Bucovina Ar. S 83.24 337 P **P 22 39 55.7 0.0**
BUR08 IAmb IAmb 22 39 57.5
comp=Z,37nm,1.5s
INTR Introdacqua 83.31 327 P **P 22 39 55.5 -0.6**
INTR IAmb IAmb 22 39 56.6
comp=Z,36nm,1.1s
BTO Baotou 83.34 35 *e*P **P 22 39 56.3 0.0**
BTO pP **PcP 22 40 01.8 +1.1**
BTO sP **pwP 22 40 03.8 -2.0**
BTO PP **PP 22 43 10.6 +2.0**
BTO S **SKSac 22 50 18.5 +0.3**
BTO pmax pmax
comp=Z,53nm,0.8s
BTO pmax pmax
comp=Z,190nm,4.8s

BTO LR LR
comp=Z,310nm,11.4s
BTO LR LR
comp=Z,200nm,11.4s
BTO LR LR
comp=Z,210nm,10.2s
SIRR Siria 83.37 334 ⇓P **P 22 39 56.4 +0.2**
DRGR 83.41 335 ⇑P **P 22 39 56.3 -0.3**
DRGR 83.41 335 P **P 22 39 56.2 -0.3**
HNS HongShan 83.52 40 ⇓P **P 22 39 57.0 -0.2**
HNS pmax pmax
comp=Z,31nm,1.2s
CAMP Campotosto 83.95 327 P **P 22 39 58.9 -0.5**
BLY Banja Luka 83.96 330 *e*P **P 22 39 58.5 -0.8**
LPSR Galich'ya Gora 84.00 347 *e*P **P 22 39 58.9 -0.3**
LPSR pmax pmax
comp=Z,80nm,1.2s
A050A Klekovaca 84.03 330 ⇓*i*P **P 22 39 58.0 -1.8**
TIA Tai'an 84.09 43 ⇓P **P 22 39 59.8 -0.4**
TIA pmax pmax
comp=Z,15nm,1.0s
A051A Mrakovica 84.29 330 *e*P **P 22 40 00.0 -1.1**
HHC Hu-ho-hao-te 84.31 36 *e*P **P 22 40 02.5 +1.2**
HHC pmax pmax
comp=Z,52nm,3.8s
LTZ Lake Taylor 84.40 136 P **P 22 40 02.2 +0.3**
MORH Mrgy, Hungar 84.53 332 ⇓P **P 22 40 01.7 -0.4**
KIEV Kiev 84.64 340 ⇑P **P 22 40 02.2 -0.4**
KIEV Kiev 84.64 340 P **P 22 40 02.2 -0.4**
KIEV IAmb IAmb 22 40 03.3
comp=Z,36nm,1.0s
KIEV Kiev 84.64 340 *i*P **P 22 40 02.1 -0.4**
SNR=30
KIEV Kiev 84.64 340 P **P 22 40 02.2 -0.4**
KIEV pmax pmax
comp=Z,36nm,1.0s
AKASG Malin Array Be 84.64 340 P **P 22 40 01.8 -0.7**
AKASG IAmb IAmb 22 40 03.1
comp=Z,50nm,1.8s
AKASG Malin Array Be 84.64 340 P **P 22 40 01.9 -0.7**
comp=Z,14nm,0.7s,baz=162,slow=4.2,SNR=76
AKASG LR LR 23 18 15.7
comp=Z,70nm,18.7s,baz=96,slow=36
comp=Z,14nm,0.7s
AKASG Malin Array Be 84.64 340*ce*P **P 22 40 02.2 -0.3**
AKASG pmax pmax
comp=Z,15nm,0.8s
AKBB Malin Array Si 84.64 340 P **P 22 40 02.2 -0.4**
AKBB Malin Array Si 84.64 340*d i*P **P 22 40 02.1 -0.4**
KOLS Kolonicke sedl 85.37 336 *e*P **P 22 40 06.6 +0.3**
KOLS Kolonicke sedl 85.37 336 *e*P **P 22 40 06.6 +0.3**
KOLS pmax pmax
comp=Z,8.0nm,0.9s
BOJS Bojanci 85.40 330 *e*P **P 22 40 05.7 -0.8**
PSZ Piszkesteto 85.42 334 ⇓P **P 22 40 05.7 -0.9**
PSZ Piszkesteto 85.42 334 P **P 22 40 05.6 -1.1**
PSZ Piszkesteto 85.42 334 P **P 22 40 05.6 -1.1**
PSZ pmax pmax
comp=Z,12nm,1.1s
JOW Kunigami 85.48 56 P **P 22 40 07.7 +0.3**
JOW Kunigami 85.48 56 P **P 22 40 05.8 -1.6**
JOW IAmb IAmb 22 40 19.2
comp=Z,62nm,1.7s
JOW Kunigami 85.48 56 LR LR 23 14 36.0
comp=Z,24nm,20.3s,baz=282,slow=33
LVV L'vov 85.51 337 *e*P **P 22 40 06.4 -0.6**
ARU Arti 85.64 359 P **P 22 40 07.5 +0.1**
ARU Arti 85.64 359 LR LR 23 16 51.4
comp=Z,79nm,20.2s,baz=150,slow=35
ARU Arti 85.64 359*d i*P **P 22 40 07.6 +0.1**
ARU 22 43 32.7
ARU S **SKSac 22 50 29.3 -2.6**
ARU SS **SS 22 56 15.3 -0.6**
ARU pmax pmax
comp=Z,150nm,1.4s
CRVS Cervenica-Dubn 85.64 335 *e*P **P 22 40 08.0 +0.3**
CRVS Cervenica-Dubn 85.64 335 *e*P **P 22 40 08.0 +0.3**
CRVS pmax pmax
comp=Z,43nm,1.3s
ZAA0 Zalesovo Array 85.68 14 P **P 22 40 07.2 -0.5**
ZAA0 IAmb IAmb 22 40 08.3
comp=Z,24nm,0.8s
ZALV Zalesovo Beam 85.68 14 P **P 22 40 07.0 -0.7**
ZALV Zalesovo Beam 85.68 14 P **P 22 40 07.0 -0.7**
comp=Z,16nm,0.6s,baz=210,slow=4.7,SNR=67
ZALV LR LR 23 15 36.3
comp=Z,122nm,21.0s,baz=189,slow=34
comp=Z,16nm,0.6s
KNDS Knezji Dol 85.80 329 *i*P **P 22 40 08.1 -0.5**
KWP Kalwaria Pacla 85.81 336 *e*P **P 22 40 08.6 +0.1**
KWP Kalwaria Pacla 85.81 336 P **P 22 40 08.4 -0.1**
KWP IAmb IAmb 22 40 09.8
comp=Z,24nm,1.3s
KWP Kalwaria Pacla 85.81 336 P **P 22 40 08.4 -0.1**
KWP pmax pmax
comp=Z,24nm,1.3s
CEY Cerknica 85.95 329 *e*P **P 22 40 07.4 -1.9**
SRO Srobarova 85.95 333 *e*P **P 22 40 09.1 -0.1**
SRO Srobarova 85.95 333 *e*P **P 22 40 09.1 -0.1**
SRO pmax pmax
comp=Z,19nm,1.4s
SVE Sverdlovsk 86.01 360*ce*P **P 22 40 10.0 +0.7**
SVE pmax pmax
comp=Z,132nm,1.3s
STHS Stebnicka Huta 86.15 335 *e*P **P 22 40 09.2 -1.0**
STHS Stebnicka Huta 86.15 335 *e*P **P 22 40 09.2 -1.0**
STHS pmax pmax
comp=Z,5.0nm,1.0s
BJI Beijing 86.19 39 P **P 22 40 10.4 -0.1**
BJI SKS **SKSac 22 50 33.0 -3.1**
BJI S **S 22 50 45.5 +0.6**
BJI pmax pmax
comp=Z,4.0nm,1.0s
BJI pmax pmax
comp=Z,82nm,4.8s
VYHS Vyhne 86.30 334 *e*P **P 22 40 10.7 -0.2**
VYHS Vyhne 86.30 334 *e*P **P 22 40 10.7 -0.2**
VYHS pmax pmax
comp=Z,19nm,1.3s
SOKA Soboth 86.41 330 *e*P **P 22 40 11.3 -0.3**
comp=Z,12nm,1.3s,SNR=8.0
OBKA Obir 86.49 330 *e*P **P 22 40 11.9 -0.1**
comp=Z,12nm,1.1s,SNR=5.6
OBKA Obir 86.49 330 *e*P **P 22 40 10.6 -1.4**
NIE Niedzica 86.50 335 *e*P **P 22 40 11.8 -0.1**
LANS Liptovska Anna 86.59 334 *e*P **P 22 40 12.9 +0.5**
LANS Liptovska Anna 86.59 334 *e*P **P 22 40 12.9 +0.5**
LANS pmax pmax
comp=Z,13nm,1.4s
CADS Cadrg 86.63 329 *i*P **P 22 40 12.1 -0.6**
ARSA Arzberg 86.65 331 *e*P **P 22 40 12.6 -0.1**
comp=Z,11nm,1.3s,SNR=7.5
RONA Rosalia, Austr 86.68 332 *e*P **P 22 40 12.7 -0.2**
comp=Z,18nm,1.3s,SNR=14
ROBS Robic 86.74 329 *i*P **P 22 40 12.6 -0.5**
ZST Bratislava 86.74 332 *e*P **P 22 40 12.5 -0.6**
ZST Bratislava 86.74 332 *e*P **P 22 40 12.5 -0.6**
ZST pmax pmax
comp=Z,85nm,1.5s
MODS Modra-Piesok 86.81 333 *e*P **P 22 40 13.2 -0.3**
MODS Modra-Piesok 86.81 333 *e*P **P 22 40 13.2 -0.3**
MODS pmax pmax
comp=Z,58nm,1.4s
OBN Obninsk 86.84 346 ⇓P **P 22 40 14.2 +0.8**
OBN Obninsk 86.84 346 P **P 22 40 13.8 +0.5**
OBN Obninsk 86.84 346 LR LR 23 19 33.6
comp=Z,161nm,18.4s,baz=165,slow=36
OBN Obninsk 86.84 346*d i*P **P 22 40 13.8 +0.5**
OBN *i* 22 40 23.8
OBN *i* 22 43 44.2
OBN *i*S **SKSac 22 50 38.0 -1.4**
OBN pmax pmax
comp=Z,115nm,1.1s
OBN MLR MLR
comp=Z,172nm,18.0s
TEOL Teolo 86.91 328 P **P 22 40 13.8 -0.2**
TEOL IAmb IAmb 22 40 15.5
comp=Z,42nm,1.2s
CONA Conrad Observa 87.04 332 *e*P **P 22 40 14.2 -0.5**
comp=Z,38nm,1.4s,SNR=27
JAVC Velka Javorina 87.05 333 *e*P **P 22 40 15.1 +0.4**
SONM Songino Array 87.19 29 P **P 22 40 14.9 -0.6**
comp=Z,7.1nm,1.1s,baz=214,slow=4.6,SNR=26
comp=Z,7.1nm,1.1s

MOS **Moscow** 87.22 347 *e*P P 22 40 12.3 -2.9
MOS pmax pmax
comp=Z,300nm,1.5s
MOS pmax pmax
comp=Z,195nm,1.4s
OJC Ojcow 87.34 335 *e*P P 22 40 15.4 -0.6
OJC Ojcow 87.34 335 P P 22 40 15.4 -0.6
OJC IAmb IAmb 22 40 16.8
comp=Z,49nm,1.5s
OJC Ojcow 87.34 335 P P 22 40 15.4 -0.6
OJC pmax pmax
comp=Z,49nm,1.5s
CTI Castel Tesino 87.44 328 P P 22 40 15.9 -0.8
CTI IAmb IAmb 22 40 18.2
comp=Z,46nm,1.8s
CTI Castel Tesino 87.44 328 P P 22 40 15.9 -0.8
CTI pmax pmax
comp=Z,46nm,1.8s
KBA Koelnbreinsper 87.45 330 *e*P P 22 40 16.6 -0.2
comp=Z,4.4nm,0.8s,SNR=5.8
ULN Ulaanbaatar 87.50 29 P P 22 40 16.2 -0.7
ULN IAmb IAmb 22 40 17.5
comp=Z,25nm,1.6s
ULN Ulaanbaatar 87.50 29 *d* iP P 22 40 16.3 -0.7
ULN pmax pmax
comp=Z,11nm,1.0s
ABTA Abfaltersbach 87.57 329 *e*P P 22 40 17.4 +0.1
comp=Z,17nm,1.2s,SNR=8.8
MOA Molln 87.65 331 *i* P P 22 40 17.3 -0.3
comp=Z,19nm,1.1s,SNR=17
MDT Midelt 87.69 310 LR LR 23 20 12.3
comp=Z,349nm,18.8s,baz=132,slow=36
KRUC Moravsky 87.72 333 *e*P P 22 40 17.1 -0.7
BIOA Bad Ischl, Aus 87.80 330 *e*P P 22 40 17.7 -0.6
comp=Z,18nm,1.3s,SNR=9.9
VRAC Vranov 87.83 333 *e*P P 22 40 18.0 -0.4
VRAC Vranov 87.83 333 LR LR 23 18 08.6
comp=Z,85nm,21.7s,baz=145,slow=35
MORC Moravsky Berou 87.83 334 ||P P 22 40 18.2 -0.1
MORC Moravsky Berou 87.83 334 P P 22 40 18.3 -0.1
MORC IAmb IAmb 22 40 19.4
comp=Z,32nm,1.5s
MORC Moravsky Berou 87.83 334 *e*P P 22 40 18.0 -0.4
MORC Moravsky Berou 87.83 334 P P 22 40 18.3 -0.1
MORC pmax pmax
comp=Z,32nm,1.5s
ZAK Zakamensk 87.98 26 *e*P P 22 40 18.1 -1.1
ZAK pmax pmax
comp=Z,4.0nm,1.6s
LESA Schwarzleotal 88.01 330 *i* P P 22 40 18.7 -0.7
comp=Z,10.0nm,0.7s
KIRV Kirov 88.30 354 LR LR 23 21 33.1
comp=Z,105nm,18.2s,baz=171,slow=37
KIRV Kirov 88.30 354 *d* iP P 22 40 19.9 -0.4
BEL Belsk 88.32 336 *e*P P 22 40 20.8 +0.2
WTTA Wattenberg 88.36 329 *i* P P 22 40 20.9 -0.2
comp=Z,14nm,0.5s,SNR=9.7
MNK Minsk 88.39 341 *i* P P 22 40 20.1 -0.7
MNK *i* 22 40 22.8
MNK *i* S SKSac 22 50 48.4 -0.5
MNK *i* PS PS 22 52 30.8 +20
MNK pmax pmax
comp=N,30nm,1.0s
MNK pmax pmax
comp=E,11nm,1.0s
MNK pmax pmax
comp=Z,101nm,0.9s
MNK MLR MLR
comp=Z,97nm,19.0s
MNK MLR MLR
comp=E,50nm,19.0s
MNK MLR MLR
comp=N,93nm,19.0s
WATA Walderalm 88.44 329 *i* P P 22 40 21.1 -0.4
comp=N,34nm,1.2s,SNR=12
FUORN Ofenpass-Fuorn 88.50 328 P P 22 40 21.7 -0.3
FUORN IAmb IAmb 22 40 23.3
comp=Z,19nm,1.1s
SQTA Sankt Quirin 88.52 329 *i* P P 22 40 21.6 -0.2
comp=Z,14nm,0.6s,SNR=14
FETA Feichten 88.59 328 *i* P P 22 40 22.3 +0.1
comp=Z,33nm,1.1s,SNR=15
MOTA Moosalm 88.66 329 *i* P P 22 40 22.2 -0.3
comp=Z,12nm,0.6s,SNR=9.9
GEC2 GERESS Array S 88.66 331 P P 22 40 22.0 -0.4
GEC2 IAmb IAmb 22 40 22.8
comp=Z,29nm,1.6s
GERES GERESS Array B 88.66 331 P P 22 40 21.8 -0.6
GERES GERESS Array B 88.66 331 P P 22 40 21.4 -1.0
comp=Z,1.7nm,0.7s,baz=134,slow=4.2,SNR=8.8
GERES LR LR 23 20 43.1
comp=Z,38nm,18.1s,baz=109,slow=36
comp=Z,1.7nm,0.7s
GERES GERESS Array B 88.66 331 P P 22 40 21.8 -0.6
DPC Dobruska-Polom 88.77 333 *e*P P 22 40 22.8 0.0
DPC Dobruska-Polom 88.77 333 *e*P P 22 40 22.8 0.0
DAVOX Davos/Dischmat 88.80 328 LR LR 23 22 13.8
comp=Z,73nm,19.5s,baz=92,slow=37
TUE Stuetta 88.82 327 P P 22 40 23.2 -0.2
TUE IAmb IAmb 22 40 23.6
comp=Z,10nm,0.8s
XLT XiLinHaoTe 88.83 36 *e*P P 22 40 23.1 -0.2
XLT sP pwP 22 40 30.3 -2.5
XLT pmax pmax
comp=Z,12nm,0.8s
XLT pmax pmax
comp=Z,94nm,3.8s
RETA Reutte 88.92 329 *i* P P 22 40 23.5 -0.1
comp=Z,15nm,0.6s,SNR=10
KHC Kasperske Hory 88.93 331 P P 22 40 23.1 -0.5
KHC IAmb IAmb 22 40 24.2
comp=Z,23nm,1.4s
KHC Kasperske Hory 88.93 331 *e*P P 22 40 23.2 -0.4
KHC Kasperske Hory 88.93 331 *de*P P 22 40 22.6 -1.0
KHC pmax pmax
comp=Z,36nm,1.3s
OSTC Ostas 88.97 333 *e*P P 22 40 24.2 +0.5
OSTC Ostas 88.97 333 *e*P P 22 40 24.2 +0.5
UPC Upice 89.01 333 *e*P P 22 40 24.3 +0.4
UPC Upice 89.01 333 *e*P P 22 40 24.3 +0.4
BNI Bardonecchia 89.10 325 P P 22 40 24.9 +0.3
BNI IAmb IAmb 22 40 29.9
comp=Z,20nm,1.2s
BNI Bardonecchia 89.10 325 P P 22 40 24.9 +0.3
BNI pmax pmax
comp=Z,20nm,1.3s
DAVA Damuels 89.17 328 *i* P P 22 40 24.6 -0.3
comp=Z,14nm,0.6s,SNR=8.4
SUW Suwalki 89.35 339 *e*P P 22 40 25.5 +0.1
SUW Suwalki 89.35 339 P P 22 40 25.5 +0.1
SUW Suwalki 89.35 339 *e*P P 22 40 25.7 +0.4
SUW Suwalki 89.35 339 P P 22 40 25.5 +0.1
SUW pmax pmax
comp=Z,136nm,1.1s
LPL La Plagne 89.40 325 P P 22 40 25.8 -0.3
ORIF Oris-en-Rattie 89.41 324 P P 22 40 27.2 +1.2
IDID Didziasalis 89.42 341 *e*P P 22 40 27.8 +2.2
PVCC Panska Ves 89.60 333 *e*P P 22 40 27.1 +0.4
PVCC Panska Ves 89.60 333 *e*P P 22 40 27.1 +0.4
SENIN Lac Senin/Sane 89.72 326 P P 22 40 27.5 -0.1
SENIN IAmb IAmb 22 40 55.6
comp=Z,40nm,1.1s
IRK Irkutsk 89.85 25 *e*P P 22 40 26.9 -0.9
IRK pmax pmax
comp=E,33nm,1.5s
VIVF Saint-Julien-l 89.98 324 P P 22 40 29.0 +0.4
URZ Urewera 90.07 135 LR LR 23 14 10.3
comp=E,464nm,19.0s,baz=218,slow=31
BRG Berggiesshubel 90.12 332 ||*i* P P 22 40 29.3 +0.3
BRG Amp 22 40 31.6
comp=Z,23nm,1.3s
NKC Novy Kostel 90.25 331 *e*P P 22 40 30.5 +0.8
NKC Novy Kostel 90.25 331 *e*P P 22 40 30.5 +0.8
GRFO Grafenberg 90.36 330 P P 22 40 30.7 +0.5
GRFO IAmb IAmb 22 40 31.7
comp=Z,37nm,1.2s
GRFO Grafenberg 90.36 330 P P 22 40 30.7 +0.5
GRFO pmax pmax
comp=Z,37nm,1.2s
PABE Paberze 90.38 340 P P 22 40 30.4 +0.3
PABE Paberze 90.38 340 *e*P P 22 40 31.2 +1.1
BFO Black Forest 90.65 328 P P 22 40 31.2 -0.4
BFO IAmb IAmb 22 40 33.0
comp=Z,36nm,1.9s
BFO Black Forest 90.65 328 P P 22 40 31.2 -0.4
BFO pmax pmax
comp=Z,36nm,1.9s
GKP Gorka Klasztor 90.75 336 *e*P P 22 40 32.4 +0.5
CLL Collm 90.84 332 IAmb IAmb 22 40 35.2
comp=Z,18nm,1.4s
CLL Collm 90.84 332 *i* P P 22 40 32.6 +0.2
CLL pmax pmax
comp=Z,39nm,1.8s
GUA01 Guaratinga, BA 90.89 250 *e*P P 22 40 35.3 +1.7
JNU Nakatsue 90.96 52 LR LR 23 20 43.7
comp=Z,42nm,18.1s,baz=167,slow=35
ECH Echery 91.11 327 IAmb IAmb 22 40 34.8
comp=Z,21nm,1.5s
ESDC Sonseca Array 91.47 316 P P 22 40 36.3 +0.6
ESDC IAmb IAmb 22 40 38.3
comp=Z,15nm,1.1s
ESDC Sonseca Array 91.47 316 P P 22 40 36.9 +1.1
comp=Z,6.2nm,0.9s,baz=113,slow=3.0,SNR=28
ESDC LR LR 23 20 02.0
comp=Z,196nm,22.0s,baz=121,slow=34
comp=Z,6.2nm,0.9s
KSAR Wonju Array Be 91.50 47 P P 22 40 34.8 -1.0
KSAR Wonju Array Be 91.50 47 P P 22 40 34.8 -1.0
KS19 Wonju Array Si 91.52 47 IAmb IAmb 22 40 36.1
comp=Z,9.4nm,0.8s
KSRS Korea Array 91.53 47 P P 22 40 35.0 -0.9
comp=Z,8.4nm,0.8s,baz=242,slow=4.6,SNR=29
KSRS LR LR 23 20 13.9
comp=Z,36nm,19.9s,baz=250,slow=35
comp=Z,8.4nm,0.8s
PAB San Pablo 91.62 315 P P 22 40 36.9 +0.4
PAB IAmb IAmb 22 40 39.2
comp=Z,26nm,1.4s
PAB San Pablo 91.62 315 P P 22 40 36.9 +0.4
PAB pmax pmax
comp=Z,26nm,1.4s
KLMR Klimovskoe 91.73 350 *e*P P 22 40 33.0 -3.3
KLMR pmax pmax
comp=Z,91nm,1.3s
DZM Mont Dzumac 91.95 117 *e*SS SS 22 57 45.5 -2.8
comp=Z,156nm,25.7s
DZM Mont Dzumac 91.95 117 *e*LR LR 23 10 09.0
comp=Z,168nm,23.3s
AVF Avril sur Loir 91.98 325 P P 22 40 40.8 +3.0
SSF Saint Saulge 92.08 325 P P 22 40 38.5 +0.2
VSU Vasula 92.17 343 *de*P P 22 40 37.7 -0.7
VSU pmax pmax
comp=Z,16nm,1.0s
AY03 Cochrane 92.83 210 P P 22 40 42.4 +0.4
AY03 IAmb IAmb 22 40 43.3
comp=Z,20nm,1.1s
ARBE Arbavere 93.21 343 *e*P P 22 40 43.6 +0.4
BAIF Baives 93.79 327 P P 22 40 46.3 +0.2
CN2 Changchun 93.87 41 *e*P P 22 40 48.3 +1.7
CN2 pmax pmax
comp=Z,10.0nm,0.7s
TRQA Tornquist 94.13 222 P P 22 40 47.8 -0.5
TRQA IAmb IAmb 22 40 48.6
comp=Z,22nm,1.1s
TRQA Tornquist 94.13 222 P P 22 40 47.8 -0.5
TRQA pmax pmax
comp=Z,23nm,1.1s
MEF Metsahovi 94.30 343 *e*P P 22 40 48.3 +0.2
FIA1 FINESS Array S 94.94 344 IAmb IAmb 22 40 51.9
comp=Z,33nm,1.4s
FINES FINESS Array B 94.94 344 P P 22 40 50.6 -0.4
FINES FINESS Array B 94.94 344 P P 22 40 50.1 -1.0
comp=Z,2.9nm,0.8s,baz=163,slow=5.8,SNR=15
FINES LR LR 23 23 29.4
comp=Z,112nm,20.9s,baz=146,slow=35
comp=Z,2.9nm,0.8s
FINES FINESS Array B 94.94 344 *i* P P 22 40 50.2 -0.8
FINES pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 95.10 347 *e*P P 22 40 51.3 -0.5
AAL Aland 95.46 341 *e*P P 22 40 53.2 -0.3
RAF Rauma 95.67 342 *e*P P 22 40 54.1 -0.3
KEF Keuruu 95.85 344 *e*P P 22 40 55.0 -0.2
JCJ Chichijima 96.03 62 LR LR 23 18 55.7
comp=Z,26nm,21.2s,baz=123,slow=32
QUIF Quistinic 96.08 323 P P 22 40 57.4 +0.8
PLCA Paso Flores 96.85 215 P P 22 41 00.0 -0.7
comp=Z,5.3nm,1.1s,baz=63,slow=4.5,SNR=3.4
PLCA LR LR 23 20 21.7
comp=Z,92nm,18.5s,baz=176,slow=33
comp=Z,5.3nm,1.1s
VAF Ylistaro 97.14 344 *e*P Pdif 22 41 01.1 0.0
HFS Hagfors 97.35 338 P P 22 41 01.0 -1.1
comp=Z,0.8nm,0.7s,baz=170,slow=8.8,SNR=2.2
HFS LR LR 23 26 19.8
comp=Z,96nm,18.2s,baz=106,slow=36
comp=Z,0.8nm,0.7s
HFS Hagfors 97.35 338 P P 22 41 01.0 -1.1
MJAR Matsushiro Arr 97.88 52 P P 22 41 03.7 -1.4
comp=Z,2.7nm,0.9s,baz=211,slow=5.3,SNR=5.8
MJAR LR LR 23 24 46.5
comp=Z,28nm,18.8s,baz=234,slow=35
comp=Z,2.7nm,0.9s
USRK Ussuriysk Ar. 97.93 43 P P 22 41 03.1 -2.0
comp=Z,0.8nm,0.5s,baz=259,slow=2.9,SNR=1.8
USRK LR LR 23 22 50.9
comp=Z,47nm,21.1s,baz=240,slow=34
comp=Z,0.8nm,0.5s
BDFB Brasilia 98.06 247 LR LR 23 18 40.8
comp=Z,65nm,18.5s,baz=142,slow=31
KONO Kongsberg 98.36 336 P Pdif 22 41 06.7 0.0
KONO IAmb IAmb 22 41 07.3
comp=Z,10nm,1.1s
KONO Kongsberg 98.36 336 ||*e*P P 22 41 06.4 -0.2
KONO pmax pmax
comp=Z,7.0nm,1.2s
CPUP Villa Florida 98.81 233 LR LR 23 15 50.8
comp=Z,40nm,21.6s,baz=179,slow=29
NOA NORSAR Array B 98.84 338 P P 22 41 07.5 -1.3
comp=Z,0.5nm,0.8s,baz=122,slow=5.0,SNR=3.2
NOA LR LR 23 25 40.5
comp=Z,97nm,19.8s,baz=130,slow=35
comp=Z,0.5nm,0.8s
KLR Kul'dur 100.56 39 ||*e*P Pdif 22 41 15.3 -1.4
KLR pmax pmax
comp=Z,2.0nm,1.0s
EKA Eskdalemuir Ar 100.61 328 P Pdif 22 41 15.7 -1.1
comp=Z,0.3nm,0.5s,baz=134,slow=6.0,SNR=1.9
ARCES ARCESS Array B 102.06 348 P Pdif 22 41 22.4 -0.6
comp=Z,6.5nm,0.9s,baz=158,slow=3.6,SNR=16
SEY Seymchan 116.53 31 ||*i* PKIKP PKiKP 22 46 12.6 +0.1
SEY pmax pmax
comp=Z,7.0nm,1.3s
PETK Petropavlovsk- 116.99 42 PKP PKPdf 22 46 13.7 -0.1
comp=Z,2.0nm,0.9s,baz=198,slow=1.4,SNR=4.6
TBI Tubuai 119.88 148 *e*LR LR 23 22 51.4
comp=Z,902nm,28.2s
TBI *e*LR LR 23 22 56.6
comp=Z,1μm,30.2s
SUMG Summit 120.67 340 PKPdf PKPdf 22 46 20.7 -0.1
SUMG Summit 120.67 340 PKIKP PKPdf 22 46 20.7 -0.1
BILL Bilibino 122.78 26 *e*PKIKP PKiKP 22 46 24.9 +0.2
BILL pmax pmax
comp=Z,10.0nm,1.3s
PPT2 Papeete2 124.72 144 *e*SS SS 23 05 09.2 -0.2
comp=Z,179nm,28.0s
PPT2 Papeete2 124.72 144 *e*LR LR 23 25 09.2
comp=Z,129nm,22.8s
PPT2 *e*LR LR 23 25 12.4
comp=Z,116nm,25.8s
TULM Tulcn-Chalpat 131.31 242 PKPdf PKPdf 22 46 41.1 -1.9
C16K Lisburne Hills 132.82 21 P PKiKP 22 46 44.6 -0.1
baz=301
A19K Wainwright 132.99 18 P PKPdf 22 46 43.8 -0.1
baz=307,SNR=8.8
RES Resolute Bay 133.15 351 PKPdf PKPdf 22 46 44.5 +0.5
RES Resolute Bay 133.15 351 PKIKP PKPdf 22 46 44.5 +0.5
TNA Tin City 133.22 25 P PKPdf 22 46 44.1 -0.3
baz=296
B18K Kokolik River 133.29 19 P PKPdf 22 46 44.8 +0.3
baz=306
C17K DeLong Mountai 133.39 21 P PKiKP 22 46 45.7 -0.2
baz=304
A21K Barrow 133.40 16 P PKPdf 22 46 45.0 +0.4
baz=313
RDOG Red Dog Mine 133.71 21 P PKPdf 22 46 45.3 0.0
baz=304
D17K Noatak River 133.85 22 P PKiKP 22 46 46.1 -0.7
baz=303
F14K Arctic Creek 133.85 25 P PKiKP 22 46 46.2 -0.7
baz=298
C18K Utukok River 133.89 20 P PKiKP 22 46 46.6 -0.4
baz=306
A22K Sinclair Lake 134.00 15 P PKPdf 22 46 46.1 +0.4
baz=315
C19K Lookout Ridge 134.08 19 P PKiKP 22 46 46.8 -0.5
baz=308
B20K Meade River 134.15 17 P PKPdf 22 46 46.1 +0.1
baz=312,SNR=13
F15K North Star Dit 134.35 24 P PKPdf 22 46 46.9 +0.3
baz=300
E17K Hotham Inlet 134.59 22 P PKPdf 22 46 47.2 +0.2
baz=304
ANM Nome 134.64 26 P PKiKP 22 46 47.7 -0.8
baz=298
E18K Tukpahlearik C 134.79 21 P PKPdf 22 46 47.4 +0.1
baz=306
B22K Teshekpuk Lake 134.84 16 P PKPdf 22 46 47.9 +0.6
baz=316,SNR=11
D19K Kuna River 134.88 19 P PKiKP 22 46 48.3 -0.7
baz=309
B21K Ikpikpuk River 135.06 17 P PKiKP 22 46 48.8 -0.4
baz=314,SNR=16
SCHQ Schefferville 135.09 320 PKPdf PKPdf 22 46 48.9 +0.6
SCHQ Schefferville 135.09 320 PKP PKPdf 22 46 47.5 -0.7
comp=Z,4.2nm,0.8s,baz=42,slow=2.5,SNR=4.9
F17K Baldwin Pennin 135.14 22 P PKiKP 22 46 49.4 0.0
baz=304
D20K Etivluk River 135.16 18 P PKiKP 22 46 49.2 -0.3
baz=311
SPIA Saint Paul Isl 135.18 37 P PKiKP 22 46 49.3 -0.5
baz=286
G16K Koyuk River 135.34 24 P PKPdf 22 46 48.5 +0.2
baz=302
C21K Knifeblade Rid 135.35 17 P PKiKP 22 46 49.2 -0.7
baz=314,SNR=14
F18K Selawik 135.58 22 P PKiKP 22 46 49.8 -0.5
baz=306
E20K Nigu River 135.58 19 P PKiKP 22 46 50.0 -0.4
baz=311
P08K Saint George I 135.70 38 P PKiKP 22 46 50.2 -0.7
baz=286
H16K Elim 135.78 25 P PKiKP 22 46 49.9 -0.9
baz=301
E19K Redstone River 135.80 20 P PKPdf 22 46 49.8 +0.6
baz=310
C23K Itkillik River 135.86 15 P PKiKP 22 46 50.0 -0.8
baz=319,SNR=13
G17K Kiwalik Mounta 135.88 23 P PKPdf 22 46 49.9 +0.5
baz=304
F19K Shaleruckik Mo 136.03 21 P PKPdf 22 46 50.0 +0.4
baz=308
E21K Killik River 136.06 18 P PKPdf 22 46 50.3 +0.6
baz=314,SNR=14
D22K Ayikyak River 136.08 17 P PKPdf 22 46 50.2 +0.5
baz=316,SNR=12
M11K Mekoryuk 136.09 32 P PKPdf 22 46 50.1 +0.2
baz=293
J14K Nanvaranak Lak 136.21 28 P PKPdf 22 46 50.5 +0.5
baz=298
G18K Tagagawik 136.32 22 P PKPdf 22 46 50.9 +0.7
baz=307
C24K Franklin Bluff 136.38 14 P PKiKP 22 46 51.1 -0.8
baz=321
H17K Granite Mounta 136.45 24 P PKPdf 22 46 50.9 +0.5
baz=304
D23K Nanushuk River 136.51 16 P PKiKP 22 46 51.2 -1.0
baz=318
F20K Avaraart Lake 136.51 20 P PKPdf 22 46 50.6 +0.1
baz=311
G19K Purcell Mounta 136.68 21 P PKPdf 22 46 50.8 -0.1
baz=309
I17K Unalakleet 136.75 25 P PKPdf 22 46 51.1 +0.1
baz=302
D24K Happy Valley 136.79 15 P PKPdf 22 46 51.2 +0.2
baz=321,SNR=10
E22K Anaktuvuk Pass 136.84 17 P PKPdf 22 46 51.4 +0.2
baz=316
H18K Honhosa River 136.86 23 P PKPdf 22 46 51.9 +0.7
baz=306
C26K Camden Bay 136.99 13 P PKPdf 22 46 52.0 +0.7
baz=326,SNR=22
NIKH Nikolski High 137.00 43 P PKPdf 22 46 52.0 +0.1
baz=283
TOLK Toolik Lake Re 137.02 16 P PKPdf 22 46 51.8 +0.3
baz=320,SNR=12
F21K Alatna River 137.04 19 P PKPdf 22 46 51.8 +0.2
baz=314,SNR=20
J16K Anvik River 137.11 26 P PKPdf 22 46 52.4 +0.6
baz=302
D25K Kavik River 137.19 14 P PKPdf 22 46 51.4 -0.5
baz=324,SNR=7.7
F22K John River 137.20 18 P PKPdf 22 46 52.2 +0.3
baz=316,SNR=22
L14K Kuka Creek 137.24 29 P PKPdf 22 46 52.1 +0.2
baz=298
K15K Wolf Creek Mou 137.25 28 P PKPdf 22 46 52.6 +0.6
baz=300
H19K Roundabout Mou 137.27 22 P PKPdf 22 46 52.3 +0.4
baz=309
A36M Sachs Harbour 137.36 3 P PKPdf 22 46 52.5 +0.5
baz=352
M13K Dall Lake 137.37 31 P PKPdf 22 46 53.0 +0.7
baz=296
E23K Chandalar 137.45 16 P PKPdf 22 46 52.7 +0.4
baz=319
C27K Jago River 137.47 12 P PKPdf 22 46 52.8 +0.5
baz=328,SNR=11
G21K Allakaket 137.52 20 P PKPdf 22 46 53.2 +0.8
baz=313
L15K Ungalak Mounta 137.58 28 P PKPdf 22 46 53.2 +0.6
baz=300
GCSA Galena City Sc 137.61 23 P PKiKP 22 46 53.7 -0.8
baz=308
J17K VABM Dome 137.62 25 P PKPdf 22 46 53.5 +0.8
baz=304
E24K Your Creek 137.71 16 P PKPdf 22 46 53.6 +0.7
baz=321
H20K Anotleneega Mo 137.79 21 P PKPdf 22 46 53.5 +0.5
baz=311,SNR=5.8
G22K Bettles 137.80 18 P PKPdf 22 46 53.0 +0.1
baz=316
IMAR Indian Mountai 137.81 20 PKPdf 22 46 53.2 +0.3
M14K Bethel 137.82 30 P PKiKP 22 46 54.0 -1.0
baz=298
COLD Coldfoot 137.93 17 P PKiKP 22 46 54.2 -1.0
baz=318
PKME Peaks-Kenny Pk 138.07 306 P PKPdf 22 46 54.1 0.0
baz=85
UNV Unalaska Valle 138.14 41 P PKPdf 22 46 54.3 +0.4
baz=286
F24K Squaw Lake 138.29 16 P PKPdf 22 46 54.6 +0.7
baz=321,SNR=6.0
D27M Malcolm River 138.29 11 P PKPdf 22 46 53.6 -0.3
baz=331
K17K Iditarod 138.30 26 P PKPdf 22 46 54.9 +0.9
baz=304
H21K Melozitna Rive 138.32 20 P PKPdf 22 46 54.0 0.0
baz=313,SNR=7.2
N14K Kuskokwak Cree 138.33 31 P PKPdf 22 46 54.4 +0.3
baz=298
E25K Arctic Village 138.34 15 P PKPdf 22 46 53.9 0.0
baz=324
G23K Bananza Creek 138.36 18 P PKPdf 22 46 54.9 +0.9
baz=318,SNR=7.1
I20K Naaghedeneel 138.38 22 P PKPdf 22 46 54.8 +0.8
baz=311
L16K Owhat River 138.39 28 PKPdf 22 46 54.8 +0.7
L16K Owhat River 138.39 28 P PKPdf 22 46 55.0 +0.9
baz=302
M15K Kasigluk River 138.40 29 P PKPdf 22 46 54.7 +0.5
baz=300
J18K Innoko River 138.45 24 P PKPdf 22 46 54.6 +0.3
baz=307
J19K Poorman 138.51 23 P PKPdf 22 46 54.6 +0.3
baz=309
H22K Ishtalitna Cre 138.58 19 P PKPdf 22 46 55.1 +0.7
baz=315,SNR=6.4
D28M Stokes Point 138.58 10 P PKPdf 22 46 55.1 +0.9
baz=334
L17K Donlin 138.62 27 P PKPdf 22 46 55.1 +0.6
baz=304
F25K Christian Rive 138.75 15 P PKiKP 22 46 55.8 -1.1
baz=324
O14K Tigyukauivet M 138.83 32 P PKPdf 22 46 55.2 +0.2
baz=297
J20K Nowinta River 138.89 22 P PKPdf 22 46 55.7 +0.7
baz=310
N15K Kwethluk River 138.92 30 P PKPdf 22 46 56.1 +0.9
baz=300

M16K	Timber Creek baz=302	138.96	28	P		PKPdf	22 46 55.8	+0.6
F26K	Sheenjek River baz=326	139.00	14	P		PKiKP	22 46 56.2	-1.2
G24K	Hadweenzic Riv baz=321,SNR=12	139.03	17	P		PKPdf	22 46 55.9	+0.7
E27K	Coleen River baz=329,SNR=7.0	139.10	13	P		PKPdf	22 46 55.4	+0.1
E28M	Babbage River baz=332	139.10	11	P		PKPdf	22 46 55.5	+0.2
BMAR	Burnt Mountain	139.13	15	PKPdf		PKPdf	22 46 55.9	+0.5
H23K	Yukon River baz=318,SNR=5.4	139.15	19	P		PKPdf	22 46 56.0	+0.5
L18K	Granite Mounta baz=306	139.20	26	P		PKPdf	22 46 56.1	+0.5
G25K	Bearman Lake baz=323	139.31	16	P		PKPdf	22 46 56.6	+0.9
N16K	Nishlik Lake baz=302	139.33	29	P		PKiKP	22 46 57.1	-1.2
M17K	Holitna River baz=304	139.37	27	P		PKPdf	22 46 56.4	+0.4
MLY	Manley baz=315,SNR=6.8	139.38	20	P		PKPdf	22 46 55.8	-0.2
K20K	Telida baz=310	139.45	23	P		PKPdf	22 46 56.1	+0.1
O15K	Ungalikthiuk R baz=299	139.52	31	P		PKPdf	22 46 57.1	+0.8
E29M	Blow River baz=334	139.57	11	P		PKPdf	22 46 56.0	-0.1
H24K	Noodor Dome baz=320	139.59	18	P		PKPdf	22 46 55.9	-0.4
CHUM	Lake Minchumin baz=312,SNR=5.6	139.69	22	P		PKPdf	22 46 56.6	+0.1
G26K	Porcupine Rive baz=326	139.70	15	P		PKPdf	22 46 56.8	+0.4
I23K	Minto, Yukon-K baz=317	139.70	19	P		PKPdf	22 46 57.0	+0.6
H25L	Birch Creek baz=323	139.78	16	P		PKPdf	22 46 55.9	-0.6
HRV	Adam Dziewonsk baz=87	139.88	302	P		PKPdf	22 46 56.7	-0.8
L19K	White Mountain baz=308	139.91	25	P		PKPdf	22 46 56.6	-0.3
F28M	Old Crow baz=331,SNR=15	139.92	12	P		PKPdf	22 46 56.6	-0.2
S12K	Black Hills baz=293	139.95	37	P		PKPdf	22 46 57.8	+0.6
M18K	Stony River baz=306	139.96	26	P		PKPdf	22 46 57.2	+0.2
N17K	Nushagak Hills	139.96	28	PKPdf		PKPdf	22 46 57.6	+0.5
N17K	Nushagak Hills baz=303	139.96	28	P		PKPdf	22 46 57.1	0.0
BPAW	Bear Paw Mtn.	139.97	21	PKPdf		PKPdf	22 46 57.7	+0.7
BPAW	Bear Paw Mtn. baz=314	139.97	21	P		PKPdf	22 46 57.2	+0.2
LBNH	Lisbon baz=84	140.03	305	P		PKPdf	22 46 58.6	+0.9
C36M	Paulatuk baz=353	140.04	3	P		PKPdf	22 46 55.7	-1.2
L20K	Farewell, AK baz=309	140.08	24	P		PKPdf	22 46 57.4	+0.1
O16K	Kokwok River B baz=301	140.08	30	P		PKPdf	22 46 58.1	+0.8
CAST	Castle Rocks baz=312	140.08	22	P		PKiKP	22 46 58.7	-0.9
NEA2	Nenana baz=317	140.19	20	P		PKPdf	22 46 58.5	+1.1
M19K	Big River Lodg baz=308	140.25	25	P		PKPdf	22 46 58.5	+0.9
POKR	Poker Plat Res baz=320	140.26	18	P		PKiKP	22 46 58.7	-1.3
INK	Inuvik baz=340	140.27	8	P		PKiKP	22 46 58.5	-1.4
G27K	Doyon Strip baz=328	140.27	14	P		PKPdf	22 46 57.6	+0.1
COLA	College baz=319	140.33	19	P		PKPdf	22 46 58.0	+0.5
PPLA	Purkeypile baz=312	140.40	23	P		PKPdf	22 46 58.3	+0.3
N18K	Kilae Creek baz=305	140.40	28	P		PKPdf	22 46 58.0	+0.1
O17K	Koliganek Bris baz=303	140.41	29	P		PKPdf	22 46 57.4	-0.4
P16K	Nushagak River baz=301	140.42	31	P		PKPdf	22 46 57.8	-0.1
PRP	Porcupine Dome baz=322,SNR=7.1	140.45	17	P		PKPdf	22 46 57.6	-0.4
F30M	Barrier River baz=337	140.61	10	P		PKPdf	22 46 57.5	-0.5
TRF	Thorofare Moun baz=315	140.65	22	P		PKPdf	22 46 58.6	+0.2
ILAR	Eielson Array comp=Z,1.2nm,0.6s,baz=293,slow=3.2,SNR=18	140.68	18	PKhKP		PKPpre	22 46 49.5	
ILAR	comp=Z,9.0nm,1.0s,baz=323,slow=3.8,SNR=25			PKP		PKPdf	22 46 57.4	-0.9
L61B	Northampton baz=86	140.72	302	P		PKPdf	22 46 59.2	+0.2
M20K	Styx River baz=310	140.73	25	P		PKPdf	22 46 59.2	+0.7
H27K	Steamboat Moun baz=328,SNR=11	140.79	14	P		PKPdf	22 46 58.7	+0.2
MCK	McKinley baz=317	140.87	21	P		PKPdf	22 46 59.1	+0.5
G29M	Pine Creek baz=333	140.88	12	P		PKPdf	22 46 58.6	0.0
N19K	Bonanza Creek baz=307	140.88	27	P		PKPdf	22 46 59.6	+0.8
SDPT	Sand Point baz=294	140.92	37	P		PKPdf	22 46 59.1	+0.2
HDA	Harding Lake baz=320	140.94	19	P		PKPdf	22 46 59.8	+1.1
S14K	Fog Glacier baz=296	141.00	35	P		PKPdf	22 46 59.3	+0.1
P17K	Kvichak River baz=303	141.01	30	P		PKPdf	22 46 59.7	+0.8
F31M	Tsiigehtchic baz=340	141.06	9	P		PKiKP	22 47 00.1	-1.4
G30M	tAoh Zraii Nji baz=336	141.12	11	P		PKPdf	22 46 59.4	+0.4
O18K	Koktuh Hills baz=305	141.16	28	P		PKPdf	22 46 59.5	+0.3
Q16K	King Salmon baz=302	141.19	31	P		PKPdf	22 46 59.8	+0.6
I26K	Coal Creek Min baz=326	141.21	16	P		PKPdf	22 46 59.3	+0.1
J25K	Salcha River, baz=322	141.21	18	P		PKPdf	22 46 60.0	+0.7
SKT	Skwentna baz=312	141.24	24	P		PKPdf	22 46 59.9	+0.5
I27K	Kandik River baz=328	141.31	15	P		PKPdf	22 46 59.9	+0.5
O19K	Port Alsworth baz=307	141.32	27	P		PKPdf	22 47 00.2	+0.7
R16K	Pilot Point baz=300	141.35	32	P		PKPdf	22 47 00.2	+0.6
CUT	Chulitna baz=314	141.38	23	P		PKPdf	22 47 00.4	+0.8
P18K	Big Mountain, baz=305	141.41	29	P		PKPdf	22 46 59.5	-0.2
H29M	Whitestone baz=333	141.44	12	P		PKPdf	22 46 59.5	0.0
G31M	Satah River baz=338	141.47	10	P		PKPdf	22 46 58.6	-1.0
N20K	Mount Spurr baz=310	141.51	25	P		PKPdf	22 46 59.7	-0.2
CHGN	Chignik baz=298	141.55	35	P		PKPdf	22 47 00.1	+0.1
EPYK	Eagle Plains baz=335	141.59	11	P		PKPdf	22 46 59.5	-0.4
CHNA	Chernabura Isl baz=294	141.60	37	P		PKPdf	22 46 59.7	-0.5
WAT1	Susitna Watana baz=316	141.64	21	P		PKPdf	22 47 00.1	+0.1
PAL	Palisades baz=87	141.72	300	P		PKPdf	22 47 00.2	-0.6
K24K	Donnelly Dome baz=321	141.74	19	P		PKPdf	22 47 00.3	+0.1
Q17K	Contact Creek baz=303	141.76	31	P		PKPdf	22 47 00.3	-0.2
J26L	Joseph Creek baz=324,SNR=12	141.77	17	P		PKPdf	22 47 00.0	-0.3
I28M	Miner Creek baz=330	141.81	14	P		PKPdf	22 47 00.8	+0.4
DHY	Denali Highway baz=318	141.83	20	P		PKPdf	22 47 00.4	-0.2
SUA	Susitna One baz=312	141.86	24	P		PKPdf	22 47 00.1	-0.5
LONY	Lake Ozonia	141.88	306	P		PKPdf	22 47 01.0	0.0
M22K	Willow baz=313	141.89	23	P		PKPdf	22 47 00.7	+0.3
O20K	Slope Mountain baz=309	142.06	27	P		PKPdf	22 47 01.4	+0.4
WAT6	Susitna Watana baz=317	142.08	21	P		PKPdf	22 47 01.3	+0.2
P19K	Oil Pt baz=307	142.09	28	P		PKPdf	22 47 01.3	+0.3
SCRK	Sand Creek baz=323,SNR=6.6	142.09	18	P		PKPdf	22 47 01.4	+0.4
EGAK	Eagle baz=328	142.12	15	P		PKPdf	22 47 00.5	-0.3
CAPN	Captain Cook N baz=311	142.18	25	P		PKPdf	22 47 00.6	-0.3
I29M	Ogilvie Camp, baz=332	142.21	13	P		PKPdf	22 47 00.8	-0.2
PMR	Palmer baz=314	142.34	23	P		PKPdf	22 47 01.3	0.0
Q19K	Cape Douglas, baz=306	142.35	29	P		PKPdf	22 47 01.2	-0.3
SML	Sawmill baz=316	142.45	22	P		PKPdf	22 47 01.2	-0.3
PAX	Paxson baz=321	142.47	19	P		PKPdf	22 47 01.4	-0.3
RC01	Rabbit Creek A baz=313	142.48	24	P		PKPdf	22 47 01.4	-0.2
H31M	Peel River baz=338	142.50	10	P		PKPdf	22 47 01.3	-0.2
K27K	Chicken baz=326	142.53	16	P		PKPdf	22 47 01.5	-0.1
M23K	Glacier View baz=317	142.66	22	P		PKPdf	22 47 01.9	0.0
I30M	Mount Dempster baz=335,SNR=18	142.70	12	P		PKPdf	22 47 01.4	-0.6
SCM	Sheep Creek Mo baz=317	142.76	22	P		PKPdf	22 47 02.6	+0.4
M24K	Tolsona, Glenn baz=319	142.92	21	P		PKPdf	22 47 02.5	+0.1
HARP	HAARP baz=321	143.01	20	P		PKPdf	22 47 03.2	+0.7
BRSE	Bradley Lake S baz=311	143.01	26	P		PKPdf	22 47 03.3	+0.8
L26K	Log Cabin Wild baz=324	143.02	18	P		PKPdf	22 47 02.7	+0.2
J29N	Klondike Camp baz=332	143.03	14	P		PKPdf	22 47 02.9	+0.4
Q20K	Shuyak Island baz=307	143.06	29	P		PKPdf	22 47 02.3	-0.3
DAWY	Dawson baz=330	143.12	15	P		PKPdf	22 47 01.8	-0.9
CHIR	Chirikof Islan baz=300	143.16	34	P		PKPdf	22 47 02.4	-0.5
BINY	Binghamton baz=84	143.18	302	P		PKPdf	22 47 02.7	-0.7
SEW	Seward baz=313	143.25	25	P		PKPdf	22 47 02.2	-0.7
J30M	Hart River baz=334	143.29	12	P		PKPdf	22 47 02.3	-0.8
L27K	Beaver Creek, baz=326,SNR=13	143.40	17	P		PKPdf	22 47 02.9	-0.3
BCAR	Beaver Creek A	143.40	17	PKPdf		PKPbc	22 47 01.1	+0.7
SII	Sitkinak Islan baz=303	143.46	32	P		PKPdf	22 47 03.3	-0.1
KLU	Klutina baz=319	143.47	21	P		PKPdf	22 47 03.1	-0.3
KDAK	Kodiak Island baz=306	143.48	30	P		PKPdf	22 47 03.4	0.0
OHAK	Old Harbor baz=305	143.50	31	P		PKPdf	22 47 03.5	+0.1
GLI	Glacier Island baz=317	143.54	23	P		PKPdf	22 47 03.6	+0.1
M26K	Naesna, AK baz=324,SNR=7.0	143.62	19	P		PKPdf	22 47 03.8	+0.2
K29M	Barlow Dome baz=332,SNR=33	143.72	14	P		PKPdf	22 47 04.0	+0.1
N25K	Chitina, Valde baz=321	143.79	20	P		PKPdf	22 47 03.9	-0.1
M27K	Edge Creek, AK baz=325	143.96	18	P		PKPdf	22 47 04.8	+0.4
P23K	Montague Islan baz=315	144.07	24	P		PKPdf	22 47 05.2	+0.8
EYAK	Cordova Ski Ar baz=318	144.23	22	P		PKPdf	22 47 04.2	-0.4
L29M	L29M baz=331	144.24	15	P		PKPbc	22 47 03.3	+0.4
MAYO	Mayo, Yukon baz=334	144.26	13	P		PKPbc	22 47 03.4	+0.5
BMRM	Bremner River baz=320	144.28	21	P		PKPbc	22 47 03.5	+0.4
MCARA	Moorthy VSAT baz=323,SNR=32	144.43	20	P		PKPbc	22 47 04.1	+0.6
CBN	Corbin Frederi baz=88	144.50	295	P		PKPbc	22 47 04.9	+0.5
M29M	Somme Creek baz=330,SNR=96	144.74	15	P		PKPdf	22 47 05.2	-0.5
SSPA	Standing Stone	144.75	300	PKPdf		PKPbc	22 47 05.2	0.0
SSPA	Standing Stone baz=85	144.75	300	P		PKPbc	22 47 05.1	-0.1
YUK3	Moose Creek baz=27,SNR=27	144.82	17	P		PKPbc	22 47 05.3	+0.3
Q23K	Middleton Isla baz=316	144.85	24	P		PKPdf	22 47 05.2	-0.5
CNNC	Cliffs of the baz=92	144.88	290	P		PKPdf	22 47 06.2	-0.3
KAIM	Kayak Island baz=319	145.14	22	P		PKPdf	22 47 06.1	-0.1
CTG	Chitna Glacier baz=325,SNR=45	145.25	19	P		PKPdf	22 47 07.0	+0.3
BGLC	Bering Glacier baz=321	145.35	21	P		PKPab	22 47 06.8	+0.2
YUK8	Steele Glacier baz=327,SNR=27	145.42	17	P		PKPab	22 47 07.7	+0.5
YUK4	Talbot Arm baz=329,SNR=51	145.65	17	P		PKPab	22 47 08.3	+0.3
MESA	MESA baz=323	145.72	20	P		PKPab	22 47 08.5	+0.3
O28M	Mount Upton baz=335,SNR=23	145.73	18	P		PKPab	22 47 08.2	-0.2
M31M	Drury Creek, Y baz=336,SNR=45	145.82	13	P		PKPbc	22 47 07.8	-0.2
N30M	Aishikik Lake baz=331,SNR=24	145.92	15	P		PKPab	22 47 08.7	-0.1
MMPY	Sheldon Lake, baz=341,SNR=130	145.97	10	P		PKPab	22 47 08.9	0.0
FARO	Faro, Yukon baz=338,SNR=29	145.99	12	P		PKPbc	22 47 08.2	-0.3
YUK6	Outpost Mounta baz=329,SNR=7.8	146.07	17	P		PKPab	22 47 09.5	-0.1
ERPA	Erie baz=81	146.14	303	P		PKPbc	22 47 09.4	-0.2
WRGLY	Wrigley baz=353	146.17	4	P		PKPbc	22 47 09.1	+0.1
N31M	Braeburn, Yuko baz=333,SNR=43	146.19	14	P		PKPab	22 47 09.4	-0.4
MCWV	Mont Chateau baz=85,SNR=6.3	146.34	298	P		PKPbc	22 47 10.2	0.0
HYT	Haines Junctio baz=330,SNR=50	146.38	16	P		PKPab	22 47 10.6	-0.1
M53A	WI Miller and baz=81	146.75	301	P		PKPbc	22 47 11.1	-0.3
O30N	Mendenhall baz=332,SNR=42	146.76	15	P		PKPab	22 47 11.3	-0.7
PNL	Peninsula baz=326	146.87	19	P		PKPab	22 47 11.9	-0.5
YKA	Yellowknife Ar	146.89	356	PKPdf		PKPdf	22 47 09.1	0.0
YKA	Yellowknife Ar baz=337,SNR=51	146.89	356	PKPbc		PKPbc	22 47 10.9	-0.2
YKA	comp=Z,75nm,0.8s,baz=351,slow=3.7,SNR=425			PP		PP	22 50 35.2	+0.2
BLA	comp=Z,5.2nm,1.0s,baz=4.0,slow=6.9,SNR=8.0 Blacksburg baz=88	146.94	294	P		PKPbc	22 47 12.4	+0.3
DWPF	Disney Wildern baz=102	147.02	277	P		PKPbc	22 47 11.9	-0.6
N32M	Quiet Lake baz=337,SNR=51	147.04	12	P		PKPbc	22 47 11.2	-0.4
P30M	Million Dollar baz=331	147.13	16	P		PKPbc	22 47 12.1	+0.2
WHY	Whitehorse baz=334,SNR=14	147.13	14	P		PKPbc	22 47 11.7	-0.3
O53A	New Philadelph baz=83,SNR=35	147.32	299	P		PKPbc	22 47 13.1	+0.2
P29M	Windy Craggy baz=329,SNR=8.4	147.36	17	P		PKPbc	22 47 12.7	+0.1
TGTN	Hyland Airport baz=345,SNR=10	147.43	8	P		PKPbc	22 47 13.1	+0.4
KMSC	Kings Mountain baz=91	147.70	290	P		PKPbc	22 47 13.9	-0.3
PLBC	Pleasant Camp baz=331,SNR=8.9	147.86	17	P		PKPbc	22 47 13.7	-0.1
P33M	Teslin, Yukon baz=337,SNR=16	147.96	13	P		PKPbc	22 47 13.8	-0.4
P52A	Corning baz=83,SNR=32	148.10	298	P		PKPbc	22 47 15.2	+0.1
SKAG	Skagway baz=333,SNR=19	148.10	16	P		PKPbc	22 47 14.8	+0.4
P32M	Atlin baz=335,SNR=23	148.35	14	P		PKPbc	22 47 15.6	+0.4
ACSO	Alum Creek Sta baz=81,SNR=7.3	148.66	300	P		PKPbc	22 47 17.1	+0.5
WTLY	Watson Lake, Y baz=344,SNR=18	148.73	9	P		PKPbc	22 47 16.5	+0.3
AAM	Ann Arbor baz=77	148.79	304	P		PKPbc	22 47 16.6	-0.1
GLMI	Grayling baz=72	148.81	309	P		PKPbc	22 47 17.0	+0.2
R31K	City Hall, Gus baz=331	148.93	17	P		PKPbc	22 47 16.9	+0.3
R33M	Jennings River baz=340,SNR=36	149.07	12	P		PKiKP	22 47 17.8	-0.6
S31K	Pelican baz=330	149.20	18	P		PKiKP	22 47 17.9	-0.6
KOTAN	Kotaneelee Air baz=352	149.22	5	P		PKPbc	22 47 17.4	+0.1
R32K	Eaglecrest baz=333	149.35	16	P		PKiKP	22 47 18.5	-0.4
TIGA	Tifton baz=96	149.38	283	P		PKPbc	22 47 18.8	+0.1
GOGA	Godfrey baz=92,SNR=10	149.42	287	P		PKPbc	22 47 18.6	-0.1
TZTN	Tazewell baz=87	149.47	293	P		PKPbc	22 47 19.0	+0.3
LIRD	Liard River Hi baz=348,SNR=12	149.75	7	P		PKiKP	22 47 19.1	-0.6
S32K	Killisnoo baz=332,SNR=5.4	150.06	17	P		PKiKP	22 47 19.9	-0.4
P49A	Miami Univ. Ec baz=81,SNR=21	150.09	299	P		PKPbc	22 47 19.9	-0.3
DLBC	Dease Lake baz=341,SNR=39	150.13	12	P		PKiKP	22 47 20.4	-0.2
SIT	Sitka baz=331	150.23	18	P		PKPbc	22 47 19.9	+0.1
O48B	Farmland baz=79,SNR=16	150.30	300	P		PKPbc	22 47 20.2	-0.4
TOAD	Toad River Com baz=349,SNR=32	150.38	6	P		PKPbc	22 47 20.4	+0.2
S34M	Telegraph Cree baz=338,SNR=35	150.42	13	P		PKiKP	22 47 21.4	+0.3
TEIG	Tepich	150.58	259			PKPbc	22 47 22.0	+0.2
T33K	Petersburg baz=334	151.04	16	P		PKiKP	22 47 23.0	+0.7
T35M	Bob Quinn baz=339,SNR=26	151.47	13	P		PKiKP	22 47 23.8	+0.5
WCI	Wyandotte Cave	151.50	296			PKPbc	22 47 23.0	-0.5
WCI	Wyandotte Cave baz=82	151.50	296	P		PKPbc	22 47 23.3	-0.2
WCI	Wyandotte Cave	151.50	296	PKIKP		PKPbc	22 47 23.0	-0.5
BLO	Bloomington	151.53	298	PKPbc		PKPbc	22 47 22.8	-0.7
BLO				PKPab		PKPab	22 47 31.8	-0.3
BLO	Bloomington	151.53	298	PKIKP		PKPbc	22 47 22.8	-0.7
BLO							22 47 31.8	
WRAK	Wrangell Islan baz=335,SNR=11	151.54	15	P		PKPbc	22 47 22.9	-0.1
U33K	Whale Pass baz=334,SNR=5.1	151.63	17	P		PKiKP	22 47 23.4	-0.1
SFIN	Lafayette baz=77,SNR=14	151.73	301	P		PKPbc	22 47 23.1	-0.8
L44A	Lake County Fo baz=73	151.88	305	P		PKiKP	22 47 24.5	-0.1
EYMN	Ely baz=59,SNR=19	151.88	319	P		PKiKP	22 47 24.3	-0.2
FFC	Flin Flon	151.94	339			PKPbc	22 47 23.3	-0.6
FFC	Flin Flon	151.94	339	PKIKP		PKPbc	22 47 23.3	-0.6
CRAG	Craig baz=333	152.21	17	P		PKPbc	22 47 24.3	-0.2
BRAL	Brewton baz=95	152.30	282	P		PKiKP	22 47 25.9	+0.1
LRAL	Lakeview Retre baz=91,SNR=13	152.36	286	P		PKiKP	22 47 25.8	-0.1
USIN	University of	152.60	296			PKPab	22 47 34.3	-2.3
V35K	Ketchikan baz=336	152.71	16	P		PKiKP	22 47 26.0	+0.1
ULM	Lac du Bonnet comp=Z,9.2nm,1.1s,baz=21,slow=4.6,SNR=6.5	152.87	326	PKP		PKPdf	22 47 17.5	-1.5
ULM	comp=Z,34nm,0.8s,baz=43,slow=4.0,SNR=47			PKPbc		PKPbc	22 47 25.1	-1.0
ULM	comp=Z,17nm,0.9s,baz=32,slow=3.8,SNR=6.6			PKPab		PKPab	22 47 34.3	-2.9
WVT	Waverly baz=85	152.95	292	P		PKPbc	22 47 26.2	-0.6
Z47A	Carrollton	153.26	286			PKPab	22 47 39.4	-0.2
JFWS	Jewell Farm baz=69	153.28	308	P		PKPbc	22 47 27.0	-0.3
HDIL	Hopedale baz=75,SNR=6.4	153.32	302	P		PKiKP	22 47 27.6	0.0
SPMN	Marine on St. baz=62	154.01	314	P		PKiKP	22 47 28.8	-0.1
AGMN	Agassiz Nation baz=52	154.10	323	P		PKPbc	22 47 28.7	-0.2
OXF	Oxford baz=87,SNR=5.2	154.35	289	P		PKPbc	22 47 29.6	-0.3
FVM	French Village	154.75	297	PKPab		PKPab	22 47 45.5	-0.2
FVM	French Village	154.75	297	PKP2		PKPab	22 47 45.5	-0.2
CCM	Cathedral Cave	155.37	298	PKPdf		PKPdf	22 47 22.3	-0.6
CCM	Cathedral Cave baz=78	155.37	298	P		PKPdf	22 47 32.5	+10
CCM	Cathedral Cave	155.37	298	PKIKP		PKPdf	22 47 22.3	-0.6
LCAR	Lake Charles	155.63	293	PKPab		PKPab	22 47 49.0	-0.5
EDM	Edmonton	155.95	351	PKPab		PKPab	22 47 50.0	-0.3
EDM	Edmonton	155.95	351	PKP2		PKPab	22 47 50.0	-0.3
R40A	Maddies Statio	156.11	299	PKPab		PKPab	22 47 51.1	-0.3
MDND	Maddock baz=46	156.30	326	P		PKPab	22 47 52.8	+0.9
FCAR	Ozark Folk Cen	156.44	293	PKPab		PKPab	22 47 52.0	-1.0
ECSD	EROS Data Cent baz=59	157.12	314	P		PKPab	22 47 55.5	-0.1
MIAR	Mount Ida	157.78	290	PKPab		PKPab	22 47 58.6	-0.2
MIAR	Mount Ida baz=84	157.78	290	P		PKPab	22 47 58.7	-0.2
MIAR	Mount Ida	157.78	290	PKP2		PKPab	22 47 58.6	-0.2
DGMT	Dagmar baz=36	157.87	333	P		PKPab	22 47 59.3	+0.6
SUSD	Miller baz=54	158.13	318	P		PKPab	22 48 00.1	+0.1
U38A	Gravette	158.15	295	PKPdf		PKPdf	22 47 25.8	-0.8
U38A				PKPab		PKPab	22 47 59.6	-0.7
NATX	Nacogdoches baz=90	158.82	282	P		PKPab	22 48 03.7	+0.3
KSU1	Kansas State U baz=69	159.12	303	P		PKPab	22 48 04.3	-0.2
BGNE	Belgrade baz=61	159.25	310	P		PKPab	22 48 05.2	+0.2
TUL3	Leonard baz=78	159.37	294	P		PKPab	22 48 06.2	+0.5
T35A	Sooner Cattle	159.71	297	PKPab		PKPab	22 48 07.6	+0.5
LAO	LASA Array baz=35	160.12	333	P		PKPab	22 48 08.9	+0.3
EGMT	Eagleton	160.16	341	PKPab		PKPab	22 48 08.3	-0.4
EGMT	Eagleton baz=24	160.16	341	P		PKPab	22 48 09.3	+0.6
RSSD	Black Hills	161.11	325	PKPdf		PKPdf	22 47 29.9	-0.1
RSSD				PKPab		PKPab	22 48 13.3	+0.1
RSSD	Black Hills baz=44	161.11	325	P		PKPab	22 48 13.3	+0.1
RSSD	Black Hills	161.11	325	PKIKP		PKPdf	22 47 29.9	-0.1
WHTX	Lake Whitney, baz=88	161.20	283	P		PKPab	22 48 13.5	-0.3
NEW	Newport baz=5.2	161.22	356	P		PKPab	22 48 13.2	-0.1
435B	Jarrell baz=91	161.31	279	P		PKPab	22 48 14.8	+0.5
CBKS	Cedar Bluff baz=65	161.49	305	P		PKPab	22 48 15.2	+0.4
LYMT	Lyon Mountain	161.78	345	PKPab		PKPab	22 48 15.6	-0.4
WMOK	Wichita Mounta	162.00	292	PKPab		PKPab	22 48 16.7	-0.5
WMOK	Wichita Mounta baz=78	162.00	292	P		PKPab	22 48 17.3	0.0
WMOK	Wichita Mounta	162.00	292	PKP2		PKPab	22 48 16.7	-0.5
OGNE	Ogallala baz=56	162.00	314	P		PKPab	22 48 17.0	-0.1
MSO	Missoula	162.25	348	PKPab		PKPab	22 48 16.6	-1.3
MSO	Missoula baz=15,SNR=7.6	162.25	348	P		PKPab	22 48 19.0	+1.1
BRDY	Brady	162.53	281			PKPdf	22 47 30.6	-1.0

BRDY			PKPab	**PKPab**	**22 48 19.3**	**-0.4**
BPMT	**Black Pine Rid**	**162.54 347**	PKPab	**PKPab**	**22 48 19.0**	**-0.3**
RLMT	**Red Lodge**	**162.59 336**	PKPab	**PKPab**	**22 48 19.7**	**+0.2**
RLMT	**Red Lodge**	**162.59 336**	P	**PKPab**	**22 48 20.1**	**+0.5**
	baz=30,SNR=9.5					
833A	**Chaparral WMA,**	**162.66 271**	P	**PKPab**	**22 48 20.9**	**+0.6**
	baz=98					
BOZ	**Bozeman (W)**	**162.90 342**	PKPab	**PKPab**	**22 48 19.8**	**-1.0**
BOZ	**Bozeman (W)**	**162.90 342**	P	**PKPab**	**22 48 21.4**	**+0.5**
	baz=22,SNR=7.4					
BOZ	**Bozeman (W)**	**162.90 342**	PKP2	**PKPab**	**22 48 19.8**	**-1.0**
ABTX	**Abilene, Hawle**	**163.01 285**	P	**PKPab**	**22 48 22.0**	**+0.3**
	baz=84					
JCT	**Junction City**	**163.21 278**	PKPab	**PKPab**	**22 48 22.6**	**-0.1**
JCT	**Junction City**	**163.21 278**	P	**PKPab**	**22 48 22.0**	**-0.7**
	baz=91,SNR=6.1					
JCT	**Junction City**	**163.21 278**	PKP2	**PKPab**	**22 48 22.6**	**-0.1**
YHH	**Holmes Hill**	**163.41 339**	PKPab	**PKPab**	**22 48 23.1**	**-0.2**
KSCO	**Kaye Shedlock'**	**163.41 309**	P	**PKPab**	**22 48 24.7**	**+1.3**
	baz=60					
K22A	**Casper**	**163.43 326**	P	**PKPab**	**22 48 22.1**	**-1.2**
	baz=41,SNR=5.3					
H17A	**Grant Village**	**163.67 338**	P	**PKPab**	**22 48 26.3**	**+2.0**
	baz=27					
DRIO	**Del Rio**	**163.86 274**	PKPab	**PKPab**	**22 48 25.5**	**-0.1**
IMW	**Indian Meadow**	**164.23 338**		**PKPab**	**22 48 27.3**	**+0.4**
PLID	**Pearl Lake**	**164.27 352**		**PKPdf**	**22 47 32.4**	**-0.7**
MOOW	**Moose Ponds**	**164.30 337**	PKPab	**PKPab**	**22 48 25.7**	**-1.4**
OZNA	**Ozona**	**164.36 280**	PKPab	**PKPab**	**22 48 27.3**	**-0.5**
N23A	**Red Feather La**	**164.37 320**	P	**PKPab**	**22 48 28.4**	**+0.7**
	baz=47					
LOHW	**Long Hollow**	**164.37 336**		**PKPab**	**22 48 26.2**	**-1.3**
FXWY	**Fox Creek**	**164.49 337**		**PKPab**	**22 48 28.4**	**+0.4**
TPAW	**Teton Pass**	**164.60 337**		**PKPab**	**22 48 28.9**	**+0.4**
REDW	**Red Top Meadow**	**164.68 337**		**PKPab**	**22 48 29.1**	**+0.3**
BW06	**Boulder Array**	**164.70 332**	P	**PKPab**	**22 48 29.2**	**+0.3**
	baz=33					
PDAR	**Pinedale Array**	**164.70 332**		**PKPdf**	**22 47 32.1**	**-1.4**
PDAR	**Pinedale Array**	**164.70 332**	PKP	**PKPdf**	**22 47 33.3**	**-0.2**
	comp=Z,6.3nm,0.9s,baz=123,slow=3.3,SNR=37					
PDAR			PKPab	**PKPab**	**22 48 28.5**	**-0.5**
	comp=Z,0.8nm,0.7s,baz=95,slow=3.0,SNR=1.4					
PDAR			PP	**PP**	**22 52 13.8**	**-0.9**
	comp=Z,0.3nm,0.5s,baz=54,slow=4.6,SNR=3.8					
ISCO	**Idaho Springs**	**164.88 316**	P	**PKPab**	**22 48 30.1**	**+0.1**
	baz=51					
Q24A	**Divide**	**165.10 313**	P	**PKPab**	**22 48 30.6**	**-0.4**
	baz=54					
MSTX	**Muleshoe**	**165.38 292**	P	**PKPab**	**22 48 31.4**	**-0.9**
	baz=76					
HLID	**Hailey**	**165.49 346**	PKPab	**PKPab**	**22 48 32.1**	**-0.2**
HLID	**Hailey**	**165.49 346**	P	**PKPab**	**22 48 32.4**	**+0.1**
	baz=16					
T25A	**Trinidad**	**165.54 306**	P	**PKPab**	**22 48 33.0**	**0.0**
	baz=62					
MFID	**Camas Ranch**	**165.89 350**	PKPab	**PKPab**	**22 48 33.9**	**-0.1**
SDCO	**Great Sand Dun**	**166.00 309**	P	**PKPab**	**22 48 34.5**	**-0.5**
	baz=58					
O20A	**White River Ci**	**166.15 323**	P	**PKPab**	**22 48 35.0**	**-0.4**
	baz=43					
J05D	**Fort Rock, OR**	**166.17 6**	PKPab	**PKPab**	**22 48 33.0**	**-2.2**
HWUT	**Hardware Ranch**	**166.47 335**	PKPab	**PKPab**	**22 48 34.9**	**-1.8**
TXAR	**Lajitas Array**	**166.50 273**	PKPab	**PKPab**	**22 48 35.6**	**-1.8**
TXAR	**Lajitas Array**	**166.50 273**	PKP	**PKPdf**	**22 47 35.7**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=119,slow=3.2,SNR=14					
TXAR			PKPab	**PKPab**	**22 48 37.9**	**+0.5**
	comp=Z,4.9nm,1.2s,baz=123,slow=7.6,SNR=8.6					
TXAR			PP	**PP**	**22 52 30.6**	**+5.0**
	comp=Z,1.2nm,1.1s,baz=124,slow=7.7,SNR=4.1					
TX31	**Lajitas Ar. Si**	**166.51 273**	PKPab	**PKPab**	**22 48 36.9**	**-0.4**
HVU	**Hansel Valley**	**166.73 339**		**PKPab**	**22 48 37.9**	**+0.2**
BGU	**Big Grassy Mou**	**167.58 338**	PKPab	**PKPab**	**22 48 41.5**	**0.0**
VHRN	**Van Horn**	**167.68 279**		**PKPab**	**22 48 42.8**	**+0.2**
MNTX	**Cornudas Mount**	**167.95 284**	P	**PKPab**	**22 48 43.8**	**+0.3**
	baz=83					
ANMO	**Albuquerque**	**167.98 300**	P	**PKPab**	**22 48 44.4**	**+0.6**
	baz=66					
SRU	**San Rafael Swe**	**168.08 326**	PKPab	**PKPab**	**22 48 41.3**	**-2.6**
SRU	**San Rafael Swe**	**168.08 326**	PKP2	**PKPab**	**22 48 41.3**	**-2.6**
DUG	**Dugway, Tooele**	**168.16 336**	PKPab	**PKPab**	**22 48 43.8**	**-0.4**
DUG	**Dugway, Tooele**	**168.16 336**	P	**PKPab**	**22 48 44.5**	**+0.4**
	baz=27					
DUG	**Dugway, Tooele**	**168.16 336**	PKP2	**PKPab**	**22 48 43.8**	**-0.4**
MVCO	**Mesa Verde**	**168.26 314**	P	**PKPab**	**22 48 45.4**	**+0.5**
	baz=52					
ELK	**Elko**	**168.36 345**	PKPab	**PKPab**	**22 48 43.8**	**-1.3**
ELK	**Elko**	**168.36 345**	PKP2	**PKPab**	**22 48 43.8**	**-1.3**
Y22D	**IRIS PASSCAL I**	**168.66 297**	P	**PKPab**	**22 48 47.5**	**+0.8**
	baz=69					
Y22F	**Passcal Instru**	**168.66 297**	P	**PKPab**	**22 48 47.4**	**+0.6**
	baz=69					
BMN	**Battle Mountai**	**169.01 352**		**PKPab**	**22 48 47.0**	**-0.9**
BMN	**Battle Mountai**	**169.01 352**	PKP2	**PKPab**	**22 48 47.0**	**-0.9**
121A	**Cookes Peak, D**	**169.80 290**	P	**PKPab**	**22 48 53.0**	**+1.1**
	baz=75					
PSUT	**Pine Spring**	**170.00 335**	PKPab	**PKPab**	**22 48 52.5**	**+0.1**
KVN	**Kaiserville**	**170.46 355**		**PKPab**	**22 48 53.3**	**-1.0**
KVN	**Kaiserville**	**170.46 355**	PKP2	**PKPab**	**22 48 53.3**	**-1.0**
R11B	**Troy Canyon, C**	**170.72 342**	PKPab	**PKPab**	**22 48 55.4**	**-0.1**
R11B	**Troy Canyon, C**	**170.72 342**	P	**PKPab**	**22 48 55.7**	**+0.1**
	baz=19,SNR=10					
NVAR	**Mina Array Bea**	**171.09 356**	PKPab	**PKPab**	**22 48 55.8**	**-1.4**
NVAR	**Mina Array Bea**	**171.09 356**	PKP	**PKPdf**	**22 47 39.5**	**+1.4**
	comp=Z,3.1nm,0.9s,baz=132,slow=1.3,SNR=9.4					
NVAR			PKPab	**PKPab**	**22 48 57.3**	**+0.1**
	comp=Z,2.6nm,0.9s,baz=20,slow=2.9,SNR=6.1					
WUAZ	**Wupatki**	**171.13 314**	P	**PKPab**	**22 48 59.5**	**+2.0**
	baz=49					
DSP	**Deep Springs**	**172.12 353**		**PKPab**	**22 49 01.3**	**-0.1**
TUC	**Tucson**	**172.30 293**	P	**PKPab**	**22 49 03.2**	**+0.3**
	baz=70					
GRAC	**Grapevine Rang**	**172.40 349**	P	**PKPab**	**22 49 05.3**	**+2.4**
	baz=11					
AMDNV	**Amargosa**	**172.69 342**		**PKPab**	**22 49 05.7**	**+1.6**
FURC	**Furnace Creek,**	**172.82 345**	P	**PKPab**	**22 49 06.3**	**+1.7**
	baz=15,SNR=5.6					
CWC	**Cottonwood Cre**	**173.05 353**	P	**PKPab**	**22 49 07.5**	**+1.6**
	baz=7.0					
SHOC	**Shoshone, Teco**	**173.20 340**	P	**PKPab**	**22 49 07.4**	**+1.0**
	baz=21					
MPMC	**Manual Prospec**	**173.34 348**	P	**PKPab**	**22 49 08.4**	**+1.2**
	baz=12,SNR=10					
PDMCI	**Parker Dam,Lak**	**173.62 320**	P	**PKPab**	**22 49 09.4**	**+1.1**
	baz=42					
VES	**Vestal, Richgr**	**173.70 360**	P	**PKPab**	**22 49 09.0**	**+0.5**
	baz=360					
GSC	**Goldstone, Bar**	**173.91 342**	PKPab	**PKPab**	**22 49 10.3**	**+0.6**
GSC	**Goldstone, Bar**	**173.91 342**	P	**PKPab**	**22 49 09.6**	**0.0**
	baz=19,SNR=7.8					
GSC	**Goldstone, Bar**	**173.91 342**	PKP2	**PKPab**	**22 49 10.3**	**+0.6**
LRMC	**Laurel Mtn Rad**	**173.94 349**	P	**PKPab**	**22 49 10.0**	**+0.2**
	baz=11					
GMRC	**Granite Mounta**	**173.98 331**	P	**PKPab**	**22 49 10.3**	**+0.3**
	baz=29					
SMMC	**Simmler**	**174.19 7**	P	**PKPab**	**22 49 10.8**	**0.0**
	baz=352					
HEC	**Hector,Ludlow**	**174.20 336**	P	**PKPab**	**22 49 11.4**	**+0.5**
	baz=24					
IRM	**Iron Mountain**	**174.26 325**	P	**PKPab**	**22 49 11.7**	**+0.4**
	baz=36					
ARVC	**Arvin**	**174.41 357**	P	**PKPab**	**22 49 12.4**	**+0.7**
	baz=2.1					
EDW2	**Edwards Air Fo**	**174.57 350**	P	**PKPab**	**22 49 14.2**	**+1.7**
	baz=9.8,SNR=7.1					
PKM	**Mcpherson Peak**	**174.62 6**	P	**PKPab**	**22 49 13.4**	**+0.5**
	baz=353					
BELC	**Belle Mtn. Jos**	**174.80 330**	P	**PKPab**	**22 49 14.8**	**+1.1**
	baz=31					
BC3	**Big Chuckawall**	**174.82 324**	P	**PKPab**	**22 49 15.1**	**+1.2**
	baz=37					
BFSC	**Mount Baldy Ra**	**175.13 345**	P	**PKPab**	**22 49 15.6**	**+0.5**
	baz=14,SNR=10					
PFO	**Pinyon Flats O**	**175.33 331**		**PKPab**	**22 49 14.4**	**-1.7**
PFO	**Pinyon Flats O**	**175.33 331**	P	**PKPab**	**22 49 16.4**	**+0.3**
	baz=29					
PFO	**Pinyon Flats O**	**175.33 331**	PKP2	**PKPab**	**22 49 14.4**	**-1.7**
TPFO	**Pinon Flats**	**175.33 331**	P	**PKPab**	**22 49 16.4**	**+0.3**
	baz=29					
SWSC	**Sam W. Stewart**	**175.55 321**	P	**PKPab**	**22 49 17.6**	**+0.6**
	baz=39					
MURC	**Murrieta**	**175.61 338**	P	**PKPab**	**22 49 18.1**	**+0.9**
	baz=22					
MONP2	**Monument Peak**	**175.91 326**	P	**PKPab**	**22 49 19.4**	**+0.5**
	baz=34					
IKP	**In-Ko-Pah, Jac**	**175.94 321**	P	**PKPab**	**22 49 19.6**	**+0.7**
	baz=39					
CIS	**Catalina Islan**	**176.09 351**	P	**PKPab**	**22 49 19.8**	**+0.6**
	baz=8.2					

NAO ***13*** *22:46:58.7±2.4, 78°.33N×7°.18E, ML2.7*
BER ***13*** *22:47:00.2±4.2, 78°.24N×6°.86E, h10km, mb(Pn)3.6, ML2.7(NAO), Confirmed Earthquake*
KOLA ***13*** *22:47:00.3, 78°.22N×7°.96E, h0km, ML2.5, Error ellipse: s-maj=14.0km s-min=9.2km az=90.0, Greenland sea,Knipovich ridge, middle*
DNK ***13*** *22:47:02.6±1.1, 78°.48N×6°.63E, h36km±18km, ML1.7*
FCIAR ***13*** *22:47:04.0, 78°.18N×8°.11E, h10km, station ZFI2 has station magnitude of 3.40*

ISC 13 22:46:57.9±1.4, 78°.26N±0°.06×6°.97E±0°.04, h15km±10km, n23, σ2ˢ43/47, 1D, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.20**	**53**	P	**Pg**	**22 47 21.1**	**+0.1**
KBS				S	**Sg**	**22 47 34.7**	**-1.9**
KBS	**Kingsbay**	**1.20**	**53**	*i* P	**Pg**	**22 47 21.5**	**+0.5**
KBS				*eS*	**Sn**	**22 47 34.8**	**-1.1**
KBS				IAML		22 47 37.0	
	comp=Z,80nm,0.2s						
KBS	**Kingsbay**	**1.20**	**53**	Pn	**Pg**	**22 47 21.5**	**+0.5**
KBS				Sn	**Sn**	**22 47 34.9**	**-1.0**
KBS	**Kingsbay**	**1.20**	**53**	*eP*	**Pg**	**22 47 20.8**	**-0.1**
KBS				*eS*	**Sn**	**22 47 34.8**	**-1.1**
KBS	**Kingsbay**	**1.20**	**53**	*i* P	**Pg**	**22 47 21.5**	**+0.5**
KBS				*eS*	**Sg**	**22 47 34.6**	**-2.0**
BRBB	**Barentsburg B**	**1.50**	**93**	P	**Pb**	**22 47 25.8**	**+0.4**
BRBB				S	**Sn**	**22 47 43.0**	**-0.5**
BRBB	**Barentsburg B**	**1.50**	**93**	*eP*	**Pg**	**22 47 26.0**	**-0.8**
BRBB				*eS*	**Sn**	**22 47 43.2**	**-0.2**
BRBB	**Barentsburg B**	**1.50**	**93**	Pn	**Pg**	**22 47 25.9**	**-0.8**
BRBB				Sn	**Sn**	**22 47 43.2**	**-0.2**
BRBA	**Barentsburg A**	**1.51**	**94**	*eP*	**Pb**	**22 47 26.1**	**+0.6**
BRBA				*eS*	**Sn**	**22 47 43.2**	**-0.5**
BRBA				IAML		22 47 47.8	
	comp=Z,68nm,0.2s						
BRBA	**Barentsburg A**	**1.51**	**94**	Pn	**Pb**	**22 47 26.1**	**+0.6**
BRBA				Sn	**Sn**	**22 47 43.1**	**-0.5**
SPA0	**Spitsbergen Ar**	**1.93**	**88**	Pn	**Pb**	**22 47 33.1**	**+0.4**
	baz=259,slow=14						
SPA0				Sn	**Sb**	**22 47 56.1**	**-0.5**
	baz=265,slow=22						
SPA0				IAML		22 47 57.7	
	comp=Z,61nm,0.1s						
SPA0	**Spitsbergen Ar**	**1.93**	**88**	Pn	**Pb**	**22 47 33.1**	**+0.4**
	baz=259,slow=14						
SPA0				Sn	**Sb**	**22 47 56.1**	**-0.5**
	baz=265,slow=22						
SPA0	**Spitsbergen Ar**	**1.93**	**88**	*eP*	**Pb**	**22 47 32.9**	**+0.2**
SPA0				*eS*	**Sn**	**22 47 54.4**	**+0.3**
SPITS	**Spitsbergen Ar**	**1.93**	**88**	P	**Pn**	**22 47 31.4**	**+1.2**
SPITS				S	**Sn**	**22 47 54.6**	**+0.6**
HSPB	**Hornsund (broa**	**2.23**	**120**	P	**Pn**	**22 47 36.0**	**+1.7**
HSPB				S	**Sn**	**22 48 01.8**	**+0.3**
HSPB	**Hornsund (broa**	**2.23**	**120**	*eP*	**Pn**	**22 47 36.1**	**+1.8**
HSPB				*eS*	**Sn**	**22 48 02.1**	**+0.6**
HSPB				IAML		22 48 04.9	
	comp=Z,14nm,0.2s						
HSPB	**Hornsund (broa**	**2.23**	**120**	Pn	**Pb**	**22 47 36.9**	**-0.9**
HSPB				Sn	**Sn**	**22 48 01.8**	**+0.3**
DAG	**Danmarks Havn**	**5.72**	**268**	*eP*	**Pn**	**22 48 23.2**	**+1.1**
DAG				*eS*	**Sn**	**22 49 21.1**	**-6.2**
DAG	**Danmarks Havn**	**5.72**	**268**	*e*	**Pn**	**22 48 19.3**	**-2.8**
	baz=64,slow=16						
DAG				*i* P	**Pn**	**22 48 22.9**	**+0.7**
DAG				*eS*	**Sn**	**22 49 21.4**	**-6.0**
DAG				IAML		22 49 25.6	
	comp=Z,2.7nm,0.3s						
DBG	**Daneborg**	**7.50**	**252**	*eP*	**Pn**	**22 48 49.7**	**+3.1**
DBG				Sn	**Sn**	**22 50 05.8**	**-5.4**
DBG	**Daneborg**	**7.50**	**252**	Pn	**Pn**	**22 48 50.0**	**+3.5**
DBG				Sn	**Sn**	**22 50 05.8**	**-5.4**
ZFI2	**Zemlya Franca-**	**7.68**	**52**	*eP*	**Pn**	**22 48 51.2**	**+2.3**
ZFI2				*eS*	**Sn**	**22 50 10.0**	**-5.4**
	comp=Z,9.8nm,1.6s						
OMEGA	**Omega**	**7.69**	**52**	*eP*	**Pn**	**22 48 50.8**	**+1.7**
OMEGA				S	**Sn**	**22 50 10.6**	**-5.2**

IDC 13 22:49:16.7±13.0, 48°.34N×152°.46E, h438km±233km, mb3.0/8, mbtmp3.8/8, Error ellipse: s-maj=202.3km s-min=27.5km az=171.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**45.84**	**296**	P	P	22 56 58.4	+0.7
	0.1nm,0.3s,baz=60,slow=8.7,SNR=4.7						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**46.23**	**302**	P	P	22 57 00.4	-0.1
	0.5nm,0.2s,baz=66,slow=9.3,SNR=2.0						
	0.5nm,0.2s						
BVAR	**Borovoye Array**	**49.52**	**308**	P	P	22 57 24.6	-0.7
	0.7nm,0.4s,baz=58,slow=7.6,SNR=10						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**49.92**	**37**	P	P	22 57 28.1	0.0
	0.2nm,0.4s,baz=284,slow=10,SNR=4.6						
	0.2nm,0.4s						
ARCES	**ARCESS Array B**	**56.21**	**340**	P	P	22 58 12.9	-0.2
	1.6nm,1.1s,baz=27,slow=8.1,SNR=1.4						
	1.6nm,1.1s						
FINES	**FINESS Array B**	**62.42**	**334**	P	P	22 58 54.8	-0.2
	1.1nm,0.3s,baz=32,slow=8.2,SNR=23						
	1.1nm,0.3s						
NOA	**NORSAR Array B**	**66.58**	**341**	P	P	22 59 21.4	-0.2
	0.3nm,0.5s,baz=36,slow=6.0,SNR=1.6						
	0.3nm,0.5s						
HFS	**Hagfors**	**66.82**	**339**	P	P	22 59 23.4	+0.4
	0.8nm,0.4s,baz=65,slow=8.1,SNR=9.9						
	0.8nm,0.4s						

IDC ***13*** *22:54:00.1±0.8, 26°.90N×143°.89E, h0km, mb4.0/24, mbtmp4.0/28, ML3.8/4, MS2.7/5, Error ellipse: s-maj=19.9km s-min=18.4km az=29.0*
JMA ***13*** *22:54:05.5±0.1, 27°.1N±0°.3×143°.6E±0°.3, h84km, MD3.7/21, MV4.3/21, NEAR CHICHIJIMA ISLAND*
NEIC ***13*** *22:54:07.0±1.0, 27°.1N±0°.1×143°.63E±0°.09, h31km±6km, mb4.5/71, Error ellipse: s-maj=19.8km s-min=10.1km az=160.0*

ISC 13 22:54:07.2±0.6, 27°.18N±0°.07×143°.66E±0°.07, h35km, n136, σ1ˢ58/140, mb4.4/64, 2C, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**1.32**	**267**	P	**Pn**	**22 54 27.7**	**-1.4**
CBIJ				*eS*	**Sn**	**22 54 44.3**	**-1.3**
CBIJ	**Chichi jima**	**1.32**	**267**	A	A	22 54 27.7	
	comp=E,5.0nm,0.4s,comp=N,3.0nm,0.4s						
JCJ	**Chichijima**	**1.32**	**267**		**Pn**	**22 54 27.6**	**-1.5**
JCJ				Sn	**Sn**	**22 54 44.2**	**-1.3**
JCJ	**Chichijima**	**1.32**	**267**	Pn	Pn	22 54 23.2	-5.9
	comp=N,57nm,0.3s,baz=288,slow=18,SNR=51						
JCJ				Sn	**Sn**	**22 54 41.1**	**-4.4**
	comp=N,349nm,0.3s,baz=283,slow=23,SNR=17						
JCJ				LR	LR	22 55 00.4	
	comp=N,160nm,19.4s,baz=116,slow=39						
JHH2	**Haha-jima-NKT2**	**1.44**	**248**	P	**Pn**	**22 54 28.8**	**-1.9**
JHH2				*eS*	**Sn**	**22 54 46.5**	**-1.9**
JHH2	**Haha-jima-NKT2**	**1.44**	**248**	A	A	22 54 28.8	
	comp=E,4.0nm,0.4s,comp=N,4.0nm,0.4s						
JHJ2	**Mitsune**	**6.78**	**332**	Pn	**Pn**	**22 55 46.1**	**+1.9**
JHJ	**Hachijo jima 2**	**6.80**	**331**	Pn	**Pn**	**22 55 44.7**	**+0.2**
	comp=N,7.6nm,0.3s,baz=287,slow=11,SNR=1.4						
	comp=N,91nm,0.8s						
BSO1	**Boso 1**	**7.79**	**343**	*eP*	**Pn**	**22 55 55.3**	**-2.3**
BSO1				*eS*	**Sn**	**22 57 22.6**	**-1.8**
BSO3	**Boso 3**	**8.06**	**341**	*eP*	**Pn**	**22 56 01.9**	**+0.4**
BSO3				*eS*	**Sn**	**22 57 30.3**	**-1.0**
BSO4	**Boso 4**	**8.29**	**341**	*eP*	**Pn**	**22 56 05.1**	**+0.3**
BSO4				*eS*	**Sn**	**22 57 37.3**	**+0.2**
JHU	**Hanno**	**9.41**	**338**	*eP*	**Pn**	**22 56 20.1**	**-0.2**
JRY	**Ryogami san**	**9.70**	**336**	*eP*	**Pn**	**22 56 24.9**	**+0.7**
JHO	**Hitachi**	**9.76**	**345**	*eP*	**Pn**	**22 56 23.4**	**-1.7**
JHO				*eS*	**Sn**	**22 58 09.4**	**-3.9**
JAG	**Ashikaga**	**9.88**	**340**	*eP*	**Pn**	**22 56 26.1**	**-0.6**
JAG				*eS*	**Sn**	**22 58 12.9**	**-3.5**
MJAR	**Matsushiro Arr**	**10.42**	**335**	Pn	**Pn**	**22 56 33.9**	**-0.2**
	comp=N,0.3nm,0.3s,baz=149,slow=10,SNR=19						
MJAR				Sn	**Sn**	**22 58 25.4**	**-4.2**
	comp=N,0.1nm,0.3s,baz=66,slow=30,SNR=2.8						
MJAR				LR	LR	23 01 19.1	
	comp=N,19nm,20.6s,baz=153,slow=41						
	comp=N,7.9nm,0.9s						
MAJO	**Matsushiro**	**10.42**	**335**	Pn	**Pn**	**22 56 34.9**	**+0.8**
MJB9	**Matsu-Tunnel**	**10.42**	**335**		**Pn**	**22 56 35.0**	**+0.8**
JFK	**Kawauchi**	**10.42**	**348**	*eS*	**Sn**	**22 58 21.4**	**-8.3**
JNU	**Nakatsue**	**12.54**	**301**	LR	LR	23 01 14.8	
	comp=N,58nm,18.5s,baz=65,slow=34						
KSRS	**Korea Array**	**16.77**	**312**	P	**P**	**22 58 01.8**	**+0.6**
	comp=N,0.4nm,0.3s,baz=120,slow=11,SNR=8.6						
KSRS				LR	LR	23 03 58.4	
	comp=N,29nm,19.0s,baz=205,slow=35						
	comp=N,2.1nm,0.7s						
ASAJ	**Asahikawa**	**16.92**	**357**	LR	LR	23 03 37.6	
	comp=N,32nm,20.8s,baz=158,slow=34						
USRK	**Ussuriysk Ar.**	**19.41**	**334**	P	**Pn**	**22 58 32.3**	**+0.7**
	comp=N,0.3nm,0.3s,baz=152,slow=13,SNR=3.8						
	comp=N,1.8nm,0.6s						
YHNB	**Yeheng**	**20.20**	**268**	P	**P**	**22 58 38.0**	**-1.1**
YHNB				IAmb	IAmb	22 58 55.7	
	comp=Z,25nm,1.3s						
YULB	**Yu-li**	**20.57**	**264**	P	**P**	**22 58 41.0**	**-2.0**
SSLB	**Suanglung**	**20.77**	**266**	P	**P**	**22 58 44.9**	**-0.4**
SSLB				IAmb	IAmb	22 58 49.2	
	comp=Z,32nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**22.55**	**104**	T	T	23 22 22.1	
	baz=290						
H11N1	**WAKE ISLAND Hy**	**22.55**	**104**	T	T	23 22 04.5	
	baz=290						
H11N3	**WAKE ISLAND Hy**	**22.56**	**104**	T	T	23 22 11.5	
	baz=290						
BNX	**BinXian**	**22.59**	**329**	⇑P	**P**	**22 59 05.8**	**+1.2**
BNX				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BNX				pmax	pmax		
	comp=Z,86nm,9.2s						
H11S3	**WAKE ISLAND Hy**	**22.88**	**107**	T	T	23 22 23.0	
	baz=296						
H11S1	**WAKE ISLAND Hy**	**22.89**	**107**	T	T	23 22 20.0	
	baz=296						
H11S2	**WAKE ISLAND Hy**	**22.90**	**107**	T	T	23 22 22.3	
	baz=296						
KLR	**Kul'dur**	**23.86**	**340**	P	**P**	**22 59 18.6**	**+1.5**
	comp=Z,4.4nm,0.6s,baz=150,slow=8.3,SNR=19						
	comp=Z,4.4nm,0.6s						
HEH	**HeiHe**	**26.18**	**336**	*eP*	**P**	**22 59 43.0**	**+4.7**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
LYN	**LuoYang**	**27.69**	**293**	*eP*	**P**	**22 59 54.8**	**+2.8**
LYN				pmax	pmax		
	comp=Z,14nm,0.5s						
LYN				pmax	pmax		
	comp=Z,87nm,3.9s						
PETK	**Petropavlovsk-**	**27.93**	**18**	P	**P**	**22 59 55.3**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=178,slow=10.0,SNR=2.0						
	comp=Z,0.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**29.71**	**306**	*eP*	**P**	**23 00 12.3**	**+2.2**
HHC				pmax	pmax		
	comp=Z,31nm,5.0s						
XAN	**Xi'an**	**30.57**	**291**	⇑P	**P**	**23 00 16.3**	**-1.4**
XAN				pmax	pmax		
	comp=Z,9.0nm,0.7s						
SONM	**Songino Array**	**35.57**	**315**	P	**P**	**23 01 03.0**	**+1.8**
SONM	**Songino Array**	**35.57**	**315**	P	**P**	**23 01 03.1**	**+1.8**
	comp=Z,1.0nm,0.4s,baz=118,slow=7.7,SNR=13						
	comp=Z,1.0nm,0.4s						
PZH	**PanZhiHua**	**37.28**	**279**	P	**P**	**23 01 17.3**	**+1.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
GTA	**Gaotai**	**38.28**	**300**	*eP*	**P**	**23 01 24.0**	**-0.4**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
PHRA	**Phrae**	**40.78**	**267**	P	**P**	**23 01 45.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**41.94**	**268**	P	**P**	**23 01 54.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=73,slow=5.3,SNR=5.3						
CMAR				LR	LR	23 20 54.6	
	comp=Z,13nm,18.4s,baz=255,slow=38						
	comp=Z,0.6nm,0.5s						
GOMU	**GeErMu**	**42.16**	**295**	P	**P**	**23 01 56.9**	**+0.1**
GOMU				pP	pP	23 02 01.3	-3.2
GOMU				sP	sP	23 02 03.3	-4.4
GOMU				pmax	pmax		
	comp=Z,13nm,0.7

G23K					IAmb	IAmb	23 03 44.3		
	comp=Z,3.5nm,1.1s								
C23K	**Itkillik River**	**56.41**	**22**	P	**P**		**23 03 45.9**	**+1.1**	
C23K					IAmb	IAmb	23 03 47.7		
	comp=Z,5.2nm,1.1s								
MDM	**Murphy Dome**	**56.46**	**28**	P	**P**		**23 03 45.9**	**+0.6**	
MDM					IAmb	IAmb	23 03 50.9		
	comp=Z,6.0nm,1.4s								
SCM	**Sheep Creek Mo**	**56.54**	**32**	P	**P**		**23 03 46.3**	**+0.4**	
KSH	**Kashi**	**56.66**	**301**	P	**P**		**23 03 50.8**	**+3.6**	
KSH				pmax	pmax				
	comp=Z,4.0nm,0.6s								
H24K	**Noodor Dome**	**56.72**	**27**	P	**P**		**23 03 48.1**	**+1.0**	
E24K	**Your Creek**	**56.82**	**25**	P	**P**		**23 03 49.5**	**+1.7**	
E24K					IAmb	IAmb	23 03 49.9		
	comp=Z,2.7nm,0.7s								
F24K	**Squaw Lake**	**56.95**	**25**	P	**P**		**23 03 50.0**	**+1.2**	
ILAR	**Eielson Array**	**57.00**	**29**	P	**P**		**23 03 47.4**	**-1.7**	
	comp=Z,0.9nm,0.9s,baz=255,slow=5.5,SNR=8.8								
	comp=Z,0.9nm,0.9s								
KLU	**Klutina**	**57.18**	**33**	P	**P**		**23 03 50.9**	**+0.4**	
D25K	**Kavik River**	**57.78**	**23**	P	**P**		**23 03 55.6**	**+1.1**	
E25K	**Arctic Village**	**57.91**	**25**	P	**P**		**23 03 56.9**	**+1.5**	
SCRK	**Sand Creek**	**58.20**	**30**	P	**P**		**23 03 57.5**	**-0.1**	
SCRK					IAmb	IAmb	23 03 58.2		
	comp=Z,2.4nm,0.8s								
SCRK				PcP	**PcP**		**23 04 49.1**	**+0.4**	
BMAR	**Burnt Mountain**	**58.21**	**26**	P	**P**		**23 03 59.2**	**+1.7**	
J26L	**Joseph Creek**	**58.41**	**29**	P	**P**		**23 03 58.9**	**-0.1**	
J26L					IAmb	IAmb	23 03 59.4		
	comp=Z,2.1nm,0.7s								
BVAR	**Borovoye Array**	**58.87**	**317**	P	**P**		**23 04 02.9**	**+0.6**	
	comp=Z,2.5nm,0.4s,baz=84,slow=5.9,SNR=25								
	comp=Z,2.5nm,0.4s								
BRVK	**Borovoye**	**58.93**	**318**	P	**P**		**23 04 03.7**	**+0.9**	
K27K	**Chicken**	**59.04**	**30**	P	**P**		**23 04 04.3**	**+0.9**	
M27K	**Edge Creek, AK**	**59.12**	**32**	P	**P**		**23 04 04.9**	**+0.9**	
M27K					IAmb	IAmb	23 04 15.0		
	comp=Z,5.5nm,1.1s								
L27K	**Beaver Creek,**	**59.14**	**31**	P	**P**		**23 04 04.8**	**+0.7**	
L27K					IAmb	IAmb	23 04 13.9		
	comp=Z,4.1nm,1.3s								
L27K				PcP	**PcP**		**23 04 53.4**	**+1.0**	
BCAR	**Beaver Creek A**	**59.16**	**31**	P	**P**		**23 04 05.0**	**+0.7**	
I28M	**Miner Creek**	**59.98**	**28**	P	**P**		**23 04 10.0**	**+0.1**	
I28M				PcP	**PcP**		**23 04 56.5**	**+0.7**	
KK31	**Karatay Array**	**60.10**	**306**	P	**P**		**23 04 12.1**	**+1.1**	
KKAR	**Karatay Array**	**60.10**	**306**	P	**P**		**23 04 11.9**	**+0.9**	
KKAR	**Karatay Array**	**60.10**	**306**	P	**P**		**23 04 12.0**	**+0.9**	
M29M	**Somme Creek**	**60.70**	**31**	P	**P**		**23 04 16.0**	**+1.0**	
M29M					IAmb	IAmb	23 04 16.6		
	comp=Z,4.2nm,0.9s								
K29M	**Barlow Dome**	**61.06**	**30**	P	**P**		**23 04 17.9**	**+0.5**	
K29M					IAmb	IAmb	23 04 23.8		
	comp=Z,6.2nm,1.4s								
G30M	**tAoh Zraii Nji**	**61.45**	**26**	P	**P**		**23 04 20.7**	**+0.8**	
SIMJ	**Simiganj**	**62.14**	**301**	P	**P**		**23 04 25.4**	**+0.3**	
G31M	**Satah River**	**62.22**	**26**	P	**P**		**23 04 25.3**	**+0.4**	
INK	**Inuvik**	**62.40**	**25**	P	**P**		**23 04 26.0**	**-0.1**	
M31M	**Drury Creek, Y**	**62.62**	**32**	P	**P**		**23 04 28.5**	**+0.7**	
M31M					IAmb	IAmb	23 04 42.2		
	comp=Z,6.2nm,1.4s								
ARU	**Arti**	**65.16**	**322**	P	**P**		**23 04 45.0**	**+0.5**	
ABKAR	**Akbulak array**	**65.97**	**315**	P	**P**		**23 04 50.1**	**+0.2**	
ABKAR	**Akbulak array**	**65.97**	**315**	P	**P**		**23 04 50.2**	**+0.4**	
ABKAR					IAmb	IAmb	23 04 50.6		
	comp=Z,2.1nm,0.7s								
GEYT	**Alibeck**	**70.56**	**303**	P	**P**		**23 05 19.4**	**+0.5**	
	comp=Z,1.1nm,0.7s,baz=82,slow=3.1,SNR=5.9								
	comp=Z,1.1nm,0.7s								
YKA	**Yellowknife Ar**	**71.44**	**29**	P	**P**		**23 05 23.4**	**-0.2**	
	comp=Z,0.4nm,0.7s,baz=299,slow=6.0,SNR=5.6								
	comp=Z,0.4nm,0.7s								
ARCES	**ARCESS Array B**	**73.89**	**341**	P	**P**		**23 05 38.8**	**+0.7**	
ARCES					IAmb	IAmb	23 05 49.8		
	comp=Z,9.2nm,1.2s								
ARCES	**ARCESS Array B**	**73.89**	**341**	P	**P**		**23 05 38.6**	**+0.4**	
	comp=Z,0.9nm,0.8s,baz=68,slow=7.2,SNR=1.8								
	comp=Z,0.9nm,0.8s								
YBH	**Yreka Blue Hor**	**74.98**	**51**	P	**P**		**23 05 45.7**	**+0.6**	
FIA1	**FINESS Array S**	**78.44**	**334**	P	**P**		**23 06 03.0**	**-1.2**	
FINES	**FINESS Array B**	**78.44**	**334**	P	**P**		**23 06 05.2**	**+1.1**	
	comp=Z,0.7nm,0.5s,baz=68,slow=5.0,SNR=13								
	comp=Z,0.7nm,0.5s								
KBZ	**Khabaz**	**78.91**	**313**	P	**P**		**23 06 08.7**	**+1.6**	
	comp=Z,4.1nm,0.9s,baz=106,slow=3.8,SNR=9.7								
	comp=Z,4.1nm,0.8s								
NVAR	**Mina Array Bea**	**79.43**	**52**	P	**P**		**23 06 10.3**	**0.0**	
	comp=Z,0.5nm,0.6s,baz=294,slow=6.8,SNR=2.6								
	comp=Z,0.5nm,0.6s								
SUMG	**Summit**	**80.50**	**1**	P	**P**		**23 06 16.5**	**+0.8**	
SUMG					IAmb	IAmb	23 06 28.9		
	comp=Z,11nm,1.5s								
RLMT	**Red Lodge**	**82.19**	**43**	P	**P**		**23 06 25.3**	**+0.3**	
RLMT					IAmb	IAmb	23 06 26.1		
	comp=Z,2.2nm,0.5s								
PABE	**Paberze**	**82.95**	**330**	P	**P**		**23 06 28.5**	**+0.1**	
PDAR	**Pinedale Array**	**83.22**	**45**	P	**P**		**23 06 27.9**	**-2.4**	
	comp=Z,0.3nm,0.3s,baz=270,slow=1.8,SNR=2.0								
	comp=Z,0.3nm,0.3s								
AKASG	**Malin Array Be**	**83.32**	**324**	P	**P**		**23 06 29.4**	**-1.0**	
	comp=Z,1.2nm,0.5s,baz=41,slow=6.0,SNR=5.4								
	comp=Z,1.2nm,0.5s								
HFS	**Hagfors**	**83.86**	**337**	P	**P**		**23 06 32.5**	**-0.5**	
	comp=Z,0.8nm,0.7s,baz=45,slow=4.7,SNR=2.1								
	comp=Z,0.8nm,0.7s								
NOA	**NORSAR Array B**	**84.01**	**339**	P	**P**		**23 06 33.1**	**-0.7**	
	comp=Z,0.3nm,0.6s,baz=33,slow=2.9,SNR=2.1								
	comp=Z,0.3nm,0.6s								
SFJD	**Kangerlussuaq**	**85.49**	**6**	P	**P**		**23 06 42.0**	**+0.9**	
RAYN	**Ar Rayn**	**86.31**	**294**	P	**P**		**23 06 46.3**	**+0.3**	
RAYN					IAmb	IAmb	23 06 48.1		
	comp=Z,2.4nm,0.8s								
BRTR	**Keskin Array B**	**86.90**	**313**	P	**P**		**23 06 48.1**	**-0.7**	
	comp=Z,1.0nm,0.8s,baz=67,slow=3.6,SNR=7.3								
	comp=Z,1.0nm,0.8s								
MMAI	**Mount Meron Ar**	**89.32**	**307**	P	**P**		**23 06 59.2**	**-1.1**	
	comp=Z,1.6nm,0.8s,baz=92,slow=8.7,SNR=1.6								
	comp=Z,1.6nm,0.8s								
TXAR	**Lajitas Array**	**94.49**	**54**	P	**P**		**23 07 20.9**	**-3.4**	
	comp=Z,0.1nm,0.5s,baz=309,slow=4.3,SNR=1.5								
	comp=Z,0.1nm,0.5s								
WMOK	**Wichita Mounta**	**94.68**	**47**	P	**P**		**23 07 27.5**	**+2.5**	
LPAZ	**La Paz**	**148.62**	**76**	PKPbc	**PKPbc**		**23 13 50.7**	**-1.3**	
	comp=Z,0.6nm,0.3s,baz=225,slow=1.4,SNR=7.5								

JMA 13 22:56:19.4±0.2, 37.8N±0.5×142.0E±0.9, h33km±2km, MV1.8/18, SE OFF MIYAGI PREF, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**0.67**	**318**	P	Pn	22 56 32.3	-0.3
JIKH				*e*S	Sb	22 56 41.5	-0.3
JIO	**Ouri**	**0.84**	**320**	P	Pn	22 56 34.9	0.0
JIO				*e*S	Sn	22 56 45.9	-0.2
JMST	**Minamisoumatoc**	**0.92**	**264**	*e*S	Sn	22 56 48.1	0.0
JMM	**Marumori**	**0.99**	**273**	Pn	Pn	22 56 36.9	0.0
JMM	**Marumori**	**0.99**	**273**	P	Pn	22 56 37.1	+0.1
JMM				*e*S	Sn	22 56 50.1	+0.3
JFK	**Kawauchi**	**1.03**	**244**	*e*S	Sn	22 56 50.6	-0.4
JOU	**Okura**	**1.22**	**297**	*e*P	Pb	22 56 41.1	-0.8
JMK	**Ichinoseki**	**1.30**	**331**	P	Pn	22 56 41.9	+0.6
JMK				*e*S	Sn	22 56 58.0	+0.4
JOTO	**OTAMA OYAMA**	**1.38**	**260**	*e*S	Sb	22 57 01.6	-0.3

*IDC **13** 23:28:46.0±0.7, 36.14N×97.60W, h0km, mb3.2/4, mbtmp3.5/13, ML3.3/8, MS3.2/2, Error ellipse: s-maj=11.0km s-min=8.3km az=143.0*

*NEIC **13** 23:28:48.1±0.3, 36.065N±0.009×97.57W±0.01, h6km, Error ellipse: s-maj=1.4km s-min=1.1km az=211.0, Moment Tensor Solution. Moment tensor: Scale 10^14^Nm; Mrr=0.13; Mθθ=3.67; Mφφ=-3.54; Mrθ=-0.00; Mθφ=-1.59; Mφr=0.32; Fault plane solution: M0=3.96000×10^14^ NP1: φs=146.83000°, δ=87.30000°, λ=-4.04000°. NP2: φs=237.02000°, δ=85.96000°, λ=-177.29000°. Principal axes: T 4.0085, Plg=1.0000°, Azm=192.0000°; N -0.1091, Plg=85.0000°, Azm=293.0000°; P -3.8994, Plg=5.0000°, Azm=102.0000°;*

*NEIC **13** 23:28:48.3, 36.07N×97.57W, h7km*

*TUL **13** 23:28:48.3±0.3, 36.072N±0.009×97.57W±0.01, h7km, ML4.3, mb3.4/4(NEIC), mb_Lg4.0/150(NEIC),*

ML4.3/76(NEIC), Mwr3.7/47(NEIC), Error ellipse: s-maj=1.3km s-min=1.3km az=104.0

ISC 13 23:28:48.3±0.9, 36.09N±0.02×97.56W±0.02, h17km±6km, n161, σ1φ24/103, mb2.9/3, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.30**	**163**		**Pg**	**23 28 54.3**	**-0.5**
OK029				Sg	**Sg**	**23 28 58.4**	**-0.7**
OK029				IAML		23 28 58.8	
	25μm,0.5s						
OK029				IAML		23 28 58.8	
	43μm,0.5s						
ADOK	**Arcadia Dam**	**0.46**	**160**	Pg	**Pg**	**23 28 57.2**	**-0.4**
ADOK				Sg	**Sg**	**23 29 03.5**	**-0.3**
OK033	**Mehan**	**0.51**	**94**		**Pg**	**23 28 58.3**	**-0.1**
OK033				Sg	**Sg**	**23 29 05.3**	**+0.1**
OK033				IAML		23 29 05.8	
	15μm,0.4s						
CROK	**Carrier**	**0.54**	**321**		**Pg**	**23 28 58.9**	**-0.2**
CROK				Sg	**Sg**	**23 29 06.4**	**0.0**
CROK				IAML		23 29 07.2	
	comp=N,25μm,0.3s						
CROK				IAML		23 29 07.2	
	comp=E,29μm,0.4s						
OK048	**Pawnee Station**	**0.60**	**56**	Pg	**Pg**	**23 29 00.1**	**-0.1**
OK048				Sg	**Sg**	**23 29 08.1**	**0.0**
OK048				IAML		23 29 08.7	
	comp=E,11μm,0.6s						
OK048				IAML		23 29 10.8	
	comp=E,14μm,0.3s						
OK031	**S. Brethren Rd**	**0.60**	**103**		**Pg**	**23 28 60.0**	**-0.2**
OK031				Sg	**Sg**	**23 29 08.3**	**+0.1**
OKCSW	**OKLAHOMA CITY**	**0.69**	**172**	Pg	**Pg**	**23 29 01.1**	**-0.7**
OKCSW				IAML		23 29 11.6	
	comp=N,18μm,0.2s						
OKCSW				IAML		23 29 13.4	
	comp=E,12μm,0.5s						
QUOK	**Quay**	**0.69**	**83**		**Pg**	**23 29 01.8**	**-0.1**
QUOK				IAML		23 29 15.0	
	comp=E,8μm,0.2s						
OK051	**E0350 and S346**	**0.72**	**54**		**Pg**	**23 29 02.3**	**-0.1**
OK051				IAML		23 29 12.5	
	comp=E,15μm,0.3s						
OK051				IAML		23 29 15.1	
	comp=E,19μm,0.2s						
BLOK	**Blackwell**	**0.73**	**22**		**Pg**	**23 29 02.6**	**0.0**
BLOK				IAML		23 29 16.7	
	comp=E,17μm,0.2s						
BLOK				IAML		23 29 19.6	
	comp=N,10μm,0.2s						
GC02	**Grant County #**	**0.80**	**343**		**Pg**	**23 29 03.7**	**-0.2**
FNO	**Franklin**	**0.84**	**171**	Pg	**Pg**	**23 29 03.8**	**-0.8**
FNO				IAML		23 29 20.8	
	comp=E,8μm,0.6s						
OK032	**Salt Plains WL**	**0.89**	**324**	IAML		23 29 21.7	
	comp=E,12μm,0.1s						
DEOK	**Depew**	**0.90**	**105**	Pg	**Pg**	**23 29 05.0**	**-0.6**
KAN13	**South Haven SW**	**0.93**	**4**		**Pg**	**23 29 06.2**	**-0.2**
KAN13				IAML		23 29 31.3	
	comp=N,10μm,0.3s						
KAN17	**Caldwell West**	**0.97**	**350**	IAML		23 29 22.3	
	comp=E,11μm,0.3s						
KAN17				IAML		23 29 28.9	
	comp=N,9μm,0.3s						
CSTR	**Hydro, Custer**	**1.02**	**245**		**Pg**	**23 29 07.1**	**-0.9**
OK038	**West end E0370**	**1.03**	**293**		**Pb**	**23 29 07.5**	**-0.3**
KAN09	**Caldwell North**	**1.05**	**357**		**Pb**	**23 29 08.4**	**+0.4**
KAN01	**Argonia South**	**1.08**	**352**		**Pb**	**23 29 08.8**	**+0.3**
KAN01				IAML		23 29 23.7	
	comp=E,7μm,0.3s						
KAN01				IAML		23 29 26.3	
	comp=N,5μm,0.1s						
W35A	**Tecumseh**	**1.08**	**149**	IAML		23 29 24.6	
	comp=E,10μm,0.3s						
W35A				IAML		23 29 30.1	
	comp=N,5μm,0.3s						
OK035	**E0210 Rd and N**	**1.12**	**304**		**Pb**	**23 29 09.0**	**-0.2**
OK035				IAML		23 29 25.1	
	comp=N,7μm,0.3s						
KAN10	**Anthony SW Sta**	**1.12**	**338**	IAML		23 29 27.3	
	comp=E,5μm,0.2s						
KAN08	**Anthony NE Sta**	**1.19**	**344**		**Pn**	**23 29 10.6**	**+0.5**
KAN08				IAML		23 29 27.6	
	comp=E,8μm,0.4s						
KAN08				IAML		23 29 30.8	
	comp=N,5μm,0.1s						
U32A	**Winter Ranch,**	**1.20**	**285**		**Pn**	**23 29 10.5**	**+0.1**
U32A				IAML		23 29 31.4	
	comp=E,3μm,0.1s						
TUL3	**Leonard**	**1.44**	**96**	P	**Pn**	**23 29 14.3**	**+0.6**
	baz=277,SNR=483						
TUL3				S	**Sb**	**23 29 34.4**	**+1.6**
	baz=277						
WMOK	**Wichita Mounta**	**1.67**	**217**	P	**Pn**	**23 29 17.8**	**+1.0**
	baz=36,SNR=616						
WMOK				S	**Sb**	**23 29 40.4**	**+0.9**
	baz=36						
RLO	**Rose Lookout**	**2.06**	**87**	IAmb_Lg		23 29 52.5	
	comp=Z,570nm,0.8s						
LOOK	**Love County**	**2.11**	**171**	IAmb_Lg		23 29 56.5	
	comp=Z,517nm,0.8s						
KSU1	**Kansas State U**	**3.10**	**14**	IAmb_Lg		23 30 35.5	
	comp=Z,359nm,0.8s						
KSU1	**Kansas State U**	**3.10**	**14**	P	**Pn**	**23 29 38.1**	**+1.6**
	baz=194,SNR=16						
CBKS	**Cedar Bluff**	**3.23**	**328**	IAmb_Lg		23 30 40.1	
	comp=Z,437nm,0.8s						
CBKS	**Cedar Bluff**	**3.23**	**328**	P	**Pn**	**23 29 39.7**	**+1.4**
	baz=147,SNR=16						
FW07	**Weatherford**	**3.38**	**183**	IAmb_Lg		23 30 43.9	
	comp=Z,276nm,1.0s						
TREL	**Terrell**	**3.56**	**160**	IAmb_Lg		23 30 48.0	
	comp=Z,304nm,0.7s						
AMTX	**Amarillo**	**3.57**	**252**	IAmb_Lg		23 30 40.5	
	comp=Z,380nm,0.8s						
AMTX	**Amarillo**	**3.57**	**252**	P	**Pn**	**23 29 44.5**	**+1.5**
	baz=69						
AMTX				Sb	**Sb**	**23 30 37.5**	**+3.4**
	baz=69						
MIAR	**Mount Ida**	**3.60**	**114**	IAmb_Lg		23 30 49.8	
	comp=Z,338nm,0.7s						
MIAR	**Mount Ida**	**3.60**	**114**	P	**Pn**	**23 29 45.1**	**+1.8**
	baz=296,SNR=69						
MIAR				S	**Sn**	**23 30 27.8**	**+2.3**
	baz=296						
FW16	**Waxahatchie**	**3.64**	**171**	IAmb_Lg		23 30 51.9	
	comp=Z,242nm,0.7s						
FW14	**Alvarado**	**3.69**	**175**	IAmb_Lg		23 30 52.0	
	comp=Z,321nm,1.1s						
ABTX	**Abilene, Hawle**	**3.86**	**207**	IAmb_Lg		23 30 55.1	
	comp=Z,242nm,0.8s						
ABTX	**Abilene, Hawle**	**3.86**	**207**	P	**Pn**	**23 29 47.6**	**+0.7**
	baz=26,SNR=59						
ABTX				Sb	**Sb**	**23 30 45.1**	**+2.7**
	baz=26						
SN07	**Snyder 07**	**4.06**	**224**	IAmb_Lg		23 31 03.0	
	comp=Z,567nm,1.0s						
WHTX	**Lake Whitney,**	**4.08**	**179**	P	**Pn**	**23 29 51.0**	**+1.0**
	baz=359,SNR=6.2						
WHTX				S	**Sn**	**23 30 39.1**	**+1.7**
	baz=359						
X40A	**Basin Creek Fa**	**4.18**	**111**	IAmb_Lg		23 31 03.9	
	comp=Z,298nm,0.7s						
RTBA	**Rita Blanca**	**4.20**	**276**	IAmb_Lg		23 31 02.9	
	comp=Z,219nm,0.8s						
SN05	**Snyder 5**	**4.22**	**222**	IAmb_Lg		23 31 05.1	
	comp=Z,328nm,1.0s						
237A	**Washetta, Mont**	**4.33**	**160**	IAmb_Lg		23 31 14.0	
	comp=Z,240nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**99**	IAmb_Lg		23 31 09.2	
	comp=Z,307nm,0.8s						
WLAR	**White Oak Lake**	**4.37**	**122**	IAmb_Lg		23 31 19.5	
	comp=Z,287nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.41**	**91**	IAmb_Lg		23 31 10.1	
	comp=Z,358nm,0.8s						
POST	**Post**	**4.43**	**228**	IAmb_Lg		23 31 19.4	
	comp=Z,340nm,1.2s						
UALR	**University of**	**4.46**	**106**	IAmb_Lg		23 31 18.1	
	comp=Z,229nm,0.9s						
P38A	**Dawn**	**4.76**	**41**	IAmb_Lg		23 31 29.5	
	comp=Z,376nm,0.7s						
MSTX	**Muleshoe**	**4.77**	**245**	IAmb_Lg		23 31 30.7	
	comp=Z,212nm,1.0s						
MSTX	**Muleshoe**	**4.77**	**245**	P	**Pn**	**23 30 00.4**	**+0.9**
	baz=62						
Z41A	**Richland Creek**	**4.83**	**124**	IAmb_Lg		23 31 28.4	
	comp=Z,266nm,0.7s						
BRDY	**Brady**	**4.94**	**194**	IAmb_Lg		23 31 23.9	
	comp=Z,203nm,0.9s						
NATX	**Nacogdoches**	**4.94**	**150**	IAmb_Lg		23 31 35.8	
	comp=Z,196nm,0.8s						
NATX	**Nacogdoches**	**4.94**	**150**	S	**Sn**	**23 30 58.4**	**-0.1**
	baz=332						
KSCO	**Kaye Shedlock'**	**4.97**	**307**	IAmb_Lg		23 31 31.6	
	comp=Z,255nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.97**	**307**	P	**Pn**	**23 30 03.1**	**+0.8**
	baz=125,SNR=19						
KSCO				S	**Sn**	**23 31 00.7**	**+1.2**
	baz=125						
SGCY	**Sterling City**	**5.11**	**216**	IAmb_Lg		23 31 40.3	
	comp=Z,398nm,1.0s						
LCAR	**Lake Charles**	**5.19**	**88**	IAmb_Lg		23 31 37.6	
	comp=Z,182nm,0.7s						
CCAR	**Cane Creek**	**5.22**	**113**	IAmb_Lg		23 31 45.7	
	comp=Z,202nm,0.8s						
435B	**Jarrell**	**5.29**	**180**	IAmb_Lg		23 31 43.4	
	comp=Z,254nm,0.9s						
435B	**Jarrell**	**5.29**	**180**	P	**Pn**	**23 30 07.7**	**+1.2**
	baz=0.1						
435B				S	**Sn**	**23 31 06.8**	**-0.3**
	baz=0.1						
BGNE	**Belgrade**	**5.33**	**355**	IAmb_Lg		23 31 52.0	
	comp=Z,405nm,0.8s						
BGNE	**Belgrade**	**5.33**	**355**	P	**Pn**	**23 30 07.9**	**+0.7**
	baz=175						
BGNE				S	**Sn**	**23 31 09.0**	**+0.7**
	baz=175						
CCM	**Cathedral Cave**	**5.42**	**67**	IAmb_Lg		23 31 48.7	
	comp=Z,408nm,0.7s						
CCM	**Cathedral Cave**	**5.42**	**67**	P	**Pn**	**23 30 08.8**	**+0.4**
	baz=250						
CCM				S	**Sn**	**23 31 11.5**	**+1.2**
	baz=250						
T25A	**Trinidad**	**5.61**	**283**	IAmb_Lg		23 31 53.3	
	comp=Z,202nm,0.9s						
T25A	**Trinidad**	**5.61**	**283**	P	**Pn**	**23 30 12.2**	**+1.0**
	baz=99,SNR=9.2						
JCT	**Junction City**	**5.90**	**199**	IAmb_Lg		23 32 02.5	
	comp=Z,317nm,0.9s						
JCT	**Junction City**	**5.90**	**199**	P	**Pn**	**23 30 15.4**	**+0.4**
	baz=18,SNR=6.0						
OZNA	**Ozona**	**5.95**	**211**	IAmb_Lg		23 32 08.3	
	comp=Z,145nm,0.9s						
OGNE	**Ogallala**	**5.99**	**325**	P	**Pn**	**23 30 18.2**	**+2.0**
	baz=143,SNR=9.8						
OGNE				S	**Sn**	**23 31 25.6**	**+1.2**
	baz=143						
MET	**Memphis--Engin**	**6.29**	**97**	IAmb_Lg		23 32 16.3	
	comp=Z,226nm,0.8s						
MLDN	**Muldoon**	**6.30**	**176**	IAmb_Lg		23 32 20.4	
	comp=Z,126nm,0.7s						
SLM	**Saint Louis**	**6.36**	**64**	IAmb_Lg		23 32 06.8	
	comp=Z,295nm,0.8s						
MNHN	**Monahans**	**6.42**	**224**	IAmb_Lg		23 32 14.3	
	comp=Z,138nm,0.8s						
SDCO	**Great Sand Dun**	**6.57**	**287**	IAmb_Lg		23 32 17.9	
	comp=Z,116nm,1.1s						
SDCO	**Great Sand Dun**	**6.57**	**287**	P	**Pn**	**23 30 25.8**	**+1.3**
	baz=102,SNR=14						
HALT	**Halls**	**6.67**	**89**	IAmb_Lg		23 32 31.7	
	comp=Z,274nm,0.8s						
Q24A	**Divide**	**6.68**	**298**	P	**Pn**	**23 30 25.6**	**-0.3**
	baz=113						
HNDO	**Hondo**	**6.70**	**193**	IAmb_Lg		23 32 26.5	
	comp=Z,224nm,1.1s						
SCIA	**State Center**	**6.72**	**29**	P	**Pn**	**23 30 27.5**	**+1.3**
	baz=212,SNR=12						
SCIA				S	**Sn**	**23 31 42.6**	**+0.1**
	baz=212						
OXF	**Oxford**	**6.85**	**101**	IAmb_Lg		23 32 37.3	
	comp=Z,139nm,1.0s						
OXF	**Oxford**	**6.85**	**101**	P	**Pn**	**23 30 27.9**	**0.0**
	baz=286,SNR=7.8						
Y45A	**Yeager Farm, C**	**6.94**	**106**	IAmb_Lg		23 32 42.2	
	comp=Z,137nm,0.8s						
BRIGG	**Briggsdale**	**6.95**	**312**	IAmb_Lg		23 32 37.8	
	comp=Z,249nm,0.8s						
EF01	**Eagle Ford 01**	**6.97**	**186**	IAmb_Lg		23 32 36.1	
	comp=Z,129nm,0.7s						
PECS	**Pecos**	**7.05**	**230**	IAmb_Lg		23 32 39.6	
	comp=Z,128nm,0.8s						
DRIO	**Del Rio**	**7.12**	**202**	IAmb_Lg		23 32 47.9	
	comp=Z,116nm,0.7s						
735A	**Kenedy**	**7.21**	**182**	IAmb_Lg		23 32 50.0	
	comp=Z,118nm,1.0s						
SAND	**Sanderson**	**7.21**	**213**	IAmb_Lg		23 32 45.2	
	comp=Z,145nm,0.8s						
ANMO	**Albuquerque**	**7.34**	**264**	P	**Pn**	**23 30 36.3**	**+1.4**
	baz=79						
ANMO	**Albuquerque**	**7.34**	**264**	Pn	**Pn**	**23 30 35.1**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=164,slow=16,SNR=2.2						
ANMO				Pg	**Pb**	**23 30 59.1**	**+3.7**
	comp=Z,0.8nm,0.3s,baz=161,slow=13,SNR=9.2						
ANMO				Lg	Lg	23 32 35.3	
	comp=Z,3.9nm,0.3s,baz=68,slow=19,SNR=11						
	comp=Z,0.5nm,0.4s						
ISCO	**Idaho Springs**	**7.36**	**303**	P	**Pn**	**23 30 36.2**	**+0.9**
	baz=118,SNR=16						
ALPN	**Alpine**	**7.64**	**224**	IAmb_Lg		23 32 57.3	
	comp=Z,

F33A	**5 Mile Ranch,**	**9.79**	**5**	IAmb_Lg		23 34 06.6			
	comp=Z,96nm,1.1s								
SPMN	**Marine on St.**	**9.82**	**20**	IAmb_Lg		23 34 19.6			
	comp=Z,114nm,1.2s								
SPMN	**Marine on St.**	**9.82**	**20**	P	**Pn**	**23 31 09.1**	**+0.5**		
	baz=203								
P49A	**Miami Univ. Ec**	**10.73**	**67**	P	**Pn**	**23 31 20.3**	**-0.8**		
	baz=255								
TKL	**Tuckaleechee C**	**11.20**	**88**	Pn	**Pn**	**23 31 26.1**	**-1.5**		
	comp=Z,0.6nm,0.3s,baz=230,slow=9.8,SNR=8.2								
TKL				Lg	Lg	23 34 34.1			
	comp=Z,3.6nm,0.3s,baz=168,slow=20,SNR=7.3								
	comp=Z,1.5nm,0.5s								
TZTN	**Tazewell**	**11.32**	**84**	P	**Pn**	**23 31 29.8**	**+0.6**		
	baz=272								
BW06	**Boulder Array**	**11.42**	**309**	P	**Pn**	**23 31 31.5**	**+0.7**		
	baz=122								
PDAR	**Pinedale Array**	**11.42**	**309**	Pn	**Pn**	**23 31 29.9**	**-1.0**		
	comp=Z,1.0nm,0.4s,baz=121,slow=14,SNR=12								
PDAR				Lg	Lg	23 34 42.8			
	comp=Z,1.0nm,0.3s,baz=102,slow=34,SNR=2.1								
GOGA	**Godfrey**	**11.90**	**99**	P	**Pn**	**23 31 36.7**	**-0.4**		
	baz=287								
ACSO	**Alum Creek Sta**	**12.20**	**66**	P	**Pn**	**23 31 40.3**	**-0.9**		
	baz=255								
AGMN	**Agassiz Nation**	**12.27**	**5**	P	**Pn**	**23 31 39.9**	**-2.2**		
	baz=186								
EYMN	**Ely**	**12.68**	**19**	P	**Pn**	**23 31 45.0**	**-2.7**		
	baz=203								
P52A	**Corning**	**12.70**	**69**	P	**Pn**	**23 31 45.9**	**-2.2**		
	baz=259								
GLMI	**Grayling**	**13.15**	**44**	P	**Pn**	**23 31 52.9**	**-1.4**		
	baz=233								
O53A	**New Philadelph**	**13.52**	**67**	P	**Pn**	**23 31 58.9**	**-0.4**		
	baz=257								
BLA	**Blacksburg**	**13.81**	**80**	P	**Pn**	**23 32 02.6**	**-0.7**		
	baz=270								
ULM	**Lac du Bonnet**	**14.21**	**4**	Pn	Pn	23 32 04.0	-4.6		
	comp=Z,0.8nm,0.3s,baz=183,slow=12,SNR=9.6								
ULM				Sn	Sn	23 34 32.5	-13		
	comp=Z,0.7nm,0.3s,baz=266,slow=18,SNR=2.8								
ULM				Lg	Lg	23 36 05.0			
	comp=Z,0.2nm,0.3s,baz=299,slow=19,SNR=1.5								
	comp=Z,2.2nm,0.4s								
ELK	**Elko**	**14.62**	**294**	Pn	**Pn**	**23 32 13.2**	**-1.3**		
	comp=Z,0.1nm,0.3s,baz=192,slow=19,SNR=1.6								
	comp=Z,0.2nm,0.3s								
MZP	**Montezuma Peak**	**15.94**	**282**	IAmb	IAmb	23 32 40.2			
	comp=Z,1.8nm,0.7s								
LPIG	**La Paz**	**16.24**	**226**	LR	LR	23 38 27.6			
	comp=Z,98nm,19.7s,baz=25,slow=36								
SADO	**Sadowa**	**16.46**	**53**	Pn	**Pn**	**23 32 34.4**	**-4.0**		
	comp=Z,0.1nm,0.3s,baz=162,slow=6.8,SNR=1.5								
SADO				Sn	Sn	23 35 30.1	-11		
	comp=Z,0.4nm,0.3s,baz=184,slow=22,SNR=1.8								
SADO				Lg	Lg	23 37 15.8			
	comp=Z,0.5nm,0.3s,baz=165,slow=18,SNR=4.3								
	comp=Z,1.3nm,0.7s								
KVN	**Kaiserville**	**16.55**	**286**	IAmb	IAmb	23 32 49.0			
	comp=Z,3.2nm,1.0s								
NVAR	**Mina Array Bea**	**16.68**	**284**	Pn	**Pn**	**23 32 41.0**	**-0.4**		
	comp=Z,0.1nm,0.3s,baz=86,slow=12,SNR=1.3								
	comp=Z,0.5nm,0.6s								
CMIG	**Matias Romero**	**19.07**	**172**	P	**P**	**23 33 10.0**	**0.0**		
	comp=Z,0.2nm,0.3s,baz=90,slow=9.1,SNR=1.8								
	comp=Z,2.2nm,0.9s								
YBH	**Yreka Blue Hor**	**20.33**	**294**	P	**P**	**23 33 22.3**	**-1.5**		
	comp=Z,1.3nm,0.6s,baz=126,slow=5.3,SNR=7.6								
	comp=Z,1.3nm,0.6s								
YKA	**Yellowknife Ar**	**28.49**	**343**	P	**P**	**23 34 43.2**	**+0.9**		
	comp=Z,0.1nm,0.4s,baz=154,slow=10,SNR=2.5								
	comp=Z,0.1nm,0.4s								
ILAR	**Eielson Array**	**40.88**	**330**	P	**P**	**23 36 28.2**	**-0.9**		
	comp=Z,0.1nm,0.6s,baz=103,slow=7.4,SNR=1.5								
	comp=Z,0.1nm,0.6s								
EKA	**Eskdalemuir Ar**	**63.53**	**40**	P	**P**	**23 39 18.1**	**+0.6**		
	comp=Z,0.3nm,0.5s,baz=283,slow=6.9,SNR=4.0								
	comp=Z,0.3nm,0.5s								
NOA	**NORSAR Array B**	**67.33**	**30**	LR	LR	00 07 55.8			
	comp=Z,13nm,19.1s,baz=300,slow=35								
HHC	**Hu-ho-hao-te**	**98.90**	**338**	*e*P	**P**	**23 42 26.0**	**-1.8**		
HHC				pmax	pmax				
	comp=Z,75nm,6.5s								

NEIC ***13*** *23:42:42.2±2.0,20.46S±0.05×173.66W±0.07,h26km±4km, mb4.9/159, Error ellipse: s-maj=10.2km s-min=6.9km az=72.0*

GCMT ***13*** *23:42:44.2±0.3,20.42S±0.02×173.70W±0.03,h34km±2km, MW4.9/80, Moment Tensor Solution. s24,c27; s80,c103; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.14±.21; Mθθ0.64±.14; Mϕϕ-1.78±.14; Mrθ-2.03±.19; Mϕθ1.40±.08; Mϕr1.11±.14; Best double couple: M0 3.10800×10^16 NP1:ϕs303.00000°,δ77.00000°,λ57.00000°. NP2: ϕs193.00000°,δ35.00000°,λ156.00000°. Principal axes: T 2.9360, Plg48.0000°, Azm178.0000°; N 0.3410, Plg32.0000°, Azm311.0000°; P -3.2810, Plg25.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

IDC ***13*** *23:42:46.6±3.5,20.40S×174.30W,h66km±30km,mb4.1/17, mbtmp4.4/19,ML4.3/2,MS4.1/46 Error ellipse: s-maj=18.8km s-min=13.2km az=135.0*

NOU ***13*** *23:42:55.2,20.88S×174.68W,h77km,mb4.8/9, Tonga Islands*

ISC 13 23:42:40.7±0.3,20.46S±0.07×173.73W±0.06,h21km, n585,σ1§17/521,mb4.9/101,MS4.3/45,22C-21D,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.84**	**70**	Pn	**Pn**	**23 43 36.0**	**-2.5**
AFI	**Afiamalu**	**6.77**	**16**	Pn	**Pn**	**23 44 16.9**	**-2.1**
MSVF	**Nonsavu**	**8.23**	**288**	P	**Pn**	**23 44 42.5**	**+3.5**
MSVF	**Nonsavu**	**8.23**	**288**		**Pn**	**23 44 40.9**	**+1.9**
RAR	**Rarotonga**	**13.07**	**96**	Pn	**Pn**	**23 45 43.1**	**-2.1**
RAR	**Rarotonga**	**13.07**	**96**	P	**Pn**	**23 45 42.7**	**-2.5**
	19nm,0.8s,baz=282,slow=18,SNR=6.1						
RAR				S	Sn	23 47 60.0	-10
	25nm,0.9s,baz=324,slow=19,SNR=2.0						
RAR				LR	LR	23 48 59.2	
	comp=Z,217nm,21.2s,baz=277,slow=27						
PINNC	**Pines Island,**	**17.64**	**260**	Pn	**Pn**	**23 46 44.2**	**-1.1**
PINNC				IAmb	IAmb	23 46 47.2	
	comp=Z,108nm,1.5s						
LIFNC	**LIFOU**	**17.82**	**266**	P	**Pn**	**23 46 47.0**	**-0.5**
LIFNC	**LIFOU**	**17.82**	**266**		**Pn**	**23 46 46.9**	**-0.5**
OUENC	**Ouen Island, N**	**18.19**	**260**	P	**Pn**	**23 46 52.1**	**+0.1**
ONTNC	**Ouen Toro**	**18.55**	**261**	P	**P**	**23 46 55.8**	**-0.3**
DZM	**Mont Dzumac**	**18.55**	**261**	P	**P**	**23 46 55.0**	**-1.2**
DZM	**Mont Dzumac**	**18.55**	**261**	P	**P**	**23 46 55.4**	**-0.9**
DZM	**Mont Dzumac**	**18.55**	**261**	P	**P**	**23 46 53.3**	**-3.0**
	comp=Z,1.4nm,0.3s,baz=85,slow=18,SNR=21						
DZM				LR	LR	23 53 09.1	
	comp=Z,1μm,18.0s,baz=98,slow=34						
	comp=Z,24nm,0.8s						
URZ	**Urewera**	**19.43**	**202**	P	**Pn**	**23 47 07.1**	**+0.2**
URZ	**Urewera**	**19.43**	**202**	P	**P**	**23 47 04.6**	**-1.1**
	comp=Z,0.7nm,0.3s,baz=39,slow=6.5,SNR=2.2						
URZ				S	S	23 50 29.9	-15
	comp=Z,9.6nm,0.8s,baz=146,slow=20,SNR=1.6						
	comp=Z,10nm,0.6s						
TOZ	**Tahuroa Road**	**19.59**	**206**	P	**Pn**	**23 47 10.8**	**+1.9**
RTZ	**Ruatahuna**	**19.80**	**202**	P	**P**	**23 47 10.8**	**+1.0**
RTZ				IAmb	IAmb	23 47 23.0	
	comp=Z,57nm,1.4s						
BKZ	**Black Stump Fm**	**20.46**	**202**	P	**P**	**23 47 18.6**	**+1.6**
HIZ	**Hauiti**	**20.52**	**206**	P	Pn	23 47 19.5	-0.3
HIZ	**Hauiti**	**20.52**	**206**	P	**P**	**23 47 18.8**	**+1.3**
KOUNC	**Koumac, New Ca**	**20.59**	**266**	P	Pn	23 47 21.0	+0.2
BFZ	**Birch Farm**	**21.90**	**201**	P	**P**	**23 47 33.6**	**+1.2**
BFZ	**Birch Farm**	**21.90**	**201**	P	**P**	**23 47 33.5**	**+1.2**
BFZ				IAmb	IAmb	23 47 43.2	
	comp=Z,72nm,1.4s						
MRZ	**Mangatainoka R**	**22.11**	**202**	P	**P**	**23 47 33.2**	**-1.4**
PPT	**Papeete**	**23.01**	**87**	LR	LR	23 54 24.6	
	comp=Z,157nm,20.5s,baz=247,slow=30						
PLWZ	**Palliser**	**23.03**	**202**	P	**P**	**23 47 42.7**	**-1.8**
TCW	**Tory Channel**	**23.06**	**204**	P	**P**	**23 47 46.1**	**+1.3**
NNZ	**Nelson**	**23.42**	**205**	P	**P**	**23 47 48.9**	**+0.6**
TKNZ	**Takaka Hill**	**23.43**	**206**	P	**P**	**23 47 50.8**	**+2.4**
QRZ	**Quartz Range**	**23.44**	**207**	P	**P**	**23 47 50.7**	**+2.2**
QRZ	**Quartz Range**	**23.44**	**207**	P	**P**	**23 47 50.6**	**+2.2**
QRZ				IAmb	IAmb	23 47 52.5	
	comp=Z,53nm,0.9s						
MRNZ	**Matariki Terra**	**23.82**	**206**	P	**P**	**23 47 54.4**	**+2.2**
THZ	**Tophouse**	**24.07**	**205**	P	**P**	**23 47 55.5**	**+0.9**
THZ				IAmb	IAmb	23 48 09.9	
	comp=Z,33nm,0.9s						
KHZ	**Kahutara**	**24.38**	**203**	P	**P**	**23 47 54.8**	**-2.5**
KHZ				IAmb	IAmb	23 48 07.2	
	comp=Z,76nm,1.4s						
DSZ	**Denniston Nort**	**24.50**	**207**	P	**P**	**23 47 59.6**	**+1.0**
GVZ	**Greta Valley S**	**25.05**	**203**	P	**P**	**23 48 03.8**	**+0.4**
LTZ	**Lake Taylor**	**25.18**	**205**	P	**P**	**23 48 05.7**	**+1.1**
LTZ				IAmb	IAmb	23 48 10.8	
	comp=Z,42nm,0.8s						
INZ	**Inchbonnie**	**25.46**	**206**	P	**P**	**23 48 04.8**	**-2.4**
OXZ	**Oxford**	**25.73**	**204**	P	**P**	**23 48 08.0**	**-1.7**
OXZ				IAmb	IAmb	23 48 15.6	
	comp=Z,41nm,0.9s						
RPZ	**Rata Peaks**	**26.45**	**205**	P	**P**	**23 48 18.3**	**+2.2**
RPZ	**Rata Peaks**	**26.45**	**205**	P	**P**	**23 48 18.2**	**+2.1**
FOZ	**Fox Glacier**	**26.81**	**207**	P	**P**	**23 48 20.3**	**+0.9**
FOZ				IAmb	IAmb	23 48 34.5	
	comp=Z,57nm,1.0s						
LBZ	**Lake Benmore**	**27.35**	**206**	P	**P**	**23 48 25.1**	**+0.8**
JCZ	**Jackson Bay**	**27.69**	**208**	P	**P**	**23 48 28.6**	**+1.2**
ODZ	**Otahua Downs**	**27.72**	**204**	P	**P**	**23 48 28.1**	**+0.5**
ODZ				IAmb	IAmb	23 48 47.4	
	comp=Z,66nm,1.8s						
WKZ	**Wanaka**	**28.19**	**207**	P	**P**	**23 48 33.4**	**+1.6**
MLZ	**Mavora Lakes**	**29.01**	**207**	P	**P**	**23 48 40.4**	**+1.3**
WHZ	**Wether Hill Ro**	**29.50**	**206**	P	**P**	**23 48 45.6**	**+2.2**
DCZ	**Deep Cove**	**29.50**	**208**	P	**P**	**23 48 43.2**	**-0.2**
ARMA	**Armidale**	**32.70**	**245**	P	**P**	**23 49 09.2**	**-2.7**
EIDS	**Eidsvold**	**32.72**	**255**	P	**P**	**23 49 08.7**	**-3.3**
EIDS				IAmb	IAmb	23 50 07.2	
	comp=Z,13nm,1.2s						
CTAO	**Charters Tower**	**37.47**	**263**	P	**P**	**23 49 50.4**	**-2.7**
CTAO				IAmb	IAmb	23 49 51.8	
	comp=Z,9.7nm,0.8s						
TOO	**Toolangi**	**39.18**	**235**	P	**P**	**23 50 04.3**	**-3.0**
TOO				IAmb	IAmb	23 50 12.8	
	comp=Z,56nm,2.0s						
PMG	**Port Moresby**	**39.25**	**280**	LR	LR	00 03 54.7	
	comp=Z,186nm,18.3s,baz=110,slow=33						
STKA	**Stephens Creek**	**41.42**	**245**	P	**P**	**23 50 22.1**	**-3.8**
STKA	**Stephens Creek**	**41.42**	**245**	P	P	23 50 21.6	-4.2
	comp=Z,4.3nm,0.7s,baz=88,slow=9.9,SNR=11						
STKA				LR	LR	00 06 32.2	
	comp=Z,348nm,18.6s,baz=39,slow=35						
	comp=Z,4.3nm,0.7s						
BBOO	**Buckleboo**	**46.15**	**244**	P	P	23 50 59.2	-4.7
BBOO				IAmb	IAmb	23 51 00.8	
	comp=Z,13nm,1.2s						
ASAR	**Alice Springs**	**48.42**	**256**	P	**P**	**23 51 18.1**	**-3.7**
	comp=Z,2.2nm,0.6s,baz=96,slow=7.8,SNR=20						
ASAR				PcP	**PcP**	**23 52 47.5**	**-0.5**
	comp=Z,2.3nm,0.8s,baz=105,slow=4.7,SNR=5.6						
ASAR				S	S	23 58 09.3	-12
	comp=Z,0.8nm,0.8s,baz=102,slow=16,SNR=3.3						
	comp=Z,2.2nm,0.6s						
MIDW	**Midway**	**48.51**	**356**	P	**P**	**23 51 23.3**	**+1.2**
WB0	**Warramunga Arr**	**48.55**	**261**	P	**P**	**23 51 21.4**	**-1.3**
WB0				IAmb	IAmb	23 51 53.1	
	comp=Z,27nm,1.4s						
WB2	**Warramunga Arr**	**48.55**	**261**	P	**P**	**23 51 22.1**	**-0.8**
WB2				IAmb	IAmb	23 51 23.0	
	comp=Z,10nm,1.0s						
WRA	**Warramunga Arr**	**48.57**	**261**	P	**P**	**23 51 19.0**	**-3.9**
WRA	**Warramunga Arr**	**48.57**	**261**	P	**P**	**23 51 18.9**	**-4.1**
	comp=Z,4.6nm,0.8s,baz=96,slow=8.1,SNR=9.5						
WRA				PcP	**PcP**	**23 52 48.0**	**-0.6**
	comp=Z,1.7nm,0.9s,baz=94,slow=3.8,SNR=2.9						
WRA				LR	LR	00 11 28.6	
	comp=Z,266nm,18.0s,baz=72,slow=36						
	comp=Z,4.6nm,0.8s						
SBA	**Scott Base**	**58.21**	**185**	P	**P**	**23 52 34.7**	**+1.9**
SBA				IAmb	IAmb	23 52 36.9	
	comp=Z,14nm,1.1s						
VNDA	**Vanda**	**58.34**	**186**	P	**P**	**23 52 35.5**	**+1.7**
VNDA				IAmb	IAmb	23 53 03.9	
	comp=Z,26nm,1.9s						
VNDA	**Vanda**	**58.34**	**186**	P	**P**	**23 52 35.5**	**+1.7**
	comp=Z,3.0nm,0.9s,baz=12,slow=7.1,SNR=12						
VNDA				LR	LR	00 15 50.4	
	comp=Z,81nm,19.7s,baz=14,slow=34						
	comp=Z,3.0nm,0.9s						
BATI	**Baumata**	**60.93**	**269**	LR	LR	00 19 14.2	
	comp=Z,248nm,18.5s,baz=134,slow=36						
NWAO	**Narrogin (SRO)**	**61.96**	**243**	LR	LR	00 18 51.2	
	comp=Z,164nm,18.3s,baz=114,slow=35						
LUWI	**Luwuk**	**64.87**	**279**	P	**P**	**23 53 19.7**	**+0.8**
DAV	**Davao City (W)**	**65.60**	**288**	LR	LR	00 22 20.7	
	comp=Z,34nm,18.0s,baz=120,slow=36						
CASY	**Casey**	**65.72**	**205**	P	**P**	**23 53 24.0**	**+0.5**
CASY				IAmb	IAmb	23 53 25.1	
	comp=Z,7.5nm,0.9s						
QSPA	**South Pole Qui**	**69.61**	**180**	P	**P**	**23 53 49.7**	**+1.4**
QSPA				IAmb	IAmb	23 54 03.7	
	comp=Z,19nm,1.0s						
QSPA	**South Pole Qui**	**69.61**	**180**	P	**P**	**23 53 48.6**	**+0.3**
	comp=Z,9.7nm,1.0s,baz=33,slow=4.6,SNR=17						
QSPA				LR	LR	00 18 13.7	
	comp=Z,142nm,22.0s,baz=40,slow=30						
	comp=Z,9.7nm,1.0s						
MJAR	**Matsushiro Arr**	**72.62**	**321**	P	**P**	**23 54 04.5**	**-2.2**
	comp=Z,2.3nm,0.6s,baz=138,slow=6.3,SNR=6.3						
MJAR				LR	LR	00 21 03.9	
	comp=Z,68nm,20.5s,baz=129,slow=32						
	comp=Z,2.3nm,0.6s						
NIKH	**Nikolski High**	**73.24**	**3**	P	**P**	**23 54 11.9**	**+1.9**
	baz=185						
SHEM	**Shemya Is, Ala**	**73.64**	**352**	LR	LR	00 21 28.8	
	comp=Z,387nm,20.3s,baz=126,slow=32						
JNU	**Nakatsue**	**75.05**	**314**	LR	LR	00 25 58.3	
	comp=Z,41nm,19.5s,baz=146,slow=35						
CIS	**Catalina Islan**	**75.17**	**45**	P	**P**	**23 54 22.7**	**+1.0**
	baz=233						
ASAJ	**Asahikawa**	**75.67**	**329**	LR	LR	00 23 29.7	
	comp=Z,99nm,21.0s,baz=154,slow=32						
CHNA	**Chernabura Isl**	**75.95**	**8**	P	**P**	**23 54 28.1**	**+2.5**
	baz=194						
LPIG	**La Paz**	**75.98**	**57**	LR	LR	00 24 08.0	
	comp=Z,193nm,18.5s,baz=234,slow=32						
VES	**Vestal, Richgr**	**76.21**	**43**	P	**P**	**23 54 29.2**	**+1.6**
	baz=232						
IKP	**In-Ko-Pah, Jac**	**76.29**	**47**	P	**P**	**23 54 30.4**	**+2.2**
	baz=234						
EDW2	**Edwards Air Fo**	**76.34**	**44**	P	**P**	**23 54 30.5**	**+2.1**
	baz=233						
PFO	**Pinyon Flats O**	**76.61**	**46**	LR	LR	00 19 07.4	
	comp=Z,142nm,20.7s,baz=243,slow=28						
TPFO	**Pinon Flats**	**76.61**	**46**	P	**P**	**23 54 32.3**	**+2.3**
	baz=234						
SWSC	**Sam W. Stewart**	**76.67**	**47**	P	**P**	**23 54 32.3**	**+2.1**
	baz=235						
CMB	**Columbia Colle**	**76.77**	**41**	P	**P**	**23 54 31.7**	**+0.9**
P08K	**Saint George I**	**76.84**	**2**	P	**P**	**23 54 33.2**	**+2.6**
	baz=184						
JTU	**Tsushima**	**76.87**	**315**	P	**P**	**23 54 31.6**	**+0.3**
BELC	**Belle Mtn. Jos**	**77.14**	**46**	P	**P**	**23 54 34.3**	**+1.3**
	baz=234						
CWC	**Cottonwood Cre**	**77.22**	**43**	P	**P**	**23 54 35.7**	**+2.2**
	baz=232						
BC3	**Big Chuckawall**	**77.31**	**47**	P	**P**	**23 54 34.5**	**+0.5**
	baz=235						
PETK	**Petropavlovsk-**	**77.33**	**343**	P	**P**	**23 54 31.9**	**-1.6**
	comp=Z,6.2nm,0.8s,baz=124,slow=7.7,SNR=9.0						
PETK				LR	LR	00 22 18.5	
	comp=Z,132nm,21.8s,baz=149,slow=31						
	comp=Z,6.2nm,0.8s						
GSC	**Goldstone, Bar**	**77.37**	**45**	P	**P**	**23 54 34.9**	**+0.7**
	baz=234						
MPMC	**Manual Prospec**	**77.37**	**44**	P	**P**	**23 54 35.7**	**+1.3**
	baz=233,SNR=10						
CHIR	**Chirikof Islan**	**77.52**	**10**	P	**P**	**23 54 36.7**	**+2.3**
	baz=197						
CHGN	**Chignik**	**77.55**	**9**	P	**P**	**23 54 36.4**	**+1.9**
	baz=195						
IRM	**Iron Mountain**	**77.81**	**46**	P	**P**	**23 54 38.5**	**+1.9**
	baz=235						
YBH	**Yreka Blue Hor**	**77.81**	**37**	LR	LR	00 22 31.6	
	comp=Z,144nm,19.5s,baz=210,slow=30						
GMRC	**Granite Mounta**	**77.83**	**46**	P	**P**	**23 54 38.3**	**+1.4**
	baz=234						
PNTR	**Pine Nut**	**77.91**	**40**	P	**P**	**23 54 38.3**	**+0.9**
TUQ	**Turquoise Moun**	**78.03**	**45**	P	**P**	**23 54 38.8**	**+0.8**
	baz=234						
LHV	**Little Huntoon**	**78.06**	**41**	P	**P**	**23 54 38.3**	**+0.4**
LHV				IAmb	IAmb	23 54 44.8	
	comp=Z,13nm,1.2s						
YERR	**Yerington**	**78.06**	**40**	P	**P**	**23 54 38.6**	**+0.4**
SHOC	**Shoshone, Teco**	**78.07**	**44**	P	**P**	**23 54 39.2**	**+1.1**
	baz=234						
GMN	**Gold Mountain**	**78.27**	**43**	P	**P**	**23 54 39.4**	**0.0**
NVAR	**Mina Array Bea**	**78.30**	**41**	P	**P**	**23 54 40.5**	**+1.0**
NVAR	**Mina Array Bea**	**78.30**	**41**	P	**P**	**23 54 41.4**	**+1.9**
	comp=Z,4.2nm,0.8s,baz=224,slow=8.8,SNR=24						
NVAR				LR	LR	00 26 53.4	
	comp=Z,155nm,18.1s,baz=234,slow=34						
	comp=Z,4.2nm,0.8s						
WCT	**Wildcat Mounta**	**78.37**	**43**	P	**P**	**23 54 38.4**	**-1.4**
NV11	**Mina Array Sit**	**78.39**	**41**	P	**P**	**23 54 40.6**	**+0.7**
PAHR	**Pah Rah Range**	**78.43**	**40**	P	**P**	**23 54 40.0**	**-0.1**
PDMCI	**Parker Dam,Lak**	**78.58**	**47**	P	**P**	**23 54 42.2**	**+1.3**
	baz=235						
TPH	**Tonopah**	**78.75**	**42**	P	**P**	**23 54 42.5**	**+0.5**
KVN	**Kaiserville**	**78.80**	**41**	P	**P**	**23 54 42.2**	**-0.1**
V12A	**Nelson**	**78.91**	**45**	P	**P**	**23 54 44.1**	**+1.3**
WTNK	**Soaring Height**	**79.07**	**45**	P	**P**	**23 54 44.8**	**+1.2**
SHPR	**Sheep Range**	**79.15**	**44**	P	**P**	**23 54 45.1**	**+0.9**
W13A	**Hualapai Mount**	**79.20**	**46**	P	**P**	**23 54 45.5**	**+1.0**
KSRS	**Korea Array**	**79.56**	**316**	P	**P**	**23 54 45.5**	**-0.6**
	comp=Z,2.6nm,0.9s,baz=135,slow=6.4,SNR=9.6						
	comp=Z,2.6nm,0.9s						
KSAR	**Wonju Array Be**	**79.58**	**316**	P	**P**	**23 54 45.1**	**-1.1**
J05D	**Fort Rock, OR**	**79.66**	**36**	P	**P**	**23 54 46.6**	**-0.2**
PMSA	**Palmer Station**	**79.71**	**156**	LR	LR	00 21 09.2	
	comp=Z,87nm,22.0s,baz=258,slow=29						
Q17K	**Contact Creek**	**79.81**	**9**	P	**P**	**23 54 48.4**	**+1.2**
	baz=197						
TUC	**Tucson**	**79.84**	**50**	P	**P**	**23 54 48.9**	**+0.9**
	baz=238						
KDAK	**Kodiak Island**	**79.92**	**11**	P	**P**	**23 54 49.1**	**+1.5**
	baz=200						
KDAK	**Kodiak Island**	**79.92**	**11**	LR	LR	00 22 54.1	
	comp=Z,291nm,20.3s,baz=220,slow=30						
R11B	**Troy Canyon, C**	**79.95**	**43**	P	**P**	**23 54 50.0**	**+1.4**
	baz=234						
O14K	**Tigyukauivet M**	**80.08**	**6**	P	**P**	**23 54 49.7**	**+1.2**
	baz=192						
O15K	**Ungalikthiuk R**	**80.16**	**7**	P	**P**	**23 54 50.3**	**+1.4**
	baz=193						
P17K	**Kvichak River**	**80.63**	**9**	P	**P**	**23 54 51.7**	**+0.4**
	baz=196						
N14K	**Kuskokwak Cree**	**80.69**	**6**	P	**P**	**23 54 52.8**	**+1.1**
	baz=191						
M11K	**Mekoryuk**	**80.78**	**4**	P	**P**	**23 54 53.4**	**+1.3**
	baz=187						
O16K	**Kokwok River B**	**80.78**	**8**	P	**P**	**23 54 52.1**	**-0.1**
O16K				IAmb	IAmb	23 54 54.1	
	comp=Z,12nm,1.2s						
O16K	**Kokwok River B**	**80.78**	**8**	P	**P**	**23 54 52.7**	**+0.5**
	baz=195						
P18K	**Big Mountain,**	**81.00**	**9**	P	**P**	**23 54 53.9**	**+0.4**
P18K	**Big Mountain,**	**81.00**	**9**	P	**P**	**23 54 54.5**	**+1.1**
	baz=197						
U15A	**North Rim**	**81.02**	**46**	P	**P**	**23 54 54.6**	**+0.2**
M13K	**Dall Lake**	**81.02**	**5**	P	**P**	**23 54 54.5**	**+1.1**
	baz=190						
O17K	**Koliganek Bris**	**81.09**	**8**	P	**P**	**23 54 55.1**	**+1.3**
	baz=196						
N15K	**Kwethluk River**	**81.10**	**7**	P	**P**	**23 54 56.1**	**+2.1**
N15K				IAmb	IAmb	23 55 08.1	
	comp=Z,17nm,1.3s						
N15K	**Kwethluk River**	**81.10**	**7**	P	**P**	**23 54 54.4**	**+0.5**
	baz=193						
USRK	**Ussuriysk Ar.**	**81.24**	**324**	P	**P**	**23 54 54.8**	**-0.2**
	comp=Z,1.7nm,0.6s,baz=85,slow=3.0,SNR=4.0						
USRK				LR	LR	00 27 45.6	
	comp=Z,158nm,19.5s,baz=147,slow=33						
	comp=Z,1.7nm,0.6s						
O18K	**Koktuh Hills**	**81.44**	**9**	P	**P**	**23 54 57.2**	**+1.5**
O18K	**Koktuh Hills**	**81.44**	**9**	P	**P**	**23 54 56.9**	**+1.1**
	baz=197						
M14K	**Bethel**	**81.48**	**6**	P	**P**	**23 54 56.1**	**+0.2**
	baz=191						
M15K	**Kasigluk River**	**81.55**	**6**	P	**P**	**23 54 56.7**	**+0.4**
	baz=192,SNR=7.0						
N16K	**Nishlik Lake**	**81.55**	**7**	P	**P**	**23 54 56.8**	**+0.4**
	baz=194	

J14K **Nanvaranak Lak** 83.31 5 P P 23 55 06.2 +0.8
baz=190
MNTX **Cornudas Mount** 83.50 53 P P 23 55 06.6 -0.5
baz=241
L18K **Granite Mounta** 83.50 8 P P 23 55 08.2 +1.7
L18K IAmb IAmb 23 55 19.9
comp=Z,9.4nm,1.1s
L18K **Granite Mounta** 83.50 8 P P 23 55 07.2 +0.7
baz=196
M19K **Big River Lodg** 83.52 9 P P 23 55 07.3 +0.7
baz=198
RC01 **Rabbit Creek A** 83.53 11 P P 23 55 07.5 +0.9
baz=202
V35K **Ketchikan** 83.55 23 P P 23 55 07.3 +0.5
baz=219
KAIM **Kayak Island** 83.59 14 P P 23 55 07.4 +0.4
baz=207
U33K **Whale Pass** 83.63 22 P P 23 55 07.4 +0.2
baz=218
SRU **San Rafael Swe** 83.65 44 P P 23 55 08.5 +0.5
SRU IAmb IAmb 23 55 11.6
comp=Z,10nm,0.9s
SIT **Sitka** 83.66 20 P P 23 55 07.9 +0.6
baz=216
HVU **Hansel Valley** 83.69 41 P P 23 55 09.2 +1.1
HVU IAmb IAmb 23 55 10.7
comp=Z,7.9nm,1.2s
M20K **Styx River** 83.69 10 P P 23 55 07.7 +0.1
baz=199
TX31 **Lajitas Ar. Si** 83.69 56 P P 23 55 08.8 +0.4
TXAR **Lajitas Array** 83.69 56 P P 23 55 08.8 +0.4
TXAR **Lajitas Array** 83.69 56 P P 23 55 10.2 +1.9
comp=Z,1.0nm,0.9s,baz=215,slow=7.7,SNR=8.9
TXAR LR LR 00 28 43.9
comp=Z,64nm,19.3s,baz=217,slow=33
comp=Z,1.0nm,0.9s
SUA **Susitna One** 83.70 11 P P 23 55 08.6 +1.0
SUA IAmb IAmb 23 55 09.4
comp=Z,9.5nm,1.0s
SUA **Susitna One** 83.70 11 P P 23 55 08.9 +1.2
baz=202
P17A **Butcher Ranch,** 83.71 44 P P 23 55 09.8 +1.5
P17A IAmb IAmb 23 55 12.2
comp=Z,10.0nm,1.1s
PLID **Pearl Lake** 83.72 37 P P 23 55 09.6 +1.3
PLID IAmb IAmb 23 55 11.2
comp=Z,15nm,1.7s
CTU **Camp Tracy** 83.72 42 P P 23 55 08.2 -0.1
HLID **Hailey** 83.73 39 P P 23 55 08.9 +0.6
HLID IAmb IAmb 23 55 11.2
comp=Z,6.3nm,0.9s
HLID **Hailey** 83.73 39 P P 23 55 07.9 -0.4
baz=234,SNR=11
K17K **Iditarod** 83.79 7 P P 23 55 09.8 +1.8
K17K IAmb IAmb 23 55 22.8
comp=Z,16nm,1.4s
K17K **Iditarod** 83.79 7 P P 23 55 08.3 +0.4
baz=194
EYAK **Cordova Ski Ar** 83.85 13 P P 23 55 08.5 +0.2
baz=206
SKT **Skwentna** 84.05 10 P P 23 55 09.8 +0.5
baz=201
M22K **Willow** 84.08 11 P P 23 55 09.8 +0.4
baz=202
J16K **Anvik River** 84.10 6 P P 23 55 10.3 +0.9
J16K IAmb IAmb 23 55 23.1
comp=Z,13nm,1.1s
J16K **Anvik River** 84.10 6 P P 23 55 09.2 -0.3
baz=192
L20K **Farewell, AK** 84.14 9 P P 23 55 09.2 -0.6
baz=199
BSUT **Blindstream Ca** 84.27 43 IAmb IAmb 23 55 14.8
comp=Z,9.8nm,1.1s
ANMO **Albuquerque** 84.29 50 P P 23 55 10.8 -0.6
baz=240
ANMO **Albuquerque** 84.29 50 LR LR 00 30 31.0
comp=Z,102nm,18.7s,baz=337,slow=34
J17K **VABM Dome** 84.36 7 IAmb IAmb 23 55 16.4
comp=Z,12nm,1.1s
J17K **VABM Dome** 84.36 7 P P 23 55 11.3 +0.5
baz=194
M23K **Glacier View** 84.57 12 P P 23 55 12.1 +0.2
baz=204
KLR **Kul'dur** 84.58 328 LR LR 00 27 37.3
comp=Z,103nm,20.5s,baz=140,slow=32
PNL **Peninsula** 84.63 17 P P 23 55 12.0 -0.3
baz=212
I17K **Unalakleet** 84.68 6 P P 23 55 11.7 -0.7
baz=192
SCM **Sheep Creek Mo** 84.68 12 P P 23 55 13.6 +1.0
SCM **Sheep Creek Mo** 84.68 12 P P 23 55 12.5 0.0
baz=205
J18K **Innoko River** 84.70 8 P P 23 55 13.4 +0.8
J18K IAmb IAmb 23 55 14.4
comp=Z,9.2nm,0.9s
J18K **Innoko River** 84.70 8 P P 23 55 11.5 -1.0
baz=196,SNR=7.2
BNX **BinXian** 84.75 323 ⇑P P 23 55 12.4 -0.8
BNX pmax pmax
comp=Z,13nm,0.9s
BNX pmax pmax
comp=Z,71nm,4.6s
PPLA **Purkeypile** 84.80 10 P P 23 55 12.5 -0.7
baz=200
MA2 **Magadan** 84.87 343 LR LR 00 27 15.4
comp=Z,155nm,21.6s,baz=137,slow=32
K20K **Telida** 84.95 9 IAmb IAmb 23 55 15.9
comp=Z,6.5nm,1.0s
K20K **Telida** 84.95 9 P P 23 55 12.3 -1.5
baz=198
N25K **Chitina, Valde** 85.05 14 P P 23 55 13.2 -1.2
baz=207
NEW **Newport** 85.05 34 LR LR 00 30 17.0
comp=Z,252nm,18.2s,baz=210,slow=33
M24K **Tolsona, Glenn** 85.16 13 P P 23 55 13.9 -1.1
baz=206
CTG **Chitna Glacier** 85.24 15 P P 23 55 14.1 -1.4
baz=210
WAT6 **Susitna Watana** 85.28 12 P P 23 55 15.2 -0.5
baz=204
H16K **Elim** 85.28 5 P P 23 55 14.0 -1.4
baz=191
CAST **Castle Rocks** 85.31 10 P P 23 55 15.9 +0.3
CAST IAmb IAmb 23 55 27.4
comp=Z,12nm,1.4s
CAST **Castle Rocks** 85.31 10 P P 23 55 14.1 -1.5
baz=200
J19K **Poorman** 85.35 8 P P 23 55 16.5 +0.7
J19K **Poorman** 85.35 8 P P 23 55 15.0 -0.8
baz=197
WAT1 **Susitna Watana** 85.36 11 P P 23 55 15.8 -0.1
baz=204
O28M **Mount Upton** 85.36 16 P P 23 55 15.2 -1.1
baz=211
TRF **Thorofare Moun** 85.63 10 P P 23 55 17.6 +0.2
TRF **Thorofare Moun** 85.63 10 P P 23 55 16.5 -0.9
baz=202,SNR=5.5
HARP **HAARP** 85.64 13 P P 23 55 16.7 -0.6
baz=207
P30M **Million Dollar** 85.68 17 P P 23 55 17.1 -0.5
baz=214
O20A **White River Ci** 85.69 44 P P 23 55 17.4 -0.9
baz=239
CHUM **Lake Minchumin** 85.71 9 P P 23 55 17.3 -0.2
baz=200,SNR=5.5
J20K **Nowinta River** 85.72 8 P P 23 55 18.5 +0.8
J20K IAmb IAmb 23 55 31.1
comp=Z,16nm,1.1s
J20K **Nowinta River** 85.72 8 P P 23 55 17.3 -0.4
baz=198,SNR=7.5
H17K **Granite Mounta** 85.78 6 P P 23 55 17.7 -0.2
baz=193
DHY **Denali Highway** 85.80 12 P P 23 55 18.1 -0.2
DHY IAmb IAmb 23 55 32.1
comp=Z,16nm,1.5s
DHY **Denali Highway** 85.80 12 P P 23 55 17.0 -1.3
baz=205
RND **Reindeer** 85.84 11 P P 23 55 19.0 +0.7
F14K **Arctic Creek** 85.85 3 P P 23 55 18.1 -0.1
baz=187
CMIG **Matias Romero** 85.87 70 LR LR 00 24 39.4
comp=Z,74nm,21.0s,baz=242,slow=29
MSO **Missoula** 85.91 37 P P 23 55 18.1 -1.0
MSO **Missoula** 85.91 37 P P 23 55 18.7 -0.4
baz=234
YUK8 **Steele Glacier** 85.91 16 P P 23 55 18.3 -0.7
baz=212

GCSA **Galena City Sc** 85.92 7 P P 23 55 18.5 -0.1
baz=196
BPMT **Black Pine Rid** 85.96 37 P P 23 55 19.4 -0.2
IMW **Indian Meadow** 85.99 40 P P 23 55 19.7 -0.2
G16K **Koyuk River** 86.02 5 P P 23 55 18.8 -0.2
baz=191
SMCO **Snowmass** 86.04 46 P P 23 55 20.4 0.0
PAX **Paxson** 86.08 13 P P 23 55 19.1 -0.4
baz=206
M26K **Nabesna, AK** 86.11 14 P P 23 55 19.1 -0.5
baz=209
DRIO **Del Rio** 86.11 57 P P 23 55 21.1 +0.7
DRIO IAmb IAmb 23 55 22.8
comp=Z,8.1nm,1.4s
HYT **Haines Junctio** 86.11 17 P P 23 55 18.5 -1.4
baz=214
BPAW **Bear Paw Mtn.** 86.12 10 P P 23 55 19.2 -0.4
baz=201
MCK **McKinley** 86.12 11 P P 23 55 18.5 -1.1
baz=203,SNR=6.0
H18K **Honhosa River** 86.15 6 P P 23 55 19.4 -0.4
baz=194
YUK3 **Moose Creek** 86.16 15 P P 23 55 19.0 -1.1
baz=211
P32M **Atlin** 86.20 19 P P 23 55 19.2 -1.0
baz=217
BW06 **Boulder Array** 86.23 42 P P 23 55 19.6 -1.4
baz=238
PDAR **Pinedale Array** 86.23 42 P P 23 55 20.4 -0.6
PDAR **Pinedale Array** 86.23 42 P P 23 55 21.6 +0.6
comp=Z,1.4nm,0.8s,baz=197,slow=2.8,SNR=10
PDAR LR LR 00 32 22.8
comp=Z,104nm,18.2s,baz=251,slow=34
comp=Z,1.4nm,0.8s
YUK4 **Talbot Arm** 86.25 16 P P 23 55 21.3 +0.8
baz=213
G17K **Kiwalik Mounta** 86.27 5 P P 23 55 19.7 -0.6
baz=192
I20K **Naaghedeneel** 86.27 8 P P 23 55 19.8 -0.4
baz=198
M27K **Edge Creek, AK** 86.32 14 P P 23 55 21.8 +0.9
M27K **Edge Creek, AK** 86.32 14 P P 23 55 19.8 -1.0
baz=210
SDCO **Great Sand Dun** 86.34 48 P P 23 55 20.0 -1.7
baz=241
PLCA **Paso Flores** 86.37 132 LR LR 00 28 00.1
comp=Z,37nm,18.4s,baz=204,slow=31
O30N **Meadenhall** 86.46 17 P P 23 55 22.3 +0.8
baz=215
MSTX **Muleshoe** 86.50 52 P P 23 55 22.1 -0.3
baz=242
BOZ **Bozeman (W)** 86.52 38 P P 23 55 22.8 +0.6
BOZ **Bozeman (W)** 86.52 38 P P 23 55 22.5 +0.3
baz=236,SNR=5.1
WHY **Whitehorse** 86.72 18 P P 23 55 23.4 +0.7
baz=216
H19K **Roundabout Mou** 86.73 7 P P 23 55 23.0 +0.5
H19K **Roundabout Mou** 86.73 7 P P 23 55 23.4 +0.9
baz=196
N30M **Aishikik Lake** 86.76 17 P P 23 55 21.8 -1.0
baz=214
K24K **Donnelly Dome** 86.77 12 P P 23 55 22.7 -0.2
baz=206
T25A **Trinidad** 86.80 48 P P 23 55 21.6 -2.3
baz=241
G18K **Tagagawik** 86.84 6 P P 23 55 23.9 +0.8
baz=194
H20K **Anotleneega Mo** 86.88 8 P P 23 55 23.9 +0.5
baz=198
NEA2 **Nenana** 86.89 10 IAmb IAmb 23 55 38.1
comp=Z,7.4nm,1.2s
NEA2 **Nenana** 86.89 10 P P 23 55 23.5 +0.1
baz=203
R33M **Jennings River** 86.92 20 P P 23 55 24.9 +1.1
baz=220
UBPT **Khong Chiam** 86.92 287 P P 23 55 24.7 +0.1
L27K **Beaver Creek,** 86.95 14 P P 23 55 24.5 +0.8
L27K IAmb IAmb 23 55 36.9
comp=Z,14nm,1.5s
L27K **Beaver Creek,** 86.95 14 P P 23 55 23.9 +0.1
baz=210
P33M **Teslin, Yukon** 86.97 19 P P 23 55 24.5 +0.5
baz=218
MLY **Manley** 87.03 10 IAmb IAmb 23 55 37.2
comp=Z,12nm,1.4s
MLY **Manley** 87.03 10 P P 23 55 24.2 +0.1
baz=201,SNR=6.5
ELIB **Princess Elisa** 87.10 185 *d*P P 23 55 26.6 +1.9
comp=Z,5.9nm,0.8s
HDA **Harding Lake** 87.10 11 IAmb IAmb 23 55 37.4
comp=Z,8.1nm,1.0s
HDA **Harding Lake** 87.10 11 P P 23 55 25.2 +0.8
baz=205,SNR=6.7
N31M **Braeburn, Yuko** 87.14 17 P P 23 55 24.4 -0.3
baz=215
F17K **Baldwin Pennin** 87.14 5 P P 23 55 25.0 +0.5
baz=192
RWWY **Rawlins** 87.16 43 IAmb IAmb 23 55 26.9
comp=Z,4.9nm,0.9s
Q24A **Divide** 87.17 47 P P 23 55 25.5 -0.3
baz=241
M29M **Somme Creek** 87.22 16 P P 23 55 26.7 +1.6
baz=213
G19K **Purcell Mounta** 87.25 7 IAmb IAmb 23 55 26.8
comp=Z,16nm,1.1s
G19K **Purcell Mounta** 87.25 7 P P 23 55 24.4 -0.7
baz=196
SCRK **Sand Creek** 87.29 13 IAmb IAmb 23 55 38.5
comp=Z,7.2nm,1.2s
SCRK **Sand Creek** 87.29 13 P P 23 55 25.0 -0.5
baz=208
SEY **Seymchan** 87.30 345 LR LR 00 29 30.7
comp=Z,115nm,20.4s,baz=178,slow=32
H21K **Melozitna Rive** 87.31 9 P P 23 55 26.2 +0.8
H21K IAmb IAmb 23 55 39.8
comp=Z,16nm,1.4s
H21K **Melozitna Rive** 87.31 9 P P 23 55 24.9 -0.6
baz=200
I23K **Minto, Yukon-K** 87.36 10 P P 23 55 26.1 +0.5
I23K IAmb IAmb 23 55 38.6
comp=Z,13nm,1.4s
I23K **Minto, Yukon-K** 87.36 10 P P 23 55 24.9 -0.7
baz=203
COLA **College** 87.36 11 P P 23 55 26.3 +0.7
COLA **College** 87.36 11 P P 23 55 25.7 +0.1
baz=204
HEH **HeiHe** 87.43 327 *e*P P 23 55 25.8 -0.5
HEH pmax pmax
comp=Z,4.0nm,0.7s
HEH pmax pmax
comp=Z,84nm,4.4s
HEH LR LR
comp=N,300nm,18.7s
HEH LR LR
comp=E,210nm,19.0s
HEH LR LR
comp=Z,260nm,17.5s
F18K **Selawik** 87.44 6 P P 23 55 25.4 -0.5
baz=193
IL31 87.44 11 P 23 55 26.5 +0.5
IL31 IAmb IAmb 23 55 39.1
comp=Z,19nm,1.4s
ILAR **Eielson Array** 87.44 11 P P 23 55 26.1 +0.1
ILAR **Eielson Array** 87.44 11 P P 23 55 25.5 -0.5
comp=Z,1.8nm,1.0s,baz=210,slow=6.3,SNR=12
ILAR LR LR 00 31 26.2
comp=Z,78nm,18.5s,baz=182,slow=33
comp=Z,1.8nm,1.0s
IL03 **Eielson Array** 87.45 11 P P 23 55 27.6 +1.6
IMAR **Indian Mountai** 87.50 8 P P 23 55 27.2 +0.9
J25K **Salcha River,** 87.58 12 IAmb IAmb 23 55 40.3
comp=Z,12nm,1.2s
J25K **Salcha River,** 87.58 12 P P 23 55 26.6 -0.2
baz=206,SNR=5.2
N23A **Red Feather La** 87.58 45 P P 23 55 26.8 -0.9
baz=240
N32M **Quiet Lake** 87.64 18 P P 23 55 26.5 -0.6
baz=218
POKR **Poker Plat Res** 87.66 11 P P 23 55 26.9 -0.2
baz=204
E17K **Hotham Inlet** 87.73 5 P P 23 55 28.1 +0.7
baz=191
K27K **Chicken** 87.74 13 P P 23 55 28.4 +1.0
K27K IAmb IAmb 23 55 41.8
comp=Z,9.7nm,1.2s
K27K **Chicken** 87.74 13 P P 23 55 28.1 +0.6
baz=209

H22K **Ishtalitna Cre** 87.74 9 P P 23 55 27.3 -0.1
baz=201
J26L **Joseph Creek** 87.84 13 P P 23 55 28.7 +0.7
J26L **Joseph Creek** 87.84 13 P P 23 55 27.9 -0.1
baz=208,SNR=8.8
F19K **Shaleruckik Mo** 87.84 6 IAmb IAmb 23 55 42.0
comp=Z,11nm,1.2s
F19K **Shaleruckik Mo** 87.84 6 P P 23 55 28.3 +0.4
baz=195
L29M **L29M** 87.87 15 P P 23 55 29.0 +0.8
L29M **L29M** 87.87 15 P P 23 55 28.5 +0.3
baz=213
H23K **Yukon River** 87.96 10 P P 23 55 29.4 +0.9
baz=202
G21K **Allakaket** 88.03 8 P P 23 55 29.6 +0.7
G21K **Allakaket** 88.03 8 P P 23 55 29.6 +0.7
baz=199
M31M **Drury Creek, Y** 88.10 17 P P 23 55 28.9 -0.4
baz=216
E18K **Tukpahlearik C** 88.16 5 P P 23 55 30.5 +1.1
baz=192
H24K **Noodor Dome** 88.24 10 P P 23 55 30.5 +0.6
baz=204
D17K **Noatak River** 88.25 4 P P 23 55 29.7 -0.1
baz=190
F20K **Avaraart Lake** 88.27 7 P P 23 55 30.4 +0.5
F20K IAmb IAmb 23 55 32.1
comp=Z,4.6nm,1.0s
F20K **Avaraart Lake** 88.27 7 P P 23 55 30.8 +0.8
baz=197
PRP **Porcupine Dome** 88.36 11 P P 23 55 31.0 +0.4
baz=206,SNR=5.2
DAWY **Dawson** 88.37 14 P P 23 55 31.5 +1.0
DAWY IAmb IAmb 23 55 44.6
comp=Z,15nm,1.2s
DAWY **Dawson** 88.37 14 P P 23 55 32.5 +2.0
baz=212,SNR=5.3
TOAD **Toad River Com** 88.50 23 P P 23 55 32.9 +1.6
baz=224
E19K **Redstone River** 88.50 6 IAmb IAmb 23 55 32.7
comp=Z,5.9nm,0.9s
E19K **Redstone River** 88.50 6 P P 23 55 32.3 +1.2
baz=195
EGAK **Eagle** 88.59 13 P P 23 55 32.4 +0.9
baz=210
RDOG **Red Dog Mine** 88.61 4 P P 23 55 32.5 +0.9
baz=190
MT01 **Popeta** 88.62 126 P P 23 55 32.8 +0.3
MT01 IAmb IAmb 23 55 57.1
comp=Z,13nm,1.2s
K29M **Barlow Dome** 88.63 15 P P 23 55 32.6 +0.7
K29M **Barlow Dome** 88.63 15 P P 23 55 32.1 +0.2
baz=214
I26K **Coal Creek Min** 88.63 12 P P 23 55 31.8 +0.1
I26K IAmb IAmb 23 55 45.0
comp=Z,13nm,1.4s
I26K **Coal Creek Min** 88.63 12 P P 23 55 32.1 +0.4
baz=208
C16K **Lisburne Hills** 88.69 3 P P 23 55 33.3 +1.5
baz=188
G22K **Bettles** 88.69 9 P P 23 55 34.0 +2.1
baz=201
G23K **Bananza Creek** 88.71 9 P P 23 55 32.2 +0.1
baz=202
F21K **Alatna River** 88.71 8 P P 23 55 34.0 +2.0
F21K IAmb IAmb 23 55 45.6
comp=Z,12nm,1.6s
F21K **Alatna River** 88.71 8 P P 23 55 32.7 +0.6
baz=199
LYN **LuoYang** 88.87 308 *e*P P 23 55 36.3 +2.8
LYN pmax pmax
comp=Z,9.0nm,0.6s
LYN pmax pmax
comp=Z,130nm,4.1s
EGMT **Eagleton** 88.93 37 P P 23 55 33.6 0.0
baz=237
H25L **Birch Creek** 88.99 11 P P 23 55 34.7 +1.4
baz=206
C17K **DeLong Mountai** 89.01 4 P P 23 55 34.7 +1.3
baz=190
G24K **Hadweenzic Riv** 89.10 10 P P 23 55 36.1 +2.2
baz=204
F22K **John River** 89.15 8 P P 23 55 34.7 +0.6
baz=200
COLD **Coldfoot** 89.16 9 P P 23 55 35.4 +1.2
baz=202
I27K **Kandik River** 89.21 13 P P 23 55 35.6 +1.1
baz=210
C18K **Utukok River** 89.32 5 P P 23 55 34.7 -0.2
baz=192
MMPY **Sheldon Lake,** 89.33 18 P P 23 55 34.9 -0.2
baz=219
E20K **Nigu River** 89.39 6 P P 23 55 35.0 -0.2
baz=196
G25K **Bearman Lake** 89.39 11 P P 23 55 35.4 +0.2
baz=206
D19K **Kuna River** 89.42 6 IAmb IAmb 23 55 36.8
comp=Z,5.3nm,0.9s
D19K **Kuna River** 89.42 6 P P 23 55 35.9 +0.5
baz=194
I28M **Miner Creek** 89.43 13 IAmb IAmb 23 55 36.7
comp=Z,6.5nm,1.4s
I28M **Miner Creek** 89.43 13 P P 23 55 36.4 +0.9
baz=211
BILL **Bilibino** 89.45 353 P P 23 55 35.4 -0.1
BILL IAmb IAmb 23 55 36.2
comp=Z,5.4nm,1.0s
J30M **Hart River** 89.53 15 P P 23 55 36.6 +0.5
baz=215
I29M **Ogilvie Camp,** 89.72 14 IAmb IAmb 23 55 51.3
comp=Z,12nm,1.5s
I29M **Ogilvie Camp,** 89.72 14 P P 23 55 38.3 +1.5
baz=213
H27K **Steamboat Moun** 89.77 12 P P 23 55 36.8 -0.3
baz=210,SNR=5.6
F24K **Squaw Lake** 89.78 10 P P 23 55 37.3 +0.2
baz=204
D20K **Etivluk River** 89.78 6 P P 23 55 36.9 -0.2
baz=196
E22K **Anaktuvuk Pass** 89.79 8 IAmb IAmb 23 55 38.7
comp=Z,6.3nm,1.1s
E22K **Anaktuvuk Pass** 89.79 8 P P 23 55 36.4 -0.7
baz=200
WMOK **Wichita Mounta** 89.80 53 P P 23 55 37.4 -0.6
baz=245
E21K **Killik River** 89.81 7 IAmb IAmb 23 55 39.0
comp=Z,4.4nm,0.9s
E21K **Killik River** 89.81 7 P P 23 55 38.0 +0.8
baz=198
KOTAN **Kotaneelee Air** 89.83 22 P P 23 55 36.9 -0.5
baz=226
C19K **Lookout Ridge** 89.89 5 IAmb IAmb 23 55 51.9
comp=Z,11nm,1.3s
C19K **Lookout Ridge** 89.89 5 P P 23 55 37.9 +0.3
baz=193
G26K **Porcupine Rive** 89.97 11 P P 23 55 38.5 +0.6
baz=208
B18K **Kokolik River** 89.98 4 P P 23 55 38.6 +0.7
baz=191
E23K **Chandalar** 90.02 9 P P 23 55 39.9 +1.6
baz=202
I30M **Mount Dempster** 90.06 15 IAmb IAmb 23 55 52.5
comp=Z,9.8nm,1.2s
I30M **Mount Dempster** 90.06 15 P P 23 55 39.1 +0.5
baz=215
E24K **Your Creek** 90.20 9 P P 23 55 39.3 +0.2
baz=204
F25K **Christian Rive** 90.22 10 P P 23 55 39.8 +0.7
baz=206
OGNE **Ogallala** 90.22 46 P P 23 55 38.1 -1.7
baz=243
G27K **Doyon Strip** 90.25 12 P P 23 55 40.0 +0.7
baz=210
BMAR **Burnt Mountain** 90.25 11 P P 23 55 40.9 +1.6
LAO **LASA Array** 90.29 39 P P 23 55 40.3 +0.3
baz=240
D22K **Ayikyak River** 90.38 7 P P 23 55 40.5 +0.7
D22K IAmb IAmb 23 55 43.2
comp=Z,8.4nm,1.1s
D22K **Ayikyak River** 90.38 7 P P 23 55 40.6 +0.7
baz=200
RSSD **Black Hills** 90.38 42 P P 23 55 41.3 +0.6
baz=241
C21K **Knifeblade Rid** 90.40 7 P P 23 55 41.1 +1.2
baz=198
H29M **Whitestone** 90.43 14 IAmb IAmb 23 55 54.0
comp=Z,11nm,1.1s
H29M **Whitestone** 90.43 14 P P 23 55 40.6 +0.5

baz=213
F26K Sheenjek River 90.56 11 P P 23 55 42.0 +1.3
baz=208
TOLK Toolik Lake Re 90.56 9 P P 23 55 42.0 +1.3
baz=202
E25K Arctic Village 90.70 10 P P 23 55 42.3 +1.0
baz=206
D23K Nanushuk River 90.72 8 P P 23 55 42.4 +1.0
baz=202
A19K Wainwright 90.86 4 P P 23 55 42.5 +0.5
baz=192
B21K Ikpikpuk River 90.86 7 P P 23 55 43.8 +1.8
baz=198
EPYK Eagle Plains 90.92 14 P P 23 55 44.4 +1.9
baz=214
B20K Meade River 90.98 6 IAmb IAmb 23 55 44.2
comp=Z,6.7nm,1.1s
B20K Meade River 90.98 6 P P 23 55 43.0 +0.5
baz=195
H31M Peel River 91.03 15 P P 23 55 42.8 -0.2
baz=216
G29M Pine Creek 91.09 13 P P 23 55 43.4 +0.2
baz=213
D24K Happy Valley 91.14 9 P P 23 55 43.6 +0.3
baz=203
F28M Old Crow 91.30 12 P P 23 55 44.5 +0.3
baz=211
XAN Xi'an 91.32 306 ⇓P P 23 55 42.6 -2.5
XAN pmax pmax
comp=Z,4.0nm,0.8s
E27K Coleen River 91.46 11 IAmb IAmb 23 55 59.3
comp=Z,10nm,1.3s
E27K Coleen River 91.46 11 P P 23 55 45.5 +0.6
baz=210
C23K Itkillik River 91.54 8 P P 23 55 46.5 +1.4
baz=202
G30M tAoh Zraii Nji 91.54 14 P P 23 55 46.5 +1.2
baz=215,SNR=5.9
D25K Kavik River 91.66 9 P P 23 55 46.6 +0.7
baz=205
B22K Teshekpuk Lake 91.68 7 P P 23 55 46.4 +0.6
baz=199
C24K Franklin Bluff 91.69 8 P P 23 55 46.0 +0.1
baz=203
G31M Satah River 91.94 15 P P 23 55 48.2 +1.1
baz=216
A22K Sinclair Lake 92.15 6 P P 23 55 49.5 +1.6
baz=198
F30M Barrier River 92.16 14 P P 23 55 48.6 +0.5
baz=215
WRGLY Wrigley 92.20 20 P P 23 55 49.9 +1.5
baz=226
E28M Babbage River 92.21 12 IAmb IAmb 23 55 50.9
comp=Z,5.6nm,1.1s
E28M sP 23 55 58.7 +2.8
E28M Babbage River 92.21 12 P P 23 55 50.1 +1.8
baz=212
C27K Jago River 92.36 10 P P 23 55 50.0 +1.0
baz=208
E29M Blow River 92.36 13 IAmb IAmb 23 56 02.4
comp=Z,7.4nm,1.4s
E29M Blow River 92.36 13 P P 23 55 50.6 +1.6
baz=213
C26K Camden Bay 92.42 10 P P 23 55 51.4 +2.2
baz=207
F31M Tsiigehtchic 92.48 14 P P 23 55 50.4 +0.8
baz=217
D27M Malcolm River 92.49 11 P P 23 55 51.1 +1.4
baz=210
ATAH Atahualpa 92.50 99 LR LR 00 31 16.0
comp=Z,64nm,18.2s,baz=259,slow=31
TUL3 Leonard 92.51 53 P P 23 55 50.0 -0.5
baz=246
PHRA Phrae 92.76 289 P P 23 55 52.3 +0.3
TEIG Tepich 92.84 70 LR LR 00 32 03.7
comp=Z,377nm,20.4s,slow=32
D28M Stokes Point 92.98 12 P P 23 55 52.8 +1.0
baz=212
KSU1 Kansas State U 93.19 49 P P 23 55 54.0 +0.4
baz=246
INK Inuvik 93.23 14 IAmb IAmb 23 56 06.4
comp=Z,7.8nm,1.2s
INK Inuvik 93.23 14 P P 23 55 54.1 +1.1
baz=217
INK Inuvik 93.23 14 LR LR 00 32 15.4
comp=Z,174nm,20.0s,baz=186,slow=32
YAK Yakutsk 93.61 337 LR LR 00 31 36.4
comp=Z,61nm,21.9s,baz=121,slow=31
MIAR Mount Ida 93.66 55 P P 23 55 55.0 -0.8
baz=248
CMAR Chiang Mai Arr 93.89 288 P P 23 55 56.8 -0.4
comp=Z,1.5nm,0.4s,baz=131,slow=3.0,SNR=18
CMAR LR LR 00 36 17.8
comp=Z,13nm,20.3s,baz=150,slow=34
comp=Z,1.5nm,0.4s
YKA Yellowknife Ar 94.84 24 P P 23 55 60.0 -0.6
comp=Z,1.1nm,0.9s,baz=246,slow=3.9,SNR=5.2
YKA LR LR 00 31 49.5
comp=Z,158nm,21.6s,baz=244,slow=31
comp=Z,1.1nm,0.9s
ECSD EROS Data Cent 95.04 45 P P 23 56 02.6 +0.6
ECSD IAmb IAmb 23 56 04.3
comp=Z,4.9nm,0.9s
ECSD EROS Data Cent 95.04 45 P P 23 56 01.3 -0.6
baz=246
LVC Limon Verde 95.10 116 LR LR 00 29 25.3
comp=Z,31nm,20.2s,baz=208,slow=29
C36M Paulatuk 96.29 16 P P 23 56 07.6 +0.6
baz=226
CCM Cathedral Cave 96.69 52 P P 23 56 08.4 -1.1
baz=249
AGMN Agassiz Nation 97.30 41 P P 23 56 11.8 -0.3
baz=247
A36M Sachs Harbour 97.86 14 P P 23 56 14.3 +0.3
baz=225
ULM Lac du Bonnet 98.03 39 LR LR 00 35 49.6
comp=Z,193nm,19.4s,baz=253,slow=32
SPMN Marine on St. 98.12 45 P P 23 56 15.8 -0.1
baz=249
LRAL Lakeview Retre 98.26 58 P P 23 56 15.9 -0.9
baz=251
LPAZ La Paz 98.36 111 LR LR 00 33 38.8
comp=Z,24nm,19.5s,baz=209,slow=31
SONM Songino Array 98.38 318 P P 23 56 16.3 -0.8
comp=Z,0.3nm,0.7s,baz=123,slow=5.3,SNR=2.1
comp=Z,0.3nm,0.7s
HDIL Hopedale 98.96 50 P P 23 56 19.0 -0.7
baz=251
JFWS Jewell Farm 99.06 48 P Pdif 23 56 19.6 -0.5
baz=250
TIXI Tiksi 99.76 344 LR LR 00 36 27.0
comp=Z,107nm,21.1s,baz=146,slow=32
EYMN Ely 99.91 43 P Pdif 23 56 24.0 +0.2
baz=250
WCI Wyandotte Cave 100.43 53 P Pdif 23 56 26.0 -0.4
baz=252
O48B Farmland 101.88 51 P Pdif 23 56 33.2 +0.5
baz=253
P49A Miami Univ. Ec 101.99 52 P Pdif 23 56 33.7 +0.4
baz=253
TZTN Tazewell 102.03 55 P Pdif 23 56 32.6 -0.9
baz=253
P52A Corning 103.94 53 P Pdif 23 56 41.8 -0.1
baz=255
BLA Blacksburg 104.62 55 P Pdif 23 56 44.2 -0.9
baz=255
O53A New Philadelph 104.78 52 P Pdif 23 56 44.9 -0.7
baz=256
M53A WI Miller and 105.47 51 P PKiKP 00 01 01.7 -0.5
baz=256
MCWV Mont Chateau 105.66 53 P PKiKP 00 01 01.4 -1.2
baz=256
CNNC Cliffs of the 106.12 58 P PKiKP 00 01 02.9 -0.7
baz=256
ERPA Erie 106.12 51 P PKiKP 00 01 03.1 -0.4
baz=257
SSPA Standing Stone 107.34 52 P PKiKP 00 01 04.4 -1.3
baz=258
BINY Binghamton 109.05 51 P PKiKP 00 01 08.5 -0.4
baz=259
PAL Palisades 110.38 53 P PKiKP 00 01 10.1 -1.3
baz=260
LONY Lake Ozonia 110.47 49 P PKiKP 00 01 10.8 -0.7
baz=261
L61B Northampton 111.51 51 P PKiKP 00 01 13.8 +0.3
baz=262
LBNH Lisbon 112.30 50 P PKiKP 00 01 14.3 -0.6
baz=263

HRV Adam Dziewonsk 112.34 51 P PKiKP 00 01 14.1 -1.0
baz=262
MKAR Makanchi Array 114.08 313 PKiKP PKPdf 00 01 17.3 -1.1
comp=Z,0.3nm,0.7s,baz=111,slow=2.0,SNR=2.1
PKME Peaks-Kenny Pk 114.28 49 P PKPdf 00 01 18.3 -0.4
baz=265
KURBB Kurchatov Arra 116.73 317 PKP PKPdf 00 01 22.2 -1.0
comp=Z,0.3nm,0.7s,baz=79,slow=1.8,SNR=2.5
BVAR Borovoye Array 121.61 320 PKP PKPdf 00 01 31.5 -1.1
comp=Z,0.5nm,0.5s,baz=90,slow=2.9,SNR=5.0
BOSA Boshof 127.88 201 PKP PKPdf 00 01 43.1 -2.5
comp=Z,2.1nm,0.9s,baz=141,slow=6.5,SNR=2.5
ARCES ARCESS Array B 129.54 351 PKP PKPdf 00 01 47.0 -0.3
comp=Z,2.1nm,1.0s,baz=28,slow=4.1,SNR=6.9
FINES FINESS Array B 136.77 346 PKP PKPdf 00 02 02.2 +1.2
comp=Z,0.9nm,0.8s,baz=15,slow=5.8,SNR=4.8
EKA Eskdalemuir Ar 144.46 9 PKP PKPab 00 02 13.4 0.0
comp=Z,1.4nm,0.6s,baz=317,slow=3.0,SNR=9.0
AKASG Malin Array Be 144.81 335 PKP PKPab 00 02 13.1 -1.8
comp=Z,3.7nm,0.6s,baz=39,slow=4.6,SNR=25
KIEV Kiev 144.82 335 ⇑P PKPab 00 02 13.8 -1.1
SORM Soroca 147.14 332 ⇓P PKPbc 00 02 21.6 -0.5
PURM Purcari 147.63 329 ⇓P PKPbc 00 02 24.1 +0.7
MILM Milestii Mici 147.85 330 ⇑P PKPbc 00 02 23.5 -0.6
KWP Kalwaria Pacla 148.08 340 *e*PKP PKPdf 00 02 22.4 +1.0
OJC Ojcow 148.42 343 *e*PKP PKPbc 00 02 25.2 -0.3
VASR Vaslui 148.52 331 ⇑P PKPbc 00 02 26.9 +1.0
CLL Collm 148.76 352 *i* PKPbc PKPbc 00 02 26.6 +0.3
comp=Z,7.0nm,1.0s
CLL *i* PKPab PKPab 00 02 30.7 +0.6
comp=Z,7.0nm,1.0s
BURAR Bucovina Array 148.86 335 ⇓P PKiKP 00 02 28.4 +0.1
OSTC Ostas 148.95 348 ⇑*e*PKP PKPbc 00 02 27.9 +1.0
NIE Niedzica 149.01 342 *e*PKP PKPbc 00 02 27.9 +0.9
BRG Berggiesshubel 149.05 351 *i* PKP PKPbc 00 02 27.6 +0.5
BRG Amp 00 02 31.3
comp=Z,5.6nm,0.9s
DPC Dobruska-Polom 149.12 347 ⇑*e*PKP PKPbc 00 02 27.4 0.0
TESR Tescani 149.13 332 ⇑P PKiKP 00 02 30.7 +2.0
MORC Moravsky Berou 149.40 346 ⇑P PKPbc 00 02 28.9 +0.8
MORC Moravsky Berou 149.40 346 *e*PKP PKPbc 00 02 28.1 0.0
TPGR Topolog 149.54 328 ⇓P PKPab 00 02 33.9 +0.4
VRI Vrincioaia 149.59 331 ⇓P PKPbc 00 02 28.2 -0.4
ARCR ARCALIA 149.63 335 ⇓P PKiKP 00 02 30.2 +0.5
SPBR Spulber 149.67 331 ⇓P PKiKP 00 02 32.1 +2.2
BRTR Keskin Array B 149.70 315 PKPbc PKPbc 00 02 28.6 -0.7
comp=Z,1.1nm,0.7s,baz=70,slow=1.7,SNR=10.0
PRU Pruhonice 149.81 349 ⇑*e*PKP PKPbc 00 02 29.4 +0.4
COVR Voineasa-Covas 149.84 332 ⇑P PKPdf 00 02 26.7 +2.2
BTNL Ternell 149.93 0 *d*PKP PKPbc 00 02 29.2 -0.2
VRAC Vranov 150.05 346 ⇓P PKPbc 00 02 29.5 -0.1
VRAC Vranov 150.05 346 *e*PKP PKPbc 00 02 29.7 0.0
BCLA Clavier 150.09 1 *d*PKiKP PKPbc 00 02 29.7 0.0
BGES Gesves 150.12 2 *d*PKP PKPab 00 02 35.3 -0.3
BMRD Maredsous 150.19 2 *d*PKP PKPbc 00 02 29.4 -0.6
JAVC Velka Javorina 150.22 345 *e*PKP PKiKP 00 02 31.5 +0.5
MLR Muntele Rosu 150.23 332 ⇑P PKPbc 00 02 29.5 -0.8
CJR Cluj-Napoca 150.23 336 ⇓P PKPbc 00 02 31.1 +0.8
KRUC Moravsky 150.33 346 *e*PKP PKPbc 00 02 30.5 +0.2
RCHB Rochefort 150.35 1 *d*PKP PKPbc 00 02 30.3 0.0
ICOR Ion Corvin 150.38 328 ⇑P PKPab 00 02 37.0 +0.1
DOU Dourbes 150.39 2 *d*PKiKP PKPbc 00 02 31.1 +0.6
ZVC Zvikov 150.40 350 ⇑*e*PKP PKPbc 00 02 30.8 +0.3
MARR Marisel-Cluj 150.45 336 ⇑P PKPbc 00 02 31.1 +0.3
PSZ Piszkesteto 150.47 341 ⇓P PKPbc 00 02 29.7 -1.1
VOIR 150.67 332 ⇑P PKPbc 00 02 31.6 +0.2
KHC Kasperske Hory 150.80 350 ⇑*e*PKP PKPbc 00 02 32.0 +0.5
CKRC Cesky Krumlov 150.97 349 ⇑*e*PKP PKPbc 00 02 31.9 0.0
GERES GERESS Array B 151.05 350 PKPbc PKPbc 00 02 31.7 -0.5
comp=Z,2.8nm,0.9s,baz=9.5,slow=1.2,SNR=8.6
MMAI Mount Meron Ar 151.23 302 PKPbc PKiKP 00 02 34.0 +0.4
comp=Z,4.1nm,0.7s,baz=90,slow=0.1,SNR=6.6
SIRR Siria 151.33 337 ⇑P PKPbc 00 02 32.4 -0.4
CONA Conrad Observa 151.52 346 *i* PKP PKPbc 00 02 32.7 -0.6
comp=Z,4.5nm,1.0s
SURR Surduc 151.60 336 ⇓P PKPbc 00 02 33.4 +0.1
RONA Rosalia, Austr 151.63 346 *i* PKP PKPbc 00 02 33.8 +0.4
comp=Z,5.1nm,0.8s
GZR Gura Zlata 151.65 335 ⇓P PKPbc 00 02 32.6 -1.0
BZS Buzias 151.90 337 ⇑P PKPbc 00 02 32.3 -1.8
BIOA Bad Ischl, Aus 152.18 349 *e*PKP PKPbc 00 02 34.4 -0.3
comp=Z,6.9nm,1.1s
ELND Elena 152.20 328 ⇑P PKPab 00 02 43.3 -1.3
HERR Herculane 152.21 335 ⇑P PKPbc 00 02 34.8 0.0
ARSA Arzberg 152.23 346 *e*PKP PKPdf 00 02 29.6 +1.5
comp=Z,3.7nm,1.3s
MORH Mrgy, Hungar 152.38 341 ⇓P PKPbc 00 02 34.5 -0.6
MDVR Moldovita 152.57 336 ⇓P PKPbc 00 02 35.1 -0.6
LESA Schwarzleotal 152.60 351 *e*PKiKP PKiKP 00 02 38.3 +2.3
comp=Z,3.9nm,0.9s
RETA Reutte 152.79 353 *e*PKiKP PKiKP 00 02 36.9 +0.5
KBA Koelnbreinsper 152.83 349 *e*PKiKP PKPbc 00 02 36.9 +0.6
comp=Z,5.0nm,1.1s
WATA Walderalm 152.84 352 *i* PKP PKPbc 00 02 36.5 +0.2
comp=Z,6.2nm,1.2s
SOKA Soboth 152.88 347 *e*PKP PKPbc 00 02 34.7 -1.7
comp=Z,2.3nm,0.8s
MOTA Moosalm 152.89 353 *e*PKP PKPbc 00 02 35.8 -0.7
comp=Z,4.1nm,0.9s
WTTA Wattenberg 152.91 352 *e*PKiKP PKPbc 00 02 37.1 +0.5
comp=Z,8.1nm,1.0s
DAVA Damuels 153.07 355 *e*PKiKP PKiKP 00 02 38.2 +1.1
comp=Z,8.3nm,1.0s
OBKA Obir 153.15 347 *e*PKiKP PKiKP 00 02 38.5 +1.4
comp=Z,6.7nm,1.4s
MYKA Terra Mystica 153.21 349 *e*pPKP PKiKP 00 02 42.9 +5.7
FETA Feichten 153.25 353 *e*PKiKP PKiKP 00 02 38.3 +0.8
comp=Z,1.9nm,0.7s
ABTA Abfaltersbach 153.28 350 *e*PKP PKPdf 00 02 31.4 +1.6
comp=Z,3.6nm,0.8s
TORD Torodi Ar. Bea 171.51 148 PKP PKPdf 00 02 48.0 -0.6
comp=Z,0.7nm,0.9s,baz=268,slow=2.2,SNR=2.7

STR **14** *00:43:41.5±1.5,50°N±18°×1°4E±°, h7km,MLv4.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=173.7, preliminary*
LDG **14** *00:43:53.4±0.1,50°.28N×12°.42E, h10km, Ml3.8/32, Error ellipse: s-maj=3.2km s-min=2.2km az=142.0*
BGR **14** *00:43:53.5±0.2,50°.27N×12°.43E, h11km±1km, ML3.4/7, Error ellipse: s-maj=1.1km s-min=1.1km az=100.0*
WBNET **14** *00:43:53.7,50°.27N×12°.44E, h9km, Ml3.3*
PRU **14** *00:43:53.0,50°.27N×12°.46E, h10km, West Bohemia Swarm-felt*
MCSM **14** *00:43:53.1±0.9,51°N±9°×1°2E±°, h10km, mb3.7, MLv4.2*
BNS **14** *00:43:54.6±0.3,50°.30N×12°.40E, h5km, ML3.5*
CLL **14** *00:43:54.0±0.3,50°.28N×12°.43E, h8km, ML3.2*
BUG **14** *00:43:55.1,50°.08N×12°.21E, h12km±33km, MD4.7/16, ML4.1/15*

ISC 14 00:43:51.7±0.4,**50°.26N**±0°.01×**12°.38E**±0°.01,**h18**km±1km,
n235, σ1s**84**/376,**8C-19D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**84**	⇓P		**Pg**	**00 43 55.6**	**+0.8**
LBCW				S		**Sg**	**00 43 56.8**	**-0.1**
WERN	**Wernitzgruen**	**0.02**	**353**	*i* Pg		**Pg**	**00 43 55.7**	**+0.9**
WERN				*i* Sg		**Sg**	**00 43 57.0**	**+0.1**
WERN				IAML			00 43 57.4	
	comp=N,13μm,0.3s							
WERN	**Wernitzgruen**	**0.02**	**353**	*i* Pg		**Pg**	**00 43 55.7**	**+0.9**
WERN				*i* Sg		**Sg**	**00 43 57.0**	**+0.1**
	comp=N,13μm,0.3s							
VAC	**Vackov**	**0.03**	**185**	*i* Pg		**Pg**	**00 43 55.7**	**+0.9**
VAC				*i* Sg		**Sg**	**00 43 57.0**	**+0.1**
VAC	**Vackov**	**0.03**	**185**	⇑P		**Pg**	**00 43 55.7**	**+0.9**
VAC				S		**Sg**	**00 43 57.1**	**+0.1**
ROHR	**Rohrbach**	**0.05**	**235**	*i* Pg		**Pg**	**00 43 56.0**	**+1.1**
ROHR				*i* Sg		**Sg**	**00 43 57.6**	**+0.5**
ROHR				IAML			00 43 58.0	
	comp=E,23μm,0.3s							
ROHR	**Rohrbach**	**0.05**	**235**	*i* Pg		**Pg**	**00 43 56.0**	**+1.1**
ROHR				*i* Sg		**Sg**	**00 43 57.6**	**+0.5**
	comp=E,23μm,0.3s							
NKC	**Novy Kostel**	**0.05**	**125**	*i* Pg		**Pg**	**00 43 55.7**	**+0.7**
NKC				*i* Sg		**Sg**	**00 43 56.9**	**-0.2**
NKC				IAML			00 43 57.4	
	comp=N,27μm,0.1s							
NKC	**Novy Kostel**	**0.05**	**125**	*e*PG		**Pg**	**00 43 55.7**	**+0.7**
NKC				*e*SG		**Sg**	**00 43 57.0**	**-0.2**
	comp=N,14μm,0.3s							
NKC	**Novy Kostel**	**0.05**	**125**	*i* Pg		**Pg**	**00 43 55.7**	**+0.7**
NKC				*i* Sg		**Sg**	**00 43 56.9**	**-0.2**

	comp=N,27μm,0.1s							
NKC	**Novy Kostel**	**0.05**	**125**	⇓P		**Pg**	**00 43 55.7**	**+0.7**
NKC				S		**Sg**	**00 43 56.9**	**-0.2**
POCW	**Potky**	**0.06**	**28**	⇓P		**Pg**	**00 43 55.8**	**+0.7**
POCW				S		**Sg**	**00 43 57.2**	**-0.1**
STCW	**Studenec**	**0.09**	**93**	*i* Pg		**Pg**	**00 43 55.7**	**+0.5**
STCW				*i* Sg		**Sg**	**00 43 57.1**	**-0.6**
STCW	**Studenec**	**0.09**	**93**	*i* Pg		**Pg**	**00 43 55.7**	**+0.5**
STCW				*i* Sg		**Sg**	**00 43 57.1**	**-0.6**
STCW	**Studenec**	**0.09**	**93**	⇑P		**Pg**	**00 43 55.7**	**+0.5**
STCW				S		**Sg**	**00 43 57.0**	**-0.6**
KOCW	**Kopaniny**	**0.09**	**271**	⇓P		**Pg**	**00 43 56.7**	**+1.5**
KOCW				S		**Sg**	**00 43 58.7**	**+1.1**
SKC	**Skalna**	**0.09**	**188**	⇑P		**Pn**	**00 43 56.5**	**+1.3**
SKC				S		**Sb**	**00 43 58.4**	**+0.8**
KVC	**Kvetna**	**0.10**	**124**	*i* Pg		**Pg**	**00 43 56.1**	**+0.7**
KVC				*i* Sg		**Sg**	**00 43 57.6**	**-0.2**
KVC	**Kvetna**	**0.10**	**124**	⇓P		**Pg**	**00 43 56.1**	**+0.7**
KVC				S		**Sg**	**00 43 57.6**	**-0.2**
GUNZ	**Gunzen**	**0.10**	**343**	*i* Pg		**Pb**	**00 43 56.5**	**+1.3**
GUNZ				*i* Sg		**Sg**	**00 43 58.4**	**+0.4**
GUNZ				IAML			00 43 58.8	
	comp=E,4μm,0.2s							
GUNZ	**Gunzen**	**0.10**	**343**	*i* Pg		**Pb**	**00 43 56.5**	**+1.3**
GUNZ				*i* Sg		**Sg**	**00 43 58.4**	**+0.4**
	comp=E,4μm,0.2s							
KRCW	**Kraslice**	**0.12**	**55**	⇑P		**Pg**	**00 43 56.1**	**+0.5**
KRCW				S		**Sg**	**00 43 57.6**	**-0.5**
MULD	**Muldenberg**	**0.15**	**6**	*i* Pg		**Pb**	**00 43 56.9**	**+0.8**
MULD				*i* Sg		**Sg**	**00 43 58.9**	**+0.1**
MULD				IAML			00 43 59.1	
	comp=E,8μm,0.1s							
MULD	**Muldenberg**	**0.15**	**6**	*i* Pg		**Pb**	**00 43 56.9**	**+0.8**
MULD				*i* Sg		**Sg**	**00 43 58.9**	**+0.1**
	comp=E,8μm,0.1s							
TRCW	**Trojmez**	**0.16**	**285**	⇓P		**Pb**	**00 43 57.7**	**+1.5**
TRCW				S		**Sg**	**00 44 00.3**	**+1.5**
TANN	**Tannenbergstha**	**0.16**	**19**	*i* Pg		**Pb**	**00 43 56.9**	**+0.6**
TANN				*i* Sg		**Sg**	**00 43 58.9**	**-0.1**
TANN				IAML			00 43 59.2	
	comp=N,12μm,0.3s							
TANN	**Tannenbergstha**	**0.16**	**19**	*i* Pg		**Pb**	**00 43 56.9**	**+0.6**
TANN				*i* Sg		**Sg**	**00 43 58.9**	**-0.1**
	comp=N,12μm,0.3s							
TRIB	**Obertriebel**	**0.18**	**300**	*i* Pg		**Pb**	**00 43 57.9**	**+1.4**
TRIB				*i* Sg		**Sg**	**00 44 00.8**	**+1.3**
TRIB				IAML			00 44 01.0	
	comp=N,3μm,0.1s							
TRIB	**Obertriebel**	**0.18**	**300**	*i* Pg		**Pb**	**00 43 57.9**	**+1.4**
TRIB				*i* Sg		**Sg**	**00 44 00.8**	**+1.3**
	comp=N,3μm,0.1s							
WERD	**Werda**	**0.19**	**346**	*i* Pg		**Pb**	**00 43 57.7**	**+1.0**
WERD				*i* Sg		**Sg**	**00 44 00.4**	**+0.7**
WERD				IAML			00 44 00.5	
	comp=E,2μm,0.3s							
WERD	**Werda**	**0.19**	**346**	*i* Pg		**Pb**	**00 43 57.7**	**+1.0**
WERD				*i* Sg		**Sg**	**00 44 00.4**	**+0.7**
	comp=E,2μm,0.3s							
VIEL	**Selb-Vielitz**	**0.20**	**247**	*i* Pg		**Pb**	**00 43 58.4**	**+1.6**
VIEL				*i* Sg		**Sg**	**00 44 01.4**	**+1.6**
VIEL	**Selb-Vielitz**	**0.20**	**247**	*i* Pg		**Pb**	**00 43 58.4**	**+1.6**
VIEL				*i* Sg		**Sg**	**00 44 01.4**	**+1.6**
ZHC	**Zelena Hora**	**0.20**	**193**	⇑P		**Pb**	**00 43 58.2**	**+1.4**
ZHC				S		**Sb**	**00 44 01.3**	**+1.0**
PLN	**Plauen**	**0.26**	**327**	*i* Pg		**Pb**	**00 43 59.2**	**+1.2**
PLN				*e*Sg		**Sb**	**00 44 03.1**	**+0.9**
PLN				IAML			00 44 03.9	
	comp=N,824nm,0.1s							
PLN	**Plauen**	**0.26**	**327**	*i* Pg		**Pb**	**00 43 59.2**	**+1.2**
PLN				*e*Sg		**Sb**	**00 44 03.1**	**+0.9**
	comp=N,824nm,0.1s							
LACW	**Lazy**	**0.27**	**143**	*i* Pg		**Pb**	**00 43 59.0**	**+1.0**
LACW				*i* Sg		**Sb**	**00 44 02.5**	**+0.3**
LACW	**Lazy**	**0.27**	**143**	*i* Pg		**Pb**	**00 43 59.0**	**+1.0**
LACW				*i* Sg		**Sb**	**00 44 02.5**	**+0.3**
LACW	**Lazy**	**0.27**	**143**	⇓P		**Pb**	**00 43 59.0**	**+1.0**
LACW				S		**Sb**	**00 44 02.5**	**+0.3**
MANZ	**Manzenberg**	**0.33**	**212**	*e*Pg		**Pb**	**00 44 00.6**	**+1.6**
MANZ				*e*Sg		**Sb**	**00 44 05.4**	**+1.4**
SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg		**Pb**	**00 44 01.5**	**+1.0**
SCHF				*i* Sg		**Sb**	**00 44 06.9**	**+0.4**
SCHF				IAML			00 44 07.4	
	comp=E,2μm,0.2s							
SCHF	**Schoenfels**	**0.41**	**2**	*i* Pg		**Pb**	**00 44 01.5**	**+1.0**
SCHF				*i* Sg		**Sb**	**00 44 06.9**	**+0.4**
	comp=E,2μm,0.2s							
GRZ1	**Mausoleum Wald**	**0.44**	**347**	*i* Pg		**Pb**	**00 44 02.1**	**+1.2**
GRZ1				*e*Sg		**Sb**	**00 44 07.8**	**+0.5**
GRZ1				IAML			00 44 09.4	
	comp=N,728nm,0.1s							
GRZ1	**Mausoleum Wald**	**0.44**	**347**	*i* Pg		**Pb**	**00 44 02.1**	**+1.2**
GRZ1				*e*Sg		**Sb**	**00 44 07.8**	**+0.5**
	comp=N,728nm,0.1s							
ROTZ	**Rotzenmuhle**	**0.51**	**193**	*e*Pg		**Pb**	**00 44 03.7**	**+1.6**
ROTZ				*e*Sg		**Sb**	**00 44 10.6**	**+1.4**
MOX	**Moxa**	**0.62**	**308**	*e*Pg		**Pb**	**00 44 05.9**	**+1.8**
MOX				*e*Sg		**Sb**	**00 44 14.3**	**+1.9**
HSKC	**Hora Svate Kat**	**0.76**	**62**	*e*PG		**Pn**	**00 44 07.2**	**-0.3**
HSKC				*e*SG		**Sb**	**00 44 16.5**	**+0.2**
	comp=N,608nm,0.3s							
FBE	**Freiberg**	**0.91**	**43**	*e*Pg		**Pn**	**00 44 10.3**	**+0.7**
FBE				*e*Sg		**Sn**	**00 44 22.3**	**+0.2**
GRF	**Grafenberg Arr**	**0.94**	**233**	*e*Pg		**Pn**	**00 44 12.0**	**+1.9**
GRF				*e*Sg		**Sn**	**00 44 25.2**	**+2.0**
GRB2	**Grafenberg Arr**	**1.09**	**205**	⇑Pn		**Pg**	**00 44 14.2**	**+1.3**
CLL	**Collm**	**1.12**	**20**	*i* Pg		**Pg**	**00 44 13.9**	**+0.6**
CLL				*i* x		x	00 44 16.2	
CLL				*i* x		x	00 44 17.7	
CLL				*i* Sg		**Sn**	**00 44 28.4**	**+1.0**
	comp=Z,748nm,0.9s							
CLL				*i* x		x	00 44 32.1	
CLL	**Collm**	**1.12**	**20**	*e*Pg		**Pg**	**00 44 13.7**	**+0.4**
CLL				*e*Sg		**Sn**	**00 44 28.5**	**+1.0**
RICC	**Richard**	**1.13**	**75**	*e*PG		**Pg**	**00 44 14.1**	**+0.5**
RICC				*e*SG		**Sn**	**00 44 28.3**	**+0.5**
	comp=Z,1μm,0.5s							
WET	**Wettzell**	**1.17**	**164**	*e*Pn		**Pg**	**00 44 15.0**	**+0.8**
WET				*e*Sg		**Sn**	**00 44 30.6**	**+1.9**
BRG	**Berggiesshubel**	**1.17**	**58**	*i* Pg		**Pg**	**00 44 14.9**	**+0.6**
BRG				Sg		**Sn**	**00 44 29.7**	**+1.0**
BRG				Amp			00 44 31.1	
	comp=Z,304nm,0.5s							
BRG	**Berggiesshubel**	**1.17**	**58**	*e*Pg		**Pg**	**00 44 14.9**	**+0.6**
BRG				*e*Sg		**Sn**	**00 44 29.9**	**+1.2**
PRA	**Prague**	**1.33**	**98**	*e*SG		**Sg**	**00 44 34.1**	**-0.7**
	comp=Z,461nm,0.3s							
KHC	**Kasperske Hory**	**1.38**	**145**	*e*PG		**Pg**	**00 44 18.0**	**-0.2**
KHC				*e*SG		**Sg**	**00 44 35.8**	**-0.3**
	comp=Z,437nm,0.2s							
KHC	**Kasperske Hory**	**1.38**	**145**	Pn		**Pg**	**00 44 17.9**	**-0.2**
GRC1	**Grafenberg Arr**	**1.39**	**204**	⇑Pn		**Pn**	**00 44 17.9**	**+1.7**
GRC1				Pg		**Sg**	**00 44 19.9**	**+1.5**
GRC1				Sg		**Sg**	**00 44 38.0**	**+1.6**
PRU	**Pruhonice**	**1.42**	**100**	*e*PG		**Pb**	**00 44 18.0**	**+0.4**
PRU				*e*SG		**Sg**	**00 44 36.7**	**-0.8**
	comp=Z,632nm,0.5s							
PRU	**Pruhonice**	**1.42**	**100**	*e*Pn		**Pb**	**00 44 18.1**	**+0.4**
PRU				*e*Sg		**Sg**	**00 44 38.0**	**+0.6**
PVCC	**Panska Ves**	**1.43**	**78**	*e*SG		**Sg**	**00 44 37.4**	**-0.3**
GOPC	**GO Pecny, Ondr**	**1.59**	**102**	*e*SG		**Sg**	**00 44 42.5**	**-0.4**
	comp=Z,600nm,0.5s							
UBBA	**Unterbreizbach**	**1.62**	**291**	Pg		**Pg**	**00 44 23.3**	**+0.6**
UBBA				Sg		**Sg**	**00 44 44.3**	**+0.5**
GEC2	**GERESS Array S**	**1.66**	**148**	*e*

comp=Z,373nm,0.7s
WBA Furth 2.38 257 Pn **Pn** **00 44 31.8 +1.9**
WBA Pg **Pg** **00 44 38.2 +0.9**
WBA Sg **Sg** **00 45 09.3 +1.2**
FLIN Helmstadt-Barg 2.39 248 Pn **Pn** **00 44 31.7 +1.7**
OSTC Ostas 2.47 82 eSG **Sg** **00 45 09.1 -2.0**
TNS Taunus Mts 2.52 271 Pn **Pb** **00 44 36.0 -0.5**
TNS Sg **Sg** **00 45 12.8 0.0**
DPC Dobruska-Polom 2.53 87 eSG **Sg** **00 45 10.7 -2.2**
comp=Z,321nm,0.5s
DPC Dobruska-Polom 2.53 87 Pn **Pg** **00 44 38.7 -1.4**
A108A Ulm, Ringingen 2.54 222 Pn **Pn** **00 44 33.1 +1.1**
A109A Bad Urach, See 2.64 227 Pn **Pn** **00 44 34.7 +1.3**
NRDL Niedersachs Rie 2.65 328 Pg **Pg** **00 44 43.9 +1.5**
A107C Memmingen - Ei 2.66 213 Pn **Pn** **00 44 34.8 +1.1**
KASTN Kahler Asten 2.69 292 Pn **Pn** **00 44 37.4 +3.3**
BIOA Bad Ischl, Aus 2.70 162 Pn **Pn** **00 44 37.0 +2.7**
comp=Z,4.3nm,0.3s,SNR=26
BIOA eSg **Sg** **00 45 17.8 -0.8**
comp=Z,110nm,0.4s
MOA Molln 2.72 152 ePn **Pn** **00 44 36.7 +2.3**
comp=Z,3.8nm,0.2s,SNR=14
MOA ePg **Pg** **00 44 44.3 +0.6**
comp=Z,19nm,0.3s
MOA eSn **Sn** **00 45 07.2 +0.3**
comp=Z,21nm,0.2s
MOA i Sg **Sg** **00 45 17.7 -1.2**
comp=Z,108nm,0.4s
A104C Biberach, Ahle 2.79 221 Pg **Pg** **00 44 47.0 +1.9**
FACH Fachingen 2.81 274 Pg **Pg** **00 44 46.1 +0.6**
KRLC Kraliky 2.84 92 eSG **Sg** **00 45 21.7 -1.1**
comp=Z,188nm,0.5s
LESA Schwarzleotal 2.85 176 ePn **Pn** **00 44 38.7 +2.4**
comp=Z,1.1nm,0.2s
LESA ePg **Pg** **00 44 48.2 +1.9**
comp=Z,8.4nm,0.2s
LESA eSn **Sn** **00 45 13.0 +2.7**
comp=Z,14nm,0.2s
LESA i Sg **Sg** **00 45 22.1 -1.1**
comp=Z,100nm,0.4s
KRUC Moravsky 2.87 113 ePN **Pn** **00 44 38.7 +2.1**
KRUC eSG **Sg** **00 45 22.1 -1.8**
VRAC Vranov 2.89 108 ePN **Pn** **00 44 38.7 +1.8**
VRAC eSG **Sg** **00 45 22.9 -1.7**
A100A Rottenburg, We 2.90 233 Pn **Pn** **00 44 38.0 +1.1**
RETA Reutte 2.98 202 ePn **Pn** **00 44 39.7 +1.6**
comp=Z,5.1nm,0.4s,SNR=10
RETA eSg **Sg** **00 45 31.4 +4.1**
comp=Z,74nm,0.3s
A102A Sigmaringen, J 2.98 226 Pn **Pn** **00 44 38.9 +0.9**
WATA Walderalm 2.98 191 ePn **Pn** **00 44 39.7 +1.5**
comp=Z,0.9nm,0.2s,SNR=22
WATA ePg **Pg** **00 44 49.9 +1.2**
comp=Z,32nm,0.3s,SNR=15
WATA eSg **Sg** **00 45 30.2 +2.9**
comp=Z,97nm,0.2s
UBR Ueberruh 2.99 211 Pn **Pn** **00 44 39.2 +1.0**
MOTA Moosalm 3.04 197 i Pn **Pn** **00 44 40.2 +1.2**
comp=Z,0.8nm,0.1s,SNR=7.5
MOTA ePg **Pg** **00 44 51.6 +1.6**
comp=Z,36nm,0.4s,SNR=15
MOTA i Sn **Sn** **00 45 17.8 +2.7**
comp=Z,11nm,0.2s
MOTA eSg **Sg** **00 45 32.5 +3.2**
comp=Z,123nm,0.5s
WTTA Wattenberg 3.04 190 i Pn **Pn** **00 44 40.9 +1.8**
comp=Z,1.2nm,0.2s,SNR=12
WTTA ePg **Pg** **00 44 50.8 +0.8**
comp=Z,14nm,0.2s,SNR=6.4
WTTA eSg **Sg** **00 45 31.8 +2.4**
comp=Z,61nm,0.4s
GUT Gutenstein 3.07 226 P **Pn** **00 44 39.8 +0.5**
GUT Gutenstein 3.07 226 S **Sg** **00 45 30.3 +0.1**
ABH Alteburg 3.14 265 P **Pn** **00 44 42.9 +2.7**
ABH Alteburg 3.14 265 S **Sg** **00 45 33.9 +1.4**
BABA Baden-Baden-Ne 3.14 242 Pn **Pn** **00 44 42.1 +1.8**
BABA Baden-Baden-Ne 3.14 242 P **Pn** **00 44 41.8 +1.5**
BABA Baden-Baden-Ne 3.14 242 S **Sg** **00 45 32.6 +0.2**
SQTA Sankt Quirin 3.14 195 i Pn **Pn** **00 44 42.3 +1.9**
comp=Z,1.1nm,0.2s,SNR=8.6
SQTA ePg **Pg** **00 44 53.2 +1.3**
comp=Z,4.7nm,0.1s,SNR=16
SQTA i Sn **Sn** **00 45 21.2 +3.6**
comp=Z,30nm,0.3s
SQTA eSg **Sg** **00 45 35.0 +2.4**
comp=Z,130nm,0.3s
A105A Obersdorf, Sch 3.17 207 Pn **Pn** **00 44 42.5 +1.7**
OBER Oberstdorf 3.17 207 Pg **Pg** **00 44 54.0 +1.5**
SZBH soultz borehol 3.23 247 S **Sg** **00 45 35.4 +0.1**
BGG Burgeitz 3.24 271 ePn **Pn** **00 44 44.7 +3.1**
SUBF Surbourg 3.24 247 Pg **Pg** **00 44 55.1 +1.3**
LEMB Lembach 3.25 249 P **Pn** **00 44 44.4 +2.7**
LEMB S **Sg** **00 45 37.1 +1.2**
KBA Koelnbreinsper 3.25 168 i Pn **Pn** **00 44 45.2 +3.3**
comp=Z,4.6nm,0.3s,SNR=15
KBA ePg **Pg** **00 44 53.8 -0.2**
comp=Z,9.2nm,0.3s
KBA i Sn **Sn** **00 45 24.1 +3.8**
comp=Z,20nm,0.4s
KBA eSg **Sg** **00 45 38.1 +2.0**
comp=Z,106nm,0.5s
OPP Oppenau 3.26 239 P **Pn** **00 44 42.9 +1.0**
OPP Oppenau 3.26 239 Pg **Pg** **00 44 54.9 +0.8**
OPP Oppenau 3.26 239 S **Sg** **00 45 36.0 -0.4**
CONA Conrad Observa 3.27 134 Pn **Pn** **00 44 44.1 +1.9**
comp=Z,1.8nm,0.2s,SNR=12
CONA ePg **Pg** **00 44 53.9 -0.4**
comp=Z,27nm,0.3s,SNR=14
CONA i Sn **Sn** **00 45 21.9 +1.3**
comp=Z,24nm,0.3s
CONA eSg **Sg** **00 45 34.3 -2.4**
comp=Z,112nm,0.3s
BFO Black Forest 3.28 235 Pn **Pn** **00 44 42.9 +0.7**
BFO Pg **Pg** **00 44 56.2 +1.6**
A101B Rottweil, Deis 3.30 231 Pn **Pn** **00 44 43.9 +1.3**
MORC Moravsky Berou 3.36 96 ePN **Pn** **00 44 45.3 +1.9**
MORC eSG **Sg** **00 45 37.4 -2.3**
AHRW Bad Neuenahr-A 3.41 277 Pn **Pb** **00 44 49.3 -2.1**
DAVA Damuels 3.41 210 ePn **Pn** **00 44 45.1 +1.0**
comp=Z,3.5nm,0.4s,SNR=7.4
DAVA eSg **Sg** **00 45 43.5 +2.4**
comp=Z,31nm,0.2s
DAVA Damuels 3.41 210 Pn **Pn** **00 44 45.3 +1.2**
FETA Feichten 3.42 199 ePn **Pn** **00 44 46.2 +1.9**
comp=Z,1.0nm,0.2s
FETA eSg **Sg** **00 45 42.9 +1.3**
comp=Z,17nm,0.3s
BKLB Ruhr-Universit 3.45 292 Pn **Pn** **00 44 48.0 +3.5**
BUG Bochum--Univer 3.45 292 Pn **Pn** **00 44 48.0 +3.5**
BULI Ruhr-Universit 3.46 292 Pn **Pn** **00 44 48.2 +3.6**
ABTA Abfaltersbach 3.52 179 i Pn **Pn** **00 44 49.2 +3.6**
comp=Z,1.4nm,0.2s
ABTA Sg **Sg** **00 45 46.4 +1.8**
comp=Z,316nm,0.7s
IBBE Ibbenbueren Ea 3.53 307 Pg **Pg** **00 44 58.2 -1.0**
LIENZ Kamor/St.Gall 3.53 214 Pn **Pn** **00 44 46.4 +0.6**
LIENZ Pg **Pg** **00 45 01.7 +2.4**
CIEL Dossenheim-sur 3.57 248 Pg **Pg** **00 45 00.1 +0.1**
CIEL S **Sg** **00 45 47.1 +0.9**
SLE Schleitheim 3.58 227 P **Pn** **00 44 46.6 +0.3**
SLE Schleitheim 3.58 227 Pg **Pg** **00 45 00.3 +0.1**
SLE Schleitheim 3.58 227 S **Sg** **00 45 47.9 +1.4**
RONA Rosalia, Austr 3.64 133 i Pn **Pn** **00 44 49.7 +2.6**
comp=Z,6.1nm,0.5s,SNR=7.5
RONA eSg **Sg** **00 45 47.5 -0.9**
comp=Z,24nm,0.2s
ARSA Arzberg 3.66 144 i Pn **Pn** **00 44 50.9 +3.4**
comp=Z,11nm,0.6s,SNR=9.7
ARSA ePg **Pb** **00 44 58.5 +2.6**
comp=Z,5.6nm,0.3s
ARSA eSg **Sg** **00 45 48.2 -1.0**
comp=Z,117nm,0.5s
JAVC Velka Javorina 3.72 110 ePN **Pn** **00 44 51.0 +2.7**
MODS Modra-Piesok 3.72 119 ePN **Pn** **00 44 50.3 +2.0**
MODS eSG **Sg** **00 45 50.0 -1.1**
ZST Bratislava 3.72 122 ePN **Pn** **00 44 50.8 +2.5**
ZST eSG **Sg** **00 45 48.6 -2.5**
MYKA Terra Mystica 3.73 167 i Pn **Pn** **00 44 52.5 +4.0**
comp=Z,1.4nm,0.4s
MYKA eSg **Sg** **00 45 52.4 +1.0**
comp=Z,18nm,0.2s
KIZ Kirchzarten 3.73 233 Pn **Pn** **00 44 48.8 +0.3**
KIZ Pg **Pg** **00 45 03.7 +0.6**
KIZ Kirchzarten 3.73 233 P **Pn** **00 44 48.7 +0.3**
KIZ Kirchzarten 3.73 233 S **Sg** **00 45 50.4 -1.1**

FELD Feldberg im Sc 3.74 232 P **Pn** **00 44 48.7 0.0**
FELD Feldberg im Sc 3.74 232 S **Sg** **00 45 52.1 +0.3**
OKC Ostrava-Krasne 3.74 94 eSG **Sg** **00 45 48.8 -2.9**
comp=Z,195nm,0.6s
WLS Welschbruch 3.77 243 P **Pn** **00 44 50.8 +1.7**
CDF Champ du Feu 3.82 243 ePn **Pn** **00 44 51.6 +1.9**
CDF Champ du Feu 3.82 243 ePg **Pg** **00 45 04.3 -0.5**
CDF eSg **Sg** **00 45 53.7 -0.5**
comp=Z,115nm,0.5s
DREG Dreilaegerbach 3.95 278 ePn **Pn** **00 44 54.6 +3.2**
SOKA Soboth 4.00 153 ePn **Pn** **00 44 54.7 +2.6**
comp=Z,1.7nm,0.3s
SOKA eSg **Sg** **00 46 00.3 +0.3**
comp=Z,25nm,0.4s
BTNL Ternell 4.01 277 dP Pn 00 44 57.7 +5.5
BTNL dS **Sn** **00 45 42.2 +3.4**
OBKA Obir 4.03 158 ePn **Pn** **00 44 55.3 +2.8**
comp=Z,2.3nm,0.3s
OBKA eSg **Sg** **00 46 00.7 -0.2**
comp=Z,33nm,0.3s
WALT Westhalten 4.07 238 P **Pb** **00 44 59.7 -3.0**
WALT S **Sg** **00 46 02.6 +0.5**
WLF Walferdange 4.07 264 dP Pn 00 44 59.1 +6.2
WLF dS **Sn** **00 45 37.6 -2.5**
WLF Walferdange 4.07 264 P **Pn** **00 44 56.4 +3.4**
WLF Walferdange 4.07 264 S **Sg** **00 46 01.1 -1.0**
MEM Membach 4.09 277 dPP **Pn** **00 44 56.5 +3.2**
MEM dP Pb 00 44 58.7 -4.4
MEM dSbSb **Sb** **00 45 53.8 +1.6**
ROBS Robic 4.09 169 ePn **Pn** **00 44 57.1 +3.7**
XAFF Xaffevillers 4.20 246 P **Pn** **00 44 57.8 +2.9**
XAFF S **Sg** **00 46 05.6 -0.8**
TUE Stuetta 4.30 209 Pn **Pn** **00 44 57.8 +1.4**
GROS Grobnik 4.34 150 i Pn **Pn** **00 44 59.4 +2.6**
HINF Hinteralfeld 4.38 238 ePn **Pn** **00 44 58.1 +0.7**
HINF Hinteralfeld 4.38 238 ePg **Pg** **00 45 16.6 +1.0**
HINF eSg **Sg** **00 46 10.9 -1.4**
comp=Z,54nm,0.3s
BCLA Clavier 4.54 275 dP **Pb** **00 45 08.6 -2.1**
HAU Haudompre 4.56 243 ePn **Pn** **00 45 02.3 +2.5**
HAU Haudompre 4.56 243 ePg **Pg** **00 45 18.9 0.0**
HAU eSg **Sg** **00 46 15.9 -2.1**
comp=Z,139nm,0.7s
VYHS Vyhne 4.57 110 ePN **Pn** **00 45 01.4 +1.4**
VYHS eSN **Sn** **00 45 53.4 +0.7**
VYHS eSG **Sg** **00 46 13.1 -5.3**
RCHB Rochefort 4.59 271 dP **Pn** **00 45 04.8 +4.6**
RCHB dS **Sn** **00 45 49.8 -3.4**
KOGS Kog 4.61 144 i Pn **Pn** **00 45 03.1 +2.7**
SRO Srobarova 4.61 120 ePN **Pn** **00 45 05.0 +4.6**
SRO eSG **Sg** **00 46 17.8 -1.7**
MPLH Magyarpolny 4.61 130 Pn **Pn** **00 45 02.2 +1.8**
PAGF Fort de Pagny 4.67 251 ePn **Pn** **00 45 03.7 +2.4**
baz=70
PAGF Fort de Pagny 4.67 251 ePg **Pg** **00 45 20.9 -0.1**
PAGF eSg **Sg** **00 46 19.7 -1.8**
comp=Z,126nm,0.8s
BGES Gesves 4.67 274 dSbSb **Sg** **00 46 17.9 -3.7**
LANS Liptovska Anna 4.73 101 ePN **Pn** **00 45 04.8 +2.6**
LANS eSG **Sg** **00 46 22.7 -0.8**
GIVF Givet 4.86 271 eSg **Sg** **00 46 24.8 -2.7**
comp=Z,108nm,0.8s
DOU Dourbes 5.01 271 dP **Pn** **00 45 06.2 +0.3**
SAVF Savonnieres en 5.01 254 ePn **Pn** **00 45 06.9 +0.9**
SAVF Savonnieres en 5.01 254 ePg **Pg** **00 45 26.4 -1.2**
SAVF eSg **Sg** **00 46 31.2 -1.3**
comp=Z,65nm,0.8s
TORNY Torny/Romont 5.02 228 Pg **Pg** **00 45 27.2 -0.5**
TORNY Torny/Romont 5.02 228 S **Sg** **00 46 32.8 +0.2**
BOUC Bouclans 5.05 236 P **Pn** **00 45 06.8 +0.3**
BOUC S **Sg** **00 46 32.9 -0.8**
MEZF Maizieres J'vi 5.10 253 ePn **Pn** **00 45 07.3 +0.1**
baz=68
MEZF Maizieres J'vi 5.10 253 ePg **Pg** **00 45 28.2 -1.1**
MEZF eSg **Sg** **00 46 34.1 -1.2**
comp=Z,51nm,0.6s
NIE Niedzica 5.19 96 Pn **Pn** **00 45 12.4 +3.9**
comp=Z,4.2nm,0.8s,comp=Z,0.1nm
SFTF Sexfontaines 5.23 250 ePn **Pn** **00 45 09.3 +0.3**
SFTF Sexfontaines 5.23 250 ePg **Pg** **00 45 30.2 -1.6**
SFTF eSg **Sg** **00 46 37.6 -1.9**
comp=Z,132nm,0.7s
BAIF Baives 5.26 271 ePn **Pn** **00 45 09.3 0.0**
BAIF eSg **Sg** **00 46 36.5 -3.8**
comp=Z,94nm,1.0s
CABF La Chapelle 5.56 231 ePn **Pn** **00 45 13.3 -0.3**
CABF La Chapelle 5.56 231 ePg **Pg** **00 45 37.9 -0.1**
CABF eSg **Sg** **00 46 48.3 -1.6**
comp=Z,80nm,0.7s
KECS Kecovo 5.59 105 eSN **Sn** **00 46 19.9 +2.3**
STHS Stebnicka Huta 5.80 95 ePN **Pn** **00 45 19.7 +2.9**
STHS eSG **Sg** **00 46 54.7 -2.9**
MORH Mrgy, Hungar 5.82 132 Pn **Pn** **00 45 18.7 +1.6**
CRVS Cervenica-Dubn 6.06 100 eSG **Sg** **00 47 02.9 -3.2**
LPL La Plagne 6.08 221 ePn **Pn** **00 45 20.7 -0.2**
LPL La Plagne 6.08 221 ePg **Pg** **00 45 46.9 -1.1**
LPL eSg **Sg** **00 47 04.7 -2.0**
comp=Z,3.7nm,0.3s
LPG La Plagne 6.09 221 ePn **Pn** **00 45 21.8 +0.8**
LPG La Plagne 6.09 221 ePg **Pg** **00 45 48.3 +0.1**
LPG eSn **Sn** **00 46 26.1 -4.3**
LPG eSg **Sg** **00 47 06.9 -0.1**
comp=Z,4.5nm,0.3s
LOR Lormes 6.38 245 ePn **Pn** **00 45 26.4 +1.6**
baz=64
LOR Lormes 6.38 245 ePg **Pg** **00 45 52.6 -1.1**
LOR eSg **Sg** **00 47 13.6 -2.7**
comp=Z,57nm,0.7s
KOLS Kolonicke sedl 6.57 98 ePN **Pn** **00 45 30.0 +2.6**
SSF Saint Saulge 6.69 245 ePn **Pn** **00 45 30.6 +1.5**
SSF Saint Saulge 6.69 245 ePg **Pg** **00 45 56.9 -2.8**
SSF eSg **Sg** **00 47 23.1 -3.2**
comp=Z,47nm,0.7s
MBDF Montbardon 6.71 217 eSg **Sg** **00 47 24.6 -2.5**
comp=Z,15nm,0.8s
SMF Signal de Mont 6.73 241 ePg **Pg** **00 45 58.9 -1.6**
SMF eSg **Sg** **00 47 24.6 -3.0**
comp=Z,41nm,0.6s
ORIF Oris-en-Rattie 6.92 222 ePn **Pn** **00 45 34.5 +2.2**
ORIF Oris-en-Rattie 6.92 222 ePg **Pg** **00 46 02.0 -2.1**
ORIF eSg **Sg** **00 47 33.1 -0.5**
comp=Z,7.7nm,0.4s
AVF Avril sur Loir 6.93 243 ePn **Pn** **00 45 33.0 +0.7**
AVF Avril sur Loir 6.93 243 ePg **Pg** **00 46 01.7 -2.5**
AVF eSg **Sg** **00 47 30.7 -3.1**
comp=Z,41nm,0.8s
HYF Humbligny 7.10 249 ePg **Pg** **00 46 06.6 -0.9**
HYF eSg **Sg** **00 47 36.5 -2.8**
SBF Sospel 7.24 210 ePn **Pn** **00 45 39.4 +2.8**
SBF eSn **Sn** **00 46 53.3 -5.0**
comp=Z,3.3nm,0.3s
BGF Bois d'Agland 7.35 243 ePn **Pn** **00 45 41.0 +2.9**
BGF Bois d'Agland 7.35 243 ePg **Pg** **00 46 10.8 -1.4**
BGF eSg **Sg** **00 47 44.4 -2.9**
comp=Z,39nm,0.4s
VIVF Saint-Julien-l 7.51 227 ePg 00 46 11.9
VIVF eSn **Sn** **00 47 01.3 -3.7**
VIVF eSg 00 47 48.9
comp=Z,5.3nm,0.4s
SMRF Simiane la Rot 7.81 219 ePn **Pn** **00 45 46.7 +2.2**
SMRF Simiane la Rot 7.81 219 ePg 00 46 18.4
SMRF eSn **Sn** **00 47 06.7 -5.8**
comp=Z,1.8nm,0.3s
TCF Toulx Ste Croi 7.86 244 ePn **Pn** **00 45 45.4 +0.2**
TCF Toulx Ste Croi 7.86 244 ePg 00 46 18.9
TCF eSg 00 47 59.3
comp=Z,20nm,0.6s
LMR La Mourre 8.01 212 ePn **Pn** **00 45 50.6 +3.4**
LMR eSn **Sn** **00 47 11.3 -6.0**
comp=Z,1.6nm,0.4s
LDF La Druitiere 8.32 263 ePn **Pn** **00 45 49.8 -1.6**
LDF eSg 00 48 17.6
comp=Z,29nm,0.8s
LASF Ste Croix 8.48 226 ePn **Pn** **00 45 53.8 +0.2**
LASF eSn **Sn** **00 47 22.2 -6.7**
comp=Z,1.5nm,0.3s
FLN La Foliniere 8.51 265 ePn **Pn** **00 45 54.2 +0.3**
FLN eSg 00 48 19.8
comp=Z,8.2nm,0.6s
CAF Calviac 8.78 236 eSg 00 48 30.3
comp=Z,16nm,1.0s
RJF Les Rejaudoux 8.84 240 eSg 00 48 32.2
comp=Z,18nm,0.7s

GRR Gorron 8.85 263 ePn **Pn** **00 46 00.4 +1.8**
MFF Saint Martin d 9.10 251 ePn **Pn** **00 46 03.3 +1.3**
LFF La Frestale 9.49 240 eSg Sn 00 48 50.1 +56
comp=Z,42nm,0.9s
NACGM Naroch 9.92 57 eP **Pn** **00 46 13.9 +0.7**
comp=Z,5.0nm,0.9s,baz=249
SGMF Saint Gilles 9.97 264 ePn **Pn** **00 46 14.1 +0.1**
QUIF Quistinic 10.46 263 ePn **Pn** **00 46 21.1 +0.4**

IDC ***14*** *00:49:26.1±5.0, 16°.93N×101°.29W, h0km, mb3.0/3, mbtmp2.9/6, ML2.8/3, Error ellipse: s-maj=107.4km s-min=25.3km az=26.0*
MEX ***14*** *00:49:32.7±0.8, 16°.88N×101°.56W, h16km±999km, MD4.2*
ISC 14 00:49:26.6±2.2, 16°.73N±0°.08×101°.67W±0°.05, h15km±12km, n24, σ2s 40/38, mb2.9/3, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ZIIG	**Zihuatanejo**	**0.90**	**12**	*eP*		**Pg**	**00 49 43.9**	**-0.1**
ZIIG				*eS*		**Sg**	**00 49 53.3**	**-2.5**
CAIG	**El Cayaco**	**1.38**	**76**	*eP*		**Pn**	**00 49 51.8**	**+0.5**
CAIG				*eS*		**Sn**	**00 50 07.0**	**-2.3**
ACP2	**Acapulco**	**1.71**	**85**	*i* P		**Pn**	**00 49 56.9**	**+1.0**
ACP2				*i* S		**Sn**	**00 50 15.2**	**-2.3**
DAIG	**Los Arroyos**	**1.95**	**81**	*eP*		**Pn**	**00 50 00.4**	**+1.2**
DAIG				*eS*		**Sn**	**00 50 21.1**	**-2.4**
ARIG	**Puente Sto Nin**	**1.99**	**39**	*eP*		**Pn**	**00 50 00.8**	**+1.0**
ARIG				*eS*		**Sn**	**00 50 21.8**	**-2.7**
MMIG	**Aquila**	**2.23**	**314**	*eP*		**Pn**	**00 50 03.4**	**+0.4**
MMIG				*eS*		**Sn**	**00 50 26.4**	**-3.8**
MEIG	**Mezcala**	**2.29**	**58**	*eP*		**Pn**	**00 50 05.5**	**+1.6**
MEIG				*eS*		**Sn**	**00 50 31.0**	**-0.9**
CRIG	**Cruz Grande**	**2.43**	**89**	*eP*		**Pn**	**00 50 07.2**	**+1.4**
CRIG				*eS*		**Sn**	**00 50 31.7**	**-3.5**
PLIG	**Platanillo**	**2.65**	**51**	*eP*		**Pn**	**00 50 10.5**	**+1.6**
PLIG				*eS*		**Sn**	**00 50 40.6**	**-0.1**
TLIG	**Tlapa**	**3.08**	**74**	*eP*		**Pn**	**00 50 17.1**	**+2.3**
TLIG				*eS*		**Sn**	**00 50 49.7**	**-1.8**
YAIG	**Yautepec**	**3.26**	**49**	*eP*		**Pn**	**00 50 18.5**	**+1.1**
YAIG				*eS*		**Sn**	**00 50 55.7**	**-0.4**
PNIG	**Pinotepa**	**3.41**	**95**	*eP*		**Pn**	**00 50 21.2**	**+1.9**
PNIG				*eS*		**Sn**	**00 50 54.6**	**-4.9**
FTIG	**Fresnillo de T**	**3.58**	**70**	*eP*		**Pn**	**00 50 24.0**	**+2.4**
FTIG				*eS*		**Sn**	**00 51 03.7**	**-0.4**
PPMI	**Popocatepetl**	**3.71**	**51**	*eP*		**Pn**	**00 50 25.4**	**+1.5**
TXIG	**Tlaxiaco**	**3.77**	**81**	*eP*		**Pn**	**00 50 27.2**	**+2.7**
TXIG				*eS*		**Sn**	**00 51 05.4**	**-3.3**
HLIG	**Huajuapan de L**	**3.85**	**73**	*eP*		**Pn**	**00 50 28.1**	**+2.6**
HLIG				*eS*		**Sn**	**00 51 09.1**	**-1.5**
YOIG	**Yosondua**	**3.95**	**88**	*eP*		**Pn**	**00 50 29.9**	**+2.9**
YOIG				*eS*		**Sn**	**00 51 10.3**	**-2.9**
DEIG	**Demacu**	**4.34**	**35**	*eP*		Pn	00 50 31.2	-1.1
CMIG	**Matias Romero**	**6.50**	**86**	Pn		Pn	00 50 58.2	-3.6
	0.2nm,0.3s,baz=59,slow=20,SNR=1.5							
CMIG						Sn	**00 52 10.5**	**-5.3**
	0.3nm,0.3s,baz=96,slow=22,SNR=1.5							
	0.8nm,0.4s							
APG	**El Apazote**	**10.92**	**97**	Pn		Pn	00 51 59.4	-3.2
	baz=330,slow=16,SNR=1.6							
	0.1nm,0.4s							
TXAR	**Lajitas Array**	**12.68**	**352**	Pn		**Pn**	**00 52 28.0**	**+1.5**
	baz=173,slow=9.1,SNR=1.8							
	0.1nm,0.7s							
NVAR	**Mina Array Bea**	**26.09**	**329**	P		**P**	**00 55 02.4**	**+2.4**
	0.1nm,0.3s,baz=163,slow=9.4,SNR=2.4							
	0.1nm,0.3s							
PDAR	**Pinedale Array**	**26.81**	**347**	P		**P**	**00 55 07.9**	**+1.4**
	0.1nm,0.3s,baz=164,slow=7.3,SNR=1.5							
	0.1nm,0.3s							
YKA	**Yellowknife Ar**	**46.61**	**352**	P		**P**	**00 57 53.2**	**-0.7**
	0.1nm,0.8s,baz=156,slow=6.6,SNR=2.4							
	0.1nm,0.8s							

WBNET ***14*** *00:52:43.6, 50°.27N×12°.44E, h10km, Ml2.4*
BGR ***14*** *00:52:43.5±0.2, 50°.28N×12°.42E, h11km±1km, ML2.5/4, Error ellipse: s-maj=2.2km s-min=1.1km az=92.0*
CLL 14 00:52:43.9±0.3, 50°.28N×12°.43E, h9km, ML2.3, 4C-8D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**233**	⇓P		Pg	00 52 45.5	0.0
LBCW				S		Sg	00 52 46.8	+0.2
WERN	**Wernitzgruen**	**0.04**	**289**	*i* Pg		Pg	00 52 45.7	0.0
WERN				*i*			00 52 46.7	
WERN				*i* Sg		Sg	00 52 47.0	+0.1
WERN				IAML			00 52 47.2	
	comp=E,1μm,0.2s							
WERN	**Wernitzgruen**	**0.04**	**289**	*i* Pg		Pg	00 52 45.7	0.0
WERN				*i* Sg		Sg	00 52 47.0	+0.1
	comp=E,1μm,0.2s							
NKC	**Novy Kostel**	**0.04**	**166**	*i* Pg		Pg	00 52 45.6	-0.1
NKC				*i* Sg		Sg	00 52 46.9	0.0
NKC				IAML			00 52 47.3	
	comp=E,1μm,0.2s							
NKC	**Novy Kostel**	**0.04**	**166**	*i* Pg		Pg	00 52 45.6	-0.1
NKC				*i* Sg		Sg	00 52 46.9	0.0
	comp=E,1μm,0.2s							
NKC	**Novy Kostel**	**0.04**	**166**	⇓P		Pg	00 52 45.6	-0.1
NKC				S		Sg	00 52 46.9	0.0
POCW	**Potky**	**0.04**	**356**	⇓P		Pg	00 52 45.7	0.0
POCW				S		Sg	00 52 47.2	+0.1
VAC	**Vackov**	**0.05**	**221**	*i* Pg		Pg	00 52 45.7	-0.1
VAC				*i*			00 52 46.5	
VAC				*i* Sg		Sg	00 52 47.0	-0.1
VAC	**Vackov**	**0.05**	**221**	⇓P		Pg	00 52 45.7	-0.1
VAC				S		Sg	00 52 47.0	-0.1
STCW	**Studenec**	**0.06**	**106**	*i* Pg		Pg	00 52 45.7	-0.1
STCW				*i* Sg		Sg	00 52 47.0	-0.2
STCW	**Studenec**	**0.06**	**106**	*i* Pg		Pg	00 52 45.7	-0.1
STCW				*i* Sg		Sg	00 52 47.0	-0.2
STCW	**Studenec**	**0.06**	**106**	⇑P		Pg	00 52 45.7	-0.1
STCW				S		Sg	00 52 47.0	-0.2
ROHR	**Rohrbach**	**0.08**	**241**	*i* Pg		Pg	00 52 46.0	-0.2
ROHR				*i* Sg		Sg	00 52 47.6	-0.2
ROHR				IAML			00 52 47.7	
	comp=E,3μm,0.1s							
ROHR	**Rohrbach**	**0.08**	**241**	*i* Pg		Pg	00 52 46.0	-0.2
ROHR				*i* Sg		Sg	00 52 47.6	-0.2
	comp=E,3μm,0.1s							
KRCW	**Kraslice**	**0.09**	**48**	⇑P		Pg	00 52 46.0	-0.2
KRCW				S		Sg	00 52 47.6	-0.2
KVC	**Kvetna**	**0.09**	**142**	*i* Pg		Pg	00 52 46.0	-0.2
KVC				*i* Sg		Sg	00 52 47.6	-0.2
KVC	**Kvetna**	**0.09**	**142**	⇓P		Pg	00 52 46.0	-0.2
KVC				S		Sg	00 52 47.6	-0.2
GUNZ	**Gunzen**	**0.11**	**324**	*i* Pg		Pg	00 52 46.5	-0.1
GUNZ				*i* Sg		Sg	00 52 48.3	-0.1
GUNZ				IAML			00 52 48.5	
	comp=E,624nm,0.2s							
GUNZ	**Gunzen**	**0.11**	**324**	*i* Pg		Pg	00 52 46.5	-0.1
GUNZ				*i* Sg		Sg	00 52 48.3	-0.1
	comp=E,624nm,0.2s							
SKC	**Skalna**	**0.12**	**203**	⇑P		Pg	00 52 46.4	-0.1
SKC				S		Sg	00 52 48.3	-0.1
KOCW	**Kopaniny**	**0.13**	**266**	⇓P		Pg	00 52 46.7	-0.1
KOCW				S		Sg	00 52 48.7	-0.1
MULD	**Muldenberg**	**0.14**	**353**	*i* Pg		Pg	00 52 46.8	-0.2
MULD				*i* Sg		Sg	00 52 48.8	-0.3
MULD				IAML			00 52 49.0	
	comp=E,1μm,0.1s							
MULD	**Muldenberg**	**0.14**	**353**	*i* Pg		Pg	00 52 46.8	-0.2
MULD				*i* Sg		Sg	00 52 48.8	-0.3
	comp=E,1μm,0.1s							
TANN	**Tannenbergstha**	**0.14**	**8**	*i* Pg		Pg	00 52 46.8	-0.2
TANN				*i* Sg		Sg	00 52 48.9	-0.3
TANN				IAML			00 52 49.0	
	comp=E,1μm,0.2s							
TANN	**Tannenbergstha**	**0.14**	**8**	*i* Pg		Pg	00 52 46.8	-0.2
TANN				*i* Sg		Sg	00 52 48.9	-0.3
	comp=E,1μm,0.2s							
TRCW	**Trojmez**	**0.19**	**279**	⇓P		Pg	00 52 47.6

TRIB	**Obertriebel**	**0.20**	**292**	*i* Pg	Pg	00 52 47.9	-0.2
TRIB				*i* Sg	Sg	00 52 50.7	-0.3
TRIB				IAML		00 52 50.9	
	comp=N,352nm,0.2s						
TRIB	**Obertriebel**	**0.20**	**292**	*i* Pg	Pg	00 52 47.9	-0.2
TRIB				*i* Sg	Sg	00 52 50.7	-0.3
	comp=N,352nm,0.2s						
ZHC	**Zelena Hora**	**0.22**	**201**	⇑P	Pg	00 52 48.1	-0.2
ZHC				S	Sg	00 52 51.2	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**247**	*i* Pg	Pg	00 52 48.3	-0.3
VIEL				*i* Sg	Sg	00 52 51.4	-0.3
VIEL	**Selb-Vielitz**	**0.23**	**247**	*i* Pg	Pg	00 52 48.3	-0.3
VIEL				*i* Sg	Sg	00 52 51.4	-0.3
LACW	**Lazy**	**0.26**	**151**	*i* Pg	Pg	00 52 48.9	-0.2
LACW				*i* Sg	Sg	00 52 52.4	-0.1
LACW	**Lazy**	**0.26**	**151**	*i* Pg	Pg	00 52 48.9	-0.2
LACW				*i* Sg	Sg	00 52 52.4	-0.1
LACW	**Lazy**	**0.26**	**151**	⇓P	Pg	00 52 48.9	-0.2
LACW				S	Sg	00 52 52.4	-0.1
PLN	**Plauen**	**0.27**	**320**	*i* Pg	Pg	00 52 49.1	-0.3
PLN				*e*Sg	Sg	00 52 52.9	-0.2
PLN				IAML		00 52 53.3	
	comp=E,270nm,0.2s						
PLN	**Plauen**	**0.27**	**320**	*i* Pg	Pg	00 52 49.1	-0.3
PLN				*e*Sg	Sg	00 52 52.9	-0.2
	comp=E,270nm,0.2s						
MANZ	**Manzenberg**	**0.36**	**216**	*e*Pg	Pg	00 52 50.5	-0.4
MANZ				*e*Sg	Sg	00 52 55.2	-0.4
SCHF	**Schoenfels**	**0.40**	**357**	*i* Pg	Pg	00 52 51.4	-0.4
SCHF				*i* Sg	Sg	00 52 56.9	-0.3
SCHF				IAML		00 52 57.0	
	comp=E,334nm,0.1s						
SCHF	**Schoenfels**	**0.40**	**357**	*i* Pg	Pg	00 52 51.4	-0.4
SCHF				*i* Sg	Sg	00 52 56.9	-0.3
	comp=E,334nm,0.1s						
GRZ1	**Mausoleum Wald**	**0.44**	**342**	*i* Pg	Pg	00 52 52.0	-0.4
GRZ1				*i* Sg	Sg	00 52 57.7	-0.6
GRZ1				IAML		00 52 58.4	
	comp=N,112nm,0.1s						
GRZ1	**Mausoleum Wald**	**0.44**	**342**	*i* Pg	Pg	00 52 52.0	-0.4
GRZ1				*i* Sg	Sg	00 52 57.7	-0.6
	comp=N,112nm,0.1s						
ROTZ	**Rotzenmuhle**	**0.53**	**196**	*e*Pg	Pg	00 52 53.6	-0.5
ROTZ				*e*Sg	Sg	00 53 00.6	-0.5
MOX	**Moxa**	**0.64**	**306**	*e*Pg	Pg	00 52 55.8	-0.4
MOX				*e*Sg	Sg	00 53 04.4	-0.2
FBE	**Freiberg**	**0.87**	**42**	*e*Pg	Pg	00 53 00.3	-0.4
FBE				*e*Sg	Sg	00 53 11.4	-0.7
CLL	**Collm**	**1.10**	**19**	*e*Pg	Pg	00 53 04.1	-0.9
BRG	**Berggiesshubel**	**1.13**	**58**	Pg	Pg	00 53 04.8	-0.9
BRG	**Berggiesshubel**	**1.13**	**58**	*e*Pg	Pg	00 53 04.9	-0.8
WET	**Wettzell**	**1.17**	**165**	*e*Pg	Pb	00 53 05.5	-0.8
PRU	**Pruhonice**	**1.39**	**101**	*e*Pg	Pn	00 53 09.1	-0.3
GEC2	**GERESS Array S**	**1.65**	**150**	*e*Pg	Pb	00 53 14.5	-0.1

VIE **14** *00:52:55.9±0.5,50.˚18N×12.˚45E,h10km,mb2.5/8, ml3.2/19,Error ellipse: s-maj=4.4km s-min=3.5km az=54.0*
WBNET **14** *00:52:56.6,50.˚26N×12.˚44E,h10km,Ml3.0*
PRU **14** *00:52:56.6,50.˚24N×12.˚48E,h10km,West Bohemia Swarm-felt*
IDC **14** *00:52:56.9±1.0,50.˚19N×12.˚55E,h0km,mbtmp3.0/6, ML2.6/5,Error ellipse: s-maj=11.5km s-min=8.1km az=74.0*
BGR **14** *00:52:56.2±0.2,50.˚27N×12.˚44E,h12km±2km,ML2.9/6, Error ellipse: s-maj=2.2km s-min=1.1km az=94.0*
CLL **14** *00:52:56.9±0.3,50.˚27N×12.˚43E,h9km,ML3.0*
IPEC **14** *00:52:56.3±0.1,50.˚28N×12.˚44E,h10km,ML3.0/10,Error ellipse: s-maj=1.4km s-min=1.2km az=143.0*
LDG **14** *00:52:57.1±0.1,50.˚27N×12.˚30E,h10km,Ml3.3/16,Error ellipse: s-maj=3.1km s-min=1.9km az=155.0*
BNS **14** *00:52:58.3±0.4,50.˚34N×12.˚37E,h5km,ML2.7*
ISC 14 00:52:56.1±0.7,50.˚26N±0.˚01×12.˚44E±0.˚01,h17km±2km, n129,σ2s08/214,5C-7D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**282**	⇓P		**Pg**		**00 52 58.6**	**-0.6**
LBCW				S		**Sg**		**00 52 59.9**	**-1.2**
NKC	**Novy Kostel**	**0.03**	**167**	*i* Pg		**Pg**		**00 52 58.6**	**-0.5**
NKC				*i* Sg		**Sg**		**00 52 59.9**	**-1.3**
NKC				IAML				00 53 00.0	
	comp=E,7μm,0.3s								
NKC	**Novy Kostel**	**0.03**	**167**	*e*PG		**Pg**		**00 52 59.0**	**-0.1**
NKC				*e*SG		**Sg**		**00 52 59.8**	**-1.3**
	comp=E,4μm,0.2s								
NKC	**Novy Kostel**	**0.03**	**167**	*i* Pg		**Pg**		**00 52 58.6**	**-0.5**
NKC				*i* Sg		**Sg**		**00 52 59.9**	**-1.3**
	comp=E,7μm,0.3s								
NKC	**Novy Kostel**	**0.03**	**167**	⇓P		**Pg**		**00 52 58.6**	**-0.5**
NKC				S		**Sg**		**00 52 59.9**	**-1.3**
WERN	**Wernitzgruen**	**0.05**	**303**	*i* Pg		**Pg**		**00 52 58.7**	**-0.5**
WERN				*i* Sg		**Sg**		**00 53 00.1**	**-1.2**
WERN				IAML				00 53 00.3	
	comp=E,11μm,0.2s								
WERN	**Wernitzgruen**	**0.05**	**303**	*i* Pg		**Pg**		**00 52 58.7**	**-0.5**
WERN				*i* Sg		**Sg**		**00 53 00.1**	**-1.2**
	comp=E,11μm,0.2s								
VAC	**Vackov**	**0.05**	**235**	*i* Pg		**Pg**		**00 52 58.7**	**-0.5**
VAC				*i* Sg		**Sg**		**00 53 00.1**	**-1.2**
VAC	**Vackov**	**0.05**	**235**	⇓P		**Pg**		**00 52 58.7**	**-0.5**
VAC				S		**Sg**		**00 53 00.1**	**-1.2**
STCW	**Studenec**	**0.05**	**93**	*i* Pg		**Pg**		**00 52 58.7**	**-0.6**
STCW				*i* Sg		**Sg**		**00 53 00.1**	**-1.3**
STCW	**Studenec**	**0.05**	**93**	*i* Pg		**Pg**		**00 52 58.7**	**-0.6**
STCW				*i* Sg		**Sg**		**00 53 00.1**	**-1.3**
STCW	**Studenec**	**0.05**	**93**	⇑P		**Pg**		**00 52 58.7**	**-0.6**
STCW				S		**Sg**		**00 53 00.1**	**-1.3**
POCW	**Potky**	**0.06**	**353**	⇑P		**Pg**		**00 52 58.9**	**-0.5**
POCW				S		**Sg**		**00 53 00.4**	**-1.1**
KVC	**Kvetna**	**0.07**	**138**	*i* Pg		**Pg**		**00 52 59.0**	**-0.5**
KVC				*i* Sg		**Sg**		**00 53 00.5**	**-1.1**
KVC	**Kvetna**	**0.07**	**138**	⇓P		**Pg**		**00 52 59.0**	**-0.5**
KVC				S		**Sg**		**00 53 00.5**	**-1.1**
ROHR	**Rohrbach**	**0.08**	**250**	*i* Pg		**Pg**		**00 52 59.0**	**-0.5**
ROHR				*i* Sg		**Sg**		**00 53 00.6**	**-1.1**
ROHR				IAML				00 53 00.7	
	comp=E,9μm,0.1s								
ROHR	**Rohrbach**	**0.08**	**250**	*i* Pg		**Pg**		**00 52 59.0**	**-0.5**
ROHR				*i* Sg		**Sg**		**00 53 00.6**	**-1.1**
	comp=E,9μm,0.1s								
KRCW	**Kraslice**	**0.09**	**40**	⇑P		**Pg**		**00 52 59.1**	**-0.5**
KRCW				S		**Sg**		**00 53 00.8**	**-1.2**
SKC	**Skalna**	**0.10**	**208**	⇑P		**Pg**		**00 52 59.4**	**-0.3**
SKC				S		**Sg**		**00 53 01.3**	**-0.8**
GUNZ	**Gunzen**	**0.12**	**326**	*i* Pg		**Pg**		**00 52 59.6**	**-0.3**
GUNZ				*i* Sg		**Sg**		**00 53 01.5**	**-0.9**
GUNZ				IAML				00 53 01.7	
	comp=E,5μm,0.3s								
GUNZ	**Gunzen**	**0.12**	**326**	*i* Pg		**Pg**		**00 52 59.6**	**-0.3**
GUNZ				*i* Sg		**Sg**		**00 53 01.5**	**-0.9**
	comp=E,5μm,0.3s								
KOCW	**Kopaniny**	**0.13**	**271**	⇓P		**Pg**		**00 52 59.7**	**-0.3**
KOCW				S		**Sg**		**00 53 01.8**	**-0.8**
MULD	**Muldenberg**	**0.15**	**352**	*i* Pg		**Pg**		**00 52 60.0**	**-0.4**
MULD				*i* Sg		**Sg**		**00 53 02.1**	**-1.0**
MULD				IAML				00 53 02.3	
	comp=E,4μm,0.1s								
MULD	**Muldenberg**	**0.15**	**352**	*i* Pg		**Pg**		**00 52 60.0**	**-0.4**
MULD				*i* Sg		**Sg**		**00 53 02.1**	**-1.0**
	comp=E,4μm,0.1s								
TANN	**Tannenbergstha**	**0.15**	**6**	*i* Pg		**Pg**		**00 52 60.0**	**-0.4**
TANN				*i* Sg		**Sg**		**00 53 02.1**	**-1.1**
TANN				IAML				00 53 02.3	
	comp=E,4μm,0.2s								
TANN	**Tannenbergstha**	**0.15**	**6**	*i* Pg		**Pg**		**00 52 60.0**	**-0.4**
TANN				*i* Sg		**Sg**		**00 53 02.1**	**-1.1**
	comp=E,4μm,0.2s								
TRCW	**Trojmez**	**0.19**	**282**	⇓P		**Pg**		**00 53 00.7**	**-0.2**
TRCW				S		**Sg**		**00 53 03.4**	**-0.6**
WERD	**Werda**	**0.20**	**336**	*i* Pg		**Pg**		**00 53 00.8**	**-0.2**
WERD				*e*Sg		**Sg**		**00 53 03.5**	**-0.9**
WERD				IAML				00 53 04.1	
	comp=N,1μm,0.2s								
WERD	**Werda**	**0.20**	**336**	*i* Pg		**Pg**		**00 53 00.8**	**-0.2**
WERD				*e*Sg		**Sg**		**00 53 03.5**	**-0.9**
	comp=N,1μm,0.2s								
ZHC	**Zelena Hora**	**0.21**	**203**	⇑P		**Pg**		**00 53 01.1**	**0.0**
ZHC				S		**Sg**		**00 53 04.0**	**-0.4**
TRIB	**Obertriebel**	**0.21**	**295**	*i* Pg		**Pg**		**00 53 00.9**	**-0.2**
TRIB				*i* Sg		**Sg**		**00 53 03.8**	**-0.7**
TRIB				IAML				00 53 04.0	
	comp=N,1μm,0.2s								
TRIB	**Obertriebel**	**0.21**	**295**	*i* Pg		**Pg**		**00 53 00.9**	**-0.2**
TRIB				*i* Sg		**Sg**		**00 53 03.8**	**-0.7**
	comp=N,1μm,0.2s								
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg		**Pg**		**00 53 01.2**	**-0.2**
VIEL				*i* Sg		**Sg**		**00 53 04.3**	**-0.6**
VIEL	**Selb-Vielitz**	**0.23**	**251**	*i* Pg		**Pg**		**00 53 01.2**	**-0.2**
VIEL				*i* Sg		**Sg**		**00 53 04.3**	**-0.6**
LACW	**Lazy**	**0.24**	**150**	*i* Pg		**Pg**		**00 53 01.8**	**+0.1**
LACW				*i* Sg		**Sg**		**00 53 05.3**	**-0.2**
LACW	**Lazy**	**0.24**	**150**	*i* Pg		**Pg**		**00 53 01.8**	**+0.1**
LACW				*i* Sg		**Sg**		**00 53 05.3**	**-0.2**
LACW	**Lazy**	**0.24**	**150**	⇓P		**Pg**		**00 53 01.8**	**+0.1**
LACW				S		**Sg**		**00 53 05.2**	**-0.2**
PLN	**Plauen**	**0.29**	**321**	*i* Pg		**Pg**		**00 53 02.2**	**-0.1**
PLN				*i* Sg		**Sg**		**00 53 06.1**	**-0.5**
PLN				IAML				00 53 06.3	
	comp=E,2μm,0.1s								
PLN	**Plauen**	**0.29**	**321**	*i* Pg		**Pg**		**00 53 02.2**	**-0.1**
PLN				*i* Sg		**Sg**		**00 53 06.1**	**-0.5**
	comp=E,2μm,0.1s								
MANZ	**Manzenberg**	**0.35**	**218**	*e*Pg		**Pg**		**00 53 03.4**	**0.0**
MANZ				*e*Sg		**Sg**		**00 53 08.0**	**-0.4**
SCHF	**Schoenfels**	**0.42**	**357**	*i* Pg		**Pg**		**00 53 04.6**	**-0.1**
SCHF				*e*Sg		**Sg**		**00 53 10.1**	**-0.3**
SCHF				IAML				00 53 10.3	
	comp=E,1μm,0.2s								
SCHF	**Schoenfels**	**0.42**	**357**	*i* Pg		**Pg**		**00 53 04.6**	**-0.1**
SCHF				*e*Sg		**Sg**		**00 53 10.1**	**-0.3**
	comp=E,1μm,0.2s								
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg		**Pg**		**00 53 05.2**	**-0.1**
GRZ1				*i* Sg		**Sg**		**00 53 10.9**	**-0.5**
GRZ1				IAML				00 53 12.5	
	comp=E,554nm,0.3s								
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg		**Pg**		**00 53 05.2**	**-0.1**
GRZ1				*i* Sg		**Sg**		**00 53 10.9**	**-0.5**
	comp=E,554nm,0.3s								
ROTZ	**Rotzenmuhle**	**0.52**	**197**	*e*Pg		**Pg**		**00 53 06.5**	**0.0**
ROTZ				*e*Sg		**Sg**		**00 53 13.4**	**0.0**
MOX	**Moxa**	**0.65**	**306**	*e*Pg		**Pg**		**00 53 09.0**	**0.0**
MOX				*e*Sg		**Sg**		**00 53 17.4**	**-0.2**
HSKC	**Hora Svate Kat**	**0.72**	**61**	*e*SG		**Sg**		**00 53 19.5**	**-0.4**
	comp=E,638nm,0.2s								
FBE	**Freiberg**	**0.88**	**41**	*e*Sg		**Sb**		**00 53 24.3**	**-0.2**
GRF	**Grafenberg Arr**	**0.97**	**234**	*e*Sg		**Sb**		**00 53 27.5**	**+0.4**
RICC	**Richard**	**1.10**	**74**	*e*SG		**Sg**		**00 53 31.5**	**-0.3**
	comp=E,326nm,0.4s								
CLL	**Collm**	**1.11**	**19**	*i* Pg		**Pb**		**00 53 17.0**	**+0.1**
CLL				*i* x		x		00 53 19.3	
CLL				*i* x		x		00 53 20.8	
CLL				*i* Sg		**Sb**		**00 53 31.5**	**+0.5**
	comp=Z,153nm,0.4s								
CLL	**Collm**	**1.11**	**19**	*e*Pg		**Pb**		**00 53 17.1**	**+0.3**
CLL				*e*Sg		**Sg**		**00 53 31.8**	**-0.3**
BRG	**Berggiesshubel**	**1.14**	**57**	Pg		**Pg**		**00 53 17.9**	**-0.3**
BRG				Sg		Sb		00 53 19.7	-12
BRG				Amp				00 53 20.2	
	comp=Z,29nm,0.4s								
BRG	**Berggiesshubel**	**1.14**	**57**	Sg		**Sn**		**00 53 32.7**	**+0.1**
BRG				Amp				00 53 33.9	
	comp=Z,231nm,0.4s								
BRG	**Berggiesshubel**	**1.14**	**57**	*e*Pg		**Pg**		**00 53 18.0**	**-0.1**
BRG				*e*Sg		**Sb**		**00 53 32.2**	**+0.3**
WET	**Wettzell**	**1.16**	**165**	*e*Pg		**Pb**		**00 53 18.0**	**+0.3**
WET				*e*Sg		**Sn**		**00 53 33.0**	**0.0**
PRA	**Prague**	**1.30**	**98**	*e*PG		**Pb**		**00 53 20.2**	**+0.1**
PRA				*e*SG		**Sn**		**00 53 36.9**	**+0.4**
KHC	**Kasperske Hory**	**1.35**	**146**	*e*PG		**Pb**		**00 53 21.4**	**+0.3**
KHC				*e*SG		**Sb**		**00 53 38.4**	**+0.3**
	comp=Z,138nm,0.4s								
PRU	**Pruhonice**	**1.38**	**101**	*e*SG		**Sg**		**00 53 39.9**	**-0.8**
	comp=Z,62nm,0.3s								
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg		**Pb**		**00 53 21.7**	**+0.2**
PRU				*e*Sg		**Sg**		**00 53 40.8**	**0.0**
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG		**Sg**		**00 53 40.6**	**-0.4**
	comp=Z,254nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	*e*SG		**Sg**		**00 53 45.5**	**-0.7**
GEC2	**GERESS Array S**	**1.64**	**149**	*e*Pn		**Pn**		**00 53 25.2**	**+0.9**
GEC2				*e*Sg		**Sb**		**00 53 47.4**	**+0.9**
GERES	**GERESS Array B**	**1.64**	**149**	Pg		**Pb**		**00 53 26.2**	**+0.2**
	comp=Z,8.6nm,0.3s,baz=331,slow=16,SNR=15								
GERES				Lg		Lg		00 53 46.9	
	comp=Z,61nm,0.3s,baz=330,slow=31,SNR=35								
CKRC	**Cesky Krumlov**	**1.89**	**139**	*e*SG		**Sb**		**00 53 54.6**	**+1.1**
	comp=Z,59nm,0.2s								
TREC	**Trest**	**2.20**	**115**	*e*SG		**Sb**		**00 54 04.5**	**+2.0**
UPC	**Upice**	**2.30**	**82**	*e*SG		**Sg**		**00 54 07.9**	**-2.2**
	comp=Z,69nm,0.5s								
CHVC	**Chvalec**	**2.34**	**81**	*e*SG		**Sg**		**00 54 10.2**	**-1.0**
	comp=Z,58nm,0.6s								
DPC	**Dobruska-Polom**	**2.49**	**86**	*e*SG		**Sg**		**00 54 13.8**	**-2.4**
	comp=Z,47nm,0.3s								
BIOA	**Bad Ischl, Aus**	**2.69**	**162**	*e*Pn		**Pn**		**00 53 39.9**	**+1.2**
	comp=Z,1.9nm,0.3s								
BIOA				*e*Sg		**Sg**		**00 54 24.5**	**+1.9**
	comp=Z,65nm,0.4s								
MOA	**Molln**	**2.70**	**153**	*e*Pg		**Pg**		**00 53 47.2**	**-0.6**
	comp=Z,0.3nm,0.1s								
MOA				*e*Sg		**Sg**		**00 54 23.1**	**+0.4**
	comp=Z,32nm,0.4s								
KRLC	**Kraliky**	**2.80**	**92**	*e*SG		**Sg**		**00 54 25.0**	**-1.1**
	comp=Z,23nm,0.4s								
KRUC	**Moravsky**	**2.84**	**114**	*e*PN		**Pn**		**00 53 41.8**	**+1.0**
KRUC				*e*SG		**Sg**		**00 54 25.4**	**-1.9**
KRUC	**Moravsky**	**2.84**	**114**	*e*Pn		**Pn**		**00 53 41.7**	**+1.0**
	baz=297								
KRUC				*e*Sg		**Sg**		**00 54 25.3**	**-2.0**
	comp=Z,39nm,0.5s,baz=297								
LESA	**Schwarzleotal**	**2.84**	**177**	*i* Pn		**Pn**		**00 53 40.4**	**-0.5**
	comp=Z,0.4nm,0.1s								
LESA				*e*Sg		**Sg**		**00 54 27.7**	**+0.2**
	comp=Z,10nm,0.2s								
VRAC	**Vranov**	**2.86**	**108**	Pn		**Pn**		**00 53 41.6**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=292,slow=17,SNR=1.0								
VRAC				Pg		**Pb**		**00 53 47.1**	**+0.4**
	comp=Z,2.5nm,0.3s,baz=290,slow=16,SNR=5.7								
VRAC				Sn		**Sn**		**00 54 16.3**	**+1.3**
	comp=Z,3.8nm,0.3s,baz=14,slow=12,SNR=4.7								
VRAC				Lg		Lg		00 54 25.4	
	comp=Z,8.3nm,0.3s,baz=197,slow=18,SNR=8.3								
VRAC	**Vranov**	**2.86**	**108**	*e*Pn		**Pn**		**00 53 41.7**	**+0.7**
	baz=291								
VRAC				*e*Sg		**Sg**		**00 54 25.9**	**-2.0**
	comp=Z,47nm,0.5s,baz=291								
WATA	**Walderalm**	**2.98**	**191**	*e*Pn		**Pn**		**00 53 42.6**	**-0.2**
	comp=Z,1.9nm,0.1s								
WATA				*e*Sg		**Sg**		**00 54 31.7**	**-0.3**
	comp=Z,15nm,0.2s								
RETA	**Reutte**	**2.99**	**202**	*e*Pn		**Pn**		**00 53 42.1**	**-0.7**
	comp=Z,0.7nm,0.1s								
RETA				*e*Sg		**Sg**		**00 54 32.0**	**-0.1**
	comp=Z,11nm,0.2s								
WTTA	**Wattenberg**	**3.05**	**190**	*i* Pn		**Pn**		**00 53 44.2**	**+0.5**
	comp=Z,1.0nm,0.1s								
WTTA				*i* Sg		**Sg**		**00 54 32.1**	**-2.0**
	comp=Z,13nm,0.3s								
MOTA	**Moosalm**	**3.05**	**197**	*e*Pn		**Pn**		**00 53 43.6**	**-0.1**
	comp=Z,0.9nm,0.1s								
MOTA				*e*Sg		**Sg**		**00 54 35.1**	**+1.0**
	comp=Z,12nm,0.3s								
SQTA	**Sankt Quirin**	**3.15**	**195**	*i* Pn		**Pn**		**00 53 42.9**	**-2.2**
	comp=Z,1.7nm,0.2s								
SQTA				*e*Sg		**Sg**		**00 54 36.0**	**-1.3**
	comp=Z,6.5nm,0.2s								
KBA	**Koelnbreinsper**	**3.24**	**169**	*i* Pn		**Pn**		**00 53 48.6**	**+2.2**
	comp=Z,5.7nm,0.3s								
KBA				*e*Sg		**Sg**		**00 54 39.8**	**-0.5**
	comp=Z,14nm,0.5s								
CONA	**Conrad Observa**	**3.24**	**135**	*e*Pg		**Pg**		**00 53 56.7**	**-1.6**
	comp=Z,1.3nm,0.2s								
CONA				*e*Sg		**Sg**		**00 54 38.2**	**-2.1**
	comp=Z,26nm,0.2s								
BGG	**Burgeitz**	**3.27**	**271**	*e*Pn		**Pn**		**00 53 48.1**	**+1.4**
MORC	**Moravsky Berou**	**3.33**	**96**	*e*SG		**Sg**		**00 54 40.7**	**-2.3**
MORC	**Moravsky Berou**	**3.33**	**96**	*e*Pn		**Pn**		**00 53 48.2**	**+0.8**
	baz=281								
MORC				*e*Sg		**Sg**		**00 54 40.6**	**-2.4**
	comp=Z,25nm,0.4s,baz=281								
MORC	**Moravsky Berou**	**3.33**	**96**	*e*PN		**Pn**		**00 53 48.3**	**+0.8**
DAVA	**Damuels**	**3.42**	**211**	*e*Pn		**Pn**		**00 53 48.9**	**0.0**
	comp=Z,2.6nm,0.2s								
FETA	**Feichten**	**3.44**	**200**	*e*Pn		**Pn**		**00 53 48.6**	**-0.5**
	comp=Z,0.6nm,0.2s								
FETA				*e*Sg		**Sg**		**00 54 45.3**	**-1.1**
	comp=Z,2.4nm,0.2s								
ABTA	**Alpfaltersbach**	**3.52**	**179**	*i* Pn		**Pn**		**00 53 51.4**	**+1.3**
	comp=Z,1.5nm,0.2s								
ABTA				*e*Sg		**Sg**		**00 54 48.9**	**-0.1**
	comp=Z,36nm,0.7s								
RONA	**Rosalia, Austr**	**3.61**	**134**	*i* Pn		**Pn**		**00 53 50.6**	**-0.8**
	comp=Z,1.5nm,0.3s								
RONA				*e*Sg		**Sg**		**00 54 49.9**	**-2.1**
	comp=Z,17nm,0.4s								
ARSA	**Arzberg**	**3.64**	**145**	*e*Pn		**Pn**		**00 53 52.9**	**+1.1**
	comp=Z,1.5nm,0.3s								
ARSA				*e*Sg		**Sg**		**00 54 50.4**	**-2.6**
	comp=Z,22nm,0.5s								
JAVC	**Velka Javorina**	**3.69**	**110**	*e*SG		**Sg**		**00 54 52.2**	**-2.2**
MODS	**Modra-Piesok**	**3.69**	**119**	*e*SG		**Sg**		**00 54 53.2**	**-1.3**
ZST	**Bratislava**	**3.69**	**122**	*e*SG		**Sg**		**00 54 52.2**	**-2.4**
MYKA	**Terra Mystica**	**3.72**	**167**	*i* Pn		**Pn**		**00 53 55.4**	**+2.5**
	comp=Z,0.6nm,0.2s								
MYKA				*e*Sg		**Sg**		**00 54 58.6**	**+3.0**
	comp=Z,7.3nm,0.3s								
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pn		**Pn**		**00 53 53.7**	**-1.0**
CDF	**Champ du Feu**	**3.85**	**243**	*e*Pg		**Pg**		**00 54 07.4**	**-2.5**
CDF				*e*Sg		**Sb**		**00 54 55.3**	**+5.3**
	comp=Z,21nm,0.4s								
DAVOX	**Davos/Dischmat**	**3.88**	**207**	Pn		**Pn**		**00 53 56.9**	**+1.7**
	comp=Z,0.3nm,0.3s,baz=28,slow=15,SNR=1.9								
DAVOX				Pg		**Pg**		**00 54 08.4**	**-2.0**
	comp=Z,0.5nm,0.3s,baz=7.6,slow=15,SNR=2.1								
DAVOX				Sn		**Sn**		**00 54 41.2**	**+0.8**
	comp=Z,1.8nm,0.3s,baz=256,slow=23,SNR=2.7								
DAVOX				Lg		Lg		00 54 58.7	
	comp=Z,1.3nm,0.3s,baz=326,slow=22,SNR=2.1								
	comp=Z,1.5nm,0.4s								
SOKA	**Soboth**	**3.98**	**153**	*e*Pg		**Pg**		**00 54 10.1**	**-2.3**
	comp=Z,215nm,0.0s								
SOKA				*e*Sg		**Sg**		**00 55 01.0**	**-2.9**
	comp=Z,7.1nm,0.4s								
DREG	**Dreilaegerbach**	**3.98**	**278**	*e*Pn		**Pn**		**00 53 58.1**	**+1.7**
OBKA	**Obir**	**4.01**	**159**	*i* Pn		**Pn**		**00 53 59.7**	**+2.8**
	comp=Z,0.3nm,0.1s								
OBKA				*e*Sg		**Sg**		**00 55 04.5**	**-0.4**
	comp=Z,12nm,0.4s								
HINF	**Hinteralfeld**	**4.41**	**238**	*e*Pn		**Pn**		**00 54 00.4**	**-2.0**
HINF	**Hinteralfeld**	**4.41**	**238**	*e*Pg		**Pg**		**00 54 19.4**	**-1.2**
HINF				*e*Sg		**Sb**		**00 55 12.3**	**+6.1**
	comp=Z,19nm,0.4s								
VYHS	**Vyhne**	**4.54**	**110**	*e*SN		**Sn**		**00 54 56.2**	**-0.3**
VYHS	**Vyhne**	**4.54**	**110**	*e*PN		**Pn**		**00 54 04.5**	**+0.4**
HAU	**Haudompre**	**4.59**	**243**	*e*Pn		**Pn**		**00 54 04.6**	**-0.2**
HAU	**Haudompre**	**4.59**	**243**	*e*Pg		**Pg**		**00 54 22.4**	**-1.6**
HAU				*e*Sg		**Sg**		**00 55 18.1**	**-5.4**
	comp=Z,27nm,0.4s								
LANS	**Liptovska Anna**	**4.70**	**101**	*e*SG		**Sg**		**

ODSA	**Odessa**	**1.32**	**49**	Pg	Pn	01 18 09.9	-0.6
SAND	**Sanderson**	**1.90**	**133**	Pn	Pn	01 18 19.5	+1.0
SAND				lAmb_Lg		01 18 48.0	
	comp=Z,40nm,0.8s						
TX31	**Lajitas Ar. Si**	**1.93**	**178**		Pb	01 18 20.2	-0.8
OZNA	**Ozona**	**2.26**	**98**	Pn	Pn	01 18 24.7	+1.3
OZNA				lAmb_Lg		01 18 59.3	
	comp=Z,44nm,1.1s						
SGCY	**Sterling City**	**2.31**	**73**	Pn	Pb	01 18 26.0	-1.5
SGCY				lAmb_Lg		01 19 04.0	
	comp=Z,57nm,0.9s						
POST	**Post**	**2.60**	**46**	Pn	Pn	01 18 29.8	+1.7
MSTX	**Muleshoe**	**2.81**	**16**	Pn	Pn	01 18 32.2	+1.2
SN05	**Snyder 5**	**2.90**	**56**	lAmb_Lg		01 19 22.9	
	comp=Z,26nm,1.0s						
SN07	**Snyder 07**	**3.02**	**52**	lAmb_Lg		01 19 23.0	
	comp=Z,20nm,0.8s						
DKNS	**Dickens**	**3.37**	**44**	lAmb_Lg		01 19 41.0	
	comp=Z,20nm,0.8s						
JCT	**Junction City**	**3.46**	**102**	Pn	Pn	01 18 39.6	-0.4
121A	**Cookes Peak, D**	**3.67**	**291**	Pn	Pn	01 18 41.8	-1.2
APMT	**Aspermont**	**3.68**	**55**	Pn	Pn	01 18 43.5	+0.6
APMT				lAmb_Lg		01 19 46.4	
	comp=Z,18nm,0.9s						
ABTX	**Abilene, Hawle**	**3.73**	**68**	Pn	Pn	01 18 41.8	-1.7
AMTX	**Amarillo**	**4.00**	**25**	lAmb_Lg		01 19 57.8	
	comp=Z,19nm,0.8s						
BRDY	**Brady**	**4.05**	**88**	lAmb_Lg		01 20 03.5	
	comp=Z,33nm,1.1s						
HNDO	**Hondo**	**4.21**	**113**	Pn	Pn	01 18 50.2	-0.1
ANMO	**Albuquerque**	**4.33**	**329**	Pn	Pn	01 18 53.8	+1.8
ANMO				lAML		01 20 07.0	
	comp=Z,7.4nm,2.1s						
ANMO				lAML		01 20 17.2	
	comp=Z,6.4nm,4.5s						
SMWD	**Samnorwood**	**4.81**	**36**	lAmb_Lg		01 20 25.9	
	comp=Z,18nm,1.1s						
PLPT	**Palo Pinto**	**4.85**	**70**	Pn	Pn	01 18 58.5	-0.4
PLPT				lAmb_Lg		01 20 29.4	
	comp=Z,19nm,1.1s						
RTBA	**Rita Blanca**	**5.22**	**9**	Pn	Pn	01 19 06.0	+1.8
FW07	**Weatherford**	**5.25**	**73**	lAmb_Lg		01 20 41.5	
	comp=Z,19nm,0.9s						
WMOK	**Wichita Mounta**	**5.41**	**49**	Pn	Pn	01 19 07.7	+1.0
Z35A	**Perchaven, San**	**5.86**	**68**	lAmb_Lg		01 21 05.1	
	comp=Z,17nm,0.7s						
TREL	**Terrell**	**6.65**	**75**	lAmb_Lg		01 21 24.1	
	comp=Z,13nm,0.8s						
X37A	**Clayton**	**7.76**	**63**	lAmb_Lg		01 22 05.3	
	comp=Z,14nm,1.1s						

IDC 14 01:26:07.5±3.1, 54.26N×87.18E, h0km, mbtmp3.0/2, ML2.3/2, Error ellipse: s-maj=26.7km s-min=16.9km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**258**	I	I	01 34 50.0	
	baz=75,slow=330,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.43**	**258**	Pg	Pn	01 26 33.7	-0.9
	1.1nm,0.3s,baz=76,slow=15,SNR=13						
ZALV				Lg	Lg	01 26 52.7	
	0.9nm,0.3s,baz=74,slow=28,SNR=6.7						
KURBB	**Kurchatov Arra**	**6.42**	**239**	Pn	Pn	01 27 44.7	+1.4
	0.1nm,0.3s,baz=56,slow=14,SNR=4.5						
KURBB				Lg	Lg	01 29 30.4	
	baz=55,slow=34,SNR=1.2						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**8.10**	**205**	Pn	Pn	01 28 06.9	+0.6
	baz=28,slow=15,SNR=2.6						
MKAR				Sn	Sn	01 29 37.5	-1.0
	0.1nm,0.3s,baz=26,slow=26,SNR=2.4						
	0.5nm,0.9s						

WEL ***14*** *01:30:58.6±0.4, 41.S±4.×17.5E±., h33km±4km, M3.1/18, ML3.4/18, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=153.6, confirmed*
NOU ***14*** *01:30:59.1, 41.16S×174.54E, h34km, MLv3.8/9, Cook Strait, New Zealand*

ISC 14 01:30:59.4±1.1, 41.12S±0.03×174.55E±0.03, h33km±3km, n85, σ1°17/92, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNZO	**South Karori**	**0.22**	**149**	P	**Pb**	**01 31 07.0**	**+0.7**
TCW	**Tory Channel**	**0.23**	**247**	P	**Pb**	**01 31 06.9**	**+0.5**
WEL	**Wellington**	**0.23**	**135**	P	**Pb**	**01 31 07.6**	**+1.2**
WEL				S	**Sb**	**01 31 13.8**	**+2.7**
BHW	**Baring Head**	**0.37**	**140**	P	**Pn**	**01 31 08.9**	**+0.3**
BHW				S	**Sn**	**01 31 16.2**	**+1.8**
KIW	**Kapiti Island**	**0.37**	**46**	P	**Pn**	**01 31 08.5**	**-0.1**
KIW				S	**Sn**	**01 31 15.4**	**+1.0**
CAW	**Cannon Point**	**0.39**	**88**	P	**Pn**	**01 31 09.0**	**+0.2**
CAW				S	**Sn**	**01 31 16.7**	**+1.8**
TUWZ	**Tuamarina**	**0.55**	**236**	P	**Pb**	**01 31 10.5**	**-0.4**
TUWZ				S	**Sn**	**01 31 18.9**	**-0.1**
OGWZ	**Otaki Gorge**	**0.56**	**57**	P	**Pn**	**01 31 10.9**	**-0.1**
OGWZ				S	**Sn**	**01 31 19.7**	**+0.6**
DUWZ	**D'Urville Isla**	**0.57**	**303**	P	**Pn**	**01 31 10.3**	**-0.9**
PLWZ	**Palliser**	**0.69**	**131**	P	**Pb**	**01 31 12.5**	**-0.7**
PLWZ				S	**Sb**	**01 31 22.6**	**0.0**
PAWZ	**Paruwai Farm**	**0.71**	**112**	P	**Pb**	**01 31 12.8**	**-0.7**
MTW	**Mount Morrison**	**0.72**	**93**	P	**Pn**	**01 31 12.7**	**-0.5**
HOWZ	**Holdsworth Sta**	**0.76**	**73**	P	**Pn**	**01 31 13.3**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.78**	**220**	P	**Pb**	**01 31 14.0**	**-0.7**
NNZ	**Nelson**	**0.89**	**263**	P	**Pn**	**01 31 14.7**	**-0.9**
TRWZ	**Traveller**	**0.90**	**108**	P	**Pn**	**01 31 15.2**	**-0.5**
MRZ	**Mangatainoka R**	**0.90**	**60**	P	**Pn**	**01 31 15.1**	**-0.7**
KEKS	**Kekerengu Vall**	**0.94**	**207**	P	**Pb**	**01 31 18.0**	**+0.7**
TMWZ	**Te Maipa**	**1.01**	**90**	P	**Pn**	**01 31 16.4**	**-0.9**
TIWZ	**Tintock**	**1.07**	**72**	P	**Pn**	**01 31 17.0**	**-1.0**
POWZ	**Post Office Ro**	**1.18**	**52**	P	**Pn**	**01 31 18.4**	**-1.1**
TKNZ	**Takaka Hill**	**1.21**	**274**	P	**Pn**	**01 31 19.4**	**-0.6**
PRWZ	**Pori Road**	**1.22**	**63**	P	**Pn**	**01 31 19.1**	**-1.0**
BFZ	**Birch Farm**	**1.36**	**72**	P	**Pn**	**01 31 20.5**	**-1.5**
MRNZ	**Matariki Terra**	**1.38**	**258**	P	**Pn**	**01 31 22.1**	**-0.3**
THZ	**Tophouse**	**1.40**	**242**	P	**Pn**	**01 31 21.9**	**-0.7**
DVHZ	**Dannevirke**	**1.48**	**57**	P	**Pn**	**01 31 21.9**	**-1.7**
KHZ	**Kahutara**	**1.50**	**210**	P	**Pn**	**01 31 23.3**	**-0.7**
QRZ	**Quartz Range**	**1.56**	**280**	P	**Pn**	**01 31 23.6**	**-1.2**
QRZ	**Quartz Range**	**1.56**	**280**	P	**Pn**	**01 31 23.9**	**-0.9**
ANWZ	**Angora Road**	**1.60**	**66**	P	**Pn**	**01 31 23.9**	**-1.5**
LREZ	**Lake Rotokare**	**1.66**	**356**	P	**Pn**	**01 31 26.4**	**+0.2**
PNHZ	**Pukenui**	**1.74**	**47**	P	**Pn**	**01 31 25.6**	**-1.8**
NMEZ	**Namu Road**	**1.78**	**343**	P	**Pn**	**01 31 28.6**	**+0.8**
PRHZ	**Porangahau**	**1.80**	**62**	P	**Pn**	**01 31 25.9**	**-2.2**
PREZ	**Palmer Road**	**1.80**	**350**	P	**Pn**	**01 31 29.0**	**+0.8**
KHEZ	**Kahui Hut**	**1.87**	**347**	P	**Pn**	**01 31 29.9**	**+0.7**
KHEZ	**Kahui Hut**	**1.87**	**347**	P	**Pn**	**01 31 29.6**	**+0.4**
MTVZ	**Mangateitei**	**1.87**	**22**	P	**Pn**	**01 31 29.8**	**+0.7**
NEZ	**North Egmont**	**1.88**	**349**	P	**Pn**	**01 31 30.0**	**+0.7**
NBEZ	**Newall Road No**	**1.92**	**344**	P	**Pn**	**01 31 29.8**	**0.0**
PKVZ	**Pokaka**	**1.93**	**19**	P	**Pn**	**01 31 27.9**	**-2.1**
MOVZ	**Moawhango**	**1.94**	**29**	P	**Pn**	**01 31 28.9**	**-1.2**
WNVZ	**Wahianoa**	**1.96**	**24**	P	**Pn**	**01 31 30.1**	**-0.4**
PKE	**Pukeiti**	**1.97**	**347**	P	**Pn**	**01 31 31.0**	**+0.4**
TRVZ	**Turoa**	**1.97**	**23**	P	**Pn**	**01 31 30.5**	**-0.3**
BHHZ	**Black Hill Sta**	**2.00**	**36**	P	**Pn**	**01 31 29.7**	**-1.2**
VRZ	**Vera Road**	**2.00**	**5**	P	**Pn**	**01 31 31.1**	**+0.2**
WHVZ	**Whangaehu Hut**	**2.00**	**24**	P	**Pn**	**01 31 30.8**	**-0.3**
MAVZ	**Matarangi**	**2.00**	**23**	P	**Pb**	**01 31 33.8**	**-1.6**
KRHZ	**Kereru**	**2.03**	**44**	P	**Pn**	**01 31 29.3**	**-2.0**
KRHZ				P	Pb	01 31 29.3	-6.3
TUVZ	**Tukino**	**2.03**	**25**	P	**Pn**	**01 31 31.1**	**-0.4**
COVZ	**Chateau Observ**	**2.06**	**22**	P	**Pb**	**01 31 35.3**	**-1.0**
NGZ	**Ngauruhoe**	**2.10**	**23**	P	**Pn**	**01 31 31.9**	**-0.5**
SNVZ	**South Ngauruho**	**2.10**	**24**	P	**Pn**	**01 31 32.3**	**-0.2**
OTVZ	**Oturere**	**2.13**	**24**	P	**Pn**	**01 31 30.3**	**-2.6**
NNVZ	**North Ngauruho**	**2.15**	**23**	P	**Pn**	**01 31 31.8**	**-1.3**
WTVZ	**West Tongariro**	**2.15**	**22**	P	**Pn**	**01 31 32.5**	**-0.6**
TWVZ	**Taurewa**	**2.16**	**19**	P	**Pn**	**01 31 33.3**	**+0.2**
DSZ	**Denniston Nort**	**2.16**	**252**	P	**Pn**	**01 31 32.1**	**-1.0**
GVZ	**Greta Valley S**	**2.16**	**211**	P	**Pn**	**01 31 31.9**	**-1.2**
ETVZ	**East Tongariro**	**2.17**	**24**	P	**Pn**	**01 31 32.9**	**-0.5**
KRVZ	**Karewarewa**	**2.19**	**23**	P	**Pn**	**01 31 32.2**	**-1.4**
TMVZ	**Te Maari**	**2.19**	**24**	P	**Pn**	**01 31 33.3**	**-0.2**
NTVZ	**North Tongariro**	**2.20**	**23**	P	**Pn**	**01 31 33.7**	**0.0**
KAHZ	**Kahuranaki**	**2.21**	**54**	P	**Pn**	**01 31 31.9**	**-2.0**
KWHZ	**Kaweka Forest**	**2.22**	**41**	P	**Pn**	**01 31 32.1**	**-1.9**
KATZ	**Kakaramea**	**2.32**	**23**	P	**Pb**	**01 31 39.4**	**-1.2**
LTZ	**Lake Taylor**	**2.38**	**225**	P	**Pn**	**01 31 34.7**	**-1.4**
BKZ	**Black Stump Fm**	**2.45**	**38**	P	**Pn**	**01 31 36.7**	**-0.4**
BKZ	**Black Stump Fm**	**2.45**	**38**	P	**Pn**	**01 31 36.8**	**-0.4**
HIZ	**Hauiti**	**2.62**	**5**	P	**Pn**	**01 31 40.0**	**+0.7**
HIZ	**Hauiti**	**2.62**	**5**	P	**Pn**	**01 31 40.1**	**+0.7**
INZ	**Inchbonnie**	**2.82**	**234**	P	**Pn**	**01 31 41.2**	**-1.0**
MTHZ	**Maungataniwha**	**2.87**	**39**	P	**Pn**	**01 31 40.7**	**-2.1**
TLZ	**Tolley Road**	**2.89**	**16**	P	**Pn**	**01 31 45.2**	**+2.1**
MQZ	**McQueen's Vall**	**2.94**	**208**	P	**Pn**	**01 31 40.8**	**-3.0**
WVZ	**Waitaha Valley**	**3.45**	**234**	P	**Pn**	**01 31 51.7**	**+1.0**
RPZ	**Rata Peaks**	**3.67**	**224**	P	**Pn**	**01 31 52.8**	**-1.0**
TMZ	**Timaru**	**4.18**	**218**	P	**Pn**	**01 31 59.4**	**-1.4**
FOZ	**Fox Glacier**	**4.26**	**234**	P	**Pn**	**01 32 00.8**	**-1.1**
ODZ	**Otahua Downs**	**4.85**	**215**	P	**Pn**	**01 32 09.0**	**-1.1**
ODZ	**Otahua Downs**	**4.85**	**215**	P	**Pn**	**01 32 08.2**	**-1.9**
JCZ	**Jackson Bay**	**5.18**	**233**	P	**Pn**	**01 32 14.4**	**-0.2**
	31nm,2.2s						
JCZ	**Jackson Bay**	**5.18**	**233**	P	**Pn**	**01 32 13.3**	**-1.4**

IDC ***14*** *01:36:43.0±0.9, 51.59N×154.28E, h286km±11km, mb3.1/12, mbtmp3.8/15, Error ellipse: s-maj=20.8km s-min=13.8km az=120.0*
KRSC ***14*** *01:36:44.0±1.3, 51.09N×154.80E, h302km±17km, Ml4.2*

ISC 14 01:36:43.3±0.7, 51.37N±0.09×154.32E±0.09, h300km, n35, σ1°83/44, mb3.4/12, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.33**	**120**	*eP*	**Pn**	**01 37 24.7**	**-0.6**
PAU	**Pauzhetka**	**1.57**	**85**	*eP*	**Pn**	**01 37 28.3**	**+1.5**
APC	**Apacha**	**2.34**	**47**	*eP*	**Pn**	**01 37 33.1**	**+0.3**
KDTR	**Khodutka, Kamc**	**2.39**	**78**	*eP*	**Pn**	**01 37 33.1**	**-0.1**
KDTR				*eS*	**S**	**01 38 09.1**	**-3.9**
ASAK	**Asacha**	**2.44**	**64**	*eP*	**Pn**	**01 37 35.1**	**+1.4**
MTVR	**Mutnovka**	**2.64**	**64**	*eP*	**Pn**	**01 37 37.2**	**+1.5**
MTVR				*eS*	**S**	**01 38 17.1**	**-0.3**
PETK	**Petropavlovsk-**	**2.71**	**49**	P	**Pn**	**01 37 35.4**	**-0.7**
	1.5nm,0.3s,baz=224,slow=6.0,SNR=41						
PETK				S	**S**	**01 38 13.6**	**-4.8**
	1.7nm,0.5s,baz=156,slow=3.3,SNR=6.2						
RUS	**Russkaya**	**2.81**	**66**	*eP*	**Pn**	**01 37 37.8**	**+0.8**
RUS				*eS*	**S**	**01 38 18.6**	**-1.4**
DALK	**Dalny**	**3.20**	**57**	*eP*	**Pn**	**01 37 42.8**	**+2.0**
DALK				*eS*	**S**	**01 38 27.1**	**+0.3**
KOK	**Koryaka**	**3.28**	**52**	*eP*	**Pn**	**01 37 44.0**	**+2.2**
AVH	**Avacha**	**3.31**	**53**	*eP*	**Pn**	**01 37 43.9**	**+1.8**
KRX	**Arik**	**3.32**	**51**	*eP*	**Pn**	**01 37 43.6**	**+1.3**
UGLR	**Uglovaya**	**3.33**	**55**	*eP*	**Pn**	**01 37 44.6**	**+2.3**
KRER	**Koryakskii**	**3.34**	**53**	*eP*	**Pn**	**01 37 44.7**	**+2.2**
SMAR	**Somma**	**3.34**	**54**	*eP*	**Pn**	**01 37 44.3**	**+1.7**
NLC	**Nalytchevo**	**3.58**	**58**	*eP*	**Pn**	**01 37 46.8**	**+2.0**
NLC				*i S*	**S**	**01 38 32.8**	**-1.2**
SPN	**Mys Shipunski**	**3.91**	**62**	*eP*	**Pn**	**01 37 49.3**	**+0.9**
SPN				*eS*	**S**	**01 38 37.4**	**-3.1**
TUMR	**Tumrok**	**5.25**	**39**	*eP*	**Pn**	**01 38 06.1**	**+2.4**
TUMD	**Tumrok D**	**5.30**	**41**	*eP*	**Pn**	**01 38 06.2**	**+2.1**
MKZ	**Mys Kozlova**	**5.50**	**52**	*eP*	**Pn**	**01 38 07.1**	**+0.6**
KMNR	**Kamenistaya**	**5.64**	**36**	*eP*	**Pn**	**01 38 10.8**	**+2.6**
ASAJ	**Asahikawa**	**10.71**	**232**	P	**P**	**01 39 12.6**	**-0.2**
	5.8nm,0.7s,baz=63,slow=6.8,SNR=2.0						
MJAR	**Matsushiro Arr**	**18.75**	**224**	P	**P**	**01 40 44.1**	**+3.2**
	1.4nm,0.3s,baz=22,slow=11,SNR=4.9						
MKAR	**Makanchi Array**	**45.65**	**294**	P	**P**	**01 44 34.4**	**+0.1**
	0.5nm,0.4s,baz=62,slow=6.8,SNR=11						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**45.68**	**300**	P	**P**	**01 44 34.4**	**0.0**
	0.7nm,0.4s,baz=63,slow=7.7,SNR=9.5						
KURBB				PcP	**sP**	**01 46 06.8**	**-2.7**
	0.4nm,0.6s,baz=50,slow=3.5,SNR=2.0						
	0.7nm,0.4s						
YKA	**Yellowknife Ar**	**46.80**	**40**	P	**P**	**01 44 44.4**	**+1.5**
	0.2nm,0.6s,baz=303,slow=7.8,SNR=4.9						
YKA				PcP	**PcP**	**01 46 11.3**	**+0.8**
	baz=286,slow=4.4,SNR=1.6						
	0.2nm,0.6s						
SPITS	**Spitsbergen Ar**	**48.21**	**349**	P	**P**	**01 44 52.9**	**-0.6**
	13nm,1.1s,baz=59,slow=6.9,SNR=8.4						
	13nm,1.1s						
BVAR	**Borovoye Array**	**48.62**	**307**	P	**P**	**01 44 56.7**	**-0.3**
	0.8nm,0.3s,baz=57,slow=8.6,SNR=6.4						
	0.8nm,0.3s						
ARCES	**ARCESS Array B**	**53.76**	**340**	P	**P**	**01 45 33.1**	**-1.4**
	2.0nm,1.0s,baz=46,slow=7.7,SNR=3.8						
	2.0nm,1.0s						
FINES	**FINESS Array B**	**60.21**	**334**	P	**P**	**01 46 19.1**	**-0.4**
	0.5nm,0.3s,baz=36,slow=5.8,SNR=17						
	0.5nm,0.3s						
NOA	**NORSAR Array B**	**64.11**	**341**	P	**P**	**01 46 44.7**	**-0.7**
	0.3nm,0.7s,baz=21,slow=17,SNR=1.8						
	0.3nm,0.7s						
HFS	**Hagfors**	**64.41**	**339**	P	**P**	**01 46 47.1**	**-0.2**
	0.3nm,0.4s,baz=64,slow=6.6,SNR=1.5						
	0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**72.03**	**347**	P	**P**	**01 47 33.5**	**-0.8**
	0.1nm,0.3s,baz=24,slow=5.4,SNR=1.9						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**73.14**	**200**	P	**P**	**01 47 42.1**	**+0.9**
	0.7nm,0.9s,baz=13,slow=6.2,SNR=1.5						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**76.84**	**199**	P	**P**	**01 48 04.0**	**+1.8**
	0.4nm,0.4s,baz=11,slow=6.2,SNR=4.4						
	0.4nm,0.4s						

IDC ***14*** *01:42:03.2±1.5, 34.09N×23.45E, h0km, mb3.8/4, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=52.0km s-min=25.9km az=143.0*
ATH ***14*** *01:42:11.3, 34.26N×23.54E, h31km±8km, ML2.4/4, Manual Solution by M.Kolligri This location: 2020/06/03 07:08:52 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 5 km; Longitude uncertainty: 3 km*

ISC 14 01:42:08.6±1.2, 34.11N±0.10×23.41E±0.08, h35km, n17, σ1°21/19, mb3.8/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.91**	**37**	P	**Pn**	**01 42 25.6**	**+0.6**
KNDR	**Palaiochora Ch**	**1.14**	**11**	P	**Pn**	**01 42 28.9**	**+0.8**
KNDR				S	**Sn**	**01 42 42.0**	**-0.4**
IMMV	**Iera Moni Meta**	**1.42**	**19**	P	**Pn**	**01 42 32.6**	**+0.6**
IDI	**Anoyia**	**1.69**	**46**	P	**Pn**	**01 42 36.6**	**+0.9**
IDI				S	**Sn**	**01 42 54.9**	**-1.2**
KSTL	**Kastelli Herak**	**1.81**	**49**	P	**Pn**	**01 42 39.5**	**+2.2**
ZKR	**Zakros**	**2.52**	**66**	P	**Pn**	**01 42 48.2**	**+1.2**
VLI	**Veliai**	**2.63**	**352**	P	**Pn**	**01 42 50.1**	**+1.6**
KRND	**KRANIDI**	**3.27**	**356**	P	**Pn**	**01 42 58.4**	**+1.0**
KARP	**Karpathos**	**3.40**	**64**	P	**Pn**	**01 43 00.6**	**+1.4**
GUR	**Goura**	**3.91**	**348**	P	**Pn**	**01 43 08.1**	**+1.8**
DION	**Dionisos Attik**	**3.98**	**6**	P	**Pn**	**01 43 08.2**	**+1.1**
BRTR	**Keskin Array B**	**9.92**	**53**	Pn	**Pn**	**01 44 29.8**	**+1.1**
	baz=234,slow=25,SNR=2.7						
	0.3nm,0.7s						
GERES	**GERESS Array B**	**16.40**	**337**	Pn	**P**	**01 45 57.6**	**-0.9**
	0.1nm,0.3s,baz=164,slow=14,SNR=1.9						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**28.72**	**229**	P	**P**	**01 48 02.3**	**-0.4**
	0.4nm,0.9s,baz=35,slow=7.5,SNR=2.0						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**42.90**	**50**	P	**P**	**01 50 03.0**	**-0.5**
	0.6nm,0.4s,baz=274,slow=8.7,SNR=7.3						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**45.55**	**55**	P	**P**	**01 50 25.1**	**+0.1**
	0.9nm,0.4s,baz=268,slow=7.0,SNR=21						
	0.9nm,0.4s						
ZALV	**Zalesovo Beam**	**46.76**	**45**	P	**P**	**01 50 33.4**	**-0.8**
	0.5nm,0.3s,baz=268,slow=6.3,SNR=3.2						
	0.5nm,0.3s						

IDC ***14*** *01:52:09.4±1.4, 1.90N×96.57E, h0km, mb3.9/11, mbtmp3.9/12, ML4.7/1, Error ellipse: s-maj=51.2km s-min=20.7km az=53.0*
DJA ***14*** *01:52:14.9±0.6, 2.N±4.×9.7E±., h22km±8km, M3.9/8, mb4.3/1, MLv3.7/8*
NEIC ***14*** *01:52:14.0±1.1, 1.97N±0.08×96.7E±0.1, h28km±7km, mb4.0/9, Error ellipse: s-maj=21.5km s-min=8.3km az=64.0*

ISC 14 01:52:14.0±0.7, 2.01N±0.06×96.69E±0.09, h28km, n47, σ0°94/36, mb4.0/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNSI	**Sinabang, Aceh**	**0.54**	**318**	P	**Pb**	**01 52 25.8**	**+0.9**
GSI	**Gunungsitoli**	**1.13**	**128**	Pn	**Pn**	**01 52 33.7**	**-0.2**
GSI	**Gunungsitoli**	**1.13**	**128**	P	**Pn**	**01 52 34.1**	**+0.1**
KCSI	**Kotacane, Aceh**	**1.85**	**36**	P	**Pn**	**01 52 44.7**	**+0.8**
MLSI	**Meulaboh, Aceh**	**2.26**	**353**	P	**Pn**	**01 52 49.8**	**+0.3**
MLSI				S	**Sn**	**01 53 15.9**	**-0.5**
PBSI	**Pulau Batu**	**2.60**	**142**	P	**Pn**	**01 52 56.9**	**+2.8**
LHMI	**Lhok Sumawe**	**3.21**	**5**		**Pn**	**01 53 02.7**	**+0.1**
BKNI	**Bangkinang**	**4.66**	**111**	Pn	**Pn**	**01 53 23.5**	**+1.0**
IPM	**Ipoh**	**4.98**	**60**	Pn	**Pn**	**01 53 27.2**	**+0.3**
KULM	**Kulim**	**5.12**	**50**	Pn	**Pn**	**01 53 29.3**	**+0.4**
COCO	**West Island**	**14.11**	**179**	P	**P**	**01 55 36.7**	**-2.8**
CM31	**Chiang Mai Arr**	**16.49**	**8**		**Pn**	**01 56 05.2**	**+1.7**
CM31				lAmb	lAmb	01 56 06.8	
	comp=Z,5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**16.49**	**8**		**Pn**	**01 56 04.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**16.49**	**8**	Pn	**P**	**01 56 05.3**	**-0.6**
	comp=Z,1.0nm,0.3s,baz=198,slow=12,SNR=16						
	comp=Z,1.9nm,0.3s						
PHRA	**Phrae**	**16.75**	**12**	Pn	**Pn**	**01 56 05.5**	**-1.2**
CRAI	**Chiangrai**	**18.46**	**11**	P	**P**	**01 56 27.3**	**-0.4**
SLVN	**Son La**	**20.45**	**20**	P	**P**	**01 56 47.8**	**-1.7**
SLVN				lAmb	lAmb	01 56 52.3	
	comp=Z,3.1nm,0.8s						
H08S2	**Diego Garcia H**	**25.97**	**248**	T	T	02 24 30.7	
	baz=69,slow=76,SNR=481						
H08S3	**Diego Garcia H**	**25.98**	**248**	T	T	02 24 33.1	
	baz=69,slow=76,SNR=432						
H08S1	**Diego Garcia H**	**25.99**	**248**	T	T	02 24 34.4	
	baz=69,slow=76,SNR=156						
H01W3	**Cape Leeuwin H**	**40.19**	**158**	T	T	02 42 36.5	
	baz=332						
H01W2	**Cape Leeuwin H**	**40.20**	**158**	T	T	02 42 37.5	
	baz=332						
H01W1	**Cape Leeuwin H**	**40.20**	**158**	T	T	02 42 37.4	
	baz=332						
WRA	**Warramunga Arr**	**42.90**	**122**	P	**P**	**02 00 10.4**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=301,slow=9.3,SNR=2.5						
	comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**44.29**	**127**	P	**P**	**02 00 21.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=302,slow=8.7,SNR=4.6						
	comp=Z,0.7nm,0.6s						
KSRS	**Korea Array**	**45.48**	**35**	P	**P**	**02 00 31.3**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=219,slow=9.4,SNR=2.7						
	comp=Z,0.7nm,0.4s						
MK31	**Makanchi Array**	**46.34**	**346**	P	**P**	**02 00 37.1**	**-0.4**
MK31				lAmb	lAmb	02 00 38.8	
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**46.34**	**346**	P	**P**	**02 00 37.7**	**+0.2**
MKAR	**Makanchi Array**	**46.34**	**346**	P	**P**	**02 00 38.1**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=161,slow=7.9,SNR=17						
	comp=Z,1.8nm,0.6s						
SONM	**Songino Array**	**46.41**	**9**	P	**P**	**02 00 39.1**	**+0.8**
SONM				lAmb	lAmb	02 00 39.9	
	comp=Z,1.4nm,0.9s						
SONM	**Songino Array**	**46.41**	**9**	P	**P**	**02 00 38.8**	**+0.5**
	comp=Z,1.2nm,0.8s,baz=185,slow=11,SNR=6.0						
	comp=Z,1.2nm,0.8s						
MAKZ	**Makanchi**	**46.42**	**346**	P	**P**	**02 00 38.2**	**0.0**
GEYT	**Allbeck**	**50.27**	**320**	P	**P**	**02 01 08.3**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=163,slow=5.4,SNR=1.5						
	comp=Z,0.4nm,0.5

TANN	**Tannenbergstha**	**0.15**	**7**	*i* Pg	Pg	01 54 33.1	-0.1
TANN				*i* Sg	Sg	01 54 35.2	-0.3
TANN				IAML		01 54 35.4	
	comp=E,1µm,0.2s						
TANN	**Tannenbergstha**	**0.15**	**7**	*i* Pg	Pg	01 54 33.1	-0.1
TANN				*i* Sg	Sg	01 54 35.2	-0.3
	comp=E,1µm,0.2s						
TRCW	**Trojmez**	**0.19**	**281**	⇓P	Pg	01 54 33.9	0.0
TRCW				S	Sg	01 54 36.5	0.0
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	01 54 34.0	0.0
WERD				*i* Sg	Sg	01 54 36.6	-0.2
	comp=E,197nm,0.1s						
WERD	**Werda**	**0.20**	**335**	*i* Pg	Pg	01 54 34.0	0.0
WERD				*i* Sg	Sg	01 54 36.6	-0.2
	comp=E,197nm,0.1s						
TRIB	**Obertriebel**	**0.21**	**294**	*i* Pg	Pg	01 54 34.1	-0.1
TRIB				*i* Sg	Sg	01 54 37.0	-0.2
TRIB				IAML		01 54 37.2	
	comp=N,286nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**294**	*i* Pg	Pg	01 54 34.1	-0.1
TRIB				*i* Sg	Sg	01 54 37.0	-0.2
	comp=N,286nm,0.2s						
ZHC	**Zelena Hora**	**0.21**	**202**	⇑P	Pg	01 54 34.3	0.0
ZHC				S	Sg	01 54 37.3	0.0
VIEL	**Selb-Vielitz**	**0.23**	**249**	*i* Pg	Pg	01 54 34.5	-0.1
VIEL				*i* Sg	Sg	01 54 37.5	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**249**	*i* Pg	Pg	01 54 34.5	-0.1
VIEL				*i* Sg	Sg	01 54 37.5	-0.2
LACW	**Lazy**	**0.25**	**151**	*i* Pg	Pg	01 54 35.0	+0.1
LACW				*i* Sg	Sg	01 54 38.6	+0.2
LACW	**Lazy**	**0.25**	**151**	*i* Pg	Pg	01 54 35.0	+0.1
LACW				*i* Sg	Sg	01 54 38.6	+0.2
LACW	**Lazy**	**0.25**	**151**	⇓P	Pg	01 54 35.1	+0.1
LACW				S	Sg	01 54 38.6	+0.2
PLN	**Plauen**	**0.28**	**321**	*i* Pg	Pg	01 54 35.4	-0.1
PLN	**Plauen**	**0.28**	**321**	*i* Pg	Pg	01 54 35.4	-0.1
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	Pg	01 54 37.7	-0.2
SCHF	**Schoenfels**	**0.41**	**357**	*i* Pg	Pg	01 54 37.7	-0.2
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	01 54 38.3	-0.2
GRZ1	**Mausoleum Wald**	**0.45**	**342**	*i* Pg	Pg	01 54 38.3	-0.2
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pb	01 54 51.1	-0.6

IDC **14** *01:54:30.8±2.4,50°.23N×12°.05E,h0km, mbtmp3.1/3, ML2.9/3, Error ellipse: s-maj=31.1km s-min=11.5km az=76.0*

BUG **14** *01:54:33.5±0.3,50°.23N×12°.50E, h3km±2km, MD4.5/18, ML4.2/22*

PRU **14** *01:54:33.9,50°.27N×12°.45E,h10km, West Bohemia Swarm-felt*

VIE **14** *01:54:34.2±0.5,50°.16N×12°.49E, h4km±4km, mb2.6/20, ml3.8/19, Error ellipse: s-maj=4.0km s-min=3.6km az=71.0*

IPEC **14** *01:54:34.2±0.1,50°.28N×12°.44E, h11km, ML3.5/10, Error ellipse: s-maj=1.4km s-min=1.2km az=145.0*

WBNET **14** *01:54:34.6,50°.27N×12°.44E,h10km, Ml3.5*

CLL **14** *01:54:34.9±0.3,50°.27N×12°.43E, h9km, ML3.5*

BGR **14** *01:54:34.3±0.2,50°.27N×12°.44E, h11km±1km, ML3.5/6, Error ellipse: s-maj=2.2km s-min=1.1km az=100.0*

BNS **14** *01:54:35.5±0.3,50°.29N×12°.39E, h5km, ML3.5*

LDG **14** *01:54:35.2±0.1,50°.28N×12°.38E, h11km, Ml3.9/37, Error ellipse: s-maj=2.1km s-min=1.5km az=150.0*

ISC 14 01:54:32.0±0.6, 50°.27N±0°.01×12°.34E±0°.01, h11km, n199, σ2s 02/350, 5C-17D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WERN	**Wernitzgruen**	**0.03**	**46**	*i* Pg	**Pg**	**01 54 36.6**	**+2.5**
WERN				*i* Sg	**Sg**	**01 54 38.0**	**+2.4**
WERN				IAML		01 54 38.4	
	comp=N,21µm,0.3s						
WERN	**Wernitzgruen**	**0.03**	**46**	*i* Pg	**Pg**	**01 54 36.6**	**+2.5**
WERN				*i* Sg	**Sg**	**01 54 38.0**	**+2.4**
	comp=N,21µm,0.3s						
ROHR	**Rohrbach**	**0.04**	**207**	*i* Pg	**Pg**	**01 54 37.0**	**+2.8**
ROHR				*i* Sg	**Sg**	**01 54 38.5**	**+2.9**
ROHR				IAML		01 54 38.7	
	comp=E,37µm,0.2s						
ROHR	**Rohrbach**	**0.04**	**207**	*i* Pg	**Pg**	**01 54 37.0**	**+2.8**
ROHR				*i* Sg	**Sg**	**01 54 38.5**	**+2.9**
	comp=E,37µm,0.2s						
VAC	**Vackov**	**0.04**	**147**	*i* Pg	**Pg**	**01 54 36.6**	**+2.5**
VAC				*i* Sg	**Sg**	**01 54 38.0**	**+2.3**
VAC	**Vackov**	**0.04**	**147**	⇓P	**Pg**	**01 54 36.7**	**+2.5**
VAC				S	**Sg**	**01 54 38.0**	**+2.3**
LBCW	**Luby**	**0.04**	**92**	⇓P	**Pg**	**01 54 36.5**	**+2.3**
LBCW				S	**Sg**	**01 54 37.8**	**+2.0**
KOCW	**Kopaniny**	**0.07**	**268**	⇓P	**Pg**	**01 54 37.6**	**+3.2**
KOCW				S	**Sg**	**01 54 39.6**	**+3.4**
NKC	**Novy Kostel**	**0.07**	**117**	*i* Pg	**Pg**	**01 54 36.6**	**+2.1**
NKC				*i* Sg	**Sg**	**01 54 37.9**	**+1.6**
NKC				IAML		01 54 38.3	
	comp=E,35µm,0.3s						
NKC	**Novy Kostel**	**0.07**	**117**	*e*Pg	**Pg**	**01 54 36.5**	**+2.1**
NKC				*e*SG	**Sg**	**01 54 37.9**	**+1.6**
	comp=E,13µm,0.2s						
NKC	**Novy Kostel**	**0.07**	**117**	*i* Pg	**Pg**	**01 54 36.6**	**+2.1**
NKC				*i* Sg	**Sg**	**01 54 37.9**	**+1.6**
	comp=E,35µm,0.3s						
NKC	**Novy Kostel**	**0.07**	**117**	⇓P	**Pg**	**01 54 36.6**	**+2.1**
NKC				S	**Sg**	**01 54 37.9**	**+1.6**
POCW	**Potky**	**0.07**	**45**	⇓P	**Pg**	**01 54 36.7**	**+2.2**
POCW				S	**Sg**	**01 54 38.2**	**+1.9**
GUNZ	**Gunzen**	**0.10**	**355**	*i* Pg	**Pg**	**01 54 37.5**	**+2.7**
GUNZ				*i* Sg	**Sg**	**01 54 39.4**	**+2.6**
GUNZ				IAML		01 54 39.9	
	comp=E,7µm,0.5s						
GUNZ	**Gunzen**	**0.10**	**355**	*i* Pg	**Pg**	**01 54 37.5**	**+2.7**
GUNZ				*i* Sg	**Sg**	**01 54 39.4**	**+2.6**
	comp=E,7µm,0.5s						
SKC	**Skalna**	**0.10**	**173**	⇑P	**Pb**	**01 54 37.4**	**+2.6**
SKC				S	**Sg**	**01 54 39.3**	**+2.6**
STCW	**Studenec**	**0.11**	**94**	*i* Pg	**Pb**	**01 54 36.7**	**+0.4**
STCW				*i* Sg	**Sg**	**01 54 38.0**	**+0.9**
STCW	**Studenec**	**0.11**	**94**	*i* Pg	**Pb**	**01 54 36.7**	**+0.4**
STCW				*i* Sg	**Sg**	**01 54 38.0**	**+0.9**
STCW	**Studenec**	**0.11**	**94**	⇑P	**Pb**	**01 54 36.7**	**+0.4**
STCW				S	**Sg**	**01 54 38.0**	**+0.9**
KVC	**Kvetna**	**0.13**	**119**	*i* Pg	**Pb**	**01 54 37.0**	**+0.5**
KVC				*i* Sg	**Sg**	**01 54 38.5**	**+1.2**
KVC	**Kvetna**	**0.13**	**119**	⇑P	**Pb**	**01 54 37.0**	**+0.5**
KVC				S	**Sg**	**01 54 38.5**	**+1.2**
TRCW	**Trojmez**	**0.13**	**286**	⇓P	**Pb**	**01 54 38.6**	**+2.0**
TRCW				S	**Sg**	**01 54 41.3**	**+3.7**
KRCW	**Kraslice**	**0.14**	**62**	⇑P	**Pb**	**01 54 37.0**	**+0.3**
KRCW				S	**Sg**	**01 54 38.6**	**+1.0**
MULD	**Muldenberg**	**0.15**	**15**	*i* Pg	**Pb**	**01 54 37.8**	**+0.9**
MULD				*i* Sg	**Sg**	**01 54 39.9**	**+1.9**
MULD				IAML		01 54 40.1	
	comp=E,16µm,0.1s						
MULD	**Muldenberg**	**0.15**	**15**	*i* Pg	**Pb**	**01 54 37.8**	**+0.9**
MULD				*i* Sg	**Sg**	**01 54 39.9**	**+1.9**
	comp=E,16µm,0.1s						
TRIB	**Obertriebel**	**0.16**	**303**	*i* Pg	**Pb**	**01 54 38.8**	**+1.8**
TRIB				*i* Sg	**Sg**	**01 54 41.7**	**+3.6**
TRIB				IAML		01 54 42.0	
	comp=N,5µm,0.2s						
TRIB	**Obertriebel**	**0.16**	**303**	*i* Pg	**Pb**	**01 54 38.8**	**+1.8**
TRIB				*i* Sg	**Sg**	**01 54 41.7**	**+3.6**
	comp=N,5µm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**27**	*i* Pg	**Pb**	**01 54 37.8**	**+0.6**
TANN				*i* Sg	**Sg**	**01 54 40.0**	**+1.5**
TANN				IAML		01 54 40.1	
	comp=E,19µm,0.1s						
TANN	**Tannenbergstha**	**0.17**	**27**	*i* Pg	**Pb**	**01 54 37.8**	**+0.6**
TANN				*i* Sg	**Sg**	**01 54 40.0**	**+1.5**
	comp=E,19µm,0.1s						
VIEL	**Selb-Vielitz**	**0.17**	**242**	*i* Pg	**Pb**	**01 54 39.2**	**+1.9**
VIEL				*i* Sg	**Sg**	**01 54 42.3**	**+3.7**
VIEL	**Selb-Vielitz**	**0.17**	**242**	*i* Pg	**Pb**	**01 54 39.2**	**+1.9**
VIEL				*i* Sg	**Sg**	**01 54 42.3**	**+3.7**
WERD	**Werda**	**0.18**	**352**	*i* Pg	**Pb**	**01 54 38.7**	**+1.2**
WERD				*e*Sg	**Sg**	**01 54 41.3**	**+2.5**
WERD				IAML		01 54 41.5	
	comp=E,4µm,0.1s						
WERD	**Werda**	**0.18**	**352**	*i* Pg	**Pb**	**01 54 38.7**	**+1.2**
WERD				*e*Sg	**Sg**	**01 54 41.3**	**+2.5**
	comp=E,4µm,0.1s						
ZHC	**Zelena Hora**	**0.20**	**187**	⇑P	**Pb**	**01 54 39.1**	**+1.4**
ZHC				S	**Sg**	**01 54 42.1**	**+2.9**
PLN	**Plauen**	**0.25**	**331**	*i* Pg	**Pb**	**01 54 40.1**	**+1.5**
PLN				*i* Sg	**Sg**	**01 54 44.0**	**+3.3**
PLN				IAML		01 54 44.4	
	comp=E,4µm,0.2s						
PLN	**Plauen**	**0.25**	**331**	*i* Pg	**Pb**	**01 54 40.1**	**+1.5**
PLN				*i* Sg	**Sg**	**01 54 44.0**	**+3.3**
	comp=E,4µm,0.2s						
LACW	**Lazy**	**0.28**	**140**	*i* Pg	**Pb**	**01 54 39.8**	**+0.7**
LACW				*e*Sg	**Sg**	**01 54 43.3**	**+1.6**
LACW	**Lazy**	**0.28**	**140**	*i* Pg	**Pb**	**01 54 39.8**	**+0.7**
LACW				*e*Sg	**Sg**	**01 54 43.3**	**+1.6**
LACW	**Lazy**	**0.28**	**140**	⇓P	**Pb**	**01 54 39.8**	**+0.7**
LACW				S	**Sg**	**01 54 43.3**	**+1.6**
MANZ	**Manzenberg**	**0.32**	**208**	*e*Pg	**Pb**	**01 54 41.4**	**+1.7**
MANZ				*e*Sg	**Sb**	**01 54 46.1**	**+1.2**
SCHF	**Schoenfels**	**0.41**	**5**	*i* Pg	**Pb**	**01 54 42.4**	**+1.1**
SCHF				*i* Sg	**Sb**	**01 54 47.9**	**+0.3**
SCHF				IAML		01 54 48.1	
	comp=E,4µm,0.1s						
SCHF	**Schoenfels**	**0.41**	**5**	*i* Pg	**Pb**	**01 54 42.4**	**+1.1**
SCHF				*i* Sg	**Sb**	**01 54 47.9**	**+0.3**
	comp=E,4µm,0.1s						
GRZ1	**Mausoleum Wald**	**0.43**	**350**	*i* Pg	**Pb**	**01 54 43.1**	**+1.4**
GRZ1				*i* Sg	**Sb**	**01 54 48.7**	**+0.5**
GRZ1				IAML		01 54 50.4	
	comp=N,2µm,0.3s						
GRZ1	**Mausoleum Wald**	**0.43**	**350**	*i* Pg	**Pb**	**01 54 43.1**	**+1.4**
GRZ1				*i* Sg	**Sb**	**01 54 48.7**	**+0.5**
	comp=N,2µm,0.3s						
ROTZ	**Rotzenmuhle**	**0.51**	**190**	*e*Pg	**Pb**	**01 54 44.6**	**+1.6**
ROTZ				*e*Sg	**Sb**	**01 54 51.4**	**+1.1**
MOX	**Moxa**	**0.60**	**309**	*e*Pg	**Pn**	**01 54 46.8**	**+0.3**
MOX				*e*Sg	**Sn**	**01 54 55.5**	**-0.7**
HSKC	**Hora Svate Kat**	**0.78**	**64**	*e*PG	**Pb**	**01 54 48.3**	**+0.8**
HSKC				*e*SG	**Sg**	**01 54 57.5**	**+0.4**
	comp=N,1µm,0.3s						
FBE	**Freiberg**	**0.92**	**44**	*e*Pg	**Pn**	**01 54 51.2**	**+0.3**
FBE				*e*Sg	**Sg**	**01 55 02.4**	**+0.7**
GRF	**Grafenberg Arr**	**0.93**	**232**	*e*Pg	**Pn**	**01 54 52.9**	**+1.9**
GRF				*e*Sg	**Sn**	**01 55 05.5**	**+1.3**
CLL	**Collm**	**1.12**	**22**	*i* Pg	**Pn**	**01 54 54.8**	**+1.1**
CLL				*i* x	x	01 54 57.2	
CLL				*i* x	x	01 54 58.7	
CLL				*i* Sg	**Sn**	**01 55 09.3**	**+0.2**
	comp=Z,847nm,0.6s						
CLL				*i* x	x	01 55 13.4	
CLL	**Collm**	**1.12**	**22**	*e*Pg	**Pn**	**01 54 55.1**	**+1.4**
CLL				*e*Sg	**Sn**	**01 55 09.3**	**+0.2**
RICC	**Richard**	**1.16**	**75**	*e*SG	**Sb**	**01 55 09.1**	**+0.1**
	comp=Z,2µm,0.3s						
WET	**Wettzell**	**1.18**	**163**	*e*Pg	**Pg**	**01 54 56.2**	**+1.6**
WET				*e*Sg	**Sg**	**01 55 11.4**	**+1.4**
BRG	**Berggiesshubel**	**1.19**	**59**	Pg	**Pg**	**01 54 55.8**	**+1.0**
BRG				Sg	**Sb**	**01 55 10.6**	**+0.7**
BRG				Amp		01 55 11.6	
	comp=Z,670nm,0.3s						
BRG	**Berggiesshubel**	**1.19**	**59**	*e*Pg	**Pg**	**01 54 55.8**	**+1.0**
BRG				*e*Sg	**Sb**	**01 55 10.3**	**+0.4**
PRA	**Prague**	**1.36**	**98**	*e*SG	**Sb**	**01 55 15.1**	**+0.3**
	comp=Z,401nm,0.2s						
KHC	**Kasperske Hory**	**1.39**	**144**	*e*PG	**Pb**	**01 54 58.9**	**+0.8**
KHC				*e*SG	**Sn**	**01 55 16.5**	**+0.7**
	comp=Z,350nm,0.2s						
PRU	**Pruhonice**	**1.44**	**100**	*e*PG	**Pn**	**01 54 59.4**	**+1.3**
PRU				*e*SG	**Sb**	**01 55 18.2**	**+1.0**
	comp=Z,376nm,0.2s						
PRU	**Pruhonice**	**1.44**	**100**	*e*Pn	**Pb**	**01 55 00.0**	**+1.1**
PRU				*e*Sg	**Sb**	**01 55 18.3**	**+1.0**
PVCC	**Panska Ves**	**1.45**	**79**	*e*SG	**Sb**	**01 55 18.6**	**+1.2**
UBBA	**Unterbreizbach**	**1.59**	**291**	Pg	**Pg**	**01 55 04.8**	**+2.2**
UBBA				Sg	**Sg**	**01 55 24.8**	**+1.6**
GOPC	**GO Pecny, Ondr**	**1.61**	**102**	*e*SG	**Sb**	**01 55 23.5**	**+1.3**
GEC2	**GERESS Array S**	**1.68**	**148**	*e*Pn	**Pb**	**01 55 03.3**	**+0.4**
GEC2				*e*Sg	**Sb**	**01 55 25.5**	**+1.4**
GERES	**GERESS Array B**	**1.68**	**148**	Pg	**Pb**	**01 55 04.0**	**+1.1**
	comp=Z,10nm,0.3s,baz=331,slow=19,SNR=166						
GERES				Lg	Lg	01 55 25.6	
	comp=Z,165nm,0.3s,baz=332,slow=33,SNR=20						
CKRC	**Cesky Krumlov**	**1.93**	**138**	*e*SG	**Sb**	**01 55 32.7**	**+1.3**
	comp=Z,218nm,0.3s						
GTTG	**Gottingen**	**1.98**	**311**	Pn	**Pb**	**01 55 08.3**	**+0.3**
GTTG				Sg	**Sg**	**01 55 37.9**	**+2.4**
CLZ	**Clausthal**	**2.01**	**322**	Pn	**Pb**	**01 55 08.0**	**-0.5**
CLZ				Sg	**Sg**	**01 55 37.9**	**+1.4**
FUR	**Furstenfeldbru**	**2.22**	**199**	Pn	**Pn**	**01 55 10.7**	**+1.9**
FUR				Sg	**Sg**	**01 55 43.6**	**+0.4**
A106B	**Goeppingen, Ma**	**2.28**	**229**	Pn	**Pn**	**01 55 11.0**	**+1.3**
A106B				Sg	**Sg**	**01 55 46.6**	**+1.2**
UPC	**Upice**	**2.36**	**83**	*e*SG	**Sb**	**01 55 46.2**	**+2.5**
	comp=Z,406nm,0.5s						
CHVC	**Chvalec**	**2.40**	**81**	*e*SG	**Sg**	**01 55 47.8**	**-1.1**
TNS	**Taunus Mts**	**2.50**	**270**	Pn	**Pb**	**01 55 16.6**	**-0.4**
TNS				Sg	**Sg**	**01 55 53.3**	**+0.9**
A108A	**Ulm, Ringingen**	**2.53**	**222**	Pn	**Pn**	**01 55 13.9**	**+0.9**
DPC	**Dobruska-Polom**	**2.55**	**87**	*e*SG	**Sb**	**01 55 51.8**	**+2.6**
	comp=Z,312nm,0.5s						
A109A	**Bad Urach, See**	**2.62**	**227**	Pn	**Pn**	**01 55 15.4**	**+1.1**
NRDL	**Niedersach Rie**	**2.63**	**329**	Pn	**Pb**	**01 55 19.2**	**+0.1**
A107C	**Memmingen - Ei**	**2.65**	**213**	Pn	**Pn**	**01 55 15.8**	**+1.0**
KASTN	**Kahler Asten**	**2.67**	**292**	Pn	**Pb**	**01 55 18.2**	**-1.6**
BIOA	**Bad Ischl, Aus**	**2.72**	**161**	*e*Pn	**Pn**	**01 55 17.9**	**+2.3**
	comp=Z,4.0nm,0.2s,SNR=9.1						
BIOA				*e*Sg	**Sg**	**01 55 58.4**	**-0.8**
	comp=Z,100nm,0.3s						
MOA	**Molln**	**2.73**	**152**	Pn	**Pn**	**01 55 17.5**	**+1.7**
	comp=Z,3.0nm,0.2s,SNR=11						
MOA				*e*Pg	**Pg**	**01 55 25.3**	**+1.0**
	comp=Z,24nm,0.4s						
MOA				*e*Sg	**Sg**	**01 55 58.3**	**-1.4**
	comp=Z,9.9nm,0.1s						
A104C	**Biberach, Ahle**	**2.77**	**220**	Pn	**Pb**	**01 55 23.8**	**+2.2**
A104A	**Biberach, Staf**	**2.80**	**219**	Pn	**Pb**	**01 55 24.1**	**+2.0**
LESA	**Schwarzleotal**	**2.85**	**175**	*e*Pn	**Pn**	**01 55 19.4**	**+1.8**
	comp=Z,1.6nm,0.2s						
LESA				*e*Pg	**Pg**	**01 55 27.9**	**+1.2**
	comp=Z,7.0nm,0.2s						
LESA				*e*Sg	**Sg**	**01 56 02.9**	**-0.7**
	comp=Z,308nm,0.5s						
KRLC	**Kraliky**	**2.86**	**92**	*e*SG	**Sg**	**01 56 02.1**	**-1.7**
	comp=Z,193nm,0.4s						
A100A	**Rottenburg, We**	**2.88**	**232**	Pn	**Pn**	**01 55 18.8**	**+0.9**
KRUC	**Moravsky**	**2.90**	**113**	*e*Pn	**Pn**	**01 55 19.3**	**+1.3**
	baz=297						
KRUC				*e*Sg	**Sg**	**01 56 03.2**	**-1.8**
	comp=Z,234nm,0.6s,baz=297						
VRAC	**Vranov**	**2.92**	**108**	*e*Pn	**Pn**	**01 55 19.4**	**+1.0**
	baz=291						
VRAC				*e*Sg	**Sb**	**01 56 03.7**	**+4.0**
	comp=Z,325nm,0.7s,baz=291						
INS5	**Hayna, Turnver**	**2.92**	**249**	Pn	**Pb**	**01 55 25.2**	**+1.2**
A102A	**Sigmaringen, J**	**2.96**	**225**	Pn	**Pn**	**01 55 19.7**	**+0.7**
RETA	**Reutte**	**2.97**	**201**	*e*Pn	**Pn**	**01 55 20.0**	**+0.9**
	comp=Z,41nm,0.4s,SNR=13						
RETA				*e*Sg	**Sg**	**01 56 10.5**	**+3.1**
	comp=Z,66nm,0.3s						
UBR	**Ueberruh**	**2.98**	**210**	Pn	**Pn**	**01 55 20.0**	**+0.7**
WATA	**Walderalm**	**2.98**	**190**	*e*Pn	**Pn**	**01 55 20.4**	**+1.1**
	comp=Z,1µm,0.0s,SNR=20						
WATA				*e*Pg	**Pg**	**01 55 30.7**	**+1.6**
	comp=Z,27nm,0.3s,SNR=16						
WATA				*e*Sn	**Sn**	**01 55 56.4**	**+1.3**
	comp=Z,71nm,0.2s						
WATA				*e*Sg	**Sg**	**01 56 09.8**	**+2.2**
	comp=Z,108nm,0.2s						
MOTA	**Moosalm**	**3.04**	**196**	*e*Pn	**Pn**	**01 55 21.1**	**+1.0**
	comp=Z,0.4nm,0.1s,SNR=14						
MOTA				*e*Pg	**Pg**	**01 55 32.3**	**+2.1**
	comp=Z,28nm,0.4s,SNR=14						
MOTA				*i* Sg	**Sg**	**01 56 11.9**	**+2.4**
	comp=Z,22nm,0.1s						
WTTA	**Wattenberg**	**3.04**	**189**	*e*Pn	**Pn**	**01 55 22.0**	**+1.8**
	comp=Z,1.2nm,0.1s,SNR=8.9						
WTTA				*e*Pg	**Pg**	**01 55 31.7**	**+1.4**
	comp=Z,7.3nm,0.2s,SNR=6.9						
WTTA				*e*Sg	**Sg**	**01 56 12.7**	**+3.0**
	comp=Z,108nm,0.4s						
SQTA	**Sankt Quirin**	**3.14**	**194**	*i* Pn	**Pn**	**01 55 22.7**	**+1.2**
	comp=Z,3.0nm,0.2s,SNR=12						
SQTA				*e*Pg	**Pg**	**01 55 33.8**	**+1.6**
	comp=Z,8.2nm,0.2s,SNR=18						
SQTA				*e*Sg	**Sg**	**01 56 15.7**	**+2.9**
	comp=Z,61nm,0.2s						
A105A	**Obersdorf, Sch**	**3.17**	**206**	Pn	**Pn**	**01 55 22.9**	**+1.1**
BGG	**Burgeitz**	**3.21**	**271**	*e*Pn	**Pn**	**01 55 25.5**	**+3.1**
KBA	**Koelnbreinsper**	**3.26**	**168**	Pn	**Pn**	**01 55 26.2**	**+2.9**
	comp=Z,9.4nm,0.3s,SNR=14						
KBA				*e*Sg	**Sg**	**01 56 16.2**	**-0.5**
	comp=Z,1.8nm,0.1s						
BFO	**Black Forest**	**3.27**	**235**	Pn	**Pn**	**01 55 23.9**	**+0.7**
A101B	**Rottweil, Deis**	**3.29**	**231**	Pn	**Pn**	**01 55 24.4**	**+0.9**
CONA	**Conrad Observa**	**3.29**	**134**	*i* Pn	**Pn**	**01 55 25.2**	**+1.6**
	comp=Z,0.8nm,0.2s,SNR=12						
CONA				Pg	**Pg**	**01 55 34.7**	**-0.4**
	comp=Z,20nm,0.2s,SNR=13						
CONA				*e*Sg	**Sg**	**01 56 16.3**	**-1.4**
	comp=Z,101nm,0.3s						
AHRW	**Bad Neuenahr-A**	**3.38**	**277**	Pn	**Pb**	**01 55 29.6**	**-2.4**
MORC	**Moravsky Berou**	**3.39**	**96**	*e*Pn	**Pn**	**01 55 26.0**	**+1.1**
	baz=281						
MORC				*e*Sg	**Sg**	**01 56 18.4**	**-2.4**
	comp=Z,157nm,0.6s,baz=281						
DAVA	**Damuels**	**3.40**	**210**	*i* Pn	**Pn**	**01 55 26.3**	**+1.1**
	comp=Z,5.1nm,0.2s,SNR=9.8						
DAVA				*e*Sg	**Sg**	**01 56 28.5**	**+7.3**
	comp=Z,82nm,0.4s						
FETA	**Feichten**	**3.42**	**199**	*i* Pn	**Pn**	**01 55 26.9**	**+1.5**
	comp=Z,0.7nm,0.1s,SNR=5.1						
FETA				*e*Sg	**Sg**	**01 56 23.4**	**+1.6**
	comp=Z,0.9nm,0.1s						
BKLB	**Ruhr-Universit**	**3.42**	**292**	Pn	**Pn**	**01 55 28.8**	**+3.5**
BUG	**Bochum--Univer**	**3.42**	**292**	Pn	**Pn**	**01 55 28.8**	**+3.5**
BULI	**Ruhr-Universit**	**3.43**	**292**	Pn	**Pb**	**01 55 30.8**	**-2.0**
IBBE	**Ibbenbueren Ea**	**3.51**	**307**	Pn	**Pb**	**01 55 32.6**	**-1.4**
ABTA	**Abfaltersbach**	**3.52**	**178**	*e*Pn	**Pn**	**01 55 30.3**	**+3.5**
	comp=Z,9.4nm,0.4s,SNR=10						
ABTA				*e*Sg	**Sg**	**01 56 26.9**	**+1.8**
	comp=Z,69nm,0.4s						
STB	**Steinbach**	**3.53**	**277**	*e*Pn	**Pn**	**01 55 30.0**	**+3.2**
RONA	**Rosalia, Austr**	**3.66**	**133**	Pn	**Pn**	**01 55 30.5**	**+1.9**
	comp=Z,1.1nm,0.2s,SNR=14						
RONA				*e*Sg	**Sg**	**01 56 27.9**	**-1.5**
	comp=Z,50nm,0.5s,SNR=5.2						
ARSA	**Arzberg**	**3.68**	**144**	*i* Pn	**Pn**	**01 55 31.9**	**+3.1**
	comp=Z,5.3nm,0.4s,SNR=8.4						
ARSA				*e*Sg	**Sg**	**01 56 28.7**	**-1.4**
	comp=Z,73nm,0.6s,SNR=9.5						
MYKA	**Terra Mystica**	**3.74**	**166**	*i* Pn	**Pn**	**01 55 33.3**	**+3.6**
	comp=Z,1.7nm,0.2s,SNR=6.3						
MYKA				*i* Sg	**Sg**	**01 56 33.3**	**+1.2**
	comp=Z,24nm,0.3s						
JAVC	**Velka Javorina**	**3.74**	**110**	*e*PN	**Pn**	**01 55 31.1**	**+1.3**
JAVC				*e*SG	**Sg**	**01 56 30.3**	**-1.9**
MODS	**Modra-Piesok**	**3.74**	**119**	*e*PN	**Pn**	**01 55 31.1**	**+1.4**
MODS				*e*PG	**Pg**	**01 55 42.9**	**-0.8**
ZST	**Bratislava**	**3.74**	**122**	*e*PN	**Pn**	**01 55 31.8**	**+2.1**
ZST				*e*PG	**Pg**	**01 55 42.6**	**-1.1**
ZST				*e*SG	**Sg**	**01 56 30.6**	**-1.6**
OKC	**Ostrava-Krasne**	**3.77**	**94**	*e*SG	**Sb**	**01 56 29.3**	**+5.3**
	comp=Z,163nm,0.5s						
CDF	**Champ du Feu**	**3.80**	**243**	*e*Pn	**Pn**	**01 55 32.1**	**+1.6**
CDF	**Champ du Feu**	**3.80**	**243**	*e*Pg	**Pg**	**01 55 45.5**	**+0.7**
CDF				*e*Sg	**Sg**	**01 56 35.4**	**+1.5**
	comp=Z,104nm,0.4s						
DREG	**Dreilaegerbach**	**3.92**	**278**	*e*Pn	**Pn**	**01 55 35.3**	**+3.1**
BTNL	**Ternell**	**3.99**	**277**	*d*P	**Pb**	**01 55 38.7**	**-3.6**
BTNL				*d*S	**Sn**	**01 56 23.0**	**+3.3**
SOKA	**Soboth**	**4.01**	**153**	*e*Pn	**Pn**	**01 55 35.6**	**+2.1**
	comp=Z,0.9nm,0.2s						

ORIF				*e*Sg		**Sg**	**01 58 11.5**	**-2.1**
	comp=Z,26nm,0.7s							
AVF	**Avril sur Loir**	**6.91**	**243**	*e*Pn		**Pn**	**01 56 14.3**	**+1.1**
AVF	**Avril sur Loir**	**6.91**	**243**	*e*Pg		**Pg**	**01 56 43.0**	**-1.2**
AVF				*e*Sg		**Sg**	**01 58 11.6**	**-2.0**
	comp=Z,49nm,0.9s							
HYF	**Humbligny**	**7.08**	**249**	*e*Pn		**Pn**	**01 56 16.9**	**+1.4**
HYF	**Humbligny**	**7.08**	**249**	*e*Pg		**Pg**	**01 56 45.9**	**-1.6**
HYF				*e*Sg		**Sg**	**01 58 17.4**	**-1.7**
SBF	**Sospel**	**7.23**	**209**	*e*Pn		**Pn**	**01 56 19.3**	**+1.7**
SBF				*e*Sn		**Sn**	**01 57 36.6**	**-3.1**
	comp=Z,184nm,1.4s							
BGF	**Bois d'Agland**	**7.33**	**243**	*e*Pn		**Pn**	**01 56 20.3**	**+1.4**
BGF	**Bois d'Agland**	**7.33**	**243**	*e*Pg		**Pg**	**01 56 51.3**	**-0.9**
BGF				*e*Sg		**Sg**	**01 58 25.0**	**-2.1**
	comp=Z,46nm,0.5s							
VIVF	**Saint-Julien-l**	**7.50**	**227**	*e*Pn		**Pn**	**01 56 22.3**	**+1.0**
VIVF	**Saint-Julien-l**	**7.50**	**227**	*e*Pg		**Pg**	**01 56 52.5**	**-3.0**
VIVF				*e*Sn		**Sn**	**01 57 44.5**	**-1.7**
VIVF				*e*Sg		**Sg**	**01 58 31.1**	**-1.4**
	comp=Z,14nm,0.6s							
SMRF	**Simiane la Rot**	**7.80**	**219**	*e*Pn		**Pn**	**01 56 27.0**	**+1.5**
SMRF				*e*Sn		**Sn**	**01 57 50.5**	**-3.3**
	comp=Z,42nm,1.2s							
TCF	**Toulx Ste Croi**	**7.84**	**243**	*e*Pn		**Pn**	**01 56 27.1**	**+1.1**
TCF	**Toulx Ste Croi**	**7.84**	**243**	*e*Pg		**Pg**	**01 57 00.3**	**-1.8**
TCF				*e*Sg		**Sg**	**01 58 40.4**	**-3.2**
	comp=Z,21nm,0.6s							
LMR	**La Mourre**	**8.01**	**212**	*e*Pn		**Pn**	**01 56 30.2**	**+2.0**
LMR				*e*Sn		**Sn**	**01 57 55.6**	**-3.1**
	comp=Z,121nm,1.5s							
LDF	**La Druitiere**	**8.30**	**263**	*e*Pn		**Pn**	**01 56 33.7**	**+1.5**
LDF				*e*Sn		**Sn**	**01 58 02.6**	**-3.3**
LDF				*e*Sg		**Sg**	**01 58 55.4**	**-2.7**
	comp=Z,49nm,1.1s							
LASF	**Ste Croix**	**8.47**	**226**	*e*Pn		**Pn**	**01 56 35.3**	**+0.7**
LASF	**Ste Croix**	**8.47**	**226**	*e*Pg		**Pg**	**01 57 11.4**	**-2.6**
LASF				*e*Sn		**Sn**	**01 58 06.4**	**-3.7**
LASF				*e*Sg		**Sg**	**01 59 00.7**	**-2.9**
	comp=Z,20nm,0.9s							
FLN	**La Foliniere**	**8.48**	**265**	*e*Pn		**Pn**	**01 56 36.6**	**+1.9**
	baz=75							
FLN				*e*Sn		**Sn**	**01 58 07.3**	**-3.1**
FLN				*e*Sg		**Sg**	**01 59 01.3**	**-2.7**
	comp=Z,8.5nm,0.6s,baz=75							
CAF	**Calviac**	**8.76**	**236**	*e*Pn		**Pn**	**01 56 39.5**	**+0.9**
CAF	**Calviac**	**8.76**	**236**	*e*Pg		**Pg**	**01 57 16.8**	**-2.8**
CAF				*e*Sg		**Sg**	**01 59 12.4**	**-0.5**
	comp=Z,9.8nm,0.7s							
RJF	**Les Rejaudoux**	**8.82**	**240**	*e*Pn		**Pn**	**01 56 40.4**	**+1.1**
RJF	**Les Rejaudoux**	**8.82**	**240**	*e*Pg		**Pg**	**01 57 18.3**	**-2.4**
RJF				*e*Sg		**Sg**	**01 59 11.7**	**-3.1**
	comp=Z,51nm,1.2s							
GRR	**Gorron**	**8.83**	**263**	*e*Pn		**Pn**	**01 56 41.1**	**+1.6**
GRR				*e*Sn		**Sn**	**01 58 15.3**	**-3.5**
	comp=Z,4.6nm,0.4s							
MFF	**Saint Martin d**	**9.08**	**251**	*e*Pn		**Pn**	**01 56 44.2**	**+1.3**
MFF				*e*Sn		**Sn**	**01 58 21.7**	**-3.3**
MFF				*e*Sg			01 59 20.4	
	comp=Z,23nm,1.0s							
LFF	**La Frestale**	**9.47**	**240**	*e*Pn		**Pn**	**01 56 48.8**	**+0.5**
LFF				*e*Sg		Sn	01 59 32.8	+58
	comp=Z,25nm,0.6s							
NACGM	**Naroch**	**9.93**	**57**	*e*P		**Pn**	**01 56 55.9**	**+1.4**
	comp=Z,3.0nm,0.9s,baz=248							
SGMF	**Saint Gilles**	**9.95**	**264**	*e*Pn		**Pn**	**01 56 56.2**	**+1.4**
SGMF				*e*Sn		**Sn**	**01 58 42.5**	**-3.9**
	comp=Z,3.8nm,0.6s							
ROSF	**Rostrenen**	**10.38**	**265**	*e*Pn		**Pn**	**01 57 01.8**	**+1.0**
ROSF				*e*Sn		**Sn**	**01 58 53.4**	**-3.6**
ROSF				*e*Sg			02 00 00.5	
	comp=Z,7.4nm,0.5s							
QUIF	**Quistinic**	**10.44**	**263**	*e*Pn		**Pn**	**01 57 02.5**	**+0.9**
QUIF				*e*Sn		**Sn**	**01 58 53.5**	**-4.9**
QUIF				*e*Sg			02 00 02.1	
	comp=Z,4.4nm,0.5s							
EKA	**Eskdalemuir Ar**	**10.66**	**304**	Pn		**Pn**	**01 57 02.5**	**-2.1**
	baz=111,slow=14							
	comp=Z,0.1nm,0.4s							
AKASG	**Malin Array Be**	**10.77**	**81**	Pn		**Pn**	**01 57 06.1**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=282,slow=12,SNR=2.4							
AKASG					Lg	Lg	02 00 05.0	
	comp=Z,0.1nm,0.3s,baz=268,slow=24,SNR=1.8							
	comp=Z,0.1nm,0.3s							
FINES	**FINESS Array B**	**13.56**	**29**	Pn		**Pn**	**01 57 42.3**	**-1.8**
	baz=218,slow=8.8,SNR=2.0							
FINES					Sn	**Sn**	**02 00 06.2**	**-8.3**
	comp=Z,0.2nm,0.3s,baz=210,slow=19,SNR=4.0							
	comp=Z,0.7nm,0.5s							

CLL 14 01:54:55.4±0.3, 50°28N×12°43E, h10km±1km, ML2.0, Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WERN	**Wernitzgruen**	**0.04**	**287**	*i* Pg		Pg	01 54 57.3	0.0
WERN				*i*			01 54 58.3	
WERN				*i* Sg		Sg	01 54 58.7	0.0
WERN				IAML			01 54 58.9	
	comp=N,501nm,0.2s							
WERN	**Wernitzgruen**	**0.04**	**287**	*i* Pg		Pg	01 54 57.3	0.0
WERN				*i* Sg		Sg	01 54 58.7	0.0
	comp=N,501nm,0.2s							
NKC	**Novy Kostel**	**0.04**	**168**	*e*Pg		Pg	01 54 57.3	0.0
NKC				*i* Sg		Sg	01 54 58.7	0.0
NKC				IAML			01 54 58.9	
	comp=E,349nm,0.1s							
NKC	**Novy Kostel**	**0.04**	**168**	*e*Pg		Pg	01 54 57.3	0.0
NKC				*i* Sg		Sg	01 54 58.7	0.0
	comp=E,349nm,0.1s							
VAC	**Vackov**	**0.06**	**222**	*i* Pg		Pg	01 54 57.3	-0.1
VAC				*i* Sg		Sg	01 54 58.7	-0.2
STCW	**Studenec**	**0.06**	**107**	*e*Pg		Pg	01 54 57.4	-0.1
STCW				*e*Sg		Sg	01 54 58.7	-0.3
STCW	**Studenec**	**0.06**	**107**	*e*Pg		Pg	01 54 57.4	-0.1
STCW				*e*Sg		Sg	01 54 58.7	-0.3
ROHR	**Rohrbach**	**0.09**	**241**	*e*Pg		Pg	01 54 57.7	-0.1
ROHR				*i* Sg		Sg	01 54 59.3	-0.3
ROHR				IAML			01 54 59.4	
	comp=E,935nm,0.1s							
ROHR	**Rohrbach**	**0.09**	**241**	*e*Pg		Pg	01 54 57.7	-0.1
ROHR				*i* Sg		Sg	01 54 59.3	-0.3
	comp=E,935nm,0.1s							
GUNZ	**Gunzen**	**0.11**	**323**	*e*Pg		Pg	01 54 58.1	0.0
GUNZ				*i* Sg		Sg	01 54 59.9	-0.2
GUNZ				IAML			01 55 00.1	
	comp=E,433nm,0.3s							
GUNZ	**Gunzen**	**0.11**	**323**	*e*Pg		Pg	01 54 58.1	0.0
GUNZ				*i* Sg		Sg	01 54 59.9	-0.2
	comp=E,433nm,0.3s							
MULD	**Muldenberg**	**0.14**	**352**	*i* Sg		Sg	01 55 00.6	-0.2
MULD				IAML			01 55 00.8	
	comp=E,291nm,0.1s							
MULD	**Muldenberg**	**0.14**	**352**	*i* Sg		Sg	01 55 00.6	-0.2
	comp=E,291nm,0.1s							
TANN	**Tannenbergstha**	**0.14**	**7**	*e*Pg		Pg	01 54 58.5	-0.2
TANN				*i* Sg		Sg	01 55 00.5	-0.4
TANN				IAML			01 55 00.8	
	comp=N,302nm,0.1s							
TANN	**Tannenbergstha**	**0.14**	**7**	*e*Pg		Pg	01 54 58.5	-0.2
TANN				*i* Sg		Sg	01 55 00.5	-0.4
	comp=N,302nm,0.1s							
WERD	**Werda**	**0.19**	**335**	*e*Pg		Pg	01 54 59.3	-0.1
WERD	**Werda**	**0.19**	**335**	*e*Pg		Pg	01 54 59.3	-0.1
TRIB	**Obertriebel**	**0.20**	**292**	*i* Pg		Pg	01 54 59.5	-0.2
TRIB	**Obertriebel**	**0.20**	**292**	*i* Pg		Pg	01 54 59.5	-0.2
VIEL	**Selb-Vielitz**	**0.23**	**247**	*e*Sg		Sg	01 55 03.0	-0.3
VIEL	**Selb-Vielitz**	**0.23**	**247**	*e*Sg		Sg	01 55 03.0	-0.3

*TRN **14** 01:58:48.7, 10°.75N×62°.24W, h20km, MD3.8, North of the Paria peninsula.*

*FUNV **14** 01:58:50.6, 10°.62N×62°.11W, h39km, MW3.6*

ISC 14 01:58:48.8±1.3, 10°.63N±0°.04×62°.19W±0°.03, h77km±14km, n33, σ1°86/59, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.77**	**89**	*e*P		**Pn**	**01 59 04.8**	**-0.2**
TRN				*e*S		**Sn**	**01 59 16.0**	**-1.1**
TPP	**Pointe-a-Pierr**	**0.79**	**113**	*e*P		**Pn**	**01 59 05.0**	**-0.2**
TPP				*e*S		**Sn**	**01 59 19.4**	**+1.9**
CRUV	**Carupano**	**1.03**	**272**	*e*P		**Pn**	**01 59 07.9**	**-0.2**
CRUV				*e*S		**Sn**	**01 59 21.4**	**-1.1**
CRUV	**Carupano**	**1.03**	**272**	*e*P		**Pn**	**01 59 07.8**	**-0.3**
CRUV				*e*S		**Sn**	**01 59 21.9**	**-0.6**
TBH	**Brigand Hill**	**1.11**	**98**	*e*P		**Pn**	**01 59 11.1**	**+2.0**
TBH				*e*S		**Sn**	**01 59 26.5**	**+2.3**
GRFF	**Grenada Fort F**	**1.48**	**17**	*e*P		**Pn**	**01 59 13.1**	**-0.7**
GRFF				*e*S		**Sn**	**01 59 31.1**	**-1.5**
GRGR	**Grenville**	**1.58**	**19**	*e*P		**Pn**	**01 59 14.7**	**-0.4**
GRGR				*e*S		**Sn**	**01 59 33.3**	**-1.7**
GRW	**Mount Saint Ca**	**1.60**	**19**	*e*S		**Sn**	**01 59 34.8**	**-0.9**
GRHS	**Sauteurs**	**1.67**	**19**	*e*P		**Pn**	**01 59 15.9**	**-0.3**
GRHS				*e*S		**Sn**	**01 59 35.5**	**-1.6**
GRIC	**Isle de Caille**	**1.75**	**20**	*e*P		**Pn**	**01 59 18.1**	**+0.8**
GRIC				*e*S		**Sn**	**01 59 38.4**	**-0.4**
GRSS	**Sisters**	**1.75**	**19**	*e*P		**Pn**	**01 59 17.4**	**+0.1**
GRSS				*e*S		**Sn**	**01 59 38.2**	**-0.7**
CUMV	**Cumana_UDO**	**1.98**	**264**	*e*P		**Pn**	**01 59 22.1**	**+1.7**
CUMV				*e*S		**Sn**	**01 59 45.4**	**+0.8**
GCMP	**Grenada, Carri**	**1.99**	**22**	*e*P		**Pn**	**01 59 20.3**	**-0.2**
GCMP				*e*S		**Sn**	**01 59 43.5**	**-1.1**
PCRV	**Puerto La Cruz**	**2.45**	**260**	*e*P		**Pn**	**01 59 28.0**	**+1.2**
PCRV				*e*S		**Sn**	**01 59 55.2**	**-0.7**
PCRV	**Puerto La Cruz**	**2.45**	**260**	*e*P		**Pn**	**01 59 28.5**	**+1.7**
PCRV				*e*S		**Sn**	**01 59 56.6**	**+0.7**
SVOC	**Richmond Hill,**	**2.68**	**21**	*e*P		**Pn**	**01 59 29.8**	**0.0**
SVOC				*e*S		**Sn**	**02 00 01.0**	**-0.3**
SVT	**Saint Vincent**	**2.69**	**20**	*e*P		**Pn**	**01 59 29.9**	**0.0**
SVT				*e*S		**Sn**	**02 00 00.8**	**-0.7**
SVB	**Belmont**	**2.78**	**19**	*e*P		**Pn**	**01 59 31.3**	**+0.1**
SVB				*e*S		**Sn**	**02 00 03.7**	**0.0**
SLBI	**Saint Lucia, B**	**3.57**	**19**	*e*P		**Pn**	**01 59 42.2**	**+0.3**
SLBI				*e*S		**Sn**	**02 00 21.3**	**-1.7**
BIM	**Bigot**	**4.01**	**16**	*e*P		**Pn**	**01 59 48.1**	**+0.2**
BIM				*e*S		**Sn**	**02 00 31.5**	**-2.3**
TACV	**Tcata**	**4.79**	**265**	*e*P		**Pn**	**02 00 01.1**	**+2.5**
TACV				*e*S		**Sn**	**02 00 50.9**	**-1.9**
LUEV	**Luepa**	**4.81**	**171**	*e*P		**Pn**	**01 59 58.8**	**-0.3**
LUEV				*e*S		**Sn**	**02 00 48.5**	**-5.1**
TDBA	**Terre de Bas,**	**5.21**	**6**	*e*P		**Pn**	**02 00 08.3**	**+4.0**
TDBA				*e*S		**Sn**	**02 01 08.9**	**+5.8**
CACV	**CAICARA DEL OR**	**5.27**	**235**	*e*P		Pn	02 00 00.3	-4.8
CACV				*e*S		Sn	02 00 52.3	-12
BENV	**Beln**	**5.37**	**263**	*e*P		**Pn**	**02 00 08.8**	**+2.3**
BENV				*e*S		**Sn**	**02 01 04.5**	**-2.5**
CBE	**Ff, Capester**	**5.43**	**6**	*e*P		Pn	02 00 14.7	+7.4
CBE				*ex*		x	02 01 09.0	
TURV	**Turiamo**	**5.56**	**269**	*e*P		**Pn**	**02 00 10.3**	**+1.2**
TURV				*e*S		**Sn**	**02 01 09.3**	**-2.4**
BAUV	**El Baul**	**6.01**	**254**	*e*P		**Pn**	**02 00 16.0**	**+0.8**
BAUV				*e*S		**Sn**	**02 01 19.3**	**-3.4**
BAUV	**El Baul**	**6.01**	**254**	*e*P		**Pn**	**02 00 16.5**	**+1.2**
BAUV				*e*S		**Sn**	**02 01 21.5**	**-1.2**
BAUV	**El Baul**	**6.01**	**254**	*e*P		**Pn**	**02 00 16.4**	**+1.2**
MBFL	**Flemmings, Mon**	**6.08**	**360**	*e*P		**Pn**	**02 00 17.3**	**+1.2**
ANBD	**Bethesda, Anti**	**6.39**	**4**	*e*P		**Pn**	**02 00 21.6**	**+1.2**
ANBD				*e*S		**Sn**	**02 01 30.4**	**-1.6**
TEPV	**Terepaima**	**6.93**	**265**	*e*P		**Pn**	**02 00 28.5**	**+0.7**
TEPV				*e*S		**Sn**	**02 01 40.7**	**-4.5**

*JMA **14** 02:24:58.9±0.4, 35°N×2°×13°8E±°, h226km±3km, MV2.7/28, CENTRAL SHIZUOKA PREF*

*IDC **14** 02:24:59.7±1.7, 34°.94N×138°.06E, h204km±32km, mb2.8/1, mbtmp3.5/2, Error ellipse: s-maj=66.4km s-min=36.7km az=56.0*

ISC 14 02:24:60.0±1.3, 35°.07N±0°.10×138°.3E±0°.1, h218km±10km, n13, σ0°33/16, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SHZ3	**Shizuoka 3**	**0.09**	**268**	P		**Pn**	**02 25 28.5**	**+0.1**
JOD2	**Odawara 2**	**0.66**	**73**	P		**Pn**	**02 25 30.3**	**+0.5**
JRY	**Ryogami san**	**1.06**	**26**	P		**Pn**	**02 25 32.3**	**+0.3**
JRY				*e*S		**S**	**02 25 57.0**	**-0.1**
JYTA	**Yamagatataniai**	**1.40**	**292**	P		**Pn**	**02 25 34.5**	**+0.1**
MJAR	**Matsushiro Arr**	**1.47**	**356**	P		**Pn**	**02 25 35.0**	**-0.1**
	16nm,0.4s,baz=178,slow=9.3,SNR=42							
MJAR					S	**S**	**02 26 02.0**	**-0.5**
	4.2nm,0.6s,baz=188,slow=17,SNR=7.1							
MAT	**Matsushiro**	**1.47**	**356**	P		**Pn**	**02 25 35.2**	**+0.1**
MAT				*e*S		**S**	**02 26 02.3**	**-0.2**
JIE	**Ise**	**1.49**	**244**	P		**Pn**	**02 25 35.1**	**-0.1**
JAG	**Ashikaga**	**1.64**	**34**	P		**Pn**	**02 25 35.9**	**-0.5**
JWT	**Wachi**	**2.40**	**276**	P		**Pn**	**02 25 44.3**	**+0.4**
JSZ	**Suzu**	**2.50**	**342**	*e*P		**Pn**	**02 25 45.2**	**+0.3**
JTNC	**Tanabenakahech**	**2.56**	**242**	P		**Pn**	**02 25 45.4**	**-0.3**
USRK	**Ussuriysk Ar.**	**10.34**	**334**	P		**Pn**	**02 27 23.3**	**+0.1**
	2.6nm,0.7s,baz=149,slow=13,SNR=6.3							
WRA	**Warramunga Arr**	**54.84**	**185**	P		**P**	**02 34 07.7**	**0.0**
	0.1nm,0.3s,baz=358,slow=7.7,SNR=1.1							
	0.1nm,0.3s							

*IDC **14** 02:35:22.5±1.7, 36°.35N×76°.61E, h0km, mb3.9/8, mbtmp3.9/14, ML3.5/6, MS3.3/2, Error ellipse: s-maj=31.9km s-min=23.6km az=139.0*

*NNC **14** 02:35:36.9±2.5, 36°.86N×76°.65E, h178km±57km, mb3.2, mpv4.1, Error ellipse: s-maj=27.4km s-min=15.1km az=177.0*

ISC 14 02:35:35.5±1.2, 36°.8N±0°.1×76°.67E±0°.08, h100km, n37, σ2°35/39, mb3.8/8, 1C-6D, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
UCH	**Uchtor**	**5.67**	**344**	P		**Pn**	**02 37 00.4**	**+2.7**
	SNR=11							
KBK	**Karagaybulak**	**5.99**	**348**	P		Pn	02 37 06.6	+4.8
	SNR=5.1							
AAK	**Ala-Archa**	**6.06**	**345**	P		**Pn**	**02 37 06.0**	**+3.3**
	SNR=7.1							
AAK	**Ala-Archa**	**6.06**	**345**	⇓P		**Pn**	**02 37 05.4**	**+2.6**
	7.0nm,0.6s							
AAK				⇓S		**Sn**	**02 38 13.2**	**+2.5**
	17nm,0.6s							
AAK	**Ala-Archa**	**6.06**	**345**	Pn		**Pn**	**02 37 05.2**	**+2.5**
	1.3nm,0.3s,baz=162,slow=16,SNR=11							
AAK				Pg			02 37 17.9	
	1.6nm,0.3s,baz=136,slow=9.0,SNR=12							
AAK				Sn		**Sn**	**02 38 09.4**	**-1.3**
	1.3nm,0.3s,baz=201,slow=12,SNR=4.8							
	3.1nm,0.3s							
TKM2	**Tokmak 2**	**6.16**	**353**	P		**Pn**	**02 37 06.8**	**+2.6**
	SNR=8.8							
TKM2	**Tokmak 2**	**6.16**	**353**	⇓P		**Pn**	**02 37 05.0**	**+0.8**
	4.6nm,0.7s							
TNSS	**Tian-Shan**	**6.23**	**2**	P		**Pn**	**02 37 06.3**	**+1.0**
	13nm,0.8s							
EKS2	**Erkin-Say**	**6.26**	**340**	P		Pn	02 37 09.8	+4.5
	SNR=5.6							
MDOK	**Medeo**	**6.36**	**3**	P		**Pn**	**02 37 07.7**	**+1.0**
	15nm,0.7s							
MDOK				⇓S		**Sn**	**02 38 21.2**	**+3.2**
	14nm,0.8s							
CHMS	**Chumysh**	**6.36**	**347**	⇓P		**Pn**	**02 37 07.4**	**+0.7**
	6.3nm,0.8s							
KOTS	**Kotyrbulak**	**6.43**	**3**	P		**Pn**	**02 37 08.0**	**+0.3**
	12nm,0.2s							
DGS	**Degeres**	**6.47**	**354**	P		**Pn**	**02 37 09.9**	**+1.7**
	5.9nm,0.7s							
KURS	**Kuram**	**6.77**	**9**	P		**Pn**	**02 37 12.4**	**+0.1**
	16nm,0.7s							
PDGK	**Podgornoye**	**6.87**	**18**	Lg		Lg	02 38 28.1	
	11nm,0.8s							
KTBS	**Karatobe**	**6.90**	**0**	P		**Pn**	**02 37 14.7**	**+0.7**
	18nm,0.6s							
ARXS	**Arharly**	**7.45**	**6**	P		**Pn**	**02 37 22.8**	**+1.2**
	4.4nm,0.5s							
KK31	**Karatay Array**	**7.87**	**325**	P		**Pn**	**02 37 28.4**	**+1.3**
	2.5nm,0.4s,baz=134,slow=12,SNR=62							
KK31					⇑S	**Sn**	**02 38 54.8**	**+0.3**
	9.9nm,0.5s,baz=131,slow=23,SNR=10							
DJR	**Jarkent**	**7.88**	**17**	P		**Pn**	**02 37 27.8**	**+0.3**
	23nm,0.4s							
MAKZ	**Makanchi**	**10.75**	**20**	⇓P		**Pn**	**02 38 06.2**	**-0.1**
	12nm,0.5s							
MK31	**Makanchi Array**	**10.82**	**21**	P		**Pn**	**02 38 06.2**	**-1.2**
	0.7nm,0.3s,baz=203,slow=12,SNR=71							
MKAR	**Makanchi Array**	**10.82**	**21**	Pn		**Pn**	**02 38 06.4**	**-0.9**
	2.1nm,0.3s,baz=198,slow=12,SNR=75							
MKAR					Sn	**Sn**	**02 39 57.8**	**-8.6**
	0.4nm,0.3s,baz=189,slow=15,SNR=2.9							
	3.1nm,0.3s							

KURBB	**Kurchatov Arra**	**13.88**	**5**	Pn		**Pn**	**02 38 46.0**	**-1.7**
	baz=195,slow=12,SNR=5.0							
	0.4nm,0.6s							
GEYT	**Alibeck**	**14.80**	**280**	Pn		**P**	**02 38 59.9**	**-3.1**
	0.2nm,0.3s,baz=123,slow=7.6,SNR=1.5							
GEYT					Sn	**Sn**	**02 41 37.5**	**-5.3**
	0.3nm,0.3s,baz=280,slow=27,SNR=1.6							
BVAR	**Borovoye Array**	**16.81**	**347**	P		**P**	**02 39 24.7**	**-0.3**
	0.1nm,0.3s,baz=150,slow=12,SNR=10							
	0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**18.05**	**16**	P		**Pn**	**02 39 39.9**	**+0.2**
	0.2nm,0.3s,baz=206,slow=13,SNR=5.3							
	1.0nm,0.5s							
AKTO	**Aktyubinsk**	**19.11**	**321**	P		**Pn**	**02 39 52.1**	**-0.1**
	0.8nm,0.3s,baz=112,slow=10,SNR=16							
	5.6nm,0.6s							
SONM	**Songino Array**	**24.44**	**54**	P		**P**	**02 40 47.6**	**+2.6**
	0.3nm,0.4s,baz=275,slow=7.3,SNR=4.2							
SONM					LR	LR	02 53 04.8	
	comp=Z,84nm,18.9s,baz=240,slow=43							
	0.3nm,0.4s							
FINES	**FINESS Array B**	**39.83**	**325**	P		**P**	**02 42 59.9**	**+1.3**
	2.5nm,0.4s,baz=114,slow=9.3,SNR=57							
	2.5nm,0.4s							
ARCES	**ARCESS Array B**	**42.66**	**336**	P		**P**	**02 43 23.2**	**+1.5**
	1.3nm,0.4s,baz=101,slow=8.4,SNR=28							
	1.3nm,0.4s							
VRAC	**Vranov**	**44.51**	**306**	LR		LR	03 06 07.5	
	comp=Z,24nm,18.3s,baz=238,slow=41							
HFS	**Hagfors**	**45.66**	**321**	P		**P**	**02 43 47.1**	**+1.3**
	1.3nm,0.4s,baz=104,slow=9.2,SNR=18							
	1.3nm,0.4s							
NB2	**NORSAR Subarra**	**46.89**	**323**	P		**P**	**02 43 56.3**	**+0.8**
	comp=Z,0.9nm,0.5s,baz=90,slow=7.9							
NOA	**NORSAR Array B**	**46.89**	**323**	P		**P**	**02 43 56.5**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=91,slow=7.7,SNR=8.4							
	comp=Z,0.8nm,0.5s							
EKA	**Eskdalemuir Ar**	**55.21**	**317**	P		**P**	**02 44 58.5**	**+0.8**
	comp=Z,0.6nm,0.6s,baz=89,slow=7.2,SNR=8.3							
	comp=Z,0.6nm,0.6s							
TORD	**Torodi Ar. Bea**	**70.27**	**272**	P		**P**	**02 46 38.4**	**0.0**
	comp=Z,0.6nm,0.5s,baz=38,slow=6.1,SNR=8.6							
	comp=Z,0.6nm,0.5s							
YKA	**Yellowknife Ar**	**80.63**	**5**	P		**P**	**02 47 37.4**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=346,slow=6.0,SNR=9.0							
	comp=Z,0.5nm,0.7s							

*IDC **14** 02:58:01.6±0.4, 42°.80S×73°.70W, h0km, mb4.8/16, mbtmp4.8/17, MS4.0/32, Error ellipse: s-maj=17.8km s-min=11.7km az=110.0*

*VAO **14** 02:58:03.6±0.4, 42°.91S×73°.62W, h10km, mb5.0*

*GUC **14** 02:58:04.4±0.7, 42°.96S×74°.17W, h14km±3km, ML4.9*

*MOS **14** 02:58:05.6±1.1, 42°.77S×73°.75W, h33km, mb5.3/20, Error ellipse: s-maj=17.6km s-min=8.0km az=88.3*

*NEIC **14** 02:58:06.1, 42°.83S×74°.02W, h29km*

*NEIC **14** 02:58:06.2±2.1, 42°.83S±0°.04×74°.00W±0°.09, h30km±4km, mb5.0/320, Mwr4.6/33, Error ellipse: s-maj=9.9km s-min=5.6km az=102.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}0.38; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$-0.32; $M_{r\theta}$-0.02; $M_{r\phi}$-0.25; $M_{\theta\phi}$-0.91; Fault plane solution: $M_0$1.01000×10^{16} NP1:φ184.58000°, δ78.91000°, λ76.81000°. NP2:φ55.21000°, δ17.17000°, λ139.34000°. Principal axes: T 1.0235, Plg54.0000°, Azm79.0000°; N -0.0344, Plg13.0000°, Azm187.0000°; P -0.9891, Plg33.0000°, Azm286.0000°;*

ISC 14 02:58:05.9±0.7, 42°.83S±0°.02×73°.94W±0°.05, h29km±4km, n650, σ1°14/538, mb5.0/176, MS4.0/33, 20C-18D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LL07	**Hotel Espejo d**	**0.34**	**91**	Pg		**Pn**	**02 58 15.5**	**+0.6**
LL07				Sg		**Sn**	**02 58 22.3**	**+1.5**

H03S2 Juan Fernandez 9.79 335 Pn **Pn** **03 00 26.2 +1.7**
baz=137,slow=7.8
H03S2 T T 03 09 37.8
baz=154,slow=75,SNR=26
H03S3 Juan Fernandez 9.79 335 Pn **Pn** **03 00 26.3 +1.8**
baz=137,slow=7.8
H03S3 T T 03 09 39.5
baz=154,slow=75,SNR=32
VA04 Juan Fernndez 9.94 336 Pn **Pn** **03 00 26.8 0.0**
H03N3 Juan Fernandez 10.14 336 Pn **Pn** **03 00 30.6 +1.3**
baz=344,slow=72
H03N1 Juan Fernandez 10.15 336 Pn **Pn** **03 00 30.5 +1.1**
baz=344,slow=72
H03N2 Juan Fernandez 10.16 336 Pn **Pn** **03 00 30.7 +1.1**
baz=344,slow=72
TRQA Tornquist 10.28 66 Pn **Pn** **03 00 33.8 +2.3**
TRQA Tornquist 10.28 66 P **Pn** **03 00 33.8 +2.3**
ZON Zonda 12.01 22 Pn **Pn** **03 00 54.4 -0.8**
ZON Zonda 12.01 22 P **Pn** **03 00 54.4 -0.8**
USHA Ushuaia 12.55 165 Pn **Pn** **03 01 01.2 -1.1**
comp=N,18nm,0.5s,baz=22,slow=1.3,SNR=0.8
CO05 La Serena 13.06 10 Pn **Pn** **03 01 10.7 +1.2**
EFI East Falkland 13.93 135 Pn **Pn** **03 01 22.1 +1.0**
EFI East Falkland 13.93 135⇑ *eP* **Pn** **03 01 20.5 -0.6**
EFI pmax pmax
comp=Z,2.0nm,1.0s
LCO Las Campanas 14.03 12 Pn **Pn** **03 01 22.7 -0.3**
LCO Las Campanas 14.03 12 *eP* **Pn** **03 01 22.7 -0.3**
LPA La Plata 14.75 63 *eP* Pn 03 01 25.4 -7.0
LPA La Plata 14.75 63 PN **Pn** **03 01 30.7 -1.7**
LPA pP **P** **03 01 41.9 +3.8**
LPA PP PnPn 03 01 53.4 +13
LPA sP 03 02 10.2
LPA pPP 03 02 23.4
LPA PPP PPP 03 02 38.6
LPA S **Sn** **03 04 18.4 +3.6**
LPA La Plata 14.75 63 SN **Sn** **03 04 22.7 +7.9**
LPA sS **S** **03 04 29.3 -3.5**
LPA SS SbSb 03 04 59.3 -18
LPA SSS SSS 03 05 10.3
LPA PCP **PcP** **03 06 41.7 -1.3**
LPA SCS **ScS** **03 13 55.6 +3.1**
LPA PKIKP **PKiKP** **03 14 40.3 +2.1**
LPA SKIKP 03 18 12.6
LPA PKIKS 03 18 17.8
LPA S 03 21 35.8
AC06 Mina Casimiro 15.71 12 IAmb IAmb 03 02 02.5
comp=Z,145nm,1.4s
AC02 Maricunga 16.43 15 Pn **Pn** **03 01 54.6 -0.2**
PSAL Palomas, Salto 17.50 53 *eP* **Pn** **03 02 07.0 -0.8**
GO02 Mina Guanaco 17.98 13 **P** **03 02 14.6 +0.3**
TBOT Tacuaremb 18.10 58 *eP* **Pn** **03 02 13.3 -1.8**
ITQB Itaqui 19.11 52 **P** **03 02 23.4 -3.1**
ITQB IAmb IAmb 03 02 34.6
comp=Z,65nm,0.8s
ITQB Itaqui 19.11 52 *eP* **P** **03 02 24.1 -2.4**
PB10 IPOC Station P 19.46 9 IAmb IAmb 03 02 33.4
comp=Z,55nm,0.8s
RODS Rosario do Sul 19.48 56 *eP* **P** **03 02 27.2 -3.3**
PLTB Pedras Altas 19.54 62 P **P** **03 02 28.0 -3.1**
PLTB Pedras Altas 19.54 62 *eP* **P** **03 02 28.2 -2.9**
PB06 IPOC Station P 20.39 12 IAmb IAmb 03 02 42.6
comp=Z,65nm,0.9s
UNIS Unistalda (Bra 20.47 54 *eP* **P** **03 02 38.3 -3.0**
CPSB Cacapava Do Su 20.54 60 *eP* **P** **03 02 39.0 -3.0**
LVC Limon Verde 20.59 13 P **P** **03 02 44.4 +1.4**
LVC Limon Verde 20.59 13 P **P** **03 02 44.0 +1.0**
comp=Z,22nm,0.7s,baz=218,slow=17,SNR=18
LVC LR LR 03 11 03.6
comp=Z,341nm,18.6s,baz=181,slow=38
LVC Limon Verde 20.59 13 *eP* **P** **03 02 44.4 +1.4**
LVC Limon Verde 20.59 13 *eP* **P** **03 02 43.0 0.0**
PB07 IPOC Station P 21.31 10 IAmb IAmb 03 03 05.4
comp=Z,63nm,1.2s
CPUP Villa Florida 21.33 45 P **P** **03 02 47.6 -3.0**
CPUP IAmb IAmb 03 02 53.8
comp=Z,54nm,0.7s
CPUP Villa Florida 21.33 45 P **P** **03 02 48.4 -2.2**
comp=Z,16nm,0.6s,baz=213,slow=12,SNR=22
CPUP S S 03 06 30.4 -16
comp=Z,3.1nm,0.8s,baz=208,slow=18,SNR=1.9
CPUP LR LR 03 11 51.4
comp=Z,817nm,19.4s,baz=217,slow=39
comp=Z,16nm,0.6s
CPUP Villa Florida 21.33 45 P **P** **03 02 47.6 -3.0**
CPUP pmax pmax
comp=Z,54nm,0.7s
PB09 IPOC Station P 21.33 12 IAmb IAmb 03 03 14.5
comp=Z,37nm,0.7s
PB02 IPOC Station P 21.71 10 IAmb IAmb 03 03 09.5
comp=Z,32nm,0.7s
CRSM Crissiumal (Br 22.25 53 *eP* **P** **03 02 57.4 -3.0**
TA01 Diego Aracena 22.42 9 IAmb IAmb 03 03 29.1
comp=Z,48nm,1.1s
PMSA Palmer Station 22.70 169 LR LR 03 10 52.1
comp=Z,468nm,20.6s,baz=324,slow=34
PB11 IPOC Station P 23.28 10 IAmb IAmb 03 03 13.8
comp=Z,51nm,0.8s
ITAB Concordia 23.58 56 P **P** **03 03 11.9 -2.2**
ITAB Concordia 23.58 56 *eP* **P** **03 03 14.1 0.0**
PB12 IPOC Station P 24.33 8 IAmb IAmb 03 03 23.5
comp=Z,48nm,1.1s
PB16 IPOC Station P 24.70 10 IAmb IAmb 03 03 30.0
comp=Z,38nm,0.8s
AMBA Amambai (Brazi 25.33 44 *eP* **P** **03 03 29.5 -0.7**
PB18 Visviri 25.44 10 IAmb IAmb 03 03 35.5
comp=Z,56nm,0.8s
PTGB Pitanga 25.50 52 *eP* **P** **03 03 32.3 +0.4**
BDQN Bodoquena, MS 26.58 38 *eP* **P** **03 03 41.2 -0.3**
TRCB Terra Rica 26.69 48 *eP* **P** **03 03 43.4 +0.8**
LPAZ La Paz 26.91 12 P **P** **03 03 45.6 +0.3**
LPAZ La Paz 26.91 12 P **P** **03 03 45.6 +0.3**
comp=Z,8.9nm,0.6s,baz=205,slow=7.9,SNR=22
comp=Z,8.9nm,0.6s
LPAZ La Paz 26.91 12 *eP* **P** **03 03 46.2 +0.9**
AQDB Aquidauana 27.04 40 *eP* **P** **03 03 44.7 -1.1**
LDASE Londrina, Braz 27.07 52 *eP* **P** **03 03 46.4 +0.4**
BBSD Serra de San D 27.96 28 *eP* **P** **03 03 53.3 -0.7**
PCMB Pacaembu 28.40 49 *eP* **P** **03 03 55.8 -2.0**
RVDE Rio Verde (Bra 28.65 40 *eP* **P** **03 03 59.8 -0.3**
SIV San Ignacio 28.92 26 LR LR 03 17 27.8
comp=Z,226nm,18.5s,baz=198,slow=40
PTLB Pontes e Lacer 30.09 29 P **P** **03 04 12.5 -0.3**
PTLB IAmb IAmb 03 04 16.5
comp=Z,36nm,0.9s
PTLB Pontes e Lacer 30.09 29 *eP* **P** **03 04 12.8 -0.1**
ITRB Iturama 30.43 48 *eP* **P** **03 04 14.3 -1.6**
NNA Nana 30.83 354 LR LR 03 13 40.2
comp=Z,184nm,21.6s,baz=157,slow=30
NNA Nana 30.83 354⇑ *eP* **P** **03 04 18.1 -1.3**
NNA pmax pmax
comp=Z,22nm,0.9s
SALV Santo Antonio 31.05 36 *eP* **P** **03 04 20.8 -0.5**
VILB Vilhena 32.05 26 IAmb IAmb 03 04 30.3
comp=Z,12nm,0.7s
VILB Vilhena 32.05 26 *eP* **P** **03 04 29.9 -0.3**
RPN Rapa Nui 32.68 287 LR LR 03 14 04.5
comp=Z,311nm,19.2s,baz=302,slow=29
ARAG Araguaiana, MT 33.01 42 *eP* **P** **03 04 38.8 +0.3**
ETMB Extrema 33.57 14 P **P** **03 04 43.6 +0.1**
ETMB IAmb IAmb 03 04 44.8
comp=Z,23nm,0.8s
ETMB Extrema 33.57 14 *eP* **P** **03 04 43.9 +0.5**
PMNB Patos De Minas 33.57 52 *eP* **P** **03 04 44.0 +0.4**
CZSB Cruzeiro do Su 34.97 2 IAmb IAmb 03 04 56.9
comp=Z,22nm,0.9s
CZSB Cruzeiro do Su 34.97 2 *eP* **P** **03 04 56.3 +0.7**
BDFB Brasilia 35.02 47 P **P** **03 04 54.4 -1.7**
BDFB Brasilia 35.02 47 P **P** **03 04 54.7 -1.4**
comp=Z,3.1nm,0.5s,baz=217,slow=7.7,SNR=9.7
BDFB LR LR 03 20 37.0
comp=Z,1µm,18.9s,baz=180,slow=39
comp=Z,3.1nm,0.5s
BDFB Brasilia 35.02 47 P **P** **03 04 54.4 -1.7**
BDFB pmax pmax
comp=Z,8.0nm,0.8s
SAML Samuel 35.04 19 P **P** **03 04 55.5 -0.7**
SAML IAmb IAmb 03 04 57.2
comp=Z,22nm,0.8s
SAML Samuel 35.04 19 P **P** **03 04 55.5 -0.7**
SAML pmax pmax
comp=Z,22nm,0.9s
SAML Samuel 35.04 19 *eP* **P** **03 04 56.0 -0.2**
CLDB Colider 35.54 32 *eP* **P** **03 05 01.3 +0.8**

ATAH Atahualpa 35.76 352 LR LR 03 16 41.3
comp=Z,169nm,19.5s,baz=188,slow=31
SNDB Serra Nova Dou 36.48 39 *eP* **P** **03 05 08.2 -0.4**
JANB Januaria 37.56 52 *eP* **P** **03 05 15.9 -1.9**
TBTG Tabatinga, AM 38.64 6 *eP* **P** **03 05 27.2 +0.4**
GUA01 Guaratinga, BA 39.10 59 *eP* **P** **03 05 27.8 -2.8**
NPGB Novo Progresso 39.22 30 *eP* **P** **03 05 31.3 -0.4**
SDBA SAO DESIDERIO 39.37 48 *eP* **P** **03 05 32.8 -0.2**
TEFE Tefe 40.02 15 *eP* **P** **03 05 38.0 -0.3**
SMTB Santa Maria do 40.96 42 *eP* **P** **03 05 46.0 -0.1**
ITTB Itaituba 41.57 28 *eP* **P** **03 05 51.0 -0.1**
VNA3 Neumayer Olymp 41.91 154 ⇑P **P** **03 05 52.9 -0.4**
comp=Z,16nm,0.6s
PRPB Parauapebas 42.27 37 *eP* **P** **03 05 56.4 -0.5**
VNA1 Neumayer--Stat 42.30 153 ⇑P **P** **03 05 56.0 -0.5**
comp=Z,20nm,1.0s
VNA2 Neumayer--Watz 42.61 154 ⇑P **P** **03 05 59.5 +0.4**
comp=Z,24nm,0.6s,baz=278,slow=7.8
SNAA Sanae 44.12 155 P **P** **03 06 10.7 -0.6**
SNAA Sanae 44.12 155 ⇑P **P** **03 06 11.2 0.0**
comp=Z,511nm,1.0s
SNAA Sanae 44.12 155 P **P** **03 06 11.0 -0.2**
comp=Z,22nm,0.9s,baz=288,slow=17,SNR=21
comp=Z,22nm,0.9s
SNAA Sanae 44.12 155 *ce*P **P** **03 06 10.1 -1.2**
SNAA pmax pmax
comp=Z,41nm,1.3s
NBLA Lagarto - SE 44.63 56 *eP* **P** **03 06 14.9 -1.0**
TROLL Troll, Antarti 45.79 155 ⇑P **P** **03 06 24.8 +0.1**
comp=Z,1µm,0.7s
TMAB Tom-Au,PA,Br 46.42 37 *eP* **P** **03 06 30.9 +0.9**
MCPB Macapa, AP 46.61 31 *eP* **P** **03 06 32.0 +0.5**
BOAV Boa Vista 46.62 19 P **P** **03 06 30.4 -1.1**
BOAV Boa Vista 46.62 19 *eP* **P** **03 06 31.3 -0.3**
QSPA South Pole Qui 47.42 180 P **P** **03 06 37.8 +0.2**
QSPA IAmb IAmb 03 06 39.3
comp=Z,11nm,0.9s
QSPA South Pole Qui 47.42 180 P **P** **03 06 38.1 +0.6**
comp=Z,9.4nm,0.9s,baz=148,slow=3.1,SNR=23
QSPA LR LR 03 27 15.2
comp=Z,63nm,18.1s,baz=186,slow=37
comp=Z,9.4nm,0.9s
ROSC El Rosal 47.44 359 P **P** **03 06 39.4 +1.0**
comp=Z,5.5nm,0.4s,baz=148,slow=15,SNR=3.2
ROSC LR LR 03 25 19.4
comp=Z,144nm,19.9s,baz=230,slow=34
comp=Z,5.5nm,0.4s
NBPB Pedra_Branca-C 47.97 49 *eP* **P** **03 06 42.8 +0.6**
NVL N'lazarevskaya 48.93 154 *eP* **P** **03 06 48.2 -0.6**
NVL pmax pmax
comp=Z,21nm,0.7s
NBCL Cascavel-CE 49.77 50 *eP* **P** **03 06 56.8 +0.8**
RCBR Riachuelo 49.85 53 LR LR 03 29 03.1
comp=Z,354nm,18.0s,baz=242,slow=38
MDP Montagnes des 51.47 28 LR LR 03 29 26.9
comp=Z,138nm,21.8s,baz=132,slow=37
SDV Santo Domingo 51.55 4 P **P** **03 07 08.4 -1.1**
SDV IAmb IAmb 03 07 10.2
comp=Z,13nm,0.8s
SDV Santo Domingo 51.55 4 LR LR 03 28 49.5
comp=Z,84nm,18.6s,baz=192,slow=36
SDV Santo Domingo 51.55 4 *eP* **P** **03 07 09.8 +0.3**
BAUV El Baul 51.80 7 P **P** **03 07 10.6 -0.5**
BCIP Isla Barro Col 52.02 353 P **P** **03 07 13.8 +1.0**
BCIP Isla Barro Col 52.02 353 P **P** **03 07 13.8 +1.0**
BCIP pmax pmax
comp=Z,24nm,0.8s
ELIB Princess Elisa 52.09 157 *d*P **P** **03 07 12.9 +0.1**
comp=Z,19nm,0.9s
ELIB *d*pP **pP** **03 07 21.0 -0.7**
ELIB *d*PcP **PcP** **03 08 24.0 -0.6**
PCRV Puerto La Cruz 53.42 11 LR LR 03 32 43.1
comp=Z,176nm,19.2s,slow=39
ORTG Ortega, Santa 53.97 346 P **P** **03 07 27.0 -0.2**
ORTG IAmb IAmb 03 07 29.7
comp=Z,17nm,1.0s
VNDA Vanda 55.17 193 P **P** **03 07 36.3 +1.1**
VNDA Vanda 55.17 193 P **P** **03 07 37.0 +1.8**
comp=Z,3.3nm,1.0s,baz=144,slow=6.8,SNR=9.3
VNDA LR LR 03 29 25.4
comp=Z,51nm,18.2s,baz=160,slow=34
comp=Z,3.3nm,1.0s
VNDA Vanda 55.17 193 P **P** **03 07 36.3 +1.1**
VNDA pmax pmax
comp=Z,14nm,1.5s
ESPN Las Esperanzas 55.57 348 P **P** **03 07 39.6 +0.9**
ESPN IAmb IAmb 03 07 40.5
comp=Z,15nm,0.6s
MTO3 Montecristo 58.68 342 P **P** **03 08 01.8 +0.8**
MTO3 IAmb IAmb 03 08 02.9
comp=Z,11nm,1.0s
APG El Apazote 59.52 341 LR LR 03 27 40.8
comp=Z,11nm,21.9s,baz=242,slow=30
MLPR Magueyes Islan 60.82 8 P **P** **03 08 13.9 -1.5**
CELP Cerrillos 60.97 8 P **P** **03 08 15.9 -0.6**
HUMP Col San Antoni 61.12 9 P **P** **03 08 15.8 -1.6**
HUMP IAmb IAmb 03 08 24.4
comp=Z,18nm,0.9s
GCPR Guaynabo City 61.26 9 P **P** **03 08 16.6 -1.7**
GTBY Guantanamo Bay 62.45 359 P **P** **03 08 26.3 0.0**
CMIG Matias Romero 62.66 337 LR LR 03 30 08.7
comp=Z,76nm,21.5s,baz=266,slow=31
TEIG Tepich 64.11 345 P **P** **03 08 37.0 -0.3**
MAW Mawson 65.16 163 P **P** **03 08 43.9 +0.2**
comp=Z,9.2nm,1.0s,baz=229,slow=6.6,SNR=12
MAW LR LR 03 37 28.8
comp=Z,165nm,19.2s,baz=223,slow=36
comp=Z,9.2nm,1.0s
SOR Soroa 65.82 351 P **P** **03 08 48.1 -0.3**
SOR Soroa 65.82 351 P **P** **03 08 48.1 -0.3**
SOR pmax pmax
comp=Z,21nm,0.8s
PPT2 Papeete2 67.82 266 *e*LR LR 03 29 25.1
comp=Z,116nm,25.5s
PPT2 *e*LR LR 03 29 26.2
comp=Z,117nm,34.5s
PPT Papeete 67.84 266 LR LR 03 31 17.5
comp=Z,79nm,18.2s,baz=124,slow=29
DWPF Disney Wildern 70.92 353 P **P** **03 09 20.8 +0.6**
baz=174
CASY Casey 71.17 182 P **P** **03 09 21.8 +0.4**
CASY IAmb IAmb 03 09 22.9
comp=Z,12nm,1.0s
SUR Sutherland 71.97 118 P **P** **03 09 27.5 +0.4**
SUR IAmb IAmb 03 09 28.1
comp=Z,23nm,0.9s
SUR Sutherland 71.97 118 LR LR 03 35 56.5
comp=Z,73nm,20.9s,baz=206,slow=32
RAR Rarotonga 72.93 257 LR LR 03 36 08.6
comp=Z,73nm,19.1s,baz=188,slow=31
TIGA Tifton 74.43 351 P **P** **03 09 41.1 +0.1**
baz=173
LPIG La Paz 74.56 326 LR LR 03 35 24.0
comp=Z,119nm,18.1s,baz=190,slow=30
833A Chaparral WMA, 74.58 337 P **P** **03 09 41.7 -0.3**
baz=161
BRAL Brewton 74.61 348 P **P** **03 09 42.2 +0.2**
baz=170
352A Blakely 74.63 350 IAmb IAmb 03 09 43.3
comp=Z,22nm,1.1s
GRHM Grahamstown, E 74.96 121 P **P** **03 09 43.1 -1.3**
250A Grady 75.29 349 IAmb IAmb 03 09 47.5
comp=Z,14nm,0.8s
HNDO Hondo 75.68 337 IAmb IAmb 03 09 50.5
comp=Z,14nm,0.8s
WIN Windhoek 75.75 108 P **P** **03 09 49.0 -0.4**
WIN IAmb IAmb 03 10 01.9
comp=Z,28nm,1.0s
WIN Windhoek 75.75 108 P **P** **03 09 49.0 -0.4**
WIN pmax pmax
comp=Z,28nm,1.0s
VBMS Vicksburg 76.21 346 P **P** **03 09 52.3 +1.1**
baz=168
GOGA Godfrey 76.37 352 IAmb IAmb 03 09 53.4
comp=Z,12nm,1.0s
GOGA Godfrey 76.37 352 P **P** **03 09 52.5 +0.4**
baz=173
435B Jarrell 76.40 339 P **P** **03 09 52.9 +0.5**
baz=162
LRAL Lakeview Retre 76.44 349 IAmb IAmb 03 09 54.2
comp=Z,15nm,0.8s
LRAL Lakeview Retre 76.44 349 P **P** **03 09 52.8 +0.4**
baz=170
NATX Nacogdoches 76.62 342 P **P** **03 09 54.0 +0.4**
baz=165
JCT Junction City 76.72 337 IAmb IAmb 03 09 56.1
comp=Z,16nm,0.8s
JCT Junction City 76.72 337 P **P** **03 09 54.7 +0.4**
baz=161
URZ Urewera 76.73 230 P **P** **03 09 56.2 +1.8**
comp=Z,5.0nm,0.3s,baz=121,slow=9.2,SNR=6.2
comp=Z,5.0nm,0.3s
Z47A Carrollton 76.76 348 P **P** **03 09 55.0 +0.7**
TXAR Lajitas Array 76.84 334 P **P** **03 09 55.8 +0.8**
TXAR Lajitas Array 76.84 334 P **P** **03 09 56.1 +1.1**
comp=Z,3.9nm,0.8s,baz=152,slow=8.2,SNR=46
comp=Z,3.9nm,0.8s
TXAR Lajitas Array 76.84 334 P **P** **03 09 55.8 +0.8**
JSC Jenkinsville 77.03 354 IAmb IAmb 03 09 57.1
comp=Z,16nm,0.9s
BOSA Boshof 77.33 117 P **P** **03 09 57.5 -0.6**
comp=Z,26nm,0.9s,baz=228,slow=6.2,SNR=32
BOSA LR LR 03 39 01.5
comp=Z,82nm,21.8s,baz=194,slow=32
comp=Z,26nm,0.9s
WHTX Lake Whitney, 77.52 340 P **P** **03 09 58.7 +0.1**
baz=163
OZNA Ozona 77.52 336 P **P** **03 09 59.1 +0.4**
OZNA IAmb IAmb 03 10 00.5
comp=Z,13nm,1.1s
PAULI Pauline 77.61 353 IAmb IAmb 03 10 00.5
comp=Z,22nm,0.9s
Y45A Yeager Farm, C 77.65 347 IAmb IAmb 03 10 01.1
comp=Z,22nm,0.9s
Z41A Richland Creek 77.67 344 IAmb IAmb 03 10 00.4
comp=Z,24nm,1.1s
FPAL Fort Paine 77.73 350 IAmb IAmb 03 10 01.1
comp=Z,17nm,0.9s
CNNC Cliffs of the 77.78 357 P **P** **03 10 01.1 +1.2**
baz=177
W57A Gilead 77.80 355 IAmb IAmb 03 10 01.2
comp=Z,17nm,0.8s
X48A Hartselle 77.84 349 P **P** **03 09 59.9 -0.4**
X48A IAmb IAmb 03 10 01.9
comp=Z,17nm,0.8s
BG3 Lake Jocassee 77.88 352 IAmb IAmb 03 10 02.0
comp=Z,17nm,1.0s
KMSC Kings Mountain 77.89 354 IAmb IAmb 03 10 01.8
comp=Z,17nm,0.8s
KMSC Kings Mountain 77.89 354 P **P** **03 10 00.5 -0.2**
baz=174,SNR=8.6
CCAR Cane Creek 78.10 345 IAmb IAmb 03 10 03.8
comp=Z,21nm,0.9s
Z38A Mt. Pleasant 78.14 342 IAmb IAmb 03 10 04.0
comp=Z,16nm,0.7s
WLAR White Oak Lake 78.14 344 IAmb IAmb 03 10 04.0
comp=Z,19nm,0.9s
OXF Oxford 78.26 347 IAmb IAmb 03 10 03.5
comp=Z,18nm,0.8s
OXF Oxford 78.26 347 P **P** **03 10 02.2 -0.5**
baz=168
TSUM Tsumeb 78.29 105 P **P** **03 10 02.2 -1.4**
TSUM Tsumeb 78.29 105 LR LR 03 39 48.4
comp=Z,97nm,19.6s,baz=158,slow=32
W50A Signal Mountai 78.34 351 IAmb IAmb 03 10 04.6
comp=Z,11nm,0.8s
MNHN Monahans 78.41 335 IAmb IAmb 03 10 05.4
comp=Z,9.9nm,0.7s
SWET Sewanee 78.44 350 IAmb IAmb 03 10 04.6
comp=Z,19nm,0.8s
CPCT Cooper Cave 78.50 351 IAmb IAmb 03 10 05.1
comp=Z,14nm,0.9s
V53A Saluda 78.54 353 P **P** **03 10 04.2 -0.1**
V53A IAmb IAmb 03 10 05.3
comp=Z,13nm,0.9s
ABTX Abilene, Hawle 78.70 338 P **P** **03 10 04.8 -0.4**
baz=161
V52A Sevierville 78.79 352 IAmb IAmb 03 10 06.9
comp=Z,15nm,1.1s
U56A King 79.02 355 IAmb IAmb 03 10 08.3
comp=Z,16nm,1.0s
LIC Lamto 79.03 71⇑ *eP* **P** **03 10 07.5 0.0**
comp=Z,157nm,0.8s
ODSA Odessa 79.07 336 IAmb IAmb 03 10 09.0
comp=Z,26nm,1.1s
MIAR Mount Ida 79.07 344 P **P** **03 10 07.0 -0.1**
baz=166
V48A Smith Brothers 79.07 349 P **P** **03 10 06.7 -0.5**
V48A IAmb IAmb 03 10 08.3
comp=Z,27nm,1.1s
KIC Kosan Boka 79.33 71⇑ *eP* **P** **03 10 09.1 0.0**
comp=Z,83nm,0.8s
TIC Toumodi 79.34 71⇑ *eP* **P** **03 10 09.2 0.0**
comp=Z,68nm,0.8s
CLTN Cedars of Leba 79.35 350 IAmb IAmb 03 10 09.8
comp=Z,16nm,1.1s
DBIC Dimbokro 79.47 71 P **P** **03 10 09.9 +0.1**
DBIC Dimbokro 79.47 71 P **P** **03 10 09.5 -0.3**
comp=Z,42nm,0.8s,baz=213,slow=6.5,SNR=32
DBIC LR LR 03 44 06.6
comp=Z,69nm,18.4s,baz=213,slow=35
comp=Z,42nm,0.8s
DBIC Dimbokro 79.47 71 P **P** **03 10 09.9 +0.1**
DBIC pmax pmax
comp=Z,58nm,1.0s
TZTN Tazewell 79.48 352 P **P** **03 10 08.4 -1.0**
TZTN Tazewell 79.48 352 P **P** **03 10 09.3 -0.1**
baz=173,SNR=5.5
T59A Double "B" Far 79.49 357 IAmb IAmb 03 10 10.5
comp=Z,11nm,0.9s
APMT Aspermont 79.49 338 IAmb IAmb 03 10 11.0
comp=Z,12nm,0.8s
WHAR Wooly Hollow 79.53 345 IAmb IAmb 03 10 11.0
comp=Z,25nm,1.3s
MNTX Cornudas Mount 79.58 333 P **P** **03 10 09.4 -0.6**
baz=157
T57A Hurt 79.59 356 IAmb IAmb 03 10 11.2
comp=Z,10nm,0.8s
WVT Waverly 79.60 349 P **P** **03 10 09.0 -1.0**
WVT Waverly 79.60 349 P **P** **03 10 10.3 +0.3**
baz=170
WVT Waverly 79.60 349 P **P** **03 10 09.0 -1.0**
WVT pmax pmax
comp=Z,169nm,1.5s
U49A Red Boiling Sp 79.70 350 IAmb IAmb 03 10 11.6
comp=Z,25nm,1.3s
BLA Blacksburg 79.88 355 P **P** **03 10 11.7 +0.1**
baz=156
DKNS Dickens 80.03 337 IAmb IAmb 03 10 13.9
comp=Z,7.3nm,0.5s
LCAR Lake Charles 80.08 346 IAmb IAmb 03 10 13.6
comp=Z,13nm,0.8s
T47A Sharon Grove 80.34 349 IAmb IAmb 03 10 14.6
comp=Z,15nm,0.8s
PARMO Parma 80.42 347 P **P** **03 10 14.6 +0.3**
WMOK Wichita Mounta 80.47 339 P **P** **03 10 14.6 -0.2**
baz=162
S51A Beattyville 80.57 352 IAmb IAmb 03 10 16.3
comp=Z,14nm,0.8s
FNO Franklin 80.61 341 IAmb IAmb 03 10 16.8
comp=Z,14nm,0.8s
PBMO Poplar Bluff 80.64 347 P **P** **03 10 15.3 -0.3**
PBMO IAmb IAmb 03 10 16.6
comp=Z,12nm,0.7s
319A Douglas 80.66 330 IAmb IAmb 03 10 19.0
comp=Z,16nm,1.0s
MSTX Muleshoe 80.86 336 IAmb IAmb 03 10 18.6
comp=Z,15nm,0.7s
MSTX Muleshoe 80.86 336 P **P** **03 10 17.5 +0.5**
baz=159,SNR=6.4
R55A Marlinton 80.92 355 IAmb IAmb 03 10 18.9
comp=Z,19nm,0.8s
CGM3 Cape Girardeau 81.02 347 IAmb IAmb 03 10 18.4
comp=Z,15nm,0.7s
OK029 Liberty Lake 81.14 341 IAmb IAmb 03 10 19.7
comp=Z,20nm,1.0s
OK031 S. Brehm Rd 81.14 341 IAmb IAmb 03 10 19.8
comp=Z,18nm,1.0s
121A Cookes Peak, D 81.16 332 P **P** **03 10 19.6 +0.9**
baz=156
OK052 Battle Ridge R 81.17 341 IAmb IAmb 03 10 19.9
comp=Z,19nm,1.1s
OK033 Mehan 81.25 341 IAmb IAmb 03 10 20.5
comp=Z,23nm,1.0s
R50A Paris 81.28 352 IAmb IAmb 03 10 19.8
comp=Z,26nm,1.5s
QUOK Quay 81.32 342 P **P** **03 10 18.9 -0.4**
R49A Shelbyville 81.38 351 IAmb IAmb 03 10 20.2
comp=Z,15nm,1.0s
AMTX Amarillo 81.39 337 IAmb IAmb 03 10 21.7
comp=Z,21nm,1.1s
AMTX Amarillo 81.39 337 P **P** **03 10 20.7 +0.9**
baz=160
WCI Wyandotte Cave 81.45 350 P **P** **03 10 19.3 -0.6**

WCI **Wyandotte Cave** 81.45 350 P P 03 10 19.3 -0.6
WCI pmax pmax
comp=Z,7.0nm,0.8s
OK048 **Pawnee Station** 81.61 341 IAmb IAmb 03 10 22.3
comp=Z,17nm,0.7s
OK051 **E0350 and S346** 81.67 342 IAmb IAmb 03 10 22.7
comp=Z,15nm,0.8s
FVM **French Village** 81.82 347 IAmb IAmb 03 10 22.5
comp=Z,12nm,0.8s
Q51A **Peebles** 81.92 353 IAmb IAmb 03 10 23.4
comp=Z,15nm,0.8s
CCM **Cathedral Cave** 82.03 346 P P 03 10 23.4 +0.5
baz=167
CCM **Cathedral Cave** 82.03 346 P P 03 10 22.9 0.0
CCM pmax pmax
comp=Z,42nm,0.6s
TUC **Tucson** 82.05 329 P P 03 10 24.4 +1.2
TUC **Tucson** 82.05 329 P P 03 10 24.8 +1.5
baz=154
TUC **Tucson** 82.05 329 P P 03 10 24.5 +1.2
TUC pmax pmax
comp=Z,2.0nm,1.0s
S39A **Bolivar** 82.06 345 P P 03 10 22.9 -0.2
S39A IAmb IAmb 03 10 24.3
comp=Z,19nm,0.8s
P53A **Whipple** 82.21 354 IAmb IAmb 03 10 25.1
comp=Z,23nm,1.1s
Y22D **IRIS PASSCAL I** 82.27 333 P P 03 10 25.3 +0.8
baz=156
Y22F **Passcal Instru** 82.27 333 P P 03 10 24.9 +0.4
baz=156
MCWV **Mont Chateau** 82.28 355 IAmb IAmb 03 10 25.5
comp=Z,10nm,0.9s
MCWV **Mont Chateau** 82.28 355 P P 03 10 24.0 -0.1
baz=176
POGA **Pongola** 82.36 120 P P 03 10 24.2 -1.0
KAN14 **Manchester OK** 82.37 341 IAmb IAmb 03 10 26.5
comp=Z,22nm,1.1s
WUPA **West Chester U** 82.39 359 IAmb IAmb 03 10 26.8
comp=Z,11nm,0.8s
P52A **Corning** 82.41 354 P P 03 10 25.2 +0.3
baz=174,SNR=13
MVL **Millersville** 82.47 358 IAmb IAmb 03 10 27.2
comp=Z,11nm,0.9s
Q44A **Meyer Farm, Va** 82.49 348 IAmb IAmb 03 10 26.0
comp=Z,18nm,0.9s
214A **Organ Pipe Nat** 82.52 327 P P 03 10 26.6 +0.9
baz=152
P49A **Miami Univ. Ec** 82.56 352 IAmb IAmb 03 10 26.2
comp=Z,15nm,0.8s
P49A **Miami Univ. Ec** 82.56 352 P P 03 10 25.3 -0.4
baz=172,SNR=8.6
P48A **Milroy** 82.56 351 IAmb IAmb 03 10 26.0
comp=Z,15nm,0.8s
O52A **Adamsville** 82.87 354 IAmb IAmb 03 10 28.2
comp=Z,17nm,0.8s
ANMO **Albuquerque** 82.91 334 P P 03 10 29.1 +1.2
ANMO IAmb IAmb 03 10 30.5
comp=Z,14nm,1.1s
ANMO **Albuquerque** 82.91 334 P P 03 10 28.0 +0.1
baz=157
ANMO **Albuquerque** 82.91 334 LR LR 03 41 30.4
comp=Z,71nm,21.9s,baz=250,slow=31
ANMO **Albuquerque** 82.91 334 ‖ *eP* P 03 10 29.3 +1.4
ANMO pmax pmax
comp=Z,17nm,1.3s
O53A **New Philadelph** 82.95 354 P P 03 10 27.7 0.0
O53A **New Philadelph** 82.95 354 P P 03 10 27.9 +0.2
baz=175,SNR=8.0
ACSO **Alum Creek Sta** 83.08 353 IAmb IAmb 03 10 29.3
comp=Z,18nm,1.0s
ACSO **Alum Creek Sta** 83.08 353 P P 03 10 27.9 -0.4
baz=173,SNR=7.0
BRNJ **Basking Ridge** 83.13 360 P P 03 10 29.2 +0.6
BRNJ IAmb IAmb 03 10 48.7
comp=Z,16nm,0.9s
SSPA **Standing Stone** 83.16 357 P P 03 10 28.3 -0.4
SSPA IAmb IAmb 03 10 29.7
comp=Z,8.7nm,0.8s
SSPA **Standing Stone** 83.16 357 P P 03 10 29.1 +0.3
baz=177
O49A **Covington** 83.17 352 IAmb IAmb 03 10 29.4
comp=Z,15nm,1.2s
P43A **Skaggs, Pawnee** 83.29 348 IAmb IAmb 03 10 30.4
comp=Z,12nm,0.8s
N58A **Sunbury** 83.32 358 IAmb IAmb 03 10 34.2
comp=Z,8.4nm,0.9s
O48B **Farmland** 83.32 351 IAmb IAmb 03 10 29.9
comp=Z,15nm,0.8s
O48B **Farmland** 83.32 351 P P 03 10 28.9 -0.7
baz=172
N53A **Lisbon** 83.48 355 IAmb IAmb 03 10 31.8
comp=Z,15nm,1.0s
ODNJ **Ogdensburg** 83.53 359 IAmb IAmb 03 10 32.0
comp=Z,9.1nm,0.7s
M57A **Sunshine Farm,** 83.83 358 P P 03 10 32.6 +0.4
M57A IAmb IAmb 03 10 35.0
comp=Z,8.4nm,0.8s
N49A **Columbus Grove** 83.88 352 IAmb IAmb 03 10 33.0
comp=Z,17nm,0.9s
R32A **Long Quarter,** 83.94 341 IAmb IAmb 03 10 34.8
comp=Z,14nm,0.8s
P38A **Dawn** 83.97 345 P P 03 10 33.1 +0.1
M55A **Ridgway** 84.02 356 IAmb IAmb 03 10 34.6
comp=Z,8.0nm,0.8s
KSU1 **Kansas State U** 84.10 342 P P 03 10 33.6 -0.1
baz=164
M53A **WI Miller and** 84.10 355 IAmb IAmb 03 10 34.6
comp=Z,13nm,0.8s
M53A **WI Miller and** 84.10 355 P P 03 10 33.5 -0.1
baz=175,SNR=5.5
HDIL **Hopedale** 84.15 348 P P 03 10 34.3 +0.4
baz=169,SNR=7.3
W18A **Petrified Fore** 84.19 331 P P 03 10 35.4 +0.9
baz=154
M52A **Chesterland** 84.25 354 IAmb IAmb 03 10 35.4
comp=Z,12nm,0.8s
T25A **Trinidad** 84.29 336 IAmb IAmb 03 10 37.5
comp=Z,14nm,0.8s
T25A **Trinidad** 84.29 336 P P 03 10 36.0 +1.1
baz=158,SNR=20
IKP **In-Ko-Pah, Jac** 84.47 325 P P 03 10 36.8 +1.0
baz=150
CBKS **Cedar Bluff** 84.57 340 P P 03 10 37.2 +1.2
baz=161
BINY **Binghamton** 84.66 358 P P 03 10 37.5 +1.1
baz=178
ERPA **Erie** 84.73 355 IAmb IAmb 03 10 37.9
comp=Z,10nm,0.8s
ERPA **Erie** 84.73 355 P P 03 10 37.7 +1.0
baz=176
BLYC **Blythe** 84.78 327 IAmb IAmb 03 10 40.5
comp=Z,12nm,1.0s
M44A **Midewin, Midew** 84.79 349 P P 03 10 36.5 -0.6
L61B **Northampton** 84.90 1 P P 03 10 38.5 +0.9
baz=181
WVNY **West Valley, N** 84.95 357 P P 03 10 37.9 0.0
HRV **Adam Dziewonsk** 84.97 2 P P 03 10 39.9 +1.9
baz=182
BC3 **Big Chuckawall** 85.07 326 P P 03 10 39.6 +0.7
baz=151
109C **Camp Elliot, M** 85.10 325 P P 03 10 39.9 +1.1
baz=150
PDMCI **Parker Dam,Lak** 85.11 328 P P 03 10 40.5 +1.6
baz=152
WUAZ **Wupatki** 85.13 330 IAmb IAmb 03 10 42.3
comp=Z,16nm,1.3s
WUAZ **Wupatki** 85.13 330 P P 03 10 40.5 +1.4
baz=154
SDCO **Great Sand Dun** 85.18 335 P P 03 10 40.2 +0.7
baz=157,SNR=12
IRM **Iron Mountain** 85.39 327 P P 03 10 41.6 +1.3
baz=151
TPFO **Pinon Flats** 85.44 326 P P 03 10 41.9 +1.1
baz=150
PFO **Pinyon Flats O** 85.45 326 P P 03 10 42.3 +1.6
baz=150
PFO **Pinyon Flats O** 85.45 326 LR LR 03 40 48.0
comp=Z,56nm,18.8s,baz=214,slow=30
PFO **Pinyon Flats O** 85.45 326 ‖ *eP* P 03 10 40.5 -0.2
PFO pmax pmax
comp=Z,10.0nm,1.0s
KSCO **Kaye Shedlock'** 85.52 338 P P 03 10 41.9 +1.0
baz=159
L44A **Lake County Fo** 85.55 350 P P 03 10 43.1 +2.3
baz=170
BELC **Belle Mtn. Jos** 85.60 326 P P 03 10 42.4 +0.9
baz=150

MVCO **Mesa Verde** 85.65 333 IAmb IAmb 03 10 44.3
comp=Z,15nm,1.4s
MVCO **Mesa Verde** 85.65 333 P P 03 10 42.5 +0.8
baz=155
MURC **Murrieta** 85.75 325 P P 03 10 43.1 +1.0
baz=150
J56A **Wolcott** 85.76 358 IAmb IAmb 03 10 43.0
comp=Z,12nm,0.7s
L40A **Anamosa** 85.93 347 P P 03 10 41.9 -0.8
L40A IAmb IAmb 03 10 43.5
comp=Z,15nm,0.9s
SCIA **State Center** 86.12 346 P P 03 10 44.5 +0.8
baz=166
GMRC **Granite Mounta** 86.14 327 P P 03 10 44.9 +0.7
baz=151
Q24A **Divide** 86.19 336 P P 03 10 45.3 +0.8
baz=158
U15A **North Rim** 86.28 330 IAmb IAmb 03 10 47.9
comp=Z,8.1nm,0.9s
HEC **Hector,Ludlow** 86.45 326 P P 03 10 46.8 +1.2
baz=150
JFWS **Jewell Farm** 86.61 348 P P 03 10 46.1 0.0
baz=168,SNR=5.6
BGNE **Belgrade** 86.65 342 P P 03 10 47.1 +0.8
baz=162
LBNH **Lisbon** 86.70 1 IAmb IAmb 03 10 48.7
comp=Z,20nm,1.2s
LBNH **Lisbon** 86.70 1 P P 03 10 47.4 +1.0
baz=182
TUQ **Turquoise Moun** 86.81 327 P P 03 10 49.1 +1.6
baz=151,SNR=7.8
SMCO **Snowmass** 86.95 335 P P 03 10 49.2 +0.9
SMCO IAmb IAmb 03 10 51.1
comp=Z,9.7nm,1.1s
KNB **Kanab** 87.00 330 IAmb IAmb 03 10 51.2
comp=Z,8.7nm,0.9s
DELO **Delco Mine** 87.02 357 IAmb IAmb 03 10 49.8
comp=Z,10nm,1.2s
GSC **Goldstone, Bar** 87.05 326 P P 03 10 49.8 +1.2
baz=150
LONY **Lake Ozonia** 87.06 360 IAmb IAmb 03 10 49.8
comp=Z,9.9nm,1.1s
LONY **Lake Ozonia** 87.06 360 P P 03 10 49.1 +0.8
baz=180
ISCO **Idaho Springs** 87.10 336 P P 03 10 50.7 +1.7
baz=157,SNR=6.1
EDW2 **Edwards Air Fo** 87.19 325 P P 03 10 50.7 +1.5
baz=149
FRNY **Flat Rock** 87.28 0 P P 03 10 48.7 -0.5
FRNY IAmb IAmb 03 10 50.7
comp=Z,13nm,1.0s
I42A **Draeger Farm,** 87.37 349 IAmb IAmb 03 10 51.4
comp=Z,11nm,0.7s
WBO **Williamsburg** 87.45 359 IAmb IAmb 03 10 51.4
comp=Z,12nm,0.9s
LRMC **Laurel Mtn Rad** 87.57 326 P P 03 10 53.2 +2.1
baz=150
I40A **Norwalk** 87.62 348 IAmb IAmb 03 10 52.1
comp=Z,11nm,0.9s
MTPU **Mount Pierson** 87.67 331 P P 03 10 52.7 +0.8
G62A **West of Eustis** 87.71 2 IAmb IAmb 03 10 52.9
comp=Z,9.4nm,0.9s
ARVC **Arvin** 87.75 325 P P 03 10 54.1 +2.3
baz=149
H43A **Windswept, Lux** 87.79 350 P P 03 10 51.4 -0.3
PKME **Peaks-Kenny Pk** 87.80 3 P P 03 10 54.2 +2.5
baz=183
PKM **Mcpherson Peak** 87.97 324 P P 03 10 54.2 +1.1
baz=148,SNR=5.4
MPMC **Manual Prospec** 87.99 326 P P 03 10 55.2 +2.1
baz=150
SRU **San Rafael Swe** 88.05 332 IAmb IAmb 03 10 55.3
comp=Z,9.2nm,0.8s
FURC **Furnace Creek,** 88.08 327 P P 03 10 55.7 +2.5
baz=150,SNR=5.5
PRN **Pahroc Range** 88.18 328 IAmb IAmb 03 10 57.4
comp=Z,7.6nm,1.0s
N23A **Red Feather La** 88.21 336 IAmb IAmb 03 10 56.3
comp=Z,7.4nm,0.8s
N23A **Red Feather La** 88.21 336 P P 03 10 55.8 +1.6
baz=157,SNR=6.8
O20A **White River Ci** 88.22 334 IAmb IAmb 03 10 56.4
comp=Z,8.4nm,0.9s
O20A **White River Ci** 88.22 334 P P 03 10 55.8 +1.6
baz=156,SNR=8.9
F63A **Nahmakanta, Br** 88.25 3 P P 03 10 53.4 -0.5
F63A IAmb IAmb 03 10 55.5
comp=Z,10nm,0.8s
WCT **Wildcat Mounta** 88.27 327 IAmb IAmb 03 10 57.7
comp=Z,12nm,1.3s
LSZ **Lusaka** 88.38 109 P P 03 10 55.4 -0.2
LSZ **Lusaka** 88.38 109 P P 03 10 55.4 -0.2
LSZ pmax pmax
comp=Z,17nm,1.0s
P18A **Preston Nutter** 88.42 333 IAmb IAmb 03 10 57.7
comp=Z,10nm,0.9s
PHWY **Pilot Hill** 88.44 337 IAmb IAmb 03 10 57.0
comp=Z,7.2nm,0.7s
TMUT **Trail Mountain** 88.45 332 IAmb IAmb 03 10 57.7
comp=Z,7.6nm,0.9s
VES **Vestal, Richgr** 88.47 325 P P 03 10 57.6 +2.4
baz=149,SNR=6.6
ECSD **EROS Data Cent** 88.54 344 P P 03 10 55.5 +0.1
ECSD **EROS Data Cent** 88.54 344 P P 03 10 55.8 +0.5
baz=164,SNR=4.5
CWC **Cottonwood Cre** 88.56 326 P P 03 10 57.8 +2.0
baz=149
TORD **Torodi Ar. Bea** 88.58 71 P P 03 10 55.8 -0.4
comp=Z,9.3nm,0.7s,baz=225,slow=4.0,SNR=48
comp=Z,9.3nm,0.7s
GRAC **Grapevine Rang** 88.74 327 P P 03 10 58.8 +2.3
baz=150
VOG **Valley Oaks Go** 89.00 325 P P 03 10 59.5 +1.9
baz=148
R11B **Troy Canyon, C** 89.21 328 P P 03 10 59.6 +0.7
R11B **Troy Canyon, C** 89.21 328 P P 03 11 01.1 +2.2
baz=151,SNR=6.6
SPMN **Marine on St.** 89.27 347 IAmb IAmb 03 11 00.0
comp=Z,9.7nm,0.8s
SPMN **Marine on St.** 89.27 347 P P 03 10 59.1 +0.4
baz=166
DSP **Deep Springs** 89.31 326 IAmb IAmb 03 11 02.2
comp=Z,8.2nm,1.1s
RWWY **Rawlins** 89.32 336 IAmb IAmb 03 11 00.2
comp=Z,14nm,1.1s
MZP **Montezuma Peak** 89.36 327 IAmb IAmb 03 11 02.5
comp=Z,8.5nm,1.2s
SUSD **Miller** 89.72 342 P P 03 11 01.1 +0.3
baz=162
DUG **Dugway, Tooele** 89.81 331 P P 03 11 01.9 +0.4
baz=153
MLAC **Mammoth, Mammo** 89.89 326 P P 03 11 04.1 +2.0
baz=149
K22A **Casper** 89.99 337 P P 03 11 02.5 +0.2
K22A IAmb IAmb 03 11 04.3
comp=Z,12nm,1.0s
K22A **Casper** 89.99 337 P P 03 11 03.6 +1.3
baz=157,SNR=6.7
LMQ **La Malbaie** 90.05 2 IAmb IAmb 03 11 03.1
comp=Z,8.8nm,0.9s
TCUT **Toone Canyon** 90.15 333 IAmb IAmb 03 11 05.4
comp=Z,8.3nm,1.0s
LHV **Little Huntoon** 90.28 326 IAmb IAmb 03 11 06.9
comp=Z,13nm,1.5s
NVAR **Mina Array Bea** 90.35 327 P P 03 11 05.3 +1.0
comp=Z,0.4nm,0.3s,baz=165,slow=7.5,SNR=7.2
NVAR PKKPbc PKKPbc 03 28 32.5 -0.7
comp=Z,0.2nm,0.5s,baz=304,slow=2.0,SNR=3.8
comp=Z,0.4nm,0.3s
HWUT **Hardware Ranch** 90.64 333 IAmb IAmb 03 11 07.3
comp=Z,6.5nm,0.9s
RSSD **Black Hills** 90.66 339 P P 03 11 06.0 +0.5
baz=158
BW06 **Boulder Array** 91.02 335 P P 03 11 07.8 +0.5
baz=155,SNR=5.7
PDAR **Pinedale Array** 91.02 335 P P 03 11 07.1 -0.1
PDAR **Pinedale Array** 91.02 335 P P 03 11 07.7 +0.4
comp=Z,3.8nm,0.7s,baz=141,slow=5.8,SNR=28
PDAR LR LR 03 47 18.9
comp=Z,68nm,18.1s,baz=161,slow=32
comp=Z,3.8nm,0.7s
ELK **Elko** 91.17 330 LR LR 03 46 40.2
comp=Z,89nm,19.2s,baz=146,slow=32
PNTR **Pine Nut** 91.44 326 IAmb IAmb 03 11 13.2
comp=Z,4.3nm,0.8s
TPAW **Teton Pass** 92.12 334 IAmb IAmb 03 11 14.1
comp=Z,4.4nm,0.9s
MOOW **Moose Ponds** 92.28 334 P P 03 11 12.9 -0.1

FLWY **Flagg Ranch** 92.57 334 IAmb IAmb 03 11 15.9
comp=Z,6.3nm,0.9s
AGMN **Agassiz Nation** 92.78 346 IAmb IAmb 03 11 15.4
comp=Z,5.2nm,0.7s
AGMN **Agassiz Nation** 92.78 346 P P 03 11 15.3 +0.4
baz=164
H17A **Grant Village** 92.81 335 P P 03 11 17.2 +1.7
baz=154
RLMT **Red Lodge** 93.06 336 IAmb IAmb 03 11 18.1
comp=Z,4.4nm,0.8s
RLMT **Red Lodge** 93.06 336 P P 03 11 17.1 +0.5
baz=155,SNR=5.9
HLID **Hailey** 93.34 332 P P 03 11 17.3 -0.6
HLID **Hailey** 93.34 332 P P 03 11 19.1 +1.2
baz=152
LAO **LASA Array** 93.62 338 P P 03 11 18.8 -0.1
baz=157
BOZ **Bozeman (W)** 94.22 335 P P 03 11 22.0 +0.1
baz=153
ULM **Lac du Bonnet** 94.66 346 P P 03 11 23.0 -0.5
comp=Z,2.4nm,0.7s,baz=153,slow=6.8,SNR=4.8
comp=Z,2.4nm,0.7s
ULM **Lac du Bonnet** 94.66 346 ‖ *eP* P 03 11 22.4 -1.1
NEW **Newport** 98.36 332 P Pdif 03 11 41.4 +0.9
baz=150
NEW **Newport** 98.36 332 LR LR 03 52 47.3
comp=Z,36nm,19.2s,baz=132,slow=33
MDT **Midelt** 98.43 53 LR LR 03 54 44.7
comp=Z,161nm,21.8s,baz=247,slow=35
STKA **Stephens Creek** 98.83 210 LR LR 03 49 00.5
comp=Z,43nm,18.4s,baz=204,slow=31
YKA **Yellowknife Ar** 109.92 341 PKiKP PKiKP 03 16 32.5 -0.7
comp=Z,0.3nm,0.7s,baz=152,slow=1.5,SNR=5.5
L27K **Beaver Creek,** 118.48 331 P PKiKP 03 16 49.8 +0.1
baz=129
G31M **Satah River** 118.61 337 P PKPdf 03 16 49.3 -0.4
baz=133
P23K **Montague Islan** 118.71 327 P PKiKP 03 16 50.5 +0.4
baz=127
GLI **Glacier Island** 119.11 328 P PKiKP 03 16 51.5 +0.6
baz=126
K27K **Chicken** 119.18 332 P PKiKP 03 16 51.4 +0.4
baz=129
GERES **GERESS Array B** 119.24 49 PKP PKPdf 03 16 51.3 -0.4
comp=Z,2.0nm,0.7s,baz=27,slow=0.6,SNR=8.3
EGAK **Eagle** 119.34 333 P PKPdf 03 16 51.2 0.0
baz=129
INK **Inuvik** 119.36 338 P PKPdf 03 16 51.0 -0.1
baz=133
I28M **Miner Creek** 119.36 334 P PKiKP 03 16 51.5 0.0
baz=130
H29M **Whitestone** 119.36 335 P PKPdf 03 16 50.8 -0.4
baz=130
SCRK **Sand Creek** 119.81 331 P PKiKP 03 16 52.8 +0.4
baz=127
BRSE **Bradley Lake S** 119.93 325 P PKPdf 03 16 52.4 -0.1
baz=124
CHIR **Chirikof Islan** 119.94 320 P PKiKP 03 16 52.9 +0.2
baz=123
J26L **Joseph Creek** 119.98 332 P PKPdf 03 16 52.5 0.0
baz=127
I27K **Kandik River** 120.00 334 P PKiKP 03 16 52.9 +0.3
baz=128
Q20K **Shuyak Island** 120.00 324 P PKiKP 03 16 52.9 +0.2
baz=124
CLL **Collm** 120.17 46 *i* PKPdf PKiKP 03 16 53.5 +0.2
comp=Z,6.0nm,1.3s
CLL **Collm** 120.17 46 *i* PKiKP PKiKP 03 16 53.5 +0.2
CLL pmax pmax
comp=Z,6.0nm,1.3s
I26K **Coal Creek Min** 120.33 333 P PKiKP 03 16 53.4 +0.2
baz=127
K24K **Donnelly Dome** 120.34 331 P PKPdf 03 16 53.1 -0.1
baz=126
H27K **Steamboat Moun** 120.36 334 P PKPdf 03 16 53.0 -0.2
baz=128
E29M **Blow River** 120.63 337 P PKPdf 03 16 53.7 +0.1
baz=130
J25K **Salcha River,** 120.67 332 P PKPdf 03 16 53.6 -0.3
baz=126
F28M **Old Crow** 120.71 336 P PKPdf 03 16 53.7 -0.1
baz=129
E28M **Babbage River** 121.23 337 P PKPdf 03 16 54.6 -0.2
baz=128
ILAR **Eielson Array** 121.30 331 PKP PKPdf 03 16 55.0 0.0
comp=Z,1.4nm,0.7s,baz=161,slow=1.9,SNR=20
ILAR **Eielson Array** 121.30 331 PKiKP PKPdf 03 16 55.0 0.0
Q17K **Contact Creek** 121.37 322 P PKPdf 03 16 54.8 -0.7
baz=122
MCK **McKinley** 121.45 330 P PKiKP 03 16 55.6 +0.1
baz=124
D28M **Stokes Point** 121.46 338 P PKiKP 03 16 55.6 +0.3
baz=129
E27K **Coleen River** 121.58 336 P PKiKP 03 16 55.6 0.0
baz=127
P18K **Big Mountain,** 121.66 324 P PKPdf 03 16 55.8 -0.1
baz=121
POKR **Poker Plat Res** 121.69 332 P PKiKP 03 16 56.1 +0.2
baz=124
R16K **Pilot Point** 121.78 321 P PKiKP 03 16 56.5 +0.3
baz=121
TRF **Thorofare Moun** 121.81 329 P PKPdf 03 16 56.2 0.0
baz=123
O18K **Koktuh Hills** 121.89 324 P PKPdf 03 16 56.3 0.0
baz=121
D27M **Malcolm River** 122.03 337 P PKiKP 03 16 56.9 +0.4
baz=127
F26K **Sheenjek River** 122.07 335 P PKPdf 03 16 56.4 0.0
baz=125
M20K **Styx River** 122.08 327 P PKPdf 03 16 55.8 -0.9
baz=122
N19K **Bonanza Creek** 122.08 325 P PKPdf 03 16 56.6 -0.1
baz=121
P17K **Kvichak River** 122.09 323 P PKPdf 03 16 56.4 -0.2
baz=121
G25K **Bearman Lake** 122.16 334 P PKiKP 03 16 57.4 +0.6
baz=124
H24K **Noodor Dome** 122.24 332 P PKPdf 03 16 56.7 -0.1
baz=123
I23K **Minto, Yukon-K** 122.39 331 P PKPdf 03 16 56.9 -0.1
baz=123
BPAW **Bear Paw Mtn.** 122.42 330 P PKiKP 03 16 57.5 +0.1
baz=122
CAST **Castle Rocks** 122.47 329 P PKPdf 03 16 57.4 +0.1
baz=122
F25K **Christian Rive** 122.48 334 P PKiKP 03 16 57.8 +0.3
baz=124
G24K **Hadweenzic Riv** 122.58 333 P PKiKP 03 16 57.9 +0.3
baz=123
M19K **Big River Lodg** 122.60 326 P PKiKP 03 16 58.0 +0.2
baz=121
O17K **Koliganek Bris** 122.67 323 P PKiKP 03 16 57.8 -0.1
baz=120
L20K **Farewell, AK** 122.69 327 P PKiKP 03 16 57.9 -0.1
baz=121
E25K **Arctic Village** 122.75 335 P PKiKP 03 16 58.2 +0.2
baz=124
CHUM **Lake Minchumin** 122.80 329 P PKiKP 03 16 58.0 -0.1
baz=121
H23K **Yukon River** 122.81 332 P PKiKP 03 16 58.3 +0.1
baz=122
MLY **Manley** 122.82 331 P PKPdf 03 16 58.0 +0.1
baz=122
C27K **Jago River** 123.05 337 P PKiKP 03 16 59.3 +0.8
baz=125
N17K **Nushagak Hills** 123.09 324 P PKiKP 03 16 59.4 +0.7
baz=119
G23K **Bananza Creek** 123.44 332 P PKiKP 03 16 59.6 +0.2
baz=121
H22K **Ishtalitna Cre** 123.49 331 P PKiKP 03 16 59.5 +0.1
baz=121
C26K **Camden Bay** 123.56 337 P PKiKP 03 16 59.9 +0.5
baz=124
M17K **Holitna River** 123.62 325 P PKiKP 03 17 00.2 +0.4
baz=119
J20K **Nowinta River** 123.65 329 P PKiKP 03 17 00.6 +0.9
baz=120
E24K **Your Creek** 123.65 334 P PKiKP 03 17 00.1 +0.3
baz=122
D25K **Kavik River** 123.66 336 P PKPdf 03 16 59.5 +0.1
baz=123
L18K **Granite Mounta** 123.70 326 P PKiKP 03 16 59.9 0.0
baz=119
H11S2 **WAKE ISLAND Hyl** 123.77 264 T T 05 32 27.6
baz=129,slow=75,SNR=18
COLD **Coldfoot** 123.77 333 P PKiKP 03 17 00.9 +0.9
baz=121
H11S1 **WAKE ISLAND Hyl** 123.78 264 T T 05 32 48.1

baz=129,slow=75,SNR=13
H11S3 WAKE ISLAND Hyl 123.78 264 T T 05 32 47.7
baz=129,slow=75,SNR=18
H21K Melozitna Rive 123.88 331 P **PKiKP** **03 17 00.4 +0.2**
baz=120
E23K Chandalar 124.00 334 P **PKPdf** **03 17 00.3 +0.1**
baz=121
G22K Bettles 124.06 332 P **PKiKP** **03 17 01.0 +0.5**
baz=120
I20K Naaghedeneel 124.08 329 P **PKiKP** **03 17 01.0 +0.4**
baz=119
M16K Timber Creek 124.09 324 P **PKiKP** **03 17 01.4 +0.7**
baz=118
J19K Poorman 124.13 328 P **PKiKP** **03 17 01.5 +0.8**
baz=118
NB2 NORSAR Subarra 124.15 36 PKPdf **PKPdf** **03 17 00.2 -0.4**
comp=Z,3.4nm,1.1s,baz=248,slow=1.9
NOA NORSAR Array B 124.15 36 PKP **PKPdf** **03 17 00.3 -0.3**
comp=Z,1.9nm,0.8s,baz=246,slow=2.2,SNR=8.4
N15K Kwethluk River 124.19 323 P **PKiKP** **03 17 01.4 +0.4**
baz=118
TOLK Toolik Lake Re 124.29 335 P **PKiKP** **03 17 01.4 +0.4**
baz=120,SNR=12
J18K Innoko River 124.31 327 P **PKiKP** **03 17 01.9 +0.8**
baz=118
D24K Happy Valley 124.32 335 P **PKiKP** **03 17 01.3 +0.4**
baz=121
L17K Donlin 124.33 326 P **PKiKP** **03 17 01.8 +0.6**
baz=118
UNV Unalaska Valle 124.41 314 P **PKiKP** **03 17 01.7 +0.1**
baz=117
G21K Allakaket 124.55 331 P **PKiKP** **03 17 02.1 +0.6**
baz=119,SNR=5.3
H20K Anotleneega Mo 124.56 330 P **PKiKP** **03 17 02.2 +0.7**
baz=118
C24K Franklin Bluff 124.57 336 P **PKiKP** **03 17 01.7 +0.3**
baz=120
F22K John River 124.58 333 P **PKiKP** **03 17 02.2 +0.6**
baz=119
K17K Iditarod 124.60 326 P **PKiKP** **03 17 02.1 +0.4**
baz=117
L16K Owhat River 124.63 325 P **PKiKP** **03 17 02.7 +0.9**
baz=117
M15K Kasigluk River 124.69 323 P **PKiKP** **03 17 02.8 +0.9**
baz=117
E22K Anaktuvuk Pass 124.76 334 P **PKiKP** **03 17 02.5 +0.6**
baz=119
N14K Kuskokwak Cree 124.79 322 P **PKiKP** **03 17 02.4 +0.3**
baz=117
D23K Nanushuk River 124.80 335 P **PKiKP** **03 17 02.5 +0.6**
baz=119
HFS Hagfors 124.83 38 PKP **PKPdf** **03 17 01.0 -0.8**
comp=Z,4.8nm,0.7s,baz=191,slow=4.4,SNR=14
F21K Alatna River 124.88 332 P **PKiKP** **03 17 02.8 +0.6**
baz=118,SNR=7.0
MMAI Mount Meron Ar 124.89 75 PKP **PKPdf** **03 17 03.2 +0.2**
comp=Z,0.5nm,0.3s,baz=52,slow=44,SNR=3.7
H19K Roundabout Mou 125.16 330 P **PKiKP** **03 17 03.3 +0.6**
baz=117
C23K Itkillik River 125.20 336 P **PKiKP** **03 17 03.5 +0.8**
baz=119,SNR=6.0
J17K VABM Dome 125.22 327 P **PKiKP** **03 17 03.3 +0.4**
baz=116
M14K Bethel 125.28 323 P **PKiKP** **03 17 03.3 +0.3**
baz=116
D22K Ayikyak River 125.39 334 P **PKiKP** **03 17 03.5 +0.4**
baz=118
L15K Ungalak Mounta 125.47 324 P **PKPdf** **03 17 03.0 0.0**
baz=116
E21K Killik River 125.61 333 P **PKiKP** **03 17 04.1 +0.5**
baz=117
G19K Purcell Mounta 125.67 330 P **PKiKP** **03 17 04.6 +0.8**
baz=116
H18K Honhosa River 125.71 329 P **PKiKP** **03 17 04.2 +0.3**
baz=116
M13K Dall Lake 125.75 322 P **PKiKP** **03 17 04.5 +0.5**
baz=115
K15K Wolf Creek Mou 125.76 325 P **PKiKP** **03 17 04.9 +0.9**
baz=115
L14K Kuka Creek 125.85 324 P **PKiKP** **03 17 04.5 +0.4**
baz=115
I17K Unalakleet 126.08 327 P **PKiKP** **03 17 05.8 +1.2**
baz=115
G18K Tagagawik 126.14 330 P **PKiKP** **03 17 05.3 +0.7**
baz=115
C21K Knifeblade Rid 126.20 334 P **PKiKP** **03 17 05.5 +0.8**
baz=116
F19K Shaleruckik Mo 126.21 331 P **PKiKP** **03 17 05.3 +0.5**
baz=115
H17K Granite Mounta 126.21 328 P **PKiKP** **03 17 05.5 +0.6**
baz=115
E20K Nigu River 126.27 333 P **PKiKP** **03 17 05.6 +0.6**
baz=115,SNR=7.4
E19K Redstone River 126.28 332 P **PKiKP** **03 17 05.1 +0.1**
baz=115
B22K Teshekpuk Lake 126.29 336 P **PKiKP** **03 17 05.4 +0.6**
baz=116,SNR=6.4
B21K Ikpikpuk River 126.34 335 P **PKiKP** **03 17 05.7 +0.8**
baz=116,SNR=7.1
D20K Etivluk River 126.60 333 P **PKiKP** **03 17 06.5 +0.9**
baz=115
G17K Kiwalik Mounta 126.73 329 P **PKiKP** **03 17 06.5 +0.6**
baz=114
F18K Selawik 126.80 330 P **PKiKP** **03 17 06.7 +0.8**
baz=114
J14K Nanvaranak Lak 126.80 325 P **PKiKP** **03 17 06.5 +0.4**
baz=113
K13K Kusilvak Mount 126.95 324 P **PKiKP** **03 17 07.2 +0.8**
baz=113
D19K Kuna River 127.02 333 P **PKiKP** **03 17 07.1 +0.7**
baz=114
A22K Sinclair Lake 127.04 336 P **PKiKP** **03 17 07.2 +0.9**
baz=114
BRTR Keskin Array B 127.05 67 PKP **PKPdf** **03 17 06.8 -0.2**
comp=Z,3.5nm,0.7s,baz=201,slow=3.7,SNR=28
B20K Meade River 127.31 335 P **PKiKP** **03 17 08.1 +1.3**
baz=113
E18K Tukpahlearik C 127.46 331 P **PKiKP** **03 17 08.3 +1.0**
baz=112
SPIA Saint Paul Isl 127.74 317 P **PKiKP** **03 17 08.5 +0.5**
baz=112
C19K Lookout Ridge 127.75 333 P **PKiKP** **03 17 08.8 +1.0**
baz=112
E17K Hotham Inlet 127.78 330 P **PKiKP** **03 17 08.9 +1.0**
baz=112
C18K Utukok River 128.12 332 P **PKiKP** **03 17 09.3 +0.7**
baz=111
ANM Nome 128.23 327 P **PKiKP** **03 17 09.5 +0.6**
baz=111
F15K North Star Dit 128.35 328 P **PKiKP** **03 17 09.5 +0.4**
baz=110
D17K Noatak River 128.45 331 P **PKiKP** **03 17 09.8 +0.6**
baz=110
RDOG Red Dog Mine 128.51 331 P **PKiKP** **03 17 09.9 +0.6**
baz=110
B18K Kokolik River 128.58 333 P **PKiKP** **03 17 09.9 +0.5**
baz=110
A19K Wainwright 128.63 334 P **PKiKP** **03 17 10.3 +0.8**
baz=110
C17K DeLong Mountai 128.75 332 P **PKiKP** **03 17 09.8 0.0**
baz=110
F14K Arctic Creek 128.92 328 P **PKiKP** **03 17 10.0 -0.2**
baz=109
AKASG Malin Array Be 128.99 53 PKP **PKPdf** **03 17 09.8 -0.3**
comp=Z,1.9nm,0.5s,baz=258,slow=2.9,SNR=10
AKBB Malin Array Si 128.99 53 ⇑*i*PKIKP **PKPdf** **03 17 08.6 -1.5**
C16K Lisburne Hills 129.44 331 P **PKiKP** **03 17 11.5 +0.3**
baz=108
VSU Vasula 130.38 43 ⇑*i*PKIKP **PKPdf** **03 17 11.3 -1.2**
VSU pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 130.95 39 PKP **PKPdf** **03 17 12.8 -0.7**
comp=Z,1.1nm,0.7s,baz=209,slow=2.6,SNR=7.9
ARCES ARCESS Array B 132.57 28 PKP **PKPdf** **03 17 16.4 0.0**
comp=Z,1.2nm,0.6s,baz=274,slow=2.6,SNR=11
OBN Obninsk 134.62 49 ⇓*i*PKIKP **PKPdf** **03 17 20.4 -0.2**
OBN PS **PS** **03 30 12.0 -3.4**
OBN pmax pmax
comp=Z,6.0nm,0.6s
KIV Kislovodsk 134.96 66 ⇓*i*PKIKP **PKPdf** **03 17 21.4 -0.4**
KIV *e* 03 17 29.2
KIV *e* 03 17 35.2
KIV PPP PPP 03 22 57.0
KIV PS **PS** **03 30 20.0 +1.1**
KIV *e*SSS SSS 03 42 43.9
KIV pmax pmax
comp=Z,8.0nm,0.8s
KBZ Khabaz 135.01 66 PKP **PKPdf** **03 17 21.0 -0.7**
comp=Z,1.5nm,0.7s,baz=231,slow=6.5,SNR=5.2
VSR Storozhevoye 135.08 55 *e*PKIKP **PKPdf** **03 17 19.8 -1.8**
VSR pmax pmax
comp=Z,6.0nm,0.5s
LPSR Galich'ya Gora 135.32 53 *e*PKIKP **PKPdf** **03 17 21.4 -0.6**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 136.63 56 *e*PKIKP **PKPdf** **03 17 23.0 -1.5**
VRH pmax pmax
comp=Z,7.0nm,0.8s
GEYT Alibeck 143.54 81 PKhKP PKPpre 03 17 33.8
comp=Z,3.4nm,1.0s,baz=295,slow=7.8,SNR=6.3
PETK Petropavlovsk- 144.65 305 PKP PKPbc 03 17 38.2 +0.3
comp=Z,7.7nm,0.8s,baz=81,slow=8.9,SNR=18
HYB Hyderabad 145.53 129 *e*PKPab **PKPdf** **03 17 41.4 -0.2**
SEY Seymchan 146.59 323 *e*PKP2 **PKPdf** **03 17 42.4 +0.5**
SEY pmax pmax
comp=Z,11nm,0.9s
ARU Arti 147.06 49 *i* PKP2 **PKPdf** **03 17 43.8 +0.9**
MA2 Magadan 148.12 317 *d i* PKP2 **PKPbc** **03 17 47.8 0.0**
MA2 pmax pmax
comp=Z,8.0nm,1.0s
SVE Sverdlovsk 148.17 48 *e*PKP2 **PKPbc** **03 17 48.2 +0.1**
SVE pmax pmax
comp=Z,17nm,1.2s
BRVK Borovoye 154.19 54 *c i* PKIKP **PKiKP** **03 18 03.3 +1.0**
BRVK pmax pmax
comp=Z,4.0nm,1.7s
BVAR Borovoye Array 154.26 54 PKP **PKPdf** **03 17 54.1 -0.1**
comp=Z,1.8nm,0.8s,baz=222,slow=1.9,SNR=10
BVAR PKPbc **PKiKP** **03 18 02.9 +0.4**
comp=Z,2.7nm,0.7s,baz=321,slow=3.7,SNR=6.9
BVAR PP **PP** **03 21 52.1 -0.1**
comp=Z,0.6nm,0.4s,baz=276,slow=5.8,SNR=3.7
MJAR Matsushiro Arr 154.58 267 PKPbc **PKPbc** **03 18 02.5 -1.1**
comp=Z,1.8nm,0.8s,baz=151,slow=2.8,SNR=4.9
CMAR Chiang Mai Arr 154.97 164 PKP **PKPdf** **03 17 56.3 +0.1**
comp=Z,1.4nm,0.3s,baz=212,slow=3.2,SNR=5.5
CMAR PKPbc **PKPbc** **03 18 04.8 -0.2**
comp=Z,2.1nm,0.3s,baz=218,slow=4.5,SNR=5.2
CMAR PKPab **sPKPbc** **03 18 18.8 +1.0**
comp=Z,1.5nm,0.4s,baz=219,slow=3.8,SNR=5.9
KSH Kashi 157.17 88 PKP **PKPdf** **03 17 59.4 +0.7**
KSH pPKP pPKPdf 03 18 09.4 +1.2
KSH LR LR
comp=N,760nm,19.6s
KSH LR LR
comp=E,380nm,19.9s
KURBB Kurchatov Arra 159.66 58 PKP **PKPdf** **03 18 01.1 0.0**
comp=E,2.5nm,0.9s,baz=277,slow=1.2,SNR=16
KURBB PKPab **PKPab** **03 18 39.2 -0.7**
comp=E,5.8nm,1.1s,baz=284,slow=4.9,SNR=14
KURBB PP **PP** **03 22 20.6 -1.5**
comp=E,1.2nm,0.8s,baz=275,slow=6.1,SNR=7.7
KURK Kurchatov 159.70 58 PKIKP **PKPdf** **03 18 01.1 -0.1**
KURK 03 18 39.2
ZALV Zalesovo Beam 162.11 44 PKP **PKPdf** **03 18 02.6 -1.0**
comp=E,3.9nm,1.0s,baz=329,slow=0.8,SNR=12
ZALV PKPab **PKPab** **03 18 49.5 -0.9**
comp=E,1.2nm,0.6s,baz=297,slow=6.3,SNR=4.8
KSRS Korea Array 162.46 260 PKP **PKPdf** **03 18 03.8 -0.7**
comp=E,0.6nm,0.4s,baz=134,slow=1.9,SNR=6.7
MKAR Makanchi Array 162.69 69 PKP **PKPdf** **03 18 03.8 -0.7**
comp=E,1.2nm,0.9s,baz=307,slow=0.7,SNR=6.5
MKAR PKPab **PKPab** **03 18 53.1 -0.3**
comp=E,8.5nm,0.7s,baz=270,slow=3.5,SNR=36
GTA Gaotai 174.18 124 *e*P **PKPab** **03 19 43.9 -0.5**
GTA pmax pmax
comp=Z,8.0nm,1.2s
SONM Songino Array 174.99 357 PKP **PKPdf** **03 18 11.6 -0.9**
comp=Z,0.4nm,0.5s,baz=355,slow=3.5,SNR=4.7
SONM PKPab **PKPab** **03 19 47.7 +0.1**
comp=Z,3.2nm,1.0s,baz=342,slow=3.6,SNR=10.0
HHC Hu-ho-hao-te 175.44 246 *e*P **PKPdf** **03 18 11.6 -1.2**

*NEIC **14** 02:59:57.0±1.8, 17.87S±0.09×174.9W±0.1, h205km±7km, mb4.7/3, Error ellipse: s-maj=16.7km s-min=12.7km az=71.0*
*IDC **14** 03:00:03.2±2.4, 18.01S×175.10W, h253km±21km, mb3.8/11, mbtmp4.4/12, Error ellipse: s-maj=16.8km s-min=12.1km az=119.0*
*NOU **14** 03:00:22.6, 18.83S×176.25W, h361km, mb4.6/11, Fiji Islands Region*
ISC 14 02:59:59.1±0.4, 17.89S±0.08×174.85W±0.06, h228km, n89, σ1.51/93, mb4.6/28, 1C-1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.82**	**105**	Pn	**Pn**	**03 01 10.8**	**-1.1**
NIUE				Sn	**S**	**03 02 07.0**	**-2.6**
AFI	**Afiamalu**	**4.94**	**37**	Pn	**Pn**	**03 01 10.4**	**-3.2**
AFI				Sn	S	03 02 03.1	-10
MSVF	**Nonsavu**	**6.76**	**270**	Pn	**Pn**	**03 01 39.5**	**+2.9**
YSA	**Yasawairara**	**7.33**	**278**	P	Pn	03 01 57.1	+13
DVP	**Devils Point**	**16.15**	**268**	P	**Pn**	**03 03 35.4**	**+1.4**
LIFNC	**LIFOU**	**17.14**	**257**	P	**P**	**03 03 43.2**	**-0.6**
LIFNC	**LIFOU**	**17.14**	**257**	P	**P**	**03 03 42.5**	**-1.3**
PINNC	**Pines Island,**	**17.26**	**251**	P	**P**	**03 03 45.0**	**0.0**
PINNC				IAmb	IAmb	03 03 59.4	
	comp=Z,50nm,1.1s						
OUENC	**Ouen Island, N**	**17.76**	**252**	P	**P**	**03 03 50.1**	**-0.4**
OUENC				IAmb	IAmb	03 04 05.3	
	comp=Z,17nm,0.8s						
DZM	**Mont Dzumac**	**18.06**	**254**	P	**P**	**03 03 54.7**	**+0.8**
DZM	**Mont Dzumac**	**18.06**	**254**	P	**P**	**03 03 53.5**	**-0.4**
DZM				IAmb	IAmb	03 03 57.3	
	comp=Z,30nm,1.1s						
DZM	**Mont Dzumac**	**18.06**	**254**	P	**P**	**03 03 53.6**	**-0.3**
	comp=Z,18nm,0.9s,baz=74,slow=20,SNR=14						
ONTNC	**Ouen Toro**	**18.09**	**253**	P	**P**	**03 03 53.5**	**-0.6**
KOUNC	**Koumac, New Ca**	**19.87**	**259**	P	**P**	**03 04 12.1**	**-1.2**
KOUNC				IAmb	IAmb	03 04 19.6	
	comp=Z,32nm,1.1s						
WCZ	**Waipu Caves**	**20.37**	**206**	P	Pn	03 04 21.6	-2.1
KUZ	**Kuaotunu**	**20.54**	**202**	P	**P**	**03 04 20.8**	**+0.5**
KUZ	**Kuaotunu**	**20.54**	**202**	P	**P**	**03 04 20.7**	**+0.5**
WMGZ	**Waiomatatini S**	**20.71**	**195**	P	**P**	**03 04 24.4**	**+2.3**
WIAZ	**Waiheke Island**	**20.80**	**203**	P	**P**	**03 04 23.5**	**+0.6**
HAZ	**Te Kaha**	**20.82**	**197**	P	**P**	**03 04 24.1**	**+0.9**
PKGZ	**Pakihiroa**	**20.86**	**196**	P	**P**	**03 04 25.5**	**+1.8**
MBAZ	**Motutapu North**	**20.86**	**204**	P	Pn	03 04 26.8	-3.1
PUZ	**Puketiti**	**20.99**	**195**	P	**P**	**03 04 26.4**	**+1.4**
RUGZ	**Raukumara Rang**	**21.04**	**197**	P	**P**	**03 04 26.4**	**+0.7**
MKAZ	**Moumakai**	**21.06**	**203**	P	**P**	**03 04 26.0**	**+0.3**
WTAZ	**Waiatarua**	**21.13**	**204**	P	**P**	**03 04 27.5**	**+1.0**
TWGZ	**Tauwhareparae**	**21.16**	**196**	P	**P**	**03 04 28.0**	**+1.2**
AWAZ	**Awhitu Peninsu**	**21.22**	**204**	P	**P**	**03 04 27.2**	**-0.1**
CNGZ	**Carnagh Statio**	**21.39**	**195**	P	**P**	**03 04 31.0**	**+1.9**
MWZ	**Matawai**	**21.43**	**197**	P	**P**	**03 04 29.8**	**+0.3**
URZ	**Urewera**	**21.48**	**197**	P	**P**	**03 04 29.7**	**-0.1**
	comp=Z,11nm,0.3s,baz=50,slow=2.4,SNR=8.0						
URZ				S	**S**	**03 08 11.0**	**-1.5**
	comp=Z,5.9nm,0.4s,baz=195,slow=23,SNR=5.6						
	comp=Z,11nm,0.3s						
TOZ	**Tahuroa Road**	**21.50**	**201**	P	**P**	**03 04 30.2**	**+0.2**
TOZ				IAmb	IAmb	03 04 40.4	
	comp=Z,9.4nm,0.7s						
RTZ	**Ruatahuna**	**21.84**	**197**	P	**P**	**03 04 32.8**	**-0.7**
RTZ				IAmb	IAmb	03 04 36.4	
	comp=Z,17nm,0.7s						
HIZ	**Hauiti**	**22.43**	**202**	P	**P**	**03 04 40.1**	**+1.4**
BKZ	**Black Stump Fm**	**22.50**	**198**	P	**P**	**03 04 40.8**	**+1.4**
BFZ	**Birch Farm**	**23.97**	**197**	P	**P**	**03 04 53.7**	**+0.9**
QRZ	**Quartz Range**	**25.31**	**203**	P	**P**	**03 05 05.5**	**+0.7**
QRZ	**Quartz Range**	**25.31**	**203**	P	**P**	**03 05 04.7**	**-0.1**
TUWZ	**Tuamarina**	**25.35**	**200**	P	**P**	**03 05 05.4**	**+0.2**
THZ	**Tophouse**	**26.00**	**201**	P	**P**	**03 05 10.3**	**-0.7**
KHZ	**Kahutara**	**26.37**	**200**	P	**P**	**03 05 13.9**	**-0.4**
RPZ	**Rata Peaks**	**28.36**	**202**	P	**P**	**03 05 34.0**	**+2.0**
MLZ	**Mavora Lakes**	**30.86**	**204**	P	**P**	**03 05 53.2**	**-0.8**
MLZ				IAmb	IAmb	03 05 56.2	
	comp=Z,14nm,0.8s						
EIDS	**Eidsvold**	**32.46**	**251**	P	**P**	**03 06 07.4**	**-0.9**
ARMA	**Armidale**	**32.90**	**241**	P	**P**	**03 06 12.0**	**-0.2**
ARMA				IAmb	IAmb	03 06 12.5	
	comp=Z,16nm,0.9s						
CTAO	**Charters Tower**	**36.79**	**260**	P	**P**	**03 06 43.8**	**-1.5**
CTAO				IAmb	IAmb	03 06 46.1	
	comp=Z,13nm,0.8s						
TOO	**Toolangi**	**39.83**	**232**	P	**P**	**03 07 08.7**	**-1.8**
TOO				IAmb	IAmb	03 07 10.5	
	comp=Z,11nm,0.7s						
COEN	**Coen**	**40.49**	**269**	P	**P**	**03 07 15.5**	**-0.6**
COEN				IAmb	IAmb	03 07 16.9	
	comp=Z,16nm,0.8s						
STKA	**Stephens Creek**	**41.61**	**242**	P	**P**	**03 07 24.3**	**-0.7**
STKA	**Stephens Creek**	**41.61**	**242**	P	**P**	**03 07 24.9**	**-0.2**
	comp=Z,9.5nm,0.5s,baz=80,slow=9.8,SNR=35						
	comp=Z,9.5nm,0.5s						
BBOO	**Buckleboo**	**46.38**	**242**	P	**P**	**03 08 01.9**	**-1.0**
WR0	**Warramunga Arr**	**47.77**	**259**	P	**P**	**03 08 13.3**	**-0.5**
WB0	**Warramunga Arr**	**47.93**	**259**	P	**P**	**03 08 13.6**	**-1.4**
WB0				IAmb	IAmb	03 08 15.4	
	comp=Z,21nm,0.6s						
WB2	**Warramunga Arr**	**47.95**	**259**	P	**P**	**03 08 14.3**	**-0.9**
WB2				IAmb	IAmb	03 08 15.5	
	comp=Z,34nm,1.1s						
WRA	**Warramunga Arr**	**47.96**	**259**	P	**P**	**03 08 14.5**	**-0.7**
	comp=Z,7.4nm,0.3s,baz=96,slow=7.1,SNR=193						
WRA				PcP	**PcP**	**03 09 39.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=91,slow=3.3,SNR=3.0						
	comp=Z,7.4nm,0.3s						
AS31	**Alice Springs**	**48.05**	**254**	P	**P**	**03 08 15.3**	**-0.6**
ASAR	**Alice Springs**	**48.05**	**254**	P	**P**	**03 08 15.3**	**-0.6**
ASAR	**Alice Springs**	**48.05**	**254**	P	**P**	**03 08 15.6**	**-0.3**
	comp=Z,124nm,0.6s,baz=90,slow=8.1,SNR=1475						
ASAR				PcP	**PcP**	**03 09 40.0**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=112,slow=3.4,SNR=4.3						
ASAR				S	**S**	**03 14 52.5**	**-4.3**
	comp=Z,0.8nm,0.8s,baz=91,slow=15,SNR=5.3						
MTN	**Manton Dam**	**52.18**	**267**	P	**P**	**03 08 45.5**	**-1.4**
MTN				IAmb	IAmb	03 08 47.8	
	comp=Z,29nm,1.0s						
FORT	**Forrest**	**53.07**	**245**	P	**P**	**03 08 51.9**	**-1.3**
FORT				IAmb	IAmb	03 08 52.9	
	comp=Z,17nm,0.6s						
FITZ	**Fitzroy Crossi**	**56.37**	**260**	P	**P**	**03 09 16.3**	**-0.7**
VNDA	**Vanda**	**60.77**	**186**	P	**P**	**03 09 47.7**	**+1.3**
VNDA	**Vanda**	**60.77**	**186**	P	**P**	**03 09 48.0**	**+1.6**
	comp=Z,2.4nm,0.9s,baz=14,slow=6.3,SNR=5.6						
	comp=Z,2.4nm,0.9s						
PSA00	**Pilbara Seismi**	**61.18**	**255**	P	**P**	**03 09 49.3**	**-0.9**
PSA00				IAmb	IAmb	03 10 17.1	
	comp=Z,16nm,1.1s						
MBWA	**Marble Bar**	**61.36**	**255**	P	**P**	**03 09 50.5**	**-0.8**
MBWA				IAmb	IAmb	03 10 14.1	
	comp=Z,14nm,1.1s						
MORW	**Morawa**	**63.58**	**246**	P	**P**	**03 10 04.8**	**-1.1**
GIRL	**Giralia**	**66.14**	**253**	P	**P**	**03 10 23.8**	**+1.4**
CASY	**Casey**	**67.57**	**205**	P	**P**	**03 10 30.1**	**-0.5**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**03 10 58.1**	**-0.7**
QSPA	**South Pole Qui**	**72.17**	**180**	P	**P**	**03 10 59.5**	**+0.7**
	comp=Z,4.7nm,0.8s,baz=105,slow=1.2,SNR=11						
	comp=Z,4.7nm,0.8s						
KSRS	**Korea Array**	**76.98**	**317**	P	**P**	**03 11 29.6**	**+2.9**
	comp=Z,1.8nm,0.9s,baz=137,slow=6.5,SNR=5.3						
	comp=Z,1.8nm,0.9s						
NVAR	**Mina Array Bea**	**77.10**	**42**	P	**P**	**03 11 30.3**	**+2.7**
	comp=Z,0.9nm,0.7s,baz=220,slow=8.3,SNR=5.3						
	comp=Z,0.9nm,0.7s						
NJ2	**Nanjing**	**80.57**	**308**	*e*P	**P**	**03 11 47.4**	**+1.1**
NJ2				pP	**pP**	**03 12 35.5**	**-4.7**
NJ2				sP	**sP**	**03 12 57.8**	**-6.1**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,160nm,9.5s						
MAW	**Mawson**	**85.00**	**199**	P	**P**	**03 12 09.2**	**+0.8**
	comp=Z,4.3nm,0.8s,baz=146,slow=8.0,SNR=9.4						
	comp=Z,4.3nm,0.8s						
ILAR	**Eielson Array**	**85.15**	**12**	P	**P**	**03 12 10.2**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=217,slow=5.2,SNR=12						
	comp=Z,0.2nm,0.4s						
XAN	**Xi'an**	**88.96**	**306**	⇑P	**P**	**03 12 29.6**	**+1.5**
XAN				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ELIB	**Princess Elisa**	**89.54**	**186**	*d*P	**P**	**03 12 30.7**	**+0.4**
HHC	**Hu-ho-hao-te**	**89.70**	**313**	*e*P	**P**	**03 12 34.1**	**+2.6**
CMAR	**Chiang Mai Arr**	**92.08**	**289**	P	**P**	**03 12 43.2**	**+0.3**
	comp=Z,1.2nm,0.4s,baz=122,slow=2.7,SNR=6.0						
	comp=Z,1.2nm,0.4s						
PZH	**PanZhiHua**	**92.15**	**297**	P	**P**	**03 12 44.5**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
YKA	**Yellowknife Ar**	**92.93**	**24**	P	**P**	**03 12 47.7**	**+1.9**
	comp=Z,0.2nm,0.8s,baz=246,slow=4.5,SNR=2.9						
	comp=Z,0.2nm,0.8s						
ARCES	**ARCESS Array B**	**126.86**	**351**	PKPdf	**PKPdf**	**03 18 34.9**	**-0.1**
ARCES	**ARCESS Array B**	**126.86**	**351**	PKP	**PKiKP**	**03 18 35.6**	**+0.1**
	comp=Z,0.7nm,0.7s,baz=343,slow=2.8,SNR=5.3						
AKASG	**Malin Array Be**	**142.05**	**335**	PKP	**PKPdf**	**03 19 04.6**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=39,slow=4.0,SNR=2.3						
BURAR	**Bucovina Array**	**146.10**	**335**	PKPbc	**PKPdf**	**03 19 11.0**	**-0.1**
BRTR	**Keskin Array B**	**147.12**	**317**		**PKPab**	**03 19 16.9**	**-0.8**
BRTR	**Keskin Array B**	**147.12**	**317**	PKPbc	**PKPbc**	**03 19 16.5**	**+0.9**
	comp=Z,2.0nm,0.8s,baz=118,slow=2.5,SNR=10						
RDO	**Rodhopi**	**150.95**	**327**	PKPbc	**PKiKP**	**03 19 25.6**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**151.04**	**353**	PKPbc	**PKiKP**	**03 19 26.2**	**+0.4**

*NEIC **14** 03:13:08.1±0.7, 19.386N±0.009×155.468W±0.005, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.5km az=196.0*
HVO 14 03:13:07.7±0.6, 19.361N±0.009×155.487W±0.008, h8km±4km, ML2.8/9, ML3.3/46(NEIC), Error ellipse: s-maj=1.4km s-min=0.9km az=215.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.15**	**146**		Pg	03 13 11.2	+0.2
MWH	**Moku'aweowe**	**0.16**	**320**	Pg	Pg	03 13 11.5	+0.1
MLH	**Mauna Loa**	**0.16**	**36**	Pg	Pg	03 13 11.1	-0.2
MLH				IAML		03 13 16.5	
	comp=N,5μm,0.7s						
KHU	**Kahuku**	**0.17**	**227**		Pg	03 13 11.6	+0.3
KHU					Sg	03 13 14.6	+0.7
KHU				IAML		03 13 14.9	
	comp=E,4μm,0.2s						
HLP	**Hilina Pali**	**0.18**	**111**	Pg	Pg	03 13 11.5	0.0
HLP				IAML		03 13 15.2	
	comp=E,8μm,0.6s						
HLP				IAML		03 13 16.8	
	comp=N,5μm,0.2s						
WRMHI	**West Rim**	**0.18**	**75**	Pg	Pg	03 13 11.3	-0.2
SDHHI	**Sand Hill**	**0.18**	**81**	Pg	Pg	03 13 11.4	-0.2
SDHHI				Sg	Sg	03 13 14.0	-0.3
SDHHI				IAML		03 13 16.3	
	comp=E,12μm,0.5s						
UWE	**Uwekahuna**	**0.19**	**72**	Pg	Pg	03 13 11.9	+0.2
MLOA	**Mauna Loa Obse**	**0.19**	**334**	Pg	Pg	03 13 12.1	+0.2
MLOA				IAML		03 13 15.5	
	comp=N,9μm,0.2s						
MLOA				IAML		03 13 15.6	
	comp=E,6μm,0.2s						
OBL	**Observatory Le**	**0.20**	**74**	Pg	Pg	03 13 11.8	0.0
RIM	**Rim**	**0.20**	**80**	Pg	Pg	03 13 11.8	-0.1
RIM				IAML		03 13 16.0	
	comp=E,9μm,0.8s						
UWB	**Uwekahuna B**	**0.21**	**72**	Pg	Pg	03 13 11.5	-0.5
UWB				IAML		03 13 15.5	
	comp=E,5μm,1.1s						
UWB				IAML		03 13 16.8	
	comp=N,6μm,0.9s						
KKO	**Keanakako'i**	**0.21**	**80**	Pg	Pg	03 13 11.9	-0.2
KKO				IAML		03 13 14.8	
	comp=N,11μm,0.8s						
KKO				IAML		03 13 16.7	
	comp=E,11μm,1.2s						
SBLHI	**Steaming Bluff**	**0.22**	**72**	Pg	Pg	03 13 11.8	-0.3
SBLHI				IAML		03 13 19.8	
	comp=E,8μm,1.1s						
SBLHI				IAML		03 13 19.8	
	comp=N,9μm,1.1s						
HATHI	**Halema'uma'u T**	**0.22**	**74**	Pg	Pg

PUH					Sg	Sg	03 13 16.6	+0.2
STCH	**Steam Cracks**	**0.34**	**86**		Pg	Pg	03 13 14.1	-0.4
STCH					Sg	Sg	03 13 19.0	0.0
STCH					IAML		03 13 19.5	
	comp=N,2μm,0.2s							
STCH					IAML		03 13 19.6	
	comp=E,2μm,0.1s							
NPOC	**North of Pu'u**	**0.36**	**85**		Pg	Pg	03 13 14.0	-0.8
NPOC					Sg	Sg	03 13 19.4	-0.1
NPOC					IAML		03 13 20.4	
	comp=N,2μm,0.3s							
NPOC					IAML		03 13 25.7	
	comp=E,2μm,1.5s							
JCUZ	**Jacuzzi**	**0.36**	**86**		Pg	Pg	03 13 14.6	-0.3
JCUZ					Sg	Sg	03 13 20.0	+0.2
POHA	**Pohakuloa**	**0.40**	**354**		Pg	Pg	03 13 15.4	-0.2
POHA					IAML		03 13 22.0	
	comp=E,4μm,0.1s							
POHA					IAML		03 13 22.5	
	comp=E,3μm,0.1s							
CPH	**Captain Cook**	**0.43**	**287**			Pg	03 13 15.9	-0.1
HUH	**Hualalai**	**0.46**	**314**		Pg	Pg	03 13 16.8	0.0
JOKA	**Jonika Flow**	**0.46**	**81**			Pg	03 13 15.8	-1.0
PAH	**Pahoa**	**0.53**	**75**			Sg	03 13 24.3	-0.5
HPAH	**Hawaii Prepara**	**0.69**	**343**		Pg	Pg	03 13 19.6	-1.6
MHA	**Mahukona**	**0.91**	**335**		Pg	Pg	03 13 22.8	-2.5
HON	**Honolulu**	**3.06**	**310**		Pn	Pn	03 13 51.8	-4.6
KEKH	**Kekaha**	**4.74**	**304**		Pn	Pn	03 14 15.7	-3.8

*IDC **14** 03:14:15.3±0.8, 14°.03N×120°.69E, h115km±8km, mb3.5/14, mbtmp3.9/14, MS3.4/1, Error ellipse: s-maj=37.5km s-min=15.8km az=64.0*

*NEIC **14** 03:14:16.4±1.0, 14°.02N±0°.09×120°.7E±0°.2, h116km±6km, mb4.2/21, Error ellipse: s-maj=24.4km s-min=13.0km az=80.0*

ISC 14 03:14:16.0±0.6, 14°.02N±0°.09×120°.7E±0°.1, h120km, n44, σ0.91/47, mb4.0/24, Luzon

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGY	**Tagaytay City**	**0.24**	**69**	P	**Pn**	**03 14 32.5**	**-0.3**
	1μm,0.3s,baz=230,slow=5.4,SNR=26						
TGY				S	**Sn**	03 14 45.3	-0.1
	7μm,0.4s,baz=228,slow=22,SNR=14						
HKPS	**Hong Kong Po S**	**10.31**	**324**		**Pn**	**03 16 40.3**	**-0.5**
SBUM	**Sibu**	**14.23**	**217**	P	**P**	**03 17 37.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**21.35**	**285**	P	**P**	**03 18 53.1**	**-0.8**
	0.8nm,0.3s,baz=94,slow=8.1,SNR=1.6						
	0.8nm,0.3s						
SONM	**Songino Array**	**35.76**	**343**	P	**P**	**03 21 03.4**	**0.0**
SONM				IAmb	IAmb	03 21 05.0	
	comp=Z,3.1nm,0.8s						
SONM	**Songino Array**	**35.76**	**343**	P	**P**	**03 21 03.6**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=162,slow=10,SNR=16						
SONM				LR	LR	03 35 14.1	
	comp=Z,56nm,21.0s,baz=272,slow=35						
	comp=Z,3.9nm,0.7s						
WB0	**Warramunga Arr**	**36.17**	**158**	P	**P**	**03 21 07.2**	**+0.1**
WRA	**Warramunga Arr**	**36.31**	**158**	P	**P**	**03 21 08.0**	**-0.4**
WRA	**Warramunga Arr**	**36.31**	**158**	P	**P**	**03 21 08.2**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=332,slow=9.9,SNR=4.8						
WRA				pP	**pP**	**03 21 33.1**	**-2.0**
	comp=Z,1.2nm,0.7s,baz=328,slow=10,SNR=4.4						
	comp=Z,0.3nm,0.4s						
WB2	**Warramunga Arr**	**36.32**	**158**	P	**P**	**03 21 08.1**	**-0.2**
ASAR	**Alice Springs**	**39.61**	**161**	P	**P**	**03 21 36.2**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=346,slow=6.8,SNR=4.7						
ASAR				pP	**pP**	**03 22 01.8**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=340,slow=6.9,SNR=3.2						
	comp=Z,0.3nm,0.5s						
MK31	**Makanchi Array**	**45.78**	**323**	P	**P**	**03 22 26.5**	**+0.9**
MK31				IAmb	IAmb	03 22 38.4	
	comp=Z,4.8nm,1.2s						
MKAR	**Makanchi Array**	**45.78**	**323**	P	**P**	**03 22 24.7**	**-0.9**
MKAR	**Makanchi Array**	**45.78**	**323**	P	**P**	**03 22 25.7**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=126,slow=12,SNR=5.6						
	comp=Z,0.3nm,0.3s						
ZALV	**Zalesovo Beam**	**48.78**	**333**	P	**P**	**03 22 47.0**	**-1.7**
ZALV	**Zalesovo Beam**	**48.78**	**333**	P	**P**	**03 22 48.3**	**-0.3**
	comp=Z,0.9nm,0.4s,baz=137,slow=7.3,SNR=2.9						
	comp=Z,0.9nm,0.4s						
BBOO	**Buckleboo**	**48.82**	**163**	P	**P**	**03 22 49.2**	**0.0**
KURBB	**Kurchatov Arra**	**49.93**	**326**	P	**P**	**03 22 56.5**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=133,slow=7.8,SNR=12						
	comp=Z,1.1nm,0.5s						
KURK	**Kurchatov**	**49.93**	**326**	P	**P**	**03 22 57.7**	**+0.2**
KK31	**Karatay Array**	**51.76**	**314**	P	**P**	**03 23 11.5**	**+0.2**
KK31				IAmb	IAmb	03 23 12.6	
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**51.76**	**314**	P	**P**	**03 23 11.7**	**+0.3**
BVAR	**Borovoye Array**	**55.52**	**326**	P	**P**	**03 23 38.9**	**+0.3**
	comp=Z,3.5nm,0.6s,baz=115,slow=9.4,SNR=11						
	comp=Z,3.5nm,0.6s						
BRVK	**Borovoye**	**55.59**	**326**	P	**P**	**03 23 39.4**	**+0.4**
ABKAR	**Akbulak array**	**60.50**	**319**	P	**P**	**03 24 13.3**	**0.0**
ABKAR				IAmb	IAmb	03 24 14.6	
	comp=Z,4.1nm,1.1s						
J17K	**VABM Dome**	**73.19**	**28**	P	**P**	**03 25 35.0**	**+1.5**
J17K				IAmb	IAmb	03 26 11.6	
	comp=Z,9.7nm,1.4s						
D19K	**Kuna River**	**73.82**	**22**	P	**P**	**03 25 38.4**	**+1.2**
D19K				IAmb	IAmb	03 25 40.4	
	comp=Z,4.6nm,1.2s						
B20K	**Meade River**	**74.23**	**21**	P	**P**	**03 25 40.9**	**+1.5**
F20K	**Avaraart Lake**	**74.69**	**24**	P	**P**	**03 25 43.2**	**+1.1**
F20K				IAmb	IAmb	03 26 13.7	
	comp=Z,3.0nm,1.2s						
B22K	**Teshekpuk Lake**	**75.52**	**20**	P	**P**	**03 25 47.8**	**+1.0**
B22K				IAmb	IAmb	03 26 09.1	
	comp=Z,4.6nm,1.5s						
C23K	**Itkillik River**	**76.50**	**21**	P	**P**	**03 25 52.9**	**+0.5**
ARCES	**ARCESS Array B**	**78.79**	**339**	P	**P**	**03 26 05.2**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=82,slow=8.7,SNR=3.6						
	comp=Z,0.6nm,0.6s						
BRTR	**Keskin Array B**	**78.96**	**308**	P	**P**	**03 26 06.4**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=107,slow=3.4,SNR=2.6						
	comp=Z,0.2nm,0.5s						
BMAR	**Burnt Mountain**	**78.97**	**23**	P	**P**	**03 26 07.8**	**+1.5**
FIA1	**FINESS Array S**	**80.01**	**331**	P	**P**	**03 26 11.3**	**-0.6**
FIA1				IAmb	IAmb	03 26 25.7	
	comp=Z,8.2nm,1.2s						
FINES	**FINESS Array B**	**80.01**	**331**	P	**P**	**03 26 11.2**	**-0.7**
FINES	**FINESS Array B**	**80.01**	**331**	P	**P**	**03 26 11.7**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=59,slow=6.7,SNR=9.4						
	comp=Z,0.4nm,0.5s						
K29M	**Barlow Dome**	**82.65**	**26**	P	**P**	**03 26 27.7**	**+1.8**
K29M				IAmb	IAmb	03 27 05.8	
	comp=Z,8.4nm,1.4s						
BURAR	**Bucovina Array**	**83.43**	**317**	P	**P**	**03 26 30.7**	**+0.4**
BUR08	**Bucovina Ar. S**	**83.44**	**317**	P	**P**	**03 26 30.3**	**0.0**
WHY	**Whitehorse**	**84.81**	**29**	P	**P**	**03 26 37.6**	**+0.6**
WHY				IAmb	IAmb	03 26 49.4	
	comp=Z,6.9nm,1.3s						
HFS	**Hagfors**	**86.20**	**331**	P	**P**	**03 26 42.3**	**-1.4**
	comp=Z,1.5nm,0.8s,baz=64,slow=13,SNR=2.7						
	comp=Z,1.5nm,0.8s						
NB2	**NORSAR Subarra**	**86.98**	**333**	P	**P**	**03 26 46.6**	**-1.0**
	comp=Z,1.2nm,0.8s,baz=69,slow=4.6						
NOA	**NORSAR Array B**	**86.98**	**333**	P	**P**	**03 26 46.5**	**-1.2**
	comp=Z,0.8nm,0.8s,baz=70,slow=4.5,SNR=4.3						
	comp=Z,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**92.48**	**22**	P	**P**	**03 27 13.1**	**-0.2**
	comp=Z,0.4nm,0.8s,baz=309,slow=5.0,SNR=7.0						
	comp=Z,0.4nm,0.8s						

*NEIC **14** 03:16:06.3±0.6, 36°.074N±0°.005×97°.57W±0°.01, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.5km az=22.0*

TUL 14 03:16:06.6±0.7, 36°.072N±0°.009×97°.57W±0°.01, h8km±2km, ML2.8, mb_Lg2.5/36(NEIC), ML2.8/74(NEIC), Error ellipse: s-maj=1.4km s-min=1.3km az=108.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.29**	**162**	Pg	Pg	03 16 12.4	+0.1
OK029				Sg	Sg	03 16 16.5	+0.3
OK029				IAML		03 16 16.9	
	934nm,0.3s						
OK029				IAML		03 16 16.9	
	2μm,0.3s						
ADOK	**Arcadia Dam**	**0.45**	**159**	Pg	Pn	03 16 21.5	+2.2
OK033	**Mehan**	**0.51**	**93**	Pg	Pg	03 16 16.5	+0.1
OK033				IAML		03 16 24.0	
	443nm,0.3s						
OK033				IAML		03 16 29.9	
	456nm,0.1s						
CROK	**Carrier**	**0.55**	**322**	Pg	Pg	03 16 17.1	-0.1
CROK				Sg	Sg	03 16 24.8	+0.3
CROK				IAML		03 16 25.1	
	comp=E,759nm,0.3s						
CROK				IAML		03 16 25.3	
	comp=N,1μm,0.3s						
OK031	**S. Brethren Rd**	**0.60**	**101**	Pg	Pg	03 16 18.1	-0.1
OK031				Sg	Sg	03 16 26.5	+0.5
OK048	**Pawnee Station**	**0.61**	**55**	Pg	Pg	03 16 18.3	-0.1
OK048				Sg	Sg	03 16 26.4	0.0
OK048				IAML		03 16 27.1	
	comp=N,348nm,0.3s						
OK048				IAML		03 16 29.0	
	comp=N,392nm,0.2s						
OK052	**Battle Ridge R**	**0.62**	**97**	Pg	Pg	03 16 18.6	-0.1
OK052				Sg	Sg	03 16 27.1	+0.3
OKCSW	**OKLAHOMA CITY**	**0.67**	**171**	Pg	Pg	03 16 19.3	-0.3
OKCSW				Sg	Sg	03 16 29.1	+0.7
OKCSW				IAML		03 16 29.8	
	comp=E,734nm,0.1s						
QUOK	**Quay**	**0.70**	**82**	Pg	Pg	03 16 20.0	-0.1
QUOK				Sg	Sg	03 16 29.6	+0.3
QUOK				IAML		03 16 29.9	
	comp=N,545nm,0.3s						
OK051	**E0350 and S346**	**0.73**	**54**	Pg	Pg	03 16 20.5	-0.2
OK051				Sg	Sg	03 16 30.2	0.0
OK051				IAML		03 16 32.9	
	comp=N,501nm,0.2s						
OK051				IAML		03 16 33.3	
	comp=N,597nm,0.2s						
BLOK	**Blackwell**	**0.74**	**22**	Pg	Pg	03 16 20.6	-0.3
BLOK				Sg	Sg	03 16 30.8	+0.1
BLOK				IAML		03 16 34.8	
	comp=N,436nm,0.2s						
BLOK				IAML		03 16 34.9	
	comp=E,560nm,0.2s						
GC02	**Grant County #**	**0.81**	**343**	Pg	Pg	03 16 21.7	-0.6
GC02				Sg	Sg	03 16 32.7	-0.1
FNO	**Franklin**	**0.82**	**171**	Pg	Pg	03 16 21.9	-0.5
FNO				Sg	Sg	03 16 33.2	0.0
FNO				IAML		03 16 36.2	
	comp=E,238nm,0.2s						
DEOK	**Depew**	**0.90**	**104**	Pg	Pg	03 16 23.1	-0.7
DEOK				Sg	Sg	03 16 35.0	-0.5
OK032	**Salt Plains WL**	**0.90**	**325**	Pg	Pg	03 16 23.3	-0.6
OK032				Sg	Sg	03 16 34.8	-0.8
KAN14	**Manchester OK**	**0.94**	**340**	Pg	Pg	03 16 24.1	-0.6
KAN14				Sg	Sg	03 16 36.6	-0.3
KAN14				IAML		03 16 38.3	
	comp=N,482nm,0.1s						
KAN13	**South Haven SW**	**0.94**	**4**	Pg	Pg	03 16 24.2	-0.5
KAN13				Sg	Sg	03 16 36.9	0.0
KAN13				IAML		03 16 44.6	
	comp=N,242nm,0.3s						
KAN17	**Caldwell West**	**0.98**	**351**	Pg	Pg	03 16 24.8	-0.7
KAN17				Sg	Sg	03 16 38.2	-0.1
KAN17				IAML		03 16 40.5	
	comp=E,394nm,0.2s						
KAN17				IAML		03 16 46.1	
	comp=N,292nm,0.3s						
CSTR	**Hydro, Custer**	**1.01**	**245**	Pg	Pg	03 16 25.2	-0.7
CSTR				Sg	Sg	03 16 39.2	+0.2
OK038	**West end E0370**	**1.03**	**293**	Pg	Pg	03 16 25.5	-1.0
OK038				Sg	Sg	03 16 39.5	-0.3
KAN09	**Caldwell North**	**1.06**	**358**	Pg	Pg	03 16 26.2	-0.8
KAN09				Sg	Sg	03 16 40.6	-0.2
KAN05	**Bluff City Nor**	**1.06**	**347**	Pg	Pg	03 16 26.3	-0.7
KAN05				Sg	Sg	03 16 40.5	-0.4
KAN01	**Argonia South**	**1.09**	**352**	Pg	Pg	03 16 27.0	-0.6
KAN01				Sg	Sg	03 16 41.6	-0.1
KAN01				IAML		03 16 41.8	
	comp=E,317nm,0.2s						
KAN01				IAML		03 16 44.6	
	comp=N,227nm,0.1s						
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	03 16 27.3	-0.9
OK035				Sg	Sg	03 16 42.2	-0.4
KAN10	**Anthony SW Sta**	**1.13**	**338**	Pg	Pg	03 16 27.9	-0.4
KAN10				Sg	Sg	03 16 42.8	-0.3
KAN10				IAML		03 16 44.2	
	comp=E,249nm,0.1s						
KAN10				IAML		03 16 44.6	
	comp=N,180nm,0.1s						
KAN06	**Argonia West S**	**1.20**	**349**	Pg	Pb	03 16 28.6	-1.0
KAN06				Sg	Sg	03 16 44.6	-0.6
KAN06				IAML		03 16 47.7	
	comp=N,297nm,0.1s						
KAN06				IAML		03 16 48.4	
	comp=E,314nm,0.1s						
T35A	**Sooner Cattle**	**1.20**	**45**	Pg	Pb	03 16 28.8	-0.7
T35A				Sg	Sg	03 16 44.4	-0.7
T35A				IAML		03 16 45.3	
	comp=N,268nm,0.3s						
T35A				IAML		03 16 48.5	
	comp=E,250nm,0.4s						
KAN08	**Anthony NE Sta**	**1.20**	**344**	Pg	Pb	03 16 28.5	-1.1
KAN08				IAML		03 16 45.5	
	comp=E,263nm,0.2s						
KAN08				IAML		03 16 46.4	
	comp=N,214nm,0.1s						
U32A	**Winter Ranch,**	**1.20**	**285**	Pg	Pb	03 16 28.6	-1.0
U32A				IAML		03 16 48.0	
	comp=E,158nm,0.2s						
U32A				IAML		03 16 48.3	
	comp=N,166nm,0.1s						
KAN12	**Harper NE Stat**	**1.27**	**344**	Pg	Pn	03 16 30.1	-0.6
TUL3	**Leonard**	**1.45**	**96**		Pn	03 16 32.2	-0.9
ELIS	**Ellis County**	**1.50**	**270**		Pn	03 16 33.8	0.0
WMOK	**Wichita Mounta**	**1.66**	**217**		Pn	03 16 36.0	-0.1
RLO	**Rose Lookout**	**2.06**	**87**	Pn	Pn	03 16 41.8	+0.2
LOOK	**Love County**	**2.10**	**171**	Pn	Pn	03 16 42.3	+0.2
X37A	**Clayton**	**2.33**	**129**	Pn	Pn	03 16 46.0	+0.8
X37A				IAmb_Lg		03 17 22.6	
	comp=Z,22nm,0.7s						
SMWD	**Samnorwood**	**2.38**	**247**	Pn	Pn	03 16 46.3	+0.3
WTFS	**Witchita Falls**	**2.42**	**198**	Pn	Pn	03 16 45.5	-1.0
R32A	**Long Quarter,**	**2.52**	**339**	Pn	Pn	03 16 47.6	-0.3
U38A	**Gravette**	**2.60**	**81**	Pn	Pn	03 16 49.1	+0.1
Z35A	**Perchaven, San**	**2.75**	**175**	Pn	Pn	03 16 50.5	-0.5
HHAR	**Hobbs**	**2.94**	**85**	Pn	Pn	03 16 53.7	0.0
FW06	**Azle**	**3.09**	**180**	Pn	Pn	03 16 55.7	0.0
KSU1	**Kansas State U**	**3.12**	**14**	Pn	Pn	03 16 56.2	+0.1
CBKS	**Cedar Bluff**	**3.24**	**328**	IAmb_Lg		03 17 55.7	
	comp=Z,19nm,0.8s						
PLPT	**Palo Pinto**	**3.31**	**191**	Pn	Pn	03 16 58.9	+0.1
APMT	**Aspermont**	**3.46**	**218**	Pn	Pn	03 17 01.7	+1.0
Z38A	**Mt. Pleasant**	**3.52**	**142**	IAmb_Lg		03 18 07.1	
	comp=Z,18nm,0.8s						
AMTX	**Amarillo**	**3.56**	**252**	IAmb_Lg		03 17 58.5	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida**	**3.60**	**114**	Pn	Pn	03 17 02.4	-0.4
S39A	**Bolivar**	**3.77**	**63**	IAmb_Lg		03 18 07.4	
	comp=Z,13nm,0.8s						
SN07	**Snyder 07**	**4.05**	**224**	IAmb_Lg		03 18 16.8	
	comp=Z,12nm,0.8s						
X40A	**Basin Creek Fa**	**4.18**	**111**	Pn	Pn	03 17 10.3	-0.4
RTBA	**Rita Blanca**	**4.20**	**277**	Pn	Pn	03 17 11.3	+0.3
WHAR	**Wooly Hollow**	**4.37**	**99**	Pn	Pn	03 17 11.5	-1.7
WLAR	**White Oak Lake**	**4.37**	**122**	Pn	Pn	03 17 12.3	-0.9
MGMO	**Mountain Grove**	**4.40**	**74**	IAmb_Lg		03 18 30.0	
	comp=Z,9.6nm,0.7s						
P38A	**Dawn**	**4.77**	**41**	IAmb_Lg		03 18 47.7	
	comp=Z,9.0nm,0.8s						
R40A	**Maddies Statio**	**4.78**	**61**	Pn	Pn	03 17 18.8	-0.1
KSCO	**Kaye Shedlock'**	**4.98**	**308**	IAmb_Lg		03 18 48.3	
	comp=Z,8.9nm,0.7s						
LCAR	**Lake Charles**	**5.19**	**88**	Pn	Pn	03 17 24.7	+0.1
LCAR				IAmb_Lg		03 18 51.2	
	comp=Z,5.5nm,1.0s						
CCM	**Cathedral Cave**	**5.43**	**67**	IAmb_Lg		03 19 05.2	
	comp=Z,8.0nm,0.8s						
T25A	**Trinidad**	**5.61**	**283**	IAmb_Lg		03 19 18.8	
	comp=Z,6.5nm,1.0s						
PBMO	**Poplar Bluff**	**5.80**	**81**	IAmb_Lg		03 19 09.8	
	comp=Z,7.9nm,0.7s						
N38A	**Joes South For**	**5.81**	**34**	IAmb_Lg		03 19 11.1	
	comp=Z,8.0nm,0.8s						
CGM3	**Cape Girardeau**	**6.47**	**77**	IAmb_Lg		03 19 28.7	
	comp=Z,8.8nm,0.8s						
K30B	**Basset**	**6.78**	**347**	IAmb_Lg		03 19 59.5	
	comp=Z,7.6nm,0.7s						
L40A	**Anamosa**	**7.75**	**38**	IAmb_Lg		03 20 14.4	
	comp=Z,4.4nm,0.8s						
JFWS	**Jewell Farm**	**8.87**	**37**	IAmb_Lg		03 20 53.2	
	comp=Z,4.9nm,0.7s						

NNC 14 03:26:01.1±15.0, 36°.56N×71°.29E, h0km, mb3.6, mpv3.3, 1C-2D, Error ellipse: s-maj=145.7km s-min=89.9km az=134.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.56**	**21**	⇓S	Sn	03 28 54.6	0.0
	7.7nm,1.1s						
KK31	**Karatay Array**	**6.57**	**355**	P	Pn	03 27 40.6	+1.7
	0.8nm,0.3s,baz=178,slow=12,SNR=26						
KK31				⇓S	Sn	03 28 56.3	+1.7
	0.7nm,0.3s,baz=190,slow=25,SNR=4.8						
AB31	**Akbulak array**	**15.15**	**330**	⇑P	Pn	03 29 32.6	-3.7
	0.4nm,0.5s,baz=174,slow=11,SNR=11						

IDC 14 03:30:09.2±5.7, 30°.28S×178°.12W, h0km, mb3.9/3, mbtmp3.9/3, MS3.8/1, Error ellipse: s-maj=223.3km s-min=51.5km az=150.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.40**	**257**	P	P	03 36 58.2	-0.1
	1.9nm,0.7s,baz=94,slow=12,SNR=4.8						
	1.9nm,0.7s						
ASAR	**Alice Springs**	**43.01**	**267**	P	P	03 38 09.9	-0.8
	0.2nm,0.3s,baz=114,slow=6.0,SNR=2.0						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**43.99**	**272**	P	P	03 38 18.6	0.0
	1.4nm,0.6s,baz=109,slow=8.0,SNR=5.2						
WRA				LR	LR	03 56 29.5	
	comp=Z,100nm,18.1s,baz=312,slow=36						
	1.4nm,0.6s						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	03 49 46.5	-0.6
	0.8nm,0.5s,baz=46,slow=4.0,SNR=8.6						

*IDC **14** 04:02:02.4±1.7, 2°.63S×139°.29E, h0km, mb3.8/5, mbtmp3.8/6, ML3.3/1, Error ellipse: s-maj=71.9km s-min=25.8km az=91.0*

ISC 14 04:02:06.4±1.4, 2°.7S±0°.1×139°.3E±0°.5, h27km, n6, σ0.37/6, mb3.9/5, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.83**	**195**	P	**Pn**	**04 06 12.4**	**-0.4**
	0.1nm,0.3s,baz=17,slow=13,SNR=3.3						
	1.2nm,1.0s						
ASAR	**Alice Springs**	**21.50**	**194**	P	**P**	**04 06 53.8**	**+0.4**
	0.6nm,0.6s,baz=16,slow=11,SNR=5.7						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**70.13**	**322**	P	**P**	**04 13 16.6**	**0.0**
	1.0nm,0.6s,baz=105,slow=8.1,SNR=9.2						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**74.05**	**325**	P	**P**	**04 13 39.6**	**-0.3**
	1.0nm,0.8s,baz=119,slow=5.6,SNR=6.4						
	1.0nm,0.8s						
BVAR	**Borovoye Array**	**79.63**	**325**	P	**P**	**04 14 11.6**	**+0.2**
	1.7nm,0.5s,baz=103,slow=6.5,SNR=8.1						
	1.7nm,0.5s						
ILAR	**Eielson Array**	**85.56**	**24**	P	**P**	**04 14 42.0**	**0.0**
	0.3nm,0.9s,baz=235,slow=4.3,SNR=2.2						
	0.3nm,0.9s						

*NEIC **14** 04:05:18.5±1.6, 19°.17N±0°.03×155°.54W±0°.02, h42km±2km, Error ellipse: s-maj=4.6km s-min=2.7km az=151.0*

HVO 14 04:05:20.5±1.1, 19°.20N±0°.03×155°.54W±0°.02, h35km±2km, Md2.9/15, ML3.2/38(NEIC), Error ellipse: s-maj=4.0km s-min=2.5km az=166.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KHU	**Kahuku**	**0.08**	**302**		Pn	04 05 26.1	-0.8
KHU					Sn	04 05 30.1	-1.0
KHU				IAML		04 05 30.6	
	comp=E,3μm,0.4s						
HTC	**Hot Caves**	**0.14**	**75**		Pn	04 05 26.3	-1.8
HLP	**Hilina Pali**	**0.24**	**67**	Pn	Pn	04 05 27.0	-1.2
HLP				Sn	Sn	04 05 31.8	-2.1
HLP				IAML		04 05 35.2	
	comp=N,4μm,1.0s						
HLP				IAML		04 05 38.3	
	comp=E,3μm,1.0s						
MWH	**Moku'aweowe**	**0.29**	**349**	Pn	Pn	04 05 27.5	-1.5
MWH				IAML		04 05 30.2	
	comp=N,2μm,1.4s						
MWH				IAML		04 05 40.6	
	comp=E,2μm,1.4s						
OBL	**Observatory Le**	**0.32**	**48**	Pn	Pn	04 05 24.7	-4.2
MLH	**Mauna Loa**	**0.33**	**26**	Pn	Pn	04 05 27.4	-1.7
MLH				Sn	Sn	04 05 33.2	-2.1
MLH				IAML		04 05 34.5	
	comp=E,2μm,1.3s						
MLH				IAML		04 05 38.0	
	comp=N,2μm,1.5s						
UWB	**Uwekahuna B**	**0.33**	**48**	Pn	Pn	04 05 25.3	-3.7
UWB				IAML		04 05 32.3	
	comp=E,4μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.33**	**354**	Pn	Pn	04 05 27.9	-1.5
BYL	**Byron's Ledge**	**0.34**	**52**	Pn	Pn	04 05 25.6	-3.4
SBLHI	**Steaming Bluff**	**0.34**	**49**	Pn	Pn	04 05 25.3	-3.8
HATHI	**Halema'uma'u T**	**0.34**	**50**	Pn	Pn	04 05 26.3	-2.8
ALEP	**Alea Permanent**	**0.35**	**344**		Pn	04 05 28.1	-1.4
RSD	**Rainshed**	**0.36**	**44**	Pn	Pn	04 05 27.8	-1.6
RSD				Sn	Sn	04 05 33.2	-2.4
RSD				IAML		04 05 33.6

OPO	**Ambohidratompo**	**5.86**	**165**	*i*	P		**Pn**	**04 13 25.6**	**-3.5**
ABPO	**Ambohimpanom**	**6.30**	**166**		Pn		**Pn**	**04 13 35.7**	**+0.6**
VOI	**Vohitsoka**	**9.05**	**173**		Pn		**Pn**	**04 14 13.2**	**+0.3**
FOMA	**Nahampoana Res**	**12.11**	**174**		Pn		**Pn**	**04 14 54.1**	**-0.4**
MSEY	**Mahe Island**	**12.69**	**51**		Pn		**Pn**	**04 15 00.8**	**-1.8**
RER	**Riviere de l'E**	**12.70**	**132**		Pn		**Pn**	**04 15 02.1**	**-0.7**
KIBK	**Kibwezi**	**12.88**	**324**		Pn		**Pn**	**04 15 02.5**	**-2.7**
KIBK	**Kibwezi**	**12.88**	**324**	*e*	P		**Pn**	**04 15 02.0**	**-3.3**
KIBK				*e*	S		Sn	04 17 13.8	-15
KMBO	**Kilima Mbogo**	**14.32**	**324**		Pn		**Pn**	**04 15 25.0**	**-0.1**
	baz=108,slow=19,SNR=5.6								
KMBO					Sn		Sn	04 17 48.8	-15
	baz=219,slow=24,SNR=1.2								
LSZ	**Lusaka**	**17.09**	**260**		Pn		**Pn**	**04 16 00.3**	**-0.9**
LSZ					IAmb		IAmb	04 16 05.1	
	comp=Z,17nm,0.8s								
MATP	**Matopo**	**18.04**	**243**	*i*	P		**P**	**04 16 14.1**	**+0.6**
MATP	**Matopo**	**18.04**	**243**		P		**Pn**	**04 16 13.1**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=70,slow=12,SNR=13								
MATP					S		Sn	04 19 21.9	-13
	comp=Z,1.2nm,0.6s,baz=294,slow=9.2,SNR=2.2								
	comp=Z,5.4nm,0.9s								
MATP	**Matopo**	**18.04**	**243**	*i*	P		**Pn**	**04 16 13.1**	**+0.1**
ROCAM	**Rodrigues Isla**	**18.34**	**114**				**Pn**	**04 16 14.9**	**-1.7**
LODK	**Lodwar**	**19.13**	**327**		P		**P**	**04 16 24.7**	**-0.8**
MBAR	**Mbarara**	**19.14**	**308**		P		**P**	**04 16 25.0**	**-0.7**
MBAR	**Mbarara**	**19.14**	**308**		P		**P**	**04 16 25.9**	**+0.2**
	comp=Z,1.8nm,0.3s,baz=120,slow=17,SNR=3.1								
MBAR					S		Sn	04 19 44.2	-17
	comp=Z,3.7nm,0.2s,baz=327,slow=1.8,SNR=2.0								
MBAR					LR		LR	04 23 24.7	
	comp=Z,306nm,19.1s,baz=119,slow=36								
	comp=Z,4.7nm,0.2s								
POGA	**Pongola**	**19.42**	**220**		P		**P**	**04 16 29.2**	**+0.8**
POGA					IAmb		IAmb	04 16 52.8	
	comp=Z,14nm,0.9s								
ATD	**Arta Tunnel**	**24.40**	**353**		P		**P**	**04 17 18.4**	**-2.3**
ATD					IAmb		IAmb	04 17 23.9	
	comp=Z,27nm,1.3s								
ATD	**Arta Tunnel**	**24.40**	**353**		LR		LR	04 25 58.5	
	comp=Z,6.2nm,20.5s,baz=177,slow=34								
BOSA	**Boshof**	**24.60**	**227**		P		**P**	**04 17 22.8**	**+0.2**
BOSA					IAmb		IAmb	04 17 24.9	
	comp=Z,20nm,1.4s								
BOSA	**Boshof**	**24.60**	**227**	*i*	P		**P**	**04 17 22.4**	**-0.3**
BOSA	**Boshof**	**24.60**	**227**		P		**P**	**04 17 22.4**	**-0.2**
	comp=Z,5.8nm,0.6s,baz=54,slow=12,SNR=22								
BOSA					LR		LR	04 26 55.7	
	comp=Z,151nm,19.4s,baz=48,slow=36								
	comp=Z,5.8nm,0.6s								
BOSA	**Boshof**	**24.60**	**227**	*i*	P		P	04 17 10.9	-12
GRHM	**Grahamstown, E**	**26.86**	**218**		P		**P**	**04 17 41.7**	**-1.2**
GRHM					IAmb		IAmb	04 18 21.3	
	comp=Z,32nm,1.5s								
TSUM	**Tsumeb**	**27.66**	**253**		LR		LR	04 28 27.5	
	comp=Z,109nm,18.5s,baz=141,slow=36								
SUR	**Sutherland**	**29.90**	**225**		P		**P**	**04 18 10.6**	**+0.4**
SUR	**Sutherland**	**29.90**	**225**	*i*	P		**P**	**04 18 11.3**	**+1.1**
SUR	**Sutherland**	**29.90**	**225**		LR		LR	04 29 44.3	
	comp=Z,97nm,21.1s,baz=50,slow=36								
SUR	**Sutherland**	**29.90**	**225**	*i*	P		P	04 18 02.4	-7.8
WSAR	**Wadi Sarin**	**38.08**	**20**		LR		LR	04 32 12.8	
	comp=Z,119nm,19.1s,baz=210,slow=32								
EIL	**Elat**	**43.53**	**346**		LR		LR	04 36 14.4	
	comp=Z,48nm,20.6s,baz=241,slow=33								
TORD	**Torodi Ar. Bea**	**50.65**	**299**		P		**P**	**04 21 02.3**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=122,slow=8.1,SNR=6.9								
	comp=Z,1.4nm,0.8s								
GEYT	**Alibeck**	**51.87**	**13**		LR		LR	04 42 11.8	
	comp=Z,44nm,21.3s,baz=190,slow=35								
GNI	**Garni**	**52.76**	**359**		LR		LR	04 44 27.4	
	comp=Z,104nm,21.0s,baz=163,slow=37								
BR131	**Keskin Array S**	**53.50**	**349**		P		**P**	**04 21 22.1**	**-0.6**
BRTR	**Keskin Array B**	**53.50**	**349**		P		**P**	**04 21 21.9**	**-0.9**
BRTR	**Keskin Array B**	**53.50**	**349**		P		**P**	**04 21 22.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=170,slow=9.2,SNR=11								
BRTR					LR		LR	04 44 09.8	
	comp=Z,48nm,19.2s,baz=154,slow=36								
	comp=Z,1.1nm,0.6s								
DBIC	**Dimbokro**	**53.79**	**288**		LR		LR	04 44 32.8	
	comp=Z,86nm,18.5s,baz=136,slow=36								
ITM	**Ithomi**	**54.55**	**337**		P		**P**	**04 21 30.1**	**-0.2**
MAW	**Mawson**	**55.85**	**172**		P		**P**	**04 21 40.2**	**+1.0**
	comp=Z,1.1nm,0.6s,baz=288,slow=17,SNR=2.7								
MAW					LR		LR	04 43 15.2	
	comp=Z,90nm,18.0s,baz=342,slow=34								
	comp=Z,1.1nm,0.6s								
AGG	**Agios Georgios**	**56.02**	**338**		P		**P**	**04 21 40.6**	**-0.3**
AGG					IAmb		IAmb	04 21 42.8	
	comp=Z,7.0nm,1.0s								
KBZ	**Khabaz**	**56.38**	**358**		P		**P**	**04 21 44.1**	**+0.8**
	comp=Z,2.2nm,0.9s,baz=186,slow=9.2,SNR=5.2								
KBZ					LR		LR	04 47 54.0	
	comp=Z,69nm,18.6s,baz=160,slow=38								
	comp=Z,2.2nm,0.9s								
KEST	**Kesra**	**59.28**	**326**		LR		LR	04 48 47.0	
	comp=Z,106nm,18.3s,baz=224,slow=37								
KSH	**Kashi**	**59.29**	**27**		P		**P**	**04 22 06.6**	**+2.6**
KK31	**Karatay Array**	**60.18**	**21**		P		**P**	**04 22 10.5**	**+0.5**
KK31					IAmb		IAmb	04 22 19.0	
	comp=Z,5.1nm,0.9s								
KKAR	**Karatay Array**	**60.18**	**21**		P		**P**	**04 22 10.4**	**+0.4**
ELIB	**Princess Elisa**	**60.55**	**188**	*d*	P		**P**	**04 22 12.4**	**+0.2**
	comp=Z,3.1nm,1.0s								
MLR	**Muntele Rosu**	**60.76**	**344**		LR		LR	04 50 39.0	
	comp=Z,38nm,18.6s,baz=163,slow=38								
CMAR	**Chiang Mai Arr**	**61.09**	**60**		P		**P**	**04 22 17.3**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=253,slow=9.2,SNR=1.7								
CMAR					LR		LR	04 46 26.7	
	comp=Z,14nm,18.2s,baz=225,slow=34								
	comp=Z,1.4nm,0.3s								
AAK	**Ala-Archa**	**61.26**	**24**		LR		LR	04 46 24.0	
	comp=Z,39nm,20.9s,baz=240,slow=34								
BURAR	**Bucovina Array**	**62.91**	**345**		P		**P**	**04 22 28.4**	**0.0**
ABKAR	**Akbulak array**	**63.13**	**10**		P		**P**	**04 22 29.9**	**+0.1**
AKASG	**Malin Array Be**	**64.91**	**349**		P		**P**	**04 22 40.8**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=173,slow=6.3,SNR=2.5								
AKASG					LR		LR	04 51 47.3	
	comp=Z,24nm,19.6s,baz=189,slow=37								
	comp=Z,1.0nm,0.8s								
BELG	**Belogorsnoye**	**65.02**	**1**		LR		LR	04 54 01.1	
	comp=Z,76nm,18.9s,baz=203,slow=39								
SNAA	**Sanae**	**65.51**	**195**		LR		LR	04 49 22.5	
	comp=Z,85nm,18.2s,baz=13,slow=34								
MDT	**Midelt**	**66.05**	**315**		LR		LR	04 52 54.5	
	comp=Z,94nm,18.3s,baz=146,slow=37								
VRAC	**Vranov**	**67.00**	**340**		LR		LR	04 56 02.0	
	comp=Z,21nm,18.1s,baz=159,slow=39								
PZH	**PanZhiHua**	**67.11**	**54**		P		**P**	**04 22 58.4**	**+2.2**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.8s								
PZH					pmax		pmax		
	comp=Z,40nm,4.5s								
DAVOX	**Davos/Dischmat**	**67.47**	**334**		LR		LR	04 53 24.2	
	comp=Z,32nm,21.6s,baz=100,slow=37								
GEC2	**GERESS Array S**	**67.63**	**338**		P		**P**	**04 22 58.6**	**-0.5**
GEC2					IAmb		IAmb	04 23 04.8	
	comp=Z,2.3nm,0.8s								
GERES	**GERESS Array B**	**67.63**	**338**		P		**P**	**04 22 57.5**	**-1.6**
GERES	**GERESS Array B**	**67.63**	**338**		P		**P**	**04 22 58.3**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=168,slow=5.0,SNR=7.0								
GERES					LR		LR	04 57 02.6	
	comp=Z,21nm,18.6s,baz=67,slow=40								
	comp=Z,2.1nm,0.9s								
MK31	**Makanchi Array**	**67.87**	**26**		P		**P**	**04 23 00.6**	**+0.1**
MK31					IAmb		IAmb	04 23 08.5	
	comp=Z,2.4nm,0.8s								
MKAR	**Makanchi Array**	**67.87**	**26**		P		**P**	**04 23 00.3**	**-0.2**
MKAR	**Makanchi Array**	**67.87**	**26**		P		**P**	**04 23 01.2**	**+0.7**
	comp=Z,0.7nm,0.9s,baz=227,slow=5.7,SNR=2.3								
	comp=Z,0.7nm,0.9s								
OBN	**Obninsk**	**68.15**	**354**		LR		LR	04 55 57.5	
	comp=Z,40nm,18.2s,baz=180,slow=39								
BVAR	**Borovoye Array**	**68.99**	**16**		P		**P**	**04 23 07.5**	**+0.2**
	comp=Z,0.7nm,0.6s,baz=194,slow=5.2,SNR=1.5								
BVAR					LR		LR	04 54 24.7	
	comp=Z,36nm,19.6s,baz=186,slow=37								
	comp=Z,0.7nm,0.6s								
KURBB	**Kurchatov Array**	**69.46**	**22**		P		**P**	**04 23 14.5**	**+4.2**
	comp=Z,1.3nm,0.8s,baz=217,slow=7.2,SNR=7.7								
ESDC	**Sonseca Array**	**69.69**	**321**		P		**P**	**04 23 12.5**	**+0.5**
	comp=Z,1.2nm,0.9s,baz=128,slow=4.9,SNR=7.2								
ESDC					LR		LR	04 55 57.4	
	comp=Z,69nm,18.1s,baz=129,slow=38								
	comp=Z,1.2nm,0.9s								
ARU	**Arti**	**69.88**	**8**		P		**P**	**04 23 12.5**	**-0.2**
KAPI	**Kappang**	**73.44**	**91**		LR		LR	04 50 27.7	
	comp=Z,28nm,20.3s,baz=190,slow=31								
ZALV	**Zalesovo Beam**	**74.44**	**23**		P		**P**	**04 23 39.8**	**-0.2**
ZALV	**Zalesovo Beam**	**74.44**	**23**		P		**P**	**04 23 40.2**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=226,slow=5.6,SNR=1.5								
	comp=Z,0.3nm,0.3s								
FINES	**FINESS Array B**	**75.67**	**350**		P		**P**	**04 23 46.6**	**-0.5**
FINES	**FINESS Array B**	**75.67**	**350**		P		**P**	**04 23 47.2**	**+0.2**
	comp=Z,1.3nm,0.9s,baz=134,slow=9.9,SNR=5.7								
FINES					LR		LR	04 57 03.5	
	comp=Z,25nm,19.9s,baz=194,slow=36								
	comp=Z,1.3nm,0.9s								
HFS	**Hagfors**	**77.14**	**344**		P		**P**	**04 23 55.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=132,slow=4.3,SNR=6.5								
HFS					LR		LR	05 02 09.7	
	comp=Z,24nm,18.1s,baz=142,slow=39								
	comp=Z,1.7nm,0.7s								
QSPA	**South Pole Qui**	**77.22**	**180**		P		**P**	**04 23 56.8**	**+0.7**
QSPA					IAmb		IAmb	04 23 58.3	
	comp=Z,3.8nm,0.8s								
QSPA	**South Pole Qui**	**77.22**	**180**		P		**P**	**04 23 56.4**	**+0.3**
	comp=Z,2.9nm,0.7s,baz=270,slow=2.3,SNR=23								
	comp=Z,2.9nm,0.7s								
NOA	**NORSAR Array B**	**78.57**	**344**		P		**P**	**04 24 03.5**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=121,slow=6.2,SNR=3.5								
NOA					LR		LR	05 03 27.5	
	comp=Z,15nm,19.2s,baz=240,slow=39								
	comp=Z,0.7nm,0.9s								
EKA	**Eskdalemuir Ar**	**79.31**	**334**		P		**P**	**04 24 07.8**	**+0.3**
	comp=Z,0.7nm,0.5s,baz=134,slow=6.0,SNR=7.3								
	comp=Z,0.7nm,0.5s								
HHC	**Hu-ho-hao-te**	**80.94**	**45**	*e*	P		**P**	**04 24 16.8**	**-0.1**
SONM	**Songino Array**	**80.95**	**37**		P		**P**	**04 24 17.9**	**+1.1**
	comp=Z,0.4nm,0.4s,baz=224,slow=4.0,SNR=2.0								
	comp=Z,0.4nm,0.4s								
VNDA	**Vanda**	**82.97**	**169**		P		**P**	**04 24 27.7**	**+0.9**
	comp=Z,0.7nm,0.6s,baz=272,slow=7.3,SNR=12								
VNDA					LR		LR	04 58 50.9	
	comp=Z,98nm,18.8s,baz=219,slow=34								
	comp=Z,0.7nm,0.6s								
NJ2	**Nanjing**	**82.99**	**55**	*e*	P		**P**	**04 24 28.6**	**+1.0**
NJ2					pP		**sP**	**04 24 31.9**	**+1.0**
NJ2					sP		**pwP**	**04 24 33.6**	**-0.2**
NJ2					pmax		pmax		
	comp=Z,3.0nm,0.5s								
NJ2					pmax		pmax		
	comp=Z,330nm,4.7s								
ASAR	**Alice Springs**	**83.38**	**113**		P		**P**	**04 24 30.6**	**+0.6**
ASAR	**Alice Springs**	**83.38**	**113**		P		**P**	**04 24 30.5**	**+0.5**
	comp=Z,2.5nm,0.6s,baz=264,slow=4.9,SNR=32								
ASAR					LR		LR	04 55 29.5	
	comp=Z,123nm,18.3s,baz=312,slow=31								
	comp=Z,2.5nm,0.6s								
ARCES	**ARCESS Array B**	**83.41**	**353**		LR		LR	05 03 59.9	
	comp=Z,20nm,18.1s,baz=144,slow=37								
WRA	**Warramunga Arr**	**84.51**	**109**		P		**P**	**04 24 36.3**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=263,slow=3.5,SNR=11								
	comp=Z,1.8nm,0.7s								
STKA	**Stephens Creek**	**88.28**	**122**		P		**P**	**04 24 54.7**	**+0.6**
	comp=Z,2.4nm,0.7s,baz=281,slow=3.6,SNR=7.4								
	comp=Z,2.4nm,0.7s								
BDFB	**Brasilia**	**90.02**	**254**		LR		LR	05 03 07.7	
	comp=Z,57nm,18.9s,baz=145,slow=34								
JMIC	**Jan Mayen**	**91.25**	**345**		LR		LR	05 07 06.0	
	comp=Z,17nm,21.7s,baz=299,slow=36								
BORG	**Borgarnes**	**92.08**	**337**		LR		LR	05 11 36.5	
	comp=Z,25nm,18.6s,baz=80,slow=39								
PDAR	**Pinedale Array**	**143.28**	**329**		PKP		**PKPdf**	**04 31 37.5**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=72,slow=2.9,SNR=2.0								
SRU	**San Rafael Swe**	**146.41**	**325**		PKPdf		**PKPdf**	**04 31 42.0**	**-0.5**
TXAR	**Lajitay Array**	**147.15**	**305**		PKPbc		**PKPbc**	**04 31 46.5**	**+0.4**
	comp=Z,0.6nm,0.8s,baz=74,slow=3.3,SNR=7.9								
NVAR	**Mina Array Bea**	**150.81**	**334**		PKPbc		**PKPbc**	**04 31 55.9**	**+0.6**
	comp=Z,1.2nm,1.0s,baz=59,slow=0.5,SNR=3.9								

NEIC ***14*** *04:19:14.6±0.7,* ***19°.93N±0°.02×155°.54W±0°.05,h35km±9km,***
Error ellipse: s-maj=7.7km s-min=3.2km az=102.0

HVO 14 04:19:16.4±2.2,19°.95N±0°.04×155°.54W±0°.05,h29km±7km,
ML2.6/8,MLl3.1/26(NEIC),Error ellipse: s-maj=6.8km
s-min=5.1km az=78.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HPAH	**Hawaii Prepara**	**0.17**	**299**		Pb	04 19 21.6	-0.7
HPAH					Sb	04 19 25.5	-0.8
POHA	**Pohakuloa**	**0.19**	**177**	Pg	Pb	04 19 21.6	-1.1
POHA				Sg	Sb	04 19 25.8	-1.3
POHA	**Pohakuloa**	**0.19**	**177**	IAML		04 19 26.4	
	3μm,0.2s						
POHA				IAML		04 19 26.4	
	1μm,0.2s						
HMH	**Humu'ula Sheep**	**0.35**	**171**	Pg	Pb	04 19 22.9	-1.9
HMH				Sg	Sb	04 19 29.2	-1.3
HMH				IAML		04 19 34.3	
	comp=N,959nm,1.1s						
HUH	**Hualalai**	**0.38**	**226**	Pg	Pb	04 19 24.1	-1.2
MHA	**Mahukona**	**0.41**	**305**	Pg	Pb	04 19 24.6	-0.9
MLOA	**Mauna Loa Obse**	**0.41**	**184**	Pg	Pb	04 19 24.7	-1.1
MLOA				IAML		04 19 35.5	
	comp=E,815nm,1.0s						
ALEP	**Alea Permanent**	**0.42**	**193**		Pb	04 19 24.7	-1.1
ALEP					Sb	04 19 30.9	-1.3
MWH	**Moku'aweowe**	**0.47**	**186**	Pg	Pb	04 19 25.2	-1.5
MWH				IAML		04 19 40.4	
	comp=N,1μm,0.9s						
MWH				IAML		04 19 40.7	
	comp=E,2μm,0.9s						
MLH	**Mauna Loa**	**0.48**	**162**		Pb	04 19 25.1	-1.6
MLH				Sg	Sb	04 19 31.4	-2.2
MLH				IAML		04 19 37.8	
	comp=E,1μm,1.2s						
MLH				IAML		04 19 41.5	
	comp=N,2μm,1.4s						
RSD	**Rainshed**	**0.55**	**153**		Pb	04 19 25.8	-1.9
RSD				Sg	Sb	04 19 33.3	-2.0
CPH	**Captain Cook**	**0.58**	**218**		Pb	04 19 26.1	-2.0
PUH	**Pauahi**	**0.65**	**152**		Pb	04 19 27.1	-2.3
KNHH	**Kane Nui o Ham**	**0.67**	**148**		Pb	04 19 27.4	-2.3
STCH	**Steam Cracks**	**0.69**	**145**		Pb	04 19 27.6	-2.4
STCH				Sg	Sb	04 19 35.4	-3.8
STCH				IAML		04 19 36.3	
	comp=N,1μm,0.8s						
STCH				IAML		04 19 48.8	
	comp=E,1μm,1.1s						
HLP	**Hilina Pali**	**0.69**	**161**		Pb	04 19 27.5	-2.5
NPOC	**North of Pu'u**	**0.69**	**144**		Pb	04 19 27.6	-2.4
NPOC				Sg	Sb	04 19 35.6	-3.6
NPOC				IAML		04 19 49.6	
	comp=N,879nm,1.2s						
NPOC				IAML		04 19 56.7	
	comp=E,2μm,1.2s						
KHU	**Kahuku**	**0.70**	**186**		Pb	04 19 27.8	-2.6
KHU				IAML		04 19 34.8	
	comp=E,799nm,1.2s						
KHU				IAML		04 19 56.9	
	comp=N,895nm,1.3s						
HTC	**Hot Caves**	**0.72**	**169**		Pb	04 19 28.1	-2.4
JOKA	**Jonika Flow**	**0.72**	**135**		Sb	04 19 36.8	-3.4

IDC 14 04:19:18.4±4.9,2°.44S×140°.11E,h0km,mb3.7/4,
mbtmp3.7/5,MLl3.1/1,Error ellipse: s-maj=204.8km
s-min=26.9km az=89.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.29**	**198**	P	Pn	04 23 32.1	-1.7
	0.1nm,0.3s,baz=19,slow=12,SNR=2.4						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**21.94**	**195**	P	P	04 24 14.7	+1.0
	0.6nm,0.6s,baz=20,slow=10,SNR=4.2						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**70.43**	**322**	P	P	04 30 35.6	+1.0
	0.8nm,0.7s,baz=100,slow=6.7,SNR=6.7						
	0.8nm,0.7s						
KURBB	**Kurchatov Arra**	**74.32**	**324**	P	P	04 30 56.6	-1.1
	0.3nm,0.2s,baz=123,slow=6.8,SNR=4.1						
	0.3nm,0.2s						
BVAR	**Borovoye Array**	**79.89**	**325**	P	P	04 31 29.0	-0.1
	0.8nm,0.6s,baz=108,slow=9.3,SNR=3.8						
	0.8nm,0.6s						

NEIC 14 04:22:36.4±0.6,37°.33N±0°.02×97°.97W±0°.02,h7km,
mb_Lg2.4/34,ML2.7/38,Error ellipse: s-maj=2.3km
s-min=2.0km az=204.0,Kansas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAN12	**Harper NE Stat**	**0.04**	**212**	Pg	Pg	04 22 38.0	+0.1
KAN12				Sg	Sg	04 22 39.2	+0.3
KAN08	**Anthony NE Sta**	**0.11**	**181**	Pg	Pg	04 22 39.2	+0.4
KAN08				Sg	Sg	04 22 41.0	+0.6
KAN06	**Argonia West S**	**0.12**	**134**	Pg	Pg	04 22 39.5	+0.5
KAN10	**Anthony SW Sta**	**0.23**	**206**	Pg	Pg	04 22 41.4	+0.4
KAN10				Sg	Sg	04 22 44.9	+0.8
KAN05	**Bluff City Nor**	**0.24**	**161**	Pg	Pg	04 22 41.6	+0.5
KAN05				Sg	Sg	04 22 45.4	+1.2
KAN05				IAML		04 22 47.9	
	comp=E,2μm,0.2s						
KAN05				IAML		04 22 49.6	
	comp=N,1μm,0.2s						
KAN01	**Argonia South**	**0.25**	**137**	Pg	Pg	04 22 41.6	+0.4
KAN01				Sg	Sg	04 22 45.4	+0.9
KAN01				IAML		04 22 45.8	
	comp=N,2μm,0.2s						
KAN17	**Caldwell West**	**0.33**	**150**	Pg	Pg	04 22 43.3	+0.5
KAN17				IAML		04 22 48.6	
	comp=E,1μm,0.3s						
KAN17				IAML		04 22 49.4	
	comp=N,898nm,0.3s						
KAN09	**Caldwell North**	**0.34**	**125**	Pg	Pg	04 22 43.4	+0.3
KAN09				IAML		04 22 48.8	
	comp=E,1μm,0.4s						
KAN09				IAML		04 22 48.8	
	comp=N,1μm,0.2s						
KAN14	**Manchester OK**	**0.38**	**179**	Pg	Pg	04 22 44.1	+0.4
GC02	**Grant County #**	**0.49**	**170**	Pg	Pg	04 22 45.8	0.0
KAN13	**South Haven SW**	**0.51**	**129**	Pg	Pg	04 22 46.5	+0.3
KAN13				IAML		04 22 54.1	
	comp=N,720nm,0.3s						
OK032	**Salt Plains WL**	**0.56**	**200**	Pg	Pg	04 22 47.3	+0.1
OK032				IAML		04 22 57.4	
	comp=N,553nm,0.3s						
OK032				IAML		04 22 59.5	
	comp=N,365nm,0.2s						
CROK	**Carrier**	**0.83**	**181**	Pg	Pg	04 22 52.4	+0.1
CROK				IAML		04 23 12.9	
	comp=E,278nm,0.3s						
CROK				IAML		04 23 14.2	
	comp=N,251nm,0.3s						
OK051	**E0350 and S346**	**1.23**	**132**		Pb	04 22 59.5	-0.4
OK048	**Pawnee Station**	**1.23**	**138**		Pb	04 22 59.5	-0.4
OK048				IAML		04 23 20.1	
	comp=N,170nm,0.3s						
OK048				IAML		04 23 20.2	
	comp=N,130nm,0.3s						
R32A	**Long Quarter,**	**1.23**	**332**	Pg	Pb	04 22 59.0	-1.1
R32A				IAML		04 23 19.6	
	comp=E,114nm,0.2s						
R32A				IAML		04 23 22.2	
	comp=N,167nm,0.3s						
T35A	**Sooner Cattle**	**1.24**	**109**		Pb	04 22 59.4	-0.6
T35A				IAML		04 23 20.6	
	comp=E,150nm,0.4s						
OK029	**Liberty Lake**	**1.59**	**165**		Pb	04 23 05.6	-0.4
DEOK	**Depew**	**1.90**	**141**	Pn	Pn	04 23 07.8	-1.5
OKCSW	**OKLAHOMA CITY**	**1.97**	**167**	Pn	Pn	04 23 10.1	-0.1
KSU1	**Kansas State U**	**2.06**	**31**	Pn	Pn	04 23 10.9	-0.6
TUL3	**Leonard**	**2.25**	**128**	IAmb_Lg		04 23 51.6	
	comp=Z,24nm,0.8s						
RLO	**Rose Lookout**	**2.64**	**115**	IAmb_Lg		04 23 58.3	
	comp=Z,5.7nm,0.8s						
HHAR	**Hobbs**	**3.40**	**107**	IAmb_Lg		04 24 32.1	
	comp=Z,9.8nm,0.8s						
X37A	**Clayton**	**3.46**	**142**	Pn	Pn	04 23 31.2	+0.6
S39A	**Bolivar**	**3.71**	**83**	Pn	Pn	04 23 34.2	+0.1
AMTX	**Amarillo**	**3.87**	**232**	IAmb_Lg		04 24 37.5	
	comp=Z,8.5nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.03**	**296**	IAmb_Lg		04 24 44.5	
	comp=Z,7.4nm,0.7s						
BGNE	**Belgrade**	**4.07**	**358**	Pn	Pn	04 23 38.7	-0.4
BGNE				IAmb_Lg		04 24 48.8	
	comp=Z,10nm,0.7s						
P38A	**Dawn**	**4.17**	**55**

MLOA				IAML			04 42 48.5	
	comp=N,752nm,0.8s							
MLOA				IAML			04 42 57.0	
	comp=E,772nm,1.6s							
MWH	**Moku'aweowe**	**0.59**	**279**	Pg	Pg		04 42 37.9	-0.8
KHU	**Kahuku**	**0.62**	**257**	Pg	Pg		04 42 38.5	-0.6
KHU				Sg	Sg		04 42 46.8	-0.4
KHU				IAML			04 42 57.8	
	comp=E,1μm,1.5s							
KHU				IAML			04 43 00.3	
	comp=N,934nm,1.3s							
POHA	**Pohakuloa**	**0.64**	**305**	Pg	Pg		04 42 38.8	-0.8
POHA				IAML			04 42 49.2	
	comp=N,500nm,1.0s							
POHA				IAML			04 42 52.5	
	comp=N,709nm,1.0s							
POHA	**Pohakuloa**	**0.64**	**305**	Sg	Sg		04 42 47.2	-0.7
ALEP	**Alea Permanent**	**0.65**	**284**		Pg		04 42 39.1	-0.6
HUH	**Hualalai**	**0.86**	**290**	Pg	Pg		04 42 42.9	-0.9
HUH				IAML			04 42 50.6	
	comp=N,642nm,2.2s							
HUH				IAML			04 43 13.9	
	comp=E,528nm,1.0s							
HPAH	**Hawaii Prepara**	**0.93**	**313**	Pg	Pg		04 42 42.2	-3.0
HPAH				IAML			04 43 02.2	
	comp=N,181nm,1.9s							
HPAH				IAML			04 43 10.6	
	comp=E,169nm,2.0s							
MHA	**Mahukona**	**1.18**	**312**	Pg	Pg		04 42 46.2	-3.7
HLK	**Haleakala**	**1.81**	**319**		Pn		04 42 54.8	-5.0

NEIC ***14*** *04:49:01.5±1.4,56°.2S±0°.1×27°.2W±0°.2,h94km±7km, mb4.4/13,Error ellipse: s-maj=22.9km s-min=17.1km az=219.0*

IDC ***14*** *04:49:03.5±6.8,56°.24S×27°.16W,h116km±61km,mb3.7/4, mbtmp4.1/5,Error ellipse: s-maj=36.8km s-min=24.4km az=39.0*

ISC 14 04:48:57.5±0.6,56°.1S±0°.1×26°.9W±0°.1,h63km,n40, σ0s92/37,mb4.3/9,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.77**	**285**	Pn	**Pn**	**04 50 22.3**	**+1.9**
SNAA	**Sanae**	**18.62**	**156**	P	**Pn**	**04 53 11.2**	**+0.7**
SNAA	**Sanae**	**18.62**	**156**	P	**Pn**	**04 53 11.4**	**+0.9**
	2.5nm,0.7s,baz=290,slow=9.4,SNR=7.4						
BELA	**Belgrano 2**	**22.02**	**184**	P	**P**	**04 53 45.7**	**-0.4**
PLTB	**Pedras Altas**	**30.65**	**311**	P	**P**	**04 55 06.2**	**+0.5**
PLTB				IAmb	IAmb	04 55 22.9	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**34.14**	**180**	P	**P**	**04 55 36.9**	**+0.8**
QSPA				IAmb	IAmb	04 55 38.5	
	comp=Z,4.6nm,1.4s						
CPUP	**Villa Florida**	**36.96**	**311**	P	**P**	**04 55 59.0**	**-1.4**
CPUP				IAmb	IAmb	04 56 25.3	
	comp=Z,6.4nm,1.4s						
CPUP	**Villa Florida**	**36.96**	**311**	P	**P**	**04 56 00.4**	**0.0**
	comp=Z,0.6nm,0.6s,baz=164,slow=7.4,SNR=4.8 comp=Z,0.6nm,0.6s						
MT02	**Curacav**	**37.94**	**288**	P	**P**	**04 56 06.9**	**-1.8**
MT02				IAmb	IAmb	04 56 08.8	
	comp=Z,8.1nm,1.4s						
CO02	**Combarbal**	**39.47**	**290**	P	**P**	**04 56 20.4**	**-1.2**
AC04	**Llanos de Chal**	**41.91**	**293**	P	**P**	**04 56 40.8**	**-0.8**
PB01	**IPOC Station P**	**47.07**	**300**	P	**P**	**04 57 22.8**	**-0.1**
PB01				IAmb	IAmb	04 57 23.9	
	comp=Z,4.6nm,0.7s						
PTLB	**Pontes e Lacer**	**47.44**	**316**	P	**P**	**04 57 25.9**	**+0.3**
GO01	**Chusmiza**	**48.10**	**302**	P	**P**	**04 57 30.8**	**-0.5**
GO01				IAmb	IAmb	04 57 32.6	
	comp=Z,5.0nm,0.8s						
H10N1	**ASCENSION HYDR**	**49.14**	**16**	T	T	05 52 06.1	
	baz=201,slow=75,SNR=6.0						
H10N3	**ASCENSION HYDR**	**49.14**	**16**	T	T	05 52 05.6	
	baz=201,slow=75,SNR=5.1						
H10N2	**ASCENSION HYDR**	**49.16**	**16**	T	T	05 52 06.9	
	baz=201,slow=75,SNR=6.5						
LPAZ	**La Paz**	**50.53**	**305**	P	**P**	**04 57 50.3**	**+0.3**
LPAZ				IAmb	IAmb	04 57 51.3	
	comp=Z,2.1nm,0.7s						
LPAZ	**La Paz**	**50.53**	**305**	P	**P**	**04 57 50.6**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=136,slow=3.0,SNR=9.4 comp=Z,1.8nm,0.6s						
DBIC	**Dimbokro**	**65.17**	**24**	P	**P**	**04 59 32.4**	**+0.6**
DBIC	**Dimbokro**	**65.17**	**24**	P	**P**	**04 59 33.0**	**+1.3**
	comp=Z,1.2nm,0.5s,baz=162,slow=9.6,SNR=1.6 comp=Z,1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**73.04**	**29**	P	**P**	**05 00 22.0**	**+1.5**
	comp=Z,1.5nm,0.5s,baz=201,slow=6.7,SNR=15 comp=Z,1.5nm,0.5s						
FINES	**FINESS Array B**	**124.37**	**28**	PKPdf	**PKPdf**	**05 07 46.9**	**-0.7**
FINES	**FINESS Array B**	**124.37**	**28**	PKP	**PKPdf**	**05 07 47.4**	**-0.3**
	comp=Z,0.6nm,0.5s,baz=233,slow=1.9,SNR=8.4						
ARCES	**ARCESS Array B**	**130.95**	**22**	PKPdf	**PKPdf**	**05 07 58.9**	**-1.1**
ARCES	**ARCESS Array B**	**130.95**	**22**	PKP	**PKPdf**	**05 07 59.8**	**-0.3**
	comp=Z,0.4nm,0.6s,baz=188,slow=1.8,SNR=7.1						
YKA	**Yellowknife Ar**	**136.31**	**318**	PKP	**PKPdf**	**05 08 08.5**	**-1.8**
	comp=Z,0.1nm,0.6s,baz=118,slow=2.8,SNR=2.6						
A36M	**Sachs Harbour**	**144.34**	**328**	PKPdf	**PKPab**	**05 08 22.7**	**-0.1**
H31M	**Peel River**	**145.47**	**316**	PKPdf	**PKPdf**	**05 08 25.2**	**-1.5**
G31M	**Satah River**	**145.80**	**318**	PKPdf	**PKPbc**	**05 08 27.6**	**-0.2**
M29M	**Somme Creek**	**145.99**	**309**	PKPdf	**PKPdf**	**05 08 27.8**	**0.0**
H29M	**Whitestone**	**147.17**	**316**	PKPdf	**PKPbc**	**05 08 31.3**	**-0.6**
I28M	**Miner Creek**	**147.57**	**314**	PKPbc	**PKPbc**	**05 08 32.8**	**-0.3**
BCAR	**Beaver Creek A**	**147.64**	**309**	PKPbc	**PKPbc**	**05 08 33.0**	**-0.3**
D27M	**Malcolm River**	**148.79**	**321**	PKPbc	**PKPbc**	**05 08 36.2**	**0.0**
BMAR	**Burnt Mountain**	**149.83**	**317**	PKPbc	**PKPbc**	**05 08 38.8**	**+0.1**
ILAR	**Eielson Array**	**150.26**	**312**	PKPbc	**PKPbc**	**05 08 39.6**	**-0.2**
	comp=Z,0.9nm,0.8s,baz=126,slow=2.1,SNR=9.1						
E25K	**Arctic Village**	**150.30**	**318**	PKPbc	**PKPbc**	**05 08 39.9**	**0.0**
SONM	**Songino Array**	**150.59**	**86**	PKPbc	**PKPbc**	**05 08 39.7**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=243,slow=4.1,SNR=3.0						
RND	**Reindeer**	**150.81**	**308**	PKPbc	**PKPbc**	**05 08 41.2**	**-0.1**

NEIC ***14*** *05:02:54.5±0.6,36°.071N±0°.005×97°.57W±0°.01,h2km±3km, Error ellipse: s-maj=1.4km s-min=0.2km az=58.0*

TUL 14 05:02:54.9±0.7,36°.072N±0°.009×97°.57W±0°.01,h8km±4km, ML3.0,mb_Lg2.5/43(NEIC),ML2.8/78(NEIC),Error ellipse: s-maj=1.4km s-min=1.3km az=79.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**161**		Pg	05 03 00.8	+0.2
OK029				Sg	Sg	05 03 05.1	+0.6
OK029				IAML		05 03 05.2	
	1μm,0.4s						
OK029				IAML		05 03 05.2	
	2μm,0.3s						
ADOK	**Arcadia Dam**	**0.45**	**159**	Pg	Pg	05 03 03.7	+0.1
ADOK				Sg	Sg	05 03 10.2	+0.7
OK033	**Mehan**	**0.51**	**93**		Pg	05 03 04.9	+0.1
OK033				Sg	Sg	05 03 12.0	+0.5
CROK	**Carrier**	**0.55**	**322**		Pg	05 03 05.6	+0.1
CROK				Sg	Sg	05 03 13.2	+0.5
CROK				IAML		05 03 13.4	
	comp=E,780nm,0.3s						
CROK				IAML		05 03 13.6	
	comp=N,900nm,0.3s						
OK031	**S. Brethren Rd**	**0.60**	**101**		Pg	05 03 06.6	+0.1
OK031				Sg	Sg	05 03 15.0	+0.6
OK048	**Pawnee Station**	**0.61**	**56**	Pg	Pg	05 03 06.7	0.0
OK048				Sg	Sg	05 03 14.9	+0.2
OK048				IAML		05 03 15.4	
	comp=N,348nm,0.3s						
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	05 03 07.0	0.0
OK052				Sg	Sg	05 03 15.5	+0.4
OKCSW	**OKLAHOMA CITY**	**0.67**	**171**	Pg	Pg	05 03 07.8	-0.1
OKCSW				Sg	Sg	05 03 17.1	+0.5
OKCSW				IAML		05 03 18.1	
	comp=E,680nm,0.1s						
QUOK	**Quay**	**0.70**	**82**		Pg	05 03 08.4	0.0
QUOK				Sg	Sg	05 03 18.0	+0.4
QUOK				IAML		05 03 18.2	
	comp=N,550nm,0.3s						
QUOK				IAML		05 03 21.5	
	comp=E,338nm,0.2s						
OK051	**E0350 and S346**	**0.73**	**54**		Pg	05 03 08.9	-0.1
OK051				Sg	Sg	05 03 18.6	+0.1
OK051				IAML		05 03 19.2	
	comp=E,432nm,0.2s						
OK051				IAML		05 03 21.5	
	comp=E,516nm,0.1s						
BLOK	**Blackwell**	**0.74**	**22**		Pg	05 03 09.2	-0.1
BLOK				Sg	Sg	05 03 19.3	+0.3
BLOK				IAML		05 03 23.2	
	comp=E,468nm,0.2s						
BLOK				IAML		05 03 27.6	
	comp=N,360nm,0.2s						
GC02	**Grant County #**	**0.81**	**343**	Pg	Pg	05 03 10.4	-0.1
GC02				Sg	Sg	05 03 21.4	+0.3
FNO	**Franklin**	**0.82**	**170**	Pg	Pg	05 03 10.7	-0.1
FNO				Sg	Sg	05 03 21.8	+0.4
FNO				IAML		05 03 26.3	
	comp=E,237nm,0.1s						
OK032	**Salt Plains WL**	**0.90**	**325**		Pg	05 03 12.1	0.0
OK032				Sg	Sg	05 03 23.7	-0.1
DEOK	**Depew**	**0.90**	**104**	Pg	Pg	05 03 11.5	-0.6
DEOK				Sg	Sg	05 03 24.1	+0.3
KAN14	**Manchester OK**	**0.94**	**340**		Pg	05 03 12.5	-0.5
KAN14				Sg	Sg	05 03 25.2	0.0
KAN14				IAML		05 03 26.6	
	comp=N,431nm,0.1s						
KAN13	**South Haven SW**	**0.94**	**4**		Pg	05 03 12.7	-0.3
KAN13				Sg	Sg	05 03 24.7	-0.6
KAN13				IAML		05 03 26.3	
	comp=N,274nm,0.3s						
KAN13				IAML		05 03 26.3	
	comp=E,358nm,0.3s						
KAN17	**Caldwell West**	**0.98**	**351**		Pg	05 03 13.4	-0.4
KAN17				IAML		05 03 34.4	
	comp=N,287nm,0.3s						
CSTR	**Hydro, Custer**	**1.00**	**245**	Pg	Pg	05 03 13.8	-0.5
OK038	**West end E0370**	**1.03**	**293**	Pg	Pg	05 03 13.9	-0.8
KAN05	**Bluff City Nor**	**1.06**	**347**	Pg	Pg	05 03 14.9	-0.4
KAN05				IAML		05 03 30.1	
	comp=N,380nm,0.2s						
KAN09	**Caldwell North**	**1.06**	**358**		Pg	05 03 14.8	-0.5
W35A	**Tecumseh**	**1.08**	**148**	Pg	Pg	05 03 14.7	-0.9
W35A				IAML		05 03 31.0	
	comp=E,290nm,0.3s						
W35A				IAML		05 03 31.2	
	comp=N,199nm,0.2s						
KAN01	**Argonia South**	**1.09**	**352**		Pg	05 03 15.3	-0.5
KAN01				IAML		05 03 30.1	
	comp=E,328nm,0.2s						
KAN01				IAML		05 03 32.9	
	comp=N,267nm,0.1s						
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	05 03 15.8	-0.6
KAN10	**Anthony SW Sta**	**1.13**	**338**	Pg	Pg	05 03 16.1	-0.5
KAN10				IAML		05 03 32.9	
	comp=N,162nm,0.1s						
KAN10				IAML		05 03 33.7	
	comp=E,240nm,0.1s						
KAN06	**Argonia West S**	**1.20**	**349**		Pb	05 03 17.2	-0.6
KAN08	**Anthony NE Sta**	**1.20**	**344**		Pb	05 03 17.2	-0.7
KAN08				IAML		05 03 33.8	
	comp=E,264nm,0.3s						
KAN08				IAML		05 03 36.0	
	comp=N,212nm,0.1s						
T35A	**Sooner Cattle**	**1.20**	**45**		Pb	05 03 17.4	-0.5
T35A				IAML		05 03 40.6	
	comp=N,230nm,0.5s						
T35A				IAML		05 03 40.6	
	comp=E,234nm,0.5s						
U32A	**Winter Ranch,**	**1.20**	**285**	Pg	Pb	05 03 17.2	-0.7
U32A				IAML		05 03 38.4	
	comp=N,137nm,0.1s						
U32A				IAML		05 03 40.0	
	comp=E,142nm,0.1s						
KAN12	**Harper NE Stat**	**1.27**	**344**		Pn	05 03 18.4	-0.6
TUL3	**Leonard**	**1.45**	**96**		Pn	05 03 21.0	-0.4
TUL3				Pn	Pb	05 03 21.2	-0.9
ELIS	**Ellis County**	**1.50**	**270**		Pn	05 03 22.4	+0.3
WMOK	**Wichita Mounta**	**1.66**	**217**		Pn	05 03 24.7	+0.4
RLO	**Rose Lookout**	**2.06**	**87**		Pn	05 03 30.6	+0.7
LOOK	**Love County**	**2.10**	**171**	Pn	Pn	05 03 30.7	+0.3
LOOK				IAmb_Lg		05 04 05.6	
	comp=Z,20nm,1.0s						
X37A	**Clayton**	**2.33**	**129**		Pn	05 03 34.2	+0.7
X37A				IAmb_Lg		05 04 13.1	
	comp=Z,21nm,0.7s						
WTFS	**Witchita Falls**	**2.42**	**198**		Pn	05 03 35.8	+1.0
R32A	**Long Quarter,**	**2.52**	**339**	Pn	Pn	05 03 36.7	+0.5
U38A	**Gravette**	**2.60**	**81**		Pn	05 03 38.2	+1.0
HHAR	**Hobbs**	**2.94**	**85**		Pn	05 03 42.2	+0.2
FW03	**Perrin-Whitt E**	**3.05**	**188**	Pn	Pn	05 03 43.8	+0.3
KSU1	**Kansas State U**	**3.12**	**14**	Pn	Pn	05 03 43.8	-0.6
KSU1				IAmb_Lg		05 04 38.3	
	comp=Z,8.1nm,0.9s						
CBKS	**Cedar Bluff**	**3.24**	**328**	IAmb_Lg		05 04 37.8	
	comp=Z,8.9nm,0.7s						
PLPT	**Palo Pinto**	**3.31**	**191**	Pn	Pn	05 03 47.7	+0.6
Z38A	**Mt. Pleasant**	**3.52**	**142**	IAmb_Lg		05 04 49.1	
	comp=Z,13nm,0.8s						
AMTX	**Amarillo**	**3.56**	**252**	IAmb_Lg		05 04 56.2	
	comp=Z,11nm,0.7s						
MIAR	**Mount Ida**	**3.60**	**114**		Pn	05 03 52.0	+0.9
S39A	**Bolivar**	**3.77**	**63**	Pn	Pn	05 03 53.8	+0.5
S39A				IAmb_Lg		05 04 55.7	
	comp=Z,12nm,0.8s						
ABTX	**Abilene, Hawle**	**3.84**	**207**	IAmb_Lg		05 05 02.7	
	comp=Z,6.3nm,1.0s						
SN07	**Snyder 07**	**4.04**	**224**	IAmb_Lg		05 05 08.7	
	comp=Z,13nm,0.9s						
WHTX	**Lake Whitney,**	**4.07**	**179**	Pn	Pn	05 03 58.4	+0.9
X40A	**Basin Creek Fa**	**4.18**	**111**	Pn	Pn	05 04 00.1	+1.1
RTBA	**Rita Blanca**	**4.19**	**277**	Pn	Pn	05 04 00.6	+1.3
WHAR	**Wooly Hollow**	**4.37**	**99**	Pn	Pn	05 04 03.2	+1.7
WHAR				IAmb_Lg		05 05 14.2	
	comp=Z,6.0nm,0.8s						
MGMO	**Mountain Grove**	**4.40**	**74**	IAmb_Lg		05 05 17.8	
	comp=Z,11nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.42**	**91**	Pn	Pn	05 04 02.1	-0.2
UALR	**University of**	**4.46**	**105**	IAmb_Lg		05 05 28.4	
	comp=Z,5.4nm,0.9s						
P38A	**Dawn**	**4.77**	**41**	IAmb_Lg		05 05 35.7	
	comp=Z,6.2nm,0.7s						
R40A	**Maddies Statio**	**4.78**	**61**	Pn	Pn	05 04 07.9	+0.8
N35A	**Tabor**	**5.01**	**17**	IAmb_Lg		05 05 47.3	
	comp=Z,14nm,0.8s						
LCAR	**Lake Charles**	**5.20**	**88**	IAmb_Lg		05 05 39.2	
	comp=Z,5.5nm,1.1s						
CCM	**Cathedral Cave**	**5.43**	**67**	IAmb_Lg		05 05 45.9	
	comp=Z,10.0nm,0.9s						
P40A	**Paris**	**5.57**	**50**	IAmb_Lg		05 05 54.5	
	comp=Z,12nm,0.8s						
PBMO	**Poplar Bluff**	**5.80**	**81**	IAmb_Lg		05 06 03.2	
	comp=Z,11nm,1.1s						
JCT	**Junction City**	**5.88**	**199**	IAmb_Lg		05 06 08.9	
	comp=Z,6.8nm,0.7s						
FVM	**French Village**	**6.02**	**69**	IAmb_Lg		05 06 07.1	
	comp=Z,8.7nm,0.8s						
MNHN	**Monahans**	**6.40**	**224**	IAmb_Lg		05 06 22.6	
	comp=Z,3.7nm,0.7s						
CGM3	**Cape Girardeau**	**6.47**	**77**	IAmb_Lg		05 06 19.9	
	comp=Z,9.3nm,0.7s						
K22A	**Casper**	**9.55**	**316**	IAmb_Lg		05 08 17.2	
	comp=Z,3.9nm,1.0s						

NEIC ***14*** *05:11:25.9±0.9,36°.079N±0°.010×97°.562W±0°.008, h9km±5km,Error ellipse: s-maj=1.5km s-min=0.9km az=162.0*

TUL 14 05:11:25.9±1.1,36°.075N±0°.010×97°.561W±0°.008, h7km±5km,ML2.5,mb_Lg2.2/11(NEIC),ML2.4/65(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**163**	Pg	Pg	05 11 31.9	+0.3
OK029				Sg	Sg	05 11 36.1	+0.6
OK029				IAML		05 11 36.2	
	529nm,0.3s						
ADOK	**Arcadia Dam**	**0.45**	**160**	Pg	Pg	05 11 34.7	+0.1
ADOK				Sg	Sg	05 11 41.2	+0.7
OK033	**Mehan**	**0.51**	**93**		Pg	05 11 35.9	+0.2
CROK	**Carrier**	**0.55**	**322**	Pg	Pg	05 11 36.6	+0.1
CROK				Sg	Sg	05 11 44.3	+0.6
CROK				IAML		05 11 44.4	
	comp=E,292nm,0.3s						
CROK				IAML		05 11 44.4	
	comp=N,232nm,0.4s						
OK031	**S. Brethren Rd**	**0.60**	**102**		Pg	05 11 37.6	+0.1
OK031				Sg	Sg	05 11 45.7	+0.5
OK048	**Pawnee Station**	**0.60**	**56**	Pg	Pg	05 11 37.7	+0.1
OK048				Sg	Sg	05 11 45.9	+0.4
OK048				IAML		05 11 48.2	
	comp=N,116nm,0.2s						
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	05 11 38.0	+0.1
OK052				Sg	Sg	05 11 45.8	-0.2
OKCSW	**OKLAHOMA CITY**	**0.68**	**171**	Pg	Pg	05 11 39.0	0.0
OKCSW				Sg	Sg	05 11 48.1	+0.3
OKCSW				IAML		05 11 49.1	
	comp=E,196nm,0.1s						
OKCSW				IAML		05 11 49.2	
	comp=N,249nm,0.1s						
QUOK	**Quay**	**0.70**	**82**		Pg	05 11 39.4	0.0
QUOK				Sg	Sg	05 11 49.0	+0.6
QUOK				IAML		05 11 49.1	
	comp=N,245nm,0.3s						
QUOK				IAML		05 11 50.9	
	comp=E,138nm,0.1s						
OK051	**E0350 and S346**	**0.73**	**54**	Pg	Pg	05 11 39.9	0.0
OK051				Sg	Sg	05 11 49.6	+0.2
OK051				IAML		05 11 52.1	
	comp=E,181nm,0.2s						
BLOK	**Blackwell**	**0.74**	**22**	Pg	Pg	05 11 40.1	-0.1
BLOK				IAML		05 11 54.1	
	comp=E,120nm,0.2s						
BLOK				IAML		05 11 57.0	
	comp=N,136nm,0.2s						
GC02	**Grant County #**	**0.81**	**343**	Pg	Pg	05 11 41.1	-0.4
GC02				Sg	Sg	05 11 52.3	+0.2
FNO	**Franklin**	**0.83**	**171**	Pg	Pg	05 11 41.4	-0.4
FNO				Sg	Sg	05 11 52.8	+0.3
FNO				IAML		05 11 56.4	
	comp=E,111nm,0.1s						
DEOK	**Depew**	**0.89**	**105**	Pg	Pg	05 11 42.6	-0.5
DEOK				Sg	Sg	05 11 54.9	+0.3
OK032	**Salt Plains WL**	**0.90**	**324**	Pg	Pg	05 11 42.7	-0.4
OK032				Sg	Sg	05 11 54.6	-0.2
KAN14	**Manchester OK**	**0.94**	**340**	Pg	Pg	05 11 43.6	-0.4
KAN14				Sg	Sg	05 11 56.3	+0.2
KAN13	**South Haven SW**	**0.94**	**4**	Pg	Pg	05 11 43.7	-0.2
KAN13				IAML		05 11 57.3	
	comp=N,118nm,0.3s						
KAN17	**Caldwell West**	**0.98**	**350**	Pg	Pg	05 11 44.4	-0.3
KAN17				IAML		05 12 01.3	
	comp=N,113nm,0.2s						
OK038	**West end E0370**	**1.04**	**293**	Pg	Pg	05 11 45.1	-0.7
KAN09	**Caldwell North**	**1.06**	**358**	Pg	Pg	05 11 45.9	-0.4
KAN09				IAmb_Lg		05 11 59.4	
	comp=Z,21nm,0.8s						
W35A	**Tecumseh**	**1.08**	**149**	Pg	Pg	05 11 45.6	-1.0
W35A				IAML		05 12 02.0	
	comp=E,98nm,0.3s						
W35A				IAML		05 12 02.2	
	comp=N,86nm,0.3s						
KAN01	**Argonia South**	**1.09**	**352**	Pg	Pg	05 11 46.4	-0.4
KAN01				IAML		05 12 02.8	
	comp=E,116nm,0.1s						
KAN01				IAML		05 12 03.8	
	comp=N,105nm,0.1s						
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	05 11 46.4	-1.1
OK035				IAML		05 12 04.9	
	comp=N,117nm,0.2s						
T35A	**Sooner Cattle**	**1.19**	**45**	Pg	Pg	05 11 48.2	-0.5
T35A				IAML		05 12 07.7	
	comp=E,73nm,0.3s						
T35A				IAML		05 12 11.5	
	comp=N,66nm,0.5s						
KAN06	**Argonia West S**	**1.20**	**349**	Pg	Pg	05 11 48.3	-0.6
KAN08	**Anthony NE Sta**	**1.20**	**344**	Pg	Pg	05 11 47.8	-1.1
U32A	**Winter Ranch,**	**1.20**	**285**		Pg	05 11 48.0	-1.0
U32A				IAML		05 12 07.0	
	comp=E,47nm,0.1s						
U32A				IAML		05 12 13.8	
	comp=N,45nm,0.1s						
KAN12	**Harper NE Stat**	**1.27**	**344**	Pn	Pn	05 11 48.9	-1.2
TUL3	**Leonard**	**1.44**	**96**		Pn	05 11 51.9	-0.6
ELIS	**Ellis County**	**1.50**	**270**	Pn	Pn	05 11 53.5	+0.2
WMOK	**Wichita Mounta**	**1.67**	**217**	Pn	Pn	05 11 55.4	-0.1
LOOK	**Love County**	**2.10**	**171**	Pn	Pn	05 12 01.9	+0.4
X37A	**Clayton**	**2.33**	**129**	Pn	Pn	05 12 05.0	+0.4
WTFS	**Witchita Falls**	**2.42**	**198**	Pn	Pn	05 12 06.0	+0.1
HHAR	**Hobbs**	**2.94**	**85**	Pn	Pn	05 12 12.5	-0.5
CBKS	**Cedar Bluff**	**3.24**	**328**	IAmb_Lg		05 13 12.2	
	comp=Z,3.4nm,0.8s						
AMTX	**Amarillo**	**3.57**	**252**	IAmb_Lg		05 13 20.9	
	comp=Z,4.3nm,0.8s						
S39A	**Bolivar**	**3.76**	**63**	IAmb_Lg		05 13 25.0	
	comp=Z,4.7nm,0.9s						
PBMO	**Poplar Bluff**	**5.79**	**81**	IAmb_Lg		05 14 32.8	
	comp=Z,4.1nm,0.7s						
S44A	**Carbondale**	**6.85**	**74**	IAmb_Lg		05 15 21.4	
	comp=Z,6.6nm,0.7s						
T45A	**Paducah**	**7.24**	**80**	IAmb_Lg		05 15 31.1	
	comp=Z,12nm,0.8s						

NEIC ***14*** *05:12:15.2±0.4,36°.067N±0°.009×97°.566W±0°.003, h7km±4km,Error ellipse: s-maj=1.4km s-min=0.3km az=183.0*

TUL 14 05:12:15.3±0.6,36°.069N±0°.004×97°.57W±0°.01,h8km±4km, ML2.5,mb_Lg2.1/14(NEIC),ML2.5/73(NEIC),Error ellipse: s-maj=1.3km s-min=0.5km az=97.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**162**	Pg	Pg	05 12 21.2	+0.2
ADOK	**Arcadia Dam**	**0.45**	**159**	Pg	Pg	05 12 24.1	+0.1
ADOK				Sg	Sg	05 12 30.4	+0.7
OK033	**Mehan**	**0.51**	**93**		Pg	05 12 25.3	+0.1
OK033				IAML		05 12 33.4	
	196nm,0.1s						
OK033				IAML		05 12 34.5	
	392nm,0.1s						
CROK	**Carrier**	**0.55**	**322**	Pg	Pg	05 12 26.2	+0.2
CROK				Sg	Sg	05 12 33.5	+0.3
CROK				IAML		05 12 33.9	
	comp=N,435nm,0.3s						
CROK				IAML

	comp=N,132nm,0.3s						
CSTR	**Hydro, Custer**	**1.01 245**	Pg	Pg	05 12 33.9	-0.7	
KAN09	**Caldwell North**	**1.06 358**	Pg	Pg	05 12 35.5	-0.3	
KAN05	**Bluff City Nor**	**1.07 347**	Pg	Pg	05 12 35.3	-0.5	
KAN01	**Argonia South**	**1.09 352**	Pg	Pg	05 12 35.3	-1.0	
KAN01			IAML		05 12 50.5		
	comp=E,122nm,0.2s						
KAN01			IAML		05 12 53.2		
	comp=N,125nm,0.1s						
OK035	**E0210 Rd and N**	**1.12 305**	Pg	Pg	05 12 35.7	-1.1	
KAN10	**Anthony SW Sta**	**1.14 338**	Pg	Pg	05 12 36.0	-1.1	
KAN10			IAML		05 12 52.9		
	comp=E,120nm,0.1s						
KAN10			IAML		05 12 55.0		
	comp=N,82nm,0.1s						
T35A	**Sooner Cattle**	**1.20 45**	Pg	Pb	05 12 37.6	-0.7	
T35A			IAML		05 12 53.9		
	comp=N,109nm,0.3s						
T35A			IAML		05 12 57.1		
	comp=E,102nm,0.4s						
KAN06	**Argonia West S**	**1.20 349**	Pg	Pb	05 12 37.5	-0.8	
KAN06			IAML		05 12 56.3		
	comp=N,133nm,0.1s						
KAN08	**Anthony NE Sta**	**1.20 344**	Pg	Pb	05 12 37.7	-0.7	
KAN08			IAML		05 12 55.1		
	comp=N,108nm,0.1s						
KAN08			IAML		05 12 57.7		
	comp=E,117nm,0.2s						
U32A	**Winter Ranch,**	**1.20 285**	Pg	Pb	05 12 37.4	-0.9	
U32A			IAML		05 12 56.0		
	comp=E,71nm,0.1s						
U32A			IAML		05 12 56.8		
	comp=N,90nm,0.1s						
KAN12	**Harper NE Stat**	**1.27 344**		Pn	05 12 38.9	-0.6	
TUL3	**Leonard**	**1.45 96**		Pn	05 12 40.9	-0.9	
WMOK	**Wichita Mounta**	**1.66 217**		Pn	05 12 44.1	-0.6	
RLO	**Rose Lookout**	**2.06 87**	Pn	Pn	05 12 49.4	-0.9	
CBKS	**Cedar Bluff**	**3.24 328**	Pn	Pn	05 13 05.1	-1.4	
CBKS			IAmb_Lg		05 14 01.6		
	comp=Z,5.2nm,0.8s						
Z38A	**Mt. Pleasant**	**3.52 142**	Pn	Pn	05 13 09.7	-0.6	
AMTX	**Amarillo**	**3.56 252**	IAmb_Lg		05 14 14.8		
	comp=Z,4.0nm,0.8s						
S39A	**Bolivar**	**3.77 63**	IAmb_Lg		05 14 13.6		
	comp=Z,4.9nm,0.7s						
X40A	**Basin Creek Fa**	**4.18 111**	IAmb_Lg		05 14 38.4		
	comp=Z,3.6nm,1.1s						
MGMO	**Mountain Grove**	**4.40 74**	IAmb_Lg		05 14 37.8		
	comp=Z,4.0nm,0.8s						
CCM	**Cathedral Cave**	**5.43 67**	IAmb_Lg		05 15 13.8		
	comp=Z,3.4nm,0.8s						
PBMO	**Poplar Bluff**	**5.80 81**	IAmb_Lg		05 15 23.5		
	comp=Z,6.2nm,1.1s						
CGM3	**Cape Girardeau**	**6.47 77**	IAmb_Lg		05 15 37.7		
	comp=Z,3.7nm,0.8s						

SOME ***14*** *05:22:09.9, 41°.52N×82°.38E, h25km*
NNC ***14*** *05:22:11.9±1.2, 41°.67N×82°.29E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=9.5km s-min=7.0km az=0.0*
ISC 14 05:22:14.5±2.3,**41°.86N**±0°.10×**82°.20E**±0°.08,**h10**km,**n33,**
σ1ˢ92/46,6C-3D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**2.40 304**		Pg	**Pn**	**05 22 55.8**	**+1.8**
	10nm,0.2s						
SHLS				Lg	Lg	05 23 29.1	
	220nm,0.4s						
SHLS	**Shalkode**	**2.40 304**		*e*P	**Pn**	**05 22 54.8**	**+0.8**
	10nm,0.2s						
SHLS				*e*S	**Sb**	**05 23 26.9**	**-0.8**
	220nm,0.4s						
PDGK	**Podgornoye**	**2.48 307**		Pg	**Pb**	**05 22 59.9**	**+0.6**
	4.4nm,0.5s						
PDGK				Lg	Lg	05 23 35.8	
	26nm,0.6s						
PDGK	**Podgornoye**	**2.48 307**		⇑Pn	**Pn**	**05 22 56.3**	**+1.2**
	7.5nm,0.6s						
PDGK				⇑Lg	Lg	05 23 36.3	
	58nm,0.6s						
UZB	**Uzynbulak**	**2.68 300**		Pg	**Pb**	**05 23 03.1**	**+0.5**
	3.6nm,0.2s						
UZB				Lg	Lg	05 23 41.4	
	44nm,0.3s						
UZB	**Uzynbulak**	**2.68 300**		*e*P	**Pb**	**05 23 03.1**	**+0.5**
	3.6nm,0.2s						
UZB				*e*S	**Sg**	**05 23 41.4**	**+0.9**
	44nm,0.3s						
DJR	**Jarkent**	**3.04 325**		Pg	**Pb**	**05 23 09.9**	**+1.2**
	3.3nm,0.2s						
DJR				Lg	Lg	05 23 53.3	
	9.4nm,0.4s						
DJR	**Jarkent**	**3.04 325**		*e*P	**Pb**	**05 23 09.9**	**+1.2**
	3.3nm,0.2s						
DJR				*e*S	**Sg**	**05 23 53.3**	**+1.2**
	9.4nm,0.4s						
SATY	**Saty**	**3.05 294**		Pg	**Pb**	**05 23 09.1**	**+0.2**
	3.4nm,0.2s						
SATY				Lg	Lg	05 23 51.6	
	35nm,0.3s						
SATY	**Saty**	**3.05 294**		*e*P	**Pb**	**05 23 09.1**	**+0.2**
	3.4nm,0.2s						
SATY				*e*S	**Sg**	**05 23 51.6**	**-0.9**
	35nm,0.3s						
KNOS	**Konyrlen**	**3.34 320**		Pg	**Pb**	**05 23 16.0**	**+2.2**
	11nm,0.4s						
KNOS				Lg	Lg	05 24 03.8	
	11nm,0.5s						
KURS	**Kuram**	**3.39 300**		Pg	**Pb**	**05 23 15.7**	**+1.1**
	3.9nm,0.4s						
KURS				Lg	Lg	05 24 03.2	
	9.1nm,0.5s						
KURS	**Kuram**	**3.39 300**		*e*P	**Pb**	**05 23 15.7**	**+1.1**
	3.9nm,0.4s						
KURS				*e*S	**Sg**	**05 24 03.2**	**-0.1**
	9.1nm,0.5s						
BLB	**Baldybastay**	**3.53 311**		Pg	**Pg**	**05 23 20.7**	**-1.4**
	18nm,0.5s						
BLB				Lg	Lg	05 24 11.9	
	13nm,0.5s						
KAPS	**Kapalarasan**	**4.00 330**		Pg	**Pg**	**05 23 28.5**	**-2.6**
	7.5nm,0.5s						
KAPS				Lg	Lg	05 24 25.2	
	13nm,0.6s						
KAPS	**Kapalarasan**	**4.00 330**		*e*P	**Pg**	**05 23 28.5**	**-2.6**
	7.5nm,0.5s						
KAPS				*e*S	**Sg**	**05 24 25.2**	**+2.3**
	13nm,0.6s						
KOTS	**Kotyrbulak**	**4.00 292**		Pg	**Pg**	**05 23 28.5**	**-2.6**
	5.3nm,0.5s						
KOTS				Lg	Lg	05 24 24.9	
	16nm,0.8s						
KOTS	**Kotyrbulak**	**4.00 292**		*e*P	**Pb**	**05 23 26.4**	**+1.2**
	5.3nm,0.5s						
KOTS				*e*S	**Sg**	**05 24 21.8**	**-1.1**
	16nm,0.8s						
MDOK	**Medeo**	**4.02 291**		Pg	**Pb**	**05 23 27.0**	**+1.5**
	2.6nm,0.4s						
MDOK				Lg	Lg	05 24 22.8	
	6.6nm,0.6s						
MDOK				⇑Lg	Lg	05 24 24.7	
	6.8nm,0.6s						
MDOK	**Medeo**	**4.02 291**		*e*P	**Pb**	**05 23 27.0**	**+1.5**
	2.6nm,0.4s						
MDOK				*e*S	**Sg**	**05 24 22.8**	**-0.9**
	6.6nm,0.6s						
TNSS	**Tian-Shan**	**4.06 289**		Pg	**Pb**	**05 23 27.9**	**+1.6**
	2.1nm,0.6s						
TNSS				Lg	Lg	05 24 24.0	
	2.9nm,0.6s						
TNSS	**Tian-Shan**	**4.06 289**		*e*P	**Pb**	**05 23 27.9**	**+1.6**
	2.1nm,0.6s						
TNSS				*e*S	**Sg**	**05 24 24.0**	**-0.9**
	2.9nm,0.6s						
KTBS	**Karatobe**	**4.46 296**		Pg	**Pb**	**05 23 35.4**	**+2.5**
	2.8nm,0.7s						
KTBS				Lg	Lg	05 24 37.1	
	11nm,0.9s						
KTBS	**Karatobe**	**4.46 296**		*e*P	**Pb**	**05 23 35.4**	**+2.5**
	2.8nm,0.7s						
KTBS				*e*S	**Sg**	**05 24 37.0**	**-0.7**
	11nm,0.9s						
KST	**Kastek**	**4.76 287**		Pg	**Pb**	**05 23 40.3**	**+2.2**
	3.0nm,0.8s						
KST				Lg	Lg	05 24 45.1	
	6.3nm,0.7s						
KST	**Kastek**	**4.76 287**		*e*P	**Pb**	**05 23 40.3**	**+2.2**
	3.0nm,0.8s						
KST				*e*S	**Sg**	**05 24 45.1**	**-2.2**
	6.3nm,0.7s						
MK31	**Makanchi Array**	**4.94 1**		⇑Pn	**Pn**	**05 23 30.0**	**+1.2**
	0.6nm,0.5s,baz=186,slow=12,SNR=14						
MK31				⇑Pg	**Pg**	**05 23 45.3**	**-3.7**
	1.9nm,0.7s,baz=174,slow=16,SNR=5.3						
MK31				⇓Lg	Lg	05 24 53.3	
	3.7nm,0.6s,baz=189,slow=13,SNR=4.4						
DGS	**Degeres**	**4.94 288**		Pg	**Pg**	**05 23 46.9**	**-2.2**
	1.9nm,0.5s						
DGS				Lg	Lg	05 24 56.6	
	5.3nm,0.5s						
DGS	**Degeres**	**4.94 288**		*e*P	**Pg**	**05 23 47.0**	**-2.2**
	1.9nm,0.5s						
DGS				*e*S	**Sg**	**05 24 56.6**	**+3.5**
	5.3nm,0.5s						
MAKZ	**Makanchi**	**4.95 358**		⇑Lg	Lg	05 24 55.4	
	4.3nm,0.8s						
TKM2	**Tokmak 2**	**5.00 284**		⇓Pg	**Pb**	**05 23 45.1**	**+2.9**
	2.0nm,0.8s						
TKM2				⇓Lg	Lg	05 24 54.9	
	6.4nm,0.9s						
KRBS	**Karabastau**	**5.14 293**		Pg	**Pg**	**05 23 49.6**	**-3.3**
	1.3nm,0.6s						
KRBS				Lg	Lg	05 25 01.2	
	2.7nm,0.6s						
KRBS	**Karabastau**	**5.14 293**		*e*P	**Pg**	**05 23 49.6**	**-3.3**
	1.3nm,0.6s						
KRBS				*e*S	**Sg**	**05 25 01.2**	**+1.7**
	2.7nm,0.6s						

IDC 14 05:30:43.4±2.6,**53°.67N**×**86°.88E,h0**km,**mbtmp2.6/2,**
ML2.4/2,Error ellipse: s-maj=23.2km s-min=13.0km az=75.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.25 284**		I	I	05 39 00.0	
	baz=104,slow=333,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.25 284**		Pg	Pg	05 31 06.5	-0.9
	0.8nm,0.3s,baz=105,slow=16,SNR=8.8						
ZALV				Lg	Lg	05 31 23.8	
	0.9nm,0.3s,baz=102,slow=30,SNR=6.7						
KURBB	**Kurchatov Arra**	**5.97 243**		Pn	Pn	05 32 14.3	+1.4
	baz=59,slow=13,SNR=4.2						
KURBB				Lg	Lg	05 33 53.9	
	baz=52,slow=28,SNR=4.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.48 205**		Pn	Pn	05 32 34.5	+0.8
	0.2nm,0.3s,baz=27,slow=14,SNR=5.7						
MKAR				Sn	Sn	05 33 59.8	+0.6
	0.1nm,0.3s,baz=20,slow=30,SNR=1.8						
MKAR				Lg	Lg	05 34 39.1	
	0.1nm,0.3s,baz=20,slow=30,SNR=1.8						
	0.2nm,0.3s						

NEIC ***14*** *05:35:18.4±1.0, 19°.35N±0°.03×155°.01W±0°.02, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.9km az=332.0*
HVO 14 05:35:18.2±1.3,**19°.38N**±0°.03×**155°.02W**±0°.02,**h1**km±9km,
ML2.9/12,**ML3.3**/44(NEIC),**Error ellipse: s-maj=4.5km s-min=1.5km az=154.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05 16**			Pg	05 35 20.4	+1.2
JCUZ	**Jacuzzi**	**0.08 270**			Pg	05 35 20.6	+0.8
NPOC	**North of Pu'u**	**0.09 276**			Pg	05 35 20.8	+0.9
STCH	**Steam Cracks**	**0.10 271**			Pg	05 35 20.9	+0.7
KNHH	**Kane Nui o Ham**	**0.14 268**			Pg	05 35 21.5	+0.6
PUH	**Pauahi**	**0.19 267**			Pg	05 35 22.2	+0.4
BYL	**Byron's Ledge**	**0.23 277**		Pg	Pg	05 35 23.5	+0.9
BYL				IAML		05 35 28.5	
	comp=N,6μm,0.8s						
BYL				IAML		05 35 29.7	
	comp=E,4μm,0.6s						
HATHI	**Halema'uma'u T**	**0.23 280**			Pg	05 35 23.2	+0.6
HATHI				IAML		05 35 29.0	
	comp=N,9μm,0.6s						
KKO	**Keanakako`i**	**0.23 273**		Pg	Pg	05 35 22.8	+0.1
KKO				IAML		05 35 24.9	
	comp=N,9μm,1.1s						
KKO				IAML		05 35 29.5	
	comp=E,6μm,0.8s						
SBLHI	**Steaming Bluff**	**0.24 280**		Pg	Pg	05 35 23.5	+0.7
SBLHI				IAML		05 35 23.6	
	comp=E,7μm,1.0s						
SBLHI				IAML		05 35 23.6	
	comp=N,6μm,1.0s						
SBLHI					Sg	05 35 27.6	+1.7
RIM	**Rim**	**0.24 273**		Pg	Pg	05 35 23.3	+0.4
RIM				IAML		05 35 30.8	
	comp=E,8μm,0.9s						
UWB	**Uwekahuna B**	**0.25 280**		Pg	Pg	05 35 23.9	+0.9
UWB				IAML		05 35 31.4	
	comp=N,3μm,0.8s						
RSD	**Rainshed**	**0.26 288**			Sg	05 35 24.1	-2.4
SDHHI	**Sand Hill**	**0.26 271**		Pg	Pg	05 35 24.2	+1.1
UWE	**Uwekahuna**	**0.26 278**		Pg	Pg	05 35 24.4	+1.2
WRMHI	**West Rim**	**0.27 275**		Pg	Pg	05 35 24.3	+1.0
HLP	**Hilina Pali**	**0.29 252**			Pg	05 35 24.0	+0.3
HLP				IAML		05 35 30.0	
	comp=E,4μm,0.3s						
HLP				IAML		05 35 30.8	
	comp=N,5μm,0.2s						
MLH	**Mauna Loa**	**0.36 288**			Pg	05 35 25.9	+0.8
MLH				IAML		05 35 32.2	
	comp=E,3μm,0.4s						
MLH				IAML		05 35 35.9	
	comp=N,4μm,0.2s						
HTC	**Hot Caves**	**0.39 248**			Pg	05 35 26.1	+0.5
HMH	**Humu'ula Sheep**	**0.49 297**			Pg	05 35 28.1	+0.5
MLOA	**Mauna Loa Obse**	**0.55 286**			Pg	05 35 28.6	-0.1
MLOA				IAML		05 35 37.5	
	comp=E,2μm,0.2s						
MWH	**Moku'aweowe**	**0.55 281**			Pg	05 35 28.7	-0.2
MWH				IAML		05 35 44.3	
	comp=E,2μm,0.6s						
MWH				IAML		05 35 47.1	
	comp=N,2μm,0.6s						
KHU	**Kahuku**	**0.58 256**			Pg	05 35 28.7	-0.6
KHU					Sg	05 35 36.8	-0.1
KHU				IAML		05 35 41.3	
	comp=E,1μm,1.4s						
KHU				IAML		05 35 47.1	
	comp=N,969nm,1.0s						
POHA	**Pohakuloa**	**0.61 308**		Sg	Sg	05 35 38.4	+0.5
POHA				IAML		05 35 40.2	
	comp=N,2μm,0.1s						
POHA				IAML		05 35 42.4	
	comp=N,2μm,0.2s						
POHA	**Pohakuloa**	**0.61 308**			Pg	05 35 29.7	-0.3

NEIC ***14*** *05:48:25.5±0.7, 19°.33N±0°.02×154°.85W±0°.03, h10km±1km, Error ellipse: s-maj=5.4km s-min=2.8km az=309.0*
HVO 14 05:48:26.0±1.1,**19°.39N**±0°.02×**154°.87W**±0°.03,**h13**km±2km,
ML2.9/18,**ML3.2**/38(NEIC),**Error ellipse: s-maj=5.0km s-min=1.2km az=128.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.09 350**			Pg	05 48 29.0	+0.2
PHO					Sg	05 48 31.3	+0.4
PHO	**Puu Honuaula**	**0.09 350**			Pg	05 48 29.3	+0.5
PAH	**Pahoa**	**0.12 325**			Pg	05 48 29.4	+0.2
PAH					Sg	05 48 32.1	+0.5
JOKA	**Jonika Flow**	**0.13 288**			Pg	05 48 29.4	0.0
JOKA					Sg	05 48 31.9	+0.1
JCUZ	**Jacuzzi**	**0.22 267**			Pg	05 48 30.7	-0.1
JCUZ					Sg	05 48 34.7	+0.7
NPOC	**North of Pu'u**	**0.22 270**			Pg	05 48 30.8	0.0
NPOC					Sg	05 48 34.4	+0.3
NPOC				IAML		05 48 35.2	
	comp=E,3μm,0.4s						
STCH	**Steam Cracks**	**0.24 268**			Pg	05 48 31.0	-0.1
STCH					Sg	05 48 35.1	+0.6
STCH				IAML		05 48 35.5	
	comp=E,4μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.28 267**			Pg	05 48 31.7	-0.2
PUH	**Pauahi**	**0.32 266**			Pg	05 48 32.4	-0.3
PUH					Sg	05 48 37.2	+0.1
PUH				IAML		05 48 39.2	
	comp=E,2μm,1.2s						
PUH				IAML		05 48 41.1	
	comp=N,2μm,0.9s						
BYL	**Byron's Ledge**	**0.36 273**		Pg	Pg	05 48 33.1	-0.3
BYL				IAML		05 48 38.6	
	comp=N,5μm,1.0s						
HATHI	**Halema'uma'u T**	**0.37 275**		Pg	Pg	05 48 33.1	-0.4
HATHI					Sg	05 48 38.7	+0.3
KKO	**Keanakako`i**	**0.37 271**		Pg	Pg	05 48 33.3	-0.2
SBLHI	**Steaming Bluff**	**0.37 275**		Pg	Pg	05 48 33.1	-0.5
RSD	**Rainshed**	**0.39 280**			Pg	05 48 33.6	-0.2
RSD					Sg	05 48 39.4	+0.3
RSD				IAML		05 48 41.7	
	comp=E,2μm,0.9s						
RSD				IAML		05 48 44.6	
	comp=N,3μm,1.4s						
SDHHI	**Sand Hill**	**0.40 269**		Pg	Pg	05 48 33.0	-1.0
HLP	**Hilina Pali**	**0.42 257**		Pg	Pg	05 48 34.0	-0.4
HLP				Sg	Sg	05 48 40.4	+0.3
HLP				IAML		05 48 47.4	
	comp=N,3μm,0.8s						
HLP				IAML		05 48 48.0	
	comp=E,3μm,1.5s						
MLH	**Mauna Loa**	**0.49 282**			Pg	05 48 35.0	-0.8
MLH					Sg	05 48 41.9	-0.5
MLH				IAML		05 48 47.2	
	comp=N,2μm,1.4s						
HTC	**Hot Caves**	**0.52 253**			Pg	05 48 35.5	-0.7
HMH	**Humu'ula Sheep**	**0.61 290**		Pg	Pg	05 48 37.6	-0.4
HMH				IAML		05 48 52.5	
	comp=N,927nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.68 282**		Pg	Pg	05 48 38.4	-0.9
MLOA				IAML		05 48 53.1	
	comp=E,695nm,0.8s						
MLOA				IAML		05 49 03.3	
	comp=N,778nm,1.3s						
MWH	**Moku'aweowe**	**0.69 278**		Pg	Pg	05 48 38.8	-0.7
MWH				IAML		05 48 54.4	
	comp=E,2μm,1.3s						
MWH				IAML		05 48 58.2	
	comp=N,1μm,0.9s						
KHU	**Kahuku**	**0.72 258**			Pg	05 48 39.3	-0.7
KHU				IAML		05 48 47.0	
	comp=N,686nm,2.7s						
KHU					Sg	05 48 47.4	-2.0
POHA	**Pohakuloa**	**0.72 300**		Pg	Pg	05 48 39.6	-0.4
POHA	**Pohakuloa**	**0.72 300**		IAML		05 48 43.1	
	comp=N,546nm,1.5s						
POHA				IAML		05 48 54.8	
	comp=N,472nm,0.7s						

IDC 14 06:00:26.6±3.7,**55°.63N**×**86°.09E,h0**km,**mbtmp2.8/2,**
ML2.6/1,Error ellipse: s-maj=32.4km s-min=29.6km az=67.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.84 204**		I	I	06 13 00.0	
	baz=22,slow=327,SNR=4.0						
ZALV	**Zalesovo Beam**	**1.84 204**		Pn	Pn	06 00 58.3	-1.0
	0.4nm,0.3s,baz=22,slow=14,SNR=2.7						
ZALV				Lg	Lg	06 01 24.8	
	1.6nm,0.3s,baz=26,slow=30,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.77 225**		Pn	Pn	06 02 07.2	+0.2
	0.3nm,0.4s,baz=44,slow=14,SNR=1.6						
MKAR	**Makanchi Array**	**9.16 197**		Pn	Pn	06 02 40.0	+0.1
	0.1nm,0.3s,baz=14,slow=12,SNR=2.8						
	0.4nm,0.6s						

SJA ***14*** *06:01:44.9±0.7, 24°.19S×67°.06W, h206km±4km, ML3.4, MW3.5*
GUC ***14*** *06:01:47.1±0.6, 24°.17S×67°.37W, h224km±5km, ML3.8*
ISC 14 06:01:43.6±1.7,**24°.22S**±0°.03×**67°.08W**±0°.05,
h219km±13km,**n34,σ1ˢ71/61,6C,Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.52 110**		*e*P	**Pn**	**06 02 20.0**	**+0.6**
SLA				*e*S	**S**	**06 02 45.9**	**-1.1**
AF01	**San Pedro de A**	**1.61 321**	⇑	*e*P	**Pn**	**06 02 21.9**	**+1.6**
AF01				*e*S	**S**	**06 02 48.8**	**0.0**
HJA	**Humahuaca**	**1.83 57**		*e*P	**Pn**	**06 02 23.1**	**+0.6**
FSA	**Cafayete**	**2.13 152**		*e*P	**Pn**	**06 02 25.8**	**+0.7**
LVC	**Limon Verde**	**2.32 313**		*e*P	**Pn**	**06 02 28.8**	**+1.4**
LVC				*e*S	**S**	**06 03 00.6**	**-0.5**
LVC				IAML		06 03 01.5	
	comp=Z,60nm,0.5s						
LVC	**Limon Verde**	**2.32 313**		*e*P	**Pn**	**06 02 28.8**	**+1.5**
LVC				*e*S	**S**	**06 03 00.1**	**-0.9**
LVC				IAML		06 03 01.3	
	comp=Z,390nm,0.5s						
PB15	**IPOC Station P**	**2.41 294**		*e*P	**Pn**	**06 02 29.3**	**+1.3**
PB15				*e*S	**S**	**06 03 01.6**	**-0.8**
PB15	**IPOC Station P**	**2.41 294**	⇑	*i*P	**Pn**	**06 02 29.3**	**+1.3**
PB15				*e*S	**S**	**06 03 01.1**	**-1.3**
GO02	**Mina Guanaco**	**2.47 247**		*e*P	**Pn**	**06 02 30.1**	**+1.4**
GO02	**Mina Guanaco**	**2.47 247**	⇑	*e*P	**Pn**	**06 02 30.2**	**+1.5**
GO02				*e*S	**S**	**06 03 03.6**	**-0.1**
GO02				IAML		06 03 04.9	
	comp=N,139nm,0.3s						
YJA	**Yavi**	**2.49 36**		*e*P	**Pn**	**06 02 30.3**	**+1.2**
YJA				*e*S	**S**	**06 03 04.0**	**-0.5**
PB06	**IPOC Station P**	**2.74 303**		*e*P	**Pn**	**06 02 32.9**	**+1.4**
PB06				*e*S	**S**	**06 03 07.7**	**-1.0**
PB06				IAML		06 03 09.0	
	comp=Z,121nm,0.1s						
PB06	**IPOC Station P**	**2.74 303**	⇑	*e*P	**Pn**	**06 02 33.0**	**+1.4**
PB06				*e*S	**S**	**06 03 07.1**	**-1.6**
PB06				IAML		06 03 09.0	
	comp=E,327nm,0.1s						
AHML	**Horco Molle**	**3.00 149**		*e*P	**Pn**	**06 02 35.8**	**+1.5**
PB14	**IPOC Station P**	**3.06 262**		*e*P	**Pn**	**06 02 36.8**	**+1.6**
PB14				*e*S	**S**	**06 03 15.1**	**-0.3**
PB14				IAML		06 03 20.1	
	comp=Z,30nm,0.2s						
PB09	**IPOC Station P**	**3.13 320**		*e*P	**Pn**	**06 02 37.8**	**+1.8**
PB09				*e*S	**S**	**06 03 16.7**	**-0.1**
PB09				IAML		06 03 21.1	
	comp=Z,63nm,0.4s						
PB09	**IPOC Station P**	**3.13 320**		*e*P	**Pn**	**06 02 38.0**	**+2.0**
PB09				*e*S	**S**	**06 03 16.1**	**-0.6**
PB09				IAML		06 03 17.2	
	comp=N,68nm,0.6s						
AC02	**Maricunga**	**3.20 215**		*e*P	**Pn**	**06 02 39.4**	**+2.4**
AC02				*e*S	**S**	**06 03 13.6**	**-5.1**
PB04	**IPOC Station P**	**3.39 303**		*e*P	**Pn**	**06 02 40.4**	**+1.4**
PB04				*e*S	**S**	**06 03 21.1**	**-1.1**
PB04				IAML		06 03 23.9	
	comp=Z,106nm,0.2s						
PB04	**IPOC Station P**	**3.39 303**	⇑	*e*P	**Pn**	**06 02 40.3**	**+1.3**
PB04				*e*S	**S**	**06 03 19.8**	**-2.4**
PB04				IAML		06 03 21.8	
	comp=N,141nm,0.2s						
PB07	**IPOC Station P**	**3.58 313**		*e*P	**Pn**	**06 02 42.2**	**+0.9**
PB07				*e*S	**S**	**06 03 24.7**	**-1.6**
PB07				IAML		06 03 25.6	
	comp=Z,125nm,0.4s						
PB07	**IPOC Station P**	**3.58 313**	⇑	*e*P	**Pn**	**06 02 42.5**	**+1.2**
PB07				*e*S	**S**	**06 03 23.6**	**-2.8**
AC01	**Pan de Azucar**	**3.72 238**		*e*P	**Pn**	**06 02 43.6**	**+0.8**

PB08				*e*S	**S**	**06 03 46.0**	**-0.7**
PB08				IAML		06 03 52.5	
	comp=Z,23nm,0.4s						
TA01	**Diego Aracena**	**4.63**	**321**	*e*P	**Pn**	**06 02 55.5**	**+1.5**
TA01				IAML		06 03 52.8	
	comp=Z,13nm,0.2s						
HMBC	**Humberstone**	**4.71**	**326**	*e*P	**Pn**	**06 02 56.6**	**+1.6**
HMBC				*e*S	**S**	**06 03 47.5**	**-3.7**
HMBC				IAML		06 04 00.1	
	comp=Z,56nm,1.3s						
AC04	**Llanos de Chal**	**5.35**	**221**	*e*P	**Pn**	**06 03 04.0**	**+1.1**
AC04				*e*S	**S**	**06 04 04.9**	**-0.6**
AC04				IAML		06 04 10.6	
	comp=Z,8.8nm,3.0s						
AC05	**El Transito**	**5.42**	**211**	*e*P	**Pn**	**06 03 05.8**	**+2.0**
AC05				*e*S	**S**	**06 04 05.8**	**-1.5**

IDC 14 06:05:16.8±3.2, 54°19′N×87°28′E, *h*0km, mbtmp2.8/2, ML2.3/2, Error ellipse: s-maj=26.5km s-min=17.0km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**262**	I	I	06 14 40.0	
	baz=81,slow=333,SNR=2.8						
ZALV	**Zalesovo Beam**	**1.47**	**262**	Pg	Pn	06 05 42.8	-1.7
	1.9nm,0.3s,baz=82,slow=16,SNR=18						
ZALV				Lg	Lg	06 06 03.8	
	4.0nm,0.3s,baz=78,slow=28,SNR=14						
KURBB	**Kurchatov Arra**	**6.43**	**240**	Pn	Pn	06 06 53.5	+0.8
	0.1nm,0.3s,baz=54,slow=13,SNR=2.6						
KURBB				Lg	Lg	06 08 40.3	
	baz=51,slow=30,SNR=1.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	06 07 16.3	+1.3
	baz=23,slow=13,SNR=2.0						
MKAR				Sn	Sn	06 08 46.7	-0.1
	0.1nm,0.3s,baz=22,slow=28,SNR=2.2						
	0.5nm,0.8s						

*NEIC **14** 06:08:35.1±1.6, 19°426′N×0°010′×155°26′W±0°.01, h5km, Error ellipse: s-maj=1.9km s-min=1.5km az=222.0*

HVO 14 06:08:34.9±1.4, 19°418′N×0°008′×155°281′W±0°.009, h0km±2km, ML3.2/23, ML2.3/34(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=55.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.00**	**270**	Pg	Pg	06 08 35.0	0.0
NPH	**North Pit**	**0.01**	**178**	Sg	Sg	06 08 35.9	+0.7
UWB	**Uwekahuna B**	**0.01**	**23**	Pg	Pg	06 08 35.2	+0.1
UWE	**Uwekahuna**	**0.01**	**288**	Pg	Pg	06 08 35.4	+0.3
SBLHI	**Steaming Bluff**	**0.02**	**53**	Pg	Pg	06 08 35.2	0.0
HATHI	**Halema'uma'u T**	**0.02**	**74**	Pg	Pg	06 08 35.6	+0.3
HATHI				Sg	Sg	06 08 36.7	+1.1
BYL	**Byron's Ledge**	**0.02**	**105**	IAML		06 08 35.4	
	comp=N,7μm,1.0s						
BYL				Pg	Pg	06 08 35.8	+0.5
WRMHI	**West Rim**	**0.02**	**238**	IAML		06 08 35.4	
	comp=E,10μm,0.6s						
WRMHI				IAML		06 08 35.5	
	comp=N,9μm,0.7s						
WRMHI				Pg	Pg	06 08 36.0	+0.7
RIM	**Rim**	**0.02**	**163**	IAML		06 08 35.5	
	comp=E,6μm,0.7s						
RIM				Pg	Pg	06 08 35.8	+0.5
RIM				IAML		06 08 35.9	
	comp=N,6μm,0.7s						
KKO	**Keanakako'i**	**0.02**	**144**	IAML		06 08 35.5	
	comp=N,4μm,0.7s						
KKO				Pg	Pg	06 08 35.7	+0.3
SDHHI	**Sand Hill**	**0.03**	**203**	IAML		06 08 35.6	
	comp=N,6μm,1.0s						
SDHHI				Pg	Pg	06 08 36.0	+0.5
SDHHI				IAML		06 08 36.0	
	comp=E,6μm,0.7s						
SDHHI				Sg	Sg	06 08 37.0	+1.1
RSD	**Rainshed**	**0.04**	**4**	Pg	Pg	06 08 36.4	+0.6
RSD				Sg	Sg	06 08 37.8	+1.4
PUH	**Pauahi**	**0.07**	**125**	IAML		06 08 37.0	
	comp=N,2μm,1.0s						
PUH				Pg	Pg	06 08 37.5	+1.2
PUH				Sg	Sg	06 08 39.0	+1.6
MLH	**Mauna Loa**	**0.12**	**308**	IAML		06 08 38.3	
	comp=N,1μm,0.8s						
MLH				Pg		06 08 39.0	+1.7
MLH				IAML		06 08 40.4	
	comp=E,1μm,0.7s						
MLH				Sg	Sg	06 08 42.0	+3.1
STCH	**Steam Cracks**	**0.15**	**102**	Pg	Pg	06 08 38.9	+1.1
STCH				IAML		06 08 42.3	
	comp=N,2μm,0.7s						
STCH				IAML		06 08 42.6	
	comp=E,2μm,0.7s						
NPOC	**North of Pu'u**	**0.16**	**99**	Pg	Pg	06 08 38.0	0.0
NPOC				IAML		06 08 43.0	
	comp=E,1μm,0.6s						
JCUZ	**Jacuzzi**	**0.17**	**101**	Pg	Pg	06 08 38.3	+0.1
JCUZ				IAML		06 08 42.5	
	comp=E,1μm,0.8s						
JCUZ				IAML		06 08 43.8	
	comp=N,1μm,0.7s						
HTC	**Hot Caves**	**0.21**	**212**		Pg	06 08 39.9	+1.0
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	06 08 40.4	+0.4
HMH				IAML		06 08 48.2	
	comp=E,810nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.30**	**293**		Pg	06 08 41.9	+1.2
MLOA				IAML		06 08 50.5	
	comp=N,780nm,0.7s						
MWH	**Moku'aweowe**	**0.30**	**283**	Pg	Pg	06 08 41.8	+1.1
KHU	**Kahuku**	**0.36**	**242**		Pg	06 08 42.3	+0.5
POHA	**Pohakuloa**	**0.41**	**325**	Pg	Pg	06 08 43.5	+0.7
HUH	**Hualalai**	**0.59**	**297**	Pg	Pg	06 08 47.0	+0.8
HPAH	**Hawaii Prepara**	**0.72**	**327**	Pg	Pg	06 08 48.3	-0.5

*IDC **14** 06:17:03.2±4.3, 6°24S×133°65E, h0km, mb3.8/3, mbtmp3.7/5, ML3.6/2, MS3.2/2/2, Error ellipse: s-maj=273.6km s-min=30.8km az=79.0*

*NEIC **14** 06:17:05.9±2.3, 6°16S±0°07×133°6E±0°.1, h27km±10km, mb4.4/5, Error ellipse: s-maj=15.4km s-min=10.3km az=86.0*

*DJA **14** 06:17:08.8±2.1, 6°S±5°×13°3E±°, h20km±20km, M4.4/7, mb4.5/3, mB5.2/2, MLv4.4/7, Mw(mB)4.5/2*

ISC 14 06:17:06.5±0.7, 6°29S±0°05×133°54E±0°.08, h35km, n27, σ2938′/30, mb4.0/6, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**2.62**	**4**	P	**Pn**	**06 17 46.4**	**+0.2**
KMPI				S	**Sn**	**06 18 16.1**	**-0.7**
SAUI	**Saumlaki**	**2.79**	**233**	Pn	**Pn**	**06 17 50.6**	**+2.0**
FAKI	**Fak Fak**	**3.58**	**339**	Pn	**Pn**	**06 17 59.9**	**+0.3**
FAKI				Sn	**Sn**	**06 18 37.2**	**-3.5**
FAKI	**Fak Fak**	**3.58**	**339**	P	**Pn**	**06 17 59.5**	**-0.1**
BNDI	**Bandanaira**	**4.02**	**296**	P	**Pn**	**06 18 05.0**	**-0.6**
BNDI				S	**Sn**	**06 18 48.3**	**-3.1**
SWI	**Sorong**	**5.85**	**337**	P	**Pn**	**06 18 29.7**	**-1.0**
MTN	**Manton Dam**	**6.93**	**200**	Pn	**Pn**	**06 18 48.7**	**+3.1**
SOEI	**Soe**	**9.80**	**249**	Pn	**Pn**	**06 19 26.8**	**+1.6**
COEN	**Coen**	**12.17**	**130**	Pn	**Pn**	**06 19 56.4**	**-1.1**
WB0	**Warramunga Arr**	**13.43**	**177**	Pn	**Pn**	**06 20 17.1**	**+2.5**
WB2	**Warramunga Arr**	**13.60**	**177**	Pn	**Pn**	**06 20 17.2**	**+0.3**
WRA	**Warramunga Arr**	**13.60**	**177**	Pn	**Pn**	**06 20 17.4**	**+0.5**
WRA	**Warramunga Arr**	**13.60**	**177**	Pn	**Pn**	**06 20 17.7**	**+0.7**
	0.2nm,0.3s,baz=358,slow=13,SNR=11						
WRA				Sn	**Sn**	**06 22 39.8**	**-7.1**
	0.3nm,0.3s,baz=352,slow=24,SNR=1.8						
	0.6nm,0.6s						
WR0	**Warramunga Arr**	**13.62**	**176**	Pn	**Pn**	**06 20 18.1**	**+0.7**
FITZ	**Fitzroy Crossi**	**14.04**	**213**	Pn	**Pn**	**06 20 23.9**	**+0.9**
AS31	**Alice Springs**	**17.28**	**179**	Pn	**Pn**	**06 21 04.2**	**-1.0**
ASAR	**Alice Springs**	**17.28**	**179**	Pn	**Pn**	**06 21 05.7**	**+0.5**
ASAR	**Alice Springs**	**17.28**	**179**	Pn	**P**	**06 21 07.0**	**+0.7**
	0.3nm,0.3s,baz=354,slow=13,SNR=10						
ASAR				Sn	**Sn**	**06 24 11.4**	**-5.2**
	0.1nm,0.3s,baz=359,slow=28,SNR=2.9						
	0.8nm,0.6s						
FORT	**Forrest**	**24.90**	**191**	P	**P**	**06 22 28.9**	**+2.7**
FORT				IAmb	IAmb	06 22 32.2	
	comp=Z,21nm,1.1s						
BBOO	**Buckleboo**	**26.49**	**175**	P	**P**	**06 22 41.5**	**+0.9**
BBOO				IAmb	IAmb	06 23 03.3	
	comp=Z,6.9nm,1.2s						
MORW	**Morawa**	**28.05**	**214**	P	**P**	**06 22 55.8**	**+1.2**
MORW				IAmb	IAmb	06 23 05.7	
	comp=Z,12nm,1.3s						
ARMA	**Armidale**	**29.42**	**147**	P	**P**	**06 23 07.2**	**+0.2**
JHJ	**Hachijo jima 2**	**39.64**	**8**	LR	LR	06 40 29.1	
	comp=Z,25nm,20.2s,baz=99,slow=36						
MKAR	**Makanchi Array**	**69.61**	**325**	P	**P**	**06 28 14.7**	**+2.5**
	comp=Z,0.8nm,0.8s,baz=123,slow=7.3,SNR=4.4						
	comp=Z,0.8nm,0.8s						
ZALV	**Zalesovo Beam**	**72.55**	**332**	P	**P**	**06 28 31.8**	**+2.0**
	comp=Z,0.7nm,0.6s,baz=130,slow=9.0,SNR=1.9						
	comp=Z,0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**73.78**	**327**	P	**P**	**06 28 39.5**	**+2.3**
	comp=Z,0.3nm,0.6s,baz=116,slow=4.1,SNR=4.7						
	comp=Z,0.3nm,0.6s						
KDAK	**Kodiak Island**	**86.79**	**31**	LR	LR	07 04 54.8	
	comp=Z,16nm,21.9s,baz=206,slow=33						

*NEIC **14** 06:24:47.2±2.9, 5°64S±0°07×152°4E±0°.1, h10km±1km, mb4.3/20, Error ellipse: s-maj=17.7km s-min=11.1km az=260.0*

*IDC **14** 06:24:58.4±4.5, 5°35S×151°81E, h85km±40km, mb3.6/9, mbtmp3.9/10, MS3.2/6, Error ellipse: s-maj=28.3km s-min=25.8km az=148.0*

ISC 14 06:24:50.5±0.6, 5°58S±0°05×152°49E±0°.10, h40km, n39, σ1992/37, mb4.0/19, MS3.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**1.36**	**340**	P	**Pn**	**06 25 14.2**	**+1.2**
	baz=180,slow=26						
I40PG				S	**Sn**	**06 25 28.9**	**-0.9**
RABL	**Rabaul**	**1.42**	**347**	Pn	**Pn**	**06 25 12.3**	**-1.5**
RABL				Sn	**Sn**	**06 25 33.5**	**+2.2**
PMG	**Port Moresby**	**6.51**	**234**	P	**Pn**	**06 26 27.0**	**+3.3**
	18nm,0.4s,baz=239,slow=19,SNR=6.1						
PMG				S	**Sn**	**06 27 36.4**	**-0.3**
	19nm,0.4s,baz=118,slow=18,SNR=2.4						
PMG				LR	LR	06 28 53.9	
	comp=Z,103nm,20.5s,baz=342,slow=38						
CTAO	**Charters Tower**	**15.64**	**202**	Pn	**Pn**	**06 28 26.4**	**-1.7**
SAUI	**Saumlaki**	**21.17**	**262**	P	**P**	**06 29 31.6**	**-1.0**
DZM	**Mont Dzumac**	**21.23**	**142**	P	P	06 29 43.5	+10
	2.7nm,0.8s,baz=307,slow=20,SNR=2.0						
DZM				LR	LR	06 37 01.6	
	comp=Z,98nm,19.5s,baz=324,slow=33						
	2.7nm,0.8s						
ONTNC	**Ouen Toro**	**21.42**	**142**	P	**P**	**06 29 34.2**	**-0.9**
PINNC	**Pines Island,**	**22.26**	**141**	P	**P**	**06 29 42.4**	**-1.7**
PINNC				IAmb	IAmb	06 29 49.5	
	comp=Z,24nm,0.9s						
MTN	**Manton Dam**	**22.27**	**250**	P	**P**	**06 29 40.4**	**-3.9**
MTN				IAmb	IAmb	06 29 53.3	
	comp=Z,12nm,1.1s						
WB0	**Warramunga Arr**	**22.55**	**230**	P	**P**	**06 29 43.6**	**-3.8**
WB0				IAmb	IAmb	06 30 00.5	
	comp=Z,5.7nm,0.7s						
WR0	**Warramunga Arr**	**22.56**	**229**	P	**P**	**06 29 44.9**	**-2.5**
WR0				IAmb	IAmb	06 29 58.2	
	comp=Z,5.6nm,0.8s						
WB2	**Warramunga Arr**	**22.69**	**229**	P	**P**	**06 29 46.7**	**-2.1**
WB2				IAmb	IAmb	06 30 01.9	
	comp=Z,8.6nm,0.6s						
WRA	**Warramunga Arr**	**22.70**	**229**	P	**P**	**06 29 46.2**	**-2.7**
WRA	**Warramunga Arr**	**22.70**	**229**	P	**P**	**06 29 48.8**	**-0.1**
	comp=Z,2.5nm,0.5s,baz=52,slow=10,SNR=16						
WRA				PcP	**PcP**	**06 33 42.5**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=47,slow=2.0,SNR=1.4						
	comp=Z,2.5nm,0.5s						
AS31	**Alice Springs**	**25.36**	**223**	P	**P**	**06 30 12.4**	**-1.6**
AS31				IAmb	IAmb	06 30 19.5	
	comp=Z,2.4nm,0.8s						
ASAR	**Alice Springs**	**25.37**	**223**	P	**P**	**06 30 12.8**	**-1.3**
ASAR	**Alice Springs**	**25.37**	**223**	P	**P**	**06 30 15.2**	**+1.2**
	comp=Z,6.1nm,0.8s,baz=55,slow=8.8,SNR=34						
	comp=Z,6.1nm,0.8s						
STKA	**Stephens Creek**	**28.08**	**200**	LR	LR	06 41 57.2	
	comp=Z,59nm,18.5s,baz=26,slow=36						
BATI	**Baumata**	**28.91**	**259**	LR	LR	06 42 54.4	
	comp=Z,208nm,19.1s,baz=142,slow=38						
FITZ	**Fitzroy Crossi**	**29.02**	**242**	P	**P**	**06 30 45.6**	**-1.3**
BBOO	**Buckleboo**	**31.12**	**207**	P	**P**	**06 31 05.9**	**+0.6**
BBOO				IAmb	IAmb	06 31 18.5	
	comp=Z,5.0nm,1.1s						
FORT	**Forrest**	**33.99**	**220**	P	**P**	**06 31 30.1**	**-0.3**
PSA00	**Pilbara Seismi**	**35.37**	**240**	P	**P**	**06 31 42.9**	**+0.4**
RAO	**Raoul Island**	**36.55**	**134**	P	**P**	**06 31 53.6**	**+1.0**
MORW	**Morawa**	**41.62**	**232**	P	**P**	**06 32 35.4**	**+0.4**
MORW				IAmb	IAmb	06 32 37.0	
	comp=Z,6.2nm,0.9s						
JNU	**Nakatsue**	**43.62**	**333**	LR	LR	06 50 39.4	
	comp=Z,12nm,18.2s,baz=170,slow=36						
PETK	**Petropavlovsk-**	**58.64**	**4**	LR	LR	06 58 21.9	
	comp=Z,12nm,18.7s,baz=116,slow=34						
SONM	**Songino Array**	**66.82**	**328**	P	**P**	**06 35 38.3**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=134,slow=4.2,SNR=2.3						
	comp=Z,0.5nm,0.6s						
F19K	**Shaleruckik Mo**	**80.46**	**18**	P	**P**	**06 37 00.8**	**+3.0**
MKAR	**Makanchi Array**	**80.71**	**319**	P	**P**	**06 36 59.5**	**-0.1**
	comp=Z,0.8nm,1.0s,baz=105,slow=5.1,SNR=2.5						
	comp=Z,0.8nm,1.0s						
E19K	**Redstone River**	**81.02**	**17**	P	**P**	**06 37 03.4**	**+2.6**
E19K				IAmb	IAmb	06 37 21.9	
	comp=Z,3.1nm,1.1s						
D19K	**Kuna River**	**81.43**	**16**	P	**P**	**06 37 04.6**	**+1.6**
ZALV	**Zalesovo Beam**	**81.63**	**326**	P	**P**	**06 37 03.1**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=100,slow=5.9,SNR=2.5						
	comp=Z,1.1nm,0.6s						
ILAR	**Eielson Array**	**83.00**	**22**	P	**P**	**06 37 14.0**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=249,slow=4.8,SNR=7.8						
	comp=Z,0.3nm,0.5s						
TOLK	**Toolik Lake Re**	**84.05**	**18**	P	**P**	**06 37 18.4**	**+1.8**
KURBB	**Kurchatov Arra**	**84.22**	**322**	P	**P**	**06 37 16.7**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=106,slow=3.7,SNR=4.2						
	comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**84.38**	**180**	P	**P**	**06 37 16.6**	**-1.9**
QSPA				IAmb	IAmb	06 37 35.4	
	comp=Z,1.6nm,1.0s						
NVAR	**Mina Array Bea**	**92.81**	**52**	P	P	06 38 05.1	+5.7
	comp=Z,0.5nm,0.9s,baz=260,slow=4.5,SNR=2.9						
	comp=Z,0.5nm,0.9s						
TORD	**Torodi Ar. Bea**	**150.24**	**287**	PKPbc	**PKiKP**	**06 44 39.1**	**-0.1**
	comp=Z,1.1nm,0.4s,baz=94,slow=2.4,SNR=14						

*NEIC **14** 06:25:38.3±1.4, 18°31S±0°06×173°57W±0°.10, h119km±8km, mb4.4/14, Error ellipse: s-maj=13.2km s-min=8.1km az=93.0*

*IDC **14** 06:25:44.9±6.7, 18°59S×176°52W, h0km, mb3.9/3, mbtmp3.9/3, MS3.5/1, Error ellipse: s-maj=289.2km s-min=38.8km az=143.0*

ISC 14 06:25:36.7±0.8, 18°34S±0°08×173°74W±0°.08, h100km, n21, σ1527/21, mb4.3/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**3.69**	**102**	Pn	**Pn**	**06 26 31.5**	**-0.1**
NIUE				Sn	**Sn**	**06 27 12.6**	**-1.6**
AFI	**Afiamalu**	**4.79**	**23**		**Pn**	**06 26 48.1**	**+1.4**
AFI				Sn	**Sn**	**06 27 39.9**	**-1.2**
MSVF	**Nonsavu**	**7.84**	**273**	Pn	Pn	06 27 32.8	+4.8
ONTNC	**Ouen Toro**	**18.99**	**255**	P	**Pn**	**06 29 51.7**	**-0.5**
KOUNC	**Koumac, New Ca**	**20.84**	**260**	P	**P**	**06 30 08.2**	**-2.3**
KOUNC				IAmb	IAmb	06 30 08.7	
	comp=Z,18nm,1.2s						
TOZ	**Tahuroa Road**	**21.49**	**204**	P	**P**	**06 30 18.5**	**+1.2**
TOZ				IAmb	IAmb	06 30 38.1	
	comp=Z,11nm,1.1s						
HIZ	**Hauiti**	**22.42**	**204**	P	**P**	**06 30 28.5**	**+1.4**
BBOO	**Buckleboo**	**47.10**	**242**	P	**P**	**06 33 58.5**	**-0.3**
BBOO				IAmb	IAmb	06 34 14.8	
	comp=Z,9.5nm,1.4s						
WR0	**Warramunga Arr**	**48.73**	**259**	P	**P**	**06 34 11.1**	**-0.4**
WR0				IAmb	IAmb	06 34 34.5	
	comp=Z,17nm,1.4s						
WB0	**Warramunga Arr**	**48.89**	**259**	P	**P**	**06 34 12.5**	**-0.2**
WB0				IAmb	IAmb	06 34 25.4	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**48.91**	**259**	P	**P**	**06 34 12.8**	**-0.1**
WB2				IAmb	IAmb	06 34 40.8	
	comp=Z,8.8nm,1.1s						
WRAB	**Tennant Creek**	**48.91**	**259**	P	**P**	**06 34 10.3**	**-2.6**
WRA	**Warramunga Arr**	**48.92**	**259**	P	**P**	**06 34 11.9**	**-1.1**
WRA	**Warramunga Arr**	**48.92**	**259**	P	**P**	**06 34 12.3**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=97,slow=7.5,SNR=20						
	comp=Z,0.9nm,0.3s						
AS31	**Alice Springs**	**48.95**	**254**	P	**P**	**06 34 12.4**	**-0.8**
ASAR	**Alice Springs**	**48.95**	**254**	P	**P**	**06 34 13.2**	**0.0**
ASAR	**Alice Springs**	**48.95**	**254**	P	**P**	**06 34 13.2**	**0.0**
	comp=Z,1.2nm,0.5s,baz=88,slow=8.3,SNR=18						
ASAR				LR	LR	06 52 46.1	
	comp=Z,47nm,18.9s,baz=218,slow=35						
	comp=Z,1.2nm,0.5s						
FORT	**Forrest**	**53.84**	**245**	P	**P**	**06 34 49.7**	**+0.2**
FITZ	**Fitzroy Crossi**	**57.33**	**260**	P	**P**	**06 35 14.4**	**-0.3**
QSPA	**South Pole Qui**	**71.72**	**180**	P	**P**	**06 36 49.9**	**+2.1**
QSPA				IAmb	IAmb	06 37 11.0	
	comp=Z,6.1nm,1.3s						
ILAR	**Eielson Array**	**85.38**	**11**	P	P	06 38 27.5	+25
	comp=Z,0.2nm,0.5s,baz=224,slow=5.0,SNR=4.3						
	comp=Z,0.2nm,0.5s						

IDC 14 06:31:39.4±3.4, 54°34N×86°81E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=28.1km s-min=18.3km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.23**	**252**	I	I	06 39 40.1	
	baz=70,slow=322,SNR=1.9						
ZALV	**Zalesovo Beam**	**1.23**	**252**	Pg	Pg	06 32 01.7	-1.2
	0.7nm,0.3s,baz=71,slow=17,SNR=5.7						
ZALV				Lg	Lg	06 32 19.3	
	0.9nm,0.3s,baz=71,slow=24,SNR=5.4						
KURBB	**Kurchatov Arra**	**6.27**	**237**	Pn	Pn	06 33 14.6	+1.5
	0.1nm,0.3s,baz=54,slow=14,SNR=5.0						
KURBB				Lg	Lg	06 34 58.5	
	baz=54,slow=31,SNR=1.6						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.08**	**203**	Pn	Pn	06 33 38.5	+0.6
	0.1nm,0.3s,baz=17,slow=14,SNR=1.8						
	0.3nm,0.6s						

*NEIC **14** 06:36:39.1±1.6, 52°71N±0°07×162°07W±0°.10, h10km±2km, mb3.5/16, ML3.6/14, ML3.3(AEIC), Error ellipse: s-maj=12.9km s-min=8.9km az=155.0*

*AEIC **14** 06:36:44.2±1.6, 52°74N±0°07×162°05W±0°.10, h12km±7km, Error ellipse: s-maj=12.0km s-min=7.3km az=148.0*

ISC 14 06:36:38.1±1.2, 52°71N±0°09×162°08W±0°.06, h10km, n161, σ1915/168, South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISLZ	**Isanotski Laza**	**2.25**	**335**		**Pn**	**06 37 15.7**	**+0.4**
FALS	**False Pass**	**2.30**	**340**		**Pn**	**06 37 16.2**	**+0.3**
FALS	**False Pass**	**2.30**	**340**		**Sn**	**06 37 42.3**	**-2.0**
FALS	**False Pass**	**2.30**	**340**	P	**Pn**	**06 37 16.2**	**+0.3**
	baz=159						
FALS				S	**Sn**	**06 37 42.3**	**-2.0**
	baz=159						
WESE	**West Dahl East**	**2.32**	**321**		**Pn**	**06 37 17.0**	**+0.6**
ISNN	**Isanotski Nort**	**2.36**	**335**		**Pn**	**06 37 18.0**	**+1.2**
ISNN					**Sn**	**06 37 44.2**	**-1.6**
SSLN	**Shishaldin Nor**	**2.40**	**332**		**Pn**	**06 37 18.7**	**+1.3**
WECS	**Westdahl Cape**	**2.44**	**320**		**Pn**	**06 37 18.6**	**+0.7**
WECS					**Sn**	**06 37 45.2**	**-2.5**
WEBT	**Westdahl Beart**	**2.47**	**321**		**Pn**	**06 37 19.4**	**+1.1**
CNBA	**Chernabura Isl**	**2.58**	**34**		**Pn**	**06 37 19.9**	**+0.1**
CHNA	**Chernabura Isl**	**2.59**	**34**	P	**Pn**	**06 37 20.1**	**+0.1**
	baz=216						
AKSA	**Akutan Strait**	**2.60**	**305**		**Pn**	**06 37 21.2**	**+1.0**
AKSA	**Akutan Strait**	**2.60**	**305**		**Pn**	**06 37 21.1**	**+1.0**
AKSA					**Sn**	**06 37 49.7**	**-2.0**
AHB	**Akutan Harbor**	**2.65**	**304**		**Pn**	**06 37 21.9**	**+1.1**
PS4A	**Pavlof South-4**	**2.65**	**3**		**Pn**	**06 37 21.9**	**+1.1**
PVV	**Pavlof Volcano**	**2.68**	**3**		**Pn**	**06 37 22.3**	**+1.1**
PVV					**Sn**	**06 37 52.9**	**-0.8**
AKBBA	**Akutan Broad B**	**2.70**	**303**		**Pn**	**06 37 22.5**	**+1.1**
ZRO	**Akutan Zero**	**2.72**	**302**		**Pn**	**06 37 22.9**	**+1.2**
PS1A	**Pavlof South-1**	**2.73**	**4**		**Pn**	**06 37 23.3**	**+1.4**
LVA	**Lava Point**	**2.78**	**303**		**Pn**	**06 37 23.8**	**+1.2**
LVA					**Sn**	**06 37 54.9**	**-1.3**
AKRB	**Akutan Reef Bi**	**2.78**	**302**		**Pn**	**06 37 24.1**	**+1.4**
SDPT	**Sand Point**	**2.81**	**19**	P	**Pn**	**06 37 23.6**	**+0.6**
SDPT	**Sand Point**	**2.81**	**19**		**Pn**	**06 37 23.2**	**+0.2**
SDPT				IAML		06 37 57.0	
	comp=E,80nm,0.4s						
SDPT	**Sand Point**	**2.81**	**19**	P	**Pn**	**06 37 23.2**	**+0.2**
	baz=200						
UNV	**Unalaska Valle**	**2.89**	**295**		**Pn**	**06 37 25.0**	**+0.9**
UNV	**Unalaska Valle**	**2.89**	**295**		**Sn**	**06 37 56.4**	**-2.6**
UNV	**Unalaska Valle**	**2.89**	**295**	P	**Pn**	**06 37 25.0**	**+0.9**
	baz=111						
UNV				S	**Sn**	**06 37 56.4**	**-2.6**
	baz=111						
S12K	**Black Hills**	**3.00**	**0**		**Pn**	**06 37 27.3**	**+1.6**
S12K				IAML		06 38 03.6	
	comp=N,303nm,0.5s						
S12K				IAML		06 38 04.4	
	comp=E,243nm,0.3s						
S12K	**Black Hills**	**3.00**	**0**	P	**Pn**	**06 37 27.4**	**+1.8**
	baz=180						
MNAT	**Makushin Natee**	**3.01**	**295**		**Pn**	**06 37 27.0**	**+1.3**
MTBL	**Makushin Table**	**3.04**	**296**		**Pn**	**06 37 27.8**	**+

	baz=208							
N14K	**Kuskokwak Cree**	7.24	2		Pn	06 38 24.8	+1.0	
N14K	**Kuskokwak Cree**	7.24	2	P	Pn	06 38 25.1	+1.3	
	baz=182							
O16K	**Kokwok River B**	7.25	16		Pn	06 38 23.9	0.0	
KOFP	**Korovin Flat P**	7.36	271		Pn	06 38 27.4	+2.0	
ATKA	**Atka Island**	7.42	271		Pn	06 38 28.8	+2.4	
KDAK	**Kodiak Island**	7.43	43		Pn	06 38 26.7	+0.2	
KDAK	**Kodiak Island**	7.43	43	P	Pn	06 38 26.1	-0.3	
	baz=231							
N15K	**Kwethluk River**	7.56	8		Pn	06 38 29.8	+1.5	
N15K	**Kwethluk River**	7.56	8	P	Pn	06 38 29.5	+1.2	
	baz=189							
O17K	**Koliganek Bris**	7.61	19		Pn	06 38 29.5	+0.7	
O17K	**Koliganek Bris**	7.61	19	P	Pn	06 38 29.7	+0.9	
	baz=204							
P18K	**Big Mountain,**	7.72	27		Pn	06 38 31.5	+1.1	
P18K	**Big Mountain,**	7.72	27	P	Pn	06 38 31.3	+0.9	
	baz=213							
Q19K	**Cape Douglas,**	7.83	34		Pn	06 38 32.4	+0.4	
Q19K	**Cape Douglas,**	7.83	34	P	Pn	06 38 33.0	+1.0	
	baz=221							
N16K	**Nishlik Lake**	8.00	12		Pn	06 38 35.5	+1.2	
N16K	**Nishlik Lake**	8.00	12	P	Pn	06 38 35.5	+1.2	
	baz=194							
M15K	**Kasigluk River**	8.05	5		Pn	06 38 35.7	+0.9	
M15K	**Kasigluk River**	8.05	5	P	Pn	06 38 35.9	+1.1	
	baz=186							
Q20K	**Shuyak Island**	8.05	39	P	Pn	06 38 34.9	-0.1	
	baz=227							
SYI	**Shuyak Island**	8.06	39		Pn	06 38 35.4	+0.4	
M14K	**Bethel**	8.07	0	Pn	Pn	06 38 36.1	+1.0	
O18K	**Koktuh Hills**	8.12	25		Pn	06 38 37.1	+1.3	
O18K	**Koktuh Hills**	8.12	25	P	Pn	06 38 37.3	+1.4	
	baz=211							
N17K	**Nushagak Hills**	8.29	17	Pn	Pn	06 38 38.5	+0.3	
M16K	**Timber Creek**	8.51	10		Pn	06 38 42.5	+1.3	
M16K	**Timber Creek**	8.51	10	P	Pn	06 38 42.2	+0.9	
	baz=193							
P19K	**Oil Pt**	8.53	32	Pn	Pn	06 38 42.7	+1.2	
O19K	**Port Alsworth**	8.64	27		Pn	06 38 44.8	+1.8	
O19K	**Port Alsworth**	8.64	27	P	Pn	06 38 44.6	+1.6	
	baz=213							
L14K	**Kuka Creek**	8.66	358	Pn	Pn	06 38 44.0	+0.7	
N18K	**Kilae Creek**	8.68	21	Pn	Pn	06 38 43.8	+0.2	
L15K	**Ungalak Mounta**	9.00	2		Pn	06 38 48.8	+0.9	
L15K	**Ungalak Mounta**	9.00	2	P	Pn	06 38 48.8	+0.9	
	baz=182							
M17K	**Holitna River**	9.07	14		Pn	06 38 49.6	+0.7	
M17K	**Holitna River**	9.07	14	P	Pn	06 38 49.8	+0.9	
	baz=198							
CNPM	**China Poot**	9.12	37		Pn	06 38 49.3	-0.3	
N19K	**Bonanza Creek**	9.13	24		Pn	06 38 51.7	+2.0	
N19K	**Bonanza Creek**	9.13	24	P	Pn	06 38 51.4	+1.6	
	baz=210							
L16K	**Owhat River**	9.14	8	Pn	Pn	06 38 51.1	+1.3	
RSO	**Redoubt South**	9.31	30	Pn	Pn	06 38 55.1	+2.7	
K13K	**Kusilvak Mount**	9.36	352	Pn	Pn	06 38 54.7	+1.9	
BRLK	**Bradley Lake**	9.41	37	Pn	Pn	06 38 52.9	-0.8	
K15K	**Wolf Creek Mou**	9.62	2	Pn	Pn	06 38 58.4	+2.0	
L18K	**Granite Mounta**	9.97	15	Pn	Pn	06 39 01.9	+0.7	
J14K	**Nanvaranak Lak**	10.10	356	Pn	Pn	06 39 04.4	+1.4	
K17K	**Iditarod**	10.24	10	Pn	Pn	06 39 06.2	+1.3	
L19K	**White Mountain**	10.26	19	Pn	Pn	06 39 06.2	+1.0	
O22K	**Cooper Landing**	10.33	36	Pn	Pn	06 39 07.0	+0.9	
M20K	**Styx River**	10.38	24	Pn	Pn	06 39 07.2	+0.2	
J16K	**Anvik River**	10.64	4	Pn	Pn	06 39 11.6	+1.3	
SUA	**Susitna One**	10.71	31	Pn	Pn	06 39 11.2	-0.2	
RC01	**Rabbit Creek A**	10.76	34	Pn	Pn	06 39 12.1	+0.1	
J17K	**VABM Dome**	10.84	7	Pn	Pn	06 39 13.0	0.0	
SKT	**Skwentna**	10.89	27	Pn	Pn	06 39 14.1	+0.3	
J18K	**Innoko River**	11.15	13	Pn	Pn	06 39 17.3	-0.1	
PMR	**Palmer**	11.32	33	Pn	Pn	06 39 19.6	0.0	
HIN	**Hinchinbrook I**	11.52	42	Pn	Pn	06 39 22.8	+0.4	
GLI	**Glacier Island**	11.57	39	Pn	Pn	06 39 23.1	0.0	
FID	**Port Fidalgo**	11.73	40	Pn	Pn	06 39 24.6	-0.7	
SML	**Sawmill**	11.74	34	Pn	Pn	06 39 25.2	-0.4	
J19K	**Poorman**	11.81	14	Pn	Pn	06 39 26.6	+0.3	
EYAK	**Cordova Ski Ar**	11.91	42	P	Pn	06 39 28.1	+0.4	
SCM	**Sheep Creek Mo**	12.11	35	Pn	Pn	06 39 30.3	-0.2	
J20K	**Nowinta River**	12.21	17	Pn	Pn	06 39 32.1	+0.2	
KLU	**Klutina**	12.40	38	Pn	Pn	06 39 34.5	0.0	
M24K	**Tolsona, Glenn**	12.70	36	Pn	Pn	06 39 38.4	-0.1	
DHY	**Denali Highway**	12.96	31	Pn	Pn	06 39 42.5	+0.2	
N25K	**Chitina, Valde**	12.97	40	Pn	Pn	06 39 42.0	-0.4	
WAX	**Waxell Ridge**	13.09	46	Pn	Pn	06 39 44.5	+0.5	
M26K	**Nabesna, AK**	14.05	39	Pn	Pn	06 39 57.0	0.0	
M27K	**Edge Creek, AK**	14.46	40	Pn	Pn	06 40 01.0	-1.7	
H23K	**Yukon River**	14.59	21	Pn	Pn	06 40 04.8	+0.5	
SCRK	**Sand Creek**	14.69	33	Pn	Pn	06 40 04.7	-1.0	
J26L	**Joseph Creek**	15.18	32	Pn	Pn	06 40 12.2	0.0	
J26L				IAmb	IAmb	06 40 32.2		
	comp=Z,2.1nm,1.0s							
I26K	**Coal Creek Min**	15.86	30	Pn	Pn	06 40 20.5	-0.6	
I26K				IAmb	IAmb	06 40 39.1		
	comp=Z,6.0nm,1.4s							
M29M	**Somme Creek**	15.88	43	Pn	Pn	06 40 22.8	+1.2	
E22K	**Anaktuvuk Pass**	16.25	14	Pn	Pn	06 40 25.7	-0.4	
DAWY	**Dawson**	16.34	37	Pn	Pn	06 40 28.1	+0.7	
DAWY				IAmb	IAmb	06 40 37.4		
	comp=Z,2.8nm,0.8s							
N31M	**Braeburn, Yuko**	16.66	48	Pn	Pn	06 40 30.9	-0.6	
K29M	**Barlow Dome**	16.93	39		P	06 40 38.5	+1.7	
K29M				IAmb	IAmb	06 40 44.3		
	comp=Z,5.8nm,1.4s							
I28M	**Miner Creek**	16.97	33	Pn	Pn	06 40 35.8	+0.5	
I28M				IAmb	IAmb	06 40 43.2		
	comp=Z,3.0nm,0.8s							
TOLK	**Toolik Lake Re**	17.05	16	Pn	Pn	06 40 36.2	-0.1	
B20K	**Meade River**	17.51	6	Pn	Pn	06 40 41.4	-0.6	
B20K				IAmb	IAmb	06 40 41.7		
	comp=Z,3.8nm,1.4s							
J30M	**Hart River**	17.75	38	Pn	Pn	06 40 43.6	-1.5	
C23K	**Itkillik River**	17.99	13		Pn	06 40 48.8	+1.0	
EPYK	**Eagle Plains**	18.58	33	P	P	06 40 54.6	-0.4	
EPYK				IAmb	IAmb	06 41 00.4		
	comp=Z,4.8nm,0.9s							
G31M	**Satah River**	19.70	33	P	Pn	06 41 09.4	+0.9	
G31M				IAmb	IAmb	06 41 11.1		
	comp=Z,3.0nm,1.0s							
INK	**Inuvik**	20.71	30	P	P	06 41 19.2	+1.2	
H04D	**Lebanon**	26.98	92	P	P	06 42 20.3	+0.6	

UCR **14** *06:37:41.5±0.7, 8.27N×83.91W, h17km±4km, MW4.6*
UPA **14** *06:37:42.7±0.9, 8.26N×83.84W, h16km±16km, MW4.3*
CATAC **14** *06:37:43.6±0.8, 8.41N×83.77W, h7km±5km, MB4.9, mb4.6, ML4.4*
NEIC **14** *06:37:43.2±1.9, 8.45N±0.06×83.77W±0.06, h10km±1km, mb4.5/37, Mwr3.9/16, Error ellipse: s-maj=10.1km s-min=9.4km az=185.0, Moment Tensor Solution. Moment tensor: Scale 10^14 Nm; Mrr3.30; Mθθ-1.39; Mφφ-1.91; Mrθ5.40; Mrφ2.03; Mθφ-4.82; Fault plane solution: M08.04000×10^14 NP1:φ132.30000°, δ77.20000°, λ86.77000°. NP2:φ326.57000°, δ13.20000°, λ103.92000°. Principal axes: T 7.8633, Plg58.0000°, Azm38.0000°; N 0.3476, Plg3.0000°, Azm133.0000°; P -8.2109, Plg32.0000°, Azm225.0000°;*
NEIC **14** *06:37:44.4, 8.47N×83.70W, h22km*
IDC **14** *06:37:51.2±6.2, 9.02N×83.54W, h60km±48km, mb3.4/7, mbtmp3.7/9, ML3.2/2, MS3.4/4, Error ellipse: s-maj=111.0km s-min=33.0km az=24.0*

ISC 14 06:37:42.8±1.3, 8°36N±0.04×83°80W±0.03, h15km±8km, n207, σ1§05/238, mb4.4/25, 49C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PIRO	**Carate, Puerto**	0.46	85	⇓iP		Pb	06 37 52.9	+0.3
PIRO				eS		Sn	06 38 01.2	-1.6
JIME	**Puerto Jimenez**	0.50	70	⇓iP		Pb	06 37 53.9	+0.6
JIME				eS		Sn	06 38 03.2	-0.6
PTJ1	**Puerto Jimnez**	0.52	71	⇓iP		Pb	06 37 53.9	+0.2
PTJ1				eS		Sn	06 38 03.8	-0.5
EDPN	**Palmar Norte**	0.69	30	⇑iP		Pb	06 37 56.4	-0.1
EDPN				eS		Sn	06 38 07.5	-0.9
EDAD	**Golfito**	0.69	65	⇓iP		Pg	06 37 56.2	-0.2
EDAD				eS		Sb	06 38 06.9	+0.9
FITO	**Golfito**	0.69	68	⇓iP		Pg	06 37 56.1	-0.2
FITO				eS		Sb	06 38 06.7	+0.8
OCHAL	**Ojochal**	0.75	12	*i* P		Pg	06 37 56.8	-0.6
OCHAL				*i* S		Sb	06 38 08.3	+0.7
OCHAL				IAML			06 38 11.9	
	comp=Z,9μm,1.0s							
OCHAL	**Ojochal**	0.75	12	⇑iP		Pg	06 37 57.1	-0.3
OCHAL				eS		Sb	06 38 08.2	+0.7
EDP2	**Potrero Grande**	0.90	44	⇑iP		Pg	06 38 00.1	-0.1
EDP2				eS		Sn	06 38 14.0	+0.4
PTPM	**Petroterminale**	0.93	100	eP		Pb	06 37 59.6	-0.9
PTPM				eS		Sb	06 38 10.9	-1.7
BURE	**Buenos Aires**	0.93	30	⇑eP		Pb	06 38 00.5	-0.1
BURE				eS		Sn	06 38 14.3	-0.1
VITO	**San Vito**	0.94	61	eP		Pg	06 38 01.2	+0.1
VITO				eS		Sn	06 38 16.0	+1.7
CDITO	**Canoas**	0.94	77	eP		Pb	06 38 00.2	-0.7
CDITO	**Canoas**	0.94	77	⇓eP		Pb	06 38 00.3	-0.5
CDITO				eS		Sn	06 38 14.9	+0.1
CDITO	**Canoas**	0.94	77	⇑iP		Pb	06 38 00.2	-0.7
CDITO				eS		Sn	06 38 14.8	+0.1
EDBA	**Buenos Aires**	0.95	33	⇑eP		Pb	06 38 00.5	-0.6
EDBA				eS		Sn	06 38 14.5	-0.5
LIMO3	**Limones**	0.96	106	eP		Pb	06 38 00.3	-0.9
LIMO3				eS		Sb	06 38 13.7	0.0
SRBA	**San Rafael, Bu**	0.97	27	Pg		Pb	06 38 00.7	-0.7
SRBA	**San Rafael, Bu**	0.97	27	⇑iP		Pb	06 38 00.8	-0.6
SRBA				eS		Sn	06 38 15.3	-0.3
ZELE	**Perez Zeledon**	1.01	5	⇑eP		Pb	06 38 01.4	-0.6
ZELE				eS		Sn	06 38 15.7	-0.8
PEZE	**Perez Zeledon,**	1.02	7			Pb	06 38 01.4	-0.8
PEZE	**Perez Zeledon,**	1.02	7	⇑*i* P		Pb	06 38 01.4	-0.8
PEZE				eS		Sg	06 38 15.8	-0.2
DRK0	**Durika**	1.05	32	⇑eP		Pb	06 38 02.0	-0.8
DRK0				eS		Sn	06 38 18.1	+0.4
MLIR3	**Monte Lirio, C**	1.06	66	eP		Pn	06 38 03.1	-0.1
MLIR3				eS		Sn	06 38 19.0	+1.3
LLNJ	**Naranjito**	1.14	345	⇑eP		Pb	06 38 02.6	-1.7
BRU2	**Volcan**	1.18	69			Pn	06 38 04.4	-0.5
BRU2	**Volcan**	1.18	69	eP		Pn	06 38 04.6	-0.3
BRU2				eS		Sg	06 38 21.6	+0.6
BRU2	**Volcan**	1.18	69	*i* P		Pn	06 38 04.6	-0.3
BRU2				*i* S		Sg	06 38 21.1	+0.1
BRU2				IAML			06 38 27.1	
	comp=Z,9μm,1.0s							
BRU2	**Volcan**	1.18	69	⇑eP		Pn	06 38 04.4	-0.5
BRU2				eS		Sg	06 38 21.4	+0.4
CDM	**Cerro de Muert**	1.19	2	⇑*i* P		Pb	06 38 03.7	-1.6
CDM				eS		Sb	06 38 20.4	-0.2
BUS1	**Rivas**	1.19	3	⇑*i* P		Pb	06 38 03.7	-1.6
BUS1				eS		Sb	06 38 20.6	0.0
BCO2	**Palmira**	1.31	74	eP		Pn	06 38 06.5	-0.2
BCO2				eS		Sg	06 38 24.8	-0.4
DVD	**David**	1.34	87	eP		Pn	06 38 06.3	-0.6
DVD				eS		Sn	06 38 23.6	-0.9
ABE2	**San Pablo**	1.36	349	eP		Pn	06 38 06.5	-0.9
PEDE3	**Pedregal, Chir**	1.36	89	eP		Pn	06 38 06.9	-0.4
PEDE3				eS		Sn	06 38 25.1	0.0
LOCO3	**Loma Colorada,**	1.37	88	eP		Pn	06 38 06.6	-0.8
LOCO3				eS		Sn	06 38 25.2	0.0
LCR2	**La Lucha 2**	1.39	352			Pn	06 38 06.6	-1.2
LCR2	**La Lucha 2**	1.39	352	⇑iP		Pn	06 38 06.6	-1.2
LOMA3	**Las Lomas, Chi**	1.40	87	eP		Pn	06 38 06.9	-0.9
RIMA	**Rio Macho**	1.40	357			Pn	06 38 06.8	-1.2
RIMA	**Rio Macho**	1.40	357	⇑eP		Pn	06 38 06.7	-1.2
LNBQ3	**Los Naranjos,**	1.41	72	eP		Pn	06 38 07.6	-0.5
LNBQ3				eS		Sn	06 38 26.1	-0.3
REPA	**Paraso**	1.46	357	eP		Pn	06 38 09.0	+0.2
ACOS	**Acosta**	1.47	346	⇑eP		Pn	06 38 07.5	-1.3
ACOS				eS		Sb	06 38 29.0	+0.5
BITO	**Garabito Jaco**	1.49	327	eP		Pn	06 38 09.2	+0.2
TAGO	**Cartago**	1.50	355	eP		Pn	06 38 08.2	-1.1
VINA	**Juan Vinas**	1.52	2	eP		Pn	06 38 08.7	-0.9
OCM	**Ochomogo**	1.53	354	eP		Pn	06 38 08.7	-1.1
TURIB	**Turrialba**	1.54	4	eP		Pn	06 38 08.9	-0.8
JACO	**JACO, Garabito**	1.54	327	Pn		Pn	06 38 08.3	-1.5
PCAYA	**Pacayas**	1.54	360	⇑eP		Pn	06 38 09.2	-0.8
TRIO	**Tres Rios**	1.54	353	eP		Pn	06 38 08.6	-1.3
AMPA	**Desamparados**	1.55	350	⇑eP		Pn	06 38 08.5	-1.5
AMPA				eS		Sn	06 38 28.7	-1.1
LUJA	**Lujan**	1.58	350	⇑eP		Pn	06 38 10.5	+0.1
SJS3	**Mercedes San J**	1.58	351	⇑iP		Pn	06 38 10.0	-0.5
SJS	**Escuela Geolog**	1.59	351	⇑iP		Pn	06 38 09.9	-0.6
MEXI	**Barrio Mexico**	1.59	350	eP		Pn	06 38 09.9	-0.7
SANTA	**Santa Ana**	1.61	346	⇑iP		Pn	06 38 09.4	-1.3
TIBA	**Tibas**	1.61	350	eP		Pn	06 38 10.4	-0.4
CORON	**Coronado**	1.61	353	eP		Pn	06 38 10.7	-0.2
VTCV	**VTCV, Calle Va**	1.61	3	eP		Pn	06 38 00.7	-10
BELE	**Belen**	1.65	347	⇑iP		Pn	06 38 10.4	-0.9
CVIMO	**Finca Echandi**	1.66	355	eP		Pn	06 38 11.2	-0.4
HDC	**Heredia**	1.66	349			Pn	06 38 11.1	-0.4
HDC	**Heredia**	1.66	349	⇑iP		Pn	06 38 10.8	-0.6
HDC3	**Heredia 3**	1.66	349	*i* P		Pn	06 38 10.8	-0.7
HDC3				*i* S		Sn	06 38 32.0	-0.6
HDC3				IAML			06 38 43.5	
	comp=Z,2μm,1.0s							
HDC3	**Heredia 3**	1.66	349	⇑*i* P		Pn	06 38 10.8	-0.7
TRB2	**Turrubares**	1.67	338	eP		Pn	06 38 09.8	-1.8
CNI2	**El Empalme, Bo**	1.69	51	eP		Pn	06 38 11.6	-0.1
LCO2	**El Coco**	1.73	8	eP		Pn	06 38 12.5	+0.1
CHGR2	**Aguacate**	1.73	71	eP		Pn	06 38 12.8	+0.4
CHGR2				eS		Sb	06 38 35.2	-0.8
TCS1	**Tacares**	1.74	344	eP		Pn	06 38 11.8	-0.8
IRES	**Siquirres**	1.75	10	⇑iP		Pn	06 38 12.9	+0.4
RVLA	**Villa Bonita**	1.75	7	eP		Pn	06 38 12.6	0.0
TAAN	**Batan**	1.77	15	eP		Pn	06 38 12.8	-0.1
BATAN	**Batan**	1.77	14			Pn	06 38 13.4	+0.4
BATAN	**Batan**	1.77	14	eP		Pn	06 38 13.5	+0.5
BATAN	**Batan**	1.77	14	⇑eP		Pn	06 38 13.3	+0.3
BATAN				eS		Sb	06 38 37.4	+0.2
SARCI	**Sarchi**	1.80	343	eP		Pn	06 38 13.5	+0.1
ARZA	**Esparza**	1.83	332	eP		Pn	06 38 13.6	-0.1
RAMO	**San Ramon**	1.84	339	eP		Pn	06 38 13.5	-0.4
ZARE	**Zarcero**	1.90	342	eP		Pb	06 38 17.2	-0.2
RIFO	**Rio Frio, Sara**	1.95	356	⇑iP		Pn	06 38 15.5	+0.2
CARI	**Cariari**	1.99	2	⇑eP		Pb	06 38 17.4	-1.3
CPMI	**Catarata Coope**	1.99	343	eP		Pn	06 38 16.2	+0.1
NANC3	**Nancito, Chiri**	2.05	93	eP		Pn	06 38 17.3	+0.5
NANC3				eS		Sb	06 38 44.9	-0.2
ITAL	**Pital**	2.13	347	eP		Pn	06 38 18.3	+0.5
SOCE	**Pocosol**	2.16	338			Pn	06 38 18.3	0.0
SOCE	**Pocosol**	2.16	338	*i* P		Pb	06 38 20.7	-1.0
SOCE				IAML			06 38 21.2	
	comp=Z,1μm,1.0s							
SOCE				*i* S		Sb	06 38 49.6	+1.2
SOCE	**Pocosol**	2.16	338	eP		Pn	06 38 18.3	0.0
NYURE	**Nandayure**	2.17	319	⇑iP		Pn	06 38 18.9	+0.5
JUNT	**Juntas**	2.22	329	⇑iP		Pn	06 38 20.5	+1.4
TUNA	**La Fortuna**	2.25	338	⇑iP		Pb	06 38 22.1	-1.1
VACR	**Volcan Arenal**	2.27	338	⇑eP		Pb	06 38 22.3	-1.2
CMARA	**Lajas Hojancha**	2.30	316	eP		Pn	06 38 20.2	0.0
DUNO	**Dulce Nombre,**	2.39	316			Pn	06 38 21.6	+0.2
DUNO	**Dulce Nombre,**	2.39	316	⇑iP		Pn	06 38 21.5	+0.2
NICO	**Nicoya**	2.40	317	⇑eP		Pn	06 38 22.0	+0.5
COVE	**Coope Vega, Sa**	2.42	346			Pn	06 38 22.2	+0.4
COVE	**Coope Vega, Sa**	2.42	346	eP		Pn	06 38 22.1	+0.3
JUD3	**Juan Diaz 3**	2.48	316	⇑eP		Pn	06 38 22.9	+0.2
PLVR	**Palo Verde**	2.50	322	⇑iP		Pn	06 38 23.7	+0.6
ORTG	**Ortega, Santa**	2.57	321	Pn		Pn	06 38 24.6	+0.6
ORTG	**Ortega, Santa**	2.57	321	⇑iP		Pn	06 38 24.5	+0.4
SACU	**Santa Cruz**	2.58	317	⇑iP		Pn	06 38 24.5	+0.4
TENO	**El Achiote**	2.60	334	eP		Pn	06 38 25.6	+1.2
GMAL	**Guarumal, Vera**	2.61	103	eP		Pn	06 38 22.6	-1.8
GMAL	**Guarumal, Vera**	2.61	103	eP		Pn	06 38 22.7	-1.8
CUI	**Cuipilapa**	2.65	330	⇑iP		Pn	06 38 26.6	+1.5
CUI				eS		Sn	06 38 56.2	-0.7
COLC	**Colonia**	2.67	329	⇑iP		Pn	06 38 26.6	+1.2
VERA	**Finca Concepci**	2.69	337	⇓iP		Pn	06 38 27.4	+1.8
DELF	**Filadelfia**	2.70	320	⇑iP		Pn	06 38 26.4	+0.8
VMAR	**Armenia, Volca**	2.76	332	⇑iP		Pn	06 38 27.9	+1.3
ALIBA	**Liberia Airpor**	2.81	322	⇑iP		Pn	06 38 27.5	+2.4
GPS2	**Hotel Rincn d**	2.83	327	eP		Pb	06 38 29.0	+1.6
GPS3	**Bodega del ICE**	2.83	327	⇓iP		Pb	06 38 33.1	0.0
ELI1	**Hacienda Flor**	2.85	323	eP		Pn	06 38 28.9	+1.1
VRLE	**La Escondida,**	2.86	328	⇑eP		Pn	06 38 29.3	+1.3
VORI	**VORI**	2.88	328	eP		Pn	06 38 29.7	+1.4
HZTE	**Horizontes, Gu**	2.93	323	Pn		Pn	06 38 29.9	+1.0
HZTE	**Horizontes, Gu**	2.93	323	⇑iP		Pn	06 38 30.3	+1.4
CACAO	**El Cacao, Vera**	3.08	109	eP		Pn	06 38 30.4	-0.5
LCRUZ	**La Cruz**	3.25	326	⇑eP		Pn	06 38 35.6	+2.4
AZU	**Azuero**	3.54	99	eP		Pn	06 38 39.2	+2.0
OMEN	**Al SSO del Vol**	3.61	330	*i* P		Pn	06 38 39.1	+0.9
OMEN				IAML			06 38 40.1	
	comp=Z,240nm,1.0s							
JAPN	**Al SSO del Vol**	3.65	330	*i* P		Pn	06 38 40.0	+1.3
JAPN				IAML			06 38 41.3	
	comp=Z,330nm,1.0s							
MORN	**Al O del Volca**	3.65	330	*i* P		Pn	06 38 38.7	-0.1
MORN				IAML			06 38 47.8	
	comp=Z,240nm,1.0s							
CONN	**Concepcion**	3.65	331	*i* P		Pn	06 38 38.8	0.0
CONN				IAML			06 38 50.3	
	comp=Z,1μm,1.0s							
ACON	**Acoyapa**	3.83	339			Pn	06 38 42.8	+1.6
ACON	**Acoyapa**	3.83	339	*i* P		Pn	06 38 42.5	+1.3
ACON				IAML			06 38 43.2	
	comp=Z,700nm,1.0s							
ACON	**Acoyapa**	3.83	339	⇑*i* P		Pn	06 38 43.0	+1.8
ESPN	**Las Esperanzas**	3.84	353			Pn	06 38 41.8	+0.5
ESPN	**Las Esperanzas**	3.84	353	eP		Pn	06 38 43.0	+1.6
BCIP	**Isla Barro Col**	4.00	78	Pn		Pn	06 38 44.6	+1.0
BCIP	**Isla Barro Col**	4.00	78	eP		Pn	06 38 46.0	+2.5
BCIP	**Isla Barro Col**	4.00	78	eP		Pn	06 38 44.5	+1.0
FRIJ	**El Hiral**	4.12	78	eP		Pn	06 38 47.7	+2.5
SAPS	**Ciudad Sandino**	4.57	326	*i* P		Pn	06 38 52.8	+1.4
SAPS				IAML			06 39 09.4	
	comp=Z,130nm,1.0s							
COPN	**Copaltepe**	4.68	324	*i* P		Pn	06 38 54.6	+1.6
COPN				IAML			06 38 55.6	
	comp=Z,95nm,1.0s							
CNGA	**Al SSO del Vol**	5.00	325	*i* P		Pn	06 38 57.9	+0.5
CNGA				IAML			06 39 07.8	
	comp=Z,64nm,1.0s							
CNGN	**Cerro Negro**	5.00	326			Pn	06 38 59.2	+1.7
CNGN	**Cerro Negro**	5.00	326	*i* P		Pn	06 38 58.9	+1.5
CNGN				IAML			06 39 09.5	
	comp=Z,81nm,1.0s							
PACN	**Al O del Volca**	5.06	325	*i* P		Pn	06 38 58.8	+0.7
PACN				IAmb	IAmb		06 39 00.3	
	comp=Z,45nm,0.5s							
PACN				IAML			06 39 00.4	
	comp=Z,74nm,1.0s							
PACN				IVmB_BB			06 39 00.4	
	comp=Z,690nm,1.0s							
CRIN	**San Cristobal**	5.37	324	Pn		Pn	06 39 03.6	+1.2
LCND	**La Caada**	6.35	321	*i* P		Pn	06 39 18.1	+2.2
LCND				IAmb	IAmb		06 39 34.3	
	comp=Z,33nm,1.1s							
LCND				IVmB_BB			06 39 59.5	
	comp=Z,2μm,1.0s							
TGUH	**Tegucigalpa,Un**	6.61	329	Pn		Pn	06 39 16.9	-2.6
SCLA	**Alcaldia de Sa**	7.18	318	*i* P		Pn

	comp=Z,0.3nm,0.8s							
SFJD	**Kangerlussuaq**	**62.72**	**14**	LR	LR	07 15 46.8		
	comp=Z,19nm,19.6s,baz=265,slow=37							
ILAR	**Eielson Array**	**71.19**	**336**	P	**P**	**06 49 00.4**	**-0.4**	
	comp=Z,1.0nm,1.0s,baz=132,slow=4.9,SNR=6.5							
	comp=Z,1.0nm,1.0s							
CUT	**Chulitna**	**71.83**	**333**	P	**P**	**06 49 06.6**	**+1.9**	
E25K	**Arctic Village**	**71.98**	**340**	P	**P**	**06 49 07.0**	**+1.4**	
SKT	**Skwentna**	**72.28**	**333**	P	**P**	**06 49 07.7**	**+0.3**	
SKT				IAmb	IAmb	06 49 18.0		
	comp=Z,7.9nm,1.3s							
ESDC	**Sonseca Array**	**76.90**	**51**	P	**P**	**06 49 34.6**	**-0.2**	
	comp=Z,2.3nm,0.8s,baz=276,slow=5.3,SNR=12							
	comp=Z,2.3nm,0.8s							
TORD	**Torodi Ar. Bea**	**83.78**	**78**	P	**P**	**06 50 11.9**	**-0.3**	
	comp=Z,0.6nm,0.7s,baz=266,slow=3.4,SNR=3.2							
	comp=Z,0.6nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**105.53**	**292**	T	T	08 49 41.4		
	baz=77							
H11S1	**WAKE ISLAND Hy**	**105.53**	**292**	T	T	08 49 47.8		
	baz=77							
H11S3	**WAKE ISLAND Hy**	**105.55**	**292**	T	T	08 49 42.5		
	baz=77							

CATAC ***14*** *06:41:27.5±0.3, 13°.26N×88°.04W, h8km±2km, ML2.5*
SNET ***14*** *06:41:28.0±0.9, 13°.26N×88°.07W, h2km±2km, ML2.6*
ISC 14 06:41:27.4±0.9, 13°.23N±0°.05×88°.06W±0°.02, h16km±5km, n33, σ0°37/54, 2C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.03**	**174**	*i* P	**Pg**	**06 41 30.3**	**0.0**
INTP				*e*S	**Sg**	**06 41 31.6**	**-0.5**
LCND	**La Caada**	**0.18**	**64**	*i* P	**Pg**	**06 41 32.2**	**+0.3**
LCND	**La Caada**	**0.18**	**64**	*i* P	**Pg**	**06 41 31.8**	**-0.1**
LCND				*i* P	**Pg**	**06 41 32.2**	**+0.3**
LCND				IAML		06 41 32.3	
	comp=Z,1μm,1.0s						
LCND				IAML		06 41 59.3	
	comp=Z,12μm,1.0s						
CNCH	**Conchagua**	**0.22**	**78**	*i* P	**Pb**	**06 41 33.1**	**0.0**
CNCH	**Conchagua**	**0.22**	**78**	*i* P	**Pg**	**06 41 32.9**	**+0.3**
CNCH				*i* S	**Sg**	**06 41 35.4**	**-0.7**
CNCH				IAML		06 41 39.1	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**0.27**	**336**	*e*P	**Pg**	**06 41 33.6**	**+0.4**
CNRM	**Centro Naciona**	**0.27**	**336**	*i* P	**Pg**	**06 41 33.4**	**+0.2**
CNRM				*i* S	**Sg**	**06 41 37.5**	**+0.3**
CNRM				IAML		06 41 44.8	
	comp=Z,2μm,1.0s						
BLLM	**Bellamira**	**0.28**	**321**	*e*P	**Pb**	**06 41 34.0**	**0.0**
BLLM				*e*S	**Sg**	**06 41 38.0**	**+0.4**
LCY	**Lacayo**	**0.30**	**310**	*e*P	**Pb**	**06 41 34.6**	**+0.1**
RANC	**El Ranchito**	**0.30**	**312**	*e*P	**Pb**	**06 41 34.6**	**0.0**
RANC	**El Ranchito**	**0.30**	**312**	*i* P	**Pb**	**06 41 34.5**	**0.0**
RANC				*i* S	**Sb**	**06 41 39.2**	**-0.2**
RANC				IAML		06 41 41.7	
	comp=Z,460nm,1.0s						
PACA	**Pacayal**	**0.35**	**313**	*e*P	**Pb**	**06 41 35.7**	**+0.4**
PACA				*e*S	**Sb**	**06 41 40.7**	**0.0**
PACA	**Pacayal**	**0.35**	**313**	*i* P	**Pb**	**06 41 35.8**	**+0.4**
PACA				*i* S	**Sb**	**06 41 40.5**	**-0.2**
PACA				IAML		06 41 43.7	
	comp=Z,2μm,1.0s						
AMPH	**Amapala**	**0.39**	**82**	*i* P	**Pb**	**06 41 36.1**	**+0.1**
AMPH				*e*S	**Sb**	**06 41 42.2**	**+0.4**
TECA	**Tecapa**	**0.51**	**301**	*e*P	**Pb**	**06 41 38.4**	**+0.3**
COEB	**Comit de Eme**	**0.53**	**300**	*e*P	**Pb**	**06 41 38.6**	**+0.2**
COEB				*e*S	**Sb**	**06 41 46.2**	**+0.3**
COEB	**Comit de Eme**	**0.53**	**300**	*i* P	**Pb**	**06 41 38.4**	**0.0**
COEB				*i* S	**Sb**	**06 41 45.7**	**-0.2**
COEB				IAML		06 41 47.2	
	comp=Z,110nm,1.0s						
PQSS	**Presa 15 de Se**	**0.63**	**309**	*i* P	**Pb**	**06 41 40.2**	**+0.2**
PQSS				IAML		06 41 41.4	
	comp=Z,96nm,1.0s						
TECO	**Alcaldia de Te**	**0.77**	**294**	*e*P	**Pb**	**06 41 42.5**	**+0.1**
TECO				*e*S	**Sb**	**06 41 53.1**	**+0.5**
TECO	**Alcaldia de Te**	**0.77**	**294**	*i* P	**Pb**	**06 41 42.5**	**+0.1**
TECO				*i* S	**Sb**	**06 41 53.3**	**+0.7**
TECO				IAML		06 41 53.9	
	comp=Z,85nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.81**	**306**	*e*P	**Pn**	**06 41 43.6**	**-0.5**
SCLA	**Alcaldia de Sa**	**0.81**	**306**	*i* P	**Pg**	**06 41 43.4**	**+0.3**
SCLA				IAML		06 42 08.9	
	comp=Z,22nm,1.0s						
UESV	**Universidad de**	**0.82**	**300**	*i* P	**Pg**	**06 41 43.5**	**+0.2**
UESV				*i* S	**Sn**	**06 41 55.3**	**-0.8**
UESV				IAML		06 42 42.0	
	comp=Z,180nm,1.0s						
COEG	**Centro de Oper**	**0.89**	**296**	*e*P	**Pg**	**06 41 44.8**	**+0.1**
COEG				*e*S	**Sn**	**06 41 57.1**	**-0.8**
COEG	**Centro de Oper**	**0.89**	**296**	*i* P	**Pg**	**06 41 44.8**	**+0.1**
COEG				*i* S	**Sn**	**06 41 57.4**	**-0.5**
COEG				IAML		06 41 58.9	
	comp=Z,70nm,1.0s						
PAVA	**Las Pavas**	**0.98**	**299**	*e*P	**Pn**	**06 41 46.6**	**0.0**
PAVA	**Las Pavas**	**0.98**	**299**	*i* P	**Pn**	**06 41 46.7**	**+0.1**
PAVA				*i* S	**Sg**	**06 41 59.5**	**+0.1**
PAVA				IAML		06 42 02.2	
	comp=Z,170nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.12**	**43**	*e*P	**Pb**	**06 41 48.4**	**-0.2**
TGUH	**Tegucigalpa,Un**	**1.12**	**43**	*i* P	**Pb**	**06 41 48.3**	**-0.2**
TGUH				*i* S	**Sb**	**06 42 03.2**	**+0.3**
TGUH				IAML		06 42 04.6	
	comp=Z,120nm,1.0s						
LOMA	**Loma Larga**	**1.16**	**291**	*i* P	**Pg**	**06 41 49.6**	**-0.2**
LOMA				*i* S	**Sn**	**06 42 04.5**	**-0.2**
LOMA				IAML		06 42 09.1	
	comp=Z,85nm,1.0s						
JAYA	**Jayaque - finc**	**1.42**	**288**	*i* P	**Pb**	**06 41 53.8**	**+0.2**
JAYA				IAML		06 41 56.4	
	comp=Z,130nm,1.0s						
JAYA				*i* S	**Sg**	**06 42 13.0**	**-0.3**
PACN	**Al O del Volca**	**1.43**	**120**	*i* P	**Pn**	**06 41 52.6**	**-0.1**
PACN				IAML		06 41 54.3	
	comp=Z,60nm,1.0s						
PACN				*i* S	**Sb**	**06 42 12.7**	**+1.0**
CCIG	**Comitan**	**4.98**	**308**	*i* P	**Pn**	**06 42 42.0**	**+0.3**
CCIG				IAML		06 42 47.2	
	comp=Z,48nm,1.0s						

ISN ***14*** *06:44:54.9±0.5, 34°.65N×46°.30E, h16km±8km, ML2.6*
TEH ***14*** *06:44:55.3, 34°.64N×46°.29E, h7km, ML2.5*
ISC 14 06:44:55.6±1.0, 34°.64N±0°.05×46°.27E±0°.04, h13km±9km, n12, σ0°55/16, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehram**	**0.12**	**58**	Pg	**Pg**	**06 44 59.1**	**+0.1**
IDHR				Sg	**Sg**	**06 45 01.4**	**0.0**
IGHG	**Ghaleghazi**	**0.40**	**141**	Pg	**Pb**	**06 45 04.1**	**-0.5**
GLG1	**Gilan-e-Gharb**	**0.60**	**210**	Pg	**Pb**	**06 45 08.1**	**+0.1**
ILIN	**Lien**	**0.64**	**64**	Pg	**Pb**	**06 45 08.5**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.73**	**119**	Pg	**Pb**	**06 45 10.1**	**-0.3**
IBZA	**Bozab**	**1.33**	**97**	Pg	**Pg**	**06 45 21.5**	**+0.4**
IBDR	**Badra**	**1.55**	**191**	*e*Pn	**Pb**	**06 45 24.0**	**-0.1**
IBDR				*e*Sn	**Sg**	**06 45 45.0**	**-0.4**
IBDR				AML	AML	06 46 02.9	
	comp=E,84nm,0.5s						
IBDR				AML	AML	06 46 04.7	
	comp=N,112nm,0.4s						
IKFM	**Kafar-mosalman**	**1.72**	**130**	Pg	**Pg**	**06 45 28.8**	**+0.2**
IKRK	**Kirkuk**	**1.75**	**296**	*e*Pn	**Pb**	**06 45 27.0**	**-0.7**
IKRK				*e*Sn	**Sb**	**06 45 50.0**	**+0.4**
HSAM	**Samen**	**1.98**	**102**	Pn	**Pg**	**06 45 32.7**	**-0.8**
BHD	**Baghdad**	**2.08**	**230**	*e*Pn	**Pn**	**06 45 31.0**	**+0.8**
BHD				*e*Sn	**Sb**	**06 45 58.0**	**-0.9**
BDRS	**Dareh Seyedi**	**2.27**	**107**	Pn	**Pb**	**06 45 36.8**	**+0.2**

IDC 14 06:49:32.4±3.4, 53°.77N×88°.14E, h0km, mbtmp2.6/2, ML2.2/2, Error ellipse: s-maj=31.3km s-min=20.4km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.98**	**276**	I	I	07 02 30.0	
	0.2nm,0.8s,baz=91,slow=327,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.98**	**276**	Pn	Pn	06 50 07.3	+0.2
	0.8nm,0.3s,baz=91,slow=13,SNR=12						
ZALV				Lg	Lg	06 50 35.4	
	1.2nm,0.3s,baz=97,slow=23,SNR=13						
KURBB	**Kurchatov Arra**	**6.70**	**246**	Pn	Pn	06 51 12.1	+0.2
	baz=61,slow=14,SNR=4.4						
KURBB				Lg	Lg	06 53 03.7	
	baz=63,slow=29,SNR=2.4						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.92**	**211**	Pn	Pn	06 51 30.2	+1.4
	baz=24,slow=12,SNR=0.9						
	0.1nm,0.3s						

DNK ***14*** *06:57:34.7±0.8, 59°.78N×24°.53E, h0km, ML2.5(UPP), Suspected explosion*
IDC ***14*** *06:57:37.8±2.2, 59°.80N×24°.34E, h0km, mbtmp3.0/3, ML2.4/3, Error ellipse: s-maj=25.4km s-min=6.6km az=143.0*
HEL ***14*** *06:57:37.0, 59°.74N×24°.23E, h0km, ML2.4, Explosion*
EST ***14*** *06:57:37.0, 59°.74N×24°.23E, h0km, ML2.4(HEL), Explosion*
UPP ***14*** *06:57:37.1±2.4, 59°.77N×24°.22E, h0km, ML2.5*
ISC 14 06:57:34.9±0.7, 59.78N±0°.03×24°.36E±0°.03, h0km, n48, σ1s16/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEF	**Metsahovi**	**0.44**	**3**	*e*P	**Pb**	**06 57 45.8**	**+0.3**
MEF	**Metsahovi**	**0.44**	**3**	*e*P	**Pb**	**06 57 45.8**	**+0.3**
MEF				*e*S	**Sb**	**06 57 52.2**	**-0.4**
HEL1	**Helsinki**	**0.48**	**33**	*e*P	**Pb**	**06 57 46.9**	**+0.7**
HEL1				*e*S	**Sb**	**06 57 53.9**	**+0.1**
EE02	**Kiisa, Saku**	**0.61**	**163**	*e*P	**Pg**	**06 57 47.4**	**+0.8**
EE02				*e*S	**Sg**	**06 57 55.5**	**+0.9**
EE01	**Perakula, Nova**	**0.69**	**213**	*e*P	**Pg**	**06 57 47.7**	**-0.3**
EE01				*e*S	**Sg**	**06 57 55.6**	**-1.2**
NUR	**Nurmijrvi**	**0.75**	**11**	*e*P	**Pb**	**06 57 51.4**	**+0.7**
ARBE	**Arbavere**	**0.90**	**112**	*e*P	**Pg**	**06 57 52.1**	**+0.1**
ARBE	**Arbavere**	**0.90**	**112**	*e*P	**Pb**	**06 57 54.0**	**+0.7**
PVF	**Pernaja**	**1.08**	**44**	*e*P	**Pn**	**06 57 57.8**	**+0.6**
MTSE	**Matsula**	**1.10**	**195**	*e*P	**Pg**	**06 57 55.9**	**-0.1**
MTSE	**Matsula**	**1.10**	**195**	*e*P	**Pg**	**06 57 55.8**	**-0.2**
MTSE				*e*S	**Sg**	**06 58 09.4**	**-0.8**
EE08	**Sarghaua, Vand**	**1.21**	**158**	*e*P	**Pg**	**06 57 58.4**	**+0.3**
EE08				*e*S	**Sg**	**06 58 14.1**	**+0.3**
EE03	**Tooma soojaam,**	**1.34**	**132**	*e*P	**Pn**	**06 58 01.4**	**+0.7**
EE03				*e*S	**Sn**	**06 58 19.2**	**0.0**
VJF	**Virojoki**	**1.77**	**63**	MSG		06 58 36.9	
	comp=Z,31nm,0.2s						
RAF	**Rauma**	**1.79**	**315**	*e*P	**Pn**	**06 58 07.1**	**+0.1**
RAF	**Rauma**	**1.79**	**315**	*e*PG	**Pb**	**06 58 08.9**	**+0.4**
RAF				MSG		06 58 36.9	
	comp=Z,38nm,0.2s						
VSU	**Vasula**	**1.80**	**136**	*e*PN	**Pg**	**06 58 09.3**	**0.0**
VSU				*e*S	**Sb**	**06 58 31.5**	**-0.3**
FIA0	**FINESS Array S**	**1.87**	**26**	MSG		06 58 40.4	
	comp=Z,29nm,0.1s						
FINES	**FINESS Array B**	**1.87**	**26**	Pg	**Pg**	**06 58 11.6**	**+0.9**
	comp=Z,9.3nm,0.3s,baz=205,slow=14,SNR=282						
FINES				Lg	Lg	06 58 35.6	
	comp=Z,6.7nm,0.3s,baz=206,slow=22,SNR=23						
AAL	**Aland**	**2.23**	**282**	*e*P	**Pn**	**06 58 13.3**	**+0.3**
AAL	**Aland**	**2.23**	**282**	P	**Pn**	**06 58 14.6**	**+1.7**
AAL				S	**Sn**	**06 58 43.1**	**+1.9**
AAL	**Aland**	**2.23**	**282**	P	**Pn**	**06 58 14.6**	**+1.7**
AAL				S	**Sn**	**06 58 43.1**	**+1.9**
KEF	**Keuruu**	**2.41**	**6**	*e*P	**Pn**	**06 58 15.3**	**-0.2**
SLIT	**Slitere, Latvi**	**2.41**	**207**	*e*P	**Pn**	**06 58 15.2**	**-0.3**
NRTU	**Norrtaelje**	**2.90**	**270**	P	**Pn**	**06 58 23.6**	**+1.4**
NRTU	**Norrtaelje**	**2.90**	**270**	P	**Pn**	**06 58 23.6**	**+1.4**
GRAU	**Graesoe**	**2.97**	**283**	P	**Pn**	**06 58 23.9**	**+0.8**
GRAU	**Graesoe**	**2.97**	**283**	P	**Pn**	**06 58 23.9**	**+0.8**
FLYU	**Flymyra**	**3.27**	**279**	P	**Pn**	**06 58 28.4**	**+1.1**
FLYU	**Flymyra**	**3.27**	**279**	P	**Pn**	**06 58 28.4**	**+1.1**
NYNU	**Nynaeshamn**	**3.34**	**259**	P	**Pn**	**06 58 28.7**	**+0.5**
NYNU	**Nynaeshamn**	**3.34**	**259**	P	**Pn**	**06 58 28.7**	**+0.5**
VAF	**Ylistaro**	**3.37**	**347**	*e*P	**Pn**	**06 58 28.0**	**-0.7**
FIBU	**Brunna**	**3.54**	**275**	P	**Pn**	**06 58 32.3**	**+1.4**
FIBU	**Brunna**	**3.54**	**275**	P	**Pn**	**06 58 32.3**	**+1.4**
OSTU	**Oestervaala**	**3.65**	**280**	P	**Pn**	**06 58 34.0**	**+1.4**
OSTU	**Oestervaala**	**3.65**	**280**	P	**Pn**	**06 58 34.0**	**+1.4**
BACU	**Backbrunna**	**3.66**	**274**	P	**Pn**	**06 58 34.1**	**+1.5**
BACU	**Backbrunna**	**3.66**	**274**	P	**Pn**	**06 58 34.1**	**+1.5**
IGGU	**Iggoen**	**3.67**	**290**	P	**Pn**	**06 58 34.2**	**+1.4**
IGGU				S	**Sn**	**06 59 17.4**	**+0.7**
IGGU	**Iggoen**	**3.67**	**290**	P	**Pn**	**06 58 34.2**	**+1.4**
IGGU				S	**Sn**	**06 59 17.4**	**+0.7**
GOTU	**Gotland**	**3.67**	**238**	P	**Pn**	**06 58 34.4**	**+1.6**
GOTU	**Gotland**	**3.67**	**238**	P	**Pn**	**06 58 34.4**	**+1.6**
VIKU	**Vikbolandet**	**4.15**	**255**	*e*P	**Pn**	**06 58 39.6**	**+0.3**
JOF	**Joensuu**	**4.60**	**44**	*e*P	**Pn**	**06 58 45.5**	**0.0**
HFS	**Hagfors**	**5.37**	**278**	Pn	**Pn**	**06 58 57.2**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=96,slow=13,SNR=15						
HFS				Sn	**Sn**	**06 59 57.3**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=91,slow=26,SNR=6.4						
HFS				Lg	Lg	07 00 19.6	
	comp=Z,0.9nm,0.3s,baz=93,slow=30,SNR=5.5						
	comp=Z,0.7nm,0.2s						
NOA	**NORSAR Array B**	**6.63**	**287**	Pn	**Pn**	**06 59 12.7**	**-0.8**
	baz=90,slow=14,SNR=7.3						
NOA				Sn	**Sn**	**07 00 28.2**	**-1.5**
	baz=88,slow=15,SNR=2.2						
NOA				Lg	Lg	07 00 58.7	
	comp=Z,0.1nm,0.3s,baz=1.1,slow=9.3,SNR=2.1						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCES Array B**	**9.81**	**2**	Pn	**Pn**	**06 59 58.1**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=179,slow=13,SNR=25						
ARCES				Sn	**Sn**	**07 01 43.3**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=183,slow=24,SNR=2.0						
	comp=Z,0.4nm,0.2s						

TEH ***14*** *07:06:14.6, 34°.63N×45°.76E, h11km±12km, ML2.9*
ISN ***14*** *07:06:14.4±0.6, 34°.65N×45°.76E, h14km±23km, ML2.8*
ISC 14 07:06:14.6±1.2, 34°.66N±0°.04×45°.78E±0°.03, h8km±12km, n15, σ0°99/20, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.22**	**226**	Pg	**Pg**	**07 06 18.9**	**0.0**
IDHR	**Dehrash**	**0.50**	**85**	Pg	**Pg**	**07 06 24.9**	**+0.5**
IDHR				Sg	**Sb**	**07 06 33.3**	**-0.1**
GLG1	**Gilan-e-Gharb**	**0.55**	**169**	Pg	**Pg**	**07 06 25.2**	**-0.1**
IGHG	**Ghaleghazi**	**0.73**	**116**	Pg	**Pb**	**07 06 29.1**	**-0.6**
ILIN	**Lien**	**1.01**	**75**	Pg	**Pn**	**07 06 34.8**	**-0.5**
KCHF	**Cheshme Sefid,**	**1.11**	**110**	Pg	**Pn**	**07 06 36.5**	**-0.1**
IKRK	**Kirkuk**	**1.40**	**303**	*e*Pg	**Pg**	**07 06 41.0**	**-0.3**
IKRK				*e*Sg	**Sg**	**07 07 00.5**	**+1.0**
IKRK				*e*		07 07 04.0	
IBDR	**Badra**	**1.55**	**175**	*e*Pn	**Pb**	**07 06 43.0**	**-0.5**
IBDR				*e*Sn	**Sg**	**07 07 04.5**	**+0.2**
IBDR				AML	AML	07 07 08.9	
	comp=E,208nm,0.6s						
IBDR				AML	AML	07 07 19.9	
	comp=N,118nm,0.4s						
IBZA	**Bozab**	**1.73**	**96**	Pg	**Pg**	**07 06 47.3**	**-0.4**
BHD	**Baghdad**	**1.81**	**220**	*e*Pn	**Pb**	**07 06 47.0**	**-0.9**
BHD				*e*Sn	**Sb**	**07 07 10.0**	**-0.7**
IKFM	**Kafar-mosalman**	**2.05**	**123**	Pn	**Pb**	**07 06 51.3**	**-0.8**
HSAM	**Samen**	**2.38**	**100**	Pn	**Pb**	**07 06 56.0**	**-1.8**
BDRS	**Dareh Seyedi**	**2.66**	**104**	Pn	**Pn**	**07 06 59.5**	**+1.5**
HAGD	**Aghdareh**	**2.77**	**86**	Pn	**Pn**	**07 07 01.7**	**+2.1**
RAFI	**Al-Rafai**	**2.94**	**174**	*e*Pn	**Pn**	**07 07 02.5**	**+0.9**
RAFI				*e*Sn	**Sn**	**07 07 37.5**	**+0.4**

IDC ***14*** *07:22:48.4±1.3, 38°.37N×142°.75E, h0km, mb3.8/5, mbtmp3.8/8, ML3.0/3, MS2.9/4, Error ellipse: s-maj=40.0km s-min=18.4km az=91.0*
JMA ***14*** *07:22:52.8±0.2, 38°.3N±0°.5×142°.3E±0°.9, h33km±2km, MD4.0/36, MV4.3/36, E OFF MIYAGI PREF*
JMA Felt I J1 at E OFF MIYAGI PREF .
NIED ***14*** *07:22:52.8, 38°.34N×142°.29E, h33km, MW3.8, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-5.16; Mθθ3.02; Mφφ2.14; Mrθ-0.72; Mθφ-1.21; Mφr-3.12; Fault plane solution: M₀5.28000×10¹⁴ NP1: φs332.00000°, δ58.00000°, λ-68.00000°. NP2: φs115.00000°, δ38.00000°, λ-122.00000°.*
NEIC ***14*** *07:22:54.8±1.0, 38°.35N±0°.07×142°.12E±0°.09, h35km±2km, mb4.4/12 Error ellipse: s-maj=14.3km s-min=8.4km az=129.0*
ISC 14 07:22:51.9±1.3, 38°.27N±0°.04×142°.24E±0°.07, h20km±9km, n59, σ1s10/59, mb4.2/12, 10D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakibobu**	**0.61**	**274**	*i* P	**Pn**	**07 23 05.2**	**-0.2**
JIKH				S	**Sn**	**07 23 13.8**	**-0.9**
JIO	**Ouri**	**0.73**	**285**	⇓*i*P	**Pn**	**07 23 07.0**	**0.0**
JIO				⇓S	**Sn**	**07 23 16.8**	**-0.8**
JKMT	**Kesennumamotoy**	**0.81**	**312**	⇓*i*P	**Pb**	**07 23 07.8**	**+0.4**
JKMT				⇓S	**Sb**	**07 23 18.3**	**+0.5**
JKMT	**Kesennumamotoy**	**0.81**	**312**	A	A	07 23 07.8	
	comp=E,4.0nm,0.6s,comp=N,7.0nm,0.4s						
OFUJ	**Ofunato**	**0.93**	**331**	*i* P	**Pb**	**07 23 08.9**	**-0.4**
OFUJ				S	**Sb**	**07 23 20.2**	**-1.0**
JMK	**Ichinoseki**	**1.05**	**311**	⇓*i*P	**Pn**	**07 23 11.4**	**-0.1**
JMK				⇓S	**Sb**	**07 23 24.9**	**+0.1**
JOFO	**Osakifurukawao**	**1.10**	**288**	*e*P	**Pb**	**07 23 13.1**	**+0.9**
JOFO				*e*S	**Sn**	**07 23 28.4**	**+1.7**
JOFO	**Osakifurukawao**	**1.10**	**288**	A	A	07 23 13.1	
	comp=E,14nm,0.8s,comp=N,9.0nm,2.6s						
JMST	**Minamisoumatoc**	**1.20**	**244**	P	**Pn**	**07 23 14.0**	**+0.4**
JMST				S	**Sn**	**07 23 29.0**	**-0.2**
JMM	**Marumori**	**1.21**	**251**	Pn	**Pn**	**07 23 14.1**	**+0.4**
JMM				Sn	**Sn**	**07 23 29.2**	**-0.4**
JMM	**Marumori**	**1.21**	**251**	⇓*i*P	**Pn**	**07 23 14.1**	**+0.4**
JMM				⇓S	**Sn**	**07 23 29.6**	**+0.1**
JOU	**Okura**	**1.25**	**275**	⇓*i*P	**Pb**	**07 23 15.2**	**+0.5**
JOU	**Okura**	**1.25**	**275**	A	A	07 23 15.2	
	comp=E,5.0nm,2.0s,comp=N,7.0nm,0.7s						
JFK	**Kawauchi**	**1.41**	**231**	P	**Pn**	**07 23 16.7**	**+0.2**
JFK				S	**Sn**	**07 23 33.5**	**-1.0**
JOM	**Ohasama**	**1.41**	**329**	⇓P	**Pn**	**07 23 16.5**	**0.0**
JYK	**Kaneyama**	**1.61**	**294**	P	**Pn**	**07 23 20.1**	**+0.9**
JYA	**Atsumi**	**2.01**	**280**	A	A	07 23 26.1	
	comp=E,2.0nm,0.9s,comp=N,2.0nm,0.9s						
JTM	**Tenmabayashi**	**2.67**	**340**		**Pn**	**07 23 35.5**	**+1.7**
JSD	**Sado**	**3.15**	**267**	Pn	**Pn**	**07 23 40.5**	**+0.1**
MJAR	**Matsushiro Arr**	**3.65**	**243**	Pn	**Pb**	**07 23 52.8**	**-2.9**
	comp=N,0.3nm,0.3s,baz=67,slow=11,SNR=5.9						
MJAR				Sn	**Sb**	**07 24 40.7**	**+1.3**
	comp=N,0.4nm,0.3s,baz=77,slow=18,SNR=5.0						
MJAR				LR	LR	07 25 18.8	
	comp=N,100nm,21.2s,baz=38,slow=37						
	comp=N,2.3nm,0.3s						
MAJO	**Matsushiro**	**3.65**	**243**	Pn	**Pn**	**07 23 49.1**	**+1.8**
MJB9	**Matsu-Tunnel**	**3.65**	**243**		**Pn**	**07 23 49.0**	**+1.7**
ERM	**Erimo**	**3.81**	**10**	Pn	**Pn**	**07 23 49.4**	**0.0**
JGF	**Kuroka**	**4.73**	**237**		**Pn**	**07 24 02.6**	**+0.4**
JHJ2	**Mitsune**	**5.51**	**202**	Pn	**Pn**	**07 24 15.1**	**+2.3**
JHJ	**Hachijo jima 2**	**5.51**	**202**	Pn	**Pn**	**07 24 15.8**	**+2.9**
	comp=N,6.3nm,0.3s,baz=56,slow=16,SNR=1.2						
JHJ				Sn	**Sn**	**07 25 14.4**	**-1.3**
	comp=N,12nm,0.3s,baz=46,slow=16,SNR=1.5						
	comp=N,56nm,0.6s						
ASAJ	**Asahikawa**	**5.85**	**2**	Pn	**Pn**	**07 24 16.4**	**-1.1**
	comp=N,0.3nm,0.3s,baz=171,slow=30,SNR=1.0						
ASAJ				Sn	**Sn**	**07 25 22.9**	**-0.9**
	comp=N,0.6nm,0.3s,baz=156,slow=20,SNR=1.8						
	comp=N,0.9nm,0.3s						
JKA	**Kamikawa-asahi**	**5.85**	**3**	Pn	**Pn**	**07 24 17.7**	**+0.3**
JNU	**Nakatsue**	**10.57**	**244**	LR	LR	07 29 56.6	
	comp=N,77nm,21.8s,baz=2.5,slow=39						
KSRS	**Korea Array**	**11.35**	**270**	LR	LR	07 29 45.2	
	comp=N,25nm,18.8s,baz=175,slow=35						
H11N2	**WAKE ISLAND Hy**	**28.25**	**124**	T	T	07 58 26.1	
	baz=316						
H11N1	**WAKE ISLAND Hy**	**28.26**	**124**	T	T	07 59 06.4	
	baz=316,slow=74						
H11N3	**WAKE ISLAND Hy**	**28.27**	**124**	T	T	07 59 08.0	
	baz=316,slow=74						
H11S1	**WAKE ISLAND Hy**	**29.01**	**126**	T	T	07 59 59.2	
	baz=318,slow=76,SNR=107						
H11S3	**WAKE ISLAND Hy**	**29.01**	**126**	T	T	07 59 60.0	
	baz=318,slow=76,SNR=154						
H11S2	**WAKE ISLAND Hy**	**29.03**	**126**	T	T	07 59

CROK IAML 07 25 19.2
comp=N,25µm,0.4s
CROK IAML 07 25 19.3
comp=E,29µm,0.6s
CROK Sg **Sg** **07 25 19.0 +0.4**
OK031 S. Brethren Rd 0.59 102 Pb 07 25 12.3 -0.2
OK031 Sg **Sb** **07 25 20.6 -0.2**
OK048 Pawnee Station 0.59 55 Pb 07 25 12.5 -0.2
OK048 Sg **Sb** **07 25 20.7 -0.2**
OK052 Battle Ridge R 0.61 98 Pb 07 25 12.8 -0.2
OK052 Sg **Sb** **07 25 21.3 -0.1**
OKCSW OKLAHOMA CITY 0.68 173 Pg Pg 07 25 13.5 -0.3
OKCSW IAML 07 25 25.6
comp=E,21µm,0.6s
QUOK Quay 0.68 82 Pb 07 25 14.2 -0.1
QUOK IAML 07 25 24.0
comp=N,18µm,0.4s
QUOK IAML 07 25 29.8
comp=E,11µm,0.2s
OK051 E0350 and S346 0.71 53 Pb 07 25 14.7 0.0
OK051 IAML 07 25 27.0
comp=E,20µm,0.2s
OK051 IAML 07 25 27.1
comp=E,18µm,0.2s
BLOK Blackwell 0.73 21 Pb 07 25 14.9 -0.1
BLOK IAML 07 25 27.5
comp=E,19µm,0.2s
BLOK IAML 07 25 32.1
comp=N,18µm,0.2s
GC02 Grant County # 0.81 342 Pg Pg 07 25 16.1 -0.1
FNO Franklin 0.83 172 Pg 07 25 16.2 -0.4
FNO IAML 07 25 33.1
comp=E,19µm,0.7s
DEOK Depew 0.88 105 Pg Pg 07 25 17.3 -0.2
OK032 Salt Plains WL 0.90 324 Pg 07 25 17.5 -0.4
OK032 IAML 07 25 31.9
comp=E,13µm,0.3s
OK032 IAML 07 25 38.6
comp=E,17µm,0.2s
KAN13 South Haven SW 0.93 3 Pb 07 25 18.4 0.0
KAN13 IAML 07 25 32.0
comp=N,12µm,0.3s
KAN14 Manchester OK 0.94 339 Pb 07 25 18.3 -0.2
KAN14 IAML 07 25 33.2
comp=N,10µm,0.1s
KAN14 IAML 07 25 34.0
comp=E,15µm,0.3s
KAN17 Caldwell West 0.98 350 Pb 07 25 19.2 -0.1
KAN17 IAML 07 25 40.7
comp=N,11µm,0.3s
CSTR Hydro, Custer 1.02 245 Pb 07 25 19.5 -0.6
OK038 West end E0370 1.04 293 Pg Pb 07 25 19.8 -0.6
KAN09 Caldwell North 1.05 357 Pb 07 25 20.6 +0.1
KAN05 Bluff City Nor 1.06 346 Pg Pb 07 25 20.6 0.0
KAN05 IAML 07 25 37.0
comp=N,12µm,0.2s
KAN01 Argonia South 1.08 351 Pb 07 25 21.1 0.0
KAN01 IAML 07 25 36.0
comp=E,7µm,0.2s
KAN01 IAML 07 25 37.9
comp=N,6µm,0.2s
OK035 E0210 Rd and N 1.13 304 Pb 07 25 21.3 -0.5
KAN10 Anthony SW Sta 1.13 337 Pb 07 25 21.8 0.0
KAN10 IAML 07 25 42.8
comp=E,6µm,0.3s
T35A Sooner Cattle 1.18 45 Pg 07 25 23.0 -0.1
KAN06 Argonia West S 1.19 348 Pb 07 25 22.9 0.0
KAN06 IAML 07 25 43.1
comp=N,8µm,0.3s
KAN08 Anthony NE Sta 1.19 343 Pb 07 25 22.9 0.0
KAN08 IAML 07 25 39.3
comp=N,5µm,0.3s
U32A Winter Ranch, 1.21 285 Pg Pn 07 25 22.7 -0.4
U32A IAML 07 25 40.8
comp=E,5µm,0.6s
U32A IAML 07 25 49.0
comp=N,5µm,0.7s
KAN12 Harper NE Stat 1.27 343 Pb 07 25 24.2 0.0
TUL3 Leonard 1.43 96 Pb 07 25 26.6 -0.4
TUL3 Leonard 1.43 96 P Pb 07 25 26.6 -0.4
baz=277,SNR=1000
TUL3 S **Sg** **07 25 46.6 -0.1**
baz=277
ELIS Ellis County 1.52 270 Pb 07 25 28.0 -0.4
WMOK Wichita Mounta 1.68 217 Pn 07 25 30.2 +0.7
WMOK Wichita Mounta 1.68 217 P Pn 07 25 30.1 +0.6
baz=36,SNR=1000
WMOK S **Sb** **07 25 52.5 +0.3**
baz=36
RLO Rose Lookout 2.04 87 Pn 07 25 36.0 +1.5
RLO IAmb_Lg 07 26 07.5
comp=Z,2µm,0.9s
LOOK Love County 2.11 172 Pn 07 25 36.7 +1.3
LOOK IAmb_Lg 07 26 09.2
comp=Z,2µm,1.0s
X37A Clayton 2.32 129 Pn Pn 07 25 39.9 +1.6
SMWD Samnorwood 2.40 247 Pn Pn 07 25 40.8 +1.3
SMWD IAmb_Lg 07 26 17.0
comp=Z,1µm,0.9s
WTFS Witchita Falls 2.43 198 Pn Pn 07 25 41.5 +1.7
R32A Long Quarter, 2.51 339 Pn Pn 07 25 42.2 +1.2
U38A Gravette 2.58 81 Pn 07 25 43.3 +1.4
Z35A Perchaven, San 2.75 175 Pn Pn 07 25 45.9 +1.6
HHAR Hobbs 2.92 85 Pn 07 25 47.8 +1.1
FW03 Perrin-Whitt E 3.06 188 Pn Pn 07 25 50.0 +1.4
FW06 Azle 3.10 180 Pn 07 25 50.3 +1.3
KSU1 Kansas State U 3.10 14 Pn Pn 07 25 50.4 +1.3
KSU1 Kansas State U 3.10 14 P Pn 07 25 50.6 +1.5
baz=194,SNR=38
KSU1 S **Sn** **07 26 26.0 0.0**
baz=194
CBKS Cedar Bluff 3.24 328 Pn 07 25 52.8 +1.9
CBKS IAmb_Lg 07 26 51.6
comp=Z,2µm,0.9s
CBKS Cedar Bluff 3.24 328 P Pn 07 25 52.3 +1.3
baz=147,SNR=21
CBKS S **Sn** **07 26 29.2 -0.2**
baz=147
PLPT Palo Pinto 3.32 191 Pn 07 25 52.9 +0.8
FW07 Weatherford 3.38 183 Pn Pn 07 25 54.1 +1.3
APMT Aspermont 3.47 218 Pn 07 25 55.4 +1.2
TREL Terrell 3.55 160 Pn 07 25 56.4 +1.1
TREL IAmb_Lg 07 27 01.1
comp=Z,834nm,0.8s
AMTX Amarillo 3.58 252 Pn 07 25 56.9 +1.2
AMTX IAmb_Lg 07 26 53.9
comp=Z,1µm,0.8s
AMTX Amarillo 3.58 252 S Sn 07 26 37.4 -0.5
baz=69
MIAR Mount Ida 3.59 114 Pn 07 25 57.3 +1.6
MIAR Mount Ida 3.59 114 P Pn 07 25 57.4 +1.7
baz=296,SNR=126
MIAR S **Sn** **07 26 40.5 +2.5**
baz=296
FW16 Waxahatchie 3.63 171 Pn Pn 07 25 57.9 +1.6
DKNS Dickens 3.68 230 Pn Pn 07 25 58.1 +1.1
DKNS IAmb_Lg 07 27 05.4
comp=Z,600nm,0.8s
FW14 Alvarado 3.69 175 Pn 07 25 58.4 +1.3
FW13 Cleburne 3.72 178 Pn Pn 07 25 58.5 +0.9
S39A Bolivar 3.75 63 Pn 07 25 59.4 +1.5
S39A IAmb_Lg 07 27 02.5
comp=Z,1µm,0.7s
ABTX Abilene, Hawle 3.86 207 Pn Pn 07 26 00.1 +0.5
ABTX IAmb_Lg 07 27 06.9
comp=Z,896nm,1.0s
ABTX Abilene, Hawle 3.86 207 P Pn 07 25 59.7 +0.2
baz=26,SNR=76
ABTX S **Sn** **07 26 45.5 +0.7**
baz=26
WHTX Lake Whitney, 4.08 179 P Pn 07 26 03.5 +1.0
baz=359,SNR=7.8
WHTX S **Sn** **07 26 50.7 +0.6**
baz=359
X40A Basin Creek Fa 4.17 111 Pn Pn 07 26 05.0 +1.3
X40A IAmb_Lg 07 27 15.4
comp=Z,637nm,0.8s
RTBA Rita Blanca 4.21 276 IAmb_Lg 07 27 17.1
comp=Z,652nm,0.7s
SN05 Snyder 5 4.22 222 IAmb_Lg 07 27 24.6
comp=Z,1µm,0.9s
237A Washetta, Mont 4.32 160 IAmb_Lg 07 27 26.3
comp=Z,554nm,0.9s
WHAR Wooly Hollow 4.35 99 Pn Pn 07 26 07.3 +1.0
WHAR IAmb_Lg 07 27 29.9
comp=Z,662nm,0.9s
WLAR White Oak Lake 4.36 122 Pn Pn 07 26 07.5 +1.2
WLAR IAmb_Lg 07 27 27.3
comp=Z,725nm,1.0s
MGMO Mountain Grove 4.38 74 Pn Pn 07 26 07.9 +1.3
MGMO IAmb_Lg 07 27 21.8
comp=Z,1µm,0.7s
FCAR Ozark Folk Cen 4.40 91 IAmb_Lg 07 27 30.4
comp=Z,601nm,0.8s
POST Post 4.44 228 IAmb_Lg 07 27 24.2
comp=Z,691nm,0.7s
UALR University of 4.44 106 IAmb_Lg 07 27 26.1
comp=Z,736nm,1.2s
P38A Dawn 4.75 41 IAmb_Lg 07 27 44.8
comp=Z,457nm,0.9s
MSTX Muleshoe 4.78 245 IAmb_Lg 07 27 38.8
comp=Z,459nm,0.8s
MSTX Muleshoe 4.78 245 P Pn 07 26 13.0 +0.8
baz=62,SNR=21
MSTX S **Sn** **07 27 07.0 -0.5**
baz=62
Z41A Richland Creek 4.82 124 IAmb_Lg 07 27 46.5
comp=Z,646nm,0.8s
NATX Nacogdoches 4.93 150 IAmb_Lg 07 27 48.6
comp=Z,504nm,0.9s
NATX Nacogdoches 4.93 150 P Pn 07 26 15.4 +1.2
baz=332
NATX S **Sn** **07 27 10.3 -0.8**
baz=332
BRDY Brady 4.94 195 Pn Pn 07 26 13.9 -0.3
BRDY IAmb_Lg 07 27 36.1
comp=Z,681nm,0.9s
KSCO Kaye Shedlock' 4.98 307 P Pn 07 26 15.9 +0.9
baz=125,SNR=9.3
KSCO S **Sn** **07 27 12.0 -0.6**
baz=125
LCAR Lake Charles 5.18 88 Pn Pn 07 26 17.9 +0.4
CCAR Cane Creek 5.21 113 IAmb_Lg 07 28 00.0
comp=Z,640nm,1.0s
435B Jarrell 5.29 180 IAmb_Lg 07 27 56.9
comp=Z,662nm,0.7s
435B Jarrell 5.29 180 P Pn 07 26 19.8 +0.7
baz=0.1
435B S **Sn** **07 27 19.7 -0.1**
baz=0.1
BGNE Belgrade 5.34 355 IAmb_Lg 07 27 54.4
comp=Z,869nm,0.9s
BGNE Belgrade 5.34 355 P Pn 07 26 20.3 +0.4
baz=175,SNR=25
BGNE S **Sn** **07 27 21.0 -0.2**
baz=175
CCM Cathedral Cave 5.41 67 IAmb_Lg 07 28 00.2
comp=Z,682nm,0.8s
CCM Cathedral Cave 5.41 67 P Pn 07 26 20.8 0.0
baz=250
CCM S **Sn** **07 27 23.7 +0.8**
baz=250
HNVL Huntsville, TX 5.59 161 IAmb_Lg 07 28 09.1
comp=Z,359nm,1.0s
T25A Trinidad 5.62 283 Pn Pn 07 26 23.9 0.0
T25A IAmb_Lg 07 28 12.4
comp=Z,788nm,1.0s
T25A Trinidad 5.62 283 P Pn 07 26 24.2 +0.3
baz=99,SNR=31
T25A S **Sn** **07 27 29.0 +0.6**
baz=99
ODSA Odessa 5.73 228 IAmb_Lg 07 28 12.9
comp=Z,406nm,1.0s
N38A Joes South For 5.79 34 IAmb_Lg 07 28 15.2
comp=Z,752nm,0.8s
JCT Junction City 5.90 199 P Pn 07 26 27.0 -0.5
baz=18,SNR=16
OGNE Ogallala 6.00 325 P Pn 07 26 29.9 +1.0
baz=143
OGNE S **Sn** **07 27 37.1 -0.3**
baz=143
FVM French Village 6.00 69 IAmb_Lg 07 28 14.4
comp=Z,752nm,0.8s
143A Socs Landing, 6.09 122 IAmb_Lg 07 28 29.8
comp=Z,326nm,0.8s
MET Memphis--Engin 6.28 97 IAmb_Lg 07 28 27.3
comp=Z,491nm,0.9s
MLDN Muldoon 6.29 176 IAmb_Lg 07 28 33.5
comp=Z,349nm,0.8s
PVMO Portageville 6.35 85 IAmb_Lg 07 28 36.2
comp=Z,698nm,0.8s
SLM Saint Louis 6.36 64 IAmb_Lg 07 28 21.4
comp=Z,518nm,0.8s
MNHN Monahans 6.42 224 IAmb_Lg 07 28 39.5
comp=Z,474nm,0.7s
SDCO Great Sand Dun 6.59 287 IAmb_Lg 07 28 32.0
comp=Z,427nm,1.1s
SDCO Great Sand Dun 6.59 287 P Pn 07 26 38.0 +0.8
baz=102,SNR=68
HALT Halls 6.66 89 IAmb_Lg 07 28 48.0
comp=Z,515nm,1.0s
Q24A Divide 6.69 298 IAmb_Lg 07 28 45.4
comp=Z,389nm,1.0s
Q24A Divide 6.69 298 P Pn 07 26 38.7 0.0
baz=113
HNDO Hondo 6.70 193 IAmb_Lg 07 28 39.9
comp=Z,596nm,0.8s
SCIA State Center 6.72 29 IAmb_Lg 07 28 37.0
comp=Z,656nm,0.8s
SCIA State Center 6.72 29 P Pn 07 26 39.9 +1.1
baz=212,SNR=19
HICK Hickman 6.73 84 IAmb_Lg 07 28 48.9
comp=Z,624nm,0.8s
K30B Basset 6.78 347 IAmb_Lg 07 28 41.5
comp=Z,623nm,0.9s
OXF Oxford 6.84 101 IAmb_Lg 07 28 51.2
comp=Z,266nm,0.8s
OXF Oxford 6.84 101 P Pn 07 26 40.1 -0.3
baz=286,SNR=19
OXF S **Sn** **07 27 57.9 -0.1**
baz=286
Y45A Yeager Farm, C 6.93 106 IAmb_Lg 07 28 59.2
comp=Z,257nm,0.8s
EF01 Eagle Ford 01 6.97 186 IAmb_Lg 07 28 44.4
comp=Z,288nm,0.8s
VBMS Vicksburg 6.99 121 P Pn 07 26 42.0 -0.4
baz=305
VBMS S **Sn** **07 28 01.1 -0.6**
baz=305
N41A Harden Midland 6.99 47 Pn Pn 07 26 44.2 +1.7
DRIO Del Rio 7.13 202 IAmb_Lg 07 29 01.5
comp=Z,359nm,0.7s
735A Kenedy 7.21 182 IAmb_Lg 07 29 07.6
comp=Z,284nm,0.8s
SAND Sanderson 7.22 213 IAmb_Lg 07 28 57.8
comp=Z,483nm,0.7s
ANMO Albuquerque 7.36 264 P Pn 07 26 47.7 0.0
baz=79
ANMO Albuquerque 7.36 264 Pn Pn 07 26 48.1 +0.4
comp=Z,0.2nm,0.3s,baz=187,slow=13,SNR=9.4
ANMO Pg **Pb** **07 27 10.8 +2.8**
comp=Z,1.5nm,0.3s,baz=86,slow=19,SNR=11
ANMO Lg Lg 07 28 48.2
comp=Z,8.7nm,0.3s,baz=303,slow=24,SNR=3.0
ANMO LR LR 07 30 07.3
comp=Z,173nm,19.1s,baz=170,slow=43
comp=Z,0.9nm,0.4s
ISCO Idaho Springs 7.38 303 Pn Pn 07 26 48.4 +0.4
ISCO IAmb_Lg 07 28 58.2
comp=Z,321nm,0.9s
ISCO Idaho Springs 7.38 303 P Pn 07 26 48.0 0.0
baz=118,SNR=29
ALPN Alpine 7.64 224 IAmb_Lg 07 29 10.5
comp=Z,314nm,0.8s
ECSD EROS Data Cent 7.68 5 P Pn 07 26 51.5 -0.4
baz=186,SNR=92
L40A Anamosa 7.74 38 Pn Pn 07 26 53.2 +0.5
L40A IAmb_Lg 07 29 13.8
comp=Z,359nm,0.8s
PLAL Pickwick Lake 7.80 95 IAmb_Lg 07 29 11.2
comp=Z,289nm,1.2s
MNTX Cornudas Mount 7.84 238 P Pn 07 26 54.3 +0.1
baz=54,SNR=21
WVT Waverly 7.87 87 P Pn 07 26 53.3 -1.2
baz=272
HDIL Hopedale 7.87 53 P Pn 07 26 54.6 +0.1
baz=238,SNR=24
833A Chaparral WMA, 7.89 192 IAmb_Lg 07 29 15.2
comp=Z,338nm,0.9s
833A Chaparral WMA, 7.89 192 P Pn 07 26 55.4 +0.5
baz=11
PHWY Pilot Hill 8.09 313 IAmb_Lg 07 29 25.5
comp=Z,273nm,0.7s
N23A Red Feather La 8.15 309 Pn Pn 07 26 59.2 +0.5
N23A Red Feather La 8.15 309 P Pn 07 26 58.7 +0.1
baz=124,SNR=36
VHRN Van Horn 8.15 232 IAmb_Lg 07 29 26.0
comp=Z,352nm,0.9s
SUSD Miller 8.42 353 Pn Pn 07 27 01.9 -0.2
SUSD IAmb_Lg 07 29 47.4
comp=Z,333nm,1.0s
SUSD Miller 8.42 353 P Pn 07 27 01.9 -0.2
baz=172
545A Edgard 8.44 133 IAmb_Lg 07 29 41.0
comp=Z,453nm,1.1s
TXAR Lajitas Array 8.48 219 Pn Pn 07 27 02.2 -0.8
comp=Z,0.6nm,0.3s,baz=45,slow=11,SNR=28
TXAR Pg **Pb** **07 27 25.0 -2.1**
comp=Z,2.5nm,0.3s,baz=38,slow=15,SNR=8.8
TXAR Lg Lg 07 29 21.8
comp=Z,6.9nm,0.3s,baz=42,slow=15,SNR=3.7
comp=Z,1.4nm,0.4s
L42A Oliver, Polo 8.51 44 IAmb_Lg 07 29 48.0
comp=Z,384nm,1.0s
EPT El Paso 8.60 243 IAmb_Lg 07 29 36.9
comp=Z,270nm,1.1s
JFWS Jewell Farm 8.85 37 IAmb_Lg 07 29 42.2
comp=Z,294nm,0.8s
JFWS Jewell Farm 8.85 37 P Pn 07 27 08.1 +0.1
baz=222,SNR=22
MVCO Mesa Verde 8.88 281 P Pn 07 27 08.6 0.0
baz=94
121A Cookes Peak, D 9.18 250 P Pn 07 27 13.0 +0.4
baz=64
LRAL Lakeview Retre 9.21 106 Pn Pn 07 27 13.0 0.0
LRAL Lakeview Retre 9.21 106 P Pn 07 27 12.7 -0.3
baz=292,SNR=5.6
WCI Wyandotte Cave 9.23 73 P Pn 07 27 13.5 +0.2
baz=260
SFIN Lafayette 9.27 59 P Pn 07 27 13.2 -0.6
baz=246
RWWY Rawlins 9.38 310 IAmb_Lg 07 30 16.3
comp=Z,192nm,0.8s
I40A Norwalk 9.44 32 IAmb_Lg 07 30 10.0
comp=Z,257nm,1.0s
RSSD Black Hills 9.44 330 IAmb_Lg 07 30 07.9
comp=Z,322nm,1.1s
RSSD Black Hills 9.44 330 P Pn 07 27 16.8 +0.5
baz=146
HQIL Hanson Quary C 9.46 50 IAmb_Lg 07 30 08.5
comp=Z,274nm,1.1s
K22A Casper 9.55 316 IAmb_Lg 07 30 17.4
comp=Z,381nm,0.9s
K22A Casper 9.55 316 P Pn 07 27 17.3 -0.5
baz=131,SNR=9.9
L44A Lake County Fo 9.64 48 P Pn 07 27 18.9 +0.1
baz=234
K43A Burlington 9.72 44 IAmb_Lg 07 30 15.6
comp=Z,384nm,0.9s
F33A 5 Mile Ranch, 9.79 5 IAmb_Lg 07 30 18.6
comp=Z,168nm,1.0s
SPMN Marine on St. 9.81 20 IAmb_Lg 07 30 31.5
comp=Z,204nm,1.2s
SPMN Marine on St. 9.81 20 P Pn 07 27 20.3 -0.9
baz=203,SNR=25
T50A Nancy 10.27 81 Pn Pn 07 27 27.8 +0.4
X51A Calhoun 10.48 95 Pn Pn 07 27 30.4 +0.1
O48B Farmland 10.61 63 P Pn 07 27 30.5 -1.5
baz=251
P49A Miami Univ. Ec 10.72 67 P Pn 07 27 32.4 -1.2
baz=255
TKL Tuckaleechee C 11.19 88 Pn Pn 07 27 39.3 -0.6
comp=Z,0.6nm,0.3s,baz=224,slow=11,SNR=9.0
TKL Sn Sn 07 29 54.9 +10
comp=Z,2.0nm,0.3s,baz=149,slow=21,SNR=2.1
TKL Lg Lg 07 30 51.4
comp=Z,7.8nm,0.3s,baz=5.0,slow=21,SNR=9.5
TKL LR LR 07 32 00.2
comp=Z,176nm,18.4s,baz=266,slow=37
TZTN Tazewell 11.30 84 P Pn 07 27 41.7 0.0
baz=272
BW06 Boulder Array 11.43 309 P Pn 07 27 42.3 -1.3
baz=122,SNR=5.6
PDAR Pinedale Array 11.43 309 Pn Pn 07 27 42.9 -0.7
comp=Z,1.5nm,0.4s,baz=124,slow=14,SNR=14
PDAR Pg 07 28 27.5
comp=Z,0.9nm,0.3s,baz=105,slow=17,SNR=5.8
PDAR Sn **Sn** **07 29 45.8 -5.4**
comp=Z,0.7nm,0.3s,baz=119,slow=16,SNR=1.6
PDAR Lg Lg 07 30 49.8
comp=Z,2.0nm,0.3s,baz=96,slow=27,SNR=4.3
PDAR LR LR 07 32 14.0
comp=Z,66nm,18.2s,baz=108,slow=39
GOGA Godfrey 11.88 99 P Pn 07 27 48.7 -0.8
baz=287
U15A North Rim 11.91 276 Pn Pn 07 27 53.9 +3.7
ACSO Alum Creek Sta 12.19 66 P Pn 07 27 52.0 -1.6
baz=255,SNR=7.3
AGMN Agassiz Nation 12.27 5 P Pn 07 27 52.0 -2.8
baz=186,SNR=14
LAO LASA Array 12.43 331 P Pn 07 27 54.8 -2.2
baz=146
RLMT Red Lodge 12.67 319 Pn Pn 07 28 00.4 -0.1
RLMT Red Lodge 12.67 319 P Pn 07 27 59.0 -1.5
baz=132
EYMN Ely 12.67 19 P Pn 07 27 57.3 -3.0
baz=203,SNR=14
P52A Corning 12.69 69 P Pn 07 27 59.2 -1.3
baz=258
GLMI Grayling 13.15 44 P Pn 07 28 05.1 -1.6
baz=233
KMSC Kings Mountain 13.23 89 P Pn 07 28 06.5 -1.4
baz=279
DGMT Dagmar 13.31 340 P Pn 07 28 06.8 -2.2
baz=156
O53A New Philadelph 13.51 67 P Pn 07 28 09.6 -2.1
baz=257
BLA Blacksburg 13.80 80 P Pn 07 28 14.2 -1.6
baz=270
M53A WI Miller and 14.20 63 P Pn 07 28 18.6 -2.6
baz=253
ULM Lac du Bonnet 14.21 4 Pn Pn 07 28 15.8 -5.5
comp=Z,0.9nm,0.3s,baz=181,slow=10,SNR=11
ULM Sn Sn 07 30 48.3 -10
comp=Z,1.5nm,0.3s,baz=101,slow=14,SNR=3.1
ULM LR LR 07 33 52.7
comp=Z,188nm,18.4s,baz=188,slow=38
comp=Z,1.9nm,0.3s
SHPR Sheep Range 14.22 277 Pn Pn 07 28 19.0 -2.6
E46A Sault Ste Mari 14.29 40 Pn Pn 07 28 20.1 -2.3
ELK Elko 14.63 294 Pn Pn 07 28 25.8 -1.4
comp=Z,0.1nm,0.3s,baz=97,slow=1.7,SNR=2.5
ELK LR LR 07 35 08.0
comp=Z,63nm,19.7s,baz=102,slow=42
comp=Z,0.3nm,0.3s
EGMT Eagleton 14.96 327 P Pn 07 28 30.1 -1.5
baz=139
WCT Wildcat Mounta 15.38 278 Pn Pn 07 28 36.0 -1.2
WCT IAmb IAmb 07 28 49.0
comp=Z,4.2nm,1.0s
GWY Greenwater Val 15.46 276 Pn Pn 07 28 36.0 -2.2
GWY IAmb IAmb 07 28 48.3
comp=Z,3.9nm,1.0s
LYMT Lyon Mountain 15.47 319 Pn Pn 07 28 38.2 -0.3
M55A Ridgway 15.60 64 Pn Pn 07 28 37.3 -2.7
QSM Queen of Sheba 15.64 275 Pn Pn 07 28 39.3 -1.2
GSC Goldstone, Bar 15.67 273 Pn Pn 07 28 42.2 +1.2
GSC Goldstone, Bar 15.67 273 P Pn 07 28 40.6 -0.4
baz=82
PFO Pinyon Flats O 15.72 266 LR LR 07 34 59.0
comp=Z,107nm,20.1s,baz=106,slow=39
MFID Camas Ranch 15.84 303 Pn Pn 07 28 42.5 -0.6
WVNY West Valley, N 15.96 61 Pn Pn 07 28 43.4 -1.3
WVNY IAmb IAmb 07 29 13.5
comp=Z,7.6nm,0.9s
BMN Battle Mountai 16.05 292 Pn Pn 07 28 46.3 +0.4
BMN IAmb IAmb 07 28 54.9
comp=Z,8.9nm,0.9s
SSPA Standing Stone 16.07 68 Pn Pn 07 28 44.7 -1.3
SSPA IAmb IAmb 07 29 04.6
comp=Z,4.7nm,0.8s
MEDO Medina 16.30 58 Pn Pn 07 28 48.1 -0.9
MEDO IAmb IAmb 07 29 06.0
comp=Z,3.9nm,0.7s
DSP Deep Springs 16.43 281 Pn Pn 07 28 51.5 +0.9
DSP P **P** **07 28 53.9 +0.6**
DSP IAmb IAmb 07 28 59.2
comp=Z,8.0nm,1.2s
SADO Sadowa 16.46 53 Pn Pn 07 28 50.0 -0.9
SADO IAmb IAmb 07 29 25.8

comp=Z,6.0nm,1.0s
KVN Kaiserville 16.56 286 Pn **Pn** 07 28 50.7 -1.9
KVN IAmb IAmb 07 29 01.3
comp=Z,5.4nm,0.9s
NV11 Mina Array Sit 16.57 284 Pn **Pn** 07 28 51.5 -1.2
NV11 IAmb IAmb 07 28 59.1
comp=Z,5.0nm,1.0s
L56A Greenwood 16.64 63 Pn **Pn** 07 28 52.4 -0.9
L56A IAmb IAmb 07 29 15.3
comp=Z,10nm,1.1s
NVAR Mina Array Bea 16.69 284 Pn **Pn** 07 28 54.8 +0.6
NVAR Mina Array Bea 16.69 284 Pn **Pn** 07 28 55.2 +1.0
comp=Z,0.1nm,0.3s,baz=87,slow=12,SNR=15
NVAR LR LR 07 35 34.5
comp=Z,127nm,19.9s,baz=152,slow=39
comp=Z,1.9nm,0.8s
J55A Hilton 16.78 59 Pn **P** 07 28 56.7 -0.5
J55A IAmb IAmb 07 29 17.5
comp=Z,9.1nm,1.0s
LHV Little Huntoon 16.84 284 Pn **Pn** 07 28 56.1 +0.3
LHV IAmb IAmb 07 29 11.8
comp=Z,5.9nm,1.0s
RYN Ryan 16.87 285 Pn **Pn** 07 28 56.2 -0.1
YERR Yerington 17.45 286 Pn **Pn** 07 29 02.6 -1.0
WVOR Wild Horse Val 17.50 298 Pn **Pn** 07 29 03.9 -0.4
WVOR IAmb IAmb 07 29 26.7
comp=Z,8.1nm,1.4s
PAHR Pah Rah Range 17.61 288 Pn **Pn** 07 29 04.3 -1.3
J08A Circle Bar Ran 17.64 301 Pn **P** 07 29 06.7 -0.1
TEIG Tepich 17.77 150 Pn **Pn** 07 29 06.6 -0.9
L59A Walton 18.47 64 P **P** 07 29 14.9 -1.0
J58A Remsen 18.57 60 P **P** 07 29 15.8 -1.2
J58A IAmb IAmb 07 29 51.4
comp=Z,8.7nm,1.1s
ODNJ Ogdensburg 18.60 67 P **Pn** 07 29 18.2 +0.6
ODNJ IAmb IAmb 07 29 37.0
comp=Z,12nm,1.3s
G08A Pilot Rock 18.62 306 P **Pn** 07 29 18.4 +0.5
G08A IAmb IAmb 07 29 18.4
comp=Z,3.6nm,0.7s
NEW Newport 18.88 316 LR LR 07 36 18.8
comp=Z,87nm,18.8s,baz=124,slow=36
FFC Flin Flon 18.89 352 P **P** 07 29 20.2 -0.3
FFC IAmb IAmb 07 29 25.0
comp=Z,4.4nm,0.8s
CMIG Matias Romero 19.06 172 P **Pn** 07 29 27.5 +4.2
comp=Z,0.2nm,0.3s,baz=352,slow=21,SNR=2.3
CMIG LR LR 07 38 13.4
comp=Z,35nm,19.0s,baz=226,slow=41
comp=Z,1.6nm,0.6s
VLDQ Val d'Or 19.09 45 P **P** 07 29 20.3 -2.3
VLDQ IAmb IAmb 07 29 38.7
comp=Z,7.8nm,1.1s
NCB Newcomb 19.48 59 P **P** 07 29 27.4 +0.5
PINE Pine Mountain 19.48 300 P **Pn** 07 29 28.5 +0.1
KSCT Kent School, K 19.53 66 P **P** 07 29 28.1 +0.6
J05D Fort Rock, OR 19.56 299 P **Pn** 07 29 29.0 -0.4
YBH Yreka Blue Hor 20.34 294 P **P** 07 29 37.0 +0.5
comp=Z,8.0nm,0.8s,baz=85,slow=5.9,SNR=17
YBH LR LR 07 37 41.1
comp=Z,48nm,19.5s,baz=104,slow=38
comp=Z,8.0nm,0.8s
FCC Fort Churchill 22.81 5 P **P** 07 30 07.0 +4.4
BBB Bella Bella 26.94 316 LR LR 07 41 03.3
comp=Z,37nm,21.4s,baz=78,slow=36
YKA Yellowknife Ar 28.49 343 P **P** 07 30 57.8 +2.8
comp=Z,0.6nm,0.8s,baz=141,slow=8.4,SNR=13
YKA LR LR 07 41 21.5
comp=Z,33nm,18.6s,baz=248,slow=35
comp=Z,0.6nm,0.8s
DLBC Dease Lake 30.89 327 LR LR 07 43 30.5
comp=Z,66nm,19.2s,baz=134,slow=36
FRB Frobisher Bay 32.83 23 LR LR 07 44 52.7
comp=Z,97nm,18.0s,baz=120,slow=36
RES Resolute Bay 38.71 1 LR LR 07 48 24.8
comp=Z,72nm,20.4s,baz=26,slow=36
ILAR Eielson Array 40.89 330 P **P** 07 32 44.3 +2.5
comp=Z,0.8nm,0.7s,baz=106,slow=7.4,SNR=9.6
comp=Z,0.8nm,0.7s
BORG Borgarnes 52.23 32 LR LR 07 55 50.5
comp=Z,34nm,19.2s,baz=295,slow=35
JMIC Jan Mayen 56.05 23 LR LR 07 58 27.6
comp=Z,36nm,19.0s,baz=56,slow=36
NOA NORSAR Array B 67.33 30 LR LR 08 04 29.1
comp=Z,16nm,18.3s,baz=300,slow=35
TIXI Tiksi 67.71 346 LR LR 08 07 57.8
comp=Z,14nm,18.3s,baz=66,slow=38
HFS Hagfors 68.85 30 LR LR 08 05 06.0
comp=Z,32nm,20.6s,baz=302,slow=35
FINES FINESS Array B 72.62 25 LR LR 08 06 57.1
comp=Z,31nm,18.4s,baz=12,slow=35
KLR Kul'dur 84.46 330 LR LR 08 16 52.3
comp=Z,16nm,19.7s,baz=357,slow=37
KSRS Korea Array 95.57 325 LR LR 08 24 35.8
comp=Z,8.0nm,19.0s,baz=55,slow=38
GNI Garni 96.58 28 LR LR 08 21 24.2
comp=Z,26nm,20.7s,baz=242,slow=35
MKAR Makanchi Array 97.50 0 LR LR 08 25 02.2
comp=Z,13nm,18.1s,baz=136,slow=37
HHC Hu-ho-hao-te 98.91 338 *eP* **P** 07 38 38.8 -1.8

SEA **14** *07:26:48.8±1.1,47.65N±0.01×120.17W±0.01,h-1km±2km, ML1.9/5,ML2.1/36(NEIC),Error ellipse: s-maj=3.0km s-min=2.2km az=33.0*

NEIC 14 07:26:48.5±1.2,47.66N±0.01×120.17W±0.02,h4km±6km, Error ellipse: s-maj=1.9km s-min=1.7km az=160.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WTV	**Waterville**	**0.15**	**74**		Pg	07 26 51.6	+0.1
CBSW	**Chelan Butte S**	**0.17**	**30**		Pg	07 26 51.9	+0.1
CBSW					Sg	07 26 54.5	+0.4
SLFW	**Sugar Loaf**	**0.26**	**293**		Pg	07 26 53.5	-0.1
SLFW					Sg	07 26 57.5	+0.4
DHW2	**Dyer Hill 2**	**0.42**	**39**		Pg	07 26 56.6	-0.1
DHW2					Sg	07 27 02.9	+0.7
NLW	**Nelson Butte**	**0.44**	**345**		Pg	07 26 56.7	-0.2
SAW	**Saint Andrews**	**0.52**	**85**		Pg	07 26 58.3	-0.1
SAW					Sg	07 27 05.5	+0.2
WRW	**Wenatchee Ridg**	**0.52**	**293**		Pg	07 26 58.2	-0.3
LTY	**Liberty**	**0.53**	**221**		Pg	07 26 58.2	-0.4
LTY					Sg	07 27 05.4	0.0
TBM	**Table Mountain**	**0.57**	**211**		Pg	07 26 59.6	+0.2
FHE	**Frenchman Hill**	**0.84**	**147**		Pb	07 27 05.7	0.0
B08A	**Colville Reser**	**0.90**	**38**		Pg	07 27 05.4	-0.3
B08A				IAML		07 27 19.8	
comp=N,52nm,0.1s							
WAH2	**Wahluke Slope**	**0.99**	**155**		Pb	07 27 08.5	+0.4
OD2	**Odessa Site #2**	**1.02**	**105**		Pb	07 27 08.5	-0.2
NAC	**Naches**	**1.03**	**206**		Pb	07 27 08.6	-0.3
C05A	**Tolt Reservoir**	**1.03**	**273**		Pn	07 27 09.7	0.0
D08A	**Wollman Farm,**	**1.04**	**125**		Pg	07 27 08.3	-0.1
D08A				IAML		07 27 26.1	
comp=N,51nm,0.2s							
D08A				IAML		07 27 26.3	
comp=E,57nm,0.3s							
LOCW	**Locke Island**	**1.07**	**152**		Pb	07 27 09.4	-0.1
MDW	**Midway**	**1.08**	**165**		Pn	07 27 10.3	-0.1
MXC	**Moxie City**	**1.08**	**185**		Pb	07 27 09.7	-0.1
MXC	**Moxie City**	**1.08**	**185**	IAML		07 27 16.3	
comp=N,0.7nm,0.7s							
MXC				IAML		07 27 47.3	
comp=E,0.7nm,0.8s							
E07A	**Sunnyside**	**1.12**	**169**	Pg	Pg	07 27 10.0	0.0
E07A				IAML		07 27 27.7	
comp=N,44nm,0.4s							
E07A				IAML		07 27 27.9	
comp=E,52nm,0.4s							
RATT	**Rattlesnake La**	**1.13**	**259**		Pg	07 27 09.3	-0.9
YA2	**Yakima**	**1.16**	**193**		Pb	07 27 11.0	-0.1
OT3	**Othello 3**	**1.18**	**147**		Pg	07 27 11.0	0.0
BENWA	**Benson Ranch**	**1.18**	**165**		Pb	07 27 11.3	-0.1
RPW	**Rockport**	**1.20**	**312**		Pg	07 27 11.4	-0.1
C09A	**Chrisman Ranch**	**1.29**	**83**		Pg	07 27 11.5	-1.6
D05A	**Enumclaw**	**1.32**	**250**	Pg	Pn	07 27 13.6	-0.1
D05A					Pb	07 27 14.2	+0.4
D05A				IAML		07 27 34.6	
comp=N,49nm,0.4s							
RSW	**Rattlesnake Hi**	**1.32**	**162**		Pb	07 27 13.9	0.0
HAWA	**Hanford**	**1.34**	**161**		Pn	07 27 13.7	-0.2
HAWA				IAML		07 27 32.5	
comp=N,34nm,0.5s							
HAWA				IAML		07 27 32.8	
comp=N,24nm,0.3s							
RCM	**Mount Rainier-**	**1.35**	**233**		Pg	07 27 13.1	-1.2
OBSR	**Observation Ro**	**1.35**	**237**		Pn	07 27 13.4	-0.9
H2OWA	**Water**	**1.36**	**158**		Pg	07 27 14.6	+0.1
TRW	**Toppenish Ridg**	**1.39**	**191**		Pb	07 27 14.9	-0.1
E08A	**Dider Farm, El**	**1.39**	**147**	Pn	Pn	07 27 14.2	-0.4
E08A				IAML		07 27 33.6	
comp=E,28nm,0.4s							
E08A				IAML		07 27 36.6	
comp=N,28nm,0.2s							
REMR	**Mount Rainier-**	**1.42**	**234**		Pn	07 27 14.3	-0.8
LON	**Longmire**	**1.44**	**232**		Pn	07 27 14.6	-0.8
LON				IAML		07 27 36.3	
comp=N,19nm,0.7s							
LON	**Longmire**	**1.44**	**232**		Pn	07 27 14.7	-0.7
B941	**Kapowsin**	**1.55**	**245**		Pn	07 27 16.5	-0.3
F07A	**Phinny Hill Vi**	**1.77**	**175**	Pn	Pn	07 27 18.9	-0.9
F07A				IAML		07 27 47.5	
comp=N,27nm,0.5s							
GMW	**Gold Mountain**	**1.77**	**267**		Pb	07 27 21.2	-0.4
E09A	**Wood Farm, Sta**	**1.79**	**129**	Pn	Pn	07 27 20.8	+0.6
E09A				IAML		07 27 48.8	
comp=N,25nm,0.1s							
GNW	**Green Mountain**	**1.80**	**268**		Pn	07 27 20.8	+0.5
STD	**Studebaker Rid**	**2.00**	**226**		Pb	07 27 25.1	-0.3
CDFW	**Cedar Flats**	**2.01**	**221**		Pb	07 27 24.8	-0.8
NEW	**Newport**	**2.13**	**72**	Pn	Pn	07 27 23.6	-1.3
NEW				IAML		07 27 58.1	
comp=N,9.0nm,0.5s							
B04A	**Port Angeles**	**2.28**	**281**	Pn	Pn	07 27 26.4	-0.5
B04A				IAML		07 28 15.6	
comp=E,11nm,3.5s							
PGC	**Sidney**	**2.41**	**296**	Pn	Pn	07 27 28.9	+0.3
G06A	**Carlson Farm,**	**2.44**	**188**	Pn	Pn	07 27 26.8	-2.4
G08A	**Pilot Rock**	**2.51**	**160**	Pn	Pn	07 27 29.6	-0.5
G05A	**Wamic**	**2.54**	**199**	Pn	Pn	07 27 30.9	+0.4
E03A	**Lebam**	**2.57**	**246**	Pn	Pn	07 27 32.6	+1.8
F10A	**Beach Ranch, E**	**2.63**	**129**	Pn	Pn	07 27 32.1	+0.4
F10A				IAML		07 28 19.6	
comp=E,12nm,0.6s							
RADR	**Rader Ridge**	**2.77**	**245**	Pn	Pn	07 27 34.2	+0.6
B926	**Mesachie Lake**	**2.89**	**295**		Pb	07 27 41.1	+0.5
F03A	**Seaside**	**2.90**	**235**	Pn	Pn	07 27 35.4	0.0
BMO	**Blue Mountains**	**3.44**	**144**	Pn	Pn	07 27 43.4	+0.6
BMO				IAML		07 29 23.0	
comp=E,3.5nm,4.7s							
BMO				IAML		07 29 27.4	
comp=E,5.9nm,4.6s							

IDC 14 07:41:01.1±1.5,51.55N×82.45E,h0km,mbtmp2.6/2, ML2.0/2,Error ellipse: s-maj=17.9km s-min=12.8km az=132.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.64**	**251**	Pg	Pb	07 41 48.6	-0.6
baz=70,slow=17,SNR=2.9							
KURBB				Lg	Lg	07 42 24.5	
0.1nm,0.3s,baz=67,slow=29,SNR=13							
ZALV	**Zalesovo Beam**	**2.80**	**30**	Pn	Pn	07 41 45.2	-2.0
0.8nm,0.3s,baz=216,slow=15,SNR=6.4							
ZALV				Sn	Sn	07 42 18.9	-2.7
0.6nm,0.3s,baz=213,slow=25,SNR=4.4							
ZALV				Lg	Lg	07 42 31.6	
0.4nm,0.3s,baz=220,slow=25,SNR=3.7							
2.1nm,0.3s							
I46RU	**ZALESOVO INFRA**	**2.80**	**30**	I	I	07 57 20.0	
baz=211,slow=326,SNR=3.3							
MKAR	**Makanchi Array**	**4.76**	**181**	Pn	Pn	07 42 15.3	+1.2
0.1nm,0.3s,baz=7.8,slow=12,SNR=6.0							
MKAR				Lg	Lg	07 43 31.1	
0.2nm,0.3s,baz=354,slow=28,SNR=6.3							
0.7nm,0.7s							

IDC 14 08:00:29.2±3.3,53.62N×87.78E,h0km,mbtmp2.6/2, ML2.3/2,Error ellipse: s-maj=28.8km s-min=17.7km az=56.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**282**	I	I	08 11 54.3	
0.1nm,0.7s,baz=101,slow=324,SNR=1.6							
ZALV	**Zalesovo Beam**	**1.79**	**282**	Pg	Pn	08 01 01.6	+0.3
0.9nm,0.3s,baz=97,slow=14,SNR=5.3							
ZALV				Lg	Lg	08 01 25.1	
1.1nm,0.3s,baz=103,slow=25,SNR=3.5							
KURBB	**Kurchatov Arra**	**6.44**	**246**	Pn	Pn	08 02 05.4	+0.2
baz=65,slow=14,SNR=2.8							
KURBB				Pg	Pb	08 02 22.2	+0.2
0.1nm,0.3s,baz=62,slow=14,SNR=7.0							
KURBB				Lg	Lg	08 03 54.4	
baz=56,slow=30							
0.2nm,0.3s							
MKAR	**Makanchi Array**	**7.69**	**209**	Pn	Pn	08 02 23.3	+0.9
0.1nm,0.3s,baz=26,slow=14,SNR=4.2							
MKAR				Lg	Lg	08 04 35.2	
0.1nm,0.3s,baz=28,slow=18,SNR=1.7							
0.1nm,0.3s							

IDC **14** *08:02:25.2±0.7,28.19N×139.64E,h469km±10km, mb2.9/11,mbtmp3.7/12,Error ellipse: s-maj=22.3km s-min=14.6km az=82.0*

JMA **14** *08:02:27.9±0.2,28.3°N×14.0°E±.1°,h503km,MV3.5/15,W OFF OGASAWARA*

ISC 14 08:02:27.2±0.7,28.14N±0.10×139.9E±0.2,h500km,n17, σ1s92/19,mb3.2/11,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.31**	**116**	*eP*	**P**	**08 03 34.6**	**+0.7**
CBIJ				*eS*	**S**	**08 04 27.0**	**-1.1**
JCJ	**Chichijima**	**2.31**	**116**	P	**P**	**08 03 29.8**	**-4.2**
48nm,0.3s,baz=325,slow=23,SNR=25							
JCJ				S	**S**	**08 04 23.7**	**-4.4**
122nm,0.5s,baz=313,slow=22,SNR=16							
JHH2	**Haha-jima-NKT2**	**2.55**	**125**	S	**S**	**08 04 31.4**	**+0.8**
BSO3	**Boso 3**	**6.67**	**5**	*eS*	**S**	**08 05 30.8**	**-2.8**
JIE	**Ise**	**6.79**	**337**	*eP*	**P**	**08 04 12.9**	**+1.8**
JRY	**Ryogami san**	**7.90**	**354**	*eP*	**P**	**08 04 22.6**	**+0.2**
WRA	**Warramunga Arr**	**48.09**	**187**	P	**P**	**08 10 21.3**	**+0.4**
0.3nm,0.3s,baz=2.0,slow=8.0,SNR=10							
0.3nm,0.3s							
MKAR	**Makanchi Array**	**48.22**	**309**	P	**P**	**08 10 20.6**	**-1.1**
0.4nm,0.4s,baz=93,slow=9.0,SNR=7.0							
0.6nm,0.4s							
KURBB	**Kurchatov Arra**	**50.84**	**314**	P	**P**	**08 10 40.1**	**-0.8**
1.3nm,0.4s,baz=91,slow=7.7,SNR=9.3							
1.3nm,0.4s							
ASAR	**Alice Springs**	**51.82**	**187**	P	**P**	**08 10 48.8**	**+0.5**
0.2nm,0.3s,baz=2.0,slow=6.6,SNR=6.6							
0.2nm,0.3s							
BVAR	**Boroyoe Array**	**55.88**	**317**	P	**P**	**08 11 16.2**	**-0.6**
1.6nm,0.5s,baz=86,slow=8.6,SNR=6.0							
1.6nm,0.5s							
ILAR	**Eielson Array**	**57.80**	**29**	P	**P**	**08 11 30.3**	**+0.6**
0.4nm,0.8s,baz=261,slow=4.5,SNR=4.6							
0.4nm,0.8s							
ARCES	**ARCESS Array B**	**71.88**	**340**	P	**P**	**08 12 58.6**	**0.0**
1.8nm,1.0s,baz=83,slow=7.4,SNR=1.7							
1.8nm,1.0s							
YKA	**Yellowknife Ar**	**72.20**	**28**	P	**P**	**08 13 01.4**	**+0.8**
0.1nm,0.5s,baz=320,slow=4.0,SNR=4.6							
0.1nm,0.5s							
KBZ	**Khabaz**	**75.79**	**312**	P	**P**	**08 13 21.2**	**-0.1**
1.2nm,0.8s,baz=45,slow=7.1,SNR=2.2							
1.2nm,0.8s							
FINES	**FINESS Array B**	**76.10**	**333**	P	**P**	**08 13 22.1**	**-0.5**
0.5nm,0.3s,baz=68,slow=4.4,SNR=6.7							
0.5nm,0.3s							
NVAR	**Mina Array Bea**	**81.49**	**51**	P	**P**	**08 13 54.5**	**+2.2**
0.3nm,0.7s,baz=310,slow=7.0,SNR=3.0							
0.3nm,0.7s							

ISU **14** *08:02:28.7,39.62N×73.37E,h5km*

KRNET **14** *08:02:28.1±0.1,39.66N×73.41E,h11km,mb2.5*

SOME **14** *08:02:31.8,39.88N×73.37E,h15km*

NNC **14** *08:02:32.7±1.2,39.94N×73.37E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=8.9km s-min=4.4km az=172.0*

ISC 14 08:02:30.4±1.3,39.66N±0.07×73.31E±0.03,h10km,n32, σ1s41/53,16C-8D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.38**	**23**	⇓*iP*	**Pg**	**08 02 35.5**	**-2.6**
baz=11							
SFK				⇓*iS*	**Sg**	**08 02 40.4**	**-2.8**
baz=11							
OHH	**Osh**	**0.95**	**335**	⇑*iP*	**Pg**	**08 02 47.2**	**-1.6**
baz=31							
OHH				⇑*iS*	**Sb**	**08 03 01.1**	**-0.7**
baz=31							
TSTA	**Tashata**	**1.12**	**326**	P	**Pn**	**08 02 51.8**	**-0.4**
TSTA				S	**Sn**	**08 03 08.9**	**+1.2**
DRK	**Karamyk**	**1.18**	**262**	⇑*eP*	**Pb**	**08 02 52.0**	**-1.1**
baz=62							
DRK				⇑*eS*	**Sn**	**08 03 09.3**	**-0.2**
baz=62							
CHMI	**Chimion**	**1.50**	**294**	P	**Pg**	**08 02 58.4**	**-0.8**
CHMI				S	**Sg**	**08 03 20.7**	**+2.0**
ARSB	**Arslanbob**	**1.68**	**352**	⇓*iP*	**Pn**	**08 03 00.0**	**-0.1**
baz=49							
ARSB				⇓*iS*	**Sb**	**08 03 22.8**	**0.0**
baz=49							
BTK	**Batken**	**1.96**	**283**	⇑*iP*	**Pb**	**08 03 05.8**	**-0.4**
baz=82							
BTK				⇑*iS*	**Sg**	**08 03 33.1**	**-0.2**
baz=82							
ARLS	**Aral**	**2.33**	**19**	⇓*iP*	**Pn**	**08 03 09.1**	**+0.1**
baz=17							
ARLS				⇓*iS*	**Sb**	**08 03 39.8**	**-1.7**
baz=17							
TRKS	**Terek-Say**	**2.49**	**319**	⇑*eP*	**Pn**	**08 03 11.8**	**+0.6**
baz=17							
TRKS				⇑*eS*	**Sb**	**08 03 44.1**	**-2.1**
baz=17							
NRN	**Naryn**	**2.71**	**48**	⇑*eP*	**Pn**	**08 03 14.0**	**-0.4**
baz=47							
NRN				⇑*eS*	**Sn**	**08 03 47.4**	**0.0**
baz=47							
UCH	**Uchtor**	**2.72**	**19**	⇓*iP*	**Pn**	**08 03 14.8**	**+0.1**
baz=18							
UCH				⇓*iS*	**Sn**	**08 03 48.7**	**+0.8**
baz=18							
MNAS	**Manas**	**2.89**	**348**	⇑*iP*	**Pn**	**08 03 17.7**	**+1.0**
baz=47							
MNAS				⇑*iS*	**Sn**	**08 03 53.7**	**+2.2**
baz=47							
MRKS	**Merke**	**3.08**	**359**	Pg	**Pb**	**08 03 24.5**	**-0.9**
3.7nm,0.4s							
MRKS				Lg	Lg	08 04 02.2	
19nm,0.3s							
MRKS	**Merke**	**3.08**	**359**	*eP*	**Pb**	**08 03 24.5**	**-0.9**
3.7nm,0.4s							
MRKS				*eS*	**Sb**	**08 04 02.2**	**-0.9**
19nm,0.3s							
AAK	**Ala-Archa**	**3.11**	**16**	⇑Pg	**Pb**	**08 03 23.4**	**-2.5**
3.3nm,0.7s							
AAK				Lg	Lg	08 04 03.3	
7.6nm,0.6s							
AAK	**Ala-Archa**	**3.11**	**16**	⇑*iP*	**Pn**	**08 03 20.1**	**+0.4**
baz=15							
AAK				⇑*iS*	**Sn**	**08 03 57.8**	**+0.9**
baz=15							
IUG	**Iuzhnay**	**3.51**	**316**	Pg	**Pb**	**08 03 33.5**	**+0.7**
12nm,0.3s							
IUG				Lg	Lg	08 04 17.7	
24nm,0.4s							
IUG	**Iuzhnay**	**3.51**	**316**	*eP*	**Pb**	**08 03 33.5**	**+0.7**
12nm,0.3s							
IUG				*eS*	**Sb**	**08 04 17.7**	**+2.2**
24nm,0.2s							
KST	**Kastek**	**3.93**	**30**	Pg	**Pb**	**08 03 39.6**	**-0.2**
6.2nm,0.8s							
KST				Lg	Lg	08 04 28.1	
7.6nm,0.7s							
KST	**Kastek**	**3.93**	**30**	*eP*	**Pb**	**08 03 39.6**	**-0.2**
6.2nm,0.8s							
KST				*eS*	**Sb**	**08 04 28.1**	**+0.7**
7.6nm,0.7s							
DGS	**Degeres**	**4.03**	**27**	Pg	**Pb**	**08 03 41.3**	**-0.3**
3.7nm,0.5s							
DGS				Lg	Lg	08 04 31.4	
8.7nm,0.8s							
DGS	**Degeres**	**4.03**	**27**	*eP*	**Pb**	**08 03 41.3**	**-0.3**
3.7nm,0.3s							
DGS				*eS*	**Sb**	**08 04 31.4**	**+1.0**
8.7nm,0.8s							
KK31	**Karatay Array**	**4.03**	**329**	⇑Lg	Lg	08 04 35.5	
1.8nm,0.3s,baz=144,slow=28,SNR=6.3							
BRLS	**Boroldav**	**4.26**	**323**	Pg	**Pb**	**08 03 45.6**	**+0.2**
BRLS				Lg	Lg	08 04 38.5	
BRLS	**Boroldav**	**4.26**	**323**	*eP*	**Pb**	**08 03 45.6**	**+0.2**
0.8nm,0.1s							
BRLS				*eS*	**Sb**	**08 04 38.5**	**+1.6**
2.6nm,0.3s							
TNSS	**Tian-Shan**	**4.35**	**38**	*eP*	**Pb**	**08 03 47.6**	**+0.5**
3.4nm,0.3s							
TNSS				*eS*	**Sb**	**08 04 41.6**	**+1.8**
3.6nm,0.5s							
KRBS	**Karabastau**	**4.41**	**23**	Pg	**Pb**	**08 03 48.6**	**+0.7**
2.4nm,0.2s							
KRBS				Lg	Lg	08 04 43.7	
4.7nm,0.5s							
KRBS	**Karabastau**	**4.41**	**23**	*eP*	**Pb**	**08 03 48.6**	**+0.7**
2.4nm,0.2s							
KRBS				*eS*	**Sb**	**08 04 43.7**	**+2.6**
4.7nm,0.5s							
KOTS	**Kotyrbulak**	**4.57**	**37**	Pg	**Pb**	**08 03 52.0**	**+1.1**
5.5nm,0.6s							
KOTS				Lg	Lg	08 04 49.2	
10nm,0.7s							
KOTS	**Kotyrbulak**	**4.57**	**37**	*eP*	**Pb**	**08 03 52.0**	**+1.1**
5.5nm,0.6s							
KOTS				*eS*	**Sb**	**08 04 49.2**	**+3.1**
10nm,0.7s							
KTBS	**Karatobe**	**4.77**	**31**	Pg	**Pb**	**08 03 55.4**	**+1.2**
2.4nm,0.8s							
KTBS				Lg	Lg	08 04 55.2	
7.7nm,0.4s							
KTBS	**Karatobe**	**4.77**	**31**	*eP*	**Pb**	**08 03 55.4**	**+1.2**
2.4nm,0.8s							
KTBS				*eS*	**Sb**	**08 04 55.2**	**+3.5**
7.7nm,0.4s							

IDC 14 08:09:59.7±2.8,53.75N×86.98E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=27.1km s-min=15.7km az=68.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**280**	I	I	08 18 10.0	
baz=100,slow=334,SNR=1.4							
ZALV	**Zalesovo Beam**	**1.30**	**280**	Pg	Pg	08 10 22.8	-1.7
1.0nm,0.3s,baz=97,slow=13,SNR=19							
ZALV				Lg	Lg	08 10 42.3	
0.9nm,0.3s,baz=100,slow=31,SNR=5.5							
KURBB	**Kurchatov Arra**	**6.06**	**242**	Pn	Pn	08 11 31.0	+0.4
0.1nm,0.3s,baz=58,slow=13,SNR=4.1							
0.5nm,0.5s							
MKAR	**Makanchi Array**	**7.58**	**205**	Pn	Pn	08 11 53.2	+1.8
0.1nm,0.3s,baz=26,slow=14,SNR=6.6							
0.3nm,0.4s							

NEIC **14** *08:15:53.6±2.3,41.68N±0.03×124.86W±0.06,h10km±2km, Error ellipse: s-maj=7.5km s-min=5.1km az=287.0*

SEA **14** *08:15:55.0±2.6,41.66N±0.03×124.78W±0.09,h40km±9km, Error ellipse: s-maj=9.3km s-min=4.9km az=83.0*

NCEDC 14 08:15:54.6±1.9,41.66N±0.03×124.86W±0.06,h13km±6km, ML3.2/5,ML2.9/88(NEIC),ML2.8/7(SEA),Error ellipse: s-maj=6.1km s-min=4.4km az=107.0,Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	**Bosley Butte**	**0.72**	**40**		Pg	08 16 08.0	-0.7
KBO					Sg	08 16 17.8

JCC	**Jacoby Creek,**	**1.05**	**143**			Pb	08 16 12.2	-2.4
L02F	**Cave Junction**	**1.06**	**64**			Pb	08 16 13.0	-1.8
L02F					IAML		08 16 47.3	
	comp=E,210nm,0.8s							
KOMM	**Orleans Mounta**	**1.12**	**110**			Pb	08 16 14.0	-1.9
KHMM	**Horse Mountain**	**1.16**	**132**			Pb	08 16 14.3	-2.2
K02D	**Willamette Mer**	**1.36**	**40**			Pn	08 16 17.3	-2.0
K02D						Sn	08 16 33.9	-3.3
K02D					IAML		08 16 51.2	
	comp=E,145nm,0.9s							
KMPM	**Mount Pierce**	**1.36**	**156**	Pn	Pn	Pn	08 16 18.0	-1.4
KMPM					IAML		08 16 47.4	
	comp=N,148nm,0.9s							
KMPM					IAML		08 16 58.2	
	comp=E,169nm,1.2s							
KSMM	**Slide Mountain**	**1.56**	**160**			Pn	08 16 19.9	-2.2
KHBM	**Hayfork Bally**	**1.59**	**128**			Pn	08 16 20.1	-2.5
KHBM						Sn	08 16 39.7	-3.4
YBH	**Yreka Blue Hor**	**1.61**	**87**	Pn		Pn	08 16 21.8	-0.9
J01E	**Myrtle Point**	**1.65**	**24**	Pn		Pn	08 16 21.1	-2.1
J01E					IAML		08 16 41.1	
	comp=N,186nm,0.2s							
J01E					IAML		08 16 45.2	
	comp=E,184nm,0.2s							
LAMM	**Antelope Mount**	**1.67**	**91**			Pn	08 16 22.7	-1.0
KMRM	**Mail Ridge**	**1.68**	**148**	Pn		Pn	08 16 22.7	-1.0
KMRM					IAML		08 16 43.1	
	comp=E,108nm,0.4s							
HUMO	**Hull Mountain**	**1.70**	**56**	Pn		Pn	08 16 22.2	-1.7
LGPM	**Granite Peak**	**1.70**	**115**			Pn	08 16 22.1	-2.0
KPPM	**Pickett Peak**	**1.74**	**139**			Pn	08 16 23.7	-0.9
LBKM	**Bonanza King**	**1.75**	**109**			Pn	08 16 22.9	-1.7
DBO	**Dodson Butte**	**1.88**	**39**			Pn	08 16 25.1	-1.4
L04D	**Klamath Falls**	**1.98**	**73**	Pn		Pn	08 16 27.5	-0.4
L04D					IAML		08 17 20.6	
	comp=N,98nm,1.0s							
L04D					IAML		08 17 23.5	
	comp=E,82nm,1.2s							
LBPM	**Beegum Peak**	**2.01**	**131**			Pn	08 16 27.4	-0.8
LMPM	**Military Pass**	**2.03**	**94**			Pn	08 16 28.3	-0.3
KIPM	**Iron Peak**	**2.13**	**150**			Pn	08 16 28.2	-1.6
KCPM	**Cahto Peak**	**2.20**	**153**	Pn		Pn	08 16 28.8	-2.0
KCPM					IAML		08 16 55.8	
	comp=E,70nm,0.5s							
KCPM					IAML		08 17 00.5	
	comp=N,58nm,0.6s							
LSHM	**Sage Hen Hill**	**2.30**	**111**			Pn	08 16 31.1	-1.0
I03D	**Drain, OR**	**2.32**	**28**	Pn		Pn	08 16 30.9	-1.4
I03D					IAML		08 17 00.2	
	comp=E,55nm,0.3s							
GTC	**Three Chop Rid**	**2.47**	**156**			Pn	08 16 32.7	-1.8
K04D	**Chiloquin, OR**	**2.50**	**66**	Pn		Pn	08 16 33.9	-1.1
K04D					IAML		08 17 37.8	
	comp=E,96nm,1.0s							
I04A	**Tendick Farm,**	**2.79**	**39**	Pn		Pn	08 16 38.2	-0.7
I04A					IAML		08 17 14.9	
	comp=E,38nm,0.4s							
I04A					IAML		08 17 15.2	
	comp=N,38nm,0.3s							
BUCK	**Buck Mountain**	**2.88**	**28**	Pn		Pn	08 16 39.5	-0.7
BUCK					IAML		08 17 14.5	
	comp=N,63nm,0.9s							
BUCK					IAML		08 17 14.8	
	comp=E,63nm,0.4s							
HOPS	**Hopland Field**	**3.00**	**152**	Pn		Pn	08 16 40.4	-1.3
HOPS					IAML		08 17 04.3	
	comp=N,29nm,3.8s							
K05A	**Summer Lake**	**3.13**	**69**			Pn	08 16 43.0	-0.7
J05D	**Fort Rock, OR**	**3.13**	**58**	Pn		Pn	08 16 43.1	-0.6
COR	**Corvallis**	**3.13**	**21**	Pn		Pn	08 16 43.8	+0.2
COR					IAML		08 18 18.7	
	comp=N,51nm,2.7s							
COR					IAML		08 18 32.8	
	comp=N,49nm,2.8s							
H04D	**Lebanon**	**3.25**	**28**	Pn		Pn	08 16 44.7	-0.5
ORV	**Oroville**	**3.31**	**128**			Pn	08 16 45.4	-0.6
ORV					IAML		08 17 24.1	
	comp=E,22nm,0.7s							
ORV					IAML		08 17 26.7	
	comp=N,28nm,0.7s							
LKVW	**Lakeview**	**3.40**	**79**			Pn	08 16 49.9	+2.5
PINE	**Pine Mountain**	**3.58**	**52**	Pn		Pn	08 16 49.4	-0.6
PINE					IAML		08 17 16.2	
	comp=E,16nm,3.0s							
H04A	**Detroit Lake**	**3.60**	**32**	Pn		Pn	08 16 49.5	-0.5
G03D	**McMinnville, O**	**3.73**	**18**	Pn		Pn	08 16 50.9	-0.9
G03D					IAML		08 18 17.4	
	comp=N,34nm,2.0s							
MCCM	**Marconi Confer**	**3.83**	**156**	Pn		Pn	08 16 52.4	-0.8
MCCM					IAML		08 18 06.7	
	comp=E,29nm,2.3s							
AFDM	**Forest Hills D**	**4.02**	**131**	Pn		Pn	08 16 54.9	-0.9
AFDM					IAML		08 17 43.5	
	comp=E,11nm,0.5s							
F03A	**Seaside**	**4.37**	**12**	Pn		Pn	08 16 59.9	-0.6
MPK	**Martis Peak**	**4.38**	**121**			Pn	08 17 01.4	+0.4
MPK					IAML		08 18 00.7	
	comp=N,11nm,1.6s							
MPK					IAML		08 18 24.3	
	comp=E,10nm,3.0s							
G05A	**Wamic**	**4.41**	**35**	Pn		Pn	08 17 01.0	-0.1
EMB	**Emerald Bay**	**4.52**	**125**	Pn		Pn	08 17 03.1	+0.2
EMB					IAML		08 17 58.5	
	comp=N,13nm,1.2s							
EMB					IAML		08 17 59.0	
	comp=E,8.9nm,0.6s							
PAHR	**Pah Rah Range**	**4.60**	**113**	Pn		Pn	08 17 04.7	+0.8
I07A	**Izee**	**4.62**	**57**	Pn		Pn	08 17 03.9	-0.2
I07A					IAML		08 17 57.4	
	comp=N,12nm,4.4s							
I07A					IAML		08 19 49.4	
	comp=E,7.6nm,4.8s							
WVOR	**Wild Horse Val**	**4.70**	**79**	Pn		Pn	08 17 04.6	-0.6
PNTR	**Pine Nut**	**4.77**	**121**			Pn	08 17 06.6	+0.4
PNTR					IAML		08 18 05.5	
	comp=E,7.8nm,2.7s							
RADR	**Rader Ridge**	**4.82**	**9**	Pn		Pn	08 17 07.1	+0.4
J08A	**Circle Bar Ran**	**5.01**	**68**	Pn		Pn	08 17 08.5	-1.1
J08A					IAML		08 17 56.5	
	comp=E,5.9nm,2.7s							
J08A					IAML		08 19 22.3	
	comp=N,5.3nm,4.3s							
YERR	**Yerington**	**5.06**	**120**			Pn	08 17 10.3	+0.1
YERR					IAML		08 18 10.9	
	comp=E,8.0nm,1.9s							
YERR					IAML		08 18 26.8	
	comp=N,6.5nm,4.4s							
HSFM	**Saint Francis**	**5.50**	**151**			Pn	08 17 14.0	-2.1
SAO	**San Andreas Ge**	**5.56**	**150**	Pn		Pn	08 17 16.4	-0.6
RYN	**Ryan**	**5.72**	**120**	Pn		Pn	08 17 19.6	+0.3
KVN	**Kaiserville**	**5.78**	**115**	Pn		Pn	08 17 19.8	-0.4
NVAR	**Mina Array Bea**	**5.98**	**121**	Pn		Pn	08 17 23.2	+0.4
NV11	**Mina Array Sit**	**6.07**	**120**	Pn		Pn	08 17 23.8	-0.3
GNW	**Green Mountain**	**6.08**	**13**	Pn		Pn	08 17 24.2	+0.2
BMO	**Blue Mountains**	**6.37**	**57**	Pn		Pn	08 17 28.8	+0.7
CLRS	**Cowichan Lake**	**7.17**	**4**	Pn		Pn	08 17 38.7	-0.3

*SOF **14** 08:17:32.9,45°.58N±0°.04×27°.20E±0°.05,h10km±1km, MD3.1/3*
*MCSM **14** 08:17:34.4±0.5,46°.N±4°.×2°.7E±°,h15km±3km,MLv3.2*
*SIGU **14** 08:17:35.3,45°.60N×26°.96E,h13km,mb3.0*
*BUC **14** 08:17:35.7±0.1,45°.58N×26°.98E,h16km,ml3.3/57,Error ellipse: s-maj=0.9km s-min=0.7km az=4.0*
*CFUSG **14** 08:17:36.0,45°.47N×27°.11E,h28km,mb2.9/3,Romania Magtype MSH 2.9 from 3 stations*

ISC 14 08:17:35.0±0.9,**45°.57N**±0°.01×**27°.04E**±0°.01,**h14**km±7km, **n105,**σ0**99**/171,**56C-54D,Romania**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ODBI	**Odobesti**	**0.19**	**4**	P		**Pb**	**08 17 41.3**	**+1.0**
GRER		**0.20**	**193**	⇓P		**Pb**	**08 17 40.8**	**+0.4**
GRER				⇓S		**Sb**	**08 17 44.9**	**+0.8**
BISRR	**Bisoca**	**0.23**	**264**	⇑P		**Pg**	**08 17 39.8**	**-0.3**
BISRR				⇓S		**Sg**	**08 17 44.0**	**+0.5**
BISRR	**Bisoca**	**0.23**	**264**	P		**Pg**	**08 17 39.4**	**-0.7**
SPBR	**Spulber**	**0.27**	**311**	⇓P		**Pg**	**08 17 40.5**	**-0.2**
SPBR				⇓S		**Sg**	**08 17 44.8**	**+0.2**
PANC	**Panciu**	**0.31**	**14**	⇓P		**Pb**	**08 17 43.0**	**+0.7**
PANC				⇓S		**Sb**	**08 17 47.7**	**+0.4**
VRI	**Vrincioaia**	**0.36**	**323**	⇑P		**Pg**	**08 17 42.1**	**-0.3**
VRI				⇑S		**Sg**	**08 17 47.7**	**+0.3**
VRI	**Vrincioaia**	**0.36**	**323**	P		**Pg**	**08 17 41.9**	**-0.5**
PLOR5	**Plostina Array**	**0.38**	**316**	P		**Pg**	**08 17 42.2**	**-0.5**
PLOR	**Plostina**	**0.39**	**316**	⇓P		**Pg**	**08 17 42.4**	**-0.4**
PLOR				⇓S		**Sb**	**08 17 49.6**	**0.0**
PLOR3	**Plostina Array**	**0.39**	**316**	P		**Pg**	**08 17 42.4**	**-0.5**
TUDR		**0.44**	**87**	⇓P		**Pb**	**08 17 45.4**	**+0.8**
TUDR				⇓S		**Sb**	**08 17 52.8**	**+1.7**
IZVR	**Izvoarele**	**0.51**	**93**	⇑P		**Pb**	**08 17 46.0**	**+0.2**
IZVR				⇑S		**Sn**	**08 17 55.3**	**-1.2**
SLCR	**Slobozia Conac**	**0.51**	**88**	⇑P		**Pb**	**08 17 46.9**	**+1.1**
SLCR				⇑S		**Sn**	**08 17 55.3**	**-1.2**
NEHR	**Nehoiu**	**0.54**	**255**	⇑P		**Pg**	**08 17 45.4**	**-0.3**
NEHR				⇑S		**Sb**	**08 17 53.8**	**-0.2**
GHRR		**0.55**	**28**	⇓P		**Pb**	**08 17 47.0**	**+0.5**
GHRR				⇓S		**Sb**	**08 17 55.6**	**+1.3**
GHRR		**0.55**	**28**	P		**Pb**	**08 17 46.8**	**+0.3**
SCHL	**Schela**	**0.56**	**97**	⇑P		**Pb**	**08 17 47.1**	**+0.5**
SCHL				⇑S		**Sn**	**08 17 56.9**	**-0.8**
SCHLR	**Schela**	**0.57**	**100**	⇓P		**Pb**	**08 17 47.1**	**+0.4**
SCHLR				⇑S		**Sn**	**08 17 56.8**	**-1.0**
SCHLR	**Schela**	**0.57**	**100**	⇓P		**Pb**	**08 17 47.1**	**+0.4**
SCHLR				⇑S		**Sn**	**08 17 56.8**	**-1.0**
ISR	**Istrita**	**0.57**	**218**	⇓P		**Pb**	**08 17 47.1**	**+0.2**
ISR				⇓S		**Sb**	**08 17 55.6**	**+0.7**
ISR	**Istrita**	**0.57**	**218**	P		**Pb**	**08 17 46.9**	**0.0**
NEGRR	**Negrea**	**0.59**	**93**	⇑P		**Pb**	**08 17 47.5**	**+0.4**
NEGRR				⇑S		**Sn**	**08 17 57.5**	**-0.9**
COVR	**Voineasa-Covas**	**0.65**	**295**	⇑P		**Pg**	**08 17 46.9**	**-0.7**
COVR				⇑S		**Sb**	**08 17 56.9**	**-0.1**
VARL	**Varlezi**	**0.66**	**60**	⇓P		**Pb**	**08 17 48.3**	**+0.1**
VARL				⇓S		**Sn**	**08 17 59.5**	**-0.6**
SCTR	**Scanteiesti**	**0.68**	**81**	⇓P		**Pb**	**08 17 50.9**	**+0.3**
SCTR				⇓S		**Sn**	**08 18 00.0**	**-0.6**
TATR	**Tataca**	**0.71**	**88**	⇓P		**Pb**	**08 17 49.7**	**+0.6**
TATR				⇓S		**Sn**	**08 18 00.8**	**-0.6**
MLR	**Muntele Rosu**	**0.77**	**264**	⇓P		**Pg**	**08 17 49.5**	**-0.5**
MLR				⇓S		**Sg**	**08 18 00.2**	**0.0**
MLR	**Muntele Rosu**	**0.77**	**264**	P		**Pg**	**08 17 49.1**	**-0.9**
MLR				⇓S		**Sn**	**08 18 02.0**	**-1.2**
VLDR	**Vladesti**	**0.78**	**69**	⇓P		**Pb**	**08 17 50.5**	**+0.2**
VLDR				⇓S		**Sn**	**08 18 03.3**	**+0.2**
BIR	**Birlad**	**0.81**	**30**	⇓P		**Pb**	**08 17 51.2**	**+0.4**
BIR				⇓S		**Sb**	**08 18 02.2**	**+0.7**
GIUM	**Giurgiulesti**	**0.83**	**96**	⇓P		**Pb**	**08 17 51.6**	**+0.5**
GIUM				⇓S		**Sn**	**08 18 04.6**	**+0.4**
GIUM	**Giurgiulesti**	**0.83**	**96**	P		**Pb**	**08 17 51.6**	**+0.5**
GIUM				S		**Sb**	**08 18 04.6**	**+0.4**
TURR	**Turia**	**0.86**	**304**	⇑P		**Pg**	**08 17 50.8**	**-0.9**
TURR				⇑S		**Sb**	**08 18 04.0**	**+0.8**
PLAR	**PLOIESTI**	**0.97**	**228**	⇑P		**Pg**	**08 17 54.0**	**+0.2**
PLAR				⇑S		**Sn**	**08 18 07.4**	**-0.4**
TESR	**Tescani**	**0.98**	**344**	⇑P		**Pb**	**08 17 53.4**	**-0.3**
TESR				⇑S		**Sn**	**08 18 07.4**	**-0.7**
TESR	**Tescani**	**0.98**	**344**	P		**Pb**	**08 17 53.3**	**-0.4**
AMRR	**Amara**	**0.98**	**168**	⇓P		**Pb**	**08 17 53.6**	**-0.2**
AMRR				⇓S		**Sn**	**08 18 08.7**	**+0.6**
OZUR		**1.02**	**301**	⇑P		**Pb**	**08 17 53.7**	**-0.7**
OZUR				⇑S		**Sg**	**08 18 08.4**	**+0.4**
SULR		**1.05**	**212**	⇑P		**Pb**	**08 17 55.2**	**+0.2**
SULR				⇑S		**Sn**	**08 18 10.0**	**+0.2**
BOSR	**Bodos**	**1.09**	**298**	⇓P		**Pb**	**08 17 54.9**	**-0.7**
BOSR				⇓S		**Sg**	**08 18 10.2**	**+0.1**
VASR	**Vaslui**	**1.19**	**26**	⇓P		**Pn**	**08 17 57.0**	**-0.2**
VASR				⇓S		**Sg**	**08 18 15.1**	**+1.7**
TPGR	**Topolog**	**1.21**	**126**	⇓P		**Pn**	**08 17 57.3**	**-0.2**
TPGR				⇓S		**Sg**	**08 18 14.9**	**+0.9**
DOPR	**Dopca**	**1.22**	**289**	⇓P		**Pn**	**08 17 56.8**	**-0.9**
DOPR				⇓S		**Sb**	**08 18 13.5**	**+1.0**
LEOM	**Leova**	**1.23**	**43**	⇓P		**Pn**	**08 17 57.7**	**-0.1**
LEOM				⇓S		**Sg**	**08 18 15.2**	**+0.5**
LEOM	**Leova**	**1.23**	**43**	P		**Pn**	**08 17 57.7**	**-0.1**
LEOM				S		**Sg**	**08 18 15.2**	**+0.5**
TLBR	**Topalu**	**1.25**	**145**	⇑P		**Pn**	**08 17 57.9**	**-0.1**
TLBR				⇑S		**Sg**	**08 18 15.5**	**+0.1**
TLCR		**1.31**	**107**	⇓P		**Pb**	**08 17 59.8**	**+0.4**
TLCR				⇑S		**Sg**	**08 18 18.3**	**+1.1**
CIOR	**Ciorogarla**	**1.39**	**217**	⇓S		**Sb**	**08 18 19.1**	**+0.7**
VOIR		**1.41**	**265**	⇓P		**Pn**	**08 17 60.0**	**-0.3**
VOIR				⇓S		**Sn**	**08 18 18.7**	**+0.1**
VOIR		**1.41**	**265**	P		**Pn**	**08 17 59.3**	**-1.0**
VOIR				S		**Sb**	**08 18 19.0**	**+0.1**
BUC1	**Bucharest**	**1.42**	**211**	⇑P		**Pb**	**08 18 01.4**	**+0.2**
BUC1				⇑S		**Sg**	**08 18 20.5**	**-0.2**
CVDA	**Cernavoda**	**1.43**	**150**	⇑P		**Pn**	**08 18 01.0**	**+0.6**
CVDA				⇑S		**Sb**	**08 18 20.9**	**+0.7**
BIZ	**Bicaz**	**1.51**	**335**	⇓S		**Sb**	**08 18 22.6**	**+0.6**
SGRR	**Singureni**	**1.55**	**210**	⇑P		**Pn**	**08 18 02.6**	**+0.4**
SGRR				⇑S		**Sb**	**08 18 23.5**	**+0.7**
ICOR	**Ion Corvin**	**1.55**	**159**	⇑S		**Sb**	**08 18 24.0**	**+0.9**
IAS	**Iasi**	**1.66**	**12**	⇑S		**Sn**	**08 18 25.4**	**+0.6**
MFTR	**Murfatlar**	**1.71**	**144**	⇓P		**Pn**	**08 18 05.0**	**+0.7**
MFTR				⇓S		**Sb**	**08 18 28.0**	**+0.5**
HUMR	**Humele**	**1.79**	**235**	⇑P		**Pn**	**08 18 05.9**	**+0.4**
HUMR				⇑S		**Sn**	**08 18 28.9**	**+0.8**
MILM	**Milestii Mici**	**1.82**	**42**	⇑P		**Pb**	**08 18 07.3**	**-0.8**
MILM				⇓S		**Sb**	**08 18 30.8**	**-0.1**
MILM	**Milestii Mici** 85nm,0.4s	**1.82**	**42**	*eP*		**Pb**	**08 18 07.4**	**-0.8**
MILM	150nm,0.3s			*eS*		**Sb**	**08 18 31.4**	**+0.6**
MILM	**Milestii Mici**	**1.82**	**42**	*eP*		**Pb**	**08 18 07.4**	**-0.8**
MILM				Pm			08 18 09.0	
MILM				*eS*		**Sb**	**08 18 31.4**	**+0.6**
MILM				Sm			08 18 35.0	
EFOR	**EFORIE**	**1.88**	**142**	⇑P		**Pb**	**08 18 08.2**	**-0.8**
EFOR				⇑S		**Sn**	**08 18 30.7**	**+0.6**
KIS	**Kishinev** 110nm,0.3s	**1.89**	**40**	*eS*		**Sg**	**08 18 34.6**	**-1.0**
KIS	**Kishinev**	**1.89**	**40**	*eS*		**Sg**	**08 18 34.7**	**-0.9**
COPA	**Copaceanca**	**1.94**	**223**	⇑S		**Sn**	**08 18 32.6**	**+1.0**
MDB	**Medias**	**1.94**	**288**	⇑P		**Pn**	**08 18 07.0**	**-0.6**
MDB				⇑S		**Sn**	**08 18 32.7**	**+0.9**
MANR	**Mangalia**	**2.08**	**147**	⇓S		**Sb**	**08 18 37.6**	**-0.4**
PSN	**Preselentsi**	**2.09**	**156**	⇓P		**Pn**	**08 18 09.4**	**-0.2**
PSN				S		**Sn**	**08 18 37.1**	**-0.3**
LOT	**Lotru**	**2.30**	**268**	⇓P		**Pn**	**08 18 11.7**	**-1.0**
LOT				⇓S		**Sn**	**08 18 41.4**	**+0.5**
NEF	**NEVSHA**	**2.31**	**176**	P		**Pn**	**08 18 13.5**	**+0.8**
BUR01	**Bucovina Ar. S**	**2.40**	**329**	⇓P		**Pn**	**08 18 13.9**	**-0.1**
BURAR	**Bucovina Array**	**2.40**	**329**	⇓P		**Pn**	**08 18 13.9**	**-0.1**
PRD	**Provadia**	**2.43**	**174**	*i* P		**Pn**	**08 18 14.0**	**-0.2**
PRD				S		**Sb**	**08 18 50.3**	**+2.1**
SZH	**Strazhitsa**	**2.43**	**199**	*i* P		**Pn**	**08 18 13.9**	**-0.4**
SZH				S		**Sb**	**08 18 50.5**	**+2.2**
ROIA	**ROIAK**	**2.49**	**174**	*i* P		**Pn**	**08 18 15.5**	**+0.4**
AVR	**AVREN**	**2.49**	**169**	P		**Pn**	**08 18 14.8**	**-0.4**
SORM	**Soroca**	**2.72**	**19**	⇑S		**Sn**	**08 18 52.9**	**+2.0**
SORM	**Soroca**	**2.72**	**19**	S		**Sn**	**08 18 52.9**	**+2.0**
MARR	**Marisel-Cluj**	**2.94**	**293**	⇓P		**Pn**	**08 18 20.7**	**-0.7**
MARR				⇓S		**Sn**	**08 18 56.8**	**+0.2**
GZR	**Gura Zlata**	**3.00**	**268**	⇓P		**Pn**	**08 18 22.3**	**+0.1**
GZR				⇓S		**Sn**	**08 18 56.8**	**+0.9**
KMPD	**K-Podol'skiy**	**3.02**	**353**	*eP*		**Pn**	**08 18 24.0**	**+1.6**
KMPD				*i* S		**Sn**	**08 19 00.7**	**+2.4**
NDNU	**Novodnistrovsk**	**3.03**	**4**	*eP*		**Pn**	**08 18 23.9**	**+1.3**
NDNU				Pm			08 18 37.9	
NDNU				*i* S		**Sn**	**08 19 00.9**	**+2.2**
NDNU				Sm			08 19 16.7	
KSV	**Kosov**	**3.06**	**334**	*i* P		**Pn**	**08 18 23.2**	**+0.3**
KSV				Pm			08 18 41.1	
KSV				*i* S		**Sn**	**08 19 00.9**	**+1.6**
KSV				Sm			08 19 20.6	
RAKU	**Rahkiv**	**3.15**	**322**	*eP*		**Pn**	**08 18 25.1**	**+0.9**
RAKU				*i* S		**Sn**	**08 19 02.8**	**+1.2**
NSLU	**Nyzhne Selyshc**	**3.17**	**327**	*i* P		**Pb**	**08 18 31.5**	**+0.5**
NSLU				Pm			08 18 48.8	
NSLU				*i* S		**Sg**	**08 19 14.0**	**-2.7**
NSLU				Sm			08 19 51.4	
DRGR		**3.24**	**294**	⇑P		**Pn**	**08 18 24.9**	**-0.6**
DRGR				⇑S		**Sn**	**08 19 03.4**	**-0.7**
STNU	**Starunia**	**3.58**	**332**	*eP*		**Pn**	**08 18 32.1**	**+1.9**
STNU				*i* S		**Sn**	**08 19 14.1**	**+1.8**
HORU	**Horodok**	**3.67**	**354**	*eP*		**Pn**	**08 18 33.4**	**+2.1**
HORU				*i* S		**Sn**	**08 19 17.1**	**+2.8**
TRSU	**Trosnyk**	**3.77**	**313**	P		**Pn**	**08 18 32.0**	**-0.7**
TARU	**Tarkhankut** comp=E,8.0nm,0.4s	**3.87**	**91**	Sm			08 19 23.5	
TARU	**Tarkhankut**	**3.87**	**91**	*eP*		**Pn**	**08 18 34.1**	**+0.1**
TARU	**Tarkhankut**	**3.87**	**91**	*eS*		**Sn**	**08 19 16.8**	**-2.5**
TARU	**Tarkhankut**	**3.87**	**91**	Pm			08 18 35.3	
	comp=Z,12nm,0.4s							
TARU	**Tarkhankut** comp=N,22nm,0.4s	**3.87**	**91**	Sm			08 19 23.5	
SEV	**Sevastopol'**	**4.81**	**100**	*eP*		**Pn**	**08 18 47.6**	**+0.7**
SEV				Pm			08 18 56.2	
	comp=Z,5.0nm,0.4s							
SEV				*eS*		**Sn**	**08 19 41.5**	**-0.9**
SEV				Sm			08 19 46.4	
	comp=N,8.0nm,0.4s							
SEV				Sm			08 19 46.4	
	comp=E,1.0nm,0.2s							
CRVS	**Cervenica-Dubn**	**5.05**	**313**	*ePN*		**Pn**	**08 18 49.7**	**-0.6**
AK18	**Malin Array Si**	**5.33**	**14**	P		**Pn**	**08 18 51.7**	**-2.4**
KECS	**Kecovo**	**5.34**	**305**	*ePN*		**Pn**	**08 18 53.3**	**-1.0**
AK22	**Malin Array Si**	**5.37**	**14**	P		**Pn**	**08 18 52.7**	**-1.9**
AK21	**Malin Array Si**	**5.38**	**14**	P		**Pn**	**08 18 52.7**	**-2.0**
AK23	**Malin Array Si**	**5.38**	**14**	P		**Pn**	**08 18 52.6**	**-2.2**
STHS	**Stebnicka Huta**	**5.50**	**316**	*ePN*		**Pn**	**08 18 55.1**	**-1.3**
SUDU	**Sudak**	**5.67**	**94**	*eP*		**Pn**	**08 18 57.7**	**-1.0**
SUDU				Pm			08 18 58.1	
	comp=Z,9.0nm,0.4s							
SUDU				*eS*		**Sn**	**08 20 00.8**	**-2.7**
SUDU				Sm			08 20 06.7	
	comp=N,26nm,0.4s							
SUDU				Sm			08 20 06.7	
	comp=E,11nm,0.6s							
SUDU	**Sudak**	**5.67**	**94**	*eP*		**Pn**	**08 18 57.7**	**-1.0**
SUDU				Pm			08 18 58.1	
SUDU				S		**Sn**	**08 20 00.8**	**-2.7**
SUDU				Sm			08 20 06.7	

*IDC **14** 08:18:00.7±1.2,41°.98N×133°.56E,h459km±17km,mb2.8/7, mbtmp3.7/10,Error ellipse: s-maj=23.4km s-min=14.7km az=45.0*
*JMA **14** 08:18:02.1±0.5,42°.N±2°.×13°.4E±°,h495km,MV3.4/18, SEA OF JAPAN*

ISC 14 08:17:60.0±0.8,**42°.0N**±0°.1×**133°.77E**±0°.09,**h448**km,**n21, σ1**9**73/22,mb3.3/6,Primorye**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**2.53**	**330**	P		**P**	**08 19 05.4**	**+2.0**
	24nm,0.3s,baz=145,slow=5.4,SNR=60							
JOSM	**Okushiri--Mats**	**4.25**	**87**	*eP*		**P**	**08 19 19.7**	**+2.6**
JOMM	**Oshimamatsumae**	**4.69**	**94**	*eP*		**P**	**08 19 23.7**	**+2.5**
JOT	**Ohata**	**5.49**	**94**	*eP*		**P**	**08 19 30.0**	**+1.1**
JMK	**Ichinoseki**	**6.46**	**116**	*eP*		**P**	**08 19 39.6**	**+0.7**
ASAJ	**Asahikawa**	**6.79**	**69**	P		**P**	**08 19 44.3**	**+2.0**
	7.8nm,0.4s,baz=262,slow=4.8,SNR=11							
JMM	**Marumori**	**6.81**	**125**	P		**P**	**08 19 42.6**	**-0.1**
JWT	**Wachi**	**6.86**	**169**	*eP*		**P**	**08 19 46.3**	**+3.0**
JHS	**Saijyo**	**7.04**	**184**	*eP*		**P**	**08 19 47.4**	**+2.2**
JCH	**Churui**	**7.13**	**82**	*eP*		**P**	**08 19 46.7**	**+0.7**
JCH				*eS*		**S**	**08 21 10.1**	**-2.7**
KLR	**Kul'dur**	**7.34**	**350**	P		**P**	**08 19 48.9**	**+0.8**
	2.1nm,0.4s,baz=166,slow=8.4,SNR=16							
JTKR	**Abashiri--Toko**	**7.68**	**72**	*eP*		**P**	**08 19 53.4**	**+1.6**
NEM2	**Nemuro 2**	**8.92**	**77**	*eP*		**P**	**08 20 05.8**	**+0.6**
BSO1	**Boso 1**	**9.29**	**140**	*eP*		**P**	**08 20 09.1**	**+0.3**
SONM	**Songino Array** 0.7nm,0.5s,baz=108,slow=9.5,SNR=5.2 0.7

n19,σ0ᵍ37/31,3C-1D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.05**	**169⇑**	*i*P	**Pg**	**08 39 37.8**	**0.0**
INTP				*e*S	**Sg**	**08 39 39.5**	**0.0**
LCND	**La Caada**	**0.18**	**71⇑**	*i*P	**Pg**	**08 39 39.5**	**+0.1**
LCND				*e*S	**Sg**	**08 39 42.4**	**+0.2**
LCND	**La Caada**	**0.18**	**71**	*i* P	**Pg**	**08 39 39.3**	**-0.1**
LCND				*i* P	**Pg**	**08 39 39.5**	**+0.1**
LCND				*i* S	**Sg**	**08 39 42.4**	**+0.2**
LCND				IAML		08 39 43.9	
	comp=Z,2μm,1.0s						
LCND				IAML		08 40 38.7	
	comp=Z,14μm,1.0s						
CNCH	**Conchagua**	**0.23**	**83**	*e*P	**Pg**	**08 39 40.5**	**+0.2**
CNCH				*e*S	**Sg**	**08 39 44.1**	**+0.5**
CNCH	**Conchagua**	**0.23**	**83**	*i* P	**Pg**	**08 39 40.4**	**+0.2**
CNCH				*i* S	**Sg**	**08 39 43.4**	**-0.2**
CNCH				IAML		08 39 44.7	
	comp=Z,2μm,1.0s						
CNRM	**Centro Naciona**	**0.25**	**335**	*i* P	**Pg**	**08 39 40.7**	**+0.1**
CNRM				*i* S	**Sg**	**08 39 44.2**	**+0.1**
CNRM				IAML		08 39 48.9	
	comp=Z,2μm,1.0s						
RANC	**El Ranchito**	**0.28**	**310⇑**	*i*P	**Pg**	**08 39 41.7**	**+0.4**
PACA	**Pacayal**	**0.33**	**311**	*e*P	**Pg**	**08 39 42.5**	**+0.3**
AMPH	**Amapala**	**0.40**	**85⇓**	*e*P	**Pg**	**08 39 43.4**	**+0.1**
AMPH				*e*S	**Sg**	**08 39 49.5**	**+0.9**
COEB	**Comit de Eme**	**0.52**	**299**	*e*P	**Pg**	**08 39 45.7**	**+0.2**
COEB	**Comit de Eme**	**0.52**	**299**	*i* P	**Pg**	**08 39 45.7**	**+0.2**
COEB				IAML		08 39 59.6	
	comp=Z,62nm,1.0s						
TECO	**Alcaldia de Te**	**0.75**	**292**	*e*P	**Pg**	**08 39 49.7**	**-0.3**
TECO				*e*S	**Sb**	**08 40 00.8**	**+0.2**
TECO	**Alcaldia de Te**	**0.75**	**292**	*i* P	**Pg**	**08 39 49.7**	**-0.3**
TECO				*i* S	**Sg**	**08 40 00.3**	**+0.4**
TECO				IAML		08 40 01.6	
	comp=Z,43nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.79**	**305**	*i* P	**Pg**	**08 39 50.6**	**0.0**
SCLA				IAML		08 40 13.4	
	comp=Z,29nm,1.0s						
COEG	**Centro de Oper**	**0.88**	**295**	*e*P	**Pg**	**08 39 52.1**	**-0.2**
COEG				*e*S	**Sb**	**08 40 04.5**	**+0.4**
COEG	**Centro de Oper**	**0.88**	**295**	*i* P	**Pg**	**08 39 51.9**	**-0.4**
COEG				*i* S	**Sb**	**08 40 04.6**	**+0.4**
COEG				IAML		08 40 07.3	
	comp=Z,48nm,1.0s						
PAVA	**Las Pavas**	**0.97**	**299**	*i* P	**Pg**	**08 39 54.0**	**0.0**
PAVA				IAML		08 40 11.1	
	comp=Z,140nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.11**	**44**	*e*P	**Pb**	**08 39 55.5**	**-1.1**
MACN	**El Madrono**	**1.56**	**120**	*i* P	**Pn**	**08 40 03.4**	**+0.4**
MACN				IAML		08 40 07.5	
	comp=Z,15nm,1.0s						

NCEDC ***14*** *08:44:23.7±2.9, 40.47N±0.08×127.3W±0.1, h4km±2km, Error ellipse: s-maj=14.7km s-min=12.6km az=229.0*
IDC ***14*** *08:44:23.5±1.8, 40.81N×127.31W, h0km, mb3.5/6, mbtmp3.4/10, ML3.7/3, MS3.2/12, Error ellipse: s-maj=34.5km s-min=16.5km az=25.0*
NEIC ***14*** *08:44:25.8±1.6, 40.69N±0.07×127.08W±0.05, h10km±2km, ML3.1/58, ML3.1/10(NCEDC), Error ellipse: s-maj=12.8km s-min=5.6km az=190.0*

ISC 14 08:44:24.1±1.2, 40.70N±0.08×127.27W±0.10, h10km, n19, σ1ᵍ04/67, mb3.4/6, MS3.2/6, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KCTM	**Capetown**	**2.25**	**95**		**Pn**	**08 45 00.5**	**-0.8**
KCTM					**Sn**	**08 45 29.6**	**+0.5**
KMPM	**Mount Pierce**	**2.42**	**96**	Pn	**Pn**	**08 45 03.1**	**-0.7**
KMPM				IAML		08 45 37.4	
	comp=N,84nm,0.5s						
KMPM				IAML		08 45 39.0	
	comp=E,102nm,0.7s						
KSMM	**Slide Mountain**	**2.42**	**101**		**Pn**	**08 45 02.4**	**-1.4**
JCC	**Jacoby Creek,**	**2.46**	**86**		**Pn**	**08 45 03.2**	**-1.1**
JCC				IAML		08 45 36.5	
	comp=E,78nm,0.6s						
KRPM	**Rodgers**	**2.50**	**78**		**Pn**	**08 45 04.6**	**-0.3**
KRPM				IAML		08 45 39.2	
	comp=N,78nm,1.1s						
KRPM				IAML		08 46 10.7	
	comp=E,65nm,4.2s						
KCRM	**Chalk Rock**	**2.64**	**95**		**Pn**	**08 45 06.1**	**-0.8**
KRMB	**Red Mountain**	**2.67**	**71**	Pn	**Pn**	**08 45 07.2**	**0.0**
KHMM	**Horse Mountain**	**2.69**	**85**	Pn	**Pn**	**08 45 07.7**	**+0.1**
KHMM				IAML		08 45 44.0	
	comp=N,56nm,0.6s						
KBO	**Bosley Butte**	**2.74**	**56**	Pn	**Pn**	**08 45 07.7**	**-0.5**
KBO				IAML		08 45 31.0	
	comp=E,57nm,2.1s						
KBO				IAML		08 46 14.8	
	comp=N,64nm,2.9s						
KMRM	**Mail Ridge**	**2.76**	**99**	Pn	**Pn**	**08 45 08.3**	**-0.1**
KMRM				IAML		08 45 45.5	
	comp=E,70nm,0.7s						
KMRM				IAML		08 45 51.9	
	comp=N,49nm,0.9s						
KSXB	**Camp Six Broad**	**2.80**	**65**		**Pn**	**08 45 08.8**	**-0.2**
KCPM	**Cahto Peak**	**3.00**	**109**		**Pn**	**08 45 11.6**	**-0.2**
KCPM				IAML		08 45 55.0	
	comp=N,41nm,0.6s						
KCPM				IAML		08 46 01.7	
	comp=E,54nm,0.6s						
KIPM	**Iron Peak**	**3.03**	**106**		**Pn**	**08 45 12.0**	**-0.2**
KHBM	**Hayfork Bally**	**3.08**	**89**		**Pn**	**08 45 12.0**	**-1.0**
L02F	**Cave Junction**	**3.12**	**62**		**Pn**	**08 45 13.5**	**+0.1**
K02D	**Willamette Mer**	**3.35**	**52**		**Pn**	**08 45 16.4**	**-0.2**
K02D				IAML		08 45 39.4	
	comp=N,27nm,2.9s						
K02D				IAML		08 46 33.2	
	comp=E,28nm,3.7s						
N02D	**Trinity Center**	**3.47**	**84**		**Pn**	**08 45 17.9**	**-0.4**
J01E	**Myrtle Point**	**3.50**	**44**	Pn	**Pn**	**08 45 18.8**	**+0.2**
J01E				IAML		08 47 11.9	
	comp=N,54nm,2.6s						
LBKM	**Bonanza King**	**3.51**	**82**		**Pn**	**08 45 19.0**	**+0.1**
YBH	**Yreka Blue Hor**	**3.59**	**72**	Pn	**Pn**	**08 45 20.7**	**+0.8**
YBH	**Yreka Blue Hor**	**3.59**	**72**	Pn	**Pn**	**08 45 21.2**	**+1.3**
	comp=N,8.1nm,0.3s,baz=265,slow=9.6,SNR=204						
YBH				Sn	**Sn**	**08 46 02.1**	**-0.3**
	baz=311,slow=19						
YBH				LR	LR	08 46 26.3	
	comp=N,192nm,19.9s,baz=254,slow=34						
	comp=N,27nm,0.5s						
LAMM	**Antelope Mount**	**3.62**	**74**		**Pn**	**08 45 22.1**	**+1.7**
HOPS	**Hopland Field**	**3.65**	**116**	Pn	**Pn**	**08 45 21.1**	**+0.4**
HOPS				IAML		08 46 24.5	
	comp=N,28nm,3.5s						
HOPS				IAML		08 46 33.9	
	comp=E,27nm,2.6s						
HUMO	**Hull Mountain**	**3.75**	**58**	Pn	**Pn**	**08 45 22.0**	**0.0**
DBO	**Dodson Butte**	**3.86**	**50**	Pn	**Pn**	**08 45 23.3**	**-0.2**
DBO				IAML		08 45 58.6	
	comp=N,27nm,2.8s						
DBO				IAML		08 46 00.6	
	comp=E,29nm,2.6s						
L04D	**Klamath Falls**	**4.03**	**66**	Pn	**Pn**	**08 45 27.7**	**+1.8**
L04D				IAML		08 45 55.7	
	comp=N,29nm,3.0s						
L04D				IAML		08 46 20.9	
	comp=E,35nm,2.0s						
I03D	**Drain, OR**	**4.18**	**43**	Pn	**Pn**	**08 45 25.1**	**-2.7**
I03D				IAML		08 47 52.2	
	comp=N,31nm,3.1s						
MCCM	**Marconi Confer**	**4.25**	**125**	Pn	**Pn**	**08 45 28.0**	**-0.8**
MCCM				IAML		08 46 04.3	
	comp=N,33nm,3.0s						
MCCM				IAML		08 47 00.7	
	comp=E,30nm,2.4s						
K04D	**Chiloquin, OR**	**4.56**	**63**		**Pn**	**08 45 32.5**	**-0.7**
BUCK	**Buck Mountain**	**4.72**	**41**	Pn	**Pn**	**08 45 34.7**	**-0.7**
I04A	**Tendick Farm,**	**4.75**	**48**	Pn	**Pn**	**08 45 36.0**	**+0.2**
I04A				IAML		08 47 30.4	
	comp=N,15nm,2.7s						
I04A				IAML		08 48 14.1	
	comp=E,22nm,2.6s						
COR	**Corvallis**	**4.86**	**36**	Pn	**Pn**	**08 45 36.6**	**-0.6**
H04D	**Lebanon**	**5.08**	**40**	Pn	**Pn**	**08 45 40.4**	**+0.2**
AFDM	**Forest Hills D**	**5.15**	**108**	Pn	**Pn**	**08 45 41.8**	**+0.4**
K05A	**Summer Lake**	**5.18**	**65**	Pn	**Pn**	**08 45 41.4**	**-0.5**
K05A				IAML		08 47 24.2	
	comp=E,16nm,3.8s						
J05D	**Fort Rock, OR**	**5.19**	**58**	Pn	**Pn**	**08 45 42.6**	**+0.8**
J05D				IAML		08 48 22.3	
	comp=N,17nm,4.7s						
J05D				IAML		08 48 36.8	
	comp=E,17nm,2.9s						
H04A	**Detroit Lake**	**5.47**	**42**	Pn	**Pn**	**08 45 46.2**	**+0.6**
H04A				IAML		08 47 25.4	
	comp=E,13nm,5.0s						
PINE	**Pine Mountain**	**5.62**	**55**	Pn	**Pn**	**08 45 48.7**	**+0.8**
SAO	**San Andreas Ge**	**6.01**	**129**	Pn	**Pn**	**08 45 52.8**	**-0.3**
PNTR	**Pine Nut**	**6.11**	**103**		**Pn**	**08 45 54.8**	**+0.1**
PAHR	**Pah Rah Range**	**6.12**	**97**	Pn	**Pn**	**08 45 55.9**	**+1.2**
BBGB	**Big Mountain B**	**6.38**	**128**		**Pn**	**08 45 59.5**	**+1.3**
YERR	**Yerington**	**6.41**	**103**	Pn	**Pn**	**08 46 00.4**	**+1.6**
E03A	**Lebam**	**6.43**	**23**	Pn	**Pn**	**08 45 59.2**	**+0.4**
I07A	**Izee**	**6.67**	**57**	Pn	**Pn**	**08 46 02.8**	**+0.6**
WVOR	**Wild Horse Val**	**6.70**	**72**	Pn	**Pn**	**08 46 02.8**	**+0.1**
PMPB	**Monarch Peak**	**6.77**	**129**		**Pn**	**08 46 03.9**	**+0.4**
RYN	**Ryan**	**7.06**	**104**	Pn	**Pn**	**08 46 07.1**	**-0.5**
MDPB	**Devils Postpil**	**7.06**	**113**	Pn	**Pn**	**08 46 07.6**	**-0.2**
J08A	**Circle Bar Ran**	**7.07**	**65**	Pn	**Pn**	**08 46 07.0**	**-0.7**
LON	**Longmire**	**7.22**	**31**	Pn	**Pn**	**08 46 11.0**	**+1.2**
NVAR	**Mina Array Bea**	**7.29**	**105**	Pn	**Pn**	**08 46 12.1**	**+1.3**
	comp=E,0.3nm,0.6s,baz=283,slow=14,SNR=4.5						
NVAR				LR	LR	08 49 16.2	
	comp=E,157nm,20.0s,baz=247,slow=39						
GNW	**Green Mountain**	**7.57**	**23**	Pn	**Pn**	**08 46 15.1**	**+0.7**
BMO	**Blue Mountains**	**8.42**	**57**	Pn	**Pn**	**08 46 27.6**	**+1.4**
CLRS	**Cowichan Lake**	**8.42**	**14**	Pn	**Pn**	**08 46 28.0**	**+1.9**
ELK	**Elko**	**9.14**	**86**	Pn	**Pn**	**08 46 34.9**	**-1.3**
HLID	**Hailey**	**9.97**	**69**	Pn	**Pn**	**08 46 46.6**	**-0.9**
NEW	**Newport**	**10.47**	**40**	LR	LR	08 50 51.9	
	comp=E,124nm,19.3s,baz=226,slow=37						
PFO	**Pinyon Flats O**	**11.15**	**126**	LR	LR	08 51 17.0	
	comp=E,65nm,18.5s,baz=264,slow=37						
PDAR	**Pinedale Array**	**13.39**	**75**	Pn	**P**	**08 47 41.0**	**-2.9**
	comp=E,0.1nm,0.3s,baz=253,slow=14,SNR=3.9						
PDAR				LR	LR	08 53 04.2	
	comp=E,157nm,19.5s,baz=252,slow=39						
	comp=E,0.4nm,0.7s						
ANMO	**Albuquerque**	**17.40**	**103**	P	**P**	**08 48 29.1**	**+0.6**
	comp=E,0.1nm,0.3s,baz=243,slow=11,SNR=2.1						
ANMO				LR	LR	08 55 33.1	
	comp=E,67nm,19.0s,baz=30,slow=38						
	comp=E,0.3nm,0.3s						
TXAR	**Lajitas Array**	**22.34**	**113**	P	**P**	**08 49 25.6**	**+3.4**
	comp=E,0.8nm,0.9s,baz=295,slow=6.0,SNR=8.9						
	comp=E,0.8nm,0.9s						
YKA	**Yellowknife Ar**	**23.11**	**15**	P	**P**	**08 49 30.2**	**+0.3**
	comp=E,0.5nm,0.8s,baz=206,slow=9.8,SNR=4.8						
	comp=E,0.5nm,0.8s						
ULM	**Lac du Bonnet**	**23.84**	**56**	LR	LR	08 59 17.0	
	comp=E,73nm,20.0s,baz=268,slow=38						
ILAR	**Eielson Array**	**26.64**	**341**	P	**P**	**08 50 03.7**	**+1.1**
	comp=E,0.3nm,0.9s,baz=150,slow=7.4,SNR=2.3						
	comp=E,0.3nm,0.9s						
TKL	**Tuckaleechee C**	**34.30**	**84**	LR	LR	09 04 39.7	
	comp=E,47nm,18.4s,baz=286,slow=35						
SFJD	**Kangerlussuaq**	**48.22**	**31**	LR	LR	09 13 44.9	
	comp=E,38nm,20.6s,baz=256,slow=37						
SEY	**Seymchan**	**50.51**	**324**	LR	LR	09 12 44.7	
	comp=E,25nm,21.0s,baz=24,slow=34						
H11N3	**WAKE ISLAND Hy**	**59.25**	**270**	T	T	09 58 26.8	
	baz=53,slow=75,SNR=41						
H11N2	**WAKE ISLAND Hy**	**59.26**	**270**	T	T	09 58 26.9	
	baz=53,slow=75,SNR=42						
H11N1	**WAKE ISLAND Hy**	**59.27**	**270**	T	T	09 58 30.1	
	baz=53,slow=75,SNR=62						
H11S1	**WAKE ISLAND Hy**	**60.13**	**269**	T	T	09 59 33.0	
	baz=53,slow=75,SNR=6.7						
H11S2	**WAKE ISLAND Hy**	**60.13**	**269**	T	T	09 59 41.7	
	baz=53,slow=75,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**60.15**	**269**	T	T	09 59 33.6	
	baz=53,slow=75,SNR=6.6						
BORG	**Borgarnes**	**60.19**	**28**	LR	LR	09 20 48.3	
	comp=E,30nm,18.6s,baz=275,slow=36						
NOA	**NORSAR Array B**	**73.17**	**20**	P	**P**	**08 55 54.5**	**+0.1**
	comp=E,0.7nm,0.8s,baz=330,slow=5.5,SNR=2.8						
	comp=E,0.7nm,0.8s						
JCJ	**Chichijima**	**73.27**	**291**	LR	LR	09 22 54.4	
	comp=E,15nm,21.3s,baz=140,slow=32						
HFS	**Hagfors**	**74.53**	**19**	P	**P**	**08 56 02.5**	**0.0**
	comp=E,1.1nm,0.7s,baz=328,slow=5.1,SNR=2.8						
	comp=E,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**86.29**	**344**	P	**P**	**08 57 05.2**	**-0.7**
	comp=E,0.2nm,0.5s,baz=23,slow=5.2,SNR=2.1						
	comp=E,0.2nm,0.5s						

IDC 14 08:44:55.5±3.8, 53.64N×87.97E, h0km, mbtmp2.7/2, ML2.3/2, Error ellipse: s-maj=36.0km s-min=19.0km az=51.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**281**	I	I	08 57 14.5	
	0.1nm,0.7s,baz=99,slow=330,SNR=4.2						
ZALV	**Zalesovo Beam**	**1.89**	**281**	Pg	Pn	08 45 29.3	+0.2
	0.5nm,0.3s,baz=96,slow=13,SNR=6.1						
ZALV				Lg	Lg	08 45 55.9	
	1.3nm,0.3s,baz=100,slow=26,SNR=8.7						
KURBB	**Kurchatov Arra**	**6.55**	**246**	Pn	Pn	08 46 33.3	+0.3
	0.1nm,0.3s,baz=65,slow=15,SNR=2.5						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.75**	**210**	Pn	Pn	08 46 51.1	+1.5
	0.1nm,0.3s,baz=32,slow=14,SNR=1.6						
	0.2nm,0.5s						

NEIC ***14*** *08:59:46.5±1.3, 19.47N±0.04×155.30W±0.02, h2km±24km, Error ellipse: s-maj=6.1km s-min=2.4km az=172.0*

HVO 14 08:59:46.9±1.5, 19.40N±0.03×155.290W±0.009, h1km±7km, ML3.2/3, ML2.3/34(NEIC), Error ellipse: s-maj=4.0km s-min=0.9km az=169.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**294**	Pg	Pg	08 59 47.0	-0.3
WRMHI				Sg	Sg	08 59 48.4	+0.7
NPH	**North Pit**	**0.01**	**39**	Pg	Pg	08 59 47.3	0.0
NPH				Sg	Sg	08 59 48.0	+0.3
SDHHI	**Sand Hill**	**0.01**	**199**	Pg	Pg	08 59 47.6	+0.3
SDHHI				Sg	Sg	08 59 47.9	+0.2
OBL	**Observatory Le**	**0.02**	**19**	IAML		08 59 47.4	
	comp=E,9μm,1.0s						
OBL				Pg	Pg	08 59 47.5	+0.2
RIM	**Rim**	**0.02**	**114**	Pg	Pg	08 59 47.4	0.0
RIM				IAML		08 59 47.5	
	comp=E,10μm,1.0s						
RIM				IAML		08 59 47.5	
	comp=N,13μm,0.7s						
RIM				Sg	Sg	08 59 48.4	+0.7
UWE	**Uwekahuna**	**0.02**	**350**		Pg	08 59 47.4	0.0
KKO	**Keanakako`i**	**0.02**	**101**	IAML		08 59 47.6	
	comp=E,9μm,1.3s						
KKO				Pg	Pg	08 59 47.8	+0.4
KKO				Sg	Sg	08 59 48.8	+1.0
UWB	**Uwekahuna B**	**0.03**	**26**	Pg	Pg	08 59 47.5	0.0
BYL	**Byron's Ledge**	**0.03**	**70**	IAML		08 59 47.6	
	comp=N,4μm,1.1s						
BYL				Pg	Pg	08 59 48.1	+0.6
BYL					Sg	08 59 49.2	+1.3
SBLHI	**Steaming Bluff**	**0.03**	**39**	Pg	Pg	08 59 47.3	-0.3
SBLHI				IAML		08 59 47.7	
	comp=N,7μm,1.1s						
HATHI	**Halema`uma`u T**	**0.03**	**52**	Pg	Pg	08 59 47.3	-0.2
HATHI				IAML		08 59 48.1	
	comp=N,6μm,0.7s						
RSD	**Rainshed**	**0.06**	**10**	Pg	Pg	08 59 47.8	-0.4
RSD				IAML		08 59 49.9	
	comp=N,3μm,0.7s						
PUH	**Pauahi**	**0.07**	**112**		Pg	08 59 49.1	+0.8
PUH				IAML		08 59 49.6	
	comp=N,2μm,1.2s						
PUH					Sg	08 59 51.2	+1.8
HLP	**Hilina Pali**	**0.11**	**189**		Pg	08 59 49.8	+0.8
HLP					Sg	08 59 52.3	+1.9
MLH	**Mauna Loa**	**0.13**	**315**	Pg	Pg	08 59 48.4	-1.0
MLH				IAML		08 59 53.2	
	comp=E,892nm,0.8s						
STCH	**Steam Cracks**	**0.16**	**96**	Pg	Pg	08 59 49.8	-0.1
STCH				IAML		08 59 52.2	
	comp=N,1μm,1.1s						
STCH				IAML		08 59 55.1	
	comp=E,1μm,1.1s						
NPOC	**North of Pu'u**	**0.17**	**93**	Pg	Pg	08 59 50.1	0.0
NPOC				IAML		08 59 52.7	
	comp=E,1μm,1.6s						
NPOC				IAML		08 59 54.7	
	comp=N,852nm,1.4s						
JCUZ	**Jacuzzi**	**0.18**	**96**	Pg	Pg	08 59 50.1	-0.2
JCUZ				IAML		08 59 54.4	
	comp=E,517nm,1.5s						
JCUZ				IAML		08 59 55.2	
	comp=N,911nm,1.5s						
HTC	**Hot Caves**	**0.19**	**212**		Pg	08 59 51.5	+1.0
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg	Pg	08 59 52.2	+0.1
HMH				IAML		08 59 52.9	
	comp=E,416nm,1.1s						
HMH				IAML		08 59 53.2	
	comp=N,556nm,1.2s						
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	08 59 52.5	-0.1
KHU	**Kahuku**	**0.34**	**243**	Pg	Pg	08 59 53.4	0.0
HUH	**Hualalai**	**0.59**	**299**	Pg	Pg	08 59 57.6	-0.5

NEIC ***14*** *09:06:28.0±0.3, 36.064N±0.008×97.57W±0.01, h5km±2km, Error ellipse: s-maj=1.2km s-min=1.1km az=104.0*

TUL 14 09:06:28.3±0.4, 36.071N±0.009×97.56W±0.01, h8km±8km, ML2.6, mb_Lg2.5/44(NEIC), ML2.7/72(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=201.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**162**		Pg	09 06 34.1	+0.1
OK029				Sg	Sg	09 06 38.3	+0.4
OK029				IAML		09 06 38.5	
	756nm,0.4s						
OK029				IAML		09 06 38.6	
	1μm,0.3s						
ADOK	**Arcadia Dam**	**0.45**	**159**		Pg	09 06 37.1	+0.1
ADOK				Sg	Sg	09 06 43.3	+0.5
OK033	**Mehan**	**0.51**	**93**		Pg	09 06 38.2	+0.1
CROK	**Carrier**	**0.55**	**322**		Pg	09 06 39.0	0.0
CROK				Sg	Sg	09 06 46.4	+0.2
CROK				IAML		09 06 46.8	
	comp=E,650nm,0.3s						
OK031	**S. Brethren Rd**	**0.60**	**101**		Pg	09 06 39.9	0.0
OK031				IAML		09 06 48.6	
	comp=E,258nm,0.2s						
OK048	**Pawnee Station**	**0.61**	**55**	Pg	Pg	09 06 40.0	0.0
OK048					Sg	09 06 48.1	+0.1
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	09 06 40.3	0.0
OKCSW	**OKLAHOMA CITY**	**0.67**	**171**		Pg	09 06 41.1	-0.2
OKCSW				IAML		09 06 50.7	
	comp=E,342nm,0.2s						
OKCSW				IAML		09 06 53.1	
	comp=N,514nm,0.3s						
QUOK	**Quay**	**0.70**	**82**		Pg	09 06 41.7	-0.1
QUOK				IAML		09 06 51.5	
	comp=N,260nm,0.3s						
QUOK				IAML		09 06 56.2	
	comp=E,278nm,0.2s						
OK051	**E0350 and S346**	**0.73**	**53**	Pg	Pg	09 06 42.3	-0.1
OK051				IAML		09 06 53.4	
	comp=E,391nm,0.2s						
OK051				IAML		09 06 55.1	
	comp=E,397nm,0.2s						
BLOK	**Blackwell**	**0.74**	**22**		Pg	09 06 42.4	-0.2
GC02	**Grant County #**	**0.81**	**343**		Pg	09 06 43.5	-0.5
FNO	**Franklin**	**0.82**	**171**		Pg	09 06 43.7	-0.4
FNO				IAML		09 06 57.8	
	comp=E,177nm,0.3s						
DEOK	**Depew**	**0.89**	**104**		Pg	09 06 44.9	-0.6
DEOK				IAML		09 06 59.9	
	comp=N,131nm,0.3s						
OK032	**Salt Plains WL**	**0.90**	**325**	IAML		09 06 59.6	
	comp=N,284nm,0.3s						
KAN14	**Manchester OK**	**0.94**	**340**		Pg	09 06 45.8	-0.6
KAN14				IAML		09 07 01.6	
	comp=N,236nm,0.1s						
KAN13	**South Haven SW**	**0.94**	**4**		Pg	09 06 46.1	-0.3
KAN13				IAML		09 07 09.1	
	comp=N,236nm,0.3s						
KAN13				IAML		09 07 12.5	
	comp=E,249nm,0.3s						
KAN17	**Caldwell West**	**0.98**	**351**		Pg	09 06 46.8	-0.4
KAN17				IAML		09 07 09.8	
	comp=E,266nm,0.2s						
CSTR	**Hydro, Custer**	**1.01**	**245**		Pg	09 06 47.1	-0.6
OK038	**West end E0370**	**1.03**	**293**		Pg	09 06 47.5	-0.7
W35A	**Tecumseh**	**1.07**	**148**	IAML		09 07 04.5	
	comp=E,252nm,0.4s						
W35A				IAML		09 07 07.9	
	comp=N,170nm,0.4s						
KAN01	**Argonia South**	**1.09**	**352**		Pg	09 06 48.7	-0.6
KAN01				IAML		09 07 05.2	
	comp=E,130nm,0.2s						
KAN01				IAML		09 07 10.4	
	comp=N,110nm,0.2s						
T35A	**Sooner Cattle**	**1.20**	**45**	Pg	Pb	09 06 50.7	-0.6
T35A				IAML		09 07 13.6	
	comp=N,201nm,0.4s						
KAN06	**Argonia West S**	**1.20**	**349**	IAML		09 07 07.4	
	comp=E,169nm,0.2s						
KAN06				IAML		09 07 12.2	
	comp=N,151nm,0.2s						
KAN08	**Anthony NE Sta**	**1.20**	**344**	IAML		09 07 07.5	
	comp=N,106nm,0.4s						
KAN08				IAML		09 07 08.9	
	comp=E,135nm,0.3s						
U32A	**Winter Ranch,**	**1.20**	**285**		Pb	09 06 50.3	-1.0
U32A				IAML		09 07 08.0	
	comp=N,107nm,0.2s						
U32A				IAML		09 07 09.5	
	comp=E,117nm,0.1s						
KAN12	**Harper NE Stat**	**1.27**	**344**		Pn	09 06 51.9	-0.6
ELIS	**Ellis County**	**1.50**	**270**		Pn	09 06 55.6	+0.1
WMOK	**Wichita Mounta**	**1.66**	**217**		Pn	09 06 57.8	0.0
RLO	**Rose Lookout**	**2.06**	**87**		Pn	09 07 04.0	+0.8
LOOK	**Love County**	**2.10**	**171**		Pn	09 07 05.1	+1.4

WVT	**Waverly**	**7.88**	**87**	IAmb_Lg		09 10 49.2	
	comp=Z,7.6nm,0.7s						
N23A	**Red Feather La**	**8.14**	**309**	IAmb_Lg		09 11 00.9	
	comp=Z,5.8nm,0.9s						

IDC 14 09:08:13.4±2.8, 54°06N×86°46E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=24.2km s-min=14.3km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**264**	I	I	09 15 15.4	
	baz=83,slow=332,SNR=3.6						
ZALV	**Zalesovo Beam**	**0.98**	**264**	Pg	Pg	09 08 30.5	-1.7
	1.2nm,0.3s,baz=84,slow=18,SNR=13						
ZALV				Lg	Lg	09 08 46.4	
	1.3nm,0.3s,baz=90,slow=31,SNR=6.8						
KURBB	**Kurchatov Arra**	**5.96**	**238**	Pn	Pn	09 09 44.1	+1.3
	0.1nm,0.3s,baz=54,slow=13,SNR=8.6						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**7.75**	**202**	Pn	Pn	09 10 08.3	+0.9
	0.2nm,0.3s,baz=23,slow=14,SNR=11						
	0.3nm,0.3s						

IDC 14 09:11:10.0±0.9, 13°.44S×45°.80E, h0km, mb3.9/8, mbtmp3.9/8, MS3.3/6, Error ellipse: s-maj=42.2km s-min=22.3km az=111.0

ISC 14 09:11:11.5±1.0, 13°.4S±0°.2×45°.8E±0°.3, h10km, n14, σ1°14/9, mb4.0/8, MS3.2/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBAR	**Mbarara**	**19.59**	**309**	LR	LR	09 22 31.3	
	comp=Z,91nm,18.2s,baz=164,slow=35						
BOSA	**Boshof**	**24.34**	**228**	P	**P**	**09 16 29.2**	**-0.6**
	1.5nm,0.4s,baz=56,slow=12,SNR=7.3						
BOSA				LR	LR	09 26 15.3	
	comp=Z,61nm,18.4s,baz=33,slow=37						
	1.5nm,0.4s						
GNI	**Garni**	**53.30**	**359**	LR	LR	09 43 24.1	
	comp=Z,32nm,20.4s,baz=133,slow=36						
DBIC	**Dimbokro**	**54.09**	**289**	LR	LR	09 43 20.7	
	comp=Z,44nm,18.0s,baz=42,slow=36						
KBZ	**Khabaz**	**56.93**	**358**	LR	LR	09 46 50.2	
	comp=Z,18nm,19.6s,baz=226,slow=38						
AKASG	**Malin Array Be**	**65.47**	**349**	LR	LR	09 50 42.7	
	comp=Z,11nm,19.3s,baz=50,slow=36						
MKAR	**Makanchi Array**	**68.30**	**26**	P	**P**	**09 22 13.1**	**+0.2**
	1.2nm,0.8s,baz=229,slow=6.2,SNR=8.6						
	1.2nm,0.8s						
BVAR	**Borovoye Array**	**69.48**	**16**	P	**P**	**09 22 20.0**	**+0.1**
	0.5nm,0.3s,baz=201,slow=7.7,SNR=5.0						
	0.5nm,0.3s						
KURBB	**Kurchatov Arra**	**69.92**	**22**	P	**P**	**09 22 23.2**	**+0.6**
	0.5nm,0.7s,baz=217,slow=7.6,SNR=4.3						
	0.5nm,0.7s						
ZALV	**Zalesovo Beam**	**74.89**	**23**	P	**P**	**09 22 53.2**	**+0.9**
	0.3nm,0.3s,baz=231,slow=6.9,SNR=2.2						
	0.3nm,0.3s						
QSPA	**South Pole Qui**	**76.68**	**180**	P	**P**	**09 23 03.9**	**+1.3**
	1.8nm,0.8s,baz=240,slow=3.2,SNR=7.2						
	1.8nm,0.8s						
ASAR	**Alice Springs**	**83.04**	**113**	P	**P**	**09 23 38.2**	**+0.3**
	0.6nm,0.7s,baz=262,slow=4.6,SNR=9.9						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**84.20**	**109**	P	**P**	**09 23 42.0**	**-1.9**
	0.7nm,0.8s,baz=256,slow=3.4,SNR=3.2						
	0.7nm,0.8s						
NVAR	**Mina Array Bea**	**151.36**	**333**	PKP	**PKPdf**	**09 30 59.1**	**-1.1**
	0.6nm,0.8s,baz=222,slow=1.2,SNR=4.3						

ISC 14 09:22:12.0±1.1, 48°.78N±0°.06×18°.15E±0°.04, h10km, n5, σ0°24/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAVC	**Velka Javorina**	**0.33**	**284**	*e*Pg	**Pg**	**09 22 18.3**	**-0.3**
JAVC				*e*Sg	**Sg**	**09 22 23.1**	**+0.1**
VYHS	**Vyhne**	**0.54**	**122**	*e*Pg	**Pb**	**09 22 23.6**	**0.0**
VYHS				*e*Sg	**Sb**	**09 22 31.0**	**-0.3**
MODS	**Modra-Piesok**	**0.71**	**235**	*e*Pg	**Pg**	**09 22 25.8**	**+0.1**
MODS				*e*Sg	**Sb**	**09 22 36.6**	**+0.3**
LANS	**Liptovska Anna**	**0.94**	**66**	*e*Pg	**Pg**	**09 22 30.3**	**+0.1**
MORC	**Moravsky Berou**	**1.07**	**338**	*e*Pg	**Pg**	**09 22 32.8**	**+0.1**
MORC				*e*Sg	**Sn**	**09 22 48.1**	**-0.1**

NEIC 14 09:22:24.8±0.4, 36°.064N±0°.010×97°.57W±0°.01, h6km±2km, Error ellipse: s-maj=1.5km s-min=1.4km az=64.0

TUL 14 09:22:25.1±0.5, 36°.071N±0°.009×97°.569W±0°.009, h8km±8km, ML3.0, mb_Lg3.0/122(NEIC), ML3.1/72(NEIC), Error ellipse: s-maj=1.6km s-min=0.4km az=218.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**161**		Pg	09 22 31.0	+0.2
OK029				Sg	Sg	09 22 35.1	+0.4
OK029				IAML		09 22 35.4	
	2µm,0.4s						
OK029				IAML		09 22 35.4	
	4µm,0.5s						
ADOK	**Arcadia Dam**	**0.45**	**159**	Pg	Pg	09 22 33.9	+0.1
ADOK				Sg	Sg	09 22 40.3	+0.6
OK033	**Mehan**	**0.51**	**93**		Pg	09 22 35.0	0.0
CROK	**Carrier**	**0.55**	**322**		Pg	09 22 35.8	0.0
OK031	**S. Brethren Rd**	**0.60**	**101**		Pg	09 22 36.8	0.0
OK048	**Pawnee Station**	**0.61**	**55**	Pg	Pg	09 22 37.0	0.0
OK048				Sg	Sg	09 22 45.0	+0.1
OK048				IAML		09 22 45.4	
	979nm,0.5s						
OK048				IAML		09 22 47.5	
	1µm,0.3s						
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	09 22 37.1	0.0
OKCSW	**OKLAHOMA CITY**	**0.67**	**171**	Pg	Pg	09 22 37.9	-0.2
OKCSW				IAML		09 22 50.0	
	comp=E,921nm,0.4s						
QUOK	**Quay**	**0.70**	**82**		Pg	09 22 38.5	-0.2
QUOK				IAML		09 22 48.5	
	comp=N,1µm,0.5s						
QUOK				IAML		09 22 57.9	
	comp=E,551nm,0.2s						
OK051	**E0350 and S346**	**0.73**	**54**		Pg	09 22 39.3	+0.1
OK051				IAML		09 22 50.3	
	comp=E,835nm,0.2s						
OK051				IAML		09 22 51.2	
	comp=E,984nm,0.2s						
BLOK	**Blackwell**	**0.74**	**22**		Pg	09 22 39.3	-0.1
BLOK				IAML		09 22 49.8	
	comp=E,1µm,0.3s						
BLOK				IAML		09 22 58.4	
	comp=N,1µm,0.2s						
FNO	**Franklin**	**0.82**	**170**		Pg	09 22 40.6	-0.4
FNO				IAML		09 22 57.4	
	comp=E,660nm,0.7s						
OK032	**Salt Plains WL**	**0.90**	**325**		Pg	09 22 42.0	-0.4
OK032				IAML		09 22 56.4	
	comp=E,852nm,0.4s						
OK032				IAML		09 22 56.9	
	comp=E,786nm,0.2s						
DEOK	**Depew**	**0.90**	**104**	IAML		09 22 56.8	
	comp=N,397nm,0.3s						
DEOK				IAML		09 22 57.7	
	comp=E,377nm,0.2s						
KAN14	**Manchester OK**	**0.94**	**340**	IAML		09 22 58.1	
	comp=E,776nm,0.3s						
KAN14				IAML		09 23 04.0	
	comp=N,502nm,0.2s						
KAN13	**South Haven SW**	**0.94**	**4**		Pg	09 22 42.9	-0.3
KAN13				IAML		09 23 04.4	
	comp=E,875nm,0.3s						
KAN13				IAML		09 23 10.9	
	comp=N,822nm,0.3s						
KAN17	**Caldwell West**	**0.98**	**351**	IAML		09 23 00.3	
	comp=E,704nm,0.3s						
KAN17				IAML		09 23 09.6	
	comp=N,696nm,0.3s						
CSTR	**Hydro, Custer**	**1.00**	**245**		Pg	09 22 43.5	-0.9
OK038	**West end E0370**	**1.03**	**294**		Pg	09 22 44.1	-0.8
KAN05	**Bluff City Nor**	**1.06**	**347**		Pg	09 22 45.1	-0.5
KAN05				IAML		09 23 02.8	
	comp=N,571nm,0.2s						
KAN05				IAML		09 23 05.1	
	comp=E,629nm,0.2s						
KAN09	**Caldwell North**	**1.06**	**358**		Pg	09 22 45.0	-0.5
KAN01	**Argonia South**	**1.09**	**352**		Pg	09 22 45.5	-0.6
KAN01				IAML		09 23 04.7	
	comp=E,320nm,0.3s						
KAN01				IAML		09 23 07.3	
	comp=N,313nm,0.5s						
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	09 22 45.8	-0.8
KAN08	**Anthony NE Sta**	**1.20**	**344**		Sg	09 23 03.3	-0.4
KAN08				IAML		09 23 03.8	
	comp=N,327nm,0.4s						
KAN08				IAML		09 23 03.8	
	comp=E,434nm,0.5s						
U32A	**Winter Ranch,**	**1.20**	**285**	Pg	Pb	09 22 46.9	-1.2
U32A				IAML		09 23 06.3	
	comp=N,256nm,0.6s						
U32A				IAML		09 23 10.1	
	comp=E,241nm,0.4s						
ELIS	**Ellis County**	**1.50**	**270**		Pn	09 22 52.0	-0.3
WMOK	**Wichita Mounta**	**1.66**	**217**	Pn	Pn	09 22 54.6	+0.1
RLO	**Rose Lookout**	**2.06**	**87**		Pn	09 23 00.6	+0.5
RLO				IAmb_Lg		09 23 29.3	
	comp=Z,39nm,0.7s						
LOOK	**Love County**	**2.10**	**171**		Pn	09 23 01.4	+0.9
LOOK				IAmb_Lg		09 23 34.1	
	comp=Z,60nm,0.9s						
X37A	**Clayton**	**2.33**	**129**		Pn	09 23 04.4	+0.7
X37A				IAmb_Lg		09 23 41.7	
	comp=Z,91nm,0.8s						
SMWD	**Samnorwood**	**2.38**	**247**	Pn	Pn	09 23 04.6	+0.1
WTFS	**Witchita Falls**	**2.41**	**198**		Pn	09 23 05.8	+1.0
Z35A	**Perchaven, San**	**2.75**	**174**		Pn	09 23 09.4	0.0
HHAR	**Hobbs**	**2.94**	**85**		Pn	09 23 12.0	-0.2
FW06	**Azle**	**3.09**	**180**		Pn	09 23 13.3	-0.9
KSU1	**Kansas State U**	**3.12**	**14**	IAmb_Lg		09 24 10.4	
	comp=Z,34nm,0.8s						
CBKS	**Cedar Bluff**	**3.24**	**328**	IAmb_Lg		09 24 13.8	
	comp=Z,70nm,1.0s						
PLPT	**Palo Pinto**	**3.31**	**191**	Pn	Pn	09 23 17.7	+0.5
Z38A	**Mt. Pleasant**	**3.52**	**142**	IAmb_Lg		09 24 22.7	
	comp=Z,64nm,0.8s						
TREL	**Terrell**	**3.55**	**159**	IAmb_Lg		09 24 25.4	
	comp=Z,31nm,0.8s						
AMTX	**Amarillo**	**3.56**	**252**	IAmb_Lg		09 24 17.1	
	comp=Z,39nm,0.8s						
MIAR	**Mount Ida**	**3.60**	**114**	Pn	Pn	09 23 21.4	+0.2
MIAR				IAmb_Lg		09 24 25.0	
	comp=Z,32nm,0.7s						
S39A	**Bolivar**	**3.77**	**63**		Pn	09 23 24.4	+0.9
S39A				IAmb_Lg		09 24 29.3	
	comp=Z,53nm,0.8s						
ABTX	**Abilene, Hawle**	**3.84**	**207**	IAmb_Lg		09 24 27.3	
	comp=Z,25nm,0.9s						
SN07	**Snyder 07**	**4.04**	**224**	IAmb_Lg		09 24 35.4	
	comp=Z,52nm,0.9s						
X40A	**Basin Creek Fa**	**4.18**	**111**	IAmb_Lg		09 24 43.7	
	comp=Z,24nm,0.7s						
SN05	**Snyder 5**	**4.20**	**222**	IAmb_Lg		09 24 48.8	
	comp=Z,38nm,0.9s						
WLAR	**White Oak Lake**	**4.37**	**122**	Pn	Pn	09 23 31.6	-0.1
WLAR				IAmb_Lg		09 24 54.8	
	comp=Z,24nm,0.8s						
WHAR	**Wooly Hollow**	**4.37**	**99**	IAmb_Lg		09 24 41.4	
	comp=Z,34nm,1.0s						
MGMO	**Mountain Grove**	**4.40**	**74**	IAmb_Lg		09 24 44.8	
	comp=Z,54nm,0.8s						
POST	**Post**	**4.42**	**228**	IAmb_Lg		09 24 48.5	
	comp=Z,26nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.42**	**91**	IAmb_Lg		09 24 53.8	
	comp=Z,30nm,0.9s						
UALR	**University of**	**4.46**	**105**	IAmb_Lg		09 24 51.7	
	comp=Z,23nm,0.9s						
P38A	**Dawn**	**4.77**	**41**	IAmb_Lg		09 25 06.2	
	comp=Z,32nm,0.9s						
Z41A	**Richland Creek**	**4.83**	**124**	IAmb_Lg		09 25 02.6	
	comp=Z,30nm,0.8s						
BRDY	**Brady**	**4.92**	**194**	Pn	Pn	09 23 40.5	+1.1
KSCO	**Kaye Shedlock'**	**4.98**	**308**	IAmb_Lg		09 25 12.8	
	comp=Z,26nm,0.8s						
SGCY	**Sterling City**	**5.09**	**216**	IAmb_Lg		09 25 14.7	
	comp=Z,29nm,0.8s						
CCAR	**Cane Creek**	**5.22**	**113**	IAmb_Lg		09 25 22.0	
	comp=Z,22nm,0.8s						
435B	**Jarrell**	**5.27**	**180**	IAmb_Lg		09 25 26.3	
	comp=Z,22nm,0.8s						
BGNE	**Belgrade**	**5.35**	**355**	Pn	Pn	09 23 43.4	-1.9
BGNE				IAmb_Lg		09 25 18.8	
	comp=Z,40nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**67**	IAmb_Lg		09 25 27.5	
	comp=Z,36nm,0.7s						
T25A	**Trinidad**	**5.61**	**283**	IAmb_Lg		09 25 36.7	
	comp=Z,28nm,1.0s						
JCT	**Junction City**	**5.88**	**199**	IAmb_Lg		09 25 37.3	
	comp=Z,30nm,0.8s						
OZNA	**Ozona**	**5.93**	**211**	IAmb_Lg		09 25 42.3	
	comp=Z,20nm,0.7s						
OGNE	**Ogallala**	**5.99**	**326**	IAmb_Lg		09 25 49.0	
	comp=Z,38nm,0.9s						
143A	**Socs Landing,**	**6.10**	**122**	IAmb_Lg		09 25 46.8	
	comp=Z,18nm,0.9s						
SLM	**Saint Louis**	**6.38**	**64**	IAmb_Lg		09 25 49.4	
	comp=Z,34nm,0.7s						
MNHN	**Monahans**	**6.40**	**224**	IAmb_Lg		09 26 03.8	
	comp=Z,16nm,0.7s						
SDCO	**Great Sand Dun**	**6.57**	**287**	IAmb_Lg		09 25 56.2	
	comp=Z,13nm,1.1s						
HNDO	**Hondo**	**6.68**	**193**	IAmb_Lg		09 26 01.0	
	comp=Z,18nm,0.9s						
K30B	**Basset**	**6.78**	**347**	Pn	Pn	09 24 05.6	+0.7
K30B				IAmb_Lg		09 26 13.8	
	comp=Z,23nm,0.8s						
OXF	**Oxford**	**6.85**	**101**	IAmb_Lg		09 26 07.6	
	comp=Z,12nm,0.9s						
Y45A	**Yeager Farm, C**	**6.95**	**106**	IAmb_Lg		09 26 17.3	
	comp=Z,23nm,1.1s						
BRIGG	**Briggsdale**	**6.96**	**312**	IAmb_Lg		09 26 10.7	
	comp=Z,26nm,0.9s						
DRIO	**Del Rio**	**7.11**	**202**	IAmb_Lg		09 26 27.9	
	comp=Z,12nm,0.8s						
SAND	**Sanderson**	**7.20**	**213**	IAmb_Lg		09 26 21.4	
	comp=Z,13nm,0.8s						
ISCO	**Idaho Springs**	**7.37**	**303**	IAmb_Lg		09 26 27.7	
	comp=Z,10nm,0.8s						
833A	**Chaparral WMA,**	**7.88**	**192**	IAmb_Lg		09 26 43.7	
	comp=Z,11nm,0.9s						
Y22D	**IRIS PASSCAL I**	**7.92**	**258**	IAmb_Lg		09 26 57.5	
	comp=Z,27nm,0.9s						
PHWY	**Pilot Hill**	**8.08**	**313**	IAmb_Lg		09 26 49.4	
	comp=Z,12nm,0.8s						
VHRN	**Van Horn**	**8.13**	**232**	IAmb_Lg		09 26 51.8	
	comp=Z,11nm,0.9s						
N23A	**Red Feather La**	**8.14**	**309**	IAmb_Lg		09 26 54.0	
	comp=Z,22nm,0.8s						
SUSD	**Miller**	**8.43**	**353**	IAmb_Lg		09 27 03.5	
	comp=Z,13nm,0.8s						
L42A	**Oliver, Polo**	**8.54**	**44**	IAmb_Lg		09 27 06.2	
	comp=Z,18nm,0.7s						
I37A	**Lemond, Waseca**	**8.55**	**21**	IAmb_Lg		09 27 18.6	
	comp=Z,18nm,0.9s						
JFWS	**Jewell Farm**	**8.87**	**37**	IAmb_Lg		09 27 13.1	
	comp=Z,16nm,0.8s						
RSSD	**Black Hills**	**9.44**	**330**	IAmb_Lg		09 27 32.2	
	comp=Z,18nm,1.2s						
I40A	**Norwalk**	**9.46**	**32**	IAmb_Lg		09 27 39.7	
	comp=Z,12nm,1.0s						
K22A	**Casper**	**9.55**	**316**	IAmb_Lg		09 27 47.4	
	comp=Z,18nm,1.1s						

SSNC 14 09:26:42.0±1.8, 18°.02N×76°.89W, h5km±9km, MD3.2, ML1.7

JSN 14 09:26:44.4±0.3, 18°.04N×76°.87W, h12km±7km, MD2.7

ISC 14 09:26:42.8±1.1, 18°.1N±0°.1×76°.91W±0°.04, h16km±13km, n9, σ0°72/16, 1C-1D, Jamaica region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STH	**Stony Hill**	**0.11**	**119**	↓*i*P	**Pg**	**09 26 46.9**	**+0.6**
GWJ	**Greenwich**	**0.18**	**108**	↑*i*P	**Pg**	**09 26 47.7**	**+0.4**
HOJ	**Hope**	**0.20**	**129**	*i* P	**Pg**	**09 26 47.5**	**0.0**
HOJ				*i* S	**Sg**	**09 26 49.7**	**-0.8**
MTDJ	**Mount Denham**	**0.60**	**279**	*e*P	**Pg**	**09 26 54.3**	**-0.3**
MTDJ				*e*S	**Sb**	**09 27 04.2**	**+0.8**
MTDJ				*e*Sg	**Sn**	**09 27 06.9**	**+0.5**
MTDJ				IAML		09 27 07.0	
	48nm,0.2s						
MTDJ				IAML		09 27 08.0	
	comp=Z,29nm,0.2s						
RCC	**Rio Carpintero**	**2.18**	**32**	*e*P	**Pn**	**09 27 19.1**	**+0.7**
RCC				*e*S	**Sn**	**09 27 45.9**	**+0.8**
YAR	**Yar**	**2.29**	**13**	*e*P	**Pn**	**09 27 19.6**	**-0.3**
YAR				*e*S	**Sn**	**09 27 47.9**	**+0.1**
GTBY	**Guantanamo Bay**	**2.47**	**43**	*e*P	**Pn**	**09 27 21.1**	**-1.3**
GTBY				*e*S	**Sn**	**09 27 52.8**	**+0.5**
PINC	**Pinares de May**	**2.57**	**24**	*e*P	**Pn**	**09 27 23.3**	**-0.5**
PINC				*e*S	**Sn**	**09 27 54.2**	**-0.6**
PINC				IAML		09 27 58.5	
	comp=E,3.5nm,0.1s						
PINC				IAML		09 27 58.7	
	comp=N,2.0nm,0.1s						
QMBU	**Quimbuelo**	**2.86**	**44**	*e*P	**Pn**	**09 27 27.3**	**-0.5**

SJA 14 09:33:59.1±0.7, 23°.28S×66°.47W, h253km±4km, ML3.5, MW3.4

ISC 14 09:34:00.8±2.0, 23°.25S±0°.04×66°.59W±0°.06, h238km±15km, n33, σ1°33/60, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.09**	**88**	*e*P	**Pn**	**09 34 35.4**	**-0.2**
HJA				*e*S	**S**	**09 35 02.1**	**-0.5**
YJA	**Yavi**	**1.46**	**43**	*e*P	**Pn**	**09 34 38.4**	**+0.1**
YJA				*e*S	**S**	**09 35 05.9**	**-1.5**
AF01	**San Pedro de A**	**1.49**	**281**	*e*P	**Pn**	**09 34 39.6**	**+1.3**
SLA	**San Lorenzo**	**1.77**	**146**	*e*S	**S**	**09 35 11.5**	**0.0**
LVC	**Limon Verde**	**2.23**	**286**	*e*P	**Pn**	**09 34 45.7**	**+0.8**
LVC	**Limon Verde**	**2.23**	**286**	↑*i*P	**Pn**	**09 34 45.8**	**+0.8**
LVC				*i* S	**S**	**09 35 17.6**	**-1.8**
LVC				IAML		09 35 20.8	
	57nm,0.2s						
PB15	**IPOC Station P**	**2.65**	**270**	*e*P	**Pn**	**09 34 50.1**	**+1.1**
PB15				*e*S	**S**	**09 35 28.1**	**+1.4**
PB15				IAML		09 35 32.4	
	comp=Z,248nm,0.2s						
PB15	**IPOC Station P**	**2.65**	**270**	*e*P	**Pn**	**09 34 49.8**	**+0.8**
PB15				*e*S	**S**	**09 35 26.2**	**-0.6**
PB15				IAML		09 35 31.4	
	comp=E,273nm,0.3s						
PB06	**IPOC Station P**	**2.80**	**281**	*e*P	**Pn**	**09 34 51.0**	**+0.4**
PB06				*e*S	**S**	**09 35 29.9**	**+0.4**
PB06				IAML		09 35 37.5	
	comp=Z,29nm,0.3s						
PB06	**IPOC Station P**	**2.80**	**281**	↑*i*P	**Pn**	**09 34 51.5**	**+0.9**
PB06				*i* S	**S**	**09 35 28.2**	**-1.4**
PB06				IAML		09 35 34.4	
	comp=N,152nm,0.1s						
PB09	**IPOC Station P**	**2.85**	**300**	*e*P	**Pn**	**09 34 52.3**	**+1.2**
PB09				*e*S	**S**	**09 35 30.9**	**+0.3**
PB09				IAML		09 35 32.1	
	comp=Z,44nm,0.5s						
PB09	**IPOC Station P**	**2.85**	**300**	↑*i*P	**Pn**	**09 34 52.5**	**+1.4**
PB09				*e*S	**S**	**09 35 31.1**	**+0.5**
PB09				IAML		09 35 32.7	
	comp=N,64nm,0.8s						
FSA	**Cafayete**	**2.90**	**169**	*e*P	**Pn**	**09 34 51.5**	**-0.1**
GO02	**Mina Guanaco**	**3.33**	**235**	*e*P	**Pn**	**09 34 57.2**	**+0.6**
GO02				*e*S	**S**	**09 35 40.0**	**-0.5**
GO02	**Mina Guanaco**	**3.33**	**235**	*i* P	**Pn**	**09 34 57.2**	**+0.6**
GO02				*e*S	**S**	**09 35 39.6**	**-1.0**
PB07	**IPOC Station P**	**3.40**	**296**	*e*P	**Pn**	**09 34 58.0**	**+0.7**
PB07				*e*S	**S**	**09 35 40.9**	**-1.0**
PB07				IAML		09 35 41.4	
	comp=Z,114nm,0.4s						
PB07	**IPOC Station P**	**3.40**	**296**	↑*i*P	**Pn**	**09 34 58.0**	**+0.7**
PB07				*e*S	**S**	**09 35 39.8**	**-2.0**
PB04	**IPOC Station P**	**3.41**	**285**	*e*P	**Pn**	**09 34 58.0**	**+0.7**
PB04				*e*S	**S**	**09 35 42.1**	**+0.3**
PB04				IAML		09 35 44.2	
	comp=Z,53nm,0.2s						
PB04	**IPOC Station P**	**3.41**	**285**	*i* P	**Pn**	**09 34 58.0**	**+0.7**
PB04				*e*S	**S**	**09 35 39.6**	**-2.2**
PB01	**IPOC Station P**	**3.47**	**309**	*e*P	**Pn**	**09 34 58.8**	**+0.7**
PB01				*e*S	**S**	**09 35 42.9**	**-0.2**
PB01				IAML		09 35 43.9	
	comp=Z,89nm,0.1s						
PB01	**IPOC Station P**	**3.47**	**309**	*i* P	**Pn**	**09 34 58.7**	**+0.7**
PB01				*e*S	**S**	**09 35 41.8**	**-1.2**
PB02	**IPOC Station P**	**3.61**	**302**	*e*P	**Pn**	**09 35 00.3**	**+0.6**
PB02				*e*S	**S**	**09 35 45.1**	**-1.0**
PB02				IAML		09 35 47.8	
	comp=Z,126nm,0.3s						
PB02	**IPOC Station P**	**3.61**	**302**	*e*P	**Pn**	**09 35 00.1**	**+0.4**
PB02				*e*S	**S**	**09 35 43.8**	**-2.3**
PB10	**IPOC Station P**	**3.65**	**265**	*e*P	**Pn**	**09 35 00.6**	**+0.7**
PB10				*e*S	**S**	**09 35 45.8**	**-0.8**
PB10				IAML		09 35 50.7	
	comp=Z,20nm,0.3s						
PB14	**IPOC Station P**	**3.75**	**248**	*e*P	**Pn**	**09 35 02.0**	**+0.6**
PB14				*e*S	**S**	**09 35 46.4**	**-2.7**
PB14				IAML		09 35 48.5	
	comp=Z,36nm,0.1s						
PB08	**IPOC Station P**	**3.91**	**322**	*e*P	**Pn**	**09 35 04.8**	**+1.4**
PB08				*e*S	**S**	**09 35 54.2**	**+1.4**
PB08				IAML		09 35 57.5	
	comp=Z,29nm,0.2s						
PATCX	**Punta Patache**	**4.09**	**306**	*e*P	**Pn**	**09 35 05.5**	**+0.2**
PATCX				*e*S	**S**	**09 35 55.7**	**-0.7**
PATCX				IAML		09 35 57.3	
	comp=Z,55nm,0.2s						
AC02	**Maricunga**	**4.24**	**212**	*e*P	**Pn**	**09 35 07.5**	**+0.1**
AC02				*e*S	**S**	**09 36 04.6**	**+4.4**
TA01	**Diego Aracena**	**4.27**	**308**	*e*P	**Pn**	**09 35 07.1**	**-0.2**
TA01				IAML		09 36 01.3	
	comp=Z,24nm,0.3s						
GO01	**Chusmiza**	**4.31**	**325**	*e*P	**Pn**	**09 35 10.7**	**+2.3**
GO01				*e*S	**S**	**09 36 03.0**	**+1.2**
PB11	**IPOC Station P**	**4.50**	**320**	*e*P	**Pn**	**09 35 10.6**	**+0.3**
PB11				*e*S	**S**	**09 36 02.8**	**-2.5**
PB11				IAML		09 36 06.6	
	comp=Z,61nm,0.2s						
AC01	**Pan de Azucar**	**4.64**	**231**	*e*P	**Pn**	**09 35 11.4**	**-0.5**
AC01				*e*S	**S**	**09 36 05.5**	**-2.8**
AC01				IAML		09 36 06.1	
	comp=Z,28nm,0.7s						
CYA	**Choya**	**5.22**	**172**	*e*P	**Pn**	**09 35 20.2**	**+1.3**

*IDC 14 09:42:35.

	baz=274,slow=74,SNR=227							
H03N1	**Juan Fernandez**	**30.71**	**109**	T	T	10 22 32.4		
	baz=274,slow=74,SNR=264							
NNA	**Nana**	**38.41**	**73**	LR	LR	10 03 47.7		
	comp=Z,28nm,18.3s,baz=189,slow=30							
LPAZ	**La Paz**	**44.03**	**85**	P	**P**	**09 52 39.8**	**-0.6**	
	2.4nm,1.0s,baz=264,slow=8.0,SNR=7.4							
	2.4nm,1.0s							
LPIG	**La Paz**	**52.04**	**5**	LR	LR	10 10 19.9		
	comp=Z,70nm,19.5s,baz=200,slow=30							
SDV	**Santo Domingo**	**55.92**	**55**	LR	LR	10 14 03.9		
	comp=Z,42nm,20.1s,baz=258,slow=32							
TXAR	**Lajitas Array**	**58.00**	**11**	P	**P**	**09 54 25.1**	**+0.6**	
	0.6nm,0.9s,baz=186,slow=6.3,SNR=5.2							
	0.6nm,0.9s							
PCRV	**Puerto La Cruz**	**61.22**	**59**	LR	LR	10 17 30.6		
	comp=Z,24nm,18.6s,slow=32							
PFO	**Pinyon Flats O**	**61.41**	**358**	LR	LR	10 13 45.3		
	comp=Z,58nm,20.8s,baz=224,slow=29							
VNDA	**Vanda**	**61.47**	**194**	LR	LR	10 15 49.0		
	comp=Z,50nm,21.6s,baz=189,slow=31							
QSPA	**South Pole Qui**	**62.07**	**180**	P	**P**	**09 54 54.1**	**+1.9**	
	3.2nm,1.1s,baz=118,slow=5.6,SNR=3.6							
	3.2nm,1.1s							
NVAR	**Mina Array Bea**	**66.29**	**357**	P	**P**	**09 55 21.4**	**+1.2**	
	1.5nm,0.7s,baz=192,slow=8.4,SNR=14							
	1.5nm,0.7s							
TKL	**Tuckaleechee C**	**69.62**	**26**	LR	LR	10 22 39.2		
	comp=Z,35nm,18.3s,baz=161,slow=33							
PDAR	**Pinedale Array**	**70.65**	**4**	P	**P**	**09 55 47.5**	**+0.1**	
	1.1nm,0.9s,baz=172,slow=7.3,SNR=7.4							
	1.1nm,0.9s							
ULM	**Lac du Bonnet**	**79.69**	**12**	P	**P**	**09 56 38.9**	**0.0**	
	1.0nm,0.5s,baz=207,slow=3.9,SNR=4.1							
	1.0nm,0.5s							
YKA	**Yellowknife Ar**	**90.28**	**360**	P	**P**	**09 57 32.1**	**+0.3**	
	0.4nm,0.8s,baz=177,slow=4.5,SNR=6.7							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**96.58**	**239**	P	**P**	**09 58 00.4**	**-1.7**	
	0.2nm,0.8s,baz=133,slow=3.9,SNR=1.7							
	0.2nm,0.8s							
SONM	**Songino Array**	**142.94**	**313**	PKhKP	PKPpre	10 04 00.9		
	0.8nm,0.8s,baz=86,slow=2.3,SNR=4.6							
AKASG	**Malin Array Be**	**144.38**	**41**	PKP	**PKPab**	**10 04 04.7**	**-1.0**	
	0.6nm,0.5s,baz=272,slow=1.9,SNR=5.1							
CMAR	**Chiang Mai Arr**	**148.14**	**260**	PKPbc	**PKPbc**	**10 04 18.1**	**-0.1**	
	0.8nm,0.5s,baz=145,slow=1.0,SNR=6.0							
ZALV	**Zalesovo Beam**	**150.64**	**337**	PKPbc	**PKPbc**	**10 04 22.6**	**-0.7**	
	4.0nm,0.6s,baz=14,slow=3.5,SNR=18							
BRTR	**Keskin Array B**	**151.07**	**58**	PKPbc	**PKPbc**	**10 04 24.1**	**-0.8**	
	2.4nm,0.9s,baz=207,slow=0.8,SNR=10							
BVAR	**Borovoye Array**	**154.87**	**353**	PKPbc	**PKiKP**	**10 04 32.6**	**-0.2**	
	1.5nm,0.7s,baz=338,slow=1.6,SNR=6.9							
BVAR				PKPab	**PKPab**	**10 04 48.4**	**+0.4**	
	1.6nm,0.8s,baz=17,slow=1.5,SNR=5.5							

RSNC 14 09:52:37.4±0.0, 11°N±5°×7°2W±°, h124km±4km, M2.4, mb3.6, ML2.4, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URIC	**Uribia, Colomb**	**0.50**	**348**	P	Pn	09 52 55.2	-0.6
URIC				S	Sn	09 53 09.0	-0.7
CRJC	**Cerrejon, Guaj**	**0.99**	**259**	P	Pn	09 52 59.1	-0.7
CRJC				S	Sn	09 53 16.3	-0.4
OCAC	**Ocana**	**3.27**	**206**	P	Pn	09 53 24.6	-3.0
OCAC				S	Sn	09 54 00.6	-5.7
SJCC	**San Jacinto, C**	**3.49**	**248**	P	Pn	09 53 30.0	-0.3
SJCC				S	Sn	09 54 09.5	-1.7
PAMC	**Pamplona, Colo**	**3.93**	**192**	P	Pn	09 53 33.5	-3.1
ZARC	**Zaragoza, Cauc**	**4.71**	**219**	P	Pn	09 53 44.3	-2.3
ZARC				S	Sn	09 54 41.4	+1.0
TAMC	**Tame, Arauca**	**4.75**	**179**	P	Pn	09 53 43.3	-3.8
PTBC	**PUERTO BERRIO,**	**5.29**	**209**	P	Pn	09 53 58.7	+4.3
PTBC				S	Sn	09 54 55.6	+1.3
RUSC	**La Rusia**	**5.41**	**193**	P	Pn	09 53 53.5	-3.0

STR 14 10:00:28.6±0.4, 49°N±3°×4°±°, h0km, MLv2.0/6, Error ellipse: s-maj=0.0km s-min=0.0km az=60.6, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WLF	**Walferdange**	**0.45**	**302**	Pg	Pg	10 00 37.3	+0.2
WLF	**Walferdange**	**0.45**	**302**	Sg	Sg	10 00 43.4	+0.5
ABH	**Alteburg**	**0.69**	**49**	Pg	Pg	10 00 40.9	-1.0
ABH	**Alteburg**	**0.69**	**49**	Sg	Sg	10 00 52.0	+1.2
CIEL	**Dossenheim-sur**	**0.73**	**145**	Pg	Pg	10 00 42.3	-0.2
LEMB	**Lembach**	**0.78**	**120**	Pg	Pg	10 00 43.3	-0.1
XAFF	**Xaffevillers**	**1.03**	**184**	Pg	Pg	10 00 47.8	-0.4
XAFF				Sg	Sb	10 01 03.1	-0.2
WLS	**Welschbruch**	**1.10**	**158**	Pg	Pg	10 00 49.0	-0.6
WLS				Sg	Sg	10 01 03.6	-0.1
ECH	**Echery**	**1.25**	**167**	Pg	Pg	10 00 51.9	-0.6
ECH				Sg	Sg	10 01 08.9	+0.3
DOU	**Dourbes**	**1.54**	**296**	Pn	Pn	10 00 56.2	-1.2
DOU				Sn	Sn	10 01 17.9	-0.2
KIZ	**Kirchzarten**	**1.67**	**152**	Pg	Pb	10 00 59.8	-0.4
KIZ	**Kirchzarten**	**1.67**	**152**	Sn	Sb	10 01 21.9	+0.1
FELD	**Feldberg im Sc**	**1.77**	**151**	Pg	Pb	10 01 01.9	-0.1
FELD	**Feldberg im Sc**	**1.77**	**151**	Sn	Sb	10 01 24.4	-0.3

*LDG **14** 10:01:15.9±0.1,50°.30N×12°.35E,h5km,Ml3.3/8,Error ellipse: s-maj=2.6km s-min=1.7km az=157.0*
*IPEC **14** 10:01:15.5±0.1,50°.28N×12°.44E,h11km,ML2.8/9,Error ellipse: s-maj=1.4km s-min=1.2km az=148.0*
*VIE **14** 10:01:15.3±0.5,50°.17N×12°.46E,h10km,mb2.5/14, ml3.1/18,Error ellipse: s-maj=3.6km s-min=3.0km az=53.0*
*PRU **14** 10:01:15.3,50°.26N×12°.46E,h10km, West Bohemia Swarm*
*BGR **14** 10:01:15.6±0.2,50°.27N×12°.44E,h11km±1km, ML2.7/6, Error ellipse: s-maj=1.1km s-min=1.1km az=103.0*
*WBNET **14** 10:01:15.9,50°.27N×12°.43E,h9km, Ml2.7*
*BNS **14** 10:01:16.8±0.3,50°.38N×12°.47E,h5km, ML2.9*
*CLL **14** 10:01:16.2±0.3,50°.28N×12°.43E,h8km, ML2.8*
*STR **14** 10:01:27.9±1.5,51°.9N×1°.1E±1°.2,h10km,MLv3.7/11, Error ellipse: s-maj=0.0km s-min=0.0km az=117.1, preliminary*

ISC 14 10:01:14.7±0.6, 50°.27N±0°.01×12°.40E±0°.01, h17km±2km, n139, σ1§58/222, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBCW	**Luby**	**0.01**	**126**	⇓P	**Pg**	**10 01 17.8**	**0.0**
LBCW				S	**Sg**	**10 01 19.1**	**-0.9**
WERN	**Wernitzgruen**	**0.02**	**317**	*i* Pg	**Pg**	**10 01 17.9**	**0.0**
WERN				*i* Sg	**Sg**	**10 01 19.3**	**-0.7**
WERN				IAML		10 01 19.6	
	comp=N,5μm,0.3s						
WERN	**Wernitzgruen**	**0.02**	**317**	*i* Pg	**Pg**	**10 01 17.9**	**0.0**
WERN				*i* Sg	**Sg**	**10 01 19.3**	**-0.7**
	comp=N,5μm,0.3s						
VAC	**Vackov**	**0.04**	**203**	*i* Pg	**Pg**	**10 01 17.9**	**0.0**
VAC				*i* Sg	**Sg**	**10 01 19.3**	**-0.7**
VAC	**Vackov**	**0.04**	**203**	⇓P	**Pg**	**10 01 17.9**	**0.0**
VAC				S	**Sg**	**10 01 19.3**	**-0.7**
NKC	**Novy Kostel**	**0.05**	**141**	*i* Pg	**Pg**	**10 01 17.8**	**-0.1**
NKC				*i* Sg	**Sg**	**10 01 19.1**	**-1.0**
NKC				IAML		10 01 19.6	
	comp=N,8μm,0.2s						
NKC	**Novy Kostel**	**0.05**	**141**	*e*PG	**Pg**	**10 01 17.8**	**-0.1**
NKC				*e*SG	**Sg**	**10 01 19.3**	**-0.8**
	comp=N,3μm,0.2s						
NKC	**Novy Kostel**	**0.05**	**141**	*i* Pg	**Pg**	**10 01 17.8**	**-0.1**
NKC				*i* Sg	**Sg**	**10 01 19.1**	**-1.0**
	comp=N,8μm,0.2s						
NKC	**Novy Kostel**	**0.05**	**141**	⇓P	**Pg**	**10 01 17.9**	**-0.1**
NKC				S	**Sg**	**10 01 19.1**	**-1.0**
POCW	**Potky**	**0.05**	**19**	⇓P	**Pg**	**10 01 18.0**	**0.0**
POCW				S	**Sg**	**10 01 19.5**	**-0.8**
ROHR	**Rohrbach**	**0.07**	**236**	*i* Pg	**Pg**	**10 01 18.2**	**+0.2**
ROHR				*i* Sg	**Sg**	**10 01 19.8**	**-0.5**
ROHR				IAML		10 01 19.9	
	comp=E,7μm,0.2s						
ROHR	**Rohrbach**	**0.07**	**236**	*i* Pg	**Pg**	**10 01 18.2**	**+0.2**
ROHR				*i* Sg	**Sg**	**10 01 19.8**	**-0.5**
	comp=E,7μm,0.2s						
STCW	**Studenec**	**0.08**	**99**	*i* Pg	**Pg**	**10 01 17.9**	**-0.2**
STCW				*i* Sg	**Sg**	**10 01 19.3**	**-1.2**
STCW	**Studenec**	**0.08**	**99**	*i* Pg	**Pg**	**10 01 17.9**	**-0.2**
STCW				*i* Sg	**Sg**	**10 01 19.3**	**-1.2**
STCW	**Studenec**	**0.08**	**99**	⇑P	**Pg**	**10 01 18.0**	**-0.2**
STCW				S	**Sg**	**10 01 19.3**	**-1.2**
KVC	**Kvetna**	**0.10**	**131**	*i* Pg	**Pg**	**10 01 18.3**	**-0.1**
KVC				*i* Sg	**Sg**	**10 01 19.8**	**-0.9**
KVC	**Kvetna**	**0.10**	**131**	⇑P	**Pg**	**10 01 18.3**	**-0.1**
KVC				S	**Sg**	**10 01 19.8**	**-0.9**
GUNZ	**Gunzen**	**0.10**	**335**	*i* Pg	**Pg**	**10 01 18.7**	**+0.3**
GUNZ				*i* Sg	**Sg**	**10 01 20.5**	**-0.4**
GUNZ				IAML		10 01 21.1	
	comp=E,2μm,0.3s						
GUNZ	**Gunzen**	**0.10**	**335**	*i* Pg	**Pg**	**10 01 18.7**	**+0.3**
GUNZ				*i* Sg	**Sg**	**10 01 20.5**	**-0.4**
	comp=E,2μm,0.3s						
KRCW	**Kraslice**	**0.10**	**54**	⇑P	**Pg**	**10 01 18.3**	**-0.2**
KRCW				S	**Sg**	**10 01 19.9**	**-1.0**
SKC	**Skalna**	**0.10**	**194**	⇑P	**Pg**	**10 01 18.7**	**+0.3**
SKC				S	**Sg**	**10 01 20.6**	**-0.2**
KOCW	**Kopaniny**	**0.11**	**267**	⇓P	**Pg**	**10 01 18.9**	**+0.5**
KOCW				S	**Sg**	**10 01 20.9**	**0.0**
MULD	**Muldenberg**	**0.14**	**1**	*i* Pg	**Pg**	**10 01 19.1**	**+0.2**
MULD				*i* Sg	**Sg**	**10 01 21.1**	**-0.5**
MULD				IAML		10 01 21.3	
	comp=E,3μm,0.3s						
MULD	**Muldenberg**	**0.14**	**1**	*i* Pg	**Pg**	**10 01 19.1**	**+0.2**
MULD				*i* Sg	**Sg**	**10 01 21.1**	**-0.5**
	comp=E,3μm,0.3s						
TANN	**Tannenbergstha**	**0.15**	**15**	*i* Pg	**Pg**	**10 01 19.1**	**+0.1**
TANN				*i* Sg	**Sg**	**10 01 21.1**	**-0.7**
TANN				IAML		10 01 21.5	
	comp=N,4μm,0.3s						
TANN	**Tannenbergstha**	**0.15**	**15**	*i* Pg	**Pg**	**10 01 19.1**	**+0.1**
TANN				*i* Sg	**Sg**	**10 01 21.1**	**-0.7**
	comp=N,4μm,0.3s						
TRCW	**Trojmez**	**0.17**	**281**	⇓P	**Pg**	**10 01 19.9**	**+0.7**
TRCW				S	**Sg**	**10 01 22.5**	**+0.3**
TRIB	**Obertriebel**	**0.19**	**296**	*i* Pg	**Pg**	**10 01 20.1**	**+0.7**
TRIB				*i* Sg	**Sg**	**10 01 23.0**	**+0.3**
TRIB				IAML		10 01 23.2	
	comp=N,905nm,0.3s						
TRIB	**Obertriebel**	**0.19**	**296**	*i* Pg	**Pg**	**10 01 20.1**	**+0.7**
TRIB				*i* Sg	**Sg**	**10 01 23.0**	**+0.3**
	comp=N,905nm,0.3s						
WERD	**Werda**	**0.19**	**341**	*i* Pg	**Pg**	**10 01 19.9**	**+0.5**
WERD				*e*Sg	**Sg**	**10 01 22.5**	**-0.1**
WERD				IAML		10 01 22.7	
	comp=E,901nm,0.3s						
WERD	**Werda**	**0.19**	**341**	*i* Pg	**Pg**	**10 01 19.9**	**+0.5**
WERD				*e*Sg	**Sg**	**10 01 22.5**	**-0.1**
	comp=E,901nm,0.3s						
VIEL	**Selb-Vielitz**	**0.21**	**246**	*i* Pg	**Pg**	**10 01 20.5**	**+0.7**
VIEL				*i* Sg	**Sg**	**10 01 23.6**	**+0.4**
VIEL	**Selb-Vielitz**	**0.21**	**246**	*i* Pg	**Pg**	**10 01 20.5**	**+0.7**
VIEL				*i* Sg	**Sg**	**10 01 23.6**	**+0.4**
ZHC	**Zelena Hora**	**0.21**	**196**	⇑P	**Pg**	**10 01 20.4**	**+0.6**
ZHC				S	**Sg**	**10 01 23.5**	**+0.3**
LACW	**Lazy**	**0.26**	**147**	*i* Pg	**Pg**	**10 01 21.1**	**+0.5**
LACW				*i* Sg	**Sg**	**10 01 24.7**	**0.0**
LACW	**Lazy**	**0.26**	**147**	*i* Pg	**Pg**	**10 01 21.1**	**+0.5**
LACW				*i* Sg	**Sg**	**10 01 24.7**	**0.0**
LACW	**Lazy**	**0.26**	**147**	⇓P	**Pg**	**10 01 21.1**	**+0.5**
LACW				S	**Sg**	**10 01 24.7**	**0.0**
PLN	**Plauen**	**0.27**	**324**	*i* Pg	**Pg**	**10 01 21.4**	**+0.7**
PLN				*i* Sg	**Sg**	**10 01 25.3**	**+0.6**
PLN				IAML		10 01 25.7	
	comp=E,484nm,0.1s						
PLN	**Plauen**	**0.27**	**324**	*i* Pg	**Pg**	**10 01 21.4**	**+0.7**
PLN				*i* Sg	**Sg**	**10 01 25.3**	**+0.6**
	comp=E,484nm,0.1s						
MANZ	**Manzenberg**	**0.34**	**214**	*e*Pg	**Pg**	**10 01 22.8**	**+0.8**
MANZ				*e*Sg	**Sg**	**10 01 27.6**	**+0.8**
SCHF	**Schoenfels**	**0.41**	**0**	*i* Pg	**Pg**	**10 01 23.7**	**+0.6**
SCHF				*i* Sg	**Sg**	**10 01 29.1**	**+0.4**
SCHF				IAML		10 01 29.6	
	comp=E,831nm,0.3s						
SCHF	**Schoenfels**	**0.41**	**0**	*i* Pg	**Pg**	**10 01 23.7**	**+0.6**
SCHF				*i* Sg	**Sg**	**10 01 29.1**	**+0.4**
	comp=E,831nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.44**	**345**	*i* Pg	**Pg**	**10 01 24.3**	**+0.7**
GRZ1				*i* Sg	**Sg**	**10 01 29.9**	**+0.3**
GRZ1				IAML		10 01 31.6	
	comp=N,421nm,0.4s						
GRZ1	**Mausoleum Wald**	**0.44**	**345**	*i* Pg	**Pg**	**10 01 24.3**	**+0.7**
GRZ1				*i* Sg	**Sg**	**10 01 29.9**	**+0.3**
	comp=N,421nm,0.4s						
ROTZ	**Rotzenmuhle**	**0.52**	**194**	*e*Pg	**Pg**	**10 01 25.9**	**+0.8**
ROTZ				*e*Sg	**Sg**	**10 01 32.8**	**+0.7**
MOX	**Moxa**	**0.63**	**307**	*e*Pg	**Pg**	**10 01 28.0**	**+0.9**
MOX				*e*Sg	**Sg**	**10 01 36.7**	**+1.3**
HSKC	**Hora Svate Kat**	**0.74**	**63**	*e*PG	**Pg**	**10 01 29.5**	**+0.3**
HSKC				*e*SG	**Sg**	**10 01 38.8**	**-0.3**
	comp=N,252nm,0.3s						
FBE	**Freiberg**	**0.89**	**43**	*e*Pg	**Pb**	**10 01 32.5**	**+0.8**
FBE				*e*Sg	**Sg**	**10 01 44.4**	**+0.6**
GRF	**Grafenberg Arr**	**0.96**	**233**	*e*Pg	**Pb**	**10 01 34.2**	**+1.4**
GRF				*e*Sg	**Sn**	**10 01 47.9**	**+1.3**
CLL	**Collm**	**1.11**	**20**	*i* x	x	10 01 54.7	
CLL	**Collm**	**1.11**	**20**	*e*Pg	**Pb**	**10 01 35.9**	**+0.5**
CLL				*e*Sg	**Sb**	**10 01 50.6**	**+1.2**
CLL	**Collm**	**1.11**	**20**	*i* Pg	**Pb**	**10 01 36.2**	**+0.9**
CLL	**Collm**	**1.11**	**20**	*i* x	x	10 01 38.5	
CLL	**Collm**	**1.11**	**20**	*i* x	x	10 01 39.8	
CLL	**Collm**	**1.11**	**20**	*i* Sg	**Sb**	**10 01 50.6**	**+1.2**
	comp=Z,179nm,0.6s						
RICC	**Richard**	**1.12**	**75**	*e*SG	**Sb**	**10 01 50.8**	**+1.0**
	comp=Z,358nm,0.3s						
BRG	**Berggiesshubel**	**1.15**	**58**	Pg	Pn	**10 01 37.1**	**+1.0**
BRG				Sg	**Sb**	**10 01 51.7**	**+0.9**
BRG				Amp		10 01 52.8	
	comp=Z,114nm,0.3s						
BRG	**Berggiesshubel**	**1.15**	**58**	*e*Pg	**Pn**	**10 01 37.0**	**+1.0**
BRG				*e*Sg	**Sb**	**10 01 51.4**	**+0.5**
PRA	**Prague**	**1.32**	**98**	*e*SG	**Sb**	**10 01 56.3**	**+0.7**
	comp=Z,100nm,0.3s						
KHC	**Kasperske Hory**	**1.37**	**146**	*e*PG	**Pn**	**10 01 40.2**	**+1.1**
KHC				*e*SG	**Sn**	**10 01 57.9**	**+1.0**
	comp=Z,100nm,0.2s						
PRU	**Pruhonice**	**1.41**	**101**	*e*PG	**Pb**	**10 01 41.1**	**+0.7**
PRU				*e*SG	**Sb**	**10 01 59.0**	**+0.9**
	comp=Z,79nm,0.2s						
PRU	**Pruhonice**	**1.41**	**101**	*e*Pg	**Pb**	**10 01 41.2**	**+0.7**
PRU				*e*Sg	**Sg**	**10 01 59.8**	**-0.4**
PVCC	**Panska Ves**	**1.41**	**79**	*e*SG	**Sg**	**10 01 59.9**	**-0.4**
	comp=Z,230nm,0.3s						
GOPC	**GO Pecny, Ondr**	**1.58**	**102**	*e*SG	**Sb**	**10 02 04.7**	**+1.7**
	comp=Z,135nm,0.5s						
GEC2	**GERESS Array S**	**1.66**	**149**	*e*Pn	**Pn**	**10 01 43.9**	**+0.8**
GEC2				*e*Sg	**Sb**	**10 02 07.2**	**+1.8**
CKRC	**Cesky Krumlov**	**1.91**	**139**	*e*SG	**Sb**	**10 02 14.2**	**+1.6**
	comp=Z,48nm,0.2s						
TREC	**Trest**	**2.23**	**115**	*e*SG	**Sb**	**10 02 23.7**	**+2.0**
	comp=Z,40nm,0.2s						
UPC	**Upice**	**2.32**	**83**	*e*SG	**Sg**	**10 02 27.7**	**-1.7**
	comp=Z,76nm,0.5s						
CHVC	**Chvalec**	**2.36**	**81**	*e*SG	**Sg**	**10 02 29.0**	**-1.5**
DPC	**Dobruska-Polom**	**2.52**	**87**	*e*SG	**Sb**	**10 02 33.0**	**+3.0**
	comp=Z,69nm,0.5s						
BIOA	**Bad Ischl, Aus**	**2.71**	**162**	*e*Sg	**Sg**	**10 02 40.4**	**-1.3**
	comp=Z,19nm,0.4s						
MOA	**Molln**	**2.72**	**152**	*e*Pg	**Pb**	**10 02 05.3**	**+2.5**
	comp=Z,2.2nm,0.2s						
MOA				*e*Sg	**Sg**	**10 02 42.2**	**+0.2**
	comp=Z,3.4nm,0.1s						
KRLC	**Kraliky**	**2.82**	**92**	*e*SG	**Sg**	**10 02 44.5**	**-0.9**
	comp=Z,40nm,0.4s						
LESA	**Schwarzleotal**	**2.85**	**176**	*e*Pn	**Pn**	**10 01 59.9**	**+0.4**
	comp=Z,2.7nm,0.2s						
LESA				*e*Sn	**Sn**	**10 02 35.1**	**+1.6**
	comp=Z,3.6nm,0.2s						
KRUC	**Moravsky**	**2.86**	**113**	*e*Pn	**Pn**	**10 02 00.7**	**+1.2**
	baz=297						
KRUC				*e*Sg	**Sg**	**10 02 44.5**	**-2.2**
	comp=Z,62nm,0.6s,baz=297						
WATA	**Walderalm**	**2.99**	**191**	*e*Pn	**Pn**	**10 02 02.2**	**+0.8**
	comp=Z,0.2nm,0.1s						
WATA				*e*Sn	**Sn**	**10 02 37.6**	**+0.8**
	comp=Z,9.1nm,0.2s						
RETA	**Reutte**	**2.99**	**202**	*i* Pg	**Pb**	**10 02 10.9**	**+3.4**
	comp=Z,7.4nm,0.2s						
RETA				*e*Sg	**Sg**	**10 02 51.5**	**+0.8**
	comp=Z,19nm,0.3s						
MOTA	**Moosalm**	**3.05**	**197**	*e*Pn	**Pn**	**10 02 03.7**	**+1.4**
	comp=Z,0.2nm,0.1s						
MOTA				*e*Sn	**Sn**	**10 02 40.6**	**+2.2**
	comp=Z,8.3nm,0.4s						
WTTA	**Wattenberg**	**3.05**	**190**	*e*Pg	**Pb**	**10 02 10.9**	**+2.3**
	comp=Z,2.0nm,0.2s						
WTTA				*e*Sg	**Sg**	**10 02 54.2**	**+1.5**
	comp=Z,28nm,0.5s						
GUT	**Gutenstein**	**3.08**	**226**	P	**Pb**	**10 02 08.0**	**-1.1**
GUT	**Gutenstein**	**3.08**	**226**	S	**Sg**	**10 02 52.7**	**-0.9**
ABH	**Alteburg**	**3.15**	**265**	P	**Pb**	**10 02 09.7**	**-0.5**
ABH	**Alteburg**	**3.15**	**265**	S	**Sn**	**10 02 44.7**	**+4.0**
BABA	**Baden-Baden-Ne**	**3.15**	**242**	S	**Sg**	**10 02 54.8**	**-1.1**
BABA	**Baden-Baden-Ne**	**3.15**	**242**	P	**Pg**	**10 02 14.7**	**-0.4**
SQTA	**Sankt Quirin**	**3.15**	**195**	*e*Pg	**Pb**	**10 02 12.9**	**+2.6**
	comp=Z,5.4nm,0.2s						
SQTA				*i* Sg	**Sg**	**10 02 57.0**	**+1.1**
	comp=Z,12nm,0.3s						
BGG	**Burgeitz**	**3.25**	**271**	*e*Pn	**Pn**	**10 02 07.6**	**+2.7**
KBA	**Koelnbreinsper**	**3.26**	**169**	*e*Pn	**Pn**	**10 02 06.6**	**+1.5**
	comp=Z,0.1nm,0.0s						
KBA				*e*Sg	**Sg**	**10 03 00.4**	**+1.2**
	comp=Z,20nm,0.5s						
LEMB	**Lembach**	**3.26**	**249**	Pg	**Pg**	**10 02 20.2**	**+3.0**
LEMB				Sg	**Sg**	**10 02 59.6**	**+0.2**
CONA	**Conrad Observa**	**3.27**	**135**	*e*Pg	**Pg**	**10 02 16.2**	**-1.1**
	comp=Z,4.5nm,0.3s						
CONA				*e*Sg	**Sg**	**10 02 59.1**	**-0.5**
	comp=Z,19nm,0.4s						
OPP	**Oppenau**	**3.28**	**239**	P	**Pg**	**10 02 17.3**	**-0.1**
OPP	**Oppenau**	**3.28**	**239**	S	**Sg**	**10 02 59.0**	**-0.9**
BFO	**Black Forest**	**3.30**	**235**	P	**Pb**	**10 02 16.1**	**+3.4**
BFO				S	**Sg**	**10 02 59.4**	**-1.2**
MORC	**Moravsky Berou**	**3.35**	**97**	*e*PN	**Pn**	**10 02 07.2**	**+0.9**
MORC				*e*SG	**Sg**	**10 02 59.4**	**-2.9**
MORC	**Moravsky Berou**	**3.35**	**97**	*e*Pn	**Pn**	**10 02 07.1**	**+0.8**
	baz=281						
MORC				*e*Sg	**Sg**	**10 02 59.3**	**-3.0**
	comp=Z,31nm,0.6s,baz=281						
DAVA	**Damuels**	**3.42**	**210**	*e*Pg	**Pg**	**10 02 20.1**	**-0.1**
	comp=Z,7.0nm,0.4s						
DAVA				*e*Sn	**Sn**	**10 02 49.0**	**+1.5**
	comp=Z,3.2nm,0.2s						
FETA	**Feichten**	**3.44**	**199**	*e*Pn	**Pn**	**10 02 08.6**	**+1.0**
	comp=Z,0.5nm,0.1s						
FETA				*i* Sg	**Sg**	**10 03 05.1**	**0.0**
	comp=Z,1.9nm,0.3s						
ABTA	**Abfaltersbach**	**3.53**	**179**	*e*Pn	**Pn**	**10 02 12.4**	**+3.7**
	comp=Z,0.1nm,0.1s						
ABTA				*e*Sg	**Sg**	**10 03 08.2**	**+0.3**
	comp=Z,9.7nm,0.5s						
CIEL	**Dossenheim-sur**	**3.58**	**248**	P	**Pg**	**10 02 22.6**	**-0.7**
CIEL				S	**Sg**	**10 03 08.7**	**-1.0**
SLE	**Schleitheim**	**3.59**	**227**	P	**Pb**	**10 02 20.4**	**+2.7**
SLE	**Schleitheim**	**3.59**	**227**	S	**Sg**	**10 03 10.4**	**+0.4**
RONA	**Rosalia, Austr**	**3.63**	**134**	*e*Pg	**Pg**	**10 02 22.9**	**-1.4**
	comp=Z,1.4nm,0.2s						
RONA				*e*Sg	**Sg**	**10 03 10.3**	**-1.1**
	comp=Z,6.5nm,0.2s						
ARSA	**Arzberg**	**3.66**	**144**	*i* Pn	**Pn**	**10 02 10.8**	**+0.3**
	comp=Z,0.8nm,0.2s						
ARSA				*e*Sg	**Sg**	**10 03 10.4**	**-1.9**
	comp=Z,14nm,0.4s						
JAVC	**Velka Javorina**	**3.71**	**110**	*e*PN	**Pn**	**10 02 12.4**	**+1.2**
JAVC				*e*SG	**Sg**	**10 03 12.2**	**-1.6**
MODS	**Modra-Piesok**	**3.71**	**119**	*e*SG	**Sg**	**10 03 12.1**	**-1.8**
ZST	**Bratislava**	**3.71**	**122**	*e*SG	**Sg**	**10 03 12.3**	**-0.8**
OKC	**Ostrava-Krasne**	**3.73**	**94**	*e*SG	**Sg**	**10 03 11.3**	**-3.1**
	comp=Z,33nm,0.5s						
MYKA	**Terra Mystica**	**3.74**	**167**	*i* Pn	**Pn**	**10 02 11.7**	**+0.1**
	comp=Z,0.5nm,0.1s						
MYKA				*e*Sg	**Sg**	**

NKC					IAML			10 04 39.4	
	comp=E,10μm,0.2s								
NKC	**Novy Kostel**	**0.06**	**135**	*e*PG		**Pg**		**10 04 37.6**	**-0.1**
NKC				*e*SG		**Sg**		**10 04 38.9**	**-1.0**
	comp=E,3μm,0.3s								
NKC	**Novy Kostel**	**0.06**	**135**	*i* Pg		**Pg**		**10 04 37.7**	**-0.1**
NKC				*i* Sg		**Sg**		**10 04 38.9**	**-1.0**
	comp=E,10μm,0.2s								
NKC	**Novy Kostel**	**0.06**	**135**	⇓P		**Pg**		**10 04 37.7**	**-0.1**
NKC				S		**Sg**		**10 04 39.0**	**-1.0**
ROHR	**Rohrbach**	**0.06**	**228**	*i* Pg		**Pg**		**10 04 38.0**	**+0.2**
ROHR				*i* Sg		**Sg**		**10 04 39.6**	**-0.3**
ROHR				IAML				10 04 39.8	
	comp=E,17μm,0.1s								
ROHR	**Rohrbach**	**0.06**	**228**	*i* Pg		**Pg**		**10 04 38.0**	**+0.2**
ROHR				*i* Sg		**Sg**		**10 04 39.6**	**-0.3**
	comp=E,17μm,0.1s								
STCW	**Studenec**	**0.09**	**99**	*i* Pg		**Pg**		**10 04 37.8**	**-0.3**
STCW				*i* Sg		**Sg**		**10 04 39.1**	**-1.3**
STCW	**Studenec**	**0.09**	**99**	*i* Pg		**Pg**		**10 04 37.8**	**-0.3**
STCW				*i* Sg		**Sg**		**10 04 39.1**	**-1.3**
STCW	**Studenec**	**0.09**	**99**	⇑P		**Pg**		**10 04 37.8**	**-0.3**
STCW				S		**Sg**		**10 04 39.1**	**-1.3**
GUNZ	**Gunzen**	**0.10**	**340**	*i* Pg		**Pg**		**10 04 38.5**	**+0.4**
GUNZ				*i* Sg		**Sg**		**10 04 40.4**	**-0.2**
GUNZ				IAML				10 04 40.5	
	comp=E,5μm,0.2s								
GUNZ	**Gunzen**	**0.10**	**340**	*i* Pg		**Pg**		**10 04 38.5**	**+0.4**
GUNZ				*i* Sg		**Sg**		**10 04 40.4**	**-0.2**
	comp=E,5μm,0.2s								
KOCW	**Kopaniny**	**0.10**	**265**	⇓P		**Pg**		**10 04 38.7**	**+0.6**
KOCW				S		**Sg**		**10 04 40.7**	**+0.2**
SKC	**Skalna**	**0.10**	**188**	⇑P		**Pg**		**10 04 38.5**	**+0.3**
SKC				S		**Sg**		**10 04 40.4**	**-0.2**
KVC	**Kvetna**	**0.11**	**129**	*i* Pg		**Pg**		**10 04 38.0**	**-0.2**
KVC				*i* Sg		**Sg**		**10 04 39.6**	**-1.0**
KVC	**Kvetna**	**0.11**	**129**	⇓P		**Pg**		**10 04 38.7**	**-0.2**
KVC				S		**Sg**		**10 04 39.7**	**-1.0**
KRCW	**Kraslice**	**0.11**	**58**	⇑P		**Pg**		**10 04 38.1**	**-0.2**
KRCW				S		**Sg**		**10 04 39.8**	**-1.0**
MULD	**Muldenberg**	**0.14**	**5**	*i* Pg		**Pg**		**10 04 38.9**	**+0.2**
MULD				*i* Sg		**Sg**		**10 04 40.9**	**-0.4**
MULD				IAML				10 04 41.1	
	comp=E,7μm,0.2s								
MULD	**Muldenberg**	**0.14**	**5**	*i* Pg		**Pg**		**10 04 38.9**	**+0.2**
MULD				*i* Sg		**Sg**		**10 04 40.9**	**-0.4**
	comp=E,7μm,0.2s								
TANN	**Tannenbergstha**	**0.15**	**19**	*i* Pg		**Pg**		**10 04 38.9**	**+0.1**
TANN				*i* Sg		**Sg**		**10 04 41.0**	**-0.7**
TANN				IAML				10 04 41.1	
	comp=E,8μm,0.2s								
TANN	**Tannenbergstha**	**0.15**	**19**	*i* Pg		**Pg**		**10 04 38.9**	**+0.1**
TANN				*i* Sg		**Sg**		**10 04 41.0**	**-0.7**
	comp=E,8μm,0.2s								
TRCW	**Trojmez**	**0.16**	**281**	⇓P		**Pg**		**10 04 39.6**	**+0.8**
TRCW				S		**Sg**		**10 04 42.3**	**+0.6**
TRIB	**Obertriebel**	**0.18**	**296**	*i* Pg		**Pg**		**10 04 39.9**	**+0.8**
TRIB				*i* Sg		**Sg**		**10 04 42.8**	**+0.6**
TRIB				IAML				10 04 43.0	
	comp=N,2μm,0.2s								
TRIB	**Obertriebel**	**0.18**	**296**	*i* Pg		**Pg**		**10 04 39.9**	**+0.8**
TRIB				*i* Sg		**Sg**		**10 04 42.8**	**+0.6**
	comp=N,2μm,0.2s								
WERD	**Werda**	**0.18**	**344**	*i* Pg		**Pg**		**10 04 39.7**	**+0.5**
WERD				*i* Sg		**Sg**		**10 04 42.3**	**0.0**
WERD				IAML				10 04 42.5	
	comp=E,2μm,0.1s								
WERD	**Werda**	**0.18**	**344**	*i* Pg		**Pg**		**10 04 39.7**	**+0.5**
WERD				*i* Sg		**Sg**		**10 04 42.3**	**0.0**
	comp=E,2μm,0.1s								
VIEL	**Selb-Vielitz**	**0.20**	**244**	*i* Pg		**Pg**		**10 04 40.3**	**+0.8**
VIEL				*i* Sg		**Sg**		**10 04 43.4**	**+0.6**
VIEL	**Selb-Vielitz**	**0.20**	**244**	*i* Pg		**Pg**		**10 04 40.3**	**+0.8**
VIEL				*i* Sg		**Sg**		**10 04 43.4**	**+0.6**
ZHC	**Zelena Hora**	**0.21**	**193**	⇑P		**Pg**		**10 04 40.2**	**+0.6**
ZHC				S		**Sg**		**10 04 43.3**	**+0.3**
PLN	**Plauen**	**0.26**	**326**	*i* Pg		**Pg**		**10 04 41.1**	**+0.8**
PLN				*i* Sg		**Sg**		**10 04 45.0**	**+0.7**
PLN				IAML				10 04 45.4	
	comp=E,2μm,0.2s								
PLN	**Plauen**	**0.26**	**326**	*i* Pg		**Pg**		**10 04 41.1**	**+0.8**
PLN				*i* Sg		**Sg**		**10 04 45.0**	**+0.7**
	comp=E,2μm,0.2s								
LACW	**Lazy**	**0.27**	**145**	*i* Pg		**Pg**		**10 04 40.9**	**+0.3**
LACW				*i* Sg		**Sg**		**10 04 44.5**	**-0.2**
LACW	**Lazy**	**0.27**	**145**	*i* Pg		**Pg**		**10 04 40.9**	**+0.3**
LACW				*i* Sg		**Sg**		**10 04 44.5**	**-0.2**
LACW	**Lazy**	**0.27**	**145**	⇓P		**Pg**		**10 04 40.9**	**+0.3**
LACW				S		**Sg**		**10 04 44.5**	**-0.2**
MANZ	**Manzenberg**	**0.34**	**212**	*e*Pg		**Pg**		**10 04 42.6**	**+0.9**
MANZ				*e*Sg		**Sg**		**10 04 47.3**	**+0.8**
SCHF	**Schoenfels**	**0.40**	**2**	*i* Pg		**Pg**		**10 04 43.5**	**+0.6**
SCHF				*i* Sg		**Sg**		**10 04 48.9**	**+0.4**
SCHF				IAML				10 04 49.1	
	comp=E,2μm,0.2s								
SCHF	**Schoenfels**	**0.40**	**2**	*i* Pg		**Pg**		**10 04 43.5**	**+0.6**
SCHF				*i* Sg		**Sg**		**10 04 48.9**	**+0.4**
	comp=E,2μm,0.2s								
GRZ1	**Mausoleum Wald**	**0.43**	**346**	*i* Pg		**Pg**		**10 04 44.1**	**+0.7**
GRZ1				*i* Sg		**Sg**		**10 04 49.7**	**+0.4**
GRZ1				IAML				10 04 51.8	
	comp=N,816nm,0.3s								
GRZ1	**Mausoleum Wald**	**0.43**	**346**	*i* Pg		**Pg**		**10 04 44.1**	**+0.7**
GRZ1				*i* Sg		**Sg**		**10 04 49.7**	**+0.4**
	comp=N,816nm,0.3s								
ROTZ	**Rotzenmuhle**	**0.52**	**193**	*e*Pg		**Pg**		**10 04 45.7**	**+0.7**
ROTZ				*e*Sg		**Sg**		**10 04 52.6**	**+0.7**
MOX	**Moxa**	**0.62**	**307**	*e*Pg		**Pg**		**10 04 47.8**	**+1.1**
MOX				*e*Sg		**Sg**		**10 04 56.5**	**+1.5**
HSKC	**Hora Svate Kat**	**0.75**	**63**	*e*PG		**Pg**		**10 04 49.2**	**0.0**
HSKC				*e*SG		**Sg**		**10 04 58.5**	**-0.7**
	comp=N,531nm,0.3s								
FBE	**Freiberg**	**0.90**	**43**	*e*Pg		**Pg**		**10 04 52.2**	**+0.2**
FBE				*e*Sg		**Sg**		**10 05 03.3**	**-0.5**
GRF	**Grafenberg Arr**	**0.95**	**233**	*e*Pg		**Pg**		**10 04 54.0**	**+1.0**
GRF				*e*Sg		**Sg**		**10 05 06.6**	**+1.1**
CLL	**Collm**	**1.11**	**21**	*i* Pg		**Pb**		**10 04 55.9**	**+0.6**
CLL				*i* x		x		10 04 58.2	
CLL				*i* x		x		10 04 59.7	
CLL				*i* Sg		**Sg**		**10 05 10.2**	**-0.3**
	comp=Z,283nm,0.6s								
CLL				*i* x		x		10 05 14.4	
CLL	**Collm**	**1.11**	**21**	*e*Pg		**Pb**		**10 04 56.1**	**+0.8**
CLL				*e*Sg		**Sg**		**10 05 10.3**	**-0.3**
RICC	**Richard**	**1.13**	**75**	*e*SG		**Sg**		**10 05 10.3**	**-0.9**
	comp=Z,591nm,0.3s								
BRG	**Berggiesshubel**	**1.16**	**58**	Pg		**Pb**		**10 04 56.8**	**+0.6**
BRG				Sg		**Sb**		**10 05 11.6**	**+0.6**
BRG				Amp				10 05 12.6	
	comp=Z,253nm,0.2s								
BRG	**Berggiesshubel**	**1.16**	**58**	*e*Pn		**Pb**		**10 04 56.8**	**+0.6**
BRG				*e*Sg		**Sb**		**10 05 11.2**	**+0.3**
PRA	**Prague**	**1.33**	**98**	*e*SG		**Sb**		**10 05 16.1**	**+0.2**
	comp=Z,130nm,0.2s								
KHC	**Kasperske Hory**	**1.38**	**145**	*e*PG		**Pn**		**10 04 59.9**	**+0.8**
KHC				*e*SG		**Sb**		**10 05 17.8**	**+0.5**
	comp=Z,123nm,0.3s								
PRU	**Pruhonice**	**1.42**	**101**	*e*SG		**Sb**		**10 05 18.6**	**+0.3**
	comp=Z,149nm,0.5s								
PRU	**Pruhonice**	**1.42**	**101**	*e*Pn		**Pn**		**10 05 00.4**	**+0.9**
PRU				*e*Sg		**Sg**		**10 05 19.6**	**-0.7**
PVCC	**Panska Ves**	**1.42**	**79**	*e*SG		**Sg**		**10 05 19.7**	**-0.8**
	comp=Z,372nm,0.3s								
GOPC	**GO Pecny, Ondr**	**1.59**	**102**	*e*SG		**Sb**		**10 05 24.5**	**+1.2**
	comp=Z,179nm,0.5s								
GEC2	**GERESS Array S**	**1.67**	**149**	*e*Pn		**Pn**		**10 05 04.0**	**+0.9**
GEC2				*e*Sg		**Sb**		**10 05 26.7**	**+1.1**
CKRC	**Cesky Krumlov**	**1.92**	**139**	*e*SG		**Sb**		**10 05 33.9**	**+1.1**
	comp=Z,69nm,0.3s								
TREC	**Trest**	**2.24**	**115**	*e*SG		**Sb**		**10 05 43.6**	**+1.7**
	comp=Z,56nm,0.2s								
UPC	**Upice**	**2.33**	**83**	*e*SG		**Sb**		**10 05 47.3**	**+2.6**
	comp=Z,139nm,0.5s								
DPC	**Dobruska-Polom**	**2.53**	**87**	*e*SG		**Sb**		**10 05 52.7**	**+2.4**
	comp=Z,99nm,0.4s								
BIOA	**Bad Ischl, Aus**	**2.71**	**162**	*e*Pn		**Pn**		**10 05 19.9**	**+2.4**
	comp=Z,2.7nm,0.3s								
BIOA				*e*Sg		**Sg**		**10 06 03.7**	**+2.0**
	comp=Z,52nm,0.4s								
MOA	**Molln**	**2.72**	**152**	*e*Pn		**Pn**		**10 05 19.0**	**+1.4**
	comp=Z,0.7nm,0.2s								
MOA				*e*Sn		**Sn**		**10 05 52.0**	**+1.9**
	comp=Z,3.1nm,0.1s								
KRLC	**Kraliky**	**2.83**	**92**	*e*SG		**Sg**		**10 06 03.3**	**-2.3**
	comp=Z,63nm,0.4s								
LESA	**Schwarzleotal**	**2.86**	**176**	*e*Pn		**Pn**		**10 05 21.4**	**+1.9**
	comp=Z,0.6nm,0.1s								
LESA				*e*Sg		**Sg**		**10 06 09.2**	**+2.8**
	comp=Z,31nm,0.3s								
KRUC	**Moravsky**	**2.87**	**113**	*e*Pn		**Pn**		**10 05 20.6**	**+1.0**
	baz=297								
KRUC				*e*Sg		**Sg**		**10 06 04.3**	**-2.6**
	comp=Z,71nm,0.6s,baz=297								
RETA	**Reutte**	**2.99**	**202**	*e*Pn		**Pn**		**10 05 21.7**	**+0.5**
	comp=Z,1.3nm,0.1s,SNR=6.1								
RETA				*e*Sg		**Sg**		**10 06 13.1**	**+2.6**
	comp=Z,19nm,0.3s								
WATA	**Walderalm**	**2.99**	**191**	Pn		**Pn**		**10 05 21.7**	**+0.4**
	comp=Z,0.8nm,0.1s,SNR=5.3								
WATA				*e*Sg		**Sg**		**10 06 10.1**	**-0.5**
	comp=Z,10nm,0.2s								
MOTA	**Moosalm**	**3.05**	**197**	Pn		**Pn**		**10 05 22.6**	**+0.4**
	comp=Z,0.2nm,0.1s,SNR=6.2								
MOTA				*e*Sg		**Sg**		**10 06 13.9**	**+1.3**
	comp=Z,5.7nm,0.2s								
WTTA	**Wattenberg**	**3.05**	**190**	*e*Pn		**Pn**		**10 05 23.3**	**+1.1**
	comp=Z,1.0nm,0.2s								
WTTA				*i* Sg		**Sg**		**10 06 14.6**	**+2.0**
	comp=Z,16nm,0.3s								
GUT	**Gutenstein**	**3.08**	**225**	Pn		**Pn**		**10 05 21.9**	**-0.5**
BABA	**Baden-Baden-Ne**	**3.15**	**242**	Pg		**Pg**		**10 05 34.6**	**-0.2**
BABA	**Baden-Baden-Ne**	**3.15**	**242**	Sg		**Sg**		**10 06 14.4**	**-1.1**
BABA	**Baden-Baden-Ne**	**3.15**	**242**	Pn		**Pn**		**10 05 24.7**	**+1.4**
SQTA	**Sankt Quirin**	**3.15**	**195**	*e*Pg		**Pg**		**10 05 34.6**	**-0.3**
	comp=Z,8.0nm,0.2s,SNR=5.5								
SQTA				*e*Sg		**Sg**		**10 06 16.8**	**+1.0**
	comp=Z,15nm,0.2s								
BGG	**Burgeitz**	**3.24**	**271**	*e*Pn		**Pn**		**10 05 27.3**	**+2.7**
KBA	**Koelnbreinsper**	**3.26**	**168**	*i* Pn		**Pn**		**10 05 27.8**	**+2.7**
	comp=Z,0.6nm,0.2s,SNR=4.4								
KBA				*e*Sg		**Sg**		**10 06 20.4**	**+1.1**
	comp=Z,8.0nm,0.4s								
OPP	**Oppenau**	**3.27**	**239**	Pn		**Pn**		**10 05 24.8**	**-0.2**
OPP	**Oppenau**	**3.27**	**239**	Pg		**Pg**		**10 05 36.4**	**-0.8**
OPP	**Oppenau**	**3.27**	**239**	Sg		**Sg**		**10 06 18.5**	**-1.0**
CONA	**Conrad Observa**	**3.28**	**134**	*e*Pg		**Pb**		**10 05 35.1**	**+2.9**
	comp=Z,6.4nm,0.2s								
CONA				*e*Sg		**Sg**		**10 06 17.4**	**-2.4**
	comp=Z,26nm,0.3s								
MORC	**Moravsky Berou**	**3.36**	**97**	*e*Pn		**Pn**		**10 05 27.2**	**+0.8**
	baz=281								
MORC				*e*Sg		**Sg**		**10 06 19.3**	**-3.3**
	comp=Z,49nm,0.7s,baz=281								
DAVA	**Damuels**	**3.42**	**210**	*e*Pn		**Pn**		**10 05 27.5**	**+0.3**
	comp=Z,1.2nm,0.2s								
DAVA				*e*Sg		**Sg**		**10 06 25.8**	**+1.5**
	comp=Z,11nm,0.3s								
FETA	**Feichten**	**3.44**	**199**	*e*Pn		**Pn**		**10 05 28.3**	**+0.8**
	comp=Z,0.5nm,0.2s								
FETA				*e*Sg		**Sg**		**10 06 24.7**	**-0.2**
	comp=Z,6.9nm,0.3s								
ABTA	**Abfaltersbach**	**3.53**	**179**	*e*Pn		**Pn**		**10 05 30.9**	**+2.2**
	comp=Z,0.3nm,0.1s								
ABTA				*e*Sg		**Sg**		**10 06 28.2**	**+0.3**
	comp=Z,90nm,0.8s								
SLE	**Schleitheim**	**3.59**	**227**	P		**Pn**		**10 05 28.7**	**-0.7**
SLE	**Schleitheim**	**3.59**	**227**	Sg		**Sg**		**10 06 28.9**	**-0.8**
SLE	**Schleitheim**	**3.59**	**227**	Pg		**Pg**		**10 05 42.8**	**-0.5**
RONA	**Rosalia, Austr**	**3.64**	**134**	*e*Pn		**Pn**		**10 05 29.8**	**-0.4**
	comp=Z,0.2nm,0.0s								
RONA				*e*Sg		**Sg**		**10 06 28.7**	**-2.8**
	comp=Z,17nm,0.3s								
ARSA	**Arzberg**	**3.67**	**144**	*i* Pn		**Pn**		**10 05 32.5**	**+2.0**
	comp=Z,2.2nm,0.4s								
ARSA				*e*Sg		**Sg**		**10 06 29.8**	**-2.6**
	comp=Z,16nm,0.5s								
JAVC	**Velka Javorina**	**3.72**	**110**	*e*PN		**Pn**		**10 05 32.5**	**+1.2**
JAVC				*e*SG		**Sg**		**10 06 31.8**	**-2.2**
MODS	**Modra-Piesok**	**3.72**	**119**	*e*PN		**Pn**		**10 05 33.0**	**+1.7**
MODS				*e*SG		**Sg**		**10 06 31.9**	**-2.2**
ZST	**Bratislava**	**3.73**	**122**	*e*SG		**Sg**		**10 06 31.8**	**-2.4**
KIZ	**Kirchzarten**	**3.74**	**233**	Pg		**Pg**		**10 05 45.9**	**-0.3**
KIZ	**Kirchzarten**	**3.74**	**233**	Sg		**Sg**		**10 06 32.6**	**-2.0**
KIZ	**Kirchzarten**	**3.74**	**233**	Pn		**Pn**		**10 05 30.5**	**-1.0**
OKC	**Ostrava-Krasne**	**3.74**	**94**	*e*SG		**Sg**		**10 06 30.2**	**-4.4**
	comp=Z,54nm,0.6s								
MYKA	**Terra Mystica**	**3.74**	**167**	*e*Sg		**Sg**		**10 06 37.3**	**+2.6**
	comp=Z,4.2nm,0.4s								
FELD	**Feldberg im Sc**	**3.75**	**232**	Pg		**Pg**		**10 05 45.3**	**-1.1**
FELD	**Feldberg im Sc**	**3.75**	**232**	Pn		**Pn**		**10 05 30.8**	**-0.9**
FELD	**Feldberg im Sc**	**3.75**	**232**	Sn		**Sn**		**10 06 14.2**	**-1.3**
SULZ	**Cheisacher**	**3.94**	**227**	Pg		**Pg**		**10 05 49.6**	**-0.3**
SULZ	**Cheisacher**	**3.94**	**227**	Sg		**Sg**		**10 06 39.4**	**-1.5**
SULZ	**Cheisacher**	**3.94**	**227**	Pn		**Pn**		**10 05 33.4**	**-0.9**
DREG	**Dreilaegerbach**	**3.95**	**278**	*e*Pn		**Pn**		**10 05 36.5**	**+2.2**
ENDD	**Endenburg**	**3.99**	**232**	Pg		**Pg**		**10 05 50.3**	**-0.6**
ENDD	**Endenburg**	**3.99**	**232**	Sg		**Sg**		**10 06 41.2**	**-1.4**
ECH	**Echery**	**4.00**	**241**	Pn		**Pn**		**10 05 34.5**	**-0.6**
ECH				Sn		**Sn**		**10 06 19.9**	**-1.5**
SOKA	**Soboth**	**4.01**	**153**	*e*Sg		**Sg**		**10 06 41.7**	**-1.5**
	comp=Z,2.3nm,0.3s								
OBKA	**Obir**	**4.03**	**158**	*e*Sg		**Sg**		**10 06 44.4**	**+0.3**
	comp=Z,46nm,0.7s								
WALT	**Westhalten**	**4.07**	**237**	Pg		**Pg**		**10 05 53.5**	**+1.0**
WALT				Sg		**Sg**		**10 06 44.4**	**-0.8**
XAFF	**Xaffevillers**	**4.21**	**246**	Sg		**Sg**		**10 06 49.4**	**-0.2**
BALST	**Balsthal**	**4.27**	**228**	Pg		**Pg**		**10 05 55.6**	**-0.8**
BALST	**Balsthal**	**4.27**	**228**	Sg		**Sg**		**10 06 49.7**	**-1.9**
HINF	**Hinteralfeld**	**4.39**	**238**	*e*Pn		**Pn**		**10 05 40.5**	**0.0**
HINF	**Hinteralfeld**	**4.39**	**238**	*e*Pg		**Pg**		**10 05 57.4**	**-1.2**
HINF				*e*Sn		**Sn**		**10 06 29.5**	**-1.7**
HINF				*e*Sg		**Sg**		**10 06 53.5**	**-2.0**
	comp=Z,29nm,0.3s								
BOURR	**Bourrignon**	**4.46**	**232**	Pn		**Pn**		**10 05 40.7**	**-0.8**
BOURR	**Bourrignon**	**4.46**	**232**	Pg		**Pg**		**10 05 59.4**	**-0.5**
BOURR	**Bourrignon**	**4.46**	**232**	Sg		**Sg**		**10 06 56.9**	**-0.7**
HAU	**Haudompre**	**4.57**	**243**	*e*Pn		**Pn**		**10 05 41.8**	**-1.1**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg		**Pg**		**10 05 59.9**	**-2.1**
HAU				*e*Sn		**Sn**		**10 06 33.7**	**-1.8**
HAU				*e*Sg		**Sg**		**10 06 59.0**	**-2.1**
	comp=Z,44nm,0.5s								
VYHS	**Vyhne**	**4.58**	**110**	*e*PN		**Pn**		**10 05 43.7**	**+0.7**
PAGF	**Fort de Pagny**	**4.67**	**251**	*e*Pn		**Pn**		**10 05 44.9**	**+0.6**
PAGF	**Fort de Pagny**	**4.67**	**251**	*e*Pg		**Pg**		**10 06 01.8**	**-2.3**
PAGF				*e*Sn		**Sn**		**10 06 36.7**	**-1.5**
PAGF				*e*Sg		**Sg**		**10 07 02.2**	**-2.4**
	comp=Z,29nm,0.5s								
LANS	**Liptovska Anna**	**4.73**	**101**	*e*PN		**Pn**		**10 05 46.9**	**+1.7**
LANS				*e*SG		**Sg**		**10 07 03.8**	**-2.6**
CHMF	**Charmoille**	**4.85**	**234**	Pg		**Pg**		**10 06 06.3**	**-1.1**
CHMF				Sn		**Sn**		**10 06 41.2**	**-1.4**
CHMF				Sg		**Sg**		**10 07 09.5**	**-0.8**
GIVF	**Givet**	**4.86**	**271**	*e*Pg		**Pg**		**10 06 05.6**	**-2.0**
GIVF				*e*Sg		**Sg**		**10 07 08.2**	**-2.3**
	comp=Z,55nm,0.8s								
MEZF	**Maizieres J'vi**	**5.11**	**252**	*e*Pn		**Pn**		**10 05 51.1**	**+0.9**
MEZF				*e*Sn		**Sn**		**10 06 46.6**	**-2.2**
	comp=Z,36nm,0.8s								
SFTF	**Sexfontaines**	**5.24**	**250**	*e*Pn		**Pn**		**10 05 52.8**	**+0.7**
SFTF	**Sexfontaines**	**5.24**	**250**	*e*Pg		**Pg**		**10 06 12.6**	**-2.2**
SFTF				*e*Sg		**Sg**		**10 07 20.0**	**-2.6**
	comp=Z,26nm,0.6s								
BAIF	**Baives**	**5.26**	**271**	*e*Pg		**Pg**		**10 06 12.9**	**-2.3**
BAIF				*e*Sn		**Sn**		**10 06 50.2**	**-2.3**
BAIF				*e*Sg		**Sg**		**10 07 20.8**	**-2.5**
	comp=Z,9.0nm,0.5s								
CABF	**La Chapelle**	**5.56**	**231**	*e*Pn		**Pn**		**10 05 56.4**	**-0.3**
CABF	**La Chapelle**	**5.56**	**231**	*e*Pg		**Pg**		**10 06 19.4**	**-1.7**
CABF				*e*Sg		**Sg**		**10 07 30.4**	**-2.7**
	comp=Z,25nm,0.6s								
STHS	**Stebnicka Huta**	**5.80**	**95**	*e*SG		**Sg**		**10 07 35.9**	**-4.6**
LOR	**Lormes**	**6.39**	**245**	*e*Pn		**Pn**		**10 06 08.1**	**+0.2**
	baz=59								
LOR	**Lormes**	**6.39**	**245**	*e*Pg		**Pg**		**10 06 33.6**	**-3.2**
	baz=59								
LOR				*e*Sg		**Sg**		**10 07 56.1**	**-3.3**
	comp=Z,16nm,0.7s,baz=60								
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pg		**Pg**		**10 06 40.1**	**-2.7**
SSF				*e*Sg		**Sg**		**10 08 05.9**	**-3.5**
	comp=Z,7.6nm,0.5s								
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg		**Pg**		**10 06 41.4**	**-2.1**
SMF				*e*Sg		**Sg**		**10 08 06.7**	**-4.0**
	comp=Z,20nm,0.7s								
AVF	**Avril sur Loir**	**6.94**	**243**	*e*Pg		**Pg**		**10 06 44.1**	**-3.1**
AVF				*e*Sg		**Sg**		**10 08 14.0**	**-2.9**
	comp=Z,7.7nm,0.6s								
BGF	**Bois d'Agland**	**7.35**	**243**	*e*Pg		Pg		10 06 51.6	-3.6
BGF				*e*Sg		**Sg**		**10 08 25.9**	**-4.5**
TCF	**Toulx Ste Croi**	**7.87**	**243**	*e*Pg				10 07 01.3	
TCF				*e*Sg				10 08 42.1	
	comp=Z,10.0nm,0.7s								

*IDC **14** 10:07:15.7±5.5,36°.76S×178°.23E,h171^{km}±66^{km},mb3.1/2, mbtmp3.5/2,Error ellipse: s-maj=127.7km s-min=49.7km az=174.0*

*WEL **14** 10:07:16.3±0.9,37°.5±6°.×17°.8E±°,h159^{km}±6^{km},M3.2/24, ML3.3/8,MLv3.2/24,Error ellipse: s-maj=0.0km s-min=0.0km az=58.9,confirmed*

ISC 14 10:07:15.5±1.3,36°.67S±0°.08×178°.07E±0°.09,h172^{km}±8^{km}, n57,σ0.83/68,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**0.92**	**168**	P	**Pn**	**10 07 41.5**	**-0.3**
MXZ				S	**Sn**	**10 08 01.2**	**-1.0**
HAZ	**Te Kaha**	**1.11**	**192**	P	**Pn**	**10 07 42.9**	**-0.3**
HAZ				S	**Sn**	**10 08 03.9**	**-0.9**
WMGZ	**Waiomatatini S**	**1.19**	**167**	P	**Pn**	**10 07 44.2**	**+0.3**
WMGZ				S	**Sn**	**10 08 05.6**	**-0.3**
PKGZ	**Pakihiroa**	**1.22**	**180**	P	**Pn**	**10 07 44.3**	**+0.1**
RUGZ	**Raukumara Rang**	**1.33**	**193**	P	**Pn**	**10 07 44.7**	**-0.6**
RUGZ				S	**Sn**	**10 08 06.7**	**-1.9**
PUZ	**Puketiti**	**1.41**	**174**	P	**Pn**	**10 07 46.1**	**+0.2**
PUZ				S	**Sn**	**10 08 09.4**	**-0.2**
TWGZ	**Tauwhareparae**	**1.51**	**183**	P	**Pn**	**10 07 47.7**	**+0.8**
TWGZ				S	**Sn**	**10 08 11.8**	**+0.5**
OPRZ	**Ohinepanea**	**1.69**	**225**	P	**Pn**	**10 07 48.9**	**+0.3**
MWZ	**Matawai**	**1.72**	**194**	P	**Pn**	**10 07 49.1**	**+0.1**
MWZ				S	**Sn**	**10 08 13.9**	**-1.2**
MARZ	**Manawahe**	**1.72**	**220**	P	**Pn**	**10 07 49.9**	**+0.8**
URZ	**Urewera**	**1.76**	**205**	P	**Pn**	**10 07 49.6**	**+0.2**
	23nm,0.3s,baz=344,slow=4.5,SNR=70						
URZ				S	**Sn**	**10 08 15.3**	**-0.4**
	30nm,0.3s,baz=292,slow=21,SNR=17						
URZ	**Urewera**	**1.76**	**205**	P	**Pn**	**10 07 49.3**	**-0.1**
URZ				S	**Sn**	**10 08 14.8

comp=N,133nm,0.3s
KAN05 **Bluff City Nor** **1.07 347** Sg Sg 10 30 02.5 -0.7
KAN09 **Caldwell North** **1.07 358** Pg Pg 10 29 48.9 -0.5
W35A **Tecumseh** **1.08 148** Pg Pg 10 29 48.8 -0.8
W35A IAML 10 30 08.5
comp=N,82nm,0.4s
W35A IAML 10 30 09.9
comp=E,130nm,0.2s
KAN01 **Argonia South** **1.09 352** Pg 10 29 49.5 -0.5
KAN01 IAML 10 30 04.4
comp=E,152nm,0.2s
KAN01 IAML 10 30 06.1
comp=N,139nm,0.1s
OK035 **E0210 Rd and N** **1.12 305** Sg Sg 10 30 04.7 -0.2
T35A **Sooner Cattle** **1.20 45** Pg 10 29 51.5 -0.5
T35A Sg 10 30 06.9 -0.7
T35A IAML 10 30 08.1
comp=N,121nm,0.4s
KAN12 **Harper NE Stat** **1.27 345** Pn 10 29 52.7 -0.4
WMOK **Wichita Mounta** **1.66 217** Pg Pn 10 29 58.0 -0.4
X37A **Clayton** **2.33 129** Pn 10 30 08.0 +0.4
X37A IAmb_Lg 10 30 46.8
comp=Z,6.1nm,0.8s
SMWD **Samnorwood** **2.38 247** Pn Pn 10 30 09.2 +0.9
U38A **Gravette** **2.60 81** Pn 10 30 12.5 +1.1
HHAR **Hobbs** **2.95 85** Pn 10 30 16.1 0.0
CBKS **Cedar Bluff** **3.24 328** IAmb_Lg 10 31 09.4
comp=Z,6.9nm,1.0s
MIAR **Mount Ida** **3.60 114** Pn Pn 10 30 25.2 +0.1
S39A **Bolivar** **3.77 63** IAmb_Lg 10 31 31.8
comp=Z,6.7nm,0.8s
WHAR **Wooly Hollow** **4.37 99** IAmb_Lg 10 31 52.3
comp=Z,5.0nm,1.0s
MGMO **Mountain Grove** **4.40 74** IAmb_Lg 10 31 49.9
comp=Z,7.7nm,0.7s
FCAR **Ozark Folk Cen** **4.42 91** IAmb_Lg 10 31 50.7
comp=Z,3.7nm,0.7s
P40A **Paris** **5.57 50** IAmb_Lg 10 32 28.5
comp=Z,8.4nm,0.7s
PBMO **Poplar Bluff** **5.80 81** IAmb_Lg 10 32 38.1
comp=Z,7.2nm,0.8s
FVM **French Village** **6.03 69** IAmb_Lg 10 32 42.2
comp=Z,4.9nm,0.7s
CGM3 **Cape Girardeau** **6.48 77** IAmb_Lg 10 32 54.4
comp=Z,6.0nm,0.8s
P43A **Skaggs, Pawnee** **7.30 58** IAmb_Lg 10 33 26.8
comp=Z,5.7nm,0.7s

JMA 14 10:30:46.0±0.2,37°.8N±0°.7×14°.2E±°,h37km±2km, MV1.0/14,SE OFF MIYAGI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakikobu**	**0.51**	**340**	*e*S			Sn	10 31 04.3	0.0
JMST	**Minamisoumatoc**	**0.64**	**261**	*e*S			Sn	10 31 06.5	-1.0
JIO	**Ouri**	**0.68**	**337**	P			Pn	10 30 59.1	-0.1
JIO				*e*S			Sn	10 31 08.3	-0.1
JMM	**Marumori**	**0.70**	**273**	P			Pn	10 30 59.7	+0.2
JMM				*e*S			Sn	10 31 10.0	+0.9
JFK	**Kawauchi**	**0.79**	**234**	S			Sn	10 31 11.5	+0.2

IDC ***14*** *10:31:12.8±0.4,39°.99N×142°.77E,h0km,mb4.9/29, mbtmp4.9/34,ML4.4/5,MS4.2/70,Error ellipse: s-maj=13.7km s-min=11.2km az=96.0*

BJI ***14*** *10:31:16.5±0.0,40°.01N×142°.70E,h43km,mb5.2/87, mB5.0/56,Ms4.6/85,Ms7 4.5/82*

JMA ***14*** *10:31:17.7±0.2,40°.1N±0°.3×142°.7E±0°.8,h29km±1km, MD5.1/38,MW5.0/38,NE OFF IWATE PREF*

JMA Felt III J1 at NE OFF IWATE PREF .

NIED ***14*** *10:31:17.7,40°.06N×142°.69E,h29km,MW5.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁶Nm; Mrr2.07; Mθθ0.38; Mϕϕ-2.45; Mrθ1.07; Mθϕ-0.59; Mϕr2.35; Fault plane solution: M₀3.48000×10¹⁶ NP1:ϕs22.00000°, δ69.00000°, λ.99.00000°. NP2:ϕs177.00000°,δ23.00000°, λ67.00000°.*

MOS ***14*** *10:31:17.4±0.9,40°.13N×142°.72E,h39km,mb5.5/65, MS4.7/14 Error ellipse: s-maj=5.9km s-min=3.4km az=113.0*

NEIC ***14*** *10:31:19.8±1.7,40°.09N±0°.05×142°.7E±0°.1,h40km±5km, mb5.0/382, Error ellipse: s-maj=13.4km s-min=6.4km az=106.0*

GCMT ***14*** *10:31:20.8±0.2,40°.17N±0°.01×142°.75E±0°.02,h34km, MW5.1/115,Moment Tensor Solution. s63,c86; s115,c181; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.60±.14; Mθθ-0.10±.09; Mϕϕ-3.50±.09; Mrθ1.39±.10; Mθϕ-0.62±.05; Mϕr3.04±.10; Best double couple: M₀4.91500×10¹⁶ NP1:ϕs20.20000°,δ67.00000°, λ.98.00000°. NP2:ϕs181.00000°,δ25.00000°,λ73.00000°. Principal axes: T 4.9640, Plg68.0000°, Azm304.0000°; N -0.0990, Plg7.0000°, Azm197.0000°; P -4.8660, Plg21.0000°, Azm104.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 10:31:17.9±0.2,40°.08N±0°.03×142°.73E±0°.03,h32km±1km, h32km:pP-P,n1461,σ1s38/1303,mb5.1/350,MS4.5/109, 126C-38D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**0.68**	**258**	⇓*i*P			**Pb**	**10 31 30.4**	**-0.9**
JTH				⇓S			**Sb**	**10 31 39.4**	**-1.0**
JTH	**Tanohata**	**0.68**	**258**	A		A	A	10 31 30.4	
comp=E,81nm,0.6s,comp=N,54nm,0.7s									
JKEN	**Kujiedanarisaw**	**0.79**	**279**	⇓*i*P			**Pn**	**10 31 31.8**	**-0.9**
JKEN				⇓*e*S			**Sb**	**10 31 41.4**	**-2.1**
JKEN	**Kujiedanarisaw**	**0.79**	**279**	A		A	A	10 31 31.8	
comp=E,75nm,0.7s,comp=N,74nm,0.8s									
MIYJ	**Miyakonagasawa**	**0.86**	**235**	⇓*i*P			**Pn**	**10 31 32.9**	**-0.8**
MIYJ				⇓S			**Sn**	**10 31 43.8**	**-1.3**
MIYJ	**Miyakonagasawa**	**0.86**	**235**	A		A	A	10 31 32.9	
comp=E,53nm,1.2s,comp=N,48nm,0.7s									
JANG	**Nango**	**0.97**	**288**	⇓*i*P			**Pn**	**10 31 34.8**	**-0.4**
JANG	**Nango**	**0.97**	**288**	A		A	A	10 31 34.8	
comp=E,27nm,0.9s,comp=N,28nm,0.7s									
JKZ	**Kuzumaki**	**1.08**	**265**	*i* P			**Pn**	**10 31 36.6**	**-0.1**
JKZ				*e*S			**Sn**	**10 31 50.0**	**-0.5**
JKZ	**Kuzumaki**	**1.08**	**265**	A		A	A	10 31 36.6	
comp=E,76nm,0.7s,comp=N,76nm,0.6s									
JOM	**Ohasama**	**1.26**	**242**	⇓*i*P			**Pn**	**10 31 39.3**	**+0.1**
JOM				⇓*e*S			**Sn**	**10 31 55.6**	**+0.7**
JOM	**Ohasama**	**1.26**	**242**	A		A	A	10 31 39.3	
comp=E,57nm,0.3s,comp=N,53nm,0.5s									
OFUJ	**Ofunato**	**1.29**	**220**	*i* P			**Pn**	**10 31 39.5**	**-0.1**
OFUJ				S			**Sn**	**10 31 56.0**	**+0.3**
OFUJ	**Ofunato**	**1.29**	**220**	A		A	A	10 31 39.5	
comp=E,78nm,1.3s,comp=N,51nm,1.2s									
JARK	**Aomorirokkasho**	**1.39**	**312**	⇓*i*P			**Pn**	**10 31 41.6**	**+0.6**
JARK				⇓S			**Sb**	**10 32 00.1**	**-0.5**
JARK	**Aomorirokkasho**	**1.39**	**312**	A		A	A	10 31 41.6	
comp=E,71nm,1.4s,comp=N,76nm,1.3s									
JSZI	**Iwateshizukuis**	**1.41**	**257**	A		A	A	10 31 41.4	
comp=E,179nm,1.7s,comp=N,133nm,1.0s									
JTM	**Tenmabayashi**	**1.45**	**300**	P			**Pn**	**10 31 42.7**	**+0.9**
JTM	**Tenmabayashi**	**1.45**	**300**	Pn			**Pn**	**10 31 42.4**	**+0.7**
JTM	**Tenmabayashi**	**1.45**	**300**	⇓*i*P			**Pn**	**10 31 42.6**	**+0.9**
JTM				⇓S			**Sb**	**10 32 01.0**	**-1.3**
JTM	**Tenmabayashi**	**1.45**	**300**	A		A	A	10 31 42.6	
comp=E,57nm,1.7s,comp=N,44nm,0.9s									
JAHD	**Aomorihigashid**	**1.59**	**319**	A		A	A	10 31 44.6	
comp=E,96nm,0.4s,comp=N,101nm,1.5s									
JKMT	**Kesennumamotoy**	**1.59**	**218**	A		A	A	10 31 44.3	
comp=E,45nm,1.4s,comp=N,26nm,1.4s									
JAH	**Hinai**	**1.61**	**275**	⇓*i*P			**Pn**	**10 31 45.1**	**+1.2**
JAH				⇓*e*S			**Sb**	**10 32 05.6**	**-1.1**
JAH	**Hinai**	**1.61**	**275**	A		A	A	10 31 45.1	
comp=E,70nm,2.7s,comp=N,55nm,0.7s									
JMK	**Ichinoseki**	**1.62**	**226**	*i* P			**Pn**	**10 31 44.9**	**+0.8**
JMK				S			**Sn**	**10 32 05.5**	**+1.6**
JMK	**Ichinoseki**	**1.62**	**226**	A		A	A	10 31 44.9	
comp=E,56nm,1.5s,comp=N,31nm,1.8s									
JRG	**Rokugo**	**1.75**	**248**	⇓*i*P			**Pn**	**10 31 46.8**	**+0.9**
JRG				⇓S			**Sn**	**10 32 07.0**	**-0.1**
JRG	**Rokugo**	**1.75**	**248**	A		A	A	10 31 46.8	
comp=E,56nm,0.7s,comp=N,62nm,0.7s									
JOT	**Ohata**	**1.82**	**316**	A		A	A	10 31 48.0	
comp=E,30nm,3.3s,comp=N,33nm,3.0s									
JHHS	**Hirosakihyakuz**	**1.90**	**288**	A		A	A	10 31 48.8	
comp=E,58nm,3.4s,comp=N,63nm,3.7s									
JIO	**Ouri**	**1.94**	**214**	A		A		10 31 49.3	
comp=E,19nm,0.9s,comp=N,20nm,1.3s									
ERM	**Erimo**	**1.96**	**9**	P			**Pn**	**10 31 50.5**	**+1.7**
ERM	**Erimo**	**1.96**	**9**	Pn			**Pn**	**10 31 50.0**	**+1.1**
ERM	**Erimo**	**1.96**	**9**	*ce*P			**Pn**	**10 31 49.9**	**+1.1**
ERM				pmax			pmax		
comp=Z,1μm,1.0s									
JEM	**Erimo**	**1.96**	**9**	P			**Pn**	**10 31 50.4**	**+1.6**
JEM	**Erimo**	**1.96**	**9**	A		A	A	10 31 50.5	
comp=E,13nm,0.9s,comp=N,15nm,0.9s									
JNTW	**Noshirotokiwa**	**1.97**	**276**	A		A	A	10 31 49.9	
comp=E,82nm,3.8s,comp=N,144nm,1.3s									
JYW	**Yuwa**	**2.01**	**255**	A		A	A	10 31 50.3	
comp=E,74nm,1.0s,comp=N,73nm,2.1s									
JSI2	**Shiura 2**	**2.02**	**300**	A		A	A	10 31 50.7	
comp=E,60nm,2.6s,comp=N,37nm,0.9s									
JIKH	**Ishinomakikobu**	**2.02**	**209**	A		A	A	10 31 50.5	
comp=E,20nm,1.0s									
JOFO	**Osakifurukawao**	**2.04**	**224**	A		A	A	10 31 50.7	
comp=E,129nm,2.5s,comp=N,146nm,1.4s									
JIW	**Iwasaki**	**2.14**	**285**	A		A	A	10 31 52.4	
comp=E,30nm,0.6s,comp=N,25nm,1.0s									
JYK	**Kaneyama**	**2.17**	**238**	A		A	A	10 31 52.5	
comp=E,21nm,2.2s,comp=N,17nm,3.0s									
JNBK	**Urakawa-nobuka**	**2.20**	**1**	A		A	A	10 31 53.8	
comp=E,34nm,0.9s,comp=N,36nm,2.1s									
JKB	**Kayaba**	**2.21**	**325**	A		A	A	10 31 53.8	
comp=E,23nm,0.8s,comp=N,30nm,2.0s									
JTHR	**Tokachihiroo**	**2.25**	**11**	A		A	A	10 31 54.6	
comp=E,20nm,0.7s,comp=N,15nm,1.0s									
JSR	**Shiriuchi**	**2.27**	**310**	A		A	A	10 31 54.5	
comp=E,22nm,2.6s,comp=N,16nm,0.5s									
JSHD	**Hidakashinhida**	**2.34**	**355**	A		A	A	10 31 55.7	
comp=E,54nm,1.9s,comp=N,55nm,1.2s									
JOU	**Okura**	**2.34**	**224**	A		A	A	10 31 55.1	
comp=E,36nm,2.7s,comp=N,26nm,2.4s									
JYYZ	**Yasagatayuza**	**2.41**	**245**	A		A	A	10 31 56.0	
comp=E,45nm,3.0s,comp=N,43nm,3.5s									
JOMM	**Oshimamatsumae**	**2.52**	**306**	A		A	A	10 31 57.9	
comp=E,15nm,0.6s,comp=N,13nm,2.5s									
JCH	**Churui**	**2.58**	**11**	A		A	A	10 31 59.3	
comp=E,13nm,3.1s,comp=N,13nm,0.9s									
JTB	**Tobi-shima**	**2.60**	**251**	A		A	A	10 31 58.8	
comp=E,21nm,1.4s,comp=N,22nm,3.7s									
JIAM	**Iburiatsuma**	**2.61**	**347**	A		A	A	10 31 59.6	
comp=E,75nm,0.9s,comp=N,76nm,2.1s									
JMM	**Marumori**	**2.67**	**215**	P			**Pn**	**10 31 59.6**	**+1.0**
JMM	**Marumori**	**2.67**	**215**	Pn			**Pn**	**10 31 59.0**	**+0.4**
JMM	**Marumori**	**2.67**	**215**	A		A	A	10 31 59.8	
comp=E,14nm,1.3s,comp=N,17nm,1.4s									
JNB	**Noboribetsu**	**2.70**	**333**	A		A	A	10 32 00.9	
comp=E,10.0nm,1.2s,comp=N,13nm,1.0s									
JYM2	**Yakumo 2**	**2.70**	**320**	A		A	A	10 32 00.7	
comp=E,14nm,3.1s,comp=N,16nm,2.4s									
JBT2	**Biratori 2**	**2.71**	**354**	A		A	A	10 32 01.1	
comp=E,19nm,2.2s,comp=N,16nm,2.5s									
JMST	**Minamisoumatoc**	**2.75**	**212**	A		A	A	10 32 01.0	
comp=E,12nm,0.9s,comp=N,19nm,1.4s									
JYA	**Atsumi**	**2.77**	**239**	A		A	A	10 32 01.1	
comp=E,46nm,1.0s,comp=N,47nm,1.0s									
JYS	**Shirataka**	**2.78**	**229**	A		A	A	10 32 01.3	
comp=E,72nm,2.0s,comp=N,54nm,1.5s									
JOG3	**Oga3**	**2.80**	**268**	A		A	A	10 31 53.8	
comp=E,33nm,3.1s,comp=N,26nm,2.7s									
JEW	**Emyo**	**2.92**	**341**	A		A	A	10 32 04.0	
comp=E,32nm,0.8s,comp=N,43nm,2.3s									
JOB	**Onbets**	**2.94**	**16**	A		A	A	10 32 04.6	
comp=E,19nm,1.3s,comp=N,18nm,2.5s									
JYAR	**Yonezawaarcadi**	**2.95**	**224**	A		A	A	10 32 03.8	
comp=E,87nm,1.6s,comp=N,62nm,1.1s									
JFK	**Kawauchi**	**3.07**	**209**	A		A	A	10 32 05.5	
comp=E,7.0nm,1.0s,comp=N,7.0nm,1.3s									
JFR	**Furan**	**3.08**	**358**	A		A	A	10 32 06.5	
comp=E,10.0nm,0.9s,comp=N,11nm,0.8s									
JOTO	**OTAMA OYAMA**	**3.13**	**217**	A		A	A	10 32 06.4	
comp=E,26nm,1.4s,comp=N,29nm,1.8s									
JAW	**Awa shima**	**3.15**	**240**	A		A	A	10 32 06.6	
comp=E,9.0nm,4.1s,comp=N,11nm,2.5s									
JOSM	**Okushiri--Mats**	**3.17**	**310**	A		A	A	10 32 07.3	
comp=E,6.0nm,2.1s,comp=N,7.0nm,3.9s									
JHST	**Hiyamasetana**	**3.18**	**318**	A		A	A	10 32 07.4	
comp=E,14nm,2.9s,comp=N,11nm,2.8s									
JSH	**Shima**	**3.26**	**325**	A		A	A	10 32 08.7	
comp=E,4.0nm,2.6s,comp=N,7.0nm,4.7s									
JAK	**Akkeshi**	**3.27**	**26**	A		A	A	10 32 09.2	
comp=E,10.0nm,2.2s,comp=N,9.0nm,1.6s									
JAR	**Ashorobuto**	**3.31**	**13**	A		A	A	10 32 09.7	
comp=E,12nm,2.7s,comp=N,10.0nm,1.7s									
ONAJ	**Iwakimizuishiy**	**3.33**	**208**	A		A	A	10 32 09.2	
comp=E,10.0nm,1.4s,comp=N,8.0nm,0.8s									
JAB	**Ashibetsu**	**3.44**	**354**	A		A	A	10 32 11.5	
comp=E,21nm,2.2s,comp=N,36nm,2.3s									
JNS	**Sawa**	**3.49**	**231**	A		A	A	10 32 11.3	
comp=E,7.0nm,3.5s,comp=N,10.0nm,2.2s									
JKHN	**Kushirohamanak**	**3.51**	**31**	A		A	A	10 32 12.7	
comp=E,14nm,1.7s,comp=N,23nm,1.2s									
JFY	**Yanaizu**	**3.56**	**222**	A		A	A	10 32 12.4	
comp=E,11nm,3.3s,comp=N,10.0nm,2.5s									
JHR	**Hokuryu**	**3.74**	**349**	A		A	A	10 32 15.6	
comp=E,20nm,3.2s,comp=N,16nm,2.2s									
JKK2	**Kamakawa 2**	**3.79**	**0**	A		A	A	10 32 16.5	
comp=E,6.0nm,2.4s,comp=N,7.0nm,1.9s									
JSB	**Shiboa**	**3.81**	**216**	A		A	A	10 32 15.9	
comp=E,20nm,3.0s,comp=N,22nm,2.3s									
JMP	**Maruseppu**	**3.95**	**7**	A		A	A	10 32 18.8	
comp=E,7.0nm,2.7s,comp=N,6.0nm,3.4s									
NMR	**Nemuro--Hokkai**	**3.98**	**33**	⇓*i*P			**Pn**	**10 32 15.7**	**-0.9**
NMR				*i* S			**Sn**	**10 32 57.9**	**-4.2**
NEM2	**Nemuro 2**	**3.98**	**34**	A		A	A	10 32 19.4	
comp=E,10.0nm,1.3s,comp=N,7.0nm,1.4s									
JTKR	**Abashiri--Toko**	**3.99**	**12**	A		A	A	10 32 19.3	
comp=E,5.0nm,2.1s,comp=N,4.0nm,3.7s									
JSD	**Sado**	**4.03**	**241**	P			**Pn**	**10 32 19.0**	**+1.7**
JSD	**Sado**	**4.03**	**241**	Pn			**Pn**	**10 32 19.0**	**+1.7**
JKA	**Kamikawa-asahi**	**4.03**	**359**	Pn			**Pn**	**10 32 18.8**	**+1.5**
ASAJ	**Asahikawa**	**4.04**	**359**	Pn			**Pn**	**10 32 18.7**	**+1.4**
comp=N,29nm,0.3s,baz=216,slow=9.5,SNR=334									
ASAJ						Sn	**Sn**	**10 33 05.5**	**+2.0**
comp=N,101nm,0.3s,baz=214,slow=32,SNR=6.6									
comp=N,101nm,0.4s									
ASAJ	**Asahikawa**	**4.04**	**359**	A		A	A	10 32 19.9	
comp=E,5.5nm,4.1s,comp=N,8.0nm,2.5s									
JNSB	**Nemuroshibetsu**	**4.07**	**24**	A		A	A	10 32 20.5	
comp=E,9.0nm,3.7s,comp=N,14nm,2.7s									
JYT	**Yasato**	**4.33**	**208**	A		A	A	10 32 23.3	
comp=E,7.0nm,1.7s,comp=N,7.0nm,3.1s									
JSS	**Shosan**	**4.37**	**352**	A		A	A	10 32 24.5	
comp=E,10.0nm,2.2s,comp=N,9.0nm,4.0s									
RUSJ	**Misakicho**	**4.44**	**24**	⇓*i*P			**Pn**	**10 32 23.5**	**+0.7**
RUSJ				*i* S			**Sn**	**10 33 12.8**	**-0.5**
JIHU	**Itakohorinouch**	**4.46**	**204**	A		A	A	10 32 25.1	
comp=E,28nm,1.4s,comp=N,27nm,2.4s									
JAG	**Ashikaga**	**4.47**	**216**	A		A	A	10 32 25.2	
comp=E,6.0nm,2.8s,comp=N,4.0nm,2.3s									
YUK	**Yuzh-Kuril'sk**	**4.59**	**30**	*d* iP			**Pn**	**10 32 24.5**	**-0.4**
YUK				*i* S			**Sn**	**10 33 13.9**	**-3.2**
YUK				pmax			pmax		
comp=Z,881nm,0.2s									
YUK				smax			smax		
comp=N,3995μm,0.5s									
YUK				smax			smax		
comp=E,1μm,0.5s									
JJN	**Nakama**	**4.65**	**232**	A		A	A	10 32 27.7	
comp=E,15nm,2.2s,comp=N,11nm,2.8s									
JGK	**Kuni**	**4.76**	**224**	A		A	A	10 32 29.3	
comp=E,6.0nm,3.3s,comp=N,8.0nm,3.0s									
SHO	**Shikotan**	**4.87**	**38**	*c* iP			**Pn**	**10 32 27.1**	**-1.6**
SHO				*i* S			**Sn**	**10 33 18.4**	**-5.5**
SHO				pmax			pmax		
comp=N,84nm,0.3s									
SHO				pmax			pmax		
comp=E,109nm,0.3s									
SHO				pmax			pmax		
comp=Z,205nm,0.3s									
SHO				smax			smax		
comp=E,493nm,0.2s									
SHO				smax			smax		
comp=N,1μm,0.5s									
TOK	**Tokyo**	**4.97**	**209**	A		A	A	10 32 32.3	
comp=E,18nm,1.7s,comp=N,18nm,1.3s									
MAJO	**Matsushiro**	**5.01**	**227**	P			**Pn**	**10 32 33.3**	**+2.5**
MAJO	**Matsushiro**	**5.01**	**227**	Pn			**Pn**	**10 32 33.5**	**+2.7**
MAJO	**Matsushiro**	**5.01**	**227**	*c* iP			**Pn**	**10 32 33.3**	**+2.5**
MJAR	**Matsushiro Arr**	**5.01**	**227**	Pn			**Pn**	**10 32 33.4**	**+2.7**
comp=N,3.9nm,0.3s,baz=30,slow=13,SNR=458									
MJAR						LR	LR	10 34 43.7	
comp=N,4μm,20.3s,baz=49,slow=42									
MJB9	**Matsu-Tunnel**	**5.01**	**227**				**Pn**	**10 32 33.5**	**+2.8**
JHU	**Hanno**	**5.02**	**214**	A		A	A	10 32 33.0	
comp=E,6.0nm,1.4s,comp=N,5.0nm,1.4s									
JRY	**Ryogami san**	**5.05**	**218**	A		A	A	10 32 33.4	
comp=E,4.0nm,3.3s,comp=N,5.0nm,1.3s									
JCN	**Nagara**	**5.07**	**204**	A		A	A	10 32 33.6	
comp=E,17nm,1.7s,comp=N,14nm,1.6s									
JSGW	**Sagamiharawaka**	**5.26**	**213**	A		A	A	10 32 36.4	
comp=N,2.0nm,1.2s									
JWK2	**Keihoku**	**5.27**	**354**	A		A	A	10 32 37.2	
comp=E,5.0nm,5.8s,comp=N,5.0nm,2.9s									
JKUC	**kamogawauchiur**	**5.30**	**203**	A		A	A	10 32 37.0	
comp=E,7.0nm,4.8s,comp=N,8.0nm,4.3s									
JYO	**Yokosk**	**5.42**	**208**	A		A	A	10 32 38.6	
comp=E,9.0nm,1.5s,comp=N,13nm,1.8s									
JTT	**Ttatey**	**5.48**	**232**	A		A	A	10 32 39.3	
comp=E,5.0nm,3.0s,comp=N,4.0nm,3.0s									
TATJ	**Tateyama 2**	**5.52**	**205**	A		A	A	10 32 40.0	
comp=E,14nm,3.9s,comp=N,14nm,4.0s									
JOD2	**Odawara 2**	**5.61**	**212**	A		A	A	10 32 41.2	
comp=E,6.0nm,1.9s,comp=N,7.0nm,1.8s									
JFNN	**Fujinakano**	**5.84**	**215**	A		A	A	10 32 44.4	
comp=E,9.0nm,3.5s,comp=N,8.0nm,2.8s									
JHTM	**Izuhatsuma**	**5.90**	**211**	A		A	A	10 32 45.3	
comp=E,10.0nm,1.0s,comp=N,10.0nm,1.4s									
JIM2	**Oshima 3**	**5.96**	**207**	A		A	A	10 32 46.1	
comp=E,8.0nm,1.7s,comp=N,6.0nm,2.1s									
JNY	**Yasuok**	**6.09**	**221**	A		A	A	10 32 47.9	
comp=E,4.0nm,3.8s,comp=N,4.0nm,1.6s									
JIZS	**Izushimoda**	**6.17**	**211**	A		A	A	10 32 49.0	
comp=E,5.0nm,1.6s,comp=N,3.0nm,1.6s									
JGF	**Kuroka**	**6.17**	**225**	P			**Pn**	**10 32 49.3**	**+2.6**
JGF	**Kuroka**	**6.17**	**225**	Pn			**Pn**	**10 32 49.2**	**+2.5**
KUR	**Kuril'sk**	**6.39**	**35**	*i* P			**Pn**	**10 32 49.8**	**+0.1**
JSG	**Sagara**	**6.49**	**215**	P			**Pn**	**10 32 55.4**	**+4.3**
JSG	**Sagara**	**6.49**	**215**				**Pn**	**10 32 54.6**	**+3.5**
TEY	**Ternei**	**6.70**	**320**	⇑*e*P			**Pn**	**10 32 55.6**	**+1.7**
TEY								10 34 15.4	
TEY				pmax			pmax		
comp=Z,110nm,0.7s									
TEY				pmax			pmax		
comp=N,100nm,0.7s									
TEY				pmax			pmax		
comp=E,80nm,0.7s									
TEY				MLR			MLR		
comp=N,100nm,14.0s									
TEY				MLR			MLR		
comp=Z,200nm,15.0s									
YSS	**Yuzh-Sakhalins**	**6.87**	**0**	P			**Pn**	**10 32 58.6**	**+2.4**
YSS	**Yuzh-Sakhalins**	**6.87**	**0**	Pn			**Pn**	**10 32 58.0**	**+1.7**
YSS	**Yuzh-Sakhalins**	**6.87**	**0**	⇑*e*P			**Pn**	**10 32 57.6**	**+1.4**
YSS				*e*S			**Sn**	**10 34 13.5**	**+0.2**
YSS				pmax			pmax		
comp=Z,300nm,4.3s									
YSS				pmax			pmax		
comp=N,300nm,3.3s									
YSS				pmax			pmax		
comp=E,100nm,3.1s									
YSS				pmax			pmax		
comp=Z,160nm,0.8s									
YSS				pmax			pmax		
comp=N,210nm,0.7s									
YSS				smax			smax		
comp=E,400nm,5.3s									
JHJ	**Hachijo jima 2**	**7.34**	**200**	Pn			**Pn**	**10 33 02.0**	**-0.7**
comp=E,35nm,0.3s,baz=289,slow=10,SNR=17									
JHJ						Sn	**Sn**	**10 34 18.6**	**-6.3**
comp=E,53nm,0.3s,baz=114,slow=23,SNR=6.4									
comp=E,84nm,0.3s									
USA0B	**Ussuriysk Arra**	**8.97**	**301**				**Pn**	**10 33 28.0**	**+2.9**
USA0B	**Ussuriysk Arra**	**8.97**	**301**	*c* iP			**Pn**	**10 33 28.3**	**+3.2**
USRK	**Ussuriysk Ar.**	**8.97**	**301**	Pn			**Pn**	**10 33 27.0**	**+1.9**
USRK	**Ussuriysk Ar.**	**8.97**	**301**	Pn			**Pn**	**10 33 28.3**	**+3.2**
comp=E,13nm,0.3s,baz=100,slow=15,SNR=82									
USRK						LR	LR	10 36 49.3	
comp=E,3μm,18.7s,baz=117,slow=37									
USRK	**Ussuriysk Ar.**	**8.97**	**301**	P			**Pn**	**10 33 27.0**	**+1.9**
UGL	**Uglegorsk**	**9.01**	**357**	*e*P			**Pn**	**10 33 29.1**	**+3.6**
UGL				pmax			pmax		
comp=Z,49nm,0.9s									
MSHR	**Mys Shultsa**	**9.05**	**290**	*

JCJ Chichijima 12.96 182 Pn **Pn** **10 34 15.5 -4.2**
comp=Z,4.4nm,0.3s,baz=308,slow=18,SNR=2.2
JCJ Sn Sn 10 36 22.4 -20
comp=Z,3.6nm,0.3s,baz=310,slow=21,SNR=1.8
JCJ LR LR 10 40 14.4
comp=Z,469nm,20.9s,baz=356,slow=42
comp=Z,33nm,0.6s
CN2 Changchun 13.39 292 P **Pn** **10 34 27.9 +2.4**
CN2 S **Sn** **10 36 56.3 +3.3**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,400nm,6.0s
CN2 LR LR
comp=Z,900nm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
CN2 LR LR
comp=Z,2μm,18.0s
OKH Okha 13.48 1*de*P **Pn** **10 34 26.1 -0.5**
OKH MLR MLR
comp=Z,1μm,15.0s
SNY Shenyang 14.58 283 ⇑P **Pn** **10 34 43.9 +2.2**
SNY S **Sn** **10 37 25.5 +3.5**
SNY pmax pmax
comp=Z,9.0nm,0.8s
SNY pmax pmax
comp=Z,310nm,10.3s
SNY LR LR
comp=Z,650nm,14.7s
SNY LR LR
comp=Z,1μm,21.1s
SNY LR LR
comp=Z,2μm,18.9s
HEH HeiHe 14.81 318 *e*P **Pn** **10 34 43.4 -1.3**
HEH pP **P** **10 34 49.8 -0.5**
HEH S **Sn** **10 37 31.1 +3.5**
HEH SS **S** **10 37 45.0 -0.2**
HEH pmax pmax
comp=Z,40nm,0.8s
HEH pmax pmax
comp=Z,160nm,3.9s
HEH LR LR
comp=Z,2μm,15.9s
HEH LR LR
comp=Z,2μm,15.9s
HEH LR LR
comp=Z,3μm,15.4s
DL2 Dalian 16.33 273 P **Pn** **10 35 04.3 -0.3**
DL2 S **Sn** **10 37 57.9 -6.8**
DL2 pmax pmax
comp=Z,73nm,0.6s
DL2 pmax pmax
comp=Z,570nm,7.8s
DL2 LR LR
comp=Z,670nm,15.0s
DL2 LR LR
comp=Z,690nm,17.4s
DL2 LR LR
comp=Z,1μm,19.1s
PEA0B Petropavlovsk- 16.56 33 *i*P **Pn** **10 35 02.7 -4.7**
PETK Petropavlovsk- 16.56 33 Pn **Pn** **10 35 03.8 -3.6**
comp=Z,0.2nm,0.3s,baz=201,slow=9.6,SNR=11
PETK LR LR 10 41 55.9
comp=Z,403nm,21.0s,baz=219,slow=39
ZEA Zeya 17.22 328 *e*P **Pn** **10 35 13.6 -2.1**
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,40nm,0.7s
ZEA pmax pmax
comp=Z,60nm,1.2s
ZEA pmax pmax
comp=Z,100nm,1.3s
JOW Kunigami 17.86 227 P **Pn** **10 35 22.1 -1.6**
JOW Kunigami 17.86 227 P **Pn** **10 35 19.9 -3.8**
JOW Kunigami 17.86 227 P **Pn** **10 35 20.7 -3.1**
comp=Z,1.1nm,0.3s,baz=25,slow=6.9,SNR=12
JOW LR LR 10 43 11.6
comp=Z,256nm,18.8s,baz=43,slow=40
comp=Z,13nm,0.7s
HIA Hailar 18.69 307 P **P** **10 35 31.6 -1.6**
SSE Sheshan 19.64 250 P **Pn** **10 35 44.8 -0.5**
SSE S **S** **10 39 22.4 -1.1**
SSE pmax pmax
comp=Z,44nm,0.9s
SSE pmax pmax
comp=Z,63nm,8.2s
SSE LR LR
comp=Z,190nm,18.8s
SSE LR LR
comp=Z,200nm,18.4s
XLT XiLinHaoTe 20.14 290 *e*P **P** **10 35 48.0 -1.2**
XLT PP **PnPn** **10 36 07.6 +1.7**
XLT sS sS 10 39 44.3 -2.7
XLT pmax pmax
comp=Z,100nm,1.2s
XLT LR LR
comp=Z,770nm,18.4s
XLT LR LR
comp=Z,860nm,17.9s
MA2 Magadan 20.16 12 P **P** **10 35 49.7 +0.5**
MA2 Magadan 20.16 12 **P** **10 35 49.1 -0.1**
MA2 IAmb IAmb 10 36 00.7
comp=Z,43nm,0.7s
MA2 Magadan 20.16 12 P **P** **10 35 48.2 -1.1**
comp=Z,17nm,0.5s,baz=198,slow=10,SNR=11
MA2 LR LR 10 44 48.7
comp=Z,858nm,18.5s,baz=202,slow=40
comp=Z,17nm,0.5s
MA2 Magadan 20.16 12*ce*P **P** **10 35 49.0 -0.2**
MA2 pmax pmax
comp=Z,25nm,0.7s
MA2 Magadan 20.16 12 P **P** **10 35 49.2 -0.1**
comp=Z,71nm,0.7s,comp=Z,738nm
BJI Beijing 20.30 278 P **P** **10 35 49.0 -1.9**
BJI pP **pP** **10 35 59.4 +0.1**
BJI sP **sP** **10 36 05.8 +2.5**
BJI S **S** **10 39 27.9 -8.8**
BJI sS **sS** **10 39 45.8 -4.3**
BJI pmax pmax
comp=Z,83nm,3.5s
BJI LR LR
comp=Z,340nm,16.6s
BJI LR LR
comp=Z,430nm,20.4s
BJI LR LR
comp=Z,620nm,18.8s
BJT Baijiatuau 20.31 278 P Pn 10 35 52.2 -0.9
TIA Tai'an 20.48 267 P **P** **10 35 51.5 -1.3**
TIA sP **sP** **10 36 09.4 +4.1**
TIA S **S** **10 39 30.6 -10**
TIA pmax pmax
comp=Z,99nm,1.8s
TIA LR LR
comp=Z,320nm,16.3s
TIA LR LR
comp=Z,850nm,16.9s
TIA LR LR
comp=Z,1μm,17.7s
NJ2 Nanjing 20.85 255 ⇓*i*P **P** **10 35 56.3 -0.6**
NJ2 pP **pP** **10 36 06.4 +1.1**
NJ2 sP **sP** **10 36 13.4 +4.2**
NJ2 pmax pmax
comp=Z,62nm,0.8s
NJ2 pmax pmax
comp=Z,200nm,5.3s
NJ2 LR LR
comp=Z,730nm,14.7s
NJ2 LR LR
comp=Z,640nm,17.5s
NJ2 LR LR
comp=Z,1μm,17.1s
HNS HongShan 21.98 272 ⇓P **P** **10 36 06.3 -2.7**
HNS S **S** **10 40 03.0 -6.8**
HNS SS **SnSn** **10 40 37.6 +1.2**
HNS pmax pmax
comp=Z,19nm,0.8s
HNS LR LR
comp=Z,590nm,16.6s
HNS LR LR
comp=Z,1μm,16.7s
HNS LR LR
comp=Z,1μm,19.2s
TATO Taipei 23.31 236 P **P** **10 36 24.2 +1.2**
TATO Taipei 23.31 236 P **P** **10 36 21.9 -1.1**
TATO IAmb IAmb 10 36 25.4
comp=Z,57nm,0.8s
TATO Taipei 23.31 236 P **P** **10 36 23.8 +0.8**
TATO S S 10 40 21.0 -12
CIT Chita 23.34 310 *e*P **P** **10 36 19.1 -4.0**
CIT *e* 10 36 30.9
CIT *e* 10 36 37.0
CIT *e* 10 36 52.9
CIT *e* 10 37 04.1
CIT pmax pmax
comp=Z,256nm,2.0s
YAK Yakutsk 23.37 344 P **P** **10 36 21.0 -2.3**
YAK Yakutsk 23.37 344 LR LR 10 46 21.5
comp=Z,533nm,18.3s,baz=144,slow=39
YAK Yakutsk 23.37 344 *e*P **P** **10 36 20.9 -2.3**
YAK *e**PP **pP** **10 36 32.5 +0.7**
YAK *e*S **S** **10 40 31.5 -2.2**
YAK *e**SS **sS** **10 40 50.1 +1.6**
YAK *e*SS **SnSn** **10 41 10.1 +0.1**
YAK pmax pmax
comp=Z,101nm,0.8s
YAK pmax pmax
comp=N,22nm,0.9s
YAK pmax pmax
comp=E,9.0nm,0.8s
YAK pmax pmax
comp=Z,190nm,1.7s
YAK pmax pmax
comp=N,85nm,1.5s
YAK pmax pmax
comp=E,43nm,1.3s
YAK smax smax
comp=N,452nm,2.2s
YAK smax smax
comp=E,214nm,2.0s
YAK MLR MLR
comp=Z,509nm,16.0s
YAK MLR MLR
comp=N,459nm,19.0s
YAK MLR MLR
comp=E,396nm,16.0s
YHNB Yeheng 23.60 236 P **P** **10 36 27.2 +1.3**
YHNB Yeheng 23.60 236 P **P** **10 36 24.2 -1.7**
YHNB IAmb IAmb 10 36 43.4
comp=Z,26nm,0.8s
SEY Seymchan 23.61 11 LR LR 10 46 50.3
comp=Z,832nm,18.9s,baz=212,slow=40
SEY Seymchan 23.61 11*ce*P **P** **10 36 24.9 -0.6**
SEY pmax pmax
comp=Z,144nm,1.7s
TIY Taiyuan 23.64 274 *e*P **P** **10 36 28.8 +2.6**
TIY pP **sP** **10 36 40.4 +1.5**
TIY S **S** **10 40 40.8 +2.1**
TIY pmax pmax
comp=Z,13nm,0.5s
TIY LR LR
comp=Z,370nm,19.1s
TIY LR LR
comp=Z,520nm,20.1s
TIY LR LR
comp=Z,640nm,19.2s
HHC Hu-ho-hao-te 23.66 282 *e*P **P** **10 36 25.8 -0.6**
HHC S **S** **10 40 35.1 -4.0**
HHC SS **SnSn** **10 41 21.8 +4.1**
HHC LR LR
comp=Z,280nm,13.0s
HHC LR LR
comp=Z,1μm,13.8s
HHC LR LR
comp=Z,220nm,12.6s
SSLB Suanglung 24.50 235 P **P** **10 36 33.1 -1.1**
SSLB Suanglung 24.50 235 P **P** **10 36 31.4 -2.8**
SSLB IAmb IAmb 10 36 57.4
comp=Z,23nm,0.8s
YULB Yu-li 24.58 234 P **P** **10 36 33.5 -1.4**
YULB Yu-li 24.58 234 IAmb IAmb 10 36 48.8
comp=Z,27nm,0.8s
LYN LuoYang 24.62 267 *e*P **P** **10 36 32.4 -2.8**
LYN pP pP 10 36 44.5 +0.2
LYN sP sP 10 36 48.8 +0.7
LYN S **S** **10 40 49.1 -5.2**
LYN pmax pmax
comp=Z,20nm,1.0s
LYN pmax pmax
comp=Z,240nm,4.0s
LYN LR LR
comp=Z,940nm,16.0s
LYN LR LR
comp=Z,2μm,18.3s
LYN LR LR
comp=Z,2μm,17.4s
SHEM Shemya Is, Ala 24.84 49 LR LR 10 45 29.8
comp=Z,234nm,21.6s,baz=268,slow=34
BTO Baotou 24.86 282 *e*P **P** **10 36 36.8 -0.6**
BTO pP **pP** **10 36 47.6 +1.1**
BTO sP **sP** **10 36 53.5 +3.2**
BTO PP **PnPn** **10 37 14.5 +3.9**
BTO S **S** **10 40 56.3 -2.0**
BTO SS **SnSn** **10 41 50.9 +3.9**
BTO pmax pmax
comp=Z,80nm,0.7s
BTO pmax pmax
comp=Z,280nm,4.8s
BTO LR LR
comp=Z,810nm,15.1s
BTO LR LR
comp=Z,3μm,17.5s
BTO LR LR
comp=Z,4μm,16.9s
WHN Wuhan 24.95 256 ⇓P **P** **10 36 38.0 -0.2**
WHN S **S** **10 40 57.4 -2.2**
WHN sS **sS** **10 41 15.4 +0.8**
WHN pmax pmax
comp=Z,330nm,0.8s
WHN LR LR
comp=Z,2μm,18.8s
WHN LR LR
comp=Z,2μm,15.8s
WHN LR LR
comp=Z,3μm,19.5s
TPUB Ta-pu 25.06 235 P **P** **10 36 40.2 +0.9**
TPUB Ta-pu 25.06 235 IAmb IAmb 10 36 41.1
comp=Z,38nm,0.8s
TWGBT Beinan 25.14 233 P **P** **10 36 40.5 +0.6**
TWG Pinlang 25.14 233 IAmb IAmb 10 36 57.6
comp=Z,60nm,0.8s
QZH Quanzhou 25.23 241 ⇑*i*P **P** **10 36 40.0 -0.7**
QZH pP **pP** **10 36 51.4 +1.6**
QZH S **S** **10 41 01.9 -2.2**
QZH SS **SnSn** **10 42 05.8 +10**
QZH pmax pmax
comp=Z,180nm,3.5s
QZH LR LR
comp=Z,650nm,17.2s
QZH LR LR
comp=Z,670nm,14.1s
QZH LR LR
comp=Z,1μm,14.1s
BOD Bodaibo 25.60 323 *e*P **P** **10 36 43.0 -0.8**
BOD pmax pmax
comp=Z,173nm,1.6s
GUMO Guam 26.46 175 LR LR 10 46 55.3
comp=Z,282nm,21.1s,baz=14,slow=36
ULN Ulaanbaatar 26.64 299 P **P** **10 36 53.1 -0.5**
ULN Ulaanbaatar 26.64 299 P **P** **10 36 53.8 +0.2**
ULN S **S** **10 41 19.2 -7.3**
ULN Ulaanbaatar 26.64 299*ce*P **P** **10 36 53.8 +0.2**
ULN pmax pmax
comp=Z,14nm,0.6s
SONM Songino Array 27.08 299 P **P** **10 36 57.8 +0.3**
SONM IAmb IAmb 10 36 59.3
comp=Z,81nm,1.5s
SONM Songino Array 27.08 299 P **P** **10 36 58.2 +0.7**
comp=Z,19nm,0.6s,baz=98,slow=8.8,SNR=31
SONM LR LR 10 48 15.3
comp=Z,2μm,18.7s,baz=98,slow=38
comp=Z,19nm,0.6s
SONM Songino Array 27.08 299 P **P** **10 36 57.8 +0.3**
SONM pmax pmax
comp=Z,81nm,1.5s
CNSH ChangSha 27.24 253 ⇑P **P** **10 36 58.8 -0.1**
CNSH S **S** **10 41 34.8 -1.1**
CNSH pmax pmax
comp=Z,86nm,1.3s
CNSH LR LR
comp=Z,280nm,13.8s
CNSH LR LR
comp=Z,340nm,15.6s
CNSH LR LR
comp=Z,620nm,15.3s
XAN Xi'an 27.53 268 ⇓P **P** **10 37 00.4 -1.2**
XAN pP sP 10 37 14.0 -0.5
XAN S **S** **10 41 39.3 -1.3**
XAN sS sS 10 41 53.5 -2.2
XAN pmax pmax
comp=Z,29nm,1.1s
XAN pmax pmax
comp=Z,190nm,5.3s
XAN LR LR
comp=Z,480nm,17.7s
XAN LR LR
comp=Z,1μm,17.9s
XAN LR LR
comp=Z,2μm,15.8s
ENH Enshi 28.73 261 P **P** **10 37 13.0 +0.7**
ENH Enshi 28.73 261 IAmb IAmb 10 37 14.0
comp=Z,63nm,1.0s
IRK Irkutsk 28.93 308 *e*P **P** **10 37 12.3 -1.5**
IRK pmax pmax
comp=Z,50nm,1.2s
H11N2 WAKE ISLAND Hy 29.00 127 T T 11 08 01.4
baz=318,slow=76,SNR=2070
H11N1 WAKE ISLAND Hy 29.01 127 T T 11 08 02.1
baz=318,slow=76,SNR=1759
H11N3 WAKE ISLAND Hy 29.02 127 T T 11 07 55.9
baz=318,slow=76,SNR=2481
ZAK Zakamensk 29.31 304 *e*P **P** **10 37 17.2 -0.1**
ZAK pmax pmax
comp=Z,37nm,1.3s
H11S1 WAKE ISLAND Hy 29.82 129 T T 11 08 57.3
baz=320,slow=76,SNR=251
H11S3 WAKE ISLAND Hy 29.82 129 T T 11 09 04.4
baz=320,slow=76,SNR=244
H11S2 WAKE ISLAND Hy 29.83 129 T T 11 09 02.5
baz=320,slow=76,SNR=252
LZH Lanzhou 30.70 275 ⇑P **P** **10 37 30.1 +0.3**
LZH pP sP 10 37 41.4 -1.3
LZH sP pP 10 37 48.0 +9.1
LZH S **S** **10 42 36.3 +5.8**
LZH pmax pmax
comp=Z,32nm,1.5s
LZH LR LR
comp=Z,420nm,15.1s
LZH LR LR
comp=Z,400nm,15.8s
LZH LR LR
comp=Z,770nm,16.8s
BILL Bilibino 30.82 17 P **P** **10 37 30.2 -0.1**
BILL IAmb IAmb 10 37 32.6
comp=Z,22nm,1.1s
BILL Bilibino 30.82 17 *e*P **P** **10 37 31.1 +0.8**
BILL pmax pmax
comp=Z,27nm,1.3s
BILL Bilibino 30.82 17 P **P** **10 37 30.8 +0.5**
BILL PcP **PcP** **10 40 28.1 +1.5**
MOY Mondy 30.87 306 *e*P **P** **10 37 31.4 +0.3**
MOY pmax pmax
comp=Z,37nm,2.5s
TIXI Tiksi 32.41 352 P **P** **10 37 43.4 -0.8**
TIXI IAmb IAmb 10 37 56.6
comp=Z,20nm,0.8s
TIXI Tiksi 32.41 352 LR LR 10 53 33.1
comp=Z,251nm,18.3s,baz=164,slow=41
TIXI Tiksi 32.41 352*ce*P **P** **10 37 43.9 -0.3**
TIXI pmax pmax
comp=Z,25nm,1.7s
TIXI Tiksi 32.41 352 P **P** **10 37 44.0 -0.2**
TIXI pP **sP** **10 37 55.2 -1.9**
GTA Gaotai 32.77 283 *e*P **P** **10 37 48.0 +0.1**
GTA PcP **PcP** **10 40 33.6 +1.0**
GTA S **S** **10 42 59.3 -3.4**
GTA PcS **PcS** **10 44 19.3 +1.3**
GTA pmax pmax
comp=Z,56nm,1.1s
GTA LR LR
comp=Z,400nm,20.0s
GTA LR LR
comp=Z,1μm,18.5s
GTA LR LR
comp=Z,2μm,17.8s
CD2 Chengdu 32.80 266 P **P** **10 37 47.3 -0.9**
CD2 sP sP 10 38 04.8 +3.6
CD2 S **S** **10 43 02.4 -0.8**
CD2 sS sS 10 43 20.3 +1.9
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,100nm,5.1s
CD2 LR LR
comp=Z,700nm,13.1s
CD2 LR LR
comp=Z,450nm,15.5s
CD2 LR LR
comp=Z,730nm,13.9s
GYA Guiyang 32.84 257 ⇑*i*P **P** **10 37 48.3 -0.3**
GYA pP sP 10 37 59.5 -2.1
GYA S **S** **10 43 05.0 +1.0**
GYA pmax pmax
comp=Z,180nm,0.8s
GYA LR LR
comp=Z,480nm,15.8s
GYA LR LR
comp=Z,570nm,22.9s
GYA LR LR
comp=Z,1μm,19.6s
QIZ Qiongzhong 35.17 243 P **P** **10 38 09.4 +0.6**
QIZ PP **PP** **10 39 30.6 +1.7**
QIZ S **S** **10 43 39.6 -0.3**
QIZ pmax pmax
comp=Z,13nm,1.8s
QIZ pmax pmax
comp=Z,160nm,7.6s
QIZ LR LR
comp=Z,310nm,20.2s
QIZ LR LR
comp=Z,180nm,13.5s
QIZ LR LR
comp=Z,460nm,19.3s
KRAR Krasnoyarsk 36.05 313 *i*P **P** **10 38 16.0 0.0**
DAV Davao City (W) 36.28 210 LR LR 10 53 14.6
comp=Z,244nm,20.8s,baz=356,slow=36
DAV Davao City (W) 36.28 210 P **P** **10 38 17.8 -0.6**
DAV S **S** **10 43 50.1 -6.9**
UNV Unalaska Valle 36.47 51 P **P** **10 38 20.5 +0.9**
baz=269
KMI Kunming 36.52 258 ⇑P **P** **10 38 20.5 0.0**
KMI pP sP 10 38 31.6 -2.0
KMI S **S** **10 43 56.5 -4.4**
KMI pmax pmax
comp=Z,98nm,0.8s
KMI LR LR
comp=Z,610nm,16.4s
KMI LR LR
comp=Z,800nm,16.9s
KMI LR LR
comp=Z,1μm,17.1s
KMI Kunming 36.52 258 P **P** **10 38 20.9 +0.3**
PZH PanZhiHua 36.52 261 P **P** **10 38 20.4 0.0**
PZH PP **PnPn** **10 39 42.3 -1.3**
PZH S **S** **10 43 58.1 -2.6**
PZH pmax pmax
comp=Z,100nm,0.7s
PZH pmax pmax
comp=Z,210nm,3.5s
PZH LR LR
comp=Z,320nm,13.9s
PZH LR LR
comp=Z,540nm,13.9s
PZH LR LR
comp=Z,650nm,14.7s
GOMU GeErMu 37.52 280 P **P** **10 38 29.9 +0.7**
GOMU pP pP 10 38 35.0 -3.4
GOMU PP **PnPn** **10 39 57.3 +1.3**
GOMU pmax pmax
comp=Z,140nm,0.7s
GOMU LR LR
comp=Z,400nm,15.6s
GOMU LR LR
comp=Z,460nm,16.3s
GOMU LR LR
comp=Z,770nm,18.3s

TNA	Tin City	37.71	31	P	P	10 38 30.5	+0.6			
	baz=252									
SLVN	Son La	37.88	252	P	P	10 38 31.8	-0.1			
SLVN				IAmb	IAmb	10 38 36.4				
	comp=Z,31nm,0.9s									
K13K	Kusilvak Mount	38.24	37	P	P	10 38 35.5	+1.0			
	baz=260									
F14K	Arctic Creek	38.32	32	P	P	10 38 36.0	+0.9			
	baz=254									
ANM	Nome	38.48	33	P	P	10 38 37.0	+0.6			
	baz=256									
M13K	Dall Lake	38.65	40	P	P	10 38 38.0	+0.1			
	baz=263									
J14K	Nanvaranak Lak	38.89	36	P	P	10 38 39.4	-0.5			
	baz=260									
F15K	North Star Dit	39.05	31	IAmb	IAmb	10 39 17.8				
	comp=Z,63nm,1.6s									
F15K	North Star Dit	39.05	31	P	P	10 38 41.5	+0.3			
	baz=256									
S12K	Black Hills	39.06	48	P	P	10 38 42.1	+0.7			
	baz=270									
L14K	Kuka Creek	39.09	39	P	P	10 38 41.8	+0.3			
	baz=263									
G15K	Niukluk	39.13	33	P	P	10 38 42.5	+0.6			
	baz=257									
M14K	Bethel	39.37	40	P	P	10 38 44.8	+0.9			
M14K				IAmb	IAmb	10 38 59.1				
	comp=Z,25nm,1.0s									
M14K	Bethel	39.37	40	P	P	10 38 44.3	+0.4			
	baz=264									
N14K	Kuskokwak Cree	39.43	41	P	P	10 38 45.2	+0.8			
	baz=265									
DGZ	Jazzator, Alta	39.52	303	*c i*	P	P	10 38 46.3	+0.7		
DGZ				pmax	pmax					
	comp=Z,201nm,0.7s									
C16K	Lisburne Hills	39.52	27	IAmb	IAmb	10 39 03.7				
	comp=Z,20nm,0.8s									
C16K	Lisburne Hills	39.52	27	P	P	10 38 44.9	-0.2			
	baz=252									
L15K	Ungalak Mounta	39.70	38	P	P	10 38 46.8	+0.1			
	baz=264									
K15K	Wolf Creek Mou	39.75	37	P	P	10 38 47.8	+0.7			
	baz=263									
TNCH	TengChong	39.75	262	*e*	P	P	10 38 48.8	+1.0		
TNCH				pP	sP	10 38 58.9	-2.0			
TNCH				sP	pP	10 39 03.5	+6.4			
TNCH				ScP	ScP	10 44 39.4	-0.7			
TNCH				S	S	10 44 50.0	+0.2			
TNCH				pmax	pmax					
	comp=Z,150nm,0.9s									
TNCH				pmax	pmax					
	comp=Z,450nm,3.9s									
TNCH				LR	LR					
	comp=Z,360nm,16.6s									
TNCH				LR	LR					
	comp=Z,350nm,16.4s									
TNCH				LR	LR					
	comp=Z,700nm,17.3s									
H16K	Elim	39.81	33	P	P	10 38 48.4	+0.8			
	baz=259									
G16K	Koyuk River	39.91	32	P	P	10 38 50.4	+2.0			
G16K				IAmb	IAmb	10 39 09.1				
	comp=Z,15nm,0.8s									
G16K	Koyuk River	39.91	32	P	P	10 38 49.1	+0.7			
	baz=258									
SDPT	Sand Point	39.97	48	P	P	10 38 49.3	+0.4			
	baz=272									
M15K	Kasigluk River	39.98	40	P	P	10 38 49.3	+0.2			
	baz=265									
D17K	Noatak River	40.17	29	P	P	10 38 51.3	+0.8			
	baz=255,SNR=14									
N15K	Kwethluk River	40.24	41	P	P	10 38 51.9	+0.7			
N15K				pP	sP	10 39 03.6	-0.6			
N15K				IAmb	IAmb	10 39 06.3				
	comp=Z,27nm,1.0s									
N15K	Kwethluk River	40.24	41	P	P	10 38 52.1	+0.9			
	baz=267									
J16K	Anvik River	40.30	36	P	P	10 38 52.7	+1.0			
	baz=262									
O15K	Ungalikthiuk R	40.33	42	P	P	10 38 52.1	+0.2			
	baz=268									
RDOG	Red Dog Mine	40.33	28	P	P	10 38 52.9	+1.1			
	baz=255									
I17K	Unalakleet	40.35	35	P	P	10 38 51.7	-0.3			
	baz=262									
C17K	DeLong Mountai	40.35	27	P	P	10 38 53.0	+0.9			
	baz=254,SNR=14									
S14K	Fog Glacier	40.46	47	P	P	10 38 53.5	+0.3			
	baz=272									
WMQ	Urumqi	40.46	294	*e*	P	P	10 38 54.4	+1.0		
WMQ				pP	sP	10 39 05.8	-0.6			
WMQ				pmax	pmax					
	comp=Z,78nm,0.9s									
WMQ				pmax	pmax					
	comp=Z,220nm,3.6s									
WMQ				LR	LR					
	comp=Z,220nm,24.1s									
E17K	Hotham Inlet	40.49	30	P	P	10 38 53.6	+0.5			
	baz=257,SNR=22									
CHNA	Chernabura Isl	40.50	49	P	P	10 38 53.8	+0.4			
	baz=273									
F17K	Baldwin Pennin	40.57	31	IAmb	IAmb	10 39 08.7				
	comp=Z,25nm,0.9s									
F17K	Baldwin Pennin	40.57	31	P	P	10 38 54.1	+0.2			
	baz=258									
G17K	Kiwalik Mounta	40.63	32	P	P	10 38 54.9	+0.5			
	baz=260									
L16K	Owhat River	40.66	38	P	P	10 38 54.9	+0.4			
	baz=265									
ZAA0	Zalesovo Array	40.69	310	P	P	10 38 55.0	0.0			
ZALV	Zalesovo Beam	40.69	310	P	P	10 38 55.1	+0.1			
ZALV	Zalesovo Beam	40.69	310	P	P	10 38 55.2	+0.2			
	comp=Z,62nm,0.5s,baz=89,slow=8.0,SNR=207									
ZALV				PcP	PcP	10 40 56.4	+0.3			
	comp=Z,11nm,0.8s,baz=94,slow=4.3,SNR=4.4									
ZALV				LR	LR	10 56 36.6				
	comp=Z,1µm,18.8s,baz=82,slow=37									
	comp=Z,62nm,0.5s									
UBPT	Khong Chiam	40.77	243	P	P	10 38 57.0	+1.0			
UBPT	Khong Chiam	40.77	243	P	P	10 38 56.6	+0.6			
UBPT				IAmb	IAmb	10 38 57.9				
	comp=Z,61nm,1.4s									
H17K	Granite Mounta	40.84	33	P	P	10 38 56.5	+0.4			
	baz=261									
M16K	Timber Creek	40.85	39	P	P	10 38 57.7	+1.4			
M16K					sP	10 39 08.2	-1.0			
M16K	Timber Creek	40.85	39	P	P	10 38 56.6	+0.3			
	baz=267									
N16K	Nishlik Lake	40.92	40	P	P	10 38 57.5	+0.7			
	baz=267									
J17K	VABM Dome	41.00	36	P	P	10 38 59.6	+2.2			
J17K				IAmb	IAmb	10 39 13.1				
	comp=Z,23nm,1.1s									
J17K	VABM Dome	41.00	36	P	P	10 38 58.1	+0.6			
	baz=264									
E18K	Tukpahlearik C	41.03	29	P	P	10 38 58.8	+1.2			
E18K	Tukpahlearik C	41.03	29	P	P	10 38 58.5	+0.9			
	baz=258,SNR=12									
B18K	Kokolik River	41.08	26	P	P	10 38 58.3	+0.3			
	baz=254,SNR=24									
C18K	Utukok River	41.10	28	IAmb	IAmb	10 39 16.0				
	comp=Z,21nm,0.8s									
C18K	Utukok River	41.10	28	P	P	10 38 59.2	+1.0			
	baz=256,SNR=21									
DLV	T Lat	41.18	237	P	P	10 39 00.6	+0.9			
DLV	T Lat	41.18	237	P	P	10 38 60.0	+0.3			
DLV				IAmb	IAmb	10 39 01.2				
	comp=Z,26nm,0.8s									
O16K	Kokwok River B	41.23	42	P	P	10 38 59.7	+0.3			
	baz=269									
F18K	Selawik	41.23	31	P	P	10 39 00.3	+1.0			
	baz=260,SNR=11									
L17K	Donlin	41.24	38	P	P	10 38 59.8	+0.4			
	baz=266									
K17K	Iditarod	41.29	37	P	P	10 39 00.5	+0.7			
	baz=265									
G18K	Tagagawik	41.51	32	IAmb	IAmb	10 39 16.9				
	comp=Z,42nm,1.1s									
G18K	Tagagawik	41.51	32	P	P	10 39 02.4	+0.8			
	baz=261,SNR=15									
H18K	Honhosa River	41.52	33	IAmb	IAmb	10 39 22.9				
	comp=Z,17nm,0.7s									
H18K	Honhosa River	41.52	33	P	P	10 39 02.3	+0.6			
	baz=262									
A19K	Wainwright	41.55	25	P	P	10 39 02.9	+1.1			
	baz=254									
ZSN	Zaisan	41.58	300	*e*	P	P	10 39 03.2	+0.7		
	baz=300									
ZSN	Zaisan	41.58	300	*e*	P	P	10 39 03.1	+0.7		
M17K	Holitna River	41.61	39	IAmb	IAmb	10 39 51.7				
	comp=Z,21nm,0.9s									
M17K	Holitna River	41.61	39	P	P	10 39 03.5	+1.0			
	baz=268									
N17K	Nushagak Hills	41.70	40	P	P	10 39 05.5	+2.3			
N17K	Nushagak Hills	41.70	40	P	P	10 39 04.2	+0.9			
	baz=269									
O17K	Koliganek Bris	41.74	41	P	P	10 39 04.3	+0.9			
	baz=270									
C19K	Lookout Ridge	41.77	27	P	P	10 39 05.3	+1.5			
C19K				IAmb	IAmb	10 39 22.1				
	comp=Z,21nm,0.9s									
C19K	Lookout Ridge	41.77	27	P	P	10 39 05.1	+1.4			
	baz=257,SNR=17									
Q16K	King Salmon	41.97	43	P	P	10 39 06.2	+0.9			
	baz=271									
L18K	Granite Mounta	42.00	38	P	P	10 39 06.1	+0.5			
	baz=267									
F19K	Shaleruckik Mo	42.01	31	P	P	10 39 06.2	+0.6			
	baz=261,SNR=11									
J18K	Innoko River	42.06	36	P	P	10 39 06.9	+0.7			
	baz=266									
P17K	Kvichak River	42.07	42	P	P	10 39 06.7	+0.5			
	baz=271									
SWI	Sorong	42.07	197	P	P	10 39 06.7	0.0			
	comp=Z,20nm,0.8s									
D19K	Kuna River	42.17	28	IAmb	IAmb	10 39 20.3				
	comp=Z,32nm,1.0s									
D19K	Kuna River	42.17	28	P	P	10 39 07.5	+0.5			
	baz=259,SNR=24									
G19K	Purcell Mounta	42.18	32	P	P	10 39 07.8	+0.7			
	baz=263,SNR=11									
E19K	Redstone River	42.31	30	IAmb	IAmb	10 39 22.9				
	comp=Z,26nm,0.8s									
E19K	Redstone River	42.31	30	P	P	10 39 08.8	+0.7			
	baz=261,SNR=24									
N18K	Kilae Creek	42.34	40	P	P	10 39 09.6	+1.1			
	baz=270									
PHRA	Phrae	42.34	252	P	P	10 39 09.8	+0.9			
H19K	Roundabout Mou	42.37	33	IAmb	IAmb	10 39 45.2				
	comp=Z,25nm,0.8s									
H19K	Roundabout Mou	42.37	33	P	P	10 39 09.1	+0.5			
	baz=264,SNR=12									
M18K	Stony River	42.39	39	P	P	10 39 09.6	+0.8			
	baz=269									
Q17K	Contact Creek	42.39	43	P	P	10 39 09.3	+0.3			
	baz=272									
J19K	Poorman	42.59	35	IAmb	IAmb	10 39 25.8				
	comp=Z,19nm,0.9s									
J19K	Poorman	42.59	35	P	P	10 39 10.9	+0.5			
	baz=266,SNR=10									
O18K	Koktuh Hills	42.69	41	P	P	10 39 11.7	+0.4			
	baz=271									
P18K	Big Mountain,	42.69	42	P	P	10 39 11.7	+0.4			
	baz=272									
CHIR	Chirikof Islan	42.69	47	P	P	10 39 11.6	+0.3			
	baz=275									
D20K	Etivluk River	42.75	28	P	P	10 39 12.2	+0.5			
	baz=260,SNR=52									
B20K	Meade River	42.80	26	IAmb	IAmb	10 39 30.1				
	comp=Z,32nm,0.8s									
B20K	Meade River	42.80	26	P	P	10 39 13.1	+1.0			
	baz=255									
E20K	Nigu River	42.83	29	P	P	10 39 13.0	+0.6			
	baz=261,SNR=25									
F20K	Avaraart Lake	42.84	30	P	P	10 39 13.2	+0.8			
	baz=263									
L19K	White Mountain	42.86	38	P	P	10 39 13.9	+1.2			
	baz=269									
H20K	Anotleneega Mo	43.02	33	P	P	10 39 14.2	+0.3			
	baz=265									
LSA	Lhasa	43.03	273	IAmb	IAmb	10 39 29.6				
	comp=Z,21nm,0.7s									
LSA	Lhasa	43.03	273	P	P	10 39 16.1	+1.1			
LSA	Lhasa	43.03	273	P	P	10 39 16.2	+1.3			
N19K	Bonanza Creek	43.03	40	P	P	10 39 14.7	+0.6			
	baz=271									
M19K	Big River Lodg	43.07	38	P	P	10 39 15.7	+1.3			
M19K					sP	10 39 27.0	-0.4			
M19K	Big River Lodg	43.07	38	P	P	10 39 15.0	+0.6			
	baz=270									
CHTO	Chiang Mai	43.09	254	P	P	10 39 15.5	+0.5			
CHTO				IAmb	IAmb	10 39 19.3				
	comp=Z,17nm,0.8s									
CHTO	Chiang Mai	43.09	254	P	P	10 39 15.5	+0.5			
CHTO				pmax	pmax					
	comp=Z,17nm,0.8s									
O19K	Port Alsworth	43.13	41	P	P	10 39 15.6	+0.8			
	baz=272									
I20K	Naaghedeneel	43.13	34	P	P	10 39 15.7	+0.9			
	baz=266									
GTOI	Gorontalo	43.17	210	P	P	10 39 14.5	-1.1			
	comp=Z,20nm,1.2s,comp=Z,174nm									
GTOI				pP	sP	10 39 27.0	-1.6			
	comp=Z,20nm,1.2s,comp=Z,174nm									
J20K	Nowinta River	43.24	35	P	P	10 39 17.2	+1.5			
J20K	Nowinta River	43.24	35	P	P	10 39 16.7	+1.0			
	baz=268,SNR=7.7									
K20K	Telida	43.25	36	P	P	10 39 15.6	-0.2			
	baz=268									
CM31	Chiang Mai Arr	43.31	253	P	P	10 39 17.6	+0.8			
	SNR=6.2									
CMAR	Chiang Mai Arr	43.31	253	P	P	10 39 15.5	-1.3			
CMAR	Chiang Mai Arr	43.31	253	P	P	10 39 17.1	+0.2			
	comp=Z,6.2nm,0.6s,baz=44,slow=6.8,SNR=39									
CMAR				PcP	PcP	10 41 06.2	+0.9			
	comp=Z,2.9nm,0.8s,baz=3.2,slow=2.3,SNR=5.1									
CMAR				LR	LR	10 57 04.2				
	comp=Z,131nm,19.7s,baz=50,slow=36									
	comp=Z,6.2nm,0.6s									
CMAR	Chiang Mai Arr	43.31	253	*i* P	P	10 39 17.5	+0.7			
CMAR				pmax	pmax					
	comp=Z,8.0nm,0.7s									
L20K	Farewell, AK	43.32	37	P	P	10 39 16.2	-0.2			
	baz=270									
SII	Sitkinak Islan	43.42	46	P	P	10 39 16.8	-0.5			
	baz=276									
MK31	Makanchi Array	43.44	300	IAmb	IAmb	10 39 21.0				
	comp=Z,32nm,0.8s									
MK31	Makanchi Array	43.44	300	*i* P	P	10 39 17.5	-0.1			
MKAR	Makanchi Array	43.44	300	P	P	10 39 17.3	-0.3			
MKAR	Makanchi Array	43.44	300	P	P	10 39 17.9	+0.4			
	comp=Z,32nm,0.8s,baz=84,slow=9.6,SNR=136									
MKAR				LR	LR	10 58 13.0				
	comp=Z,1µm,19.8s,baz=83,slow=37									
	comp=Z,32nm,0.8s									
MKAR	Makanchi Array	43.44	300	*i* P	P	10 39 17.8	+0.2			
MKAR				pmax	pmax					
	comp=Z,33nm,0.8s									
C21K	Knifeblade Rid	43.48	27	P	P	10 39 17.1	-0.4			
	baz=262,SNR=14									
IMAR	Inman Mountai	43.52	32	P	P	10 39 19.8	+1.9			
Q19K	Cape Douglas,	43.52	42	P	P	10 39 18.2	+0.2			
	baz=274									
B21K	Ikpikpuk River	43.60	27	IAmb	IAmb	10 39 26.1				
	comp=Z,30nm,0.9s									
B21K	Ikpikpuk River	43.60	27	P	P	10 39 18.7	+0.2			
	baz=261									
TOLI2	Tolitoli	43.62	213	P	P	10 39 19.6	+0.4			
TOLI2	Tolitoli	43.62	213	P	P	10 39 16.9	-2.4			
TOLI2				pP	pP	10 39 30.2	+1.6			
TOLI2				IAmb	IAmb	10 39 32.3				
	comp=Z,25nm,0.9s									
MAKZ	Makanchi	43.65	300	P	P	10 39 19.9	+0.7			
MAKZ				IAmb	IAmb	10 39 22.8				
	comp=Z,43nm,0.9s									
MAKZ	Makanchi	43.65	300	P	P	10 39 19.9	+0.7			
MAKZ				pmax	pmax					
	comp=Z,43nm,0.9s									
MAKZ	Makanchi	43.65	300	P	P	10 39 19.6	+0.4			
MAKZ				pP	sP	10 39 30.4	-1.9			
G21K	Allakaket	43.66	31	IAmb	IAmb	10 39 28.7				
	comp=Z,24nm,0.9s									
G21K	Allakaket	43.66	31	P	P	10 39 19.2	+0.2			
	baz=266,SNR=8.6									
E21K	Killik River	43.67	29	IAmb	IAmb	10 39 55.6				
	comp=Z,16nm,0.8s									
E21K	Killik River	43.67	29	P	P	10 39 19.3	+0.2			
	baz=263									
M20K	Styx River	43.67	38	P	P	10 39 21.3	+2.0			
M20K					sP	10 39 31.5	-0.8			
M20K				IAmb	IAmb	10 39 44.7				
	comp=Z,40nm,1.8s									
M20K	Styx River	43.67	38	P	P	10 39 19.5	+0.2			
	baz=271									
P19K	Oil Pt	43.70	41	P	P	10 39 20.7	+1.3			
	baz=273									
A22K	Sinclair Lake	43.72	25	P	P	10 39 20.0	+0.7			
	baz=260									
F21K	Alatna River	43.73	30	IAmb	IAmb	10 39 34.5				
	comp=Z,22nm,1.0s									
F21K	Alatna River	43.73	30	P	P	10 39 20.4	+0.8			
	baz=265,SNR=13									
OHAK	Old Harbor	43.85	45	P	P	10 39 21.1	+0.5			
	baz=276									
FAKI	Fak Fak	43.86	195	P	P	10 39 23.2	+2.1			
FAKI	Fak Fak	43.86	195	P	P	10 39 21.4	+0.2			
FAKI				IAmb	IAmb	10 39 36.3				
	comp=Z,17nm,0.8s									
FAKI	Fak Fak	43.86	195	P	P	10 39 20.6	-0.5			
	comp=Z,23nm,0.8s									
H21K	Melozitna Rive	43.89	33	P	P	10 39 21.6	+0.7			
	baz=267,SNR=5.1									
SEM	Semipalatinsk	43.97	305	*e*	P	P	10 39 21.5	-0.5		
	baz=305									
SEM				LR	LR	10 57 56.8				
	comp=Z,228nm,15.4s,baz=305									
SEM	Semipalatinsk	43.97	305	*e*	P	P	10 39 21.5	-0.5		
SEM				MLR	MLR					
	comp=Z,228nm,15.0s									
O20K	Slope Mountain	43.98	41	P	P	10 39 21.7	0.0			
	baz=273									
CHUM	Lake Minchumin	44.04	35	P	P	10 39 22.7	+0.6			
	baz=270									
PPLA	Purkeypile	44.10	37	P	P	10 39 23.9	+1.1			
	baz=271									
B22K	Teshekpuk Lake	44.12	26	IAmb	IAmb	10 39 40.5				
	comp=Z,15nm,0.8s									
B22K	Teshekpuk Lake	44.12	26	P	P	10 39 23.8	+1.2			
	baz=262,SNR=16									
N20K	Mount Spurr	44.13	39	P	P	10 39 23.5	+0.5			
	baz=265									
CAST	Castle Rocks	44.14	36	IAmb	IAmb	10 39 39.1				
	comp=Z,14nm,0.8s									
CAST	Castle Rocks	44.14	36	P	P	10 39 22.9	-0.1			
	baz=270									
KDAK	Kodiak Island	44.17	44	P	P	10 39 23.3	+0.1			
	baz=276									
KDAK	Kodiak Island	44.17	44	LR	LR	10 57 57.5				
	comp=Z,339nm,21.3s,baz=269,slow=36									
KDAK	Kodiak Island	44.17	44	P	P	10 39 24.7	+1.5			
KDAK				pP	sP	10 39 35.9	-0.4			
D22K	Ayikyak River	44.19	28	IAmb	IAmb	10 40 00.1				
	comp=Z,18nm,0.8s									
D22K	Ayikyak River	44.19	28	P	P	10 39 23.8	+0.5			
	baz=264,SNR=24									
Q20K	Shuyak Island	44.20	43	P	P	10 39 24.0	+0.6			
	baz=275									
I21K	Tanana	44.21	33	P	P	10 39 24.3	+0.9			
	baz=268									
F22K	John River	44.25	30	P	P	10 39 24.5	+0.7			
	baz=266									
SKT	Skwentna	44.42	38	P	P	10 39 25.5	+0.3			
	baz=272									
E22K	Anaktuvuk Pass	44.44	29	IAmb	IAmb	10 39 40.0				
	comp=Z,42nm,1.0s									
E22K	Anaktuvuk Pass	44.44	29	P	P	10 39 25.8	+0.5			
	baz=266									
G22K	Bettles	44.48	31	P	P	10 39 26.3	+0.8			
	baz=267									
H22K	Ishtalitna Cre	44.49	32	P	P	10 39 26.7	+1.1			
	baz=268									
HOM	Homer	44.50	41	P	P	10 39 25.4	-0.4			
	baz=274									
SHL	Shillong	44.53	267	P	P	10 39 26.3	-0.5			
	SNR=6.3									
BPAW	Bear Paw Mtn.	44.63	35	P	P	10 39 26.6	-0.2			
	baz=270									
SANI	Sanana	44.64	204	P	P	10 39 27.6	+0.2			
SANI	Sanana	44.64	204	P	P	10 39 27.2	-0.2			
	comp=Z,61nm,1.1s,comp=Z,641nm									
KTH	Kantishna Hill	44.66	36	IAmb	IAmb	10 39 43.1				
	comp=Z,28nm,0.9s									
CAPN	Captain Cook N	44.67	40	P	P	10 39 27.4	+0.3			
	baz=274									
MPSI	Mapaga	44.69	213	P	P	10 39 28.6	+0.8			
	comp=Z,25nm,0.8s									
MLY	Manley	44.74	34	P	P	10 39 27.8	+0.1			
	baz=270									
SUA	Susitna One	44.82	39	P	P	10 39 30.3	+1.8			
SUA				IAmb	IAmb	10 39 44.9				
	comp=Z,17nm,0.9s									
SUA	Susitna One	44.82	39	P	P	10 39 28.7	+0.1			
	baz=273									
D23K	Nanushuk River	44.92	28	P	P	10 39 29.8	+0.7			
	baz=266,SNR=16									
KURK	Kurchatov	44.92	306	P	P	10 39 29.9	+0.6			
KURK	Kurchatov	44.92	306	P	P	10 39 29.7	+0.4			
KURK				S	S	10 46 00.4	-4.7			
KURK	Kurchatov	44.92	306	*c e*	P	P	10 39 29.4	+0.1		
KURK				pmax	pmax					
	comp=Z,173nm,1.0s									
KURK	Kurchatov	44.92	306	P	P	10 39 29.7	+0.4			
KURK				pP	sP	10 39 40.7	-1.7			
BRSE	Bradley Lake S	44.95	41	P	P	10 39 30.3	+0.8			
	baz=275									
TRF	Thorofare Moun	44.95	36	P	P	10 39 31.4	+1.8			
TRF					pP	10 39 39.5	+0.6			
TRF	Thorofare Moun	44.95	36	P	P	10 39 30.1	+0.5			
	baz=272									
KURBB	Kurchatov Arra	45.00	306	P	P	10 39 30.2	+0.3			
	comp=Z,140nm,0.7s,baz=80,slow=8.5,SNR=419									
KURBB				LR	LR	10 59 19.8				
	comp=Z,348nm,18.8s,baz=162,slow=37									
KURBB	Kurchatov Arra	45.00	306	P	P	10 39 29.3	-0.6			
CUT	Chulitna	45.00	37	P	P	10 39 29.6	-0.1			
	baz=273									
COLD	Coldfoot	45.00	30	P	P	10 39 29.8	0.0			
	baz=268									
C23K	Itkillik River	45.01	27	IAmb	IAmb	10 39 51.5				
	comp=Z,18nm,0.8s									
C23K	Itkillik River	45.01	27	P	P	10 39 30.5	+0.8			
	baz=265,SNR=21									
G23K	Bananza Creek	45.06	31	IAmb	IAmb	10 39 39.6				
	comp=Z,12nm,0.8s									
G23K	Bananza Creek	45.06	31	P	P	10 39 30.6	+0.3		

	comp=Z,12nm,0.8s								
SRDT	**SRDT**	**45.86**	**249**		P	**P**	**10 39 38.0**	**+0.9**
WRH	**Wood River Hil**	**45.88**	**34**		IAmb	IAmb	10 40 04.5	
	comp=Z,12nm,0.8s								
F24K	**Squaw Lake**	**45.90**	**30**		P	**P**	**10 39 38.0**	**+1.1**
	baz=270,SNR=16								
H24K	**Noodor Dome**	**45.92**	**32**		IAmb	IAmb	10 40 07.9		
	comp=Z,16nm,0.9s								
H24K	**Noodor Dome**	**45.92**	**32**		P	**P**	**10 39 38.0**	**+0.9**
	baz=272								
SML	**Sawmill**	**45.95**	**38**		P	**P**	**10 39 37.9**	**+0.5**
	baz=275								
COLA	**College**	**45.97**	**34**		P	**P**	**10 39 39.6**	**+2.2**
COLA	**College**	**45.97**	**34**		P	**P**	**10 39 38.5**	**+1.1**
COLA					IAmb	IAmb	10 39 48.3		
	comp=Z,22nm,0.9s								
COLA	**College**	**45.97**	**34**		P	**P**	**10 39 38.2**	**+0.8**
	baz=272								
COLA	**College**	**45.97**	**34**	*i*	P	**P**	**10 39 37.5**	**+0.1**
COLA					pmax	pmax			
	comp=Z,22nm,0.9s								
CCB	**Clear Creek Bu**	**46.00**	**34**		IAmb	IAmb	10 40 08.4		
	comp=Z,57nm,1.8s								
G24K	**Hadweenzic Riv**	**46.07**	**31**		IAmb	IAmb	10 40 01.4		
	comp=Z,15nm,0.9s								
G24K	**Hadweenzic Riv**	**46.07**	**31**		P	**P**	**10 39 39.0**	**+0.8**
	baz=271,SNR=7.2								
POKR	**Poker Plat Res**	**46.13**	**33**		P	**P**	**10 39 39.4**	**+0.7**
	baz=273								
WAT6	**Susitna Watana**	**46.16**	**37**		P	**P**	**10 39 39.9**	**+0.7**
	baz=275								
M23K	**Glacier View**	**46.24**	**38**		P	**P**	**10 39 39.7**	**+0.1**
	baz=276								
DHY	**Denali Highway**	**46.29**	**36**		IAmb	IAmb	10 40 01.3		
	comp=Z,13nm,0.8s								
DHY	**Denali Highway**	**46.29**	**36**		P	**P**	**10 39 40.5**	**+0.4**
	baz=275								
PDGK	**Podgornoye**	**46.32**	**296**		P	**P**	**10 39 39.8**	**-0.9**
HDA	**Harding Lake**	**46.38**	**34**		IAmb	IAmb	10 39 54.3		
	comp=Z,23nm,1.2s								
HDA	**Harding Lake**	**46.38**	**34**		P	**P**	**10 39 41.1**	**+0.4**
	baz=274								
IL31		**46.38**	**34**		IAmb	IAmb	10 39 53.9		
	comp=Z,17nm,1.1s								
ILAR	**Eielson Array**	**46.38**	**34**		P	**P**	**10 39 41.6**	**+0.9**
ILAR	**Eielson Array**	**46.38**	**34**		P	**P**	**10 39 41.7**	**+1.0**
	comp=Z,3.2nm,0.7s,baz=267,slow=6.4,SNR=46								
ILAR					LR	LR	11 01 02.4		
	comp=Z,153nm,20.0s,baz=270,slow=38								
	comp=Z,3.2nm,0.7s								
ILAR	**Eielson Array**	**46.38**	**34**		P	**P**	**10 39 41.6**	**+0.9**
SHLS	**Shalkode**	**46.39**	**296**	⇑*i*	P	**P**	**10 39 39.1**	**-2.2**
	baz=295								
SHLS	**Shalkode**	**46.39**	**296**	*c i*	P	**P**	**10 39 39.0**	**-2.2**
SCM	**Sheep Creek Mo**	**46.42**	**38**		P	**P**	**10 39 42.6**	**+1.5**
SCM						**sP**	**10 39 52.3**	**-1.9**
SCM					IAmb	IAmb	10 40 08.6		
	comp=Z,36nm,1.2s								
SCM	**Sheep Creek Mo**	**46.42**	**38**		P	**P**	**10 39 41.9**	**+0.8**
	baz=276								
SCM	**Sheep Creek Mo**	**46.42**	**38**		P	**P**	**10 39 42.6**	**+1.5**
SCM					*PP	**sP**	**10 39 52.3**	**-1.9**
SCM					pmax	pmax			
	comp=Z,36nm,1.2s								
D25K	**Kavik River**	**46.47**	**28**		IAmb	IAmb	10 40 01.4		
	comp=Z,22nm,0.8s								
D25K	**Kavik River**	**46.47**	**28**		P	**P**	**10 39 42.1**	**+0.7**
	baz=270								
TDK	**Taldyqorghan**	**46.54**	**298**	*e*	P	**P**	**10 39 42.9**	**+0.6**
	comp=Z,34nm,0.6s,baz=298								
TDK	**Taldyqorghan**	**46.54**	**298**	*e*	P	**P**	**10 39 42.8**	**+0.6**
TDK					pmax	pmax			
	comp=Z,34nm,0.6s								
P23K	**Montague Islan**	**46.60**	**41**		P	**P**	**10 39 41.8**	**-0.6**
	baz=278								
G25K	**Bearman Lake**	**46.61**	**31**		P	**P**	**10 39 42.1**	**-0.3**
	baz=272								
GLI	**Glacier Island**	**46.64**	**39**		IAmb	IAmb	10 39 55.2		
	comp=Z,14nm,0.8s								
GLI	**Glacier Island**	**46.64**	**39**		P	**P**	**10 39 43.3**	**+0.6**
	baz=277								
UZB	**Uzynbulak**	**46.70**	**296**	⇑*i*	P	**P**	**10 39 43.8**	**+0.1**
	baz=296								
UZB	**Uzynbulak**	**46.70**	**296**	*c i*	P	**P**	**10 39 43.7**	**+0.1**
H25L	**Birch Creek**	**46.75**	**32**		P	**P**	**10 39 43.6**	**+0.1**
	baz=273,SNR=5.4								
F25K	**Christian Rive**	**46.76**	**30**		P	**P**	**10 39 43.8**	**+0.1**
	baz=272,SNR=9.7								
E25K	**Arctic Village**	**46.78**	**29**		IAmb	IAmb	10 40 17.3		
	comp=Z,18nm,1.1s								
E25K	**Arctic Village**	**46.78**	**29**		P	**P**	**10 39 44.4**	**+0.6**
	baz=271,SNR=11								
PRP	**Porcupine Dome**	**46.91**	**33**		IAmb	IAmb	10 40 19.2		
	comp=Z,16nm,0.7s								
PRP	**Porcupine Dome**	**46.91**	**33**		P	**P**	**10 39 45.4**	**+0.4**
	baz=274								
M24K	**Tolsona, Glenn**	**46.93**	**38**		P	**P**	**10 39 45.6**	**+0.5**
	baz=277								
K24K	**Donnelly Dome**	**46.94**	**35**		P	**P**	**10 39 45.9**	**+0.8**
	baz=275								
FYU	**Fort Yukon**	**46.97**	**31**		IAmb	IAmb	10 40 15.5		
	comp=Z,23nm,0.8s								
C26K	**Camden Bay**	**46.99**	**27**		P	**P**	**10 39 45.7**	**+0.4**
	baz=270,SNR=21								
J25K	**Saleha River,**	**47.05**	**34**		P	**P**	**10 39 46.3**	**+0.3**
	baz=275								
ZHN	**Zhinishke**	**47.10**	**296**	⇑*i*	P	**P**	**10 39 47.1**	**+0.3**
	baz=296								
ZHN	**Zhinishke**	**47.10**	**296**	*c i*	P	**P**	**10 39 47.0**	**+0.3**
KLU	**Klutina**	**47.12**	**38**		P	**P**	**10 39 47.7**	**+1.0**
KLU						**pP**	**10 39 57.5**	**+1.6**
KLU					IAmb	IAmb	10 40 02.5		
	comp=Z,21nm,0.9s								
KLU	**Klutina**	**47.12**	**38**		P	**P**	**10 39 46.8**	**+0.2**
	baz=277								
SATY	**Saty**	**47.16**	**296**	⇑*i*	P	**P**	**10 39 47.7**	**+0.4**
	baz=296								
SATY	**Saty**	**47.16**	**296**	*c i*	P	**P**	**10 39 47.6**	**+0.4**
PAX	**Paxson**	**47.16**	**36**		P	**P**	**10 39 47.2**	**+0.3**
	baz=276								
ARXS	**Arharly**	**47.18**	**297**	*e*	P	**P**	**10 39 47.5**	**+0.2**
BMAR	**Burnt Mountain**	**47.18**	**30**		P	**P**	**10 39 49.1**	**+2.2**
Q23K	**Middleton Isla**	**47.20**	**41**		P	**P**	**10 39 47.3**	**+0.2**
	baz=279								
WUS	**Wushi**	**47.23**	**293**		P	**P**	**10 39 48.6**	**+0.9**
F26K	**Sheenjek River**	**47.33**	**30**		P	**P**	**10 39 48.5**	**+0.4**
	baz=275,SNR=32								
EYAK	**Cordova Ski Ar**	**47.34**	**40**		P	**P**	**10 39 49.1**	**+0.9**
	baz=278								
C27K	**Jago River**	**47.41**	**27**		P	**P**	**10 39 49.1**	**+0.4**
	baz=272,SNR=20								
G26K	**Porcupine Rive**	**47.52**	**31**		P	**P**	**10 39 50.2**	**+0.7**
	baz=274								
SCRK	**Sand Creek**	**47.71**	**35**		IAmb	IAmb	10 40 05.6		
	comp=Z,44nm,1.5s								
SCRK	**Sand Creek**	**47.71**	**35**		P	**P**	**10 39 51.9**	**+0.7**
	baz=277,SNR=7.7								
BMRM	**Bremner River**	**47.83**	**39**		P	**P**	**10 39 53.2**	**+1.1**
	baz=279								
J26L	**Joseph Creek**	**47.83**	**34**		P	**P**	**10 39 53.2**	**+1.1**
	baz=277								
CHKK	**Chushkaly**	**47.87**	**297**	*e*	P	**P**	**10 39 52.8**	**+0.2**
	baz=297								
CHKK	**Chushkaly**	**47.87**	**297**	*e*	P	**P**	**10 39 52.8**	**+0.2**
I26K	**Coal Creek Min**	**47.92**	**33**		P	**P**	**10 39 53.5**	**+0.8**
	baz=276								
MENT	**Mentasta**	**47.96**	**36**		P	**P**	**10 39 55.1**	**+2.1**
MENT	**Mentasta**	**47.96**	**36**		IAmb	IAmb	10 40 22.3		
	comp=Z,28nm,1.2s								
MDOK	**Medeo**	**48.06**	**296**	*e*	P	**P**	**10 39 54.7**	**+0.4**
	baz=296								
MDOK					LR	LR	11 00 37.4		
	comp=Z,475nm,17.3s,baz=296								
MDOK	**Medeo**	**48.06**	**296**	*e*	P	**P**	**10 39 54.6**	**+0.4**
MDOK					MLR	MLR			
	comp=Z,475nm,17.0s								
KAIM	**Kayak Island**	**48.09**	**40**		P	**P**	**10 39 54.9**	**+0.8**
	baz=280								
L26K	**Log Cabin Wild**	**48.12**	**36**		IAmb	IAmb	10 40 09.7		
	comp=Z,25nm,0.9s								
L26K	**Log Cabin Wild**	**48.12**	**36**		P	**P**	**10 39 55.3**	**+1.0**
	baz=278,SNR=5.3								
AAA	**Alma-Ata**	**48.13**	**296**	*e*	P	**P**	**10 39 55.1**	**+0.4**
	comp=Z,32nm,0.6s,baz=296								
AAA	**Alma-Ata**	**48.13**	**296**	*e*	P	**P**	**10 39 55.1**	**+0.4**
AAA					pmax	pmax			
	comp=Z,32nm,0.6s								
TNSS	**Tian-Shan**	**48.17**	**296**	*e*	P	**P**	**10 39 55.7**	**+0.2**
	baz=296								
TNSS	**Tian-Shan**	**48.17**	**296**	*e*	P	**P**	**10 39 55.6**	**+0.2**
E27K	**Coleen River**	**48.26**	**29**		IAmb	IAmb	10 40 10.0		
	comp=Z,16nm,0.9s								
E27K	**Coleen River**	**48.26**	**29**		P	**P**	**10 39 55.9**	**+0.6**
	baz=275,SNR=11								
KUU	**Kurty**	**48.30**	**297**	*e*	P	**P**	**10 39 55.8**	**-0.1**
	comp=Z,24nm,0.6s,baz=297								
KUU					LR	LR	11 00 58.0		
	comp=Z,545nm,16.4s,baz=297								
KUU	**Kurty**	**48.30**	**297**	*e*	P	**P**	**10 39 55.8**	**-0.1**
KUU					pmax	pmax			
	comp=Z,24nm,0.6s								
KUU					MLR	MLR			
	comp=Z,545nm,16.0s								
G27K	**Doyon Strip**	**48.37**	**31**		P	**P**	**10 39 56.9**	**+0.8**
	baz=276								
M26K	**Nabesna, AK**	**48.37**	**37**		P	**P**	**10 39 56.0**	**-0.2**
M26K					pP	**sP**	**10 40 08.1**	**-1.2**
M26K					IAmb	IAmb	10 40 11.9		
	comp=Z,14nm,1.1s								
M26K	**Nabesna, AK**	**48.37**	**37**		P	**P**	**10 39 57.7**	**+1.5**
	baz=279								
D27M	**Malcolm River**	**48.40**	**28**		IAmb	IAmb	10 40 11.4		
	comp=Z,17nm,0.9s								
D27M	**Malcolm River**	**48.40**	**28**		P	**P**	**10 39 57.2**	**+0.8**
	baz=275								
KSM	**Kuching**	**48.40**	**226**		P	**P**	**10 39 58.0**	**+1.1**
H27K	**Steamboat Moun**	**48.48**	**32**		P	**P**	**10 39 58.2**	**+1.1**
	baz=277,SNR=6.5								
MCARA	**McCarthy VSAT**	**48.52**	**38**		P	**P**	**10 39 58.6**	**+1.3**
MCARA						**sP**	**10 40 11.8**	**+1.3**
MCARA	**McCarthy VSAT**	**48.52**	**38**		P	**P**	**10 39 57.7**	**+0.4**
	baz=280								
I27K	**Kandik River**	**48.52**	**32**		P	**P**	**10 39 57.7**	**+0.3**
	baz=277								
K27K	**Chicken**	**48.54**	**35**		IAmb	IAmb	10 40 17.0		
	comp=Z,16nm,1.0s								
K27K	**Chicken**	**48.54**	**35**		P	**P**	**10 39 58.1**	**+0.6**
	baz=278								
BRZS	**Berezniki**	**48.79**	**306**	⇑*i*	P	**P**	**10 39 59.8**	**+0.1**
	comp=Z,13nm,0.5s,baz=306								
BRZS	**Berezniki**	**48.79**	**306**	*c i*	P	**P**	**10 39 59.7**	**+0.1**
BRZS					pmax	pmax			
	comp=Z,13nm,0.5s								
L27K	**Beaver Creek,**	**48.80**	**36**		P	**P**	**10 39 59.7**	**+0.2**
	baz=279,SNR=7.1								
BCAR	**Beaver Creek A**	**48.81**	**36**		P	**P**	**10 40 01.7**	**+2.0**
EGAK	**Eagle**	**48.83**	**34**		IAmb	IAmb	10 40 35.5		
	comp=Z,8.7nm,0.7s								
EGAK	**Eagle**	**48.83**	**34**		P	**P**	**10 40 00.1**	**+0.5**
	baz=278								
M27K	**Edge Creek, AK**	**48.89**	**37**		IAmb	IAmb	10 40 16.3		
	comp=Z,12nm,0.8s								
M27K	**Edge Creek, AK**	**48.89**	**37**		P	**P**	**10 40 01.0**	**+0.7**
	baz=280								
F28M	**Old Crow**	**48.97**	**30**		IAmb	IAmb	10 40 20.1		
	comp=Z,13nm,0.8s								
F28M	**Old Crow**	**48.97**	**30**		P	**P**	**10 40 01.3**	**+0.6**
	baz=277,SNR=10								
E28M	**Babbage River**	**48.98**	**28**		IAmb	IAmb	10 40 15.5		
	comp=Z,18nm,1.1s								
E28M	**Babbage River**	**48.98**	**28**		P	**P**	**10 40 01.2**	**+0.5**
	baz=276,SNR=10								
TKM2	**Tokmak 2**	**49.14**	**297**		P	**P**	**10 40 03.8**	**+1.2**
	SNR=100								
TKM2	**Tokmak 2**	**49.14**	**297**		P	**P**	**10 40 02.6**	**0.0**
D28M	**Stokes Point**	**49.18**	**27**		P	**P**	**10 40 03.1**	**+0.9**
	baz=277								
I28M	**Miner Creek**	**49.24**	**33**		IAmb	IAmb	10 40 25.6		
	comp=Z,14nm,0.8s								
I28M	**Miner Creek**	**49.24**	**33**		P	**P**	**10 40 03.8**	**+0.9**
	baz=279,SNR=6.1								
MESA	**MESA**	**49.26**	**40**		P	**P**	**10 40 03.6**	**+0.4**
	baz=282								
BVA0	**Borovoye Array**	**49.33**	**311**	*i*	P	**P**	**10 40 03.8**	**+0.1**
BVAR	**Borovoye Array**	**49.33**	**311**		P	**P**	**10 40 04.3**	**+0.6**
	comp=Z,64nm,0.5s,baz=70,slow=8.8,SNR=252								
BVAR					LR	LR	11 02 03.5		
	comp=Z,736nm,18.2s,baz=73,slow=38								
	comp=Z,64nm,0.5s								
BRVK	**Borovoye**	**49.38**	**311**		P	**P**	**10 40 04.9**	**+0.9**
BRVK	**Borovoye**	**49.38**	**311**		P	**P**	**10 40 04.8**	**+0.8**
BRVK	**Borovoye**	**49.38**	**311**	*ce*	P	**P**	**10 40 04.6**	**+0.6**
BRVK					pmax	pmax			
	comp=Z,85nm,1.0s								
BRVK	**Borovoye**	**49.38**	**311**		P	**P**	**10 40 04.7**	**+0.7**
CTG	**Chitna Glacier**	**49.40**	**39**		P	**P**	**10 40 03.6**	**-0.6**
	baz=282								
PMG	**Port Moresby**	**49.41**	**174**		LR	LR	10 59 22.1		
	comp=Z,97nm,20.6s,baz=10.0,slow=34								
BTLS	**Baital**	**49.45**	**300**	⇑*i*	P	**P**	**10 40 04.6**	**-0.2**
	baz=300								
BTLS	**Baital**	**49.45**	**300**	*c i*	P	**P**	**10 40 04.5**	**-0.2**
OTUK	**Ortayu**	**49.52**	**304**		P	**P**	**10 40 04.6**	**-0.6**
E29M	**Blow River**	**49.60**	**29**		IAmb	IAmb	10 40 31.6		
	comp=Z,21nm,0.8s								
E29M	**Blow River**	**49.60**	**29**		P	**P**	**10 40 05.8**	**+0.3**
	baz=278,SNR=18								
KAPI	**Kappang**	**49.60**	**211**		LR	LR	11 00 44.4		
	comp=Z,100nm,21.5s,baz=16,slow=36								
KAPI	**Kappang**	**49.60**	**211**		P	**P**	**10 40 07.6**	**+1.5**
KAPI					S	**S**	**10 47 08.8**	**-3.5**
SGDS	**Sogindy**	**49.61**	**297**	*e*	P	**P**	**10 40 06.3**	**+0.3**
	baz=298								
SGDS	**Sogindy**	**49.61**	**297**	*e*	P	**P**	**10 40 06.3**	**+0.3**
YUK3	**Moose Creek**	**49.65**	**37**		P	**P**	**10 40 06.4**	**+0.1**
	baz=282								
KBK	**Karagaybulak**	**49.68**	**296**		P	**P**	**10 40 07.7**	**+0.9**
	SNR=5.2								
CHMS	**Chumysh**	**49.69**	**297**		P	**P**	**10 40 07.2**	**+0.6**
	SNR=11								
DAWY	**Dawson**	**49.70**	**34**		P	**P**	**10 40 06.8**	**+0.4**
	baz=280								
H29M	**Whitestone**	**49.75**	**31**		IAmb	IAmb	10 40 40.6		
	comp=Z,12nm,0.9s								
H29M	**Whitestone**	**49.75**	**31**		P	**P**	**10 40 07.3**	**+0.6**
	baz=280								
USP	**Ospenovka**	**49.77**	**297**		P	**P**	**10 40 07.8**	**+0.6**
	SNR=45								
G29M	**Pine Creek**	**49.78**	**30**		IAmb	IAmb	10 40 40.2		
	comp=Z,17nm,0.9s								
G29M	**Pine Creek**	**49.78**	**30**		P	**P**	**10 40 07.1**	**+0.2**
	baz=279,SNR=7.1								
I29M	**Ogilvie Camp,**	**49.92**	**33**		IAmb	IAmb	10 40 22.1		
	comp=Z,18nm,0.9s								
I29M	**Ogilvie Camp,**	**49.92**	**33**		P	**P**	**10 40 08.1**	**+0.1**
	baz=280,SNR=7.6								
O28M	**Mount Upton**	**49.99**	**39**		P	**P**	**10 40 09.0**	**+0.1**
	baz=283								
AAK	**Ala-Archa**	**50.00**	**297**		P	**P**	**10 40 09.8**	**+0.7**
	SNR=7.0								
AAK	**Ala-Archa**	**50.00**	**297**		P	**P**	**10 40 09.7**	**+0.5**
AAK	**Ala-Archa**	**50.00**	**297**	*i*	P	**P**	**10 40 08.8**	**-0.3**
	SNR=5.9								
AAK	**Ala-Archa**	**50.00**	**297**		LR	LR	11 02 19.1		
	comp=Z,770nm,20.8s,baz=80,slow=37								
AAK	**Ala-Archa**	**50.00**	**297**		P	**P**	**10 40 09.6**	**+0.5**
AAK	**Ala-Archa**	**50.00**	**297**	*ce*	P	**P**	**10 40 09.5**	**+0.4**
AAK					pmax	pmax			
	comp=Z,59nm,1.7s								
AAK	**Ala-Archa**	**50.00**	**297**	⇑	P	**P**	**10 40 09.6**	**+0.5**
YUK8	**Steele Glacier**	**50.08**	**38**		P	**P**	**10 40 09.8**	**+0.3**
	baz=282								
J29N	**Klondike Camp**	**50.13**	**34**		P	**P**	**10 40 09.4**	**-0.3**
	baz=281								
UCH	**Uchtor**	**50.14**	**296**		P	**P**	**10 40 11.5**	**+1.0**
	SNR=22								
KSH	**Kashi**	**50.16**	**292**		P	**P**	**10 40 14.8**	**+4.5**
KSH					pP	sP	10 40 28.0	+4.5	
KSH					pmax	pmax			
	comp=Z,38nm,0.8s								
KSH					LR	LR			
	comp=Z,960nm,18.5s								
KSH					LR	LR			
	comp=Z,740nm,17.9s								
KSH					LR	LR			
	comp=Z,1μm,16.7s								
EPYK	**Eagle Plains**	**50.38**	**31**		P	**P**	**10 40 11.5**	**0.0**
	baz=281,SNR=8.9								
M29M	**Somme Creek**	**50.43**	**36**		P	**P**	**10 40 12.4**	**+0.3**
	baz=283								
L29M	**L29M**	**50.44**	**35**		P	**P**	**10 40 12.6**	**+0.6**
	baz=282,SNR=6.3								
G30M	**tAoh Zraii Nji**	**50.46**	**30**		IAmb	IAmb	10 40 28.0		
	comp=Z,19nm,0.9s								
G30M	**tAoh Zraii Nji**	**50.46**	**30**		P	**P**	**10 40 13.0**	**+0.9**
	baz=281								
EKS2	**Erkin-Say**	**50.48**	**297**		P	**P**	**10 40 13.0**	**+0.3**
	SNR=44								
F30M	**Barrier River**	**50.51**	**29**		P	**P**	**10 40 13.5**	**+1.0**
	baz=281,SNR=15								
K29M	**Barlow Dome**	**50.55**	**34**		IAmb	IAmb	10 40 32.6		
	comp=Z,10nm,0.8s								
K29M	**Barlow Dome**	**50.55**	**34**		P	**P**	**10 40 12.9**	**0.0**
	baz=282,SNR=8.6								
YUK4	**Talbot Arm**	**50.59**	**38**		P	**P**	**10 40 14.0**	**+0.6**
	baz=283								
PNL	**Peninsula**	**50.63**	**40**		P	**P**	**10 40 13.4**	**0.0**
	baz=284								
I30M	**Mount Dempster**	**50.75**	**33**		P	**P**	**10 40 14.8**	**+0.4**
	baz=282,SNR=20								
YUK6	**Outpost Mounta**	**50.82**	**38**		P	**P**	**10 40 15.4**	**+0.3**
	baz=284								
J30M	**Hart River**	**50.90**	**33**		P	**P**	**10 40 15.5**	**-0.1**
	baz=283								
INK	**Inuvik**	**51.21**	**28**		IAmb	IAmb	10 40 39.6		
	comp=Z,23nm,1.2s								
INK	**Inuvik**	**51.21**	**28**		P	**P**	**10 40 17.9**	**+0.3**
	baz=282,SNR=17								
INK	**Inuvik**	**51.21**	**28**		LR	LR	11 06 14.3		
	comp=Z,222nm,18.8s,baz=251,slow=41								
G31M	**Satah River**	**51.23**	**30**		IAmb	IAmb	10 40 56.7		
	comp=Z,15nm,0.8s								
G31M	**Satah River**	**51.23**	**30**		P	**P**	**10 40 18.3**	**+0.5**
	baz=282,SNR=8.8								
KULM	**Kulim**	**51.26**	**239**		P	**P**	**10 40 18.7**	**+0.1**
KULM					IAmb	IAmb	10 40 20.5		
	comp=Z,30nm,1.0s								
HYT	**Haines Junctio**	**51.26**	**38**		P	**P**	**10 40 18.6**	**+0.3**
	baz=285								
N30M	**Aishikik Lake**	**51.29**	**37**		P	**P**	**10 40 19.3**	**+0.8**
	baz=284								
MAYO	**Mayo, Yukon**	**51.31**	**34**		IAmb	IAmb	10 41 29.5		
	comp=Z,21nm,0.9s								
MAYO	**Mayo, Yukon**	**51.31**	**34**		P	**P**	**10 40 19.1**	**+0.5**
	baz=284								
F31M	**Tsiigehtchic**	**51.32**	**29**		IAmb	IAmb	10 40 57.8		
	comp=Z,15nm,0.9s								
F31M	**Tsiigehtchic**	**51.32**	**29**		P	**P**	**10 40 19.0**	**+0.6**
	baz=282,SNR=8.4								
H31M	**Peel River**	**51.45**	**32**		P	**P**	**10 40 19.9**	**+0.4**
	baz=283,SNR=14								
P29M	**Windy Craggy**	**51.45**	**40**		P	**P**	**10 40 21.6**	**+2.0**
P29M	**Windy Craggy**	**51.45**	**40**		P	**P**	**10 40 19.6**	**-0.1**
	baz=285								
P30M	**Million Dollar**	**51.70**	**39**		P	**P**	**10 40 22.6**	**+1.0**
	baz=286								
N31M	**Braeburn, Yuko**	**51.89**	**37**		IAmb	IAmb	10 40 38.4		
	comp=Z,31nm,1.0s								
N31M	**Braeburn, Yuko**	**51.89**	**37**		P	**P**	**10 40 23.2**	**+0.3**
	baz=285								
MYKOM	**Kota Tinggi**	**51.91**	**233**		IAmb	IAmb	10 40 24.9		
	comp=Z,12nm,0.9s								
O30N	**Mendenhall**	**51.94**	**38**		P	**P**	**10 40 23.3**	**0.0**
	baz=286								
MMRI	**Maumere**	**52.05**	**206**		P	**P**	**10 40 26.6**	**+2.1**
DZA	**Taraz**	**52.06**	**298**	*e*	P	**P**	**10 40 24.9**	**+0.5**
	comp=Z,37nm,0.6s,baz=298								
DZA	**Taraz**	**52.06**	**298**	*e*	P	**P**	**10 40 24.9**	**+0.5**
DZA					pmax	pmax			
	comp=Z,37nm,0.6s								
PLBC	**Pleasant Camp**	**52.17**	**40**		P	**P**	**10 40 25.1**	**+0.1**
	baz=286								
M31M	**Drury Creek, Y**	**52.34**	**36**		IAmb	IAmb	10 40 41.6		
	comp=Z,13nm,1.1s								
M31M	**Drury Creek, Y**	**52.34**	**36**		P	**P**	**10 40 26.3**	**+0.1**
	baz=286								
EDFI	**Ende, Flores**	**52.34**	**207**		P	**P**	**10 40 27.8**	**+1.0**
	comp=Z,19nm,0.9s								
KK31	**Karatay Array**	**52.53**	**299**	*i*	P	**P**	**10 40 27.6**	**-0.3**
KKAR	**Karatay Array**	**52.53**	**299**		P	**P**	**10 40 28.1**	**+0.2**
KKAR	**Karatay Array**	**52.53**	**299**		IAmb	IAmb	10 40 29.0		
	comp=Z,44nm,0.8s								
KKAR	**Karatay Array**	**52.53**	**299**		P	**P**	**10 40 28.1**	**+0.2**
WHY	**Whitehorse**	**52.54**	**38**		P	**P**	**10 40 27.5**	**-0.3**
	baz=287								
S31K	**Pelican**	**52.68**	**41**		P	**P**	**10 40 28.0**	**-0.7**
	baz=288								
FARO	**Faro, Yukon**	**52.80**	**36**		P	**P**	**10 40 28.7**	**-0.9**
	baz=287								
BRLS	**Borolday**	**53.02**	**299**	⇑*i*	P	**P**	**10 40 33.0**	**+1.4**
	baz=298								
BRLS	**Borolday**	**53.02**	**299**	*c i*	P	**P**	**10 40 32.9**	**+1.4**
A36M	**Sachs Harbour**	**53.05**	**23**		P	**P**	**10 40 30.9**	**-0.4**
	baz=286,SNR=27								
BATI	**Baumata**	**53.06**	**204**		LR	LR	11 01 16.9		
	comp=Z,130nm,21.9s,baz=85,

V35K Ketchikan 55.98 43 P P 10 40 53.0 +0.3
baz=293
T35M Bob Quinn 56.05 41 P P 10 40 54.0 +0.7
baz=293
GSI Gunungsitoli 56.26 238 P P 10 40 55.4 +0.1
GSI Gunungsitoli 56.26 238 P P 10 40 53.9 -1.4
GSI Gunungsitoli 56.26 238 P P 10 40 56.0 +0.7
comp=Z,48nm,1.2s
KPJI Karang Pucung 56.55 221 P P 10 40 57.1 -0.2
comp=Z,68nm,0.9s
WRGLY Wrigley 56.72 33 IAmb IAmb 10 41 11.8
comp=Z,26nm,1.3s
WRGLY Wrigley 56.72 33 P P 10 40 59.7 +1.8
baz=294
AB31 Akbulak array 56.79 309 *i* P P 10 40 58.8 +0.1
ABKAR Akbulak array 56.79 309 P P 10 40 59.2 +0.5
ABKAR Akbulak array 56.79 309 IAmb IAmb 10 40 59.6
comp=Z,39nm,0.7s
LEM Lembang 56.80 223 LR LR 11 05 12.7
comp=Z,60nm,21.7s,baz=350,slow=36
ALE Alert 57.01 4 P P 10 41 00.8 +1.0
EUNU Eureka 57.02 9 IAmb IAmb 10 41 01.6
comp=Z,17nm,0.8s
LIRD Liard River Hi 57.11 38 P P 10 41 02.5 +1.7
baz=294
KBL Kabul 57.32 290 P P 10 41 02.8 -0.1
KBL Kabul 57.32 290 P P 10 41 03.0 +0.1
SNR=65
KBL S S 10 48 42.5 -15
KBL Kabul 57.32 290 P P 10 41 02.8 -0.1
KBL pmax pmax
comp=Z,153nm,0.9s
AKTO Aktyubinsk 57.43 311 LR LR 11 07 11.0
comp=Z,670nm,18.3s,baz=54,slow=38
SPITS Spitsbergen Ar 57.74 349 P P 10 41 04.8 -0.1
comp=Z,3.4nm,0.6s,baz=78,slow=7.9,SNR=12
SPITS LR LR 11 07 44.6
comp=Z,140nm,20.6s,baz=0.0,slow=38
comp=Z,3.4nm,0.6s
TOAD Toad River Com 57.75 38 P P 10 41 05.8 +0.5
baz=295
KOTAN Kotaneelee Air 57.75 36 P P 10 41 05.2 -0.1
baz=295
KBS Kingsbay 57.84 350 P P 10 41 06.8 +1.2
KBS Kingsbay 57.84 350 *eP* P 10 41 06.9 +1.2
KBS Kingsbay 57.84 350 *ceP* P 10 41 07.6 +2.0
KBS pmax pmax
comp=Z,39nm,1.7s
KBS Kingsbay 57.84 350 P P 10 41 06.8 +1.2
KBS pP **sP** 10 41 18.1 -0.8
KBS Kingsbay 57.84 350 *i* P P 10 41 05.2 -0.4
MTSU Mount Surprise 57.93 178 P P 10 41 09.0 +2.1
NOR Nord 58.08 357 *i* P P 10 41 06.5 -0.8
NOR IAmb IAmb 10 41 09.2
comp=Z,9.5nm,0.9s
KIRV Kirov 58.46 322 LR LR 11 08 35.5
comp=Z,344nm,19.2s,baz=55,slow=38
KIRV Kirov 58.46 322 *ceP* P 10 41 10.9 +0.7
HSPB Hornsund (broa 58.69 348 *eP* P 10 41 13.2 +1.6
BBB Bella Bella 59.19 46 LR LR 11 03 17.1
comp=Z,87nm,21.3s,baz=294,slow=32
HYB Hyderabad 59.34 267 *eP* P 10 41 16.7 -0.3
HYB epP **pP** 10 41 27.9 +1.3
HYB IVmB_BB 10 41 28.6
comp=Z,336nm,3.3s
HYB *e*PcP **PcP** 10 42 04.1 -0.7
HYB *e*S **S** 10 49 23.8 +0.2
RES Resolute Bay 59.40 15 IAmb IAmb 10 41 17.9
comp=Z,19nm,0.8s
RES Resolute Bay 59.40 15 LR LR 11 09 46.0
comp=Z,113nm,19.4s,baz=6.0,slow=39
LVZ Lovozero 59.77 335 P P 10 41 19.6 +0.3
LVZ pP **sP** 10 41 30.6 -1.9
LVZ Lovozero 59.77 335 P P 10 41 19.5 +0.3
comp=Z,22nm,1.0s
FITZ Fitzroy Crossi 60.03 199 P P 10 41 21.9 +0.5
FITZ Fitzroy Crossi 60.03 199 P P 10 41 22.1 +0.7
WB0 Warramunga Arr 60.04 189 P P 10 41 21.2 -0.4
WB0 pP **sP** 10 41 33.6 -1.2
VADS Vadso 60.10 339 *eP* P 10 41 22.1 +0.7
WRAB Tennant Creek 60.21 189 P P 10 41 22.4 -0.3
WRAB Tennant Creek 60.21 189 P P 10 41 22.4 -0.3
WRAB pmax pmax
comp=Z,40nm,0.9s
WB2 Warramunga Arr 60.22 189 pP pP 10 41 30.4 -1.9
WRA Warramunga Arr 60.22 189 P P 10 41 22.1 -0.7
WRA Warramunga Arr 60.22 189 P P 10 41 21.9 -0.9
comp=Z,5.6nm,0.6s,baz=4.7,slow=6.9,SNR=68
WRA PKP2bc 11 10 56.7
comp=Z,1.7nm,0.9s,baz=214,slow=2.8,SNR=6.5
comp=Z,5.6nm,0.6s
WRA Warramunga Arr 60.22 189 *i* P P 10 41 21.8 -1.0
WRA pmax pmax
comp=Z,6.0nm,0.6s
APA Apatity 60.34 335 ⇓ *i* P P 10 41 21.8 -1.3
APA pmax pmax
comp=Z,13nm,0.8s
QIS Mount Isa 60.39 183 P P 10 41 26.2 +2.3
ADZR Andozero 60.61 331 *eP* P 10 41 23.9 -1.0
ADZR pmax pmax
comp=Z,45nm,0.8s
YKA Yellowknife Ar 60.67 31 P P 10 41 25.9 +0.5
YKA pP **sP** 10 41 39.0 +0.4
YKA Yellowknife Ar 60.67 31 P P 10 41 26.1 +0.7
comp=Z,2.2nm,0.7s,baz=304,slow=7.0,SNR=27
YKA LR LR 11 08 53.5
comp=Z,99nm,20.7s,baz=318,slow=37
comp=Z,2.2nm,0.7s
KEV Kevo 60.97 339 P P 10 41 27.8 +0.5
KEV pP **sP** 10 41 39.4 -1.2
HAMF Hammerfest 61.29 341 *eP* P 10 41 29.7 +0.2
ARA0 ARCESS Array S 61.52 339 *eP* P 10 41 31.7 +0.6
ARCES ARCESS Array B 61.52 339 P P 10 41 31.5 +0.5
ARCES IAmb IAmb 10 41 32.1
comp=Z,12nm,0.8s
ARCES ARCESS Array B 61.52 339 P P 10 41 31.6 +0.5
comp=Z,6.8nm,0.6s,baz=49,slow=7.1,SNR=49
ARCES LR LR 11 14 14.4
comp=Z,228nm,18.2s,baz=46,slow=42
comp=Z,6.8nm,0.6s
ARCES ARCESS Array B 61.52 339 P P 10 41 31.5 +0.5
ARCES pmax pmax
comp=Z,12nm,0.9s
KLMR Klimovskoe 61.74 327 *eP* P 10 41 31.2 -1.5
KLMR *e**PP **pP** 10 41 41.5 -0.8
KLMR *e* 10 43 48.3
KLMR pmax pmax
comp=Z,47nm,1.4s
KLMR MLR MLR
comp=Z,585nm,21.0s
HRA Herat 62.26 293 IAmb IAmb 10 41 38.1
comp=Z,17nm,0.8s
BELG Belogornoye 62.29 316 LR LR 11 11 10.1
comp=Z,1μm,18.1s,baz=50,slow=38
BELG Belogornoye 62.29 316 *c* *i* P P 10 41 36.8 +0.3
BELG pmax pmax
comp=Z,17nm,1.1s
NEEM North Greenlan 62.43 3 *i* P P 10 41 37.5 0.0
NEEM IAmb IAmb 10 41 48.2
comp=Z,28nm,0.8s
DAG Danmarks Havn 62.83 355 *i* P P 10 41 39.0 -0.7
DAG IAmb IAmb 10 41 41.9
comp=Z,19nm,0.8s
JETT Jettan, Norway 62.85 341 *eP* P 10 41 40.7 +0.7
TRO Tromso 63.17 341 *eP* P 10 41 42.6 +0.6
GEYT Alibeck 63.28 298 P P 10 41 43.7 +0.3
GEYT Alibeck 63.28 298 P P 10 41 43.8 +0.3
comp=Z,27nm,0.8s,baz=29,slow=3.4,SNR=30
GEYT LR LR 11 11 15.5
comp=Z,286nm,18.4s,baz=60,slow=38
comp=Z,27nm,0.8s
GEYT Alibeck 63.28 298 P P 10 41 43.7 +0.3
GEYT pmax pmax
comp=Z,47nm,0.9s
RK1H Rockhampton Ha 63.55 172 P P 10 41 49.0 +3.9
JOF Joensuu 63.77 332 *eP* P 10 41 46.8 +0.7
BRLDA Berland Lookou 63.85 40 IAmb IAmb 10 42 06.8
comp=Z,7.8nm,0.8s
ASAR Alice Springs 63.95 189 P P 10 41 47.5 -0.3
comp=Z,3.5nm,0.7s,baz=0.3,slow=4.7,SNR=49
ASAR PKP2bc 11 10 45.5
comp=Z,0.8nm,0.9s,baz=185,slow=1.3,SNR=6.4
comp=Z,3.5nm,0.7s
PALK Pallekele 64.04 257 P P 10 41 47.9 -0.8
PALK S S 10 50 08.1 -15

MBWA Marble Bar 64.59 204 P P 10 41 55.6 +3.7
VALR Valaam 64.89 330 *c* *i* P P 10 41 53.3 -0.1
VALR pmax pmax
comp=Z,38nm,0.9s
STEI Steigen 65.33 341 *eP* P 10 41 56.6 +0.3
MOS Moscow 65.43 323 *eP* P 10 41 56.2 -0.8
MOS *e* 10 44 20.3
MOS pmax pmax
comp=Z,39nm,0.8s
MOS MLR MLR
comp=Z,800nm,17.0s
LOF Lofoten 65.61 341 *eP* P 10 41 57.6 -0.4
NOUC Port Laguerre 65.65 156 P P 10 42 02.1 +3.3
DZM Mont Dzumac 65.67 156 P P 10 42 01.4 +2.4
DZM Mont Dzumac 65.67 156 LR LR 11 06 57.7
comp=Z,224nm,21.3s,baz=359,slow=33
FAUS Fauske 65.73 340 *eP* P 10 41 59.4 +0.5
VRH Novokhopyorsk 66.02 317 *eP* P 10 41 58.5 -2.5
VRH *e**PP **pP** 10 42 11.3 +0.6
VRH pmax pmax
comp=Z,70nm,0.6s
WRKA Warakurna 66.16 194 P P 10 42 04.0 +1.9
OBN Obninsk 66.28 323 *c* *i* P P 10 42 02.9 +0.4
OBN *i* *PP **sP** 10 42 15.2 -0.7
OBN *e**SP pP 10 42 20.5 +8.3
OBN 10 44 34.0
OBN *i* *SS sS 10 51 13.4 +8.0
OBN *i* SS **SS** 10 55 11.8 +6.7
OBN *e*SSS SSS 10 58 04.6
OBN pmax pmax
comp=Z,62nm,1.7s
OBN MLR MLR
comp=Z,720nm,16.0s
OBN Obninsk 66.28 323 P P 10 42 03.3 +0.8
comp=Z,55nm,1.1s
EDM Edmonton 66.33 40 P P 10 42 03.6 +0.6
EDM IAmb IAmb 10 42 17.6
comp=Z,13nm,1.1s
EDM Edmonton 66.33 40 P P 10 42 03.6 +0.6
EDM pmax pmax
comp=Z,13nm,1.1s
QLP Quilpie 66.33 179 P P 10 42 05.5 +2.4
KEF Keuruu 66.55 333 *eP* P 10 42 04.5 +0.3
FINES FINESS Array B 66.60 332 P P 10 42 05.0 +0.4
FINES FINESS Array B 66.60 332 P P 10 42 04.8 +0.2
comp=Z,36nm,0.7s,baz=47,slow=8.4,SNR=164
FINES LR LR 11 13 28.5
comp=Z,632nm,19.6s,baz=39,slow=38
comp=Z,36nm,0.7s
LPSR Galich'ya Gora 66.63 320 *eP* P 10 42 03.7 -1.2
LPSR *e**PP **sP** 10 42 16.5 -1.7
LPSR pmax pmax
comp=Z,90nm,0.8s
VAF Ylistaro 66.69 335 *eP* P 10 42 06.0 +1.0
MOR8 Moi Rana 66.87 340 *eP* P 10 42 05.3 -0.8
KONS Konsvik 66.96 340 *eP* P 10 42 07.0 +0.3
VORR Voronezh 67.04 319 *eP* P 10 42 05.8 -1.7
VORR *e**PP **sP** 10 42 18.8 -2.0
VORR pmax pmax
comp=Z,60nm,0.4s
COCO West Island 67.19 230 S S 10 50 51.6 -10
NEW Newport 67.25 45 P P 10 42 09.0 0.0
NEW Newport 67.25 45 P P 10 42 09.4 +0.4
baz=305
NEW Newport 67.25 45 LR LR 11 08 27.6
comp=Z,67nm,21.9s,baz=326,slow=33
NEW Newport 67.25 45 P P 10 42 09.0 0.0
NEW pmax pmax
comp=Z,9.0nm,1.1s
JMIC Jan Mayen 67.33 350 LR LR 11 13 58.7
comp=Z,74nm,18.6s,baz=46,slow=38
VSR Storozhevoye 67.33 318 *eP* P 10 42 07.6 -1.7
VSR *e**PP **pP** 10 42 18.3 -0.8
VSR pmax pmax
comp=Z,40nm,0.8s
MAK Makhachkala 67.40 308 *eP* P 10 42 10.3 +0.4
MAK *e*S **S** 10 51 03.1 -0.3
MAK pmax pmax
comp=Z,76nm,0.8s
MAK MLR MLR
comp=Z,292nm,14.0s
VORD Divnogorie 67.41 318 *eP* P 10 42 08.4 -1.4
VORD *e**PP **pP** 10 42 19.9 +0.3
VORD pmax pmax
comp=Z,40nm,0.7s
INKA Innaminka 67.50 182 P P 10 42 12.9 +2.4
PINE Pine Mountain 67.61 51 IAmb IAmb 10 42 27.4
comp=Z,15nm,0.8s
SUMG Summit 67.64 0 P P 10 42 12.0 +0.6
SUMG Summit 67.64 0 P P 10 42 12.0 +0.6
SUMG pmax pmax
comp=Z,37nm,0.8s
SUMG Summit 67.64 0 *i* P P 10 42 12.0 +0.6
SUMG IAmb IAmb 10 42 13.8
comp=Z,24nm,0.7s
YBH Yreka Blue Hor 67.69 54 LR LR 11 06 35.8
comp=Z,28nm,21.9s,baz=310,slow=31
J05D Fort Rock, OR 67.72 52 P P 10 42 13.6 +1.4
J05D IAmb IAmb 10 42 28.0
comp=Z,16nm,1.0s
OOD Oodnadatta 67.84 187 P P 10 42 14.9 +2.2
NGCH Negor - Chabah 67.99 285 P P 10 42 13.1 -0.8
MEF Metsahovi 68.04 332 *eP* P 10 42 14.2 +0.6
K05A Summer Lake 68.24 52 IAmb IAmb 10 42 31.4
comp=Z,17nm,0.9s
VSU Vasula 68.36 329 *ceP* P 10 42 16.3 +0.7
VSU pmax pmax
comp=Z,50nm,1.0s
RAF Rauma 68.41 333 *eP* P 10 42 15.9 0.0
GOF Gofitskoye 68.84 311 *ceP* P 10 42 20.0 +1.1
UMMG Uummannaq 69.03 5 *i* P P 10 42 19.5 -0.1
UMMG IAmb IAmb 10 42 21.5
comp=Z,7.7nm,0.7s
SCO Scoresbysund 69.19 355 *i* P P 10 42 21.3 +0.7
SCO IAmb IAmb 10 42 22.7
comp=Z,6.4nm,0.8s
MTSE Matsula 69.30 331 *eP* P 10 42 22.6 +1.1
J08A Circle Bar Ran 69.32 50 P P 10 42 22.1 0.0
NCK Nalchik 69.44 310 *eP* P 10 42 22.8 +0.1
NCK pmax pmax
comp=Z,26nm,0.8s
KHAM Kharkiv 69.55 319 P P 10 42 24.4 +1.1
AAL Aland 69.63 333 *eP* P 10 42 23.8 +0.3
KIV Kislovodsk 69.70 311 ⇑ P P 10 42 26.3 +1.9
KIV Kislovodsk 69.70 311 P P 10 42 24.8 +0.5
KIV Kislovodsk 69.70 311 *i* P P 10 42 25.8 +1.4
SNR=16
KIV Kislovodsk 69.70 311 P P 10 42 25.7 +1.4
KIV Kislovodsk 69.70 311 *c* *i* P P 10 42 25.5 +1.2
KIV *i* *PP **sP** 10 42 37.4 -0.4
KIV *i* *SP **pP** 10 42 40.1 +5.9
KIV *i* 10 42 47.5
KIV *e* 10 45 02.4
KIV *e*PPP PPP 10 46 43.7
KIV *i* S S 10 51 19.3 -12
KIV *i* *SS **sS** 10 51 49.1 +2.1
KIV SS **SS** 10 55 54.0 -4.6
KIV SSS SSS 10 59 00.0
KIV pmax pmax
comp=Z,124nm,1.0s
KIV Kislovodsk 69.70 311 P P 10 42 25.6 +1.2
KIV Kislovodsk 69.70 311 P P 10 42 25.8 +1.4
comp=Z,106nm,1.0s,comp=Z,984nm
KBZ Khabaz 69.71 310 P P 10 42 25.4 +1.0
comp=Z,33nm,0.8s,baz=60,slow=5.0,SNR=84
KBZ LR LR 11 15 40.5
comp=Z,348nm,20.3s,baz=36,slow=38
comp=Z,33nm,0.8s
KBZ Khabaz 69.71 310 *ceP* P 10 42 25.3 +1.0
KBZ pmax pmax
comp=Z,40nm,0.9s
MSO Missoula 69.83 45 P P 10 42 26.0 +0.8
baz=308
SHA1 Shidzhatmaz 69.84 311 *ceP* P 10 42 26.7 +1.2
JASK Jask - Hormozg 70.11 287 P P 10 42 25.2 -1.9
LCRK Leigh Creek 70.30 184 P P 10 42 29.8 +2.0
MULG Mulgathing 70.47 188 P P 10 42 33.0 +4.1
IDID Didziasalis 70.49 327 *eP* P 10 42 30.7 +1.8
MNK Minsk 70.55 326 *i* P P 10 42 30.6 +1.3
MNK *i* PPP PPP 10 46 42.5
MNK *i* S **S** 10 51 40.9 +0.6
MNK pmax pmax
comp=Z,64nm,0.9s
MNK pmax pmax
comp=N,18nm,0.8s
MNK pmax pmax
comp=E,13nm,0.9s
MNK MLR MLR
comp=Z,482nm,17.0s
MNK MLR MLR
comp=E,299nm,17.0s
MNK MLR MLR
comp=N,1μm,21.0s
ISAL Salakas 70.57 327 *eP* P 10 42 31.5 +2.2
FFC Flin Flon 70.60 34 P P 10 42 30.1 +0.5
FFC IAmb IAmb 10 42 31.2
comp=Z,12nm,0.8s
FFC Flin Flon 70.60 34 P P 10 42 30.1 +0.5
FFC pmax pmax
comp=Z,12nm,0.8s
FFC Flin Flon 70.60 34 P P 10 42 30.3 +0.7
SLIT Slitere, Latvi 70.64 331 *eP* P 10 42 30.2 +0.5
UPP Uppsala 70.67 334 *eP* P 10 42 30.4 +0.5
GNI Garni 70.72 306 P P 10 42 31.8 +1.0
GNI Garni 70.72 306 P P 10 42 31.1 +0.3
GNI Garni 70.72 306 LR LR 11 16 30.7
comp=Z,399nm,19.2s,baz=86,slow=38
GNI Garni 70.72 306 P P 10 42 30.0 -0.8
GNI Garni 70.72 306 *ceP* P 10 42 32.6 +1.8
GNI pmax pmax
comp=Z,43nm,1.3s
GNI Garni 70.72 306 P P 10 42 32.1 +1.3
GNI Garni 70.72 306 P P 10 42 32.1 +1.3
comp=Z,26nm,0.9s
FCC Fort Churchill 70.82 28 IAmb IAmb 10 42 48.9
comp=Z,22nm,1.1s
WSAR Wadi Sarin 71.08 285 LR LR 11 19 47.4
comp=Z,93nm,18.1s,baz=68,slow=41
WSAR Wadi Sarin 71.08 285 P P 10 42 31.6 -1.4
WSAR S S 10 51 31.8 -16
ICESG Greenland Ices 71.13 1 *i* P P 10 42 32.8 -0.2
ICESG IAmb IAmb 10 42 36.8
comp=Z,39nm,0.9s
JLN Jalan Bani Buh 71.14 283 P P 10 42 34.0 +0.6
WBK Wadi Bani Khal 71.20 284 P P 10 42 34.8 +1.0
SHME Shamm 71.26 289 *i* P P 10 42 34.4 +0.3
SNR=6.4
SHME Shamm 71.26 289 P P 10 42 34.4 +0.3
BIDO Bidbid 71.29 285 P P 10 42 34.7 +0.5
EGMT Eagleton 71.32 43 P P 10 42 34.3 +0.1
EGMT IAmb IAmb 10 42 47.9
comp=Z,17nm,1.0s
EGMT Eagleton 71.32 43 P P 10 42 34.5 +0.3
baz=310
YERR Yerington 71.44 54 IAmb IAmb 10 42 50.7
comp=Z,18nm,1.3s
PABE Paberze 71.49 328 *eP* P 10 42 35.9 +0.9
VSLR Vesyoloye 71.53 312 *i* P P 10 42 35.6 +0.2
VSLR pmax pmax
comp=Z,58nm,0.9s
MOL Molde 71.56 340 *eP* P 10 42 36.6 +1.4
HLID Hailey 71.56 48 P P 10 42 36.1 +0.3
baz=308
DOMB Dombas 71.58 339 *eP* P 10 42 35.9 +0.5
MDH Madha 71.59 288 P P 10 42 36.2 +0.1
STKA Stephens Creek 71.60 181 P P 10 42 38.6 +2.9
STKA Stephens Creek 71.60 181 P P 10 42 35.8 +0.1
comp=Z,1.4nm,0.2s,baz=354,slow=9.2,SNR=4.3
STKA LR LR 11 13 25.0
comp=Z,68nm,21.9s,baz=21,slow=35
comp=Z,1.4nm,0.2s
STKA Stephens Creek 71.60 181 *i* P P 10 42 36.4 +0.7
SMDO Samad 71.62 285 P P 10 42 37.9 +1.5
SOC Sochi 71.64 312 *eP* P 10 42 34.7 -1.3
SOC *e* 10 45 18.5
SOC *e*PPP PPP 10 46 57.2
SOC *e*S **S** 10 51 51.2 -2.0
SOC *e*SS **SS** 10 56 28.3 +0.2
SOC pmax pmax
comp=Z,26nm,0.8s
SOC MLR MLR
comp=Z,259nm,16.0s
MASF Masafi 71.65 288 P P 10 42 35.8 -0.7
MSFE Esma-Masafi 71.65 288 P P 10 42 37.2 +0.7
HFS Hagfors 71.74 336 P P 10 42 36.6 +0.2
comp=Z,40nm,0.6s,baz=44,slow=6.6,SNR=136
HFS LR LR 11 19 27.3
comp=Z,291nm,18.2s,baz=39,slow=40
comp=Z,40nm,0.6s
NB2 NORSAR Subarra 71.78 337 P P 10 42 36.7 0.0
comp=Z,32nm,0.7s,baz=37,slow=6.2
NB2 NORSAR Subarra 71.78 337 P P 10 42 36.7 0.0
baz=37,slow=6.2
NOA NORSAR Array B 71.78 337 P P 10 42 37.0 +0.3
comp=Z,28nm,0.7s,baz=38,slow=6.1,SNR=101
NOA LR LR 11 17 11.1
comp=Z,251nm,20.9s,baz=40,slow=38
comp=Z,28nm,0.7s
BCA Borcka 71.83 309 ⇑ P P 10 42 38.1 +0.7
BOZ Bozeman (W) 71.86 45 IAmb IAmb 10 42 52.8
comp=Z,9.2nm,0.8s
BOZ Bozeman (W) 71.86 45 P P 10 42 37.6 0.0
baz=309
HOQ Hoqain 71.86 286 P P 10 42 37.9 +0.2
UOSS Minazif 71.86 288 P P 10 42 36.7 -1.1
UOSS Minazif 71.86 288 P P 10 42 38.1 +0.4
UOSS Minazif 71.86 288 P P 10 42 38.2 +0.5
UOSS Minazif 71.86 288 P P 10 42 37.8 +0.1
UOSS pP **pP** 10 42 48.7 +1.2
UMQ Umm Al-Quwin 71.92 288 P P 10 42 36.5 -1.5
NC602 NORSAR Array S 71.92 337 IAmb IAmb 10 42 38.5
comp=Z,9.5nm,0.7s
NC602 NORSAR Array S 71.92 337 *eP* P 10 42 37.6 +0.1
SOEG Soedalen 71.95 358 *i* P P 10 42 37.6 +0.2
SOEG IAmb IAmb 10 42 39.5
comp=Z,11nm,0.7s
JMDO Jabal Madar 71.99 284 P P 10 42 38.9 +0.4
HATD Hatta, Dubai 71.99 287 *i* P P 10 42 39.2 +0.7
SNR=7.9
HATD Hatta, Dubai 71.99 287 P P 10 42 39.2 +0.7
VIKU Vikbolandet 72.01 333 *eP* P 10 42 38.9 +0.9
AKN Aaknes 72.03 340 *eP* P 10 42 39.2 +1.1
NAO01 NORSAR Array S 72.03 337 IAmb IAmb 10 42 39.4
comp=Z,23nm,0.8s
SOHO SOHO 72.10 287 P P 10 42 39.6 +0.5
SOHO SOHO 72.10 287 P P 10 42 39.6 +0.5
ASHO Ashiyiah 72.13 287 P P 10 42 40.1 +0.7
ASHO Ashiyiah 72.13 287 P P 10 42 39.6 +0.3
ANN Anapa 72.16 314 *eP* P 10 42 37.0 -2.2
ANN *e**PP **pP** 10 42 48.3 -0.7
ANN *e*S **S** 10 51 53.8 -5.4
ANN pmax pmax
comp=Z,58nm,1.2s
ANN MLR MLR
comp=Z,378nm,16.0s
LHV Little Huntoon 72.34 55 IAmb IAmb 10 42 57.3
comp=Z,23nm,1.4s
NVAR Mina Array Bea 72.36 54 P P 10 42 42.0 +1.2
comp=Z,1.4nm,0.8s,baz=289,slow=5.6,SNR=12
comp=Z,1.4nm,0.8s
FAQ Al Faqa, Dubai 72.43 288 P P 10 42 41.2 +0.1
FAQ Al Faqa, Dubai 72.43 288 P P 10 42 41.4 +0.3
BSY Bisya 72.44 285 P P 10 42 41.6 +0.4
AK03 Malin Array Si 72.50 322 P P 10 42 40.9 -0.2
AKASG Malin Array Be 72.52 322 P P 10 42 41.3 +0.1
AKASG IAmb IAmb 10 42 42.1
comp=Z,13nm,0.8s
AKASG Malin Array Be 72.52 322 P P 10 42 41.5 +0.2
comp=Z,22nm,0.6s,baz=44,slow=5.9,SNR=83
AKASG LR LR 11 17 46.4
comp=Z,385nm,18.3s,baz=49,slow=38
comp=Z,22nm,0.6s
AKASG Malin Array Be 72.52 322 P P 10 42 41.3 +0.1
AKASG pmax pmax
comp=Z,13nm,0.9s
AKBB Malin Array Si 72.52 322 *ceP* P 10 42 41.5 +0.3
AKBB pmax pmax
comp=Z,38nm,0.9s
AKBB Malin Array Si 72.52 322 P P 10 42 41.2 0.0
AK01 Malin Array Si 72.53 322 P P 10 42 41.4 +0.1
KIEV Kiev 72.53 322 ⇑ P P 10 42 41.6 +0.4
KIEV Kiev 72.53 322 P P 10 42 41.4 +0.1
KIEV Kiev 72.53 322 *i* P P 10 42 41.5 +0.3
SNR=17
KIEV Kiev 72.53 322 P P 10 42 41.4 +0.1
KIEV pmax pmax
comp=Z,34nm,0.8s
KIEV Kiev 72.53 322 P P 10 42 41.0 -0.3
comp=Z,212nm,0.9s,comp=Z,2μm

AK04 Malin Array Si 72.53 322 P **P** **10 42 41.3 0.0**
AK09 Malin Array Si 72.55 322 P **P** **10 42 41.3 -0.1**
AK08 Malin Array Si 72.55 322 P **P** **10 42 41.3 -0.1**
ARQ Araqi 72.58 286 P **P** **10 42 42.9 +0.8**
AK07 Malin Array Si 72.63 322 P **P** **10 42 42.0 +0.1**
ASUD Al Ashush, Dub 72.69 288 *i* P **P** **10 42 43.5 +0.8**
SNR=5.6
ASUD Al Ashush, Dub 72.69 288 P **P** **10 42 43.4 +0.7**
ALNE Al Ain 72.72 287 P **P** **10 42 43.4 +0.5**
SNR=5.4
SFJD Kangerlussuaq 72.76 5 LR LR 11 16 09.8
comp=Z,315nm,21.5s,baz=344,slow=37
SFJD Kangerlussuaq 72.76 5 *i* P **P** **10 42 41.6 -0.7**
BBOO Buckleboo 72.79 186 P **P** **10 42 45.0 +2.2**
BBOO Buckleboo 72.79 186 P **P** **10 42 43.1 +0.3**
BBOO **sP** **10 42 55.9 -0.4**
BBOO IAmb IAmb 10 42 56.1
comp=Z,19nm,1.2s
OSL Oslo 72.81 337 *e*P **P** **10 42 43.8 +1.0**
SUW Suwalki 72.88 328 *e*P **P** **10 42 43.5 +0.3**
SUW Suwalki 72.88 328 *e*P **P** **10 42 43.7 +0.4**
SKAR Skarslia 72.91 338 *e*P **P** **10 42 44.3 +0.9**
MHTO MHTO 72.91 283 P **P** **10 42 44.5 +0.5**
SNR=12
AJN Ajban 72.98 288 P **P** **10 42 44.7 +0.3**
FOO Floro 73.02 340 *e*P **P** **10 42 44.9 +1.0**
HYA Hoyanger 73.08 340 *e*P **P** **10 42 45.0 +0.7**
MI28 Mi28,Pidlybu 73.08 323 P **P** **10 42 45.2 +0.6**
SMMC Simmler 73.17 58 P **P** **10 42 46.6 +1.2**
baz=308
H17A Grant Village 73.20 46 IAmb IAmb 10 43 02.2
comp=Z,23nm,1.4s
H17A Grant Village 73.20 46 P **P** **10 42 45.6 -0.1**
baz=310
HTT Hallett 73.23 183 P **P** **10 42 47.9 +2.4**
TPH Tonopah 73.25 54 IAmb IAmb 10 43 01.6
comp=Z,34nm,1.1s
MI29 MI29, Kamyanyy 73.35 323 P **P** **10 42 46.2 0.0**
KONO Kongsberg 73.38 337 P **P** **10 42 46.1 0.0**
KONO IAmb IAmb 10 42 47.6
comp=Z,15nm,0.8s
KONO Kongsberg 73.38 337 *e*P **P** **10 42 46.6 +0.5**
KONO Kongsberg 73.38 337 *ce*P **P** **10 42 46.9 +0.8**
KONO pmax pmax
comp=Z,15nm,0.8s
VES Vestal, Richgr 73.44 57 P **P** **10 42 47.3 +0.4**
baz=308
RLMT Red Lodge 73.44 45 IAmb IAmb 10 43 02.5
comp=Z,24nm,1.8s
RLMT Red Lodge 73.44 45 P **P** **10 42 47.8 +0.7**
baz=311
PKM Mcpherson Peak 73.55 58 P **P** **10 42 47.6 -0.2**
baz=308
DY2G Dye2 73.55 4 *i* P **P** **10 42 47.4 0.0**
DY2G IAmb IAmb 10 42 49.6
comp=Z,25nm,0.7s
SUE Sulen 73.55 340 *e*P **P** **10 42 48.1 +1.0**
RNPP9 Sopachiv 73.56 324 P **P** **10 42 47.8 +0.5**
FRB Frobisher Bay 73.58 14 LR LR 11 18 05.7
comp=Z,348nm,20.4s,baz=4.0,slow=38
RNPP8 Varash 73.63 324 P **P** **10 42 48.6 +0.9**
CWC Cottonwood Cre 73.72 56 P **P** **10 42 48.6 -0.2**
baz=308
LUBAR Lubar, Ukraine 73.74 322 P **P** **10 42 48.8 +0.4**
GRAC Grapevine Rang 73.83 55 IAmb IAmb 10 43 38.4
comp=Z,9.9nm,0.6s
DGMT Dagmar 73.83 40 IAmb IAmb 10 43 03.0
comp=Z,19nm,1.1s
DGMT Dagmar 73.83 40 P **P** **10 42 47.9 -1.1**
baz=313
DQM DQM 73.87 283 P **P** **10 42 51.0 +1.3**
SIM Simferopol' 73.88 316 *e*P **P** **10 42 50.0 +0.7**
SIM pmax pmax
comp=Z,85nm,0.9s
ASK Askoy 73.92 340 *e*P **P** **10 42 50.4 +1.1**
UMZA Um Al Zommool 73.96 286 P **P** **10 42 50.3 +0.1**
BER Bergen 73.97 340 *e*P **P** **10 42 50.7 +1.1**
LAO LASA Array 74.01 42 IAmb IAmb 10 43 04.9
comp=Z,16nm,1.1s
LAO LASA Array 74.01 42 P **P** **10 42 50.2 0.0**
baz=312
ODD1 Odda 74.01 339 *e*P **P** **10 42 50.5 +0.6**
R11B Troy Canyon, C 74.10 53 P **P** **10 42 50.5 -0.5**
baz=309
KAAM Kaadhehdhoo 74.26 257 P **P** **10 42 51.7 -0.3**
JRN Qarnain Island 74.31 289 P **P** **10 42 51.4 -0.8**
MPMC Manual Prospec 74.33 56 P **P** **10 42 53.1 +0.7**
baz=308
OSI Osito Audit: C 74.42 58 P **P** **10 42 52.4 -0.3**
baz=308
BLS5 Blasjo 74.47 338 *e*P **P** **10 42 53.7 +1.1**
FURC Furnace Creek, 74.47 55 P **P** **10 42 52.8 -0.1**
baz=309
DEL Delary 74.55 333 *e*P **P** **10 42 53.6 +0.5**
LRMC Laurel Mtn Rad 74.56 57 P **P** **10 42 54.1 +0.4**
baz=308
DUG Dugway, Tooele 74.60 50 P **P** **10 42 54.4 +0.6**
baz=310
SORM Soroca 74.69 321 ⇑P **P** **10 42 54.2 +0.2**
SORM Soroca 74.69 321 ⇑P **P** **10 42 54.2 +0.2**
SORM Soroca 74.69 321 P **P** **10 42 54.1 +0.2**
comp=Z,56nm,0.9s
EDW2 Edwards Air Fo 74.73 57 P **P** **10 42 55.0 +0.4**
baz=308
SNCC San Nicolas Is 74.74 59 P **P** **10 42 55.0 +0.4**
baz=308
BORG Borgarnes 74.76 353 LR LR 11 17 06.7
comp=Z,38nm,18.3s,baz=5.6,slow=37
GWY Greenwater Val 74.77 56 IAmb IAmb 10 43 13.8
comp=Z,21nm,1.6s
QSM Queen of Sheba 74.78 56 IAmb IAmb 10 43 10.8
comp=Z,19nm,1.2s
BW06 Boulder Array 74.81 47 P **P** **10 42 55.1 -0.1**
baz=311
PDAR Pinedale Array 74.81 47 P **P** **10 42 56.0 +0.8**
PDAR Pinedale Array 74.81 47 P **P** **10 42 55.6 +0.4**
comp=Z,1.1nm,0.6s,baz=279,slow=1.2,SNR=13
comp=Z,1.1nm,0.6s
NDNU Novodnistrovsk 74.84 322 P **P** **10 42 55.2 +0.3**
HORU Horodok 74.86 322 P **P** **10 42 55.4 +0.4**
GHWR Ruwais 74.88 289 P **P** **10 42 55.2 -0.3**
KMY Karmoy 74.98 339 *e*P **P** **10 42 56.3 +0.8**
MZR Muzera 75.02 287 *i* P **P** **10 42 55.8 -0.5**
SNR=7.0
MZR Muzera 75.02 287 P **P** **10 42 56.5 +0.2**
SNR=5.5
PURM Purcari 75.04 319 P **P** **10 42 56.4 +0.4**
comp=Z,78nm,0.6s,comp=Z,4μm
SHMA Al-Shehemyia 75.11 291 P **P** **10 42 56.5 -0.3**
SNART Snartemo 75.16 338 *e*P **P** **10 42 57.6 +1.1**
GSC Goldstone, Bar 75.23 56 P **P** **10 42 57.7 +0.1**
baz=309
KMPD K-Podol'skiy 75.30 322 P **P** **10 42 57.5 0.0**
MILM Milestii Mici 75.30 320 ⇑*i*P **P** **10 42 57.5 0.0**
comp=Z,40nm,0.8s
MILM *e*L L 11 10 48.0
MILM LRM MLR 11 19 11.0
comp=Z,500nm,16.0s
SAKB Bahrain 75.34 292 P **P** **10 42 57.8 -0.4**
BFSC Mount Baldy Ra 75.34 58 P **P** **10 42 58.5 +0.2**
baz=309
CIS Catalina Islan 75.37 59 P **P** **10 42 57.9 -0.4**
baz=309
RRX Edison Barstow 75.38 57 P **P** **10 42 57.8 -0.4**
baz=309
KBD Kabd 75.39 296 P **P** **10 42 58.4 0.0**
DIKM Dikmen 75.40 312 ⇑P **P** **10 42 59.2 +0.9**
DIKM Dikmen 75.40 312 P **P** **10 42 59.9 +1.6**
comp=Z,55nm,1.2s,comp=Z,714nm
NUUK Nuuk 75.45 6 *i* P **P** **10 42 58.0 0.0**
NUUK IAmb IAmb 10 43 00.9
comp=Z,18nm,0.8s
LVV L'vov 75.52 324 *e*P **P** **10 42 59.3 +0.5**
SCI2 San Clemente I 75.55 59 P **P** **10 43 00.0 +0.8**
baz=309
TRNA Turayna 75.61 290 P **P** **10 42 59.2 -0.5**
COP Copenhagen 75.67 334 *i* P **P** **10 42 58.9 -0.6**
COP IAmb IAmb 10 43 01.6
comp=Z,80nm,0.9s
TUQ Turquoise Moun 75.71 56 P **P** **10 43 01.3 +1.0**
baz=309
BBRC Big Bear Solar 75.81 57 P **P** **10 43 01.6 +0.6**
baz=309
HEC Hector,Ludlow 75.83 56 P **P** **10 43 01.3 +0.4**
baz=309

SMRA Abu-Samra 75.89 290 P **P** **10 43 01.1 -0.2**
VASR Vaslui 76.00 320 ⇑P **P** **10 43 02.6 +1.0**
MURC Murrieta 76.04 58 P **P** **10 43 02.8 +0.7**
baz=309
MVU Marysvale 76.04 51 IAmb IAmb 10 43 19.8
comp=Z,39nm,1.5s
MORS Morshin 76.08 324 P **P** **10 43 03.4 +1.4**
STNU Staruna 76.11 323 P **P** **10 43 02.8 +0.6**
MUD Monsted U'grnd 76.12 336 *i* P **P** **10 43 02.0 0.0**
MUD IAmb IAmb 10 43 04.1
comp=Z,12nm,0.7s
KSV Kosov 76.13 322 P **P** **10 43 02.1 -0.2**
RDMU Red Mountain 76.25 48 IAmb IAmb 10 43 15.0
comp=Z,9.6nm,0.9s
KWP Kalwaria Pacla 76.25 325 *e*P **P** **10 43 04.7 +1.7**
KWP Kalwaria Pacla 76.25 325 P **P** **10 43 04.5 +1.5**
comp=Z,74nm,1.1s
SHIU Shidnytsya 76.26 324 P **P** **10 43 04.3 +1.3**
GMRC Granite Mounta 76.29 56 P **P** **10 43 04.8 +1.2**
baz=310
MTPU Mount Pierson 76.36 52 IAmb IAmb 10 43 42.0
comp=Z,24nm,1.8s
NWAO Narrogin (SRO) 76.38 202 LR LR 11 16 02.6
comp=Z,54nm,21.1s,baz=196,slow=35
ULM Lac du Bonnet 76.40 34 P **P** **10 43 03.2 -0.6**
comp=Z,4.0nm,0.8s,baz=306,slow=5.7,SNR=12
comp=Z,4.0nm,0.8s
ULM Lac du Bonnet 76.40 34 *i* P **P** **10 43 02.3 -1.5**
VLDR Vladesti 76.41 319 ⇑P **P** **10 43 04.1 +0.2**
SHAO Shalim 76.46 282 P **P** **10 43 04.8 +0.1**
MDND Maddock 76.47 38 P **P** **10 43 05.4 +1.2**
baz=316
PFO Pinyon Flats O 76.51 57 P **P** **10 43 05.6 +0.7**
baz=309
TPFO Pinon Flats 76.52 57 P **P** **10 43 05.8 +0.9**
baz=309
BURAR Bucovina Array 76.56 322 ⇑P **P** **10 43 05.8 +0.9**
BURAR Bucovina Array 76.56 322 P **P** **10 43 05.6 +0.8**
BURAR Bucovina Array 76.56 322 ⇑P **P** **10 43 05.8 +0.9**
K22A Casper 76.56 45 P **P** **10 43 05.7 +0.7**
baz=313
SCTR Scanteiesti 76.57 319 ⇑P **P** **10 43 05.0 +0.2**
GHRR 76.59 320 ⇓P **P** **10 43 05.5 +0.5**
GHRR 76.59 320 P **P** **10 43 06.8 +1.9**
TESR Tescani 76.65 320 ⇑P **P** **10 43 06.2 +0.9**
TESR Tescani 76.65 320 P **P** **10 43 05.8 +0.5**
comp=Z,57nm,0.9s,comp=Z,486nm
MEZ Mezhgor'ye 76.70 323 P **P** **10 43 06.7 +1.2**
NEGRR Negrea 76.73 319 ⇑P **P** **10 43 06.3 +0.6**
RAKU Rahkiv 76.75 323 P **P** **10 43 05.5 -0.3**
SCHLR Schela 76.80 319 ⇑P **P** **10 43 07.5 +1.4**
CFR Carcaliu 76.85 319 ⇑P **P** **10 43 06.9 +0.5**
CFR Carcaliu 76.85 319 ⇑P **P** **10 43 06.9 +0.5**
RSSD Black Hills 76.89 43 P **P** **10 43 07.1 +0.2**
RSSD Black Hills 76.89 43 P **P** **10 43 07.1 +0.2**
baz=314
RSSD Black Hills 76.89 43 P **P** **10 43 07.1 +0.2**
RSSD pmax pmax
comp=Z,5.0nm,0.8s
TPGR Topolog 76.93 318 ⇑P **P** **10 43 07.9 +1.0**
KOLS Kolonicke sedl 76.96 324 *e*P **P** **10 43 08.0 +1.0**
KOLS Kolonicke sedl 76.96 324 *e*P **P** **10 43 08.0 +1.0**
KOLS pmax pmax
comp=Z,19nm,0.8s
ODBI Odobesti 76.98 320 ⇑P **P** **10 43 08.7 +1.6**
ODBI Odobesti 76.98 320 P **P** **10 43 09.2 +2.1**
comp=Z,42nm,0.8s,comp=Z,522nm
MONP2 Monument Peak 76.99 58 P **P** **10 43 07.4 -0.3**
baz=310
IRM Iron Mountain 77.01 56 P **P** **10 43 07.8 +0.2**
baz=310
BRIU Brid 77.06 324 P **P** **10 43 08.6 +1.1**
STHS Stebnicka Huta 77.06 325 *e*P **P** **10 43 08.4 +0.9**
STHS Stebnicka Huta 77.06 325 *e*P **P** **10 43 08.4 +0.9**
STHS pmax pmax
comp=Z,15nm,0.7s
VRI Vrincioaia 77.07 320 ⇑P **P** **10 43 08.7 +1.0**
VRI Vrincioaia 77.07 320 ⇑P **P** **10 43 08.7 +1.0**
VRI Vrincioaia 77.07 320 P **P** **10 43 08.9 +1.2**
comp=Z,25nm,1.0s,comp=Z,332nm
OJC Ojcow 77.08 326 *e*P **P** **10 43 08.7 +1.0**
OJC *ep*P **sP** **10 43 20.7 -0.4**
OJC Ojcow 77.08 326 P **P** **10 43 08.3 +0.7**
PLOR Plostina 77.12 320 ⇑P **P** **10 43 08.8 +0.8**
PLOR Plostina 77.12 320 ⇑P **P** **10 43 08.8 +0.8**
BC3 Big Chuckawall 77.14 57 P **P** **10 43 09.0 +0.6**
baz=310
DMTO DMTO 77.15 282 P **P** **10 43 08.3 -0.2**
DOK Doka 77.21 284 P **P** **10 43 08.6 -0.3**
SNR=6.2
HARR Harsova 77.29 318 ⇑P **P** **10 43 09.1 +0.2**
HARR Harsova 77.29 318 ⇑P **P** **10 43 09.1 +0.2**
O20A White River Ci 77.30 48 P **P** **10 43 09.2 -0.1**
baz=312
BISRR Bisoca 77.30 320 ⇑P **P** **10 43 09.3 +0.3**
COVR Voineasa-Covas 77.34 320 ⇑P **P** **10 43 10.2 +0.9**
CRVS Cervenica-Dubn 77.34 325 *e*P **P** **10 43 10.2 +1.1**
CRVS Cervenica-Dubn 77.34 325 *e*P **P** **10 43 10.2 +1.1**
CRVS pmax pmax
comp=Z,19nm,1.0s
ARCR ARCALIA 77.35 322 ⇑P **P** **10 43 10.8 +1.6**
IKP In-Ko-Pah, Jac 77.35 58 P **P** **10 43 10.2 +0.6**
baz=310
OZUR 77.37 321 ⇑P **P** **10 43 10.3 +0.9**
BOSR Bodos 77.44 321 ⇑P **P** **10 43 11.0 +1.2**
NIE Niedzica 77.47 326 *e*P **P** **10 43 11.4 +1.6**
PDMCI Parker Dam,Lak 77.56 56 P **P** **10 43 11.6 +1.1**
baz=310
BR131 Keskin Array S 77.60 312 IAmb IAmb 10 43 12.1
comp=Z,13nm,0.8s
BR131 Keskin Array S 77.60 312 P **P** **10 43 11.7 +0.8**
SNR=11
BR131 Keskin Array S 77.60 312 *i* P **P** **10 43 10.1 -0.8**
BRTR Keskin Array B 77.60 312 P **P** **10 43 11.1 +0.2**
BRTR Keskin Array B 77.60 312 P **P** **10 43 11.6 +0.7**
comp=Z,9.2nm,0.8s,baz=72,slow=4.0,SNR=35
BRTR PP **PP** **10 46 06.6 +1.0**
comp=Z,1.2nm,0.8s,baz=75,slow=6.1,SNR=2.4
BRTR LR LR 11 22 06.5
comp=Z,230nm,19.3s,baz=0.5,slow=39
comp=Z,9.2nm,0.8s
BRTR Keskin Array B 77.60 312 P **P** **10 43 11.1 +0.2**
DOPR Dopca 77.65 321 ⇑P **P** **10 43 12.7 +1.8**
ISR Istrita 77.69 319 ⇑P **P** **10 43 12.3 +1.1**
ISR Istrita 77.69 319 ⇑P **P** **10 43 12.3 +1.1**
MLR Muntele Rosu 77.72 320 ⇓P **P** **10 43 12.1 +0.6**
MLR Muntele Rosu 77.72 320 IAmb IAmb 10 43 14.2
comp=Z,14nm,1.1s
MLR Muntele Rosu 77.72 320 ⇓P **P** **10 43 12.1 +0.6**
ICOR Ion Corvin 77.76 318 ⇑P **P** **10 43 12.8 +1.3**
AGMN Agassiz Nation 77.86 36 IAmb IAmb 10 43 25.3
comp=Z,12nm,1.2s
AGMN Agassiz Nation 77.86 36 P **P** **10 43 11.8 -0.2**
baz=318
WHFO Wadi Hawf 77.91 283 P **P** **10 43 12.3 -0.5**
ANTO Ankara 77.98 312 ⇑P **P** **10 43 14.0 +1.0**
ANTO Ankara 77.98 312 P **P** **10 43 14.0 +1.0**
ANTO Ankara 77.98 312 P **P** **10 43 13.7 +0.8**
ANTO Ankara 77.98 312 ⇑P **P** **10 43 14.0 +1.0**
LANS Liptovska Anna 78.03 326 *e*P **P** **10 43 15.0 +2.0**
LANS Liptovska Anna 78.03 326 *e*P **P** **10 43 15.0 +2.0**
LANS pmax pmax
comp=Z,10.0nm,1.0s
OKC Ostrava-Krasne 78.07 327 AMS AMS 11 20 20.0
comp=Z,500nm,20.5s
N23A Red Feather La 78.07 46 IAmb IAmb 10 43 30.8
comp=Z,13nm,1.2s
N23A Red Feather La 78.07 46 P **P** **10 43 13.5 -0.2**
baz=313
VOIR 78.20 320 ⇑P **P** **10 43 14.7 +0.7**
VOIR 78.20 320 ⇑P **P** **10 43 14.7 +0.7**
MARR Marisel-Cluj 78.22 322 ⇑P **P** **10 43 14.6 +0.4**
OSTC Ostas 78.30 328 AMS AMS 11 20 30.0
comp=Z,500nm,19.2s
CHVC Chvalec 78.34 329 *e*P **P** **10 43 16.1 +1.4**
CHVC Chvalec 78.34 329 *e*P **P** **10 43 16.1 +1.4**
MORC Moravsky Berou 78.36 327 ⇑P **P** **10 43 15.5 +0.7**
MORC Moravsky Berou 78.36 327 *e*P **P** **10 43 15.7 +0.9**
MORC Moravsky Berou 78.36 327 ⇑P **P** **10 43 15.5 +0.7**
DPC Dobruska-Polom 78.42 328 AMS AMS 11 20 40.0
comp=Z,400nm,14.8s
UPC Upice 78.42 328 AMS AMS 11 20 10.0
comp=Z,400nm,16.7s
KRLC Kraliky 78.45 328 *e*P **P** **10 43 16.5 +1.2**

KRLC AMS AMS 11 20 40.0
comp=Z,500nm,22.7s
KRLC Kraliky 78.45 328 *e*P **P** **10 43 16.5 +1.2**
KRLC MLR MLR
comp=Z,500nm,22.7s
WUAZ Wupatki 78.50 53 P **P** **10 43 16.8 +0.8**
baz=311
MCD Coleburn Disti 78.59 342 *e*P **P** **10 43 16.1 +0.2**
ABTO Aybut 78.61 283 P **P** **10 43 16.4 -0.4**
SNR=9.1
IVI Ivigtut 78.67 5 *i* P **P** **10 43 15.3 -1.0**
IVI IAmb IAmb 10 43 17.8
comp=Z,9.7nm,0.7s
PSZ Piszkesteto 78.77 325 ⇑P **P** **10 43 17.6 +0.4**
PSZ Piszkesteto 78.77 325 IAmb IAmb 10 43 19.5
comp=Z,34nm,1.1s
PSZ Piszkesteto 78.77 325 ⇑P **P** **10 43 17.6 +0.4**
VYHS Vyhne 78.80 326 *e*P **P** **10 43 18.4 +1.2**
VYHS Vyhne 78.80 326 *e*P **P** **10 43 18.4 +1.2**
VYHS pmax pmax
comp=Z,15nm,0.9s
LOT Lotru 78.81 321 ⇑P P 10 43 11.3 -6.2
NRS Narsarsuaq 78.89 4 *i* P **P** **10 43 17.0 -0.4**
NRS IAmb IAmb 10 43 18.9
comp=Z,11nm,1.1s
BRG Berggiesshubel 78.95 330 *i* P **P** **10 43 18.8 +0.9**
BRG Amp 10 43 19.8
comp=Z,10nm,0.9s
BRG Berggiesshubel 78.95 330 P P 10 43 26.1 +8.1
BRG Amp 10 43 28.3
comp=Z,6.0nm,0.9s
CLL Collm 78.96 331 IAmb IAmb 10 43 19.4
comp=Z,26nm,0.9s
CLL Collm 78.96 331 ⇑*i*P **P** **10 43 18.4 +0.4**
comp=Z,28nm,0.9s
CLL *i* pP **sP** **10 43 30.7 -0.8**
CLL *i* x x 10 43 38.8
CLL Collm 78.96 331 ⇑*i*P **P** **10 43 18.4 +0.4**
CLL *i* *PP **sP** **10 43 30.7 -0.8**
CLL pmax pmax
comp=Z,28nm,0.9s
PVCC Panska Ves 78.98 329 *ep*P **pP** **10 43 31.0 +2.9**
PVCC AMS AMS 11 21 10.0
comp=Z,500nm,17.9s
PVCC Panska Ves 78.98 329 *e*P P 10 43 31.0 +13
PVCC MLR MLR
comp=Z,500nm,17.9s
ISCO Idaho Springs 79.01 47 P **P** **10 43 20.0 +1.1**
baz=314
JAVC Velka Javorina 79.02 327 *e*P **P** **10 43 20.3 +1.8**
MVCO Mesa Verde 79.11 50 P **P** **10 43 20.6 +1.2**
baz=312
RICC Richard 79.15 330 *e*P **P** **10 43 21.4 +2.3**
BRIGG Briggsdale 79.18 46 P **P** **10 43 19.6 -0.1**
BRIGG **sP** **10 43 33.2 +0.1**
BRIGG IAmb IAmb 10 43 35.0
comp=Z,16nm,1.1s
SIRR Siria 79.21 323 ⇑P **P** **10 43 20.4 +0.9**
SUSD Miller 79.23 40 P **P** **10 43 21.2 +1.5**
baz=317
GZR Gura Zlata 79.33 322 ⇑P **P** **10 43 20.7 +0.5**
GZR Gura Zlata 79.33 322 P **P** **10 43 20.8 +0.5**
HSKC Hora Svate Kat 79.36 330 *e*P **P** **10 43 21.3 +1.0**
HSKC AMS AMS 11 21 30.0
comp=Z,300nm,17.1s
KPL Plockton 79.36 343 ⇑*e*P **P** **10 43 20.9 +0.9**
KPL IAmb IAmb 10 43 21.8
comp=Z,36nm,1.0s
SURR Surduc 79.37 322 ⇑P **P** **10 43 21.1 +0.7**
GOPC GO Pecny, Ondr 79.38 329 *e*P **P** **10 43 21.8 +1.4**
GOPC GO Pecny, Ondr 79.38 329 *e*P **P** **10 43 21.8 +1.4**
SMOL Smolenice 79.39 326 *e*P **P** **10 43 22.0 +1.6**
SMOL pmax pmax
comp=Z,16nm,1.2s
KRUC Moravsky 79.39 327 *e*P **P** **10 43 21.2 +0.8**
PRA Prague 79.39 329 AMS AMS 11 21 20.0
comp=Z,500nm,18.3s
PRU Pruhonice 79.42 329 *e*P **P** **10 43 21.7 +1.2**
PRU AMS AMS 11 21 10.0
comp=Z,500nm,22.8s
PRU Pruhonice 79.42 329 *e*P **P** **10 43 21.7 +1.2**
PRU MLR MLR
comp=Z,500nm,22.8s
F33A 5 Mile Ranch, 79.49 38 IAmb IAmb 10 43 34.9
comp=Z,16nm,1.2s
SRO Srobarova 79.54 326 *e*P **P** **10 43 23.2 +1.9**
SRO Srobarova 79.54 326 *e*P **P** **10 43 23.2 +1.9**
MODS Modra-Piesok 79.56 326 *e*P **P** **10 43 22.9 +1.5**
MODS Modra-Piesok 79.56 326 *e*P **P** **10 43 22.9 +1.5**
MODS pmax pmax
comp=Z,51nm,1.2s
TREC Trest 79.58 328 AMS AMS 11 21 10.0
comp=Z,500nm,20.2s
ELND Elena 79.59 318 ⇑P **P** **10 43 21.7 +0.1**
BZS Buzias 79.71 322 ⇑P **P** **10 43 22.4 +0.2**
BZS Buzias 79.71 322 ⇑P **P** **10 43 22.4 +0.2**
ZST Bratislava 79.77 326 *e*P **P** **10 43 24.4 +1.9**
ZST Bratislava 79.77 326 *e*P **P** **10 43 24.4 +1.9**
Q24A Divide 79.84 47 P **P** **10 43 24.0 +0.5**
baz=314
HERR Herculane 79.88 321 ⇑P **P** **10 43 23.7 +0.5**
214A Organ Pipe Nat 79.93 57 P **P** **10 43 24.8 +1.1**
baz=311
ZVC Zvikov 79.99 329 *e*P **P** **10 43 24.8 +1.1**
EYMN Ely 80.03 34 IAmb IAmb 10 43 40.0
comp=Z,12nm,1.1s
EYMN Ely 80.03 34 P **P** **10 43 24.8 +0.8**
baz=321
OGNE Ogallala 80.17 44 P **P** **10 43 26.4 +1.5**
baz=315
K30B Basset 80.19 42 IAmb IAmb 10 43 39.8
comp=Z,27nm,1.1s
VALD Valchedram 80.26 320 P **P** **10 43 26.4 +1.2**
MDVR Moldovita 80.29 322 ⇑P **P** **10 43 25.5 +0.1**
LAWE Loch Awe, Argy 80.29 343 ⇑*e*P **P** **10 43 25.9 +0.8**
LAWE IAmb IAmb 10 43 26.8
comp=Z,37nm,1.2s
MPEP Malo Peshtene 80.36 320 P **P** **10 43 26.3 +0.5**
CKRC Cesky Krumlov 80.44 328 *e*P **P** **10 43 27.1 +1.0**
CKRC AMS AMS 11 21 50.0
comp=Z,400nm,19.9s
CKRC Cesky Krumlov 80.44 328 *e*P **P** **10 43 27.1 +1.0**
CKRC MLR MLR
comp=Z,400nm,19.9s
RAYN Ar Rayn 80.45 293 P **P** **10 43 26.5 -0.2**
RAYN IAmb IAmb 10 43 27.2
comp=Z,13nm,0.8s
RAYN Ar Rayn 80.45 293 *i* P **P** **10 43 26.4 -0.2**
SNR=9.9
RAYN Ar Rayn 80.45 293 P **P** **10 43 26.8 +0.2**
RAYN Ar Rayn 80.45 293 P **P** **10 43 26.5 -0.2**
RAYN pmax pmax
comp=Z,13nm,0.9s
KHC Kasperske Hory 80.48 329 IAmb IAmb 10 43 28.5
comp=Z,25nm,0.8s
KHC Kasperske Hory 80.48 329 *e*P **P** **10 43 27.3 +0.9**
KHC *ep*P **sP** **10 43 40.3 +0.4**
KHC AMS AMS 11 21 40.0
comp=Z,400nm,15.9s
KHC Kasperske Hory 80.48 329 *ce*P **P** **10 43 27.5 +1.1**
KHC pmax pmax
comp=Z,90nm,1.3s
SDCO Great Sand Dun 80.48 48 P **P** **10 43 27.5 +0.5**
baz=314
PGBU Glenifferbraes 80.49 342 *e*P **P** **10 43 27.6 +1.4**
PGBU IAmb IAmb 10 43 28.1
comp=Z,49nm,0.8s
RONA Rosalia, Austr 80.50 327 *i* P **P** **10 43 28.0 +1.5**
comp=Z,28nm,0.9s,SNR=11
CONA Conrad Observa 80.50 327 *i* P **P** **10 43 27.9 +1.3**
comp=Z,23nm,1.0s,SNR=8.4
EKA Eskdalemuir Ar 80.60 341 P **P** **10 43 27.5 +0.7**
comp=Z,5.0nm,0.5s,baz=28,slow=4.8,SNR=29
EKA PP **PP** **10 46 28.5 -1.3**
comp=Z,1.1nm,0.7s,baz=31,slow=7.7,SNR=3.5
comp=Z,5.0nm,0.5s
ESK Eskdalemuir 80.62 341 ⇑*e*P **P** **10 43 27.5 +0.5**
ESK IAmb IAmb 10 43 28.4
comp=Z,11nm,0.7s
ESK Eskdalemuir 80.62 341 P **P** **10 43 27.7 +0.7**
ESK IAmb IAmb 10 46 14.5
comp=Z,60nm,1.8s
ESK Eskdalemuir 80.62 341 P **P** **10 43 27.7 +0.7**
ESK pmax pmax
comp=Z,60nm,1.8s

GEC2	**GERESS Array S**	**80.66**	**329**		IAmb	IAmb	10 43 29.0		
	comp=Z,15nm,1.0s								
GERES	**GERESS Array B**	**80.66**	**329**		P	**P**	**10 43 27.9**	**+0.5**	
GERES	**GERESS Array B**	**80.66**	**329**		P	**P**	**10 43 28.2**	**+0.8**	
	comp=Z,7.6nm,0.8s,baz=34,slow=5.0,SNR=19								
GERES					LR	LR	11 22 20.8		
	comp=Z,384nm,20.1s,baz=48,slow=38								
	comp=Z,7.6nm,0.8s								
GERES	**GERESS Array B**	**80.66**	**329**		P	**P**	**10 43 27.9**	**+0.5**	
BLKB	**Belogradchik**	**80.69**	**320**	⇑	P	**P**	**10 43 27.9**	**+0.4**	
EDMD	**Edmundbyers**	**80.75**	**340**	⇑	*e*P	**P**	**10 43 28.0**	**+0.4**	
EDMD						IAmb	IAmb	10 43 31.1	
	comp=Z,14nm,0.8s								
KDZ	**Kurdzhali**	**80.80**	**318**		*i* P	**P**	**10 43 28.4**	**+0.2**	
FRGS	**Fruska Gora**	**80.90**	**323**	⇑	P	**P**	**10 43 28.8**	**+0.2**	
ECSD	**EROS Data Cent**	**80.90**	**39**		P	**P**	**10 43 29.1**	**+0.4**	
	baz=318								
TUC	**Tucson**	**80.98**	**55**		P	**P**	**10 43 30.6**	**+1.1**	
	baz=312								
MMAI	**Mount Meron Ar**	**81.03**	**306**		P	**P**	**10 43 30.6**	**+0.9**	
	comp=Z,21nm,0.9s,baz=37,slow=5.7,SNR=14								
MMAI					LR	LR	11 23 31.7		
	comp=Z,373nm,19.3s,baz=338,slow=39								
	comp=Z,21nm,0.9s								
RDO	**Rodhopi**	**81.05**	**317**		IAmb	IAmb	10 43 31.6		
	comp=Z,33nm,1.0s								
NEWG	**New Galloway**	**81.06**	**342**		*e*P	**P**	**10 43 29.9**	**+0.7**	
NEWG					IAmb	IAmb	10 43 31.2		
	comp=Z,18nm,1.2s								
RAR	**Rarotonga**	**81.14**	**127**		LR	LR	11 12 37.6		
	comp=Z,192nm,21.3s,baz=256,slow=31								
BOVS	**Bovan**	**81.15**	**321**	⇑	P	**P**	**10 43 29.8**	**-0.2**	
VTS	**Vitosha**	**81.15**	**319**		*i* P	**P**	**10 43 30.6**	**+0.4**	
ARSA	**Arzberg**	**81.17**	**327**		*i* P	**P**	**10 43 31.2**	**+1.1**	
	comp=Z,8.8nm,0.8s								
KSCO	**Kaye Shedlock'**	**81.21**	**46**		P	**P**	**10 43 31.3**	**+0.7**	
	baz=315								
GAL1	**Galloway**	**81.40**	**342**	⇑	*e*P	**P**	**10 43 31.8**	**+0.7**	
GAL1					IAmb	IAmb	10 43 32.5		
	comp=Z,32nm,0.9s								
T25A	**Trinidad**	**81.53**	**48**		P	**P**	**10 43 33.3**	**+0.8**	
	baz=315								
CLGH	**Cloghs, Cushen**	**81.53**	**342**	⇑	*e*P	**P**	**10 43 32.6**	**+0.8**	
CLGH					IAmb	IAmb	10 43 33.6		
	comp=Z,27nm,0.9s								
SPMN	**Marine on St.**	**81.56**	**36**		P	**P**	**10 43 32.2**	**+0.1**	
	baz=320								
BIOA	**Bad Ischl, Aus**	**81.61**	**328**		*i* P	**P**	**10 43 33.4**	**+1.1**	
	comp=Z,12nm,0.6s,SNR=8.2								
MMB	**Musomishta**	**81.68**	**318**		P	**P**	**10 43 33.2**	**+0.3**	
KKB	**Krupnik**	**81.78**	**319**		*i* P	**P**	**10 43 34.9**	**+1.5**	
GROS	**Grobnik**	**81.80**	**326**		*i* P	**P**	**10 43 33.9**	**+0.3**	
PERS	**Pernice**	**81.83**	**327**		*i* P	**P**	**10 43 34.2**	**+0.6**	
SOKA	**Soboth**	**81.83**	**327**		*i* P	**P**	**10 43 34.4**	**+0.7**	
	comp=Z,38nm,1.0s,SNR=13								
ANMO	**Albuquerque**	**81.86**	**51**		P	**P**	**10 43 35.2**	**+1.1**	
ANMO	**Albuquerque**	**81.86**	**51**		P	**P**	**10 43 35.4**	**+1.3**	
	baz=314								
ANMO	**Albuquerque**	**81.86**	**51**		LR	LR	11 14 53.3		
	comp=Z,51nm,21.5s,baz=67,slow=32								
ANMO	**Albuquerque**	**81.86**	**51**		P	**P**	**10 43 35.2**	**+1.1**	
ANMO					pmax	pmax			
	comp=Z,7.0nm,1.2s								
DUN6	**Lazy B Ranch**	**81.88**	**54**		IAmb	IAmb	10 43 56.9		
	comp=Z,16nm,0.9s								
LBWR	**Ladybower, Pea**	**81.96**	**339**	⇑	*e*P	**P**	**10 43 34.8**	**+0.7**	
LBWR					IAmb	IAmb	10 43 35.8		
	comp=Z,49nm,0.9s								
BTNL	**Ternell**	**82.02**	**334**		*d*P	**P**	**10 43 34.9**	**+0.4**	
	comp=Z,12nm,1.0s								
MEM	**Membach**	**82.05**	**334**		*d*P	**P**	**10 43 35.5**	**+0.9**	
	comp=Z,12nm,1.0s								
GOLS	**Golise**	**82.11**	**326**		*i* P	**P**	**10 43 35.3**	**+0.3**	
SCHQ	**Schefferville**	**82.13**	**17**		P	**P**	**10 43 35.5**	**+0.5**	
	comp=Z,5.3nm,0.7s,baz=353,slow=6.5,SNR=9.7								
SCHQ					LR	LR	11 21 51.7		
	comp=Z,130nm,21.6s,baz=286,slow=37								
	comp=Z,5.3nm,0.7s								
OBKA	**Obir**	**82.17**	**327**		*i* P	**P**	**10 43 36.1**	**+0.7**	
	comp=Z,15nm,0.7s								
Y22D	**IRIS PASSCAL I**	**82.18**	**52**		P	**P**	**10 43 35.2**	**-0.6**	
	baz=314								
Y22F	**Passcal Instru**	**82.18**	**52**		P	**P**	**10 43 35.4**	**-0.4**	
	baz=314								
LESA	**Schwarzleotal**	**82.21**	**328**		*i* P	**P**	**10 43 36.6**	**+1.0**	
	comp=Z,25nm,1.0s								
I37A	**Lemond, Waseca**	**82.21**	**37**		IAmb	IAmb	10 43 36.8		
	comp=Z,10nm,0.8s								
KBA	**Koelnbreinsper**	**82.22**	**328**		*e*P	**P**	**10 43 37.5**	**+1.7**	
	comp=Z,27nm,1.0s,SNR=12								
BCLA	**Clavier**	**82.44**	**334**		*d*P	**P**	**10 43 36.9**	**+0.3**	
MYKA	**Terra Mystica**	**82.45**	**327**		*e*P	**P**	**10 43 37.1**	**+0.2**	
	comp=Z,12nm,0.7s,SNR=5.1								
BGES	**Gesves**	**82.55**	**334**		*d*P	**P**	**10 43 37.5**	**+0.3**	
	comp=Z,13nm,1.0s								
319A	**Douglas**	**82.56**	**55**		IAmb	IAmb	10 43 55.2		
	comp=Z,12nm,1.1s								
PRED	**Cave del Predi**	**82.63**	**327**		IAmb	IAmb	10 43 38.5		
	comp=Z,16nm,0.7s								
G40A	**Rib Lake**	**82.68**	**35**		P	**P**	**10 43 37.7**	**-0.3**	
G40A						**sP**	**10 43 50.5**	**-1.1**	
RCHB	**Rochefort**	**82.69**	**334**		*d*P	**P**	**10 43 38.6**	**+0.6**	
	comp=Z,9.6nm,1.1s								
121A	**Cookes Peak, D**	**82.70**	**53**		P	**P**	**10 43 39.0**	**+0.4**	
	baz=313								
WATA	**Walderalm**	**82.72**	**329**		*i* P	**P**	**10 43 39.3**	**+1.0**	
	comp=Z,22nm,1.2s								
BMRD	**Maredsous**	**82.72**	**334**		*d*P	**P**	**10 43 38.1**	**0.0**	
WTTA	**Wattenberg**	**82.75**	**329**		*i* P	**P**	**10 43 39.7**	**+1.1**	
	comp=Z,16nm,0.8s,SNR=5.7								
FOEL	**Foel Wylfa**	**82.81**	**340**	⇑	*e*P	**P**	**10 43 39.5**	**+0.9**	
FOEL					IAmb	IAmb	10 43 41.2		
	comp=Z,55nm,0.8s								
ABTA	**Abfaltersbach**	**82.82**	**328**		*i* P	**P**	**10 43 38.7**	**-0.1**	
	comp=Z,13nm,1.2s								
MOTA	**Moosalm**	**82.90**	**329**		*i* P	**P**	**10 43 40.1**	**+0.8**	
	comp=Z,32nm,1.0s,SNR=9.1								
RETA	**Reutte**	**82.92**	**329**		*e*P	**P**	**10 43 40.3**	**+1.0**	
	comp=Z,25nm,0.9s,SNR=8.3								
CBKS	**Cedar Bluff**	**82.92**	**44**		P	**P**	**10 43 39.1**	**-0.3**	
	baz=317								
DOU	**Dourbes**	**82.96**	**334**		*d*P	**P**	**10 43 39.4**	**+0.1**	
	comp=Z,6.4nm,1.2s								
SQTA	**Sankt Quirin**	**82.96**	**329**		*i* P	**P**	**10 43 40.3**	**+0.7**	
	comp=Z,18nm,1.1s,SNR=5.5								
LLW	**Llanuwchllyn**	**82.97**	**340**		*e*P	**P**	**10 43 39.8**	**+0.5**	
LLW					IAmb	IAmb	10 43 42.2		
	comp=Z,7.8nm,0.9s								
BAIF	**Baives**	**83.12**	**335**		P	**P**	**10 43 40.0**	**-0.2**	
BFO	**Black Forest**	**83.14**	**331**		P	**P**	**10 43 40.3**	**-0.1**	
BFO					IAmb	IAmb	10 43 41.5		
	comp=Z,14nm,0.8s								
BFO	**Black Forest**	**83.14**	**331**		P	**P**	**10 43 40.3**	**-0.1**	
BFO					pmax	pmax			
	comp=Z,14nm,0.8s								
PDG	**Podgorica**	**83.23**	**322**	⇑	P	**P**	**10 43 41.4**	**+0.5**	
FETA	**Feichten**	**83.31**	**329**		*i* P	**P**	**10 43 42.1**	**+0.7**	
	comp=Z,16nm,1.1s,SNR=6.5								
DAVA	**Damuels**	**83.42**	**330**		*i* P	**P**	**10 43 42.8**	**+0.7**	
	comp=Z,32nm,1.0s,SNR=8.0								
FNA	**Florina**	**83.44**	**319**		IAmb	IAmb	10 43 43.3		
	comp=Z,16nm,1.0s								
N35A	**Tabor**	**83.53**	**41**		IAmb	IAmb	10 43 44.0		
	comp=Z,19nm,0.8s								
EIL	**Elat**	**83.57**	**303**		LR	LR	11 25 47.5		
	comp=Z,192nm,18.9s,baz=65,slow=39								
MONM	**Monmouth**	**83.66**	**339**		*e*P	**P**	**10 43 43.8**	**+0.9**	
MONM					IAmb	IAmb	10 43 44.0		
	comp=Z,23nm,0.9s								
ECH	**Echery**	**83.67**	**332**		IAmb	IAmb	10 43 44.8		
	comp=Z,13nm,0.8s								
CTI	**Castel Tesino**	**83.74**	**328**		IAmb	IAmb	10 43 44.0		
	comp=Z,22nm,1.0s								
DAVOX	**Davos/Dischmat**	**83.84**	**330**		LR	LR	11 26 28.2		
	comp=Z,364nm,18.1s,baz=74,slow=40								
SCIA	**State Center**	**83.92**	**38**		P	**P**	**10 43 44.5**	**0.0**	
	baz=320								
APE	**Apeiranthos**	**84.00**	**314**	⇑	P	**P**	**10 43 44.1**	**-0.9**	
APE	**Apeiranthos**	**84.00**	**314**	⇑	P	**P**	**10 43 44.1**	**-0.9**	
RSBS	**Rosebush, Pemb**	**84.06**	**340**		*e*P	**P**	**10 43 45.2**	**+0.2**	
URZ	**Urewera**	**84.09**	**153**		LR	LR	11 16 46.3		
	comp=Z,143nm,19.2s,baz=30,slow=32								
HINF	**Hinteralfeld**	**84.11**	**332**		*e*P	**P**	**10 43 45.0**	**-0.4**	
AGG	**Agios Georgios**	**84.28**	**318**		IAmb	IAmb	10 44 02.7		
	comp=Z,8.3nm,0.9s								
TUE	**Stuetta**	**84.30**	**330**		IAmb	IAmb	10 43 48.2		
	comp=Z,18nm,0.8s								
KSU1	**Kansas State U**	**84.36**	**42**		IAmb	IAmb	10 44 23.3		
	comp=Z,8.0nm,0.9s								
KSU1	**Kansas State U**	**84.36**	**42**		P	**P**	**10 43 46.5**	**-0.3**	
	baz=319								
JFWS	**Jewell Farm**	**84.51**	**36**		P	**P**	**10 43 47.4**	**-0.1**	
	baz=322								
AMTX	**Amarillo**	**84.69**	**48**		P	**P**	**10 43 49.0**	**+0.4**	
	baz=316								
MSTX	**Muleshoe**	**84.71**	**49**		IAmb	IAmb	10 44 08.4		
	comp=Z,8.2nm,0.9s								
MSTX	**Muleshoe**	**84.71**	**49**		P	**P**	**10 43 49.2**	**+0.4**	
	baz=316								
MNTX	**Cornudas Mount**	**84.75**	**53**		P	**P**	**10 43 49.1**	**+0.3**	
	baz=315								
MNTX	**Cornudas Mount**	**84.75**	**53**		P	**P**	**10 43 49.4**	**+0.5**	
PPT	**Papeete**	**85.10**	**118**		LR	LR	11 14 02.1		
	comp=Z,306nm,21.4s,baz=308,slow=30								
VLDQ	**Val d'Or**	**85.23**	**26**		IAmb	IAmb	10 43 51.2		
	comp=Z,11nm,0.9s								
P38A	**Dawn**	**85.51**	**40**		IAmb	IAmb	10 44 06.1		
	comp=Z,9.9nm,1.1s								
LDF	**La Druitiere**	**85.78**	**336**		*e*P	**P**	**10 43 53.7**	**0.0**	
SSF	**Saint Saulge**	**85.94**	**333**		*e*P	**P**	**10 43 54.5**	**0.0**	
INTR	**Introdacqua**	**86.03**	**324**		IAmb	IAmb	10 44 33.4		
	comp=Z,14nm,0.9s								
T35A	**Sooner Cattle**	**86.04**	**44**		IAmb	IAmb	10 44 09.6		
	comp=Z,15nm,1.2s								
LPL	**La Plagne**	**86.10**	**331**		*e*P	**P**	**10 43 55.8**	**+0.2**	
LPG	**La Plagne**	**86.11**	**331**		*e*P	**P**	**10 43 55.9**	**+0.1**	
AVF	**Avril sur Loir**	**86.22**	**333**		*e*P	**P**	**10 43 56.0**	**+0.1**	
P40A	**Paris**	**86.31**	**39**		IAmb	IAmb	10 44 10.8		
	comp=Z,20nm,1.2s								
WMOK	**Wichita Mounta**	**86.43**	**46**		P	**P**	**10 43 57.9**	**+0.7**	
	baz=318								
LPIG	**La Paz**	**86.80**	**61**		LR	LR	11 14 05.2		
	comp=Z,44nm,19.7s,baz=280,slow=30								
HDIL	**Hopedale**	**86.81**	**37**		P	**P**	**10 43 59.2**	**+0.3**	
	baz=323								
ORIF	**Oris-en-Rattie**	**86.93**	**331**		*e*P	**P**	**10 44 00.4**	**+0.9**	
S39A	**Bolivar**	**87.11**	**41**		IAmb	IAmb	10 44 01.2		
	comp=Z,6.6nm,0.8s								
R40A	**Maddies Statio**	**87.17**	**40**		IAmb	IAmb	10 44 01.9		
	comp=Z,6.9nm,0.8s								
TUL3	**Leonard**	**87.18**	**44**		P	**P**	**10 44 00.2**	**-0.6**	
	baz=319								
QUIF	**Quistinic**	**87.30**	**338**		*e*P	**P**	**10 44 01.3**	**+0.2**	
VIVF	**Saint-Julien-l**	**87.42**	**332**		*e*P	**P**	**10 44 02.0**	**+0.1**	
TXAR	**Lajitas Array**	**87.46**	**53**		P	**P**	**10 44 03.1**	**+0.7**	
	comp=Z,1.2nm,0.9s,baz=304,slow=3.1,SNR=8.1								
	comp=Z,1.2nm,0.9s								
ABTX	**Abilene, Hawle**	**87.49**	**48**		P	**P**	**10 44 03.2**	**+0.8**	
	baz=317								
U38A	**Gravette**	**87.52**	**43**		IAmb	IAmb	10 44 13.1		
	comp=Z,5.8nm,0.9s								
SADO	**Sadowa**	**87.53**	**28**		LR	LR	11 25 37.5		
	comp=Z,102nm,20.1s,baz=92,slow=37								
TRQ	**Mont Tremblant**	**87.84**	**25**		P	**P**	**10 44 03.9**	**+0.1**	
TRQ					IAmb	IAmb	10 44 05.1		
	comp=Z,15nm,1.1s								
TRQ					pP	**sP**	**10 44 16.1**	**-1.4**	
CCM	**Cathedral Cave**	**87.86**	**40**		P	**P**	**10 44 04.2**	**+0.2**	
CCM					IAmb	IAmb	10 44 05.4		
	comp=Z,9.7nm,0.8s								
CCM	**Cathedral Cave**	**87.86**	**40**		P	**P**	**10 44 03.9**	**-0.1**	
	baz=322								
CCM	**Cathedral Cave**	**87.86**	**40**		P	**P**	**10 44 04.2**	**+0.2**	
CCM					pmax	pmax			
	comp=Z,10.0nm,0.8s								
AAM	**Ann Arbor**	**87.86**	**33**		P	**P**	**10 44 03.0**	**-0.9**	
	baz=326								
SFIN	**Lafayette**	**87.95**	**36**		P	**P**	**10 44 04.8**	**+0.4**	
	baz=324								
MGMO	**Mountain Grove**	**88.05**	**41**		IAmb	IAmb	10 44 06.0		
	comp=Z,6.1nm,0.8s								
BRDY	**Brady**	**88.84**	**49**		IAmb	IAmb	10 44 25.8		
	comp=Z,12nm,1.4s								
O48B	**Farmland**	**88.91**	**35**		IAmb	IAmb	10 44 22.8		
	comp=Z,14nm,1.1s								
O48B	**Farmland**	**88.91**	**35**		P	**P**	**10 44 08.1**	**-0.9**	
	baz=326								
JCT	**Junction City**	**88.96**	**50**		P	**P**	**10 44 09.2**	**-0.3**	
	baz=317								
FCAR	**Ozark Folk Cen**	**89.11**	**42**		IAmb	IAmb	10 44 19.9		
	comp=Z,12nm,1.1s								
LONY	**Lake Ozonia**	**89.25**	**26**		P	**P**	**10 44 10.0**	**-0.5**	
	baz=332								
MIAR	**Mount Ida**	**89.39**	**43**		IAmb	IAmb	10 44 13.1		
	comp=Z,6.2nm,0.8s								
MIAR	**Mount Ida**	**89.39**	**43**		P	**P**	**10 44 11.2**	**-0.1**	
	baz=320								
ERPA	**Erie**	**89.48**	**30**		P	**P**	**10 44 11.2**	**-0.4**	
	baz=329								
WHAR	**Wooly Hollow**	**89.49**	**42**		IAmb	IAmb	10 44 22.5		
	comp=Z,16nm,1.1s								
F62A	**Pittston Farm,**	**89.54**	**22**		IAmb	IAmb	10 44 13.7		
	comp=Z,8.7nm,0.9s								
J56A	**Wolcott**	**89.65**	**28**		IAmb	IAmb	10 44 13.6		
	comp=Z,13nm,1.0s								
P49A	**Miami Univ. Ec**	**89.70**	**35**		IAmb	IAmb	10 44 23.0		
	comp=Z,11nm,1.0s								
P49A	**Miami Univ. Ec**	**89.70**	**35**		P	**P**	**10 44 12.3**	**-0.4**	
	baz=326								
M53A	**WI Miller and**	**89.79**	**31**		IAmb	IAmb	10 44 15.0		
	comp=Z,15nm,1.1s								
M53A	**WI Miller and**	**89.79**	**31**		P	**P**	**10 44 13.1**	**+0.1**	
	baz=328								
X40A	**Basin Creek Fa**	**89.83**	**43**		IAmb	IAmb	10 44 24.6		
	comp=Z,13nm,1.5s								
ACSO	**Alum Creek Sta**	**89.86**	**33**		P	**P**	**10 44 13.3**	**-0.1**	
	baz=327								
WCI	**Wyandotte Cave**	**90.06**	**36**		P	**P**	**10 44 14.3**	**0.0**	
	baz=325								
J58A	**Remsen**	**90.12**	**27**		IAmb	IAmb	10 44 16.1		
	comp=Z,11nm,1.1s								
J59A	**Pico**	**90.30**	**26**		IAmb	IAmb	10 44 16.5		
	comp=Z,7.7nm,0.9s								
PKME	**Peaks-Kenny Pk**	**90.31**	**22**		P	**P**	**10 44 15.6**	**+0.2**	
	baz=336								
L56A	**Greenwood**	**90.38**	**29**		IAmb	IAmb	10 44 17.4		
	comp=Z,11nm,0.9s								
LBNH	**Lisbon**	**90.45**	**24**		P	**P**	**10 44 16.2**	**+0.2**	
	baz=334								
M55A	**Ridgway**	**90.51**	**30**		P	**P**	**10 44 16.4**	**-0.1**	
M55A						**sP**	**10 44 29.7**	**-0.3**	
M55A					IAmb	IAmb	10 44 30.9		
	comp=Z,14nm,1.1s								
O53A	**New Philadelph**	**90.58**	**32**		P	**P**	**10 44 16.4**	**-0.4**	
	baz=328								
T47A	**Sharon Grove**	**90.69**	**38**		IAmb	IAmb	10 44 19.1		
	comp=Z,7.5nm,0.8s								
833A	**Chaparral WMA,**	**90.78**	**51**		P	**P**	**10 44 17.7**	**-0.2**	
	baz=318								
BINY	**Binghamton**	**90.90**	**28**		P	**P**	**10 44 17.8**	**-0.5**	
	baz=332								
NATX	**Nacogdoches**	**90.94**	**46**		P	**P**	**10 44 18.6**	**+0.1**	
	baz=320								
WVT	**Waverly**	**91.04**	**39**		P	**P**	**10 44 18.9**	**-0.1**	
WVT	**Waverly**	**91.04**	**39**		P	**P**	**10 44 19.0**	**-0.1**	
	baz=324								
WVT	**Waverly**	**91.04**	**39**		P	**P**	**10 44 18.9**	**-0.1**	
WVT					pmax	pmax			
	comp=Z,16nm,0.9s								
OXF	**Oxford**	**91.56**	**41**		P	**P**	**10 44 21.4**	**0.0**	
	baz=323								
SSPA	**Standing Stone**	**91.56**	**30**		P	**P**	**10 44 20.6**	**-0.7**	
	baz=330								
L61B	**Northampton**	**91.81**	**25**		P	**P**	**10 44 21.8**	**-0.6**	
	baz=334								
HRV	**Adam Dziewonsk**	**92.12**	**25**		P	**P**	**10 44 23.4**	**-0.5**	
	baz=334								
PAL	**Palisades**	**92.68**	**27**		P	**P**	**10 44 25.8**	**-0.7**	
	baz=333								
TZTN	**Tazewell**	**92.69**	**36**		P	**P**	**10 44 26.1**	**-0.5**	
	baz=326								
KEST	**Kesra**	**93.20**	**324**		LR	LR	11 31 13.5		
	comp=Z,282nm,19.0s,baz=304,slow=39								
TKL	**Tuckaleechee C**	**93.32**	**36**		LR	LR	11 26 26.9		
	comp=Z,82nm,21.5s,baz=342,slow=36								
BLA	**Blacksburg**	**93.48**	**33**		P	**P**	**10 44 29.6**	**-0.7**	
	baz=328								
LRAL	**Lakeview Retre**	**93.94**	**40**		P	**P**	**10 44 32.6**	**+0.2**	
	baz=324								
ESDC	**Sonseca Array**	**95.00**	**335**		P	**P**	**10 44 35.8**	**-1.4**	
ESDC					IAmb	IAmb	10 44 37.8		
	comp=Z,3.5nm,0.9s								
ESDC	**Sonseca Array**	**95.00**	**335**		P	**P**	**10 44 37.6**	**+0.4**	
	comp=Z,2.5nm,0.7s,baz=18,slow=4.0,SNR=14								
ESDC					PP	**PP**	**10 48 24.1**	**-1.5**	
	comp=Z,1.9nm,1.0s,baz=21,slow=8.2,SNR=5.3								
ESDC					LR	LR	11 33 24.5		
	comp=Z,197nm,18.2s,baz=20,slow=39								
	comp=Z,2.5nm,0.7s								
GOGA	**Godfrey**	**95.32**	**37**		P	**P**	**10 44 39.3**	**+0.6**	
	baz=326								
TORD	**Torodi Ar. Bea**	**115.86**	**317**		PKP	**PKiKP**	**10 49 57.1**	**-0.5**	
	comp=Z,1.4nm,0.7s,baz=16,slow=2.5,SNR=6.7								
VNDA	**Vanda**	**117.92**	**175**		PKP	**PKPdf**	**10 49 59.1**	**-0.5**	
	comp=Z,0.5nm,0.8s,baz=281,slow=1.6,SNR=3.5								
SDV	**Santo Domingo**	**122.33**	**40**		PKP	**PKPdf**	**10 50 09.7**	**-0.6**	
	comp=Z,9.1nm,0.6s,baz=1.9,slow=4.2,SNR=3.8								
MAW	**Mawson**	**122.72**	**207**		PKP	**PKPdf**	**10 50 08.8**	**-0.2**	
	comp=Z,0.6nm,0.3s,baz=14,slow=4.2,SNR=7.7								
DBIC	**Dimbokro**	**124.71**	**320**		PKP	**PKPdf**	**10 50 13.4**	**-1.2**	
	comp=Z,3.3nm,0.6s,baz=54,slow=2.2,SNR=5.5								
BOSA	**Boshof**	**128.08**	**262**		PKP	**PKPdf**	**10 50 20.9**	**+0.2**	
	comp=Z,3.3nm,0.8s,baz=27,slow=2.3,SNR=5.1								
QSPA	**South Pole Qui**	**129.82**	**180**		PKP	**PKPdf**	**10 50 21.8**	**-1.0**	
	comp=Z,2.3nm,0.9s,baz=191,slow=1.7,SNR=8.1								
SNAA	**Sanae**	**143.96**	**198**			PKPpre	10 50 46.1		
SNAA	**Sanae**	**143.96**	**198**	⇑	PKPdf	PKPab	10 50 46.0	-0.1	
	comp=Z,93nm,0.4s								
SNAA	**Sanae**	**143.96**	**198**		PKP	PKPab	10 50 45.8	-0.3	
	comp=Z,6.7nm,0.6s,baz=159,slow=5.6,SNR=9.1								
LPAZ	**La Paz**	**144.23**	**57**		PKPdf	**PKPab**	**10 50 49.2**	**-0.1**	
LPAZ	**La Paz**	**144.23**	**57**		PKP	PKPbc	10 50 49.7	0.0	
	comp=Z,2.6nm,0.8s,baz=23,slow=2.3,SNR=7.5								
LPAZ	**La Paz**	**144.23**	**57**		PKIKP	**PKPab**	**10 50 49.2**	**-0.1**	
LPAZ	**La Paz**	**144.23**	**57**		*e*P	PKPbc	10 50 49.8	0.0	
NBBC	**Barra do Corda**	**144.85**	**14**		*e*P	**PKPab**	**10 50 50.9**	**0.0**	
VNA2	**Neumayer--Watz**	**145.53**	**197**	⇑	PKPdf	**PKPdf**	**10 50 51.4**	**+0.1**	
	comp=Z,29nm,0.7s,baz=131,slow=3.0								
NBPB	**Pedra_Branca-C**	**145.55**	**4**		*e*P	**PKPdf**	**10 50 51.2**	**-2.0**	
VNA3	**Neumayer Olymp**	**145.77**	**195**	⇑	PKPdf	**PKPdf**	**10 50 51.6**	**-0.2**	
	comp=Z,24nm,0.7s								
NBPA	**Parau_RN**	**145.82**	**360**		*e*P	**PKPdf**	**10 50 52.1**	**-1.5**	
RCBR	**Riachuelo**	**145.88**	**358**		*e*P	**PKPdf**	**10 50 52.7**	**-1.1**	
VNA1	**Neumayer--Stat**	**145.93**	**197**	⇑	PKPdf	**PKPdf**	**10 50 52.1**	**+0.1**	
	comp=Z,18nm,0.8s								
LVC	**Limon Verde**	**148.08**	**66**		*e*P	**PKPdf**	**10 50 56.3**	**-1.3**	
PTLB	**Pontes e Lacer**	**148.92**	**44**		*e*P	**PKPdf**	**10 50 58.2**	**-0.5**	
SNDB	**Serra Nova Dou**	**149.39**	**28**		*e*P	**PKPdf**	**10 50 58.4**	**-1.1**	
BBSD	**Serra de San D**	**149.52**	**48**		*e*P	**PKPdf**	**10 50 59.0**	**-0.7**	
NBAN	**Anadia - AL**	**149.70**	**358**		*e*P	**PKPdf**	**10 50 59.2**	**-0.9**	
CO06	**Fray Jorge**	**150.61**	**82**			**PKPbc**	**10 51 06.2**	**-0.3**	
PMSA	**Palmer Station**	**150.81**	**157**		*e*P	**PKPdf**	**10 51 00.2**	**+0.1**	
NBLA	**Lagarto - SE**	**151.03**	**1**		*e*P	**PKPdf**	**10 51 00.9**	**-1.1**	
SDBA	**SAO DESIDERIO**	**151.63**	**16**		*e*P	**PKPdf**	**10 51 02.0**	**-1.0**	
BBLB	**La Banda, Boli**	**151.73**	**47**		*e*P	**PKPdf**	**10 51 02.2**	**-0.8**	
MT02	**Curacav**	**152.12**	**87**			**PKPbc**	**10 51 09.7**	**-0.1**	
ARAG	**Araguaiana, MT**	**152.60**	**32**		*e*P	**PKPdf**	**10 51 03.6**	**-0.8**	
GDU01	**Guandu, BA**	**153.66**	**5**		*e*P	**PKPdf**	**10 51 04.8**	**-1.1**	
BDFB	**Brasilia**	**153.91**	**24**		PKPab	**PKPab**	**10 51 27.9**	**+0.4**	
	comp=Z,4.2nm,0.8s,baz=326,slow=3.6,SNR=3.2								
MURT	**Porto Murtinho**	**154.77**	**49**		*e*P	**PKPdf**	**10 51 06.6**	**-0.7**	
NAN01	**Guarapari, ES**	**157.71**	**

X37A	**Clayton**	**49.63**	**337**	P	**P**		**10 43 33.9**	**-0.7**
X37A				IAmb	IAmb		10 43 42.8	
	comp=Z,5.7nm,0.9s							
APMT	**Aspermont**	**50.57**	**332**	P	**P**		**10 43 40.1**	**-1.7**
HHAR	**Hobbs**	**50.62**	**339**	P	**P**		**10 43 39.8**	**-2.3**
SN07	**Snyder 07**	**50.74**	**331**	P	**P**		**10 43 42.1**	**-1.0**
MGMO	**Mountain Grove**	**50.86**	**341**	P	**P**		**10 43 42.5**	**-1.4**
PECS	**Pecos**	**50.87**	**327**	P	**P**		**10 43 41.5**	**-2.7**
POST	**Post**	**51.01**	**330**	P	**P**		**10 43 44.3**	**-0.9**
POST				IAmb	IAmb		10 44 09.5	
	comp=Z,7.5nm,0.8s							
VHRN	**Van Horn**	**51.03**	**325**	P	**P**		**10 43 44.4**	**-1.1**
DKNS	**Dickens**	**51.23**	**331**	P	**P**		**10 43 45.8**	**-1.0**
GDL2	**Guadalupe Moun**	**51.78**	**327**	P	**P**		**10 43 50.2**	**-0.9**
PDAR	**Pinedale Array**	**62.56**	**331**	P	**P**		**10 45 07.2**	**0.0**
	comp=Z,1.1nm,0.8s,baz=134,slow=6.4,SNR=2.4							
	comp=Z,1.1nm,0.8s							
NVAR	**Mina Array Bea**	**64.16**	**323**	P	**P**		**10 45 19.9**	**+2.0**
	comp=Z,0.9nm,0.9s,baz=148,slow=5.3,SNR=2.6							
	comp=Z,0.9nm,0.9s							
ORV	**Oroville**	**66.80**	**322**	P	**P**		**10 45 34.4**	**-0.2**
ORV				IAmb	IAmb		10 45 36.9	
	comp=Z,5.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**79.04**	**74**	P	**P**		**10 46 48.2**	**+0.5**
	comp=Z,1.8nm,0.9s,baz=263,slow=6.6,SNR=7.6							
	comp=Z,1.8nm,0.9s							
YKA	**Yellowknife Ar**	**79.72**	**342**	P	**P**		**10 46 50.2**	**-0.1**
	comp=Z,1.6nm,0.9s,baz=135,slow=5.2,SNR=14							
	comp=Z,1.6nm,0.9s							
INK	**Inuvik**	**89.45**	**341**	P	**P**		**10 47 39.6**	**+0.3**
INK				IAmb	IAmb		10 47 41.8	
	comp=Z,5.7nm,1.4s							
ZALV	**Zalesovo Beam**	**134.05**	**17**	PKP	**PKiKP**		**10 54 00.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=0.0,slow=1.5,SNR=5.6							
WRA	**Warramunga Arr**	**138.32**	**223**	PKP	**PKPdf**		**10 54 09.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=128,slow=1.8,SNR=3.2							
SONM	**Songino Array**	**143.32**	**359**	PKP	**PKPdf**		**10 54 17.0**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=10,slow=1.6,SNR=1.9							
KSRS	**Korea Array**	**147.04**	**327**	PKPbc	**PKPdf**		**10 54 25.0**	**+1.1**
	comp=Z,3.2nm,1.1s,baz=38,slow=3.3,SNR=9.0							

BEO **14** *10:56:41.5±0.6, 40.˙15N× 19.˙42E, h0km, ML4.2/6*
PDG **14** *10:56:43.5±0.8, 40.˙26N× 19.˙55E, h11km±2km, MD4.2/3, ML4.1/11, Error ellipse: s-maj=0.8km s-min=1.4km az=0.0*
TIR **14** *10:56:43.9, 40.˙28N× 19.˙78E, h17km± 1km, Md3.3, Ml4.2*
IDC **14** *10:56:43.5±0.6, 40.˙30N× 19.˙91E, h0km, mb4.0/23, mbtmp4.0/33, ML3.8/8, MS3.4/15, Error ellipse: s-maj=13.2km s-min=11.4km az=8.0*
MOS **14** *10:56:44.1±1.2, 40.˙34N× 19.˙70E, h12km, mb4.5/19, Error ellipse: s-maj=6.5km s-min=4.1km az=70.0*
PRU **14** *10:56:44.4, 40.˙43N× 20.˙26E, h1km, M4.4*
THE **14** *10:56:44.8, 40.˙27N× 19.˙74E, h4km± 1km, ML3.9/11, Error ellipse: s-maj=1.4km s-min=0.7km az=275.0*
NEIC **14** *10:56:45.7±2.6, 40.˙31N±0.˙05× 19.˙68E±0.˙06, h10km± 1km, mb4.4/20, ML4.1/1(BUC), Error ellipse: s-maj=8.7km s-min=7.1km az=201.0*
MCSM **14** *10:56:46.1±0.3, 40.˚N±3.˚× 2.˚0E±.˚, h5km, mb4.1, mB4.6, MLv4.4, Mw(mB)3.9*
NAO **14** *10:56:47.7, 40.˙26N× 19.˙72E, h10km, mb4.2*
ISC 14 10:56:44.5±0.8**, 40.˚29N**±0.˚02×**19.˚75E**±0.˚02**, h6**km±5km**, n344**,σ1**$70/393**, mb4.3**/41**, MS3.4**/9**, 47C-11D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VLO	**Vlora**	**0.27**	**313**	P	**Pg**	**10 56 50.1**	**+0.3**
	baz=311						
VLO				S	**Sb**	**10 56 56.0**	**-0.6**
	baz=311						
VLO				AMP			
	comp=N,673nm,0.7s,baz=311						
VLO	**Vlora**	**0.27**	**313**	P	**Pg**	**10 56 49.6**	**-0.1**
VLO				S	**Sb**	**10 56 54.6**	**-2.0**
	comp=N,164µm,0.5s						
VLO	**Vlora**	**0.27**	**313**		**Pg**	**10 56 50.1**	**+0.3**
VLO	**Vlora**	**0.27**	**313**	P	**Pg**	**10 56 50.1**	**+0.3**
SRN	**Sarande**	**0.45**	**155**	P	**Pg**	**10 56 52.6**	**-0.5**
	baz=157						
SRN				S	**Sb**	**10 57 00.7**	**-1.1**
	baz=157						
SRN				AMP			
	comp=N,32nm,0.9s,baz=157						
SRN	**Sarande**	**0.45**	**155**	P	**Pg**	**10 56 52.7**	**-0.5**
SRN				S	**Sg**	**10 57 00.0**	**+0.9**
	comp=N,10µm,0.7s						
LSK	**Leskovik**	**0.67**	**102**	P	**Pg**	**10 56 55.9**	**-1.4**
	baz=101						
LSK				S	**Sb**	**10 57 07.1**	**-1.1**
	baz=101						
LSK				AMP			
	comp=N,61nm,0.6s,baz=101						
LSK	**Leskovik**	**0.67**	**102**	P	**Pg**	**10 56 56.3**	**-1.0**
LSK				S	**Sg**	**10 57 06.9**	**+0.9**
	comp=N,13µm,0.6s						
IGT	**Igoumenitsa**	**0.88**	**149**	P	**Pg**	**10 57 00.5**	**-0.8**
	baz=150						
IGT				S	**Sn**	**10 57 16.6**	**+0.1**
	baz=150						
IGT				AMP			
	comp=N,14nm,0.4s,baz=150						
IGT	**Igoumenitsa**	**0.88**	**149**	P	**Pg**	**10 57 00.4**	**-1.0**
IGT				S	**Sb**	**10 57 14.1**	**0.0**
	comp=N,3µm,0.8s						
NEST	**Nestorio**	**1.00**	**82**	P	**Pb**	**10 57 04.3**	**-0.1**
NEST				S	**Sn**	**10 57 19.0**	**-0.7**
	comp=N,4µm,0.5s						
SCTE	**Santa Cesarea**	**1.00**	**258**	P	**Pb**	**10 57 03.8**	**-0.5**
	baz=259						
SCTE				S	**Sn**	**10 57 18.6**	**-1.0**
	baz=259						
SCTE				AMP			
	comp=N,11nm,0.5s,baz=259						
SCTE	**Santa Cesarea**	**1.00**	**258**		**Pb**	**10 57 04.1**	**-0.3**
JAN	**Janina**	**1.05**	**126**	P	**Pb**	**10 57 05.2**	**0.0**
JAN				S	**Sn**	**10 57 20.5**	**-0.4**
	comp=N,7µm,0.6s						
TIR	**Tirane**	**1.06**	**5**	⇓P	**Pn**	**10 57 06.9**	**+0.9**
TIR	**Tirane**	**1.06**	**5**	P	**Pg**	**10 57 04.8**	**-0.2**
	baz=3.0						
TIR				S	**Sn**	**10 57 24.7**	**+3.5**
	baz=3.0						
TIR				AMP			
	comp=E,13nm,0.4s,baz=3.0						
TIR	**Tirane**	**1.06**	**5**	P	**Pg**	**10 57 04.6**	**-0.4**
TIR				S	**Sn**	**10 57 21.2**	**+0.1**
TIR	**Tirane**	**1.06**	**5**		**Pg**	**10 57 04.7**	**-0.2**
TIR	**Tirane**	**1.06**	**5**	*e*Pg	**Pb**	**10 57 05.0**	**-0.4**
TIR				*e*Sg	**Sn**	**10 57 22.9**	**+1.8**
TIR	**Tirane**	**1.06**	**5**	P	**Pg**	**10 57 04.7**	**-0.2**
TIR	**Tirane**	**1.06**	**5**	P	**Pn**	**10 57 06.6**	**+0.6**
PENT	**Pentalofos**	**1.07**	**94**	P	**Pg**	**10 57 04.4**	**-0.6**
PENT				S	**Sn**	**10 57 21.0**	**-0.4**
OHR	**Ohrid**	**1.15**	**44**	*e*Pg	**Pg**	**10 57 06.0**	**-0.5**
OHR				*e*Sg	**Sn**	**10 57 26.8**	**+3.5**
OHR	**Ohrid**	**1.15**	**44**	*i* Pn	**Pg**	**10 57 05.7**	**-0.8**
KPRO	**Kipourio**	**1.28**	**104**	P	**Pg**	**10 57 08.3**	**-0.8**
KPRO				S	**Sn**	**10 57 27.3**	**+0.7**
	comp=E,10µm,0.9s						
FNA	**Florina**	**1.34**	**68**	P	**Pn**	**10 57 08.9**	**-0.9**
	baz=67						
FNA				S	**Sn**	**10 57 31.6**	**+3.6**
	baz=67						
FNA				AMP			
	comp=E,16nm,0.5s,baz=67						
FNA	**Florina**	**1.34**	**68**	P	**Pn**	**10 57 08.5**	**-1.3**
FNA				S	**Sn**	**10 57 28.7**	**+0.8**
	comp=E,11µm,0.6s						
FNA	**Florina**	**1.34**	**68**		**Pn**	**10 57 09.3**	**-0.5**
FNA	**Florina**	**1.34**	**68**	P	**Pn**	**10 57 09.3**	**-0.5**
LKD2	**Lefkada island**	**1.65**	**155**	P	**Pn**	**10 57 13.4**	**-0.7**
LKD2				S	**Sg**	**10 57 36.7**	**-0.9**
	comp=E,2µm,0.6s						
ULC	**Ulcinj**	**1.72**	**347**	*e*Pn	**Pn**	**10 57 14.4**	**-0.6**
ULC				*i* Sn	**Sg**	**10 57 39.0**	**-0.8**
PUK	**Puka**	**1.76**	**3**	P	**Pn**	**10 57 16.1**	**+0.5**
	baz=2.0						
PUK				S	**Sg**	**10 57 41.8**	**+0.8**
	baz=2.0						
PUK				AMP			
	comp=E,8.6nm,0.5s,baz=2.0						
PUK	**Puka**	**1.76**	**3**	Pn	**Pb**	**10 57 16.4**	**-0.8**
EVGI	**Lefkada island**	**1.81**	**157**	P	**Pn**	**10 57 15.9**	**-0.3**
KTI	**Kastanea**	**1.81**	**86**	P	**Pb**	**10 57 17.4**	**-0.8**
THL	**Klokotos Trika**	**1.89**	**112**	P	**Pb**	**10 57 18.3**	**-1.0**
THL				S	**Sb**	**10 57 42.4**	**-0.7**
	comp=E,2µm,0.8s						
DRME	**Dracevica, Mon**	**1.94**	**348**	⇓*i*Pn	**Pn**	**10 57 17.8**	**-0.3**
DRME	**Dracevica, Mon**	**1.94**	**348**	*e*Pn	**Pn**	**10 57 18.1**	**0.0**
DRME				*i* Sn	**Sb**	**10 57 44.8**	**-0.1**
BCI	**Bajram Curri**	**2.09**	**6**	P	**Pb**	**10 57 21.6**	**-1.3**
	baz=5.0						
BCI				S	**Sg**	**10 57 50.6**	**-1.1**
	baz=5.0						
BCI				AMP			
	comp=N,13nm,0.7s,baz=5.0						
DMLN	**Damoulianata-K**	**2.10**	**166**	P	**Pn**	**10 57 19.3**	**-1.0**
LIT	**Litokhoron**	**2.11**	**94**	P	**Pn**	**10 57 21.2**	**+0.8**
LIT				S	**Sn**	**10 57 47.7**	**+0.8**
LIT	**Litokhoron**	**2.11**	**94**		**Pb**	**10 57 21.8**	**-1.4**
LIT	**Litokhoron**	**2.11**	**94**	P	**Pb**	**10 57 21.8**	**-1.4**
BUM	**Brajici-Budva**	**2.11**	**343**	⇑*i*Pn	**Pn**	**10 57 20.2**	**-0.3**
BUM				*i* Sn	**Sb**	**10 57 48.4**	**-1.4**
SKO	**Skopje**	**2.11**	**37**	*e*Pg	**Pb**	**10 57 22.5**	**-0.8**
SKO				*e*Sg	**Sg**	**10 57 57.0**	**+4.6**
SKO	**Skopje**	**2.11**	**37**	*i* Pn	**Pb**	**10 57 22.3**	**-1.0**
PVO	**Paravola**	**2.16**	**140**	P	**Pn**	**10 57 22.1**	**+1.0**
PDG	**Podgorica**	**2.17**	**350**	⇑P	**Pn**	**10 57 21.5**	**+0.2**
PDG	**Podgorica**	**2.17**	**350**	P	**Pn**	**10 57 21.3**	**0.0**
PDG	**Podgorica**	**2.17**	**350**	*e*Pg	**Pn**	**10 57 21.6**	**+0.4**
PDG				*e*Sg	**Sb**	**10 57 52.2**	**+0.7**
PDG	**Podgorica**	**2.17**	**350**	*e*Pn	**Pn**	**10 57 20.6**	**-0.6**
PDG	**Podgorica**	**2.17**	**350**	*e*Pn	**Pn**	**10 57 21.3**	**0.0**
PDG				*i* Sn	**Sb**	**10 57 50.5**	**-1.0**
VLS	**Valsamata**	**2.21**	**163**	P	**Pn**	**10 57 21.1**	**-0.6**
PVY	**Plav**	**2.31**	**4**	*e*Pn	**Pn**	**10 57 23.8**	**+0.5**
PVY				*i* Sn	**Sb**	**10 57 54.6**	**-1.0**
CEME	**Cevo**	**2.34**	**345**	⇑*i*Pn	**Pn**	**10 57 22.9**	**-0.8**
CEME				*i* Sn	**Sn**	**10 57 54.2**	**+1.4**
MATE	**Matera**	**2.35**	**280**	⇓P	**Pn**	**10 57 22.9**	**-0.8**
MATE	**Matera**	**2.35**	**280**		**Pn**	**10 57 22.9**	**-0.8**
AGG	**Agios Georgios**	**2.36**	**122**	P	**Pn**	**10 57 24.7**	**+0.9**
AGG				S	**Sb**	**10 57 55.5**	**-1.3**
	comp=N,1µm,0.9s						
AGG	**Agios Georgios**	**2.36**	**122**		**Pb**	**10 57 26.0**	**-1.5**
AGG	**Agios Georgios**	**2.36**	**122**	P	**Pb**	**10 57 26.0**	**-1.5**
ANX	**Ano Chora**	**2.38**	**134**	P	**Pn**	**10 57 24.9**	**+0.6**
NKME	**Niksic**	**2.55**	**347**	⇑*i*Pn	**Pn**	**10 57 26.5**	**0.0**
NKME				*i* Sn	**Sn**	**10 57 59.3**	**+1.4**
TIP	**Timpagrande**	**2.56**	**245**	⇓P	**Pn**	**10 57 26.1**	**-0.6**
TIP	**Timpagrande**	**2.56**	**245**	Pn	**Pn**	**10 57 26.1**	**-0.6**
TIP	**Timpagrande**	**2.56**	**245**	P	**Pn**	**10 57 27.2**	**+0.6**
KOME	**Kolasin**	**2.57**	**356**	⇑*i*Pn	**Pn**	**10 57 27.1**	**+0.3**
KOME				*i* Sn	**Sn**	**10 58 00.3**	**+1.9**
IVA	**Berane**	**2.58**	**2**	⇓*i*Pn	**Pn**	**10 57 27.5**	**+0.5**
IVA				*i* Sn	**Sb**	**10 58 01.0**	**-2.4**
TREB	**Trebinje**	**2.65**	**337**	*e*Pn	**Pn**	**10 57 26.5**	**-1.3**
BRY	**Bratogost**	**2.77**	**341**	*e*Pn	**Pn**	**10 57 29.1**	**-0.4**
BRY	**Bratogost**	**2.77**	**341**	*e*Pn	**Pn**	**10 57 29.3**	**-0.2**
BRY				*i* Sn	**Sn**	**10 58 04.1**	**+0.8**
PRVS	**Prvonek**	**2.83**	**38**	*e*Pn	**Pn**	**10 57 31.1**	**+0.8**
BARS	**Barje**	**2.96**	**31**	*e*Pn	**Pn**	**10 57 31.5**	**+1.2**
SJES	**Sjenica**	**2.98**	**3**	*e*Pn	**Pn**	**10 57 32.5**	**+0.1**
SJES	**Sjenica**	**2.98**	**3**	⇓*i*Pn	**Pn**	**10 57 33.9**	**+1.5**
UPM	**Unac-Piva**	**2.98**	**348**	*e*Pn	**Pn**	**10 57 33.4**	**+0.8**
UPM	**Unac-Piva**	**2.98**	**348**	*e*Pn	**Pn**	**10 57 32.6**	**0.0**
UPM				*i* Sn	**Sn**	**10 58 09.7**	**+1.0**
STON	**Ston**	**3.01**	**330**	⇓*i*Pn	**Pn**	**10 57 30.8**	**-1.9**
BOSS	**Bosilegrad**	**3.02**	**42**	*e*Pn	**Pn**	**10 57 33.9**	**+1.0**
CUC	**Castrocucco**	**3.03**	**266**		**Pn**	**10 57 33.9**	**+0.8**
PLE	**Pljevlja**	**3.05**	**355**	⇑*i*Pn	**Pn**	**10 57 33.8**	**+0.3**
PLE				*i* Sn	**Sn**	**10 58 11.8**	**+1.4**
SELS	**Selova**	**3.10**	**19**	*e*Pn	**Pn**	**10 57 35.5**	**+1.4**
NEVS	**Nevesinje**	**3.25**	**338**	*e*Pn	**Pn**	**10 57 36.3**	**+0.1**
RUDO	**Rudo**	**3.34**	**355**	*e*Pn	**Pn**	**10 57 37.2**	**-0.1**
SGRT	**San Giovanni R**	**3.37**	**297**	P	**Pn**	**10 57 36.4**	**-1.4**
	baz=298						
SGRT	**San Giovanni R**	**3.37**	**297**	Pn	**Pn**	**10 57 37.0**	**-0.7**
ITM	**Ithomi**	**3.54**	**151**	*e*P	**Pg**	**10 57 56.5**	**+4.2**
ITM	**Ithomi**	**3.54**	**151**	Pn	**Pn**	**10 57 41.2**	**+1.1**
BBLS	**Lazi&#263i**	**3.59**	**356**	*e*Pn	**Pn**	**10 57 41.8**	**+1.1**
BBLS	**Lazi&#263i**	**3.59**	**356**	*e*Pn	**Pn**	**10 57 39.0**	**-1.7**
BOVS	**Bovan**	**3.65**	**23**	⇑P	**Pn**	**10 57 43.0**	**+1.4**
BOVS	**Bovan**	**3.65**	**23**		**Pn**	**10 57 43.0**	**+1.4**
BOVS	**Bovan**	**3.65**	**23**	*e*Pn	**Pn**	**10 57 41.9**	**+0.4**
GRUS	**Gruza**	**3.67**	**11**	*e*Pn	**Pn**	**10 57 42.6**	**+0.8**
DIVS	**Divibare**	**3.81**	**3**	*e*Pn	**Pn**	**10 57 43.3**	**-0.6**
HAPS	**Han Pijesak,BI**	**3.84**	**351**	*e*Pn	**Pn**	**10 57 44.6**	**+0.3**
TRUS	**Trudelj**	**3.96**	**7**	*e*Pn	**Pn**	**10 57 46.3**	**+0.4**
ZAGS	**Zajecar**	**3.98**	**27**	*e*Pn	**Pn**	**10 57 46.8**	**+0.7**
BLKB	**Belogradchik**	**3.98**	**32**	⇑P	**Pn**	**10 57 47.8**	**+1.6**
BLKB	**Belogradchik**	**3.98**	**32**		**Pn**	**10 57 47.8**	**+1.6**
PAOL	**Paolisi**	**4.01**	**282**		**Pn**	**10 57 47.2**	**+0.6**
SRKY	**Kupres RS**	**4.24**	**334**	*e*Pn	**Pn**	**10 57 50.6**	**+0.9**
TEKS	**Tekeris**	**4.26**	**358**	*e*Pn	**Pn**	**10 57 49.1**	**-0.9**
TEKS	**Tekeris**	**4.26**	**358**	*e*Pn	**Pn**	**10 57 48.1**	**-1.9**
KUBS	**Kucevo**	**4.36**	**18**	*e*Pn	**Pn**	**10 57 50.1**	**-1.3**
KDZ	**Kurdzhali**	**4.44**	**71**	*e*P	**Pn**	**10 57 53.7**	**+1.3**
RDO	**Rodhopi**	**4.48**	**77**	*e*P	**Pn**	**10 57 54.2**	**+1.2**
RDO	**Rodhopi**	**4.48**	**77**	Pn	**Pn**	**10 57 53.9**	**+0.9**
MGRS	**Mrkonjic Grad**	**4.58**	**335**	⇑*i*Pn	**Pn**	**10 57 55.4**	**+1.1**
PUNG	**Punghina**	**4.63**	**30**	⇑P	**Pn**	**10 57 57.0**	**+1.9**
GADA	**Gvkgeada**	**4.71**	**89**	*e*P	**Pg**	**10 58 14.6**	**-0.1**
MDVR	**Moldovita**	**4.72**	**17**	⇑P	**Pn**	**10 57 58.3**	**+2.0**
INTR	**Introdacqua**	**4.74**	**293**	Pn	**Pn**	**10 57 57.1**	**+0.5**
A050A	**Klekovaca**	**4.82**	**331**	⇑*i*Pn	**Pn**	**10 57 58.3**	**+0.6**
SIGR	**SIGRI**	**4.83**	**101**	*e*P	**Pn**	**10 58 00.0**	**+2.3**
DJES	**Djerdap**	**4.83**	**24**	⇑P	**Pn**	**10 58 00.4**	**+2.6**
BLY	**Banja Luka**	**4.84**	**338**	⇑*i*Pn	**Pn**	**10 57 57.7**	**-0.3**
FRGS	**Fruska Gora**	**4.87**	**1**	⇑P	**Pn**	**10 57 58.7**	**+0.4**
FRGS	**Fruska Gora**	**4.87**	**1**	*e*Pn	**Pn**	**10 57 57.7**	**-0.6**
FRGS	**Fruska Gora**	**4.87**	**1**	⇑*i*Pn	**Pn**	**10 57 57.5**	**-0.8**
ENEZ	**Enez**	**4.90**	**83**	*e*P	**Pn**	**10 58 01.2**	**+2.5**
HERR	**Herculane**	**5.00**	**22**	⇑P	**Pn**	**10 58 02.3**	**+2.3**
VAE	**Valguarnera**	**5.02**	**238**	Pn	**Pn**	**10 58 03.6**	**+3.1**
	comp=N,13nm,0.4s,baz=204,slow=17,SNR=2.1						
VAE				LR	LR	11 00 28.8	
	comp=N,396nm,21.1s,baz=54,slow=44						
EZN	**Ezine**	**5.07**	**93**	*e*P	**Pn**	**10 58 02.9**	**+1.9**
EZN	**Ezine**	**5.07**	**93**	P	**Pn**	**10 58 04.8**	**+3.8**
EZN	**Ezine**	**5.07**	**93**	P	**Pn**	**10 58 02.8**	**+1.8**
	comp=N,69nm,0.6s						
A051A	**Mrakovica**	**5.17**	**337**	*e*Pn	**Pn**	**10 58 01.4**	**-1.1**
CHOS	**Chios island**	**5.24**	**109**	*e*P	**Pn**	**10 58 05.6**	**+2.1**
CAMP	**Campotosto**	**5.27**	**297**		**Pn**	**10 58 04.2**	**+0.2**
ELND	**Elena**	**5.30**	**58**	⇑P	**Pn**	**10 58 06.5**	**+2.4**
ELND	**Elena**	**5.30**	**58**		**Pn**	**10 58 06.5**	**+2.4**
LPK	**Lapseki**	**5.36**	**87**	*e*P	**Pn**	**10 58 02.1**	**-2.9**
BZS	**Buzias**	**5.50**	**14**	⇑P	**Pn**	**10 58 08.8**	**+1.8**
BZS	**Buzias**	**5.50**	**14**	P	**Pn**	**10 58 08.7**	**+1.8**
GUMA	**Gualdo di Mace**	**5.55**	**302**		**Pn**	**10 58 07.8**	**+0.2**
APE	**Apeiranthos**	**5.55**	**124**	⇓P	**Pn**	**10 58 09.7**	**+2.1**
APE	**Apeiranthos**	**5.55**	**124**	*e*P	**Pn**	**10 58 06.9**	**-0.8**
APE	**Apeiranthos**	**5.55**	**124**		**Pn**	**10 58 09.7**	**+2.1**
APE	**Apeiranthos**	**5.55**	**124**	*i* P	**Pn**	**10 58 07.9**	**+0.2**
GZR	**Gura Zlata**	**5.57**	**23**	⇑P	**Pn**	**10 58 10.9**	**+3.0**
GZR	**Gura Zlata**	**5.57**	**23**	P	**Pn**	**10 58 10.9**	**+3.0**
NRCA	**Norcia**	**5.59**	**299**		**Pn**	**10 58 08.8**	**+0.5**
DKL	**Dikili**	**5.65**	**100**	*e*P	**Pn**	**10 58 12.1**	**+3.0**
RKY	**Sarkoy-Tekirda**	**5.68**	**84**	*e*P	**Pn**	**10 58 11.1**	**+1.6**
FDMO	**Fiordimonte**	**5.70**	**301**		**Pn**	**10 58 09.9**	**+0.2**
SURR	**Surduc**	**5.74**	**17**	⇓P	**Pn**	**10 58 12.0**	**+1.8**
SURR	**Surduc**	**5.74**	**17**		**Pn**	**10 58 12.0**	**+1.8**
CESX	**Cesi**	**5.87**	**296**	Pn	**Pn**	**10 58 13.2**	**+1.2**
IMMV	**Iera Moni Meta**	**5.87**	**144**	*e*P	**Pn**	**10 58 13.8**	**+1.8**
LOT	**Lotru**	**5.94**	**28**	⇑P	**Pn**	**10 58 15.6**	**+2.4**
BLCB	**Balcova**	**5.96**	**106**	*e*P	**Pn**	**10 58 15.5**	**+2.2**
MORH	**Mrgy, Hungar**	**5.98**	**353**	⇑P	**Pn**	**10 58 14.5**	**+1.0**
MORH	**Mrgy, Hungar**	**5.98**	**353**	P	**Pn**	**10 58 15.7**	**+2.2**
	comp=N,11nm,0.8s,comp=N,321nmcomp=N,0.2nm						
SIRR	**Siria**	**6.14**	**12**	⇑P	**Pn**	**10 58 18.0**	**+2.2**
BOJS	**Bojanci**	**6.17**	**329**	⇑*i*Pn	**Pn**	**10 58 15.4**	**-0.8**
BALB	**Balikesir**	**6.28**	**93**		**Pn**	**10 58 18.9**	**+1.2**
GBRS	**Gornja Briga**	**6.37**	**327**	*i* Pn	**Pn**	**10 58 18.7**	**-0.3**
IDI	**Anoyia**	**6.44**	**139**	*e*P	**Pn**	**10 58 19.3**	**-0.6**
IDI	**Anoyia**	**6.44**	**139**	Pn	**Pn**	**10 58 20.8**	**+0.8**
IDI	**Anoyia**	**6.44**	**139**	Pn	**Pn**	**10 58 18.1**	**-1.8**
	comp=N,2.2nm,0.3s,baz=317,slow=15,SNR=13						
IDI				Sn	**Sn**	**10 59 28.4**	**-5.4**
	comp=N,3.6nm,0.3s,baz=26,slow=4.0,SNR=3.3						
VOIR		**6.45**	**35**	⇑P	**Pn**	**10 58 22.8**	**+2.7**
VOIR		**6.45**	**35**	P	**Pn**	**10 58 22.8**	**+2.7**
VOIR		**6.45**	**35**	P	**Pn**	**10 58 22.2**	**+2.1**
	comp=N,10.0nm,0.8s,comp=N,416nmcomp=N,0.1nm						
KNDS	**Knezji Dol**	**6.55**	**325**	*i* Pn	**Pn**	**10 58 20.5**	**-1.0**
CTYL	**Yalikoy Yolu**	**6.58**	**77**	P	**Pn**	**10 58 23.7**	**+1.9**
	comp=N,31nm,0.6s,comp=N,3µm						
CEY	**Cerknica**	**6.70**	**326**	⇑*i*Pn	**Pn**	**10 58 21.1**	**-2.4**
GBAS	**Gorenja Brezov**	**6.85**	**327**	*e*Pn	**Pn**	**10 58 25.0**	**-0.5**
GBAS				*e*Sn	**Sn**	**10 59 41.0**	**-2.8**
MLR	**Muntele Rosu**	**6.91**	**39**	⇑P	**Pn**	**10 58 29.5**	**+3.0**
MLR	**Muntele Rosu**	**6.91**	**39**	Pn	**Pn**	**10 58 28.7**	**+2.2**
MLR	**Muntele Rosu**	**6.91**	**39**	P	**Pn**	**10 58 29.4**	**+3.0**
ISR	**Istrita**	**6.95**	**44**	⇑P	**Pn**	**10 58 28.7**	**+1.7**
ISR	**Istrita**	**6.95**	**44**	P	**Pn**	**10 58 28.6**	**+1.7**
ISR	**Istrita**	**6.95**	**44**	P	**Pn**	**10 58 28.7**	**+1.7**
	comp=N,60nm,1.2s,comp=N,0.3nm						
DOPR	**Dopca**	**7.02**	**34**	⇑P	**Pn**	**10 58 31.4**	**+3.6**
MPLH	**Magyarpolny**	**7.06**	**348**	P	**Pn**	**10 58 31.8**	**+3.4**
	comp=N,72nm,1.2s,comp=N,883nmcomp=N,0.3nm						
SOKA	**Soboth**	**7.25**	**333**	*e*Pn	**Pn**	**10 58 30.3**	**-0.8**
	comp=N,4.1nm,0.3s,SNR=8.4						
SOKA				*i* Sn	**Sn**	**10 59 47.7**	**-6.0**
	comp=N,5.6nm,0.5s						
OBKA	**Obir**	**7.28**	**330**	*i* Pn	**Pn**	**10 58 32.1**	**+0.6**
	comp=N,3.7nm,0.2s						
OBKA				*i* Sn	**Sn**	**10 59 53.1**	**-1.3**
	comp=N,8.7nm,0.2s						
OBKA	**Obir**	**7.28**	**330**	*i*Pn	**Pn**	**10 58 30.2**	**-1.3**
COVR	**Voineasa-Covas**	**7.29**	**38**	⇑P	**Pn**	**10 58 35.1**	**+3.5**
COVR	**Voineasa-Covas**	**7.29**	**38**		**Pn**	**10 58 35.1**	**+3.5**
TURR	**Turia**	**7.36**	**36**	⇑P	**Pn**	**10 58 34.0**	**+1.5**
HARR	**Harsova**	**7.48**	**51**	⇑P	**Pn**	**10 58 36.3**	**+2.2**
HARR	**Harsova**	**7.48**	**51**		**Pn**	**10 58 36.3**	**+2.2**
HARR	**Harsova**	**7.48**	**51**	P	**Pn**	**10 58 36.3**	**+2.2**
PLOR	**Plostina**	**7.51**	**40**	⇑P	**Pn**	**10 58 37.0**	**+2.3**
PLOR	**Plostina**	**7.51**	**40**	P	**Pn**	**10 58 36.9**	**+2.3**
PLOR3	**Plostina Array**	**7.51**	**40**	P	**Pn**	**10 58 37.4**	**+2.8**
	comp=N,19nm,0.6s,comp=N,0.1nm						
PLOR5	**Plostina Array**	**7.51**	**40**	P	**Pn**	**10 58

AKASG **Malin Array Be** 12.34 29 P Pn 10 59 40.0 -0.7
MMAI Mount Meron Ar 14.50 115 Pn Pn 11 00 07.9 -2.5
comp=Z,1.4nm,0.3s,baz=316,slow=13,SNR=3.9
MMAI LR LR 11 06 48.9
comp=Z,122nm,18.7s,baz=243,slow=42
comp=Z,1.1nm,0.3s
KZIT Kziot 15.13 124 P Pn 11 00 18.3 -0.6
SOC Sochi 15.22 71 *e*P P 11 00 22.6 -2.4
SOC *e* 11 03 16.6
SOC pmax pmax
comp=Z,4.0nm,0.4s
SOC MLR MLR
comp=Z,20nm,10.0s
MNK Minsk 15.23 18 *i* P Pn 11 00 18.6 -1.5
comp=E,8.0nm,0.7s
MNK *i* P Pn 11 00 18.6 -1.5
comp=N,9.0nm,0.7s
MNK *i* P Pn 11 00 18.6 -1.5
baz=205
MNK *i* PP pP 11 00 26.8 -0.3
MNK *i* S Sn 11 03 11.3 +2.3
MNK *i* SS SnSn 11 03 22.5 +0.9
MNK *i* LQ LQ 11 04 49.4
MNK *i* LR LR 11 05 59.5
MNK Minsk 15.23 18 *i* P Pn 11 00 18.5 -1.5
MNK *i* S Sn 11 03 11.3 +2.3
MNK pmax pmax
comp=N,9.0nm,0.6s
MNK pmax pmax
comp=E,8.0nm,0.7s
NACGM **Naroch** 15.36 15 *e*P Pn 11 00 22.4 +0.7
comp=Z,31nm,1.4s,baz=201
ZFRI Zfri 15.87 123 P Pn 11 00 29.5 +1.0
PRNI Paran 15.89 124 P Pn 11 00 29.4 +0.6
EIL Elat 16.33 126 Pn Pn 11 00 31.7 -2.7
comp=Z,0.3nm,0.3s,baz=334,slow=17,SNR=2.2
EIL LR LR 11 07 28.2
comp=Z,72nm,21.3s,baz=247,slow=40
comp=Z,1.9nm,0.4s
AQBJ Aqaba 16.35 125 P Pn 11 00 32.5 -2.2
VORD Divnogorie 17.29 45 *e*P P 11 00 47.3 -0.6
VORD pmax pmax
comp=Z,10.0nm,0.8s
VSR Storozhevoye 17.35 45 *e*P Pn 11 00 47.3 +0.1
VSR pmax pmax
comp=Z,10.0nm,0.8s
KIV Kislovodsk 17.39 70⇓ *e*P P 11 00 48.7 -0.5
KIV pmax pmax
comp=Z,3.0nm,0.5s
KIV MLR MLR
comp=Z,81nm,22.0s
KBZ Khabaz 17.53 71 P Pn 11 00 49.0 -0.4
comp=Z,0.1nm,0.3s,baz=274,slow=12,SNR=2.1
comp=Z,1.9nm,0.7s
KBZ Khabaz 17.53 71 *ce*P P 11 00 51.6 +1.0
ESDC Sonseca Array 18.18 276 P P 11 00 59.3 +1.4
comp=Z,0.1nm,0.3s,baz=75,slow=10,SNR=8.0
ESDC LR LR 11 07 44.6
comp=Z,144nm,19.0s,baz=54,slow=36
comp=Z,2.0nm,0.9s
OBN Obninsk 18.58 31⇓ *e*P Pn 11 01 03.1 +0.8
OBN pmax pmax
comp=Z,41nm,2.5s
OBN MLR MLR
comp=Z,113nm,16.0s
MTSE Matsula 18.63 7 *e*P Pn 11 01 02.7 -0.1
VSU Vasula 18.73 11 *ce*P Pn 11 01 04.1 0.0
VSU pmax pmax
comp=Z,24nm,1.0s
GNI Garni 19.07 82 *i* P Pn 11 01 09.1 +0.5
GNI pmax pmax
comp=Z,40nm,1.6s
MOS Moscow 19.45 31 *e*P Pn 11 01 12.7 -0.1
MOS pmax pmax
comp=Z,33nm,0.8s
AAL Aland 19.91 0 *e*P Pn 11 01 17.6 -0.7
HFS Hagfors 20.23 351 P P 11 01 20.7 +0.7
comp=Z,3.5nm,0.5s,baz=163,slow=12,SNR=12
comp=Z,3.5nm,0.5s
KONO Kongsberg 20.41 345 *i* P Pn 11 01 22.9 -1.2
KONO pmax pmax
comp=Z,11nm,1.6s
RAF Rauma 20.80 3 *e*P P 11 01 26.3 +0.1
MDT Midelt 20.90 257 LR LR 11 09 11.2
comp=Z,122nm,18.5s,baz=34,slow=36
NAO01 NORSAR Array S 21.30 348 IAmb IAmb 11 01 36.5
comp=Z,22nm,1.1s
EKA Eskdalemuir Ar 21.38 322 P P 11 01 32.5 0.0
comp=Z,8.4nm,0.9s,baz=124,slow=10,SNR=19
comp=Z,8.4nm,0.9s
ESK Eskdalemuir 21.39 322 P P 11 01 34.0 +1.3
ESK IAmb IAmb 11 01 35.2
comp=Z,24nm,1.1s
ESK Eskdalemuir 21.39 322 P P 11 01 34.0 +1.3
ESK pmax pmax
comp=Z,24nm,1.1s
NC405 NORSAR Array S 21.43 349 IAmb IAmb 11 01 34.9
comp=Z,28nm,1.4s
NB2 NORSAR Subarra 21.43 349 P P 11 01 33.7 +0.5
comp=Z,19nm,1.7s,baz=162,slow=11
NOA NORSAR Array B 21.43 349 P P 11 01 33.5 +0.3
comp=Z,1.6nm,0.6s,baz=159,slow=9.4,SNR=11
comp=Z,1.6nm,0.6s
FINES FINESS Array B 21.54 8 P P 11 01 32.5 -1.7
FINES FINESS Array B 21.54 8 P P 11 01 32.7 -1.5
comp=Z,2.9nm,0.6s,baz=185,slow=13,SNR=18
FINES PP PnPn 11 01 51.7 -2.6
comp=Z,1.2nm,0.6s,baz=217,slow=9.1,SNR=4.2
comp=Z,2.9nm,0.6s
FIA1 FINESS Array S 21.54 8 P P 11 01 32.7 -1.5
NC204 NORSAR Array S 21.73 348 IAmb IAmb 11 01 40.7
comp=Z,29nm,1.3s
KEF Keuruu 22.13 6 *e*P P 11 01 40.7 +0.1
VALR Valaam 22.18 14 *e*P P 11 01 40.4 -0.6
VALR pmax pmax
comp=Z,26nm,1.0s
BELG Belogornoye 22.58 48 P P 11 01 44.4 -1.0
comp=Z,17nm,0.7s,baz=270,slow=2.0,SNR=2.7
comp=Z,17nm,0.7s
BELG Belogornoye 22.58 48 *i* P P 11 01 45.4 0.0
BELG pmax pmax
comp=Z,9.0nm,1.3s
VAF Ylistaro 22.86 3 *e*P P 11 01 48.4 +0.1
JOF Joensuu 23.70 13 *e*P P 11 01 58.0 +1.2
KLMR Klimovskoe 23.93 24 *e*P P 11 01 56.2 -2.8
KLMR pmax pmax
comp=Z,30nm,1.1s
KIRV Kirov 26.26 36 *i* P P 11 02 20.2 0.0
ARCES **ARCESS Array B** 29.47 4 P P 11 02 47.4 -1.5
comp=Z,0.8nm,0.5s,baz=178,slow=10,SNR=4.6
comp=Z,0.8nm,0.5s
ABKAR **Akbulak array** 29.61 59 P P 11 02 49.1 -1.2
GEYT Alibeck 29.71 82 P P 11 02 52.2 +0.8
GEYT IAmb IAmb 11 02 53.4
comp=Z,7.6nm,1.1s
GEYT Alibeck 29.71 82 P P 11 02 49.2 -2.2
comp=Z,2.0nm,0.4s,baz=282,slow=8.6,SNR=4.7
comp=Z,2.0nm,0.4s
GEYT Alibeck 29.71 82 P P 11 02 52.2 +0.8
GEYT pmax pmax
comp=Z,8.0nm,1.2s
TORD Torodi Ar. Bea 31.35 215 P P 11 03 05.4 -0.5
comp=Z,1.8nm,0.9s,baz=33,slow=10,SNR=8.1
TORD LR LR 11 18 32.3
comp=Z,64nm,18.4s,baz=339,slow=42
comp=Z,1.8nm,0.9s
BORG Borgarnes 33.99 330 *i* P P 11 03 25.1 -3.5
BRVK Borovoye 36.20 52 *ce*P P 11 03 48.2 +0.4
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 36.26 52 P P 11 03 47.5 -0.8
comp=Z,1.1nm,0.5s,baz=291,slow=8.9,SNR=4.6
comp=Z,1.1nm,0.5s
KKAR Karatay Array 37.54 69 P P 11 03 57.7 -1.7
KKAR Karatay Array 37.54 69 P P 11 03 57.7 -1.7
SPITS Spitsbergen Ar 38.03 359 P P 11 04 04.6 +1.5
comp=Z,4.0nm,0.8s,baz=148,slow=12,SNR=4.4
comp=Z,4.0nm,0.8s
DBIC Dimbokro 40.08 220 P P 11 04 22.1 +1.3
comp=Z,2.9nm,0.6s,baz=66,slow=4.4,SNR=3.1
DBIC LR LR 11 23 30.6
comp=Z,92nm,18.2s,baz=1.0,slow=40
comp=Z,2.9nm,0.6s
AAK Ala-Archa 40.49 68 P P 11 04 23.4 -0.9
AAK IAmb IAmb 11 04 26.2
comp=Z,8.6nm,1.5s
AAK Ala-Archa 40.49 68 LR LR 11 26 06.0
comp=Z,51nm,19.1s,baz=306,slow=44
AAK Ala-Archa 40.49 68 *ce*P P 11 04 26.5 +2.2
AAK pmax pmax
comp=Z,9.0nm,1.7s
KURBB **Kurchatov Arra** 41.49 55 P P 11 04 31.8 -0.4
comp=Z,0.4nm,0.5s,baz=275,slow=9.0,SNR=6.3
comp=Z,0.4nm,0.5s
KURK Kurchatov 41.53 55 P P 11 04 31.8 -0.7
KURK Kurchatov 41.53 55 *ce*P P 11 04 33.9 +1.4
KURK pmax pmax
comp=Z,9.0nm,2.5s
MAKZ Makanchi 44.53 60 P P 11 04 57.3 +0.5
MAKZ IAmb IAmb 11 04 58.1
comp=Z,2.7nm,0.7s
MAKZ Makanchi 44.53 60 P P 11 04 57.3 +0.5
MAKZ pmax pmax
comp=Z,3.0nm,0.7s
MK31 Makanchi Array 44.74 60 P P 11 04 57.3 -1.2
MK31 IAmb IAmb 11 04 59.7
comp=Z,5.5nm,1.2s
MK31 Makanchi Array 44.74 60 *i* P P 11 04 56.6 -2.0
MKAR Makanchi Array 44.74 60 P P 11 04 57.5 -1.0
MKAR Makanchi Array 44.74 60 P P 11 04 57.3 -1.2
comp=Z,3.2nm,0.6s,baz=282,slow=6.8,SNR=29
MKAR LR LR 11 25 18.2
comp=Z,53nm,21.9s,baz=329,slow=38
comp=Z,3.2nm,0.6s
MKAR Makanchi Array 44.74 60 *i* P P 11 04 57.2 -1.4
MKAR pmax pmax
comp=Z,3.0nm,0.6s
ZAA0 Zalesovo Array 44.76 50 P P 11 04 58.1 -0.4
ZAA0 IAmb IAmb 11 04 59.9
comp=Z,8.8nm,1.3s
ZALV Zalesovo Beam 44.76 50 P P 11 04 57.4 -1.1
ZALV Zalesovo Beam 44.76 50 P P 11 04 57.1 -1.5
comp=Z,2.8nm,0.5s,baz=283,slow=8.2,SNR=11
comp=Z,2.8nm,0.5s
DGZ Jazzator, Alta 47.28 55 *i* P P 11 05 17.6 -1.1
DGZ pmax pmax
comp=Z,2.0nm,0.8s
SCHQ Schefferville 56.52 316 P P 11 06 27.2 -0.1
comp=Z,2.4nm,0.9s,baz=55,slow=12,SNR=2.5
comp=Z,2.4nm,0.9s
TIXI Tiksi 57.89 21 LR LR 11 34 40.3
comp=Z,94nm,18.1s,baz=326,slow=39
TIXI Tiksi 57.89 21 *ce*P P 11 06 39.0 +2.3
TIXI pmax pmax
comp=Z,7.0nm,1.7s
SONM Songino Array 59.59 51 P P 11 06 48.4 -0.8
comp=Z,1.0nm,0.8s,baz=291,slow=8.7,SNR=7.4
comp=Z,1.0nm,0.8s
ULN Ulaanbaatar 59.97 51 *i* P P 11 06 51.8 0.0
ULN pmax pmax
comp=Z,3.0nm,1.3s
YAK Yakutsk 63.57 30 LR LR 11 38 01.9
comp=Z,71nm,19.4s,baz=294,slow=39
A36M Sachs Harbour 65.34 349 P P 11 07 27.1 +0.1
BILL Bilibino 69.10 13 *i* P P 11 07 51.9 +1.0
BILL pmax pmax
comp=Z,5.0nm,1.3s
HEH HeiHe 69.83 41 *e*P P 11 07 58.4 +2.7
HEH pmax pmax
comp=Z,5.0nm,1.0s
E29M Blow River 70.36 351 P P 11 07 58.6 -0.1
SEY Seymchan 70.38 21 *i* P P 11 07 58.6 -0.3
SEY pmax pmax
comp=Z,5.0nm,1.8s
YKA Yellowknife Ar 71.21 339 P P 11 08 03.2 -0.7
comp=Z,2.2nm,1.2s,baz=33,slow=6.5,SNR=12
comp=Z,2.2nm,1.2s
YKA Yellowknife Ar 71.21 339 *i* P P 11 08 05.0 +1.1
YKA pmax pmax
comp=Z,2.0nm,1.2s
KLR Kul'dur 72.63 40 *ce*P P 11 08 12.1 -0.6
KLR pmax pmax
comp=Z,6.0nm,2.5s
ULM Lac du Bonnet 73.65 323 P P 11 08 20.7 +1.9
comp=Z,0.8nm,0.6s,baz=36,slow=7.3,SNR=3.5
comp=Z,0.8nm,0.6s
ILAR Eielson Array 74.75 354 P P 11 08 26.4 +1.5
comp=Z,0.2nm,0.6s,baz=15,slow=3.7,SNR=2.2
comp=Z,0.2nm,0.6s
KSRS Korea Array 78.45 51 P P 11 08 45.5 -0.7
comp=Z,1.3nm,0.6s,baz=312,slow=5.2,SNR=6.6
KSRS LR LR 11 45 43.3
comp=Z,16nm,20.4s,baz=55,slow=38
comp=Z,1.3nm,0.6s
ASAJ Asahikawa 81.49 38 LR LR 11 48 47.7
comp=Z,50nm,18.0s,baz=14,slow=38
MJAR Matsushiro Arr 84.94 45 P P 11 09 20.3 -0.3
comp=Z,0.9nm,0.6s,baz=329,slow=4.3,SNR=3.5
comp=Z,0.9nm,0.6s
PDAR Pinedale Array 85.47 325 P P 11 09 23.9 +0.4
comp=Z,0.2nm,0.3s,baz=79,slow=4.9,SNR=1.4
comp=Z,0.2nm,0.3s
TXAR Lajitas Array 93.09 313 P P 11 10 00.6 +1.0
comp=Z,0.3nm,0.7s,baz=59,slow=4.4,SNR=6.0
comp=Z,0.3nm,0.7s
ASAR Alice Springs 122.96 94 PKP PKPdf 11 15 40.5 -1.5
comp=Z,0.3nm,0.8s,baz=314,slow=1.8,SNR=4.8

IDC 14 10:57:06.8±4.0, 18°.85S×176°.02W, h0km, mb4.2/2, mbtmp4.2/2, Error ellipse: s-maj=244.2km s-min=82.2km az=162.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**46.70**	**260**	P	P	11 05 38.0	+0.1
	0.9nm,0.3s,baz=97,slow=7.5,SNR=63						
	0.9nm,0.3s						
ASAR	**Alice Springs**	**46.73**	**255**	P	P	11 05 37.9	-0.2
ASAR	1.9nm,0.5s,baz=88,slow=8.6,SNR=50			PcP	PcP	11 07 10.8	-0.9
	0.3nm,0.6s,baz=103,slow=3.7,SNR=4.3						
	1.9nm,0.5s						
AKASG	**Malin Array Be**	**142.43**	**334**	PKP	PKPdf	11 16 42.4	+0.9
	0.6nm,0.4s,baz=52,slow=3.6,SNR=4.2						

*NEIC **14** 11:03:02.6±0.6, 19°.380N±0°.007×155°.430W±0°.005, h10km±1km, Error ellipse: s-maj=2.6km s-min=1.4km az=149.0*

HVO 14 11:03:02.5±0.6, 19°.377N±0°.007×155°.435W±0°.005, h10km±3km, Md2.3/12, ML2.6/30(NEIC), Error ellipse: s-maj=1.2km s-min=0.6km az=206.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLH	**Mauna Loa**	**0.12**	**22**		Pg	11 03 05.8	+0.2
MLH	**Mauna Loa**	**0.12**	**22**	IAML		11 03 07.5	
	comp=E,650nm,1.4s						
MLH				IAML		11 03 07.8	
	comp=N,1μm,1.6s						
UWE	**Uwekahuna**	**0.14**	**72**	Pg	Pg	11 03 03.7	-2.1
HTC	**Hot Caves**	**0.14**	**166**		Pg	11 03 06.0	+0.2
HLP	**Hilina Pali**	**0.14**	**124**		Pg	11 03 06.0	+0.3
HLP	**Hilina Pali**	**0.14**	**124**	IAML		11 03 09.7	
	comp=N,2μm,0.7s						
HLP				IAML		11 03 10.6	
	comp=E,3μm,1.1s						
RSD	**Rainshed**	**0.17**	**60**	Pg	Pg	11 03 03.5	-2.7
MWH	**Moku'aweowe**	**0.19**	**305**		Pg	11 03 06.9	+0.1
MWH	**Moku'aweowe**	**0.19**	**305**	IAML		11 03 08.2	
	comp=E,1μm,1.4s						
MWH				IAML		11 03 11.1	
	comp=N,1μm,1.4s						
MLOA	**Mauna Loa Obse**	**0.21**	**320**		Pg	11 03 07.2	+0.2
MLOA	**Mauna Loa Obse**	**0.21**	**320**	IAML		11 03 10.9	
	comp=N,1μm,0.8s						
MLOA				IAML		11 03 11.1	
	comp=E,882nm,0.2s						
PUH	**Pauahi**	**0.21**	**91**	Pg	Pg	11 03 05.6	-1.2
PUH				IAML		11 03 09.6	
	comp=E,2μm,0.9s						
KHU	**Kahuku**	**0.21**	**233**		Pg	11 03 07.0	0.0
KHU					Sg	11 03 10.3	+0.2
KHU	**Kahuku**	**0.21**	**233**	IAML		11 03 10.4	
	comp=E,818nm,1.2s						
KHU				IAML		11 03 14.0	
	comp=N,570nm,1.3s						
HMH	**Humu'ula Sheep**	**0.23**	**349**		Pg	11 03 07.6	+0.2
HMH					Sg	11 03 11.2	+0.5
HMH	**Humu'ula Sheep**	**0.23**	**349**	IAML		11 03 11.4	
	comp=E,530nm,2.4s						
HMH				IAML		11 03 11.7	
	comp=N,740nm,1.2s						
ALEP	**Alea Permanent**	**0.26**	**310**		Pg	11 03 07.8	0.0
ALEP					Sg	11 03 11.8	+0.4
STCH	**Steam Cracks**	**0.29**	**88**		Pg	11 03 08.4	0.0
STCH	**Steam Cracks**	**0.29**	**88**	IAML		11 03 09.7	
	comp=E,927nm,1.0s						
STCH				IAML		11 03 15.9	
	comp=N,920nm,1.3s						
NPOC	**North of Pu'u**	**0.31**	**87**	Pg	Pg	11 03 08.3	-0.3
NPOC				IAML		11 03 19.4	
	comp=N,843nm,1.3s						
JCUZ	**Jacuzzi**	**0.32**	**89**		Sg	11 03 13.6	+0.5
JCUZ	**Jacuzzi**	**0.32**	**89**	Pg	Pg	11 03 08.5	-0.4
JCUZ				IAML		11 03 15.1	
	comp=E,661nm,1.5s						
JCUZ				IAML		11 03 18.4	
	comp=N,822nm,1.4s						
POHA	**Pohakuloa**	**0.39**	**346**	Pg	Pg	11 03 09.4	-0.8
POHA				IAML		11 03 12.6	
	comp=N,473nm,1.6s						
CPH	**Captain Cook**	**0.47**	**284**		Pg	11 03 10.9	-0.8
HUH	**Hualalai**	**0.49**	**309**		Pg	11 03 12.2	+0.2
HUH	**Hualalai**	**0.49**	**309**	IAML		11 03 24.2	
	comp=N,527nm,0.8s						
HUH				IAML		11 03 25.6	
	comp=E,530nm,0.6s						
HPAH	**Hawaii Prepara**	**0.69**	**339**		Sg	11 03 24.8	-0.3
HPAH	**Hawaii Prepara**	**0.69**	**339**	Pg	Pg	11 03 13.9	-2.1
HPAH				IAML		11 03 28.9	
	comp=E,234nm,2.5s						

*IDC **14** 11:11:18.8±0.8, 46°.83N×112°.73W, h0km, mb3.1/1, mbtmp2.8/9, ML2.8/8, MS3.1/1, Error ellipse: s-maj=11.9km s-min=7.5km az=52.0*

*NEIC **14** 11:11:19.0±1.7, 46°.84N±0°.04×112°.54W±0°.05, h14km±6km, ML3.6/44, ML3.7/27(BUT), Error ellipse: s-maj=7.1km s-min=3.5km az=213.0*

*BUT **14** 11:11:19.4±1.7, 46°.88N±0°.03×112°.54W±0°.03, h13km±6km, Error ellipse: s-maj=4.7km s-min=2.9km az=152.0*

ISC 14 11:11:18.0±1.2, 46°.84N±0°.03×112°.54W±0°.03, h10km±10km, n45, σ2.9 20/45, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LYMT	**Lyon Mountain**	**0.22**	**52**		**Pg**	**11 11 23.9**	**+1.2**
OVMT	**Ovando**	**0.39**	**306**		**Pg**	**11 11 26.5**	**+0.8**
BPMT	**Black Pine Rid**	**0.74**	**238**	Pg	**Pg**	**11 11 33.6**	**+1.3**
MSO	**Missoula**	**0.96**	**270**	Pg	**Pg**	**11 11 37.5**	**+1.0**
MSO				IAML		11 11 50.7	
	3μm,0.4s						
MSO				IAML		11 11 54.6	
	3μm,0.6s						
BOZ	**Bozeman (W)**	**1.39**	**153**		**Pb**	**11 11 45.6**	**+1.4**
BOZ				IAML		11 12 06.2	
	657nm,0.4s						
EGMT	**Eagleton**	**2.23**	**57**		**Pn**	**11 11 56.5**	**+1.3**
GCR	**Grayling Creek**	**2.27**	**153**		**Pg**	**11 12 02.1**	**+0.5**
YPDC	**Denny Creek**	**2.31**	**156**		**Pb**	**11 11 59.7**	**-0.3**
YMC	**Maple Creek**	**2.34**	**152**		**Pn**	**11 11 58.8**	**+2.0**
MKRVA	**Milk River, Al**	**2.36**	**12**		**Pn**	**11 11 58.7**	**+1.7**
YHH	**Holmes Hill**	**2.37**	**149**	Pn	**Pn**	**11 11 58.8**	**+1.6**
CMI	**Centennial Mou**	**2.40**	**164**		**Pn**	**11 11 59.5**	**+1.9**
YPWB	**West Boundary**	**2.45**	**155**		**Pb**	**11 12 03.0**	**+0.7**
YNM	**Yellowstone No**	**2.47**	**148**		**Pb**	**11 12 01.9**	**-0.8**
YNR	**Norris Junctio**	**2.49**	**148**		**Pg**	**11 12 05.1**	**-0.6**
YMP	**Mirror Lake Pl**	**2.68**	**141**		**Pn**	**11 12 04.0**	**+2.5**
YMP				IAML		11 12 46.4	
	comp=N,175nm,0.8s						
YMP				IAML		11 12 46.9	
	comp=E,237nm,0.6s						
RLMT	**Red Lodge**	**2.85**	**126**	Pn	**Pn**	**11 12 04.8**	**+0.9**
RLMT				IAML		11 12 57.1	
	comp=E,180nm,0.6s						
RLMT				IAML		11 13 02.9	
	comp=E,132nm,0.5s						
PLID	**Pearl Lake**	**2.98**	**235**	Pn	**Pn**	**11 12 06.5**	**+0.8**
PLID				IAML		11 12 55.1	
	comp=E,115nm,0.7s						
PLID				IAML		11 12 58.5	
	comp=E,120nm,0.7s						
FLWY	**Flagg Ranch**	**3.04**	**154**		**Pn**	**11 12 08.5**	**+2.0**
FLWY				IAML		11 12 58.5	
	comp=E,107nm,1.2s						
IMW	**Indian Meadow**	**3.15**	**158**	Pn	**Pn**	**11 12 10.3**	**+2.3**
IMW				IAML		11 13 01.7	
	comp=E,241nm,0.5s						
IMW				IAML		11 13 05.3	
	comp=E,158nm,0.5s						
MOOW	**Moose Ponds**	**3.34**	**157**	Pn	**Pn**	**11 12 12.9**	**+2.4**
F10A	**Beach Ranch, E**	**3.35**	**257**	Pn	**Pn**	**11 12 12.1**	**+1.5**
NEW	**Newport**	**3.42**	**296**	Pn	**Pn**	**11 12 12.2**	**+0.8**
NEW				IAML		11 13 07.2	
	comp=E,161nm,0.3s						
NEW				IAML		11 13 07.4	
	comp=E,161nm,0.7s						
NEW	**Newport**	**3.42**	**296**	Pn	**Pn**	**11 12 12.4**	**+1.0**
	comp=E,1.9nm,0.3s,baz=111,slow=7.2,SNR=18						
NEW				Lg	Lg	11 13 02.4	
	comp=E,19nm,0.3s,baz=12,slow=22,SNR=21						
	comp=E,4.2nm,0.3s						
HLID	**Hailey**	**3.53**	**203**	Pn	**Pn**	**11 12 14.6**	**+1.5**
HLID				IAML		11 13 12.0	
	comp=E,226nm,0.7s						
HLID				IAML		11 13 12.7	
	comp=E,254nm,0.8s						
SNOW	**Snow King Moun**	**3.60**	**159**		**Pn**	**11 12 15.0**	**+0.8**
SNOW				IAML		11 13 21.8	
	comp=E,61nm,0.9s						
BMO	**Blue Mountains**	**3.88**	**241**		**Pn**	**11 12 17.8**	**0.0**
C09A	**Chrisman Ranch**	**4.02**	**286**		**Pn**	**11 12 20.3**	**+0.6**
LAO	**LASA Array**	**4.34**	**90**	Pn	**Pn**	**11 12 25.5**	**+1.3**
PDAR	**Pinedale Array**	**4.59**	**151**	Pn	Pn	11 12 33.8	+6.1
	comp=E,0.4nm,0.3s,baz=1.3,slow=15,SNR=9.8						
PDAR				Lg	Lg	11 13 41.6	
	comp=E,0.5nm,0.3s,baz=0.9,slow=28,SNR=8.1						
	comp=E,0.4nm,0.4s						
G08A	**Pilot Rock**	**4.73**	**253**		**Pn**	**11 12 31.5**	**+2.0**
G08A				IAML		11 13 52.2	
	comp=N,27nm,1.0s						
G08A				IAML		11 13 54.6	
	comp=E,29nm,0.9s						
HAWA	**Hanford**	**4.84**	**267**		**Pn**	**11 12 31.0**	**0.0**
HAWA				IAML		11 14 00.4	
	comp=E,66nm,0.6s						
E07A	**Sunnyside**	**5.04**	**269**		**Sg**	**11 13 58.6**	**-1.1**
HVU	**Hansel Valley**	**5.06**	**182**	Pg	**Pg**	**11 12 53.6**	**-1.3**
HVU				IAML		11 14 08.1	
	comp=E,71nm,0.7s						
HVU				IAML		11 14 08.5	
	comp=N,77nm,0.6s						
BGU	**Big Grassy Mou**	**5.92**	**184**	Sg	**Sg**	**11 14 23.5**	**-4.5**
ELK	**Elko**	**6.39**	**199**	Pn	**Pn**	**11 12 55.2**	**+2.7**
	baz=14,slow=18,SNR=1.7						
ELK				Lg	Lg	11 14 36.5	
	comp=N,2.3nm,0.3s,baz=223,slow=4.3,SNR=14						
	comp=N,0.4nm,0.6s						
EDM	**Edmonton**	**6.41**	**356**		**Pn**	**11 12 52.5**	**0.0**
BRLDA	**Berland Lookou**	**7.90**	**339**	Pn	**Pn**	**11 13 10.3**	**-2.7**
Q12A	**Willow Creek R**	**7.97**	**193**		**Sg**	**11 15 30.0**	**-3.8**
YBH	**Yreka Blue Hor**	**8.90**	**239**	Pn	**Pn**	**11 13 29.1**	**+2.4**
	comp=N,0.1nm,0.3s,baz=70,slow=15,SNR=1.6						
	comp=N,0.3nm,0.4s						
NVAR	**Mina Array Bea**	**9.41**	**209**	Pn	**Pn**	**11 13 38.7**	**+4.8**
	baz=29,slow=13,SNR=1.7						
NVAR				Lg	Lg	11 16 14.9	
	comp=N,0.1nm,0.3s,baz=27,slow=36,SNR=2.6						
	comp=N,0.1nm,0.4s						
ULM	**Lac du Bonnet**	**11.56**	**67**	Pn	**Pn**	**11 14 03.3**	**+0.2**
	comp=N,0.1nm,0.3s,baz=284,slow=8.3,SNR=1.6						
ULM				Lg	Lg	11 17 12.4	
	comp=N,0.4nm,0.3s,baz=156,slow=14,SNR=6.3						
	comp=N,0.9nm,0.8s						
YKA	**Yellowknife Ar**	**15.73**	**356**	Pn	**Pn**	**11 14 56.3**	**-3.2**
	comp=N,0.1nm,0.3s,baz=181,slow=12,SNR=4.6						
YKA				Sn	**Sn**	**11 17 48.2**	**-5.6**
	comp=N,0.1nm,0.3s,baz=170,slow=23,SNR=4.3						
YKA				Lg	Lg	11 19 23.0	
	comp=N,0.1nm,0.3s,baz=169,slow=25,SNR=3.8						
	comp=N,0.1nm,0.5s						
TXAR	**Lajitas Array**	**18.80**	**155**	P	**Pn**	**11 15 41.9**	**+3.7**
	baz=337,slow=13,SNR=1.3						
ILAR	**Eielson Array**	**25.86**	**326**	P	**P**	**11 16 51.2**	**+1.7**
	comp=N,0.3nm,0.9s,baz=121,slow=7.7,SNR=4.5						
ILAR				LR	LR	11 27 16.8	
	comp=N,42nm,20.0s,baz=262,slow=37						

comp=N,0.3nm,0.9s

*BUT **14** 11:13:14.3±0.9, 46°.87N×0°.04×112°.54W±0°.02, h13km±6km, Error ellipse: s-maj=5.5km s-min=1.9km az=187.0*
NEIC 14 11:13:14.1±1.8, **46.84N**±0°.02×**112.53W**±0°.03, **h10**km±2km, **ML3.1**/16, **ML3.5**/15(BUT), **Error ellipse: s-maj=4.5km s-min=3.0km az=31.0, Montana**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYMT	**Lyon Mountain**	**0.21**	**52**	Pg	Pg	11 13 18.9	+0.4
OVMT	**Ovando**	**0.39**	**305**	Pg	Pg	11 13 21.5	-0.4
HRY	**Holter Researc**	**0.50**	**105**	Pg	Pg	11 13 24.4	+0.6
BPMT	**Black Pine Rid**	**0.75**	**238**	Pg	Pg	11 13 28.6	0.0
MSO	**Missoula**	**0.97**	**270**		Pg	11 13 32.3	-0.4
MSO				IAML		11 13 45.6	
	574nm,0.3s						
MSO				IAML		11 13 49.2	
	973nm,0.5s						
LRM	**Limekiln Ridge**	**1.02**	**177**		Pb	11 13 34.0	0.0
BOZ	**Bozeman (W)**	**1.39**	**153**		Pb	11 13 40.1	-0.2
BOZ				IAML		11 14 00.4	
	330nm,0.4s						
BOZ				IAML		11 14 01.3	
	348nm,0.3s						
QLMT	**Earthquake Lak**	**2.15**	**159**	Pn	Pn	11 13 48.4	-1.9
EGMT	**Eagleton**	**2.22**	**57**	Pn	Pn	11 13 48.7	-2.4
YHH	**Holmes Hill**	**2.37**	**150**	Pn	Pn	11 13 50.5	-2.7
YNR	**Norris Junctio**	**2.49**	**148**	Pn	Pn	11 13 50.9	-4.0
YNR				IAML		11 14 36.0	
	comp=E,49nm,0.4s						
YFT	**Old Faithful**	**2.67**	**153**	Pn	Pn	11 13 53.0	-4.3
PLID	**Pearl Lake**	**2.99**	**235**	Pn	Pn	11 13 59.1	-2.6
PLID				IAML		11 14 52.9	
	comp=E,38nm,0.7s						
F10A	**Beach Ranch, E**	**3.37**	**257**	Pn	Pn	11 14 03.0	-3.8
NEW	**Newport**	**3.42**	**296**	Pn	Pn	11 14 06.3	-1.2
NEW				IAML		11 15 01.8	
	comp=E,29nm,0.3s						
NEW				IAML		11 15 06.5	
	comp=E,30nm,0.4s						

*BEO **14** 11:23:20.4±0.7, 40°.12N×19°.46E, h10km±4km, ML3.3/2*
*TIR **14** 11:23:21.0, 40°.25N×19°.76E, h0km±2km, Md3.2, Ml3.4*
*THE **14** 11:23:22.9, 40°.27N×19°.78E, h10km±2km, ML3.0/6, Error ellipse: s-maj=2.3km s-min=0.9km az=228.0*
*ATH **14** 11:23:23.7, 40°.31N×19°.71E, h7km±2km, ML3.0/16, Error ellipse: s-maj=2.4km s-min=1.2km az=191.0*
ISC 14 11:23:22.8±1.0, **40°.25N**±0°.02×**19°.76E**±0°.02, **h7**km±9km, **n73**, σ**1**°.**13**/**94**, **Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.30**	**317**	P	**Pg**	**11 23 27.9**	**-0.7**
	baz=318						
VLO				S	**Sg**	**11 23 33.7**	**+1.1**
	baz=318						
VLO				AMP			
	comp=E,49nm,0.2s,baz=318						
VLO	**Vlora**	**0.30**	**317**	P	**Pg**	**11 23 27.9**	**-0.7**
VLO				S	**Sg**	**11 23 33.7**	**+1.1**
	comp=E,12μm,0.3s						
SRN	**Sarande**	**0.41**	**154**	P	**Pg**	**11 23 30.7**	**-0.2**
	baz=153						
SRN				S	**Sg**	**11 23 36.6**	**+0.4**
	baz=153						
SRN				AMP			
	comp=N,5.0nm,0.3s,baz=153						
SRN	**Sarande**	**0.41**	**154**	P	**Pg**	**11 23 30.6**	**-0.2**
SRN				S	**Sb**	**11 23 37.7**	**-1.2**
	comp=N,1μm,0.5s						
KASA	**Kassiopi**	**0.52**	**165**	P	**Pb**	**11 23 33.8**	**-0.5**
KASA				S	**Sn**	**11 23 43.6**	**-2.2**
KASA				AML	AML	11 23 46.0	
	comp=E,1968μm,0.4s						
KASA				AML	AML	11 23 48.2	
	comp=N,1435μm,0.6s						
LSK	**Leskovik**	**0.65**	**99**	P	**Pg**	**11 23 34.1**	**-1.1**
	baz=98						
LSK				S	**Sb**	**11 23 45.6**	**-0.2**
	baz=98						
LSK				AMP			
	comp=N,7.7nm,0.6s,baz=98						
LSK	**Leskovik**	**0.65**	**99**	P	**Pg**	**11 23 34.0**	**-1.3**
LSK				S	**Sb**	**11 23 44.7**	**-1.1**
	comp=N,2μm,0.7s						
IGT	**Igoumenitsa**	**0.84**	**148**	P	**Pg**	**11 23 38.6**	**-0.4**
	baz=148						
IGT				S	**Sn**	**11 23 52.4**	**-1.4**
	baz=148						
IGT				AMP			
	comp=E,2.5nm,0.5s,baz=148						
IGT	**Igoumenitsa**	**0.84**	**148**	P	**Pg**	**11 23 38.4**	**-0.5**
IGT				S	**Sb**	**11 23 51.6**	**+0.3**
	comp=E,598nm,0.7s						
IGT	**Igoumenitsa**	**0.84**	**148**	*e*Pg	**Pg**	**11 23 38.6**	**-0.4**
IGT	**Igoumenitsa**	**0.84**	**148**	P	**Pn**	**11 23 41.0**	**-0.1**
IGT				S	**Sn**	**11 23 52.6**	**-1.1**
IGT				AML	AML	11 23 59.5	
	comp=E,1272μm,0.6s						
IGT				AML	AML	11 24 00.8	
	comp=N,956μm,0.6s						
NEST	**Nestorio**	**1.00**	**80**	P	**Pg**	**11 23 40.9**	**-1.0**
NEST				S	**Sb**	**11 23 55.7**	**-0.1**
	comp=N,538nm,0.6s						
NEST	**Nestorio**	**1.00**	**80**	P	**Pn**	**11 23 43.2**	**-0.2**
NEST				AML	AML	11 24 04.5	
	comp=E,1272μm,0.4s						
NEST				AML	AML	11 24 06.1	
	comp=N,1588μm,0.4s						
SCTE	**Santa Cesarea**	**1.01**	**260**	P	**Pg**	**11 23 41.9**	**-0.2**
	baz=261						
SCTE				S	**Sb**	**11 23 56.0**	**-0.1**
	baz=261						
SCTE				AMP			
	comp=N,0.9nm,0.4s,baz=261						
SCTE	**Santa Cesarea**	**1.01**	**260**	P	**Pg**	**11 23 41.9**	**-0.2**
SCTE				S	**Sb**	**11 23 55.9**	**-0.1**
SCTE				AML	AML	11 24 01.7	
	comp=N,722μm,0.6s						
SCTE				AML	AML	11 24 02.4	
	comp=E,1353μm,0.6s						
JAN	**Janina**	**1.03**	**125**	P	**Pn**	**11 23 43.2**	**-0.5**
JAN	**Janina**	**1.03**	**125**	P	**Pn**	**11 23 44.6**	**+1.0**
JAN				S	**Sn**	**11 23 59.9**	**+1.6**
JAN				AML	AML	11 24 06.7	
	comp=E,3118μm,0.4s						
JAN				AML	AML	11 24 09.9	
	comp=N,2154μm,0.6s						
PENT	**Pentalofos**	**1.05**	**93**	P	**Pg**	**11 23 42.2**	**-0.8**
PENT	**Pentalofos**	**1.05**	**93**	P	**Pg**	**11 23 42.9**	**-0.1**
TIR	**Tirane**	**1.10**	**4**	P	**Pb**	**11 23 43.3**	**-0.9**
	baz=4.0						
TIR				S	**Sn**	**11 23 59.5**	**-0.6**
	baz=4.0						
TIR				AMP			
	comp=E,1.0nm,0.5s,baz=4.0						
TIR	**Tirane**	**1.10**	**4**	P	**Pb**	**11 23 43.3**	**-0.9**
TIR				S	**Sn**	**11 23 59.1**	**-1.0**
TIR	**Tirane**	**1.10**	**4**	*e*Pg	**Pb**	**11 23 43.2**	**-0.9**
TIR				*e*Sg	**Sn**	**11 24 03.1**	**+3.0**
OHR	**Ohrid**	**1.17**	**42**	*e*Pg	**Pb**	**11 23 44.8**	**-0.5**
OHR				*e*Sg	**Sn**	**11 24 05.5**	**+3.7**
OHR	**Ohrid**	**1.17**	**42**	*i* Pn	**Pb**	**11 23 44.3**	**-1.0**
KPRO	**Kipourio**	**1.26**	**103**	P	**Pn**	**11 23 46.3**	**-0.7**
KPRO				S	**Sb**	**11 24 02.6**	**-0.9**
	comp=E,1μm,0.7s						
KPRO	**Kipourio**	**1.26**	**103**	P	**Pg**	**11 23 47.9**	**+0.9**
KPRO				AML	AML	11 24 13.7	
	comp=E,2953μm,0.7s						
KPRO				AML	AML	11 24 15.1	
	comp=N,1817μm,0.8s						
FNA	**Florina**	**1.34**	**66**	P	**Pn**	**11 23 47.0**	**-1.0**
	baz=66						
FNA				S	**Sg**	**11 24 08.7**	**+2.9**
	baz=66						
FNA				AMP			
	comp=E,3.2nm,0.6s,baz=66						
FNA	**Florina**	**1.34**	**66**	P	**Pn**	**11 23 46.8**	**-1.2**
FNA	**Florina**	**1.34**	**66**	*e*Pn	**Pn**	**11 23 46.9**	**-1.1**
FNA	**Florina**	**1.34**	**66**	P	**Pb**	**11 23 47.7**	**-0.6**
FNA				AML	AML	11 24 12.7	
	comp=N,2909μm,1.0s						
FNA				AML	AML	11 24 13.3	
	comp=E,4076μm,0.7s						
TSLK	**Tsoukalades, L**	**1.58**	**154**	P	**Pb**	**11 23 52.1**	**-0.3**
TSLK				AML	AML	11 24 23.8	
	comp=N,891μm,0.5s						
TSLK				AML	AML	11 24 23.8	
	comp=E,803μm,0.4s						
LKD2	**Lefkada island**	**1.62**	**154**	P	**Pb**	**11 23 52.4**	**-0.5**
LKD2				AML	AML	11 24 22.6	
	comp=N,629μm,0.5s						
LKD2				AML	AML	11 24 23.8	
	comp=E,764μm,1.0s						
DRAG	**Dragano-Lefkad**	**1.69**	**158**	P	**Pb**	**11 23 54.3**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.70**	**154**	P	**Pb**	**11 23 53.7**	**-0.7**
EVGI	**Lefkada island**	**1.77**	**157**	P	**Pb**	**11 23 55.3**	**-0.2**
PUK	**Puka**	**1.79**	**3**	P	**Pn**	**11 23 54.6**	**+0.4**
	baz=3.0						
PUK				S	**Sg**	**11 24 22.1**	**+1.7**
	baz=3.0						
PUK				AMP			
	comp=N,1.0nm,0.4s,baz=3.0						
THL	**Klokotos Trika**	**1.86**	**111**	P	**Pb**	**11 23 57.0**	**-0.1**
THL				AML	AML	11 24 28.9	
	comp=E,386μm,0.9s						
THL				AML	AML	11 24 33.0	
	comp=N,479μm,0.6s						
FSK	**Fiskardo**	**1.90**	**161**	P	**Pn**	**11 23 56.0**	**+0.4**
TYRN	**Tyrnavos**	**1.97**	**105**	P	**Pb**	**11 23 58.3**	**-0.8**
TYRN				AML	AML	11 24 31.8	
	comp=N,533μm,0.7s						
TYRN				AML	AML	11 24 33.8	
	comp=E,916μm,0.6s						
DMLN	**Damoulianata-K**	**2.07**	**167**	P	**Pn**	**11 23 58.4**	**+0.4**
EVR	**Evrytania**	**2.07**	**129**	P	**Pb**	**11 23 59.5**	**-1.2**
EVR				AML	AML	11 24 44.6	
	comp=N,448μm,0.6s						
EVR				AML	AML	11 24 44.6	
	comp=E,374μm,0.4s						
BCI	**Bajram Curri**	**2.12**	**6**	P	**Pb**	**11 23 59.9**	**-1.8**
	baz=6.0						
GRG	**Griva**	**2.13**	**70**	P	**Pn**	**11 23 59.7**	**+0.9**
GRG				AML	AML	11 24 35.4	
	comp=E,312μm,0.8s						
GRG				AML	AML	11 24 40.6	
	comp=N,432μm,0.7s						
PVO	**Paravola**	**2.13**	**140**	P	**Pb**	**11 24 00.5**	**-1.2**
SKO	**Skopje**	**2.13**	**36**	*i* Pn	**Pb**	**11 24 00.9**	**-0.9**
VLS	**Valsamata**	**2.17**	**163**	P	**Pn**	**11 23 59.5**	**+0.1**
VLS				AML	AML	11 24 41.6	
	comp=N,380μm,0.4s						
VLS				AML	AML	11 24 44.1	
	comp=E,307μm,0.5s						
PSDA	**Pessada-Kefalo**	**2.23**	**163**	P	**Pn**	**11 24 00.3**	**+0.2**
AGG	**Agios Georgios**	**2.33**	**121**	P	**Pb**	**11 24 03.4**	**-1.8**
ANX	**Ano Chora**	**2.35**	**134**	P	**Pb**	**11 24 03.7**	**-1.9**
VAY	**Valandovo**	**2.38**	**62**	*i* Pn	**Pb**	**11 24 04.0**	**-2.0**
EFP	**Efpalio**	**2.47**	**137**	P	**Pn**	**11 24 04.9**	**+1.5**
KNT	**Kendrikon**	**2.55**	**68**	P	**Pn**	**11 24 04.7**	**+0.1**
RLS	**Riolos of Patr**	**2.56**	**148**	P	**Pn**	**11 24 06.0**	**+1.3**
HORT	**Hortiatis**	**2.57**	**81**	P	**Pn**	**11 24 05.9**	**+0.9**
HORT				AML	AML	11 24 52.5	
	comp=E,92μm,0.7s						
HORT				AML	AML	11 24 53.0	
	comp=N,221μm,0.9s						
DRO	**Drossia**	**2.75**	**146**	P	**Pn**	**11 24 08.6**	**+1.2**
XOR	**Xorichti**	**2.79**	**107**	P	**Pn**	**11 24 09.3**	**+1.4**
XOR				AML	AML	11 25 04.1	
	comp=N,268μm,1.1s						
XOR				AML	AML	11 25 04.2	
	comp=E,180μm,0.7s						
SOH	**Sokhos**	**2.79**	**77**	P	**Pn**	**11 24 08.7**	**+0.7**
PLG	**Polygyros**	**2.82**	**86**	P	**Pn**	**11 24 09.6**	**+1.3**
PRVS	**Prvonek**	**2.85**	**37**	*e*Pn	**Pn**	**11 24 09.0**	**+0.3**
KLV	**Kalavryta, Ach**	**2.88**	**139**	P	**Pn**	**11 24 10.9**	**+1.7**
BARS	**Barje**	**2.99**	**30**	*e*Pn	**Pn**	**11 24 11.2**	**+0.5**
SJES	**Sjenica**	**3.01**	**3**	*e*Pn	**Pn**	**11 24 11.4**	**+0.4**
BOSS	**Bosilegrad**	**3.03**	**41**	*e*Pn	**Pn**	**11 24 11.8**	**+0.5**
CUC	**Castrocucco**	**3.04**	**266**	P	**Pn**	**11 24 11.6**	**+0.3**
SRS	**Serrai**	**3.04**	**72**	P	**Pn**	**11 24 11.9**	**+0.6**
GUR	**Goura**	**3.06**	**138**	P	**Pn**	**11 24 13.3**	**+1.6**
SELS	**Selova**	**3.13**	**18**	*e*Pn	**Pn**	**11 24 13.7**	**+1.1**
KOKK	**Kokkinochori,**	**3.28**	**79**	P	**Pn**	**11 24 15.3**	**+0.7**
LTK	**Loutraki**	**3.34**	**131**	P	**Pn**	**11 24 17.3**	**+1.8**
BBLS	**Lazi&#263i**	**3.62**	**356**	*e*Pn	**Pn**	**11 24 19.6**	**+0.2**
BOVS	**Bovan**	**3.68**	**23**	*e*Pn	**Pn**	**11 24 19.3**	**-0.8**
ZAGS	**Zajecar**	**4.00**	**27**	*e*Pn	**Pn**	**11 24 25.2**	**+0.6**
KUBS	**Kucevo**	**4.39**	**18**	*e*Pn	**Pn**	**11 24 28.5**	**-1.4**

*SOME **14** 11:27:59.9, 41°.28N×75°.68E, h10km*
*KRNET **14** 11:28:00.8±0.1, 41°.40N×75°.62E, h11km, mb2.6*
*NNC **14** 11:28:00.9±0.5, 41°.30N×75°.71E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=3.7km s-min=2.5km az=172.0*
*KNET **14** 11:28:02.8±0.5, 41°.48N×75°.63E, h0km±3km, ml2.4, Error ellipse: s-maj=3.1km s-min=1.8km az=163.0*
ISC 14 11:28:00.1±1.1, **41°.33N**±0°.03×**75°.62E**±0°.02, **h6**km±11km, **n63**, σ**0**°.**99**/**109**, **23C-36D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.31**	**70**	⇑*e*P	**Pg**	**11 28 05.8**	**-0.5**
	baz=85						
NRN				⇑*e*S	**Sg**	**11 28 09.7**	**-0.7**
	baz=85						
ULHL	**Ulahol**	**1.03**	**27**	⇓P	**Pg**	**11 28 20.0**	**+0.1**
	22nm,0.1s,SNR=5.3						
ULHL				⇓S	**Sg**	**11 28 33.5**	**+0.2**
	61nm,0.2s						
ULHL	**Ulahol**	**1.03**	**27**	⇑*i*P	**Pg**	**11 28 19.6**	**-0.3**
	baz=29						
ULHL				⇑*i*S	**Sg**	**11 28 33.0**	**-0.3**
	baz=29						
ARLS	**Aral**	**1.11**	**299**	⇓*i*P	**Pg**	**11 28 21.4**	**+0.1**
	baz=96						
ARLS				⇓*i*S	**Sg**	**11 28 36.1**	**+0.4**
	baz=96						
BOOM	**Boomskoye usch**	**1.19**	**12**	⇑*i*P	**Pb**	**11 28 22.5**	**-0.6**
	baz=12						
BOOM				⇑*i*S	**Sb**	**11 28 38.0**	**-0.8**
	baz=12						
UCH	**Uchtor**	**1.22**	**318**	⇓P	**Pn**	**11 28 24.0**	**-0.1**
	6.9nm,0.1s,SNR=36						
UCH				⇓S	**Sn**	**11 28 41.2**	**+0.1**
	34nm,0.2s						
UCH	**Uchtor**	**1.22**	**318**	⇓*i*P	**Pb**	**11 28 23.5**	**-0.3**
	baz=15						
UCH				⇓*i*S	**Sb**	**11 28 39.8**	**-0.2**
	baz=15						
KBK	**Karagaybulak**	**1.42**	**340**	⇑P	**Pg**	**11 28 28.0**	**+0.7**
	20nm,0.1s,SNR=13						
KBK				⇓S	**Sg**	**11 28 47.5**	**+1.8**
	117nm,0.2s						
KBK	**Karagaybulak**	**1.42**	**340**	⇓*i*P	**Pb**	**11 28 26.7**	**-0.4**
	baz=39						
KBK				⇓*i*S	**Sn**	**11 28 45.3**	**-0.4**
	baz=39						
KDJ	**Kajisay**	**1.42**	**55**	⇑*e*P	**Pg**	**11 28 27.5**	**+0.2**
	baz=58						
KDJ				⇑*e*S	**Sg**	**11 28 46.4**	**+0.6**
	baz=58						
AAK	**Ala-Archa**	**1.55**	**328**	⇓P	**Pg**	**11 28 30.1**	**+0.2**
	8.8nm,0.1s,SNR=13						
AAK				⇑S	**Sg**	**11 28 51.5**	**+1.4**
	36nm,0.3s						
AAK	**Ala-Archa**	**1.55**	**328**	⇑P	**Pg**	**11 28 30.0**	**+0.2**
	4.0nm,0.3s						
AAK				⇓S	**Sg**	**11 28 52.5**	**+2.5**
	38nm,0.8s						
AAK	**Ala-Archa**	**1.55**	**328**	⇓*i*P	**Pb**	**11 28 29.2**	**-0.1**
	baz=26						
AAK				⇓*i*S	**Sb**	**11 28 49.4**	**+0.1**
	baz=26						
TKM2	**Tokmak 2**	**1.59**	**360**	⇓P	**Pg**	**11 28 30.6**	**0.0**
	14nm,0.2s,SNR=52						
TKM2				⇑S	**Sg**	**11 28 52.2**	**+0.9**
	61nm,0.1s						
TKM2	**Tokmak 2**	**1.59**	**360**	⇓P	**Pg**	**11 28 30.5**	**-0.1**
	5.4nm,0.3s						
TKM2				⇓S	**Sg**	**11 28 52.5**	**+1.2**
	36nm,0.5s						
TKM2	**Tokmak 2**	**1.59**	**360**	⇓*i*P	**Pb**	**11 28 29.7**	**-0.4**
	baz=59						
TKM2				⇓*i*S	**Sb**	**11 28 50.5**	**0.0**
	baz=59						
TARG	**Taragay, Kyrgy**	**1.69**	**76**	⇓*i*P	**Pg**	**11 28 32.5**	**-0.1**
	baz=78						
TARG				⇓*i*S	**Sg**	**11 28 55.3**	**+0.8**
	baz=78						
KST	**Kastek**	**1.73**	**8**	P	**Pg**	**11 28 33.3**	**-0.1**
	14nm,0.3s						
KST				S	**Sg**	**11 28 57.1**	**+1.3**
	33nm,0.2s						
KST	**Kastek**	**1.73**	**8**	*e*P	**Pg**	**11 28 33.3**	**-0.1**
	14nm,0.3s						
KST				*e*S	**Sg**	**11 28 57.1**	**+1.3**
	33nm,0.2s						
CHMS	**Chumysh**	**1.79**	**339**	⇓P	**Pg**	**11 28 34.6**	**+0.2**
	6.9nm,0.1s,SNR=14						
CHMS				⇑S	**Sg**	**11 28 58.5**	**+0.9**
	24nm,0.1s						
CHMS	**Chumysh**	**1.79**	**339**	⇓Pn	**Pg**	**11 28 34.4**	**0.0**
	4.6nm,0.3s						
CHMS				⇓Sn	**Sg**	**11 28 59.4**	**+1.8**
CHMS	**Chumysh**	**1.79**	**339**	⇓*i*P	**Pb**	**11 28 33.2**	**-0.1**
	baz=38						
CHMS				⇓*i*S	**Sb**	**11 28 56.4**	**+0.4**
	baz=38						
EKS2	**Erkin-Say**	**1.91**	**315**	⇓P	**Pg**	**11 28 37.4**	**+0.7**
	4.0nm,0.2s,SNR=10						
EKS2				⇑S	**Sg**	**11 29 03.3**	**+1.8**
	11nm,0.2s						
EKS2	**Erkin-Say**	**1.91**	**315**	⇑*i*P	**Pb**	**11 28 35.7**	**+0.3**
	baz=13						
EKS2				⇑*i*S	**Sg**	**11 29 00.9**	**-0.6**
	baz=13						
DGS	**Degeres**	**1.92**	**3**	Pg	**Pg**	**11 28 36.7**	**-0.1**
	16nm,0.6s						
DGS				Lg	Lg	11 29 03.1	
	69nm,0.7s						
DGS	**Degeres**	**1.92**	**3**	*e*P	**Pg**	**11 28 36.7**	**-0.1**
	16nm,0.6s						
DGS				*e*S	**Sg**	**11 29 03.1**	**+1.4**
	69nm,0.7s						
TNSS	**Tian-Shan**	**1.98**	**30**	Pg	**Pb**	**11 28 37.3**	**+0.6**
	6.9nm,0.4s						
TNSS				Lg	Lg	11 29 04.2	
	18nm,0.2s						
TNSS	**Tian-Shan**	**1.98**	**30**	*e*P	**Pb**	**11 28 37.2**	**+0.6**
	6.9nm,0.4s						
TNSS				*e*S	**Sg**	**11 29 04.2**	**+0.6**
	18nm,0.2s						
ARSB	**Arslanbob**	**1.98**	**271**	⇓*e*P	**Pg**	**11 28 37.9**	**-0.2**
	baz=69						
ARSB				⇓*e*S	**Sg**	**11 29 04.2**	**+0.4**
	baz=69						
SFK	**Sufi-Kurgan**	**2.07**	**231**	⇑*i*P	**Pg**	**11 28 39.4**	**-0.4**
	baz=30						
SFK				⇑*i*S	**Sg**	**11 29 07.4**	**+0.7**
	baz=30						
USP	**Ospenovka**	**2.11**	**337**	⇑P	**Pg**	**11 28 40.2**	**-0.3**
	21nm,0.2s,SNR=35						
USP				⇑S	**Sg**	**11 29 09.0**	**+1.2**
	41nm,0.3s						
USP	**Ospenovka**	**2.11**	**337**	⇓*i*P	**Pb**	**11 28 38.4**	**-0.3**
	baz=36						
USP				⇓*i*S	**Sb**	**11 29 05.5**	**+0.3**
	baz=36						
ANVS	**Anan'yevo**	**2.11**	**46**	⇓*e*P	**Pb**	**11 28 39.0**	**+0.1**
	baz=47						
ANVS				⇓*e*S	**Sg**	**11 29 06.4**	**-1.5**
	baz=47						
MDOK	**Medeo**	**2.12**	**30**	⇑Pg	**Pb**	**11 28 39.3**	**+0.2**
	5.2nm,0.5s						
MDOK				Pg	**Pb**	**11 28 39.6**	**+0.5**
	7.8nm,0.2s						
MDOK				Lg	Lg	11 29 07.7	
	9.1nm,0.4s						
MDOK				Lg	Lg	11 29 08.2	
	18nm,0.3s						
MDOK	**Medeo**	**2.12**	**30**	*e*P	**Pb**	**11 28 39.6**	**+0.5**
	7.8nm,0.2s						
MDOK				*e*S	**Sg**	**11 29 08.2**	**-0.1**
	18nm,0.3s						
KOTS	**Kotyrbulak**	**2.21**	**30**	Pg	**Pg**	**11 28 41.6**	**-0.8**
	8.3nm,0.3s						
KOTS				Lg	Lg	11 29 11.6	
	34nm,0.4s						
KOTS	**Kotyrbulak**	**2.21**	**30**	*e*P	**Pg**	**11 28 41.6**	**-0.8**
	8.3nm,0.3s						
KOTS				*e*S	**Sg**	**11 29 11.6**	**+0.6**
	34nm,0.4s						
SGDS	**Sogindy**	**2.25**	**341**	Pg	**Pg**	**11 28 42.5**	**-0.6**
	24nm,0.1s						
SGDS				Lg	Lg	11 29 13.1	
	79nm,0.3s						
MRKS	**Merke**	**2.27**	**309**	Pg	**Pg**	**11 28 42.8**	**-0.9**
	12nm,0.5s						
MRKS				Lg	Lg	11 29 13.7	
	36nm,0.5s						
MRKS	**Merke**	**2.27**	**309**	*e*P	**Pg**	**11 28 42.8**	**-0.9**
	12nm,0.3s						
MRKS				*e*S	**Sg**	**11 29 13.7**	**+0.5**
	36nm,0.5s						
OHH	**Osh**	**2.29**	**250**	⇓*i*P	**Pb**	**11 28 42.2**	**+0.4**
	baz=49						
OHH				⇓*i*S	**Sb**	**11 29 12.0**	**+1.6**
	baz=49						
KRBS	**Karabastau**	**2.37**	**1**	Pg	**Pb**	**11 28 44.0**	**+0.9**
	13nm,0.3s						
KRBS				Lg	Lg	11 29 15.7	
	79nm,0.5s						
KRBS	**Karabastau**	**2.37**	**1**	*e*P	**Pb**	**11 28 44.0**	**+0.9**
	13nm,0.3s						
KRBS				*e*S	**Sg**	**11 29 15.7**	**-0.5**
	79nm,0.5s						
KTBS	**Karatobe**	**2.51**	**18**	Pg	**Pb**	**11 28 46.8**	**+1.2**
	23nm,0.6s						
KTBS				Lg	Lg	11 29 20.4	
	42nm,0.4s						
KTBS	**Karatobe**	**2.51**	**18**	*e*P	**Pb**	**11 28 46.8**	**+1.2**
	23nm,0.6s						
KTBS				*e*S	**Sg**	**11 29 20.4**	**-0.3**
	42nm,0.4s						
MNAS	**Manas**	**2.60**	**298**	⇑*i*P	**Pb**	**11 28 45.6**	**-1.5**
	baz=96						
MNAS				⇑*i*S	**Sb**	**11 29 18.1**	**-1.2**
	baz=96						
KUU	**Kurty**	**2.62**	**12**	Pg	**Pb**	**11 28 48.7**	**+1.2**
	9.3nm,0.2s						
KUU				Lg	Lg	11 29 23.7	
	24nm,0.2s						
KUU	**Kurty**	**2.62**	**12**	*e*P	**Pb**	**11 28 48.7**	**+1.2**
	9.3nm,0.2s						
KUU				*e*S	**Sg**	**11 29 23.7**	**-0.5**
	24nm,0.2s						
SATY	**Saty**	**2.70**	**49**	Pg	**Pb**	**11 28 49.5**	**+0.6**
	5.4nm,0.3s						
SATY				Lg	Lg	11 29 25.3	
	43nm,0.3s						
SATY	**Saty**	**2.70**	**49**	*e*P	**Pb**	**11 28 49.5**	**+0.6**
	5.4nm,0.3s						
SATY				*e*S	**Sg**	**11 29 25.3**	**-1.6**
	43nm,0.3s						
KURS	**Kuram**	**2.87**	**40**	Pg	**Pb**	**11 28 52.8**	**+1.1**
	5.8nm,0.6s						
KURS				Lg	Lg	11 29 30.7	
	16nm,0.6s						
KURS	**Kuram**	**2.87**	**40**	*e*P	**Pb**	**11

PDGK				Lg	Lg	11 29 49.2		
	5.0nm,0.8s							
BTLS	**Baital**	**3.89 343**		Pg	**Pg**	**11 29 12.0**	**-2.5**	
	2.6nm,0.4s							
BTLS				Lg	Lg	11 30 03.8		
	6.7nm,0.3s							
BTLS	**Baital**	**3.89 343**	*eP*		**Pg**	**11 29 12.0**	**-2.5**	
	2.6nm,0.4s							
BTLS			*eS*		**Sg**	**11 30 03.8**	**-1.0**	
	6.7nm,0.3s							
KK31	**Karatay Array**	**4.19 297**		Pg	**Pg**	**11 29 18.9**	**-1.4**	
	0.4nm,0.3s,baz=114,slow=13,SNR=4.4							
KK31				Lg	Lg	11 30 17.1		
	1.2nm,0.4s,baz=111,slow=29,SNR=5.2							
BRLS	**Borolday**	**4.62 294**		Pg	**Pg**	**11 29 26.8**	**-1.8**	
	1.0nm,0.2s							
BRLS				Lg	Lg	11 30 29.0		
	2.6nm,0.5s							
BRLS	**Borolday**	**4.62 294**	*eP*		**Pg**	**11 29 26.8**	**-1.8**	
	1.0nm,0.2s							
BRLS			*eS*		**Sg**	**11 30 29.0**	**+0.6**	
	2.6nm,0.5s							

*IDC **14** 11:30:09.5±1.2, 13.66°S×45.85°E, h0km, mb3.9/5, mbtmp3.8/6, ML3.2/1, MS3.4/4, Error ellipse: s-maj=45.4km s-min=26.1km az=139.0*

*NEIC **14** 11:30:10.1±2.1, 13.04°S±0.08°×45.14°E±0.1, h10km±1km, mb4.5/9, Error ellipse: s-maj=20.1km s-min=11.1km az=247.0*

ISC 14 11:30:09.2±0.6, **13.08S**±0.07°×**45.5E**±0.1, **h10**km, **n27, σ2s14/25, mb4.3/9, MS3.4/4, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.70**	**163**	Pn	**Pn**	**11 31 36.6**	**+2.4**
	8.3nm,0.3s,baz=321,slow=17,SNR=309						
OPO				Sn	**Sn**	**11 32 35.4**	**-4.5**
	11nm,0.3s,baz=300,slow=22,SNR=30						
ABPO	**Ambohimpanom**	**6.14**	**164**		**Pn**	**11 31 42.1**	**+1.9**
ABPO				Sn	**Sn**	**11 32 47.5**	**-3.1**
VOI	**Vohitsoka**	**8.87**	**172**		**Pn**	**11 32 18.9**	**+1.3**
FOMA	**Nahampoana Res**	**11.92**	**173**	Pn	**Pn**	**11 32 59.8**	**+0.4**
RER	**Riviere de l'E**	**12.68**	**131**	Pn	**Pn**	**11 33 09.2**	**-0.6**
KIBK	**Kibwezi**	**12.96**	**325**	Pn	**Pn**	**11 33 11.0**	**-2.7**
LSZ	**Lusaka**	**16.91**	**261**	Pn	**Pn**	**11 34 05.8**	**-0.5**
MATP	**Matopo**	**17.82**	**244**	P	**P**	**11 34 20.1**	**+1.8**
	0.1nm,0.3s,baz=70,slow=16,SNR=2.2						
	0.5nm,0.5s						
LODK	**Lodwar**	**19.23**	**328**	P	**P**	**11 34 31.0**	**-2.8**
BOSA	**Boshof**	**24.36**	**227**	P	**P**	**11 35 27.1**	**-0.6**
BOSA	**Boshof**	**24.36**	**227**	P	**P**	**11 35 28.8**	**+1.1**
	2.3nm,0.6s,baz=75,slow=9.6,SNR=5.9						
	2.3nm,0.6s						
SUR	**Sutherland**	**29.65**	**226**	P	**P**	**11 36 15.9**	**+0.6**
SUR				IAmb	IAmb	11 36 18.4	
	comp=Z,11nm,0.9s						
MMAI	**Mount Meron Ar**	**46.83**	**348**	LR	LR	11 57 33.2	
	comp=Z,34nm,18.1s,baz=105,slow=35						
GNI	**Garni**	**52.96**	**359**	LR	LR	12 02 31.9	
	comp=Z,37nm,19.5s,baz=194,slow=36						
MAW	**Mawson**	**55.67**	**172**	LR	LR	12 00 37.1	
	comp=Z,67nm,18.2s,baz=214,slow=33						
KBZ	**Khabaz**	**56.58**	**358**	LR	LR	12 06 00.2	
	comp=Z,21nm,18.5s,baz=34,slow=38						
KKAR	**Karatay Array**	**60.43**	**21**	P	**P**	**11 40 20.7**	**+1.7**
KKAR	**Karatay Array**	**60.43**	**21**	P	**P**	**11 40 21.8**	**+2.8**
KKAR				IAmb	IAmb	11 40 25.1	
	comp=Z,1.8nm,1.0s						
ABKAR	**Akbulak array**	**63.36**	**11**	P	**P**	**11 40 38.4**	**-0.2**
ABKAR				IAmb	IAmb	11 40 44.2	
	comp=Z,3.1nm,0.8s						
MAKZ	**Makanchi**	**68.00**	**26**	P	**P**	**11 41 09.7**	**+1.1**
MAKZ				IAmb	IAmb	11 41 15.0	
	comp=Z,4.0nm,1.3s						
MKAR	**Makanchi Array**	**68.12**	**26**	P	**P**	**11 41 10.2**	**+0.8**
MKAR	**Makanchi Array**	**68.12**	**26**	P	**P**	**11 41 13.5**	**+4.1**
	comp=Z,0.9nm,0.8s,baz=204,slow=5.7,SNR=6.3						
	comp=Z,0.9nm,0.8s						
QSPA	**South Pole Qui**	**77.02**	**180**	P	**P**	**11 42 03.1**	**+0.8**
QSPA	**South Pole Qui**	**77.02**	**180**	P	**P**	**11 42 00.7**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=260,slow=2.4,SNR=7.8						
	comp=Z,2.2nm,0.9s						
VNDA	**Vanda**	**82.80**	**169**	P	**P**	**11 42 35.6**	**+2.4**
VNDA				IAmb	IAmb	11 42 39.2	
	comp=Z,4.1nm,1.5s						
ASAR	**Alice Springs**	**83.44**	**113**	P	**P**	**11 42 37.1**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=260,slow=4.9,SNR=16						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**84.58**	**109**	P	**P**	**11 42 42.8**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=261,slow=2.4,SNR=3.0						
	comp=Z,0.5nm,0.8s						

*NEIC **14** 11:37:01.3±1.4, 19.42N±0.01°×155.00W±0.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.6km az=123.0*

HVO 14 11:37:00.7±1.6, **19.40N**±0.02°×**154.96W**±0.02, **h5**km±4km, **ML3.3**/17, **MLb3.5**/34(NEIC), **Error ellipse: s-maj=3.2km s-min=1.4km az=145.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**309**		Pg	11 37 02.5	+0.3
PAH	**Pahoa**	**0.10**	**8**		Pg	11 37 03.3	+0.5
PHO	**Puu Honuaula**	**0.10**	**39**		Pg	11 37 03.6	+0.6
PHO	**Puu Honuaula**	**0.10**	**39**		Pg	11 37 03.6	+0.6
JCUZ	**Jacuzzi**	**0.13**	**263**		Pg	11 37 03.4	-0.1
JCUZ				IAML		11 37 06.5	
	comp=E,12μm,0.9s						
NPOC	**North of Pu'u**	**0.14**	**267**		Pg	11 37 03.3	-0.3
NPOC				IAML		11 37 06.5	
	comp=E,15μm,0.8s						
STCH	**Steam Cracks**	**0.16**	**265**		Pg	11 37 03.6	-0.3
STCH				IAML		11 37 06.8	
	comp=E,12μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.20**	**264**		Pg	11 37 04.6	-0.1
PUH	**Pauahi**	**0.24**	**264**		Pg	11 37 05.8	+0.3
PUH	**Pauahi**	**0.24**	**264**	IAML		11 37 12.2	
	comp=E,4μm,1.0s						
PUH				IAML		11 37 13.1	
	comp=N,5μm,0.9s						
BYL	**Byron's Ledge**	**0.28**	**273**	Pg	Pg	11 37 05.5	-0.8
BYL				IAML		11 37 13.2	
	comp=N,7μm,1.0s						
HATHI	**Halema'uma'u T**	**0.28**	**275**	Pg	Pg	11 37 06.2	-0.1
RSD	**Rainshed**	**0.31**	**282**		Pg	11 37 06.8	+0.1
RSD	**Rainshed**	**0.31**	**282**	IAML		11 37 13.7	
	comp=E,3μm,0.6s						
RSD				IAML		11 37 14.7	
	comp=N,3μm,0.7s						
HLP	**Hilina Pali**	**0.34**	**253**		Pg	11 37 07.8	+0.3
HLP					Sg	11 37 13.4	+1.4
HLP	**Hilina Pali**	**0.34**	**253**	IAML		11 37 14.0	
	comp=E,8μm,0.7s						
HLP				IAML		11 37 17.3	
	comp=N,6μm,0.9s						
MLH	**Mauna Loa**	**0.41**	**283**		Pg	11 37 08.8	0.0
MLH					Sg	11 37 15.3	+1.0
MLH	**Mauna Loa**	**0.41**	**283**	IAML		11 37 15.6	
	comp=N,6μm,0.7s						
MLH				IAML		11 37 18.7	
	comp=E,3μm,0.4s						
HTC	**Hot Caves**	**0.44**	**249**		Pg	11 37 09.4	+0.1
HMH	**Humu'ula Sheep**	**0.53**	**292**		Pg	11 37 11.1	+0.1
HMH				IAML		11 37 28.4	
	comp=E,5μm,0.8s						
HMH	**Humu'ula Sheep**	**0.53**	**292**		Sg	11 37 18.8	+0.7
MLOA	**Mauna Loa Obse**	**0.60**	**283**		Pg	11 37 11.5	-0.8
MLOA				IAML		11 37 20.5	
	comp=E,3μm,0.6s						
MLOA				IAML		11 37 20.7	
	comp=N,3μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.60**	**283**		Sg	11 37 20.4	+0.3
MWH	**Moku'aweowe**	**0.61**	**278**		Pg	11 37 11.2	-1.2
MWH				IAML		11 37 25.6	
	comp=N,2μm,1.0s						
KHU	**Kahuku**	**0.64**	**256**		Pg	11 37 12.2	-0.9
KHU	**Kahuku**	**0.64**	**256**	IAML		11 37 22.5	
	comp=N,2μm,0.9s						
KHU				IAML		11 37 29.7	
	comp=E,2μm,0.8s						
POHA	**Pohakuloa**	**0.65**	**304**		Pg	11 37 11.8	-1.4
POHA				IAML		11 37 27.4	
	comp=E,3μm,0.6s						
POHA				IAML		11 37 30.1	
	comp=E,2μm,0.3s						
POHA	**Pohakuloa**	**0.65**	**304**		Sg	11 37 21.2	-0.5
ALEP	**Alea Permanent**	**0.66**	**282**		Pg	11 37 12.3	-1.2
ALEP					Sg	11 37 22.0	-0.1
HUH	**Hualalai**	**0.87**	**289**		Pg	11 37 16.1	-1.4
CPH	**Captain Cook**	**0.91**	**276**		Pg	11 37 15.2	-3.0

*SJA **14** 11:46:16.0±0.8, 21.07°S×68.76W, h112km±7km, ML3.3, MW3.5*

*GUC **14** 11:46:18.1±0.7, 21.10°S×68.80W, h104km±3km, ML3.3*

ISC 14 11:46:17.8±1.4, **21.10S**±0.03°×**68.82W**±0.05, **h106**km±11km, **n31, σ1s18/58, 6C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.63**	**275**	*eP*	**Pn**	**11 46 34.5**	**-0.8**
PB01				*eS*	**Sn**	**11 46 48.5**	**+0.1**
PB01				IAML		11 46 50.8	
	comp=Z,464nm,0.1s						
PB01	**IPOC Station P**	**0.63**	**275**	↓*iP*	**Pn**	**11 46 34.5**	**-0.8**
PB01				*i* S	**Sn**	**11 46 47.6**	**-0.9**
PB01				IAML		11 46 51.1	
	comp=E,686nm,0.2s						
PB09	**IPOC Station P**	**0.80**	**209**	*eP*	**Pn**	**11 46 36.6**	**-0.4**
PB09				*eS*	**Sn**	**11 46 54.1**	**+2.8**
PB09				IAML		11 46 58.7	
	comp=Z,212nm,0.5s						
PB09	**IPOC Station P**	**0.80**	**209**	↑*iP*	**Pn**	**11 46 37.0**	**0.0**
PB09				*i* S	**Sn**	**11 46 52.2**	**+0.9**
PB09				IAML		11 46 54.3	
	comp=E,308nm,0.4s						
PB08	**IPOC Station P**	**1.00**	**342**	*eP*	**Pn**	**11 46 38.7**	**-0.4**
PB08				*eS*	**Sn**	**11 46 55.3**	**+0.2**
PB08				IAML		11 46 56.2	
	comp=Z,279nm,0.5s						
PB08	**IPOC Station P**	**1.00**	**342**	↓*iP*	**Pn**	**11 46 38.8**	**-0.4**
PB08				*i* S	**Sn**	**11 46 54.9**	**-0.3**
PB08				IAML		11 46 55.7	
	comp=E,451nm,0.2s						
PB02	**IPOC Station P**	**1.03**	**257**	*eP*	Pn	11 46 27.0	-12
PB02				*eS*	**Sn**	**11 46 56.6**	**+1.4**
PB02				IAML		11 46 59.6	
	comp=Z,1μm,0.4s						
PB02	**IPOC Station P**	**1.03**	**257**	↑*iP*	**Pn**	**11 46 38.9**	**-0.2**
PB02				*eS*	**Sn**	**11 46 54.6**	**-0.6**
PB02				IAML		11 46 58.3	
	comp=N,1μm,0.3s						
PB07	**IPOC Station P**	**1.18**	**238**	*eP*	**Pn**	**11 46 40.2**	**-0.6**
PB07				*eS*	**Sn**	**11 47 00.4**	**+2.1**
PB07				IAML		11 47 04.6	
	comp=Z,336nm,0.2s						
PB07	**IPOC Station P**	**1.18**	**238**	↑*iP*	**Pn**	**11 46 40.4**	**-0.4**
PB07				*i* S	**Sn**	**11 46 58.6**	**+0.4**
PB07				IAML		11 47 00.8	
	comp=E,680nm,0.6s						
PATCX	**Punta Patache**	**1.28**	**282**	*eP*	**Pn**	**11 46 41.8**	**-0.1**
PATCX				*eS*	**Sn**	**11 47 01.3**	**+1.2**
PATCX				IAML		11 47 01.9	
	comp=Z,513nm,0.9s						
PATCX	**Punta Patache**	**1.28**	**282**	↑*iP*	**Pn**	**11 46 41.5**	**-0.3**
PATCX				*i* S	**Sn**	**11 47 00.2**	**+0.1**
PATCX				IAML		11 47 06.6	
	comp=N,1μm,0.3s						
TA01	**Diego Aracena**	**1.38**	**292**	*eP*	**Pn**	**11 46 42.5**	**-0.6**
TA01				*eS*	**Sn**	**11 47 02.5**	**+0.5**
TA01				IAML		11 47 03.1	
	comp=Z,309nm,0.8s						
TA01	**Diego Aracena**	**1.38**	**292**	*eP*	**Pn**	**11 46 42.4**	**-0.6**
TA01				*i* S	**Sn**	**11 47 00.8**	**-1.2**
TA01				IAML		11 47 03.7	
	comp=N,768nm,0.4s						
GO01	**Chusmiza**	**1.46**	**346**	*eP*	**Pn**	**11 46 44.1**	**-0.4**
GO01				*eS*	**Sn**	**11 47 04.7**	**+0.1**
GO01	**Chusmiza**	**1.46**	**346**	*eP*	**Pn**	**11 46 44.1**	**-0.4**
GO01				*i* S	**Sn**	**11 47 04.6**	**0.0**
GO01				IAML		11 47 07.9	
	comp=N,860nm,0.1s						
TA02	**Huaiquique**	**1.48**	**303**	*eP*	**Pn**	**11 46 43.9**	**-0.3**
TA02				*eS*	**Sn**	**11 47 06.8**	**+2.7**
TA02				IAML		11 47 10.9	
	comp=Z,386nm,0.1s						
TA02	**Huaiquique**	**1.48**	**303**	*eP*	**Pn**	**11 46 43.8**	**-0.3**
TA02				*i* S	**Sn**	**11 47 03.8**	**-0.3**
TA02				IAML		11 47 07.8	
	comp=N,851nm,0.1s						
LVC	**Limon Verde**	**1.51**	**183**	*eP*	**Pn**	**11 46 45.1**	**+0.2**
LVC				*eS*	**Sn**	**11 47 02.3**	**-3.1**
LVC	**Limon Verde**	**1.51**	**183**	↑*iP*	**Pn**	**11 46 45.3**	**+0.4**
LVC				*i* S	**Sn**	**11 47 06.5**	**+1.1**
LVC				IAML		11 47 08.7	
	comp=N,621nm,0.5s						
PB11	**IPOC Station P**	**1.54**	**329**	*eP*	**Pn**	**11 46 44.3**	**-0.8**
PB11				*eS*	**Sn**	**11 47 06.2**	**+0.3**
PB11				IAML		11 47 07.0	
	comp=Z,294nm,0.4s						
PB11	**IPOC Station P**	**1.54**	**329**	↓*iP*	**Pn**	**11 46 44.3**	**-0.8**
PB11				*i* S	**Sn**	**11 47 05.1**	**-0.7**
PB11				IAML		11 47 09.9	
	comp=E,484nm,0.2s						
PB04	**IPOC Station P**	**1.75**	**225**	*eP*	**Pn**	**11 46 47.7**	**+0.1**
PB04				*eS*	**Sn**	**11 47 13.2**	**+2.9**
PB04				IAML		11 47 20.2	
	comp=Z,252nm,0.3s						
PB04	**IPOC Station P**	**1.75**	**225**	*eP*	**Pn**	**11 46 47.4**	**-0.3**
PB04				*eS*	**Sn**	**11 47 09.7**	**-0.6**
PB04				IAML		11 47 17.8	
	comp=E,370nm,0.3s						
PB06	**IPOC Station P**	**1.75**	**203**	*eP*	**Pn**	**11 46 47.7**	**0.0**
PB06				*eS*	**Sn**	**11 47 08.0**	**-2.4**
PB06				IAML		11 47 14.6	
	comp=Z,193nm,0.4s						
PB06	**IPOC Station P**	**1.75**	**203**	↑*iP*	**Pn**	**11 46 47.5**	**-0.1**
PB06				*i* S	**Sn**	**11 47 11.0**	**+0.7**
PB06				IAML		11 47 13.8	
	comp=E,294nm,0.3s						
PB15	**IPOC Station P**	**2.19**	**196**	*eP*	**Pn**	**11 46 53.6**	**+0.3**
PB15				*eS*	**Sn**	**11 47 17.6**	**-2.9**
PB15				IAML		11 47 32.8	
	comp=Z,471nm,0.2s						
PB12	**IPOC Station P**	**2.85**	**330**	*eP*	**Pn**	**11 47 00.5**	**-1.3**
PB12				IAML		11 47 43.5	
	comp=Z,89nm,0.8s						
YJA	**Yavi**	**3.26**	**110**	*eP*	**Pn**	**11 47 08.7**	**+1.2**
YJA				*eS*	**Sn**	**11 47 44.3**	**-1.6**
GO02	**Mina Guanaco**	**4.11**	**190**	*eP*	**Pn**	**11 47 18.8**	**-0.1**
GO02				*eS*	Sn	11 48 16.0	+10
LPAZ	**La Paz**	**4.83**	**8**	*eP*	**Pn**	**11 47 30.6**	**+1.7**

*IDC **14** 11:48:09.3±3.3, 11.42°S×166.31E, h27km±21km, mb4.1/22, mbtmp4.2/23, ML3.9/1, MS3.9/46, Error ellipse: s-maj=19.3km s-min=14.2km az=111.0*

*GCMT **14** 11:48:13.3±0.3, 11.49°S±0.02°×165.95E±0.02, h52km±1km, MW5.0/75, Moment Tensor Solution. s75,c96; s65,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.38±.13; $M_{\theta\theta}$-0.17±.10; $M_{\phi\phi}$-3.21±.09; $M_{r\theta}$0.15±.09; $M_{r\phi}$0.65±.10; $M_{\theta\phi}$0.67±.11; Best double couple: $M_0$3.43000×10^{16} NP1:ϕ_s353.00000°, δ50.00000°, λ96.00000°. NP2: ϕ_s164.00000°, δ40.00000°, λ83.00000°. Principal axes: T 3.4600, Plg83.0000°, Azm299.0000°; N -0.0560, Plg4.0000°, Azm169.0000°; P -3.4010, Plg5.0000°, Azm79.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **14** 11:48:14.3±1.6, 11.45S±0.10°×166.14E±0.1, h72km±8km, mb4.6/45 Error ellipse: s-maj=18.4km s-min=13.0km az=66.0*

ISC 14 11:48:13.2±0.4, **11.50S**±0.06°×**166.26E**±0.07, **h59**km, **n123, σ1s37/101, mb4.5/50, MS4.0/48, 2D, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.54**	**288**	Pn	**Pn**	**11 49 47.3**	**+0.4**
KOUNC	**Koumac, New Ca**	**9.20**	**192**	Pn	**Pn**	**11 50 24.8**	**+1.6**
LIFNC	**LIFOU**	**9.27**	**174**	Pn	**Pn**	**11 50 24.8**	**+0.6**
DZM	**Mont Dzumac**	**10.52**	**179**	*e*Pn	**Pn**	**11 50 43.7**	**+2.4**
	46nm,1.4s						
DZM				*e*LR	LR	11 53 16.5	
	2μm,24.2s						
DZM	**Mont Dzumac**	**10.52**	**179**	Pn	**Pn**	**11 50 42.2**	**+0.9**
DZM	**Mont Dzumac**	**10.52**	**179**	Pn	**Pn**	**11 50 40.9**	**-0.4**
	0.8nm,0.3s,baz=265,slow=3.3,SNR=26						
DZM				Sn	**Sn**	**11 52 33.7**	**-3.9**
	0.7nm,0.3s,baz=74,slow=23,SNR=1.1						
	2.5nm,0.4s						
ONTNC	**Ouen Toro**	**10.75**	**179**	Pn	**Pn**	**11 50 46.3**	**+1.9**
OUENC	**Ouen Island, N**	**10.87**	**177**	Pn	**Pn**	**11 50 45.1**	**-1.0**
PINNC	**Pines Island,**	**11.11**	**174**	Pn	**Pn**	**11 50 51.7**	**+2.4**
RABL	**Rabaul**	**15.73**	**296**		**P**	**11 51 53.1**	**-1.1**
RABL				IAmb	IAmb	11 52 16.6	
	comp=Z,30nm,0.6s						
PMG	**Port Moresby**	**18.90**	**275**	LR	LR	11 59 07.3	
	comp=Z,729nm,21.6s,baz=123,slow=35						
PATS	**Pohnpei**	**19.86**	**336**		**P**	**11 52 38.6**	**-0.9**
EIDS	**Eidsvold**	**19.91**	**224**	P	**P**	**11 52 40.9**	**+0.8**
MANU	**Manus Island**	**20.97**	**295**	P	**P**	**11 52 52.9**	**+1.3**
CTAO	**Charters Tower**	**21.04**	**244**	P	**P**	**11 52 53.7**	**+1.3**
COEN	**Coen**	**22.65**	**261**	P	P	11 53 18.9	+9.2
COEN				IAmb	IAmb	11 53 28.8	
	comp=Z,15nm,0.8s						
RAO	**Raoul Island**	**23.01**	**142**	LR	LR	12 00 32.3	
	comp=Z,253nm,18.1s,baz=13,slow=32						
ARMA	**Armidale**	**23.21**	**214**	P	**P**	**11 53 16.2**	**+0.8**
ARMA				IAmb	IAmb	11 53 28.9	
	comp=Z,55nm,1.4s						
URZ	**Urewera**	**28.36**	**162**	LR	LR	12 03 37.9	
	comp=Z,398nm,20.8s,baz=31,slow=33						
RTZ	**Ruatahuna**	**28.65**	**162**	P	**P**	**11 54 03.6**	**-0.8**
RTZ				IAmb	IAmb	11 54 19.1	
	comp=Z,34nm,1.3s						
H11S2	**WAKE ISLAND Hy**	**29.80**	**1**	T	T	12 25 24.9	
	baz=181,slow=76,SNR=57						
H11S3	**WAKE ISLAND Hy**	**29.81**	**1**	T	T	12 25 24.6	
	baz=181,slow=76,SNR=33						
H11S1	**WAKE ISLAND Hy**	**29.82**	**1**	T	T	12 25 25.5	
	baz=181,slow=76,SNR=41						
STKA	**Stephens Creek**	**30.47**	**224**	P	**P**	**11 54 21.7**	**+1.2**
STKA	**Stephens Creek**	**30.47**	**224**	P	**P**	**11 54 21.9**	**+1.4**
	comp=Z,2.0nm,0.7s,baz=61,slow=10,SNR=5.3						
STKA				LR	LR	12 05 42.3	
	comp=Z,381nm,21.1s,baz=35,slow=34						
	comp=Z,2.0nm,0.7s						
TUWZ	**Tuamarina**	**30.57**	**169**	P	**P**	**11 54 21.1**	**-0.2**
LTZ	**Lake Taylor**	**31.60**	**172**	P	**P**	**11 54 29.7**	**-0.7**
LTZ				IAmb	IAmb	11 54 32.5	
	comp=Z,15nm,0.9s						
WR0	**Warramunga Arr**	**31.62**	**251**	P	**P**	**11 54 29.9**	**-1.0**
WR0				IAmb	IAmb	11 54 47.1	
	comp=Z,12nm,1.0s						
WB0	**Warramunga Arr**	**31.73**	**251**	P	**P**	**11 54 31.3**	**-0.4**
WB0				IAmb	IAmb	11 54 47.7	
	comp=Z,14nm,0.8s						
WB2	**Warramunga Arr**	**31.80**	**251**	P	**P**	**11 54 30.1**	**-2.3**
WB2				IAmb	IAmb	11 54 48.7	
	comp=Z,14nm,1.1s						
WRA	**Warramunga Arr**	**31.81**	**251**	P	**P**	**11 54 31.2**	**-1.3**
WRA	**Warramunga Arr**	**31.81**	**251**	P	**P**	**11 54 31.9**	**-0.6**
	comp=Z,3.1nm,0.7s,baz=84,slow=9.4,SNR=23						
WRA				PcP	**PcP**	**11 57 22.6**	**0.0**
	comp=Z,2.2nm,1.0s,baz=81,slow=3.1,SNR=5.6						
WRA				ScP	**ScP**	**12 01 04.7**	**+3.6**
	comp=Z,0.4nm,0.8s,baz=73,slow=3.5,SNR=1.8						
WRA				LR	LR	12 07 38.1	
	comp=Z,182nm,19.1s,baz=99,slow=37						
	comp=Z,3.1nm,0.7s						
GVZ	**Greta Valley S**	**31.90**	**171**	P	**P**	**11 54 32.5**	**-0.4**
TOO	**Toolangi**	**31.95**	**212**	P	**P**	**11 54 34.0**	**+0.4**
TOO				IAmb	IAmb	11 54 48.4	
	comp=Z,7.9nm,0.9s						
GUMO	**Guam**	**32.73**	**319**	LR	LR	12 08 34.8	
	comp=Z,90nm,19.1s,baz=134,slow=38						
AS31	**Alice Springs**	**33.05**	**244**	P	**P**	**11 54 42.0**	**-1.3**
ASAR	**Alice Springs**	**33.05**	**244**	P	**P**	**11 54 42.2**	**-1.1**
ASAR	**Alice Springs**	**33.05**	**244**	P	**P**	**11 54 42.6**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=65,slow=10,SNR=46						
ASAR				PcP	**PcP**	**11 57 25.9**	**0.0**
	comp=Z,2.1nm,0.8s,baz=83,slow=2.8,SNR=9.9						
ASAR				ScP	**ScP**	**12 01 08.7**	**+3.3**
	comp=Z,1.1nm,1.0s,baz=89,slow=2.2,SNR=5.2						
ASAR				LR	LR	12 07 18.8	
	comp=Z,335nm,19.9s,baz=76,slow=35						
	comp=Z,2.6nm,0.6s						
MTN	**Manton Dam**	**34.35**	**264**	P	**P**	**11 54 53.6**	**-1.1**
BBOO	**Buckleboo**	**34.90**	**228**	P	**P**	**11 54 58.2**	**-1.0**
BBOO				IAmb	IAmb	11 55 18.7	
	comp=Z,6.4nm,0.8s						
FITZ	**Fitzroy Crossi**	**39.76**	**256**	P	**P**	**11 55 40.4**	**-0.1**
FORT	**Forrest**	**40.20**	**236**	P	P	11 55 50.1	+6.1
BATI	**Baumata**	**41.83**	**268**	LR	LR	12 12 53.0	
	comp=Z,223nm,21.5s,baz=122,slow=35						
PPT	**Papeete**	**43.10**	**103**	LR	LR	12 11 34.8	
	comp=Z,192nm,18.5s,baz=287,slow=33						
PPT2	**Papeete2**	**43.10**	**103**	*e*S	**S**	**12 02 30.1**	**-0.2**
PPT2	comp=Z,119nm,27.5s						
				*e*SS	**SS**	**12 05 47.0**	**+2.4**
PPT2	comp=Z,146nm,28.5s						
				*e*LQ	LQ	12 06 22.5	
PPT2	comp=Z,393nm,29.2s						
				*e*LR	LR	12 08 08.7	
PPT2	comp=Z,628nm,29.2s						
				*e*LR	LR	12 08 15.4	
	comp=Z,367nm,31.5s						
TBI	**Tubuai**	**43.69**	**112**	*e*LQ	LQ	12 06 33.4	
TBI	comp=Z,2μm,29.2s						
	comp=Z,3μm,30.2s			*e*LR	LR	12 08 33.8	
JCJ	**Chichijima**	**44.92**	**329**	LR	LR	12 12 16.8	
	comp=Z,111nm,21.3s,baz=149,slow=32						
KAPI	**Kappang**	**46.43**	**274**	LR	LR	12 19 04.7	
	comp=Z,60nm,18.1s,baz=86,slow=40						
NWAO	**Narrogin (SRO)**	**49.63**	**236**	P	**P**	**11 56 58

	comp=Z,9.5nm,1.4s							
VNDA	**Vanda**	**66.05**	**181**	P		**P**	**11 58 54.0**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=337,slow=7.2,SNR=8.4							
VNDA				LR		LR	12 25 22.0	
	comp=Z,54nm,18.1s,baz=266,slow=34							
	comp=Z,2.5nm,1.0s							
HEH	**HeiHe**	**70.24**	**335**	*eP*		**P**	**11 59 19.6**	**-0.3**
HEH				pmax		pmax		
	comp=Z,4.0nm,0.9s							
HEH				pmax		pmax		
	comp=Z,110nm,4.9s							
XAN	**Xi'an**	**70.80**	**312**	⇓P		**P**	**11 59 24.4**	**+0.6**
XAN				pmax		pmax		
	comp=Z,13nm,0.8s							
XLT	**XiLinHaoTe**	**71.53**	**324**	*eP*		**P**	**11 59 28.3**	**+0.3**
XLT				pmax		pmax		
	comp=Z,9.0nm,1.1s							
XLT				pmax		pmax		
	comp=Z,66nm,4.8s							
MA2	**Magadan**	**71.93**	**352**	LR		LR	12 25 50.0	
	comp=Z,120nm,22.0s,baz=176,slow=32							
HHC	**Hu-ho-hao-te**	**72.50**	**320**	*eP*		**P**	**11 59 35.9**	**+1.9**
CMAR	**Chiang Mai Arr**	**72.76**	**294**	P		**P**	**11 59 36.5**	**+0.7**
CMAR	**Chiang Mai Arr**	**72.76**	**294**	P		**P**	**11 59 37.3**	**+1.5**
	comp=Z,2.2nm,0.8s,baz=120,slow=4.2,SNR=18							
CMAR				LR		LR	12 29 06.1	
	comp=Z,35nm,21.6s,baz=225,slow=34							
	comp=Z,2.2nm,0.8s							
CHTO	**Chiang Mai**	**72.87**	**294**	P		**P**	**11 59 37.1**	**+0.7**
CHTO				IAmb		IAmb	11 59 38.6	
	comp=Z,7.8nm,1.2s							
PZH	**PanZhiHua**	**73.14**	**302**	P		**P**	**11 59 40.0**	**+1.9**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,90nm,4.5s							
SEY	**Seymchan**	**74.98**	**353**	LR		LR	12 28 02.4	
	comp=Z,151nm,21.4s,baz=167,slow=32							
KDAK	**Kodiak Island**	**76.81**	**21**	LR		LR	12 27 19.8	
	comp=Z,165nm,20.3s,baz=223,slow=31							
M16K	**Timber Creek**	**77.35**	**17**	P		**P**	**12 00 00.5**	**-0.8**
QSPA	**South Pole Qui**	**78.51**	**180**	P		**P**	**12 00 07.0**	**-1.0**
QSPA	**South Pole Qui**	**78.51**	**180**	P		**P**	**12 00 07.8**	**-0.1**
	comp=Z,12nm,0.9s,baz=10,slow=2.5,SNR=26							
QSPA				LR		LR	12 30 49.4	
	comp=Z,59nm,21.6s,baz=212,slow=33							
	comp=Z,12nm,0.9s							
J16K	**Anvik River**	**78.80**	**15**	P		**P**	**12 00 08.5**	**-0.8**
J16K				IAmb		IAmb	12 00 12.9	
	comp=Z,6.0nm,0.9s							
L18K	**Granite Mounta**	**78.96**	**17**	P		**P**	**12 00 10.0**	**-0.2**
L18K				IAmb		IAmb	12 00 13.2	
	comp=Z,9.8nm,1.1s							
SONM	**Songino Array**	**79.33**	**324**	P		**P**	**12 00 12.4**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=136,slow=5.4,SNR=11							
SONM				LR		LR	12 35 29.6	
	comp=Z,25nm,19.4s,baz=108,slow=36							
	comp=Z,1.5nm,0.6s							
GTA	**Gaotai**	**79.74**	**314**	⇓P		**P**	**12 00 16.4**	**+1.3**
GTA				pmax		pmax		
	comp=Z,8.0nm,1.1s							
GTA				LR		LR		
	comp=N,63nm,19.3s							
GTA				LR		LR		
	comp=E,84nm,19.6s							
GTA				LR		LR		
	comp=Z,120nm,20.0s							
J18K	**Innoko River**	**79.95**	**16**	P		**P**	**12 00 15.0**	**-0.6**
J18K				IAmb		IAmb	12 00 23.0	
	comp=Z,7.0nm,1.3s							
SUA	**Susitna One**	**80.18**	**19**	P		**P**	**12 00 16.0**	**-1.0**
SUA				IAmb		IAmb	12 00 19.1	
	comp=Z,9.9nm,1.3s							
H17K	**Granite Mounta**	**80.35**	**14**	P		**P**	**12 00 17.0**	**-0.7**
H17K				IAmb		IAmb	12 00 49.8	
	comp=Z,9.9nm,1.4s							
CAST	**Castle Rocks**	**81.22**	**18**	P		**P**	**12 00 20.8**	**-1.7**
E18K	**Tukpahlearik C**	**82.28**	**12**	P		**P**	**12 00 26.3**	**-1.6**
F19K	**Shaleruckik Mo**	**82.42**	**14**	P		**P**	**12 00 27.1**	**-1.4**
C18K	**Utukok River**	**83.21**	**11**	P		**P**	**12 00 32.0**	**-0.7**
D19K	**Kuna River**	**83.70**	**12**	P		**P**	**12 00 34.7**	**-0.5**
D19K				IAmb		IAmb	12 00 38.1	
	comp=Z,6.8nm,1.1s							
IL31		**83.78**	**18**	P		**P**	**12 00 34.2**	**-1.4**
ILAR	**Eielson Array**	**83.78**	**18**	P		**P**	**12 00 34.5**	**-1.2**
	comp=Z,1.1nm,0.7s,baz=248,slow=5.3,SNR=16							
ILAR				LR		LR	12 33 57.7	
	comp=Z,36nm,18.6s,baz=224,slow=33							
	comp=Z,1.1nm,0.7s							
YBH	**Yreka Blue Hor**	**83.85**	**45**	P		**P**	**12 00 36.4**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=240,slow=4.3,SNR=2.4							
YBH				LR		LR	12 30 54.3	
	comp=Z,51nm,19.3s,baz=256,slow=31							
	comp=Z,1.4nm,0.8s							
J25K	**Salcha River,**	**84.15**	**19**	P		**P**	**12 00 36.5**	**-1.1**
J25K				IAmb		IAmb	12 00 41.3	
	comp=Z,7.7nm,0.8s							
SCRK	**Sand Creek**	**84.17**	**20**	P		**P**	**12 00 36.4**	**-1.4**
MAW	**Mawson**	**84.49**	**202**	P		**P**	**12 00 39.7**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=77,slow=2.1,SNR=3.4							
	comp=Z,2.1nm,0.9s							
BBB	**Bella Bella**	**84.66**	**34**	LR		LR	12 30 34.5	
	comp=Z,105nm,19.7s,baz=253,slow=30							
I26K	**Coal Creek Min**	**85.31**	**19**	P		**P**	**12 00 42.4**	**-1.0**
I26K				IAmb		IAmb	12 00 46.5	
	comp=Z,7.0nm,1.1s							
B21K	**Ikpikpuk River**	**85.36**	**13**	P		**P**	**12 00 43.0**	**-0.5**
B21K				IAmb		IAmb	12 00 50.7	
	comp=Z,2.9nm,0.7s							
NVAR	**Mina Array Bea**	**85.93**	**50**	P		**P**	**12 00 47.3**	**0.0**
	comp=Z,1.6nm,0.8s,baz=233,slow=8.4,SNR=10							
NVAR				LR		LR	12 30 58.1	
	comp=Z,196nm,21.7s,baz=234,slow=30							
	comp=Z,1.6nm,0.8s							
PFO	**Pinyon Flats O**	**85.93**	**55**	P		**P**	**12 00 47.2**	**-0.2**
	comp=Z,0.8nm,0.6s,baz=270,slow=3.0,SNR=1.6							
PFO				LR		LR	12 30 12.2	
	comp=Z,105nm,21.5s,baz=260,slow=29							
	comp=Z,0.8nm,0.6s							
B22K	**Teshekpuk Lake**	**86.18**	**13**	P		**P**	**12 00 47.1**	**-0.5**
B22K				IAmb		IAmb	12 00 51.0	
	comp=Z,6.7nm,1.1s							
BMAR	**Burnt Mountain**	**86.29**	**17**	P		**P**	**12 00 46.8**	**-1.4**
C23K	**Itkillik River**	**86.43**	**14**	P		**P**	**12 00 48.6**	**-0.2**
C23K				IAmb		IAmb	12 01 15.2	
	comp=Z,5.6nm,1.2s							
DLBC	**Dease Lake**	**86.57**	**28**	LR		LR	12 31 08.7	
	comp=Z,111nm,21.6s,baz=269,slow=30							
TIXI	**Tiksi**	**86.63**	**349**	LR		LR	12 34 56.3	
	comp=Z,58nm,21.9s,baz=176,slow=32							
LPIG	**La Paz**	**88.74**	**65**	LR		LR	12 34 20.6	
	comp=Z,31nm,19.7s,baz=208,slow=31							
ELK	**Elko**	**88.87**	**48**	P		**P**	**12 01 02.0**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=281,slow=1.9,SNR=3.3							
ELK				LR		LR	12 34 39.9	
	comp=Z,69nm,19.7s,baz=252,slow=31							
	comp=Z,0.3nm,0.4s							
NEW	**Newport**	**89.76**	**41**	LR		LR	12 35 37.9	
	comp=Z,64nm,19.0s,baz=255,slow=32							
WMQ	**Urumqi**	**89.77**	**315**	*eP*		**P**	**12 01 06.4**	**+1.0**
WMQ				LR		LR		
	comp=Z,150nm,24.2s							
INK	**Inuvik**	**90.16**	**19**	LR		LR	12 34 09.0	
	comp=Z,119nm,21.7s,baz=185,slow=31							
PDAR	**Pinedale Array**	**93.49**	**47**	P		**P**	**12 01 24.0**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=243,slow=4.0,SNR=2.1							
PDAR				LR		LR	12 36 58.1	
	comp=Z,34nm,19.2s,baz=246,slow=31							
	comp=Z,0.2nm,0.4s							
MKAR	**Makanchi Array**	**94.20**	**317**	P		**P**	**12 01 25.4**	**-0.5**
	comp=Z,4.0nm,0.6s,baz=91,slow=6.1,SNR=33							
	comp=Z,4.0nm,0.6s							
ZALV	**Zalesovo Beam**	**94.22**	**324**	P		**P**	**12 01 24.4**	**-1.3**
	comp=Z,1.8nm,0.7s,baz=134,slow=4.3,SNR=8.7							
ZALV				LR		LR	12 41 26.5	
	comp=Z,33nm,21.5s,baz=106,slow=34							
	comp=Z,1.8nm,0.7s							
ANMO	**Albuquerque**	**94.29**	**55**	LR		LR	12 35 47.3	
	comp=Z,84nm,21.1s,baz=1.0,slow=30							
YKA	**Yellowknife Ar**	**95.14**	**27**	P		**P**	**12 01 27.4**	**-2.3**
	comp=Z,0.1nm,0.5s,baz=268,slow=4.9,SNR=4.7							
YKA				LR		LR	12 36 47.7	
	comp=Z,55nm,21.9s,baz=320,slow=31							
	comp=Z,0.1nm,0.5s							
TXAR	**Lajitas Array**	**95.60**	**61**	P		**P**	**12 01 33.2**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=222,slow=4.2,SNR=5.0							
TXAR				LR		LR	12 36 36.9	
	comp=Z,55nm,20.5s,baz=244,slow=30							
	comp=Z,0.3nm,0.7s							
KURBB	**Kurchatov Arra**	**97.35**	**320**	LR		LR	12 48 08.9	
	comp=Z,44nm,18.1s,baz=167,slow=37							
AAK	**Ala-Archa**	**98.97**	**312**	LR		LR	12 46 54.8	
	comp=Z,26nm,21.4s,baz=79,slow=36							
ARCES	**ARCESS Array B**	**116.90**	**346**	PKP		**PKiKP**	**12 06 50.9**	**+0.3**
	comp=Z,0.8nm,0.5s,baz=84,slow=3.7,SNR=2.4							
ESDC	**Sonseca Array**	**150.63**	**345**	PKPbc		**PKPbc**	**12 07 57.8**	**-1.2**
	comp=Z,0.9nm,0.8s,baz=1.4,slow=2.2,SNR=6.2							

*IDC **14** 12:14:57.6±1.3,40.17N×13.07E,h464km±19km, mb2.9/9, mbtmp3.8/16, Error ellipse: s-maj=16.4km s-min=15.5km az=151.0*
*VIE **14** 12:14:58.0,40.11N×13.10E,h469km, mb3.3/4*
ISC 14 12:14:57.3±0.7,40.16N±0.09×13.11E±0.09,h450km,n28, σ1ᵗ35/28,mb3.4/8,Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KEST	**Kesra**	**5.33**	**215**	P		**P**	**12 16 26.1**	**+1.1**
	3.8nm,0.6s,baz=48,slow=12,SNR=6.7							
MYKA	**Terra Mystica**	**6.47**	**3**	*i* P		**P**	**12 16 37.6**	**+1.2**
	5.9nm,0.5s							
ABTA	**Abfaltersbach**	**6.59**	**356**	*eP*		**P**	**12 16 39.9**	**+2.2**
	3.0nm,0.6s							
SOKA	**Soboth**	**6.66**	**12**	*eP*		**P**	**12 16 39.9**	**+1.6**
	2.2nm,0.5s							
DAVOX	**Davos/Dischmat**	**7.02**	**342**	P		**P**	**12 16 43.6**	**+1.4**
	3.6nm,0.5s,baz=157,slow=15,SNR=3.0							
FETA	**Feichten**	**7.07**	**347**	*i* P		**P**	**12 16 45.2**	**+2.5**
	3.1nm,0.5s							
WTTA	**Wattenberg**	**7.18**	**352**	*i* P		**P**	**12 16 45.5**	**+1.6**
	17nm,1.0s							
SQTA	**Sankt Quirin**	**7.19**	**350**	*eP*		**P**	**12 16 44.9**	**+1.0**
	4.0nm,0.5s							
LESA	**Schwarzleotal**	**7.26**	**358**	*i* P		**P**	**12 16 46.5**	**+1.8**
	4.9nm,0.6s							
ARSA	**Arzberg**	**7.30**	**13**	*i* P		**P**	**12 16 47.0**	**+2.0**
	3.5nm,0.5s							
MOTA	**Moosalm**	**7.32**	**349**	*i* P		**P**	**12 16 46.3**	**+0.9**
	3.4nm,0.5s							
BIOA	**Bad Ischl, Aus**	**7.54**	**3**	*i* P		**P**	**12 16 49.3**	**+1.8**
	5.0nm,0.4s							
MOA	**Molln**	**7.73**	**6**	*i* P		**P**	**12 16 51.7**	**+2.1**
	11nm,0.5s							
GERES	**GERESS Array B**	**8.69**	**3**	P		**P**	**12 17 00.8**	**+0.8**
	3.5nm,0.4s,baz=175,slow=10,SNR=11							
IDI	**Anoyia**	**10.52**	**114**	P		**P**	**12 17 20.7**	**+0.5**
	baz=316,slow=18,SNR=1.1							
ESDC	**Sonseca Array**	**13.12**	**273**	P		**P**	**12 17 48.4**	**+0.2**
	2.2nm,0.5s,baz=74,slow=11,SNR=22							
AKASG	**Malin Array Be**	**15.43**	**42**	P		**P**	**12 18 12.1**	**-0.6**
	1.0nm,0.4s,baz=233,slow=8.4,SNR=6.4							
EKA	**Eskdalemuir Ar**	**18.63**	**330**	P		**P**	**12 18 44.4**	**-1.3**
	0.8nm,0.5s,baz=143,slow=12,SNR=6.9							
HFS	**Hagfors**	**20.00**	**1**	P		**P**	**12 18 57.3**	**-0.9**
	0.6nm,0.3s,baz=174,slow=7.9,SNR=7.7							
NOA	**NORSAR Array B**	**20.93**	**357**	P		**P**	**12 19 06.2**	**-0.6**
	0.2nm,0.5s,baz=175,slow=10,SNR=3.3							
	0.2nm,0.5s							
FINES	**FINESS Array B**	**22.74**	**16**	P		**P**	**12 19 22.8**	**-0.3**
	0.6nm,0.4s,baz=202,slow=8.2,SNR=6.8							
	0.6nm,0.4s							
TORD	**Torodi Ar. Bea**	**28.72**	**204**	P		**P**	**12 20 15.8**	**-0.9**
	0.2nm,0.5s,baz=9.4,slow=10,SNR=1.7							
	0.2nm,0.5s							
BVAR	**Borovoye Array**	**40.34**	**52**	P		**P**	**12 21 54.4**	**+0.4**
	0.9nm,0.6s,baz=266,slow=5.8,SNR=3.0							
	0.9nm,0.6s							
KURBB	**Kurchatov Arra**	**45.71**	**54**	P		**P**	**12 22 35.5**	**-0.8**
	0.5nm,0.3s,baz=289,slow=8.6,SNR=2.4							
	0.5nm,0.3s							
ZALV	**Zalesovo Beam**	**48.67**	**48**	P		**P**	**12 22 57.9**	**-0.7**
	1.1nm,0.3s,baz=289,slow=6.8,SNR=5.6							
	1.1nm,0.3s							
MKAR	**Makanchi Array**	**49.16**	**58**	P		**P**	**12 23 01.7**	**-0.8**
	1.9nm,0.5s,baz=288,slow=6.4,SNR=24							
	1.9nm,0.5s							
SCHQ	**Schefferville**	**53.02**	**315**	P		**P**	**12 23 29.8**	**-0.8**
	1.5nm,0.3s,baz=66,slow=7.0,SNR=8.6							
	1.5nm,0.3s							
SONM	**Songino Array**	**63.57**	**49**	P		**P**	**12 24 42.3**	**-0.2**
	0.6nm,0.6s,baz=297,slow=6.5,SNR=3.6							
	0.6nm,0.6s							

*IDC **14** 12:18:30.4±1.1,13.50S×45.66E,h0km, mb3.9/5, mbtmp3.9/6, ML3.4/1, MS3.2/2, Error ellipse: s-maj=45.2km s-min=15.8km az=151.0*
*NEIC **14** 12:18:32.1±1.3,13.03S±0.08×45.51E±0.09,h13km±4km, mb4.5/20, Error ellipse: s-maj=13.6km s-min=11.5km az=60.0*
ISC 14 12:18:31.1±0.5,13.09S±0.07×45.54E±0.07,h10km,n37, σ1ᵗ18/36,mb4.2/13,Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.67**	**164**	Pn		**Pn**	**12 19 57.4**	**+1.7**
	7.3nm,0.3s,baz=332,slow=15,SNR=177							
OPO				Sn		**Sn**	**12 20 58.7**	**-2.3**
	14nm,0.3s,baz=306,slow=18,SNR=28							
ABPO	**Ambohimpanom**	**6.11**	**165**			**Pn**	**12 20 03.2**	**+1.5**
VOI	**Vohitsoka**	**8.85**	**172**	Pn		**Pn**	**12 20 40.6**	**+1.4**
FOMA	**Nahampoana Res**	**11.90**	**174**	Pn		**Pn**	**12 21 21.6**	**+0.7**
RER	**Riviere de l'E**	**12.63**	**131**			**Pn**	**12 21 30.2**	**-0.8**
KIBK	**Kibwezi**	**13.00**	**325**			Pn	12 21 31.0	-5.1
LSZ	**Lusaka**	**16.96**	**261**	Pn		**Pn**	**12 22 26.3**	**-2.5**
MATP	**Matopo**	**17.86**	**244**	P		**Pn**	**12 22 40.4**	**+0.4**
	0.1nm,0.3s,baz=67,slow=12,SNR=6.6							
MATP				S		**Sn**	**12 25 59.5**	**+0.3**
	0.5nm,0.6s,baz=28,slow=21,SNR=1.7							
	1.6nm,0.7s							
MBAR	**Mbarara**	**19.21**	**309**	P		**P**	**12 22 55.0**	**-0.6**
MBAR	**Mbarara**	**19.21**	**309**	LR		LR	12 30 36.5	
	comp=Z,50nm,18.2s,baz=136,slow=37							
LODK	**Lodwar**	**19.27**	**328**	P		**P**	**12 22 55.1**	**-0.9**
BOSA	**Boshof**	**24.39**	**228**	P		**P**	**12 23 49.4**	**-0.5**
BOSA					IAmb	IAmb	12 23 58.6	
	comp=Z,9.4nm,1.2s							
BOSA	**Boshof**	**24.39**	**228**	P		**P**	**12 23 49.2**	**-0.6**
	comp=Z,1.6nm,0.4s,baz=55,slow=11,SNR=7.6							
	comp=Z,1.6nm,0.4s							
DGAR	**Diego Garcia**	**27.07**	**81**	P		**P**	**12 24 12.9**	**-1.2**
SUR	**Sutherland**	**29.68**	**226**	P		**P**	**12 24 37.9**	**+0.4**
SUR					IAmb	IAmb	12 24 39.1	
	comp=Z,14nm,1.1s							
TOA0	**Torodi Ar. Sit**	**50.67**	**299**	P		**P**	**12 27 30.7**	**-0.5**
TOA0					IAmb	IAmb	12 27 50.5	
	comp=Z,3.9nm,1.4s							
TORD	**Torodi Ar. Bea**	**50.67**	**299**	LR		LR	12 47 47.0	
	comp=Z,27nn,20.4s,baz=300,slow=34							
KEST	**Kesra**	**59.41**	**326**	P		**P**	**12 28 33.5**	**-0.5**
KEST					IAmb	IAmb	12 29 09.2	
	comp=Z,9.2nm,1.2s							
MYKOM	**Kota Tinggi**	**59.70**	**80**	P		**P**	**12 28 35.4**	**-1.0**
MYKOM					IAmb	IAmb	12 28 38.0	
	comp=Z,15nm,1.2s							
ARSB	**Arslanbob**	**59.79**	**24**	P		**P**	**12 28 37.5**	**+0.8**
KK31	**Karatay Array**	**60.42**	**21**	P		**P**	**12 28 40.8**	**0.0**
KK31					IAmb	IAmb	12 28 45.8	
	comp=Z,2.0nm,0.9s							
KKAR	**Karatay Array**	**60.42**	**21**	P		**P**	**12 28 41.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**61.28**	**60**	P		**P**	**12 28 48.9**	**+1.7**
	comp=Z,0.6nm,0.3s,baz=250,slow=6.6,SNR=4.1							
	comp=Z,0.6nm,0.3s							
ABKAR	**Akbulak array**	**63.37**	**11**			**P**	**12 29 00.4**	**-0.1**
ABKAR					IAmb	IAmb	12 29 05.4	
	comp=Z,3.8nm,0.8s							
ABKAR	**Akbulak array**	**63.37**	**11**			**P**	**12 28 60.0**	**-0.5**
SMRI	**Semarang**	**64.05**	**92**	P		**P**	**12 29 06.6**	**+0.8**
SNAA	**Sanae**	**65.27**	**195**	P		**P**	**12 29 13.5**	**+0.7**
NWAO	**Narrogin (SRO)**	**67.72**	**120**	P		**P**	**12 29 29.0**	**-0.1**
MAKZ	**Makanchi**	**67.99**	**26**	P		**P**	**12 29 32.0**	**+1.6**
MAKZ					IAmb	IAmb	12 29 35.2	
	comp=Z,1.9nm,1.0s							
MKAR	**Makanchi Array**	**68.11**	**26**	P		**P**	**12 29 31.4**	**+0.2**
MKAR	**Makanchi Array**	**68.11**	**26**	P		**P**	**12 29 34.0**	**+2.8**
	comp=Z,0.6nm,0.8s,baz=232,slow=4.7,SNR=4.4							
	comp=Z,0.6nm,0.8s							
BRVK	**Borovoye**	**69.23**	**16**	P		**P**	**12 29 39.1**	**+1.2**
BRVK					IAmb	IAmb	12 29 42.1	
	comp=Z,2.4nm,0.5s							
PSA00	**Pilbara Seismi**	**70.88**	**108**	P		**P**	**12 29 48.2**	**-0.7**
QSPA	**South Pole Qui**	**77.00**	**180**	P		**P**	**12 30 24.7**	**+0.7**
QSPA					IAmb	IAmb	12 30 26.8	
	comp=Z,9.9nm,1.4s							
QSPA	**South Pole Qui**	**77.00**	**180**	P		**P**	**12 30 23.0**	**-1.0**
	comp=Z,3.5nm,1.1s,baz=246,slow=2.7,SNR=5.7							
	comp=Z,3.5nm,1.1s							
VNDA	**Vanda**	**82.78**	**169**	P		**P**	**12 30 55.5**	**+0.6**
ASAR	**Alice Springs**	**83.38**	**113**	P		**P**	**12 30 58.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=262,slow=4.2,SNR=6.8							
	comp=Z,0.4nm,0.6s							

*NEIC **14** 12:19:17.5±0.9,19.26N±0.03×155.52W±0.01,h7km±5km, Error ellipse: s-maj=3.9km s-min=1.2km az=202.0*
HVO 14 12:19:17.2±0.9,19.23N±0.01×155.53W±0.01,h7km±4km, Md2.6/10,ML2.8/26(NEIC),Error ellipse: s-maj=2.0km s-min=1.5km az=118.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KHU	**Kahuku**	**0.09**	**279**			Pg	12 19 20.0	+0.5
KHU	**Kahuku**	**0.09**	**279**	IAML			12 19 22.1	
	comp=N,1μm,1.1s							
KHU				IAML			12 19 22.4	
	comp=E,674nm,0.5s							
HTC	**Hot Caves**	**0.12**	**88**			Pg	12 19 20.0	+0.1
HLP	**Hilina Pali**	**0.21**	**73**			Pg	12 19 22.3	+0.7
HLP	**Hilina Pali**	**0.21**	**73**	IAML			12 19 25.5	
	comp=E,3μm,1.1s							
HLP				IAML			12 19 28.8	
	comp=N,2μm,0.7s							
MWH	**Moku'aweowe**	**0.26**	**345**			Pg	12 19 22.4	-0.1
MWH	**Moku'aweowe**	**0.26**	**345**	IAML			12 19 26.6	
	comp=N,1μm,1.1s							
MWH				IAML			12 19 27.5	
	comp=E,2μm,1.5s							
MLH	**Mauna Loa**	**0.29**	**27**			Pg	12 19 23.3	+0.2
MLH	**Mauna Loa**	**0.29**	**27**	IAML			12 19 26.2	
	comp=E,1μm,1.5s							
MLH				IAML			12 19 29.7	
	comp=N,3μm,1.4s							
MLOA	**Mauna Loa Obse**	**0.30**	**351**	Pg		Pg	12 19 22.9	-0.5
MLOA				IAML			12 19 28.5	
	comp=N,1μm,2.0s							
PUH	**Pauahi**	**0.33**	**64**			Pg	12 19 23.5	-0.2
PUH	**Pauahi**	**0.33**	**64**	IAML			12 19 25.2	
	comp=E,3μm,0.7s							
PUH				IAML			12 19 31.5	
	comp=N,3μm,1.3s							
ALEP	**Alea Permanent**	**0.33**	**340**			Sg	12 19 28.8	+0.6
RSD	**Rainshed**	**0.33**	**46**	Pg		Pg	12 19 23.3	-0.4
HMH	**Humu'ula Sheep**	**0.37**	**6**			Pg	12 19 24.7	+0.1
HMH						Sg	12 19 30.5	+1.0
HMH	**Humu'ula Sheep**	**0.37**	**6**	IAML			12 19 32.2	
	comp=E,933nm,0.9s							
HMH				IAML			12 19 33.6	
	comp=N,1μm,1.1s							
STCH	**Steam Cracks**	**0.41**	**68**	Pg		Pg	12 19 24.0	-1.2
STCH				IAML			12 19 39.4	
	comp=E,1μm,0.7s							
JCUZ	**Jacuzzi**	**0.43**	**69**	Pg		Pg	12 19 25.0	-0.6
JCUZ				IAML			12 19 28.5	
	comp=E,790nm,1.1s							
POHA	**Pohakuloa**	**0.52**	**359**			Sg	12 19 34.5	+0.3
POHA	**Pohakuloa**	**0.52**	**359**	Pg		Pg	12 19 26.8	-0.6
POHA				IAML			12 19 34.9	
	comp=E,580nm,1.3s							
POHA				IAML			12 19 41.0	
	comp=E,613nm,0.9s							
HUH	**Hualalai**	**0.54**	**327**			Pg	12 19 27.6	-0.1
HUH	**Hualalai**	**0.54**	**327**	IAML			12 19 44.2	
	comp=E,915nm,0.4s							
HUH				IAML			12 19 45.2	
	comp=N,872nm,0.8s							
HPAH	**Hawaii Prepara**	**0.81**	**349**			Sg	12 19 42.1	-1.3
HPAH	**Hawaii Prepara**	**0.81**	**349**	Pg		Pg	12 19 30.6	-2.3
HPAH	**Hawaii Prepara**	**0.81**	**349**	IAML			12 19 42.6	
	comp=N,192nm,2.6s							
HPAH				IAML			12 19 42.9	
	comp=E,260nm,1.0s							

*MEX **14** 12:34:11.4±0.7,13.71N×92.89W,h15km,MD4.1*
*IDC **14** 12:34:16.0±4.9,14.58N×92.63W,h0km,mb3.7/2, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=100.2km s-min=22.0km az=15.0*
ISC 14 12:34:12.9±2.5,14.12N±0.09×92.81W±0.07,h1km±12km, n11,σ1ᵗ44/19,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
PATR	**El Naranjo**	**1.13**	**29**	*eP*		**Pg**	**12 34 34.7**	**+0.1**
PATR				*eS*		**Sn**	**12 34 53.4**

	5.1nm,1.5s						
MDOK				⇑Lg	Lg	12 42 20.3	
	29nm,1.1s						
ARXS	**Arharly**	**4.23**	**316**	Pg	**Pb**	**12 41 17.5**	**-1.9**
	1.4nm,0.6s						
ARXS				Lg	Lg	12 42 23.6	
	8.4nm,0.5s						
ARXS	**Arharly**	**4.23**	**316**	*e*P	**Pb**	**12 41 18.8**	**-0.7**
	1.0nm,0.2s						
ARXS				*e*S	**Sg**	**12 42 23.6**	**+2.3**
	8.4nm,0.5s						
TKM2	**Tokmak 2**	**5.00**	**291**	⇓Pg	**Pb**	**12 41 30.0**	**-2.7**
	1.7nm,0.8s						
TKM2				⇓Lg	Lg	12 42 47.7	
	14nm,0.8s						
MK31	**Makanchi Array**	**5.54**	**2**	⇑Pn	**Pg**	**12 41 50.9**	**-0.7**
	5.3nm,0.3s,baz=184,slow=15,SNR=50						
MK31				Sn	Sn	12 42 17.6	-13
	4.0nm,0.3s,baz=184,slow=26,SNR=10						
MAKZ	**Makanchi**	**5.55**	**0**	⇑Pn	**Pg**	**12 41 50.4**	**-1.3**
	3.5nm,0.5s						
MAKZ				⇓Sn	Sn	12 42 18.4	-12
	5.1nm,0.3s						

IDC 14 12:43:58.7±7.5,17°.93N×105°.80W,h0km,mb3.5/3, mbtmp3.5/4,ML2.9/1,MS3.3/7,Error ellipse: s-maj=132.2km s-min=85.0km az=139.0,Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**7.45**	**326**	LR	LR	12 47 46.7	
	comp=Z,164nm,19.7s,baz=188,slow=31						
CMIG	**Matias Romero**	**10.45**	**93**	LR	LR	12 50 46.0	
	comp=Z,214nm,19.4s,baz=251,slow=39						
TXAR	**Lajitas Array**	**11.52**	**9**	Pn	Pn	12 46 46.4	+1.7
	baz=190,slow=14,SNR=7.9						
	0.7nm,0.9s						
TEIG	**Tepich**	**16.72**	**79**	LR	LR	12 55 29.8	
	comp=Z,530nm,18.0s,slow=41						
PFO	**Pinyon Flats O**	**18.31**	**331**	LR	LR	12 53 11.8	
	comp=Z,33nm,19.1s,baz=163,slow=30						
NVAR	**Mina Array Bea**	**23.17**	**334**	P	P	12 49 07.2	+0.1
	2.7nm,1.1s,baz=152,slow=9.8,SNR=15						
	2.7nm,1.1s						
ELK	**Elko**	**24.15**	**342**	LR	LR	12 58 41.3	
	comp=Z,46nm,18.6s,baz=170,slow=36						
YBH	**Yreka Blue Hor**	**27.79**	**332**	LR	LR	12 59 44.7	
	comp=Z,36nm,19.3s,baz=162,slow=34						
NNA	**Nana**	**41.24**	**134**	LR	LR	13 05 29.0	
	comp=Z,29nm,18.7s,baz=216,slow=31						
YKA	**Yellowknife Ar**	**44.95**	**354**	P	P	12 52 15.2	0.0
	0.3nm,0.8s,baz=167,slow=7.4,SNR=6.0						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**54.27**	**340**	P	P	12 53 26.1	-0.3
	0.9nm,1.0s,baz=158,slow=5.6,SNR=6.6						
	0.9nm,1.0s						

*NEIC **14** 12:46:38.5±1.7,19°.43N±0°.02×154°.92W±0°.04,h3km±6km, Error ellipse: s-maj=5.7km s-min=1.8km az=113.0*

HVO 14 12:46:37.6±1.4,19°.44N±0°.02×154°.88W±0°.04,h5km±4km, ML3.1/16,MLv3.2/28(NEIC),Error ellipse: s-maj=5.6km s-min=1.9km az=107.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**351**		Pg	12 46 40.9	+2.0
PHO	**Puu Honuaula**	**0.04**	**351**		Pg	12 46 39.3	+0.4
PAH	**Pahoa**	**0.08**	**312**		Pg	12 46 39.9	+0.4
JOKA	**Jonika Flow**	**0.12**	**267**		Pg	12 46 40.4	+0.3
JOKA					Sg	12 46 42.4	+0.7
JCUZ	**Jacuzzi**	**0.21**	**255**	Pg	Pg	12 46 38.1	-3.8
NPOC	**North of Pu'u**	**0.22**	**258**		Sg	12 46 45.6	+0.7
NPOC	**North of Pu'u**	**0.22**	**258**	Pg	Pg	12 46 37.8	-4.2
NPOC	**North of Pu'u**	**0.22**	**258**	IAML		12 46 46.6	
	comp=E,2μm,1.8s						
NPOC				IAML		12 46 49.3	
	comp=N,1μm,1.4s						
STCH	**Steam Cracks**	**0.23**	**257**	Pg	Pg	12 46 42.2	-0.1
KNHH	**Kane Nui o Ham**	**0.28**	**258**		Pg	12 46 43.3	+0.2
PUH	**Pauahi**	**0.32**	**258**		Pg	12 46 44.0	+0.1
PUH	**Pauahi**	**0.32**	**258**	IAML		12 46 49.6	
	comp=N,3μm,0.9s						
PUH				IAML		12 46 51.1	
	comp=E,3μm,1.1s						
RSD	**Rainshed**	**0.37**	**274**		Pg	12 46 45.2	+0.3
RSD	**Rainshed**	**0.37**	**274**	IAML		12 46 51.8	
	comp=N,6μm,1.1s						
RSD				IAML		12 46 56.1	
	comp=E,4μm,1.6s						
HLP	**Hilina Pali**	**0.43**	**250**		Pg	12 46 46.1	+0.2
HLP	**Hilina Pali**	**0.43**	**250**	IAML		12 46 53.0	
	comp=E,4μm,1.1s						
HLP				IAML		12 46 53.1	
	comp=N,4μm,0.7s						
MLH	**Mauna Loa**	**0.48**	**277**		Pg	12 46 46.8	-0.1
MLH	**Mauna Loa**	**0.48**	**277**	IAML		12 46 49.6	
	comp=N,2μm,0.9s						
MLH				IAML		12 46 55.2	
	comp=E,2μm,1.1s						
HTC	**Hot Caves**	**0.53**	**248**		Pg	12 46 47.6	-0.2
HMH	**Humu'ula Sheep**	**0.59**	**286**		Sb	12 46 58.2	-1.1
HMH	**Humu'ula Sheep**	**0.59**	**286**	Pg	Pg	12 46 49.1	+0.1
HMH	**Humu'ula Sheep**	**0.59**	**286**	IAML		12 47 03.1	
	comp=E,2μm,0.7s						
HMH				IAML		12 47 03.2	
	comp=N,3μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.66**	**278**		Sb	12 47 00.5	-1.0
MLOA	**Mauna Loa Obse**	**0.66**	**278**	Pg	Pg	12 46 49.6	-0.8
MLOA				IAML		12 46 55.6	
	comp=E,762nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.66**	**278**	IAML		12 47 10.7	
	comp=N,838nm,0.7s						
MWH	**Moku'aweowe**	**0.68**	**274**	Pg	Pg	12 46 49.5	-1.2
MWH				IAML		12 47 02.7	
	comp=N,2μm,1.6s						
POHA	**Pohakuloa**	**0.69**	**297**	Pg	Pg	12 46 49.3	-1.6
POHA				IAML		12 47 13.7	
	comp=N,801nm,0.6s						
POHA				IAML		12 47 13.8	
	comp=N,880nm,0.6s						
KHU	**Kahuku**	**0.72**	**255**		Sg	12 47 00.8	0.0
KHU	**Kahuku**	**0.72**	**255**		Pg	12 46 50.1	-1.4
KHU	**Kahuku**	**0.72**	**255**	IAML		12 46 58.6	
	comp=E,975nm,1.7s						
KHU	**Kahuku**	**0.72**	**255**	IAML		12 47 01.5	
	comp=N,859nm,1.1s						
ALEP	**Alea Permanent**	**0.72**	**278**		Pg	12 46 50.8	-0.9
ALEP					Sg	12 47 00.8	-0.3

GUC 14 12:50:50.8±0.6,23°.06S×69°.74W,h77km±3km,ML2.9, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB15	**IPOC Station P**	**0.29**	**121**	*e*P	Pn	12 51 02.3	-0.7
PB15				*e*S	Sn	12 51 11.3	-0.7
PB15				IAML		12 51 14.6	
	comp=E,2μm,0.4s						
PB06	**IPOC Station P**	**0.39**	**24**	*i* P	Pn	12 51 02.9	-0.7
PB06				*i* S	Sn	12 51 12.3	-0.7
PB06				IAML		12 51 13.1	
	comp=N,349nm,0.2s						
PB04	**IPOC Station P**	**0.82**	**332**	*i* P	Pn	12 51 07.6	-0.1
PB04				*e*S	Sn	12 51 20.2	-0.1
PB04				IAML		12 51 21.2	
	comp=E,640nm,0.3s						
PB10	**IPOC Station P**	**0.87**	**239**	*i* P	Pn	12 51 08.1	-0.1
PB10				*e*S	Sn	12 51 20.8	-0.4
LVC	**Limon Verde**	**0.89**	**60**	*e*P	Pn	12 51 07.6	-1.1
AF01	**San Pedro de A**	**1.44**	**86**	*i* P	Pn	12 51 15.7	+0.1
AF01				*e*S	Sn	12 51 34.9	+0.7
AF01				IAML		12 51 36.7	
	comp=E,315nm,0.3s						
PB14	**IPOC Station P**	**1.67**	**201**	*e*P	Pn	12 51 17.8	-0.8

GUC 14 12:50:52.4±0.6,20°.98S×68°.95W,h111km±4km,ML3.1, 1C-2D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB01	**IPOC Station P**	**0.51**	**263**	*i* P	Pn	12 51 08.7	-0.8
PB01				*i* S	Sn	12 51 21.6	-0.7
PB01				IAML		12 51 22.2	
	comp=E,1μm,0.2s						
PB09	**IPOC Station P**	**0.86**	**198**	*i* P	Pn	12 51 12.4	-0.1
PB09				*i* S	Sn	12 51 28.2	+0.6
PB09				IAML		12 51 29.7	
	comp=E,377nm,0.3s						
PB08	**IPOC Station P**	**0.86**	**347**	*e*P	Pn	12 51 12.5	-0.3
PB08				*i* S	Sn	12 51 27.9	-0.1
PB08				IAML		12 51 29.1	
	comp=N,298nm,0.2s						
PB02	**IPOC Station P**	**0.94**	**249**	*i* P	Pn	12 51 12.8	-0.4
PB02				*i* S	Sn	12 51 28.5	-0.4
PB02				IAML		12 51 31.0	
	comp=E,902nm,0.4s						
PATCX	**Punta Patache**	**1.14**	**278**	*e*P	Pn	12 51 14.8	-0.4
PATCX	**Punta Patache**	**1.14**	**278**	⇑*i*P	Pn	12 51 14.7	-0.5
PATCX				*i* S	Sn	12 51 31.8	-0.6
PATCX				IAML		12 51 34.4	
	comp=E,381nm,0.2s						
PB07	**IPOC Station P**	**1.15**	**229**	⇓*e*P	Pn	12 51 13.6	-1.8
PB07				*e*S	Sn	12 51 30.9	-1.9
PB07				IAML		12 51 34.9	
	comp=E,368nm,0.2s						
PB07	**IPOC Station P**	**1.15**	**229**	⇓*i*P	Pn	12 51 13.5	-1.9
PB07				*i* S	Sn	12 51 32.2	-0.6
PB07				IAML		12 51 34.9	
	comp=N,303nm,0.2s						
TA01	**Diego Aracena**	**1.22**	**290**	*e*P	Pn	12 51 15.3	-0.8
TA01	**Diego Aracena**	**1.22**	**290**	*e*P	Pn	12 51 15.3	-0.8
TA01				*i* S	Sn	12 51 32.7	-1.2
TA01				IAML		12 51 33.5	
	comp=E,276nm,0.2s						
TA02	**Huaiquique**	**1.31**	**302**	*i* S	Sn	12 51 34.9	-0.8
TA02				IAML		12 51 37.9	
	comp=N,796nm,0.1s						
GO01	**Chusmiza**	**1.33**	**350**	*e*P	Pn	12 51 17.5	-0.2
GO01	**Chusmiza**	**1.33**	**350**	*e*P	Pn	12 51 17.5	-0.2
GO01				*e*S	Sn	12 51 37.0	+0.2
GO01				IAML		12 51 38.7	
	comp=E,398nm,0.1s						
PB11	**IPOC Station P**	**1.38**	**331**	*e*P	Pn	12 51 17.5	-0.6
PB11				*i* S	Sn	12 51 36.8	-0.7
PB11				IAML		12 51 38.0	
	comp=E,397nm,0.2s						
LVC	**Limon Verde**	**1.62**	**179**	*e*S	Sn	12 51 43.0	+0.1
LVC				IAML		12 51 45.0	
	comp=E,392nm,0.3s						
PB06	**IPOC Station P**	**1.81**	**198**	*i* S	Sn	12 51 46.4	-0.3

*SJA **14** 12:52:53.4±0.6,22°.96S×66°.61W,h240km±5km,ML4.1, MW3.8*

*NEIC **14** 12:52:54.2±2.1,22°.98S±0°.07×66°.5W±0°.2,h202km±10km, mb4.1/5,Error ellipse: s-maj=22.4km s-min=8.1km az=104.0*

*IDC **14** 12:52:55.1±1.0,22°.94S×66°.55W,h200km±14km,mb3.6/2, mbtmp4.1/8,MS3.4/1,Error ellipse: s-maj=20.7km s-min=12.0km az=132.0*

*GUC **14** 12:52:56.5±0.6,22°.97S×67°.02W,h235km±7km,ML4.2*

*VAO **14** 12:52:56.2±0.3,22°.60S×66°.59W,h202km,mb3.8*

ISC 14 12:52:54.9±0.6,22°.93S±0°.04×66°.64W±0°.05,h216km±7km, n86,σ1°65/115,mb4.0/3,10C-2D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HJA	**Humahuaca**	**1.17**	**104**	*e*P	Pn	12 53 29.2	+1.2
YJA	**Yavi**	**1.29**	**54**	*e*P	Pn	12 53 30.4	+1.4
YJA	**Yavi**	**1.29**	**54**	⇓*i*P	Pn	12 53 30.3	+1.4
AF01	**San Pedro de A**	**1.42**	**269**		Pn	12 53 30.3	+0.5
AF01	**San Pedro de A**	**1.42**	**269**	⇑*e*P	Pn	12 53 31.4	+1.6
LVC	**Limon Verde**	**2.12**	**278**	*e*P	Pn	12 53 36.4	+0.1
LVC	**Limon Verde**	**2.12**	**278**	*e*P	Pn	12 53 37.1	+0.8
LVC				*e*S	S	12 54 09.4	+1.2
LVC	**Limon Verde**	**2.12**	**278**	P	Pn	12 53 37.1	+0.8
	152nm,0.4s,baz=96,slow=6.7,SNR=19						
LVC				*S*	S	12 54 07.9	-0.3
	94nm,0.5s,baz=265,slow=21,SNR=22						
LVC	**Limon Verde**	**2.12**	**278**	⇑*i*P	Pn	12 53 37.0	+0.7
LVC				*e*S	S	12 54 07.9	-0.3
LVC				IAML		12 54 09.7	
	917nm,0.4s						
LVC	**Limon Verde**	**2.12**	**278**	*e*P	Pn	12 53 37.1	+0.8
LVC				*e*S	S	12 54 08.2	0.0
PB15	**IPOC Station P**	**2.62**	**263**	*e*P	Pn	12 53 42.1	+0.7
PB15				*e*S	S	12 54 17.9	+0.5
PB15	**IPOC Station P**	**2.62**	**263**	*i* P	Pn	12 53 41.9	+0.5
PB15				*e*S	S	12 54 16.6	-0.8
PB09	**IPOC Station P**	**2.66**	**295**	*e*P	Pn	12 53 43.2	+1.4
PB09	**IPOC Station P**	**2.66**	**295**	⇓*e*P	Pn	12 53 42.9	+1.1
PB09				*e*S	S	12 54 18.4	+0.2
PB06	**IPOC Station P**	**2.71**	**274**		Pn	12 53 42.7	+0.3
PB06	**IPOC Station P**	**2.71**	**274**	*e*P	Pn	12 53 42.9	+0.5
PB06				*e*S	S	12 54 20.4	+1.3
PB06				IAML		12 54 22.2	
	comp=Z,294nm,0.3s						
PB06	**IPOC Station P**	**2.71**	**274**	⇑*i*P	Pn	12 53 42.6	+0.3
PB06				*e*S	S	12 54 18.1	-1.1
PB06				IAML		12 54 20.7	
	comp=E,772nm,0.1s						
FSA	**Cafayete**	**3.22**	**169**	*i* P	Pn	12 53 49.0	+0.9
FSA				*e*S	S	12 54 26.0	-3.8
PB07	**IPOC Station P**	**3.23**	**291**	*e*P	Pn	12 53 48.9	+0.5
PB07				*e*S	S	12 54 28.9	-1.0
PB07				IAML		12 54 32.9	
	comp=Z,341nm,0.4s						
PB07	**IPOC Station P**	**3.23**	**291**	⇑*i*P	Pn	12 53 48.8	+0.4
PB01	**IPOC Station P**	**3.24**	**305**	*e*P	Pn	12 53 49.1	+0.7
PB01				IAML		12 54 33.8	
	comp=Z,274nm,0.2s						
PB01	**IPOC Station P**	**3.24**	**305**	⇑*e*P	Pn	12 53 49.1	+0.7
PB04	**IPOC Station P**	**3.29**	**280**	*e*P	Pn	12 53 49.5	+0.5
PB04				IAML		12 54 34.1	
	comp=Z,364nm,0.2s						
PB04	**IPOC Station P**	**3.29**	**280**	⇑*e*P	Pn	12 53 49.2	+0.2
PB04				*e*S	S	12 54 29.2	-2.0
PB02	**IPOC Station P**	**3.42**	**297**	*e*P	Pn	12 53 50.8	+0.4
PB02				IAML		12 54 36.5	
	comp=Z,514nm,0.3s						
PB02	**IPOC Station P**	**3.42**	**297**	*e*P	Pn	12 53 50.8	+0.4
PB02				*e*S	S	12 54 31.6	-2.1
GO02	**Mina Guanaco**	**3.49**	**230**	*e*P	Pn	12 53 52.0	+0.5
GO02				*e*S	S	12 54 35.1	-0.5
PB08	**IPOC Station P**	**3.63**	**319**	*e*P	Pn	12 53 55.1	+1.8
PB08				*e*S	S	12 54 41.0	+2.2
PB08				IAML		12 54 42.3	
	comp=Z,146nm,0.2s						
PB08	**IPOC Station P**	**3.63**	**319**	⇑*i*P	Pn	12 53 54.9	+1.6
PB08				*e*S	S	12 54 40.7	+1.9
PB10	**IPOC Station P**	**3.65**	**260**	*e*P	Pn	12 53 53.2	+0.1
PB10				*e*S	S	12 54 36.4	-2.0
PB10				IAML		12 54 39.1	
	comp=Z,148nm,0.3s						
PB10	**IPOC Station P**	**3.65**	**260**	⇑*i*P	Pn	12 53 53.1	+0.1
PB10				*e*S	S	12 54 35.5	-2.9
PB14	**IPOC Station P**	**3.84**	**243**	*e*P	Pn	12 53 55.5	-0.1
PB14				*e*S	S	12 54 39.8	-3.3
PB14				IAML		12 54 43.2	
	comp=Z,240nm,0.2s						
PB14	**IPOC Station P**	**3.84**	**243**	*e*P	Pn	12 53 55.4	-0.3
PB14				*e*S	S	12 54 39.8	-3.3
PATCX	**Punta Patache**	**3.88**	**302**		Pn	12 53 55.8	-0.1
PATCX	**Punta Patache**	**3.88**	**302**	*e*P	Pn	12 53 55.9	-0.1
PATCX				*e*S	S	12 54 42.8	-0.9
PATCX				IAML		12 54 49.4	
	comp=Z,244nm,0.4s						
HMBC	**Humberstone**	**4.01**	**311**		Pn	12 53 57.3	-0.4
GO01	**Chusmiza**	**4.03**	**323**		Pn	12 53 59.2	+1.0
GO01	**Chusmiza**	**4.03**	**323**	*e*P	Pn	12 53 59.5	+1.3
GO01				*e*S	S	12 54 50.4	+2.7
GO01	**Chusmiza**	**4.03**	**323**	⇑*i*P	Pn	12 53 59.4	+1.2
GO01				*e*S	S	12 54 49.0	+1.4
TA01	**Diego Aracena**	**4.05**	**305**	*e*P	Pn	12 53 57.3	-0.6
TA01	**Diego Aracena**	**4.05**	**305**	*e*P	Pn	12 53 57.6	-0.3
TA01				*e*S	S	12 54 46.5	-0.8
TA01				IAML		12 54 47.9	
	comp=Z,120nm,0.2s						
TA02	**Huaiquique**	**4.19**	**309**		Pn	12 53 59.4	-0.3
PB11	**IPOC Station P**	**4.23**	**318**	Pn	Pn	12 54 00.5	+0.2
PB11	**IPOC Station P**	**4.23**	**318**	*e*P	Pn	12 54 00.4	+0.1
PB11				*e*S	S	12 54 50.6	-1.0
PB11				IAML		12 54 52.5	
	comp=Z,289nm,0.2s						
PB11	**IPOC Station P**	**4.23**	**318**	⇑*e*P	Pn	12 54 00.2	-0.1
AC01	**Pan de Azucar**	**4.82**	**228**		Pn	12 54 05.9	-1.6
AC01	**Pan de Azucar**	**4.82**	**228**	*e*P	Pn	12 54 06.6	-0.9
AC01				*e*S	S	12 54 59.3	-5.3
AC01				IAML		12 55 04.4	
	comp=Z,54nm,0.3s						
PB18	**Visviri**	**5.95**	**333**	Pn	Pn	12 54 23.2	+0.9
LPAZ	**La Paz**	**6.76**	**348**	P	Pn	12 54 34.5	+1.6
	comp=Z,8.8nm,0.5s,baz=181,slow=7.9,SNR=19						
LPAZ				S	S	12 55 52.3	+1.8
	comp=Z,4.1nm,0.6s,baz=266,slow=16,SNR=4.7						
LPAZ	**La Paz**	**6.76**	**348**	*e*S	S	12 55 42.9	-7.7
BBRB	**Robore, Bolivi**	**7.90**	**55**	*e*P	Pn	12 54 44.8	-2.2
BBSD	**Serra de San D**	**8.05**	**46**	*e*P	Pn	12 54 47.9	-1.0
BBSD				*e*S	S	12 56 14.8	-5.2
MURT	**Porto Murtinho**	**8.46**	**83**	*e*P	Pn	12 54 54.8	+0.7
MURT				*e*S	S	12 56 29.5	-0.1
SIV	**San Ignacio**	**8.68**	**38**	P	Pn	12 54 56.0	-1.0
	comp=Z,6.7nm,0.4s,baz=213,slow=13,SNR=28						
SIV				S	S	12 56 30.6	-4.3
	comp=Z,0.6nm,0.2s,baz=138,slow=19,SNR=1.1						
CPUP	**Villa Florida**	**9.12**	**114**	P	Pn	12 55 02.1	-0.5
	comp=Z,2.5nm,0.6s,baz=293,slow=14,SNR=7.5						
BDQN	**Bodoquena, MS**	**9.52**	**77**	*e*P	Pn	12 55 07.8	0.0
PTLB	**Pontes e Lacer**	**10.28**	**45**	*e*P	Pn	12 55 16.8	-0.7
AMBA	**Amambai (Brazi**	**10.74**	**92**	*e*P	Pn	12 55 24.4	+1.0
MT02	**Curacav**	**11.02**	**200**		Pn	12 55 26.1	-0.9
MT01	**Popeta**	**11.62**	**199**		Pn	12 55 34.2	-0.3
VILB	**Vilhena**	**11.66**	**33**	*e*P	Pn	12 55 32.8	-2.5
BO01	**Tunca**	**12.06**	**198**	P	P	12 55 45.3	+1.2
UNIS	**Unistalda (Bra**	**12.06**	**123**	*e*P	P	12 55 44.6	+0.4
CRSM	**Crissiumal (Br**	**12.27**	**114**	*e*P	P	12 55 46.4	-0.2
RODS	**Rosario do Sul**	**12.62**	**128**	*e*P	Pn	12 55 48.3	+1.2
ML02	**Panimavida**	**13.44**	**197**	P	Pn	12 55 58.5	+1.2
PTGB	**Pitanga**	**13.46**	**100**	*e*P	P	12 55 59.3	-0.5
ALGR	**Alto Alegre (B**	**13.57**	**118**	*e*P	P	12 56 02.5	+1.4
ITAB	**Concordia**	**13.83**	**111**	P	Pn	12 56 00.8	-1.3
ITAB	**Concordia**	**13.83**	**111**	*e*P	P	12 56 05.4	+1.6
LDASE	**Londrina, Braz**	**14.29**	**95**	*e*P	P	12 56 09.1	+0.1
PCMB	**Pacaembu**	**14.30**	**88**	*e*P	P	12 56 09.2	+0.1
TRQA	**Tornquist**	**15.60**	**166**		Pn	12 56 21.9	-1.7
TRQA				IAmb	IAmb	12 56 29.4	
	comp=Z,9.6nm,1.3s						
LR05	**Currie**	**17.83**	**194**	P	P	12 56 48.5	+0.8
IPMB	**Ipameri, GO**	**17.95**	**77**	*e*P	Pn	12 56 51.1	-0.6
PLCA	**Paso Flores**	**18.05**	**190**	P	P	12 56 50.4	+0.2
PLCA	**Paso Flores**	**18.05**	**190**	P	P	12 56 51.1	+0.9
	comp=Z,2.2nm,0.5s,baz=14,slow=12,SNR=12						
VAO	**Valinhos**	**18.12**	**94**	*e*P	P	12 56 52.4	+1.3
BDFB	**Brasilia**	**19.01**	**71**	P	P	12 57 02.0	+1.2
	comp=Z,3.4nm,0.6s,baz=226,slow=10,SNR=4.9						
RPN	**Rapa Nui**	**38.77**	**255**	LR	LR	13 13 19.6	
	comp=Z,52nm,19.2s,baz=238,slow=32						
QSPA	**South Pole Qui**	**67.27**	**180**	P	P	13 03 27.4	+1.4
QSPA				IAmb	IAmb	13 04 05.9	
	comp=Z,4.6nm,1.4s						
QSPA	**South Pole Qui**	**67.27**	**180**	P	P	13 03 28.1	+2.1
	comp=Z,2.1nm,0.7s,baz=156,slow=0.6,SNR=14						
	comp=Z,2.1nm,0.7s						
TOA0	**Torodi Ar. Sit**	**75.88**	**69**	P	P	13 04 17.1	-0.9
TOA0				IAmb	IAmb	13 04 23.4	
	comp=Z,5.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**75.88**	**69**	P	P	13 04 19.4	+1.4
	comp=Z,0.4nm,0.4s,baz=262,slow=4.6,SNR=3.6						
	comp=Z,0.4nm,0.4s						
ASAR	**Alice Springs**	**129.56**	**205**	PKP	**PKPdf**	13 11 39.7	+1.0
	comp=Z,0.1nm,0.3s,baz=136,slow=1.6,SNR=4.0						
WRA	**Warramunga Arr**	**132.72**	**207**	PKP	**PKPdf**	13 11 46.0	+1.2
	comp=Z,0.1nm,0.4s,baz=162,slow=1.8,SNR=4.6						

DJA 14 13:01:42.6±1.1,9°.5S×111°.3E±°,h15km±8km,M4.1/13, mb4.2/4,MLv4.1/13,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAGI	**Jajag, Banyuwa**	**1.18**	**59**	P	Pn	13 02 04.3	-0.3
JAGI				S	Sb	13 02 18.8	-1.1
BLJI	**Banyuglugur**	**1.41**	**19**	P	Pb	13 02 09.0	+0.3
ABJI	**Asem Bagus**	**1.69**	**40**	P	Pb	13 02 12.7	-0.7
PWJI	**Pagerwojo**	**1.69**	**309**	P	Pn	13 02 10.6	-1.0
SRBI	**Singaraja**	**2.29**	**64**	P	Pn	13 02 20.1	+0.3
SRBI				S	Sn	13 02 46.7	-1.1
NGJI	**Ngawi**	**2.38**	**316**	P	Pb	13 02 24.0	-1.2
UGM	**Wanagama**	**2.83**	**294**	P	Pn	13 02 27.5	+0.1
KPJI	**Karang Pucung**	**4.51**	**292**	P	Pn	13 02 51.3	+0.9
PLAI	**Plampang**	**4.60**	**87**	P	Pn	13 02 52.0	+0.4
CMJI	**Cimerak**	**4.81**	**285**	P	Pn	13 02 53.8	-0.7
EDFI	**Ende, Flores**	**8.46**	**88**	P	Pn	13 03 45.2	+0.3

NOU 14 13:08:25.2,17°.57S×167°.32E,h91km,MLv3.8/8,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.84**	**101**	P	Pn	13 08 44.7	+1.5
LIFNC	**LIFOU**	**3.19**	**181**	P	Pn	13 09 12.8	-0.5
KOUNC	**Koumac, New Ca**	**4.13**	**224**	P	Pn	13 09 26.2	+0.2
DZM	**Mont Dzumac**	**4.55**	**190**	P	Pn	13 09 31.7	-0.2
ONTNC	**Ouen Toro**	**4.78**	**190**	P	Pn	13 09 34.8	-0.1
OUENC	**Ouen Island, N**	**4.84**	**185**	P	Pn	13 09 36.0	+0.3
PINNC	**Pines Island,**	**5.02**	**179**	P

n113,σ2.9s10/136, mb3.7/11, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
GLKZ	**Green Lake**	**2.88**	**49**	P	**Pn**	**13 20 22.9**	**+0.4**
GLKZ				S	**S**	**13 21 15.1**	**+2.4**
RAO	**Raoul Island**	**2.88**	**49**	P	**Pn**	**13 20 25.8**	**+3.2**
RAO	**Raoul Island**	**2.88**	**49**	P	**Pn**	**13 20 25.3**	**+2.8**
	197nm,0.3s,baz=163,slow=17,SNR=5.6						
RAO				S	**S**	**13 21 10.8**	**-2.0**
	152nm,0.4s,baz=270,slow=20,SNR=1.6						
MXZ	**Matakaoa Point**	**6.45**	**189**	P	**Pn**	**13 21 00.9**	**+3.3**
EDRZ	**Edgecumbe**	**7.30**	**198**	P	**P**	**13 21 11.8**	**+4.0**
EDRZ				S	**S**	**13 22 38.6**	**+4.0**
URZ	**Urewera**	**7.35**	**196**	P	**P**	**13 21 10.6**	**+2.4**
	213nm,0.3s,baz=103,slow=2.0,SNR=146						
URZ				S	**S**	**13 22 33.8**	**-1.8**
	113nm,0.4s,baz=293,slow=22,SNR=19						
OMRZ	**Omania**	**7.40**	**200**	P	P	13 21 13.8	+5.0
MKRZ	**Makatiti**	**7.40**	**200**	P	**P**	13 21 14.4	+5.5
TARZ	**Mount Tarawera**	**7.48**	**199**	P	**P**	**13 21 14.4**	**+4.6**
RAGZ	**Rawiri**	**7.51**	**193**	P	**P**	**13 21 10.7**	**+0.6**
RAGZ				S	**S**	**13 22 39.6**	**+0.5**
UTU	**Utuhina**	**7.52**	**201**	P	P	13 21 15.9	+5.8
HLRZ	**Highlands Stat**	**7.54**	**200**	P	**P**	**13 21 14.8**	**+4.4**
RRRZ	**Republican Roa**	**7.58**	**199**	P	**P**	**13 21 14.8**	**+4.0**
RRRZ				S	**S**	**13 22 44.7**	**+4.3**
HSRZ	**Hossack Road**	**7.63**	**200**	P	**P**	13 21 15.5	+5.2
MUGZ	**Murupara**	**7.64**	**197**	P	**P**	**13 21 12.5**	**+1.1**
MUGZ				S	**S**	**13 22 42.0**	**+0.4**
RIGZ	**Rimuhau**	**7.66**	**191**	P	**P**	**13 21 14.2**	**+2.6**
RIGZ				S	**S**	**13 22 40.2**	**-1.8**
HRRZ	**Handcock Road**	**7.69**	**200**	P	**P**	**13 21 15.5**	**+3.5**
GRRZ	**Galatos Road**	**7.70**	**201**	P	P	13 21 17.1	+4.9
RTZ	**Ruatahuna**	**7.72**	**195**	P	**P**	**13 21 14.2**	**+1.8**
PRRZ	**Plateau Road**	**7.76**	**199**	P	**P**	**13 21 15.3**	**+2.5**
PRRZ				S	**S**	**13 22 42.8**	**-1.3**
SNGZ	**Shannon Statio**	**7.80**	**193**	P	**P**	**13 21 16.0**	**+2.7**
SNGZ				S	**S**	**13 22 44.9**	**-0.2**
ALRZ	**Allen Road**	**7.83**	**199**	P	**P**	**13 21 16.3**	**+2.7**
ALRZ				S	**S**	**13 22 46.5**	**+0.8**
WPRZ	**Whakapapatarin**	**7.84**	**200**	P	**P**	**13 21 17.4**	**+3.6**
WPRZ				S	**S**	**13 22 50.5**	**+4.5**
PRGZ	**Paritu Road**	**7.85**	**190**	P	**P**	**13 21 16.4**	**+2.6**
PRGZ				S	**S**	**13 22 43.9**	**-2.1**
KUTZ	**Kaahu Road**	**7.92**	**202**	P	**P**	**13 21 18.8**	**+4.2**
KNZ	**Kokohu**	**7.98**	**191**	P	**P**	**13 21 17.7**	**+2.5**
KNZ				S	**S**	**13 22 47.9**	**-0.8**
MTHZ	**Maungataniwha**	**7.98**	**196**	P	**P**	**13 21 17.3**	**+2.1**
MTHZ				S	**S**	**13 22 49.0**	**+0.2**
RAHZ	**Arahi**	**7.99**	**194**	P	**P**	**13 21 16.6**	**+1.3**
RAHZ				S	**S**	**13 22 47.9**	**-1.0**
MRHZ	**Matea Rd**	**8.07**	**198**	P	**P**	**13 21 16.9**	**+0.7**
MRHZ				S	**S**	**13 22 49.3**	**-1.3**
MHGZ	**Mahia Peninsul**	**8.07**	**189**	P	**P**	**13 21 18.9**	**+2.7**
MHGZ				S	**S**	**13 22 50.1**	**-0.5**
WHHZ	**Waihua**	**8.11**	**193**	P	**P**	**13 21 19.7**	**+3.1**
WHHZ				S	**S**	**13 22 49.9**	**-1.5**
WATZ	**Wairara**	**8.15**	**202**	P	**P**	**13 21 21.3**	**+4.1**
NMHZ	**Naumai**	**8.22**	**195**	P	**P**	**13 21 18.9**	**+1.0**
NMHZ				S	**S**	**13 22 53.4**	**-0.6**
RATZ	**Rangitukua**	**8.28**	**201**	P	**P**	**13 21 21.4**	**+2.7**
HIZ	**Hauiti**	**8.29**	**207**	P	**P**	**13 21 20.9**	**+2.3**
ARHZ	**Aropaoanui**	**8.34**	**194**	P	**P**	**13 21 21.6**	**+2.4**
ARHZ				S	**S**	**13 22 54.4**	**-1.8**
BKZ	**Black Stump Fm**	**8.36**	**197**	P	**Pn**	**13 21 19.9**	**+0.7**
BKZ	**Black Stump Fm**	**8.36**	**197**	P	**P**	**13 21 20.0**	**+0.5**
BKZ				S	**S**	**13 22 54.8**	**-2.1**
KATZ	**Kakaramea**	**8.41**	**201**	P	**P**	**13 21 23.8**	**+3.7**
NTVZ	**North Tongarir**	**8.53**	**201**	P	**P**	**13 21 23.9**	**+2.5**
KRVZ	**Karewarewa**	**8.53**	**201**	P	**P**	**13 21 24.1**	**+2.6**
TMVZ	**Te Maari**	**8.53**	**201**	P	**P**	**13 21 24.4**	**+2.9**
ETVZ	**East Tongariro**	**8.55**	**201**	P	**P**	**13 21 24.0**	**+2.3**
WTVZ	**West Tongariro**	**8.57**	**201**	P	**P**	**13 21 24.4**	**+2.5**
NNVZ	**North Ngauruho**	**8.57**	**201**	P	**P**	**13 21 24.4**	**+2.4**
NNVZ				S	**S**	**13 23 01.8**	**+0.2**
TWVZ	**Taurewa**	**8.57**	**202**	P	**P**	**13 21 24.6**	**+2.7**
MCHZ	**McNeill Hill**	**8.58**	**195**	P	**P**	**13 21 22.8**	**+1.0**
MCHZ				S	**S**	**13 22 60.0**	**-1.3**
OTVZ	**Oturere**	**8.59**	**201**	P	**Pn**	**13 21 21.9**	**-0.1**
SNVZ	**South Ngauruho**	**8.62**	**201**	P	**P**	**13 21 23.5**	**+1.0**
SNVZ				S	**S**	**13 23 02.3**	**-0.2**
NGZ	**Ngauruhoe**	**8.62**	**201**	P	**P**	**13 21 24.8**	**+2.3**
KWHZ	**Kaweka Forest**	**8.62**	**197**	P	**P**	**13 21 22.9**	**+0.5**
KWHZ				S	**S**	**13 22 59.0**	**-3.4**
COVZ	**Chateau Observ**	**8.66**	**201**	P	**P**	**13 21 25.2**	**+2.4**
COVZ				S	**S**	**13 23 04.5**	**+1.2**
TUVZ	**Tukino**	**8.69**	**201**	P	**P**	**13 21 25.3**	**+2.0**
TUVZ				S	**S**	**13 23 03.9**	**0.0**
CKHZ	**Cape Kidnapper**	**8.70**	**193**	P	**P**	**13 21 26.1**	**+2.9**
CKHZ				S	**S**	**13 23 02.9**	**-1.1**
FWVZ	**Far West T-bar**	**8.71**	**201**	P	**P**	**13 21 25.6**	**+2.1**
FWVZ				S	**S**	**13 23 04.6**	**+0.1**
MAVZ	**Matarangi**	**8.72**	**201**	P	**P**	**13 21 25.7**	**+1.9**
WHVZ	**Whangaehu Hut**	**8.72**	**201**	P	**P**	**13 21 26.6**	**+2.9**
TRVZ	**Turoa**	**8.75**	**201**	P	**P**	**13 21 26.0**	**+2.0**
WNVZ	**Wahianoa**	**8.76**	**201**	P	**Pn**	**13 21 23.8**	**-0.1**
BHHZ	**Black Hill Sta**	**8.78**	**198**	P	**Pn**	**13 21 22.6**	**-1.4**
BHHZ				S	**S**	**13 23 01.8**	**-3.8**
MOVZ	**Moawhango**	**8.79**	**200**	P	**P**	**13 21 25.0**	**+0.8**
KRHZ	**Kereru**	**8.84**	**196**	P	**Pn**	**13 21 25.1**	**+0.4**
MTVZ	**Mangateitei**	**8.85**	**201**	P	**P**	**13 21 27.2**	**+2.2**
VRZ	**Vera Road**	**8.86**	**205**	P	**P**	**13 21 28.6**	**+3.7**
KAHZ	**Kahuranaki**	**8.87**	**194**	P	**P**	**13 21 26.5**	**+1.3**
PXZ	**Pawanui**	**9.11**	**193**	P	**Pn**	**13 21 28.4**	**+0.7**
PNHZ	**Pukenui**	**9.14**	**197**	P	**P**	**13 21 26.1**	**-2.1**
WPHZ	**Waipukurau**	**9.23**	**195**	P	**Pn**	**13 21 30.2**	**+1.1**
NEZ	**North Egmont**	**9.24**	**208**	P	Pn	13 21 34.7	+5.3
TSZ	**Takapari Road**	**9.34**	**197**	P	**P**	**13 21 30.6**	**+0.3**
WAZ	**Wanganui**	**9.34**	**202**	P	**Pn**	**13 21 32.2**	**+1.7**
PRHZ	**Porangahau**	**9.38**	**194**	P	**Pn**	**13 21 32.6**	**+1.7**
DVHZ	**Dannevirke**	**9.51**	**196**	P	**Pn**	**13 21 33.0**	**+0.6**
ANWZ	**Angora Road**	**9.60**	**194**	P	**Pn**	**13 21 35.2**	**+1.8**
POWZ	**Post Office Ro**	**9.70**	**198**	P	**Pn**	**13 21 35.4**	**+0.8**
PRWZ	**Pori Road**	**9.80**	**196**	P	**Pn**	**13 21 36.8**	**+1.0**
BFZ	**Birch Farm**	**9.86**	**195**	P	**P**	**13 21 36.0**	**-0.1**
BFZ	**Birch Farm**	**9.86**	**195**	P	**P**	**13 21 36.3**	**+0.3**
MRZ	**Mangatainoka R**	**10.00**	**198**	P	**P**	**13 21 36.2**	**-1.5**
TIWZ	**Tintock**	**10.03**	**196**	P	**Pn**	**13 21 39.8**	**+1.3**
HOWZ	**Holdsworth Sta**	**10.24**	**198**	P	**P**	**13 21 40.7**	**+0.3**
OGWZ	**Otaki Gorge**	**10.26**	**199**	P	**P**	**13 21 39.8**	**-0.7**
TMWZ	**Te Maipa**	**10.35**	**196**	P	**Pn**	**13 21 42.5**	**+0.4**
KIW	**Kapiti Island**	**10.38**	**200**	P	**P**	**13 21 41.3**	**-0.5**
PAWZ	**Paruwai Farm**	**10.72**	**197**	P	**P**	**13 21 45.6**	**-0.1**
SNZO	**South Karori**	**10.85**	**200**	P	**P**	**13 21 46.0**	**-1.0**
PLWZ	**Palliser**	**10.94**	**197**	P	**Pn**	**13 21 50.1**	**+1.1**
NNZ	**Nelson**	**11.20**	**205**	P	**P**	**13 21 50.3**	**-0.6**
BSWZ	**Blackbirch Sta**	**11.47**	**202**	P	**P**	**13 21 54.1**	**+0.2**
KHZ	**Kahutara**	**12.21**	**202**	P	**P**	**13 22 02.5**	**+0.4**
GVZ	**Greta Valley S**	**12.87**	**202**	P	**P**	**13 22 09.3**	**0.0**
ONTNC	**Ouen Toro**	**14.69**	**304**	P	**P**	**13 22 29.9**	**+0.5**
STKA	**Stephens Creek**	**32.30**	**259**	P	**P**	**13 25 15.3**	**+1.5**
	1.4nm,0.8s,baz=117,slow=14,SNR=3.1						
	1.4nm,0.8s						
BBOO	**Buckleboo**	**36.77**	**256**	P	**P**	**13 25 48.3**	**-3.5**
BBOO				IAmb	IAmb	13 26 13.5	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**41.02**	**269**	P	**P**	**13 26 26.5**	**-0.1**
ASAR	**Alice Springs**	**41.02**	**269**	P	**P**	**13 26 26.0**	**-0.6**
ASAR	**Alice Springs**	**41.02**	**269**	P	**P**	**13 26 26.7**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=107,slow=7.4,SNR=21						
	comp=Z,0.4nm,0.3s						
WB2	**Warramunga Arr**	**42.07**	**274**	P	**P**	**13 26 34.6**	**-0.5**
WB2				IAmb	IAmb	13 27 09.9	
	comp=Z,8.8nm,1.2s						
WRAB	**Tennant Creek**	**42.08**	**274**	P	**P**	**13 26 31.6**	**-3.5**
WRAB				IAmb	IAmb	13 27 04.2	
	comp=Z,7.6nm,1.1s						
WRA	**Warramunga Arr**	**42.08**	**274**	P	**P**	**13 26 34.9**	**-0.3**
WRA	**Warramunga Arr**	**42.08**	**274**	P	**P**	**13 26 34.8**	**-0.3**
	comp=Z,0.9nm,0.3s,baz=111,slow=8.0,SNR=34						
	comp=Z,0.9nm,0.3s						
WB0	**Warramunga Arr**	**42.11**	**275**	P	**P**	**13 26 35.2**	**-0.1**
WB0				IAmb	IAmb	13 26 54.8	
	comp=Z,14nm,1.3s						
CASY	**Casey**	**53.48**	**208**	P	**P**	**13 28 00.1**	**-0.5**
CASY				IAmb	IAmb	13 28 26.1	
	comp=Z,5.4nm,1.3s						
SOEI	**Soe**	**55.44**	**280**	P	P	13 28 11.0	-4.6
QSPA	**South Pole Qui**	**58.93**	**180**	P	**P**	**13 28 37.1**	**-1.8**
QSPA				IAmb	IAmb	13 28 46.4	
	comp=Z,2.9nm,1.2s						
QSPA	**South Pole Qui**	**58.93**	**180**	P	**P**	**13 28 38.7**	**-0.1**
	comp=Z,1.1nm,0.8s,baz=18,slow=1.2,SNR=5.3						
	comp=Z,1.1nm,0.8s						
PLCA	**Paso Flores**	**83.47**	**134**	P	**P**	**13 31 03.4**	**-1.0**
PETK	**Petropavlovsk-**	**86.08**	**347**	P	**P**	**13 31 14.6**	**-2.0**
	comp=Z,2.1nm,0.9s,baz=178,slow=6.9,SNR=3.8						
	comp=Z,2.1nm,0.9s						
NVAR	**Mina Array Bea**	**90.22**	**44**	P	**P**	**13 31 34.8**	**-2.0**
	comp=Z,0.6nm,1.0s,baz=224,slow=6.3,SNR=2.9						
	comp=Z,0.6nm,1.0s						
KBZ	**Khabaz**	**143.81**	**303**	PKP	PKPab	13 38 04.3	-2.5
	comp=Z,0.8nm,0.5s,baz=133,slow=4.6,SNR=4.0						
FINES	**FINESS Array B**	**145.13**	**338**	PKPbc	**PKPdf**	**13 38 07.6**	**-2.4**
	comp=Z,2.7nm,0.6s,baz=46,slow=3.9,SNR=20						
HFS	**Hagfors**	**149.55**	**346**	PKPbc	**PKPdf**	**13 38 19.3**	**+2.0**
	comp=Z,1.1nm,0.7s,baz=50,slow=2.3,SNR=2.1						
BRTR	**Keskin Array B**	**151.13**	**297**	PKPbc	**PKPbc**	**13 38 24.6**	**-2.4**
	comp=Z,0.4nm,0.5s,baz=97,slow=3.3,SNR=3.7						

*JMA **14** 13:22:38.9±0.3,45°N±1°×14°2E±°, h258km±2km, MV2.9/28, NW OFF HOKKAIDO*
*IDC **14** 13:22:39.7±0.8,44°.73N×141°.54E, h248km±9km, mb3.2/5, mbtmp3.8/7, Error ellipse: s-maj=31.6km s-min=20.1km az=43.0*
*SKHL **14** 13:22:40.7±0.2,44°.80N×141°.80E, h245km±5km, mb4.3/5, msha4.9/5*

ISC 14 13:22:39.5±0.8,44°.75N±0°.06×141°.68E±0°.07, h253km±6km, n25,σ1.9s03/36, mb3.4/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
JSS	**Shosan**	**0.37**	**161**	P	**Pn**	**13 23 13.1**	**+0.6**
JSS				eS	**S**	**13 23 39.4**	**+1.1**
JRR	**Rishiri**	**0.47**	**326**	eP	**Pn**	**13 23 12.8**	**+0.3**
JWK2	**Keihoku**	**0.59**	**15**	P	**Pn**	**13 23 13.1**	**+0.2**
JWK2				eS	**S**	**13 23 38.7**	**-0.6**
JSE	**Soyaes**	**0.67**	**72**	eP	**Pn**	**13 23 13.3**	**+0.1**
JSE				eS	**S**	**13 23 39.3**	**-0.5**
JRBN	**Rebuntou**	**0.80**	**327**	P	**Pn**	**13 23 13.3**	**-0.4**
JRBN				eS	**S**	**13 23 39.5**	**-1.4**
ASAJ	**Asahikawa**	**0.91**	**134**	P	**Pn**	**13 23 14.3**	**-0.1**
	39nm,0.3s,baz=292,slow=7.1,SNR=113						
ASAJ				S	**S**	**13 23 42.0**	**+0.1**
	3.8nm,0.4s,baz=311,slow=20,SNR=1.2						
ASAJ	**Asahikawa**	**0.91**	**134**	P	**Pn**	**13 23 14.4**	**0.0**
JKK2	**Kamakawa 2**	**1.16**	**139**	P	**Pn**	**13 23 16.4**	**+0.5**
JAB	**Ashibetsu**	**1.30**	**162**	eP	**Pn**	**13 23 17.1**	**+0.4**
JMP	**Maruseppu**	**1.41**	**121**	P	**Pn**	**13 23 18.2**	**+0.7**
JTKR	**Abashiri–Toko**	**1.78**	**115**	P	**Pn**	**13 23 21.3**	**+1.0**
JAR	**Ashorobuto**	**2.09**	**133**	P	**Pn**	**13 23 23.8**	**+0.8**
JAR				eS	**S**	**13 23 58.3**	**+0.8**
YSS	**Yuzh-Sakhalins**	**2.33**	**18**	*i* P	**Pn**	**13 23 25.6**	**+0.5**
YSS				AMB	AMB	13 23 27.3	
	20nm,0.5s						
YSS				eS	**S**	**13 24 00.6**	**-0.7**
YSS				A	A	13 24 01.8	
	80nm,0.5s						
YSS				A	A	13 24 01.8	
	60nm,0.5s						
JCH	**Churui**	**2.46**	**150**	eP	**Pn**	**13 23 25.5**	**-1.0**
JCH				eS	**S**	**13 24 01.1**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.59**	**162**	eP	**Pn**	**13 23 27.9**	**0.0**
JNBK				eS	**S**	**13 24 05.5**	**-0.6**
AKK	**Akkeshi**	**2.87**	**126**	eP	**Pn**	**13 23 32.7**	**+2.0**
YUK	**Yuzh-Kuril'sk**	**3.08**	**102**	eP	**Pn**	**13 23 31.6**	**-1.3**
YUK				AMB	AMB	13 23 32.3	
	140nm,0.7s						
YUK				eS	**S**	**13 24 13.2**	**-2.1**
YUK				A	A	13 24 22.5	
	110nm,0.6s						
YUK				A	A	13 24 22.5	
	200nm,0.6s						
SHO	**Shikotan**	**3.80**	**102**	eP	**Pn**	**13 23 41.6**	**+0.6**
SHO				AMB	AMB	13 23 45.0	
	30nm,0.6s						
SHO				eS	**S**	**13 24 28.2**	**-1.7**
SHO				A	A	13 24 32.2	
	30nm,0.4s						
SHO				A	A	13 24 32.2	
	40nm,0.4s						
USRK	**Ussuriysk Ar.**	**6.96**	**269**	P	**Pn**	**13 24 19.0**	**-0.5**
	3.4nm,0.7s,baz=88,slow=14,SNR=6.0						
PETK	**Petropavlovsk-**	**13.42**	**46**	P	**P**	**13 25 42.4**	**+1.0**
	0.9nm,0.6s,baz=226,slow=9.8,SNR=5.3						
SONM	**Songino Array**	**24.45**	**290**	P	**P**	**13 27 35.4**	**+0.1**
	1.6nm,0.5s,baz=87,slow=8.5,SNR=7.9						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**40.62**	**295**	P	**P**	**13 29 54.9**	**+0.2**
	0.9nm,0.6s,baz=81,slow=8.9,SNR=8.6						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**41.77**	**301**	P	**P**	**13 30 02.6**	**-1.3**
	0.7nm,0.2s,baz=72,slow=9.0,SNR=1.9						
	0.7nm,0.2s						
BVAR	**Borovoye Array**	**45.80**	**307**	P	**P**	**13 30 35.8**	**0.0**
	0.4nm,0.4s,baz=60,slow=8.9,SNR=2.5						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**68.45**	**188**	P	**P**	**13 33 14.8**	**+0.6**
	0.4nm,0.6s,baz=354,slow=5.2,SNR=7.1						
	0.4nm,0.6s						

*NEIC **14** 13:27:48.1±0.3,36°.073N±0°.009×97°.56W±0°.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=320.0*

TUL 14 13:27:48.3±0.3,36°.075N±0°.007×97°.56W±0°.01, h7km±5km, ML2.9,mb_Lg2.8/77(NEIC),ML3.0/74(NEIC), Error ellipse: s-maj=1.6km s-min=0.9km az=107.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
OK029	**Liberty Lake**	**0.29**	**163**		Pg	13 27 54.2	+0.2
OK029				Sg	Sg	13 27 58.4	+0.5
OK029				IAML		13 27 59.0	
	2μm,0.2s						
ADOK	**Arcadia Dam**	**0.45**	**160**	Pg	Pg	13 27 57.1	+0.1
ADOK				Sg	Sg	13 28 03.5	+0.6
OK033	**Mehan**	**0.51**	**93**		Pg	13 27 58.3	+0.3
OK033				IAML		13 28 05.7	
	959nm,0.3s						
OK033				IAML		13 28 10.8	
	655nm,0.1s						
CROK	**Carrier**	**0.55**	**322**		Pg	13 27 58.9	0.0
CROK				IAML		13 28 06.9	
	comp=E,1μm,0.4s						
CROK				IAML		13 28 06.9	
	comp=N,1μm,0.4s						
OK031	**S. Brethren Rd**	**0.60**	**102**		Pg	13 27 60.0	+0.1
OK048	**Pawnee Station**	**0.60**	**56**	Pg	Pg	13 28 00.1	+0.2
OK048				IAML		13 28 08.6	
	comp=N,518nm,0.4s						
OK048				IAML		13 28 10.5	
	comp=N,497nm,0.3s						
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	13 28 00.4	+0.2
OKCSW	**OKLAHOMA CITY**	**0.68**	**171**	Pg	Pg	13 28 01.1	-0.2
OKCSW				IAML		13 28 11.0	
	comp=E,780nm,0.1s						
OKCSW				IAML		13 28 13.2	
	comp=N,1μm,0.5s						
QUOK	**Quay**	**0.70**	**82**		Pg	13 28 01.8	+0.1
QUOK				IAML		13 28 13.9	
	comp=E,612nm,0.2s						
OK051	**E0350 and S346**	**0.73**	**54**		Pg	13 28 02.3	0.0
OK051				IAML		13 28 13.5	
	comp=E,841nm,0.2s						
OK051				IAML		13 28 15.2	
	comp=E,912nm,0.2s						
BLOK	**Blackwell**	**0.74**	**22**		Pg	13 28 02.5	0.0
BLOK				IAML		13 28 17.1	
	comp=N,674nm,0.2s						
BLOK				IAML		13 28 17.2	
	comp=E,719nm,0.2s						
GC02	**Grant County #**	**0.81**	**343**		Pg	13 28 03.5	-0.4
FNO	**Franklin**	**0.83**	**171**	Pg	Pg	13 28 03.9	-0.3
FNO				IAML		13 28 18.0	
	comp=E,426nm,0.1s						
DEOK	**Depew**	**0.89**	**105**	Pg	Pg	13 28 05.0	-0.5
DEOK				IAML		13 28 22.8	
	comp=E,292nm,0.2s						
OK032	**Salt Plains WL**	**0.90**	**324**		Pg	13 28 05.0	-0.5
OK032				IAML		13 28 20.0	
	comp=E,662nm,0.1s						
OK032				IAML		13 28 20.6	
	comp=E,632nm,0.1s						
KAN14	**Manchester OK**	**0.94**	**340**		Pg	13 28 05.8	-0.5
KAN14				IAML		13 28 19.8	
	comp=N,526nm,0.1s						
KAN13	**South Haven SW**	**0.94**	**4**		Pg	13 28 06.0	-0.3
KAN17	**Caldwell West**	**0.98**	**350**		Pg	13 28 06.7	-0.4
KAN17				IAML		13 28 23.6	
	comp=N,467nm,0.3s						
KAN17				IAML		13 28 26.2	
	comp=E,550nm,0.2s						
CSTR	**Hydro, Custer**	**1.01**	**245**		Pg	13 28 07.2	-0.5
OK038	**West end E0370**	**1.04**	**293**		Pg	13 28 07.4	-0.8
KAN09	**Caldwell North**	**1.06**	**358**		Pg	13 28 08.2	-0.4
KAN05	**Bluff City Nor**	**1.06**	**346**	Pg	Pg	13 28 08.2	-0.5
KAN01	**Argonia South**	**1.09**	**352**		Pg	13 28 08.8	-0.4
KAN01				IAML		13 28 26.2	
	comp=N,260nm,0.1s						
KAN01				IAML		13 28 26.9	
	comp=E,386nm,0.2s						
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	13 28 09.1	-0.7
KAN10	**Anthony SW Sta**	**1.13**	**338**	Pg	Pg	13 28 09.4	-0.6
KAN10				IAML		13 28 26.3	
	comp=E,287nm,0.1s						
KAN10				IAML		13 28 29.1	
	comp=N,214nm,0.1s						
T35A	**Sooner Cattle**	**1.19**	**45**		Pg	13 28 10.7	-0.5
T35A				IAML		13 28 33.8	
	comp=N,359nm,0.5s						
KAN06	**Argonia West S**	**1.20**	**349**		Pg	13 28 10.6	-0.6
KAN06				IAML		13 28 30.5	
	comp=N,408nm,0.2s						
KAN08	**Anthony NE Sta**	**1.20**	**344**		Pg	13 28 10.7	-0.6
KAN08				IAML		13 28 27.5	
	comp=N,409nm,0.2s						
KAN08				IAML		13 28 29.6	
	comp=E,421nm,0.1s						
U32A	**Winter Ranch,**	**1.20**	**285**	Pg	Pg	13 28 10.5	-0.9
U32A				IAML		13 28 29.1	
	comp=N,172nm,0.1s						
U32A				IAML		13 28 29.1	
	comp=E,264nm,0.1s						
KAN12	**Harper NE Stat**	**1.27**	**344**		Pn	13 28 11.8	-0.8
TUL3	**Leonard**	**1.44**	**96**		Pn	13 28 14.4	-0.5
ELIS	**Ellis County**	**1.50**	**270**		Pn	13 28 15.7	-0.1
WMOK	**Wichita Mounta**	**1.67**	**217**		Pn	13 28 18.0	0.0
RLO	**Rose Lookout**	**2.06**	**87**		Pn	13 28 23.7	+0.3
LOOK	**Love County**	**2.10**	**171**		Pn	13 28 23.8	-0.2
LOOK				IAmb_Lg		13 28 59.6	
	comp=Z,29nm,0.7s						
X37A	**Clayton**	**2.33**	**129**		Pn	13 28 26.4	-0.6
X37A				IAmb_Lg		13 29 05.0	
	comp=Z,36nm,0.8s						
SMWD	**Samnorwood**	**2.39**	**247**	Pn	Pn	13 28 27.4	-0.6
HHAR	**Hobbs**	**2.94**	**85**		Pn	13 28 34.4	-1.1
FW03	**Perrin-Whitt E**	**3.06**	**188**	Pn	Pn	13 28 36.3	-0.8
CBKS	**Cedar Bluff**	**3.24**	**328**	Pn	Pn	13 28 39.2	-0.5
CBKS				IAmb_Lg		13 29 37.1	
	comp=Z,34nm,0.7s						
PLPT	**Palo Pinto**	**3.31**	**191**	Pn	Pn	13 28 40.4	-0.2
Z38A	**Mt. Pleasant**	**3.52**	**142**	IAmb_Lg		13 29 45.2	
	comp=Z,36nm,0.8s						
AMTX	**Amarillo**	**3.57**	**252**	IAmb_Lg		13 29 49.0	
	comp=Z,25nm,0.8s						
MIAR	**Mount Ida**	**3.60**	**114**	Pn	Pn	13 28 44.8	+0.3
DKNS	**Dickens**	**3.66**	**230**	IAmb_Lg		13 29 47.0	
	comp=Z,17nm,0.9s						
S39A	**Bolivar**	**3.76**	**63**	Pn	Pn	13 28 47.0	+0.2
S39A				IAmb_Lg		13 29 47.7	
	comp=Z,30nm,0.9s						
SN07	**Snyder 07**	**4.05**	**224**	IAmb_Lg		13 29 58.8	
	comp=Z,21nm,0.8s						
X40A	**Basin Creek Fa**	**4.18**	**111**	Pn	Pn	13 28 52.4	-0.1
X40A				IAmb_Lg		13 30 04.1	
	comp=Z,12nm,0.8s						
RTBA	**Rita Blanca**	**4.20**	**276**	Pn	Pn	13 28 53.1	+0.2
SN05	**Snyder 5**	**4.21**	**222**	IAmb_Lg		13 30 02.8	
	comp=Z,16nm,0.8s						
WHAR	**Wooly Hollow**	**4.36**	**99**	IAmb_Lg		13 30 09.5	
	comp=Z,16nm,0.7s						
MGMO	**Mountain Grove**	**4.39**	**74**	IAmb_Lg		13 30 05.5	
	comp=Z,30nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.41**	**

WRA	**Warramunga Arr**	**29.52**	**120**	P		**P**	**13 55 49.8**	**+1.5**
	0.3nm,0.5s,baz=298,slow=11,SNR=6.1							
	0.3nm,0.5s							
WB2	**Warramunga Arr**	**29.53**	**120**	P		**P**	**13 55 48.8**	**+0.4**
WB2				IAmb		IAmb	13 56 10.8	
	comp=Z,10.0nm,1.3s							
WR0	**Warramunga Arr**	**29.70**	**120**	P		**P**	**13 55 50.9**	**+1.0**
AS31	**Alice Springs**	**30.86**	**127**	P		**P**	**13 56 02.0**	**+2.0**
ASAR	**Alice Springs**	**30.86**	**127**	P		**P**	**13 56 02.2**	**+2.1**
	comp=Z,0.4nm,0.4s,baz=301,slow=8.0,SNR=21							
ASAR				PcP		**PcP**	**13 58 51.1**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=326,slow=2.5,SNR=1.7							
	comp=Z,0.4nm,0.4s							
BBOO	**Buckleboo**	**37.62**	**139**	P		**P**	**13 57 00.0**	**+2.4**
BBOO				IAmb		IAmb	13 57 16.3	
	comp=Z,11nm,1.4s							
STKA	**Stephens Creek**	**40.92**	**133**	P		**P**	**13 57 27.3**	**+2.5**
STKA	**Stephens Creek**	**40.92**	**133**	P		**P**	**13 57 27.6**	**+2.8**
	comp=Z,1.3nm,0.7s,baz=305,slow=10,SNR=3.6							
	comp=Z,1.3nm,0.7s							
HNR	**Honiara**	**52.07**	**97**	P		**P**	**13 58 50.7**	**-0.4**
USA0B	**Ussuriysk Arra**	**54.72**	**21**	P		**P**	**13 59 07.4**	**-2.3**
USA0B				IAmb		IAmb	13 59 38.6	
	comp=Z,7.7nm,1.2s							
MK31	**Makanchi Array**	**57.19**	**340**	P		**P**	**13 59 27.2**	**+0.1**
MK31				IAmb		IAmb	13 59 45.9	
	comp=Z,1.7nm,1.4s							
MKAR	**Makanchi Array**	**57.19**	**340**	P		**P**	**13 59 27.1**	**0.0**
MKAR	**Makanchi Array**	**57.19**	**340**	P		**P**	**13 59 27.4**	**+0.2**
	comp=Z,0.7nm,0.4s,baz=155,slow=8.4,SNR=15							
	comp=Z,0.7nm,0.4s							
ABKAR	**Akbulak array**	**68.87**	**329**	P		**P**	**14 00 43.2**	**-0.3**
VNDA	**Vanda**	**76.78**	**170**	P		**P**	**14 01 32.5**	**+3.3**
VNDA				IAmb		IAmb	14 01 34.9	
	comp=Z,4.6nm,1.5s							
QSPA	**South Pole Qui**	**83.90**	**180**	P		**P**	**14 02 09.4**	**+2.2**
QSPA				IAmb		IAmb	14 02 14.2	
	comp=Z,4.5nm,1.4s							

*BER **14** 13:50:22.9±4.2, 71°.36N×10°.69W, h12km±103km, mb(Pn)3.6, ML1.9(DNK), Confirmed Earthquake*
*DNK **14** 13:50:25.2±1.0, 71°.59N×11°.29W, h9km±23km, ML2.0*
ISC 14 13:50:15.4±1.0, 71°.32N±0°.08×11°.96W±0°.06, h10km, n14, σ2ˢ42/16, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.12**	**109**	*e*P		**Pb**		**13 50 36.1**	**-0.7**
JMIC	**Jan Mayen**	**1.17**	**105**	*e*P		**Pn**		**13 50 36.4**	**-1.4**
JNW	**Jan Mayen West**	**1.18**	**103**	*e*P		**Pn**		**13 50 36.2**	**-1.7**
JNE	**Jan Mayen East**	**1.23**	**104**	*e*P		**Pn**		**13 50 36.9**	**-1.7**
SCO	**Scoresbysund**	**3.39**	**260**	*i* P		**Pg**		**13 51 21.2**	**+0.9**
SCO	**Scoresbysund**	**3.39**	**260**	*i* P		**Pg**		**13 51 21.2**	**+0.9**
DBG	**Daneborg**	**3.87**	**325**	*e*P		**Pb**		**13 51 23.5**	**-0.2**
DBG				*e*S		**Sb**		**13 52 06.6**	**-4.0**
DBG				IAML				13 52 08.6	
	comp=Z,9.3nm,0.3s								
DBG	**Daneborg**	**3.87**	**325**	*i* P		**Pb**		**13 51 23.4**	**-0.3**
DBG				*i* S		**Sb**		**13 52 06.6**	**-4.0**
DBG				IAML				13 52 08.6	
	comp=Z,9.3nm,0.3s								
DAG	**Danmarks Havn**	**5.78**	**345**	*e*P		Pn		13 51 47.4	+6.3
DAG				*e*S		**Sn**		**13 52 47.3**	**+0.1**
DAG				IAML				13 52 51.5	
	comp=Z,3.5nm,0.2s								
DAG	**Danmarks Havn**	**5.78**	**345**	*i* P		Pn		13 51 47.0	+6.0
DAG				*i* P		Pn		13 51 47.0	+6.0
DAG				*i* S		**Sn**		**13 52 47.7**	**+0.5**
DAG				IAML				13 52 51.5	
	comp=Z,3.5nm,0.2s								
KBS	**Kingsbay**	**9.68**	**28**	*e*P		**Pn**		**13 52 37.5**	**+3.1**
KBS	**Kingsbay**	**9.68**	**28**	*i* P		**Pn**		**13 52 37.1**	**+2.6**
SPA0	**Spitsbergen Ar**	**10.00**	**34**	*e*P		**Pn**		**13 52 41.2**	**+2.3**
NOR	**Nord**	**10.39**	**356**	*e*P		**Pn**		**13 52 47.7**	**+3.6**
NOR				IAML				13 54 44.0	
	comp=Z,4.3nm,0.8s								

IDC 14 13:58:48.7±2.6, 9°.78N×123°.91E, h0km, mb3.5/4, mbtmp3.5/4, MS3.2/2, Error ellipse: s-maj=273.6km s-min=23.3km az=65.0, Negros

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**29.63**	**24**	LR		LR	LR	14 15 31.8	
	comp=Z,60nm,19.7s,baz=168,slow=34								
WRA	**Warramunga Arr**	**31.27**	**161**	P		P	P	14 05 09.1	-1.4
	0.4nm,0.7s,baz=341,slow=9.8,SNR=2.0								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**34.65**	**164**	P		P	P	14 05 40.9	+0.8
	0.3nm,0.4s,baz=340,slow=7.1,SNR=13								
	0.3nm,0.4s								
ASAJ	**Asahikawa**	**37.85**	**22**	LR		LR	LR	14 24 07.2	
	comp=Z,29nm,18.0s,baz=180,slow=40								
MKAR	**Makanchi Array**	**51.03**	**324**	P		P	P	14 07 53.1	+0.4
	0.5nm,0.7s,baz=120,slow=7.2,SNR=4.8								
	0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**55.17**	**326**	P		P	P	14 08 22.4	-0.7
	0.2nm,0.3s,baz=133,slow=6.5,SNR=2.3								
	0.2nm,0.3s								

*KRNET **14** 14:07:47.9±0.1, 40°.51N×77°.39E, h19km, mb2.8*
*SOME **14** 14:07:47.6, 40°.48N×77°.37E, h15km*
*NNC **14** 14:07:49.4±1.1, 40°.57N×77°.43E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=7.2km s-min=5.6km az=178.0*
ISC 14 14:07:50.8±1.8, 40°.57N±0°.08×77°.32E±0°.04, h10km, n51, σ1ˢ60/78, 23C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TARG	**Taragay, Kyrgy**	**1.21**	**18**	⇑*i*P		**Pn**		**14 08 11.6**	**-2.6**
	baz=14								
TARG				⇑*i*S		**Sb**		**14 08 29.1**	**-0.9**
	baz=14								
NRN	**Naryn**	**1.32**	**311**	⇓*e*P		**Pn**		**14 08 14.3**	**-1.2**
	baz=11								
NRN				⇓*e*S		**Sg**		**14 08 33.9**	**+0.7**
	baz=11								
KDJ	**Kajisay**	**1.56**	**356**	⇑*e*P		**Pn**		**14 08 18.3**	**-0.5**
	baz=55								
KDJ				⇑*e*S		**Sn**		**14 08 39.9**	**+0.8**
	baz=55								
ULHL	**Ulahol**	**1.86**	**335**	⇑*i*P		**Pn**		**14 08 23.7**	**+0.8**
	baz=34								
ULHL				⇑*i*S		**Sb**		**14 08 49.8**	**+1.5**
	baz=34								
PRZ	**Przheval'sk**	**2.07**	**23**	⇑*e*P		**Pn**		**14 08 25.9**	**0.0**
	baz=21								
PRZ				⇑*e*S		**Sb**		**14 08 54.2**	**-0.4**
	baz=21								
BOOM	**Boomskoye usch**	**2.18**	**332**	⇑*i*P		**Pn**		**14 08 28.3**	**+1.1**
	baz=32								
BOOM				⇑*i*S		**Sb**		**14 08 58.0**	**+0.5**
	baz=32								
ANVS	**Anan'yevo**	**2.22**	**7**	⇑*e*P		**Pn**		**14 08 28.6**	**+0.7**
	baz=5.0								
ANVS				⇑*e*S		**Sb**		**14 08 58.6**	**-0.2**
	baz=5.0								
TNSS	**Tian-Shan**	**2.48**	**354**	Pg		**Pb**		**14 08 35.7**	**+0.1**
	30nm,0.5s								
TNSS				Lg		Lg		14 09 09.3	
	14nm,0.4s								
TNSS	**Tian-Shan**	**2.48**	**354**	*e*P		**Pb**		**14 08 35.1**	**-0.6**
	30nm,0.5s								
TNSS				*e*S		**Sg**		**14 09 09.3**	**-1.1**
	14nm,0.4s								
MDOK	**Medeo**	**2.59**	**356**	Pg		**Pb**		**14 08 35.0**	**-2.5**
	8.6nm,0.5s								
MDOK				Pg		**Pb**		**14 08 37.6**	**+0.1**
	13nm,0.5s								
MDOK				Lg		Lg		14 09 13.1	
	18nm,0.5s								
MDOK				Lg		Lg		14 09 13.3	
	34nm,1.0s								
MDOK	**Medeo**	**2.59**	**356**	*e*P		**Pb**		**14 08 37.6**	**+0.1**
	13nm,0.5s								
MDOK				*e*S		**Sg**		**14 09 13.1**	**-1.1**
	18nm,0.5s								
ARLS	**Aral**	**2.60**	**301**	⇑*e*P		**Pn**		**14 08 34.1**	**+1.1**
	baz=1.0								
ARLS				⇑*e*S		**Sb**		**14 09 07.8**	**-1.8**
	baz=1.0								
SATY	**Saty**	**2.61**	**18**	Pg		**Pb**		**14 08 36.7**	**-1.1**
	6.8nm,0.4s								
SATY						Lg	Lg	14 09 12.1	
	20nm,0.5s								
SATY	**Saty**	**2.61**	**18**	*e*P		**Pb**		**14 08 36.7**	**-1.1**
	6.8nm,0.4s								
SATY				*e*S		**Sb**		**14 09 12.1**	**+2.1**
	20nm,0.5s								
KNDC	**Almaty**	**2.66**	**354**	⇓Lg		Lg		14 09 15.9	
	124nm,0.6s								
KOTS	**Kotyrbulak**	**2.66**	**357**	Pg		**Pb**		**14 08 38.9**	**+0.2**
	9.8nm,0.3s								
KOTS				Lg		Lg		14 09 15.8	
	49nm,0.6s								
KOTS	**Kotyrbulak**	**2.66**	**357**	*e*P		**Pb**		**14 08 38.9**	**+0.2**
	9.8nm,0.3s								
KOTS				*e*S		**Sg**		**14 09 15.8**	**-0.5**
	49nm,0.6s								
KST	**Kastek**	**2.67**	**338**	Pg		**Pb**		**14 08 39.0**	**+0.3**
	7.4nm,0.4s								
KST				Lg		Lg		14 09 16.0	
	18nm,0.3s								
KST	**Kastek**	**2.67**	**338**	*e*P		**Pb**		**14 08 39.0**	**+0.3**
	7.4nm,0.4s								
KST				*e*S		**Sg**		**14 09 16.0**	**-0.5**
	18nm,0.3s								
TKM2	**Tokmak 2**	**2.67**	**332**	⇓Pn		**Pb**		**14 08 36.7**	**-2.2**
	2.0nm,0.2s								
TKM2				⇑Lg		Lg		14 09 16.9	
	10nm,0.6s								
TKM2	**Tokmak 2**	**2.67**	**332**	⇑*e*P		**Pn**		**14 08 35.3**	**+1.2**
	baz=31								
TKM2				⇑*e*S		**Sb**		**14 09 10.1**	**-1.8**
	baz=31								
UCH	**Uchtor**	**2.68**	**309**	⇑*e*P		**Pn**		**14 08 35.4**	**+1.0**
	baz=9.0								
UCH				⇑*e*S		**Sb**		**14 09 10.3**	**-1.9**
	baz=9.0								
KBK	**Karagaybulak**	**2.74**	**320**	⇑*i*P		**Pn**		**14 08 36.1**	**+1.2**
	baz=20								
KBK				⇑*e*S		**Sn**		**14 09 11.4**	**+3.2**
	baz=20								
UZB	**Uzynbulak**	**2.87**	**26**	Pg		**Pb**		**14 08 41.9**	**-0.3**
	10nm,0.5s								
UZB				Lg		Lg		14 09 20.8	
	11nm,0.7s								
UZB	**Uzynbulak**	**2.87**	**26**	*e*P		**Pb**		**14 08 41.9**	**-0.3**
	10nm,0.5s								
UZB				*e*S		**Sg**		**14 09 20.8**	**-2.2**
	11nm,0.7s								
DGS	**Degeres**	**2.91**	**337**	Pg		**Pb**		**14 08 43.3**	**+0.6**
	9.9nm,0.6s								
DGS				Lg		Lg		14 09 22.9	
	20nm,0.6s								
DGS	**Degeres**	**2.91**	**337**	*e*P		**Pb**		**14 08 43.3**	**+0.6**
	9.9nm,0.6s								
DGS				*e*S		**Sg**		**14 09 22.9**	**-1.2**
	20nm,0.6s								
KURS	**Kuram**	**2.98**	**12**	Pg		**Pb**		**14 08 42.5**	**-1.5**
	5.1nm,0.5s								
KURS				Lg		Lg		14 09 22.0	
	10nm,1.4s								
KURS	**Kuram**	**2.98**	**12**	*e*P		**Pb**		**14 08 42.5**	**-1.5**
	5.1nm,0.5s								
KURS				*e*S		**Sb**		**14 09 22.0**	**+1.5**
	10nm,1.4s								
SHLS	**Shalkode**	**3.04**	**31**	Pg		**Pg**		**14 08 47.6**	**-1.4**
	7.7nm,0.3s								
SHLS				Lg		Lg		14 09 30.8	
	26nm,0.6s								
SHLS	**Shalkode**	**3.04**	**31**	*e*P		**Pg**		**14 08 47.6**	**-1.4**
	7.7nm,0.3s								
SHLS				*e*S		**Sg**		**14 09 30.8**	**+2.4**
	26nm,0.6s								
CHMS	**Chumysh**	**3.09**	**322**	⇓Pg		**Pb**		**14 08 45.1**	**-0.7**
	11nm,0.8s								
CHMS				Lg		Lg		14 09 29.4	
	7.4nm,0.5s								
KTBS	**Karatobe**	**3.17**	**352**	Pg		**Pb**		**14 08 47.3**	**0.0**
	3.6nm,0.3s								
KTBS				Lg		Lg		14 09 30.3	
	6.5nm,0.6s								
KTBS	**Karatobe**	**3.17**	**352**	*e*P		**Pb**		**14 08 47.3**	**0.0**
	3.6nm,0.3s								
KTBS				*e*S		**Sg**		**14 09 30.3**	**-2.4**
	6.5nm,0.6s								
PDGK	**Podgornoye**	**3.19**	**30**	Pg		**Pb**		**14 08 47.1**	**-0.6**
	3.8nm,0.4s								
PDGK				Lg		Lg		14 09 29.5	
	9.9nm,0.6s								
PDGK	**Podgornoye**	**3.19**	**30**	⇑Pg		**Pb**		**14 08 46.4**	**-1.3**
	3.9nm,0.4s								
PDGK				⇓Lg		Lg		14 09 30.3	
	25nm,0.8s								
CHKK	**Chushkaly**	**3.29**	**356**	Pg		**Pb**		**14 08 49.4**	**+0.2**
	5.6nm,0.4s								
CHKK				Lg		Lg		14 09 34.0	
	18nm,0.5s								
CHKK	**Chushkaly**	**3.29**	**356**	*e*P		**Pb**		**14 08 49.4**	**+0.2**
	5.6nm,0.4s								
CHKK				*e*S		**Sg**		**14 09 34.0**	**-2.3**
	18nm,0.5s								
KRBS	**Karabastau**	**3.35**	**339**	Pg		**Pb**		**14 08 50.9**	**+0.6**
KRBS				Lg		Lg		14 09 35.9	
KRBS	**Karabastau**	**3.35**	**339**	*e*P		**Pb**		**14 08 50.9**	**+0.6**
	3.8nm,0.3s								
KRBS				*e*S		**Sg**		**14 09 36.2**	**-2.2**
	5.5nm,0.5s								
KUU	**Kurty**	**3.40**	**348**	Pg		**Pb**		**14 08 51.0**	**0.0**
	2.7nm,0.2s								
KUU				Lg		Lg		14 09 36.6	
	17nm,0.6s								
KUU	**Kurty**	**3.40**	**348**	*e*P		**Pb**		**14 08 51.0**	**0.0**
	2.7nm,0.2s								
KUU				*e*S		**Sb**		**14 09 36.6**	**+4.2**
	17nm,0.6s								
BLB	**Baldybastay**	**3.62**	**13**	Pg		**Pb**		**14 08 55.2**	**+0.1**
	10nm,0.4s								
BLB				Lg		Lg		14 09 43.1	
	14nm,0.5s								
ARXS	**Arharly**	**3.66**	**6**	Pg		**Pb**		**14 08 54.7**	**-0.8**
	3.2nm,0.9s								
ARXS				Lg		Lg		14 09 43.4	
	8.5nm,0.6s								
ARXS	**Arharly**	**3.66**	**6**	*e*P		**Pb**		**14 08 54.7**	**-0.8**
	3.2nm,0.9s								
ARXS				*e*S		**Sb**		**14 09 43.4**	**+3.4**
	8.5nm,0.6s								
MRKS	**Merke**	**3.75**	**307**	*e*P		**Pb**		**14 08 58.5**	**+1.3**
	1.4nm,0.2s								
MRKS				*e*S		**Sg**		**14 09 49.2**	**-2.1**
	7.3nm,0.4s								
KNOS	**Konyrlen**	**4.03**	**19**	Pg		**Pb**		**14 09 02.1**	**+0.2**
	1.2nm,0.4s								
KNOS				Lg		Lg		14 09 55.6	
	3.5nm,0.6s								
DJR	**Jarkent**	**4.18**	**25**	Pg		**Pb**		**14 09 05.5**	**+1.0**
	2.2nm,0.5s								
DJR				Lg		Lg		14 09 59.7	
	4.3nm,0.4s								
DJR	**Jarkent**	**4.18**	**25**	*e*P		**Pb**		**14 09 05.0**	**+0.6**
	2.2nm,0.5s								
DJR				*e*S		**Sb**		**14 09 60.0**	**+5.0**
	4.3nm,0.4s								
BTLS	**Baital**	**5.07**	**333**	*e*P		**Pb**		**14 09 22.2**	**+2.7**
	0.7nm,0.2s								
BTLS				*e*S		**Sg**		**14 10 29.6**	**-3.9**
	3.2nm,0.6s								
KK31	**Karatay Array**	**5.68**	**299**	⇑Lg		Lg		14 10 49.4	
	1.7nm,0.8s,baz=117,slow=26,SNR=4.6								

*NEIC **14** 14:23:53.7±1.4, 19°.4N±0°.5×155°.3W±0°.1, h5km±2km, Error ellipse: s-maj=79.7km s-min=3.4km az=195.0*
HVO 14 14:23:53.5±0.8, 19°.41N±0°.02×155°.28W±0°.01, h0km±4km, ML3.4/15, ML2.5/13(NEIC), Error ellipse: s-maj=3.3km s-min=1.1km az=208.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.00**	**102**	Pg		Pg		14 23 54.0	+0.2
OBL	**Observatory Le**	**0.01**	**345**	Pg		Pg		14 23 54.1	+0.3
UWB	**Uwekahuna B**	**0.01**	**19**			Pg		14 23 54.3	+0.3
UWE	**Uwekahuna**	**0.01**	**311**			Pg		14 23 54.3	+0.4
WRMHI	**West Rim**	**0.02**	**251**			Pg		14 23 54.4	+0.4
RIM	**Rim**	**0.02**	**155**			Pg		14 23 54.4	+0.5
SBLHI	**Steaming Bluff**	**0.02**	**43**	Pg		Pg		14 23 54.4	+0.4
BYL	**Byron's Ledge**	**0.02**	**91**	Pg		Pg		14 23 54.5	+0.5
KKO	**Keanakako`i**	**0.02**	**133**			Pg		14 23 54.5	+0.5
HATHI	**Halema'uma'u T**	**0.02**	**62**	IAML				14 23 54.3	
	comp=E,12μm,1.3s								
HATHI				IAML				14 23 54.4	
	comp=N,10μm,1.1s								
HATHI						Pg		14 23 54.5	+0.5
SDHHI	**Sand Hill**	**0.03**	**206**	Pg		Pg		14 23 54.5	+0.5
RSD	**Rainshed**	**0.05**	**5**			Pg		14 23 55.1	+0.6
RSD				IAML				14 23 56.2	
	comp=N,3μm,1.0s								
PUH	**Pauahi**	**0.07**	**121**			Pg		14 23 56.0	+1.0
PUH				IAML				14 23 57.1	
	comp=N,4μm,1.0s								
KNHH	**Kane Nui o Ham**	**0.11**	**107**			Pg		14 23 56.7	+1.0
STCH	**Steam Cracks**	**0.15**	**100**	Pg		Pg		14 23 57.2	+0.8
STCH				IAML				14 23 59.4	
	comp=N,2μm,1.4s								
STCH				IAML				14 23 59.8	
	comp=E,1μm,0.9s								
NPOC	**North of Pu'u**	**0.16**	**97**	Pg		Pg		14 23 57.7	+1.0
MLOA	**Mauna Loa Obse**	**0.30**	**294**	Pg		Pg		14 23 59.7	+0.4
MLOA				IAML				14 24 09.4	
	comp=E,883nm,1.0s								
MWH	**Moku'aweowe**	**0.30**	**284**			Pg		14 23 59.6	+0.3
ALEP	**Alea Permanent**	**0.36**	**291**			Pg		14 24 01.7	+1.2

*IDC **14** 14:41:40.7±0.4, 12°.83S×45°.56E, h0km, mb4.5/38, mbtmp4.5/40, ML3.3/2, MS4.3/41, Error ellipse: s-maj=15.3km s-min=10.5km az=86.0*
*MOS **14** 14:41:40.8±1.0, 12°.84S×45°.45E, h13km, mb5.2/54, MS4.4/7, Error ellipse: s-maj=9.9km s-min=4.9km az=92.5*
*NEIC **14** 14:41:42.6±1.7, 12°.83S±0°.07×45°.61E±0°.09, h10km±1km, mb5.1/51, Error ellipse: s-maj=15.4km s-min=12.5km az=87.0*
*BJI **14** 14:41:43.0±0.0, 12°.90S×45°.60E, h5km, mb4.9/46, mB5.0/22, Ms5.0/18, Ms7 4.6/23*
*GCMT **14** 14:41:46.6±0.2, 12°.78S±0°.01×45°.60E±0°.01, h36km±1km, MW5.2/129, Moment Tension Solution. s71,c90; s129,c198; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.08±.20; $M_{\theta\theta}$1.67±.18; $M_{\phi\phi}$-1.60±.17; $M_{r\theta}$-3.44±.23; $M_{\theta\phi}$-6.17±.13; $M_{r\phi}$0.30±.21; Best double couple: M_o7.23500×10^{16} NP1:ϕₛ262.00000°, δ87.00000°, λ152.00000°. NP2:ϕₛ354.00000°, δ62.00000°, λ4.00000°. Principal axes: T 7.5610, Plg21.0000°, Azm215.0000°; N -0.6600, Plg62.0000°, Azm76.0000°; P -6.9080, Plg17.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 14 14:41:41.9±0.3, 12°.90S±0°.04×45°.46E±0°.05, h10km, n437, σ1ˢ78/399, mb5.0/140, MS4.5/52, 25C-21D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.88**	**164**	Pn		**Pn**		**14 43 09.9**	**+0.6**
	34nm,0.3s,baz=342,slow=12,SNR=178								
OPO				Sn		**Sn**		**14 44 10.6**	**-6.3**
	96nm,0.3s,baz=347,slow=14,SNR=8.1								
ABPO	**Ambohimpanom**	**6.31**	**165**			**Pn**		**14 43 15.5**	**+0.1**
ABPO	**Ambohimpanom**	**6.31**	**165**	*e*P		**Pn**		**14 43 14.8**	**-0.6**
ABPO	**Ambohimpanom**	**6.31**	**165**	⇓*i*P		**Pn**		**14 43 15.5**	**+0.1**
ABPO				*e*S		**Sn**		**14 44 21.9**	**-5.8**
ABPO	**Ambohimpanom**	**6.31**	**165**	P		**Pn**		**14 43 15.5**	**+0.1**
VOI	**Vohitsoka**	**9.04**	**172**			**Pn**		**14 43 52.9**	**+0.1**
VOI	**Vohitsoka**	**9.04**	**172**	*e*P		**Pn**		**14 43 53.1**	**+0.3**
VOI	**Vohitsoka**	**9.04**	**172**	*e*P		**Pn**		**14 43 53.3**	**+0.5**
VOI	**Vohitsoka**	**9.04**	**172**	P		**Pn**		**14 43 53.7**	**+0.9**
FOMA	**Nahampoana Res**	**12.10**	**173**	Pn		**Pn**		**14 44 34.4**	**0.0**
FOMA	**Nahampoana Res**	**12.10**	**173**	P		**Pn**		**14 44 34.6**	**+0.2**
KIBK	**Kibwezi**	**12.80**	**324**			**Pn**		**14 44 41.9**	**-2.3**
KIBK	**Kibwezi**	**12.80**	**324**	P		**Pn**		**14 44 42.8**	**-1.5**
	SNR=14								
KIBK	**Kibwezi**	**12.80**	**324**	*e*P		**Pn**		**14 44 41.5**	**-2.8**
KIBK				*e*S		Sn		14 46 51.5	-16
RER	**Riviere de l'E**	**12.81**	**131**			**Pn**		**14 44 40.9**	**-3.4**
RER	**Riviere de l'E**	**12.81**	**131**	P		**Pn**		**14 44 41.6**	**-2.7**
	SNR=11								
MSEY	**Mahe Island**	**12.84**	**51**			**Pn**		**14 44 40.0**	**-4.7**
MSEY	**Mahe Island**	**12.84**	**51**	*e*P		Pn		14 44 39.8	-4.9
MSEY	**Mahe Island**	**12.84**	**51**	⇓*i*P		**Pn**		**14 44 40.1**	**-4.7**
MSEY	**Mahe Island**	**12.84**	**51**	P		**Pn**		**14 44 40.8**	**-3.9**
MSEY				P		**Pn**		**14 44 40.8**	**-3.9**
MSEY	**Mahe Island**	**12.84**	**51**	P		**Pn**		**14 44 40.0**	**-4.7**
KMBO	**Kilima Mbogo**	**14.25**	**325**	Pn		**Pn**		**14 45 03.4**	**-0.7**
	baz=128,slow=19,SNR=14								
KMBO				Sn		**Sn**		**14 47 36.8**	**-5.7**
	baz=222,slow=24,SNR=1.7								
KMBO	**Kilima Mbogo**	**14.25**	**325**	*i* P		**Pn**		**14 45 02.4**	**-1.8**
CHIPN	**CHIPINGE**	**14.27**	**238**	*i* P		**Pn**		**14 45 04.2**	**-0.2**
CHIPN	**CHIPINGE**	**14.27**	**238**	*i* P		Pn		14 44 56.5	-7.9
KRI	**Karoi**	**15.80**	**254**	*i* P		**Pn**		**14 45 26.6**	**+1.7**
KRI				*i* S		Sn		14 48 12.2	-8.0
KRI	**Karoi**	**15.80**	**254**	*i* P		**Pn**		**14 45 24.1**	**-0.7**
KRI				*i* S		Sn		14 48 12.2	-8.0
LSZ	**Lusaka**	**16.92**	**260**	Pn		**Pn**		**14 38.4**	**-0.7**
LSZ	**Lusaka**	**16.92**	**260**	P		**Pn**		**14 45 37.9**	**-1.2**
LSZ				S		Sn		14 48 38.4	-8.9
LSZ	**Lusaka**	**16.92**	**260**	P		**Pn**		**14 45 38.4**	**-0.7**
LSZ				pmax		pmax			

comp=Z,155nm,1.2s
PRYS Parys 21.96 228 *e*P **P** **14 46 36.8 +0.6**
PRYS IAmb IAmb 14 46 42.7
comp=Z,144nm,1.2s
ATD Arta Tunnel 24.41 354 P **P** **14 47 01.2 +0.3**
ATD IAmb IAmb 14 47 03.0
comp=Z,69nm,1.0s
ATD Arta Tunnel 24.41 354 LR LR 14 55 48.7
comp=Z,26nm,19.5s,baz=174,slow=35
ATD Arta Tunnel 24.41 354 P **P** **14 47 02.1 +1.2**
SNR=8.0
ATD S **S** **14 51 28.8 +7.9**
ATD Arta Tunnel 24.41 354 *e*P **P** **14 46 56.0 -4.9**
ATD *e*S S 14 50 50.5 -30
BOSA Boshof 24.46 227 P **P** **14 47 01.8 +0.5**
BOSA IAmb IAmb 14 47 03.4
comp=Z,78nm,1.2s
BOSA Boshof 24.46 227 *i*P **P** **14 47 03.0 +1.6**
BOSA Boshof 24.46 227 *e*P **P** **14 47 02.5 +1.1**
BOSA IAmb IAmb 14 47 02.7
comp=Z,54nm,1.1s
BOSA Boshof 24.46 227⇑ *i*P **P** **14 47 01.5 +0.2**
BOSA IAmb IAmb 14 47 03.0
comp=Z,54nm,1.1s
BOSA Boshof 24.46 227 P **P** **14 47 02.1 +0.7**
comp=Z,26nm,0.8s,baz=57,slow=9.4,SNR=27
BOSA LR LR 14 56 36.7
comp=Z,794nm,20.4s,baz=50,slow=36
comp=Z,26nm,0.8s
BOSA Boshof 24.46 227 *i*P **P** **14 47 02.0 +0.6**
BOSA Boshof 24.46 227 P **P** **14 47 01.8 +0.5**
BOSA pmax pmax
comp=Z,78nm,1.3s
DESE Dese 24.55 346 *e*P **P** **14 47 01.0 -1.5**
DESE *e*S S 14 50 59.4 -24
GRHM Grahamstown, E 26.73 218 P **P** **14 47 23.3 +1.5**
GRHM IAmb IAmb 14 47 31.7
comp=Z,44nm,1.0s
GRAF Camdeboo Natio 27.23 221 *e*P **P** **14 47 27.8 +1.4**
UPI Upington 27.30 232 *e*P **P** **14 47 28.0 +1.0**
UPI IAmb IAmb 14 47 30.2
comp=Z,211nm,1.2s
TSUM Tsumeb 27.49 253 P **P** **14 47 30.1 +1.2**
TSUM Tsumeb 27.49 253 *e*P **P** **14 47 29.9 +1.1**
TSUM IAmb IAmb 14 47 33.1
comp=Z,24nm,0.9s
TSUM Tsumeb 27.49 253 *e*P **P** **14 47 27.7 -1.2**
TSUM IAmb IAmb 14 47 33.1
comp=Z,24nm,0.9s
TSUM Tsumeb 27.49 253 LR LR 14 58 27.1
comp=Z,1μm,18.1s,baz=84,slow=36
BRAK Brakfontein 27.98 224 *e*P **P** **14 47 32.9 -0.1**
ROOI Rooidraai Farm 27.98 222 *e*P **P** **14 47 34.3 +1.3**
ROOI IAmb IAmb 14 47 35.2
comp=Z,40nm,0.9s
GRAN Grantham 28.78 224 *e*P **P** **14 47 42.0 +1.8**
GRAN IAmb IAmb 14 47 43.0
comp=Z,10nm,0.8s
FRAZ Fraserburg 29.08 225 *e*P **P** **14 47 44.6 +1.6**
FRAZ *e*P **pP** **14 47 45.1 -0.1**
FRAZ IAmb IAmb 14 47 45.5
comp=Z,147nm,1.8s
SUR Sutherland 29.76 225 P **P** **14 47 50.6 +1.6**
SUR Sutherland 29.76 225 *e*P **P** **14 47 49.6 +0.6**
SUR IAmb IAmb 14 47 51.9
comp=Z,116nm,0.9s
SUR Sutherland 29.76 225⇑ *i*P **P** **14 47 50.9 +1.9**
SUR IAmb IAmb 14 47 51.9
comp=Z,116nm,0.9s
SUR Sutherland 29.76 225 LR LR 14 59 25.4
comp=Z,516nm,21.3s,baz=47,slow=36
SUR Sutherland 29.76 225 P **P** **14 47 51.4 +2.4**
ABTO Aybut 31.05 15 P **P** 14 48 06.9 +6.6
ABTO P P 14 48 06.9 +6.6
PRTV Porterville,We 31.34 226 *e*P **P** **14 48 04.8 +1.9**
PRTV IAmb IAmb 14 48 11.8
comp=Z,65nm,0.7s
CER Ceres 31.36 225 *e*P **P** **14 48 02.3 -0.7**
WHFO Wadi Hawf 31.71 15 P P 14 48 11.2 +5.1
DOK Doka 32.47 15 P **P** **14 48 13.3 +0.6**
DOK P **P** **14 48 13.3 +0.6**
MHTO MHTO 35.85 20 P P 14 48 46.9 +4.8
MHTO P P 14 48 46.9 +4.8
RAYN Ar Rayn 36.20 0 P **P** **14 48 46.1 +1.0**
UMZA Um Al Zommool 36.65 15 P P 14 48 54.5 +5.6
UMZA P P 14 48 54.5 +5.6
BSY Bisya 37.25 18 P **P** **14 48 54.2 +0.1**
SNR=5.0
BSY P **P** **14 48 54.2 +0.1**
SNR=5.0
GHWR Ruwais 37.35 11 P P 14 49 02.5 +7.7
MZWR Madinat Zayed 37.36 13 P **P** **14 48 55.7 +0.8**
MZWR P **P** **14 48 55.7 +0.8**
JLN Jalan Bani Buh 37.43 22 P P 14 49 01.1 +5.6
ARQ Araqi 37.61 17 P **P** **14 48 57.2 +0.1**
ARQ P **P** **14 48 57.2 +0.1**
SMRA Abu-Samra 37.78 8 P **P** **14 48 58.9 +0.4**
SMDO Samad 37.81 19 P P 14 49 03.5 +4.6
SMDO P P 14 49 03.5 +4.6
HOQ Hoqain 38.07 18 P **P** **14 49 01.9 +0.9**
HOQ P **P** **14 49 01.9 +0.9**
ALNE Al Ain 38.09 15 P P 14 49 06.2 +5.1
ALNE P P 14 49 06.2 +5.1
WSAR Wadi Sarin 38.16 20 LR LR 15 01 52.1
comp=Z,817nm,20.1s,baz=209,slow=32
WSAR Wadi Sarin 38.16 20 P **P** **14 49 05.8 +4.0**
BIDO Bidbid 38.26 19 P P 14 49 08.6 +6.0
ASUD Al Ashush, Dub 38.52 15 P **P** **14 49 05.7 +0.9**
FAQ Al Faqa, Dubai 38.70 15 P **P** **14 49 05.4 -0.9**
ASHO Ashiyiah 38.76 16 P P 14 49 11.4 +4.6
SHMA Al-Shehemyia 38.90 8 P **P** **14 49 12.1 +4.2**
HATD Hatta, Dubai 38.92 16 P P 14 49 14.8 +6.7
HATD P P 14 49 14.8 +6.7
UOSS Minazif 39.05 16 P **P** **14 49 13.3 +4.1**
UOSS P **P** **14 49 13.3 +4.1**
MASF Masafi 39.45 15 P **P** **14 49 13.6 +1.0**
MASF P **P** **14 49 13.6 +1.0**
PALK Pallekele 40.35 62 LR LR 15 02 20.3
comp=Z,461nm,18.8s,baz=347,slow=31
NGCH Negor - Chabah 40.99 22 P P 14 49 29.8 +4.6
KBD Kabd 41.89 3 P P 14 49 39.1 +6.5
EIL Elat 43.52 347 LR LR 15 07 33.7
comp=Z,128nm,18.4s,baz=252,slow=36
MMAI Mount Meron Ar 46.66 348 P **P** **14 50 11.0 +0.2**
comp=Z,6.9nm,1.0s,baz=138,slow=8.8,SNR=2.8
MMAI LR LR 15 10 29.9
comp=Z,451nm,18.2s,baz=112,slow=37
comp=Z,6.9nm,1.0s
TORD Torodi Ar. Bea 50.52 299 P **P** **14 50 42.1 +1.3**
comp=Z,4.5nm,1.0s,baz=113,slow=7.2,SNR=16
TORD LR LR 15 13 21.5
comp=Z,466nm,19.0s,baz=126,slow=38
comp=Z,4.5nm,1.0s
KARP Karpathos 51.20 341 P **P** **14 50 45.2 -0.5**
GEYT Alibeck 51.94 13 P **P** **14 50 49.8 -1.3**
GEYT Alibeck 51.94 13 P **P** **14 50 50.1 -1.1**
comp=Z,1.6nm,0.6s,baz=231,slow=11,SNR=5.5
GEYT LR LR 15 12 22.7
comp=Z,308nm,21.7s,baz=195,slow=36
comp=Z,1.6nm,0.6s
GEYT Alibeck 51.94 13 P **P** **14 50 49.8 -1.3**
GEYT pmax pmax
comp=Z,20nm,1.2s
ARPR Arapgir-MALATY 52.15 353 P **P** **14 50 51.8 -1.0**
ARPR IAmb IAmb 14 51 02.4
comp=Z,25nm,1.2s
KBL Kabul 52.23 25 P P 14 50 59.1 +5.5
SNR=22
KBL P P 14 50 59.1 +5.5
SNR=22
GNI Garni 52.78 359 P **P** **14 50 58.2 +0.7**
comp=Z,4.4nm,0.3s,baz=188,slow=14,SNR=1.3
GNI LR LR 15 14 16.9
comp=Z,521nm,20.4s,baz=171,slow=37
comp=Z,4.4nm,0.3s
GNI Garni 52.78 359 *i*P **P** **14 50 56.3 -1.2**
GNI pmax pmax
comp=Z,39nm,1.0s
GNI Garni 52.78 359 P **P** **14 50 59.0 +1.5**
comp=Z,37nm,1.1s
TAM Tamanrasset 52.80 312 P **P** **14 50 59.1 +1.1**
TAM Tamanrasset 52.80 312 P **P** **14 50 59.1 +1.1**
TAM pmax pmax
comp=Z,19nm,1.3s

APE Apeiranthos 53.13 340 *i*P **P** **14 50 59.0 -1.0**
APE pmax pmax
comp=Z,23nm,1.0s
BR131 Keskin Array S 53.50 349 P **P** **14 51 03.0 +0.2**
BR131 IAmb IAmb 14 51 11.7
comp=Z,26nm,1.4s
BR131 Keskin Array S 53.50 349 P **P** **14 51 03.8 +1.0**
SNR=10
BR131 P **P** **14 51 03.8 +1.0**
SNR=10
BR131 Keskin Array S 53.50 349 *d*P **P** **14 51 03.4 +0.6**
BRTR Keskin Array B 53.50 349 P **P** **14 51 02.8 0.0**
BRTR Keskin Array B 53.50 349 P **P** **14 51 02.6 -0.2**
comp=Z,5.3nm,0.9s,baz=175,slow=7.4,SNR=27
BRTR LR LR 15 14 09.4
comp=Z,320nm,19.1s,baz=168,slow=36
comp=Z,5.3nm,0.9s
BRTR Keskin Array B 53.50 349 *ce*P **P** **14 51 03.4 +0.6**
BRTR pmax pmax
comp=Z,5.0nm,0.9s
DBIC Dimbokro 53.64 288 P **P** **14 51 03.9 -0.2**
comp=Z,5.5nm,1.0s,baz=91,slow=4.6,SNR=3.4
DBIC LR LR 15 14 12.8
comp=Z,321nm,18.2s,baz=104,slow=36
comp=Z,5.5nm,1.0s
ANTO Ankara 53.81 348 P **P** **14 51 05.9 +1.0**
MAK Makhachkala 55.62 2 *e*P **P** **14 51 13.6 -4.3**
MAK *e*PPP PPP 14 54 33.3
MAK *e*S **S** **14 58 58.7 -5.1**
MAK *e*SSS SSS 15 04 56.2
MAK pmax pmax
comp=Z,122nm,1.7s
MAK MLR MLR
comp=Z,397nm,18.0s
MAW Mawson 55.84 172 P **P** **14 51 19.9 +0.7**
comp=Z,3.7nm,0.7s,baz=338,slow=6.3,SNR=10
MAW LR LR 15 12 52.8
comp=Z,700nm,18.0s,baz=342,slow=34
comp=Z,3.7nm,0.7s
AGG Agios Georgios 55.99 338 IAmb IAmb 14 51 22.2
comp=Z,16nm,0.9s
KBZ Khabaz 56.40 358 P **P** **14 51 23.9 +0.4**
comp=Z,5.7nm,0.8s,baz=174,slow=6.4,SNR=14
KBZ LR LR 15 17 24.0
comp=Z,390nm,19.3s,baz=158,slow=38
comp=Z,5.7nm,0.8s
KBZ Khabaz 56.40 358 *ce*P **P** **14 51 24.2 +0.7**
KBZ pmax pmax
comp=Z,19nm,1.0s
SHA1 Shidzhatmaz 56.42 358 *ce*P **P** **14 51 25.4 +1.4**
SOC Sochi 56.45 355 *e*P **P** **14 51 21.3 -2.6**
SOC *e* 14 53 27.0
SOC *e*PPP PPP 14 54 41.4
SOC *e*S **S** **14 59 12.0 -2.9**
SOC *e*SS **SS** **15 03 02.5 -0.1**
SOC *e*SSS SSS 15 05 13.6
SOC MLR MLR
comp=Z,292nm,20.0s
KIV Kislovodsk 56.64 358 ⇓P **P** **14 51 22.9 -2.4**
KIV Kislovodsk 56.64 358 P **P** **14 51 24.9 -0.5**
KIV Kislovodsk 56.64 358 P **P** **14 51 26.2 +0.9**
KIV P **P** **14 51 26.2 +0.9**
KIV Kislovodsk 56.64 358⇓ *e*P **P** **14 51 24.5 -0.8**
KIV *e* 14 51 33.3
KIV *i*S **S** **14 59 25.1 +7.5**
KIV pmax pmax
comp=Z,38nm,1.3s
KIV MLR MLR
comp=Z,441nm,19.0s
KIV Kislovodsk 56.64 358 P **P** **14 51 26.0 +0.7**
comp=Z,29nm,1.2s,comp=Z,280nm
KVAR Kislovodsk Arr 56.64 358 P **P** **14 51 26.6 +1.2**
comp=Z,1.1nm,0.3s,baz=151,slow=10
KVAR LR LR 15 17 29.3
comp=Z,339nm,18.6s,baz=68,slow=38
comp=Z,1.1nm,0.3s
GOF Gofitskoye 57.73 358 *ce*P **P** **14 51 34.0 +1.1**
FNA Florina 57.88 339 IAmb IAmb 14 51 36.4
comp=Z,15nm,1.0s
ANN Anapa 57.89 353 *e*P **P** **14 51 31.0 -3.0**
ANN pmax pmax
comp=Z,9.0nm,0.7s
VAE Valguarnera 57.98 331 LR LR 15 17 47.0
comp=Z,503nm,18.3s,baz=134,slow=37
KEST Kesra 59.21 326 IAmb IAmb 14 51 47.0
comp=Z,21nm,1.1s
KEST Kesra 59.21 326 P **P** **14 51 43.6 0.0**
comp=Z,13nm,1.1s,baz=130,slow=3.8,SNR=5.9
KEST LR LR 15 18 18.1
comp=Z,446nm,18.5s,baz=139,slow=37
comp=Z,13nm,1.1s
KEST Kesra 59.21 326 P **P** **14 51 39.9 -3.6**
KEST P **P** **14 51 39.9 -3.6**
SHL Shillong 59.22 50 P P 14 51 50.2 +6.3
SNR=8.1
IUG Iuzhnay 59.26 21 *e*P **P** **14 51 44.5 +0.6**
comp=Z,12nm,0.7s,baz=21
IUG Iuzhnay 59.26 21 *e*P **P** **14 51 44.4 +0.6**
IUG pmax pmax
comp=Z,13nm,0.7s
KSH Kashi 59.39 27 P **P** **14 51 45.8 +1.0**
KSH pP pwP 14 51 51.6 +1.7
KSH pmax pmax
comp=Z,17nm,0.9s
KSH LR LR
comp=Z,670nm,17.7s
KSH LR LR
comp=Z,340nm,16.7s
KSH LR LR
comp=Z,300nm,19.8s
CFR Carcaliu 59.90 346⇑ P **P** **14 51 48.3 +0.4**
BRLS Boroldaу 59.97 20 *e*P **P** **14 51 47.5 -1.2**
baz=21
BRLS Boroldaу 59.97 20 *e*P **P** **14 51 47.4 -1.2**
KKAR Karatay Array 60.27 21 P **P** **14 51 50.0 -0.7**
KKAR Karatay Array 60.27 21 IAmb IAmb 14 51 58.4
comp=Z,45nm,1.1s
KKAR Karatay Array 60.27 21 P **P** **14 51 50.0 -0.7**
BOVS Bovan 60.30 340 ⇓P **P** **14 51 50.5 -0.3**
DZA Taraz 60.38 22 *e*P **P** **14 51 52.0 +0.6**
comp=Z,11nm,0.9s,baz=22
DZA Taraz 60.38 22 *e*P **P** **14 51 51.9 +0.6**
DZA pmax pmax
comp=Z,11nm,0.9s
ELIB Princess Elisa 60.50 188 *d*P **P** **14 51 53.8 +1.8**
comp=Z,13nm,1.2s
VRI Vrincioaia 60.89 345⇑ P **P** **14 51 55.7 +0.9**
PLOR Plostina 60.89 345⇑ P **P** **14 51 55.7 +0.8**
VOIR 60.93 344⇓ P **P** **14 51 55.1 0.0**
UCH Uchtor 61.02 24 P P 14 52 03.7 +7.4
SNR=16
EKS2 Erkin-Say 61.09 24 P **P** **14 51 59.6 +3.2**
SNR=11
LSA Lhasa 61.10 45 P P 14 52 04.1 +6.9
LSA P P 14 52 04.1 +6.9
CM31 Chiang Mai Arr 61.26 60 P **P** **14 52 01.1 +3.3**
SNR=12
CMAR Chiang Mai Arr 61.26 60 P **P** **14 51 57.1 -0.7**
CMAR Chiang Mai Arr 61.26 60 P **P** **14 51 58.0 +0.1**
comp=Z,1.4nm,0.9s,baz=252,slow=8.0,SNR=19
CMAR LR LR 15 16 16.0
comp=Z,161nm,18.1s,baz=90,slow=34
comp=Z,1.4nm,0.9s
CMAR Chiang Mai Arr 61.26 60 *i*P **P** **14 52 01.0 +3.2**
CMAR pmax pmax
comp=Z,9.0nm,0.9s
AAK Ala-Archa 61.36 24 P P 14 52 05.9 +7.6
SNR=11
AAK Ala-Archa 61.36 24 P **P** **14 51 59.0 +0.8**
comp=Z,2.4nm,0.9s,baz=218,slow=19,SNR=2.0
AAK LR LR 15 16 52.4
comp=Z,118nm,20.6s,baz=184,slow=34
comp=Z,2.4nm,0.9s
AAK Ala-Archa 61.36 24 P P 14 52 03.8 +5.6
AAK Ala-Archa 61.36 24 *i*P **P** **14 51 59.3 +1.1**
AAK pmax pmax
comp=Z,11nm,1.0s
CHTO Chiang Mai 61.42 60 P **P** **14 51 58.1 -0.8**
CHTO IAmb IAmb 14 52 07.0
comp=Z,27nm,1.1s
CHTO Chiang Mai 61.42 60 P **P** **14 51 58.1 -0.8**
CHTO pmax pmax
comp=Z,27nm,1.2s
NVL N'lazarevskaya 61.42 192 *e*P **P** **14 51 58.9 +0.9**
NVL *e*S **S** **15 00 23.2 +4.4**
NVL pmax pmax

comp=Z,25nm,0.9s
GZR Gura Zlata 61.54 342⇓ P **P** **14 52 00.2 +0.9**
GZR Gura Zlata 61.54 342⇓ P **P** **14 52 00.2 +0.9**
KBK Karagaybulak 61.55 24 P P 14 52 07.3 +7.7
SNR=14
CHMS Chumysh 61.76 24 P P 14 52 07.8 +7.0
SNR=6.2
USP Ospenovka 61.89 24 P **P** **14 52 06.0 +4.3**
SNR=9.1
TKM2 Tokmak 2 62.04 25 P P 14 52 10.0 +7.2
SNR=15
SURR Surduc 62.07 342⇑ P **P** **14 52 03.8 +1.1**
SGDS Sogindy 62.10 24 *e*P **P** **14 52 04.0 +0.8**
baz=24
SGDS Sogindy 62.10 24 *e*P **P** **14 52 03.9 +0.8**
BZS Buzias 62.10 341⇑ P **P** **14 52 04.1 +1.1**
MARR Marisel-Cluj 62.60 343⇓ P **P** **14 52 07.4 +0.9**
SIRR Siria 62.67 342⇑ P **P** **14 52 06.7 -0.1**
TNSS Tian-Shan 62.69 26 *e*P **P** **14 52 07.8 +0.2**
baz=26
TNSS Tian-Shan 62.69 26 *e*P **P** **14 52 07.7 +0.2**
AAA Alma-Ata 62.82 25 *e*P **P** **14 52 08.7 +0.8**
baz=26
AAA Alma-Ata 62.82 25 *e*P **P** **14 52 08.7 +0.8**
BURAR Bucovina Array 62.90 345⇑ P **P** **14 52 09.3 +0.9**
BURAR Bucovina Array 62.90 345 P **P** **14 52 08.2 -0.2**
BURAR Bucovina Array 62.90 345⇑ P **P** **14 52 09.3 +0.9**
BUR08 Bucovina Ar. S 62.93 345 IAmb IAmb 14 52 10.6
comp=Z,18nm,1.4s
KUU Kurty 63.15 25 *e*P **P** **14 52 10.6 +0.6**
comp=Z,14nm,1.0s,baz=25
KUU Kurty 63.15 25 *e*P **P** **14 52 10.6 +0.6**
KUU pmax pmax
comp=Z,14nm,1.0s
ABKAR Akbulak array 63.20 11 P **P** **14 52 09.7 -0.4**
ABKAR Akbulak array 63.20 11 IAmb IAmb 14 52 18.0
comp=Z,66nm,0.9s
BTLS Baital 63.22 22 *e*P **P** **14 52 10.6 +0.1**
comp=Z,12nm,1.1s,baz=22
BTLS Baital 63.22 22 *e*P **P** **14 52 10.5 +0.1**
BTLS pmax pmax
comp=Z,12nm,1.1s
SATY Saty 63.34 26 *e*P **P** **14 52 12.1 +0.7**
comp=Z,10nm,0.8s,baz=27
SATY Saty 63.34 26 *e*P **P** **14 52 12.1 +0.7**
SATY pmax pmax
comp=Z,10.0nm,0.8s
CHKK Chushkaly 63.38 25 *e*P **P** **14 52 12.9 +1.3**
baz=25
CHKK Chushkaly 63.38 25 *e*P **P** **14 52 12.9 +1.3**
ZHN Zhinishke 63.44 26 *e*P **P** **14 52 12.6 +0.5**
baz=26
ZHN Zhinishke 63.44 26 *e*P **P** **14 52 12.6 +0.5**
MORH Mrgy, Hungar 63.60 340⇓ P **P** **14 52 13.8 +0.9**
MORH Mrgy, Hungar 63.60 340 P **P** **14 52 13.7 +0.8**
comp=Z,17nm,1.1s
UZB Uzynbulak 63.67 27 *e*P **P** **14 52 14.4 +0.7**
comp=Z,17nm,1.1s,baz=27
UZB Uzynbulak 63.67 27 *e*P **P** **14 52 14.4 +0.7**
UZB pmax pmax
comp=Z,17nm,1.1s
VORD Divnogorie 63.82 356 *e*P **P** **14 52 13.5 -0.8**
VORD pmax pmax
comp=Z,20nm,0.9s
SHLS Shalkode 63.88 27 *e*P **P** **14 52 17.0 +2.0**
comp=Z,13nm,1.1s,baz=28
SHLS Shalkode 63.88 27 *e*P **P** **14 52 17.0 +2.0**
SHLS pmax pmax
comp=Z,13nm,1.1s
VRH Novokhopyorsk 63.92 357 *e*P P 14 52 20.7 +5.8
VRH pmax pmax
comp=Z,26nm,0.8s
TNCH TengChong 64.01 54 *e*P P 14 52 21.4 +5.1
TNCH sP pwP 14 52 23.4 +2.0
TNCH S **S** **15 00 52.1 -1.0**
TNCH pmax pmax
comp=Z,120nm,3.9s
TNCH LR LR
comp=Z,290nm,11.1s
TNCH LR LR
comp=Z,970nm,15.3s
AKTO Aktyubinsk 64.02 9 P **P** **14 52 14.8 -0.8**
comp=Z,3.8nm,0.8s,baz=213,slow=3.6,SNR=10
comp=Z,3.8nm,0.8s
VSR Storozhevoye 64.08 356 *e*P **P** **14 52 14.1 -1.9**
VSR pmax pmax
comp=Z,6.0nm,0.5s
TROLL Troll, Antarti 64.36 194⇑ P **P** **14 52 20.6 +2.8**
comp=Z,2μm,0.8s
VORR Voronezh 64.53 356 *e*P **P** **14 52 19.0 +0.1**
VORR pmax pmax
comp=Z,33nm,0.4s
KOLS Kolonicke sedl 64.89 343 *e*P **P** **14 52 23.7 +2.3**
KOLS Kolonicke sedl 64.89 343 *e*P **P** **14 52 23.7 +2.3**
KOLS pmax pmax
comp=Z,4.0nm,0.7s
KIEV Kiev 64.90 349 P **P** **14 52 20.6 -0.7**
KIEV IAmb IAmb 14 52 29.4
comp=Z,36nm,1.7s
KIEV Kiev 64.90 349 P **P** **14 52 20.7 -0.7**
KIEV pmax pmax
comp=Z,37nm,1.7s
KIEV Kiev 64.90 349 P **P** **14 52 21.2 -0.1**
comp=Z,48nm,1.6s
TDK Taldyqorghan 64.90 25 *e*P **P** **14 52 22.2 +0.7**
comp=Z,15nm,0.9s,baz=25
TDK Taldyqorghan 64.90 25 *e*P **P** **14 52 22.2 +0.7**
TDK pmax pmax
comp=Z,15nm,0.9s
AKASG Malin Array Be 64.91 349 P **P** **14 52 19.8 -1.6**
comp=Z,1.9nm,0.7s,baz=172,slow=5.6,SNR=18
AKASG LR LR 15 22 08.3
comp=Z,131nm,19.3s,baz=148,slow=37
comp=Z,1.9nm,0.7s
AKBB Malin Array Si 64.91 349 IAmb IAmb 14 52 29.4
comp=Z,41nm,1.7s
AKBB Malin Array Si 64.91 349 *ce*P **P** **14 52 20.8 -0.6**
AKBB pmax pmax
comp=Z,20nm,1.4s
BELG Belogornoye 65.05 1 P **P** **14 52 21.6 -0.6**
comp=Z,46nm,1.0s,baz=231,slow=11,SNR=5.2
comp=Z,46nm,1.0s
BELG Belogornoye 65.05 1 *e*P **P** **14 52 21.7 -0.6**
BELG pmax pmax
comp=Z,8.0nm,0.9s
SOKA Soboth 65.29 337 *i*P **P** **14 52 24.8 +0.7**
comp=Z,11nm,0.9s
OBKA Obir 65.33 337 *i*P **P** **14 52 25.6 +1.2**
comp=Z,18nm,1.1s
SNAA Sanae 65.44 195 P **P** **14 52 26.0 +1.3**
SNAA Sanae 65.44 195⇑ P **P** **14 52 26.5 +1.7**
comp=Z,170nm,1.0s
SNAA Sanae 65.44 195 P **P** **14 52 26.0 +1.3**
comp=Z,10nm,1.0s,baz=67,slow=9.1,SNR=5.0
SNAA LR LR 15 19 10.4
comp=Z,354nm,18.0s,baz=13,slow=34
comp=Z,10nm,1.0s
SNAA Sanae 65.44 195 *e*P **P** **14 52 25.5 +0.8**
SNAA pmax pmax
comp=Z,27nm,1.6s
VYHS Vyhne 65.53 341 *e*P **P** **14 52 26.0 +0.5**
VYHS Vyhne 65.53 341 *e*P **P** **14 52 26.0 +0.5**
VYHS pmax pmax
comp=Z,11nm,1.1s
ARSA Arzberg 65.59 338 *i*P **P** **14 52 26.7 +0.7**
comp=Z,14nm,1.0s,SNR=5.3
RONA Rosalia, Austr 65.70 339 *i*P **P** **14 52 27.3 +0.7**
comp=Z,30nm,1.1s,SNR=12
MYKA Terra Mystica 65.78 337 *i*P **P** **14 52 27.7 +0.4**
comp=Z,9.1nm,1.3s
STAL STALIGIAL 65.84 336 P **P** **14 52 27.7 0.0**
STAL IAmb IAmb 14 52 28.4
comp=Z,9.7nm,0.9s
ZST Bratislava 65.84 340 *e*P **P** **14 52 27.9 +0.4**
ZST Bratislava 65.84 340 *e*P **P** **14 52 27.9 +0.4**
NIE Niedzica 65.90 342 *e*P **P** **14 52 28.3 +0.4**
MODS Modra-Piesok 65.94 340 *e*P **P** **14 52 30.7 +2.5**
MODS Modra-Piesok 65.94 340 *e*P **P** **14 52 30.7 +2.5**
MODS pmax pmax
comp=Z,48nm,1.2s
MDT Midelt 65.96 315 LR LR 15 22 24.3
comp=Z,380nm,18.0s,baz=132,slow=37
SMOL Smolenice 66.01 340 *e*P **P** **14 52 28.9 +0.3**
CONA Conrad Observa 66.05 339 *e*P **P** **14 52 29.4 +0.5**
comp=Z,16nm,1.1s,SNR=7.3
CTI Castel Tesino 66.10 335 P **P** **14 52 29.8 +0.4**

CTI IAmb IAmb 14 52 31.1
comp=Z,21nm,1.0s
CTI Castel Tesino 66.10 335 P **P** **14 52 29.8 +0.4**
CTI pmax pmax
comp=Z,21nm,1.0s
JAVC Velka Javorina 66.23 340 *e*P **P** **14 52 31.2 +1.1**
KBA Koelnbreinsper 66.27 337 *i* P **P** **14 52 30.7 +0.2**
comp=Z,12nm,1.0s
ABTA Abfaltersbach 66.32 336 *e*P **P** **14 52 31.3 +0.5**
comp=Z,7.4nm,0.9s
VNA1 Neumayer--Stat 66.33 197 ⇑P **P** **14 52 33.1 +2.7**
comp=Z,22nm,1.1s
MOA Molln 66.56 338 *i* P **P** **14 52 32.4 +0.2**
comp=Z,14nm,1.0s,SNR=6.1
BIOA Bad Ischl, Aus 66.66 337 *i* P **P** **14 52 32.7 -0.1**
comp=Z,14nm,1.3s
STKI Sintang 66.67 84 P P 14 52 41.9 +8.3
OJC Ojcow 66.76 342 *e*P **P** **14 52 33.0 -0.4**
OJC Ojcow 66.76 342 IAmb IAmb 14 52 33.7
comp=Z,8.8nm,0.9s
LESA Schwarzleotal 66.81 336 *e*P **P** **14 52 33.4 -0.5**
comp=Z,8.6nm,1.0s
KRUC Moravsky 66.83 340 *e*P **P** **14 52 33.8 0.0**
BRZS Berezniki 67.03 19 *e*P **P** **14 52 35.7 +0.5**
comp=Z,10nm,1.0s,baz=19
BRZS Berezniki 67.03 19 *e*P **P** **14 52 35.6 +0.5**
BRZS pmax pmax
comp=Z,10.0nm,1.0s
VNA3 Neumayer Olymp 67.03 197 ⇑P **P** **14 52 36.9 +2.0**
comp=Z,20nm,0.8s
MORC Moravsky Berou 67.07 341 ⇑P **P** **14 52 35.9 +0.5**
MORC Moravsky Berou 67.07 341 IAmb IAmb 14 52 36.7
comp=Z,14nm,1.0s
MORC Moravsky Berou 67.07 341 *e*P **P** **14 52 35.3 -0.1**
MORC Moravsky Berou 67.07 341 ⇑P **P** **14 52 35.9 +0.5**
WTTA Wattenberg 67.09 336 *i* P **P** **14 52 35.6 -0.2**
comp=Z,9.1nm,1.1s
WATA Walderalm 67.17 336 *i* P **P** **14 52 36.1 -0.2**
comp=Z,8.0nm,0.8s
SQTA Sankt Quirin 67.23 335 *i* P **P** **14 52 36.6 0.0**
comp=Z,8.2nm,1.3s
PZH PanZhiHua 67.26 54 P P 14 52 42.9 +5.6
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,40nm,4.0s
FETA Feichten 67.27 335 *i* P **P** **14 52 37.3 +0.4**
comp=Z,24nm,1.1s,SNR=9.1
MOTA Moosalm 67.37 335 *i* P **P** **14 52 37.1 -0.4**
comp=Z,9.6nm,1.0s
GOMU GeErMu 67.47 42 P **P** **14 52 42.9 +4.3**
GOMU pP pwP 14 52 47.8 +4.0
GOMU sP sP 14 52 50.0 +7.7
GOMU sS sS 15 01 42.0 +2.8
GOMU pmax pmax
comp=Z,12nm,0.9s
GOMU LR LR
comp=Z,820nm,20.2s
GOMU LR LR
comp=Z,1μm,20.3s
GOMU LR LR
comp=Z,2μm,19.8s
GEC2 GERESS Array S 67.59 338 IAmb IAmb 14 52 39.6
comp=Z,14nm,1.1s
GERES GERESS Array B 67.59 338 P **P** **14 52 38.5 -0.3**
GERES GERESS Array B 67.59 338 P **P** **14 52 37.5 -1.3**
comp=Z,6.5nm,0.9s,baz=116,slow=3.1,SNR=6.8
GERES LR LR 15 25 40.5
comp=Z,99nm,18.0s,baz=114,slow=39
comp=Z,6.5nm,0.9s
GERES GERESS Array B 67.59 338 P **P** **14 52 38.5 -0.3**
RETA Reutte 67.62 335 *i* P **P** **14 52 38.8 -0.2**
comp=Z,14nm,1.0s,SNR=6.0
ORIF Oris-en-Rattie 67.80 331 *e*P **P** **14 52 41.5 +1.3**
LPG La Plagne 67.82 332 *e*P **P** **14 52 40.2 -0.4**
DAVA Damuels 67.83 335 *i* P **P** **14 52 40.4 0.0**
comp=Z,16nm,1.1s
LPL La Plagne 67.85 332 *e*P **P** **14 52 40.1 -0.6**
MAKZ Makanchi 67.85 26 P **P** **14 52 39.6 -0.7**
MAKZ Makanchi 67.85 26 P **P** **14 52 39.7 -0.7**
MAKZ pmax pmax
comp=Z,56nm,1.3s
KHC Kasperske Hory 67.88 338 *ce*P **P** **14 52 40.6 0.0**
KHC pmax pmax
comp=Z,17nm,1.7s
KHC Kasperske Hory 67.88 338 P **P** **14 52 40.1 -0.5**
comp=Z,6.3nm,1.1s
NWAO Narrogin (SRO) 67.89 120 LR LR 15 17 52.7
comp=Z,42nm,20.2s,baz=248,slow=32
NWAO Narrogin (SRO) 67.89 120 P P 14 52 35.6 -5.4
DPC Dobruska-Polom 67.96 340 P **P** **14 52 41.0 0.0**
comp=Z,6.3nm,1.3s
MK31 Makanchi Array 67.98 26 *i* P **P** **14 52 43.7 +2.5**
MKAR Makanchi Array 67.98 26 P **P** **14 52 40.1 -1.1**
MKAR Makanchi Array 67.98 26 P **P** **14 52 40.9 -0.3**
comp=Z,3.5nm,0.9s,baz=216,slow=6.0,SNR=4.3
comp=Z,3.5nm,0.9s
MKAR Makanchi Array 67.98 26 *i* P **P** **14 52 45.0 +3.8**
MKAR pmax pmax
comp=Z,11nm,0.9s
OBN Obninsk 68.17 355 P **P** **14 52 41.9 -0.2**
comp=Z,19nm,0.4s,baz=121,slow=5.9,SNR=1.4
OBN LR LR 15 24 58.7
comp=Z,244nm,19.3s,baz=174,slow=38
OBN Obninsk 68.17 355⇓ *e*P **P** **14 52 41.9 -0.2**
OBN *PP **sP** **14 52 47.0 +1.3**
OBN *e*SP **pwP** **14 52 49.5 +2.1**
OBN *i* S **S** **15 01 38.9 -3.2**
OBN pmax pmax
comp=Z,68nm,1.8s
OBN MLR MLR
comp=Z,299nm,19.0s
WMQ Urumqi 68.32 32 *e*P P 14 52 48.8 +5.3
WMQ pmax pmax
comp=Z,17nm,1.3s
WMQ LR LR
comp=Z,250nm,21.1s
WMQ LR LR
comp=Z,300nm,19.7s
WMQ LR LR
comp=Z,180nm,22.7s
VIVF Saint-Julien-I 68.34 330 *e*P **P** **14 52 44.8 +1.3**
MOS Moscow 68.69 355 *e*P **P** **14 52 44.2 -1.2**
MNK Minsk 68.78 349 *i* P **P** **14 52 45.1 -0.9**
MNK *i* 14 55 16.3
MNK *i* S **S** **15 01 52.5 +3.1**
MNK pmax pmax
comp=Z,15nm,0.9s
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.7s
MNK MLR MLR
comp=Z,162nm,19.0s
MNK MLR MLR
comp=E,236nm,20.0s
MNK MLR MLR
comp=N,806nm,21.0s
BVAR Borovoye Array 69.07 16 P **P** **14 52 48.0 +0.2**
comp=N,4.4nm,0.9s,baz=192,slow=2.7,SNR=12
BVAR LR LR 15 23 54.8
comp=N,95nm,19.9s,baz=205,slow=37
comp=N,4.4nm,0.9s
BRVK Borovoye 69.07 16 P **P** **14 52 52.5 +4.6**
BRVK Borovoye 69.07 16 *i* P **P** **14 52 47.9 +0.1**
BRVK pmax pmax
comp=Z,37nm,1.6s
BRG Berggiesshubel 69.20 339 *e*P **P** **14 52 49.2 +0.5**
BRG Amp 14 52 50.0
comp=Z,6.5nm,1.0s
NACGM Naroch 69.37 349 *e*P **P** **14 52 48.0 -1.7**
comp=Z,25nm,1.2s,baz=160
KURBB Kurchatov Arra 69.55 22 P **P** **14 52 52.4 +1.5**
comp=Z,2.8nm,0.9s,baz=219,slow=7.4,SNR=1.3
KURBB LR LR 15 21 26.4
comp=Z,166nm,21.1s,baz=178,slow=34
comp=Z,2.8nm,0.9s
ESBB Sonseca Array 69.61 321 IAmb IAmb 14 52 54.5
comp=Z,26nm,1.6s
ESDC Sonseca Array 69.61 321 P **P** **14 52 52.0 +0.4**
ESDC IAmb IAmb 14 52 54.4
comp=Z,18nm,1.4s
ESDC Sonseca Array 69.61 321 P **P** **14 52 52.9 +1.4**
comp=Z,5.5nm,1.0s,baz=130,slow=6.4,SNR=23
ESDC LR LR 15 24 09.2
comp=Z,156nm,19.2s,baz=122,slow=37
comp=Z,5.5nm,1.0s
ZSN Zaisan 69.61 27 *e*P **P** **14 52 52.6 +1.2**
comp=Z,15nm,0.9s,baz=27
ZSN Zaisan 69.61 27 *e*P **P** **14 52 52.5 +1.2**
ZSN pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 69.66 22 P **P** **14 52 56.2 +4.7**
KURK Kurchatov 69.66 22 P **P** **14 52 52.4 +0.9**
PAB San Pablo 69.76 321 P **P** **14 52 53.1 +0.5**
PAB IAmb IAmb 14 52 54.9
comp=Z,18nm,1.3s
PAB San Pablo 69.76 321 P **P** **14 52 53.1 +0.5**
PAB pmax pmax
comp=Z,18nm,1.3s
CLL Collm 69.89 339 *e*P **P** **14 52 53.0 0.0**
comp=Z,11nm,1.2s
CLL Collm 69.89 339 *e*P **P** **14 52 53.0 0.0**
CLL pmax pmax
comp=Z,11nm,1.2s
ARU Arti 69.93 8 P **P** **14 52 52.0 -1.1**
ARU Arti 69.93 8 P **P** **14 52 52.8 -0.3**
comp=Z,2.2nm,0.4s,baz=182,slow=2.3,SNR=11
ARU LR LR 15 25 29.8
comp=Z,187nm,20.8s,baz=172,slow=38
comp=Z,2.2nm,0.4s
ARU Arti 69.93 8*d* *i*P **P** **14 52 52.5 -0.6**
ARU 14 55 25.2
ARU S **S** **15 02 04.9 +1.9**
ARU SS **SS** **15 06 32.5 -0.1**
ARU pmax pmax
comp=Z,23nm,1.6s
ARU MLR MLR
comp=Z,195nm,20.0s
ARU Arti 69.93 8 P **P** **14 52 53.2 +0.1**
comp=Z,53nm,1.1s,comp=Z,510nm
SEM Semipalatinsk 70.01 23 *e*P **P** **14 52 54.7 +0.7**
comp=Z,16nm,1.2s,baz=23
SEM Semipalatinsk 70.01 23 *e*P **P** **14 52 54.7 +0.7**
SEM pmax pmax
comp=Z,16nm,1.2s
AVF Avril sur Loir 70.37 331 *e*P **P** **14 52 56.4 +0.4**
LOR Lormes 70.48 331 *e*P **P** **14 52 57.1 +0.4**
PABE Paberze 70.51 347 *e*P **P** **14 52 56.7 +0.1**
SVE Sverdlovsk 70.61 9 *e*P P 14 53 03.2 +6.0
SVE pmax pmax
comp=Z,51nm,1.5s
CD2 Chengdu 70.92 51 P **P** **14 52 59.5 -0.3**
KIRV Kirov 71.31 2 P **P** **14 53 00.8 -0.5**
comp=Z,6.5nm,0.4s,baz=180,slow=4.0,SNR=6.1
KIRV LR LR 15 27 27.9
comp=Z,286nm,19.4s,baz=183,slow=39
comp=Z,6.5nm,0.4s
KIRV Kirov 71.31 2 *i* P **P** **14 53 00.2 -1.2**
BCLA Clavier 72.17 334 *d*P **P** **14 53 08.3 +1.5**
BGES Gesves 72.23 334 *d*P **P** **14 53 08.8 +1.6**
BMRD Maredsous 72.31 334 *d*P **P** **14 53 08.7 +1.1**
DGZ Jazzator, Alta 72.42 27 *i* P **P** **14 53 10.0 +1.4**
DGZ pmax pmax
comp=Z,25nm,1.7s
GTA Gaotai 72.55 41 *e*P **P** **14 53 13.8 +4.3**
GTA pP pwP 14 53 16.8 +2.1
GTA SKS SKiKP 15 03 15.9 +31
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,150nm,20.0s
GTA LR LR
comp=Z,120nm,20.7s
GTA LR LR
comp=Z,230nm,22.2s
VSU Vasula 72.74 350*ce*P **P** **14 53 09.0 -1.0**
VSU pmax pmax
comp=Z,48nm,1.7s
LZH Lanzhou 73.51 46 ⇑P P 14 53 22.8 +7.5
LZH pP pwP 14 53 25.8 +5.3
LZH pmax pmax
comp=Z,19nm,1.5s
MTSE Matsula 73.52 348 *e*P **P** **14 53 14.9 +0.3**
KLMR Klimovskoe 73.66 357 *e*P **P** **14 53 12.6 -2.8**
KLMR pmax pmax
comp=Z,49nm,1.3s
KLMR MLR MLR
comp=Z,343nm,20.0s
ARBE Arbavere 73.80 350 *e*P **P** **14 53 16.8 +0.6**
DEL Delary 73.96 342 *e*P **P** **14 53 17.6 +0.4**
ZALV Zalesovo Beam 74.53 23 P **P** **14 53 19.2 -1.5**
comp=Z,0.4nm,0.3s,baz=207,slow=9.6,SNR=3.9
comp=Z,0.4nm,0.3s
ZALV Zalesovo Beam 74.53 23 *i* P **P** **14 53 21.8 +1.1**
ZALV pmax pmax
comp=Z,2.0nm,0.8s
MEF Metsahovi 74.81 349 *e*P **P** **14 53 22.7 +0.6**
VALR Valaam 74.92 353 *i* P **P** **14 53 22.3 -0.4**
VALR pmax pmax
comp=Z,28nm,1.0s
MPSI Mapaga 74.92 86 P P 14 53 31.6 +7.8
VIKU Vikbolandet 74.93 345 *e*P **P** **14 53 23.9 +1.0**
BELA Belgrano 2 75.38 192 P **P** **14 53 26.6 +1.2**
BELA IAmb IAmb 14 53 28.6
comp=Z,19nm,1.1s
AAL Aland 75.65 347 *e*P **P** **14 53 27.1 +0.2**
FINES FINESS Array B 75.68 351 P **P** **14 53 26.7 -0.4**
comp=Z,5.9nm,0.9s,baz=144,slow=7.1,SNR=16
comp=Z,5.9nm,0.9s
FINES FINESS Array B 75.68 351 *i* P **P** **14 53 27.3 +0.2**
FINES pmax pmax
comp=Z,6.0nm,0.9s
RAF Rauma 76.05 348 *e*P **P** **14 53 29.9 +0.7**
XAN Xi'an 76.22 50 ⇓P P 14 53 37.3 +6.3
XAN sP PcP 14 53 44.3 +1.3
XAN S S 15 03 23.8 +8.2
XAN pmax pmax
comp=Z,17nm,1.5s
XAN pmax pmax
comp=Z,150nm,4.6s
JOF Joensuu 76.38 353 *e*P **P** **14 53 31.3 +0.2**
KEF Keuruu 76.56 350 *e*P **P** **14 53 32.4 +0.3**
HFS Hagfors 77.12 344 P **P** **14 53 35.3 -0.1**
comp=Z,4.8nm,0.6s,baz=141,slow=5.7,SNR=17
comp=Z,4.8nm,0.6s
QSPA South Pole Qui 77.19 180 P **P** **14 53 36.9 +0.9**
comp=Z,24nm,1.0s,baz=258,slow=2.4,SNR=40
QSPA LR LR 15 25 19.5
comp=Z,636nm,19.0s,baz=265,slow=34
comp=Z,24nm,1.0s
VAF Ylistaro 77.75 350 *e*P **P** **14 53 39.3 +0.6**
KONO Kongsberg 77.87 342 P **P** **14 53 39.5 0.0**
KONO IAmb IAmb 14 53 40.9
comp=Z,16nm,1.1s
KONO Kongsberg 77.87 342*ce*P **P** **14 53 39.5 0.0**
KONO pmax pmax
comp=Z,20nm,1.7s
NC602 NORSAR Array S 78.21 344 IAmb IAmb 14 53 42.8
comp=Z,26nm,1.3s
NAO01 NORSAR Array S 78.48 344 IAmb IAmb 14 53 44.6
comp=Z,20nm,1.2s
NB201 NORSAR Array S 78.54 344 IAmb IAmb 14 53 44.7
comp=Z,28nm,1.2s
NB2 NORSAR Subarra 78.55 344 P **P** **14 53 43.5 +0.2**
comp=Z,20nm,1.2s,baz=148,slow=5.3
NB2 NORSAR Subarra 78.55 344 P **P** **14 53 43.5 +0.2**
baz=148,slow=5.3
NB2 NORSAR Subarra 78.55 344 P **P** **14 53 43.2 -0.2**
NOA NORSAR Array B 78.55 344 P **P** **14 53 43.6 +0.2**
comp=Z,1.6nm,0.7s,baz=136,slow=5.9,SNR=5.9
comp=Z,1.6nm,0.7s
EKA Eskdalemuir Ar 79.27 334 P **P** **14 53 46.9 -0.4**
comp=Z,6.5nm,1.1s,baz=113,slow=6.4,SNR=6.2
comp=Z,6.5nm,1.1s
RCBR Riachuelo 80.32 266 LR LR 15 26 00.6
comp=Z,64nm,19.5s,baz=59,slow=33
ZAK Zakamensk 80.68 33 *e*P P 14 54 02.2 +6.9
ZAK pmax pmax
comp=Z,6.0nm,1.8s
SONM Songino Array 81.07 37 P **P** **14 53 58.0 +0.6**
comp=Z,1.4nm,1.1s,baz=226,slow=5.1,SNR=8.5
comp=Z,1.4nm,1.1s
HHC Hu-ho-hao-te 81.08 45 *e*P **P** **14 53 58.3 +0.7**
HHC LR LR
comp=Z,810nm,16.0s
HHC LR LR
comp=Z,390nm,16.9s
HHC LR LR
comp=Z,350nm,18.3s
ULN Ulaanbaatar 81.47 37 *i* P **P** **14 54 00.0 +0.4**
ULN pmax pmax
comp=Z,7.0nm,1.2s
HNS HongShan 81.90 49 ⇓P P 14 54 09.3 +7.4
HNS pmax pmax
comp=Z,17nm,1.3s
IRK Irkutsk 82.21 32 *e*P P 14 54 10.2 +7.0
IRK pmax pmax
comp=Z,27nm,2.2s
VNDA Vanda 82.98 169 P **P** **14 54 08.2 +1.4**
comp=Z,1.7nm,0.8s,baz=260,slow=6.1,SNR=14
VNDA LR LR 15 27 53.0
comp=Z,407nm,20.1s,baz=241,slow=33
comp=Z,1.7nm,0.8s
NJ2 Nanjing 83.14 55 *e*P **P** **14 54 09.8 +1.3**
NJ2 pP **PcP** **14 54 12.9 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,140nm,5.5s
ARCES ARCESS Array B 83.42 353 P **P** **14 54 09.3 +0.2**
comp=Z,1.5nm,0.9s,baz=126,slow=6.2,SNR=1.2
ARCES LR LR 15 34 18.7
comp=Z,136nm,18.6s,baz=154,slow=38
comp=Z,1.5nm,0.9s
ASAR Alice Springs 83.52 113 P **P** **14 54 10.6 -0.2**
comp=Z,2.7nm,0.7s,baz=261,slow=4.7,SNR=23
comp=Z,2.7nm,0.7s
WRA Warramunga Arr 84.66 109 P **P** **14 54 15.6 -1.1**
comp=Z,1.4nm,0.8s,baz=262,slow=3.9,SNR=7.6
comp=Z,1.4nm,0.8s
WB2 Warramunga Arr 84.67 109 P **P** **14 54 15.8 -0.9**
XLT XiLinHaoTe 85.38 43 *e*P **P** **14 54 21.5 +1.8**
XLT sP pwP 14 54 28.0 +3.0
XLT sS sS 15 04 57.6 +2.2
XLT pmax pmax
comp=Z,9.0nm,0.8s
XLT pmax pmax
comp=Z,76nm,4.9s
XLT LR LR
comp=Z,290nm,19.6s
XLT LR LR
comp=Z,410nm,21.0s
PMSA Palmer Station 86.51 204 LR LR 15 27 20.2
comp=Z,162nm,18.9s,baz=87,slow=32
STKA Stephens Creek 88.40 122 P **P** **14 54 33.5 -1.3**
comp=Z,2.4nm,1.0s,baz=350,slow=3.7,SNR=4.0
comp=Z,2.4nm,1.0s
STKA Stephens Creek 88.40 122 *i* P **P** **14 54 33.7 -1.0**
BDFB Brasilia 89.85 254 P **P** **14 54 44.5 +2.5**
comp=Z,2.1nm,0.5s,baz=132,slow=6.2,SNR=4.0
BDFB LR LR 15 32 05.8
comp=Z,160nm,20.2s,baz=140,slow=34
comp=Z,2.1nm,0.5s
KSRS Korea Array 91.87 52 P **P** **14 54 51.5 +0.9**
comp=Z,0.4nm,0.7s,baz=249,slow=4.3,SNR=1.9
comp=Z,0.4nm,0.7s
MDJ Mudanjiang 94.83 45 P **P** **14 55 01.5 -2.6**
MDJ pmax pmax
comp=Z,8.0nm,1.6s
MDJ pmax pmax
comp=Z,60nm,7.2s
CPUP Villa Florida 95.50 242 LR LR 15 33 23.2
comp=Z,262nm,20.7s,baz=107,slow=32
KLR Kul'dur 97.25 41 *i* P **P** **14 55 13.5 -1.6**
KLR pmax pmax
comp=Z,6.0nm,1.8s
PMG Port Moresby 99.16 102 LR LR 15 34 14.1
comp=Z,85nm,21.2s,baz=234,slow=32
TIXI Tiksi 100.08 19 LR LR 15 45 52.6
comp=Z,83nm,18.3s,baz=207,slow=38
TIXI Tiksi 100.08 19 *i* P **Pdif** **14 55 29.1 +1.9**
TIXI pmax pmax
comp=Z,7.0nm,2.0s
DZM Mont Dzumac 112.51 121 *e*LR LR 15 33 47.3
comp=Z,650nm,28.1s
ILAR Eielson Array 127.50 7 PKP **PKPdf** **15 00 46.3 -0.6**
comp=Z,0.2nm,0.6s,baz=313,slow=3.8,SNR=1.9
ILAR PP **PP** **15 02 48.2 +1.5**
comp=Z,0.5nm,0.9s,baz=343,slow=4.8,SNR=2.9
YKA Yellowknife Ar 128.47 348 PKP **PKPdf** **15 00 47.5 -1.2**
comp=Z,0.1nm,0.7s,baz=10,slow=2.5,SNR=2.5
YKA PP **PP** **15 02 51.5 -1.6**
comp=Z,0.6nm,0.9s,baz=18,slow=7.3,SNR=5.8
656A Willston 129.21 297 PKPpre 15 00 38.0
TBI Tubuai 141.13 158 *e*LR LR 15 46 58.8
comp=Z,818nm,26.2s
PDAR Pinedale Array 143.22 329 PKP PKPbc 15 01 16.0 +2.0
comp=Z,0.6nm,0.8s,baz=100,slow=3.3,SNR=3.8
T25A Trinidad 143.83 317 PKPbc 15 01 17.5 +1.6
SDCO Great Sand Dun 144.20 319 PKPbc 15 01 17.7 +0.6
PPT2 Papeete2 146.26 154 *e*LR LR 15 49 29.9
comp=Z,186nm,25.2s
PPT2 *e*LR LR 15 49 32.3
comp=Z,290nm,26.0s
SRU San Rafael Swe 146.34 325 PKPdf **PKPdf** **15 01 21.6 -0.9**
SRU San Rafael Swe 146.34 325 PKP2 **PKPdf** **15 01 21.6 -0.9**
TXAR Lajitas Array 147.02 305 PKPbc **PKPbc** **15 01 26.9 +1.2**
comp=Z,0.6nm,0.7s,baz=75,slow=3.6,SNR=7.0
TXAR Lajitas Array 147.02 305 PKP2 **PKPbc** **15 01 27.0 +1.2**
MSU Marysvale 147.67 326 PKPdf **PKPdf** **15 01 24.5 -0.3**
MSU Marysvale 147.67 326 PKIKP **PKPdf** **15 01 24.5 -0.3**
NVAR Mina Array Bea 150.76 333 PKP **PKPdf** **15 01 31.9 +2.1**
comp=Z,0.8nm,0.6s,baz=157,slow=1.4,SNR=5.1
DSP Deep Springs 151.48 332 PKPab **PKPab** **15 01 45.2 +0.3**
GWY Greenwater Val 151.78 328 PKPab **PKPab** **15 01 45.2 -1.3**

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*IDC **14** 14:42:44.8±1.0, 37.30N×142.36E, h0km, mb3.6/8, mbtmp3.6/12, ML3.1/4, Error ellipse: s-maj=25.9km s-min=16.6km az=121.0*
*NIED **14** 14:42:48.8, 37.29N×142.15E, h32km, MW3.6, Moment Tension Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.92; Mθθ0.83; Mϕϕ 1.09; Mrθ-1.26; Mθϕ-0.91; Mϕr1.66; Fault plane solution: M₀2.82000×10¹⁴ NP1: ϕs316.00000°, δ21.00000°, λ-95.00000°. NP2: ϕs142.00000°, δ69.00000°, λ-88.00000°.*
*JMA **14** 14:42:48.8±0.3, 37.3N±0.7×14.2E±, h32km, MV3.6/34, E OFF FUKUSHIMA PREF*

ISC 14 14:42:48.2±0.8, 37.28N±0.05×142.22E±0.07, h24km, n29, σ1837/29, mb3.5/8, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**1.08**	**275**	P		**Pn**	**14 43 07.1**	**-0.8**
JMST	**Minamisoumatoc**	**1.15**	**293**	*e*P		**Pn**	**14 43 08.3**	**-0.6**
ONAJ	**Iwakimizuishiy**	**1.15**	**262**	P		**Pn**	**14 43 08.1**	**-0.8**
ONAJ				*e*S		**Sn**	**14 43 21.7**	**-2.2**
JIKH	**Ishinomakikobu**	**1.19**	**330**	P		**Pn**	**14 43 08.9**	**-0.5**
JMM	**Marumori**	**1.28**	**298**	P		**Pn**	**14 43 10.3**	**-0.3**
JMM				*e*S		**Sn**	**14 43 25.6**	**-1.3**
JIO	**Ouri**	**1.36**	**330**	P		**Pn**	**14 43 11.5**	**-0.2**
JIO				*e*S		**Sn**	**14 43 28.1**	**-0.9**
JOTO	**OTAMA OYAMA**	**1.53**	**281**	P		**Pn**	**14 43 14.6**	**+0.6**
JOU	**Okura**	**1.64**	**312**	P		**Pb**	**14 43 16.6**	**-1.2**
JMK	**Ichinoseki**	**1.85**	**335**	*e*P		**Pn**	**14 43 18.7**	**+0.3**
JFY	**Yanaizu**	**2.01**	**274**	*e*P		**Pn**	**14 43 21.6**	**+0.9**
JYK	**Kaneyama**	**2.20**	**319**	P		**Pn**	**14 43 24.3**	**+1.0**
MJAR	**Matsushiro Arr**	**3.30**	**258**	Pn		**Pn**	**14 43 39.9**	**+1.5**
MJAR	0.6nm,0.3s,baz=85,slow=15,SNR=26			Sn		**Sn**	**14 44 19.9**	**+3.0**
	0.4nm,0.3s,baz=90,slow=27,SNR=7.1 2.9nm,0.3s							
JHJ	**Hachijo jima 2**	**4.61**	**206**	Pn		**Pn**	**14 43 56.6**	**+0.3**
JHJ	9.0nm,0.3s,baz=109,slow=21,SNR=9.3			Sn		**Sn**	**14 44 45.8**	**-3.4**
	12nm,0.3s,baz=55,slow=19,SNR=1.6 55nm,0.6s							
ASAJ	**Asahikawa**	**6.83**	**2**	Pn		**Pn**	**14 44 25.4**	**-1.5**
ASAJ	0.3nm,0.3s,baz=194,slow=8.3,SNR=2.0			Sn		**Sn**	**14 45 43.7**	**-0.2**
	baz=99,slow=33 1.1nm,0.3s							
JNU	**Nakatsue**	**10.17**	**249**	Pn		**Pn**	**14 45 14.9**	**+2.2**
	0.1nm,0.3s,baz=62,slow=12,SNR=2.2 3.3nm,1.0s							
H11N2	**WAKE ISLAND Hy 27.73**	**122**		T		T	15 17 43.4	
	baz=315,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy 27.73**	**122**		T		T	15 17 53.2	
	baz=315,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy 27.74**	**122**		T		T	15 17 53.4	
	baz=315,slow=75,SNR=14							
H11S1	**WAKE ISLAND Hy 28.46**	**124**		T		T	15 18 45.0	
	baz=316,slow=76,SNR=13							
H11S3	**WAKE ISLAND Hy 28.46**	**124**		T		T	15 18 45.1	
	baz=316,slow=76,SNR=16							
H11S2	**WAKE ISLAND Hy 28.47**	**124**		T		T	15 18 42.5	

baz=316,slow=76,SNR=16
MKAR Makanchi Array 44.54 302 P **P** **14 50 58.6 +0.6**
0.4nm,0.6s,baz=95,slow=8.0,SNR=4.7
0.4nm,0.6s
KURBB Kurchatov Arra 46.36 308 P **P** **14 51 12.7 +0.5**
0.5nm,0.6s,baz=83,slow=8.0,SNR=5.2
0.5nm,0.6s
ILAR Eielson Array 48.94 32 P **P** **14 51 33.0 +0.9**
0.5nm,0.8s,baz=266,slow=6.1,SNR=8.1
0.5nm,0.8s
INK Inuvik 53.87 27 P **P** **14 52 07.0 -1.9**
1.0nm,0.9s,baz=271,slow=7.2,SNR=2.7
1.0nm,0.9s
WRA Warramunga Arr 57.40 189 P **P** **14 52 34.7 -0.1**
0.4nm,0.8s,baz=95,slow=15,SNR=2.1
0.4nm,0.8s
SPITS Spitsbergen Ar 60.41 349 P **P** **14 52 55.4 +0.4**
6.3nm,1.0s,baz=339,slow=3.6,SNR=2.3
6.3nm,1.0s
ASAR Alice Springs 61.12 189 P **P** **14 53 00.9 +0.3**
0.3nm,1.1s,baz=12,slow=9.5,SNR=1.3
0.3nm,1.1s
YKA Yellowknife Ar 63.27 30 P **P** **14 53 15.2 +0.7**
0.2nm,0.6s,baz=298,slow=5.4,SNR=2.3
0.2nm,0.6s

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*NEIC **14** 14:44:32.0±0.6, 19°.36N±0°.02×155°.12W±0°.02, h5km±1km, Error ellipse: s-maj=4.6km s-min=2.6km az=144.0*
HVO 14 14:44:31.6±1.0, 19°.33N±0°.01×155°.104W±0°.009, h6km±3km, Md2.2/8, ML2.7/30(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=186.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**2**		Pg	14 44 33.4	+0.2
STCH	**Steam Cracks**	**0.06**	**339**		Pg	14 44 33.4	+0.1
STCH	**Steam Cracks**	**0.06**	**339**	IAML		14 44 34.8	
	comp=N,2μm,0.2s						
STCH				IAML		14 44 35.6	
	comp=E,2μm,0.3s						
NPOC	**North of Pu'u**	**0.06**	**355**	Pg	Pg	14 44 33.5	+0.1
KNHH	**Kane Nui o Ham**	**0.08**	**307**		Pg	14 44 33.6	+0.1
PUH	**Pauahi**	**0.11**	**292**		Pg	14 44 34.1	0.0
PUH	**Pauahi**	**0.11**	**292**	IAML		14 44 37.7	
	comp=N,3μm,1.0s						
PUH				IAML		14 44 37.8	
	comp=E,2μm,1.2s						
HLP	**Hilina Pali**	**0.20**	**260**	Pg	Pg	14 44 35.7	+0.2
HLP				IAML		14 44 38.9	
	comp=N,2μm,1.0s						
HLP				IAML		14 44 42.0	
	comp=E,2μm,0.8s						
RSD	**Rainshed**	**0.21**	**308**	Pg	Pg	14 44 35.8	-0.1
RSD				IAML		14 44 39.5	
	comp=E,2μm,1.1s						
RSD				IAML		14 44 43.3	
	comp=N,2μm,1.1s						
HTC	**Hot Caves**	**0.29**	**251**		Pg	14 44 37.8	+0.4
MLH	**Mauna Loa**	**0.31**	**301**		Pg	14 44 37.8	0.0
MLH	**Mauna Loa**	**0.31**	**301**	IAML		14 44 42.3	
	comp=N,2μm,1.1s						
MLH				IAML		14 44 44.5	
	comp=E,1μm,1.0s						
HMH	**Humu'ula Sheep**	**0.45**	**307**		Pg	14 44 40.1	-0.3
HMH	**Humu'ula Sheep**	**0.45**	**307**	IAML		14 44 47.3	
	comp=E,705nm,0.7s						
HMH				IAML		14 44 47.4	
	comp=N,1μm,0.3s						
KHU	**Kahuku**	**0.49**	**260**		Pg	14 44 40.7	-0.5
KHU	**Kahuku**	**0.49**	**260**	IAML		14 44 52.5	
	comp=E,604nm,1.1s						
KHU				IAML		14 44 53.8	
	comp=N,695nm,1.3s						
MLOA	**Mauna Loa Obse**	**0.49**	**295**	Pg	Pg	14 44 40.7	-0.4
MLOA				IAML		14 44 47.8	
	comp=E,656nm,1.2s						
MWH	**Moku'aweowe**	**0.49**	**288**	Pg	Pg	14 44 40.7	-0.5
ALEP	**Alea Permanent**	**0.55**	**292**		Pg	14 44 41.6	-0.7
ALEP					Sg	14 44 49.7	+0.2
POHA	**Pohakuloa**	**0.58**	**316**		Sg	14 44 50.0	-0.6
POHA	**Pohakuloa**	**0.58**	**316**	Pg	Pg	14 44 41.9	-1.0
POHA				IAML		14 44 50.3	
	comp=E,641nm,1.1s						
POHA				IAML		14 45 00.8	
	comp=E,533nm,1.1s						
HUH	**Hualalai**	**0.77**	**297**	Pg	Pg	14 44 44.9	-1.7
HUH				IAML		14 45 05.2	
	comp=N,419nm,1.3s						
CPH	**Captain Cook**	**0.78**	**282**		Pg	14 44 45.4	-1.3

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*AFAD **14** 14:50:14.9±0.0, 35°.83N×28°.17E, h6km±3km, ML2.0*
ISK 14 14:50:13.5, 35°.80N×28°.25E, h6km, ML2.0/7, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.42**	**346**	Pg	Pg	14 50 22.2	+0.4
ARG				Sg	Sb	14 50 29.5	-0.6
KARP	**Karpathos**	**0.92**	**254**	Pg	Pb	14 50 31.8	-0.1
TURN	**Turunc**	**0.97**	**360**	P	Pn	14 50 34.3	+0.7
TURN				S	Sn	14 50 50.2	+2.5
IZZE	**Mula-Seydike**	**1.01**	**51**	P	Pb	14 50 33.8	+0.4
IZZE				S	Sn	14 50 49.5	+0.8
FETY	**Fethiye**	**1.07**	**39**	Pg	Pg	14 50 34.1	+0.1
FETY				Sg	Sn	14 50 49.9	-0.3
DAT	**Datca**	**1.07**	**330**	Pg	Pb	14 50 34.5	0.0
DAT	**Datca**	**1.07**	**330**	P	Pb	14 50 34.4	-0.1
DAT				S	Sb	14 50 48.7	-0.1
DAT				*i* AML	AML	14 50 52.0	
	comp=N,33nm,0.2s						
YAZI	**Mula-Datša-**	**1.09**	**324**	P	Pg	14 50 34.4	0.0
YAZI				S	Sb	14 50 49.3	+0.1
YAZI				*i* AML	AML	14 50 56.0	
	comp=N,50nm,0.5s						
YAZI				*i* AML	AML	14 50 56.0	
	comp=E,50nm,0.4s						
SABU	**Mula-Dalaman**	**1.17**	**29**	P	Pn	14 50 37.2	+0.7
SABU				S	Sn	14 50 55.0	+2.3
SABU				*i* AML	AML	14 51 04.0	
	comp=N,31nm,1.0s						
CAME	**Cameli-Denizli**	**1.42**	**36**	Pn	Pb	14 50 40.3	-0.1
BODT	**Bodrum**	**1.47**	**329**	Pn	Pb	14 50 41.0	-0.2
DNZT	**Denizli-Tavas-**	**1.60**	**23**	P	Pg	14 50 48.4	+2.3
TAVA	**DENIZLI_Tavas**	**1.74**	**18**	P	Pg	14 51 11.3	+1.7
TAVA				S	Sg	14 51 11.3	+1.7
ZKR	**Zakros**	**1.80**	**248**	Pn	Pn	14 50 45.9	+0.9

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*NEIC **14** 14:50:52.4±1.3, 19°.41N±0°.01×155°.25W±0°.04, h2km±2km, Error ellipse: s-maj=5.3km s-min=1.4km az=103.0*
HVO 14 14:50:51.9±0.8, 19°.400N±0°.009×155°.29W±0°.01, h1km±3km, ML3.2/3, ML2.2/36(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=98.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDHHI	**Sand Hill**	**0.01**	**203**		Pg	14 50 52.9	+0.4
WRMHI	**West Rim**	**0.01**	**303**		Pg	14 50 52.6	+0.1
NPH	**North Pit**	**0.01**	**33**		Pg	14 50 52.6	+0.1
NPH				IAML		14 50 52.8	
	comp=N,6μm,0.5s						
RIM	**Rim**	**0.01**	**108**	IAML		14 50 52.4	
	comp=N,4μm,1.0s						
RIM				IAML		14 50 52.4	
	comp=E,5μm,0.6s						
RIM					Pg	14 50 52.9	+0.4
OBL	**Observatory Le**	**0.02**	**16**		Pg	14 50 52.6	+0.1
OBL				IAML		14 50 52.9	
	comp=E,5μm,0.6s						
OBL				IAML		14 50 53.1	
	comp=N,11μm,0.4s						
UWE	**Uwekahuna**	**0.02**	**351**	Pg	Pg	14 50 52.7	+0.2
UWE				IAML		14 50 52.7	
	comp=N,8μm,0.8s						
KKO	**Keanakako`i**	**0.02**	**96**	IAML		14 50 52.6	
	comp=E,4μm,1.0s						
KKO					Pg	14 50 53.0	+0.5
UWB	**Uwekahuna B**	**0.03**	**23**		Pg	14 50 53.5	+0.9
BYL	**Byron's Ledge**	**0.03**	**67**		Pg	14 50 53.4	+0.8
SBLHI	**Steaming Bluff**	**0.03**	**37**	IAML		14 50 53.2	
	comp=E,4μm,0.8s						
SBLHI					Pg	14 50 53.2	+0.6
HATHI	**Halema'uma'u T**	**0.04**	**49**		Pg	14 50 52.9	+0.2
HATHI					Sg	14 50 53.4	+0.2
RSD	**Rainshed**	**0.06**	**10**	IAML		14 50 53.4	
	comp=E,2μm,1.1s						
RSD				IAML		14 50 53.9	
	comp=N,3μm,3.6s						
RSD				Pg	Pg	14 50 53.9	+0.6
PUH	**Pauahi**	**0.07**	**110**	Pg	Pg	14 50 54.2	+0.7
PUH				IAML		14 50 54.8	
	comp=N,2μm,0.9s						
PUH				IAML		14 50 55.2	
	comp=E,2μm,0.8s						
HLP	**Hilina Pali**	**0.10**	**190**		Sg	14 50 57.3	+2.0
HLP	**Hilina Pali**	**0.10**	**190**		Pg	14 50 55.0	+1.0
MLH	**Mauna Loa**	**0.13**	**316**		Sg	14 50 58.4	+2.1
MLH	**Mauna Loa**	**0.13**	**316**		Pg	14 50 55.5	+1.0
MLH				IAML		14 50 58.4	
	comp=E,1μm,1.1s						
MLH	**Mauna Loa**	**0.13**	**316**	IAML		14 50 58.4	
	comp=N,991nm,1.0s						
STCH	**Steam Cracks**	**0.16**	**95**		Pg	14 50 55.5	+0.6
STCH	**Steam Cracks**	**0.16**	**95**	IAML		14 50 56.8	
	comp=E,608nm,0.7s						
STCH				IAML		14 50 59.7	
	comp=N,1μm,1.4s						
HTC	**Hot Caves**	**0.19**	**212**		Pg	14 50 56.5	+0.8
HMH	**Humu'ula Sheep**	**0.27**	**318**		Pg	14 50 57.9	+0.7
HMH				IAML		14 50 58.9	
	comp=E,338nm,1.6s						
HMH				IAML		14 50 58.9	
	comp=N,420nm,0.9s						
HMH	**Humu'ula Sheep**	**0.27**	**318**		Sg	14 51 02.5	+1.7
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	14 50 57.6	-0.2
KHU	**Kahuku**	**0.34**	**244**		Pg	14 50 58.9	+0.3
HUH	**Hualalai**	**0.59**	**299**	Pg	Pg	14 51 03.4	+0.2

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*SJA **14** 15:01:26.3±0.7, 30°.33S×71°.61W, h27km±3km, ML3.3, MW3.5*
*GUC **14** 15:01:29.3±0.6, 30°.35S×71°.29W, h48km±3km, ML3.4*
ISC 14 15:01:28.0±1.3, 30°.32S±0°.02×71°.33W±0°.04, h17km±10km, n38, σ1§85/63, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CO05	**La Serena**	**0.41**	**12**	*i* P	**Pn**	**15 01 40.2**	**+1.0**
CO05				*e*S	**Sn**	**15 01 48.1**	**+1.7**
CO05				IAML		15 01 48.8	
	comp=N,1μm,0.1s						
CO06	**Fray Jorge**	**0.44**	**216**	*i* P	**Pn**	**15 01 39.9**	**+0.3**
CO06				*e*S	**Sn**	**15 01 47.7**	**+0.5**
CO06				IAML		15 01 50.6	
	comp=E,2μm,0.3s						
GO04	**Tololo Observa**	**0.48**	**72**	*e*P	**Pn**	**15 01 41.2**	**+0.7**
GO04	**Tololo Observa**	**0.48**	**72**	*e*P	**Pn**	**15 01 40.9**	**+0.5**
GO04				*e*S	**Sn**	**15 01 49.4**	**+0.7**
GO04				IAML		15 01 50.1	
	comp=E,8μm,0.1s						
CO03	**El Pedregal**	**0.76**	**133**	*e*P	**Pn**	**15 01 43.8**	**-0.3**
CO03				IAML		15 01 58.5	
	comp=Z,434nm,0.2s						
CO03	**El Pedregal**	**0.76**	**133**	*i* P	**Pn**	**15 01 43.7**	**-0.3**
CO03				*e*S	**Sn**	**15 01 54.6**	**-0.6**
CO03				IAML		15 01 55.0	
	comp=E,4μm,0.3s						
CO02	**Combarbal**	**0.93**	**162**	*e*P	**Pb**	**15 01 45.9**	**+0.1**
CO02				*e*S	**Sg**	**15 01 58.5**	**+0.3**
CO02				IAML		15 02 00.9	
	comp=Z,1μm,0.1s						
CO02	**Combarbal**	**0.93**	**162**	*i* P	**Pg**	**15 01 46.0**	**0.0**
CO02				*e*S	**Sg**	**15 01 58.3**	**0.0**
CO02				IAML		15 02 02.0	
	comp=E,5μm,0.2s						
LCO	**Las Campanas**	**1.42**	**23**	*e*P	**Pn**	**15 01 53.7**	**+0.4**
LCO				*e*S	**Sg**	**15 02 15.2**	**+1.4**
LCO				IAML		15 02 22.7	
	comp=Z,720nm,0.4s						
LCO	**Las Campanas**	**1.42**	**23**	*i* P	**Pn**	**15 01 53.6**	**+0.3**
LCO				*e*S	**Sb**	**15 02 12.7**	**+0.6**
LCO				IAML		15 02 16.0	
	comp=Z,2μm,0.3s						
AROD	**Rodeo**	**1.62**	**85**	*e*P	**Pn**	**15 01 55.8**	**-0.4**
AC05	**El Transito**	**1.74**	**32**	*e*P	**Pn**	**15 01 58.9**	**+1.2**
AC05				*e*S	**Sb**	**15 02 21.6**	**+0.3**
AC05				IAML		15 02 27.9	
	comp=Z,107nm,0.3s						
ACDV	**Cuesta del Vie**	**1.92**	**86**	*e*P	**Pb**	**15 02 03.3**	**+0.6**
ACDV				IAML		15 02 40.1	
	comp=Z,77nm,0.5s						
ACCO	**Cerro Coronel**	**1.98**	**98**	*e*P	**Pb**	**15 02 04.2**	**+0.4**
DOCA	**Reserva Natura**	**2.04**	**108**	*e*P	**Pn**	**15 01 58.9**	**-3.1**
DOCA				*e*P	**Pn**	**15 02 05.1**	**+3.1**
DOCA				*e*S	**Sn**	**15 02 22.4**	**-4.8**
DOCA				IAML		15 02 40.4	
	comp=Z,316nm,0.6s						
AC04	**Llanos de Chal**	**2.12**	**6**	*e*P	**Pn**	**15 02 03.4**	**+0.7**
AC04				IAML		15 02 37.6	
	comp=Z,111nm,0.6s						
AC04	**Llanos de Chal**	**2.12**	**6**	*i* P	**Pn**	**15 02 03.4**	**+0.7**
AC04				*e*S	**Sn**	**15 02 28.5**	**-0.2**
AC04				IAML		15 02 37.7	
	comp=E,123nm,0.2s						
VA03	**San Esteban**	**2.53**	**165**	*e*P	**Pn**	**15 02 09.3**	**+0.9**
VA03				*e*S	**Sb**	**15 02 44.6**	**+0.8**
VA03				IAML		15 02 48.5	
	comp=Z,196nm,0.2s						
VA03	**San Esteban**	**2.53**	**165**	*e*P	**Pn**	**15 02 09.4**	**+0.9**
VA03				*e*S	**Sn**	**15 02 38.2**	**-0.6**
VA03				IAML		15 02 45.6	
	comp=E,410nm,0.5s						
ZON	**Zonda**	**2.59**	**119**	*e*P	**Pn**	**15 02 11.2**	**+2.0**
ZON				IAML		15 02 52.4	
	comp=Z,59nm,0.3s						
AGUA	**GUANDACOL**	**2.60**	**72**	*e*P	**Pb**	**15 02 13.5**	**-0.9**
AGUA				IAML		15 02 52.4	
	comp=Z,89nm,0.6s						
RTLL	**Cerro Villicun**	**2.66**	**113**	*e*P	**Pn**	**15 02 12.8**	**+2.7**
RTLL				IAML		15 02 52.0	
	comp=Z,85nm,0.4s						
ROCH	**El Roble**	**2.66**	**174**	*e*P	**Pn**	**15 02 10.7**	**+0.3**
ROCH				*e*S	**Sn**	**15 02 44.1**	**+1.7**
ROCH				IAML		15 02 50.6	
	comp=N,316nm,0.5s						
ROC1	**El Roble**	**2.66**	**174**	*e*P	**Pn**	**15 02 10.7**	**+0.3**
ROC1				*e*S	**Sb**	**15 02 47.3**	**-0.6**
VA01	**Torpederas**	**2.71**	**186**	*e*P	**Pn**	**15 02 09.5**	**-1.3**
VA01				IAML		15 02 52.7	
	comp=Z,67nm,0.3s						
PEL	**Peldehue**	**2.87**	**169**	*e*P	**Pn**	**15 02 15.2**	**+2.1**
PEL				*e*S	**Sn**	**15 02 47.5**	**+0.2**
GO03	**Copiap**	**2.88**	**20**	*e*P	**Pn**	**15 02 14.6**	**+1.3**
GO03				*e*S	**Sn**	**15 02 48.5**	**+0.9**
MT02	**Curacav**	**2.94**	**177**	*e*P	**Pn**	**15 02 13.9**	**-0.1**
MT02				*e*S	**Sb**	**15 02 55.2**	**-0.3**
MT02				IAML		15 03 01.2	
	comp=Z,79nm,0.3s						
MT02	**Curacav**	**2.94**	**177**	*i* P	**Pn**	**15 02 13.3**	**-0.7**
MT02				*e*S	**Sn**	**15 02 46.8**	**-2.0**
MT02				IAML		15 02 49.2	
	comp=E,40nm,0.1s						
MT05	**Renca**	**3.10**	**171**	*e*S	**Sb**	**15 03 03.3**	**+2.8**
MT05				IAML		15 03 03.8	
	comp=Z,144nm,0.3s						
ASAL	**Salagasta**	**3.11**	**137**	*e*P	**Pn**	**15 02 19.8**	**+3.3**
ASAL				*e*S	**Sb**	**15 02 58.3**	**-2.4**
VCA	**Vinchina**	**3.15**	**61**	*e*P	**Pb**	**15 02 21.0**	**-2.7**
VCA				IAML		15 03 09.6	
	comp=Z,207nm,0.6s						
ARCO	**CERRO ARCO**	**3.24**	**141**	*e*S	**Sb**	**15 03 04.0**	**-0.6**
ARCO				IAML		15 03 11.5	
	comp=Z,55nm,0.7s						
MT01	**Popeta**	**3.53**	**179**	*e*P	**Pn**	**15 02 22.2**	**+0.1**
MT01				*e*S	**Sn**	**15 02 59.8**	**-3.8**
MT01				IAML		15 03 15.1	
	comp=Z,58nm,0.2s						
BO01	**Tunca**	**4.07**	**177**	*e*P	**Pn**	**15 02 30.3**	**+0.8**
BO01				*e*S	**Sn**	**15 03 21.0**	**+4.3**
BO01				IAML		15 03 27.4	
	comp=Z,35nm,0.7s						
AC01	**Pan de Azucar**	**4.21**	**9**	*e*P	**Pn**	**15 02 30.4**	**-1.1**
AC01				*e*S	**Sg**	**15 03 40.9**	**-2.3**
AC01				IAML		15 03 48.2	
	comp=Z,23nm,0.6s						
BO02	**Sierra Bellavi**	**4.48**	**174**	*e*S	**Sn**	**15 03 22.2**	**-4.9**
BO02				IAML		15 03 42.1	
	comp=Z,46nm,0.5s						
RFA	**San Rafael**	**5.05**	**152**	*e*P	**Pn**	**15 02 45.4**	**+2.2**
RFA				*e*S	**Sn**	**15 03 44.9**	**+3.7**
RFA				IAML		15 03 51.5	
	comp=Z,6.2nm,1.2s						

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*JMA **14** 15:12:16.1±0.9, 20°.N±4°.×12°.2E±°, h0km, MV5.1/26, PHILIPPINE ISL REGION*
*DJA **14** 15:12:17.3±0.4, 20°.N±2°.×12°.1E±°, h16km±3km, M4.7/23, mb4.9/23, mB5.2/11, MLv4.9/5, Mw(mB)4.6/11, MwMwp4.3/1, Mwp4.8/1*
*NEIC **14** 15:12:19.8±1.3, 19°.96N±0°.06×121°.28E±0°.08, h31km±5km, mb4.8/138, Error ellipse: s-maj=10.4km s-min=8.6km az=92.0*
*BJI **14** 15:12:19.4±0.0, 20°.08N×121°.20E, h33km, mb4.5/65, mB4.8/42, ML4.3/4, Ms4.3/64, Ms7.4/62*
*GCMT **14** 15:12:19.8±0.4, 19°.96N±0°.02×121°.08E±0°.03, h30km±1km, MW4.9/75, Moment Tensor Solution. s11,c12; s75,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.40±.20; $M_{\theta\theta}$0.30±.11; $M_{\phi\phi}$-1.71±.12; $M_{r\theta}$-1.30±.16; $M_{\theta\phi}$-0.64±.06; $M_{\phi r}$-1.65±.15; Best double couple: $M_0$2.69200×10^{16} NP1:ϕ_s215.00000°, δ72.00000°, λ106.00000°. NP2: ϕ_s352.00000°, δ24.00000°, λ50.00000°. Principal axes: T 2.5540, Plg60.0000°, Azm147.0000°; N 0.2720, Plg15.0000°, Azm30.0000°; P -2.8310, Plg26.0000°, Azm293.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **14** 15:12:21.8±2.2, 19°.81N×121°.43E, h60km±19km, mb4.3/27, mbtmp4.6/30, MS4.0/46 Error ellipse: s-maj=15.7km s-min=9.0km az=73.0*
ISC 14 15:12:19.7±0.3, 19°.88N±0°.03×121°.30E±0°.04, h36km±1km, h37km:pP-P, n624, σ1§15/634, mb4.8/117, MS4.1/53, 3C-4D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWGBT	**Beinan**	**2.93**	**356**	P	**Pn**	**15 13 02.8**	**-0.9**
TWG	**Pinlang**	**2.93**	**356**	Pn	**Pn**	**15 13 01.3**	**-2.4**
TPUB	**Ta-pu**	**3.46**	**350**	P	**Pn**	**15 13 09.3**	**-1.7**
TPUB	**Ta-pu**	**3.46**	**350**		**Pn**	**15 13 09.0**	**-2.0**
YULB	**Yu-li**	**3.49**	**360**	P	**Pn**	**15 13 10.5**	**-1.0**
YULB	**Yu-li**	**3.49**	**360**		**Pn**	**15 13 10.1**	**-1.4**
SSLB	**Suanglung**	**3.90**	**355**	P	**Pn**	**15 13 16.0**	**-1.1**
SSLB	**Suanglung**	**3.90**	**355**		**Pn**	**15 13 15.8**	**-1.3**
NACB	**Ninganchiao**	**4.28**	**4**	P	**Pn**	**15 13 21.5**	**-0.8**
NACB	**Ninganchiao**	**4.28**	**4**		**Pn**	**15 13 21.1**	**-1.2**
HATJ	**Hateruma jima**	**4.76**	**29**	*e*P	**Pn**	**15 13 28.6**	**-0.2**
HATJ				*e*S	**Sn**	**15 14 22.1**	**-0.8**
YHNB	**Yeheng**	**4.76**	**1**	P	**Pn**	**15 13 29.4**	**+0.4**
YHNB	**Yeheng**	**4.76**	**1**		**Pn**	**15 13 28.7**	**-0.4**
JYNG	**Yonagunijimaku**	**4.79**	**18**	P	**Pn**	**15 13 28.5**	**-0.9**
JYNG				*e*S	**Sn**	**15 14 23.3**	**-0.4**
YOJ	**Yonaguni jima**	**4.82**	**19**	P	**Pn**	**15 13 29.2**	**-0.6**
YOJ	**Yonaguni jima**	**4.82**	**19**		**Pn**	**15 13 29.1**	**-0.7**
YOJ	**Yonaguni jima**	**4.82**	**19**	P	**Pn**	**15 13 29.7**	**-0.1**
IRIF	**Iriomote-Funau**	**4.97**	**27**	P	**Pn**	**15 13 30.7**	**-1.1**
IRIF				*e*S	**Sn**	**15 14 26.3**	**-1.7**
JKRS	**Kuro-shima**	**5.01**	**30**	*e*P	**Pn**	**15 13 31.5**	**-0.8**
JKRS				S	**Sn**	**15 14 28.1**	**-0.9**
TATO	**Taipei**	**5.07**	**2**	P	**Pn**	**15 13 33.4**	**+0.2**
TATO	**Taipei**	**5.07**	**2**		**Pn**	**15 13 32.8**	**-0.3**
JIJ	**Ishigaki jima**	**5.18**	**30**	P	**Pn**	**15 13 33.0**	**-1.7**
JIJ				*e*S	**Sn**	**15 14 31.1**	**-2.1**
KNMB	**Chin-men Tao**	**5.30**	**330**		**Pn**	**15 13 33.5**	**-2.8**
JISG	**Ishigakijimahi**	**5.45**	**30**	P	**Pn**	**15 13 36.5**	**-1.8**
QZH	**Quanzhou**	**5.62**	**334**	Pn	**Pn**	**15 13 38.0**	**-2.8**
QZH				Sn	**Sn**	**15 14 36.8**	**-7.3**
QZH				smax	smax		
	comp=N,63nm,0.4s						
QZH				smax	smax		
	comp=E,110nm,0.4s						
QZH				LR	LR		
	comp=N,2μm,16.2s						
QZH				LR	LR		
	comp=E,1μm,14.1s						
QZH				LR	LR		
	comp=Z,2μm,19.9s						
JTJ	**Tarama**	**5.69**	**33**	P	**Pn**	**15 13 42.4**	**+0.8**
JTJ				S	**Sn**	**15 14 44.7**	**-1.0**
TGY	**Tagaytay City**	**5.76**	**184**	P	**Pn**	**15 13 43.1**	**+0.4**
	125nm,0.3s,baz=147,slow=13,SNR=2.1						
TGY				LR	LR	15 16 26.4	
	comp=Z,2μm,19.9s,baz=17,slow=43						
JMJ	**Miyako jima 2**	**6.14**	**36**	P	**Pn**	**15 13 47.5**	**-0.4**
JOGS	**Gusukube**	**6.16**	**37**	P	**Pn**	**15 13 48.6**	**+0.4**
JOGS				*e*S	**Sn**	**15 14 58.3**	**+0.8**
HPKS	**Hong Kong Po S**	**7.10**	**291**	P	**Pn**	**15 13 58.3**	**-2.7**
HKPS	**Hong Kong Po S**	**7.10**	**291**		**Pn**	**15 13 58.2**	**-2.7**
JKE	**Kume jima 2**	**8.16**	**37**	*e*P	**Pn**	**15 14 15.6**	**0.0**
JAGN	**Aguni-jima**	**8.62**	**38**	*e*P	**Pn**	**15 14 23.7**	**+1.8**
JIH	**Iheya**	**9.38**	**39**	P	**Pn**	**15 14 31.0**	**-1.4**
JIH				*e*S	**Sn**	**15 16 14.1**	**-2.6**
JOW	**Kunigami**	**9.43**	**41**	P	**Pn**	**15 14 31.3**	**-1.7**
	28nm,0.3s,baz=198,slow=11,SNR=51						
JOW				S	**Sn**	**15 16 14.4**	**-3.3**
	6.6nm,0.3s,baz=134,slow=28,SNR=1.7						
JOW				LR	LR	15 18 07.5	
	comp=Z,610nm,19.5s,baz=232,slow=37						
JOW	**Kunigami**	**9.43**	**41**	*e*P	**Pn**	**15 14 32.1**	**-0.9**
JTK	**Tokunoshima**	**10.53**	**40**	P	**Pn**	**15 14 46.0**	**-2.0**
QIZ	**Qiongzhong**	**10.84**	**267**	P	Pn	15 14 49.2	-3.2
QIZ	**Qiongzhong**	**10.84**	**267**	P	**Pn**	**15 14 50.4**	**-2.0**
QIZ				S	**Sn**	**15 16 53.9**	**+1.4**
QIZ				pmax	pmax		
	comp=Z,22nm,0.4s						
QIZ				LR	LR		
	comp=N,670nm,13.5s						
QIZ				LR	LR		
	comp=E,720nm,10.9s						
QIZ				LR	LR		
	comp=Z,880nm,13.2s						
QIZ	**Qiongzhong**	**10.84**	**267**	Pn	**Pn**	**15 14 50.8**	**-1.6**
JMZ	**Minamidaito 2**	**10.89**	**55**	P	**Pn**	**15 14 54.5**	**+1.5**
JMZ	**Minamidaito 2**	**10.89**	**55**	Pn	**Pn**	**15 14 51.6**	**-1.4**
JAMN	**Amaminishikomi**	**11.00**	**39**	P	**Pn**	**15 14 52.6**	**-1.8**
NJ2	**Nanjing**	**12.31**	**350**	*e*P	**Pn**	**15 15 13.8**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,66nm,3.5s						
NJ2				LR	LR		
	comp=N,790nm,20.8s						
NJ2				LR	LR		
	comp=E,580nm,16.1s

TIA Tai'an 16.68 348 P **Pn** **15 16 11.8 +1.2**
TIA pmax pmax
comp=Z,74nm,2.4s
TIA LR LR
comp=Z,310nm,17.9s
TIA LR LR
comp=Z,360nm,18.0s
TIA LR LR
comp=Z,500nm,19.2s
TJN Taejon 17.27 17 P **P** **15 16 18.8 -0.4**
TJN Taejon 17.27 17 P **P** **15 16 18.9 -0.4**
TJN IAmb IAmb 15 16 20.5
comp=Z,91nm,0.7s
JMN Monobe 17.76 37 P **P** **15 16 26.1 +1.4**
JMN Monobe 17.76 37 P **P** **15 16 24.1 -0.6**
XAN Xi'an 17.88 325 ⇑P **Pn** **15 16 25.8 +0.2**
XAN pP pP 15 16 35.0 +0.4
XAN pmax pmax
comp=Z,31nm,1.2s
XAN pmax pmax
comp=Z,500nm,7.0s
XAN LR LR
comp=Z,1μm,17.2s
XAN LR LR
comp=Z,610nm,17.9s
XAN LR LR
comp=Z,1μm,15.1s
KMI Kunming 17.92 290 ⇓P **Pn** **15 16 25.6 -0.8**
KMI S **Sn** **15 19 45.1 -0.2**
KMI pmax pmax
comp=Z,16nm,1.9s
KMI LR LR
comp=Z,400nm,14.4s
KMI LR LR
comp=Z,690nm,14.5s
KMI LR LR
comp=Z,720nm,14.5s
JHS Saijyo 18.32 32 P **P** **15 16 30.3 -0.5**
HNS HongShan 18.38 343 ⇓P **Pn** **15 16 32.5 +0.9**
HNS pmax pmax
comp=Z,44nm,1.3s
HNS pmax pmax
comp=Z,560nm,4.3s
HNS LR LR
comp=Z,380nm,17.5s
HNS LR LR
comp=Z,890nm,17.9s
HNS LR LR
comp=Z,800nm,20.4s
KSAR Wonju Array Be 18.41 17 P **P** **15 16 31.3 -0.5**
KSRS Korea Array 18.44 17 P **P** **15 16 31.9 -0.1**
comp=Z,8.1nm,0.3s,baz=194,slow=11,SNR=75
KSRS LR LR 15 24 55.0
comp=Z,210nm,18.9s,baz=210,slow=41
KS19 Wonju Array Si 18.47 17 **P** **15 16 31.9 -0.5**
TOLI2 Tolitoli 18.66 182 P **P** **15 16 35.1 +0.4**
TOLI2 Tolitoli 18.66 182 P **P** **15 16 34.8 +0.1**
PZH PanZhiHua 19.14 294 P **P** **15 16 41.3 +1.3**
PZH pmax pmax
comp=Z,10.0nm,1.4s
PZH pmax pmax
comp=Z,320nm,5.0s
PZH LR LR
comp=Z,440nm,19.1s
PZH LR LR
comp=Z,430nm,18.0s
PZH LR LR
comp=Z,450nm,15.7s
GTOI Gorontalo 19.20 175 P **P** **15 16 39.5 -1.1**
comp=Z,14nm,0.8s
CD2 Chengdu 19.25 308 P **P** **15 16 42.9 +1.8**
CD2 pP pP 15 16 52.0 +2.0
CD2 sP sP 15 16 57.6 +4.0
CD2 S **S** **15 20 12.5 -4.8**
CD2 sS Sn 15 20 24.6 +7.4
CD2 SS **SnSn** **15 20 38.5 +7.0**
CD2 pmax pmax
comp=Z,300nm,4.7s
CD2 LR LR
comp=Z,750nm,12.6s
CD2 LR LR
comp=Z,920nm,13.9s
CD2 LR LR
comp=Z,1μm,16.7s
KMSI Cibinong 19.37 172 P **P** **15 16 42.8 +0.4**
comp=Z,140nm,0.9s,comp=Z,1μm
TIY Taiyuan 19.37 338 *e*P **Pn** **15 16 45.3 +1.6**
TIY pmax pmax
comp=Z,210nm,4.1s
TIY LR LR
comp=Z,620nm,15.2s
TIY LR LR
comp=Z,550nm,17.7s
TIY LR LR
comp=Z,930nm,15.3s
SBUM Sibu 19.47 208 **P** **15 16 44.8 +1.3**
MPSI Mapaga 19.47 184 P **P** **15 16 44.2 +0.6**
comp=Z,9.7nm,0.7s,comp=Z,421nm
MPSI pP **Pn** **15 16 48.5 +3.5**
comp=Z,9.7nm,0.7s,comp=Z,421nm
CRAI Chiangrai 19.66 275 **P** **15 16 46.1 +0.4**
PHRA Phrae 19.95 270 **P** **15 16 49.4 +0.6**
JCJ Chichijima 20.44 66 P Pn 15 16 56.2 -0.1
JCJ Chichijima 20.44 66 P **P** **15 16 53.1 -0.9**
JCJ Chichijima 20.44 66 LR LR 15 23 22.7
comp=Z,189nm,21.1s,baz=240,slow=32
BJT Baijiatuau 20.55 349 P **P** **15 16 55.0 -0.1**
BJT Baijiatuau 20.55 349 P **P** **15 16 54.4 -0.6**
BJT IAmb IAmb 15 17 00.0
comp=Z,47nm,0.8s
BJI Beijing 20.57 349 P **P** **15 16 55.8 +0.5**
BJI sP **pwP** **15 17 08.8 +0.6**
BJI S **S** **15 20 41.3 -2.0**
BJI pmax pmax
comp=Z,31nm,0.9s
BJI pmax pmax
comp=Z,83nm,3.5s
BJI LR LR
comp=Z,170nm,19.8s
BJI LR LR
comp=Z,140nm,18.1s
BJI LR LR
comp=Z,250nm,19.9s
LUWI Luwuk 20.84 176 P **P** **15 16 59.3 +0.8**
JGF Kuroka 21.10 39 P **P** **15 17 02.5 +1.4**
JGF Kuroka 21.10 39 **P** **15 17 01.8 +0.6**
CHTO Chiang Mai 21.12 271 P **P** **15 17 01.6 +0.1**
CHTO IAmb IAmb 15 17 06.4
comp=Z,53nm,1.6s
CM31 Chiang Mai Arr 21.16 270 P **P** **15 17 02.5 +0.5**
CM31 IAmb IAmb 15 17 07.2
comp=Z,50nm,1.6s
CMAR Chiang Mai Arr 21.16 270 P **P** **15 17 02.3 +0.3**
CMAR Chiang Mai Arr 21.16 270 P **P** **15 17 03.0 +1.0**
comp=Z,2.9nm,0.8s,baz=74,slow=8.4,SNR=30
CMAR PcP **PcP** **15 21 06.8 -0.1**
comp=Z,0.9nm,0.5s,baz=19,slow=0.4,SNR=6.9
CMAR LR LR 15 25 20.3
comp=Z,316nm,20.3s,baz=75,slow=37
comp=Z,2.9nm,0.8s
LBMI Labuha 21.28 163 P **P** **15 17 04.4 +1.2**
comp=Z,33nm,0.8s
MTKI Muara Teweh, K 21.63 198 P **P** **15 17 08.6 +1.7**
comp=Z,58nm,0.8s
TNCH TengChong 21.66 288 ⇓P **P** **15 17 09.0 +1.6**
TNCH pP pP 15 17 11.8 -4.6
TNCH S **S** **15 21 03.1 -2.4**
TNCH pmax pmax
comp=Z,23nm,0.6s
TNCH pmax pmax
comp=Z,180nm,3.8s
TNCH LR LR
comp=Z,290nm,11.1s
TNCH LR LR
comp=Z,520nm,13.8s
TNCH LR LR
comp=Z,970nm,15.3s
SRDT SRDT 21.89 259 P **P** **15 17 08.4 -1.3**
SNY Shenyang 21.96 5 ⇑P **P** **15 17 11.0 +0.8**
SNY S **S** **15 21 12.3 +1.6**
SNY pmax pmax
comp=Z,18nm,0.6s
SNY pmax pmax
comp=Z,100nm,3.7s
SNY LR LR
comp=Z,240nm,12.9s
SNY LR LR
comp=Z,190nm,19.8s
SNY LR LR
comp=Z,470nm,14.9s
MJAR Matsushiro Arr 22.25 38 P **P** **15 17 14.3 +0.8**
comp=Z,6.7nm,1.0s,baz=227,slow=8.0,SNR=14
comp=Z,6.7nm,1.0s
LZH Lanzhou 22.26 320 ⇑P **P** **15 17 15.3 +1.5**
LZH pP pP 15 17 24.1 +1.3
LZH S **S** **15 21 11.9 -4.9**
LZH pmax pmax
comp=Z,40nm,1.5s
LZH LR LR
comp=Z,310nm,13.7s
LZH LR LR
comp=Z,780nm,15.5s
LZH LR LR
comp=Z,740nm,14.8s
HHC Hu-ho-hao-te 22.49 340 *e*P **P** **15 17 15.3 -0.8**
HHC S **S** **15 21 17.8 -2.9**
HHC LR LR
comp=Z,710nm,13.8s
HHC LR LR
comp=Z,360nm,13.8s
HHC LR LR
comp=Z,310nm,13.7s
BTO Baotou 22.80 337 *e*P **P** **15 17 20.0 +0.7**
BTO pmax pmax
comp=Z,29nm,0.8s
BTO pmax pmax
comp=Z,420nm,4.4s
SWI Sorong 22.81 154 P **P** **15 17 19.2 -0.4**
comp=Z,25nm,0.8s,comp=Z,672nm
TTSI Tana Toraja 22.83 184 P **P** **15 17 19.6 -0.1**
comp=Z,20nm,0.9s
JSD Sado 23.33 36 P **P** **15 17 23.6 -1.0**
GUMO Guam 23.41 102 LR LR 15 26 23.6
comp=Z,381nm,19.5s,baz=268,slow=36
CN2 Changchun 24.10 7 P **P** **15 17 30.3 -1.6**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,500nm,16.0s
CN2 LR LR
comp=Z,400nm,16.0s
CN2 LR LR
comp=Z,600nm,15.0s
XLT XiLinHaoTe 24.34 351 *e*P **P** **15 17 33.8 -0.4**
XLT sP pP 15 17 45.8 +2.3
XLT S **S** **15 21 50.6 -0.6**
XLT SS **SnSn** **15 22 39.6 +3.4**
XLT pmax pmax
comp=Z,39nm,1.0s
XLT LR LR
comp=Z,390nm,21.3s
XLT LR LR
comp=Z,300nm,24.3s
JMM Marumori 24.66 39 P **P** **15 17 36.2 -0.9**
JMM IAmb IAmb 15 17 37.1
comp=Z,42nm,1.1s
KAPI Kappang 24.79 184 LR LR 15 27 38.8
comp=Z,308nm,21.0s,baz=346,slow=37
FAKI Fak Fak 25.08 153 P **P** **15 17 41.7 +0.6**
FAKI Fak Fak 25.08 153 P **P** **15 17 40.7 -0.4**
FAKI IAmb IAmb 15 17 50.4
comp=Z,15nm,0.8s
MDJ Mudanjiang 25.61 14 P **P** **15 17 45.3 -0.3**
MDJ pP pP 15 17 52.1 -2.8
MDJ sP pwP 15 17 56.9 -2.1
MDJ PP **PnPn** **15 18 22.3 -0.2**
MDJ PcP **PcP** **15 21 13.4 -2.4**
MDJ S **S** **15 22 15.1 +3.8**
MDJ SS **SnSn** **15 23 15.0 +7.9**
MDJ PcS **PcS** **15 24 54.3 -2.0**
MDJ pmax pmax
comp=Z,21nm,1.2s
MDJ pmax pmax
comp=Z,96nm,9.4s
MDJ LR LR
comp=Z,380nm,19.3s
MDJ LR LR
comp=Z,310nm,19.1s
MDJ LR LR
comp=Z,270nm,21.6s
MDJ Mudanjiang 25.61 14 P **P** **15 17 44.7 -0.8**
MDJ IAmb IAmb 15 17 46.6
comp=Z,20nm,1.0s
USA0B Ussuriysk Arra 25.84 18 P **P** **15 17 47.3 -0.4**
USRK Ussuriysk Ar. 25.84 18 P **P** **15 17 47.0 -0.7**
USRK Ussuriysk Ar. 25.84 18 P **P** **15 17 47.9 +0.3**
comp=Z,4.7nm,0.5s,baz=193,slow=9.5,SNR=13
USRK LR LR 15 28 49.5
comp=Z,247nm,20.6s,baz=201,slow=38
comp=Z,4.7nm,0.5s
BNX BinXian 26.27 10 ⇓P **P** **15 17 51.6 0.0**
BNX pmax pmax
comp=Z,8.0nm,0.8s
BNX pmax pmax
comp=Z,93nm,7.6s
JTM Tenmabayashi 26.81 35 P **P** **15 17 55.4 -1.0**
GTA Gaotai 26.85 321 P **P** **15 17 57.0 0.0**
GTA pP pP 15 18 05.5 -1.0
GTA pmax pmax
comp=Z,8.0nm,1.9s
GTA pmax pmax
comp=Z,120nm,7.3s
GTA LR LR
comp=Z,300nm,14.5s
GTA LR LR
comp=Z,250nm,14.2s
GTA LR LR
comp=Z,430nm,14.5s
GOMU GeErMu 28.34 311 P **P** **15 18 12.3 +1.6**
GOMU pP pP 15 18 17.6 -2.5
GOMU sP sP 15 18 19.6 -4.5
GOMU S **S** **15 22 55.8 +0.5**
GOMU sS sS 15 23 11.6 +0.2
GOMU pmax pmax
comp=Z,14nm,1.3s
GOMU LR LR
comp=Z,510nm,16.8s
GOMU LR LR
comp=Z,1μm,17.9s
GOMU LR LR
comp=Z,2μm,19.2s
EDFI Ende, Flores 28.45 179 P **P** **15 18 11.4 -0.1**
comp=Z,60nm,0.7s
EDFI pP **pP** **15 18 16.6 -4.4**
comp=Z,60nm,0.7s
ERM Erimo 28.79 35 P **P** **15 18 16.2 +2.0**
JEM Erimo 28.80 35 P **P** **15 18 16.2 +2.0**
GSI Gunungsitoli 29.66 234 P **P** **15 18 23.6 +1.5**
GSI IAmb IAmb 15 19 08.1
comp=Z,23nm,1.4s
BATI Baumata 29.99 175 P **P** **15 18 24.1 -0.9**
comp=Z,25nm,0.6s,baz=27,slow=6.8,SNR=4.9
comp=Z,25nm,0.6s
JKA Kamikawa-asahi 29.99 32 P **P** **15 18 24.8 0.0**
ULN Ulaanbaatar 30.21 341 P **P** **15 18 27.7 +0.8**
SONM Songino Array 30.39 340 P **P** **15 18 27.7 -0.8**
SONM Songino Array 30.39 340 P **P** **15 18 29.3 +0.8**
comp=Z,6.1nm,0.7s,baz=158,slow=9.3,SNR=29
SONM LR LR 15 31 35.5
comp=Z,390nm,21.8s,baz=146,slow=38
comp=Z,6.1nm,0.7s
YSS Yuzh-Sakhalins 32.19 28 P **P** **15 18 43.8 -0.3**
YSS Yuzh-Sakhalins 32.19 28 P **P** **15 18 44.5 +0.5**
MTN Manton Dam 33.93 163 P **P** **15 18 58.1 -1.5**
KDU Kakadu 34.18 160 P **P** **15 19 03.0 +1.2**
WMQ Urumqi 36.81 318 *e*P **P** **15 19 26.1 +1.9**
WMQ PcP **PcP** **15 21 46.8 +1.0**
WMQ pmax pmax
comp=Z,7.0nm,1.1s
WMQ pmax pmax
comp=Z,160nm,4.5s
WMQ LR LR
comp=Z,400nm,18.3s
WMQ LR LR
comp=Z,310nm,10.3s
WMQ LR LR
comp=Z,210nm,18.3s
FITZ Fitzroy Crossi 37.98 173 P **P** **15 19 32.5 -1.8**
RABL Rabaul 38.63 125 P **P** **15 19 40.8 +0.9**
RABL IAmb IAmb 15 19 49.1
comp=Z,18nm,0.7s
COEN Coen 39.93 146 P **P** **15 19 52.4 +1.8**
COEN Coen 39.93 146 P **P** **15 19 48.8 -1.8**
COEN IAmb IAmb 15 20 18.1
comp=Z,42nm,1.4s
MBWA Marble Bar 40.82 182 P **P** **15 19 56.7 -1.2**
PSA00 Pilbara Seismi 41.23 182 P **P** **15 20 01.3 +0.1**
PSA00 Pilbara Seismi 41.23 182 P **P** **15 20 00.4 -0.8**
PSA00 IAmb IAmb 15 20 01.4
comp=Z,24nm,0.9s
PSA00 Pilbara Seismi 41.23 182 P **P** **15 20 01.0 -0.3**
PSA00 IAmb IAmb 15 20 01.4
comp=Z,12nm,1.0s
PALK Pallekele 41.29 258 LR LR 15 38 20.9
comp=Z,125nm,18.5s,baz=167,slow=38
WB0 Warramunga Arr 41.44 161 P **P** **15 20 01.3 -1.7**
WB0 IAmb IAmb 15 20 02.9
comp=Z,18nm,0.8s
MK31 Makanchi Array 41.57 319 P **P** **15 20 03.6 -0.4**
MKAR Makanchi Array 41.57 319 P **P** **15 20 04.7 +0.7**
comp=Z,3.8nm,0.5s,baz=112,slow=9.6,SNR=44
MKAR PcP **PcP** **15 22 00.9 +0.2**
comp=Z,1.7nm,0.8s,baz=94,slow=3.2,SNR=2.2
MKAR LR LR 15 38 08.4
comp=Z,178nm,19.2s,baz=149,slow=37
comp=Z,3.8nm,0.5s
WRAB Tennant Creek 41.59 161 P **P** **15 20 00.9 -3.3**
WRAB IAmb IAmb 15 20 06.8
comp=Z,18nm,0.8s
WRA Warramunga Arr 41.59 161 P **P** **15 20 01.6 -2.7**
WRA Warramunga Arr 41.59 161 P **P** **15 20 02.4 -1.9**
comp=Z,14nm,0.6s,baz=347,slow=8.6,SNR=116
WRA S **S** **15 26 13.2 -5.0**
comp=Z,1.1nm,0.9s,baz=345,slow=16,SNR=2.2
WRA LR LR 15 41 02.6
comp=Z,108nm,18.2s,baz=59,slow=42
comp=Z,14nm,0.6s
WB2 Warramunga Arr 41.59 161 P **P** **15 20 02.4 -1.9**
WB2 IAmb IAmb 15 20 06.8
comp=Z,22nm,0.8s
WR0 Warramunga Arr 41.67 161 P **P** **15 20 03.2 -1.7**
MAKZ Makanchi 41.77 319 P **P** **15 20 06.4 +0.8**
MAKZ IAmb IAmb 15 20 07.8
comp=Z,18nm,1.2s
MAKZ Makanchi 41.77 319 P **P** **15 20 06.6 +1.0**
YAK Yakutsk 42.51 6 P **P** **15 20 08.7 -2.6**
YAK IAmb IAmb 15 20 22.0
comp=Z,17nm,0.8s
YAK Yakutsk 42.51 6 P **P** **15 20 10.3 -1.0**
YAK pP **pP** **15 20 20.9 +0.1**
H11S3 WAKE ISLAND Hy 42.79 84 T T 16 05 40.8
baz=280,slow=75,SNR=72
H11N1 WAKE ISLAND Hy 42.79 82 T T 16 05 56.5
baz=278,slow=75,SNR=98
H11N2 WAKE ISLAND Hy 42.80 82 T T 16 05 50.7
baz=278,slow=75,SNR=68
H11S1 WAKE ISLAND Hy 42.80 84 T T 16 05 49.4
baz=280,slow=75,SNR=59
H11S2 WAKE ISLAND Hy 42.81 84 T T 16 05 57.4
baz=280,slow=75,SNR=43
H11N3 WAKE ISLAND Hy 42.81 82 T T 16 05 58.0
baz=278,slow=75,SNR=75
PEA0B Petropavlovsk- 43.41 31 P **P** **15 20 18.5 -0.3**
PEA0B IAmb IAmb 15 20 52.0
comp=Z,32nm,1.6s
PETK Petropavlovsk- 43.41 31 P **P** **15 20 18.0 -0.7**
PETK Petropavlovsk- 43.41 31 P **P** **15 20 17.8 -0.9**
comp=Z,4.2nm,0.6s,baz=224,slow=7.9,SNR=33
PETK LR LR 15 41 36.5
comp=Z,61nm,18.2s,baz=244,slow=40
comp=Z,4.2nm,0.6s
KSH Kashi 43.44 307 P **P** **15 20 23.4 +4.0**
KSH sP sP 15 20 33.0 +0.1
KSH pmax pmax
comp=Z,6.0nm,1.5s
PET Petropavlovsk 43.84 32 P **P** **15 20 21.7 -0.4**
PET IAmb IAmb 15 20 23.0
comp=Z,14nm,0.8s
PET Petropavlovsk 43.84 32 P **P** **15 20 21.9 -0.2**
ZAA0 Zalesovo Array 43.95 330 P **P** **15 20 22.7 -0.3**
ZAA0 IAmb IAmb 15 20 24.3
comp=Z,12nm,0.9s
ZALV Zalesovo Beam 43.95 330 P **P** **15 20 22.5 -0.5**
ZALV Zalesovo Beam 43.95 330 P **P** **15 20 23.3 +0.3**
comp=Z,8.1nm,0.7s,baz=113,slow=7.9,SNR=40
ZALV LR LR 15 39 52.0
comp=Z,252nm,19.7s,baz=119,slow=37
comp=Z,8.1nm,0.7s
MTSU Mount Surprise 44.02 148 P **P** **15 20 24.3 +0.3**
NIL Nilore 44.66 298 P **P** **15 20 29.0 -0.1**
NIL IAmb IAmb 15 20 31.8
comp=Z,24nm,1.1s
AS31 Alice Springs 45.00 164 P **P** **15 20 31.1 -0.6**
ASAR Alice Springs 45.00 164 P **P** **15 20 31.1 -0.7**
ASAR Alice Springs 45.00 164 P **P** **15 20 30.9 -0.9**
comp=Z,9.8nm,0.6s,baz=340,slow=6.8,SNR=259
ASAR S **S** **15 27 05.6 -2.4**
comp=Z,1.2nm,0.9s,baz=347,slow=20,SNR=5.1
comp=Z,9.8nm,0.6s
WRKA Warakurna 45.17 171 P **P** **15 20 32.6 -0.5**
AAK Ala-Archa 45.29 311 LR LR 15 42 19.2
comp=Z,651nm,19.0s,baz=99,slow=40
KURK Kurchatov 45.51 323 P **P** **15 20 35.8 +0.3**
KURK IAmb IAmb 15 20 37.3
comp=Z,27nm,1.4s
KURK Kurchatov 45.51 323 P **P** **15 20 36.0 +0.5**
KURK pP **pP** **15 20 46.5 +1.5**
KURBB Kurchatov Arra 45.52 323 P **P** **15 20 36.1 +0.5**
comp=Z,8.0nm,0.6s,baz=117,slow=7.5,SNR=66
KURBB LR LR 15 42 21.2
comp=Z,204nm,18.1s,baz=172,slow=39
comp=Z,8.0nm,0.6s
MEEK Meekatharra 46.32 183 P **P** **15 20 41.7 -0.4**
CTAO Charters Tower 46.64 147 P **P** **15 20 46.2 +1.4**
CTAO Charters Tower 46.64 147 P **P** **15 20 44.9 +0.1**
CTAO IAmb IAmb 15 20 48.0
comp=Z,12nm,0.8s
KK31 Karatay Array 48.24 310 P **P** **15 20 57.8 +0.7**
KK31 IAmb IAmb 15 20 59.3
comp=Z,11nm,1.3s
KKAR Karatay Array 48.24 310 P **P** **15 20 57.5 +0.5**
MORW Morawa 48.93 186 P **P** **15 21 02.4 0.0**
MORW Morawa 48.93 186 P **P** **15 21 02.8 +0.4**
MORW IAmb IAmb 15 21 03.2
comp=Z,14nm,0.9s
OOD Oodnadatta 49.40 163 P **P** **15 21 06.2 +0.2**
FORT Forrest 50.79 172 P **P** **15 21 17.8 +1.4**
FORT Forrest 50.79 172 P **P** **15 21 16.8 +0.3**
INKA Innaminka 50.95 158 P **P** **15 21 19.4 +1.7**
KMBL Kambalda 50.96 179 P **P** **15 21 18.8 +1.1**
BVAR Borovoye Array 51.11 323 P **P** **15 21 19.8 +1.1**
comp=Z,3.2nm,0.7s,baz=106,slow=11,SNR=20
BVAR PcP **PcP** **15 22 33.7 -0.3**
comp=Z,3.0nm,0.6s,baz=81,slow=3.6,SNR=6.1
BVAR LR LR 15 44 47.8
comp=Z,141nm,18.3s,baz=120,slow=38
comp=Z,3.2nm,0.7s
BRVK Borovoye 51.18 323 P **P** **15 21 19.5 +0.3**
BRVK IAmb IAmb 15 21 21.2
comp=Z,12nm,1.0s
BRVK Borovoye 51.18 323 P **P** **15 21 20.3 +1.1**
BRVK sP **sP** **15 21 34.0 +0.7**
KLBR Kellerberrin 51.29 184 P **P** **15 21 20.7 +0.5**
MULG Mulgathing 51.37 166 P **P** **15 21 21.0 +0.2**
RK1H Rockhampton Ha 51.58 145 P **P** **15 21 23.6 +1.1**
TIXI Tiksi 51.96 3 P **P** **15 21 23.6 -1.2**
TIXI IAmb IAmb 15 21 35.8
comp=Z,7.0nm,0.8s
TIXI Tiksi 51.96 3 P **P** **15 21 23.9 -0.8**
TIXI pP **pP** **15 21 34.9 +0.5**
LCRK Leigh Creek 52.62 162 P **P** **15 21 30.9 +0.8**
NWAO Narrogin (SRO) 52.66 184 P **P** **15 21 30.9 +0.6**
NWAO Narrogin (SRO) 52.66 184 P **P** **15 21 31.2 +0.8**
EIDS Eidsvold 53.49 146 P **P** **15 21 37.0 +0.3**
EIDS IAmb IAmb 15 23 34.2
comp=Z,23nm,1.5s
HRA Herat 53.82 299 P **P** **15 21 38.3 -1.1**
HRA IAmb IAmb 15 21 41.3
comp=Z,17nm,1.2s
BBOO Buckleboo 54.26 165 P **P** **15 21 42.5 +0.3**
BBOO Buckleboo 54.26 165 P **P** **15 21 42.1 -0.1**
STKA Stephens Creek 55.02 159 P **P** **15 21 49.3 +1.6**
STKA Stephens Creek 55.02 159 P **P** **15 21 47.8 +0.1**
STKA Stephens Creek 55.02 159 P **P** **15 21 47.3 -0.4**
comp=Z,6.3nm,0.8s,baz=327,slow=6.5,SNR=16
STKA LR LR 15 46 35.1
comp=Z,80nm,19.6s,baz=21,slow=37

comp=Z,6.3nm,0.8s
HTT Hallett 55.62 162 P **P** **15 21 53.5 +1.5**
BILL Bilibino 55.69 19 P **P** **15 21 51.8 -0.2**
BILL Bilibino 55.69 19 P **P** **15 21 52.1 +0.1**
BILL pP **pP** **15 22 02.5 +0.6**
CMSA Cobar Meteorol 56.23 155 P **P** **15 21 57.8 +1.4**
ABKAR Akbulak array 56.56 316 P **P** **15 21 58.8 +0.2**
ABKAR IAmb IAmb 15 22 00.4
comp=Z,15nm,1.4s
GEYT Alibeck 57.13 303 P **P** **15 22 04.4 +1.5**
comp=Z,10.0nm,1.0s,baz=98,slow=4.5,SNR=29
GEYT LR LR 15 50 17.4
comp=Z,187nm,19.3s,baz=132,slow=40
comp=Z,10.0nm,1.0s
AKTO Aktyubinsk 57.96 318 LR LR 15 48 35.1
comp=Z,145nm,20.8s,baz=170,slow=37
WSAR Wadi Sarin 57.99 285 LR LR 15 48 43.2
comp=Z,89nm,21.7s,baz=104,slow=38
ARU Arti 58.63 325 P **P** **15 22 13.1 +0.1**
ARU IAmb IAmb 15 22 28.2
comp=Z,7.0nm,0.7s
ARU Arti 58.63 325 P **P** **15 22 13.3 +0.3**
ARU Arti 58.63 325 P **P** **15 22 13.5 +0.5**
comp=Z,13nm,0.7s
ARPS Mount Arapiles 59.59 161 P **P** **15 22 20.6 +0.8**
YNG Young 59.74 154 P **P** **15 22 22.2 +1.3**
DZM Mont Dzumac 60.70 131 P **P** **15 22 28.1 +0.3**
DZM Mont Dzumac 60.70 131 LR LR 15 44 23.6
comp=Z,244nm,21.3s,baz=284,slow=32
CAN Canberra 60.87 154 P **P** **15 22 30.1 +1.4**
CAN Canberra 60.87 154 P **P** **15 22 30.2 +1.4**
CAN Canberra 60.87 154 P **P** **15 22 30.6 +1.9**
CNB Canberra Magne 61.01 154 P **P** **15 22 31.3 +1.6**
TOO Toolangi 61.52 158 P **P** **15 22 34.6 +1.5**
TOO Toolangi 61.52 158 P **P** **15 22 34.4 +1.4**
NIKH Nikolski High 62.27 40 P **P** **15 22 38.9 +1.0**
NIKH Nikolski High 62.27 40 P **P** **15 22 37.5 -0.4**
baz=267
UNV Unalaska Valle 63.71 39 P **P** **15 22 47.2 -0.3**
baz=268
KIRV Kirov 63.81 326 LR LR 15 53 25.5
comp=Z,241nm,18.3s,baz=93,slow=38
TNA Tin City 64.13 26 P **P** **15 22 50.4 +0.4**
baz=261
M11K Mekoryuk 64.28 32 P **P** **15 22 51.6 +0.5**
baz=265
F14K Arctic Creek 64.77 26 P **P** **15 22 54.9 +0.6**
baz=263
ANM Nome 65.07 27 P **P** **15 22 57.0 +0.8**
baz=264
K13K Kusilvak Mount 65.15 30 P **P** **15 22 57.5 +0.7**
baz=266
F15K North Star Dit 65.49 26 P **P** **15 22 59.5 +0.5**
F15K North Star Dit 65.49 26 P **P** **15 22 59.0 0.0**
baz=264
C16K Lisburne Hills 65.53 23 P **P** **15 22 59.8 +0.6**
C16K IAmb IAmb 15 23 11.2
comp=Z,7.0nm,0.7s
C16K Lisburne Hills 65.53 23 P **P** **15 22 59.3 +0.2**
baz=262
G15K Niukluk 65.68 27 P **P** **15 23 00.4 +0.3**
baz=265
J14K Nanvaranak Lak 65.72 29 P **P** **15 23 01.1 +0.7**
J14K IAmb IAmb 15 23 13.0
comp=Z,6.3nm,0.7s
J14K Nanvaranak Lak 65.72 29 P **P** **15 23 01.1 +0.7**
baz=266
L14K Kuka Creek 66.06 31 P **P** **15 23 03.3 +0.7**
L14K Kuka Creek 66.06 31 P **P** **15 23 03.7 +1.2**
baz=268
S12K Black Hills 66.31 37 P **P** **15 23 04.5 +0.2**
baz=271
D17K Noatak River 66.31 24 P **P** **15 23 04.8 +0.6**
baz=265,SNR=12
M14K Bethel 66.39 31 P **P** **15 23 05.2 +0.4**
M14K Bethel 66.39 31 P **P** **15 23 04.4 -0.3**
baz=269
RDOG Red Dog Mine 66.41 23 P **P** **15 23 05.1 +0.3**
baz=265
G16K Koyuk River 66.42 26 P **P** **15 23 05.2 +0.3**
baz=266
H16K Elim 66.42 27 P **P** **15 23 04.3 -0.6**
baz=267
N14K Kuskokwak Cree 66.51 32 P **P** **15 23 05.2 -0.3**
baz=269
K15K Wolf Creek Mou 66.64 30 P **P** **15 23 06.3 0.0**
K15K IAmb IAmb 15 23 19.8
comp=Z,7.7nm,0.8s
K15K Wolf Creek Mou 66.64 30 P **P** **15 23 06.2 -0.1**
baz=268
O14K Tigyukauivet M 66.72 33 P **P** **15 23 05.8 -1.0**
baz=270
E17K Hotham Inlet 66.75 25 P **P** **15 23 07.3 +0.4**
baz=266
TAU Tasmania Unive 66.92 159 P **P** **15 23 10.0 +1.7**
TAU Tasmania Unive 66.92 159 P **P** **15 23 09.8 +1.6**
F17K Baldwin Pennin 66.94 25 P **P** **15 23 08.3 +0.2**
baz=267
B18K Kokolik River 66.94 22 P **P** **15 23 08.2 +0.1**
baz=265,SNR=17
M15K Kasigluk River 67.01 32 P **P** **15 23 09.3 +0.5**
baz=270
I17K Unalakleet 67.06 28 P **P** **15 23 09.4 +0.4**
I17K Unalakleet 67.06 28 P **P** **15 23 09.1 +0.1**
baz=268
J16K Anvik River 67.09 29 P **P** **15 23 10.0 +0.8**
J16K Anvik River 67.09 29 P **P** **15 23 09.4 +0.2**
baz=269
C18K Utukok River 67.10 23 P **P** **15 23 09.9 +0.7**
C18K IAmb IAmb 15 23 22.0
comp=Z,6.2nm,0.8s
C18K Utukok River 67.10 23 P **P** **15 23 09.9 +0.7**
baz=266,SNR=6.1
G17K Kiwalik Mounta 67.14 26 P **P** **15 23 10.2 +0.7**
baz=268
SDPT Sand Point 67.22 37 P **P** **15 23 11.6 +1.5**
E18K Tukpahlearik C 67.24 24 P **P** **15 23 10.9 +0.8**
E18K IAmb IAmb 15 23 23.4
comp=Z,8.3nm,0.7s
E18K Tukpahlearik C 67.24 24 P **P** **15 23 10.7 +0.6**
baz=267,SNR=6.2
A19K Wainwright 67.26 21 P **P** **15 23 11.0 +0.9**
baz=265
N15K Kwethluk River 67.31 32 P **P** **15 23 10.1 -0.6**
N15K Kwethluk River 67.31 32 P **P** **15 23 11.5 +0.8**
baz=271
GNI Garni 67.37 306 LR LR 15 57 54.1
comp=Z,106nm,18.2s,baz=66,slow=40
H17K Granite Mounta 67.43 27 P **P** **15 23 11.9 +0.6**
H17K IAmb IAmb 15 23 24.6
comp=Z,7.9nm,0.7s
H17K Granite Mounta 67.43 27 P **P** **15 23 11.5 +0.2**
baz=269
O15K Ungalikthiuk R 67.46 33 P **P** **15 23 12.0 +0.4**
baz=271
F18K Selawik 67.58 25 P **P** **15 23 12.7 +0.5**
baz=268,SNR=10
L16K Owhat River 67.60 30 P **P** **15 23 12.9 +0.5**
L16K IAmb IAmb 15 23 25.1
comp=Z,7.2nm,0.7s
L16K Owhat River 67.60 30 P **P** **15 23 13.0 +0.5**
baz=270
S14K Fog Glacier 67.70 36 P **P** **15 23 12.9 -0.4**
baz=273
C19K Lookout Ridge 67.71 22 P **P** **15 23 14.0 +0.9**
C19K IAmb IAmb 15 23 43.5
comp=Z,14nm,1.5s
C19K Lookout Ridge 67.71 22 P **P** **15 23 13.6 +0.5**
baz=267,SNR=6.9
CHNA Chernabura Isl 67.75 38 P **P** **15 23 13.5 0.0**
baz=273
J17K VABM Dome 67.78 29 P **P** **15 23 14.1 +0.5**
J17K VABM Dome 67.78 29 P **P** **15 23 12.9 -0.6**
baz=270
M16K Timber Creek 67.86 31 P **P** **15 23 14.2 +0.1**
baz=271
N16K Nishlik Lake 67.96 32 P **P** **15 23 14.9 +0.1**
baz=272
G18K Tagagawik 67.97 26 P **P** **15 23 13.8 -1.0**
G18K IAmb IAmb 15 23 27.4
comp=Z,5.6nm,0.8s
G18K Tagagawik 67.97 26 P **P** **15 23 14.5 -0.3**
baz=270
H18K Honhosa River 68.09 27 P **P** **15 23 14.9 -0.6**
baz=270
K17K Iditarod 68.14 29 P **P** **15 23 16.4 +0.6**
K17K IAmb IAmb 15 23 29.1
comp=Z,9.9nm,0.8s
K17K Iditarod 68.14 29 P **P** **15 23 16.3 +0.6**
baz=271
L17K Donlin 68.15 30 P **P** **15 23 16.1 +0.2**
baz=271
D19K Kuna River 68.22 23 P **P** **15 23 16.3 0.0**
baz=269
KBZ Khabaz 68.28 310 P **P** **15 23 17.6 +0.6**
comp=Z,8.8nm,1.0s,baz=97,slow=4.5,SNR=17
KBZ LR LR 15 57 19.5
comp=Z,144nm,19.0s,baz=62,slow=39
comp=Z,8.8nm,1.0s
F19K Shaleruckik Mo 68.33 25 P **P** **15 23 17.7 +0.7**
baz=270
CHGN Chignik 68.33 36 P **P** **15 23 17.9 +0.7**
baz=274
O16K Kokwok River B 68.33 33 P **P** **15 23 17.7 +0.6**
baz=272
KIV Kislovodsk 68.41 310 P **P** **15 23 18.4 +0.4**
KIV Kislovodsk 68.41 310 P **P** **15 23 19.6 +1.6**
KIV Kislovodsk 68.41 310 P **P** **15 23 18.7 +0.7**
comp=Z,24nm,0.9s,comp=Z,226nm
P16K Nushagak River 68.41 33 P **P** **15 23 16.9 -0.6**
baz=273
E19K Redstone River 68.54 24 P **P** **15 23 18.5 +0.2**
baz=270
M17K Holitna River 68.58 31 P **P** **15 23 18.8 +0.2**
baz=272
B20K Meade River 68.59 21 P **P** **15 23 18.3 -0.2**
baz=269,SNR=7.5
G19K Purcell Mounta 68.61 26 P **P** **15 23 19.0 +0.2**
baz=271
R16K Pilot Point 68.71 35 P **P** **15 23 19.7 +0.2**
baz=274
N17K Nushagak Hills 68.74 32 P **P** **15 23 20.3 +0.6**
baz=273
D20K Etivluk River 68.77 23 P **P** **15 23 20.5 +0.8**
baz=270
A21K Barrow 68.79 20 P **P** **15 23 20.6 +0.9**
baz=269
O17K Koliganek Bris 68.83 32 P **P** **15 23 20.1 0.0**
baz=273
J18K Innoko River 68.84 28 P **P** **15 23 19.8 -0.4**
J18K IAmb IAmb 15 23 32.9
comp=Z,4.7nm,0.8s
J18K Innoko River 68.84 28 P **P** **15 23 20.4 +0.2**
baz=272
H19K Roundabout Mou 68.89 26 P **P** **15 23 20.7 +0.2**
baz=272,SNR=8.5
L18K Granite Mounta 68.90 30 P **P** **15 23 20.5 -0.1**
L18K IAmb IAmb 15 23 33.9
comp=Z,7.4nm,0.7s
L18K Granite Mounta 68.90 30 P **P** **15 23 20.8 +0.2**
baz=273
E20K Nigu River 68.93 23 P **P** **15 23 20.9 +0.1**
baz=271
F20K Avaraart Lake 69.14 25 P **P** **15 23 22.2 +0.2**
baz=272,SNR=9.3
P17K Kvichak River 69.20 33 P **P** **15 23 22.6 +0.2**
baz=274
J19K Poorman 69.30 28 P **P** **15 23 23.5 +0.4**
J19K Poorman 69.30 28 P **P** **15 23 23.1 +0.1**
baz=273
A22K Sinclair Lake 69.32 20 P **P** **15 23 22.4 -0.6**
baz=271,SNR=10
M18K Stony River 69.35 31 P **P** **15 23 22.7 -0.7**
baz=274
N18K Kilae Creek 69.37 31 P **P** **15 23 22.7 -0.9**
baz=274
C21K Knifeblade Rid 69.43 22 P **P** **15 23 23.9 +0.1**
baz=272,SNR=8.4
B21K Ikpikpuk River 69.47 22 P **P** **15 23 24.4 +0.4**
B21K Ikpikpuk River 69.47 22 P **P** **15 23 24.1 +0.2**
baz=272,SNR=10
H20K Anotleneega Mo 69.54 26 P **P** **15 23 24.6 +0.1**
baz=273,SNR=5.5
Q17K Contact Creek 69.56 34 P **P** **15 23 25.1 +0.2**
baz=275
E21K Killik River 69.75 23 P **P** **15 23 25.9 +0.1**
baz=273
I20K Naaghedeneel 69.75 27 P **P** **15 23 26.1 +0.3**
baz=274
L19K White Mountain 69.76 30 P **P** **15 23 26.3 +0.3**
baz=274
O18K Koktuh Hills 69.78 32 P **P** **15 23 26.7 +0.6**
baz=275
P18K Big Mountain, 69.80 33 P **P** **15 23 25.7 -0.6**
baz=275
B22K Teshekpuk Lake 69.86 21 P **P** **15 23 26.8 +0.5**
B22K IAmb IAmb 15 23 39.6
comp=Z,11nm,1.1s
B22K Teshekpuk Lake 69.86 21 P **P** **15 23 26.3 -0.1**
baz=273,SNR=6.5
CHIR Chirikof Islan 69.93 37 P **P** **15 23 26.2 -0.9**
baz=276
J20K Nowinta River 69.94 28 P **P** **15 23 27.4 +0.4**
J20K Nowinta River 69.94 28 P **P** **15 23 27.3 +0.3**
baz=274,SNR=8.7
M19K Big River Lodg 70.00 30 P **P** **15 23 27.2 -0.2**
baz=275
F21K Alatna River 70.00 24 P **P** **15 23 27.2 -0.2**
baz=274
K20K Telida 70.03 29 P **P** **15 23 27.8 +0.2**
K20K IAmb IAmb 15 23 40.9
comp=Z,6.6nm,0.8s
K20K Telida 70.03 29 P **P** **15 23 27.5 -0.1**
baz=275
G21K Allakaket 70.04 25 P **P** **15 23 27.8 +0.2**
baz=274
N19K Bonanza Creek 70.05 31 P **P** **15 23 28.4 +0.6**
baz=275
O19K Port Alsworth 70.19 32 P **P** **15 23 28.3 -0.3**
baz=276
L20K Farewell, AK 70.19 29 P **P** **15 23 28.9 +0.3**
baz=275
D22K Ayikyak River 70.20 23 P **P** **15 23 29.4 +0.9**
baz=274
H21K Melozitna Rive 70.39 26 P **P** **15 23 30.1 +0.3**
H21K IAmb IAmb 15 23 47.8
comp=Z,5.7nm,0.8s
H21K Melozitna Rive 70.39 26 P **P** **15 23 30.6 +0.8**
baz=275,SNR=7.8
F22K John River 70.49 24 P **P** **15 23 31.2 +0.8**
baz=275
E22K Anaktuvuk Pass 70.57 23 P **P** **15 23 31.0 +0.1**
E22K IAmb IAmb 15 23 43.8
comp=Z,4.8nm,0.6s
E22K Anaktuvuk Pass 70.57 23 P **P** **15 23 31.5 +0.6**
baz=275,SNR=8.2
M20K Styx River 70.60 30 P **P** **15 23 30.6 -0.5**
baz=276
SII Sitkinak Islan 70.65 36 P **P** **15 23 32.9 +1.4**
CHUM Lake Minchumin 70.77 28 P **P** **15 23 31.6 -0.4**
baz=276
I21K Tanana 70.78 27 P **P** **15 23 32.4 +0.3**
baz=276
P19K Oil Pt 70.79 32 P **P** **15 23 32.5 +0.2**
baz=277
G22K Bettles 70.80 25 P **P** **15 23 32.4 +0.2**
baz=276
C23K Ikkillik River 70.85 22 P **P** **15 23 32.7 +0.2**
baz=275
D23K Nanushuk River 70.91 22 P **P** **15 23 33.0 +0.2**
baz=276
CAST Castle Rocks 70.92 28 P **P** **15 23 33.5 +0.5**
CAST IAmb IAmb 15 23 46.3
comp=Z,7.3nm,0.8s
CAST Castle Rocks 70.92 28 P **P** **15 23 33.3 +0.3**
baz=276,SNR=12
PPLA Purkeypile 70.93 29 P **P** **15 23 33.0 -0.3**
baz=276
OBN Obninsk 70.95 323 LR LR 15 57 53.9
comp=Z,134nm,18.7s,baz=342,slow=38
H22K Ishtalitna Cre 70.95 26 P **P** **15 23 33.6 +0.4**
baz=276,SNR=6.9
OHAK Old Harbor 71.06 35 P **P** **15 23 35.9 +2.0**
N20K Mount Spurr 71.11 31 P **P** **15 23 33.9 -0.4**
baz=277
COLD Coldfoot 71.28 24 P **P** **15 23 35.7 +0.6**
baz=277
MLY Manley 71.32 27 P **P** **15 23 35.7 +0.3**
MLY Manley 71.32 27 P **P** **15 23 35.3 -0.2**
baz=277,SNR=9.8
BPAW Bear Paw Mtn. 71.32 28 P **P** **15 23 34.9 -0.6**
baz=277
SKT Skwentna 71.34 30 P **P** **15 23 34.9 -0.7**
baz=277
TOLK Toolik Lake Re 71.35 23 P **P** **15 23 35.9 +0.3**
TOLK IAmb IAmb 15 23 49.1
comp=Z,5.1nm,0.8s
TOLK Toolik Lake Re 71.35 23 P **P** **15 23 35.6 0.0**
baz=277
E23K Chandalar 71.40 23 P **P** **15 23 36.3 +0.4**
baz=277
G23K Bananza Creek 71.41 25 P **P** **15 23 36.4 +0.4**
G23K Bananza Creek 71.41 25 P **P** **15 23 36.3 +0.4**
baz=277
C24K Franklin Bluff 71.53 22 P **P** **15 23 37.2 +0.7**
baz=277
D24K Happy Valley 71.55 22 P **P** **15 23 37.3 +0.6**
D24K IAmb IAmb 15 23 50.1
comp=Z,8.9nm,1.1s
D24K Happy Valley 71.55 22 P **P** **15 23 36.9 +0.2**
baz=277,SNR=6.1
CAPN Captain Cook N 71.68 31 P **P** **15 23 36.9 -0.6**
baz=278
H23K Yukon River 71.71 26 P **P** **15 23 38.5 +0.7**
H23K IAmb IAmb 15 23 51.6
comp=Z,5.7nm,0.7s
H23K Yukon River 71.71 26 P **P** **15 23 38.0 +0.2**
baz=278,SNR=9.5
TRF Thorofare Moun 71.71 28 P **P** **15 23 37.8 -0.2**
baz=278
SUA Susitna One 71.78 30 P **P** **15 23 38.6 +0.2**
SUA IAmb IAmb 15 23 54.4
comp=Z,13nm,0.9s
SUA Susitna One 71.78 30 P **P** **15 23 38.0 -0.4**
baz=278
E24K Your Creek 71.82 23 P **P** **15 23 38.9 +0.5**
E24K IAmb IAmb 15 23 52.1
comp=Z,6.9nm,0.7s
E24K Your Creek 71.82 23 P **P** **15 23 39.0 +0.5**
baz=278,SNR=12
I23K Minto, Yukon-K 71.88 26 P **P** **15 23 39.2 +0.5**
I23K Minto, Yukon-K 71.88 26 P **P** **15 23 38.8 +0.1**
baz=278
BRSE Bradley Lake S 72.03 32 P **P** **15 23 39.1 -0.7**
baz=279
M22K Willow 72.03 30 P **P** **15 23 39.9 +0.2**
baz=279
NEA2 Nenana 72.08 27 P **P** **15 23 40.2 +0.2**
NEA2 IAmb IAmb 15 23 52.8
comp=Z,5.8nm,0.8s
NEA2 Nenana 72.08 27 P **P** **15 23 39.9 -0.1**
baz=279,SNR=7.2
F24K Squaw Lake 72.12 24 P **P** **15 23 40.3 +0.1**
baz=279,SNR=9.6
MCK McKinley 72.27 28 P **P** **15 23 41.1 0.0**
baz=279
RC01 Rabbit Creek A 72.32 31 P **P** **15 23 41.8 +0.3**
baz=279
RND Reindeer 72.36 28 P **P** **15 23 41.2 -0.6**
RND IAmb IAmb 15 23 47.3
comp=Z,14nm,1.2s
H24K Noodor Dome 72.39 26 P **P** **15 23 42.2 +0.3**
H24K Noodor Dome 72.39 26 P **P** **15 23 42.2 +0.3**
baz=279
D25K Kavik River 72.39 22 P **P** **15 23 42.1 +0.3**
baz=280,SNR=9.2
G24K Hadweenzic Riv 72.41 25 P **P** **15 23 42.6 +0.7**
G24K Hadweenzic Riv 72.41 25 P **P** **15 23 41.7 -0.2**
baz=279
O22K Cooper Landing 72.42 31 P **P** **15 23 42.2 +0.2**
baz=279
JOF Joensuu 72.50 331 eP **P** **15 23 42.9 +0.5**
COLA College 72.56 27 P **P** **15 23 43.4 +0.6**
baz=280
WAT1 Susitna Watana 72.59 29 P **P** **15 23 43.6 +0.5**
baz=280
POKR Poker Plat Res 72.69 26 P **P** **15 23 43.6 0.0**
POKR Poker Plat Res 72.69 26 P **P** **15 23 43.6 0.0**
baz=280
C26K Camden Bay 72.79 21 P **P** **15 23 43.7 -0.4**
baz=281
SML Sawmill 72.86 30 P **P** **15 23 44.8 +0.1**
baz=280
E25K Arctic Village 72.89 23 P **P** **15 23 44.1 -0.7**
baz=281
G25K Bearman Lake 72.94 24 P **P** **15 23 44.8 -0.2**
baz=280
F25K Christian Rive 72.96 24 P **P** **15 23 43.8 -1.4**
baz=281
IL31 72.98 27 P **P** **15 23 44.7 -0.6**
IL31 IAmb IAmb 15 23 56.0
comp=Z,20nm,2.0s
ILAR Eielson Array 72.98 27 P **P** **15 23 44.5 -0.9**
comp=Z,1.2nm,0.6s,baz=266,slow=4.4,SNR=22
comp=Z,1.2nm,0.6s
WAT6 Susitna Watana 73.00 29 P **P** **15 23 44.2 -1.5**
baz=280
HDA Harding Lake 73.02 27 P **P** **15 23 45.0 -0.6**
HDA Harding Lake 73.02 27 P **P** **15 23 44.9 -0.6**
baz=280
DHY Denali Highway 73.08 28 P **P** **15 23 45.6 -0.5**
baz=280
H25L Birch Creek 73.14 25 P **P** **15 23 46.4 +0.2**
baz=281
C27K Jago River 73.26 21 P **P** **15 23 47.1 +0.2**
baz=282
SCM Sheep Creek Mo 73.33 30 P **P** **15 23 46.5 -1.0**
baz=281
BMAR Burnt Mountain 73.39 24 P **P** **15 23 48.4 +0.6**
PRP Porcupine Dome 73.41 26 P **P** **15 23 47.1 -0.9**
baz=281
F26K Sheenjek River 73.50 23 P **P** **15 23 48.2 -0.3**
baz=282
ARCES ARCESS Array B 73.56 339 P **P** **15 23 49.1 +0.5**
ARCES IAmb IAmb 15 24 02.3
comp=Z,9.7nm,0.8s
ARCES ARCESS Array B 73.56 339 P **P** **15 23 49.4 +0.7**
comp=Z,3.4nm,0.7s,baz=74,slow=7.0,SNR=13
ARCES LR LR 16 00 19.5
comp=Z,111nm,18.7s,baz=75,slow=39
comp=Z,3.4nm,0.7s
GLI Glacier Island 73.62 31 P **P** **15 23 48.3 -0.8**
baz=281
K24K Donnelly Dome 73.64 28 P **P** **15 23 48.5 -0.7**
baz=282
J25K Salcha River, 73.65 27 P **P** **15 23 48.1 -1.2**
baz=282
SPB2 Spitsbergen Ar 73.69 348 P **P** **15 23 50.0 +0.7**
SPITS Spitsbergen Ar 73.69 348 P **P** **15 23 50.2 +0.9**
comp=Z,8.7nm,0.6s,baz=87,slow=7.0,SNR=22
SPITS LR LR 16 01 10.3
comp=Z,159nm,18.1s,baz=32,slow=40
comp=Z,8.7nm,0.6s
G26K Porcupine Rive 73.80 24 P **P** **15 23 49.4 -0.6**
baz=282
M24K Tolsona, Glenn 73.81 29 P **P** **15 23 49.4 -0.9**
baz=282
PAX Paxson 73.95 28 P **P** **15 23 50.7 -0.5**
baz=282
KLU Klutina 74.05 30 P **P** **15 23 51.1 -0.7**
baz=282
HARP HAARP 74.21 29 P **P** **15 23 52.3 -0.3**
baz=283
D27M Malcolm River 74.29 22 P **P** **15 23 53.5 +0.5**
D27M IAmb IAmb 15 24 11.7
comp=Z,7.3nm,0.9s
D27M Malcolm River 74.29 22 P **P** **15 23 52.8 -0.3**
baz=284
E27K Coleen River 74.33 23 P **P** **15 23 53.1 -0.1**
baz=284
EYAK Cordova Ski Ar 74.34 31 P **P** **15 23 52.7 -0.6**
baz=283
SCRK Sand Creek 74.38 27 P **P** **15 23 53.6 0.0**
SCRK Sand Creek 74.38 27 P **P** **15 23 52.9 -0.8**
baz=283
I26K Coal Creek Min 74.42 26 P **P** **15 23 53.5 -0.3**
baz=284
J26L Joseph Creek 74.44 27 P **P** **15 23 53.4 -0.6**
J26L Joseph Creek 74.44 27 P **P** **15 23 53.1 -0.9**
baz=283
N25K Chitina, Valde 74.65 30 P **P** **15 23 55.0 -0.3**
baz=283
G27K Doyon Strip 74.65 24 P **P** **15 23 54.5 -0.6**
baz=284
BMRM Bremner River 74.79 30 P **P** **15 23 55.4 -0.7**
baz=284
H27K Steamboat Moun 74.84 25 P **P** **15 23 55.7 -0.5**
baz=285
L26K Log Cabin Wild 74.88 28 P **P** **15 23 54.6 -1.9**
baz=284
E28M Babbage River 74.96 22 P **P** **15 23 57.1 +0.3**

E28M	**Babbage River**	**74.96**	**22**	P		**P**	**15 23 55.0**	**-1.8**
	baz=286							
I27K	**Kandik River**	**74.97**	**25**	P		**P**	**15 23 55.7**	**-1.3**
	baz=285							
D28M	**Stokes Point**	**75.03**	**21**	P		**P**	**15 23 55.6**	**-1.6**
	baz=286							
F28M	**Old Crow**	**75.11**	**23**	P		**P**	**15 23 58.2**	**+0.4**
F28M				IAmb		IAmb	15 24 10.4	
	comp=Z,28nm,1.9s							
F28M	**Old Crow**	**75.11**	**23**	P		**P**	**15 23 56.1**	**-1.6**
	baz=286							
K27K	**Chicken**	**75.18**	**27**	P		**P**	**15 23 57.2**	**-0.9**
	baz=285							
M26K	**Nabesna, AK**	**75.19**	**29**	P		**P**	**15 23 57.0**	**-1.4**
	baz=284							
FIA1	**FINESS Array S**	**75.20**	**330**	P		**P**	**15 23 58.6**	**+0.2**
FINES	**FINESS Array B**	**75.21**	**330**	P		**P**	**15 23 58.5**	**+0.1**
FINES	**FINESS Array B**	**75.21**	**330**	P		**P**	**15 23 58.8**	**+0.5**
	comp=Z,6.2nm,0.8s,baz=84,slow=7.9,SNR=22							
FINES				LR		LR	15 59 33.8	
	comp=Z,153nm,19.8s,baz=68,slow=38							
	comp=Z,6.2nm,0.8s							
EGAK	**Eagle**	**75.37**	**26**	P		**P**	**15 23 58.4**	**-0.8**
	baz=285							
MCARA	**McCarthy VSAT**	**75.43**	**30**	P		**P**	**15 23 59.5**	**-0.2**
	baz=285							
L27K	**Beaver Creek,**	**75.54**	**28**	P		**P**	**15 24 00.7**	**+0.4**
L27K				IAmb		IAmb	15 25 31.3	
	comp=Z,16nm,1.7s							
L27K	**Beaver Creek,**	**75.54**	**28**	P		**P**	**15 24 00.6**	**+0.2**
	baz=285							
KEF	**Keuruu**	**75.58**	**331**	*eP*		**P**	**15 24 00.7**	**+0.2**
E29M	**Blow River**	**75.60**	**22**	P		**P**	**15 23 59.5**	**-1.0**
	baz=287							
BGLC	**Bering Glacier**	**75.63**	**31**	P		**P**	**15 24 01.4**	**+0.6**
	baz=285							
I28M	**Miner Creek**	**75.69**	**25**	P		**P**	**15 24 01.6**	**+0.4**
	baz=286							
M27K	**Edge Creek, AK**	**75.70**	**29**	P		**P**	**15 24 00.9**	**-0.5**
	baz=285							
BRTR	**Keskin Array B**	**75.83**	**307**	P		**P**	**15 24 02.8**	**+0.3**
BRTR	**Keskin Array B**	**75.83**	**307**	P		**P**	**15 24 02.5**	**-0.1**
	comp=Z,1.2nm,0.9s,baz=134,slow=5.3,SNR=8.4							
	comp=Z,1.2nm,0.9s							
G29M	**Pine Creek**	**76.00**	**24**	P		**P**	**15 24 02.1**	**-0.7**
	baz=288							
H29M	**Whitestone**	**76.08**	**24**	P		**P**	**15 24 02.5**	**-0.7**
	baz=288							
MMAI	**Mount Meron Ar**	**76.12**	**300**	LR		LR	16 03 37.0	
	comp=Z,106nm,19.9s,baz=16,slow=40							
AK03	**Malin Array Si**	**76.15**	**319**	P		**P**	**15 24 03.7**	**-0.3**
BARN	**Barnard Glacie**	**76.15**	**30**	P		**P**	**15 24 04.8**	**+0.7**
AKASG	**Malin Array Be**	**76.16**	**319**	P		**P**	**15 24 03.3**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=63,slow=5.3,SNR=12							
AKASG				LR		LR	16 00 41.6	
	comp=Z,111nm,19.5s,baz=62,slow=38							
	comp=Z,0.9nm,0.4s							
AKBB	**Malin Array Si**	**76.16**	**319**	P		**P**	**15 24 03.7**	**-0.3**
AK01	**Malin Array Si**	**76.17**	**319**	P		**P**	**15 24 03.8**	**-0.2**
AK10	**Malin Array Si**	**76.17**	**319**	P		**P**	**15 24 04.1**	**+0.1**
KIEV	**Kiev**	**76.17**	**319**	P		**P**	**15 24 03.4**	**-0.7**
KIEV	**Kiev**	**76.17**	**319**	P		**P**	**15 24 03.7**	**-0.3**
	comp=Z,29nm,1.0s							
DAWY	**Dawson**	**76.31**	**27**	P		**P**	**15 24 03.9**	**-0.8**
	baz=287							
VAF	**Ylistaro**	**76.31**	**332**	*eP*		**P**	**15 24 05.6**	**+1.0**
MEF	**Metsahovi**	**76.32**	**329**	*eP*		**P**	**15 24 04.2**	**-0.5**
CTG	**Chitna Glacier**	**76.33**	**30**	P		**P**	**15 24 04.1**	**-0.9**
	baz=286							
I29M	**Ogilvie Camp,**	**76.36**	**25**	P		**P**	**15 24 04.5**	**-0.4**
	baz=288							
YUK3	**Moose Creek**	**76.51**	**29**	P		**P**	**15 24 04.9**	**-1.1**
	baz=287							
F30M	**Barrier River**	**76.60**	**23**	P		**P**	**15 24 06.2**	**0.0**
	baz=290							
G30M	**tAoh Zraii Nji**	**76.65**	**23**	P		**P**	**15 24 05.5**	**-1.1**
	baz=289							
EPYK	**Eagle Plains**	**76.66**	**24**	P		**P**	**15 24 06.5**	**-0.1**
EPYK				IAmb		IAmb	15 24 21.2	
	comp=Z,6.0nm,0.6s							
EPYK	**Eagle Plains**	**76.66**	**24**	P		**P**	**15 24 05.5**	**-1.1**
	baz=289							
J29N	**Klondike Camp**	**76.68**	**26**	P		**P**	**15 24 06.0**	**-0.8**
	baz=288							
O28M	**Mount Upton**	**76.92**	**30**	P		**P**	**15 24 07.4**	**-1.1**
	baz=287							
YUK8	**Steele Glacier**	**76.97**	**29**	P		**P**	**15 24 07.2**	**-1.6**
	baz=288							
MTSE	**Matsula**	**77.03**	**328**	*eP*		**P**	**15 24 09.9**	**+1.2**
MI28	**Mi28,Pidlybu**	**77.05**	**320**	P		**P**	**15 24 09.1**	**+0.1**
L29M	**L29M**	**77.14**	**27**	P		**P**	**15 24 07.7**	**-1.7**
	baz=288							
INK	**Inuvik**	**77.16**	**22**	P		**P**	**15 24 09.1**	**-0.2**
INK				IAmb		IAmb	15 24 22.8	
	comp=Z,15nm,1.8s							
INK	**Inuvik**	**77.16**	**22**	P		**P**	**15 24 07.7**	**-1.6**
	baz=291							
K29M	**Barlow Dome**	**77.16**	**26**	P		**P**	**15 24 07.5**	**-2.1**
	baz=289							
I30M	**Mount Dempster**	**77.18**	**25**	P		**P**	**15 24 09.3**	**-0.3**
I30M	**Mount Dempster**	**77.18**	**25**	P		**P**	**15 24 08.9**	**-0.8**
	baz=290							
M29M	**Somme Creek**	**77.20**	**28**	P		**P**	**15 24 10.2**	**+0.3**
M29M				IAmb		IAmb	15 24 23.9	
	comp=Z,7.3nm,0.7s							
M29M	**Somme Creek**	**77.20**	**28**	P		**P**	**15 24 09.2**	**-0.7**
	baz=288							
LUBAR	**Lubar, Ukraine**	**77.27**	**319**	P		**P**	**15 24 10.0**	**-0.3**
RAF	**Rauma**	**77.33**	**331**	*eP*		**P**	**15 24 10.6**	**+0.3**
EIL	**Elat**	**77.37**	**297**	LR		LR	16 04 46.2	
	comp=Z,69nm,18.3s,baz=66,slow=41							
G31M	**Satah River**	**77.39**	**23**	P		**P**	**15 24 10.2**	**-0.4**
G31M				IAmb		IAmb	15 24 12.8	
	comp=Z,9.4nm,1.4s							
G31M	**Satah River**	**77.39**	**23**	P		**P**	**15 24 09.8**	**-0.8**
	baz=291							
F31M	**Tsiigehtchic**	**77.40**	**22**	P		**P**	**15 24 11.3**	**+0.6**
	baz=291							
J30M	**Hart River**	**77.41**	**26**	P		**P**	**15 24 10.5**	**-0.4**
	baz=290							
YUK4	**Talbot Arm**	**77.47**	**29**	P		**P**	**15 24 11.0**	**-0.5**
	baz=288							
NNZ	**Nelson**	**77.62**	**142**	P		**P**	**15 24 12.5**	**+0.3**
YUK6	**Outpost Mounta**	**77.72**	**29**	P		**P**	**15 24 11.8**	**-1.2**
	baz=289							
H31M	**Peel River**	**77.77**	**24**	P		**P**	**15 24 12.3**	**-0.5**
	baz=291							
NDNU	**Novodnistrovsk**	**77.88**	**317**	P		**P**	**15 24 14.0**	**+0.3**
PABE	**Paberze**	**77.89**	**325**	*eP*		**P**	**15 24 14.8**	**+1.2**
RNPP9	**Sopachiv**	**77.99**	**320**	P		**P**	**15 24 14.5**	**+0.2**
SLIT	**Slitere, Latvi**	**78.13**	**327**	*eP*		**P**	**15 24 15.2**	**+0.3**
N30M	**Aishikik Lake**	**78.14**	**29**	P		**P**	**15 24 14.7**	**-0.3**
	baz=290							
A36M	**Sachs Harbour**	**78.18**	**17**	P		**P**	**15 24 15.2**	**+0.2**
A36M				IAmb		IAmb	15 24 27.6	
	comp=Z,11nm,0.7s							
A36M	**Sachs Harbour**	**78.18**	**17**	P		**P**	**15 24 14.7**	**-0.2**
	baz=298							
AAL	**Aland**	**78.43**	**330**	*eP*		**P**	**15 24 16.7**	**+0.2**
P29M	**Windy Craggy**	**78.45**	**31**	P		**P**	**15 24 16.7**	**0.0**
	baz=290							
KMPD	**K-Podol'skiy**	**78.47**	**318**	P		**P**	**15 24 16.9**	**-0.1**
P30M	**Million Dollar**	**78.65**	**30**	P		**P**	**15 24 16.9**	**-1.0**
	baz=290							
SUW	**Suwalki**	**78.79**	**323**	P		**P**	**15 24 18.5**	**-0.1**
SUW	**Suwalki**	**78.79**	**323**	*eP*		**P**	**15 24 19.6**	**+1.0**
O30N	**Mendenhall**	**78.83**	**29**	P		**P**	**15 24 18.5**	**-0.3**
	baz=291							
M31M	**Drury Creek, Y**	**79.07**	**28**	P		**P**	**15 24 20.1**	**0.0**
	baz=292							
PLBC	**Pleasant Camp**	**79.16**	**31**	P		**P**	**15 24 20.7**	**+0.1**
	baz=291							
WHY	**Whitehorse**	**79.42**	**29**	P		**P**	**15 24 21.7**	**-0.5**
	baz=292							
FARO	**Faro, Yukon**	**79.51**	**27**	P		**P**	**15 24 22.9**	**+0.4**
	baz=293							
BURAR	**Bucovina Array**	**79.54**	**317**	P		**P**	**15 24 23.1**	**+0.1**
BUR08	**Bucovina Ar. S**	**79.55**	**317**	P		**P**	**15 24 23.2**	**+0.1**
UPP	**Uppsala**	**79.66**	**330**	*eP*		**P**	**15 24 23.1**	**-0.1**
SKAG	**Skagway**	**79.66**	**30**	P		**P**	**15 24 24.2**	**+0.9**
	baz=292							
STNU	**Starunia**	**79.66**	**318**	P		**P**	**15 24 24.0**	**+0.5**
MLR	**Muntele Rosu**	**79.72**	**315**	LR		LR	16 05 57.5	
	comp=Z,140nm,18.8s,baz=66,slow=40							
C36M	**Paulatuk**	**79.81**	**19**	P		**P**	**15 24 23.3**	**-0.6**
C36M				IAmb		IAmb	15 24 35.5	
	comp=Z,4.6nm,0.6s							
MORS	**Morshin**	**79.91**	**319**	P		**P**	**15 24 26.0**	**+1.2**
VIKU	**Vikbolandet**	**80.61**	**329**	*eP*		**P**	**15 24 29.0**	**+0.6**
DAG	**Danmarks Havn**	**80.61**	**351**	*i* P		**P**	**15 24 27.9**	**-0.2**
DAG				IAmb		IAmb	15 24 28.4	
	comp=Z,12nm,0.9s							
MUKU	**Mukachevo**	**80.88**	**318**	P		**P**	**15 24 31.3**	**+1.2**
HOLU	**Holmets**	**81.05**	**318**	P		**P**	**15 24 31.6**	**+0.6**
HFS	**Hagfors**	**81.36**	**331**	P		**P**	**15 24 31.8**	**-0.6**
	comp=Z,4.8nm,0.7s,baz=90,slow=5.9,SNR=16							
HFS				LR		LR	16 03 39.6	
	comp=Z,162nm,18.2s,baz=62,slow=38							
	comp=Z,4.8nm,0.7s							
CRVS	**Cervenica-Dubn**	**81.49**	**319**	*eP*		**P**	**15 24 34.5**	**+1.1**
NC405	**NORSAR Array S**	**81.81**	**332**	P		**P**	**15 24 34.7**	**-0.1**
NC405				IAmb		IAmb	15 24 35.5	
	comp=Z,14nm,0.8s							
NIE	**Niedzica**	**82.02**	**320**	P		**P**	**15 24 37.4**	**+1.2**
	comp=Z,4.1nm,1.3s							
OJC	**Ojcow**	**82.03**	**321**	P		**P**	**15 24 36.1**	**-0.1**
OJC				IAmb		IAmb	15 24 38.3	
	comp=Z,11nm,0.9s							
OJC	**Ojcow**	**82.03**	**321**	P		**P**	**15 24 36.9**	**+0.7**
	comp=Z,16nm,1.0s							
NB2	**NORSAR Subarra**	**82.06**	**333**	P		**P**	**15 24 35.6**	**-0.6**
	comp=Z,1.5nm,0.7s,baz=64,slow=5.3							
NOA	**NORSAR Array B**	**82.06**	**333**	P		**P**	**15 24 35.6**	**-0.6**
	comp=Z,3.1nm,0.8s,baz=64,slow=5.3,SNR=7.6							
NOA				LR		LR	16 04 33.0	
	comp=Z,265nm,18.1s,baz=65,slow=38							
	comp=Z,3.1nm,0.8s							
OPO	**Ambohidratompo**	**82.11**	**247**	LR		LR	15 59 00.8	
	comp=Z,48nm,19.0s,baz=225,slow=34							
NEEM	**North Greenlan**	**82.77**	**358**	*i* P		**P**	**15 24 38.4**	**-1.5**
NEEM				IAmb		IAmb	15 24 43.0	
	comp=Z,11nm,0.8s							
DBG	**Daneborg**	**82.83**	**350**	*eP*		**P**	**15 24 38.6**	**-1.3**
RES	**Resolute Bay**	**82.87**	**9**	P		**P**	**15 24 40.0**	**0.0**
JMIC	**Jan Mayen**	**83.00**	**345**	LR		LR	16 06 24.8	
	comp=Z,97nm,18.6s,baz=211,slow=39							
VYHS	**Vyhne**	**83.26**	**319**	*eP*		**P**	**15 24 43.6**	**+1.0**
MORC	**Moravsky Berou**	**83.55**	**321**	*eP*		**P**	**15 24 44.7**	**+0.6**
JAVC	**Velka Javorina**	**83.83**	**320**	*eP*		**P**	**15 24 47.5**	**+1.9**
DPC	**Dobruska-Polom**	**84.04**	**322**	P		**P**	**15 24 47.6**	**+1.0**
	comp=Z,5.5nm,1.5s							
MORH	**Mrgy, Hungar**	**84.25**	**317**	P		**P**	**15 24 48.2**	**+0.5**
	comp=Z,5.1nm,1.3s							
MODS	**Modra-Piesok**	**84.27**	**319**	*eP*		**P**	**15 24 49.1**	**+1.3**
KRUC	**Moravsky**	**84.52**	**320**	*eP*		**P**	**15 24 49.4**	**+0.4**
MPLH	**Magyarpolny**	**84.58**	**318**	P		**P**	**15 24 50.6**	**+1.2**
RONA	**Rosalia, Austr**	**85.14**	**319**	*eP*		**P**	**15 24 52.8**	**+0.5**
	comp=Z,6.3nm,1.1s							
BRG	**Berggiesshubel**	**85.20**	**323**	*eP*		**P**	**15 24 53.2**	**+0.8**
BRG				Amp			15 24 54.0	
	comp=Z,3.9nm,0.9s							
CONA	**Conrad Observa**	**85.31**	**319**	*e*PcP		**P**	**15 24 54.0**	**+0.9**
	comp=Z,9.5nm,1.3s							
CLL	**Collm**	**85.54**	**323**	*i* P		**P**	**15 24 54.2**	**+0.1**
	comp=Z,13nm,1.3s							
CLL				*e*pP		**pP**	**15 25 03.0**	**-1.3**
GERES	**GERESS Array B**	**86.22**	**321**	P		**P**	**15 24 56.5**	**-1.2**
	comp=Z,1.3nm,0.6s,baz=90,slow=6.7,SNR=3.0							
	comp=Z,1.3nm,0.6s							
SUMG	**Summit**	**86.77**	**354**	*eP*		**P**	**15 25 01.1**	**+0.8**
SUMG				IAmb		IAmb	15 25 01.5	
	comp=Z,5.7nm,0.7s							
YKA	**Yellowknife Ar**	**86.88**	**23**	P		**P**	**15 25 00.0**	**-0.4**
	comp=Z,2.3nm,0.7s,baz=313,slow=5.0,SNR=38							
	comp=Z,2.3nm,0.7s							
DAVOX	**Davos/Dischmat**	**89.46**	**320**	LR		LR	16 09 33.1	
	comp=Z,94nm,18.7s,baz=261,slow=38							
VAE	**Valguarnera**	**90.72**	**310**	LR		LR	16 11 59.8	
	comp=Z,60nm,21.8s,baz=332,slow=39							
MBAR	**Mbarara**	**90.73**	**270**	LR		LR	16 08 55.9	
	comp=Z,44nm,18.0s,baz=61,slow=37							
BORG	**Borgarnes**	**90.88**	**345**	LR		LR	16 09 35.4	
	comp=Z,64nm,20.6s,baz=356,slow=38							
EKA	**Eskdalemuir Ar**	**91.54**	**332**	P		**P**	**15 25 22.2**	**-0.3**
	comp=Z,1.4nm,0.9s,baz=72,slow=2.3,SNR=3.4							
	comp=Z,1.4nm,0.9s							
DY2G	**Dye2**	**93.40**	**355**	*eP*		**P**	**15 25 30.9**	**-0.3**
NEW	**Newport**	**94.46**	**35**	P		**P**	**15 25 36.2**	**0.0**
	baz=307							
PPT	**Papeete**	**95.03**	**107**	LR		LR	16 02 06.6	
	comp=Z,73nm,19.3s,baz=233,slow=32							
KEST	**Kesra**	**95.15**	**311**	LR		LR	16 16 16.7	
	comp=Z,64nm,19.2s,baz=279,slow=40							
FRB	**Frobisher Bay**	**96.29**	**4**	LR		LR	16 12 42.0	
	comp=Z,52nm,20.6s,baz=10,slow=38							
MAW	**Mawson**	**97.09**	**199**	LR		LR	16 08 40.2	
	comp=Z,50nm,18.5s,baz=242,slow=35							
EGMT	**Eagleton**	**98.43**	**32**	P		**P**	**15 25 54.0**	**-0.2**
	baz=312							
HLID	**Hailey**	**98.81**	**37**	P		**P**	**15 25 56.3**	**+0.1**
	baz=308							
NVAR	**Mina Array Bea**	**99.48**	**43**	P		**Pdif**	**15 25 58.3**	**-1.1**
	comp=Z,0.4nm,0.3s,baz=232,slow=4.4,SNR=9.1							
	comp=Z,0.4nm,0.3s							
LAO	**LASA Array**	**101.08**	**31**	P		**Pdif**	**15 26 05.8**	**-0.4**
	baz=315							
IKP	**In-Ko-Pah, Jac**	**104.25**	**47**	P		**Pdif**	**15 26 20.4**	**-0.1**
	baz=305							
SWSC	**Sam W. Stewart**	**104.29**	**47**	P		**Pdif**	**15 26 20.2**	**-0.4**
	baz=306							
O20A	**White River Ci**	**104.54**	**37**	P		**Pdif**	**15 26 20.4**	**-1.5**
	baz=312							
PDMCI	**Parker Dam,Lak**	**104.61**	**45**	P		**Pdif**	**15 26 20.9**	**-1.1**
	baz=307							
GLA	**Glamis**	**104.89**	**46**	P		**Pdif**	**15 26 22.4**	**-0.9**
	baz=306							
N23A	**Red Feather La**	**105.30**	**35**	P		**PKiKP**	**15 30 38.5**	**-0.7**
	baz=314							
ISCO	**Idaho Springs**	**106.24**	**36**	P		**PKiKP**	**15 30 40.2**	**-0.9**
	baz=314							
MVCO	**Mesa Verde**	**106.34**	**39**	P		**PKiKP**	**15 30 40.9**	**-0.3**
	baz=312							
EYMN	**Ely**	**106.36**	**22**	P		**PKiKP**	**15 30 40.3**	**-0.3**
	baz=328							
214A	**Organ Pipe Nat**	**106.91**	**46**	P		**PKiKP**	**15 30 41.4**	**-0.7**
	baz=307							
W18A	**Petrified Fore**	**106.95**	**42**	P		**PKiKP**	**15 30 41.7**	**-0.7**
	baz=310							
Q24A	**Divide**	**107.08**	**36**	P		**PKiKP**	**15 30 41.3**	**-1.3**
	baz=315							
SDCO	**Great Sand Dun**	**107.73**	**37**	P		**PKiKP**	**15 30 42.8**	**-1.0**
	baz=314							
TUC	**Tucson**	**108.05**	**45**	P		**PKiKP**	**15 30 42.9**	**-1.4**
	baz=309							
ANMO	**Albuquerque**	**109.08**	**40**	P		**PKiKP**	**15 30 45.6**	**-0.7**
	baz=313							
CBKS	**Cedar Bluff**	**110.09**	**33**	P		**PKiKP**	**15 30 47.2**	**-0.7**
	baz=319							
JFWS	**Jewell Farm**	**111.09**	**24**	P		**PKiKP**	**15 30 49.2**	**-0.4**
	baz=328							
KSU1	**Kansas State U**	**111.43**	**31**	P		**PKiKP**	**15 30 50.0**	**-0.4**
	baz=322							
AMTX	**Amarillo**	**111.93**	**37**	P		**PKiKP**	**15 30 51.0**	**-0.6**
	baz=316							
MNTX	**Cornudas Mount**	**111.94**	**42**	P		**PKiKP**	**15 30 51.0**	**-0.5**
	baz=313							
MSTX	**Muleshoe**	**111.96**	**39**	P		**PKiKP**	**15 30 50.8**	**-0.9**
	baz=315							
TUL3	**Leonard**	**114.33**	**33**	P		**PKiKP**	**15 30 55.2**	**-0.8**
	baz=322							
ABTX	**Abilene, Hawle**	**114.74**	**38**	P		**PKiKP**	**15 30 55.9**	**-1.0**
	baz=317							
CCM	**Cathedral Cave**	**114.75**	**28**	P		**PKiKP**	**15 30 55.5**	**-1.3**
	baz=326							
WHTX	**Lake Whitney,**	**116.45**	**36**	P		**PKPdf**	**15 30 59.1**	**-1.1**
	baz=319							
MIAR	**Mount Ida**	**116.52**	**32**	P		**PKPdf**	**15 30 59.1**	**-1.1**
	baz=323							
SSPA	**Standing Stone**	**117.20**	**16**	P		**PKPdf**	**15 31 00.4**	**-1.0**
	baz=340							
TZTN	**Tazewell**	**119.16**	**23**	P		**PKPdf**	**15 31 04.6**	**-0.7**
	baz=333							

IDC 14 15:33:00.3±35.0, 30.39S×175.29W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=661.0km s-min=180.9km az=98.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.76**	**256**	P	P	15 40 09.6	-0.1
	1.2nm,0.5s,baz=101,slow=12,SNR=4.9						
	1.2nm,0.5s						
ASAR	**Alice Springs**	**45.45**	**266**	P	P	15 41 20.9	-0.4
	0.3nm,0.5s,baz=105,slow=7.2,SNR=12						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**46.44**	**271**	P	P	15 41 29.2	+0.1
	0.4nm,0.3s,baz=111,slow=8.0,SNR=12						
	0.4nm,0.3s						

*NEIC **14** 15:34:20.3±0.5, 19.34N±0.03×155.16W±0.02, h1km±10km, Error ellipse: s-maj=4.7km s-min=1.9km az=144.0*

HVO 14 15:34:19.5±0.8, 19.32N±0.03×155.13W±0.03, h6km±3km, Md2.5/10, ML2.7/26(NEIC), Error ellipse: s-maj=5.1km s-min=1.5km az=135.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.07**	**3**		Pg	15 34 21.4	+0.2
STCH	**Steam Cracks**	**0.07**	**3**	IAML		15 34 23.3	
	comp=E,4μm,0.2s						
STCH				IAML		15 34 23.4	
	comp=N,2μm,0.2s						
JCUZ	**Jacuzzi**	**0.07**	**21**		Pg	15 34 21.6	+0.3
JCUZ	**Jacuzzi**	**0.07**	**21**	IAML		15 34 23.4	
	comp=E,2μm,0.8s						
JCUZ				IAML		15 34 23.9	
	comp=N,1μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.07**	**330**		Pg	15 34 21.5	+0.1
NPOC	**North of Pu'u**	**0.08**	**13**		Pg	15 34 21.5	+0.1
PUH	**Pauahi**	**0.10**	**306**		Pg	15 34 21.7	0.0
PUH				IAML		15 34 22.5	
	comp=N,3μm,1.2s						
HLP	**Hilina Pali**	**0.17**	**264**		Pg	15 34 23.2	+0.3
HLP	**Hilina Pali**	**0.17**	**264**	IAML		15 34 25.9	
	comp=E,1μm,0.9s						
HLP				IAML		15 34 26.2	
	comp=N,2μm,1.3s						
HTC	**Hot Caves**	**0.27**	**253**		Pg	15 34 25.2	+0.5
MLH	**Mauna Loa**	**0.30**	**306**		Pg	15 34 25.5	0.0
MLH				IAML		15 34 26.4	
	comp=N,1μm,1.3s						
MLH				IAML		15 34 31.9	
	comp=E,1μm,1.2s						
HMH	**Humu'ula Sheep**	**0.44**	**311**		Pg	15 34 28.0	-0.1
HMH	**Humu'ula Sheep**	**0.44**	**311**	IAML		15 34 35.1	
	comp=N,1μm,0.3s						
HMH				IAML		15 34 35.2	
	comp=E,1μm,0.3s						
KHU	**Kahuku**	**0.46**	**262**		Pg	15 34 28.2	-0.3
KHU	**Kahuku**	**0.46**	**262**	IAML		15 34 36.4	
	comp=N,522nm,1.1s						
KHU				IAML		15 34 37.9	
	comp=E,434nm,1.4s						
MWH	**Moku'aweowe**	**0.47**	**291**		Pg	15 34 28.6	-0.2
MWH	**Moku'aweowe**	**0.47**	**291**	IAML		15 34 37.0	
	comp=E,2μm,1.1s						
MWH				IAML		15 34 37.1	
	comp=N,1μm,1.2s						
MLOA	**Mauna Loa Obse**	**0.48**	**298**	Pg	Pg	15 34 28.5	-0.2
MLOA				IAML		15 34 31.8	
	comp=E,701nm,1.3s						
MLOA				IAML		15 34 36.6	
	comp=N,672nm,0.9s						
ALEP	**Alea Permanent**	**0.54**	**295**		Pg	15 34 29.4	-0.5
ALEP					Sg	15 34 37.3	+0.4
POHA	**Pohakuloa**	**0.58**	**319**		Sg	15 34 38.0	-0.4
POHA	**Pohakuloa**	**0.58**	**319**	Pg	Pg	15 34 30.0	-0.7
POHA				IAML		15 34 39.2	
	comp=N,715nm,0.4s						
POHA				IAML		15 34 39.3	
	comp=N,540nm,0.3s						
HUH	**Hualalai**	**0.76**	**299**	Pg	Pg	15 34 33.0	-1.2
HPAH	**Hawaii Prepara**	**0.89**	**323**	Pg	Pg	15 34 35.2	-1.5
HPAH				IAML		15 34 49.5	
	comp=E,157nm,1.3s						

*IDC **14** 15:38:17.4±0.8, 7.01N×127.18E, h0km, mb3.7/8, mbtmp3.7/8, Error ellipse: s-maj=24.9km s-min=16.3km az=60.0*

ISC 14 15:38:25.2±0.9, 6.9N±0.1×127.1E±0.1, h60km, n9, σ0.67/12, mb3.8/8, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.47**	**276**	Pn	**Pn**	**15 38 49.1**	**-0.5**
	64nm,0.3s,baz=247,slow=3.9,SNR=12						
DAV				Sn	**Sn**	**15 39 09.0**	**+1.0**
	122nm,0.3s,baz=98,slow=19,SNR=8.3						
WRA	**Warramunga Arr**	**27.65**	**165**	P	**P**	**15 44 07.5**	**0.0**
	0.3nm,0.5s,baz=345,slow=10,SNR=6.0						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**31.13**	**168**	P	**P**	**15 44 38.2**	**-0.2**
	0.1nm,0.3s,baz=344,slow=7.4,SNR=14						
ASAR				PcP	**PcP**	**15 47 33.0**	**+0.3**
	0.1nm,0.3s,baz=352,slow=2.3,SNR=5.5						
	0.1nm,0.3s						
STKA	**St

LXIB	**Xiulin Townshi**	**0.41 224**	P	Pn	15 48 44.3	-0.8
	baz=215						
FUSS	**Fushou**	**0.44 261**	*eP*	Pn	15 48 46.0	+0.4
	baz=261						
FUSS			*eS*	Sn	15 48 54.0	+0.3
	baz=261						
WHF	**Hehuan Shan**	**0.45 248**	*eP*	Pn	15 48 45.5	-0.4
	baz=248						
WHF			*eS*	Sn	15 48 54.0	-0.2
	baz=248						
FUSB	**Fushanzhiwuyua**	**0.46 345**	*eP*	Pn	15 48 46.1	+0.5
	baz=336						
FUSB			*eS*	Sn	15 48 54.8	+1.0
	baz=336						
YHNB	**Yeheng**	**0.47 318**	*eP*	Pn	15 48 46.1	+0.4
	baz=318						
YHNB			*eS*	Sn	15 48 54.3	+0.3
	baz=318						
NSK	**Sanguang**	**0.49 317**	*eS*	Sn	15 48 54.3	0.0
	baz=317						
NWLT	**Wulai**	**0.50 337**	*eP*	Pn	15 48 46.4	+0.4
	baz=336						
NWLT			*eS*	Sn	15 48 55.0	+0.5
	baz=336						
TWT	**Tachien**	**0.50 263**	P	Pn	15 48 46.9	+0.7
	baz=257						
TWT			S	Sn	15 48 55.6	+0.8
	baz=257						
TDCB	**Techi**	**0.52 263**	P	Pn	15 48 47.0	+0.7
	baz=258						
TDCB			S	Sn	15 48 55.4	+0.4
	baz=258						
SHUL	**Shoufeng**	**0.55 195**	*eP*	Pn	15 48 45.9	-0.6
	baz=186						
CHGB	**Renai**	**0.56 243**	*eP*	Pn	15 48 47.1	+0.3
	baz=239						
CHGB			*eS*	Sn	15 48 56.1	+0.2
	baz=239						
ESL	**Shilin**	**0.56 208**	*eP*	Pn	15 48 46.6	-0.1
	baz=212						
ESL			*eS*	Sn	15 48 53.9	-1.8
	baz=212						
OWD	**Renai**	**0.61 234**	*eS*	Sn	15 48 57.1	+0.2
	baz=233						
WUSB	**Renai**	**0.64 240**	*eP*	Pn	15 48 48.0	+0.2
	baz=236						
WUSB			*eS*	Sn	15 48 57.5	+0.1
	baz=236						
WARBT	**Fenglin Townsh**	**0.67 207**	*eP*	Pn	15 48 46.9	-1.1
	baz=212						
WHP	**Taichung City**	**0.71 267**	P	Pn	15 48 50.5	+1.9
	baz=267						
WHP			*eS*	Sn	15 49 00.9	+2.1
	baz=267						
VWDT	**VWDT**	**0.77 223**	P	Pn	15 48 49.4	+0.1
	baz=217						
VWDT			S	Sn	15 49 00.6	+0.5
	baz=217						
SSLB	**Suanglung**	**0.88 233**	*eP*	Pn	15 48 51.6	+1.0
	baz=231						
SSLB			*eS*	Sn	15 49 03.7	+1.1
	baz=231						
WHYT	**Xinyi Township**	**1.00 232**	P	Pn	15 48 53.5	+1.2
	baz=234						
WHYT			S	Sn	15 49 07.0	+1.4
	baz=234						

HVO ***14*** *16:12:40.7±1.0,19°.34N±0°.02×155°.11W±0°.01,h-1km±8km, ML2.4/4,ML2.8/38(NEIC),Error ellipse: s-maj=3.5km s-min=0.9km az=150.0*

NEIC 14 16:12:41.9±0.7,19°.35N±0°.01×155°.118W±0°.009, h5km±1km,Error ellipse: s-maj=2.8km s-min=1.9km az=48.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.03**	**348**		Pg	16 12 43.3	+0.2
JCUZ	**Jacuzzi**	**0.03**	**27**		Pg	16 12 43.2	+0.1
NPOC	**North of Pu'u**	**0.04**	**12**		Pg	16 12 43.4	+0.2
KNHH	**Kane Nui o Ham**	**0.06**	**298**		Pg	16 12 43.6	+0.2
PUH	**Pauahi**	**0.10**	**282**		Pg	16 12 44.1	0.0
JOKA	**Jonika Flow**	**0.13**	**53**		Pg	16 12 44.1	-0.6
JOKA					Sg	16 12 47.0	+0.5
HATHI	**Halema'uma'u T**	**0.15**	**297**	Pg	Pg	16 12 45.0	0.0
RIM	**Rim**	**0.15**	**286**	IAML		16 12 44.5	
	comp=E,4μm,0.3s						
RIM				Pg	Pg	16 12 45.1	+0.1
SBLHI	**Steaming Bluff**	**0.16**	**297**	Pg	Pg	16 12 45.1	-0.1
RSD	**Rainshed**	**0.19**	**306**	Pg	Pg	16 12 45.7	+0.1
RSD				IAML		16 12 49.4	
	comp=N,3μm,0.7s						
RSD				IAML		16 12 50.0	
	comp=E,2μm,0.8s						
HLP	**Hilina Pali**	**0.19**	**252**		Sg	16 12 49.2	+1.1
HLP	**Hilina Pali**	**0.19**	**252**	Pg	Pg	16 12 45.7	0.0
HLP	**Hilina Pali**	**0.19**	**252**	IAML		16 12 49.7	
	comp=E,3μm,1.2s						
HLP				IAML		16 12 50.5	
	comp=N,2μm,0.7s						
HTC	**Hot Caves**	**0.29**	**246**		Pg	16 12 47.6	0.0
MLH	**Mauna Loa**	**0.29**	**299**	Pg	Pg	16 12 47.4	-0.2
MLH				IAML		16 12 49.4	
	comp=N,2μm,1.5s						
MLH				IAML		16 12 56.4	
	comp=E,1μm,1.1s						
HMH	**Humu'ula Sheep**	**0.42**	**306**		Pg	16 12 50.0	-0.2
HMH	**Humu'ula Sheep**	**0.42**	**306**	IAML		16 12 57.5	
	comp=N,2μm,0.3s						
HMH				IAML		16 12 57.6	
	comp=E,1μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.47**	**293**		Sg	16 12 58.3	+1.1
MLOA	**Mauna Loa Obse**	**0.47**	**293**		Pg	16 12 50.8	-0.3
MLOA	**Mauna Loa Obse**	**0.47**	**293**	IAML		16 12 58.0	
	comp=N,723nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.47**	**293**	IAML		16 12 59.4	
	comp=E,660nm,0.6s						
MWH	**Moku'aweowe**	**0.47**	**286**		Pg	16 12 50.7	-0.4
MWH	**Moku'aweowe**	**0.47**	**286**	IAML		16 13 02.6	
	comp=N,944nm,1.3s						
KHU	**Kahuku**	**0.48**	**257**		Sg	16 12 58.4	+0.8
KHU	**Kahuku**	**0.48**	**257**	Pg	Pg	16 12 50.3	-0.9
KHU	**Kahuku**	**0.48**	**257**	IAML		16 13 00.3	
	comp=E,676nm,1.1s						
KHU				IAML		16 13 06.6	
	comp=N,567nm,1.2s						
POHA	**Pohakuloa**	**0.56**	**316**	Pg	Pg	16 12 51.7	-1.0
POHA				IAML		16 13 01.6	
	comp=N,977nm,0.2s						
POHA				IAML		16 13 04.5	
	comp=N,886nm,0.2s						
HUH	**Hualalai**	**0.75**	**296**	Pg	Pg	16 12 54.9	-1.5
CPH	**Captain Cook**	**0.77**	**280**		Pg	16 12 55.4	-1.3
HPAH	**Hawaii Prepara**	**0.87**	**321**	Pg	Pg	16 12 56.1	-2.4
HPAH				IAML		16 13 09.8	
	comp=N,228nm,0.2s						
HPAH				IAML		16 13 09.9	
	comp=E,218nm,0.3s						
MHA	**Mahukona**	**1.11**	**318**	Pg	Pg	16 12 59.3	-3.9

NOU ***14*** *16:54:12.1,20°.87S×178°.05W,h520km,mb4.6/33,Fiji Islands Region*

NEIC ***14*** *16:54:13.6±2.1,20°.9S±0°.1×178°.3W±0°.1,h526km±6km, mb4.5/72,Error ellipse: s-maj=17.2km s-min=14.6km az=124.0*

IDC ***14*** *16:54:15.3±2.1,20°.97S×178°.33W,h553km±23km, mb3.6/15,mbtmp4.5/17,Error ellipse: s-maj=16.3km s-min=10.6km az=144.0*

ISC 14 16:54:14.6±0.4,20°.89S±0°.07×178°.25W±0°.06,h550km, n232,σ1s16/243,mb4.4/55,1C,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.70**	**311**	P	**P**	**16 55 41.5**	**-0.6**
NIUE	**Niue**	**8.03**	**78**	P	**P**	**16 56 12.2**	**-0.4**
RAO	**Raoul Island**	**8.33**	**178**	P	**P**	**16 56 14.4**	**-1.0**
AFI	**Afiamalu**	**9.29**	**43**	P	**P**	**16 56 22.2**	**-3.3**
PINNC	**Pines Island,**	**13.40**	**260**	P	**P**	**16 57 08.3**	**+0.7**
PINNC	**Pines Island,**	**13.40**	**260**	P	**P**	**16 57 07.9**	**+0.3**
LIFNC	**LIFOU**	**13.57**	**268**	P	**P**	**16 57 09.0**	**-0.4**
OUENC	**Ouen Island, N**	**13.95**	**261**	P	**P**	**16 57 14.9**	**+1.6**
OUENC	**Ouen Island, N**	**13.95**	**261**	P	**P**	**16 57 11.1**	**-2.1**
DZM	**Mont Dzumac**	**14.30**	**263**	P	**P**	**16 57 16.8**	**-0.2**
DZM	**Mont Dzumac**	**14.30**	**263**	*eP*	**P**	**16 57 17.3**	**+0.3**
	89nm,1.1s						
DZM				*eS*	**S**	**16 59 41.4**	**-5.9**
	279nm,25.6s						
DZM	**Mont Dzumac**	**14.30**	**263**	P	**P**	**16 57 16.3**	**-0.7**
DZM	**Mont Dzumac**	**14.30**	**263**	P	**P**	**16 57 16.1**	**-0.9**
	28nm,0.8s,baz=91,slow=16,SNR=14						
ONTNC	**Ouen Toro**	**14.30**	**262**	P	**P**	**16 57 16.9**	**0.0**
MXZ	**Matakaoa Point**	**16.88**	**189**	P	**P**	**16 57 43.2**	**+1.2**
WIZ	**White Island**	**17.05**	**192**	P	**P**	16 57 59.0	+.15
WMGZ	**Waiomatatini S**	**17.12**	**189**	P	**P**	**16 57 46.5**	**+2.3**
HAZ	**Te Kaha**	**17.16**	**191**	P	**P**	**16 57 44.8**	**+0.3**
PKGZ	**Pakihiroa**	**17.24**	**190**	P	**P**	**16 57 46.6**	**+1.3**
RUGZ	**Raukumara Rang**	**17.38**	**191**	P	**P**	**16 57 47.8**	**+1.1**
PUZ	**Puketiti**	**17.39**	**189**	P	**P**	**16 57 48.7**	**+2.0**
TGRZ	**Tauranga**	**17.45**	**195**	P	**P**	**16 57 48.9**	**+1.8**
TWGZ	**Tauwhareparae**	**17.54**	**190**	P	**P**	**16 57 49.0**	**+0.9**
MARZ	**Manawahe**	**17.60**	**193**	P	**P**	**16 57 50.7**	**+2.1**
TOZ	**Tahuroa Road**	**17.64**	**197**	P	**P**	**16 57 50.5**	**+1.5**
TOZ	**Tahuroa Road**	**17.64**	**197**	P	**P**	**16 57 50.6**	**+1.7**
KARZ	**Kaharoa**	**17.73**	**194**	P	**P**	**16 57 52.2**	**+2.4**
MWZ	**Matawai**	**17.77**	**191**	P	**P**	**16 57 49.4**	**-0.7**
URZ	**Urewera**	**17.77**	**192**	P	**P**	**16 57 47.9**	**-2.2**
URZ	**Urewera**	**17.77**	**192**	P	**P**	**16 57 48.1**	**-2.0**
	9.5nm,0.3s,baz=300,slow=22,SNR=14						
URZ				S	**S**	**17 00 44.5**	**-1.2**
	6.9nm,0.6s,baz=203,slow=9.6,SNR=2.0						
URZ	**Urewera**	**17.77**	**192**	P	**P**	**16 57 48.3**	**-1.8**
OMRZ	**Omania**	**17.78**	**194**	P	**P**	**16 57 53.3**	**+3.0**
CNGZ	**Carnagh Statio**	**17.80**	**189**	P	**P**	**16 57 51.6**	**+1.2**
RAGZ	**Rawiri**	**17.94**	**191**	P	**P**	**16 57 52.0**	**+0.2**
HSRZ	**Hossack Road**	**18.00**	**194**	P	**P**	**16 57 54.2**	**+1.9**
MUGZ	**Murupara**	**18.05**	**193**	P	**P**	**16 57 52.1**	**-0.7**
HRRZ	**Handcock Road**	**18.07**	**194**	P	**P**	**16 57 54.1**	**+1.1**
RIGZ	**Rimuhau**	**18.09**	**190**	P	**P**	**16 57 53.5**	**+0.4**
TLZ	**Tolley Road**	**18.19**	**196**	P	**P**	**16 57 56.3**	**+2.3**
SNGZ	**Shannon Statio**	**18.23**	**191**	P	**P**	**16 57 53.9**	**-0.5**
MTHZ	**Maungataniwha**	**18.40**	**192**	P	**P**	**16 57 56.5**	**+0.6**
RAHZ	**Arahi**	**18.41**	**192**	P	**P**	**16 57 56.1**	**0.0**
MRHZ	**Matea Rd**	**18.47**	**193**	P	**P**	**16 57 55.7**	**-0.9**
NMHZ	**Naumai**	**18.64**	**192**	P	**P**	**16 57 57.9**	**-0.3**
RATZ	**Rangitukua**	**18.64**	**195**	P	**P**	**16 57 58.4**	**+0.2**
BKZ	**Black Stump Fm**	**18.77**	**193**	P	**P**	**16 57 57.5**	**-1.9**
NTVZ	**North Tongarir**	**18.89**	**195**	P	**P**	**16 58 01.3**	**+0.7**
TMVZ	**Te Maari**	**18.90**	**195**	P	**P**	**16 58 01.1**	**+0.5**
ETVZ	**East Tongariro**	**18.91**	**195**	P	**P**	**16 58 01.2**	**+0.5**
NNVZ	**North Ngauruho**	**18.93**	**195**	P	**P**	**16 58 01.1**	**+0.1**
OTVZ	**Oturere**	**18.95**	**195**	P	**P**	**16 58 00.2**	**-0.9**
NGZ	**Ngauruhoe**	**18.98**	**195**	P	**P**	**16 58 02.1**	**+0.7**
SNVZ	**South Ngauruho**	**18.98**	**195**	P	**P**	**16 58 01.5**	**+0.1**
MCHZ	**McNeill Hill**	**19.00**	**192**	P	**P**	**16 58 00.9**	**-0.4**
KWHZ	**Kaweka Forest**	**19.03**	**193**	P	**P**	**16 58 01.0**	**-0.8**
WNVZ	**Wahianoa**	**19.12**	**195**	P	**P**	**16 58 02.3**	**-0.4**
VRZ	**Vera Road**	**19.14**	**197**	P	**P**	**16 58 05.7**	**+3.0**
MOVZ	**Moawhango**	**19.16**	**194**	P	**P**	**16 58 02.1**	**-0.9**
BHHZ	**Black Hill Sta**	**19.17**	**194**	P	**P**	**16 58 01.0**	**-2.0**
KRHZ	**Kereru**	**19.25**	**193**	P	**P**	**16 58 02.8**	**-0.9**
KAHZ	**Kahuranaki**	**19.30**	**191**	P	**P**	**16 58 04.2**	**0.0**
NEZ	**North Egmont**	**19.47**	**198**	P	**P**	**16 58 09.0**	**+3.3**
PNHZ	**Pukenui**	**19.55**	**193**	P	**P**	**16 58 06.5**	**+0.1**
TSZ	**Takapari Road**	**19.74**	**193**	P	**P**	**16 58 08.6**	**+0.4**
DVHZ	**Dannevirke**	**19.93**	**193**	P	**P**	**16 58 11.1**	**+1.2**
ANWZ	**Angora Road**	**20.02**	**192**	P	**P**	**16 58 10.1**	**-0.5**
BFZ	**Birch Farm**	**20.28**	**192**	P	**P**	**16 58 12.9**	**-0.1**
MRZ	**Mangatainoka R**	**20.40**	**194**	P	**P**	**16 58 13.6**	**-0.5**
HOWZ	**Holdsworth Sta**	**20.64**	**194**	P	**P**	**16 58 16.9**	**+0.6**
OGWZ	**Otaki Gorge**	**20.64**	**194**	P	**P**	**16 58 16.4**	**+0.2**
CAW	**Cannon Point**	**20.94**	**194**	P	**P**	**16 58 19.5**	**+0.5**
TCW	**Tory Channel**	**21.23**	**196**	P	**P**	**16 58 22.0**	**+0.4**
QRZ	**Quartz Range**	**21.37**	**200**	P	**P**	**16 58 23.1**	**+0.2**
QRZ	**Quartz Range**	**21.37**	**200**	P	**P**	**16 58 23.0**	**+0.2**
THZ	**Tophouse**	**22.11**	**198**	P	**P**	**16 58 28.9**	**-0.6**
INZ	**Inchbonnie**	**23.43**	**199**	P	**P**	**16 58 39.9**	**-1.3**
OXZ	**Oxford**	**23.80**	**198**	P	**P**	**16 58 43.2**	**-1.3**
WKZ	**Wanaka**	**26.09**	**201**	P	**P**	**16 59 03.8**	**-1.0**
PPT2	**Papeete2**	**27.25**	**88**	*es*S	**sS**	**17 05 59.0**	**-4.1**
	106nm,23.2s						
PPT2				*es*S	sS	17 05 59.1	-4.1
	108nm,26.0s						
WHZ	**Wether Hill Ro**	**27.39**	**201**	P	**P**	**16 59 17.2**	**+1.0**
WHZ				IAmb	IAmb	16 59 19.8	
	comp=Z,24nm,0.9s						
EIDS	**Eidsvold**	**28.52**	**255**	P	**P**	**16 59 26.6**	**+0.3**
EIDS				IAmb	IAmb	16 59 27.3	
	comp=Z,7.8nm,0.7s						
ARMA	**Armidale**	**28.69**	**245**	P	**P**	**16 59 28.6**	**+0.7**
ARMA				IAmb	IAmb	16 59 29.8	
	comp=Z,13nm,0.8s						
AULRC	**Lightning Ridg**	**31.64**	**248**	P	**P**	**16 59 54.0**	**+0.9**
CNB	**Canberra Magne**	**31.82**	**236**	P	**P**	**16 59 56.0**	**+1.4**
CAN	**Canberra**	**32.10**	**236**	P	**P**	**16 59 57.6**	**+0.6**
CTAO	**Charters Tower**	**33.22**	**265**	P	**P**	**17 00 06.8**	**+0.1**
CMSA	**Cobar Meteorol**	**33.91**	**244**	P	**P**	**17 00 12.8**	**+0.5**
QLP	**Quilpie**	**34.72**	**253**	P	**P**	**17 00 19.5**	**+0.3**
TOO	**Toolangi**	**35.48**	**234**	P	**P**	**17 00 26.5**	**+1.1**
TOO	**Toolangi**	**35.48**	**234**	P	**P**	**17 00 25.9**	**+0.5**
TOO				IAmb	IAmb	17 00 27.0	
	comp=Z,17nm,0.7s						
PATS	**Pohnpei**	**35.91**	**318**	P	**P**	**17 00 29.5**	**+0.4**
TAU	**Tasmania Unive**	**36.19**	**225**	P	**P**	**17 00 31.9**	**+0.8**
BRAT	**Ballarat**	**36.66**	**235**	P	**P**	**17 00 36.6**	**+1.6**
COEN	**Coen**	**37.38**	**274**	P	**P**	**17 00 41.5**	**+0.3**
STKA	**Stephens Creek**	**37.41**	**245**	P	**P**	**17 00 42.0**	**+0.7**
STKA	**Stephens Creek**	**37.41**	**245**	P	**P**	**17 00 41.8**	**+0.5**
STKA	**Stephens Creek**	**37.41**	**245**	P	**P**	**17 00 41.9**	**+0.7**
	comp=Z,7.9nm,0.4s,baz=95,slow=9.9,SNR=24						
	comp=Z,7.9nm,0.4s						
MANU	**Manus Island**	**38.40**	**295**	P	**P**	**17 00 49.8**	**+0.2**
MANU	**Manus Island**	**38.40**	**295**	P	**P**	**17 00 49.7**	**+0.2**
HTT	**Hallett**	**39.84**	**243**	P	**P**	**17 01 01.6**	**+0.6**
LCRK	**Leigh Creek**	**40.17**	**247**	P	**P**	**17 01 04.2**	**+0.6**
BBOO	**Buckleboo**	**42.17**	**244**	P	**P**	**17 01 19.6**	**+0.2**
BBOO	**Buckleboo**	**42.17**	**244**	P	**P**	**17 01 18.8**	**-0.6**
MULG	**Mulgathing**	**43.76**	**248**	P	**P**	**17 01 31.9**	**+0.1**
WR0	**Warramunga Arr**	**44.13**	**263**	P	**P**	**17 01 33.5**	**-1.3**
WR0				IAmb	IAmb	17 01 50.0	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**44.20**	**257**	P	**P**	**17 01 35.1**	**-0.4**
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	**17 01 34.5**	**-0.9**
ASAR	**Alice Springs**	**44.20**	**257**	P	**P**	**17 01 35.2**	**-0.2**
	comp=Z,5.7nm,0.5s,baz=93,slow=8.0,SNR=294						
ASAR				S	**S**	**17 07 27.1**	**-2.2**
	comp=Z,1.6nm,0.9s,baz=97,slow=16,SNR=7.6						
	comp=Z,5.7nm,0.5s						
WB0	**Warramunga Arr**	**44.30**	**263**	P	**P**	**17 01 35.6**	**-0.6**
WB0				IAmb	IAmb	17 01 36.2	
	comp=Z,22nm,1.2s						
WB2	**Warramunga Arr**	**44.31**	**262**	P	**P**	**17 01 35.4**	**-0.9**
WB2				IAmb	IAmb	17 01 36.0	
	comp=Z,13nm,0.9s						
WRA	**Warramunga Arr**	**44.32**	**262**	P	**P**	**17 01 35.6**	**-0.7**
WRA	**Warramunga Arr**	**44.32**	**262**	P	**P**	**17 01 35.5**	**-0.9**
	comp=Z,6.0nm,0.8s,baz=97,slow=7.7,SNR=94						
WRA				S	**S**	**17 07 31.2**	**+0.3**
	comp=Z,2.1nm,1.0s,baz=99,slow=14,SNR=4.8						
	comp=Z,6.0nm,0.8s						
GENI	**Genyem**	**44.39**	**289**	P	**P**	**17 01 37.5**	**+0.6**
FORT	**Forrest**	**48.93**	**247**	P	**P**	**17 02 10.5**	**-0.4**
MTN	**Manton Dam**	**48.94**	**271**	P	**P**	**17 02 10.5**	**-0.8**
MTN				IAmb	IAmb	17 02 11.2	
	comp=Z,22nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.75**	**263**	P	**P**	**17 02 39.2**	**+0.3**
SOEI	**Soe**	**56.28**	**272**	P	**P**	**17 03 03.9**	**0.0**
TNTI	**Ternate**	**57.33**	**285**	P	**P**	**17 03 11.2**	**+0.3**
TNTI	**Ternate**	**57.33**	**285**	P	**P**	**17 03 10.6**	**-0.3**
TNTI				IAmb	IAmb	17 03 12.0	
	comp=Z,36nm,1.0s						
PSA00	**Pilbara Seismi**	**57.35**	**257**	P	**P**	**17 03 10.5**	**-0.4**
PSA00				IAmb	IAmb	17 03 32.9	
	comp=Z,73nm,1.5s						
MBWA	**Marble Bar**	**57.54**	**258**	P	**P**	**17 03 11.7**	**-0.6**
MBWA				IAmb	IAmb	17 03 16.1	
	comp=Z,42nm,1.4s						
MORW	**Morawa**	**59.47**	**248**	P	**P**	**17 03 25.1**	**-0.1**
MORW				IAmb	IAmb	17 03 25.7	
	comp=Z,25nm,1.3s						
GIRL	**Giralia**	**62.22**	**255**	P	**P**	**17 03 43.9**	**+0.5**
TOLI2	**Tolitoli**	**63.46**	**282**	P	**P**	**17 03 51.3**	**-0.1**
TOLI2	**Tolitoli**	**63.46**	**282**	P	**P**	**17 03 50.6**	**-0.8**
TOLI2				IAmb	IAmb	17 03 52.1	
	comp=Z,12nm,1.1s						
CASY	**Casey**	**63.52**	**205**	P	**P**	**17 03 51.6**	**+0.8**
JHJ2	**Mitsune**	**66.98**	**322**	P	**P**	**17 04 13.6**	**+0.6**
QSPA	**South Pole Qui**	**69.18**	**180**	P	**P**	**17 04 27.8**	**+1.7**
	comp=Z,1.1nm,0.9s,baz=25,slow=2.5,SNR=2.6						
	comp=Z,1.1nm,0.9s						
JOW	**Kunigami**	**70.24**	**310**	P	**P**	**17 04 33.9**	**+1.1**
JOW				IAmb	IAmb	17 04 34.6	
	comp=Z,12nm,1.0s						
MJAR	**Matsushiro Arr**	**70.38**	**324**	P	**P**	**17 04 33.4**	**-0.1**
	comp=Z,3.2nm,0.9s,baz=153,slow=6.2,SNR=7.0						
	comp=Z,3.2nm,0.9s						
MAJO	**Matsushiro**	**70.39**	**324**	P	**P**	**17 04 33.6**	**0.0**
MAJO				IAmb	IAmb	17 04 34.5	
	comp=Z,18nm,1.4s						
JNU	**Nakatsue**	**72.40**	**317**	P	**P**	**17 04 46.0**	**+0.6**
JNU	**Nakatsue**	**72.40**	**317**	P	**P**	**17 04 45.7**	**+0.3**
JNU				IAmb	IAmb	17 04 46.6	
	comp=Z,20nm,1.1s						
JNU	**Nakatsue**	**72.40**	**317**	P	**P**	**17 04 45.7**	**+0.3**
	comp=Z,9.7nm,0.9s,baz=125,slow=4.9,SNR=7.8						
	comp=Z,9.7nm,0.9s						
JKA	**Kamikawa-asahi**	**73.95**	**332**	P	**P**	**17 04 55.5**	**+1.5**
JKA				IAmb	IAmb	17 04 56.7	
	comp=Z,24nm,1.0s						
TPUB	**Ta-pu**	**73.99**	**303**	P	**P**	**17 04 53.7**	**-1.0**
TPUB	**Ta-pu**	**73.99**	**303**	P	**P**	**17 04 53.5**	**-1.2**
TPUB				IAmb	IAmb	17 04 54.5	
	comp=Z,23nm,0.9s						
NIKH	**Nikolski High**	**74.00**	**6**	P	**P**	**17 04 54.0**	**0.0**
YSS	**Yuzh-Sakhalins**	**76.14**	**334**	P	**P**	**17 05 07.5**	**+1.4**
YSS	**Yuzh-Sakhalins**	**76.14**	**334**	P	**P**	**17 05 06.6**	**+0.6**
YSS				IAmb	IAmb	17 05 08.2	
	comp=Z,14nm,0.8s						
PEA0B	**Petropavlovsk-**	**76.58**	**345**	P	**P**	**17 05 08.5**	**+0.1**
PEA0B				IAmb	IAmb	17 05 09.7	
	comp=Z,28nm,1.1s						
PETK	**Petropavlovsk-**	**76.58**	**345**	P	**P**	**17 05 08.5**	**0.0**
PETK	**Petropavlovsk-**	**76.58**	**345**	P	**P**	**17 05 08.8**	**+0.4**
	comp=Z,13nm,0.8s,baz=135,slow=8.1,SNR=28						
	comp=Z,13nm,0.8s						
KSRS	**Korea Array**	**77.02**	**319**	P	**P**	**17 05 12.3**	**+1.2**
	comp=Z,2.1nm,0.8s,baz=128,slow=6.6,SNR=9.0						
	comp=Z,2.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**79.15**	**326**	P	**P**	**17 05 23.9**	**+1.5**
	comp=Z,6.4nm,0.8s,baz=113,slow=4.0,SNR=8.1						
	comp=Z,6.4nm,0.8s						
NJ2	**Nanjing**	**79.95**	**310**	*eP*	**P**	**17 05 29.8**	**+2.9**
NJ2				pP	**pP**	**17 07 21.5**	**-2.0**
NJ2				sP	**sP**	**17 08 15.3**	**-4.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,53nm,6.2s						
MDJ	**Mudanjiang**	**80.70**	**325**	P	**P**	**17 05 31.9**	**+1.4**
MDJ	**Mudanjiang**	**80.70**	**325**	P	**P**	**17 05 30.3**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,10.0nm,1.4s						
MDJ				pmax	pmax		
	comp=Z,120nm,8.2s						
MDJ	**Mudanjiang**	**80.70**	**325**	P	**P**	**17 05 31.1**	**+0.5**
MDJ				IAmb	IAmb	17 05 32.3	
	comp=Z,13nm,1.0s						
WAKR	**Walker**	**80.78**	**43**	P	**P**	**17 05 32.6**	**+1.2**
NVAR	**Mina Array Bea**	**81.47**	**43**	P	**P**	**17 05 35.7**	**+0.8**
NVAR	**Mina Array Bea**	**81.47**	**43**	P	**P**	**17 05 36.3**	**+1.4**
	comp=Z,1.7nm,1.0s,baz=226,slow=7.2,SNR=11						
	comp=Z,1.7nm,1.0s						
NV11	**Mina Array Sit**	**81.56**	**43**	P	**P**	**17 05 36.3**	**+0.9**
KVN	**Kaiserville**	**81.95**	**43**	P	**P**	**17 05 38.2**	**+0.9**
N15K	**Kwethluk River**	**82.11**	**9**	P	**P**	**17 05 38.4**	**+1.0**
N15K				IAmb	IAmb	17 05 44.1	
	comp=Z,16nm,1.4s						
CN2	**Changchun**	**82.46**	**323**	P	**P**	**17 05 40.6**	**+1.0**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
J05D	**Fort Rock, OR**	**82.55**	**38**	P	**P**	**17 05 41.5**	**+1.3**
BNX	**BinXian**	**82.61**	**325**	⇑P	**P**	**17 05 40.8**	**+0.6**
BNX				pmax	pmax		
	comp=Z,12nm,0.9s						
BNX				pmax	pmax		
	comp=Z,79nm,4.3s						
KLR	**Kul'dur**	**82.74**	**330**	P	**P**	**17 05 42.1**	**+1.2**
	comp=Z,3.3nm,0.9s,baz=117,slow=1.5,SNR=8.9						
	comp=Z,3.3nm,0.9s						
M16K	**Timber Creek**	**83.10**	**9**	P	**P**	**17 05 44.0**	**+1.6**
M16K				IAmb	IAmb	17 05 45.8	
	comp=Z,9.3nm,1.0s						
N18K	**Kilae Creek**	**83.28**	**11**	P	**

HFS	**Hagfors**	**139.88 351**	PKhKP	PKPpre	17 12 32.9			
	comp=Z,0.5nm,0.3s,baz=103,slow=4.7,SNR=7.8							
HFS			PKP	**PKPdf**	**17 12 39.8**	**-0.2**		
	comp=Z,0.5nm,0.5s,baz=116,slow=3.4,SNR=1.8							
AKASG	**Malin Array Be**	**143.24 331**	PKhKP	PKPpre	17 12 43.6			
	comp=Z,8.1nm,0.6s,baz=39,slow=4.5,SNR=34							
KIEV	**Kiev**	**143.25 331**	PKPpre	PKPpre	17 12 43.4			
ARPR	**Arapgir-MALATY**	**143.79 308**		**PKPdf**	**17 12 48.1**	**+0.4**		
GAZ	**Gaziantep**	**145.25 306**	PKPbc	**PKPab**	**17 12 52.0**	**-0.4**		
EKA	**Eskdalemuir Ar**	**145.41 5**	PKPbc	**PKPbc**	**17 12 50.8**	**-0.2**		
	comp=Z,2.1nm,0.8s,baz=343,slow=2.6,SNR=6.8							
BNN	**Bunyan**	**145.70 309**	PKPbc	**PKPbc**	**17 12 52.7**	**+0.1**		
BR131	**Keskin Array S**	**146.92 312**		**PKPbc**	**17 12 55.8**	**-0.2**		
BRTR	**Keskin Array B**	**146.93 312**	PKPbc	**PKPbc**	**17 12 55.9**	**-0.2**		
	comp=Z,3.1nm,0.9s,baz=134,slow=3.6,SNR=12							
BUR08	**Bucovina Ar. S**	**147.27 330**		**PKiKP**	**17 12 57.3**	**-1.0**		
BURAR	**Bucovina Array**	**147.28 330**		**PKiKP**	**17 12 57.3**	**-1.0**		
MMAI	**Mount Meron Ar**	**147.80 299**	PKPbc	**PKiKP**	**17 12 59.0**	**-0.8**		
	comp=Z,5.7nm,0.7s,baz=90,slow=1.1,SNR=9.9							
BALJ	**Balqa**	**147.81 297**		**PKPbc**	**17 12 58.1**	**-0.2**		
MLR	**Muntele Rosu**	**148.42 327**		**PKPbc**	**17 12 59.4**	**-0.2**		
MORC	**Moravsky Berou**	**148.56 340**		**PKiKP**	**17 13 00.3**	**-0.5**		
CSS	**Mathiatis**	**148.92 304**		**PKPbc**	**17 13 01.0**	**0.0**		
KHC	**Kasperske Hory**	**150.28 344**		**PKPbc**	**17 13 03.7**	**-0.1**		
KHC				**PKPab**	**17 13 12.7**	**+0.3**		
GERES	**GERESS Array B**	**150.51 344**	PKP	**PKPdf**	**17 12 57.6**	**-0.8**		
	comp=Z,0.3nm,0.4s,baz=19,slow=13,SNR=1.6							
GERES			PKPbc	**PKiKP**	**17 13 04.8**	**-0.1**		
	comp=Z,2.5nm,0.9s,baz=355,slow=3.3,SNR=4.2							
CONA	**Conrad Observa**	**150.72 340**	*i* PKP	**PKiKP**	**17 13 05.4**	**+0.1**		
	comp=Z,4.6nm,1.1s							
CONA			*i* PKP	**PKPab**	**17 13 15.6**	**+1.2**		
	comp=Z,4.7nm,1.1s							
RONA	**Rosalia, Austr**	**150.78 340**	*i* PKP	**PKiKP**	**17 13 05.4**	**0.0**		
	comp=Z,2.5nm,0.6s							
RONA			*i* PKP	**PKPab**	**17 13 15.9**	**+1.3**		
	comp=Z,8.2nm,1.1s							
BIOA	**Bad Ischl, Aus**	**151.58 343**	*i* PKP	**PKPab**	**17 13 18.8**	**+0.8**		
	comp=Z,4.2nm,0.5s							
SOKA	**Soboth**	**152.09 340**	*i* PKP	**PKPab**	**17 13 21.5**	**+1.3**		
	comp=Z,7.9nm,1.3s							
KBA	**Koelnbreinsper**	**152.22 343**	*i* PKP	**PKPab**	**17 13 22.4**	**+1.5**		
	comp=Z,5.9nm,1.1s							
OBKA	**Obir**	**152.39 341**	*i* PKP	**PKiKP**	**17 13 09.8**	**+1.0**		
	comp=Z,10nm,1.5s							
OBKA			*i* PKP	**PKPab**	**17 13 21.4**	**-0.2**		
	comp=Z,6.3nm,1.0s							
WATA	**Walderalm**	**152.44 345**	*i* PKP	**PKPab**	**17 13 22.5**	**+0.8**		
	comp=Z,5.9nm,1.1s							
RETA	**Reutte**	**152.48 347**	*i* PKP	**PKPab**	**17 13 22.9**	**+1.1**		
	comp=Z,7.4nm,1.2s							
WTTA	**Wattenberg**	**152.49 345**	*i* PKP	**PKiKP**	**17 13 08.9**	**-0.2**		
	comp=Z,5.8nm,1.2s							
WTTA			*i* PKP	**PKPab**	**17 13 22.7**	**+0.7**		
	comp=Z,9.8nm,1.4s							
MOTA	**Moosalm**	**152.54 346**	*e*PKP	**PKPab**	**17 13 22.4**	**+0.2**		
	comp=Z,3.3nm,0.8s							
MYKA	**Terra Mystica**	**152.55 342**	*i* PKP	**PKPab**	**17 13 22.9**	**+0.7**		
	comp=Z,5.0nm,1.1s							
SQTA	**Sankt Quirin**	**152.63 346**	*e*PKP	**PKiKP**	**17 13 09.6**	**+0.2**		
	comp=Z,3.2nm,0.7s							
SQTA			*i* PKP	**PKPab**	**17 13 23.1**	**+0.6**		
	comp=Z,2.3nm,0.6s							
ABTA	**Abfaltersbach**	**152.75 344**	*i* PKP	**PKiKP**	**17 13 09.7**	**+0.1**		
	comp=Z,6.6nm,1.1s							
ABTA			*i* PKP	**PKPab**	**17 13 23.3**	**+0.2**		
	comp=Z,5.3nm,0.8s							
FETA	**Feichten**	**152.93 346**	*i* PKP	**PKiKP**	**17 13 10.5**	**+0.5**		
	comp=Z,2.4nm,0.8s							
FETA			*i* PKP	**PKPab**	**17 13 24.3**	**+0.4**		
	comp=Z,5.5nm,1.8s							
FUORN	**Ofenpass-Fuorn**	**153.41 347**		**PKPab**	**17 13 26.7**	**+0.6**		
LIT	**Litokhoron**	**153.92 322**		**PKPab**	**17 13 27.9**	**-0.3**		

*IDC **14** 17:14:59.3±7.4,9.˚61N×126.˚11E,h70km±64km,mb3.3/7, mbtmp3.7/8,ML4.5/1,MS2.5/1,Error ellipse: s-maj=96.7km s-min=19.7km az=67.0*

ISC 14 17:14:58.9±1.1,9.˚64N±0.˚09×126.˚2E±0.˚3,h67km,n14, σ0.27/10,mb3.7/7,Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.62**	**193**	P	**Pn**	**17 15 39.1**	**+0.1**
	91nm,0.3s,baz=158,slow=16,SNR=5.5						
DAV				S	**Sn**	**17 16 09.7**	**-0.1**
	215nm,0.4s,baz=57,slow=22,SNR=6.3						
DAV				LR	LR	17 17 05.7	
	comp=Z,86nm,19.6s,baz=3.5,slow=49						
	247nm,0.4s						
WRA	**Warramunga Arr**	**30.48**	**165**	P	**P**	**17 21 05.7**	**+0.1**
	0.8nm,1.0s,baz=345,slow=9.2,SNR=3.0						
	0.8nm,1.0s						
ASAR	**Alice Springs**	**33.95**	**167**	P	**P**	**17 21 35.6**	**-0.5**
	0.3nm,0.9s,baz=351,slow=7.5,SNR=5.9						
ASAR				PcP	**PcP**	**17 24 13.6**	**+0.4**
	0.7nm,1.2s,baz=352,slow=2.7,SNR=2.0						
	0.3nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**40.18**	**73**	T	T	18 05 18.4	
	baz=262,slow=75,SNR=28						
H11S1	**WAKE ISLAND Hy**	**40.20**	**73**	T	T	18 05 22.7	
	baz=262,slow=75,SNR=30						
H11S2	**WAKE ISLAND Hy**	**40.20**	**73**	T	T	18 05 22.2	
	baz=262,slow=75,SNR=33						
H11N1	**WAKE ISLAND Hy**	**40.53**	**71**	T	T	18 05 46.0	
	baz=262,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**40.54**	**71**	T	T	18 05 43.9	
	baz=262,slow=75,SNR=29						
H11N3	**WAKE ISLAND Hy**	**40.55**	**71**	T	T	18 05 47.3	
	baz=262,slow=75,SNR=33						
MKAR	**Makanchi Array**	**52.47**	**323**	P	**P**	**17 24 05.1**	**+0.1**
	0.4nm,0.5s,baz=121,slow=8.1,SNR=7.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**56.54**	**326**	P	**P**	**17 24 34.1**	**-0.3**
	0.3nm,0.5s,baz=125,slow=6.7,SNR=7.1						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**62.13**	**326**	P	**P**	**17 25 12.9**	**0.0**
	0.8nm,0.8s,baz=120,slow=8.5,SNR=3.9						
	0.8nm,0.8s						
ARCES	**ARCESS Array B**	**84.75**	**340**	P	**P**	**17 27 25.4**	**-0.1**
	1.4nm,0.7s,baz=78,slow=8.4,SNR=3.9						
	1.4nm,0.7s						
FINES	**FINESS Array B**	**86.40**	**332**	P	**P**	**17 27 33.8**	**+0.1**
	0.3nm,0.5s,baz=94,slow=5.7,SNR=5.2						
	0.3nm,0.5s						

*KRNET **14** 17:34:43.7±0.1,40.˚82N×78.˚71E,h19km,mb3.5*
*IDC **14** 17:34:45.0±1.8,40.˚86N×78.˚52E,h0km,mb3.6/6, mbtmp3.5/11,ML2.6/5,MS2.3/1,Error ellipse: s-maj=23.1km s-min=15.5km az=161.0*
*SOME **14** 17:34:44.0,40.˚83N×78.˚57E,h0km*
*NNC **14** 17:34:48.6±1.1,40.˚95N×78.˚57E,h0km,mb4.2,mpv3.9, Error ellipse: s-maj=7.9km s-min=6.6km az=171.0*

ISC 14 17:34:46.6±1.1,40.˚88N±0.˚06×78.˚56E±0.˚03,h10km,n86, σ1.9/92/123,mb3.5/6,33C-19D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TARG	**Taragay, Kyrgy**	**1.02**	**327**	⇑*i*P	**Pg**	**17 35 05.7**	**-0.7**
	baz=23						
TARG				⇑*i*S	**Sn**	**17 35 21.6**	**-0.5**
	baz=23						
PRZ	**Przheval'sk**	**1.61**	**356**	⇑*e*P	**Pb**	**17 35 15.6**	**-1.0**
	baz=52						
PRZ				⇑*e*S	**Sg**	**17 35 38.8**	**+0.4**
	baz=52						
KDJ	**Kajisay**	**1.62**	**321**	⇑*e*P	**Pb**	**17 35 16.0**	**-0.8**
	baz=19						
KDJ				⇑*e*S	**Sg**	**17 35 39.5**	**+0.6**
	baz=19						
NRN	**Naryn**	**2.01**	**287**	⇓*e*P	**Pb**	**17 35 23.1**	**-0.3**
	baz=87						
NRN				⇓*e*S	**Sg**	**17 35 51.7**	**+0.5**
	baz=87						
ANVS	**Anan'yevo**	**2.02**	**341**	⇑*e*P	**Pb**	**17 35 22.3**	**-1.2**
	baz=39						
ANVS				⇑*e*S	**Sg**	**17 35 50.9**	**-0.6**
	baz=39						
SATY	**Saty**	**2.18**	**357**	Pg	**Pg**	**17 35 27.2**	**-1.3**
SATY				Lg	Lg	17 35 58.0	
SATY	**Saty**	**2.18**	**357**	*e*P	**Pg**	**17 35 27.2**	**-1.3**
	48nm,0.2s						
SATY				*e*S	**Sg**	**17 35 58.0**	**+1.2**
	291nm,0.4s						
ULHL	**Ulahol**	**2.21**	**309**	P	**Pb**	**17 35 26.9**	**+0.1**
	SNR=85						
ULHL	**Ulahol**	**2.21**	**309**	⇓*e*P	**Pb**	**17 35 25.7**	**-1.1**
	baz=8.0						
ULHL				⇓*i*S	**Sb**	**17 35 56.1**	**+1.8**
	baz=8.0						
ZHN	**Zhinishke**	**2.29**	**358**	*e*P	**Pg**	**17 35 29.8**	**-0.8**
	58nm,0.2s						
ZHN				*e*S	**Sg**	**17 36 01.8**	**+1.5**
	335nm,0.4s						
UZB	**Uzynbulak**	**2.30**	**9**	*e*P	**Pg**	**17 35 29.3**	**-1.3**
	49nm,0.3s						
UZB				*e*S	**Sg**	**17 36 01.0**	**+0.6**
	303nm,0.5s						
SHLS	**Shalkode**	**2.38**	**16**	*e*P	**Pg**	**17 35 32.6**	**+0.4**
	102nm,0.2s						
SHLS				*e*S	**Sg**	**17 36 06.7**	**+3.7**
	519nm,0.5s						
TNSS	**Tian-Shan**	**2.47**	**331**	*e*P	**Pb**	**17 35 32.1**	**+0.7**
	20nm,0.3s						
TNSS				*e*S	**Sg**	**17 36 05.6**	**-0.4**
	76nm,0.6s						
BOOM	**Boomskoye usch**	**2.54**	**310**	⇑*i*P	**Pb**	**17 35 29.9**	**-2.5**
	baz=10.0						
BOOM				⇑*i*S	**Sb**	**17 36 03.6**	**-0.1**
	baz=10.0						
MDOK	**Medeo**	**2.55**	**334**	⇓Pn	**Pb**	**17 35 31.4**	**-1.1**
	76nm,0.9s						
MDOK				Pg	**Pg**	**17 35 33.2**	**-2.2**
	37nm,0.3s						
MDOK				Lg	Lg	17 36 07.2	
	119nm,0.5s						
MDOK				Lg	Lg	17 36 08.0	
	258nm,0.6s						
MDOK	**Medeo**	**2.55**	**334**	*e*P	**Pb**	**17 35 32.8**	**+0.3**
	37nm,0.3s						
MDOK				*e*S	**Sg**	**17 36 07.2**	**-1.3**
	119nm,0.5s						
PDGK	**Podgornoye**	**2.55**	**16**	Pg	**Pb**	**17 35 32.2**	**-0.3**
	18nm,0.2s						
PDGK				Lg	Lg	17 36 06.6	
	134nm,0.4s						
PDGK	**Podgornoye**	**2.55**	**16**	⇑Pn	**Pb**	**17 35 30.5**	**-2.0**
	29nm,0.5s						
PDGK				⇑Lg	Lg	17 36 08.4	
	368nm,0.9s						
KOTS	**Kotyrbulak**	**2.59**	**336**	Pg	**Pb**	**17 35 33.5**	**+0.2**
	49nm,0.2s						
KOTS				Lg	Lg	17 36 08.2	
	286nm,0.2s						
KOTS	**Kotyrbulak**	**2.59**	**336**	*e*P	**Pb**	**17 35 33.5**	**+0.2**
	49nm,0.2s						
KOTS				*e*S	**Sg**	**17 36 08.2**	**-1.6**
	286nm,0.2s						
IZV	**Izvestkoviy**	**2.60**	**327**	Pg	**Pg**	**17 35 36.2**	**-0.2**
	14nm,0.2s						
IZV				Lg	Lg	17 36 12.9	
	188nm,0.6s						
IZV	**Izvestkoviy**	**2.60**	**327**	*e*P	**Pg**	**17 35 36.2**	**-0.2**
	14nm,0.2s						
IZV				*e*S	**Sg**	**17 36 12.9**	**+2.8**
	188nm,0.6s						
KNDC	**Almaty**	**2.62**	**334**	⇓Pn	**Pb**	**17 35 32.4**	**-1.3**
	131nm,0.8s						
KNDC				⇓Lg	Lg	17 36 11.5	
	132nm,0.6s						
KURS	**Kuram**	**2.63**	**354**	Pg	**Pg**	**17 35 35.3**	**-1.6**
	62nm,0.6s						
KURS				Lg	Lg	17 36 11.3	
	258nm,0.4s						
KURS	**Kuram**	**2.63**	**354**	*e*P	**Pg**	**17 35 35.2**	**-1.8**
	62nm,0.6s						
KURS				*e*S	**Sg**	**17 36 11.3**	**+0.3**
	258nm,0.4s						
AAA	**Alma-Ata**	**2.63**	**333**	Pg	**Pg**	**17 35 35.4**	**-1.7**
	116nm,0.5s						
AAA				Lg	Lg	17 36 12.5	
	277nm,0.4s						
AAA	**Alma-Ata**	**2.63**	**333**	*e*P	**Pg**	**17 35 35.4**	**-1.7**
	116nm,0.5s						
AAA				*e*S	**Sg**	**17 36 12.5**	**+1.4**
	277nm,0.4s						
KASK	**Kaskelen**	**2.74**	**329**	⇓Pg	**Pg**	**17 35 38.5**	**-0.6**
KASK				⇓Lg	Lg	17 36 15.4	
KST	**Kastek**	**2.90**	**319**	Pg	**Pb**	**17 35 39.9**	**+1.3**
	23nm,0.5s						
KST				Lg	Lg	17 36 19.5	
	277nm,0.5s						
KST	**Kastek**	**2.90**	**319**	*e*P	**Pb**	**17 35 39.9**	**+1.3**
	23nm,0.5s						
KST				*e*S	**Sg**	**17 36 19.5**	**-0.3**
	277nm,0.5s						
TKM2	**Tokmak 2**	**3.01**	**314**	P	**Pb**	**17 35 38.0**	**-2.4**
	SNR=23						
TKM2	**Tokmak 2**	**3.01**	**314**	⇓Pn	**Pb**	**17 35 37.6**	**-2.8**
	11nm,0.3s						
TKM2				⇑Lg	Lg	17 36 23.2	
	127nm,0.5s						
TKM2	**Tokmak 2**	**3.01**	**314**	⇓*i*P	**Pn**	**17 35 36.1**	**+1.6**
	baz=13						
TKM2				⇓*i*S	**Sb**	**17 36 15.2**	**-2.1**
	baz=13						
DGS	**Degeres**	**3.14**	**320**	Pg	**Pb**	**17 35 43.9**	**+1.3**
	8.7nm,0.3s						
DGS				Lg	Lg	17 36 27.0	
	250nm,0.4s						
DGS	**Degeres**	**3.14**	**320**	*e*P	**Pb**	**17 35 43.9**	**+1.3**
	8.7nm,0.3s						
DGS				*e*S	**Sg**	**17 36 26.3**	**-1.3**
	250nm,0.4s						
KTBS	**Karatobe**	**3.16**	**334**	Pg	**Pb**	**17 35 42.6**	**-0.2**
	18nm,0.3s						
KTBS				Lg	Lg	17 36 22.6	
	75nm,0.3s						
KTBS	**Karatobe**	**3.16**	**334**	*e*P	**Pb**	**17 35 43.2**	**+0.4**
	18nm,0.3s						
KTBS				*e*S	**Sg**	**17 36 25.5**	**-2.5**
	75nm,0.3s						
CHKK	**Chushkaly**	**3.19**	**339**	Pg	**Pg**	**17 35 46.1**	**-1.7**
	20nm,0.4s						
CHKK				Lg	Lg	17 36 29.8	
	291nm,0.4s						
CHKK	**Chushkaly**	**3.19**	**339**	*e*P	**Pg**	**17 35 45.9**	**-1.9**
	20nm,0.4s						
CHKK				*e*S	**Sg**	**17 36 29.8**	**+0.6**
	291nm,0.4s						
BLB	**Baldybastay**	**3.22**	**359**	Pg	**Pg**	**17 35 45.8**	**-2.5**
	136nm,0.4s						
BLB				Lg	Lg	17 36 29.3	
	158nm,0.7s						
KBK	**Karagaybulak**	**3.23**	**305**	P	**Pb**	**17 35 44.3**	**+0.1**
	SNR=20						
KBK	**Karagaybulak**	**3.23**	**305**	⇓*i*P	**Pn**	**17 35 40.1**	**+2.5**
	baz=4.0						
KBK				⇓*i*S	**Sb**	**17 36 21.1**	**-2.6**
	baz=4.0						
UCH	**Uchtor**	**3.32**	**295**	P	**Pb**	**17 35 46.5**	**+0.6**
	SNR=18						
ARLS	**Aral**	**3.33**	**289**	⇑*i*P	**Pn**	**17 35 41.4**	**+2.4**
	baz=89						
ARLS				⇑*i*S	**Sb**	**17 36 23.3**	**-3.3**
	baz=89						
ARXS	**Arharly**	**3.38**	**351**	Pg	**Pg**	**17 35 48.7**	**-2.7**
	39nm,0.3s						
ARXS				Lg	Lg	17 36 34.2	
	252nm,0.6s						
ARXS	**Arharly**	**3.38**	**351**	*e*P	**Pb**	**17 35 48.4**	**+1.8**
	39nm,0.3s						
ARXS				*e*S	**Sg**	**17 36 34.2**	**-0.9**
	252nm,0.6s						
KUU	**Kurty**	**3.43**	**332**	Pg	**Pb**	**17 35 47.4**	**-0.1**
	16nm,0.4s						
KUU				Lg	Lg	17 36 33.9	
	43nm,0.5s						
KUU	**Kurty**	**3.43**	**332**	*e*P	**Pb**	**17 35 47.9**	**+0.3**
	16nm,0.4s						
KUU				*e*S	**Sb**	**17 36 33.3**	**+4.0**
	43nm,0.5s						
AAK	**Ala-Archa**	**3.51**	**301**	P	**Pb**	**17 35 50.6**	**+1.6**
	SNR=12						
AAK	**Ala-Archa**	**3.51**	**301**	⇓Pn	**Pb**	**17 35 46.6**	**-2.3**
	36nm,0.9s						
AAK				⇑Lg	Lg	17 36 37.9	
	72nm,0.7s						
AAK	**Ala-Archa**	**3.51**	**301**	Pn	**Pb**	**17 35 42.7**	**+1.3**
	0.4nm,0.3s,baz=134,slow=11,SNR=2.8						
AAK				Pg	**Pb**	**17 35 49.2**	**+0.3**
	4.1nm,0.3s,baz=104,slow=6.1,SNR=32						
AAK				Lg	Lg	17 36 36.2	
	5.2nm,0.3s,baz=61,slow=21,SNR=12						
AAK				LR	LR	17 36 56.1	
	comp=Z,38nm,19.1s,baz=124,slow=38						
	1.1nm,0.3s						
AAK	**Ala-Archa**	**3.51**	**301**	⇑*e*P	**Pn**	**17 35 43.7**	**+2.3**
	baz=1.0						
AAK				⇑*i*S	**Sn**	**17 36 27.4**	**+4.3**
	baz=1.0						
KNOS	**Konyrlen**	**3.51**	**7**	Pg	**Pg**	**17 35 50.9**	**-3.0**
	19nm,0.3s						
KNOS				Lg	Lg	17 36 38.3	
	119nm,0.4s						
KRBS	**Karabastau**	**3.54**	**324**	Pg	**Pb**	**17 35 50.2**	**+0.9**
	9.6nm,0.4s						
KRBS				Lg	Lg	17 36 38.0	
	36nm,0.6s						
KRBS	**Karabastau**	**3.54**	**324**	*e*P	**Pb**	**17 35 50.6**	**+1.3**
	9.6nm,0.4s						
KRBS				*e*S	**Sg**	**17 36 38.0**	**-2.2**
	36nm,0.6s						
CHMS	**Chumysh**	**3.54**	**308**	P	**Pb**	**17 35 50.5**	**+1.1**
	SNR=8.5						
CHMS	**Chumysh**	**3.54**	**308**	⇑Pg	**Pb**	**17 35 50.3**	**+0.9**
	21nm,1.2s						
CHMS				⇓Lg	Lg	17 36 38.8	
	88nm,0.8s						
CHMS	**Chumysh**	**3.54**	**308**	⇑*i*P	**Pn**	**17 35 43.9**	**+2.2**
	baz=8.0						
CHMS				⇑*i*S	**Sn**	**17 36 27.7**	**+4.0**
	baz=8.0						
DJR	**Jarkent**	**3.57**	**14**	Pg	**Pb**	**17 35 51.4**	**+1.5**
	6.7nm,0.3s						
DJR				Lg	Lg	17 36 38.9	
	109nm,0.3s						
DJR	**Jarkent**	**3.57**	**14**	*e*P	**Pb**	**17 35 51.4**	**+1.5**
	6.7nm,0.3s						
DJR				*e*S	**Sg**	**17 36 38.9**	**-2.4**
	109nm,0.3s						
USP	**Ospenovka**	**3.85**	**310**	P	**Pb**	**17 35 55.1**	**+0.5**
	SNR=18						
USP	**Ospenovka**	**3.85**	**310**	⇑*i*P	**Pn**	**17 35 47.9**	**+2.0**
	baz=9.0						
USP				⇑*i*S	**Sn**	**17 36 34.8**	**+3.5**
	baz=9.0						
EKS2	**Erkin-Say**	**3.99**	**298**	P	**Pb**	**17 35 59.6**	**+2.5**
	SNR=12						
EKS2	**Erkin-Say**	**3.99**	**298**	⇑*i*P	**Pn**	**17 35 50.1**	**+2.1**
	baz=98						
EKS2				⇑*i*S	**Sn**	**17 36 39.3**	**+4.4**
	baz=98						
MRKS	**Merke**	**4.40**	**297**	*e*P	**Pg**	**17 36 07.0**	**-3.8**
	10nm,0.5s						
MRKS				*e*S	**Sg**	**17 37 05.8**	**-2.1**
	26nm,0.5s						
KAPS	**Kapalarasan**	**4.45**	**7**	Pg	**Pb**	**17 36 07.0**	**+2.2**
	8.7nm,0.6s						
KAPS				Lg	Lg	17 37 05.7	
	44nm,0.5s						
KAPS	**Kapalarasan**	**4.45**	**7**	*e*P	**Pb**	**17 36 07.0**	**+2.2**
	4.0nm,0.3s						
KAPS				*e*S	**Sg**	**17 37 05.7**	**-3.6**
	33nm,0.5s						
MNAS	**Manas**	**4.81**	**292**	⇑*e*P	**Pn**	**17 36 01.6**	**+2.4**
	baz=92						
MNAS				⇑*i*S	**Sn**	**17 36 58.6**	**+3.6**
	baz=92						
BTLS	**Baital**	**5.32**	**323**	Pg	**Pb**	**17 36 21.5**	**+1.9**
	3.8nm,0.7s						
BTLS				Lg	Lg	17 37 30.5	
	5.9nm,0.5s						
BTLS	**Baital**	**5.32**	**323**	*e*P	**Pb**	**17 36 22.2**	**+2.7**
	3.8nm,0.7s						
BTLS				*e*S	**Sg**	**17 37 32.0**	**-5.2**
	5.9nm,0.5s						
KK31	**Karatay Array**	**6.39**	**293**	Pg	**Pb**	**17 36 41.5**	**+3.6**
	4.1nm,0.8s,baz=104,slow=16,SNR=22						
KK31				⇑Lg	Lg	17 38 10.1	
	2.7nm,0.5s,baz=112,slow=27,SNR=5.5						
MAKZ	**Makanchi**	**6.42**	**21**	⇑Pn	**Pn**	**17 36 23.0**	**+1.8**
	2.0nm,0.8s						
MAKZ				⇓Pg	Pg	17 36 44.1	-5.5
	5.0nm,1.2s						
MAKZ				⇑Lg	Lg	17 38 08.4	
	14nm,1.2s						
MK31	**Makanchi Array**	**6.50**	**23**	Pn	**Pn**	**17 36 23.8**	**+1.5**
	0.8nm,0.5s,baz=198,slow=12,SNR=28						
MK31				⇑Pg	**Pg**	**17 36 48.6**	**-2.5**
	1.1nm,0.5s,baz=208,slow=15,SNR=7.1						
MK31				⇑Lg	Lg	17 38 10.3	
	8.2nm,0.7s,baz=204,slow=29,SNR=5.1						
MKAR	**Makanchi Array**	**6.50**	**23**	Pn	**Pn**	**17 36 23.4**	**+1.1**
	0.5nm,0.3s,baz=198,slow=13,SNR=26						
MKAR				Sn	**Sn**	**17 37 36.7**	**+0.1**
	0.4nm,0.3s,baz=206,slow=22,SNR=2.1						
MKAR				Lg	Lg	17 38 04.8	
	0.6nm,0.3s,baz=225,slow=16,SNR=3.7						
	0.7nm,0.3s						
OTUK	**Ortayu**	**8.60**	**331**	⇓Lg	Lg	17 39 16.2	
	12nm,0.8s						
KURBB	**Kurchatov Arra**	**9.75**	**360**	⇑Lg	Lg	17 39 55.1	
	25nm,0.8s						
KURBB	**Kurchatov Arra**	**9.75**	**360**	Pn	**Pn**	**17 37 06.8**	**0.0**
	baz=184,slow=12,SNR=4.9						
KURBB				Lg	Lg	17 39 53.1	
	0.1nm,0.3s,baz=191,slow=29,SNR=5.8						
	0.2nm,0.4s						
KURK	**Kurchatov**	**9.84**	**0**	⇓Lg	Lg	17 39 58.0	
	13nm,0.7s						
BVAR	**Borovoye Array**	**13.36**	**338**	Pn	**Pn**	**17 37 54.1**	**-2.0**
	baz=153,slow=13,SNR=7.9						
BVAR				Lg	Lg	17 41 47.6	
	baz=134,slow=30,SNR=5.2						
	0.6nm,0.3s						
ZALV	**Zalesovo Beam**	**13.74**	**16**	Pn	**Pn**	**17 38 00.6**	**-0.7**
	0.1nm,0.3s,baz=200,slow=17,SNR=4.2						
ZALV				Lg	Lg	17 42 00.6	
	0.1nm,0.3s,baz=184,slow=12,SNR=1.4						
	0.5nm,0.5s						
SONM	**Songino Array**	**21.01**	**61**	P	**P**	**17 39 30.7**	**+0.4**

MOS ***14*** *18:14:46.3±0.8,55˚.82S×26˚.95W,h10km,mb5.8/21, MS4.9/16,Error ellipse: s-maj=17.0km s-min=10.3km az=104.6˚*

NEIC ***14*** *18:14:47.4±2.4,55˚.92S±0˚.08×27˚.1W±0˚.1,h10km±1km, mb5.8/175,Ms_20 5.1/208,Mwb5.4/15,Mww5.5/14,Error ellipse: s-maj=16.3km s-min=5.9km az=39.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr1.10; Mθθ-0.42; Mφφ-0.68; Mrθ-0.29; Mθφ0.31; Mφr0.91; Fault plane solution: M₀1.39000×10¹⁷ NP1: φs141.30000°,δ23.73000°,λ75.72000°. NP2: φs336.84000°,δ67.05000°,λ96.19000°. Principal axes: T 1.4938, Plg67.0000°, Azm258.0000°; N -0.2373, Plg6.0000°, Azm154.0000°; P -1.2565, Plg22.0000°, Azm62.0000°;*

BJI ***14*** *18:14:47.4±0.0,56˚.00S×27˚.10W,h20km,mB5.3/24, Ms5.3/44,Ms7 5.1/45*

IPGP ***14*** *18:14:47.0,55˚.98S×27˚.10W,h24km,Mw5.5,Fault plane solution: NP1:φs346.00000°,δ72.00000°,λ122.00000°. NP2:φs102.00000°,δ37.00000°,λ32.00000°.*

NEIC ***14*** *18:14:48.8,55˚.74S×26˚.75W,h30km,Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10¹⁷Nm; Mrr2.02; Mθθ-1.22; Mφφ-0.81; Mrθ0.15; Mθφ0.82; Mφr1.00; Fault plane solution: M₀2.16000×10¹⁷ NP1: φs327.69000°,δ55.59000°,λ112.22000°. NP2: φs111.83000°,δ40.20000°,λ61.10000°. Principal axes: T 2.3852, Plg70.0000°, Azm289.0000°; N -0.4525, Plg18.0000°, Azm135.0000°; P -1.9327, Plg8.0000°, Azm42.0000°;*

NEIC ***14*** *18:14:48.8,55˚.94S×27˚.11W,h30km*

IDC ***14*** *18:14:49.4±1.3,55˚.79S×26˚.86W,h24km±7km,mb5.4/16, mbtmp5.5/17,ML4.9/1,MS4.8/37,Error ellipse: s-maj=14.2km s-min=11.0km az=58.0*

NEIC ***14*** *18:14:51.5,55˚.94S×27˚.15W,h34km*

GCMT ***14*** *18:14:53.4±0.1,55˚.80S±0˚.01×26˚.71W±0˚.01,h21km, MW5.5/145,Moment Tensor Solution. s125,c217; s145,c275; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.36±.03; Mθθ-0.42±.02; Mφφ-0.94±.02; Mrθ-0.27±.04; Mθφ0.96±.01; Mφr1.27±.04; Best double couple: M₀2.01100×10¹⁷ NP1:φs340.00000°,δ66.00000°, λ107.00000°. NP2:φs123.00000°,δ29.00000°,λ56.00000°. Principal axes: T 1.9330, Plg65.0000°, Azm279.0000°; N 0.1540, Plg16.0000°, Azm153.0000°; P -2.0880, Plg19.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 14 18:14:50.1±0.7,55˚.95S±0.05×27˚.14W±0˚.05,h29km±4km, n1009,σ1º21/879,mb5.7/121,MS5.1/179,22C-10D,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.62**	**283**	Pn	**Pn**	**18 16 12.4**	**+0.8**
HOPE				Sn	**Sn**	**18 17 14.0**	**-1.0**
HOPE	**Hope Point**	**5.62**	**283**	P	**Pn**	**18 16 12.4**	**+0.8**
HOPE						18 17 14.0	
ORCD	**Orcadas**	**10.40**	**235**		**Pn**	**18 17 12.9**	**-4.2**
VNA1	**Neumayer--Stat**	**16.88**	**158**	⇑P	**P**	**18 18 46.3**	**+0.7**
	comp=Z,116nm,0.7s						
VNA1				⇑ScP	**ScP**	**18 27 03.3**	**+1.6**
	comp=Z,67nm,0.9s						
VNA3	**Neumayer Olymp**	**17.07**	**161**	⇑P	**P**	**18 18 48.6**	**+0.8**
	comp=Z,134nm,0.7s						
VNA3				⇑ScP	**ScP**	**18 27 03.2**	**+1.0**
	comp=Z,47nm,0.8s						
VNA2	**Neumayer--Watz**	**17.27**	**158**	⇑P	**P**	**18 18 51.1**	**+1.2**
	comp=Z,54nm,0.5s,baz=313,slow=12						
VNA2				⇑ScP	**ScP**	**18 27 03.9**	**+1.3**
	comp=Z,52nm,0.7s,baz=318,slow=4.7						
EFI	**East Falkland**	**18.66**	**270**		**Pn**	**18 19 06.7**	**+0.8**
EFI				IAmb	IAmb	18 19 10.9	
	comp=Z,280nm,0.8s						
EFI	**East Falkland**	**18.66**	**270**	*ce*P	**Pn**	**18 19 07.6**	**+1.7**
EFI				pmax	pmax		
	comp=Z,178nm,1.7s						
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**18 19 05.3**	**-1.8**
SNAA	**Sanae**	**18.82**	**156**	*e*P	**Pn**	**18 19 11.1**	**+3.4**
SNAA	**Sanae**	**18.82**	**156**	⇑P	**Pn**	**18 19 08.4**	**+0.6**
	comp=Z,231nm,0.2s						
SNAA				⇑ScP	**ScP**	**18 27 06.4**	**+0.5**
	comp=Z,612nm,0.8s						
SNAA	**Sanae**	**18.82**	**156**	P	**Pn**	**18 19 08.0**	**+0.3**
	comp=Z,3.4nm,0.3s,baz=311,slow=11,SNR=41						
SNAA				PcP	**PcP**	**18 23 33.6**	**+0.9**
	comp=Z,11nm,0.7s,baz=3.0,slow=1.3,SNR=3.7						
SNAA				LR	LR	18 24 54.3	
	comp=Z,3μm,21.4s,baz=9.0,slow=32						
SNAA				ScP	**ScP**	**18 27 06.0**	**0.0**
	comp=Z,25nm,0.8s,baz=14,slow=0.8,SNR=16						
	comp=Z,41nm,0.6s						
SNAA	**Sanae**	**18.82**	**156**	*ce*P	**Pn**	**18 19 08.7**	**+1.0**
SNAA				pmax	pmax		
	comp=Z,55nm,0.8s						
PMSA	**Palmer Station**	**19.99**	**229**	P	**P**	**18 19 19.1**	**-0.7**
PMSA				IAmb	IAmb	18 19 28.7	
	comp=Z,355nm,0.7s						
PMSA	**Palmer Station**	**19.99**	**229**	P	**Pn**	**18 19 22.5**	**+1.0**
	comp=Z,172nm,0.8s,baz=74,slow=9.8,SNR=9.0						
PMSA				LR	LR	18 26 13.4	
	comp=Z,4μm,18.4s,baz=69,slow=34						
	comp=Z,172nm,0.8s						
PMSA	**Palmer Station**	**19.99**	**229**	*e*P	**P**	**18 19 19.0**	**-0.7**
TROLL	**Troll, Antarti**	**20.32**	**154**	⇑P	Pn	18 19 24.7	-1.0
	comp=Z,3μm,0.7s						
TROLL				⇑ScP	**ScP**	**18 27 14.0**	**+4.5**
	comp=Z,414nm,0.7s						
SMAI	**San Martin Ant**	**21.86**	**220**	P	**P**	**18 19 39.7**	**-0.2**
BELA	**Belgrano 2**	**22.18**	**184**	P	**P**	**18 19 43.9**	**+0.6**
BELA				IAmb	IAmb	18 19 49.7	
	comp=Z,277nm,0.9s						
NVL	**N'lazarevskaya**	**22.33**	**147**	*e*P	**P**	**18 19 42.7**	**-2.3**
NVL				*e*S	**S**	**18 23 46.9**	**-1.5**
NVL				pmax	pmax		
	comp=Z,62nm,1.0s						
NVL				MLR	MLR		
	comp=Z,1μm,18.0s						
MG01	**Puerto William**	**22.77**	**256**	P	**P**	**18 19 48.5**	**-1.2**
MG01				IAmb	IAmb	18 19 54.8	
	comp=Z,667nm,1.3s						
USHA	**Ushuaia**	**23.24**	**255**	P	**P**	**18 19 56.1**	**+1.6**
	comp=Z,83nm,0.6s,baz=303,slow=1.1,SNR=48						
USHA				LR	LR	18 27 06.7	
	comp=Z,12μm,21.2s,baz=323,slow=32						
	comp=Z,83nm,0.6s						
MG02	**Cerro Sombrero**	**24.45**	**260**	P	**P**	**18 20 06.3**	**+0.4**
MG03	**Isla Dawson**	**24.70**	**257**	P	**P**	**18 20 09.1**	**+0.8**
GO10	**Punta Arenas**	**25.30**	**258**	P	**P**	**18 20 14.0**	**+0.2**
GO10				IAmb	IAmb	18 20 28.4	
	comp=Z,220nm,0.8s						
MG04	**Isla Riesco**	**25.71**	**258**	P	**P**	**18 20 17.8**	**+0.4**
MG04				IAmb	IAmb	18 20 39.1	
	comp=Z,148nm,0.8s						
ELIB	**Princess Elisa**	**26.21**	**147**	*d*P	**P**	**18 20 23.3**	**+1.3**
	comp=Z,43nm,0.7s						
ELIB				*d*x	x	18 20 28.9	
ELIB				*d*PcP	**PcP**	**18 23 49.0**	**+1.2**
ELIB				*d*ScP	**ScP**	**18 27 27.2**	**+2.1**
MG05	**Puerto Natales**	**26.74**	**260**	P	**P**	**18 20 26.9**	**+0.2**
MG05				IAmb	IAmb	18 20 28.5	
	comp=Z,120nm,0.6s						
GO09	**Cerro Castillo**	**26.84**	**261**	P	**P**	**18 20 27.6**	**-0.1**
GO08	**Villa O'Higgin**	**28.38**	**266**	P	**P**	**18 20 42.8**	**+1.4**
GO08				IAmb	IAmb	18 20 43.9	
	comp=Z,230nm,0.7s						
AY03	**Cochrane**	**29.06**	**268**	IAmb	IAmb	18 21 06.7	
	comp=Z,82nm,0.8s						
TRQA	**Tornquist**	**29.31**	**293**	P	**P**	**18 20 51.0**	**+1.2**
TRQA				IAmb	IAmb	18 20 52.3	
	comp=Z,134nm,0.8s						
TRQA	**Tornquist**	**29.31**	**293**	P	**P**	**18 20 51.0**	**+1.2**
TRQA				pmax	pmax		
	comp=Z,134nm,0.8s						
TRQA				MLR	MLR		
	comp=Z,2μm,20.0s						
COYC	**Coyhaique**	**29.76**	**271**	P	**P**	**18 20 54.4**	**+0.7**
COYC				IAmb	IAmb	18 20 55.8	
	comp=Z,120nm,0.7s						
PLTB	**Pedras Altas**	**30.45**	**311**	IAmb	IAmb	18 21 02.4	
	comp=Z,159nm,0.8s						
PLTB	**Pedras Altas**	**30.45**	**311**	*e*P	**P**	**18 21 01.6**	**+1.6**
LL02	**Futaleuf**	**31.11**	**275**	P	**P**	**18 21 04.9**	**-0.8**
CNLB	**Canela**	**31.52**	**318**	*e*P	**P**	**18 21 10.7**	**+1.2**
TBOT	**Tacuaremb**	**31.53**	**308**	*e*P	**P**	**18 21 10.5**	**+1.1**
CPSB	**Cacapava Do Su**	**31.57**	**313**	*e*P	**P**	**18 21 11.2**	**+1.4**
TER01	**Tubaro-SC**	**31.59**	**321**	*e*P	**P**	**18 21 11.4**	**+1.4**
PLCA	**Paso Flores**	**32.01**	**280**	P	**P**	**18 21 12.9**	**-0.8**
PLCA	**Paso Flores**	**32.01**	**280**	P	**P**	**18 21 13.3**	**-0.4**
	comp=Z,29nm,0.8s,baz=141,slow=8.1,SNR=28						
PLCA				PcP	**PcP**	**18 24 03.1**	**+0.2**
	comp=Z,12nm,0.7s,baz=102,slow=1.6,SNR=7.0						
PLCA				ScP	**ScP**	**18 27 42.1**	**-1.8**
	comp=Z,8.3nm,0.9s,baz=87,slow=2.4,SNR=9.1						
PLCA				LR	LR	18 34 54.4	
	comp=Z,2μm,18.1s,baz=130,slow=38						
	comp=Z,29nm,0.8s						
PLCA	**Paso Flores**	**32.01**	**280**	P	**P**	**18 21 12.9**	**-0.8**
PLCA				pmax	pmax		
	comp=Z,36nm,0.8s						
PLCA	**Paso Flores**	**32.01**	**280**	*e*P	**P**	**18 21 13.3**	**-0.4**
RODS	**Rosario do Sul**	**32.36**	**311**	*e*P	**P**	**18 21 17.9**	**+1.1**
PSAL	**Palomas, Salto**	**32.79**	**307**	*e*P	**P**	**18 21 21.6**	**+1.1**
ALGR	**Alto Alegre (B**	**32.82**	**315**	*e*P	**P**	**18 21 22.4**	**+1.5**
LR05	**Currie**	**33.16**	**279**	P	**P**	**18 21 23.8**	**+0.1**
LR05				IAmb	IAmb	18 21 24.7	
	comp=Z,58nm,0.8s						
GO06	**Curarrehue**	**33.32**	**280**	P	**P**	**18 21 23.7**	**-1.5**
UNIS	**Unistalda (Bra**	**33.42**	**312**	*e*P	**P**	**18 21 27.2**	**+1.2**
ITQB	**Itaqui**	**33.56**	**309**	*e*P	**P**	**18 21 28.0**	**+0.8**
ITAB	**Concordia**	**33.87**	**318**	IAmb	IAmb	18 21 32.7	
	comp=Z,310nm,1.3s						
ITAB	**Concordia**	**33.87**	**318**	*e*P	**P**	**18 21 31.3**	**+1.4**
CHAP	**Chapeco**	**34.27**	**316**	*e*P	**P**	**18 21 34.5**	**+1.0**
QSPA	**South Pole Qui**	**34.30**	**180**	P	**P**	**18 21 34.9**	**+1.4**
QSPA				IAmb	IAmb	18 21 38.7	
	comp=Z,173nm,0.8s						
QSPA	**South Pole Qui**	**34.30**	**180**	P	**P**	**18 21 35.6**	**+2.1**
	comp=Z,156nm,0.7s,baz=201,slow=1.9,SNR=251						
QSPA				PcP	**PcP**	**18 24 09.4**	**+0.4**
	comp=Z,22nm,0.6s,baz=187,slow=1.4,SNR=2.9						
QSPA				ScP	**ScP**	**18 27 50.7**	**-0.9**
	comp=Z,24nm,0.9s,baz=174,slow=3.2,SNR=8.8						
QSPA				PKiKP	**PKiKP**	**18 31 30.3**	**-1.4**
	comp=Z,1.3nm,0.5s,baz=214,slow=9.7,SNR=3.2						
QSPA				LR	LR	18 36 37.6	
	comp=Z,2μm,18.2s,baz=192,slow=38						
	comp=Z,156nm,0.7s						
CRSM	**Crissiumal (Br**	**34.39**	**315**	*e*P	**P**	**18 21 35.4**	**+0.9**
MECA	**Mercedes**	**34.56**	**307**	*e*P	**P**	**18 21 36.7**	**+0.8**
AZCA	**Azaras, Argent**	**34.67**	**311**	*e*P	**P**	**18 21 37.2**	**+0.4**
PET01	**Itanhaem-SP**	**34.91**	**327**	*e*P	**P**	**18 21 38.8**	**-0.2**
SLP01	**Ubatuba-SP**	**35.19**	**330**	*e*P	**P**	**18 21 41.8**	**+0.2**
MAN01	**Angra dos Reis**	**35.31**	**332**	*e*P	**P**	**18 21 43.4**	**+0.9**
PARB	**Paraibuna**	**35.31**	**330**	*e*P	**P**	**18 21 43.7**	**+1.2**
FRBT	**Francisco Belt**	**35.36**	**317**	*e*P	**P**	**18 21 43.8**	**+0.8**
SPB	**Sao Paulo**	**35.61**	**327**	P	**P**	**18 21 45.6**	**+0.7**
SPB				IAmb	IAmb	18 21 48.0	
	comp=Z,101nm,1.2s						
SPB	**Sao Paulo**	**35.61**	**327**	*e*P	**P**	**18 21 46.2**	**+1.2**
DUB01	**Friburgo-RJ**	**35.67**	**335**	*e*P	**P**	**18 21 46.7**	**+1.1**
VAS01	**Vassouras-RJ**	**35.74**	**334**	*e*P	**P**	**18 21 47.3**	**+1.2**
CAM01	**Campos-RJ**	**35.75**	**337**	*e*P	**P**	**18 21 46.9**	**+0.7**
VAO	**Valinhos**	**36.02**	**328**	P	**P**	**18 21 49.9**	**+1.3**
VAO	**Valinhos**	**36.02**	**328**	*e*P	**P**	**18 21 50.2**	**+1.6**
PTGB	**Pitanga**	**36.13**	**319**	*e*P	**P**	**18 21 50.2**	**+0.7**
SCCA	**San Cayetano,**	**36.25**	**308**	*e*P	**P**	**18 21 51.3**	**+0.8**
BI05	**Punta Hualpn**	**36.29**	**282**	IAmb	IAmb	18 21 53.0	
	comp=Z,130nm,1.0s						
FRTB	**Fartura**	**36.52**	**324**	*e*P	**P**	**18 21 53.0**	**+0.2**
ALF01	**Guarapari-ES**	**36.72**	**338**	*e*P	**P**	**18 21 55.6**	**+1.1**
RCLB	**Rio Claro- Sao**	**36.74**	**327**	*e*P	**P**	**18 21 56.7**	**+1.9**
CPUP	**Villa Florida**	**36.77**	**311**	P	**P**	**18 21 55.2**	**+0.3**
CPUP				IAmb	IAmb	18 21 56.7	
	comp=Z,218nm,1.1s						
CPUP	**Villa Florida**	**36.77**	**311**	P	**P**	**18 21 55.4**	**+0.5**
	comp=Z,164nm,1.0s,baz=151,slow=8.1,SNR=220						
CPUP				PcP	**PcP**	**18 24 16.9**	**+0.2**
	comp=Z,7.8nm,0.6s,baz=191,slow=1.9,SNR=4.7						
CPUP				ScP	**ScP**	**18 28 00.1**	**-0.9**
	comp=Z,6.4nm,0.7s,baz=184,slow=0.8,SNR=5.4						
CPUP				LR	LR	18 34 54.1	
	comp=Z,1μm,21.8s,baz=156,slow=33						
	comp=Z,164nm,1.0s						
CPUP	**Villa Florida**	**36.77**	**311**	P	**P**	**18 21 55.2**	**+0.3**
CPUP				pmax	pmax		
	comp=Z,218nm,1.1s						
CPUP	**Villa Florida**	**36.77**	**311**	*e*P	**P**	**18 21 55.6**	**+0.7**
LDASE	**Londrina, Braz**	**37.00**	**322**	*e*P	**P**	**18 21 58.1**	**+1.1**
MT08	**Bocatoma Ro**	**37.04**	**289**	IAmb	IAmb	18 22 01.5	
	comp=Z,161nm,0.8s						
MCR1	**Marechal Candi**	**37.10**	**317**	*e*P	**P**	**18 21 58.0**	**+0.2**
VACA	**Vila Angela C**	**37.12**	**306**	*e*P	**P**	**18 21 59.2**	**+1.3**
BSCB	**Bom Sucesso**	**37.31**	**332**	*e*P	**P**	**18 22 00.3**	**+0.7**
MT09	**Talagante**	**37.31**	**288**	IAmb	IAmb	18 22 00.4	
	comp=Z,147nm,0.7s						
MT16	**CCHEN**	**37.33**	**289**	IAmb	IAmb	18 22 02.4	
	comp=Z,132nm,0.7s						
MT01	**Popeta**	**37.38**	**287**	IAmb	IAmb	18 22 00.7	
	comp=Z,92nm,0.8s						
SJPY	**San Joaquin**	**37.44**	**314**	*e*P	**P**	**18 22 00.6**	**-0.1**
MT05	**Renca**	**37.47**	**288**	IAmb	IAmb	18 22 03.9	
	comp=Z,75nm,0.7s						
MT02	**Curacav**	**37.78**	**288**	IAmb	IAmb	18 22 04.7	
	comp=Z,189nm,0.6s						
ZON	**Zonda**	**37.82**	**293**	IAmb	IAmb	18 22 08.5	
	comp=Z,145nm,0.7s						
VA03	**San Esteban**	**37.85**	**289**	IAmb	IAmb	18 22 09.2	
	comp=Z,217nm,0.7s						
RIB01	**Linhares ES**	**37.92**	**339**	*e*P	**P**	**18 22 05.1**	**+0.5**
TICA	**Tres Isletas**	**38.05**	**307**	*e*P	**P**	**18 22 07.0**	**+1.3**
TRCB	**Terra Rica**	**38.09**	**320**	IAmb	IAmb	18 22 08.2	
	comp=Z,192nm,0.9s						
TRCB	**Terra Rica**	**38.09**	**320**	*e*P	**P**	**18 22 07.1**	**+0.9**
VA01	**Torpederas**	**38.24**	**288**	IAmb	IAmb	18 22 12.7	
	comp=Z,82nm,0.7s						
BB19B	**Bebedouro**	**38.32**	**327**	*e*P	**P**	**18 22 09.1**	**+1.0**
VA06	**Catapilco**	**38.41**	**289**	IAmb	IAmb	18 22 10.1	
	comp=Z,252nm,0.8s						
ESFA	**Espinillo Form**	**38.47**	**311**	*e*P	**P**	**18 22 10.6**	**+1.4**
BSFB	**Barra de Sao F**	**38.48**	**339**	*e*P	**P**	**18 22 10.2**	**+0.8**
SJMB	**Sao Joao De Ma**	**38.67**	**338**	*e*P	**P**	**18 22 11.6**	**+0.5**
PCMB	**Pacaembu**	**38.70**	**323**	*e*P	**P**	**18 22 12.1**	**+0.8**
AMBA	**Amambai (Brazi**	**38.85**	**317**	*e*P	**P**	**18 22 12.8**	**+0.2**
CER	**Ceres**	**39.01**	**74**	*e*P	**P**	**18 22 13.6**	**-0.2**
CER				IAmb	IAmb	18 22 14.2	
	comp=Z,76nm,1.5s						
PAPY	**Pozo Azul**	**39.12**	**312**	*e*P	**P**	**18 22 15.9**	**+1.1**
PRTV	**Porterville,We**	**39.13**	**74**	*e*P	**P**	**18 22 11.9**	**-3.0**
PRTV				IAmb	IAmb	18 22 24.2	
	comp=Z,65nm,1.4s						
NAN01	**Guarapari, ES**	**39.30**	**340**	*e*P	**P**	**18 22 15.5**	**-0.8**
CO02	**Combarbal**	**39.31**	**290**	IAmb	IAmb	18 22 18.6	
	comp=Z,140nm,0.5s						
CO03	**El Pedregal**	**39.43**	**291**	IAmb	IAmb	18 22 20.6	
	comp=Z,107nm,0.8s						
DIAM	**Diamantina, MG**	**39.62**	**335**	*e*P	**P**	**18 22 19.6**	**+0.5**
MATJ	**Matjiesfontein**	**39.79**	**76**	*e*P	**P**	**18 22 19.6**	**-0.8**
MATJ				IAmb	IAmb	18 22 20.9	
	comp=Z,95nm,1.4s						
CO01	**Juntas del Tor**	**39.80**	**293**	IAmb	IAmb	18 22 23.8	
	comp=Z,204nm,0.8s						
GO04	**Tololo Observa**	**40.02**	**292**	IAmb	IAmb	18 22 31.1	
	comp=Z,100nm,0.6s						
PMNB	**Patos De Minas**	**40.10**	**331**	*e*P	**P**	**18 22 23.9**	**+0.9**
ITRB	**Iturama**	**40.17**	**325**	*e*P	**P**	**18 22 24.4**	**+0.8**
MAW	**Mawson**	**40.21**	**144**	P	**P**	**18 22 24.2**	**+0.9**
	comp=Z,26nm,0.7s,baz=234,slow=7.8,SNR=103						
MAW				PcP	**PcP**	**18 24 26.1**	**-0.6**
	comp=Z,9.8nm,0.8s,baz=6.2,slow=5.3,SNR=2.5						
MAW				ScP	**ScP**	**18 28 12.9**	**-0.6**
	comp=Z,6.4nm,0.6s,baz=155,slow=7.9,SNR=10						
MAW				LR	LR	18 36 53.2	
	comp=Z,2μm,21.5s,baz=257,slow=33						
	comp=Z,26nm,0.7s						
CO05	**La Serena**	**40.45**	**291**	IAmb	IAmb	18 22 27.8	
	comp=Z,260nm,0.7s						
GUA01	**Guaratinga, BA**	**40.47**	**341**	*e*P	**P**	**18 22 26.0**	**0.0**
SUR	**Sutherland**	**40.59**	**75**	P	**P**	**18 22 27.2**	**+0.1**
SUR	**Sutherland**	**40.59**	**75**	*e*P	**P**	**18 22 25.3**	**-1.8**
SUR	**Sutherland**	**40.59**	**75**	LR	LR	18 35 55.3	
	comp=Z,2μm,19.6s,baz=220,slow=31						
RPRD	**Ribas do Rio P**	**40.60**	**320**	*e*P	**P**	**18 22 27.0**	**0.0**
CVNA	**Calvinia**	**40.71**	**73**	*e*P	**P**	**18 22 26.9**	**-1.1**
CVNA				IAmb	IAmb	18 22 29.0	
	comp=Z,80nm,1.5s						
LCO	**Las Campanas**	**40.89**	**293**	P	**P**	**18 22 30.1**	**+0.4**
LCO				IAmb	IAmb	18 22 31.5	
	comp=Z,248nm,0.9s						
LCO	**Las Campanas**	**40.89**	**293**	P	**P**	**18 22 30.2**	**+0.4**
LCO				pmax	pmax		
	comp=Z,248nm,1.0s						
LCO				MLR	MLR		
	comp=Z,2μm,21.0s						
MURT	**Porto Murtinho**	**41.03**	**314**	*e*P	**P**	**18 22 30.0**	**-0.6**
IPMB	**Ipamari, GO**	**41.13**	**329**	*e*P	**P**	**18 22 32.3**	**+0.8**
FRAZ	**Fraserburg**	**41.26**	**75**	*e*P	**P**	**18 22 31.4**	**-1.2**
FRAZ				IAmb	IAmb	18 22 35.6	
	comp=Z,60nm,1.4s						
AQDB	**Aquidauana**	**41.35**	**317**	IAmb	IAmb	18 22 34.4	
	comp=Z,300nm,1.3s						
AQDB	**Aquidauana**	**41.35**	**317**	*e*P	**P**	**18 22 33.2**	**0.0**
GRAN	**Grantham**	**41.38**	**76**	*e*P	**P**	**18 22 32.4**	**-1.1**
GRAN				IAmb	IAmb	18 22 38.6	
	comp=Z,16nm,0.8s						
BUFB	**Buffelsbos**	**41.41**	**81**	*e*P	**P**	**18 22 33.1**	**-0.6**
BUFB				IAmb	IAmb	18 22 36.4	
	comp=Z,32nm,1.0s						
FDPY	**Filadelfia**	**41.45**	**311**	*e*P	**P**	**18 22 35.2**	**+1.2**
CMC01	**Camacan, BA**	**41.61**	**342**	*e*P	**P**	**18 22 35.4**	**0.0**
VA04	**Juan Fernndez**	**41.69**	**280**	P	**P**	**18 22 36.5**	**+0.6**
BDQN	**Bodoquena, MS**	**41.78**	**316**	*e*P	**P**	**18 22 36.3**	**-0.4**
ROOI	**Rooidraai Farm**	**42.00**	**78**	*e*P	**P**	**18 22 36.0**	**-2.5**
ROOI				IAmb	IAmb	18 22 38.8	
	comp=Z,102nm,1.6s						
NBIT	**Itapeh - BA**	**42.02**	**342**	*e*P	**P**	**18 22 39.5**	**+0.8**
AC06	**Mina Casimiro**	**42.05**	**295**	IAmb	IAmb	18 22 40.7	
	comp=Z,376nm,0.9s						
RVDE	**Rio Verde (Bra**	**42.38**	**319**	*e*P	**P**	**18 22 41.8**	**0.0**
GRAF	**Camdeboo Natio**	**42.67**	**78**	*e*P	**P**	**18 22 42.6**	**-1.4**
GRAF				IAmb	IAmb	18 22 47.5	
	comp=Z,49nm,1.0s						
JANB	**Januaria**	**42.89**	**335**	*e*P	**P**	**18 22 46.0**	**+0.1**
PANT	**Pantanal (Braz**	**43.05**	**317**	*e*P	**P**	**18 22 47.7**	**+0.6**
AC01	**Pan de Azucar**	**43.17**	**295**	P	**P**	**18 22 48.6**	**+0.6**
AC01				IAmb	IAmb	18 22 50.7	
	comp=Z,374nm,1.1s						
GDU01	**Guandu, BA**	**43.23**	**342**	*e*P	**P**	**18 22 48.1**	**-0.4**
BDFB	**Brasilia**	**43.29**	**330**	P	**P**	**18 22 49.8**	**+0.6**
BDFB	**Brasilia**	**43.29**	**330**	P	**P**	**18 22 49.0**	**-0.2**
	comp=Z,15nm,0.7s,baz=151,slow=6.6,SNR=16						
BDFB				PcP	**PcP**	**18 24 38.8**	**+1.0**
	comp=Z,9.2nm,0.6s,baz=234,slow=3.3,SNR=3.2						
BDFB				LR	LR	18 38 19.2	
	comp=Z,2μm,20.8s,baz=158,slow=33						
	comp=Z,15nm,0.7s						
BDFB	**Brasilia**	**43.29**	**330**	P	**P**	**18 22 49.8**	**+0.6**
BDFB				pmax	pmax		
	comp=Z,34nm,1.1s						
KEIM	**Keimoes**	**43.53**	**72**	*e*P	**P**	**18 22 49.5**	**-1.6**
KEIM				IAmb	IAmb	18 22 52.0	
	comp=Z,49nm,1.4s						
DVLD	**Doverlandia**	**43.63**	**324**	*e*P	**P**	**18 22 52.6**	**+0.8**
PP1B	**Ponte de Pedra**	**43.67**	**320**	*e*P	**P**	**18 22 51.1**	**-1.1**
PB14	**IPOC Station P**	**44.33**	**297**	IAmb	IAmb	18 22 59.1	
	comp=Z,190nm,0.8s						
ARAG	**Araguaiana, MT**	**44.38**	**325**	*e*P	**P**	**18 22 58.7**	**+0.9**
HVD	**Gariep Dam**	**44.51**	**78**	*e*P	**P**	**18 22 59.8**	**+0.9**
HVD				IAmb	IAmb	18 23 01.5	
	comp=Z,37nm,1.1s						
BBRB	**Robore, Bolivi**	**44.96**	**313**	*e*P	**P**	**18 23 02.6**	**+0.2**
PB15	**IPOC Station P**	**45.05**	**299**	IAmb	IAmb	18 23 12.7	
	comp=Z,109nm,0.5s						
POCN	**Pocone**	**45.26**	**318**	*e*P	**P**	**18 23 05.5**	**+0.8**
LVC	**Limon Verde**	**45.28**	**300**	P	**P**	**18 23 06.4**	**+1.1**
LVC	**Limon Verde**	**45.28**	**300**	LR	LR	18 41 24.3	
	comp=Z,640nm,21.5s,baz=164,slow=35						
LVC	**Limon Verde**	**45.28**	**300**	P	**P**	**18 23 06.4**	**+1.1**
LVC				pmax	pmax		
	comp=Z,273nm,0.8s						
LVC				MLR	MLR		
	comp=Z,800nm,20.0s						
LVC	**Limon Verde**	**45.28**	**300**	*e*P	**P**	**18 23 07.3**	**+2.0**
PB10	**IPOC Station P**	**45.33**	**297**	IAmb	IAmb	18 23 07.5	
	comp=Z,142nm,0.7s						
PB06	**IPOC Station P**	**45.52**	**299**	IAmb	IAmb	18 23 09.5	
	comp=Z,348nm,1.5s						
SALV	**Sant

comp=Z,169nm,0.8s
PDRB Porto dos Gac 49.87 321 *e*P P 18 23 40.8 +0.2
VILB Vilhena 49.93 316 *e*P P 18 23 41.5 +0.3
CLDB Colider 50.23 322 *e*P P 18 23 43.6 +0.3
LPAZ La Paz 50.34 305 P P **18 23 46.5 +1.5**
comp=Z,176nm,0.7s,baz=143,slow=5.9,SNR=580
LPAZ ScP **ScP 18 28 55.5 -1.3**
comp=Z,5.6nm,0.8s,baz=139,slow=3.3,SNR=4.3
LPAZ LR LR 18 44 27.3
comp=Z,695nm,21.9s,baz=153,slow=35
comp=Z,176nm,0.7s
LPAZ La Paz 50.34 305 *e*P P 18 23 46.5 +1.5
RCBR Riachuelo 50.47 349 LR LR 18 42 36.6
comp=Z,364nm,18.2s,baz=332,slow=33
RCBR Riachuelo 50.47 349 *e*P P 18 23 44.9 -0.3
NBPA Parau_RN 50.69 347 *e*P P 18 23 46.5 -0.4
MTLB Matlabas, Limp 50.70 74 *e*P P 18 23 45.4 -1.6
MTLB IAmb IAmb 18 23 48.9
comp=Z,22nm,0.8s
LEPH Lephalale, Lim 51.07 74 *e*P P 18 23 48.5 -1.2
LEPH IAmb IAmb 18 23 54.0
comp=Z,327nm,2.6s
NBPB Pedra_Branca-C 51.24 344 *e*P P 18 23 48.6 -2.4
PILG Pilgrimsrest, 51.80 78 *e*P P 18 23 53.1 -2.3
PILG IAmb IAmb 18 23 57.3
comp=Z,31nm,1.2s
CRAIL Swartwater, Li 52.16 74 *e*P P 18 23 56.1 -1.8
NBBC Barra do Corda 52.33 337 *e*P P 18 23 59.5 +0.5
HOED Hoedspruit, Li 52.34 78 *e*P P 18 23 58.1 -1.1
HOED IAmb IAmb 18 24 13.7
comp=Z,36nm,0.9s
NBCL Cascavel-CE 52.35 346 *e*P P 18 23 59.0 -0.2
NBPS Pedro II - PI 52.67 342 *e*P P 18 24 01.5 -0.2
PRPB Parauapebas 52.82 331 *e*P P 18 24 03.6 +0.9
MPHEP Siloam, Limpop 53.12 76 *e*P P 18 24 04.3 -0.8
MPHEP IAmb IAmb 18 24 20.1
comp=Z,46nm,1.1s
MOPA Mopani 53.30 78 *e*P P 18 24 05.3 -1.0
MOPA IAmb IAmb 18 24 21.0
comp=Z,46nm,1.0s
NBMO Morrinhos-CE 53.50 344 *e*P P 18 24 07.8 0.0
NPGB Novo Progresso 53.65 324 *e*P P 18 24 09.0 +0.1
CASY Casey 53.99 160 P P **18 24 11.8 +1.1**
CASY Casey 53.99 160 IAMs_20 IAMs_20 18 45 42.0
comp=Z,2µm,22.0s
MATP Matopo 54.22 73 LR LR 18 45 37.6
comp=Z,295nm,18.7s,baz=233,slow=34
ROSB Rosrio 54.64 339 *e*P P 18 24 15.7 -0.3
SAML Samuel 54.75 315 P P **18 24 16.7 -0.1**
SAML IAmb IAmb 18 24 18.5
comp=Z,205nm,1.1s
SAML Samuel 54.75 315 P P **18 24 16.7 -0.1**
SAML pmax pmax
comp=Z,205nm,1.1s
SAML MLR MLR
comp=Z,1µm,22.0s
SAML Samuel 54.75 315 *e*P P 18 24 17.2 +0.4
JIR01 Jirau 54.88 313 *e*P P 18 24 17.1 -0.7
ETMB Extrema 55.22 311 *e*P P 18 24 20.7 +0.4
TMAB Tom-Au,PA,Br 56.03 334 *e*P P 18 24 27.2 +1.2
ITTB Itaituba 56.29 325 *e*P P 18 24 28.2 +0.3
NNA Nana 58.23 299 P P **18 24 42.5 +0.8**
NNA IAmb IAmb 18 24 44.1
comp=Z,147nm,0.9s
NNA Nana 58.23 299 LR LR 18 49 59.1
comp=Z,573nm,21.6s,baz=142,slow=36
NNA Nana 58.23 299 *e*P P **18 24 40.0 -1.7**
NNA pmax pmax
comp=Z,474nm,1.7s
LSZ Lusaka 58.31 69 P P **18 24 41.1 -1.2**
LSZ IAMs_20 IAMs_20 18 46 25.7
comp=Z,2µm,20.0s
LSZ Lusaka 58.31 69 P P **18 24 41.1 -1.2**
LSZ pmax pmax
comp=Z,24nm,1.0s
LSZ MLR MLR
comp=Z,2µm,20.0s
MCPB Macapa, AP 58.98 331 *e*P P 18 24 48.1 +1.3
MACA Manacapuru-AM 59.11 320 *e*P P 18 24 47.2 -0.5
CZSB Cruzeiro do Su 59.95 305 *e*P P 18 24 53.2 -0.4
TEFE Tefe 60.28 316 *e*P P 18 24 56.2 +0.4
TBTG Tabatinga, AM 61.85 310 P P **18 25 05.3 -1.1**
TBTG Tabatinga, AM 61.85 310 *e*P P 18 25 06.1 -0.3
ATAH Atahualpa 63.17 300 LR LR 18 52 03.5
comp=Z,592nm,21.8s,baz=159,slow=35
BOAV Boa Vista 64.22 322 P P **18 25 21.5 -0.6**
BOAV Boa Vista 64.22 322 *e*P P 18 25 22.0 -0.1
MDP Montagnes des 64.36 332 LR LR 18 53 40.8
comp=Z,876nm,18.2s,baz=120,slow=36
LIC Lamto 64.59 24 *e*PKP2 P **18 25 26.3 +1.7**
comp=Z,20nm,0.6s
KIC Kosan Boka 64.79 25 *e*PKP2 P **18 25 26.8 +0.9**
comp=Z,9.0nm,0.7s
TIC Toumodi 65.00 24 *e*PKP2 P **18 25 28.2 +1.0**
comp=Z,10nm,0.5s
DBIC Dimbokro 65.06 25 *e*P P 18 25 30.7 +3.1
DBIC Dimbokro 65.06 25 P P **18 25 26.4 -1.2**
comp=Z,4.0nm,0.6s,baz=175,slow=6.9,SNR=6.1
DBIC LR LR 18 47 48.7
comp=Z,1µm,20.4s,baz=190,slow=30
OPO Ambohidratompo 66.05 88 LR LR 18 48 31.9
comp=Z,1µm,21.2s,baz=326,slow=31
RER Riviere de l'E 68.79 97 P P **18 25 52.9 +1.4**
RER IAmb IAmb 18 25 59.0
comp=Z,62nm,0.9s
SLOR San Lorenzo - 68.80 303 IAmb IAmb 18 25 57.1
comp=Z,49nm,0.7s
ROSC El Rosal 71.84 310 IAmb IAmb 18 26 13.8
comp=Z,85nm,0.8s
ROSC El Rosal 71.84 310 P P **18 26 11.3 +0.9**
comp=Z,99nm,0.8s,baz=144,slow=4.8,SNR=41
ROSC LR LR 18 59 14.3
comp=Z,625nm,19.8s,baz=170,slow=37
comp=Z,99nm,0.8s
MBAR Mbarara 72.08 63 P P **18 26 12.5 +0.8**
MBAR Mbarara 72.08 63 LR LR 18 55 11.3
comp=Z,621nm,21.7s,baz=184,slow=34
MBAR Mbarara 72.08 63 *i* P P **18 26 09.7 -2.0**
MBAR pmax pmax
comp=Z,25nm,1.3s
PCRV Puerto La Cruz 72.89 321 LR LR 19 01 08.3
comp=Z,528nm,18.7s,slow=38
TORD Torodi Ar. Bea 72.95 29 P P **18 26 15.0 -1.6**
TORD IAmb IAmb 18 26 27.7
comp=Z,33nm,0.7s
TORD Torodi Ar. Bea 72.95 29 P P **18 26 13.4 -3.1**
comp=Z,5.7nm,0.4s,baz=200,slow=5.3,SNR=32
comp=Z,5.7nm,0.4s
GRGR Grenville 73.70 325 P P **18 26 21.5 +0.5**
SDV Santo Domingo 73.96 315 P P **18 26 23.0 +0.2**
SDV IAmb IAmb 18 26 24.5
comp=Z,156nm,0.8s
SDV Santo Domingo 73.96 315 LR LR 19 00 18.2
comp=Z,1µm,19.4s,baz=152,slow=37
SDV Santo Domingo 73.96 315 *e*P P 18 26 23.3 +0.5
KIBK Kibwezi 74.37 70 P P **18 26 27.1 +2.0**
PAYG Puerto Ayora 74.71 292 P P **18 26 26.5 -0.5**
PAYG IAmb IAmb 18 26 30.2
comp=Z,211nm,1.3s
BIM Bigot 75.76 326 P P **18 26 33.2 +0.3**
FDF Fort de France 75.99 326 IAmb IAmb 18 26 37.4
comp=Z,135nm,1.1s
GDSD La Dsirade Is 77.45 327 IAmb IAmb 18 26 44.8
comp=Z,249nm,1.5s
WHZ Wether Hill Ro 77.73 191 IAmb IAmb 18 26 48.4
comp=Z,94nm,1.2s
LODK Lodwar 77.86 65 P P **18 26 46.9 +1.9**
LODK IAMs_20 IAMs_20 18 59 57.1
comp=Z,865nm,19.0s
BCIP Isla Barro Col 78.13 307 IAmb IAmb 18 26 49.3
comp=Z,55nm,0.8s
DCZ Deep Cove 78.24 190 P P **18 26 47.6 +1.1**
ODZ Otahua Downs 78.26 193 P P **18 26 47.5 +0.8**
WKZ Wanaka 78.67 192 IAmb IAmb 18 26 58.6
comp=Z,53nm,0.8s
LBZ Lake Benmore 78.97 193 P P **18 26 51.8 +1.2**
LBZ IAmb IAmb 18 27 17.6
comp=Z,165nm,1.8s
CDITO Canoas 79.00 304 IAmb IAmb 18 26 56.7
comp=Z,114nm,1.3s
MQZ McQueen's Vall 79.31 194 P P **18 26 52.7 +0.3**
RPZ Rata Peaks 79.52 193 IAmb IAmb 18 26 58.3
comp=Z,53nm,0.9s
RPZ Rata Peaks 79.52 193 P P **18 26 53.7 0.0**
comp=Z,45nm,0.9s,baz=286,slow=1.0,SNR=14
RPZ LR LR 19 01 05.1
comp=Z,520nm,18.7s,baz=152,slow=35
comp=Z,45nm,0.9s
OXZ Oxford 79.77 194 P P **18 26 55.8 +0.8**
GVZ Greta Valley S 79.98 195 P P **18 26 58.2 +2.0**
PEZE Perez Zeledon, 80.09 303 IAmb IAmb 18 26 59.8
comp=Z,62nm,0.9s
LTZ Lake Taylor 80.27 194 IAmb IAmb 18 27 02.8
comp=Z,100nm,0.9s
LTZ Lake Taylor 80.27 194 P P **18 26 58.7 +0.9**
INZ Inchbonnie 80.44 194 P P **18 26 59.0 +0.3**
KHZ Kahutara 80.45 195 P P **18 27 00.5 +1.9**
LCR2 La Lucha 2 80.56 303 IAmb IAmb 18 27 02.3
comp=Z,53nm,0.8s
HUMP Col San Antoni 80.71 323 IAmb IAmb 18 27 01.3
comp=Z,74nm,1.1s
HDC Heredia 80.83 303 *e*P P **18 27 02.4 +1.3**
GCPR Guaynabo City 80.94 323 IAmb IAmb 18 27 02.3
comp=Z,125nm,1.4s
MLPR Magueyes Islan 80.96 322 IAmb IAmb 18 27 02.2
comp=Z,85nm,1.1s
THZ Tophouse 81.18 195 IAmb IAmb 18 27 11.0
comp=Z,74nm,0.7s
DSZ Denniston Nort 81.35 194 IAmb IAmb 18 27 06.6
comp=Z,120nm,0.9s
DSZ Denniston Nort 81.35 194 P P **18 27 02.7 -0.9**
TAU Tasmania Unive 81.40 176 P P **18 27 04.2 +0.5**
TAU Tasmania Unive 81.40 176 P P **18 27 04.2 +0.5**
TAU pmax pmax
comp=Z,216nm,1.0s
SOCE Pocosol 81.41 303 IAmb IAmb 18 27 10.4
comp=Z,39nm,0.8s
DUNO Dulce Nombre, 81.56 302 IAmb IAmb 18 27 07.4
comp=Z,50nm,0.8s
MRNZ Matariki Terra 81.56 195 P P **18 27 05.2 +0.6**
NNZ Nelson 81.64 196 P P **18 27 05.6 +0.5**
TKNZ Takaka Hill 81.89 195 P P **18 27 06.0 -0.4**
DUWZ D'Urville Isla 81.97 196 P P **18 27 07.5 +0.7**
QRZ Quartz Range 82.15 195 IAmb IAmb 18 27 52.6
comp=Z,172nm,1.7s
QRZ Quartz Range 82.15 195 P P **18 27 06.5 -1.3**
HZTE Horizontes, Gu 82.16 302 IAmb IAmb 18 27 13.2
comp=Z,113nm,0.9s
ESPN Las Esperanzas 82.84 304 IAmb IAmb 18 27 12.9
comp=Z,76nm,0.9s
ACON Acoyapa 83.05 303 IAmb IAmb 18 27 14.1
comp=Z,105nm,0.8s
TAM Tamanrasset 83.19 30 P P **18 27 14.6 +1.3**
TAM Tamanrasset 83.19 30 P P **18 27 14.6 +1.3**
TAM pmax pmax
comp=Z,49nm,1.9s
TAM MLR MLR
comp=Z,500nm,20.0s
SDDR Presa de Saban 83.42 318 IAmb IAmb 18 27 15.8
comp=Z,52nm,0.9s
RTZ Ruatahuna 83.58 199 IAmb IAmb 18 27 27.9
comp=Z,55nm,1.0s
URZ Urewera 83.91 199 LR LR 19 02 25.8
comp=Z,402nm,18.1s,baz=212,slow=34
MTDJ Mount Denham 85.20 313 IAMs_20 IAMs_20 19 04 07.1
comp=Z,1µm,22.0s
GTBY Guantanamo Bay 85.75 316 IAMs_20 IAMs_20 19 04 06.7
comp=Z,1µm,22.0s
NWAO Narrogin (SRO) 86.40 151 LR LR 19 02 52.7
comp=Z,181nm,20.4s,baz=196,slow=33
TOO Toolangi 86.63 174 IAmb IAmb 18 27 33.6
comp=Z,34nm,0.8s
MTO3 Montecristo 87.15 301 IAmb IAmb 18 27 36.0
comp=Z,67nm,0.7s
ATD Arta Tunnel 88.60 67 IAMs_20 IAMs_20 19 07 19.5
comp=Z,595nm,19.0s
ATD Arta Tunnel 88.60 67 LR LR 19 04 03.5
comp=Z,30nm,21.2s,baz=184,slow=33
CAN Canberra 89.03 177 IAmb IAmb 18 27 47.5
comp=Z,85nm,1.3s
MDT Midelt 90.48 19 P P **18 27 48.4 -0.2**
comp=Z,5.6nm,1.0s,baz=232,slow=5.8,SNR=6.7
MDT LR LR 19 03 12.4
comp=Z,542nm,21.0s,baz=198,slow=32
comp=Z,5.6nm,1.0s
FORT Forrest 91.06 159 P P **18 27 50.8 -0.8**
FORT IAmb IAmb 18 27 56.6
comp=Z,42nm,0.8s
TEIG Tepich 91.67 305 P P **18 27 54.9 +0.7**
TEIG IAmb IAmb 18 27 56.5
comp=Z,62nm,0.7s
TEIG Tepich 91.67 305 LR LR 19 11 46.7
comp=Z,2µm,20.0s,slow=37
STKA Stephens Creek 91.99 170 P P **18 27 56.3 +0.4**
comp=Z,18nm,0.7s,baz=162,slow=4.1,SNR=22
STKA PP **PP 18 31 34.3 -0.2**
comp=Z,5.4nm,0.8s,baz=149,slow=4.7,SNR=5.4
STKA LR LR 19 08 02.6
comp=Z,663nm,19.9s,baz=192,slow=35
comp=Z,18nm,0.7s
STKA Stephens Creek 91.99 170 *i* P P **18 27 56.1 +0.2**
CMIG Matias Romero 92.17 298 LR LR 19 04 40.6
comp=Z,171nm,21.3s,baz=186,slow=32
PPT Papara 92.28 234 LR LR 19 02 01.8
comp=Z,263nm,18.3s,baz=163,slow=31
RAR Rarotonga 93.33 223 LR LR 19 03 50.1
comp=Z,281nm,19.3s,baz=142,slow=31
TLIG Tlapa 94.42 295 IAmb IAmb 18 28 10.2
comp=Z,21nm,0.7s
DWPF Disney Wildern 95.60 314 P P **18 28 14.9 +2.8**
baz=153
CART Cartagena 95.80 21 IAMs_20 IAMs_20 19 08 24.3
comp=Z,661nm,19.0s
KEST Kesra 96.47 29 LR LR 19 07 26.0
comp=Z,731nm,20.6s,baz=160,slow=33
ESDC Sonseca Array 97.28 18 P Pdif 18 28 20.2 +0.5
ESDC Sonseca Array 97.28 18 P P **18 28 19.3 -0.3**
comp=Z,1.2nm,1.0s,baz=187,slow=6.1,SNR=4.4
ESDC LR LR 19 09 25.7
comp=Z,469nm,18.9s,baz=180,slow=34
ASAR Alice Springs 99.07 162 P **Pdif 18 28 27.1 -1.2**
ASAR Alice Springs 99.07 162 P **Pdif 18 28 28.4 0.0**
comp=Z,14nm,0.7s,baz=186,slow=4.1,SNR=92
ASAR PP **PP 18 32 29.2 -0.4**
comp=Z,4.1nm,0.8s,baz=186,slow=6.6,SNR=6.3
ASAR PKKPbc **PKKPdf 18 44 52.2 -1.0**
comp=Z,3.7nm,0.7s,baz=25,slow=2.1,SNR=33
ASAR PKPPKP 18 53 06.9
comp=Z,1.0nm,1.0s,baz=6.2,slow=3.5,SNR=5.6
comp=Z,14nm,0.7s
BRAL Brewton 100.61 311 IAMs_20 IAMs_20 19 13 41.4
comp=Z,526nm,22.0s
GOGA Godfrey 101.09 315 P **Pdif 18 28 39.7 +3.0**
baz=152
KMSC Kings Mountain 101.78 317 P **Pdif 18 28 42.4 +2.7**
baz=152
KARP Karpathos 102.17 43 IAMs_20 IAMs_20 19 13 57.4
comp=Z,560nm,20.0s
LRAL Lakeview Retre 102.20 312 IAMs_20 IAMs_20 19 21 37.7
comp=Z,649nm,19.0s
LRAL Lakeview Retre 102.20 312 P **Pdif 18 28 44.0 +2.4**
baz=150
WRA Warramunga Arr 102.79 162 P **Pdif 18 28 44.7 -0.1**
comp=Z,2.5nm,0.7s,baz=196,slow=4.4,SNR=13
WRA PP **PP 18 32 55.9 -1.8**
comp=Z,1.4nm,0.8s,baz=190,slow=6.1,SNR=3.3
WRA PKKPbc **PKKPbc 18 44 40.0 -0.5**
comp=Z,4.0nm,0.8s,baz=360,slow=3.3,SNR=19
VBMS Vicksburg 103.01 309 P **Pdif 18 28 47.6 +2.4**
baz=149
833A Chaparral WMA, 103.83 300 P **Pdif 18 28 51.0 +2.0**
baz=147
TZTN Tazewell 103.86 316 IAMs_20 IAMs_20 19 23 10.5
comp=Z,414nm,18.0s
TZTN Tazewell 103.86 316 P **Pdif 18 28 51.8 +2.8**
baz=151
M65A Busby, Falmout 103.91 328 IAMs_20 IAMs_20 19 10 43.5
comp=Z,595nm,22.0s
CSS Mathiatis 104.12 47 IAMs_20 IAMs_20 19 15 53.9
comp=Z,610nm,21.0s
PAL Palisades 104.41 325 P **Pdif 18 28 54.1 +2.9**
baz=155
OXF Oxford 104.49 311 IAMs_20 IAMs_20 19 23 30.2
comp=Z,404nm,19.0s
WES Weston 104.86 328 IAMs_20 IAMs_20 19 13 38.8
comp=Z,588nm,21.0s
HRV Adam Dziewonsk 105.04 328 P **PKiKP 18 33 11.0 +2.5**
baz=156
QUA2 Belchertown 105.08 327 IAMs_20 IAMs_20 19 11 55.5
comp=Z,564nm,20.0s
WVT Waverly 105.22 313 P **PKiKP 18 33 12.0 +3.0**
baz=150
MCWV Mont Chateau 105.22 320 P **PKiKP 18 33 11.5 +2.6**
baz=152
L61B Northampton 105.33 327 IAMs_20 IAMs_20 19 11 53.3
comp=Z,500nm,22.0s
L61B Northampton 105.33 327 P **PKiKP 18 33 10.9 +1.9**
baz=155
JCT Junction City 105.82 301 P **PKiKP 18 33 11.4 +1.1**
baz=146
O53A New Philadelph 106.23 320 P **PKiKP 18 33 13.0 +2.2**
baz=152
MIAR Mount Ida 106.33 308 P **PKiKP 18 33 13.4 +2.3**
baz=148
HNH Hanover 106.36 328 IAMs_20 IAMs_20 19 14 15.3
comp=Z,492nm,20.0s
LBNH Lisbon 106.73 328 IAMs_20 IAMs_20 19 14 14.3
comp=Z,503nm,20.0s
LBNH Lisbon 106.73 328 P **PKiKP 18 33 13.6 +2.1**
baz=156
TXAR Lajitas Array 106.77 298 Pdiff **Pdif 18 29 02.0 -0.3**
comp=Z,0.2nm,0.3s,baz=177,slow=6.3,SNR=5.6
TXAR PKiKP **PKiKP 18 33 12.0 -0.2**
comp=Z,0.8nm,0.8s,baz=172,slow=2.7,SNR=4.9
TXAR PKKPbc **PKKPbc 18 44 29.2 +0.2**
comp=Z,0.8nm,0.8s,baz=247,slow=0.6,SNR=7.2
PKME Peaks-Kenny Pk 106.91 330 P **PKiKP 18 33 13.7 +1.9**
baz=157
VT1 Waterbury 107.06 328 IAMs_20 IAMs_20 19 12 17.8
comp=Z,513nm,22.0s
O48B Farmland 107.71 317 IAMs_20 IAMs_20 19 14 07.4
comp=Z,458nm,22.0s
O48B Farmland 107.71 317 P **PKiKP 18 33 15.7 +2.2**
baz=150
LONY Lake Ozonia 107.89 326 IAMs_20 IAMs_20 19 18 47.8
comp=Z,430nm,20.0s
LONY Lake Ozonia 107.89 326 P **PKiKP 18 33 15.2 +1.5**
baz=154
ANTO Ankara 108.12 44 IAMs_20 IAMs_20 19 18 49.8
comp=Z,417nm,21.0s
BRTR Keskin Array B 108.33 45 PKiKP **PKiKP 18 33 15.1 +0.2**
comp=Z,0.9nm,0.8s,baz=126,slow=2.5,SNR=5.2
STU Stuttgart 108.68 24 IAMs_20 IAMs_20 19 14 19.1
comp=Z,557nm,21.0s
WLF Walferdange 108.84 22 IAMs_20 IAMs_20 19 18 50.4
comp=Z,450nm,19.0s
PMBI Palembang 109.47 128 IAMs_20 IAMs_20 19 08 14.4
comp=Z,524nm,22.0s
HDIL Hopedale 109.59 314 IAMs_20 IAMs_20 19 19 19.2
comp=Z,422nm,21.0s
GERES GERESS Array B 109.85 27 PKiKP **PKiKP 18 33 17.3 0.0**
comp=Z,1.7nm,0.8s,baz=142,slow=8.7,SNR=4.9
CKRC Cesky Krumlov 109.99 28 AMS AMS 19 15 40.0
comp=Z,300nm,17.3s
KHC Kasperske Hory 110.08 27 *e*SP SP 18 43 23.9 +6.6
KHC AMS AMS 19 14 40.0
comp=Z,600nm,19.2s
MSTX Muleshoe 110.11 301 P **PKiKP 18 33 20.1 +1.8**
baz=145
EPT El Paso 110.17 297 IAMs_20 IAMs_20 19 21 48.8
comp=Z,426nm,19.0s
MLR Muntele Rosu 110.49 37 PKiKP **PKiKP 18 33 17.0 -1.7**
comp=Z,1.9nm,0.7s,baz=297,slow=12,SNR=3.3
TREC Trest 110.73 28 AMS AMS 19 19 50.0
comp=Z,400nm,16.3s
NKC Novy Kostel 110.82 26 AMS AMS 19 18 40.0
comp=Z,300nm,17.2s
PRU Pruhonice 111.12 27 *e*SP SP 18 43 25.8 -1.0
PRU AMS AMS 19 16 10.0
comp=Z,600nm,18.9s
PRA Prague 111.17 27 AMS AMS 19 16 10.0
comp=Z,800nm,20.5s
HSKC Hora Svate Kat 111.41 26 *e*SP SP 18 43 33.7 +4.3
HSKC AMS AMS 19 19 10.0
comp=Z,300nm,17.0s
121A Cookes Peak, D 111.43 296 P **PKiKP 18 33 22.0 +1.0**
baz=144
PVCC Panska Ves 111.62 27 AMS AMS 19 16 20.0
comp=Z,600nm,18.8s
DPC Dobruska-Polom 111.92 28 AMS AMS 19 18 40.0
comp=Z,300nm,17.2s
CLL Collm 111.95 26 *e*PKiKP **PKiKP 18 33 23.0 +1.9**
OKC Ostrava-Krasne 111.95 30 AMS AMS 19 16 10.0
comp=Z,400nm,22.3s
UPC Upice 111.98 28 AMS AMS 19 17 00.0
comp=Z,300nm,20.5s
CHVC Chvalec 112.07 28 AMS AMS 19 16 50.0
comp=Z,200nm,19.0s
OSTC Ostas 112.08 28 AMS AMS 19 17 40.0
comp=Z,300nm,22.6s
EKA Eskdalemuir Ar 112.64 15 PKiKP **PKiKP 18 33 21.3 -1.0**
comp=Z,1.0nm,0.6s,baz=194,slow=1.4,SNR=5.5
EKA PKKPbc **PKKPbc 18 44 09.7 -1.1**
comp=Z,0.3nm,0.4s,baz=359,slow=2.7,SNR=6.7
ANMO Albuquerque 112.69 299 *i* PKiKP **PKiKP 18 33 23.3 0.0**
TUC Tucson 112.78 294 P **PKiKP 18 33 24.6 +1.1**
baz=143
MYKOM Kota Tinggi 113.23 125 IAMs_20 IAMs_20 19 09 48.5
comp=Z,432nm,22.0s
GNI Garni 113.39 53 IAMs_20 IAMs_20 19 28 45.2
comp=Z,378nm,18.0s
COWI Conover 114.21 318 IAMs_20 IAMs_20 19 28 34.4
comp=Z,328nm,18.0s
RGN Rugen 115.00 25 IAMs_20 IAMs_20 19 18 52.3
comp=Z,536nm,20.0s
SCHQ Schefferville 115.09 336 PKP **PKPdf 18 33 25.9 -1.1**
comp=Z,4.5nm,0.6s,baz=122,slow=1.1,SNR=9.6
OGNE Ogallala 115.39 306 P **PKiKP 18 33 29.9 +1.7**
baz=143
SHA1 Shidzhatmaz 115.39 49 *c i* PKiKP **PKiKP 18 33 28.4 +0.1**
GLA Glamis 115.45 292 P **PKiKP 18 33 29.6 +1.1**
baz=142
KBZ Khabaz 115.49 49 PKP **PKPdf 18 33 27.3 -0.8**
comp=Z,2.4nm,0.9s,baz=194,slow=5.8,SNR=6.9
KBZ Khabaz 115.49 49 *c i* PKiKP **PKiKP 18 33 28.8 +0.7**
MVCO Mesa Verde 115.50 299 P **PKiKP 18 33 30.5 +1.8**
baz=142
KIV Kislovodsk 115.58 49 *c i* PKiKP **PKPdf 18 33 27.8 -0.6**
KIV *i* 18 33 33.3
KIV 18 40 16.0
KIV *e*SS SS 18 50 37.3 +7.9
KIV pmax pmax
comp=Z,7.0nm,1.1s
KIV MLR MLR
comp=Z,331nm,20.0s
WUAZ Wupatki 115.60 296 P **PKiKP 18 33 30.8 +1.9**
baz=142
IKP In-Ko-Pah, Jac 115.81 290 P **PKiKP 18 33 30.6 +1.4**
baz=141
SWSC Sam W. Stewart 115.88 291 P **PKiKP 18 33 30.8 +1.6**
baz=141
PDMCI Parker Dam,Lak 116.07 293 P **PKiKP 18 33 30.8 +1.2**
baz=141
KIEV Kiev 116.09 36 PKPdf 18 33 28.1 -0.9
KIEV Kiev 116.09 36 PKiKP **PKPdf 18 33 28.1 -0.9**
KIEV MLR MLR
comp=Z,300nm,22.0s
AKASG Malin Array Be 116.10 36 PKPdf 18 33 28.2 -0.8
AKASG Malin Array Be 116.10 36 PKP **PKPdf 18 33 27.9 -1.2**
comp=Z,2.6nm,0.7s,baz=243,slow=1.7,SNR=7.6
AKASG PKKPbc **PKKPab 18 44 02.7 +1.6**
comp=Z,0.4nm,0.4s,baz=40,slow=3.6,SNR=5.5
AKASG Malin Array Be 116.10 36 PKiKP **PKPdf 18 33 28.2 -0.8**
AKBB Malin Array Si 116.10 36 *i* PKiKP **PKPdf 18 33 28.6 -0.4**
ISCO Idaho Springs 116.14 303 P **PKiKP 18 33 31.3 +1.4**
baz=142
MONP2 Monument Peak 116.17 290 P **PKiKP 18 33 31.2 +1.1**
baz=141
BC3 Big Chuckawall 116.25 292 P **PKiKP 18 33 31.6 +1.5**
baz=141
IRM Iron Mountain 116.48 292 P **PKiKP 18 33 32.2 +1.8**
baz=141
109C Camp Elliot, M 116.52 290 P **PKiKP 18 33 32.6 +2.2**
baz=141
EYMN Ely 116.64 317 P **PKiKP 18 33 32.7 +2.5**
baz=145
NEE2 Needles Airpor 116.68 293 P **PKiKP 18 33 32.6 +1.9**
baz=141
TPFO Pinon Flats 116.74 291 P **PKiKP 18 33 32.8 +1.8**
baz=141
PFO Pinyon Flats O 116.74 291 P **PKiKP 18 33 33.1 +2.0**
baz=141
PFO Pinyon Flats O 116.74 291 *i* PKiKP **PKPdf 18 33 28.9 -2.2**
BELC Belle Mtn. Jos 116.80 291 P **PKiKP 18 33 33.3 +2.1**
baz=141
MAK Makhachkala 116.88 53 *i* P **Pdif 18 29 39.0 -7.6**
MAK *e*PS **PKKPdf 18 44 20.4 -2.5**
MAK *e*SSS SSS 18 55 06.6
MAK pmax pmax

	comp=Z,23nm,0.4s									
SUW	**Suwalki**	**117.10**	**31**	*e*P		**PKiKP**	**18 33 31.5**	**+0.6**		
MURC	**Murrieta**	**117.12**	**290**	P		**PKiKP**	**18 33 33.3**	**+1.6**		
	baz=141									
N23A	**Red Feather La**	**117.16**	**303**	P		**PKiKP**	**18 33 33.3**	**+1.4**		
	baz=142									
GMRC	**Granite Mounta**	**117.23**	**292**	P		**PKiKP**	**18 33 33.1**	**+1.1**		
	baz=141,SNR=5.1									
O20A	**White River Ci**	**117.66**	**301**	P		**PKiKP**	**18 33 34.4**	**+1.7**		
	baz=141									
FMP	**Fort Macarthur**	**117.79**	**290**	P		**PKiKP**	**18 33 34.0**	**+1.1**		
	baz=141									
BFSC	**Mount Baldy Ra**	**117.86**	**290**	P		**PKiKP**	**18 33 34.4**	**+1.2**		
	baz=141									
TUQ	**Turquoise Moun**	**117.87**	**293**	P		**PKiKP**	**18 33 35.1**	**+1.9**		
	baz=141									
GEYT	**Alibeck**	**117.99**	**63**	PKP		**PKPdf**	**18 33 32.5**	**-0.7**		
	comp=Z,1.2nm,0.6s,baz=247,slow=6.0,SNR=4.3									
SNCC	**San Nicolas Is**	**118.09**	**288**	P		**PKiKP**	**18 33 35.0**	**+1.5**		
	baz=140									
GSC	**Goldstone, Bar**	**118.23**	**292**	P		**PKiKP**	**18 33 34.8**	**+0.9**		
	baz=140									
SHOC	**Shoshone, Teco**	**118.41**	**293**	P		**PKiKP**	**18 33 35.9**	**+1.8**		
	baz=140									
PBUR	**Paburge**	**118.51**	**29**	*e*P		**PKiKP**	**18 33 34.6**	**+1.1**		
EDW2	**Edwards Air Fo**	**118.53**	**291**	P		**PKiKP**	**18 33 35.4**	**+1.0**		
	baz=140,SNR=16									
PABE	**Paberze**	**118.62**	**30**	IAMs_20	IAMs_20		19 21 23.6			
	comp=Z,432nm,20.0s									
PABE	**Paberze**	**118.62**	**30**	*e*P		**PKPdf**	**18 33 33.7**	**0.0**		
AGMN	**Agassiz Nation**	**118.63**	**315**	IAMs_20	IAMs_20		19 24 25.4			
	comp=Z,456nm,22.0s									
RSSD	**Black Hills**	**118.80**	**307**	PKPdf		**PKPdf**	**18 33 33.8**	**-1.0**		
RSSD	**Black Hills**	**118.80**	**307**	PKiKP		**PKPdf**	**18 33 33.8**	**-1.0**		
RSSD				MLR	MLR					
	comp=Z,700nm,22.0s									
LRMC	**Laurel Mtn Rad**	**118.82**	**291**	P		**PKiKP**	**18 33 35.9**	**+0.8**		
	baz=140,SNR=5.1									
KONO	**Kongsberg**	**118.91**	**20**	IAMs_20	IAMs_20		19 22 12.6			
	comp=Z,335nm,20.0s									
KONO	**Kongsberg**	**118.91**	**20**	*c i*PKiKP		**PKiKP**	**18 33 34.7**	**+0.5**		
KONO				pmax	pmax					
	comp=Z,10.0nm,2.5s									
MNK	**Minsk**	**118.92**	**33**	*i*PKiKP		**PKiKP**	**18 33 34.7**	**+0.3**		
MNK				*i*			18 34 53.9			
MNK				*i*			18 40 38.7			
MNK				*i*			18 44 32.8			
MNK				*i* SS	SS		18 51 11.6	-0.6		
MNK				*i* SSS	SSS		18 55 31.3			
MNK				pmax	pmax					
	comp=N,15nm,1.0s									
MNK				pmax	pmax					
	comp=E,3.0nm,0.7s									
MNK				pmax	pmax					
	comp=Z,21nm,0.9s									
MNK				MLR	MLR					
	comp=N,186nm,19.0s									
MNK				MLR	MLR					
	comp=E,128nm,19.0s									
MNK				MLR	MLR					
	comp=Z,386nm,19.0s									
MPMC	**Manual Prospec**	**119.17**	**292**	P		**PKiKP**	**18 33 36.9**	**+1.1**		
	baz=140,SNR=11									
VIKU	**Vikbolandet**	**119.39**	**25**	*e*P		**PKiKP**	**18 33 35.1**	**0.0**		
PKM	**Mcpherson Peak**	**119.50**	**289**	P		**PKiKP**	**18 33 37.1**	**+0.6**		
	baz=140									
TOLI2	**Tolitoli**	**119.50**	**142**	PKPdf		**PKPdf**	**18 33 35.0**	**-1.9**		
SKAR	**Skarslia**	**119.62**	**19**	*e*P		**PKPdf**	**18 33 34.5**	**-1.1**		
HYA	**Hoyanger**	**119.69**	**18**	*e*P		**PKiKP**	**18 33 36.5**	**+0.9**		
CWC	**Cottonwood Cre**	**119.77**	**292**	P		**PKiKP**	**18 33 38.2**	**+1.3**		
	baz=140									
GRAC	**Grapevine Rang**	**119.82**	**293**	P		**PKiKP**	**18 33 38.2**	**+1.3**		
	baz=140									
SMMC	**Simmler**	**119.92**	**290**	P		**PKiKP**	**18 33 38.6**	**+1.5**		
	baz=140									
R11B	**Troy Canyon, C**	**119.93**	**295**	P		**PKiKP**	**18 33 38.2**	**+1.0**		
	baz=140									
DUG	**Dugway, Tooele**	**119.94**	**298**	P		**PKiKP**	**18 33 38.1**	**+1.0**		
	baz=140									
VSR	**Storozhevoye**	**120.04**	**42**	*e*PKiKP		**PKPdf**	**18 33 34.9**	**-1.7**		
VSR				pmax	pmax					
	comp=Z,6.0nm,0.6s									
RABL	**Rabaul**	**120.06**	**179**	PKPdf		**PKPdf**	**18 33 37.0**	**-1.0**		
HFS	**Hagfors**	**120.19**	**22**	PKP		**PKPdf**	**18 33 35.3**	**-1.4**		
	comp=Z,5.7nm,0.8s,baz=172,slow=3.9,SNR=16									
HFS				PKKPbc		**PKKPbc**	**18 43 44.3**	**+0.1**		
	comp=Z,1.2nm,0.4s,baz=79,slow=3.2,SNR=9.9									
ULM	**Lac du Bonnet**	**120.20**	**316**	PKP		**PKPdf**	**18 33 35.7**	**-1.2**		
	comp=Z,7.4nm,0.6s,baz=130,slow=4.5,SNR=9.0									
ULM				PP		**PP**	**18 34 59.7**	**-3.9**		
	comp=Z,11nm,0.9s,baz=146,slow=8.5,SNR=6.3									
ULM				PKKPbc		**PKKPbc**	**18 43 44.1**	**+0.2**		
	comp=Z,3.5nm,0.6s,baz=360,slow=8.2,SNR=3.3									
ULM	**Lac du Bonnet**	**120.20**	**316**	*i* PKiKP		**PKPdf**	**18 33 36.5**	**-0.5**		
BW06	**Boulder Array**	**120.31**	**302**	P		**PKiKP**	**18 33 38.2**	**+0.3**		
	baz=140									
PDAR	**Pinedale Array**	**120.31**	**302**	PKPdf		**PKPdf**	**18 33 36.2**	**-1.6**		
PDAR	**Pinedale Array**	**120.31**	**302**	PKP		**PKPdf**	**18 33 37.0**	**-0.8**		
	comp=Z,1.9nm,0.6s,baz=129,slow=4.1,SNR=12									
PDAR				PP		**PP**	**18 35 04.8**	**-0.1**		
	comp=Z,2.6nm,0.9s,baz=139,slow=8.4,SNR=6.9									
PDAR				PKKPbc		**PKKPab**	**18 43 44.2**	**+0.1**		
	comp=Z,1.1nm,0.6s,baz=70,slow=0.8,SNR=10									
VORR	**Voronezh**	**120.42**	**41**	*e*PKiKP		**PKiKP**	**18 33 37.8**	**+0.4**		
VORR				pmax	pmax					
	comp=Z,27nm,0.4s									
NB2	**NORSAR Subarra**	**120.50**	**21**	PKPdf		**PKPdf**	**18 33 37.0**	**-0.3**		
	comp=Z,9.2nm,1.1s,baz=202,slow=1.9									
NB2	**NORSAR Subarra**	**120.50**	**21**	PKPdf		**PKPdf**	**18 33 37.0**	**-0.3**		
	baz=202,slow=1.9									
NOA	**NORSAR Array B**	**120.50**	**21**	PKP		**PKPdf**	**18 33 36.7**	**-0.5**		
	comp=Z,6.4nm,0.8s,baz=202,slow=1.7,SNR=25									
NOA				PKKPbc		**PKKPbc**	**18 43 43.2**	**+0.2**		
	comp=Z,1.7nm,0.8s,baz=27,slow=4.2,SNR=6.5									
AKN	**Aaknes**	**120.78**	**18**	*e*P		**PKiKP**	**18 33 38.6**	**+0.8**		
UPP	**Uppsala**	**120.81**	**24**	*e*P		**PKiKP**	**18 33 38.1**	**+0.2**		
VRH	**Novokhopyorsk**	**121.00**	**43**	*e*PKiKP		**PKPdf**	**18 33 37.5**	**-0.9**		
VRH				pmax	pmax					
	comp=Z,20nm,0.6s									
DOMB	**Dombas**	**121.02**	**19**	*e*P		**PKiKP**	**18 33 39.0**	**+0.6**		
LPSR	**Galich'ya Gora**	**121.07**	**41**	*e*PKiKP		**PKPdf**	**18 33 38.2**	**-0.3**		
LPSR				pmax	pmax					
	comp=Z,10.0nm,1.0s									
MTSE	**Matsula**	**121.36**	**28**	*e*P		**PKiKP**	**18 33 39.2**	**+0.2**		
NVAR	**Mina Array Bea**	**121.39**	**293**	PKPdf		**PKiKP**	**18 33 40.2**	**+0.1**		
NVAR	**Mina Array Bea**	**121.39**	**293**	PKP		**PKiKP**	**18 33 40.4**	**+0.3**		
	comp=Z,7.1nm,0.9s,baz=135,slow=2.5,SNR=20									
NVAR				PP		**PP**	**18 35 11.8**	**-0.4**		
	comp=Z,0.9nm,0.8s,baz=174,slow=8.9,SNR=2.5									
NVAR				PKKPbc		**PKKPab**	**18 43 40.9**	**+0.9**		
	comp=Z,1.7nm,1.0s,baz=283,slow=3.3,SNR=6.9									
MOOW	**Moose Ponds**	**121.62**	**302**	IAMs_20	IAMs_20		19 27 03.8			
	comp=Z,325nm,20.0s									
AAL	**Aland**	**121.66**	**25**	*e*P		**PKPdf**	**18 33 39.2**	**-0.2**		
FXWY	**Fox Creek**	**121.67**	**302**	IAMs_20	IAMs_20		19 26 00.2			
	comp=Z,328nm,20.0s									
LAO	**LASA Array**	**121.76**	**307**	P		**PKiKP**	**18 33 40.8**	**+0.4**		
	baz=140,SNR=8.0									
VSU	**Vasula**	**121.94**	**30**	*i* PKiKP		**PKPdf**	**18 33 39.9**	**-0.1**		
RLMT	**Red Lodge**	**121.97**	**304**	P		**PKiKP**	**18 33 41.7**	**+0.6**		
	baz=139									
H17A	**Grant Village**	**122.03**	**303**	P		**PKiKP**	**18 33 41.8**	**+0.6**		
	baz=139									
DGMT	**Dagmar**	**122.23**	**310**	IAMs_20	IAMs_20		19 25 31.7			
	comp=Z,573nm,22.0s									
DGMT	**Dagmar**	**122.23**	**310**	P		**PKiKP**	**18 33 41.6**	**+0.5**		
	baz=140									
OBN	**Obninsk**	**122.25**	**38**	*d i*PKiKP		**PKiKP**	**18 33 41.0**	**+0.1**		
OBN				*e*			18 40 42.1			
OBN				PPS	PPS		18 46 40.0			
OBN				*e*SS	SS		18 51 53.1	-1.8		
OBN				*e*SSS	SSS		18 56 22.5			
OBN				pmax	pmax					
	comp=Z,20nm,0.9s									
OBN				MLR	MLR					
	comp=Z,174nm,18.0s									
ARBE	**Arbavere**	**122.56**	**29**	*e*P		**PKiKP**	**18 33 41.7**	**+0.3**		
NIL	**Nilore**	**122.73**	**77**	PKPdf		**PKPdf**	**18 33 42.1**	**-0.3**		
NIL	**Nilore**	**122.73**	**77**	PKiKP		**PKPdf**	**18 33 42.1**	**-0.3**		
MEF	**Metsahovi**	**122.80**	**28**	*e*P		**PKiKP**	**18 33 41.7**	**-0.1**		
RAF	**Rauma**	**122.83**	**26**	*e*P		**PKPdf**	**18 33 41.2**	**-0.5**		
DY2G	**Dye2**	**122.95**	**351**	*i* P		**PKPdf**	**18 33 41.8**	**-0.3**		
DY2G				IAmb	IAmb		18 33 43.9			
	comp=Z,19nm,0.7s									
MOS	**Moscow**	**123.11**	**38**	*i* PKiKP		**PKPdf**	**18 33 41.6**	**-0.7**		
MOS				*e*			18 35 26.1			
HLID	**Hailey**	**123.25**	**300**	P		**PKiKP**	**18 33 44.1**	**+0.5**		
	baz=138									
BOZ	**Bozeman (W)**	**123.43**	**303**	P		**PKiKP**	**18 33 44.5**	**+0.8**		
	baz=138									
NSS	**Namsos**	**123.83**	**19**	*e*P		**PKiKP**	**18 33 43.9**	**+0.2**		
SOEG	**Soedalen**	**123.88**	**358**	*i* P		**PKPdf**	**18 33 43.5**	**0.0**		
SFJD	**Kangerlussuaq**	**123.89**	**349**	PKPdf		**PKPdf**	**18 33 42.5**	**-1.0**		
SFJD	**Kangerlussuaq**	**123.89**	**349**	PKiKP		**PKPdf**	**18 33 42.5**	**-1.0**		
SFJD	**Kangerlussuaq**	**123.89**	**349**	*i* P		**PKPdf**	**18 33 43.5**	**0.0**		
SIMJ	**Simiganj**	**124.16**	**70**	PKPdf		**PKPdf**	**18 33 44.6**	**-0.6**		
BELG	**Belogornoye**	**124.25**	**46**	*i* PKiKP		**PKPdf**	**18 33 42.5**	**-2.1**		
FINES	**FINESS Array B**	**124.28**	**28**	PKPdf		**PKPdf**	**18 33 43.4**	**-1.0**		
FINES	**FINESS Array B**	**124.28**	**28**	PKP		**PKPdf**	**18 33 44.5**	**0.0**		
	comp=Z,23nm,0.8s,baz=151,slow=1.8,SNR=87									
FINES				PKKPbc		**PKKPbc**	**18 43 28.2**	**-0.1**		
	comp=Z,1.4nm,0.9s,baz=57,slow=7.0,SNR=4.7									
FINES				SKKPbc	SKKPbc		18 47 13.4	-4.7		
	comp=Z,0.7nm,0.9s,baz=32,slow=4.7,SNR=4.4									
DLV	**T Lat**	**124.30**	**124**	IAMs_20	IAMs_20		19 24 44.0			
	comp=Z,447nm,18.0s									
EGMT	**Eagleton**	**124.35**	**306**	P		**PKiKP**	**18 33 46.0**	**+0.5**		
	baz=138,SNR=8.9									
KEF	**Keuruu**	**124.58**	**27**	*e*P		**PKiKP**	**18 33 45.5**	**+0.2**		
VAF	**Ylistaro**	**124.79**	**25**	*e*P		**PKiKP**	**18 33 45.9**	**+0.3**		
ICESG	**Greenland Ices**	**125.07**	**355**	*i* P		**PKPdf**	**18 33 45.5**	**-0.8**		
CMAR	**Chiang Mai Arr**	**125.07**	**110**	PKPdf		**PKPdf**	**18 33 46.4**	**-0.9**		
CMAR	**Chiang Mai Arr**	**125.07**	**110**	PKP		**PKiKP**	**18 33 47.7**	**0.0**		
	comp=Z,10nm,0.9s,baz=235,slow=3.7,SNR=60									
CMAR				PKKPbc		**PKKPab**	**18 43 25.9**	**-0.7**		
	comp=Z,0.4nm,0.5s,baz=354,slow=2.5,SNR=5.3									
PLID	**Pearl Lake**	**125.15**	**300**	IAMs_20	IAMs_20		19 27 36.1			
	comp=Z,456nm,20.0s									
CHTO	**Chiang Mai**	**125.37**	**110**	PKPdf		**PKPdf**	**18 33 47.1**	**-0.8**		
CHTO				IAMs_20	IAMs_20		19 21 23.8			
	comp=Z,383nm,19.0s									
CHTO	**Chiang Mai**	**125.37**	**110**	PKiKP		**PKPdf**	**18 33 47.1**	**-0.8**		
CHTO				MLR	MLR					
	comp=Z,400nm,19.0s									
MSO	**Missoula**	**125.42**	**303**	P		**PKiKP**	**18 33 48.0**	**+0.3**		
	baz=136									
VALR	**Valaam**	**125.52**	**30**	*i* PKiKP		**PKPdf**	**18 33 46.1**	**-0.7**		
UBPT	**Khong Chiam**	**125.73**	**119**	PKPdf		**PKPdf**	**18 33 48.6**	**0.0**		
MOR8	**Moi Rana**	**125.77**	**19**	*e*P		**PKPdf**	**18 33 45.7**	**-1.5**		
FFC	**Flin Flon**	**126.03**	**316**	PKPdf		**PKPdf**	**18 33 48.0**	**0.0**		
FFC	**Flin Flon**	**126.03**	**316**	PKiKP		**PKPdf**	**18 33 48.0**	**0.0**		
FCC	**Fort Churchill**	**126.22**	**324**			**PKPdf**	**18 33 47.4**	**-0.8**		
FCC	**Fort Churchill**	**126.22**	**324**	PKiKP		**PKPdf**	**18 33 47.4**	**-0.8**		
JOF	**Joensuu**	**126.90**	**29**	*e*P		**PKPdf**	**18 33 49.6**	**+0.2**		
FAUS	**Fauske**	**127.00**	**19**	*e*P		**PKiKP**	**18 33 50.3**	**+0.4**		
IUG	**Iuzhnay**	**127.23**	**68**	*e*PKP		**PKPdf**	**18 33 51.1**	**+0.1**		
	baz=68									
IUG	**Iuzhnay**	**127.23**	**68**	*e*PKiKP		**PKPdf**	**18 33 51.0**	**+0.1**		
ABKAR	**Akbulak array**	**127.29**	**55**			PKPpre	18 33 43.9			
LOF	**Lofoten**	**127.36**	**18**	*e*P		**PKiKP**	**18 33 50.6**	**0.0**		
STEI	**Steigen**	**127.48**	**19**	*e*P		**PKiKP**	**18 33 51.1**	**+0.2**		
UMMG	**Uummannaq**	**127.59**	**350**	*i* P		**PKPdf**	**18 33 50.4**	**0.0**		
KLMR	**Klimovskoe**	**127.72**	**35**	*i* PKiKP		**PKPdf**	**18 33 50.9**	**-0.1**		
KLMR				*e*			18 35 52.4			
KLMR				pmax	pmax					
	comp=Z,42nm,1.2s									
BRLS	**Borolday**	**127.75**	**67**	*e*PKP		**PKPdf**	**18 33 50.9**	**-0.8**		
	baz=67									
BRLS	**Borolday**	**127.75**	**67**	*e*PKiKP		**PKPdf**	**18 33 50.9**	**-0.8**		
KKAR	**Karatay Array**	**128.16**	**67**	PKPdf		**PKPdf**	**18 33 51.5**	**-1.0**		
KKAR	**Karatay Array**	**128.16**	**67**	PKiKP		**PKPdf**	**18 33 51.5**	**-1.0**		
DZA	**Taraz**	**128.43**	**68**	*e*PKP		**PKPdf**	**18 33 53.1**	**+0.1**		
	baz=68									
DZA	**Taraz**	**128.43**	**68**	*e*PKiKP		**PKPdf**	**18 33 53.1**	**+0.1**		
SUMG	**Summit**	**128.48**	**356**	PKPdf		**PKPdf**	**18 33 52.6**	**-0.1**		
SUMG	**Summit**	**128.48**	**356**	PKiKP		**PKPdf**	**18 33 52.6**	**-0.1**		
SUMG	**Summit**	**128.48**	**356**	*i* P		**PKPdf**	**18 33 52.4**	**-0.3**		
KSH	**Kashi**	**128.51**	**74**	PKP		**PKPdf**	**18 33 53.5**	**0.0**		
KSH				PP		**PP**	**18 36 03.5**	**+3.8**		
KSH				SKS		**SKSac**	**18 40 59.0**	**+0.2**		
KSH				AMB	AMB					
	comp=Z,120nm,6.3s									
KSH				LR	LR					
	comp=Z,270nm,15.3s									
KSH				LR	LR					
	comp=Z,380nm,16.0s									
KSH				LR	LR					
	comp=Z,340nm,18.7s									
KIRV	**Kirov**	**129.48**	**41**	*i* PKiKP		**PKPdf**	**18 33 54.3**	**-0.1**		
EKS2	**Erkin-Say**	**129.56**	**70**	P		**PKiKP**	**18 33 56.3**	**+0.2**		
	SNR=25									
TRO	**Tromso**	**129.63**	**19**	*e*P		**PKiKP**	**18 33 55.0**	**-0.2**		
UCH	**Uchtor**	**129.64**	**71**	P		**PKiKP**	**18 33 57.1**	**+0.4**		
	SNR=18									
ADZR	**Andozero**	**129.67**	**31**	*e*PKiKP		**PKPdf**	**18 33 53.3**	**-1.3**		
ADZR				pmax	pmax					
	comp=Z,96nm,0.9s									
LSA	**Lhasa**	**129.75**	**95**	IAMs_20	IAMs_20		19 24 18.1			
	comp=Z,377nm,20.0s									
JETT	**Jettan, Norway**	**129.84**	**20**	*e*P		**PKiKP**	**18 33 55.5**	**-0.2**		
AAK	**Ala-Archa**	**129.92**	**70**	P		**PKPdf**	**18 33 56.5**	**+0.4**		
	SNR=17									
AAK	**Ala-Archa**	**129.92**	**70**	PKPdf		**PKPdf**	**18 33 55.8**	**-0.3**		
AAK	**Ala-Archa**	**129.92**	**70**	*i* PKiKP		**PKPdf**	**18 33 56.3**	**+0.2**		
UPNV	**Upernavik**	**130.00**	**349**	*i* P		**PKPdf**	**18 33 55.0**	**0.0**		
SLVN	**Son La**	**130.04**	**113**	IAMs_20	IAMs_20		19 21 46.4			
	comp=Z,378nm,22.0s									
DBG	**Daneborg**	**130.06**	**2**	*i* P		**PKPdf**	**18 33 55.0**	**-0.1**		
KBK	**Karagaybulak**	**130.17**	**71**	P		**PKiKP**	**18 33 57.1**	**-0.3**		
	SNR=14									
TNCH	**TengChong**	**130.19**	**105**	PKP		**PKiKP**	**18 33 58.0**	**0.0**		
TNCH				PP		**PP**	**18 36 14.0**	**+3.4**		
TNCH				SKKS			18 43 04.6			
TNCH				SS		**SS**	**18 53 37.9**	**+3.0**		
TNCH				AMB	AMB					
	comp=Z,100nm,6.6s									
TNCH				LR	LR					
	comp=Z,140nm,18.1s									
TNCH				LR	LR					
	comp=Z,160nm,16.7s									
TNCH				LR	LR					
	comp=Z,310nm,19.0s									
USP	**Ospenovka**	**130.36**	**70**	P		**PKPdf**	**18 33 56.9**	**+0.2**		
	SNR=15									
SGDS	**Sogindy**	**130.55**	**70**	*e*PKP		**PKPdf**	**18 33 57.0**	**-0.2**		
	baz=70									
SGDS	**Sogindy**	**130.55**	**70**	*e*PKiKP		**PKPdf**	**18 33 56.9**	**-0.2**		
TKM2	**Tokmak 2**	**130.70**	**71**	P		**PKPdf**	**18 33 57.5**	**-0.1**		
	SNR=8.0									
ARA0	**ARCESS Array S**	**130.84**	**22**	*e*P		**PKPdf**	**18 33 56.5**	**-0.2**		
ARCES	**ARCESS Array B**	**130.84**	**22**	PKPdf		**PKPdf**	**18 33 56.8**	**+0.1**		
ARCES	**ARCESS Array B**	**130.84**	**22**	PKP		**PKPdf**	**18 33 56.6**	**-0.2**		
	comp=Z,40nm,0.9s,baz=196,slow=0.9,SNR=8.3									
ARCES				SKPbc		**SKPbc**	**18 37 18.1**	**-0.3**		
	comp=Z,4.5nm,0.9s,baz=242,slow=1.9,SNR=3.6									
QIZ	**Qiongzhong**	**131.07**	**121**	PKP	PKiKP		**18 34 00.3**	**+0.6**		
QIZ				PP	PP		**18 36 14.8**	**-1.1**		
QIZ				PKS			18 37 28.0			
QIZ				SS	SS		18 53 46.8	+1.8		
QIZ				LR	LR					
	comp=Z,270nm,20.6s									
QIZ				LR	LR					
	comp=Z,280nm,21.6s									
QIZ				LR	LR					
	comp=Z,450nm,23.6s									
QIZ	**Qiongzhong**	**131.07**	**121**	IAMs_20	IAMs_20		19 21 42.6			
	comp=Z,475nm,21.0s									
APA	**Apatity**	**131.10**	**26**	*i* PKiKP		**PKPdf**	**18 33 55.2**	**-2.1**		
APA				pmax	pmax					
	comp=Z,21nm,0.9s									
BTLS	**Baital**	**131.33**	**68**	*e*PKP		**PKPdf**	**18 33 58.5**	**+0.1**		
	baz=68									
BTLS	**Baital**	**131.33**	**68**	*e*PKiKP		**PKPdf**	**18 33 58.5**	**+0.1**		
HAMF	**Hammerfest**	**131.38**	**20**	*e*P		**PKPdf**	**18 33 57.9**	**+0.2**		
TNSS	**Tian-Shan**	**131.50**	**72**	*e*PKP		**PKPdf**	**18 33 58.9**	**-0.5**		
	baz=72									
TNSS	**Tian-Shan**	**131.50**	**72**	*e*PKiKP		**PKPdf**	**18 33 58.9**	**-0.5**		
AAA	**Alma-Ata**	**131.60**	**72**	*e*PKP		**PKPdf**	**18 33 58.9**	**-0.2**		
	baz=71									
AAA	**Alma-Ata**	**131.60**	**72**	*e*PKiKP		**PKPdf**	**18 33 58.9**	**-0.2**		
ARU	**Arti**	**131.61**	**48**	PKPdf		**PKPdf**	**18 33 58.3**	**-0.3**		
ARU	**Arti**	**131.61**	**48**	*i* PKiKP		**PKiKP**	**18 33 59.1**	**-0.5**		
ARU							18 36 15.9			
MDOK	**Medeo**	**131.64**	**72**	*e*PKP		**PKPdf**	**18 33 58.7**	**-0.6**		
	baz=72									
MDOK	**Medeo**	**131.64**	**72**	*e*PKiKP		**PKPdf**	**18 33 58.7**	**-0.6**		
LVZ	**Lovozero**	**131.66**	**27**	PKPdf		**PKPdf**	**18 33 57.4**	**-1.0**		
LVZ	**Lovozero**	**131.66**	**27**	*i* PKiKP		**PKPdf**	**18 33 58.7**	**+0.3**		
KUU	**Kurty**	**131.76**	**70**	*e*PKP		**PKPdf**	**18 33 59.0**	**-0.3**		
	baz=70									
KUU	**Kurty**	**131.76**	**70**	*e*PKiKP		**PKPdf**	**18 33 59.0**	**-0.3**		
CHKK	**Chushkaly**	**132.08**	**71**	*e*PKP		**PKPdf**	**18 33 59.6**	**-0.3**		
	baz=71									
CHKK	**Chushkaly**	**132.08**	**71**	*e*PKiKP		**PKPdf**	**18 33 59.6**	**-0.3**		
VADS	**Vadso**	**132.12**	**23**	*e*P		**PKiKP**	**18 34 00.4**	**+0.2**		
SATY	**Saty**	**132.30**	**73**	*e*PKP		**PKPdf**	**18 34 00.4**	**-0.2**		
	baz=72									
SATY	**Saty**	**132.30**	**73**	*e*PKiKP		**PKPdf**	**18 34 00.3**	**-0.2**		
ZHN	**Zhinishke**	**132.38**	**73**	*e*PKP		**PKPdf**	**18 34 00.2**	**-0.5**		
	baz=72									
ZHN	**Zhinishke**	**132.38**	**73**	*e*PKiKP		**PKPdf**	**18 34 00.2**	**-0.5**		
DAG	**Danmarks Havn**	**132.57**	**3**	*i* P		**PKPdf**	**18 33 58.9**	**-0.9**		
UZB	**Uzynbulak**	**132.69**	**73**	*e*PKP		**PKPdf**	**18 34 01.0**	**-0.3**		
	baz=73									
UZB	**Uzynbulak**	**132.69**	**73**	*e*PKiKP		**PKPdf**	**18 34 01.0**	**-0.3**		
SVE	**Sverdlovsk**	**132.74**	**48**	*d i*PKiKP		**PKiKP**	**18 34 01.4**	**-0.4**		
SVE				pmax	pmax					
	comp=Z,50nm,1.4s									
SHLS	**Shalkode**	**132.93**	**73**	*e*PKP		**PKPdf**	**18 34 02.2**	**+0.4**		
	baz=73									
SHLS	**Shalkode**	**132.93**	**73**	*e*PKiKP		**PKPdf**	**18 34 02.1**	**+0.4**		
PZH	**PanZhiHua**	**133.11**	**107**	PKP		**PKPdf**	**18 34 02.8**	**+0.2**		
PZH				PP		**PP**	**18 36 30.6**	**+1.3**		
PZH				SS	SS		18 54 15.3	+4.9		
PZH				AMB	AMB					
	comp=Z,100nm,6.2s									
PZH				LR	LR					
	comp=Z,240nm,19.6s									
PZH				LR	LR					
	comp=Z,160nm,19.6s									
PZH				LR	LR					
	comp=Z,260nm,18.1s									
BRZS	**Berezniki**	**133.90**	**62**	*e*PKP		**PKPdf**	**18 34 03.3**	**+0.2**		
	baz=62								

comp=Z,140nm,22.2s
GTA LR LR
comp=Z,240nm,21.8s
GTA LR LR
comp=Z,300nm,21.1s
ZAA0 Zalesovo Array 142.30 64 PKPpre 18 34 11.6
ZALV Zalesovo Beam 142.30 64 PKPpre 18 34 12.2
ZALV Zalesovo Beam 142.30 64 PKhKP PKPpre 18 34 13.0
comp=Z,3.6nm,0.6s,baz=228,slow=4.6,SNR=13
ZALV SKPbc **SKPbc 18 37 54.1 +0.4**
comp=Z,2.1nm,0.7s,baz=231,slow=7.1,SNR=3.9
ZALV Zalesovo Beam 142.30 64 PKHKP PKPpre 18 34 12.2
P33M Teslin, Yukon 142.40 308 P **PKiKP 18 34 20.9 -0.7**
baz=117
P32M Atlin 142.51 307 P **PKPdf 18 34 19.9 +1.2**
baz=118
XAN Xi'an 142.84 107 ⇓PKP **PKPdf 18 34 16.6 -3.5**
XAN LR LR
comp=Z,240nm,18.0s
XAN LR LR
comp=Z,180nm,16.1s
XAN LR LR
comp=Z,500nm,19.9s
A36M Sachs Harbour 144.14 328 IAMs_20 IAMs_20 19 36 49.4
comp=Z,280nm,21.0s
HYT Haines Junctio 144.75 307 P **PKPdf 18 34 23.1 +0.4**
baz=114,SNR=38
N30M Aishikik Lake 144.82 308 P **PKPdf 18 34 23.1 +0.4**
baz=113,SNR=115
MIDW Midway 145.06 230 PKPbc 18 34 22.9 -0.6
LYN LuoYang 145.12 111 *e*PKPbc **PKPdf 18 34 24.3 +0.3**
LYN LR LR
comp=Z,350nm,18.0s
LYN LR LR
comp=Z,330nm,18.5s
LYN LR LR
comp=Z,600nm,20.6s
PNL Peninsula 145.14 305 P **PKPdf 18 34 23.7 +0.4**
baz=114
YUK6 Outpost Mounta 145.19 307 P **PKPdf 18 34 24.5 +1.0**
baz=113
H31M Peel River 145.28 316 P **PKPab 18 34 23.5 +0.1**
baz=109,SNR=7.2
YUK4 Talbot Arm 145.47 308 P **PKPab 18 34 25.2 +0.8**
baz=112
F31M Tsiigehtchic 145.57 319 P **PKPab 18 34 24.4 +0.1**
baz=108
G31M Satah River 145.61 318 P **PKPab 18 34 24.7 +0.3**
baz=108,SNR=82
J30M Hart River 145.65 314 P **PKPab 18 34 25.0 +0.1**
baz=110,SNR=100
INK Inuvik 145.75 321 PKPdf **PKPdf 18 34 22.3 -1.7**
INK Inuvik 145.75 321 P **PKPab 18 34 24.8 -0.2**
baz=106,SNR=126
INK Inuvik 145.75 321 PKIKP **PKPdf 18 34 22.3 -1.7**
M29M Somme Creek 145.80 310 P **PKPab 18 34 25.9 +0.4**
baz=111,SNR=63
I30M Mount Dempster 145.89 315 P **PKPab 18 34 25.5 -0.3**
baz=109,SNR=92
K29M Barlow Dome 145.89 312 P **PKPab 18 34 25.8 0.0**
baz=110,SNR=78
L29M L29M 145.90 311 P **PKPab 18 34 25.9 +0.2**
baz=110,SNR=132
JOW Kunigami 145.92 138 PKPbc **PKPbc 18 34 26.1 -0.2**
comp=Z,66nm,1.1s,baz=240,slow=5.2,SNR=28
O28M Mount Upton 145.94 306 P **PKPab 18 34 26.3 0.0**
baz=112,SNR=17
YUK8 Steele Glacier 145.95 307 P **PKPab 18 34 26.5 +0.2**
baz=112,SNR=21
G30M tAoh Zraii Nji 146.36 318 P **PKPbc 18 34 26.8 +0.3**
baz=106,SNR=67
NJ2 Nanjing 146.37 121 ⇑PKPbc **PKPab 18 34 28.0 -0.4**
NJ2 pPKP **pPKPdf 18 34 33.3 -2.0**
NJ2 LR LR
comp=Z,190nm,22.3s
NJ2 LR LR
comp=Z,230nm,17.1s
NJ2 LR LR
comp=Z,280nm,17.1s
F30M Barrier River 146.37 319 P **PKPab 18 34 27.0 -0.4**
baz=106,SNR=113
EPYK Eagle Plains 146.37 317 P **PKPbc 18 34 26.7 +0.2**
baz=107,SNR=110
J29N Klondike Camp 146.38 313 P **PKPbc 18 34 27.1 +0.4**
baz=108,SNR=11
YUK3 Moose Creek 146.44 308 P **PKPbc 18 34 27.2 +0.1**
baz=111,SNR=13
MESA MESA 146.52 305 P **PKPbc 18 34 27.9 +0.5**
baz=112,SNR=5.7
CTG Chitna Glacier 146.54 306 P **PKPab 18 34 28.2 -0.2**
baz=111,SNR=13
I29M Ogilvie Camp, 146.70 315 P **PKPbc 18 34 27.2 -0.3**
baz=107,SNR=77
DAWY Dawson 146.75 312 P **PKPbc 18 34 28.0 +0.3**
baz=108,SNR=34
H29M Whitestone 146.97 316 P **PKPbc 18 34 28.2 -0.1**
baz=106,SNR=107
G29M Pine Creek 147.02 317 P **PKPbc 18 34 28.5 +0.1**
baz=105,SNR=192
BGLC Bering Glacier 147.12 304 P **PKPbc 18 34 29.2 +0.5**
baz=112
M27K Edge Creek, AK 147.26 308 P **PKPbc 18 34 29.6 +0.2**
baz=109,SNR=22
E29M Blow River 147.34 320 P **PKPbc 18 34 29.2 +0.1**
baz=103,SNR=195
I28M Miner Creek 147.38 314 P **PKPbc 18 34 29.9 +0.4**
baz=106,SNR=47
MCARA McCarthy VSAT 147.45 306 P **PKPbc 18 34 30.1 +0.4**
baz=110,SNR=8.1
BCAR Beaver Creek A 147.45 310 PKPdf **PKPdf 18 34 25.0 -2.1**
L27K Beaver Creek, 147.47 310 P **PKPbc 18 34 30.1 +0.4**
baz=108,SNR=35
TIY Taiyuan 147.48 107 PKPbc **PKPbc 18 34 31.3 +0.7**
TIY PKPab **pPKPdf 18 34 37.8 +0.7**
TIY LR LR
comp=Z,250nm,17.7s
TIY LR LR
comp=Z,230nm,16.1s
TIY LR LR
comp=Z,270nm,17.5s
KAIM Kayak Island 147.58 303 P **PKPbc 18 34 30.4 +0.3**
baz=111
EGAK Eagle 147.69 313 P **PKPbc 18 34 30.3 +0.1**
baz=106,SNR=46
M26K Nabesna, AK 147.77 308 P **PKPbc 18 34 30.6 0.0**
baz=108,SNR=13
D28M Stokes Point 147.83 322 P **PKPbc 18 34 31.1 +0.6**
baz=101,SNR=21
K27K Chicken 147.86 311 P **PKPbc 18 34 31.3 +0.6**
baz=106
F28M Old Crow 147.89 318 P **PKPbc 18 34 30.9 +0.2**
baz=102,SNR=72
E28M Babbage River 147.97 320 P **PKPbc 18 34 31.0 +0.1**
baz=101,SNR=46
BMRM Bremner River 148.03 305 P **PKPbc 18 34 31.9 +0.6**
baz=109,SNR=17
I27K Kandik River 148.09 314 P **PKPbc 18 34 32.1 +0.8**
baz=104,SNR=50
L26K Log Cabin Wild 148.12 309 P **PKPbc 18 34 31.7 +0.3**
baz=107,SNR=20
H27K Steamboat Moun 148.21 316 P **PKPbc 18 34 32.1 +0.5**
baz=103,SNR=85
BTO Baotou 148.22 101 *e*PKPbc **PKPdf 18 34 29.5 +0.3**
BTO pPKP **sPKPdf 18 34 40.3 -1.1**
BTO SKKS 18 44 47.0
BTO LR LR
comp=Z,400nm,17.9s
BTO LR LR
comp=Z,240nm,21.2s
BTO LR LR
comp=Z,410nm,17.7s
N25K Chitina, Valde 148.24 306 P **PKPbc 18 34 32.5 +0.6**
baz=108,SNR=11
Q23K Middleton Isla 148.32 302 P **PKPbc 18 34 32.5 +0.5**
baz=111
G27K Doyon Strip 148.39 317 P **PKPbc 18 34 32.8 +0.7**
baz=102,SNR=20
EYAK Cordova Ski Ar 148.42 304 P **PKiKP 18 34 33.0 -0.8**
baz=109,SNR=18
HNS HongShan 148.46 110 ⇓PKPbc **PKPdf 18 34 30.0 +0.5**
HNS PP **PP 18 38 07.0 +4.1**
HNS SS SS 18 57 12.8 +3.6
HNS LR LR
comp=Z,250nm,20.2s
HNS LR LR
comp=Z,130nm,19.0s
HNS LR LR
comp=Z,250nm,21.6s
D27M Malcolm River 148.59 321 IAMs_20 IAMs_20 19 33 10.3
comp=Z,261nm,20.0s
D27M Malcolm River 148.59 321 P **PKiKP 18 34 33.4 -0.6**
baz=99,SNR=45
J26L Joseph Creek 148.62 312 P **PKiKP 18 34 33.6 -0.7**
baz=105,SNR=49
E27K Coleen River 148.64 319 P **PKPbc 18 34 33.2 +0.5**
baz=100,SNR=53
I26K Coal Creek Min 148.65 313 P **PKPbc 18 34 33.0 +0.3**
baz=104
SCRK Sand Creek 148.66 311 IAMs_20 IAMs_20 19 39 20.5
comp=Z,402nm,22.0s
SCRK Sand Creek 148.66 311 P **PKPbc 18 34 33.4 +0.4**
baz=105,SNR=52
HARP HAARP 148.73 308 P **PKPbc 18 34 33.6 +0.6**
baz=107,SNR=7.8
KLU Klutina 148.80 306 P **PKiKP 18 34 34.3 -0.4**
baz=108,SNR=27
FID Port Fidalgo 148.83 304 IAMs_20 IAMs_20 19 49 28.5
comp=Z,356nm,20.0s
P23K Montague Islan 149.01 303 P **PKPbc 18 34 34.3 +0.5**
baz=109,SNR=12
PAX Paxson 149.03 309 P **PKPbc 18 34 34.1 +0.2**
baz=106,SNR=64
M24K Tolsona, Glenn 149.10 307 P **PKiKP 18 34 35.1 -0.1**
baz=107,SNR=16
GLI Glacier Island 149.15 304 P **PKPbc 18 34 34.5 +0.4**
baz=108,SNR=18
HHC Hu-ho-hao-te 149.24 102 *e*PKPbc **PKPdf 18 34 26.0 -4.8**
HHC PP **PP 18 38 07.3 -0.3**
HHC SS SS 18 57 15.9 -2.4
HHC LR LR
comp=Z,200nm,17.6s
HHC LR LR
comp=Z,200nm,17.3s
HHC LR LR
comp=Z,220nm,18.3s
G26K Porcupine Rive 149.24 317 P **PKiKP 18 34 35.0 -0.3**
baz=100,SNR=24
K24K Donnelly Dome 149.38 310 P **PKiKP 18 34 35.4 -0.3**
baz=104,SNR=18
J25K Salcha River, 149.40 312 IAMs_20 IAMs_20 19 42 36.1
comp=Z,371nm,22.0s
J25K Salcha River, 149.40 312 P **PKiKP 18 34 35.5 -0.3**
baz=103,SNR=19
F26K Sheenjek River 149.51 318 P **PKiKP 18 34 35.8 -0.2**
baz=99,SNR=23
SCM Sheep Creek Mo 149.54 306 P **PKiKP 18 34 35.8 -0.4**
baz=106,SNR=20
C27K Jago River 149.61 322 P **PKiKP 18 34 36.1 +0.1**
baz=96,SNR=35
BMAR Burnt Mountain 149.63 317 PKPdf **PKPdf 18 34 28.5 -2.1**
PRP Porcupine Dome 149.66 313 P **PKPbc 18 34 35.9 +0.5**
baz=102,SNR=45
MOY Mondy 149.68 76 *e*PKHKP PKPpre 18 34 30.8
MOY pmax pmax
comp=Z,79nm,2.3s
M23K Glacier View 149.72 306 P **PKiKP 18 34 36.3 -0.2**
baz=106,SNR=5.5
FYU Fort Yukon 149.74 316 IAMs_20 IAMs_20 19 42 58.9
comp=Z,329nm,19.0s
DHY Denali Highway 149.90 308 IAMs_20 IAMs_20 19 45 02.3
comp=Z,331nm,20.0s
DHY Denali Highway 149.90 308 P **PKiKP 18 34 37.1 0.0**
baz=104,SNR=41
H25L Birch Creek 149.92 315 P **PKiKP 18 34 36.4 -0.3**
baz=100
WAT6 Susitna Watana 149.93 307 P **PKiKP 18 34 37.0 -0.1**
baz=105,SNR=12
SML Sawmill 150.00 306 P **PKiKP 18 34 36.8 -0.3**
baz=106,SNR=19
HDA Harding Lake 150.02 311 P **PKPbc 18 34 36.5 +0.3**
baz=102,SNR=6.5
SEW Seward 150.02 302 P **PKiKP 18 34 36.7 -0.4**
baz=108,SNR=15
C26K Camden Bay 150.05 322 P **PKiKP 18 34 36.8 -0.1**
baz=94,SNR=24
F25K Christian Rive 150.06 318 P **PKiKP 18 34 37.4 +0.3**
baz=98,SNR=34
ILAR Eielson Array 150.07 312 PKPdf **PKPdf 18 34 27.8 -3.4**
ILAR Eielson Array 150.07 312 PKP **PKPdf 18 34 29.1 -2.1**
comp=Z,3.7nm,0.8s,baz=324,slow=1.4,SNR=37
ILAR PKPbc **PKiKP 18 34 36.8 -0.3**
comp=Z,120nm,0.8s,baz=136,slow=3.0,SNR=256
E25K Arctic Village 150.10 319 P **PKiKP 18 34 37.1 0.0**
baz=97,SNR=54
G25K Bearman Lake 150.12 316 P **PKiKP 18 34 37.4 +0.3**
baz=99,SNR=37
JCJ Chichijima 150.15 161 PKPdf **PKPdf 18 34 33.4 +0.9**
JCJ Chichijima 150.15 161 PKP **PKPdf 18 34 32.0 -0.5**
comp=Z,39nm,0.3s,baz=111,slow=21,SNR=11
O22K Cooper Landing 150.26 303 P **PKiKP 18 34 37.4 -0.2**
baz=107
ZAK Zakamensk 150.30 80 *e*PKIKP **PKPdf 18 34 31.7 -0.5**
ZAK pmax pmax
comp=Z,10.0nm,1.4s
WAT1 Susitna Watana 150.36 308 P **PKPbc 18 34 37.1 0.0**
baz=104
POKR Poker Plat Res 150.37 312 P **PKPbc 18 34 36.8 -0.2**
baz=101,SNR=22
RC01 Rabbit Creek A 150.45 304 P **PKiKP 18 34 38.1 +0.1**
baz=106,SNR=14
COLA College 150.50 312 PKPbc 18 34 34.8 -2.4
COLA College 150.50 312 P **PKPbc 18 34 37.3 +0.1**
baz=101
COLA College 150.50 312 PKIKP **PKPbc 18 34 34.8 -2.4**
D25K Kavik River 150.51 321 IAMs_20 IAMs_20 19 44 46.1
comp=Z,271nm,20.0s
D25K Kavik River 150.51 321 P **PKPbc 18 34 37.6 +0.3**
baz=94,SNR=21
BRSE Bradley Lake S 150.53 301 P **PKPbc 18 34 37.5 -0.1**
baz=108
RND Reindeer 150.62 309 PKPdf **PKPbc 18 34 35.4 -2.3**
RND Reindeer 150.62 309 PKIKP **PKPbc 18 34 35.4 -2.3**
RND MLR MLR
comp=Z,400nm,20.0s
G24K Hadweenzic Riv 150.65 316 P **PKiKP 18 34 38.1 -0.2**
baz=98,SNR=46
H24K Noodor Dome 150.68 314 P **PKiKP 18 34 38.1 -0.3**
baz=99,SNR=20
SONM Songino Array 150.69 86 PKPdf **PKPdf 18 34 31.7 -1.2**
SONM Songino Array 150.69 86 PKP **PKPdf 18 34 32.2 -0.7**
comp=Z,4.8nm,1.0s,baz=228,slow=1.5,SNR=18
SONM PKPbc **PKPbc 18 34 38.5 0.0**
comp=Z,61nm,0.8s,baz=222,slow=3.5,SNR=88
MCK McKinley 150.73 309 P **PKiKP 18 34 38.5 -0.1**
baz=102,SNR=35
KDAK Kodiak Island 150.80 297 PKiKP 18 34 38.5 -0.3
KDAK Kodiak Island 150.80 297 P **PKiKP 18 34 38.4 -0.3**
baz=110
KDAK Kodiak Island 150.80 297 PKPbc **PKiKP 18 34 38.8 0.0**
comp=Z,108nm,0.7s,baz=160,slow=1.0,SNR=122
M22K Willow 150.80 305 P **PKiKP 18 34 39.0 +0.4**
baz=105,SNR=40
F24K Squaw Lake 150.91 317 P **PKiKP 18 34 38.8 0.0**
baz=96,SNR=13
HOM Homer 150.94 301 P **PKPbc 18 34 38.7 +0.2**
baz=107
NEA2 Nenana 150.96 311 IAMs_20 IAMs_20 19 43 01.3
comp=Z,305nm,19.0s
NEA2 Nenana 150.96 311 P **PKPbc 18 34 38.5 +0.1**
baz=100,SNR=5.3
OHAK Old Harbor 150.96 295 P **PKPbc 18 34 38.8 +0.2**
baz=111,SNR=30
Q20K Shuyak Island 150.98 298 P **PKPbc 18 34 38.7 +0.1**
baz=109
SUA Susitna One 151.02 304 P **PKiKP 18 34 39.1 -0.2**
baz=105,SNR=20
CAPN Captain Cook N 151.02 303 P **PKiKP 18 34 39.0 -0.1**
baz=106
CUT Chulitna 151.03 306 P **PKiKP 18 34 39.1 0.0**
baz=103,SNR=19
ULN Ulaanbaatar 151.08 87 PKPdf **PKPdf 18 34 32.8 -0.8**
ULN Ulaanbaatar 151.08 87 IAMs_20 IAMs_20 19 37 01.9
comp=Z,307nm,20.0s
ULN Ulaanbaatar 151.08 87 PKIKP **PKPdf 18 34 32.8 -0.8**
ULN MLR MLR
comp=Z,300nm,20.0s
BJT Baijiatuau 151.16 108 IAMs_20 IAMs_20 19 42 41.8
comp=Z,244nm,21.0s
BJI Beijing 151.18 108 PKPbc **PKPbc 18 34 36.9 -2.7**
BJI LR LR
comp=Z,79nm,18.4s
BJI LR LR
comp=Z,51nm,20.3s
BJI LR LR
comp=Z,140nm,19.0s
I23K Minto, Yukon-K 151.18 312 P **PKPbc 18 34 38.6 -0.3**
baz=99,SNR=17
SII Sitkinak Islan 151.18 294 P **PKiKP 18 34 39.6 -0.1**
baz=111,SNR=15
E24K Your Creek 151.19 318 IAMs_20 IAMs_20 19 41 01.0
comp=Z,364nm,22.0s
E24K Your Creek 151.19 318 P **PKiKP 18 34 39.5 +0.1**
baz=95,SNR=10
TRF Thorofare Moun 151.26 309 P **PKiKP 18 34 39.8 0.0**
baz=102,SNR=22
C24K Franklin Bluff 151.35 322 P **PKiKP 18 34 39.9 +0.3**
baz=91
H23K Yukon River 151.35 314 IAMs_20 IAMs_20 19 43 53.6
comp=Z,337nm,20.0s
H23K Yukon River 151.35 314 P **PKiKP 18 34 39.9 +0.1**
baz=98,SNR=14
D24K Happy Valley 151.38 321 P **PKiKP 18 34 39.5 -0.1**
baz=92,SNR=26
SKT Skwentna 151.50 305 P **PKiKP 18 34 40.0 -0.1**
baz=103,SNR=28
O20K Slope Mountain 151.53 301 P **PKPbc 18 34 39.8 -0.2**
baz=106
E23K Chandalar 151.61 318 P **PKiKP 18 34 40.6 +0.3**
baz=94
TOLK Toolik Lake Re 151.62 319 IAMs_20 IAMs_20 19 44 44.5
comp=Z,328nm,19.0s
TOLK Toolik Lake Re 151.62 319 P **PKiKP 18 34 40.6 +0.3**
baz=93,SNR=16
N20K Mount Spurr 151.63 303 P **PKPbc 18 34 40.3 +0.1**
baz=104,SNR=12
G23K Bananza Creek 151.65 315 P **PKiKP 18 34 41.3 +0.9**
baz=96,SNR=10
CHIR Chirikof Islan 151.66 291 P **PKiKP 18 34 40.5 -0.1**
baz=112
BPAW Bear Paw Mtn. 151.69 310 P **PKiKP 18 34 40.5 0.0**
baz=100,SNR=6.5
Q19K Cape Douglas, 151.70 298 P **PKPbc 18 34 40.4 +0.1**
baz=107
P19K Oil Pt 151.71 300 P **PKiKP 18 34 41.0 +0.3**
baz=106,SNR=5.4
MLY Manley 151.74 312 IAMs_20 IAMs_20 19 42 46.8
comp=Z,242nm,21.0s
MLY Manley 151.74 312 P **PKPbc 18 34 40.1 -0.1**
baz=98,SNR=25
IRK Irkutsk 151.74 77 *e*PKIKP **PKPdf 18 34 33.5 -0.7**
IRK pmax pmax
comp=Z,80nm,0.8s
COLD Coldfoot 151.77 316 P **PKiKP 18 34 41.3 +0.7**
baz=95,SNR=16
PPLA Purkeypile 152.00 307 P **PKiKP 18 34 41.5 +0.1**
baz=101,SNR=10
C23K Itkillik River 152.02 322 PKPdf **PKPdf 18 34 31.1 -2.9**
C23K Itkillik River 152.02 322 P **PKiKP 18 34 41.4 +0.4**
baz=89,SNR=22
D23K Nanushuk River 152.04 320 P **PKiKP 18 34 41.7 +0.6**
baz=91,SNR=7.3
CAST Castle Rocks 152.05 308 IAMs_20 IAMs_20 19 41 24.3
comp=Z,304nm,21.0s
CAST Castle Rocks 152.05 308 P **PKPbc 18 34 40.9 -0.1**
baz=100,SNR=18
H22K Ishtalitna Cre 152.11 313 P **PKiKP 18 34 41.7 +0.3**
baz=96,SNR=12
M20K Styx River 152.22 305 IAMs_20 IAMs_20 19 38 34.9
comp=Z,309nm,21.0s
M20K Styx River 152.22 305 P **PKPbc 18 34 41.5 0.0**
baz=102
CHUM Lake Minchumin 152.23 309 P **PKPbc 18 34 41.2 -0.1**
baz=99,SNR=19
G22K Bettles 152.26 316 P **PKiKP 18 34 42.3 +0.8**
baz=94
I21K Tanana 152.28 312 P **PKPbc 18 34 41.2 -0.1**
baz=97
O19K Port Alsworth 152.38 301 IAMs_20 IAMs_20 19 44 36.4
comp=Z,370nm,21.0s
O19K Port Alsworth 152.38 301 P **PKPbc 18 34 41.6 -0.1**
baz=105,SNR=21
E22K Anaktuvuk Pass 152.44 318 IAMs_20 IAMs_20 19 50 33.0
comp=Z,303nm,18.0s
JNU Nakatsue 152.54 137 PKPbc **PKPbc 18 34 43.0 0.0**
comp=Z,27nm,0.8s,baz=193,slow=2.5,SNR=16
JNU PKPab **PKPab 18 34 53.6 0.0**
comp=Z,21nm,0.6s,baz=205,slow=2.2,SNR=11
F22K John River 152.55 317 P **PKiKP 18 34 42.5 +0.3**
baz=92,SNR=12
N19K Bonanza Creek 152.61 302 P **PKPbc 18 34 41.8 -0.6**
baz=104,SNR=28
P18K Big Mountain, 152.62 299 IAMs_20 IAMs_20 19 33 28.6
comp=Z,320nm,21.0s
P18K Big Mountain, 152.62 299 P **PKPbc 18 34 41.8 -0.5**
baz=106,SNR=12
Q17K Contact Creek 152.62 296 P **PKPbc 18 34 42.3 -0.2**
baz=107,SNR=15
H21K Melozitna Rive 152.67 313 IAMs_20 IAMs_20 19 41 45.5
comp=Z,338nm,22.0s
H21K Melozitna Rive 152.67 313 P **PKiKP 18 34 42.8 +0.3**
baz=95,SNR=8.1
L20K Farewell, AK 152.69 306 P **PKPbc 18 34 42.4 0.0**
baz=101,SNR=11
O18K Koktuh Hills 152.73 300 P **PKPbc 18 34 42.1 -0.5**
baz=105,SNR=35
D22K Ayikyak River 152.76 320 P **PKiKP 18 34 43.0 +0.4**
baz=89,SNR=8.2
M19K Big River Lodg 152.81 304 IAMs_20 IAMs_20 19 38 52.5
comp=Z,343nm,22.0s
M19K Big River Lodg 152.81 304 P **PKiKP 18 34 43.4 +0.5**
baz=102
K20K Telida 152.92 308 IAMs_20 IAMs_20 19 51 51.4
comp=Z,258nm,20.0s
K20K Telida 152.92 308 P **PKiKP 18 34 43.1 0.0**
baz=99,SNR=17
B22K Teshekpuk Lake 152.96 323 P **PKiKP 18 34 43.0 +0.1**
baz=86,SNR=11
G21K Allakaket 153.02 315 IAMs_20 IAMs_20 19 44 11.7
comp=Z,308nm,22.0s
G21K Allakaket 153.02 315 P **PKiKP 18 34 43.6 +0.4**
baz=93
F21K Alatna River 153.04 316 IAMs_20 IAMs_20 19 42 35.2
comp=Z,247nm,21.0s
F21K Alatna River 153.04 316 P **PKiKP 18 34 43.8 +0.6**
baz=92,SNR=11
J20K Nowinta River 153.07 309 IAMs_20 IAMs_20 19 42 42.2
comp=Z,337nm,20.0s
J20K Nowinta River 153.07 309 P **PKiKP 18 34 43.4 +0.1**
baz=97,SNR=8.8
L19K White Mountain 153.08 305 P **PKiKP 18 34 43.5 +0.1**
baz=101,SNR=6.5
IMAR Indian Mountai 153.09 313 PKPdf 18 34 34.7 -1.0
Q16K King Salmon 153.13 297 P **PKiKP 18 34 43.9 +0.4**
baz=106
P17K Kvichak River 153.16 298 P **PKiKP 18 34 44.3 +0.7**
baz=105
E21K Killik River 153.24 319 IAMs_20 IAMs_20 19 45 48.2
comp=Z,231nm,20.0s
E21K Killik River 153.24 319 P **PKiKP 18 34 44.7 +1.1**
baz=89
N18K Kilae Creek 153.26 301 P **PKiKP 18 34 44.5 +0.6**
baz=103
R16K Pilot Point 153.26 294 P **PKiKP 18 34 43.9 0.0**
baz=108
I20K Naaghedeneel 153.29 311 P **PKiKP 18 34 44.5 +0.8**
baz=96,SNR=8.0
CHGN Chignik 153.29 291 P **PKiKP 18 34 44.8 +0.9**
baz=110
CHNA Chernabura Isl 153.38 288 P **PKiKP 18 34 44.6 +0.4**
baz=112
M18K Stony River 153.40 303 P **PKiKP 18 34 44.3 +0.3**
baz=101
A22K Sinclair Lake 153.41 325 P **PKiKP 18 34 44.3 +0.6**
baz=83
B21K Ikpikpuk River 153.42 322 P **PKiKP 18 34 44.4 +0.5**
baz=86,SNR=9.4
C21K Knifeblade Rid 153.51 321 P **PKiKP 18 34 44.8 +0.7**
baz=87
H20K Anotleneega Mo 153.52 312 P **PKiKP 18 34 45.3 +1.1**
baz=94,SNR=12
O17K Kolganek Bris 153.63 299 P **PKiKP 18 34 45.2 +0.7**
baz=104
J19K Poorman 153.69 309 IAMs_20 IAMs_20 19 48 25.7
comp=Z,299nm,19.0s
J19K Poorman 153.69 309 P **PKiKP 18 34 45.5 +0.9**
baz=96,SNR=5.6
XLT XiLinHaoTe 153.76 102 *e*PKPbc **PKPdf 18 34 37.8 +0.2**
XLT pPKP PKiKP 18 34 45.6 +0.1
XLT PKPab **PKPab 18 34 59.5 +1.0**
XLT LR LR
comp=Z,190nm,19.6s
XLT LR LR
comp=Z,170nm,21.1s

N17K	**Nushagak Hills**	**153.85**	**301**	IAMs_20	IAMs_20	19 44 21.1			
	comp=Z,349nm,21.0s								
N17K	**Nushagak Hills**	**153.85**	**301**	P	**PKiKP**	**18 34 45.6**	**+0.6**		
	baz=102								
S14K	**Fog Glacier**	**153.88**	**291**	P	**PKiKP**	**18 34 46.6**	**+1.2**		
	baz=109								
P16K	**Nushagak River**	**153.89**	**297**	P	**PKiKP**	**18 34 47.1**	**+1.9**		
	baz=105								
F20K	**Avaraart Lake**	**153.92**	**316**	IAMs_20	IAMs_20	19 53 48.3			
	comp=Z,308nm,19.0s								
F20K	**Avaraart Lake**	**153.92**	**316**	P	**PKiKP**	**18 34 45.8**	**+0.8**		
	baz=90,SNR=8.5								
L18K	**Granite Mounta**	**153.93**	**305**	P	**PKiKP**	**18 34 46.6**	**+1.4**		
	baz=99								
SDPT	**Sand Point**	**154.05**	**288**	P	**PKiKP**	**18 34 46.3**	**+0.7**		
	baz=111								
E20K	**Nigu River**	**154.07**	**319**	P	**PKiKP**	**18 34 46.3**	**+0.9**		
	baz=87								
O16K	**Kokwok River B**	**154.08**	**299**	P	**PKiKP**	**18 34 46.2**	**+0.7**		
	baz=104								
J18K	**Innoko River**	**154.12**	**308**	IAMs_20	IAMs_20	19 55 36.9			
	comp=Z,326nm,19.0s								
J18K	**Innoko River**	**154.12**	**308**	P	**PKiKP**	**18 34 46.7**	**+1.2**		
	baz=97,SNR=9.7								
M17K	**Holitna River**	**154.14**	**303**	P	**PKiKP**	**18 34 46.8**	**+1.2**		
	baz=100,SNR=12								
H19K	**Roundabout Mou**	**154.17**	**312**	IAMs_20	IAMs_20	19 46 16.2			
	comp=Z,360nm,22.0s								
H19K	**Roundabout Mou**	**154.17**	**312**	P	**PKiKP**	**18 34 46.6**	**+1.0**		
	baz=93,SNR=6.1								
D20K	**Etivluk River**	**154.20**	**320**	P	**PKiKP**	**18 34 46.9**	**+1.4**		
	baz=86								
B20K	**Meade River**	**154.26**	**323**	P	**PKiKP**	**18 34 47.1**	**+1.6**		
	baz=82								
GCSA	**Galena City Sc**	**154.31**	**310**	P	**PKiKP**	**18 34 47.4**	**+1.6**		
	baz=94								
G19K	**Purcell Mounta**	**154.45**	**314**	P	**PKiKP**	**18 34 47.3**	**+1.1**		
	baz=91,SNR=11								
E19K	**Redstone River**	**154.50**	**317**	IAMs_20	IAMs_20	19 38 36.5			
	comp=Z,284nm,21.0s								
E19K	**Redstone River**	**154.50**	**317**	P	**PKiKP**	**18 34 47.6**	**+1.4**		
	baz=88								
N16K	**Nishlik Lake**	**154.60**	**300**	P	**PKiKP**	**18 34 48.4**	**+1.8**		
	baz=101								
L17K	**Donlin**	**154.66**	**304**	P	**PKiKP**	**18 34 48.1**	**+1.5**		
	baz=98								
F19K	**Shaleruckik Mo**	**154.73**	**315**	IAMs_20	IAMs_20	19 51 21.7			
	comp=Z,229nm,19.0s								
F19K	**Shaleruckik Mo**	**154.73**	**315**	P	**PKiKP**	**18 34 47.5**	**+0.9**		
	baz=89,SNR=8.4								
K17K	**Iditarod**	**154.74**	**306**	IAMs_20	IAMs_20	19 43 13.6			
	comp=Z,357nm,21.0s								
K17K	**Iditarod**	**154.74**	**306**	P	**PKiKP**	**18 34 48.3**	**+1.5**		
	baz=97,SNR=9.2								
D19K	**Kuna River**	**154.76**	**319**	P	**PKiKP**	**18 34 48.6**	**+1.9**		
	baz=85								
M16K	**Timber Creek**	**154.80**	**302**	P	**PKiKP**	**18 34 48.7**	**+1.7**		
	baz=100,SNR=6.4								
O15K	**Ungalikthiuk R**	**154.84**	**297**	P	**PKPab**	**18 35 03.5**	**+0.9**		
	baz=103								
H18K	**Honhosa River**	**154.96**	**311**	IAMs_20	IAMs_20	19 46 07.0			
	comp=Z,288nm,21.0s								
H18K	**Honhosa River**	**154.96**	**311**	P	**PKPab**	**18 35 04.2**	**+1.3**		
	baz=92								
KSAR	**Wonju Array Be**	**155.01**	**127**	PKPdf	**PKPdf**	**18 34 38.2**	**-1.2**		
KSAR	**Wonju Array Be**	**155.01**	**127**	PKIKP	**PKPdf**	**18 34 38.2**	**-1.2**		
S12K	**Black Hills**	**155.02**	**288**	P	**PKPab**	**18 35 04.1**	**+0.7**		
	baz=109								
KSRS	**Korea Array**	**155.03**	**127**	PKP	**PKPdf**	**18 34 39.0**	**-0.4**		
	comp=Z,2.9nm,0.9s,baz=206,slow=1.6,SNR=9.5								
KSRS				PKPbc	**pPKPdf**	**18 34 48.0**	**-0.5**		
	comp=Z,1.9nm,0.7s,baz=196,slow=2.1,SNR=6.0								
KSRS				PKPab	**PKPab**	**18 35 03.1**	**-0.8**		
	comp=Z,7.3nm,0.8s,baz=217,slow=4.7,SNR=14								
G18K	**Tagagawik**	**155.09**	**313**	IAMs_20	IAMs_20	19 45 36.4			
	comp=Z,288nm,21.0s								
G18K	**Tagagawik**	**155.09**	**313**	P	**PKPab**	**18 35 04.5**	**+1.1**		
	baz=90								
L16K	**Owhat River**	**155.15**	**303**	IAMs_20	IAMs_20	19 43 53.5			
	comp=Z,320nm,20.0s								
L16K	**Owhat River**	**155.15**	**303**	P	**PKPab**	**18 35 04.8**	**+1.0**		
	baz=98								
J17K	**VABM Dome**	**155.17**	**307**	P	**PKPab**	**18 35 05.1**	**+1.3**		
	baz=95								
N15K	**Kwethluk River**	**155.19**	**299**	P	**PKPab**	**18 35 05.1**	**+1.1**		
	baz=101								
C19K	**Lookout Ridge**	**155.23**	**321**	IAMs_20	IAMs_20	19 53 31.6			
	comp=Z,346nm,20.0s								
C19K	**Lookout Ridge**	**155.23**	**321**	P	**PKPab**	**18 35 05.3**	**+1.3**		
	baz=82								
FALS	**False Pass**	**155.46**	**286**	P	**PKPab**	**18 35 05.2**	**0.0**		
	baz=111								
F18K	**Selawik**	**155.48**	**315**	P	**PKPab**	**18 35 06.0**	**+0.9**		
	baz=87								
A19K	**Wainwright**	**155.55**	**324**	P	**PKPab**	**18 35 06.4**	**+1.2**		
	baz=78								
M15K	**Kasigluk River**	**155.57**	**300**	P	**PKPab**	**18 35 06.6**	**+0.9**		
	baz=100								
O14K	**Tigyukauivet M**	**155.58**	**297**	P	**PKPab**	**18 35 06.6**	**+0.9**		
	baz=102								
H17K	**Granite Mounta**	**155.61**	**311**	IAMs_20	IAMs_20	19 45 20.3			
	comp=Z,354nm,22.0s								
H17K	**Granite Mounta**	**155.61**	**311**	P	**PKPab**	**18 35 06.7**	**+1.0**		
	baz=91								
E18K	**Tukpahlearik C**	**155.80**	**317**	IAMs_20	IAMs_20	19 46 36.9			
	comp=Z,304nm,20.0s								
E18K	**Tukpahlearik C**	**155.80**	**317**	P	**PKPab**	**18 35 07.5**	**+1.1**		
	baz=85								
J16K	**Anvik River**	**155.84**	**307**	IAMs_20	IAMs_20	19 49 06.6			
	comp=Z,327nm,20.0s								
J16K	**Anvik River**	**155.84**	**307**	P	**PKPab**	**18 35 07.8**	**+1.1**		
	baz=94								
C18K	**Utukok River**	**155.87**	**320**	IAMs_20	IAMs_20	19 41 13.6			
	comp=Z,285nm,21.0s								
C18K	**Utukok River**	**155.87**	**320**	P	**PKPab**	**18 35 07.6**	**+0.8**		
	baz=81,SNR=5.8								
I17K	**Unalakleet**	**155.92**	**308**	P	**PKPab**	**18 35 08.6**	**+1.6**		
	baz=92								
G17K	**Kiwalik Mounta**	**155.92**	**312**	P	**PKPab**	**18 35 08.5**	**+1.5**		
	baz=89								
N14K	**Kuskokwak Cree**	**155.93**	**298**	P	**PKPab**	**18 35 08.3**	**+1.1**		
	baz=101,SNR=7.7								
B18K	**Kokolik River**	**155.96**	**322**	P	**PKPab**	**18 35 08.5**	**+1.5**		
	baz=79								
L15K	**Ungalak Mounta**	**156.10**	**303**	P	**PKPab**	**18 35 09.3**	**+1.4**		
	baz=97,SNR=6.2								
F17K	**Baldwin Pennin**	**156.13**	**315**	IAMs_20	IAMs_20	19 55 43.8			
	comp=Z,279nm,20.0s								
F17K	**Baldwin Pennin**	**156.13**	**315**	P	**PKPab**	**18 35 08.9**	**+1.0**		
	baz=86								
K15K	**Wolf Creek Mou**	**156.19**	**304**	IAMs_20	IAMs_20	20 00 47.8			
	comp=Z,264nm,21.0s								
K15K	**Wolf Creek Mou**	**156.19**	**304**	P	**PKPab**	**18 35 10.2**	**+2.0**		
	baz=95								
M14K	**Bethel**	**156.20**	**300**	P	**PKPab**	**18 35 09.7**	**+1.4**		
	baz=98,SNR=14								
E17K	**Hotham Inlet**	**156.30**	**316**	P	**PKPab**	**18 35 09.8**	**+1.2**		
	baz=84,SNR=16								
RDOG	**Red Dog Mine**	**156.59**	**319**	IAMs_20	IAMs_20	20 00 52.7			
	comp=Z,254nm,20.0s								
RDOG	**Red Dog Mine**	**156.59**	**319**	P	**PKPab**	**18 35 10.7**	**+0.9**		
	baz=81,SNR=12								
H16K	**Elim**	**156.61**	**310**	P	**PKPab**	**18 35 11.0**	**+1.0**		
	baz=89								
C17K	**DeLong Mountai**	**156.62**	**320**	P	**PKPab**	**18 35 11.1**	**+1.1**		
	baz=80,SNR=16								
L14K	**Kuka Creek**	**156.63**	**302**	IAMs_20	IAMs_20	19 44 04.6			
	comp=Z,371nm,22.0s								
L14K	**Kuka Creek**	**156.63**	**302**	P	**PKPab**	**18 35 10.9**	**+0.8**		
	baz=97								
G16K	**Koyuk River**	**156.64**	**312**	IAMs_20	IAMs_20	19 55 07.3			
	comp=Z,264nm,20.0s								
G16K	**Koyuk River**	**156.64**	**312**	P	**PKPab**	**18 35 11.6**	**+1.5**		
	baz=88								
D17K	**Noatak River**	**156.71**	**318**	P	**PKPab**	**18 35 11.6**	**+1.3**		
	baz=81,SNR=14								
UNV	**Unalaska Valle**	**156.78**	**282**	P	**PKPab**	**18 35 12.0**	**+1.0**		
	baz=112								
CIT	**Chita**	**156.78**	**83**	*e*PKIKP	**PKPdf**	**18 34 39.4**	**-1.9**		
M13K	**Dall Lake**	**156.83**	**299**	P	**PKPab**	**18 35 12.7**	**+1.7**		
	baz=98								
J14K	**Nanvaranak Lak**	**157.16**	**305**	P	**PKPab**	**18 35 14.3**	**+1.9**		
	baz=93								
G15K	**Niukluk**	**157.37**	**311**	P	**PKPab**	**18 35 14.6**	**+1.3**		
	baz=87,SNR=9.5								
C16K	**Lisburne Hills**	**157.44**	**320**	IAMs_20	IAMs_20	19 59 18.3			
	comp=Z,332nm,22.0s								
C16K	**Lisburne Hills**	**157.44**	**320**	P	**PKPab**	**18 35 14.4**	**+1.0**		
	baz=78,SNR=14								
F15K	**North Star Dit**	**157.57**	**313**	IAMs_20	IAMs_20	19 47 47.9			
	comp=Z,274nm,20.0s								
F15K	**North Star Dit**	**157.57**	**313**	P	**PKPab**	**18 35 15.3**	**+1.1**		
	baz=84								
NIKH	**Nikolski High**	**157.74**	**278**	P	**PKPab**	**18 35 15.1**	**-0.1**		
	baz=113								
ANM	**Nome**	**157.96**	**310**	P	**PKPab**	**18 35 17.6**	**+1.7**		
	baz=87								
MJAR	**Matsushiro Arr**	**158.19**	**147**	PKP	**PKPdf**	**18 34 43.0**	**-0.6**		
	comp=Z,2.7nm,0.9s,baz=166,slow=0.9,SNR=8.0								
MJAR				PKPab	**PKPab**	**18 35 17.6**	**+0.1**		
	comp=Z,5.4nm,0.9s,baz=181,slow=3.9,SNR=6.0								
M11K	**Mekoryuk**	**158.23**	**299**	P	**PKPab**	**18 35 18.8**	**+1.7**		
	baz=96								
F14K	**Arctic Creek**	**158.29**	**312**	P	**PKPab**	**18 35 19.9**	**+2.7**		
	baz=83								
CN2	**Changchun**	**158.72**	**113**	PKP	**PKPdf**	**18 34 42.5**	**-1.4**		
CN2				PP	**PP**	**18 39 02.1**	**+1.4**		
CN2				AMB	AMB				
	comp=Z,100nm,6.0s								
CN2				LR	LR				
	comp=Z,200nm,16.0s								
CN2				LR	LR				
	comp=Z,200nm,16.0s								
CN2				LR	LR				
	comp=Z,300nm,24.0s								
BOD	**Bodaibo**	**158.88**	**69**	*e*PKIKP	**PKPdf**	**18 34 41.4**	**-2.2**		
BOD				pmax	pmax				
	comp=Z,18nm,1.3s								
TNA	**Tin City**	**158.94**	**313**	P	**PKPab**	**18 35 21.0**	**+1.0**		
	baz=82								
P08K	**Saint George I**	**159.29**	**287**	P	**PKPab**	**18 35 23.7**	**+1.9**		
	baz=104								
SPIA	**Saint Paul Isl**	**159.79**	**289**	P	**PKPab**	**18 35 26.2**	**+2.2**		
	baz=102								
BNX	**BinXian**	**161.06**	**112**	↑PKP	**PKPdf**	**18 34 45.8**	**-0.7**		
MDJ	**Mudanjiang**	**161.40**	**118**	PKP	**PKPdf**	**18 34 45.6**	**-1.3**		
MDJ				AMB	AMB				
	comp=Z,76nm,4.9s								
MDJ				LR	LR				
	comp=Z,180nm,15.6s								
MDJ				LR	LR				
	comp=Z,120nm,10.6s								
MDJ				LR	LR				
	comp=Z,260nm,19.5s								
MDJ	**Mudanjiang**	**161.40**	**118**		**PKPdf**	**18 34 45.6**	**-1.3**		
USRK	**Ussuriysk Ar.**	**162.26**	**123**	PKPab	**PKPab**	**18 35 34.1**	**-1.0**		
USRK	**Ussuriysk Ar.**	**162.26**	**123**	PKPab	**PKPab**	**18 35 34.5**	**-0.6**		
	comp=Z,5.4nm,0.8s,baz=212,slow=5.1,SNR=7.9								
USRK	**Ussuriysk Ar.**	**162.26**	**123**	PKP2	**PKPab**	**18 35 34.1**	**-1.0**		
HEH	**HeiHe**	**163.74**	**100**	*e*PKP	**PKPdf**	**18 34 48.1**	**-0.9**		
ZEA	**Zeya**	**165.11**	**88**	*e*PKIKP	**PKPdf**	**18 34 48.9**	**-1.2**		
ZEA				pmax	pmax				
	comp=Z,10.0nm,1.2s								
ZEA				pmax	pmax				
	comp=Z,80nm,7.4s								
KLR	**Kul'dur**	**165.55**	**109**	PKP	**PKPdf**	**18 34 49.6**	**-1.0**		
	comp=Z,5.3nm,1.0s,baz=292,slow=2.3,SNR=9.9								
KLR				PKPab	**PKPab**	**18 35 48.2**	**-1.2**		
	comp=Z,5.7nm,0.8s,baz=230,slow=4.1,SNR=9.0								
KLR	**Kul'dur**	**165.55**	**109**	*e*PKIKP	**PKPdf**	**18 34 48.4**	**-2.2**		
KLR				pmax	pmax				
	comp=Z,6.0nm,1.1s								
BILL	**Bilibino**	**166.38**	**338**	PKPab	**PKPab**	**18 35 52.0**	**-0.6**		
ASAJ	**Asahikawa**	**166.46**	**147**	PKP	**PKPdf**	**18 34 49.9**	**-1.7**		
	comp=Z,4.0nm,0.8s,baz=241,slow=19,SNR=2.6								
YAK	**Yakutsk**	**166.64**	**53**	PKP	**PKPdf**	**18 34 49.6**	**-1.4**		
	comp=Z,7.6nm,0.7s,baz=160,slow=4.6,SNR=7.4								
GRNR	**Gornyy**	**168.90**	**111**	*i* PKIKP	**PKPdf**	**18 34 53.4**	**+0.3**		
GRNR				pmax	pmax				
	comp=Z,3.0nm,1.2s								
YSS	**Yuzh-Sakhalins**	**169.01**	**141**		**PKPdf**	**18 34 52.7**	**-0.5**		
YSS	**Yuzh-Sakhalins**	**169.01**	**141**	*i* PKIKP	**PKPdf**	**18 34 53.9**	**+0.7**		
YSS				*e*		18 36 05.3			
YSS				*e*SS	SS	19 00 48.5	+2.0		
YSS				pmax	pmax				
	comp=Z,10.0nm,1.4s								
SEY	**Seymchan**	**172.99**	**2**	PKP	**PKPdf**	**18 34 52.6**	**-2.2**		
	comp=Z,10.0nm,1.1s,baz=318,slow=1.0,SNR=14								
SEY				PKPab	**PKPab**	**18 36 21.2**	**-0.8**		
	comp=Z,6.6nm,0.9s,baz=338,slow=1.7,SNR=7.0								
PET	**Petropavlovsk**	**175.53**	**231**	*i* PKIKP	**PKPdf**	**18 34 56.7**	**+0.8**		
PET				*e*		18 40 27.5			
PET				*e*SS	SS	19 01 51.5	+1.1		
PET				pmax	pmax				
	comp=Z,200nm,20.2s								
PETK	**Petropavlovsk-**	**175.99**	**227**		**PKPdf**	**18 34 54.5**	**-1.5**		
PETK					**PKPab**	**18 36 34.7**	**-0.9**		
PETK	**Petropavlovsk-**	**175.99**	**227**	PKP	**PKPdf**	**18 34 54.7**	**-1.4**		
	comp=Z,5.5nm,0.8s,baz=108,slow=3.4,SNR=8.5								
PETK				PKPab	**PKPab**	**18 36 35.9**	**+0.2**		
	comp=Z,9.1nm,0.7s,baz=94,slow=6.4,SNR=16								
PETK				PP	**PP**	**18 40 25.1**	**-3.9**		
	comp=Z,1.2nm,0.9s,baz=130,slow=8.0,SNR=4.2								
PETK	**Petropavlovsk-**	**175.99**	**227**	PKIKP	**PKPdf**	**18 34 54.6**	**-1.5**		
PETK						18 36 34.7			

WEL ***14*** *18:16:52.4±0.7,32°S±6°×17°8W±1°5,h33km,M4.4/16, mB4.9/13,ML5.0/23,MLv4.8/16,Mw(mB)4.2/13,Error ellipse: s-maj=0.0km s-min=0.0km az=109.2,confirmed*
NEIC ***14*** *18:16:52.9±1.6,32°.54S±0°.07×178°.7W±0°.1,h35km±2km, mb4.6/11,Error ellipse: s-maj=17.8km s-min=11.5km az=108.0*
IDC ***14*** *18:16:54.7±2.4,32°.22S×178°.83W,h53km±21km,mb4.0/4, mbtmp4.3/6,ML4.2/2,MS4.1/2,Error ellipse: s-maj=28.6km s-min=15.4km az=116.0*

ISC 14 18:16:53.1±0.7,32°25S±0°07×179°1W±0°1,h35km,n76,
σ2s34/90,mb4.5/10,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**3.15**	**19**	P	**Pn**	**18 17 39.7**	**-0.5**
GLKZ				S	**Sn**	**18 18 14.6**	**-1.9**
RAO	**Raoul Island**	**3.16**	**19**	Pn	**Pn**	**18 17 42.6**	**+2.3**
RAO	**Raoul Island**	**3.16**	**19**	P	**Pn**	**18 17 41.5**	**+1.2**
	36nm,0.3s,baz=210,slow=20,SNR=1.6						
RAO				S	**Sn**	**18 18 16.3**	**-0.5**
	346nm,0.3s,baz=107,slow=19,SNR=2.5 143nm,0.3s						
MXZ	**Matakaoa Point**	**5.71**	**201**	Pn	**Pn**	**18 18 15.4**	**+0.1**
MXZ				Sn	**Sn**	**18 19 15.4**	**-4.2**
MXZ	**Matakaoa Point**	**5.71**	**201**	P	**Pn**	**18 18 14.1**	**+0.7**
MXZ				S	**Sn**	**18 19 21.2**	**+1.5**
WMGZ	**Waiomatatini S**	**5.92**	**199**	P	**Pn**	**18 18 19.0**	**+0.8**
WMGZ				S	**Sn**	**18 19 27.7**	**+2.9**
HAZ	**Te Kaha**	**6.06**	**204**	P	**Pn**	**18 18 22.4**	**+2.2**
PKGZ	**Pakihiroa**	**6.08**	**202**	P	**Pn**	**18 18 21.1**	**+0.6**
PKGZ				S	**Sn**	**18 19 31.4**	**+2.5**
PUZ	**Puketiti**	**6.20**	**200**	P	**Pn**	**18 18 22.4**	**+0.3**
PUZ				S	**Sn**	**18 19 33.2**	**+1.4**
RUGZ	**Raukumara Rang**	**6.28**	**204**	P	**Pn**	**18 18 24.2**	**+0.8**
RUGZ				S	**Sn**	**18 19 37.9**	**+3.9**
TWGZ	**Tauwhareparae**	**6.38**	**201**	P	**Pn**	**18 18 25.7**	**+1.1**
TWGZ				S	**Sn**	**18 19 40.1**	**+3.9**
WCZ	**Waipu Caves**	**6.56**	**234**	P	Pn	18 18 35.3	+8.2
CNGZ	**Carnagh Statio**	**6.60**	**199**	P	**Pn**	**18 18 28.2**	**+0.7**
CNGZ				S	**Sn**	**18 19 46.2**	**+4.7**
OPRZ	**Ohinepanea**	**6.62**	**211**	P	Pn	18 18 33.0	+5.2
MWZ	**Matawai**	**6.67**	**203**	P	**Pn**	**18 18 29.5**	**+0.9**
MWZ				S	**Sn**	**18 19 45.3**	**+2.0**
MARZ	**Manawahe**	**6.69**	**210**	P	Pn	18 18 33.4	+4.6
URZ	**Urewera**	**6.75**	**206**	P	**Pn**	**18 18 32.3**	**+2.7**
	3.2nm,0.3s,baz=5.8,slow=3.4,SNR=31						
URZ				S	**Sn**	**18 19 45.3**	**+0.1**
	15nm,0.4s,baz=320,slow=18,SNR=1.8 7.7nm,0.3s						
URZ	**Urewera**	**6.75**	**206**	P	**Pn**	**18 18 30.7**	**+1.1**
URZ				S	**Sn**	**18 19 45.8**	**+0.6**
OUZ	**Omahuta**	**6.76**	**242**	P	Pn	18 18 38.0	+8.1
RAGZ	**Rawiri**	**6.85**	**204**	P	**Pn**	**18 18 31.9**	**+0.8**
RIGZ	**Rimuhau**	**6.93**	**201**	P	**Pn**	**18 18 33.3**	**+1.1**
MUGZ	**Murupara**	**7.07**	**207**	P	**Pn**	**18 18 35.8**	**+1.7**
MUGZ				S	**Sn**	**18 19 54.7**	**+1.6**
PRGZ	**Paritu Road**	**7.10**	**199**	P	**Pn**	**18 18 35.2**	**+0.7**
PRGZ				S	**Sn**	**18 19 54.5**	**+0.7**
RTZ	**Ruatahuna**	**7.11**	**206**		**Pn**	**18 18 34.1**	**-0.6**
RTZ				Sn	**Sn**	**18 19 49.7**	**-4.5**
RTZ	**Ruatahuna**	**7.11**	**206**	P	**Pn**	**18 18 33.8**	**-0.9**
SNGZ	**Shannon Statio**	**7.13**	**203**	P	**Pn**	**18 18 36.6**	**+1.6**
SNGZ				S	**Sn**	**18 19 55.2**	**+0.5**
RAHZ	**Arahi**	**7.34**	**204**	P	**Pn**	**18 18 39.4**	**+1.6**
RAHZ				S	**Sn**	**18 20 00.9**	**+1.1**
MTHZ	**Maungataniwha**	**7.37**	**205**	P	**Pn**	**18 18 39.7**	**+1.5**
MTHZ				S	**Sn**	**18 20 03.1**	**+2.5**
MRHZ	**Matea Rd**	**7.51**	**208**	P	**Pn**	**18 18 41.4**	**+1.2**
MRHZ				S	**Sn**	**18 20 05.7**	**+1.5**
NMHZ	**Naumai**	**7.60**	**205**	P	**Pn**	**18 18 42.8**	**+1.4**
NMHZ				S	**Sn**	**18 20 08.1**	**+1.8**
ARHZ	**Aropaoanui**	**7.68**	**203**	P	**Pn**	**18 18 45.1**	**+2.7**
BKZ	**Black Stump Fm**	**7.77**	**206**	Pn	**Pn**	**18 18 44.5**	**+0.7**
MCHZ	**McNeill Hill**	**7.95**	**204**	P	**Pn**	**18 18 46.4**	**+0.4**
MCHZ				S	**Sn**	**18 20 15.4**	**+0.7**
KWHZ	**Kaweka Forest**	**8.03**	**206**	P	**Pn**	**18 18 48.4**	**+1.1**
KAHZ	**Kahuranaki**	**8.20**	**202**	P	**Pn**	**18 18 48.5**	**-1.1**
BFZ	**Birch Farm**	**9.21**	**203**	Pn	**Pn**	**18 19 02.3**	**-1.1**
MRZ	**Mangatainoka R**	**9.42**	**206**	Pn	**Pn**	**18 19 05.4**	**-0.9**
SNZO	**South Karori**	**10.31**	**207**	Pn	**Pn**	**18 19 16.9**	**-1.6**
SNZO				Sn	**Sn**	**18 21 06.2**	**-6.5**
TCW	**Tory Channel**	**10.40**	**209**	Pn	**Pn**	**18 19 16.8**	**-2.9**
TCW				Sn	**Sn**	**18 21 08.4**	**-6.5**
TUWZ	**Tuamarina**	**10.72**	**209**	Pn	**Pn**	**18 19 21.1**	**-3.0**
NNZ	**Nelson**	**10.79**	**212**	Pn	**Pn**	**18 19 22.7**	**-2.3**
NNZ				Sn	**Sn**	**18 21 18.1**	**-6.3**
TKNZ	**Takaka Hill**	**10.83**	**214**	Pn	**Pn**	**18 19 24.9**	**-0.7**
TKNZ				Sn	**Sn**	**18 21 19.4**	**-6.2**
MRNZ	**Matariki Terra**	**11.21**	**213**	Pn	**Pn**	**18 19 29.6**	**-1.2**
KHZ	**Kahutara**	**11.71**	**208**	Pn	**Pn**	**18 19 33.9**	**-3.7**
LTZ	**Lake Taylor**	**12.54**	**211**	Pn	**Pn**	**18 19 46.0**	**-2.9**
OXZ	**Oxford**	**13.08**	**210**	Pn	**Pn**	**18 19 52.1**	**-4.3**
DZM	**Mont Dzumac**	**16.36**	**305**	LR	LR	18 25 17.6	
	comp=Z,130nm,19.0s,baz=127,slow=30						
BBOO	**Buckleboo**	**37.59**	**257**	P	**P**	**18 24 06.1**	**+1.7**
BBOO				IAmb	IAmb	18 24 25.0	
	comp=Z,13nm,1.3s						
RABL	**Rabaul**	**38.77**	**310**	P	**P**	**18 24 16.2**	**+1.7**
RABL				IAmb	IAmb	18 24 24.4	
	comp=Z,9.5nm,0.8s						
COEN	**Coen**	**38.92**	**289**	P	**P**	**18 24 18.0**	**+2.2**
COEN				IAmb	IAmb	18 24 48.2	
	comp=Z,37nm,1.4s						
AS31	**Alice Springs**	**42.10**	**269**	P	**P**	**18 24 43.8**	**+1.8**
ASAR	**Alice Springs**	**42.10**	**269**	P	**P**	**18 24 42.2**	**+0.2**
ASAR	**Alice Springs**	**42.10**	**269**	P	**P**	**18 24 43.9**	**+1.9**
	comp=Z,1.1nm,0.3s,baz=105,slow=7.3,SNR=23 comp=Z,1.1nm,0.3s						
WR0	**Warramunga Arr**	**43.09**	**275**	P	**P**	**18 24 51.9**	**+1.9**
WR0				IAmb	IAmb	18 25 15.0	
	comp=Z,7.9nm,1.4s						
WB2	**Warramunga Arr**	**43.25**	**275**	P	**P**	**18 24 53.4**	**+2.0**
WB2				IAmb	IAmb	18 24 55.1	
	comp=Z,6.4nm,0.8s						
WRA	**Warramunga Arr**	**43.26**	**275**	P	**P**	**18 24 53.2**	**+1.8**
WRA	**Warramunga Arr**	**43.26**	**275**	P	**P**	**18 24 53.1**	**+1.7**
	comp=Z,3.6nm,0.3s,baz=113,slow=8.0,SNR=85 comp=Z,3.6nm,0.3s						
WB0	**Warramunga Arr**	**43.29**	**275**	P	**P**	**18 24 53.0**	**+1.3**
WB0				IAmb	IAmb	18 24 54.8	
	comp=Z,6.4nm,0.9s						
MTN	**Manton Dam**	**49.37**	**281**	P	**P**	**18 25 41.0**	**+1.5**
FITZ	**Fitzroy Crossi**	**51.44**	**272**	P	**P**	**18 25 55.8**	**+0.7**
QSPA	**South Pole Qui**	**57.87**	**180**	P	**P**	**18 26 37.9**	**-3.2**
QSPA				IAmb	IAmb	18 27 18.9	
	comp=Z,19nm,1.3s						
QSPA	**South Pole Qui**	**57.87**	**180**	P	**P**	**18 26 40.3**	**-0.8**
	comp=Z,3.4nm,0.6s,baz=343,slow=3.4,SNR=1.6 comp=Z,3.4nm,0.6s						
RPN	**Rapa Nui**	**59.87**	**105**	LR	LR	18 46 47.3	
	comp=Z,754nm,21.0s,baz=140,slow=30						
H03S2	**Juan Fernandez**	**80.23**	**124**	T	T	19 57 27.2	
	baz=236,slow=74,SNR=22						
H03S1	**Juan Fernandez**	**80.24**	**124

comp=Z,0.6nm,0.6s,baz=239,slow=9.9,SNR=5.5
comp=Z,0.6nm,0.6s

H24K	**Noodor Dome**	**18.77**	**35**	P	**P**	**18 29 27.9**	**+1.1**
H24K				IAmb	IAmb	18 29 29.3	
	comp=Z,2.8nm,0.9s						
B21K	**Ikpikpuk River**	**19.35**	**21**	P	**P**	**18 29 33.5**	**+0.6**
SCRK	**Sand Creek**	**19.44**	**43**	P	**P**	**18 29 34.1**	**0.0**
F24K	**Squaw Lake**	**19.70**	**31**	P	**P**	**18 29 37.6**	**+0.8**
F24K				IAmb	IAmb	18 29 39.2	
	comp=Z,3.4nm,1.2s						
J26L	**Joseph Creek**	**19.80**	**41**	P	**P**	**18 29 37.9**	**0.0**
J26L				IAmb	IAmb	18 29 40.3	
	comp=Z,2.4nm,0.7s						
J30M	**Hart River**	**22.81**	**44**	P	**P**	**18 30 08.7**	**+0.5**
J30M				IAmb	IAmb	18 30 10.1	
	comp=Z,2.3nm,0.7s						
I30M	**Mount Dempster**	**22.94**	**42**	P	**P**	**18 30 08.6**	**-0.8**
WRGLY	**Wrigley**	**28.34**	**48**	P	**P**	**18 30 55.2**	**-2.6**
YKA	**Yellowknife Ar**	**32.46**	**49**	P	**P**	**18 31 32.9**	**-1.0**
	comp=Z,0.2nm,0.5s,baz=284,slow=8.0,SNR=3.4						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**40.91**	**87**	LR	LR	18 47 08.6	
	comp=Z,100nm,21.7s,baz=267,slow=31						
PDAR	**Pinedale Array**	**43.50**	**76**	P	**P**	**18 33 06.3**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=305,slow=3.8,SNR=8.3						
	comp=Z,0.9nm,0.6s						
BLYC	**Blythe**	**46.29**	**89**	P	**P**	**18 33 28.2**	**-0.1**
GLA	**Glamis**	**46.58**	**90**	P	**P**	**18 33 31.2**	**+0.5**
GLA				IAmb	IAmb	18 33 42.7	
	comp=Z,5.2nm,0.8s						
G40A	**Rib Lake**	**52.90**	**62**	P	**P**	**18 34 17.7**	**-0.4**

*IDC **14** 18:41:39.1±3.5,22.˚97N×11.˚77W,h0km,mb3.7/4, mbtmp3.7/5,ML3.1/1,MS4.5/5,Error ellipse: s-maj=114.7km s-min=38.9km az=80.0*
ISC 14 18:41:40.4±2.6,22.9N±0.3×11.6W±0.4,h10km,n12, σ1§44/8,mb3.8/4,MS4.5/5,Mauritania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**15.88**	**125**	Pn	**Pn**	**18 45 25.9**	**+1.7**
	0.1nm,0.3s,baz=313,slow=12,SNR=3.4						
TORD				Sn	**Sn**	**18 48 18.6**	**-1.7**
	0.1nm,0.3s,baz=311,slow=21,SNR=2.9						
	0.6nm,0.6s						
HFS	**Hagfors**	**41.25**	**19**	P	**P**	**18 49 24.6**	**-0.9**
	0.9nm,0.5s,baz=220,slow=8.9,SNR=6.0						
	0.9nm,0.5s						
EIL	**Elat**	**42.05**	**71**	LR	LR	19 08 52.5	
	comp=Z,817nm,21.4s,baz=232,slow=39						
MMAI	**Mount Meron Ar**	**42.42**	**66**	LR	LR	19 12 10.2	
	comp=Z,858nm,20.6s,baz=151,slow=43						
FINES	**FINESS Array B**	**46.40**	**24**	P	**P**	**18 50 06.6**	**-0.3**
	0.4nm,0.4s,baz=212,slow=4.9,SNR=5.3						
	0.4nm,0.4s						
GEYT	**Alibeck**	**60.69**	**58**	LR	LR	19 22 57.2	
	comp=Z,345nm,21.0s,baz=206,slow=41						
ULM	**Lac du Bonnet**	**69.21**	**317**	LR	LR	19 20 29.4	
	comp=Z,181nm,21.5s,baz=120,slow=34						
KURBB	**Kurchatov Arra**	**72.74**	**42**	P	**P**	**18 53 09.5**	**+0.7**
	0.4nm,0.5s,baz=280,slow=6.7,SNR=4.3						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**76.24**	**45**	P	**P**	**18 53 30.6**	**+1.3**
	0.3nm,0.5s,baz=294,slow=5.0,SNR=8.1						
	0.3nm,0.5s						
SONM	**Songino Array**	**90.35**	**37**	LR	LR	19 40 42.6	
	comp=Z,166nm,18.9s,baz=250,slow=39						
WRA	**Warramunga Arr**	**148.17**	**91**	PKPbc	**PKPbc**	**19 01 26.8**	**-0.5**
	0.4nm,0.7s,baz=292,slow=2.5,SNR=1.8						
ASAR	**Alice Springs**	**148.32**	**98**	PKPbc	**PKiKP**	**19 01 28.3**	**-1.1**
	0.2nm,0.7s,baz=288,slow=2.8,SNR=6.0						

*UCR **14** 18:51:14.4±0.7,10.˚39N×86.˚30W,h29km±3km,MW4.0*
*CATAC **14** 18:51:16.4±0.9,10.˚56N×86.˚34W,h10km±7km,ML3.2*
ISC 14 18:51:16.2±1.9,10.˚41N±0.˚06×86.˚27W±0.˚07,h23km±15km, n23,σ1§86/32,Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HZTE	**Horizontes, Gu**	**0.73**	**65**	*e*P	**Pb**	**18 51 29.3**	**-0.9**
HZTE				*e*S	**Sb**	**18 51 40.4**	**+0.6**
ALIBA	**Liberia Airpor**	**0.73**	**75**	*e*P	**Pb**	**18 51 30.5**	**+0.2**
ALIBA				*e*S	**Sn**	**18 51 42.4**	**+0.8**
ELI1	**Hacienda Flor**	**0.74**	**71**	*e*P	**Pb**	**18 51 30.0**	**-0.4**
ELI1				*e*S	**Sn**	**18 51 42.3**	**+0.5**
JUD3	**Juan Diaz 3**	**0.76**	**108**	*e*P	**Pb**	**18 51 29.5**	**-1.2**
ORTG	**Ortega, Santa**	**0.80**	**93**	*e*P	**Pb**	**18 51 29.7**	**-1.7**
DUNO	**Dulce Nombre,**	**0.83**	**113**	*e*P	**Pb**	**18 51 30.2**	**-1.7**
PLVR	**Palo Verde**	**0.90**	**94**	*e*P	**Pb**	**18 51 31.3**	**-1.9**
LCRUZ	**La Cruz**	**0.92**	**43**	*e*P	**Pb**	**18 51 33.3**	**-0.1**
LCRUZ				*e*S	**Sn**	**18 51 46.9**	**+0.7**
INDI	**Punta indio, G**	**0.92**	**125**	*i* P	Pn	18 51 43.5	+10
INDI				*i* S	**Sn**	**18 51 51.5**	**+5.2**
GB1A	**Borinquen Arri**	**0.95**	**64**	*e*P	**Pb**	**18 51 32.4**	**-1.6**
VRLE	**La Escondida,**	**0.96**	**67**	*e*P	**Pn**	**18 51 32.5**	**-1.9**
CUI	**Cuipilapa**	**1.11**	**77**	*e*P	**Pn**	**18 51 34.9**	**-1.5**
VMAR	**Armenia, Volca**	**1.20**	**70**	*e*P	**Pn**	**18 51 36.5**	**-1.1**
JAPN	**Al SSO del Vol**	**1.25**	**27**	*i* P	**Pn**	**18 51 38.2**	**-0.1**
JAPN				IAML		18 51 38.9	
	comp=Z,350nm,1.0s						
JAPN				*i* S	**Sb**	**18 51 59.6**	**+4.7**
OMEN	**Al SSO del Vol**	**1.26**	**30**	*i* P	**Pn**	**18 51 37.8**	**-0.6**
OMEN				IAML		18 52 10.1	
	comp=Z,480nm,1.0s						
MORN	**Al O del Volca**	**1.28**	**28**	*i* P	**Pn**	**18 51 38.2**	**-0.6**
MORN				IAML		18 52 01.0	
	comp=Z,780nm,1.0s						
CONN	**Concepcion**	**1.31**	**29**	*i* P	**Pn**	**18 51 38.6**	**-0.5**
CONN				IAML		18 52 14.0	
	comp=Z,3μm,1.0s						
COPN	**Copaltepe**	**1.79**	**350**	*i* P	**Pn**	**18 51 46.7**	**+1.0**
COPN				IAML		18 52 13.4	
	comp=Z,180nm,1.0s						
APYN	**Apoyeque**	**1.82**	**357**	*i* P	**Pn**	**18 51 45.3**	**-0.8**
APYN				*i* S	**Sb**	**18 52 14.5**	**+3.3**
APYN				IAML		18 52 17.4	
	comp=Z,210nm,1.0s						
ACON	**Acoyapa**	**1.89**	**35**	*i* P	**Pn**	**18 51 46.0**	**-1.0**
ACON				*i* S	**Sb**	**18 52 12.2**	**-0.9**
ACON				IAML		18 52 17.8	
	comp=Z,180nm,1.0s						
ACON	**Acoyapa**	**1.89**	**35**	*e*P	**Pn**	**18 51 45.9**	**-1.1**
MOM2	**El Cardon**	**2.03**	**354**	*i* P	**Pb**	**18 51 50.7**	**-1.7**
MOM2				*i* S	**Sn**	**18 52 12.9**	**-0.7**
MACN	**El Madrono**	**2.08**	**349**	*i* P	**Pn**	**18 51 49.5**	**-0.3**
MACN				*i* S	**Sn**	**18 52 13.0**	**-2.1**
MACN				IAML		18 52 31.5	
	comp=Z,82nm,1.0s						

*ISN **14** 19:22:54.0±0.7,34.˚99N×45.˚95E,h12km±10km,ML2.5*
*TEH **14** 19:22:56.6,34.˚94N×45.˚93E,h7km±6km,ML2.5*
ISC 14 19:22:55.6±0.9,34.˚97N±0.˚05×45.˚93E±0.˚04,h10km,n12, σ0§70/16,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.47**	**126**	Pg	**Pb**	**19 23 05.6**	**-0.4**
IDHR				Sg	**Sb**	**19 23 12.7**	**-0.3**
KGS1	**Ghasr-e-Shirin**	**0.54**	**211**	Pg	**Pb**	**19 23 07.3**	**+0.1**
IGHG	**Ghaleghazi**	**0.83**	**140**	Pg	**Pb**	**19 23 12.3**	**+0.1**
ILIN	**Lien**	**0.85**	**93**	Pg	**Pn**	**19 23 13.2**	**-0.7**
GLG1	**Gilan-e-Gharb**	**0.86**	**181**	Pg	**Pb**	**19 23 12.6**	**0.0**
KCHF	**Cheshme Sefid,**	**1.15**	**127**	Pg	**Pn**	**19 23 17.9**	**0.0**
IKRK	**Kirkuk**	**1.37**	**289**	*e*Pn	**Pb**	**19 23 21.0**	**-0.2**
IKRK				*e*Sn	**Sg**	**19 23 40.5**	**+0.9**
IBZA	**Bozab**	**1.67**	**107**	Pg	**Pg**	**19 23 28.4**	**+0.8**
MAHB	**Mahabad**	**1.80**	**354**	Pn	**Pg**	**19 23 30.4**	**+0.3**
IBDR	**Badra**	**1.86**	**180**	*e*Pn	**Pn**	**19 23 28.0**	**+0.6**
IBDR				*e*Sn	**Sb**	**19 23 52.0**	**-0.9**
IBDR				AML	AML	19 23 58.6	
	comp=E,45nm,0.4s						
IBDR				AML	AML	19 24 09.8	
	comp=N,67nm,0.4s						
BHD	**Baghdad**	**2.13**	**217**	*e*Pn	**Pn**	**19 23 31.0**	**-0.1**
BHD				*e*Sn	**Sb**	**19 23 59.0**	**-1.7**
IKFM	**Kafar-mosalman**	**2.15**	**132**	Pn	**Pb**	**19 23 34.5**	**-0.1**

*ISK **14** 19:31:47.5,34.˚83N×27.˚67E,h23km,ML2.6/10*
ISC 14 19:31:45.6±1.4,34.˚58N±0.˚07×27.˚77E±0.˚08,h35km,n35, σ0§82/36,Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.09**	**333**	Pg	**Pn**	**19 32 04.4**	**0.0**
KARP				Sg	**Sn**	**19 32 16.4**	**-1.9**
ZKR	**Zakros**	**1.38**	**293**	Pn	**Pn**	**19 32 09.8**	**+1.4**
ARG	**Arkhangelos**	**1.66**	**10**	Pn	**Pn**	**19 32 12.9**	**+0.6**
DAT	**Datca**	**2.15**	**356**	Pn	**Pn**	**19 32 19.4**	**+0.2**
FETY	**Fethiye**	**2.32**	**27**	Pn	**Pn**	**19 32 22.8**	**+1.5**
DALY	**Dalyan (Mula)**	**2.35**	**18**	Pn	**Pn**	**19 32 22.8**	**+1.1**
DALY				Sn	**Sn**	**19 32 48.7**	**-0.6**
IDI	**Anoyia**	**2.47**	**288**	Pn	**Pn**	**19 32 25.6**	**+2.2**
BODT	**Bodrum**	**2.51**	**352**	Pn	**Pn**	**19 32 24.5**	**+0.6**
CAME	**Cameli-Denizli**	**2.67**	**27**	Pn	**Pn**	**19 32 27.9**	**+1.6**
APE	**Apeiranthos**	**3.08**	**324**	Pn	**Pn**	**19 32 32.1**	**+0.3**
OFRI	**Ofer**	**6.33**	**106**	P	**Pn**	**19 33 17.1**	**+0.6**
SLTI	**Sal'it**	**6.51**	**109**	P	**Pn**	**19 33 19.3**	**+0.3**
MMC1	**Mount Meron ar**	**6.54**	**101**	P	**Pn**	**19 33 20.0**	**+0.5**
MMB1	**Mount Meron ar**	**6.55**	**102**	P	**Pn**	**19 33 19.2**	**-0.4**
KZIT	**Kziot**	**6.68**	**121**	P	**Pn**	**19 33 21.2**	**-0.1**
GEM	**Giv'at Ha'Em**	**6.71**	**100**	P	**Pn**	**19 33 22.0**	**+0.4**
AMAZ	**Amatzia**	**6.73**	**115**	P	**Pn**	**19 33 21.8**	**-0.1**
AMAZ				S	Sn	19 34 19.5	-18
MMLI	**Mount Malkishu**	**6.74**	**106**	P	**Pn**	**19 33 22.2**	**+0.1**
NATI	**Neve Ativ**	**6.75**	**99**	P	**Pn**	**19 33 22.8**	**+0.5**
HMDT	**Nahal Hemdat**	**6.89**	**107**	P	**Pn**	**19 33 24.8**	**+0.7**
QRNJ	**Al-Qirein**	**6.90**	**107**	P	**Pn**	**19 33 24.6**	**+0.4**
SHMJ	**Saham**	**6.92**	**103**	P	**Pn**	**19 33 24.6**	**0.0**
YTIR	**Yattir**	**6.96**	**115**	P	**Pn**	**19 33 25.4**	**+0.2**
BALJ	**Balqa**	**7.04**	**108**	P	**Pn**	**19 33 26.1**	**-0.2**
DSI	**Dead Sea**	**7.06**	**113**	P	**Pn**	**19 33 26.1**	**-0.4**
MDBI	**Mazsada**	**7.16**	**115**	P	**Pn**	**19 33 28.2**	**+0.3**
MSBI	**Mazada**	**7.16**	**115**	P	**Pn**	**19 33 27.3**	**-0.6**
LISJ	**El Lisan**	**7.29**	**115**	P	**Pn**	**19 33 29.4**	**-0.2**
GHAJ	**Ghor Haditha**	**7.32**	**114**	P	**Pn**	**19 33 30.3**	**+0.2**
KRMI	**Paran Flat**	**7.38**	**125**	P	**Pn**	**19 33 30.4**	**-0.5**
PRNI	**Paran**	**7.43**	**123**	P	**Pn**	**19 33 30.6**	**-0.9**
KARJ	**KARJ**	**7.48**	**115**	P	Pn	19 33 25.5	-6.7
HRFI	**Mount Harif**	**7.64**	**124**	P	**Pn**	**19 33 34.0**	**-0.5**
MBRI	**Mt Berech**	**7.71**	**126**	P	**Pn**	**19 33 36.1**	**+0.6**
EIL	**Elat**	**7.81**	**127**	P	**Pn**	**19 33 36.1**	**-0.7**

*SJA **14** 19:37:56.5±0.7,19.˚02S×69.˚73W,h92km±3km,ML3.6, MW3.7*
*GUC **14** 19:37:58.1±0.9,19.˚02S×69.˚68W,h87km±4km,ML3.6*
ISC 14 19:37:59.1±1.4,19.˚05S±0.˚03×69.˚76W±0.˚05,h77km±10km, n31,σ1§62/62,3C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB12	**IPOC Station P**	**0.69**	**309**	*e*P	**Pn**	**19 38 13.9**	**-0.7**
PB12				*e*S	**Sn**	**19 38 27.0**	**+1.0**
PB12				IAML		19 38 28.2	
	comp=Z,2μm,0.6s						
PB12	**IPOC Station P**	**0.69**	**309**	↑*e*P	**Pn**	**19 38 13.8**	**-0.7**
PB12				*e*S	**Sn**	**19 38 26.8**	**+0.8**
PB12				IAML		19 38 28.4	
	comp=E,2μm,0.3s						
PB11	**IPOC Station P**	**0.71**	**172**	*e*P	**Pn**	**19 38 10.8**	**-4.1**
PB11				*e*P	**Pn**	**19 38 14.5**	**-0.4**
PB11				*e*S	**Sn**	**19 38 28.0**	**+1.5**
PB11				IAML		19 38 30.2	
	comp=Z,674nm,0.3s						
PB11	**IPOC Station P**	**0.71**	**172**	↑*e*P	**Pn**	**19 38 14.3**	**-0.6**
PB11				*e*S	**Sn**	**19 38 27.4**	**+0.8**
PB11				IAML		19 38 29.7	
	comp=E,1μm,0.2s						
GO01	**Chusmiza**	**0.81**	**139**	*e*P	**Pn**	**19 38 15.8**	**-0.5**
GO01				*e*S	**Sn**	**19 38 30.2**	**+1.2**
GO01				IAML		19 38 31.7	
	comp=Z,783nm,0.3s						
GO01	**Chusmiza**	**0.81**	**139**	*i* P	**Pn**	**19 38 15.5**	**-0.8**
GO01				*i* S	**Sn**	**19 38 30.1**	**+1.0**
GO01				IAML		19 38 33.6	
	comp=N,4μm,0.1s						
AP01	**Chacalluta**	**0.87**	**320**	*e*P	**Pn**	**19 38 15.8**	**-0.7**
AP01				*e*S	**Sn**	**19 38 31.6**	**+2.3**
AP01				IAML		19 38 35.9	
	comp=Z,2μm,0.2s						
AP01	**Chacalluta**	**0.87**	**320**	↑*e*P	**Pn**	**19 38 15.5**	**-1.0**
AP01				*e*S	**Sn**	**19 38 30.0**	**+0.7**
AP01				IAML		19 38 35.0	
	comp=N,4μm,0.3s						
PB08	**IPOC Station P**	**1.23**	**152**	*e*P	**Pn**	**19 38 20.7**	**-0.5**
PB08				*e*S	**Sn**	**19 38 38.7**	**+1.0**
PB08				IAML		19 38 40.1	
	comp=Z,840nm,0.2s						
PB08	**IPOC Station P**	**1.23**	**152**	*i* P	**Pn**	**19 38 20.1**	**-1.1**
PB08				*i* S	**Sn**	**19 38 38.0**	**+0.3**
PB08				IAML		19 38 39.8	
	comp=E,2μm,0.2s						
HMBC	**Humberstone**	**1.23**	**186**	*e*P	**Pn**	**19 38 20.6**	**-0.4**
HMBC				*e*S	**Sn**	**19 38 38.9**	**+1.6**
HMBC				IAML		19 38 45.7	
	comp=Z,948nm,0.3s						
HMBC	**Humberstone**	**1.23**	**186**	*i* P	**Pn**	**19 38 20.2**	**-0.8**
HMBC				*i* S	**Sn**	**19 38 37.2**	**-0.2**
HMBC				IAML		19 38 45.1	
	comp=E,1μm,0.3s						
TA02	**Huaiquique**	**1.27**	**196**	*e*P	**Pn**	**19 38 21.2**	**-0.2**
TA02				*e*S	**Sn**	**19 38 41.8**	**+3.9**
TA02				IAML		19 38 45.3	
	comp=Z,720nm,0.1s						
TA02	**Huaiquique**	**1.27**	**196**	*i* P	**Pn**	**19 38 21.0**	**-0.3**
TA02				*i* S	**Sn**	**19 38 38.5**	**+0.5**
TA02				IAML		19 38 44.6	
	comp=N,2μm,0.1s						
PB18	**Visviri**	**1.48**	**10**	*e*P	**Pn**	**19 38 24.1**	**-0.4**
PB18				*e*S	**Sn**	**19 38 43.0**	**-0.5**
PB18				IAML		19 38 54.9	
	comp=E,450nm,0.3s						
TA01	**Diego Aracena**	**1.56**	**195**	*e*P	**Pn**	**19 38 24.2**	**-1.0**
TA01				*e*S	**Sn**	**19 38 44.8**	**+0.1**
TA01	**Diego Aracena**	**1.56**	**195**	*e*P	**Pn**	**19 38 24.0**	**-1.1**
TA01				*e*S	**Sn**	**19 38 44.5**	**-0.3**
TA01				IAML		19 38 53.1	
	comp=E,532nm,0.2s						
PATCX	**Punta Patache**	**1.80**	**192**	*e*P	**Pn**	**19 38 28.2**	**-0.2**
PATCX				*e*S	**Sn**	**19 38 44.3**	**-6.3**
PATCX				IAML		19 39 01.1	
	comp=Z,257nm,0.4s						
PATCX	**Punta Patache**	**1.80**	**192**	*e*P	**Pn**	**19 38 27.5**	**-0.9**
PATCX				*e*S	**Sn**	**19 38 49.3**	**-1.3**
PATCX				IAML		19 38 59.0	
	comp=E,448nm,0.5s						
PATCX				IAML		19 38 60.0	
	comp=N,356nm,0.6s						
PB01	**IPOC Station P**	**2.00**	**173**	*e*P	**Pn**	**19 38 30.3**	**-0.7**
PB01				*e*S	**Sn**	**19 38 56.8**	**+1.5**
PB01				IAML		19 39 02.1	
	comp=Z,421nm,0.2s						
PB01	**IPOC Station P**	**2.00**	**173**	*i* P	**Pn**	**19 38 30.0**	**-1.0**
PB01				*i* S	**Sn**	**19 38 54.8**	**-0.6**
PB01				IAML		19 39 02.0	
	comp=N,696nm,0.3s						
PB02	**IPOC Station P**	**2.26**	**183**	*e*P	**Pn**	**19 38 34.2**	**-0.4**
PB02				*e*S	**Sn**	**19 39 01.6**	**-0.1**
PB02				IAML		19 39 10.3	
	comp=Z,728nm,0.3s						
PB02	**IPOC Station P**	**2.26**	**183**	*e*P	**Pn**	**19 38 34.2**	**-0.4**
PB02				*e*S	**Sn**	**19 39 01.4**	**-0.2**
PB02				IAML		19 39 09.3	
	comp=E,785nm,0.3s						
PB07	**IPOC Station P**	**2.67**	**183**	*e*P	**Pn**	**19 38 39.8**	**-0.3**
PB07				*e*S	**Sn**	**19 39 10.8**	**-0.7**
PB07				IAML		19 39 21.1	
	comp=Z,454nm,0.5s						
PB07	**IPOC Station P**	**2.67**	**183**	*i* P	**Pn**	**19 38 39.4**	**-0.8**
PB07				*e*S	**Sn**	**19 39 11.5**	**0.0**
PB07				IAML		19 39 19.9	
	comp=N,458nm,0.5s						
PB09	**IPOC Station P**	**2.78**	**170**	*e*P	**Pn**	**19 38 41.4**	**-0.1**
PB09				*e*S	**Sn**	**19 39 16.1**	**+1.9**
PB09				IAML		19 39 31.1	
	comp=Z,198nm,0.5s						
PB09	**IPOC Station P**	**2.78**	**170**	*e*P	**Pn**	**19 38 41.5**	**-0.1**
PB09				*e*S	**Sn**	**19 39 14.0**	**-0.2**
PB09				IAML		19 39 24.9	
	comp=N,166nm,0.1s						
PB09				IAML		19 39 25.5	
	comp=E,237nm,0.3s						
LPAZ	**La Paz**	**3.15**	**30**	*e*P	**Pn**	**19 38 46.1**	**-1.0**

PB04	**IPOC Station P**	**3.29**	**186**	*e*P	**Pn**	**19 38 50.8**	**+2.3**
PB04				*e*S	**Sn**	**19 39 30.1**	**+3.4**
PB04				IAML		19 39 42.6	
	comp=Z,109nm,0.2s						
LVC	**Limon Verde**	**3.63**	**168**	*e*P	**Pn**	**19 38 52.8**	**-0.5**
LVC				*e*S	**Sn**	**19 39 39.8**	**+4.6**
LVC				IAML		19 39 47.0	
	comp=Z,55nm,0.8s						
LVC				*e*S		19 39 47.0	
PB06	**IPOC Station P**	**3.64**	**177**	*e*P	**Pn**	**19 38 52.3**	**-1.0**
PB06				*e*S	**Sn**	**19 39 33.3**	**-1.9**
PB06				IAML		19 39 46.5	
	comp=Z,104nm,0.7s						

*IDC **14** 19:44:15.7±1.5,4.˚14S×130.˚82E,h0km,mb3.7/3, mbtmp4.0/6,ML4.2/3,Error ellipse: s-maj=62.0km s-min=24.2km az=77.0*
*NEIC **14** 19:44:25.4±2.5,4.˚4S±0.˚1×130.˚15E±0.˚08,h84km±11km, mb4.1/7,Error ellipse: s-maj=14.9km s-min=10.8km az=176.0*
ISC 14 19:44:26.6±0.9,4.˚52S±0.˚09×130.˚3E±0.˚1,h100km,n21, σ1§49/21,mb3.5/3,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**2.54**	**51**		**Pn**	**19 45 04.4**	**-1.9**
SOEI	**Soe**	**7.91**	**229**	Pn	**Pn**	**19 46 15.4**	**-3.6**
MTN	**Manton Dam**	**8.31**	**174**	Pn	**Pn**	**19 46 24.6**	**-0.2**
BATI	**Baumata**	**8.65**	**229**	Pn	Pn	19 46 33.1	+4.1
	1.6nm,0.3s,baz=319,slow=18,SNR=2.5						
	30nm,0.9s						
FITZ	**Fitzroy Crossi**	**14.23**	**198**	Pn	**Pn**	**19 47 44.4**	**+0.7**
WB0	**Warramunga Arr**	**15.68**	**165**	Pn	**Pn**	**19 48 01.8**	**-0.2**
WB0				IAmb	IAmb	19 48 04.0	
	comp=Z,20nm,1.4s						
COEN	**Coen**	**15.80**	**127**	Pn	**Pn**	**19 48 03.5**	**-0.1**
COEN				IAmb	IAmb	19 48 20.9	
	comp=Z,31nm,1.4s						
WRA	**Warramunga Arr**	**15.83**	**166**		**P**	**19 48 05.1**	**-0.6**
WRA	**Warramunga Arr**	**15.83**	**166**	Pn	**Pn**	**19 48 03.6**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=348,slow=13,SNR=29						
WRA				Sn	Sn	19 50 49.0	-10
	comp=Z,0.4nm,0.3s,baz=354,slow=24,SNR=6.0						
	comp=Z,0.9nm,0.4s						
WB2	**Warramunga Arr**	**15.83**	**166**	Pn	**Pn**	**19 48 04.0**	**+0.1**
WB2				IAmb	IAmb	19 48 21.9	
	comp=Z,6.5nm,0.9s						
WR0	**Warramunga Arr**	**15.90**	**165**	Pn	**Pn**	**19 48 05.1**	**+0.4**
WR0				IAmb	IAmb	19 48 12.1	
	comp=Z,15nm,1.4s						
AS31	**Alice Springs**	**19.35**	**170**	P	**Pn**	**19 48 46.9**	**+0.4**
AS31				IAmb	IAmb	19 48 48.4	
	comp=Z,5.2nm,0.4s						
ASAR	**Alice Springs**	**19.35**	**170**	P	**Pn**	**19 48 46.3**	**-0.2**
ASAR	**Alice Springs**	**19.35**	**170**	P	**Pn**	**19 48 46.8**	**+0.3**
	comp=Z,1.9nm,0.3s,baz=350,slow=11,SNR=136						
ASAR				S	**S**	**19 52 16.7**	**-1.5**
	comp=Z,0.7nm,0.7s,baz=352,slow=25,SNR=3.3						
	comp=Z,6.9nm,0.5s						
BBOO	**Buckleboo**	**28.66**	**170**	P	**P**	**19 50 15.8**	**+1.8**
MKAR	**Makanchi Array**	**66.32**	**326**	P	**P**	**19 55 04.6**	**0.0**
MKAR	**Makanchi Array**	**66.32**	**326**	P	**P**	**19 55 06.0**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=119,slow=8.1,SNR=6.5						
	comp=Z,0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**69.50**	**333**	P	**P**	**19 55 23.5**	**-0.8**
KURBB	**Kurchatov Arra**	**70.56**	**328**	P	**P**	**19 55 32.9**	**+2.1**
	comp=Z,0.4nm,0.7s,baz=125,slow=5.7,SNR=4.8						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**85.44**	**180**	P	**P**	**19 56 54.3**	**+1.3**
QSPA	**South Pole Qui**	**85.44**	**180**	P	**P**	**19 56 55.8**	**+2.8**
	comp=Z,0.9nm,1.0s,baz=0.0,slow=2.0,SNR=1.4						
	comp=Z,0.9nm,1.0s						

*PRU **14** 19:45:03.5,50.˚26N×12.˚44E,h10km,West Bohemia Swarm*
WBNET 14 19:45:04.0,50.˚26N×12.˚44E,h10km,Ml1.7,8C-12D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**277**	↓P	Pg	19 45 06.0	+0.1
LBCW				S	Sg	19 45 07.4	+0.1
LBCW	**Luby**	**0.02**	**277**	↓P	Pg	19 45 06.4	+0.4
LBCW				S	Sg	19 45 07.7	+0.4
NKC	**Novy Kostel**	**0.03**	**173**	↑P	Pg	19 45 06.1	+0.1
NKC				S	Sg	19 45 07.4	+0.1
NKC	**Novy Kostel**	**0.03**	**173**	↓P	Pg	19 45 06.4	+0.5
NKC				S	Sg	19 45 07.7	+0.4
STCW	**Studenec**	**0.05**	**94**	↑P	Pg	19 45 06.2	0.0
STCW				S	Sg	19 45 07.5	-0.1
**ST

JOD2	**Odawara 2**	**6.93**	**158**	*eP*	**Pn**	**19 49 02.5**	**+0.1**
JHS	**Saijyo**	**7.10**	**199**	*eP*	**P**	**19 49 04.7**	**-0.2**
JIE	**Ise**	**7.37**	**175**	*eP*	**P**	**19 49 09.8**	**+1.9**
NEM2	**Nemuro 2**	**7.40**	**74**	*eP*	**Pn**	**19 49 07.3**	**-0.1**
NEM2				*eS*	**S**	**19 50 31.9**	**-3.9**
KSRS	**Korea Array**	**7.54**	**238**	P	**Pn**	**19 49 06.0**	**-3.2**
	0.6nm,0.6s,baz=42,slow=12,SNR=2.4						
KLR	**Kul'dur**	**8.04**	**340**	P	**Pn**	**19 49 12.0**	**-2.6**
	5.6nm,0.6s,baz=146,slow=9.5,SNR=27						
BSO1	**Boso 1**	**8.11**	**149**	*eP*	**Pn**	**19 49 15.2**	**+0.1**
BSO1				*eS*	**S**	**19 50 47.2**	**-2.8**
JHJ	**Hachijo jima 2**	**9.14**	**159**	P	**P**	**19 49 27.0**	**-0.5**
	38nm,0.4s,baz=333,slow=23,SNR=7.8						
JHJ				S	**S**	**19 51 09.8**	**-2.8**
	21nm,0.3s,baz=72,slow=20,SNR=0.9						
SONM	**Songino Array**	**21.76**	**296**	P	**P**	**19 51 37.9**	**-1.9**
	0.9nm,0.5s,baz=96,slow=10,SNR=2.6						
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**35.65**	**308**	P	**P**	**19 53 41.0**	**-0.1**
	0.4nm,0.4s,baz=79,slow=10,SNR=2.6						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**38.13**	**296**	P	**P**	**19 54 01.8**	**-0.1**
	0.2nm,0.5s,baz=89,slow=12,SNR=4.2						
	0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**39.83**	**303**	P	**P**	**19 54 15.7**	**0.0**
	1.0nm,0.6s,baz=82,slow=8.8,SNR=8.8						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**47.88**	**34**	P	**P**	**19 55 22.2**	**+3.6**
	0.4nm,0.6s,baz=268,slow=5.7,SNR=5.1						
	0.4nm,0.6s						
ARCES	**ARCESS Array B**	**58.06**	**337**	P	**P**	**19 56 33.7**	**+1.9**
	1.2nm,0.7s,baz=63,slow=6.8,SNR=5.2						
	1.2nm,0.7s						
WRA	**Warramunga Arr**	**61.40**	**182**	P	**P**	**19 56 58.0**	**+3.1**
	0.7nm,0.9s,baz=352,slow=7.1,SNR=6.1						
	0.7nm,0.9s						
FINES	**FINESS Array B**	**62.64**	**329**	P	**P**	**19 57 03.9**	**+1.4**
	1.0nm,0.6s,baz=55,slow=7.2,SNR=11						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**65.11**	**182**	P	**P**	**19 57 21.2**	**+2.3**
	0.2nm,0.5s,baz=355,slow=6.8,SNR=5.8						
	0.2nm,0.5s						
HFS	**Hagfors**	**68.01**	**333**	P	**P**	**19 57 37.6**	**+1.1**
	0.5nm,0.6s,baz=45,slow=6.7,SNR=2.2						
	0.5nm,0.6s						
NOA	**NORSAR Array B**	**68.16**	**334**	P	**P**	**19 57 39.1**	**+1.5**
	0.2nm,0.4s,baz=69,slow=11,SNR=2.3						
	0.2nm,0.4s						

IDC 14 19:47:32.0±7.1, 19°26S×177°00W, h0km, mb3.8/2, mbtmp3.8/2, Error ellipse: s-maj=306.3km s-min=69.3km az=145.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.71**	**261**	P	P	19 55 54.9	-0.3
	0.5nm,0.4s,baz=98,slow=7.4,SNR=10						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**45.73**	**255**	P	P	19 55 55.4	0.0
	1.0nm,0.6s,baz=92,slow=7.7,SNR=14						
	1.0nm,0.6s						
BRTR	**Keskin Array B**	**146.68**	**314**	PKPbc	PKPdf	20 07 15.4	+0.8
	0.2nm,0.3s,baz=47,slow=2.6,SNR=2.1						

GUC 14 19:47:35.6±1.0, 31°73S×70°66W, h13km±7km, ML3.0
IDC 14 19:47:36.9±1.3, 31°70S×70°34W, h0km, mb3.8/2, mbtmp3.7/6, ML3.7/4, Error ellipse: s-maj=65.4km s-min=24.5km az=108.0

ISC 14 19:47:35.1±1.1, 31°70S±0°03×70°58W±0°07, h2km±8km, n22, σ1s25/35, 9C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.61**	**323**	*i* P	**Pg**	**19 47 47.9**	**+1.1**
CO02				*eS*	**Sb**	**19 47 57.3**	**-0.5**
CO02				IAML		19 47 59.7	
	comp=N,2μm,0.4s						
VA06	**Catapilco**	**1.06**	**215**	⇑*i* P	**Pg**	**19 47 55.5**	**+0.1**
VA06				*eS*	**Sg**	**19 48 09.0**	**-0.1**
VA06				IAML		19 48 14.4	
	comp=N,741nm,0.4s						
ROCH	**El Roble**	**1.32**	**196**	⇑*i* P	**Pn**	**19 47 59.8**	**-1.1**
ROCH				*eS*	**Sn**	**19 48 18.3**	**-1.0**
ROCH				IAML		19 48 29.9	
	comp=N,352nm,0.3s						
CO06	**Fray Jorge**	**1.37**	**318**	⇑*i* P	**Pn**	**19 48 00.9**	**-0.3**
CO06				*eS*	**Sg**	**19 48 20.7**	**+1.7**
CO06				IAML		19 48 22.2	
	comp=E,379nm,0.3s						
PEL	**Peldehue**	**1.45**	**184**	⇑*i* P	**Pn**	**19 48 01.7**	**-0.7**
PEL				*eS*	**Sb**	**19 48 21.6**	**-0.2**
PEL				IAML		19 48 23.4	
	comp=N,268nm,0.3s						
GO04	**Tololo Observa**	**1.53**	**353**	*eP*	**Pn**	**19 48 02.9**	**-0.9**
GO04				*eS*	**Sn**	**19 48 23.3**	**-1.1**
MT10	**Hacienda Santa**	**1.57**	**179**	⇑*i* P	**Pn**	**19 48 04.0**	**-0.2**
MT10				*eS*	**Sg**	**19 48 25.9**	**+0.2**
MT02	**Curacav**	**1.63**	**197**	⇑*i* P	**Pn**	**19 48 04.5**	**-0.3**
MT02				*eS*	**Sb**	**19 48 26.3**	**-0.6**
MT02				IAML		19 48 29.4	
	comp=E,241nm,0.3s						
MT04	**Ro Olivares**	**1.74**	**168**	*i* P	**Pb**	**19 48 07.1**	**-0.9**
MT04				*eS*	**Sg**	**19 48 32.3**	**+1.2**
MT04				IAML		19 48 45.6	
	comp=N,151nm,0.5s						
MT13	**San Alfonso**	**2.06**	**173**	⇑*i* P	**Pb**	**19 48 12.3**	**-0.9**
MT13				*eS*	**Sb**	**19 48 39.7**	**+0.3**
MT13				IAML		19 48 48.2	
	comp=E,393nm,0.4s						
MT09	**Talagante**	**2.10**	**189**	⇑*i* P	**Pb**	**19 48 12.6**	**-1.5**
MT09				*eS*	**Sb**	**19 48 40.1**	**-0.7**
MT09				IAML		19 48 42.4	
	comp=N,587nm,0.3s						
MT01	**Popeta**	**2.23**	**195**	⇑*i* P	**Pn**	**19 48 14.3**	**+1.1**
MT01				*eS*	**Sb**	**19 48 44.0**	**-0.4**
MT01				IAML		19 48 45.4	
	comp=E,149nm,0.3s						
PLCA	**Paso Flores**	**9.02**	**180**	Pn	**Pn**	**19 49 49.1**	**+2.7**
	comp=E,0.1nm,0.3s,baz=347,slow=14,SNR=1.5						
	comp=E,1.6nm,0.9s						
CPUP	**Villa Florida**	**12.76**	**69**	Pn	**Pn**	**19 50 37.1**	**-0.6**
	comp=E,0.2nm,0.3s,baz=231,slow=6.5,SNR=2.4						
	comp=E,0.8nm,0.5s						
LPAZ	**La Paz**	**15.50**	**9**	Pn	**P**	**19 51 17.7**	**-2.5**
	comp=E,0.1nm,0.3s,baz=190,slow=6.9,SNR=7.4						
	comp=E,1.5nm,0.6s						
SIV	**San Ignacio**	**17.87**	**31**	P	**P**	**19 51 46.1**	**+0.2**
	baz=245,slow=11,SNR=2.2						
	comp=E,0.8nm,0.2s						
QSPA	**South Pole Qui**	**58.53**	**180**	P	**P**	**19 57 34.9**	**+2.0**
	comp=E,1.4nm,0.9s,baz=148,slow=3.4,SNR=6.7						
	comp=E,1.4nm,0.9s						
TORD	**Torodi Ar. Bea**	**82.26**	**69**	P	**P**	**19 59 59.6**	**+1.1**
	comp=E,0.3nm,0.5s,baz=289,slow=5.3,SNR=6.4						
	comp=E,0.3nm,0.5s						
BVAR	**Borovoye Array**	**144.75**	**41**	PKP	**PKiKP**	**20 07 14.2**	**-2.7**
	comp=E,1.6nm,0.7s,baz=298,slow=1.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**150.34**	**41**	PKPbc	**PKiKP**	**20 07 29.1**	**+0.6**
	comp=E,0.4nm,0.7s,baz=300,slow=3.1,SNR=4.0						
ZALV	**Zalesovo Beam**	**151.62**	**31**	PKPbc	**PKiKP**	**20 07 32.3**	**+1.3**
	comp=E,0.5nm,0.4s,baz=321,slow=1.8,SNR=3.8						
MKAR	**Makanchi Array**	**154.31**	**46**	PKPbc	**PKiKP**	**20 07 38.5**	**+1.7**
	comp=E,0.1nm,0.4s,baz=272,slow=8.5,SNR=1.2						
MKAR				PKPab	**pPKPab**	**20 07 51.9**	**-0.8**
	comp=E,0.2nm,0.4s,baz=321,slow=3.6,SNR=4.2						

LDG 14 20:01:37.0±0.0, 36°45N×17°84W, h10km, Ml4.0/17, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0
IDC 14 20:01:38.7±1.0, 35°93N×17°99W, h0km, mb3.9/24, mbtmp3.9/24, MS3.2/8, Error ellipse: s-maj=25.9km s-min=16.4km az=179.0
NAO 14 20:01:39.4, 35°93N×17°99W, h0km, mb4.1
IGIL 14 20:01:39.9, 35°88N×17°87W, h10km, ML3.4
MDD 14 20:01:39.3±0.3, 35°83N×17°85W, h30km, Mb4.9/26, M_mb4.4/26, Error ellipse: s-maj=3.7km s-min=1.5km az=119.0
NEIC 14 20:01:40.6±1.2, 35°91N±0°10×17°9W±0°1, h10km±1km, mb4.6/27, Error ellipse: s-maj=19.7km s-min=13.8km az=225.0
INMG 14 20:01:43.8±2.6, 35°88N×17°88W, h36km±13km, ML3.8, Error ellipse: s-maj=5.7km s-min=2.7km az=119.0

CNRM 14 20:01:44.9, 35°58N×17°25W, h23km, ML4.4

ISC 14 20:01:39.0±0.4, 35°77N±0°04×17°52W±0°05, h10km, n212, σ3s07/249, mb4.2/38, MS3.2/6, 21C, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMPST	**Porto Santo, M**	**2.86**	**160**	*eP*	**Pn**	**20 02 26.8**	**+2.1**
PMPST				*eS*	**Sn**	**20 02 58.4**	**-0.7**
PMPST				A	A	20 02 58.9	
	188nm,0.3s						
PMPST				*eT*	T	20 05 38.4	
PMPS	**Porto Santo**	**2.88**	**160**	*eP*	**Pn**	**20 02 27.6**	**+2.7**
PMPS				*eS*	**Sn**	**20 02 59.0**	**-0.6**
PMPS				A	A	20 03 01.4	
	145nm,0.3s						
PMPS				*eT*	T	20 05 38.5	
PMOZ	**Porto Moniz, M**	**2.95**	**175**	*eP*	**Pn**	**20 02 27.6**	**+1.6**
PMOZ				*eS*	**Sn**	**20 02 59.1**	**-2.5**
PMOZ				A	A	20 03 13.3	
	607nm,0.4s						
PMOZ				*eT*	T	20 05 35.3	
PMOZ	**Porto Moniz, M**	**2.95**	**175**		**Pn**	**20 02 28.1**	**+2.1**
PMOZ	**Porto Moniz, M**	**2.95**	**175**	P	**Pn**	**20 02 27.8**	**+1.7**
PMOZ				S	**Sn**	**20 03 01.6**	**0.0**
PMOZ	**Porto Moniz, M**	**2.95**	**175**	P	**Pn**	**20 02 27.2**	**+1.2**
PMOZ	**Porto Moniz, M**	**2.95**	**175**	S	**Sn**	**20 03 02.4**	**+0.8**
PMAR	**Madeira**	**3.08**	**170**	*eP*	**Pn**	**20 02 29.6**	**+1.7**
PMAR				*eS*	**Sn**	**20 03 03.2**	**-1.6**
PMAR				A	A	20 03 06.9	
	659nm,0.2s						
PMAR				*eT*	T	20 05 39.0	
PMAR	**Madeira**	**3.08**	**170**	P	**Pn**	**20 02 29.8**	**+2.0**
FUL	**Funchal**	**3.15**	**170**	*eP*	**Pn**	**20 02 30.5**	**+1.7**
FUL				*eS*	**Sn**	**20 03 04.5**	**-2.0**
FUL				A	A	20 03 07.7	
	337nm,0.3s						
PSMN	**Pico do Norte,**	**6.21**	**284**	*eP*	Pn	20 03 02.9	-7.9
PSMN				*eS*	Sn	20 04 04.0	-18
VPORT	**Vila do Porto,**	**6.26**	**283**	P	Pn	20 03 02.8	-8.6
VPORT				⇑*i*Vmb_V		20 03 06.5	
	656nm,SNR=2.3						
VPORT				S	Sn	20 04 03.2	-20
PSMA	**Santa Maria**	**6.26**	**284**	*eP*	Pn	20 03 03.4	-8.0
PSMA				*eS*	Sn	20 04 04.8	-18
BART	**Pico Bartolome**	**6.46**	**290**	*eP*	Pn	20 03 08.9	-5.4
BART				*eS*	Sn	20 04 12.2	-16
PGRON	**Lagoa das Cont**	**6.62**	**290**	*eS*	Sn	20 04 16.8	-15
CMLA	**Cha da Macela**	**6.73**	**290**	Pn	Pn	20 03 12.5	-5.4
CMLA				Sn	Sn	20 04 18.9	-16
CMLA	**Cha da Macela**	**6.73**	**290**	*eP*	Pn	20 03 12.3	-5.6
CMLA				*eS*	Sn	20 04 20.0	-15
CMLA	**Cha da Macela**	**6.73**	**290**	P	Pn	20 03 11.3	-6.6
CMLA				S	Sn	20 04 17.9	-17
PSET	**Sete Cidades**	**6.89**	**290**	*eS*	Sn	20 04 25.9	-13
CGOR	**Puntagorda, La**	**6.98**	**183**	P	**Pn**	**20 03 23.1**	**+1.8**
CGOR				S	Sn	20 04 31.1	-10
CROM	**Garafia, La Pa**	**6.99**	**183**	P	**Pn**	**20 03 21.4**	**-0.4**
CROM				⇑*i*Vmb_V		20 03 24.7	
	705nm,SNR=1.4						
CROM				S	Sn	20 04 30.7	-11
CPUN	**Puntallana, La**	**7.02**	**182**	P	**Pn**	**20 03 21.6**	**-0.3**
CPUN				S	Sn	20 04 31.2	-11
CMIR	**El Paso, La Pa**	**7.06**	**182**	P	**Pn**	**20 03 22.5**	**0.0**
CMIR				⇑*i*Vmb_V		20 03 24.3	
	604nm,SNR=1.9						
CMIR				S	Sn	20 04 31.5	-11
TBT	**Taburiente**	**7.08**	**183**	P	**Pn**	**20 03 22.0**	**-0.6**
TBT				⇑*i*Vmb_V		20 03 26.7	
	671nm,SNR=1.7						
TBT				S	Sn	20 04 31.6	-12
CBRE	**Brena Baja,La**	**7.12**	**182**	P	**Pn**	**20 03 22.5**	**-0.8**
CBRE				S	Sn	20 04 35.4	-9.0
CENR	**El Paso, La Pa**	**7.13**	**182**	S	Sn	20 04 35.3	-9.3
PFVI	**Vila Bisbo**	**7.14**	**76**	*eP*	**Pn**	**20 03 24.9**	**+1.5**
PFVI				*eS*	**Sn**	**20 04 41.7**	**-2.9**
PFVI				A	A	20 04 48.8	
	29nm,0.5s						
PFVI	**Vila Bisbo**	**7.14**	**76**	Pn	**Pn**	**20 03 25.0**	**+1.5**
PFVI	**Vila Bisbo**	**7.14**	**76**	S	**Sn**	**20 04 40.1**	**-4.5**
PFVI				P	**Pn**	**20 03 24.1**	**+0.7**
PFVI	**Vila Bisbo**	**7.14**	**76**	P	**Pn**	**20 03 25.1**	**+1.7**
PFVI	**Vila Bisbo**	**7.14**	**76**	S	**Sn**	**20 04 45.1**	**+0.6**
CLLA	**Los LLanos de**	**7.14**	**183**	S	Sn	20 04 34.7	-10
CVIE	**Villa de Mazo,**	**7.16**	**182**	P	**Pn**	**20 03 24.7**	**+0.7**
CVIE				S	Sn	20 04 36.4	-9.1
CJED	**Jedey, El Paso**	**7.17**	**182**	P	**Pn**	**20 03 24.3**	**+0.2**
CJED				S	Sn	20 04 35.2	-11
EHIG	**Higuera**	**7.19**	**182**	S	Sn	20 04 36.7	-9.5
EBAJ	**Bajamar**	**7.28**	**172**	S	Sn	20 04 36.8	-11
PTEO	**Sao Teotonio**	**7.29**	**73**	*eP*	**Pn**	**20 03 26.6**	**+1.1**
PTEO				*eS*	**Sn**	**20 04 45.5**	**-2.8**
PTEO				A	A	20 05 00.6	
	34nm,0.7s						
PMAFR	**Mafra**	**7.29**	**62**	*eP*	**Pn**	**20 03 27.0**	**+1.4**
PMAFR				*eS*	**Sn**	**20 04 44.5**	**-3.9**
PMAFR				A	A	20 04 54.4	
	132nm,0.4s						
LIS	**Lisbon**	**7.29**	**64**	*eS*	**Sn**	**20 04 44.9**	**-3.6**
LIS				A	A	20 05 00.1	
	86nm,0.4s						
MORF	**Marmelete**	**7.30**	**75**	*eP*	**Pn**	**20 03 27.0**	**+1.2**
MORF				*eS*	**Sn**	**20 04 46.2**	**-2.5**
MORF				A	A	20 04 50.3	
	22nm,0.4s						
MORF	**Marmelete**	**7.30**	**75**	Pn	**Pn**	**20 03 26.7**	**+0.9**
MORF	**Marmelete**	**7.30**	**75**	*eP*	**Pn**	**20 03 26.8**	**+1.0**
MORF				*eS*	**Sn**	**20 04 45.0**	**-3.7**
MORF				IAML		20 04 48.6	
	comp=N,30nm,0.2s						
CNOR	**Icod de los Vi**	**7.47**	**174**	P	**Pn**	**20 03 28.6**	**+0.4**
CNOR				S	**Sn**	**20 04 44.9**	**-8.2**
CGUI	**Guimar, Teneri**	**7.48**	**173**	S	**Sn**	**20 04 45.9**	**-7.4**
CDOS	**Garachico, Isl**	**7.48**	**175**	P	**Pn**	**20 03 28.6**	**+0.2**
CDOS				S	Sn	20 04 44.7	-8.7
CRAJ	**Montana Rajada**	**7.52**	**174**	S	Sn	20 04 45.4	-9.1
GUIA	**Guia de Isora,**	**7.53**	**175**	P	**Pn**	**20 03 29.6**	**+0.5**
GUIA				⇑*i*Vmb_V		20 03 31.6	
	comp=N,1μm,SNR=1.1						
GUIA				S	**Sn**	**20 04 46.8**	**-7.8**
MACI	**Morro de la Ar**	**7.54**	**173**	P	**Pn**	**20 03 29.7**	**+0.5**
MACI				⇑*i*Vmb_V		20 03 31.1	
	comp=N,1μm,SNR=1.5						
MACI				S	**Sn**	**20 04 47.8**	**-7.2**
CCAN	**Las Canadas**	**7.56**	**174**	P	**Pn**	**20 03 29.5**	**-0.1**
CCAN				⇑*i*Vmb_V		20 03 31.5	
	comp=N,498nm,SNR=0.9						
CCAN				S	Sn	20 04 45.0	-10
PNCL	**Nicolau / Gran**	**7.57**	**69**	*eP*	**Pn**	**20 03 31.1**	**+1.7**
PNCL				*eS*	**Sn**	**20 04 51.4**	**-3.8**
PNCL				A	A	20 04 55.5	
	comp=N,23nm,0.5s						
PNCL	**Nicolau / Gran**	**7.57**	**69**	S	**Sn**	**20 04 50.7**	**-4.6**
PNCL				P	**Pn**	**20 03 29.8**	**+0.4**
EGOM	**La Gomera**	**7.59**	**178**	P	**Pn**	**20 03 29.2**	**-0.5**
EGOM				⇑*i*Vmb_V		20 03 35.6	
	comp=N,575nm,SNR=1.3						
EGOM				S	Sn	20 04 45.1	-11
CADE	**Adeje, Tenerif**	**7.61**	**175**	P	**Pn**	**20 03 33.7**	**+3.6**
CADE				S	Sn	20 04 46.4	-10
CFUE	**Fuerteventura**	**7.72**	**156**	P	**Pn**	**20 03 32.8**	**+1.3**
CFUE				⇑*i*Vmb_V		20 03 34.6	
	comp=N,474nm,SNR=1.7						
CFUE				S	**Sn**	**20 04 53.0**	**-6.0**
MESJ	**Messejana**	**7.74**	**72**	*eP*	**Pn**	**20 03 32.7**	**+0.9**
MESJ				*eS*	**Sn**	**20 04 56.2**	**-3.3**
MESJ				A	A	20 05 02.4	
	comp=N,19nm,0.7s						
MESJ	**Messejana**	**7.74**	**72**	Pn	**Pn**	**20 03 32.1**	**+0.3**
MESJ	**Messejana**	**7.74**	**72**	*eP*	**Pn**	**20 03 32.4**	**+0.6**
MESJ				*eS*	**Sn**	**20 04 54.7**	**-4.8**
MESJ				IAML		20 05 01.5	
	comp=N,20nm,0.4s						
PCVE	**Castro Verde**	**7.84**	**73**	*eP*	**Pn**	**20 03 35.3**	**+2.2**
PCVE				*eS*	**Sn**	**20 04 58.4**	**-3.5**
PCVE				A	A	20 05 16.1	
	comp=N,13nm,0.6s						
PCVE	**Castro Verde**	**7.84**	**73**	P	**Pn**	**20 03 33.2**	**+0.1**
PCVE				S	**Sn**	**20 04 57.3**	**-4.5**
EOSO	**Osorio**	**7.85**	**167**	P	**Pn**	**20 03 38.1**	**+4.7**
EOSO				S	**Sn**	**20 04 58.1**	**-4.3**
EOSO	**Osorio**	**7.85**	**167**	S	**Sn**	**20 04 54.1**	**-8.3**

PBDV	**Barranco-do-Ve**	**7.86**	**76**	*eP*	**Pn**	**20 03 35.3**	**+1.9**
PBDV				*eS*	**Sn**	**20 04 59.9**	**-2.5**
PBDV				A	A	20 05 15.8	
	comp=N,21nm,0.7s						
PBDV	**Barranco-do-Ve**	**7.86**	**76**	P	**Pn**	**20 03 34.8**	**+1.4**
PBDV				S	**Sn**	**20 04 59.1**	**-3.3**
PSBE	**So Bento**	**7.87**	**59**	*eP*	**Pn**	**20 03 36.5**	**+3.0**
PSBE				*eS*	**Sn**	**20 04 57.8**	**-4.8**
PSBE				A	A	20 05 04.7	
	comp=N,38nm,0.5s						
CJUL	**El Julan, El H**	**8.03**	**184**	S	Sn	20 04 55.4	-11
PVAQ	**Vaqueiros**	**8.05**	**75**	*eP*	**Pn**	**20 03 37.6**	**+1.6**
PVAQ				*eS*	**Sn**	**20 05 03.8**	**-3.3**
PVAQ				A	A	20 05 11.6	
	comp=N,18nm,0.5s						
PVAQ	**Vaqueiros**	**8.05**	**75**		**Pn**	**20 03 36.9**	**+0.9**
PVAQ	**Vaqueiros**	**8.05**	**75**	P	**Pn**	**20 03 36.8**	**+0.8**
PVAQ				S	**Sn**	**20 05 03.0**	**-4.1**
PVAQ	**Vaqueiros**	**8.05**	**75**	P	**Pn**	**20 03 37.6**	**+1.6**
PVAQ	**Vaqueiros**	**8.05**	**75**	S	**Sn**	**20 05 05.5**	**-1.6**
PBEJ	**Beja**	**8.05**	**71**	*eP*	**Pn**	**20 03 37.9**	**+1.8**
PBEJ				*eS*	**Sn**	**20 05 03.8**	**-3.4**
PBEJ				A	A	20 05 11.8	
	comp=N,16nm,0.4s						
EVO	**Evora**	**8.07**	**67**	*eP*	**Pn**	**20 03 37.8**	**+1.4**
EVO				*eS*	**Sn**	**20 05 03.4**	**-4.3**
EVO				A	A	20 05 08.3	
	comp=N,21nm,0.5s						
EVO	**Evora**	**8.07**	**67**	S	**Sn**	**20 05 02.6**	**-5.1**
EVO				P	**Pn**	**20 03 37.7**	**+1.4**
CGIN	**Giniginamar, F**	**8.08**	**158**	P	**Pn**	**20 03 37.1**	**+0.6**
CGIN				⇑*i*Vmb_V		20 03 38.3	
	comp=N,542nm,SNR=1.1						
PMTG	**Montargil**	**8.09**	**63**	*eP*	**Pn**	**20 03 38.1**	**+1.5**
PMTG				*eS*	**Sn**	**20 05 03.0**	**-5.1**
PMTG				A	A	20 05 05.8	
	comp=N,18nm,0.4s						
EGRO	**El Granado**	**8.26**	**75**	P	**Pn**	**20 03 39.8**	**+1.0**
EGRO				S	**Sn**	**20 05 07.3**	**-4.9**
EGRO	**El Granado**	**8.26**	**75**	P	**Pn**	**20 03 39.6**	**+0.8**
EGRO				⇑*i*Vmb_V		20 03 47.2	
	comp=N,178nm,SNR=1.7						
EGRO				S	**Sn**	**20 05 06.0**	**-6.1**
PCAS	**Casmilo, Conde**	**8.31**	**56**	*eP*	**Pn**	**20 03 40.5**	**+0.9**
PCAS				*eS*	**Sn**	**20 05 07.5**	**-6.0**
PCAS				A	A	20 05 18.5	
	comp=N,34nm,0.5s						
COI	**Coimbra**	**8.44**	**56**	*eP*	**Pn**	**20 03 42.3**	**+0.9**
COI				*eS*	**Sn**	**20 05 09.4**	**-7.3**
COI				A	A	20 05 18.9	
	comp=N,53nm,0.3s						
COI	**Coimbra**	**8.44**	**56**	Pn	**Pn**	**20 03 40.3**	**-1.1**
PESTR	**Estremoz**	**8.49**	**66**	*eP*	**Pn**	**20 03 43.6**	**+1.5**
PESTR				*eS*	**Sn**	**20 05 12.6**	**-5.4**
PESTR				A	A	20 05 21.0	
	comp=N,18nm,0.3s						
PESTR	**Estremoz**	**8.49**	**66**	Pn	**Pn**	**20 03 42.0**	**-0.1**
PESTR	**Estremoz**	**8.49**	**66**	P	**Pn**	**20 03 44.5**	**+2.4**
PESTR	**Estremoz**	**8.49**	**66**	S	**Sn**	**20 05 21.1**	**+3.1**
AVE	**Averroes**	**8.69**	**104**	Pn	**Pn**	**20 03 47.3**	**+2.5**
AVE	**Averroes**	**8.69**	**104**	P	**Pn**	**20 03 48.1**	**+3.3**
AVE				S	**Sn**	**20 05 22.0**	**-0.9**
AVE	**Averroes**	**8.69**	**104**	P	**Pn**	**20 03 46.2**	**+1.3**
AVE	**Averroes**	**8.69**	**104**	S	**Sn**	**20 05 21.3**	**-1.6**
PBAR	**Barrancos**	**8.72**	**71**	*eP*	**Pn**	**20 03 47.2**	**+2.0**
PBAR				*eS*	**Sn**	**20 05 18.9**	**-4.7**
PBAR				A	A	20 05 23.6	
	comp=N,16nm,0.4s						
PBAR	**Barrancos**	**8.72**	**71**	P	**Pn**	**20 03 46.6**	**+1.4**
PBAR				S	**Sn**	**20 05 19.5**	**-4.2**
PTO	**Porto**	**8.81**	**50**	*eP*	**Pn**	**20 03 46.1**	**-0.3**
PTO				*eS*	Sn	20 05 16.2	-10
PTO				A	A	20 05 22.6	
	comp=N,83nm,0.3s						
PMRV	**Marv??o**	**8.83**	**63**	*eP*	**Pn**	**20 03 48.0**	**+1.3**
PMRV				*eS*	**Sn**	**20 05 20.2**	**-6.0**
PMRV				A	A	20 05 25.6	
	comp=N,21nm,0.4s						
EBAD	**Badajoz**	**8.89**	**67**	P	**Pn**	**20 03 48.7**	**+1.2**
EBAD				S	**Sn**	**20 05 20.9**	**-6.8**
EBAD	**Badajoz**	**8.89**	**67**	P	**Pn**	**20 03 48.8**	**+1.3**
EBAD				⇑*i*Vmb_V		20 03 57.4	
	comp=N,179nm,SNR=2.5						
EBAD				S	**Sn**	**20 05 21.4**	**-6.3**
PCBR	**Castelo Branco**	**8.92**	**60**	*eP*	**Pn**	**20 03 49.0**	**+1.0**
PCBR				*eS*	**Sn**	**20 05 22.0**	**-6.6**
PCBR				A	A	20 05 40.2	
	comp=N,21nm,0.4s						
EMIN	**Mina Concepcio**	**8.93**	**74**	P	**Pn**	**20 03 47.9**	**-0.2**
EMIN				⇑*i*Vmb_V		20 03 49.7	
	comp=N,126nm,SNR=2.0						
EMIN	

EADA				S	Sn	20 06 03.4	-7.1		
CZD	**Col de Zad**	**10.66**	**101**	P	**Pn**	**20 04 12.3**	**+0.2**		
EGOR	**Sierra Gorda,**	**10.89**	**79**	P	**Pn**	**20 04 18.7**	**+3.7**		
EGOR				S	**Sn**	**20 06 14.7**	**-2.3**		
EPON	**Pontenova**	**11.00**	**44**	P	**Pn**	**20 04 14.6**	**-1.8**		
EPON				⇑*i*Vmb_V		20 04 22.3			
	comp=N,316nm,SNR=1.5								
EPON				S	Sn	20 06 06.5	-13		
MDT	**Midelt**	**11.08**	**102**	Pn	**Pn**	**20 04 20.4**	**+2.8**		
	comp=N,2.7nm,0.3s,baz=281,slow=4.3,SNR=63								
MDT				Sn	**Sn**	**20 06 17.7**	**-4.0**		
	comp=N,5.7nm,0.3s,baz=26,slow=22,SNR=17								
MDT				LR	LR	20 07 59.3			
	comp=N,104nm,21.7s,baz=334,slow=33								
PAB	**San Pablo**	**11.10**	**66**	Pn	**Pn**	**20 04 18.3**	**+0.4**		
PAB	**San Pablo**	**11.10**	**66**	P	**Pn**	**20 04 19.4**	**+1.6**		
PAB				S	**Sn**	**20 06 14.6**	**-7.5**		
AKLM	**AKL**	**11.25**	**92**	P	**Pn**	**20 04 19.9**	**0.0**		
PSIM	**Granatula de C**	**11.38**	**70**	P	**Pn**	**20 04 22.3**	**+0.7**		
PSIM				S	**Sn**	**20 06 23.2**	**-5.7**		
ESDC	**Sonseca Array**	**11.42**	**66**	Pn	**Pn**	**20 04 24.6**	**+2.4**		
ESDC	**Sonseca Array**	**11.42**	**66**	Pn	**Pn**	**20 04 22.6**	**+0.3**		
	comp=N,0.6nm,0.3s,baz=256,slow=13,SNR=17								
ESDC				Sn	**Sn**	**20 06 24.2**	**-5.7**		
	comp=N,1.2nm,0.3s,baz=263,slow=24,SNR=9.7								
ESDC				LR	LR	20 08 14.6			
	comp=N,107nm,21.9s,baz=234,slow=34								
ESBB	**Sonseca Array**	**11.42**	**66**	Pn	**Pn**	**20 04 22.2**	**0.0**		
GUD	**Guadarrama**	**11.58**	**61**	S	Sn	20 06 23.7	-10		
EARI	**Arriondas**	**12.11**	**48**	P	**Pn**	**20 04 31.6**	**0.0**		
EARI				⇑*i*Vmb_V		20 04 33.5			
	comp=N,188nm,SNR=0.9								
EARI				S	Sn	20 06 36.3	-10		
ETOR	**Torete**	**13.15**	**63**	P	**Pn**	**20 04 45.1**	**-0.7**		
ELAN	**Lanestosa**	**13.17**	**51**	P	**Pn**	**20 04 47.6**	**+1.5**		
ELAN				⇑*i*Vmb_V		20 04 47.6			
	comp=N,284nm,SNR=1.6								
SJPF	**Ste Jean**	**14.56**	**55**	*e*P	**Pn**	**20 05 04.0**	**-1.0**		
SJPF				*e*Sn	Sn	20 07 29.6	-17		
	comp=N,8.2nm,0.6s								
ETSF	**Etsaut**	**14.92**	**56**	*e*P	**Pn**	**20 05 09.1**	**-0.9**		
ETSF				*e*Sn	Sn	20 07 39.6	-16		
	comp=N,2.9nm,0.4s								
EPF	**Esparros**	**15.58**	**57**	*e*P	**Pn**	**20 05 17.7**	**-1.0**		
EPF				*e*Sn	Sn	20 07 58.1	-13		
	comp=N,5.0nm,0.6s								
QUIF	**Quistinic**	**16.14**	**37**	*e*P	**Pn**	**20 05 21.8**	**-4.1**		
QUIF				*e*Sn	Sn	20 08 03.7	-21		
	comp=N,2.7nm,0.3s								
ROSF	**Rostrenen**	**16.39**	**36**	*e*P	**Pn**	**20 05 25.3**	**-3.7**		
ROSF				*e*Sn	Sn	20 08 08.2	-23		
	comp=N,11nm,0.4s								
LFF	**La Frestale**	**16.63**	**51**	*e*P	**Pn**	**20 05 30.1**	**-2.1**		
LFF				*e*Sn	Sn	20 08 19.0	-18		
	comp=N,3.8nm,0.4s								
SGMF	**Saint Gilles**	**16.67**	**37**	*e*P	**Pn**	**20 05 28.8**	**-3.9**		
SGMF				*e*Sn	Sn	20 08 16.2	-22		
	comp=N,4.6nm,0.3s								
MFF	**Saint Martin d**	**16.94**	**45**	*e*P	**Pn**	**20 05 33.3**	**-2.7**		
MFF				*e*Sn	Sn	20 08 24.4	-20		
	comp=N,3.5nm,0.4s								
RJF	**Les Rejaudoux**	**17.29**	**51**	*e*P	**Pn**	**20 05 38.6**	**-1.8**		
RJF				*e*Sn	Sn	20 08 33.5	-19		
	comp=N,4.5nm,0.5s								
CAF	**Calviac**	**17.47**	**52**	*e*P	**Pn**	**20 05 42.4**	**-0.4**		
CAF				*e*Sn	Sn	20 08 41.2	-16		
	comp=N,1.5nm,0.4s								
GRR	**Gorron**	**17.61**	**39**	*e*P	**Pn**	**20 05 41.3**	**-3.1**		
GRR				*e*Sn	Sn	20 08 42.8	-18		
	comp=N,6.9nm,0.4s								
FLN	**La Foliniere**	**18.05**	**39**	*e*P	**Pn**	**20 05 47.1**	**-2.7**		
FLN				*e*Sn	Sn	20 08 51.0	-20		
	comp=N,4.6nm,0.4s								
LDF	**La Druitiere**	**18.12**	**40**	*e*P	**P**	**20 05 51.1**	**0.0**		
LDF				*e*Sn	Sn	20 08 51.1	-22		
	comp=N,2.5nm,0.4s								
TCF	**Toulx Ste Croi**	**18.17**	**49**	*e*P	**Pn**	**20 05 50.1**	**-1.3**		
TCF				*e*Sn	Sn	20 08 54.8	-19		
	comp=N,3.3nm,0.4s								
AVF	**Avril sur Loir**	**19.11**	**48**	*e*Sn	Sn	20 09 24.2	-12		
	comp=N,1.0nm,0.3s								
SSF	**Saint Saulge**	**19.32**	**48**	*e*P	**Pn**	**20 06 05.7**	**+0.4**		
EKA	**Eskdalemuir Ar**	**21.92**	**22**	P	**P**	**20 06 33.8**	**+1.5**		
	comp=N,1.4nm,0.5s,baz=219,slow=9.2,SNR=12								
	comp=N,1.4nm,0.5s								
DAVOX	**Davos/Dischmat**	**23.23**	**53**	LR	LR	20 15 30.6			
	comp=N,68nm,22.0s,baz=296,slow=36								
GERES	**GERESS Array B**	**26.32**	**51**	P	**P**	**20 07 18.5**	**+3.5**		
	comp=N,0.4nm,0.6s,baz=257,slow=8.9,SNR=1.9								
	comp=N,0.4nm,0.6s								
TORD	**Torodi Ar. Bea**	**28.41**	**138**	P	**P**	**20 07 38.3**	**+4.5**		
	comp=N,0.6nm,0.7s,baz=326,slow=8.5,SNR=3.0								
TORD				LR	LR	20 18 58.6			
	comp=N,49nm,18.4s,baz=202,slow=36								
	comp=N,0.6nm,0.7s								
NB2	**NORSAR Subarra**	**31.19**	**27**	P	**P**	**20 07 59.5**	**+1.4**		
	comp=Z,2.7nm,1.0s,baz=230,slow=9.3								
NOA	**NORSAR Array B**	**31.19**	**27**	P	**P**	**20 07 59.5**	**+1.4**		
	comp=Z,1.6nm,0.8s,baz=232,slow=8.7,SNR=4.0								
NOA				LR	LR	20 20 54.3			
	comp=Z,22nm,19.7s,baz=25,slow=37								
	comp=Z,1.6nm,0.8s								
DBIC	**Dimbokro**	**31.20**	**155**	LR	LR	20 20 33.5			
	comp=Z,54nm,19.0s,baz=223,slow=36								
HFS	**Hagfors**	**31.58**	**30**	P	**P**	**20 08 03.2**	**+1.7**		
	comp=Z,0.9nm,0.5s,baz=212,slow=7.8,SNR=7.9								
	comp=Z,0.9nm,0.5s								
KIEV	**Kiev**	**36.52**	**51**	P	**P**	**20 08 46.3**	**+1.8**		
AKASG	**Malin Array Be**	**36.53**	**51**	P	**P**	**20 08 48.0**	**+3.4**		
	comp=Z,0.9nm,0.6s,baz=260,slow=8.7,SNR=7.3								
	comp=Z,0.9nm,0.6s								
AKBB	**Malin Array Si**	**36.53**	**51**		**P**	**20 08 46.3**	**+1.7**		
FINES	**FINESS Array B**	**37.50**	**33**	P	**P**	**20 08 53.3**	**+0.6**		
FINES	**FINESS Array B**	**37.50**	**33**	P	**P**	**20 08 54.3**	**+1.6**		
	comp=Z,1.7nm,0.6s,baz=250,slow=7.5,SNR=17								
	comp=Z,1.7nm,0.6s								
FIA1	**FINESS Array S**	**37.50**	**33**	P	**P**	**20 08 52.6**	**0.0**		
FIA1				IAmb	IAmb	20 09 03.9			
	comp=Z,12nm,1.2s								
SCHQ	**Schefferville**	**38.62**	**315**	P	**P**	**20 08 60.0**	**-2.2**		
	comp=Z,3.0nm,0.8s,baz=88,slow=3.3,SNR=3.9								
	comp=Z,3.0nm,0.8s								
BRTR	**Keskin Array B**	**40.20**	**69**	P	**P**	**20 09 19.1**	**+3.3**		
	comp=Z,0.5nm,0.9s,baz=279,slow=12,SNR=2.2								
	comp=Z,0.5nm,0.9s								
ARCES	**ARCESS Array B**	**41.08**	**21**	P	**P**	**20 09 23.0**	**+0.6**		
	comp=Z,2.7nm,0.8s,baz=240,slow=6.6,SNR=6.3								
	comp=Z,2.7nm,0.8s								
MDP	**Montagnes des**	**44.44**	**235**	LR	LR	20 23 22.7			
	comp=Z,42nm,20.9s,baz=94,slow=30								
KBZ	**Khabaz**	**46.22**	**61**	P	**P**	**20 10 07.7**	**+3.6**		
	comp=Z,1.3nm,0.8s,baz=250,slow=7.4,SNR=3.3								
	comp=Z,1.3nm,0.8s								
E46A	**Sault Ste Mari**	**50.08**	**304**	P	**P**	**20 10 32.3**	**-1.6**		
E46A				IAmb	IAmb	20 10 33.6			
	comp=Z,6.9nm,0.7s								
E43A	**Lone Tree Farm**	**51.88**	**304**	P	**P**	**20 10 45.9**	**-1.7**		
E43A				IAmb	IAmb	20 10 47.0			
	comp=Z,7.1nm,0.6s								
ARU	**Arti**	**53.66**	**42**	P	**P**	**20 11 01.8**	**+1.3**		
	comp=Z,1.0nm,0.5s,baz=84,slow=23,SNR=2.1								
	comp=Z,1.0nm,0.5s								
EYMN	**Ely**	**54.43**	**307**		**P**	**20 11 04.6**	**-1.8**		
EYMN				IAmb	IAmb	20 11 06.1			
	comp=Z,14nm,1.5s								
AKTO	**Aktyubinsk**	**54.74**	**49**	P	**P**	**20 11 11.4**	**+2.9**		
	comp=Z,1.2nm,0.5s,baz=304,slow=10.0,SNR=3.9								
	comp=Z,1.2nm,0.5s								
E38A	**The Farm, Brul**	**54.85**	**306**	P	**P**	**20 11 08.0**	**-1.4**		
E38A				IAmb	IAmb	20 11 08.7			
	comp=Z,6.9nm,0.8s								
SDV	**Santo Domingo**	**55.13**	**254**	P	**P**	**20 11 12.5**	**+0.5**		
SDV				IAmb	IAmb	20 11 13.7			
	comp=Z,5.7nm,0.8s								
SPMN	**Marine on St.**	**56.10**	**305**	P	**P**	**20 11 17.4**	**-1.0**		
BVAR	**Borovoye Array**	**61.20**	**44**	P	**P**	**20 11 56.7**	**+2.9**		
	comp=Z,1.4nm,0.7s,baz=292,slow=6.4,SNR=6.0								
	comp=Z,1.4nm,0.7s								
YKA	**Yellowknife Ar**	**62.04**	**329**	P	**P**	**20 11 57.8**	**-1.5**		
	comp=Z,0.6nm,0.6s,baz=64,slow=7.2,SNR=9.7								
	comp=Z,0.6nm,0.6s								
KURBB	**Kurchatov Arra**	**66.80**	**44**	P	**P**	**20 12 32.9**	**+2.3**		
	comp=Z,1.7nm,0.8s,baz=302,slow=7.1,SNR=12								
	comp=Z,1.7nm,0.8s								
YMP	**Mirror Lake Pl**	**67.57**	**310**	P	**P**	**20 12 35.4**	**-0.7**		
YMP				IAmb	IAmb	20 12 36.1			
	comp=Z,4.6nm,0.9s								
PDAR	**Pinedale Array**	**68.14**	**308**	P	**P**	**20 12 37.8**	**-1.8**		
	comp=Z,1.0nm,0.6s,baz=60,slow=7.2,SNR=11								
	comp=Z,1.0nm,0.6s								
IMW	**Indian Meadow**	**68.47**	**309**	P	**P**	**20 12 41.0**	**-0.7**		
IMW				IAmb	IAmb	20 12 41.7			
	comp=Z,2.5nm,0.8s								
ZALV	**Zalesovo Beam**	**68.49**	**38**	P	**P**	**20 12 42.9**	**+1.7**		
	comp=Z,0.9nm,0.8s,baz=284,slow=6.0,SNR=4.2								
	comp=Z,0.9nm,0.8s								
FXWY	**Fox Creek**	**68.65**	**309**	P	**P**	**20 12 42.3**	**-0.5**		
FXWY				IAmb	IAmb	20 12 42.6			
	comp=Z,2.2nm,1.0s								
REDW	**Red Top Meadow**	**68.68**	**309**	P	**P**	**20 12 41.8**	**-1.1**		
MNHN	**Monahans**	**68.97**	**294**	P	**P**	**20 12 43.5**	**-1.2**		
MNHN				IAmb	IAmb	20 12 45.1			
	comp=Z,3.0nm,0.6s								
HWUT	**Hardware Ranch**	**70.01**	**307**	P	**P**	**20 12 50.2**	**-1.0**		
P18A	**Preston Nutter**	**70.14**	**305**	P	**P**	**20 12 51.6**	**-0.5**		
P18A				IAmb	IAmb	20 12 52.2			
	comp=Z,2.4nm,0.8s								
TIXI	**Tiksi**	**70.28**	**11**	P	**P**	**20 12 52.9**	**+0.9**		
TIXI	**Tiksi**	**70.28**	**11**	P	**P**	**20 12 53.1**	**+1.1**		
	comp=Z,2.2nm,0.3s,baz=3.0,slow=3.7,SNR=34								
	comp=Z,2.2nm,0.3s								
TXAR	**Lajitas Array**	**70.65**	**293**	P	**P**	**20 12 54.9**	**-0.3**		
TXAR	**Lajitas Array**	**70.65**	**293**	P	**P**	**20 12 55.5**	**+0.3**		
	comp=Z,1.3nm,0.8s,baz=72,slow=5.8,SNR=9.7								
	comp=Z,1.3nm,0.8s								
HLID	**Hailey**	**70.81**	**310**	P	**P**	**20 12 56.0**	**0.0**		
MK31	**Makanchi Array**	**70.88**	**46**	P	**P**	**20 12 58.2**	**+2.1**		
MKAR	**Makanchi Array**	**70.88**	**46**	P	**P**	**20 12 58.2**	**+2.1**		
	comp=Z,0.6nm,0.8s,baz=296,slow=6.3,SNR=6.5								
	comp=Z,0.6nm,0.8s								
VHRN	**Van Horn**	**70.89**	**295**	P	**P**	**20 12 56.3**	**-0.3**		
VHRN				IAmb	IAmb	20 12 57.4			
	comp=Z,3.1nm,1.0s								
ILAR	**Eielson Array**	**72.26**	**340**	P	**P**	**20 13 02.8**	**-1.4**		
	comp=Z,0.4nm,0.6s,baz=37,slow=4.5,SNR=4.5								
	comp=Z,0.4nm,0.6s								
ELK	**Elko**	**72.82**	**308**	P	**P**	**20 13 07.8**	**-0.4**		
ELK				IAmb	IAmb	20 13 08.8			
	comp=Z,2.7nm,0.9s								
NNA	**Nana**	**73.39**	**241**	LR	LR	20 41 17.1			
	comp=Z,31nm,21.3s,baz=316,slow=32								
J08A	**Circle Bar Ran**	**73.42**	**312**	P	**P**	**20 13 11.0**	**-0.5**		
J08A				IAmb	IAmb	20 13 12.2			
	comp=Z,7.1nm,0.9s								
KVN	**Kaiserville**	**75.59**	**308**	P	**P**	**20 13 23.3**	**-1.0**		
YAK	**Yakutsk**	**78.99**	**15**	P	**P**	**20 13 43.4**	**+0.7**		
SEY	**Seymchan**	**81.30**	**5**	P	**P**	**20 13 55.8**	**+0.6**		
	comp=Z,2.0nm,0.7s,baz=26,slow=5.1,SNR=6.8								
	comp=Z,2.0nm,0.7s								
SONM	**Songino Array**	**82.86**	**34**	P	**P**	**20 14 05.6**	**+1.8**		
	comp=Z,2.0nm,0.8s,baz=322,slow=4.4,SNR=4.2								
	comp=Z,2.0nm,0.8s								
ASAR	**Alice Springs**	**152.51**	**72**	PKPbc	**PKiKP**	**20 21 37.4**	**+1.1**		
	comp=Z,0.3nm,0.5s,baz=268,slow=1.6,SNR=5.4								
ASAR				PKPab	**PKPab**	**20 21 47.4**	**+1.0**		
	comp=Z,0.5nm,0.8s,baz=304,slow=2.5,SNR=3.1								

*IDC **14** 20:11:07.7±1.7, 7.°51S×13.°62W, h0km, mb3.8/3, mbtmp3.8/3, MS3.5/2, Error ellipse: s-maj=73.7km s-min=17.6km az=137.0*

ISC 14 20:11:08.9±1.2, 7.°6S±0.°1×13.°6W±0.°1, h10km, n10, σ1s0.2/13, mb3.9/3, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N1	**ASCENSION HYDR**	**0.88**	**251**	Pn	**Pn**	**20 11 27.3**	**+0.2**
	baz=76,slow=14						
H10N1				Sn	**Sb**	**20 11 38.7**	**+0.8**
H10N2	**ASCENSION HYDR**	**0.88**	**252**	Pn	**Pn**	**20 11 27.0**	**-0.1**
	baz=76,slow=14						
H10N2				Sn	**Sb**	**20 11 38.7**	**+0.7**
H10N3	**ASCENSION HYDR**	**0.90**	**251**	Pn	**Pn**	**20 11 27.2**	**-0.1**
	baz=76,slow=14						
H10N3				Sn	**Sb**	**20 11 39.0**	**+0.6**
H10S2	**ASCENSION HYDR**	**1.71**	**215**	Pn	**Pn**	**20 11 39.4**	**+0.8**
H10S2				Sn	**Sn**	**20 11 59.0**	**-1.5**
H10S3	**ASCENSION HYDR**	**1.72**	**216**	Pn	**Pn**	**20 11 39.8**	**+1.1**
H10S3				Sn	**Sn**	**20 11 59.0**	**-1.6**
TORD	**Torodi Ar. Bea**	**25.59**	**37**	P	**P**	**20 16 37.4**	**-1.2**
	0.9nm,0.8s,baz=214,slow=7.7,SNR=4.9						
	0.9nm,0.8s						
TSUM	**Tsumeb**	**32.44**	**114**	LR	LR	20 29 36.9	
	comp=Z,56nm,18.4s,baz=186,slow=34						
MBAR	**Mbarara**	**44.77**	**83**	LR	LR	20 36 50.9	
	comp=Z,56nm,18.1s,baz=211,slow=34						
FINES	**FINESS Array B**	**75.41**	**18**	P	**P**	**20 22 53.2**	**+0.6**
	0.5nm,0.4s,baz=216,slow=5.9,SNR=10						
	0.5nm,0.4s						
ARCES	**ARCESS Array B**	**81.48**	**13**	P	**P**	**20 23 26.6**	**+0.6**
	1.1nm,0.9s,baz=212,slow=5.0,SNR=4.2						
	1.1nm,0.9s						

*AEIC **14** 20:42:34.0±3.0, 51.°39N±0.°04×173.°90W±0.°10, h4km±6km, Error ellipse: s-maj=8.9km s-min=5.5km az=70.0*

NEIC 14 20:42:30.8±1.9, 51.°20N±0.°04×174.°16W±0.°09, h8km±8km, mb3.6/28, ML3.0(AEIC), Error ellipse: s-maj=8.5km s-min=6.2km az=82.0, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.01**	**359**		Pb	20 42 50.4	-0.1
ATKA					Sg	20 43 02.6	-0.6
KOFP	**Korovin Flat P**	**1.08**	**2**		Pb	20 42 51.8	+0.1
KOKL	**Mount Kliuchef**	**1.13**	**359**		Pb	20 42 52.6	+0.1
KONE	**Korovin Northe**	**1.20**	**1**		Pn	20 42 54.0	+0.2
KONE					Sn	20 43 09.8	-0.4
CLES	**Cleveland East**	**3.10**	**57**		Pn	20 43 21.8	+2.0
CLES					Sn	20 43 56.5	-0.4
CLCO	**Concord Point,**	**3.17**	**58**		Pn	20 43 22.9	+2.0
CLCO					Sn	20 43 58.8	+0.1
NIKH	**Nikolski High**	**3.72**	**59**		Pn	20 43 29.5	+1.0
NIKH					Sn	20 44 11.1	-1.3
AMKA	**Amchitka**	**4.11**	**275**		Pn	20 43 35.1	+1.3
OKSP	**Okmok Steeple**	**4.15**	**58**		Pn	20 43 36.5	+2.1
CNBA	**Chernabura Isl**	**9.50**	**62**	Pn	Pn	20 44 47.8	+0.2
CHGN	**Chignik**	**10.62**	**55**	Pn	Pn	20 45 04.2	+1.2
M16K	**Timber Creek**	**12.96**	**35**	Pn	Pn	20 45 35.0	+0.1
L16K	**Owhat River**	**13.26**	**32**	Pn	Pn	20 45 38.1	-0.9
K17K	**Iditarod**	**14.37**	**30**	Pn	Pn	20 45 54.6	+0.5
L18K	**Granite Mounta**	**14.56**	**34**	Pn	Pn	20 45 56.6	-0.3
J17K	**VABM Dome**	**14.64**	**28**	P	P	20 46 05.4	+1.2
J19K	**Poorman**	**16.13**	**30**	Pn	Pn	20 46 17.2	-0.3
H18K	**Honhosa River**	**16.20**	**24**	P	P	20 46 22.0	+0.4
H18K				IAmb	IAmb	20 46 31.7	
	comp=Z,11nm,1.4s						
K20K	**Telida**	**16.22**	**34**	Pn	Pn	20 46 17.3	-1.4
K20K				IAmb	IAmb	20 46 25.7	
	comp=Z,5.6nm,1.3s						
SKT	**Skwentna**	**16.39**	**40**	Pn	Pn	20 46 21.4	+0.6
SKT				IAmb	IAmb	20 46 55.5	
	comp=Z,8.6nm,1.5s						
J20K	**Nowinta River**	**16.73**	**31**	Pn	Pn	20 46 25.7	+0.6
CAST	**Castle Rocks**	**16.97**	**35**	Pn	Pn	20 46 27.7	-0.4
KTH	**Kantishna Hill**	**17.47**	**36**	Pn	Pn	20 46 33.1	-1.4
TRF	**Thorofare Moun**	**17.65**	**37**	Pn	Pn	20 46 35.8	-1.1
TRF				IAmb	IAmb	20 46 50.2	
	comp=Z,6.1nm,1.2s						
BPAW	**Bear Paw Mtn.**	**17.76**	**34**		P	20 46 39.2	+0.3
SCM	**Sheep Creek Mo**	**18.09**	**44**		Pn	20 46 42.3	+0.2
H21K	**Melozitna Rive**	**18.15**	**29**		P	20 46 44.9	+1.7
H21K				IAmb	IAmb	20 47 02.5	
	comp=Z,5.8nm,1.4s						
MLY	**Manley**	**18.41**	**32**	P	Pn	20 46 45.8	-0.3
IL31		**19.62**	**36**	P	P	20 46 57.3	-1.9
ILAR	**Eielson Array**	**19.62**	**36**	P	P	20 46 56.5	-2.7
IL03	**Eielson Array**	**19.63**	**36**	P	P	20 46 57.1	-2.3
H24K	**Noodor Dome**	**19.85**	**32**	P	P	20 47 01.8	0.0
H24K				IAmb	IAmb	20 47 03.5	
	comp=Z,6.1nm,1.4s						
J25K	**Salcha River,**	**20.11**	**37**	P	P	20 47 03.2	-1.4
M26K	**Nabesna, AK**	**20.19**	**44**	P	P	20 47 05.1	-0.4
SCRK	**Sand Creek**	**20.37**	**40**	P	P	20 47 06.0	-1.5
SCRK				IAmb	IAmb	20 47 07.3	
	comp=Z,2.3nm,0.7s						
D22K	**Ayikyak River**	**20.51**	**22**	P	P	20 47 08.8	-0.2
D22K				IAmb	IAmb	20 47 34.3	
	comp=Z,6.4nm,1.4s						
B21K	**Ikpikpuk River**	**20.66**	**19**	P	P	20 47 10.3	-0.1
B21K				IAmb	IAmb	20 47 39.3	
	comp=Z,5.0nm,1.5s						
BCAR	**Beaver Creek A**	**20.94**	**43**	P	P	20 47 12.3	-1.3
E24K	**Your Creek**	**21.04**	**27**	P	P	20 47 15.1	+0.4
TOLK	**Toolik Lake Re**	**21.12**	**25**	P	P	20 47 15.4	-0.1
TOLK				IAmb	IAmb	20 47 16.7	
	comp=Z,2.4nm,0.8s						
K27K	**Chicken**	**21.16**	**40**	P	P	20 47 15.5	-0.4
K27K				IAmb	IAmb	20 47 30.4	
	comp=Z,6.2nm,1.5s						
I26K	**Coal Creek Min**	**21.27**	**37**	P	P	20 47 16.5	-0.6
I26K				IAmb	IAmb	20 47 29.2	
	comp=Z,3.2nm,1.1s						
B22K	**Teshekpuk Lake**	**21.48**	**19**	P	P	20 47 18.5	-0.8
B22K				IAmb	IAmb	20 47 38.7	
	comp=Z,2.6nm,1.1s						
C23K	**Itkillik River**	**21.71**	**22**	P	P	20 47 22.3	+0.5
C23K				IAmb	IAmb	20 47 30.3	
	comp=Z,2.1nm,0.8s						
EGAK	**Eagle**	**21.81**	**39**	P	P	20 47 22.0	-0.9
I28M	**Miner Creek**	**22.55**	**38**	P	P	20 47 29.3	-1.7
I30M	**Mount Dempster**	**23.88**	**40**	P	P	20 47 43.1	-1.3

*IDC **14** 20:49:02.3±1.7, 7.°76S×155.°08E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=66.2km s-min=23.8km az=128.0*

ISC 14 20:49:07.7±1.5, 7.°8S±0.°3×155.°0E±0.°3, h35km, n7, σ0s85/7, mb3.8/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.40**	**237**	P	**P**	**20 54 13.0**	**-0.7**
	1.6nm,0.8s,baz=60,slow=9.9,SNR=6.7						
	1.6nm,0.8s						
ASAR	**Alice Springs**	**25.68**	**230**	P	**P**	**20 54 35.1**	**+0.4**
	0.6nm,0.8s,baz=58,slow=10.0,SNR=9.5						
	0.6nm,0.8s						
PETK	**Petropavlovsk-**	**60.70**	**2**	P	**P**	**20 59 15.4**	**0.0**
	1.2nm,0.8s,baz=148,slow=8.4,SNR=2.5						
	1.2nm,0.8s						
SONM	**Songino Array**	**70.02**	**327**	P	**P**	**21 00 16.6**	**+0.6**
	0.4nm,0.4s,baz=132,slow=7.6,SNR=2.4						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**84.02**	**319**	P	**P**	**21 01 34.7**	**0.0**
	0.4nm,0.7s,baz=103,slow=5.2,SNR=4.5						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**84.09**	**21**	P	**P**	**21 01 33.5**	**-1.2**
	0.4nm,0.6s,baz=245,slow=5.7,SNR=5.4						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**92.19**	**52**	P	**P**	**21 02 15.1**	**+0.7**
	0.3nm,0.6s,baz=251,slow=5.6,SNR=2.7						
	0.3nm,0.6s						

*NEIC **14** 20:53:32.4±1.2, 19.°489N±0.°005×155.°15W±0.°01, h5km±2km, Error ellipse: s-maj=3.1km s-min=1.6km az=130.0*

HVO 14 20:53:29.1±1.6, 19.°40N±0.°03×154.°97W±0.°04, h0km±10km, Md2.0/4, ML2.7/20(NEIC), Error ellipse: s-maj=6.1km s-min=2.3km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.13**	**264**		Pg	20 53 34.7	+3.1
JCUZ	**Jacuzzi**	**0.13**	**264**	IAML		20 53 35.6	
	comp=E,1µm,1.1s						
JCUZ				IAML		20 53 35.6	
	comp=N,423nm,0.8s						
NPOC	**North of Pu'u**	**0.14**	**268**		Pg	20 53 34.9	+3.1
NPOC	**North of Pu'u**	**0.14**	**268**	IAML		20 53 35.3	
	comp=N,628nm,0.9s						
NPOC

comp=Z,0.5nm,0.4s,baz=243,slow=8.0,SNR=4.8
comp=Z,0.5nm,0.4s

ABKAR	**Akbulak array**	**63.41**	**11**	P	**P**	**21 07 39.6**	**-0.3**
ABKAR	**Akbulak array**	**63.41**	**11**	P	**P**	**21 07 40.3**	**+0.5**
MAKZ	**Makanchi**	**68.09**	**26**	P	**P**	**21 08 11.8**	**+1.6**
MK31	**Makanchi Array**	**68.22**	**26**	P	**P**	**21 08 10.7**	**-0.3**
MK31				IAmb	IAmb	21 08 26.2	

comp=Z,1.8nm,1.3s

MKAR	**Makanchi Array**	**68.22**	**26**	P	**P**	**21 08 10.7**	**-0.3**
MKAR	**Makanchi Array**	**68.22**	**26**	P	**P**	**21 08 13.1**	**+2.1**

comp=Z,0.7nm,0.8s,baz=220,slow=4.7,SNR=6.6
comp=Z,0.7nm,0.8s

BVAR	**Borovoye Array**	**69.29**	**16**	P	**P**	**21 08 19.7**	**+2.2**

comp=Z,1.1nm,0.8s,baz=200,slow=7.7,SNR=6.6
comp=Z,1.1nm,0.8s

QSPA	**South Pole Qui**	**77.01**	**180**	P	**P**	**21 09 04.7**	**+1.4**
QSPA				IAmb	IAmb	21 09 10.2	

comp=Z,1.4nm,1.2s

ASAR	**Alice Springs**	**83.62**	**113**	P	**P**	**21 09 41.9**	**+2.3**

comp=Z,0.3nm,0.7s,baz=264,slow=5.1,SNR=1.9
comp=Z,0.3nm,0.7s

F10A	**Beach Ranch, E**	**144.03**	**339**	PKPdf	PKPbc	21 16 45.9	+1.6

*IDC **14** 21:08:51.1±2.0,21°.72N×143°.21E, h284km±17km, mb3.3/16, mbtmp4.0/18, Error ellipse: s-maj=19.6km s-min=14.7km az=91.0*
ISC 14 21:08:52.6±0.8, **21°.78N**±0°.09×**143°.2E**±0°.2, **h300**km, **n18, σ0s87/22, mb3.5**/15, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.37**	**351**	P		**Pn**	**21 10 12.9**	**-1.5**

23nm,0.4s,baz=83,slow=23,SNR=13

JCJ				S		**S**	**21 11 18.5**	**-1.7**

38nm,0.6s,baz=165,slow=19,SNR=1.4

JHJ	**Hachijo jima 2**	**11.69**	**346**	P		**Pn**	**21 11 30.9**	**-0.4**

87nm,0.9s,baz=252,slow=15,SNR=1.8

JHJ				S		**S**	**21 13 42.1**	**+0.6**

88nm,1.0s,baz=260,slow=15,SNR=1.3

KSRS	**Korea Array**	**20.44**	**323**	P		**P**	**21 13 09.4**	**+1.5**

1.2nm,0.6s,baz=147,slow=9.7,SNR=6.3
1.2nm,0.6s

SONM	**Songino Array**	**39.27**	**320**	P		**P**	**21 15 52.8**	**-0.1**

1.0nm,0.6s,baz=163,slow=11,SNR=4.1
1.0nm,0.6s

CMAR	**Chiang Mai Arr**	**41.56**	**274**	P		**P**	**21 16 11.8**	**-0.1**

0.3nm,0.4s,baz=62,slow=11,SNR=1.8
0.3nm,0.4s

WRA	**Warramunga Arr**	**42.36**	**192**	P		**P**	**21 16 17.5**	**-0.7**

0.4nm,0.3s,baz=16,slow=9.3,SNR=3.7
0.4nm,0.3s

ASAR	**Alice Springs**	**46.07**	**192**	P		**P**	**21 16 46.8**	**-0.6**

0.2nm,0.3s,baz=15,slow=7.1,SNR=5.2
0.2nm,0.3s

ZALV	**Zalesovo Beam**	**54.14**	**322**	P		**P**	**21 17 47.6**	**+0.4**

0.6nm,0.5s,baz=105,slow=6.9,SNR=4.2

ZALV				PcP		**PcP**	**21 18 47.1**	**-0.5**

0.6nm,0.4s,baz=98,slow=2.9,SNR=2.3
0.6nm,0.5s

MKAR	**Makanchi Array**	**54.64**	**313**	P		**P**	**21 17 51.6**	**+0.7**

0.5nm,0.6s,baz=86,slow=8.2,SNR=7.9

MKAR				PcP		**PcP**	**21 18 49.4**	**-0.4**

0.2nm,0.4s,baz=91,slow=2.8,SNR=5.1
0.5nm,0.6s

KURBB	**Kurchatov Arra**	**57.46**	**317**	P		**P**	**21 18 11.2**	**+0.5**

2.0nm,0.5s,baz=93,slow=7.5,SNR=9.0
2.0nm,0.5s

ILAR	**Eielson Array**	**61.97**	**27**	P		**P**	**21 18 41.1**	**+0.2**

0.6nm,0.8s,baz=254,slow=5.4,SNR=8.3
0.6nm,0.8s

BVAR	**Borovoye Array**	**62.60**	**319**	P		**P**	**21 18 45.9**	**+0.6**

2.9nm,0.3s,baz=98,slow=7.9,SNR=30
2.9nm,0.3s

YKA	**Yellowknife Ar**	**76.38**	**28**	P		**P**	**21 20 09.9**	**+0.9**

0.7nm,0.7s,baz=297,slow=5.9,SNR=12
0.7nm,0.7s

ARCES	**ARCESS Array B**	**78.84**	**341**	P		**P**	**21 20 23.2**	**+0.8**

1.3nm,0.5s,baz=71,slow=8.2,SNR=15
1.3nm,0.5s

KBZ	**Khabaz**	**82.31**	**314**	P		**P**	**21 20 41.6**	**+0.5**

1.4nm,0.7s,baz=117,slow=5.0,SNR=4.1
1.4nm,0.7s

NVAR	**Mina Array Bea**	**83.10**	**51**	P		**P**	**21 20 45.9**	**+0.3**

0.4nm,0.5s,baz=275,slow=4.4,SNR=2.0
0.4nm,0.5s

FINES	**FINESS Array B**	**83.10**	**334**	P		**P**	**21 20 44.3**	**-0.5**

1.1nm,0.5s,baz=66,slow=4.5,SNR=22
1.1nm,0.5s

HFS	**Hagfors**	**88.65**	**337**	P		**P**	**21 21 10.5**	**-1.4**

0.7nm,0.5s,baz=79,slow=3.2,SNR=8.1
0.7nm,0.5s

WEL 14 21:17:04.0±1.0, **34°S**±6°×**17°9E**±1°.4, **h147**km±35km, **M4.0/8, mB4.6/1, MLv4.0/8, Mw(mB)3.8/1, Error ellipse: s-maj=0.0km s-min=0.0km az=110.4, confirmed, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
WMGZ	**Waiomatatini S**	**4.08**	**192**	P		Pn	21 18 06.0	+0.9
WMGZ				S		Sn	21 18 55.6	+3.0
PKGZ	**Pakihiroa**	**4.21**	**195**	P		Pn	21 18 07.9	+1.0
PKGZ				S		Sn	21 18 57.2	+1.4
RUGZ	**Raukumara Rang**	**4.38**	**199**	P		Pn	21 18 09.8	+0.6
RUGZ				S		Sn	21 18 58.9	-1.1
TWGZ	**Tauwhareparae**	**4.51**	**195**	P		Pn	21 18 12.9	+2.1
TWGZ				S		Sn	21 19 04.7	+1.8
CNGZ	**Carnagh Statio**	**4.76**	**192**	P		Pn	21 18 15.1	+1.0
CNGZ				S		Sn	21 19 11.4	+2.7
RAGZ	**Rawiri**	**4.95**	**199**	P		Pn	21 18 17.1	+0.4
RAGZ				S		Sn	21 19 14.2	+0.9
OUZ	**Omahuta**	**5.05**	**252**	P		Pn	21 18 18.4	+0.5
RIGZ	**Rimuhau**	**5.06**	**195**	P		Pn	21 18 18.4	+0.3
RIGZ				S		Sn	21 19 15.6	-0.4
GLKZ	**Green Lake**	**5.06**	**27**	S		Sn	21 19 14.8	-1.2
MUGZ	**Murupara**	**5.13**	**205**	P		Pn	21 18 19.8	+0.7
MUGZ				S		Sn	21 19 14.8	-2.8
SNGZ	**Shannon Statio**	**5.24**	**199**	P		Pn	21 18 20.3	-0.1
SNGZ				S		Sn	21 19 19.6	-0.5
PRGZ	**Paritu Road**	**5.25**	**194**	P		Pn	21 18 21.7	+1.1
PRGZ				S		Sn	21 19 16.9	-3.4
MHGZ	**Mahia Peninsul**	**5.46**	**193**	P		Pn	21 18 21.4	-2.0
MHGZ				S		Sn	21 19 22.0	-3.5
BFZ	**Birch Farm**	**7.31**	**200**	P		Pn	21 18 44.6	-3.5
BFZ				S		Sn	21 20 00.5	-9.3
MRZ	**Mangatainoka R**	**7.50**	**203**	P		Pn	21 18 45.6	-4.9
MRZ				S		Sn	21 20 03.9	-10
HOWZ	**Holdsworth Sta**	**7.73**	**203**	P		Pn	21 18 49.0	-4.7
HOWZ				S		Sn	21 20 08.4	-11
OGWZ	**Otaki Gorge**	**7.77**	**205**	P		Pn	21 18 48.8	-5.4
OGWZ				S		Sn	21 20 10.3	-11
TMWZ	**Te Maipa**	**7.80**	**200**	P		Pn	21 18 50.4	-4.3
TMWZ				S		Sn	21 20 10.0	-12
KIW	**Kapiti Island**	**7.91**	**206**	P		Pn	21 18 50.7	-5.3
KIW				S		Sn	21 20 12.0	-12
CAW	**Cannon Point**	**8.07**	**204**	P		Pn	21 18 52.3	-5.9
CAW				S		Sn	21 20 17.0	-11
TCW	**Tory Channel**	**8.45**	**208**	P		Pn	21 18 57.1	-6.2
TCW				S		Sn	21 20 24.7	-12
TUWZ	**Tuamarina**	**8.77**	**208**	P		Pn	21 19 00.6	-6.9
TUWZ				S		Sn	21 20 33.3	-11
THZ	**Tophouse**	**9.47**	**211**	P		Pn	21 19 09.4	-7.6
THZ				S		Sn	21 20 50.1	-12

*BJI **14** 21:29:55.2±0.0, 29°.20N×88°.10E, h6km, mb4.4/13, mB4.3/7, Ms3.9/6, Ms7.3/6*
*IDC **14** 21:30:05.1±5.3, 29°.86N×88°.52E, h38km±46km, mb3.5/13, mbtmp3.7/16, ML3.5/2, MS3.2/9, Error ellipse: s-maj=30.1km s-min=15.4km az=49.0*
ISC 14 21:30:04.3±0.7, **29°.75N**±0°.10×**88°.44E**±0°.09, **h35**km, **n28, σ1s64/23, mb3.7**/13, **MS3.3**/8, **Xizang**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
LSA	**Lhasa**	**2.36**	**91**	Pn		**Pn**	**21 30 44.5**	**+3.5**
LSA				Sn		Sn	21 31 21.8	+13
GOMU	**GeErMu**	**8.37**	**38**	P		**Pn**	**21 32 07.3**	**+3.9**
GOMU				pP			21 32 10.8	
GOMU				sP			21 32 11.9	
GOMU				S		Sn	21 33 47.8	+11
GOMU				pmax		pmax		

comp=Z,23nm,1.0s

GOMU				LR		LR		

comp=N,500nm,9.0s

GOMU				LR		LR		

comp=E,370nm,12.5s

GOMU				LR		LR		

comp=Z,710nm,9.3s

TNCH	**TengChong**	**10.12**	**115**	*e*P		**Pn**	**21 32 23.5**	**-3.8**
TNCH				S		**Sn**	**21 34 19.1**	**-0.5**
TNCH				pmax		pmax		

comp=Z,6.0nm,0.4s

TNCH				pmax		pmax		

comp=Z,32nm,4.1s

TNCH				LR		LR		

comp=N,170nm,8.3s

TNCH				LR		LR		

comp=E,150nm,9.4s

TNCH				LR		LR		

comp=Z,220nm,17.2s

GTA	**Gaotai**	**13.43**	**41**	*e*P		**Pn**	**21 33 12.3**	**-0.2**
GTA				pP		P	21 33 16.6	-4.8
GTA				pmax		pmax		

comp=Z,3.0nm,1.4s

WMQ	**Urumqi**	**14.06**	**358**	*e*P		**P**	**21 33 27.0**	**-1.3**
KSH	**Kashi**	**14.14**	**317**	P		**Pn**	**21 33 21.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**14.77**	**137**	Pn		**Pn**	**21 33 30.6**	**-0.1**

comp=Z,0.6nm,0.7s,baz=320,slow=14,SNR=5.2

CMAR				LR		LR		

comp=Z,41nm,18.9s,baz=330,slow=37

AAK	**Ala-Archa**	**17.06**	**323**	P		**Pn**	**21 33 59.0**	**-1.2**

comp=Z,0.2nm,0.3s,baz=250,slow=8.0,SNR=2.0
comp=Z,0.5nm,0.3s

MKAR	**Makanchi Array**	**17.68**	**346**	P		**Pn**	**21 34 07.4**	**-0.3**

comp=Z,0.1nm,0.3s,baz=158,slow=12,SNR=16
comp=Z,1.7nm,0.8s

KURBB	**Kurchatov Arra**	**22.14**	**343**	P		**P**	**21 34 56.1**	**-0.7**

comp=Z,1.8nm,0.8s,baz=157,slow=10.0,SNR=9.0
comp=Z,1.8nm,0.8s

SONM	**Songino Array**	**22.75**	**32**	P		**P**	**21 35 03.0**	**-0.5**

comp=Z,3.4nm,0.7s,baz=223,slow=10.0,SNR=5.5
comp=Z,3.4nm,0.7s

ZALV	**Zalesovo Beam**	**24.32**	**355**	P		**P**	**21 35 18.8**	**+0.3**

comp=Z,1.5nm,0.6s,baz=174,slow=8.3,SNR=8.2

ZALV				LR		LR	21 46 01.1	

comp=Z,39nm,19.3s,baz=22,slow=40
comp=Z,1.5nm,0.6s

GEYT	**Alibek**	**26.39**	**296**	P		**P**	**21 35 39.4**	**+1.9**

comp=Z,0.7nm,0.4s,baz=145,slow=5.4,SNR=5.5

GEYT				LR		LR	21 48 07.6	

comp=Z,82nm,19.9s,baz=168,slow=41
comp=Z,0.7nm,0.4s

WSAR	**Wadi Sarin**	**27.41**	**263**	LR		LR	21 47 46.3	

comp=Z,39nm,18.3s,baz=108,slow=39

KSRS	**Korea Array**	**33.58**	**66**	LR		LR	21 51 32.8	

comp=Z,37nm,20.0s,baz=235,slow=38

BRTR	**Keskin Array B**	**45.50**	**298**	LR		LR	22 00 18.3	

comp=Z,60nm,21.4s,baz=142,slow=40

AKASG	**Malin Array Be**	**48.39**	**313**	LR		LR	22 02 24.5	

comp=Z,26nm,18.3s,baz=54,slow=40

MLR	**Muntele Rosu**	**50.70**	**306**	LR		LR	22 02 40.5	

comp=Z,36nm,19.7s,baz=320,slow=39

FINES	**FINESS Array B**	**51.18**	**327**	P		**P**	**21 39 03.4**	**-0.4**

comp=Z,0.7nm,0.6s,baz=104,slow=8.0,SNR=8.7
comp=Z,0.7nm,0.6s

HFS	**Hagfors**	**57.18**	**325**	P		**P**	**21 39 46.9**	**-0.6**

comp=Z,1.1nm,0.7s,baz=90,slow=10,SNR=5.2
comp=Z,1.1nm,0.7s

NOA	**NORSAR Array B**	**58.34**	**326**	P		**P**	**21 39 54.6**	**-1.0**

comp=Z,0.4nm,0.6s,baz=302,slow=3.1,SNR=2.4
comp=Z,0.4nm,0.6s

GERES	**GERESS Array B**	**58.54**	**312**	LR		LR	22 07 48.8	

comp=Z,33nm,18.4s,baz=77,slow=39

WRA	**Warramunga Arr**	**66.30**	**132**	P		**P**	**21 40 50.3**	**+0.9**

comp=Z,1.2nm,0.7s,baz=325,slow=6.7,SNR=10
comp=Z,1.2nm,0.7s

ASAR	**Alice Springs**	**68.77**	**135**	P		**P**	**21 41 05.4**	**+0.4**

comp=Z,0.8nm,0.7s,baz=325,slow=6.2,SNR=8.8
comp=Z,0.8nm,0.7s

ILAR	**Eielson Array**	**76.47**	**21**	P		**P**	**21 41 49.8**	**-0.3**

comp=Z,0.2nm,0.6s,baz=312,slow=4.6,SNR=2.2
comp=Z,0.2nm,0.6s

STKA	**Stephens Creek**	**79.39**	**136**	P		**P**	**21 42 07.4**	**+0.6**

comp=Z,1.2nm,0.8s,baz=319,slow=16,SNR=4.7
comp=Z,1.2nm,0.8s

TORD	**Torodi Ar. Bea**	**80.81**	**280**	P		**P**	**21 42 15.7**	**+0.8**

comp=Z,0.7nm,0.8s,baz=59,slow=5.3,SNR=5.5
comp=Z,0.7nm,0.8s

YKA	**Yellowknife Ar**	**86.23**	**10**	P		**P**	**21 42 41.6**	**-0.3**

comp=Z,0.1nm,0.5s,baz=330,slow=5.5,SNR=2.0
comp=Z,0.1nm,0.5s

*TEH **14** 21:48:55.4, 40°.53N×51°.99E, h10km, ML3.1*
*AZER **14** 21:48:56.5, 40°.60N×52°.03E, h61km, ml3.0*
ISC 14 21:48:57.9±2.2, **40°.64N**±0°.07×**51°.97E**±0°.10, **h114**km±29km, **n34, σ1s10/52, Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
GBS	**Qobustan**	**2.31**	**268**	P		Pn	**21 49 34.4**	**-0.6**
GBS				S		Sn	**21 50 03.4**	**-0.1**
ATGJ	**Altiaghaj**	**2.32**	**276**	Pn		Pn	**21 49 33.8**	**-1.3**
ATGJ				Sn		Sn	**21 50 04.4**	**+0.7**
SIZA	**Siyzn**	**2.37**	**282**	Sn		Sn	**21 50 06.1**	**+1.1**
PQL	**Pirkuli**	**2.57**	**274**	Pn		Pn	**21 49 38.4**	**-0.1**
PQL				Sn		Sn	**21 50 09.7**	**0.0**
QUBA	**Quba, Azerbaij**	**2.73**	**286**	Sn		Sn	**21 50 12.3**	**-0.9**
IML	**Ismayilli**	**2.88**	**274**	Pn		Pn	**21 49 42.9**	**+0.4**
IML				Sn		Sn	**21 50 18.2**	**+1.4**
KDMR	**Kurdemir**	**2.90**	**266**	Pn		Pn	**21 49 43.0**	**+0.3**
KDMR				Sn		Sn	**21 50 19.1**	**+2.0**
QSAR	**Qusar**	**2.94**	**289**	Sn		Sn	**21 50 17.8**	**-0.3**
XNQ	**Khinaliq**	**2.95**	**282**	Pn		Pn	**21 49 43.5**	**-0.1**
XNQ				Sn		Sn	**21 50 18.1**	**-0.6**
GLBA	**Clilabad**	**3.09**	**244**	Pn		Pn	**21 49 45.9**	**+0.8**
GLBA				Sn		Sn	**21 50 21.8**	**+0.3**
LKRN	**Lenkeran, Azer**	**3.13**	**233**	Pn		Pn	**21 49 46.0**	**+0.3**
LKRN				Sn		Sn	**21 50 22.2**	**-0.3**
QBL	**Gabala**	**3.15**	**277**	Sn		Sn	**21 50 22.7**	**-0.5**
ASTR	**Astara**	**3.22**	**231**	Pn		Pn	**21 49 47.3**	**+0.4**
ASTR				Sn		Sn	**21 50 23.5**	**-1.1**
ZRD	**Zardab**	**3.29**	**265**	Sn		Sn	**21 50 27.7**	**+1.4**
GAS1	**Astara - Iran**	**3.31**	**228**	Pn		Pn	**21 49 47.9**	**-0.1**
YRD	**Yardimli**	**3.35**	**240**	Pn		Pn	**21 49 48.8**	**0.0**
YRD				Sn		Sn	**21 50 26.5**	**-1.6**
LRK	**Lerik**	**3.44**	**236**	Pn		Pn	**21 49 50.1**	**+0.1**
LRK				Sn		Sn	**21 50 29.0**	**-1.2**
BLQ	**Beylaqan**	**3.50**	**256**	Pn		Pn	**21 49 51.8**	**+1.2**
BLQ				Sn		Sn	**21 50 30.8**	**-0.6**
SEKA	**Sheki**	**3.66**	**280**	Sn		Sn	**21 50 35.4**	**+0.1**
BRDA	**Brd**	**3.68**	**266**	Sn		Sn	**21 50 36.9**	**+1.3**
AGDM	**Agdam**	**3.75**	**263**	Pn		Pn	**21 49 53.9**	**-0.1**
AGDM				Sn		Sn	**21 50 36.9**	**-0.5**
QRD	**Qoradiz**	**3.76**	**253**	Sn		Sn	**21 50 37.0**	**-0.5**
LHJ2	**Lahijan - Gila**	**3.78**	**204**	Pn		Pn	**21 49 53.8**	**-0.4**
ZKTA	**Zakatala**	**4.16**	**286**	Pn		Pn	**21 50 01.8**	**+2.4**
ZKTA				Sn		Sn	**21 50 46.9**	**-0.3**
KLST	**Kelardasht - M**	**4.18**	**190**	Pn		Pn	**21 50 00.1**	**+0.1**
MZPU	**Pul - Mazandar**	**4.21**	**184**	Pn		Pn	**21 50 00.7**	**+0.4**
GANJ	**Ganja**	**4.30**	**272**	Pn		Pn	**21 50 00.4**	**-0.9**
GANJ				Sn		Sn	**21 50 47.4**	**-3.1**
ISRB	**Sarab**	**4.37**	**231**	Pn		Pn	**21 50 04.1**	**+1.7**
IGLO	**Ghaloghah**	**4.38**	**160**	Pn		Pn	**21 50 02.9**	**+0.3**
IHRS	**Heris**	**4.46**	**240**	Pn		Pn	**21 50 05.3**	**+1.6**
GDB	**GEDABAY**	**4.73**	**273**	Pn		Pn	**21 50 06.3**	**-0.9**
GDB				Sn		Sn	**21 50 58.7**	**-2.4**
ORD	**Ordubad**	**4.91**	**252**	Pn		Pn	**21 50 10.8**	**+1.2**
ORD				Sn		Sn	**21 51 05.1**	**-0.3**
QZX	**Qazax, Azerbai**	**5.02**	**277**	Pn		Pn	**21 50 11.2**	**+0.2**
QZX				Sn		Sn	**21 51 06.3**	**-1.6**
IMRD	**Marand**	**5.21**	**250**	Pn		Pn	**21 50 14.8**	**+1.2**

*NEIC **14** 21:51:28.7±1.7, 19°.32N±0°.02×154°.94W±0°.03, h5km±2km, Error ellipse: s-maj=5.3km s-min=2.9km az=310.0*
HVO 14 21:51:28.8±1.9, **19°.39N**±0°.02×**154°.96W**±0°.02, **h1**km±9km, **ML2.3**/3, **ML2.9**/30(NEIC), **Error ellipse: s-maj=3.4km s-min=0.9km az=132.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.06**	**312**	P		Pg	21 51 31.1	+1.1
PAH	**Pahoa**	**0.10**	**5**	P		Pg	21 51 32.1	+1.3
PHO	**Puu Honuaula**	**0.11**	**36**	P		Pg	21 51 34.8	+3.9
JCUZ	**Jacuzzi**	**0.14**	**266**	P		Pg	21 51 31.8	+0.3
JCUZ				IAML			21 51 35.2	

NPOC	**North of Pu'u**	**0.14**	**270**	Pg		Pg	21 51 32.3	+0.7
NPOC						Sg	21 51 34.7	+1.2
NPOC				IAML			21 51 35.3	

comp=E,2µm,0.5s

STCH	**Steam Cracks**	**0.16**	**267**	Pg		Pg	21 51 32.5	+0.6
STCH				IAML			21 51 35.4	

comp=E,2µm,0.2s

KNHH	**Kane Nui o Ham**	**0.20**	**266**			Pg	21 51 33.1	+0.4
PUH	**Pauahi**	**0.24**	**266**	Pg		Pg	21 51 33.3	-0.2
PUH				Sg		Sg	21 51 38.0	+1.3
PUH				IAML			21 51 40.0	

comp=N,2µm,1.0s

PUH				IAML			21 51 41.0	

comp=E,1µm,1.0s

RSD	**Rainshed**	**0.31**	**283**	Pg		Pg	21 51 35.0	+0.3
RSD				IAML			21 51 38.6	

comp=E,3µm,1.3s

HLP	**Hilina Pali**	**0.34**	**254**	Pg		Pg	21 51 36.0	+0.5
HLP				Sg		Sg	21 51 41.1	+1.2
HLP				IAML			21 51 42.7	

comp=E,2µm,1.2s

MLH	**Mauna Loa**	**0.42**	**284**	Pg		Pg	21 51 37.2	+0.4
MLH				Sg		Sg	21 51 43.8	+1.5
MLH				IAML			21 51 51.0	

comp=E,1µm,1.0s

HTC	**Hot Caves**	**0.44**	**250**			Pg	21 51 37.9	+0.6
HMH	**Humu'ula Sheep**	**0.54**	**293**	Pg		Pg	21 51 39.3	+0.2
HMH				IAML			21 51 53.6	

comp=E,1µm,0.6s

MLOA	**Mauna Loa Obse**	**0.60**	**284**	Pg		Pg	21 51 40.0	-0.4
MLOA				IAML			21 51 49.4	

comp=N,911nm,1.1s

MLOA				IAML			21 51 49.5	

comp=E,738nm,0.4s

MWH	**Moku'aweowe**	**0.61**	**279**	Pg		Pg	21 51 40.2	-0.4
KHU	**Kahuku**	**0.64**	**257**			Pg	21 51 40.1	-1.0
KHU				IAML			21 51 46.7	

comp=E,675nm,1.3s

KHU				Sg		Sg	21 51 49.3	0.0
KHU				IAML			21 51 51.2	

comp=N,612nm,1.2s

POHA	**Pohakuloa**	**0.65**	**304**	Pg		Pg	21 51 40.8	-0.5
POHA				IAML			21 51 52.3	

comp=N,705nm,0.9s

POHA				IAML			21 51 58.7	

comp=N,600nm,0.8s

ALEP	**Alea Permanent**	**0.66**	**283**			Pg	21 51 41.3	-0.3
HUH	**Hualalai**	**0.88**	**289**	Pg		Pg	21 51 45.3	-0.4
HUH				IAML			21 52 11.5	

comp=E,645nm,0.5s

*JMA **14** 21:58:27.1±0.5, 34°.N±1°.×14°.2E±°, h30km±2km, MV3.7/39, FAR SE OFF BOSO PEN*
*NIED **14** 21:58:27.1, 34°.48N×141°.88E, h30km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.50; Mθθ0.08; Mϕϕ-0.58; Mrθ0.57; Mθϕ-0.65; Mϕr0.32; Fault plane solution: Mo1.05000×10¹⁵ NP1:φs60.00000°, δ72.00000°, λ124.00000°. NP2:φs175.00000°, δ38.00000°, λ31.00000°.*
*IDC **14** 21:58:34.2±2.5, 34°.48N×141°.58E, h54km±22km, mb3.5/16, mbtmp3.7/20, ML3.1/4, MS3.2/7 Error ellipse: s-maj=20.7km s-min=9.9km az=88.0*
ISC 14 21:58:26.6±2.6, **34°.55N**±0°.05×**141°.83E**±0°.06, **h4**km±15km, **n56, σ1s55/58, mb3.8**/16, **MS3.2**/5, **Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.71**	**278**	P		Pb	**21 58 41.4**	**+

0.9nm,0.5s,baz=4.1,slow=7.6,SNR=10.0
0.9nm,0.5s
ASAR Alice Springs 58.39 189 P **P** **22 08 24.1 +0.8**
0.4nm,0.6s,baz=8.1,slow=6.5,SNR=2.9
0.4nm,0.6s
RES Resolute Bay 64.92 14 P **P** **22 09 08.2 +1.4**
1.2nm,0.8s,baz=297,slow=6.5,SNR=5.0
1.2nm,0.8s
YKA Yellowknife Ar 65.78 30 P **P** **22 09 13.7 +1.1**
0.1nm,0.3s,baz=302,slow=6.5,SNR=4.3
0.1nm,0.3s
FINES FINESS Array B 71.16 333 P **P** **22 09 45.8 -0.4**
0.6nm,0.7s,baz=36,slow=7.4,SNR=2.1
FINES LR LR 22 44 15.4
comp=Z,25nm,18.6s,baz=177,slow=38
0.6nm,0.7s
KBZ Khabaz 72.78 311 P **P** **22 09 56.4 +0.2**
1.5nm,1.0s,baz=47,slow=5.8,SNR=4.3
1.5nm,1.0s
NVAR Mina Array Bea 76.21 53 P **P** **22 10 19.5 +2.9**
0.4nm,0.6s,baz=266,slow=4.5,SNR=4.1
0.4nm,0.6s
AKASG Malin Array Be 76.47 323 P **P** **22 10 17.1 -0.4**
0.4nm,0.5s,baz=46,slow=6.6,SNR=1.8
AKASG LR LR 22 47 51.9
comp=Z,50nm,18.5s,baz=59,slow=39
0.4nm,0.5s
HFS Hagfors 76.48 336 P **P** **22 10 18.1 +0.7**
0.6nm,0.6s,baz=84,slow=4.5,SNR=2.1
0.6nm,0.6s
NB2 NORSAR Subarra 76.60 338 P **P** **22 10 18.7 +0.5**
comp=Z,0.4nm,0.6s,baz=40,slow=5.9
NOA NORSAR Array B 76.60 338 P **P** **22 10 18.6 +0.5**
comp=Z,0.5nm,0.6s,baz=39,slow=5.7,SNR=4.3
comp=Z,0.5nm,0.6s

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*NNC **14** 22:22:27.5±0.6, 44.°51N×81.°19E, h0km, mb4.0, mpv3.8,*
Error ellipse: s-maj=5.4km s-min=3.0km az=125.0
*SOME **14** 22:22:27.9, 44.°47N×81.°10E, h5km*
ISC 14 22:22:23.6±1.3, 44.°41N±0.°04×81.°52E±0.°04, h2km±11km, n58, σ1°43/87, 13C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.24**	**267**	P	**Pb**	**22 22 47.9**	**+0.2**
	17nm,0.1s						
DJR				S	**Sg**	**22 23 01.9**	**-1.5**
	95nm,0.3s						
DJR	**Jarkent**	**1.24**	**267**	*e*P	**Pg**	**22 22 47.7**	**+0.4**
	17nm,0.1s						
DJR				*e*S	**Sg**	**22 23 01.9**	**-1.5**
	95nm,0.3s						
KNOS	**Konyrlen**	**1.68**	**269**	P	**Pg**	**22 22 55.9**	**+0.2**
	73nm,0.1s						
KNOS				S	**Sn**	**22 23 15.6**	**-0.5**
	213nm,0.4s						
KAPS	**Kapalarasan**	**1.77**	**301**	P	**Pb**	**22 22 56.9**	**+0.2**
	43nm,0.1s						
KAPS				S	**Sn**	**22 23 17.7**	**-0.6**
	102nm,0.1s						
KAPS	**Kapalarasan**	**1.77**	**301**	*e*P	**Pb**	**22 22 56.9**	**+0.2**
	43nm,0.1s						
KAPS				*e*S	**Sn**	**22 23 17.7**	**-0.6**
	102nm,0.1s						
PDGK	**Podgornoye**	**1.82**	**234**	P	**Pg**	**22 22 59.0**	**+0.6**
	36nm,0.1s						
PDGK				S	**Sb**	**22 23 21.5**	**+0.7**
	63nm,0.3s						
PDGK	**Podgornoye**	**1.82**	**234**	⇑P	**Pg**	**22 22 58.7**	**+0.3**
	31nm,0.5s						
PDGK				⇑S	**Sb**	**22 23 21.8**	**+1.0**
	179nm,0.5s						
SHLS	**Shalkode**	**1.94**	**231**	P	**Pn**	**22 22 57.6**	**0.0**
	68nm,0.2s						
SHLS				S	**Sn**	**22 23 19.8**	**-2.8**
	245nm,0.4s						
SHLS	**Shalkode**	**1.94**	**231**	*e*P	**Pn**	**22 22 57.6**	**0.0**
	68nm,0.2s						
SHLS				*e*S	**Sn**	**22 23 19.8**	**-2.8**
	245nm,0.4s						
UZB	**Uzynbulak**	**2.20**	**236**	Pg	**Pg**	**22 23 05.8**	**+0.1**
	14nm,0.2s						
UZB				Lg	Lg	22 23 33.3	
	195nm,0.3s						
UZB	**Uzynbulak**	**2.20**	**236**	*e*P	**Pg**	**22 23 05.8**	**+0.1**
	14nm,0.2s						
UZB				*e*S	**Sb**	**22 23 33.3**	**+1.4**
	195nm,0.3s						
BLB	**Baldybastay**	**2.20**	**263**	Pg	**Pb**	**22 23 04.8**	**+0.6**
	202nm,0.1s						
BLB				Lg	Lg	22 23 31.6	
	619nm,0.2s						
TDK	**Taldyqorghan**	**2.29**	**286**	Pg	**Pb**	**22 23 06.2**	**+0.6**
	210nm,0.3s						
TDK				Lg	Lg	22 23 33.5	
	266nm,0.3s						
TDK	**Taldyqorghan**	**2.29**	**286**	*e*P	**Pb**	**22 23 06.2**	**+0.6**
	210nm,0.3s						
TDK				*e*S	**Sb**	**22 23 33.5**	**-0.9**
	266nm,0.3s						
MAKZ	**Makanchi**	**2.42**	**8**	Pn	**Pb**	**22 23 08.4**	**+0.6**
MAKZ				⇑Lg	Lg	22 23 39.9	
	42nm,0.4s						
MK31	**Makanchi Array**	**2.45**	**13**	⇑Pn	**Pb**	**22 23 08.7**	**+0.4**
	0.1nm,0.1s						
MK31				⇓Pg	**Pg**	**22 23 10.9**	**+0.4**
	4.0nm,0.3s						
MK31				⇓Lg	Lg	22 23 40.4	
	30nm,0.5s,baz=195,slow=30,SNR=28						
ZHN	**Zhinishke**	**2.55**	**242**	Pg	**Pb**	**22 23 11.2**	**+1.1**
	6.0nm,0.1s						
ZHN				Lg	Lg	22 23 41.7	
	320nm,0.2s						
ZHN	**Zhinishke**	**2.55**	**242**	*e*P	**Pb**	**22 23 11.2**	**+1.1**
	6.0nm,0.1s						
ZHN				*e*S	**Sb**	**22 23 41.7**	**-0.2**
	320nm,0.2s						
KURS	**Kuram**	**2.58**	**250**	Pg	**Pb**	**22 23 10.9**	**+0.3**
	8.4nm,0.2s						
KURS				Lg	Lg	22 23 43.2	
	26nm,0.3s						
KURS	**Kuram**	**2.58**	**250**	*e*P	**Pb**	**22 23 10.9**	**+0.3**
	8.4nm,0.2s						
KURS				*e*S	**Sb**	**22 23 41.5**	**-1.3**
	26nm,0.3s						
SATY	**Saty**	**2.62**	**240**	Pg	**Pb**	**22 23 12.4**	**+1.1**
	11nm,0.1s						
SATY				Lg	Lg	22 23 45.3	
	225nm,0.3s						
SATY	**Saty**	**2.62**	**240**	*e*P	**Pb**	**22 23 12.4**	**+1.1**
	11nm,0.1s						
SATY				*e*S	**Sb**	**22 23 45.3**	**+1.2**
	225nm,0.3s						
ARXS	**Arharly**	**2.65**	**267**	Pg	**Pb**	**22 23 12.5**	**+0.7**
	14nm,0.2s						
ARXS				Lg	Lg	22 23 44.6	
	254nm,0.3s						
ARXS	**Arharly**	**2.65**	**267**	*e*P	**Pb**	**22 23 12.5**	**+0.7**
	14nm,0.2s						
ARXS				*e*S	**Sb**	**22 23 44.6**	**-0.2**
	254nm,0.3s						
CHKK	**Chushkaly**	**3.31**	**262**	Pg	**Pb**	**22 23 22.2**	**-0.7**
	8.0nm,0.3s						
CHKK				Lg	Lg	22 24 03.1	
	243nm,0.4s						
CHKK	**Chushkaly**	**3.31**	**262**	*e*P	**Pb**	**22 23 22.2**	**-0.7**
	8.0nm,0.3s						
CHKK				*e*S	**Sb**	**22 24 01.7**	**-1.8**
	243nm,0.4s						
KOTS	**Kotyrbulak**	**3.40**	**251**	Pg	**Pb**	**22 23 25.3**	**+0.8**
	19nm,0.2s						
KOTS				Lg	Lg	22 24 08.1	
	91nm,0.3s						
KOTS	**Kotyrbulak**	**3.40**	**251**	*e*P	**Pb**	**22 23 25.3**	**+0.8**
	7.0nm,0.2s						
KOTS				*e*S	**Sb**	**22 24 06.3**	**+0.1**
	91nm,0.3s						
MDOK	**Medeo**	**3.46**	**251**	⇑Pg	**Pb**	**22 23 25.1**	**-0.6**
	20nm,0.6s						
MDOK				Pg	**Pb**	**22 23 26.3**	**+0.7**
	24nm,0.3s						
MDOK				Lg	Lg	22 24 09.2	
	22nm,0.2s						
MDOK				Lg	Lg	22 24 10.5	
	20nm,0.5s						
MDOK	**Medeo**	**3.46**	**251**	*e*P	**Pb**	**22 23 26.3**	**+0.7**
	24nm,0.3s						
MDOK				*e*S	**Sb**	**22 24 09.2**	**+1.0**
	22nm,0.2s						
KNDC	**Almaty**	**3.50**	**252**	⇑Pg	**Pb**	**22 23 27.6**	**+1.4**
	18nm,0.6s						
KNDC				⇑Lg	Lg	22 24 11.5	
	42nm,0.5s						
AAA	**Alma-Ata**	**3.54**	**252**	Pg	**Pb**	**22 23 28.9**	**+2.0**
	11nm,0.1s						
AAA				Lg	Lg	22 24 12.2	
	40nm,0.1s						
AAA	**Alma-Ata**	**3.54**	**252**	*e*P	**Pb**	**22 23 28.9**	**+2.0**
	11nm,0.1s						
AAA				*e*S	**Sb**	**22 24 12.2**	**+1.9**
	40nm,0.1s						
KTBS	**Karatobe**	**3.55**	**260**	Pg	**Pb**	**22 23 28.2**	**+1.1**
	13nm,0.2s						
KTBS				Lg	Lg	22 24 10.9	
	162nm,0.5s						
KTBS	**Karatobe**	**3.55**	**260**	*e*P	**Pb**	**22 23 28.2**	**+1.1**
	13nm,0.2s						
KTBS				*e*S	**Sb**	**22 24 10.9**	**+0.3**
	162nm,0.5s						
TNSS	**Tian-Shan**	**3.58**	**249**	Pg	**Pb**	**22 23 28.6**	**+0.7**
	3.5nm,0.3s						
TNSS				Lg	Lg	22 24 12.8	
	13nm,0.4s						
TNSS	**Tian-Shan**	**3.58**	**249**	*e*P	**Pb**	**22 23 28.6**	**+0.7**
	3.5nm,0.3s						
TNSS				*e*S	**Sb**	**22 24 12.3**	**+0.4**
	13nm,0.4s						
KASK	**Kaskelen**	**3.72**	**253**	⇑Lg	Lg	22 24 19.5	
KUU	**Kurty**	**3.76**	**264**	Pg	**Pb**	**22 23 31.9**	**+1.3**
	5.1nm,0.1s						
KUU				Lg	Lg	22 24 17.4	
	48nm,0.5s						
KUU	**Kurty**	**3.76**	**264**	*e*P	**Pb**	**22 23 31.9**	**+1.3**
	5.1nm,0.1s						
KUU				*e*S	**Sb**	**22 24 17.4**	**+0.8**
	48nm,0.5s						
IZV	**Izvestkoviy**	**3.81**	**251**	Pg	**Pg**	**22 23 35.3**	**-1.2**
	7.0nm,0.4s						
IZV				Lg	Lg	22 24 23.2	
	19nm,0.4s						
IZV	**Izvestkoviy**	**3.81**	**251**	*e*P	**Pg**	**22 23 35.4**	**-1.2**
	7.0nm,0.4s						
IZV				*e*S	**Sg**	**22 24 23.2**	**-2.7**
	19nm,0.4s						
ZSN	**Zaisan**	**3.84**	**36**	Pg	**Pg**	**22 23 36.9**	**-0.2**
	25nm,0.4s						
ZSN				Lg	Lg	22 24 26.0	
	12nm,0.5s						
ZSN	**Zaisan**	**3.84**	**36**	*e*P	**Pg**	**22 23 36.9**	**-0.2**
	25nm,0.4s						
ZSN				*e*S	**Sg**	**22 24 26.0**	**-0.8**
	12nm,0.5s						
KST	**Kastek**	**4.25**	**253**	Pg	**Pb**	**22 23 41.9**	**+2.8**
	11nm,0.6s						
KST				Lg	Lg	22 24 33.6	
	22nm,0.8s						
KST	**Kastek**	**4.25**	**253**	*e*P	**Pb**	**22 23 41.9**	**+2.8**
	11nm,0.6s						
KST				*e*S	**Sb**	**22 24 33.6**	**+2.8**
	22nm,0.8s						
KRBS	**Karabastau**	**4.27**	**262**	Pg	**Pb**	**22 23 40.2**	**+0.9**
	4.6nm,0.6s						
KRBS				Lg	Lg	22 24 32.3	
	25nm,0.3s						
KRBS	**Karabastau**	**4.27**	**262**	*e*P	**Pb**	**22 23 40.2**	**+0.9**
	4.6nm,0.6s						
KRBS				*e*S	**Sb**	**22 24 32.4**	**+1.1**
	25nm,0.3s						
DGS	**Degeres**	**4.32**	**256**	Pg	**Pb**	**22 23 41.6**	**+1.4**
	6.9nm,0.3s						
DGS				Lg	Lg	22 24 33.5	
	26nm,0.4s						
DGS	**Degeres**	**4.32**	**256**	*e*P	**Pb**	**22 23 41.6**	**+1.4**
	6.9nm,0.3s						
DGS				*e*S	**Sb**	**22 24 33.5**	**+0.8**
	26nm,0.4s						
TKM2	**Tokmak 2**	**4.54**	**253**	⇓Pg	**Pb**	**22 23 47.2**	**+3.1**
	6.5nm,0.7s						
TKM2				⇑Lg	Lg	22 24 46.5	
	20nm,0.5s						
SGDS	**Sogindy**	**5.06**	**262**	Pg	**Pb**	**22 23 54.7**	**+1.9**
	1.8nm,0.3s						
SGDS				Lg	Lg	22 24 56.8	
	12nm,0.5s						
CHMS	**Chumysh**	**5.10**	**256**	⇑Pg	**Pb**	**22 23 55.3**	**+1.9**
	2.6nm,0.6s						
CHMS				⇓Lg	Lg	22 25 02.3	
	15nm,0.5s						
BTLS	**Baital**	**5.36**	**279**	Pg	**Pb**	**22 24 00.4**	**+2.6**
	1.9nm,0.2s						
BTLS				Lg	Lg	22 25 06.6	
	2.4nm,0.5s						
BTLS	**Baital**	**5.36**	**279**	*e*P	**Pb**	**22 24 00.4**	**+2.6**
	1.9nm,0.2s						
BTLS				*e*S	**Sb**	**22 25 06.6**	**+4.0**
	2.4nm,0.5s						
AAK	**Ala-Archa**	**5.40**	**253**	⇓Pg	**Pb**	**22 24 01.8**	**+3.1**
	1.8nm,0.5s						
AAK				⇑Lg	Lg	22 25 12.6	
	13nm,0.6s						
KURK	**Kurchatov**	**6.61**	**344**	⇑Sn	**Sn**	**22 25 15.3**	**-2.1**
	2.2nm,0.6s						
KURK				⇑Lg	Lg	22 25 49.5	
	15nm,0.7s						
OTUK	**Ortayu**	**7.42**	**304**	⇓Pn	**Pn**	**22 24 13.9**	**+1.1**
	0.8nm,0.6s						
OTUK				⇓Lg	Lg	22 26 12.5	
	6.3nm,0.8s						

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*SOME **14** 22:24:32.4, 41.°58N×71.°47E, h0km*
*KRNET **14** 22:24:32.3±0.1, 41.°57N×71.°45E, h16km, mb2.7*
*ISU **14** 22:24:33.9, 41.°57N×71.°47E, h20km*
ISC 14 22:24:32.5±0.9, 41.°58N±0.°02×71.°47E±0.°02, h12km±8km, n23, σ1°55/46, 18C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.25**	**260**	⇑P	**Pg**	**22 24 37.2**	**-0.7**
	baz=42						
TRKS				⇑*e*S	**Sg**	**22 24 40.5**	**-1.0**
	baz=42						
KSNS	**Kasansay**	**0.42**	**175**	P	**Pn**	**22 24 42.8**	**-1.6**
KSNS				S	**Sb**	**22 24 49.2**	**+1.0**
ARK	**Arkit**	**0.43**	**59**	⇑P	**Pg**	**22 24 41.2**	**+0.2**
	baz=59						
ARK				⇑*e*S	**Sg**	**22 24 47.6**	**+0.8**
	baz=59						
ANR	**Andizhan**	**1.06**	**140**	P	**Pg**	**22 24 53.9**	**+1.0**
ANR				S	**Sn**	**22 25 08.8**	**+1.0**
CHMG	**Chimgan**	**1.10**	**269**	P	**Pg**	**22 24 54.5**	**+0.9**
CHMG				S	**Sn**	**22 25 10.0**	**+1.1**
CHRV	**Charvak**	**1.14**	**274**	P	**Pg**	**22 24 55.4**	**+0.9**
CHRV				S	**Sg**	**22 25 11.4**	**+2.0**
ARSB	**Arslanbob**	**1.16**	**102**	⇑P	**Pb**	**22 24 54.3**	**-0.3**
	baz=2.0						
ARSB				⇑*e*S	**Sg**	**22 25 10.3**	**+0.3**
	baz=2.0						
MNAS	**Manas**	**1.19**	**40**	⇑P	**Pb**	**22 24 55.0**	**-0.1**
	baz=40						
MNAS				⇑*e*S	**Sg**	**22 25 11.3**	**+0.3**
	baz=40						
IUG	**Iuzhnay**	**1.22**	**298**	*e*P	**Pn**	**22 24 54.9**	**-0.5**
	24nm,0.1s						
IUG				*e*S	**Sn**	**22 25 11.0**	**-0.9**
	68nm,0.2s						
FRG	**Fergana**	**1.22**	**169**	P	**Pg**	**22 24 56.8**	**+0.8**
FRG				S	**Sg**	**22 25 14.0**	**+2.1**
TSTA	**Tashata**	**1.25**	**142**	P	**Pg**	**22 24 57.4**	**+0.8**
TSTA				S	**Sg**	**22 25 15.0**	**+2.1**
CHMI	**Chimion**	**1.31**	**178**	P	**Pg**	**22 24 58.2**	**+0.6**
CHMI				S	**Sg**	**22 25 16.5**	**+1.9**
DZA	**Taraz**	**1.32**	**355**	*e*P	**Pb**	**22 24 57.1**	**-0.1**
	12nm,0.1s						
DZA				*e*S	**Sg**	**22 25 14.8**	**-0.3**
	95nm,0.2s						
OHH	**Osh**	**1.45**	**136**	⇓P	**Pb**	**22 24 59.1**	**-0.3**
	baz=36						
OHH				⇓*e*S	**Sg**	**22 25 18.5**	**-0.5**
	baz=36						
TGS	**TashGRES**	**1.47**	**265**	P	**Pg**	**22 25 03.4**	**+2.6**
TGS				S	**Sg**	**22 25 25.3**	**+5.4**
BTK	**Batken**	**1.60**	**198**	⇑P	**Pb**	**22 25 01.6**	**-0.3**
	baz=98						
BTK				⇑*i*S	**Sg**	**22 25 22.7**	**-1.1**
	baz=98						
KKAR	**Karatay Array**	**1.68**	**335**	⇑*e*P	**Pb**	**22 25 03.2**	**-0.2**
	baz=36						
KKAR				⇑*e*S	**Sg**	**22 25 25.6**	**-1.1**
	baz=36						
MRKS	**Merke**	**1.75**	**48**	*e*P	**Pg**	**22 25 06.8**	**+0.8**
	2.5nm,0.1s						
MRKS				*e*S	**Sg**	**22 25 31.6**	**+2.7**
	18nm,0.4s						
BRLS	**Borolday**	**1.89**	**321**	*e*P	**Pb**	**22 25 06.0**	**-1.0**
	9.4nm,0.2s						
BRLS				*e*S	**Sb**	**22 25 30.0**	**-0.6**
	41nm,0.2s						
DRK	**Karamyk**	**2.11**	**173**	⇑*e*P	**Pb**	**22 25 10.1**	**-0.7**
	baz=72						
DRK				⇑*e*S	**Sb**	**22 25 37.9**	**+0.9**
	baz=72						
ARLS	**Aral**	**2.15**	**81**	⇓*e*P	**Pb**	**22 25 10.8**	**-0.7**
	baz=82						
ARLS				⇓*e*S	**Sb**	**22 25 38.3**	**+0.1**
	baz=82						
UCH	**Uchtor**	**2.36**	**73**	⇑*e*P	**Pb**	**22 25 13.8**	**-1.4**
	baz=73						
UCH				⇑*e*S	**Sb**	**22 25 44.0**	**-0.5**
	baz=73						
GAR	**Garm**	**2.72**	**199**	⇑*e*P	**Pb**	**22 25 18.1**	**-3.0**
	baz=99						
GAR				⇑*e*S	**Sb**	**22 25 51.5**	**-3.0**
	baz=99						

IDC 14 22:41:40.7±4.5, 5.°74S×129.°24E, h356km±52km, mb3.1/1, mbtmp4.1/3, Error ellipse: s-maj=102.3km s-min=15.2km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.97**	**161**	P	P	22 44 54.6	-0.2
	2.2nm,0.4s,baz=340,slow=12,SNR=32						
WRA				S	S	22 47 34.1	-1.5
	0.3nm,0.5s,baz=340,slow=22,SNR=1.7						
ASAR	**Alice Springs**	**18.38**	**166**	P	P	22 45 31.6	+0.1
	5.2nm,0.5s,baz=345,slow=11,SNR=52						
ASAR				S	S	22 48 43.6	+0.8
	1.1nm,0.9s,baz=347,slow=19,SNR=5.5						
MKAR	**Makanchi Array**	**66.76**	**327**	P	P	22 51 54.8	0.0
	0.5nm,0.6s,baz=128,slow=6.6,SNR=7.7						
	0.5nm,0.6s						

IDC 14 22:42:25.4±360.0, 54.°52N×0.°40E, h0km, Error ellipse: s-maj=200.2km s-min=135.4km az=72.0, North Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I26DE	**FREYUNG INFRAS**	**10.02**	**119**	I	I	23 41 10.0	
	baz=308,slow=335,SNR=4.0						
I48TN	**KESRA INFRASON**	**19.72**	**158**	I	I	00 42 50.0	
	baz=344,slow=327,SNR=0.9						
I18DK	**QAANAAQ INFRAS**	**33.17**	**338**	I	I	02 05 00.0	
	baz=91,slow=332,SNR=0.9						

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*IDC **14** 22:44:48.4±1.4, 51.°22N×16.°72E, h0km, mbtmp3.1/4,*
ML2.6/4, Error ellipse: s-maj=44.0km s-min=8.7km
az=121.0
*VIE **14** 22:44:49.8±0.8, 51.°32N×16.°20E, h0km, mb2.2/1, ml2.5/3,*
Error ellipse: s-maj=9.6km s-min=5.7km az=71.0,
Suspected Mining induced.
*PRU **14** 22:44:49.7, 51.°41N×16.°16E, h0km*
ISC 14 22:44:46.5±0.8, 51.°54N±0.°04×16.°23E±0.°03, h0km, n30, σ1°30/53, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.96**	**187**	*e*PG	**Pg**	**22 45 04.8**	**-0.1**
CHVC				*e*SG	**Sg**	**22 45 16.9**	**-0.4**
OSTC	**Ostas**	**0.99**	**180**	*e*PG	**Pg**	**22 45 05.5**	**+0.1**
OSTC				*e*SG	**Sg**	**22 45 16.9**	**-1.2**
UPC	**Upice**	**1.05**	**188**	*e*PG	**Pg**	**22 45 06.2**	**-0.3**
UPC				*e*SG	**Sg**	**22 45 19.2**	**-0.8**
	comp=Z,60nm,0.4s						
DPC	**Dobruska-Polom**	**1.20**	**177**	*e*PG	**Pg**	**22 45 08.7**	**-0.7**
DPC				*e*SG	**Sg**	**22 45 23.5**	**-1.3**
	comp=Z,20nm,0.4s						
PVCC	**Panska Ves**	**1.46**	**226**	*e*PG	**Pn**	**22 45 14.0**	**0.0**
PVCC				*e*SG	**Sg**	**22 45 33.4**	**+0.1**
	comp=Z,96nm,0.4s						
KRLC	**Kraliky**	**1.51**	**166**	*e*PG	**Pn**	**22 45 14.3**	**-0.5**
KRLC				*e*SG	**Sg**	**22 45 33.0**	**-2.0**
	comp=Z,22nm,0.5s						
BRG	**Berggiesshubel**	**1.58**	**246**	Amp		22 45 38.8	
	comp=Z,18nm,0.5s						
BRG	**Berggiesshubel**	**1.58**	**246**	Pg	Pg	22 45 17.4	-0.2
BRG	**Berggiesshubel**	**1.58**	**246**	Sg	Sn	22 45 37.6	-41
PRA	**Prague**	**1.86**	**218**	*e*PN	**Pn**	**22 45 20.0**	**+0.4**
PRA				*e*PG	**Pb**	**22 45 21.4**	**+0.1**
PRA				*e*SG	**Sb**	**22 45 44.9**	**-0.2**
PRU	**Pruhonice**	**1.89**	**215**	*e*PG	**Pn**	**22 45 21.0**	**+1.0**
PRU				*e*SG	**Sn**	**22 45 44.8**	**+0.4**
	comp=Z,28nm,0.7s						
MORC	**Moravsky Berou**	**1.96**	**154**	*e*PN	**Pn**	**22 45 20.6**	**-0.3**
MORC				*e*SG	**Sn**	**22 45 45.9**	**-0.3**
HSKC	**Hora Svate Kat**	**2.00**	**243**	*e*PG	**Pn**	**22 45 22.9**	**+1.4**
HSKC				*e*SG	**Sb**	**22 45 49.0**	**0.0**
TREC	**Trest**	**2.30**	**192**	*e*SG	**Sb**	**22 45 57.7**	**-0.1**
KRUC	**Moravsky**	**2.49**	**177**	*e*PN	**Pn**	**22 45 28.4**	**+0.2**
KRUC				*e*PG	**Pb**	**22 45 31.6**	**-0.4**
KRUC				*e*SG	**Sb**	**22 46 02.4**	**-0.7**
OJC	**Ojcow**	**2.62**	**119**	*e*Pg	**Pg**	**22 45 36.6**	**0.0**
OJC				*e*Sg	**Sg**	**22 46 11.4**	**+0.7**
JAVC	**Velka Javorina**	**2.84**	**160**	*e*PN	**Pn**	**22 45 33.7**	**+0.6**
KHC	**Kasperske Hory**	**2.95**	**216**	*e*PN	**Pn**	**22 45 35.2**	**+0.6**
KHC				*e*PG	**Pb**	**22 45 40.7**	**+0.8**
KHC				*e*SG	**Sb**	**22 46 18.1**	**+1.6**
	comp=Z,6.6nm,0.5s						
CKRC	**Cesky Krumlov**	**2.99**	**205**	*e*PN	**Pn**	**22 45 35.9**	**+0.8**
CKRC				*e*PG	**Pb**	**22 45 41.1**	**+0.5**
CKRC				*e*SG	**Sb**	**22 46 19.7**	**+2.0**
GERES	**GERESS Array B**	**3.15**	**212**	Pn	**Pn**	**22 45 38.2**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=31,slow=16,SNR=5.8						
GERES				Pg	**Pb**	**22 45 44.4**	**+1.0**
	comp=Z,3.0nm,0.3s,baz=35,slow=18,SNR=33						
GERES				Sn	**Sn**	**22 46 16.4**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=52,slow=24,SNR=4.6						
GERES				Lg	Lg	22 46 25.0	
	comp=Z,2.2nm,0.3s,baz=40,slow=26,SNR=8.4						
	comp=Z,0.7nm,0.5s						
LANS	**Liptovska Anna**	**3.17**	**138**	*e*PG	**Pg**	**22 45 47.3**	**+0.1**
LANS				*e*SG	**Sg**	**22 46 27.5**	**-0.7**
MODS	**Modra-Piesok**	**3.25**	**168**	*e*PG	**Pg**	**22 45 48.7**	**+0.1**
MODS				*e*SG	**Sg**	**22 46 33.0**	**+2.4**
NIE	**Niedzica**	**3.36**	**128**	*e*Pg	**Pg**	**22 45 50.4**	**-0.4**
NIE				*e*Sg	**Sg**	**22 46 34.0**	**-0.4**
CONA	**Conrad Observa**	**3.63**	**184**	*i* Pn	**Pn**	**22 45 45.3**	**+1.4**
	comp=Z,0.4nm,0.2s						
CONA				Sg	**Sg**	**22 46 40.2**	**-2.7**
	comp=Z,4.2nm,0.4s						
STHS	**Stebnicka Huta**	**3.85**	**122**	*e*PG	**Pg**	**22 46 00.2**	**+0.1**
STHS				*e*SG	**Sg**	**22 46 55.1**	**+5.1**
MOA	**Molln**	**3.91**	**200**	*i* Pn	**Pn**	**22 45 48.1**	**+0.3**
	comp=Z,1.1nm,0.3s						
MOA				*e*Sg	**Sg**	**22 46 50.7**	**-1.3**
	comp=Z,2.2nm,0.3s						
ARSA	**Arzberg**	**4.32**	**186**	*e*Sg	**Sg**	**22 47 05.0**	**-0.2**
	comp=Z,3.0nm,0.5s						
FINES	**FINESS Array B**	**11.30**	**25**	Pn	**Pn**	**22 47 28.5**	**-0.

M_{rr}4.30; $M_{\theta\theta}$-1.02; $M_{\phi\phi}$-3.27; $M_{r\theta}$2.54; $M_{r\phi}$-0.90; $M_{\theta\phi}$4.75;
Fault plane solution: M_o6.67000×10^{14} NP1:ϕ=26.00000°, δ72.00000°, λ93.00000°. NP2:ϕ=196.00000°, δ18.00000°, λ80.00000°.
*NEIC **14** 22:46:34.5±2.0, 39.68N±0.06×142.10E±0.1, h58km±9km, mb4.1/25 Error ellipse: s-maj=12.9km s-min=8.5km az=105.0*
*IDC **14** 22:46:36.0±2.4, 39.66N×142.09E, h77km±17km, mb3.7/10, mbtmp3.9/14, MS2.6/6, Error ellipse: s-maj=26.8km s-min=15.2km az=115.0*

ISC 14 22:46:33.0±0.9, 39.62N±0.03×142.11E±0.07, h49km±7km, n82, σ1§21/82, mb4.1/23, 20D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.23**	**259**	⇓*i*P			**Pn**	**22 46 41.3**	**-0.2**
MIYJ				⇓S			**Sn**	**22 46 47.0**	**-0.5**
MIYJ	**Miyakonagasawa**	**0.23**	**259**	A			A	22 46 41.3	
	comp=E,21nm,0.3s,comp=N,11nm,0.3s								
JTH	**Tanohata**	**0.37**	**329**	⇓*i*P			**Pn**	**22 46 42.4**	**-0.4**
JTH				⇓S			**Sn**	**22 46 49.0**	**-0.8**
JTH	**Tanohata**	**0.37**	**329**	A			A	22 46 42.4	
	comp=E,20nm,0.4s,comp=N,13nm,0.3s								
OFUJ	**Ofunato**	**0.64**	**213**	*i* P			**Pn**	**22 46 45.7**	**-0.2**
OFUJ				S			**Sn**	**22 46 54.7**	**-0.5**
OFUJ	**Ofunato**	**0.64**	**213**	A			A	22 46 45.7	
	comp=E,3.0nm,0.5s,comp=N,3.0nm,0.6s								
JOM	**Ohasama**	**0.65**	**257**	⇓*i*P			**Pn**	**22 46 46.1**	**0.0**
JOM				⇓S			**Sn**	**22 46 55.6**	**+0.1**
JOM	**Ohasama**	**0.65**	**257**	A			A	22 46 46.1	
	comp=E,21nm,0.4s,comp=N,15nm,1.0s								
JKEN	**Kujiedanarisaw**	**0.66**	**332**	⇓*i*P			**Pn**	**22 46 45.6**	**-0.6**
JKEN				⇓S			**Sn**	**22 46 55.0**	**-0.8**
JKEN	**Kujiedanarisaw**	**0.66**	**332**	A			A	22 46 45.6	
	comp=E,12nm,0.8s,comp=N,10.0nm,1.0s								
JKZ	**Kuzumaki**	**0.70**	**302**	⇓*i*P			**Pn**	**22 46 46.7**	**-0.1**
JKZ				⇓S			**Sn**	**22 46 56.2**	**-0.6**
JANG	**Nango**	**0.88**	**329**	⇓*i*P			**Pn**	**22 46 48.5**	**-0.6**
JANG				⇓S			**Sn**	**22 47 00.4**	**-0.5**
JSZI	**Iwateshizukuis**	**0.90**	**278**	A			A	22 46 49.4	
	comp=E,7.0nm,3.9s,comp=N,6.0nm,1.3s								
JKMT	**Kesennumamotoy**	**0.95**	**212**	⇓*i*P			**Pn**	**22 46 50.0**	**0.0**
JKMT				⇓S			**Sn**	**22 47 02.1**	**-0.3**
JMK	**Ichinoseki**	**0.96**	**226**	⇓*i*P			**Pn**	**22 46 50.1**	**0.0**
JMK				⇓S			**Sn**	**22 47 02.5**	**-0.2**
JMK	**Ichinoseki**	**0.96**	**226**	A			A	22 46 50.1	
	comp=E,3.0nm,1.5s,comp=N,3.0nm,5.5s								
JRG	**Rokugo**	**1.16**	**259**	⇓*i*P			**Pn**	**22 46 52.9**	**-0.1**
JRG				⇓*e*S			**Sn**	**22 47 08.6**	**+0.9**
JAH	**Hinai**	**1.27**	**297**	*i* P			**Pn**	**22 46 54.4**	**0.0**
JAH				*e*S			**Sn**	**22 47 10.6**	**+0.3**
JIO	**Ouri**	**1.30**	**207**	P			**Pn**	**22 46 55.0**	**+0.2**
JIO				S			**Sn**	**22 47 11.4**	**+0.3**
JTM	**Tenmabayashi**	**1.41**	**326**	Pn			**Pn**	**22 46 55.6**	**-0.7**
JTM	**Tenmabayashi**	**1.41**	**326**	⇓*i*P			**Pn**	**22 46 56.1**	**-0.2**
JTM				⇓*e*S			**Sn**	**22 47 13.7**	**-0.1**
JMM	**Marumori**	**2.03**	**211**	Pn			**Pn**	**22 47 04.5**	**-0.2**
ERM	**Erimo**	**2.52**	**18**	Pn			**Pn**	**22 47 11.7**	**+0.2**
JSD	**Sado**	**3.40**	**243**	Pn			**Pn**	**22 47 20.7**	**-2.7**
MJAR	**Matsushiro Arr**	**4.35**	**226**	P			**Pn**	**22 47 39.9**	**+3.3**
	comp=N,13nm,0.6s,baz=33,slow=13,SNR=47								
MJAR				S			Sn	22 48 35.6	+10
	comp=N,1.9nm,0.5s,baz=35,slow=20,SNR=1.2								
MJAR				LR			LR	22 49 16.4	
	comp=N,34nm,19.9s,baz=75,slow=37								
MJB9	**Matsu-Tunnel**	**4.35**	**226**	Pn			**Pn**	**22 47 39.6**	**+3.1**
MAJO	**Matsushiro**	**4.35**	**226**	Pn			**Pn**	**22 47 38.7**	**+2.1**
JKA	**Kamikawa-asahi**	**4.51**	**4**	Pn			**Pn**	**22 47 38.5**	**-0.2**
ASAJ	**Asahikawa**	**4.51**	**4**	P			**Pn**	**22 47 40.5**	**+1.8**
	comp=N,5.3nm,0.3s,baz=186,slow=19,SNR=5.9								
ASAJ				S			**Sn**	**22 48 31.8**	**+2.0**
	comp=N,5.3nm,0.3s,baz=221,slow=19,SNR=1.3								
JGF	**Kuroka**	**5.51**	**225**	Pn			**Pn**	**22 47 54.6**	**+2.1**
USRK	**Ussuriysk Ar.**	**8.82**	**305**	P			**Pn**	**22 48 40.8**	**+2.9**
	comp=N,3.8nm,0.7s,baz=110,slow=15,SNR=13								
USRK				LR			LR	22 51 48.0	
	comp=N,51nm,21.1s,baz=87,slow=36								
JNU	**Nakatsue**	**11.13**	**238**	LR			LR	22 53 03.1	
	comp=N,44nm,18.2s,baz=72,slow=35								
KSRS	**Korea Array**	**11.32**	**263**	P			**Pn**	**22 49 16.5**	**+4.5**
	comp=N,1.6nm,0.4s,baz=70,slow=14,SNR=6.4								
KSRS				LR			LR	22 53 11.2	
	comp=N,20nm,20.7s,baz=70,slow=35								
MA2	**Magadan**	**20.71**	**13**	LR			LR	23 00 56.2	
	comp=N,17nm,18.6s,baz=312,slow=42								
SONM	**Songino Array**	**26.89**	**300**	LR			LR	23 02 41.1	
	comp=N,29nm,18.1s,baz=275,slow=36								
H11N2	**WAKE ISLAND Hy**	**29.11**	**126**	T			T	23 23 03.9	
	baz=318,slow=75,SNR=891								
H11N1	**WAKE ISLAND Hy**	**29.11**	**126**	T			T	23 23 04.7	
	baz=318,slow=75,SNR=610								
H11N3	**WAKE ISLAND Hy**	**29.12**	**126**	T			T	23 23 05.3	
	baz=318,slow=75,SNR=818								
H11S1	**WAKE ISLAND Hy**	**29.90**	**128**	T			T	23 24 12.3	
	baz=320,slow=76,SNR=75								
H11S3	**WAKE ISLAND Hy**	**29.91**	**128**	T			T	23 24 03.5	
	baz=320,slow=76,SNR=54								
H11S2	**WAKE ISLAND Hy**	**29.92**	**128**	T			T	23 24 05.4	
	baz=320,slow=76,SNR=63								
ZAA0	**Zalesovo Array**	**40.62**	**310**	P			**P**	**22 54 06.7**	**-1.1**
ZAA0				IAmb			IAmb	22 54 08.0	
	comp=Z,3.3nm,1.0s								
ZALV	**Zalesovo Beam**	**40.62**	**310**	P			**P**	**22 54 07.1**	**-0.7**
ZALV	**Zalesovo Beam**	**40.62**	**310**	P			**P**	**22 54 07.6**	**-0.2**
	comp=Z,1.7nm,0.4s,baz=87,slow=9.1,SNR=9.6								
ZALV				PcP			**PcP**	**22 56 08.6**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=87,slow=3.4,SNR=2.6								
	comp=Z,1.7nm,0.4s								
C18K	**Utukok River**	**41.73**	**27**	P			**P**	**22 54 17.3**	**+0.5**
C18K				IAmb			IAmb	22 54 26.0	
	comp=Z,3.3nm,1.2s								
G18K	**Tagagawik**	**42.15**	**32**	P			**P**	**22 54 21.1**	**+0.9**
G18K				IAmb			IAmb	22 54 26.3	
	comp=Z,4.6nm,1.2s								
H18K	**Honhosa River**	**42.17**	**33**	P			**P**	**22 54 22.1**	**+1.7**
H18K				IAmb			IAmb	22 54 44.8	
	comp=Z,7.3nm,1.4s								
F19K	**Shaleruckik Mo**	**42.65**	**30**	P			**P**	**22 54 24.5**	**+0.3**
E19K	**Redstone River**	**42.95**	**30**	P			**P**	**22 54 28.0**	**+1.3**
J19K	**Poorman**	**43.24**	**35**	P			**P**	**22 54 29.9**	**+0.8**
MK31	**Makanchi Array**	**43.26**	**300**	P			**P**	**22 54 28.7**	**-0.8**
MKAR	**Makanchi Array**	**43.26**	**300**	P			**P**	**22 54 28.7**	**-0.8**
MKAR	**Makanchi Array**	**43.26**	**300**	P			**P**	**22 54 29.1**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=84,slow=9.6,SNR=15								
	comp=Z,1.4nm,0.6s								
B20K	**Meade River**	**43.42**	**26**	P			**P**	**22 54 30.6**	**+0.2**
B20K				IAmb			IAmb	22 55 12.6	
	comp=Z,5.5nm,1.4s								
MAKZ	**Makanchi**	**43.46**	**300**	P			**P**	**22 54 30.4**	**-0.8**
MAKZ				IAmb			IAmb	22 54 31.6	
	comp=Z,2.6nm,1.1s								
KURK	**Kurchatov**	**44.81**	**306**	P			**P**	**22 54 39.8**	**-1.9**
KURK				IAmb			IAmb	22 54 59.9	
	comp=Z,4.8nm,1.0s								
KURBB	**Kurchatov Arra**	**44.88**	**306**	P			**P**	**22 54 41.8**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=80,slow=8.5,SNR=24								
KURBB				PcP			**PcP**	**22 56 22.1**	**-1.1**
	comp=Z,0.4nm,0.7s,baz=94,slow=3.8,SNR=3.2								
	comp=Z,2.9nm,0.5s								
E24K	**Your Creek**	**46.31**	**29**	P			**P**	**22 54 55.3**	**+1.8**
E24K				IAmb			IAmb	22 54 56.0	
	comp=Z,1.5nm,0.7s								
ILAR	**Eielson Array**	**47.03**	**34**	P			**P**	**22 54 59.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=263,slow=6.5,SNR=7.0								
	comp=Z,0.4nm,0.7s								
D25K	**Kavik River**	**47.10**	**27**	P			**P**	**22 55 00.3**	**+0.6**
D25K				IAmb			IAmb	22 55 14.7	
	comp=Z,2.6nm,1.4s								
KLU	**Klutina**	**47.78**	**38**	P			**P**	**22 55 05.3**	**+0.2**
BMAR	**Burnt Mountain**	**47.81**	**30**	P			**P**	**22 55 06.9**	**+1.7**
SCRK	**Sand Creek**	**48.36**	**35**	P			**P**	**22 55 09.5**	**-0.1**
SCRK				IAmb			IAmb	22 55 36.6	
	comp=Z,3.2nm,1.3s								
BVAR	**Borovoye Array**	**49.27**	**311**	P			**P**	**22 55 16.3**	**-0.3**
	comp=Z,1.0nm,0.5s,baz=82,slow=8.9,SNR=7.4								
	comp=Z,1.0nm,0.5s								
E29M	**Blow River**	**50.23**	**28**	P			**P**	**22 55 25.7**	**+2.1**
E29M				IAmb			IAmb	22 55 47.2	
	comp=Z,3.9nm,1.4s								
ARSB	**Arslanbob**	**51.31**	**296**	P			**P**	**22 55 32.8**	**+0.5**
I30M	**Mount Dempster**	**51.39**	**32**	P			**P**	**22 55 33.9**	**+1.3**
G31M	**Satah River**	**51.86**	**30**	P			**P**	**22 55 36.5**	**+0.7**
G31M				IAmb			IAmb	22 55 48.4	
	comp=Z,3.6nm,1.3s								
H31M	**Peel River**	**52.09**	**31**	P			**P**	**22 55 38.3**	**+0.7**
H31M				IAmb			IAmb	22 55 39.9	
	comp=Z,2.1nm,0.8s								
KKAR	**Karatay Array**	**52.34**	**299**	P			**P**	**22 55 39.1**	**-0.7**
ARU	**Arti**	**54.81**	**318**	P			**P**	**22 55 57.8**	**+0.1**
ABKAR	**Akbulak array**	**56.72**	**309**	P			**P**	**22 56 10.3**	**-1.1**
WRA	**Warramunga Arr**	**59.69**	**188**	P			**P**	**22 56 31.7**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=5.9,slow=7.0,SNR=1.9								
	comp=Z,0.3nm,0.5s								
FIA1	**FINESS Array S**	**66.79**	**332**	P			**P**	**22 57 18.1**	**-0.8**
FINES	**FINESS Array B**	**66.79**	**332**	P			**P**	**22 57 17.4**	**-1.5**
FINES	**FINESS Array B**	**66.79**	**332**	P			**P**	**22 57 18.5**	**-0.4**
	comp=Z,1.2nm,0.6s,baz=42,slow=8.9,SNR=12								
	comp=Z,1.2nm,0.6s								
NC405	**NORSAR Array S**	**71.81**	**337**	P			**P**	**22 57 49.6**	**-0.4**
HFS	**Hagfors**	**71.96**	**336**	P			**P**	**22 57 50.8**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=43,slow=6.9,SNR=10								
	comp=Z,0.9nm,0.4s								
NB2	**NORSAR Subarra**	**72.02**	**337**	P			**P**	**22 57 51.0**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=36,slow=6.2								
NOA	**NORSAR Array B**	**72.02**	**337**	P			**P**	**22 57 50.9**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=38,slow=6.0,SNR=5.2								
	comp=Z,0.6nm,0.5s								
AKASG	**Malin Array Be**	**72.59**	**322**	P			**P**	**22 57 54.2**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=45,slow=6.1,SNR=4.6								
	comp=Z,0.8nm,0.5s								
BURAR	**Bucovina Array**	**76.62**	**322**	P			**P**	**22 58 17.9**	**-0.5**

*OSPL **14** 22:50:57.9±1.6, 19.52N×77.39W, h0km±498km, ML2.3*
*JSN **14** 22:51:00.5±0.5, 18.24N×76.34W, h5km±999km, MD3.1*
*SSNC **14** 22:51:01.0±1.7, 18.27N×76.32W, h7km±15km, MD3.5, ML3.2, MW3.3*

ISC 14 22:50:56.2±1.4, 18°25N±0°.08×76°.15W±0°.06, h12km±12km, n17, σ966/28, Jamaica region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GWJ	**Greenwich**	**0.58**	**252**	*i* P			**Pb**	**22 51 08.2**	**-0.1**
HOJ	**Hope**	**0.62**	**247**	*i* P			**Pb**	**22 51 09.1**	**+0.1**
HOJ				*i* S			**Sg**	**22 51 15.4**	**-1.1**
STH	**Stony Hill**	**0.65**	**254**	*i* P			**Pb**	**22 51 09.5**	**0.0**
STH	**Stony Hill**	**0.65**	**254**	*i* P			**Pb**	**22 51 09.4**	**0.0**
STH				*e*S			**Sg**	**22 51 17.1**	**-0.4**
STH				IAML				22 51 17.5	
	comp=E,78μm,0.2s								
STH				IAML				22 51 17.7	
	comp=N,58μm,0.2s								
MTDJ	**Mount Denham**	**1.32**	**269**	*i* P			**Pb**	**22 51 21.2**	**+0.3**
MTDJ				*e*S			**Sb**	**22 51 38.0**	**+0.3**
MTDJ				IAML				22 51 40.1	
	comp=N,106nm,0.3s								
MTDJ				IAML				22 51 41.1	
	comp=N,107nm,0.4s								
MTDJ	**Mount Denham**	**1.32**	**269**	*i* P			**Pb**	**22 51 21.1**	**+0.3**
MTDJ				*e*S			**Sb**	**22 51 38.3**	**+0.5**
MTDJ				IAML				22 51 44.6	
	comp=Z,79nm,0.6s								
CHIV	**Chivirico**	**1.73**	**352**	*e*P			**Pb**	**22 51 27.7**	**-0.2**
CHIV				*e*S			**Sn**	**22 51 48.2**	**+0.1**
MARVS	**Santiago de Cu**	**1.75**	**8**	*e*P			**Pg**	**22 51 30.1**	**+0.2**
MARVS				*e*S			**Sb**	**22 51 51.2**	**+1.0**
MARVS				IAML				22 51 54.3	
	comp=E,34nm,0.2s								
MARVS				IAML				22 51 54.5	
	comp=N,54nm,0.2s								
GTBY	**Guantanamo Bay**	**1.93**	**30**	*e*P			**Pg**	**22 51 33.2**	**0.0**
GTBY	**Guantanamo Bay**	**1.93**	**30**	*i* P			**Pg**	**22 51 33.4**	**+0.1**
GTBY				*e*S			**Sg**	**22 51 58.9**	**+0.5**
GTBY				IAML				22 52 03.5	
	comp=Z,11nm,0.2s								
LMGC	**Las Mercedes**	**1.98**	**336**	*e*P			**Pn**	**22 51 29.9**	**+0.5**
LMGC				*e*S			**Sn**	**22 51 53.5**	**-0.6**
LMGC				*e*Sg			**Sb**	**22 51 55.2**	**-1.4**
YAR	**Yar**	**2.12**	**355**	*e*P			**Pb**	**22 51 35.0**	**+0.5**
PINC	**Pinares de May**	**2.25**	**9**	*e*P			**Pb**	**22 51 36.5**	**-0.2**
PINC				*e*S			**Sb**	**22 52 03.7**	**-0.8**
QMBU	**Quimbuelo**	**2.31**	**33**	*e*P			**Pb**	**22 51 37.6**	**-0.2**
QMBU				*e*S			**Sb**	**22 52 04.7**	**-1.7**
HLGC	**Holguin**	**2.62**	**2**	*e*P			**Pb**	**22 51 42.9**	**-0.3**
MASC	**Masc**	**2.63**	**43**	*e*P			Pg	22 51 52.7	+6.0
MASC				*e*S			**Sg**	**22 52 21.0**	**+0.1**
MASC	**Masc**	**2.63**	**43**	*e*S			**Sg**	**22 52 21.8**	**+0.9**

*DJA **14** 23:10:43.5±0.2, 7°S±5°×12°6E±°, h515km±5km, M4.5/12, mB5.1/5, mb4.5/12, MLv4.6/11, Mw(mB)4.5/5*
*IDC **14** 23:10:44.2±1.2, 6°.85S×125°.79E, h520km±14km, mb3.4/11, mbtmp4.2/14, Error ellipse: s-maj=23.9km s-min=12.7km az=76.0*
*NEIC **14** 23:10:44.2±1.4, 6°.9S±0°.1×125°.8E±0°.1, h521km±10km, mb4.2/13, Error ellipse: s-maj=20.8km s-min=18.1km az=78.0*

ISC 14 23:10:42.6±0.5, 6°91S±0°.06×125°.81E±0°.08, h500km, n72, σ1§69/75, mb3.9/15, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SOEI	**Soe**	**3.21**	**208**	P			**P**	**23 11 58.0**	**+2.8**
SOEI	**Soe**	**3.21**	**208**	P			**P**	**23 11 58.2**	**+3.0**
SOEI	**Soe**	**3.21**	**208**	P			**P**	**23 11 57.8**	**+2.6**
BATI	**Baumata**	**3.90**	**213**	P			**P**	**23 12 03.6**	**+3.3**
	290nm,0.4s,baz=359,slow=1.8,SNR=35								
BATI				S			**S**	**23 13 04.1**	**+0.6**
	452nm,0.6s,baz=298,slow=20,SNR=25								
BATI	**Baumata**	**3.90**	**213**	P			**P**	**23 12 03.2**	**+2.9**
MMRI	**Maumere**	**3.93**	**244**	P			**P**	**23 12 02.5**	**+2.0**
EDFI	**Ende, Flores**	**4.47**	**246**	P			**P**	**23 12 05.9**	**+0.9**
BNDI	**Bandanaira**	**4.71**	**60**	P			**P**	**23 12 10.0**	**+2.9**
BNDI	**Bandanaira**	**4.71**	**60**	P			**P**	**23 12 09.9**	**+2.9**
SANI	**Sanana**	**4.83**	**2**	P			**P**	**23 12 09.5**	**+1.4**
BASI	**Baing, Sumba**	**6.13**	**237**	P			**P**	**23 12 21.5**	**+1.3**
	279nm,1.0s,1.9nm								
KAPI	**Kappang**	**6.31**	**287**	P			**P**	**23 12 24.6**	**+2.6**
KAPI	**Kappang**	**6.31**	**287**	P			**P**	**23 12 25.3**	**+3.4**
KAPI	**Kappang**	**6.31**	**287**	P			**P**	**23 12 24.6**	**+2.6**
	21nm,0.6s,baz=148,slow=3.8,SNR=11								
FAKI	**Fak Fak**	**7.54**	**59**	P			**P**	**23 12 36.3**	**+2.0**
FAKI	**Fak Fak**	**7.54**	**59**	P			**P**	**23 12 35.2**	**+0.9**
FAKI	**Fak Fak**	**7.54**	**59**	P			**P**	**23 12 35.8**	**+1.5**
MTN	**Manton Dam**	**7.89**	**139**	P			**P**	**23 12 40.6**	**+2.7**
MTN	**Manton Dam**	**7.89**	**139**	P			**P**	**23 12 40.3**	**+2.5**
SWI	**Sorong**	**8.10**	**42**	P			**P**	**23 12 42.0**	**+1.9**
	169nm,0.6s,3μm								
PLAI	**Plampang**	**8.18**	**256**	P			**P**	**23 12 40.7**	**-0.2**
PLAI	**Plampang**	**8.18**	**256**	P			**P**	**23 12 40.6**	**-0.3**
	21nm,0.8s								
KMPI	**Kaimana, Papua**	**8.50**	**68**	P			**P**	**23 12 46.7**	**+2.5**
	249nm,0.6s,3μm1.1nm								
TOLI2	**Tolitoli**	**9.41**	**328**	P			**P**	**23 12 56.2**	**+2.4**
TOLI2	**Tolitoli**	**9.41**	**328**	P			**P**	**23 12 55.0**	**+1.2**
FITZ	**Fitzroy Crossi**	**11.12**	**181**	P			**P**	**23 13 13.7**	**+1.9**
FITZ	**Fitzroy Crossi**	**11.12**	**181**	P			**P**	**23 13 13.6**	**+1.8**
JAGI	**Jajag, Banyuwa**	**11.66**	**262**	P			**P**	**23 13 17.2**	**-0.4**
JAGI	**Jajag, Banyuwa**	**11.66**	**262**	P			**P**	**23 13 16.9**	**-0.7**
JAGI	**Jajag, Banyuwa**	**11.66**	**262**	P			**P**	**23 13 16.7**	**-0.9**
	39nm,1.8s								
BLJI	**Banyuglugur**	**12.14**	**265**	P			**P**	**23 13 23.7**	**+1.0**
	79nm,0.8s,4μm								
WB0	**Warramunga Arr**	**15.26**	**148**	P			**P**	**23 13 57.2**	**+1.7**
WB0				IAmb			IAmb	23 14 34.1	
	comp=Z,17nm,1.4s								
MBWA	**Marble Bar**	**15.34**	**202**	P			**P**	**23 13 57.0**	**+0.7**
MBWA	**Marble Bar**	**15.34**	**202**	P			**P**	**23 13 56.6**	**+0.3**
WRA	**Warramunga Arr**	**15.38**	**148**	P			**P**	**23 13 57.7**	**+0.9**
	comp=Z,1.3nm,0.6s,baz=336,slow=9.2,SNR=16								
WRA				S			**S**	**23 16 31.8**	**-5.2**
	comp=Z,0.7nm,0.8s,baz=331,slow=16,SNR=2.0								
WB2	**Warramunga Arr**	**15.38**	**148**	P			**P**	**23 13 58.9**	**+2.0**
JAY	**Jayapura**	**15.47**	**74**	P			**P**	**23 13 57.9**	**0.0**
	comp=Z,12nm,0.8s								
WR0	**Warramunga Arr**	**15.50**	**148**	P			**P**	**23 13 59.2**	**+1.2**
WR0				IAmb			IAmb	23 14 35.9	
	comp=Z,15nm,1.4s								
PSA00	**Pilbara Seismi**	**15.68**	**201**	P			**P**	**23 14 00.5**	**+0.7**
PSA00	**Pilbara Seismi**	**15.68**	**201**	P			**P**	**23 14 00.5**	**+0.7**
PSA00	**Pilbara Seismi**	**15.68**	**201**	P			**P**	**23 13 59.9**	**+0.1**
PSA00				IAmb			IAmb	23 14 25.6	
	comp=Z,10nm,1.2s								
KPJI	**Karang Pucung**	**16.75**	**268**	P			**P**	**23 14 10.8**	**-0.4**
	comp=Z,45nm,1.1s								
BBJI	**Bungbulang**	**18.02**	**267**	P			**P**	**23 14 22.9**	**-0.5**
WRKA	**Warakurna**	**18.18**	**173**	P			**P**	**23 14 26.4**	**+1.7**
ASAR	**Alice Springs**	**18.39**	**156**	P			**P**	**23 14 28.0**	**+1.5**
	comp=Z,0.4nm,0.4s,baz=332,slow=9.6,SNR=5.6								
ASAR				ScP			**ScP**	**23 21 16.9**	**-2.6**
	comp=Z,0.9nm,0.8s,baz=333,slow=1.3,SNR=5.2								
CNJI	**Cibinong**	**18.54**	**268**	P			**P**	**23 14 27.0**	**-1.0**
	comp=Z,47nm,1.1s								
QIS	**Mount Isa**	**19.05**	**137**	P			**P**	**23 14 33.9**	**+1.3**
MEEK	**Meekatharra**	**20.78**	**198**	P			**P**	**23 14 49.7**	**+1.4**
KSRS	**Korea Array**	**44.18**	**2**	P			**P**	**23 18 05.5**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=182,slow=9.5,SNR=5.7								
	comp=Z,1.1nm,0.6s								
MJAR	**Matsushiro Arr**	**44.76**	**14**	P			**P**	**23 18 10.2**	**-0.8**
	comp=Z,3.7nm,0.7s,baz=191,slow=8.5,SNR=9.2								
	comp=Z,3.7nm,0.7s								
USRK	**Ussuriysk Ar.**	**51.18**	**6**	P			**P**	**23 18 58.0**	**-0.8**
	comp=Z,2.7nm,0.7s,baz=154,slow=5.3,SNR=5.9								
	comp=Z,2.7nm,0.7s								
SONM	**Songino Array**	**57.14**	**345**	P			**P**	**23 19 40.2**	**-0.8**
	comp=Z,1.8nm,0.7s,baz=159,slow=9.1,SNR=8.9								
	comp=Z,1.8nm,0.7s								
PETK	**Petropavlovsk-**	**65.61**	**20**	P			**P**	**23 20 37.0**	**+0.6**
PETK	**Petropavlovsk-**	**65.61**	**20**	P			**P**	**23 20 36.7**	**+0.3**
	comp=Z,2.1nm,0.5s,baz=193,slow=2.8,SNR=15								
	comp=Z,2.1nm,0.5s								
MK31	**Makanchi Array**	**65.93**	**329**	P			**P**	**23 20 38.3**	**-0.3**
MKAR	**Makanchi Array**	**65.93**	**329**	P			**P**	**23 20 38.1**	**-0.5**
MKAR	**Makanchi Array**	**65.93**	**329**	P			**P**	**23 20 38.4**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=128,slow=7.6,SNR=18								
	comp=Z,1.8nm,0.6s								
BOOM	**Boomskoye usch**	**66.86**	**322**	P			**P**	**23 20 44.7**	**0.0**
ZAA0	**Zalesovo Array**	**69.72**	**336**	P			**P**	**23 21 00.7**	**-0.9**
ZAA0				IAmb			IAmb	23 21 01.2	
	comp=Z,5.6nm,0.8s								
ZALV	**Zalesovo Beam**	**69.72**	**336**	P			**P**	**23 21 00.5**	**-1.0**
	comp=Z,4.6nm,0.4s,baz=139,slow=4.7,SNR=21								
	comp=Z,4.6nm,0.4s								
KURBB	**Kurchatov Arra**	**70.31**	**330**	P			**P**	**23 21 04.8**	**-0.3**
	comp=Z,2.6nm,0.6s,baz=135,slow=5.0,SNR=29								
	comp=Z,2.6nm,0.6s								
BVAR	**Borovoye Array**	**75.81**	**329**	P			**P**	**23 21 36.4**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=123,slow=6.8,SNR=16								
	comp=Z,2.6nm,0.7s								
TIXI	**Tiksi**	**78.42**	**1**				**P**	**23 21 50.0**	**-0.6**
TIXI				IAmb			IAmb	23 21 50.4	
	comp=Z,3.8nm,0.5s								
ABKAR	**Akbulak array**	**79.88**	**323**	P			**P**	**23 21 58.1**	**-0.7**
AKTO	**Aktyubinsk**	**81.48**	**323**	P			**P**	**23 22

MLPR	**Magueyes Islan**	**1.64**	**105**⇑	*e*Pg		**Pn**	**23 20 20.6**	**-1.4**
MLPR				⇑*e*Sg		**Sn**	**23 20 45.7**	**-0.8**
MLPR				IAML			23 20 48.0	
	comp=E,13nm,0.1s							
MLPR				IAML			23 20 57.0	
	comp=N,33nm,1.9s							
GBPR	**Guanica, Bosqu**	**1.79**	**104**⇓	*e*P		**Pn**	**23 20 25.7**	**+2.1**
GBPR	**Guanica, Bosqu**	**1.79**	**104**	*e*S		**Sn**	**23 20 49.9**	**+0.5**
GBPR	**Guanica, Bosqu**	**1.79**	**104**			**Pn**	**23 20 25.7**	**+2.1**
GBPR						**Sn**	**23 20 49.9**	**+0.5**
AOPR	**Arecibo Observ**	**1.86**	**91**⇑	*e*P		**Pn**	**23 20 24.4**	**0.0**
AOPR	**Arecibo Observ**	**1.86**	**91**	*e*S		**Sn**	**23 20 50.1**	**-0.7**
AOPR	**Arecibo Observ**	**1.86**	**91**			**Sn**	**23 20 50.1**	**-0.7**
AOPR	**Arecibo Observ**	**1.86**	**91**			**Pn**	**23 20 23.3**	**-1.0**
AOPR				IAML			23 20 56.7	
	comp=N,117nm,0.3s							
AOPR	**Arecibo Observ**	**1.86**	**91**	*e*Pg		**Pn**	**23 20 24.4**	**0.0**
AOPR				⇑*e*Sg		**Sn**	**23 20 50.1**	**-0.7**
AOPR				IAML			23 20 54.6	
	comp=E,185nm,0.3s							
AOPR				IAML			23 20 56.6	
	comp=N,115nm,0.3s							
ABDR	**Alto Bandera**	**1.86**	**283**⇑	*e*Pg		**Pn**	**23 20 25.9**	**+1.2**
ABDR				IAML			23 20 56.0	
	comp=E,36nm,0.8s							
ABDR				IAML			23 20 59.5	
	comp=N,26nm,1.0s							
UUPR	**Utuado, UPR, P**	**1.90**	**94**⇑	*e*P		**Pn**	**23 20 25.8**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.90**	**94**	*e*S		**Sn**	**23 20 51.2**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.90**	**94**			**Pn**	**23 20 25.8**	**+1.0**
UUPR						**Sn**	**23 20 51.2**	**-0.2**
OBIP	**Obispado Ponce**	**2.03**	**100**⇑	*e*P		**Pn**	**23 20 27.5**	**+1.2**
OBIP	**Obispado Ponce**	**2.03**	**100**	*e*S		**Sn**	**23 20 54.0**	**-0.2**
OBIP	**Obispado Ponce**	**2.03**	**100**			**Pn**	**23 20 27.5**	**+1.2**
OBIP						**Sn**	**23 20 54.0**	**-0.2**
OBIP	**Obispado Ponce**	**2.03**	**100**	IAML			23 21 06.9	
	comp=N,25nm,2.5s							
CELP	**Cerrillos**	**2.05**	**99**⇑	*e*P		**Pn**	**23 20 27.0**	**+0.5**
CELP	**Cerrillos**	**2.05**	**99**	*e*S		**Sn**	**23 20 54.3**	**-0.3**
CELP	**Cerrillos**	**2.05**	**99**			**Pn**	**23 20 27.0**	**+0.5**
CELP						**Sn**	**23 20 54.3**	**-0.3**
CELP	**Cerrillos**	**2.05**	**99**	IAML			23 20 55.9	
	comp=N,34nm,0.9s							
CELP	**Cerrillos**	**2.05**	**99**⇑	*e*Pg		**Pn**	**23 20 27.0**	**+0.5**
CELP				⇓*e*Sg		**Sn**	**23 20 54.7**	**+0.1**
CELP				IAML			23 20 55.8	
	comp=N,32nm,0.4s							
EMPR	**Esperanza - Ma**	**2.07**	**88**⇓	*e*P		**Pn**	**23 20 25.7**	**-1.0**
EMPR	**Esperanza - Ma**	**2.07**	**88**	*e*S		**Sn**	**23 20 54.0**	**-1.0**
EMPR	**Esperanza - Ma**	**2.07**	**88**			**Pn**	**23 20 25.7**	**-1.0**
EMPR						**Sn**	**23 20 54.0**	**-1.0**
LOBA2	**Hotel Casa Bon**	**2.29**	**262**	*e*Pg		**Pn**	**23 20 29.8**	**+0.5**
LOBA2				⇓*e*Sg		**Sn**	**23 20 57.2**	**-2.2**
LOBA2				IAML			23 20 59.2	
	comp=N,30nm,0.1s							
LOBA2				IAML			23 20 59.5	
	comp=E,21nm,0.2s							
PODR	**Polo**	**2.45**	**265**⇑	*e*Pg		**Pn**	**23 20 32.6**	**+1.2**
PODR				⇑*e*Sg		**Sn**	**23 21 02.1**	**-1.3**
PODR				IAML			23 21 05.3	
	comp=E,41nm,0.1s							
PODR				IAML			23 21 06.0	
	comp=N,47nm,1.3s							
PODR	**Polo**	**2.45**	**265**	*i* P		**Pn**	**23 20 32.3**	**+0.9**
PODR				*e*S		**Sn**	**23 21 01.2**	**-2.2**
GCPR	**Guaynabo City**	**2.50**	**92**	*e*S		**Sn**	**23 21 01.5**	**-2.4**
GCPR	**Guaynabo City**	**2.50**	**92**			**Sn**	**23 21 01.5**	**-2.4**
SDDR	**Presa de Saban**	**2.51**	**284**	*i* P		**Pn**	**23 20 34.6**	**+2.7**
SDDR				*e*S		**Sn**	**23 21 04.3**	**0.0**
SDDR				IAML			23 21 11.0	
	comp=Z,9.3nm,0.9s							
HUMP	**Col San Antoni**	**2.73**	**95**⇓	*e*P		**Pn**	**23 20 35.4**	**+0.9**
HUMP	**Col San Antoni**	**2.73**	**95**			**Pn**	**23 20 35.4**	**+0.9**
HUMP	**Col San Antoni**	**2.73**	**95**	IAML			23 21 12.1	
	comp=E,24nm,0.2s							
HUMP				IAML			23 21 13.0	
	comp=N,25nm,0.7s							

*IDC **14** 23:26:36.0±2.2,3˚.66N×127˚.38E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=196.3km s-min=22.5km az=67.0*
*DJA **14** 23:26:41.8±0.3,3˚N±2˚×12˚6E±˚, h10km, M4.0/9, mb4.3/5, mB5.3/1, MLv3.9/9, Mw(mB)4.8/1*

ISC 14 23:26:43.1±1.4, 3˚.3N±0˚.1×126˚.4E±0˚.1, h35km, n8, σ1§43/9, mb3.6/4, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**4.06**	**165**	P	**Pn**	**23 27 44.9**	**+2.1**
GTOI	**Gorontalo**	**4.32**	**232**	P	**Pn**	**23 27 47.7**	**+1.4**
GTOI				S	**Sn**	**23 28 34.6**	**-0.8**
SANI	**Sanana**	**5.34**	**185**	P	**Pn**	**23 28 00.2**	**-0.1**
	20nm,0.7s,0.1nm						
MPSI	**Mapaga**	**7.15**	**246**	P	**Pn**	**23 28 26.4**	**+1.1**
	5.5nm,0.9s,2μm0.1nm						
WRA	**Warramunga Arr**	**24.38**	**162**	P	**P**	**23 31 56.7**	**-1.5**
	0.9nm,0.5s,baz=344,slow=9.9,SNR=13 0.9nm,0.5s						
ASAR	**Alice Springs**	**27.78**	**165**	P	**P**	**23 32 28.1**	**-0.8**
	0.2nm,0.3s,baz=347,slow=8.0,SNR=2.5 0.2nm,0.3s						
MKAR	**Makanchi Array**	**57.73**	**326**	P	**P**	**23 36 30.9**	**+0.4**
	0.2nm,0.4s,baz=119,slow=7.7,SNR=6.1 0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**61.93**	**328**	P	**P**	**23 36 58.4**	**-0.8**
	0.3nm,0.6s,baz=129,slow=6.3,SNR=4.5 0.3nm,0.6s						

IDC 14 23:46:08.1±6.0, 30˚.47S×60˚.30E, h0km, mb3.8/2, mbtmp3.8/2, MS3.2/1, Error ellipse: s-maj=355.8km s-min=56.5km az=33.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**17.02**	**201**	T	T	00 08 14.7	
	baz=27,slow=74,SNR=74						
H04N1	**CROZET ISLANDS**	**17.02**	**201**	T	T	00 08 15.8	
	baz=27,slow=74,SNR=53						
H04N3	**CROZET ISLANDS**	**17.03**	**201**	T	T	00 08 14.1	
	baz=27,slow=74,SNR=32						
MBAR	**Mbarara**	**40.87**	**311**	LR	LR	00 09 00.8	
	comp=Z,30nm,19.3s,baz=175,slow=34						
ASAR	**Alice Springs**	**64.86**	**104**	P	P	23 56 49.4	-0.1
	0.4nm,0.5s,baz=244,slow=6.4,SNR=5.5 0.4nm,0.5s						
WRA	**Warramunga Arr**	**66.77**	**100**	P	P	23 57 01.9	+0.2
	1.2nm,0.9s,baz=244,slow=6.2,SNR=3.4 1.2nm,0.9s						
YKA	**Yellowknife Ar**	**147.79**	**356**	PKPbc	PKPbc	00 05 53.4	-0.8
	0.3nm,0.6s,baz=348,slow=2.9,SNR=4.8						

GUC 14 23:46:56.1±0.8, 23˚.97S×67˚.56W, h242km±8km, ML3.7, 1C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.83**	**317**	*e*P	Pn	23 47 36.1	-0.8
LVC				*e*S	S	23 48 06.7	-2.1
LVC				IAML		23 48 09.3	
	471nm,0.3s						
PB15	**IPOC Station P**	**1.91**	**293**⇑	*e*P	Pn	23 47 37.6	+0.3
PB15				*e*S	S	23 48 08.6	-1.0
GO02	**Mina Guanaco**	**2.20**	**237**	*e*P	Pn	23 47 39.9	-0.2
GO02				*e*S	S	23 48 14.3	-0.3
GO02				IAML		23 48 17.9	
	comp=N,143nm,0.3s						
PB06	**IPOC Station P**	**2.24**	**304**	*e*P	Pn	23 47 40.3	-0.1
PB06				*e*S	S	23 48 13.8	-1.2
PB06				IAML		23 48 16.9	
	comp=N,312nm,0.1s						
PB09	**IPOC Station P**	**2.66**	**324**	*e*P	Pn	23 47 45.2	+0.5
PB09				*e*S	S	23 48 21.9	-0.9
PB09				IAML		23 48 28.0	
	comp=N,62nm,0.3s						
PB10	**IPOC Station P**	**2.78**	**279**	*e*P	Pn	23 47 46.2	+0.5
PB10				⇓*e*S	S	23 48 23.0	-1.8
PB10				IAML		23 48 28.9	
	comp=E,52nm,0.4s						
PB04	**IPOC Station P**	**2.88**	**304**	*e*P	Pn	23 47 47.5	+0.4
PB04				*e*S	S	23 48 25.7	-1.5
PB04				IAML		23 48 29.7	
	comp=N,178nm,0.1s						
PB07	**IPOC Station P**	**3.10**	**316**	*e*P	Pn	23 47 49.7	+0.3
PB07				*e*S	S	23 48 30.0	-1.4
PB02	**IPOC Station P**	**3.41**	**320**	*e*P	Pn	23 47 53.0	+0.2
PB02				*e*S	S	23 48 36.3	-1.2
PB01	**IPOC Station P**	**3.41**	**328**	*e*P	Pn	23 47 52.7	-0.1
PB01				*e*S	S	23 48 36.4	-1.3
AC01	**Pan de Azucar**	**3.51**	**231**	*e*P	Pn	23 47 53.6	-0.2
AC01				*e*S	S	23 48 38.1	-1.2
HMBC	**Humberstone**	**4.26**	**329**	*e*P	Pn	23 48 02.0	-0.8
HMBC				*e*S	S	23 48 54.0	-1.7
GO01	**Chusmiza**	**4.54**	**340**	*e*P	Pn	23 48 06.9	+0.3
GO01				*e*S	S	23 49 01.7	-0.7

NNC 14 23:53:17.4±1.4, 36˚.46N×70˚.69E, h142km±35km, mb3.1, mpv3.8, 3C-4D, Error ellipse: s-maj=12.0km s-min=10.7km az=8.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.64**	**359**	P	Pn	23 54 52.4	-0.1
	1.9nm,0.3s,baz=182,slow=9.5,SNR=51						
KK31				S	Sn	23 56 07.6	+0.7
	0.8nm,0.3s,baz=185,slow=23,SNR=5.3						
AAK	**Ala-Archa**	**6.83**	**24**	⇓P	Pn	23 54 55.4	+0.2
	4.6nm,0.4s						
AAK				⇑S	Sn	23 56 11.9	+0.1
	6.6nm,0.6s						
CHMS	**Chumysh**	**7.24**	**24**	⇑P	Pn	23 55 00.5	0.0
	1.9nm,0.3s						
CHMS				⇓S	Sn	23 56 22.3	+0.9
	2.9nm,0.5s						
TKM2	**Tokmak 2**	**7.48**	**29**	⇓P	Pn	23 55 03.8	-0.1
	1.6nm,0.5s						
TKM2				⇓S	Sn	23 56 27.9	+0.5
	1.5nm,0.7s						
AB31	**Akbulak array**	**15.00**	**332**	⇑P	Pn	23 56 41.9	0.0
	0.7nm,0.4s,baz=301,slow=28,SNR=44						

*WEL **14** 23:54:18.4±0.4, 42˚.S±3˚×17˚.4E±˚, h12km±4km, M3.5/17, ML3.7/17, MLv3.5/17, Error ellipse: s-maj=0.0km s-min=0.0km az=152.1, confirmed*
*NOU **14** 23:54:18.8, 42˚.14S×174˚.61E, h25km, MLv4.1/9, Off E. Coast of S. Island, N.Z.*

ISC 14 23:54:17.9±1.1, 41˚.89S±0˚.03×174˚.29E±0˚.03, h16km±8km, n90, σ1§78/101, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**337**	P	**Pg**	**23 54 21.6**	**-0.3**
CMWZ				S	**Sb**	**23 54 24.8**	**-0.5**
BSWZ	**Blackbirch Sta**	**0.36**	**299**	P	**Pg**	**23 54 24.5**	**-0.7**
TUWZ	**Tuamarina**	**0.53**	**330**	P	**Pb**	**23 54 26.9**	**-1.9**
TUWZ				S	**Sb**	**23 54 33.2**	**-3.0**
BHW	**Baring Head**	**0.65**	**42**	P	**Pb**	**23 54 31.0**	**+0.2**
BHW				S	**Sg**	**23 54 41.1**	**+2.0**
TCW	**Tory Channel**	**0.68**	**359**	P	**Pb**	**23 54 29.6**	**-1.8**
TCW				S	**Sb**	**23 54 38.0**	**-2.5**
WEL	**Wellington**	**0.70**	**31**	P	**Pb**	**23 54 31.3**	**-0.5**
WEL				S	**Sb**	**23 54 42.2**	**+1.0**
KHZ	**Kahutara**	**0.77**	**227**	P	**Pn**	**23 54 34.9**	**+0.8**
KHZ	**Kahutara**	**0.77**	**227**	P	**Pn**	**23 54 34.8**	**+0.7**
KHZ				S	**Sn**	**23 54 47.3**	**+2.0**
PLWZ	**Palliser**	**0.79**	**66**	P	**Pn**	**23 54 34.0**	**-0.4**
NNZ	**Nelson**	**0.96**	**314**	P	**Pb**	**23 54 34.6**	**-1.5**
CAW	**Cannon Point**	**0.97**	**37**	P	**Pb**	**23 54 36.0**	**-0.4**
CAW				S	**Sg**	**23 54 50.2**	**+0.7**
PAWZ	**Paruwai Farm**	**0.99**	**59**	P	**Pb**	**23 54 36.6**	**-0.1**
THZ	**Tophouse**	**1.04**	**277**	P	**Pn**	**23 54 37.3**	**-0.6**
DUWZ	**D'Urville Isla**	**1.12**	**345**	P	**Pn**	**23 54 37.1**	**-1.8**
DUWZ				S	**Sb**	**23 54 51.3**	**-2.0**
KIW	**Kapiti Island**	**1.13**	**24**	P	**Pn**	**23 54 38.1**	**-0.9**
TRWZ	**Traveller**	**1.16**	**65**	P	**Pn**	**23 54 38.6**	**-0.8**
MTW	**Mount Morrison**	**1.17**	**52**	P	**Pn**	**23 54 38.7**	**-0.8**
MTW				S	**Sg**	**23 54 56.2**	**+0.6**
MRNZ	**Matariki Terra**	**1.25**	**293**	P	**Pn**	**23 54 40.4**	**-0.3**
MRNZ				S	**Sn**	**23 54 57.4**	**+0.2**
OGWZ	**Otaki Gorge**	**1.26**	**32**	P	**Pn**	**23 54 40.2**	**-0.6**
OGWZ				S	**Sn**	**23 54 57.4**	**0.0**
TKNZ	**Takaka Hill**	**1.32**	**310**	P	**Pn**	**23 54 40.8**	**-0.8**
HOWZ	**Holdsworth Sta**	**1.35**	**43**	P	**Pn**	**23 54 41.2**	**-0.9**
GVZ	**Greta Valley S**	**1.42**	**220**	P	**Pn**	**23 54 43.6**	**+0.5**
TMWZ	**Te Maipa**	**1.43**	**57**	P	**Pn**	**23 54 42.3**	**-0.9**
MRZ	**Mangatainoka R**	**1.56**	**39**	P	**Pn**	**23 54 44.2**	**-0.8**
TIWZ	**Tintock**	**1.64**	**48**	P	**Pn**	**23 54 45.0**	**-1.0**
QRZ	**Quartz Range**	**1.70**	**308**	P	**Pn**	**23 54 47.0**	**+0.1**
LTZ	**Lake Taylor**	**1.74**	**239**	P	**Pn**	**23 54 47.9**	**+0.4**
AMCZ	**Amberley**	**1.77**	**223**	P	**Pn**	**23 54 48.0**	**+0.1**
PRWZ	**Pori Road**	**1.84**	**44**	P	**Pn**	**23 54 48.1**	**-0.7**
OHWZ	**Ohakea**	**1.85**	**25**	P	**Pb**	**23 54 51.0**	**-0.3**
DSZ	**Denniston Nort**	**1.87**	**274**	P	**Pn**	**23 54 50.1**	**+0.9**
POWZ	**Post Office Ro**	**1.87**	**37**	P	**Pn**	**23 54 48.3**	**-0.8**
BFZ	**Birch Farm**	**1.90**	**51**	P	**Pn**	**23 54 49.7**	**0.0**
BFZ	**Birch Farm**	**1.90**	**51**	P	**Pn**	**23 54 49.3**	**-0.4**
DVHZ	**Dannevirke**	**2.10**	**42**	P	**Pn**	**23 54 51.2**	**-1.6**
MQZ	**McQueen's Vall**	**2.18**	**213**	P	**Pn**	**23 54 52.7**	**-0.4**
WAZ	**Wanganui**	**2.20**	**14**	P	**Pn**	**23 54 56.1**	**+2.4**
OXZ	**Oxford**	**2.20**	**228**	P	**Pn**	**23 54 53.1**	**-0.6**
TSZ	**Takapari Road**	**2.22**	**35**	P	**Pn**	**23 54 53.2**	**-0.9**
AKCZ	**Akaroa Harbour**	**2.23**	**207**	P	**Pn**	**23 54 54.1**	**0.0**
INZ	**Inchbonnie**	**2.27**	**248**	P	**Pn**	**23 54 55.2**	**+0.5**
PRHZ	**Porangahau**	**2.40**	**48**	P	**Pn**	**23 54 56.4**	**-0.1**
LREZ	**Lake Rotokare**	**2.43**	**2**	P	**Pn**	**23 55 00.5**	**+3.6**
WPHZ	**Waipukurau**	**2.44**	**42**	P	**Pb**	**23 55 03.2**	**+1.8**
PNHZ	**Pukenui**	**2.45**	**37**	P	**Pn**	**23 54 55.7**	**-1.5**
PREZ	**Palmer Road**	**2.55**	**358**	P	**Pn**	**23 55 01.8**	**+3.2**
MHCZ	**Mount Hutt**	**2.59**	**230**	P	**Pn**	**23 54 58.3**	**-0.9**
KHEZ	**Kahui Hut**	**2.60**	**355**	P	**Pn**	**23 55 03.1**	**+3.7**
KHEZ	**Kahui Hut**	**2.60**	**355**	P	**Pn**	**23 55 03.1**	**+3.7**
NEZ	**North Egmont**	**2.62**	**357**	P	**Pn**	**23 55 02.4**	**+2.8**
NBEZ	**Newall Road No**	**2.64**	**353**	P	**Pb**	**23 55 04.2**	**-0.6**
DREZ	**Durham Road**	**2.70**	**358**	P	**Pn**	**23 55 03.4**	**+2.7**
PKEZ	**Pukeiti**	**2.70**	**355**	P	**Pn**	**23 55 03.4**	**+2.9**
MOWZ	**Moawhango**	**2.72**	**25**	P	**Pn**	**23 55 04.4**	**+3.4**
KRHZ	**Kereru**	**2.74**	**36**	P	**Pn**	**23 54 59.5**	**-1.7**
WNVZ	**Wahianoa**	**2.75**	**22**	P	**Pn**	**23 55 02.3**	**+0.8**
BHHZ	**Black Hill Sta**	**2.75**	**30**	P	**Pn**	**23 55 00.6**	**-0.7**
TRVZ	**Turoa**	**2.76**	**21**	P	**Pb**	**23 55 05.9**	**-1.0**
WHVZ	**Whangaehu Hut**	**2.79**	**21**	P	**Pb**	**23 55 06.0**	**-1.4**
VRZ	**Vera Road**	**2.79**	**7**	P	**Pn**	**23 55 03.8**	**+2.0**
MAVZ	**Matarangi**	**2.79**	**21**	P	**Pb**	**23 55 05.9**	**-1.7**
FWVZ	**Far West T-bar**	**2.80**	**20**	P	**Pn**	**23 55 05.7**	**+3.4**
TUVZ	**Tukino**	**2.82**	**22**	P	**Pb**	**23 55 06.5**	**-1.4**
COVZ	**Chateau Observ**	**2.85**	**20**	P	**Pb**	**23 55 07.8**	**-0.7**
KAHZ	**Kahuranaki**	**2.87**	**44**	P	**Pn**	**23 55 00.9**	**-2.1**
WVZ	**Waitaha Valley**	**2.88**	**245**	P	**Pb**	**23 55 09.1**	**+0.1**
NGZ	**Ngauruhoe**	**2.89**	**21**	P	**Pb**	**23 55 08.1**	**-1.0**
SNVZ	**South Ngauruho**	**2.89**	**21**	P	**Pn**	**23 55 04.3**	**+0.9**
OTVZ	**Oturere**	**2.92**	**21**	P	**Pn**	**23 55 03.9**	**+0.2**
NNVZ	**North Ngauruho**	**2.93**	**21**	P	**Pn**	**23 55 07.1**	**+3.1**
WTVZ	**West Tongariro**	**2.94**	**20**	P	**Pn**	**23 55 07.8**	**+3.7**
TWVZ	**Taurewa**	**2.95**	**18**	P	**Pb**	**23 55 08.9**	**-1.2**
ETVZ	**East Tongariro**	**2.96**	**22**	P	**Pn**	**23 55 07.4**	**+3.1**
TMVZ	**Te Maari**	**2.97**	**22**	P	**Pn**	**23 55 08.1**	**+3.6**
KRVZ	**Karewarewa**	**2.98**	**21**	P	**Pb**	**23 55 09.0**	**-1.5**
NTVZ	**North Tongarir**	**2.98**	**21**	P	**Pn**	**23 55 04.7**	**+0.1**
RPZ	**Rata Peaks**	**3.00**	**232**	P	**Pn**	**23 55 04.6**	**-0.2**
RPZ	**Rata Peaks**	**3.00**	**232**	P	**Pn**	**23 55 04.3**	**-0.5**
KATZ	**Kakaramea**	**3.10**	**21**	P	**Pb**	**23 55 12.1**	**-0.6**
BKZ	**Black Stump Fm**	**3.20**	**32**	P	**Pn**	**23 55 08.7**	**+1.2**
HIZ	**Hauiti**	**3.40**	**7**	P	**Pn**	**23 55 13.5**	**+3.2**
HIZ	**Hauiti**	**3.40**	**7**	P	**Pn**	**23 55 13.2**	**+2.9**
TMZ	**Timaru**	**3.46**	**223**	P	**Pn**	**23 55 10.6**	**-0.6**
ODZ	**Otahua Downs**	**4.12**	**219**	P	**Pn**	**23 55 20.1**	**-0.1**
ODZ	**Otahua Downs**	**4.12**	**219**	P	**Pn**	**23 55 19.3**	**-0.8**
URZ	**Urewera**	**4.22**	**32**	P	**Pn**	**23 55 22.8**	**+1.3**
TOZ	**Tahuroa Road**	**4.26**	**13**	P	**Pn**	**23 55 25.9**	**+3.9**
JCZ	**Jackson Bay**	**4.59**	**240**	P	**Pn**	**23 55 28.1**	**+1.4**
JCZ	**Jackson Bay**	**4.59**	**240**	P	**Pn**	**23 55 31.1**	**+4.4**
MKAZ	**Moumakai**	**4.83**	**8**	P	**Pn**	**23 55 32.4**	**+2.5**

*TIR **15** 00:04:16.9, 39˚.40N×20˚.24E, h1km±1km, Md3.0, Ml2.6*
*ATH **15** 00:04:18.0, 39˚.38N×20˚.22E, h6km±1km, ML2.8/6, Error ellipse: s-maj=1.8km s-min=0.8km az=283.0*
*THE **15** 00:04:17.9, 39˚.41N×20˚.11E, h0km±2km, ML3.0/4, Error ellipse: s-maj=2.3km s-min=0.6km az=277.0*

ISC 15 00:04:17.7±1.1, 39˚.38N±0˚.02×20˚.22E±0˚.03, h1km±10km, n53, σ0§88/83, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.18**	**29**	P	**Pg**	**00 04 20.7**	**-0.4**
	baz=27						
IGT				S	**Sg**	**00 04 23.0**	**-0.4**
	baz=27						
IGT	**Igoumenitsa**	**0.18**	**29**	P	**Pg**	**00 04 20.9**	**-0.2**
IGT				S	**Sg**	**00 04 24.9**	**+1.5**
	4μm,0.2s						
IGT	**Igoumenitsa**	**0.18**	**29**	P	**Pg**	**00 04 20.8**	**-0.2**
IGT				S	**Sg**	**00 04 23.6**	**+0.2**
IGT				AML	AML	00 04 24.6	
	comp=N,7048μm,0.2s						
IGT				AML	AML	00 04 25.2	
	comp=E,7076μm,0.2s						
KASA	**Kassiopi**	**0.43**	**329**	P	**Pg**	**00 04 26.6**	**+0.6**
KASA				S	**Sg**	**00 04 32.6**	**+1.1**
SRN	**Sarande**	**0.53**	**341**	P	**Pg**	**00 04 28.0**	**+0.2**
	baz=340						
SRN				S	**Sg**	**00 04 35.5**	**+0.8**
	baz=340						
SRN				AMP			
	comp=N,1.1nm,0.5s,baz=340						
SRN	**Sarande**	**0.53**	**341**	P	**Pg**	**00 04 28.1**	**+0.2**
SRN				S	**Sg**	**00 04 34.0**	**-0.7**
JAN	**Janina**	**0.56**	**60**	P	**Pb**	**00 04 30.5**	**+0.1**
JAN				S	**Sb**	**00 04 39.9**	**+1.0**
	comp=N,2μm,0.3s						
JAN	**Janina**	**0.56**	**60**	P	**Pg**	**00 04 29.3**	**+0.9**
JAN				S	**Sg**	**00 04 37.1**	**+1.4**
JAN				AML	AML	00 04 42.7	
	comp=N,3984μm,0.4s						
JAN				AML	AML	00 04 43.0	
	comp=E,4696μm,0.3s						
LKD2	**Lefkada island**	**0.68**	**150**	P	**Pg**	**00 04 31.0**	**+0.3**
	baz=151						
LKD2				S	**Sb**	**00 04 42.3**	**0.0**
	baz=151						
LKD2	**Lefkada island**	**0.68**	**150**	P	**Pb**	**00 04 31.8**	**-0.6**
LKD2	**Lefkada island**	**0.68**	**150**	P	**Pg**	**00 04 30.9**	**+0.2**
LKD2				S	**Sg**	**00 04 40.7**	**+1.2**
DRAG	**Dragano-Lefkad**	**0.74**	**158**	P	**Pg**	**00 04 31.8**	**-0.2**
DRAG				S	**Sg**	**00 04 42.2**	**+0.6**
NYDR	**Nydri-Lefkada**	**0.76**	**151**	P	**Pg**	**00 04 32.0**	**-0.3**
NYDR				S	**Sg**	**00 04 42.7**	**+0.6**
LSK	**Leskovik**	**0.82**	**21**	P	**Pg**	**00 04 33.1**	**-0.3**
	baz=20						
LSK				S	**Sb**	**00 04 46.0**	**-0.6**
	baz=20						
LSK				AMP			
	comp=N,1.7nm,0.4s,baz=20						
LSK	**Leskovik**	**0.82**	**21**	P	**Pg**	**00 04 33.2**	**-0.3**
FSK	**Fiskardo**	**0.95**	**164**	P	**Pg**	**00 04 36.5**	**+0.5**
FSK				S	**Sn**	**00 04 51.9**	**-0.6**
FSK	**Fiskardo**	**0.95**	**164**	P	**Pg**	**00 04 35.7**	**-0.2**
FSK				S	**Sg**	**00 04 48.5**	**+0.1**
FSK				AML	AML	00 04 53.7	
	comp=N,1766μm,0.3s						
FSK				AML	AML	00 04 55.5	
	comp=E,2377μm,0.3s						
KPRO	**Kipourio**	**1.05**	**56**	P	**Pg**	**00 04 36.9**	**-1.0**
KPRO				S	**Sb**	**00 04 52.8**	**-0.3**
KPRO				AML	AML	00 04 59.0	
	comp=N,892μm,0.3s						
KPRO				AML	AML	00 04 59.7	
	comp=E,1024μm,0.4s						
PENT	**Pentalofos**	**1.08**	**41**	P	**Pg**	**00 04 37.9**	**-0.5**
PENT				S	**Sb**	**00 04 53.5**	**-0.5**
DMLN	**Damoulianata-K**	**1.14**	**174**	P	**Pg**	**00 04 39.3**	**-0.4**
DMLN				S	**Sb**	**00 04 55.3**	**-0.4**
KEF3	**Kipouria, Keph**	**1.18**	**175**	P	**Pb**	**00 04 40.7**	**-0.2**
KEF3				S	**Sn**	**00 04 58.6**	**+0.6**
	comp=E,898nm,0.3s						
KEF3	**Kipouria, Keph**	**1.18**	**175**	P	**Pg**	**00 04 39.6**	**-0.7**
KEF3				S	**Sb**	**00 04 56.1**	**-0.5**
LXRA	**Lixouri, Kepha**	**1.19**	**172**	P	**Pg**	**00 04 40.4**	**-0.1**
LXRA				S	**Sg**	**00 04 56.3**	**+0.4**
NEST	**Nestorio**	**1.22**	**31**	P	**Pg**	**00 04 40.8**	**-0.2**
NEST

WB0	**Warramunga Arr**	**46.89**	**123**	P	**P**	**00 20 28.5**	**+0.4**
WB0				IAmb	IAmb	00 20 34.7	
	comp=Z,7.7nm,1.1s						
WRA	**Warramunga Arr**	**46.92**	**123**	P	**P**	**00 20 29.3**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=305,slow=8.7,SNR=6.9						
	comp=Z,0.4nm,0.3s						
WB2	**Warramunga Arr**	**46.93**	**123**	P	**P**	**00 20 28.2**	**-0.3**
WB2				IAmb	IAmb	00 20 32.7	
	comp=Z,11nm,1.3s						
WR0	**Warramunga Arr**	**47.10**	**123**	P	**P**	**00 20 30.2**	**+0.4**
KURBB	**Kurchatov Arra**	**47.24**	**347**	P	**P**	**00 20 31.9**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=206,slow=6.5,SNR=11						
	comp=Z,0.8nm,0.3s						
KURK	**Kurchatov**	**47.30**	**347**	P	**P**	**00 20 31.9**	**+1.1**
KURK				IAmb	IAmb	00 20 49.4	
	comp=Z,1.4nm,0.8s						
ASAR	**Alice Springs**	**48.38**	**128**	P	**P**	**00 20 39.9**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=302,slow=7.4,SNR=6.5						
	comp=Z,0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**49.34**	**353**	P	**P**	**00 20 47.2**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=184,slow=6.5,SNR=7.7						
	comp=Z,1.6nm,0.3s						
BVAR	**Borovoye Array**	**51.59**	**342**	P	**P**	**00 21 03.5**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=151,slow=6.8,SNR=4.4						
	comp=Z,0.7nm,0.6s						
ABKAR	**Akbulak array**	**52.59**	**333**	P	**P**	**00 21 12.9**	**+1.9**
H04N2	**CROZET ISLANDS**	**63.12**	**211**	T	T	01 31 12.6	
	baz=48,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**63.13**	**211**	T	T	01 31 12.0	
	baz=48,slow=75,SNR=5.9						
H04N3	**CROZET ISLANDS**	**63.14**	**211**	T	T	01 31 13.2	
	baz=48,slow=75,SNR=5.0						
FINES	**FINESS Array B**	**75.08**	**333**	P	**P**	**00 23 38.6**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=130,slow=7.5,SNR=1.7						
	comp=Z,0.4nm,0.6s						
C18K	**Utukok River**	**90.78**	**21**	P	**P**	**00 25 01.0**	**+0.6**
C18K				IAmb	IAmb	00 25 01.5	
	comp=Z,1.4nm,0.6s						

*IDC **15** 00:43:59.1±3.1,38°.36S×176°.39E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=248.2km s-min=49.6km az=24.0*
*NOU **15** 00:44:10.0, 41°.98S×174°.49E, h16km, MLv4.4/14, Cook Strait, New Zealand*
*WEL **15** 00:44:11.5±0.4, 42°.3°×17°.4E±°, h9km±4km, M4.1/14, ML4.4/14, MLv4.1/14, Error ellipse: s-maj=0.0km s-min=0.0km az=161.6, confirmed*
*WEL **15** 00:44:11.5, 41°.76S×174°.22E, h14km, ML4.1, Mw3.7, Moment Tensor Solution. s4 Moment tensor: Mrr20.34; Mθθ15.81; Mϕϕ-36.16; Mrθ-13.24; Mθϕ22.41; Mϕr-21.07; Fault plane solution: NP1:ϕ±238.00000°, δ49.00000°, λ155.00000°. NP2:ϕ±345.00000°, δ71.00000°, λ44.00000°. Principal axes: T 43.3100, Plg44.0000°, Azm211.0000°; N 4.8100, Plg43.0000°, Azm3.0000°; P -48.1200, Plg14.0000°, Azm107.0000°; SOUTH ISLAND*

ISC 15 00:44:10.1±1.0, 41°.86S±0°.03×174°.29E±0°.02, h19km±3km, n139, σ1§29/153, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.12**	**335**	P	**Pg**	**00 44 14.4**	**+0.2**
CMWZ				S	**Sg**	**00 44 18.3**	**+1.4**
BSWZ	**Blackbirch Sta**	**0.34**	**295**	P	**Pg**	**00 44 17.2**	**-0.1**
BSWZ				S	**Sg**	**00 44 22.3**	**0.0**
TUWZ	**Tuamarina**	**0.50**	**329**	P	**Pg**	**00 44 19.7**	**-0.5**
TUWZ				S	**Sg**	**00 44 25.9**	**-1.1**
BHW	**Baring Head**	**0.63**	**44**	P	**Pb**	**00 44 23.6**	**+1.2**
BHW				S	**Sn**	**00 44 33.8**	**+0.3**
SNO	**South Karori**	**0.63**	**30**	P	**Pg**	**00 44 23.0**	**+0.4**
TCW	**Tory Channel**	**0.65**	**359**	P	**Pg**	**00 44 22.3**	**-0.6**
TCW				S	**Sg**	**00 44 30.9**	**-0.7**
WEL	**Wellington**	**0.68**	**32**	P	**Pg**	**00 44 24.0**	**+0.5**
PLWZ	**Palliser**	**0.78**	**68**	P	**Pg**	**00 44 26.7**	**+1.3**
KHZ	**Kahutara**	**0.79**	**225**	P	**Pn**	**00 44 27.5**	**+1.4**
KHZ	**Kahutara**	**0.79**	**225**	P	**Pn**	**00 44 27.3**	**+1.2**
KHZ	**Kahutara**	**0.79**	**225**	P	**Pn**	**00 44 27.5**	**+1.4**
KHZ				S	**Sn**	**00 44 40.1**	**+2.8**
MSWZ	**Moikau Station**	**0.85**	**59**	P	**Pn**	**00 44 28.1**	**+1.1**
MSWZ				S	**Sn**	**00 44 41.0**	**+2.1**
NNZ	**Nelson**	**0.94**	**313**	P	**Pb**	**00 44 27.4**	**-0.3**
NNZ				S	**Sb**	**00 44 39.7**	**+0.1**
CAW	**Cannon Point**	**0.95**	**38**	P	**Pb**	**00 44 28.8**	**+0.8**
CAW				S	**Sn**	**00 44 42.8**	**+1.3**
PAWZ	**Paruwai Farm**	**0.98**	**61**	P	**Pb**	**00 44 29.3**	**+0.8**
PAWZ				S	**Sn**	**00 44 44.6**	**+2.4**
THZ	**Tophouse**	**1.04**	**275**	P	**Pb**	**00 44 30.1**	**+0.7**
DUWZ	**D'Urville Isla**	**1.09**	**345**	P	**Pg**	**00 44 29.9**	**-0.5**
DUWZ				S	**Sb**	**00 44 44.0**	**-0.2**
KIW	**Kapiti Island**	**1.10**	**25**	P	**Pb**	**00 44 30.9**	**+0.3**
KIW				S	**Sg**	**00 44 46.4**	**+0.4**
TRWZ	**Traveller**	**1.15**	**67**	P	**Pn**	**00 44 31.4**	**+0.3**
MTW	**Mount Morrison**	**1.15**	**53**	P	**Pn**	**00 44 31.4**	**+0.3**
MTW				S	**Sg**	**00 44 48.9**	**+1.4**
MRNZ	**Matariki Terra**	**1.23**	**291**	P	**Pn**	**00 44 33.2**	**+0.9**
MRNZ				S	**Sg**	**00 44 50.2**	**+0.1**
OGWZ	**Otaki Gorge**	**1.24**	**33**	P	**Pn**	**00 44 33.0**	**+0.7**
OGWZ				S	**Sg**	**00 44 50.0**	**-0.2**
TKNZ	**Takaka Hill**	**1.29**	**309**	P	**Pn**	**00 44 33.6**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.34**	**44**	P	**Pn**	**00 44 33.9**	**+0.2**
TMWZ	**Te Maipa**	**1.42**	**59**	P	**Pn**	**00 44 34.9**	**+0.1**
GVZ	**Greta Valley S**	**1.44**	**220**	P	**Pn**	**00 44 36.4**	**+1.3**
MRZ	**Mangatainoka R**	**1.55**	**40**	P	**Pn**	**00 44 36.9**	**+0.3**
TIWZ	**Tintock**	**1.62**	**49**	P	**Pn**	**00 44 37.7**	**0.0**
QRZ	**Quartz Range**	**1.68**	**307**	P	**Pb**	**00 44 40.1**	**-0.2**
QRZ	**Quartz Range**	**1.68**	**307**	P	**Pb**	**00 44 40.3**	**0.0**
QRZ	**Quartz Range**	**1.68**	**307**	P	**Pn**	**00 44 39.8**	**+1.4**
CPWZ	**Castlepoint**	**1.73**	**57**	P	**Pn**	**00 44 39.6**	**+0.6**
LTZ	**Lake Taylor**	**1.75**	**238**	P	**Pn**	**00 44 40.7**	**+1.2**
AMCZ	**Amberley**	**1.79**	**222**	P	**Pn**	**00 44 40.7**	**+0.8**
PRWZ	**Pori Road**	**1.82**	**45**	P	**Pn**	**00 44 40.4**	**+0.1**
OHWZ	**Ohakea**	**1.83**	**26**	P	**Pn**	**00 44 42.3**	**+1.9**
POWZ	**Post Office Ro**	**1.85**	**38**	P	**Pn**	**00 44 40.9**	**+0.2**
DSZ	**Denniston Nort**	**1.86**	**273**	P	**Pn**	**00 44 42.4**	**+1.5**
BFZ	**Birch Farm**	**1.89**	**52**	P	**Pn**	**00 44 41.1**	**-0.2**
BFZ	**Birch Farm**	**1.89**	**52**	P	**Pn**	**00 44 40.9**	**-0.4**
BFZ	**Birch Farm**	**1.89**	**52**	P	**Pn**	**00 44 40.7**	**-0.6**
DVHZ	**Dannevirke**	**2.11**	**43**	P	**Pn**	**00 44 43.8**	**-0.5**
ANWZ	**Angora Road**	**2.17**	**50**	P	**Pn**	**00 44 44.9**	**-0.2**
WAZ	**Wanganui**	**2.17**	**14**	P	**Pb**	**00 44 48.0**	**-0.7**
MQZ	**McQueen's Vall**	**2.20**	**213**	P	**Pn**	**00 44 45.3**	**-0.2**
TSZ	**Takapari Road**	**2.20**	**36**	P	**Pn**	**00 44 45.6**	**0.0**
OXZ	**Oxford**	**2.21**	**288**	P	**Pn**	**00 44 46.8**	**0.0**
AKCZ	**Akaroa Harbour**	**2.25**	**206**	P	**Pn**	**00 44 46.8**	**+0.5**
INZ	**Inchbonnie**	**2.28**	**247**	P	**Pn**	**00 44 47.8**	**+1.2**
PRHZ	**Porangahau**	**2.39**	**49**	P	**Pn**	**00 44 47.5**	**-0.7**
LREZ	**Lake Rotokare**	**2.40**	**2**	P	**Pb**	**00 44 51.5**	**-1.1**
WPHZ	**Waipukurau**	**2.43**	**43**	P	**Pn**	**00 44 49.1**	**+0.4**
PNHZ	**Pukenui**	**2.43**	**37**	P	**Pn**	**00 44 48.4**	**-0.4**
RACZ	**Rakaia**	**2.44**	**220**	P	**Pn**	**00 44 48.8**	**-0.1**
NMEZ	**Namu Road**	**2.46**	**353**	P	**Pb**	**00 44 53.7**	**0.0**
PREZ	**Palmer Road**	**2.52**	**358**	P	**Pb**	**00 44 53.7**	**-0.9**
KHEZ	**Kahui Hut**	**2.57**	**355**	P	**Pn**	**00 44 53.7**	**+2.9**
KHEZ	**Kahui Hut**	**2.57**	**355**	P	**Pb**	**00 44 55.0**	**-0.6**
KHEZ	**Kahui Hut**	**2.57**	**355**	P	**Pb**	**00 44 55.0**	**-0.6**
NEZ	**North Egmont**	**2.59**	**357**	P	**Pb**	**00 44 54.7**	**-1.3**
MHCZ	**Mount Hutt**	**2.61**	**229**	P	**Pn**	**00 44 51.0**	**-0.2**
NBEZ	**Newall Road No**	**2.61**	**353**	P	**Pb**	**00 44 55.0**	**-1.2**
MTVZ	**Mangateitei**	**2.63**	**20**	P	**Pb**	**00 44 56.2**	**-0.4**
DREZ	**Durham Road**	**2.67**	**359**	P	**Pb**	**00 44 56.1**	**-1.1**
PKEZ	**Pukeiti**	**2.67**	**355**	P	**Pb**	**00 44 55.5**	**-1.8**
PXZ	**Pawanui**	**2.67**	**48**	P	**Pn**	**00 44 51.3**	**-0.7**
MOVZ	**Moawhango**	**2.69**	**25**	P	**Pn**	**00 44 53.0**	**+0.5**
WNVZ	**Wahianoa**	**2.72**	**22**	P	**Pn**	**00 44 54.1**	**+1.2**
KRHZ	**Kereru**	**2.72**	**36**	P	**Pn**	**00 44 52.2**	**-0.6**
BHHZ	**Black Hill Sta**	**2.73**	**30**	P	**Pn**	**00 44 53.2**	**+0.4**
TRVZ	**Turoa**	**2.73**	**21**	P	**Pb**	**00 44 57.3**	**-1.2**
WACZ	**Wakanui South**	**2.75**	**220**	P	**Pn**	**00 44 53.4**	**+0.3**
VRZ	**Vera Road**	**2.76**	**8**	P	**Pn**	**00 44 55.5**	**+2.3**
WHVZ	**Whangaehu Hut**	**2.76**	**22**	P	**Pn**	**00 44 55.0**	**+1.5**
MAVZ	**Matarangi**	**2.77**	**21**	P	**Pb**	**00 44 57.1**	**-2.0**
FWVZ	**Far West T-bar**	**2.78**	**21**	P	**Pn**	**00 44 55.2**	**+1.5**
TUVZ	**Tukino**	**2.79**	**22**	P	**Pn**	**00 44 55.8**	**+2.0**
COVZ	**Chateau Observ**	**2.83**	**20**	P	**Pb**	**00 44 59.3**	**-0.6**
KAHZ	**Kahuranaki**	**2.85**	**44**	P	**Pn**	**00 44 53.8**	**-0.8**
NGZ	**Ngauruhoe**	**2.86**	**21**	P	**Pn**	**00 44 56.5**	**+1.7**
SNVZ	**South Ngauruho**	**2.86**	**22**	P	**Pn**	**00 44 56.4**	**+1.5**
WVZ	**Waitaha Valley**	**2.89**	**244**	P	**Pn**	**00 44 56.2**	**+1.1**
OTVZ	**Oturere**	**2.89**	**22**	P	**Pn**	**00 44 56.5**	**+1.2**
NNVZ	**North Ngauruho**	**2.91**	**21**	P	**Pn**	**00 44 57.2**	**+1.7**
WTVZ	**West Tongariro**	**2.92**	**20**	P	**Pn**	**00 44 57.2**	**+1.7**
TWVZ	**Taurewa**	**2.92**	**18**	P	**Pb**	**00 45 01.7**	**+0.1**
KWHZ	**Kaweka Forest**	**2.93**	**34**	P	**Pn**	**00 44 55.2**	**-0.4**
ETVZ	**East Tongariro**	**2.93**	**22**	P	**Pn**	**00 44 56.9**	**+1.1**
TMVZ	**Te Maari**	**2.95**	**22**	P	**Pn**	**00 44 57.0**	**+1.0**
KRVZ	**Karewarewa**	**2.95**	**21**	P	**Pn**	**00 44 57.7**	**+1.7**
NTVZ	**North Tongarir**	**2.96**	**21**	P	**Pn**	**00 44 57.1**	**+1.0**
RPZ	**Rata Peaks**	**3.02**	**231**	P	**Pn**	**00 44 57.1**	**+0.3**
RPZ	**Rata Peaks**	**3.02**	**231**	P	**Pn**	**00 44 57.1**	**+0.3**
MCHZ	**McNeill Hill**	**3.03**	**38**	P	**Pn**	**00 44 56.5**	**-0.5**
KATZ	**Kakaramea**	**3.08**	**21**	P	**Pb**	**00 45 04.0**	**-0.3**
ARCZ	**Arundel**	**3.09**	**227**	P	**Pn**	**00 44 58.0**	**+0.1**
RITZ	**Rihia Road**	**3.12**	**23**	P	**Pb**	**00 45 05.0**	**0.0**
BKZ	**Black Stump Fm**	**3.17**	**33**	P	**Pn**	**00 44 59.3**	**+0.3**
BKZ	**Black Stump Fm**	**3.17**	**33**	P	**Pn**	**00 44 59.4**	**+0.4**
BKZ	**Black Stump Fm**	**3.17**	**33**	P	**Pn**	**00 44 58.4**	**-0.6**
RATZ	**Rangitukua**	**3.20**	**21**	P	**Pb**	**00 45 05.4**	**-0.9**
GCSZ	**Gaunt Creek Bo**	**3.26**	**242**	P	**Pn**	**00 45 02.1**	**+1.9**
HATZ	**Hinemaiaia**	**3.27**	**26**	P	**Pb**	**00 45 07.9**	**+0.4**
NMHZ	**Naumai**	**3.36**	**36**	P	**Pn**	**00 45 01.4**	**-0.2**
HIZ	**Hauiti**	**3.37**	**8**	P	**Pn**	**00 45 04.3**	**+2.7**
HIZ	**Hauiti**	**3.37**	**8**	P	**Pn**	**00 45 05.2**	**+3.5**
HIZ	**Hauiti**	**3.37**	**8**	P	**Pn**	**00 45 04.4**	**+2.7**
MRHZ	**Matea Rd**	**3.44**	**29**	P	**Pn**	**00 45 01.9**	**-0.7**
TMZ	**Timaru**	**3.48**	**222**	P	**Pn**	**00 45 03.3**	**+0.2**
MTHZ	**Maungataniwha**	**3.58**	**34**	P	**Pn**	**00 45 04.4**	**-0.3**
TLZ	**Tolley Road**	**3.66**	**16**	P	**Pb**	**00 45 11.6**	**-2.4**
FOZ	**Fox Glacier**	**3.69**	**242**	P	**Pn**	**00 45 07.3**	**+1.2**
LBZ	**Lake Benmore**	**3.92**	**229**	P	**Pn**	**00 45 09.9**	**+0.7**
ODZ	**Otahua Downs**	**4.14**	**219**	P	**Pn**	**00 45 12.3**	**+0.1**
ODZ	**Otahua Downs**	**4.14**	**219**	P	**Pn**	**00 45 11.9**	**-0.3**
URZ	**Urewera**	**4.20**	**32**	P	**Pn**	**00 45 13.4**	**+0.4**
URZ	**Urewera**	**4.20**	**32**	P	**Pn**	**00 45 13.3**	**+0.2**
TOZ	**Tahuroa Road**	**4.23**	**13**	P	**Pn**	**00 45 17.3**	**+3.9**
JCZ	**Jackson Bay**	**4.60**	**239**	P	**Pn**	**00 45 19.8**	**+1.1**
JCZ	**Jackson Bay**	**4.60**	**239**	P	**Pn**	**00 45 20.0**	**+1.4**
TWGZ	**Tauwhareparae**	**4.65**	**39**	P	**Pn**	**00 45 18.1**	**-1.1**
RUGZ	**Raukumara Rang**	**4.68**	**35**	P	**Pn**	**00 45 17.9**	**-1.9**
AWAZ	**Awhitu Peninsu**	**4.80**	**3**	P	**Pn**	**00 45 24.0**	**+2.7**
MKAZ	**Moumakai**	**4.80**	**8**	P	**Pn**	**00 45 24.3**	**+3.0**
HAZ	**Te Kaha**	**4.91**	**34**	P	**Pn**	**00 45 21.8**	**-0.9**
WTAZ	**Waiatarua**	**4.93**	**3**	P	Pn	00 45 29.1	+6.0
EAZ	**Earnscleugh**	**4.94**	**225**	P	**Pn**	**00 45 23.1**	**-0.1**
WIAZ	**Waiheke Island**	**5.10**	**8**	P	**Pn**	**00 45 29.5**	**+4.0**
KUZ	**Kuaotunu**	**5.23**	**13**	P	**Pn**	**00 45 30.0**	**+2.8**
TUZ	**Tuapeka**	**5.29**	**218**	P	**Pn**	**00 45 28.8**	**+0.8**
SYZ	**Scrubby Hill**	**5.96**	**217**	P	**Pn**	**00 45 37.4**	**+0.2**
SYZ	**Scrubby Hill**	**5.96**	**217**	P	**Pn**	**00 45 37.5**	**+0.4**
APZ	**The Paps**	**6.71**	**220**	P	**Pn**	**00 45 47.6**	**0.0**
CTZ	**Chatham Island**	**6.95**	**109**	P	**Pn**	**00 45 48.7**	**-2.1**
CTZ	**Chatham Island**	**6.95**	**109**	P	**Pn**	**00 45 51.1**	**+0.3**
ASAR	**Alice Springs**	**38.09**	**286**	P	**P**	**00 51 26.2**	**-1.4**
	0.3nm,0.4s,baz=125,slow=7.3,SNR=2.1						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**40.17**	**291**	P	**P**	**00 51 41.4**	**-3.7**
	0.5nm,0.6s,baz=130,slow=8.1,SNR=2.4						
	0.5nm,0.6s						
BRTR	**Keskin Array B**	**150.31**	**279**	PKPbc	**PKPdf**	**01 03 53.8**	**-0.8**
	0.3nm,0.4s,baz=50,slow=2.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**150.67**	**195**	PKPbc	**PKPbc**	**01 04 02.2**	**+1.1**
	0.4nm,0.4s,baz=148,slow=2.5,SNR=11						

TEH 15 00:47:03.3, 31°.84N×55°.98E, h10km±25km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.43**	**235**	Pg	Pb	00 47 12.6	-0.4
ZRDN	**Zarand Kerman**	**0.99**	**151**	Pg	Pb	00 47 22.8	+0.1
IMEH	**Mehriz**	**1.25**	**249**	Pg	Pg	00 47 27.6	+0.3
IMEH				Sg	Sn	00 47 44.5	+0.5
TPRV	**Parvadeh(Tabas**	**1.33**	**27**	Pg	Pg	00 47 28.9	+0.1
ICHK	**Chekchek**	**1.39**	**287**	Pg	Pg	00 47 30.0	-0.1
KHGB	**Koh Gabri**	**1.52**	**164**	Pg	Pg	00 47 32.5	0.0
KRM1	**Kerman Provinc**	**1.73**	**140**	Pg	Pg	00 47 36.5	0.0
ISAD	**Sadrabad**	**1.95**	**273**	Pn	Pb	00 47 38.9	-0.2
TVBK	**TV Kerman**	**1.97**	**160**	Pn	Pb	00 47 39.5	+0.1
TKDS	**Koohdasht(Taba**	**2.02**	**28**	Pn	Pb	00 47 39.0	-1.1
TNSJ	**Nastanj**	**2.18**	**14**	Pn	Pn	00 47 41.3	+1.6
NGRK	**Negar Kerman**	**2.28**	**163**	Pn	Pn	00 47 43.3	-1.5
ANAR	**Anarak**	**2.33**	**306**	Pn	Pn	00 47 43.7	-1.8
CHMN	**Cheshme madani**	**2.39**	**145**	Pn	Pb	00 47 45.2	-1.3
ITEG	**Tejag**	**2.57**	**65**	Pn	Pn	00 47 46.9	+1.7
IKOO	**Kooshah**	**2.63**	**76**	Pn	Pn	00 47 47.8	+1.7
BAGH	**Bagheran - Bir**	**2.89**	**70**	Pn	Pn	00 47 50.9	+1.2
AFRZ	**Afriz**	**3.01**	**58**	Pn	Pn	00 47 52.7	+1.5
IRAM	**Ramesheh**	**3.06**	**270**	Pn	Pn	00 47 54.2	+2.3
IZEF	**Zefreh**	**3.26**	**290**	Pn	Pn	00 47 57.3	+2.6
IGAR	**Gharneh**	**3.39**	**281**	Pn	Pn	00 47 59.0	+2.6
IDAH	**Dahanechah**	**3.42**	**74**	Pn	Pn	00 47 58.4	+1.6
KLNJ	**Kolanjah**	**3.84**	**259**	Pn	Pn	00 48 06.1	+3.4
IKLH	**Kolahrood**	**4.00**	**293**	Pn	Pn	00 48 07.7	+2.9
IBRJ	**Brojen**	**4.01**	**272**	Pn	Pn	00 48 07.5	+2.4
ISFB	**Sefidab**	**4.01**	**310**	Pn	Pn	00 48 07.2	+2.3
ILAS	**Lasjerd**	**4.34**	**325**	Pn	Pn	00 48 12.2	+2.7
IPIR	**Pirpir**	**4.39**	**282**	Pn	Pn	00 48 13.6	+3.3
TBHD	**Torbat heydari**	**4.48**	**36**	Pn	Pn	00 48 13.5	+2.0
JHBN	**Jahan bin**	**4.53**	**276**	Pn	Pn	00 48 15.1	+3.0
IFIB	**Firoozkooh**	**4.65**	**326**	Pn	Pn	00 48 15.4	+1.7
SBZV	**Sabzevar**	**4.72**	**16**	Pn	Pn	00 48 17.2	+2.3
IVRN	**Varamin**	**4.75**	**313**	Pn	Pn	00 48 17.4	+2.5
IDMV	**Damavand**	**4.97**	**320**	Pn	Pn	00 48 20.5	+2.3
IALA	**Alasht**	**4.98**	**329**	Pn	Pn	00 48 20.9	+2.4
TBJM	**Torbat-e-JAM**	**4.99**	**46**	Pn	Pn	00 48 21.3	+2.9
IMOG	**Moghan**	**5.09**	**32**	Pn	Pn	00 48 22.1	+2.2
IAKL	**Akhelmad**	**5.28**	**25**	Pn	Pn	00 48 25.0	+2.6
MZPU	**Pul - Mazandar**	**5.87**	**323**	Pn	Pn	00 48 32.8	+2.3
IEMG	**Emamgholi**	**5.98**	**21**	Pn	Pn	00 48 34.8	+2.7
IRAZ	**Razeghan**	**6.17**	**307**	Pn	Pn	00 48 37.6	+2.9
KLST	**Kelardasht - M**	**6.20**	**320**	Pn	Pn	00 48 37.3	+2.3

*DJA **15** 01:00:07.7±0.6, 1°.N±5°×127°.7E±°, h20km±7km, M3.3/6, MLv3.3/6*
*IDC **15** 01:00:09.2±2.3, 0°.37N×127°.20E, h0km, mb3.3/3, mbtmp3.4/3, MS3.1/1, Error ellipse: s-maj=175.3km s-min=29.9km az=66.0*

ISC 15 01:00:08.8±1.4, 0°.9N±0°.1×126°.86E±0°.07, h10km, n8, σ3§24/8, mb3.4/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.52**	**103**	P	**Pb**	**01 00 20.2**	**+0.1**
TNTI				S	**Sb**	**01 00 29.5**	**+1.8**
LBMI	**Labuha**	**1.65**	**157**	P	**Pn**	**01 00 38.2**	**+0.4**
LBMI				S	**Sn**	**01 01 02.4**	**+3.3**
KMSI	**Cibinong**	**2.89**	**264**	S	**Sn**	**01 01 30.9**	**+1.1**
GTOI	**Gorontalo**	**3.85**	**266**	P	**Pn**	**01 01 09.8**	**+1.6**
BATI	**Baumata**	**11.47**	**196**	LR	LR	01 07 15.5	
	comp=Z,91nm,18.8s,baz=154,slow=38						
WRA	**Warramunga Arr**	**21.96**	**161**	P	**P**	**01 04 58.0**	**-5.0**
	0.5nm,0.5s,baz=340,slow=11,SNR=2.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.35**	**165**	P	**P**	**01 05 33.0**	**-3.2**
	0.5nm,0.4s,baz=343,slow=12,SNR=4.0						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**59.96**	**326**	P	P	01 10 21.6	+6.2
	0.2nm,0.6s,baz=133,slow=5.6,SNR=2.2						
	0.2nm,0.6s						

*INMG **15** 01:10:45.0±1.1, 32°.01N×17°.67W, h10km, ML2.7, Error ellipse: s-maj=12.3km s-min=4.1km az=99.0*
*CNRM **15** 01:10:49.6, 32°.43N×17°.07W, h58km, ML2.5*

ISC 15 01:10:45.7±2.6, 32°.15N±0°.10×17°.3W±0°.1, h28km±14km, n14, σ1§63/19, Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUL	**Funchal**	**0.59**	**32**	*eP*	**Pn**	**01 10 58.2**	**-0.1**
FUL				*eS*	**Sn**	**01 11 08.1**	**+1.2**
FUL				A	A	01 11 09.4	
	322nm,0.1s						
PMAR	**Madeira**	**0.64**	**27**	*eP*	**Pn**	**01 11 00.0**	**+0.8**
PMAR				*eS*	**Sn**	**01 11 09.5**	**+0.9**
PMAR				A	A	01 11 16.3	
	129nm,0.3s						
PMAR	**Madeira**	**0.64**	**27**	P	**Pn**	**01 11 00.0**	**+0.8**
PMAR	**Madeira**	**0.64**	**27**	S	**Sn**	**01 11 08.8**	**+0.1**
PMOZ	**Porto Moniz, M**	**0.68**	**5**	*eP*	**Pb**	**01 10 57.9**	**-1.2**
PMOZ				*eS*	**Sb**	**01 11 08.4**	**+0.3**
PMOZ				A	A	01 11 10.3	
	305nm,0.3s						
PMOZ	**Porto Moniz, M**	**0.68**	**5**	P	**Pb**	**01 10 58.1**	**-1.0**
PMPS	**Porto Santo**	**1.20**	**41**	*eP*	**Pb**	**01 11 08.1**	**+0.3**
PMPS				*eS*	**Sb**	**01 11 24.4**	**+1.5**
PMPS				A	A	01 11 27.2	
	62nm,0.3s						
PMPST	**Porto Santo, M**	**1.21**	**40**	*eP*	**Pn**	**01 11 06.8**	**-0.1**
PMPST				*eS*	**Sb**	**01 11 23.6**	**+0.3**
PMPST				A	A	01 11 25.9	
	70nm,0.2s						
TTIG	**Tnine Tigouga,**	**7.71**	**100**	P	**Pn**	**01 12 37.6**	**+1.3**
TTIG	**Tnine Tigouga,**	**7.71**	**100**	S	**Sn**	**01 14 03.7**	**+0.9**
ZHG	**ZHG**	**9.03**	**79**	P	**Pn**	**01 12 53.2**	**-1.1**
ZHG	**ZHG**	**9.03**	**79**	S	**Sn**	**01 14 30.4**	**-4.8**
MD31	**MD31**	**10.58**	**83**	P	**Pn**	**01 13 17.0**	**+1.4**
MD31	**MD31**	**10.58**	**83**	S	**Sn**	**01 15 11.7**	**-1.6**

*NEIC **15** 01:16:49.8±0.8, 19°.423N±0°.009×155°.389W±0°.006, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.4km az=193.0*

HVO 15 01:16:49.3±0.6, 19°.43N±0°.01×155°.403W±0°.004, h6km±5km, ML3.0/6, ML3.0/22(NEIC), Error ellipse: s-maj=2.0km s-min=0.5km az=180.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.07**	**13**		**Pg**	**01 16 51.6**	**+0.4**
MLH				IAML		01 16 53.7	
	comp=E,10μm,0.5s						
MLH				IAML		01 16 53.7	
	comp=N,16μm,0.3s						
WRMHI	**West Rim**	**0.10**	**102**		**Pg**	**01 16 51.7**	**+0.2**
WRMHI				IAML		01 16 55.3	
	comp=N,9μm,0.3s						
SDHHI	**Sand Hill**	**0.11**	**110**		**Pg**	**01 16 52.1**	**+0.4**
SDHHI	**Sand Hill**	**0.11**	**110**	IAML		01 16 54.3	
	comp=N,22μm,0.3s						
SDHHI				IAML		01 16 54.3	
	comp=E,21μm,0.2s						
UWB	**Uwekahuna B**	**0.12**	**91**		**Pg**	**01 16 52.1**	**+0.2**
UWB				IAML		01 16 53.9	
	comp=N,4μm,0.8s						
HATHI	**Halema'uma'u T**	**0.13**	**92**		**Pg**	**01 16 52.3**	**+0.

comp=Z,2.3nm,0.8s,baz=305,slow=14,SNR=2.9
comp=Z,2.3nm,0.8s
KBL Kabul 49.02 324 P **P** **01 29 34.1 -0.7**
XLT XiLinHaoTe 49.34 14 *e*P **P** **01 29 40.0 +3.1**
XLT sP pP 01 29 47.6 +0.7
XLT pmax pmax
comp=Z,7.0nm,1.0s
XLT pmax pmax
comp=Z,44nm,5.1s
SONM Songino Array 51.70 4 P **P** **01 29 54.1 -0.6**
SONM IAmb IAmb 01 29 54.6
comp=Z,1.9nm,0.7s
SONM Songino Array 51.70 4 P **P** **01 29 54.2 -0.6**
comp=Z,2.5nm,0.5s,baz=188,slow=9.2,SNR=14
comp=Z,2.5nm,0.5s
USRK Ussuriysk Ar. 55.10 26 P **P** **01 30 18.7 -1.0**
USRK Ussuriysk Ar. 55.10 26 P **P** **01 30 18.3 -1.3**
comp=Z,3.6nm,0.7s,baz=215,slow=6.6,SNR=6.2
comp=Z,3.6nm,0.7s
H04N2 CROZET ISLANDS 60.26 218 T T 02 35 57.4
baz=61,slow=75,SNR=129
H04N1 CROZET ISLANDS 60.27 218 T T 02 35 56.9
baz=61,slow=75,SNR=176
H04N3 CROZET ISLANDS 60.27 218 T T 02 35 55.6
baz=61,slow=75,SNR=148
H04S1 CROZET ISLANDS 60.52 217 T T 02 36 13.5
baz=60,slow=75,SNR=39
H04S3 CROZET ISLANDS 60.53 217 T T 02 36 13.0
baz=60,slow=75,SNR=72
H04S2 CROZET ISLANDS 60.53 217 T T 02 36 14.3
baz=60,slow=75,SNR=34
CASY Casey 62.57 176 P **P** **01 31 12.7 +1.6**
KOUNC Koumac, New Ca 63.07 111 P **P** **01 31 16.0 +0.7**
BNN Bunyan 73.90 312 P **P** **01 32 22.1 -0.7**
BNN IAmb IAmb 01 32 35.2
comp=Z,4.9nm,1.0s
BURAR Bucovina Array 83.75 319 P **P** **01 33 16.9 +0.2**
BUR08 Bucovina Ar. S 83.77 319 P **P** **01 33 17.7 +0.9**
BUR08 IAmb IAmb 01 33 22.7
comp=Z,4.1nm,1.4s
LIT Litokhoron 84.21 311 P **P** **01 33 17.9 -1.2**
FINES FINESS Array B 86.54 332 P **P** **01 33 28.1 -2.1**
comp=Z,0.9nm,0.7s,baz=107,slow=12,SNR=3.8
comp=Z,0.9nm,0.7s
TXAR Lajitas Array 145.16 41 PKPbc **PKPbc** **01 40 25.3 0.0**
comp=Z,2.1nm,0.5s,baz=280,slow=1.0,SNR=21

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*IDC **15** 01:21:37.7±3.1,22°.25N×143°.81E,h86^{km}±28^{km},mb3.6/9, mbtmp4.0/10,MS2.8/1,Error ellipse: s-maj=36.2km s-min=14.9km az=89.0*

ISC 15 01:21:38.8±0°.7,22°.25N±0°.10×143°.7E±0°.2,h100^{km},n14, σ1°.04/14,mb3.9/8,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.03**	**344**	P	**Pn**	**01 22 52.0**	**+0.1**
	65nm,0.4s,baz=328,slow=20,SNR=20						
JCJ				S	**Sn**	**01 23 47.2**	**-1.6**
	144nm,0.5s,baz=317,slow=22,SNR=16						
KSRS	**Korea Array**	**20.40**	**322**	P	Pn	01 26 10.0	-0.6
	0.9nm,0.4s,baz=145,slow=8.6,SNR=6.0						
	0.9nm,0.4s						
SONM	**Songino Array**	**39.25**	**320**	P	**P**	**01 28 59.1**	**+1.4**
	0.6nm,0.4s,baz=142,slow=9.6,SNR=4.1						
	0.6nm,0.4s						
YAK	**Yakutsk**	**40.92**	**350**	LR	LR	01 45 09.5	
	comp=Z,14nm,21.0s,baz=288,slow=34						
WRA	**Warramunga Arr**	**42.93**	**193**	P	**P**	**01 29 28.7**	**+0.8**
	1.0nm,0.3s,baz=12,slow=8.9,SNR=22						
WRA				PcP	**PcP**	**01 31 17.1**	**+0.2**
	0.4nm,0.5s,baz=7.0,slow=2.9,SNR=1.9						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**46.63**	**192**	P	**P**	**01 29 57.5**	**+0.2**
	0.5nm,0.4s,baz=15,slow=10,SNR=6.8						
	0.5nm,0.4s						
STKA	**Stephens Creek**	**53.86**	**182**	P	**P**	**01 30 50.4**	**-1.2**
	2.2nm,0.4s,baz=351,slow=8.4,SNR=3.9						
	2.2nm,0.4s						
YKA	**Yellowknife Ar**	**75.73**	**28**	P	**P**	**01 33 14.1**	**+0.9**
	0.2nm,0.7s,baz=343,slow=10,SNR=4.4						
	0.2nm,0.7s						
ARCES	**ARCESS Array B**	**78.57**	**342**	P	**P**	**01 33 29.9**	**+0.9**
	2.0nm,0.7s,baz=79,slow=9.0,SNR=5.7						
	2.0nm,0.7s						
NVAR	**Mina Array Bea**	**82.39**	**52**	P	**P**	**01 33 50.6**	**+0.3**
	0.2nm,0.5s,baz=328,slow=3.2,SNR=2.7						
	0.2nm,0.5s						
FINES	**FINESS Array B**	**82.91**	**335**	P	**P**	**01 33 51.4**	**-0.8**
	0.8nm,0.3s,baz=59,slow=4.9,SNR=9.9						
	0.8nm,0.3s						
TORD	**Torodi Ar. Bea**	**128.79**	**310**	PKP	**PKiKP**	**01 40 34.8**	**-1.3**
	0.2nm,0.4s,baz=28,slow=3.5,SNR=1.8						
PLCA	**Paso Flores**	**145.72**	**131**	PKPbc	**PKPab**	**01 41 06.2**	**-0.7**
	2.1nm,0.5s,baz=229,slow=2.5,SNR=12						
LPAZ	**La Paz**	**149.37**	**85**	PKPbc	**PKiKP**	**01 41 18.2**	**-0.6**
	0.9nm,0.4s,baz=347,slow=6.0,SNR=4.5						

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*IDC **15** 01:25:35.8±0.7,47°.74N×82°.40E,h0^{km},mb3.8/15, mbtmp3.9/21,ML3.5/6,MS3.0/13,Error ellipse: s-maj=13.8km s-min=6.3km az=76.0*

*BJI **15** 01:25:36.3±0.0,47°.77N×82°.16E,h8^{km},mb4.2/10, mB4.4/6,ML4.3/9,Ms3.7/5,Ms7 3.4/6*

*MOS **15** 01:25:37.5±1.3,47°.72N×82°.04E,h19^{km},mb4.3/16,Error ellipse: s-maj=6.4km s-min=4.9km az=85.0*

*NEIC **15** 01:25:38.2±1.4,47°.70N±0°.02×82°.3E±0°.1,h16^{km}±4^{km}, mb4.3/38,Error ellipse: s-maj=11.4km s-min=3.4km az=86.0*

*ASRS **15** 01:25:38.5±0.1,48°.1°×8°.2E±°,h5^{km},MLh5.2/14,Error ellipse: s-maj=3.5km s-min=1.7km az=127.4,confirmed*

*NNC **15** 01:25:38.1±0.6,47°.65N×82°.20E,h13^{km}±7^{km},mb5.1, mpv4.8,Error ellipse: s-maj=5.0km s-min=3.3km az=68.0*

*SOME **15** 01:25:39.3,47°.72N×81°.82E,h10^{km},MS3.6*

ISC 15 01:25:37.1±0.6,47°.79N±0°.02×82°.22E±0°.02,h0^{km}±4^{km}, n269,σ2°.38/312,mb4.2/44,MS3.2/8,24C-12D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MAKZ	**Makanchi**	**0.99**	**190**	⇓P	**Pg**	**01 25 55.2**	**-0.9**
	158nm,0.3s						
MAKZ				⇑S	**Sg**	**01 26 07.1**	**-1.9**
	5μm,0.4s						
MAKZ	**Makanchi**	**0.99**	**190**		**Pg**	**01 25 55.5**	**-0.6**
MAKZ				Sg	**Sg**	**01 26 07.2**	**-1.7**
MAKZ	**Makanchi**	**0.99**	**190**	Pg	**Pg**	**01 25 55.3**	**-0.8**
MAKZ				Sg	**Sg**	**01 26 07.1**	**-1.9**
MAKZ	**Makanchi**	**0.99**	**190**	PG	**Pg**	**01 25 55.1**	**-0.9**
MAKZ				S	**Sg**	**01 26 07.0**	**-1.9**
MK31	**Makanchi Array**	**0.99**	**177**	⇑P	**Pg**	**01 25 55.2**	**-0.9**
	611nm,0.5s,baz=181,slow=29						
MK31				⇓S	**Sg**	**01 26 06.8**	**-2.2**
	1μm,0.3s,baz=357,slow=27,SNR=30						
MK31	**Makanchi Array**	**0.99**	**177**	Pg	**Pg**	**01 25 55.4**	**-0.7**
MK31				Sg	**Sg**	**01 26 07.6**	**-1.4**
MK31	**Makanchi Array**	**0.99**	**177**	*i* PG	**Pg**	**01 25 55.0**	**-1.1**
MK31				pmax	pmax		
	comp=Z,611nm,0.5s						
MKAR	**Makanchi Array**	**0.99**	**177**	Pg	**Pg**	**01 25 55.3**	**-0.9**
MKAR				Sg	**Sg**	**01 26 06.8**	**-2.2**
MKAR	**Makanchi Array**	**0.99**	**177**	Pg	**Pg**	**01 25 55.4**	**-0.7**
	comp=Z,274nm,0.3s,baz=11,slow=18,SNR=9562						
MKAR				Lg	Lg	01 26 07.2	
	comp=Z,1μm,0.3s,baz=4.8,slow=30,SNR=19						
MKAR	**Makanchi Array**	**0.99**	**177**	Pg	**Pg**	**01 25 55.4**	**-0.7**
MKAR				Sg	**Sg**	**01 26 06.9**	**-2.1**
MKAR	**Makanchi Array**	**0.99**	**177**	*i* PG	**Pg**	**01 25 55.4**	**-0.7**
MKAR				pmax	pmax		
	comp=Z,777nm,0.5s						
ZSN	**Zaisan**	**1.82**	**100**	*e*P	**Pb**	**01 26 12.0**	**+0.7**
	comp=Z,2μm,0.5s						
ZSN				*e*S	**Sg**	**01 26 36.0**	**+0.4**
	comp=Z,1μm,0.6s						
SEM	**Semipalatinsk**	**2.92**	**334**	*e*P	**Pb**	**01 26 31.3**	**+1.1**
	comp=Z,51nm,0.1s						
SEM				*e*S	**Sb**	**01 27 09.2**	**+2.6**
	comp=Z,428nm,0.2s						
KAPS	**Kapalarasan**	**3.19**	**219**	Pg	**Pb**	**01 26 35.1**	**+0.5**
	comp=Z,294nm,0.7s						
KAPS				Lg	Lg	01 27 14.5	
	comp=Z,809nm,0.5s						
KAPS	**Kapalarasan**	**3.19**	**219**	*e*P	**Pb**	**01 26 35.1**	**+0.5**
	comp=Z,294nm,0.7s						
KAPS				*e*S	**Sb**	**01 27 14.5**	**+0.5**
	comp=Z,809nm,0.5s						
UKR	**Ust'-Kan**	**3.57**	**27**	Pn	**Pb**	**01 26 38.4**	**-2.7**
UKR				Pg	**Pg**	**01 26 46.9**	**+1.5**
UKR				Sg	**Sg**	**01 27 31.4**	**-0.2**
KURBB	**Kurchatov Arra**	**3.73**	**321**	⇑Pn	**Pn**	**01 26 37.1**	**+1.3**
	comp=Z,24nm,0.3s						
KURBB				⇑Pg	**Pb**	**01 26 47.4**	**+3.6**
	comp=Z,408nm,0.7s						
KURBB				⇑Lg	Lg	01 27 40.5	
	comp=Z,3μm,0.7s						
KURBB	**Kurchatov Arra**	**3.73**	**321**	Pn	**Pn**	**01 26 37.5**	**+1.6**
	comp=Z,5.2nm,0.3s,baz=137,slow=12,SNR=181						
KURBB				Sn	**Sn**	**01 27 21.6**	**+1.2**
	comp=Z,11nm,0.3s,baz=120,slow=18,SNR=2.3						
KURBB				Lg	Lg	01 27 38.6	
	comp=Z,55nm,0.3s,baz=139,slow=32,SNR=6.5						
KURBB				LR	LR	01 28 18.7	
	comp=Z,170nm,19.6s,baz=146,slow=42						
	comp=Z,33nm,0.6s						
KURBB	**Kurchatov Arra**	**3.73**	**321**	PN	**Pn**	**01 26 37.1**	**+1.3**
KURBB						01 26 47.3	
KURBB						01 27 40.5	
KURK	**Kurchatov**	**3.76**	**323**	Pn	**Pn**	**01 26 37.8**	**+1.5**
KURK	**Kurchatov**	**3.76**	**323**	Pn	**Pn**	**01 26 37.8**	**+1.5**
KURK				Pg	**Pb**	**01 26 47.3**	**+2.9**
KURK				Sg	**Sg**	**01 27 37.8**	**-0.1**
KURK	**Kurchatov**	**3.76**	**323**	*ce*PN	**Pn**	**01 26 37.7**	**+1.5**
KURK				pmax	pmax		
	comp=Z,33nm,0.8s						
TDK	**Taldyqorghan**	**3.84**	**225**	Pg	**Pb**	**01 26 49.1**	**+3.4**
	comp=Z,743nm,0.6s						
TDK				Lg	Lg	01 27 39.8	
	comp=Z,1μm,0.5s						
TDK	**Taldyqorghan**	**3.84**	**225**	*e*P	**Pb**	**01 26 45.0**	**-0.7**
	comp=Z,63nm,0.2s						
TDK				*e*S	**Sb**	**01 27 32.6**	**0.0**
	comp=Z,477nm,0.6s						
DJR	**Jarkent**	**3.85**	**207**	Pg	**Pb**	**01 26 47.9**	**+2.0**
	comp=Z,182nm,0.7s						
DJR				Lg	Lg	01 27 36.3	
	comp=Z,243nm,0.6s						
DJR	**Jarkent**	**3.85**	**207**	*e*P	**Pb**	**01 26 47.9**	**+2.0**
	comp=Z,59nm,0.4s						
DJR				*e*S	**Sb**	**01 27 36.3**	**+3.3**
	comp=Z,257nm,0.5s						
DGZ	**Jazzator, Alta**	**3.94**	**59**	Pn	**Pn**	**01 26 42.8**	**+3.7**
DGZ				Pg	**Pg**	**01 26 52.9**	**+0.2**
DGZ				Sg	**Sg**	**01 27 41.7**	**-2.1**
DGZ	**Jazzator, Alta**	**3.94**	**59**	*i* PN	**Pn**	**01 26 42.7**	**+3.7**
KNOS	**Konyrlen**	**4.03**	**213**	Pg	**Pb**	**01 26 49.5**	**+0.5**
	comp=Z,82nm,0.3s						
KNOS				Lg	Lg	01 27 42.1	
	comp=Z,234nm,0.4s						
ELDR	**Elanda**	**4.26**	**35**	Pn	**Pb**	**01 26 48.5**	**-4.3**
ELDR				Pg	**Pg**	**01 26 57.2**	**-1.5**
ELDR				Sg	**Sg**	**01 27 54.0**	**+0.1**
CHBI	**Chibit, Altay**	**4.30**	**52**	Pn	**Pn**	**01 26 47.9**	**+4.1**
CHBI				Pg	**Pg**	**01 26 59.1**	**-0.3**
CHBI				S	**Sn**	**01 27 34.2**	**-0.4**
CHBI				Sg	**Sg**	**01 27 55.1**	**0.0**
CHBI	**Chibit, Altay**	**4.30**	**52**	PN	Pn	01 26 48.4	+4.6
CHBI						01 27 00.2	
CHBI						01 27 55.0	
AKAR	**Aktash**	**4.36**	**52**	Pn	**Pn**	**01 26 49.1**	**+4.4**
AKAR				Pg	**Pg**	**01 26 59.0**	**-1.7**
AKAR				Sg	**Sg**	**01 27 58.4**	**+1.2**
BLB	**Baldybastay**	**4.52**	**217**	Pg	**Pb**	**01 26 58.6**	**+1.3**
	comp=Z,487nm,0.5s						
BLB				Lg	Lg	01 27 57.6	
	comp=Z,1μm,0.7s						
CUR	**Chagan-Uzun**	**4.66**	**58**	Pn	**Pn**	**01 26 52.5**	**+3.8**
CUR				Pg	**Pg**	**01 27 05.5**	**-0.8**
CUR				Sg	**Sg**	**01 28 07.9**	**+1.3**
CUR	**Chagan-Uzun**	**4.66**	**58**	PN	**Pn**	**01 26 53.1**	**+4.4**
CUR						01 28 07.8	
ARXS	**Arharly**	**4.71**	**222**	Pg	**Pb**	**01 27 02.3**	**+1.9**
	comp=Z,93nm,0.3s						
ARXS				Lg	Lg	01 28 04.4	
	comp=Z,903nm,0.7s						
ARXS	**Arharly**	**4.71**	**222**	*e*P	**Pb**	**01 27 02.4**	**+1.9**
	comp=Z,35nm,0.3s						
ARXS				*e*S	**Sb**	**01 28 02.0**	**+4.4**
	comp=Z,920nm,0.7s						
ARXS	**Arharly**	**4.71**	**222**	*e*PN	**Pn**	**01 26 49.2**	**-0.2**
ULGR	**Ulagan, Altay**	**4.71**	**51**	Pn	Pb	01 26 55.8	-4.8
ULGR				Pg	**Pg**	**01 27 07.7**	**+0.3**
ULGR				Sg	**Sg**	**01 28 09.5**	**+1.0**
GALT	**Gorno-Altaysk,**	**4.82**	**29**	Pn	**Pn**	**01 26 54.6**	**+3.7**
GALT				S	**Sn**	**01 27 49.2**	**+1.8**
GALT				Sg	**Sg**	**01 28 13.6**	**+1.7**
PDGK	**Podgornoye**	**4.85**	**204**	Pg	**Pb**	**01 27 02.8**	**-0.2**
	comp=Z,28nm,0.5s						
PDGK				Lg	Lg	01 28 06.0	
	comp=Z,280nm,0.8s						
PDGK	**Podgornoye**	**4.85**	**204**	⇑Pn	**Pn**	**01 26 51.7**	**+0.2**
	comp=Z,94nm,0.7s						
PDGK				⇑Lg	Lg	01 28 05.3	
	comp=Z,581nm,0.7s						
PDGK	**Podgornoye**	**4.85**	**204**	PN	**Pn**	**01 26 51.6**	**+0.2**
PDGK						01 28 05.3	
SHLS	**Shalkode**	**5.02**	**204**	Pg	**Pb**	**01 27 04.7**	**-1.2**
	comp=Z,124nm,0.4s						
SHLS				Lg	Lg	01 28 06.6	
	comp=Z,303nm,0.5s						
SHLS	**Shalkode**	**5.02**	**204**	*e*P	**Pb**	**01 27 07.0**	**+1.2**
	comp=Z,69nm,0.4s						
SHLS				*e*S	**Sb**	**01 28 10.4**	**+3.7**
	comp=Z,917nm,0.7s						
KURS	**Kuram**	**5.15**	**215**	Pg	**Pb**	**01 27 10.8**	**+2.8**
	comp=Z,94nm,0.6s						
KURS				Lg	Lg	01 28 17.3	
	comp=Z,265nm,0.8s						
KURS	**Kuram**	**5.15**	**215**	*e*P	**Pb**	**01 27 10.8**	**+2.8**
	comp=Z,94nm,0.6s						
KURS				*e*S	**Sb**	**01 28 17.3**	**+6.9**
	comp=Z,265nm,0.8s						
UZB	**Uzynbulak**	**5.16**	**207**	Pg	**Pb**	**01 27 08.8**	**+0.6**
	comp=Z,49nm,0.5s						
UZB				Lg	Lg	01 28 13.6	
	comp=Z,428nm,0.8s						
UZB	**Uzynbulak**	**5.16**	**207**	*e*P	**Pb**	**01 27 11.0**	**+2.9**
	comp=Z,22nm,0.4s						
UZB				*e*S	**Sb**	**01 28 17.3**	**+6.6**
	comp=Z,434nm,0.7s						
ARTR	**Artybash**	**5.18**	**37**	Pn	**Pn**	**01 26 60.0**	**+4.1**
ARTR				Sg	**Sg**	**01 28 22.2**	**-1.3**
YALR	**Yailyu, Altay**	**5.30**	**39**	Pn	**Pn**	**01 27 01.9**	**+4.5**
YALR				S	**Sn**	**01 28 01.9**	**+2.8**
YALR				Sg	**Sg**	**01 28 26.7**	**-0.6**
ZHN	**Zhinishke**	**5.33**	**211**	Pg	**Pb**	**01 27 13.1**	**+2.0**
	comp=Z,22nm,0.3s						
ZHN				Lg	Lg	01 28 21.1	
	comp=Z,250nm,0.2s						
ZHN	**Zhinishke**	**5.33**	**211**	*e*P	**Pb**	**01 27 13.1**	**+2.0**
	comp=Z,22nm,0.3s						
ZHN				*e*S	**Sb**	**01 28 21.1**	**+5.4**
	comp=Z,250nm,0.2s						
CHKK	**Chushkaly**	**5.37**	**225**	Pg	**Pb**	**01 27 13.6**	**+1.9**
	comp=Z,53nm,0.3s						
CHKK				Lg	Lg	01 28 22.7	
	comp=Z,190nm,0.4s						
CHKK	**Chushkaly**	**5.37**	**225**	*e*P	**Pb**	**01 27 13.6**	**+1.9**
	comp=Z,53nm,0.3s						
CHKK				*e*S	**Sb**	**01 28 22.7**	**+6.0**
	comp=Z,190nm,0.4s						
SATY	**Saty**	**5.44**	**211**	Pg	**Pb**	**01 27 16.9**	**+3.9**
	comp=Z,43nm,0.3s						
SATY				Lg	Lg	01 28 27.5	
	comp=Z,385nm,0.7s						
SATY	**Saty**	**5.44**	**211**	*e*P	**Pb**	**01 27 16.9**	**+3.9**
	comp=Z,43nm,0.3s						
SATY				*e*S	Sb	01 28 27.5	+8.8
	comp=Z,385nm,0.7s						
WMQ	**Urumqi**	**5.51**	**134**	Pn	**Pn**	**01 27 01.3**	**+0.9**
WMQ				Sn	**Sn**	**01 28 02.8**	**-1.7**
WMQ				smax	smax		
	comp=Z,290nm,0.9s						
WMQ				smax	smax		
	comp=Z,210nm,0.9s						
KTBS	**Karatobe**	**5.62**	**226**	Pg	**Pb**	**01 27 19.0**	**+2.9**
	comp=Z,84nm,0.8s						
KTBS				Lg	Lg	01 28 31.3	
	comp=Z,341nm,0.8s						
KTBS	**Karatobe**	**5.62**	**226**	*e*P	**Pb**	**01 27 19.0**	**+2.9**
	comp=Z,84nm,0.8s						
KTBS				*e*S	**Sb**	**01 28 31.3**	**+7.3**
	comp=Z,341nm,0.8s						
KUU	**Kurty**	**5.66**	**229**	Pg	**Pb**	**01 27 19.3**	**+2.6**
	comp=Z,42nm,0.3s						
KUU				Lg	Lg	01 28 31.8	
	comp=Z,272nm,0.6s						
KUU	**Kurty**	**5.66**	**229**	*e*P	**Pb**	**01 27 19.3**	**+2.6**
	comp=Z,42nm,0.3s						
KUU				*e*S	**Sb**	**01 28 31.8**	**+6.8**
	comp=Z,272nm,0.6s						
KOTS	**Kotyrbulak**	**5.80**	**220**	Pg	Pb	01 27 24.5	+5.4
	comp=Z,50nm,0.6s						
KOTS				Lg	Lg	01 28 40.9	
	comp=Z,438nm,0.9s						
KOTS	**Kotyrbulak**	**5.80**	**220**	*e*P	Pb	01 27 24.5	+5.4
	comp=Z,50nm,0.6s						
KOTS				*e*S	**Sg**	**01 28 40.9**	**-2.3**
	comp=Z,438nm,0.9s						
KNDC	**Almaty**	**5.87**	**221**	⇑Pg	Pb	01 27 25.2	+4.8
	comp=Z,220nm,0.8s						
KNDC				⇓Lg	Lg	01 28 41.9	
	comp=Z,294nm,0.7s						
MDOK	**Medeo**	**5.88**	**220**	⇓Pn	**Pn**	**01 27 05.3**	**-0.3**
	comp=Z,118nm,0.6s						
MDOK				Pg	**Pb**	**01 27 23.7**	**+3.1**
	comp=Z,68nm,0.6s						
MDOK				Lg	Lg	01 28 39.3	
	comp=Z,152nm,0.9s						
MDOK				⇓Lg	Lg	01 28 41.8	
	comp=Z,195nm,0.7s						
MDOK	**Medeo**	**5.88**	**220**	*e*P	**Pb**	**01 27 24.8**	**+4.3**
	comp=Z,22nm,0.5s						
MDOK				*e*S	Sb	01 28 40.9	+9.3
	comp=Z,182nm,0.6s						
MDOK	**Medeo**	**5.88**	**220**	PN	**Pn**	**01 27 05.2**	**-0.3**
AAA	**Alma-Ata**	**5.90**	**221**	Pg	**Pb**	**01 27 24.5**	**+3.6**
	comp=Z,54nm,0.3s						
AAA				Lg	Lg	01 28 40.4	
	comp=Z,208nm,0.9s						
AAA	**Alma-Ata**	**5.90**	**221**	*e*P	**Pb**	**01 27 24.5**	**+3.6**
	comp=Z,54nm,0.3s						
AAA				*e*S	**Sb**	**01 28 40.4**	**+8.3**
	comp=Z,208nm,0.9s						
TNSS	**Tian-Shan**	**6.03**	**220**	Pg	**Pb**	**01 27 26.9**	**+3.7**
	comp=Z,45nm,0.5s						
TNSS				Lg	Lg	01 28 44.7	
	comp=Z,88nm,0.6s						
TNSS	**Tian-Shan**	**6.03**	**220**	*e*P	**Pb**	**01 27 26.9**	**+3.7**
	comp=Z,45nm,0.5s						
TNSS				*e*S	Sb	01 28 44.7	+8.7
	comp=Z,88nm,0.6s						
ELT	**Eltsovka**	**6.05**	**24**	Pn	**Pn**	**01 27 11.6**	**+3.9**
ELT				S	**Sn**	**01 28 18.8**	**+1.2**
TEL	**Teeli**	**6.13**	**55**	Pn	**Pn**	**01 27 10.1**	**+1.2**
TASR	**Tashtagol**	**6.16**	**34**	Pn	**Pn**	**01 27 12.3**	**+3.0**
TASR				S	**Sn**	**01 28 21.8**	**+1.4**
IZV	**Izvestkoviy**	**6.17**	**222**	Pg	Pb	01 27 32.0	+6.5
	comp=Z,28nm,0.6s						
IZV				Lg	Lg	01 28 53.8	
	comp=Z,218nm,0.6s						
IZV	**Izvestkoviy**	**6.17**	**222**	*e*P	Pb	01 27 30.6	+5.0
	comp=Z,16nm,0.3s						
IZV				*e*S	**Sg**	**01 28 50.7**	**-4.7**
	comp=Z,103nm,0.6s						
BTLS	**Baital**	**6.28**	**247**	Pg	**Pb**	**01 27 30.8**	**+3.5**
	comp=Z,55nm,0.6s						
BTLS				Lg	Lg	01 28 52.2	
	comp=Z,38nm,0.7s						
BTLS	**Baital**	**6.28**	**247**	*e*P	**Pb**	**01 27 30.8**	**+3.5**
	comp=Z,55nm,0.6s						
BTLS				*e*S	Sb	01 28 52.2	+9.3
	comp=Z,38nm,0.7s						
ZAA0	**Zalesovo Array**	**6.38**	**14**	⇑Pn	**Pn**	**01 27 14.4**	**+2.1**
	comp=Z,5.0nm,0.6s						
ZAA0				⇑Sn	**Sn**	**01 28 25.3**	**-0.5**
	comp=Z,19nm,0.8s						
ZAA0				⇑Lg	Lg	01 29 00.9	
	comp=Z,71nm,0.8s						
ZAA0	**Zalesovo Array**	**6.38**	**14**	Pn	**Pn**	**01 27 15.1**	**+2.8**
ZALV	**Zalesovo Beam**	**6.38**	**14**		**Pn**	**01 27 15.1**	**+2.8**
ZALV	**Zalesovo Beam**	**6.38**	**14**	Pn	**Pn**	**01 27 14.5**	**+2.2**
	comp=Z,7.6nm,0.3s,baz=197,slow=13,SNR=106						
ZALV				Sn	**Sn**	**01 28 24.4**	**-1.4**
	comp=Z,31nm,0.3s,baz=206,slow=29,SNR=15						
ZALV				Lg	Lg	01 28 59.9	
	comp=Z,28nm,0.3s,baz=194,slow=26,SNR=16						
ZALV				LR	LR	01 30 02.0	
	comp=Z,62nm,19.8s,baz=56,slow=42						
ZALV	**Zalesovo Beam**	**6.38**	**14**	*i* PN	**Pn**	**01 27 15.1**	**+2.8**
ZALV				pmax	pmax		
	comp=Z,35nm,0.5s						
DGS	**Degeres**	**6.42**	**227**	Pg	**Pb**	**01 27 33.0**	**+3.4**
	comp=Z,60nm,0.5s						
DGS				Lg	Lg	01 28 55.9	
	comp=Z,245nm,0.5s						
DGS	**Degeres**	**6.42**	**227**	*e*P	**Pb**	**01 27 33.9**	**+4.3**
	comp=Z,60nm,0.4s						
DGS				*e*S	Sb	01 28 56.3	+9.5
	comp=Z,202nm,0.7s						
KST	**Kastek**	**6.47**	**225**	Pg	**Pb**	**01 27 34.9**	**+4.4**
	comp=Z,52nm,0.5s						
KST				Lg	Lg	01 28 58.6	
	comp=Z,141nm,0.6s						
KST	**Kastek**	**6.47**	**225**	*e*P	**Pb**	**01 27 34.9**	**+4.4**
	comp=Z,52nm,0.5s						
KST				*e*S	Sb	01 28 58.6	+10
	comp=Z,141nm,0.6s						
OTUK	**Ortayu**	**6.65**	**278**	Pg	Pb	01 27 38.7	+5.2
	comp=Z,6.7nm,0.2s						
OTUK				Lg	Lg	01 29 05.0	
	comp=Z,222nm,0.6s						
OTUK	**Ortayu**	**6.65**	**278**	⇓Pn	Pn	01 27 06.5	-9.4
	comp=Z,14nm,0.5s						
OTUK				⇓Lg	Lg	01 29 03.7	
	comp=Z,644nm,1.0s						
OTUK	**Ortayu**	**6.65**	**278**	PN	Pn	01 27 12.3	-3.6
BRZS	**Berezniki**	**6.67**	**293**	Pg	**Pb**	**01 27 38.4**	**+4.6**
	comp=Z,29nm,0.6s						
BRZS				Lg	Lg	01 29 05.0	
	comp=Z,287nm,0.7s						
BRZS	**Berezniki**	**6.67**	**293**	*e*P	**Pb**	**01 27 38.4**	**+4.6**
	comp=Z,29nm,0.6s						
BRZS				*e*S	**

AAK Ala-Archa 7.50 229 Pn **Pn** 01 27 26.7 -1.1
comp=Z,1.6nm,0.3s,baz=83,slow=7.0,SNR=13
AAK Lg Lg 01 29 28.7
comp=Z,2.6nm,0.3s,baz=216,slow=21,SNR=2.3
AAK LR LR 01 30 41.2
comp=Z,54nm,21.6s,baz=30,slow=40
comp=Z,3.6nm,0.3s
AAK Ala-Archa 7.50 229 Pn **Pn** 01 27 28.5 +0.7
AAK S **Sn** 01 28 57.2 +3.6
AAK Ala-Archa 7.50 229 *i* P **Pn** 01 27 28.3 +0.5
VEH Verkhnyaya Baz 7.52 40 Pn **Pn** 01 27 30.7 +2.7
VEH S **Sn** 01 28 53.5 -0.4
DJO Djoy, Khakassi 7.63 46 Pn **Pn** 01 27 32.0 +2.6
DJO S **Sn** 01 28 57.6 +1.1
UCH Uchtor 7.79 227 P **Pn** 01 27 33.3 +1.2
SNR=7.6
EKS2 Erkin-Say 7.86 232 P **Pn** 01 27 33.6 +0.9
SNR=14
MRKS Merke 8.10 235 Pg Pb 01 28 05.9 +7.6
comp=Z,24nm,0.5s
MRKS Lg Lg 01 29 51.7
comp=Z,83nm,0.8s
MRKS Merke 8.10 235 *e*P Pb 01 28 05.9 +7.6
comp=Z,24nm,0.5s
MRKS *e*S **Sg** **01 29 51.7 -5.4**
comp=Z,83nm,0.8s
DZA Taraz 9.09 241 *e*P Pn 01 28 24.4 +35
comp=Z,82nm,0.1s
DZA *e*S Sn 01 30 23.8 +51
comp=Z,365nm,0.6s
BVA0 Borovoye Array 9.19 309 ||Pn **Pn** **01 27 50.6 -0.2**
comp=Z,10nm,0.7s,baz=124,slow=14,SNR=52
BVA0 ⇑Sn **Sn** **01 29 34.0 -0.9**
comp=Z,19nm,0.4s,baz=114,slow=20,SNR=5.2
BVA0 ⇑Lg Lg 01 30 24.8
comp=Z,299nm,0.9s
BVA0 Borovoye Array 9.19 309 *e*P **Pn** **01 27 50.6 -0.2**
BVA0 *e* 01 29 29.2
BVAR Borovoye Array 9.19 309 Pn **Pn** **01 27 51.0 +0.2**
comp=Z,0.4nm,0.3s,baz=124,slow=13,SNR=45
BVAR Sn **Sn** **01 29 29.5 -5.4**
comp=Z,1.4nm,0.3s,baz=110,slow=24,SNR=7.4
BVAR Lg Lg 01 30 26.1
comp=Z,1.2nm,0.3s,baz=108,slow=32,SNR=2.2
BVAR LR LR 01 30 45.7
comp=Z,31nm,19.1s,baz=126,slow=33
comp=Z,5.4nm,0.4s
ARSB Arslanbob 9.23 229 Pn **Pn** **01 27 52.0 +0.5**
ARSB Arslanbob 9.23 229 Pn Pn 01 27 58.1 +6.6
ARSB Arslanbob 9.23 229 P **Pn** **01 27 52.0 +0.5**
BRVK Borovoye 9.26 309 Pn **Pn** **01 27 52.9 +1.1**
BRVK Borovoye 9.26 309 Pn **Pn** **01 27 53.2 +1.5**
BRVK S **Sn** **01 29 33.5 -3.1**
BRVK Borovoye 9.26 309 *ce*P **Pn** **01 27 53.3 +1.5**
BRVK pmax pmax
comp=Z,14nm,1.0s
KSH Kashi 9.42 211 P Pn 01 28 02.0 +7.9
ARK Arkit 9.43 234 Pn **Pn** **01 27 57.5 +3.2**
KK31 Karatay Array 9.46 245 Pn **Pn** **01 27 53.2 -1.4**
comp=Z,26nm,0.8s,baz=50,slow=13,SNR=182
KK31 ⇑Sn **Sn** **01 29 37.8 -3.9**
comp=Z,69nm,1.0s,baz=62,slow=17,SNR=3.9
KK31 ||Lg Lg 01 30 35.1
comp=Z,49nm,0.7s,baz=55,slow=26,SNR=4.1
KK31 Karatay Array 9.46 245 Pn **Pn** **01 27 53.7 -0.9**
KK31 Karatay Array 9.46 245 *e*P **Pn** **01 27 53.2 -1.4**
KK31 *i* 01 29 37.7
KKAR Karatay Array 9.46 245 Pn **Pn** **01 27 53.6 -1.0**
KKAR Karatay Array 9.46 245 Pn **Pn** **01 27 53.9 -0.7**
KKAR Karatay Array 9.46 245 S **Sn** **01 29 38.4 -3.3**
KKAR Karatay Array 9.46 245 Pn **Pn** **01 27 53.6 -1.0**
KKAR Karatay Array 9.46 245 P **Pn** **01 27 53.9 -0.7**
BRLS Boroldaу 9.92 246 Pg Pn 01 28 42.5 +42
comp=Z,4.7nm,0.5s
BRLS Lg Lg 01 30 57.1
comp=Z,58nm,0.9s
IUG Iuzhnay 10.31 241 Pg Pn 01 28 46.4 +40
comp=Z,42nm,0.6s
IUG Lg Lg 01 31 01.4
comp=Z,252nm,1.4s
BTK Batken 11.27 231 **Pn** **01 28 18.8 -0.6**
BTK Batken 11.27 231 P **Pn** **01 28 18.8 -0.6**
GAR Garm 12.32 229 Pn **Pn** **01 28 31.8 -2.0**
CHGR Chuyangaron 13.17 231 Pn **Pn** **01 28 42.9 -2.5**
CHGR Chuyangaron 13.17 231 P **Pn** **01 28 42.9 -2.5**
SIMJ Simiganj 13.25 231 Pn **Pn** **01 28 44.1 -2.5**
AB31 Akbulak array 14.83 284 ⇑Pn **Pn** **01 29 04.9 -3.0**
comp=Z,1.1nm,0.4s,baz=101,slow=10,SNR=36
AB31 ||Lg Lg 01 33 29.0
comp=Z,10nm,0.7s,baz=96,slow=30,SNR=4.3
AB31 Akbulak array 14.83 284 P **Pn** **01 29 04.9 -3.0**
ABKAR Akbulak array 14.83 284 Pn **Pn** **01 29 05.8 -2.0**
ABKAR Akbulak array 14.83 284 Pn **Pn** **01 29 05.4 -2.4**
GOMU GeErMu 14.87 137 P **Pn** **01 29 07.4 -1.4**
GOMU pP P 01 29 12.6 -2.3
GOMU sP 01 29 14.1
GOMU pmax pmax
comp=Z,9.0nm,0.8s
GOMU LR LR
comp=Z,400nm,13.5s
GOMU LR LR
comp=Z,180nm,12.4s
GOMU LR LR
comp=Z,390nm,14.3s
NIL Nilore 15.66 209 Pn **Pn** **01 29 18.0 -0.9**
NIL lAmb lAmb 01 29 23.1
comp=Z,8.7nm,0.5s
NIL Nilore 15.66 209 P **Pn** **01 29 18.0 -0.9**
NIL pmax pmax
comp=Z,9.0nm,0.5s
SVE Sverdlovsk 15.94 313 *e*P **Pn** **01 29 22.0 -0.5**
SVE pmax pmax
comp=Z,17nm,0.9s
AKTO Aktyubinsk 16.05 289 Pn **Pn** **01 29 21.0 -3.0**
comp=Z,0.5nm,0.3s,baz=102,slow=8.9,SNR=4.6
AKTO Sn **Sn** **01 32 13.6 -8.9**
baz=58,slow=4.0,SNR=1.1
AKTO Lg Lg 01 34 06.5
comp=Z,0.2nm,0.3s,baz=15,slow=17,SNR=2.3
AKTO LR LR 01 35 50.3
comp=Z,79nm,19.7s,baz=37,slow=38
comp=Z,1.0nm,0.3s
SONM Songino Array 16.23 81 Pn **Pn** **01 29 25.3 -1.1**
SONM Songino Array 16.23 81 Pn **Pn** **01 29 23.8 -2.6**
comp=Z,0.1nm,0.3s,baz=266,slow=11,SNR=2.5
SONM Lg Lg 01 34 04.1
comp=Z,0.1nm,0.3s,baz=291,slow=20,SNR=3.6
comp=Z,0.9nm,0.9s
SONM Songino Array 16.23 81 P **Pn** **01 29 25.3 -1.1**
SONM pmax pmax
comp=Z,2.0nm,0.7s
KBL Kabul 16.51 221 Pn **Pn** **01 29 27.9 -2.2**
KBL lAmb lAmb 01 29 41.2
comp=Z,9.3nm,1.0s
KBL Kabul 16.51 221 P **Pn** **01 29 27.9 -2.2**
KBL pmax pmax
comp=Z,9.0nm,1.0s
ULN Ulaanbaatar 16.66 80 **Pn** **01 29 31.4 -0.6**
ULN lAmb lAmb 01 29 42.2
comp=Z,5.3nm,0.2s
ULN Ulaanbaatar 16.66 80 *e*P **Pn** **01 29 31.0 -1.0**
ARU Arti 16.84 310 P **Pn** **01 29 34.2 +0.3**
ARU Arti 16.84 310 Pn **Pn** **01 29 31.7 -2.3**
baz=120,slow=6.5,SNR=9.4
ARU Sn Sn 01 32 27.7 -14
baz=108,slow=22,SNR=1.7
ARU Lg Lg 01 34 31.0
baz=73,slow=19
ARU LR LR 01 36 24.3
comp=Z,57nm,20.2s,baz=94,slow=38
comp=Z,2.0nm,0.4s
ARU Arti 16.84 310 *c i*P **Pn** **01 29 33.8 -0.2**
ARU S **Sn** **01 32 41.0 -0.5**
ARU pmax pmax
comp=Z,8.0nm,0.7s
LZH Lanzhou 19.81 118 *e*P Pn 01 30 17.5 +6.8
LZH pP 01 30 21.3
LZH pmax pmax
comp=Z,17nm,1.5s
LZH LR LR
comp=N,180nm,12.7s
LZH LR LR
comp=E,130nm,11.7s
LZH LR LR
comp=Z,48nm,10.0s
GEYT Alibeck 20.16 250 P **Pn** **01 30 11.1 -1.7**

GEYT Alibeck 20.16 250 P **Pn** **01 30 11.9 -0.9**
comp=Z,0.8nm,0.6s,baz=39,slow=7.4,SNR=2.2
comp=Z,0.8nm,0.6s
GEYT Alibeck 20.16 250 P **Pn** **01 30 11.1 -1.7**
GEYT pmax pmax
comp=Z,4.0nm,0.9s
GYA0B ALIBECK ARRAY 20.16 250 P **Pn** **01 30 11.5 -1.3**
HHC Hu-ho-hao-te 22.02 97 *e*P **Pn** **01 30 33.3 +0.3**
HHC pmax pmax
comp=Z,4.0nm,0.8s
KIRV Kirov 22.20 311 P **Pn** **01 30 34.3 -0.3**
comp=Z,7.7nm,0.7s,baz=64,slow=3.7,SNR=4.1
comp=Z,7.7nm,0.7s
KIRV Kirov 22.20 311 *ce*P **Pn** **01 30 35.3 +0.7**
BELG Belogornoye 22.53 295 Lg Lg 01 37 30.2
comp=Z,0.5nm,0.3s,baz=255,slow=22,SNR=1.1
BELG Belogornoye 22.53 295 *i* P **Pn** **01 30 37.3 -0.9**
BELG pmax pmax
comp=Z,4.0nm,1.6s
XLT XiLinHaoTe 23.79 87 *e*P **Pn** **01 30 50.8 -0.6**
XLT pP 01 30 56.0
XLT sP 01 30 57.9
XLT pmax pmax
comp=Z,7.0nm,0.8s
XLT pmax pmax
comp=Z,58nm,4.8s
MAK Makhachkala 24.72 272 *e*P **Pn** **01 30 54.7 -5.1**
MAK *e*S **Sn** **01 35 14.9 -7.7**
MAK pmax pmax
comp=Z,45nm,1.2s
MAK MLR MLR
comp=Z,67nm,16.0s
GROC Groznyy 25.78 273 *e*P **Pn** **01 31 07.8 -1.6**
GROC *e* 01 31 44.4
GROC *e* 01 34 38.2
GROC pmax pmax
comp=Z,15nm,1.7s
PZH PanZhiHua 26.20 137 P **Pn** **01 31 12.3 -1.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.1s
KBZ Khabaz 27.52 276 *i* P **Pn** **01 31 24.7 -0.4**
KBZ pmax pmax
comp=Z,5.0nm,3.0s
KVAR Kislovodsk Arr 27.57 277 LR LR 01 44 46.7
comp=Z,40nm,18.1s,baz=68,slow=42
KIV Kislovodsk 27.58 277 *e*P **P** **01 31 23.8 -2.0**
KIV *e* 01 32 08.7
KIV pmax pmax
comp=Z,1.0nm,0.8s
OBN Obninsk 28.93 302 *e*P **P** **01 31 36.0 -1.6**
OBN *e* 01 32 28.5
OBN pmax pmax
comp=Z,2.0nm,0.8s
CMAR Chiang Mai Arr 32.28 149 P **P** **01 32 06.7 -0.8**
comp=Z,1.8nm,0.3s,baz=328,slow=8.5,SNR=1.4
comp=Z,1.8nm,0.3s
VSU Vasula 34.00 309 *ce*P **P** **01 32 22.3 +0.2**
VSU pmax pmax
comp=Z,4.0nm,1.0s
FIA1 FINESS Array S 34.09 315 P **P** **01 32 22.0 -0.9**
FINES FINESS Array B 34.10 315 P **P** **01 32 22.3 -0.6**
FINES FINESS Array B 34.10 315 P **P** **01 32 22.1 -0.8**
comp=Z,0.8nm,0.5s,baz=94,slow=9.7,SNR=11
comp=Z,0.8nm,0.5s
AKASG Malin Array Be 34.11 295 P **P** **01 32 22.4 -0.8**
comp=Z,0.4nm,0.3s,baz=62,slow=8.5,SNR=9.8
comp=Z,0.4nm,0.3s
AKBB Malin Array Si 34.11 295 *ce*P **P** **01 32 22.1 -1.0**
AKBB pmax pmax
comp=Z,11nm,2.0s
ARBE Arbavere 34.29 311 *e*P **P** **01 32 24.1 -0.4**
NACGM Naroch 34.54 303 *e*P **P** **01 32 27.1 +0.2**
comp=N,388nm,0.8s
KEF Keuruu 34.64 316 *e*P **P** **01 32 26.9 -0.7**
ARCES ARCESS Array B 34.78 329 P **P** **01 32 28.4 -0.3**
ARCES lAmb lAmb 01 32 44.5
comp=Z,6.7nm,1.2s
ARCES ARCESS Array B 34.78 329 P **P** **01 32 28.1 -0.6**
comp=Z,0.9nm,0.5s,baz=95,slow=9.5,SNR=11
comp=Z,0.9nm,0.5s
ARCES ARCESS Array B 34.78 329 P **P** **01 32 28.4 -0.3**
ARCES pmax pmax
comp=Z,7.0nm,1.2s
MTSE Matsula 35.49 310 *e*P **P** **01 32 34.8 -0.1**
BR131 Keskin Array S 35.50 275 P **P** **01 32 33.1 -2.3**
BR131 Keskin Array S 35.50 275 P **P** **01 32 33.2 -2.3**
BR131 pmax pmax
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 35.50 275 P **P** **01 32 32.9 -2.5**
BRTR Keskin Array B 35.50 275 P **P** **01 32 33.0 -2.5**
comp=Z,0.9nm,0.5s,baz=139,slow=7.7,SNR=10
BRTR Keskin Array B 35.50 275 *i* P **P** **01 32 33.0 -2.5**
BRTR pmax pmax
comp=Z,1.0nm,0.5s
BRTR Keskin Array B 35.50 275
comp=Z,0.9nm,0.5s
VAF Ylistaro 35.61 318 *e*P **P** **01 32 35.5 -0.5**
PABE Paberze 35.99 305 P **P** **01 32 38.4 -0.9**
PABE Paberze 35.99 305 *e*P **P** **01 32 37.2 -2.0**
SLIT Slitere, Latvi 36.46 308 *e*P **P** **01 32 42.2 -1.1**
BUR08 Bucovina Ar. S 37.61 292 P **P** **01 32 52.8 -0.5**
BUR08 lAmb lAmb 01 32 54.1
comp=Z,2.5nm,0.8s
BURAR Bucovina Array 37.61 292 P **P** **01 32 52.2 -1.1**
MLR Muntele Rosu 37.98 288 P **P** **01 32 56.5 -0.1**
MLR lAmb lAmb 01 33 37.0
comp=Z,8.2nm,1.4s
MLR Muntele Rosu 37.98 288 LR LR 01 52 10.4
comp=Z,54nm,18.1s,baz=62,slow=42
MLR Muntele Rosu 37.98 288 P **P** **01 32 56.5 -0.1**
MLR pmax pmax
comp=Z,8.0nm,1.4s
KWP Kalwaria Pacla 38.42 296 P **P** **01 32 59.0 -1.1**
KWP lAmb lAmb 01 33 01.9
comp=Z,5.9nm,1.0s
KWP Kalwaria Pacla 38.42 296 P **P** **01 32 59.0 -1.1**
KWP pmax pmax
comp=Z,6.0nm,1.0s
VIKU Vikbolandet 39.18 311 *e*P **P** **01 33 05.6 -0.7**
HFS Hagfors 40.29 314 P **P** **01 33 14.8 -0.7**
comp=Z,4.3nm,0.6s,baz=82,slow=11,SNR=18
comp=Z,4.3nm,0.6s
NC602 NORSAR Array S 41.17 315 P **P** **01 33 21.9 -0.9**
NC602 lAmb lAmb 01 33 22.6
comp=Z,5.4nm,0.7s
NB201 NORSAR Array S 41.21 316 P **P** **01 33 21.7 -1.4**
NB201 lAmb lAmb 01 33 55.2
comp=Z,12nm,1.5s
ASAJ Asahikawa 41.21 72 LR LR 01 51 36.7
comp=Z,29nm,21.8s,baz=169,slow=38
VYHS Vyhne 41.21 295 *e*P **P** **01 33 23.8 +0.5**
VYHS Vyhne 41.21 295 *e*P **P** **01 33 23.8 +0.5**
NB2 NORSAR Subarra 41.25 316 P **P** **01 33 22.6 -0.9**
comp=Z,1.1nm,0.5s,baz=73,slow=8.6
NB2 NORSAR Subarra 41.25 316 P **P** **01 33 22.5 -0.9**
NOA NORSAR Array B 41.25 316 P **P** **01 33 22.4 -1.1**
comp=Z,1.8nm,0.6s,baz=74,slow=8.0,SNR=12
NOA LR LR 01 51 05.5
comp=Z,12nm,21.1s,baz=15,slow=37
comp=Z,1.8nm,0.6s
CLL Collm 43.53 302 *i* P **P** **01 33 41.9 -0.2**
comp=Z,4.0nm,0.6s
CLL Collm 43.53 302 *i* P **P** **01 33 41.9 -0.2**
CLL pmax pmax
comp=Z,4.0nm,0.6s
KHC Kasperske Hory 44.10 298 *ce*P **P** **01 33 45.2 -1.6**
KHC pmax pmax
comp=Z,17nm,2.5s
GERES GERESS Array B 44.15 298 LR LR 01 52 53.2
comp=Z,32nm,21.6s,baz=80,slow=37
FUORN Ofenpass-Fuorn 47.24 297 P **P** **01 34 11.4 -0.5**
FUORN lAmb lAmb 01 34 24.2
comp=Z,3.1nm,1.0s
DAVOX Davos/Dischmat 47.39 297 LR LR 01 56 10.2
comp=Z,38nm,21.1s,baz=28,slow=39
BNI Bardonecchia 50.19 297 P **P** **01 34 33.8 -0.7**
BNI lAmb lAmb 01 34 34.9
comp=Z,4.1nm,0.8s
BNI Bardonecchia 50.19 297 P **P** **01 34 33.8 -0.7**
BNI pmax pmax
comp=Z,4.0nm,0.8s
EKA Eskdalemuir Ar 50.43 312 P **P** **01 34 34.8 -1.1**
comp=Z,0.8nm,0.5s,baz=58,slow=6.8,SNR=12
comp=Z,0.8nm,0.5s

B20K Meade River 54.88 21 P **P** **01 35 07.8 -0.9**
B20K lAmb lAmb 01 35 39.8
comp=Z,6.4nm,1.3s
B22K Teshekpuk Lake 55.53 20 P **P** **01 35 12.3 -1.1**
B22K lAmb lAmb 01 35 48.6
comp=Z,2.8nm,1.0s
C23K Itkillik River 56.54 19 P **P** **01 35 21.4 +0.7**
C23K lAmb lAmb 01 36 04.8
comp=Z,2.4nm,1.2s
E19K Redstone River 56.69 23 P **P** **01 35 21.3 -0.4**
E19K lAmb lAmb 01 35 32.7
comp=Z,2.2nm,1.1s
F21K Alatna River 57.85 22 P **P** **01 35 30.1 +0.2**
D25K Kavik River 57.87 18 P **P** **01 35 30.3 +0.2**
D25K lAmb lAmb 01 36 07.4
comp=Z,3.3nm,1.4s
ESDC Sonseca Array 59.72 297 P **P** **01 35 41.8 -1.6**
ESDC Sonseca Array 59.72 297 P **P** **01 35 42.3 -1.1**
comp=Z,0.5nm,0.5s,baz=48,slow=6.6,SNR=9.8
comp=Z,0.5nm,0.5s
E29M Blow River 60.34 16 P **P** **01 35 46.1 -1.1**
E29M lAmb lAmb 01 35 58.2
comp=Z,2.9nm,1.1s
INK Inuvik 61.19 14 P **P** **01 35 52.0 -0.8**
INK lAmb lAmb 01 36 02.4
comp=Z,3.4nm,1.2s
INK Inuvik 61.19 14 LR LR 02 07 35.0
comp=Z,17nm,18.4s,baz=193,slow=41
INK Inuvik 61.19 14 P **P** **01 35 52.1 -0.8**
INK pmax pmax
comp=Z,3.0nm,1.3s
ILAR Eielson Array 61.45 22 P **P** **01 35 53.4 -1.3**
comp=Z,0.2nm,0.6s,baz=331,slow=7.2,SNR=2.6
comp=Z,0.2nm,0.6s
C36M Paulatuk 61.59 10 P **P** **01 35 54.0 -1.5**
H29M Whitestone 62.14 17 P **P** **01 35 58.7 -0.7**
H29M lAmb lAmb 01 36 21.7
comp=Z,4.6nm,1.3s
G31M Satah River 62.30 15 P **P** **01 35 59.2 -1.1**
I30M Mount Dempster 63.42 17 P **P** **01 36 07.2 -0.9**
I30M lAmb lAmb 01 36 07.5
comp=Z,1.9nm,0.8s
SML Sawmill 63.49 24 P **P** **01 36 07.0 -1.5**
BCAR Beaver Creek A 64.12 21 P **P** **01 36 12.1 -0.6**
GLB Gilahina Butte 65.00 22 P **P** **01 36 17.2 -1.3**
MCARA McCarthy VSAT 65.25 22 P **P** **01 36 20.5 +0.5**
M29M Somme Creek 65.43 19 P **P** **01 36 19.5 -1.7**
YKU2 Yakutat 67.71 22 P **P** **01 36 33.5 -2.1**
YKA Yellowknife Ar 69.25 8 P **P** **01 36 44.0 -1.3**
YKA Yellowknife Ar 69.25 8 P **P** **01 36 43.8 -1.5**
comp=Z,0.7nm,0.8s,baz=344,slow=7.1,SNR=10
comp=Z,0.7nm,0.8s
YKA Yellowknife Ar 69.25 8 *i* P **P** **01 36 43.7 -1.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
TORD Torodi Ar. Bea 74.04 272 P **P** **01 37 12.6 -2.2**
comp=Z,0.4nm,0.7s,baz=48,slow=4.9,SNR=6.8
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 82.00 131 P **P** **01 37 56.6 -2.2**
comp=Z,0.6nm,0.9s,baz=338,slow=5.4,SNR=2.0
comp=Z,0.6nm,0.9s
ASAR Alice Springs 84.92 134 P **P** **01 38 11.5 -2.4**
comp=Z,0.1nm,0.3s,baz=330,slow=5.4,SNR=2.1
comp=Z,0.1nm,0.3s

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*OSPL **15** 01:55:32.2±1.5, 18°.62N×71°.29W, h58km±17km, ML1.7*
*SDD **15** 01:55:34.5±2.3, 18°.55N×71°.41W, h15km±27km, MD3.0, ML2.0, MW3.3*

ISC 15 01:55:32.1±1.3, **18°.63N**±0°.06×**71°.37W**±0°.04, **h14**km±12km, **n9**, σ1s**02**/18, **4C-2D, Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.36**	**12**	*e*Pg	**Pn**		**01 55 42.2**	**-0.8**
SDDR				*e*Sg	**Sn**		**01 55 49.2**	**-0.8**
SDDR					IAML		01 55 50.9	
	comp=N,50nm,0.8s							
SDDR	**Presa de Saban**	**0.36**	**12**	*i* P	**Pn**		**01 55 42.2**	**-0.8**
SDDR				*e*S	**Sn**		**01 55 49.4**	**-0.6**
SDDR					IAML		01 55 50.6	
	comp=Z,42nm,1.3s							
PODR	**Polo**	**0.47**	**170**	*e*Pg	**Pg**		**01 55 41.2**	**-0.3**
PODR				*e*Pg	Pg		01 55 41.2	-0.2
PODR					IAML		01 55 48.9	
	comp=N,194nm,0.2s							
PODR	**Polo**	**0.47**	**170**	*i* P	**Pg**		**01 55 41.2**	**-0.3**
PODR				*e*S	**Sg**		**01 55 47.9**	**+0.1**
JIDR	**Jimani**	**0.48**	**253**	‖*e*Pg	**Pg**		**01 55 41.9**	**+0.3**
JIDR				⇑*e*Sg	**Sg**		**01 55 48.6**	**+0.7**
JIDR					IAML		**01 55 49.1**	**-0.1**
	comp=Z,441nm,0.8s							
JIDR				*e*Sg	**Sb**		**01 55 49.2**	**-0.1**
JIDR					IAML		01 55 49.4	
	comp=N,290nm,0.3s							
JIDR					IAML		01 55 49.4	
	comp=N,290nm,0.3s							
REDR	**Restauracion**	**0.54**	**357**	*e*Pg	**Pn**		**01 55 47.9**	**+2.5**
REDR					IAML		01 56 00.3	
	comp=N,91nm,0.1s							
LOBA2	**Hotel Casa Bon**	**0.60**	**154**	⇑*e*Pg		**Pb**	**01 55 43.5**	**-1.0**
LOBA2				⇑*e*Sg		**Sg**	**01 55 52.2**	**+0.2**
LOBA2					IAML		01 55 54.5	
	comp=E,24nm,0.4s							
LOBA2					IAML		01 55 54.6	
	comp=N,11nm,0.4s							
PAPH	**Port-au-Prince**	**0.89**	**263**	*i* P		**Pb**	**01 55 48.5**	**-0.8**
PAPH				*e*S		**Sb**	**01 56 01.2**	**+0.1**
PAPH					IAML		01 56 06.6	
	comp=Z,20nm,0.4s							
BANI	**BANI**	**0.99**	**104**	‖*e*Pg	**Pg**		**01 55 51.6**	**+0.4**
BANI				⇑*e*Sg	**Sn**		**01 56 07.4**	**+1.9**
BANI					IAML		01 56 07.7	
	comp=E,51nm,0.2s							
BANI					IAML		01 56 08.7	
	comp=N,70nm,0.6s							
BANI					IAML		01 56 11.0	
	comp=N,66nm,1.6s							

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*NEIC **15** 02:18:34.9±1.6, 37°.800N±0°.006×122°.214W±0°.009, h13km±1km, Error ellipse: s-maj=1.1km s-min=1.0km az=51.0*
*NEIC **15** 02:18:35, 37°.81N×122°.19W, h9km*
*NEIC **15** 02:18:35, 37°.81N×122°.19W, h8km, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}0.00; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$ 1.56; $M_{r\theta}$-0.72; $M_{\theta\phi}$0.76; $M_{\phi r}$0.11; Fault plane solution: $M_0$1.88000×10^{14} NP1:ϕ_s149.80000°, δ74.62000°, λ-166.96000°. NP2:ϕ_s56.28000°, δ77.43000°, λ-15.77000°. Principal axes: T 1.7310, Plg2.0000°, Azm103.0000°; N 0.2633, Plg70.0000°, Azm199.0000°; P -1.9943, Plg20.0000°, Azm13.0000°;*
*NCEDC **15** 02:18:35±1.6, 37°.805N±0°.005×122°.202W±0°.008, h9km±1km, Mwr3.5/4, ML3.4/80(NEIC) Error ellipse: s-maj=0.9km s-min=0.9km az=61.0*
*IDC **15** 02:18:36.2±2.5, 38°.15N×122°.06W, h0km, mb3.2/1, mbtmp3.0/3, ML3.3/1, MS2.6/2, Error ellipse: s-maj=45.4km s-min=18.2km az=13.0*

ISC 15 02:18:35.1±0.8, **37°.80N**±0°.02×**122°.22W**±0°.02, **h15**km±4km, **n276**, σ0s**97**/271, **Central California**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
C005	**Mandana Bl Oak**	**0.02**	**305**			**Pg**	**02 18 38.1**	**+0.3**
C064	**Brunell Drive**	**0.03**	**83**			**Pg**	**02 18 36.5**	**-1.4**
C013	**Ascot Lane Oak**	**0.03**	**48**			**Pg**	**02 18 38.0**	**+0.1**
CMCM	**Mills College**	**0.04**	**121**			**Pg**	**02 18 36.7**	**-1.2**
CMCM	**Mills College**	**0.04**	**121**			**Pg**	**02 18 38.3**	**+0.3**
C058	**Eastshore Driv**	**0.04**	**186**			**Pg**	**02 18 39.1**	**+1.1**
C049	**Pacific Avenue**	**0.05**	**242**			**Pg**	**02 18 39.3**	**+1.3**
C028	**Eucalyptus Rd**	**0.05**	**337**			**Pg**	**02 18 38.6**	**+0.6**
C033	**Glashaus Lp Em**	**0.07**	**309**			**Pg**	**02 18 39.3**	**+1.2**
C044	**Maitland Drive**	**0.07**	**188**			**Pg**	**02 18 37.5**	**-0.7**
C044						**Sg**	**02 18 39.9**	**-0.2**
BKS	**Berkeley--Byer**	**0.08**	**350**			**Pg**	**02 18 37.4**	**-0.9**
BL67	**Building 67, L**	**0.08**	**339**			**Pg**	**02 18 39.3**	**+1.0**
BRK	**Berkeley--Havi**	**0.08**	**335**			**Pg**	**02 18 37.4**	**-0.9**
VAK	**Adit at Lawren**	**0.08**	**343**			**Pg**	**02 18 37.5**	**-0.8**
BL88	**Building 88, L**	**0.08**	**340**			**Pg**	**02 18 37.4**	**-0.9**
BL88						**Sg**	**02 18 39.5**	**-0.9**
CVPM	**Vollmer Peak**	**0.08**	**359**			**Pg**	**02 18 37.6**	**-0.8**
SMCB	**Saint Mary's C**	**0.09**	**66**			**Pg**	**02 18 39.0**	**+0.7**

C007	Forest Lane Be	0.10	340		Pg	02 18 37.9	-0.6
C007					Sg	02 18 40.2	-0.5
C008	Spokane Avenue	0.11	328		Pg	02 18 38.0	-0.6
C008					Sg	02 18 40.2	-0.6
CSLM	San Leandro Hi	0.11	134		Pg	02 18 37.6	-1.0
CYBM	Yerba Buena Is	0.11	275		Pg	02 18 38.2	-0.4
C011	Colusa Avenue,	0.12	331		Pg	02 18 38.1	-0.6
C011					Sg	02 18 40.6	-0.4
C070	Dillo Street S	0.12	145		Pg	02 18 37.7	-1.0
BGC	Bolinger Road	0.13	83		Pg	02 18 37.8	-1.0
BGC					Sg	02 18 40.0	-1.3
CLCB	Lake Chabot	0.14	117		Pg	02 18 38.2	-0.7
CLCB					Sg	02 18 40.5	-0.9
RFSB	Richmond Field	0.15	321		Pg	02 18 38.6	-0.4
C026	Kell Court Ala	0.15	63		Pg	02 18 38.5	-0.5
C047	Rutherford Dri	0.16	80		Pg	02 18 38.7	-0.5
C047					Sg	02 18 41.4	-0.5
C021	Meadowview Dri	0.16	131		Pg	02 18 38.6	-0.7
C055	Cottonwood Ave	0.17	149		Pg	02 18 38.7	-0.6
C024	33rd St Richmo	0.17	327		Pg	02 18 39.0	-0.3
CSPM	San Pablo Ridg	0.17	335		Pg	02 18 39.3	-0.1
C056	Diablo Avenue	0.18	156		Pg	02 18 39.2	-0.3
C067	Fleetwood El S	0.18	342		Pg	02 18 39.8	+0.2
CPIM	Pinole Ridge	0.19	1		Pg	02 18 39.7	+0.1
JSBM	San Bruno Moun	0.19	229		Pg	02 18 39.5	-0.1
C027	Lawnview Circl	0.19	92		Pg	02 18 39.3	-0.3
C018	Christie Drive	0.20	24		Pg	02 18 39.6	-0.2
C073	Carlos Bee Bl	0.20	138		Pg	02 18 39.5	-0.3
JPRM	Presidio of Sa	0.20	268		Pg	02 18 40.0	+0.2
CPMM	Point Molate	0.21	315		Pg	02 18 39.7	-0.2
C045	Hawkins Drive	0.21	104		Pg	02 18 39.7	-0.2
HERB	Hercules	0.21	351		Pg	02 18 40.0	0.0
C010	Sunflower Cour	0.22	49		Pg	02 18 40.0	-0.1
JCPM	Coyote Point	0.23	201		Pg	02 18 40.3	+0.1
J061	Lakeshore Driv	0.23	252		Pg	02 18 40.4	+0.1
C006	Lk Pillsbury D	0.24	149		Pg	02 18 40.1	-0.4
JMGM	Milagra Ridge	0.26	231		Pg	02 18 41.0	+0.2
SAC	San Andreas	0.27	216		Pg	02 18 41.1	+0.2
CRPB	Russellman Par	0.27	66		Pg	02 18 40.7	-0.3
CTAM	Taylor	0.28	36		Pb	02 18 41.6	-0.2
CNIC	Niles Canyon	0.28	134		Pg	02 18 40.9	-0.3
CNIC					Sg	02 18 45.3	+0.1
C002	Farnham Drive	0.28	149		Pg	02 18 40.9	-0.3
C062	Calle Reynoso	0.28	118		Pb	02 18 41.3	-0.6
C048	Posada Way Fre	0.29	141		Pg	02 18 41.0	-0.3
C069	Rotal Creek Pl	0.30	121		Pg	02 18 41.5	+0.1
C015	Bright Common	0.30	143		Pg	02 18 41.3	-0.2
JCHM	Cahill Ridge	0.31	204		Pg	02 18 41.8	+0.2
CDOM	Doolan Road	0.31	103		Pb	02 18 42.1	-0.3
CMOB	Morgan Territo	0.33	88		Pb	02 18 42.1	-0.6
CVLM	Vallecito	0.35	120		Pb	02 18 42.7	-0.3
C001	Firth Court Fr	0.36	141		Pg	02 18 42.6	+0.1
C050	Festivo Court	0.36	140		Pg	02 18 42.6	+0.1
C017	S Grimmer Bl F	0.38	142		Pg	02 18 42.9	+0.1
JRSC	Jasper Ridge	0.40	182		Pg	02 18 43.2	0.0
JSFB	Stanford Teles	0.40	175		Pg	02 18 43.4	+0.2
WENL	Wente Vineyard	0.41	116		Pb	02 18 43.7	-0.3
CBZL	Buffer Zone	0.41	105		Pb	02 18 44.0	-0.1
CBZL	Buffer Zone	0.41	105		Pb	02 18 44.0	-0.1
SNT	Sears Point	0.42	334		Pb	02 18 44.2	-0.1
CSAM	Sandia	0.43	107		Pb	02 18 44.2	-0.1
C057	Hedge Avenue B	0.44	69		Pb	02 18 44.6	0.0
JFP	Foothills Park	0.44	177		Pg	02 18 44.0	+0.1
CBSNC	Byron Hot Spri	0.46	88		Pb	02 18 44.6	-0.3
BGH	Bear Gulch	0.47	192		Pb	02 18 45.0	0.0
JSJM	St Joseph	0.48	168		Pg	02 18 44.9	+0.3
CALM	Calaveras Res.	0.48	136		Pg	02 18 44.4	-0.3
HMR	Hamilton Ranch	0.48	43		Pb	02 18 45.5	+0.2
JBMM	Black Mountain	0.48	174		Pg	02 18 44.9	+0.1
C016	Longford Drive	0.49	145		Pb	02 18 45.2	-0.2
NOLM	Olema	0.51	298		Pg	02 18 45.2	0.0
C046	N 16th Street	0.52	149		Pg	02 18 45.5	0.0
C041	El Campo Drive	0.53	144		Pb	02 18 46.1	+0.1
CMLM	Mount Lewis	0.56	125		Pg	02 18 46.0	-0.1
CVS	Carmenet Viney	0.57	341		Pg	02 18 46.0	-0.4
C059	Quail Canyon R	0.58	142		Pb	02 18 46.8	-0.1
SCCB	Santa Clara Co	0.59	151		Pg	02 18 46.5	-0.2
CSTL	Corral Hollow	0.59	106		Pg	02 18 46.8	-0.1
JPSM		0.61	190		Pg	02 18 47.4	+0.3
C054	Valleyhaven Wa	0.62	149		Pg	02 18 47.0	-0.2
JJOM	Saint Joseph's	0.62	162		Pg	02 18 47.2	-0.2
MCCM	Marconi Confer	0.62	303		Pg	02 18 47.1	-0.3
FARB	Farallon Islan	0.63	261		Pg	02 18 47.5	+0.1
C072	Blauer Lane Sa	0.63	144		Pb	02 18 47.9	+0.1
NAPC	Atlas Peak	0.64	358		Pg	02 18 47.6	-0.1
MHC	Mount Hamilton	0.65	135		Pg	02 18 47.4	-0.5
NPRM	Point Reyes	0.66	287		Pg	02 18 47.9	-0.2
CMMM	Mount Mocho	0.67	121		Pg	02 18 47.9	-0.4
NADM	Allendale	0.69	17		Pb	02 18 49.0	+0.3
CCOB	Coe Ranch Numb	0.69	141		Pg	02 18 48.7	0.0
ARN	Arnold Ranch	0.71	129		Pg	02 18 48.5	-0.5
COSM	Mount Oso	0.73	113		Pg	02 18 48.5	-0.9
JLAB	Laurel Hill	0.75	149		Pg	02 18 49.3	-0.5
MTOS	Mt Oso, Westle	0.77	112		Pg	02 18 49.1	-1.0
CADM	Anderson Res.	0.79	143		Pg	02 18 50.3	-0.2
JTGM	Trout Gulch Ro	0.82	160		Pb	02 18 51.6	+0.6
NBPM	Berryessa Peak	0.86	1		Pg	02 18 51.8	-0.2
HLPM	Lions Peak	0.89	148		Pg	02 18 51.9	-0.5
NHSM	Mount Saint He	0.91	340		Pg	02 18 51.6	-1.1
JELB	Ellicott, Sant	0.93	160		Pg	02 18 52.1	-1.0
GHS	Gilroy Hot Spr	0.94	139		Pg	02 18 52.4	-0.9
CDC	Canada Road	0.97	143		Pg	02 18 53.2	-0.7
HCAM	Canada Road	0.97	143		Pg	02 18 53.1	-0.6
NDHM	Dunnigan Hills	0.99	14		Pg	02 18 53.6	-0.8
HCOM	Corn Cob Canyo	1.00	156		Pg	02 18 52.9	-1.5
NMTM	Middletown	1.02	350		Pg	02 18 53.5	-1.3
ANZ	Anzar Road	1.04	151		Pg	02 18 53.6	-1.7
GCRM	Castle Rock Sp	1.04	338		Pg	02 18 53.5	-1.8
HFEM	San Felipe	1.04	141		Pg	02 18 53.9	-1.4
HPCM	Pacheco Lake	1.05	134		Pg	02 18 54.2	-1.3
GBGM	Boggs Mountain	1.07	340		Pg	02 18 54.3	-1.6
HTUM	Tustin Road	1.08	155		Pg	02 18 53.6	-2.3
SLD	San Luis Dam	1.08	132		Pg	02 18 54.5	-1.4
GGPM	Geyser Peak	1.08	333		Pg	02 18 54.2	-1.8
HERM	Elkhorn Road	1.08	158		Pg	02 18 54.0	-1.9
PACP	Pacheco Peak	1.09	137		Pg	02 18 54.7	-1.4
HBTM	San Juan Bauti	1.09	151		Pg	02 18 54.5	-1.6
MNRC	McLaughlin Min	1.09	351		Pg	02 18 54.6	-1.6
GDXM	Geysers	1.10	336		Pg	02 18 54.5	-2.0
GDXM	Geysers	1.10	336	IAML		02 19 11.9	
	comp=N,539nm,0.3s						
GDXM				IAML		02 19 12.7	
	comp=E,944nm,0.2s						
GHCM	House Creek	1.11	316		Pg	02 18 54.7	-1.9
GSGM	Seigler Mounta	1.13	340		Pg	02 18 55.4	-1.6
HSFM	Saint Francis	1.14	150		Pg	02 18 55.4	-1.8
GRTM	Round Top Moun	1.19	343		Pb	02 18 56.0	-1.4
GPMM	Pine Mountain	1.19	332		Pb	02 18 56.3	-1.1
FRP	Fremont Peak	1.20	151		Pb	02 18 55.4	-2.1
SAO	San Andreas Ge	1.21	149		Pb	02 18 55.7	-1.9
HMOM	Monterey	1.22	169		Pn	02 18 56.1	-1.5
BSLM	Silva Ranch	1.24	146		Pn	02 18 57.1	-0.7
GDCM	Dry Creek	1.25	321		Pn	02 18 57.3	-0.8
BSRM	Salinas Radio	1.26	154		Pn	02 18 56.3	-1.9
BPCNC	Pine Canyon	1.31	159		Pn	02 18 57.4	-1.4
GBMM	Baldy Mountain	1.35	351		Pn	02 18 58.8	-0.7
HOPS	Hopland Field	1.37	331		Pn	02 18 58.5	-1.1
HOPS	Hopland Field	1.37	331	IAML		02 19 37.8	
	comp=N,330nm,1.2s						
HOPS				IAML		02 19 38.4	
	comp=E,371nm,1.4s						
SCZ	Santa Cruz	1.37	151		Pn	02 18 57.7	-1.9
BJOM	Mount Johnson	1.38	148		Pn	02 18 58.2	-1.4
GHLM	Highland Sprin	1.39	333		Pn	02 18 58.4	-1.5
BJCM	Johnson Can.	1.42	152		Pn	02 18 58.5	-1.7
BPRM	Ponciano Ridge	1.45	164		Pn	02 18 59.2	-1.5
GGUM	Gualala	1.46	317		Pn	02 18 59.7	-1.2
SUTB	Sutter Butte	1.47	13		Pn	02 18 58.3	-2.6
CMB	Columbia Colle	1.47	80		Pn	02 18 60.0	-1.1
CMB	Columbia Colle	1.47	80	IAML		02 19 19.5	
	comp=N,876nm,0.5s						
CMB				IAML		02 19 21.2	
	comp=E,329nm,0.4s						
BVL	Bear Valley	1.48	146		Pn	02 18 59.8	-1.3
MYLM	Yosemite Lake	1.49	106		Pn	02 18 59.8	-1.5
BAVM	Antelope Valle	1.49	140		Pn	02 19 00.7	-0.7
OSUM	Sutter Buttes	1.50	11		Pn	02 18 59.0	-2.4
AFDM	Forest Hills D	1.51	40		Pn	02 19 00.0	-1.6
AFDM	Forest Hills D	1.51	40	IAML		02 19 20.4	
	comp=N,281nm,0.6s						
AFDM				IAML		02 19 20.4	
	comp=E,602nm,0.6s						
HAST	Hastings Reser	1.51	159		Pn	02 18 59.7	-1.9
GFC	Funks Creek	1.52	358		Pn	02 19 00.9	-0.8
GTSM	Trough Springs	1.54	349		Pn	02 19 01.3	-0.8
BBGB	Big Mountain B	1.54	142		Pn	02 19 01.6	-0.6
BSMM	Soledad Missio	1.55	156		Pn	02 19 01.3	-0.9
BPIM	Pinnacles	1.56	147		Pn	02 19 00.6	-1.6
BCWM	Chews Ridge	1.58	160		Pn	02 19 01.1	-1.6
BSGM	Shirttail Gulc	1.59	151		Pn	02 19 01.2	-1.4
BPOM	Post Ranch	1.61	167		Pn	02 19 01.1	-1.8
OSTM	Stimpson Lane	1.64	17		Pn	02 19 01.1	-2.3
GWRM	Wonder Ranch	1.64	329		Pn	02 19 03.1	-0.3
LRV	Little Rabbit	1.68	145		Pn	02 19 03.2	-0.7
PAM	Palermo	1.73	18		Pn	02 19 03.0	-1.6
OWYM	Wyandotte	1.75	19		Pn	02 19 02.6	-2.2
GCK	Clark Valley	1.75	354		Pn	02 19 04.3	-0.5
GHMM	Hull Mountain	1.78	342		Pn	02 19 05.3	-0.2
ORV	Oroville	1.84	18		Pn	02 19 04.1	-2.0
DCMP	DeCamp, Califo	1.88	333		Pn	02 19 06.0	-0.7
PCCM	Crazy Canyon	1.91	153		Pn	02 19 05.7	-1.3
GTC	Three Chop Rid	1.91	327		Pn	02 19 06.1	-0.9
OGOM	Van Goodin Ran	1.91	14		Pn	02 19 05.2	-1.8
HULI	Fort Hunter Li	1.94	156		Pn	02 19 06.4	-1.1
PMPB	Monarch Peak	1.95	144		Pn	02 19 07.3	-0.4
EMB	Emerald Bay	2.03	54		Pn	02 19 09.4	+0.4
PJUM	Juniper Ridge	2.04	140		Pn	02 19 08.3	-0.6
RUBR	Rubicon Trail	2.05	52		Pn	02 19 09.6	+0.5
PPTM	Peach Tree Val	2.07	144		Pn	02 19 08.8	-0.6
PDRM	Domengine Ranc	2.08	134		Pn	02 19 09.2	-0.3
DONR	Donner Summit	2.15	43		Pn	02 19 10.7	+0.1
FRI	Friant	2.16	111		Pn	02 19 09.7	-0.8
KCPM	Cahto Peak	2.16	331		Pn	02 19 10.5	-0.2
KCPM				IAML		02 19 57.7	
	comp=N,142nm,0.8s						
KCPM				IAML		02 20 01.8	
	comp=E,138nm,1.8s						
PSMM	Smith Mountain	2.16	143		Pn	02 19 10.4	-0.2
PHSB	Hesperia Broad	2.18	154		Pn	02 19 09.9	-0.9
PHPM	Hope Ranch	2.23	144		Pn	02 19 10.7	-0.8
KIPM	Iron Peak	2.23	334		Pn	02 19 12.3	+0.7
MPK	Martis Peak	2.27	48		Pn	02 19 11.6	-0.7
PANM	San Antonio Re	2.28	152		Pn	02 19 12.9	+0.8
PKD	Bear Valley Ra	2.29	144		Pn	02 19 11.4	-0.9
WAKR	Walker	2.30	71		Pn	02 19 14.4	+1.8
WAKR	Walker	2.30	71	IAML		02 19 49.6	
	comp=N,222nm,0.8s						
KBF	Kyburz Flat	2.32	42		Pg	02 19 19.7	+0.1
PSTM	Stockdale Moun	2.32	143		Pn	02 19 11.9	-0.8
PPO	Portuguese Can	2.32	146		Pn	02 19 12.5	-0.3
KCC	Kaiser Creek	2.35	101		Pn	02 19 13.4	+0.2
CTM	Castle Mountai	2.40	140		Pn	02 19 14.6	+0.7
LCMM	Colby Mountain	2.40	13		Pn	02 19 13.7	-0.4
PWKM	Work Ranch	2.41	145		Pn	02 19 13.5	-0.5
LOY	Loyalton	2.42	39		Pn	02 19 14.8	+0.6
RAMR	Ramage Ranch	2.42	153		Pn	02 19 13.0	-1.1
PNTR	Pine Nut	2.43	57		Pn	02 19 15.6	+1.2
BABR	Babbit Peak	2.44	42		Pn	02 19 15.3	+0.6
GHC	Gold Hill	2.47	142		Pn	02 19 14.7	-0.2
PSRM	Scobie Ranch	2.49	141		Pn	02 19 14.8	+0.5
MDPB	Devils Postpil	2.50	93		Pn	02 19 16.0	+0.6
MDPB	Devils Postpil	2.50	93	IAML		02 19 50.4	
	comp=N,283nm,0.7s						
MDPB				IAML		02 19 53.3	
	comp=E,256nm,0.6s						
MINS	Minaret Summit	2.51	92		Pn	02 19 16.3	+0.7
003E	Paynes Creek	2.51	7		Pn	02 19 14.1	-1.3
MRDM	Red Cones	2.52	94		Pn	02 19 16.3	+0.6
MDCM	Deadman Creek	2.52	91		Pn	02 19 16.5	+0.8
BEKR	Beckworth	2.52	35		Pn	02 19 16.2	+0.6
PEAR	Peavine Mounta	2.52	44		Pn	02 19 16.1	+0.4
PKLM	Kerr Lake	2.52	143		Pn	02 19 15.2	-0.3
ARDC	Alexander Ranc	2.54	156		Pn	02 19 14.2	-1.5
MMPM	Mammoth Pass	2.54	93		Pn	02 19 17.9	+0.9
MLIM	Lincoln Peak	2.54	93		Pn	02 19 17.4	+1.2
MDYM	Dry Creek	2.55	92		Pn	02 19 17.2	+1.1
MMLB	Mammoth Lakes	2.57	92		Pn	02 19 17.6	+1.2
MEMM	East Mammoth H	2.60	92		Pn	02 19 18.2	+1.3
YERR	Yerington	2.62	62		Pn	02 19 17.4	+0.3
MLCM	Laurel Creek C	2.63	93		Pn	02 19 18.4	+1.2
MCSM	Casa Diablo Ho	2.63	92		Pn	02 19 18.6	+1.4
MCBM	Casa Benchmark	2.64	92		Pn	02 19 18.9	+1.5
KMRM	Mail Ridge	2.68	335		Pn	02 19 18.0	+0.3
KMRM				IAML		02 20 23.4	
	comp=E,74nm,1.7s						
MDRNC	Doe Ridge	2.69	92		Pn	02 19 19.8	+1.8
BMRR	Black Mountain	2.75	33		Pn	02 19 19.5	+0.6
RCCR	Rock Creek Can	2.79	95		Pn	02 19 20.9	+1.3
SCHCA	Scheelite	2.84	98		Pn	02 19 21.4	+1.3
WMD		2.87	96		Pb	02 19 24.5	-1.4
PAHR	Pah Rah Range	2.92	48		Pn	02 19 21.2	+0.1
PAHR				IAML		02 20 12.2	
	comp=E,70nm,1.3s						
LHV	Little Huntoon	2.97	80		Pn	02 19 22.0	+0.4
LHV				IAML		02 20 12.1	
	comp=N,163nm,1.0s						
LHV				IAML		02 20 15.2	
	comp=E,183nm,0.8s						
KMPM	Mount Pierce	3.00	331	Pn	Pn	02 19 22.8	+0.6
BHPR	Bishop	3.01	98		Pn	02 19 23.8	+1.4
RYN	Ryan	3.03	73		Pn	02 19 23.1	+0.5
RYN				IAML		02 20 08.9	
	comp=E,98nm,0.4s						
RYN				IAML		02 20 09.2	
	comp=N,103nm,0.4s						
HATC	Hat Creek Radi	3.07	11		Pn	02 19 24.0	+0.9
LBCM	Butte Creek Ri	3.10	12		Pn	02 19 24.6	+0.9
NVAR	Mina Array Bea	3.15	77	Pn	Pn	02 19 24.7	+0.3
NVAR	Mina Array Bea	3.15	77	Pn	Pn	02 19 25.4	+1.1
	comp=N,3.7nm,0.3s,baz=256,slow=14,SNR=28						
NVAR				Lg	Lg	02 20 10.5	
	comp=N,13nm,0.3s,baz=264,slow=31,SNR=8.1						
	comp=N,1.6nm,0.4s						
NV11	Mina Array Sit	3.27	78	Pn	Pn	02 19 26.6	+0.7
DSP	Deep Springs	3.40	96	Pn	Pn	02 19 28.5	+0.9
DSP				IAML		02 20 21.8	
	comp=E,58nm,1.0s						
KVN	Kaiserville	3.47	68	Pn	Pn	02 19 28.4	-0.3
KVN				IAML		02 20 25.3	
	comp=E,60nm,1.2s						
KVN				IAML		02 20 29.0	
	comp=N,70nm,1.2s						
BCW	Bitter Crk WRg	3.64	141		Pn	02 19 32.0	+1.0
BCW				IAML		02 20 54.9	
	comp=N,74nm,1.4s						
BCW				IAML		02 21 01.4	
	comp=E,60nm,1.4s						
LCH	Last Change Ra	3.68	97		Pn	02 19 32.4	+0.8
LCH				IAML		02 20 38.9	
	comp=E,42nm,0.8s						
LGMM	Garner Mountai	3.81	4		Pn	02 19 35.1	+1.8
YBH	Yreka Blue Hor	3.94	355	LR	LR	02 21 14.2	
	comp=E,49nm,20.8s,baz=168,slow=44						
GRAC	Grapevine Rang	3.95	100	Pn	Pn	02 19 36.5	+1.3
GRAC				IAML		02 20 46.4	
	comp=E,68nm,0.9s						
GRAC				IAML		02 20 54.7	
	comp=N,61nm,1.1s						
TPH	Tonopah	3.96	85		Pn	02 19 35.5	+0.1
CCAC	Calif City Air	4.30	127		Pn	02 19 40.4	+0.4
CCAC				IAML		02 21 10.8	
	comp=E,46nm,1.1s						
CCAC				IAML		02 21 12.2	
	comp=N,50nm,1.4s						
BMN	Battle Mountai	4.69	54	Pn	Pn	02 19 45.7	+0.3
GWY	Greenwater Val	4.73	108	Pn	Pn	02 19 46.4	+0.4
GWY				IAML		02 21 09.3	
	comp=E,21nm,0.9s						
GWY				IAML		02 21 23.6	
	comp=N,15nm,1.5s						
GSC	Goldstone, Bar	5.02	118	Pn	Pn	02 19 50.1	+0.1
GSC				IAML		02 21 19.9	
	comp=N,18nm,1.9s						
GSC				IAML		02 21 21.5	
	comp=E,20nm,0.7s						
S11A	Rachel	5.13	90	Pn	Pn	02 19 51.1	-0.4
S11A				IAML		02 21 38.0	
	comp=N,37nm,1.5s						
R11B	Troy Canyon, C	5.26	82	Pn	Pn	02 19 53.2	-0.1
WVOR	Wild Horse Val	5.38	30	Pn	Pn	02 19 55.3	+0.4
PRN	Pahroc Range	5.71	92	Pn	Pn	02 20 00.4	+1.1
SHPR	Sheep Range	5.79	101	Pn	Pn	02 20 00.9	+0.4
ELK	Elko	6.16	59	Pn	Pn	02 20 05.9	+0.2
J08A	Circle Bar Ran	6.24	26	Pn	Pn	02 20 07.5	+0.8
PFO	Pinyon Flats O	6.28	130	LR	LR	02 23 05.2	
	comp=N,98nm,18.2s,baz=44,slow=42						
TXAR	Lajitas Array	17.60	113	P	P	02 22 43.2	+2.4
	comp=N,0.4nm,0.9s,baz=305,slow=12,SNR=3.6						
ILAR	Eielson Array	30.69	339	P	P	02 24 50.3	+1.5
	comp=N,0.2nm,0.5s,baz=148,slow=8.3,SNR=4.6						
	comp=N,0.2nm,0.5s						
H11N3	WAKE ISLAND Hy	63.30	275	T	T	03 37 13.9	
	baz=57,slow=75,SNR=55						
H11N2	WAKE ISLAND Hy	63.31	275	T	T	03 37 10.1	
	baz=57,slow=75,SNR=36						
H11N1	WAKE ISLAND Hy	63.32	275	T	T	03 37 11.2	
	baz=57,slow=75,SNR=50						
H11S1	WAKE ISLAND Hy	64.13	274	T	T	03 38 18.6	
	baz=55,slow=74,SNR=42						
H11S2	WAKE ISLAND Hy	64.14	274	T	T	03 38 17.5	
	baz=55,slow=74,SNR=48						
H11S3	WAKE ISLAND Hy	64.15	274	T	T	03 38 21.4	
	baz=55,slow=74,SNR=30						

NEIC ***15*** *02:23:56.9±2.6, 19.2°N±0.2°×153.68°W±0.06°, h5km±2km, Error ellipse: s-maj=38.7km s-min=4.0km az=14.0*
HVO 15 02:24:22.7±0.7, 19.416°N±0.008°×155.29°W±0.01°, h1km±4km, ML2.8/10, ML2.1/28(NEIC), Error ellipse: s-maj=1.7km s-min=1.1km az=70.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OBL	Observatory Le	0.00	39			Pg	02 24 23.9	+0.9
NPH	North Pit	0.01	128			Pg	02 24 23.6	+0.6
UWE	Uwekahuna	0.01	309	IAML			02 24 23.2	
	comp=N,9μm,0.4s							
UWE	Uwekahuna	0.01	309			Pg	02 24 24.0	+0.9
UWB	Uwekahuna B	0.01	38			Pg	02 24 23.9	+0.8
WRMHI	West Rim	0.02	236	IAML			02 24 23.5	
	comp=E,5μm,0.2s							
WRMHI	West Rim	0.02	236			Pg	02 24 24.3	+1.1
SBLHI	Steaming Bluff	0.02	56	IAML			02 24 23.6	
	comp=E,5μm,0.7s							
SBLHI				IAML			02 24 24.0	
	comp=N,5μm,0.4s							
SBLHI	Steaming Bluff	0.02	56			Pg	02 24 24.3	+1.1
RIM	Rim	0.02	151			Pg	02 24 24.0	+0.8
HATHI	Halema'uma'u T	0.02	72	IAML			02 24 23.9	
	comp=N,5μm,1.0s							
HATHI				IAML			02 24 24.1	
	comp=E,4μm,1.0s							
HATHI	Halema'uma'u T	0.02	72			Pg	02 24 24.5	+1.3
BYL	Byron's Ledge	0.03	98	IAML			02 24 23.7	
	comp=N,6μm,1.1s							
BYL	Byron's Ledge	0.03	98			Pg	02 24 24.3	+1.0
KKO	Keanakako`i	0.03	133	IAML			02 24 23.4	
	comp=E,7μm,1.0s							
KKO	Keanakako`i	0.03	133			Pg	02 24 24.6	+1.3
SDHHI	Sand Hill	0.03	197	IAML			02 24 23.7	
	comp=E,4μm,0.6s							
SDHHI	Sand Hill	0.03	197			Pg	02 24 23.8	+0.6
RSD	Rainshed	0.05	9	IAML			02 24 24.5	
	comp=N,3μm,1.0s							
RSD	Rainshed	0.05	9			Pg	02 24 25.8	+2.1
PUH	Pauahi	0.08	122	IAML			02 24 24.5	
	comp=E,1μm,0.9s							
PUH				IAML			02 24 26.2	
	comp=N,1μm,0.7s							
PUH	Pauahi	0.08	122			Pg	02 24 27.1	+2.8
KNHH	Kane Nui o Ham	0.12	108			Pg	02 24 25.9	+0.9
HLP	Hilina Pali	0.12	190			Pg	02 24 25.9	+0.9
HLP	Hilina Pali	0.12	190	IAML			02 24 27.5	
	comp=N,2μm,0.9s							
HLP				IAML			02 24 27.7	
	comp=E,2μm,0.8s							
MLH	Mauna Loa	0.12	310			Pg	02 24 26.2	+1.1
MLH						Sg	02 24 28.8	+2.1
MLH	Mauna Loa

MKAR	**Makanchi Array**	**4.74**	**343**	Pn		**Pn**	**02 38 12.9**	**+1.8**
	0.4nm,0.3s,baz=166,slow=14,SNR=14							
MKAR				Pg		**Pb**	**02 38 26.3**	**+3.6**
	6.3nm,0.3s,baz=157,slow=16,SNR=42							
MKAR				Sn		**Sn**	**02 39 10.4**	**+4.3**
	3.4nm,0.3s,baz=157,slow=23,SNR=5.2							
MKAR				Lg		Lg	02 39 30.2	
	5.4nm,0.3s,baz=158,slow=30,SNR=2.0							
	0.6nm,0.4s							
MAKZ	**Makanchi**	**4.82**	**341**	⇓Pg		Pb	02 38 30.6	+6.4
	5.0nm,0.4s							
MAKZ				⇑Lg		Lg	02 39 35.5	
	19nm,0.7s							
TDK	**Taldyqorghan**	**5.06**	**305**	Pg		**Pg**	**02 38 38.5**	**+2.0**
	34nm,0.1s							
TDK				Lg		Lg	02 39 47.0	
	0.4nm,0.3s							
TDK	**Taldyqorghan**	**5.06**	**305**	*e*P		**Pg**	**02 38 35.5**	**-1.0**
	73nm,0.3s							
TDK				*e*S		**Sg**	**02 39 41.4**	**-0.6**
	61nm,0.2s							
ARXS	**Arharly**	**5.10**	**295**	Pg		**Pg**	**02 38 36.8**	**-0.4**
	5.8nm,0.3s							
ARXS				Lg		Lg	02 39 44.1	
	37nm,0.5s							
ARXS	**Arharly**	**5.10**	**295**	*e*P		**Pg**	**02 38 36.8**	**-0.4**
	5.8nm,0.3s							
ARXS				*e*S		**Sg**	**02 39 44.1**	**+0.9**
	37nm,0.5s							
ZSN	**Zaisan**	**5.19**	**4**	Pg		**Pg**	**02 38 38.4**	**-0.6**
	8.6nm,0.3s							
ZSN				Lg		Lg	02 39 46.2	
	25nm,0.4s							
ZSN	**Zaisan**	**5.19**	**4**	*e*P		**Pg**	**02 38 38.4**	**-0.6**
	8.6nm,0.3s							
ZSN				*e*S		**Sg**	**02 39 46.2**	**0.0**
	25nm,0.4s							
KOTS	**Kotyrbulak**	**5.37**	**283**	Pg		**Pg**	**02 38 41.3**	**-1.0**
	8.9nm,0.5s							
KOTS				Lg		Lg	02 39 51.8	
	41nm,0.8s							
KOTS	**Kotyrbulak**	**5.37**	**283**	*e*P		**Pg**	**02 38 41.3**	**-1.0**
	8.9nm,0.5s							
KOTS				*e*S		**Sg**	**02 39 51.8**	**0.0**
	41nm,0.8s							
MDOK	**Medeo**	**5.40**	**282**	Pn		**Pn**	**02 38 21.4**	**+1.0**
	1.7nm,0.5s							
MDOK				Pg		Pb	02 38 39.3	+5.1
	2.6nm,0.5s							
MDOK				Pg		**Pg**	**02 38 41.4**	**-1.7**
	3.4nm,0.3s							
MDOK				Sn		**Sn**	**02 39 27.3**	**+4.6**
	8.0nm,0.5s							
MDOK				Lg		Lg	02 39 50.2	
	23nm,1.0s							
MDOK				Lg		Lg	02 39 51.3	
	14nm,0.8s							
MDOK	**Medeo**	**5.40**	**282**	*e*P		**Pg**	**02 38 41.4**	**-1.7**
	3.4nm,0.3s							
MDOK				*e*S		**Sg**	**02 39 51.3**	**-1.7**
	14nm,0.8s							
TNSS	**Tian-Shan**	**5.46**	**280**	Pg		Pb	02 38 42.3	+7.0
	5.5nm,0.4s							
TNSS				Lg		Lg	02 39 52.8	
	8.4nm,0.6s							
TNSS	**Tian-Shan**	**5.46**	**280**	*e*P		**Pg**	**02 38 43.0**	**-1.2**
	5.5nm,0.5s							
TNSS				*e*S		**Sg**	**02 39 54.5**	**-0.5**
	12nm,0.4s							
CHKK	**Chushkaly**	**5.57**	**289**	Pg		Pb	02 38 43.2	+6.3
	2.8nm,0.1s							
CHKK				Lg		Lg	02 39 55.2	
	12nm,0.3s							
CHKK	**Chushkaly**	**5.57**	**289**	*e*P		**Pg**	**02 38 44.7**	**-1.5**
	1.9nm,0.1s							
CHKK				*e*S		**Sg**	**02 39 57.1**	**-1.3**
	12nm,0.3s							
IZV	**Izvestkoviy**	**5.71**	**280**	Pg		**Pg**	**02 38 49.2**	**+0.3**
	2.0nm,0.2s							
IZV				Lg		Lg	02 40 05.0	
	31nm,0.5s							
IZV	**Izvestkoviy**	**5.71**	**280**	*e*P		**Pg**	**02 38 49.2**	**+0.3**
	2.0nm,0.2s							
IZV				*e*S		**Sg**	**02 40 05.0**	**+2.2**
	31nm,0.5s							
KTBS	**Karatobe**	**5.76**	**287**	Pg		**Pg**	**02 38 48.2**	**-1.6**
	3.2nm,0.4s							
KTBS				Lg		Lg	02 40 03.3	
	23nm,0.5s							
KTBS	**Karatobe**	**5.76**	**287**	*e*P		**Pg**	**02 38 48.2**	**-1.6**
	3.2nm,0.4s							
KTBS				*e*S		**Sg**	**02 40 03.3**	**-1.0**
	23nm,0.5s							
KUU	**Kurty**	**6.04**	**288**	Pg		**Pg**	**02 38 54.5**	**-0.7**
	2.9nm,0.0s							
KUU				Lg		Lg	02 40 14.0	
	4.7nm,0.1s							
KUU	**Kurty**	**6.04**	**288**	*e*P		**Pg**	**02 38 54.5**	**-0.7**
	2.9nm,0.0s							
KUU				*e*S		**Sg**	**02 40 14.0**	**+0.6**
	4.7nm,0.1s							
KST	**Kastek**	**6.18**	**280**	Pg		**Pg**	**02 38 56.7**	**-1.2**
	5.4nm,0.6s							
KST				Lg		Lg	02 40 17.8	
	21nm,0.5s							
KST	**Kastek**	**6.18**	**280**	*e*P		**Pg**	**02 38 56.7**	**-1.2**
	5.4nm,0.6s							
KST				*e*S		**Sg**	**02 40 17.8**	**-0.2**
	21nm,0.5s							
DGS	**Degeres**	**6.34**	**282**	Pg		**Pg**	**02 38 58.8**	**-2.1**
	4.5nm,0.3s							
DGS				Lg		Lg	02 40 21.6	
	9.0nm,0.5s							
DGS	**Degeres**	**6.34**	**282**	*e*P		**Pg**	**02 38 58.8**	**-2.1**
	4.5nm,0.3s							
DGS				*e*S		**Sg**	**02 40 21.6**	**-1.4**
	9.0nm,0.5s							
TKM2	**Tokmak 2**	**6.44**	**279**	⇑Pn		**Pn**	**02 38 36.4**	**+1.7**
	2.5nm,0.6s							
TKM2				⇓Sn		**Sn**	**02 39 51.9**	**+3.5**
	5.6nm,0.5s							
TKM2				⇓Lg		Lg	02 40 21.5	
	7.6nm,0.7s							
AAK	**Ala-Archa**	**7.25**	**276**	Lg		Lg	02 40 45.3	
	0.2nm,0.3s,baz=69,slow=22,SNR=1.8							
KURBB	**Kurchatov Arra**	**9.24**	**337**	⇓Lg		Lg	02 42 00.3	
	12nm,0.7s							
KURBB	**Kurchatov Arra**	**9.24**	**337**	Pn		**Pn**	**02 39 13.2**	**+0.4**
	baz=153,slow=12,SNR=2.0							
KURBB				Lg		Lg	02 41 53.6	
	0.1nm,0.3s,baz=80,slow=22,SNR=5.0							
	0.1nm,0.3s							
KURK	**Kurchatov**	**9.30**	**337**	⇓Lg		Lg	02 41 58.4	
	14nm,0.8s							
OTUK	**Ortayu**	**10.32**	**309**	⇓Lg		Lg	02 42 30.7	
	3.8nm,0.7s							
ZALV	**Zalesovo Beam**	**11.69**	**2**	Pn		**Pn**	**02 39 45.9**	**-0.4**
	0.3nm,0.3s,baz=180,slow=14,SNR=2.0							
	0.5nm,0.3s							
SONM	**Songino Array**	**16.56**	**63**	Pn		Pn	02 40 47.2	-4.7
	0.1nm,0.3s,baz=250,slow=8.6,SNR=1.6							
	0.3nm,0.3s							
CMAR	**Chiang Mai Arr**	**26.82**	**148**	P		P	02 42 35.4	-4.6
	1.5nm,0.3s,baz=318,slow=8.7,SNR=4.6							
JOW	**Kunigami**	**38.92**	**99**	LR		LR	03 00 19.4	
	comp=Z,55nm,18.1s,baz=295,slow=36							
FINES	**FINESS Array B**	**39.14**	**320**	P		**P**	**02 44 25.8**	**-1.1**
	0.4nm,0.7s,baz=189,slow=33,SNR=1.7							
	0.4nm,0.7s							
ARCES	**ARCESS Array B**	**40.30**	**332**	P		P	02 44 34.3	-2.3
	0.3nm,0.4s,baz=71,slow=7.8,SNR=5.9							
	0.3nm,0.4s							
HFS	**Hagfors**	**45.28**	**318**	P		**P**	**02 45 15.8**	**-1.2**
	0.3nm,0.4s,baz=112,slow=11,SNR=4.0							
	0.3nm,0.4s							
NOA	**NORSAR Array B**	**46.32**	**320**	P		P	02 45 23.6	-1.6
	0.3nm,0.5s,baz=79,slow=7.7,SNR=3.4							
	0.3nm,0.5s							
TORD	**Torodi Ar. Bea**	**75.83**	**275**	P		P	02 48 43.0	-3.3
	0.2nm,0.4s,baz=41,slow=4.9,SNR=6.5							
	0.2nm,0.4s							
WRA	**Warramunga Arr**	**77.23**	**132**	P		P	02 48 49.3	-4.6
	0.4nm,0.8s,baz=328,slow=5.1,SNR=1.5							
	0.4nm,0.8s							

IDC 15 02:47:30.3±16.0, **14°.91N**×**105°.47W, h0**km, **mb2.8**/2, **mbtmp3.0**/3, **ML3.1**/1, **Error ellipse: s-maj=457.6km**

s-min=109.7km az=120.0, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TXAR	**Lajitas Array**	**14.45**	**6**	Pn	Pn	02 50 58.0	+1.7
	baz=186,slow=14,SNR=5.3						
	0.8nm,1.0s						
YKA	**Yellowknife Ar**	**47.96**	**354**	P	P	02 56 10.5	0.0
	baz=167,slow=6.3,SNR=1.7						
ILAR	**Eielson Array**	**57.20**	**340**	P	P	02 57 18.8	-0.1
	0.1nm,0.5s,baz=133,slow=7.1,SNR=2.5						
	0.1nm,0.5s						

*IDC **15** 03:45:47.7±0.9, 1°.21N×123°.54E, h0km, mb4.1/7, mbtmp4.1/8, ML3.6/1, Error ellipse: s-maj=41.3km s-min=17.6km az=67.0*

*NEIC **15** 03:46:06.6±1.3, 1°.01N±0°.07×123°.1E±0°.1, h172km±9km, mb4.4/13, Error ellipse: s-maj=21.6km s-min=5.7km az=65.0*

*DJA **15** 03:46:12.2±0.6, 0°N±5°×12°2E±°, h200km±5km, M4.0/8, mb4.1/2, mB4.7/1, MLv4.0/8, Mw(mB)4.0/1*

ISC 15 03:46:11.4±0.7, **0°.24N**±0°.07×**122°.18E**±0°.06, **h200**km, **n32, σ1°37/31, mb4.2**/14, **Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.92**	**65**	P	**Pn**	**03 46 42.2**	**+1.6**
GTOI				S	**Sn**	**03 47 04.6**	**+1.4**
LUWI	**Luwuk**	**1.41**	**155**		**Pn**	**03 46 44.4**	**+0.1**
LUWI				Sn	**Sn**	**03 47 10.5**	**+0.6**
LUWI	**Luwuk**	**1.41**	**155**	P	**Pn**	**03 46 46.0**	**+1.7**
LUWI				S	**Sn**	**03 47 10.9**	**+1.0**
TOLI2	**Tolitoli**	**1.64**	**302**	Pn	**Pn**	**03 46 46.9**	**+0.5**
KMSI	**Cibinong**	**1.84**	**80**	P	**Pn**	**03 46 49.4**	**+1.2**
TTSI	**Tana Toraja**	**4.02**	**216**	P	**Pn**	**03 47 14.8**	**+1.3**
SANI	**Sanana**	**4.44**	**121**	P	**Pn**	**03 47 18.4**	**-0.3**
LBMI	**Labuha**	**5.40**	**99**	P	**Pn**	**03 47 30.9**	**0.0**
	45nm,0.7s,1μm0.3nm						
LBMI				S	**Sn**	**03 48 32.8**	**-0.9**
	45nm,0.7s,1μm0.3nm						
KAPI	**Kappang**	**5.75**	**205**	Pn	**Pn**	**03 47 34.1**	**-1.4**
	1.1nm,0.3s,baz=358,slow=5.7,SNR=8.4						
	16nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.54**	**170**	P	**P**	**03 50 12.9**	**-0.2**
WB0	**Warramunga Arr**	**23.21**	**150**	P	**P**	**03 50 59.8**	**-1.0**
WRA	**Warramunga Arr**	**23.33**	**150**	P	**P**	**03 51 01.1**	**-0.8**
	3.6nm,0.6s,baz=325,slow=11,SNR=1.6						
	3.6nm,0.6s						
WB2	**Warramunga Arr**	**23.34**	**150**	P	**P**	**03 51 01.4**	**-0.5**
WB2				IAmb	IAmb	03 51 02.4	
	comp=Z,5.2nm,0.7s						
WR0	**Warramunga Arr**	**23.45**	**150**	P	**P**	**03 51 02.0**	**-0.9**
WR0				IAmb	IAmb	03 51 04.1	
	comp=Z,8.5nm,0.9s						
YHNB	**Yeheng**	**24.30**	**358**	P	P	03 51 02.6	-8.1
YHNB				IAmb	IAmb	03 51 03.3	
	comp=Z,17nm,1.4s						
AS31	**Alice Springs**	**26.35**	**155**	P	**P**	**03 51 28.8**	**-0.4**
ASAR	**Alice Springs**	**26.35**	**155**	P	**P**	**03 51 28.9**	**-0.3**
ASAR	**Alice Springs**	**26.35**	**155**	P	**P**	**03 51 28.7**	**-0.5**
	comp=Z,1.6nm,0.6s,baz=343,slow=14,SNR=30						
	comp=Z,1.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.13**	**310**	P	**P**	**03 51 53.9**	**0.0**
	comp=Z,1.0nm,0.3s,baz=146,slow=5.5,SNR=1.5						
	comp=Z,1.0nm,0.3s						
BBOO	**Buckleboo**	**35.39**	**160**	P	**P**	**03 52 47.8**	**-0.3**
STKA	**Stephens Creek**	**36.85**	**152**	P	**P**	**03 52 59.6**	**-1.0**
STKA	**Stephens Creek**	**36.85**	**152**	P	**P**	**03 52 59.6**	**-1.0**
	comp=Z,2.2nm,0.4s,baz=311,slow=7.6,SNR=6.5						
	comp=Z,2.2nm,0.4s						
CAN	**Canberra**	**43.33**	**147**	P	**P**	**03 53 52.3**	**-1.6**
CAN				IAmb	IAmb	03 53 57.7	
	comp=Z,18nm,1.4s						
USA0B	**Ussuriysk Arra**	**44.63**	**10**	P	P	03 53 52.0	-12
USA0B				IAmb	IAmb	03 53 55.9	
	comp=Z,8.6nm,0.8s						
USRK	**Ussuriysk Ar.**	**44.63**	**10**	P	P	03 53 52.8	-11
MKAR	**Makanchi Array**	**57.98**	**329**	P	**P**	**03 55 39.8**	**-3.3**
MKAR	**Makanchi Array**	**57.98**	**329**	P	**P**	**03 55 42.4**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=124,slow=8.5,SNR=7.3						
	comp=Z,0.7nm,0.5s						
PEA0B	**Petropavlovsk-**	**60.40**	**24**	P	P	03 55 50.2	-9.2
PEA0B				IAmb	IAmb	03 55 58.9	
	comp=Z,8.1nm,1.1s						
PETK	**Petropavlovsk-**	**60.40**	**24**	P	P	03 55 47.8	-12
	comp=Z,1.9nm,0.8s,baz=226,slow=7.8,SNR=2.2						
	comp=Z,1.9nm,0.8s						
CHGR	**Chuyangaron**	**61.73**	**315**	P	**P**	**03 56 08.1**	**-0.8**
CHGR				IAmb	IAmb	03 56 17.2	
	comp=Z,7.7nm,1.1s						
KURBB	**Kurchatov Arra**	**62.35**	**330**	P	**P**	**03 56 11.6**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=130,slow=7.2,SNR=1.2						
	comp=Z,0.5nm,0.5s						
CASY	**Casey**	**66.89**	**185**	P	**P**	**03 56 45.9**	**+4.2**

*NEIC **15** 03:49:00.3±1.4, 19°.41N±0°.01×155°.282W±0°.009, h5km±1km, Error ellipse: s-maj=3.3km s-min=1.6km az=44.0*

HVO 15 03:48:59.8±0.8, **19°.42N**±0°.01×**155°.275W**±0°.005, **h1**km±3km, **ML2.8**/24, **ML2.6**/19(NEIC), **Error ellipse: s-maj=1.6km s-min=0.7km az=176.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPH	**North Pit**	**0.01**	**238**		Pg	03 49 00.8	+0.6
OBL	**Observatory Le**	**0.01**	**283**		Pg	03 49 00.4	+0.2
UWB	**Uwekahuna B**	**0.01**	**343**		Pg	03 49 00.5	+0.3
SBLHI	**Steaming Bluff**	**0.01**	**30**		Pg	03 49 00.7	+0.4
BYL	**Byron's Ledge**	**0.01**	**104**		Pg	03 49 00.7	+0.4
HATHI	**Halema'uma'u T**	**0.01**	**61**		Pg	03 49 00.8	+0.5
UWE	**Uwekahuna**	**0.02**	**288**		Pg	03 49 00.8	+0.5
KKO	**Keanakako`i**	**0.02**	**154**		Pg	03 49 00.9	+0.6
RIM	**Rim**	**0.02**	**177**		Pg	03 49 00.8	+0.5
WRMHI	**West Rim**	**0.03**	**249**		Pg	03 49 01.0	+0.6
SDHHI	**Sand Hill**	**0.03**	**215**		Pg	03 49 01.1	+0.7
RSD	**Rainshed**	**0.05**	**357**		Pg	03 49 01.5	+0.8
RSD				IAML		03 49 01.9	
	comp=N,6μm,0.3s						
PUH	**Pauahi**	**0.07**	**127**		Pg	03 49 02.0	+0.8
PUH				IAML		03 49 03.3	
	comp=E,5μm,0.9s						
PUH				IAML		03 49 03.4	
	comp=N,4μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**110**		Pg	03 49 02.8	+1.0
HLP	**Hilina Pali**	**0.12**	**195**		Pg	03 49 03.2	+1.0
HLP				IAML		03 49 05.8	
	comp=N,1μm,0.6s						
HLP				IAML		03 49 05.8	
	comp=E,3μm,0.8s						
MLH	**Mauna Loa**	**0.13**	**307**		Pg	03 49 03.3	+0.9
STCH	**Steam Cracks**	**0.14**	**102**		Pg	03 49 03.3	+0.7
STCH				IAML		03 49 07.2	
	comp=N,2μm,0.2s						
STCH				IAML		03 49 07.4	
	comp=E,2μm,0.5s						
STCH	**Steam Cracks**	**0.14**	**102**		Sg	03 49 05.7	+1.2
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	03 49 03.7	+0.9
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	03 49 03.5	+0.5
JCUZ	**Jacuzzi**	**0.17**	**101**		Sg	03 49 06.7	+1.5
HTC	**Hot Caves**	**0.21**	**213**		Pg	03 49 04.7	+0.8
HMH	**Humu'ula Sheep**	**0.27**	**314**		Pg	03 49 05.3	+0.3
HMH				IAML		03 49 12.6	
	comp=N,1μm,0.5s						
HMH				IAML		03 49 13.5	
	comp=E,1μm,0.7s						
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	03 49 05.5	-0.3
KHU	**Kahuku**	**0.36**	**242**		Pg	03 49 07.8	+1.1
KHU	**Kahuku**	**0.36**	**242**	IAML		03 49 16.1	
	comp=E,743nm,0.5s						
KHU				IAML		03 49 18.6	
	comp=N,785nm,1.1s						
ALEP	**Alea Permanent**	**0.37**	**290**		Pb	03 49 09.0	-0.4
HUH	**Hualalai**	**0.59**	**297**		Pg	03 49 11.4	+0.2

*IDC **15** 04:03:01.4±3.6, 5°.47S×151°.52E, h44km±32km, mb4.0/16, mbtmp4.3/17, ML2.7/1, MS3.5/30, Error ellipse: s-maj=23.9km s-min=14.8km az=81.0*

*NEIC **15** 04:03:01.9±1.8, 5°.69S±0°.07×151°.59E±0°.04, h35km±2km, mb4.6/31, Error ellipse: s-maj=12.4km s-min=6.2km az=189.0*

ISC 15 04:03:03.1±0.5, **5°.63S**±0°.06×**151°.63E**±0°.08, **h57**km, **n89, σ0°.95/73, mb4.4**/30, **MS3.5**/29, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.52**	**21**	P	**Pn**	**04 03 29.4**	**+1.3**
RABL	**Rabaul**	**1.52**	**21**	Pn	**Pn**	**04 03 27.2**	**-0.8**
RABL				Sn	**Sn**	**04 03 47.2**	**+0.4**
MANU	**Manus Island**	**5.54**	**310**	Pn	**Pn**	**04 04 26.1**	**+3.0**
PMG	**Port Moresby**	**5.81**	**229**	P	**Pn**	**04 04 27.2**	**+0.5**
	12nm,0.3s,baz=22,slow=11,SNR=17						
PMG				S	**Sn**	**04 05 30.3**	**-1.6**
	84nm,0.6s,baz=114,slow=15,SNR=2.0						
PMG				LR	LR	04 06 44.7	
	comp=Z,354nm,20.4s,baz=18,slow=38						
	134nm,0.8s						
CTAO	**Charters Tower**	**15.30**	**199**		**Pn**	**04 06 37.4**	**+1.8**
QIS	**Mount Isa**	**18.88**	**217**	P	**P**	**04 07 18.4**	**-0.6**
EIDS	**Eidsvold**	**19.64**	**181**	P	**P**	**04 07 26.7**	**-0.5**
EIDS				IAmb	IAmb	04 07 31.8	
	comp=Z,20nm,1.2s						
KDU	**Kakadu**	**20.16**	**248**	P	**P**	**04 07 32.1**	**-0.8**
GUMO	**Guam**	**20.23**	**341**	LR	LR	04 15 54.9	
	comp=Z,56nm,18.1s,baz=116,slow=39						
MTN	**Manton Dam**	**21.45**	**249**	P	**P**	**04 07 46.8**	**-0.1**
MTN				IAmb	IAmb	04 07 48.9	
	comp=Z,86nm,1.5s						
DZM	**Mont Dzumac**	**21.74**	**140**	P	**P**	**04 07 51.4**	**+1.4**
	comp=Z,5.2nm,0.9s,baz=91,slow=19,SNR=2.0						
DZM				LR	LR	04 15 15.1	
	comp=Z,314nm,21.1s,baz=308,slow=34						
	comp=Z,5.2nm,0.9s						
WB0	**Warramunga Arr**	**21.88**	**228**	P	**P**	**04 07 51.4**	**0.0**
WR0	**Warramunga Arr**	**21.89**	**228**	P	**P**	**04 07 51.3**	**-0.2**
WR0				IAmb	IAmb	04 07 54.5	
	comp=Z,42nm,0.8s						
WB2	**Warramunga Arr**	**22.02**	**228**	P	**P**	**04 07 52.2**	**-0.6**
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**04 07 51.5**	**-1.5**
WRA	**Warramunga Arr**	**22.02**	**228**	P	**P**	**04 07 52.3**	**-0.7**
	comp=Z,54nm,0.7s,baz=53,slow=9.8,SNR=85						
WRA				PcP	**PcP**	**04 11 48.7**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=35,slow=2.2,SNR=4.7						
WRA				LR	LR	04 16 42.6	
	comp=Z,52nm,19.7s,baz=342,slow=37						
ARMA	**Armidale**	**24.66**	**180**	P	**P**	**04 08 18.2**	**-0.6**
ARMA				IAmb	IAmb	04 08 35.6	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**24.75**	**222**	P	**P**	**04 08 19.1**	**-0.5**
AS31				IAmb	IAmb	04 08 22.4	
	comp=Z,8.5nm,0.8s						
ASAR	**Alice Springs**	**24.76**	**222**	P	**P**	**04 08 19.9**	**+0.2**
	comp=Z,23nm,0.7s,baz=59,slow=8.5,SNR=122						
ASAR				PcP	**PcP**	**04 11 55.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=57,slow=3.4,SNR=2.5						
ASAR				LR	LR	04 17 47.5	
	comp=Z,104nm,19.5s,baz=48,slow=36						
	comp=Z,23nm,0.7s						
OOD	**Oodnadatta**	**26.75**	**213**	P	**P**	**04 08 37.3**	**-0.2**
LCRK	**Leigh Creek**	**27.73**	**205**	P	**P**	**04 08 46.5**	**+0.2**
STKA	**Stephens Creek**	**27.75**	**199**	P	**P**	**04 08 46.4**	**-0.1**
STKA	**Stephens Creek**	**27.75**	**199**	P	**P**	**04 08 46.3**	**-0.1**
	comp=Z,3.0nm,0.7s,baz=33,slow=10,SNR=5.4						
STKA				LR	LR	04 20 19.7	
	comp=Z,116nm,18.7s,baz=27,slow=37						
	comp=Z,3.0nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	**P**	**04 08 50.3**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.24**	**242**	P	**P**	**04 08 50.4**	**-0.6**
DAV	**Davao City (W)**	**28.89**	**296**	LR	LR	04 20 06.1	
	comp=Z,156nm,18.4s,baz=166,slow=36						
WRKA	**Warakurna**	**29.54**	**227**	P	**P**	**04 09 02.2**	**-0.4**
MULG	**Mulgathing**	**29.59**	**212**	P	**P**	**04 09 02.5**	**-0.3**
BBOO	**Buckleboo**	**30.70**	**206**	P	**P**	**04 09 12.8**	**+0.2**
BBOO	**Buckleboo**	**30.70**	**206**	P	**P**	**04 09 12.3**	**-0.3**
BBOO				IAmb	IAmb	04 09 12.6	
	comp=Z,24nm,1.4s						
FORT	**Forrest**	**33.41**	**219**	P	**P**	**04 09 36.2**	**-0.2**
FORT	**Forrest**	**33.41**	**219**	P	**P**	**04 09 36.2**	**-0.2**
JCJ	**Chichijima**	**33.79**	**345**	LR	LR	04 22 19.9	
	comp=Z,74nm,21.1s,baz=84,slow=34						
MBWA	**Marble Bar**	**34.55**	**240**	P	**P**	**04 09 46.3**	**-0.1**
MBWA	**Marble Bar**	**34.55**	**240**	P	**P**	**04 09 46.0**	**-0.5**
MBWA				IAmb	IAmb	04 09 49.1	
	comp=Z,13nm,0.8s						
PSA00	**Pilbara Seismi**	**34.60**	**240**	P	**P**	**04 09 46.6**	**-0.4**
JOW	**Kunigami**	**39.40**	**326**	LR	LR	04 23 20.7	
	comp=Z,97nm,21.2s,baz=123,slow=31						
URZ	**Urewera**	**39.89**	**148**	LR	LR	04 25 59.3	
	comp=Z,95nm,18.2s,baz=25,slow=34						
TUWZ	**Tuamarina**	**40.84**	**154**	P	**P**	**04 10 39.6**	**+0.4**
MORW	**Morawa**	**40.92**	**231**	P	**P**	**04 10 39.8**	**-0.4**
MORW				IAmb	IAmb	04 10 45.7	
	comp=Z,5.4nm,0.5s						
NWAO	**Narrogin (SRO)**	**41.98**	**225**	LR	LR	04 27 52.3	
	comp=Z,96nm,20.7s,baz=248,slow=36						
JNU	**Nakatsue**	**43.27**	**334**	LR	LR	04 27 22.3	
	comp=Z,45nm,18.2s,baz=182,slow=34						
MJAR	**Matsushiro Arr**	**43.79**	**344**	LR	LR	04 28 08.8	
	comp=Z,32nm,20.3s,baz=172,slow=35						
QIZ	**Qiongzhong**	**47.89**	**302**	P	**P**	**04 11 36.7**	**+0.7**
KSRS	**Korea Array**	**48.22**	**335**	P	**P**	**04 11 36.2**	**-1.9**
	comp=Z,0.7nm,0.4s,baz=164,slow=9.9,SNR=3.5						
	comp=Z,0.7nm,0.4s						
CMAR	**Chiang Mai Arr**	**57.18**	**296**	P	**P**	**04 12 44.6**	**0.0**
	comp=Z,1.1nm,0.3s,baz=105,slow=5.8,SNR=4.8

comp=Z,0.9nm,0.5s,baz=108,slow=4.6,SNR=9.9
comp=Z,0.9nm,0.5s

J25K **Salcha River, 83.86 23** P **P** **04 15 26.3 -0.1**
J25K IAmb IAmb 04 15 38.8
comp=Z,6.0nm,1.5s

M27K **Edge Creek, AK 84.32 25** P **P** **04 15 29.1 +0.2**
M27K IAmb IAmb 04 15 47.0
comp=Z,4.6nm,1.1s

QSPA **South Pole Qui 84.34 180** P **P** **04 15 29.3 +0.4**
QSPA IAmb IAmb 04 15 31.1
comp=Z,5.0nm,0.8s

QSPA **South Pole Qui 84.34 180** P **P** **04 15 29.5 +0.6**
comp=Z,4.5nm,0.8s,baz=18,slow=0.8,SNR=17
comp=Z,4.5nm,0.8s

MAW **Mawson 84.36 203** P **P** **04 15 29.2 +0.4**
comp=Z,1.7nm,0.7s,baz=135,slow=6.4,SNR=7.4
comp=Z,1.7nm,0.7s

AAK **Ala-Archa 84.38 314** LR LR 04 53 45.6
comp=Z,18nm,20.7s,baz=93,slow=36

BCAR **Beaver Creek A 84.64 25** P **P** **04 15 30.9 +0.6**
BVAR **Borovoye Array 89.20 323** P **P** **04 15 51.7 -0.9**
comp=Z,1.5nm,0.6s,baz=96,slow=7.4,SNR=6.8
BVAR LR LR 04 58 09.5
comp=Z,18nm,18.8s,baz=67,slow=37
comp=Z,1.5nm,0.6s

INK **Inuvik 89.64 21** LR LR 04 56 29.0
comp=Z,17nm,18.9s,baz=178,slow=36

YBH **Yreka Blue Hor 90.47 48** LR LR 04 50 03.6
comp=Z,31nm,20.6s,baz=245,slow=31

NVAR **Mina Array Bea 93.51 52** P **P** **04 16 13.2 -0.1**
comp=Z,0.8nm,0.7s,baz=251,slow=6.5,SNR=7.5
comp=Z,0.8nm,0.7s

PFO **Pinyon Flats O 94.67 57** LR LR 04 51 49.3
comp=Z,28nm,19.7s,baz=242,slow=31

NEW **Newport 94.99 42** LR LR 04 52 46.0
comp=Z,31nm,19.6s,baz=289,slow=31

ELK **Elko 96.01 50** LR LR 04 54 07.0
comp=Z,28nm,18.6s,baz=258,slow=32

ARU **Arti 96.34 326** LR LR 04 59 28.1
comp=Z,44nm,20.8s,baz=160,slow=35

LPAZ **La Paz 135.04 120** PKP **PKiKP** **04 22 19.3 0.0**
comp=Z,0.8nm,0.8s,baz=226,slow=14,SNR=3.7

TORD **Torodi Ar. Bea 149.43 286** PKPbc **PKPbc** **04 22 46.8 -0.1**
comp=Z,4.9nm,0.6s,baz=86,slow=3.1,SNR=41

BDFB **Brasilia 151.28 138** PKPbc **PKPbc** **04 22 51.7 +0.2**
comp=Z,5.4nm,0.8s,baz=270,slow=2.0,SNR=10

IDC ***15*** *04:21:13.1±1.1, 32.°04N×83.°87E, h0km, mb3.6/10, mbtmp3.6/13, ML2.8/2, MS3.2/15, Error ellipse: s-maj=27.7km s-min=20.6km az=46.0*

ISC 15 04:21:18.5±0.9, 32.°1N±0.°1×83.°9E±0.°1, h35km, n25, σ1$40/17, mb3.8/11, MS3.1/13, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KSH	**Kashi**	**9.78**	**321**	P	**Pn**	**04 23 36.8**	**+0.1**
AAK	**Ala-Archa**	**12.87**	**327**	LR	LR	04 29 21.2	
	comp=Z,153nm,18.7s,baz=142,slow=38						
MKAR	**Makanchi Array**	**14.71**	**356**	Pn	**Pn**	**04 24 41.9**	**-2.0**
	0.1nm,0.3s,baz=185,slow=14,SNR=4.9						
MKAR				LR	LR	04 31 11.9	
	comp=Z,63nm,19.6s,baz=184,slow=40						
	0.5nm,0.8s						
KURBB	**Kurchatov Arra**	**18.91**	**349**	P	**P**	**04 25 35.1**	**-0.9**
	baz=170,slow=11,SNR=13						
	1.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**19.22**	**131**	P	**P**	**04 25 38.3**	**-1.4**
	2.4nm,0.3s,baz=306,slow=7.7,SNR=2.1						
ZALV	**Zalesovo Beam**	**21.83**	**2**	P	**P**	**04 26 08.9**	**+1.2**
	3.8nm,0.7s,baz=179,slow=10,SNR=11						
ZALV				LR	LR	04 34 54.9	
	comp=Z,26nm,18.1s,baz=15,slow=38						
	3.8nm,0.7s						
GEYT	**Alibeck**	**21.84**	**293**	P	**P**	**04 26 07.8**	**-0.1**
	3.6nm,0.8s,baz=128,slow=9.6,SNR=12						
GEYT				LR	LR	04 35 39.4	
	comp=Z,72nm,19.7s,baz=165,slow=40						
	3.6nm,0.8s						
BVAR	**Borovoye Array**	**23.06**	**339**	P	**P**	**04 26 21.0**	**+0.3**
	0.3nm,0.4s,baz=150,slow=9.6,SNR=2.4						
BVAR				LR	LR	04 34 40.4	
	comp=Z,20nm,20.9s,baz=173,slow=35						
	0.3nm,0.4s						
SONM	**Songino Array**	**23.21**	**41**	P	**P**	**04 26 22.0**	**-0.4**
	0.9nm,0.8s,baz=230,slow=11,SNR=2.1						
	0.9nm,0.8s						
WSAR	**Wadi Sarin**	**23.99**	**255**	LR	LR	04 36 55.5	
	comp=Z,51nm,18.2s,baz=89,slow=39						
AKTO	**Aktyubinsk**	**26.48**	**321**	LR	LR	04 37 59.6	
	comp=Z,103nm,18.3s,baz=156,slow=38						
XLT	**XiLinHaoTe**	**27.80**	**56**	*e*P	**P**	**04 27 06.3**	**+1.9**
XLT				pP	pP	04 27 11.3	-4.5
XLT				sP	sP	04 27 13.6	-7.1
XLT				PP	**PnPn**	**04 27 53.4**	**+2.2**
XLT				pmax	pmax		
	comp=Z,7.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,81nm,4.9s						
ARU	**Arti**	**29.99**	**332**	LR	LR	04 40 06.7	
	comp=Z,46nm,19.5s,baz=242,slow=38						
GNI	**Garni**	**32.40**	**295**	LR	LR	04 44 30.2	
	comp=Z,21nm,18.2s,baz=127,slow=43						
KBZ	**Khabaz**	**34.01**	**302**	LR	LR	04 43 55.1	
	comp=Z,36nm,18.4s,baz=80,slow=40						
KSRS	**Korea Array**	**36.32**	**69**	LR	LR	04 44 02.2	
	comp=Z,30nm,18.1s,baz=280,slow=38						
JOW	**Kunigami**	**38.81**	**86**	LR	LR	04 48 20.8	
	comp=Z,27nm,19.0s,baz=306,slow=42						
JNU	**Nakatsue**	**39.35**	**76**	LR	LR	04 45 36.6	
	comp=Z,34nm,18.6s,baz=10.0,slow=37						
BRTR	**Keskin Array B**	**40.94**	**295**	P	**P**	**04 28 57.6**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=106,slow=7.7,SNR=2.0						
	comp=Z,0.3nm,0.8s						
FINES	**FINESS Array B**	**47.05**	**326**	P	**P**	**04 29 45.5**	**-0.8**
	comp=Z,1.3nm,0.8s,baz=148,slow=8.2,SNR=1.9						
	comp=Z,1.3nm,0.8s						
HFS	**Hagfors**	**52.98**	**324**	P	**P**	**04 30 30.6**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=103,slow=11,SNR=1.8						
HFS				LR	LR	04 53 33.5	
	comp=Z,40nm,20.1s,baz=88,slow=37						
	comp=Z,1.1nm,0.7s						
NB2	**NORSAR Subarra**	**54.18**	**325**	P	**P**	**04 30 42.9**	**+2.7**
	comp=Z,2.1nm,1.0s,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**54.18**	**325**	P	**P**	**04 30 41.2**	**+1.1**
	comp=Z,1.4nm,0.9s,baz=87,slow=7.1,SNR=4.3						
NOA				LR	LR	04 54 28.7	
	comp=Z,27nm,19.7s,baz=100,slow=37						
	comp=Z,1.4nm,0.9s						
WRA	**Warramunga Arr**	**70.81**	**130**	P	**P**	**04 32 31.5**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=321,slow=6.5,SNR=1.5						
	comp=Z,0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**76.58**	**277**	P	**P**	**04 33 06.2**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=42,slow=5.1,SNR=4.8						
	comp=Z,0.1nm,0.3s						

NEIC ***15*** *04:42:17.8±1.2, 19.°393N±0.°008×155.°275W±0.°006, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.3km az=171.0*

HVO 15 04:42:17.2±0.9, 19.°411N±0.°008×155.°287W±0.°007, h1km±3km, ML3.0/13, ML2.1/32(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=193.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NPH	**North Pit**	**0.01**	**82**		Pg	04 42 17.6	+0.1
OBL	**Observatory Le**	**0.01**	**26**		Pg	04 42 17.8	+0.3
UWE	**Uwekahuna**	**0.01**	**331**		Pg	04 42 18.0	+0.4
WRMHI	**West Rim**	**0.01**	**249**	IAML		04 42 17.7	
	comp=N,7µm,0.6s						
WRMHI					Pg	04 42 18.0	+0.4
UWB	**Uwekahuna B**	**0.02**	**33**		Pg	04 42 18.2	+0.5
RIM	**Rim**	**0.02**	**142**	IAML		04 42 18.0	
	comp=N,4µm,0.5s						
RIM				IAML		04 42 18.0	
	comp=E,5µm,0.6s						
RIM					Pg	04 42 18.3	+0.6
SDHHI	**Sand Hill**	**0.02**	**196**		Pg	04 42 18.4	+0.7
KKO	**Keanakako`i**	**0.02**	**124**	IAML		04 42 17.8	
	comp=N,7µm,0.8s						
KKO					Pg	04 42 18.4	+0.7
SBLHI	**Steaming Bluff**	**0.02**	**49**	IAML		04 42 18.0	
	comp=N,4µm,0.9s						
SBLHI					Pg	04 42 18.5	+0.8
BYL	**Byron's Ledge**	**0.03**	**88**		Pg	04 42 18.6	+0.8
BYL				IAML		04 42 18.0	
	comp=N,4µm,1.1s						
HATHI	**Halema'uma'u T**	**0.03**	**65**	IAML		04 42 18.0	
	comp=E,3µm,1.0s						
HATHI					Pg	04 42 18.7	+1.0
RSD	**Rainshed**	**0.05**	**10**		Pg	04 42 19.2	+1.0
RSD				IAML		04 42 20.0	
	comp=E,2µm,0.2s						
PUH	**Pauahi**	**0.08**	**119**		Sg	04 42 21.6	+1.9
PUH	**Pauahi**	**0.08**	**119**		Pg	04 42 19.4	+0.7
PUH				IAML		04 42 20.3	
	comp=E,1µm,0.8s						
PUH				IAML		04 42 21.1	
	comp=N,2µm,0.6s						
HLP	**Hilina Pali**	**0.12**	**190**		Pg	04 42 20.4	+1.0
HLP	**Hilina Pali**	**0.12**	**190**		Sg	04 42 23.0	+2.0
HLP	**Hilina Pali**	**0.12**	**190**	IAML		04 42 21.9	
	comp=E,2µm,1.1s						
HLP				IAML		04 42 22.7	
	comp=N,1µm,0.9s						
KNHH	**Kane Nui o Ham**	**0.12**	**106**		Pg	04 42 20.4	+1.0
MLH	**Mauna Loa**	**0.12**	**312**		Pg	04 42 20.8	+1.2
MLH	**Mauna Loa**	**0.12**	**312**		Sg	04 42 23.7	+2.5
MLH	**Mauna Loa**	**0.12**	**312**	IAML		04 42 23.7	
	comp=N,3µm,0.4s						
STCH	**Steam Cracks**	**0.15**	**100**		Pg	04 42 20.9	+0.8
STCH	**Steam Cracks**	**0.15**	**100**	IAML		04 42 22.8	
	comp=E,612nm,0.9s						
STCH				IAML		04 42 22.9	
	comp=N,708nm,1.1s						
HTC	**Hot Caves**	**0.20**	**211**		Pg	04 42 21.9	+0.9
HMH	**Humu'ula Sheep**	**0.27**	**316**		Pg	04 42 23.2	+0.9
HMH					Sg	04 42 27.5	+1.7
HMH	**Humu'ula Sheep**	**0.27**	**316**	IAML		04 42 31.4	
	comp=N,566nm,0.5s						
HMH				IAML		04 42 31.7	
	comp=E,500nm,0.8s						
JOKA	**Jonika Flow**	**0.27**	**85**		Sg	04 42 27.2	+1.4
MWH	**Moku'aweowe**	**0.30**	**284**		Pg	04 42 24.0	+1.0
KHU	**Kahuku**	**0.35**	**242**		Pg	04 42 24.4	+0.5
KHU				IAML		04 42 33.0	
	comp=N,386nm,1.5s						
POHA	**Pohakuloa**	**0.41**	**326**		Pg	04 42 26.1	+0.9
POHA					Sb	04 42 32.5	-1.9
CPH	**Captain Cook**	**0.60**	**277**		Pg	04 42 28.6	-0.1

IDC ***15*** *04:53:02.9±1.2, 55.°22S×30.°70W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=44.6km s-min=30.1km az=76.0*

NEIC ***15*** *04:53:07.7±1.6, 55.°3S±0.°1×30.°9W±0.°2, h34km±3km, mb4.6/17, Error ellipse: s-maj=20.3km s-min=13.5km az=214.0*

ISC 15 04:53:07.5±0.7, 55.°3S±0.°1×31.°0W±0.°1, h35km, n23, σ0$90/24, mb4.5/10, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**3.36**	**285**	Pn	**Pn**	**04 53 57.9**	**+0.5**
HOPE				Sn	**Sn**	**04 54 35.1**	**-0.8**
SNAA	**Sanae**	**20.34**	**155**	P	**P**	**04 57 40.7**	**+0.2**
ITAB	**Concordia**	**31.96**	**323**	P	**P**	**04 59 29.4**	**-0.5**
ITAB				IAmb	IAmb	04 59 36.8	
	comp=Z,22nm,1.5s						
CPUP	**Villa Florida**	**34.73**	**316**	P	**P**	**04 59 53.9**	**-0.1**
CPUP				IAmb	IAmb	04 59 58.1	
	comp=Z,9.0nm,1.5s						
CPUP	**Villa Florida**	**34.73**	**316**	P	**P**	**04 59 55.4**	**+1.3**
	comp=Z,1.3nm,0.9s,baz=166,slow=8.3,SNR=1.7						
	comp=Z,1.3nm,0.9s						
QSPA	**South Pole Qui**	**34.98**	**180**	P	**P**	**04 59 57.1**	**+0.9**
QSPA				IAmb	IAmb	04 59 59.2	
	comp=Z,9.6nm,1.4s						
QSPA	**South Pole Qui**	**34.98**	**180**	P	**P**	**04 59 56.9**	**+0.7**
	comp=Z,2.3nm,1.1s,baz=165,slow=2.8,SNR=5.2						
	comp=Z,2.3nm,1.1s						
VA03	**San Esteban**	**35.59**	**293**	P	**P**	**05 00 00.2**	**-1.4**
VA03				IAmb	IAmb	05 00 04.7	
	comp=Z,14nm,1.2s						
BDFB	**Brasilia**	**41.68**	**335**	P	**P**	**05 00 53.5**	**+0.7**
BDFB				IAmb	IAmb	05 01 01.9	
	comp=Z,6.9nm,1.4s						
LPAZ	**La Paz**	**48.20**	**309**	P	**P**	**05 01 45.8**	**+0.6**
LPAZ				IAmb	IAmb	05 02 03.6	
	comp=Z,3.2nm,1.3s						
LPAZ	**La Paz**	**48.20**	**309**	P	**P**	**05 01 45.6**	**+0.4**
	comp=Z,1.1nm,0.8s,baz=114,slow=7.1,SNR=2.8						
	comp=Z,1.1nm,0.8s						
ETMB	**Extrema**	**53.17**	**315**	P	**P**	**05 02 22.4**	**+0.5**
CASY	**Casey**	**55.34**	**162**	P	**P**	**05 02 35.7**	**-1.4**
CASY				IAmb	IAmb	05 02 36.4	
	comp=Z,8.4nm,1.2s						
BOAV	**Boa Vista**	**62.40**	**326**	P	**P**	**05 03 26.7**	**0.0**
BOAV				IAmb	IAmb	05 03 44.5	
	comp=Z,6.2nm,1.2s						
ARNL	**Arenillas**	**64.89**	**304**	P	**P**	**05 03 42.1**	**-1.1**
DBIC	**Dimbokro**	**65.42**	**29**	P	**P**	**05 03 46.5**	**-0.1**
SACV	**Santiago Islan**	**70.24**	**8**	P	**P**	**05 04 16.4**	**-0.4**
BAUV	**El Baul**	**71.07**	**321**	P	**P**	**05 04 21.8**	**-0.1**
BAUV				IAmb	IAmb	05 04 32.9	
	comp=Z,8.3nm,0.9s						
TOA0	**Torodi Ar. Sit**	**73.50**	**33**	P	**P**	**05 04 35.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**73.50**	**33**	P	**P**	**05 04 36.5**	**+0.2**
TORD	**Torodi Ar. Bea**	**73.50**	**33**	P	**P**	**05 04 36.4**	**0.0**
	comp=Z,0.7nm,0.6s,baz=202,slow=6.0,SNR=8.8						
	comp=Z,0.7nm,0.6s						
MTO3	**Monteristo**	**84.96**	**304**	P	**P**	**05 05 41.5**	**+2.3**
ILAR	**Eielson Array**	**148.01**	**313**	PKPbc	**PKiKP**	**05 12 48.7**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=130,slow=1.6,SNR=6.6						

BJI ***15*** *05:00:33.8±0.0, 35.°30N×139.°55E, h45km, mb4.3/15, mB4.5/7, Ms3.9/2*

MOS ***15*** *05:00:37.8±1.0, 35.°45N×139.°03E, h42km, mb4.4/15, Error ellipse: s-maj=13.2km s-min=6.3km az=107.5*

NIED ***15*** *05:00:38.7, 35.°49N×139.°02E, h27km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.44; Mθθ-0.04; Mφφ-0.40; Mrθ0.77; Mθφ-1.19; Mφr0.48; Fault plane solution: M0 1.46000×10^15 NP1:φs79.00000°, δ84.00000°, λ.140.00000°. NP2:φs174.00000°, δ51.00000°, λ8.00000°.*

JMA ***15*** *05:00:38.7±0.1, 35.°5N±0.°2×139.°0E±0.°2, h27km, MD4.3/17, MV4.2/17, EASTERN YAMANASHI PREF*

JMA Felt III J1 at EASTERN YAMANASHI PREF .

IDC ***15*** *05:00:40.4±0.8, 35.°49N×138.°94E, h47km±7km, mb3.8/23, mbtmp4.0/28, ML3.1/4, MS3.3/23, Error ellipse: s-maj=15.6km s-min=5.9km az=68.0*

NEIC ***15*** *05:00:41.5±2.7, 35.°50N±0.°04×138.°99E±0.°03, h55km±7km, mb4.5/44, Error ellipse: s-maj=5.4km s-min=3.4km az=190.0*

ISC 15 05:00:38.5±0.6, 35.°49N±0.°03×139.°08E±0.°03, h31km±4km, n329, σ1$36/278, mb4.4/59, MS3.4/17, 10C-7D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JSGW	**Sagamiharawaka**	**0.15**	**44**	⇓*i*P	**Pb**	**05 00 44.3**	**-0.1**
JSGW				⇓*i*S	**Sb**	**05 00 48.5**	**0.0**
JSGW	**Sagamiharawaka**	**0.15**	**44**	A	A	05 00 44.3	
	comp=E,43nm,0.3s,comp=N,67nm,0.4s						
JOD2	**Odawara 2**	**0.23**	**178**	*i* P	**Pb**	**05 00 44.6**	**-0.6**
JOD2				S	**Sb**	**05 00 49.4**	**-0.4**
JOD2	**Odawara 2**	**0.23**	**178**	A	A	05 00 44.6	
	comp=E,105nm,0.5s,comp=N,62nm,0.4s						
JHU	**Hanno**	**0.40**	**25**	A	A	05 00 47.5	
	comp=E,50nm,0.6s,comp=N,25nm,0.5s						
JYN	**Shimob**	**0.44**	**271**	⇓*i*P	**Pb**	**05 00 47.1**	**-1.0**
JYN				⇓*e*S	**Sb**	**05 00 53.2**	**-1.4**
JYN	**Shimob**	**0.44**	**271**	A	A	05 00 47.1	
	comp=E,63nm,0.4s,comp=N,69nm,0.4s						
JFNN	**Fujinakano**	**0.44**	**227**	*i* P	**Pb**	**05 00 47.4**	**-0.7**
JFNN				S	**Sb**	**05 00 54.1**	**-0.4**
JFNN	**Fujinakano**	**0.44**	**227**	A	A	05 00 47.4	
	comp=E,27nm,0.6s,comp=N,33nm,0.7s						
JRY	**Ryogami san**	**0.54**	**345**	⇓*i*P	**Pb**	**05 00 49.3**	**-0.4**
JRY				⇓S	**Sb**	**05 00 56.8**	**-0.6**
JRY	**Ryogami san**	**0.54**	**345**	A	A	05 00 49.3	
	comp=E,11nm,2.5s,comp=N,5.0nm,0.5s						
JYO	**Yokosk**	**0.55**	**119**	A	A	05 00 50.1	
	comp=E,54nm,2.0s,comp=N,41nm,1.5s						
TOK	**Tokyo**	**0.59**	**70**	A	A	05 00 50.8	
	comp=E,70nm,0.4s,comp=N,115nm,0.6s						
JIZS	**Izushimoda**	**0.79**	**192**	*i* P	**Pn**	**05 00 52.9**	**-0.5**
JIZS				S	**Sb**	**05 01 03.9**	**-0.2**
JIZS	**Izushimoda**	**0.79**	**192**	A	A	05 00 52.9	
	comp=E,32nm,1.7s,comp=N,23nm,1.1s						
TATJ	**Tateyama 2**	**0.81**	**124**	A	A	05 00 54.3	
	comp=E,38nm,3.0s,comp=N,27nm,2.5s						
JIM2	**Oshima 3**	**0.82**	**159**	⇓*i*P	**Pn**	**05 00 53.7**	**-0.3**
JIM2	**Oshima 3**	**0.82**	**159**	A	A	05 00 53.7	
	comp=E,62nm,0.4s,comp=N,58nm,0.4s						
SHZ3	**Shizuoka 3**	**0.83**	**239**	*i* P	**Pn**	**05 00 54.0**	**-0.1**
SHZ3				S	**Sn**	**05 01 05.7**	**+0.4**
SHZ3	**Shizuoka 3**	**0.83**	**239**	A	A	05 00 54.0	
	comp=E,20nm,1.2s,comp=N,44nm,0.5s						
JNT	**Takato**	**0.86**	**297**	A	A	05 00 53.9	
	comp=E,7.0nm,1.0s,comp=N,7.0nm,1.1s						
JCN	**Nagara**	**0.92**	**94**	A	A	05 00 56.2	
	comp=E,25nm,1.8s,comp=N,20nm,2.2s						
JAG	**Ashikaga**	**0.98**	**18**	P	**Pb**	**05 00 56.9**	**0.0**
JAG	**Ashikaga**	**0.98**	**18**	A	A	05 00 56.9	
	comp=E,5.0nm,2.1s,comp=N,5.0nm,0.4s						
JTHY	**Toshimahigashi**	**0.98**	**170**	A	A	05 00 56.7	
	comp=E,18nm,0.7s,comp=N,33nm,0.3s						
JNY	**Yasuok**	**1.00**	**263**	A	A	05 00 56.1	
	comp=E,5.0nm,3.2s,comp=N,9.0nm,1.6s						
JSG	**Sagara**	**1.10**	**222**	P	**Pb**	**05 00 59.2**	**+0.3**
JSG	**Sagara**	**1.10**	**222**		**Pb**	**05 00 59.0**	**+0.1**
JSG				Sn	**Sb**	**05 01 14.9**	**+2.0**
JSG	**Sagara**	**1.10**	**222**	A	A	05 00 57.8	
	comp=E,14nm,0.6s,comp=N,15nm,1.5s						
JGK	**Kuni**	**1.12**	**342**	A	A	05 00 58.6	
	comp=E,6.0nm,1.6s,comp=N,7.0nm,0.5s						
JSMT	**Sammumatsuo**	**1.13**	**82**	A	A	05 00 59.5	
	comp=E,11nm,2.8s,comp=N,15nm,1.7s						
JNIO	**Niijimaoohara**	**1.15**	**172**	A	A	05 00 59.2	
	comp=E,22nm,1.1s,comp=N,14nm,0.5s						
JSKK	**Shikinejimakit**	**1.16**	**175**	A	A	05 00 59.4	
	comp=E,19nm,1.7s,comp=N,9.0nm,1.7s						
JKKS	**Kakegawashinom**	**1.16**	**231**	A	A	05 00 58.8	
	comp=E,8.0nm,1.4s,comp=N,11nm,0.7s						
JYT	**Yasato**	**1.17**	**51**	A	A	05 00 59.9	
	comp=E,12nm,0.4s,comp=N,13nm,0.3s						
JNG	**Nsakai**	**1.21**	**319**	A	A	05 00 59.7	
	comp=E,4.0nm,0.5s,comp=N,4.0nm,0.9s						
MJAR	**Matsushiro Arr**	**1.26**	**326**	P	**Pn**	**05 01 00.2**	**+0.2**
	comp=N,386nm,0.5s,baz=150,slow=15,SNR=571						
MJAR				S	**Sn**	**05 01 15.6**	**-0.4**
	comp=N,495nm,0.5s,baz=206,slow=38,SNR=8.9						
MJAR				LR	LR	05 01 46.1	
	comp=N,1µm,18.3s,baz=102,slow=54						
MAJO	**Matsushiro**	**1.27**	**326**	P	**Pb**	**05 01 01.0**	**-0.7**
MAJO	**Matsushiro**	**1.27**	**326**	Pn	**Pn**	**05 01 00.5**	**+0.4**
MAJO				Sn	**Sn**	**05 01 15.8**	**-0.2**
MAJO	**Matsushiro**	**1.27**	**326**	*i* P	**Pb**	**05 01 01.0**	**-0.7**
JIHU	**Itakohorinouch**	**1.27**	**68**	A	A	05 01 01.6	
	comp=E,14nm,0.8s,comp=N,17nm,2.3s						
MJB9	**Matsu-Tunnel**	**1.27**	**326**	Pn	**Pb**	**05 01 01.8**	**0.0**
MJB9				Sn	**Sb**	**05 01 18.6**	**+0.8**
JKT	**Katashina**	**1.28**	**6**	A	A	05 01 01.3	
	comp=E,10.0nm,0.9s,comp=N,11nm,1.3s						
HMMJ	**Hamamatsu 2**	**1.28**	**241**	A	A	05 01 00.5	
	comp=E,3.0nm,1.1s,comp=N,3.0nm,4.1s						
JKO	**Kozu shima**	**1.30**	**178**	A	A	05 01 01.5	
	comp=E,12nm,1.9s,comp=N,12nm,2.8s						
JGF	**Kuroka**	**1.41**	**275**	P	**Pb**	**05 01 03.1**	**-1.1**
JGF	**Kuroka**	**1.41**	**275**	Pn	**Pb**	**05 01 03.3**	**-0.9**
JMYK	**Miyake Tsubota**	**1.48**	**165**	A	A	05 01 04.4	
	comp=E,9.0nm,1.2s,comp=N,8.0nm,0.7s						
JHYU	**Hitachinakayam**	**1.49**	**55**	A	A	05 01 04.8	
	comp=E,4.0nm,2.5s,comp=N,5.0nm,2.7s						
JSB	**Shiboa**	**1.62**	**25**	A	A	05 01 06.6	
	comp=E,8.0nm,1.8s,comp=N,8.0nm,1.1s						
TTO5	**TONAKAI O.B.S**	**1.67**	**223**	A	A	05 01 06.5	
	comp=E,9.0nm,0.9s,comp=N,11nm,3.0s						
JJN	**Nakama**	**1.77**	**336**	A	A	05 01 08.2	
	comp=E,3.0nm,1.7s,comp=N,7.0nm,2.1s						
JAA	**Atsumi**	**1.81**	**242**	A	A	05 01 08.4	
	comp=E,3.0nm,3.4s,comp=N,3.0nm,3.5s						
JICN	**Ichinomiyachia**	**1.84**	**265**	A	A	05 01 08.7	
	comp=E,5.0nm,1.2s,comp=N,8.0nm,2.5s						
JIZZ	**Izumozaki**	**2.06**	**352**	A	A	05 01 12.5	
	comp=E,10.0nm,1.6s,comp=N,13nm,1.4s						
JHJ	**Hachijo jima 2**	**2.44**	**166**	P	**Pn**	**05 01 18.6**	**+2.5**
	comp=N,768nm,0.3s,baz=51,slow=2.9,SNR=151						
JHJ				S	**Sn**	**05 01 48.0**	**+3.1**
	comp=N,360nm,0.4s,baz=286,slow=18,SNR=6.5						
JHJ				LR	LR	05 02 24.7	
	comp=N,416nm,19.7s,baz=87,slow=42						
JHJ2	**Mitsune**	**2.45**	**165**	P	**Pn**	**05 01 18.4**	**+2.1**
JHJ2	**Mitsune**	**2.45**	**165**	Pn	**Pn**	**05 01 18.5**	**+2.1**
JSD	**Sado**	**2.62**	**346**	P	**Pb**	**05 01 21.7**	**-3.1**
JSD	**Sado**	**2.62**	**346**	Pn	**Pn**	**05 01 19.9**	**+1.2**
JMM	**Marumori**	**2.74**	**30**	P	**Pb**	**05 01 23.8**	**-3.0**
JMM	**Marumori**	**2.74**	**30**	Pn	**Pn**	**05 01 22.3**	**+2.0**
JMN	**Monobe**	**4.64**	**249**	P	**Pn**	**05 01 47.6**	**+1.2**
JMN	**Monobe**	**4.64**	**249**	Pn	**Pn**	**05 01 45.8**	**-0.6**
JTM	**Tenmabayashi**	**5.51**	**16**	Pn	**Pn**	**05 02 02.0**	**+3.6**
JNU	**Nakatsue**	**7.19**	**253**	Pn	**Pn**	**05 02 21.9**	**+0.5**
JNU	**Nakatsue**	**7.19**	**253**	P	**Pn**	**05 02 22.4**	**+1.0**
	comp=N,0.3nm,0.3s,baz=82,slow=3.2,SNR=2.5						
	comp=N,1.8nm,0.4s						
ERM	**Erimo**	**7.25**	**25**	P	**Pn**	**05 02 25.1**	**+2.9**

H11S1 **WAKE ISLAND Hy** 29.72 117 T T 05 37 36.0
baz=310,slow=75,SNR=49
H11S2 **WAKE ISLAND Hy** 29.73 117 T T 05 37 31.2
baz=310,slow=75,SNR=44
PZH **PanZhiHua** 33.08 265 P **P** **05 07 13.3 +1.7**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,90nm,5.3s
BILL **Bilibino** 36.04 17 *i* P **P** **05 07 37.0 +0.4**
TIXI **Tiksi** 36.62 355 LR LR 05 23 30.2
comp=Z,29nm,20.2s,baz=172,slow=37
TIXI **Tiksi** 36.62 355 *ce* P **P** **05 07 40.4 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,1.8s
ZALV **Zalesovo Beam** 41.59 314 P **P** **05 08 24.1 +0.9**
ZALV **Zalesovo Beam** 41.59 314 P **P** **05 08 22.1 -1.1**
comp=Z,0.9nm,0.4s,baz=69,slow=8.2,SNR=4.7
ZALV PcP **PcP** **05 10 19.0 -0.8**
comp=Z,1.2nm,0.6s,baz=105,slow=3.1,SNR=4.5
comp=Z,0.9nm,0.4s
ZALV **Zalesovo Beam** 41.59 314 *i* P **P** **05 08 24.0 +0.9**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
MK31 **Makanchi Array** 43.36 303 P **P** **05 08 37.6 -0.1**
MK31 **Makanchi Array** 43.36 303 *ce* P **P** **05 08 37.7 -0.1**
MKAR **Makanchi Array** 43.36 303 P **P** **05 08 37.8 +0.1**
comp=Z,1.0nm,0.6s,baz=89,slow=8.8,SNR=11
MKAR PcP **PcP** **05 10 25.2 -0.8**
comp=Z,0.3nm,0.7s,baz=98,slow=6.0,SNR=2.1
MKAR LR LR 05 27 18.8
comp=Z,48nm,18.7s,baz=52,slow=37
comp=Z,1.0nm,0.6s
MAKZ **Makanchi** 43.57 303 P **P** **05 08 39.4 -0.1**
MAKZ **Makanchi** 43.57 303 P **P** **05 08 39.4 -0.1**
MAKZ pmax pmax
comp=Z,2.0nm,0.6s
G15K **Niukluk** 44.55 30 P **P** **05 08 48.1 +1.1**
baz=257
C16K **Lisburne Hills** 44.91 26 P **P** **05 08 50.7 +0.9**
C16K **Lisburne Hills** 44.91 26 P **P** **05 08 50.7 +0.9**
baz=253
KURK **Kurchatov** 45.42 309 P **P** **05 08 53.8 -0.3**
KURK **Kurchatov** 45.42 309 *ce* P **P** **05 08 52.8 -1.3**
KURK pmax pmax
comp=Z,8.0nm,0.7s
KURBB **Kurchatov Arra** 45.48 309 P **P** **05 08 54.0 -0.6**
comp=Z,4.0nm,0.5s,baz=85,slow=7.9,SNR=47
KURBB PcP **PcP** **05 10 31.8 -1.2**
comp=Z,0.5nm,0.7s,baz=76,slow=3.9,SNR=2.5
KURBB LR LR 05 28 53.9
comp=Z,65nm,19.6s,baz=179,slow=37
comp=Z,4.0nm,0.5s
D17K **Noatak River** 45.57 27 P **P** **05 08 55.8 +0.8**
baz=255,SNR=5.1
O15K **Ungalikthiuk R** 45.69 39 P **P** **05 08 56.8 +0.7**
baz=267
J16K **Anvik River** 45.71 33 P **P** **05 08 57.3 +1.1**
baz=262
C17K **DeLong Mountai** 45.74 26 P **P** **05 08 57.8 +1.4**
baz=255
E17K **Hotham Inlet** 45.89 28 P **P** **05 08 58.8 +1.2**
baz=257
F17K **Baldwin Pennin** 45.98 29 P **P** **05 08 59.6 +1.3**
baz=258
G17K **Kiwalik Mounta** 46.04 30 P **P** **05 08 59.9 +1.1**
baz=260
L16K **Owhat River** 46.05 36 P **P** **05 08 59.9 +1.0**
L16K IAmb IAmb 05 09 05.4
comp=Z,5.0nm,1.2s
L16K **Owhat River** 46.05 36 P **P** **05 08 60.0 +1.0**
baz=265
M16K **Timber Creek** 46.24 37 P **P** **05 09 01.7 +1.3**
baz=266
H17K **Granite Mounta** 46.26 31 P **P** **05 09 01.1 +0.6**
baz=261
N16K **Nishlik Lake** 46.30 37 P **P** **05 09 01.3 +0.4**
baz=267
CHGN **Chignik** 46.38 43 P **P** **05 09 02.2 +0.6**
baz=271
J17K **VABM Dome** 46.41 33 P **P** **05 09 02.7 +0.9**
baz=264
E18K **Tukpahlearik C** 46.43 28 P **P** **05 09 03.9 +2.0**
E18K **Tukpahlearik C** 46.43 28 P **P** **05 09 02.0 +0.1**
baz=258
B18K **Kokolik River** 46.45 25 P **P** **05 09 02.8 +0.8**
baz=255
C18K **Utukok River** 46.49 26 P **P** **05 09 03.7 +1.4**
C18K IAmb IAmb 05 09 04.5
comp=Z,4.5nm,0.7s
C18K **Utukok River** 46.49 26 P **P** **05 09 03.0 +0.6**
baz=256,SNR=5.8
O16K **Kokwok River B** 46.59 39 P **P** **05 09 03.8 +0.6**
baz=268
F18K **Selawik** 46.64 29 P **P** **05 09 04.3 +0.9**
baz=260
L17K **Donlin** 46.64 35 P **P** **05 09 04.4 +0.8**
baz=265
K17K **Iditarod** 46.69 34 P **P** **05 09 04.4 +0.5**
baz=265
G18K **Tagagawik** 46.92 30 P **P** **05 09 07.2 +1.4**
G18K **Tagagawik** 46.92 30 P **P** **05 09 05.8 +0.1**
baz=262
H18K **Honhosa River** 46.94 31 P **P** **05 09 06.2 +0.3**
baz=262
C19K **Lookout Ridge** 47.16 25 P **P** **05 09 08.3 +0.7**
baz=259
F19K **Shaleruckik Mo** 47.41 29 P **P** **05 09 10.8 +1.3**
baz=262
D19K **Kuna River** 47.56 26 P **P** **05 09 12.1 +1.4**
D19K IAmb IAmb 05 09 13.1
comp=Z,3.5nm,0.8s
D19K **Kuna River** 47.56 26 P **P** **05 09 11.1 +0.4**
baz=260
G19K **Purcell Mounta** 47.59 30 P **P** **05 09 11.9 +1.0**
baz=263
E19K **Redstone River** 47.72 28 P **P** **05 09 13.3 +1.4**
E19K IAmb IAmb 05 09 14.4
comp=Z,3.4nm,0.7s
E19K **Redstone River** 47.72 28 P **P** **05 09 12.5 +0.6**
baz=262,SNR=9.7
M18K **Stony River** 47.78 36 P **P** **05 09 13.6 +1.2**
baz=268
P18K **Big Mountain,** 48.05 39 P **P** **05 09 14.5 -0.1**
baz=271
D20K **Etivluk River** 48.14 26 P **P** **05 09 16.1 +0.9**
baz=261
B20K **Meade River** 48.18 24 P **P** **05 09 16.3 +1.0**
B20K **Meade River** 48.18 24 P **P** **05 09 16.0 +0.7**
baz=259
E20K **Nigu River** 48.23 27 P **P** **05 09 16.9 +1.0**
baz=262,SNR=5.1
F20K **Avaraart Lake** 48.24 29 P **P** **05 09 16.2 +0.3**
baz=263
H20K **Anotleneega Mo** 48.43 31 P **P** **05 09 18.5 +1.1**
baz=266
J20K **Nowinta River** 48.66 32 P **P** **05 09 19.7 +0.5**
baz=267
K20K **Telida** 48.66 34 P **P** **05 09 21.3 +2.1**
K20K IAmb IAmb 05 09 22.2
comp=Z,3.9nm,0.9s
K20K **Telida** 48.66 34 P **P** **05 09 20.4 +1.2**
baz=268
SII **Sitkinak Islan** 48.72 43 P **P** **05 09 21.4 +1.6**
baz=274
C21K **Knifeblade Rid** 48.86 26 P **P** **05 09 21.6 +0.9**
baz=262
B21K **Ikpikpuk River** 48.99 25 P **P** **05 09 23.6 +2.1**
B21K IAmb IAmb 05 09 24.2
comp=Z,3.8nm,0.8s
B21K **Ikpikpuk River** 48.99 25 P **P** **05 09 22.6 +1.0**
baz=262,SNR=6.1
G21K **Allakaket** 49.07 29 P **P** **05 09 23.1 +0.8**
baz=266
A22K **Sinclair Lake** 49.08 23 P **P** **05 09 23.5 +1.2**
baz=261
F21K **Alatna River** 49.13 28 P **P** **05 09 23.8 +1.0**
baz=265
KSH **Kashi** 49.32 295 P P 05 09 29.8 +5.0
B22K **Teshekpuk Lake** 49.49 24 IAmb IAmb 05 09 37.8
comp=Z,5.2nm,1.1s
B22K **Teshekpuk Lake** 49.49 24 P **P** **05 09 26.0 +0.6**
baz=263
Q20K **Shuyak Island** 49.54 40 P **P** **05 09 26.3 +0.3**
baz=274
CAST **Castle Rocks** 49.55 33 P **P** **05 09 26.3 +0.3**
baz=270

AAK **Ala-Archa** 49.57 299 *i* P **P** **05 09 27.9 +1.2**
AAK pmax pmax
comp=Z,2.0nm,0.8s
D22K **Ayikyak River** 49.58 26 IAmb IAmb 05 09 28.9
comp=Z,7.9nm,1.2s
D22K **Ayikyak River** 49.58 26 P **P** **05 09 26.9 +0.7**
baz=265,SNR=5.0
F22K **John River** 49.66 28 P **P** **05 09 27.8 +1.0**
baz=266
E22K **Anaktuvuk Pass** 49.84 27 IAmb IAmb 05 09 30.8
comp=Z,4.9nm,1.1s
E22K **Anaktuvuk Pass** 49.84 27 P **P** **05 09 29.2 +1.0**
baz=266
G22K **Bettles** 49.89 29 P **P** **05 09 29.4 +0.9**
baz=267
H22K **Ishtalitna Cre** 49.90 30 P **P** **05 09 29.4 +0.8**
baz=268
BPAW **Bear Paw Mtn.** 50.04 33 P **P** **05 09 31.1 +1.3**
baz=270
MLY **Manley** 50.15 31 P **P** **05 09 32.1 +1.5**
MLY **Manley** 50.15 31 P **P** **05 09 31.4 +0.8**
baz=270
SUA **Susitna One** 50.22 36 P **P** **05 09 32.2 +1.0**
baz=273
BVAR **Borovoye Array** 50.23 313 P **P** **05 09 30.9 -0.4**
comp=Z,1.1nm,0.6s,baz=78,slow=7.7,SNR=5.0
BVAR LR LR 05 31 54.8
comp=Z,30nm,18.4s,baz=45,slow=37
comp=Z,1.1nm,0.6s
D23K **Nanushuk River** 50.31 26 P **P** **05 09 33.6 +1.8**
baz=266
TRF **Thorofare Moun** 50.36 33 P **P** **05 09 33.4 +1.0**
baz=271
C23K **Itkillik River** 50.40 25 P **P** **05 09 33.8 +1.5**
C23K IAmb IAmb 05 09 34.9
comp=Z,6.2nm,1.2s
C23K **Itkillik River** 50.40 25 P **P** **05 09 33.8 +1.5**
baz=266
COLD **Coldfoot** 50.41 28 P **P** **05 09 34.0 +1.6**
baz=268
G23K **Bananza Creek** 50.47 29 P **P** **05 09 34.4 +1.4**
baz=269
H23K **Yukon River** 50.65 30 P **P** **05 09 36.7 +2.4**
H23K **Yukon River** 50.65 30 P **P** **05 09 35.8 +1.4**
baz=270
E23K **Chandalar** 50.66 27 P **P** **05 09 35.8 +1.3**
baz=268
TOLK **Toolik Lake Re** 50.70 27 P **P** **05 09 35.7 +1.0**
baz=268
RC01 **Rabbit Creek A** 50.72 36 P **P** **05 09 35.9 +1.0**
baz=274
NEA2 **Nenana** 50.87 32 IAmb IAmb 05 09 38.6
comp=Z,4.7nm,0.9s
NEA2 **Nenana** 50.87 32 P **P** **05 09 37.1 +1.1**
baz=272,SNR=5.4
MCK **McKinley** 50.95 33 P **P** **05 09 38.0 +1.3**
baz=272
D24K **Happy Valley** 50.99 26 P **P** **05 09 38.1 +1.3**
baz=268
C24K **Franklin Bluff** 51.05 25 P **P** **05 09 38.6 +1.4**
baz=268,SNR=5.6
E24K **Your Creek** 51.08 27 P **P** **05 09 39.2 +1.6**
baz=269,SNR=5.8
MDM **Murphy Dome** 51.22 31 P **P** **05 09 40.0 +1.4**
H24K **Noodor Dome** 51.34 30 P **P** **05 09 41.0 +1.5**
baz=272
G24K **Hadweenzic Riv** 51.48 29 P **P** **05 09 41.7 +1.2**
baz=271
POKR **Poker Plat Res** 51.55 31 P **P** **05 09 42.9 +1.8**
baz=273
HDA **Harding Lake** 51.79 32 IAmb IAmb 05 09 44.9
comp=Z,3.5nm,0.9s
HDA **Harding Lake** 51.79 32 P **P** **05 09 42.9 0.0**
baz=274
ILAR **Eielson Array** 51.80 32 P **P** **05 09 43.7 +0.8**
comp=Z,1.4nm,0.8s,baz=273,slow=6.7,SNR=18
comp=Z,1.4nm,0.8s
D25K **Kavik River** 51.86 26 P **P** **05 09 44.1 +0.7**
baz=270
H25L **Birch Creek** 52.16 30 P **P** **05 09 47.1 +1.5**
baz=273
F25K **Christian Rive** 52.17 28 P **P** **05 09 46.9 +1.2**
baz=272
E25K **Arctic Village** 52.18 27 P **P** **05 09 47.1 +1.3**
baz=272
PRP **Porcupine Dome** 52.33 31 P **P** **05 09 48.6 +1.6**
baz=274
C26K **Camden Bay** 52.37 25 P **P** **05 09 49.1 +2.0**
baz=271
Q23K **Middleton Isla** 52.57 38 P **P** **05 09 49.4 +0.7**
baz=278
EYAK **Cordova Ski Ar** 52.72 37 P **P** **05 09 51.4 +1.6**
baz=278
F26K **Sheenjek River** 52.73 28 P **P** **05 09 51.8 +1.9**
baz=274,SNR=6.8
C27K **Jago River** 52.80 25 P **P** **05 09 52.0 +1.8**
baz=272
G26K **Porcupine Rive** 52.93 29 P **P** **05 09 53.0 +1.8**
baz=274
SCRK **Sand Creek** 53.12 32 IAmb IAmb 05 09 54.7
comp=Z,3.6nm,1.0s
SCRK **Sand Creek** 53.12 32 P **P** **05 09 54.3 +1.4**
baz=276
J26L **Joseph Creek** 53.25 32 P **P** **05 09 55.0 +1.2**
baz=276
KAIM **Kayak Island** 53.47 38 P **P** **05 09 55.5 +0.2**
baz=279
E27K **Coleen River** 53.66 27 P **P** **05 09 58.5 +1.9**
baz=276
M26K **Nabesna, AK** 53.77 34 P **P** **05 09 59.4 +1.7**
baz=278
D27M **Malcolm River** 53.79 26 P **P** **05 09 59.4 +1.7**
baz=275
H27K **Steamboat Moun** 53.89 30 P **P** **05 10 00.3 +1.8**
baz=277
I27K **Kandik River** 53.94 30 P **P** **05 10 01.2 +2.4**
baz=277
K27K **Chicken** 53.95 32 P **P** **05 10 00.2 +1.3**
baz=278
F28M **Old Crow** 54.37 28 P **P** **05 10 03.5 +1.6**
baz=278
E28M **Babbage River** 54.37 27 P **P** **05 10 03.5 +1.7**
baz=277
I28M **Miner Creek** 54.65 30 IAmb IAmb 05 10 06.8
comp=Z,3.4nm,0.9s
I28M **Miner Creek** 54.65 30 P **P** **05 10 05.8 +1.8**
baz=279
SIMJ **Simiganj** 54.73 296 P **P** **05 10 04.4 -0.7**
SIMJ IAmb IAmb 05 10 06.6
comp=Z,5.7nm,0.9s
E29M **Blow River** 55.00 27 P **P** **05 10 08.5 +2.1**
baz=279
YUK3 **Moose Creek** 55.05 35 P **P** **05 10 09.0 +1.8**
baz=281
G29M **Pine Creek** 55.18 28 IAmb IAmb 05 10 11.0
comp=Z,4.9nm,0.9s
G29M **Pine Creek** 55.18 28 P **P** **05 10 09.6 +1.8**
baz=280
WB2 **Warramunga Arr** 55.31 185 P **P** **05 10 08.0 -1.2**
WRA **Warramunga Arr** 55.31 185 P **P** **05 10 08.5 -0.6**
comp=Z,1.0nm,0.4s,baz=0.6,slow=7.5,SNR=35
comp=Z,1.0nm,0.4s
WRA **Warramunga Arr** 55.31 185 *i* P **P** **05 10 09.0 -0.2**
WRA pmax pmax
comp=Z,1.0nm,0.4s
WR0 **Warramunga Arr** 55.31 185 P **P** **05 10 07.6 -1.6**
EPYK **Eagle Plains** 55.79 29 IAmb IAmb 05 10 15.2
comp=Z,7.0nm,1.0s
EPYK **Eagle Plains** 55.79 29 P **P** **05 10 14.2 +2.1**
baz=281,SNR=6.2
M29M **Somme Creek** 55.84 34 P **P** **05 10 14.8 +2.2**
baz=282
L29M **L29M** 55.85 33 P **P** **05 10 15.2 +2.6**
baz=282
G30M **tAoh Zraii Nji** 55.87 28 P **P** **05 10 14.6 +1.9**
baz=281
F30M **Barrier River** 55.91 27 P **P** **05 10 15.6 +2.6**
baz=281
K29M **Barlow Dome** 55.97 32 P **P** **05 10 15.3 +1.8**
baz=282
YUK4 **Talbot Arm** 55.99 35 P **P** **05 10 16.2 +2.4**
baz=283
I30M **Mount Dempster** 56.16 30 IAmb IAmb 05 10 17.6
comp=Z,4.8nm,0.9s
I30M **Mount Dempster** 56.16 30 P **P** **05 10 17.1 +2.1**
baz=282,SNR=5.2
YUK6 **Outpost Mounta** 56.22 36 P **P** **05 10 17.7 +2.2**
baz=283

ARU **Arti** 56.27 319 *c i* P **P** **05 10 16.4 +0.7**
ARU *PP **pP** **05 10 26.3 +0.8**
ARU S **S** **05 18 04.4 +1.1**
ARU SS **SS** **05 21 50.1 +0.4**
ARU pmax pmax
comp=Z,12nm,0.9s
J30M **Hart River** 56.32 31 P **P** **05 10 18.1 +2.1**
baz=283
INK **Inuvik** 56.61 26 P **P** **05 10 19.7 +1.9**
baz=283
G31M **Satah River** 56.63 28 P **P** **05 10 19.6 +1.5**
baz=283
HYT **Haines Junctio** 56.65 36 P **P** **05 10 20.4 +1.9**
baz=284
H31M **Peel River** 56.86 29 IAmb IAmb 05 10 22.8
comp=Z,6.3nm,1.0s
H31M **Peel River** 56.86 29 P **P** **05 10 21.5 +1.8**
baz=284
ABKAR **Akbulak array** 57.49 310 P **P** **05 10 23.2 -1.2**
ABKAR **Akbulak array** 57.49 310 IAmb IAmb 05 10 26.9
comp=Z,3.2nm,0.7s
WHY **Whitehorse** 57.94 35 P **P** **05 10 28.2 +0.7**
baz=286
A36M **Sachs Harbour** 58.38 21 P **P** **05 10 31.5 +1.2**
baz=288
N32M **Quiet Lake** 58.64 35 P **P** **05 10 33.7 +1.3**
baz=287
ASAR **Alice Springs** 59.04 186 P **P** **05 10 35.4 -0.1**
comp=Z,0.4nm,0.5s,baz=19,slow=13,SNR=5.7
comp=Z,0.4nm,0.5s
P33M **Teslin, Yukon** 59.05 36 P **P** **05 10 36.8 +1.5**
baz=288
C36M **Paulatuk** 59.61 24 P **P** **05 10 39.5 +0.7**
C36M **Paulatuk** 59.61 24 P **P** **05 10 39.9 +1.1**
baz=290
KIRV **Kirov** 60.34 323 *ce* P **P** **05 10 44.7 +0.7**
T35M **Bob Quinn** 61.41 39 P **P** **05 10 53.1 +1.7**
baz=292
SPITS **Spitsbergen Ar** 61.66 349 P **P** **05 10 52.9 +0.1**
comp=Z,4.4nm,0.7s,baz=47,slow=8.5,SNR=6.3
comp=Z,4.4nm,0.7s
EUNU **Eureka** 61.98 8 P **P** **05 10 55.2 +0.3**
NOR **Nord** 62.46 356 *i* P **P** **05 10 56.6 -1.5**
NOR IAmb IAmb 05 10 59.1
comp=Z,1.7nm,0.5s
LIRD **Liard River Hi** 62.51 35 P **P** **05 11 00.4 +1.7**
baz=294
TOAD **Toad River Com** 63.15 35 P **P** **05 11 04.4 +1.4**
baz=295
RES **Resolute Bay** 64.55 14 P **P** **05 11 12.3 +0.5**
RES IAmb IAmb 05 11 13.3
comp=Z,4.4nm,0.9s
RES **Resolute Bay** 64.55 14 P **P** **05 11 12.4 +0.5**
RES pmax pmax
comp=Z,4.0nm,0.9s
ARCES **ARCESS Array B** 64.77 339 P **P** **05 11 13.3 -0.2**
ARCES **ARCESS Array B** 64.77 339 P **P** **05 11 13.3 -0.2**
comp=Z,2.2nm,0.6s,baz=56,slow=7.3,SNR=9.6
comp=Z,2.2nm,0.6s
YKA **Yellowknife Ar** 66.08 29 P **P** **05 11 22.2 +0.2**
comp=Z,1.1nm,1.0s,baz=302,slow=7.0,SNR=10
comp=Z,1.1nm,1.0s
YKA **Yellowknife Ar** 66.08 29 *ce* P **P** **05 11 22.7 +0.7**
YKA pmax pmax
comp=Z,1.0nm,0.9s
DAG **Danmarks Havn** 67.14 355 *i* P **P** **05 11 27.8 -0.8**
DAG IAmb IAmb 05 11 29.0
comp=Z,4.9nm,0.7s
NEEM **North Greenlan** 67.15 2 *i* P **P** **05 11 26.4 -2.6**
NEEM IAmb IAmb 05 11 30.0
comp=Z,8.7nm,1.1s
OBN **Obninsk** 68.19 323 *e* P **P** **05 11 36.0 +0.5**
OBN *e* 05 11 59.6
OBN *e* 05 14 06.3
OBN *e* PPP PPP 05 15 44.7
OBN pmax pmax
comp=Z,5.0nm,0.9s
FINES **FINESS Array B** 69.29 332 P **P** **05 11 42.2 -0.1**
FINES **FINESS Array B** 69.29 332 P **P** **05 11 42.4 +0.2**
comp=Z,2.4nm,0.5s,baz=80,slow=4.7,SNR=21
comp=Z,2.4nm,0.5s
FINES **FINESS Array B** 69.29 332 *i* P **P** **05 11 42.4 +0.2**
FINES pmax pmax
comp=Z,3.0nm,0.6s
KBZ **Khabaz** 70.46 310 LR LR 05 46 52.8
comp=Z,28nm,18.3s,baz=176,slow=39
KBZ **Khabaz** 70.46 310 *ce* P **P** **05 11 49.7 -0.1**
KBZ pmax pmax
comp=Z,4.0nm,2.3s
KIV **Kislovodsk** 70.48 310 *e* P **P** **05 11 49.3 -0.7**
KIV *e* 05 12 12.0
KIV *e* 05 14 25.7
KIV pmax pmax
comp=Z,3.0nm,0.9s
GNI **Garni** 71.10 306 LR LR 05 45 46.3
comp=Z,31nm,18.5s,baz=96,slow=38
SUMG **Summit** 72.21 359 P **P** **05 12 01.0 +0.7**
SUMG **Summit** 72.21 359 P **P** **05 12 01.0 +0.7**
SUMG pmax pmax
comp=Z,11nm,1.0s
SUMG **Summit** 72.21 359 *i* P **P** **05 12 00.0 -0.4**
SUMG IAmb IAmb 05 12 01.9
comp=Z,3.1nm,0.6s
NEW **Newport** 72.54 43 P **P** **05 12 03.4 +1.1**
baz=304
AKASG **Malin Array Be** 74.35 322 P **P** **05 12 11.8 -1.0**
comp=Z,2.1nm,0.8s,baz=48,slow=6.0,SNR=11
comp=Z,2.1nm,0.8s
AKASG **Malin Array Be** 74.35 322 *ce* P **P** **05 12 12.5 -0.3**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
HFS **Hagfors** 74.70 335 P **P** **05 12 14.3 -0.4**
comp=Z,1.0nm,0.5s,baz=130,slow=2.3,SNR=9.2
HFS LR LR 05 46 27.5
comp=Z,17nm,18.7s,baz=16,slow=37
comp=Z,1.0nm,0.5s
NB2 **NORSAR Subarra** 74.86 337 P **P** **05 12 16.2 +0.5**
comp=Z,0.9nm,0.5s,baz=42,slow=5.9
NB2 **NORSAR Subarra** 74.86 337 P **P** **05 12 16.0 +0.3**
NOA **NORSAR Array B** 74.86 337 P **P** **05 12 15.9 +0.2**
comp=Z,1.1nm,0.5s,baz=41,slow=5.8,SNR=7.9
NOA LR LR 05 49 18.7
comp=Z,21nm,18.5s,baz=45,slow=39
comp=Z,1.1nm,0.5s
EGMT **Eagleton** 76.67 40 P **P** **05 12 27.3 +0.9**
baz=309
HLID **Hailey** 76.80 46 P **P** **05 12 28.1 +0.9**
baz=307
BOZ **Bozeman (W)** 77.16 43 P **P** **05 12 30.5 +1.3**
baz=308
KVN **Kaiserville** 77.19 51 P **P** **05 12 29.2 -0.4**
KVN IAmb IAmb 05 13 11.4
comp=Z,6.5nm,1.5s
KVN **Kaiserville** 77.19 51 P **P** **05 12 29.2 -0.4**
KVN pmax pmax
comp=Z,7.0nm,1.5s
NVAR **Mina Array Bea** 77.42 52 P **P** **05 12 32.0 +1.1**
comp=Z,1.3nm,0.8s,baz=288,slow=4.7,SNR=10
comp=Z,1.3nm,0.8s
BRTR **Keskin Array B** 78.44 311 P **P** **05 12 37.0 +0.6**
comp=Z,0.7nm,0.7s,baz=116,slow=2.9,SNR=5.8
comp=Z,0.7nm,0.7s
BRTR **Keskin Array B** 78.44 311 *ce* P **P** **05 12 37.7 +1.2**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
H17A **Grant Village** 78.49 43 P **P** **05 12 38.5 +1.7**
baz=309
FRB **Frobisher Bay** 78.69 12 LR LR 05 50 08.8
comp=Z,9.8nm,21.1s,baz=287,slow=38
RLMT **Red Lodge** 78.75 42 P **P** **05 12 39.9 +1.7**
baz=310
R11B **Troy Canyon, C** 79.19 51 P **P** **05 12 42.2 +1.5**
baz=307
PDAR **Pinedale Array** 80.09 44 P **P** **05 12 46.0 +0.5**
comp=Z,0.8nm,0.9s,baz=290,slow=2.7,SNR=2.4
comp=Z,0.8nm,0.9s
BELC **Belle Mtn. Jos** 81.54 54 P **P** **05 12 53.3 0.0**
baz=307
ULM **Lac du Bonnet** 81.82 32 P **P** **05 12 54.8 +0.5**
comp=Z,1.3nm,0.7s,baz=310,slow=9.3,SNR=3.8
comp=Z,1.3nm,0.7s
O20A **White River Ci** 82.54 46 P **P** **05 12 59.1 +0.6**
baz=311
GERES **GERESS Array B** 83.00 327 LR LR 05 51 34.7
comp=Z,25nm,18.3s,baz=44,slow=37
EKA **Eskdalemuir Ar** 83.93 339 P **P** **05 13 03.6 -1.5**
comp=Z,0.2nm,0.5s,baz=37,slow=4.9,SNR=3.9

comp=Z,0.2nm,0.5s
EYMN Ely 85.44 31 P P 05 13 13.1 +0.2
baz=321
SDCO Great Sand Dun 85.72 46 P P 05 13 15.6 +0.8
baz=312
DAVOX Davos/Dischmat 86.25 328 LR LR 05 55 52.0
comp=Z,16nm,18.2s,baz=260,slow=38
ECSD EROS Data Cent 86.28 37 P P 05 13 17.2 0.0
baz=318
T25A Trinidad 86.77 46 P P 05 13 19.3 -0.7
baz=313
SCHQ Schefferville 87.32 15 P P 05 13 22.4 +0.4
comp=Z,2.1nm,0.7s,baz=239,slow=10.0,SNR=2.3
comp=Z,2.1nm,0.7s
WMOK Wichita Mounta 91.70 44 P P 05 13 42.6 -0.4
baz=316
TXAR Lajitas Array 92.56 51 P P 05 13 47.9 +0.8
comp=Z,0.2nm,0.5s,baz=286,slow=2.3,SNR=5.7
comp=Z,0.2nm,0.5s
KEST Kesra 95.07 321 LR LR 06 00 47.5
comp=Z,51nm,18.3s,baz=296,slow=38
LBNH Lisbon 95.79 22 P P 05 14 00.6 -0.9
baz=335
QSPA South Pole Qui 125.24 180 PKP PKPdf 05 19 32.8 -2.2
comp=Z,0.9nm,1.0s,baz=187,slow=22,SNR=2.0
LPAZ La Paz 149.10 59 PKPbc PKPbc 05 20 25.0 +0.2
comp=Z,1.1nm,0.7s,baz=296,slow=2.3,SNR=7.2

JMA 15 05:00:47.0±0.1, 35.7N±0.2×140.8E±0.3, h19km, MV0.7/4, NEAR CHOSHI CITY, Near east coast of eastern Honshu

PRU 15 05:13:02.8, 50.27N×12.43E, h10km, West Bohemia Swarm
WBNET 15 05:13:03.4, 50.26N×12.44E, h10km, Ml1.7, 7C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**275**	⇑	*i*P		Pg	05 13 05.5	+0.1
LBCW					*e*S		Sg	05 13 06.8	+0.2
NKC	**Novy Kostel**	**0.03**	**173**		*e*PG		Pg	05 13 05.4	0.0
NKC					*e*SG		Sg	05 13 06.8	+0.1
comp=Z,93nm,0.2s									
NKC	**Novy Kostel**	**0.03**	**173**		*e*P		Pg	05 13 05.4	0.0
NKC	**Novy Kostel**	**0.03**	**173**	⇑	P		Pg	05 13 05.5	+0.1
NKC					S		Sg	05 13 06.8	+0.1
STCW	**Studenec**	**0.05**	**96**	⇑	P		Pg	05 13 05.6	+0.1
STCW					S		Sg	05 13 06.9	-0.1
VAC	**Vackov**	**0.05**	**235**	⇓	P		Pg	05 13 05.6	0.0
VAC					S		Sg	05 13 06.9	-0.1
POCW	**Potky**	**0.06**	**350**	⇑	P		Pg	05 13 05.7	+0.1
POCW					S		Sg	05 13 07.3	+0.1
KVC	**Kvetna**	**0.07**	**141**	⇓	P		Pg	05 13 05.8	+0.1
KVC					S		Sg	05 13 07.4	-0.1
KRCW	**Kraslice**	**0.09**	**40**	⇑	P		Pg	05 13 06.0	0.0
KRCW					S		Sg	05 13 07.6	-0.2
SKC	**Skalna**	**0.11**	**209**	⇑	P		Pg	05 13 06.2	+0.1
SKC					S		Sg	05 13 08.1	0.0
KOCW	**Kopaniny**	**0.13**	**271**	⇓	P		Pg	05 13 06.6	0.0
KOCW					S		Sg	05 13 08.6	-0.2
TRCW	**Trojmez**	**0.20**	**282**	⇓	P		Pg	05 13 07.5	-0.1
TRCW					S		Sg	05 13 10.2	-0.2
ZHC	**Zelena Hora**	**0.21**	**204**	⇑	P		Pg	05 13 07.9	0.0
ZHC					S		Sg	05 13 10.9	0.0
LACW	**Lazy**	**0.24**	**151**	⇓	P		Pg	05 13 08.6	+0.2
LACW					S		Sg	05 13 12.1	+0.3
HSKC	**Hora Svate Kat**	**0.72**	**61**		*e*SG		Sg	05 13 26.4	-0.4
comp=Z,19nm,0.2s									
RICC	**Richard**	**1.10**	**75**		*e*SG		Sb	05 13 38.8	0.0
comp=Z,10.0nm,0.4s									
BRG	**Berggiesshubel**	**1.14**	**57**		Pg		Pb	05 13 24.8	-0.3
BRG					Sg		Sb	05 13 39.5	-0.5
BRG					Amp			05 13 40.5	
comp=Z,6.8nm,0.2s									
KHC	**Kasperske Hory**	**1.35**	**147**		*e*SG		Sb	05 13 45.2	-1.0
comp=Z,9.3nm,1.0s									
ZVC	**Zvikov**	**1.40**	**125**		*e*SG		Sn	05 13 47.3	-0.3

IDC 15 05:18:30.6±1.7, 4.97S×142.02E, h0km, mb3.9/6, mbtmp3.8/7, ML3.4/1, Error ellipse: s-maj=52.8km s-min=28.8km az=100.0
ISC 15 05:18:35.4±1.5, 5.45S±0.1×141.8E±0.3, h35km, n7, σ2s76/9, mb3.9/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.15**	**206**		P	n	**P**	**05 22 23.5**	**+0.7**
0.1nm,0.3s,baz=28,slow=14,SNR=1.3									
WRA					S	n	**Sn**	**05 25 13.5**	**-4.5**
0.1nm,0.3s,baz=25,slow=23,SNR=1.9									
WRA					Lg		Lg	05 27 12.3	
baz=12,slow=37									
0.3nm,0.4s									
ASAR	**Alice Springs**	**19.67**	**202**		P	n	**Pn**	**05 23 07.5**	**+4.4**
4.0nm,0.6s,baz=32,slow=10,SNR=29									
ASAR					S		**S**	**05 26 41.1**	**-0.6**
0.2nm,0.3s,baz=225,slow=40,SNR=0.9									
ASAR					Lg		Lg	05 29 03.6	
0.1nm,0.3s,baz=225,slow=38,SNR=2.1									
4.0nm,0.6s									
CMAR	**Chiang Mai Arr**	**48.41**	**300**		P		**P**	**05 27 15.4**	**+0.8**
1.1nm,0.4s,baz=115,slow=5.6,SNR=11									
1.1nm,0.4s									
MKAR	**Makanchi Array**	**73.77**	**322**		P		**P**	**05 30 06.0**	**-0.2**
0.7nm,0.7s,baz=109,slow=6.7,SNR=3.2									
0.7nm,0.7s									
KURBB	**Kurchatov Arra**	**77.67**	**324**		P		**P**	**05 30 26.9**	**-1.4**
0.4nm,0.6s,baz=123,slow=7.0,SNR=2.9									
0.4nm,0.6s									
BVAR	**Borovoye Array**	**83.25**	**325**		P		**P**	**05 30 57.8**	**-0.5**
1.2nm,0.8s,baz=110,slow=8.4,SNR=4.5									
1.2nm,0.8s									
ILAR	**Eielson Array**	**87.03**	**24**		P		**P**	**05 31 15.6**	**-1.5**
0.5nm,0.7s,baz=268,slow=4.9,SNR=6.5									
0.5nm,0.7s									

NAO 15 05:23:54.5±1.8, 78.39N×7.12E, ML2.4
BER 15 05:23:56.7±3.5, 78.33N×7.01E, h10km, mb(Pn)3.3, ML2.4(NAO), Confirmed Earthquake
DNK 15 05:23:57.6±4.4, 78.22N×7.65E, h36km±38km, ML1.1
KOLA 15 05:23:58.5, 78.42N×8.40E, h0km, ML1.8, Error ellipse: s-maj=16.1km s-min=10.4km az=90.0, Greenland sea
ISC 15 05:23:55.3±1.6, 78.34N±0.06×6.63E±0.04, h32km±15km, n25, σ2s30/47, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBS	**Kingsbay**	**1.21**	**58**		P		**Pb**	**05 24 16.5**	**-1.1**
KBS					S		**Sn**	**05 24 27.0**	**-4.1**
KBS	**Kingsbay**	**1.21**	**58**		*e*P		**Pb**	**05 24 16.8**	**-0.7**
KBS					*e*S		**Sn**	**05 24 28.9**	**-2.3**
KBS					IAML			05 24 31.2	
comp=Z,72nm,0.2s									
KBS	**Kingsbay**	**1.21**	**58**		Pn		**Pb**	**05 24 17.0**	**-0.6**
KBS					Lg		Lg	05 24 28.7	
KBS	**Kingsbay**	**1.21**	**58**	*i*	P		**Pb**	**05 24 16.5**	**-1.1**
KBS				*i*	S		**Sn**	**05 24 28.2**	**-2.9**
BRBB	**Barentsburg B**	**1.57**	**95**		P		**Pb**	**05 24 22.1**	**-1.7**
BRBB					S		**Sn**	**05 24 39.6**	**-0.6**
BRBB	**Barentsburg B**	**1.57**	**95**		*e*P		**Pb**	**05 24 22.3**	**-1.5**
BRBB					*e*S		**Sn**	**05 24 39.2**	**-1.1**
BRBB	**Barentsburg B**	**1.57**	**95**		Pn		**Pb**	**05 24 22.3**	**-1.5**
BRBB					Sn		**Sn**	**05 24 39.1**	**-1.1**
BRBA	**Barentsburg A**	**1.58**	**96**		*e*P		**Pb**	**05 24 22.4**	**-1.5**
BRBA					*e*S		**Sn**	**05 24 39.9**	**-0.5**
BRBA	**Barentsburg A**	**1.58**	**96**		Pn		**Pb**	**05 24 22.4**	**-1.5**
BRBA					Sn		**Sn**	**05 24 40.0**	**-0.4**
SPA0	**Spitsbergen Ar**	**2.00**	**90**		Pn		**Pb**	**05 24 29.1**	**-1.9**
baz=261,slow=12									
SPA0					Sn		**Sn**	**05 24 51.4**	**+0.7**
baz=263,slow=22									
SPA0	**Spitsbergen Ar**	**2.00**	**90**		Pn		**Pb**	**05 24 29.1**	**-1.9**
baz=261,slow=12									
SPA0					Sn		**Sn**	**05 24 51.4**	**+0.7**
baz=263,slow=22									
SPITS	**Spitsbergen Ar**	**2.00**	**90**		P		**Pb**	**05 24 29.1**	**-1.9**
SPITS					S		**Sn**	**05 24 51.0**	**+0.4**
HSPB	**Hornsund (broa**	**2.33**	**121**		S		**Sn**	**05 24 59.1**	**+0.3**
HSPB	**Hornsund (broa**	**2.33**	**121**		*e*P		**Pn**	**05 24 33.1**	**+1.7**
HSPB					*e*S		**Sn**	**05 24 58.0**	**-0.9**
HSPB					IAML			05 25 01.1	
comp=Z,8.9nm,0.4s									
HSPB	**Hornsund (broa**	**2.33**	**121**		Pn		**Pn**	**05 24 33.1**	**+1.7**
HOPEN	**Hopen**	**4.40**	**105**		Pn		**Pn**	**05 25 01.2**	**+1.5**
HOPEN					*e*S		**Sn**	**05 25 48.1**	**-1.7**
HOPEN	**Hopen**	**4.40**	**105**		Pn		**Pn**	**05 25 01.2**	**+1.5**
HOPEN					Sn		**Sn**	**05 25 48.6**	**-1.2**
NOR	**Nord**	**5.18**	**320**		Pn		**Pn**	**05 25 13.3**	**+2.9**
NOR					Sn		**Sn**	**05 26 09.4**	**+0.5**
NOR	**Nord**	**5.18**	**320**		Pn		**Pn**	**05 25 13.3**	**+2.9**
NOR					Sn		**Sn**	**05 26 09.4**	**+0.5**
NOR	**Nord**	**5.18**	**320**	*i*	P		**Pn**	**05 25 13.2**	**+2.9**
NOR				*i*	S		**Sn**	**05 26 10.0**	**+1.1**
NOR					IAML			05 26 19.4	
comp=Z,0.3nm,0.2s									
DAG	**Danmarks Havn**	**5.66**	**267**	*i*	P		**Pn**	**05 25 18.6**	**+1.6**
DAG				*i*	S		**Sn**	**05 26 18.8**	**-1.9**
DAG					IAML			05 26 24.1	
comp=Z,1.6nm,0.2s									
DBG	**Daneborg**	**7.46**	**251**		Pn		**Pn**	**05 25 46.2**	**+4.4**
DBG					Sn		**Sn**	**05 27 03.6**	**-1.5**
DBG	**Daneborg**	**7.46**	**251**		Pn		**Pn**	**05 25 46.2**	**+4.4**
DBG					Sn		**Sn**	**05 27 03.6**	**-1.5**
DBG	**Daneborg**	**7.46**	**251**	*i*	P		**Pn**	**05 25 46.2**	**+4.4**
DBG				*i*	S		**Sn**	**05 27 01.3**	**-3.8**
DBG					IAML			05 27 09.5	
comp=Z,0.5nm,0.2s									
NEEM	**North Greenlan**	**11.72**	**294**	*i*	P		**Pn**	**05 26 41.3**	**+1.1**
NEEM				*i*	S		**Sn**	**05 28 43.5**	**-6.3**
NEEM					IAML			05 28 47.9	
comp=Z,0.5nm,0.2s									

UPA 15 05:26:41.2±1.6, 7.42N×79.76W, h3km±4km, MW4.1, 12C-16D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PEDA3	**Pedasi**	**0.28**	**292**		*i*P		Pb	05 26 47.9	-1.0
PEDA3					*e*S		Sb	05 26 52.9	-1.1
ACHO3	**Achotines, Los**	**0.41**	**269**	⇑	*e*P		Pb	05 26 50.0	-1.0
ACHO3					*e*S		Sb	05 26 56.8	-0.9
PCRI3	**Pocri, Los San**	**0.42**	**304**	⇑	*e*P		Pb	05 26 50.6	-0.7
PCRI3					*e*S		Sb	05 26 58.1	-0.1
AZU	**Azuero**	**0.63**	**306**	⇑	*i*P		Pg	05 26 53.8	+0.6
AZU					*e*S		Sn	05 27 06.5	-1.0
TOSI3	**Tonosi**	**0.67**	**269**	⇓	*e*P		Pg	05 26 54.4	+0.3
TOSI3					*e*S		Sb	05 27 05.7	+0.4
CHIT3	**Chitre**	**0.84**	**309**	⇑	*e*P		Pg	05 26 57.1	-0.2
CHIT3					*e*S		Sg	05 27 08.6	+0.4
PESE3	**Pese, Herrera**	**0.97**	**300**	⇑	*e*P		Pg	05 26 59.4	-0.4
CACAO	**El Cacao, Vera**	**1.09**	**266**	⇓	*e*P		Pg	05 27 00.8	-1.3
CACAO					*e*S		Sb	05 27 17.9	+0.6
CRIS3	**El Cristo, Coc**	**1.18**	**314**	⇓	*e*P		Pg	05 27 03.1	-0.8
CRIS3					*e*S		Sg	05 27 19.4	+0.1
PNME	**Penonome**	**1.20**	**332**	⇑	*e*P		Pg	05 27 03.2	-0.9
MARI3	**Mariato, Verag**	**1.24**	**281**	⇑	*e*P		Pg	05 27 03.9	-1.0
MARI3					*e*S		Sn	05 27 24.8	+2.2
STIA3	**Santiago, Vera**	**1.37**	**299**	⇓	*e*P		Pn	05 27 06.0	-1.3
TABO3	**Taboga, Panama**	**1.38**	**9**	⇓	*i*P		Pn	05 27 06.7	-0.7
TABO3					*i*S		Sg	05 27 23.8	-1.8
RSUS3	**Rio de Jesus,**	**1.49**	**292**	⇓	*e*P		Pn	05 27 08.2	-0.7
RSUS3					*e*S		Sn	05 27 28.0	-0.9
GMAL	**Guarumal, Vera**	**1.50**	**283**	⇑	*e*P		Pn	05 27 08.7	-0.3
GMAL					*e*S		Sg	05 27 29.7	+0.4
FLAM	**Flamenco Islan**	**1.50**	**9**		*e*P		Pn	05 27 08.3	-0.6
FLAM					*i*S		Sn	05 27 27.2	-1.8
ZANG	**Zanguenga, Cho**	**1.53**	**356**	⇑	*e*P		Pn	05 27 08.3	-1.1
ZANG					*e*S		Sn	05 27 28.8	-1.0
ARRA3	**Arraijan, Pana**	**1.54**	**4**		*e*P		Pn	05 27 08.5	-1.0
ARRA3					*e*S		Sn	05 27 28.7	-1.3
UPA	**Univ. de Panam**	**1.57**	**8**	⇓	*e*P		Pn	05 27 08.8	-1.1
UPA					*e*S		Sn	05 27 30.0	-0.7
MESA3	**La Mesa, Verag**	**1.58**	**297**	⇑	*e*P		Pn	05 27 09.9	-0.3
MESA3					*e*S		Sn	05 27 30.6	-0.5
BCIP	**Isla Barro Col**	**1.73**	**358**	⇑	*i*P		Pn	05 27 11.8	-0.4
BCIP					*e*S		Sn	05 27 34.7	-0.2
FRIJ	**El Hiral**	**1.79**	**1**	⇓	*e*P		Pn	05 27 12.6	-0.4
FRIJ					*i*S		Sn	05 27 36.4	+0.2
MLIR	**Monte Lirio**	**1.81**	**357**	⇓	*e*P		Pn	05 27 13.2	-0.1
MLIR					*e*S		Sb	05 27 37.4	-0.6
CHPO	**Chepo, Panama**	**1.85**	**20**	⇓	*e*P		Pn	05 27 13.5	-0.4
CHPO					*e*S		Sn	05 27 38.2	+0.5
UPD2	**Meteti**	**2.06**	**57**	⇓	*e*P		Pn	05 27 16.2	-0.5
UPD2					*e*S		Sn	05 27 42.8	-0.2
TOTI	**Torti**	**2.08**	**44**	⇓	*e*P		Pn	05 27 15.9	-1.1
NANC3	**Nancito, Chiri**	**2.11**	**293**	⇓	*e*P		Pb	05 27 19.5	-0.7
CHGR2	**Aguacate**	**2.80**	**303**	⇓	*e*P		Pn	05 27 28.4	+1.5
LNBQ3	**Los Naranjos,**	**2.98**	**297**		*e*P		Pn	05 27 23.8	-5.8
BCO2	**Palmira**	**3.03**	**295**	⇓	*e*P		Pn	05 27 32.7	+2.5
BRU2	**Volcan**	**3.20**	**295**		*e*P		Pn	05 27 33.4	+0.8
CDITO	**Canoas**	**3.29**	**291**		*e*P		Pn	05 27 35.7	+2.1
CNI2	**El Empalme, Bo**	**3.34**	**307**	⇓	*e*P		Pn	05 27 33.4	-0.9

NNC 15 05:44:42.2±5.0, 36.82N×70.57E, h0km, mb4.0, mpv3.9, 3C-1D, Error ellipse: s-maj=53.3km s-min=33.4km az=140.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.28**	**360**		P		Pn	05 46 17.5	+1.4
1.9nm,0.3s,baz=190,slow=13,SNR=21									
KK31					S		Sn	05 47 29.6	+1.0
2.0nm,0.4s,baz=190,slow=21,SNR=5.5									
AAK	**Ala-Archa**	**6.55**	**26**	⇑	P		Pn	05 46 20.4	+0.4
4.2nm,0.5s									
AAK				⇑	S		Sn	05 47 37.2	+1.7
2.9nm,0.5s									
TKM2	**Tokmak 2**	**7.21**	**31**	⇓	P		Pn	05 46 28.5	-0.6
7.4nm,0.7s									
TKM2				⇑	S		Sn	05 47 52.2	+0.3
1.3nm,0.5s									
AB31	**Akbulak array**	**14.64**	**331**		P		Pn	05 48 06.2	-4.4
0.2nm,0.3s,baz=146,slow=12,SNR=4.6									

IDC 15 06:09:56.4±4.0, 53.79N×88.19E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=37.8km s-min=20.2km az=47.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**276**				I	06 22 29.7	
0.1nm,0.9s,baz=94,slow=332,SNR=5.3									
ZALV	**Zalesovo Beam**	**2.00**	**276**		Pg		Pb	06 10 32.5	-1.1
0.9nm,0.3s,baz=92,slow=14,SNR=15									
ZALV					Lg		Lg	06 10 59.6	
1.5nm,0.3s,baz=90,slow=26,SNR=8.3									
KURBB	**Kurchatov Arra**	**6.73**	**246**		Pn		Pn	06 11 37.4	+1.1
0.1nm,0.3s,baz=62,slow=13,SNR=2.3									
0.8nm,0.2s									
MKAR	**Makanchi Array**	**7.96**	**211**		Pn		Pn	06 11 53.9	+0.7
0.1nm,0.3s,baz=32,slow=14,SNR=3.1									
0.2nm,0.3s									

IDC 15 06:18:08.7±3.0, 36.17N×71.42E, h82km±25km, mb3.8/22, mbtmp4.2/26, MS3.5/4, Error ellipse: s-maj=18.8km s-min=15.6km az=172.0
BJI 15 06:18:11.9±0.0, 36.59N×71.16E, h129km, mb4.5/11, mB4.8/3
MOS 15 06:18:11.8±0.9, 36.49N×71.36E, h115km, mb4.6/11, Error ellipse: s-maj=7.6km s-min=3.6km az=84.6
NEIC 15 06:18:13.4±1.6, 36.49N±0.06×71.28E±0.08, h114km±7km, mb4.2/22, Error ellipse: s-maj=9.1km s-min=8.8km az=106.0
NNC 15 06:18:15.2±2.6, 36.69N×71.16E, h128km±26km, mb4.1, mpv5.1, Error ellipse: s-maj=20.9km s-min=20.3km az=3.0
ISC 15 06:18:12.2±0.5, 36.39N±0.05×71.32E±0.04, h111km±4km, h111km:pP-P, n187, σ1s68/207, mb4.3/39, 16C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.62**	**226**				**Pn**	**06 18 55.1**	**+1.7**
KBL	**Kabul**	**2.62**	**226**		PN		**Pn**	**06 18 55.1**	**+1.7**
GAR	**Garm**	**2.72**	**343**				**Pn**	**06 18 55.0**	**+0.3**
CHGR	**Chuyangaron**	**2.84**	**324**				**Pn**	**06 18 55.7**	**-0.5**
CHGR	**Chuyangaron**	**2.84**	**324**		PN		**Pn**	**06 18 55.7**	**-0.5**
SIMJ	**Simiganj**	**2.92**	**322**				**Pn**	**06 18 56.8**	**-0.4**
DRK	**Karamyk**	**3.11**	**7**				**Pn**	**06 19 01.3**	**+1.4**
DRK	**Karamyk**	**3.11**	**7**		PN		**Pn**	**06 19 01.3**	**+1.4**
NIL	**Nilore**	**3.16**	**149**		Pn		**Pn**	**06 19 03.0**	**+2.6**
NIL	**Nilore**	**3.16**	**149**		PN		**Pn**	**06 19 03.0**	**+2.6**
BTK	**Batken**	**3.68**	**354**		Pn		**Pn**	**06 19 08.8**	**+1.4**
BTK	**Batken**	**3.68**	**354**		PN		**Pn**	**06 19 08.8**	**+1.4**
JMU	**Jammu**	**4.71**	**140**		*e*P		**Pn**	**06 19 22.4**	**+1.3**
JMU					*e*S		**Sn**	**06 20 12.2**	**-2.4**
KSH	**Kashi**	**4.83**	**48**		P		**Pn**	**06 19 19.3**	**-3.4**
KSH					S		Sn	06 20 07.3	-10
KSH					smax		smax		
comp=N,680nm,0.8s									
KSH					smax		smax		
comp=E,380nm,0.5s									
ARSB	**Arslanbob**	**5.10**	**14**		Pn		**Pn**	**06 19 26.4**	**0.0**
ARSB	**Arslanbob**	**5.10**	**14**		PN		**Pn**	**06 19 26.4**	**0.0**
THN	**Thein Dam**	**5.37**	**136**		*e*P		**Pn**	**06 19 31.2**	**+1.3**
THN					*e*S		**Sn**	**06 20 32.0**	**+1.5**
THN					IAML			06 20 34.9	
comp=E,388nm,0.3s									
THN					IAML			06 20 44.1	
comp=E,290nm,0.3s									
DHRM	**DHARAMSHALA**	**5.83**	**134**		*e*P		**Pn**	**06 19 37.4**	**+0.8**
DHRM					*e*S		**Sn**	**06 20 38.9**	**-3.3**
DHRM					IAML			06 20 43.6	
comp=E,929nm,0.6s									
DHRM					IAML			06 20 43.8	
comp=E,819nm,0.3s									
IUG	**Iuzhnay**	**5.84**	**351**		*e*P		**Pn**	**06 19 36.0**	**-0.3**
baz=350									
IUG					*e*S		**Sn**	**06 20 38.6**	**-3.3**
baz=350									
IUG	**Iuzhnay**	**5.84**	**351**		*e*PN		**Pn**	**06 19 36.0**	**-0.3**
UCH	**Uchtor**	**6.34**	**22**		P		**Pn**	**06 19 44.0**	**+0.5**
SNR=174									
DZA	**Taraz**	**6.50**	**0**		*e*P		**Pn**	**06 19 44.6**	**-0.7**
baz=360									
DZA	**Taraz**	**6.50**	**0**		*e*PN		**Pn**	**06 19 44.5**	**-0.7**
BHK	**Bhakra**	**6.53**	**138**		*e*P		**Pn**	**06 19 46.8**	**+1.1**
BHK					*e*S		**Sn**	**06 20 55.7**	**-3.0**
BHK					IAML			06 20 58.6	
comp=N,367nm,0.3s									
BHK					IAML			06 21 00.1	
comp=E,329nm,0.2s									
EKS2	**Erkin-Say**	**6.55**	**16**		P		**Pn**	**06 19 46.6**	**+0.6**
SNR=140									
AAK	**Ala-Archa**	**6.71**	**21**		P		**Pn**	**06 19 49.1**	**+0.9**
SNR=95									
AAK	**Ala-Archa**	**6.71**	**21**	⇓	P		**Pn**	**06 19 48.9**	**+0.7**
comp=E,68nm,0.3s									
AAK				⇑	S		**Sn**	**06 21 02.5**	**-0.7**
comp=E,66nm,0.5s									
AAK	**Ala-Archa**	**6.71**	**21**		P		**Pn**	**06 19 49.0**	**+0.7**
comp=E,121nm,0.3s,baz=177,slow=6.0,SNR=11.4									
AAK					S		**Sn**	**06 21 01.4**	**-1.8**
comp=E,52nm,0.6s,baz=352,slow=18,SNR=8.5									
AAK	**Ala-Archa**	**6.71**	**21**	*i*	PN		**Pn**	**06 19 48.9**	**+0.7**
AAK					pmax		pmax		
comp=Z,68nm,0.3s									
BRLS	**Borolday**	**6.73**	**351**	⇓	*i*P		**Pn**	**06 19 44.5**	**-3.9**
comp=Z,6.1nm,0.2s,baz=349									
BRLS	**Borolday**	**6.73**	**351**	*d*	*i*PN		**Pn**	**06 19 44.5**	**-3.9**
BRLS					pmax		pmax		
comp=Z,6.0nm,0.2s									
KK31	**Karatay Array**	**6.74**	**355**		P		**Pn**	**06 19 48.2**	**-0.2**
comp=Z,88nm,0.3s,baz=179,slow=12,SNR=1115									
KK31				⇑	S		**Sn**	**06 20 59.0**	**-4.7**
comp=Z,17nm,0.4s,baz=190,slow=24,SNR=6.3									
KK31	**Karatay Array**	**6.74**	**355**				**Pn**	**06 19 48.2**	**-0.2**
KK31	**Karatay Array**	**6.74**	**355**		PN		**Pn**	**06 19 48.2**	**-0.2**
KKAR	**Karatay Array**	**6.74**	**355**				**Pn**	**06 19 48.3**	**-0.2**
KKAR	**Karatay Array**	**6.74**	**355**		Pn		**Pn**	**06 19 48.2**	**-0.2**
KKAR	**Karatay Array**	**6.74**	**355**		PN		**Pn**	**06 19 48.3**	**-0.2**
KBK	**Karagaybulak**	**6.86**	**23**		P		**Pn**	**06 19 51.2**	**+0.9**
SNR=28									
FRU1	**Bishkek**	**6.90**	**21**		Pn		**Pn**	**06 19 51.6**	**+0.9**
FRU1	**Bishkek**	**6.90**	**21**		PN		**Pn**	**06 19 51.7**	**+0.9**
ULHL	**Ulahol**	**6.98**	**32**		P		**Pn**	**06 19 53.3**	**+1.3**
SNR=17									
CHMS	**Chumysh**	**7.11**	**21**		P		**Pn**	**06 19 54.3**	**+0.7**
SNR=60									
CHMS	**Chumysh**	**7.11**	**21**	⇑	P		**Pn**	**06 19 53.5**	**-0.1**
comp=Z,116nm,0.6s									
CHMS				⇑	S		**Sn**	**06 21 10.9**	**-1.9**
comp=Z,38nm,0.7s									
CHMS	**Chumysh**	**7.11**	**21**		PN		**Pn**	**06 19 53.5**	**-0.1**
SMLA	**Simla**	**7.16**	**135**		*e*S		Sn	06 21 08.1	-5.9
SMLA					IAML			06 21 12.3	
comp=E,249nm,0.6s									
SMLA					IAML			06 21 15.4	
comp=E,337nm,0.5s									
USP	**Ospenovka**	**7.29**	**19**		P		**Pn**	**06 19 56.5**	**+0.5**
S

GYA0B	**ALIBECK ARRAY**	10.65	282			**Pn**	06 20 40.6	-0.9
OTUK	**Ortayu**	**11.87**	**3**	⇓P		**Pn**	**06 20 54.4**	**-3.4**
	comp=N,21nm,0.8s							
OTUK	**Ortayu**	**11.87**	**3**	P		**Pn**	**06 20 54.3**	**-3.4**
JHNI	**Jhansi**	**12.52**	**148**	*e*P		**Pn**	**06 21 04.3**	**-2.2**
JHNI				*e*S		Sn	06 23 13.7	-11
MAKZ	**Makanchi**	**13.10**	**34**	Pn		**Pn**	**06 21 11.8**	**-2.1**
MAKZ	**Makanchi**	**13.10**	**34**	P		**Pn**	**06 21 11.8**	**-2.1**
MK31	**Makanchi Array**	**13.23**	**35**	P		**Pn**	**06 21 14.1**	**-1.6**
	comp=N,7.7nm,0.8s,baz=220,slow=9.6,SNR=63							
MK31	**Makanchi Array**	**13.23**	**35**	*i* P		**Pn**	**06 21 14.0**	**-1.6**
MK31				pmax	pmax			
	comp=Z,21nm,1.2s							
MKAR	**Makanchi Array**	**13.23**	**35**	Pn		**Pn**	**06 21 14.1**	**-1.6**
MKAR	**Makanchi Array**	**13.23**	**35**	P		**Pn**	**06 21 14.3**	**-1.4**
	comp=Z,7.3nm,0.9s,baz=221,slow=11,SNR=44							
BRZS	**Berezniki**	**13.62**	**4**	*e*P		**Pn**	**06 21 19.2**	**-1.4**
	baz=3.7							
BRZS	**Berezniki**	**13.62**	**4**	*e*P		**Pn**	**06 21 19.2**	**-1.4**
BHPL	**Bhopal**	**14.13**	**156**	*e*P		Pn	06 21 24.1	-3.3
BHPL				*e*S		Sn	06 23 50.8	-12
WMQ	**Urumqi**	**14.55**	**54**	*e*P		**Pn**	**06 21 33.5**	**+0.8**
ZSN	**Zaisan**	**14.94**	**38**	*e*P		**Pn**	**06 21 37.5**	**-0.1**
	baz=38							
ZSN	**Zaisan**	**14.94**	**38**	*e*P		**Pn**	**06 21 37.4**	**-0.1**
KURBB	**Kurchatov Arra**	**15.15**	**18**	P		**Pn**	**06 21 36.7**	**-3.4**
	comp=Z,1.2nm,0.5s,baz=210,slow=12,SNR=3.0							
KURK	**Kurchatov**	**15.26**	**18**	⇑P		**P**	**06 21 42.9**	**-0.9**
	comp=Z,10nm,0.7s							
KURK	**Kurchatov**	**15.26**	**18**	Pn		**Pn**	**06 21 38.5**	**-2.9**
KURK				IAmb	IAmb		06 21 44.8	
	comp=Z,13nm,0.8s							
KURK	**Kurchatov**	**15.26**	**18**	*i* P		**P**	**06 21 42.8**	**-0.9**
KURK				pmax	pmax			
	comp=Z,10.0nm,0.7s							
AB31	**Akbulak array**	**15.30**	**331**	P		**Pn**	**06 21 39.8**	**-2.2**
	comp=Z,5.7nm,0.3s,baz=138,slow=13,SNR=199							
AB31	**Akbulak array**	**15.30**	**331**	*e*P		**Pn**	**06 21 39.8**	**-2.2**
ABKAR	**Akbulak array**	**15.30**	**331**	Pn		**Pn**	**06 21 39.8**	**-2.3**
ABKAR	**Akbulak array**	**15.30**	**331**	Pn		**Pn**	**06 21 40.2**	**-1.9**
BVA0	**Borovoye Array**	**16.65**	**358**	⇑P		**Pn**	**06 21 57.8**	**-0.9**
	comp=Z,2.3nm,0.4s,baz=170,slow=13,SNR=10							
BVA0	**Borovoye Array**	**16.65**	**358**	*i* P		**Pn**	**06 21 57.8**	**-0.9**
BVAR	**Borovoye Array**	**16.65**	**358**	P		**Pn**	**06 21 57.9**	**-0.8**
	comp=Z,5.1nm,0.4s,baz=159,slow=12,SNR=20							
BRVK	**Borovoye**	**16.68**	**358**	Pn		**Pn**	**06 21 56.3**	**-2.7**
BRVK				IAmb	IAmb		06 22 02.1	
	comp=Z,12nm,1.2s							
BRVK	**Borovoye**	**16.68**	**358**	*ce*P		**Pn**	**06 21 58.4**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,11nm,1.3s							
AKTO	**Aktyubinsk**	**17.00**	**330**	P		**P**	**06 22 02.9**	**-0.2**
	comp=Z,35nm,0.7s,baz=143,slow=9.7,SNR=38							
AKTO				S		Sn	06 24 58.1	-14
	comp=Z,1.8nm,0.6s,baz=29,slow=17,SNR=2.0							
DGZ	**Jazzator, Alta**	**17.72**	**36**	*c i* P		**P**	**06 22 10.7**	**-0.5**
DGZ				pmax	pmax			
	comp=Z,7.0nm,0.5s							
ZAA0	**Zalesovo Array**	**19.91**	**24**	⇑P		**P**	**06 22 34.4**	**-0.4**
	comp=Z,2.8nm,0.8s							
ZAA0	**Zalesovo Array**	**19.91**	**24**	IAmb		IAmb	06 22 35.8	
	comp=Z,14nm,0.8s							
ZALV	**Zalesovo Beam**	**19.91**	**24**	P		**P**	**06 22 34.5**	**-0.3**
	comp=Z,13nm,0.5s,baz=225,slow=11,SNR=67							
ZALV				S		S	06 26 00.8	-12
	comp=Z,1.0nm,0.3s,baz=55,slow=18,SNR=4.1							
	comp=Z,13nm,0.5s							
GROC	**Groznyy**	**20.71**	**297**	*e*P		Pn	06 22 44.0	-2.9
GROC				pmax	pmax			
	comp=Z,16nm,0.4s							
GNI	**Garni**	**21.17**	**288**	P		**P**	**06 22 49.0**	**+0.3**
GNI				IAmb	IAmb		06 22 55.2	
	comp=Z,23nm,1.1s							
GNI	**Garni**	**21.17**	**288**	P		**P**	**06 22 48.8**	**+0.1**
	comp=Z,4.3nm,0.3s,baz=154,slow=8.8,SNR=1.3							
	comp=Z,4.3nm,0.3s							
GNI	**Garni**	**21.17**	**288**	*ce*P		**P**	**06 22 49.6**	**+0.9**
GNI				pmax	pmax			
	comp=Z,25nm,1.3s							
SVE	**Sverdlovsk**	**21.67**	**344**	*e*P		**P**	**06 22 54.5**	**+0.9**
SVE				pmax	pmax			
	comp=Z,15nm,0.8s							
ARU	**Arti**	**21.82**	**341**	P		**P**	**06 22 54.4**	**-0.8**
ARU				IAmb	IAmb		06 23 00.1	
	comp=Z,15nm,0.9s							
ARU	**Arti**	**21.82**	**341**	P		**P**	**06 22 56.7**	**+1.5**
	comp=Z,5.0nm,0.3s,baz=148,slow=6.5,SNR=14							
	comp=Z,5.0nm,0.3s							
ARU	**Arti**	**21.82**	**341**	*c i* P		**P**	**06 22 55.3**	**+0.1**
ARU							06 23 21.4	
ARU				S		**S**	**06 26 48.2**	**-1.3**
ARU				SS		**SnSn**	**06 27 35.2**	**+10**
ARU				pmax	pmax			
	comp=Z,16nm,0.8s							
NCK	**Nalchik**	**22.34**	**297**	*i* P		**P**	**06 23 01.5**	**+0.7**
NCK				pmax	pmax			
	comp=Z,21nm,0.4s							
KBZ	**Khabaz**	**22.88**	**297**	P		**P**	**06 23 07.5**	**+1.4**
	comp=Z,2.4nm,0.8s,baz=162,slow=5.2,SNR=5.9							
KBZ				S		S	06 27 16.3	+9.1
	comp=Z,0.4nm,0.3s,baz=97,slow=20,SNR=1.2							
	comp=Z,2.4nm,0.8s							
KBZ	**Khabaz**	**22.88**	**297**	*ce*P		**P**	**06 23 05.4**	**-0.7**
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SHA1	**Shidzhatmaz**	**23.05**	**297**	*i* P		**P**	**06 23 07.3**	**-0.8**
KIV	**Kislovodsk**	**23.06**	**298**	*e*P		**P**	**06 23 08.0**	**-0.1**
KIV				*e**PP		**pP**	**06 23 28.3**	**-2.0**
KIV				*e**SP		**sP**	**06 23 46.0**	**+1.9**
KIV				*e*			06 26 52.8	
KIV				pmax	pmax			
	comp=Z,3.0nm,0.8s							
BELG	**Belogornoye**	**23.14**	**321**	P		**P**	**06 23 09.5**	**+1.1**
	comp=Z,17nm,0.7s,baz=310,slow=6.6,SNR=6.2							
	comp=Z,17nm,0.7s							
BELG	**Belogornoye**	**23.14**	**321**	*i* P		**P**	**06 23 08.4**	**-0.1**
BELG				pmax	pmax			
	comp=Z,4.0nm,1.1s							
ARPR	**Arapgir-MALATY**	**26.14**	**286**	P		**P**	**06 23 36.5**	**+0.4**
KIRV	**Kirov**	**26.45**	**334**	P		**P**	**06 23 39.4**	**+0.9**
	comp=Z,10nm,0.7s,baz=328,slow=18,SNR=3.6							
	comp=Z,10nm,0.7s							
KIRV	**Kirov**	**26.45**	**334**	*ce*P		**P**	**06 23 38.8**	**+0.4**
ANN	**Anapa**	**26.91**	**299**	*e*P		**P**	**06 23 42.6**	**-0.1**
ANN				*e**PP		**pP**	**06 24 08.5**	**+0.9**
ANN				*e*S		**S**	**06 28 11.2**	**-0.1**
ANN				pmax	pmax			
	comp=Z,7.0nm,0.5s							
PZH	**PanZhiHua**	**27.67**	**102**	P		**P**	**06 23 51.9**	**+2.0**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,110nm,5.4s							
ULN	**Ulaanbaatar**	**28.63**	**55**	*ce*P		**P**	**06 23 57.2**	**-1.0**
ULN				pmax	pmax			
	comp=Z,5.0nm,2.5s							
BRTR	**Keskin Array B**	**29.71**	**288**	P		**P**	**06 24 10.1**	**+2.3**
	comp=Z,0.5nm,0.6s,baz=91,slow=9.1,SNR=2.2							
BRTR				LR		LR	06 39 06.6	
	comp=Z,55nm,18.1s,baz=278,slow=42							
	comp=Z,0.5nm,0.6s							
OBN	**Obninsk**	**30.19**	**319**	*e*P		**P**	**06 24 11.9**	**+0.2**
OBN				*e**PP		**pP**	**06 24 36.5**	**-0.3**
OBN				*e**SP		**sP**	**06 24 51.0**	**+1.0**
OBN				*e*			06 25 13.1	
OBN				*e*			06 27 09.3	
OBN				pmax	pmax			
	comp=Z,9.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**31.56**	**69**	*e*P		**P**	**06 24 24.8**	**+0.7**
HHC				pmax	pmax			
	comp=Z,4.0nm,0.5s							
AKASG	**Malin Array Be**	**33.21**	**309**	P		**P**	**06 24 39.7**	**+1.5**
AKASG				PP		**PP**	**06 25 55.1**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=81,slow=7.5,SNR=8.4							
	comp=Z,0.8nm,0.6s,baz=91,slow=10.0,SNR=4.4							
	comp=Z,0.4nm,0.3s							
AKBB	**Malin Array Si**	**33.21**	**309**	*ce*P		**P**	**06 24 39.5**	**+1.2**
AKBB				pmax	pmax			
	comp=Z,8.0nm,1.5s							
XLT	**XiLinHaoTe**	**34.69**	**63**	*e*P		P	06 24 42.9	-8.3
XLT				pP	pP		06 25 04.3	-13
XLT				sP	sP		06 25 20.1	-11
XLT				pmax	pmax			
	comp=Z,15nm,0.8s							
XLT				pmax	pmax			
	comp=Z,58nm,4.3s							

MNK	**Minsk**	**34.76**	**315**	*i* P		**P**	**06 24 50.6**	**-1.0**
	comp=E,6.0nm,0.6s							
MNK				*i* P		**P**	**06 24 50.6**	**-1.0**
	comp=N,19nm,0.7s							
MNK				*i* P		**P**	**06 24 50.6**	**-1.0**
	comp=Z,15nm,0.7s,baz=103							
MNK				*i* pP		**pP**	**06 25 19.9**	**+2.7**
MNK				*i* PP		**PP**	**06 26 12.5**	**+0.2**
MNK				*i* S		**sS**	**06 30 13.3**	**-0.3**
MNK				*i* sS		sS	06 31 16.4	+18
MNK				*i* SS		**SS**	**06 32 46.0**	**-2.1**
MNK				*i* LR	LR		06 37 09.2	
MNK				*i* LRM	MLR		06 39 00.8	
	comp=Z,45nm,15.9s							
MNK				*i* LRM	MLR		06 39 09.8	
	comp=N,116nm,14.1s							
MNK				*i* LRM	MLR		06 39 18.1	
	comp=E,35nm,15.4s							
MNK	**Minsk**	**34.76**	**315**	*i* P		**P**	**06 24 50.5**	**-1.0**
MNK				*i* *PP		**pP**	**06 25 19.8**	**+2.7**
MNK				*i*			06 26 12.5	
MNK				*i*			06 27 23.7	
MNK				*i* S		**S**	**06 30 13.3**	**-0.3**
MNK				pmax	pmax			
	comp=N,19nm,0.7s							
MNK				pmax	pmax			
	comp=Z,15nm,0.7s							
MNK				pmax	pmax			
	comp=E,6.0nm,0.6s							
MNK				MLR	MLR			
	comp=Z,45nm,16.0s							
MNK				MLR	MLR			
	comp=N,116nm,14.0s							
MNK				MLR	MLR			
	comp=E,35nm,15.0s							
BURAR	**Bucovina Array**	**35.56**	**303**	P		**P**	**06 24 58.4**	**-0.2**
VALR	**Valaam**	**35.56**	**327**	*i* P		**P**	**06 24 57.3**	**-1.0**
VALR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
VSU	**Vasula**	**36.43**	**322**	*ce*P		**P**	**06 25 06.5**	**+0.7**
VSU				pmax	pmax			
	comp=Z,5.0nm,0.8s							
FINES	**FINESS Array B**	**37.72**	**326**	P		**P**	**06 25 17.0**	**+0.4**
FINES	**FINESS Array B**	**37.72**	**326**	P		**P**	**06 25 18.6**	**+2.0**
	comp=Z,1.7nm,0.3s,baz=123,slow=8.7,SNR=24							
	comp=Z,1.7nm,0.3s							
ARCES	**ARCESS Array B**	**41.34**	**338**	P		**P**	**06 25 48.6**	**+2.0**
	comp=Z,2.9nm,0.6s,baz=114,slow=8.7,SNR=26							
	comp=Z,2.9nm,0.6s							
HFS	**Hagfors**	**43.31**	**322**	P		**P**	**06 26 04.1**	**+1.4**
	comp=Z,3.7nm,0.5s,baz=96,slow=11,SNR=17							
	comp=Z,3.7nm,0.5s							
NB2	**NORSAR Subarra**	**44.62**	**323**	P		**P**	**06 26 14.2**	**+1.0**
	comp=Z,1.4nm,0.5s,baz=94,slow=7.9							
NB2	**NORSAR Subarra**	**44.62**	**323**	P		**P**	**06 26 13.8**	**+0.6**
NOA	**NORSAR Array B**	**44.62**	**323**	P		**P**	**06 26 14.5**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=96,slow=7.8,SNR=14							
	comp=Z,2.1nm,0.6s							
NBO00	**NORSAR Array S**	**44.83**	**323**	P		**P**	**06 26 14.2**	**-0.6**
NBO00				IAmb	IAmb		06 26 17.2	
	comp=Z,4.1nm,0.7s							
NC204	**NORSAR Array S**	**44.86**	**323**	P		**P**	**06 26 14.6**	**-0.5**
NC204				IAmb	IAmb		06 26 19.0	
	comp=Z,3.9nm,0.6s							
EKA	**Eskdalemuir Ar**	**52.54**	**316**	P		**P**	**06 27 15.1**	**+1.2**
	comp=Z,0.8nm,0.6s,baz=60,slow=6.0,SNR=5.8							
	comp=Z,0.8nm,0.6s							
ESDC	**Sonseca Array**	**57.73**	**298**	P		**P**	**06 27 51.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=75,slow=6.6,SNR=2.8							
	comp=Z,0.6nm,0.7s							
SUMG	**Summit**	**61.25**	**341**	*i* P		**P**	**06 28 17.0**	**+1.5**
TORD	**Torodi Ar. Bea**	**65.97**	**269**	P		**P**	**06 28 45.8**	**-1.1**
	comp=Z,1.1nm,0.5s,baz=50,slow=6.4,SNR=16							
	comp=Z,1.1nm,0.5s							
SFJD	**Kangerlussuaq**	**67.95**	**339**	LR		LR	06 59 38.7	
	comp=Z,26nm,18.0s,baz=181,slow=36							
RES	**Resolute Bay**	**68.83**	**356**	P		**P**	**06 29 04.8**	**+0.9**
	comp=Z,0.3nm,0.5s,baz=23,slow=7.1,SNR=1.5							
	comp=Z,0.3nm,0.5s							
TOLK	**Toolik Lake Re**	**70.97**	**15**	P		**P**	**06 29 18.4**	**+1.2**
TOLK				IAmb	IAmb		06 29 22.1	
	comp=Z,2.3nm,1.1s							
F21K	**Alatna River**	**71.27**	**17**	P		**P**	**06 29 19.6**	**+0.6**
H23K	**Yukon River**	**73.33**	**16**	P		**P**	**06 29 32.6**	**+1.3**
MLY	**Manley**	**73.71**	**17**	P		**P**	**06 29 35.3**	**+1.7**
INK	**Inuvik**	**73.97**	**9**	P		**P**	**06 29 36.1**	**+1.1**
INK				IAmb	IAmb		06 30 07.6	
	comp=Z,5.9nm,1.4s							
INK	**Inuvik**	**73.97**	**9**	P		**P**	**06 29 35.7**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=333,slow=5.5,SNR=6.2							
	comp=Z,0.8nm,0.4s							
INK	**Inuvik**	**73.97**	**9**	P		**P**	**06 29 36.1**	**+1.1**
INK				pmax	pmax			
	comp=Z,6.0nm,1.4s							
ILAR	**Eielson Array**	**74.82**	**16**	P		**P**	**06 29 39.6**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=308,slow=6.0,SNR=4.2							
	comp=Z,0.4nm,0.8s							
TSUM	**Tsumeb**	**75.05**	**232**	LR		LR	07 03 52.0	
	comp=Z,41nm,18.6s,baz=167,slow=37							
J26L	**Joseph Creek**	**75.76**	**15**	P		**P**	**06 29 46.2**	**+0.8**
J26L				IAmb	IAmb		06 29 55.0	
	comp=Z,2.6nm,1.1s							
DHY	**Denali Highway**	**76.16**	**17**	P		**P**	**06 29 47.7**	**-0.1**
DHY				IAmb	IAmb		06 30 10.9	
	comp=Z,4.0nm,1.4s							
DAWY	**Dawson**	**76.97**	**13**	P		**P**	**06 29 53.0**	**+0.8**
BCAR	**Beaver Creek A**	**77.41**	**15**	P		**P**	**06 29 55.8**	**+1.1**
BOSA	**Boshof**	**77.83**	**220**	P		**P**	**06 29 57.8**	**+0.3**
BOSA	**Boshof**	**77.83**	**220**	P		**P**	**06 29 56.9**	**-0.6**
	comp=Z,2.8nm,0.7s,baz=104,slow=0.9,SNR=3.7							
	comp=Z,2.8nm,0.7s							
BOSA	**Boshof**	**77.83**	**220**	P		**P**	**06 29 57.8**	**+0.3**
BOSA				pmax	pmax			
	comp=Z,12nm,1.4s							
BARN	**Barnard Glacie**	**79.23**	**16**	P		**P**	**06 30 04.1**	**-0.9**
YKA	**Yellowknife Ar**	**81.34**	**3**	P		**P**	**06 30 17.1**	**+1.1**
YKA	**Yellowknife Ar**	**81.34**	**3**	P		**P**	**06 30 16.8**	**+0.8**
	comp=Z,0.8nm,0.6s,baz=348,slow=5.9,SNR=25							
	comp=Z,0.8nm,0.6s							
WRA	**Warramunga Arr**	**81.72**	**122**	P		**P**	**06 30 17.9**	**-0.7**
	comp=Z,0.6nm,0.9s,baz=324,slow=4.9,SNR=5.5							
	comp=Z,0.6nm,0.9s							
WRA	**Warramunga Arr**	**81.72**	**122**	*i* P		**P**	**06 30 20.0**	**+1.4**
ASAR	**Alice Springs**	**83.98**	**125**	P		**P**	**06 30 29.4**	**-0.8**
	comp=Z,0.3nm,0.4s,baz=305,slow=5.2,SNR=4.4							
	comp=Z,0.3nm,0.4s							
BBB	**Bella Bella**	**90.18**	**12**	LR		LR	07 17 16.4	
	comp=Z,2.3nm,18.7s,baz=196,slow=39							
PLCA	**Paso Flores**	**150.03**	**250**	PKPbc		**PKiKP**	**06 37 50.0**	**-0.4**
	comp=Z,2.3nm,1.0s,baz=12,slow=4.7,SNR=3.2							

*NAO **15** 06:30:42.7, 38°.22N×23°.79E, h33km, mb3.7*
*BEO **15** 06:31:01.6±0.7, 40°.04N×19°.58E, h6km±3km, ML3.6/7*
*PDG **15** 06:31:02.6±0.1, 40°.29N×19°.59E, h2km, ML3.6/11, Error ellipse: s-maj=0.3km s-min=0.3km az=90.0*
*IDC **15** 06:31:03.6±1.1, 40°.43N×19°.82E, h0km, mb3.6/9, mbtmp3.6/13, ML3.5/4, MS3.0/9, Error ellipse: s-maj=19.3km s-min=18.9km az=17.0*
*THE **15** 06:31:04.4, 40°.29N×19°.63E, h0km±2km, ML3.4/6, Error ellipse: s-maj=3.6km s-min=1.2km az=272.0*
*TIR **15** 06:31:04.4, 40°.29N×19°.79E, h22km±2km, Ml3.5*
*ATH **15** 06:31:05.9, 40°.23N×19°.81E, h2km, ML3.4/12, Manual Solution by A.Fokaefs This location: 2020/06/26 05:34:18 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 0 km*
*VIE **15** 06:31:07.4±0.6, 40°.27N×19°.46E, h20km, mb3.3/14, ms3.5/14, Error ellipse: s-maj=6.3km s-min=3.0km az=16.0*

ISC 15 06:31:03.5±1.2, 40°.20N±0°.02×19°.64E±0°.02, h6km±8km, n138, σ1°44/170, mb3.6/8, MS3.1/6, 18C-7D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SRN	**Sarande**	**0.43**	**139**	P	**Pn**	**06 31 13.2**	**-3.0**
	baz=158						
SRN				S	**Sb**	**06 31 20.9**	**+0.9**
	baz=158						
SRN				AMP			
	comp=E,9.0nm,0.3s,baz=158						
SRN	**Sarande**	**0.43**	**139**	P	**Pn**	**06 31 13.2**	**-3.0**
SRN				S	**Sb**	**06 31 21.0**	**+0.9**
	comp=E,12μm,0.5s						
KASA	**Kassiopi**	**0.51**	**153**	P	**Pn**	**06 31 15.2**	**-2.0**
KASA				S	**Sb**	**06 31 22.3**	**-0.1**
KRK1	**kERKIRA**	**0.62**	**160**	P	**Pn**	**06 31 17.6**	**-1.2**
LSK	**Leskovik**	**0.74**	**94**	P	**Pg**	**06 31 16.6**	**-1.2**
	baz=102						
LSK				S	**Sg**	**06 31 27.2**	**-0.2**
	baz=102						
LSK				AMP			
	comp=N,18nm,1.0s,baz=102						
IGT	**Igoumenitsa**	**0.86**	**141**	P	**Pn**	**06 31 21.5**	**-0.6**
	baz=150						
IGT				S	**Sn**	**06 31 35.1**	**+0.1**
	baz=150						
IGT				AMP			
	comp=N,3.5nm,0.2s,baz=150						
IGT	**Igoumenitsa**	**0.86**	**141**	P	**Pn**	**06 31 21.2**	**-0.9**
IGT				S	**Sn**	**06 31 36.5**	**+1.6**
	comp=N,1μm,0.6s						
IGT	**Igoumenitsa**	**0.86**	**141**	P	**Pn**	**06 31 21.5**	**-0.6**
SCTE	**Santa Cesarea**	**0.91**	**262**	P	Pn	06 31 24.8	+2.1
	baz=259						
SCTE				S	**Sn**	**06 31 38.8**	**+2.7**
	baz=259						
SCTE				AMP			
	comp=N,3.0nm,0.2s,baz=259						
SCTE	**Santa Cesarea**	**0.91**	**262**	P	Pn	06 31 25.9	+3.1
SCTE				S	**Sn**	**06 31 39.7**	**+3.6**
JAN	**Janina**	**1.08**	**120**	P	**Pn**	**06 31 26.5**	**+1.3**
NEST	**Nestorio**	**1.10**	**78**	P	**Pg**	**06 31 24.8**	**+0.1**
NEST	**Nestorio**	**1.10**	**78**	P	**Pg**	**06 31 24.7**	**+0.1**
NEST				S	**Sb**	**06 31 39.1**	**-0.5**
PENT	**Pentalofos**	**1.15**	**90**	P	**Pg**	**06 31 25.8**	**+0.2**
PENT				S	**Sb**	**06 31 38.8**	**-2.3**
TIR	**Tirane**	**1.16**	**9**	⇑P	**Pn**	**06 31 24.9**	**-1.3**
TIR	**Tirane**	**1.16**	**9**	P	**Pn**	**06 31 24.4**	**-1.8**
	baz=3.0						
TIR				S	**Sb**	**06 31 40.6**	**-0.5**
	baz=3.0						
TIR				AMP			
	comp=N,5.5nm,0.6s,baz=3.0						
TIR	**Tirane**	**1.16**	**9**	P	**Pn**	**06 31 24.7**	**-1.5**
TIR	**Tirane**	**1.16**	**9**	*e*Pg	**Pn**	**06 31 24.7**	**-1.5**
TIR				*e*Sg	**Sg**	**06 31 45.0**	**+4.2**
OHR	**Ohrid**	**1.27**	**44**	*e*Pg	**Pn**	**06 31 26.3**	**-1.5**
OHR				*e*Sg	**Sn**	**06 31 46.4**	**+1.2**
OHR	**Ohrid**	**1.27**	**44**	*i* Pn	**Pn**	**06 31 26.4**	**-1.4**
KPRO	**Kipourio**	**1.35**	**100**	P	**Pg**	**06 31 29.6**	**+0.2**
KPRO				S	**Sg**	**06 31 49.6**	**+2.7**
	comp=N,3μm,1.0s						
KPRO	**Kipourio**	**1.35**	**100**	P	**Pg**	**06 31 29.4**	**0.0**
FNA	**Florina**	**1.45**	**66**	P	**Pn**	**06 31 29.8**	**-0.5**
	baz=67						
FNA				S	**Sn**	**06 31 47.2**	**-2.5**
	baz=67						
FNA				AMP			
	comp=N,5.5nm,0.6s,baz=67						
FNA	**Florina**	**1.45**	**66**	*e*Pg	**Pn**	**06 31 29.3**	**-1.0**
FNA				*e*Sg	**Sg**	**06 31 51.8**	**+1.7**
ART2	**Arta**	**1.49**	**135**	P	Pg	06 31 33.5	+1.5
TSLK	**Tsoukalades, L**	**1.59**	**150**	P	Pg	06 31 34.7	+0.8
TSLK				S	**Sg**	**06 31 57.2**	**+2.7**
	comp=N,730nm,0.6s						
TSLK	**Tsoukalades, L**	**1.59**	**150**	P	Pg	06 31 34.7	+0.8
LKD2	**Lefkada island**	**1.62**	**150**	P	**Pg**	**06 31 35.1**	**+0.6**
	baz=155						
LKD2				S	**Sg**	**06 31 58.4**	**+2.8**
	baz=155						
LKD2				AMP			
	comp=N,1.5nm,0.3s,baz=155						
LKD2	**Lefkada island**	**1.62**	**150**	P	**Pg**	**06 31 35.1**	**+0.6**
LKD2				S	**Sg**	**06 31 57.0**	**+1.5**
	comp=N,702nm,0.5s						
LKD2	**Lefkada island**	**1.62**	**150**	P	**Pg**	**06 31 35.1**	**+0.6**
DRAG	**Dragano-Lefkad**	**1.68**	**154**	P	**Pg**	**06 31 35.8**	**+0.1**
NYDR	**Nydri-Lefkada**	**1.70**	**151**	P	**Pg**	**06 31 36.1**	**0.0**
EVGI	**Lefkada island**	**1.77**	**153**	P	**Pg**	**06 31 37.2**	**-0.2**
ULC	**Ulcinj**	**1.78**	**351**	*i* Pn	**Pn**	**06 31 34.8**	**-0.1**
ULC				*i* Sn	**Sn**	**06 31 59.3**	**+1.4**
PUK	**Puka**	**1.85**	**6**	P	**Pn**	**06 31 36.9**	**+1.0**
	baz=2.0						
PUK				S	**Sn**	**06 32 01.0**	**+1.5**
	baz=2.0						
PUK				AMP			
	comp=E,3.0nm,0.4s,baz=2.0						
FSK	**Fiskardo**	**1.88**	**157**	P	**Pg**	**06 31 38.2**	**-1.4**
THL	**Klokotos Trika**	**1.94**	**108**	P	**Pg**	**06 31 38.6**	**-2.1**
THL				S	**Sg**	**06 32 05.2**	**-0.6**
	comp=E,682nm,1.4s						
THL	**Klokotos Trika**	**1.94**	**108**	P	**Pg**	**06 31 38.6**	**-2.1**
DRME	**Dracevica, Mon**	**2.01**	**350**	*e*Pn	**Pn**	**06 31 38.2**	**+0.2**
DRME	**Dracevica, Mon**	**2.01**	**350**	⇓*i*Pn	**Pn**	**06 31 38.1**	**+0.1**
DRME				*i* Sn	**Sn**	**

SURR	**Surduc**	**5.84**	**17**	⇑P	**Pn**	**06 32 30.5**	**0.0**	
LOT	**Lotru**	**6.06**	**29**	⇑P	**Pn**	**06 32 33.4**	**-0.3**	
BOJS	**Bojanci**	**6.20**	**330**	*e*Pn	**Pn**	**06 32 36.1**	**+0.6**	
CRES	**Cresnjev**	**6.40**	**333**	*e*Pn	**Pn**	**06 32 38.3**	**0.0**	
IDI	**Anoyia**	**6.43**	**138**	Pn	**Pn**	**06 32 39.9**	**+1.1**	
	comp=E,0.9nm,0.3s,baz=329,slow=9.5,SNR=6.4							
IDI				Sn	**Sn**	**06 33 46.0**	**-6.6**	
	comp=E,0.2nm,0.3s,baz=349,slow=22,SNR=2.3							
CEY	**Cerknica**	**6.72**	**327**	*e*Pn	**Pn**	**06 32 43.4**	**+0.7**	
MLR	**Muntele Rosu**	**7.03**	**39**	⇑P	**Pn**	**06 32 48.3**	**+1.3**	
MLR	**Muntele Rosu**	**7.03**	**39**	Pn	**Pn**	**06 32 46.5**	**-0.5**	
	comp=E,0.1nm,0.3s,baz=150,slow=22,SNR=1.3							
MLR				LR	LR	06 36 26.8		
	comp=E,62nm,19.3s,baz=236,slow=48							
	comp=E,1.2nm,0.4s							
SOKA	**Soboth**	**7.29**	**334**	*e*Pn	**Pn**	**06 32 50.8**	**+0.3**	
	comp=E,1.1nm,0.2s							
SOKA				*e*Sn	**Sn**	**06 34 12.4**	**-1.1**	
	comp=E,9.0nm,0.6s							
OBKA	**Obir**	**7.31**	**331**	*i* Pn	**Pn**	**06 32 51.6**	**+0.7**	
	comp=E,2.3nm,0.5s							
OBKA				*e*Sn	**Sn**	**06 34 12.5**	**-1.7**	
	comp=E,5.9nm,0.6s							
OBKA	**Obir**	**7.31**	**331**	*e*Pn	**Pn**	**06 32 50.9**	**0.0**	
ARSA	**Arzberg**	**7.65**	**338**	*e*Pn	**Pn**	**06 32 55.6**	**+0.2**	
	comp=E,1.5nm,0.3s							
ARSA				*i* Sn	**Sn**	**06 34 23.6**	**+1.3**	
	comp=E,1.3nm,0.5s							
VRI	**Vrincioaia**	**7.68**	**40**	⇑P	**Pn**	**06 32 57.4**	**+1.6**	
MYKA	**Terra Mystica**	**7.76**	**328**	*e*Pn	**Pn**	**06 32 58.4**	**+1.4**	
	comp=E,0.8nm,0.2s							
MYKA				*e*Sn	**Sn**	**06 34 24.5**	**-0.8**	
	comp=E,2.4nm,0.3s							
KBA	**Koelnbreinsper**	**8.25**	**329**	*i* Pn	**Pn**	**06 33 04.5**	**+0.7**	
	comp=E,0.5nm,0.3s							
KBA				*e*Sn	**Sn**	**06 34 35.4**	**-1.8**	
	comp=E,1.3nm,0.3s							
ABTA	**Abfaltersbach**	**8.34**	**324**	*e*Pn	**Pn**	**06 33 06.1**	**+1.1**	
	comp=E,0.7nm,0.2s							
ABTA				*i* Sn	**Sn**	**06 34 38.5**	**-0.9**	
	comp=E,4.9nm,0.5s							
BIOA	**Bad Ischl, Aus**	**8.64**	**332**	*e*Pn	**Pn**	**06 33 10.0**	**+0.9**	
	comp=E,9.4nm,0.6s							
LESA	**Schwarzleotal**	**8.79**	**327**	*e*Pn	**Pn**	**06 33 11.7**	**+0.5**	
	comp=E,1.9nm,0.5s							
WTTA	**Wattenberg**	**9.12**	**323**	*e*Pn	**Pn**	**06 33 16.5**	**+0.6**	
	comp=E,3.3nm,0.3s							
WATA	**Walderalm**	**9.21**	**323**	*e*Pn	**Pn**	**06 33 17.7**	**+0.8**	
	comp=E,4.2nm,0.4s							
KEST	**Kesra**	**9.27**	**244**	LR	LR	06 37 46.4		
	comp=E,64nm,21.2s,baz=212,slow=42							
SQTA	**Sankt Quirin**	**9.29**	**322**	*e*Pn	**Pn**	**06 33 18.6**	**+0.6**	
	comp=E,2.4nm,0.3s							
FETA	**Feichten**	**9.38**	**319**	*e*Pn	**Pn**	**06 33 18.6**	**-0.7**	
	comp=E,1.1nm,0.4s							
MOTA	**Moosalm**	**9.43**	**322**	*e*Pn	**Pn**	**06 33 21.4**	**+1.4**	
	comp=E,0.5nm,0.3s							
GERES	**GERESS Array B**	**9.62**	**336**	Pn	**Pn**	**06 33 20.9**	**-1.6**	
	comp=E,0.6nm,0.3s,baz=120,slow=11,SNR=2.6							
	comp=E,0.6nm,0.4s							
DAVOX	**Davos/Dischmat**	**9.66**	**316**	Pn	**Pn**	**06 33 24.5**	**+1.3**	
	comp=E,0.4nm,0.3s,baz=141,slow=17,SNR=2.7							
DAVOX				Sn	**Sn**	**06 35 08.5**	**-3.6**	
	comp=E,0.2nm,0.3s,baz=318,slow=17,SNR=1.7							
	comp=E,1.7nm,0.4s							
ESDC	**Sonseca Array**	**18.10**	**276**	P	**P**	**06 35 18.9**	**+3.0**	
	comp=E,0.1nm,0.3s,baz=76,slow=11,SNR=5.6							
ESDC				LR	LR	06 41 31.4		
	comp=E,28nm,21.2s,baz=113,slow=34							
	comp=E,0.8nm,0.7s							
HFS	**Hagfors**	**20.30**	**351**	P	**P**	**06 35 39.5**	**-0.3**	
	comp=E,0.8nm,0.4s,baz=155,slow=11,SNR=4.7							
	comp=E,0.8nm,0.4s							
MDT	**Midelt**	**20.80**	**257**	LR	LR	06 42 56.6		
	comp=E,41nm,18.9s,baz=130,slow=34							
EKA	**Eskdalemuir Ar**	**21.39**	**323**	P	**P**	**06 35 52.2**	**+0.6**	
	comp=E,4.4nm,1.0s,baz=125,slow=9.9,SNR=10							
	comp=E,4.4nm,1.0s							
NB2	**NORSAR Subarra**	**21.50**	**349**	P	**P**	**06 35 54.9**	**+2.1**	
	comp=Z,2.6nm,0.9s,baz=155,slow=10							
NOA	**NORSAR Array B**	**21.50**	**349**	P	**P**	**06 35 52.6**	**-0.2**	
	comp=Z,1.1nm,0.8s,baz=160,slow=8.9,SNR=5.5							
	comp=Z,1.1nm,0.8s							
FINES	**FINESS Array B**	**21.63**	**8**	P	**P**	**06 35 51.0**	**-3.2**	
	comp=Z,1.9nm,0.9s,baz=194,slow=7.1,SNR=4.6							
	comp=Z,1.9nm,0.9s							
KIRV	**Kirov**	**26.38**	**36**	LR	LR	06 47 57.8		
	comp=Z,56nm,19.2s,baz=213,slow=39							
AKTO	**Aktyubinsk**	**28.57**	**56**	LR	LR	06 49 11.5		
	comp=Z,20nm,20.1s,baz=276,slow=38							
TORD	**Torodi Ar. Bea**	**31.23**	**215**	P	P	06 37 27.1	+3.3	
	comp=Z,0.5nm,0.8s,baz=40,slow=9.3,SNR=3.7							
	comp=Z,0.5nm,0.8s							
MKAR	**Makanchi Array**	**44.85**	**60**	P	**P**	**06 39 17.6**	**-0.8**	
	comp=Z,0.5nm,0.5s,baz=283,slow=6.1,SNR=6.6							
MKAR				LR	LR	07 01 31.3		
	comp=Z,18nm,18.8s,baz=246,slow=41							
	comp=Z,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**44.88**	**49**	P	**P**	**06 39 16.8**	**-1.6**	
	comp=Z,0.6nm,0.3s,baz=272,slow=8.2,SNR=1.8							
	comp=Z,0.6nm,0.3s							
SEY	**Seymchan**	**70.49**	**21**	LR	LR	07 18 12.9		
	comp=Z,20nm,18.5s,baz=185,slow=40							
YKA	**Yellowknife Ar**	**71.25**	**339**	P	**P**	**06 42 23.3**	**+0.2**	
	comp=Z,0.4nm,0.9s,baz=34,slow=6.9,SNR=5.6							
	comp=Z,0.4nm,0.9s							
MA2	**Magadan**	**72.72**	**24**	LR	LR	07 18 31.8		
	comp=Z,13nm,19.7s,baz=129,slow=39							
TXAR	**Lajitas Array**	**93.08**	**313**	P	**P**	**06 44 19.5**	**+1.0**	
	comp=Z,0.5nm,1.0s,baz=64,slow=2.9,SNR=4.0							
	comp=Z,0.5nm,1.0s							

SNET 15 06:32:47.0±0.7, 13°32N×87°99W, h2km±5km, ML2.5, 3C, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.10**	**96**	⇑*e*P	Pg	06 32 49.4	+0.5
LCND				*e*S	Sg	06 32 52.0	+1.7
INTP	**Intipuca**	**0.14**	**207**	⇑*e*P	Pg	06 32 47.9	-1.7
INTP				*e*S	Sg	06 32 49.6	-1.9
CNCH	**Conchagua**	**0.16**	**106**	⇑*e*P	Pg	06 32 50.1	0.0
CNCH				*e*S	Sg	06 32 53.0	+0.7
JUCU	**Jucuarˌn**	**0.26**	**255**	*e*P	Pg	06 32 51.7	-0.3
AMPH	**Amapala**	**0.33**	**96**	*e*P	Pg	06 32 53.2	-0.1

CATAC 15 06:33:27.2±1.3, 13°23N×87°99W, h13km±7km, ML2.3, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.12**	**49**	*i* P	Pb	06 33 31.6	+0.1
LCND				*i* S	Sb	06 33 34.5	+0.2
LCND				IAML		06 33 35.5	
	comp=Z,2µm,1.0s						
CNCH	**Conchagua**	**0.16**	**72**	*i* P	Pb	06 33 32.4	+0.3
CNCH				IAML		06 33 37.6	
	comp=Z,4µm,1.0s						
JUCU	**Jucuarˌn**	**0.26**	**276**	*i* P	Pb	06 33 34.0	+0.3
JUCU				*i* S	Sb	06 33 38.3	+0.2
JUCU				IAML		06 33 40.1	
	comp=Z,580nm,1.0s						
COEB	**Comit de Eme**	**0.59**	**297**	*i* P	Pg	06 33 38.5	-0.3
COEB				*i* S	Sb	06 33 49.0	+1.1
COEB				IAML		06 33 50.5	
	comp=Z,79nm,1.0s						

HVO 15 06:35:26.9±0.9, 19°.17N±0°.02×155°.45W±0°.01, h-1km±8km, ML3.1/12, ML3.2/38(NEIC), Error ellipse: s-maj=2.7km s-min=1.1km az=154.0

NEIC 15 06:35:28.0±0.7, 19°.18N±0°.01×155°.483W±0°.004, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.1km az=174.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HTC	**Hot Caves**	**0.10**	**55**		Pg	06 35 30.1	-0.1
KHU	**Kahuku**	**0.14**	**297**		Pg	06 35 31.7	+0.7
KHU				IAML		06 35 36.0	
	comp=N,5µm,0.4s						
KHU				IAML		06 35 36.2	
	comp=E,6µm,0.4s						
HLP	**Hilina Pali**	**0.20**	**55**		Pg	06 35 32.2	+0.1
HLP				IAML		06 35 36.4	
	comp=N,7µm,0.4s						
HLP				IAML		06 35 36.7	
	comp=E,5µm,0.3s						
SDHHI	**Sand Hill**	**0.27**	**41**		Pg	06 35 33.3	-0.1
SDHHI	**Sand Hill**	**0.27**	**41**	IAML		06 35 38.9	
	comp=E,7µm,0.6s						
SDHHI				IAML		06 35 41.2	
	comp=N,10µm,1.1s						
WRMHI	**West Rim**	**0.28**	**38**		Pg	06 35 33.4	-0.2
WRMHI	**West Rim**	**0.28**	**38**	IAML		06 35 34.7	
	comp=N,13µm,1.0s						
WRMHI				IAML		06 35 38.8	
	comp=E,15µm,0.7s						
KKO	**Keanakakoˌi**	**0.30**	**44**	IAML		06 35 36.3	
	comp=E,5µm,0.8s						
UWE	**Uwekahuna**	**0.30**	**37**		Pb	06 35 35.2	-0.7
UWE	**Uwekahuna**	**0.30**	**37**	IAML		06 35 36.2	
	comp=E,13µm,0.7s						
UWE				IAML		06 35 39.5	
	comp=N,10µm,0.9s						
PUH	**Pauahi**	**0.32**	**53**		Pg	06 35 33.7	-0.6
PUH	**Pauahi**	**0.32**	**53**	IAML		06 35 39.1	
	comp=E,3µm,0.6s						
PUH				IAML		06 35 42.3	
	comp=N,3µm,1.1s						
HATHI	**Halemaˈumaˈu T**	**0.32**	**41**	IAML		06 35 35.6	
	comp=E,7µm,0.7s						
MWH	**Mokuˈaweowe**	**0.32**	**340**	Pg	Pg	06 35 34.4	-0.1
MWH				IAML		06 35 45.7	
	comp=N,2µm,0.5s						
MLH	**Mauna Loa**	**0.32**	**16**	IAML		06 35 40.6	
	comp=E,3µm,0.7s						
MLH				IAML		06 35 44.9	
	comp=N,4µm,0.4s						
RSD	**Rainshed**	**0.34**	**35**	IAML		06 35 42.4	
	comp=N,4µm,0.9s						
RSD				IAML		06 35 43.0	
	comp=E,2µm,0.5s						
MLOA	**Mauna Loa Obse**	**0.36**	**346**	Pg	Pg	06 35 34.8	-0.4
MLOA				IAML		06 35 41.6	
	comp=N,1µm,0.4s						
STCH	**Steam Cracks**	**0.39**	**59**	IAML		06 35 41.0	
	comp=N,1µm,0.8s						
HMH	**Humuˈula Sheep**	**0.42**	**360**	IAML		06 35 43.4	
	comp=N,4µm,0.4s						
HMH				IAML		06 35 44.0	
	comp=E,3µm,0.2s						
CPH	**Captain Cook**	**0.51**	**307**		Pg	06 35 37.4	-0.5
POHA	**Pohakuloa**	**0.57**	**355**		Pg	06 35 38.6	-0.5
POHA	**Pohakuloa**	**0.57**	**355**	IAML		06 35 52.5	
	comp=E,3µm,0.5s						
POHA				IAML		06 35 52.5	
	comp=E,2µm,0.4s						
HUH	**Hualalai**	**0.60**	**326**		Pg	06 35 39.8	+0.1

NOU 15 06:36:49.9, 19°.37S×168°.00E, h0km, MLv3.9/9, Vanuatu Islands Region

IDC 15 06:36:50.6±1.1, 19°.33S×167°.83E, h0km, mb4.1/6, mbtmp4.1/7, ML3.9/1, MS3.2/2, Error ellipse: s-maj=35.1km s-min=26.0km az=140.0

NEIC 15 06:36:57.0±1.7, 19°.6S±0°.1×167°.8E±0°.1, h25km±6km, mb4.4/6, Error ellipse: s-maj=18.6km s-min=13.1km az=55.0

ISC 15 06:36:54.3±0.8, 19°.44S±0°.06×167°.93E±0°.10, h26km, n29, σ1s07/30, mb4.2/8, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LIFNC	**LIFOU**	**1.48**	**206**	P	**Pn**	**06 37 17.3**	**-2.0**
LIFNC	**LIFOU**	**1.48**	**206**		**Pn**	**06 37 17.5**	**-1.8**
DVP	**Devils Point**	**1.72**	**8**	P	**Pn**	**06 37 20.8**	**-1.7**
MARNC	**Mare, Loyalty**	**2.04**	**177**	P	**Pn**	**06 37 25.8**	**-1.1**
DZM	**Mont Dzumac**	**2.97**	**208**	P	**Pn**	**06 37 39.2**	**-0.6**
DZM	**Mont Dzumac**	**2.97**	**208**		**Pn**	**06 37 39.0**	**-0.8**
DZM	**Mont Dzumac**	**2.97**	**208**	Pn	**Pn**	**06 37 39.2**	**-0.6**
	15nm,0.3s,baz=220,slow=1.1,SNR=144						
DZM				Sn	**Sn**	**06 38 13.3**	**-1.4**
	27nm,0.3s,baz=133,slow=20,SNR=11						
DZM				LR	LR	06 38 18.9	
	comp=Z,206nm,20.2s,baz=22,slow=29						
	30nm,0.3s						
NOUC	**Port Laguerre**	**3.06**	**210**	P	**Pn**	**06 37 41.0**	**0.0**
OUENC	**Ouen Island, N**	**3.14**	**199**	P	**Pn**	**06 37 42.3**	**+0.2**
OUENC	**Ouen Island, N**	**3.14**	**199**		**Pn**	**06 37 42.3**	**+0.2**
ONTNC	**Ouen Toro**	**3.17**	**206**	P	**Pn**	**06 37 42.7**	**+0.1**
ONTNC	**Ouen Toro**	**3.17**	**206**		**Pn**	**06 37 42.6**	**0.0**
PINNC	**Pines Island,**	**3.19**	**188**	Pn	**Pn**	**06 37 42.3**	**-0.5**
PINNC					**Sn**	**06 38 17.7**	**-2.3**
KOUNC	**Koumac, New Ca**	**3.60**	**251**	P	**Pn**	**06 37 47.8**	**-0.7**
KOUNC	**Koumac, New Ca**	**3.60**	**251**		**Pn**	**06 37 48.1**	**-0.4**
STKA	**Stephens Creek**	**26.70**	**237**	LR	LR	06 51 56.2	
	comp=Z,100nm,18.5s,baz=35,slow=34						
WR0	**Warramunga Arr**	**31.41**	**263**	P	**P**	**06 43 13.2**	**-0.4**
WR0				IAmb	IAmb	06 43 15.9	
	comp=Z,8.5nm,1.2s						
WB2	**Warramunga Arr**	**31.59**	**263**	P	**P**	**06 43 15.2**	**0.0**
WRA	**Warramunga Arr**	**31.61**	**263**	P	**P**	**06 43 15.3**	**+0.1**
WRA	**Warramunga Arr**	**31.61**	**263**	P	**P**	**06 43 14.4**	**-0.9**
	comp=Z,1.1nm,0.6s,baz=86,slow=8.0,SNR=13						
	comp=Z,1.1nm,0.6s						
AS31	**Alice Springs**	**31.88**	**256**	P	**P**	**06 43 18.3**	**+0.6**
AS31				IAmb	IAmb	06 43 30.2	
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**31.88**	**256**	P	**P**	**06 43 18.6**	**+0.9**
ASAR	**Alice Springs**	**31.88**	**256**	P	**P**	**06 43 17.7**	**0.0**
	comp=Z,2.3nm,0.7s,baz=85,slow=8.2,SNR=25						
	comp=Z,2.3nm,0.7s						
FITZ	**Fitzroy Crossi**	**39.99**	**265**	P	**P**	**06 44 28.4**	**+1.2**
QSPA	**South Pole Qui**	**70.62**	**180**	P	**P**	**06 48 08.8**	**+1.5**
QSPA				IAmb	IAmb	06 48 09.5	
	comp=Z,4.3nm,0.9s						
QSPA	**South Pole Qui**	**70.62**	**180**	P	**P**	**06 48 08.8**	**+1.5**
	comp=Z,2.8nm,0.9s,baz=336,slow=2.3,SNR=8.0						
	comp=Z,2.8nm,0.9s						
SNAA	**Sanae**	**88.91**	**183**	P	**P**	**06 49 46.4**	**+0.3**
	comp=Z,2.0nm,0.8s,baz=238,slow=22,SNR=2.3						
	comp=Z,2.0nm,0.8s						
NVAR	**Mina Array Bea**	**89.86**	**49**	P	**P**	**06 49 52.4**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=235,slow=6.9,SNR=5.8						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**90.79**	**18**	P	**P**	**06 49 54.2**	**-0.5**
	comp=Z,0.4nm,0.8s,baz=236,slow=5.6,SNR=4.4						
	comp=Z,0.4nm,0.8s						

IDC 15 06:38:33.4±2.4, 24°.27S×179°.95W, h496km±23km, mb3.2/8, mbtmp4.0/9, Error ellipse: s-maj=21.6km s-min=20.9km az=68.0

ISC 15 06:38:33.9±0.7, 24°.4S±0°.1×179°.9W±0°.2, h505km, n18, σ0s92/21, mb3.5/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.09**	**190**	P	**P**	**06 41 34.2**	**-0.1**
	6.3nm,0.8s,baz=231,slow=14,SNR=1.3						
URZ				S	**S**	**06 44 01.9**	**-1.1**
	4.5nm,0.6s,baz=148,slow=22,SNR=7.0						
STKA	**Stephens Creek**	**34.62**	**249**	P	**P**	**06 44 40.4**	**0.0**
	2.3nm,0.5s,baz=81,slow=9.9,SNR=6.2						
	2.3nm,0.5s						
ASAR	**Alice Springs**	**42.04**	**261**	P	**P**	**06 45 40.6**	**-0.3**
	1.9nm,0.5s,baz=94,slow=6.8,SNR=18						
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**42.45**	**267**	P	**P**	**06 45 43.5**	**-0.7**
	5.2nm,0.5s,baz=98,slow=8.3,SNR=73						
WRA				ScP	**ScP**	**06 50 28.4**	**+0.2**
	0.6nm,0.8s,baz=92,slow=3.3,SNR=2.9						
	5.2nm,0.5s						
QSPA	**South Pole Qui**	**65.73**	**180**	P	**P**	**06 48 29.3**	**+1.3**
	0.9nm,0.6s,baz=221,slow=0.7,SNR=6.1						
	0.9nm,0.6s						
MAW	**Mawson**	**77.35**	**200**	P	**P**	**06 49 36.7**	**+1.0**
	0.7nm,0.5s,baz=155,slow=6.2,SNR=7.0						
	0.7nm,0.5s						
KSRS	**Korea Array**	**78.64**	**320**	P	**P**	**06 49 44.4**	**+1.2**
	0.8nm,0.6s,baz=126,slow=5.9,SNR=4.7						
	0.8nm,0.6s						
TXAR	**Lajitas Array**	**90.61**	**58**	P	**P**	**06 50 42.0**	**-0.4**
	0.1nm,0.6s,baz=242,slow=1.9,SNR=3.8						
	0.1nm,0.6s						
ILAR	**Eielson Array**	**92.45**	**14**	P	**P**	**06 50 49.8**	**-0.1**
	0.1nm,0.5s,baz=224,slow=5.0,SNR=1.1						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**120.83**	**319**	PKP	**PKPdf**	**06 56 27.4**	**-0.7**
	0.8nm,0.5s,baz=132,slow=6.4,SNR=2.9						
ARCES	**ARCESS Array B**	**132.35**	**348**	PKP	**PKPdf**	**06 56 49.2**	**-0.3**
	0.4nm,0.5s,baz=42,slow=2.8,SNR=4.5						
FINES	**FINESS Array B**	**138.90**	**341**	PKhKP	PKPpre	06 56 52.3	
	0.5nm,0.5s,baz=44,slow=5.8,SNR=5.2						
FINES				PKP	**PKPdf**	**06 57 01.9**	**0.0**
	0.4nm,0.5s,baz=82,slow=2.7,SNR=4.2						
FINES				SKPbc	**SKPbc**	**06 59 49.0**	**-0.1**
	1.0nm,0.8s,baz=76,slow=5.9,SNR=4.3						
HFS	**Hagfors**	**143.01**	**349**	PKP	**PKPdf**	**06 57 06.6**	**-2.7**
	3.8nm,0.4s,baz=67,slow=3.9,SNR=28						
AKASG	**Malin Array Be**	**145.39**	**327**	PKPbc	**PKPdf**	**06 57 14.2**	**+0.6**
	0.8nm,0.3s,baz=46,slow=3.6,SNR=8.2						
BRTR	**Keskin Array B**	**147.91**	**307**	PKPbc	**PKPbc**	**06 57 21.7**	**-0.5**
	1.2nm,0.6s,baz=167,slow=5.4,SNR=4.4						
MMAI	**Mount Meron Ar**	**147.95**	**294**	PKPbc	**PKPbc**	**06 57 23.2**	**+0.7**
	2.6nm,0.5s,baz=93,slow=5.9,SNR=5.3						
EKA	**Eskdalemuir Ar**	**148.97**	**4**	PKPbc	**PKPbc**	**06 57 24.0**	**-0.1**
	0.3nm,0.4s,baz=357,slow=3.3,SNR=4.8						
TORD	**Torodi Ar. Bea**	**168.75**	**188**	PKPab	**PKPab**	**06 58 56.9**	**0.0**
	0.3nm,0.6s,baz=191,slow=2.9,SNR=2.0						

IDC 15 06:43:05.1±2.5, 5°.93S×152°.39E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=182.4km s-min=31.4km az=128.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.40**	**230**	P	P	06 48 05.2	-0.3
	0.5nm,0.7s,baz=54,slow=9.9,SNR=2.2						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**25.05**	**223**	P	P	06 48 31.4	+0.1
	0.6nm,0.6s,baz=59,slow=9.0,SNR=5.8						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**83.35**	**22**	P	P	06 55 33.9	+0.1
	0.2nm,0.6s,baz=251,slow=5.6,SNR=4.7						
	0.2nm,0.6s						

IDC 15 06:57:57.0±4.8, 5°.65S×148°.32E, h0km, mb2.9/1, mbtmp3.0/2, ML3.1/1, Error ellipse: s-maj=175.0km s-min=53.6km az=111.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.66**	**222**	P	P	07 02 27.2	-0.4
	0.1nm,0.3s,baz=46,slow=11,SNR=1.9						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**22.66**	**216**	P	P	07 03 00.1	0.0
	0.2nm,0.5s,baz=56,slow=8.7,SNR=5.1						
	0.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**146.27**	**285**	PKPbc	PKPdf	07 17 40.0	+0.5
	0.2nm,0.5s,baz=62,slow=5.0,SNR=1.7						

IDC 15 06:59:19.3±2.9, 54°.13N×86°.48E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=22.6km s-min=13.5km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**260**	I	I	07 06 10.0	
	baz=79,slow=333,SNR=3.6						
ZALV	**Zalesovo Beam**	**1.00**	**260**	Pg	Pg	06 59 37.2	-1.2
	1.8nm,0.3s,baz=82,slow=17,SNR=14						
ZALV				Lg	Lg	06 59 52.6	
	2.3nm,0.3s,baz=78,slow=30,SNR=12						
ZALV				Rg	Rg	06 59 58.3	
	2.3nm,0.4s,baz=87,slow=30,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	07 00 50.6	+1.4
	0.2nm,0.3s,baz=54,slow=13,SNR=4.5						
	1.0nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	07 01 14.9	+0.8
	0.4nm,0.3s,baz=25,slow=14,SNR=5.1						
MKAR				Lg	Lg	07 03 27.4	
	baz=8.4,slow=30						
	0.4nm,0.3s						

IDC 15 07:00:01.2±3.6, 54°.41N×86°.87E, h0km, mbtmp3.1/2, ML2.7/1, Error ellipse: s-maj=31.3km s-min=18.5km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**250**	I	I	07 08 18.9	
	baz=68,slow=328,SNR=6.3						
ZALV	**Zalesovo Beam**	**1.29**	**250**	Pg	Pg	07 00 24.9	-1.0
	1.2nm,0.3s,baz=69,slow=16,SNR=4.3						
ZALV				Lg	Lg	07 00 42.9	
	2.2nm,0.3s,baz=70,slow=26,SNR=5.8						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	Pn	07 01 36.5	+0.5
	0.2nm,0.3s,baz=54,slow=14,SNR=3.1						
	1.3nm,0.4s						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	07 02 02.3	+1.4
	0.2nm,0.3s,baz=23,slow=12,SNR=1.6						

IDC 15 07:00:21.4±3.8, 55°.56N×86°.05E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=30.0km s-min=29.3km az=21.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.76**	**204**	I	I	07 12 30.0	
	0.1nm,0.8s,baz=24,slow=332,SNR=5.6						
ZALV	**Zalesov

PB06				IAML			07 04 33.8	
	comp=E,719nm,0.2s							
PB14	**IPOC Station P**	**2.22**	**260**	*i* P	**Pn**	**07 04 04.5**	**-0.3**	
PB14				*e*S	**Sn**	**07 04 32.1**	**-0.8**	
PB14				IAML		07 04 40.4		
	comp=Z,196nm,0.2s							
PB14	**IPOC Station P**	**2.22**	**260**	⇑*i* P	**Pn**	**07 04 04.4**	**-0.3**	
PB14				*i* S	**Sn**	**07 04 31.2**	**-1.7**	
PB10	**IPOC Station P**	**2.46**	**287**	Pn	**Pn**	**07 04 08.3**	**+0.9**	
PB10	**IPOC Station P**	**2.46**	**287**	*i* P	**Pn**	**07 04 07.0**	**-0.4**	
PB10				IAML		07 04 44.2		
	comp=Z,558nm,0.4s							
PB10	**IPOC Station P**	**2.46**	**287**	*e*P	**Pn**	**07 04 07.4**	**0.0**	
PB10				*i* S	**Sn**	**07 04 35.9**	**-1.7**	
HJA	**Humahuaca**	**2.59**	**67**	*i* P	**Pn**	**07 04 12.8**	**+3.3**	
HJA				IAML		07 04 48.8		
	comp=Z,14nm,0.6s							
PB09	**IPOC Station P**	**2.71**	**335**	*e*P	**Pn**	**07 04 12.4**	**+1.5**	
PB09				*i* S	**Sn**	**07 04 44.1**	**+0.3**	
PB09				IAML		07 05 01.2		
	comp=E,129nm,0.3s							
PB04	**IPOC Station P**	**2.76**	**314**	*i* P	**Pn**	**07 04 11.2**	**-0.3**	
PB04				IAML		07 04 55.4		
	comp=Z,336nm,0.2s							
PB04	**IPOC Station P**	**2.76**	**314**	⇑*i* P	**Pn**	**07 04 11.4**	**-0.1**	
PB04				*i* S	**Sn**	**07 04 43.2**	**-1.7**	
AC01	**Pan de Azucar**	**3.01**	**231**	Pn	**Pn**	**07 04 13.6**	**-0.9**	
AC01	**Pan de Azucar**	**3.01**	**231**	*i* P	**Pn**	**07 04 13.7**	**-0.9**	
AC01				IAML		07 04 58.7		
	comp=Z,99nm,0.3s							
AC01	**Pan de Azucar**	**3.01**	**231**	*e*P	**Pn**	**07 04 13.7**	**-0.9**	
PB07	**IPOC Station P**	**3.07**	**325**	*i* P	**Pn**	**07 04 15.4**	**-0.1**	
PB07				IAML		07 05 01.9		
	comp=Z,176nm,0.3s							
PB07	**IPOC Station P**	**3.07**	**325**	*e*P	**Pn**	**07 04 15.5**	**0.0**	
PB07				*i* S	**Sn**	**07 04 50.0**	**-2.1**	
YJA	**Yavi**	**3.09**	**48**	*i* P	**Pn**	**07 04 19.0**	**+3.0**	
PB02	**IPOC Station P**	**3.41**	**329**		**Pn**	**07 04 20.0**	**0.0**	
PB02	**IPOC Station P**	**3.41**	**329**	*i* P	**Pn**	**07 04 19.6**	**-0.4**	
PB02				IAML		07 05 07.1		
	comp=Z,399nm,0.4s							
PB02	**IPOC Station P**	**3.41**	**329**	*e*P	**Pn**	**07 04 20.0**	**0.0**	
AHML	**Horco Molle**	**3.48**	**137**	*i* P	**Pn**	**07 04 23.2**	**+2.4**	
AHML				IAML		07 05 23.9		
	comp=Z,5.2nm,0.6s							
PB01	**IPOC Station P**	**3.49**	**336**	*i* P	**Pn**	**07 04 20.8**	**-0.2**	
PB01				IAML		07 05 15.0		
	comp=Z,94nm,0.7s							
PB01	**IPOC Station P**	**3.49**	**336**	*e*P	**Pn**	**07 04 21.1**	**+0.1**	
AC06	**Mina Casimiro**	**3.74**	**214**		**Pn**	**07 04 23.3**	**-1.0**	
AC06	**Mina Casimiro**	**3.74**	**214**	*e*P	**Pn**	**07 04 23.2**	**-1.0**	
GO03	**Copiap**	**3.88**	**211**		**Pn**	**07 04 25.4**	**-0.7**	
GO03	**Copiap**	**3.88**	**211**	*i* P	**Pn**	**07 04 25.3**	**-0.8**	
PATCX	**Punta Patache**	**3.96**	**329**		**Pn**	**07 04 27.0**	**-0.3**	
PATCX	**Punta Patache**	**3.96**	**329**	*i* P	**Pn**	**07 04 26.8**	**-0.5**	
PATCX				IAML		07 05 25.8		
	comp=Z,106nm,0.5s							
TA01	**Diego Aracena**	**4.20**	**331**	Pn	**Pn**	**07 04 30.4**	**+0.1**	
PB08	**IPOC Station P**	**4.24**	**345**	*i* P	**Pn**	**07 04 31.1**	**-0.1**	
PB08				IAML		07 06 00.8		
	comp=Z,21nm,0.4s							
HMBC	**Humberstone**	**4.33**	**336**		**Pn**	**07 04 32.5**	**+0.3**	
HMBC	**Humberstone**	**4.33**	**336**	*i* P	**Pn**	**07 04 31.6**	**-0.7**	
HMBC				IAML		07 05 35.2		
	comp=Z,54nm,0.3s							
GO01	**Chusmiza**	**4.71**	**346**	*i* P	**Pn**	**07 04 37.6**	**0.0**	
PB11	**IPOC Station P**	**4.74**	**341**	*i* P	**Pn**	**07 04 37.0**	**-0.7**	
PB11				IAML		07 06 05.7		
	comp=Z,38nm,0.4s							
AC04	**Llanos de Chal**	**4.80**	**214**	Pn	**Pn**	**07 04 36.1**	**-2.2**	
AC05	**El Transito**	**4.99**	**204**	Pn	**Pn**	**07 04 40.1**	**-0.9**	
AC05	**El Transito**	**4.99**	**204**	*i* P	**Pn**	**07 04 40.0**	**-1.0**	
AC05				IAML		07 05 40.2		
	comp=Z,39nm,0.6s							
AGUA	**GUANDACOL**	**5.22**	**185**	*i* P	**Pn**	**07 04 44.3**	**+0.2**	
AGUA				IAML		07 05 45.6		
	comp=Z,28nm,0.4s							
LCO	**Las Campanas**	**5.31**	**207**	Pn	**Pn**	**07 04 43.6**	**-1.8**	
LCO	**Las Campanas**	**5.31**	**207**	*i* P	**Pn**	**07 04 43.9**	**-1.6**	
CO05	**La Serena**	**6.33**	**206**	Pn	**Pn**	**07 04 55.5**	**-3.4**	
CO03	**El Pedregal**	**6.97**	**199**	Pn	**Pn**	**07 05 05.4**	**-2.3**	
LPAZ	**La Paz**	**7.94**	**359**	Pn	**Pn**	**07 05 23.2**	**+1.9**	
LPAZ	**La Paz**	**7.94**	**359**	P	**Pn**	**07 05 21.9**	**+0.7**	
	comp=Z,1.4nm,0.5s,baz=89,slow=4.2,SNR=16							
LPAZ				S	**Sn**	**07 06 49.3**	**-0.5**	
	comp=Z,0.7nm,0.5s,baz=238,slow=9.7,SNR=1.2							
LPAZ	**La Paz**	**7.94**	**359**	*e*P	**Pn**	**07 05 21.5**	**+0.3**	
BBRB	**Robore, Bolivi**	**9.68**	**54**	*e*P	**Pn**	**07 05 42.6**	**-1.6**	
BBSD	**Serra de San D**	**9.86**	**46**	*e*P	**Pn**	**07 05 45.7**	**-1.0**	
CPUP	**Villa Florida**	**9.87**	**104**	Pn	**Pn**	**07 05 46.3**	**-0.4**	
CPUP	**Villa Florida**	**9.87**	**104**	P	**Pn**	**07 05 46.1**	**-0.6**	
	comp=Z,1.1nm,0.6s,baz=282,slow=12,SNR=6.2							
CPUP	**Villa Florida**	**9.87**	**104**	*e*P	**Pn**	**07 05 43.0**	**-3.7**	
MURT	**Porto Murtinho**	**9.91**	**77**	*e*P	**Pn**	**07 05 45.6**	**-1.8**	
SIV	**San Ignacio**	**10.49**	**40**	P	**Pn**	**07 05 52.8**	**-2.3**	
	comp=Z,12nm,0.5s,baz=225,slow=10,SNR=45							
SIV				S	**Sn**	**07 07 43.2**	**-7.6**	
	comp=Z,0.8nm,0.6s,baz=267,slow=14,SNR=1.5							
BDQN	**Bodoquena, MS**	**11.08**	**72**	*e*P	**Pn**	**07 06 00.3**	**-2.6**	
ITQB	**Itaqui**	**11.48**	**120**	*e*P	**Pn**	**07 06 06.2**	**-2.0**	
AMBA	**Amambai (Brazi**	**12.00**	**86**	*e*P	**Pn**	**07 06 13.9**	**-1.3**	
PTLB	**Pontes e Lacer**	**12.09**	**45**	Pn	**Pn**	**07 06 15.0**	**-1.4**	
PTLB	**Pontes e Lacer**	**12.09**	**45**	*e*P	**Pn**	**07 06 15.3**	**-1.0**	
VILB	**Vilhena**	**13.45**	**35**	Pn	**Pn**	**07 06 34.4**	**+0.3**	
VILB	**Vilhena**	**13.45**	**35**	*e*P	**Pn**	**07 06 34.1**	**0.0**	
SALV	**Santo Antonio**	**14.23**	**57**	*e*P	**Pn**	**07 06 44.2**	**+0.1**	
CPSB	**Cacapava Do Su**	**14.31**	**119**	*e*P	**Pn**	**07 06 42.6**	**-2.3**	
PTGB	**Pitanga**	**14.52**	**95**	*e*P	**Pn**	**07 06 48.9**	**+1.2**	
ITAB	**Concordia**	**14.60**	**105**	P	**P**	**07 06 51.7**	**0.0**	
ITAB	**Concordia**	**14.60**	**105**	*e*P	**Pn**	**07 06 49.6**	**+0.9**	
TRQA	**Tornquist**	**14.68**	**161**	P	**Pn**	**07 06 50.4**	**+0.8**	
PLTB	**Pedras Altas**	**14.74**	**124**	*e*P	**Pn**	**07 06 49.4**	**-0.9**	
PDRB	**Porto dos Gac**	**16.51**	**42**	*e*P	**P**	**07 07 13.3**	**+0.4**	
VAO	**Valinhos**	**19.31**	**91**	P	**P**	**07 07 43.7**	**+0.1**	
IPMB	**Ipameri, GO**	**19.48**	**75**	*e*P	**P**	**07 07 45.9**	**+0.4**	
SNDB	**Serra Nova Dou**	**20.01**	**55**	*e*P	**P**	**07 07 50.4**	**-0.8**	
BDFB	**Brasilia**	**20.63**	**69**	P	**P**	**07 07 58.2**	**+0.3**	
BDFB				IAmb	IAmb	07 07 59.1		
	comp=Z,12nm,0.9s							
BDFB	**Brasilia**	**20.63**	**69**	P	**P**	**07 07 57.6**	**-0.3**	
	comp=Z,5.6nm,0.4s,baz=240,slow=11,SNR=16							
	comp=Z,5.6nm,0.4s							
TXAR	**Lajitas Array**	**63.37**	**325**	P	**P**	**07 13 45.8**	**+1.4**	
	comp=Z,0.2nm,0.6s,baz=150,slow=6.7,SNR=4.4							
	comp=Z,0.2nm,0.6s							
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**07 14 02.2**	**+1.5**	
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**07 14 02.8**	**+2.1**	
	comp=Z,1.3nm,0.5s,baz=316,slow=1.1,SNR=19							
	comp=Z,1.3nm,0.5s							
TOA0	**Torodi Ar. Sit**	**77.51**	**69**	P	**P**	**07 15 10.8**	**+0.3**	
TOA0				IAmb	IAmb	07 15 18.0		
	comp=Z,8.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**77.51**	**69**	P	**P**	**07 15 10.8**	**+0.3**	
TORD	**Torodi Ar. Bea**	**77.51**	**69**	P	**P**	**07 15 11.6**	**+1.1**	
	comp=Z,0.4nm,0.4s,baz=266,slow=5.8,SNR=7.6							
	comp=Z,0.4nm,0.4s							
YKA	**Yellowknife Ar**	**94.06**	**340**	P	**P**	**07 16 33.1**	**+1.4**	
	comp=Z,0.2nm,0.6s,baz=128,slow=4.1,SNR=6.0							
	comp=Z,0.2nm,0.6s							
WRA	**Warramunga Arr**	**130.97**	**208**	PKP	**PKiKP**	**07 22 26.8**	**+0.1**	
	comp=Z,0.6nm,0.9s,baz=146,slow=1.6,SNR=1.7							
ZALV	**Zalesovo Beam**	**144.05**	**27**	PKP	**PKPdf**	**07 22 48.8**	**+0.2**	
	comp=Z,0.5nm,0.3s,baz=328,slow=5.3,SNR=3.8							
MKAR	**Makanchi Array**	**147.30**	**39**	PKPbc	**PKiKP**	**07 22 59.0**	**-0.2**	
	comp=Z,0.7nm,0.6s,baz=289,slow=3.0,SNR=6.0							

IDC 15 07:05:21.2±3.6, 53°.54N×87°.56E, h0km, mbtmp2.6/2, ML2.2/1, Error ellipse: s-maj=34.3km s-min=18.0km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.68**	**285**	I	I	07 15 49.7	
	0.1nm,0.8s,baz=103,slow=333,SNR=6.7						
ZALV	**Zalesovo Beam**	**1.68**	**285**	Pg	Pn	07 05 51.8	0.0
	0.6nm,0.3s,baz=103,slow=15,SNR=5.7						
ZALV				Lg	Lg	07 06 14.0	
	0.3nm,0.3s,baz=101,slow=30,SNR=1.7						
KURBB	**Kurchatov Arra**	**6.29**	**246**	Pn	Pn	07 06 55.9	+0.9
	0.3nm,0.3s,baz=58,slow=8.7,SNR=1.2						
MKAR	**Makanchi Array**	**7.55**	**209**	Pn	Pn	07 07 13.4	+0.9
	baz=26,slow=13,SNR=1.4						
	0.1nm,0.4s						

IDC 15 07:09:13.3±3.0, 53°.55N×87°.59E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=26.1km s-min=14.3km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.69**	**285**	I	I	07 20 40.0	
	0.2nm,0.9s,baz=101,slow=328,SNR=12						
ZALV	**Zalesovo Beam**	**1.69**	**285**	Pg	Pn	07 09 43.9	-0.2
	0.7nm,0.3s,baz=101,slow=15,SNR=8.9						
ZALV				Lg	Lg	07 10 06.7	
	1.4nm,0.3s,baz=100,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.31**	**246**	Pn	Pn	07 10 48.6	+1.2
	baz=61,slow=14,SNR=4.5						
KURBB				Lg	Lg	07 12 32.1	
	baz=62,slow=32,SNR=2.2						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**7.57**	**209**	Pn	Pn	07 11 06.0	+1.0
	0.2nm,0.3s,baz=29,slow=15,SNR=5.7						
MKAR				Sn	Sn	07 12 31.1	-0.3
	0.1nm,0.3s,baz=34,slow=26,SNR=5.2						
MKAR				Lg	Lg	07 13 11.9	
	0.1nm,0.3s,baz=35,slow=28,SNR=8.6						
	0.3nm,0.3s						

IDC 15 07:11:39.3±6.5, 20°.48S×178°.14W, h466km±74km, mb3.1/9, mbtmp3.9/10, Error ellipse: s-maj=28.1km s-min=23.9km az=20.0

ISC 15 07:11:45.0±0.8, 20°.6S±0°.2×178°.2W±0°.2, h534km, n13, σ1°11/11, mb3.5/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.03**	**192**	P	**P**	**07 15 22.1**	**-1.6**
	2.2nm,0.3s,baz=77,slow=22,SNR=1.4						
ASAR	**Alice Springs**	**44.29**	**257**	P	**P**	**07 19 07.9**	**+0.3**
	0.8nm,0.5s,baz=96,slow=8.0,SNR=12						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**44.38**	**262**	P	**P**	**07 19 07.8**	**-0.5**
	0.7nm,0.4s,baz=96,slow=7.5,SNR=18						
	0.7nm,0.4s						
QSPA	**South Pole Qui**	**69.44**	**180**	P	**P**	**07 22 00.3**	**+1.0**
	0.7nm,0.6s,baz=281,slow=0.6,SNR=6.8						
	0.7nm,0.6s						
PETK	**Petropavlovsk-**	**76.34**	**345**	P	**P**	**07 22 38.2**	**-0.6**
	1.9nm,0.7s,baz=140,slow=7.8,SNR=3.7						
	1.9nm,0.7s						
NVAR	**Mina Array Bea**	**81.26**	**43**	P	**P**	**07 23 06.2**	**+0.5**
	0.4nm,0.7s,baz=217,slow=7.4,SNR=3.4						
	0.4nm,0.7s						
TXAR	**Lajitas Array**	**87.30**	**57**	P	**P**	**07 23 36.0**	**+0.6**
	0.2nm,0.8s,baz=247,slow=4.7,SNR=2.2						
	0.2nm,0.8s						
ILAR	**Eielson Array**	**88.48**	**13**	P	**P**	**07 23 38.9**	**-1.1**
	0.8nm,0.8s,baz=215,slow=5.2,SNR=12						
	0.8nm,0.8s						
PDAR	**Pinedale Array**	**89.20**	**43**	P	**P**	**07 23 44.0**	**-0.1**
	0.4nm,0.6s,baz=254,slow=5.5,SNR=2.6						
	0.4nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.96**	**290**	P	**P**	**07 23 49.6**	**+1.7**
	0.5nm,0.3s,baz=101,slow=4.7,SNR=1.4						
	0.5nm,0.3s						
HFS	**Hagfors**	**139.63**	**351**	PKhKP	PKPpre	07 30 05.0	
	0.4nm,0.4s,baz=349,slow=3.1,SNR=1.9						
AKASG	**Malin Array Be**	**143.03**	**331**	PKhKP	PKPpre	07 30 13.4	
	1.3nm,0.5s,baz=42,slow=4.1,SNR=12						
BRTR	**Keskin Array B**	**146.77**	**312**	PKPbc	**PKPbc**	**07 30 26.8**	**-0.8**
	0.5nm,0.5s,baz=173,slow=3.6,SNR=2.6						

NEIC 15 07:16:51.6±0.8, 19°.349N±0°.008×155°.20W±0°.01, h5km±1km, Error ellipse: s-maj=2.6km s-min=2.0km az=130.0

HVO 15 07:16:51.0±1.1, 19°.34N±0°.01×155°.19W±0°.01, h1km±7km, Md2.5/25, ML2.7/38(NEIC), Error ellipse: s-maj=2.0km s-min=1.4km az=156.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.04**	**329**		Pg	07 16 52.9	+1.0
KNHH	**Kane Nui o Ham**	**0.05**	**31**		Pg	07 16 53.0	+1.0
STCH	**Steam Cracks**	**0.08**	**56**		Pg	07 16 53.4	+0.7
KKO	**Keanakako`i**	**0.09**	**310**	Pg	Pg	07 16 52.9	+0.1
KKO				IAML		07 16 54.8	
	comp=N,5μm,0.9s						
				IAML		07 16 55.5	
	comp=E,5μm,0.6s						
RIM	**Rim**	**0.09**	**306**		Pg	07 16 53.7	+0.8
RIM	**Rim**	**0.09**	**306**	IAML		07 16 54.0	
	comp=N,6μm,0.8s						
RIM				IAML		07 16 56.0	
	comp=E,6μm,0.3s						
NPOC	**North of Pu'u**	**0.10**	**57**		Pg	07 16 53.5	+0.6
NPOC	**North of Pu'u**	**0.10**	**57**	IAML		07 16 56.0	
	comp=E,933nm,0.6s						
NPOC				IAML		07 16 56.1	
	comp=N,1μm,0.6s						
JCUZ	**Jacuzzi**	**0.10**	**63**		Pg	07 16 53.7	+0.7
JCUZ	**Jacuzzi**	**0.10**	**63**	IAML		07 16 55.8	
	comp=N,691nm,0.5s						
JCUZ				IAML		07 16 55.9	
	comp=E,1μm,0.6s						
HATHI	**Halema'uma'u T**	**0.10**	**323**		Pg	07 16 53.8	+0.7
HATHI	**Halema'uma'u T**	**0.10**	**323**	IAML		07 16 54.2	
	comp=N,4μm,1.0s						
HATHI				IAML		07 16 56.0	
	comp=E,6μm,0.9s						
SDHHI	**Sand Hill**	**0.11**	**298**	Pg	Pg	07 16 52.8	-0.3
SDHHI				IAML		07 16 56.3	
	comp=E,5μm,0.5s						
SDHHI				IAML		07 16 56.3	
	comp=N,5μm,0.4s						
HLP	**Hilina Pali**	**0.12**	**248**	Pg	Pg	07 16 54.1	+0.8
HLP				IAML		07 16 56.7	
	comp=N,4μm,0.2s						
HLP				IAML		07 16 56.8	
	comp=E,4μm,0.6s						
RSD	**Rainshed**	**0.15**	**327**	Pg	Pg	07 16 52.8	-1.1
RSD				IAML		07 16 57.1	
	comp=E,1μm,0.6s						
RSD				IAML		07 16 58.5	
	comp=N,2μm,0.7s						
MLH	**Mauna Loa**	**0.24**	**310**		Sg	07 17 00.5	+1.7
MLH	**Mauna Loa**	**0.24**	**310**	Pg	Pg	07 16 55.7	+0.1
MLH	**Mauna Loa**	**0.24**	**310**	IAML		07 17 03.0	
	comp=E,855nm,1.1s						
MLH				IAML		07 17 03.1	
	comp=N,1μm,1.4s						
HMH	**Humu'ula Sheep**	**0.38**	**314**		Pg	07 16 58.5	+0.2
HMH	**Humu'ula Sheep**	**0.38**	**314**	IAML		07 17 05.4	
	comp=N,2μm,0.3s						
HMH				IAML		07 17 05.4	
	comp=E,2μm,0.7s						
MWH	**Moku'aweowe**	**0.41**	**291**		Pg	07 16 59.1	+0.2
MWH	**Moku'aweowe**	**0.41**	**291**	IAML		07 17 06.4	
	comp=E,2μm,0.8s						
MWH				IAML		07 17 06.5	
	comp=N,3μm,0.3s						
KHU	**Kahuku**	**0.41**	**257**	IAML		07 17 05.9	
	comp=N,976nm,0.6s						
KHU				IAML		07 17 06.3	
	comp=E,640nm,0.5s						
KHU	**Kahuku**	**0.41**	**257**		Pg	07 16 59.2	+0.3
KHU					Sg	07 17 05.3	+1.1
MLOA	**Mauna Loa Obse**	**0.41**	**299**		Pg	07 16 59.5	+0.6
MLOA					Sg	07 17 05.7	+1.4
MLOA	**Mauna Loa Obse**	**0.41**	**299**	IAML		07 17 05.9	
	comp=N,1μm,0.4s						
MLOA				IAML		07 17 06.2	
	comp=E,2μm,0.6s						
ALEP	**Alea Permanent**	**0.47**	**295**		Pg	07 16 59.9	-0.2
POHA	**Pohakuloa**	**0.52**	**323**		Sg	07 17 08.5	+0.6
POHA	**Pohakuloa**	**0.52**	**323**	Pg	Pg	07 17 00.8	-0.3
POHA				IAML		07 17 08.8	
	comp=E,1μm,0.4s						
POHA				IAML		07 17 09.7	
	comp=E,736nm,0.4s						
HUH	**Hualalai**	**0.69**	**300**		Pg	07 17 04.1	-0.3
CPH	**Captain Cook**	**0.70**	**282**		Pg	07 17 03.9	-0.5
HPAH	**Hawaii Prepara**	**0.83**	**325**		Sg	07 17 17.5	-0.4
HPAH	**Hawaii Prepara**	**0.83**	**325**	Pg	Pg	07 17 05.7	-1.4
HPAH	**Hawaii Prepara**	**0.83**	**325**	IAML		07 17 24.9	
	comp=E,204nm,1.0s						
HPAH				IAML		07 17 27.8	
	comp=N,150nm,1.6s						

NEIC 15 07:23:06.9±1.2, 19°.350N±0°.005×155°.244W±0°.009, h5km±2km, Error ellipse: s-maj=1.5km s-min=0.6km az=111.0

HVO 15 07:23:06.2±1.1, 19°.356N±0°.009×155°.235W±0°.009, h1km±4km, ML2.7/6, ML2.4/44(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.03**	**45**		Pg	07 23 07.2	+0.4
KKO	**Keanakako`i**	**0.05**	**325**	IAML		07 23 07.5	
	comp=N,4μm,1.2s						
KKO				IAML		07 23 08.1	
	comp=E,4μm,0.8s						
KKO	**Keanakako`i**	**0.05**	**325**		Pg	07 23 09.5	+2.3
RIM	**Rim**	**0.05**	**317**	IAML		07 23 08.0	
	comp=N,5μm,0.8s						
RIM				IAML		07 23 08.4	
	comp=E,4μm,0.9s						
RIM	**Rim**	**0.05**	**317**		Pg	07 23 09.4	+2.1
BYL	**Byron's Ledge**	**0.06**	**337**		Sg	07 23 09.5	+1.2
BYL	**Byron's Ledge**	**0.06**	**337**	Pg	Pg	07 23 07.6	+0.2
BYL				IAML		07 23 08.9	
	comp=N,2μm,1.0s						
BYL				IAML		07 23 09.2	
	comp=E,5μm,0.9s						
SDHHI	**Sand Hill**	**0.07**	**301**		Pg	07 23 09.9	+2.4
KNHH	**Kane Nui o Ham**	**0.07**	**69**		Pg	07 23 08.2	+0.7
HATHI	**Halema'uma'u T**	**0.07**	**340**		Pg	07 23 08.5	+0.8
HATHI	**Halema'uma'u T**	**0.07**	**340**	IAML		07 23 09.2	
	comp=N,3μm,1.1s						
HATHI				IAML		07 23 09.5	
	comp=E,4μm,0.9s						
NPH	**North Pit**	**0.07**	**322**	IAML		07 23 08.0	
	comp=N,2μm,0.8s						
NPH				Pg	Pg	07 23 08.0	+0.4
NPH				IAML		07 23 10.1	
	comp=E,2μm,0.2s						
NPH	**North Pit**	**0.07**	**322**		Sg	07 23 10.0	+1.3
OBL	**Observatory Le**	**0.08**	**323**	Pg	Pg	07 23 07.9	+0.2
SBLHI	**Steaming Bluff**	**0.08**	**336**		Pg	07 23 08.4	+0.6
SBLHI				IAML		07 23 09.7	
	comp=E,3μm,1.0s						
SBLHI				IAML		07 23 09.7	
	comp=N,4μm,0.9s						
WRMHI	**West Rim**	**0.08**	**310**		Pg	07 23 08.7	+0.9
WRMHI	**West Rim**	**0.08**	**310**	IAML		07 23 08.8	
	comp=N,5μm,0.9s						
WRMHI				IAML		07 23 08.8	
	comp=E,10μm,0.6s						
UWB	**Uwekahuna B**	**0.08**	**329**	Pg	Pg	07 23 08.0	+0.2
UWB				IAML		07 23 10.3	
	comp=E,2μm,0.8s						
UWB				IAML		07 23 10.5	
	comp=N,3μm,0.4s						
UWE	**Uwekahuna**	**0.09**	**320**	Pg	Pg	07 23 08.0	+0.1
HLP	**Hilina Pali**	**0.09**	**229**	Pg	Pg	07 23 09.0	+1.0
HLP				IAML		07 23 09.6	
	comp=E,1μm,1.3s						
HLP				IAML		07 23 10.6	
	comp=N,2μm,0.8s						
STCH	**Steam Cracks**	**0.11**	**74**		Pg	07 23 09.1	+0.8
STCH	**Steam Cracks**	**0.11**	**74**	IAML		07 23 09.5	
	comp=N,367nm,1.0s						
STCH				IAML		07 23 11.3	
	comp=E,389nm,0.4s						
RSD	**Rainshed**	**0.11**	**339**	Pg	Pg	07 23 09.0	+0.6
RSD				IAML		07 23 09.6	
	comp=N,1μm,0.8s						
RSD				IAML		07 23 11.6	
	comp=E,1μm,0.9s						
NPOC	**North of Pu'u**	**0.12**	**73**	Pg	Pg	07 23 08.9	+0.3
JCUZ	**Jacuzzi**	**0.13**	**77**	Pg	Pg	07 23 09.2	+0.5
HTC	**Hot Caves**	**0.19**	**233**		Pg	07 23 10.8	+0.8
MLH	**Mauna Loa**	**0.20**	**314**	IAML		07 23 10.8	
	comp=N,861nm,0.9s						
MLH	**Mauna Loa**	**0.20**	**314**		Pg	07 23 11.0	+1.0
JOKA	**Jonika Flow**	**0.23**	**70**		Pg	07 23 11.0	+0.3
HMH	**Humu'ula Sheep**	**0.34**	**316**	IAML		07 23 24.0	
	comp=E,387nm,2.0s						
HMH	**Humu'ula Sheep**	**0.34**	**316**		Pg	07 23 13.4	+0.7
HMH					Sg	07 23 18.9	+1.7
MWH	**Moku'aweowe**	**0.36**	**291**		Pg	07 23 14.3	+1.0
MWH	**Moku'aweowe**	**0.36**	**291**	IAML		07 23 22.4	
	comp=N,756nm,0.9s						
MWH				IAML		07 23 22.4	
	comp=E,896nm,0.9s						
KHU	**Kahuku**	**0.38**	**253**		Pg	07 23 14.2	+0.8
KHU	**Kahuku**	**0.38**	**253**	IAML		07 23 21.1	
	comp=N,352nm,1.3s						
KHU				IAML		07 23 21.8	
	comp=E,471nm,2.1s		

HATHI	**Halema'uma'u T**	**0.29**	**280**	IAML			07 33 08.7		
	comp=E,6μm,0.8s								
KKO	**Keanakako`i**	**0.29**	**275**	Pg	Pg	Pg	07 33 04.9	-0.8	
KKO				IAML			07 33 13.7		
	comp=E,4μm,0.9s								
SBLHI	**Steaming Bluff**	**0.30**	**280**			Pg	07 33 05.7	0.0	
SBLHI	**Steaming Bluff**	**0.30**	**280**	IAML			07 33 10.6		
	comp=N,5μm,0.8s								
SBLHI				IAML			07 33 15.3		
	comp=E,5μm,0.7s								
RIM	**Rim**	**0.30**	**274**	Pg	Pg	Pg	07 33 05.2	-0.6	
RIM				IAML			07 33 16.2		
	comp=E,4μm,1.1s								
RSD	**Rainshed**	**0.32**	**286**			Pg	07 33 06.5	+0.3	
RSD						Sg	07 33 11.4	+1.0	
RSD	**Rainshed**	**0.32**	**286**	IAML			07 33 12.4		
	comp=E,2μm,0.6s								
RSD				IAML			07 33 13.3		
	comp=N,3μm,0.4s								
SDHHI	**Sand Hill**	**0.32**	**273**	Pg	Pg	Pg	07 33 06.0	-0.1	
HLP	**Hilina Pali**	**0.34**	**257**			Pg	07 33 06.6	0.0	
HLP						Sg	07 33 12.0	+0.9	
HLP	**Hilina Pali**	**0.34**	**257**	IAML			07 33 12.4		
	comp=E,3μm,0.3s								
HLP				IAML			07 33 17.4		
	comp=N,2μm,0.4s								
MLH	**Mauna Loa**	**0.42**	**287**			Sg	07 33 14.7	+1.0	
MLH	**Mauna Loa**	**0.42**	**287**			Pg	07 33 07.9	-0.2	
MLH				IAML			07 33 16.2		
	comp=E,1μm,0.3s								
MLH	**Mauna Loa**	**0.42**	**287**	IAML			07 33 14.5		
	comp=N,2μm,0.8s								
HTC	**Hot Caves**	**0.44**	**252**			Pg	07 33 08.3	-0.1	
HMH	**Humu'ula Sheep**	**0.55**	**295**			Pg	07 33 10.4	0.0	
HMH	**Humu'ula Sheep**	**0.55**	**295**			Sg	07 33 17.7	0.0	
MLOA	**Mauna Loa Obse**	**0.61**	**286**			Pg	07 33 10.9	-0.7	
MLOA						Sg	07 33 19.3	-0.4	
MLOA	**Mauna Loa Obse**	**0.61**	**286**	IAML			07 33 19.9		
	comp=E,2μm,0.2s								
MLOA				IAML			07 33 20.6		
	comp=N,1μm,0.2s								
MWH	**Moku'aweowe**	**0.62**	**281**			Pg	07 33 11.3	-0.5	
MWH	**Moku'aweowe**	**0.62**	**281**	IAML			07 33 30.1		
	comp=N,1μm,0.6s								
MWH				IAML			07 33 32.4		
	comp=E,1μm,1.0s								
KHU	**Kahuku**	**0.64**	**259**			Pg	07 33 11.1	-1.0	
KHU						Sg	07 33 19.9	-0.6	
KHU	**Kahuku**	**0.64**	**259**	IAML			07 33 21.6		
	comp=N,730nm,0.5s								
POHA	**Pohakuloa**	**0.67**	**305**			Pg	07 33 11.5	-1.2	
POHA	**Pohakuloa**	**0.67**	**305**	IAML			07 33 21.6		
	comp=N,1μm,0.2s								
POHA				IAML			07 33 29.5		
	comp=N,1μm,0.3s								
ALEP	**Alea Permanent**	**0.67**	**285**			Sg	07 33 21.0	-0.6	
HUH	**Hualalai**	**0.89**	**291**			Pg	07 33 15.5	-1.4	
CPH	**Captain Cook**	**0.92**	**277**			Pg	07 33 16.2	-1.3	
HPAH	**Hawaii Prepara**	**0.96**	**313**			Pg	07 33 15.1	-3.2	

AUST 15 07:43:26.4±2.1, 25°.74S×113°.29E, h10km, Error ellipse: s-maj=27.4km s-min=11.9km az=82.0, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GIRL	**Giralia**	**3.20**	**16**	P	Pn	07 44 18.2	+1.3
	baz=3.2						
GIRL				S	Sn	07 44 55.4	+0.4
	baz=3.2						
MORW	**Morawa**	**4.12**	**144**	P	Pn	07 44 29.1	-0.3
	baz=4.1						
MORW				S	Sn	07 45 18.7	+1.1
	baz=4.1						
MEEK	**Meekatharra**	**4.86**	**102**	P	Pn	07 44 42.2	+2.5
	baz=4.9						
MEEK				S	Sn	07 45 37.5	+1.3
	baz=4.9						
BLDU	**Ballidu**	**5.71**	**149**	P	Pn	07 44 49.9	-1.5
	baz=5.7						
BLDU				S	Sn	07 45 55.5	-1.6
	baz=5.7						
MUN	**Mundaring**	**6.72**	**158**	P	Pn	07 45 07.3	+2.0
	baz=6.7						
MUN				S	Sn	07 46 17.3	-4.6
	baz=6.7						
KLBR	**Kellerberrin**	**7.02**	**147**	P	Pn	07 45 09.1	-0.3
	baz=7.0						
KMBL	**Kambalda**	**9.40**	**129**	P	Pn	07 45 42.3	+0.2
	baz=9.5						
WRKA	**Warakurna**	**13.58**	**90**	P	Pn	07 46 39.7	+0.4
	baz=14						
WRKA				S	Sn	07 49 09.9	-0.4
	baz=14						
FORT	**Forrest**	**13.94**	**114**	P	Pn	07 46 42.9	-1.2
	baz=14						

*IDC **15** 07:45:44.1±6.0, 38°.41N×73°.31E, h0km, mb3.8/4, mbtmp3.6/6, ML2.8/2, Error ellipse: s-maj=119.5km s-min=32.7km az=161.0*
*NNC **15** 07:45:44.0±2.3, 37°.89N×73°.09E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=16.6km s-min=11.8km az=170.0*
ISC 15 07:45:41.5±1.9, 37°.6N±0°.1×73°.01E±0°.09, h10km, n19, σ1s66/20, mb3.7/4, 3C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.07**	**334**	Pg	**Pb**	**07 47 11.9**	**+1.6**
	18nm,0.6s						
IUG				Lg	Lg	07 48 19.8	
	47nm,1.1s						
MRKS	**Merke**	**5.12**	**2**	Pg	**Pb**	**07 47 12.3**	**+1.0**
	3.3nm,0.4s						
MRKS				Lg	Lg	07 48 20.5	
	11nm,0.6s						
AAK	**Ala-Archa**	**5.14**	**12**	⇑Pn	**Pn**	**07 47 00.5**	**+1.8**
	7.2nm,0.7s						
AAK				⇓Sn	**Sn**	**07 47 58.5**	**+0.4**
	9.9nm,0.7s						
TKM2	**Tokmak 2**	**5.65**	**20**	⇓Pn	**Pn**	**07 47 06.4**	**+0.7**
	2.3nm,0.7s						
TKM2				⇑Sn	**Sn**	**07 48 09.2**	**-1.6**
	3.4nm,0.6s						
KK31	**Karatay Array**	**5.80**	**342**	Pn	**Pn**	**07 47 08.6**	**+1.0**
	0.7nm,0.3s,baz=154,slow=12,SNR=18						
KK31				⇑Sn	**Sn**	**07 48 12.7**	**-1.5**
	2.4nm,0.5s,baz=143,slow=23						
KST	**Kastek**	**5.87**	**22**	Pg	**Pb**	**07 47 25.3**	**+1.3**
	5.4nm,0.4s						
KST				Lg	Lg	07 48 42.4	
	4.8nm,0.4s						
BRLS	**Borolday**	**5.92**	**337**	Pg	**Pb**	**07 47 23.8**	**-1.0**
	1.4nm,0.4s						
BRLS				Lg	Lg	07 48 41.2	
	5.1nm,1.0s						
DGS	**Degeres**	**6.00**	**20**	Pg	**Pb**	**07 47 26.9**	**+0.8**
	2.8nm,0.7s						
DGS				Lg	Lg	07 48 46.0	
	8.7nm,0.7s						
KOTS	**Kotyrbulak**	**6.42**	**28**	Pg	**Pb**	**07 47 35.1**	**+1.6**
	3.0nm,0.5s						
KOTS				Lg	Lg	07 48 59.2	
	11nm,0.8s						
KTBS	**Karatobe**	**6.69**	**23**	Pg	**Pb**	**07 47 38.2**	**+0.2**
	1.3nm,0.5s						
KTBS				Lg	Lg	07 49 05.5	
	5.2nm,0.8s						
KURS	**Kuram**	**7.05**	**32**	Pg	Pb	07 47 47.0	+2.9
	2.1nm,0.6s						
KURS				Lg	Lg	07 49 20.8	
	3.9nm,0.5s						
MKAR	**Makanchi Array**	**11.45**	**34**	Pn	Pn	07 48 19.5	-5.6
	baz=224,slow=12,SNR=1.2						
	0.1nm,0.4s						
AB31	**Akbulak array**	**14.98**	**325**	⇓P	**Pn**	**07 49 14.3**	**+1.1**
	0.6nm,0.6s,baz=133,slow=12,SNR=4.3						
BVAR	**Borovoye Array**	**15.51**	**354**	Pn	**Pn**	**07 49 20.8**	**+0.5**
	baz=153,slow=9.7,SNR=3.2						
ZALV	**Zalesovo Beam**	**18.25**	**23**	P	**Pn**	**07 49 49.6**	**-5.1**
	0.2nm,0.3s,baz=203,slow=11,SNR=2.8						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**37.48**	**325**	P	**P**	**07 52 54.7**	**-0.2**
	1.1nm,0.5s,baz=110,slow=7.6,SNR=7.2						
	1.1nm,0.5s						
HFS	**Hagfors**	**43.19**	**321**	P	**P**	**07 53 42.8**	**+0.5**
	1.4nm,0.7s,baz=79,slow=7.7,SNR=4.3						
	1.4nm,0.7s						
NOA	**NORSAR Array B**	**44.47**	**322**	P	**P**	**07 53 52.6**	**0.0**
	0.5nm,0.5s,baz=92,slow=7.7,SNR=2.3						
	0.5nm,0.5s						
YKA	**Yellowknife Ar**	**80.04**	**4**	P	**P**	**07 57 50.8**	**0.0**
	0.5nm,0.9s,baz=348,slow=6.4,SNR=5.4						
	0.5nm,0.9s						

*PRU **15** 07:50:52.5, 50°.24N×12°.41E, h10km, West Bohemia Swarm*
WBNET 15 07:50:53.2, 50°.26N×12°.44E, h10km, Ml1.8, 6C-6D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**282**	⇓P	Pg	07 50 55.1	+0.1
LBCW				S	Sg	07 50 56.5	+0.2
NKC	**Novy Kostel**	**0.03**	**175**	*e*PG	Pg	07 50 55.2	+0.2
NKC				*e*SG	Sg	07 50 56.4	+0.1
	comp=Z,117nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**175**	⇓P	Pg	07 50 55.1	+0.1
NKC				S	Sg	07 50 56.4	+0.1
STCW	**Studenec**	**0.05**	**92**	⇑P	Pg	07 50 55.3	0.0
STCW				S	Sg	07 50 56.6	-0.1
VAC	**Vackov**	**0.05**	**239**	⇓P	Pg	07 50 55.3	0.0
VAC				S	Sg	07 50 56.6	-0.1
POCW	**Potky**	**0.06**	**350**	⇑P	Pg	07 50 55.5	+0.1
POCW				S	Sg	07 50 57.0	+0.1
KVC	**Kvetna**	**0.07**	**140**	⇑P	Pg	07 50 55.5	0.0
KVC				S	Sg	07 50 57.0	-0.1
KRCW	**Kraslice**	**0.09**	**38**	⇑P	Pg	07 50 55.7	0.0
KRCW				S	Sg	07 50 57.4	-0.1
SKC	**Skalna**	**0.11**	**210**	⇑P	Pg	07 50 55.9	+0.1
SKC				S	Sg	07 50 57.7	0.0
KOCW	**Kopaniny**	**0.14**	**272**	⇓P	Pg	07 50 56.3	0.0
KOCW				S	Sg	07 50 58.4	-0.1
TRCW	**Trojmez**	**0.20**	**283**	⇓P	Pg	07 50 57.3	0.0
TRCW				S	Sg	07 51 00.1	-0.1
ZHC	**Zelena Hora**	**0.21**	**205**	⇓P	Pg	07 50 57.5	0.0
ZHC				S	Sg	07 51 00.5	0.0
LACW	**Lazy**	**0.24**	**151**	⇑P	Pg	07 50 58.3	+0.1
LACW				S	Sg	07 51 01.7	+0.2
HSKC	**Hora Svate Kat**	**0.72**	**61**	*e*SG	Sg	07 51 16.0	-0.5
	comp=Z,20nm,0.2s						
RICC	**Richard**	**1.10**	**74**	*e*SG	Sg	07 51 28.5	0.0
	comp=Z,9.3nm,0.3s						
BRG	**Berggiesshubel**	**1.14**	**57**	Pg	Pb	07 51 14.6	-0.4
BRG				Sg	Sg	07 51 29.3	-0.5
BRG				Amp		07 51 30.0	
	comp=Z,7.5nm,0.3s						
KHC	**Kasperske Hory**	**1.35**	**147**	*e*SG	Sb	07 51 34.3	-1.6
	comp=Z,2.6nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**78**	*e*SG	Sg	07 51 38.2	+0.4
	comp=Z,9.6nm,0.1s						
GOPC	**GO Pecny, Ondr**	**1.55**	**102**	*e*SG	Sb	07 51 42.0	+0.3

KRSZO 15 07:52:08.5±1.1, 48°.61N×18°.66E, h0km, M1.6/4, Error ellipse: s-maj=9.2km s-min=4.6km az=53.0, Explosion. locality : Bzenica Slovakia description : known quarry blast, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VYHS	**Vyhne**	**0.17**	**136**	Pg	Pg	07 52 13.0	+1.4
VYHS				Lg	Lg	07 52 14.1	
VYHS	**Vyhne**	**0.17**	**136**	*e*PG	Pg	07 52 13.0	+1.3
VYHS				*e*SG	Sg	07 52 14.1	+0.3
A332A	**Rudnianska**	**0.23**	**326**	Lg	Lg	07 52 15.6	
A335A	**Lovce**	**0.27**	**232**	Lg	Lg	07 52 17.3	
A336A	**Medovarce**	**0.44**	**149**	Pg	Pb	07 52 18.6	-0.5
A336A				Lg	Lg	07 52 23.2	
A331A	**Zubak**	**0.61**	**332**	Pg	Pb	07 52 21.4	-0.7
JAVC	**Velka Javorina**	**0.70**	**291**	*e*PG	Pn	07 52 27.1	+1.4
JAVC				*e*SG	Sn	07 52 38.4	+1.1
PSZ	**Piszkesteto**	**1.08**	**130**	Pn	Pb	07 52 30.4	+0.3
PSZ				Lg	Lg	07 52 44.6	
OJC	**Ojcow**	**1.77**	**24**	Sn	Sg	07 53 05.0	-0.3

IDC 15 07:59:23.7±3.2, 54°.27N×87°.11E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.4km s-min=20.3km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**258**	I	I	08 08 40.7	
	0.1nm,0.9s,baz=76,slow=324,SNR=6.8						
ZALV	**Zalesovo Beam**	**1.39**	**258**	Pg	Pg	07 59 48.7	-1.5
	0.9nm,0.3s,baz=76,slow=16,SNR=17						
ZALV				Lg	Lg	08 00 08.0	
	1.0nm,0.3s,baz=81,slow=26,SNR=4.0						
KURBB	**Kurchatov Arra**	**6.39**	**239**	Pn	Pn	08 00 59.3	+0.4
	0.1nm,0.3s,baz=51,slow=15,SNR=1.7						
KURBB				Lg	Lg	08 02 47.0	
	baz=59,slow=29,SNR=1.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.08**	**204**	Pn	Pn	08 01 24.0	+1.7
	0.1nm,0.3s,baz=26,slow=13,SNR=2.8						
	0.1nm,0.3s						

*STR **15** 08:10:37.9±1.1, 50°.N±7°.×°.±°, h5km, MLv2.6/6, Error ellipse: s-maj=0.0km s-min=0.0km az=16.4, preliminary*
UCC 15 08:10:37.4, 50°.26N×6°.69E, h0km, ML2.3, 18D, Mining explosion., Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKLB	**Kalborn**	**0.40**	**247**	*d*P	Pg	08 10 44.4	-0.7
LKLB	**Kalborn**	**0.40**	**247**	*d*P	Pg	08 10 44.5	-0.6
LKLB				*d*S	Sg	08 10 50.6	+0.3
BHOU	**Houvegnez**	**0.45**	**283**	*d*P	Pg	08 10 45.3	-0.6
BHOU	**Houvegnez**	**0.45**	**283**	*d*P	Pg	08 10 45.2	-0.7
BHOU				*d*S	Sg	08 10 51.3	-0.4
LVIA	**Vianden**	**0.45**	**224**	*d*P	Pg	08 10 45.4	-0.5
LVIA	**Vianden**	**0.45**	**224**	*d*P	Pg	08 10 45.6	-0.3
LVIA				*d*S	Sg	08 10 52.4	+0.7
ABH	**Alteburg**	**0.67**	**124**	Pg	Pg	08 10 50.7	+0.5
ABH	**Alteburg**	**0.67**	**124**	Sg	Sb	08 11 01.3	-0.6
WLF	**Walferdange**	**0.69**	**210**	*d*P	Pg	08 10 50.2	-0.3
WLF	**Walferdange**	**0.69**	**210**	*d*P	Pg	08 10 50.4	-0.2
WLF				*d*S	Sg	08 10 59.5	+0.1
WLF	**Walferdange**	**0.69**	**210**	Pg	Pg	08 10 50.2	-0.3
WLF	**Walferdange**	**0.69**	**210**	Sg	Sg	08 11 00.5	+1.1
RCHB	**Rochefort**	**0.94**	**264**	Pg	Pg	08 10 55.1	-0.3
BGES	**Gesves**	**1.03**	**278**	*d*P	Pg	08 10 55.8	-1.4
BMRD	**Maredsous**	**1.23**	**273**	*d*P	Pg	08 11 00.8	-0.1
BMRD				*d*S	Sg	08 11 17.1	+0.2
BMRD	**Maredsous**	**1.23**	**273**	*d*P	Pg	08 11 00.4	-0.6
DOU	**Dourbes**	**1.35**	**264**	*d*P	Pg	08 11 02.6	-0.7
DOU				*d*S	Sb	08 11 21.6	+0.2
DOU	**Dourbes**	**1.35**	**264**	Pg	Pg	08 11 02.2	-1.1
DOU				Sg	Sb	08 11 21.6	+0.2
LEMB	**Lembach**	**1.41**	**150**	Pg	Pb	08 11 05.4	+0.9
LEMB				Sn	Sn	08 11 24.4	+0.8
CIEL	**Dossenheim-sur**	**1.49**	**163**	Pn	Pn	08 11 05.6	+0.1
CIEL				Sn	Sn	08 11 26.3	+0.7
XAFF	**Xaffevillers**	**1.85**	**181**	Pn	Pn	08 11 09.7	-0.7
XAFF				Sn	Sb	08 11 36.1	+0.3
CLL	**Collm**	**4.14**	**73**	*e*Sg	Sg	08 12 50.0	-0.4
	comp=Z,7.0nm,0.6s						

IDC 15 08:11:12.8±2.0, 3°.86S×138°.65E, h0km, mb3.2/2, mbtmp3.6/4, ML3.0/2, Error ellipse: s-maj=55.5km s-min=32.2km az=71.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**10.09**	**124**	Pn	Pn	08 13 39.1	+0.1
	2.4nm,0.3s,baz=234,slow=18,SNR=1.9						
	5.7nm,0.3s						
WRA	**Warramunga Arr**	**16.53**	**194**	Pn	Pn	08 15 07.3	+1.1
	0.1nm,0.3s,baz=16,slow=12,SNR=2.7						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**20.22**	**193**	P	P	08 15 49.0	-0.5
	0.6nm,0.6s,baz=21,slow=9.5,SNR=13						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**70.66**	**323**	P	P	08 22 30.5	0.0
	0.2nm,0.7s,baz=134,slow=6.2,SNR=2.0						
	0.2nm,0.7s						

*IDC **15** 08:17:49.3±1.6, 55°.84S×26°.76W, h14km±9km, mb5.1/18, mbtmp5.1/19, ML4.7/1, MS4.7/39, Error ellipse: s-maj=16.7km s-min=9.4km az=59.0*
*MOS **15** 08:17:49.0±1.0, 55°.82S×27°.04W, h10km, mb5.8/26, MS4.7/6, Error ellipse: s-maj=16.8km s-min=10.3km az=113.1*
*NEIC **15** 08:17:50.3±1.8, 55°.93S±0°.09×27°.0W±0°.2, h10km±1km, mb5.5/93, Mww5.4/16, Error ellipse: s-maj=15.8km s-min=14.2km az=46.0*
*BJI **15** 08:17:51.6±0.0, 55°.67S×27°.14W, h30km, mB5.3/7, Ms5.3/29, Ms7 5.0/31*
*NEIC **15** 08:17:54.2, 55°.56S×26°.56W, h36km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^17Nm; Mrr1.54; Mθθ-0.55; Mφφ-0.98; Mrθ0.11; Mθφ0.66; Mφr0.69; Fault plane solution: M0 1.65000×10^17 NP1: φs339.83000°, δ56.23000°, λ107.42000°. NP2: φs130.39000°, δ37.52000°, λ65.88000°. Principal axes: T 1.7487, Plg73.0000°, Azm295.0000°; N -0.2021, Plg14.0000°, Azm150.0000°; P -1.5465, Plg10.0000°, Azm57.0000°;*
*NEIC **15** 08:17:54.2, 55°.96S×27°.09W, h36km*
*GCMT **15** 08:17:56.3±0.1, 55°.78S±0°.01×26°.68W±0°.01, h23km, MW5.4/142, Moment Tensor Solution. s119,c187; s142,c259; Duration: 1s2 Moment tensor: Scale 10^17 Nm; Mrr1.19±.03; Mθθ-0.39±.02; Mφφ-0.80±.02; Mrθ-0.21±.03; Mθφ0.71±.01; Mφr1.02±.03; Best double couple: M0 1.64300×10^17 NP1: φs339.00000°, δ65.00000°, λ105.00000°. NP2: φs126.00000°, δ29.00000°, λ60.00000°. Principal axes: T 1.6240, Plg66.0000°, Azm277.0000°; N 0.0390, Plg14.0000°, Azm153.0000°; P -1.6630, Plg19.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 15 08:17:50.6±0.6, 55°.91S±0°.05×26°.97W±0°.06, h16km±3km, h17km: pP-P, n840, σ1s09/886, mb5.5/64, MS4.8/56, 29C-16D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.70**	**283**		**Pn**	**08 19 16.2**	**+1.7**
HOPE	**Hope Point**	**5.70**	**283**	P	**Pn**	**08 19 16.2**	**+1.7**
ORCD	**Orcadas**	**10.51**	**235**		**Pn**	**08 20 18.6**	**-1.7**
VNA1	**Neumayer--Stat**	**16.88**	**158**	⇑P	**P**	**08 21 50.0**	**+2.3**
	comp=Z,133nm,0.9s						
VNA1				⇑PcP	**PcP**	**08 26 33.4**	**+1.5**
	comp=Z,13nm,0.9s						
VNA1				⇑ScP	**ScP**	**08 30 06.4**	**+0.8**
	comp=Z,44nm,1.0s						
VNA3	**Neumayer Olymp**	**17.08**	**161**	⇑P	**P**	**08 21 50.8**	**+0.8**
VNA3				⇑PcP	**PcP**	**08 26 32.8**	**+0.5**
	comp=Z,7.2nm,0.7s						
VNA3				⇑ScP	**ScP**	**08 30 05.7**	**-0.4**
	comp=Z,20nm,0.8s						
VNA2	**Neumayer--Watz**	**17.28**	**158**	⇑P	**P**	**08 21 55.0**	**+2.9**
	comp=Z,40nm,0.5s,baz=320,slow=12						
VNA2				⇑PcP	**PcP**	**08 26 33.0**	**+0.5**
	comp=Z,9.7nm,0.7s,baz=316,slow=4.4						
VNA2				⇑ScP	**ScP**	**08 30 06.5**	**0.0**
	comp=Z,15nm,0.7s,baz=312,slow=5.2						
EFI	**East Falkland**	**18.76**	**270**	P	**Pn**	**08 22 09.5**	**+0.4**
EFI	**East Falkland**	**18.76**	**270**	⇑*e*P	**Pn**	**08 22 10.2**	**+1.2**
EFI				pmax	pmax		
	comp=Z,49nm,0.8s						
SNAA	**Sanae**	**18.82**	**156**		**P**	**08 22 09.6**	**+0.4**
SNAA	**Sanae**	**18.82**	**156**	⇑P	**Pn**	**08 22 10.7**	**+1.0**
	comp=Z,847nm,0.5s						
SNAA				⇑PcP	**PcP**	**08 26 34.9**	**-0.3**
	comp=Z,148nm,0.6s						
SNAA				⇑ScP	**ScP**	**08 30 09.8**	**-0.1**
	comp=Z,247nm,1.0s						
SNAA	**Sanae**	**18.82**	**156**	P	**P**	**08 22 07.5**	**-1.7**
	comp=Z,2.2nm,0.3s,baz=297,slow=12,SNR=32						
SNAA				S	**Sn**	**08 25 39.6**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=4.7,slow=23,SNR=1.5						
SNAA				PcP	**PcP**	**08 26 35.7**	**+0.5**
	comp=Z,5.4nm,0.6s,baz=9.4,slow=9.0,SNR=2.9						
SNAA				LR	LR	08 27 57.1	
	comp=Z,2μm,21.7s,baz=358,slow=32						
SNAA				ScP	**ScP**	**08 30 09.4**	**-0.4**
	comp=Z,15nm,1.1s,baz=342,slow=4.4,SNR=6.9						
	comp=Z,21nm,0.9s						
SNAA	**Sanae**	**18.82**	**156**	*ce*P	**Pn**	**08 22 11.2**	**+1.5**
SNAA				pmax	pmax		
	comp=Z,66nm,0.9s						
PMSA	**Palmer Station**	**20.09**	**229**	P	**P**	**08 22 21.4**	**-1.6**
PMSA				IAmb	IAmb	08 22 31.4	
	comp=Z,163nm,0.8s						
PMSA	**Palmer Station**	**20.09**	**229**	P	**P**	**08 22 23.1**	**+0.2**
	comp=Z,65nm,0.7s,baz=18,slow=19,SNR=2.6						
PMSA				LR	LR	08 29 15.7	
	comp=Z,4μm,18.3s,baz=70,slow=34						
	comp=Z,65nm,0.7s						
PMSA	**Palmer Station**	**20.09**	**229**	*e*P	Pn	08 22 26.6	+1.8
TROLL	**Troll, Antarti**	**20.32**	**154**	⇑P	**P**	**08 22 27.4**	**+1.8**
	comp=Z,4μm,0.8s						
TROLL				⇑ScP	**ScP**	**08 30 13.3**	**-0.1**
	comp=Z,193nm,0.7s						
BELA	**Belgrano 2**	**22.23**	**184**	P	**P**	**08 22 44.7**	**-1.2**
NVL	**N'lazarevskaya**	**22.31**	**147**	*e*P	**P**	**08 22 45.4**	**-1.5**
NVL				*e*S	**S**	**08 26 49.3**	**-1.9**
NVL				pmax	pmax		
	comp=Z,37nm,0.8s						
NVL				MLR	MLR		
	comp=Z,1μm,19.0s						
MG01	**Puerto William**	**22.87**	**255**	P	**P**	**08 22 54.1**	**+1.2**
MG01				IAmb	IAmb	08 23 06.0	
	comp=Z,228nm,1.1s						
MG02	**Cerro Sombrero**	**24.55**	**259**	P	**P**	**08 23 09.8**	**+0.7**
MG03	**Isla Dawson**	**24.80**	**256**	P	**P**	**08 23 12.7**	**+1.3**
GO10	**Punta Arenas**	**25.40**	**258**	P	**P**	**08 23 17.2**	**+0.3**
GO10				IAmb	IAmb	08 23 37.6	
	comp=Z,172nm,1.2s						
ELIB	**Princess Elisa**	**26.19**	**147**	*d*P	**P**	**08 23 25.3**	**+1.3**
	comp=Z,36nm,0.9s						
ELIB				*d*PcP	**PcP**	**08 26 51.8**	**+1.6**
ELIB				*d*ScP	**ScP**	**08 30 28.7**	**-0.3**
MG05	**Puerto Natales**	**26.84**	**260**	P	**P**	**08 23 29.0**	**-0.9**
GO09	**Cerro Castillo**	**26.94**	**261**	P	**P**	**08 23 30.2**	**-0.6**
GO08	**Villa O'Higgin**	**28.47**	**266**	P	**P**	**08 23 44.7**	**+0.2**
GO08				IAmb	IAmb	08 23 46.7	
	comp=Z,72nm,0.8s						
AY03	**Cochrane**	**29.16**	**268**	P	**P**	**08 23 51.3**	**+0.6**
TRQA	**Tornquist**	**29.38**	**293**	P	**P**	**08 23 53.0**	**+0.3**
TRQA		

UNIS Unistalda (Br 33.46 312 *eP* **P 08 24 29.6 +1.0**
ITQB Itaqui 33.60 309 P **P 08 24 29.9 0.0**
ITQB Itaqui 33.60 309 *eP* **P 08 24 30.4 +0.5**
ITAB Concordia 33.90 317 P **P 08 24 34.6 +2.1**
ITAB Concordia 33.90 317 *eP* **P 08 24 33.4 +0.9**
QSPA South Pole Qui 34.34 180 P **P 08 24 37.7 +1.6**
QSPA IAmb IAmb 08 24 39.8
comp=Z,110nm,1.1s
QSPA South Pole Qui 34.34 180 P **P 08 24 35.3 -0.9**
comp=Z,54nm,0.9s,baz=221,slow=1.4,SNR=186
QSPA PcP **PcP 08 27 10.9 -0.7**
comp=Z,12nm,0.8s,baz=262,slow=4.1,SNR=2.5
QSPA ScP **ScP 08 30 52.9 -2.7**
comp=Z,11nm,0.9s,baz=213,slow=0.7,SNR=12
QSPA PKiKP **PKiKP 08 34 33.2 -1.0**
comp=Z,1.2nm,0.7s,baz=182,slow=1.6,SNR=1.9
QSPA LR LR 08 39 40.5
comp=Z,1µm,18.1s,baz=191,slow=38
comp=Z,54nm,0.9s
CRSM Crissiumal (Br 34.42 314 *eP* **P 08 24 38.0 +0.9**
PET01 Itanhaem-SP 34.92 326 *eP* **P 08 24 42.4 +1.1**
MAN01 Angra dos Reis 35.32 332 *eP* **P 08 24 45.9 +1.1**
PARB Paraibuna 35.32 329 *eP* **P 08 24 45.9 +1.0**
SPB Sao Paulo 35.62 327 P **P 08 24 47.4 0.0**
SPB IAmb IAmb 08 24 50.9
comp=Z,198nm,1.7s
SPB Sao Paulo 35.62 327 *eP* **P 08 24 48.9 +1.5**
DUB01 Friburgo-RJ 35.67 335 *eP* **P 08 24 49.4 +1.6**
VAS01 Vassouras-RJ 35.74 333 *eP* **P 08 24 49.7 +1.3**
CAM01 Campos-RJ 35.75 336 *eP* **P 08 24 49.4 +1.0**
VAO Valinhos 36.03 328 P **P 08 24 52.2 +1.2**
VAO IAmb IAmb 08 24 54.4
comp=Z,66nm,1.1s
VAO Valinhos 36.03 328 *eP* **P 08 24 51.9 +0.9**
ML02 Panimavida 36.12 285 P **P 08 24 50.5 -1.0**
ML02 IAmb IAmb 08 25 27.1
comp=Z,122nm,1.9s
PTGB Pitanga 36.16 319 *eP* **P 08 24 52.6 +0.5**
BO02 Sierra Bellavi 36.50 287 P **P 08 24 54.9 -0.1**
FRTB Fartura 36.54 324 *eP* **P 08 24 56.9 +1.6**
ALF01 Guarapari-ES 36.72 338 *eP* **P 08 24 57.9 +1.2**
CPUP Villa Florida 36.81 311 P **P 08 24 57.7 +0.2**
CPUP IAmb IAmb 08 25 00.2
comp=Z,132nm,1.1s
CPUP Villa Florida 36.81 311 P **P 08 24 56.5 -1.0**
comp=Z,94nm,1.0s,baz=149,slow=8.0,SNR=82
CPUP PcP **PcP 08 27 19.4 +0.1**
comp=Z,7.3nm,0.8s,baz=210,slow=6.4,SNR=5.1
CPUP ScP **ScP 08 31 03.0 -2.0**
comp=Z,7.7nm,1.1s,baz=116,slow=5.2,SNR=3.7
CPUP LR LR 08 37 56.9
comp=Z,1µm,21.8s,baz=157,slow=33
comp=Z,94nm,1.0s
CPUP Villa Florida 36.81 311 P **P 08 24 57.7 +0.2**
CPUP pmax pmax
comp=Z,132nm,1.1s
CPUP Villa Florida 36.81 311 *eP* **P 08 24 57.8 +0.2**
LMEL Las Melosas 36.91 288 P **P 08 24 58.9 +0.4**
GO05 Huala 36.96 285 P **P 08 24 57.4 -1.4**
BO01 Tunca 36.97 287 P **P 08 24 57.5 -1.3**
BO04 La Punta 37.02 288 P **P 08 24 58.5 -0.8**
LDASE Londrina, Braz 37.03 321 *eP* **P 08 25 00.9 +1.5**
MT13 San Alfonso 37.03 288 P **P 08 24 59.1 -0.4**
MT08 Bocatoma Ro 37.12 289 P **P 08 25 00.5 +0.2**
MT08 IAmb IAmb 08 25 04.7
comp=Z,62nm,0.8s
MT09 Talagante 37.39 288 P **P 08 25 01.4 -1.1**
MT09 IAmb IAmb 08 25 02.8
comp=Z,47nm,0.8s
MT16 CCHEN 37.40 288 P **P 08 25 02.8 +0.2**
MT16 IAmb IAmb 08 25 04.9
comp=Z,46nm,0.7s
MT01 Popeta 37.46 287 P **P 08 25 03.2 +0.2**
MT01 IAmb IAmb 08 25 04.1
comp=Z,140nm,1.6s
PEL Peldehue 37.71 289 P **P 08 25 04.9 -0.2**
PEL IAmb IAmb 08 25 06.8
comp=Z,137nm,0.9s
PEL Peldehue 37.71 289 P **P 08 25 04.9 -0.2**
PEL pmax pmax
comp=Z,137nm,0.9s
VA05 Santo Domingo 37.81 287 P **P 08 25 05.5 -0.4**
VA05 IAmb IAmb 08 25 06.8
comp=Z,111nm,0.8s
MT02 Curacav 37.86 288 P **P 08 25 06.4 0.0**
MT02 IAmb IAmb 08 25 07.4
comp=Z,69nm,0.8s
ZON Zonda 37.90 292 P **P 08 25 06.7 -0.1**
ZON IAmb IAmb 08 25 07.4
comp=Z,37nm,0.6s
ZON Zonda 37.90 292 P **P 08 25 06.7 -0.1**
ZON pmax pmax
comp=Z,37nm,0.6s
RIB01 Linhares ES 37.91 339 *eP* **P 08 25 08.2 +1.3**
TRCB Terra Rica 38.12 320 *eP* **P 08 25 09.7 +1.0**
VA01 Torpederas 38.32 288 P **P 08 25 09.8 -0.3**
VA01 IAmb IAmb 08 25 13.3
comp=Z,61nm,1.0s
VA06 Catapilco 38.48 289 P **P 08 25 11.5 -0.1**
VA06 IAmb IAmb 08 25 13.0
comp=Z,102nm,0.9s
SJMB Sao Joao De Ma 38.67 338 *eP* **P 08 25 13.9 +0.6**
PCMB Pacaembu 38.73 322 *eP* **P 08 25 14.7 +0.9**
AMBA Amambai (Brazi 38.89 316 *eP* **P 08 25 15.2 +0.1**
NAN01 Guarapari, ES 39.29 340 *eP* **P 08 25 18.5 +0.1**
CO02 Combarbal 39.38 290 P **P 08 25 19.6 +0.3**
CO02 IAmb IAmb 08 25 21.0
comp=Z,61nm,0.5s
DIAM Diamantina, MG 39.62 335 *eP* **P 08 25 22.2 +0.9**
GO04 Tololo Observa 40.09 291 P **P 08 25 26.1 +0.7**
PMNB Patos De Minas 40.11 331 *eP* **P 08 25 26.4 +1.0**
MAW Mawson 40.19 144 P **P 08 25 23.5 -1.9**
comp=Z,36nm,0.9s,baz=235,slow=8.4,SNR=22
MAW PcP **PcP 08 27 29.3 +0.2**
comp=Z,7.1nm,0.8s,baz=247,slow=7.7,SNR=2.8
MAW ScP **ScP 08 31 15.7 -1.5**
comp=Z,6.7nm,1.0s,baz=217,slow=3.3,SNR=3.1
MAW LR LR 08 39 56.1
comp=Z,1µm,21.6s,baz=256,slow=33
comp=Z,36nm,0.9s
ITRB Iturama 40.19 325 *eP* **P 08 25 27.0 +1.0**
GUA01 Guaratinga, BA 40.46 341 *eP* **P 08 25 29.1 +1.0**
SUR Sutherland 40.48 75 P **P 08 25 29.8 +1.3**
SUR Sutherland 40.48 75 LR LR 08 38 38.4
comp=Z,2µm,20.9s,baz=220,slow=31
CO05 La Serena 40.52 291 P **P 08 25 28.7 +0.1**
CO05 IAmb IAmb 08 25 29.8
comp=Z,116nm,0.8s
AC05 El Transito 40.88 293 P **P 08 25 32.6 +0.9**
AC05 IAmb IAmb 08 25 34.8
comp=Z,150nm,0.8s
LCO Las Campanas 40.97 293 P **P 08 25 33.0 +0.4**
LCO IAmb IAmb 08 25 34.3
comp=Z,104nm,1.1s
LCO Las Campanas 40.97 293 P **P 08 25 33.0 +0.4**
LCO pmax pmax
comp=Z,104nm,1.1s
MURT Porto Murtinho 41.07 314 *eP* **P 08 25 32.6 -0.6**
IPMB Ipameri, GO 41.14 328 *eP* **P 08 25 35.2 +1.3**
AQDB Aquidauana 41.38 317 P **P 08 25 35.6 -0.2**
AQDB IAmb IAmb 08 25 38.0
comp=Z,97nm,1.0s
AQDB Aquidauana 41.38 317 *eP* **P 08 25 35.3 -0.5**
CMC01 Camacan, BA 41.60 342 *eP* **P 08 25 38.2 +0.6**
AC04 Llanos de Chal 41.81 293 P **P 08 25 39.8 +0.6**
BDQN Bodoquena, MS 41.81 316 *eP* **P 08 25 38.5 -0.8**
GO03 Copiap 41.87 294 P **P 08 25 40.1 +0.3**
GO03 IAmb IAmb 08 25 41.5
comp=Z,162nm,0.9s
AC06 Mina Casimiro 42.12 294 P **P 08 25 42.0 +0.1**
AC06 IAmb IAmb 08 25 43.6
comp=Z,190nm,1.1s
GRHM Grahamstown, E 42.87 81 P **P 08 25 48.6 +0.8**
JANB Januaria 42.89 335 *eP* **P 08 25 48.5 +0.3**
AC01 Pan de Azucar 43.24 295 P **P 08 25 51.4 +0.5**
AC01 IAmb IAmb 08 25 53.5
comp=Z,112nm,0.8s
BDFB Brasilia 43.30 330 P **P 08 25 52.9 +1.3**
BDFB Brasilia 43.30 330 P **P 08 25 50.5 -1.0**
comp=Z,14nm,0.9s,baz=137,slow=6.5,SNR=14
BDFB PcP **PcP 08 27 38.7 -1.6**
comp=Z,7.3nm,0.8s,baz=178,slow=13,SNR=3.1
BDFB LR LR 08 41 22.3
comp=Z,1µm,20.8s,baz=156,slow=33
comp=Z,14nm,0.9s
BDFB Brasilia 43.30 330 P **P 08 25 52.9 +1.3**
BDFB pmax pmax
comp=Z,78nm,1.6s
GO02 Mina Guanaco 43.54 297 P **P 08 25 54.5 +0.8**
PB14 IPOC Station P 44.39 297 P **P 08 26 00.4 -0.1**
PB14 IAmb IAmb 08 26 02.0
comp=Z,96nm,0.9s
ARAG Araguaiana, MT 44.40 325 *eP* **P 08 26 00.6 +0.3**
BBRB Bobore, Bolivi 45.00 313 *eP* **P 08 26 04.4 -0.6**
LVC Limon Verde 45.34 300 P **P 08 26 09.5 +1.4**
LVC Limon Verde 45.34 300 LR LR 08 44 27.5
comp=Z,545nm,21.5s,baz=165,slow=35
LVC Limon Verde 45.34 300 P **P 08 26 09.5 +1.4**
LVC pmax pmax
comp=Z,105nm,0.8s
LVC Limon Verde 45.34 300 *eP* **P 08 26 09.3 +1.2**
PB10 IPOC Station P 45.39 297 P **P 08 26 08.5 +0.4**
SALV Santo Antonio 45.56 320 *eP* **P 08 26 09.4 0.0**
SDBA SAO DESIDERIO 45.59 335 *eP* **P 08 26 09.9 +0.1**
NBLA Lagarto - SE 45.60 345 *eP* **P 08 26 09.6 -0.2**
BOSA Boshof 45.81 76 P **P 08 26 11.3 -0.3**
BOSA IAmb IAmb 08 26 31.5
comp=Z,112nm,1.9s
BOSA Boshof 45.81 76 P **P 08 26 09.9 -1.7**
comp=Z,6.5nm,0.6s,baz=212,slow=6.6,SNR=16
BOSA LR LR 08 41 53.9
comp=Z,3µm,20.6s,baz=206,slow=32
comp=Z,6.5nm,0.6s
BOSA Boshof 45.81 76 P **P 08 26 11.3 -0.3**
BOSA pmax pmax
comp=Z,112nm,1.9s
SBA Scott Base 46.23 184 P **P 08 26 17.4 +3.3**
SBA IAmb IAmb 08 26 19.6
comp=Z,65nm,0.9s
SBA Scott Base 46.23 184 P **P 08 26 17.4 +3.3**
SBA pmax pmax
comp=Z,65nm,1.0s
BBSD Serra de San D 46.30 313 *eP* **P 08 26 15.2 -0.2**
NBAN Anadia - AL 46.70 347 *eP* **P 08 26 18.3 -0.1**
VNDA Vanda 46.72 183 P **P 08 26 20.1 +2.1**
VNDA Vanda 46.72 183 P **P 08 26 18.3 +0.3**
comp=Z,66nm,0.6s,baz=186,slow=6.7,SNR=157
VNDA ScP **ScP 08 31 43.0 -0.7**
comp=Z,2.2nm,0.7s,baz=187,slow=4.3,SNR=3.7
VNDA LR LR 08 46 32.5
comp=Z,416nm,18.4s,baz=158,slow=37
comp=Z,66nm,0.6s
VNDA Vanda 46.72 183 P **P 08 26 20.1 +2.1**
VNDA pmax pmax
comp=Z,75nm,0.7s
PTLB Pontes e Lacer 47.28 316 P **P 08 26 23.3 +0.4**
PTLB Pontes e Lacer 47.28 316 *eP* **P 08 26 22.9 0.0**
PATCX Punta Patache 47.46 300 P **P 08 26 25.5 +1.0**
H04S2 CROZET ISLANDS 47.49 114 T T 09 18 08.3
baz=230,slow=76,SNR=33
H04S3 CROZET ISLANDS 47.50 114 T T 09 18 03.7
baz=230,slow=76,SNR=28
H04S1 CROZET ISLANDS 47.51 114 T T 09 18 05.8
baz=230,slow=76,SNR=14
SIV San Ignacio 47.57 313 ScP **ScP 08 31 47.9 -0.3**
comp=Z,6.9nm,1.0s,baz=185,slow=3.9,SNR=6.5
SIV LR LR 08 44 58.1
comp=Z,1µm,22.0s,baz=168,slow=34
TA01 Diego Aracena 47.69 300 P **P 08 26 27.3 +1.1**
TA01 IAmb IAmb 08 26 28.7
comp=Z,71nm,1.1s
SNDB Serra Nova Dou 47.74 327 *eP* **P 08 26 27.7 +1.0**
HMBC Humberstone 47.79 300 P **P 08 26 27.8 +0.7**
H10S2 ASCENSION HYDR 47.83 17 T T 09 17 54.0
baz=189,slow=74,SNR=274
H10S3 ASCENSION HYDR 47.83 17 T T 09 17 54.4
baz=31,slow=74,SNR=257
TA02 Huaiquique 47.92 300 P **P 08 26 28.9 +1.0**
NBCA Caruaru-PE 48.09 348 *eP* **P 08 26 29.4 0.0**
H10N1 ASCENSION HYDR 48.95 17 T T 09 19 18.0
baz=189,slow=75,SNR=125
H10N3 ASCENSION HYDR 48.95 16 T T 09 19 21.5
baz=189,slow=75,SNR=254
H10N2 ASCENSION HYDR 48.96 16 T T 09 19 19.4
baz=189,slow=75,SNR=178
TSUM Tsumeb 49.50 61 LR LR 08 44 34.2
comp=Z,866nm,19.3s,baz=152,slow=32
SMTB Santa Maria do 49.66 333 *eP* **P 08 26 42.6 +1.2**
PDRB Porto dos Gac 49.89 321 *eP* **P 08 26 42.7 -0.4**
VILB Vilhena 49.97 316 P **P 08 26 44.1 +0.4**
VILB Vilhena 49.97 316 *eP* **P 08 26 43.6 -0.1**
CLDB Colider 50.25 322 *eP* **P 08 26 45.7 -0.1**
LPAZ La Paz 50.40 305 P **P 08 26 47.7 0.0**
comp=Z,66nm,0.7s,baz=138,slow=5.2,SNR=284
LPAZ ScP **ScP 08 31 58.6 -2.2**
comp=Z,3.5nm,1.0s,baz=124,slow=2.1,SNR=3.9
LPAZ LR LR 08 47 30.4
comp=Z,583nm,22.0s,baz=152,slow=35
comp=Z,66nm,0.7s
LPAZ La Paz 50.40 305 *eP* **P 08 26 48.2 +0.5**
RCBR Riachuelo 50.45 348 LR LR 08 45 39.5
comp=Z,286nm,18.6s,baz=158,slow=33
RCBR Riachuelo 50.45 348 *eP* **P 08 26 48.2 +0.8**
NBPB Pedra_Branca-C 51.23 344 *eP* **P 08 26 53.8 +0.6**
NBCL Cascavel-CE 52.33 346 *eP* **P 08 27 01.8 +0.4**
PRPB Parauapebas 52.83 331 *eP* **P 08 27 06.0 +0.9**
NPGB Novo Progresso 53.67 324 *eP* **P 08 27 11.1 -0.2**
CASY Casey 54.00 160 P **P 08 27 15.3 +2.2**
CASY IAmb IAmb 08 27 16.4
comp=Z,30nm,0.9s
MATP Matopo 54.12 72 LR LR 08 48 22.5
comp=Z,242nm,18.9s,baz=238,slow=34
ROSB Rosrio 54.63 339 *eP* **P 08 27 18.6 +0.3**
SAML Samuel 54.79 314 P **P 08 27 19.4 0.0**
SAML Samuel 54.79 314 P **P 08 27 19.4 0.0**
SAML pmax pmax
comp=Z,146nm,1.2s
SAML Samuel 54.79 314 *eP* **P 08 27 19.4 0.0**
ETMB Extrema 55.27 311 P **P 08 27 23.1 +0.1**
ETMB Extrema 55.27 311 *eP* **P 08 27 22.7 -0.2**
TMAB Tom-Au,PA,Br 56.03 334 *eP* **P 08 27 29.1 +0.7**
ITTB Itaituba 56.31 325 *eP* **P 08 27 30.2 -0.2**
NNA Nana 58.29 298 P **P 08 27 45.1 +0.7**
NNA Nana 58.29 298 P **P 08 27 46.2 +1.8**
comp=Z,24nm,0.4s,baz=161,slow=5.4,SNR=20
NNA LR LR 08 52 51.3
comp=Z,559nm,21.8s,baz=142,slow=36
NNA Nana 58.29 298*c iP* **P 08 27 45.6 +1.1**
NNA pmax pmax
comp=Z,193nm,1.1s
MCPB Macapa, AP 58.99 330 *eP* **P 08 27 50.3 +1.1**
MACA Manacapuru-AM 59.14 320 P **P 08 27 49.8 -0.4**
MACA Manacapuru-AM 59.14 320 *eP* **P 08 27 49.3 -1.0**
CZSB Cruzeiro do Su 60.01 305 P **P 08 27 55.6 -0.7**
CZSB Cruzeiro do Su 60.01 305 *eP* **P 08 27 55.0 -1.2**
TEFE Tefe 60.32 315 *eP* **P 08 27 57.5 -0.9**
TBTG Tabatinga, AM 61.90 310 *eP* **P 08 28 08.1 -1.0**
ATAH Atahualpa 63.23 300 P **P 08 28 20.2 +1.7**
comp=Z,37nm,0.7s,baz=151,slow=4.5,SNR=38
ATAH LR LR 08 55 06.3
comp=Z,506nm,21.9s,baz=159,slow=35
RPN Rapa Nui 63.80 260 LR LR 08 50 00.5
comp=Z,481nm,19.4s,baz=128,slow=30
BOAV Boa Vista 64.24 322 P **P 08 28 24.2 -0.4**
BOAV Boa Vista 64.24 322 *eP* **P 08 28 24.3 -0.4**
MDP Montagnes des 64.37 331 LR LR 08 56 43.9
comp=Z,694nm,18.3s,baz=146,slow=36
LIC Lamto 64.52 24‖ *eP* **P 08 28 27.4 +1.0**
comp=Z,24nm,0.7s
KIC Kosan Boka 64.71 25‖ *eP* **P 08 28 28.7 +1.0**
comp=Z,25nm,1.1s
TIC Toumodi 64.92 24‖ *eP* **P 08 28 29.3 +0.2**
comp=Z,21nm,0.9s
DBIC Dimbokro 64.98 24 P **P 08 28 29.4 0.0**
DBIC IAmb IAmb 08 28 41.0
comp=Z,51nm,1.5s
DBIC Dimbokro 64.98 24 P **P 08 28 27.5 -2.0**
comp=Z,5.3nm,0.6s,baz=173,slow=9.8,SNR=3.4
DBIC LR LR 08 50 10.6
comp=Z,995nm,21.3s,baz=186,slow=30
comp=Z,5.3nm,0.6s
DBIC Dimbokro 64.98 24 P **P 08 28 29.5 0.0**
DBIC pmax pmax
comp=Z,51nm,1.5s
OPO Ambohidratompo 65.96 88 LR LR 08 51 35.1
comp=Z,1µm,21.2s,baz=326,slow=31
TULM Tulon-Chalpat 69.79 304 P **P 08 29 01.9 +1.4**
ROSC El Rosal 71.89 310 P **P 08 29 12.0 -1.2**
comp=Z,44nm,0.9s,baz=147,slow=4.6,SNR=19
ROSC LR LR 09 02 17.2
comp=Z,544nm,19.9s,baz=186,slow=37
comp=Z,44nm,0.9s
ROSC El Rosal 71.89 310 P **P 08 29 12.0 -1.2**
MBAR Mbarara 71.97 63 LR LR 08 58 14.9
comp=Z,524nm,21.8s,baz=199,slow=34
TOA0 Torodi Ar. Sit 72.87 29 P **P 08 29 18.9 +0.5**
TOA0 IAmb IAmb 08 29 27.3
comp=Z,41nm,1.1s
TORD Torodi Ar. Bea 72.87 29 P **P 08 29 18.9 +0.4**
TORD IAmb IAmb 08 29 27.3
comp=Z,49nm,1.2s
TORD Torodi Ar. Bea 72.87 29 P **P 08 29 15.9 -2.5**
comp=Z,7.3nm,0.7s,baz=201,slow=6.0,SNR=38
TORD LR LR 08 54 29.3
comp=Z,489nm,21.3s,baz=168,slow=30
comp=Z,7.3nm,0.7s
PCRV Puerto La Cruz 72.92 321 P **P 08 29 18.6 -0.2**
comp=Z,88nm,0.7s,baz=131,slow=2.1,SNR=36
PCRV LR LR 09 04 11.3
comp=Z,453nm,18.7s,slow=38
comp=Z,88nm,0.7s
BAUV El Baul 73.04 317 P **P 08 29 20.1 +0.6**
SDV Santo Domingo 74.00 315 P **P 08 29 25.7 +0.4**
SDV IAmb IAmb 08 29 27.4
comp=Z,67nm,0.8s
SDV Santo Domingo 74.00 315 P **P 08 29 25.4 0.0**
comp=Z,55nm,0.7s,baz=171,slow=4.2,SNR=31
SDV LR LR 09 01 12.6
comp=Z,950nm,21.8s,baz=148,slow=35
comp=Z,55nm,0.7s
SDV Santo Domingo 74.00 315 *eP* **P 08 29 25.4 0.0**
CBE Ff, Capester 77.40 326 P **P 08 29 45.8 +1.2**
BCIP Isla Barro Col 78.18 306 P **P 08 29 50.0 +1.1**
BCIP IAmb IAmb 08 29 51.1
comp=Z,27nm,0.8s
BCIP Isla Barro Col 78.18 306 P **P 08 29 50.0 +1.1**
BCIP pmax pmax
comp=Z,27nm,0.9s
RPZ Rata Peaks 79.58 193 LR LR 09 04 17.6
comp=Z,446nm,18.6s,baz=148,slow=35
LTZ Lake Taylor 80.34 194 P **P 08 30 01.3 +0.7**
LTZ IAmb IAmb 08 30 05.5
comp=Z,54nm,1.0s
LCR2 La Lucha 2 80.61 303 P **P 08 30 04.1 +1.6**
LCR2 IAmb IAmb 08 30 15.5
comp=Z,35nm,0.9s
HDC Heredia 80.89 303 *eP* **P 08 30 04.8 +1.0**
TAU Tasmania Unive 81.43 176 P **P 08 30 06.7 +0.4**
TAU Tasmania Unive 81.43 176 P **P 08 30 06.7 +0.4**
TAU pmax pmax
comp=Z,105nm,0.8s
URZ Urewera 83.98 199 LR LR 09 04 31.5
comp=Z,394nm,19.3s,baz=213,slow=33
NWAO Narrogin (SRO) 86.39 150 LR LR 09 07 43.7
comp=Z,142nm,18.1s,baz=219,slow=35
MTO3 Montecristo 87.21 301 P **P 08 30 35.8 -0.4**
MTO3 IAmb IAmb 08 30 48.2
comp=Z,37nm,0.8s
APG El Apazote 88.27 300 P **P 08 30 41.2 0.0**
comp=Z,1.5nm,0.7s,baz=158,slow=9.3,SNR=16
comp=Z,1.5nm,0.7s
ATD Arta Tunnel 88.49 67 LR LR 09 07 07.0
comp=Z,26nm,21.3s,baz=180,slow=34
CAN Canberra 89.07 177 P **P 08 30 45.7 +1.0**
CAN IAmb IAmb 08 30 48.9
comp=Z,58nm,1.5s
CAN Canberra 89.07 177 P **P 08 30 45.7 +1.0**
CAN pmax pmax
comp=Z,58nm,1.5s
MDT Midelt 90.41 19 LR LR 09 06 04.8
comp=Z,441nm,21.1s,baz=198,slow=32
BBOO Buckleboo 90.45 166 P **P 08 30 51.2 0.0**
BBOO IAmb IAmb 08 34 23.5
comp=Z,71nm,1.6s
FORT Forrest 91.06 159 P **P 08 30 54.1 +0.1**
FORT IAmb IAmb 08 31 11.8
comp=Z,34nm,0.9s
TEIG Tepich 91.73 304 LR LR 09 14 49.6
comp=Z,2µm,20.1s,slow=37
STKA Stephens Creek 92.02 170 P **P 08 30 58.8 +0.3**
comp=Z,7.1nm,0.6s,baz=144,slow=2.6,SNR=15
STKA PP **PP 08 34 36.5 -0.5**
comp=Z,2.3nm,0.8s,baz=216,slow=9.9,SNR=2.2
STKA LR LR 09 11 05.6
comp=Z,505nm,20.0s,baz=196,slow=35
comp=Z,7.1nm,0.6s
STKA Stephens Creek 92.02 170‖ *eP* **P 08 31 00.1 +1.7**
CMIG Matias Romero 92.23 298 LR LR 09 08 14.1
comp=Z,159nm,21.2s,baz=127,slow=33
PPT Papeete 92.38 234 LR LR 09 04 01.5
comp=Z,259nm,21.7s,baz=142,slow=30
RAR Rarotonga 93.43 223 LR LR 09 06 32.8
comp=Z,245nm,19.4s,baz=142,slow=31
KEST Kesra 96.39 29 LR LR 09 10 29.1
comp=Z,648nm,20.6s,baz=169,slow=33
ESDC Sonseca Array 97.21 18 La **P 08 31 19.7 -2.0**
comp=Z,1.0nm,0.7s,baz=185,slow=4.9,SNR=1.6
ESDC LR LR 09 12 28.8
comp=Z,383nm,19.0s,baz=177,slow=34
comp=Z,1.0nm,0.7s
ASAR Alice Springs 99.09 162 P **Pdif 08 31 29.6 -1.2**
comp=Z,6.3nm,0.8s,baz=185,slow=4.1,SNR=36
ASAR PP **PP 08 35 29.6 -2.5**
comp=Z,0.5nm,0.7s,baz=186,slow=7.5,SNR=3.6
ASAR PKKPbc **PKKPdf 08 47 55.3 -0.4**
comp=Z,2.4nm,0.8s,baz=18,slow=2.3,SNR=19
ASAR LR LR 09 15 12.7
comp=Z,255nm,18.8s,baz=190,slow=35
comp=Z,6.3nm,0.8s
LRAL Lakeview Retre 102.25 312 P **Pdif 08 31 46.9 +2.6**
baz=150
WRA Warramunga Arr 102.80 162 Pdiff **Pdif 08 31 46.5 -0.9**
comp=Z,1.1nm,0.7s,baz=195,slow=4.4,SNR=13
WRA PKKPbc **PKKPbc 08 47 43.2 +0.3**
comp=Z,2.6nm,0.8s,baz=358,slow=3.2,SNR=12
VBMS Vicksburg 103.05 309 P **Pdif 08 31 49.9 +2.0**
baz=149
BLA Blacksburg 103.29 319 P **Pdif 08 31 51.2 +2.3**
baz=152
833A Chaparral WMA, 103.90 300 P **Pdif 08 31 53.6 +1.8**
baz=147
TZTN Tazewell 103.90 316 P **Pdif 08 31 53.8 +2.2**
baz=151
PAL Palisades 104.43 325 P **Pdif 08 31 56.3 +2.5**
baz=155
OXF Oxford 104.53 311 P **Pdif 08 31 56.1 +1.7**
baz=149
HRV Adam Dziewonsk 105.06 327 P **PKiKP 08 36 13.1 +2.1**
baz=156
MCWV Mont Chateau 105.25 320 P **PKiKP 08 36 13.7 +2.3**
baz=152
WVT Waverly 105.26 313 P **PKiKP 08 36 13.4 +1.9**
baz=150
L61B Northampton 105.35 327 P **PKiKP 08 36 13.9 +2.3**
baz=156
SSPA Standing Stone 105.42 322 P **PKiKP 08 36 13.8 +2.1**
baz=153
JCT Junction City 105.88 301 P **PKiKP 08 36 14.2 +1.2**
baz=146
WHTX Lake Whitney, 106.02 304 P **PKiKP 08 36 13.9 +0.8**
baz=147
P52A Corning 106.06 319 P **PKiKP 08 36 14.7 +1.8**
baz=151
BINY Binghamton 106.18 324 P **PKiKP 08 36 14.3 +1.2**
baz=154
O53A New Philadelph 106.26 320 P **PKiKP 08 36 15.2 +1.9**
baz=152
WCI Wyandotte Cave 106.44 315 P **PKiKP 08 36 15.6 +2.0**
baz=150
LBNH Lisbon 106.75 328 P **PKiKP 08 36 16.1 +2.1**
baz=156
TXAR Lajitas Array 106.84 297 Pdiff **Pdif 08 32 02.9 -2.1**
comp=Z,0.2nm,0.8s,baz=126,slow=9.1,SNR=2.9
TXAR PKiKP **PKiKP 08 36 14.9 0.0**
comp=Z,0.3nm,0.8s,baz=151,slow=5.7,SNR=3.9
TXAR PKKPbc **PKKPbc 08 47 31.4 0.0**
comp=Z,0.6nm,0.9s,baz=288,slow=2.1,SNR=3.6
TXAR PKKP **PKKPab 08 47 47.8 +1.9**
comp=Z,0.9nm,0.8s,baz=295,slow=3.6,SNR=5.8
PKME Peaks-Kenny Pk 106.92 330 P **PKiKP 08 36 16.1 +1.8**
baz=157
P49A Miami Univ. Ec 106.95 317 P **PKiKP 08 36 16.2 +1.6**
baz=150
M53A WI Miller and 107.11 321 P **PKiKP 08 36 16.6 +1.8**
baz=152
ABTX Abilene, Hawle 107.57 302 P **PKiKP 08 36 17.5 +1.5**
baz=146

O48B	Farmland	107.75	317		P		PKiKP	08 36 16.8	+0.8	
	baz=150									
LONY	Lake Ozonia	107.90	326		P		PKiKP	08 36 18.3	+2.0	
	baz=154									
BRTR	Keskin Array B	108.23	45		PKiKP		PKiKP	08 36 16.9	-0.2	
	comp=Z,0.9nm,0.9s,baz=185,slow=6.8,SNR=4.3									
CCM	Cathedral Cave	108.32	311		P		PKiKP	08 36 19.1	+1.9	
	baz=148									
TUL3	Leonard	108.51	307		P		PKiKP	08 36 19.1	+1.4	
	baz=147									
SFIN	Lafayette	108.61	316		P		PKiKP	08 36 19.4	+1.7	
	baz=149									
WMOK	Wichita Mounta	108.91	304		P		PKiKP	08 36 19.7	+1.2	
	baz=146									
MNTX	Cornudas Mount	109.62	298		P		PKiKP	08 36 21.6	+1.7	
	baz=144									
HDIL	Hopedale	109.63	314		P		PKiKP	08 36 21.8	+2.3	
	baz=148									
MSTX	Muleshoe	110.17	301		P		PKiKP	08 36 22.6	+1.6	
	baz=145									
AMTX	Amarillo	110.39	302		P		PKiKP	08 36 23.0	+1.7	
	baz=145									
L44A	Lake County Fo	110.46	316		P		PKiKP	08 36 23.3	+2.2	
	baz=148									
BKNI	Bangkinang	110.57	123		P		Pdif	08 32 17.9	-4.0	
121A	Cookes Peak, D	111.49	296		P		PKiKP	08 36 25.1	+1.5	
	baz=144									
CBKS	Cedar Bluff	112.68	306		P		PKiKP	08 36 27.1	+1.6	
	baz=145									
ANMO	Albuquerque	112.76	299		P		PKiKP	08 36 27.4	+1.4	
	baz=143									
ANMO	Albuquerque	112.76	299	⇓	*i* PKIKP		PKiKP	08 36 26.5	+0.5	
TUC	Tucson	112.84	294		P		PKiKP	08 36 27.6	+1.5	
	baz=143									
T25A	Trinidad	113.51	302		P		PKiKP	08 36 28.3	+0.9	
	baz=143									
214A	Organ Pipe Nat	113.61	292		P		PKiKP	08 36 28.0	+0.5	
	baz=142									
SOC	Sochi	113.94	47		*i* PKIKP		PKiKP	08 36 28.7	+1.1	
SOC					*e*			08 37 24.0		
SOC					*e* PPP		PPP	08 39 46.7		
SOC					*e* SS		SS	08 53 11.9	+0.8	
SOC					*e* SSS		SSS	08 57 26.3		
SOC					MLR		MLR			
	comp=Z,148nm,19.0s									
SCHQ	Schefferville	115.09	336		PKP		PKPdf	08 36 26.6	-2.9	
	comp=Z,3.2nm,0.7s,baz=208,slow=2.8,SNR=7.3									
SCHQ					PP		PP	08 37 27.9	-2.4	
	comp=Z,3.4nm,1.0s,baz=181,slow=1.4,SNR=2.4									
Q24A	Divide	115.32	302		P		PKiKP	08 36 32.1	+1.2	
	baz=143									
KBZ	Khabaz	115.39	49		PKP		PKPdf	08 36 28.1	-2.2	
	comp=Z,2.1nm,0.8s,baz=231,slow=7.1,SNR=6.0									
KIV	Kislovodsk	115.48	49		*e* PKIKP		PKPdf	08 36 30.2	-0.5	
KIV					pmax		pmax			
	comp=Z,4.0nm,1.0s									
KIV					MLR		MLR			
	comp=Z,200nm,19.0s									
MVCO	Mesa Verde	115.56	299		P		PKiKP	08 36 32.7	+1.4	
	baz=142									
WUAZ	Wupatki	115.67	296		P		PKiKP	08 36 32.8	+1.3	
	baz=142									
IKP	In-Ko-Pah, Jac	115.89	290		P		PKiKP	08 36 33.4	+1.5	
	baz=142									
SWSC	Sam W. Stewart	115.95	291		P		PKiKP	08 36 33.3	+1.4	
	baz=141									
KIEV	Kiev	116.00	36				PKPdf	08 36 31.1	-0.2	
KIEV	Kiev	116.00	36		PKiKP		PKPdf	08 36 31.1	-0.2	
AKASG	Malin Array Be	116.01	36		PKP		PKPdf	08 36 30.1	-1.2	
	comp=Z,1.6nm,0.7s,baz=249,slow=1.5,SNR=5.8									
AKBB	Malin Array Si	116.01	36				PKPdf	08 36 30.6	-0.8	
AKBB	Malin Array Si	116.01	36	⇑	*i* PKIKP		PKiKP	08 36 31.4	0.0	
PDMCI	Parker Dam,Lak	116.14	293		P		PKiKP	08 36 33.7	+1.5	
	baz=141									
ISCO	Idaho Springs	116.20	303		P		PKiKP	08 36 33.5	+1.0	
	baz=142									
MONP2	Monument Peak	116.24	290		P		PKiKP	08 36 33.8	+1.1	
	baz=141									
BC3	Big Chuckawall	116.32	292		P		PKiKP	08 36 33.6	+0.9	
	baz=141									
IRM	Iron Mountain	116.55	292		P		PKiKP	08 36 34.5	+1.5	
	baz=141									
109C	Camp Elliot, M	116.60	290		P		PKiKP	08 36 34.4	+1.3	
	baz=141									
MAK	Makhachkala	116.78	52		*i* P		Pdif	08 32 51.0	+2.4	
MAK					*i*			08 36 34.1		
MAK					*e*			08 37 41.5		
MAK					*e* PPP		PPP	08 40 13.9		
MAK					*e*			08 43 21.5		
MAK					*e* SS		SS	08 53 48.7	+0.4	
MAK					*e* SSS		SSS	08 58 14.2		
MAK					pmax		pmax			
	comp=Z,81nm,0.8s									
TPFO	Pinon Flats	116.81	291		P		PKiKP	08 36 34.9	+1.2	
	baz=141									
PFO	Pinyon Flats O	116.82	291		P		PKiKP	08 36 34.9	+1.2	
	baz=141									
PFO	Pinyon Flats O	116.82	291	⇑	*i* PKIKP		PKiKP	08 36 34.0	+0.3	
BELC	Belle Mtn. Jos	116.88	291		P		PKiKP	08 36 35.0	+1.2	
	baz=141									
MURC	Murrieta	117.20	290		P		PKiKP	08 36 35.6	+1.3	
	baz=141									
N23A	Red Feather La	117.21	303		P		PKiKP	08 36 35.5	+1.1	
	baz=142									
HMU	Henry Mountain	117.24	298				PKiKP	08 36 34.6	0.0	
GMRC	Granite Mounta	117.31	292		P		PKiKP	08 36 36.1	+1.5	
	baz=141									
SCI2	San Clemente I	117.44	289		P		PKiKP	08 36 35.7	+1.0	
	baz=141									
CIS	Catalina Islan	117.69	289		P		PKiKP	08 36 36.2	+1.0	
	baz=141									
O20A	White River Ci	117.72	301		P		PKiKP	08 36 36.9	+1.5	
	baz=141									
GEYT	Alibeck	117.89	63		PKP		PKPdf	08 36 33.7	-1.8	
	comp=Z,1.2nm,0.3s,baz=270,slow=0.6,SNR=1.2									
TUQ	Turquoise Moun	117.94	292		P		PKiKP	08 36 37.0	+1.1	
	baz=141									
SRU	San Rafael Swe	118.04	299		PKPdf		PKPdf	08 36 35.6	-0.4	
SRU	San Rafael Swe	118.04	299		PKiKP		PKPdf	08 36 35.6	-0.4	
SZCU	Shurtz Canyon	118.15	296				PKiKP	08 36 36.5	+0.2	
SHOC	Shoshone, Teco	118.48	293		P		PKiKP	08 36 38.0	+1.3	
	baz=140									
EDW2	Edwards Air Fo	118.60	291		P		PKiKP	08 36 38.1	+1.1	
	baz=140									
MNK	Minsk	118.83	33		*i* PKIKP		PKiKP	08 36 37.0	+0.3	
MNK					*i*			08 37 56.2		
MNK					*i* PPP		PPP	08 40 27.7		
MNK					*i*			08 43 51.0		
MNK					*i* PS		PS	08 47 43.9	+1.2	
MNK					*i* SS		SS	08 54 15.5	+0.9	
MNK					pmax		pmax			
	comp=E,7.0nm,0.9s									
MNK					pmax		pmax			
	comp=Z,12nm,0.7s									
MNK					pmax		pmax			
	comp=N,12nm,0.6s									
MNK					MLR		MLR			
	comp=N,139nm,18.0s									
MNK					MLR		MLR			
	comp=Z,280nm,18.0s									
MNK					MLR		MLR			
	comp=E,118nm,16.0s									
NACGM	Naroch	118.84	32		*e* PKP		PKPdf	08 36 36.2	-0.5	
	comp=Z,11nm,1.0s,baz=212									
K22A	Casper	118.85	304		P		PKiKP	08 36 38.2	+0.7	
	baz=141									
RSSD	Black Hills	118.85	307		P		PKiKP	08 36 39.1	+1.7	
	baz=141									
LRMC	Laurel Mtn Rad	118.90	291		P		PKiKP	08 36 39.1	+1.4	
	baz=140									
FURC	Furnace Creek,	119.22	293		P		PKiKP	08 36 39.4	+1.4	
	baz=140									
ARVC	Arvin	119.23	290		P		PKiKP	08 36 39.7	+1.5	
	baz=140									
MPMC	Manual Prospec	119.24	292		P		PKiKP	08 36 39.6	+1.1	
	baz=140									
WCT	Wildcat Mounta	119.35	293				PKiKP	08 36 39.4	+0.9	
PKM	Mcpherson Peak	119.57	289		P		PKiKP	08 36 40.0	+0.8	
	baz=140									
VORD	Divnogorie	119.79	42		*e* PKIKP		PKPdf	08 36 38.0	-0.6	
VORD					pmax		pmax			
	comp=Z,8.0nm,0.4s									
CWC	Cottonwood Cre	119.84	292		P		PKiKP	08 36 40.1	+0.6	
	baz=140									
GRAC	Grapevine Rang	119.89	293		P		PKiKP	08 36 41.1	+1.6	
	baz=140									
VES	Vestal, Richgr	119.91	290		P		PKiKP	08 36 41.0	+1.5	
	baz=140									
VSR	Storozhevoye	119.95	42		*e* PKIKP		PKPdf	08 36 38.0	-0.9	
VSR					pmax		pmax			
	comp=Z,10.0nm,1.2s									
SMMC	Simmler	119.99	289		P		PKiKP	08 36 41.3	+1.6	
	baz=140									
R11B	Troy Canyon, C	120.00	295		P		PKiKP	08 36 41.2	+1.3	
	baz=140									
DUG	Dugway, Tooele	120.00	298		P		PKiKP	08 36 41.1	+1.4	
	baz=140									
HFS	Hagfors	120.11	22		PKP		PKPdf	08 36 37.1	-1.9	
	comp=Z,3.6nm,0.7s,baz=147,slow=3.5,SNR=12									
HFS					PKKPbc		PKKPbc	08 46 47.1	+0.2	
	comp=Z,0.9nm,0.6s,baz=4.6,slow=7.4,SNR=4.3									
NAO01	NORSAR Array S	120.19	20		PKPdf		PKiKP	08 36 40.2	+1.0	
ULM	Lac du Bonnet	120.23	316		PKP		PKPdf	08 36 38.8	-0.8	
	comp=Z,3.3nm,0.7s,baz=170,slow=3.8,SNR=9.1									
ULM					PP		PP	08 38 01.9	-4.3	
	comp=Z,5.5nm,1.0s,baz=124,slow=6.7,SNR=6.0									
ULM					PKKPbc		PKKPab	08 46 45.1	-0.8	
	comp=Z,1.7nm,0.8s,baz=288,slow=6.6,SNR=5.0									
VORR	Voronezh	120.33	41		*e* PKIKP		PKiKP	08 36 40.2	+0.5	
VORR					pmax		pmax			
	comp=Z,94nm,0.4s									
BW06	Boulder Array	120.37	302		P		PKiKP	08 36 41.6	+1.1	
	baz=140									
PDAR	Pinedale Array	120.37	302				PKPdf	08 36 39.9	-0.5	
PDAR	Pinedale Array	120.37	302		PKP		PKPdf	08 36 39.1	-1.3	
	comp=Z,0.5nm,0.4s,baz=122,slow=2.7,SNR=6.7									
PDAR					PP		PP	08 38 07.0	-0.6	
	comp=Z,1.1nm,0.9s,baz=142,slow=7.5,SNR=4.1									
PDAR					PKKPbc		PKKPab	08 46 47.0	+0.7	
	comp=Z,1.2nm,0.8s,baz=74,slow=1.7,SNR=9.3									
NB2	NORSAR Subarra	120.43	20		PKPdf		PKiKP	08 36 40.5	+0.8	
	comp=Z,2.3nm,0.7s,baz=202,slow=1.8									
NB2	NORSAR Subarra	120.43	20		PKPdf		PKiKP	08 36 40.5	+0.8	
	comp=Z,202,slow=1.8									
NOA	NORSAR Array B	120.43	20		PKP		PKPdf	08 36 39.3	-0.4	
	comp=Z,4.5nm,0.8s,baz=203,slow=1.8,SNR=13									
NOA					PKKPbc		PKKPbc	08 46 46.2	+0.5	
	comp=Z,0.7nm,0.6s,baz=26,slow=3.3,SNR=3.4									
BGU	Big Grassy Mou	120.66	298		PKPdf		PKiKP	08 36 41.3	+0.3	
AKN	Aaknes	120.71	18		*e* P		PKiKP	08 36 41.2	+1.0	
VRH	Novokhopyorsk	120.90	43		*e* PKIKP		PKiKP	08 36 41.1	+0.2	
VRH					pmax		pmax			
	comp=Z,14nm,0.6s									
DOMB	Dombas	120.95	19		*e* P		PKiKP	08 36 41.3	+0.6	
LPSR	Galich'ya Gora	120.97	40		*e* PKIKP		PKPdf	08 36 40.3	-0.5	
LPSR					pmax		pmax			
	comp=Z,10.0nm,0.6s									
MLAC	Mammoth, Mammt	121.13	292		P		PKiKP	08 36 43.2	+1.0	
	baz=139									
NV11	Mina Array Sit	121.38	293		PKPdf		PKiKP	08 36 42.6	+0.1	
NVAR	Mina Array Bea	121.46	293		PKP		PKPdf	08 36 42.0	-0.6	
	comp=Z,1.3nm,0.6s,baz=152,slow=2.9,SNR=11									
NVAR					PKKPbc		PKKPab	08 46 42.9	+0.7	
	comp=Z,0.9nm,0.8s,baz=303,slow=3.3,SNR=7.4									
ANGG	Ammassalik, Gr	121.47	355		*i* P		PKPdf	08 36 40.7	-0.7	
ISOG	Isortoq, Green	121.48	354		*i* P		PKPdf	08 36 41.1	-0.3	
LOHW	Long Hollow	121.51	302				PKiKP	08 36 43.1	+0.4	
TPAW	Teton Pass	121.59	302				PKiKP	08 36 43.4	+0.5	
ELK	Elko	121.63	297		PKPdf		PKiKP	08 36 43.0	0.0	
ELK	Elko	121.63	297		PKiKP		PKiKP	08 36 43.0	0.0	
MOOW	Moose Ponds	121.68	302		PKPdf		PKiKP	08 36 43.1	+0.1	
FXWY	Fox Creek	121.73	302				PKiKP	08 36 43.7	+0.5	
LAO	LASA Array	121.81	307		P		PKiKP	08 36 44.2	+1.2	
	baz=140									
KVN	Kaiserville	121.82	294		PKPdf		PKiKP	08 36 44.2	+0.8	
KVN	Kaiserville	121.82	294		PKiKP		PKiKP	08 36 44.2	+0.8	
VSU	Vasula	121.86	30	⇓	*i* PKIKP		PKiKP	08 36 42.6	+0.1	
IMW	Indian Meadow	121.89	302		PKPdf		PKiKP	08 36 43.9	+0.4	
RLMT	Red Lodge	122.02	304		P		PKiKP	08 36 44.2	+0.6	
	baz=139									
OBN	Obninsk	122.16	37		*i* PKIKP		PKiKP	08 36 44.1	+0.9	
OBN					pmax		pmax			
	comp=Z,9.0nm,0.5s									
YERR	Yerington	122.36	293				PKiKP	08 36 45.2	+0.8	
NIL	Nilore	122.62	77		PKPdf		PKiKP	08 36 45.4	+0.5	
NIL	Nilore	122.62	77		PKiKP		PKiKP	08 36 45.4	+0.5	
GCMT	Greycliff	122.71	304		PKPdf		PKiKP	08 36 45.3	+0.5	
HEL	Helsinki	122.83	28		PKiKP		PKPdf	08 36 39.4	-4.8	
DY2G	Dye2	122.92	351		*i* P		PKPdf	08 36 44.5	0.0	
HLID	Hailey	123.32	300		P		PKiKP	08 36 47.1	+0.9	
	baz=138									
BOZ	Bozeman (W)	123.48	303		P		PKiKP	08 36 47.3	+0.9	
	baz=138									
FRB	Frobisher Bay	123.56	339		PKP		PKPdf	08 36 42.9	-2.5	
	comp=Z,17nm,0.6s,baz=139,slow=3.8,SNR=44									
SFJD	Kangerlussuaq	123.86	349		PKP		PKPdf	08 36 44.4	-1.5	
	comp=Z,19nm,0.9s,baz=132,slow=1.9,SNR=8.3									
SFJD	Kangerlussuaq	123.86	349		*i* P		PKPdf	08 36 45.3	-0.7	
SIMJ	Simiganj	124.06	70		PKPdf		PKiKP	08 36 48.0	+0.2	
BELG	Belogornoye	124.15	46	*c*	*i* PKIKP		PKiKP	08 36 47.3	+0.1	
FINES	FINESS Array B	124.20	28		PKPdf		PKiKP	08 36 47.1	+0.1	
FINES	FINESS Array B	124.20	28		PKP		PKPdf	08 36 45.8	-1.0	
	comp=Z,15nm,0.8s,baz=132,slow=2.8,SNR=52									
FINES	FINESS Array B	124.20	28		PKiKP		PKiKP	08 36 47.2	+0.1	
FIA1	FINESS Array S	124.20	28		PKPdf		PKPdf	08 36 46.8	+0.1	
EGMT	Eagleton	124.41	306		PKPdf		PKiKP	08 36 47.9	-0.1	
EGMT	Eagleton	124.41	306		P		PKiKP	08 36 48.8	+0.7	
	baz=138									
LYMT	Lyon Mountain	124.80	304				PKiKP	08 36 49.5	+0.5	
BPMT	Black Pine Rid	124.96	303		PKPdf		PKiKP	08 36 49.4	0.0	
CMAR	Chiang Mai Arr	125.00	110		PKPdf		PKPdf	08 36 47.8	-1.9	
CMAR	Chiang Mai Arr	125.00	110		PKP		PKPdf	08 36 47.4	-2.4	
	comp=Z,9.0nm,0.4s,baz=202,slow=1.0,SNR=7.5									
CMAR	Chiang Mai Arr	125.00	110		PKiKP		PKPdf	08 36 47.8	-1.9	
GAR	Garm	125.00	71				PKiKP	08 36 50.2	+0.6	
ICESG	Greenland Ices	125.03	354		*i* P		PKPdf	08 36 47.9	-0.7	
CHTO	Chiang Mai	125.29	110		PKPdf		PKPdf	08 36 50.5	+0.2	
CHTO	Chiang Mai	125.29	110		PKiKP		PKPdf	08 36 50.5	+0.2	
VALR	Valaam	125.44	30	*c*	PKiKP		PKiKP	08 36 49.6	+0.1	
MSO	Missoula	125.48	303		P		PKiKP	08 36 51.0	+0.7	
	baz=136									
MOR8	Moi Rana	125.70	19		*e* P		PKPdf	08 36 49.5	-0.1	
BTK	Batken	126.03	70		PKPdf		PKiKP	08 36 51.8	+0.2	
BTK	Batken	126.03	70		PKiKP		PKiKP	08 36 51.8	+0.2	
ILULI	Ilulissat	126.05	350		*i* P		PKPdf	08 36 49.8	-0.3	
SCO	Scoresbysund	126.14	2		*i* P		PKiKP	08 36 50.6	-0.1	
FCC	Fort Churchill	126.24	323		PKPdf		PKPdf	08 36 50.2	-0.5	
FCC	Fort Churchill	126.24	323		PKiKP		PKPdf	08 36 50.2	-0.5	
J05D	Fort Rock, OR	126.53	295		PKPdf		PKiKP	08 36 52.6	+0.1	
FAUS	Fauske	126.93	19		*e* P		PKiKP	08 36 52.1	-0.2	
CHM	Chimkent	127.02	67		*e* PKP		PKPdf	08 36 53.2	+0.3	
	baz=68									
CHM	Chimkent	127.02	67		*e* PKIKP		PKPdf	08 36 53.1	+0.2	
IUG	Iuzhnay	127.12	68		*e* PKP		PKiKP	08 36 53.7	-0.1	
	baz=68									
IUG	Iuzhnay	127.12	68		*e* PKIKP		PKiKP	08 36 53.6	-0.1	
ABKAR	Akbulak array	127.19	55		PKPdf		PKPdf	08 36 52.7	-0.2	
ABKAR	Akbulak array	127.19	55		PKPdf		PKPdf	08 36 52.9	0.0	
KLMR	Klimovskoe	127.63	35		*i* PKIKP		PKiKP	08 36 54.0	+0.1	
KLMR					*e*			08 39 05.6		
KLMR					pmax		pmax			
	comp=Z,33nm,1.2s									
KLMR					MLR		MLR			
	comp=Z,307nm,22.0s									
BRLS	Boroldav	127.65	67		*e* PKP		PKPdf	08 36 53.5	-0.5	
	baz=67									
BRLS	Boroldav	127.65	67		*e* PKIKP		PKPdf	08 36 53.5	-0.5	
NEW	Newport	128.01	302		P		PKiKP	08 36 55.5	+0.3	
	baz=135									
KK31	Karatay Array	128.05	67		PKPdf		PKPdf	08 36 55.0	+0.2	
KK31	Karatay Array	128.05	67		PKiKP		PKPdf	08 36 55.0	+0.2	
KKAR	Karatay Array	128.05	67		PKPdf		PKiKP	08 36 55.4	0.0	
KKAR	Karatay Array	128.05	67		PKiKP		PKiKP	08 36 55.4	0.0	
ARSB	Arslanbob	128.09	70		PKPdf		PKiKP	08 36 56.3	+0.6	
ARSB	Arslanbob	128.09	70		PKiKP		PKiKP	08 36 56.3	+0.6	
DZA	Taraz	128.33	68		*e* PKP		PKPdf	08 36 55.6	+0.2	
	baz=68									
DZA	Taraz	128.33	68		*e* PKIKP		PKPdf	08 36 55.5	+0.2	
KSH	Kashi	128.41	74		PKP		PKiKP	08 36 56.6	+0.2	
KSH					PP		PP	08 39 04.3	+3.0	
KSH					AMB		AMB			
	comp=Z,140nm,5.8s									
KSH					LR		LR			
	comp=Z,310nm,20.8s									
KSH					LR		LR			
	comp=Z,210nm,19.4s									
KSH					LR		LR			
	comp=Z,290nm,16.8s									
SUMG	Summit	128.44	356		PKPdf		PKiKP	08 36 56.0	+0.2	
SUMG	Summit	128.44	356		PKiKP		PKiKP	08 36 56.0	+0.2	
SUMG	Summit	128.44	356		*i* P		PKPdf	08 36 55.0	-0.1	
NUUG	Nuugaatsiaq	128.49	350		*i* P		PKPdf	08 36 54.0	-0.7	
KIRV	Kirov	129.38	41	*c*	*i* PKIKP		PKiKP	08 36 57.6	+0.1	
TRO	Tromso	129.56	19		*e* P		PKiKP	08 36 57.5	0.0	
ADZR	Andozero	129.58	31		*e* PKIKP		PKiKP	08 36 57.4	-0.3	
ADZR					pmax		pmax			
	comp=Z,63nm,0.9s									
EDM	Edmonton	129.71	309				PKiKP	08 36 58.2	-0.2	
EDM	Edmonton	129.71	309		PKIKP		PKiKP	08 36 58.2	-0.2	
JETT	Jettan, Norway	129.77	20		*e* P		PKiKP	08 36 57.9	-0.2	
AAK	Ala-Archa	129.81	70	⇓	*i* PKIKP		PKiKP	08 36 58.9	-0.2	
UPNV	Upernavik	129.98	349		*i* P		PKiKP	08 36 57.0	-0.5	
SGDS	Sogindy	130.45	70		*e* PKP		PKPdf	08 36 59.5	+0.1	
	baz=70									
SGDS					*e* PP		PP	08 39 14.6	0.0	
	baz=70									
SGDS	Sogindy	130.45	70		*e* PKIKP		PKPdf	08 36 59.5	+0.1	
SGDS					*e*			08 39 14.6		
ARA0	ARCESS Array S	130.76	22		*e* P		PKPdf	08 36 58.9	-0.2	
ARCES	ARCESS Array B	130.76	22		PKPdf		PKPdf	08 36 59.5	+0.4	
ARCES	ARCESS Array B	130.76	22		PKP		PKPdf	08 36 56.9	-2.3	
	comp=Z,27nm,0.9s,baz=211,slow=1.4,SNR=38									
ARCES	ARCESS Array B	130.76	22		PKiKP		PKPdf	08 36 59.5	+0.4	
APA	Apatity	131.02	26	⇓	*i* PKIKP		PKPdf	08 36 59.3	-0.3	
APA					pmax		pmax			
	comp=Z,17nm,0.9s									
BTLS	Baital	131.23	68		*e* PKP		PKPdf	08 37 01.0	+0.2	
	baz=68									
BTLS					*e* PP		PP	08 39 19.1	-0.4	
	baz=68									
BTLS	Baital	131.23	68		*e* PKIKP		PKPdf	08 37 01.0	+0.2	
BTLS					*e*			08 39 19.9		
HAMF	Hammerfest	131.30	20		*e* P		PKiKP	08 37 01.3	+0.3	
TNSS	Tian-Shan	131.39	72		*e* PKP		PKPdf	08 37 01.7	0.0	
	baz=72									
TNSS	Tian-Shan	131.39	72		*e* PKIKP		PKPdf	08 37 01.7	0.0	
AAA	Alma-Ata	131.50	71		*e* PKP		PKPdf	08 37 01.7	+0.3	
	baz=72									
AAA	Alma-Ata	131.50	71		*e* PKIKP		PKPdf	08 37 01.7	+0.3	
ARU	Arti	131.51	48		PKPdf		PKiKP	08 37 01.7	-0.1	
ARU	Arti	131.51	48		*i* PKIKP		PKPdf	08 37 00.0	-0.9	
ARU								08 39 18.7		
ARU					SS		SS	08 56 52.6	-1.5	
MDOK	Medeo	131.53	72		*e* PKP		PKPdf	08 37 02.0	+0.4	
	baz=72									
MDOK	Medeo	131.53	72		*e* PKIKP		PKPdf	08 37 02.0	+0.4	
LVZ	Lovozero	131.58	26		PKPdf		PKiKP	08 37 01.4	-0.3	
LVZ	Lovozero	131.58	26	⇓	*e* PKIKP		PKiKP	08 37 01.4	-0.3	
KUU	Kurty	131.66	70		*e* PKP		PKPdf	08 37 02.2	+0.6	
	baz=70									
KUU	Kurty	131.66	70		*e* PKIKP		PKPdf	08 37 02.2	+0.6	
CHKK	Chushkaly	131.97	71		*e* PKP		PKPdf	08 37 02.7	+0.5	
	baz=71									
CHKK	Chushkaly	131.97	71		*e* PKIKP		PKPdf	08 37 02.6	+0.4	
SATY	Saty	132.19	73		*e* PKP		PKPdf	08 37 02.6	-0.2	
	baz=73									
SATY	Saty	132.19	73		*e* PKI

LZH	Lanzhou	141.51	100	PKP	PKPdf	08 37 20.0	-0.3	
LZH				sPKP		08 37 32.3		
LZH				LR	LR			
	comp=Z,190nm,14.1s							
LZH				LR	LR			
	comp=Z,120nm,13.7s							
LZH				LR	LR			
	comp=Z,190nm,14.4s							
GTA	Gaotai	141.60	93	ePKP	PKPdf	08 37 17.5	-2.8	
GTA				sPKP		08 37 33.0		
GTA				LR	LR			
	comp=Z,130nm,20.4s							
GTA				LR	LR			
	comp=Z,270nm,20.0s							
GTA				LR	LR			
	comp=Z,250nm,20.4s							
S32K	Killisnoo	141.94	303	P	PKiKP	08 37 21.8	-1.2	
	baz=120							
SIT	Sitka	142.09	302	P	PKiKP	08 37 22.1	-1.2	
	baz=120							
ZALV	Zalesovo Beam	142.19	64	PKP	PKPdf	08 37 16.6	-4.1	
	comp=Z,2.7nm,0.5s,baz=226,slow=4.1,SNR=12							
R32K	Eaglecrest	142.31	305	P	PKiKP	08 37 22.7	-1.1	
	baz=119							
P33M	Teslin, Yukon	142.45	308	P	PKiKP	08 37 22.9	-1.3	
	baz=118							
P32M	Atlin	142.56	307	P	PKiKP	08 37 23.5	-0.8	
	baz=118							
XAN	Xi'an	142.77	107	⇓PKP	PKPdf	08 37 19.0	-3.5	
XAN				LR	LR			
	comp=Z,200nm,20.4s							
XAN				LR	LR			
	comp=Z,220nm,17.1s							
XAN				LR	LR			
	comp=Z,410nm,21.3s							
WHN	Wuhan	142.85	117	PKP	PKiKP	08 37 25.5	-0.3	
C36M	Paulatuk	142.88	324	P	PKiKP	08 37 23.8	-0.8	
	baz=112							
O30N	Mendenhall	144.15	308		PKPbc	08 37 23.0	+0.8	
A36M	Sachs Harbour	144.16	328	PKPdf	PKPbc	08 37 22.2	+0.3	
HYT	Haines Junctio	144.80	307	PKPdf	PKPdf	08 37 25.6	+0.3	
HYT	Haines Junctio	144.80	307	P	PKPdf	08 37 25.4	+0.2	
	baz=114							
N30M	Aishikik Lake	144.87	308	PKPdf	PKPdf	08 37 25.7	+0.4	
N30M	Aishikik Lake	144.87	308	P	PKPdf	08 37 25.8	+0.5	
	baz=113							
LYN	LuoYang	145.05	110	⇓PKPbc	PKPab	08 37 26.3	+0.5	
LYN				PKPab	pPKPab	08 37 28.8	-1.7	
LYN				SKKS		08 47 38.3		
LYN				SS	SS	08 59 36.4	+2.2	
LYN				LR	LR			
	comp=Z,290nm,15.8s							
LYN				LR	LR			
	comp=Z,180nm,14.4s							
LYN				LR	LR			
	comp=Z,420nm,21.6s							
MAYO	Mayo, Yukon	145.17	312		PKPdf	08 37 25.8	+0.1	
MAYO	Mayo, Yukon	145.17	312	P	PKPdf	08 37 26.0	+0.3	
	baz=111							
PNL	Peninsula	145.19	305	P	PKPdf	08 37 26.8	+1.0	
	baz=114							
YUK6	Outpost Mounta	145.24	307	P	PKPdf	08 37 27.2	+1.0	
	baz=113							
H31M	Peel River	145.31	316	P	PKPdf	08 37 26.4	+0.5	
	baz=109,SNR=14							
YUK4	Talbot Arm	145.52	308	P	PKPab	08 37 27.3	+0.3	
	baz=113							
F31M	Tsiigehtchic	145.60	319	P	PKPab	08 37 27.1	+0.2	
	baz=108							
G31M	Satah River	145.64	318	P	PKPab	08 37 26.9	-0.2	
	baz=108,SNR=50							
J30M	Hart River	145.69	314	P	PKPab	08 37 27.8	+0.3	
	baz=110,SNR=15							
INK	Inuvik	145.77	321	PKPdf	PKPab	08 37 27.1	-0.4	
INK	Inuvik	145.77	321	P	PKPab	08 37 27.6	+0.1	
	baz=106							
INK	Inuvik	145.77	321	PKP2	PKPab	08 37 27.1	-0.4	
M29M	Somme Creek	145.85	310	PKPdf	PKPab	08 37 28.1	-0.1	
M29M	Somme Creek	145.85	310	P	PKPab	08 37 28.2	+0.1	
	baz=111							
JOW	Kunigami	145.89	138		PKPdf	08 37 28.3	+0.2	
JOW	Kunigami	145.89	138	PKPbc	PKPdf	08 37 26.4	-1.6	
	comp=Z,22nm,0.8s,baz=254,slow=7.9,SNR=14							
I30M	Mount Dempster	145.92	315	PKPdf	PKPbc	08 37 27.8	0.0	
I30M	Mount Dempster	145.92	315	P	PKPab	08 37 28.3	-0.1	
	baz=109,SNR=79							
K29M	Barlow Dome	145.94	312	PKPdf	PKPbc	08 37 27.8	-0.1	
K29M	Barlow Dome	145.94	312	P	PKPab	08 37 28.4	0.0	
	baz=110,SNR=26							
L29M	L29M	145.94	311	P	PKPab	08 37 28.5	+0.1	
	baz=110							
O28M	Mount Upton	146.00	306	P	PKPab	08 37 29.3	+0.3	
	baz=112							
YUK8	Steele Glacier	146.00	307	P	PKPab	08 37 29.3	+0.3	
	baz=112							
NJ2	Nanjing	146.31	121	ePKPbc	PKPab	08 37 30.9	+0.3	
NJ2				pPKP	sPKPab	08 37 41.9	+4.8	
NJ2				sPKP		08 37 44.8		
LOGN	Logan Glacier	146.38	306		PKPbc	08 37 29.5	+0.1	
G30M	tAoh Zraii Nji	146.39	318	P	PKPab	08 37 29.5	-0.5	
	baz=106							
F30M	Barrier River	146.40	319	P	PKPab	08 37 29.6	-0.4	
	baz=106,SNR=26							
EPYK	Eagle Plains	146.41	317	P	PKPbc	08 37 29.1	0.0	
	baz=107							
J29N	Klondike Camp	146.42	313		PKPbc	08 37 29.6	+0.3	
J29N	Klondike Camp	146.42	313	P	PKPab	08 37 30.1	-0.1	
	baz=109							
YUK3	Moose Creek	146.49	308	P	PKPbc	08 37 29.7	0.0	
	baz=111							
MESA	MESA	146.58	305	P	PKPab	08 37 30.8	-0.3	
	baz=112							
CTGM	Chitina Glacie	146.59	306		PKPbc	08 37 30.3	+0.3	
CTG	Chitna Glacier	146.59	306	P	PKPab	08 37 30.6	-0.5	
	baz=112							
I29M	Ogilvie Camp,	146.74	315		PKPbc	08 37 29.4	-0.7	
I29M	Ogilvie Camp,	146.74	315	P	PKPbc	08 37 30.0	-0.1	
	baz=107							
BARN	Barnard Glacie	146.77	306		PKPbc	08 37 30.6	0.0	
DAWY	Dawson	146.79	312		PKPbc	08 37 30.0	-0.3	
DAWY	Dawson	146.79	312	P	PKPbc	08 37 30.5	+0.2	
	baz=108,SNR=30							
H29M	Whitestone	147.00	316	P	PKPbc	08 37 30.8	-0.1	
	baz=106,SNR=53							
G29M	Pine Creek	147.06	317	P	PKPbc	08 37 31.1	+0.2	
	baz=105,SNR=52							
WAX	Waxell Ridge	147.09	305		PKPdf	08 37 29.0	-0.2	
M27K	Edge Creek, AK	147.31	308	P	PKPbc	08 37 32.2	+0.3	
	baz=109							
E29M	Blow River	147.36	320	P	PKPbc	08 37 31.7	-0.1	
	baz=103,SNR=52							
TIY	Taiyuan	147.40	107	PKPbc	PKPbc	08 37 33.8	+0.9	
TIY				LR	LR			
	comp=Z,230nm,17.9s							
TIY				LR	LR			
	comp=Z,190nm,17.7s							
TIY				LR	LR			
	comp=Z,230nm,17.1s							
I28M	Miner Creek	147.42	314	P	PKPbc	08 37 31.8	-0.3	
	baz=106,SNR=23							
BCAR	Beaver Creek A	147.50	310	PKPdf	PKPdf	08 37 29.3	-0.4	
MCARA	McCarthy VSAT	147.50	306		PKPbc	08 37 30.9	-1.4	
MCARA	McCarthy VSAT	147.50	306	P	PKPbc	08 37 32.7	+0.3	
	baz=110							
L27K	Beaver Creek,	147.51	310	P	PKPbc	08 37 32.8	+0.5	
	baz=108							
KAIM	Kayak Island	147.64	303	P	PKPbc	08 37 33.3	+0.6	
	baz=111							
VRDI	Verde Repeater	147.64	306		PKPbc	08 37 33.1	+0.2	
EGAK	Eagle	147.73	313		PKPdf	08 37 29.4	-0.5	
EGAK	Eagle	147.73	313	P	PKPbc	08 37 32.6	-0.2	
	baz=106							
M26K	Nabesna, AK	147.82	308	P	PKPbc	08 37 33.3	+0.1	
	baz=108							
D28M	Stokes Point	147.85	322	P	PKiKP	08 37 33.9	-1.0	
	baz=101							
K27K	Chicken	147.91	311		PKPdf	08 37 30.6	+0.3	
K27K	Chicken	147.91	311	P	PKiKP	08 37 34.4	-0.8	
	baz=106,SNR=8.6							
F28M	Old Crow	147.92	318	P	PKPbc	08 37 33.7	+0.4	
	baz=103,SNR=57							
E28M	Babbage River	148.00	320		PKPdf	08 37 30.3	0.0	
E28M	Babbage River	148.00	320	P	PKPbc	08 37 33.3	-0.2	
	baz=101							
BMRM	Bremner River	148.08	305	P	PKPbc	08 37 33.9	0.0	
	baz=110							
BTO	Baotou	148.13	100	ePKPbc	PKPdf	08 37 32.9	+1.4	
BTO				PKPab	pPKPab	08 37 41.8	-0.9	
BTO				pPKP	sPKPab	08 37 44.6	+0.2	
BTO				sPKP		08 37 47.3		
BTO				SKKS		08 47 49.1		
BTO				LR	LR			
	comp=Z,410nm,20.0s							
BTO				LR	LR			
	comp=Z,310nm,15.5s							
BTO				LR	LR			
	comp=Z,650nm,19.6s							
I27K	Kandik River	148.13	314	P	PKiKP	08 37 34.7	-0.9	
	baz=104,SNR=14							
L26K	Log Cabin Wild	148.16	309		PKPdf	08 37 30.8	+0.1	
L26K	Log Cabin Wild	148.16	309	P	PKPbc	08 37 34.5	+0.5	
	baz=107							
H27K	Steamboat Moun	148.25	316	P	PKPbc	08 37 34.7	+0.5	
	baz=104,SNR=48							
N25K	Chitina, Valde	148.29	306	P	PKPbc	08 37 35.1	+0.6	
	baz=108							
Q23K	Middleton Isla	148.38	302	P	PKiKP	08 37 35.4	-0.8	
	baz=111							
HNS	HongShan	148.39	110	⇑PKPbc	PKPbc	08 37 36.4	+1.0	
HNS				PP	PP	08 41 13.6	+8.8	
HNS				LR	LR			
	comp=Z,120nm,20.6s							
HNS				LR	LR			
	comp=Z,200nm,20.1s							
HNS				LR	LR			
	comp=Z,230nm,21.4s							
G27K	Doyon Strip	148.43	317	PKPdf	PKPdf	08 37 31.2	+0.1	
G27K	Doyon Strip	148.43	317	P	PKPbc	08 37 35.2	+0.6	
	baz=102,SNR=5.3							
EYAK	Cordova Ski Ar	148.47	304	P	PKPbc	08 37 35.5	+0.6	
	baz=110							
D27M	Malcolm River	148.62	321		PKPdf	08 37 31.8	+0.4	
D27M	Malcolm River	148.62	321	P	PKiKP	08 37 36.0	-0.6	
	baz=99							
J26L	Joseph Creek	148.66	312	P	PKPbc	08 37 35.9	+0.5	
	baz=105,SNR=11							
E27K	Coleen River	148.67	319	P	PKPbc	08 37 35.7	+0.5	
	baz=100,SNR=9.5							
I26K	Coal Creek Min	148.69	314	P	PKiKP	08 37 36.0	-0.8	
	baz=104							
SCRK	Sand Creek	148.70	311	P	PKPbc	08 37 36.1	+0.5	
	baz=105							
TIA	Tai'an	148.75	114	PKPbc	PKPbc	08 37 37.3	+0.9	
HARP	HAARP	148.78	308	P	PKPbc	08 37 35.7	+0.1	
	baz=107							
KLU	Klutina	148.85	306		PKPdf	08 37 31.4	-0.6	
KLU				PKPbc	sPKPdf	08 37 37.7	-1.0	
KLU	Klutina	148.85	306	P	PKPbc	08 37 36.5	+0.6	
	baz=108							
P23K	Montague Islan	149.07	303	P	PKPbc	08 37 36.8	+0.3	
	baz=109							
PAX	Paxson	149.08	309	P	PKPbc	08 37 36.5	0.0	
	baz=106							
HHC	Hu-ho-hao-te	149.15	102	ePKPbc	PKPdf	08 37 35.0	+1.8	
M24K	Tolsona, Glenn	149.15	307	P	PKiKP	08 37 37.2	-0.6	
	baz=107							
GLI	Glacier Island	149.21	304	P	PKPbc	08 37 37.2	+0.5	
	baz=108							
G26K	Porcupine Rive	149.28	317	P	PKiKP	08 37 37.3	-0.6	
	baz=100,SNR=29							
K24K	Donnelly Dome	149.43	310	P	PKPbc	08 37 37.4	+0.1	
	baz=104							
J25K	Salcha River,	149.44	312		PKPdf	08 37 33.9	+1.1	
J25K				PKPbc	sPKPdf	08 37 38.7	-0.9	
J25K	Salcha River,	149.44	312	P	PKiKP	08 37 38.2	-0.2	
	baz=103							
F26K	Sheenjek River	149.54	318	P	PKiKP	08 37 38.5	0.0	
	baz=99,SNR=13							
MOY	Mondy	149.57	76	ePKHKP	PKPpre	08 37 33.7		
MOY				pmax	pmax			
	comp=Z,71nm,2.7s							
SCM	Sheep Creek Mo	149.60	306	P	PKiKP	08 37 38.4	-0.4	
	baz=106							
C27K	Jago River	149.63	322	P	PKiKP	08 37 38.6	+0.1	
	baz=96							
PRP	Porcupine Dome	149.70	313	P	PKiKP	08 37 38.5	-0.5	
	baz=102							
M23K	Glacier View	149.77	306	P	PKiKP	08 37 38.7	-0.4	
	baz=106							
FYU	Fort Yukon	149.78	316	PKPdf	PKPdf	08 37 32.9	-0.3	
DHY	Denali Highway	149.94	308	P	PKPbc	08 37 39.1	+0.4	
	baz=104							
H25L	Birch Creek	149.96	315	P	PKiKP	08 37 39.2	-0.1	
	baz=100							
WAT6	Susitna Watana	149.98	307	P	PKiKP	08 37 39.3	-0.4	
	baz=105							
KNK	Knik Glacier	150.00	305	P	PKiKP	08 37 39.1	-0.5	
	baz=106							
HDA	Harding Lake	150.06	311		PKPdf	08 37 32.3	-1.4	
HDA				PKPbc	PKiKP	08 37 39.9	+0.2	
HDA	Harding Lake	150.06	311	P	PKPbc	08 37 39.0	+0.3	
	baz=102							
C26K	Camden Bay	150.07	322	P	PKiKP	08 37 39.6	+0.1	
	baz=94							
SEW	Seward	150.08	302	P	PKPbc	08 37 39.1	+0.3	
	baz=108							
F25K	Christian Rive	150.09	318	P	PKiKP	08 37 39.7	+0.1	
	baz=98,SNR=14							
IL31		150.11	312		PKPdf	08 37 31.8	-1.9	
IL31					PKPbc	08 37 38.9	+0.1	
ILAR	Eielson Array	150.11	312	PKP	PKPdf	08 37 30.2	-3.6	
	comp=Z,1.5nm,0.8s,baz=117,slow=2.0,SNR=20							
ILAR				PKPbc	pPKPdf	08 37 38.1	-0.7	
	comp=Z,51nm,0.8s,baz=134,slow=2.6,SNR=222							
E25K	Arctic Village	150.13	319	P	PKiKP	08 37 39.7	+0.1	
	baz=97							
G25K	Bearman Lake	150.15	316	P	PKiKP	08 37 40.2	+0.5	
	baz=99							
ZAK	Zakamensk	150.20	79	ePKIKP	PKPdf	08 37 34.7	+0.2	
ZAK				pmax	pmax			
	comp=Z,36nm,1.5s							
O22K	Cooper Landing	150.32	303	P	PKiKP	08 37 39.9	-0.4	
	baz=107							
PMR	Palmer	150.36	305	P	PKPbc	08 37 39.1	-0.4	
	baz=106							
WAT1	Susitna Watana	150.41	308	P	PKPbc	08 37 39.9	+0.2	
	baz=104							
POKR	Poker Plat Res	150.41	312	P	PKPbc	08 37 38.9	-0.7	
	baz=101							
RC01	Rabbit Creek A	150.50	304	P	PKiKP	08 37 40.2	-0.3	
	baz=106							
COLA	College	150.54	312	P	PKPbc	08 37 39.3	-0.5	
	baz=101							
COLA	College	150.54	312	ciPKIKP	PKPbc	08 37 39.3	-0.5	
D25K	Kavik River	150.54	321		PKPdf	08 37 32.6	-1.8	
D25K	Kavik River	150.54	321	P	PKPbc	08 37 39.9	+0.1	
	baz=94							
BRSE	Bradley Lake S	150.59	301	P	PKPbc	08 37 40.0	-0.1	
	baz=108							
G24K	Hadweenzic Riv	150.68	316	P	PKiKP	08 37 40.6	-0.3	
	baz=98							
H24K	Noodor Dome	150.72	314	P	PKPbc	08 37 40.5	+0.2	
	baz=99							
MCK	McKinley	150.78	309	P	PKPbc	08 37 40.6	+0.1	
	baz=102							
M22K	Willow	150.85	305	P	PKiKP	08 37 41.1	-0.1	
	baz=105							
KDAK	Kodiak Island	150.87	297	P	PKPbc	08 37 40.7	-0.1	
	baz=110							
F24K	Squaw Lake	150.94	317	P	PKiKP	08 37 41.4	0.0	
	baz=96							
ULN	Ulaanbaatar	150.98	86	PKPdf	PKPdf	08 37 35.2	-0.7	
ULN					PKiKP	08 37 42.3	0.0	
ULN	Ulaanbaatar	150.98	86	cePKIKP	PKPdf	08 37 35.7	-0.2	
NEA2	Nenana	151.00	311	P	PKPbc	08 37 40.6	-0.4	
	baz=100							
OHAK	Old Harbor	151.03	295	P	PKiKP	08 37 41.6	-0.2	
	baz=111							
Q20K	Shuyak Island	151.04	298	P	PKPbc	08 37 41.3	+0.1	
	baz=109							
SUA	Susitna One	151.07	304	P	PKPbc	08 37 41.1	-0.3	
	baz=105							
CUT	Chulitna	151.08	306	P	PKPbc	08 37 41.2	+0.1	
	baz=104							
BJI	Beijing	151.10	108	PKPbc	PKiKP	08 37 42.9	+0.4	
I23K	Minto, Yukon-K	151.22	312	P	PKPbc	08 37 41.1	-0.3	
	baz=99							
E24K	Your Creek	151.22	318	P	PKiKP	08 37 42.0	0.0	
	baz=95							
SII	Sitkinak Islan	151.25	294	P	PKPbc	08 37 41.7	-0.1	
	baz=111							
TRF	Thorofare Moun	151.31	309		PKPdf	08 37 33.6	-2.3	
TRF					PKiKP	08 37 42.2	-0.2	
TRF	Thorofare Moun	151.31	309	P	PKPbc	08 37 42.0	0.0	
	baz=102							
C24K	Franklin Bluff	151.38	322	P	PKiKP	08 37 42.1	0.0	
	baz=91							
H23K	Yukon River	151.39	314		PKPdf	08 37 33.8	-2.0	
H23K				PKPbc	PKiKP	08 37 42.4	0.0	
H23K	Yukon River	151.39	314	P	PKiKP	08 37 42.1	-0.2	
	baz=98							
D24K	Happy Valley	151.40	321	P	PKiKP	08 37 42.0	-0.2	
	baz=92							
SKT	Skwentna	151.56	305	P	PKPbc	08 37 42.3	0.0	
	baz=103							
O20K	Slope Mountain	151.59	301	P	PKPbc	08 37 42.7	+0.1	
	baz=106							
IRK	Irkutsk	151.64	77	ePKIKP	PKPbc	08 37 42.2	-0.6	
IRK				pmax	pmax			
	comp=Z,53nm,1.5s							
E23K	Chandalar	151.64	318	P	PKiKP	08 37 42.7	-0.2	
	baz=94							
TOLK	Toolik Lake Re	151.65	319	PKPdf	PKPdf	08 37 34.6	-1.6	
TOLK				PKPbc	PKiKP	08 37 43.0	+0.1	
TOLK	Toolik Lake Re	151.65	319	P	PKiKP	08 37 42.7	-0.1	
	baz=93							
N20K	Mount Spurr	151.69	304	P	PKPbc	08 37 42.3	-0.5	
	baz=104							
G23K	Bananza Creek	151.69	315	PKPdf	PKPdf	08 37 34.5	-1.7	
G23K				PKPbc	PKiKP	08 37 43.9	+0.9	
G23K	Bananza Creek	151.69	315	P	PKiKP	08 37 43.3	+0.4	
	baz=96							
CHIR	Chirikof Islan	151.73	291	P	PKPbc	08 37 43.0	+0.1	
	baz=112							
BPAW	Bear Paw Mtn.	151.74	310	P	PKiKP	08 37 43.1	-0.1	
	baz=100							
Q19K	Cape Douglas,	151.76	298	P	PKPbc	08 37 42.9	0.0	
	baz=108							
P19K	Oil Pt	151.77	300	P	PKPbc	08 37 42.7	-0.2	
	baz=106							
MLY	Manley	151.78	312	P	PKPbc	08 37 42.6	-0.3	
	baz=98							
COLD	Coldfoot	151.80	316	P	PKiKP	08 37 43.5	+0.4	
	baz=95							
C23K	Itkillik River	152.04	322	P	PKiKP	08 37 44.0	+0.5	
	baz=89							
PPLA	Purkeypile	152.05	307	P	PKiKP	08 37 43.7	-0.2	
	baz=101							
D23K	Nanushuk River	152.07	320	P	PKiKP	08 37 44.2	+0.5	
	baz=91							
CAST	Castle Rocks	152.10	308	P	PKPbc	08 37 43.4	-0.2	
	baz=100							
H22K	Ishtalitna Cre	152.15	314	P	PKiKP	08 37 44.0	+0.1	
	baz=96							
M20K	Styx River	152.28	305	P	PKPbc	08 37 44.1	0.0	
	baz=102							
CHUM	Lake Minchumin	152.28	309	P	PKiKP	08 37 44.3	+0.1	
	baz=99							
G22K	Bettles	152.29	316	P	PKiKP	08 37 44.7	+0.6	
	baz=94							
I21K	Tanana	152.32	312	P	PKPbc	08 37 43.9	0.0	
	baz=97							
O19K	Port Alsworth	152.44	301	P	PKPbc	08 37 43.9	-0.4	
	baz=105							
E22K	Anaktuvuk Pass	152.47	318		PKPdf	08 37 35.5	-1.9	
E22K				PKPbc	PKiKP	08 37 45.0	+0.5	
E22K	Anaktuvuk Pass	152.47	318	P	PKiKP	08 37 44.5	0.0	
	baz=92							
F22K	John River	152.59	317	P	PKiKP	08 37 45.4	+0.6	
	baz=92							
N19K	Bonanza Creek	152.67	302	P	PKPbc	08 37 44.6	-0.4	
	baz=104							
P18K	Big Mountain,	152.68	299	P	PKPbc	08 37 44.1	-0.9	
	baz=106							
Q17K	Contact Creek	152.69	296	P	PKPbc	08 37 44.6	-0.5	
	baz=108							
H21K	Melozitna Rive	152.71	313	P	PKiKP	08 37 45.0	-0.1	
	baz=96							
L20K	Farewell, AK	152.74	306	P	PKPbc	08 37 44.5	-0.5	
	baz=101							
O18K	Koktuh Hills	152.79	300	P	PKiKP	08 37 45.2	-0.1	
	baz=105							
D22K	Ayikyak River	152.79	320	P	PKiKP	08 37 45.8	+0.6	
	baz=89							
M19K	Big River Lodg	152.86	304	P	PKPbc	08 37 45.1	-0.1	
	baz=102							
K20K	Telida	152.97	308	P	PKiKP	08 37 45.8	+0.1	
	baz=99							
B22K	Teshekpuk Lake	152.98	323	P	PKiKP	08 37 46.0	+0.5	
	baz=86							
G21K	Allakaket	153.06	315	P	PKiKP	08 37 46.3	+0.5	
	baz=93							
F21K	Alatna River	153.08	316	PKPdf	PKPdf	08 37 36.3	-1.9	
F21K				PKPbc	PKiKP	08 37 46.6	+0.8	
F21K	Alatna River	153.08	316	P	PKiKP	08 37 46.2	+0.4	
	baz=92							
J20K	Nowinta River	153.12	309	P	PKPbc	08 37 45.8	0.0	
	baz=97							
L19K	White Mountain	153.13	305	P	PKiKP	08 37 46.1	+0.1	
	baz=101							
Q16K	King Salmon	153.19	297	P	PKiKP	08 37 47.0	+0.8	
	baz=106							
P17K	Kvichak River	153.22	298	P	PKPbc	08 37 46.1	0.0	
	baz=105							
E21K	Killik River	153.27	319	P	PKiKP	08 37 46.7	+0.5	
	baz=89							
I20K	Naaghedeneel	153.33	311	P	PKiKP	08 37 46.9	+0.6	
	baz=96							
CHGN	Chignik	153.36	291	P	PKPbc	08 37 46.4	-0.1	
	baz=110							
A22K	Sinclair Lake	153.43	325	P	PKiKP	08 37 47.2	+0.9	
	baz=83							
B21K	Ikpikpuk River	153.44	322		PKPdf	08 37 38.0	-0.7	
B21K				PKPbc	PKiKP	08 37 47.6	+1.1	
B21K					PKPab	08 37 59.8	+1.1	
B21K	Ikpikpuk River	153.44	322	P	PKiKP	08 37 47.5	+1.1	
	baz=86							
M18K	Stony River	153.45	303	P	PKiKP	08 37 46.9	+0.2	
	baz=101							
CHNA	Chernabura Isl	153.46	288	P	PKPbc	08 37 46.4	-0.4	
	baz=112							
C21K	Knifeblade Rid	153.54	321	P	PKiKP	08 37 47.9	+1.2	
	baz=87							
H20K	Anotleneega Mo	153.56	312	P	PKiKP	08 37 47.9	+1.1	
	baz=94							
XLT	XiLinHaoTe	153.68	101	ePKPbc	PKPdf	08 37 42.8	+2.9	
O17K	Koliganek Bris	153.69	299	P	PKiKP	08 37 48.2	+1.1	
	baz=104							
J19K	Poorman	153.74	309	P	PKiKP	08 37 48.1	+0.9	
	baz=96							
N17K	Nushagak Hills	153.91	301	P	PKiKP	08 37 48.9	+1.3	
	baz=102							
A21K	Barrow	153.91	326	P	PKiKP	08 37 47.6	+0.3	
	baz=80							
F20K	Avaraart Lake	153.95	316	P	PKiKP	08 37 47.8	+0.2	
	baz=90							
P16K	Nushagak River	153.96

baz=85
K17K Iditarod 154.79 306 P **PKPab 08 38 05.5 +0.8**
baz=97
M16K Timber Creek 154.86 302 P **PKPab 08 38 06.0 +1.0**
baz=100
O15K Ungalikthiuk R 154.91 297 P **PKPab 08 38 05.6 +0.3**
baz=104
KSAR Wonju Array Be 154.96 127 PKPdf **PKPdf 08 37 41.8 0.0**
KSAR PKPab **PKPab 08 38 05.9 -0.2**
KSAR Wonju Array Be 154.96 127 PKIKP **PKPdf 08 37 41.8 0.0**
KSAR 08 38 05.9
KSRS Korea Array 154.98 127 PKP **PKPdf 08 37 39.2 -2.6**
comp=Z,1.7nm,0.8s,baz=207,slow=2.5,SNR=4.6
KSRS PKPab **PKPab 08 38 06.2 +0.1**
comp=Z,5.4nm,0.8s,baz=208,slow=4.4,SNR=12
H18K Honhosa River 155.00 311 P **PKPab 08 38 06.9 +1.4**
baz=92
S12K Black Hills 155.09 288 P **PKPab 08 38 06.4 +0.2**
baz=110
G18K Tagagawik 155.13 313 P **PKPab 08 38 07.0 +0.9**
baz=90
L16K Owhat River 155.21 303 P **PKPab 08 38 07.5 +1.0**
baz=98
J17K VABM Dome 155.22 307 P **PKPab 08 38 07.8 +1.3**
baz=95
N15K Kwethluk River 155.25 299 P **PKPab 08 38 07.8 +1.1**
baz=101
C19K Lookout Ridge 155.25 321 PKPdf **PKPdf 08 37 38.7 -2.6**
C19K PKPbc pPKPbc 08 37 51.8 -3.5
C19K PKPab **pPKPab 08 38 08.6 -2.9**
C19K Lookout Ridge 155.25 321 P **PKPab 08 38 07.8 +1.2**
baz=82
F18K Selawik 155.52 315 P **PKPab 08 38 08.9 +1.3**
baz=88
A19K Wainwright 155.57 324 P **PKPab 08 38 09.1 +1.3**
baz=78
M15K Kasigluk River 155.63 300 P **PKPab 08 38 09.2 +0.9**
baz=100
O14K Tigyukauivet M 155.65 297 P **PKPab 08 38 09.2 +0.8**
baz=102
H17K Granite Mounta 155.66 311 P **PKPab 08 38 09.3 +1.0**
baz=91
E18K Tukpahlearik C 155.83 317 PKPdf **PKPdf 08 37 41.2 -0.8**
E18K PKPab **PKPab 08 38 10.2 +1.2**
E18K Tukpahlearik C 155.83 317 P **PKPab 08 38 09.8 +0.8**
baz=85
J16K Anvik River 155.89 307 P **PKPab 08 38 10.3 +0.9**
baz=94
C18K Utukok River 155.90 320 P **PKPab 08 38 10.1 +0.7**
baz=81
G17K Kiwalik Mounta 155.96 312 P **PKPab 08 38 10.6 +1.0**
baz=89
I17K Unalakleet 155.97 308 P **PKPab 08 38 10.4 +0.7**
baz=93
B18K Kokolik River 155.99 322 P **PKPab 08 38 11.0 +1.4**
baz=79
N14K Kuskokwak Cree 155.99 298 P **PKPab 08 38 10.5 +0.6**
baz=101
L15K Ungalak Mounta 156.16 303 P **PKPab 08 38 11.2 +0.6**
baz=97
F17K Baldwin Pennin 156.17 315 P **PKPab 08 38 11.2 +0.8**
baz=86
K15K Wolf Creek Mou 156.24 304 P **PKPab 08 38 12.1 +1.2**
baz=96
M14K Bethel 156.26 300 PKPdf **PKPdf 08 37 42.6 -0.2**
M14K PKPab **PKPab 08 38 12.7 +1.7**
M14K Bethel 156.26 300 P **PKPab 08 38 12.0 +1.0**
baz=99
E17K Hotham Inlet 156.34 316 P **PKPab 08 38 12.0 +0.8**
baz=84
RDOG Red Dog Mine 156.62 319 P **PKPab 08 38 13.1 +0.7**
baz=81
C17K DeLong Mountai 156.65 320 P **PKPab 08 38 13.7 +1.2**
baz=80
H16K Elim 156.65 310 P **PKPab 08 38 13.3 +0.7**
baz=90
G16K Koyuk River 156.68 312 P **PKPab 08 38 13.8 +1.1**
baz=88
L14K Kuka Creek 156.69 302 P **PKPab 08 38 13.6 +0.8**
baz=97
D17K Noatak River 156.74 318 P **PKPab 08 38 13.9 +1.0**
baz=82
UNV Unalaska Valle 156.86 282 P **PKPab 08 38 14.1 +0.3**
baz=112
M13K Dall Lake 156.89 299 P **PKPab 08 38 15.2 +1.5**
baz=98
J14K Nanvaranak Lak 157.21 305 P **PKPab 08 38 16.1 +1.0**
baz=93
G15K Niukluk 157.41 311 P **PKPab 08 38 16.9 +1.0**
baz=87
C16K Lisburne Hills 157.47 320 P **PKPab 08 38 17.1 +1.1**
baz=78
F15K North Star Dit 157.61 313 P **PKPab 08 38 17.6 +0.9**
baz=85
K13K Kusilvak Mount 157.68 303 P **PKPab 08 38 18.1 +1.0**
baz=94
ANM Nome 158.01 310 P **PKPab 08 38 19.1 +0.7**
baz=87
M11K Mekoryuk 158.29 299 P **PKPab 08 38 20.3 +0.5**
baz=96
F14K Arctic Creek 158.33 313 P **PKPab 08 38 20.9 +1.1**
baz=84
CN2 Changchun 158.65 113 PKP **PKPdf 08 37 47.3 +1.0**
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,300nm,21.0s
BOD Bodaibo 158.78 69 *e*PKIKP **PKPdf 08 37 45.0 -1.0**
BOD pmax pmax
comp=Z,11nm,1.6s
TNA Tin City 158.97 313 P **PKPab 08 38 24.4 +1.8**
baz=82
P08K Saint George I 159.37 288 P **PKPab 08 38 24.9 +0.3**
baz=104
BNX BinXian 160.99 112 ⇓PKP **PKPdf 08 37 47.8 -1.1**
TIXI Tiksi 161.19 24 PKPdf **PKPdf 08 37 45.6 -2.7**
TIXI PKPab **PKPab 08 38 33.3 +1.2**
TIXI Tiksi 161.19 24 PKP2 **PKPab 08 38 33.3 +1.2**
TIXI 09 37 45.6
USRK Ussuriysk Ar. 162.20 122 PKPdf **PKPdf 08 37 49.6 -0.6**
USRK PKPab **PKPab 08 38 37.6 +0.3**
USRK Ussuriysk Ar. 162.20 122 PKPab **PKPab 08 38 36.9 -0.4**
comp=Z,2.5nm,0.5s,baz=257,slow=1.3,SNR=7.6
USRK Ussuriysk Ar. 162.20 122 PKP2 **PKPab 08 38 37.6 +0.3**
USRK 09 37 49.6
HEH HeiHe 163.65 100 *e*PKP **PKPdf 08 37 52.4 +1.0**
ZEA Zeya 165.01 88 *i* PKIKP **PKPdf 08 37 52.0 -0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
KLR Kul'dur 165.47 108 PKP **PKPdf 08 37 50.0 -3.0**
comp=Z,1.8nm,0.8s,baz=193,slow=2.7,SNR=2.2
KLR PKPab **PKPab 08 38 51.0 -0.6**
comp=Z,6.1nm,0.8s,baz=271,slow=3.8,SNR=14
BILL Bilibino 166.38 339 PKPdf **PKPdf 08 37 49.8 -3.4**
BILL PKPab **PKPab 08 38 55.4 +0.3**
GRNR Gornyy 168.83 110 *e*PKIKP **PKPdf 08 37 53.2 -2.3**
YSS Yuzh-Sakhalins 168.99 140 *i* PKIKP **PKPdf 08 37 57.5 +1.8**
YSS *e* 08 44 51.0
YSS pmax pmax
comp=Z,20nm,1.2s
SEY Seymchan 172.94 2 *e*PKIKP **PKPdf 08 37 54.2 -3.0**
SEY pmax pmax
comp=Z,7.0nm,1.1s
PET Petropavlovsk 175.63 231 *i* PKIKP **PKPdf 08 37 59.3 +0.9**
PET *e* 08 43 29.4
PET *e*SS SS 09 04 52.9 -2.2
PETK Petropavlovsk- 176.09 226 PKP **PKPdf 08 37 57.7 -0.9**
comp=Z,1.2nm,0.7s,baz=137,slow=7.1,SNR=3.3
PETK PKPab **PKPab 08 39 38.1 -0.4**
comp=Z,3.4nm,0.9s,baz=221,slow=7.9,SNR=6.1

*NEIC **15** 08:20:38.3±0.4,36°.29N±0°.01×98°.24W±0°.02,h5$^{km}_{\pm 1}$km, Error ellipse: s-maj=3.0km s-min=2.2km az=289.0*
TUL 15 08:20:38.7±0.4,**36°.30N**±0°.01×**98°.24W**±0°.02,**h7**$^{km}_{\pm 1}$**km, ML2.5, mb_Lg2.3**/21(NEIC),**ML2.5**/44(NEIC),**Error ellipse: s-maj=2.0km s-min=1.4km az=112.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CROK	**Carrier**	**0.29**	**44**	Pg		Pg	08 20 44.8	+0.3
CROK				Sg		Sg	08 20 49.1	+0.7
OK038	**West end E0370**	**0.45**	**294**			Pg	08 20 47.4	+0.1
OK032	**Salt Plains WL**	**0.51**	**3**			Pg	08 20 48.6	0.0
OK032						IAML	08 20 58.4	
	331nm,0.1s							
OK032						IAML	08 20 59.0	
	383nm,0.2s							
U32A	**Winter Ranch,**	**0.62**	**278**	Pg		Pg	08 20 50.6	-0.1
U32A						IAML	08 21 00.4	
	comp=E,199nm,0.1s							
U32A						IAML	08 21 02.1	
	comp=N,228nm,0.3s							
GC02	**Grant County #**	**0.63**	**29**	Pg		Pg	08 20 50.8	-0.1
KAN14	**Manchester OK**	**0.70**	**18**			Pg	08 20 52.0	-0.1
KAN14						IAML	08 21 02.4	
	comp=N,174nm,0.1s							
KAN14						IAML	08 21 02.9	
	comp=E,171nm,0.1s							
OK029	**Liberty Lake**	**0.81**	**128**			Pg	08 20 53.8	-0.4
KAN17	**Caldwell West**	**0.84**	**27**			Pg	08 20 54.5	-0.3
BLOK	**Blackwell**	**0.95**	**60**			Pg	08 20 56.4	-0.5
BLOK						IAML	08 21 11.1	
	comp=E,149nm,0.2s							
BLOK						IAML	08 21 11.1	
	comp=N,143nm,0.2s							
ADOK	**Arcadia Dam**	**0.95**	**132**	Pg		Pg	08 20 56.5	-0.5
KAN09	**Caldwell North**	**0.98**	**30**			Pg	08 20 56.9	-0.5
OK048	**Pawnee Station**	**1.05**	**83**	Pg		Pg	08 20 58.2	-0.7
OK033	**Mehan**	**1.08**	**103**			Pg	08 20 58.5	-0.9
OK033						IAML	08 21 16.2	
	comp=N,110nm,0.2s							
OK033						IAML	08 21 17.7	
	comp=N,95nm,0.1s							
OKCSW	**OKLAHOMA CITY**	**1.10**	**144**			Pg	08 20 58.9	-0.9
OKCSW						IAML	08 21 19.0	
	comp=E,126nm,0.2s							
OKCSW						IAML	08 21 19.2	
	comp=N,140nm,0.3s							
OK051	**E0350 and S346**	**1.15**	**79**	Pg		Pg	08 21 00.1	-0.7
OK052	**Battle Ridge R**	**1.20**	**104**			Pg	08 21 00.6	-1.1
OK052						IAML	08 21 18.2	
	comp=N,134nm,0.2s							
FNO	**Franklin**	**1.24**	**146**	Pg		Pg	08 21 01.3	-1.1
QUOK	**Quay**	**1.24**	**95**			Pb	08 21 01.4	-1.1
QUOK						IAML	08 21 21.7	
	comp=N,127nm,0.2s							
DEOK	**Depew**	**1.48**	**107**			Pn	08 21 05.7	-0.1
T35A	**Sooner Cattle**	**1.52**	**65**			Pn	08 21 06.7	+0.3
W35A	**Tecumseh**	**1.59**	**135**			Pn	08 21 06.8	-0.5
WMOK	**Wichita Mounta**	**1.61**	**196**			Pn	08 21 07.3	-0.4
WMOK						IAmb_Lg	08 21 31.0	
	comp=Z,10.0nm,0.9s							
SMWD	**Samnorwood**	**2.02**	**235**			Pn	08 21 12.5	-0.8
TUL3	**Leonard**	**2.02**	**100**			Pn	08 21 12.9	-0.3
TUL3						IAmb_Lg	08 21 43.3	
	comp=Z,19nm,0.9s							
R32A	**Long Quarter,**	**2.16**	**350**			Pn	08 21 16.3	+1.1
WTFS	**Witchita Falls**	**2.53**	**184**	IAmb_Lg			08 22 05.3	
	comp=Z,7.1nm,0.7s							
AMTX	**Amarillo**	**3.14**	**244**	IAmb_Lg			08 22 21.5	
	comp=Z,7.4nm,0.9s							
FW03	**Perrin-Whitt E**	**3.25**	**177**	IAmb_Lg			08 22 29.1	
	comp=Z,4.6nm,0.7s							
HHAR	**Hobbs**	**3.47**	**89**	IAmb_Lg			08 22 33.8	
	comp=Z,7.6nm,0.9s							
S39A	**Bolivar**	**4.17**	**69**	IAmb_Lg			08 22 54.5	
	comp=Z,4.0nm,0.9s							
T25A	**Trinidad**	**5.03**	**281**	IAmb_Lg			08 23 30.0	
	comp=Z,6.1nm,0.7s							
OGNE	**Ogallala**	**5.51**	**329**	IAmb_Lg			08 23 42.9	
	comp=Z,8.1nm,0.8s							
L34A	**Svendsen Farm,**	**5.85**	**14**	IAmb_Lg			08 23 56.2	
	comp=Z,11nm,0.8s							
PBMO	**Poplar Bluff**	**6.31**	**83**	IAmb_Lg			08 24 01.3	
	comp=Z,4.3nm,1.0s							

*SNET **15** 08:22:12.6±1.1, 13°.23N×87°.99W, h5$^{km}_{\pm 2}$km, ML2.5*
CATAC 15 08:22:12.8±0.3,**13°.19N**×**87°.98W, h4**$^{km}_{\pm 2}$**km, ML2.6,3C, Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.07**	**275**	⇑*i*	*i*	P	Pg	08 22 14.8	+0.5
INTP					*e*	S	Sg	08 22 16.4	+1.0
LCND	**La Caada**	**0.15**	**38**	⇑*e*	*e*	P	Pg	08 22 16.0	+0.3
LCND					*e*	S	Sg	08 22 18.2	+0.5
LCND						IAML		08 22 20.6	
	comp=Z,2μm,0.3s								
LCND	**La Caada**	**0.15**	**38**	*i*	*i*	P	Pg	08 22 16.0	+0.2
LCND					*i*	S	Sg	08 22 18.5	+0.7
LCND						IAML		08 22 20.4	
	comp=Z,2μm,1.0s								
CNCH	**Conchagua**	**0.17**	**60**	*e*	*e*	P	Pg	08 22 16.8	+0.6
CNCH					*e*	S	Sg	08 22 19.5	+1.1
CNCH	**Conchagua**	**0.17**	**60**	*i*	*i*	P	Pg	08 22 16.7	+0.5
CNCH					*i*	S	Sg	08 22 20.1	+1.7
CNCH						IAML		08 22 22.0	
	comp=Z,6μm,1.0s								
JUCU	**Jucuarn**	**0.27**	**284**	⇑*e*	*e*	P	Pg	08 22 18.4	+0.4
JUCU					*e*	S	Sg	08 22 22.5	+1.1
JUCU						IAML		08 22 24.2	
	comp=Z,902nm,0.5s								
JUCU	**Jucuarn**	**0.27**	**284**	*i*	*i*	P	Pg	08 22 18.5	+0.5
JUCU					*i*	S	Sg	08 22 22.2	+0.7
JUCU						IAML		08 22 23.5	
	comp=Z,800nm,1.0s								
AMPH	**Amapala**	**0.33**	**73**	*e*	*e*	P	Pg	08 22 20.1	+0.9
AMPH					*e*	S	Sb	08 22 25.2	-1.7
CNRM	**Centro Naciona**	**0.34**	**327**	*i*	*i*	P	Pg	08 22 19.4	+0.1
CNRM					*i*	S	Sg	08 22 23.7	0.0
CNRM						IAML		08 22 32.4	
	comp=Z,3μm,1.0s								
BLLM	**Bellamira**	**0.35**	**315**	*e*	*e*	P	Pb	08 22 20.7	-1.0
PACA	**Pacayal**	**0.43**	**310**	*e*	*e*	P	Pg	08 22 21.2	+0.1
PACA	**Pacayal**	**0.43**	**310**	*i*	*i*	P	Pb	08 22 22.5	-0.6
PACA					*i*	S	Sg	08 22 27.2	+0.4
PACA						IAML		08 22 36.5	
	comp=Z,2μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.89**	**305**	*i*	*i*	P	Pg	08 22 29.8	0.0
SCLA						IAML		08 23 06.4	
	comp=Z,24nm,1.0s								
UESV	**Universidad de**	**0.90**	**300**	*i*	*i*	P	Pg	08 22 30.2	+0.1
UESV						IAML		08 23 04.2	
	comp=Z,120nm,1.0s								
COEG	**Centro de Oper**	**0.97**	**296**	*i*	*i*	P	Pg	08 22 31.2	-0.3
COEG					*i*	S	Sb	08 22 44.9	-0.6
COEG						IAML		08 22 54.2	
	comp=Z,70nm,1.0s								
PAVA	**Las Pavas**	**1.06**	**299**	*i*	*i*	P	Pg	08 22 33.4	+0.2
PAVA					*i*	S	Sb	08 22 48.1	-0.1
PAVA						IAML		08 23 42.3	
	comp=Z,170nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.10**	**39**	*i*	*i*	P	Pg	08 22 33.7	-0.3
TGUH					*i*	S	Sg	08 22 48.7	+0.3
TGUH						IAML		08 22 56.3	
	comp=Z,160nm,1.0s								
QUEN	**Al S del Volca**	**1.25**	**118**	*i*	*i*	P	Pg	08 22 36.0	-0.9
PACN	**Al O del Volca**	**1.35**	**120**	*i*	*i*	P	Pn	08 22 37.7	-0.8
ROCN	**Rota Cerro Neg**	**1.38**	**119**	*i*	*i*	P	Pn	08 22 38.2	-0.7
CNGA	**Al SSO del Vol**	**1.43**	**119**	*i*	*i*	P	Pn	08 22 36.7	-2.9
CNGN	**Cerro Negro**	**1.43**	**119**	*i*	*i*	P	Pn	08 22 39.1	-0.5
MACN	**El Madrono**	**1.47**	**119**	*i*	*i*	P	Pn	08 22 39.9	-0.2
JAYA	**Jayaque - finc**	**1.50**	**288**	*i*	*i*	P	Pn	08 22 40.2	-0.4
NUBE	**Las Nubes**	**1.88**	**292**	*i*	*i*	P	Pn	08 22 45.5	-0.4
NUBE						IAML		08 24 24.2	
	comp=Z,49nm,1.0s								

*SNET **15** 08:23:20.0±0.6, 13°.22N×88°.00W, h2km±3km, ML2.9*
CATAC 15 08:23:18.9±0.2,**13°.18N**×**87°.97W, h10**$^{km}_{\pm 2}$**km, ML2.8,2C, Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.09**	**280**	⇑*i*	*i*	P	Pg	08 23 21.6	+0.2
INTP					*e*	S	Sg	08 23 23.2	+0.1
LCND	**La Caada**	**0.14**	**30**	*i*	*i*	P	Pg	08 23 22.8	+0.6
LCND					*i*	S	Sg	08 23 24.9	+0.4
LCND						IAML		08 23 30.7	
	comp=Z,3μm,1.0s								
CNCH	**Conchagua**	**0.16**	**54**	*i*	*i*	P	Pg	08 23 23.6	+1.1
CNCH					*i*	S	Sg	08 23 26.7	+1.7
CNCH						IAML		08 23 28.7	
	comp=Z,9μm,1.0s								
JUCU	**Jucuarn**	**0.28**	**284**	⇑*e*	*e*	P	Pg	08 23 25.1	+0.4
JUCU					*e*	S	Sg	08 23 29.2	+0.7
JUCU						IAML		08 23 33.1	
	comp=Z,1μm,0.4s								
JUCU	**Jucuarn**	**0.28**	**284**	*i*	*i*	P	Pg	08 23 25.3	+0.6
JUCU					*i*	S	Sg	08 23 29.4	+0.9
JUCU						IAML		08 23 34.1	
	comp=Z,1μm,1.0s								
AMPH	**Amapala**	**0.32**	**71**	*e*	*e*	P	Pb	08 23 26.7	+0.1
AMPH					*e*	S	Sb	08 23 32.0	+0.2
CNRM	**Centro Naciona**	**0.35**	**326**	*i*	*i*	P	Pg	08 23 26.5	+0.6
CNRM						IAML		08 23 34.9	
	comp=Z,3μm,1.0s								
BLLM	**Bellamira**	**0.37**	**314**	*e*	*e*	P	Pg	08 23 26.8	+0.6
VSM	**San Miguel**	**0.39**	**309**	*e*	*e*	P	Pb	08 23 28.2	+0.2
LCY	**Lacayo**	**0.40**	**307**	*e*	*e*	P	Pg	08 23 27.4	+0.6
RANC	**El Ranchito**	**0.40**	**309**	*e*	*e*	P	Pg	08 23 27.4	+0.5
RANC	**El Ranchito**	**0.40**	**309**	*i*	*i*	P	Pb	08 23 27.6	-0.6
RANC					*i*	S	Sg	08 23 32.6	+0.4
RANC						IAML		08 23 34.1	
	comp=Z,670nm,1.0s								
PACA	**Pacayal**	**0.45**	**309**	*e*	*e*	P	Pb	08 23 28.4	-0.6
PACA	**Pacayal**	**0.45**	**309**	*i*	*i*	P	Pb	08 23 29.7	+0.7
PACA					*i*	S	Sb	08 23 35.0	-0.8
PACA						IAML		08 23 43.3	
	comp=Z,3μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.90**	**305**	*i*	*i*	P	Pg	08 23 36.4	+0.1
SCLA						IAML		08 23 57.8	
	comp=Z,43nm,1.0s								
UESV	**Universidad de**	**0.92**	**300**	*i*	*i*	P	Pg	08 23 36.7	+0.1
UESV						IAML		08 25 05.6	
	comp=Z,150nm,1.0s								
COEG	**Centro de Oper**	**0.99**	**296**	*i*	*i*	P	Pg	08 23 37.8	-0.2
COEG						IAML		08 24 23.7	
	comp=Z,140nm,1.0s								
PAVA	**Las Pavas**	**1.08**	**299**	*i*	*i*	P	Pg	08 23 39.5	-0.2
PAVA					*i*	S	Sn	08 23 55.1	-0.3
PAVA						IAML		08 23 56.3	
	comp=Z,260nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.10**	**38**	*i*	*i*	P	Pb	08 23 40.2	+0.1
TGUH					*i*	S	Sn	08 23 55.4	-0.4
TGUH						IAML		08 23 57.9	
	comp=Z,290nm,1.0s								
QUEN	**Al S del Volca**	**1.23**	**118**	*i*	*i*	P	Pn	08 23 42.1	-0.2
QUEN						IAML		08 23 45.4	
	comp=Z,270nm,1.0s								
TEL3	**Telica 3**	**1.25**	**119**	*i*	*i*	P	Pg	08 23 51.6	+8.7
TEL3						IAML		08 24 03.7	
	comp=Z,250nm,1.0s								
PACN	**Al O del Volca**	**1.33**	**121**	*i*	*i*	P	Pn	08 23 42.9	-0.7
PACN						IAML		08 23 46.4	
	comp=Z,130nm,1.0s								
ROCN	**Rota Cerro Neg**	**1.36**	**119**	*i*	*i*	P	Pb	08 23 44.7	+0.2
ROCN						IAML		08 23 46.5	
	comp=Z,48nm,1.0s								
CNGA	**Al SSO del Vol**	**1.41**	**119**	*i*	*i*	P	Pn	08 23 44.1	-0.6
CNGA						IAML		08 23 47.7	
	comp=Z,59nm,1.0s								
MACN	**El Madrono**	**1.45**	**119**	*i*	*i*	P	Pg	08 23 46.7	0.0
MACN						IAML		08 23 50.4	
	comp=Z,43nm,1.0s								
NUBE	**Las Nubes**	**1.90**	**292**	*i*	*i*	P	Pb	08 23 53.1	-0.7
NUBE						IAML		08 24 47.7	
	comp=Z,51nm,1.0s								
RB28C	**Hialeah**	**1.96**	**122**	*i*	*i*	P	Pn	08 23 47.7	-4.5
RB28C						IAML		08 23 48.1	
	comp=Z,550nm,1.0s								
R4DEC	**Barrio San Lui**	**1.97**	**121**	*i*	*i*	P	Pb	08 23 48.3	-6.5
R4DEC					*i*	P	Pn	08 23 46.2	-6.1
R4DEC						IAML		08 23 53.2	
	comp=Z,230nm,1.0s								
R4DEC						IAML		08 23 55.5	
	comp=Z,200nm,1.0s								

*SJA **15** 08:31:45.1±0.8,20°.33S×69°.06W, h106$^{km}_{\pm 3}$km, ML4.0, MW4.0*
*IDC **15** 08:31:46.2±1.2,20°.33S×68°.91W, h103$^{km}_{\pm 12}$km, mb3.6/4, mbtmp4.0/8, MS3.6/2, Error ellipse: s-maj=30.5km s-min=9.3km az=98.0*
*NEIC **15** 08:31:46.3±1.2,20°.37S±0°.05×69°.05W±0°.06, h102$^{km}_{\pm 4}$km, mb4.2/8, Error ellipse: s-maj=8.8km s-min=7.0km az=78.0*
*GUC **15** 08:31:47.1±0.7,20°.35S×69°.11W, h102$^{km}_{\pm 3}$km, ML3.9*
*VAO **15** 08:31:47.7±0.4,20°.37S×68°.80W, h116$^{km}_{\pm 5}$km, mb4.1*
ISC 15 08:31:45.8±0.5,**20°.36S**±0°.03×**69°.06W**±0°.05,**h101**$^{km}_{\pm 5}$**km, n90,σ1°78/115, mb4.0/4, 8C-2D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.23**	**338**				**Pn**	**08 32 01.4**	**+0.6**
PB08	**IPOC Station P**	**0.23**	**338**	*e*	*e*	P	**Pn**	**08 32 00.8**	**0.0**
PB08					*e*	S	**Sn**	**08 32 12.9**	**+1.0**
PB08						IAML		08 32 13.7	
	comp=Z,5μm,0.3s								
PB08	**IPOC Station P**	**0.23**	**338**	⇓*i*	*i*	P	**Pn**	**08 32 01.5**	**+0.7**
PB08					*i*	S	**Sn**	**08 32 12.5**	**+0.6**
PB08						IAML		08 32 13.9	
	comp=E,8μm,0.2s								
GO01	**Chusmiza**	**0.70**	**350**	*e*	*e*	P	**Pn**	**08 32 04.7**	**+0.8**
GO01					*e*	S	**Sn**	**08 32 19.0**	**+1.6**
GO01	**Chusmiza**	**0.70**	**350**	⇓*i*	*i*	P	**Pn**	**08 32 04.7**	**+0.8**
GO01					*i*	S	**Sn**	**08 32 18.7**	**+1.3**
HMBC	**Humberstone**	**0.78**	**276**				**Pn**	**08 32 04.7**	**+0.5**
PB01	**IPOC Station P**	**0.79**	**210**				**Pn**	**08 32 05.0**	**+0.7**
PB01	**IPOC Station P**	**0.79**	**210**	*e*	*e*	P	**Pn**	**08 32 04.2**	**0.0**
PB01					*e*	S	**Sn**	**08 32 19.8**	**+1.7**
PB01						IAML		08 32 22.5	
	comp=Z,2μm,0.2s								
PB01	**IPOC Station P**	**0.79**	**210**	⇑*i*	*i*	P	**Pn**	**08 32 04.9**	**+0.7**
PB01					*i*	S	**Sn**	**08 32 18.7**	**+0.6**
PB01						IAML		08 32 20.4	
	comp=N,4μm,0.3s								
PB11	**IPOC Station P**	**0.82**	**317**				**Pn**	**08 32 05.4**	**+0.8**
PB11	**IPOC Station P**	**0.82**	**317**	*e*	*e*	P	**Pn**	**08 32 04.4**	**-0.2**
PB11					*e*	S	**Sn**	**08 32 19.5**	**+0.8**
PB11						IAML		08 32 21.1	
	comp=Z,5μm,0.3s								
PB11	**IPOC Station P**	**0.82**	**317**	⇑*i*	*i*	P	**Pn**	**08 32 05.2**	**+0.6**
PB11					*i*	S	**Sn**	**08 32 19.3**	**+0.6**
TA02	**Huaiquique**	**1.01**	**275**				**Pn**	**08 32 06.8**	**+0.5**
TA02	**Huaiquique**	**1.01**	**275**	*e*	*e*	S	**Sn**	**08 32 23.0**	**+1.2**
TA02						IAML		08 32 24.9	
	comp=Z,4μm,0.1s								
TA02	**Huaiquique**	**1.01**	**275**	⇑*i*	*i*	P	**Pn**	**08 32 06.8**	**+0.5**
TA02					*i*	S	**Sn**	**08 32 21.6**	**-0.2**
TA02						IAML		08 32 24.5	
	comp=N,10μm,0.1s								
TA01	**Diego Aracena**	**1.07**	**259**				**Pn**	**08 32 07.0**	**+0.1**
TA01	**Diego Aracena**	**1.07**	**259**	*e*	*e*	P	**Pn**	**08 32 07.2**	**+0.1**
TA01					*e*	S	**Sn**	**08 32 25.0**	**+1.9**
TA01						IAML		08 32 28.3	
	comp=Z,1μm,0.5s								
TA01	**Diego Aracena**	**1.07**	**259**	⇑*i*	*i*	P	**Pn**	**08 32 07.1**	**+0.1**
TA01					*i*	S	**Sn**	**08 32 23.1**	**0.0**
PATCX	**Punta Patache**	**1.12**	**246**				**Pn**	**08 32 08.2**	**+0.4**
PATCX	**Punta Patache**	**1.12**	**246**	*e*	*e*	P	**Pn**	**08 32 08.5**	**+0.8**
PATCX					*e*	S	**Sn**	**08 32 25.3**	**+1.0**
PATCX						IAML		08 32 28.0	
	comp=Z,2μm,0.4s								
PATCX	**Punta Patache**	**1.12**	**246**	⇑*i*	*i*	P	**Pn**	**08 32 08.1**	**+0.4**
PATCX					*i*

PB12	**IPOC Station P**	**2.11**	**325**	*e*P		**Pn**	**08 32 20.2**	**+0.3**
PB12				*e*S		**Sn**	**08 32 49.2**	**+3.3**
PB12				IAML			08 32 53.7	
	comp=Z,748nm,0.3s							
PB12	**IPOC Station P**	**2.11**	**325**	*e*P		**Pn**	**08 32 20.2**	**+0.3**
PB12				*i* S		**Sn**	**08 32 45.2**	**-0.7**
PB12				IAML			08 32 52.6	
	comp=E,1μm,0.4s							
PB04	**IPOC Station P**	**2.21**	**207**	*e*P		**Pn**	**08 32 22.6**	**+1.3**
PB04				*e*S		**Sn**	**08 32 41.2**	**-7.2**
PB04				IAML			08 32 58.1	
	comp=Z,480nm,0.4s							
PB04	**IPOC Station P**	**2.21**	**207**	*e*P		**Pn**	**08 32 22.1**	**+0.9**
PB04				IAML			08 32 57.7	
	comp=E,694nm,0.3s							
LVC	**Limon Verde**	**2.24**	**176**	*e*P		**Pn**	**08 32 24.0**	**+2.1**
LVC				*e*S		**Sn**	**08 32 47.8**	**-1.7**
LVC	**Limon Verde**	**2.24**	**176**	P		**Pn**	**08 32 22.3**	**+0.4**
	comp=E,78nm,0.4s,baz=354,slow=9.1,SNR=79							
LVC				S		**Sn**	**08 32 51.1**	**+1.6**
	comp=E,219nm,0.5s,baz=38,slow=19,SNR=8.9							
LVC	**Limon Verde**	**2.24**	**176**	*e*P		**Pn**	**08 32 23.8**	**+1.9**
LVC				*e*S		**Sn**	**08 32 51.8**	**+2.3**
AP01	**Chacalluta**	**2.32**	**328**			**Pn**	**08 32 23.9**	**+1.4**
AP01	**Chacalluta**	**2.32**	**328**	*e*P		**Pn**	**08 32 23.2**	**+0.7**
AP01				*e*S		**Sn**	**08 32 53.3**	**+2.6**
AP01				IAML			08 33 03.5	
	comp=Z,1μm,0.6s							
PB06	**IPOC Station P**	**2.38**	**191**	*e*P		**Pn**	**08 32 25.0**	**+1.5**
PB06				*e*S		**Sn**	**08 32 51.8**	**-0.6**
PB06				IAML			08 33 00.2	
	comp=Z,519nm,0.5s							
PB06	**IPOC Station P**	**2.38**	**191**	*e*P		**Pn**	**08 32 24.6**	**+1.0**
PB06				*i* S		**Sn**	**08 32 50.8**	**-1.7**
PB06				IAML			08 32 55.7	
	comp=N,588nm,0.5s							
AF01	**San Pedro de A**	**2.71**	**162**			**Pn**	**08 32 31.1**	**+3.2**
PB15	**IPOC Station P**	**2.86**	**188**	*e*P		**Pn**	**08 32 33.9**	**+4.0**
PB15				*e*S		Sn	08 32 53.7	-10
PB15				IAML			08 33 19.3	
	comp=Z,644nm,0.2s							
PB10	**IPOC Station P**	**3.43**	**204**	*e*P		**Pn**	**08 32 37.1**	**-0.2**
PB10				*e*S		Sn	08 33 30.2	+13
YJA	**Yavi**	**3.77**	**119**	*e*P		**Pn**	**08 32 40.9**	**-1.3**
LPAZ	**La Paz**	**4.15**	**12**			**Pn**	**08 32 50.9**	**+3.4**
LPAZ	**La Paz**	**4.15**	**12**	*e*P		**Pn**	**08 32 51.1**	**+3.5**
LPAZ	**La Paz**	**4.15**	**12**	P		**Pn**	**08 32 48.8**	**+1.2**
	comp=Z,29nm,0.6s,baz=184,slow=8.4,SNR=72							
LPAZ				S		**Sn**	**08 33 34.5**	**-0.8**
	comp=Z,9.0nm,0.6s,baz=217,slow=12,SNR=1.6							
LPAZ				LR		LR	08 34 48.2	
	comp=Z,216nm,19.3s,baz=206,slow=44							
LPAZ	**La Paz**	**4.15**	**12**	*e*P		**Pn**	**08 32 49.2**	**+1.7**
HJA	**Humahuaca**	**4.42**	**131**	*e*P		Pn	08 32 42.0	-9.0
GO02	**Mina Guanaco**	**4.80**	**186**			**Pn**	**08 32 57.2**	**+1.0**
GO02	**Mina Guanaco**	**4.80**	**186**	*e*P		**Pn**	**08 32 57.1**	**+1.0**
GO02				*e*S		**Sn**	**08 33 59.5**	**+8.8**
SIV	**San Ignacio**	**8.75**	**62**	P		**Pn**	**08 33 47.0**	**-2.5**
	comp=Z,5.6nm,0.4s,baz=241,slow=14,SNR=36							
BBRB	**Robore, Bolivi**	**8.98**	**78**	*e*P		**Pn**	**08 33 49.1**	**-3.5**
PTLB	**Pontes e Lacer**	**10.63**	**64**	*e*P		**Pn**	**08 34 13.9**	**-1.3**
MURT	**Porto Murtinho**	**10.78**	**99**	*e*P		**Pn**	**08 34 15.4**	**-1.6**
ETMB	**Extrema**	**10.84**	**15**	Pn		**Pn**	**08 34 17.2**	**-0.7**
ETMB	**Extrema**	**10.84**	**15**	*e*P		**Pn**	**08 34 17.5**	**-0.4**
VILB	**Vilhena**	**11.24**	**50**			**Pn**	**08 34 23.9**	**+0.6**
VILB	**Vilhena**	**11.24**	**50**	*e*P		**Pn**	**08 34 23.4**	**+0.1**
BDQN	**Bodoquena, MS**	**11.55**	**93**	*e*P		**Pn**	**08 34 25.6**	**-1.9**
CPUP	**Villa Florida**	**12.30**	**121**	Pn		**Pn**	**08 34 36.7**	**-0.7**
CPUP	**Villa Florida**	**12.30**	**121**	P		**Pn**	**08 34 36.4**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=311,slow=10,SNR=4.1							
CPUP	**Villa Florida**	**12.30**	**121**	*e*P		**Pn**	**08 34 36.3**	**-1.2**
AQDB	**Aquidauana**	**12.53**	**93**	*e*P		**Pn**	**08 34 38.6**	**-1.9**
SAML	**Samuel**	**12.69**	**27**	*e*P		**Pn**	**08 34 42.5**	**-0.1**
CZSB	**Cruzeiro do Su**	**13.04**	**344**	*e*P		**Pn**	**08 34 50.7**	**+3.4**
AMBA	**Amambai (Brazi**	**13.33**	**104**	*e*P		**Pn**	**08 34 50.2**	**-0.9**
ITQB	**Itaqui**	**14.59**	**132**	*e*P		**Pn**	**08 35 07.1**	**0.0**
PDRB	**Porto dos Gac**	**14.70**	**56**	*e*P		**Pn**	**08 35 08.2**	**-0.5**
TRQA	**Tornquist**	**18.67**	**162**	P		**P**	**08 35 55.3**	**-0.6**
PLCA	**Paso Flores**	**20.35**	**183**	P		**P**	**08 36 13.7**	**-0.4**
PLCA				IAmb		IAmb	08 36 16.8	
	comp=Z,14nm,1.1s							
PLCA	**Paso Flores**	**20.35**	**183**	P		**P**	**08 36 14.8**	**+0.7**
	comp=Z,5.3nm,0.9s,baz=6.6,slow=10,SNR=9.6							
	comp=Z,5.3nm,0.9s							
PLCA	**Paso Flores**	**20.35**	**183**	*e*P		**P**	**08 36 14.7**	**+0.6**
ITTB	**Itaituba**	**20.52**	**41**	*e*P		**P**	**08 36 15.0**	**-1.1**
BDFB	**Brasilia**	**20.55**	**80**	P		**P**	**08 36 16.0**	**-0.6**
BDFB	**Brasilia**	**20.55**	**80**	P		**P**	**08 36 16.0**	**-0.6**
	comp=Z,3.0nm,0.5s,baz=296,slow=13,SNR=2.9							
	comp=Z,3.0nm,0.5s							
LL04	**Puerto Octay**	**20.68**	**187**	P		**P**	**08 36 17.9**	**+0.3**
LL04				IAmb		IAmb	08 36 53.8	
	comp=Z,16nm,1.3s							
SMTB	**Santa Maria do**	**23.68**	**64**	*e*P		**P**	**08 36 45.9**	**-2.5**
SMTB				*e*pP		**pP**	**08 37 10.3**	**-0.3**
BOAV	**Boa Vista**	**24.12**	**21**	P		**P**	**08 36 52.1**	**-0.2**
ORTG	**Ortega, Santa**	**34.53**	**331**	P		**P**	**08 38 24.4**	**-0.3**
TOA0	**Torodi Ar. Sit**	**77.11**	**71**	P		**P**	**08 43 28.6**	**0.0**
TOA0				IAmb		IAmb	08 43 38.3	
	comp=Z,6.7nm,1.5s							
TORD	**Torodi Ar. Bea**	**77.11**	**71**	P		**P**	**08 43 28.1**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=258,slow=4.6,SNR=12							
TORD				pP		**pP**	**08 43 56.0**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=258,slow=4.9,SNR=3.3							
	comp=Z,1.0nm,0.5s							
VNDA	**Vanda**	**77.94**	**190**	P		**P**	**08 43 31.8**	**-0.4**
VNDA				IAmb		IAmb	08 43 45.5	
	comp=Z,4.3nm,1.2s							
FRB	**Frobisher Bay**	**83.83**	**0**	LR		LR	09 23 09.4	
	comp=Z,140nm,21.7s,baz=180,slow=37							
YKA	**Yellowknife Ar**	**90.07**	**341**	P		**P**	**08 44 33.8**	**+0.1**
YKA				pP		**pP**	**08 45 00.5**	**-0.7**
	comp=Z,0.9nm,1.0s,baz=129,slow=4.2,SNR=4.0							
	comp=Z,0.4nm,0.8s							
H11S2	**WAKE ISLAND Hyl**	**27.59**	**278**	T		T	11 10 34.6	
	baz=102,slow=74,SNR=19							
H11S1	**WAKE ISLAND Hyl**	**27.59**	**278**	T		T	11 10 32.6	
	baz=102,slow=74,SNR=23							
H11S3	**WAKE ISLAND Hyl**	**27.60**	**278**	T		T	11 10 36.0	
	baz=102,slow=74,SNR=9.6							
H11N3	**WAKE ISLAND Hyl**	**27.64**	**280**	T		T	11 10 36.4	
	baz=102,slow=74,SNR=8.4							
H11N2	**WAKE ISLAND Hyl**	**27.65**	**280**	T		T	11 10 38.1	
	baz=102,slow=74,SNR=7.5							
H11N1	**WAKE ISLAND Hyl**	**27.65**	**280**	T		T	11 10 35.3	
	baz=102,slow=74,SNR=7.5							
MKAR	**Makanchi Array**	**144.79**	**35**	PKP		**PKPab**	**08 51 10.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=331,slow=2.5,SNR=1.7							

*IDC **15** 08:32:54.6±0.7,60.°57N×28.°89W,h0km,mb3.7/15, mbtmp3.8/19,ML3.5/4,MS3.9/27,Error ellipse: s-maj=20.8km s-min=12.5km az=9.0*

*GCMT **15** 08:32:57.5±0.4,60.°31N±0.°03×28.°48W±0.°05,h25km±1km, MW4.9/68,Moment Tensor Solution. s16,c19; s68,c96; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.33±.20; $M_{\theta\theta}$-2.04±.15; $M_{\phi\phi}$2.37±.15; $M_{r\theta}$-0.92±.33; $M_{r\phi}$-0.12±.09; $M_{\theta\phi}$-0.36±.24; Best double couple: M=2.43600×10^{16} NP1:ϕ_s41.00000°,δ79.00000°,λ-23.00000°. NP2: ϕ_s136.00000°,δ68.00000°,λ-168.00000°. Principal axes: T 2.4160, Plg7.0000°, Azm90.0000°; N 0.0410, Plg65.0000°, Azm196.0000°; P -2.4550, Plg24.0000°, Azm357.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **15** 08:32:58.5±2.1,60.°5N±0.°1×28.°9W±0.°2,h10km±1km, mb4.6/23 Error ellipse: s-maj=19.0km s-min=14.2km az=189.0*

*REY **15** 08:32:59.2,60.°90N×28.°30W,h0km*

ISC 15 08:32:57.4±0.5,60.°63N±0.°08×28.°87W±0.°05,h10km,n97, σ1ŝ81/89,mb4.4/34,MS3.7/26,8D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRNE	**Reykjanes**	**4.30**	**39**	P	**Pn**	**08 34 00.7**	**-2.0**
	baz=40						
IGRV	**Grindav??k**	**4.41**	**40**	P	**Pn**	**08 34 02.7**	**-1.5**
	baz=40						
IVOG	**Vogar**	**4.51**	**39**	P	**Pn**	**08 34 04.7**	**-0.9**
	baz=39						
IKRI	**Krysuvik**	**4.55**	**41**	P	**Pn**	**08 34 04.5**	**-1.6**
	baz=42						
IVOS	**Vogsosar**	**4.65**	**43**	P	**Pn**	**08 34 06.1**	**-1.4**
	baz=43						
IVOS				S	**Sn**	**08 34 58.5**	**-3.0**
	baz=43						
IKAS	**Kald??rsel**	**4.72**	**41**	P	**Pn**	**08 34 06.5**	**-2.0**
	baz=41						
ISAN	**Sandskeio**	**4.83**	**42**	P	**Pn**	**08 34 08.9**	**-1.1**
	baz=42						
IBJA	**Bjarnastaoir**	**4.85**	**43**	P	**Pn**	**08 34 08.3**	**-2.0**
	baz=44						
IBJA				S	**Sn**	**08 35 03.8**	**-2.6**
	baz=44						
IEDA	**Engidalur**	**4.91**	**42**	P	**Pn**	**08 34 10.1**	**-1.0**
	baz=42						
IEDA				S	**Sn**	**08 35 05.8**	**-2.0**
	baz=42						
IMOR	**Morastadir**	**4.94**	**39**	P	**Pn**	**08 34 11.3**	**-0.3**
	baz=39						
ISOL	**Solvholt**	**4.96**	**45**	P	**Pn**	**08 34 10.5**	**-1.2**
	baz=45						
IKRO	**Krokur**	**5.01**	**43**	P	**Pn**	**08 34 11.3**	**-1.1**
	baz=43						
IHEI	**Heioarbar**	**5.04**	**41**	P	**Pn**	**08 34 12.3**	**-0.5**
	baz=42						
BORG	**Borgarnes**	**5.39**	**37**		**Pn**	**08 34 17.7**	**0.0**
BORG	**Borgarnes**	**5.39**	**37**	Pn	**Pn**	**08 34 16.5**	**-1.2**
	14nm,0.3s,baz=262,slow=5.2,SNR=35						
BORG				Sn	**Sn**	**08 35 18.8**	**-1.0**
	3.9nm,0.3s,baz=314,slow=24,SNR=12						
	31nm,0.4s						
IGYG	**Gygjarholskot**	**5.43**	**44**	P	**Pn**	**08 34 17.9**	**-0.3**
	baz=44						
ANGG	**Ammassalik, Gr**	**6.38**	**325**	Pn	**Pn**	**08 34 33.6**	**+2.3**
SCO	**Scoresbysund**	**10.29**	**13**	Pn	**Pn**	**08 35 27.8**	**+3.1**
SFJD	**Kangerlussuaq**	**11.48**	**313**	Pn	**Pn**	**08 35 43.9**	**+2.9**
SFJD	**Kangerlussuaq**	**11.48**	**313**	Pn	**Pn**	**08 35 40.9**	**-0.1**
	0.4nm,0.3s,baz=106,slow=7.6,SNR=2.1						
SFJD				LR	LR	08 39 26.1	
	comp=Z,397nm,19.5s,baz=114,slow=34						
	1.8nm,0.5s						
SUMG	**Summit**	**12.55**	**347**		**Pn**	**08 35 59.2**	**+3.1**
EKA	**Eskdalemuir Ar**	**14.57**	**100**	Pn	**Pn**	**08 36 23.9**	**+0.5**
	baz=289,slow=9.3						
	0.8nm,0.7s						
NEEM	**North Greenlan**	**18.40**	**345**	*i* P	**P**	**08 37 07.2**	**-5.2**
FRB	**Frobisher Bay**	**18.55**	**297**	LR	LR	08 43 25.1	
	comp=Z,403nm,21.0s,baz=154,slow=34						
NOA	**NORSAR Array B**	**19.33**	**71**	P	**Pn**	**08 37 23.0**	**-0.5**
	baz=246,slow=17,SNR=2.6						
NOA				LR	LR	08 44 09.7	
	comp=Z,254nm,19.0s,baz=285,slow=35						
	0.5nm,0.8s						
HFS	**Hagfors**	**20.78**	**73**	P	Pn	08 37 38.8	-1.8
	3.8nm,1.0s,baz=293,slow=7.7,SNR=6.4						
HFS				LR	LR	08 44 33.5	
	comp=Z,347nm,21.3s,baz=295,slow=34						
	3.8nm,1.0s						
SCHQ	**Schefferville**	**20.85**	**271**	P	**P**	**08 37 38.4**	**-0.7**
	4.3nm,0.9s,baz=43,slow=3.0,SNR=4.7						
SCHQ				LR	LR	08 44 39.1	
	comp=Z,243nm,18.1s,baz=72,slow=34						
	4.3nm,0.9s						
BMRD	**Maredsous**	**21.44**	**104**	*d*P	**P**	**08 37 47.6**	**+2.2**
	comp=Z,17nm,1.3s						
DOU	**Dourbes**	**21.50**	**104**	*d*P	**P**	**08 37 45.7**	**-0.2**
	comp=Z,7.5nm,1.4s						
BGES	**Gesves**	**21.54**	**103**	*d*P	**P**	**08 37 46.7**	**+0.3**
	comp=Z,11nm,1.2s						
BCLA	**Clavier**	**21.62**	**103**	*d*P	**P**	**08 37 48.8**	**+1.5**
RCHB	**Rochefort**	**21.76**	**103**	*d*P	**P**	**08 37 49.1**	**+0.4**
MEM	**Membach**	**21.84**	**102**	*d*P	**P**	**08 37 49.9**	**+0.3**
CLF	**Chambon-Foret**	**21.85**	**111**	P	**P**	**08 37 50.9**	**+1.1**
BTNL	**Temeli**	**21.91**	**102**	*d*P	**P**	**08 37 51.1**	**+0.7**
	comp=Z,10nm,1.2s						
BHOU	**Houvegnez**	**22.00**	**102**	*d*P	**P**	**08 37 51.9**	**+0.5**
ARCES	**ARCESS Array B**	**23.73**	**45**	LR	LR	08 45 27.5	
	comp=Z,151nm,18.5s,baz=290,slow=32						
ECH	**Echery**	**24.01**	**105**	P	**P**	**08 38 11.7**	**-0.3**
ECH				IAmb	IAmb	08 38 24.0	
	comp=Z,16nm,1.3s						
CLL	**Collm**	**24.81**	**93**	*e*P	**P**	**08 38 21.0**	**+1.8**
CLL				*e*Sx	Sx	08 43 00.0	
CLL				AMS	AMS	08 48 00.0	
	comp=N,200nm,19.1s						
CLL				AMS	AMS	08 48 00.0	
	comp=E,100nm,20.4s						
BRG	**Berggiesshubel**	**25.54**	**93**	*e*P	**P**	**08 38 24.3**	**-1.6**
BRG				Amp		08 38 30.6	
	comp=Z,3.0nm,0.8s						
FINES	**FINESS Array B**	**25.96**	**64**		**P**	**08 38 33.1**	**+3.5**
FINES	**FINESS Array B**	**25.96**	**64**	P	**P**	**08 38 28.7**	**-0.8**
	comp=Z,0.9nm,0.6s,baz=308,slow=6.8,SNR=1.5						
FINES				LR	LR	08 48 05.4	
	comp=Z,150nm,18.0s,baz=244,slow=35						
	comp=Z,0.9nm,0.6s						
FIA1	**FINESS Array S**	**25.96**	**64**		**P**	**08 38 34.0**	**+4.4**
ESDC	**Sonseca Array**	**26.06**	**132**	P	**P**	**08 38 32.0**	**+1.2**
ESDC	**Sonseca Array**	**26.06**	**132**	P	**P**	**08 38 29.7**	**-1.1**
	comp=Z,3.5nm,0.8s,baz=331,slow=9.7,SNR=18						
	comp=Z,3.5nm,0.8s						
DAVOX	**Davos/Dischmat**	**26.33**	**104**	LR	LR	08 48 17.2	
	comp=Z,141nm,19.9s,baz=264,slow=35						
GERES	**GERESS Array B**	**26.75**	**97**	P	**P**	**08 38 35.3**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=291,slow=9.2,SNR=2.6						
GERES				LR	LR	08 49 21.4	
	comp=Z,326nm,18.1s,baz=290,slow=37						
	comp=Z,0.4nm,0.3s						
RES	**Resolute Bay**	**26.87**	**328**	LR	LR	08 48 43.8	
	comp=Z,60nm,19.0s,baz=20,slow=35						
MNK	**Minsk**	**30.19**	**76**	*i* P	**P**	**08 39 08.0**	**+0.6**
	comp=E,9.0nm,0.8s						
MNK				*i* P	**P**	**08 39 08.0**	**+0.6**
	comp=N,21nm,0.8s						
MNK				*i* P	**P**	**08 39 08.0**	**+0.6**
	comp=Z,43nm,0.7s,baz=304						
MNK				*i* PP	**PnPn**	**08 40 05.5**	**+1.0**
MNK				*i* S	**S**	**08 44 08.4**	**+2.2**
MNK				*i* SS	**SnSn**	**08 45 43.0**	**+3.9**
MNK				*i* LQ	LQ	08 47 26.7	
MNK				*i* LR	LR	08 48 30.4	
MNK				*i* LRM	MLR	08 50 17.6	
	comp=Z,225nm,17.4s						
MNK				*i* LRM	MLR	08 51 09.2	
	comp=E,53nm,16.2s						
MNK				*i* LRM	MLR	08 51 20.1	
	comp=N,92nm,12.6s						
AKASG	**Malin Array Be**	**33.16**	**81**	P	**P**	**08 39 32.2**	**-1.3**
	comp=N,0.4nm,0.4s,baz=309,slow=8.8,SNR=10.0						
AKASG				LR	LR	08 52 58.8	
	comp=N,72nm,19.0s,baz=337,slow=36						
	comp=N,0.4nm,0.4s						
SADO	**Sadowa**	**33.38**	**265**	LR	LR	08 51 42.3	
	comp=N,361nm,19.4s,baz=90,slow=34						
OBN	**Obninsk**	**33.91**	**69**	LR	LR	08 52 43.7	
	comp=N,249nm,20.3s,baz=334,slow=35						
MLR	**Muntele Rosu**	**35.09**	**90**	LR	LR	08 54 32.8	
	comp=N,178nm,20.4s,baz=333,slow=37						
KIRV	**Kirov**	**37.48**	**57**	LR	LR	08 54 12.4	
	comp=N,111nm,21.1s,baz=296,slow=34						
ULM	**Lac du Bonnet**	**37.75**	**285**	LR	LR	08 54 39.3	
	comp=N,416nm,19.7s,baz=58,slow=35						
YKA	**Yellowknife Ar**	**38.03**	**311**	P	**P**	**08 40 13.7**	**-1.6**
	comp=N,1.2nm,0.8s,baz=49,slow=9.2,SNR=5.9						
YKA				LR	LR	08 55 17.7	
	comp=N,150nm,19.4s,baz=51,slow=35						
	comp=N,1.2nm,0.8s						
AGG	**Agios Georgios**	**38.17**	**101**	P	**P**	**08 40 18.2**	**+1.5**
AGG				IAmb	IAmb	08 40 20.1	
	comp=Z,15nm,1.4s						
BELG	**Belegornoye**	**40.70**	**66**	LR	LR	08 56 57.3	
	comp=Z,109nm,20.8s,baz=288,slow=35						
BRTR	**Keskin Array B**	**43.17**	**90**	P	**P**	**08 40 58.6**	**+0.5**
BRTR	**Keskin Array B**	**43.17**	**90**	P	**P**	**08 40 56.7**	**-1.4**
	comp=Z,0.7nm,0.7s,baz=329,slow=5.0,SNR=2.8						
	comp=Z,0.7nm,0.7s						
I29M	**Ogilvie Camp,**	**43.85**	**325**	P	**P**	**08 41 04.4**	**+1.3**
I29M				IAmb	IAmb	08 41 09.1	
	comp=Z,8.1nm,0.9s						
PBMO	**Poplar Bluff**	**45.00**	**267**	P	**P**	**08 41 12.8**	**+0.2**
PBMO				IAmb	IAmb	08 41 15.0	
	comp=Z,4.6nm,0.8s						
E22K	**Anaktuvuk Pass**	**45.06**	**334**	P	**P**	**08 41 16.1**	**+3.3**
E22K				IAmb	IAmb	08 41 18.5	
	comp=Z,14nm,1.4s						
ILAR	**Eielson Array**	**46.62**	**329**	P	**P**	**08 41 25.1**	**0.0**
	comp=Z,1.5nm,0.9s,baz=34,slow=6.6,SNR=4.7						
	comp=Z,1.5nm,0.9s						
E19K	**Redstone River**	**46.77**	**335**	P	**P**	**08 41 29.0**	**+2.7**
E19K				IAmb	IAmb	08 41 32.2	
	comp=Z,7.9nm,1.1s						
F20K	**Avaraart Lake**	**46.81**	**335**	P	**P**	**08 41 29.3**	**+2.8**
F20K				IAmb	IAmb	08 41 33.4	
	comp=Z,10nm,1.2s						
RDOG	**Red Dog Mine**	**47.35**	**338**	P	**P**	**08 41 33.7**	**+3.0**
ABKAR	**Akbulak array**	**48.39**	**61**	P	**P**	**08 41 39.9**	**+0.9**
ABKAR	**Akbulak array**	**48.39**	**61**	P	**P**	**08 41 40.1**	**+1.1**
ABKAR				IAmb	IAmb	08 41 44.5	
	comp=Z,6.6nm,1.4s						
G18K	**Tagagawik**	**48.41**	**335**	P	**P**	**08 41 41.2**	**+2.2**
G18K				IAmb	IAmb	08 41 49.0	
	comp=Z,6.8nm,1.2s						
NEW	**Newport**	**48.90**	**298**	LR	LR	09 01 46.8	
	comp=Z,180nm,19.6s,baz=50,slow=35						
N23A	**Red Feather La**	**49.38**	**283**	P	**P**	**08 41 48.2**	**+1.1**
N23A				IAmb	IAmb	08 41 51.0	
	comp=Z,5.7nm,1.1s						
J19K	**Poorman**	**49.39**	**332**	P	**P**	**08 41 50.2**	**+3.7**
J19K				IAmb	IAmb	08 41 53.0	
	comp=Z,6.8nm,1.1s						
K20K	**Telida**	**49.57**	**331**	P	**P**	**08 41 48.3**	**+0.4**
PD31	**Pinedale Array**	**49.66**	**288**	P	**P**	**08 41 49.5**	**+0.4**
PDAR	**Pinedale Array**	**49.66**	**288**	P	**P**	**08 41 49.5**	**+0.4**
PDAR	**Pinedale Array**	**49.66**	**288**	P	**P**	**08 41 46.7**	**-2.4**
	comp=Z,1.1nm,0.7s,baz=60,slow=7.5,SNR=9.6						
PDAR				LR	LR	09 02 03.7	
	comp=Z,308nm,18.8s,baz=41,slow=35						
	comp=Z,1.1nm,0.7s						
BVAR	**Borovoye Array**	**49.80**	**51**	LR	LR	09 01 16.9	
	comp=Z,73nm,22.0s,baz=329,slow=34						
BBB	**Bella Bella**	**50.44**	**308**	LR	LR	09 02 17.7	
	comp=Z,51nm,20.3s,baz=248,slow=35						
L18K	**Granite Mounta**	**51.17**	**332**	P	**P**	**08 41 59.0**	**-0.9**
L18K				IAmb	IAmb	08 42 05.9	
	comp=Z,13nm,1.4s						
TOA0	**Torodi Ar. Sit**	**52.40**	**141**	P	**P**	**08 42 08.0**	**-1.7**
TORD	**Torodi Ar. Bea**	**52.40**	**141**	P	**P**	**08 42 07.8**	**-1.9**
	comp=Z,1.3nm,0.7s,baz=348,slow=8.8,SNR=11						
	comp=Z,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**54.77**	**48**	P	**P**	**08 42 26.0**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=329,slow=6.8,SNR=3.5						
	comp=Z,0.9nm,0.8s						
R11B	**Troy Canyon, C**	**55.96**	**289**	P	**P**	**08 42 37.5**	**+1.9**
YBH	**Yreka Blue Hor**	**56.48**	**296**	LR	LR	09 06 30.1	
	comp=Z,181nm,20.1s,baz=94,slow=36						
NVAR	**Mina Array Bea**	**57.15**	**291**	P	**P**	**08 42 43.7**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=36,slow=5.4,SNR=3.8						
NVAR				LR	LR	09 06 29.3	
	comp=Z,180nm,20.6s,baz=96,slow=35						
	comp=Z,0.4nm,0.7s						
TXAR	**Lajitas Array**	**57.52**	**273**	P	**P**	**08 42 46.3**	**-0.5**
	comp=Z,0.3nm,0.7s,baz=85,slow=4.5,SNR=5.0						
	comp=Z,0.3nm,0.7s						
DUN6	**Lazy B Ranch**	**57.54**	**279**	P	**P**	**08 42 48.2**	**+1.3**
MKAR	**Makanchi Array**	**59.34**	**48**	P	**P**	**08 42 57.1**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=337,slow=3.1,SNR=3.9						
	comp=Z,0.5nm,0.6s						
APG	**El Apazote**	**63.23**	**252**	LR	LR	09 09 35.6	
	comp=Z,21nm,20.1s,baz=243,slow=35						
LPIG	**La Paz**	**65.14**	**275**	LR	LR	09 13 01.8	
	comp=Z,234nm,19.8s,baz=152,slow=37						
WSAR	**Wadi Sarin**	**68.83**	**80**	LR	LR	09 15 33.9	
	comp=Z,475nm,20.7s,baz=221,slow=37						
XLT	**XiLinHaoTe**	**71.97**	**26**	*e*P	**P**	**08 44 20.5**	**-0.3**
XLT				pP	sP	08 44 24.8	+0.1
XLT				sP	pP	08 44 27.3	+3.6
XLT				PcP	**PcP**	**08 44 39.6**	**+0.2**
XLT				pmax	pmax		
	comp=Z,4.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,42nm,4.5s						
HHC	**Hu-ho-hao-te**	**73.82**	**30**	*e*P	**P**	**08 44 31.6**	**-0.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NJ2	**Nanjing**	**83.94**	**27**	*e*P	**P**	**08 45 28.4**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s		

SNET ***15*** *08:41:09.0±0.7, 13°.23N×87°.99W, h1km±2km, ML3.9*
CATAC ***15*** *08:41:09.2±0.1, 13°.18N×87°.97W, h3km±2km, ML3.8*

ISC 15 08:41:09.3±0.9, 13°.17N±0°.04×87°.98W±0°.02, h7km±6km, n75, σ0s89/97, mb3.6/5, 7C-1D, Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.07**	**290**	*e*P	**Pg**	**08 41 11.0**	**-0.2**
INTP				*e*S	**Sg**	**08 41 12.7**	**+0.1**
LCND	**La Caada**	**0.16**	**33**	*e*P	**Pg**	**08 41 12.3**	**-0.4**
LCND				*e*S	**Sg**	**08 41 14.8**	**-0.2**
LCND	**La Caada**	**0.16**	**33**	*i* P	**Pg**	**08 41 12.1**	**-0.6**
LCND				IAML		08 41 19.6	
	comp=Z,40μm,1.0s						
CNCH	**Conchagua**	**0.18**	**54**	*e*P	**Pg**	**08 41 13.1**	**+0.1**
CNCH				*e*S	**Sg**	**08 41 16.2**	**+0.6**
CNCH	**Conchagua**	**0.18**	**54**	*i* P	**Pg**	**08 41 13.0**	**+0.1**
CNCH				*i* S	**Sg**	**08 41 16.1**	**+0.6**
CNCH				IAML		08 41 16.9	
	comp=Z,140μm,1.0s						
JUCU	**Jucuarˌn**	**0.27**	**288**	*e*P	**Pg**	**08 41 14.6**	**-0.1**
JUCU				*e*S	**Sg**	**08 41 18.9**	**+0.6**
JUCU	**Jucuarˌn**	**0.27**	**288**	*i* P	**Pg**	**08 41 14.6**	**-0.1**
JUCU				*i* S	**Sg**	**08 41 19.2**	**+0.9**
JUCU				IAML		08 41 20.1	
	comp=Z,23μm,1.0s						
AMPH	**Amapala**	**0.34**	**70**	*e*P	**Pg**	**08 41 16.2**	**+0.4**
AMPH				*e*S	**Sb**	**08 41 21.5**	**-1.7**
CNRM	**Centro Naciona**	**0.35**	**329**	*e*P	**Pg**	**08 41 15.9**	**-0.3**
CNRM				*e*S	**Sg**	**08 41 21.0**	**+0.2**
CNRM	**Centro Naciona**	**0.35**	**329**	*i* P	**Pg**	**08 41 15.8**	**-0.3**
CNRM				IAML		08 41 32.1	
	comp=Z,61μm,1.0s						
BLLM	**Bellamira**	**0.37**	**317**	*i* P	**Pg**	**08 41 16.3**	**-0.2**
VSM	**San Miguel**	**0.38**	**312**	*e*P	**Pg**	**08 41 16.8**	**0.0**
LCY	**Lacayo**	**0.39**	**310**	*e*P	**Pg**	**08 41 16.9**	**-0.1**
RANC	**El Ranchito**	**0.40**	**311**	*e*P	**Pg**	**08 41 16.7**	**-0.4**
RANC	**El Ranchito**	**0.40**	**311**	*i* P	**Pg**	**08 41 17.2**	**+0.1**
RANC				IAML		08 41 29.5	
	comp=Z,11μm,1.0s						
PACA	**Pacayal**	**0.45**	**312**	*e*P	**Pg**	**08 41 17.9**	**-0.1**
PACA	**Pacayal**	**0.45**	**312**	*i* P	**Pg**	**08 41 18.4**	**+0.4**
PACA				IAML		08 41 33.0	
	comp=Z,61μm,1.0s						
TECA	**Tecapa**	**0.60**	**302**	*e*P	**Pg**	**08 41 20.6**	**-0.3**
COEB	**Comit de Eme**	**0.62**	**301**	*e*P	**Pg**	**08 41 20.9**	**-0.5**
COEB	**Comit de Eme**	**0.62**	**301**	*i* P	**Pg**	**08 41 21.1**	**-0.3**
COEB				IAML		08 41 35.9	
	comp=Z,2μm,1.0s						
TECO	**Alcaldia de Te**	**0.86**	**295**	*e*P	**Pg**	**08 41 24.8**	**-1.0**
TECO	**Alcaldia de Te**	**0.86**	**295**	*i* P	**Pg**	**08 41 25.0**	**-0.8**
TECO				*i* S	**Sg**	**08 41 37.3**	**+0.3**
TECO				IAML		08 41 39.6	
	comp=Z,2μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.90**	**306**	*i* P	**Pg**	**08 41 26.1**	**-0.4**
SCLA				*i* S	**Sb**	**08 41 40.0**	**+0.6**
SCLA				IAML		08 42 00.2	
	comp=Z,1μm,1.0s						
UESV	**Universidad de**	**0.91**	**301**	*i* P	**Pg**	**08 41 26.1**	**-0.7**
UESV				IAML		08 41 44.7	
	comp=Z,2μm,1.0s						
COEG	**Centro de Oper**	**0.98**	**297**	*e*P	**Pg**	**08 41 27.1**	**-1.0**
COEG	**Centro de Oper**	**0.98**	**297**	*i* P	**Pg**	**08 41 27.3**	**-0.8**
COEG				*i* S	**Sg**	**08 41 41.1**	**+0.2**
COEG				IAML		08 41 42.2	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**1.02**	**117**	*i* P	**Pb**	**08 41 29.5**	**+0.1**
CRIN				IAML		08 42 02.4	
	comp=Z,5μm,1.0s						
PAVA	**Las Pavas**	**1.07**	**300**	*i* P	**Pg**	**08 41 29.1**	**-0.8**
PAVA				IAML		08 41 32.0	
	comp=Z,4μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.12**	**38**	*i* P	**Pg**	**08 41 29.4**	**-1.4**
TGUH				*i* S	**Sg**	**08 41 44.3**	**-1.0**
TGUH				IAML		08 41 50.8	
	comp=Z,6μm,1.0s						
QUEN	**Al S del Volca**	**1.24**	**117**	*i* P	**Pg**	**08 41 32.5**	**-0.7**
QUEN				IAML		08 41 37.0	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**1.25**	**291**	*i* P	**Pg**	**08 41 31.5**	**-1.7**
PANCS				*i* S	**Sg**	**08 41 48.2**	**-1.2**
PANCS				IAML		08 41 49.9	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**1.25**	**292**	*i* P	**Pg**	**08 41 31.9**	**-1.4**
LOMA				*i* S	**Sg**	**08 41 49.6**	**+0.1**
LOMA				IAML		08 41 56.4	
	comp=Z,2μm,1.0s						
UDBS	**Universidad Do**	**1.26**	**295**	*i* P	**Pg**	**08 41 32.1**	**-1.4**
UDBS				IAML		08 42 06.6	
	comp=Z,2μm,1.0s						
UTEC	**Universidad Te**	**1.30**	**294**	*i* P	**Pg**	**08 41 33.2**	**-1.0**
UTEC				*i* S	**Sg**	**08 41 51.3**	**+0.2**
UTEC				IAML		08 41 59.1	
	comp=Z,2μm,1.0s						
SNET	**Serv Nac Est T**	**1.32**	**293**	*i* P	**Pg**	**08 41 33.2**	**-1.4**
SNET				*i* S	**Sg**	**08 41 51.5**	**-0.3**
SNET				IAML		08 41 58.7	
	comp=Z,3μm,1.0s						
PLRN	**Geotermica Pol**	**1.32**	**116**	*i* P	**Pg**	**08 41 33.2**	**-1.4**
PLRN				IAML		08 41 40.3	
	comp=Z,490nm,1.0s						
UEES	**Universidad Ev**	**1.34**	**294**	*i* P	**Pg**	**08 41 33.6**	**-1.4**
UEES				*i* S	**Sg**	**08 41 51.9**	**-0.4**
UEES				IAML		08 42 02.1	
	comp=Z,1μm,1.0s						
PACN	**Al O del Volca**	**1.34**	**120**	*i* P	**Pg**	**08 41 33.8**	**-1.2**
PACN				IAML		08 41 35.9	
	comp=Z,1μm,1.0s						
ROCN	**Rota Cerro Neg**	**1.37**	**118**	*i* P	**Pg**	**08 41 34.0**	**-1.6**
ROCN				IAML		08 41 36.2	
	comp=Z,730nm,1.0s						
PMON	**Piamonte**	**1.40**	**293**	*i* P	**Pn**	**08 41 34.8**	**-0.6**
PMON				*i* S	**Sn**	**08 41 56.2**	**+2.0**
PMON				IAML		08 42 08.2	
	comp=Z,2μm,1.0s						
CNGA	**Al SSO del Vol**	**1.42**	**118**	*i* P	**Pn**	**08 41 33.3**	**-2.2**
CNGA				IAML		08 42 00.8	
	comp=Z,1μm,1.0s						
CNGN	**Cerro Negro**	**1.42**	**118**	*i* P	**Pn**	**08 41 34.7**	**-0.8**
CNGN				IAML		08 42 07.8	
	comp=Z,1μm,1.0s						
MACN	**El Madrono**	**1.46**	**119**	*i* P	**Pn**	**08 41 35.5**	**-0.5**
MACN				IAML		08 41 39.9	
	comp=Z,520nm,1.0s						
JAYA	**Jayaque - finc**	**1.51**	**289**	*i* P	**Pn**	**08 41 36.7**	**-0.1**
JAYA				IAML		08 41 37.2	
	comp=Z,5μm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.54**	**120**	*i* P	**Pn**	**08 41 37.2**	**+0.1**
LEVN				IAML		08 42 04.6	
	comp=Z,1μm,1.0s						
MOMN	**Momotombo**	**1.60**	**118**	*i* P	**Pn**	**08 41 37.3**	**-0.7**
MOMN				IAML		08 41 39.7	
	comp=Z,41nm,1.0s						
MOM2	**El Cardon**	**1.63**	**116**	*i* P	**Pn**	**08 41 38.0**	**-0.4**
MOM2				IAML		08 41 46.6	
	comp=Z,750nm,1.0s						
BRAN	**Las Pilas**	**1.65**	**106**	*i* P	**Pg**	**08 41 42.2**	**+1.2**
BRAN				IAML		08 41 44.1	
	comp=Z,560nm,1.0s						
COPN	**Copaltepe**	**1.68**	**126**	*i* P	**Pn**	**08 41 39.1**	**+0.1**
COPN				IAML		08 42 10.8	
	comp=Z,660nm,1.0s						
UNIC	**Universidad Ca**	**1.72**	**298**	*i* P	**Pn**	**08 41 39.4**	**-0.3**
UNIC				IAML		08 42 17.2	
	comp=Z,480nm,1.0s						
CEVE	**Cerro Verde**	**1.73**	**292**	*i* P	**Pn**	**08 41 40.4**	**+0.5**
CEVE				*i* S	**Sg**	**08 42 04.9**	**+0.1**
CEVE				IAML		08 42 15.8	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.81**	**313**	*i* P	**Pn**	**08 41 41.6**	**+0.5**
MTO3				IAML		08 41 42.8	
	comp=Z,850nm,1.0s						
SAPS	**Ciudad Sandino**	**1.83**	**123**	*i* P	**Pn**	**08 41 42.0**	**+0.8**
SAPS				IAML		08 42 15.4	
	comp=Z,870nm,1.0s						
APYN	**Apoyeque**	**1.84**	**120**	*i* P	**Pn**	**08 41 42.1**	**+0.7**
APYN				IAML		08 41 43.8	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**1.89**	**293**	*i* P	**Pn**	**08 41 42.2**	**0.0**
NUBE				*i* S	**Sb**	**08 42 09.0**	**+0.8**
NUBE				IAML		08 42 15.7	
	comp=Z,740nm,1.0s						
RE6B4	**Centro civico**	**1.95**	**122**	*i* P	**Pn**	**08 41 42.6**	**-0.1**
RE6B4				IAML		08 41 47.4	
	comp=Z,700nm,1.0s						
TISN	**Laguna Tiscapa**	**1.96**	**121**	*i* P	**Pn**	**08 41 43.4**	**+0.5**
TISN				IAML		08 41 45.4	
	comp=Z,77nm,1.0s						
RB28C	**Hialeah**	**1.96**	**122**	*i* P	**Pn**	**08 41 42.9**	**-0.1**
RB28C				IAML		08 41 45.4	
	comp=Z,960nm,1.0s						
R4DEC	**Barrio San Lui**	**1.97**	**121**	*i* P	**Pn**	**08 41 42.8**	**-0.4**
R4DEC				*i* P	**Pn**	**08 41 42.7**	**-0.4**
R4DEC				IAML		08 41 45.4	
	comp=Z,890nm,1.0s						
R4DEC				IAML		08 41 47.9	
	comp=Z,770nm,1.0s						
R0529	**La Mascota**	**2.00**	**121**	*i* P	**Pn**	**08 41 44.2**	**+0.8**
R0529				IAML		08 41 46.0	
	comp=Z,840nm,1.0s						
WILN	**Americas 2**	**2.02**	**120**	*i* P	**Pn**	**08 41 44.6**	**+0.9**
WILN				IAML		08 41 46.1	
	comp=Z,450nm,1.0s						
CRUN	**El Crucero**	**2.02**	**126**	*i* P	**Pn**	**08 41 43.8**	**-0.1**
CRUN				IAML		08 42 23.8	
	comp=Z,7μm,1.0s						
JUAM	**Asuncion Mita**	**2.04**	**305**	*i* P	**Pn**	**08 41 44.1**	**+0.1**
JUAM				IAML		08 41 47.6	
	comp=Z,680nm,1.0s						
JUAM				*i* S	**Sb**	**08 42 13.2**	**+1.0**
RB213	**Mirador 2 Volc**	**2.13**	**124**	*i* P	**Pn**	**08 41 43.0**	**-2.3**
RB213				IAML		08 41 45.2	
	comp=Z,730nm,1.0s						
OMEN	**Al SSO del Vol**	**2.83**	**125**	*i* P	**Pn**	**08 41 56.2**	**+1.2**
OMEN				IAML		08 42 06.2	
	comp=Z,140nm,1.0s						
ACON	**Acoyapa**	**2.99**	**113**	*i* P	**Pn**	**08 41 56.7**	**-0.4**
ACON				IAML		08 42 57.5	
	comp=Z,360nm,1.0s						
APG	**El Apazote**	**3.02**	**307**	Pn	**Pb**	**08 42 01.4**	**-2.2**
	comp=Z,0.4nm,0.3s,baz=118,slow=11,SNR=26						
APG				Sn	**Sb**	**08 42 39.1**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=77,slow=18,SNR=2.0						
	comp=Z,8.7nm,0.9s						
CMIG	**Matias Romero**	**7.72**	**301**	Pn	**Pn**	**08 43 03.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=106,slow=8.7,SNR=7.2						
	comp=Z,4.7nm,0.8s						
TXAR	**Lajitas Array**	**21.69**	**320**	P	**P**	**08 46 01.8**	**+0.9**
	comp=Z,1.6nm,0.7s,baz=142,slow=11,SNR=20						
	comp=Z,1.6nm,0.7s						
PDAR	**Pinedale Array**	**34.90**	**332**	P	**P**	**08 48 02.0**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=182,slow=4.2,SNR=2.0						
	comp=Z,0.2nm,0.5s						
ELK	**Elko**	**36.38**	**324**	LR	LR	09 04 26.3	
	comp=Z,165nm,19.7s,baz=34,slow=38						
NVAR	**Mina Array Bea**	**36.82**	**319**	P	**P**	**08 48 17.6**	**-0.7**
	comp=Z,2.2nm,1.2s,baz=132,slow=6.7,SNR=3.0						
	comp=Z,2.2nm,1.2s						
YKA	**Yellowknife Ar**	**52.78**	**345**	P	**P**	**08 50 24.4**	**-0.4**
	comp=Z,0.6nm,0.9s,baz=135,slow=7.4,SNR=7.9						
	comp=Z,0.6nm,0.9s						
ILAR	**Eielson Array**	**65.16**	**336**	P	**P**	**08 51 52.9**	**+2.1**
	comp=Z,0.3nm,0.8s,baz=103,slow=3.9,SNR=4.1						
	comp=Z,0.3nm,0.8s						
WRA	**Warramunga Arr**	**138.96**	**255**	PKP	**PKPdf**	**09 00 36.5**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=77,slow=2.1,SNR=4.9						

IDC ***15*** *08:44:30.9±1.1, 4°.95S×146°.08E, h0km, mb3.8/7, mbtmp3.9/9, ML3.5/2, MS3.6/6, Error ellipse: s-maj=45.6km s-min=17.9km az=91.0*
NEIC ***15*** *08:44:38.2±1.0, 4°.9S±0°.1×145°.9E±0°.1, h55km±9km, mb4.0/11, Error ellipse: s-maj=21.0km s-min=14.1km az=124.0*

ISC 15 08:44:35.9±0.7, 4°.94S±0°.07×146°.02E±0°.09, h27km, n40, σ1s21/37, mb3.8/8, MS3.4/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.18**	**25**	Pn	**Pn**	**08 45 24.9**	**+0.7**
PMG	**Port Moresby**	**4.58**	**166**	Pn	**Pn**	**08 45 43.3**	**-0.1**
	31nm,0.3s,baz=20,slow=4.9,SNR=39						
PMG				Sn	**Sn**	**08 46 35.7**	**-0.1**
	24nm,0.3s,baz=76,slow=24,SNR=7.5						
PMG				LR	LR	08 47 39.3	
	comp=Z,536nm,18.2s,baz=360,slow=41						
	114nm,0.5s						
TABU	**Tabubil**	**4.79**	**266**	P	**Pn**	**08 45 49.3**	**+3.0**
RABL	**Rabaul**	**6.17**	**83**	P	**Pn**	**08 46 05.8**	**+0.4**
RABL	**Rabaul**	**6.17**	**83**		**Pn**	**08 46 08.2**	**+2.8**
COEN	**Coen**	**9.38**	**197**	P	**Pn**	**08 46 51.0**	**+1.5**
COEN	**Coen**	**9.38**	**197**		**Pn**	**08 46 50.8**	**+1.3**
TV1H	**Townsville Har**	**14.25**	**177**	P	**Pn**	**08 47 58.0**	**+2.0**
CTAO	**Charters Tower**	**15.06**	**179**	P	**Pn**	**08 48 08.2**	**+1.3**
CTAO	**Charters Tower**	**15.06**	**179**	Pn	**Pn**	**08 48 08.3**	**+1.3**
CTAO				IAmb	IAmb	08 48 32.0	
	comp=Z,19nm,1.4s						
KDU	**Kakadu**	**15.43**	**239**	P	**Pn**	**08 48 14.0**	**+2.1**
MTN	**Manton Dam**	**16.66**	**241**		**Pn**	**08 48 27.4**	**-0.3**
MTN				IAmb	IAmb	08 48 41.1	
	comp=Z,22nm,0.9s						
GUMO	**Guam**	**18.45**	**356**	LR	LR	08 53 48.0	
	comp=Z,49nm,21.6s,baz=202,slow=30						
WB0	**Warramunga Arr**	**18.58**	**217**	P	**P**	**08 48 50.3**	**-0.8**
WB0				IAmb	IAmb	08 49 05.6	
	comp=Z,11nm,1.2s						
WR0	**Warramunga Arr**	**18.64**	**216**	P	**P**	**08 48 51.6**	**-0.1**
WR0				IAmb	IAmb	08 49 11.0	
	comp=Z,6.8nm,0.7s						
WB2	**Warramunga Arr**	**18.74**	**216**	P	**P**	**08 48 52.7**	**-0.2**
WB2				IAmb	IAmb	08 49 20.8	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**18.75**	**216**	P	**P**	**08 48 52.3**	**-0.6**
WRA	**Warramunga Arr**	**18.75**	**216**	P	**P**	**08 48 51.0**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=40,slow=12,SNR=20						
	comp=Z,1.2nm,0.4s						
EIDS	**Eidsvold**	**20.88**	**167**	P	**P**	**08 49 16.0**	**-0.1**
EIDS				IAmb	IAmb	08 49 31.6	
	comp=Z,9.2nm,0.8s						
AS31	**Alice Springs**	**21.97**	**211**	P	**P**	**08 49 27.9**	**0.0**
AS31				IAmb	IAmb	08 49 43.6	
	comp=Z,5.4nm,1.4s						
ASAR	**Alice Springs**	**21.97**	**211**	P	**P**	**08 49 27.7**	**-0.2**
ASAR	**Alice Springs**	**21.97**	**211**	P	**P**	**08 49 26.8**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=47,slow=8.0,SNR=11						
	comp=Z,0.8nm,0.6s						
BATI	**Baumata**	**22.76**	**255**	LR	LR	09 00 04.4	
	comp=Z,189nm,19.5s,baz=125,slow=41						
INKA	**Innaminka**	**23.22**	**192**	P	**P**	**08 49 40.8**	**-0.1**
FITZ	**Fitzroy Crossi**	**23.82**	**235**	P	**P**	**08 49 45.4**	**-1.6**
OOD	**Oodnadatta**	**24.76**	**202**	P	**P**	**08 49 55.2**	**-0.2**
WRKA	**Warakurna**	**26.24**	**219**	P	**P**	**08 50 08.4**	**-0.6**
LCRK	**Leigh Creek**	**26.41**	**195**	P	**P**	**08 50 10.0**	**-0.4**
STKA	**Stephens Creek**	**27.11**	**188**	P	**P**	**08 50 15.6**	**-1.1**
STKA	**Stephens Creek**	**27.11**	**188**	P	**P**	**08 50 15.2**	**-1.4**
	comp=Z,2.5nm,0.8s,baz=2.3,slow=7.8,SNR=4.6						
	comp=Z,2.5nm,0.8s						
MULG	**Mulgathing**	**27.61**	**203**	P	**P**	**08 50 21.0**	**-0.2**
JOW	**Kunigami**	**35.95**	**332**	LR	LR	09 04 55.7	
	comp=Z,45nm,18.2s,baz=143,slow=34						
JHJ	**Hachijo jima 2**	**38.31**	**352**	LR	LR	09 05 14.2	
	comp=Z,48nm,18.9s,baz=304,slow=32						
KSRS	**Korea Array**	**45.42**	**340**	P	**P**	**08 52 52.6**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=142,slow=41,SNR=1.7						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**76.06**	**321**	P	**P**	**08 56 21.2**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=75,slow=12,SNR=1.6						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**77.60**	**328**	P	**P**	**08 56 28.7**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=114,slow=7.0,SNR=2.3						
	comp=Z,0.4nm,0.3s						
ILAR	**Eielson Array**	**84.90**	**23**	P	**P**	**08 57 06.6**	**-1.5**
	comp=Z,0.9nm,0.7s,baz=249,slow=5.0,SNR=24						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**85.02**	**180**	P	**P**	**08 57 08.0**	**-0.9**
BVAR	**Borovoye Array**	**85.34**	**324**	P	**P**	**08 57 10.3**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=92,slow=4.3,SNR=1.7						
BVAR				LR	LR	09 36 37.0	
	comp=Z,214nm,20.1s,baz=226,slow=37						
	comp=Z,0.4nm,0.3s						
TORD	**Torodi Ar. Bea**	**143.87**	**285**	PKP	**PKPdf**	**09 04 10.0**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=120,slow=3.7,SNR=2.0						

DJA 15 08:57:03.4±0.6, 9°.5±5°.×11°.3E±°, h10km, M3.7/8, mb4.0/1, MLv3.5/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PWJI	**Pagerwojo**	**1.25**	**320**	P	Pn	08 57 26.8	-0.1
PWJI				S	Sb	08 57 42.6	-0.6
BLJI	**Banyuglugur**	**1.56**	**38**	P	Pn	08 57 31.8	+0.6
BLJI				S	Sb	08 57 51.9	-0.3
JAGI	**Jajag, Banyuwa**	**1.60**	**72**	P	Pn	08 57 30.3	-1.4
ABJI	**Asem Bagus**	**1.98**	**54**	P	Pn	08 57 37.8	+0.8
UGM	**Wanagama**	**2.33**	**297**	P	Pn	08 57 42.1	+0.2
SRBI	**Singaraja**	**2.71**	**71**	P	Pn	08 57 46.3	-0.8
CMJI	**Cimerak**	**4.29**	**286**	P	Pn	08 58 08.0	-0.9

IDC 15 08:57:11.0±4.7, 53°.66N×90°.64E, h0km, mbtmp2.9/3, ML2.4/3, Error ellipse: s-maj=48.0km s-min=28.8km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.46**	**277**	I	I	09 19 30.0	
	0.1nm,0.9s,baz=91,slow=324,SNR=6.4						
ZALV	**Zalesovo Beam**	**3.46**	**277**	Pn	Pn	08 58 07.9	+1.9
	0.4nm,0.3s,baz=94,slow=14,SNR=4.9						
ZALV				Lg	Lg	08 59 00.5	
	0.5nm,0.3s,baz=96,slow=28,SNR=2.5						
	1.0nm,0.3s						
KURBB	**Kurchatov Arra**	**8.04**	**253**	Pn	Pn	08 59 07.9	-1.1
	0.1nm,0.3s,baz=65,slow=15,SNR=2.3						
KURBB				Lg	Lg	09 01 27.7	
	baz=65,slow=32						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**8.70**	**221**	Pn	Pn	08 59 19.1	+1.1
	0.1nm,0.3s,baz=40,slow=13,SNR=3.4						
	0.4nm,0.5s						

DNK ***15*** *08:57:42.8±0.6, 59°.84N×25°.01E, h0km, ML3.0(UPP), Suspected explosion*
UPP ***15*** *08:57:44.8±2.6, 59°.85N×24°.77E, h0km, ML3.0*
HEL ***15*** *08:57:47.0±0.0, 59°.79N×24°.48E, h0km, ML2.7, Explosion*
EST ***15*** *08:57:47.0, 59°.79N×24°.48E, h0km, ML2.7(HEL), Explosion*
IDC ***15*** *08:57:50.4±1.8, 60°.08N×24°.09E, h0km, mbtmp3.6/3, ML3.0/3, Error ellipse: s-maj=22.1km s-min=6.1km az=148.0*

ISC 15 08:57:46.2±0.7, 59°.79N±0°.02×24°.48E±0°.02, h0km, n57, σ0s85/76, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HEL5	**Espoo, Suvisaa**	**0.36**	**21**	*e*P	**Pg**	**08 57 53.3**	**+0.2**
HEL5				*e*S	**Sg**	**08 57 57.8**	**+0.1**
HEL3	**Helsinki**	**0.43**	**24**	*e*P	**Pg**	**08 57 54.5**	**+0.2**
HEL3				*e*S	**Sg**	**08 57 59.8**	**-0.1**
MEF	**Metsahovi**	**0.44**	**354**	*e*P	**Pb**	**08 57 57.0**	**+0.2**
MEF	**Metsahovi**	**0.44**	**354**	*e*P	**Pg**	**08 57 54.7**	**+0.2**
MEF				*e*S	**Sg**	**08 58 00.2**	**0.0**
HEL1	**Helsinki**	**0.44**	**27**	*e*P	**Pg**	**08 57 54.8**	**+0.1**
HEL1				*e*S	**Sg**	**08 58 00.1**	**-0.3**
HEL4	**Helsinki**	**0.49**	**19**	*e*P	**Pg**	**08 57 55.6**	**+0.1**
HEL4				*e*S	**Sg**	**08 58 01.8**	**-0.1**
EE02	**Kiisa, Saku**	**0.61**	**169**	*e*P	**Pg**	**08 57 57.8**	**0.0**
EE02				*e*S	**Sg**	**08 58 05.4**	**-0.2**
EE01	**Perakula, Nova**	**0.73**	**217**	*e*P	**Pg**	**08 57 59.9**	**-0.2**
EE01				*e*S	**Sg**	**08 58 09.3**	**-0.2**
NUR	**Nurmijrvi**	**0.73**	**7**	*e*P	**Pg**	**08 57 60.0**	**-0.3**
NUR				*e*S	**Sg**	**08 58 09.3**	**-0.4**
ARBE	**Arbavere**	**0.84**	**114**	*e*P	**Pg**	**08 58 02.8**	**+0.5**
ARBE				*e*S	**Sg**	**08 58 12.5**	**-0.7**
PVF	**Pernaja**	**1.03**	**42**	*e*P	**Pg**	**08 58 05.4**	**-0.5**
PVF				*e*S	**Sg**	**08 58 15.5**	**-0.7**
MTSE	**Matsula**	**1.13**	**198**	*e*P	**Pg**	**08 58 07.3**	**-0.5**
MTSE	**Matsula**	**1.13**	**198**	*e*P	**Pg**	**08 58 07.3**	**-0.5**
MTSE				*e*S	**Sg**	**08 58 22.1**	**-0.3**
EE08	**Sarghaua, Vand**	**1.20**	**161**	*e*P	**Pg**	**08 58 08.6**	**-0.5**
EE08				*e*S	**Sg**	**08 58 22.0**	**-2.6**
EE03	**Tooma soojaam,**	**1.30**	**134**	*e*P	**Pg**	**08 58 10.3**	**-0.7**
EE03				*e*S	**Sg**	**08 58 27.3**	**-0.5**
VJF	**Virojoki**	**1.71**	**62**	*e*P	**Pn**	**08 58 17.5**	**+0.2**
VJF				*e*S	**Sn**	**08 58 39.8**	**0.0**
VJF				MSG		08 58 43.7	
	comp=Z,99nm,0.2s						
VSU	**Vasula**	**1.76**	**138**	*e*P	**Pb**	**08 58 19.3**	**-0.1**
VSU				*e*S	**Sn**	**08 58 41.0**	**0.0**
RAF	**Rauma**	**1.83**	**314**	*e*P	**Pn**	**08 58 19.9**	**+1.0**
RAF	**Rauma**	**1.83**	**314**	*e*P	**Pn**	**08 58 19.5**	**+0.6**
RAF				*e*S	**Sn**	**08 58 43.1**	**+0.3**
RAF				MSG		08 58 47.8	
	comp=Z,53nm,0.2s						
FIA0	**FINESS Array S**	**1.84**	**25**	*e*P	**Pn**	**08 58 19.9**	**+0.9**
FIA0				*e*S	**Sn**	**08 58 43.5**	**+0.5**
FIA0				MSG		08 58 46.5	
	comp=Z,33nm,0.2s						
**FINES

az=93.0

ISC 15 08:58:17.2±0.5, 12°93S±0°07×45°64E±0°09, h10km, n43, σ1§32/44, mb4.3/22, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.81**	**165**	Pn	**Pn**	**08 59 46.2**	**+2.6**
	1.1nm,0.3s,baz=336,slow=12,SNR=10						
OPO				Sn	**Sn**	**09 00 47.2**	**-3.3**
	8.8nm,0.3s,baz=259,slow=21,SNR=24						
	17nm,0.3s						
ABPO	**Ambohimpanom**	**6.25**	**166**		**Pn**	**08 59 51.0**	**+1.3**
VOI	**Vohitsoka**	**9.00**	**173**	Pn	**Pn**	**09 00 28.9**	**+1.5**
FOMA	**Nahampoana Res**	**12.05**	**174**	Pn	**Pn**	**09 01 08.4**	**-0.7**
REA	**Riviere de l'E**	**12.66**	**132**	Pn	**Pn**	**09 01 19.4**	**+1.9**
MSEY	**Mahe Island**	**12.72**	**51**	Pn	**Pn**	**09 01 17.4**	**-0.9**
BOSA	**Boshof**	**24.57**	**227**	P	**P**	**09 03 38.7**	**+1.1**
BOSA	**Boshof**	**24.57**	**227**	P	**P**	**09 03 39.0**	**+1.4**
	1.2nm,0.5s,baz=55,slow=11,SNR=3.9						
	1.2nm,0.5s						
WIN	**Windhoek**	**28.77**	**247**	P	**P**	**09 04 13.4**	**-2.2**
WIN				IAmb	IAmb	09 04 14.7	
	comp=Z,24nm,1.5s						
SUR	**Sutherland**	**29.86**	**226**	P	**P**	**09 04 27.4**	**+2.2**
SUR				IAmb	IAmb	09 04 47.1	
	comp=Z,24nm,1.4s						
KAAM	**Kaadhehdhoo**	**30.23**	**66**	P	**P**	**09 04 29.4**	**+1.1**
TORD	**Torodi Ar. Bea**	**50.68**	**299**	P	**P**	**09 07 17.9**	**+0.6**
	comp=Z,0.6nm,1.0s,baz=99,slow=8.9,SNR=2.9						
	comp=Z,0.6nm,1.0s						
IDI	**Anoyia**	**51.82**	**338**	P	**P**	**09 07 24.2**	**-1.3**
IDI				IAmb	IAmb	09 07 26.1	
	comp=Z,7.2nm,1.1s						
NIL	**Nilore**	**53.27**	**29**	P	**P**	**09 07 35.5**	**-0.8**
NIL				IAmb	IAmb	09 08 07.7	
	comp=Z,7.1nm,1.2s						
BRTR	**Keskin Array B**	**53.56**	**349**	P	**P**	**09 07 38.8**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=155,slow=11,SNR=2.4						
	comp=Z,0.5nm,0.5s						
DBIC	**Dimbokro**	**53.81**	**288**	P	**P**	**09 07 40.3**	**-0.3**
KBZ	**Khabaz**	**56.43**	**358**	P	**P**	**09 08 01.0**	**+2.0**
	comp=Z,1.0nm,0.7s,baz=149,slow=5.5,SNR=3.5						
	comp=Z,1.0nm,0.7s						
GAR	**Garm**	**56.56**	**23**	P	**P**	**09 07 59.7**	**-0.5**
GAR				IAmb	IAmb	09 08 10.1	
	comp=Z,3.4nm,0.9s						
KEST	**Kesra**	**59.32**	**326**	P	**P**	**09 08 20.1**	**+0.6**
KEST				IAmb	IAmb	09 08 27.4	
	comp=Z,5.5nm,1.1s						
CHTO	**Chiang Mai**	**61.28**	**60**	P	**P**	**09 08 31.2**	**-2.0**
CHTO				IAmb	IAmb	09 09 04.1	
	comp=Z,2.3nm,0.6s						
INTR	**Introdacqua**	**61.98**	**334**	P	**P**	**09 08 36.5**	**-1.0**
INTR				IAmb	IAmb	09 09 07.4	
	comp=Z,7.1nm,0.9s						
NRCA	**Norcia**	**62.99**	**334**	P	**P**	**09 08 45.4**	**+1.1**
ABKAR	**Akbulak array**	**63.19**	**10**	P	**P**	**09 08 46.0**	**+0.7**
ABKAR	**Akbulak array**	**63.19**	**10**	P	**P**	**09 08 45.9**	**+0.5**
ABKAR				IAmb	IAmb	09 08 47.2	
	comp=Z,3.0nm,1.1s						
CASP	**Castiglione de**	**63.95**	**332**	P	**P**	**09 08 50.3**	**-0.3**
MORC	**Moravsky Berou**	**67.14**	**341**	P	**P**	**09 09 09.2**	**-1.9**
GEC2	**GERESS Array S**	**67.68**	**338**	P	**P**	**09 09 13.9**	**-0.7**
GERES	**GERESS Array B**	**67.68**	**338**	P	**P**	**09 09 13.7**	**-0.9**
MK31	**Makanchi Array**	**67.92**	**26**	P	**P**	**09 09 15.9**	**-0.2**
MKAR	**Makanchi Array**	**67.92**	**26**	P	**P**	**09 09 15.9**	**-0.2**
MKAR	**Makanchi Array**	**67.92**	**26**	P	**P**	**09 09 17.0**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=230,slow=11,SNR=2.3						
	comp=Z,0.2nm,0.4s						
BVAR	**Borovoye Array**	**69.04**	**16**	P	**P**	**09 09 22.7**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=191,slow=7.0,SNR=1.7						
	comp=Z,0.4nm,0.4s						
BRVK	**Borovoye**	**69.04**	**16**	P	**P**	**09 09 22.4**	**-0.5**
FINES	**FINESS Array B**	**75.73**	**350**	P	**P**	**09 10 02.7**	**+0.1**
FINES	**FINESS Array B**	**75.73**	**350**	P	**P**	**09 10 01.7**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=137,slow=7.0,SNR=4.5						
	comp=Z,1.0nm,0.8s						
FORT	**Forrest**	**77.07**	**119**	P	**P**	**09 10 09.5**	**-1.6**
QSPA	**South Pole Qui**	**77.17**	**180**	P	**P**	**09 10 11.7**	**+0.6**
QSPA				IAmb	IAmb	09 10 29.1	
	comp=Z,7.8nm,1.5s						
HFS	**Hagfors**	**77.19**	**344**	P	**P**	**09 10 12.3**	**+1.3**
	comp=Z,1.8nm,0.8s,baz=70,slow=4.7,SNR=5.0						
	comp=Z,1.8nm,0.8s						
NAO01	**NORSAR Array S**	**78.55**	**343**	P	**P**	**09 10 19.7**	**+1.1**
NAO01				IAmb	IAmb	09 10 21.5	
	comp=Z,4.0nm,1.1s						
NOA	**NORSAR Array B**	**78.62**	**344**	P	**P**	**09 10 18.9**	**0.0**
	comp=Z,0.2nm,0.5s,baz=133,slow=5.5,SNR=2.4						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**83.36**	**113**	P	**P**	**09 10 46.9**	**+1.7**
	comp=Z,0.2nm,0.5s,baz=264,slow=4.7,SNR=1.9						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**84.48**	**109**	P	**P**	**09 10 51.2**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=260,slow=4.8,SNR=2.3						
	comp=Z,0.6nm,0.8s						
KSAR	**Wonju Array Be**	**91.71**	**52**	P	**P**	**09 11 24.9**	**-0.3**

KRSC 15 09:03:52.2±0.6, 55°51N×161°98E, h68km±20km, MI3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZLN	**Zelenaya**	**0.84**	**308**	*e*P	Pn	09 04 09.9	+1.2
ZLN				*e*S	Sn	09 04 22.9	+2.0
KBTR	**Krutoberegovo**	**0.84**	**34**	*e*P	Pn	09 04 09.9	+1.2
KBTR				*e*S	Sn	09 04 23.4	+2.6
BZGR	**Bezymyannyi-Gr**	**0.84**	**301**	*e*P	Pn	09 04 09.8	+1.0
BZGR				*e*S	Sn	09 04 22.2	+1.1
KBG	**Krutoberegovo**	**0.85**	**28**	*e*P	Pn	09 04 10.4	+1.7
KBG				*e*S	Sn	09 04 23.8	+2.9
BZP	**Bezymyannyi-Pe**	**0.91**	**297**	*e*P	Pn	09 04 10.2	+0.5
CIRR	**Tsirk**	**0.92**	**311**	*e*P	Pn	09 04 11.0	+1.2
LGNR	**Loginova**	**0.93**	**309**	*e*P	Pn	09 04 11.5	+1.5
BZMR	**Bezymyannaya**	**0.94**	**297**	*e*P	Pn	09 04 10.8	+0.8
BZWR	**Bezymyannyi-We**	**0.95**	**299**	*e*P	Pn	09 04 11.3	+1.1
TUMD	**Tumrok D**	**0.96**	**252**	*e*P	Pn	09 04 10.9	+0.8
TUMD				*e*S	Sn	09 04 24.1	+0.7
MKZ	**Mys Kozlova**	**0.97**	**189**	*e*P	Pn	09 04 11.8	+1.6
KMNR	**Kamenistaya**	**1.02**	**285**	*e*P	Pn	09 04 12.1	+1.1
KMNR				*e*S	Sn	09 04 26.9	+2.0
KIRR	**Kirishev**	**1.03**	**296**	*e*P	Pn	09 04 12.4	+1.3
KRSR	**Krestovskiy**	**1.07**	**312**	*e*P	Pn	09 04 12.4	+0.8
TUMR	**Tumrok**	**1.07**	**258**	*e*P	Pn	09 04 13.2	+1.5
KPT	**Kopyto**	**1.09**	**295**	*e*P	Pn	09 04 12.8	+0.9
KLY	**Klyuchi**	**1.10**	**318**	*e*P	Pn	09 04 11.9	+0.1
SRKR	**Sorokina**	**1.23**	**339**	*e*P	Pn	09 04 15.4	+1.8
SRDR	**Sredinnyy**	**1.51**	**303**	*e*P	Pn	09 04 18.5	+1.2
ESO	**Esso**	**1.90**	**284**	*e*P	Pn	09 04 23.4	+0.9
KII	**Karymskiy**	**2.08**	**226**	*e*P	Pn	09 04 26.9	+1.9
BKI	**Bering**	**2.30**	**96**	*e*S	Sn	09 04 54.9	-0.1
SPN	**Mys Shipunski**	**2.68**	**206**	*e*P	Pn	09 04 34.6	+1.6
SPN				*e*S	Sn	09 05 05.3	+1.1
NLC	**Nalytchevo**	**2.81**	**214**	*e*P	Pn	09 04 37.2	+2.5
NLC				*e*S	Sn	09 05 11.0	+3.6
KRX	**Arik**	**2.91**	**223**	*e*P	Pn	09 04 39.0	+2.8
KRER	**Koryakskii**	**2.91**	**222**	*e*P	Pn	09 04 39.2	+2.8
SMAR	**Somma**	**2.92**	**221**	*e*P	Pn	09 04 39.1	+2.6
SMAR				*e*S	Sn	09 05 19.8	+3.3
AVH	**Avacha**	**2.94**	**221**	*e*P	Pn	09 04 40.1	+3.4
UGLR	**Uglovaya**	**2.96**	**220**	*e*P	Pn	09 04 39.8	+2.9
KOK	**Koryaka**	**2.96**	**223**	*e*P	Pn	09 04 40.1	+3.1
GNL	**Ganaly**	**2.97**	**234**	*e*P	Pn	09 04 39.7	+2.6
DALK	**Dalny**	**3.12**	**219**	*e*P	Pn	09 04 41.6	+2.5
DALK				*e*S	Sn	09 05 16.9	+1.8
PET	**Petropavlovsk**	**3.17**	**219**	*e*P	Pn	09 04 42.4	+2.8
PET				*e*S	Sn	09 05 18.9	+2.8
RUS	**Russkaya**	**3.70**	**215**	*e*P	Pn	09 04 49.0	+2.1
GRL	**Gorelyy**	**3.76**	**219**	*e*P	Pn	09 04 52.1	+4.3
MTVR	**Mutnovka**	**3.77**	**218**	*e*P	Pn	09 04 51.4	+3.4
ASAK	**Asacha**	**3.96**	**219**	*e*P	Pn	09 04 54.7	+4.3

DJA 15 09:16:06.9±0.4, 9°S±5°×10°9E±°, h10km, M4.2/15, mb4.4/4, MLv4.1/15
IDC 15 09:16:08.1±1.5, 8°31S×109°36E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=107.6km s-min=20.8km az=39.0
NEIC 15 09:16:09.4±1.9, 8°78S±0°08×109°13E±0°05, h38km±19km, mb4.3/9, Error ellipse: s-maj=12.2km s-min=6.2km az=164.0

ISC 15 09:16:09.6±0.8, 8°69S±0°06×109°06E±0°05, h55km, n42, σ1§34/41, mb4.2/6, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMJI	**Cimerak**	**1.09**	**326**	P	**Pn**	**09 16 26.4**	**-2.3**
KPJI	**Karang Pucung**	**1.36**	**355**	P	**Pn**	**09 16 32.5**	**+0.2**
YOGI	**Yogyakarta**	**1.50**	**55**	P	**Pn**	**09 16 33.3**	**-1.0**
UGM	**Wanagama**	**1.64**	**62**	P	**Pn**	**09 16 35.9**	**-0.3**
UGM	**Wanagama**	**1.64**	**62**	Pn	**Pn**	**09 16 35.4**	**-0.8**
UGM				Sn	**Sn**	**09 16 55.4**	**-0.9**
UGM	**Wanagama**	**1.64**	**62**	P	**Pn**	**09 16 35.6**	**-0.6**
BBJI	**Bungbulang**	**1.85**	**311**	P	**Pn**	**09 16 37.5**	**-1.6**
SMRI	**Semarang**	**2.13**	**40**	P	**Pn**	**09 16 43.7**	**+0.8**
SMRI	**Semarang**	**2.13**	**40**		**Pn**	**09 16 42.4**	**-0.4**
SMRI	**Semarang**	**2.13**	**40**	P	**Pn**	**09 16 44.3**	**+1.4**
LEM	**Lembang**	**2.34**	**322**	Pn	**Pn**	**09 16 47.1**	**+1.2**
	34nm,0.3s,baz=131,slow=20,SNR=9.0						
LEM				Sn	**Sn**	**09 17 16.3**	**+2.8**
	32nm,0.3s,baz=127,slow=20,SNR=3.1						
	65nm,0.3s						
LEM	**Lembang**	**2.34**	**322**	P	**Pn**	**09 16 44.4**	**-1.5**
CNJI	**Cibinong**	**2.35**	**306**	P	**Pn**	**09 16 44.4**	**-1.5**
NGJI	**Ngawi**	**2.72**	**61**	P	**Pn**	**09 16 51.1**	**+0.2**
PWJI	**Pagerwojo**	**2.80**	**76**	P	**Pn**	**09 16 52.4**	**+0.4**
SKJI	**Sukabumi**	**2.99**	**304**	P	**Pn**	**09 16 54.8**	**+0.2**
XMIS	**Christmas Isla**	**3.80**	**242**	P	**Pn**	**09 17 05.1**	**-0.6**
XMIS	**Christmas Isla**	**3.80**	**242**	Pn	**Pn**	**09 17 04.7**	**-1.0**
JAGI	**Jajag, Banyuwa**	**5.04**	**88**	P	**Pn**	**09 17 24.5**	**+1.7**
JAGI	**Jajag, Banyuwa**	**5.04**	**88**	Pn	**Pn**	**09 17 21.3**	**-1.5**
JAGI	**Jajag, Banyuwa**	**5.04**	**88**	P	**Pn**	**09 17 23.8**	**+1.0**
	43nm,0.9s,0.3nm						
ABJI	**Asem Bagus**	**5.20**	**81**	P	**Pn**	**09 17 25.4**	**+0.5**
	58nm,1.2s,0.4nm						
KASI	**Kota Agung**	**5.51**	**305**	P	**Pn**	**09 17 29.3**	**+0.1**
	32nm,1.1s,0.2nm						
PLAI	**Plampang**	**8.62**	**92**	P	**Pn**	**09 18 14.4**	**+2.6**
PLAI	**Plampang**	**8.62**	**92**	P	**Pn**	**09 18 13.2**	**+1.4**
BKNI	**Bangkinang**	**12.00**	**318**	P	**Pn**	**09 18 56.5**	**-1.6**
SOEI	**Soe**	**15.05**	**95**	Pn	**Pn**	**09 19 39.3**	**+0.1**
LUWI	**Luwuk**	**15.63**	**62**	Pn	**Pn**	**09 19 45.5**	**-1.0**
MBWA	**Marble Bar**	**16.11**	**141**	P	**P**	**09 19 55.6**	**+0.6**
MBWA	**Marble Bar**	**16.11**	**141**		**Pn**	**09 19 53.9**	**+1.3**
MBWA				IAmb	IAmb	09 20 11.5	
	comp=Z,34nm,1.2s						
PSA00	**Pilbara Seismi**	**16.49**	**142**		**P**	**09 19 59.1**	**-0.2**
PSA00				IAmb	IAmb	09 20 09.2	
	comp=Z,42nm,1.5s						
FITZ	**Fitzroy Crossi**	**18.63**	**122**	P	**Pn**	**09 20 24.2**	**+0.5**
MEEK	**Meekatharra**	**20.02**	**154**	P	Pn	09 20 41.9	+1.7
WB0	**Warramunga Arr**	**26.87**	**117**	P	**P**	**09 21 46.3**	**+0.8**
WB0				IAmb	IAmb	09 21 53.9	
	comp=Z,9.8nm,1.2s						
WRA	**Warramunga Arr**	**26.88**	**117**	P	**P**	**09 21 46.6**	**+1.0**
WRA	**Warramunga Arr**	**26.88**	**117**	P	**P**	**09 21 48.9**	**+3.3**
	comp=Z,0.5nm,0.8s,baz=290,slow=12,SNR=2.4						
	comp=Z,0.5nm,0.8s						
WRAB	**Tennant Creek**	**26.89**	**117**	P	**P**	**09 21 46.3**	**+0.6**
WB2	**Warramunga Arr**	**26.89**	**117**	P	**P**	**09 21 44.6**	**-1.1**
WB2				IAmb	IAmb	09 22 04.7	
	comp=Z,10nm,1.3s						
WR0	**Warramunga Arr**	**27.07**	**117**	P	**P**	**09 21 46.2**	**-1.0**
WR0				IAmb	IAmb	09 21 55.6	
	comp=Z,11nm,1.4s						
ASAR	**Alice Springs**	**28.05**	**125**	P	**P**	**09 21 54.4**	**-1.7**
ASAR	**Alice Springs**	**28.05**	**125**	P	P	09 22 02.9	+6.8
	comp=Z,0.6nm,0.7s,baz=303,slow=9.4,SNR=8.2						
	comp=Z,0.6nm,0.7s						
STKA	**Stephens Creek**	**38.00**	**132**	P	P	09 23 27.6	+5.0
	comp=Z,1.9nm,0.6s,baz=316,slow=8.3,SNR=6.1						
	comp=Z,1.9nm,0.6s						

IDC 15 09:19:01.3±2.9, 54°37N×86°86E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=23.5km s-min=15.7km az=61.0
NNC 15 09:19:01.4±3.2, 54°32N×86°94E, h0km, mb2.9, mpv2.7, Error ellipse: s-maj=26.8km s-min=17.6km az=7.0, Suspected Mining explosion.

ISC 15 09:19:01.2±3.5, 54°4N±0°2×86°9E±0°1, h0km, n8, σ1§60/13, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**252**	I	I	09 27 35.1	
	baz=69,slow=327,SNR=9.2						
ZAA0	**Zalesovo Array**	**1.30**	**252**	⇑P	**Pg**	**09 19 24.9**	**-1.1**
	0.2nm,0.2s						
ZAA0				⇑S	**Sg**	**09 19 43.7**	**+0.9**
	0.2nm,0.2s						
ZALV	**Zalesovo Beam**	**1.30**	**252**	Pg	**Pb**	**09 19 25.0**	**-1.4**
	1.2nm,0.3s,baz=69,slow=17,SNR=19						
ZALV				Lg	Lg	09 19 42.5	
	1.0nm,0.3s,baz=66,slow=24,SNR=7.1						
KURK	**Kurchatov**	**6.24**	**237**	⇑Pn	**Pn**	**09 20 34.8**	**+0.4**
	0.4nm,0.4s						
KURK				⇓Sn	**Sn**	**09 21 48.1**	**+1.8**
	2.0nm,0.8s						
KURK				⇑Lg	Lg	09 22 19.6	
	4.4nm,1.1s						
KURBB	**Kurchatov Arra**	**6.34**	**237**	⇓Pn	**Pn**	**09 20 37.9**	**+2.1**
	1.4nm,0.5s						
KURBB				⇓Sn	**Sn**	**09 21 49.7**	**+0.8**
	4.9nm,0.8s						
KURBB				⇓Lg	Lg	09 22 24.6	
	1.9nm,0.6s						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	**Pn**	**09 20 36.1**	**+0.4**
	0.1nm,0.3s,baz=55,slow=14,SNR=14						
KURBB				Sn	**Sn**	**09 21 48.8**	**0.0**
	baz=20,slow=19,SNR=1.1						
KURBB				Lg	Lg	09 22 21.4	
	0.1nm,0.3s,baz=47,slow=20,SNR=5.2						
	2.0nm,0.8s						
MK31	**Makanchi Array**	**8.13**	**203**	Pn	**Pn**	**09 21 02.5**	**+2.1**
	0.2nm,0.5s,baz=279,slow=10,SNR=6.2						
MK31				⇓Sn	**Sn**	**09 22 32.0**	**-1.0**
	0.6nm,0.6s						
MK31				⇑Lg	Lg	09 23 17.1	
	1.7nm,0.8s,baz=33,slow=29,SNR=3.6						
MKAR	**Makanchi Array**	**8.13**	**203**	Pn	**Pn**	**09 21 02.1**	**+1.7**
	0.1nm,0.3s,baz=25,slow=13,SNR=4.5						
MKAR				Sn	**Sn**	**09 22 30.8**	**-2.1**
	0.2nm,0.3s,baz=20,slow=25,SNR=3.6						
MKAR				Lg	Lg	09 23 16.2	
	0.1nm,0.3s,baz=25,slow=28,SNR=2.1						
	0.4nm,0.6s						

IDC 15 09:29:11.1±3.1, 54°41N×86°88E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=26.4km s-min=17.1km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.30**	**250**	I	I	09 36 10.0	
	baz=69,slow=334,SNR=0.7						
ZALV	**Zalesovo Beam**	**1.30**	**250**	Pg	Pg	09 29 34.1	-1.8
	1.3nm,0.3s,baz=66,slow=17,SNR=16						
ZALV				Lg	Lg	09 29 52.5	
	1.7nm,0.3s,baz=71,slow=27,SNR=11						
KURBB	**Kurchatov Arra**	**6.35**	**237**	Pn	Pn	09 30 46.9	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=6.9						
KURBB				Lg	Lg	09 32 35.0	
	0.2nm,0.3s,baz=50,slow=30,SNR=4.1						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	09 31 12.1	+1.3
	0.1nm,0.3s,baz=21,slow=14,SNR=2.1						
MKAR				Lg	Lg	09 33 30.8	
	0.1nm,0.3s,baz=24,slow=30,SNR=2.4						
	0.2nm,0.6s						

SNET 15 09:39:42.0±0.6, 13°23N×88°00W, h2km±4km, ML2.9
CATAC 15 09:39:43.1±0.3, 13°21N×87°99W, h12km±3km, ML2.6

ISC 15 09:39:42.4±0.9, 13°21N±0°05×87°98W±0°03, h14km±6km, n28, σ1§05/33, 3C, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.07**	**259**	*i* P	**Pg**	**09 39 44.4**	**-0.8**
INTP				*e*S	**Sg**	**09 39 45.9**	**-1.2**
LCND	**La Caada**	**0.13**	**42**	⇑*i*P	**Pg**	**09 39 45.5**	**-0.4**
LCND				*e*S	**Sg**	**09 39 47.5**	**-0.8**
LCND	**La Caada**	**0.13**	**42**	*i* P	**Pg**	**09 39 47.7**	**+1.8**
LCND				IAML		09 39 50.9	
	comp=Z,3µm,1.0s						
CNCH	**Conchagua**	**0.16**	**66**	⇑*i*P	**Pg**	**09 39 46.3**	**0.0**
CNCH				*e*S	**Sg**	**09 39 49.2**	**+0.1**
CNCH	**Conchagua**	**0.16**	**66**	*i* P	**Pg**	**09 39 48.5**	**+2.1**
CNCH				IAML		09 39 50.2	
	comp=Z,6µm,1.0s						
JUCU	**Jucuarįn**	**0.26**	**279**	⇑*i*P	**Pg**	**09 39 47.9**	**-0.2**
JUCU				*e*S	**Sg**	**09 39 51.9**	**0.0**
JUCU	**Jucuarįn**	**0.26**	**279**	*i* P	**Pg**	**09 39 51.6**	**+3.5**
JUCU				IAML		09 39 53.0	
	comp=Z,950nm,1.0s						
CNRM	**Centro Naciona**	**0.32**	**325**	*i* P	**Pn**	**09 39 54.4**	**+1.6**
CNRM				IAML		09 39 56.6	
	comp=Z,3µm,1.0s						
BLLM	**Bellamira**	**0.34**	**313**	*e*P	**Pg**	**09 39 49.7**	**+0.2**
LCY	**Lacayo**	**0.37**	**305**	*e*P	**Pg**	**09 39 50.0**	**0.0**
RANC	**El Ranchito**	**0.37**	**306**	*e*P	**Pg**	**09 39 50.0**	**0.0**
RANC	**El Ranchito**	**0.37**	**306**	*i* P	**Pg**	**09 39 50.2**	**+0.2**
RANC				*i* S	**Sb**	**09 39 56.0**	**-0.7**
RANC				IAML		09 40 05.6	
	comp=Z,420nm,1.0s						
PACA	**Pacayal**	**0.42**	**308**	*e*P	**Pg**	**09 39 51.3**	**+0.4**
PACA	**Pacayal**	**0.42**	**308**	*i* P	**Pb**	**09 39 51.5**	**-0.3**
PACA				*i* S	**Sb**	**09 39 57.6**	**-0.5**
PACA				IAML		09 40 07.0	
	comp=Z,2µm,1.0s						
COEB	**Comit de Eme**	**0.61**	**298**	*i* S	**Sb**	**09 40 03.2**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.88**	**304**	*i* P	**Pg**	**09 39 59.4**	**0.0**
SCLA				IAML		09 40 33.8	
	comp=Z,40nm,1.0s						
COEG	**Centro de Oper**	**0.96**	**295**	*i* P	**Pg**	**09 40 00.5**	**-0.6**
COEG				IAML		09 40 18.8	
	comp=Z,110nm,1.0s						
CRIN	**San Cristobal**	**1.04**	**119**	*i* P	**Pg**	**09 40 02.9**	**+0.4**
CRIN				IAML		09 40 25.3	
	comp=Z,300nm,1.0s						
PAVA	**Las Pavas**	**1.06**	**298**	*i* P	**Pb**	**09 40 02.9**	**+0.3**
PAVA				IAML		09 40 20.4	
	comp=Z,210nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.09**	**39**	*i* P	**Pg**	**09 40 02.6**	**-0.8**
TGUH				IAML		09 40 21.2	
	comp=Z,170nm,1.0s						
QUEN	**Al S del Volca**	**1.26**	**119**	*i* P	**Pn**	**09 40 05.9**	**+0.1**
QUEN				IAML		09 40 10.1	
	comp=Z,110nm,1.0s						
TEL3	**Telica 3**	**1.28**	**120**	*i* P	Pg	09 40 15.0	+8.0
PACN	**Al O del Volca**	**1.36**	**121**	*i* P	**Pn**	**09 40 07.4**	**+0.4**
PACN				IAML		09 40 11.4	
	comp=Z,110nm,1.0s						
CNGA	**Al SSO del Vol**	**1.44**	**120**	*i* P	**Pn**	**09 40 07.0**	**-1.2**
CNGA				IAML		09 40 41.1	
	comp=Z,58nm,1.0s						
MACN	**El Madrono**	**1.47**	**120**	*i* P	**Pn**	**09 40 09.8**	**+1.1**
MACN				IAML		09 40 13.3	
	comp=Z,36nm,1.0s						
COPN	**Copaltepe**	**1.70**	**127**	*i* P	**Pn**	**09 40 12.5**	**+0.7**
COPN				IAML		09 42 04.9	
	comp=Z,55nm,1.0s						
MTO3	**Montecristo**	**1.79**	**312**	*i* P	**Pb**	**09 40 14.8**	**-0.3**
MTO3				IAML		09 40 50.0	
	comp=Z,31nm,1.0s						
NUBE	**Las Nubes**	**1.88**	**292**	*i* P	**Pb**	**09 40 16.2**	**-0.5**
NUBE				IAML		09 40 48.7	
	comp=Z,68nm,1.0s						

CATAC 15 09:42:09.0±0.5, 13°06N×87°91W, h10km, ML2.8
SNET 15 09:42:12.0±0.5, 13°22N×87°99W, h2km±3km, ML3.0

ISC 15 09:42:11.3±1.0, 13°16N±0°06×87°99W±0°03, h11km±7km, n25, σ0§52/32, 4C, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.08**	**302**	⇑*i*P	**Pg**	**09 42 13.6**	**-0.1**
INTP				*e*S	**Sg**	**09 42 15.2**	**-0.2**
LCND	**La Caada**	**0.18**	**32**	⇑*i*P	**Pg**	**09 42 14.7**	**-0.5**
LCND				*e*S	**Sg**	**09 42 16.7**	**-1.2**
LCND	**La Caada**	**0.18**	**32**	*i* P	**Pg**	**09 42 14.7**	**-0.5**
LCND				*i* S	**Sg**	**09 42 19.5**	**+1.6**
LCND				IAML		09 42 20.1	
	comp=Z,3µm,1.0s						
CNCH	**Conchagua**	**0.19**	**52**	⇑*i*P	**Pg**	**09 42 15.6**	**+0.1**
CNCH				*e*S	**Sg**	**09 42 18.5**	**+0.2**
CNCH	**Conchagua**	**0.19**	**52**	*i* P	**Pg**	**09 42 15.6**	**+0.1**
CNCH				*i* S	**Sg**	**09 42 18.7**	**+0.3**
CNCH		

IDC 15 09:55:19.4±2.1,0°20N×125°98E,**h0**km,**mb3.2**/3, **mbtmp3.3**/3,**Error ellipse: s-maj=179.4km s-min=28.5km az=65.0**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.63**	**158**	P	P	10 00 10.7	-0.7
	0.4nm,0.5s,baz=336,slow=11,SNR=6.1 0.4nm,0.5s						
ASAR	**Alice Springs**	**24.94**	**163**	P	P	10 00 45.1	+0.5
	0.2nm,0.3s,baz=338,slow=7.6,SNR=8.8 0.2nm,0.3s						
MKAR	**Makanchi Array**	**60.04**	**327**	P	P	10 05 28.1	-0.1
	0.2nm,0.4s,baz=118,slow=6.9,SNR=2.1 0.2nm,0.4s						

IDC ***15*** *09:59:21.6±1.7,0°.34N×126°.18E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=168.2km s-min=22.3km az=65.0*

DJA ***15*** *09:59:25.4±0.4,0°.N±6°×12°.6E±°,h10km,M3.2/7,MLv3.2/7*

ISC 15 09:59:28.1±1.1,**0°.18N**±0°.09×**126°.12E**±0°.07,**h44**km,**n9, σ1§32/9,mb3.5/4,Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.38**	**65**	P	Pn	09 59 51.3	+0.5
LBMI	**Labuha**	**1.60**	**121**	P	Pn	09 59 54.5	+0.5
KMSI	**Cibinong**	**2.18**	**280**	P	Pn	10 00 01.1	-0.7
SANI	**Sanana**	**2.22**	**183**	P	Pn	10 00 02.5	0.0
GTOI	**Gorontalo**	**3.14**	**278**	P	Pn	10 00 17.1	+2.0
WRA	**Warramunga Arr**	**21.56**	**159**	P	P	10 04 13.4	-0.6
	0.7nm,0.5s,baz=338,slow=11,SNR=13 0.7nm,0.5s						
ASAR	**Alice Springs**	**24.88**	**163**	P	P	10 04 48.0	+1.1
	0.4nm,0.3s,baz=339,slow=8.1,SNR=19 0.4nm,0.3s						
MKAR	**Makanchi Array**	**60.14**	**327**	P	P	10 09 29.3	-1.9
	0.3nm,0.4s,baz=119,slow=7.9,SNR=4.8 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**64.40**	**329**	P	P	10 10 00.0	+0.4
	0.2nm,0.4s,baz=122,slow=7.3,SNR=2.5 0.2nm,0.4s						

OSPL ***15*** *10:13:10.7±0.3,18°.04N×68°.79W,h108km±9km,ML2.8*
SDD ***15*** *10:13:11.5±2.2,17°.74N×68°.80W,h69km±46km,MD3.0, ML2.9,MW3.2*

ISC 15 10:13:11.5±2.1,**18°.0N**±0°.2×**68°.66W**±0°.08,**h95**km±15km, **n17,σ0§69/32,14C,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.55**	**29**	*i* P	**Pn**	**10 13 27.3**	**+0.1**
PCDR				*e*S	**Sn**	**10 13 39.5**	**+0.6**
PCDR				IAML		10 13 42.5	
	comp=Z,187nm,0.8s						
HIDR	**Higuey Centro**	**0.56**	**354**	*e*Pg	**Pn**	**10 13 27.1**	**-0.2**
HIDR				⇑*e*Sg	**Sn**	**10 13 39.9**	**+0.9**
HIDR				IAML		10 13 40.7	
	comp=N,653nm,0.5s						
HIDR	**Higuey Centro**	**0.56**	**354**	*e*Pg	**Pn**	**10 13 27.1**	**-0.2**
HIDR				*e*Sg	**Sn**	**10 13 38.6**	**-0.4**
HIDR				IAML		10 13 39.9	
	comp=N,776nm,0.3s						
HATOM	**Hato Mayor del**	**1.02**	**318**	⇑*e*Pg	**Pn**	**10 13 31.9**	**0.0**
HATOM				⇑*e*Sg	**Sn**	**10 13 46.9**	**-0.2**
HATOM				IAML		10 13 49.9	
	comp=N,93nm,0.3s						
HATOM	**Hato Mayor del**	**1.02**	**318**	*e*Pg	**Pn**	**10 13 31.8**	**0.0**
HATOM				*e*Sg	**Sn**	**10 13 46.5**	**-0.6**
HATOM				IAML		10 13 49.9	
	comp=N,93nm,0.3s						
SMDR	**Samana, DR**	**1.35**	**338**	*e*Pg	**Pn**	**10 13 34.2**	**-1.5**
SMDR				*e*Pg		10 13 52.2	
SMDR				IAML		10 14 00.0	
	comp=N,102nm,0.7s						
PRSN	**Puerto Rico Se**	**1.45**	**83**	⇑*e*Pg	**Pn**	**10 13 37.4**	**+0.5**
PRSN				⇑*e*Sg	**Sn**	**10 13 54.8**	**-1.4**
PRSN				IAML		10 14 01.9	
	comp=N,103nm,0.2s						
CRPR	**Cabo Rojo, PR**	**1.48**	**91**	⇑*e*Pg	**Pn**	**10 13 37.4**	**+0.2**
CRPR				⇑*e*Sg	**Sn**	**10 13 56.5**	**-0.2**
CRPR				IAML		10 14 03.7	
	comp=N,58nm,2.5s						
CRPR	**Cabo Rojo, PR**	**1.48**	**91**	*i* P	**Pn**	**10 13 37.4**	**+0.2**
AGPR	**Aguadilla, PR**	**1.53**	**73**	⇑*e*Pg	**Pn**	**10 13 37.6**	**-0.3**
AGPR				⇑*e*Sg	**Sn**	**10 13 58.2**	**+0.2**
AGPR				IAML		10 14 11.5	
	comp=N,115nm,1.9s						
AGPR	**Aguadilla, PR**	**1.53**	**73**	*e*Pg	**Pn**	**10 13 38.8**	**+0.9**
AGPR				*e*Sg	**Sn**	**10 13 59.3**	**+1.4**
AGPR				IAML		10 14 12.4	
	comp=N,72nm,1.6s						
AGPR	**Aguadilla, PR**	**1.53**	**73**	*i* P	**Pn**	**10 13 38.0**	**+0.1**
AGPR				*e*S	**Sn**	**10 13 58.3**	**+0.3**
AGPR				IAML		10 14 06.1	
	comp=Z,103nm,1.6s						
MLPR	**Magueyes Islan**	**1.54**	**92**	⇑*e*Pg	**Pn**	**10 13 38.0**	**0.0**
MLPR				⇑*e*Sg	**Sn**	**10 13 57.7**	**-0.4**
MLPR				IAML		10 14 12.0	
	comp=N,23nm,1.4s						
MLPR	**Magueyes Islan**	**1.54**	**92**	*e*Pg	**Pn**	**10 13 37.9**	**0.0**
MLPR				*e*Sg	**Sn**	**10 13 56.8**	**-1.3**
MLPR				IAML		10 14 12.0	
	comp=N,23nm,1.4s						
NADR	**Nagua**	**1.74**	**319**	*e*Pg	**Pn**	**10 13 41.6**	**+1.1**
NADR				*e*Sg	**Sn**	**10 14 02.6**	**+0.1**
NADR				IAML		10 14 09.4	
	comp=N,615nm,0.3s						
AOPR	**Arecibo Observ**	**1.84**	**80**	⇑*e*Pg	**Pn**	**10 13 41.5**	**-0.4**
AOPR				⇑*e*Sg	**Sn**	**10 14 04.5**	**-0.5**
AOPR				IAML		10 14 08.1	
	comp=N,212nm,0.2s						
CELP	**Cerrillos**	**1.98**	**88**	*e*Pg	**Pn**	**10 13 43.6**	**0.0**
CELP				*e*Sg	**Sn**	**10 14 09.0**	**+0.9**

NOU ***15*** *10:20:01.4,40°.44S×174°.88E,h75km,MLv3.3/9,Cook Strait, New Zealand*

WEL ***15*** *10:20:02.6±0.3,40°.S±2°×17°.5E±°,h32km±5km,M3.2/54, ML3.5/54,MLv3.2/54,Error ellipse: s-maj=0.0km s-min=0.0km az=97.5,confirmed*

ISC 15 10:20:01.9±1.1,**40°.39S**±0°.02×**174°.80E**±0°.02,**h28**km±12km, **n121,σ1§05/133,Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHWZ	**Ohakea**	**0.43**	**65**	P	**Pn**	**10 20 13.2**	**+1.0**
OHWZ				S	**Sn**	**10 20 22.3**	**+3.1**
KIW	**Kapiti Island**	**0.47**	**170**	P	**Pb**	**10 20 13.4**	**+1.5**
OGWZ	**Otaki Gorge**	**0.51**	**147**	P	**Pn**	**10 20 13.9**	**+0.6**
OGWZ				S	**Sn**	**10 20 22.7**	**+1.6**
MRZ	**Mangatainoka R**	**0.65**	**115**	P	**Pn**	**10 20 15.7**	**+0.5**
MRZ				S	**Sn**	**10 20 26.0**	**+1.5**
WAZ	**Wanganui**	**0.65**	**12**	P	**Pn**	**10 20 15.8**	**+0.5**
WAZ				S	**Sn**	**10 20 25.9**	**+1.3**
POWZ	**Post Office Ro**	**0.74**	**90**	P	**Pn**	**10 20 17.1**	**+0.7**
POWZ				S	**Sn**	**10 20 28.4**	**+1.7**
HOWZ	**Holdsworth Sta**	**0.74**	**133**	P	**Pb**	**10 20 16.4**	**+0.2**
CAW	**Cannon Point**	**0.74**	**164**	P	**Pb**	**10 20 16.8**	**+0.6**
CAW				S	**Sn**	**10 20 28.1**	**+1.3**
DUWZ	**D'Urville Isla**	**0.79**	**238**	P	**Pb**	**10 20 16.7**	**-0.3**
WEL	**Wellington**	**0.89**	**182**	P	**Pb**	**10 20 18.7**	**0.0**
WEL				S	**Sb**	**10 20 31.0**	**+0.7**
PRWZ	**Pori Road**	**0.91**	**101**	P	**Pn**	**10 20 19.1**	**+0.4**
PRWZ				S	**Sn**	**10 20 31.9**	**+1.0**
TCW	**Tory Channel**	**0.91**	**206**	P	**Pb**	**10 20 19.0**	**-0.1**
TCW				S	**Sb**	**10 20 31.3**	**+0.6**
TIWZ	**Tintock**	**0.91**	**115**	P	**Pb**	**10 20 18.6**	**-0.4**
TIWZ				S	**Sn**	**10 20 31.5**	**+0.5**
SNZO	**South Karori**	**0.92**	**185**	P	**Pb**	**10 20 18.9**	**-0.3**
MTW	**Mount Morrison**	**0.93**	**145**	P	**Pb**	**10 20 18.7**	**-0.7**
TSZ	**Takapari Road**	**0.95**	**70**	P	**Pn**	**10 20 20.0**	**+0.6**
LREZ	**Lake Rotokare**	**0.98**	**342**	P	**Pn**	**10 20 20.3**	**+0.5**
LREZ				S	**Sn**	**10 20 34.9**	**+2.2**
BHW	**Baring Head**	**1.01**	**177**	P	**Pb**	**10 20 20.5**	**+0.3**
BHW				S	**Sb**	**10 20 33.8**	**0.0**
DVHZ	**Dannevirke**	**1.05**	**85**	P	**Pb**	**10 20 20.6**	**-0.7**
TMWZ	**Te Maipa**	**1.09**	**131**	P	**Pn**	**10 20 21.5**	**+0.2**
PAWZ	**Paruwai Farm**	**1.09**	**155**	P	**Pn**	**10 20 21.5**	**+0.1**
PAWZ				S	**Sb**	**10 20 35.1**	**-1.1**
MTVZ	**Mangateitei**	**1.13**	**27**	P	**Pb**	**10 20 22.5**	**-0.3**
BFZ	**Birch Farm**	**1.14**	**105**	P	**Pn**	**10 20 21.2**	**-0.7**
BFZ	**Birch Farm**	**1.14**	**105**	P	**Pn**	**10 20 21.5**	**-0.4**
PREZ	**Palmer Road**	**1.16**	**335**	P	**Pb**	**10 20 23.2**	**-0.1**
PNHZ	**Pukenui**	**1.17**	**66**	P	**Pn**	**10 20 22.4**	**0.0**
PKVZ	**Pokaka**	**1.18**	**21**	P	**Pb**	**10 20 23.4**	**-0.2**
CPWZ	**Castlepoint**	**1.18**	**116**	P	**Pn**	**10 20 22.7**	**+0.1**
TRWZ	**Traveller**	**1.21**	**147**	P	**Pn**	**10 20 23.6**	**+0.7**
NMEZ	**Namu Road**	**1.21**	**324**	P	**Pb**	**10 20 24.0**	**-0.1**
TUWZ	**Tuamarina**	**1.22**	**212**	P	**Pn**	**10 20 23.2**	**+0.2**
PLWZ	**Palliser**	**1.22**	**164**	P	**Pn**	**10 20 23.2**	**+0.1**
MOVZ	**Moawhango**	**1.23**	**37**	P	**Pb**	**10 20 23.4**	**-1.0**
WNVZ	**Wahianoa**	**1.23**	**30**	P	**Pb**	**10 20 23.7**	**-0.8**
TRVZ	**Turoa**	**1.23**	**28**	P	**Pn**	**10 20 23.4**	**0.0**
NEZ	**North Egmont**	**1.25**	**334**	P	**Pn**	**10 20 24.3**	**+0.8**
KHEZ	**Kahui Hut**	**1.25**	**331**	P	**Pn**	**10 20 24.4**	**+0.8**
KHEZ	**Kahui Hut**	**1.25**	**331**	P	**Pb**	**10 20 24.5**	**-0.4**
WHVZ	**Whangaehu Hut**	**1.26**	**29**	P	**Pb**	**10 20 24.7**	**-0.5**
MAVZ	**Matarangi**	**1.27**	**28**	P	**Pb**	**10 20 24.8**	**-0.5**
VRZ	**Vera Road**	**1.27**	**358**	P	**Pn**	**10 20 23.9**	**+0.2**
FWVZ	**Far West T-bar**	**1.27**	**27**	P	**Pb**	**10 20 24.5**	**-0.8**
ANWZ	**Angora Road**	**1.28**	**94**	P	**Pn**	**10 20 23.6**	**-0.2**
WPHZ	**Waipukurau**	**1.30**	**76**	P	**Pn**	**10 20 24.1**	**0.0**
TUVZ	**Tukino**	**1.30**	**31**	P	**Pb**	**10 20 25.4**	**-0.4**
COVZ	**Chateau Observ**	**1.32**	**26**	P	**Pb**	**10 20 25.3**	**-0.8**
BHHZ	**Black Hill Sta**	**1.32**	**47**	P	**Pn**	**10 20 24.8**	**+0.3**
NBEZ	**Newall Road No**	**1.33**	**327**	P	**Pn**	**10 20 25.1**	**+0.5**
PKE	**Pukeiti**	**1.35**	**332**	P	**Pb**	**10 20 26.0**	**-0.6**
NNZ	**Nelson**	**1.36**	**232**	P	**Pn**	**10 20 24.9**	**0.0**
NGZ	**Ngauruhoe**	**1.36**	**27**	P	**Pb**	**10 20 26.4**	**-0.4**
MHEZ	**Mangahewa**	**1.37**	**344**	P	**Pb**	**10 20 26.3**	**-0.5**
SNVZ	**South Ngauruho**	**1.37**	**28**	P	**Pb**	**10 20 26.2**	**-0.7**
OTVZ	**Murere**	**1.40**	**29**	P	**Pb**	**10 20 26.6**	**-0.8**
PRHZ	**Ponngahau**	**1.41**	**85**	P	**Pn**	**10 20 25.8**	**+0.2**
NNVZ	**North Ngauruho**	**1.41**	**27**	P	**Pn**	**10 20 26.7**	**-0.9**
TWVZ	**Taurewa**	**1.41**	**21**	P	**Pn**	**10 20 25.8**	**+0.1**
WTVZ	**West Tongariro**	**1.41**	**26**	P	**Pn**	**10 20 26.2**	**+0.4**
KRHZ	**Kereru**	**1.42**	**59**	P	**Pn**	**10 20 25.7**	**-0.1**
CMWZ	**Cape Campbell**	**1.43**	**198**	P	**Pb**	**10 20 28.7**	**+1.0**
ETVZ	**East Tongariro**	**1.44**	**29**	P	**Pb**	**10 20 27.2**	**-0.8**
KRVZ	**Karewarewa**	**1.45**	**27**	P	**Pb**	**10 20 26.9**	**-1.4**
TMVZ	**Te Maari**	**1.45**	**29**	P	**Pb**	**10 20 27.2**	**-1.1**
NTVZ	**North Tongarir**	**1.46**	**28**	P	**Pb**	**10 20 27.4**	**-1.0**
BSWZ	**Blackbirch Sta**	**1.50**	**208**	P	**Pn**	**10 20 26.8**	**0.0**
TKNZ	**Takaka Hill**	**1.54**	**245**	P	**Pn**	**10 20 27.7**	**+0.3**
KATZ	**Kakaramea**	**1.57**	**26**	P	**Pb**	**10 20 29.3**	**-1.1**
KWHZ	**Kaweka Forest**	**1.58**	**53**	P	**Pb**	**10 20 29.1**	**-1.3**
PXZ	**Pawanui**	**1.62**	**78**	P	**Pb**	**10 20 31.6**	**+0.5**
RITZ	**Rihia Road**	**1.63**	**30**	P	**Pb**	**10 20 30.5**	**-0.8**
RATZ	**Rangitukua**	**1.70**	**26**	P	**Pb**	**10 20 31.5**	**-0.9**
KAHZ	**Kahuranaki**	**1.70**	**70**	P	**Pn**	**10 20 29.7**	**0.0**
MCHZ	**McNeill Hill**	**1.74**	**58**	P	**Pb**	**10 20 32.8**	**-0.3**
QRZ	**Quartz Range**	**1.78**	**255**	P	**Pn**	**10 20 30.2**	**-0.6**
QRZ	**Quartz Range**	**1.78**	**255**	P	**Pn**	**10 20 30.4**	**-0.4**
BKZ	**Black Stump Fm**	**1.79**	**47**	P	**Pn**	**10 20 30.5**	**-0.4**
BKZ	**Black Stump Fm**	**1.79**	**47**	P	**Pn**	**10 20 30.8**	**-0.1**
WATZ	**Wairara**	**1.83**	**23**	P	**Pb**	**10 20 33.2**	**-1.5**
MRNZ	**Matariki Terra**	**1.85**	**236**	P	**Pn**	**10 20 32.0**	**+0.3**
HIZ	**Hauiti**	**1.88**	**1**	P	**Pn**	**10 20 32.5**	**+0.4**
HIZ	**Hauiti**	**1.88**	**1**	P	**Pn**	**10 20 32.7**	**+0.6**
THZ	**Tophouse**	**1.98**	**226**	P	**Pn**	**10 20 33.5**	**-0.1**
MRHZ	**Matea Rd**	**2.00**	**39**	P	**Pn**	**10 20 33.0**	**-0.8**
NMHZ	**Naumai**	**2.02**	**51**	P	**Pn**	**10 20 33.7**	**-0.4**
KUTZ	**Kaahu Road**	**2.06**	**23**	P	**Pb**	**10 20 37.8**	**-0.8**
TLZ	**Tolley Road**	**2.14**	**16**	P	**Pn**	**10 20 35.7**	**0.0**
MTHZ	**Maungataniwha**	**2.20**	**46**	P	**Pn**	**10 20 35.8**	**-0.7**
KHZ	**Kahutara**	**2.23**	**205**	P	**Pn**	**10 20 36.5**	**-0.4**
RAHZ	**Arahi**	**2.30**	**51**	P	**Pb**	**10 20 42.2**	**-0.5**
MUGZ	**Mutupara**	**2.45**	**39**	P	**Pn**	**10 20 38.6**	**-1.3**
RTZ	**Ruatahuna**	**2.45**	**44**	P	**Pb**	**10 20 43.8**	**-1.4**
DSZ	**Denniston Nort**	**2.64**	**238**	P	**Pn**	**10 20 42.0**	**-0.6**
TOZ	**Tahuroa Road**	**2.71**	**12**	P	**Pn**	**10 20 43.7**	**+0.1**
URZ	**Urewera**	**2.78**	**41**	P	**Pn**	**10 20 42.6**	**-1.9**
URZ	**Urewera**	**2.78**	**41**	P	**Pn**	**10 20 42.6**	**-1.9**
GVZ	**Greta Valley S**	**2.89**	**207**	P	**Pn**	**10 20 44.4**	**-1.6**
MWZ	**Matawai**	**2.95**	**47**	P	**Pn**	**10 20 44.8**	**-2.0**
LTZ	**Lake Taylor**	**3.05**	**218**	P	**Pn**	**10 20 46.7**	**-1.6**
CNGZ	**Carnagh Statio**	**3.25**	**55**	P	**Pn**	**10 20 50.3**	**-0.7**
KBAZ	**Karaka Road Bo**	**3.29**	**1**	P	**Pn**	**10 20 52.5**	**+1.0**
MKAZ	**Moumakai**	**3.30**	**5**	P	**Pn**	**10 20 51.7**	**+0.1**
RUGZ	**Raukumara Rang**	**3.30**	**44**	P	**Pn**	**10 20 49.8**	**-1.9**
TWGZ	**Tauwhareparae**	**3.31**	**49**	P	**Pn**	**10 20 50.2**	**-1.7**
AWAZ	**Awhitu Peninsu**	**3.33**	**358**	P	**Pn**	**10 20 52.6**	**+0.6**
INZ	**Inchbonnie**	**3.43**	**226**	P	**Pn**	**10 20 51.8**	**-1.6**
ETAZ	**East Tamaki Re**	**3.44**	**2**	P	**Pn**	**10 20 54.1**	**+0.6**
WTAZ	**Waiatarua**	**3.46**	**357**	P	**Pn**	**10 20 54.7**	**+0.9**
HAZ	**Te Kaha**	**3.51**	**42**	P	**Pn**	**10 20 52.9**	**-1.6**
OXZ	**Oxford**	**3.58**	**214**	P	**Pn**	**10 20 52.6**	**-2.9**
WIAZ	**Waiheke Island**	**3.60**	**4**	P	**Pn**	**10 20 56.3**	**+0.5**
MBAZ	**Motutapu North**	**3.62**	**1**	P	**Pn**	**10 20 56.6**	**+0.6**
RVAZ	**Riverhead Bore**	**3.62**	**357**	P	**Pn**	**10 20 56.5**	**+0.4**
MQZ	**McQueen's Vall**	**3.68**	**205**	P	**Pn**	**10 20 53.7**	**-3.0**
AKCZ	**Akaroa Harbour**	**3.75**	**201**	P	**Pn**	**10 20 55.6**	**-2.3**
WCZ	**Waipu Caves**	**4.46**	**355**	P	**Pn**	**10 21 07.7**	**+0.1**
FOZ	**Fox Glacier**	**4.86**	**228**	P	**Pn**	**10 21 10.8**	**-2.3**
TMZ	**Timaru**	**4.88**	**214**	P	**Pn**	**10 21 10.6**	**-2.7**
OUZ	**Omahuta**	**5.25**	**349**	P	**Pn**	**10 21 18.5**	**0.0**
ODZ	**Otahua Downs**	**5.57**	**212**	P	Pn	10 21 19.5	-3.2
JCZ	**Jackson Bay**	**5.79**	**229**	P	**Pn**	**10 21 23.4**	**-2.4**
CTZ	**Chatham Island**	**7.20**	**120**	P	**Pn**	**10 21 43.7**	**-1.6**

IDC ***15*** *10:25:02.5±3.0,6°.21S×147°.51E,h41km±21km,mb3.9/8, mbtmp4.2/10,ML4.6/1,MS3.1/4,Error ellipse: s-maj=54.8km s-min=18.4km az=84.0*

NEIC ***15*** *10:25:08.5±1.6,6°.42S±0°.05×147°.44E±0°.09,h76km±8km, mb4.6/39,Error ellipse: s-maj=13.4km s-min=6.1km az=108.0*

DJA ***15*** *10:25:08.5±0.4,6°.S±3°×17°.7E±°,h87km±5km,M4.8/31, mB5.4/6,mb4.8/31,MLv4.8/3,Mw(mB)4.9/6*

ISC 15 10:25:07.0±0.5,**6°.50S**±0°.05×**147°.40E**±0°.07,**h63**km,**n118, σ1§45/117,mb4.7/37,1C,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.90**	**185**	P	**Pn**	**10 25 50.5**	**-0.3**
	99nm,0.3s,baz=48,slow=10.0,SNR=50						
PMG				S	**Sn**	**10 26 22.7**	**-1.8**
	592nm,0.4s,baz=348,slow=17,SNR=4.0						
MANU	**Manus Island**	**4.42**	**360**	Pn	**Pn**	**10 26 12.0**	**+0.3**
RABL	**Rabaul**	**5.27**	**64**	P	Pn	10 26 26.7	+3.5
RABL	**Rabaul**	**5.27**	**64**	Pn	**Pn**	**10 26 22.9**	**-0.3**
JAY	**Jayapura**	**7.76**	**300**	P	**Pn**	**10 26 58.9**	**+1.6**
	34nm,0.9s,0.2nm						
GENI	**Genyem**	**8.18**	**298**	P	**Pn**	**10 27 04.2**	**+1.1**
	56nm,0.5s,6μm						
COEN	**Coen**	**8.50**	**209**	P	**Pn**	**10 27 09.3**	**+1.8**
COEN	**Coen**	**8.50**	**209**	Pn	**Pn**	**10 27 08.6**	**+1.2**
MTSU	**Mount Surprise**	**11.95**	**194**	P	**Pn**	**10 27 57.4**	**+2.7**
CTAO	**Charters Tower**	**13.56**	**185**	P	**Pn**	**10 28 19.5**	**+3.0**
CTAO	**Charters Tower**	**13.56**	**185**	Pn	**Pn**	**10 28 19.6**	**+3.1**
FAKI	**Fak Fak**	**15.51**	**283**	P	**Pn**	**10 28 42.0**	**0.0**
FAKI	**Fak Fak**	**15.51**	**283**	Pn	**Pn**	**10 28 42.0**	**0.0**
FAKI				IAmb	IAmb	10 28 47.2	
	comp=Z,20nm,0.9s						
FAKI	**Fak Fak**	**15.51**	**283**	P	**Pn**	**10 28 43.0**	**+1.0**
	comp=Z,26nm,0.8s						
QIS	**Mount Isa**	**15.89**	**208**	P	**Pn**	**10 28 48.1**	**+1.3**
KDU	**Kakadu**	**15.95**	**246**	P	**Pn**	**10 28 47.8**	**+0.3**
SWI	**Sorong**	**17.04**	**289**	P	**Pn**	**10 29 00.2**	**-1.1**
	comp=Z,39nm,0.8s						
PATS	**Pohnpei**	**17.15**	**40**		**P**	**10 29 02.2**	**-1.1**
PATS				IAmb	IAmb	10 29 23.0	
	comp=Z,81nm,1.5s						
MTN	**Manton Dam**	**17.22**	**247**	P	**Pn**	**10 29 04.6**	**+1.1**
MTN	**Manton Dam**	**17.22**	**247**	P	**Pn**	**10 29 04.7**	**+1.1**
MTN				IAmb	IAmb	10 29 22.4	
	comp=Z,19nm,0.8s						
DRS	**Darwin Rock St**	**17.30**	**249**	P	**Pn**	**10 29 04.4**	**-0.1**
WB0	**Warramunga Arr**	**18.27**	**223**	P	**P**	**10 29 16.5**	**+0.8**
WR0	**Warramunga Arr**	**18.30**	**222**	P	**P**	**10 29 16.6**	**+0.5**
WRAB	**Tennant Creek**	**18.41**	**222**	P	**P**	**10 29 17.6**	**+0.3**
WB2	**Warramunga Arr**	**18.42**	**222**	P	**P**	**10 29 17.5**	**+0.2**
WRA	**Warramunga Arr**	**18.43**	**222**	P	**P**	**10 29 17.2**	**-0.2**
WRA	**Warramunga Arr**	**18.43**	**222**	P	**P**	**10 29 17.0**	**-0.4**
	comp=Z,2.1nm,0.3s,baz=52,slow=11,SNR=80						
WRA				S	Sn	10 32 33.9	-10
	comp=Z,0.6nm,0.6s,baz=44,slow=22,SNR=1.1						
WRA				ScP	**ScP**	**10 37 16.9**	**+0.6**
	comp=Z,2.0nm,1.0s,baz=40,slow=2.0,SNR=5.3 comp=Z,5.4nm,0.5s						
EIDS	**Eidsvold**	**19.09**	**170**	P	**Pn**	**10 29 26.2**	**+0.1**
GUMO	**Guam**	**20.11**	**353**	LR	LR	10 37 33.0	
	comp=Z,25nm,18.2s,baz=178,slow=38						
QLP	**Quilpie**	**20.20**	**188**	P	**P**	**10 29 38.3**	**+1.6**
LBMI	**Labuha**	**20.68**	**286**	P	**P**	**10 29 43.2**	**+1.1**
	comp=Z,41nm,1.1s						
AS31	**Alice Springs**	**21.44**	**216**	P	**P**	**10 29 51.0**	**+0.8**
AS31				IAmb	IAmb	10 29 54.1	
	comp=Z,6.2nm,0.5s						
ASAR	**Alice Springs**	**21.44**	**216**	P	**P**	**10 29 50.9**	**+0.7**
	comp=Z,6.2nm,0.5s,baz=52,slow=8.4,SNR=195						
ASAR				S	**S**	**10 33 41.3**	**-3.5**
	comp=Z,1.5nm,0.8s,baz=39,slow=21,SNR=2.7						
ASAR				ScP	**ScP**	**10 37 24.0**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=45,slow=2.7,SNR=6.1 comp=Z,6.2nm,0.5s						
SANI	**Sanana**	**21.80**	**281**	P	**P**	**10 29 55.7**	**+1.7**
	comp=Z,41nm,0.8s						
INKA	**Innaminka**	**22.05**	**196**	P	**P**	**10 29 57.9**	**+1.3**
SOEI	**Soe**	**23.12**	**260**	P	**P**	**10 30 07.9**	**-0.2**
	comp=Z,52nm,0.9s						
BATI	**Baumata**	**23.77**	**259**	P	**P**	**10 30 15.6**	**+1.6**
	comp=Z,131nm,0.8s						
OOD	**Oodnadatta**	**23.92**	**206**	P	**P**	**10 30 15.5**	**+0.3**
DZM	**Mont Dzumac**	**24.04**	**132**	*e*LR	LR	10 36 20.4	
	comp=Z,131nm,26.1s						
ARMA	**Armidale**	**24.13**	**171**	P	**P**	**10 30 18.9**	**+1.7**
ARMA	**Armidale**	**24.13**	**171**	P	**P**	**10 30 18.7**	**+1.5**
ARMA				IAmb	IAmb	10 30 25.5	
	comp=Z,17nm,1.1s						
FITZ	**Fitzroy Crossi**	**24.15**	**240**	P	**P**	**10 30 17.9**	**+0.5**
CMSA	**Cobar Meteorol**	**24.96**	**183**	P	**P**	**10 30 25.8**	**+1.1**
MMRI	**Maumere**	**25.03**	**264**	P	**P**	**10 30 25.1**	**-0.4**
MMRI	**Maumere**	**25.03**	**264**	P	**P**	**10 30 25.8**	**+0.3**
	comp=Z,163nm,1.0s						
LUWI	**Luwuk**	**25.15**	**281**	P	**P**	**10 30 27.5**	**+0.9**
LCRK	**Leigh Creek**	**25.34**	**199**	P	**P**	**10 30 28.6**	**+0.5**
EDFI	**Ende, Flores**	**25.58**	**263**	P	**P**	**10 30 28.9**	**-1.7**
	comp=Z,24nm,0.5s						
STKA	**Stephens Creek**	**25.83**	**191**	P	**P**	**10 30 32.9**	**+0.4**
STKA	**Stephens Creek**	**25.83**	**191**	P	**P**	**10 30 32.7**	**+0.2**
STKA	**Stephens Creek**	**25.83**	**191**	P	**P**	**10 30 32.8**	**+0.2**
	comp=Z,2.6nm,0.6s,baz=353,slow=9.9,SNR=8.8						
STKA				LR	LR	10 40 15.6	
	comp=Z,72nm,21.4s,baz=21,slow=35 comp=Z,2.6nm,0.6s						
WRKA	**Warakurna**	**25.97**	**223**	P	**P**	**10 30 33.5**	**-0.4**
MULG	**Mulgathing**	**26.78**	**206**	P	**P**	**10 30 41.2**	**+0.1**
MGCD	**Mangrove Creek**	**26.80**	**173**	P	**P**	**10 30 43.5**	**+2.2**
TOLI2	**Tolitoli**	**27.62**	**285**	P	**P**	**10 30 48.7**	**-0.2**
TOLI2				IAmb	IAmb	10 31 16.1	
	comp=Z,16nm,0.9s						
HTT	**Hallett**	**27.93**	**195**	P	**P**	**10 30 52.4**	**+0.9**
BBOO	**Buckleboo**	**28.23**	**200**	P	**P**	**10 30 54.9**	**+0.

comp=E,0.3nm,0.4s
ZALV Zalesovo Beam 79.64 328 P P 10 37 04.6 -2.9
ZALV Zalesovo Beam 79.64 328 P P 10 37 03.8 -3.7
comp=E,0.8nm,0.4s,baz=113,slow=6.1,SNR=4.6
comp=E,0.8nm,0.4s
QSPA South Pole Qui 83.47 180 P P 10 37 27.7 -0.1
QSPA IAmb IAmb 10 37 28.1
comp=Z,6.8nm,0.7s
QSPA South Pole Qui 83.47 180 P P 10 37 27.4 -0.3
comp=Z,6.0nm,0.6s,baz=303,slow=0.5,SNR=75
comp=Z,6.0nm,0.6s
BVAR Borovoye Array 87.40 324 P P 10 37 44.3 -3.0
comp=Z,0.6nm,0.5s,baz=98,slow=4.5,SNR=2.9
comp=Z,0.6nm,0.5s
YBH Yreka Blue Hor 94.19 49 LR LR 11 12 02.5
comp=Z,16nm,21.8s,baz=207,slow=30
WRGLY Wrigley 95.36 27 P P 10 38 25.1 +1.0
TORD Torodi Ar. Bea 145.59 284 PKP PKPdf 10 44 35.6 -3.6
comp=Z,1.5nm,0.5s,baz=59,slow=2.4,SNR=14
TORD PKPbc **PKPbc 10 44 38.5 -1.0**
comp=Z,8.4nm,0.5s,baz=73,slow=4.6,SNR=79
DBIC Dimbokro 152.44 272 PKPbc **PKPbc 10 44 55.0 -2.1**
comp=Z,4.0nm,0.8s,baz=22,slow=2.2,SNR=3.5

*AFAD **15** 10:25:38.0±0.0,36°.98N×29°.22E,h7km±2km,ML2.1*
*THE **15** 10:25:53.5,37°.25N×28°.52E,h36km±27km,ML1.9/1,Error ellipse: s-maj=27.5km s-min=1.3km az=156.0*
ISK 15 10:25:37.8,36°.98N×29°.21E,h5km,ML2.2/12,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CAME	**Cameli-Denizli**	**0.08**	**118**	Pg	Pg		10 25 40.0	+0.3
CAME				Sg	Sg		10 25 41.6	+0.7
CAEL	**Denizli, Camel**	**0.17**	**31**	P	Pg		10 25 41.8	+0.7
CAEL				S	Sg		10 25 44.5	+1.2
CAEL				*i* AML	AML		10 25 45.0	
	comp=E,810nm,0.2s							
CAEL				*i* AML	AML		10 25 46.0	
	comp=N,745nm,0.3s							
SABU	**Mula-Dalaman**	**0.25**	**231**	P	Pg		10 25 43.2	+0.5
SABU				S	Sg		10 25 47.5	+1.5
SABU				*i* AML	AML		10 25 49.0	
	comp=N,305nm,0.3s							
SABU				*i* AML	AML		10 25 50.0	
	comp=E,204nm,0.3s							
KNIK	**Mula-Seydike**	**0.32**	**115**	P	Pg		10 25 44.0	0.0
KNIK				S	Sg		10 25 49.2	+0.9
FETY	**Fethiye**	**0.36**	**197**	Pg	Pg		10 25 44.9	+0.1
FETY				Sg	Sg		10 25 51.0	+1.5
FETY	**Fethiye**	**0.36**	**197**	P	Pb		10 25 45.9	-0.8
FETY				S	Sb		10 25 52.2	-0.6
GOLH	**Golhisar**	**0.38**	**48**	P	Pg		10 25 45.8	+0.6
GOLH				*i* AML	AML		10 25 52.0	
	comp=N,627nm,0.4s							
GOLH				*i* AML	AML		10 25 52.0	
	comp=E,1μm,0.4s							
GOLH				S	Sb		10 25 52.5	-0.9
DALY	**Dalyan (Mula)**	**0.48**	**250**	Pg	Pg		10 25 47.8	+0.8
DALY				Sg	Sb		10 25 54.9	-1.1
APMY	**Acipayam-Deniz**	**0.49**	**8**	Pg	Pg		10 25 47.9	+0.6
APMY				Sg	Sg		10 25 55.1	+1.3
IZZE	**Mula-Seydike**	**0.54**	**179**	P	Pg		10 25 49.0	+0.8
IZZE				*i* AML	AML		10 25 57.0	
	comp=E,136nm,0.3s							
IZZE				S	Sb		10 25 57.0	-1.0
IZZE				*i* AML	AML		10 26 01.0	
	comp=N,136nm,0.3s							
ELL	**Elmali**	**0.60**	**112**	Pg	Pg		10 25 50.1	+0.7
ELL				Sg	Sb		10 25 59.1	-0.8
BASM	**Basmaki-Afyon**	**1.15**	**35**	Pn	Pb		10 26 00.3	+0.1
ARG	**Arkhangelos**	**1.16**	**229**	Pn	Pn		10 26 00.7	-0.1
DAT	**Datca**	**1.33**	**260**	Pn	Pb		10 26 03.7	+0.3
ISP	**Isparta**	**1.34**	**51**	Pn	Pb		10 26 04.1	+0.6
AYDB	**Zeytinkoy-Aydi**	**1.43**	**313**	Pn	Pg		10 26 05.7	+0.6
BODT	**Bodrum**	**1.52**	**274**	Pn	Pb		10 26 06.2	-0.4
ODEM	**Odemis-Izmir**	**1.58**	**325**	Pn	Pb		10 26 07.5	0.0
KARP	**Karpathos**	**2.19**	**230**	P	Pg		10 26 24.9	+5.1
KARP				S	Sg		10 26 48.6	+0.4
	20nm,0.5s							
SIGR	**SIGRI**	**3.46**	**311**	P	Pn		10 26 35.7	+3.4
SMTH	**Samothraki Isl**	**4.52**	**322**	P	Pn		10 26 52.0	+5.1
SMTH				S	Sn		10 27 36.9	-3.0
RDO	**Rodhopi**	**5.05**	**327**	P	Pn		10 26 59.9	+5.8

*ISK **15** 10:26:33.4,40°.84N×28°.04E,h8km,ML2.5/43*
*AFAD **15** 10:26:34.2±0.0,40°.81N×28°.05E,h7km±3km,ML2.5*
ISC 15 10:26:34.2±0.9,40°.83N±0°.02×28°.04E±0°.02,h13km±8km,n58,σ0°43/74,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
CRLT	**Corlu**	**0.38**	**322**	Pg	**Pg**		**10 26 41.2**	**-0.6**
TKR	**Tekirdag**	**0.42**	**293**	Pg	**Pg**		**10 26 42.0**	**-0.5**
SLVT	**Silivri**	**0.42**	**18**	Pg	**Pb**		**10 26 43.2**	**-0.2**
SLVT				Sg	**Sg**		**10 26 48.4**	**+0.3**
ELBA	**Catalca**	**0.43**	**43**	P	**Pg**		**10 26 43.0**	**+0.3**
ELBA				*i* AML	AML		10 26 49.0	
	comp=N,127nm,0.1s							
ELBA				S	**Sg**		**10 26 49.0**	**+0.5**
ELBA				*i* AML	AML		10 26 54.0	
	comp=E,136nm,0.2s							
BAND	**Balkesir-Ban**	**0.48**	**175**	P	**Pb**		**10 26 44.0**	**-0.4**
BAND				S	**Sg**		**10 26 49.9**	**0.0**
EDC	**Edincik**	**0.50**	**196**	Pg	**Pg**		**10 26 44.2**	**+0.1**
EDC				Sg	**Sg**		**10 26 51.1**	**+0.3**
CTKS	**Kestenelik-??a**	**0.54**	**41**	Pg	**Pg**		**10 26 44.7**	**0.0**
AVCI	**Avcilar-stanb**	**0.54**	**72**	Pg	**Pg**		**10 26 44.7**	**-0.1**
KCTX	**Karacabey (Bur**	**0.61**	**157**	Pg	**Pg**		**10 26 45.9**	**-0.2**
BGKT	**Bogazkoy**	**0.65**	**57**	Pg	**Pg**		**10 26 46.7**	**-0.2**
BGKT				Sg	**Sb**		**10 26 56.2**	**-0.2**
CTYL	**Yalikoy Yolu**	**0.67**	**16**	Pg	**Pg**		**10 26 46.8**	**-0.4**
CTYL				Sg	**Sg**		**10 26 56.0**	**0.0**
SART	**Tekirdag**	**0.67**	**258**	P	**Pg**		**10 26 47.2**	**0.0**
SART				S	**Sb**		**10 26 56.8**	**-0.2**
SART				*i* AML	AML		10 26 57.0	
	comp=E,75nm,0.4s							
RKY	**Sarkoy-Tekirda**	**0.67**	**258**	Pg	**Pg**		**10 26 47.1**	**-0.2**
ARMT	**Armutlu**	**0.68**	**113**	Pg	**Pg**		**10 26 47.3**	**0.0**
ARMT				Sg	**Sb**		**10 26 57.2**	**+0.1**
KNL	**Balıkesir**	**0.69**	**215**	P	**Pb**		**10 26 47.9**	**-0.1**
KNL				S	**Sn**		**10 26 58.8**	**-1.2**
KRBG	**Karabiga-Canak**	**0.72**	**233**	Pg	**Pg**		**10 26 48.1**	**0.0**
VIZE	**Kirklareli, Vi**	**0.76**	**348**	P	**Pb**		**10 26 49.3**	**0.0**
VIZE				S	**Sb**		**10 27 00.9**	**+1.3**
VIZE				*i* AML	AML		10 27 02.0	
	comp=N,564nm,0.2s							
VIZE				*i* AML	AML		10 27 02.0	
	comp=E,262nm,0.4s							
MDNY	**Mudanya-Bursa**	**0.79**	**126**	Pg	**Pg**		**10 26 48.9**	**-0.6**
ISK	**Istanbul-Kandi**	**0.80**	**73**	Pg	**Pg**		**10 26 49.0**	**-0.7**
ISK	**Istanbul-Kandi**	**0.80**	**73**	P	**Pg**		**10 26 49.3**	**-0.4**
KAVV	**Kandilli-Istan**	**0.80**	**73**	Pg	**Pg**		**10 26 49.2**	**-0.5**
GONE	**Gonen-Balikesi**	**0.83**	**199**	Pg	**Pg**		**10 26 50.0**	**-0.2**
KLYT	**Kilyos**	**0.86**	**61**	Pg	**Pg**		**10 26 50.4**	**-0.5**
SUSR	**Susurluk-Balik**	**0.87**	**178**	Pg	**Pg**		**10 26 50.8**	**-0.2**
BLKS	**Balkesir-Sus**	**0.96**	**183**	P	**Pb**		**10 26 52.6**	**-0.1**
BLKS				S	**Sb**		**10 27 05.6**	**+0.4**
BLKS				*i* AML	AML		10 27 07.0	
	comp=N,117nm,0.4s							
GEMT	**Gemlik**	**0.96**	**114**	Pg	**Pg**		**10 26 51.8**	**-0.8**
ORLT	**Orhaneli**	**1.02**	**140**	Pg	**Pg**		**10 26 53.5**	**-0.3**
LPK	**Lapseki**	**1.08**	**245**	Pn	**Pb**		**10 26 54.6**	**-0.1**
YENI	**Yenice-Canakka**	**1.08**	**215**	Pn	**Pb**		**10 26 54.4**	**-0.4**
BKES	**Balkesir-Mer**	**1.10**	**185**	P	**Pn**		**10 26 55.4**	**+0.1**
BKES				S	**Sn**		**10 27 10.3**	**0.0**
BKES				*i* AML	AML		10 27 12.0	
	comp=N,181nm,0.3s							
BKES				*i* AML	AML		10 27 12.0	
	comp=E,236nm,0.2s							
UKOP	**Uzunkopru-Edir**	**1.11**	**286**	Pn	**Pb**		**10 26 54.9**	**-0.3**
CANM	**Can-anakkale**	**1.11**	**223**	Pn	**Pb**		**10 26 55.3**	**0.0**
ARMN	**Kirklareli, Me**	**1.13**	**336**	P	**Pb**		**10 26 55.7**	**+0.1**
ARMN				S	**Sn**		**10 27 11.2**	**+0.1**
BALY	**Balya**	**1.14**	**197**	P	**Pn**		**10 26 55.9**	**0.0**
BALY				S	**Sn**		**10 27 11.5**	**+0.2**
BALY				*i* AML	AML		10 27 12.0	
	comp=N,119nm,0.7s							
BALY				*i* AML	AML		10 27 12.0	
	comp=E,192nm,0.4s							
ERIK	**Erikli-Kesan**	**1.17**	**263**	Pn	**Pb**		**10 26 56.3**	**0.0**
KIRK	**Kırklareli**	**1.19**	**323**	P	**Pb**		**10 26 56.7**	**+0.2**
KIRK				S	**Sg**		**10 27 12.7**	**+0.2**
BALB	**Balikesir**	**1.20**	**186**	Pn	**Pn**		**10 26 56.7**	**+0.1**
HRT	**Hereke**	**1.23**	**90**	Pn	**Pn**		**10 26 56.6**	**-0.5**
SILT	**Sile**	**1.25**	**75**	Pn	**Pn**		**10 26 57.4**	**0.0**
GELI	**Tayfur-Gelibol**	**1.27**	**251**	Pn	**Pn**		**10 26 57.2**	**-0.4**
OSMT	**Osmaniye**	**1.28**	**100**	Pn	**Pn**		**10 26 57.9**	**+0.1**
DST	**Dursunbey**	**1.30**	**160**	Pn	**Pn**		**10 26 58.2**	**+0.1**
ADVT	**Abdulvahap**	**1.35**	**107**	Pn	**Pn**		**10 26 58.6**	**-0.1**
COMU	**Canakkale**	**1.40**	**239**	Pn	**Pn**		**10 26 59.1**	**-0.4**
EDRB	**Edirne**	**1.41**	**316**	Pn	**Pn**		**10 26 59.5**	**0.0**
CAVK	**Edirne/Enez-Ca**	**1.43**	**265**	P	**Pg**		**10 27 01.5**	**-0.2**
CAVK				S	**Sg**		**10 27 19.8**	**-0.4**
CAVK				*i* AML	AML		10 27 22.0	
	comp=E,85nm,0.4s							
CAVK				*i* AML	AML		10 27 25.0	
	comp=N,106nm,1.0s							
ENEZ	**Enez**	**1.44**	**267**	Pn	**Pb**		**10 27 00.5**	**-0.3**
CAVI	**Cavuskoy**	**1.51**	**114**	Pn	**Pn**		**10 27 01.1**	**+0.2**
EZN	**Ezine**	**1.65**	**233**	Pn	**Pn**		**10 27 03.4**	**+0.5**
SAUV	**Serdivan-Sakar**	**1.74**	**92**	Pn	**Pn**		**10 27 04.9**	**+0.9**
GADA	**Gvkgeada**	**1.76**	**249**	Pn	**Pn**		**10 27 04.9**	**+0.6**
GORD	**Gordes-Manisa**	**1.92**	**177**	Pn	**Pn**		**10 27 07.3**	**+0.7**
RDO	**Rodhopi**	**1.92**	**280**	Pn	**Pn**		**10 27 06.2**	**-0.4**
DKL	**Dikili**	**1.96**	**207**	Pn	**Pn**		**10 27 07.8**	**+0.7**
SRCK	**Saricakaya, Es**	**2.12**	**111**	Pn	**Pn**		**10 27 09.9**	**+0.6**
SIGR	**SIGRI**	**2.33**	**227**	Pn	**Pn**		**10 27 12.7**	**+0.5**
KULA	**Kula-Manisa**	**2.36**	**168**	Pn	**Pn**		**10 27 13.6**	**+0.9**
ODEM	**Odemis-Izmir**	**2.55**	**179**	Pn	**Pn**		**10 27 15.8**	**+0.5**

*IDC **15** 10:31:31.6±1.0,56°.00N×150°.06W,h0km,mb3.8/14,*
mbtmp3.9/18,ML3.9/4,MS3.6/61,Error ellipse:
s-maj=26.3km s-min=14.9km az=31.0
*NEIC **15** 10:31:32.1±1.8,55°.94N±0°.06×150°.02W±0°.09,h3km±5km,*
mb4.1/43,ML4.3/52,ML4.2(AEIC),Error ellipse:
s-maj=9.6km s-min=7.1km az=169.0
*AEIC **15** 10:31:36.4±1.9,55°.90N±0°.06×150°.00W±0°.09,h5km±5km,*
Error ellipse: s-maj=9.3km s-min=6.8km az=160.0
ISC 15 10:31:33.4±3.5,55°.98N±0°.06×150°.03W±0°.05,
h10km±23km,n482,σ1°01/446,mb4.1/42,MS3.6/55,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OHAK	**Old Harbor**	**2.19**	**306**	P	**Pn**		**10 32 09.4**	**-0.5**
OHAK	**Old Harbor**	**2.19**	**306**		**Pn**		**10 32 09.3**	**-0.5**
OHAK					**Sn**		**10 32 35.1**	**-1.9**
OHAK	**Old Harbor**	**2.19**	**306**	P	**Pn**		**10 32 09.4**	**-0.5**
	baz=123							
OHAK				S	**Sn**		**10 32 35.0**	**-2.0**
	baz=123							
KDAK	**Kodiak Island**	**2.29**	**323**		**Pn**		**10 32 11.2**	**0.0**
KDAK					**Sn**		**10 32 38.1**	**-1.3**
KDAK	**Kodiak Island**	**2.29**	**323**	S	**Sn**		**10 32 38.1**	**-1.3**
	baz=141							
KDAK	**Kodiak Island**	**2.29**	**323**	Pn	**Pn**		**10 32 09.4**	**-1.8**
	108nm,0.3s,baz=168,slow=5.7,SNR=491							
KDAK					Sn		**10 32 37.8**	**-1.6**
	41nm,0.3s,baz=210,slow=20,SNR=3.7							
KDAK				LR	LR		10 33 02.4	
	comp=Z,986nm,20.0s,baz=190,slow=40							
	268nm,0.3s							
SII	**Sitkinak Islan**	**2.39**	**286**	P	**Pn**		**10 32 12.0**	**-0.6**
SII	**Sitkinak Islan**	**2.39**	**286**	Pn	**Pn**		**10 32 12.0**	**-0.6**
SII					**Sn**		**10 32 39.5**	**-2.4**
SII				IAML			10 32 48.2	
	comp=E,1μm,0.6s							
SII				IAML			10 32 57.6	
	comp=N,1μm,0.6s							
SII	**Sitkinak Islan**	**2.39**	**286**	P	**Pn**		**10 32 12.0**	**-0.6**
	baz=103							
SII				S	**Sn**		**10 32 39.5**	**-2.4**
	baz=103							
SYI	**Shuyak Island**	**2.93**	**335**	Pn	**Pn**		**10 32 20.0**	**0.0**
SYI					**Sn**		**10 32 54.4**	**-0.8**
Q20K	**Shuyak Island**	**2.93**	**335**	P	**Pn**		**10 32 20.0**	**-0.1**
	baz=153							
Q20K				S	**Sn**		**10 32 54.5**	**-0.8**
	baz=153							
CHIR	**Chirikof Islan**	**3.15**	**269**		**Pn**		**10 32 22.1**	**-1.0**
CHIR					**Sn**		**10 32 57.7**	**-3.1**
CHIR				IAML			10 32 58.9	
	comp=N,569nm,0.6s							
CHIR				IAML			10 33 07.8	
	comp=E,525nm,0.9s							
Q19K	**Cape Douglas,**	**3.54**	**328**	Pn	**Pn**		**10 32 28.9**	**+0.4**
Q19K					**Sn**		**10 33 09.9**	**-0.5**
Q19K	**Cape Douglas,**	**3.54**	**328**	P	**Pn**		**10 32 29.5**	**+1.0**
	baz=145							
Q19K				S	**Sn**		**10 33 10.2**	**-0.2**
	baz=145							
CNPM	**China Poot**	**3.62**	**350**		**Pn**		**10 32 28.7**	**-0.8**
CNPM					**Sn**		**10 33 11.1**	**-1.1**
CNPM				IAML			10 33 12.6	
	comp=E,346nm,0.7s							
ACHA	**Angle Creek He**	**3.66**	**310**		**Pn**		**10 32 30.9**	**+0.9**
HOM	**Homer**	**3.79**	**347**	Pn	**Pn**		**10 32 31.6**	**-0.2**
HOM				IAML			10 33 28.9	
	comp=E,901nm,0.9s							
HOM				IAML			10 33 60.0	
	comp=N,720nm,1.0s							
BRSE	**Bradley Lake S**	**3.79**	**355**		**Pn**		**10 32 30.9**	**-1.0**
BRSE	**Bradley Lake S**	**3.79**	**355**	P	**Pn**		**10 32 30.8**	**-1.0**
	baz=174							
KAHC	**Katmai Hardscr**	**3.80**	**317**		**Pn**		**10 32 33.2**	**+1.1**
KAHC	**Katmai Hardscr**	**3.80**	**317**	P	**Pn**		**10 32 33.2**	**+1.1**
	baz=133							
BRLK	**Bradley Lake**	**3.82**	**353**		**Pn**		**10 32 31.1**	**-1.2**
BRLK					**Sn**		**10 33 15.9**	**-1.4**
BRLK				IAML			10 33 17.9	
	comp=N,294nm,0.8s							
PLK3	**Peulik 3**	**3.83**	**299**		**Pn**		**10 32 33.3**	**+0.9**
AU22	**Augustine Moun**	**3.84**	**334**		**Pn**		**10 32 32.4**	**-0.1**
AUCH	**Augustine Cone**	**3.86**	**333**		**Pn**		**10 32 34.0**	**+1.2**
AUL	**Augustine Lava**	**3.87**	**333**		**Pn**		**10 32 34.1**	**+1.2**
CNTC	**Contact Creek**	**3.93**	**308**		**Pn**		**10 32 34.4**	**+0.6**
CNTC					**Sn**		**10 33 19.2**	**-0.8**
Q17K	**Contact Creek**	**3.93**	**308**	P	**Pn**		**10 32 34.5**	**+0.7**
	baz=123							
Q17K				S	**Sn**		**10 33 19.2**	**-0.8**
	baz=123							
KELA	**Mount Kelaz**	**3.97**	**311**		**Pn**		**10 32 35.2**	**+0.9**
Q23K	**Middleton Isla**	**3.98**	**28**	Pn	**Pn**		**10 32 33.0**	**-1.4**
PLK1	**Peulik 1**	**4.04**	**300**		**Pn**		**10 32 35.0**	**-0.3**
P19K	**Oil Pt**	**4.06**	**336**		**Pn**		**10 32 36.3**	**+0.7**
SEW	**Seward**	**4.15**	**4**		**Sn**		**10 32 35.5**	**-1.2**
SEW	**Seward**	**4.15**	**4**		**Sn**		**10 33 22.5**	**-2.6**
SEW	**Seward**	**4.15**	**4**	P	**Pn**		**10 32 35.5**	**-1.2**
	baz=184							
P23K	**Montague Islan**	**4.26**	**18**		**Pn**		**10 32 37.3**	**-1.0**
P23K	**Montague Islan**	**4.26**	**18**	P	**Pn**		**10 32 37.3**	**-1.0**
	baz=200							
O20K	**Slope Mountain**	**4.34**	**343**		**Pn**		**10 32 39.0**	**-0.5**
O20K					**Sn**		**10 33 29.6**	**-0.5**
O20K	**Slope Mountain**	**4.34**	**343**	P	**Pn**		**10 32 38.7**	**-0.8**
	baz=160							
O20K				S	**Sn**		**10 33 29.3**	**-0.8**
	baz=160							
IVE	**Iliamna Volcan**	**4.35**	**340**		**Pn**		**10 32 39.2**	**-0.4**
P18K	**Big Mountain,**	**4.42**	**323**	Pn	**Pn**		**10 32 40.5**	**0.0**
P18K	**Big Mountain,**	**4.42**	**323**	P	**Pn**		**10 32 40.5**	**0.0**
	baz=138							
R16K	**Pilot Point**	**4.45**	**294**	Pn	**Pn**		**10 32 41.9**	**+1.1**
R16K				IAML			10 34 19.0	
	comp=E,190nm,0.9s							
Q16K	**King Salmon**	**4.50**	**310**		**Pn**		**10 32 42.0**	**+0.5**
Q16K	**King Salmon**	**4.50**	**310**	P	**Pn**		**10 32 42.2**	**+0.7**
	baz=124							
O22K	**Cooper Landing**	**4.52**	**2**		**Pn**		**10 32 41.6**	**-0.1**
O22K	**Cooper Landing**	**4.52**	**2**	P	**Pn**		**10 32 41.7**	**-0.1**
	baz=182							
SLKM	**Skilak Lake**	**4.54**	**359**		**Pn**		**10 32 41.0**	**-1.2**
SLKM					**Sn**		**10 33 32.0**	**-3.0**
ANNE	**Aniakchak Nort**	**4.55**	**285**		**Pn**		**10 32 42.4**	**0.0**
CHGN	**Chignik**	**4.70**	**277**	Pn	**Pn**		**10 32 44.6**	**+0.3**
CHGN				IAML			10 33 42.6	
	comp=E,208nm,0.6s							
CHGN				IAML			10 33 46.7	
	comp=N,180nm,0.8s							
CHGN	**Chignik**	**4.70**	**277**	P	**Pn**		**10 32 44.7**	**+0.4**
	baz=91							
P17K	**Kvichak River**	**4.72**	**316**		**Pn**		**10 32 45.5**	**+1.0**
P17K	**Kvichak River**	**4.72**	**316**	P	**Pn**		**10 32 45.5**	**+1.0**
	baz=130							
RDWB	**Redoubt West**	**4.76**	**343**		**Pn**		**10 32 44.1**	**-1.2**
O18K	**Koktuh Hills**	**4.77**	**327**	Pn	**Pn**		**10 32 45.3**	**0.0**
O18K				IAML			10 33 42.0	
	comp=N,182nm,0.7s							
O18K				IAML			10 33 54.8	
	comp=E,160nm,0.7s							
O18K	**Koktuh Hills**	**4.77**	**327**	P	**Pn**		**10 32 45.2**	**0.0**
	baz=142							
O19K	**Port Alsworth**	**4.80**	**333**		**Pn**		**10 32 45.2**	**-0.4**
HIN	**Hinchinbrook I**	**4.81**	**21**	Pn	**Pn**		**10 32 45.1**	**-0.6**
HIN				IAML			10 33 44.5	
	comp=N,230nm,0.7s							
HIN				IAML			10 33 44.0	
	comp=E,342nm,0.7s							
NCT	**North Crescent**	**4.84**	**343**		**Pn**		**10 32 45.3**	**-1.1**
KAIM	**Kayak Island**	**4.96**	**35**		**Pn**		**10 32 47.0**	**-0.8**
KAIM				IAML			10 33 46.0	
	comp=E,319nm,0.4s							
KAIM				IAML			10 33 49.2	
	comp=N,364nm,0.6s							
EYAK	**Cordova Ski Ar**	**5.11**	**24**	P	**Pn**		**10 32 49.1**	**-0.8**
EYAK	**Cordova Ski Ar**	**5.11**	**24**		**Pn**		**10 32 49.2**	**-0.6**
EYAK	**Cordova Ski Ar**	**5.11**	**24**	P	**Pn**		**10 32 48.8**	**-1.0**
	baz=208							
VNHG	**Veniaminof 1**	**5.12**	**276**		**Pn**		**10 32 50.2**	**0.0**
RC01	**Rabbit Creek A**	**5.13**	**2**	Pn	**Pn**		**10 32 49.6**	**-0.5**
RC01				IAML			10 33 48.8	
	comp=E,155nm,0.7s							
RC01				IAML			10 33 50.2	
	comp=N,179nm,0.4s							
RC01	**Rabbit Creek A**	**5.13**	**2**	P	**Pn**		**10 32 49.5**	**-0.7**
	baz=182							
FID	**Port Fidalgo**	**5.14**	**20**		**Pn**		**10 32 49.3**	**-1.0**
FID				IAML			10 33 47.9	
	comp=N,180nm,0.4s							
FID				IAML			10 33 51.6	
	comp=E,182nm,0.6s							
GLI	**Glacier Island**	**5.15**	**16**	Pn	**Pn**		**10 32 50.1**	**-0.4**
GLI				IAML			10 33 49.7	
	comp=E,217nm,0.6s							
GLI				IAML			10 33 51.4	
	comp=N,125nm,0.7s							
GLI	**Glacier Island**	**5.15**	**16**	P	**Pn**		**10 32 49.9**	**-0.6**
	baz=198							
FIS	**Fire Island**	**5.18**	**359**		**Pn**		**10 32 50.9**	**0.0**
FIS				IAML			10 33 53.3	
	comp=E,282nm,0.6s							
RAGM	**Ragged Mountai**	**5.25**	**30**		**Pn**		**10 32 51.2**	**-0.7**
P16K	**Nushagak River**	**5.27**	**309**		**Pn**		**10 32 53.0**	**+0.8**
P16K	**Nushagak River**	**5.27**	**309**	P	**Pn**		**10 32 53.0**	**+0.8**
	baz=122							
SUCK	**Suckling Hills**	**5.28**	**36**		**Pn**		**10 32 51.7**	**-0.6**
SUCK				IAML			10 33 50.8	
	comp=N,227nm,0.4s							
SUCK				IAML			10 34 02.9	
	comp=E,151nm,0.7s							
HMT	**Hamilton**	**5.33**	**33**		**Pn**		**10 32 52.5**	**-0.5**
NICHA	**Nichawak Mount**	**5.34**	**34**		**Pn**		**10 32 52.5**	**-0.6**
O17K	**Koliganek Bris**	**5.36**	**318**		**Pn**		**10 32 53.5**	**+0.2**
O17K	**Koliganek Bris**	**5.36**	**318**	P	**Pn**		**10 32 53.8**	**+0.5**
	baz=132							
N20K	**Mount Spurr**	**5.36**	**349**	P	**Pn**		**10 32 52.1**	**-1.3**
	baz=167							
SPCR	**Spurr Chakacha**	**5.36**	**349**		**Pn**		**10 32 52.1**	**-1.3**
SPCN	**Chakachatna No**	**5.38**	**349**		**Pn**		**10 32 53.6**	**-0.1**
N19K	**Bonanza Creek**	**5.38**	**336**	Pn	**Pn**		**10 32 53.1**	**-0.7**
N19K	**Bonanza Creek**	**5.38**	**336**	P	**Pn**		**10 32 53.4**	**-0.4**
	baz=152							
GOAT	**Goat Mountain**	**5.39**	**29**		**Pn**		**10 32 53.5**	**-0.4**
SPCP	**Crater Peak Br**	**5.42**	**349**		**Pn**		**10 32 53.9**	**-0.4**
SPCG	**Spurr Capps Gl**	**5.43**	**350**		**Pn**		**10 32 54.3**	**-0.1**
SPBG	**Spurr Blockage**	**5.44**	**348**		**Pn**		**10 32 53.9**	**-0.5**
BGLC	**Bering Glacier**	**5.48**	**38**		**Pn**		**10 32 54.5**	**-0.5**
KNK	**Knik Glacier**	**5.51**	**8**		**Pn**		**10 32 54.7**	**-0.8**
SUA	**Susitna One**	**5.51**	**356**		**Pn**		**10 32 54.4**	**-1.2**
SUA	**Susitna One**	**5.51**	**356**	P	**Pn**		**10 32 54.3**	**-1.2**
	baz=176							
CHNA	**Chernabura Isl**	**5.57**	**262**	P	**Pn**		**10 32 55.5**	**-0.7**
	baz=74							
CNBA	**Chernabura Isl**	**5.57**	**262**	Pn	**Pn**		**10 32 55.4**	**-0.9**
SPNN	**North Nagishla**	**5.58**	**347**		**Pn**		**10 32 56.2**	**-0.4**
GRIN	**Grindle Hills**	**5.59**	**37**		**Pn**		**10 32 55.9**	**-0.6**
STLK	**Strand

CTG Chitna Glacier 6.76 39 P Pn 10 33 11.8 -0.9
baz=226
CTGM Chitina Glacie 6.76 39 Pn 10 33 12.1 -0.6
PNL Peninsula 6.77 53 P Pn 10 33 12.0 -0.8
PNL Peninsula 6.77 53 Pn 10 33 11.8 -0.9
PNL Peninsula 6.77 53 P Pn 10 33 11.8 -0.9
baz=241
LOGN Logan Glacier 6.79 41 Pn 10 33 12.3 -0.8
S12K Black Hills 6.79 273 Pn 10 33 12.8 -0.1
S12K Black Hills 6.79 273 P Pn 10 33 12.6 -0.3
baz=83
N15K Kwethluk River 6.79 312 Pn Pn 10 33 14.3 +1.3
BCPM Bancas Point 6.81 50 Pn 10 33 12.9 -0.4
L20K Farewell, AK 6.81 345 Pn 10 33 13.3 0.0
L20K Farewell, AK 6.81 345 P Pn 10 33 13.3 0.0
baz=161
O14K Tigyukauivet M 6.87 303 Pn Pn 10 33 15.2 +1.2
M16K Timber Creek 6.89 321 Pn 10 33 14.9 +0.6
M16K Timber Creek 6.89 321 P Pn 10 33 14.9 +0.6
baz=133
WAT7 Susitna Watana 6.90 5 Pn 10 33 14.7 0.0
HARP HAARP 6.91 19 Pn 10 33 14.8 +0.2
WAT1 Susitna Watana 6.91 6 Pn 10 33 14.7 0.0
WAT1 Susitna Watana 6.91 6 P Pn 10 33 15.0 +0.3
baz=187
O28M Mount Upton 7.06 43 Pn 10 33 16.2 -0.7
O28M Mount Upton 7.06 43 P Pn 10 33 16.2 -0.7
baz=231
L18K Granite Mounta 7.13 334 Pn 10 33 17.4 -0.2
L18K Granite Mounta 7.13 334 P Pn 10 33 16.9 -0.7
baz=148
DHY Denali Highway 7.25 10 Pn Pn 10 33 19.7 +0.4
DHY Denali Highway 7.25 10 P Pn 10 33 20.1 +0.7
baz=192
M15K Kasigluk River 7.33 315 Pn 10 33 20.4 0.0
N14K Kuskokwak Cree 7.35 307 Pn 10 33 20.8 +0.1
M26K Nabesna, AK 7.38 26 Pn Pn 10 33 20.6 -0.5
M26K Nabesna, AK 7.38 26 P Pn 10 33 21.6 +0.4
baz=212
PAX Paxson 7.38 16 Pn 10 33 20.9 -0.3
PAX Paxson 7.38 16 P Pn 10 33 22.0 +0.8
baz=200
RND Reindeer 7.47 4 Pn Pn 10 33 22.9 +0.4
L17K Donlin 7.50 329 Pn 10 33 22.9 +0.2
L17K Donlin 7.50 329 P Pn 10 33 23.7 +1.1
baz=142
TRF Thorofare Moun 7.50 359 Pn 10 33 22.3 -0.5
TRF Thorofare Moun 7.50 359 P Pn 10 33 21.9 -0.9
baz=179
P29M Windy Craggy 7.51 56 Pn Pn 10 33 21.7 -1.2
P29M Windy Craggy 7.51 56 P Pn 10 33 21.8 -1.1
baz=246
CAST Castle Rocks 7.54 353 Pn 10 33 22.3 -0.9
CAST Castle Rocks 7.54 353 P Pn 10 33 24.6 +1.4
baz=171
L16K Owhat River 7.55 323 Pn Pn 10 33 23.3 0.0
L16K Owhat River 7.55 323 P Pn 10 33 23.4 0.0
baz=135
KTH Kantishna Hill 7.61 357 Pn 10 33 23.9 -0.4
YUK3 Moose Creek 7.63 37 Pn 10 33 24.9 +0.1
YUK3 Moose Creek 7.63 37 P Pn 10 33 24.9 +0.1
baz=224
M27K Edge Creek, AK 7.64 30 Pn Pn 10 33 25.4 +0.6
M27K Edge Creek, AK 7.64 30 P Pn 10 33 25.4 +0.6
baz=217
K20K Telida 7.68 346 Pn 10 33 24.1 -1.1
MENT Mentasta 7.68 22 Pn 10 33 25.2 0.0
FALS False Pass 7.71 267 Pn 10 33 24.7 -0.8
FALS False Pass 7.71 267 P Pn 10 33 25.3 -0.2
baz=76
YUK7 Dusty Glacier 7.75 49 Pn 10 33 26.1 -0.2
S31K Pelican 7.80 70 Pn 10 33 24.4 -2.3
S31K Pelican 7.80 70 P Pn 10 33 23.7 -3.0
baz=261
L26K Log Cabin Wild 7.84 23 Pn 10 33 28.5 +1.1
YUK6 Outpost Mounta 7.88 46 Pn 10 33 28.5 +0.3
YUK6 Outpost Mounta 7.88 46 P Pn 10 33 28.5 +0.3
baz=236
M14K Bethel 7.88 312 Pn Pn 10 33 28.3 +0.4
M14K Bethel 7.88 312 P Pn 10 33 28.8 +0.9
baz=122
ISNN Isanotski Nort 7.91 267 Pn 10 33 28.4 0.0
K17K Iditarod 7.96 331 Pn Pn 10 33 29.0 -0.1
K17K Iditarod 7.96 331 P Pn 10 33 28.9 -0.1
baz=144
YUK4 Talbot Arm 8.00 43 P Pn 10 33 31.4 +1.6
baz=232
P30M Million Dollar 8.07 54 Pn 10 33 30.2 -0.4
BPAW Bear Paw Mtn. 8.16 357 Pn 10 33 30.7 -1.1
BPAW Bear Paw Mtn. 8.16 357 P Pn 10 33 32.5 +0.7
baz=176
HYT Haines Junctio 8.17 48 Pn Pn 10 33 31.6 -0.4
HYT Haines Junctio 8.17 48 P Pn 10 33 32.2 +0.2
baz=239
SIT Sitka 8.20 76 P Pn 10 33 28.8 -3.5
J18K Innoko River 8.23 339 Pn 10 33 31.8 -0.9
L27K Beaver Creek, 8.23 27 Pn 10 33 32.7 -0.1
L27K Beaver Creek, 8.23 27 P Pn 10 33 33.4 +0.7
baz=214
L15K Ungalak Mounta 8.24 319 Pn 10 33 33.8 +1.0
L15K Ungalak Mounta 8.24 319 P Pn 10 33 33.8 +1.0
baz=129
BCAR Beaver Creek A 8.24 27 Pn Pn 10 33 32.3 -0.6
M13K Dall Lake 8.32 308 Pn Pn 10 33 35.3 +1.5
J20K Nowinta River 8.48 348 Pn Pn 10 33 35.1 -1.0
L14K Kuka Creek 8.50 314 Pn Pn 10 33 37.1 +0.8
L14K Kuka Creek 8.50 314 P Pn 10 33 37.2 +0.8
baz=124
J19K Poorman 8.51 343 Pn Pn 10 33 35.8 -0.8
J19K Poorman 8.51 343 P Pn 10 33 36.9 +0.4
baz=158
SCRK Sand Creek 8.57 18 Pn 10 33 37.7 +0.2
WRH Wood River Hil 8.57 6 Pn 10 33 37.9 +0.5
HDA Harding Lake 8.59 9 Pn 10 33 38.8 +1.1
SKAG Skagway 8.60 60 Pn 10 33 38.4 +0.6
BESE Bessie Mountai 8.62 66 Pn 10 33 37.1 -1.0
S32K Killisnoo 8.63 74 Pn 10 33 36.6 -1.5
S32K Killisnoo 8.63 74 P Pn 10 33 35.3 -2.8
baz=266
K15K Wolf Creek Mou 8.65 322 Pn Pn 10 33 39.2 +0.7
K15K Wolf Creek Mou 8.65 322 P Pn 10 33 39.3 +0.8
baz=132
NEA2 Nenana 8.66 3 Pn 10 33 38.5 0.0
N30M Aishikik Lake 8.68 45 Pn Pn 10 33 38.4 -0.5
N30M Aishikik Lake 8.68 45 P Pn 10 33 38.4 -0.5
baz=236
J17K VABM Dome 8.72 332 Pn 10 33 39.1 -0.4
R32K Eaglecrest 8.74 68 Pn 10 33 39.8 0.0
O30N Mendenhall 8.75 51 Pn Pn 10 33 39.4 -0.4
O30N Mendenhall 8.75 51 P Pn 10 33 39.2 -0.6
baz=243
CCB Clear Creek Bu 8.77 6 Pn 10 33 40.7 +0.7
M29M Somme Creek 8.78 38 Pn Pn 10 33 40.3 0.0
M29M Somme Creek 8.78 38 P Pn 10 33 40.5 +0.3
baz=227
JIS Juneau Island 8.81 68 P Pn 10 33 39.2 -1.5
JIS Juneau Island 8.81 68 Pn Pn 10 33 39.1 -1.5
IL31 8.96 9 Pn 10 33 44.7 +2.1
ILAR Eielson Array 8.96 9 Pn Pn 10 33 43.7 +1.1
ILAR Eielson Array 8.96 9 Pn Pn 10 33 41.6 -1.1
comp=E,1.2nm,0.3s,baz=192,slow=14,SNR=50
ILAR Sn Sn 10 35 18.4 -5.0
comp=E,1.4nm,0.3s,baz=186,slow=23,SNR=7.9
ILAR LR LR 10 37 20.6
comp=E,330nm,19.7s,baz=238,slow=39
J25K Salcha River, 8.96 13 Pn 10 33 42.9 +0.1
COLA College 8.99 6 P Pn 10 33 44.3 +1.2
COLA College 8.99 6 Pn 10 33 43.6 +0.5
K27K Chicken 8.99 23 Pn 10 33 42.7 -0.5
MDM Murphy Dome 9.05 5 Pn 10 33 44.6 +0.6
J16K Anvik River 9.06 328 Pn Pn 10 33 43.6 -0.5
J16K Anvik River 9.06 328 P Pn 10 33 44.7 +0.6
baz=139
MLY Manley 9.09 358 Pn Pn 10 33 44.7 +0.2
MLY Manley 9.09 358 P Pn 10 33 44.8 +0.3
baz=177
I20K Naaghedeneel 9.11 348 Pn Pn 10 33 43.5 -1.2
J26L Joseph Creek 9.13 18 Pn Pn 10 33 44.7 -0.4
J26L Joseph Creek 9.13 18 P Pn 10 33 44.6 -0.5
baz=203
I23K Minto, Yukon-K 9.21 2 Pn 10 33 45.8 -0.2
I23K Minto, Yukon-K 9.21 2 P Pn 10 33 45.9 -0.2
baz=182
N31M Braeburn, Yuko 9.23 47 Pn 10 33 46.1 -0.3
baz=239
N31M Braeburn, Yuko 9.23 47 P Pn 10 33 46.9 +0.5
baz=239
WHY Whitehorse 9.24 53 Pn 10 33 46.3 -0.3
POKR Poker Plat Res 9.26 7 Pn Pn 10 33 45.8 -0.9
I21K Tanana 9.28 355 Pn 10 33 46.6 -0.5
L29M L29M 9.35 35 Pn 10 33 47.8 -0.2
L29M L29M 9.35 35 P Pn 10 33 47.9 -0.2
baz=225
P32M Atlin 9.43 61 Pn 10 33 48.1 -1.1
P32M Atlin 9.43 61 P Pn 10 33 48.1 -1.1
baz=254
U33K Whale Pass 9.46 82 Pn 10 33 47.1 -2.5
U33K Whale Pass 9.46 82 P Pn 10 33 46.2 -3.4
baz=276
CRAG Craig 9.55 86 P Pn 10 33 48.2 -2.6
CRAG Craig 9.55 86 Pn 10 33 49.1 -1.8
I17K Unalakleet 9.55 330 Pn Pn 10 33 50.9 +0.1
K13K Kusilvak Mount 9.61 314 Pn Pn 10 33 53.0 +1.3
J14K Nanvaranak Lak 9.66 320 Pn 10 33 54.1 +1.8
DAWY Dawson 9.69 29 Pn 10 33 52.5 -0.2
UNV Unalaska Valle 9.73 264 P Pn 10 33 51.8 -1.4
UNV Unalaska Valle 9.73 264 Pn 10 33 51.8 -1.4
UNV Unalaska Valle 9.73 264 P Pn 10 33 52.6 -0.6
baz=71
H21K Melozitna Rive 9.80 353 Pn Pn 10 33 53.5 -0.8
PRP Porcupine Dome 9.82 11 Pn 10 33 55.0 +0.4
EGAK Eagle 9.85 23 Pn 10 33 55.4 +0.6
MSW Makushin Switc 9.86 265 Pn 10 33 53.4 -1.6
WRAK Wrangell Islan 9.86 80 Pn 10 33 53.0 -2.1
H23K Yukon River 9.88 1 Pn 10 33 55.7 +0.3
I26K Coal Creek Min 9.94 17 Pn Pn 10 33 57.9 +1.8
H24K Noodor Dome 9.95 5 Pn 10 33 56.8 +0.5
P33M Teslin, Yukon 10.04 58 Pn Pn 10 33 56.6 -1.0
P33M Teslin, Yukon 10.04 58 P Pn 10 33 56.5 -1.0
baz=252
K29M Barlow Dome 10.06 33 Pn Pn 10 33 58.1 +0.2
H18K Honhosa River 10.06 339 Pn Pn 10 33 58.0 +0.2
H19K Roundabout Mou 10.07 345 Pn Pn 10 33 58.3 +0.4
M31M Drury Creek, Y 10.16 46 Pn Pn 10 33 59.5 +0.3
IMAR Indian Mountai 10.20 351 Pn 10 33 59.6 0.0
H17K Granite Mounta 10.21 336 Pn Pn 10 33 59.7 -0.1
N32M Quiet Lake 10.24 53 Pn Pn 10 34 00.3 0.0
J29N Klondike Camp 10.31 30 Pn Pn 10 34 02.0 +0.7
FARO Faro, Yukon 10.60 47 Pn 10 34 05.9 +0.7
I28M Miner Creek 10.69 23 Pn Pn 10 34 06.7 +0.2
G21K Allakaket 10.70 352 Pn 10 34 07.2 +0.6
G19K Purcell Mounta 10.75 344 Pn 10 34 06.4 -0.7
R33M Jennings River 10.75 64 Pn Pn 10 34 06.6 -0.7
G23K Bananza Creek 10.77 0 Pn Pn 10 34 07.1 -0.4
G18K Tagagawik 10.78 341 Pn Pn 10 34 07.5 -0.2
G24K Hadweenzic Riv 10.83 5 Pn Pn 10 34 08.9 +0.6
J30M Hart River 10.95 33 Pn Pn 10 34 10.8 +0.7
I29M Ogilvie Camp, 11.00 27 Pn 10 34 10.8 +0.2
DLBC Dease Lake 11.11 69 Pn 10 34 12.8 +0.6
DLBC Dease Lake 11.11 69 P Pn 10 34 11.2 -1.0
comp=E,0.5nm,0.3s,baz=260,slow=7.5,SNR=12
DLBC Sn Sn 10 36 07.3 -9.2
comp=E,0.2nm,0.3s,baz=261,slow=19,SNR=1.4
DLBC LR LR 10 37 42.0
comp=E,462nm,19.0s,baz=283,slow=33
comp=E,1.3nm,0.3s
F21K Alatna River 11.40 353 Pn Pn 10 34 16.4 +0.3
I30M Mount Dempster 11.41 30 Pn Pn 10 34 18.5 +2.2
F19K Shaleruckik Mo 11.49 344 Pn 10 34 17.1 -0.2
F24K Squaw Lake 11.62 4 Pn Pn 10 34 20.8 +1.6
H29M Whitestone 11.69 24 Pn Pn 10 34 20.1 0.0
F17K Baldwin Pennin 11.78 337 Pn Pn 10 34 21.7 +0.4
E19K Redstone River 12.00 347 Pn Pn 10 34 24.8 +0.5
F15K North Star Dit 12.04 330 Pn 10 34 27.4 +2.5
E24K Your Creek 12.16 3 Pn Pn 10 34 26.8 +0.3
EPYK Eagle Plains 12.20 26 Pn 10 34 29.6 +2.5
E22K Anaktuvuk Pass 12.23 357 Pn Pn 10 34 27.9 +0.5
G29M Pine Creek 12.35 23 Pn 10 34 29.8 +0.8
E25K Arctic Village 12.36 8 Pn 10 34 29.5 +0.3
H31M Peel River 12.42 31 Pn Pn 10 34 29.4 -0.6
E18K Tukpahlearik C 12.50 341 Pn Pn 10 34 31.6 +0.6
F28M Old Crow 12.60 18 Pn Pn 10 34 32.9 +0.5
E21K Killik River 12.64 353 Pn Pn 10 34 32.6 -0.4
TOLK Toolik Lake Re 12.71 1 Pn 10 34 33.9 -0.1
G30M tAoh Zrail Nji 12.81 25 Pn Pn 10 34 33.3 -2.1
E27K Coleen River 12.85 14 Pn Pn 10 34 37.3 +1.4
D22K Ayikyak River 13.01 356 Pn Pn 10 34 36.9 -1.1
D19K Kuna River 13.09 347 Pn Pn 10 34 36.7 -2.5
D24K Happy Valley 13.23 2 Pn 10 34 39.3 -1.8
G31M Satah River 13.26 28 Pn Pn 10 34 41.0 -0.4
BBB Bella Bella 13.39 97 LR LR 10 38 36.7
comp=E,229nm,20.8s,baz=294,slow=32
E28M Babbage River 13.54 17 Pn Pn 10 34 47.5 +2.2
E29M Blow River 13.64 19 Pn Pn 10 34 46.2 -0.3
C18K Utukok River 13.69 343 Pn Pn 10 34 47.2 -0.2
C23K Itkillik River 13.91 359 Pn Pn 10 34 51.2 +0.9
C16K Lisburne Hills 14.20 336 Pn Pn 10 34 55.3 +1.1
B22K Teshekpuk Lake 14.49 355 Pn Pn 10 34 59.0 +0.8
INK Inuvik 14.50 25 Pn Pn 10 34 58.7 +0.4
INK Inuvik 14.50 25 Pn Pn 10 34 58.1 -0.2
comp=E,0.2nm,0.3s,baz=213,slow=14,SNR=7.9
INK LR LR 10 40 50.7
comp=E,332nm,20.1s,baz=194,slow=39
comp=E,6.8nm,1.0s
C36M Paulatuk 17.71 31 Pn 10 35 40.1 +0.4
C36M IAmb IAmb 10 35 50.6
comp=Z,18nm,0.8s
YKA Yellowknife Ar 19.06 56 P Pn 10 35 55.9 -0.3
YKA Yellowknife Ar 19.06 56 P Pn 10 35 56.0 -0.2
comp=E,0.2nm,0.3s,baz=268,slow=9.9,SNR=36
YKA LR LR 10 43 07.3
comp=Z,276nm,18.1s,baz=286,slow=36
comp=Z,2.3nm,0.8s
A36M Sachs Harbour 19.12 23 P Pn 10 35 57.2 +0.2
H04A Detroit Lake 20.91 111 P P 10 36 14.2 -1.5
H04A IAmb IAmb 10 36 36.4
comp=Z,7.4nm,1.0s
G05A Wamic 20.99 109 P P 10 36 16.1 -0.6
SHEM Shemya Is, Ala 21.01 276 P P 10 36 16.4 -0.3
comp=E,14nm,0.8s,baz=89,slow=19,SNR=1.9
SHEM LR LR 10 44 22.5
comp=Z,132nm,20.2s,baz=91,slow=37
comp=Z,14nm,0.8s
C09A Chrisman Ranch 21.08 99 P P 10 36 16.6 -1.0
C09A IAmb IAmb 10 36 42.1
comp=Z,7.4nm,0.8s
I04A Tendick Farm, 21.40 113 P P 10 36 21.0 -0.1
I04A IAmb IAmb 10 36 41.4
comp=Z,7.5nm,0.9s
DBO Dodson Butte 21.45 116 P P 10 36 23.2 +1.5
DBO IAmb IAmb 10 36 35.0
comp=Z,7.6nm,0.8s
NEW Newport 21.46 97 LR LR 10 43 20.3
comp=Z,149nm,20.9s,baz=292,slow=33
K02D Willamette Mer 21.55 117 P P 10 36 23.7 +0.9
K02D IAmb IAmb 10 36 50.5
comp=Z,11nm,1.0s
HUMO Hull Mountain 21.97 116 P P 10 36 27.7 +0.5
HUMO IAmb IAmb 10 36 49.4
comp=Z,9.5nm,1.2s
PINE Pine Mountain 22.17 111 P P 10 36 28.4 -1.1
G08A Pilot Rock 22.23 106 P P 10 36 28.5 -1.6
J05D Fort Rock, OR 22.37 112 P P 10 36 31.6 0.0
J05D IAmb IAmb 10 36 47.5
comp=Z,8.3nm,0.9s
YBH Yreka Blue Hor 22.74 117 LR LR 10 43 10.4
comp=Z,324nm,21.0s,baz=322,slow=31
BILL Bilibino 23.19 319 P P 10 36 39.8 0.0
BILL IAmb IAmb 10 36 42.4
comp=Z,5.5nm,0.9s
BMO Blue Mountains 23.41 105 P P 10 36 43.8 +1.5
MSO Missoula 24.05 97 P P 10 36 48.0 -0.6
WVOR Wild Horse Val 24.32 111 P P 10 36 51.8 +0.6
WVOR IAmb IAmb 10 37 01.9
comp=Z,4.5nm,0.9s
BPMT Black Pine Rid 24.56 97 P P 10 36 52.2 -1.2
LYMT Lyon Mountain 24.89 95 P P 10 36 56.2 -0.2
PAHR Pah Rah Range 25.93 116 P P 10 37 04.7 -1.1
PAHR IAmb IAmb 10 37 16.2
comp=Z,3.4nm,1.0s
PNTR Pine Nut 26.29 117 P P 10 37 09.7 +0.6
PNTR IAmb IAmb 10 37 30.6
comp=Z,5.6nm,0.9s
RYN Ryan 27.18 116 P P 10 37 15.7 -1.4
ELK Elko 27.32 109 P P 10 37 19.7 +1.3
ELK Elko 27.32 109 LR LR 10 46 07.1
comp=Z,139nm,21.4s,baz=314,slow=32
NVAR Mina Array Bea 27.45 116 P P 10 37 20.1 +0.6
comp=Z,1.1nm,0.9s,baz=312,slow=10.0,SNR=8.4
NVAR LR LR 10 46 27.0
comp=Z,291nm,18.6s,baz=331,slow=32
comp=Z,1.1nm,0.9s
RES Resolute Bay 28.02 28 P P 10 37 25.8 +1.7
RES IAmb IAmb 10 37 33.3
comp=Z,2.6nm,0.8s
RES Resolute Bay 28.02 28 LR LR 10 49 02.8
comp=Z,186nm,18.8s,baz=218,slow=38
DSP Deep Springs 28.43 117 P P 10 37 28.1 +0.1
MZP Montezuma Peak 28.47 116 P P 10 37 28.9 +0.2
R11B Troy Canyon, C 28.89 113 P P 10 37 32.0 -0.3
R11B IAmb IAmb 10 37 41.9
comp=Z,2.2nm,0.8s
PDAR Pinedale Array 29.02 100 P P 10 37 33.6 +0.1
comp=Z,0.3nm,0.5s,baz=343,slow=5.8,SNR=1.8
PDAR LR LR 10 48 26.3
comp=Z,71nm,19.0s,baz=316,slow=35
comp=Z,0.3nm,0.5s
SEY Seymchan 29.16 308 LR LR 10 50 30.9
comp=Z,375nm,18.0s,baz=65,slow=39
WCT Wildcat Mounta 29.55 116 P P 10 37 38.2 +0.1
WCT IAmb IAmb 10 38 03.3
comp=Z,3.1nm,1.1s
PETK Petropavlovsk- 29.86 287 LR LR 10 50 43.4
comp=Z,64nm,19.8s,baz=83,slow=39
PRN Pahroc Range 29.88 114 P P 10 37 42.0 +0.9
PRN IAmb IAmb 10 37 45.0
comp=Z,4.6nm,1.1s
MVU Marysvale 30.55 109 P P 10 37 48.3 +1.1
CCUT Cedar City 30.65 111 P P 10 37 47.8 -0.2
MA2 Magadan 30.86 302 LR LR 10 51 38.9
comp=Z,248nm,18.6s,baz=184,slow=39
EUNU Eureka 30.92 18 P P 10 37 52.2 +2.5
SNCC San Nicolas Is 31.00 124 P P 10 37 51.4 +0.5
V12A Nelson 31.28 115 P P 10 37 54.7 +1.3
V12A IAmb IAmb 10 38 03.6
comp=Z,1.9nm,0.8s
PKCU Pink Cliffs 31.28 110 P P 10 37 55.0 +1.3
PKCU IAmb IAmb 10 38 03.9
comp=Z,3.7nm,1.0s
O20A White River Ci 31.53 102 P P 10 37 55.3 -0.5
HMU Henry Mountain 31.75 108 P P 10 37 55.8 -1.9
HMU IAmb IAmb 10 38 13.7
comp=Z,3.1nm,0.9s
PFO Pinyon Flats O 32.16 120 LR LR 10 49 13.3
comp=Z,165nm,19.1s,baz=20,slow=33
W13A Hualapai Mount 32.26 115 P P 10 38 02.1 -0.1
W13A IAmb IAmb 10 38 13.0
comp=Z,1.9nm,1.1s
X16A Lo Mia Camp, P 34.05 113 P P 10 38 18.5 +0.8
X16A IAmb IAmb 10 38 28.3
comp=Z,3.2nm,0.9s
TIXI Tiksi 35.71 328 LR LR 10 55 12.6
comp=Z,60nm,20.5s,baz=48,slow=40
ANMO Albuquerque 36.28 107 LR LR 10 52 40.8
comp=Z,61nm,19.1s,baz=46,slow=35
NEEM North Greenlan 38.01 21 *i* P P 10 38 56.5 +5.2
NEEM IAmb IAmb 10 39 02.1
comp=Z,6.4nm,0.8s
FRB Frobisher Bay 38.94 44 LR LR 10 55 07.4
comp=Z,324nm,19.2s,baz=328,slow=36
YAK Yakutsk 39.28 313 LR LR 10 57 47.9
comp=Z,91nm,18.6s,baz=62,slow=40
NOR Nord 40.41 9 *i* P P 10 39 10.5 -0.5
NOR IAmb IAmb 10 39 14.6
comp=Z,1.4nm,0.8s
WMOK Wichita Mounta 40.63 100 P P 10 39 12.9 -0.4
WMOK IAmb IAmb 10 39 23.4
comp=Z,4.8nm,1.1s
TX31 Lajitas Ar. Si 42.11 110 P P 10 39 26.3 +0.7
TXAR Lajitas Array 42.11 110 P P 10 39 26.1 +0.5
TXAR Lajitas Array 42.11 110 P P 10 39 25.3 -0.4
comp=Z,1.0nm,1.0s,baz=324,slow=5.8,SNR=8.4
TXAR LR LR 10 56 07.3
comp=Z,84nm,18.4s,baz=309,slow=35
comp=Z,1.0nm,1.0s
LPIG La Paz 43.03 121 LR LR 10 54 42.6
comp=Z,89nm,19.2s,baz=354,slow=32
ASAJ Asahikawa 43.16 284 LR LR 10 56 47.2
comp=Z,29nm,22.0s,baz=20,slow=35
SUMG Summit 43.41 24 *i* P P 10 39 39.5 +3.4
SUMG IAmb IAmb 10 39 46.5
comp=Z,6.1nm,0.7s
SFJD Kangerlussuaq 43.58 34 LR LR 10 57 28.5
comp=Z,108nm,21.4s,baz=310,slow=36
DRIO Del Rio 43.67 106 P P 10 39 38.6 +0.4
DAG Danmarks Havn 44.00 14 *i* P P 10 39 41.0 +0.7
DAG IAmb IAmb 10 39 50.3
comp=Z,7.3nm,0.8s
SCHQ Schefferville 44.51 55 LR LR 10 58 18.9
comp=Z,123nm,19.4s,baz=266,slow=36
SADO Sadowa 44.63 73 LR LR 10 58 08.6
comp=Z,70nm,20.1s,baz=236,slow=36
ICESG Greenland Ices 45.44 28 *i* P P 10 39 59.3 +7.1
ICESG IAmb IAmb 10 40 03.2
comp=Z,5.1nm,0.8s
KLR Kul'dur 45.59 296 LR LR 11 01 06.9
comp=Z,67nm,18.5s,baz=49,slow=39
H11N2 WAKE ISLAND Hy 48.37 239 T T 11 33 04.0
baz=29,slow=76,SNR=10
TKL Tuckaleechee C 48.37 86 LR LR 11 00 11.5
comp=Z,157nm,19.3s,baz=317,slow=36
H11N3 WAKE ISLAND Hy 48.37 239 T T 11 33 05.0
baz=29,slow=76,SNR=9.2
H11N1 WAKE ISLAND Hy 48.39 239 T T 11 33 04.2
baz=29,slow=76,SNR=7.9
USRK Ussuriysk Ar. 48.79 291 LR LR 11 00 47.2
comp=Z,52nm,21.5s,baz=58,slow=36
H11S1 WAKE ISLAND Hy 49.51 239 T T 11 34 25.9
baz=29,slow=76,SNR=8.4
H11S2 WAKE ISLAND Hy 49.52 239 T T 11 34 43.3
baz=29,slow=76,SNR=14
H11S3 WAKE ISLAND Hy 49.53 239 T T 11 34 35.5
baz=29,slow=76,SNR=11
JMIC Jan Mayen 50.42 15 LR LR 11 03 12.5
comp=Z,38nm,20.7s,baz=251,slow=38
MJAR Matsushiro Arr 50.80 279 LR LR 11 00 19.4
comp=Z,18nm,21.6s,baz=50,slow=34
BORG Borgarnes 53.39 25 LR LR 11 04 51.6
comp=Z,73nm,18.7s,baz=324,slow=38
ARCES ARCESS Array B 54.75 2 LR LR 11 03 40.8
comp=Z,23nm,21.8s,baz=304,slow=35
KSRS Korea Array 55.76 288 LR LR 11 05 07.9
comp=Z,20nm,20.1s,baz=50,slow=36
CMIG Matias Romero 56.71 110 LR LR 11 04 48.0
comp=Z,57nm,19.0s,baz=342,slow=35
TEIG Tepich 57.72 102 LR LR 11 08 24.6
comp=Z,289nm,19.3s,slow=38
SONM Songino Array 58.52 310 LR LR 11 09 16.8
comp=Z,153nm,18.3s,baz=346,slow=39
HHC Hu-ho-hao-te 61.54 301 *eP* P 10 41 48.3 -2.2
HHC pmax pmax
comp=Z,6.0nm,0.6s
HHC pmax pmax
comp=Z,43nm,5.3s
ZALV Zalesovo Beam 61.59 327 P P 10 41 50.3 -0.1
comp=Z,0.9nm,0.5s,baz=23,slow=4.8,SNR=5.3
comp=Z,0.9nm,0.5s
NB2 NORSAR Subarra 62.39 10 P P 10 42 04.1 +8.3
comp=Z,1.8nm,0.8s,baz=347,slow=6.9
NOA NORSAR Array B 62.39 10 P P 10 41 54.8 -1.0
comp=Z,0.6nm,0.8s,baz=348,slow=6.7,SNR=2.7
NOA LR LR 11 09 31.9
comp=Z,18nm,21.6s,baz=350,slow=37
comp=Z,0.6nm,0.8s
FINES FINESS Array B 62.88 2 P P 10 41 58.4 -0.6
comp=Z,1.1nm,0.8s,baz=18,slow=4.8,SNR=3.1
comp=Z,1.1nm,0.8s
HFS Hagfors 63.51 9 P P 10 42 03.7 +0.5
comp=Z,0.5nm,0.5s,baz=352,slow=8.7,SNR=2.1
HFS LR LR 11 11 38.7
comp=Z,33nm,18.4s,baz=347,slow=38
comp=Z,0.5nm,0.5s
KIRV Kirov 64.73 349 LR LR 11 14 52.5
comp=Z,50nm,18.0s,baz=28,slow=40
GUMO Guam 64.97 257 LR LR 11 11 09.1
comp=Z,7.3nm,18.2s,baz=58,slow=37
EKA Eskdalemuir Ar 65.81 20 P P 10 42 18.8 +0.6
comp=Z,0.8nm,0.7s,baz=354,slow=6.6,SNR=2.8
comp=Z,0.8nm,0.7s
BVAR Borovoye Array 66.38 335 P P 10 42 21.0 -1.0
comp=Z,1.2nm,0.7s,baz=28,slow=6.7,SNR=4.8
BVAR LR LR 11 17 59.0
comp=Z,75nm,18.4s,baz=29,slow=42
comp=Z,1.2nm,0.7s
KURBB Kurchatov Arra 66.38 329 P P 10 42 20.5 -1.5
comp=Z,0.4nm,0.5s,baz=29,slow=6.5,SNR=3.2

	comp=Z,0.4nm,0.5s							
MKAR	**Makanchi Array**	**68.60**	**324**	P	**P**	**10 42 36.9**	**+0.8**	
MKAR	**Makanchi Array**	**68.60**	**324**	P	**P**	**10 42 35.6**	**-0.6**	
	comp=Z,0.8nm,0.6s,baz=46,slow=7.0,SNR=5.9							
MKAR				LR	LR	11 16 59.8		
	comp=Z,84nm,19.2s,baz=42,slow=40							
	comp=Z,0.8nm,0.6s							
MAKZ	**Makanchi**	**68.69**	**324**	P	**P**	**10 42 37.4**	**+0.7**	
OBN	**Obninsk**	**69.14**	**356**	LR	LR	11 14 28.8		
	comp=Z,14nm,21.8s,baz=308,slow=37							
WMQ	**Urumqi**	**69.30**	**319**	*e*P	**P**	**10 42 43.9**	**+3.3**	
WMQ				PcP	**PcP**	**10 43 05.0**	**+0.8**	
WMQ				pmax	pmax			
	comp=Z,13nm,0.7s							
AKTO	**Aktyubinsk**	**71.42**	**342**	LR	LR	11 18 45.0		
	comp=Z,32nm,19.3s,baz=184,slow=40							
CLL	**Collm**	**72.16**	**11**	*e*Px	Px	10 43 04.0		
ABKAR	**Akbulak array**	**72.19**	**340**	P	**P**	**10 42 59.2**	**+1.2**	
AKASG	**Malin Array Be**	**73.69**	**0**	P	**P**	**10 43 07.1**	**+0.3**	
	comp=Z,0.2nm,0.3s,baz=355,slow=5.5,SNR=2.3							
AKASG				LR	LR	11 15 33.4		
	comp=Z,23nm,21.7s,baz=52,slow=36							
	comp=Z,0.2nm,0.3s							
GERES	**GERESS Array B**	**74.66**	**11**	LR	LR	11 19 36.2		
	comp=Z,14nm,18.1s,baz=26,slow=39							
AAK	**Ala-Archa**	**74.78**	**328**	LR	LR	11 18 33.4		
	comp=Z,83nm,19.5s,baz=36,slow=38							
KKAR	**Karatay Array**	**75.51**	**331**	P	**P**	**10 43 18.1**	**+0.5**	
DAVOX	**Davos/Dischmat**	**76.23**	**14**	LR	LR	11 18 18.3		
	comp=Z,14nm,21.8s,baz=267,slow=37							
PZH	**PanZhiHua**	**77.91**	**299**	P	**P**	**10 43 32.3**	**+0.8**	
PZH				pmax	pmax			
	comp=Z,8.0nm,0.9s							
PZH				pmax	pmax			
	comp=Z,100nm,4.2s							
KBZ	**Khabaz**	**80.06**	**351**	LR	LR	11 24 34.3		
	comp=Z,25nm,18.2s,baz=10.0,slow=40							
ESDC	**Sonseca Array**	**80.44**	**26**	P	**P**	**10 43 44.1**	**-1.0**	
	comp=Z,2.0nm,1.1s,baz=340,slow=5.4,SNR=5.6							
ESDC				LR	LR	11 19 59.8		
	comp=Z,60nm,18.6s,baz=330,slow=36							
	comp=Z,2.0nm,1.1s							
GNI	**Garni**	**83.42**	**349**	LR	LR	11 26 44.7		
	comp=Z,43nm,18.2s,baz=116,slow=40							
GEYT	**Alibeck**	**83.43**	**338**	LR	LR	11 29 59.8		
	comp=Z,24nm,18.6s,baz=337,slow=42							
BRTR	**Keskin Array B**	**84.61**	**357**	LR	LR	11 28 24.0		
	comp=Z,26nm,18.1s,baz=92,slow=40							
DZM	**Mont Dzumac**	**86.04**	**220**	LR	LR	11 14 59.4		
	comp=Z,54nm,21.9s,baz=80,slow=30							
CMAR	**Chiang Mai Arr**	**86.05**	**297**	LR	LR	11 27 33.7		
	comp=Z,39nm,18.4s,baz=35,slow=39							
MDT	**Midelt**	**86.77**	**29**	LR	LR	11 23 23.5		
	comp=Z,54nm,18.1s,baz=350,slow=36							
KEST	**Kesra**	**86.97**	**17**	LR	LR	11 25 16.6		
	comp=Z,29nm,20.5s,baz=261,slow=37							
MDP	**Montagnes des**	**89.94**	**81**	LR	LR	11 25 08.4		
	comp=Z,18nm,19.7s,baz=296,slow=36							
URZ	**Urewera**	**97.95**	**206**	LR	LR	11 22 46.0		
	comp=Z,46nm,18.9s,baz=226,slow=31							
QSPA	**South Pole Qui**	**145.77**	**180**	PKPbc	**PKPdf**	**10 51 10.0**	**-0.6**	
	comp=Z,1.9nm,1.0s,baz=147,slow=5.9,SNR=3.1							

*IDC **15** 10:40:56.0±4.9, 5.79S×130.73E, h75km±52km, mb3.5/3, mbtmp4.1/6, ML3.8/3, MS4.0/1, Error ellipse: s-maj=33.3km s-min=24.3km az=51.0*
*DJA **15** 10:40:58.1±0.3, 6.3°S×13.1°E±°, h120km±9km, M4.3/11, mB4.9/1, mb4.1/6, MLv4.4/11, Mw(mB)4.2/1*
ISC 15 10:40:57.7±0.8, 5.89S±0.05×130.69E±0.06, h124km, n24, σ2°58/26, mb3.6/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**1.57**	**330**	P	**Pn**	**10 41 25.4**	**-0.8**
BNDI	**Bandanaira**	**1.57**	**330**	P	**Pn**	**10 41 25.8**	**-0.4**
SAUI	**Saumlaki**	**2.16**	**164**	P	**Pn**	**10 41 35.4**	**+2.0**
SAUI	**Saumlaki**	**2.16**	**164**	P	**Pn**	**10 41 34.6**	**+1.2**
FAKI	**Fak Fak**	**3.34**	**28**	P	**Pn**	**10 41 47.9**	**-0.7**
FAKI	**Fak Fak**	**3.34**	**28**	P	**Pn**	**10 41 48.0**	**-0.7**
KMPI	**Kaimana, Papua**	**3.73**	**54**	P	**Pn**	**10 41 54.5**	**+0.6**
KMPI				S	**Sn**	**10 42 36.2**	**-1.1**
NLAI	**Namlea**	**4.44**	**306**	P	**Pn**	**10 42 03.3**	**0.0**
SWI	**Sorong**	**5.03**	**7**	P	**Pn**	**10 42 09.9**	**-1.3**
SANI	**Sanana**	**6.05**	**309**	P	**Pn**	**10 42 24.6**	**-0.3**
	10nm,0.6s,0.1nm						
LBMI	**Labuha**	**6.11**	**329**	P	**Pn**	**10 42 25.3**	**-0.5**
	32nm,0.6s,1μm0.2nm						
MTN	**Manton Dam**	**6.92**	**176**	P	**Pn**	**10 42 36.2**	**-0.5**
KDU	**Kakadu**	**6.98**	**166**	P	**Pn**	**10 42 36.9**	**-0.5**
SOEI	**Soe**	**7.43**	**238**	P	**Pn**	**10 42 44.3**	**+0.7**
	52nm,1.2s,0.2nm						
BATI	**Baumata**	**8.17**	**238**	P	**Pn**	**10 42 54.4**	**+0.8**
	8.3nm,0.3s,baz=115,slow=6.4,SNR=2.1						
BATI				S	**Sn**	**10 44 24.3**	**0.0**
	15nm,0.4s,baz=60,slow=20,SNR=1.6						
	30nm,0.5s						
EDFI	**Ende, Flores**	**9.36**	**252**	P	**Pn**	**10 43 10.3**	**+0.5**
	13nm,1.5s						
FITZ	**Fitzroy Crossi**	**13.09**	**202**	P	**Pn**	**10 43 55.6**	**-3.5**
WRA	**Warramunga Arr**	**14.41**	**166**	P	**Pn**	**10 44 12.3**	**-3.7**
	1.7nm,0.4s,baz=337,slow=14,SNR=42						
WRA				S	Sn	10 46 44.7	-11
	9.8nm,0.6s,baz=338,slow=23,SNR=14						
PMG	**Port Moresby**	**16.69**	**103**	P	**Pn**	**10 44 44.1**	**-0.3**
	1.4nm,0.3s,baz=298,slow=14,SNR=1.4						
	5.3nm,0.5s						
ASAR	**Alice Springs**	**17.94**	**170**	P	**Pn**	**10 45 00.8**	**+1.3**
	0.8nm,0.3s,baz=343,slow=9.8,SNR=26						
ASAR				S	**S**	**10 48 09.1**	**-9.1**
	2.3nm,0.7s,baz=346,slow=24,SNR=8.5						
	1.7nm,0.4s						
KRVT	**Keravat (AS076**	**21.31**	**87**	LR	LR	10 55 23.5	
	comp=Z,410nm,20.9s,baz=96,slow=41						
STKA	**Stephens Creek**	**27.79**	**160**	P	**P**	**10 46 39.1**	**+3.9**
	0.9nm,0.3s,baz=344,slow=9.5,SNR=4.6						
	0.9nm,0.3s						
KSRS	**Korea Array**	**43.20**	**357**	P	**P**	**10 48 48.3**	**+1.9**
	0.4nm,0.4s,baz=167,slow=9.2,SNR=2.0						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**67.69**	**326**	P	**P**	**10 51 45.1**	**+3.4**
	0.3nm,0.3s,baz=120,slow=7.6,SNR=3.0						
	0.3nm,0.3s						

*IDC **15** 10:51:59.0±1.5, 5.66S×149.92E, h0km, mb3.6/5, mbtmp3.7/6, ML2.2/1, Error ellipse: s-maj=76.3km s-min=24.1km az=124.0*
ISC 15 10:52:10.6±1.2, 6.1S±0.3×149.9E±0.4, h100km, n7, σ1°56/8, mb3.1/4, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.24**	**219**	Pn	**Pn**	**10 53 11.5**	**-1.5**
	7.6nm,0.3s,baz=255,slow=5.2,SNR=8.3						
PMG				Sn	**Sn**	**10 54 01.4**	**-0.1**
	10nm,0.3s,baz=120,slow=17,SNR=9.8						
	16nm,0.3s						
WRA	**Warramunga Arr**	**20.42**	**226**	P	**P**	**10 56 41.5**	**+1.5**
	3.9nm,0.5s,baz=53,slow=11,SNR=40						
	3.9nm,0.5s						
ASAR	**Alice Springs**	**23.26**	**220**	P	**P**	**10 57 11.1**	**+1.6**
	0.5nm,0.5s,baz=55,slow=9.0,SNR=4.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**79.40**	**320**	P	**P**	**11 04 05.2**	**-0.6**
	0.1nm,0.3s,baz=111,slow=3.2,SNR=1.8						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**84.47**	**23**	P	**P**	**11 04 31.2**	**-0.7**
	0.1nm,0.3s,baz=188,slow=5.5,SNR=1.6						
	0.1nm,0.3s						
NVAR	**Mina Array Bea**	**95.18**	**52**	P	**P**	**11 05 23.4**	**-0.1**
	0.3nm,0.7s,baz=241,slow=5.6,SNR=3.6						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**147.88**	**285**	PKPbc	**PKPbc**	**11 11 47.2**	**+2.0**
	0.7nm,0.5s,baz=64,slow=2.5,SNR=7.9						

*CATAC **15** 11:09:08.6±0.3, 13.21N×87.99W, h2km±4km, ML2.6*
*SNET **15** 11:09:08.5±0.6, 13.21N×87.99W, h8km±4km, ML2.7*
ISC 15 11:09:08.6±0.9, 13.18N±0.05×87.98W±0.03, h12km±6km, n23, σ0°56/29, 3C, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.07**	**281**	⇑*i*P	**Pg**	**11 09 10.9**	**-0.2**
INTP				IAML		11 09 11.2	
	comp=Z,4μm,0.2s						
INTP				*e*S	**Sg**	**11 09 12.5**	**-0.5**
LCND	**La Caada**	**0.15**	**35**	⇑*e*P	**Pg**	**11 09 12.0**	**-0.2**
LCND				*e*S	**Sg**	**11 09 14.6**	**-0.2**
LCND				IAML		11 09 17.6	
	comp=Z,2μm,0.2s						
LCND	**La Caada**	**0.15**	**35**	*i* P	**Pg**	**11 09 12.1**	**-0.2**
LCND				*i* S	**Sg**	**11 09 13.9**	**-0.9**
LCND				IAML		11 09 17.4	
	comp=Z,3μm,1.0s						
CNCH	**Conchagua**	**0.17**	**57**	⇑*i*P	**Pg**	**11 09 12.8**	**+0.3**
CNCH				*e*S	**Sg**	**11 09 15.8**	**+0.5**
CNCH	**Conchagua**	**0.17**	**57**	*i* P	**Pg**	**11 09 12.9**	**+0.3**
CNCH				*i* S	**Sg**	**11 09 16.0**	**+0.7**
CNCH				IAML		11 09 16.7	
	comp=Z,8μm,1.0s						
JUCU	**Jucuarįn**	**0.27**	**285**	*e*P	**Pg**	**11 09 14.5**	**+0.2**
JUCU				*e*S	**Sg**	**11 09 18.6**	**+0.5**
JUCU				IAML		11 09 19.4	
	comp=Z,1μm,0.2s						
BLLM	**Bellamira**	**0.36**	**316**	*e*P	**Pg**	**11 09 16.1**	**+0.2**
RANC	**El Ranchito**	**0.39**	**310**	*e*P	**Pg**	**11 09 16.7**	**+0.2**
PACA	**Pacayal**	**0.44**	**310**	*e*P	**Pg**	**11 09 17.8**	**+0.4**
PACA	**Pacayal**	**0.44**	**310**	*i* P	**Pg**	**11 09 16.3**	**-1.1**
PACA				IAML		11 09 33.2	
	comp=Z,2μm,1.0s						
COEB	**Comit de Eme**	**0.62**	**300**	*i* P	**Pg**	**11 09 20.7**	**-0.1**
COEB				IAML		11 10 08.3	
	comp=Z,140nm,1.0s						
TECO	**Alcaldia de Te**	**0.85**	**294**	*i* P	**Pg**	**11 09 24.8**	**-0.4**
TECO				IAML		11 09 40.1	
	comp=Z,82nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.89**	**305**	*i* P	**Pg**	**11 09 25.8**	**-0.1**
SCLA				IAML		11 09 46.3	
	comp=Z,45nm,1.0s						
COEG	**Centro de Oper**	**0.98**	**296**	*i* P	**Pg**	**11 09 27.5**	**0.0**
COEG				IAML		11 09 43.5	
	comp=Z,110nm,1.0s						
CRIN	**San Cristobal**	**1.03**	**118**	*i* P	**Pn**	**11 09 29.6**	**+0.6**
CRIN				IAML		11 09 47.5	
	comp=Z,260nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.11**	**38**	*i* P	**Pg**	**11 09 29.4**	**-0.6**
TGUH				IAML		11 09 50.3	
	comp=Z,200nm,1.0s						
QUEN	**Al S del Volca**	**1.25**	**118**	*i* P	**Pg**	**11 09 32.3**	**-0.3**
QUEN				IAML		11 09 54.6	
	comp=Z,88nm,1.0s						
CNGA	**Al SSO del Vol**	**1.42**	**119**	*i* P	**Pn**	**11 09 33.5**	**-0.9**
CNGA				IAML		11 10 01.6	
	comp=Z,49nm,1.0s						
CNGN	**Cerro Negro**	**1.42**	**118**	*i* P	**Pb**	**11 09 35.8**	**+0.6**
CNGN				IAML		11 10 01.0	
	comp=Z,85nm,1.0s						
MACN	**El Madrono**	**1.46**	**119**	*i* P	**Pn**	**11 09 35.5**	**+0.6**
MACN				IAML		11 09 39.8	
	comp=Z,33nm,1.0s						
JAYA	**Jayaque - finc**	**1.50**	**288**	*i* P	**Pn**	**11 09 35.9**	**+0.3**
JAYA				IAML		11 10 03.8	
	comp=Z,300nm,1.0s						
MTO3	**Montecristo**	**1.81**	**312**	*i* P	**Pb**	**11 09 41.8**	**0.0**
MTO3				IAML		11 10 13.0	
	comp=Z,25nm,1.0s						
MSHP	**Masachapa**	**1.95**	**133**	*i* P	**Pn**	**11 09 40.3**	**-1.3**
MSHP				IAML		11 09 40.5	
	comp=Z,800nm,1.0s						

*KRNET **15** 11:13:33.9±0.1, 40.33N×72.82E, h18km, mb2.6*
*SOME **15** 11:13:33.8, 40.42N×72.78E, h5km*
*ISU **15** 11:13:34.1, 40.33N×72.72E, h5km*
*NNC **15** 11:13:34.2±2.2, 40.37N×72.82E, h0km, mb3.8, mpv3.4, Error ellipse: s-maj=17.5km s-min=7.9km az=169.0*
ISC 15 11:13:33.5±1.0, 40.34N±0.03×72.81E±0.02, h16km±9km, n27, σ1°45/49, 18C-12D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	**Osh**	**0.18**	**354**	⇓*e*P	**Pb**	**11 13 38.2**	**-0.4**
	baz=53						
OHH				⇓*e*S	**Sb**	**11 13 41.3**	**-0.7**
	baz=53						
TSTA	**Tashata**	**0.35**	**313**	P	**Pg**	**11 13 40.8**	**0.0**
TSTA				S	**Sg**	**11 13 45.7**	**0.0**
SFK	**Sufi-Kurgan**	**0.62**	**121**	⇑*e*P	**Pg**	**11 13 45.6**	**-0.3**
	baz=21						
SFK				⇑*e*S	**Sg**	**11 13 54.2**	**0.0**
	baz=21						
FRG	**Fergana**	**0.78**	**273**	P	**Pb**	**11 13 48.8**	**0.0**
FRG				S	**Sb**	**11 13 59.6**	**+0.4**
CHMI	**Chimion**	**0.99**	**266**	P	**Pb**	**11 13 52.5**	**+0.3**
CHMI				S	**Sg**	**11 14 06.0**	**+0.4**
ARSB	**Arslanbob**	**0.99**	**8**	⇓*e*P	**Pb**	**11 13 52.8**	**+0.4**
	baz=7.0						
ARSB				⇓*e*S	**Sg**	**11 14 06.4**	**+0.6**
	baz=7.0						
DRK	**Karamyk**	**1.16**	**222**	⇑*e*P	**Pg**	**11 13 56.0**	**+0.1**
	baz=23						
DRK				⇑*e*S	**Sn**	**11 14 11.0**	**+0.1**
	baz=23						
BTK	**Batken**	**1.55**	**260**	⇑*e*P	**Pb**	**11 14 02.4**	**+0.5**
	baz=61						
BTK				⇑*e*S	**Sg**	**11 14 23.1**	**-0.5**
	baz=61						
ARK	**Arkit**	**1.59**	**337**	⇑*e*P	**Pb**	**11 14 03.3**	**+0.7**
	baz=37						
ARK				⇑*e*S	**Sg**	**11 14 24.8**	**0.0**
	baz=37						
TRKS	**Terek-Say**	**1.73**	**314**	⇓*e*P	**Pb**	**11 14 04.8**	**-0.3**
	baz=13						
TRKS				⇓*e*S	**Sb**	**11 14 27.2**	**+0.5**
	baz=13						
ARLS	**Aral**	**1.90**	**36**	⇑*e*P	**Pb**	**11 14 08.3**	**+0.4**
	baz=36						
ARLS				⇑*e*S	**Sb**	**11 14 33.4**	**+1.9**
	baz=36						
MNAS	**Manas**	**2.16**	**354**	⇑*e*P	**Pb**	**11 14 12.0**	**-0.2**
	baz=54						
MNAS				⇑*e*S	**Sb**	**11 14 39.9**	**+1.1**
	baz=54						
UCH	**Uchtor**	**2.28**	**34**	⇑*e*P	**Pb**	**11 14 13.9**	**-0.6**
	baz=33						
UCH				⇑*e*S	**Sb**	**11 14 42.9**	**+0.2**
	baz=33						
GAR	**Garm**	**2.34**	**236**	⇓*e*P	**Pb**	**11 14 14.2**	**-1.2**
	baz=36						
GAR				⇓*e*S	**Sb**	**11 14 43.7**	**-0.5**
	baz=36						
MRKS	**Merke**	**2.42**	**7**	Pg	**Pb**	**11 14 18.6**	**+1.8**
	11nm,0.3s						
MRKS				Lg	Lg	11 14 51.0	
	64nm,0.4s						
MRKS	**Merke**	**2.42**	**7**	*e*P	**Pb**	**11 14 18.6**	**+1.8**
	11nm,0.3s						
MRKS				*e*S	**Sg**	**11 14 51.0**	**-0.4**
	64nm,0.4s						
EKS2	**Erkin-Say**	**2.43**	**17**	⇑*e*P	**Pb**	**11 14 15.8**	**-1.1**
	baz=17						
EKS2				⇑*e*S	**Sb**	**11 14 46.3**	**-0.3**
	baz=17						
CHMG	**Chimgan**	**2.44**	**301**	P	**Pb**	**11 14 17.5**	**+0.4**
CHMG				S	**Sg**	**11 14 51.7**	**-0.3**
AAK	**Ala-Archa**	**2.62**	**28**	⇑Pg	**Pg**	**11 14 22.5**	**-1.2**
AAK				⇑Lg	Lg	11 14 56.0	
AAK	**Ala-Archa**	**2.62**	**28**	⇓*e*P	**Pb**	**11 14 18.4**	**-1.8**
	baz=28						
AAK				⇓*e*S	**Sb**	**11 14 50.9**	**-1.2**
	baz=28						
IUG	**Iuzhnay**	**2.77**	**312**	Pg	**Pb**	**11 14 24.1**	**+1.6**
	10.0nm,0.3s						
IUG				Lg	Lg	11 15 01.3	
	19nm,0.2s						
IUG	**Iuzhnay**	**2.77**	**312**	*e*P	**Pb**	**11 14 24.1**	**+1.6**
	10.0nm,0.3s						
IUG				*e*S	**Sg**	**11 15 00.8**	**-1.6**
	19nm,0.2s						
TKM2	**Tokmak 2**	**3.32**	**38**	⇓Pg	**Pb**	**11 14 33.4**	**+1.3**
TKM2				⇓Lg	Lg	11 15 18.2	
KST	**Kastek**	**3.59**	**40**	*e*P	**Pb**	**11 14 39.4**	**+2.8**
	0.8nm,0.2s						
KST				*e*S	**Sg**	**11 15 26.7**	**-2.0**
	4.1nm,0.3s						
DGS	**Degeres**	**3.65**	**36**	*e*P	**Pb**	**11 14 40.6**	**+3.0**
	1.5nm,0.3s						
DGS				*e*S	**Sg**	**11 15 28.6**	**-2.1**
	4.2nm,0.5s						
KTBS	**Karatobe**	**4.43**	**39**	Pg	**Pb**	**11 14 54.6**	**+3.6**
	0.6nm,0.2s						
KTBS				Lg	Lg	11 15 52.8	
	4.2nm,0.5s						
KTBS	**Karatobe**	**4.43**	**39**	*e*P	**Pb**	**11 14 54.6**	**+3.6**
	0.6nm,0.2s						
KTBS				*e*S	**Sg**	**11 15 52.8**	**-3.0**
	4.2nm,0.5s						

*SKHL **15** 11:25:08.5±0.5, 45.90N×144.00E, h323km±2km, mb4.3/10, msh4.7/9*
*JMA **15** 11:25:08.7±0.3, 46°N±2°×14°4E±°, h330km, MV2.9/32, NE OFF HOKKAIDO*
*IDC **15** 11:25:09.1±0.6, 45.92N×143.49E, h322km±12km, mb3.2/9, mbtmp4.0/16, Error ellipse: s-maj=23.4km s-min=12.8km az=159.0*
ISC 15 11:25:08.3±0.6, 45.80N±0.05×143.67E±0.07, h323km±6km, n39, σ1°50/55, mb3.2/9, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSE	**Soyaes**	**1.14**	**223**	*e*S	**S**	**11 26 26.7**	**+0.3**
YSS	**Yuzh-Sakhalins**	**1.32**	**332**	*e*P	**Pn**	**11 25 52.8**	**+0.3**
YSS				AMB	AMB	11 25 53.3	
	20nm,0.4s						
YSS				*e*S	**S**	**11 26 26.2**	**-1.7**
YSS				A	A	11 26 26.6	
	150nm,0.9s						
YSS				A	A	11 26 26.6	
	70nm,0.9s						
JWK2	**Keihoku**	**1.33**	**249**	P	**Pn**	**11 25 53.7**	**+1.0**
JWK2				S	**S**	**11 26 27.9**	**-0.3**
JMP	**Maruseppu**	**1.81**	**187**	P	**Pn**	**11 25 57.1**	**+1.3**
JMP				*e*S	**S**	**11 26 34.5**	**+0.7**
JTKR	**Abashiri--Toko**	**1.84**	**175**	P	**Pn**	**11 25 57.6**	**+1.6**
JTKR				*e*S	**S**	**11 26 35.4**	**+1.3**
ASAJ	**Asahikawa**	**1.85**	**205**	P	**Pn**	**11 25 57.4**	**+1.3**
	30nm,0.4s,baz=359,slow=5.2,SNR=53						
ASAJ				S	**S**	**11 26 35.6**	**+1.4**
	6.6nm,0.6s,baz=73,slow=19,SNR=5.9						
ASAJ	**Asahikawa**	**1.85**	**205**	P	**Pn**	**11 25 57.6**	**+1.5**
JRBN	**Rebuntou**	**1.86**	**259**	P	**Pn**	**11 25 55.8**	**-0.2**
JRBN				*e*S	**S**	**11 26 32.2**	**-2.0**
JKK2	**Kamakawa 2**	**2.04**	**199**	P	**Pn**	**11 25 59.0**	**+1.6**
JAR	**Ashorobuto**	**2.50**	**178**	P	**Pn**	**11 26 02.8**	**+1.6**
JAR				*e*S	**S**	**11 26 45.2**	**+1.6**
NMR	**Nemuro--Hokkai**	**2.84**	**148**	*e*P	**Pn**	**11 26 03.7**	**-0.5**
NMR				*e*S	**S**	**11 26 46.8**	**-2.1**
NMR				A	A	11 26 48.2	
	100nm,0.3s						
NMR				A	A	11 26 48.2	
	80nm,0.3s						
JAK	**Akkeshi**	**2.90**	**165**	*e*P	**Pn**	**11 26 04.7**	**0.0**
JAK				S	**S**	**11 26 49.0**	**-0.9**
AKK	**Akkeshi**	**2.91**	**163**	*e*P	**Pn**	**11 26 04.6**	**-0.2**
AKK				*e*S	**S**	**11 26 49.2**	**-0.9**
AKK				A	A	11 26 49.9	
	260nm,0.4s						
AKK				A	A	11 26 49.9	
	230nm,0.4s						
SHO	**Shikotan**	**2.96**	**129**	*e*P	**Pn**	**11 26 04.9**	**-0.4**
SHO				AMB	AMB	11 26 05.3	
	20nm,0.4s						
SHO				*e*S	**S**	**11 26 49.1**	**-1.9**
SHO				A	A	11 26 51.4	
	70nm,0.3s						
SHO				A	A	11 26 51.4	
	100nm,0.3s						
JCH	**Churui**	**3.19**	**184**	*i* P	**Pn**	**11 26 07.7**	**+0.2**
JCH				*e*S	**S**	**11 26 53.0**	**-2.0**
JEW	**Eniwo**	**3.36**	**209**	P	**Pn**	**11 26 11.1**	**+2.0**
UGL	**Uglegorsk**	**3.46**	**342**	*e*P	**Pn**	**11 26 09.6**	**-0.3**
UGL				AMB	AMB	11 26 10.2	
	70nm,0.7s						
JNBK	**Urakawa-nobuka**	**3.58**	**191**	*e*P	**Pn**	**11 26 11.6**	**+0.2**
JNBK				*e*S	**S**	**11 27 00.8**	**-1.2**
JOSM	**Okushiri--Mats**	**4.79**	**221**	P	**Pn**	**11 26 24.7**	**+0.4**
JOT	**Ohata**	**4.81**	**204**	*i* P	**Pn**	**11 26 24.5**	**-0.1**
JOT				*e*S	**S**	**11 27 21.9**	**-4.1**
JOMM	**Oshimamatsumae**	**5.03**	**213**	P	**Pn**	**11 26 27.6**	**+0.5**
TYV	**Tymovskoe**	**5.11**	**353**	*e*P	**Pn**	**11 26 26.6**	**-1.2**
TYV				AMB	AMB	11 26 27.0	
	40nm,0.5s						
TYV				*e*S	**S**	**11 27 28.5**	**-3.4**
TYV				A	A	11 27 29.2	
	10.0nm,0.7s						
JANG	**Nango**	**5.65**	**197**	P	**Pn**	**11 26 33.6**	**-0.6**
JANG				*e*S	**S**	**11 27 39.0**	**-4.5**
USRK	**Ussuriysk Ar.**	**8.43**	**263**	P	**Pn**	**11 27 07.6**	**+0.4**
	9.5nm,0.6s,baz=69,slow=11,SNR=17						
KLR	**Kul'dur**	**8.77**	**297**	P	**Pn**	**11 27 11.1**	**0.0**
	1.1nm,0.4s,baz=118,slow=14,SNR=3.4						
MJAR	**Matsushiro Arr**	**10.12**	**206**	P	**P**	**11 27 29.5**	**-0.7**
	4.3nm,0.6s,baz=12,slow=12,SNR=14						
PETK	**Petropavlovsk-**	**11.69**	**46**	P	**P**	**11 27 48.2**	**+0.8**
	5.1nm,0.9s,baz=225,slow=8.2,SNR=4.5						
JHJ	**Hachijo jima 2**	**13.01**	**195**	P	**Pn**	**11 28 05.3**	**+2.8**
	14nm,0.4s,baz=59,slow=21,SNR=6.1						
MA2	**Magadan**	**14.44**	**15**	P	**P**	**11 28 18.8**	**+1.1**
	5.9nm,0.7s,baz=189,slow=11,SNR=5.3						
SEY	**Seymchan**	**17.87**	**13**	P	**P**	**11 28 55.0**	**+0.1**
	2.5nm,0.6s,baz=194,slow=9.2,SNR=11						
KDAK	**Kodiak Island**	**39.72**	**49**	P	**P**	**11 32 11.1**	**+1.2**
	1.2nm,0.4s,baz=341,slow=1.6,SNR=8.3						
	1.2nm,0.4s						
ILAR	**Eielson Array**	**41.33**	**37**	P	**P**	**11 32 23.5**	**+0.6**
	0.7nm,0.7s,baz=279,slow=7.7,SNR=14						
	0.7nm,0.7s						
MKAR	**Makanchi Array**	**41.

1.3nm,0.8s,baz=65,slow=7.5,SNR=1.9
7.4nm,1.0s
LODK Lodwar 19.09 327 P **Pn 11 31 15.4 +1.8**
MBAR Mbarara 19.09 308 **Pn 11 31 15.6 +1.9**
MBAR Mbarara 19.09 308 P **P 11 31 12.7 -0.2**
1.2nm,0.3s,baz=120,slow=23,SNR=2.0
MBAR LR LR 11 38 30.4
comp=Z,326nm,18.7s,baz=108,slow=37
3.3nm,0.2s
POGA Pongola 19.40 220 P **Pn 11 31 18.2 +0.9**
POGA IAmb IAmb 11 31 19.8
comp=Z,45nm,1.1s
ATD Arta Tunnel 24.38 354 P **P 11 32 08.2 -0.1**
ATD IAmb IAmb 11 32 10.3
comp=Z,26nm,1.1s
ATD Arta Tunnel 24.38 354 LR LR 11 41 04.4
comp=Z,7.5nm,19.1s,baz=166,slow=35
BOSA Boshof 24.58 227 P **P 11 32 09.8 -0.4**
BOSA IAmb IAmb 11 32 10.6
comp=Z,23nm,1.4s
BOSA Boshof 24.58 227 P **P 11 32 09.4 -0.8**
comp=Z,5.3nm,0.6s,baz=53,slow=8.0,SNR=18
BOSA LR LR 11 41 44.0
comp=Z,210nm,19.8s,baz=42,slow=36
comp=Z,5.3nm,0.6s
TSUM Tsumeb 27.61 253 LR LR 11 43 16.4
comp=Z,148nm,18.1s,baz=144,slow=36
WIN Windhoek 28.75 246 P **P 11 32 46.6 -1.3**
WIN IAmb IAmb 11 32 50.1
comp=Z,17nm,1.4s
SUR Sutherland 29.88 225 P **P 11 32 57.9 0.0**
SUR Sutherland 29.88 225 LR LR 11 44 32.6
comp=Z,143nm,19.2s,baz=68,slow=36
KAAM Kaadhehdhoo 30.25 66 P **P 11 33 00.1 -1.0**
RAYN Ar Rayn 36.15 360 P **P 11 33 53.2 +0.7**
WSAR Wadi Sarin 38.08 20 LR LR 11 46 59.5
comp=Z,164nm,20.3s,baz=212,slow=32
PALK Pallekele 40.22 62 LR LR 11 47 16.8
comp=Z,99nm,18.5s,baz=348,slow=31
EIL Elat 43.50 347 LR LR 11 50 51.8
comp=Z,66nm,20.4s,baz=246,slow=33
MMAI Mount Meron Ar 46.63 348 LR LR 11 55 36.6
comp=Z,116nm,18.2s,baz=106,slow=37
TOA0 Torodi Ar. Sit 50.60 299 P **P 11 35 50.9 +1.7**
TORD Torodi Ar. Bea 50.60 299 P **P 11 35 49.9 +0.7**
comp=Z,2.6nm,1.0s,baz=132,slow=8.1,SNR=9.4
TORD LR LR 11 58 19.1
comp=Z,146nm,18.5s,baz=138,slow=37
comp=Z,2.6nm,1.0s
KARP Karpathos 51.20 341 P **P 11 35 55.1 +1.7**
GEYT Alibeck 51.87 13 P **P 11 35 58.6 +0.2**
GEYT Alibeck 51.87 13 P **P 11 35 58.0 -0.4**
comp=Z,0.8nm,0.4s,baz=220,slow=11,SNR=3.8
GEYT LR LR 11 57 19.3
comp=Z,77nm,21.5s,baz=168,slow=35
comp=Z,0.8nm,0.4s
ARPR Arapgir-MALATY 52.12 353 P **P 11 36 01.9 +1.5**
ARPR IAmb IAmb 11 36 02.9
comp=Z,14nm,1.2s
KBL Kabul 52.14 25 P **P 11 36 01.2 +0.5**
KBL IAmb IAmb 11 36 09.3
comp=Z,13nm,1.3s
BNN Bunyan 52.23 350 P **P 11 36 02.3 +1.1**
GNI Garni 52.73 359 P **P 11 36 06.6 +1.6**
GNI IAmb IAmb 11 36 14.1
comp=Z,13nm,1.1s
GNI Garni 52.73 359 LR LR 11 59 23.7
comp=Z,137nm,20.1s,baz=166,slow=37
GSI Gunungsitoli 53.47 79 P **P 11 36 11.3 +0.6**
GSI IAmb IAmb 11 36 13.0
comp=Z,9.7nm,0.9s
BR131 Keskin Array S 53.47 349 P **P 11 36 11.2 +0.8**
BR131 IAmb IAmb 11 36 12.0
comp=Z,13nm,1.4s
BRTR Keskin Array B 53.47 349 P **P 11 36 11.0 +0.6**
BRTR Keskin Array B 53.47 349 P **P 11 36 10.9 +0.5**
comp=Z,2.0nm,0.7s,baz=176,slow=7.4,SNR=12
comp=Z,2.0nm,0.7s
DBIC Dimbokro 53.73 288 LR LR 11 59 28.2
comp=Z,93nm,18.3s,baz=96,slow=36
ITM Ithomi 54.51 337 P **P 11 36 18.7 +0.9**
ITM IAmb IAmb 11 36 46.8
comp=Z,9.6nm,1.1s
ONI Oni 55.20 358 P **P 11 36 24.7 +1.9**
SIMJ Simiganj 55.73 22 P **P 11 36 27.0 +0.2**
CHGR Chuyangaron 55.78 22 P **P 11 36 28.5 +1.4**
MAW Mawson 55.88 172 P **P 11 36 28.1 +0.9**
comp=Z,2.8nm,0.7s,baz=344,slow=8.3,SNR=7.2
MAW LR LR 11 57 43.5
comp=Z,114nm,18.2s,baz=333,slow=33
comp=Z,2.8nm,0.7s
AGG Agios Georgios 55.98 338 P **P 11 36 28.8 +0.4**
AGG IAmb IAmb 11 36 29.6
comp=Z,8.8nm,0.9s
KBZ Khabaz 56.36 358 P **P 11 36 32.0 +1.0**
comp=Z,3.0nm,0.8s,baz=193,slow=5.9,SNR=6.8
KBZ LR LR 12 02 40.2
comp=Z,85nm,19.0s,baz=158,slow=38
comp=Z,3.0nm,0.8s
KIV Kislovodsk 56.59 357 P **P 11 36 33.6 +0.8**
FNA Florina 57.88 338 P **P 11 36 41.0 -0.9**
FNA IAmb IAmb 11 36 44.3
comp=Z,12nm,1.2s
KEST Kesra 59.23 326 LR LR 12 03 34.5
comp=Z,97nm,18.7s,baz=27,slow=37
KSH Kashi 59.29 27 P **P 11 36 54.4 +2.5**
PUK Puka 59.52 338 P **P 11 36 55.0 +1.6**
KK31 Karatay Array 60.18 21 P **P 11 36 58.3 +0.5**
KK31 IAmb IAmb 11 37 05.8
comp=Z,11nm,1.1s
KKAR Karatay Array 60.18 21 P **P 11 36 57.6 -0.2**
KKAR Karatay Array 60.18 21 P **P 11 36 58.3 +0.5**
KKAR IAmb IAmb 11 37 05.8
comp=Z,11nm,1.1s
ELIB Princess Elisa 60.56 188 *d*P **P 11 37 01.3 +1.1**
comp=Z,5.4nm,1.0s
MLR Muntele Rosu 60.72 344 LR LR 12 03 32.2
comp=Z,44nm,21.7s,baz=206,slow=36
CMAR Chiang Mai Arr 61.13 60 LR LR 12 03 20.0
comp=Z,22nm,18.0s,baz=170,slow=36
AAK Ala-Archa 61.26 24 P **P 11 37 07.4 +2.0**
AAK IAmb IAmb 11 37 14.0
comp=Z,7.1nm,1.2s
AAK Ala-Archa 61.26 24 LR LR 12 02 08.5
comp=Z,24nm,20.1s,baz=215,slow=35
BURAR Bucovina Array 62.88 345 P **P 11 37 16.5 +0.5**
ABKAR Abkulak array 63.12 10 P **P 11 37 17.4 -0.1**
AKTO Aktyubinsk 63.95 9 LR LR 12 08 10.5
comp=Z,56nm,19.8s,baz=178,slow=39
TROLL Troll, Antarti 64.43 194 ⇑P **P 11 37 27.8 +1.7**
comp=Z,690nm,0.7s
AKASG Malin Array Be 64.88 349 P **P 11 37 28.0 -1.0**
comp=Z,0.3nm,0.3s,baz=166,slow=5.5,SNR=8.8
AKASG LR LR 12 07 32.8
comp=Z,25nm,18.3s,baz=200,slow=38
comp=Z,0.3nm,0.3s
BELG Belogornoye 65.00 1 P **P 11 37 29.4 -0.3**
comp=Z,18nm,0.8s,baz=165,slow=3.9,SNR=4.4
comp=Z,18nm,0.8s
SNAA Sanae 65.51 195 P **P 11 37 34.0 +1.0**
SNAA IAmb IAmb 11 37 35.8
comp=Z,4.8nm,1.0s
SNAA Sanae 65.51 195 ⇑P **P 11 37 33.8 +0.8**
comp=Z,52nm,0.7s
VYHS Vyhne 65.52 341 *e*P **P 11 37 33.5 +0.2**
TEOL Teolo 65.55 334 P **P 11 37 34.6 +1.1**
MODS Modra-Piesok 65.93 340 *e*P **P 11 37 36.3 +0.4**
MDT Midelt 66.00 315 LR LR 12 07 40.7
comp=Z,110nm,18.2s,baz=154,slow=37
CTI Castel Tesino 66.11 335 P **P 11 37 37.6 +0.4**
VNA2 Neumayer--Watz 66.31 197 ⇑P **P 11 37 39.3 +1.2**
comp=Z,3.6nm,0.5s,baz=46,slow=5.3
VNA1 Neumayer--Stat 66.41 197 ⇑P **P 11 37 42.0 +3.3**
comp=Z,15nm,1.0s
MORC Moravsky Berou 67.06 341 P **P 11 37 43.4 +0.2**
MORC IAmb IAmb 11 37 44.0
comp=Z,6.9nm,0.9s
VNA3 Neumayer Olymp 67.11 197 ⇑P **P 11 37 44.2 +1.0**
comp=Z,13nm,0.8s
PZH PanZhiHua 67.14 54 P **P 11 37 46.8 +2.6**
PZH pmax pmax
comp=Z,6.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,5.3s
FUORN Ofenpass-Fuorn 67.14 334 P **P 11 37 44.2 +0.2**
GEC2 GERESS Array S 67.59 338 P **P 11 37 46.6 0.0**
GEC2 IAmb IAmb 11 37 46.8
comp=Z,8.0nm,1.1s
GERES GERESS Array B 67.59 338 P **P 11 37 46.0 -0.6**
GERES GERESS Array B 67.59 338 P **P 11 37 45.8 -0.8**
comp=Z,2.4nm,0.7s,baz=151,slow=6.0,SNR=9.3
GERES LR LR 12 10 56.5
comp=Z,21nm,18.0s,baz=37,slow=39
comp=Z,2.4nm,0.7s
MAKZ Makanchi 67.75 26 P **P 11 37 47.2 -0.4**
MAKZ IAmb IAmb 11 37 55.6
comp=Z,11nm,1.2s
KHC Kasperske Hory 67.88 338 P **P 11 37 47.4 -0.9**
MK31 Makanchi Array 67.88 26 P **P 11 37 47.7 -0.7**
MKAR Makanchi Array 67.88 26 P **P 11 37 47.7 -0.7**
MKAR Makanchi Array 67.88 26 P **P 11 37 47.8 -0.5**
comp=Z,0.4nm,0.5s,baz=215,slow=5.7,SNR=2.2
MKAR LR LR 12 06 04.4
comp=Z,17nm,19.0s,baz=241,slow=35
comp=Z,0.4nm,0.5s
WMQ Urumqi 68.21 32 *e*P **P 11 37 52.8 +2.2**
SENIN Lac Senin/Sane 68.24 332 P **P 11 37 49.9 -1.0**
SENIN IAmb IAmb 11 37 51.0
comp=Z,7.6nm,0.8s
SSB Saint Sauveur 68.72 330 P **P 11 37 53.8 +0.1**
SSB IAmb IAmb 11 38 16.5
comp=Z,14nm,1.4s
BVAR Borovoye Array 68.99 16 P **P 11 37 54.1 -1.0**
comp=Z,0.4nm,0.4s,baz=207,slow=6.0,SNR=2.1
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 69.46 22 P **P 11 37 57.5 -0.5**
comp=Z,0.2nm,0.2s,baz=219,slow=7.6,SNR=1.7
comp=Z,0.2nm,0.2s
ESDC Sonseca Array 69.64 321 P **P 11 38 00.7 +1.1**
ESDC Sonseca Array 69.64 321 P **P 11 37 59.6 +0.1**
comp=Z,2.2nm,0.8s,baz=135,slow=5.8,SNR=15
ESDC LR LR 12 09 25.6
comp=Z,66nm,19.0s,baz=146,slow=37
comp=Z,2.2nm,0.8s
ARU Arti 69.87 8 LR LR 12 12 49.5
comp=Z,48nm,18.2s,baz=195,slow=40
PABE Paberze 70.48 347 P **P 11 38 04.4 +0.2**
CD2 Chengdu 70.79 51 P **P 11 38 07.3 +0.5**
KIRV Kirov 71.25 2 LR LR 12 13 02.9
comp=Z,56nm,18.3s,baz=198,slow=39
ZAA0 Zalesovo Array 74.44 23 P **P 11 38 27.3 -0.6**
ZALV Zalesovo Beam 74.44 23 P **P 11 38 26.5 -1.4**
ZALV Zalesovo Beam 74.44 23 P **P 11 38 27.6 -0.3**
comp=Z,0.9nm,0.8s,baz=255,slow=5.7,SNR=3.5
comp=Z,0.9nm,0.8s
BELA Belgrano 2 75.46 192 P **P 11 38 34.6 +1.0**
BELA IAmb IAmb 11 38 35.7
comp=Z,6.1nm,0.9s
FINES FINESS Array B 75.65 350 P **P 11 38 34.7 0.0**
FINES FINESS Array B 75.65 350 P **P 11 38 34.1 -0.7**
comp=Z,3.5nm,0.9s,baz=116,slow=4.4,SNR=10
FINES LR LR 12 11 50.7
comp=Z,21nm,20.4s,baz=208,slow=36
comp=Z,3.5nm,0.9s
FIA1 FINESS Array S 75.65 350 P **P 11 38 34.7 0.0**
HFS Hagfors 77.11 344 P **P 11 38 42.6 -0.4**
comp=Z,4.1nm,0.8s,baz=134,slow=6.4,SNR=13
HFS LR LR 12 15 45.2
comp=Z,30nm,19.1s,baz=140,slow=38
comp=Z,4.1nm,0.8s
QSPA South Pole Qui 77.24 180 P **P 11 38 44.6 +0.5**
QSPA South Pole Qui 77.24 180 P **P 11 38 44.6 +0.5**
comp=Z,13nm,1.0s,baz=257,slow=2.5,SNR=26
QSPA LR LR 12 09 48.0
comp=Z,125nm,19.6s,baz=260,slow=33
comp=Z,13nm,1.0s
KONO Kongsberg 77.86 342 P **P 11 38 47.3 +0.1**
KONO IAmb IAmb 11 38 48.1
comp=Z,8.8nm,0.9s
NC602 NORSAR Array S 78.19 344 P **P 11 38 49.3 +0.2**
NC602 IAmb IAmb 11 38 50.1
comp=Z,9.3nm,1.1s
NAO01 NORSAR Array S 78.47 343 P **P 11 38 50.3 -0.3**
NAO01 IAmb IAmb 11 38 51.9
comp=Z,8.0nm,1.0s
NB201 NORSAR Array S 78.52 344 P **P 11 38 50.9 -0.1**
NB201 IAmb IAmb 11 38 51.9
comp=Z,8.4nm,1.0s
NOA NORSAR Array B 78.54 344 P **P 11 38 50.9 -0.2**
comp=Z,1.0nm,0.7s,baz=117,slow=6.6,SNR=4.7
NOA LR LR 12 18 14.0
comp=Z,18nm,19.1s,baz=125,slow=39
comp=Z,1.0nm,0.7s
NBO00 NORSAR Array S 78.65 344 P **P 11 38 51.0 -0.6**
NBO00 IAmb IAmb 11 38 52.4
comp=Z,11nm,1.4s
WHN Wuhan 78.88 55 P **P 11 38 54.6 +1.0**
EKA Eskdalemuir Ar 79.27 334 P **P 11 38 54.9 -0.2**
comp=Z,1.7nm,0.7s,baz=129,slow=6.6,SNR=5.4
comp=Z,1.7nm,0.7s
HHC Hu-ho-hao-te 80.96 45 *e*P **P 11 39 03.0 -1.8**
HHC pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 83.00 169 P **P 11 39 15.9 +1.1**
VNDA IAmb IAmb 11 39 16.2
comp=Z,5.8nm,1.1s
VNDA Vanda 83.00 169 P **P 11 39 15.6 +0.8**
comp=Z,1.8nm,0.7s,baz=272,slow=4.9,SNR=4.6
VNDA LR LR 12 13 48.9
comp=Z,114nm,18.2s,baz=259,slow=34
comp=Z,1.8nm,0.7s
NJ2 Nanjing 83.02 55 *e*P **P 11 39 16.3 +0.7**
NJ2 pmax pmax
comp=Z,14nm,0.5s
ARCES ARCESS Array B 83.38 353 LR LR 12 19 25.6
comp=Z,39nm,18.8s,baz=128,slow=38
ASAR Alice Springs 83.43 113 P **P 11 39 17.6 -0.5**
comp=Z,3.0nm,0.6s,baz=265,slow=4.8,SNR=17
ASAR LR LR 12 10 59.2
comp=Z,118nm,19.7s,baz=258,slow=32
comp=Z,3.0nm,0.6s
WRA Warramunga Arr 84.56 109 P **P 11 39 23.8 -0.2**
comp=Z,2.5nm,0.8s,baz=268,slow=3.9,SNR=7.3
comp=Z,2.5nm,0.8s
XLT XiLinHaoTe 85.26 43 *e*P **P 11 39 27.3 +0.4**
XLT pP sP 11 39 30.6 +0.5
XLT sP pwP 11 39 33.9 +0.6
XLT pmax pmax
comp=Z,5.0nm,0.9s
XLT pmax pmax
comp=Z,58nm,4.8s
STKA Stephens Creek 88.33 122 P **P 11 39 41.7 -0.5**
comp=Z,3.2nm,0.8s,baz=348,slow=2.7,SNR=4.1
comp=Z,3.2nm,0.8s
BDFB Brasilia 89.98 254 LR LR 12 17 52.4
comp=Z,55nm,18.6s,baz=149,slow=34
KSRS Korea Array 91.75 52 LR LR 12 21 23.3
comp=Z,17nm,19.3s,baz=215,slow=36
BORG Borgarnes 92.04 337 LR LR 12 26 32.3
comp=Z,22nm,18.1s,baz=137,slow=39
KLR Kul'dur 97.14 41 LR LR 12 21 56.7
comp=Z,22nm,20.4s,baz=219,slow=34
DZM Mont Dzumac 112.43 121 *e*LR LR 12 18 49.8
comp=Z,45nm,20.7s
TBI Tubuai 141.13 158 *e*LR LR 12 32 16.8
comp=Z,559nm,38.8s
PDAR Pinedale Array 143.24 329 PKP **PKPdf 11 46 23.4 -1.4**
comp=Z,0.2nm,0.4s,baz=96,slow=5.9,SNR=1.5
PPT2 Papeete2 146.25 153 *e*LR LR 12 34 26.5
comp=Z,108nm,33.0s
PPT2 *e*LR LR 12 34 30.0
comp=Z,44nm,21.0s
TXAR Lajitas Array 147.09 305 PKPbc **PKPbc 11 46 33.4 -0.4**
comp=Z,1.0nm,1.0s,baz=74,slow=2.7,SNR=7.8
NVAR Mina Array Bea 150.77 333 PKP **PKPdf 11 46 37.1 -0.4**
comp=Z,0.1nm,0.4s,baz=86,slow=31,SNR=2.0
NVAR PKPbc **PKiKP 11 46 43.6 -0.1**
comp=Z,0.5nm,0.7s,baz=50,slow=2.8,SNR=3.7

*NEIC **15** 11:27:00.7±1.4, 19°.38N±0°.03×154°.87W±0°.03, h10km±1km, Error ellipse: s-maj=5.8km s-min=2.7km az=317.0*
HVO 15 11:27:01.0±1.4, 19°.40N±0°.02×154°.87W±0°.02, h11km±2km, ML2.9/5, ML2.9/30(NEIC), Error ellipse: s-maj=4.2km s-min=1.8km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.09**	**348**			Pg	11 27 05.7 +2.1
PAH	**Pahoa**	**0.12**	**324**			Pg	11 27 04.1 +0.1
PAH						Sg	11 27 06.5 +0.2
JOKA	**Jonika Flow**	**0.13**	**287**			Pg	11 27 04.1 -0.1
JOKA						Sg	11 27 06.4 -0.1
JCUZ	**Jacuzzi**	**0.22**	**267**			Pg	11 27 05.4 -0.2
JCUZ						Sg	11 27 09.4 +0.6
NPOC	**North of Pu'u**	**0.23**	**269**			Pg	11 27 05.5 -0.2
NPOC						Sg	11 27 09.8 +0.8
STCH	**Steam Cracks**	**0.24**	**268**			Pg	11 27 05.7 -0.3
STCH						Sg	11 27 10.0 +0.6
STCH					IAML		11 27 10.3
	comp=E,2μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.28**	**267**			Pg	11 27 06.4 -0.4
PUH	**Pauahi**	**0.33**	**266**			Pg	11 27 07.1 -0.5
PUH					IAML		11 27 11.8
	comp=E,1μm,1.1s						
PUH						Sg	11 27 11.9 -0.1
PUH					IAML		11 27 14.5
	comp=N,2μm,0.8s						
HATHI	**Halema'uma'u T**	**0.37**	**274**	Pg	Pg	11 27 07.8 -0.5
RSD	**Rainshed**	**0.39**	**280**		Pg	11 27 08.4 -0.4
RSD					IAML		11 27 10.8
	comp=N,2μm,1.5s						
RSD						Sg	11 27 13.7 -0.3
RSD					IAML		11 27 13.9
	comp=E,1μm,1.1s						
HLP	**Hilina Pali**	**0.42**	**257**		Pg	11 27 08.8 -0.6
HLP					IAML		11 27 17.0
	comp=N,2μm,0.9s						
MLH	**Mauna Loa**	**0.50**	**281**		Pg	11 27 09.8 -1.0
MLH					Sg	11 27 16.7 -0.7
MLH					IAML		11 27 20.2
	comp=E,733nm,1.1s						
HTC	**Hot Caves**	**0.52**	**253**		Pg	11 27 10.5 -0.7
HMH	**Humu'ula Sheep**	**0.61**	**290**		Pg	11 27 12.4 -0.6
HMH					Sg	11 27 20.8 -0.3
HMH					IAML		11 27 27.5
	comp=N,487nm,0.5s						
HMH					IAML		11 27 30.5
	comp=E,457nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.68**	**282**	Pg	Pg	11 27 13.3 -0.9
MLOA					IAML		11 27 24.9
	comp=N,564nm,1.0s						
MLOA					IAML		11 27 32.6
	comp=E,424nm,1.1s						
MWH	**Moku'aweowe**	**0.69**	**278**	Pg	Pg	11 27 13.4 -1.1
MWH					IAML		11 27 23.7
	comp=N,818nm,1.0s						
KHU	**Kahuku**	**0.72**	**258**		Pg	11 27 14.1 -0.8
KHU					IAML		11 27 19.0
	comp=E,566nm,1.3s						
KHU						Sg	11 27 22.6 -1.8
KHU					IAML		11 27 27.2
	comp=N,560nm,1.7s						
POHA	**Pohakuloa**	**0.72**	**300**	Pg	Pg	11 27 13.6 -1.4
ALEP	**Alea Permanent**	**0.74**	**281**		Pg	11 27 14.6 -0.8
CPH	**Captain Cook**	**0.99**	**275**		Pg	11 27 18.2 -1.9

*HEL **15** 11:29:45.1±0.1, 63°.98N×28°.14E, h0km, ML1.6, Suspected explosion*
*UPP **15** 11:29:45.2±2.4, 63°.87N×28°.01E, h0km, ML1.6*
*IDC **15** 11:29:46.0±1.9, 64°.03N×27°.74E, h0km, mbtmp2.7/2, ML1.5/2, Error ellipse: s-maj=54.0km s-min=9.5km az=94.0*
ISC 15 11:29:44.4±0.8, 63°.90N±0°.03×28°.08E±0°.03, h0km, n36, σ1$40/58, Finland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIF	**Nilsia**	**0.53**	**193**	PG	**Pb**	**11 29 56.2**	**-0.3**
NIF				SG	**Sb**	**11 30 03.5**	**-1.1**
RMF	**Romuvaara**	**0.87**	**68**	PG	**Pg**	**11 30 00.5**	**-0.6**
RMF				MSG		11 30 10.5	
	comp=Z,7.6nm,0.2s						
RMF				SB	**Sg**	**11 30 11.5**	**-0.9**
SUF	**Sumiainen**	**1.47**	**217**	PG	**Pb**	**11 30 13.1**	**+0.5**
	baz=30						
SUF				MSG		11 30 31.5	
	comp=Z,3.0nm,0.2s						
SUF				SN	**Sn**	**11 30 34.0**	**+2.0**
OUL	**Oulu**	**1.52**	**322**	PG	**Pn**	**11 30 12.1**	**-0.7**
OUL				SN	**Sn**	**11 30 31.9**	**-1.3**
OUF	**Merijarvi**	**1.54**	**289**	PG	**Pn**	**11 30 12.7**	**-0.4**
OUF				MSG		11 30 31.5	
	comp=Z,6.1nm,0.2s						
OUF				SG	**Sn**	**11 30 33.3**	**-0.5**
OBF4	**Vikkela, Lumij**	**1.59**	**307**	PG	**Pn**	**11 30 13.4**	**-0.3**
OBF4				MSG		11 30 32.0	
	comp=Z,4.5nm,0.2s						
JOF	**Joensuu**	**1.76**	**123**	PG	**Pb**	**11 30 16.9**	**-0.6**
JOF				SN	**Sg**	**11 30 40.7**	**0.0**
OBF0	**Syolatti, Pyha**	**1.79**	**291**	PG	**Pn**	**11 30 16.9**	**+0.4**
OBF0				MSG		11 30 38.2	
	comp=Z,5.5nm,0.2s						
OBF0				SN	**Sn**	**11 30 40.6**	**+0.8**
KAF	**Kangasniemi**	**1.97**	**205**	PG	**Pg**	**11 30 21.9**	**-0.2**
KAF				MSG		11 30 46.0	
	comp=Z,4.9nm,0.2s						
KAF				SG	**Sg**	**11 30 48.6**	**+1.1**
MSF	**Maaselka**	**2.06**	**11**	PG	**Pn**	**11 30 20.4**	**+0.2**
	baz=190						
MSF				SG	**Sn**	**11 30 47.5**	**+0.9**
RANF	**Ranua**	**2.19**	**346**	PG	**Pn**	**11 30 23.4**	**+1.3**
	baz=159						
RANF				SG	**Sn**	**11 30 50.0**	**+0.1**
KU6	**Riekki**	**2.27**	**19**	PG	**Pn**	**11 30 23.9**	**+0.8**
KU6				MSG		11 30 49.9	
	comp=Z,1.9nm,0.2s						
KU6				SG	**Sn**	**11 30 52.1**	**+0.4**
KEF	**Keuruu**	**2.27**	**222**	PG	**Pb**	**11 30 26.5**	**+0.2**
KEF				MSG		11 30 54.5	
	comp=Z,4.3nm,0.2s						
KEF				SG	**Sg**	**11 30 57.0**	**-0.3**
OLKF	**Oulanka, Finla**	**2.49**	**12**	PG	**Pn**	**11 30 28.0**	**+1.8**
	baz=197						
OLKF				MSG		11 30 56.4	
	comp=Z,2.5nm,0.2s						
OLKF				SG	**Sn**	**11 30 58.2**	**+0.9**
RUF	**Ruokolahti**	**2.52**	**170**	PB	**Pb**	**11 30 30.5**	**+0.1**
	baz=351						
RUF				MSG		11 31 01.5	
	comp=Z,3.1nm,0.2s						
RUF				SG	**Sg**	**11 31 04.1**	**-1.1**
VAF	**Ylistaro**	**2.58**	**253**	PG	**Pb**	**11 30 30.7**	**-0.7**
VAF				MSG		11 31 02.6	
	comp=Z,1.9nm,0.2s						
VAF				SG	**Sb**	**11 31 04.7**	**+1.1**
FIA0	**FINESS Array S**	**2.63**	**201**	PB	**Pb**	**11 30 32.0**	**-0.4**
	baz=22						
FIA0				MSG		11 31 05.2	
	comp=Z,1.8nm,0.2s						
FIA0				SB	**Sb**	**11 31 06.0**	**+0.8**
FINES	**FINESS Array B**	**2.63**	**201**	Pn	**Pb**	**11 30 32.2**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=16,slow=16,SNR=7.4						
FINES				Sn	**Sg**	**11 31 06.4**	**-2.5**
	comp=Z,0.6nm,0.3s,baz=19,slow=26,SNR=25						
	comp=Z,0.7nm,0.3s						
TOF	**Tornio**	**2.71**	**326**	MSG		11 31 03.4	
	comp=Z,1.5nm,0.2s						
TOF				SB	**Sn**	**11 31 05.6**	**+3.0**
KALU	**Kalix**	**2.82**	**316**	P	**Pn**	**11 30 31.5**	**+0.9**
KALU				S	**Sn**	**11 31 06.1**	**+0.9**
RNF	**Rovaniemi**	**2.86**	**343**	PB	**Pn**	**11 30 33.3**	**+2.1**
RNF				SB	**Sn**	**11 31 09.2**	**+3.0**
BURU	**Burvik**	**3.01**	**286**	PN	**Pn**	**11 30 34.1**	**+0.9**
BURU				SG	**Sb**	**11 31 17.3**	**+1.3**
SJUU	**Sjulsmark**	**3.21**	**303**	P	**Pn**	**11 30 36.7**	**+0.6**
SJUU				S	**Sn**	**11 31 16.3**	**+1.3**
UMAU	**Umeaa**	**3.27**	**273**	PN	**Pn**	**11 30 37.4**	**+0.5**
	baz=88						
UMAU	**Umeaa**	**3.27**	**273**	P	**Pn**	**11 30 37.3**	**+0.5**
KPF	**Kankaanpaa**	**3.45**	**236**	PB	**Pb**	**11 30 43.0**	**-3.3**
PAJU	**Pajala**	**3.76**	**329**	PN	**Pn**	**11 30 45.5**	**+1.9**
PAJU				SN	**Sn**	**11 31 28.6**	**+0.1**
PAJU	**Pajala**	**3.76**	**329**	P	**Pn**	**11 30 44.5**	**+0.9**
KLF	**Kolari**	**3.76**	**335**	SN	**Sn**	**11 31 27.8**	**-0.6**
SVAU	**Svanoeiden**	**3.77**	**283**	P	**Pn**	**11 30 44.0**	**+0.3**
HARU	**Harads**	**3.77**	**310**	P	**Pn**	**11 30 44.3**	**+0.5**
LILU	**Lilltraesk**	**3.81**	**295**	P	**Pn**	**11 30 44.6**	**+0.3**
RAJF	**Raja-Jooseppi**	**4.60**	**1**	PN	**Pn**	**11 30 56.9**	**+1.9**
HEMU	**Hemsoen**	**4.70**	**259**	PN	**Pn**	**11 30 57.7**	**+1.2**
ARCES	**ARCESS Array B**	**5.75**	**351**	Pn	**Pn**	**11 31 10.8**	**-0.1**
	baz=169,slow=12,SNR=1.9						
ARCES				Sn	**Sn**	**11 32 12.3**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=164,slow=21,SNR=1.7						
ARCES				Lg	Lg	11 32 37.7	
	comp=Z,0.1nm,0.3s,baz=172,slow=26,SNR=2.5						
	comp=Z,2.6nm,1.1s						

I37NO **I37NO** **6.42 328** I I 12 08 00.0
baz=139,slow=324,SNR=2.7

*IDC **15** 11:33:30.3±8.4, 1°.91N×125°.66E, h0km, mb4.4/3, mbtmp4.4/3, MS2.6/2, Error ellipse: s-maj=167.1km s-min=130.9km az=69.0*
*DJA **15** 11:33:32.2±3.3, 3°.1N±3°×12°.6E±°, h28km±37km, M4.3/12, mB5.1/3, mb4.6/5, MLv4.1/12, Mw(mB)4.4/3*
*NEIC **15** 11:33:39.7±2.3, 1°.89N±0°.09×125°.82E±0°.05, h70km±13km, mb4.4/11, Error ellipse: s-maj=13.8km s-min=6.2km az=194.0*

ISC 15 11:33:31.6±0.9, 2°.83N±0°.07×126°.15E±0°.07, h50km, n32, σ1♀70/31, mb4.4/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.06**	**324**	P	**Pn**	**11 33 51.0**	**+0.8**
SGSI				S	**Sn**	**11 34 05.5**	**+1.7**
TNTI	**Ternate**	**2.37**	**149**	Pn	**Pn**	**11 34 09.1**	**+1.0**
TNTI				Sn	**Sn**	**11 34 37.2**	**+1.2**
TNTI	**Ternate**	**2.37**	**149**	P	**Pn**	**11 34 08.5**	**+0.4**
KMSI	**Cibinong**	**3.12**	**224**	P	**Pn**	**11 34 21.0**	**+2.7**
LBMI	**Labuha**	**3.69**	**159**	P	**Pn**	**11 34 28.1**	**+1.9**
GTOI	**Gorontalo**	**3.82**	**235**	P	**Pn**	**11 34 30.0**	**+2.1**
DAV	**Davao City (W)**	**4.26**	**352**	Pn	Pn	11 34 53.3	+19
DAV	**Davao City (W)**	**4.26**	**352**	LR	LR	11 36 48.8	
	comp=Z,49nm,20.1s,baz=152,slow=39						
SANI	**Sanana**	**4.84**	**182**	P	**Pn**	**11 34 43.2**	**+1.2**
LUWI	**Luwuk**	**5.12**	**221**	Pn	Pn	11 34 39.6	-6.1
LUWI	**Luwuk**	**5.12**	**221**	P	**Pn**	**11 34 48.3**	**+2.5**
	163nm,0.8s,2μm0.8nm						
TOLI2	**Tolitoli**	**5.63**	**253**		**Pn**	**11 34 54.2**	**+1.4**
TOLI2				Sn	**Sn**	**11 35 52.8**	**-3.5**
MPSI	**Mapaga**	**6.72**	**249**	P	**Pn**	**11 35 09.8**	**+2.0**
	14nm,0.8s,0.1nm						
FAKI	**Fak Fak**	**8.35**	**133**	Pn	**Pn**	**11 35 33.1**	**+3.0**
SAUI	**Saumlaki**	**11.90**	**154**	Pn	**Pn**	**11 36 16.8**	**-1.9**
MTN	**Manton Dam**	**16.33**	**162**		**Pn**	**11 37 16.3**	**-1.3**
MTN				IAmb	IAmb	11 37 42.8	
	comp=Z,68nm,1.4s						
GUMO	**Guam**	**21.37**	**59**	LR	LR	11 46 46.2	
	comp=Z,17nm,18.6s,baz=174,slow=36						
COEN	**Coen**	**23.73**	**135**	P	**P**	**11 38 38.5**	**-0.9**
COEN				IAmb	IAmb	11 38 51.4	
	comp=Z,43nm,1.5s						
WB0	**Warramunga Arr**	**23.87**	**161**	P	**P**	**11 38 39.2**	**-1.4**
WB0				IAmb	IAmb	11 38 40.2	
	comp=Z,20nm,0.4s						
WRAB	**Tennant Creek**	**24.01**	**161**	P	**P**	**11 38 41.0**	**-0.8**
WRAB				IAmb	IAmb	11 38 42.2	
	comp=Z,14nm,1.2s						
WRA	**Warramunga Arr**	**24.01**	**161**	P	**P**	**11 38 39.5**	**-2.5**
WRA	**Warramunga Arr**	**24.01**	**161**	P	**P**	**11 38 40.4**	**-1.5**
	comp=Z,6.2nm,0.4s,baz=336,slow=11,SNR=114						
	comp=Z,6.2nm,0.4s						
WB2	**Warramunga Arr**	**24.02**	**161**	P	**P**	**11 38 40.9**	**-1.1**
WB2				IAmb	IAmb	11 38 42.2	
	comp=Z,11nm,1.0s						
WR0	**Warramunga Arr**	**24.09**	**160**	P	**P**	**11 38 41.9**	**-0.8**
WR0				IAmb	IAmb	11 38 42.9	
	comp=Z,7.8nm,0.9s						
AS31	**Alice Springs**	**27.39**	**164**	P	**P**	**11 39 11.8**	**-0.8**
ASAR	**Alice Springs**	**27.39**	**164**	P	**P**	**11 39 11.7**	**-0.9**
ASAR	**Alice Springs**	**27.39**	**164**	P	**P**	**11 39 11.6**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=347,slow=7.7,SNR=59						
	comp=Z,1.9nm,0.5s						
BBOO	**Buckleboo**	**36.66**	**166**	P	**P**	**11 40 32.8**	**-0.8**
STKA	**Stephens Creek**	**37.50**	**158**	P	**P**	**11 40 40.5**	**-0.2**
STKA				IAmb	IAmb	11 40 40.6	
	comp=Z,1.4nm,0.9s						
STKA	**Stephens Creek**	**37.50**	**158**	P	**P**	**11 40 39.8**	**-0.9**
	comp=Z,4.8nm,0.8s,baz=337,slow=10,SNR=6.2						
	comp=Z,4.8nm,0.8s						
ARMA	**Armidale**	**41.04**	**146**	P	**P**	**11 41 11.1**	**+0.6**
TCW	**Tory Channel**	**61.91**	**140**	P	**P**	**11 43 47.4**	**+1.3**

TEH 15 11:38:23.6, 36°.20N×50°.81E, h11km±24km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KLST	**Kelardasht - M**	**0.37**	**32**	Pg	Pg	11 38 31.0	-0.1
IMHD	**Mahdasht**	**0.53**	**193**	Pg	Pg	11 38 34.4	+0.5
TEHA	**Amirabad Tehra**	**0.65**	**134**	Pg	Pb	11 38 36.7	-0.4
TEH	**Tehran**	**0.65**	**135**	Pg	Pg	11 38 36.6	+0.3
TEH				Sg	Sb	11 38 45.9	-0.4
MZPU	**Pul - Mazandar**	**0.66**	**68**	Pg	Pg	11 38 36.5	+0.1
IHSB	**Hasanabad**	**0.85**	**154**	Pg	Pb	11 38 40.2	-0.2
IHSB				Sg	Sb	11 38 52.1	+0.2
JIR1	**Jirandeh**	**0.96**	**302**	Pg	Pb	11 38 42.6	+0.2
IRAZ	**Razeghan**	**1.07**	**222**	Pg	Pg	11 38 43.5	-0.7
LHJ2	**Lahijan - Gila**	**1.14**	**328**	Pg	Pn	11 38 45.6	+0.1
IDMV	**Damavand**	**1.17**	**122**	Pg	Pn	11 38 46.2	0.0
IPRN	**Peran**	**1.23**	**88**	Pg	Pn	11 38 46.8	-0.2
IQOM	**Qom**	**1.37**	**171**	Pg	Pn	11 38 49.1	+0.1
IVRN	**Varamin**	**1.41**	**148**	Pg	Pb	11 38 50.1	+0.1
IALA	**Alasht**	**1.62**	**94**	Pg	Pb	11 38 53.8	+0.1
IFIR	**Firoozkooh**	**1.67**	**109**	Pg	Pb	11 38 55.2	-0.5
ILAS	**Lasjerd**	**1.93**	**114**	Pn	Pb	11 38 59.2	+0.3
CSN1	**Caspian**	**1.94**	**315**	Pn	Pb	11 39 00.1	-0.6
HAGD	**Aghdareh**	**1.94**	**225**	Pn	Pb	11 38 58.9	-0.1
ISFB	**Sefidab**	**2.18**	**147**	Pn	Pb	11 39 02.0	-1.2
IGLO	**Ghaloghah**	**2.45**	**82**	Pn	Pb	11 39 06.3	-1.5
KRSH	**Karshahi**	**2.48**	**154**	Pn	Pb	11 39 06.3	-2.0
QAMS	**Qamsar**	**2.50**	**169**	Pn	Pb	11 39 06.8	-1.9
HSAM	**Samen**	**2.69**	**223**	Pn	Pn	11 39 09.4	+2.4
BDRS	**Dareh Seyedi**	**2.74**	**216**	Pn	Pb	11 39 10.7	-2.2
IKLH	**Kolahrood**	**2.94**	**167**	Pn	Pn	11 39 13.2	+2.7
IBZA	**Bozab**	**2.97**	**235**	Pn	Pn	11 39 12.7	+1.8
ISRB	**Sarab**	**3.00**	**304**	Pn	Pn	11 39 13.5	+2.3
IZEF	**Zefreh**	**3.53**	**159**	Pn	Pn	11 39 21.3	+2.7
IKFM	**Kafar-mosalman**	**3.62**	**223**	Pn	Pn	11 39 22.5	+2.9
ANAR	**Anarak**	**3.84**	**141**	Pn	Pn	11 39 25.5	+2.6
JHBN	**Jahan bin**	**3.96**	**182**	Pn	Pn	11 39 27.2	+2.6
IRAM	**Ramesheh**	**4.57**	**163**	Pn	Pn	11 39 35.4	+2.5
IEMG	**Emamgholi**	**6.41**	**77**	Pn	Pn	11 40 00.9	+2.7

*IDC **15** 11:51:05.0±1.0, 13°.01S×45°.48E, h0km, mb3.9/6, mbtmp3.9/6, MS3.3/5, Error ellipse: s-maj=37.4km s-min=25.3km az=94.0*

ISC 15 11:51:06.6±1.0, 13°.05±0°.2×45°.5E±0°.3, h10km, n11, σ1♀49/6, mb4.0/6, MS3.3/3, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.79**	**164**	LR	LR	11 54 26.1	
	comp=Z,129nm,22.0s,baz=189,slow=35						
MBAR	**Mbarara**	**19.09**	**309**	LR	LR	12 02 37.0	
	comp=Z,68nm,18.2s,baz=146,slow=36						
BOSA	**Boshof**	**24.40**	**227**	P	**P**	**11 56 25.7**	**+0.2**
	1.6nm,0.5s,baz=56,slow=8.0,SNR=8.3						
	1.6nm,0.5s						
SUR	**Sutherland**	**29.70**	**225**	LR	LR	12 08 27.0	
	comp=Z,54nm,19.9s,baz=104,slow=35						
TORD	**Torodi Ar. Bea**	**50.56**	**299**	LR	LR	12 22 33.3	
	comp=Z,54nm,18.4s,baz=185,slow=37						
BRTR	**Keskin Array B**	**53.59**	**349**	P	**P**	**12 00 27.4**	**-0.7**
	0.5nm,0.6s,baz=177,slow=9.9,SNR=4.1						
	0.5nm,0.6s						
AAK	**Ala-Archa**	**61.44**	**24**	LR	LR	12 27 15.0	
	comp=Z,21nm,20.5s,baz=238,slow=35						
BVAR	**Borovoye Array**	**69.15**	**16**	P	**P**	**12 02 14.9**	**+1.9**
	1.0nm,0.8s,baz=221,slow=5.5,SNR=5.2						
	1.0nm,0.8s						
ESDC	**Sonseca Array**	**69.68**	**321**	P	**P**	**12 02 16.0**	**-0.8**
	0.8nm,0.7s,baz=124,slow=6.9,SNR=5.4						
	0.8nm,0.7s						
QSPA	**South Pole Qui**	**77.10**	**180**	P	**P**	**12 03 00.9**	**+0.7**
	2.5nm,1.0s,baz=263,slow=4.4,SNR=5.5						
	2.5nm,1.0s						
ASAR	**Alice Springs**	**83.48**	**113**	P	**P**	**12 03 34.0**	**-1.3**
	0.7nm,0.8s,baz=257,slow=5.3,SNR=8.0						
	0.7nm,0.8s						

LJU 15 12:00:50.9, 46°.05N×13°.62E, h0km, ML0.6, 2C, Explosion, Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SABO	**M.te Sabotino**	**0.07**	**189♀**	*e*Pg	Pg	12 00 52.3	+0.1
SABO				*e*Sg	Sg	12 00 53.8	+0.7
DRE	**Drenchia**	**0.13**	**9♀**	*e*Pg	Pg	12 00 53.1	-0.2
COLI	**Coloredo**	**0.19**	**297**	*e*Pg	Pg	12 00 55.5	+1.0
VOJS	**Vojsko**	**0.19**	**95**	*i* Pg	Pg	12 00 54.3	-0.2
VOJS				*i* Sg	Sg	12 00 58.1	+1.2
VOJS				IAML		12 00 59.6	
	comp=Z,7.6nm,0.1s						
CADS	**Cadrg**	**0.20**	**25**	*i* Pg	Pg	12 00 54.5	-0.2
CADS				*e*Sg	Sg	12 00 58.1	+0.8
CADS				IAML		12 00 58.6	
	comp=Z,11nm,0.1s						
VINO	**Villanova**	**0.31**	**312**	*e*Pg	Pg	12 00 57.5	+0.6
BAD	**Bernadia**	**0.32**	**306**	*e*Pg	Pg	12 00 57.6	+0.5

*DJA **15** 12:00:58.9±0.2, 7°.N±3°×12°.4E±°, h590km±3km, M4.6/44, mB5.2/24, mb4.9/44, MLv5.0/8, Mw(mB)4.5/24*
*IDC **15** 12:00:59.0±0.6, 6°.80N×123°.76E, h604km±7km, mb3.8/34, mbtmp4.7/35, Error ellipse: s-maj=11.5km s-min=5.4km az=73.0*
*NEIC **15** 12:00:59.9±1.5, 6°.88N±0°.08×123°.76E±0°.09, h602km±6km, mb4.4/173, Error ellipse: s-maj=13.5km s-min=12.0km az=62.0*

ISC 15 12:00:59.4±0.5, 6°.83N±0°.04×123°.74E±0°.05, h607km±6km, n585, σ0♀77/596, mb4.3/118, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.84**	**82**	P	**P**	**12 02 12.6**	**-1.1**
DAV	**Davao City (W)**	**1.84**	**82**	P	**P**	**12 02 12.2**	**-1.5**
	467nm,0.4s,baz=170,slow=2.8,SNR=8.1						
GTOI	**Gorontalo**	**6.19**	**187**	P	**P**	**12 02 40.5**	**-2.1**
	26nm,0.5s,482nm0.1nm						
TOLI2	**Tolitoli**	**6.40**	**208**	P	**P**	**12 02 44.0**	**-0.4**
TOLI2	**Tolitoli**	**6.40**	**208**	P	**P**	**12 02 43.9**	**-0.4**
TNTI	**Ternate**	**7.02**	**149**	P	**P**	**12 02 50.1**	**+0.2**
TNTI	**Ternate**	**7.02**	**149**	P	**P**	**12 02 49.5**	**-0.4**
TNTI	**Ternate**	**7.02**	**149**	P	**P**	**12 02 49.1**	**-0.8**
	29nm,0.6s,798nm0.6nm						
MPSI	**Mapaga**	**7.50**	**211**	P	**P**	**12 02 53.6**	**-0.7**
TGY	**Tagaytay City**	**7.74**	**339**	P	**P**	**12 02 55.1**	**-1.4**
	318nm,0.4s,baz=75,slow=11,SNR=4.7						
TGY				S		**12 04 30.8**	**-1.6**
	128nm,0.3s,baz=186,slow=18,SNR=3.8						
LUWI	**Luwuk**	**7.88**	**187**	P	**P**	**12 02 56.6**	**-1.2**
LUWI	**Luwuk**	**7.88**	**187**	P	**P**	**12 02 57.1**	**-0.8**
LUWI	**Luwuk**	**7.88**	**187**	P	**P**	**12 02 56.6**	**-1.2**
	250nm,0.6s,5μm1.8nm						
LBMI	**Labuha**	**8.31**	**153**	P	**P**	**12 03 01.1**	**-0.9**
	149nm,0.9s,2μm						
SANI	**Sanana**	**9.10**	**166**	P	**P**	**12 03 07.3**	**-2.2**
SANI	**Sanana**	**9.10**	**166**	P	**P**	**12 03 08.2**	**-1.3**
	124nm,0.7s,2μm						
TTSI	**Tana Toraja**	**10.56**	**202**	P	**P**	**12 03 23.2**	**-0.7**
	102nm,0.9s,2μm						
SWI	**Sorong**	**10.71**	**135**	P	**P**	**12 03 25.4**	**0.0**
	92nm,0.6s,1μm						
MTKI	**Muara Teweh, K**	**11.72**	**229**	P	**P**	**12 03 35.0**	**-0.5**
	93nm,0.4s,9μm						
SBUM	**Sibu**	**12.28**	**250**	P	**P**	**12 03 42.0**	**+1.0**
KAPI	**Kappang**	**12.42**	**199**	P	**P**	**12 03 42.6**	**+0.3**
KAPI	**Kappang**	**12.42**	**199**	P	**P**	**12 03 41.6**	**-0.8**
	7.6nm,0.3s,baz=346,slow=6.6,SNR=3.3						
KAPI				S		**12 05 55.4**	**-0.8**
	17nm,0.3s,baz=177,slow=18,SNR=9.1						
BKSI	**Bulukumba**	**12.60**	**197**	P	**P**	**12 03 44.4**	**+0.3**
	27nm,0.5s						
FAKI	**Fak Fak**	**12.88**	**138**	P	**P**	**12 03 46.9**	**-0.1**
FAKI	**Fak Fak**	**12.88**	**138**	P	**P**	**12 03 47.0**	**0.0**
FAKI	**Fak Fak**	**12.88**	**138**	P	**P**	**12 03 46.8**	**-0.2**
	218nm,0.7s,2μm						
STKI	**Sintang**	**13.96**	**242**	P	**P**	**12 04 00.2**	**+2.5**
	56nm,0.7s						
KSM	**Kuching**	**14.41**	**249**	P	**P**	**12 04 02.8**	**+0.7**
MMRI	**Maumere**	**15.43**	**186**	P	**P**	**12 04 12.4**	**+1.1**
MMRI	**Maumere**	**15.43**	**186**	P	**P**	**12 04 13.1**	**+1.8**
MMRI	**Maumere**	**15.43**	**186**	P	**P**	**12 04 12.2**	**+0.9**
	419nm,0.6s,4μm						
EDFI	**Ende, Flores**	**15.61**	**188**	P	**P**	**12 04 14.0**	**+1.0**
	211nm,0.6s,2μm						
DLV	**T Lat**	**15.88**	**290**	P	**P**	**12 04 16.1**	**+0.4**
TWGBT	**Beinan**	**16.10**	**351**	P	**P**	**12 04 16.0**	**-1.3**
TWG	**Pinlang**	**16.11**	**351**	P	**P**	**12 04 16.1**	**-1.2**
SOEI	**Soe**	**16.48**	**178**	P	**P**	**12 04 20.7**	**-0.3**
SOEI	**Soe**	**16.48**	**178**	P	**P**	**12 04 33.2**	**+12**
YULB	**Yu-li**	**16.64**	**352**	P	**P**	**12 04 20.9**	**-1.3**
YULB	**Yu-li**	**16.64**	**352**	P	**P**	**12 04 20.9**	**-1.3**
YULB				IAmb	IAmb	12 04 25.6	
	comp=Z,17nm,0.7s						
PLAI	**Plampang**	**16.65**	**201**	P	**P**	**12 04 23.6**	**+1.1**
PLAI	**Plampang**	**16.65**	**201**	P	**P**	**12 04 23.6**	**+1.1**
	comp=Z,1μm,0.7s,comp=Z,8μm						
TPUB	**Ta-pu**	**16.65**	**350**	P	**P**	**12 04 22.8**	**+0.4**
TPUB	**Ta-pu**	**16.65**	**350**	P	**P**	**12 04 22.7**	**+0.4**
BATI	**Baumata**	**16.92**	**180**	P	**P**	**12 04 25.0**	**0.0**
	comp=Z,367nm,0.5s,baz=54,slow=0.9,SNR=56						
BATI				S	**S**	**12 07 10.2**	**-2.0**
	comp=Z,31nm,0.8s,baz=336,slow=19,SNR=2.4						
BATI	**Baumata**	**16.92**	**180**	P	**P**	**12 04 24.7**	**-0.3**
	comp=Z,487nm,0.7s,comp=Z,4μm						
SSLB	**Suanglung**	**17.07**	**351**	P	**P**	**12 04 26.3**	**0.0**
SSLB	**Suanglung**	**17.07**	**351**	P	**P**	**12 04 26.0**	**-0.2**
NACB	**Ninganchiao**	**17.37**	**353**	P	**P**	**12 04 28.7**	**-0.2**
YOJ	**Yonaguni jima**	**17.55**	**358**	P	**P**	**12 04 31.7**	**+1.2**
YHNB	**Yeheng**	**17.89**	**353**	P	**P**	**12 04 33.7**	**0.0**
YHNB	**Yeheng**	**17.89**	**353**	P	**P**	**12 04 33.2**	**-0.5**
YHNB				IAmb	IAmb	12 04 37.4	
	comp=Z,20nm,0.9s						
JAGI	**Jajag, Banyuwa**	**17.95**	**212**	P	**P**	**12 04 34.4**	**0.0**
JAGI	**Jajag, Banyuwa**	**17.95**	**212**	P	**P**	**12 04 35.6**	**+1.2**
JAGI	**Jajag, Banyuwa**	**17.95**	**212**	P	**P**	**12 04 36.6**	**+2.2**
	comp=Z,117nm,0.7s						
GENI	**Genyem**	**18.88**	**119**	P	**P**	**12 04 43.7**	**+0.9**
	comp=Z,138nm,0.8s,comp=Z,16μm						
JAY	**Jayapura**	**19.31**	**118**	P	**P**	**12 04 47.6**	**+0.8**
	comp=Z,28nm,0.7s						
UGM	**Wanagama**	**19.70**	**222**	P	**P**	**12 04 51.9**	**+1.6**
UBPT	**Khong Chiam**	**19.79**	**297**	P	**P**	**12 04 50.8**	**-0.2**
UBPT				IAmb	IAmb	12 04 55.0	
	comp=Z,12nm,0.9s						
JOW	**Kunigami**	**20.36**	**12**	P	**P**	**12 04 56.0**	**0.0**
JOW	**Kunigami**	**20.36**	**12**	P	**P**	**12 04 56.0**	**0.0**
	comp=Z,4.9nm,0.5s,baz=267,slow=5.5,SNR=5.7						
	comp=Z,4.9nm,0.5s						
DRS	**Darwin Rock St**	**20.41**	**160**	P	**P**	**12 04 56.5**	**-0.1**
MYKOM	**Kota Tinggi**	**20.45**	**257**	P	**P**	**12 04 57.7**	**+0.7**
MTN	**Manton Dam**	**20.88**	**159**	P	**P**	**12 05 00.4**	**-0.4**
	baz=21,SNR=5.0						
MTN	**Manton Dam**	**20.88**	**159**	P	**P**	**12 05 00.4**	**-0.4**
LEM	**Lembang**	**21.04**	**230**	P	**P**	**12 05 03.2**	**+0.8**
	comp=Z,24nm,0.5s,baz=345,slow=21,SNR=4.3						
	comp=Z,24nm,0.5s						
KDU	**Kakadu**	**21.24**	**156**	P	**P**	**12 05 03.3**	**-0.7**
	baz=21,SNR=8.7						
KDU	**Kakadu**	**21.24**	**156**	P	**P**	**12 05 03.4**	**-0.7**
BBJI	**Bungbulang**	**21.43**	**229**	P	**P**	**12 05 05.1**	**-0.7**
GUMO	**Guam**	**21.84**	**70**	P	**P**	**12 05 08.9**	**-0.5**
GUMO	**Guam**	**21.84**	**70**	P	**P**	**12 05 08.9**	**-0.5**
GUMO	**Guam**	**21.84**	**70**	P	**P**	**12 05 08.7**	**-0.7**
	comp=Z,37nm,0.3s,baz=207,slow=2.1,SNR=7.4						
	comp=Z,37nm,0.3s						
IPM	**Ipoh**	**22.72**	**265**	P	**P**	**12 05 17.3**	**0.0**
IPM				IAmb	IAmb	12 05 18.6	
	comp=Z,5.6nm,0.9s						
LWLI	**Liwa**	**22.90**	**240**	P	**P**	**12 05 19.4**	**+0.4**
	comp=Z,329nm,0.8s						
KULM	**Kulim**	**23.01**	**267**	P	**P**	**12 05 20.0**	**+0.1**
KULM				IAmb	IAmb	12 05 21.3	
	comp=Z,4.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.84**	**176**	P	**P**	**12 05 35.9**	**0.0**
	baz=25,SNR=24						
FITZ	**Fitzroy Crossi**	**24.84**	**176**	P	**P**	**12 05 36.0**	**+0.1**
RPSI	**Rantau Prapat**	**25.06**	**262**	P	**P**	**12 05 38.3**	**+0.3**
RPSI				IAmb	IAmb	12 05 39.9	
	comp=Z,14nm,0.6s						
MANU	**Manus Island**	**25.18**	**110**	P	**P**	**12 05 38.5**	**-0.5**
MANU				IAmb	IAmb	12 05 40.2	
	comp=Z,8.6nm,0.7s						
PHRA	**Phrae**	**25.66**	**299**	P	**P**	**12 05 44.5**	**+1.3**
KCSI	**Kotacane, Aceh**	**26.07**	**264**	P	**P**	**12 05 46.7**	**-0.1**
	comp=Z,41nm,0.7s						
GSI	**Gunungsitoli**	**26.66**	**259**	P	**P**	**12 05 51.6**	**-0.4**
GSI	**Gunungsitoli**	**26.66**	**259**	P	**P**	**12 05 51.8**	**-0.3**
GSI	**Gunungsitoli**	**26.66**	**259**	P	**P**	**12 05 51.6**	**-0.4**
	comp=Z,91nm,0.6s						
JCJ	**Chichijima**	**26.71**	**39**	P	**P**	**12 05 50.9**	**-1.4**
JCJ	**Chichijima**	**26.71**	**39**	P	**P**	**12 05 51.0**	**-1.3**
CMAR	**Chiang Mai Arr**	**26.77**	**298**	P	**P**	**12 05 52.7**	**-0.3**
	comp=Z,2.5nm,0.8s,baz=117,slow=7.1,SNR=3.6						
	comp=Z,2.5nm,0.8s						
CHTO	**Chiang Mai**	**26.91**	**299**	P	**P**	**12 05 54.7**	**+0.6**
CHTO				IAmb	IAmb	12 05 56.0	
	comp=Z,7.4nm,1.2s						
MBWA	**Marble Bar**	**28.09**	**188**	P	**P**	**12 06 03.9**	**-0.4**
MBWA	**Marble Bar**	**28.09**	**188**	P	**P**	**12 06 04.4**	**0.0**
COEN	**Coen**	**28.26**	**137**	P	**P**	**12 06 05.0**	**-0.9**
	baz=28,SNR=46						
COEN	**Coen**	**28.26**	**137**	P	**P**	**12 06 04.8**	**-1.1**
COEN	**Coen**	**28.26**	**137**	P	**P**	**12 06 05.4**	**-0.6**
PMG	**Port Moresby**	**28.37**	**124**	P	**P**	**12 06 06.0**	**-0.9**
	comp=Z,17nm,0.7s,baz=308,slow=12,SNR=3.1						
	comp=Z,17nm,0.7s						
JMN	**Monobe**	**28.37**	**18**	P	**P**	**12 06 06.9**	**+0.3**
JMN				IAmb	IAmb	12 06 07.7	
	comp=Z,12nm,0.8s						
WB0	**Warramunga Arr**	**28.43**	**159**	P	**P**	**12 06 07.1**	**-0.3**
PSA00	**Pilbara Seismi**	**28.48**	**188**	P	**P**	**12 06 07.5**	**-0.2**
PSA00	**Pilbara Seismi**	**28.48**	**188**	P	**P**	**12 06 07.8**	**+0.1**
PSA00	**Pilbara Seismi**	**28.48**	**188**	P	**P**	**12 06 07.7**	**0.0**
PSA00				IAmb	IAmb	12 06 08.3	
	comp=Z,15nm,0.9s						
WRAB	**Tennant Creek**	**28.57**	**159**	P	**P**	**12 06 08.5**	**-0.1**
WRA	**Warramunga Arr**	**28.57**	**159**	P	**P**	**12 06 08.4**	**-0.1**
WRA	**Warramunga Arr**	**28.57**	**159**	P	**P**	**12 06 07.9**	**-0.7**
	comp=Z,28nm,0.5s,baz=330,slow=11,SNR=336						
WRA				PcP	**PcP**	**12 08 59.7**	**+0.1**
	comp=Z,3.5nm,0.5s,baz=338,slow=2.9,SNR=8.4						
WRA				S	**S**	**12 10 12.1**	**-3.7**
	comp=Z,10nm,0.7s,baz=344,slow=14,SNR=25						
WRA				ScP	**ScP**	**12 11 44.2**	**-0.1**
	comp=Z,14nm,0.7s,baz=340,slow=3.3,SNR=20						
	comp=Z,28nm,0.5s						
WB2	**Warramunga Arr**	**28.58**	**159**	P	**P**	**12 06 08.4**	**-0.2**
PZH	**PanZhiHua**	**28.66**	**316**	P	**P**	**12 06 11.3**	**+1.9**
PZH				pmax	pmax		
	comp=Z,11nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
WR0	**Warramunga Arr**	**28.66**	**158**	P	**P**	**12 06 09.1**	**-0.3**
TNCH	**TengChong**	**30.16**	**310**	*e*P	**P**	**12 06 21.1**	**-1.3**
TNCH				pmax	pmax		
	comp=Z,120nm,5.0s						
RABL	**Rabaul**	**30.41**	**110**	P	**P**	**12 06 25.9**	**+1.4**
RABL	**Rabaul**	**30.41**	**110**	P	**P**	**12 06 25.6**	**+1.1**
KSRS	**Korea Array**	**30.72**	**7**	P	**P**	**12 06 27.4**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=180,slow=11,SNR=5.9						
KSRS				ScP	**ScP**	**12 11 51.4**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=194,slow=3.5,SNR=5.8						
GIRL	**Giralia**	**30.73**	**197**	P	**P**	**12 06 28.4**	**+1.4**
	baz=31,SNR=27						
GIRL	**Giralia**	**30.73**	**197**	P	**P**	**12 06 28.2**	**+1.2**
JGF	**Kuroka**	**31.25**	**22**	P	**P**	**12 06 30.9**	**-0.4**
JGF	**Kuroka**	**31.25**	**22**	P	**P**	**12 06 31.0**	**-0.4**
JGF				IAmb	IAmb	12 06 31.9	
	comp=Z,3.7nm,0.6s						
QIS	**Mount Isa**	**31.37**	**151**	P	**P**	**12 06 33.0**	**+0.5**
	baz=32,SNR=11						
QIS	**Mount Isa**	**31.37**	**151**	P	**P**	**12 06 32.8**	**+0.3**
AS31	**Alice Springs**	**31.89**	**162**	P	**P**	**12 06 37.5**	**+0.5**
ASAR	**Alice Springs**	**31.89**	**162**	P	**P**	**12 06 37.5**	**+0.5**
	comp=Z,38nm,0.3s,baz=339,slow=7.3,SNR=2281						
ASAR				PcP	**PcP**	**12 09 08.6**	**+0.1**
	comp=Z,6.4nm,0.5s,baz=349,slow=2.5,SNR=13						
ASAR				S	**S**	**12 11 05.2**	**-1.5**
	comp=Z,35nm,0.7s,baz=352,slow=24,SNR=56						
ASAR				ScP	**ScP**	**12 11 55.2**	**-0.1**
	comp=Z,5.1nm,0.7s,baz=355,slow=2.2,SNR=6.9

NWAO Narrogin (SRO) 40.02 189 P **P** **12 07 44.0 +0.5**
NWAO Narrogin (SRO) 40.02 189 P **P** **12 07 44.0 +0.5**
comp=Z,42nm,0.4s,baz=18,slow=6.4,SNR=101
comp=Z,42nm,0.4s
JKA Kamikawa-asahi 40.65 21 P **P** **12 07 49.0 +0.7**
JKA IAmb IAmb 12 07 49.7
comp=Z,12nm,0.8s
BBOO Buckleboo 41.12 164 P **P** **12 07 52.8 +0.6**
baz=41,SNR=95
BBOO Buckleboo 41.12 164 P **P** **12 07 52.6 +0.3**
BBOO Buckleboo 41.12 164 P **P** **12 07 53.0 +0.7**
STKA Stephens Creek 42.09 157 P **P** **12 08 00.7 +0.8**
baz=42,SNR=63
STKA Stephens Creek 42.09 157 P **P** **12 08 00.3 +0.4**
STKA Stephens Creek 42.09 157 P **P** **12 08 00.7 +0.8**
STKA IAmb IAmb 12 08 01.0
comp=Z,4.4nm,0.5s
STKA Stephens Creek 42.09 157 P **P** **12 08 00.6 +0.8**
comp=Z,18nm,0.4s,baz=338,slow=8.0,SNR=79
STKA ScP **ScP** **12 12 33.5 -0.2**
comp=Z,2.7nm,0.9s,baz=1.6,slow=5.4,SNR=3.8
STKA S **S** **12 13 36.5 -0.4**
comp=Z,2.3nm,0.6s,baz=86,slow=22,SNR=7.9
comp=Z,18nm,0.4s
HTT Hallett 42.55 161 P **P** **12 08 04.4 +0.9**
baz=43,SNR=35
HTT Hallett 42.55 161 P **P** **12 08 04.4 +0.9**
PALK Pallekele 42.70 273 P **P** **12 08 06.0 +1.0**
PALK IAmb IAmb 12 08 06.3
comp=Z,7.6nm,0.8s
HEH HeiHe 43.39 3 *e*P **P** **12 08 09.8 +0.1**
HEH pmax pmax
comp=Z,8.0nm,0.7s
SONM Songino Array 43.46 343 P **P** **12 08 11.8 +1.4**
SONM Songino Array 43.46 343 P **P** **12 08 11.7 +1.3**
comp=Z,1.2nm,0.6s,baz=157,slow=8.0,SNR=3.8
SONM ScP **ScP** **12 12 38.6 -0.5**
comp=Z,0.9nm,0.7s,baz=151,slow=3.3,SNR=4.2
comp=Z,1.2nm,0.6s
CMSA Cobar Meteorol 43.54 152 P **P** **12 08 12.4 +1.3**
baz=44,SNR=18
CMSA Cobar Meteorol 43.54 152 P **P** **12 08 12.3 +1.2**
ARPS Mount Arapiles 46.57 160 P **P** **12 08 34.7 +0.6**
baz=47,SNR=15
ARPS Mount Arapiles 46.57 160 P **P** **12 08 34.5 +0.4**
CAN Canberra 48.21 152 P **P** **12 08 47.8 +1.4**
CAN Canberra 48.21 152 P **P** **12 08 48.0 +1.6**
CAN IAmb IAmb 12 08 48.3
comp=Z,14nm,0.9s
CNB Canberra Magne 48.37 152 P **P** **12 08 49.0 +1.4**
baz=48,SNR=7.2
CNB Canberra Magne 48.37 152 P **P** **12 08 49.1 +1.4**
WMQ Urumqi 48.50 325 *e*P P 12 08 57.5 +9.0
WMQ pmax pmax
comp=Z,21nm,0.7s
TOO Toolangi 48.61 157 P **P** **12 08 50.9 +1.6**
baz=49,SNR=14
TOO Toolangi 48.61 157 P **P** **12 08 50.7 +1.3**
TOO Toolangi 48.61 157 P **P** **12 08 51.2 +1.8**
TOO IAmb IAmb 12 09 22.3
comp=Z,36nm,1.4s
DZM Mont Dzumac 50.75 126 P **P** **12 09 06.5 +1.2**
DZM Mont Dzumac 50.75 126 P **P** **12 09 07.0 +1.6**
DZM IAmb IAmb 12 09 39.8
comp=Z,44nm,1.5s
DZM Mont Dzumac 50.75 126 P **P** **12 09 06.6 +1.2**
comp=Z,9.4nm,0.5s,baz=255,slow=13,SNR=4.8
comp=Z,9.4nm,0.5s
LIFNC LIFOU 50.77 124 P **P** **12 09 06.7 +1.3**
LIFNC LIFOU 50.77 124 P **P** **12 09 06.7 +1.3**
OUENC Ouen Island, N 51.24 126 P **P** **12 09 10.3 +1.5**
OUENC IAmb IAmb 12 09 33.8
comp=Z,31nm,1.1s
MK31 Makanchi Array 53.33 325 P **P** **12 09 24.1 +0.8**
MK31 IAmb IAmb 12 09 24.7
comp=Z,5.8nm,0.6s
MK31 PcP **PcP** **12 10 20.7 0.0**
MKAR Makanchi Array 53.33 325 P **P** **12 09 24.3 +1.0**
MKAR PcP **PcP** **12 10 20.8 +0.1**
MKAR Makanchi Array 53.33 325 P **P** **12 09 24.1 +0.8**
comp=Z,10nm,0.4s,baz=122,slow=8.0,SNR=93
MKAR PcP **PcP** **12 10 20.4 -0.3**
comp=Z,3.2nm,0.5s,baz=101,slow=5.1,SNR=9.2
MKAR ScP **ScP** **12 13 19.8 -1.3**
comp=Z,1.3nm,0.7s,baz=116,slow=5.5,SNR=5.6
comp=Z,10nm,0.4s
MAKZ Makanchi 53.52 325 P **P** **12 09 25.1 +0.6**
MAKZ IAmb IAmb 12 09 26.0
comp=Z,8.2nm,0.6s
MAKZ PcP **PcP** **12 10 21.3 -0.1**
NIL Nilore 53.69 307 P **P** **12 09 27.3 +1.2**
NIL IAmb IAmb 12 09 27.8
comp=Z,13nm,0.5s
KSH Kashi 53.76 315 P **P** **12 09 28.8 +2.2**
PEA0B Petropavlovsk- 53.79 25 P **P** **12 09 27.1 +0.8**
PEA0B IAmb IAmb 12 09 28.9
comp=Z,39nm,1.4s
PETK Petropavlovsk- 53.79 25 P **P** **12 09 26.9 +0.5**
comp=Z,7.7nm,0.6s,baz=188,slow=2.8,SNR=30
comp=Z,7.7nm,0.6s
PET Petropavlovsk 54.13 25 P **P** **12 09 29.9 +1.2**
PET IAmb IAmb 12 09 49.4
comp=Z,35nm,1.5s
ZAA0 Zalesovo Array 56.50 334 P **P** **12 09 45.6 +0.6**
ZALV Zalesovo Beam 56.50 334 P **P** **12 09 45.0 -0.1**
ZALV PcP **PcP** **12 10 32.1 -0.7**
ZALV Zalesovo Beam 56.50 334 P **P** **12 09 44.7 -0.4**
comp=Z,1.2nm,0.4s,baz=112,slow=5.6,SNR=5.3
comp=Z,1.2nm,0.4s
MA2 Magadan 56.51 16 P **P** **12 09 46.1 +1.0**
MA2 IAmb IAmb 12 09 46.8
comp=Z,11nm,0.9s
ARSB Arslanbob 56.58 316 P **P** **12 09 47.0 +0.9**
ARSB PcP **PcP** **12 10 33.2 -0.5**
DRK Karamyk 56.73 313 P **P** **12 09 48.8 +1.4**
KBL Kabul 57.29 307 P **P** **12 09 51.5 +0.3**
KBL IAmb IAmb 12 09 52.3
comp=Z,13nm,0.7s
KURBB Kurchatov Arra 57.54 328 P **P** **12 09 52.7 +0.4**
comp=Z,9.7nm,0.7s,baz=128,slow=6.3,SNR=70
comp=Z,9.7nm,0.7s
KURK Kurchatov 57.55 328 P **P** **12 09 52.9 +0.6**
KURK IAmb IAmb 12 09 53.5
comp=Z,18nm,0.6s
BTK Batken 57.64 314 P **P** **12 09 54.4 +1.1**
GAR Garm 57.65 312 P **P** **12 09 54.2 +0.8**
GAR IAmb IAmb 12 09 54.8
comp=Z,28nm,0.9s
CHGR Chuyangaron 58.40 311 P **P** **12 09 58.5 +0.1**
CHGR IAmb IAmb 12 10 00.6
comp=Z,12nm,0.5s
SIMJ Simiganj 58.51 311 P **P** **12 09 59.8 +0.6**
KK31 Karatay Array 58.95 317 P **P** **12 10 02.7 +0.8**
KKAR Karatay Array 58.95 317 P **P** **12 10 02.7 +0.8**
BVAR Borovoye Array 63.12 327 P **P** **12 10 29.1 +0.2**
comp=Z,3.1nm,0.4s,baz=132,slow=8.2,SNR=27
comp=Z,3.1nm,0.4s
BRVK Borovoye 63.19 327 P **P** **12 10 29.7 +0.3**
BRVK IAmb IAmb 12 10 30.5
comp=Z,7.0nm,0.8s
TIXI Tiksi 64.83 2 P **P** **12 10 39.3 -0.1**
MRNZ Matariki Terra 65.66 141 P **P** **12 10 45.5 +0.4**
MRNZ Matariki Terra 65.66 141 P **P** **12 10 45.7 +0.6**
NNZ Nelson 65.94 141 P **P** **12 10 47.8 +1.0**
NNZ Nelson 65.94 141 P **P** **12 10 47.3 +0.5**
THZ Tophouse 65.96 142 P **P** **12 10 47.4 +0.4**
THZ IAmb IAmb 12 11 16.5
comp=Z,46nm,1.4s
LTZ Lake Taylor 66.16 143 P **P** **12 10 49.4 +1.2**
LTZ IAmb IAmb 12 11 20.6
comp=Z,17nm,1.2s
GEYT Alibeck 66.65 308 P **P** **12 10 52.0 +0.6**
GEYT IAmb IAmb 12 10 53.2
comp=Z,7.5nm,0.9s
GEYT Alibeck 66.65 308 P **P** **12 10 52.3 +0.9**
comp=Z,4.7nm,0.8s,baz=158,slow=4.8,SNR=13
comp=Z,4.7nm,0.8s
GYA0B ALIBECK ARRAY 66.65 308 P **P** **12 10 51.8 +0.4**
GYA0B IAmb IAmb 12 10 52.8
comp=Z,6.3nm,0.7s
ATKA Atka Island 67.70 36 P **P** **12 10 57.7 +0.3**
ATKA Atka Island 67.70 36 P **P** **12 10 57.6 +0.1**
ATKA IAmb IAmb 12 11 09.7
comp=Z,30nm,1.0s
ABKAR Akbulak array 67.88 321 P **P** **12 10 58.7 +0.1**
ABKAR PcP **PcP** **12 11 19.2 -0.5**
AKTO Aktyubinsk 69.40 321 P **P** **12 11 07.9 +0.2**
comp=Z,5.8nm,0.5s,baz=100,slow=6.2,SNR=17
comp=Z,5.8nm,0.5s
ARU Arti 70.74 328 P **P** **12 11 15.2 -0.3**
ARU IAmb IAmb 12 11 15.7
comp=Z,9.6nm,0.4s
ARU Arti 70.74 328 P **P** **12 11 14.9 -0.6**
comp=Z,5.6nm,0.3s,baz=125,slow=3.1,SNR=7.2
comp=Z,5.6nm,0.3s
SPIA Saint Paul Isl 71.40 32 P **P** **12 11 19.3 0.0**
baz=253
P08K Saint George I 71.61 32 P **P** **12 11 20.0 -0.5**
baz=254
UNV Unalaska Valle 72.62 36 P **P** **12 11 26.2 -0.2**
UNV Unalaska Valle 72.62 36 P **P** **12 11 25.9 -0.4**
baz=257
CASY Casey 73.56 186 P **P** **12 11 31.9 +0.5**
CASY IAmb IAmb 12 11 32.5
comp=Z,14nm,0.8s
M11K Mekoryuk 74.29 29 P **P** **12 11 35.9 +0.2**
baz=256
FALS False Pass 74.59 35 P **P** **12 11 37.7 +0.2**
FALS False Pass 74.59 35 P **P** **12 11 37.4 -0.1**
FALS False Pass 74.59 35 P **P** **12 11 37.4 -0.1**
baz=260
K13K Kusilvak Mount 75.39 28 P **P** **12 11 42.0 +0.1**
baz=257
S12K Black Hills 75.50 34 P **P** **12 11 42.8 +0.2**
baz=261
F14K Arctic Creek 75.55 24 P **P** **12 11 42.6 0.0**
baz=254
M13K Dall Lake 75.68 29 P **P** **12 11 43.0 -0.4**
baz=258
ANM Nome 75.70 25 P **P** **12 11 43.5 -0.1**
baz=256
KIRV Kirov 76.05 329 P **P** **12 11 44.8 -0.7**
comp=Z,15nm,0.6s,baz=73,slow=1.2,SNR=3.9
comp=Z,15nm,0.6s
J14K Nanvaranak Lak 76.07 27 P **P** **12 11 46.2 +0.6**
baz=258
L14K Kuka Creek 76.18 28 P **P** **12 11 47.5 +1.3**
L14K Kuka Creek 76.18 28 P **P** **12 11 46.7 +0.5**
baz=259
F15K North Star Dit 76.28 24 P **P** **12 11 46.9 +0.2**
baz=256
SDPT Sand Point 76.34 35 P **P** **12 11 47.1 -0.1**
SDPT IAmb IAmb 12 11 47.1
comp=Z,21nm,0.7s
SDPT Sand Point 76.34 35 P **P** **12 11 47.0 -0.1**
baz=262
G15K Niukluk 76.36 25 P **P** **12 11 46.9 -0.3**
baz=257
N14K Kuskokwak Cree 76.41 30 P **P** **12 11 46.7 -0.7**
baz=260
M14K Bethel 76.42 29 P **P** **12 11 48.6 +1.1**
M14K IAmb IAmb 12 11 49.1
comp=Z,8.3nm,0.8s
M14K Bethel 76.42 29 P **P** **12 11 46.6 -0.9**
baz=260
O14K Tigyukauivet M 76.50 31 P **P** **12 11 47.5 -0.5**
baz=260
RAYN Ar Rayn 76.54 292 P **P** **12 11 49.1 +0.1**
RAYN IAmb IAmb 12 11 49.8
comp=Z,13nm,0.7s
C16K Lisburne Hills 76.67 21 P **P** **12 11 48.9 +0.1**
baz=255
CNBA Chernabura Isl 76.77 35 P **P** **12 11 49.4 -0.1**
CNBA IAmb IAmb 12 11 50.3
comp=Z,16nm,1.3s
CHNA Chernabura Isl 76.78 35 P **P** **12 11 49.3 -0.3**
baz=263
L15K Ungalak Mounta 76.81 28 P **P** **12 11 50.2 +0.5**
baz=260
K15K Wolf Creek Mou 76.90 28 P **P** **12 11 50.1 0.0**
baz=260
S14K Fog Glacier 76.98 34 P **P** **12 11 50.6 -0.2**
baz=263
M15K Kasigluk River 77.02 29 P **P** **12 11 50.9 +0.1**
baz=261
H16K Elim 77.04 25 P **P** **12 11 50.2 -0.6**
baz=258
G16K Koyuk River 77.14 24 P **P** **12 11 51.5 +0.2**
baz=258
N15K Kwethluk River 77.23 30 P **P** **12 11 52.7 +0.7**
N15K IAmb IAmb 12 11 53.7
comp=Z,8.9nm,1.1s
N15K Kwethluk River 77.23 30 P **P** **12 11 52.2 +0.2**
baz=261
D17K Noatak River 77.36 22 P **P** **12 11 52.6 +0.1**
baz=257
J16K Anvik River 77.50 27 P **P** **12 11 54.1 +0.8**
J16K Anvik River 77.50 27 P **P** **12 11 53.1 -0.3**
baz=260
C17K DeLong Mountai 77.50 21 P **P** **12 11 53.8 +0.5**
baz=257
RDOG Red Dog Mine 77.50 22 P **P** **12 11 53.6 +0.3**
baz=257
CHGN Chignik 77.61 34 P **P** **12 11 53.5 -0.5**
baz=264
E17K Hotham Inlet 77.70 23 P **P** **12 11 54.2 -0.2**
baz=258
L16K Owhat River 77.76 28 P **P** **12 11 56.1 +1.3**
L16K Owhat River 77.76 28 P **P** **12 11 54.7 -0.1**
baz=262
F17K Baldwin Pennin 77.80 23 P **P** **12 11 56.5 +1.7**
F17K Baldwin Pennin 77.80 23 P **P** **12 11 55.4 +0.5**
baz=259
G17K Kiwalik Mounta 77.86 24 P **P** **12 11 55.7 +0.5**
baz=260
M16K Timber Creek 77.91 29 P **P** **12 11 56.6 +1.0**
M16K IAmb IAmb 12 11 57.4
comp=Z,8.6nm,0.8s
M16K Timber Creek 77.91 29 P **P** **12 11 54.9 -0.7**
baz=262,SNR=5.1
N16K Nishlik Lake 77.93 30 P **P** **12 11 55.5 -0.3**
baz=262
H17K Granite Mounta 78.07 25 P **P** **12 11 57.6 +1.2**
H17K Granite Mounta 78.07 25 P **P** **12 11 56.3 -0.1**
baz=260
P16K Nushagak River 78.14 31 P **P** **12 11 57.3 +0.5**
baz=263
O16K Kokwok River B 78.16 31 P **P** **12 11 57.5 +0.6**
baz=263
B18K Kolik River 78.19 20 P **P** **12 11 56.8 -0.1**
baz=258
J17K VABM Dome 78.19 27 P **P** **12 11 58.3 +1.2**
J17K VABM Dome 78.19 27 P **P** **12 11 56.9 -0.2**
baz=262
E18K Tukpahlearik C 78.23 22 P **P** **12 11 58.5 +1.3**
E18K Tukpahlearik C 78.23 22 P **P** **12 11 56.9 -0.3**
baz=259
C18K Utukok River 78.25 21 P **P** **12 11 58.2 +0.8**
C18K IAmb IAmb 12 11 58.6
comp=Z,4.8nm,0.5s
C18K Utukok River 78.25 21 P **P** **12 11 57.0 -0.4**
baz=258
L17K Donlin 78.37 28 P **P** **12 11 57.7 -0.3**
baz=262
K17K Iditarod 78.45 27 P **P** **12 11 59.8 +1.4**
K17K IAmb IAmb 12 12 00.8
comp=Z,7.4nm,0.8s
K17K Iditarod 78.45 27 P **P** **12 11 58.5 0.0**
baz=262
F18K Selawik 78.46 23 P **P** **12 11 57.9 -0.5**
baz=260
O17K Koliganek Bris 78.68 30 P **P** **12 11 59.7 0.0**
baz=264
M17K Holitna River 78.69 29 P **P** **12 11 59.4 -0.3**
baz=263
KBZ Khabaz 78.70 313 P **P** **12 11 59.2 -0.9**
comp=Z,1.9nm,0.9s,baz=99,slow=13,SNR=2.0
comp=Z,1.9nm,0.9s
N17K Nushagak Hills 78.71 30 P **P** **12 11 59.4 -0.5**
baz=264
G18K Tagagawik 78.74 24 P **P** **12 12 00.2 +0.2**
baz=261
H18K Honhosa River 78.75 25 P **P** **12 11 59.9 -0.2**
baz=262
Q16K King Salmon 78.80 32 P **P** **12 12 00.2 -0.1**
baz=265
C19K Lookout Ridge 78.91 21 IAmb IAmb 12 12 03.1
comp=Z,6.4nm,0.7s
C19K Lookout Ridge 78.91 21 P **P** **12 12 01.0 +0.2**
baz=260
P17K Kvichak River 78.96 31 P **P** **12 12 01.3 +0.1**
baz=265
L18K Granite Mounta 79.13 28 P **P** **12 12 01.4 -0.7**
baz=264
Q17K Contact Creek 79.16 32 P **P** **12 12 02.0 -0.4**
baz=265
F19K Shaleruckik Mo 79.23 23 P **P** **12 12 02.4 -0.1**
baz=262
J18K Innoko River 79.25 27 P **P** **12 12 02.6 -0.1**
baz=264
GCSA Galena City Sc 79.33 25 P **P** **12 12 03.0 0.0**
baz=263
D19K Kuna River 79.34 22 IAmb IAmb 12 12 04.9
comp=Z,6.7nm,0.7s
D19K Kuna River 79.34 22 P **P** **12 12 02.7 -0.4**
baz=261,SNR=8.7
N18K Kilae Creek 79.36 30 P **P** **12 12 03.1 -0.3**
baz=265
G19K Purcell Mounta 79.41 24 P **P** **12 12 04.1 +0.7**
G19K Purcell Mounta 79.41 24 P **P** **12 12 03.4 0.0**
baz=263,SNR=6.1
M18K Stony River 79.47 29 P **P** **12 12 03.7 -0.1**
baz=265
E19K Redstone River 79.52 23 P **P** **12 12 04.9 +0.8**
E19K Redstone River 79.52 23 P **P** **12 12 03.5 -0.6**
baz=262,SNR=12
P18K Big Mountain, 79.59 31 P **P** **12 12 03.6 -1.0**
baz=266
H19K Roundabout Mou 79.60 25 IAmb IAmb 12 12 06.7
comp=Z,8.0nm,0.9s
H19K Roundabout Mou 79.60 25 P **P** **12 12 04.2 -0.2**
baz=264
O18K Koktuh Hills 79.64 30 P **P** **12 12 04.4 -0.4**
baz=266
J19K Poorman 79.79 26 P **P** **12 12 05.8 +0.3**
baz=265,SNR=5.2
B20K Meade River 79.89 20 P **P** **12 12 05.7 -0.1**
baz=262
D20K Etivluk River 79.92 21 P **P** **12 12 05.4 -0.7**
baz=263,SNR=5.2
SII Sitkinak Islan 79.97 34 P **P** **12 12 07.8 +1.2**
SII Sitkinak Islan 79.97 34 P **P** **12 12 05.6 -1.0**
baz=267
L19K White Mountain 79.98 28 P **P** **12 12 07.5 +1.0**
L19K White Mountain 79.98 28 P **P** **12 12 05.9 -0.6**
baz=266,SNR=6.0
E20K Nigu River 80.02 22 P **P** **12 12 06.4 -0.3**
baz=263,SNR=6.3
F20K Avaraart Lake 80.06 23 P **P** **12 12 06.8 0.0**
baz=264
N19K Bonanza Creek 80.06 30 IAmb IAmb 12 12 09.2
comp=Z,8.9nm,0.8s
N19K Bonanza Creek 80.06 30 P **P** **12 12 06.7 -0.4**
baz=266
O19K Port Alsworth 80.10 30 P **P** **12 12 07.8 +0.7**
O19K IAmb IAmb 12 12 08.7
comp=Z,15nm,1.4s
O19K Port Alsworth 80.10 30 P **P** **12 12 06.7 -0.5**
baz=266
M19K Big River Lodg 80.18 28 P **P** **12 12 07.5 -0.1**
baz=266
H20K Anotleneega Mo 80.25 25 P **P** **12 12 08.1 +0.3**
baz=265,SNR=7.0
I20K Naaghedeneel 80.36 25 P **P** **12 12 08.8 +0.4**
baz=266
Q19K Cape Douglas, 80.38 31 P **P** **12 12 08.5 -0.1**
baz=267
K20K Telida 80.43 27 IAmb IAmb 12 12 11.2
comp=Z,9.1nm,1.3s
K20K Telida 80.43 27 P **P** **12 12 08.9 +0.1**
baz=266
J20K Nowinta River 80.45 26 P **P** **12 12 09.4 +0.5**
baz=266
L20K Farewell, AK 80.46 28 P **P** **12 12 09.1 0.0**
baz=266
OHAK Old Harbor 80.49 33 P **P** **12 12 09.8 +0.6**
OHAK Old Harbor 80.49 33 P **P** **12 12 09.4 +0.1**
baz=268
VOI Vohitsoka 80.53 247 P **P** **12 12 09.3 -1.0**
VOI IAmb IAmb 12 12 10.3
comp=Z,18nm,1.0s
C21K Knifeblade Rid 80.62 21 P **P** **12 12 10.0 +0.3**
baz=264
B21K Ikpikpuk River 80.73 21 P **P** **12 12 11.4 +1.2**
B21K IAmb IAmb 12 12 12.3
comp=Z,6.9nm,0.8s
B21K Ikpikpuk River 80.73 21 P **P** **12 12 11.2 +1.0**
baz=264,SNR=6.6
A22K Sinclair Lake 80.74 19 P **P** **12 12 10.6 +0.3**
baz=264
IMAR Indian Mountai 80.75 24 P **P** **12 12 09.6 -0.8**
M20K Styx River 80.78 28 IAmb IAmb 12 12 12.9
comp=Z,7.6nm,0.8s
M20K Styx River 80.78 28 P **P** **12 12 10.4 -0.4**
baz=267
E21K Killik River 80.85 22 P **P** **12 12 11.1 +0.2**
baz=266
G21K Allakaket 80.89 24 P **P** **12 12 11.4 +0.3**
baz=266,SNR=5.7
KDAK Kodiak Island 80.89 33 P **P** **12 12 11.8 +0.5**
KDAK IAmb IAmb 12 12 13.0
comp=Z,11nm,0.7s
KDAK Kodiak Island 80.89 33 P **P** **12 12 11.5 +0.2**
baz=268
F21K Alatna River 80.94 23 P **P** **12 12 11.9 +0.5**
baz=266
Q20K Shuyak Island 81.02 32 P **P** **12 12 12.6 +0.7**
baz=268
H21K Melozitna Rive 81.12 25 P **P** **12 12 12.7 +0.3**
baz=267
N20K Mount Spurr 81.19 29 P **P** **12 12 12.7 -0.2**
baz=268
B22K Teshekpuk Lake 81.20 20 P **P** **12 12 13.6 +1.0**
B22K IAmb IAmb 12 12 14.6
comp=Z,5.3nm,0.8s
B22K Teshekpuk Lake 81.20 20 P **P** **12 12 13.4 +0.8**
baz=266
CHUM Lake Minchumin 81.24 26 P **P** **12 12 12.9 -0.1**
baz=268,SNR=6.2
PPLA Purkeypile 81.26 27 P **P** **12 12 13.8 +0.6**
PPLA IAmb IAmb 12 12 15.5
comp=Z,5.9nm,0.8s
PPLA Purkeypile 81.26 27 P **P** **12 12 12.9 -0.3**
baz=268
CAST Castle Rocks 81.33 27 P **P** **12 12 14.1 +0.6**
CAST IAmb IAmb 12 12 15.0
comp=Z,5.6nm,0.6s
CAST Castle Rocks 81.33 27 P **P** **12 12 13.6 +0.2**
baz=268,SNR=7.7
D22K Ayikyak River 81.36 21 P **P** **12 12 13.8 +0.3**
baz=266
I21K Tanana 81.44 25 IAmb IAmb 12 12 16.2
comp=Z,6.3nm,0.9s
I21K Tanana 81.44 25 P **P** **12 12 14.1 +0.1**
baz=268
F22K John River 81.47 23 P **P** **12 12 13.2 -0.9**
baz=267
SKT Skwentna 81.54 28 P **P** **12 12 13.4 -1.1**
baz=269
E22K Anaktuvuk Pass 81.63 22 P **P** **12 12 16.7 +1.8**
E22K Anaktuvuk Pass 81.63 22 P **P** **12 12 15.0 0.0**
baz=267
G22K Bettles 81.70 23 P **P** **12 12 14.6 -0.6**
baz=268
H22K Ishtalitna Cre 81.72 24 P **P** **12 12 15.2 -0.3**
baz=268,SNR=6.7
BRLK Bradley Lake 81.81 31 P **P** **12 12 15.7 -0.3**
BRLK IAmb IAmb 12 12 16.6
comp=Z,12nm,0.7s
BPAW Bear Paw Mtn. 81.83 26 P **P** **12 12 17.1 +1.1**
BPAW IAmb IAmb 12 12 17.6
comp=Z,8.1nm,0.7s
BPAW Bear Paw Mtn. 81.83 26 P **P** **12 12 15.7 -0.3**
baz=269,SNR=9.8
BRSE Bradley Lake S 81.89 31 P **P** **12 12 15.8 -0.6**
baz=270
SUA Susitna One 81.90 29 P **P** **12 12 16.3 -0.2**
baz=269
MLY Manley 81.96 25 IAmb IAmb 12 12 18.4
comp=Z,4.6nm,0.7s
MLY Manley 81.96 25 P **P** **12 12 16.4 -0.3**
baz=269,SNR=12
D23K Nanushuk River 82.08 21 P **P** **12 12 17.3 +0.2**
baz=268
C23K Itkillik River 82.13 20 P **P** **12 12 18.6 +1.3**
C23K IAmb IAmb 12 12 20.1
comp=Z,9.3nm,1.0s
C23K Itkillik River 82.13 20 P **P** **12 12 16.8 -0.6**
baz=268,SNR=9.6

TRF	**Thorofare Moun**	**82.13**	**27**	P	**P**	12 12 18.1	**+0.4**
TRF				IAmb	IAmb	12 12 18.6	
	comp=Z,5.0nm,0.7s						
TRF	**Thorofare Moun**	**82.13**	**27**	P	**P**	**12 12 16.8**	**-1.0**
	baz=269						
CUT	**Chulitna**	**82.14**	**28**	P	**P**	**12 12 17.1**	**-0.4**
	baz=270						
ARPR	**Arapgir-MALATY**	**82.18**	**308**	P	**P**	**12 12 18.7**	**+0.2**
ARPR				IAmb	IAmb	12 12 21.7	
	comp=Z,6.9nm,0.7s						
M22K	**Willow**	**82.20**	**29**	P	**P**	**12 12 17.7**	**-0.2**
	baz=270						
COLD	**Coldfoot**	**82.22**	**23**	P	**P**	**12 12 18.1**	**+0.2**
	baz=269,SNR=8.9						
G23K	**Bananza Creek**	**82.28**	**24**	P	**P**	**12 12 19.4**	**+1.1**
G23K				IAmb	IAmb	12 12 20.7	
	comp=Z,5.7nm,0.9s						
G23K	**Bananza Creek**	**82.28**	**24**	P	**P**	**12 12 19.1**	**+0.9**
	baz=269,SNR=8.0						
RC01	**Rabbit Creek A**	**82.39**	**29**	P	**P**	**12 12 19.5**	**+0.7**
	baz=270						
O22K	**Cooper Landing**	**82.40**	**30**	P	**P**	**12 12 19.2**	**+0.4**
O22K				IAmb	IAmb	12 12 35.9	
	comp=Z,23nm,1.1s						
O22K	**Cooper Landing**	**82.40**	**30**	P	**P**	**12 12 19.3**	**+0.4**
	baz=270						
E23K	**Chandalar**	**82.46**	**22**	P	**P**	**12 12 19.1**	**-0.1**
	baz=269						
H23K	**Yukon River**	**82.47**	**25**	P	**P**	**12 12 20.2**	**+1.0**
H23K				IAmb	IAmb	12 12 21.5	
	comp=Z,4.8nm,0.8s						
H23K	**Yukon River**	**82.47**	**25**	P	**P**	**12 12 19.0**	**-0.2**
	baz=270,SNR=7.9						
TOLK	**Toolik Lake Re**	**82.48**	**22**	P	**P**	**12 12 20.5**	**+1.3**
TOLK				IAmb	IAmb	12 12 21.5	
	comp=Z,6.1nm,0.7s						
TOLK	**Toolik Lake Re**	**82.48**	**22**	P	**P**	**12 12 19.5**	**+0.3**
	baz=269,SNR=9.7						
SEW	**Seward**	**82.54**	**30**	P	**P**	**12 12 19.5**	**-0.1**
	baz=271						
I23K	**Minto, Yukon-K**	**82.55**	**25**	P	**P**	**12 12 20.7**	**+1.2**
I23K				IAmb	IAmb	12 12 22.1	
	comp=Z,5.5nm,0.8s						
I23K	**Minto, Yukon-K**	**82.55**	**25**	P	**P**	**12 12 19.5**	**0.0**
	baz=270,SNR=10						
NEA2	**Nenana**	**82.67**	**26**	P	**P**	**12 12 21.1**	**+0.9**
NEA2	**Nenana**	**82.67**	**26**	P	**P**	**12 12 20.6**	**+0.4**
	baz=270,SNR=7.1						
MCK	**McKinley**	**82.74**	**27**	P	**P**	**12 12 20.3**	**-0.3**
	baz=271,SNR=10.0						
D24K	**Happy Valley**	**82.75**	**21**	IAmb	IAmb	12 12 22.9	
	comp=Z,10nm,0.7s						
D24K	**Happy Valley**	**82.75**	**21**	P	**P**	**12 12 20.9**	**+0.4**
	baz=270,SNR=16						
RND	**Reindeer**	**82.78**	**27**	IAmb	IAmb	12 12 21.4	
	comp=Z,6.9nm,0.6s						
C24K	**Franklin Bluff**	**82.80**	**21**	P	**P**	**12 12 20.5**	**-0.1**
	baz=270						
E24K	**Your Creek**	**82.88**	**22**	P	**P**	**12 12 21.2**	**-0.1**
	baz=270						
WAT1	**Susitna Watana**	**82.93**	**28**	P	**P**	**12 12 20.9**	**-0.7**
	baz=271						
KNK	**Knik Glacier**	**83.00**	**29**	P	**P**	**12 12 21.2**	**-0.7**
	baz=271						
SML	**Sawmill**	**83.05**	**29**	P	**P**	**12 12 21.0**	**-1.2**
	baz=271						
F24K	**Squaw Lake**	**83.12**	**23**	P	**P**	**12 12 21.8**	**-0.6**
	baz=271						
H24K	**Noodor Dome**	**83.16**	**24**	P	**P**	**12 12 23.1**	**+0.5**
	baz=271						
COLA	**College**	**83.19**	**25**	P	**P**	**12 12 23.0**	**+0.3**
	baz=271						
CCB	**Clear Creek Bu**	**83.22**	**26**	P	**P**	**12 12 22.7**	**-0.2**
G24K	**Hadweenzic Riv**	**83.30**	**24**	P	**P**	**12 12 24.9**	**+1.6**
G24K	**Hadweenzic Riv**	**83.30**	**24**	P	**P**	**12 12 23.4**	**+0.1**
	baz=272						
WAT6	**Susitna Watana**	**83.31**	**28**	P	**P**	**12 12 23.3**	**-0.3**
	baz=272						
M23K	**Glacier View**	**83.34**	**29**	P	**P**	**12 12 23.8**	**+0.2**
	baz=272						
POKR	**Poker Plat Res**	**83.36**	**25**	P	**P**	**12 12 23.8**	**+0.1**
	baz=272						
DHY	**Denali Highway**	**83.46**	**27**	P	**P**	**12 12 24.6**	**+0.3**
DHY	**Denali Highway**	**83.46**	**27**	P	**P**	**12 12 23.9**	**-0.4**
	baz=272						
SCM	**Sheep Creek Mo**	**83.53**	**29**	P	**P**	**12 12 24.5**	**-0.1**
	baz=272						
P23K	**Montague Islan**	**83.57**	**30**	P	**P**	**12 12 24.8**	**+0.1**
	baz=272						
HDA	**Harding Lake**	**83.59**	**26**	P	**P**	**12 12 24.3**	**-0.5**
	baz=272						
IL31		**83.61**	**26**	P	**P**	**12 12 24.8**	**0.0**
ILAR	**Eielson Array**	**83.61**	**26**	P	**P**	**12 12 25.1**	**+0.2**
ILAR	**Eielson Array**	**83.61**	**26**	P	**P**	**12 12 24.5**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=241,slow=5.2,SNR=28						
	comp=Z,0.8nm,0.6s						
D25K	**Kavik River**	**83.62**	**21**	P	**P**	**12 12 26.1**	**+1.2**
D25K	**Kavik River**	**83.62**	**21**	P	**P**	**12 12 24.2**	**-0.7**
	baz=272,SNR=5.5						
GLI	**Glacier Island**	**83.68**	**29**	P	**P**	**12 12 25.8**	**+0.5**
GLI	**Glacier Island**	**83.68**	**29**	P	**P**	**12 12 25.1**	**-0.2**
	baz=273						
G25K	**Bearman Lake**	**83.84**	**24**	P	**P**	**12 12 25.7**	**-0.2**
	baz=273						
E25K	**Arctic Village**	**83.97**	**22**	P	**P**	**12 12 26.3**	**-0.3**
	baz=273						
F25K	**Christian Rive**	**83.97**	**23**	P	**P**	**12 12 26.7**	**0.0**
	baz=273						
H25L	**Birch Creek**	**83.98**	**24**	P	**P**	**12 12 26.7**	**+0.1**
	baz=273						
M24K	**Tolsona, Glenn**	**84.06**	**28**	P	**P**	**12 12 26.9**	**-0.3**
	baz=273						
C26K	**Camden Bay**	**84.10**	**20**	P	**P**	**12 12 26.7**	**-0.4**
	baz=274						
Q23K	**Middleton Isla**	**84.13**	**31**	P	**P**	**12 12 27.7**	**+0.2**
	baz=273						
K24K	**Donnelly Dome**	**84.14**	**26**	P	**P**	**12 12 27.4**	**-0.2**
	baz=273						
PRP	**Porcupine Dome**	**84.14**	**25**	P	**P**	**12 12 27.6**	**0.0**
	baz=274						
KLU	**Klutina**	**84.21**	**29**	P	**P**	**12 12 27.3**	**-0.7**
	baz=274						
J25K	**Salcha River,**	**84.27**	**26**	P	**P**	**12 12 27.8**	**-0.4**
	baz=274						
PAX	**Paxson**	**84.33**	**27**	P	**P**	**12 12 28.5**	**0.0**
	baz=274						
EYAK	**Cordova Ski Ar**	**84.36**	**30**	P	**P**	**12 12 29.5**	**+0.9**
	baz=274						
HARP	**HAARP**	**84.52**	**28**	P	**P**	**12 12 29.3**	**-0.1**
	baz=274						
F26K	**Sheenjek River**	**84.54**	**23**	P	**P**	**12 12 29.6**	**+0.1**
	baz=274						
C27K	**Jago River**	**84.54**	**21**	P	**P**	**12 12 29.7**	**+0.3**
	baz=275						
G26K	**Porcupine Rive**	**84.74**	**23**	P	**P**	**12 12 30.6**	**+0.3**
	baz=275						
N25K	**Chitina, Valde**	**84.84**	**29**	P	**P**	**12 12 31.2**	**+0.2**
	baz=275						
BMRM	**Bremner River**	**84.89**	**29**	P	**P**	**12 12 30.7**	**-0.6**
	baz=275						
SCRK	**Sand Creek**	**84.92**	**26**	P	**P**	**12 12 30.6**	**-0.9**
	baz=275						
J26L	**Joseph Creek**	**85.05**	**26**	P	**P**	**12 12 32.5**	**+0.4**
J26L	**Joseph Creek**	**85.05**	**26**	P	**P**	**12 12 32.2**	**+0.2**
	baz=275						
I26K	**Coal Creek Min**	**85.15**	**25**	P	**P**	**12 12 32.1**	**-0.2**
I26K	**Coal Creek Min**	**85.15**	**25**	P	**P**	**12 12 32.1**	**-0.2**
	baz=276						
GLB	**Gilahina Butte**	**85.23**	**29**	P	**P**	**12 12 33.2**	**+0.3**
GLB				IAmb	IAmb	12 12 34.5	
	comp=Z,11nm,1.4s						
E27K	**Coleen River**	**85.45**	**22**	P	**P**	**12 12 33.2**	**-0.6**
	baz=277						
G27K	**Doyon Strip**	**85.59**	**23**	P	**P**	**12 12 34.6**	**+0.1**
	baz=277						
MCARA	**McCarthy VSAT**	**85.61**	**29**	P	**P**	**12 12 34.2**	**-0.4**
	baz=276						
MAW	**Mawson**	**85.63**	**200**	P	**P**	**12 12 34.4**	**-0.1**
	comp=Z,3.8nm,0.6s,baz=78,slow=3.7,SNR=16						
	comp=Z,3.8nm,0.6s						
H27K	**Steamboat Moun**	**85.71**	**24**	P	**P**	**12 12 34.8**	**-0.3**
	baz=277						
K27K	**Chicken**	**85.75**	**26**	P	**P**	**12 12 35.5**	**+0.3**
	baz=277						
I27K	**Kandik River**	**85.75**	**25**	P	**P**	**12 12 35.1**	**-0.2**
	baz=277						
BR131	**Keskin Array S**	**85.77**	**309**	P	**P**	**12 12 35.2**	**-0.9**
BR131				IAmb	IAmb	12 12 36.7	
	comp=Z,3.9nm,0.9s						
BRTR	**Keskin Array B**	**85.77**	**309**	P	**P**	**12 12 35.2**	**-0.9**
BRTR	**Keskin Array B**	**85.77**	**309**	P	**P**	**12 12 35.0**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=105,slow=5.5,SNR=12						
	comp=Z,2.4nm,0.7s						
L27K	**Beaver Creek,**	**85.98**	**27**	P	**P**	**12 12 36.3**	**-0.1**
	baz=277						
BCAR	**Beaver Creek A**	**86.00**	**27**	P	**P**	**12 12 37.1**	**+0.6**
ISLE	**Juniper Island**	**86.03**	**30**	P	**P**	**12 12 37.2**	**+0.4**
ISLE				IAmb	IAmb	12 12 44.7	
	comp=Z,10nm,1.0s						
M27K	**Edge Creek, AK**	**86.04**	**28**	P	**P**	**12 12 36.3**	**-0.5**
	baz=277						
EGAK	**Eagle**	**86.05**	**25**	P	**P**	**12 12 36.5**	**-0.2**
EGAK	**Eagle**	**86.05**	**25**	P	**P**	**12 12 36.4**	**-0.2**
	baz=278						
E28M	**Babbage River**	**86.15**	**21**	P	**P**	**12 12 37.9**	**+0.8**
E28M				IAmb	IAmb	12 13 00.1	
	comp=Z,5.5nm,1.4s						
E28M	**Babbage River**	**86.15**	**21**	P	**P**	**12 12 36.6**	**-0.4**
	baz=279						
F28M	**Old Crow**	**86.17**	**22**	P	**P**	**12 12 38.4**	**+1.2**
F28M	**Old Crow**	**86.17**	**22**	P	**P**	**12 12 36.6**	**-0.6**
	baz=278						
BARN	**Barnard Glacie**	**86.31**	**29**	P	**P**	**12 12 39.0**	**+0.8**
BARN				IAmb	IAmb	12 12 39.4	
	comp=Z,8.2nm,1.1s						
I28M	**Miner Creek**	**86.47**	**25**	P	**P**	**12 12 39.9**	**+1.1**
I28M				IAmb	IAmb	12 12 40.3	
	comp=Z,2.9nm,0.7s						
I28M	**Miner Creek**	**86.47**	**25**	P	**P**	**12 12 38.4**	**-0.4**
	baz=279						
CTG	**Chitna Glacier**	**86.47**	**29**	P	**P**	**12 12 37.9**	**-1.0**
	baz=278						
ARCES	**ARCESS Array B**	**86.53**	**340**	P	**P**	**12 12 38.3**	**-0.6**
ARCES				IAmb	IAmb	12 13 12.6	
	comp=Z,16nm,1.2s						
ARCES	**ARCESS Array B**	**86.53**	**340**	P	**P**	**12 12 38.0**	**-0.9**
	comp=Z,2.7nm,0.8s,baz=75,slow=6.4,SNR=8.1						
	comp=Z,2.7nm,0.8s						
E29M	**Blow River**	**86.78**	**22**	P	**P**	**12 12 40.1**	**+0.1**
	baz=280						
YUK3	**Moose Creek**	**86.78**	**28**	P	**P**	**12 12 40.3**	**-0.2**
	baz=278						
VNDA	**Vanda**	**86.86**	**172**	P	**P**	**12 12 40.5**	**+0.3**
VNDA				IAmb	IAmb	12 12 41.1	
	comp=Z,6.6nm,0.7s						
VNDA	**Vanda**	**86.86**	**172**	P	**P**	**12 12 40.0**	**-0.1**
	comp=Z,7.0nm,0.6s,baz=320,slow=6.2,SNR=24						
	comp=Z,7.0nm,0.6s						
SPA1	**Spitsbergen Ar**	**86.88**	**349**	P	**P**	**12 12 40.1**	**-0.3**
SPB2	**Spitsbergen Ar**	**86.88**	**349**	P	**P**	**12 12 40.0**	**-0.4**
SPA2	**Spitsbergen Ar**	**86.88**	**349**	P	**P**	**12 12 40.2**	**-0.2**
SPA0	**Spitsbergen Ar**	**86.88**	**349**	P	**P**	**12 12 40.3**	**-0.1**
SPITS	**Spitsbergen Ar**	**86.88**	**349**	P	**P**	**12 12 40.0**	**-0.4**
	comp=Z,5.8nm,0.8s,baz=94,slow=8.5,SNR=9.9						
	comp=Z,5.8nm,0.8s						
SPB4	**Spitsbergen Ar**	**86.88**	**349**	P	**P**	**12 12 39.9**	**-0.5**
DAWY	**Dawson**	**86.91**	**26**	P	**P**	**12 12 41.3**	**+0.5**
H29M	**Whitestone**	**86.98**	**24**	P	**P**	**12 12 41.5**	**+0.5**
H29M				IAmb	IAmb	12 12 60.0	
	comp=Z,6.4nm,1.4s						
H29M	**Whitestone**	**86.98**	**24**	P	**P**	**12 12 40.5**	**-0.5**
	baz=280						
G29M	**Pine Creek**	**87.00**	**23**	P	**P**	**12 12 42.1**	**+1.0**
G29M	**Pine Creek**	**87.00**	**23**	P	**P**	**12 12 41.4**	**+0.3**
	baz=280						
O28M	**Mount Upton**	**87.06**	**29**	P	**P**	**12 12 41.0**	**-0.9**
	baz=279						
I29M	**Ogilvie Camp,**	**87.16**	**25**	P	**P**	**12 12 42.3**	**+0.4**
I29M	**Ogilvie Camp,**	**87.16**	**25**	P	**P**	**12 12 41.0**	**-0.9**
	baz=280						
YUK8	**Steele Glacier**	**87.18**	**29**	P	**P**	**12 12 41.3**	**-1.0**
	baz=279						
M29M	**Somme Creek**	**87.60**	**27**	P	**P**	**12 12 43.4**	**-0.7**
	baz=280						
EPYK	**Eagle Plains**	**87.61**	**23**	P	**P**	**12 12 44.0**	**0.0**
	baz=281						
PNL	**Peninsula**	**87.62**	**30**	P	**P**	**12 12 43.5**	**-0.7**
	baz=279						
AKASG	**Malin Array Be**	**87.62**	**321**	P	**P**	**12 12 42.6**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=72,slow=4.0,SNR=2.9						
	comp=Z,0.3nm,0.3s						
L29M	**L29M**	**87.63**	**27**	P	**P**	**12 12 44.1**	**-0.1**
	baz=280						
G30M	**tAoh Zraii Nji**	**87.68**	**23**	P	**P**	**12 12 44.3**	**0.0**
	baz=282						
YUK4	**Talbot Arm**	**87.70**	**29**	P	**P**	**12 12 43.7**	**-1.1**
	baz=280						
FINES	**FINESS Array B**	**87.71**	**332**	P	**P**	**12 12 43.1**	**-1.4**
	comp=Z,2.3nm,0.5s,baz=66,slow=4.1,SNR=18						
	comp=Z,2.3nm,0.5s						
F30M	**Barrier River**	**87.71**	**22**	P	**P**	**12 12 44.4**	**0.0**
	baz=282						
YUK6	**Outpost Mounta**	**87.91**	**29**	P	**P**	**12 12 44.4**	**-1.4**
	baz=282						
I30M	**Mount Dempster**	**87.98**	**25**	P	**P**	**12 12 44.9**	**-0.9**
	baz=282						
HYT	**Haines Junctio**	**88.34**	**29**	P	**P**	**12 12 47.2**	**-0.5**
	baz=281						
N30M	**Aishikik Lake**	**88.42**	**28**	P	**P**	**12 12 47.5**	**-0.4**
	baz=281						
G31M	**Satah River**	**88.44**	**23**	P	**P**	**12 12 48.0**	**+0.2**
	baz=284						
H31M	**Peel River**	**88.68**	**24**	P	**P**	**12 12 48.8**	**-0.1**
	baz=284						
P30M	**Million Dollar**	**88.75**	**30**	P	**P**	**12 12 49.4**	**-0.1**
	baz=281						
N31M	**Braeburn, Yuko**	**89.03**	**28**	P	**P**	**12 12 50.6**	**-0.1**
	baz=282						
WHY	**Whitehorse**	**89.64**	**29**	P	**P**	**12 12 53.3**	**-0.4**
	baz=283						
FARO	**Faro, Yukon**	**89.98**	**27**	P	**P**	**12 12 55.0**	**0.0**
	baz=285						
SIT	**Sitka**	**90.23**	**32**	P	**P**	**12 12 56.2**	**0.0**
	baz=283						
N32M	**Quiet Lake**	**90.37**	**28**	P	**P**	**12 12 56.6**	**-0.3**
	baz=285						
R32K	**Eaglecrest**	**90.37**	**31**	P	**P**	**12 12 57.3**	**+0.4**
	baz=284						
P33M	**Teslin, Yukon**	**90.74**	**29**	P	**P**	**12 12 58.6**	**-0.1**
	baz=285						
C36M	**Paulatuk**	**91.30**	**19**	P	**P**	**12 13 00.7**	**-0.2**
	baz=283						
U33K	**Whale Pass**	**91.64**	**33**	P	**P**	**12 13 02.1**	**-0.7**
	baz=285						
CRAG	**Craig**	**91.80**	**34**	P	**P**	**12 13 03.3**	**-0.2**
	baz=285						
R33M	**Jennings River**	**91.86**	**30**	P	**P**	**12 13 03.6**	**-0.4**
	baz=287						
WRAK	**Wrangell Islan**	**91.98**	**33**	P	**P**	**12 13 03.6**	**-0.7**
	baz=285						
TGTN	**Hyland Airport**	**92.48**	**27**	P	**P**	**12 13 06.4**	**-0.3**
	baz=289						
V35K	**Ketchikan**	**92.67**	**34**	P	**P**	**12 13 07.5**	**0.0**
	baz=286						
WTLY	**Watson Lake, Y**	**92.70**	**29**	P	**P**	**12 13 07.7**	**+0.1**
	baz=288						
HFS	**Hagfors**	**93.91**	**332**	P	**P**	**12 13 11.7**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=108,slow=4.8,SNR=4.7						
	comp=Z,0.8nm,0.4s						
NOA	**NORSAR Array B**	**94.70**	**333**	P	**P**	**12 13 14.7**	**-2.1**
	comp=Z,0.7nm,0.7s,baz=66,slow=4.7,SNR=2.1						
	comp=Z,0.7nm,0.7s						
TOAD	**Toad River Com**	**94.84**	**29**	P	**P**	**12 13 17.2**	**-0.2**
	baz=292						
QSPA	**South Pole Qui**	**96.72**	**180**	P	**P**	**12 13 25.0**	**-0.7**
	comp=Z,1.3nm,0.9s,baz=317,slow=2.6,SNR=12						
	comp=Z,1.3nm,0.9s						
YKA	**Yellowknife Ar**	**97.90**	**24**	PKKP		12 30 01.2	
	comp=Z,0.2nm,0.4s,baz=119,slow=2.0,SNR=9.4						
NVAR	**Mina Array Bea**	**107.01**	**47**	PKKPbc	**PKKPbc**	12 29 37.0	**-1.1**
	comp=Z,0.5nm,0.7s,baz=112,slow=6.6,SNR=5.0						
PDAR	**Pinedale Array**	**110.92**	**39**	PKKP		12 29 35.0	
	comp=Z,0.8nm,0.6s,baz=121,slow=5.8,SNR=5.9						
MDT	**Midelt**	**117.07**	**312**	PKP	**PKiKP**	**12 18 37.2**	**0.0**
	comp=Z,1.3nm,0.6s,baz=225,slow=1.4,SNR=1.4						
TORD	**Peroni Ar. Bea**	**119.11**	**289**	PKP	**PKPdf**	**12 18 40.9**	**-0.6**
	comp=Z,1.7nm,0.4s,baz=57,slow=2.2,SNR=14						
AMTX	**Amarillo**	**120.38**	**43**	P	**PKPdf**	**12 18 43.1**	**-0.4**
	baz=305						
TXAR	**Lajitas Array**	**121.96**	**49**	PKP	**PKPdf**	**12 18 46.2**	**-0.4**
	comp=Z,0.1nm,0.6s,baz=33,slow=2.2,SNR=2.4						
TXAR				SKP		12 21 25.8	
	comp=Z,0.2nm,0.6s,baz=308,slow=3.6,SNR=3.4						
TXAR				PKKPbc	**PKKPbc**	**12 28 45.7**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=140,slow=4.6,SNR=3.9						
S39A	**Bolivar**	**123.83**	**35**		**PKiKP**	**12 18 50.2**	**0.0**
SSPA	**Standing Stone**	**128.75**	**21**	P	**PKPdf**	**12 18 58.4**	**-0.8**
	baz=332						
PLCA	**Paso Flores**	**143.90**	**161**		**PKPdf**	**12 19 27.8**	**+0.6**
PLCA	**Paso Flores**	**143.90**	**161**	PKP	**PKPdf**	**12 19 27.6**	**+0.5**
	comp=Z,10nm,0.6s,baz=227,slow=2.8,SNR=40						
GO06	**Curarrehue**	**144.63**	**159**	PKPbc	**PKPab**	**12 19 29.7**	**+0.1**
BO02	**Sierra Bellavi**	**149.12**	**156**	PKPbc	**PKiKP**	**12 19 42.0**	**+0.2**
BO01	**Tunca**	**149.34**	**155**	PKPbc	**PKiKP**	**12 19 41.9**	**-0.3**
MT01	**Popeta**	**149.73**	**155**	PKPbc	**PKPbc**	**12 19 42.2**	**-0.2**
BO04	**La Punta**	**149.89**	**156**	PKPbc	**PKPbc**	**12 19 42.4**	**-0.4**
LMEL	**Las Melosas**	**150.18**	**156**	PKPbc	**PKiKP**	**12 19 44.2**	**+0.1**
MT13	**San Alfonso**	**150.23**	**156**	PKPbc	**PKiKP**	**12 19 44.2**	**0.0**
MT02	**Curacav**	**150.29**	**154**	PKPbc	**PKPbc**	**12 19 43.9**	**+0.2**
PEL	**Peldehue**	**150.59**	**155**	PKPbc	**PKiKP**	**12 19 45.0**	**+0.1**
VA03	**San Esteban**	**150.97**	**155**	PKPbc	**PKiKP**	**12 19 45.8**	**0.0**
AC05	**El Transito**	**154.42**	**151**	PKPbc	**PKPbc**	**12 19 53.5**	**+0.5**
CPUP	**Villa Florida**	**160.58**	**177**	PKPab	**PKPbc**	**12 20 37.2**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=188,slow=4.0,SNR=3.3						
CZSB	**Cruzeiro do Su**	**163.66**	**94**	PKPdf	**PKPdf**	**12 19 52.0**	**-2.8**
CZSB				PKPab	**PKPab**	**12 20 48.9**	**-2.4**
LPAZ	**La Paz**	**165.06**	**130**	PKP	**PKPdf**	**12 19 57.6**	**+0.8**
	comp=Z,1.2nm,0.8s,baz=14,slow=4.2,SNR=4.4						

VIE 15 12:01:44.3±0.3, 47°82N×14°29E, h0km, mb0.7/2, ml1.4/7, Error ellipse: s-maj=2.5km s-min=1.6km az=11.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MOA	**Molln**	**0.03**	**328**	*e*Pg	Pg	12 01 44.7	-0.3
	1.5nm,0.1s						
MOA				*i* Sg	Sg	12 01 45.9	+0.5
	208nm,0.5s						
BIOA	**Bad Ischl, Aus**	**0.46**	**254**	*e*Sg	Sg	12 01 59.8	+0.8
	7.6nm,0.6s						
KBA	**Koelnbreinsper**	**0.98**	**221**	*e*Pg	Pg	12 02 02.9	-0.3
	0.3nm,0.1s						
KBA				*e*Sg	Sb	12 02 17.4	-0.5
	4.5nm,0.5s						
ARSA	**Arzberg**	**1.01**	**124**	*e*Pg	Pg	12 02 03.0	-0.7
	1.0nm,0.3s						
ARSA				*e*Sg	Sb	12 02 18.9	+0.4
	3.9nm,0.3s						
CONA	**Conrad Observa**	**1.06**	**84**	*e*Pg	Pg	12 02 05.1	+0.4
	0.4nm,0.2s						
CONA				*e*Sg	Sb	12 02 19.6	-0.5
	2.3nm,0.4s						
LESA	**Schwarzleotal**	**1.16**	**251**	*e*Sg	Sb	12 02 22.9	0.0
	2.3nm,0.4s						
RONA	**Rosalia, Austr**	**1.36**	**94**	*e*Sg	Sb	12 02 28.6	0.0
	2.4nm,0.5s						

WEL 15 12:09:23.2±0.9, 45°S±4°×167°E±°, h105km±6km, M2.9/6, MLv2.9/6, Error ellipse: s-maj=0.0km s-min=0.0km az=125.2, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCZ	**Deep Cove**	**0.42**	**212**	P	Pn	12 09 39.6	+0.6
DCZ				S	Sn	12 09 52.2	+1.3
MLZ	**Mavora Lakes**	**0.52**	**119**	P	Pn	12 09 41.3	+1.5
MLZ				S	Sn	12 09 55.0	+2.8
MSZ	**Milford Sound**	**0.55**	**36**	P	Pn	12 09 41.5	+1.7
MSZ				S	Sn	12 09 55.0	+2.7
WHZ	**Wether Hill Ro**	**0.85**	**157**	P	Pn	12 09 43.7	+1.2
WHZ				S	Sn	12 09 58.8	+1.8
WKZ	**Wanaka**	**1.13**	**76**	P	Pn	12 09 47.2	+1.7
WKZ				S	Sn	12 10 04.5	+2.2
PYZ	**Puysegur Point**	**1.19**	**208**	P	Pn	12 09 46.1	0.0
PYZ				S	Sn	12 10 03.0	-0.4
EAZ	**Earnscleugh**	**1.30**	**96**	P	Pn	12 09 48.8	+1.4
EAZ				S	Sn	12 10 06.8	+1.1
JCZ	**Jackson Bay**	**1.40**	**43**	P	Pn	12 09 49.3	+0.7
JCZ				S	Sn	12 10 08.4	+0.6
TUZ	**Tuapeka**	**1.73**	**120**	P	Pn	12 09 53.7	+1.1
TUZ				S	Sn	12 10 14.8	-0.2
APZ	**The Paps**	**1.76**	**168**	P	Pn	12 09 53.2	+0.3
APZ				S	Sn	12 10 15.5	0.0
SYZ	**Scrubby Hill**	**1.84**	**141**	P	Pn	12 09 54.8	+0.9
SYZ				S	Sn	12 10 17.5	+0.2
ODZ	**Otahua Downs**	**2.25**	**89**	P	Pn	12 09 59.3	+0.2
ODZ				S	Sn	12 10 26.0	-0.7
FOZ	**Fox Glacier**	**2.31**	**48**	P	Pn	12 09 59.4	-0.5
FOZ				S	Sn	12 10 27.1	-0.9
HHSZ	**Highcliff Hill**	**2.33**	**110**	P	Pn	12 10 00.9	+0.7
TMZ	**Timaru**	**2.62**	**75**	P	Pn	12 10 03.5	-0.6
TMZ				S	Sn	12 10 33.5	-1.9
ARCZ	**Arundel**	**2.89**	**68**	P	Pn	12 10 07.3	-0.4
OXZ	**Oxford**	**3.74**	**63**	P	Pn	12 10 18.8	-0.1
OXZ				S	Sn	12 10 58.1	-3.9
LTZ	**Lake Taylor**	**4.17**	**58**	P	Pn	12 10 25.5	+0.6
LTZ				S	Sn	12 11 09.7	-3.0
KHZ	**Kahutara**	**5.15**	**61**	P	Pn	12 10 44.1	+6.1

*NEIC **15** 12:11

	comp=Z,9.7nm,0.4s								
BJO1					*e*S		**Sn**	**12 25 04.5**	**-0.5**
BJO1	**Bjornoya**	**2.64**	**87**		Pn		**Pn**	**12 24 34.4**	**+1.4**
BJO1					Sn		**Sn**	**12 25 04.5**	**-0.5**
HSPB	**Hornsund (broa**	**2.91**	**30**	*e*P			**Pn**	**12 24 37.4**	**+0.7**
HSPB	**Hornsund (broa**	**2.91**	**30**		Pn		**Pn**	**12 24 37.5**	**+0.8**
BRBA	**Barentsburg A**	**3.71**	**16**		Pn		**Pn**	**12 24 48.2**	**+0.4**
BRBA	**Barentsburg A**	**3.71**	**16**		Pn		**Pn**	**12 24 48.2**	**+0.4**
BRBA					Sn		**Sn**	**12 25 32.7**	**+1.3**
BRBB	**Barentsburg B**	**3.74**	**16**		Pn		**Pn**	**12 24 48.6**	**+0.5**
BRBB	**Barentsburg B**	**3.74**	**16**		Pn		**Pn**	**12 24 48.6**	**+0.5**
SPA0	**Spitsbergen Ar**	**4.01**	**22**		Pn		**Pn**	**12 24 53.1**	**+1.2**
	baz=192,slow=18								
SPA0					IAML			12 24 56.6	
	comp=Z,9.1nm,0.3s								
SPA0					Sn		**Sn**	**12 25 40.7**	**+1.9**
	baz=199,slow=28								
SPA0	**Spitsbergen Ar**	**4.01**	**22**		Pn		**Pn**	**12 24 53.1**	**+1.2**
	baz=192,slow=18								
SPA0					Sn		**Sn**	**12 25 40.7**	**+1.9**
	baz=199,slow=28								
HOPEN	**Hopen**	**4.42**	**56**	*e*P			**Pn**	**12 24 59.2**	**+1.8**
HOPEN					Sn		**Sn**	**12 25 46.2**	**-2.6**
HOPEN	**Hopen**	**4.42**	**56**		Pn		**Pn**	**12 24 59.2**	**+1.8**
HOPEN					Sn		**Sn**	**12 25 46.2**	**-2.6**
KBS	**Kingsbay**	**4.43**	**7**	*e*P			**Pn**	**12 24 57.6**	**0.0**
KBS				*e*S			**Sn**	**12 25 45.5**	**-3.7**
KBS					IAML			12 25 46.2	
	comp=Z,1.9nm,0.7s								
KBS	**Kingsbay**	**4.43**	**7**		Pn		**Pn**	**12 24 57.3**	**-0.3**
ARA0	**ARCESS Array S**	**7.12**	**127**		Pn		**Pn**	**12 25 32.1**	**-2.4**
ARA0	**ARCESS Array S**	**7.12**	**127**		Pn		**Pn**	**12 25 32.1**	**-2.4**

IDC ***15*** *13:02:56.4±2.0,59.˚11N×154.˚63W,h95km±22km,mb3.4/2, mbtmp3.9/5,MS2.9/1,Error ellipse: s-maj=28.4km s-min=15.0km az=90.0*

NEIC ***15*** *13:02:58.5±1.5,58.˚96N±0.˚04×154.˚42W±0.˚05, h122km±6km,Error ellipse: s-maj=5.3km s-min=3.8km az=169.0*

AEIC ***15*** *13:02:60.0±1.8,58.˚94N±0.˚04×154.˚44W±0.˚06, h115km±5km,ML3.4,ML3.5/140(NEIC),Error ellipse: s-maj=5.5km s-min=4.5km az=143.0*

ISC 15 13:02:58.4±0.7,58.˚97N±0.˚04×154.˚42W±0.˚04, h126km±6km,n415,σ0.88/428,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res
Q19K	**Cape Douglas,**	**0.40**	**95**		Pn		**Pn**	**13 03 16.2**	**-0.4**
Q19K					IAML			13 03 33.0	
	comp=E,2μm,0.8s								
Q19K					IAML			13 03 35.0	
	comp=N,1μm,0.8s								
Q19K	**Cape Douglas,**	**0.40**	**95**				**Sn**	**13 03 29.5**	**-0.7**
Q19K	**Cape Douglas,**	**0.40**	**95**	P			**Pn**	**13 03 16.4**	**-0.2**
	baz=271								
Q19K					S		**Sn**	**13 03 29.5**	**-0.7**
	baz=271								
KAHC	**Katmai Hardscr**	**0.44**	**224**				**Pn**	**13 03 16.2**	**-0.6**
KAHC	**Katmai Hardscr**	**0.44**	**224**	P			**Pn**	**13 03 16.2**	**-0.6**
	baz=46								
P18K	**Big Mountain,**	**0.60**	**316**				**Pn**	**13 03 17.0**	**-0.7**
P18K					IAML			13 03 31.2	
	comp=E,519nm,0.8s								
P18K					IAML			13 03 31.4	
	comp=N,899nm,0.5s								
P18K	**Big Mountain,**	**0.60**	**316**				**Sn**	**13 03 30.9**	**-1.5**
P18K	**Big Mountain,**	**0.60**	**316**	P			**Pn**	**13 03 16.8**	**-0.9**
	baz=138								
P18K					S		**Sn**	**13 03 30.9**	**-1.5**
	baz=138								
AUCH	**Augustine Cone**	**0.64**	**51**				**Pn**	**13 03 18.4**	**+0.4**
AUL	**Augustine Lava**	**0.66**	**50**				**Pn**	**13 03 18.5**	**+0.4**
AU22	**Augustine Moun**	**0.68**	**53**				**Pn**	**13 03 18.5**	**+0.3**
KVTA	**Katmai Vly 10**	**0.74**	**219**				**Pn**	**13 03 18.4**	**-0.3**
KCE	**Katmai Mt Cerb**	**0.83**	**209**				**Pn**	**13 03 19.4**	**-0.1**
KELA	**Mount Kelaz**	**0.87**	**233**				**Pn**	**13 03 19.3**	**-0.6**
ACHA	**Angle Creek He**	**0.89**	**213**				**Pn**	**13 03 19.5**	**-0.6**
P19K	**Oil Pt**	**0.92**	**41**		Pn		**Pn**	**13 03 20.7**	**+0.5**
P19K					IAML			13 03 38.2	
	comp=E,2μm,0.7s								
P19K					IAML			13 03 38.5	
	comp=N,1μm,0.6s								
P19K	**Oil Pt**	**0.92**	**41**				**Sn**	**13 03 37.1**	**+0.4**
P19K	**Oil Pt**	**0.92**	**41**	P			**Pn**	**13 03 20.8**	**+0.5**
	baz=221								
P19K					S		**Sn**	**13 03 37.2**	**+0.4**
	baz=221								
ANCK	**Angle Creek**	**0.95**	**217**				**Pn**	**13 03 20.3**	**-0.3**
ANCK							**Sn**	**13 03 36.5**	**-0.9**
O18K	**Koktuh Hills**	**0.98**	**336**		Pn		**Pn**	**13 03 20.3**	**-0.4**
O18K					IAML			13 03 37.4	
	comp=E,318nm,0.7s								
O18K	**Koktuh Hills**	**0.98**	**336**				**Sn**	**13 03 37.0**	**-0.8**
O18K	**Koktuh Hills**	**0.98**	**336**	P			**Pn**	**13 03 20.5**	**-0.3**
	baz=156								
O18K					S		**Sn**	**13 03 37.0**	**-0.8**
	baz=156								
CNTC	**Contact Creek**	**1.04**	**228**				**Pn**	**13 03 20.9**	**-0.6**
CNTC							**Sn**	**13 03 38.0**	**-0.9**
Q17K	**Contact Creek**	**1.04**	**228**	P			**Pn**	**13 03 20.9**	**-0.6**
	baz=48								
Q17K					S		**Sn**	**13 03 38.0**	**-0.9**
	baz=48								
P17K	**Kvichak River**	**1.07**	**283**				**Pn**	**13 03 21.3**	**-0.3**
P17K							**Sn**	**13 03 38.3**	**-0.9**
P17K	**Kvichak River**	**1.07**	**283**	P			**Pn**	**13 03 21.3**	**-0.3**
	baz=103								
P17K					S		**Sn**	**13 03 38.3**	**-0.9**
	baz=103								
Q20K	**Shuyak Island**	**1.11**	**108**	P			**Pn**	**13 03 21.7**	**-0.3**
	baz=288								
Q20K					S		**Sn**	**13 03 39.5**	**-0.4**
	baz=288								
SYI	**Shuyak Island**	**1.11**	**108**		Pn		**Pn**	**13 03 21.6**	**-0.4**
SYI					IAML			13 03 40.4	
	comp=N,1μm,0.4s								
SYI					IAML			13 03 40.5	
	comp=E,610nm,0.4s								
SYI	**Shuyak Island**	**1.11**	**108**				**Sn**	**13 03 39.5**	**-0.4**
Q16K	**King Salmon**	**1.20**	**257**				**Pn**	**13 03 22.8**	**-0.1**
Q16K							**Sn**	**13 03 41.0**	**-0.4**
Q16K	**King Salmon**	**1.20**	**257**	P			**Pn**	**13 03 22.8**	**-0.1**
	baz=76								
Q16K					S		**Sn**	**13 03 41.0**	**-0.4**
	baz=76								
O19K	**Port Alsworth**	**1.23**	**2**				**Pn**	**13 03 23.1**	**-0.2**
O19K					IAML			13 03 42.4	
	comp=N,578nm,0.5s								
O19K					IAML			13 03 43.5	
	comp=E,1μm,0.5s								
O19K	**Port Alsworth**	**1.23**	**2**				**Sn**	**13 03 41.6**	**-0.6**
O19K	**Port Alsworth**	**1.23**	**2**	P			**Pn**	**13 03 23.2**	**0.0**
	baz=183								
O19K					S		**Sn**	**13 03 41.6**	**-0.6**
	baz=183								
IVE	**Iliamna Volcan**	**1.27**	**33**				**Pn**	**13 03 24.2**	**+0.4**
IVE							**Sn**	**13 03 43.4**	**+0.3**
O20K	**Slope Mountain**	**1.45**	**38**				**Pn**	**13 03 26.2**	**+0.5**
O20K	**Slope Mountain**	**1.45**	**38**	P			**Pn**	**13 03 26.2**	**+0.5**
	baz=220								
KDAK	**Kodiak Island**	**1.53**	**140**				**Pn**	**13 03 25.8**	**-0.7**
KDAK					IAML			13 03 48.1	
	comp=E,1μm,0.4s								
KDAK					IAML			13 03 49.2	
	comp=E,1μm,0.4s								
KDAK	**Kodiak Island**	**1.53**	**140**	P			**Pn**	**13 03 26.0**	**-0.5**
	comp=E,111nm,0.3s,baz=0.2,slow=9.0,SNR=2712								
KDAK					S		**Sn**	**13 03 46.7**	**-1.2**
	comp=E,478nm,0.4s,baz=219,slow=22,SNR=15								
HOM	**Homer**	**1.58**	**63**				**Pn**	**13 03 27.3**	**+0.1**
HOM					IAML			13 03 54.4	
	comp=E,969nm,0.5s								
HOM	**Homer**	**1.58**	**63**				**Sn**	**13 03 49.8**	**+0.8**
HOM	**Homer**	**1.58**	**63**	P			**Pn**	**13 03 27.8**	**+0.7**
	baz=244								
HOM					S		**Sn**	**13 03 49.8**	**+0.8**
	baz=244								
O17K	**Koliganek Bris**	**1.59**	**302**				**Pn**	**13 03 27.1**	**-0.1**
O17K	**Koliganek Bris**	**1.59**	**302**	P			**Pn**	**13 03 27.1**	**-0.1**
	baz=121								
PLK3	**Peulik 3**	**1.61**	**218**				**Pn**	**13 03 27.5**	**0.0**
PLK1	**Peulik 1**	**1.64**	**226**				**Pn**	**13 03 27.7**	**-0.1**
RED	**Redoubt Volcan**	**1.68**	**29**				**Pn**	**13 03 28.9**	**+0.5**
RDWB	**Redoubt West**	**1.72**	**27**				**Pn**	**13 03 29.4**	**+0.5**
RDWB							**Sn**	**13 03 52.2**	**0.0**
CNPM	**China Poot**	**1.73**	**70**		Pn		**Pn**	**13 03 28.8**	**-0.1**
CNPM					IAML			13 03 52.0	
	comp=N,340nm,0.8s								
CNPM					IAML			13 03 54.2	
	comp=E,377nm,0.4s								
NCT	**North Crescent**	**1.77**	**24**				**Pn**	**13 03 30.0**	**+0.6**
OHAK	**Old Harbor**	**1.85**	**161**				**Pn**	**13 03 29.1**	**-1.1**
OHAK					IAML			13 03 52.8	
	comp=N,539nm,0.6s								
OHAK					IAML			13 03 53.4	
	comp=E,422nm,0.6s								
OHAK	**Old Harbor**	**1.85**	**161**	P			**Pn**	**13 03 29.2**	**-1.1**
	baz=341								
P16K	**Nushagak River**	**1.85**	**274**				**Pn**	**13 03 30.4**	**+0.1**
P16K	**Nushagak River**	**1.85**	**274**	P			**Pn**	**13 03 30.4**	**+0.1**
	baz=92								
N19K	**Bonanza Creek**	**1.85**	**359**		Pn		**Pn**	**13 03 30.8**	**+0.3**
N19K					IAML			13 03 55.6	
	comp=N,160nm,0.7s								
N19K					IAML			13 03 55.7	
	comp=E,164nm,0.6s								
N19K	**Bonanza Creek**	**1.85**	**359**	P			**Pn**	**13 03 31.1**	**+0.6**
	baz=179								
N18K	**Kilae Creek**	**1.88**	**337**		Pn		**Pn**	**13 03 30.8**	**+0.3**
N18K	**Kilae Creek**	**1.88**	**337**	P			**Pn**	**13 03 30.9**	**+0.3**
	baz=157								
RDT	**Redoubt**	**1.91**	**31**				**Pn**	**13 03 31.6**	**+0.5**
BRLK	**Bradley Lake**	**1.98**	**65**				**Pn**	**13 03 31.5**	**-0.3**
BRLK					IAML			13 03 57.6	
	comp=N,692nm,0.7s								
BRLK					IAML			13 03 58.6	
	comp=E,397nm,0.5s								
O16K	**Kokwok River B**	**1.99**	**290**		Pn		**Pn**	**13 03 31.8**	**-0.2**
O16K					IAML			13 03 58.2	
	comp=N,101nm,0.7s								
O16K					IAML			13 03 58.4	
	comp=E,98nm,0.7s								
O16K	**Kokwok River B**	**1.99**	**290**	P			**Pn**	**13 03 32.0**	**0.0**
	baz=108								
BRSE	**Bradley Lake S**	**2.04**	**66**				**Pn**	**13 03 32.6**	**0.0**
BRSE	**Bradley Lake S**	**2.04**	**66**	P			**Pn**	**13 03 32.6**	**0.0**
	baz=248								
N17K	**Nushagak Hills**	**2.10**	**319**		Pn		**Pn**	**13 03 33.4**	**0.0**
N17K	**Nushagak Hills**	**2.10**	**319**	P			**Pn**	**13 03 33.8**	**+0.4**
	baz=138								
R16K	**Pilot Point**	**2.18**	**231**				**Pn**	**13 03 34.3**	**0.0**
R16K	**Pilot Point**	**2.18**	**231**		IAML			13 04 02.4	
	comp=E,314nm,0.9s								
R16K					IAML			13 04 02.8	
	comp=N,459nm,0.9s								
R16K	**Pilot Point**	**2.18**	**231**	P			**Pn**	**13 03 34.3**	**0.0**
	baz=49								
SVW2	**Sparrevohn**	**2.22**	**345**	P			**Pn**	**13 03 35.3**	**+0.5**
SVW2	**Sparrevohn**	**2.22**	**345**				**Pn**	**13 03 34.9**	**+0.1**
SII	**Sitkinak Islan**	**2.42**	**177**	P			**Pn**	**13 03 36.1**	**-1.2**
SII	**Sitkinak Islan**	**2.42**	**177**		Pn		**Pn**	**13 03 36.1**	**-1.2**
SII					IAML			13 04 13.3	
	comp=N,277nm,0.5s								
SII					IAML			13 04 18.3	
	comp=E,360nm,0.7s								
SII	**Sitkinak Islan**	**2.42**	**177**	P			**Pn**	**13 03 36.2**	**-1.1**
	baz=357								
CAPN	**Captain Cook N**	**2.44**	**41**		Pn		**Pn**	**13 03 39.3**	**+1.7**
N20K	**Mount Spurr**	**2.50**	**25**	P			**Pn**	**13 03 39.0**	**+0.5**
	baz=207								
SPCR	**Spurr Chakacha**	**2.50**	**25**				**Pn**	**13 03 39.0**	**+0.5**
SPBG	**Spurr Blockage**	**2.52**	**23**				**Pn**	**13 03 39.6**	**+0.9**
SPCN	**Chakachatna No**	**2.53**	**25**				**Pn**	**13 03 39.5**	**+0.7**
SPNN	**North Nagishla**	**2.56**	**19**				**Pn**	**13 03 40.0**	**+0.7**
SPCP	**Crater Peak Br**	**2.57**	**25**				**Pn**	**13 03 40.5**	**+1.1**
SPCG	**Spurr Capps Gl**	**2.62**	**26**				**Pn**	**13 03 40.7**	**+0.6**
SLKM	**Skilak Lake**	**2.63**	**52**				**Pn**	**13 03 40.6**	**+0.6**
M18K	**Stony River**	**2.63**	**345**				**Pn**	**13 03 40.6**	**+0.6**
M18K	**Stony River**	**2.63**	**345**	P			**Pn**	**13 03 40.6**	**+0.6**
	baz=164								
N16K	**Nishlik Lake**	**2.67**	**306**				**Pn**	**13 03 41.4**	**+0.8**
N16K	**Nishlik Lake**	**2.67**	**306**	P			**Pn**	**13 03 41.4**	**+0.8**
	baz=123								
SEW	**Seward**	**2.77**	**64**				**Pn**	**13 03 42.5**	**+0.7**
SEW	**Seward**	**2.77**	**64**	P			**Pn**	**13 03 42.5**	**+0.7**
	baz=247								
O15K	**Ungalikthiuk R**	**2.80**	**277**				**Pn**	**13 03 42.5**	**+0.3**
O15K	**Ungalikthiuk R**	**2.80**	**277**	P			**Pn**	**13 03 42.5**	**+0.3**
	baz=93								
O22K	**Cooper Landing**	**2.82**	**55**				**Pn**	**13 03 42.8**	**+0.3**
ANNE	**Aniakchak Nort**	**2.83**	**225**				**Pn**	**13 03 42.3**	**-0.4**
STLK	**Strandline Lak**	**2.85**	**26**				**Pn**	**13 03 43.7**	**+0.8**
M17K	**Holitna River**	**2.87**	**330**		Pn		**Pn**	**13 03 43.6**	**+0.5**
M17K					IAML			13 04 19.9	
	comp=N,80nm,0.9s								
M17K					IAML			13 04 20.2	
	comp=E,98nm,0.8s								
M17K	**Holitna River**	**2.87**	**330**	P			**Pn**	**13 03 43.8**	**+0.7**
	baz=148								
M19K	**Big River Lodg**	**2.95**	**0**				**Pn**	**13 03 44.5**	**+0.3**
M19K					IAML			13 04 20.3	
	comp=E,56nm,0.9s								
M19K	**Big River Lodg**	**2.95**	**0**	P			**Pn**	**13 03 44.7**	**+0.6**
	baz=180								
M20K	**Styx River**	**3.00**	**12**				**Pn**	**13 03 45.2**	**+0.4**
M20K	**Styx River**	**3.00**	**12**	P			**Pn**	**13 03 45.5**	**+0.7**
	baz=193								
FIS	**Fire Island**	**3.03**	**42**		Pn		**Pn**	**13 03 46.3**	**+1.1**
FIS					IAML			13 04 34.5	
	comp=E,282nm,0.5s								
M16K	**Timber Creek**	**3.08**	**314**		Pn		**Pn**	**13 03 46.4**	**+0.6**
M16K	**Timber Creek**	**3.08**	**314**	P			**Pn**	**13 03 46.5**	**+0.7**
	baz=131								
SUA	**Susitna One**	**3.10**	**35**		Pn		**Pn**	**13 03 46.9**	**+0.6**
SUA					IAML			13 04 24.9	
	comp=N,314nm,0.7s								
SUA	**Susitna One**	**3.10**	**35**	P			**Pn**	**13 03 46.7**	**+0.4**
	baz=218								
N15K	**Kwethluk River**	**3.13**	**295**		Pn		**Pn**	**13 03 47.2**	**+0.7**
N15K					IAML			13 04 26.5	
	comp=E,61nm,0.8s								
N15K	**Kwethluk River**	**3.13**	**295**	P			**Pn**	**13 03 47.4**	**+0.9**
	baz=111								
RC01	**Rabbit Creek A**	**3.17**	**46**		Pn		**Pn**	**13 03 47.1**	**+0.1**
RC01	**Rabbit Creek A**	**3.17**	**46**	P			**Pn**	**13 03 47.1**	**+0.1**
	baz=230								
CHIR	**Chirikof Islan**	**3.22**	**192**				**Pn**	**13 03 46.2**	**-1.5**
CHIR	**Chirikof Islan**	**3.22**	**192**		IAML			13 04 23.7	
	comp=E,124nm,0.6s								
CHIR					IAML			13 04 24.1	
	comp=N,216nm,0.5s								
CHIR	**Chirikof Islan**	**3.22**	**192**	P			**Pn**	**13 03 46.2**	**-1.5**
	baz=11								
L19K	**White Mountain**	**3.23**	**356**		Pn		**Pn**	**13 03 48.6**	**+0.7**
L19K					IAML			13 04 28.1	
	comp=E,38nm,1.0s								
L19K	**White Mountain**	**3.23**	**356**	P			**Pn**	**13 03 48.6**	**+0.7**
	baz=176								
SKT	**Skwentna**	**3.34**	**24**		Pn		**Pn**	**13 03 49.8**	**+0.4**
SKT					IAML			13 04 32.6	
	comp=N,89nm,0.4s								
SKT					IAML			13 04 32.9	
	comp=E,67nm,0.3s								
SKT	**Skwentna**	**3.34**	**24**	P			**Pn**	**13 03 49.9**	**+0.5**
	baz=206								
CHGN	**Chignik**	**3.43**	**221**		Pn		**Pn**	**13 03 49.9**	**-0.5**
CHGN					IAML			13 04 28.7	
	comp=E,101nm,0.5s								
CHGN					IAML			13 04 29.9	
	comp=N,96nm,0.5s								
CHGN	**Chignik**	**3.43**	**221**	P			**Pn**	**13 03 50.0**	**-0.5**
	baz=37								
L18K	**Granite Mounta**	**3.45**	**342**		Pn		**Pn**	**13 03 51.1**	**+0.4**
L18K	**Granite Mounta**	**3.45**	**342**	P			**Pn**	**13 03 51.3**	**+0.6**
	baz=160								
M22K	**Willow**	**3.52**	**35**				**Pn**	**13 03 51.7**	**+0.2**
M22K	**Willow**	**3.52**	**35**	P			**Pn**	**13 03 51.9**	**+0.3**
	baz=219								
L20K	**Farewell, AK**	**3.54**	**4**				**Pn**	**13 03 52.5**	**+0.6**
L20K	**Farewell, AK**	**3.54**	**4**	P			**Pn**	**13 03 52.5**	**+0.6**
	baz=185								
O14K	**Tigyukauivet M**	**3.54**	**278**				**Pn**	**13 03 52.1**	**+0.2**
O14K					IAML			13 04 34.4	
	comp=E,45nm,0.9s								
O14K					IAML			13 04 34.9	
	comp=N,30nm,1.3s								
O14K	**Tigyukauivet M**	**3.54**	**278**	P			**Pn**	**13 03 52.3**	**+0.3**
	baz=92								
L17K	**Donlin**	**3.71**	**331**				**Pn**	**13 03 54.6**	**+0.5**
	baz=148								
L17K	**Donlin**	**3.71**	**331**	P			**Pn**	**13 03 54.6**	**+0.5**
	baz=148								
P23K	**Montague Islan**	**3.72**	**71**				**Pn**	**13 03 54.4**	**+0.1**
P23K	**Montague Islan**	**3.72**	**71**	P			**Pn**	**13 03 54.4**	**+0.1**
	baz=256								
L16K	**Owhat River**	**3.73**	**320**		Pn		**Pn**	**13 03 54.7**	**+0.3**
L16K	**Owhat River**	**3.73**	**320**	P			**Pn**	**13 03 55.0**	**+0.6**
	baz=136								
VNHG	**Veniaminof 1**	**3.75**	**225**				**Pn**	**13 03 55.2**	**+0.4**
N14K	**Kuskokwak Cree**	**3.83**	**288**				**Pn**	**13 03 54.4**	**+0.6**
N14K	**Kuskokwak Cree**	**3.83**	**288**	P			**Pn**	**13 03 56.4**	**+0.6**
	baz=102								
VNFG	**Fog Glacier, M**	**3.85**	**228**				**Pn**	**13 03 56.3**	**+0.1**
VNFG	**Fog Glacier, M**	**3.85**	**228**		IAML			13 04 59.1	
	comp=N,85nm,1.0s								
VNFG					IAML			13 05 15.9	
	comp=E,98nm,1.1s								
S14K	**Fog Glacier**	**3.85**	**228**	P			**Pn**	**13 03 56.3**	**+0.1**
	baz=44								
KNK	**Knik Glacier**	**3.86**	**48**				**Pn**	**13 03 55.3**	**-0.7**
KNK	**Knik Glacier**	**3.86**	**48**	P			**Pn**	**13 03 55.4**	**-0.7**
	baz=233								
GHO	**Glory Hole Cre**	**3.92**	**42**				**Pn**	**13 03 55.9**	**-1.1**
GHO					IAML			13 04 42.7	
	comp=N,146nm,0.3s								
CUT	**Chulitna**	**4.01**	**29**				**Pn**	**13 03 57.8**	**-0.3**
CUT					IAML			13 04 45.4	
	comp=N,135nm,0.3s								
CUT	**Chulitna**	**4.01**	**29**	P			**Pn**	**13 03 58.2**	**+0.2**
	baz=212								
PPLA	**Purkeypile**	**4.09**	**14**				**Pn**	**13 04 00.4**	**+1.1**
PPLA	**Purkeypile**	**4.09**	**14**	P			**Pn**	**13 04 00.7**	**+1.4**
	baz=196								
SML	**Sawmill**	**4.15**	**44**				**Pn**	**13 03 58.9**	**-1.1**
SML					IAML			13 04 48.7	
	comp=N,109nm,0.9s								
SML					IAML			13 04 54.2	
	comp=E,100nm,0.8s								
SML	**Sawmill**	**4.15**	**44**	P			**Pn**	**13 03 59.0**	**-1.0**
	baz=229								
GLI	**Glacier Island**	**4.15**	**59**				**Pn**	**13 03 58.7**	**-1.4**
GLI					IAML			13 04 50.9	
	comp=N,125nm,0.4s								
GLI	**Glacier Island**	**4.15**	**59**	P			**Pn**	**13 03 59.4**	**-0.6**
	baz=245								
Q23K	**Middleton Isla**	**4.17**	**80**				**Pn**	**13 04 00.1**	**-0.1**
Q23K	**Middleton Isla**	**4.17**	**80**	P			**Pn**	**13 04 00.5**	**+0.3**
	baz=267								
M14K	**Bethel**	**4.21**	**298**		Pn		**Pn**	**13 04 01.6**	**+1.0**
K17K	**Iditarod**	**4.22**	**335**		Pn		**Pn**	**13 04 01.6**	**+0.8**
K17K					IAML			13 05 23.1	
	comp=E,17nm,1.4s								
K17K					IAML			13 05 50.6	
	comp=N,17nm,1.0s								
K17K	**Iditarod**	**4.22**	**335**	P			**Pn**	**13 04 01.7**	**+0.8**
	baz=152								
HIN	**Hinchinbrook I**	**4.26**	**67**				**Pn**	**13 04 01.2**	**-0.3**
M23K	**Glacier View**	**4.37**	**47**				**Pn**	**13 04 02.2**	**-0.6**
M23K	**Glacier View**	**4.37**	**47**	P			**Pn**	**13 04 02.2**	**-0.6**
	baz=232								
FID	**Port Fidalgo**	**4.38**	**63**				**Pn**	**13 04 01.7**	**-1.4**
K20K	**Telida**	**4.41**	**2**				**Pn**	**13 04 03.3**	**-0.1**
K20K	**Telida**	**4.41**	**2**	P			**Pn**	**13 04 03.7**	**+0.3**
	baz=182								
SCM	**Sheep Creek Mo**	**4.54**	**48**				**Pn**	**13 04 04.7**	**-0.6**
SCM	**Sheep Creek Mo**	**4.54**	**48**	P			**Pn**	**13 04 04.9**	**-0.4**
	baz=234								
CAST	**Castle Rocks**	**4.61**	**13**	Pn			**Pn**	**13 04 06.9**	**+0.8**
CAST	**Castle Rocks**	**4.61**	**13**	P			**Pn**	**13 04 06.7**	**+0.6**
	baz=195								
J18K	**Innoko River**	**4.65**	**347**	Pn			**Pn**	**13 04 07.3**	**+0.7**
J18K	**Innoko River**	**4.65**	**347**	P			**Pn**	**13 04 07.4**	**+0.7**
	baz=165								
EYAK	**Cordova Ski Ar**	**4.66**	**66**	P			**Pn**	**13 04 06.5**	**-0.3**
EYAK	**Cordova Ski Ar**	**4.66**	**66**				**Pn**	**13 04 06.4**	**-0.4**
WAT7	**Susitna Watana**	**4.74**	**33**				**Pn**	**13 04 07.3**	**-0.6**
M13K	**Dall Lake**	**4.75**	**292**	Pn			**Pn**	**13 04 09.2**	**+1.2**
M13K					IAML			13 05 32.2	
	comp=E,18nm,1.5s								
M13K					IAML			13 06 04.1	
	comp=N,14nm,1.4s								
L14K	**Kuka Creek**	**4.77**	**304**				**Pn**	**13 04 08.9**	**+0.8**
L14K					IAML			13 06 05.3	
	comp=N,15nm,1.1s								
L14K	**Kuka Creek**	**4.77**	**304**	P			**Pn**	**13

HMT	Hamilton	5.33	71			Pn	13 04 15.9 +0.2
PS1A	Pavlof South-1	5.34	231			Pn	13 04 16.0 +0.1
DHY	Denali Highway	5.36	37			Pn	13 04 15.5 -0.8
DHY	Denali Highway comp=N,60nm,0.5s	5.36	37	IAML			13 05 16.5
DHY	Denali Highway baz=223	5.36	37	P		Pn	13 04 15.5 -0.8
BPAW	Bear Paw Mtn.	5.41	16	Pn		Pn	13 04 16.2 -0.6
BPAW	Bear Paw Mtn. baz=199	5.41	16	P		Pn	13 04 16.5 -0.3
NICHA	Nichawak Mount	5.46	72			Pn	13 04 17.8 +0.3
MCK	McKinley	5.46	27			Pn	13 04 17.4 -0.1
MCK	McKinley baz=211	5.46	27	P		Pn	13 04 17.4 -0.1
SUCK	Suckling Hills	5.53	74			Pn	13 04 18.6 +0.1
N25K	Chitina, Valde	5.55	57			Pn	13 04 18.8 0.0
N25K	Chitina, Valde baz=246	5.55	57	P		Pn	13 04 18.8 0.0
HARP	HAARP	5.70	49			Pn	13 04 21.7 +1.0
HARP	HAARP baz=237	5.70	49	P		Pn	13 04 21.7 +1.0
BWN	Browne	5.73	22			Pn	13 04 20.8 -0.4
I17K	Unalakleet	5.78	331	Pn		Pn	13 04 23.1 +1.4
GRIN	Grindle Hills	5.78	72			Pn	13 04 22.2 +0.4
WACK	Wrangell Chich	5.83	54			Pn	13 04 23.4 +0.6
GLB	Gilahina Butte	5.84	60	Pn		Pn	13 04 22.2 -0.5
KHIT	Khitrov Hills	5.84	71			Pn	13 04 22.6 -0.2
I20K	Naaghedeneel	5.85	360			Pn	13 04 23.4 +0.6
J14K	Nanvaranak Lak	5.86	314	Pn		Pn	13 04 24.1 +1.3
WASW	Wrangell South	5.88	55			Pn	13 04 23.8 +0.5
PAX	Paxson	5.92	44			Pn	13 04 23.3 -0.5
PAX	Paxson baz=231	5.92	44	P		Pn	13 04 23.3 -0.5
VRDI	Verde Repeater	5.94	63	Pn		Pn	13 04 23.9 -0.2
SNH	Sunshine Point	6.01	73			Pn	13 04 25.4 +0.4
WAX	Waxell Ridge	6.04	71			Pn	13 04 25.4 0.0
MCARA	McCarthy VSAT	6.18	62			Pn	13 04 27.2 +0.1
MCARA	McCarthy VSAT baz=252	6.18	62	P		Pn	13 04 27.2 +0.1
NEA2	Nenana	6.19	22			Pn	13 04 26.2 -1.1
NEA2	Nenana baz=207	6.19	22	P		Pn	13 04 26.2 -1.1
BARK	Barkley Ridge	6.21	71			Pn	13 04 28.3 +0.6
WRH	Wood River Hil	6.29	26			Pn	13 04 27.0 -1.6
ISLE	Juniper Island	6.32	70			Pn	13 04 29.2 0.0
MLY	Manley	6.33	14	Pn		Pn	13 04 28.5 -0.7
MLY	Manley baz=198	6.33	14	P		Pn	13 04 28.7 -0.5
I21K	Tanana	6.34	9			Pn	13 04 29.8 +0.5
I21K	Tanana baz=192	6.34	9	P		Pn	13 04 29.8 +0.5
KIAG	Kiagna River	6.37	67			Pn	13 04 30.1 +0.2
K24K	Donnelly Dome	6.38	37			Pn	13 04 30.8 +0.9
K24K	Donnelly Dome baz=224	6.38	37	P		Pn	13 04 30.8 +0.9
PTPK	Patty Peak	6.38	64			Pn	13 04 30.7 +0.6
FALS	False Pass	6.42	234			Pn	13 04 30.8 +0.3
FALS	False Pass baz=46	6.42	234	P		Pn	13 04 30.8 +0.3
MESA	MESA	6.45	74			Pn	13 04 31.5 +0.5
MESA	MESA baz=264	6.45	74	P		Pn	13 04 31.5 +0.5
H18K	Honhosa River	6.48	345	Pn		Pn	13 04 31.9 +0.8
H18K	Honhosa River baz=162	6.48	345	P		Pn	13 04 31.6 +0.4
CCB	Clear Creek Bu	6.50	26			Pn	13 04 29.9 -1.6
HDA	Harding Lake	6.51	30			Pn	13 04 30.2 -1.4
HDA	Harding Lake baz=216	6.51	30	P		Pn	13 04 30.4 -1.2
H17K	Granite Mounta	6.53	339	Pn		Pn	13 04 33.0 +1.1
H17K	Granite Mounta baz=154	6.53	339	P		Pn	13 04 32.6 +0.8
MENT	Mentasta	6.55	48			Pn	13 04 32.7 +0.5
H20K	Anotleneega Mo	6.56	358			Pn	13 04 32.7 +0.5
H20K	Anotleneega Mo baz=178	6.56	358	P		Pn	13 04 32.7 +0.5
M26K	Nabesna, AK	6.58	54	Pn		Pn	13 04 33.1 +0.6
M26K	Nabesna, AK baz=243	6.58	54	P		Pn	13 04 33.4 +0.8
I23K	Minto, Yukon-K	6.64	19			Pn	13 04 32.5 -0.9
I23K	Minto, Yukon-K baz=203	6.64	19	P		Pn	13 04 32.6 -0.7
H19K	Roundabout Mou	6.66	353	Pn		Pn	13 04 34.0 +0.6
MDM	Murphy Dome	6.68	23	Pn		Pn	13 04 32.5 -1.5
COLA	College	6.69	25	P		Pn	13 04 32.7 -1.2
COLA	College	6.69	25			Pn	13 04 32.3 -1.6
BARN	Barnard Glacie	6.73	66			Pn	13 04 35.0 +0.2
L26K	Log Cabin Wild	6.75	48			Pn	13 04 35.1 +0.3
H21K	Melozitna Rive	6.76	6	Pn		Pn	13 04 35.2 +0.3
H21K	Melozitna Rive baz=187	6.76	6	P		Pn	13 04 35.7 +0.8
IL31		6.82	28			Pn	13 04 34.4 -1.4
ILAR	Eielson Array	6.82	28	Pn		Pn	13 04 34.1 -1.7
ILAR	Eielson Array comp=N,9.4nm,0.3s,baz=213,slow=13,SNR=154	6.82	28	P		Pn	13 04 34.5 -1.4
ILAR				S		Sn	13 05 46.3 -5.6
	comp=N,3.9nm,0.6s,baz=2.3,slow=13,SNR=8.0						
CTG	Chitina Glacier baz=259	6.86	67	P		Pn	13 04 37.0 +0.5
CTGM	Chitina Glacie	6.87	67			Pn	13 04 36.9 +0.4
POKR	Poker Plat Res	6.99	25			Pn	13 04 36.8 -1.2
POKR	Poker Plat Res baz=211	6.99	25	P		Pn	13 04 37.3 -0.7
LOGN	Logan Glacier	7.00	69			Pn	13 04 38.5 +0.1
SAMH	Samovar Hills	7.03	75			Pn	13 04 39.4 +0.7
M27K	Edge Creek, AK	7.03	56			Pn	13 04 38.8 0.0
M27K	Edge Creek, AK baz=246	7.03	56	P		Pn	13 04 38.8 0.0
IMAR	Indian Mountai	7.05	2			Pn	13 04 38.9 0.0
SCRK	Sand Creek	7.08	40	Pn		Pn	13 04 37.6 -1.8
SCRK	Sand Creek baz=229	7.08	40	P		Pn	13 04 38.1 -1.3
H22K	Ishtalitna Cre	7.09	10			Pn	13 04 39.1 -0.4
H22K	Ishtalitna Cre baz=193	7.09	10	P		Pn	13 04 39.1 -0.4
J25K	Salcha River,	7.10	33			Pn	13 04 38.1 -1.5
J25K	Salcha River, baz=221	7.10	33	P		Pn	13 04 38.3 -1.3
G18K	Tagagawik	7.23	346	Pn		Pn	13 04 40.7 -0.5
G18K	Tagagawik baz=162	7.23	346	P		Pn	13 04 41.6 +0.4
H23K	Yukon River	7.25	16			Pn	13 04 40.3 -1.2
H23K	Yukon River baz=200	7.25	16	P		Pn	13 04 40.7 -0.8
YUK2	White River	7.30	61			Pn	13 04 42.8 +0.5
G19K	Purcell Mounta	7.31	351			Pn	13 04 41.3 -1.0
L27K	Beaver Creek,	7.36	51			Pn	13 04 42.9 -0.3
L27K	Beaver Creek, baz=242	7.36	51	P		Pn	13 04 42.9 -0.3
BCAR	Beaver Creek A	7.38	51	Pn		Pn	13 04 43.5 +0.2
O28M	Mount Upton	7.39	70			Pn	13 04 43.9 +0.2
O28M	Mount Upton baz=262	7.39	70	P		Pn	13 04 43.9 +0.2
G16K	Koyuk River	7.44	333	Pn		Pn	13 04 45.2 +1.2
YUK3	Moose Creek	7.47	62			Pn	13 04 45.3 +0.6
YUK3	Moose Creek baz=254	7.47	62	P		Pn	13 04 45.3 +0.6
H24K	Noodor Dome	7.53	21	Pn		Pn	13 04 44.3 -1.1
H24K	Noodor Dome baz=207	7.53	21	P		Pn	13 04 44.6 -0.7
J26L	Joseph Creek	7.57	38	Pn		Pn	13 04 45.0 -0.9
J26L	Joseph Creek baz=228	7.57	38	P		Pn	13 04 45.4 -0.6
G21K	Allakaket	7.59	3			Pn	13 04 46.5 +0.3
G21K	Allakaket baz=184	7.59	3	P		Pn	13 04 46.5 +0.3
BCPM	Bancas Point	7.60	76	Pn		Pn	13 04 47.3 +1.0
ANM	Nome	7.64	322	Pn		Pn	13 04 49.1 +2.3
YUK8	Steele Glacier	7.68	66			Pn	13 04 48.1 +0.5
YUK8	Steele Glacier baz=259	7.68	66	P		Pn	13 04 48.1 +0.5
PNL	Peninsula	7.72	78	P		Pn	13 04 47.9 0.0
PNL	Peninsula	7.72	78			Pn	13 04 48.0 +0.1
PNL	Peninsula baz=271	7.72	78	P		Pn	13 04 48.0 +0.1
PRP	Porcupine Dome	7.77	28	Pn		Pn	13 04 47.3 -1.4
PRP	Porcupine Dome baz=216	7.77	28	P		Pn	13 04 48.1 -0.6
K27K	Chicken	7.78	44			Pn	13 04 48.2 -0.5
G23K	Bananza Creek	8.03	13	Pn		Pn	13 04 51.0 -1.1
G23K	Bananza Creek baz=196	8.03	13	P		Pn	13 04 51.9 -0.2
F20K	Avaraart Lake	8.14	356			Pn	13 04 54.8 +1.3
I26K	Coal Creek Min	8.25	35			Pn	13 04 53.5 -1.5
I26K	Coal Creek Min baz=225	8.25	35	P		Pn	13 04 54.4 -0.6
F15K	North Star Dit	8.26	329	Pn		Pn	13 04 56.9 +1.7
F21K	Alatna River	8.30	3			Pn	13 04 55.6 -0.1
F21K	Alatna River baz=183	8.30	3	P		Pn	13 04 56.1 +0.4
G24K	Hadweenzic Riv	8.38	19	Pn		Pn	13 04 55.2 -1.6
G24K	Hadweenzic Riv baz=205	8.38	19	P		Pn	13 04 55.2 -1.6
UNV	Unalaska Vale	8.44	238	P		Pn	13 04 56.7 -0.9
MNAT	Makushin Natee	8.49	238			Pn	13 04 57.2 -1.2
COLD	Coldfoot	8.51	11			Pn	13 04 56.6 -1.8
COLD	Coldfoot baz=195	8.51	11	P		Pn	13 04 57.9 -0.6
MSW	Makushin Switc	8.51	239			Pn	13 04 57.7 -0.9
EGAK	Eagle	8.54	41	Pn		Pn	13 04 57.8 -1.1
M29M	Somme Creek	8.56	59			Pn	13 05 00.1 +0.8
M29M	Somme Creek baz=253	8.56	59	P		Pn	13 04 59.5 +0.2
P29M	Windy Craggy	8.56	78			Pn	13 04 59.9 +0.7
P29M	Windy Craggy baz=273	8.56	78	P		Pn	13 04 59.5 +0.2
E19K	Redstone River	8.62	353			Pn	13 05 01.1 +1.1
E19K	Redstone River baz=170	8.62	353	P		Pn	13 05 01.1 +1.1
G25K	Bearman Lake	8.69	22			Pn	13 04 59.2 -1.7
G25K	Bearman Lake baz=210	8.69	22	P		Pn	13 04 59.2 -1.7
HYT	Haines Junctio	8.70	70	Pn		Pn	13 05 02.1 +0.9
DAWY	Dawson	8.80	48	Pn		Pn	13 05 02.7 +0.2
L29M	L29M	8.92	55			Pn	13 05 04.6 +0.5
I27K	Kandik River	8.92	36			Pn	13 05 04.2 0.0
I27K	Kandik River baz=228	8.92	36	P		Pn	13 05 04.2 0.0
E18K	Tukpahlearik C	8.93	344	Pn		Pn	13 05 04.7 +0.6
N30M	Aishikik Lake	8.98	66			Pn	13 05 04.8 -0.1
N30M	Aishikik Lake baz=261	8.98	66	P		Pn	13 05 04.5 -0.4
F24K	Squaw Lake baz=202	9.07	16	P		Pn	13 05 04.5 -1.5
E22K	Anaktuvuk Pass	9.28	6			Pn	13 05 09.1 +0.2
E22K	Anaktuvuk Pass baz=188	9.28	6	P		Pn	13 05 09.1 +0.2
G26K	Porcupine Rive	9.35	27			Pn	13 05 09.1 -0.6
G26K	Porcupine Rive baz=216	9.35	27	P		Pn	13 05 09.1 -0.6
I28M	Miner Creek	9.36	40	Pn		Pn	13 05 09.5 -0.5
I28M	Miner Creek baz=233	9.36	40	P		Pn	13 05 09.8 -0.2
H27K	Steamboat Moun	9.38	34			Pn	13 05 08.9 -1.4
H27K	Steamboat Moun baz=225	9.38	34	P		Pn	13 05 08.9 -1.4
O30N	Mendenhall	9.39	71	Pn		Pn	13 05 11.2 +0.7
K29M	Barlow Dome	9.45	52			Pn	13 05 10.9 -0.4
K29M	Barlow Dome baz=246	9.45	52	P		Pn	13 05 10.2 -1.0
F25K	Christian Rive	9.51	21			Pn	13 05 09.9 -2.0
F25K	Christian Rive baz=209	9.51	21	P		Pn	13 05 09.9 -2.0
E24K	Your Creek	9.51	14	Pn		Pn	13 05 10.9 -1.1
E21K	Killik River	9.52	1	Pn		Pn	13 05 12.0 0.0
S31K	Pelican	9.58	88	Pn		Pn	13 05 13.3 +0.3
D19K	Kuna River	9.71	352			Pn	13 05 14.4 -0.2
D19K	Kuna River baz=169	9.71	352	P		Pn	13 05 14.4 -0.2
G27K	Doyon Strip baz=222	9.77	31	P		Pn	13 05 13.7 -1.8
TOLK	Tolik Lake Re	9.94	10	Pn		Pn	13 05 17.1 -0.7
WHY	Whitehorse	9.98	72	Pn		Pn	13 05 19.7 +1.3
D22K	Ayikyak River	9.98	4	Pn		Pn	13 05 18.5 +0.2
E25K	Arctic Village	9.99	19	Pn		Pn	13 05 16.0 -2.4
C18K	Utukok River	10.16	346	Pn		Pn	13 05 22.2 +1.4
J30M	Hart River	10.22	49	Pn		Pn	13 05 23.1 +1.4
SIT	Sitka	10.30	92	P		Pn	13 05 22.2 -0.4
SIT	Sitka	10.30	92	Pn		Pn	13 05 22.3 -0.4
H29M	Whitestone	10.34	39	Pn		Pn	13 05 21.9 -1.3
R32K	Eaglecrest	10.40	85	Pn		Pn	13 05 25.8 +1.9
JIS	Juneau Island	10.46	85	P		Pn	13 05 27.1 +2.3
I30M	Mount Dempster	10.50	46	Pn		Pn	13 05 25.8 +0.5
S32K	Killisnoo	10.57	90	Pn		Pn	13 05 27.1 +1.0
P32M	Atlin	10.60	78	Pn		Pn	13 05 28.4 +1.6
B21K	Ikpikpuk River	10.70	360	Pn		Pn	13 05 26.8 -1.1
F28M	Old Crow	10.83	31	Pn		Pn	13 05 28.0 -1.7
E27K	Coleen River	10.84	26	Pn		Pn	13 05 28.2 -1.7
D25K	Kavik River	10.96	15	Pn		Pn	13 05 28.7 -2.7
P33M	Teslin, Yukon	11.01	74	Pn		Pn	13 05 32.7 +0.6
C23K	Itkillik River	11.04	7	Pn		Pn	13 05 31.6 -0.7
B20K	Meade River	11.15	355	Pn		Pn	13 05 33.8 -0.1
G30M	tAoh Zraii Nji	11.49	38	Pn		Pn	13 05 38.2 -0.2
U33K	Whale Pass	11.78	95	Pn		Pn	13 05 42.3 0.0
E29M	Blow River	11.91	31	Pn		Pn	13 05 43.1 -0.8
CRAG	Craig	12.04	98	P		Pn	13 05 46.9 +1.2
DLBC	Dease Lake comp=N,3.0nm,0.4s,baz=228,slow=14,SNR=9.7	12.67	82	P		P	13 05 58.8 -1.4
ATKA	Atka Island	13.04	247	P		Pn	13 06 01.1 +2.3
INK	Inuvik comp=N,1.7nm,0.4s,baz=233,slow=13,SNR=13	13.10	36	P		Pn	13 05 58.7 -0.7
C36M	Paulatuk	16.60	39	Pn		Pn	13 06 41.2 -2.0
AMKA	Amchitka	16.74	255			P	13 06 45.9 +0.7
A36M	Amchs Harbour	17.52	30	P		P	13 06 52.7 -0.9
YKA	Yellowknife Ar	19.55	63	P		P	13 07 16.8 +0.9
YKA	Yellowknife Ar comp=N,2.1nm,0.4s,baz=278,slow=10,SNR=59	19.55	63	P		Pn	13 07 16.9 -1.5
PDAR	Pinedale Array comp=N,0.2nm,0.5s,baz=297,slow=8.0,SNR=2.3 comp=N,0.2nm,0.5s	31.88	100	P		P	13 09 14.0 +2.3
YAK	Yakutsk comp=N,20nm,19.7s,baz=334,slow=40	35.53	308	LR		LR	13 26 24.2
SONM	Songino Array comp=N,1.0nm,0.5s,baz=34,slow=8.1,SNR=4.8 comp=N,1.0nm,0.5s	54.81	306	P		P	13 12 14.3 -0.7

JMA 15 13:03:38.6±0.1, 24°.9N±0°.3×124°.1E±0°.2, h0km, MV1.3/5, NW OFF ISHIGAKIJIMA IS, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JISG	Ishigakijimahi	0.35	144	P		Pg	13 03 45.9	+0.6
JISG				eS		Sg	13 03 51.0	+1.2
JIJ	Ishigaki jima	0.51	174	P		Pg	13 03 48.8	+0.4
JIJ				eS		Sg	13 03 55.8	+0.9
JTJ	Tarama	0.61	112	eP		Pg	13 03 50.9	+0.7
JTJ				eS		Sg	13 03 59.5	+1.4
IRIF	Iriomote-Funau	0.62	211	eP		Pg	13 03 51.1	+0.5

TAP 15 13:03:58.1, 24°.95N×122°.33E, h12km±1km, ML2.0, C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TWB1	Santiao Chiao baz=280	0.31	280	P		Pg	13 04 04.0	-0.4
TWB1				eS		Sg	13 04 08.5	-0.2
SXI1	Grass Mountain baz=288	0.43	289	P		Pg	13 04 06.8	+0.1
SXI1				eS		Sg	13 04 12.7	+0.2
TIPB	Shuangxi baz=272	0.46	272	P		Pg	13 04 06.8	-0.3
TIPB				eS		Sg	13 04 13.2	+0.1
EOS2	EOS2 baz=189	0.54	189	P		Pg	13 04 08.4	-0.2
EOS2				S		Sb	13 04 16.4	-0.7
TWC	Suao baz=231	0.56	232	eP		Pg	13 04 08.0	-0.9
TWC				eS		Sg	13 04 16.7	+0.5
TWE	Neicheng baz=248	0.64	249	P		Pg	13 04 10.1	-0.5
EOS3	EOS3 baz=180	0.66	181	P		Pg	13 04 10.8	-0.1
EOS3				S		Sb	13 04 20.6	0.0
FUSB	Fushanzhiwuyua baz=254	0.70	254	eP		Pg	13 04 11.2	-0.5
FUSB				eS		Sg	13 04 20.1	-0.8
YM08	YM08 baz=289	0.71	289	P		Pg	13 04 11.7	-0.2
YM08				eS		Sg	13 04 21.2	0.0
EWUT	Wuta baz=224	0.71	225	eP		Pg	13 04 10.8	-1.1
PCYT	Pengchaiyu baz=341	0.71	341	eP		Pg	13 04 12.0	+0.1
YM01	YM01 baz=285	0.71	286	eP		Pg	13 04 11.9	0.0
YM01				eS		Sb	13 04 21.9	-0.4
TWY	Chenhua baz=295	0.73	296	eP		Pg	13 04 12.3	0.0
TWY				eS		Sb	13 04 22.8	-0.1
ENA	Nanau baz=225	0.75	226	eP		Pg	13 04 11.4	-1.1
ENA				eS		Sg	13 04 20.6	-1.8
ENTT	Nioudou baz=245	0.76	246	eP		Pg	13 04 12.4	-0.3
ANP	Anpu baz=287	0.77	288	eP		Pg	13 04 12.7	-0.3
ANP				eS		Sg	13 04 23.1	0.0
NWLT	Wulai baz=256	0.77	257	eP		Pg	13 04 12.6	-0.4
NWLT				eS		Sg	13 04 22.3	-0.8
YOJ	Yonaguni jima baz=128	0.79	128	P		Pg	13 04 11.4	-2.0
YOJ				eS		Sg	13 04 22.6	-1.1
NDT	Datong Townshi baz=244	0.82	245	eP		Pg	13 04 13.0	-0.9
EOS4	EOS4 baz=180	0.83	181	eP		Pg	13 04 13.3	-0.7
LATG	Datong baz=240	0.84	240	eP		Pg	13 04 13.8	-0.6
LATG				eS		Sg	13 04 25.3	-0.1
YHNB	Yeheng baz=251	0.91	252	eP		Pg	13 04 14.6	-1.1
YHNB				eS		Sg	13 04 26.3	-1.3
NSK	Sanguang baz=252	0.92	253	eP		Pg	13 04 15.5	-0.5
NSK				eS		Sg	13 04 27.8	-0.2
NNSB	Datong baz=238	1.01	239	eP		Pg	13 04 16.4	-1.1
NNSB				eS		Sg	13 04 29.8	-0.8
NACB	Ninganchiao baz=220	1.02	221	eP		Pb	13 04 16.7	-1.0
NACB				eS		Sb	13 04 29.1	-2.1
FUSS	Fushou baz=234	1.21	235	eP		Pn	13 04 20.4	-0.6
FUSS				eS		Sb	13 04 35.9	-0.9
WUSB	Renai baz=229	1.46	229	eP		Pn	13 04 24.8	+0.4
WUSB				eS		Sn	13 04 43.6	+0.1

IDC ***15*** *13:04:35.8±2.2, 24°.97N×128°.93E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=111.9km s-min=25.0km az=71.0*

NIED ***15*** *13:04:39.0, 24°.90N×128°.62E, h56km, MW3.4, Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr=0.35; Mθθ=0.80; Mφφ=-0.44; Mrθ=-0.86; Mθφ=1.26; Mφr=-0.41; Fault plane solution: M0=1.61000×10¹⁴ NP1: φs=283.00000°, δ=82.00000°, λ=23.00000°. NP2: φs=190.00000°, δ=67.00000°, λ=171.00000°.*

JMA ***15*** *13:04:39.0±0.4, 25°.N±2°.×12°.9E±°, h56km, MV3.5/22, FAR S OFF OKINAWAJIMA*

ISC 15 13:04:41.0±1.1, 24°.94N±0°.06×128°.61E±0°.05, h50km, n22, σ1°.68/30, mb3.5/3, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JJT3	Tamagusuku3	1.41	328	P		Pn	13 05 03.9	-0.4
JJT3				S		Sn	13 05 20.6	-1.2
JNTH	Nagotoyohara	1.66	341	eP		Pn	13 05 06.6	-1.1
JNTH				eS		Sn	13 05 25.3	-2.5
JOW	Kunigami 13nm,0.3s,baz=157,slow=14,SNR=66	1.91	351	Pn		Pn	13 05 10.6	-0.5
JOW				Sn		Sn	13 05 31.3	-2.6
	76nm,0.3s,baz=132,slow=24,SNR=19							
JOW	Kunigami	1.91	351	P		Pn	13 05 10.8	-0.3
JOW				S		Sn	13 05 31.4	-2.5
JAGN	Aguni-jima	2.05	323	P		Pn	13 05 12.8	-0.3
JAGN				S		Sn	13 05 35.6	-1.9
JYRO	Yoronjima	2.08	356	P		Pn	13 05 13.0	-0.5
JKE	Kume jima 2	2.15	310	P		Pn	13 05 13.4	-1.0
JIH	Iheya	2.16	345	P		Pn	13 05 14.7	+0.1
JIH				eS		Sn	13 05 38.1	-2.1
JOKE	Okinoerabujima	2.41	359	eP		Pn	13 05 17.9	-0.1
JMZ	Minamidaito 2	2.52	69	P		Pn	13 05 17.7	-1.7
JKDJ	Kitadaitoujima	2.62	67	P		Pn	13 05 19.6	-1.3
JKDJ				eS		Sn	13 05 49.4	-2.2
JTK	Tokunoshima	2.85	6	P		Pn	13 05 24.0	0.0
JTK				S		Sn	13 05 53.9	-3.1
JOGS	Gusukube	2.92	267	eP		Pn	13 05 23.8	-1.2
JMJ2	Miyako jima3	2.99	267	eP		Pn	13 05 24.8	-1.2
JIKM	Ikemajima	3.06	270	eP		Pn	13 05 25.4	-1.4
JIRB	Irabujima	3.13	269	eP		Pn	13 05 26.1	-1.7
JAMN	Amaminishikomi	3.32	9	eP		Pn	13 05 30.8	+0.2
JAM	Amami Oshima	3.57	14	eP		Pn	13 05 34.3	+0.5
JTJ	Tarama	3.57	266	P		Pn	13 05 32.3	-1.6
MKAR	Makanchi Array 0.3nm,0.4s,baz=114,slow=9.6,SNR=3.8 0.3nm,0.4s	42.65	313	P		P	13 12 35.6	+2.9
ZALV	Zalesovo Beam 0.9nm,0.6s,baz=104,slow=7.3,SNR=4.3 0.9nm,0.6s	43.48	324	P		P	13 12 41.2	+2.0
WRA	Warramunga Arr 0.5nm,0.6s,baz=353,slow=8.5,SNR=4.9 0.5nm,0.6s	44.96	172	P		P	13 12 52.7	+1.3

NEIC ***15*** *13:09:00.1±0.3, 36°.065N±0°.010×97°.569W±0°.008, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.7km az=151.0*

TUL 15 13:09:00.4±0.4, 36°.068N±0°.010×97°.571W±0°.008, h7km±5km, ML2.4, mb_Lg2.3/24(NEIC), ML2.5/68(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=160.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OK029	Liberty Lake	0.29	161			Pg	13 09 06.3	+0.2
OK029				Sg		Sg	13 09 10.1	+0.2
OK029				IAML			13 09 10.7	
	449nm,0.3s							
OK029				IAML			13 09 10.7	
	827nm,0.3s							
ADOK	Arcadia Dam	0.45	159	Pg		Pg	13 09 09.1	0.0
ADOK				Sg		Sg	13 09 15.4	+0.5
OK033	Mehan	0.51	92			Pg	13 09 10.4	+0.1
OK033				IAML			13 09 18.1	
	314nm,0.2s							
OK033				IAML			13 09 24.1	
	270nm,0.1s							
CROK	Carrier	0.55	323	Pg		Pg	13 09 11.1	+0.1
CROK				IAML			13 09 18.9	
	comp=E,428nm,0.3s							
CROK				IAML			13 09 18.9	
	comp=N,453nm,0.4s							
OK031

BLOK				IAML			13 09 29.8		
	comp=N,201nm,0.2s								
GC02	**Grant County #**	**0.81**	**344**	Pg	Pg		13 09 15.8	-0.3	
FNO	**Franklin**	**0.82**	**170**	Pg	Pg		13 09 15.7	-0.5	
FNO				IAML			13 09 29.9		
	comp=E,147nm,0.3s								
OK032	**Salt Plains WL**	**0.90**	**325**	Pg	Pg		13 09 17.2	-0.5	
DEOK	**Depew**	**0.90**	**104**	Pg	Pg		13 09 16.8	-0.9	
KAN14	**Manchester OK**	**0.94**	**341**		Pg		13 09 18.0	-0.5	
KAN14				IAML			13 09 35.2		
	comp=N,191nm,0.1s								
KAN13	**South Haven SW**	**0.95**	**5**		Pg		13 09 18.1	-0.4	
KAN13				IAML			13 09 41.1		
	comp=E,157nm,0.3s								
KAN17	**Caldwell West**	**0.99**	**351**		Pg		13 09 18.7	-0.6	
KAN17				IAML			13 09 36.3		
	comp=N,165nm,0.2s								
KAN17				IAML			13 09 39.4		
	comp=E,177nm,0.3s								
CSTR	**Hydro, Custer**	**1.00**	**245**	Pg	Pg		13 09 19.4	-0.3	
OK038	**West end E0370**	**1.03**	**294**	Pg	Pg		13 09 19.5	-0.7	
KAN05	**Bluff City Nor**	**1.07**	**347**	Pg	Pg		13 09 20.3	-0.6	
KAN09	**Caldwell North**	**1.07**	**358**	Pg	Pg		13 09 20.3	-0.6	
W35A	**Tecumseh**	**1.08**	**148**	Pg	Pg		13 09 20.1	-0.9	
W35A				IAML			13 09 36.8		
	comp=N,83nm,0.3s								
W35A				IAML			13 09 40.2		
	comp=E,129nm,0.5s								
KAN01	**Argonia South**	**1.09**	**352**	Pg	Pg		13 09 20.7	-0.7	
KAN01				IAML			13 09 35.8		
	comp=E,149nm,0.2s								
KAN01				IAML			13 09 38.5		
	comp=N,125nm,0.1s								
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg		13 09 21.0	-0.9	
U32A	**Winter Ranch,**	**1.20**	**285**		Pg		13 09 22.4	-1.0	
U32A				IAML			13 09 40.3		
	comp=N,93nm,0.1s								
U32A				IAML			13 09 41.6		
	comp=E,112nm,0.1s								
KAN06	**Argonia West S**	**1.20**	**349**		Pg		13 09 22.6	-0.8	
KAN08	**Anthony NE Sta**	**1.20**	**345**		Pg		13 09 22.5	-1.0	
T35A	**Sooner Cattle**	**1.20**	**45**	Pg	Pg		13 09 22.9	-0.6	
T35A				IAML			13 09 39.4		
	comp=N,119nm,0.4s								
TUL3	**Leonard**	**1.45**	**96**		Pn		13 09 26.1	-1.0	
ELIS	**Ellis County**	**1.50**	**270**		Pn		13 09 27.3	-0.4	
WMOK	**Wichita Mounta**	**1.66**	**217**		Pn		13 09 29.8	-0.1	
RLO	**Rose Lookout**	**2.07**	**87**	Pn	Pn		13 09 35.4	-0.1	
RLO				IAmb_Lg			13 10 04.8		
	comp=Z,8.0nm,0.7s								
LOOK	**Love County**	**2.10**	**171**	Pn	Pn		13 09 35.9	0.0	
LOOK				IAmb_Lg			13 10 12.0		
	comp=Z,8.7nm,0.8s								
WTFS	**Witchita Falls**	**2.41**	**198**	Pn	Pn		13 09 40.3	0.0	
R32A	**Long Quarter,**	**2.52**	**339**	Pn	Pn		13 09 41.9	+0.1	
U38A	**Gravette**	**2.60**	**81**	Pn	Pn		13 09 42.2	-0.7	
AMTX	**Amarillo**	**3.56**	**252**	IAmb_Lg			13 10 59.5		
	comp=Z,7.5nm,0.7s								
S39A	**Bolivar**	**3.77**	**63**	IAmb_Lg			13 11 01.7		
	comp=Z,8.0nm,0.7s								
SN07	**Snyder 07**	**4.04**	**224**	IAmb_Lg			13 11 14.1		
	comp=Z,7.1nm,0.9s								
MGMO	**Mountain Grove**	**4.40**	**74**	IAmb_Lg			13 11 21.4		
	comp=Z,9.6nm,0.7s								
FCAR	**Ozark Folk Cen**	**4.42**	**91**	IAmb_Lg			13 11 29.6		
	comp=Z,4.3nm,0.7s								
P38A	**Dawn**	**4.78**	**41**	IAmb_Lg			13 11 36.0		
	comp=Z,5.4nm,1.0s								
N35A	**Tabor**	**5.02**	**17**	IAmb_Lg			13 11 46.6		
	comp=Z,11nm,0.8s								
CCM	**Cathedral Cave**	**5.43**	**67**	IAmb_Lg			13 12 03.0		
	comp=Z,4.7nm,0.8s								
JCT	**Junction City**	**5.88**	**199**	IAmb_Lg			13 12 14.4		
	comp=Z,6.2nm,0.8s								
FVM	**French Village**	**6.03**	**69**	IAmb_Lg			13 12 13.7		
	comp=Z,5.5nm,0.7s								
VHRN	**Van Horn**	**8.13**	**232**	IAmb_Lg			13 13 26.4		
	comp=Z,3.5nm,0.9s								

BJI ***15*** *13:15:53.7±0.0,39°.25N×71°.25E,h14km,mb4.3/6, mB4.4/3,ML3.7/2*
IDC ***15*** *13:15:54.0±0.9,39°.31N×71°.56E,h0km,mb3.8/11, mbtmp3.8/18,ML3.5/7,Error ellipse: s-maj=16.1km s-min=11.4km az=146.0*
KRNET ***15*** *13:15:55.3±0.1,39°.44N×71°.48E,h17km,mb4.1*
ISU ***15*** *13:15:56.3,39°.50N×71°.58E,h10km*
MOS ***15*** *13:15:56.3±1.2,39°.49N×71°.34E,h11km,mb4.2/7,Error ellipse: s-maj=8.7km s-min=4.8km az=73.6*
NEIC ***15*** *13:15:57.4±1.5,39°.46N±0°.02×71°.56E±0°.05,h10km±1km, mb4.4/15,Error ellipse: s-maj=6.4km s-min=3.9km az=89.0*
SOME ***15*** *13:15:57.5,39°.62N×71°.57E,h10km*
NNC ***15*** *13:16:00.3±1.2,39°.67N×71°.53E,h0km,mb4.3,mpv4.0, Error ellipse: s-maj=9.9km s-min=5.7km az=6.0*
ISC 15 13:15:56.8±0.9,39°.48N±0°.02×71°.51E±0°.02,h9km±6km, n170,σ2$38/231,mb4.2/24,27C-27D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.22**	**89**	Pg	**Pg**	**13 16 01.0**	**-0.5**
DRK				Sg	**Sg**	**13 16 04.0**	**-0.6**
DRK	**Karamyk**	**0.22**	**89**	⇑*i*P	**Pg**	**13 16 00.6**	**-0.8**
	baz=79						
DRK				⇑*i*S	**Sg**	**13 16 04.2**	**-0.4**
	baz=79						
DRK	**Karamyk**	**0.22**	**89**	*e*PG	**Pg**	**13 16 01.0**	**-0.5**
BTK	**Batken**	**0.79**	**317**		**Pg**	**13 16 10.7**	**-1.3**
BTK	**Batken**	**0.79**	**317**	⇑*e*P	**Pg**	**13 16 10.5**	**-1.5**
	baz=21						
BTK				⇑*e*S	**Sg**	**13 16 21.8**	**-0.5**
	baz=21						
BTK	**Batken**	**0.79**	**317**	PG	**Pg**	**13 16 10.7**	**-1.3**
CHMI	**Chimion**	**0.79**	**0**	P	**Pg**	**13 16 11.9**	**-0.2**
CHMI				S	**Sg**	**13 16 23.5**	**+1.1**
FRG	**Fergana**	**0.92**	**13**	P	**Pg**	**13 16 14.0**	**-0.5**
FRG				S	**Sg**	**13 16 27.2**	**+0.7**
GAR	**Garm**	**1.05**	**243**		**Pg**	**13 16 15.0**	**-1.9**
GAR	**Garm**	**1.05**	**243**	⇓*i*P	**Pg**	**13 16 14.4**	**-2.5**
	baz=45						
GAR				⇓*i*S	**Sg**	**13 16 28.0**	**-2.5**
	baz=45						
MINT	**Mingtut**	**1.07**	**337**	P	**Pb**	**13 16 17.4**	**-0.2**
MINT				S	**Sb**	**13 16 33.2**	**+1.5**
TSTA	**Tashata**	**1.32**	**34**	P	**Pn**	**13 16 20.2**	**-1.4**
TSTA				S	**Sb**	**13 16 38.3**	**-0.7**
ANR	**Andizhan**	**1.43**	**27**	P	**Pn**	**13 16 23.1**	**+0.1**
ANR				S	**Sn**	**13 16 42.0**	**0.0**
NAM	**Namangan**	**1.52**	**4**	P	**Pn**	**13 16 23.9**	**-0.3**
NAM				S	**Sn**	**13 16 44.6**	**+0.5**
SFK	**Sufi-Kurgan**	**1.62**	**70**	⇑*e*P	**Pn**	**13 16 25.9**	**0.0**
	baz=69						
SFK				⇑*e*S	**Sg**	**13 16 48.3**	**-0.8**
	baz=69						
KSNS	**Kasansay**	**1.68**	**0**	P	**Pn**	**13 16 26.8**	**+0.3**
KSNS				S	**Sn**	**13 16 49.5**	**+1.3**
CHGR	**Chuyangaron**	**2.01**	**247**		**Pn**	**13 16 32.5**	**+1.5**
CHGR	**Chuyangaron**	**2.01**	**247**	⇑*i*P	**Pn**	**13 16 30.9**	**-0.1**
	baz=48						
CHGR				⇑*i*S	**Sn**	**13 16 56.8**	**+0.5**
	baz=48						
CHGR	**Chuyangaron**	**2.01**	**247**	PN	**Pn**	**13 16 32.5**	**+1.5**
TRKS	**Terek-Say**	**2.07**	**352**	⇓*i*P	**Pn**	**13 16 32.5**	**+0.6**
	baz=54						
TRKS				⇓*i*S	**Sn**	**13 16 59.5**	**+1.5**
	baz=54						
TRKS	**Terek-Say**	**2.07**	**352**	*i* PN	**Pn**	**13 16 32.5**	**+0.6**
TRKS				*i* S	**Sn**	**13 16 59.5**	**+1.5**
SIMJ	**Simiganj**	**2.12**	**248**		**Pn**	**13 16 34.2**	**+1.6**
ARSB	**Arslanbob**	**2.16**	**31**	Pn	**Pn**	**13 16 34.9**	**+1.8**
ARSB	**Arslanbob**	**2.16**	**31**	⇓*e*P	**Pn**	**13 16 34.7**	**+1.6**
	baz=31						
ARSB				⇓*e*S	**Sb**	**13 17 02.9**	**-0.2**
	baz=31						
ARSB	**Arslanbob**	**2.16**	**31**	PN	**Pn**	**13 16 34.9**	**+1.8**
ARK	**Arkit**	**2.34**	**8**	⇓*i*P	**Pn**	**13 16 37.4**	**+1.8**
	baz=9.0						
ARK				⇓*i*S	**Sb**	**13 17 07.9**	**-0.5**
	baz=9.0						
ARK	**Arkit**	**2.34**	**8**	*i* PN	**Pn**	**13 16 37.4**	**+1.8**
ARK				*i* S	**Sb**	**13 17 07.9**	**-0.5**
CHMG	**Chimgan**	**2.37**	**331**	P	**Pn**	**13 16 38.0**	**+2.0**
CHMG				S	**Sb**	**13 17 10.1**	**+1.0**
CHRV	**Charvak**	**2.47**	**332**	P	**Pn**	**13 16 39.4**	**+2.1**
CHRV				S	**Sb**	**13 17 12.8**	**+0.9**
TGS	**TashGRES**	**2.47**	**323**	P	**Pn**	**13 16 40.3**	**+3.0**
TGS				S	**Sb**	**13 17 14.4**	**+2.5**
YNGY	**Yangiyul**	**2.50**	**311**	P	**Pn**	**13 16 40.1**	**+2.4**
YNGY				S	**Sb**	**13 17 14.0**	**+1.2**
TAS	**Tashkent**	**2.50**	**318**	P	**Pn**	**13 16 40.1**	**+2.3**
TAS				S	**Sb**	**13 17 14.2**	**+1.2**
IUG	**Iuzhnay**	**2.89**	**338**	Pg	**Pb**	**13 16 50.1**	**+1.4**
	281nm,0.3s						
IUG				Lg	Lg	13 17 28.5	
	313nm,0.3s						
IUG	**Iuzhnay**	**2.89**	**338**	*e*P	**Pb**	**13 16 50.1**	**+1.4**
	281nm,0.3s						
IUG				*e*S	**Sb**	**13 17 28.5**	**+4.2**
	313nm,0.3s						
DZI	**Dzhizak**	**2.91**	**284**	P	**Pn**	**13 16 46.2**	**+2.8**
DZI				S	**Sb**	**13 17 25.4**	**+0.7**
KRSA	**Karasay**	**2.98**	**284**	P	**Pn**	**13 16 47.4**	**+3.1**
KRSA				S	**Sb**	**13 17 27.7**	**+1.2**
MNAS	**Manas**	**3.10**	**14**	⇓*e*P	**Pn**	**13 16 47.5**	**+1.4**
	baz=14						
MNAS				⇓*e*S	**Sn**	**13 17 26.1**	**+2.8**
	baz=14						
CHM	**Chimkent**	**3.19**	**334**	*e*P	**Pb**	**13 16 55.9**	**+2.3**
	368nm,0.3s						
CHM				*e*S	**Sg**	**13 17 38.0**	**-1.2**
	602nm,0.3s						
ARLS	**Aral**	**3.20**	**41**	⇓*e*P	**Pn**	**13 16 49.0**	**+1.5**
	baz=41						
ARLS				⇓*e*S	**Sn**	**13 17 28.3**	**+2.5**
	baz=41						
DZA	**Taraz**	**3.41**	**358**	Pg	**Pb**	**13 16 59.2**	**+1.7**
	106nm,0.1s						
DZA				Lg	Lg	13 17 44.1	
	454nm,0.3s						
DZA	**Taraz**	**3.41**	**358**	*e*P	**Pb**	**13 16 59.2**	**+1.7**
	106nm,0.1s						
DZA				*e*S	**Sg**	**13 17 44.1**	**-2.3**
	454nm,0.3s						
KSH	**Kashi**	**3.45**	**88**	Pn	**Pn**	**13 16 50.8**	**-0.1**
MRKS	**Merke**	**3.51**	**21**	Pg	**Pb**	**13 17 00.1**	**+0.9**
	21nm,0.3s						
MRKS				Lg	Lg	13 17 45.2	
	96nm,0.4s						
MRKS	**Merke**	**3.51**	**21**	*e*P	**Pb**	**13 17 00.1**	**+0.9**
	21nm,0.3s						
MRKS				*e*S	**Sb**	**13 17 45.2**	**+3.2**
	96nm,0.4s						
UCH	**Uchtor**	**3.57**	**39**	P	**Pb**	**13 16 58.3**	**-2.0**
	SNR=84						
UCH	**Uchtor**	**3.57**	**39**	⇓*i*P	**Pn**	**13 16 54.3**	**+1.5**
	baz=39						
UCH				⇓*i*S	**Sn**	**13 17 37.2**	**+1.9**
	baz=39						
UCH	**Uchtor**	**3.57**	**39**	*i* PN	**Pn**	**13 16 54.3**	**+1.5**
UCH				*i* S	**Sn**	**13 17 37.2**	**+1.9**
EKS2	**Erkin-Say**	**3.61**	**28**	P	**Pb**	**13 16 58.2**	**-2.7**
	SNR=8.4						
EKS2	**Erkin-Say**	**3.61**	**28**	⇑*e*P	**Pn**	**13 16 54.9**	**+1.8**
	baz=28						
EKS2				⇑*i*S	**Sn**	**13 17 38.2**	**+2.3**
	baz=28						
EKS2	**Erkin-Say**	**3.61**	**28**	*e*PN	**Pn**	**13 16 54.9**	**+1.8**
KK31	**Karatay Array**	**3.70**	**349**	⇓Pn	**Pn**	**13 16 56.1**	**+1.9**
	58nm,0.5s,baz=0.0,slow=0.1,SNR=419						
KK31				⇑Pg	**Pb**	**13 17 04.6**	**+2.3**
	59nm,0.5s,baz=174,slow=80,SNR=9.6						
KK31				⇑Sn	**Sn**	**13 17 38.4**	**+0.5**
	32nm,0.3s,baz=177,slow=24,SNR=3.7						
KK31				⇓Lg	Lg	13 17 51.4	
	56nm,0.5s,baz=162,slow=30,SNR=5.5						
KK31	**Karatay Array**	**3.70**	**349**	Pn	**Pn**	**13 16 55.9**	**+1.7**
KK31	**Karatay Array**	**3.70**	**349**	PN	**Pn**	**13 16 55.9**	**+1.7**
KKAR	**Karatay Array**	**3.70**	**349**	Pn	**Pn**	**13 16 55.7**	**+1.5**
KKAR	**Karatay Array**	**3.70**	**349**	⇓*i*P	**Pn**	**13 16 56.1**	**+1.9**
	baz=49						
KKAR				⇓*i*S	**Sn**	**13 17 40.2**	**+2.2**
	baz=49						
KKAR	**Karatay Array**	**3.70**	**349**	*e*PN	**Pn**	**13 16 56.1**	**+1.9**
BRLS	**Borolday**	**3.77**	**341**	Pg	**Pb**	**13 17 02.5**	**-1.0**
	15nm,0.2s						
BRLS				Lg	Lg	13 17 50.0	
	72nm,0.4s						
BRLS	**Borolday**	**3.77**	**341**	*e*P	**Pb**	**13 17 02.5**	**-1.0**
	15nm,0.2s						
BRLS				*e*S	**Sb**	**13 17 50.0**	**+0.7**
	72nm,0.4s						
AAK	**Ala-Archa**	**3.88**	**35**	P	**Pn**	**13 17 01.5**	**+4.8**
	SNR=23						
AAK	**Ala-Archa**	**3.88**	**35**	⇓Pn	**Pn**	**13 17 00.2**	**+3.4**
	13nm,0.3s						
AAK				⇑Lg	Lg	13 17 57.8	
	42nm,0.5s						
AAK	**Ala-Archa**	**3.88**	**35**	Pn	**Pn**	**13 17 00.2**	**+3.4**
AAK	**Ala-Archa**	**3.88**	**35**	Pn	**Pn**	**13 16 59.5**	**+2.7**
	13nm,0.3s,baz=199,slow=4.4,SNR=70						
AAK				Sn	**Sn**	**13 17 44.9**	**+2.3**
	6.6nm,0.3s,baz=308,slow=21,SNR=4.9						
AAK				Lg	Lg	13 17 58.6	
	8.5nm,0.3s,baz=7.2,slow=22,SNR=7.8						
	27nm,0.3s						
AAK	**Ala-Archa**	**3.88**	**35**	⇓*i*P	**Pn**	**13 16 58.3**	**+1.5**
	baz=35						
AAK				⇓*i*S	**Sn**	**13 17 44.5**	**+1.9**
	baz=35						
AAK	**Ala-Archa**	**3.88**	**35**	⇑*e*PN	**Pn**	**13 17 00.3**	**+3.5**
KBK	**Karagaybulak**	**4.10**	**38**	P	**Pn**	**13 17 04.2**	**+4.4**
	SNR=15						
KBK	**Karagaybulak**	**4.10**	**38**	⇑*i*P	**Pn**	**13 17 01.6**	**+1.7**
	baz=38						
KBK				⇑*i*S	**Sn**	**13 17 49.7**	**+1.6**
	baz=38						
KBK	**Karagaybulak**	**4.10**	**38**	*e*PN	**Pn**	**13 17 01.6**	**+1.7**
CHMS	**Chumysh**	**4.28**	**34**	P	**Pn**	**13 17 05.9**	**+3.7**
	SNR=12						
CHMS	**Chumysh**	**4.28**	**34**	⇑*i*P	**Pn**	**13 17 03.8**	**+1.6**
	baz=34						
CHMS				⇑*i*S	**Sn**	**13 17 53.9**	**+1.6**
	baz=34						
CHMS	**Chumysh**	**4.28**	**34**	*e*PN	**Pn**	**13 17 03.8**	**+1.6**
USP	**Ospenovka**	**4.40**	**30**	P	**Pn**	**13 17 06.9**	**+3.0**
	SNR=35						
USP	**Ospenovka**	**4.40**	**30**	⇓*i*P	**Pn**	**13 17 05.6**	**+1.7**
	baz=30						
USP				⇓*i*S	**Sn**	**13 17 57.0**	**+1.7**
	baz=30						
USP	**Ospenovka**	**4.40**	**30**	*i* PN	**Pn**	**13 17 05.6**	**+1.7**
USP				*i* S	**Sn**	**13 17 57.0**	**+1.7**
BOOM	**Boomskoye usch**	**4.50**	**47**	Pn	**Pn**	**13 17 09.4**	**+4.0**
BOOM	**Boomskoye usch**	**4.50**	**47**	⇑*i*P	**Pn**	**13 17 06.9**	**+1.5**
	baz=46						
BOOM				⇑*i*S	**Sn**	**13 17 59.3**	**+1.3**
	baz=46						
BOOM	**Boomskoye usch**	**4.50**	**47**	PN	**Pn**	**13 17 09.4**	**+4.0**
ULHL	**Ulahol**	**4.53**	**51**	⇓*e*P	**Pn**	**13 17 07.3**	**+1.5**
	baz=51						
ULHL				⇓*i*S	**Sn**	**13 17 59.6**	**+1.0**
	baz=51						
ULHL	**Ulahol**	**4.53**	**51**	*e*PN	**Pn**	**13 17 07.3**	**+1.5**
ULHL				*i* S	**Sn**	**13 17 59.6**	**+1.0**
SGDS	**Sogindy**	**4.61**	**30**	Pg	**Pb**	**13 17 20.3**	**+2.4**
	7.2nm,0.3s						
SGDS				Lg	Lg	13 18 21.0	
	36nm,0.7s						
TKM2	**Tokmak 2**	**4.62**	**41**	P	**Pn**	**13 17 10.3**	**+3.4**
	SNR=22						
TKM2	**Tokmak 2**	**4.62**	**41**	⇑Pn	**Pn**	**13 17 09.7**	**+2.7**
	15nm,0.6s						
TKM2				⇑Lg	Lg	13 18 22.6	
	29nm,0.7s						
TKM2	**Tokmak 2**	**4.62**	**41**	PN	**Pn**	**13 17 09.7**	**+2.7**
KST	**Kastek**	**4.89**	**42**	Pg	**Pg**	**13 17 27.9**	**-2.6**
	4.3nm,0.3s						
KST				Lg	Lg	13 18 33.2	
	39nm,0.5s						
KST	**Kastek**	**4.89**	**42**	*e*P	**Pb**	**13 17 26.6**	**+3.8**
	6.0nm,0.4s						
KST				*e*S	**Sg**	**13 18 30.3**	**-3.6**
	18nm,0.4s						
DGS	**Degeres**	**4.94**	**39**	Pg	**Pb**	**13 17 27.2**	**+3.7**
	7.9nm,0.5s						
DGS				Lg	Lg	13 18 32.3	
	25nm,0.5s						
DGS	**Degeres**	**4.94**	**39**	*e*P	**Pb**	**13 17 27.2**	**+3.7**
	7.9nm,0.5s						
DGS				*e*S	**Sg**	**13 18 32.3**	**-3.1**
	25nm,0.5s						
IZV	**Izvestkoviy**	**5.23**	**46**	Pg	**Pg**	**13 17 34.5**	**-2.6**
	3.7nm,0.4s						
IZV				Lg	Lg	13 18 44.6	
	15nm,0.6s						
IZV	**Izvestkoviy**	**5.23**	**46**	*e*P	**Pg**	**13 17 33.5**	**-3.5**
	1.4nm,0.3s						
IZV				*e*S	**Sg**	**13 18 42.3**	**-2.5**
	15nm,0.5s						
KBL	**Kabul**	**5.31**	**203**	Pn	**Pn**	**13 17 19.5**	**+3.0**
KBL	**Kabul**	**5.31**	**203**	PN	**Pn**	**13 17 19.5**	**+3.0**
TNSS	**Tian-Shan**	**5.42**	**47**	Pg	**Pb**	**13 17 36.1**	**+4.2**
	3.1nm,0.6s						
TNSS				Lg	Lg	13 18 47.0	
	4.9nm,0.9s						
TNSS	**Tian-Shan**	**5.42**	**47**	*e*P	**Pb**	**13 17 36.1**	**+4.2**
	3.1nm,0.6s						
TNSS				*e*S	**Sg**	**13 18 47.0**	**-3.9**
	4.9nm,0.9s						
MDOK	**Medeo**	**5.56**	**47**	⇑Pn	**Pn**	**13 17 23.8**	**+3.9**
	6.5nm,0.5s						
MDOK				Pg	**Pb**	**13 17 38.9**	**+4.8**
	4.1nm,0.4s						
MDOK				⇑Lg	Lg	13 18 51.2	
	21nm,0.8s						
MDOK				Lg	Lg	13 18 51.8	
	12nm,0.7s						
MDOK	**Medeo**	**5.56**	**47**	*e*P	**Pb**	**13 17 38.9**	**+4.8**
	4.1nm,0.4s						
MDOK				*e*S	**Sg**	**13 18 51.8**	**-3.5**
	12nm,0.7s						
KOTS	**Kotyrbulak**	**5.64**	**46**	Pg	**Pg**	**13 17 40.7**	**-4.1**
	4.7nm,0.3s						
KOTS				Lg	Lg	13 18 55.1	
	54nm,0.8s						
KOTS	**Kotyrbulak**	**5.64**	**46**	*e*P	**Pg**	**13 17 40.7**	**-4.1**
	4.7nm,0.3s						
KOTS				*e*S	**Sg**	**13 18 55.1**	**-2.7**
	54nm,0.8s						
KUU	**Kurty**	**5.70**	**38**	Pg	**Pb**	**13 17 40.7**	**+4.2**
	3.0nm,0.0s						
KUU				Lg	Lg	13 18 54.9	
	3.1nm,0.1s						
KUU	**Kurty**	**5.70**	**38**	*e*P	**Pb**	**13 17 40.7**	**+4.2**
	3.0nm,0.0s						
KUU				*e*S	**Sg**	**13 18 54.9**	**-4.9**
	3.1nm,0.1s						
KTBS	**Karatobe**	**5.74**	**41**	Pg	**Pb**	**13 17 41.7**	**+4.6**
	2.8nm,0.3s						
KTBS				Lg	Lg	13 18 56.7	
	30nm,0.5s						
KTBS	**Karatobe**	**5.74**	**41**	*e*P	**Pb**	**13 17 41.7**	**+4.6**
	2.8nm,0.3s						
KTBS				*e*S	**Sg**	**13 18 56.7**	**-4.2**
	30nm,0.5s						
BTLS	**Baital**	**5.87**	**18**	Pg	**Pg**	**13 17 46.6**	**-2.6**
	5.0nm,0.5s						
BTLS				Lg	Lg	13 19 05.1	
	19nm,0.5s						
BTLS	**Baital**	**5.87**	**18**	*e*P	Pb	13 17 44.8	+5.5
	3.9nm,0.5s						
BTLS				*e*S	**Sg**	**13 19 01.9**	**-3.3**
	20nm,0.4s						
NIL	**Nilore**	**5.98**	**166**	Pn	**Pn**	**13 17 28.9**	**+3.3**
NIL	**Nilore**	**5.98**	**166**	PN	**Pn**	**13 17 28.9**	**+3.3**
CHKK	**Chushkaly**	**5.99**	**41**	Pg	**Pb**	**13 17 45.8**	**+4.4**
	2.1nm,0.4s						
CHKK				Lg	Lg	13 19 04.2	
	14nm,0.5s						
CHKK	**Chushkaly**	**5.99**	**41**	*e*P	**Pb**	**13 17 46.2**	**+4.8**
	2.0nm,0.2s						
CHKK				*e*S	**Sg**	**13 19 03.8**	**-5.3**
	18nm,0.5s						
SATY	**Saty**	**6.30**	**53**	Pg	**Pg**	**13 17 53.1**	**-4.5**
	4.8nm,0.4s						
SATY				Lg	Lg	13 19 16.1	
	12nm,0.5s						
SATY	**Saty**	**6.30**	**53**	*e*P	**Pg**	**13 17 53.1**	**-4.5**
	4.8nm,0.4s						
SATY				*e*S	**Sg**	**13 19 16.1**	**-3.1**
	12nm,0.5s						
DZN	**Dzhankel'dy**	**6.41**	**285**	P	Pn	13 17 36.3	+4.9
DZN				S	**Sg**	**13 19 30.9**	**+8.4**
BLB	**Baldybastay**	**6.95**	**46**	Pg	Pb	13 18 03.3	+5.5
BLB				Lg	Lg	13 19 35.3	
THN	**Thein Dam**	**7.81**	**153**	*e*P	**Pn**	**13 17 53.5**	**+2.9**
THN				*e*S	**Sn**	**13 19 20.1**	**+0.9**
DHRM	**DHARAMSHALA**	**8.19**	**150**	*e*P	**Pn**	**13 17 58.1**	**+2.0**
DHRM				*e*S	**Sn**	**13 19 26.9**	**-2.0**
DHRM				IAML		13 19 38.4	
	comp=E,68nm,0.5s						
DHRM				IAML		13 19 39.5	
	comp=N,45nm,0.4s						
BHK	**Bhakra**	**8.98**	**152**	*e*S	**Sn**	**13 19 50.5**	**+2.5**
BHK				*ex*	Pg	13 18 42.4	-6.4
GEYT	**Alibeck**	**10.59**	**266**	Pn	**Pn**	**13 18 26.9**	**-1.8**
GEYT	**Alibeck**	**10.59**	**266**	Pn	**Pn**	**13 18 27.5**	**-1.2**
	comp=N,0.5nm,0.3s,baz=81,slow=12,SNR=3.0						
GEYT				Sn	**Sn**	**13 20 24.2**	**-3.2**
	comp=N,0.8nm,0.3s,baz=72,slow=20,SNR=2.6						
	comp=N,1.2nm,0.5s						
MK31	**Makanchi Array**	**10.74**	**44**	⇓*e*P	**Pn**	**13 18 35.1**	**+4.3**
MKAR	**Makanchi Array**	**10.74**	**44**	Pn	**Pn**	**13 18 33.5**	**+2.7**
	comp=N,0.1nm,0.3s,baz=230,slow=14,SNR=11						
MKAR				Lg	Lg	13 21 34.5	
	comp=N,0.1nm,0.3s,baz=239,slow=28,SNR=3.1						
	comp=N,1.3nm,0.7s						
KURBB	**Kurchatov Arra**	**12.19**	**

FINES FINESS Array B 35.28 324 P **P** 13 22 51.9 +0.2
comp=Z,1.3nm,0.4s,baz=114,slow=8.4,SNR=11
comp=Z,1.3nm,0.4s
FINES FINESS Array B 35.28 324 *i* P **P** 13 22 52.2 +0.6
FINES pmax pmax
comp=Z,1.0nm,0.4s
ARCES ARCESS Array B 38.57 336 P **P** 13 23 20.1 +0.6
ARCES IAmb IAmb 13 23 45.3
comp=Z,16nm,1.4s
ARCES ARCESS Array B 38.57 336 P **P** 13 23 20.3 +0.8
comp=Z,1.3nm,0.4s,baz=107,slow=7.7,SNR=14
comp=Z,1.3nm,0.4s
ARCES ARCESS Array B 38.57 336 P **P** 13 23 20.1 +0.6
ARCES pmax pmax
comp=Z,16nm,1.4s
HFS Hagfors 41.02 320 P **P** 13 23 40.1 +0.1
comp=Z,1.9nm,0.5s,baz=97,slow=12,SNR=12
comp=Z,1.9nm,0.5s
CLL Collm 41.70 306 *e*P **P** 13 23 46.0 +0.3
comp=Z,3.0nm,0.7s
CLL *e*PP **PP** 13 25 22.0 +0.2
CLL Collm 41.70 306 *e*P **P** 13 23 46.0 +0.3
CLL pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 42.28 321 P **P** 13 23 50.1 -0.3
comp=Z,0.4nm,0.5s,baz=92,slow=7.9,SNR=2.9
comp=Z,0.4nm,0.5s
TIXI Tiksi 42.87 23 P **P** 13 23 55.4 +0.4
TIXI IAmb IAmb 13 24 00.4
comp=Z,4.9nm,0.8s
TIXI Tiksi 42.87 23 *e*P **P** 13 23 55.5 +0.5
TIXI pmax pmax
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 56.47 296 P **P** 13 25 38.5 -0.6
comp=Z,0.5nm,0.7s,baz=57,slow=6.2,SNR=2.8
comp=Z,0.5nm,0.7s
B21K Ikpikpuk River 66.09 16 P **P** 13 26 44.3 +0.6
D19K Kuna River 66.19 18 P **P** 13 26 44.5 +0.1
D19K IAmb IAmb 13 27 05.0
comp=Z,4.6nm,1.4s
TOA0 Torodi Ar. Sit 66.22 268 P **P** 13 26 44.0 -1.4
TORD Torodi Ar. Bea 66.22 268 P **P** 13 26 44.0 -1.4
TORD IAmb IAmb 13 26 46.3
comp=Z,2.1nm,1.2s
TORD Torodi Ar. Bea 66.22 268 P **P** 13 26 44.0 -1.4
comp=Z,1.2nm,0.5s,baz=49,slow=5.8,SNR=9.6
comp=Z,1.2nm,0.5s
C23K Itkillik River 66.74 15 P **P** 13 26 48.9 +1.0
C23K IAmb IAmb 13 26 55.5
comp=Z,1.8nm,1.0s
TOLK Toolik Lake Re 67.94 15 P **P** 13 26 56.1 +0.5
TOLK IAmb IAmb 13 27 00.8
comp=Z,2.1nm,0.8s
A36M Sachs Harbour 68.21 6 P **P** 13 26 57.4 +0.3
A36M IAmb IAmb 13 27 02.6
comp=Z,3.2nm,0.8s
E24K Your Creek 68.64 15 P **P** 13 27 00.5 +0.5
E24K IAmb IAmb 13 27 00.9
comp=Z,4.3nm,1.5s
C36M Paulatuk 70.88 6 P **P** 13 27 13.4 -0.2
C36M IAmb IAmb 13 27 18.1
comp=Z,2.3nm,0.8s
ILAR Eielson Array 71.81 16 P **P** 13 27 18.9 -0.4
comp=Z,0.4nm,0.8s,baz=322,slow=4.3,SNR=2.1
comp=Z,0.4nm,0.8s
ILAR Eielson Array 71.81 16 P **P** 13 27 19.0 -0.4
BCAR Beaver Creek A 74.39 15 P **P** 13 27 35.4 +0.7
YKA Yellowknife Ar 78.26 3 P **P** 13 27 56.0 -0.6
comp=Z,0.4nm,0.6s,baz=354,slow=6.6,SNR=8.5
comp=Z,0.4nm,0.6s
YKA Yellowknife Ar 78.26 3 *i* P **P** 13 27 56.5 -0.1
WRA Warramunga Arr 83.23 123 P **P** 13 28 20.1 -3.7
comp=Z,0.8nm,0.5s,baz=330,slow=4.8,SNR=5.2
comp=Z,0.8nm,0.5s
ASAR Alice Springs 85.63 125 P **P** 13 28 34.7 -1.2
comp=Z,0.5nm,0.7s,baz=304,slow=4.4,SNR=4.5
comp=Z,0.5nm,0.7s

NEIC ***15*** *13:40:21.2±0.4,36.06N±0.01×97.58W±0.01,h4km±5km, Error ellipse: s-maj=2.2km s-min=1.1km az=202.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-0.12; $M_{\theta\theta}$1.43; $M_{\phi\phi}$-1.31; $M_{r\theta}$-0.08; $M_{\theta\phi}$-0.47; $M_{\phi r}$-0.04; Fault plane solution: $M_0$1.46000×10^{15} NP1: ϕ_s234.44000°,δ89.92000°,λ176.70000°. NP2: ϕ_s324.45000°,δ86.70000°,λ0.08000°. Principal axes: T 1.5149, Plg2.0000°, Azm189.0000°; N -0.1197, Plg87.0000°, Azm53.0000°; P -1.3951, Plg2.0000°, Azm279.0000°;*

IDC ***15*** *13:40:21.2±0.8,36.11N×97.66W,h0km,mb3.8/4, mbtmp3.8/12,ML3.4/7,MS3.4/42 Error ellipse: s-maj=12.6km s-min=11.6km az=128.0*

NEIC ***15*** *13:40:21.5,36.07N×97.56W,h6km*

TUL ***15*** *13:40:21.5±0.4,36.07N±0.02×97.56W±0.02,h6km±4km, ML4.0,mb3.9/19(NEIC),mb_Lg4.3/159(NEIC), ML4.3/76(NEIC),Mwr4.0/92(NEIC),Error ellipse: s-maj=2.2km s-min=1.9km az=190.0*

ISC 15 13:40:20.7±0.5,36.06N±0.02×97.56W±0.02,h10km,n276,
σ1s17/247,mb4.1/7,MS3.5/32,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.28**	**161**		**Pb**	**13 40 27.5**	**-0.2**
OK029				Sg	**Sb**	**13 40 31.5**	**-1.0**
OK029				IAML		13 40 32.5	
	28μm,0.4s						
OK029				IAML		13 40 32.5	
	46μm,0.4s						
ADOK	**Arcadia Dam**	**0.43**	**159**		**Pb**	**13 40 30.4**	**0.0**
OK033	**Mehan**	**0.51**	**91**		**Pb**	**13 40 31.6**	**-0.1**
OK033				IAML		13 40 39.1	
	17μm,0.4s						
CROK	**Carrier**	**0.56**	**323**	Pg	**Pb**	**13 40 32.3**	**-0.3**
CROK				IAML		13 40 44.6	
	comp=E,17μm,0.7s						
CROK				IAML		13 40 46.7	
	comp=N,18μm,0.4s						
OK031	**S. Brethren Rd**	**0.60**	**100**		**Pb**	**13 40 33.2**	**0.0**
OK048	**Pawnee Station**	**0.61**	**54**	Pg	**Pb**	**13 40 33.3**	**-0.2**
OK048				IAML		13 40 42.0	
	comp=N,11μm,0.6s						
OK052	**Battle Ridge R**	**0.62**	**96**		**Pb**	**13 40 33.6**	**0.0**
OKCSW	**OKLAHOMA CITY**	**0.66**	**171**		**Pb**	**13 40 34.4**	**+0.1**
QUOK	**Quay**	**0.70**	**80**		**Pb**	**13 40 35.0**	**0.0**
QUOK				IAML		13 40 45.0	
	comp=N,16μm,0.6s						
OK051	**E0350 and S346**	**0.74**	**53**		**Pb**	**13 40 35.6**	**0.0**
OK051				IAML		13 40 54.1	
	comp=N,11μm,0.2s						
OK051				IAML		13 41 01.1	
	comp=N,10μm,0.2s						
BLOK	**Blackwell**	**0.76**	**22**	Pg	**Pb**	**13 40 35.8**	**-0.1**
BLOK				IAML		13 40 56.7	
	comp=E,13μm,0.2s						
BLOK				IAML		13 40 57.3	
	comp=N,14μm,0.2s						
FNO	**Franklin**	**0.81**	**171**		**Pb**	**13 40 37.1**	**+0.2**
GC02	**Grant County #**	**0.83**	**343**		**Pb**	**13 40 36.9**	**-0.3**
DEOK	**Depew**	**0.89**	**104**	Pg	**Pb**	**13 40 38.3**	**0.0**
OK032	**Salt Plains WL**	**0.91**	**325**		**Pb**	**13 40 38.5**	**-0.1**
OK032				IAML		13 40 53.6	
	comp=N,13μm,0.2s						
KAN14	**Manchester OK**	**0.95**	**340**		**Pg**	**13 40 39.1**	**+0.1**
KAN14				IAML		13 40 53.4	
	comp=N,9μm,0.1s						
KAN13	**South Haven SW**	**0.95**	**4**		**Pb**	**13 40 39.4**	**0.0**
KAN13				IAML		13 41 00.7	
	comp=N,12μm,0.2s						
KAN13				IAML		13 41 02.3	
	comp=E,11μm,0.3s						
KAN17	**Caldwell West**	**1.00**	**351**		**Pb**	**13 40 40.1**	**0.0**
KAN17				IAML		13 40 56.8	
	comp=E,11μm,0.2s						
KAN17				IAML		13 41 00.0	
	comp=N,10μm,0.3s						
CSTR	**Hydro, Custer**	**1.00**	**246**		**Pn**	**13 40 40.4**	**-0.4**
OK038	**West end E0370**	**1.04**	**294**		**Pb**	**13 40 40.7**	**-0.1**
KAN09	**Caldwell North**	**1.08**	**358**		**Pb**	**13 40 41.5**	**+0.1**
KAN05	**Bluff City Nor**	**1.08**	**347**		**Pg**	**13 40 41.3**	**-0.1**
KAN01	**Argonia South**	**1.10**	**352**		**Pg**	**13 40 42.0**	**0.0**
KAN01				IAML		13 40 58.9	
	comp=N,4μm,0.1s						
KAN01				IAML		13 40 59.2	
	comp=E,5μm,0.5s						
OK035	**E0210 Rd and N**	**1.13**	**305**		**Pg**	**13 40 42.3**	**-0.1**
KAN10	**Anthony SW Sta**	**1.15**	**338**		**Pb**	**13 40 42.6**	**0.0**
KAN10				IAML		13 41 00.5	
	comp=E,5μm,0.2s						
T35A	**Sooner Cattle**	**1.21**	**44**		**Pg**	**13 40 43.9**	**+0.1**
U32A	**Winter Ranch,**	**1.21**	**286**		**Pg**	**13 40 43.7**	**-0.2**
U32A				IAML		13 41 04.4	
	comp=E,5μm,0.7s						
U32A				IAML		13 41 20.8	
	comp=N,6μm,0.8s						
KAN06	**Argonia West S**	**1.21**	**349**		**Pb**	**13 40 43.8**	**+0.1**
KAN06				IAML		13 41 04.7	
	comp=N,7μm,0.3s						
KAN08	**Anthony NE Sta**	**1.21**	**344**		**Pb**	**13 40 43.8**	**+0.1**
KAN08				IAML		13 41 01.0	
	comp=E,8μm,0.8s						
KAN08				IAML		13 41 04.0	
	comp=N,5μm,0.4s						
KAN12	**Harper NE Stat**	**1.28**	**344**		**Pb**	**13 40 45.1**	**+0.2**
TUL3	**Leonard**	**1.44**	**95**		**Pb**	**13 40 47.5**	**-0.2**
TUL3				IAmb_Lg		13 41 09.0	
	comp=Z,1μm,1.1s						
TUL3	**Leonard**	**1.44**	**95**	P	**Pb**	**13 40 47.6**	**-0.1**
	baz=277,SNR=292						
TUL3				S	**Sg**	**13 41 07.6**	**+0.4**
	baz=277						
ELIS	**Ellis County**	**1.50**	**271**	Pg	**Pb**	**13 40 48.8**	**+0.1**
WMOK	**Wichita Mounta**	**1.65**	**217**		**Pb**	**13 40 51.1**	**-0.1**
WMOK				IAmb_Lg		13 41 17.5	
	comp=Z,1μm,0.8s						
WMOK	**Wichita Mounta**	**1.65**	**217**	P	**Pb**	**13 40 51.0**	**-0.1**
	baz=36,SNR=1000						
WMOK				S	**Sg**	**13 41 13.0**	**-0.8**
	baz=36						
RLO	**Rose Lookout**	**2.06**	**86**		**Pn**	**13 40 56.8**	**+1.4**
LOOK	**Love County**	**2.08**	**171**		**Pb**	**13 40 57.5**	**-1.1**
LOOK				IAmb_Lg		13 41 30.3	
	comp=Z,2μm,1.1s						
X37A	**Clayton**	**2.31**	**129**	IAmb_Lg		13 41 38.9	
	comp=Z,1μm,1.0s						
SMWD	**Samnorwood**	**2.38**	**247**		**Pb**	**13 41 01.8**	**-1.9**
SMWD				IAmb_Lg		13 41 42.9	
	comp=Z,1μm,0.9s						
WTFS	**Witchita Falls**	**2.40**	**198**		**Pb**	**13 41 02.2**	**-1.8**
R32A	**Long Quarter,**	**2.53**	**339**		**Pn**	**13 41 02.5**	**+0.6**
U38A	**Gravette**	**2.60**	**81**		**Pn**	**13 41 03.4**	**+0.6**
Z35A	**Perchaven, San**	**2.73**	**175**		**Pn**	**13 41 05.8**	**+1.2**
HHAR	**Hobbs**	**2.94**	**85**		**Pn**	**13 41 08.7**	**+1.2**
KSU1	**Kansas State U**	**3.13**	**14**		**Pn**	**13 41 11.1**	**+1.0**
KSU1	**Kansas State U**	**3.13**	**14**	P	**Pn**	**13 41 11.4**	**+1.3**
	baz=194,SNR=28						
CBKS	**Cedar Bluff**	**3.25**	**328**		**Pn**	**13 41 13.2**	**+1.4**
CBKS	**Cedar Bluff**	**3.25**	**328**	P	**Pn**	**13 41 13.4**	**+1.6**
	baz=147,SNR=20						
CBKS				S	**Sn**	**13 41 51.2**	**+0.6**
	baz=147						
PLPT	**Palo Pinto**	**3.30**	**191**		**Pn**	**13 41 13.7**	**+1.3**
FW07	**Weatherford**	**3.35**	**183**		**Pn**	**13 41 13.8**	**+0.7**
APMT	**Aspermont**	**3.45**	**218**		**Pn**	**13 41 14.5**	**+0.1**
APMT				IAmb_Lg		13 42 15.9	
	comp=Z,530nm,0.8s						
Z38A	**Mt. Pleasant**	**3.51**	**142**		**Pn**	**13 41 16.0**	**+0.8**
Z38A				IAmb_Lg		13 42 22.9	
	comp=Z,1μm,0.7s						
TREL	**Terrell**	**3.54**	**159**		**Pn**	**13 41 15.7**	**+0.1**
TREL				IAmb_Lg		13 42 20.4	
	comp=Z,616nm,0.8s						
AMTX	**Amarillo**	**3.56**	**252**	IAmb_Lg		13 42 22.9	
	comp=Z,1μm,0.7s						
AMTX	**Amarillo**	**3.56**	**252**	P	**Pn**	**13 41 17.9**	**+1.9**
	baz=69						
MIAR	**Mount Ida**	**3.59**	**114**		**Pn**	**13 41 17.9**	**+1.4**
MIAR				IAmb_Lg		13 42 24.0	
	comp=Z,550nm,0.9s						
MIAR	**Mount Ida**	**3.59**	**114**	P	**Pn**	**13 41 18.2**	**+1.8**
	baz=296,SNR=94						
MIAR				S	**Sn**	**13 42 00.9**	**+2.0**
	baz=296						
FW16	**Waxahatchie**	**3.61**	**171**	IAmb_Lg		13 42 22.3	
	comp=Z,582nm,1.0s						
DKNS	**Dickens**	**3.65**	**230**		**Pn**	**13 41 18.0**	**+0.7**
DKNS				IAmb_Lg		13 42 20.5	
	comp=Z,952nm,1.0s						
FW14	**Alvarado**	**3.66**	**175**	Pn	**Pn**	**13 41 18.9**	**+1.5**
FW13	**Cleburne**	**3.70**	**178**		**Pn**	**13 41 18.6**	**+0.7**
S39A	**Bolivar**	**3.77**	**63**		**Pn**	**13 41 19.7**	**+0.8**
S39A				IAmb_Lg		13 42 20.1	
	comp=Z,810nm,0.7s						
ABTX	**Abilene, Hawle**	**3.83**	**207**		**Pn**	**13 41 21.3**	**+1.5**
ABTX				IAmb_Lg		13 42 28.2	
	comp=Z,747nm,0.9s						
ABTX	**Abilene, Hawle**	**3.83**	**207**	P	**Pn**	**13 41 20.9**	**+1.1**
	baz=26,SNR=89						
ABTX				S	**Sn**	**13 42 06.6**	**+1.7**
	baz=26						
WHTX	**Lake Whitney,**	**4.06**	**179**		**Pn**	**13 41 23.7**	**+0.9**
WHTX	**Lake Whitney,**	**4.06**	**179**	P	**Pn**	**13 41 24.6**	**+1.7**
	baz=359,SNR=9.4						
WHTX				S	**Sn**	**13 42 10.9**	**+0.5**
	baz=359						
X40A	**Basin Creek Fa**	**4.17**	**111**		**Pn**	**13 41 25.6**	**+1.2**
X40A				IAmb_Lg		13 42 38.0	
	comp=Z,434nm,0.8s						
SN05	**Snyder 5**	**4.19**	**222**	Pn	**Pn**	**13 41 24.4**	**-0.3**
SN05				IAmb_Lg		13 42 44.5	
	comp=Z,922nm,0.7s						
RTBA	**Rita Blanca**	**4.20**	**277**		**Pn**	**13 41 26.1**	**+1.2**
237A	**Washetta, Mont**	**4.30**	**160**		**Pn**	**13 41 26.5**	**+0.4**
237A				IAmb_Lg		13 42 39.0	
	comp=Z,510nm,0.7s						
WLAR	**White Oak Lake**	**4.36**	**122**		**Pn**	**13 41 27.6**	**+0.7**
WLAR				IAmb_Lg		13 42 47.7	
	comp=Z,597nm,0.9s						
WHAR	**Wooly Hollow**	**4.36**	**99**		**Pn**	**13 41 27.8**	**+0.8**
WHAR				IAmb_Lg		13 42 41.4	
	comp=Z,661nm,0.9s						
MGMO	**Mountain Grove**	**4.40**	**74**		**Pn**	**13 41 28.3**	**+0.7**
MGMO				IAmb_Lg		13 42 43.1	
	comp=Z,820nm,0.7s						
POST	**Post**	**4.41**	**229**		**Pn**	**13 41 28.7**	**+0.9**
POST				IAmb_Lg		13 42 46.7	
	comp=Z,774nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.42**	**91**		**Pn**	**13 41 28.2**	**+0.5**
FCAR				IAmb_Lg		13 42 43.0	
	comp=Z,602nm,0.8s						
UALR	**University of**	**4.45**	**105**		**Pn**	**13 41 29.2**	**+1.0**
UALR				IAmb_Lg		13 42 47.3	
	comp=Z,409nm,1.1s						
MSTX	**Muleshoe**	**4.75**	**246**		**Pn**	**13 41 33.6**	**+1.1**
MSTX				IAmb_Lg		13 42 59.8	
	comp=Z,435nm,0.8s						
MSTX	**Muleshoe**	**4.75**	**246**	P	**Pn**	**13 41 33.8**	**+1.3**
	baz=62,SNR=7.1						
MSTX				S	**Sn**	**13 42 26.8**	**-0.9**
	baz=62						
R40A	**Maddies Statio**	**4.78**	**61**		**Pn**	**13 41 33.8**	**+1.1**
P38A	**Dawn**	**4.78**	**41**		**Pn**	**13 41 33.5**	**+0.8**
P38A				IAmb_Lg		13 43 03.2	
	comp=Z,448nm,0.8s						
Z41A	**Richland Creek**	**4.82**	**124**	IAmb_Lg		13 43 07.4	
	comp=Z,592nm,0.9s						
BRDY	**Brady**	**4.91**	**195**		**Pn**	**13 41 35.1**	**+0.6**
BRDY				IAmb_Lg		13 43 05.6	
	comp=Z,488nm,0.9s						
NATX	**Nacogdoches**	**4.92**	**150**	IAmb_Lg		13 43 10.1	
	comp=Z,444nm,1.0s						
NATX	**Nacogdoches**	**4.92**	**150**	S	**Sn**	**13 42 31.9**	**+0.3**
	baz=332						
KSCO	**Kaye Shedlock'**	**4.99**	**308**		**Pn**	**13 41 36.7**	**+1.0**
KSCO				IAmb_Lg		13 43 08.3	
	comp=Z,531nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.99**	**308**	P	**Pn**	**13 41 37.0**	**+1.2**
	baz=125,SNR=5.9						
KSCO				S	**Sn**	**13 42 34.5**	**+0.9**
	baz=125						
N35A	**Tabor**	**5.03**	**17**		**Pn**	**13 41 37.2**	**+1.0**
SGCY	**Sterling City**	**5.08**	**217**		**Pn**	**13 41 37.5**	**+0.5**
SGCY				IAmb_Lg		13 43 12.6	
	comp=Z,760nm,0.7s						
LCAR	**Lake Charles**	**5.19**	**88**		**Pn**	**13 41 38.7**	**+0.3**
LCAR				IAmb_Lg		13 43 03.9	
	comp=Z,318nm,1.0s						
CCAR	**Cane Creek**	**5.21**	**113**	Pn	**Pn**	**13 41 39.7**	**+1.0**
CCAR				IAmb_Lg		13 43 19.9	
	comp=Z,489nm,0.9s						
435B	**Jarrell**	**5.26**	**180**		**Pn**	**13 41 40.1**	**+0.7**
435B				IAmb_Lg		13 43 15.3	
	comp=Z,689nm,0.9s						
435B	**Jarrell**	**5.26**	**180**	P	**Pn**	**13 41 40.5**	**+1.1**
	baz=0.2						
435B				S	**Sn**	**13 42 41.0**	**+0.9**
	baz=0.2						
BGNE	**Belgrade**	**5.36**	**355**		**Pn**	**13 41 41.1**	**+0.3**
BGNE				IAmb_Lg		13 43 25.4	
	comp=Z,727nm,0.8s						
BGNE	**Belgrade**	**5.36**	**355**	P	**Pn**	**13 41 41.1**	**+0.3**
	baz=175,SNR=9.2						
BGNE				S	**Sn**	**13 42 41.7**	**-0.9**
	baz=175						
CCM	**Cathedral Cave**	**5.43**	**67**		**Pn**	**13 41 42.2**	**+0.5**
CCM				IAmb_Lg		13 43 20.6	
	comp=Z,676nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**67**	P	**Pn**	**13 41 41.9**	**+0.2**
	baz=250						
CCM				S	**Sn**	**13 42 43.4**	**-0.9**
	baz=250						
P40A	**Paris**	**5.58**	**50**		**Pn**	**13 41 44.4**	**+0.7**
T25A	**Trinidad**	**5.61**	**283**		**Pn**	**13 41 45.0**	**+0.5**
T25A				IAmb_Lg		13 43 34.6	
	comp=Z,710nm,0.9s						
T25A	**Trinidad**	**5.61**	**283**	P	**Pn**	**13 41 44.8**	**+0.4**
	baz=99,SNR=28						
HBAR	**Harrisburg**	**5.63**	**93**	Pn	**Pn**	**13 41 45.3**	**+0.8**
PBMO	**Poplar Bluff**	**5.80**	**81**	Pn	**Pn**	**13 41 47.4**	**+0.6**
N38A	**Joes South For**	**5.82**	**34**		**Pn**	**13 41 47.4**	**+0.3**
N38A				IAmb_Lg		13 43 29.2	
	comp=Z,648nm,0.8s						
JCT	**Junction City**	**5.87**	**199**		**Pn**	**13 41 48.1**	**+0.3**
JCT	**Junction City**	**5.87**	**199**	P	**Pn**	**13 41 48.1**	**+0.3**
	baz=18,SNR=6.2						
JCT				S	**Sn**	**13 42 55.8**	**+0.6**
	baz=18						
OZNA	**Ozona**	**5.92**	**211**		**Pn**	**13 41 48.9**	**+0.3**
L34A	**Svendsen Farm,**	**5.97**	**9**		**Pn**	**13 41 49.4**	**+0.2**
OGNE	**Ogallala**	**6.01**	**326**		**Pn**	**13 41 50.2**	**+0.5**
OGNE				IAmb_Lg		13 43 39.1	
	comp=Z,676nm,0.7s						
OGNE	**Ogallala**	**6.01**	**326**	P	**Pn**	**13 41 51.4**	**+1.7**
	baz=143,SNR=11						
OGNE				S	**Sn**	**13 42 56.9**	**-1.7**
	baz=143						
FVM	**French Village**	**6.03**	**69**	Pn	**Pn**	**13 41 50.5**	**+0.6**
FVM				IAmb_Lg		13 43 35.1	
	comp=Z,574nm,0.8s						
143A	**Socs Landing,**	**6.09**	**122**	IAmb_Lg		13 43 50.4	
	comp=Z,277nm,0.9s						
MLDN	**Muldoon**	**6.27**	**176**		**Pn**	**13 41 53.8**	**+0.5**
MLDN				IAmb_Lg		13 43 46.3	
	comp=Z,266nm,0.8s						
MET	**Memphis--Engin**	**6.29**	**96**	IAmb_Lg		13 43 48.1	
	comp=Z,453nm,0.9s						
SLM	**Saint Louis**	**6.38**	**64**	IAmb_Lg		13 43 43.7	
	comp=Z,625nm,0.7s						
MNHN	**Monahans**	**6.39**	**224**		**Pn**	**13 41 55.0**	**0.0**
MNHN				IAmb_Lg		13 44 02.5	
	comp=Z,546nm,1.0s						
CGM3	**Cape Girardeau**	**6.47**	**77**	Pn	**Pn**	**13 41 56.5**	**+0.5**
LNXT	**Lenox**	**6.54**	**87**	Pn	**Pn**	**13 41 57.4**	**+0.5**
SDCO	**Great Sand Dun**	**6.58**	**287**	IAmb_Lg		13 43 52.0	
	comp=Z,243nm,0.9s						
SDCO	**Great Sand Dun**	**6.58**	**287**	P	**Pn**	**13 41 58.7**	**+1.0**
	baz=102,SNR=49						
HNDO	**Hondo**	**6.67**	**193**		**Pn**	**13 41 59.0**	**+0.2**
HNDO				IAmb_Lg		13 43 57.7	
	comp=Z,501nm,0.9s						
Q24A	**Divide**	**6.69**	**298**		**Pn**	**13 41 59.4**	**+0.1**
Q24A				IAmb_Lg		13 43 57.7	
	comp=Z,373nm,1.0s						
Q24A	**Divide**	**6.69**	**298**	P	**Pn**	**13 42 00.1**	**+0.9**
	baz=113						
Q24A				S	**Sn**	**13 43 14.9**	**-0.8**
	baz=113						
HICK	**Hickman**	**6.75**	**83**	Pn	**Pn**	**13 42 00.9**	**+1.1**
SCIA	**State Center**	**6.75**	**29**		**Pn**	**13 42 00.6**	**+0.8**
SCIA				IAmb_Lg		13 43 57.7	
	comp=Z,463nm,0.7s						
SCIA	**State Center**	**6.75**	**29**	P	**Pn**	**13 42 00.2**	**+0.4**
	baz=212,SNR=9.0						
SCIA				S	**Sn**	**13 43 16.1**	**-0.6**
	baz=212						
K30B	**Basset**	**6.79**	**347**	IAmb_Lg		13 44 08.6	
	comp=Z,563nm,0.8s						
OXF	**Oxford**	**6.84**	**101**		**Pn**	**13 42 01.8**	**+0.7**
OXF				IAmb_Lg		13 44 03.1	
	comp=Z,338nm,1.0s						
OXF	**Oxford**	**6.84**	**101**	P	**Pn**	**13 42 01.4**	**+0.3**
	baz=286						
OXF				S	**Sn**	**13 43 19.0**	**-0.1**
	baz=286						
S44A	**Carbondale**	**6.86**	**74**	Pn	**Pn**	**13 42 02.4**	**+1.1**
SIUC	**Southern Illin**	**6.89**	**74**	Pn	**Pn**	**13 42 02.9**	**+1.2**
Y45A	**Yeager Farm, C**	**6.94**	**106**	IAmb_Lg		13 44 13.8	
	comp=Z,250nm,1.1s						
EF01	**Eagle Ford 01**	**6.95**	**186**	Pn	**Pn**	**13 42 03.5**	**+1.0**
EF01				IAmb_Lg		13 44 08.4	
	comp=Z,403nm,0.7s						
BRIGG	**Briggsdale**	**6.97**	**312**	IAmb_Lg		13 44 11.2	
	comp=Z,531nm,0.9s						
VBMS	**Vicksburg**	**6.98**	**121**	S	**Sn**	**13 43 22.4**	**-0.1**
	baz=305						
N41A	**Harden Midland**	**7.02**	**47**		**Pn**	**13 42 04.2**	**+0.6**
PECS	**Pecos**	**7.03**	**230**	Pn	**Pn**	**13 42 04.9**	**+1.1**
DRIO	**Del Rio**	**7.10**	**202**	IAmb_Lg		13 44 21.6	
	comp=Z,311nm,0.7s						
735A	**Kenedy**	**7.18**	**182**	IAmb_Lg		13 44 27.7	
	comp=Z,389nm,1.0s						
SAND	**Sanderson**	**7.19**	**213**		**Pn**	**13 42 06.4**	**+0.5**
SAND				IAmb_Lg		13 44 25.4	
	comp=Z,412nm,0.9s						
P43A	**Skaggs, Pawnee**	**7.30**	**58**		**Pn**	**13 42 08.0**	**+0.7**
ANMO	**Albuquerque**	**7.34**	**264**	Pn	**Pn**	**13 42 09.9**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=167,slow=13,SNR=2.8						
ANMO				Lg	Lg	13 44 06.7	
	comp=Z,7.5nm,0.3s,baz=76,slow=18,SNR=3.0						
ANMO				LR	LR	13 45 19.6	
	comp=Z,350nm,19.2s,baz=171,slow=41						
	comp=Z,0.9nm,0.5s						
Q44A	**Meyer Farm, Va**	**7.36**	**65**	Pn	**Pn**	**13 42 08.8**	**+0.6**
ISCO	**Idaho Springs**	**7.38**	**303**	Pn	**Pn**	**13 42 09.3**	**+0.6**
ISCO				IAmb_Lg		13 44 22.4	
	comp=Z,226nm,0.7s						
ISCO	**Idaho Springs**	**7.38**	**303**	P	**Pn**	**13 42 09.0**	**+0.3**
	baz=118,SNR=16						
ISCO				S	**Sn**	**13 43 32.3**	**-0.3**
	baz=118						
ALPN	**Alpine**	**7.62**	**224**		**Pn**	**13 42 12.6**	**+0.7**
ALPN				IAmb_Lg		13 44 29.5	
	comp=Z,455nm,1.1s						
ECSD	**EROS Data Cent**	**7.70**

baz=124,SNR=36
SUSD Miller 8.44 353 lAmb_Lg 13 45 03.6
comp=Z,366nm,1.0s
SUSD Miller 8.44 353 P **Pn** **13 42 23.0 0.0**
baz=172
SUSD S **Sn** **13 43 56.6 -1.8**
baz=172
TX31 Lajitas Ar. Si 8.45 219 **Pn** **13 42 23.7 +0.4**
TXAR Lajitas Array 8.45 219 Pn **Pn** **13 42 23.3 +0.1**
comp=Z,0.4nm,0.3s,baz=45,slow=11,SNR=21
TXAR Lg Lg 13 44 35.5
comp=Z,6.5nm,0.3s,baz=60,slow=16,SNR=3.5
TXAR LR LR 13 45 53.9
comp=Z,146nm,20.1s,baz=40,slow=39
comp=Z,0.7nm,0.4s
T47A Sharon Grove 8.47 81 **Pn** **13 42 23.3 -0.2**
L42A Oliver, Polo 8.54 44 **Pn** **13 42 24.5 +0.2**
L42A lAmb_Lg 13 45 03.7
comp=Z,371nm,0.9s
I37A Lemond, Waseca 8.56 21 lAmb_Lg 13 45 14.7
comp=Z,245nm,0.9s
EPT El Paso 8.57 243 lAmb_Lg 13 45 12.5
comp=Z,226nm,1.1s
JFWS Jewell Farm 8.88 37 lAmb_Lg 13 45 09.3
comp=Z,243nm,0.7s
JFWS Jewell Farm 8.88 37 P **Pn** **13 42 28.4 -0.5**
JFWS baz=222,SNR=12
S **Sn** **13 44 06.2 -2.9**
baz=222
121A Cookes Peak, D 9.16 250 P **Pn** **13 42 33.9 +0.9**
baz=64
LRAL Lakeview Retre 9.22 106 **Pn** **13 42 34.1 +0.3**
WCI Wyandotte Cave 9.26 73 S **Sn** **13 44 16.3 -2.0**
baz=260
BLO Bloomington 9.29 67 Pn **Pn** **13 42 35.0 +0.3**
SFIN Lafayette 9.30 59 Pn **Pn** **13 42 35.4 +0.7**
SFIN Lafayette 9.30 59 P **Pn** **13 42 35.2 +0.5**
baz=246
SFIN S **Sn** **13 44 16.6 -2.8**
baz=246
RWWY Rawlins 9.39 310 lAmb_Lg 13 45 25.9
comp=Z,254nm,1.0s
Y49A Blount Mountai 9.41 100 Pn **Pn** **13 42 36.1 -0.3**
RSSD Black Hills 9.45 330 **Pn** **13 42 36.9 -0.2**
RSSD lAmb_Lg 13 45 26.3
comp=Z,360nm,1.2s
RSSD Black Hills 9.45 330 P **Pn** **13 42 38.0 +0.9**
baz=146
RSSD S **Sn** **13 44 23.0 -0.6**
baz=146
I40A Norwalk 9.46 32 **Pn** **13 42 37.1 +0.1**
I40A lAmb_Lg 13 45 37.0
comp=Z,166nm,0.9s
HQIL Hanson Quary C 9.49 50 lAmb_Lg 13 45 23.9
comp=Z,264nm,1.2s
K22A Casper 9.56 316 **Pn** **13 42 38.8 +0.3**
K22A Casper 9.56 316 P **Pn** **13 42 39.3 +0.7**
baz=131,SNR=6.8
K22A S **Sn** **13 44 23.1 -3.0**
baz=131
L44A Lake County Fo 9.67 48 S **Sn** **13 44 25.3 -3.2**
baz=234
K43A Burlington 9.75 44 lAmb_Lg 13 45 31.9
comp=Z,342nm,0.8s
SPMN Marine on St. 9.84 20 lAmb_Lg 13 45 57.6
comp=Z,144nm,1.1s
SPMN Marine on St. 9.84 20 P **Pn** **13 42 42.8 +0.6**
baz=203
I42A Draeger Farm, 10.25 38 **Pn** **13 42 47.9 +0.1**
F36A Milaca 10.26 16 Pn **Pn** **13 42 46.0 -1.8**
X51A Calhoun 10.49 94 **Pn** **13 42 51.5 +0.4**
O48B Farmland 10.63 63 P **Pn** **13 42 52.0 -1.0**
baz=251
O48B S **Sn** **13 44 47.1 -5.0**
baz=251
G40A Rib Lake 10.76 29 **Pn** **13 42 54.4 -0.4**
TKL Tuckaleechee C 11.20 88 Pn **Pn** **13 43 02.4 +1.6**
comp=Z,0.9nm,0.3s,baz=236,slow=9.8,SNR=8.0
TKL Lg Lg 13 46 03.8
comp=Z,3.3nm,0.3s,baz=178,slow=18,SNR=5.6
TKL LR LR 13 47 30.4
comp=Z,121nm,20.1s,baz=274,slow=38
comp=Z,3.8nm,0.5s
O49A Covington 11.20 64 Pn **Pn** **13 43 01.1 +0.2**
H43A Windswept, Lux 11.24 39 **Pn** **13 43 00.7 -0.6**
S51A Beattyville 11.31 78 **Pn** **13 43 03.4 +1.1**
TZTN Tazewell 11.32 83 Pn **Pn** **13 43 03.5 +1.0**
TZTN Tazewell 11.32 83 P **Pn** **13 43 03.4 +0.9**
baz=272
BW06 Boulder Array 11.44 309 P **Pn** **13 43 05.0 +0.7**
baz=122,SNR=5.2
PD31 Pinedale Array 11.44 309 **Pn** **13 43 04.3 0.0**
PDAR Pinedale Array 11.44 309 **Pn** **13 43 04.1 -0.2**
PDAR Pinedale Array 11.44 309 Pn **Pn** **13 43 04.7 +0.4**
comp=Z,1.7nm,0.4s,baz=126,slow=15,SNR=20
PDAR Lg Lg 13 46 08.9
comp=Z,1.3nm,0.3s,baz=105,slow=34,SNR=2.1
PDAR LR LR 13 47 34.6
comp=Z,74nm,19.6s,baz=108,slow=38
E38A The Farm, Brul 11.46 21 **Pn** **13 43 03.1 -1.2**
L48A N Adams 11.78 56 **Pn** **13 43 07.4 -1.3**
COWI Conover 11.87 30 **Pn** **13 43 08.6 -1.4**
F42A Maple Grove Fa 12.02 33 **Pn** **13 43 12.5 +0.5**
B35A Bob, Littlefor 12.62 12 Pn **Pn** **13 43 17.6 -2.5**
EYMN Ely 12.70 19 Pn **Pn** **13 43 18.8 -2.5**
N51A Ashland 12.85 63 **Pn** **13 43 21.8 -1.6**
E43A Lone Tree Farm 13.01 34 **Pn** **13 43 23.7 -1.8**
ULM Lac du Bonnet 14.24 4 Pn **Pn** **13 43 38.1 -4.2**
ULM Lac du Bonnet 14.24 4 Pn **Pn** **13 43 39.4 -2.9**
comp=Z,1.1nm,0.3s,baz=181,slow=13,SNR=8.3
ULM Sn Sn 13 46 09.1 -11
comp=Z,1.0nm,0.3s,baz=105,slow=21,SNR=2.9
ULM Lg Lg 13 47 34.2
baz=95,slow=23
ULM LR LR 13 49 22.8
comp=Z,141nm,19.3s,baz=158,slow=38
comp=Z,3.9nm,0.5s
E46A Sault Ste Mari 14.32 40 Pn **Pn** **13 43 41.0 -2.4**
ELK Elko 14.62 294 Pn **Pn** **13 43 49.1 +1.2**
comp=Z,0.1nm,0.3s,baz=76,slow=8.3,SNR=3.1
ELK Lg Lg 13 47 54.6
comp=Z,0.1nm,0.3s,baz=39,slow=9.2,SNR=2.6
comp=Z,1.1nm,1.0s
T57A Hurt 14.76 81 Pn **Pn** **13 43 49.0 -0.4**
EGMT Eagleton 14.98 327 Pn **Pn** **13 43 51.2 -1.2**
LYMT Lyon Mountain 15.48 319 Pn **Pn** **13 43 59.9 +0.7**
M55A Ridgway 15.62 64 Pn **Pn** **13 44 00.0 -0.9**
M55A lAmb lAmb 13 44 27.9
comp=Z,17nm,1.4s
PFO Pinyon Flats O 15.71 267 LR LR 13 50 30.4
comp=Z,123nm,18.7s,baz=77,slow=39
BPMT Black Pine Rid 15.79 316 P **P** **13 44 07.1 -0.1**
MZP Montezuma Peak 15.95 282 P **P** **13 44 09.1 +0.1**
LPIG La Paz 16.22 226 LR LR 13 50 15.0
comp=Z,62nm,20.7s,baz=216,slow=37
SADO Sadowa 16.48 53 Pn **P** **13 44 14.2 -0.4**
comp=Z,0.4nm,0.3s,baz=270,slow=14,SNR=1.8
SADO Sn **Sn** **13 47 09.2 -5.6**
comp=Z,0.7nm,0.3s,baz=355,slow=20,SNR=1.9
SADO Lg Lg 13 48 50.5
comp=Z,1.8nm,0.3s,baz=156,slow=19,SNR=10.0
KVN Kaiserville 16.56 287 P **P** **13 44 15.8 +0.1**
KVN lAmb lAmb 13 44 22.1
comp=Z,5.9nm,1.0s
L56A Greenwood 16.66 63 Pn **Pn** **13 44 13.6 -0.7**
L56A lAmb lAmb 13 44 29.0
comp=Z,13nm,1.2s
NVAR Mina Array Bea 16.68 284 P **P** **13 44 17.2 +0.1**
NVAR Mina Array Bea 16.68 284 Pn **Pn** **13 44 15.6 +0.8**
comp=Z,0.1nm,0.3s,baz=88,slow=12,SNR=9.1
NVAR LR LR 13 50 27.1
comp=Z,109nm,18.9s,baz=62,slow=37
comp=Z,1.2nm,0.8s
LHV Little Huntoon 16.84 284 P **P** **13 44 18.6 +0.1**
LHV lAmb lAmb 13 44 23.2
comp=Z,9.9nm,1.2s
RYN Ryan 16.86 285 P **P** **13 44 19.7 +0.6**
J08A Circle Bar Ran 17.64 301 Pn **Pn** **13 44 25.9 -0.6**
PNTR Pine Nut 17.72 286 Pn **Pn** **13 44 28.0 +0.2**
PNTR lAmb lAmb 13 44 37.8
comp=Z,14nm,1.5s
MPK Martis Peak 18.07 287 P **P** **13 44 32.7 +0.2**
MPK lAmb lAmb 13 44 38.0
comp=Z,7.0nm,0.9s
NEW Newport 18.88 316 LR LR 13 53 37.4
comp=Z,22nm,18.8s,baz=122,slow=42

FFC Flin Flon 18.92 352 P **Pn** **13 44 41.9 -0.1**
FFC lAmb lAmb 13 45 08.1
comp=Z,5.2nm,1.0s
CMIG Matias Romero 19.04 172 P **Pn** **13 44 45.9 +2.1**
comp=Z,0.3nm,0.3s,baz=335,slow=11,SNR=2.6
CMIG LR LR 13 53 51.6
comp=Z,30nm,20.5s,baz=1.0,slow=42
comp=Z,1.3nm,0.4s
PINE Pine Mountain 19.48 300 P **P** **13 44 48.2 +0.4**
PINE lAmb lAmb 13 44 57.3
comp=Z,5.4nm,0.9s
J05D Fort Rock, OR 19.56 299 P **Pn** **13 44 49.3 -0.7**
YBH Yreka Blue Hor 20.34 294 P **P** **13 44 57.4 +0.2**
YBH Yreka Blue Hor 20.34 294 P Pn 13 44 59.2 -0.1
comp=Z,15nm,1.1s,baz=108,slow=5.0,SNR=17
YBH LR LR 13 53 34.7
comp=Z,47nm,18.1s,baz=117,slow=39
comp=Z,15nm,1.1s
KMPM Mount Pierce 21.28 290 P **P** **13 45 07.7 +0.4**
KMPM lAmb lAmb 13 45 15.8
comp=Z,4.2nm,0.8s
FCC Fort Churchill 22.83 5 P **P** **13 45 24.4 +0.8**
BBB Bella Bella 26.95 316 LR LR 13 57 45.6
comp=Z,54nm,19.1s,baz=115,slow=39
SCHQ Schefferville 28.24 39 LR LR 13 56 20.5
comp=Z,71nm,20.7s,baz=274,slow=34
YKA Yellowknife Ar 28.51 343 P **P** **13 46 16.4 +0.4**
comp=Z,0.5nm,0.8s,baz=141,slow=8.2,SNR=12
YKA Lg Lg 13 55 23.3
baz=145,slow=25,SNR=6.4
YKA LR LR 13 57 02.3
comp=Z,50nm,18.8s,baz=58,slow=35
comp=Z,0.5nm,0.8s
BCIP Isla Barro Col 31.26 145 P **P** **13 46 41.1 +0.4**
FRB Frobisher Bay 32.86 23 LR LR 14 00 13.7
comp=Z,126nm,18.1s,baz=196,slow=36
INK Inuvik 38.02 339 LR LR 14 03 41.8
comp=Z,49nm,18.1s,baz=181,slow=37
G29M Pine Creek 38.59 336 P **P** **13 47 45.4 +2.0**
G29M lAmb lAmb 13 48 28.6
comp=Z,8.7nm,1.5s
A36M Sachs Harbour 38.72 347 P **P** **13 47 46.0 +1.5**
A36M lAmb lAmb 13 47 50.3
comp=Z,5.8nm,1.4s
RES Resolute Bay 38.73 1 LR LR 14 03 56.4
comp=Z,80nm,19.6s,baz=2.0,slow=37
PCRV Puerto La Cruz 39.43 123 LR LR 14 05 28.0
comp=Z,48nm,20.6s,slow=38
SFJD Kangerlussuaq 40.86 26 LR LR 14 05 18.6
comp=Z,70nm,18.4s,baz=240,slow=37
ILAR Eielson Array 40.90 330 P **P** **13 48 05.5 +2.7**
comp=Z,0.7nm,0.7s,baz=112,slow=7.5,SNR=8.7
comp=Z,0.7nm,0.7s
MDP Montagnes des 51.45 116 LR LR 14 13 59.0
comp=Z,24nm,18.2s,baz=142,slow=39
BORG Borgarnes 52.26 32 LR LR 14 10 08.8
comp=Z,48nm,18.6s,baz=287,slow=34
JMIC Jan Mayen 56.08 23 LR LR 14 13 48.7
comp=Z,36nm,20.1s,baz=225,slow=36
SPITS Spitsbergen Ar 59.63 13 LR LR 14 16 42.0
comp=Z,31nm,18.8s,baz=274,slow=37
EKA Eskdalemuir Ar 63.55 40 P **P** **13 50 53.7 +2.6**
comp=Z,0.7nm,0.6s,baz=293,slow=7.1,SNR=3.5
comp=Z,0.7nm,0.6s
SEY Seymchan 66.80 332 LR LR 14 20 46.6
comp=Z,47nm,19.9s,baz=51,slow=36
ARCES ARCESS Array B 66.85 19 LR LR 14 20 20.0
comp=Z,46nm,19.4s,baz=290,slow=36
NOA NORSAR Array B 67.36 30 LR LR 14 20 28.2
comp=Z,23nm,18.4s,baz=300,slow=36
TIXI Tiksi 67.73 346 LR LR 14 22 19.3
comp=Z,25nm,21.1s,baz=78,slow=37
HFS Hagfors 68.88 30 LR LR 14 21 40.6
comp=Z,34nm,18.4s,baz=296,slow=36
MA2 Magadan 69.38 330 LR LR 14 22 10.4
comp=Z,14nm,19.1s,baz=30,slow=36
PETK Petropavlovsk- 69.92 322 LR LR 14 23 00.2
comp=Z,22nm,19.1s,baz=92,slow=37
FINES FINESS Array B 72.65 25 LR LR 14 22 05.3
comp=Z,37nm,18.4s,baz=224,slow=34
GERES GERESS Array B 75.77 39 LR LR 14 23 24.8
comp=Z,16nm,20.8s,baz=254,slow=34
AKASG Malin Array Be 81.74 31 LR LR 14 29 08.5
comp=Z,18nm,19.1s,baz=226,slow=36
KIRV Kirov 81.76 17 LR LR 14 28 28.3
comp=Z,33nm,19.6s,baz=291,slow=35
MLR Muntele Rosu 84.15 36 LR LR 14 31 21.0
comp=Z,26nm,18.2s,baz=204,slow=36
KLR Kul'dur 84.48 330 LR LR 14 34 25.4
comp=Z,22nm,18.9s,baz=52,slow=38
BELG Belogornoye 86.82 21 LR LR 14 30 58.9
comp=Z,25nm,18.9s,baz=238,slow=35
DBIC Dimbokro 88.30 83 LR LR 14 27 44.8
comp=Z,27nm,21.1s,baz=174,slow=32
KBZ Khabaz 92.83 28 LR LR 14 35 22.7
comp=Z,28nm,18.9s,baz=349,slow=36
SONM Songino Array 93.78 344 LR LR 14 37 57.8
comp=Z,18nm,21.7s,baz=214,slow=37
KSRS Korea Array 95.58 325 LR LR 14 40 06.9
comp=Z,10nm,18.1s,baz=150,slow=38
GNI Garni 96.61 28 LR LR 14 36 35.6
comp=Z,18nm,21.4s,baz=345,slow=35
HHC Hu-ho-hao-te 98.92 338 *e*P Pdif 13 54 03.9 +2.4
HHC pmax pmax
comp=Z,9.0nm,0.5s
HHC pmax pmax
comp=Z,35nm,3.6s

*NOU **15** 13:41:29.6, 40.82S×174.14E, h65km, MLv3.8/12, Cook Strait, New Zealand*
*WEL **15** 13:41:30.9±0.4, 41.3°S±3.7°×174.4°E±, h45km±7km, M3.3/26, ML3.6/26, MLv3.3/26, Error ellipse: s-maj=0.0km s-min=0.0km az=179.6, confirmed*
ISC 15 13:41:29.3±1.3, 40.82S±0.03×174.13E±0.03, h77km±8km, n132, σ1^{09}/143, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	**D'Urville Isla**	**0.16**	**276**	P	**Pn**	**13 41 39.6**	**-1.0**
DUWZ				S	**Sn**	**13 41 46.9**	**-2.0**
TCW	**Tory Channel**	**0.41**	**164**	P	**Pn**	**13 41 42.2**	**+0.3**
TCW				S	**Sn**	**13 41 50.8**	**-0.5**
KIW	**Kapiti Island**	**0.59**	**94**	P	**Pn**	**13 41 44.1**	**+0.5**
KIW				S	**Sn**	**13 41 54.0**	**-0.2**
TUWZ	**Tuamarina**	**0.63**	**193**	P	**Pn**	**13 41 44.0**	**0.0**
TUWZ				S	**Sn**	**13 41 54.1**	**-0.7**
SNZO	**South Karori**	**0.66**	**139**	P	**Pn**	**13 41 44.9**	**+0.7**
WEL	**Wellington**	**0.67**	**134**	P	**Pn**	**13 41 45.2**	**+0.8**
WEL				S	**Sn**	**13 41 56.2**	**+0.7**
NNZ	**Nelson**	**0.69**	**235**	P	**Pn**	**13 41 44.4**	**-0.2**
NNZ				S	**Sn**	**13 41 55.8**	**-0.2**
CAW	**Cannon Point**	**0.77**	**113**	P	**Pn**	**13 41 45.9**	**+0.5**
OGWZ	**Otaki Gorge**	**0.79**	**90**	P	**Pn**	**13 41 46.3**	**+0.7**
OGWZ				S	**Sn**	**13 41 58.7**	**+0.9**
BHW	**Baring Head**	**0.81**	**137**	P	**Pn**	**13 41 46.4**	**+0.5**
TKNZ	**Takaka Hill**	**0.91**	**256**	P	**Pn**	**13 41 47.1**	**0.0**
TKNZ				S	**Sn**	**13 41 59.8**	**-0.6**
BSWZ	**Blackbirch Sta**	**0.92**	**192**	P	**Pn**	**13 41 48.3**	**+1.1**
BSWZ				S	**Sn**	**13 42 01.1**	**+0.7**
CMWZ	**Cape Campbell**	**0.93**	**176**	P	**Pn**	**13 41 49.3**	**+1.9**
CMWZ				S	**Sn**	**13 42 05.6**	**+4.8**
HOWZ	**Holdsworth Sta**	**1.05**	**95**	P	**Pn**	**13 41 49.3**	**+0.5**
HOWZ				S	**Sn**	**13 42 03.0**	**-0.5**
OHWZ	**Ohakea**	**1.09**	**56**	P	**Pn**	**13 41 50.2**	**+1.0**
MTW	**Mount Morrison**	**1.09**	**109**	P	**Pn**	**13 41 49.6**	**+0.3**
MRZ	**Mangatainoka R**	**1.11**	**82**	P	**Pn**	**13 41 49.6**	**+0.1**
PAWZ	**Paruwai Farm**	**1.13**	**120**	P	**Pn**	**13 41 50.3**	**+0.5**
PLWZ	**Palliser**	**1.13**	**132**	P	**Pn**	**13 41 50.0**	**+0.2**
MRNZ	**Matariki Terra**	**1.19**	**240**	P	**Pn**	**13 41 51.3**	**+0.9**
QRZ	**Quartz Range**	**1.22**	**269**	P	**Pn**	**13 41 50.3**	**-0.5**
QRZ	**Quartz Range**	**1.22**	**269**	P	**Pn**	**13 41 50.4**	**-0.4**
WAZ	**Wanganui**	**1.25**	**32**	P	**Pn**	**13 41 52.2**	**+0.9**
TRWZ	**Traveller**	**1.31**	**117**	P	**Pn**	**13 41 53.1**	**+1.1**
POWZ	**Post Office Ro**	**1.32**	**72**	P	**Pn**	**13 41 52.1**	**-0.1**
THZ	**Tophouse**	**1.32**	**224**	P	**Pn**	**13 41 53.3**	**+1.1**
TIWZ	**Tintock**	**1.33**	**89**	P	**Pn**	**13 41 52.9**	**+0.6**
TMWZ	**Te Maipa**	**1.36**	**103**	P	**Pn**	**13 41 53.2**	**+0.4**
LREZ	**Lake Rotokare**	**1.37**	**9**	P	**Pn**	**13 41 54.0**	**+1.2**
NMEZ	**Namu Road**	**1.42**	**352**	P	**Pn**	**13 41 53.7**	**+0.4**
PRWZ	**Pori Road**	**1.42**	**80**	P	**Pn**	**13 41 53.6**	**+0.1**
PREZ	**Palmer Road**	**1.47**	**1**	P	**Pn**	**13 41 54.9**	**+0.7**
KHEZ	**Kahui Hut**	**1.52**	**357**	P	**Pn**	**13 41 54.8**	**-0.1**
KHEZ	**Kahui Hut**	**1.52**	**357**	P	**Pn**	**13 41 55.3**	**+0.5**
NEZ	**North Egmont**	**1.54**	**359**	P	**Pn**	**13 41 55.8**	**+0.6**

NBEZ Newall Road No 1.56 352 P **Pn** **13 41 55.6 +0.4**
TSZ Takapari Road 1.59 62 P **Pn** **13 41 55.5 -0.1**
BFZ Birch Farm 1.61 86 P **Pn** **13 41 55.6 -0.4**
BFZ Birch Farm 1.61 86 P **Pn** **13 41 55.8 -0.1**
PKE Pukeiti 1.62 356 P **Pn** **13 41 56.6 +0.5**
DREZ Durham Road 1.63 2 P **Pn** **13 41 56.8 +0.7**
DVHZ Dannevirke 1.64 72 P **Pn** **13 41 56.1 -0.2**
KHZ Kahutara 1.66 195 P **Pn** **13 41 57.5 +1.0**
KHZ Kahutara 1.66 195 P **Pn** **13 41 57.7 +1.2**
MHEZ Mangahewa 1.75 5 P **Pn** **13 41 58.7 +1.0**
VRZ Vera Road 1.76 16 P **Pn** **13 41 58.8 +0.9**
MTVZ Mangateitei 1.76 36 P **Pn** **13 41 58.2 +0.2**
ANWZ Angora Road 1.82 79 P **Pn** **13 41 58.5 -0.1**
PNHZ Pukenui 1.82 61 P **Pn** **13 41 58.2 -0.6**
WNKZ Wahianoa 1.87 38 P **Pn** **13 42 00.4 +0.9**
MOVZ Moawhango 1.88 42 P **Pn** **13 41 59.8 +0.3**
MAVZ Matarangi 1.90 36 P **Pn** **13 42 01.1 +1.1**
WHVZ Whangaehu Hut 1.90 37 P **Pn** **13 42 00.9 +1.0**
FWVZ Far West T-bar 1.91 35 P **Pn** **13 42 01.1 +1.0**
WPHZ Waipukurau 1.92 68 P **Pn** **13 41 59.4 -0.5**
TUVZ Tukino 1.94 38 P **Pn** **13 42 01.1 +0.7**
COVZ Chateau Observ 1.95 34 P **Pn** **13 42 01.2 +0.7**
DSZ Denniston Nort 1.98 241 P **Pn** **13 42 01.3 +0.4**
PRHZ Porangahau 1.99 75 P **Pn** **13 42 00.5 -0.4**
BHHZ Black Hill Sta 1.99 49 P **Pn** **13 42 01.0 0.0**
NGZ Ngauruhoe 1.99 35 P **Pn** **13 42 02.2 +1.1**
SNVZ South Ngauruho 2.00 36 P **Pn** **13 42 02.1 +0.9**
TWVZ Taurewa 2.01 30 P **Pn** **13 42 02.4 +1.0**
OTVZ Oturere 2.03 36 P **Pn** **13 42 02.5 +0.9**
NNVZ North Ngauruho 2.03 35 P **Pn** **13 42 02.6 +0.9**
WTVZ West Tongariro 2.04 34 P **Pn** **13 42 02.4 +0.7**
ETVZ East Tongariro 2.07 36 P **Pn** **13 42 02.9 +0.7**
KRVZ Karewarewa 2.08 35 P **Pn** **13 42 02.8 +0.5**
KRHZ Kereru 2.08 56 P **Pn** **13 42 01.6 -0.5**
TMVZ Te Maari 2.09 36 P **Pn** **13 42 03.2 +0.8**
NTVZ North Tongarir 2.09 35 P **Pn** **13 42 03.3 +0.9**
KATZ Kakaramea 2.20 34 P **Pn** **13 42 05.8 +1.9**
KWHZ Kaweka Forest 2.24 52 P **Pn** **13 42 04.0 -0.4**
RITZ Rihia Road 2.27 36 P **Pn** **13 42 05.7 +1.0**
RATZ Rangitukua 2.32 34 P **Pn** **13 42 06.9 +1.5**
KAHZ Kahuranaki 2.34 65 P **Pn** **13 42 04.8 -0.8**
HIZ Hauiti 2.37 14 P **Pn** **13 42 06.2 +0.2**
HIZ Hauiti 2.37 14 P **Pn** **13 42 06.4 +0.4**
MCHZ McNeill Hill 2.40 56 P **Pn** **13 42 06.0 -0.5**
LTZ Lake Taylor 2.41 215 P **Pn** **13 42 07.0 +0.5**
WATZ Wairara 2.44 31 P **Pn** **13 42 11.6 +4.6**
BKZ Black Stump Fm 2.45 48 P **Pn** **13 42 06.5 -0.7**
BKZ Black Stump Fm 2.45 48 P **Pn** **13 42 06.5 -0.7**
AMCZ Amberley 2.60 205 P **Pn** **13 42 09.3 +0.2**
MRHZ Matea Rd 2.65 42 P **Pn** **13 42 08.9 -1.0**
NMHZ Naumai 2.68 51 P **Pn** **13 42 09.7 -0.6**
ARHZ Aropaoanui 2.69 56 P **Pn** **13 42 09.4 -1.0**
TLZ Tolley Road 2.71 24 P **Pn** **13 42 11.4 +0.7**
INZ Inchbonnie 2.77 226 P **Pn** **13 42 12.1 +0.7**
ALRZ Allen Road 2.83 38 P **Pn** **13 42 11.7 -0.6**
MTHZ Maungataniwha 2.87 48 P **Pn** **13 42 11.7 -1.1**
PRRZ Plateau Road 2.90 38 P **Pn** **13 42 12.4 -0.8**
OXZ Oxford 2.95 211 P **Pn** **13 42 13.0 -0.9**
RAHZ Arahi 2.96 51 P **Pn** **13 42 12.6 -1.5**
MQZ McQueen's Vall 3.09 200 P **Pn** **13 42 14.5 -1.2**
MUGZ Murupara 3.10 42 P **Pn** **13 42 14.1 -1.8**
AKCZ Akaroa Harbour 3.18 196 P **Pn** **13 42 16.5 -0.6**
RACZ Rakaia 3.26 206 P **Pn** **13 42 17.3 -0.8**
TOZ Tahuroa Road 3.26 19 P **Pn** **13 42 18.8 +0.7**
MHCZ Mount Hutt 3.31 214 P **Pn** **13 42 18.1 -0.7**
MHGZ Mahia Peninsul 3.34 61 P **Pn** **13 42 17.7 -1.6**
WVZ Waitaha Valley 3.39 227 P **Pn** **13 42 19.7 -0.1**
URZ Urewera 3.44 43 P **Pn** **13 42 18.3 -2.2**
PRGZ Paritu Road 3.45 58 P **Pn** **13 42 18.5 -2.3**
RIGZ Rimuhau 3.50 54 P **Pn** **13 42 19.6 -1.9**
WACZ Wakanui South 3.55 208 P **Pn** **13 42 21.1 -0.9**
MWZ Matawai 3.61 48 P **Pn** **13 42 20.9 -2.1**
RPZ Rata Peaks 3.69 217 P **Pn** **13 42 24.3 +0.4**
RPZ Rata Peaks 3.69 217 P **Pn** **13 42 23.5 -0.3**
KBAZ Karaka Road Bo 3.76 9 P **Pn** **13 42 25.9 +0.9**
AWAZ Awhitu Peninsu 3.77 6 P **Pn** **13 42 25.5 +0.5**
GCSZ Gaunt Creek Bo 3.77 227 P **Pn** **13 42 25.9 +0.8**
MKAZ Moumakai 3.79 13 P **Pn** **13 42 25.7 +0.4**
ARCZ Arundel 3.82 214 P **Pn** **13 42 23.2 -2.4**
WTAZ Waiatarua 3.90 5 P **Pn** **13 42 27.3 +0.6**
ETAZ East Tamaki Re 3.91 9 P **Pn** **13 42 27.5 +0.6**
CNGZ Carnagh Statio 3.92 55 P **Pn** **13 42 24.5 -2.5**
TWGZ Tauwhareparae 3.98 50 P **Pn** **13 42 25.9 -2.0**
RVAZ Riverhead Bore 4.06 5 P **Pn** **13 42 29.2 +0.3**
MBAZ Motutapu North 4.09 9 P **Pn** **13 42 30.2 +0.6**
WIAZ Waiheke Island 4.09 11 P **Pn** **13 42 30.1 +0.6**
FOZ Fox Glacier 4.20 228 P **Pn** **13 42 30.4 -0.4**
TMZ Timaru 4.24 212 P **Pn** **13 42 30.4 -1.1**
WCZ Waipu Caves 4.87 2 P **Pn** **13 42 40.7 +0.6**
ODZ Otahua Downs 4.94 210 P **Pn** **13 42 40.5 -0.4**
ODZ Otahua Downs 4.94 210 P **Pn** **13 42 39.8 -1.1**
JCZ Jackson Bay 5.12 229 P **Pn** **13 42 43.2 -0.3**
JCZ Jackson Bay 5.12 229 P **Pn** **13 42 42.6 -0.9**
OUZ Omahuta 5.60 356 P **Pn** **13 42 51.1 +1.1**
OUZ Omahuta 5.60 356 P **Pn** **13 42 50.4 +0.3**
EAZ Earnscleugh 5.65 217 P **Pn** **13 42 48.2 -2.4**
SYZ Scrubby Hill 6.76 211 P **Pn** **13 43 06.9 +1.1**

*NEIC **15** 13:54:21.1±1.1, 57.11N±0.02×157.04W±0.06, h10km±2km, Error ellipse: s-maj=5.7km s-min=3.1km az=278.0*
AEIC 15 13:54:20.9±1.5, 57.11N±0.02×157.05W±0.05, h0km±6km, ML2.8, ML3.0/66(NEIC), **Error ellipse: s-maj=4.0km s-min=2.8km az=126.0, Alaska Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
R16K	**Pilot Point**	**0.54**	**328**		Pg	13 54 31.6	+0.4
R16K	**Pilot Point**	**0.54**	**328**		Sb	13 54 40.6	-0.8
R16K	**Pilot Point**	**0.54**	**328**	IAML		13 54 40.6	
comp=E,350nm,0.7s							
ANNE	**Aniakchak Nort**	**0.59**	**250**		Pg	13 54 32.4	+0.3
ANNE					Sb	13 54 42.0	-0.9
PLK3	**Peulik 3**	**0.72**	**36**		Pg	13 54 34.8	+0.2
PLK1	**Peulik 1**	**0.73**	**19**		Pg	13 54 33.8	-1.2
PLK5	**Peulik 5**	**0.89**	**6**		Pg	13 54 37.6	-0.4
CHGN	**Chignik**	**1.11**	**223**		Pg	13 54 41.5	-0.6
CHGN					Sb	13 54 57.1	-0.7
CHGN	**Chignik**	**1.11**	**223**	IAML		13 54 57.6	
comp=E,334nm,0.2s							
CHGN				IAML		13 55 00.7	
comp=N,305nm,0.1s							
CNTC	**Contact Creek**	**1.31**	**28**		Pg	13 54 44.4	-1.7
ANCK	**Angle Creek**	**1.37**	**37**		Pg	13 54 45.1	-2.2
ANCK					Sg	13 55 03.4	-1.6
ACHA	**Angle Creek He**	**1.44**	**39**		Pn	13 54 46.8	-1.5
VNHG	**Veniaminof 1**	**1.47**	**233**		Pn	13 54 47.5	-1.2
KELA	**Mount Kelaz**	**1.50**	**27**		Pn	13 54 47.2	-2.0
CHIR	**Chirikof Islan**	**1.52**	**148**		Pn	13 54 47.3	-2.0
CHIR					Sg	13 55 08.1	-1.6
CHIR	**Chirikof Islan**	**1.52**	**148**	IAML		13 55 11.1	
comp=E,211nm,0.9s							
CHIR				IAML		13 55 11.2	
comp=N,163nm,0.8s							
Q16K	**King Salmon**	**1.58**	**8**		Pn	13 54 48.5	-1.6
Q16K					Sn	13 55 10.7	-0.5
KVTA	**Katmai Vly 10**	**1.58**	**36**		Pn	13 54 48.4	-1.8
VNSS	**Veniaminof 8**	**1.60**	**237**		Pn	13 54 49.0	-1.5
VNFG	**Fog Glacier, M**	**1.61**	**240**		Pn	13 54 49.5	-1.1
VNFG	**Fog Glacier, M**	**1.61**	**240**	IAML		13 55 29.4	
comp=N,207nm,1.0s							
VNFG				IAML		13 55 36.0	
comp=E,169nm,0.6s							
SII	**Sitkinak Islan**	**1.67**	**108**		Pn	13 54 49.9	-1.6
SII					Sn	13 55 11.7	-1.8
P16K	**Nushagak River**	**1.99**	**346**		Pn	13 54 54.1	-1.6
P16K					Sn	13 55 18.9	-2.3
OHAK	**Old Harbor**	**2.05**	**85**		Pn	13 54 55.1	-1.5
OHAK	**Old Harbor**	**2.05**	**85**	IAML		13 55 31.0	
comp=E,79nm,0.9s							
P17K	**Kvichak River**	**2.11**	**9**		Pn	13 54 55.9	-1.5
P18K	**Big Mountain,**	**2.48**	**22**		Pn	13 55 01.8	-0.8
KDAK	**Kodiak Island**	**2.51**	**73**		Pn	13 55 01.7	-1.

comp=N,47nm,1.1s
SDPT IAML 13 55 49.4
comp=E,42nm,2.0s
O17K Koliganek Bris 2.67 360 Pn 13 55 03.7 -1.4
CNBA Chernabura Isl 2.71 213 Pn 13 55 04.1 -1.5
SYI Shuyak Island 2.91 57 Pn 13 55 07.4 -0.9
O18K Koktuh Hills 2.91 19 Pn 13 55 06.8 -1.7
O18K Koktuh Hills 2.91 19 IAML 13 55 53.5
comp=E,34nm,0.6s
O18K IAML 13 55 56.7
comp=N,46nm,0.7s
O14K Tigyukauivet M 3.09 316 Pn 13 55 09.7 -1.3
O14K Tigyukauivet M 3.09 316 IAML 13 56 04.0
comp=N,28nm,1.1s
PS1A Pavlof South-1 3.12 239 Pn 13 55 10.9 -0.3
S12K Black Hills 3.12 245 Pn 13 55 10.9 -0.4
S12K Black Hills 3.12 245 IAML 13 56 12.6
comp=E,28nm,1.1s
S12K IAML 13 56 16.9
comp=N,30nm,0.6s
P19K Oil Pt 3.25 37 Pn Pn 13 55 13.0 -0.1
O19K Port Alsworth 3.40 24 Pn Pn 13 55 14.2 -1.0
N17K Nushagak Hills 3.42 359 Pn Pn 13 55 15.1 -0.4
N17K IAML 13 56 12.6
comp=E,20nm,0.6s
N15K Kwethluk River 3.45 334 Pn 13 55 15.1 -0.7
N15K Kwethluk River 3.45 334 IAML 13 56 12.2
comp=E,30nm,0.4s
N15K IAML 13 56 15.0
comp=N,42nm,0.6s
N16K Nishlik Lake 3.49 346 Pn 13 55 15.6 -0.8
N18K Kilae Creek 3.63 9 Pn 13 55 17.5 -0.8
N18K Kilae Creek 3.63 9 IAML 13 56 21.5
comp=E,25nm,0.9s
N14K Kuskokwak Cree 3.72 321 Pn 13 55 19.0 -0.5
CNPM China Poot 3.91 49 Pn 13 55 20.9 -1.2
N19K Bonanza Creek 3.94 19 Pn 13 55 21.5 -1.2
M16K Timber Creek 4.04 347 Pn 13 55 23.0 -1.0
M16K Timber Creek 4.04 347 IAML 13 56 31.8
comp=E,14nm,0.5s
M16K IAML 13 56 38.4
comp=N,13nm,0.8s
M15K Kasigluk River 4.06 334 Pn 13 55 23.5 -0.6
BRLK Bradley Lake 4.19 48 Pn Pn 13 55 25.4 -0.6
M17K Holitna River 4.30 358 Pn 13 55 26.8 -0.8
M18K Stony River 4.44 8 Pn 13 55 28.7 -0.6
M14K Bethel 4.45 327 Pn 13 55 28.4 -1.0
M14K Bethel 4.45 327 IAML 13 56 54.3
comp=N,20nm,1.0s
M13K Dall Lake 4.66 318 Pn Pn 13 55 32.2 -0.1
L16K Owhat River 4.77 346 Pn Pn 13 55 33.2 -0.7
L16K IAML 13 57 03.6
comp=E,7.9nm,1.5s
L16K IAML 13 57 08.7
comp=N,8.1nm,1.1s
M19K Big River Lodg 4.99 15 Pn Pn 13 55 37.4 +0.4
L18K Granite Mounta 5.13 2 Pn Pn 13 55 38.4 -0.5
L18K IAML 13 57 08.5
comp=E,10nm,1.4s
L18K IAML 13 57 11.8
comp=N,12nm,0.9s
L14K Kuka Creek 5.13 328 Pn 13 55 38.5 -0.4
L14K IAML 13 57 17.8
comp=N,14nm,1.1s
L14K IAML 13 57 23.9
comp=E,13nm,1.2s
L19K White Mountain 5.21 11 Pn Pn 13 55 39.3 -0.7
K17K Iditarod 5.66 354 Pn Pn 13 55 45.4 -0.7
K15K Wolf Creek Mou 5.67 338 Pn Pn 13 55 45.8 -0.4
HIN Hinchinbrook I 6.40 55 Pn Pn 13 55 55.0 -1.4
J16K Anvik River 6.44 346 Pn Pn 13 55 55.6 -1.3
J14K Nanvaranak Lak 6.53 333 Pn Pn 13 55 57.5 -0.5

*NEIC **15** 13:56:01.6±1.0,59.92N±0.04×153.48W±0.09, h138km±4km, Error ellipse: s-maj=6.5km s-min=5.9km az=70.0*

AEIC 15 13:56:03.1±1.0,**59.94N**±0.04×**153.46W**±0.09, **h132km±4km, ML2.3, ML2.5**/92(NEIC), **Error ellipse: s-maj=6.3km s-min=5.5km az=89.0, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IVE	**Iliamna Volcan**	**0.23**	**70**		Pn	13 56 20.6	-0.8
IVE					Sn	13 56 34.2	-0.9
P19K	**Oil Pt**	**0.31**	**158**		Pn	13 56 20.8	-0.7
P19K					Sn	13 56 35.0	-0.3
P19K	**Oil Pt**	**0.31**	**158**	IAML		13 56 35.6	
	comp=N,72nm,0.6s						
P19K				IAML		13 56 36.6	
	comp=E,77nm,0.7s						
O20K	**Slope Mountain**	**0.44**	**70**		Pn	13 56 21.6	-0.5
O19K	**Port Alsworth**	**0.51**	**301**		Pn	13 56 21.2	-1.1
O19K	**Port Alsworth**	**0.51**	**301**	IAML		13 56 36.6	
	comp=N,104nm,0.5s						
O19K				IAML		13 56 37.6	
	comp=E,101nm,0.4s						
AUL	**Augustine Lava**	**0.56**	**179**		Pn	13 56 21.9	-0.8
AUL					Sn	13 56 36.7	-0.7
AU22	**Augustine Moun**	**0.57**	**175**		Pn	13 56 21.8	-0.9
AUCH	**Augustine Cone**	**0.57**	**179**		Pn	13 56 22.2	-0.6
RED	**Redoubt Volcan**	**0.59**	**35**		Pn	13 56 22.3	-0.7
RDWB	**Redoubt West**	**0.63**	**29**		Pn	13 56 22.6	-0.8
DFR	**Drift River**	**0.76**	**30**		Pn	13 56 23.6	-0.6
RDT	**Redoubt**	**0.83**	**39**		Pn	13 56 24.0	-0.7
RDT					Sn	13 56 40.6	-0.5
O18K	**Koktuh Hills**	**0.89**	**265**		Pn	13 56 24.1	-1.0
HOM	**Homer**	**0.96**	**106**		Pn	13 56 25.0	-0.7
HOM					Sn	13 56 42.5	-0.3
HOM	**Homer**	**0.96**	**106**	IAML		13 56 46.3	
	comp=N,134nm,0.8s						
Q19K	**Cape Douglas,**	**1.01**	**186**	Pn	Pn	13 56 25.8	-0.5
Q19K				IAML		13 56 37.9	
	comp=E,68nm,1.4s						
Q19K				IAML		13 56 38.9	
	comp=N,74nm,1.4s						
Q19K	**Cape Douglas,**	**1.01**	**186**	IAML		13 56 38.9	
	comp=N,74nm,1.4s						
N19K	**Bonanza Creek**	**1.02**	**330**	IAML		13 56 26.0	
	comp=N,21nm,0.5s						
N19K				IAML		13 56 44.5	
	comp=E,24nm,0.8s						
N19K	**Bonanza Creek**	**1.02**	**330**		Pn	13 56 25.6	-0.8
N19K					Sn	13 56 43.2	-0.9
P18K	**Big Mountain,**	**1.05**	**240**		Pn	13 56 25.2	-1.4
CNPM	**China Poot**	**1.20**	**109**	IAML		13 56 46.6	
	comp=N,125nm,0.3s						
CNPM				IAML		13 56 47.2	
	comp=E,124nm,0.5s						
CNPM	**China Poot**	**1.20**	**109**		Pn	13 56 26.9	-1.1
CNPM					Sn	13 56 45.4	-1.7
CNPM	**China Poot**	**1.20**	**109**	IAML		13 56 46.6	
	comp=N,125nm,0.3s						
CNPM				IAML		13 56 47.2	
	comp=E,124nm,0.5s						
BRLK	**Bradley Lake**	**1.31**	**96**		Pn	13 56 28.1	-1.1
BRSE	**Bradley Lake S**	**1.38**	**97**		Pn	13 56 29.0	-1.0
BRSE					Sn	13 56 49.4	-1.1
SPCR	**Spurr Chakacha**	**1.41**	**25**		Pn	13 56 29.8	-0.5
SPBG	**Spurr Blockage**	**1.43**	**21**		Pn	13 56 30.5	-0.1
SYI	**Shuyak Island**	**1.44**	**157**		Pn	13 56 29.0	-1.5
SYI	**Shuyak Island**	**1.44**	**157**	IAML		13 56 51.9	
	comp=N,23nm,0.5s						
SPCP	**Crater Peak Br**	**1.48**	**25**		Pn	13 56 30.8	-0.4
SPNN	**North Nagishla**	**1.48**	**14**		Pn	13 56 30.7	-0.5
SPNN					Sn	13 56 53.1	+0.4
SPCG	**Spurr Capps Gl**	**1.53**	**27**		Pn	13 56 31.3	-0.4
P17K	**Kvichak River**	**1.69**	**245**		Pn	13 56 32.6	-0.8
SLKM	**Skilak Lake**	**1.71**	**69**		Pn	13 56 32.9	-0.8
STLK	**Strandline Lak**	**1.76**	**26**		Pn	13 56 34.1	-0.2
STLK					Sn	13 56 58.6	+0.4
O17K	**Koliganek Bris**	**1.84**	**267**		Pn	13 56 34.4	-0.8
O22K	**Cooper Landing**	**1.94**	**72**		Sn	13 57 01.8	-0.1
O22K	**Cooper Landing**	**1.94**	**72**	Pn	Pn	13 56 36.2	-0.1
O22K	**Cooper Landing**	**1.94**	**72**	IAML		13 57 08.6	
	comp=E,98nm,0.5s						
O22K				IAML		13 57 08.7	
	comp=N,140nm,0.6s						
M18K	**Stony River**	**1.95**	**324**		Pn	13 56 35.5	-0.9
M20K	**Styx River**	**1.96**	**4**		Pn	13 56 35.9	-0.7
SEW	**Seward**	**2.02**	**83**		Pn	13 56 36.2	-1.0
M19K	**Big River Lodg**	**2.03**	**347**		Pn	13 56 36.4	-1.0
M19K	**Big River Lodg**	**2.03**	**347**	IAML		13 57 07.4	
	comp=E,14nm,1.0s						
M19K	**Big River Lodg**	**2.03**	**347**	IAML		13 57 07.4	
	comp=E,14nm,1.0s						
M19K				IAML		13 57 19.6	
	comp=N,9.3nm,0.9s						
SUA	**Susitna One**	**2.03**	**40**		Pn	13 56 37.1	-0.5
SUA					Sn	13 57 04.2	+0.2
SUA	**Susitna One**	**2.03**	**40**	IAML		13 57 05.0	
	comp=E,47nm,0.7s						
SUA				IAML		13 57 06.0	
	comp=N,40nm,0.4s						
ANCK	**Angle Creek**	**2.04**	**212**		Pn	13 56 36.2	-1.4
Q16K	**King Salmon**	**2.07**	**234**		Pn	13 56 36.8	-1.1
RC01	**Rabbit Creek A**	**2.17**	**56**		Pn	13 56 37.9	-1.3
RC01				IAML		13 57 06.3	
	comp=N,36nm,0.3s						
KDAK	**Kodiak Island**	**2.21**	**168**	Pn	Pn	13 56 36.8	-2.9
SKT	**Skwentna**	**2.26**	**24**		Pn	13 56 39.5	-0.7
SKT	**Skwentna**	**2.26**	**24**	IAML		13 57 10.7	
	comp=E,11nm,0.3s						
L19K	**White Mountain**	**2.35**	**344**		Pn	13 56 40.5	-1.0
L19K	**White Mountain**	**2.35**	**344**	IAML		13 57 05.2	
	comp=E,12nm,1.1s						
L19K				IAML		13 57 09.6	
	comp=N,15nm,1.0s						
L19K	**White Mountain**	**2.35**	**344**	IAML		13 57 05.2	
	comp=E,12nm,1.1s						
O16K	**Kokwok River B**	**2.37**	**264**	Pn	Pn	13 56 40.9	-0.8
M22K	**Willow**	**2.45**	**40**		Pn	13 56 41.9	-0.7
M22K					Sn	13 57 12.8	-0.2
P16K	**Nushagak River**	**2.48**	**251**		Pn	13 56 42.5	-0.6
L20K	**Farewell, AK**	**2.56**	**356**		Pn	13 56 43.4	-0.7
OHAK	**Old Harbor**	**2.72**	**178**	Pn	Pn	13 56 42.9	-3.2
GHO	**Glory Hole Cre**	**2.88**	**48**		Pn	13 56 46.4	-1.8
GHO	**Glory Hole Cre**	**2.88**	**48**	IAML		13 57 21.1	
	comp=E,20nm,0.6s						
GHO				IAML		13 57 23.3	
	comp=N,16nm,0.5s						
CUT	**Chulitna**	**2.92**	**31**	Pn	Pn	13 56 47.8	-0.8
P23K	**Montague Islan**	**3.04**	**86**		Pn	13 56 49.2	-1.1
SML	**Sawmill**	**3.13**	**51**	Pn	Pn	13 56 49.3	-2.1
SML				IAML		13 57 27.3	
	comp=E,9.5nm,0.6s						
SML				IAML		13 57 28.0	
	comp=N,9.2nm,0.4s						
GLI	**Glacier Island**	**3.29**	**71**		Pn	13 56 51.4	-2.0
GLI				IAML		13 57 32.4	
	comp=N,17nm,1.0s						
GLI				IAML		13 57 33.9	
	comp=E,17nm,0.8s						
HIN	**Hinchinbrook I**	**3.51**	**79**		Pn	13 56 55.0	-1.3
SCM	**Sheep Creek Mo**	**3.55**	**55**		Pn	13 56 55.3	-1.6
SCM	**Sheep Creek Mo**	**3.55**	**55**	IAML		13 57 36.7	
	comp=E,14nm,1.1s						
SCM				IAML		13 57 38.1	
	comp=N,8.8nm,0.4s						
CAST	**Castle Rocks**	**3.56**	**10**	Pn	Pn	13 56 56.8	-0.1
FID	**Port Fidalgo**	**3.56**	**74**		Pn	13 56 55.1	-1.9
Q23K	**Middleton Isla**	**3.64**	**95**	Pn	Pn	13 56 56.7	-1.3
WAT7	**Susitna Watana**	**3.66**	**35**		Pn	13 56 57.0	-1.4
WAT1	**Susitna Watana**	**3.74**	**37**		Pn	13 56 58.0	-1.4
KTH	**Kantishna Hill**	**3.83**	**17**	Pn	Pn	13 56 59.6	-0.9
KTH				IAML		13 58 14.5	
	comp=E,3.9nm,1.4s						
KTH				IAML		13 58 14.7	
	comp=N,4.5nm,1.5s						
WAT6	**Susitna Watana**	**3.83**	**44**		Pn	13 56 58.8	-1.9
TRF	**Thorofare Moun**	**3.84**	**22**		Pn	13 56 59.9	-0.8
TRF	**Thorofare Moun**	**3.84**	**22**	IAML		13 57 46.7	
	comp=N,5.1nm,0.4s						
TRF				IAML		13 57 48.5	
	comp=E,4.1nm,1.3s						
EYAK	**Cordova Ski Ar**	**3.89**	**78**		Pn	13 56 59.8	-1.5
DIV	**Divide**	**3.98**	**69**		Pn	13 57 01.4	-1.2
KLU	**Klutina**	**4.02**	**64**		Pn	13 57 01.9	-1.1
KLU	**Klutina**	**4.02**	**64**	IAML		13 57 49.0	
	comp=E,9.7nm,0.2s						
RND	**Reindeer**	**4.12**	**30**		Pn	13 57 03.1	-1.3
RND	**Reindeer**	**4.12**	**30**	IAML		13 57 52.2	
	comp=E,4.5nm,0.3s						
RND				IAML		13 57 52.6	
	comp=N,3.8nm,1.3s						
M24K	**Tolsona, Glenn**	**4.16**	**55**		Pn	13 57 03.2	-1.7
M24K	**Tolsona, Glenn**	**4.16**	**55**	IAML		13 57 57.9	
	comp=E,11nm,1.5s						
M24K				IAML		13 58 02.3	
	comp=N,9.1nm,1.4s						
DHY	**Denali Highway**	**4.29**	**40**		Pn	13 57 05.1	-1.7
DHY	**Denali Highway**	**4.29**	**40**	IAML		13 57 56.4	
	comp=N,5.4nm,0.3s						
DHY				IAML		13 57 57.7	
	comp=E,5.8nm,0.8s						
BPAW	**Bear Paw Mtn.**	**4.34**	**14**		Pn	13 57 06.6	-0.7
BPAW	**Bear Paw Mtn.**	**4.34**	**14**	IAML		13 58 27.6	
	comp=E,2.8nm,1.5s						
BPAW				IAML		13 58 44.5	
	comp=N,2.5nm,1.5s						
MCK	**McKinley**	**4.37**	**27**		Pn	13 57 07.0	-0.7
GOAT	**Goat Mountain**	**4.40**	**78**		Pn	13 57 06.9	-1.2
BMRM	**Bremner River**	**4.50**	**73**		Pn	13 57 08.1	-1.4
KAIM	**Kayak Island**	**4.55**	**86**	Pn	Pn	13 57 08.9	-1.1
N25K	**Chitina, Valde**	**4.66**	**65**		Pn	13 57 10.5	-1.1
N25K	**Chitina, Valde**	**4.66**	**65**	IAML		13 58 04.8	
	comp=N,5.8nm,0.9s						
N25K				IAML		13 58 05.8	
	comp=E,4.2nm,1.2s						
WASW	**Wrangell South**	**4.95**	**62**		Pn	13 57 14.9	-0.7
GLB	**Gilahina Butte**	**4.98**	**68**	Pn	Pn	13 57 14.7	-1.1
GLB				IAML		13 58 11.2	
	comp=N,5.0nm,0.9s						
GLB				IAML		13 58 12.6	
	comp=E,3.3nm,0.4s						
VRDI	**Verde Repeater**	**5.10**	**71**	Pn	Pn	13 57 16.0	-1.6
VRDI				IAML		13 58 14.7	
	comp=N,5.5nm,0.8s						
VRDI				IAML		13 58 17.6	
	comp=E,2.9nm,1.3s						
NEA2	**Nenana**	**5.10**	**22**		Pn	13 57 15.7	-1.7
NEA2	**Nenana**	**5.10**	**22**	IAML		13 59 12.6	
	comp=E,1.5nm,1.2s						
KHIT	**Khitrov Hills**	**5.12**	**80**		Pn	13 57 16.6	-1.2
WRH	**Wood River Hil**	**5.20**	**27**		Pn	13 57 16.9	-1.8
WRH	**Wood River Hil**	**5.20**	**27**	IAML		13 58 15.5	
	comp=E,1.6nm,1.0s						
MLY	**Manley**	**5.27**	**13**	Pn	Pn	13 57 19.1	-0.5
WAX	**Waxell Ridge**	**5.32**	**80**	Pn	Pn	13 57 18.7	-1.7
MCARA	**McCarthy VSAT**	**5.33**	**70**	Pn	Pn	13 57 20.2	-0.3
CCB	**Clear Creek Bu**	**5.41**	**27**		Pn	13 57 19.7	-1.8
I23K	**Minto, Yukon-K**	**5.56**	**18**		Pn	13 57 22.4	-1.2
ISLE	**Juniper Island**	**5.57**	**78**		Pn	13 57 22.6	-1.2
KIAG	**Kiagna River**	**5.59**	**75**		Pn	13 57 22.8	-1.2
MDM	**Murphy Dome**	**5.59**	**23**		Pn	13 57 22.2	-1.8
M26K	**Nabesna, AK**	**5.63**	**59**	Pn	Pn	13 57 24.0	-0.6
IL31		**5.73**	**29**		Pn	13 57 24.1	-1.7
ILAR	**Eielson Array**	**5.73**	**29**	Pn	Pn	13 57 23.8	-2.1
MESA	**MESA**	**5.77**	**83**	Pn	Pn	13 57 25.6	-1.0
BARN	**Barnard Glacie**	**5.94**	**74**	Pn	Pn	13 57 28.2	-0.6
J25K	**Salcha River,**	**6.02**	**35**		Pn	13 57 28.1	-1.7
H23K	**Yukon River**	**6.17**	**15**		Pn	13 57 30.7	-1.1
LOGN	**Logan Glacier**	**6.24**	**76**		Pn	13 57 31.9	-0.9
J26L	**Joseph Creek**	**6.50**	**41**	Pn	Pn	13 57 35.8	-0.6
PRP	**Porcupine Dome**	**6.68**	**30**	Pn	Pn	13 57 37.2	-1.5

*ISK **15** 14:05:06.4, 34.89N×31.62E, h13km, ML3.0/21*
*NIC **15** 14:05:07.9, 35.03N×31.59E, h19km, Ml2.5/7*
*GII **15** 14:05:09.0±0.6, 34.764N±0.004×31.827E±0.001, h0km, Mws2.8, confirmed*
*AFAD **15** 14:05:11.5±0.0, 35.15N×31.86E, h23km±1km, ML2.5*

ISC 15 14:05:07.7±1.3, **34.98N**±0.04×**31.73E**±0.03, **h13km±10km, n59, σ1.930/72, 3C, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.50**	**85**	P	**Pn**	**14 05 20.2**	**-0.4**
AKMS				S	**Sn**	**14 05 29.4**	**+0.3**
AKMS				AML	AML	14 05 33.5	
	1.3nm,0.3s						
AKMS				AML	AML	14 05 34.3	
	2.6nm,0.5s						
NATA	**Nata**	**0.72**	**106**	P	**Pn**	**14 05 24.0**	**+0.4**
NATA				S	**Sn**	**14 05 36.5**	**+1.9**
NATA				AML	AML	14 05 45.4	
	2.1nm,0.7s						
NATA				AML	AML	14 05 47.6	
	2.7nm,0.6s						
ALFC	**Alefka**	**0.74**	**76**	↑*i*P	**Pn**	**14 05 24.1**	**+0.3**
ALFC				S	**Sn**	**14 05 36.0**	**+1.0**
ALFC				AML	AML	14 05 41.2	
	1.3nm,0.4s						
ALFC				AML	AML	14 05 42.6	
	1.7nm,0.4s						
TROD	**Troodos**	**0.94**	**91**	↑*i*P	**Pn**	**14 05 26.5**	**-0.2**
TROD				S	**Sn**	**14 05 42.9**	**+2.8**
TROD				AML	AML	14 05 52.4	
	0.3nm,0.4s						
TROD				AML	AML	14 05 55.8	
	0.4nm,0.6s						
LEF	**Lefka**	**0.96**	**81**	Pg	**Pn**	**14 05 26.7**	**-0.3**
LEF				Sg	**Sn**	**14 05 41.1**	**+0.6**
LEF	**Lefka**	**0.96**	**81**	P	**Pn**	**14 05 27.4**	**+0.5**
AKDN	**Akdeniz- Kıbrı**	**1.06**	**72**	Pn	**Pg**	**14 05 28.8**	**+0.6**
AKDN				Sn	**Sn**	**14 05 45.6**	**+2.6**
ASGA	**Asgata**	**1.26**	**98**	↑*i*P	**Pg**	**14 05 31.8**	**-0.2**
ASGA				S	**Sg**	**14 05 50.6**	**+2.1**
ASGA				AML	AML	14 05 58.2	
	0.3nm,0.4s						
ASGA				AML	AML	14 06 00.5	
	0.6nm,0.5s						
CSS	**Mathiatis**	**1.32**	**90**	Pn	**Pb**	**14 05 32.3**	**0.0**
CSS	**Mathiatis**	**1.32**	**90**	P	**Pg**	**14 05 32.4**	**-0.5**
CSS				S	**Sg**	**14 05 52.0**	**+1.9**
CSS				AML	AML	14 06 03.4	
	0.2nm,0.4s						
CSS				AML	AML	14 06 06.8	
	0.2nm,0.6s						
CSS	**Mathiatis**	**1.32**	**90**	P	**Pg**	**14 05 32.5**	**-0.5**
CSS				S	**Sg**	**14 05 51.3**	**+1.2**
GAZI	**Gazipasa**	**1.34**	**21**	P	**Pb**	**14 05 32.0**	**-0.8**
GAZI				S	**Sg**	**14 05 50.1**	**-0.9**
GAZI				*i* AML	AML	14 05 51.0	
	comp=E,120nm,0.4s						
GAZI				*i* AML	AML	14 05 53.0	
	comp=N,80nm,0.8s						
AKIN	**Akıncılar- Kıb**	**1.43**	**88**	Pn	**Pg**	**14 05 34.3**	**-0.8**
LFK	**Lefkose**	**1.51**	**78**	Pn	**Pb**	**14 05 35.4**	**-0.2**
MVOU	**Mavrovouni**	**1.56**	**88**	P	**Pg**	**14 05 37.9**	**+0.1**
MVOU				S	**Sg**	**14 05 58.2**	**+0.1**
MVOU				AML	AML	14 06 11.4	
	0.1nm,0.5s						
MVOU				AML	AML	14 06 16.6	
	0.1nm,0.6s						
TEKE	**Tekeli-Mersin**	**1.62**	**44**	Pn	**Pb**	**14 05 36.9**	**-0.6**
AKUM	**Antalya-Kumluc**	**1.75**	**320**	P	**Pg**	**14 05 44.0**	**+2.6**
BERE	**Bereket-Mersin**	**1.83**	**41**	Pn	**Pb**	**14 05 40.1**	**-1.1**
AKK1	**Akkuyu-Mersin**	**1.88**	**51**	Pn	**Pb**	**14 05 40.9**	**-1.0**
AKKU	**Akkuyu-Mersin**	**1.90**	**51**	Pn	**Pb**	**14 05 41.2**	**-1.0**
GULN	**MERSIN_Gulnar**	**1.91**	**50**	P	**Pg**	**14 05 43.0**	**-1.4**
GULN				S	**Sg**	**14 06 06.4**	**-2.7**
GULN				*i* AML	AML	14 06 19.0	
	comp=E,38nm,0.5s						
KEPZ	**Antalya-Kepez**	**1.92**	**357**	P	**Pn**	**14 05 40.6**	**+0.4**
KEPZ				S	**Sb**	**14 06 06.7**	**0.0**
YESI	**Yesilovacik-Me**	**1.98**	**51**	Pn	**Pb**	**14 05 42.3**	**-1.3**
TEVE	**Tevekalti-Mers**	**2.02**	**43**	Pn	**Pb**	**14 05 42.9**	**-1.4**
IKL	**Isikli**	**2.03**	**51**	Pn	**Pb**	**14 05 42.9**	**-1.6**
EREN	**Erenkoy**	**2.07**	**74**	Pn	**Pb**	**14 05 44.4**	**-0.8**
HDMB	**Hadim**	**2.08**	**17**	Pn	**Pb**	**14 05 43.5**	**-1.9**
KEBE	**Keben-Mersin**	**2.18**	**47**	Pn	**Pb**	**14 05 45.3**	**-1.8**
SILI	**Silifke-Mersin**	**2.26**	**52**	Pn	**Pb**	**14 05 46.4**	**-2.0**
SEYD	**Seydisehir-KON**	**2.43**	**2**	Pn	**Pn**	**14 05 48.5**	**+1.3**
KKBE	**Karaman, Kazim**	**2.44**	**23**	P	**Pb**	**14 05 50.1**	**-1.5**
KKBE				*i* AML	AML	14 06 30.0	
	comp=E,28nm,0.9s						
KKBE				*i* AML	AML	14 06 33.0	
	comp=N,30nm,1.0s						
SEDI	**Konya, Seydise**	**2.47**	**0**	P	**Pb**	**14 05 51.3**	**-0.7**
SEDI				*i* AML	AML	14 06 32.0	
	comp=N,32nm,0.9s						
SEDI				*i* AML	AML	14 06 34.0	
	comp=E,44nm,0.8s						
FETY	**Fethiye**	**2.71**	**308**	Pn	**Pn**	**14 05 51.2**	**+0.1**
KONT	**Konya--Tatoy**	**3.01**	**10**	Pn	**Pn**	**14 05 56.6**	**+1.5**
DALY	**Dalyan (Mula)**	**3.10**	**307**	Pn	**Pn**	**14 05 56.4**	**+0.1**
KERG	**Konya-Eregli**	**3.11**	**38**	P	**Pb**	**14 06 01.0**	**-2.0**
KERG				*i* AML	AML	14 06 49.0	
	comp=N,26nm,0.7s						
KERG				*i* AML	AML	14 06 52.0	
	comp=E,24nm,0.5s						
DOGA	**KONYA_Doganhis**	**3.12**	**359**	P	**Pb**	**14 06 02.6**	**-0.6**
DOGA				*i* AML	AML	14 06 54.0	
	comp=N,17nm,0.7s						
DOGA				*i* AML	AML	14 06 56.0	
	comp=E,17nm,0.7s						
APMY	**Acipayam-Deniz**	**3.17**	**322**	Pn	**Pn**	**14 05 58.0**	**+0.6**
MMA0B	**Mount Meron ar**	**3.62**	**122**	P	**Pn**	**14 06 03.9**	**+0.3**
MMA0B	**Mount Meron ar**	**3.62**	**122**	S	**Sn**	**14 06 46.6**	**+0.2**
GEM	**Giv'at Ha'Em**	**3.71**	**117**	S	**Sn**	**14 06 48.6**	**+0.3**
GEM	**Giv'at Ha'Em**	**3.71**	**117**	P	**Pn**	**14 06 05.9**	**+1.2**
NATI	**Neve Ativ**	**3.74**	**116**	P	**Pn**	**14 06 06.0**	**+0.9**
KARP	**Karpathos**	**3.78**	**280**	Pn	**Pn**	**14 06 04.1**	**-1.2**
DAT	**Datca**	**3.80**	**299**	Pn	**Pn**	**14 06 06.0**	**-0.1**
KSHT	**Keshet**	**3.93**	**119**	P	**Pn**	**14 06 08.8**	**+1.0**
KSHT	**Keshet**	**3.93**	**119**	S	**Sn**	**14 06 54.8**	**+0.9**
MMLI	**Mount Malkishu**	**3.98**	**128**	P	**Pn**	**14 06 09.3**	**+0.7**
BODT	**Bodrum**	**4.14**	**301**	Pn	**Pn**	**14 06 09.4**	**-1.3**
HMDT	**Nahal Hemdat**	**4.17**	**130**	P	**Pn**	**14 06 12.2**	**+1.1**
DSI	**Dead Sea**	**4.57**	**137**	S	**Sn**	**14 07 09.1**	**-0.4**
DSI	**Dead Sea**	**4.57**	**137**	P	**Pn**	**14 06 17.3**	**+0.7**
PRNI	**Paran**	**5.38**	**148**	S	**Sn**	**14 07 27.9**	**-1.6**
PRNI	**Paran**	**5.38**	**148**	P	**Pn**	**14 06 27.8**	**+0.2**
HRFI	**Mount Harif**	**5.66**	**150**	S	**Sn**	**14 07 34.9**	**-1.6**
HRFI	**Mount Harif**	**5.66**	**150**	P	**Pn**	**14 06 31.8**	**+0.2**
MBRI	**Mt Berech**	**5.83**	**152**	P	**Pn**	**14 06 37.5**	**+3.6**
EIL	**Elat**	**5.95**	**152**	P	**Pn**	**14 06 35.0**	**-0.5**
EIL	**Elat**	**5.95**	**152**	S	**Sn**	**14 07 41.6**	**-2.0**

NOU 15 14:22:22.3, 21.09S×169.79E, h0km, ML3.9/10, **Southeast of Loyalty Islands, Southeast of Loyalty Islands**

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

STCH				IAML		14 29 55.5		
	comp=N,1μm,1.1s							
STCH				IAML		14 29 55.6		
	comp=E,1μm,1.0s							
HTC	**Hot Caves**	**0.16**	**224**		Pg	14 29 52.6	+0.3	
NPOC	**North of Pu'u**	**0.17**	**76**		Pg	14 29 51.7	-0.6	
JCUZ	**Jacuzzi**	**0.17**	**79**		Pg	14 29 52.0	-0.4	
MLH	**Mauna Loa**	**0.17**	**325**		Pg	14 29 52.7	+0.2	
MLH				IAML		14 29 58.0		
	comp=N,1μm,0.6s							
HMH	**Humu'ula Sheep**	**0.31**	**322**		Pg	14 29 55.2	0.0	
HMH				IAML		14 30 01.7		
	comp=N,476nm,1.2s							
MWH	**Moku'aweowe**	**0.33**	**294**		Pg	14 29 55.6	+0.1	
MWH	**Moku'aweowe**	**0.33**	**294**	IAML		14 29 56.5		
	comp=N,941nm,1.1s							
MWH				IAML		14 30 04.9		
	comp=E,887nm,0.7s							
KHU	**Kahuku**	**0.33**	**252**		Pg	14 29 55.7	+0.1	
KHU	**Kahuku**	**0.33**	**252**	IAML		14 29 57.4		
	comp=E,532nm,2.4s							
KHU				IAML		14 29 60.0		
	comp=N,638nm,1.5s							
MLOA	**Mauna Loa Obse**	**0.33**	**303**	Pg	Pg	14 29 55.6	-0.1	
MLOA				IAML		14 30 04.2		
	comp=E,406nm,0.6s							
MLOA				IAML		14 30 04.2		
	comp=N,605nm,1.4s							
ALEP	**Alea Permanent**	**0.39**	**299**		Pg	14 29 56.5	-0.2	
POHA	**Pohakuloa**	**0.47**	**329**		Sg	14 30 05.4	+1.1	
POHA	**Pohakuloa**	**0.47**	**329**	Pg	Pg	14 29 57.8	-0.3	
POHA				IAML		14 30 05.9		
	comp=N,550nm,0.7s							
POHA				IAML		14 30 06.2		
	comp=N,294nm,0.7s							
HUH	**Hualalai**	**0.62**	**302**	Pg	Pg	14 30 00.3	-0.7	

*NEIC **15** 14:41:24.4±0.3,36°.063N×0°.009×97°.57W±0°.01,h4km±1km, Error ellipse: s-maj=1.3km s-min=1.1km az=198.0*
TUL 15 14:41:24.7±0.3,36°.070N±0°.010×97°.57W±0°.01,h7km, ML2.8,mb_Lg2.4/30(NEIC),**ML2.7**/74(NEIC),**Error ellipse: s-maj=1.3km s-min=1.3km az=121.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**161**		Pg	14 41 30.6	+0.3
OK029				Sg	Sg	14 41 34.8	+0.6
OK029				IAML		14 41 35.0	
	847nm,0.2s						
OK029				IAML		14 41 35.0	
	1μm,0.3s						
ADOK	**Arcadia Dam**	**0.45**	**159**	Pg	Pg	14 41 33.6	+0.3
ADOK				Sg	Sg	14 41 39.7	+0.5
OK033	**Mehan**	**0.51**	**93**		Pg	14 41 34.8	+0.2
OK033				IAML		14 41 42.4	
	752nm,0.3s						
CROK	**Carrier**	**0.55**	**322**		Pg	14 41 35.4	+0.1
CROK				IAML		14 41 43.3	
	comp=E,488nm,0.4s						
CROK				IAML		14 41 50.4	
	comp=N,582nm,0.3s						
OK031	**S. Brethren Rd**	**0.60**	**101**		Pg	14 41 36.5	+0.2
OK031				IAML		14 41 45.1	
	comp=N,398nm,0.4s						
OK048	**Pawnee Station**	**0.61**	**55**		Pg	14 41 36.6	+0.1
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	14 41 36.9	+0.1
OK052				IAML		14 41 45.8	
	comp=N,336nm,0.3s						
OKCSW	**OKLAHOMA CITY**	**0.67**	**171**	Pg	Pg	14 41 37.7	+0.1
OKCSW				IAML		14 41 49.5	
	comp=E,445nm,0.4s						
QUOK	**Quay**	**0.70**	**81**		Pg	14 41 38.2	0.0
QUOK				IAML		14 41 48.2	
	comp=N,489nm,0.3s						
QUOK				IAML		14 41 51.5	
	comp=E,351nm,0.2s						
OK051	**E0350 and S346**	**0.73**	**53**		Pg	14 41 38.8	0.0
BLOK	**Blackwell**	**0.75**	**22**		Pg	14 41 39.0	-0.1
BLOK				IAML		14 41 53.7	
	comp=N,217nm,1.2s						
BLOK				IAML		14 41 54.3	
	comp=E,293nm,0.2s						
GC02	**Grant County #**	**0.81**	**343**	Pg	Pg	14 41 40.1	-0.2
FNO	**Franklin**	**0.82**	**170**	Pg	Pg	14 41 40.3	-0.2
FNO				IAML		14 41 54.3	
	comp=E,214nm,0.3s						
DEOK	**Depew**	**0.90**	**104**		Pg	14 41 41.5	-0.4
OK032	**Salt Plains WL**	**0.90**	**325**	Pg	Pg	14 41 41.6	-0.3
OK032				IAML		14 41 56.3	
	comp=E,356nm,0.2s						
KAN14	**Manchester OK**	**0.94**	**340**		Pg	14 41 42.4	-0.4
KAN14				IAML		14 41 58.8	
	comp=N,291nm,0.2s						
KAN13	**South Haven SW**	**0.94**	**4**		Pg	14 41 42.6	-0.3
KAN17	**Caldwell West**	**0.98**	**351**		Pg	14 41 43.3	-0.3
KAN17				IAML		14 42 05.7	
	comp=N,247nm,0.2s						
CSTR	**Hydro, Custer**	**1.00**	**245**	Pg	Pg	14 41 43.8	-0.2
OK038	**West end E0370**	**1.03**	**294**		Pg	14 41 43.8	-0.7
KAN09	**Caldwell North**	**1.06**	**358**		Pg	14 41 44.8	-0.3
KAN05	**Bluff City Nor**	**1.07**	**347**	Pg	Pg	14 41 44.8	-0.3
KAN01	**Argonia South**	**1.09**	**352**		Pg	14 41 45.2	-0.5
KAN01				IAML		14 42 00.2	
	comp=E,216nm,0.2s						
KAN10	**Anthony SW Sta**	**1.13**	**338**	Pg	Pg	14 41 46.1	-0.3
KAN10				IAML		14 42 05.5	
	comp=E,177nm,0.1s						
KAN06	**Argonia West S**	**1.20**	**349**		Pg	14 41 47.1	-0.6
KAN08	**Anthony NE Sta**	**1.20**	**344**	Pg	Pg	14 41 47.2	-0.5
KAN08				IAML		14 42 03.8	
	comp=E,226nm,0.2s						
KAN08				IAML		14 42 07.2	
	comp=N,215nm,0.1s						
T35A	**Sooner Cattle**	**1.20**	**45**		Pg	14 41 47.2	-0.5
T35A				IAML		14 42 03.9	
	comp=N,158nm,0.4s						
T35A				IAML		14 42 10.3	
	comp=E,168nm,0.5s						
U32A	**Winter Ranch,**	**1.20**	**285**	Pg	Pg	14 41 46.9	-0.8
U32A				IAML		14 42 05.5	
	comp=E,121nm,0.1s						
U32A				IAML		14 42 05.6	
	comp=N,141nm,0.1s						
TUL3	**Leonard**	**1.45**	**96**		Pn	14 41 50.7	-0.7
ELIS	**Ellis County**	**1.50**	**270**		Pn	14 41 52.1	0.0
WMOK	**Wichita Mounta**	**1.66**	**217**		Pn	14 41 54.3	0.0
RLO	**Rose Lookout**	**2.06**	**87**		Pn	14 42 00.3	+0.5
LOOK	**Love County**	**2.10**	**171**	lAmb_Lg		14 42 31.6	
	comp=Z,12nm,0.8s						
X37A	**Clayton**	**2.33**	**129**		Pn	14 42 04.0	+0.6
SMWD	**Samnorwood**	**2.38**	**247**	Pn	Pn	14 42 04.6	+0.3
WTFS	**Witchita Falls**	**2.41**	**198**		Pn	14 42 05.0	+0.4
CBKS	**Cedar Bluff**	**3.24**	**328**	lAmb_Lg		14 43 08.7	
	comp=Z,6.5nm,0.8s						
AMTX	**Amarillo**	**3.56**	**252**	lAmb_Lg		14 43 16.2	
	comp=Z,6.2nm,1.0s						
S39A	**Bolivar**	**3.77**	**63**	lAmb_Lg		14 43 27.4	
	comp=Z,10nm,0.8s						
ABTX	**Abilene, Hawle**	**3.84**	**207**	lAmb_Lg		14 43 32.7	
	comp=Z,7.2nm,1.0s						
X40A	**Basin Creek Fa**	**4.18**	**111**	lAmb_Lg		14 43 46.8	
	comp=Z,5.5nm,1.0s						
WHAR	**Wooly Hollow**	**4.37**	**99**	lAmb_Lg		14 43 47.9	
	comp=Z,8.9nm,1.1s						
MGMO	**Mountain Grove**	**4.40**	**74**	lAmb_Lg		14 43 42.2	
	comp=Z,11nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.42**	**91**	lAmb_Lg		14 43 46.2	
	comp=Z,6.9nm,0.8s						
P38A	**Dawn**	**4.78**	**41**	lAmb_Lg		14 44 03.2	
	comp=Z,6.4nm,0.8s						
KSCO	**Kaye Shedlock'**	**4.98**	**308**	lAmb_Lg		14 44 12.7	
	comp=Z,6.3nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**67**	lAmb_Lg		14 44 24.9	
	comp=Z,6.5nm,0.8s						
N38A	**Joes South For**	**5.81**	**34**	lAmb_Lg		14 44 39.5	
	comp=Z,7.4nm,0.8s						
JCT	**Junction City**	**5.88**	**199**	lAmb_Lg		14 44 38.5	
	comp=Z,7.2nm,0.9s						
CGM3	**Cape Girardeau**	**6.47**	**77**	lAmb_Lg		14 44 48.5	
	comp=Z,7.2nm,0.8s						
DRIO	**Del Rio**	**7.11**	**202**	lAmb_Lg		14 45 24.7	
	comp=Z,2.6nm,0.8s						

*CATAC **15** 14:47:44.7±1.2, 13°.00N×89°.04W, h26km±12km, ML3.6*
*SNET **15** 14:47:45.4±0.8, 13°.03N×89°.02W, h45km±39km, ML2.8*
ISC 15 14:47:43.9±3.2,12°.9N±0°.2×89°.06W±0°.06,h29km±18km, **n20,σ0s20**/28,**Off coast of central America**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.68**	**24**	*e*P	**Pb**	**14 47 57.1**	**-0.1**
TECO				IAML		14 47 57.4	
	comp=Z,279nm,0.1s						
TECO				*e*S	**Sb**	**14 48 06.5**	**+0.1**
TECO	**Alcaldia de Te**	**0.68**	**24**	*i* P	**Pb**	**14 47 57.1**	**-0.1**
TECO				IAML		14 47 57.3	
	comp=Z,600nm,1.0s						
TECO				*i* S	**Sb**	**14 48 06.4**	**+0.1**
COEG	**Centro de Oper**	**0.72**	**14**	*e*P	**Pb**	**14 47 57.9**	**-0.1**
COEG				IAML		14 48 12.0	
	comp=Z,496nm,0.3s						
LOMA	**Loma Larga**	**0.73**	**351**	*e*P	**Pb**	**14 47 58.2**	**-0.1**
LOMA				IAML		14 48 11.7	
	comp=Z,346nm,0.2s						
LOMA	**Loma Larga**	**0.73**	**351**	*i* P	**Pb**	**14 47 58.2**	**-0.1**
LOMA				*i* S	**Sb**	**14 48 08.5**	**+0.5**
LOMA				IAML		14 48 08.8	
	comp=Z,420nm,1.0s						
UESV	**Universidad de**	**0.77**	**20**	*i* P	**Pb**	**14 47 58.5**	**-0.2**
UESV				IAML		14 47 58.8	
	comp=Z,1μm,1.0s						
UESV				*i* S	**Sb**	**14 48 08.8**	**0.0**
COEB	**Comit de Eme**	**0.78**	**42**	*e*P	**Pb**	**14 47 58.9**	**0.0**
COEB				IAML		14 48 11.5	
	comp=Z,570nm,0.2s						
TECA	**Tecapa**	**0.79**	**43**	*e*P	**Pb**	**14 47 59.2**	**-0.1**
TECA				*e*S	**Sb**	**14 48 09.8**	**+0.1**
PAVA	**Las Pavas**	**0.80**	**8**	*e*P	**Pb**	**14 47 59.3**	**-0.1**
PAVA	**Las Pavas**	**0.80**	**8**	*i* P	**Pb**	**14 47 59.2**	**-0.2**
PAVA				IAML		14 47 59.4	
	comp=Z,720nm,1.0s						
PAVA				*i* S	**Sb**	**14 48 10.1**	**+0.1**
PMON	**Piamonte**	**0.83**	**343**	*e*P	**Pb**	**14 47 59.8**	**-0.1**
PMON	**Piamonte**	**0.83**	**343**	*i* P	**Pb**	**14 47 59.8**	**-0.1**
PMON				*i* S	**Sb**	**14 48 10.6**	**-0.2**
PMON				IAML		14 48 15.1	
	comp=Z,440nm,1.0s						
SCLA	**Alcaldia de Sa**	**0.85**	**22**	*e*P	**Pb**	**14 47 59.8**	**-0.3**
SCLA	**Alcaldia de Sa**	**0.85**	**22**	*i* P	**Pb**	**14 47 59.8**	**-0.3**
SCLA				IAML		14 48 02.8	
	comp=Z,140nm,1.0s						
PQSS	**Presa 15 de Se**	**0.86**	**34**	*e*P	**Pn**	**14 47 59.9**	**-0.1**
PACA	**Pacayal**	**0.90**	**52**	*e*P	**Pn**	**14 48 01.1**	**+0.4**
SNJE	**San Jose**	**1.09**	**331**	*e*P	**Pn**	**14 48 03.1**	**-0.2**
LCND	**La Caada**	**1.20**	**71**	*e*P	**Pn**	**14 48 04.7**	**-0.1**
NUBE	**Las Nubes**	**1.21**	**325**	*e*P	**Pn**	**14 48 05.3**	**+0.3**
NUBE	**Las Nubes**	**1.21**	**325**	*i* P	**Pn**	**14 48 05.1**	**+0.1**
NUBE				*i* S	**Sn**	**14 48 20.4**	**0.0**
NUBE				IAML		14 48 21.3	
	comp=Z,260nm,1.0s						

*IDC **15** 15:00:23.4±2.0,23°.98N×142°.17E,h0km,mb3.5/5, mbtmp3.5/6,ML3.4/1,Error ellipse: s-maj=82.0km s-min=19.7km az=84.0*
ISC 15 15:00:29.6±5.2,24°.5N±0°.4×14°4E±°,h100km,**n12,σ1s33**/7, **mb3.5**/5,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.00**	**331**	Pn	**Pn**	**15 01 13.9**	**-1.5**
	4.1nm,0.3s,baz=341,slow=23,SNR=27						
JCJ				Sn	**Sn**	**15 01 50.6**	**-0.1**
	20nm,0.3s,baz=43,slow=23,SNR=11 44nm,0.8s						
H11N1	**WAKE ISLAND Hy**	**21.91**	**98**	T	T	15 30 18.0	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**21.91**	**98**	T	T	15 29 39.5	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**21.93**	**98**	T	T	15 29 52.6	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**22.10**	**101**	T	T	15 31 14.8	
	baz=290						
H11S1	**WAKE ISLAND Hy**	**22.11**	**101**	T	T	15 31 17.5	
	baz=290						
H11S2	**WAKE ISLAND Hy**	**22.12**	**101**	T	T	15 31 03.2	
	baz=290						
WRA	**Warramunga Arr**	**45.08**	**193**	P	**P**	**15 08 35.3**	**-0.6**
	0.5nm,0.7s,baz=7.9,slow=8.1,SNR=9.1 0.5nm,0.7s						
ASAR	**Alice Springs**	**48.79**	**192**	P	**P**	**15 09 04.1**	**-0.6**
	0.1nm,0.4s,baz=12,slow=6.9,SNR=5.6 0.1nm,0.4s						
MKAR	**Makanchi Array**	**53.28**	**311**	P	**P**	**15 09 38.8**	**+0.6**
	0.3nm,0.5s,baz=92,slow=8.9,SNR=1.6 0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**55.92**	**316**	P	**P**	**15 09 58.0**	**+0.9**
	0.2nm,0.4s,baz=94,slow=7.1,SNR=2.5 0.2nm,0.4s						
BVAR	**Borovoye Array**	**60.96**	**319**	P	**P**	**15 10 33.9**	**+1.7**
	0.7nm,0.4s,baz=87,slow=5.9,SNR=2.0 0.7nm,0.4s						

*NEIC **15** 15:02:36.6±1.5,54°.90N±0°.04×163°.44W±0°.06,h5km±5km, mb3.8/30,ML4.3/16,ML4.0(AEIC),Error ellipse: s-maj=8.2km s-min=1.7km az=139.0*
*IDC **15** 15:02:36.5±1.1,54°.61N×163°.45W,h0km,mb3.8/8, mbtmp3.8/11,ML3.4/3,MS3.2/19,Error ellipse: s-maj=26.1km s-min=18.8km az=168.0*
*AEIC **15** 15:02:37.0±1.5,54°.84N±0°.07×163°.41W±0°.07,h1km±5km, Error ellipse: s-maj=11.6km s-min=2.4km az=152.0*
ISC 15 15:02:36.8±0.9,54°.88N±0°.05×163°.41W±0°.03,h5km±5km, **n190,σ0s92**/168,**mb3.7**/9,**MS3.1**/17,**Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.02**	**187**	P	**Pg**	**15 02 37.5**	**-0.2**
FALS	**False Pass**	**0.02**	**187**		**Pg**	**15 02 37.3**	**-0.4**
FALS	**False Pass**	**0.02**	**187**	P	**Pg**	**15 02 37.3**	**-0.4**
	baz=160						
ISNN	**Isanotski Nort**	**0.22**	**258**		**Pg**	**15 02 41.7**	**+0.7**
ISNN					**Sg**	**15 02 45.7**	**+1.9**
ISLZ	**Isanotski Laza**	**0.23**	**229**		**Pg**	**15 02 40.8**	**-0.5**
ISLZ					**Sg**	**15 02 44.2**	**-0.1**
SSLN	**Shishaldin Nor**	**0.34**	**259**		**Pg**	**15 02 44.0**	**+0.6**
WESE	**West Dahl East**	**0.79**	**240**		**Pg**	**15 02 51.4**	**-0.6**
WEBT	**Westdahl Beart**	**0.83**	**250**		**Pg**	**15 02 51.9**	**-0.7**
WEBT					**Sg**	**15 03 04.0**	**-1.2**
WECS	**Westdahl Cape**	**0.86**	**247**		**Pg**	**15 02 52.4**	**-0.9**
PVV	**Pavlof Volcano**	**1.06**	**61**		**Pg**	**15 02 56.6**	**-0.4**
PVV					**Sb**	**15 03 12.0**	**+0.4**
PS1A	**Pavlof South-1**	**1.10**	**60**		**Pg**	**15 02 57.3**	**-0.6**
S12K	**Black Hills**	**1.13**	**43**		**Pg**	**15 02 57.6**	**-0.8**
S12K				Sg	**Sb**	**15 03 13.5**	**-0.4**
S12K				IAML		15 03 16.2	
	comp=N,6μm,0.6s						
S12K				IAML		15 03 16.4	
	comp=E,9μm,0.4s						
S12K	**Black Hills**	**1.13**	**43**	P	**Pg**	**15 02 57.8**	**-0.6**
	baz=222						
S12K				S	**Sn**	**15 03 14.3**	**-1.0**
	baz=222						
AKSA	**Akutan Strait**	**1.53**	**242**		**Sn**	**15 03 23.0**	**-2.0**
AKSA	**Akutan Strait**	**1.53**	**242**		**Pn**	**15 03 03.9**	**-0.8**
LVA	**Lava Point**	**1.69**	**246**		**Pn**	**15 03 06.1**	**-0.9**
SDPT	**Sand Point**	**1.75**	**73**	P	**Pn**	**15 03 07.6**	**-0.2**
SDPT	**Sand Point**	**1.75**	**73**		**Pn**	**15 03 07.5**	**-0.3**
SDPT					**Sn**	**15 03 30.9**	**+0.4**
SDPT	**Sand Point**	**1.75**	**73**	P	**Pn**	**15 03 07.5**	**-0.2**
	baz=254						
SDPT				S	**Sn**	**15 03 30.8**	**+0.3**
	baz=254						
UNV	**Unalaska Valle**	**2.08**	**241**	P	**Pn**	**15 03 11.7**	**-0.7**
UNV	**Unalaska Valle**	**2.08**	**241**		**Pn**	**15 03 11.5**	**-0.9**
UNV	**Unalaska Valle**	**2.08**	**241**	P	**Pn**	**15 03 11.5**	**-0.9**
	baz=60						
MTBL	**Makushin Table**	**2.11**	**246**		**Pn**	**15 03 12.7**	**-0.2**
MNAT	**Makushin Natee**	**2.16**	**244**		**Pn**	**15 03 12.9**	**-0.5**
MSW	**Makushin Switc**	**2.19**	**245**		**Pn**	**15 03 13.6**	**-0.3**
CHNA	**Chernabura Isl**	**2.21**	**90**	P	**Pn**	**15 03 12.3**	**-1.8**
	baz=272						
CNBA	**Chernabura Isl**	**2.21**	**90**		**Pn**	**15 03 12.1**	**-2.0**
CNBA				IAML		15 03 52.1	
	comp=N,1μm,0.9s						
VNKR	**Veniaminof 5**	**2.58**	**62**		**Pn**	**15 03 19.1**	**-0.1**
S14K	**Fog Glacier**	**2.60**	**56**	P	**Pn**	**15 03 19.6**	**0.0**
	baz=238						
VNFG	**Fog Glacier, M**	**2.60**	**56**		**Pn**	**15 03 19.6**	**0.0**
VNSS	**Veniaminof 8**	**2.62**	**57**		**Pn**	**15 03 19.5**	**-0.5**
VNHG	**Veniaminof 1**	**2.76**	**59**		**Pn**	**15 03 21.9**	**+0.1**
OKFG	**Magazine Ridge**	**3.03**	**243**		**Pn**	**15 03 24.3**	**-1.0**
OKNC	**Okmok New Cone**	**3.11**	**245**		**Pn**	**15 03 25.4**	**-1.2**
OKCE	**Okmok Cone E**	**3.15**	**244**		**Pn**	**15 03 26.6**	**-0.4**
OKWE	**Okmok W'ng Wal**	**3.17**	**246**		**Pn**	**15 03 26.0**	**-1.3**
CHGN	**Chignik**	**3.17**	**61**		**Pn**	**15 03 26.7**	**-0.7**
CHGN				IAML		15 04 25.7	
	comp=E,608nm,0.8s						
CHGN	**Chignik**	**3.17**	**61**	P	**Pn**	**15 03 27.4**	**+0.1**
	baz=245						
P08K	**Saint George I**	**3.87**	**299**		**Pn**	**15 03 35.8**	**-1.1**
P08K	**Saint George I**	**3.87**	**299**	P	**Pn**	**15 03 35.8**	**-1.1**
	baz=114						
R16K	**Pilot Point**	**4.23**	**48**	Pn	**Pn**	**15 03 41.5**	**-0.3**
R16K				IAML		15 05 09.1	
	comp=N,461nm,1.1s						
R16K				IAML		15 05 29.2	
	comp=E,348nm,1.3s						
SPIA	**Saint Paul Isl**	**4.47**	**304**	P	**Pn**	**15 03 46.3**	**+1.1**
SPIA	**Saint Paul Isl**	**4.47**	**304**		**Pn**	**15 03 44.0**	**-1.1**
SPIA	**Saint Paul Isl**	**4.47**	**304**	P	**Pn**	**15 03 44.0**	**-1.1**
	baz=119						
O14K	**Tigyukauivet M**	**4.54**	**14**		**Pn**	**15 03 45.6**	**-0.5**
O14K				IAML		15 05 24.9	
	comp=N,188nm,0.8s						
O14K	**Tigyukauivet M**	**4.54**	**14**	P	**Pn**	**15 03 45.6**	**-0.5**
	baz=196						
CHIR	**Chirikof Islan**	**4.55**	**75**		**Pn**	**15 03 46.1**	**-0.1**
CHIR				IAML		15 05 08.7	
	comp=E,193nm,1.4s						
CHIR	**Chirikof Islan**	**4.55**	**75**	P	**Pn**	**15 03 46.0**	**-0.2**
	baz=261						
O15K	**Ungalikthiuk R**	**4.73**	**23**	P	**Pn**	**15 03 48.2**	**-0.5**
	baz=206						
P16K	**Nushagak River**	**5.11**	**33**		**Pn**	**15 03 53.2**	**-0.7**
P16K	**Nushagak River**	**5.11**	**33**	P	**Pn**	**15 03 53.2**	**-0.7**
	baz=218						
N14K	**Kuskokwak Cree**	**5.14**	**10**		**Pn**	**15 03 54.2**	**-0.2**
N14K	**Kuskokwak Cree**	**5.14**	**10**	P	**Pn**	**15 03 54.2**	**-0.2**
	baz=191						
Q17K	**Contact Creek**	**5.37**	**48**	P	**Pn**	**15 03 56.9**	**-0.6**
	baz=234						
CNTC	**Contact Creek**	**5.37**	**48**		**Pn**	**15 03 56.9**	**-0.7**
SII	**Sitkinak Islan**	**5.48**	**68**	P	**Pn**	**15 03 59.3**	**+0.2**
SII	**Sitkinak Islan**	**5.48**	**68**		**Pn**	**15 03 58.9**	**-0.2**
SII	**Sitkinak Islan**	**5.48**	**68**	P	**Pn**	**15 03 58.2**	**-0.8**
	baz=256						
O16K	**Kokwok River B**	**5.54**	**29**	Pn	**Pn**	**15 03 58.9**	**-0.9**
O16K	**Kokwok River B**	**5.54**	**29**	P	**Pn**	**15 03 59.1**	**-0.7**
	baz=213						
M13K	**Dall Lake**	**5.55**	**0**	Pn	**Pn**	**15 04 00.8**	**+0.8**
M13K	**Dall Lake**	**5.55**	**0**	P	**Pn**	**15 03 59.8**	**-0.1**
	baz=180						
ACHA	**Angle Creek He**	**5.58**	**50**		**Pn**	**15 03 59.9**	**-0.6**
N15K	**Kwethluk River**	**5.60**	**17**		**Pn**	**15 04 00.4**	**-0.2**
N15K	**Kwethluk River**	**5.60**	**17**	P	**Pn**	**15 04 00.3**	**-0.3**
	baz=200						
M11K	**Mekoryuk**	**5.72**	**346**		**Pn**	**15 04 01.6**	**-0.7**
M11K	**Mekoryuk**	**5.72**	**346**	P	**Pn**	**15 04 01.5**	**-0.7**
	baz=164						
P17K	**Kvichak River**	**5.76**	**38**		**Pn**	**15 04 02.6**	**-0.2**
P17K	**Kvichak River**	**5.76**	**38**	P	**Pn**	**15 04 02.6**	**-0.2**
	baz=224						
M14K	**Bethel**	**5.94**	**7**		**Pn**	**15 04 05.1**	**-0.2**
M14K	**Bethel**	**5.94**	**7**	P	**Pn**	**15 04 05.2**	**-0.1**
	baz=188						
O17K	**Koliganek Bris**	**5.98**	**32**		**Pn**	**15 04 05.2**	**-0.7**
O17K	**Koliganek Bris**	**5.98**	**32**	P	**Pn**	**15 04 05.2**	**-0.7**
	baz=217						
M15K	**Kasigluk River**	**6.01**	**13**	P	**Pn**	**15 04 05.5**	**-0.8**
	baz=195						
N16K	**Nishlik Lake**	**6.14**	**22**		**Pn**	**15 04 07.7**	**-0.4**
N16K	**Nishlik Lake**	**6.14**	**22**	P	**Pn**	**15 04 07.7**	**-0.4**
	baz=206						
OHAK	**Old Harbor**	**6.14**	**63**	P	**Pn**	**15 04 07.9**	**-0.2**
OHAK	**Old Harbor**	**6.14**	**63**		**Pn**	**15 04 07.8**	**-0.2**
OHAK	**Old Harbor**	**6.14**	**63**	P	**Pn**	**15 04 07.8**	**-0.2**
	baz=251						
P18K	**Big Mountain,**	**6.35**	**41**	Pn	**Pn**	**15 04 10.9**	**-0.1**
P18K	**Big Mountain,**	**6.35**	**41**	P	**Pn**	**15 04 09.9**	**-1.1**
	baz=228						
L14K	**Kuka Creek**	**6.49**	**3**		**Pn**	**15 04 12.5**	**-0.4**
L14K	**Kuka Creek**	**6.49**	**3**	P	**Pn**	**15 04 12.2**	**-0.7**
	baz=184						
N17K	**Nushagak Hills**	**6.57**	**28**		**Pn**	**15 04 13.3**	**-0.7**
N17K	**Nushagak Hills**	**6.57**	**28**	P	**Pn**	**15 04 13.3**	**-0.7**
	baz=213						
M16K	**Timber Creek**	**6.60**	**19**		**Pn**	**15 04 13.4**	**-0.9**
M16K	**Timber Creek**	**6.60**	**19**	P	**Pn**	**15 04 13.6**	**-0.8**
	baz=203						
O18K	**Koktuh Hills**	**6.67**	**38**	Pn	**Pn**	**15 04 15.1**	**-0.3**
O18K	**Koktuh Hills**	**6.67**	**38**	P	**Pn**	**15 04 15.1**	**-0.3**
	baz=225						
KDAK	**Kodiak Island**	**6.69**	**60**		**Pn**	**15 04 15.5**	**-0.1**
KDAK	**Kodiak Island**	**6.69**	**60**	Pn	**Pn**	**15 04 16.0**	**+0.4**
	comp=E,1.0nm,0.3s,baz=260,slow=9.3,SNR=29						
KDAK				Sn	**Sn**	**15 05 30.5**	**-1.6**
	comp=E,0.9nm,0.3s,baz=175,slow=22,SNR=10.0 comp=E,3.7nm,0.5s						
Q19K	**Cape Douglas,**	**6.71**	**49**	Pn	**Pn**	**15 04 15.4**	**-0.6**
Q19K	**Cape Douglas,**	**6.71**	**49**	P	**Pn**	**15 04 15.3**	**-0.6**
	baz=237						
L15K	**Ungalak Mounta**

K20K	**Telida**	**9.75**	**26**	P		**Pn**	**15 04 55.8**	**-1.8**
	baz=214							
J19K	**Poorman**	**9.96**	**20**			**Pn**	**15 04 58.5**	**-1.9**
J19K	**Poorman**	**9.96**	**20**	P		**Pn**	**15 04 58.5**	**-1.9**
	baz=207							
H18K	**Honhosa River**	**10.61**	**12**	Pn		**Pn**	**15 05 09.0**	**-0.3**
KLU	**Klutina**	**11.34**	**47**			**Pn**	**15 05 19.0**	**-0.3**
MDM	**Murphy Dome**	**12.61**	**31**	Pn		**Pn**	**15 05 36.8**	**+0.1**
ILAR	**Eielson Array**	**12.89**	**33**	Pn		**Pn**	**15 05 42.0**	**+1.5**
	comp=E,0.1nm,0.3s,baz=228,slow=12,SNR=20							
ILAR				LR		LR	15 11 08.1	
	comp=E,379nm,18.2s,baz=234,slow=39							
	comp=E,1.5nm,0.8s							
L27K	**Beaver Creek,**	**13.76**	**45**			**Pn**	**15 05 52.4**	**0.0**
PNL	**Peninsula**	**13.81**	**60**	P		**Pn**	**15 05 53.7**	**+0.7**
D22K	**Ayikyak River**	**14.89**	**15**			**Pn**	**15 06 08.2**	**+0.4**
DAWY	**Dawson**	**15.19**	**43**	Pn		**Pn**	**15 06 10.8**	**-0.9**
DAWY				IAmb		IAmb	15 06 34.7	
	comp=Z,2.8nm,0.7s							
TOLK	**Toolik Lake Re**	**15.22**	**20**	IAmb		IAmb	15 06 22.8	
	comp=Z,8.1nm,1.1s							
N30M	**Aishikik Lake**	**15.29**	**54**	IAmb		IAmb	15 06 23.5	
	comp=Z,4.5nm,0.9s							
I28M	**Miner Creek**	**15.65**	**38**	IAmb		IAmb	15 06 40.1	
	comp=Z,3.7nm,0.9s							
E25K	**Arctic Village**	**15.68**	**25**	IAmb		IAmb	15 06 30.1	
	comp=Z,4.2nm,1.0s							
D24K	**Happy Valley**	**15.80**	**19**	IAmb		IAmb	15 06 28.4	
	comp=Z,7.3nm,1.0s							
N31M	**Braeburn, Yuko**	**15.91**	**54**	IAmb		IAmb	15 06 49.4	
	comp=Z,11nm,0.8s							
B22K	**Teshekpuk Lake**	**16.14**	**12**	IAmb		IAmb	15 06 30.8	
	comp=Z,8.7nm,1.1s							
WHY	**Whitehorse**	**16.20**	**58**	IAmb		IAmb	15 06 33.5	
	comp=Z,8.3nm,0.9s							
M31M	**Drury Creek, Y**	**16.71**	**52**	IAmb		IAmb	15 06 47.6	
	comp=Z,7.9nm,1.1s							
I30M	**Mount Dempster**	**16.86**	**41**	IAmb		IAmb	15 06 58.6	
	comp=Z,5.4nm,0.8s							
P33M	**Teslin, Yukon**	**17.16**	**59**	IAmb		IAmb	15 06 55.4	
	comp=Z,5.7nm,1.0s							
FARO	**Faro, Yukon**	**17.19**	**53**	IAmb		IAmb	15 06 53.2	
	comp=Z,6.7nm,0.9s							
EPYK	**Eagle Plains**	**17.26**	**38**	IAmb		IAmb	15 06 58.3	
	comp=Z,11nm,1.3s							
INK	**Inuvik**	**19.29**	**34**	P		**Pn**	**15 07 03.4**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=242,slow=14,SNR=4.2							
INK				LR		LR	15 15 09.7	
	comp=Z,170nm,18.8s,baz=181,slow=39							
	comp=Z,1.3nm,0.4s							
BILL	**Bilibino**	**19.30**	**325**	P		**Pn**	**15 07 02.4**	**-0.8**
BBB	**Bella Bella**	**21.02**	**83**	LR		LR	15 14 47.4	
	comp=Z,59nm,18.7s,baz=334,slow=35							
PETK	**Petropavlovsk-**	**22.73**	**282**	P		**P**	**15 07 40.2**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=76,slow=14,SNR=3.0							
	comp=Z,2.1nm,0.8s							
A36M	**Sachs Harbour**	**23.51**	**29**	P		**P**	**15 07 46.9**	**-0.3**
A36M				IAmb		IAmb	15 08 06.7	
	comp=Z,4.3nm,0.8s							
SEY	**Seymchan**	**23.76**	**308**	LR		LR	15 18 17.6	
	comp=Z,44nm,18.1s,baz=206,slow=39							
MA2	**Magadan**	**24.84**	**300**	LR		LR	15 17 30.3	
	comp=Z,30nm,21.5s,baz=110,slow=36							
YKA	**Yellowknife Ar**	**25.91**	**53**	P		**P**	**15 08 10.9**	**+1.6**
	comp=Z,1.9nm,0.8s,baz=278,slow=9.7,SNR=19							
YKA				LR		LR	15 19 25.6	
	comp=Z,89nm,19.4s,baz=323,slow=39							
	comp=Z,1.9nm,0.8s							
NEW	**Newport**	**29.07**	**84**	LR		LR	15 18 48.9	
	comp=Z,41nm,19.0s,baz=306,slow=33							
J05D	**Fort Rock, OR**	**29.51**	**95**	P		**P**	**15 08 42.2**	**+0.3**
YBH	**Yreka Blue Hor**	**29.64**	**99**	LR		LR	15 18 09.0	
	comp=Z,31nm,20.2s,baz=259,slow=32							
TIXI	**Tiksi**	**32.49**	**327**	LR		LR	15 22 01.2	
	comp=Z,42nm,20.4s,baz=156,slow=36							
RES	**Resolute Bay**	**32.54**	**27**	LR		LR	15 25 10.2	
	comp=Z,34nm,18.3s,baz=15,slow=41							
YAK	**Yakutsk**	**34.25**	**310**	LR		LR	15 25 36.0	
	comp=Z,44nm,18.2s,baz=20,slow=40							
NVAR	**Mina Array Bea**	**34.36**	**100**	P		**P**	**15 09 26.0**	**+1.3**
	comp=Z,1.3nm,0.8s,baz=302,slow=8.5,SNR=11							
NVAR				LR		LR	15 21 33.8	
	comp=Z,47nm,18.1s,baz=261,slow=33							
	comp=Z,1.3nm,0.8s							
ELK	**Elko**	**34.57**	**94**	LR		LR	15 21 02.4	
	comp=Z,39nm,18.7s,baz=308,slow=32							
PDAR	**Pinedale Array**	**36.57**	**86**	P		**P**	**15 09 44.0**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=298,slow=4.0,SNR=7.7							
	comp=Z,0.5nm,0.5s							
RSSD	**Black Hills**	**38.90**	**81**	P		**P**	**15 10 03.0**	**-0.3**
ULM	**Lac du Bonnet**	**39.87**	**68**	P		**P**	**15 10 11.7**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=301,slow=5.9,SNR=1.9							
	comp=Z,0.8nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**42.87**	**224**	T		T	15 55 59.7	
	baz=26,slow=76							
H11S2	**WAKE ISLAND Hy**	**42.88**	**224**	T		T	15 55 59.5	
	baz=26,slow=76							
H11S3	**WAKE ISLAND Hy**	**42.88**	**224**	T		T	15 55 52.5	
	baz=26,slow=76							
JHJ	**Hachijo jima 2**	**44.82**	**265**	LR		LR	15 28 05.3	
	comp=Z,12nm,19.0s,baz=89,slow=34							
FRB	**Frobisher Bay**	**44.83**	**39**	LR		LR	15 30 27.3	
	comp=Z,61nm,20.7s,baz=190,slow=37							
WMOK	**Wichita Mounta**	**48.18**	**87**	P		**P**	**15 11 17.5**	**-0.4**
TX31	**Lajitas Ar. Si**	**49.31**	**96**	P		**P**	**15 11 26.5**	**-0.3**
TXAR	**Lajitas Array**	**49.31**	**96**	P		**P**	**15 11 27.1**	**+0.4**
	comp=Z,1.0nm,0.6s,baz=306,slow=5.4,SNR=17							
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**53.00**	**302**	LR		LR	15 36 17.5	
	comp=Z,25nm,18.5s,baz=47,slow=38							
BORG	**Borgarnes**	**57.20**	**18**	LR		LR	15 39 36.1	
	comp=Z,18nm,19.2s,baz=15,slow=39							
GUMO	**Guam**	**57.41**	**245**	LR		LR	15 36 36.0	
	comp=Z,6.5nm,18.3s,baz=135,slow=36							
ZALV	**Zalesovo Beam**	**57.89**	**320**	LR		LR	15 40 36.4	
	comp=Z,30nm,18.4s,baz=48,slow=39							
MKAR	**Makanchi Array**	**64.56**	**316**	P		**P**	**15 13 16.1**	**+1.6**
	comp=Z,0.3nm,0.6s,baz=59,slow=8.6,SNR=2.6							
	comp=Z,0.3nm,0.6s							
ASAR	**Alice Springs**	**94.74**	**235**	P		**P**	**15 15 58.4**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=35,slow=5.0,SNR=1.0							
	comp=Z,0.3nm,0.8s							

GII ***15*** *15:14:51.1±0.4, 33°.54N±0°.03×35°.76E±0°.01, h0km, Md1.5/2, confirmed*

GRAL 15 15:14:53.7±0.3, 33°.46N×35°.67E, h0km±24km, MD3.0, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRWL	**Qaraoun**	**0.09**	**6**	*eP*	Pg	15 14 55.5	-0.1
RCY	**Rachaya**	**0.14**	**73**	*eP*	Pg	15 14 56.2	-0.2
NATI	**Neve Ativ**	**0.20**	**164**	P	Pg	15 14 57.7	+0.2
NATI	**Neve Ativ**	**0.20**	**164**	S	Sg	15 15 02.1	+2.0
GEM	**Giv'at Ha'Em**	**0.24**	**182**	P	Pg	15 14 58.8	+0.5
GEM	**Giv'at Ha'Em**	**0.24**	**182**	S	Sg	15 15 04.6	+3.1
DQRL	**Deir Qamar**	**0.26**	**341**	*eP*	Pg	15 14 58.4	-0.4
ZAHL	**Zahle**	**0.44**	**24**	*eP*	Pg	15 15 01.7	-0.5
BHL	**Bhannes**	**0.45**	**358**	*eP*	Pg	15 15 01.7	-0.6
KSHT	**Keshet**	**0.49**	**166**	S	Sb	15 15 12.6	-0.3
KSHT	**Keshet**	**0.49**	**166**	P	Pg	15 15 03.7	+0.7
MMC7	**Mount Meron ar**	**0.49**	**208**	P	Pg	15 15 03.7	+0.6
MMA0B	**Mount Meron ar**	**0.49**	**207**	P	Pg	15 15 03.7	+0.5
MMA0B	**Mount Meron ar**	**0.49**	**207**	S	Sb	15 15 13.8	+0.8
HNTI	**Hanita**	**0.56**	**228**	S	Sb	15 15 16.1	+1.2
HNTI	**Hanita**	**0.56**	**228**	P	Pg	15 15 04.9	+0.6
HWQ	**Hawqa**	**0.85**	**16**	*eP*	Pg	15 15 09.0	-1.1
HWQ				*eS*	Sg	15 15 20.2	-0.9
OFRI	**`Ofer**	**1.01**	**215**	P	Pg	15 15 13.3	+0.2
OFRI	**`Ofer**	**1.01**	**215**	S	Sn	15 15 30.4	+0.2
BEIL	**Beino**	**1.17**	**21**	*eP*	Pg	15 15 14.7	-1.4
BEIL				*eS*	Sg	15 15 30.1	-1.1
HMDT	**Nahal Hemdat**	**1.21**	**186**	P	Pg	15 15 16.5	-0.3
HMDT	**Nahal Hemdat**	**1.21**	**186**	S	Sn	15 15 35.1	+0.3
SLTI	**Sal'it**	**1.32**	**204**	P	Pg	15 15 19.0	0.0
SLTI	**Sal'it**	**1.32**	**204**	S	Sn	15 15 40.4	+2.6
DSI	**Dead Sea**	**1.90**	**188**	P	Pn	15 15 26.0	-1.3

UCR ***15*** *15:21:13.3±1.1, 10°.55N×86°.12W, h27km±3km, MW3.5*
CATAC ***15*** *15:21:14.7±1.3, 10°.53N×86°.09W, h27km±17km, ML3.2*

ISC 15 15:21:13.8±1.5, 10°.52N±0°.04×86°.11W±0°.06, h26km±12km, n30, σ0°.62/49, 3C-8D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELF	**Filadelfia**	**0.55**	**98**	*eP*	**Pb**	**15 21 24.5**	**-0.4**
ALIBA	**Liberia Airpor**	**0.56**	**83**	*i/P*	**Pn**	**15 21 26.3**	**+0.2**
ALIBA				*eS*	Sn	15 21 35.9	+1.4
ELI1	**Hacienda Flor**	**0.56**	**78**	*i/P*	**Pb**	**15 21 25.5**	**+0.4**
ELI1				*eS*	Sn	15 21 35.0	+0.5
ORTG	**Ortega, Santa**	**0.66**	**104**	*eP*	**Pb**	**15 21 26.3**	**-0.4**
ORTG				*eS*	**Sb**	15 21 36.3	+0.7
JUD3	**Juan Diaz 3**	**0.66**	**122**	*eP*	**Pb**	**15 21 26.5**	**-0.4**
JUD3				*eS*	**Sb**	**15 21 36.5**	**+0.8**
LCRUZ	**La Cruz**	**0.72**	**40**	*i/P*	**Pn**	**15 21 28.4**	**0.0**
LCRUZ				*eS*	Sn	15 21 39.3	+0.7
DUNO	**Dulce Nombre,**	**0.75**	**126**	*eP*	**Pb**	**15 21 28.4**	**+0.1**
DUNO				*eS*	Sn	15 21 39.4	+0.2
NICO	**Nicoya**	**0.76**	**121**	*eP*	**Pb**	**15 21 28.1**	**-0.3**
NICO				*eS*	**Sb**	**15 21 38.5**	**+0.1**
PLVR	**Palo Verde**	**0.77**	**103**	*i/eP*	**Pb**	**15 21 28.2**	**-0.4**
PLVR				*eS*	Sn	15 21 39.9	+0.1
GPS3	**Bodega del ICE**	**0.77**	**73**	*i/eP*	**Pn**	**15 21 29.3**	**+0.3**
GPS3				*eS*	Sn	15 21 40.0	+0.3
GPS2	**Hotel Rincn d**	**0.78**	**73**	*i/eP*	**Pb**	**15 21 28.1**	**-0.7**
GPS2				*eS*	Sn	15 21 39.8	-0.2
VORI	**VORI**	**0.80**	**69**	*i/P*	**Pb**	**15 21 28.4**	**-0.9**
CMARA	**Lajas Hojancha**	**0.84**	**127**	*eP*	**Pb**	**15 21 29.1**	**-0.7**
COLC	**Colonia**	**0.90**	**81**	*i/eP*	**Pn**	**15 21 30.3**	**-0.5**
COLC				*eS*	Sn	15 21 42.9	-0.1
CUI	**Cuipilapa**	**0.94**	**82**	*i/eP*	**Pn**	**15 21 30.9**	**-0.5**
CUI				*eS*	Sn	15 21 44.2	+0.3
VMAR	**Armenia, Volca**	**1.02**	**74**	*i/eP*	**Pn**	**15 21 32.0**	**-0.4**
VMAR				*eS*	**Sb**	**15 21 46.5**	**+0.6**
JAPN	**AI SSO del Vol**	**1.08**	**23**	*i P*	**Pb**	**15 21 34.2**	**+0.3**
JAPN				IAML		15 21 34.5	
	comp=Z,930nm,1.0s						
OMEN	**AI SSO del Vol**	**1.09**	**26**	*i P*	**Pb**	**15 21 34.0**	**0.0**
OMEN				IAML		15 21 34.1	
	comp=Z,1μm,1.0s						
MORN	**AI Ó del Volca**	**1.11**	**24**	*i P*	**Pb**	**15 21 34.1**	**-0.3**
MORN				IAML		15 21 34.2	
	comp=Z,2μm,1.0s						
TENO	**El Achiote**	**1.13**	**81**	*eP*	**Pn**	**15 21 33.5**	**-0.4**
TENO				*eS*	**Sn**	**15 21 48.1**	**-0.4**
CONN	**Concepcion**	**1.14**	**25**	*i P*	**Pn**	**15 21 34.4**	**+0.4**
CONN				IAML		15 21 34.7	
	comp=Z,4μm,1.0s						
CONN				*i S*	**Sb**	**15 21 50.1**	**+0.9**
VERA	**Finca Concepci**	**1.26**	**75**	*eP*	**Pn**	**15 21 36.0**	**+0.3**
VACR	**Volcan Arenal**	**1.41**	**92**	*eP*	**Pb**	**15 21 38.8**	**-0.6**
SOCE	**Pocosol**	**1.47**	**95**	*i P*	**Pn**	**15 21 39.4**	**+0.7**
SOCE				IAML		15 22 14.4	
	comp=Z,170nm,1.0s						
SAPS	**Ciudad Sandino**	**1.66**	**350**	*i P*	**Pb**	**15 21 43.1**	**-0.7**
SAPS				*i S*	**Sb**	**15 22 03.1**	**-1.2**
SAPS				IAML		15 22 07.2	
	comp=Z,180nm,1.0s						
ACON	**Acoyapa**	**1.70**	**32**	*i P*	**Pn**	**15 21 41.9**	**+0.1**
ACON				*i S*	**Sn**	**15 22 03.7**	**+1.0**
ACON				IAML		15 22 08.3	
	comp=Z,200nm,1.0s						
ACON	**Acoyapa**	**1.70**	**32**	*i/eP*	**Pn**	**15 21 41.8**	**0.0**
ACON				*eS*	**Sb**	**15 22 04.0**	**-1.4**
COPN	**Copaltepe**	**1.71**	**344**	*i P*	**Pn**	**15 21 42.3**	**+0.3**
COPN				IAML		15 22 10.3	
	comp=Z,92nm,1.0s						
CPMI	**Catarata Coope**	**1.71**	**98**	*eP*	**Pb**	**15 21 43.8**	**-1.0**
CPMI				*eS*	**Sn**	**15 22 02.7**	**-0.6**
MOMN	**Momotombo**	**1.92**	**347**	*i P*	**Pn**	**15 21 45.4**	**+0.6**
MOMN				IAML		15 22 21.0	
	comp=Z,3.4nm,1.0s						

IDC ***15*** *15:48:07.0±0.4, 12°.81S×45°.64E, h0km, mb5.0/33, mbtmp5.0/35, ML3.8/2, MS5.4/67, Error ellipse: s-maj=14.5km s-min=10.5km az=83.0*
MOS ***15*** *15:48:06.5±0.9, 12°.77S×45°.60E, h10km, mb5.7/84, MS5.3/70, Error ellipse: s-maj=8.2km s-min=3.8km az=95.1*
NEIC ***15*** *15:48:08.8, 12°.78S×45°.59E, h10km*
IPGP ***15*** *15:48:08.0, 12°.77S×45°.59E, h16km, Mw5.9, Fault plane solution: NP1:φs350.00000°, δ61.00000°, λ-1.00000°. NP2:φs81.00000°, δ89.00000°, λ-151.00000°.*
NEIC ***15*** *15:48:09.9, 12°.80S×45°.59E, h40km*
NEIC ***15*** *15:48:09.9±2.1, 12°.78S±0°.05×45°.58E±0°.08, h17km±1km, mb5.7/154, Ms_20 5.7/1110, Mwb5.8/57, Mww5.9/24, Error ellipse: s-maj=14.1km s-min=7.4km az=102.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr~1.17; Mθθ3.08; Mφφ~1.91; Mrθ-3.11; Mθφ-5.11; Mφr~1.07; Fault plane solution: M₀6.65000×10¹⁷ NP1: φs79.72000°, δ82.18000°, λ-148.81000°. NP2: φs345.01000°, δ59.14000°, λ-9.12000°. Principal axes: T 6.8465, Plg15.0000°, Azm209.0000°; N -0.4155, Plg58.0000°, Azm92.0000°; P -6.4311, Plg27.0000°, Azm307.0000°;*
NEIC ***15*** *15:48:09.9, 12°.90S×45°.48E, h40km, Moment Tensor Solution. Duration: 3s1.0 Moment tensor: Scale 10¹⁷ Nm; Mrr~1.15; Mθθ3.01; Mφφ~1.86; Mrθ-2.35; Mθφ-6.92; Mφr~1.78; Fault plane solution: M₀7.97000×10¹⁷ NP1: φs82.47000°, δ78.48000°, λ-159.37000°. NP2: φs348.17000°, δ69.81000°, λ-12.28000°. Principal axes: T 7.9975, Plg6.0000°, Azm214.0000°; N -0.0627, Plg66.0000°, Azm110.0000°; P -7.9348, Plg23.0000°, Azm307.0000°;*
GCMT ***15*** *15:48:11.9±0.1, 12°.84S×45°.69E, h34km, MW5.9/167, Moment Tensor Solution. s150,c296; s167,c557; Duration: 2s1 Moment tensor: Scale 10¹⁷Nm; Mrr~1.10±.06; Mθθ3.35±.06; Mφφ-2.25±.06; Mrθ-3.70±.10; Mθφ-6.66±.05; Mφr~1.37±.09; Best double couple: M₀8.28500×10¹⁷ NP1:φs81.00000°, δ83.00000°, λ-151.00000°. NP2:φs347.00000°, δ61.00000°, λ-8.00000°. Principal axes: T 8.3870, Plg15.0000°, Azm210.0000°; N -0.2050, Plg60.0000°, Azm93.0000°; P -8.1820, Plg25.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 15 15:48:08.3±0.5, 12°.84S±0°.03×45°.62E±0°.04, h9km±2km, h9km:pP-P, n1747, σ1s64/1384, mb5.6/290, MS5.6/688, 79C-93D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.89**	**165**	*i P*	**Pn**	**15 49 35.7**	**-0.3**
OPO	**Ambohidratompo**	**5.89**	**165**	Pn	**Pn**	**15 49 35.7**	**-0.3**
	101nm,0.3s,baz=339,slow=12,SNR=2220						
OPO				Sn	Sn	15 50 37.0	-6.8
	191nm,0.3s,baz=253,slow=19,SNR=23						
OPO				LR	LR	15 52 07.3	
	comp=Z,72μm,19.9s,baz=194,slow=41						
OPO	**Ambohidratompo**	**5.89**	**165**	*i* P	Pg	15 50 11.8	+11
ABPO	**Ambohimpanom**	**6.33**	**166**	Pn	**Pn**	**15 49 41.4**	**-0.7**
ABPO	**Ambohimpanom**	**6.33**	**166**	*i/P*	**Pn**	**15 49 41.7**	**-0.4**
ABPO	**Ambohimpanom**	**6.33**	**166**	P	**Pn**	**15 49 41.4**	**-0.7**
I33MG	**ANTANANARIVO I**	**6.34**	**165**	Pn	**Pn**	**15 49 42.3**	**+0.1**
	baz=340,slow=23						
VOI	**Vohitsoka**	**9.08**	**173**	P	**Pn**	**15 50 19.7**	**-0.1**
VOI	**Vohitsoka**	**9.08**	**173**	Pn	**Pn**	**15 50 18.8**	**-1.0**
VOI	**Vohitsoka**	**9.08**	**173**	*eP*	**Pn**	**15 50 18.9**	**-0.9**
VOI	**Vohitsoka**	**9.08**	**173**	P	**Pn**	**15 50 22.7**	**+2.9**
	SNR=7.7						
ZOMB	**Zomba**	**10.28**	**255**	*e*PN	**Pn**	**15 50 34.8**	**-1.5**
ZOMB				*e*SN	Sn	15 52 19.8	-12
ZOMB	**Zomba**	**10.28**	**255**	*e*PN	**Pn**	**15 50 34.8**	**-1.5**
ZOMB				*e*SN	Sn	15 52 19.8	-12
DODT	**Dodoma, Tanzan**	**11.77**	**303**	*i P*	**Pn**	**15 50 54.2**	**-2.4**
DODT				*i S*	Sn	15 53 32.2	+24
FOMA	**Nahampoana Res**	**12.14**	**174**	Pn	**Pn**	**15 51 00.1**	**-1.4**
FOMA	**Nahampoana Res**	**12.14**	**174**	P	**Pn**	**15 51 04.1**	**+2.5**
	SNR=8.5						
MSEY	**Mahe Island**	**12.67**	**51**	Pn	**Pn**	**15 51 06.4**	**-2.6**
MSEY	**Mahe Island**	**12.67**	**51**	*i P*	**Pn**	**15 51 06.2**	**-2.7**
	SNR=29						
MSEY	**Mahe Island**	**12.67**	**51**	*i/P*	**Pn**	**15 51 06.4**	**-2.6**
MSEY	**Mahe Island**	**12.67**	**51**	P	**Pn**	**15 51 09.6**	**+0.7**
MSEY				P	**Pn**	**15 51 09.6**	**+0.7**
MSEY				P	**Pn**	**15 51 09.6**	**+0.7**
MSEY				S	Sn	15 53 17.4	-13
MSEY				S	Sn	15 53 17.4	-13
MSEY				S	Sn	15 53 17.4	-13

MSEY	**Mahe Island**	**12.67**	**51**	P		**Pn**	**15 51 06.4**	**-2.6**
RER	**Riviere de l'E**	**12.73**	**132**			**Pn**	**15 51 06.8**	**-2.9**
RER	**Riviere de l'E**	**12.73**	**132**	P		**Pn**	**15 51 10.7**	**+1.0**
	SNR=45							
PDHT	**Panda Hill**	**12.75**	**286**	*i* P		**Pn**	**15 51 07.4**	**-2.7**
PDHT				*i* S		**Sn**	**15 53 32.4**	**0.0**
KIBK	**Kibwezi**	**12.85**	**324**			**Pn**	**15 51 07.4**	**-4.0**
KIBK	**Kibwezi**	**12.85**	**324**	P		**Pn**	**15 51 09.4**	**-2.0**
KIBK	**Kibwezi**	**12.85**	**324**	P		**Pn**	**15 51 12.1**	**+0.7**
	SNR=41							
KIBK	**Kibwezi**	**12.85**	**324**	*eP*		**Pn**	**15 51 08.7**	**-2.8**
KIBK				*i* S		Sn	15 53 21.3	-13
KMBO	**Kilima Mbogo**	**14.29**	**324**	*i* P		**Pn**	**15 51 29.3**	**-2.0**
KMBO	**Kilima Mbogo**	**14.29**	**324**	Pn		**Pn**	**15 51 29.3**	**-2.0**
	0.1nm,0.3s,baz=139,slow=24,SNR=64							
KMBO				Sn		Sn	15 53 58.9	-11
	baz=227,slow=24,SNR=1.8							
KMBO				LR		LR	15 56 26.6	
	comp=Z,63nm,18.3s,baz=133,slow=35							
KMBO	**Kilima Mbogo**	**14.29**	**324**	*i* P		**Pn**	**15 51 29.3**	**-2.0**
KMBO	**Kilima Mbogo**	**14.29**	**324**	*de*P		**Pn**	**15 51 29.5**	**-1.8**
CHIPN	**CHIPINGE**	**14.44**	**238**	*i* P		Pn	15 51 28.4	-4.8
CHIPN	**CHIPINGE**	**14.44**	**238**	*i* P		Pn	15 51 28.4	-4.8
KRI	**Karoi**	**15.97**	**254**	*i* P		**Pn**	**15 51 52.5**	**-1.1**
KRI	**Karoi**	**15.97**	**254**	*i* P		Pn	15 51 46.3	-7.3
LSZ	**Lusaka**	**17.09**	**260**	Pn		**Pn**	**15 52 05.3**	**-2.4**
LSZ				IAmb		IAmb	15 52 14.8	
	comp=Z,500nm,0.8s							
LSZ	**Lusaka**	**17.09**	**260**	*i* P		**Pn**	**15 52 06.1**	**-1.7**
LSZ	**Lusaka**	**17.09**	**260**	P		**P**	**15 52 09.4**	**-0.2**
LSZ				S		**S**	**15 55 27.8**	**-0.1**
LSZ	**Lusaka**	**17.09**	**260**	*i* P		Pn	15 51 58.2	-10
LSZ	**Lusaka**	**17.09**	**260**	P		**Pn**	**15 52 05.4**	**-2.4**
LSZ				P		pmax	pmax	
	comp=Z,500nm,0.8s							
MOPA	**Mopani**	**17.17**	**230**	*i* P		**Pn**	**15 52 07.6**	**-1.1**
MOPA	**Mopani**	**17.17**	**230**	*eP*		Pn	**15 52 05.6**	**-3.0**
MOPA	**Mopani**	**17.17**	**230**	*i* P		Pn	15 51 57.0	-12
MUSN	**Musina, Limpop**	**17.71**	**236**	*i* P		**Pn**	**15 52 15.0**	**-0.4**
MUSN	**Musina, Limpop**	**17.71**	**236**	*i/*P		Pn	15 52 03.0	-12
MPHEP	**Siloam, Limpop**	**17.77**	**234**	*i*P		**Pn**	**15 52 13.9**	**-2.2**
HOED	**Hoedspruit, Li**	**18.04**	**228**	*eP*		**Pn**	**15 52 17.6**	**-1.9**
MATP	**Matopo**	**18.05**	**243**	*i* P		**P**	**15 52 20.4**	**+0.3**
MATP	**Matopo**	**18.05**	**243**	P		**Pn**	**15 52 18.4**	**-1.2**
	comp=Z,2.1nm,0.3s,baz=80,slow=12,SNR=58							
MATP				S		Sn	15 55 31.3	-10
	comp=Z,24nm,0.6s,baz=331,slow=19,SNR=2.6							
MATP				LR		LR	15 59 05.2	
	comp=Z,2μm,20.8s,baz=76,slow=36							
	comp=Z,105nm,1.0s							
MATP	**Matopo**	**18.05**	**243**	*i* P		Pn	15 52 06.0	-14
PILG	**Pilgrimsrest,**	**18.52**	**227**	*eP*		**P**	**15 52 23.0**	**-2.4**
LODK	**Lodwar**	**19.11**	**327**	P		**Pn**	**15 52 34.6**	**+2.1**
	SNR=120							
LODK	**Lodwar**	**19.11**	**327**	*eP*		**P**	**15 52 29.5**	**-2.2**
LODK				*e*S		S	15 56 22.1	+13
LODK	**Lodwar**	**19.11**	**327**	*eP*		**Pn**	**15 52 33.9**	**+1.4**
MBAR	**Mbarara**	**19.12**	**308**	P		**P**	**15 52 29.2**	**-2.9**
MBAR				IAmb		IAmb	15 52 37.1	
	comp=Z,886nm,1.8s							
MBAR	**Mbarara**	**19.12**	**308**	*i* P		**Pn**	**15 52 33.7**	**+0.9**
MBAR	**Mbarara**	**19.12**	**308**	*i/*P		**Pn**	**15 52 33.4**	**+0.6**
MBAR	**Mbarara**	**19.12**	**308**	P		**Pn**	**15 52 32.1**	**-0.7**
	comp=Z,28nm,0.3s,baz=120,slow=13,SNR=34							
MBAR				S		Sn	15 55 52.1	-15
	comp=Z,21nm,0.3s,baz=180,slow=22,SNR=2.9							
MBAR				LR		LR	15 59 50.2	
	comp=Z,19μm,18.2s,baz=121,slow=37							
MBAR	**Mbarara**	**19.12**	**308**	P		**

WIN Windhoek 28.79 246 P P 15 54 05.1 -2.0
WIN pmax pmax
comp=Z,147nm,1.2s
WIN MLR MLR
comp=Z,6µm,20.0s
GRAN Grantham 28.93 224 eP P 15 54 08.1 0.0
GRAN IAmb IAmb 15 54 32.2
comp=Z,46nm,1.0s
FRAZ Fraserburg 29.24 226⇑ iP P 15 54 10.4 -0.5
FRAZ IAmb IAmb 15 54 52.9
comp=Z,180nm,1.1s
MERW Merweville 29.59 224⇑ iP P 15 54 13.7 -0.3
MERW IAmb IAmb 15 54 16.5
comp=Z,162nm,1.2s
SUR Sutherland 29.91 225 P P 15 54 16.9 0.0
SUR Sutherland 29.91 225 i P P 15 54 17.8 +0.8
SUR Sutherland 29.91 225 LR LR 16 07 06.4
comp=Z,6µm,18.3s,baz=48,slow=38
SUR Sutherland 29.91 225 P P 15 54 20.4 +3.4
SUR P P 15 54 20.4 +3.4
SUR S S 15 59 17.6 +2.9
SUR S S 15 59 17.6 +2.9
CVNA Calvinia 30.16 228 eP P 15 54 18.5 -0.6
CVNA IAmb IAmb 15 54 21.3
comp=Z,119nm,1.3s
MATJ Matjiesfontein 30.58 224 eP P 15 54 22.0 -0.7
MATJ IAmb IAmb 15 54 26.1
comp=Z,281nm,1.2s
ABTO Aybut 30.95 14 P P 15 54 28.0 +2.0
SNR=6.7
ABTO P P 15 54 28.0 +2.0
SNR=6.7
ABTO P P 15 54 28.0 +2.0
SNR=6.7
ABTO S S 15 59 31.0 +0.3
ABTO S S 15 59 31.0 +0.3
ABTO S S 15 59 31.0 +0.3
KOMG Komaggas 31.05 233 eP P 15 54 26.5 -0.2
KOMG IAmb IAmb 15 54 28.7
comp=Z,145nm,1.5s
RBK Rabkut 31.32 16 P P 15 54 31.1 +1.9
SNR=7.8
RBK P P 15 54 31.1 +1.9
SNR=7.8
RBK S S 15 59 37.0 +0.5
RBK S S 15 59 37.0 +0.5
CER Ceres 31.52 225⇑ iP P 15 54 30.6 -0.4
CER IAmb IAmb 15 54 34.4
comp=Z,160nm,1.2s
WHFO Wadi Hawf 31.61 15 P P 15 54 33.4 +1.6
SNR=5.0
WHFO P P 15 54 33.4 +1.6
SNR=5.0
WHFO P P 15 54 33.4 +1.6
SNR=5.0
WHFO S S 15 59 40.6 -0.4
WHFO S S 15 59 40.6 -0.4
WHFO S S 15 59 40.6 -0.4
DMTO DMTO 31.73 17 P P 15 54 33.7 +0.9
DMTO S S 15 59 44.9 +2.1
SHAO Shalim 32.22 18 P P 15 54 37.8 +0.7
SHAO P P 15 54 37.8 +0.7
SHAO P P 15 54 37.8 +0.7
DOK Doka 32.37 15 P P 15 54 40.0 +1.6
SNR=23
DOK P P 15 54 40.0 +1.6
SNR=23
MHTO MHTO 35.74 20 P P 15 55 08.2 +0.6
SNR=10
MHTO P P 15 55 08.2 +0.6
SNR=10
MHTO S S 16 00 42.9 -2.1
MHTO S S 16 00 42.9 -2.1
RAYN Ar Rayn 36.14 360 P P 15 55 08.7 -2.5
RAYN IAmb IAmb 15 55 19.9
comp=Z,186nm,1.9s
RAYN Ar Rayn 36.14 360 i P P 15 55 12.0 +0.8
SNR=33
RAYN Ar Rayn 36.14 360 P P 15 55 13.9 +2.8
RAYN S S 16 00 54.0 +2.8
RAYN Ar Rayn 36.14 360 P P 15 55 08.7 -2.5
RAYN pmax pmax
comp=Z,186nm,1.9s
RAYN MLR MLR
comp=Z,5µm,18.0s
MZR Muzera 36.45 12 i P P 15 55 14.3 +0.6
SNR=10
MZR Muzera 36.45 12 P P 15 55 15.1 +1.4
SNR=7.1
MZR P P 15 55 15.1 +1.4
SNR=7.1
MZR S S 16 00 56.3 +0.6
MZR S S 16 00 56.3 +0.6
UMZA Um Al Zommool 36.55 15 P P 15 55 15.5 +0.9
UMZA P P 15 55 15.5 +0.9
UMZA P P 15 55 15.5 +0.9
UMZA S S 16 00 55.5 -1.8
UMZA S S 16 00 55.5 -1.8
UMZA S S 16 00 55.5 -1.8
JMDO Jabal Madar 37.07 19 P P 15 55 19.8 +0.7
SNR=10
JMDO P P 15 55 19.8 +0.7
SNR=10
JMDO P P 15 55 19.8 +0.7
SNR=10
BSY Bisya 37.14 18 P P 15 55 21.0 +1.3
SNR=38
BSY P P 15 55 21.0 +1.3
SNR=38
BSY P P 15 55 21.0 +1.3
SNR=38
BSY S S 16 01 06.4 0.0
BSY S S 16 01 06.4 0.0
BSY S S 16 01 06.4 0.0
GHWR Ruwais 37.26 11 P P 15 55 22.6 +2.0
GHWR P P 15 55 22.6 +2.0
GHWR S S 16 01 09.3 +1.2
GHWR S S 16 01 09.3 +1.2
MZWR Madinat Zayed 37.26 13 P P 15 55 22.4 +1.8
MZWR P P 15 55 22.4 +1.8
MZWR P P 15 55 22.4 +1.8
JLN Jalan Bani Buh 37.31 21 P P 15 55 22.3 +1.2
SNR=8.1
JLN P P 15 55 22.3 +1.2
SNR=8.1
JLN S S 16 01 11.0 +2.0
JLN S S 16 01 11.0 +2.0
ARQ Araqi 37.51 17 P P 15 55 24.0 +1.2
SNR=24
ARQ P P 15 55 24.0 +1.2
SNR=24
ARQ P P 15 55 24.0 +1.2
SNR=24
ARQ S S 16 01 12.3 +0.3
ARQ S S 16 01 12.3 +0.3
ARQ S S 16 01 12.3 +0.3
WBK Wadi Bani Khal 37.58 20 P P 15 55 25.0 +1.6
SNR=8.5
WBK P P 15 55 25.0 +1.6
SNR=8.5
WBK P P 15 55 25.0 +1.6
SNR=8.5
WBK S S 16 01 13.9 +0.7
WBK S S 16 01 13.9 +0.7
WBK S S 16 01 13.9 +0.7
TRD Trivandrum 37.67 57 IAMs_20 IAMs_20 16 11 13.6
comp=Z,3µm,17.1s
SMDO Samad 37.70 19 P P 15 55 25.0 +0.5
SNR=31
SMDO P P 15 55 25.0 +0.5
SNR=31
SMDO P P 15 55 25.0 +0.5
SNR=31
SMRA Abu-Samra 37.70 8 P P 15 55 25.5 +1.2
HOQ Hoqain 37.96 18 P P 15 55 28.0 +1.4
SNR=14
HOQ P P 15 55 28.0 +1.4
SNR=14
HOQ P P 15 55 28.0 +1.4
SNR=14
HOQ S S 16 01 17.7 -1.1
HOQ S S 16 01 17.7 -1.1
HOQ S S 16 01 17.7 -1.1
ALNE Al Ain 37.98 15 i P P 15 55 27.8 +1.0
SNR=26
ALNE Al Ain 37.98 15 P P 15 55 28.6 +1.8
SNR=17
ALNE P P 15 55 28.6 +1.8
SNR=17
WSAR Wadi Sarin 38.05 20 LR LR 16 08 18.8
comp=Z,9µm,20.1s,baz=208,slow=32
BIDO Bidbid 38.16 19 P P 15 55 30.1 +1.9
SNR=7.3
BIDO P P 15 55 30.1 +1.9
SNR=7.3
BIDO P P 15 55 30.1 +1.9
SNR=7.3
BIDO S S 16 01 22.0 +0.3
BIDO S S 16 01 22.0 +0.3
BIDO S S 16 01 22.0 +0.3
JRN Qarnain Island 38.21 11 S S 16 01 23.3 +0.8
SOHO SOHO 38.27 16 i P P 15 55 29.3 +0.2
SNR=19
SOHO SOHO 38.27 16 P P 15 55 30.2 +1.1
SOHO P P 15 55 30.2 +1.1
SOHO P P 15 55 30.2 +1.1
SOHO S S 16 01 24.1 +0.7
SOHO S S 16 01 24.1 +0.7
SOHO S S 16 01 24.1 +0.7
AJN Ajban 38.28 14 i P P 15 55 30.2 +0.9
SNR=9.2
AJN Ajban 38.28 14 P P 15 55 31.3 +2.0
SNR=5.5
AJN P P 15 55 31.3 +2.0
SNR=5.5
ASUD Al Ashush, Dub 38.43 14 P P 15 55 31.8 +1.3
ASUD Al Ashush, Dub 38.43 14 P P 15 55 32.5 +2.0
ASUD P P 15 55 32.5 +2.0
ASUD P P 15 55 32.5 +2.0
FAQ Al Faqa, Dubai 38.60 15 i P P 15 55 32.7 +0.7
SNR=9.0
FAQ Al Faqa, Dubai 38.60 15 P P 15 55 34.0 +2.0
SNR=7.6
FAQ P P 15 55 34.0 +2.0
SNR=7.6
FAQ P P 15 55 34.0 +2.0
SNR=7.6
ASHO Ashiyiah 38.66 15 i P P 15 55 32.8 +0.3
SNR=28
ASHO Ashiyiah 38.66 15 P P 15 55 34.0 +1.4
SNR=12
ASHO P P 15 55 34.0 +1.4
SNR=12
ASHO P P 15 55 34.0 +1.4
SNR=12
ASHO P pwP 15 55 35.2 -3.0
ASHO P pwP 15 55 35.2 -3.0
ASHO P pwP 15 55 35.2 -3.0
HATD Hatta, Dubai 38.82 15 i P P 15 55 34.4 +0.6
SNR=11
HATD Hatta, Dubai 38.82 15 P P 15 55 35.2 +1.4
SNR=9.9
HATD P P 15 55 35.2 +1.4
SNR=9.9
HATD P P 15 55 35.2 +1.4
SNR=9.9
HATD S S 16 01 31.5 -0.3
HATD S S 16 01 31.5 -0.3
HATD S S 16 01 31.5 -0.3
NAZ Nazwa, Dubai 38.86 15 i P P 15 55 34.9 +0.8
SNR=12
NAZ Nazwa, Dubai 38.86 15 P P 15 55 36.0 +1.9
SNR=7.0
NAZ P P 15 55 36.0 +1.9
SNR=7.0
NAZ P P 15 55 36.0 +1.9
SNR=7.0
NAZ S S 16 01 34.0 +1.7
NAZ S S 16 01 34.0 +1.7
NAZ S S 16 01 34.0 +1.7
UOSS Minazif 38.95 15 P P 15 55 33.6 -1.3
UOSS Minazif 38.95 15 IAMs_20 IAMs_20 16 10 15.3
comp=Z,9µm,20.0s
UOSS Minazif 38.95 15 i P P 15 55 35.3 +0.4
SNR=16
UOSS Minazif 38.95 15 P P 15 55 39.1 +4.2
UOSS P P 15 55 39.1 +4.2
UOSS P P 15 55 39.1 +4.2
UOSS S S 16 01 33.7 -0.1
UOSS S S 16 01 33.7 -0.1
UOSS S S 16 01 33.7 -0.1
KOD Kodaikanal 39.06 56 eP P 15 55 37.5 +1.2
KOD IAmb IAmb 15 55 50.9
comp=Z,57nm,1.3s
MDH Madha 39.31 15 i P P 15 55 38.0 +0.1
SNR=14
MDH Madha 39.31 15 P P 15 55 39.7 +1.8
SNR=9.0
MDH P P 15 55 39.7 +1.8
SNR=9.0
MDH P P 15 55 39.7 +1.8
SNR=9.0
MSFE Esma-Masafi 39.34 15 i P P 15 55 38.7 +0.6
SNR=32
MASF Masafi 39.35 15 P P 15 55 39.3 +1.1
SNR=23
MASF P P 15 55 39.3 +1.1
SNR=23
GOA Goa 39.64 46 IAMs_20 IAMs_20 16 08 51.9
comp=Z,4µm,18.7s
SHME Shamm 39.99 15 i P P 15 55 43.1 -0.4
SNR=5.6
SHME Shamm 39.99 15 P P 15 55 44.5 +1.0
SHME P P 15 55 44.5 +1.0
SHME S S 16 01 50.0 +0.7
SHME S S 16 01 50.0 +0.7
PALK Pallekele 40.18 62 LR LR 16 08 54.8
comp=Z,5µm,18.4s,baz=347,slow=31
JASK Jask - Hormozg 40.28 17 P P 15 55 48.1 +2.2
SNR=7.3
JASK S S 16 01 56.6 +2.9
MALK Mahakanadarawa 40.60 60 P P 15 55 49.5 +0.6
KAD Karad 41.15 44 IAmb IAmb 15 56 07.3
comp=Z,19nm,0.7s
POO Poona 41.79 42 eP P 15 55 59.0 +0.5
POO IAmb IAmb 15 56 09.9
comp=Z,60nm,0.8s
POO IAMs_20 IAMs_20 16 09 19.9
comp=Z,3µm,19.5s
KBD Kabd 41.82 3 P P 15 55 58.9 +0.3
KBD S S 16 02 18.3 +1.9
MDRS Chennai 42.91 54 eP P 15 56 08.9 +1.2
MDRS IAmb IAmb 15 56 10.1
comp=Z,91nm,1.4s
EIL Elat 43.50 346 LR LR 16 12 32.9
comp=Z,2µm,21.1s,baz=172,slow=34
HYB Hyderabad 44.29 48 eP P 15 56 18.8 0.0
HYB esP pwP 15 56 25.6 +1.1
HYB IVmB_BB 15 56 33.0
comp=Z,1µm,4.6s
HYB eS S 16 02 52.2 -1.0
HYB IVMs_BB IVMs_BB 16 14 41.3
comp=Z,2µm,16.6s
GHAJ Ghor Haditha 44.94 348 IAMs_20 IAMs_20 16 15 25.5
comp=Z,7µm,18.0s
BALJ Balqa 45.69 348 IAMs_20 IAMs_20 16 16 16.2
comp=Z,6µm,18.0s
MMAI Mount Meron Ar 46.63 348 P P 15 56 38.1 +0.9
comp=Z,5.1nm,0.5s,baz=156,slow=8.7,SNR=12
MMAI LR LR 16 16 56.8
comp=Z,6µm,18.3s,baz=112,slow=37
comp=Z,5.1nm,0.5s
BHPL Bhopal 47.49 41 eP P 15 56 46.9 +2.9
BHPL IAmb IAmb 15 57 00.3
comp=Z,17nm,1.0s
BHPL IAMs_20 IAMs_20 16 14 36.8
comp=Z,2µm,18.5s
VIS Vishakhapatnam 48.04 52 IAMs_20 IAMs_20 16 14 13.6
comp=Z,5µm,18.5s
AJM Ajmer 48.20 36 eP P 15 56 48.6 -1.0
AJM IAmb IAmb 15 56 57.2
comp=Z,98nm,1.6s
HRA Herat 49.55 18 P P 15 56 58.0 -1.9
JHNI Jhansi 49.78 40 eP P 15 57 01.4 -0.3
JHNI IAmb IAmb 15 57 18.5
comp=Z,19nm,0.8s
GAZ Gaziantep 50.37 351 IAMs_20 IAMs_20 16 17 44.3
comp=Z,5µm,20.0s
KUDL Kundal 50.53 36 eP P 15 57 06.4 -0.8
TOA0 Torodi Ar. Sit 50.63 299 P P 15 57 08.3 +0.1
TORD Torodi Ar. Bea 50.63 299 P P 15 57 07.7 -0.5
TORD IAMs_20 IAMs_20 16 19 37.2
comp=Z,10µm,19.0s
TORD Torodi Ar. Bea 50.63 299 P P 15 57 07.9 -0.3
comp=Z,40nm,1.0s,baz=121,slow=6.9,SNR=39
TORD PP PP 15 59 02.6 -1.7
comp=Z,6.9nm,0.9s,baz=101,slow=7.5,SNR=3.4
TORD LR LR 16 19 47.6
comp=Z,10µm,18.4s,baz=120,slow=38
comp=Z,40nm,1.0s
JHSG JHARSUGUGA 50.83 48⇑ eP P 15 57 10.0 +0.3
JHSG IAmb IAmb 15 57 21.5
comp=Z,119nm,1.0s
BHGR Bahadurgarh 51.20 36⇑ eP P 15 57 11.6 -0.7
KARP Karpathos 51.20 341 IAmb IAmb 15 57 16.4
comp=Z,122nm,1.0s
KARP IAMs_20 IAMs_20 16 20 10.2
comp=Z,9µm,22.0s
GURO Guroymak-BITLI 51.23 356 IAmb IAmb 15 57 17.4
comp=Z,157nm,2.0s
LKRN Lenkeran, Azer 51.37 3 P P 15 57 16.4 +3.1
BISR Bishrakh 51.40 36⇑ eP P 15 57 13.2 -0.6
ELL Elmali 51.50 344 IAMs_20 IAMs_20 16 20 28.3
comp=Z,8µm,20.0s
IDI Anoyia 51.74 338 P P 15 57 15.7 -0.6
IDI IAmb IAmb 15 57 20.2
comp=Z,51nm,0.8s
IDI Anoyia 51.74 338 P P 15 57 16.0 -0.3
IDI Anoyia 51.74 338 LR LR 16 20 54.0
comp=Z,45nm,18.1s,baz=140,slow=38
NAX Nakhchivan 51.74 360 P P 15 57 19.2 +2.9
ALBI Allahabad 51.79 43 eP P 15 57 16.6 -0.1
ALBI IAmb IAmb 15 57 27.8
comp=Z,217nm,1.4s
GEYT Alibeck 51.85 13 P P 15 57 17.2 +0.2
comp=Z,24nm,1.1s,baz=212,slow=23,SNR=23
GEYT LR LR 16 18 38.5
comp=Z,4µm,21.9s,baz=214,slow=35
comp=Z,24nm,1.1s
ARPR Arapgir-MALATY 52.11 353 IAmb IAmb 15 57 23.7
comp=Z,150nm,1.3s
KBL Kabul 52.11 25 P P 15 57 19.1 -0.1
KBL IAmb IAmb 15 57 28.1
comp=Z,179nm,1.4s
KBL Kabul 52.11 25 P P 15 57 21.4 +2.2
SNR=61
KBL P P 15 57 21.4 +2.2
SNR=61
KBL P P 15 57 21.4 +2.2
SNR=61
KBL S S 16 04 45.3 +1.5
KBL S S 16 04 45.3 +1.5
KBL S S 16 04 45.3 +1.5
KBL Kabul 52.11 25 P P 15 57 19.1 -0.1
KBL pmax pmax
comp=Z,179nm,1.5s
KBL MLR MLR
comp=Z,2µm,21.0s
ISP Isparta 52.35 345 d iP P 15 57 20.6 -0.2
ISP pmax pmax
comp=Z,48nm,0.8s
PBA Port Blair 52.71 64 eP P 15 57 24.1 +0.3
PBA IAmb IAmb 15 57 36.0
comp=Z,188nm,1.3s
PBA IAMs_20 IAMs_20 16 20 32.9
comp=Z,2µm,17.3s
GNI Garni 52.73 359 P P 15 57 22.8 -0.9
GNI IAmb IAmb 15 57 33.0
comp=Z,87nm,0.9s
GNI Garni 52.73 359 IAMs_20 IAMs_20 16 20 31.9
comp=Z,6µm,20.0s
GNI Garni 52.73 359 P P 15 57 24.5 +0.8
GNI Garni 52.73 359 LR LR 16 20 33.8
comp=Z,7µm,20.8s,baz=173,slow=37
GNI Garni 52.73 359 P P 15 57 27.8 +4.1
GNI P P 15 57 27.8 +4.1
GNI Garni 52.73 359 d iP P 15 57 24.4 +0.8
GNI pmax pmax
comp=Z,99nm,1.7s
GNI MLR MLR
comp=Z,4µm,16.0s
TAM Tamanrasset 52.89 312 P P 15 57 25.2 +0.1
TAM IAmb IAmb 15 57 30.3
comp=Z,100nm,1.3s
TAM IAMs_20 IAMs_20 16 20 47.2
comp=Z,9µm,18.0s
TAM Tamanrasset 52.89 312 P P 15 57 25.2 +0.1
TAM pmax pmax
comp=Z,100nm,1.3s
TAM MLR MLR
comp=Z,9µm,18.0s
DDI Dehra Dun 53.07 35 IAMs_20 IAMs_20 16 15 04.1
comp=Z,3µm,22.7s
APE Apeiranthos 53.13 340 ⇑iP P 15 57 27.5 +1.0
APE Apeiranthos 53.13 340 d iP P 15 57 26.7 +0.2
APE pmax pmax
comp=Z,105nm,0.9s
APE MLR MLR
comp=Z,4µm,19.0s
SMLA Simla 53.19 34 eP P 15 57 26.2 -0.8
SMLA IAmb IAmb 15 57 36.4
comp=Z,102nm,1.1s
BRCI Bahraich 53.19 41 eP P 15 57 25.7 -1.4
NIL Nilore 53.20 29 P P 15 57 26.7 -0.4
NIL IAmb IAmb 15 57 34.6
comp=Z,89nm,1.1s
NIL Nilore 53.20 29 P P 15 57 28.9 +1.7
NIL P P 15 57 28.9 +1.7
NIL Nilore 53.20 29 P P 15 57 26.7 -0.4
NIL pmax pmax
comp=Z,89nm,1.1s
GANJ Ganja 53.22 1 P P 15 57 30.2 +3.1
MNGR Mingechevir, A 53.36 1 P P 15 57 31.2 +3.1
GSI Gunungsitoli 53.42 79 IAMs_20 IAMs_20 16 15 33.4
comp=Z,7µm,20.0s
THN Thein Dam 53.44 32 eP P 15 57 28.1 -0.7
THN IAmb IAmb 15 57 37.1
comp=Z,59nm,1.2s
BR131 Keskin Array S 53.47 349 d iP P 15 57 29.4 +0.3
BRTR Keskin Array B 53.47 349 P P 15 57 29.1 0.0
BRTR Keskin Array B 53.47 349 P P 15 57 29.4 +0.3
comp=Z,23nm,0.7s,baz=168,slow=10.0,SNR=68
BRTR LR LR 16 20 36.9
comp=Z,4µm,19.2s,baz=169,slow=36
comp=Z,23nm,0.7s
BRTR Keskin Array B 53.47 349 i P P 15 57 29.3 +0.2
BRTR pmax pmax
comp=Z,24nm,0.7s
KIC Kosan Boka 53.55 288⇑ eP P 15 57 31.9 +1.8
comp=Z,21nm,0.6s
DHRM DHARAMSHALA 53.60 32 eP P 15 57 29.1 -1.2
DHRM IAmb IAmb 15 57 38.6
comp=Z,50nm,1.0s
DHRM IAMs_20 IAMs_20 16 16 46.0
comp=Z,4µm,21.4s
BOK Bokaro 53.62 47 eP P 15 57 30.7 +0.3
BOK IAmb IAmb 15 57 39.5
comp=Z,167nm,1.8s
BOK IAMs_20 IAMs_20 16 20 23.4
comp=Z,3µm,17.9s
LGTI Lohaghat 53.70 38 eP P 15 57 28.1 -2.7
LGTI IAmb IAmb 15 57 40.5
comp=Z,39nm,0.9s
PTH Pithoragarh 53.76 38 eP P 15 57 29.7 -1.8
PTH eP pP 15 57 31.2 -2.1
DBIC Dimbokro 53.77 288 IAmb IAmb 15 57 35.0
comp=Z,150nm,1.6s
DBIC IAMs_20 IAMs_20 16 20 18.2
comp=Z,6µm,19.0s
DBIC Dimbokro 53.77 288 P P 15 57 32.0 +0.3
comp=Z,31nm,0.7s,baz=103,slow=7.5,SNR=21
DBIC LR LR 16 20 38.7
comp=Z,6µm,18.6s,baz=108,slow=36
comp=Z,31nm,0.7s
DBIC Dimbokro 53.77 288 P P 15 57 32.2 +0.6
LIC Lamto 53.77 288⇑ eP P 15 57 33.5 +1.8
comp=Z,78nm,1.0s
ANTO Ankara 53.78 348 P P 15 57 30.6 -0.7
ANTO Ankara 53.78 348 IAMs_20 IAMs_20 16 21 38.7
comp=Z,4µm,20.0s
ANTO Ankara 53.78 348 P P 15 57 31.8 +0.5
ANTO P P 15 57 31.8 +0.5
ANTO S S 16 05 09.1 +3.0
ANTO S S 16 05 09.1 +3.0
ANTO Ankara 53.78 348 P P 15 57 30.6 -0.7
ANTO pmax pmax

comp=Z,24nm,0.9s
ANTO MLR MLR

comp=Z,4µm,20.0s
SEKA Sheki 53.80 1 *i*P **P** **15 57 34.4 +3.0**
KTUT Trabzon 53.83 355 ⇑P **P** **15 57 32.5 +1.0**
TIC Toumodi 53.91 288⇑ *e*P **P** **15 57 33.5 +0.8**
comp=Z,30nm,0.6s
BCA Borcka 54.14 356 ⇑P **P** **15 57 34.8 +0.9**
ZKTA Zakatala 54.21 1 P **P** **15 57 37.4 +3.0**
ITM Ithomi 54.52 337 IAmb IAmb 15 57 39.5

comp=Z,80nm,0.7s
BALB Balikesir 54.77 343 IAmb IAmb 15 57 42.2

comp=Z,74nm,0.8s
DIKM Dikmen 55.06 351 ⇑P **P** **15 57 41.3 +0.9**
RPSI Rantau Prapat 55.12 78 IAMs_20 IAMs_20 16 17 33.3

comp=Z,9µm,20.0s
ONI Oni 55.19 358 IAmb IAmb 15 57 44.7

comp=Z,143nm,1.7s
ONI IAMs_20 IAMs_20 16 22 30.3

comp=Z,5µm,19.0s
MAK Makhachkala 55.56 2 *e*P **P** **15 57 43.6 -0.4**
MAK *e*PPP PPP 16 01 01.6
MAK *e*S **S** **16 05 29.7 +0.1**
MAK *e*SS **SS** **16 09 08.1 -6.9**
MAK *e*SSS SSS 16 11 18.5
MAK pmax pmax

comp=Z,126nm,0.8s
MAK MLR MLR

comp=Z,4µm,17.0s
SIMJ Simiganj 55.70 22 P **P** **15 57 44.9 -0.5**
CHGR Chuyangaron 55.76 22 IAMs_20 IAMs_20 16 20 29.9

comp=Z,4µm,20.0s
MAW Mawson 55.88 172 P **P** **15 57 46.8 +0.8**

comp=Z,26nm,0.9s,baz=331,slow=8.3,SNR=35
MAW LR LR 16 19 20.1

comp=Z,10µm,18.0s,baz=345,slow=34
comp=Z,26nm,0.9s
AGG Agios Georgios 55.99 338 IAmb IAmb 15 57 50.3

comp=Z,85nm,0.9s
NCK Nalchik 56.09 358⇑ *e*P **P** **15 57 49.0 +1.1**
NCK pmax pmax

comp=Z,43nm,0.8s
NCK MLR MLR

comp=Z,2µm,16.0s
VSLR Vesyoloye 56.26 355 *e*P **P** **15 57 49.0 -0.1**
VSLR pmax pmax

comp=Z,74nm,1.3s
VSLR MLR MLR

comp=Z,3µm,16.0s
TATN Tataouine 56.26 324 IAMs_20 IAMs_20 16 23 34.5

comp=Z,5µm,18.0s
KBZ Khabaz 56.35 358 P **P** **15 57 50.0 +0.3**

comp=Z,16nm,0.7s,baz=189,slow=5.7,SNR=43
KBZ LR LR 16 23 50.8

comp=Z,4µm,19.3s,baz=162,slow=38
comp=Z,16nm,0.7s
KBZ Khabaz 56.35 358*d i*P **P** **15 57 50.0 +0.3**
KBZ pmax pmax

comp=Z,73nm,1.1s
KBZ MLR MLR

comp=Z,5µm,19.0s
SHA1 Shidzhatmaz 56.37 357*d i*P **P** **15 57 50.5 +0.3**
SOC Sochi 56.41 355 *e*P **P** **15 57 49.0 -1.1**
SOC *e* 15 59 49.5
SOC *e*PPP PPP 16 01 08.4
SOC *e*S **S** **16 05 40.3 -0.7**
SOC *e*SS **SS** **16 09 24.5 -4.0**
SOC *e*SSS SSS 16 11 36.2
SOC pmax pmax

comp=Z,29nm,1.0s
SOC MLR MLR

comp=Z,3µm,19.0s
GAR Garm 56.49 23 IAMs_20 IAMs_20 16 20 55.4

comp=Z,7µm,20.0s
KIV Kislovodsk 56.59 357 ⇑P **P** **15 57 52.6 +1.1**
KIV Kislovodsk 56.59 357 P **P** **15 57 50.9 -0.6**
KIV IAMs_20 IAMs_20 16 23 55.1

comp=Z,6µm,19.0s
KIV Kislovodsk 56.59 357 *i*P **P** **15 57 51.9 +0.4**
SNR=20
KIV Kislovodsk 56.59 357 P **P** **15 57 55.1 +3.6**
KIV P **P** **15 57 55.1 +3.6**
KIV S **S** **16 05 50.4 +6.8**
KIV S **S** **16 05 50.4 +6.8**
KIV Kislovodsk 56.59 357*d i*P **P** **15 57 51.9 +0.4**
KIV *e* 15 58 43.4
KIV *e* 15 59 53.8
KIV *e*PPP PPP 16 01 09.4
KIV *e*S **S** **16 05 43.5 -0.1**
KIV *e*SS **SS** **16 09 24.6 -6.9**
KIV pmax pmax

comp=Z,163nm,1.7s
KIV MLR MLR

comp=Z,6µm,19.0s
KIV Kislovodsk 56.59 357 P **P** **15 57 52.3 +0.8**
comp=Z,123nm,1.1s,comp=Z,1µm
KVAR Kislovodsk Arr 56.59 357 LR LR 16 23 56.3

comp=Z,4µm,18.5s,baz=80,slow=38
WDD Wied Dalam 56.64 330 IAMs_20 IAMs_20 16 20 55.2

comp=Z,4µm,21.0s
LIT Litokhoron 56.89 339 IAmb IAmb 15 57 55.0

comp=Z,123nm,1.7s
LABN Labinsk 57.38 356 *e*P **P** **15 57 54.2 -2.8**
LABN *e**PP **pP** **15 57 57.8 -1.0**
LABN *e*S **S** **16 05 50.4 -3.5**
LABN pmax pmax

comp=Z,182nm,1.6s
LABN MLR MLR

comp=E,3µm,16.0s
LABN MLR MLR

comp=N,4µm,14.0s
LABN MLR MLR

comp=Z,2µm,16.0s
KULM Kulim 57.56 75 P **P** **15 57 57.6 -1.2**
KULM IAmb IAmb 15 58 07.6

comp=Z,111nm,1.7s
RZN Rozhen 57.58 342 *i*P **P** **15 57 59.0 +0.3**
BTK Batken 57.60 23 IAmb IAmb 15 58 11.5

comp=Z,58nm,0.9s
IPM Ipoh 57.66 76 P **P** **15 57 59.5 -0.2**
IPM IAMs_20 IAMs_20 16 20 57.6

comp=Z,3µm,18.0s
GOF Gofitskoye 57.67 358*d i*P **P** **15 57 59.3 +0.2**
SRIT Nakonsritamara 57.70 71 IAmb IAmb 15 58 09.5

comp=Z,83nm,1.0s
GTK Tadong 57.72 46 *e*P **P** **15 57 60.0 0.0**
GTK IAmb IAmb 15 58 07.3

comp=Z,80nm,0.9s
MMB Musomishta 57.76 341 *i*P **P** **15 57 59.6 -0.2**
ANN Anapa 57.85 353 *e*P **P** **15 57 57.8 -2.5**
ANN *e**PP **pP** **15 58 00.9 -1.2**
ANN *e*S **S** **16 05 56.8 -3.1**
ANN pmax pmax

comp=Z,63nm,1.1s
ANN MLR MLR

comp=Z,3µm,20.0s
ANN MLR MLR

comp=E,3µm,19.0s
ANN MLR MLR

comp=N,3µm,20.0s
VAY Valandovo 57.95 340 *i*P **P** **15 58 01.8 +0.7**
CEL Celeste 57.96 333 IAmb IAmb 15 58 10.9

comp=Z,134nm,1.9s
PLD Plovdiv 57.99 342 *i*P **P** **15 58 01.1 -0.3**
VAE Valguarnera 58.01 331 LR LR 16 24 23.5

comp=Z,6µm,18.0s,baz=103,slow=38
KKB Krupnik 58.23 340 *i*P **P** **15 58 02.7 -0.4**
TIP Timpagrande 58.34 334 ⇑P **P** **15 58 05.1 +1.1**
ELND Elena 58.38 343 ⇑P **P** **15 58 04.6 +0.6**
OHR Ohrid 58.39 338 *i*P **P** **15 58 05.3 +1.1**
SIM Simferopol' 58.46 350 *e*P **P** **15 58 05.2 +0.6**
SIM *e*S **S** **16 06 07.0 -0.9**
SIM *e*SS **SS** **16 10 02.0 +1.3**
SIM pmax pmax

comp=Z,118nm,1.2s
ERBR Yeremizino-Bor 58.47 356 *e*P **P** **15 58 01.9 -2.7**
ERBR *e**PP **pP** **15 58 05.1 -1.3**
ERBR *e*S **S** **16 06 09.7 +1.7**
ERBR pmax pmax

comp=Z,343nm,1.1s
ERBR MLR MLR

comp=E,2µm,18.0s
ERBR MLR MLR

comp=Z,4µm,19.0s
ERBR MLR MLR

comp=N,9µm,20.0s
SZH Strazhitsa 58.66 343 *i*P **P** **15 58 06.1 +0.1**
VTS Vitosha 58.89 341 *i*P **P** **15 58 07.7 -0.1**
SKO Skopje 58.92 339 *i*P **P** **15 58 08.3 +0.5**
TIR Tirane 58.94 338 ⇓P **P** **15 58 09.4 +1.4**
TIR Tirane 58.94 338 P **P** **15 58 09.4 +1.4**
SHL Shillong 59.05 50 *e*P **P** **15 58 08.1 -1.2**
SHL IAmb IAmb 15 58 26.4

comp=Z,37nm,1.1s
SHL IAMs_20 IAMs_20 16 21 06.2

comp=Z,2µm,21.2s
ASCN Ascension 59.10 268 IAMs_20 IAMs_20 16 20 03.8

comp=Z,3µm,18.0s
IUG luzhnay 59.15 21 *e*P **P** **15 58 09.2 -0.4**
comp=Z,33nm,0.8s,baz=21
IUG *e*S **S** **16 06 15.0 -2.3**

baz=21
IUG luzhnay 59.15 21 *e*P **P** **15 58 09.1 -0.5**
IUG *e*S **S** **16 06 14.9 -2.3**
IUG pmax pmax

comp=Z,33nm,0.8s
CHM Chimkent 59.15 21 *e*P **P** **15 58 09.1 -0.4**
comp=Z,25nm,0.9s,baz=21
CHM LR LR 16 24 06.8

comp=Z,386nm,18.5s,baz=21
CHM Chimkent 59.15 21 *e*P **P** **15 58 09.1 -0.4**
CHM pmax pmax

comp=Z,25nm,0.9s
CHM MLR MLR

comp=Z,386nm,18.0s
KEST Kesra 59.25 326 P **P** **15 58 11.4 +1.0**
comp=Z,54nm,0.9s,baz=113,slow=3.0,SNR=28
KEST LR LR 16 24 54.5

comp=Z,7µm,18.5s,baz=87,slow=37
comp=Z,54nm,0.9s
KSH Kashi 59.27 27 P **P** **15 58 07.1 -3.4**
KSH S **S** **16 06 11.8 -7.1**
KSH LR LR

comp=Z,2µm,17.5s
KSH LR LR

comp=Z,1µm,18.6s
KSH LR LR

comp=Z,2µm,17.2s
TLBR Topalu 59.31 345 ⇑P **P** **15 58 11.9 +1.5**
MPEP Malo Peshtene 59.40 342 *i*P **P** **15 58 10.9 -0.3**
HARR Harsova 59.47 345 ⇑P **P** **15 58 11.9 +0.3**
HARR Harsova 59.47 345 P **P** **15 58 11.9 +0.3**
TPGR Topolog 59.51 346 ⇑P **P** **15 58 11.6 -0.3**
MYKOM Kota Tinggi 59.57 80 IAMs_20 IAMs_20 16 19 13.2

comp=Z,4µm,20.0s
ULC Ulcinj 59.70 337 ⇓*i*P **P** **15 58 14.0 +0.7**
VALD Valchedram 59.80 342 *i*P **P** **15 58 13.9 0.0**
BRLS Borolday 59.86 20 *e*P **P** **15 58 11.5 -2.9**
baz=20
BRLS *e*S **S** **16 06 21.8 -4.5**

baz=20
BRLS Borolday 59.86 20 *e*P **P** **15 58 11.4 -2.9**
BRLS *e*S **S** **16 06 21.8 -4.5**
CFR Carcaliu 59.88 346 ⇑P **P** **15 58 14.4 -0.1**
CFR Carcaliu 59.88 346 P **P** **15 58 14.3 -0.1**
DRME Dracevica, Mon 59.92 338 ⇓*i*P **P** **15 58 15.4 +0.7**
DRME Dracevica, Mon 59.92 338 ⇓*i*P **P** **15 58 15.4 +0.7**
BLKB Belogradchik 59.98 341 ⇓P **P** **15 58 15.1 -0.1**
PDG Podgorica 60.10 338 ⇑P **P** **15 58 17.0 +1.0**
PDG Podgorica 60.10 338 P **P** **15 58 15.5 -0.5**
PDG Podgorica 60.10 338 ⇓*i*P **P** **15 58 16.4 +0.4**
PDG Podgorica 60.10 338 ⇓*i*P **P** **15 58 16.6 +0.6**
HUMR Humele 60.10 343 ⇓P **P** **15 58 16.4 +0.5**
BUM Brajici-Budva 60.12 337 ⇓*i*P **P** **15 58 16.9 +0.6**
KK31 Karatay Array 60.16 21 P **P** **15 58 15.6 -0.8**
KK31 IAmb IAmb 15 58 24.0

comp=Z,74nm,0.9s
KK31 Karatay Array 60.16 21 P **P** **15 58 15.6 -0.8**
KK31 pmax pmax

comp=Z,74nm,1.0s
KKAR Karatay Array 60.16 21 IAmb IAmb 15 58 24.0
comp=Z,74nm,0.9s
IMP Imphal 60.20 51 *e*P **P** **15 58 16.9 -0.2**
IMP IAmb IAmb 15 58 25.0

comp=Z,76nm,1.9s
ISR Istrita 60.22 345 ⇑P **P** **15 58 16.9 +0.1**
ISR Istrita 60.22 345 P **P** **15 58 16.9 +0.1**
SCHLR Schela 60.23 346 ⇑P **P** **15 58 17.4 +0.7**
IVA Berane 60.25 338 ⇓*i*P **P** **15 58 17.7 +0.5**
DZA Taraz 60.26 22 *e*P **P** **15 58 16.2 -1.0**
baz=22
DZA Taraz 60.26 22 *e*P **P** **15 58 16.2 -1.0**
BOVS Bovan 60.30 340 ⇑P **P** **15 58 17.0 -0.3**
CEME Cevo 60.33 338 ⇓*i*P **P** **15 58 18.2 +0.6**
KOME Kolasin 60.37 338 ⇓*i*P **P** **15 58 19.0 +1.0**
PUNG Punghina 60.48 341 ⇑P **P** **15 58 19.2 +0.7**
SJES Sjenica 60.56 339 ⇓*i*P **P** **15 58 19.5 +0.2**
ELIB Princess Elisa 60.58 188 *d*P **P** **15 58 19.5 +0.4**
comp=Z,53nm,1.2s
ABSA Djebel Ababsia 60.68 325 P **P** **15 58 23.9 +3.7**
TREB Trebinje 60.69 337 *e*P **P** **15 58 20.5 +0.5**
MLR Muntele Rosu 60.73 344 ⇑P **P** **15 58 21.0 +0.6**
MLR Muntele Rosu 60.73 344 P **P** **15 58 19.3 -1.1**
MLR Muntele Rosu 60.73 344 LR LR 16 28 30.5

comp=Z,2µm,18.2s,baz=172,slow=40
MLR Muntele Rosu 60.73 344 P **P** **15 58 19.3 -1.1**
MLR pmax pmax

comp=Z,27nm,0.9s
MLR MLR MLR

comp=Z,3µm,19.0s
MLR Muntele Rosu 60.73 344 P **P** **15 58 20.8 +0.4**
comp=Z,33nm,1.4s,comp=Z,817nm
SPBR Spulber 60.76 345 ⇑P **P** **15 58 21.2 +0.7**
BRY Bratogost 60.77 337 *e*P **P** **15 58 21.4 +0.6**
BRY Bratogost 60.77 337 ⇓*i*P **P** **15 58 21.2 +0.4**
KOHI KOHIMA 60.80 51 *e*P **P** **15 58 21.5 +0.2**
KOHI IAmb IAmb 15 58 39.7

comp=Z,122nm,1.8s
PLE Pljevlja 60.83 338 ⇓*i*P **P** **15 58 21.8 +0.7**
PLOR5 Plostina Array 60.87 345 P **P** **15 58 22.1 +0.9**
comp=Z,64nm,1.8s,comp=Z,1µm
VRI Vrincioaia 60.87 345 ⇑P **P** **15 58 21.2 0.0**
VRI Vrincioaia 60.87 345 P **P** **15 58 21.2 0.0**
VRI Vrincioaia 60.87 345 P **P** **15 58 21.9 +0.7**
comp=Z,111nm,1.6s,comp=Z,2µm
PLOR Plostina 60.88 345 ⇑P **P** **15 58 21.8 +0.5**
PLOR Plostina 60.88 345 P **P** **15 58 21.8 +0.5**
UCH Uchtor 60.90 24 P **P** **15 58 26.0 +3.9**
SNR=10
UPM Unac-Piva 60.90 338 *e*P **P** **15 58 21.8 +0.1**
UPM Unac-Piva 60.90 338 ⇓*i*P **P** **15 58 22.6 +0.9**
VOIR 60.92 344 ⇑P **P** **15 58 21.6 0.0**
VOIR 60.92 344 P **P** **15 58 21.6 0.0**
LSA Lhasa 60.95 45 P **P** **15 58 23.3 +0.7**
LSA Lhasa 60.95 45 *i*P **P** **15 58 22.6 0.0**
SNR=10
DJES Djerdap 60.96 341 ⇑P **P** **15 58 22.6 +0.7**
CMAH Djebel Manchou 60.96 325 P **P** **15 58 23.3 +1.2**
ARR Arges 60.97 343 ⇑P **P** **15 58 22.0 0.0**
EKS2 Erkin-Say 60.98 23 P **P** **15 58 29.2 +7.1**
SNR=13
COVR Voineasa-Covas 60.99 345 ⇑P **P** **15 58 22.0 -0.1**
CM31 Chiang Mai Arr 61.09 60 IAmb IAmb 15 58 33.1

comp=Z,60nm,1.1s
CMAR Chiang Mai Arr 61.09 60 P **P** **15 58 22.1 -1.1**
CMAR Chiang Mai Arr 61.09 60 P **P** **15 58 23.6 +0.5**
comp=Z,9.4nm,0.9s,baz=249,slow=7.3,SNR=26
CMAR LR LR 16 22 32.8

comp=Z,2µm,18.1s,baz=255,slow=34
comp=Z,9.4nm,0.9s
CMAR Chiang Mai Arr 61.09 60 *i*P **P** **15 58 23.7 +0.5**
CMAR pmax pmax

comp=Z,10.0nm,0.9s
RUDO Rudo 61.09 338 *e*P **P** **15 58 22.6 -0.2**
HERR Herculane 61.19 341 ⇑P **P** **15 58 23.7 +0.4**
CKFL Kef-Lekhel 61.19 325 P **P** **15 58 25.5 +1.7**
TURR Turia 61.23 345 ⇑P **P** **15 58 23.6 -0.1**
AAK Ala-Archa 61.24 24 P **P** **15 58 27.7 +3.7**
SNR=8.7
AAK Ala-Archa 61.24 24 P **P** **15 58 23.5 -0.5**
AAK IAmb IAmb 15 58 32.2

comp=Z,42nm,1.1s
AAK Ala-Archa 61.24 24 *i*P **P** **15 58 24.3 +0.3**
SNR=18
AAK Ala-Archa 61.24 24 LR LR 16 23 18.5

comp=Z,1µm,21.0s,baz=238,slow=34
AAK Ala-Archa 61.24 24 P **P** **15 58 27.7 +3.7**
AAK P **P** **15 58 27.7 +3.7**
AAK S **S** **16 06 49.1 +4.9**
AAK S **S** **16 06 49.1 +4.9**
AAK Ala-Archa 61.24 24*d i*P **P** **15 58 23.9 -0.1**
AAK pmax pmax

comp=Z,86nm,1.8s
AAK MLR MLR

comp=Z,938nm,16.0s
CHTO Chiang Mai 61.25 60 P **P** **15 58 23.8 -0.5**
CHTO IAmb IAmb 15 58 34.8

comp=Z,115nm,1.3s
CHTO Chiang Mai 61.25 60 P **P** **15 58 23.8 -0.5**
CHTO pmax pmax

comp=Z,115nm,1.3s
LEM Lembang 61.26 91 LR LR 16 20 50.1
comp=Z,1µm,20.1s,baz=241,slow=32
LEM Lembang 61.26 91 P **P** **15 58 25.4 +0.7**
NEVS Nevesinje 61.28 337 *e*P **P** **15 58 25.0 +0.9**
BBLS Lazi&#263i 61.29 339 ⇓*i*P **P** **15 58 25.0 +0.8**
ITAN ITANAGAR 61.30 49 *e*P **P** **15 58 23.3 -1.2**
ITAN IAmb IAmb 15 58 40.3

comp=Z,84nm,0.8s
MDVR Moldovita 61.32 341 ⇑P **P** **15 58 24.7 +0.3**
OZUR 61.33 344 ⇑P **P** **15 58 24.1 -0.2**
BOSR Bodos 61.34 344 ⇑P **P** **15 58 24.3 -0.2**
MILM Milestii Mici 61.37 347 ⇑P **P** **15 58 24.6 0.0**
MILM Milestii Mici 61.37 347 ⇓*i*P **P** **15 58 23.7 -0.8**
comp=Z,230nm,1.8s
MILM Milestii Mici 61.37 347 *e*PP PP 16 00 42.0 +2.1
MILM Milestii Mici 61.37 347 P **P** **15 58 24.5 0.0**
CAEH 'Ain El Ouahch 61.39 325 P **P** **15 58 27.8 +2.8**
KBK Karagaybulak 61.43 24 P **P** **15 58 25.8 +0.4**
SNR=9.9
TESR Tescani 61.49 345 ⇑P **P** **15 58 25.0 -0.4**
NVL N'lazarevskaya 61.51 192 *e*P **P** **15 58 22.6 -2.6**
NVL *e*S **S** **16 06 44.3 -2.3**
NVL pmax pmax

comp=Z,108nm,1.0s
NVL MLR MLR

comp=Z,1µm,17.0s
GZR Gura Zlata 61.54 342 ⇑P **P** **15 58 26.6 +0.7**
GZR Gura Zlata 61.54 342 P **P** **15 58 26.5 +0.7**
ZIRO ZIRO 61.61 49 *e*P **P** **15 58 26.7 -0.1**
ZIRO IAmb IAmb 15 58 33.9

comp=Z,95nm,1.3s
USP Ospenovka 61.77 24 P **P** **15 58 30.4 +3.0**
SNR=9.4
DFRA Djebel Bou Aff 61.77 324 P **P** **15 58 24.7 -3.0**
TEKS Tekeris 61.85 339 ⇓*i*P **P** **15 58 28.2 +0.3**
INTR Introdacqua 61.90 334 P **P** **15 58 26.3 -2.0**
TKM2 Tokmak 2 61.92 25 P **P** **15 58 29.0 +0.4**
SNR=11
TKM2 Tokmak 2 61.92 25 *i*P **P** **15 58 26.6 -2.0**
TKM2 pmax pmax

comp=Z,74nm,1.1s
DEV Deva 61.94 342 ⇑P **P** **15 58 29.9 +1.4**
DEV Deva 61.94 342 P **P** **15 58 29.8 +1.4**
SGDS Sogindy 61.98 24 *e*P **P** **15 58 28.1 -0.8**
baz=24
SGDS Sogindy 61.98 24 *e*P **P** **15 58 28.0 -0.8**
VSL Villasalto 62.05 329 IAmb IAmb 15 58 33.3

comp=Z,51nm,0.8s
SURR Surduc 62.06 342 ⇑P **P** **15 58 30.0 +0.7**
BZS Buzias 62.10 341 ⇓P **P** **15 58 30.0 +0.5**
BZS Buzias 62.10 341 P **P** **15 58 30.0 +0.5**
FRGS Fruska Gora 62.28 340 ⇑P **P** **15 58 31.9 +1.2**
FRGS Fruska Gora 62.28 340 ⇓*i*P **P** **15 58 31.3 +0.5**
SRKY Kupres RS 62.29 337 *e*P **P** **15 58 31.3 +0.3**
CJR Cluj-Napoca 62.49 343 ⇑P **P** **15 58 33.4 +1.1**
CJR Cluj-Napoca 62.49 343 P **P** **15 58 33.3 +1.1**
CAMP Campotosto 62.54 334 IAMs_20 IAMs_20 16 28 57.4
comp=Z,3µm,20.0s
TNSS Tian-Shan 62.57 25 *e*P **P** **15 58 32.3 -0.9**
baz=26
TNSS Tian-Shan 62.57 25 *e*P **P** **15 58 32.3 -0.9**
MARR Marisel-Cluj 62.60 343 ⇑P **P** **15 58 34.1 +1.2**
MGRS Mrkonjic Grad 62.62 337 *e*P **P** **15 58 33.6 +0.6**
ARCR ARCALIA 62.62 344 ⇓P **P** **15 58 33.4 +0.4**
MDOK Medeo 62.72 25 *e*P **P** **15 58 33.3 -0.7**
baz=25
MDOK *e*S **S** **16 07 01.7 -1.2**

baz=25
MDOK LR LR 16 26 12.0

comp=Z,348nm,14.1s,baz=25
MDOK Medeo 62.72 25 *e*P **P** **15 58 33.2 -0.7**
MDOK *e*S **S** **16 07 01.6 -1.2**
MDOK MLR MLR

comp=Z,348nm,14.0s
DRGR 62.82 342 ⇑P **P** **15 58 35.4 +1.0**
DRGR 62.82 342 P **P** **15 58 35.4 +1.0**
BLY Banja Luka 62.86 338 ⇓*i*P **P** **15 58 34.8 +0.2**
A050A Klekovaca 62.88 337 *e*P **P** **15 58 35.0 +0.1**
BURAR Bucovina Array 62.88 345 ⇓P **P** **15 58 35.3 +0.5**
BURAR Bucovina Array 62.88 345 P **P** **15 58 34.8 -0.1**
BURAR IAmb IAmb 15 58 38.1

comp=Z,29nm,0.8s
BURAR Bucovina Array 62.88 345 P **P** **15 58 35.6 +0.8**
NRCA Norcia 62.91 334 IAmb IAmb 15 58 37.9

comp=Z,132nm,1.7s
LKP Lekhapani 62.98 50 *e*P **P** **15 58 35.1 -0.6**
GUMA Gualdo di Mace 63.00 334 IAmb IAmb 15 58 43.7
comp=Z,50nm,0.9s
GUMA IAMs_20 IAMs_20 16 27 21.5

comp=Z,3µm,21.0s
KUU Kurty 63.02 24 *e*P **P** **15 58 35.0 -0.8**
comp=Z,40nm,1.3s,baz=24
KUU LR LR 16 26 25.8

comp=Z,891nm,18.3s,baz=24
KUU Kurty 63.02 24 *e*P **P** **15 58 35.0 -0.8**
KUU pmax pmax

comp=Z,40nm,1.3s
KUU MLR MLR

comp=Z,891nm,18.0s
AMBH Ambrzfalva 63.03 341 ⇓P **P** **15 58 37.0 +1.3**
MESR Meseseni 63.08 343 ⇑P **P** **15 58 36.9 +0.9**
CRAI Chiangrai 63.08 59 IAmb IAmb 15 58 46.7

comp=Z,66nm,1.1s
FDMO Fiordimonte 63.09 334 IAmb IAmb 15 58 45.8
comp=Z,77nm,1.6s
BTLS Baital 63.10 22 *e*P **P** **15 58 35.4 -0.9**
comp=Z,26nm,1.2s,baz=22
BTLS *e*S **S** **16 07 06.0 -1.4**

baz=22
BTLS Baital 63.10 22 *e*P **P** **15 58 35.3 -0.9**
BTLS *e*S **S** **16 07 05.9 -1.4**
BTLS pmax pmax

comp=Z,26nm,1.2s
AB31 Akbulak array 63.11 10 *i*P **P** **15 58 35.5 -0.7**
ABKAR **Akbulak array 63.11 10** P **P** **15 58 35.7 -0.4**
ABKAR **Akbulak array 63.11 10** IAmb IAmb 15 58 43.7
comp=Z,217nm,1.0s
A051A Mrakovica 63.19 338 *e*P **P** **15 58 36.9 0.0**
SATY Saty 63.21 26 *e*P **P** **15 58 36.9 -0.2**
comp=Z,43nm,1.5s,baz=26
SATY Saty 63.21 26 *e*P **P** **15 58 36.9 -0.2**
SATY pmax pmax

comp=Z,43nm,1.5s
CHKK Chushkaly 63.26 25 *e*P **P** **15 58 36.4 -0.9**
baz=25
CHKK Chushkaly 63.26 25 *e*P **P** **15 58 36.4 -0.9**
BMR Baia Mare 63.40 343 ⇓P **P** **15 58 39.1 +0.9**
BMR Baia Mare 63.40 343 P **P** **15 58 39.0 +0.9**
UZB Uzynbulak 63.55 27 *e*P **P** **15 58 38.9 -0.5**
comp=Z,23nm,1.0s,baz=27
UZB Uzynbulak 63.55 27 *e*P **P** **15 58 38.9 -0.5**
UZB pmax pmax

comp=Z,23nm,1.0s
MORH Mrgy, Hungar 63.60 339 ⇑P **P** **15 58 40.3 +0.8**
SHLS Shalkode 63.75 27 *e*P **P** **15 58 42.0 +1.2**
comp=Z,27nm,1.3s,baz=27
SHLS Shalkode 63.75 27 *e*P **P** **15 58 41.9 +1.2**
SHLS pmax pmax

comp=Z,27nm,1.3s
VORD Divnogorie 63.78 356 *e*P **P** **15 58 38.3 -2.2**
VORD pmax pmax

comp=Z,70nm,0.9s
VORD MLR MLR

comp=Z,4µm,22.0s
TNCH TengChong 63.84 54 ⇓P **P** **15 58 41.8 0.0**
TNCH PcP **PcP** **15 59 17.5 -0.1**
TNCH S **S** **16 07 19.1 +1.4**
TNCH pmax pmax

comp=Z,26nm,1.4s
TNCH pmax pmax

comp=Z,160nm,3.0s
TNCH LR LR

comp=Z,490nm,15.4s
TNCH LR LR
comp=Z,740nm,17.1s
TNCH LR LR
comp=Z,2µm,20.8s
VRH Novokhopyorsk 63.87 357 *e*P **P 15 58 40.2 -0.9**
VRH pmax pmax
comp=Z,85nm,0.7s
CASP Castiglione de 63.88 332 IAmb IAmb 15 58 44.2
comp=Z,70nm,0.9s
ARXS Arharly 63.90 25 *e*P **P 15 58 41.0 -0.6**
PDGK Podgornoye 63.90 27 P **P 15 58 37.7 -4.0**
AKTO Aktyubinsk 63.94 9 LR LR 16 30 29.9
comp=Z,3µm,18.4s,baz=188,slow=40
VSR Storozhevoye 64.04 355 *e*P **P 15 58 38.6 -3.6**
VSR pmax pmax
comp=Z,40nm,0.7s
VSR MLR MLR
comp=Z,4µm,19.0s
BOJS Bojanci 64.23 337 *i* P **P 15 58 43.7 0.0**
BOJS *e*S **S 16 07 23.4 +2.0**
BOJS *e* 16 07 35.6
BOJS Bojanci 64.23 337⇓ *i*P **P 15 58 43.6 -0.1**
CRES Cresnjev 64.42 337⇓ *i*P **P 15 58 45.3 +0.4**
TROLL Troll, Antarti 64.45 194⇑⇑P **P 15 58 46.5 +1.6**
comp=Z,5µm,0.9s
VORR Voronezh 64.49 356 *e*P **P 15 58 43.4 -1.8**
VORR pmax pmax
comp=Z,70nm,0.5s
VORR MLR MLR
comp=Z,3µm,18.0s
PSZ Piszkesteto 64.69 341⇑⇑P **P 15 58 46.7 0.0**
PSZ Piszkesteto 64.69 341 P **P 15 58 46.7 0.0**
CEY Cerknica 64.75 336⇓⇓P **P 15 58 46.5 -0.6**
TDK Taldyqorghan 64.78 25 *e*P **P 15 58 46.4 -0.9**
comp=Z,32nm,0.7s,baz=25
TDK LR LR 16 27 30.9
comp=Z,561nm,16.0s,baz=25
TDK Taldyqorghan 64.78 25 *e*P **P 15 58 46.4 -0.9**
TDK pmax pmax
comp=Z,32nm,0.7s
TDK MLR MLR
comp=Z,561nm,16.0s
KIEV Kiev 64.88 349⇑⇑P **P 15 58 47.4 -0.3**
KIEV Kiev 64.88 349 P **P 15 58 45.6 -2.2**
KIEV IAmb IAmb 15 58 49.6
comp=Z,34nm,0.9s
KIEV Kiev 64.88 349 *i* P **P 15 58 46.8 -1.0**
SNR=20
KIEV Kiev 64.88 349 P **P 15 58 45.6 -2.2**
KIEV pmax pmax
comp=Z,34nm,0.9s
KIEV MLR MLR
comp=Z,2µm,20.0s
AKASG Malin Array Be 64.88 349 P **P 15 58 46.4 -1.4**
AKASG Malin Array Be 64.88 349 P **P 15 58 46.9 -0.9**
comp=Z,12nm,0.7s,baz=174,slow=5.8,SNR=65
AKASG LR LR 16 28 25.4
comp=Z,2µm,19.8s,baz=158,slow=37
comp=Z,12nm,0.7s
AKASG Malin Array Be 64.88 349 *i* P **P 15 58 46.9 -0.9**
AKASG pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 64.88 349 IAmb IAmb 15 58 49.6
comp=Z,40nm,0.9s
AKBB Malin Array Si 64.88 349*d* iP **P 15 58 46.6 -1.2**
AKBB pmax pmax
comp=Z,54nm,1.0s
AKBB MLR MLR
comp=Z,2µm,19.0s
KOLS Kolonicke sedl 64.88 343 *e*P **P 15 58 48.3 +0.4**
KOLS Kolonicke sedl 64.88 343 *e*P **P 15 58 48.3 +0.4**
KOLS pmax pmax
comp=Z,33nm,0.7s
LJU Ljubljana 64.96 337 *i* P **P 15 58 48.4 -0.1**
LJU *i* pP **pwP 15 58 59.1 +4.8**
LJU *i* PP **PP 16 01 11.4 -0.2**
LJU *e*S **S 16 07 30.9 +0.5**
BELG Belogornoye 64.99 1 LR LR 16 30 17.1
comp=Z,5µm,19.0s,baz=195,slow=39
BELG Belogornoye 64.99 1*d* iP **P 15 58 47.8 -0.6**
BELG pmax pmax
comp=Z,24nm,0.9s
BELG MLR MLR
comp=Z,808nm,19.0s
KECS Kecovo 65.00 342 *e*P **P 15 58 48.7 0.0**
KECS Kecovo 65.00 342 *e*P **P 15 58 48.7 0.0**
KECS pmax pmax
comp=Z,65nm,0.8s
MAHO Mahon 65.03 326 IAMs_20 IAMs_20 16 30 02.8
comp=Z,6µm,18.0s
ZCCA Zocca 65.05 333 IAmb IAmb 15 58 58.8
comp=Z,74nm,1.4s
ZCCA IAMs_20 IAMs_20 16 29 46.2
comp=Z,4µm,20.0s
CRVS Cervenica-Dubn 65.09 343 *e*P **P 15 58 49.4 +0.2**
CRVS *e*PP **PP 16 01 13.7 +1.0**
CRVS *e*S **S 16 07 32.8 +1.0**
CRVS Cervenica-Dubn 65.09 343 *e*P **P 15 58 49.4 +0.2**
CRVS pmax pmax
comp=Z,55nm,0.9s
SRO Srobarova 65.11 340 *e*P **P 15 58 49.7 +0.4**
SRO Srobarova 65.11 340 *e*P **P 15 58 49.7 +0.4**
SRO pmax pmax
comp=Z,77nm,1.1s
LVV L'vov 65.22 345 *e*P **P 15 58 48.1 -1.9**
LVV *e* 16 01 16.5
LVV *e*S **S 16 07 25.6 -7.8**
LVV *e*SS **SS 16 11 42.5 -4.0**
LVV MLR MLR
comp=Z,2µm,18.0s
PERS Pernice 65.23 337 *i* P **P 15 58 50.4 +0.1**
PERS *e*PP **PP 16 01 14.3 +0.3**
PERS *e*S **S 16 07 34.9 +1.1**
PERS *e* 16 07 47.4
PERS *e* 16 08 45.0
SABO M.te Sabotino 65.27 336 IAmb IAmb 15 58 53.3
comp=Z,66nm,0.8s
OTUK Ortayu 65.29 19 P **P 15 58 48.7 -1.8**
SOKA Soboth 65.30 337 *e*P **P 15 58 50.7 0.0**
comp=Z,92nm,1.5s,SNR=30
OBKA Obir 65.34 337 *e*P **P 15 58 51.1 0.0**
comp=Z,43nm,1.1s,SNR=17
OBKA Obir 65.34 337⇓ *i*P **P 15 58 51.0 0.0**
KWP Kalwaria Pacla 65.40 344 *e*P **P 15 58 51.3 +0.1**
KWP *e*L L 16 23 24.0
comp=Z,3µm,28.9s
LPSR Galich'ya Gora 65.43 356 *e*P **P 15 58 49.4 -1.9**
LPSR pmax pmax
comp=Z,40nm,0.6s
LPSR MLR MLR
comp=Z,3µm,19.0s
VYHS Vyhne 65.53 341 *e*P **P 15 58 51.9 -0.2**
VYHS *e*PP **PP 16 01 17.3 +0.8**
VYHS *e*S **S 16 07 38.3 +1.0**
VYHS Vyhne 65.53 341 *e*P **P 15 58 51.9 -0.2**
VYHS pmax pmax
comp=Z,40nm,1.0s
SNAA Sanae 65.53 195 P **P 15 58 52.2 +0.3**
SNAA IAMs_20 IAMs_20 16 27 02.6
comp=Z,5µm,18.0s
SNAA Sanae 65.53 195 *e*P **P 15 58 53.0 +1.0**
SNAA Sanae 65.53 195⇑⇑P **P 15 58 52.4 +0.4**
comp=Z,404nm,0.9s
SNAA Sanae 65.53 195 P **P 15 58 52.3 +0.3**
comp=Z,24nm,1.0s,baz=80,slow=6.6,SNR=14
SNAA LR LR 16 25 37.2
comp=Z,5µm,18.1s,baz=53,slow=34
comp=Z,24nm,1.0s
SNAA Sanae 65.53 195*c* iP **P 15 58 52.6 +0.7**
SNAA pmax pmax
comp=Z,41nm,1.1s
SNAA MLR MLR
comp=Z,3µm,15.0s
TEOL Teolo 65.56 334 IAmb IAmb 15 58 56.6
comp=Z,50nm,0.8s
ARSA Arzberg 65.60 338 *e*P **P 15 58 52.8 +0.2**
comp=Z,74nm,1.1s,SNR=24
STHS Stebnicka Huta 65.61 343 *e*P **P 15 58 51.7 -0.9**
STHS Stebnicka Huta 65.61 343 *e*P **P 15 58 51.7 -0.9**
STHS pmax pmax
comp=Z,34nm,1.3s
PRED Cave del Predi 65.67 336 IAmb IAmb 15 58 56.1
comp=Z,54nm,1.0s
PRMA PARMA 65.67 333 IAMs_20 IAMs_20 16 29 52.5
comp=Z,4µm,21.0s
RONA Rosalia, Austr 65.70 339 *i* P **P 15 58 53.4 +0.2**
comp=Z,109nm,0.8s,SNR=49
MYKA Terra Mystica 65.79 336 *e*P **P 15 58 53.7 -0.2**
comp=Z,32nm,1.3s,SNR=13
ZST Bratislava 65.84 340 *e*P **P 15 58 54.1 0.0**
ZST *e*S **S 16 07 41.8 +0.7**
ZST Bratislava 65.84 340 *e*P **P 15 58 54.1 0.0**
ZST pmax pmax
comp=Z,127nm,0.9s
STAL STALIGIAL 65.86 336 IAmb IAmb 15 58 56.9
comp=Z,50nm,1.0s
NIE Niedzica 65.89 342 *e*P **P 15 58 54.4 0.0**
NIE *e*pP pwP 15 59 06.4 +6.1
NIE *e*S **S 16 07 37.9 -3.8**
NIE *e*L L 16 23 14.2
comp=Z,1µm,29.2s
LANS Liptovska Anna 65.91 342 *e*P **P 15 58 55.1 +0.5**
LANS Liptovska Anna 65.91 342 *e*P **P 15 58 55.1 +0.5**
LANS pmax pmax
comp=Z,17nm,0.7s
MODS Modra-Piesok 65.94 340 *e*P **P 15 58 54.5 -0.2**
MODS *e*PP **PP 16 01 21.2 +1.1**
MODS *e*S **S 16 07 42.9 +0.6**
MODS Modra-Piesok 65.94 340 *e*P **P 15 58 54.5 -0.2**
MODS pmax pmax
comp=Z,153nm,0.9s
SMOL Smolenice 66.01 340 *e*P **P 15 58 55.1 -0.1**
SMOL pmax pmax
comp=Z,97nm,2.5s
MDT Midelt 66.03 315 LR LR 16 29 00.2
comp=Z,6µm,18.3s,baz=131,slow=37
CONA Conrad Observa 66.05 339 *i* P **P 15 58 55.5 -0.1**
comp=Z,68nm,0.9s,SNR=49
EIBI Ibiza 66.09 323 P **P 15 58 56.2 +0.3**
JAVC Velka Javorina 66.23 340⇓⇓P **P 15 58 57.0 +0.4**
JAVC *e*S **S 16 07 47.8 +1.9**
KBA Koelnbreinsper 66.28 337 *e*P **P 15 58 56.7 -0.5**
comp=Z,46nm,0.9s,SNR=21
VNA2 Neumayer--Watz 66.33 197⇑⇑P **P 15 58 58.1 +1.1**
comp=Z,21nm,0.6s,baz=46,slow=5.9
ABTA Abfaltersbach 66.33 336 *e*P **P 15 58 57.2 -0.2**
comp=Z,55nm,1.5s,SNR=13
LMR La Mourre 66.35 330 *e*P **P 15 58 57.0 -0.5**
VNA1 Neumayer--Stat 66.43 197⇑⇑P **P 15 58 59.0 +1.4**
comp=Z,95nm,1.1s
SLVN Son La 66.54 60 IAmb IAmb 15 59 09.3
comp=Z,52nm,1.1s
CART Cartagena 66.55 321 IAMs_20 IAMs_20 16 28 29.4
comp=Z,6µm,19.0s
CART Cartagena 66.55 321 P **P 15 58 59.5 +0.7**
MOA Molln 66.56 338 *e*P **P 15 58 58.6 -0.2**
comp=Z,100nm,1.0s,SNR=20
MAUC Maruska 66.61 341 *e*P **P 15 58 59.5 +0.4**
MAUC *e*S **S 16 07 52.4 +1.9**
BIOA Bad Ischl, Aus 66.67 337 *e*P **P 15 58 58.7 -0.8**
comp=Z,51nm,1.0s,SNR=24
OJC Ojcow 66.75 342 *e*P **P 15 58 59.2 -0.7**
OJC *e*pP **pwP 15 59 10.8 +5.0**
OJC *e*S **S 16 07 51.2 -0.9**
OJC *e*L L 16 23 20.9
comp=Z,1µm,26.9s
OJC Ojcow 66.75 342 IAmb IAmb 15 59 01.7
comp=Z,37nm,0.8s
IFR Ifrane 66.79 315 P **P 15 59 02.2 +1.5**
LESA Schwarzleotal 66.82 336 *i* P **P 15 58 59.5 -1.0**
comp=Z,40nm,0.9s
KRUC Moravsky 66.83 340⇓⇓*i*P **P 15 58 59.6 -0.8**
KRUC *e*PP **PP 16 01 28.7 +0.8**
KRUC *e*S **S 16 07 52.4 -0.6**
EMUR La Murta 66.86 321 P **P 15 59 02.1 +1.2**
MORW Morawa 66.86 116 IAMs_20 IAMs_20 16 23 39.6
comp=Z,4µm,18.0s
TIO Tiouine 66.87 312 P **P 15 59 02.5 +1.2**
ENIJ Nijar 66.92 320 P **P 15 59 01.8 +0.5**
BRZS Berezniki 66.92 19 *e*P **P 15 59 00.4 -0.6**
comp=Z,24nm,1.2s,baz=19
BRZS *e*S **S 16 07 53.0 -1.1**
baz=19
BRZS Berezniki 66.92 19 *e*P **P 15 59 00.4 -0.6**
BRZS *e*S **S 16 07 53.0 -1.1**
BRZS pmax pmax
comp=Z,24nm,1.2s
OKC Ostrava-Krasne 66.92 341 *e*P **P 15 59 01.0 0.0**
OKC AMS AMS 16 32 40.0
comp=Z,2µm,18.2s
OKC Ostrava-Krasne 66.92 341 *e*P **P 15 59 01.0 0.0**
OKC MLR MLR
comp=Z,2µm,18.2s
MORC Moravsky Berou 67.06 341⇑⇑P **P 15 59 02.2 +0.3**
MORC Moravsky Berou 67.06 341 IAmb IAmb 15 59 04.7
comp=Z,67nm,0.8s
MORC Moravsky Berou 67.06 341⇓⇓*i*P **P 15 59 01.6 -0.4**
MORC *e*PP **PP 16 01 31.0 +1.0**
MORC *e*S **S 16 07 56.6 +0.6**
MORC Moravsky Berou 67.06 341 P **P 15 59 02.2 +0.3**
PZH PanZhiHua 67.10 54 P **P 15 59 02.6 -0.2**
PZH S **S 16 07 58.8 +1.4**
PZH sS pS 16 08 17.5 +18
PZH pmax pmax
comp=Z,40nm,1.3s
PZH pmax pmax
comp=Z,260nm,5.6s
PZH LR LR
comp=Z,1µm,17.7s
PZH LR LR
comp=Z,910nm,17.5s
PZH LR LR
comp=Z,1µm,16.0s
WTTA Wattenberg 67.10 336 *e*P **P 15 59 01.7 -0.7**
comp=Z,53nm,1.0s,SNR=19
VNA3 Neumayer Olymp 67.13 197⇑⇑P **P 15 59 03.1 +0.9**
comp=Z,70nm,0.9s
WATA Walderalm 67.19 336 *e*P **P 15 59 01.7 -1.2**
comp=Z,48nm,1.1s,SNR=13
SQTA Sankt Quirin 67.24 335 *e*P **P 15 59 02.4 -0.8**
comp=Z,41nm,1.0s,SNR=15
KMI Kunming 67.25 56⇓⇓P **P 15 59 03.8 -0.1**
KMI S **S 16 08 00.8 +1.3**
KMI pmax pmax
comp=Z,34nm,1.2s
KMI pmax pmax
comp=Z,220nm,5.4s
KMI LR LR
comp=Z,1µm,21.3s
KMI LR LR
comp=Z,890nm,20.0s
KMI LR LR
comp=Z,1µm,19.5s
FETA Feichten 67.28 335 *i* P **P 15 59 03.2 -0.4**
comp=Z,76nm,0.9s,SNR=43
GOMU GeErMu 67.31 42 P **P 15 59 04.8 +0.6**
GOMU pP pwP 15 59 11.4 +1.4
GOMU S **S 16 07 56.1 -4.1**
GOMU SS **SS 16 12 18.9 -1.4**
GOMU pmax pmax
comp=Z,15nm,1.6s
GOMU LR LR
comp=Z,2µm,17.9s
GOMU LR LR
comp=Z,2µm,18.3s
GOMU LR LR
comp=Z,4µm,18.2s
TREC Trest 67.34 339 *e*P **P 15 59 03.5 -0.2**
TREC AMS AMS 16 35 50.0
comp=Z,1µm,18.7s
TREC Trest 67.34 339 *e*P **P 15 59 03.5 -0.2**
TREC MLR MLR
comp=Z,1µm,18.7s
CKRC Cesky Krumlov 67.36 338 *e*P **P 15 59 03.6 -0.2**
CKRC *e*S **S 16 07 58.6 -0.9**
CKRC AMS AMS 16 33 20.0
comp=Z,1µm,18.2s
CKRC Cesky Krumlov 67.36 338 *e*P **P 15 59 03.6 -0.2**
CKRC *e*S **S 16 07 58.6 -0.9**
CKRC MLR MLR
comp=Z,1µm,18.2s
MOTA Moosalm 67.39 335 *e*P **P 15 59 03.1 -1.1**
comp=Z,50nm,1.0s,SNR=20
TUE Stuetta 67.43 334 IAmb IAmb 15 59 07.1
comp=Z,51nm,1.2s
TUE Stuetta 67.43 334 P **P 15 59 04.1 -0.5**
comp=Z,102nm,1.0s,comp=Z,2µm
BNI Bardonecchia 67.55 331 IAmb IAmb 15 59 11.8
comp=Z,119nm,1.9s
BNI IAMs_20 IAMs_20 16 33 20.2
comp=Z,3µm,18.0s
KRLC Kraliky 67.57 340 *e*P **P 15 59 05.0 -0.2**
KRLC *e*S **S 16 08 02.5 +0.5**
KRLC AMS AMS 16 33 10.0
comp=Z,1µm,17.0s
KRLC Kraliky 67.57 340 *e*P **P 15 59 05.0 -0.2**
KRLC *e*S **S 16 08 02.5 +0.5**
KRLC MLR MLR
comp=Z,1µm,17.0s
GEC2 GERESS Array S 67.60 338 IAmb IAmb 15 59 07.6
comp=Z,52nm,0.9s
GERES GERESS Array B 67.60 338 P **P 15 59 04.6 -0.8**
comp=Z,21nm,0.8s,baz=123,slow=4.9,SNR=40
GERES LR LR 16 32 07.7
comp=Z,1µm,18.2s,baz=144,slow=39
comp=Z,21nm,0.8s
RETA Reutte 67.64 335 *e*P **P 15 59 04.8 -0.9**
comp=Z,70nm,1.1s,SNR=31
MAKZ Makanchi 67.73 26 P **P 15 59 05.4 -0.8**
MAKZ IAmb IAmb 15 59 13.9
comp=Z,73nm,1.0s
MAKZ Makanchi 67.73 26 P **P 15 59 05.4 -0.8**
MAKZ pmax pmax
comp=Z,73nm,1.0s
MAKZ MLR MLR
comp=Z,1µm,20.0s
NWAO Narrogin (SRO) 67.77 120 LR LR 16 22 10.8
comp=Z,2µm,21.8s,baz=240,slow=30
ORIF Oris-en-Rattie 67.83 331 *e*P **P 15 59 07.1 +0.1**
DAVA Damuels 67.84 335 *e*P **P 15 59 06.2 -0.8**
comp=Z,129nm,1.5s,SNR=32
MK31 Makanchi Array 67.85 26 IAmb IAmb 15 59 14.5
comp=Z,36nm,0.9s
MK31 Makanchi Array 67.85 26*d* iP **P 15 59 06.3 -0.7**
MKAR Makanchi Array 67.85 26 P **P 15 59 06.1 -0.9**
MKAR Makanchi Array 67.85 26 P **P 15 59 06.4 -0.6**
comp=Z,5.6nm,0.7s,baz=214,slow=7.0,SNR=24
comp=Z,5.6nm,0.7s
LPL La Plagne 67.87 332 *e*P **P 15 59 05.7 -1.7**
KHC Kasperske Hory 67.89 338 *e*P **P 15 59 06.1 -1.1**
KHC *e*S **S 16 08 02.9 -2.9**
KHC AMS AMS 16 36 10.0
comp=Z,2µm,18.4s
KHC Kasperske Hory 67.89 338*d* iP **P 15 59 05.6 -1.6**
KHC pmax pmax
comp=Z,76nm,1.0s
KHC MLR MLR
comp=Z,3µm,17.0s
KHC Kasperske Hory 67.89 338 P **P 15 59 05.9 -1.3**
comp=Z,35nm,1.3s,comp=Z,475nm
ZVC Zvikov 67.92 338 *e*P **P 15 59 06.3 -1.0**
ZVC *ex* x 15 59 15.0
ZVC AMS AMS 16 34 20.0
comp=Z,700nm,17.6s
DPC Dobruska-Polom 67.96 340 *e*P **P 15 59 07.5 -0.1**
DPC *e*S **S 16 08 07.1 +0.4**
DPC AMS AMS 16 35 30.0
comp=Z,1µm,17.1s
DPC Dobruska-Polom 67.96 340 *e*P **P 15 59 07.5 -0.1**
DPC *e*S **S 16 08 07.1 +0.4**
DPC MLR MLR
comp=Z,1µm,17.1s
GOPC GO Pecny, Ondr 68.11 339 *e*P **P 15 59 08.0 -0.5**
GOPC AMS AMS 16 29 50.0
comp=Z,2µm,20.0s
GOPC GO Pecny, Ondr 68.11 339 *e*P **P 15 59 08.0 -0.5**
GOPC MLR MLR
comp=Z,2µm,20.0s
OBN Obninsk 68.12 354 IAMs_20 IAMs_20 16 31 04.0
comp=Z,4µm,20.0s
OBN Obninsk 68.12 354 LR LR 16 31 25.7
comp=Z,3µm,19.4s,baz=169,slow=38
OBN Obninsk 68.12 354*d* iP **P 15 59 07.8 -0.6**
OBN *e* 15 59 34.1
OBN *e* 16 01 37.5
OBN *e*PPP PPP 16 03 14.5
OBN *e*S **S 16 08 08.9 +0.6**
OBN *e*SS **SS 16 12 32.4 +1.1**
OBN pmax pmax
comp=Z,123nm,1.9s
OBN MLR MLR
comp=Z,3µm,19.0s
OSTC Ostas 68.17 340 *e*P **P 15 59 09.0 +0.1**
OSTC *e*S **S 16 08 10.1 +0.9**
OSTC AMS AMS 16 33 00.0
comp=Z,1µm,17.7s
OSTC Ostas 68.17 340 *e*P **P 15 59 09.0 +0.1**
OSTC *e*S **S 16 08 10.1 +0.9**
OSTC MLR MLR
comp=Z,1µm,17.7s
WMQ Urumqi 68.18 31⇓⇓*i*P **P 15 59 09.4 +0.2**
WMQ S **S 16 08 11.3 +1.6**
WMQ pmax pmax
comp=Z,38nm,2.3s
WMQ pmax pmax
comp=Z,270nm,3.9s
WMQ LR LR
comp=Z,2µm,15.5s
WMQ LR LR
comp=Z,2µm,21.9s
WMQ LR LR
comp=Z,2µm,20.7s
UPC Upice 68.19 340 *e*P **P 15 59 09.3 +0.3**
UPC *e*S **S 16 08 11.1 +1.7**
UPC AMS AMS 16 32 40.0
comp=Z,2µm,18.0s
UPC Upice 68.19 340 *e*P **P 15 59 09.3 +0.3**
UPC *e*S **S 16 08 11.1 +1.7**
UPC MLR MLR
comp=Z,2µm,18.0s
CHVC Chvalec 68.25 340 *e*P **P 15 59 09.0 -0.4**
CHVC AMS AMS 16 32 50.0
comp=Z,2µm,18.0s
CHVC Chvalec 68.25 340 *e*P **P 15 59 09.0 -0.4**
CHVC MLR MLR
comp=Z,2µm,18.0s
SENIN Lac Senin/Sane 68.25 332 IAMs_20 IAMs_20 16 28 15.8
comp=Z,7µm,21.0s
PRU Pruhonice 68.26 339 *e*S **S 16 08 07.2 -2.9**
PRU AMS AMS 16 29 50.0
comp=Z,2µm,19.7s
CASY Casey 68.33 157 P **P 15 59 10.5 +0.8**
PRA Prague 68.36 339 *e*S **S 16 08 10.8 -0.6**
PRA AMS AMS 16 34 10.0
comp=Z,1µm,18.1s
VIVF Saint-Julien-l 68.37 330 *e*P **P 15 59 10.3 0.0**
CEST Esterni de Car 68.54 326 IAmb IAmb 15 59 16.1
comp=Z,142nm,1.7s
CEST IAMs_20 IAMs_20 16 29 08.7
comp=Z,3µm,20.0s
MOS Moscow 68.65 355 *e*P **P 15 59 10.1 -1.6**
MOS *e* 15 59 34.1
MOS *e* 16 01 43.0
MOS *e*S **S 16 08 13.1 -1.4**
MOS *e* 16 09 07.8
MOS pmax pmax
comp=Z,300nm,1.8s
MOS pmax pmax
comp=Z,131nm,1.6s
MOS MLR MLR
comp=N,2µm,19.0s
MOS MLR MLR
comp=Z,2µm,19.0s
PVCC Panska Ves 68.70 339 AMS AMS 16 32 40.0
comp=Z,1µm,19.1s
MNK Minsk 68.75 349 *i* P **P 15 59 13.9 +1.5**
MNK *i* 15 59 37.7
MNK *i* 16 01 45.9
MNK *i* PPP PPP 16 03 25.2
MNK *i* S **S 16 08 17.0 +1.2**
MNK *i* SS **SS 16 12 42.1 +1.0**
MNK pmax pmax
comp=Z,91nm,0.8s
MNK pmax pmax
comp=N,42nm,0.9s
MNK pmax pmax
comp=E,11nm,0.8s
MNK MLR MLR
comp=E,839nm,18.0s
MNK MLR MLR
comp=N,1µm,19.0s
MNK MLR MLR
comp=Z,2µm,18.0s
BVA0 Borovoye Array 68.97 16 *i* P **P 15 59 12.8 -1.0**

BVAR Borovoye Array 68.97 16 P **P** **15 59 13.2 -0.6**
comp=Z,3.8nm,0.6s,baz=217,slow=6.6,SNR=24
BVAR LR LR 16 30 20.8
comp=Z,1μm,20.0s,baz=225,slow=37
comp=Z,3.8nm,0.6s
BRVK Borovoye 68.97 16 P **P** **15 59 13.1 -0.7**
BRVK IAmb IAmb 15 59 21.4
comp=Z,78nm,1.3s
BRVK Borovoye 68.97 16 P **P** **15 59 17.1 +3.3**
BRVK P **P** **15 59 17.1 +3.3**
BRVK P **P** **15 59 17.1 +3.3**
BRVK S **S** **16 08 21.6 +3.1**
BRVK S **S** **16 08 21.6 +3.1**
BRVK S **S** **16 08 21.6 +3.1**
BRVK Borovoye 68.97 16*d iP* **P** **15 59 12.7 -1.1**
BRVK pmax pmax
comp=Z,104nm,1.8s
BRVK MLR MLR
comp=Z,1μm,17.0s
HSKC Hora Svate Kat 69.17 339 *eP* **P** **15 59 14.6 -0.5**
HSKC AMS AMS 16 35 00.0
comp=Z,2μm,17.0s
BRG Berggiesshubel 69.21 339⇑*iP* **P** **15 59 14.8 -0.5**
BRG Amp 15 59 18.0
comp=Z,28nm,1.1s
BRG Berggiesshubel 69.21 339 PP PP 16 01 49.0 +0.5
BRG Berggiesshubel 69.21 339 S **S** **16 08 24.0 +2.6**
NKC Novy Kostel 69.21 338 AMS AMS 16 38 10.0
comp=Z,1μm,15.7s
GRA1 Grafenberg Arr 69.23 337 IAmb IAmb 15 59 18.0
comp=Z,99nm,1.4s
GRFO Grafenberg 69.23 337 P **P** **15 59 14.4 -1.1**
GRFO IAmb IAmb 15 59 17.9
comp=Z,92nm,1.4s
GRFO Grafenberg 69.23 337 P **P** **15 59 14.4 -1.1**
GRFO pmax pmax
comp=Z,92nm,1.4s
GRFO MLR MLR
comp=Z,2μm,20.0s
SUW Suwalki 69.28 346 *eP* **P** **15 59 15.0 -0.7**
SUW *ep*P pwP 15 59 27.0 +5.4
SUW *eS* **S** **16 08 24.0 +1.9**
SUW *eL* L 16 26 25.6
comp=Z,2μm,25.7s
SUW Suwalki 69.28 346 *eP* **P** **15 59 15.8 +0.1**
STU Stuttgart 69.30 335 IAmb IAmb 15 59 18.8
comp=Z,48nm,1.0s
BFO Black Forest 69.31 334 P **P** **15 59 14.6 -1.5**
BFO IAmb IAmb 15 59 18.8
comp=Z,85nm,1.5s
BFO Black Forest 69.31 334 P **P** **15 59 14.6 -1.5**
BFO pmax pmax
comp=Z,85nm,1.5s
BFO MLR MLR
comp=Z,2μm,21.0s
EPF Esparros 69.33 326 *eP* **P** **15 59 17.1 +0.8**
KURBB Kurchatov Arra 69.43 22 P **P** **15 59 16.1 -0.6**
comp=Z,3.0nm,0.8s,baz=219,slow=6.8,SNR=17
KURBB LR LR 16 27 41.9
comp=Z,2μm,21.3s,baz=220,slow=34
comp=Z,3.0nm,0.8s
ZSN Zaisan 69.48 27 *eP* **P** **15 59 16.9 -0.2**
comp=Z,35nm,1.1s,baz=27
ZSN Zaisan 69.48 27 *eP* **P** **15 59 16.9 -0.2**
ZSN pmax pmax
comp=Z,35nm,1.1s
KURK Kurchatov 69.54 22 P **P** **15 59 15.1 -2.3**
KURK Kurchatov 69.54 22 P **P** **15 59 19.9 +2.5**
KURK P **P** **15 59 19.9 +2.5**
KURK S **S** **16 08 29.4 +4.0**
KURK S **S** **16 08 29.4 +4.0**
KURK Kurchatov 69.54 22*d iP* **P** **15 59 16.4 -1.0**
KURK pmax pmax
comp=Z,41nm,1.0s
ES10 SONSECA Array 69.62 321 IAMs_20 IAMs_20 16 30 24.4
comp=Z,4μm,18.0s
ES11 SONSECA Array 69.62 321 IAMs_20 IAMs_20 16 30 24.5
comp=Z,4μm,18.0s
ES09 SONSECA Array 69.63 321 IAMs_20 IAMs_20 16 30 25.6
comp=Z,4μm,18.0s
ES12 SONSECA Array 69.63 321 IAMs_20 IAMs_20 16 28 55.7
comp=Z,3μm,19.0s
ES04 SONSECA Array 69.64 321 IAMs_20 IAMs_20 16 28 57.0
comp=Z,3μm,19.0s
ES03 SONSECA Array 69.64 321 IAMs_20 IAMs_20 16 30 26.0
comp=Z,4μm,19.0s
ES19 SONSECA Array 69.64 321 IAMs_20 IAMs_20 16 30 26.0
comp=Z,4μm,18.0s
ES02 SONSECA Array 69.65 321 IAMs_20 IAMs_20 16 30 25.2
comp=Z,3μm,18.0s
ES08 SONSECA Array 69.65 321 IAMs_20 IAMs_20 16 28 56.3
comp=Z,3μm,20.0s
ES13 SONSECA Array 69.65 321 IAMs_20 IAMs_20 16 30 25.3
comp=Z,3μm,19.0s
ES05 SONSECA Array 69.65 321 IAMs_20 IAMs_20 16 29 41.4
comp=Z,4μm,19.0s
ES06 SONSECA Array 69.66 321 IAMs_20 IAMs_20 16 29 41.5
comp=Z,4μm,18.0s
ESBB Sonseca Array 69.66 321 IAMs_20 IAMs_20 16 29 41.6
comp=Z,3μm,19.0s
ESDC Sonseca Array 69.66 321 P **P** **15 59 18.4 0.0**
ESDC IAmb IAmb 15 59 21.8
comp=Z,78nm,1.2s
ESDC IAMs_20 IAMs_20 16 30 25.6
comp=Z,3μm,18.0s
ESDC Sonseca Array 69.66 321 P **P** **15 59 19.3 +0.8**
comp=Z,30nm,0.9s,baz=127,slow=4.9,SNR=65
ESDC LR LR 16 32 04.8
comp=Z,3μm,18.2s,baz=124,slow=38
comp=Z,30nm,0.9s
ES07 SONSECA Array 69.66 321 IAMs_20 IAMs_20 16 29 42.6
comp=Z,3μm,18.0s
ES14 SONSECA Array 69.66 321 IAMs_20 IAMs_20 16 29 41.7
comp=Z,3μm,18.0s
ES18 SONSECA Array 69.68 321 IAMs_20 IAMs_20 16 28 57.0
comp=Z,3μm,19.0s
ES15 SONSECA Array 69.68 321 IAMs_20 IAMs_20 16 29 43.1
comp=Z,4μm,18.0s
ES17 SONSECA Array 69.68 321 IAMs_20 IAMs_20 16 29 42.2
comp=Z,4μm,19.0s
ES16 SONSECA Array 69.69 321 IAMs_20 IAMs_20 16 29 42.3
comp=Z,4μm,18.0s
IDID Didziasalis 69.74 349 *eP* **P** **15 59 18.6 +0.2**
PAB San Pablo 69.82 321 P **P** **15 59 19.3 -0.2**
PAB IAmb IAmb 15 59 23.5
comp=Z,108nm,1.3s
PAB San Pablo 69.82 321 IAMs_20 IAMs_20 16 31 57.8
comp=Z,4μm,20.0s
PAB San Pablo 69.82 321 P **P** **15 59 19.3 -0.2**
PAB pmax pmax
comp=Z,108nm,1.3s
PAB MLR MLR
comp=Z,4μm,20.0s
ARU Arti 69.85 8 P **P** **15 59 18.5 -0.7**
ARU Arti 69.85 8 LR LR 16 34 18.8
comp=Z,2μm,18.1s,baz=194,slow=40
ARU Arti 69.85 8*d iP* **P** **15 59 18.8 -0.4**
ARU 15 59 39.6
ARU 16 01 51.7
ARU PPP PPP 16 03 30.0
ARU S **S** **16 08 30.5 +1.7**
ARU SSS SSS 16 16 04.6
ARU pmax pmax
comp=Z,137nm,1.7s
ARU MLR MLR
comp=Z,2μm,21.0s
ARU Arti 69.85 8 P **P** **15 59 18.5 -0.7**
comp=Z,152nm,1.3s,comp=Z,1μm
CLL Collm 69.90 339 IAmb IAmb 15 59 22.2
comp=Z,66nm,1.5s
CLL Collm 69.90 339⇓*iP* **P** **15 59 19.0 -0.6**
CLL *i* 15 59 23.8
CLL *eS* **S** **16 08 34.0 +4.5**
CLL pmax pmax
comp=Z,33nm,1.0s
CLL MLR MLR
comp=Z,2μm,21.2s
CLL Collm 69.90 339 P **P** **15 59 19.0 -0.6**
comp=Z,32nm,1.5s,comp=Z,672nm
ISAL Salakas 70.10 348 *eP* **P** **15 59 22.0 +1.3**
GKP Gorka Klasztor 70.20 342 *eP* **P** **15 59 21.7 +0.3**
GKP *ep*P pwP 15 59 33.5 +6.3
GKP *eS* **S** **16 08 35.5 +2.6**
GKP *eL* L 16 27 17.5
comp=Z,2μm,25.7s
GKP Gorka Klasztor 70.20 342 *eP* **P** **15 59 22.1 +0.8**

AVF Avril sur Loir 70.40 331 *eP* **P** **15 59 21.9 -0.9**
PABE Paberze 70.48 347 *eP* **P** **15 59 23.2 +0.2**
LOR Lormes 70.51 331 *eP* **P** **15 59 22.5 -0.9**
SVE Sverdlovsk 70.53 9 *eP* **P** **15 59 23.4 +0.1**
SVE *eS* **S** **16 08 37.1 +0.5**
SVE pmax pmax
comp=Z,164nm,1.6s
SVE MLR MLR
comp=Z,3μm,20.0s
KLNR Kaliningrad 70.56 345*d iP* **P** **15 59 23.2 -0.3**
KLNR pmax pmax
comp=Z,290nm,1.5s
KLNR MLR MLR
comp=Z,2μm,20.0s
RUE Ruedersdorf 70.61 340 *eP* **P** **15 59 24.2 +0.4**
PBAR Barrancos 70.72 318 *eP* **P** **15 59 25.2 +0.3**
comp=Z,34nm,1.6s
PVAQ Vaqueiros 70.72 317 *eP* **P** **15 59 26.7 +1.8**
comp=Z,66nm,1.5s
PVAQ Vaqueiros 70.72 317 *ePP* PP 16 02 11.7 +10
PVAQ *eS* **S** **16 08 47.8 +8.1**
PVAQ Vaqueiros 70.72 317 *eLQ* LQ 16 26 30.1
PVAQ *eLR* LR 16 28 43.4
comp=Z,4μm,20.0s
PVAQ Vaqueiros 70.72 317 IAMs_20 IAMs_20 16 32 26.8
comp=Z,3μm,18.0s
QIZ Qiongzhong 70.75 64 P **P** **15 59 28.6 +3.1**
QIZ PcP **PcP** **15 59 48.3 +2.0**
QIZ S **S** **16 08 46.4 +5.7**
QIZ LR LR
comp=Z,960nm,14.5s
QIZ LR LR
comp=Z,910nm,16.3s
QIZ LR LR
comp=Z,1μm,14.7s
CD2 Chengdu 70.75 51 P **P** **15 59 25.3 0.0**
CD2 S **S** **16 08 39.0 -1.5**
CD2 SKS **SKSac** **16 09 25.0 -3.2**
CD2 SS **SS** **16 13 10.4 -2.6**
CD2 pmax pmax
comp=Z,30nm,1.1s
CD2 pmax pmax
comp=Z,240nm,7.6s
CD2 LR LR
comp=Z,1μm,16.3s
CD2 LR LR
comp=Z,1μm,17.3s
CD2 LR LR
comp=Z,1μm,16.7s
GYA Guiyang 71.01 56⇑*iP* **P** **15 59 29.3 +2.2**
GYA pP pwP 15 59 34.1 +1.3
GYA pmax pmax
comp=Z,19nm,1.4s
GYA pmax pmax
comp=Z,240nm,5.1s
GYA LR LR
comp=Z,620nm,15.6s
GYA LR LR
comp=Z,740nm,17.2s
GYA LR LR
comp=Z,1μm,17.8s
PCVE Castro Verde 71.06 317 *eP* **P** **15 59 27.4 +0.4**
PCVE Castro Verde 71.06 317 P **P** **15 59 28.8 +1.7**
PBEJ Beja 71.17 318 *eP* **P** **15 59 28.7 +1.0**
comp=Z,80nm,1.4s
KIRV Kirov 71.24 2 LR LR 16 33 44.7
comp=Z,3μm,19.6s,baz=191,slow=38
KIRV Kirov 71.24 2*d iP* **P** **15 59 26.7 -0.9**
WLF Walferdange 71.26 334 IAmb IAmb 15 59 30.7
comp=Z,58nm,1.2s
WLF Walferdange 71.26 334 *dP* **P** **15 59 28.1 +0.2**
MORF Marmelete 71.29 317 *eP* **P** **15 59 30.3 +1.9**
comp=Z,162nm,1.6s
MORF Marmelete 71.29 317 IAMs_20 IAMs_20 16 33 43.8
comp=Z,4μm,18.0s
MORF Marmelete 71.29 317 *eP* **P** **15 59 27.2 -1.2**
MORF *eS* **S** **16 08 44.6 -1.8**
MORF IAMs_20 IAMs_20 16 33 40.2
comp=Z,4μm,13.7s
MORF Marmelete 71.29 317 *eP* **P** **15 59 27.2 -1.2**
MORF *eS* **S** **16 08 44.6 -1.8**
MESJ Messejana 71.30 318 *eP* **P** **15 59 28.6 +0.2**
comp=Z,72nm,1.5s
MESJ Messejana 71.30 318 P **P** **15 59 26.9 -1.5**
MESJ IAMs_20 IAMs_20 16 32 42.0
comp=Z,4μm,19.0s
MESJ Messejana 71.30 318 *eP* **P** **15 59 27.3 -1.1**
MESJ *eS* **S** **16 08 44.7 -1.7**
MESJ IAMs_20 IAMs_20 16 32 47.5
comp=Z,4μm,20.9s
MESJ Messejana 71.30 318 *eP* **P** **15 59 27.3 -1.1**
MESJ *eS* **S** **16 08 44.7 -1.7**
PFVI Vila Bisbo 71.31 317 IAMs_20 IAMs_20 16 34 03.4
comp=Z,3μm,18.0s
PBUR Paburge 71.42 346 *eP* **P** **15 59 29.1 +0.4**
PESTR Estremoz 71.46 319 *eP* **P** **15 59 30.0 +0.6**
comp=Z,118nm,1.4s
PESTR Estremoz 71.46 319 P **P** **15 59 28.4 -1.1**
PESTR IAmb IAmb 15 59 33.3
comp=Z,83nm,1.2s
PESTR IAMs_20 IAMs_20 16 32 50.3
comp=Z,5μm,18.0s
PESTR Estremoz 71.46 319 P **P** **15 59 29.4 0.0**
PTEO Sao Teotonio 71.47 317 *eP* **P** **15 59 30.6 +1.1**
comp=Z,130nm,1.5s
EVO Evora 71.55 318 *eP* **P** **15 59 30.5 +0.6**
comp=Z,74nm,1.6s
PNCL Nicolau / Gran 71.65 318 *eP* **P** **15 59 31.0 +0.5**
comp=Z,85nm,1.8s
PMRV Marv??o 71.66 319 *eP* **P** **15 59 31.0 +0.4**
comp=Z,90nm,1.6s
PMRV Marv??o 71.66 319 *ePP* **PP** **16 02 11.8 +1.9**
PMRV *eS* **S** **16 08 55.8 +5.3**
PMRV Marv??o 71.66 319 *eLQ* LQ 16 23 52.7
PMRV *eLR* LR 16 25 52.7
comp=Z,4μm,18.0s
PCBR Castelo Branco 71.94 320 *eP* **P** **15 59 32.9 +0.6**
comp=Z,99nm,1.6s
BTNL Ternell 71.97 335 *dP* **P** **15 59 32.8 +0.6**
comp=Z,16nm,1.3s
PMTG Montargil 71.99 319 *eP* **P** **15 59 33.3 +0.8**
comp=Z,119nm,1.7s
RCHB Rochefort 72.02 334 *dP* **P** **15 59 32.8 +0.3**
MEM Membach 72.03 335 *dP* **P** **15 59 32.9 +0.3**
BCLA Clavier 72.19 334 *dP* **P** **15 59 31.9 -1.6**
comp=Z,26nm,1.3s
BSTI Sart Tilman 72.20 334 *dP* **P** **15 59 34.3 +0.8**
PACT Alcochete 72.21 318 *eP* **P** **15 59 34.6 +0.7**
comp=Z,442nm,1.6s
DOU Dourbes 72.25 334 *dP* **P** **15 59 33.8 0.0**
comp=Z,17nm,1.5s
BGES Gesves 72.25 334 *dP* **P** **15 59 34.0 +0.1**
comp=Z,30nm,1.4s
DGZ Jazzator, Alta 72.30 27*d iP* **P** **15 59 34.1 -0.3**
DGZ pmax pmax
comp=Z,81nm,1.8s
DGZ MLR MLR
comp=Z,867nm,17.0s
MTE Manteigas 72.31 320 *eP* **P** **15 59 34.7 +0.2**
comp=Z,58nm,1.6s
MTE Manteigas 72.31 320 *ePP* PP 16 02 23.7 +8.2
MTE *eS* **S** **16 09 03.3 +5.2**
MTE Manteigas 72.31 320 *eLQ* LQ 16 24 49.9
MTE *eLR* LR 16 28 20.1
comp=Z,5μm,18.0s
MTE Manteigas 72.31 320 IAMs_20 IAMs_20 16 32 23.6
comp=Z,6μm,19.0s
BEBN Eben Emael 72.31 335 *dP* **P** **15 59 34.3 +0.1**
BMRD Maredsous 72.33 334 *dP* **P** **15 59 34.5 +0.1**
comp=Z,31nm,1.4s
LIS Lisbon 72.39 318 *eP* **P** **15 59 33.9 -1.1**
LIS IAMs_20 IAMs_20 16 31 49.4
comp=N,6μm,19.2s
LIS Lisbon 72.39 318 *eP* **P** **15 59 33.9 -1.1**
GTA Gaotai 72.40 41 ⇓*iP* **P** **15 59 35.1 -0.1**
GTA S **S** **16 09 00.1 +0.8**
GTA SS **SS** **16 13 44.4 +6.4**
GTA pmax pmax
comp=N,8.0nm,1.8s
GTA pmax pmax
comp=N,170nm,7.2s
GTA LR LR
comp=N,1μm,20.0s
GTA LR LR
comp=N,1μm,19.3s

GTA LR LR
comp=N,2μm,20.0s
MVO Moncorvo 72.43 321 *eP* **P** **15 59 34.8 -0.5**
comp=N,106nm,1.6s
MVO Moncorvo 72.43 321 *ePP* **PP** **16 02 20.3 +3.8**
MVO *eS* **S** **16 09 04.3 +4.8**
MVO Moncorvo 72.43 321 *eLQ* LQ 16 26 34.9
MVO *eLR* LR 16 28 49.0
comp=N,4μm,20.0s
BSD Bornholm Skovb 72.48 342 *eP* **P** **15 59 35.2 +0.1**
RGN Rugen 72.50 341 IAMs_20 IAMs_20 16 36 14.8
comp=Z,3μm,20.0s
PBRG Braganca 72.63 322 *eP* **P** **15 59 37.2 +0.8**
comp=Z,78nm,1.5s
MACI Morro de la Ar 72.65 305 IAMs_20 IAMs_20 16 30 32.3
comp=Z,4μm,21.0s
PVIS Viseu 72.71 320 *eP* **P** **15 59 37.5 +0.6**
PCAS Casmilo, Conde 72.71 319 *eP* **P** **15 59 37.3 +0.4**
comp=Z,92nm,1.5s
VSU Vasula 72.71 350*d iP* **P** **15 59 36.1 -0.3**
VSU pmax pmax
comp=Z,168nm,0.8s
VSU MLR MLR
comp=Z,2μm,20.0s
COI Coimbra 72.75 320 IAMs_20 IAMs_20 16 32 40.2
comp=Z,5μm,19.0s
SLIT Slitere, Latvi 72.81 347 *eP* **P** **15 59 36.9 -0.1**
POLO Lamas de Olo 73.02 321 *eP* **P** **15 59 39.6 +0.8**
comp=Z,75nm,1.4s
LZH Lanzhou 73.35 46 P **P** **15 59 40.9 -0.1**
LZH S **S** **16 09 10.3 -0.1**
LZH sS SKSac 16 09 32.0 -16
LZH pmax pmax
comp=Z,320nm,5.8s
LZH LR LR
comp=Z,960nm,15.5s
LZH LR LR
comp=Z,1μm,15.5s
LZH LR LR
comp=Z,2μm,15.1s
PUL Pulkovo 73.41 352⇓*eP* **P** **15 59 41.5 +1.0**
PUL pmax pmax
comp=Z,63nm,1.0s
PUL MLR MLR
comp=Z,1μm,20.0s
KAPI Kappang 73.45 91 LR LR 16 26 57.1
comp=Z,1μm,21.6s,baz=244,slow=32
MTSE Matsula 73.49 348 *eP* **P** **15 59 41.0 0.0**
GULI GuiLin 73.57 59 ⇓*iP* **P** **15 59 40.1 -2.2**
GULI S **S** **16 09 11.3 -1.6**
GULI pmax pmax
comp=Z,40nm,1.4s
GULI LR LR
comp=Z,870nm,19.0s
GULI LR LR
comp=Z,690nm,20.1s
GULI LR LR
comp=Z,1μm,16.8s
KLMR Klimovskoe 73.61 357*d iP* **P** **15 59 41.1 -0.6**
KLMR *e* 16 02 31.2
KLMR S **S** **16 09 10.0 -1.9**
KLMR pmax pmax
comp=Z,143nm,1.5s
KLMR MLR MLR
comp=Z,3μm,21.0s
PGAV Gavieira, Arco 73.65 321 *eP* **P** **15 59 43.5 +1.0**
comp=Z,117nm,1.6s
PGAV Gavieira, Arco 73.65 321 *ePP* **PP** **16 02 26.3 -0.7**
PGAV *eS* **SKiKP** **16 09 19.4 +6.2**
PGAV Gavieira, Arco 73.65 321 *eLQ* LQ 16 25 31.5
PGAV *eLR* LR 16 28 31.2
comp=Z,4μm,18.0s
ARBE Arbavere 73.77 350 *eP* **P** **15 59 43.3 +0.7**
TTSI Tana Toraja 73.92 89 P **P** **15 59 45.3 +0.7**
comp=Z,37nm,0.9s,comp=Z,558nm
DEL Delary 73.95 342 *eP* **P** **15 59 43.9 +0.1**
ZALV Zalesovo Beam 74.42 23 P **P** **15 59 45.2 -1.3**
comp=Z,7.5nm,0.8s,baz=232,slow=7.2,SNR=13
ZALV LR LR 16 31 04.0
comp=Z,1μm,20.6s,baz=236,slow=35
comp=Z,7.5nm,0.8s
ZALV Zalesovo Beam 74.42 23 *i* P **P** **15 59 45.2 -1.3**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
MPSI Mapaga 74.75 86 P **P** **15 59 50.9 +1.5**
comp=Z,49nm,1.0s,comp=Z,924nm
MEF Metsahovi 74.78 349 *eP* **P** **15 59 48.5 0.0**
VALR Valaam 74.88 353*d iP* **P** **15 59 48.8 -0.2**
VALR pmax pmax
comp=Z,143nm,1.5s
VALR MLR MLR
comp=Z,1μm,18.0s
VIKU Vikbolandet 74.92 345 *eP* **P** **15 59 49.4 0.0**
HOPE Hope Hint 75.08 217 IAMs_20 IAMs_20 16 28 57.1
comp=Z,3μm,20.0s
PMOZ Porto Moniz, M 75.17 309 *eS* **S** **16 09 39.4 +8.6**
PMOZ Porto Moniz, M 75.17 309 *eLR* LR 16 27 59.2
comp=Z,3μm,18.0s
GZH Guangzhou 75.26 62 P **P** **15 59 55.1 +3.0**
GZH S **S** **16 09 36.4 +4.5**
GZH pmax pmax
comp=Z,22nm,0.8s
GZH LR LR
comp=Z,320nm,18.6s
GZH LR LR
comp=Z,350nm,19.8s
BELA Belgrano 2 75.48 192 P **P** **15 59 53.1 +0.6**
BELA IAmb IAmb 15 59 55.6
comp=Z,57nm,1.1s
BELA IAMs_20 IAMs_20 16 27 00.1
comp=Z,4μm,22.0s
AAL Aland 75.63 347 *eP* **P** **15 59 53.0 -0.4**
FINES FINESS Array B 75.64 350 P **P** **15 59 53.2 -0.3**
comp=Z,18nm,0.7s,baz=132,slow=5.7,SNR=64
FINES LR LR 16 36 44.0
comp=Z,860nm,18.0s,baz=164,slow=39
comp=Z,18nm,0.7s
TOLI2 Tolitoli 75.79 86 P **P** **15 59 55.2 -0.2**
UPP Uppsala 75.88 346 *eP* **P** **15 59 54.9 0.0**
RAF Rauma 76.03 348 *eP* **P** **15 59 55.5 -0.1**
XAN Xi'an 76.06 50 ⇓*iP* **P** **15 59 56.3 -0.3**
XAN S **S** **16 09 38.3 -2.2**
XAN SKS **SKSac** **16 10 00.8 -7.2**
XAN SS **SS** **16 14 36.9 +3.0**
XAN pmax pmax
comp=Z,48nm,1.6s
XAN pmax pmax
comp=Z,550nm,6.9s
XAN LR LR
comp=Z,820nm,20.0s
XAN LR LR
comp=Z,650nm,23.3s
XAN LR LR
comp=Z,1μm,24.8s
BATI Baumata 76.24 97 LR LR 16 28 01.9
comp=Z,2μm,21.2s,baz=286,slow=31
JOF Joensuu 76.34 353 *eP* **P** **15 59 57.3 -0.1**
KEF Keuruu 76.52 350 *eP* **P** **15 59 58.3 -0.2**
ADZR Andozero 76.75 357 *eP* P 15 59 54.7 -5.0
ADZR pmax pmax
comp=Z,39nm,1.1s
FITZ Fitzroy Crossi 76.76 106 P **P** **16 00 00.5 -0.4**
MCH1 Michaelchurch 77.00 332 *eP* **P** **16 00 01.1 -0.3**
MCH1 IAmb IAmb 16 00 04.1
comp=Z,103nm,0.8s
HOMB Homborsund 77.09 341 *eP* **P** **16 00 01.7 0.0**
HFS Hagfors 77.11 344 P **P** **16 00 01.4 -0.5**
comp=Z,41nm,0.7s,baz=134,slow=6.4,SNR=55
HFS LR LR 16 37 56.4
comp=Z,1μm,19.6s,baz=144,slow=39
comp=Z,41nm,0.7s
FORT Forrest 77.12 119 IAMs_20 IAMs_20 16 28 13.0
comp=Z,3μm,20.0s
QSPA South Pole Qui 77.25 180 P **P** **16 00 03.4 +0.5**
comp=Z,91nm,1.1s,baz=260,slow=2.8,SNR=92
QSPA LR LR 16 31 46.3
comp=Z,8μm,19.0s,baz=265,slow=34
comp=Z,91nm,1.1s
HLM1 Long Mynd 77.29 332 *eP* **P** **16 00 02.4 -0.6**
HLM1 IAmb IAmb 16 00 05.9
comp=Z,29nm,0.9s
LBWR Ladybower, Pea 77.36 333 *eP* **P** **16 00 03.0 -0.4**
LBWR IAmb IAmb 16 00 05.8
comp=Z,46nm,0.9s
SNART Snartemo 77.56 340 *eP* **P** **16 00 04.5 +0.1**
FOEL Foel Wylfa 77.68 332 *eP* **P** **16 00 05.6 +0.4**

FOEL IAmb IAmb 16 00 08.5
comp=Z,288nm,1.7s
HPK Haverah Park 77.70 334 *e*P **P 16 00 05.4 +0.1**
HPK IAmb IAmb 16 00 08.4
comp=Z,72nm,1.0s
VAF Ylistaro 77.72 350 *e*P **P 16 00 05.2 +0.1**
OSL Oslo 77.77 343 *e*P **P 16 00 03.2 -2.3**
RSBS Rosebush, Pemb 77.79 331 *e*P **P 16 00 05.7 -0.2**
RSBS IAmb IAmb 16 00 08.8
comp=Z,82nm,1.4s
KONO Kongsberg 77.86 342 P **P 16 00 06.0 0.0**
KONO IAmb IAmb 16 00 08.9
comp=Z,85nm,0.9s
KONO Kongsberg 77.86 342 *e*P **P 16 00 05.9 -0.2**
KONO Kongsberg 77.86 342 *d i*P **P 16 00 05.5 -0.5**
KONO pmax pmax
comp=Z,105nm,1.0s
KONO MLR MLR
comp=Z,2μm,22.0s
LLW Llanuwychllyn 77.86 332 *e*P **P 16 00 05.7 -0.5**
NC602 NORSAR Array S 78.20 344 IAmb IAmb 16 00 10.8
comp=Z,91nm,1.1s
NC602 NORSAR Array S 78.20 344 ⇓ *i*P **P 16 00 07.7 -0.2**
YLL Llanberis 78.29 332 *e*P **P 16 00 07.9 -0.6**
EDMD Edmundbyers 78.44 334 *e*P **P 16 00 09.4 +0.1**
NC405 NORSAR Array S 78.47 344 IAmb IAmb 16 00 12.2
comp=Z,75nm,1.6s
WLF1 Llynfaes 78.49 332 *e*P **P 16 00 10.0 +0.4**
WLF1 IAmb IAmb 16 00 12.9
comp=Z,373nm,1.7s
WME Myndd Eilian 78.52 332 *e*P **P 16 00 10.2 +0.4**
NB201 NORSAR Array S 78.53 344 IAmb IAmb 16 00 12.7
comp=Z,96nm,1.1s
NB2 NORSAR Subarra 78.54 344 P **P 16 00 09.6 -0.3**
comp=Z,179nm,2.0s,baz=146,slow=5.6
NB2 NORSAR Subarra 78.54 344 P **P 16 00 09.6 -0.3**
baz=146,slow=5.6
NB2 NORSAR Subarra 78.54 344 P **P 16 00 06.3 -3.6**
NOA NORSAR Array B 78.54 344 P **P 16 00 09.6 -0.3**
comp=Z,8.2nm,0.8s,baz=134,slow=5.2,SNR=32
NOA LR LR 16 39 43.8
comp=Z,1μm,19.3s,baz=115,slow=39
comp=Z,8.2nm,0.8s
NC303 NORSAR Array S 78.65 344 IAmb IAmb 16 00 13.2
comp=Z,55nm,1.0s
BLS5 Blasjo 78.65 341 ⇓ *i*P **P 16 00 10.8 +0.3**
KESW Keswick, Cumbr 78.76 334 *e*P **P 16 00 10.8 -0.4**
KESW IAmb IAmb 16 00 14.5
comp=Z,231nm,1.7s
WHN Wuhan 78.84 55 P P 16 00 17.4 +5.3
WHN pP **PcP 16 00 21.5 +0.7**
WHN S **S 16 10 11.3 +0.7**
WHN SKS **SKSac 16 10 21.6 -6.5**
WHN pmax pmax
comp=Z,39nm,0.5s
WHN pmax pmax
comp=Z,690nm,6.4s
WHN LR LR
comp=Z,2μm,14.7s
WHN LR LR
comp=Z,1μm,12.9s
WHN LR LR
comp=Z,4μm,19.7s
NC204 NORSAR Array S 78.86 344 IAmb IAmb 16 00 14.2
comp=Z,153nm,1.6s
KMY Karmoy 78.88 340 *e*P **P 16 00 11.8 +0.1**
LYN LuoYang 78.94 51 ⇓ P **P 16 00 12.0 -0.6**
LYN pP PcP 16 00 22.4 +1.2
LYN S **S 16 10 12.9 +1.3**
LYN sS SKKSac 16 10 32.3 +2.3
LYN pmax pmax
comp=Z,28nm,0.6s
LYN pmax pmax
comp=Z,330nm,6.5s
LYN LR LR
comp=Z,730nm,18.2s
LYN LR LR
comp=Z,2μm,16.5s
LYN LR LR
comp=Z,2μm,22.3s
ODD1 Odda 78.98 341 *e*P **P 16 00 12.6 +0.3**
SKAR Skarslia 79.08 342 *e*P **P 16 00 12.6 -0.2**
EKA Eskdalemuir Ar 79.28 334 P **P 16 00 14.2 +0.2**
comp=Z,9.7nm,0.7s,baz=122,slow=5.6,SNR=34
comp=Z,9.7nm,0.7s
ESY Stoneypath 79.45 335 *e*P **P 16 00 14.8 -0.1**
NEWG New Galloway 79.60 333 *e*P **P 16 00 15.6 -0.1**
NEWG IAmb IAmb 16 00 18.6
comp=Z,40nm,1.0s
EDI Edinburgh 79.69 334 *e*P **P 16 00 17.0 +0.9**
BER Bergen 79.76 341 *e*P **P 16 00 17.2 +0.8**
BTO Baotou 79.77 44 *e*P **P 16 00 17.3 +0.2**
BTO PcP **PcP 16 00 25.0 +0.2**
BTO pP **pwP 16 00 28.0 +5.1**
BTO sP pP 16 00 31.5 +12
BTO PP **PP 16 03 20.6 +2.1**
BTO S **S 16 10 18.3 -2.1**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,400nm,5.2s
BTO LR LR
comp=Z,2μm,19.1s
BTO LR LR
comp=Z,1μm,17.0s
BTO LR LR
comp=Z,4μm,19.4s
ASK Askoy 79.88 341 ⇓ *i*P **P 16 00 17.1 0.0**
DOMB Dombas 79.96 343 *e*P **P 16 00 17.7 +0.1**
MOY Mondy 80.07 31 *e*P **P 16 00 19.1 +0.5**
MOY pmax pmax
comp=Z,33nm,2.7s
HYA Hoyanger 80.10 342 *e*P **P 16 00 18.5 +0.3**
TIY Taiyuan 80.21 48 *e*P P 16 00 24.8 +5.2
TIY S **S 16 10 24.8 -0.3**
TIY SS **SS 16 15 39.4 +3.1**
TIY pmax pmax
comp=Z,180nm,6.3s
TIY LR LR
comp=Z,630nm,17.6s
TIY LR LR
comp=Z,480nm,20.6s
TIY LR LR
comp=Z,640nm,20.8s
INVG Invergeldie, C 80.38 335 *e*P **P 16 00 20.0 0.0**
INVG IAmb IAmb 16 00 22.9
comp=Z,14nm,0.9s
QZH Quanzhou 80.40 62 ⇑ *i*P P 16 00 29.4 +8.6
QZH Quanzhou 80.40 62 S **SKSac 16 10 34.5 -4.9**
QZH LR LR
comp=N,670nm,17.2s
QZH LR LR
comp=E,1μm,18.6s
QZH LR LR
comp=Z,1μm,18.5s
SUE Sulen 80.45 341 *e*P **P 16 00 20.2 0.0**
RCBR Riachuelo 80.49 266 IAMs_20 IAMs_20 16 32 07.1
comp=Z,3μm,20.0s
RCBR Riachuelo 80.49 266 LR LR 16 32 37.1
comp=Z,2μm,19.1s,baz=152,slow=33
ZAK Zakamensk 80.54 33 *e*P **P 16 00 21.5 +0.4**
ZAK pmax pmax
comp=Z,14nm,1.8s
TBLU Trondheim 80.62 345 ⇓ *i*P **P 16 00 21.9 +0.8**
AKN Aaknes 80.65 343 ⇓ *i*P **P 16 00 21.2 -0.1**
APA Apatity 80.69 355 ⇓ *i*P **P 16 00 20.2 -1.1**
APA *i* 16 00 27.8
APA *i* 16 03 29.0
APA *i* S **S 16 10 21.0 -7.7**
APA *i* PS PnS 16 11 30.0 +15
APA pmax pmax
comp=Z,18nm,0.8s
FOO Floro 80.78 342 *e*P **P 16 00 22.2 +0.2**
MOL Molde 80.81 343 *e*P **P 16 00 22.6 +0.6**
LAWE Loch Awe, Argy 80.85 334 *e*P **P 16 00 22.4 0.0**
LAWE IAmb IAmb 16 00 25.4
comp=Z,318nm,1.9s
LVZ Lovozero 80.92 356 P **P 16 00 21.1 -1.5**
LVZ IAmb IAmb 16 00 30.5
comp=Z,64nm,1.0s
LVZ IAMs_20 IAMs_20 16 40 40.5
comp=Z,2μm,20.0s
LVZ Lovozero 80.92 356 *de*P **P 16 00 22.1 -0.5**
LVZ pmax pmax
comp=Z,80nm,1.1s
LVZ MLR MLR
comp=Z,2μm,19.0s
HHC Hu-ho-hao-te 80.92 45 *e*P **P 16 00 24.3 +0.9**
HHC S **S 16 10 34.1 +1.5**
HHC pmax pmax
comp=Z,3.0nm,0.5s
HHC LR LR
comp=Z,970nm,13.9s
HHC LR LR
comp=Z,850nm,16.9s
HHC LR LR
comp=Z,220nm,16.0s
SONM Songino Array 80.93 37 P **P 16 00 23.0 -0.3**
SONM Songino Array 80.93 37 P **P 16 00 24.0 +0.7**
comp=Z,3.9nm,0.6s,baz=230,slow=5.6,SNR=18
SONM LR LR 16 34 23.5
comp=Z,1μm,21.1s,baz=250,slow=34
comp=Z,3.9nm,0.6s
SONM Songino Array 80.93 37 P **P 16 00 23.0 -0.3**
SONM pmax pmax
comp=Z,17nm,1.1s
NSS Namsos 81.26 346 *e*P **P 16 00 24.3 -0.2**
ULN Ulaanbaatar 81.33 37 P P 16 00 18.6 -6.8
ULN P P 16 00 18.6 -6.8
ULN S **SKSac 16 10 43.5 -1.7**
ULN S **SKSac 16 10 43.5 -1.7**
ULN Ulaanbaatar 81.33 37 *d i*P **P 16 00 25.7 +0.3**
ULN pmax pmax
comp=Z,24nm,1.1s
ULN MLR MLR
comp=Z,787nm,16.0s
KPL Plockton 81.65 335 *e*P **P 16 00 26.2 -0.4**
KPL IAmb IAmb 16 00 29.8
comp=Z,29nm,0.7s
HNS HongShan 81.74 49 ⇓ P **P 16 00 28.5 +0.9**
HNS PP **PP 16 03 38.3 +3.5**
HNS S **S 16 10 43.0 +2.2**
HNS pmax pmax
comp=Z,14nm,1.6s
HNS LR LR
comp=Z,370nm,16.9s
HNS LR LR
comp=Z,1μm,18.8s
HNS LR LR
comp=Z,2μm,19.6s
DAV Davao City (W) 81.85 81 LR LR 16 33 17.3
comp=Z,1μm,21.3s,baz=250,slow=33
LBMI Labuha 81.94 89 P **P 16 00 29.3 +0.1**
comp=Z,78nm,1.1s,comp=Z,2μm
IRK Irkutsk 82.08 32 *e*P **P 16 00 28.8 -0.3**
IRK pmax pmax
comp=Z,44nm,2.1s
MOR8 Moi Rana 82.11 348 *e*P **P 16 00 28.9 -0.1**
NJ2 Nanjing 82.97 55 *e*P P 16 00 40.8 +6.6
NJ2 S **SKSac 16 10 56.3 -0.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
NJ2 LR LR
comp=Z,820nm,16.6s
NJ2 LR LR
comp=Z,520nm,18.5s
NJ2 LR LR
comp=Z,1μm,20.1s
FAUS Fauske 83.00 349 *e*P **P 16 00 33.4 -0.1**
VNDA Vanda 83.00 169 P **P 16 00 34.1 +0.5**
VNDA Vanda 83.00 169 P **P 16 00 34.5 +1.0**
comp=Z,5.8nm,0.6s,baz=263,slow=5.6,SNR=15
VNDA LR LR 16 34 39.5
comp=Z,6μm,19.2s,baz=242,slow=34
comp=Z,5.8nm,0.6s
VNDA Vanda 83.00 169 P **P 16 00 34.1 +0.5**
VNDA pmax pmax
comp=Z,28nm,1.4s
VNDA MLR MLR
comp=Z,7μm,20.0s
TIA Tai'an 83.09 51 P P 16 00 42.3 +7.6
TIA Tai'an 83.09 51 S **S 16 10 59.8 +5.0**
ARA0 ARCESS Array S 83.38 353 *e*P **P 16 00 35.6 +0.1**
ARCES ARCESS Array B 83.38 353 P **P 16 00 35.5 0.0**
ARCES IAmb IAmb 16 00 43.6
comp=Z,47nm,1.2s
ARCES ARCESS Array B 83.38 353 P **P 16 00 35.4 -0.1**
comp=Z,11nm,0.8s,baz=164,slow=4.8,SNR=16
ARCES LR LR 16 41 04.5
comp=Z,2μm,18.6s,baz=164,slow=38
comp=Z,11nm,0.8s
ARCES ARCESS Array B 83.38 353 P **P 16 00 35.5 0.0**
ARCES pmax pmax
comp=Z,47nm,1.2s
CMLA Cha da Macela 83.39 311 IAMs_20 IAMs_20 16 39 52.5
comp=Z,3μm,18.0s
ASAR Alice Springs 83.40 113 P **P 16 00 36.8 +0.1**
ASAR Alice Springs 83.40 113 P **P 16 00 36.6 -0.1**
comp=Z,7.8nm,0.5s,baz=263,slow=4.8,SNR=210
ASAR LR LR 16 32 30.4
comp=Z,7μm,20.3s,baz=270,slow=32
comp=Z,7.8nm,0.5s
KEV Kevo 83.42 354 P **P 16 00 36.1 +0.5**
KEV IAmb IAmb 16 00 43.9
comp=Z,73nm,1.2s
KEV Kevo 83.42 354 P **P 16 00 36.1 +0.5**
KEV pmax pmax
comp=Z,73nm,1.2s
KEV MLR MLR
comp=Z,2μm,20.0s
STEI Steigen 83.48 349 *e*P **P 16 00 35.5 -0.5**
BJI Beijing 83.81 47 P **P 16 00 39.4 +1.1**
BJI S **S 16 11 06.4 +4.5**
BJI pmax pmax
comp=Z,7.0nm,1.7s
BJI pmax pmax
comp=Z,51nm,3.5s
BJI LR LR
comp=Z,410nm,17.2s
BJI LR LR
comp=Z,240nm,16.6s
BJI LR LR
comp=Z,320nm,15.6s
LOF Lofoten 83.98 348 *e*P **P 16 00 38.1 -0.5**
WC4 Warramunga Arr 84.52 109 IAMs_20 IAMs_20 16 35 35.4
comp=Z,2μm,18.0s
WRA Warramunga Arr 84.52 109 P **P 16 00 42.9 +0.4**
comp=Z,5.6nm,0.7s,baz=260,slow=3.2,SNR=39
WRA LR LR 16 35 28.5
comp=Z,2μm,18.3s,baz=282,slow=34
comp=Z,5.6nm,0.7s
WR1 Warramunga Arr 84.52 109 IAMs_20 IAMs_20 16 35 26.5
comp=Z,2μm,19.0s
WC1 Warramunga Arr 84.53 109 IAMs_20 IAMs_20 16 35 35.6
comp=Z,2μm,18.0s
WB2 Warramunga Arr 84.53 109 IAmb IAmb 16 00 56.2
comp=Z,37nm,0.8s
WB2 IAMs_20 IAMs_20 16 35 26.8
comp=Z,2μm,19.0s
WRAB Tennant Creek 84.53 109 IAMs_20 IAMs_20 16 35 37.1
comp=Z,2μm,18.0s
WR2 Warramunga Arr 84.54 109 IAMs_20 IAMs_20 16 35 36.1
comp=Z,2μm,18.0s
SSE Sheshan 84.54 57 P **P 16 00 42.8 +0.5**
SSE S **S 16 11 08.3 -1.3**
SSE SS **SS 16 16 41.8 +1.0**
SSE pmax pmax
comp=Z,6.0nm,0.7s
SSE pmax pmax
comp=Z,52nm,3.0s
SSE LR LR
comp=Z,340nm,16.8s
WB4 Warramunga Arr 84.55 109 IAMs_20 IAMs_20 16 36 11.2
comp=Z,2μm,21.0s
WB5 Warramunga Arr 84.56 109 IAMs_20 IAMs_20 16 32 22.5
comp=Z,2μm,20.0s
WR3 Warramunga Arr 84.56 109 IAMs_20 IAMs_20 16 36 01.7
comp=Z,2μm,20.0s
WB9 Warramunga Arr 84.59 109 IAMs_20 IAMs_20 16 37 45.4
comp=Z,3μm,18.0s
WR5 Warramunga Arr 84.61 109 IAMs_20 IAMs_20 16 32 10.7
comp=Z,2μm,22.0s
WB0 Warramunga Arr 84.61 109 IAmb IAmb 16 00 51.4
comp=Z,39nm,0.9s
WB0 IAMs_20 IAMs_20 16 32 11.8
comp=Z,2μm,22.0s
WR6 Warramunga Arr 84.63 109 IAMs_20 IAMs_20 16 35 29.2
comp=Z,2μm,18.0s
HAMF Hammerfest 84.64 353 *e*P **P 16 00 44.0 +2.2**
WR8 Warramunga Arr 84.67 109 IAMs_20 IAMs_20 16 35 48.4
comp=Z,2μm,19.0s
XLT XiLinHaoTe 85.23 43 *e*P **P 16 00 46.6 +1.1**
XLT pP pwP 16 00 58.4 +7.0
XLT sP PcP 16 01 02.5 +14
XLT PP **PP 16 04 05.0 +1.7**
XLT S **SKSac 16 11 12.6 +1.8**
XLT sS ScS 16 11 29.6 +3.2
XLT SS **SS 16 16 48.8 -1.8**
XLT pmax pmax
comp=Z,14nm,1.1s
XLT pmax pmax
comp=Z,320nm,7.3s
XLT LR LR
comp=Z,1μm,20.0s
XLT LR LR
comp=Z,2μm,20.0s
PMSA Palmer Station 86.63 204 LR LR 16 35 39.7
comp=Z,2μm,18.1s,baz=118,slow=33
DL2 Dalian 87.37 49 P **P 16 00 53.3 -2.8**
DL2 S **S 16 11 35.4 -1.6**
DL2 SS **SS 16 17 22.1 0.0**
DL2 pmax pmax
comp=Z,30nm,2.0s
DL2 pmax pmax
comp=Z,230nm,8.0s
DL2 LR LR
comp=Z,870nm,15.1s
DL2 LR LR
comp=Z,780nm,13.6s
DL2 LR LR
comp=Z,2μm,19.2s
SPB Sao Paulo 87.70 246 IAMs_20 IAMs_20 16 35 20.8
comp=Z,2μm,21.0s
STKA Stephens Creek 88.30 122 P **P 16 01 00.4 -0.4**
STKA Stephens Creek 88.30 122 P **P 16 01 00.5 -0.3**
comp=Z,5.9nm,0.6s,baz=302,slow=5.8,SNR=19
STKA LR LR 16 35 00.4
comp=Z,1μm,19.7s,baz=259,slow=32
comp=Z,5.9nm,0.6s
STKA Stephens Creek 88.30 122 P **P 16 01 00.4 -0.4**
STKA pmax pmax
comp=Z,5.0nm,1.2s
JOW Kunigami 89.29 62 LR LR 16 38 28.4
comp=Z,675nm,20.9s,baz=262,slow=34
BOD Bodaibo 89.67 30 *e*P **P 16 01 06.2 -0.3**
BOD pmax pmax
comp=Z,14nm,1.7s
TOO Toolangi 89.92 128 IAMs_20 IAMs_20 16 33 23.6
comp=Z,3μm,20.0s
BDFB Brasilia 90.03 254 IAMs_20 IAMs_20 16 38 42.8
comp=Z,3μm,19.0s
BDFB Brasilia 90.03 254 P **P 16 01 09.9 +0.5**
comp=Z,5.7nm,0.7s,baz=147,slow=3.8,SNR=5.6
BDFB LR LR 16 39 12.9
comp=Z,3μm,18.6s,baz=110,slow=34
comp=Z,5.7nm,0.7s
ITAB Concordia 90.95 242 IAMs_20 IAMs_20 16 36 55.0
comp=Z,2μm,22.0s
TJN Taejon 90.99 53 IAMs_20 IAMs_20 16 42 18.3
comp=Z,4μm,19.0s
JMIC Jan Mayen 91.22 345 LR LR 16 44 17.7
comp=Z,582nm,19.2s,baz=130,slow=37
KSAR Wonju Array Be 91.67 52 P **P 16 01 14.9 -1.4**
KSAR Wonju Array Be 91.67 52 P **P 16 01 14.9 -1.4**
KSRS Korea Array 91.70 52 P **P 16 01 15.9 -0.6**
comp=Z,1.5nm,0.8s,baz=255,slow=4.7,SNR=2.9
KSRS LR LR 16 42 52.3
comp=Z,841nm,19.1s,baz=235,slow=36
comp=Z,1.5nm,0.8s
BORG Borgarnes 92.05 337 LR LR 16 47 53.3
comp=Z,2μm,18.8s,baz=129,slow=39
SPITS Spitsbergen Ar 92.33 354 P **P 16 01 19.7 +1.2**
comp=Z,4.5nm,0.7s,baz=96,slow=4.3,SNR=8.7
SPITS LR LR 16 43 57.6
comp=Z,955nm,21.0s,baz=130,slow=36
comp=Z,4.5nm,0.7s
MG01 Puerto William 92.40 212 IAMs_20 IAMs_20 16 39 29.9
comp=Z,2μm,20.0s
JNU Nakatsue 93.00 57 LR LR 16 42 31.4
comp=Z,691nm,19.4s,baz=283,slow=35
ITQB Itaqui 94.09 239 IAMs_20 IAMs_20 16 38 02.0
comp=Z,3μm,22.0s
MDJ Mudanjiang 94.67 45 P **P 16 01 30.3 +0.3**
MDJ PP **PP 16 05 21.3 +2.9**
MDJ S **S 16 12 45.8 +2.3**
MDJ pmax pmax
comp=Z,9.0nm,1.2s
MDJ pmax pmax
comp=Z,130nm,3.6s
MDJ LR LR
comp=Z,1μm,19.2s
MDJ LR LR
comp=Z,460nm,16.5s
MDJ LR LR
comp=Z,750nm,16.5s
TRQA Tornquist 95.58 229 IAMs_20 IAMs_20 16 41 07.9
comp=Z,3μm,20.0s
CPUP Villa Florida 95.67 242 IAMs_20 IAMs_20 16 39 40.9
comp=Z,3μm,21.0s
CPUP Villa Florida 95.67 242 LR LR 16 39 41.0
comp=Z,3μm,21.9s,baz=120,slow=32
USRK Ussuriysk Ar. 96.26 46 PP **PP 16 05 26.6 -4.2**
comp=Z,1.0nm,0.6s,baz=256,slow=5.8,SNR=2.4
USRK LR LR 16 44 33.3
comp=Z,889nm,20.3s,baz=267,slow=35
ARMA Armidale 96.95 123 IAMs_20 IAMs_20 16 40 12.0
comp=Z,2μm,19.0s
KLR Kul'dur 97.10 41 LR LR 16 45 44.8
comp=Z,618nm,18.4s,baz=269,slow=36
KLR Kul'dur 97.10 41 ⇑ *e*P Pdif 16 01 42.2 +1.2
KLR pmax pmax
comp=Z,4.0nm,1.1s
KLR MLR MLR
comp=Z,770nm,16.0s
EIDS Eidsvold 98.11 118 IAMs_20 IAMs_20 16 43 05.0
comp=Z,3μm,19.0s
YAK Yakutsk 98.46 28 LR LR 16 45 37.1
comp=Z,766nm,19.7s,baz=275,slow=35
YAK Yakutsk 98.46 28 *e*P Pdif 16 01 47.7 +0.9
YAK pmax pmax
comp=Z,5.0nm,1.1s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=E,2.0nm,1.0s
ANGG Ammassalik, Gr 98.83 335 IAMs_20 IAMs_20 16 51 36.3
comp=Z,2μm,18.0s
PMG Port Moresby 99.01 102 LR LR 16 42 52.1
comp=Z,837nm,20.4s,baz=240,slow=33
MJAR Matsushiro Ar 99.58 55 P **Pdif 16 01 51.7 -0.7**
comp=Z,0.4nm,0.6s,baz=271,slow=4.4,SNR=1.3
MJAR LR LR 16 48 12.3
comp=Z,368nm,18.5s,baz=260,slow=36
comp=Z,0.4nm,0.6s
TIXI Tiksi 99.97 19 IAMs_20 IAMs_20 16 54 05.7
comp=Z,1μm,20.0s
TIXI Tiksi 99.97 19 LR LR 16 47 36.6
comp=Z,904nm,21.6s,baz=301,slow=36
TIXI Tiksi 99.97 19 ⇑ *i*P **Pdif 16 01 52.3 -1.0**
TIXI pmax pmax
comp=Z,7.0nm,1.1s
TIXI MLR MLR
comp=Z,1μm,18.0s
PTLB Pontes e Lacer 100.44 251 IAMs_20 IAMs_20 16 46 01.6
comp=Z,2μm,20.0s
PLCA Paso Flores 100.57 224 IAMs_20 IAMs_20 16 43 07.6
comp=Z,2μm,19.0s
LL01 San Ignacio de 101.03 222 IAMs_20 IAMs_20 16 41 59.8
comp=Z,2μm,22.0s
NRS Narsarsuaq 101.64 330 IAMs_20 IAMs_20 16 48 52.0
comp=Z,2μm,18.0s
GO06 Curarrehue 101.72 225 IAMs_20 IAMs_20 16 41 54.1
comp=Z,1μm,20.0s
LL04 Puerto Octay 101.73 223 IAMs_20 IAMs_20 16 46 37.3
comp=Z,2μm,18.0s
LR05 Currie 101.78 224 IAMs_20 IAMs_20 16 43 58.7
comp=Z,2μm,20.0s
LR04 Corral 102.91 224 IAMs_20 IAMs_20 16 45 01.5
comp=Z,2μm,20.0s
IVI Ivigtut 102.97 330 IAMs_20 IAMs_20 16 50 00.2
comp=Z,2μm,20.0s
LMEL Las Melosas 103.37 230 IAMs_20 IAMs_20 16 46 21.2
comp=Z,3μm,20.0s
MT08 Bocatoma Ro 103.40 231 IAMs_20 IAMs_20 16 46 04.0
comp=Z,3μm,20.0s
MT13 San Alfonso 103.47 230 IAMs_20 IAMs_20 16 46 14.9
comp=Z,3μm,20.0s
BO04 La Punta 103.61 230 IAMs_20 IAMs_20 16 46 08.5
comp=Z,2μm,20.0s
BO01 Tunca 103.79 230 IAMs_20 IAMs_20 16 47 15.2

	comp=Z,2µm,20.0s							
MT16	**CCHEN**	**103.79**	**231**	IAMs_20	IAMs_20	16 46	25.3	
	comp=Z,3µm,20.0s							
ODZ	**Otahua Downs**	**103.95**	**143**	IAMs_20	IAMs_20	16 40	42.6	
	comp=Z,3µm,20.0s							
MT09	**Talagante**	**103.99**	**230**	IAMs_20	IAMs_20	16 42	58.5	
	comp=Z,2µm,21.0s							
PEL	**Peldehue**	**104.03**	**231**	IAMs_20	IAMs_20	16 46	54.6	
	comp=Z,3µm,21.0s							
LBZ	**Lake Benmore**	**104.05**	**143**	IAMs_20	IAMs_20	16 42	56.3	
	comp=Z,3µm,18.0s							
VA03	**San Esteban**	**104.09**	**231**	IAMs_20	IAMs_20	16 46	00.4	
	comp=Z,2µm,20.0s							
GO05	**Huala**	**104.13**	**229**	IAMs_20	IAMs_20	16 46	45.3	
	comp=Z,2µm,20.0s							
MT01	**Popeta**	**104.14**	**230**	IAMs_20	IAMs_20	16 46	22.7	
	comp=Z,2µm,21.0s							
MT02	**Curacav**	**104.32**	**231**	IAMs_20	IAMs_20	16 47	01.5	
	comp=Z,3µm,20.0s							
VA05	**Santo Domingo**	**104.51**	**230**	IAMs_20	IAMs_20	16 48	01.3	
	comp=Z,1µm,19.0s							
CO02	**Combarbal**	**105.11**	**233**	IAMs_20	IAMs_20	16 47	06.4	
	comp=Z,2µm,21.0s							
AC05	**El Transito**	**105.53**	**235**	IAMs_20	IAMs_20	16 45	26.7	
	comp=Z,2µm,21.0s							
INZ	**Inchbonnie**	**105.74**	**142**	IAMs_20	IAMs_20	16 41	39.2	
	comp=Z,2µm,20.0s							
CO05	**La Serena**	**105.84**	**234**	IAMs_20	IAMs_20	16 45	45.9	
	comp=Z,1µm,19.0s							
SAML	**Samuel**	**106.05**	**257**	IAMs_20	IAMs_20	16 47	17.6	
	comp=Z,2µm,20.0s							
BOAV	**Boa Vista**	**106.27**	**269**	IAMs_20	IAMs_20	16 47	39.4	
	comp=Z,2µm,21.0s							
GO02	**Mina Guanaco**	**106.45**	**239**	IAMs_20	IAMs_20	16 51	55.2	
	comp=Z,3µm,20.0s							
DSZ	**Denniston Nort**	**106.52**	**141**	IAMs_20	IAMs_20	16 44	45.9	
	comp=Z,3µm,18.0s							
GVZ	**Greta Valley S**	**106.56**	**143**	IAMs_20	IAMs_20	16 46	01.7	
	comp=Z,3µm,18.0s							
LVC	**Limon Verde**	**106.85**	**241**	IAMs_20	IAMs_20	16 47	33.0	
	comp=Z,1µm,19.0s							
AC01	**Pan de Azucar**	**106.89**	**237**	IAMs_20	IAMs_20	16 50	15.9	
	comp=Z,2µm,18.0s							
THZ	**Tophouse**	**107.18**	**141**	IAMs_20	IAMs_20	16 42	33.4	
	comp=Z,3µm,21.0s							
PB06	**IPOC Station P**	**107.38**	**241**	IAMs_20	IAMs_20	16 49	19.0	
	comp=Z,1µm,19.0s							
QRZ	**Quartz Range**	**107.49**	**140**	IAMs_20	IAMs_20	16 45	34.7	
	comp=Z,2µm,20.0s							
PB10	**IPOC Station P**	**107.90**	**240**	IAMs_20	IAMs_20	16 51	33.8	
	comp=Z,2µm,18.0s							
PB08	**IPOC Station P**	**107.97**	**244**	IAMs_20	IAMs_20	16 48	03.8	
	comp=Z,2µm,21.0s							
PB04	**IPOC Station P**	**108.01**	**241**	IAMs_20	IAMs_20	16 50	25.8	
	comp=Z,2µm,19.0s							
GO01	**Chusmiza**	**108.17**	**244**	IAMs_20	IAMs_20	16 55	50.3	
	comp=Z,2µm,19.0s							
DRLN	**Deer Lake**	**108.18**	**318**	IAMs_20	IAMs_20	16 50	30.9	
	comp=Z,2µm,21.0s							
LPAZ	**La Paz**	**108.41**	**248**	IAMs_20	IAMs_20	16 56	55.6	
	comp=Z,2µm,18.0s							
PB11	**IPOC Station P**	**108.54**	**244**	IAMs_20	IAMs_20	16 48	54.1	
	comp=Z,1µm,21.0s							
HMBC	**Humberstone**	**108.56**	**243**	IAMs_20	IAMs_20	16 48	22.4	
	comp=Z,2µm,20.0s							
BHW	**Baring Head**	**108.58**	**142**	IAMs_20	IAMs_20	16 46	18.3	
	comp=Z,2µm,20.0s							
PATCX	**Punta Patache**	**108.58**	**243**	IAMs_20	IAMs_20	16 51	36.1	
	comp=Z,1µm,19.0s							
ETMB	**Extrema**	**108.67**	**255**	IAMs_20	IAMs_20	16 48	19.9	
	comp=Z,2µm,20.0s							
TA01	**Diego Arsenio**	**108.70**	**243**	IAMs_20	IAMs_20	16 52	12.3	
	comp=Z,1µm,19.0s							
TA02	**Huaiquique**	**108.77**	**243**	IAMs_20	IAMs_20	16 48	36.1	
	comp=Z,2µm,20.0s							
PB18	**Visviri**	**109.17**	**246**	IAMs_20	IAMs_20	16 48	44.7	
	comp=Z,3µm,21.0s							
PB12	**IPOC Station P**	**109.55**	**245**	IAMs_20	IAMs_20	16 50	16.9	
	comp=Z,1µm,19.0s							
AP01	**Chacalluta**	**109.65**	**245**	IAMs_20	IAMs_20	16 50	01.6	
	comp=Z,2µm,20.0s							
CBE	**Ff, Capester**	**109.79**	**283**	IAMs_20	IAMs_20	16 50	24.3	
	comp=Z,1µm,21.0s							
GDHS	**Morne Mazeau,**	**109.97**	**283**	IAMs_20	IAMs_20	16 50	20.0	
	comp=Z,2µm,21.0s							
BKZ	**Black Stump Fm**	**110.93**	**141**	IAMs_20	IAMs_20	16 43	35.5	
	comp=Z,2µm,20.0s							
TOZ	**Tahuroa Road**	**111.17**	**139**	IAMs_20	IAMs_20	16 46	20.2	
	comp=Z,2µm,19.0s							
KOUNC	**Koumac, New Ca**	**111.18**	**118**	IAMs_20	IAMs_20	16 50	04.3	
	comp=Z,3µm,20.0s							
OUZ	**Omahuta**	**111.38**	**136**	IAMs_20	IAMs_20	16 46	37.0	
	comp=Z,2µm,19.0s							
SMRT	**St. Maarten**	**111.44**	**284**	IAMs_20	IAMs_20	16 53	00.9	
	comp=Z,1µm,20.0s							
RTZ	**Ruatahuna**	**111.57**	**141**	IAMs_20	IAMs_20	16 45	50.4	
	comp=Z,3µm,21.0s							
DZM	**Mont Dzumac**	**112.40**	**121**	*e*P	**Pdif**	**16 02 47.0**	**-2.9**	
	comp=Z,51nm,24.8s							
DZM	**Mont Dzumac**	**112.40**	**121**	*e*PP	**PP**	**16 07 27.2**	**-3.9**	
	comp=Z,202nm,23.4s							
DZM	**Mont Dzumac**	**112.40**	**121**	*e*SS	SS	16 23 16.6	+4.8	
	comp=Z,714nm,30.1s							
DZM	**Mont Dzumac**	**112.40**	**121**	*e*LR	LR	16 40 17.2		
	comp=Z,3µm,21.6s							
HAL	**Halifax**	**112.57**	**313**	IAMs_20	IAMs_20	16 55	40.5	
	comp=Z,3µm,19.0s							
BILL	**Bilibino**	**113.06**	**21**	*e*PKIKP	**PKiKP**	**16 06 47.0**	**+1.4**	
LMN	**Caledonia Moun**	**113.32**	**315**	IAMs_20	IAMs_20	16 51	55.2	
	comp=Z,2µm,22.0s							
PEA0B	**Petropavlovsk-**	**113.40**	**38**	*i*PKIKP	**PKiKP**	**16 06 46.0**	**-0.7**	
LIFNC	**LIFOU**	**113.61**	**120**	IAMs_20	IAMs_20	16 51	36.6	
	comp=Z,2µm,19.0s							
BBSR	**BB Station**	**113.85**	**300**	IAMs_20	IAMs_20	16 53	18.5	
	comp=Z,2µm,20.0s							
PET	**Petropavlovsk**	**113.98**	**37**	*e*P	**Pdif**	**16 03 05.7**	**+10**	
PET				*e*		16 07 48.5		
PET				*e*		16 13 35.1		
PET				*e*PPS	PPS	16 18 32.6		
PET				*e*SS	SS	16 23 38.7	+7.2	
PET				*e*SSS	SSS	16 27 45.6		
PET				pmax	pmax			
	comp=Z,100nm,14.3s							
PET				MLR	MLR			
	comp=Z,600nm,19.0s							
SJG	**San Juan**	**114.35**	**284**	IAMs_20	IAMs_20	16 49	17.9	
	comp=Z,1µm,21.0s							
GGN	**Saint George**	**114.83**	**314**	IAMs_20	IAMs_20	16 55	17.1	
	comp=Z,2µm,20.0s							
BAUV	**El Baul**	**114.89**	**274**	IAMs_20	IAMs_20	16 57	19.8	
	comp=Z,3µm,21.0s							
EMMW	**East Machias**	**115.31**	**313**	IAMs_20	IAMs_20	16 57	11.9	
	comp=Z,2µm,20.0s							
G65A	**Princeton**	**115.32**	**314**	IAMs_20	IAMs_20	16 55	31.2	
	comp=Z,2µm,19.0s							
CZSB	**Cruzeiro do Su**	**115.41**	**255**	IAMs_20	IAMs_20	16 53	23.6	
	comp=Z,3µm,21.0s							
PQI	**Presque Isle**	**115.43**	**316**	IAMs_20	IAMs_20	16 53	37.0	
	comp=Z,2µm,21.0s							
F64A	**Sherman**	**115.78**	**315**	IAMs_20	IAMs_20	16 55	04.2	
	comp=Z,3µm,20.0s							
D62A	**Allapoint, All**	**116.07**	**316**	IAMs_20	IAMs_20	16 57	20.8	
	comp=Z,2µm,19.0s							
F63A	**Nahmakanta, Br**	**116.32**	**315**	IAMs_20	IAMs_20	16 55	18.6	
	comp=Z,2µm,20.0s							
E62A	**Clayton Lake**	**116.47**	**316**	IAMs_20	IAMs_20	16 54	28.3	
	comp=Z,2µm,21.0s							
PKME	**Peaks-Kenny Pk**	**116.52**	**314**	IAMs_20	IAMs_20	16 58	02.9	
	comp=Z,2µm,21.0s							
PKME	**Peaks-Kenny Pk**	**116.52**	**314**	P	**PKPdf**	**16 06 51.2**	**-1.7**	
	baz=81							
LMQ	**La Malbaie**	**116.84**	**317**	IAMs_20	IAMs_20	16 59	01.2	
	comp=Z,2µm,18.0s							
WVL	**Waterville**	**116.88**	**314**	IAMs_20	IAMs_20	16 55	24.7	
	comp=Z,2µm,20.0s							
F62A	**Pittston Farm,**	**116.89**	**315**	IAMs_20	IAMs_20	16 55	18.6	
	comp=Z,2µm,20.0s							
LDAQ	**Lac Daran**	**117.37**	**318**	IAMs_20	IAMs_20	16 58	52.1	
	comp=Z,2µm,20.0s							
G62A	**West of Eustis**	**117.39**	**314**	IAMs_20	IAMs_20	16 58	48.0	
	comp=Z,2µm,19.0s							
SDV	**Santo Domingo**	**117.40**	**273**	IAMs_20	IAMs_20	17 01	46.5	
	comp=Z,1µm,18.0s							
I63A	**Otisfield**	**117.62**	**313**	IAMs_20	IAMs_20	16 57	03.0	
	comp=Z,2µm,20.0s							
NNA	**Nana**	**117.82**	**249**	IAMs_20	IAMs_20	16 58	57.2	
	comp=Z,2µm,18.0s							
H62A	**Milan**	**117.94**	**314**	IAMs_20	IAMs_20	16 56	04.5	
	comp=Z,2µm,20.0s							
I62A	**Tamworth**	**118.18**	**313**	IAMs_20	IAMs_20	16 56	38.0	
	comp=Z,2µm,20.0s							
LBNH	**Lisbon**	**118.54**	**313**	IAMs_20	IAMs_20	16 59	12.4	
	comp=Z,2µm,19.0s							
LBNH	**Lisbon**	**118.54**	**313**	P	**PKPdf**	**16 06 55.2**	**-1.7**	
	baz=80							
HRV	**Adam Dziewonsk**	**118.56**	**312**	IAMs_20	IAMs_20	16 56	37.3	
	comp=Z,2µm,20.0s							
HRV	**Adam Dziewonsk**	**118.56**	**312**	P	**PKPdf**	**16 06 54.9**	**-2.0**	
	baz=81							
HNH	**Hanover**	**118.89**	**313**	IAMs_20	IAMs_20	16 58	20.8	
	comp=Z,2µm,20.0s							
K62A	**Royalston**	**119.03**	**312**	IAMs_20	IAMs_20	16 58	01.6	
	comp=Z,3µm,20.0s							
VT1	**Waterbury**	**119.11**	**314**	IAMs_20	IAMs_20	17 03	43.4	
	comp=Z,1µm,18.0s							
J61A	**Chester**	**119.15**	**313**	IAMs_20	IAMs_20	17 01	22.5	
	comp=Z,2µm,18.0s							
GRTK	**Grand Turk**	**119.30**	**288**	IAMs_20	IAMs_20	16 53	28.0	
	comp=Z,2µm,21.0s							
L61B	**Northampton**	**119.39**	**312**	IAMs_20	IAMs_20	16 57	01.2	
	comp=Z,3µm,20.0s							
L61B	**Northampton**	**119.39**	**312**	P	**PKPdf**	**16 06 56.6**	**-2.0**	
	baz=80							
MNTQ	**Montreal, Queb**	**119.48**	**315**	IAMs_20	IAMs_20	17 01	15.1	
	comp=Z,2µm,20.0s							
FRNY	**Flat Rock**	**119.59**	**314**	IAMs_20	IAMs_20	16 53	58.2	
	comp=Z,1µm,22.0s							
YLE	**Yale**	**119.77**	**310**	IAMs_20	IAMs_20	16 58	05.9	
	comp=Z,2µm,20.0s							
TRQ	**Mont Tremblant**	**119.96**	**316**	IAMs_20	IAMs_20	16 57	26.6	
	comp=Z,2µm,20.0s							
A21K	**Barrow**	**120.00**	**8**	P	**PKPdf**	**16 06 57.1**	**-1.7**	
	baz=337							
WSPT	**Westport, CT**	**120.08**	**310**	IAMs_20	IAMs_20	16 54	45.6	
	comp=Z,2µm,22.0s							
NCB	**Newcomb**	**120.22**	**314**	IAMs_20	IAMs_20	17 00	00.7	
	comp=Z,2µm,19.0s							
A19K	**Wainwright**	**120.30**	**10**	P	**PKPdf**	**16 06 58.0**	**-1.4**	
	baz=330							
LONY	**Lake Ozonia**	**120.33**	**314**	IAMs_20	IAMs_20	16 54	51.8	
	comp=Z,1µm,21.0s							
LONY	**Lake Ozonia**	**120.33**	**314**	P	**PKPdf**	**16 06 59.3**	**-1.0**	
	baz=78							
A22K	**Sinclair Lake**	**120.51**	**8**	P	**PKPdf**	**16 06 59.9**	**+0.1**	
	baz=337							
PAL	**Palisades**	**120.54**	**310**	IAMs_20	IAMs_20	16 56	02.8	
	comp=Z,3µm,22.0s							
PAL	**Palisades**	**120.54**	**310**	P	**PKPdf**	**16 07 00.1**	**-0.6**	
	baz=80							
A36M	**Sachs Harbour**	**120.63**	**357**	IAMs_20	IAMs_20	17 04	36.8	
	comp=Z,1µm,20.0s							
A36M	**Sachs Harbour**	**120.63**	**357**	P	**PKiKP**	**16 07 00.4**	**+0.3**	
	baz=10							
WBO	**Williamsburg**	**120.73**	**315**	IAMs_20	IAMs_20	17 00	36.2	
	comp=Z,1µm,20.0s							
TRNY	**Table Rock, Ra**	**120.75**	**310**	IAMs_20	IAMs_20	16 55	27.4	
	comp=Z,2µm,21.0s							
B18K	**Kokolik River**	**120.89**	**11**	P	**PKPdf**	**16 07 00.2**	**-0.4**	
	baz=328							
ODNJ	**Ogdensburg**	**121.05**	**310**	IAMs_20	IAMs_20	16 55	35.1	
	comp=Z,2µm,22.0s							
C16K	**Lisburne Hills**	**121.09**	**13**	P	**PKPdf**	**16 07 00.8**	**-0.2**	
	baz=324							
J58A	**Remsen**	**121.10**	**313**	IAMs_20	IAMs_20	16 59	15.1	
	comp=Z,3µm,20.0s							
B20K	**Meade River**	**121.11**	**9**	IAMs_20	IAMs_20	17 03	28.9	
	comp=Z,1µm,20.0s							
B22K	**Teshekpuk Lake**	**121.32**	**7**	P	**PKPdf**	**16 07 00.8**	**-0.6**	
	baz=338							
VLDQ	**Val d'Or**	**121.38**	**319**	IAMs_20	IAMs_20	17 01	05.4	
	comp=Z,2µm,20.0s							
C17K	**DeLong Mountai**	**121.38**	**12**	P	**PKPdf**	**16 07 01.5**	**-0.1**	
	baz=327							
P61A	**Hammonton**	**121.44**	**309**	IAMs_20	IAMs_20	16 58	22.5	
	comp=Z,2µm,20.0s							
C19K	**Lookout Ridge**	**121.52**	**10**	P	**PKPdf**	**16 07 01.9**	**0.0**	
	baz=331							
C18K	**Utukok River**	**121.62**	**11**	IAMs_20	IAMs_20	17 05	46.5	
	comp=Z,1µm,20.0s							
C18K	**Utukok River**	**121.62**	**11**	P	**PKPdf**	**16 07 01.5**	**-0.6**	
	baz=329							
RDOG	**Red Dog Mine**	**121.79**	**12**	IAMs_20	IAMs_20	17 02	28.8	
	comp=Z,1µm,22.0s							
RDOG	**Red Dog Mine**	**121.79**	**12**	P	**PKPdf**	**16 07 02.7**	**+0.3**	
	baz=327							
B21K	**Ikpikpuk River**	**121.83**	**8**	IAMs_20	IAMs_20	17 07	45.0	
	comp=Z,906nm,18.0s							
B21K	**Ikpikpuk River**	**121.83**	**8**	P	**PKiKP**	**16 07 03.3**	**+0.8**	
	baz=343							
BINY	**Binghamton**	**121.85**	**312**	P	**PKPdf**	**16 07 03.1**	**-0.2**	
	baz=78							
WUPA	**West Chester U**	**122.01**	**309**	IAMs_20	IAMs_20	16 57	32.6	
	comp=Z,1µm,21.0s							
D17K	**Noatak River**	**122.05**	**12**	P	**PKPdf**	**16 07 02.2**	**-0.6**	
	baz=326							
C23K	**Itkillik River**	**122.13**	**7**	P	**PKPdf**	**16 07 02.5**	**-0.5**	
	baz=341							
C21K	**Anifiloilade Rid**	**122.23**	**8**	P	**PKPdf**	**16 07 02.6**	**-0.6**	
	baz=336							
D19K	**Kuna River**	**122.31**	**10**	P	**PKPdf**	**16 07 03.3**	**-0.1**	
	baz=332							
D20K	**Etivluk River**	**122.36**	**9**	P	**PKPdf**	**16 07 03.4**	**-0.1**	
	baz=334							
S61A	**Accomac**	**122.44**	**307**	IAMs_20	IAMs_20	16 55	03.4	
	comp=Z,3µm,22.0s							
C24K	**Franklin Bluff**	**122.44**	**6**	P	**PKiKP**	**16 07 04.1**	**+0.4**	
	baz=343							
DELO	**Deloro Mine**	**122.47**	**315**	IAMs_20	IAMs_20	17 01	52.1	
	comp=Z,2µm,19.0s							
MVL	**Millersville**	**122.56**	**309**	IAMs_20	IAMs_20	17 00	14.1	
	comp=Z,2µm,19.0s							
C26K	**Camden Bay**	**122.58**	**4**	P	**PKPdf**	**16 07 04.1**	**+0.3**	
	baz=348							
TNA	**Tin City**	**122.62**	**16**	P	**PKPdf**	**16 07 03.6**	**-0.4**	
	baz=320							
N58A	**Sbury**	**122.66**	**310**	IAMs_20	IAMs_20	16 57	25.9	
	comp=Z,2µm,21.0s							
D22K	**Ayikyak River**	**122.78**	**8**	IAMs_20	IAMs_20	17 11	44.9	
	comp=Z,975nm,19.0s							
D22K	**Ayikyak River**	**122.78**	**8**	P	**PKPdf**	**16 07 04.0**	**-0.3**	
	baz=339							
E18K	**Tukpahlearik C**	**122.79**	**12**	IAMs_20	IAMs_20	17 03	22.5	
	comp=Z,1µm,22.0s							
E18K	**Tukpahlearik C**	**122.79**	**12**	P	**PKPdf**	**16 07 03.9**	**-0.4**	
	baz=329							
E17K	**Hotham Inlet**	**122.83**	**12**	P	**PKPdf**	**16 07 03.8**	**-0.5**	
	baz=328							
E20K	**Nigu River**	**122.84**	**9**	P	**PKPdf**	**16 07 04.1**	**-0.4**	
	baz=334							
M57A	**Sunshine Farm,**	**122.86**	**311**	PKPdf	**PKPdf**	**16 07 04.5**	**-0.7**	
M57A				IAMs_20	IAMs_20	16 57 19.1		
	comp=Z,3µm,21.0s							
GTBY	**Guantanamo Bay**	**122.94**	**285**	IAMs_20	IAMs_20	17 03	09.9	
	comp=Z,1µm,19.0s							
C27K	**Jago River**	**122.95**	**4**	P	**PKPdf**	**16 07 04.8**	**+0.3**	
	baz=349							
D23K	**Nanushuk River**	**122.95**	**7**	P	**PKiKP**	**16 07 05.2**	**+0.4**	
	baz=341							
SLOR	**San Lorenzo -**	**122.97**	**261**	IAMs_20	IAMs_20	16 56	39.3	
	comp=Z,2µm,21.0s							
D24K	**Happy Valley**	**122.98**	**6**	P	**PKPdf**	**16 07 04.6**	**-0.1**	
	baz=343							
L56A	**Greenwood**	**123.00**	**312**	IAMs_20	IAMs_20	16 58	48.6	
	comp=Z,2µm,20.0s							
E21K	**Killik River**	**123.01**	**9**	P	**PKPdf**	**16 07 05.0**	**+0.2**	
	baz=337							
D25K	**Kavik River**	**123.05**	**5**	P	**PKPdf**	**16 07 04.0**	**-0.8**	
	baz=346,SNR=20							
F14K	**Arctic Creek**	**123.10**	**15**	P	**PKPdf**	**16 07 05.3**	**+0.3**	
	baz=322							
C36M	**Paulatuk**	**123.16**	**356**	P	**PKPdf**	**16 07 04.5**	**-0.4**	
	baz=12							
F15K	**North Star Dit**	**123.33**	**14**	P	**PKPdf**	**16 07 05.1**	**-0.3**	
	baz=324							
E19K	**Redstone River**	**123.39**	**10**	P	**PKPdf**	**16 07 04.2**	**-1.3**	
	baz=333							
TOLK	**Toolik Lake Re**	**123.39**	**7**	IAMs_20	IAMs_20	17 03	07.9	
	comp=Z,1µm,21.0s							
TOLK	**Toolik Lake Re**	**123.39**	**7**	P	**PKPdf**	**16 07 04.1**	**-1.4**	
	baz=342							
SADO	**Sadowa**	**123.45**	**315**	IAMs_20	IAMs_20	16 56	29.0	
	comp=Z,2µm,22.0s							
D27M	**Malcolm River**	**123.49**	**3**	P	**PKPdf**	**16 07 04.6**	**-1.1**	
	baz=352							
D28M	**Stokes Point**	**123.49**	**2**	P	**PKPdf**	**16 07 04.5**	**-1.1**	
	baz=355							
F17K	**Baldwin Pennin**	**123.50**	**13**	P	**PKPdf**	**16 07 05.3**	**-0.3**	
	baz=328							
SSPA	**Standing Stone**	**123.58**	**310**		**PKPdf**	**16 07 06.2**	**-0.4**	
SSPA	**Standing Stone**	**123.58**	**310**	IAMs_20	IAMs_20	16 57 41.1		
	comp=Z,2µm,21.0s							
SSPA	**Standing Stone**	**123.58**	**310**	P	**PKPdf**	**16 07 03.9**	**-2.8**	
	baz=77							
E22K	**Anaktuvuk Pass**	**123.60**	**8**	P	**PKPdf**	**16 07 05.5**	**-0.4**	
	baz=340							
ARNL	**Arenillas**	**123.67**	**257**	IAMs_20	IAMs_20	16 59	07.6	
	comp=Z,2µm,20.0s							
F18K	**Selawik**	**123.69**	**12**	P	**PKPdf**	**16 07 05.1**	**-0.9**	
	baz=330							
F19K	**Shaleruckik Mo**	**123.85**	**11**	P	**PKPdf**	**16 07 04.6**	**-1.7**	
	baz=332,SNR=5.4							
P57A	**Homestead Farm**	**123.92**	**309**	IAMs_20	IAMs_20	16 57	53.1	
	comp=Z,2µm,22.0s							
F20K	**Avaraart Lake**	**124.02**	**10**	IAMs_20	IAMs_20	17 05	38.8	
	comp=Z,1µm,20.0s							
F20K	**Avaraart Lake**	**124.02**	**10**	P	**PKPdf**	**16 07 05.3**	**-1.4**	
	baz=335							
T59A	**Double "B" Far**	**124.03**	**306**	IAMs_20	IAMs_20	16 59	21.9	
	comp=Z,1µm,20.0s							
E24K	**Your Creek**	**124.05**	**6**	P	**PKPdf**	**16 07 05.5**	**-1.4**	
	baz=343							
G15K	**Niukluk**	**124.07**	**15**	P	**PKPdf**	**16 07 05.7**	**-1.1**	
	baz=324							
ANM	**Nome**	**124.07**	**16**	IAMs_20	IAMs_20	17 04	21.5	
	comp=Z,1µm,21.0s							
ANM	**Nome**	**124.07**	**16**	P	**PKPdf**	**16 07 05.4**	**-1.4**	
	baz=323							
F22K	**John River**	**124.14**	**8**	P	**PKPdf**	**16 07 06.0**	**-1.0**	
	baz=339							
G16K	**Koyuk River**	**124.14**	**14**	IAMs_20	IAMs_20	17 07	05.3	
	comp=Z,1µm,20.0s							
G16K	**Koyuk River**	**124.14**	**14**	P	**PKPdf**	**16 07 06.0**	**-0.9**	
	baz=326							
E28M	**Babbage River**	**124.19**	**2**	P	**PKPdf**	**16 07 05.9**	**-1.1**	
	baz=354							
F21K	**Alatna River**	**124.21**	**9**	P	**PKPdf**	**16 07 06.5**	**-0.6**	
	baz=337							
E25K	**Arctic Village**	**124.29**	**5**	IAMs_20	IAMs_20	17 03	29.6	
	comp=Z,1µm,22.0s							
E25K	**Arctic Village**	**124.29**	**5**	P	**PKPdf**	**16 07 06.5**	**-0.8**	
	baz=347							
G17K	**Kiwalik Mounta**	**124.43**	**13**	P	**PKPdf**	**16 07 06.9**	**-0.6**	
	baz=328							
E29M	**Blow River**	**124.45**	**2**	P	**PKPdf**	**16 07 06.4**	**-1.0**	
	baz=356,SNR=10							
E27K	**Coleen River**	**124.50**	**3**	P	**PKPdf**	**16 07 06.3**	**-1.3**	
	baz=352							
G18K	**Tagagawik**	**124.51**	**12**	P	**PKPdf**	**16 07 06.8**	**-0.9**	
	baz=331							
INK	**Inuvik**	**124.58**	**360**	P	**PKPdf**	**16 07 06.9**	**-0.8**	
	baz=1.1							
G19K	**Purcell Mounta**	**124.59**	**11**	P	**PKPdf**	**16 07 06.8**	**-1.0**	
	baz=333,SNR=9.1							
F24K	**Squaw Lake**	**124.65**	**6**	P	**PKPdf**	**16 07 06.8**	**-1.1**	
	baz=344							
ERPA	**Erie**	**124.76**	**313**	IAMs_20	IAMs_20	16 58	04.3	
	comp=Z,2µm,21.0s							
G22K	**Bettles**	**124.78**	**8**	P	**PKPdf**	**16 07 07.7**	**-0.4**	
	baz=340							
H16K	**Elim**	**124.80**	**14**	P	**PKPdf**	**16 07 07.9**	**-0.3**	
	baz=326							
F26K	**Sheenjek River**	**124.82**	**5**	P	**PKPdf**	**16 07 07.9**	**-0.3**	
	baz=348							
G21K	**Allakaket**	**124.86**	**9**	P	**PKPdf**	**16 07 08.4**	**0.0**	
	baz=337							
Q56A	**Snyder Ridge,**	**124.90**	**309**	IAMs_20	IAMs_20	17 02	27.5	
	comp=Z,2µm,19.0s							
S57A	**Dark Hollow, R**	**124.98**	**307**	IAMs_20	IAMs_20	16 59	38.9	
	comp=Z,2µm,20.0s							
H17K	**Granite Mounta**	**125.08**	**13**	IAMs_20	IAMs_20	17 06	41.0	
	comp=Z,1µm,20.0s							
H17K	**Granite Mounta**	**125.08**	**13**	P	**PKPdf**	**16 07 08.7**	**-0.1**	
	baz=329							
F28M	**Old Crow**	**125.16**	**3**	P	**PKPdf**	**16 07 08.6**	**-0.3**	
	baz=354,SNR=10.0							
G23K	**Bananza Creek**	**125.17**	**8**	P	**PKPdf**	**16 07 08.8**	**-0.1**	
	baz=341							
FCC	**Fort Churchill**	**125.18**	**336**	IAMs_20	IAMs_20	17 03	28.2	
	comp=Z,2µm,19.0s						

J19K	Poorman	126.80	12	PKPdf	PKPdf	16 07 12.0	-0.1		
J19K	Poorman baz=334	126.80	12	P	PKPdf	16 07 12.5	+0.4		
S54A	Dingess, Beckl comp=Z,2µm,19.0s	126.80	308	IAMs_20	IAMs_20	17 01 04.9			
N51A	Ashland comp=Z,2µm,20.0s	126.81	312	IAMs_20	IAMs_20	17 01 05.6			
PRP	Porcupine Dome baz=346	126.84	6	P	PKPdf	16 07 11.7	-0.6		
J20K	Nowinta River baz=336,SNR=8.1	126.91	11	P	PKPdf	16 07 12.1	-0.2		
K15K	Wolf Creek Mou baz=326	126.93	15	P	PKPdf	16 07 11.5	-0.9		
P52A	Corning	126.98	310		PKPdf	16 07 12.6	-0.5		
P52A	comp=Z,2µm,20.0s			IAMs_20	IAMs_20	17 01 59.3			
P52A	Corning baz=75	126.98	310	P	PKPdf	16 07 11.4	-1.7		
POKR	Poker Flat Res baz=344	127.02	7	P	PKPdf	16 07 12.0	-0.5		
J18K	Innoko River baz=332	127.05	12	P	PKPdf	16 07 11.5	-1.1		
I27K	Kandik River baz=351,SNR=6.0	127.07	4	P	PKPdf	16 07 11.3	-1.4		
H31M	Peel River	127.10	360		PKPdf	16 07 11.7	-0.9		
M11K	Mekoryuk baz=320	127.11	19	P	PKPdf	16 07 09.9	-2.8		
GLMI	Grayling comp=Z,2µm,22.0s	127.12	317	IAMs_20	IAMs_20	16 58 46.3			
V55A	Taylorsville comp=Z,2µm,21.0s	127.14	305	IAMs_20	IAMs_20	16 59 18.3			
COLA	College comp=Z,1µm,21.0s	127.20	7	IAMs_20	IAMs_20	17 05 59.9			
I26K	Coal Creek Min comp=Z,1µm,22.0s	127.25	5	IAMs_20	IAMs_20	17 04 36.1			
I26K	Coal Creek Min baz=349	127.25	5	P	PKPdf	16 07 11.4	-1.5		
CBCY	The Bluff, Cay comp=Z,2µm,20.0s	127.31	285	IAMs_20	IAMs_20	17 00 39.6			
AAM	Ann Arbor comp=Z,2µm,22.0s	127.31	314	IAMs_20	IAMs_20	16 59 38.8			
NEA2	Nenana baz=342	127.32	8	P	PKPdf	16 07 12.6	-0.5		
I28M	Miner Creek baz=353,SNR=6.1	127.32	3	P	PKPdf	16 07 11.4	-1.8		
K17K	Iditarod baz=330	127.36	14	P	PKPdf	16 07 12.8	-0.4		
L14K	Kuka Creek baz=324	127.41	17	P	PKPdf	16 07 12.9	-0.4		
ILAR	Eielson Array	127.42	7	PKPdf	PKPdf	16 07 12.0	-1.3		
ILAR	Eielson Array comp=Z,1.8nm,0.7s,baz=322,slow=3.1,SNR=13	127.42	7	PKP	PKPdf	16 07 12.3	-0.9		
ILAR	comp=Z,1.3nm,0.9s,baz=342,slow=5.9,SNR=6.0			PP	PP	16 09 12.3	-0.4		
ILAR	Eielson Array	127.42	7	PKIKP	PKPdf	16 07 12.0	-1.3		
ACSO	Alum Creek Sta comp=Z,2µm,20.0s	127.44	311	IAMs_20	IAMs_20	17 03 30.5			
L15K	Ungalak Mounta baz=326	127.46	16	P	PKPdf	16 07 12.7	-0.7		
I29M	Ogilvie Camp, baz=355,SNR=12	127.47	2	P	PKPdf	16 07 12.3	-1.1		
U54A	Nelsons Funny comp=Z,2µm,20.0s	127.48	306	IAMs_20	IAMs_20	17 01 43.1			
CHUM	Lake Minchumin baz=338	127.50	10	P	PKPdf	16 07 12.7	-0.7		
BPAW	Bear Paw Mtn. comp=Z,1µm,19.0s	127.51	9	IAMs_20	IAMs_20	17 10 54.1			
BPAW	Bear Paw Mtn. baz=340	127.51	9	P	PKPdf	16 07 12.0	-1.5		
I30M	Mount Dempster baz=358,SNR=8.5	127.67	1	P	PKPdf	16 07 12.6	-1.3		
K20K	Telida comp=Z,1µm,19.0s	127.67	11	IAMs_20	IAMs_20	17 12 41.5			
K20K	Telida baz=336,SNR=14	127.67	11	P	PKPdf	16 07 12.4	-1.4		
P51A	Williamsport comp=Z,2µm,19.0s	127.71	310	IAMs_20	IAMs_20	17 02 50.6			
G45A	Suttons Bay comp=Z,2µm,22.0s	127.73	318	IAMs_20	IAMs_20	16 59 08.4			
J25K	Salcha River, baz=346	127.73	6	P	PKPdf	16 07 13.1	-0.9		
HDA	Harding Lake comp=Z,1µm,22.0s	127.76	7	IAMs_20	IAMs_20	17 06 17.6			
HDA	Harding Lake baz=344	127.76	7	P	PKPdf	16 07 11.9	-2.0		
L17K	Donlin baz=330	127.87	14	P	PKPdf	16 07 12.7	-1.5		
EGAK	Eagle baz=352,SNR=5.1	127.92	4	P	PKPdf	16 07 13.2	-1.0		
L16K	Owhat River comp=Z,1µm,20.0s	127.95	15	IAMs_20	IAMs_20	17 06 51.1			
L16K	Owhat River baz=328	127.95	15	P	PKPdf	16 07 14.0	-0.3		
M13K	Dall Lake comp=Z,1µm,20.0s	127.96	18	IAMs_20	IAMs_20	17 05 20.7			
M13K	Dall Lake baz=323	127.96	18	P	PKPdf	16 07 13.1	-1.2		
CAST	Castle Rocks baz=338	127.97	10	P	PKPdf	16 07 13.6	-0.8		
SPIA	Saint Paul Isl baz=314	128.00	24	P	PKPdf	16 07 13.4	-1.1		
J26L	Joseph Creek baz=349,SNR=6.0	128.01	5	P	PKPdf	16 07 13.6	-0.9		
E43A	Lone Tree Farm comp=Z,2µm,19.0s	128.07	320	IAMs_20	IAMs_20	17 03 35.0			
M14K	Bethel baz=325	128.09	17	P	PKPdf	16 07 14.4	-0.2		
MCK	McKinley baz=342	128.16	8	P	PKPdf	16 07 14.2	-0.5		
L18K	Granite Mounta baz=332	128.16	13	P	PKPdf	16 07 14.4	-0.3		
TRF	Thorofare Moun baz=340	128.23	9	P	PKPdf	16 07 14.7	-0.3		
061Z	Ochoppi comp=Z,2µm,22.0s	128.24	293	IAMs_20	IAMs_20	16 57 39.5			
J30M	Hart River comp=Z,998nm,21.0s	128.32	1	IAMs_20	IAMs_20	17 06 21.1			
J30M	Hart River baz=358,SNR=24	128.32	1	P	PKPdf	16 07 14.5	-0.6		
YKAW3	Yellowknife Wh comp=Z,1µm,20.0s	128.38	348	IAMs_20	IAMs_20	17 06 07.0			
YKAW1	Yellowknife Wh comp=Z,1µm,22.0s	128.43	348	IAMs_20	IAMs_20	17 04 59.3			
PPLA	Purkeypile baz=338	128.44	10	P	PKPdf	16 07 13.8	-1.7		
YKA	Yellowknife Ar	128.44	348	PKPdf	PKPdf	16 07 14.0	-1.2		
YKA	Yellowknife Ar comp=Z,2.5nm,0.8s,baz=15,slow=2.2,SNR=23	128.44	348	PKP PP	PKPdf PP	16 07 14.2 16 09 14.9	-1.0 -4.7		
YKA	comp=Z,2.4nm,0.8s,baz=17,slow=7.2,SNR=11								
YKA	Yellowknife Ar	128.44	348	PKIKP	PKPdf	16 07 14.0	-1.2		
O49A	Covington comp=Z,1µm,21.0s	128.45	311	IAMs_20	IAMs_20	17 00 47.1			
V53A	Saluda comp=Z,2µm,21.0s	128.45	305	IAMs_20	IAMs_20	16 59 48.9			
RND	Reindeer comp=Z,1µm,20.0s	128.48	8	IAMs_20	IAMs_20	17 10 47.7			
K24K	Donnelly Dome baz=346	128.48	6	P	PKPdf	16 07 14.1	-1.3		
M15K	Kasigluk River baz=327	128.49	16	P	PKPdf	16 07 14.0	-1.4		
SCRK	Sand Creek baz=348	128.49	5	P	PKPdf	16 07 13.4	-2.1		
L20K	Farewell, AK baz=336	128.51	11	P	PKPdf	16 07 15.0	-0.4		
DWPF	Disney Wildern comp=Z,2µm,20.0s	128.51	296	IAMs_20	IAMs_20	17 00 10.5			
L19K	White Mountain baz=334,SNR=6.3	128.59	12	P	PKPdf	16 07 14.5	-1.1		
S51A	Beattyville comp=Z,2µm,21.0s	128.60	308	IAMs_20	IAMs_20	17 00 54.4			
K27K	Chicken baz=350	128.60	4	P	PKPdf	16 07 13.8	-1.7		
M16K	Timber Creek baz=329	128.67	15	P	PKPdf	16 07 14.2	-1.5		
P08K	Saint George I baz=314	128.68	24	P	PKPdf	16 07 14.1	-1.7		
M17K	Holitna River comp=Z,1µm,20.0s	128.71	14	IAMs_20	IAMs_20	17 07 15.2			
M17K	Holitna River baz=331	128.71	14	P	PKPdf	16 07 14.5	-1.3		
DAWY	Dawson baz=354	128.72	3	P	PKPdf	16 07 14.3	-1.6		
D41A	Chassel comp=Z,2µm,20.0s	128.75	321	IAMs_20	IAMs_20	17 04 30.0			
CAMR	Camarioca comp=Z,2µm,20.0s	128.80	289	IAMs_20	IAMs_20	17 00 00.7			
TZTN	Tazewell	128.83	307	IAMs_20	IAMs_20	17 08 28.8			
	comp=Z,1µm,18.0s								
TZTN	Tazewell baz=76	128.83	307	P	PKPdf	16 07 14.6	-2.2		
N14K	Kuskokwak Cree baz=325	128.85	17	P	PKPdf	16 07 14.8	-1.3		
P49A	Miami Univ. Ec baz=73	128.92	311	P	PKPdf	16 07 15.6	-1.3		
M19K	Big River Lodg baz=335	128.93	12	P	PKPdf	16 07 14.0	-2.2		
DHY	Denali Highway baz=344,SNR=7.7	129.00	8	P	PKPdf	16 07 15.5	-1.0		
M18K	Stony River baz=333	129.00	13	P	PKPdf	16 07 15.7	-0.6		
K29M	Barlow Dome baz=356,SNR=5.9	129.02	2	P	PKPdf	16 07 15.7	-0.8		
O48B	Farmland comp=Z,2µm,22.0s	129.03	312	IAMs_20	IAMs_20	16 59 37.3			
O48B	Farmland baz=72	129.03	312	P	PKPdf	16 07 15.6	-1.4		
V52A	Sevierville comp=Z,2µm,21.0s	129.04	306	IAMs_20	IAMs_20	17 00 31.3			
F42A	Maple Grove Fa comp=Z,1µm,20.0s	129.05	319	IAMs_20	IAMs_20	17 05 11.9			
WAT1	Susitna Watana baz=342	129.07	8	P	PKPdf	16 07 16.0	-0.5		
N15K	Kwethluk River comp=Z,1µm,21.0s	129.09	16	IAMs_20	IAMs_20	17 08 17.5			
N15K	Kwethluk River baz=327	129.09	16	P	PKPdf	16 07 15.1	-1.5		
WRGLY	Wrigley comp=Z,1µm,20.0s	129.09	354	IAMs_20	IAMs_20	17 09 08.7			
BRU2	Volcan comp=Z,1µm,20.0s	129.14	271	IAMs_20	IAMs_20	17 08 12.7			
N16K	Nishlik Lake baz=329	129.19	15	P	PKPdf	16 07 16.0	-0.8		
M20K	Styx River baz=336	129.20	11	P	PKPdf	16 07 16.1	-0.7		
N47A	Urbana comp=Z,2µm,20.0s	129.22	313	IAMs_20	IAMs_20	17 03 04.3			
TKL	Tuckaleechee C comp=Z,2µm,21.0s	129.22	306	IAMs_20	IAMs_20	17 00 35.2			
CDITO	Canoas comp=Z,1µm,20.0s	129.28	271	IAMs_20	IAMs_20	17 02 58.5			
PAX	Paxson baz=346	129.33	7	P	PKPdf	16 07 16.1	-1.0		
656A	Willston comp=Z,2µm,22.0s	129.33	297	IAMs_20	IAMs_20	16 58 16.9			
SKT	Skwentna baz=338	129.40	10	P	PKPdf	16 07 15.8	-1.3		
WAT6	Susitna Watana baz=343	129.42	8	P	PKPdf	16 07 15.7	-1.6		
GOGA	Godfrey comp=Z,2µm,20.0s	129.45	303	IAMs_20	IAMs_20	17 02 53.7			
GOGA	Godfrey baz=78	129.45	303	P	PKPdf	16 07 15.9	-2.1		
P48A	Milroy comp=Z,2µm,19.0s	129.47	311	IAMs_20	IAMs_20	17 04 51.1			
L26K	Log Cabin Wild baz=349	129.49	5	P	PKPdf	16 07 16.1	-1.2		
O14K	Tigyukauivet M comp=Z,979nm,20.0s	129.52	18	IAMs_20	IAMs_20	17 07 37.9			
O14K	Tigyukauivet M baz=325	129.52	18	P	PKPdf	16 07 16.4	-1.0		
COWI	Conover comp=Z,2µm,21.0s	129.53	320	IAMs_20	IAMs_20	17 01 52.7			
N17K	Nushagak Hills comp=Z,941nm,20.0s	129.53	14	IAMs_20	IAMs_20	17 09 33.0			
N17K	Nushagak Hills baz=331	129.53	14	P	PKPdf	16 07 15.4	-2.0		
BCAR	Beaver Creek A	129.57	4	PKPdf	PKPdf	16 07 16.9	-0.6		
L27K	Beaver Creek, comp=Z,897nm,18.0s	129.57	4	IAMs_20	IAMs_20	17 14 20.5			
L27K	Beaver Creek, baz=351	129.57	4	P	PKPdf	16 07 15.2	-2.3		
N18K	Kilae Creek baz=332	129.71	14	P	PKPdf	16 07 15.9	-1.8		
T50A	Nancy comp=Z,2µm,21.0s	129.72	308	IAMs_20	IAMs_20	17 02 35.1			
L29M	L29M baz=355	129.74	2	P	PKPdf	16 07 16.1	-1.7		
M22K	Willow comp=Z,960nm,20.0s	129.85	10	IAMs_20	IAMs_20	17 12 57.1			
CPCT	Cooper Cave comp=Z,2µm,20.0s	129.86	306	IAMs_20	IAMs_20	17 02 13.1			
N19K	Bonanza Creek baz=334	129.90	13	P	PKPdf	16 07 16.7	-1.5		
TIGA	Tifton baz=80	129.92	300	P	PKPdf	16 07 16.7	-2.3		
HARP	HAARP baz=346	129.92	7	P	PKPdf	16 07 17.2	-0.9		
O15K	Ungalikthiuk R baz=327	130.00	17	P	PKPdf	16 07 16.6	-1.7		
N20K	Mount Spurr baz=337	130.00	11	P	PKPdf	16 07 16.5	-1.9		
BATAN	Batan comp=Z,982nm,18.0s	130.01	272	IAMs_20	IAMs_20	17 10 26.7			
SUA	Susitna One baz=339	130.02	10	P	PKPdf	16 07 16.6	-1.8		
SML	Sawmill baz=342	130.08	9	P	PKPdf	16 07 16.6	-1.9		
M24K	Tolsona, Glenn baz=345	130.08	7	P	PKPdf	16 07 17.1	-1.4		
EYMN	Ely baz=60	130.09	323	P	PKPdf	16 07 16.9	-2.0		
O16K	Kokwok River B comp=Z,1µm,22.0s	130.12	16	IAMs_20	IAMs_20	17 08 10.4			
O16K	Kokwok River B baz=329	130.12	16	P	PKPdf	16 07 17.2	-1.3		
M26K	Nabesna, AK baz=340	130.13	5	P	PKPdf	16 07 17.3	-1.3		
PEZE	Perez Zeledon, comp=Z,1µm,19.0s	130.19	271	IAMs_20	IAMs_20	17 07 31.7			
SCM	Sheep Creek Mo baz=343	130.20	8	P	PKPdf	16 07 17.3	-1.4		
O17K	Koliganek Bris baz=331	130.22	15	P	PKPdf	16 07 17.6	-1.1		
MMPY	Sheldon Lake, comp=Z,993nm,21.0s	130.25	358	IAMs_20	IAMs_20	17 09 19.2			
MMPY	Sheldon Lake, baz=4.0	130.25	358	P	PKPdf	16 07 18.3	-0.5		
M27K	Edge Creek, AK comp=Z,944nm,20.0s	130.27	5	IAMs_20	IAMs_20	17 10 53.8			
M27K	Edge Creek, AK baz=350	130.27	5	P	PKPdf	16 07 18.4	-0.5		
M30M	Minto, Yukon comp=Z,1µm,22.0s	130.31	1	IAMs_20	IAMs_20	17 07 41.9			
M30M	Minto, Yukon baz=327	130.31	1	P	PKPdf	16 07 18.6	-0.3		
SOR	Soroa comp=Z,2µm,20.0s	130.31	289	IAMs_20	IAMs_20	17 01 02.9			
M29M	Somme Creek comp=Z,1µm,21.0s	130.39	2	IAMs_20	IAMs_20	17 08 20.9			
M29M	Somme Creek baz=355	130.39	2	P	PKPdf	16 07 18.4	-0.7		
SFIN	Lafayette comp=Z,2µm,20.0s	130.39	313	IAMs_20	IAMs_20	17 03 39.3			
K43A	Burlington comp=Z,2µm,20.0s	130.41	316	IAMs_20	IAMs_20	17 03 32.5			
KNK	Knik Glacier baz=342	130.44	9	P	PKPdf	16 07 18.7	-0.5		
WCI	Wyandotte Cave baz=72	130.49	310	P	PKPdf	16 07 18.2	-1.7		
O19K	Port Alsworth baz=334	130.49	13	P	PKPdf	16 07 17.9	-1.3		
RC01	Rabbit Creek A baz=340	130.54	10	P	PKPdf	16 07 18.3	-1.0		
G40A	Rib Lake comp=Z,2µm,20.0s	130.57	320	IAMs_20	IAMs_20	17 05 28.2			
LCR2	La Lucha 2 comp=Z,905nm,19.0s	130.57	272	IAMs_20	IAMs_20	17 04 58.6			
U49A	Red Boiling Sp comp=Z,1µm,19.0s	130.58	307	IAMs_20	IAMs_20	17 09 50.0			
O18K	Koktuh Hills baz=333	130.60	14	P	PKPdf	16 07 19.1	-0.4		
P16K	Nushagak River baz=329	130.63	16	P	PKPdf	16 07 18.7	-0.8		
FARO	Faro, Yukon comp=Z,999nm,20.0s	130.68	359	IAMs_20	IAMs_20	17 15 38.7			
KLU	Klutina baz=345	130.71	7	P	PKPdf	16 07 19.2	-0.6		
HDC	Heredia comp=Z,1µm,20.0s	130.71	272	IAMs_20	IAMs_20	17 07 43.3			
M31M	Drury Creek, Y comp=Z,885nm,18.0s	130.72	0	IAMs_20	IAMs_20	17 17 20.6			
M31M	Drury Creek, Y baz=0.0	130.72	0	P	PKPdf	16 07 18.9	-0.7		
P46A	Rosedale comp=Z,1µm,20.0s	130.72	312	IAMs_20	IAMs_20	17 01 50.3			
N25K	Chitina, Valde baz=347	130.75	6	P	PKPdf	16 07 18.4	-1.4		
553A	Crawfordville comp=Z,2µm,21.0s	130.84	299	IAMs_20	IAMs_20	17 00 04.8			
P17K	Kvichak River baz=331	130.89	15	P	PKPdf	16 07 19.4	-0.6		
YUK3	Moose Creek baz=352	130.95	4	P	PKPdf	16 07 19.5	-0.9		
O20K	Slope Mountain baz=336	130.95	12	P	PKPdf	16 07 19.5	-0.7		
P18K	Big Mountain, baz=333	131.00	14	P	PKPdf	16 07 19.0	-1.2		
352A	Blakely comp=Z,2µm,22.0s	131.03	301	IAMs_20	IAMs_20	17 00 32.8			
COVE	Coope Vega, Sa comp=Z,1µm,19.0s	131.09	273	IAMs_20	IAMs_20	17 07 46.4			
FFC	Flin Flon	131.12	336		PKPdf	16 07 20.8	+0.2		
FFC	Flin Flon comp=Z,1µm,19.0s	131.12	336	IAMs_20	IAMs_20	17 06 12.1			
FFC	Flin Flon	131.12	336	PKIKP	PKPdf	16 07 20.8	+0.2		
FFC	comp=Z,1µm,19.0s			MLR	MLR				
O22K	Cooper Landing comp=Z,1µm,21.0s	131.12	10	IAMs_20	IAMs_20	17 11 13.6			
O22K	Cooper Landing baz=340	131.12	10	P	PKPdf	16 07 19.4	-1.0		
CLTN	Cedars of Leba comp=Z,1µm,20.0s	131.12	307	IAMs_20	IAMs_20	17 02 09.4			
MCARA	McCarthy VSAT baz=349	131.13	6	P	PKPdf	16 07 18.9	-1.5		
GLI	Glacier Island comp=Z,997nm,22.0s	131.15	8	IAMs_20	IAMs_20	17 07 59.2			
GLI	Glacier Island baz=344	131.15	8	P	PKPdf	16 07 18.4	-2.1		
TGTN	Hyland Airport baz=8.0	131.19	356	P	PKPdf	16 07 19.2	-1.4		
P19K	Oil Pt comp=Z,993nm,21.0s	131.22	13	IAMs_20	IAMs_20	17 09 37.3			
P19K	Oil Pt baz=335	131.22	13	P	PKPdf	16 07 19.4	-1.2		
ULM	Lac du Bonnet comp=Z,2µm,20.0s	131.25	328	IAMs_20	IAMs_20	17 07 08.3			
ULM	Lac du Bonnet comp=Z,4.6nm,1.0s,baz=90,slow=1.0,SNR=6.1	131.25	328	PKP	PKPdf	16 07 20.6	-0.3		
FID	Port Fidalgo comp=Z,1µm,21.0s	131.36	8	IAMs_20	IAMs_20	17 07 35.9			
BMRM	Bremner River baz=347	131.38	7	P	PKPdf	16 07 19.5	-1.5		
N30M	Aishikik Lake comp=Z,1µm,20.0s	131.42	2	IAMs_20	IAMs_20	17 11 49.3			
N30M	Aishikik Lake baz=356	131.42	2	P	PKPdf	16 07 19.1	-1.9		
N31M	Braeburn, Yuko comp=Z,853nm,19.0s	131.42	1	IAMs_20	IAMs_20	17 16 51.3			
N31M	Braeburn, Yuko baz=358	131.42	1	P	PKPdf	16 07 18.9	-2.1		
T47A	Sharon Grove comp=Z,2µm,20.0s	131.47	308	IAMs_20	IAMs_20	17 03 22.4			
YUK4	Talbot Arm baz=355	131.48	3	P	PKPdf	16 07 19.1	-2.3		
YUK8	Steele Glacier baz=353	131.48	3	P	PKPdf	16 07 19.4	-2.0		
SEW	Seward baz=340	131.52	10	P	PKPdf	16 07 19.0	-2.2		
JFWS	Jewell Farm baz=65	131.62	317	P	PKPdf	16 07 18.8	-3.1		
BRSE	Bradley Lake S baz=338	131.63	11	P	PKPdf	16 07 19.4	-2.0		
EYAK	Cordova Ski Ar baz=345	131.65	7	P	PKPdf	16 07 19.8	-1.6		
OLIL	Olney comp=Z,2µm,20.0s	131.67	311	IAMs_20	IAMs_20	17 01 52.4			
CTG	Chitna Glacier baz=351	131.69	5	P	PKPdf	16 07 19.3	-2.4		
HIN	Hinchinbrook I comp=Z,1µm,22.0s	131.69	8	IAMs_20	IAMs_20	17 07 40.7			
Y49A	Blount Mountai comp=Z,2µm,21.0s	131.75	304	IAMs_20	IAMs_20	17 02 14.4			
N32M	Quiet Lake comp=Z,918nm,20.0s	131.76	359	IAMs_20	IAMs_20	17 16 31.1			
N32M	Quiet Lake baz=1.7	131.76	359	P	PKPdf	16 07 20.0	-1.7		
Q19K	Cape Douglas, baz=334	131.78	13	P	PKPdf	16 07 19.4	-2.4		
Q17K	Contact Creek baz=331	131.84	15	P	PKPdf	16 07 19.8	-2.2		
UNV	Unalaska Valle baz=316	131.86	25	P	PKPdf	16 07 20.2	-1.7		
YUK6	Outpost Mounta baz=355	131.89	3	P	PKPdf	16 07 20.2	-2.0		
HDIL	Hopedale comp=Z,2µm,20.0s	131.89	314	IAMs_20	IAMs_20	17 06 51.0			
RAGM	Ragged Mountai comp=Z,1µm,19.0s	131.93	7	IAMs_20	IAMs_20	17 15 60.0			
P23K	Montague Islan baz=343	131.95	9	P	PKPdf	16 07 20.5	-1.5		
O28M	Mount Upton baz=352	131.96	4	P	PKPdf	16 07 20.5	-1.9		
R16K	Pilot Point comp=Z,1µm,21.0s	132.00	17	IAMs_20	IAMs_20	17 09 45.3			
HMT	Hamilton comp=Z,900nm,20.0s	132.03	7	IAMs_20	IAMs_20	17 15 17.5			
HYT	Haines Junctio baz=356	132.04	2	P	PKPdf	16 07 21.4	-0.9		
DUNO	Dulce Nombre, comp=Z,1µm,20.0s	132.07	272	IAMs_20	IAMs_20	17 04 32.3			
ORTG	Ortega, Santa comp=Z,1µm,20.0s	132.07	272	IAMs_20	IAMs_20	17 09 50.5			
O30N	Mendenhall comp=Z,993nm,20.0s	132.14	1	IAMs_20	IAMs_20	17 18 03.1			
O30N	Mendenhall baz=358	132.14	1	P	PKPdf	16 07 21.7	-0.7		
S12K	Black Hills comp=Z,1µm,22.0s	132.14	21	IAMs_20	IAMs_20	17 06 59.4			
S12K	Black Hills baz=322	132.14	21	P	PKPdf	16 07 21.2	-1.3		
SPMN	Marine on St. comp=Z,2µm,20.0s	132.21	321	IAMs_20	IAMs_20	17 05 07.6			
HZTE	Horizontes, Gu comp=Z,1µm,18.0s	132.25	273	IAMs_20	IAMs_20	17 12 11.2			
WHY	Whitehorse comp=Z,1µm,18.0s	132.26	0	IAMs_20	IAMs_20	17 18 42.5			
WHY	Whitehorse baz=359	132.26	0	P	PKPdf	16 07 21.5	-1.3		
WVT	Waverly comp=Z,999nm,19.0s	132.28	307	IAMs_20	IAMs_20	17 06 30.9			
WVT	Waverly baz=73	132.28	307	P	PKPdf	16 07 21.6	-1.7		
Q44A	Meyer Farm, Va comp=Z,2µm,21.0s	132.29	311	IAMs_20	IAMs_20	17 01 51.7			
SNH	Sunshine Point comp=Z,988nm,21.0s	132.33	6	IAMs_20	IAMs_20	17 08 36.5			
F36A	Milaca comp=Z,2µm,20.0s	132.34	322	IAMs_20	IAMs_20	17 06 39.8			
SUCK	Suckling Hills comp=Z,1µm,22.0s	132.34	6	IAMs_20	IAMs_20	17 08 26.7			
Q20K	Shuyak Island baz=336	132.35	13	P	PKPdf	16 07 21.4	-1.3		
P43A	Skaggs, Pawnee comp=Z,2µm,19.0s	132.39	312	IAMs_20	IAMs_20	17 08 51.3			
KAIM	Kayak Island baz=347	132.41	7	P	PKPdf	16 07 21.4	-1.4		
S14K	Fog Glacier baz=326	132.50	19	P	PKPdf	16 07 21.6	-1.6		
L40A	Anamosa comp=Z,2µm,22.0s	132.63	316	IAMs_20	IAMs_20	17 03 10.1			
T45A	Paducah comp=Z,2µm,20.0s	132.63	309	IAMs_20	IAMs_20	17 03 40.2			
Q23K	Middleton Isla baz=344	132.65	8	P	PKPdf	16 07 21.8	-1.5		
P33M	Teslin, Yukon baz=2.1	132.70	359	P	PKPdf	16 07 22.2	-1.4		
P30M	Million Dollar baz=357	132.77	2	P	PKPdf	16 07 23.0	-0.6		
BCPM	Bancas Point comp=Z,1µm,20.0s	132.81	4	IAMs_20	IAMs_20	17 13 01.0			

SDPT	Sand Point baz=324	132.96	20	P		PKPdf	16 07 23.6	-0.4	
UTMT	University of comp=Z,2µm,22.0s	133.01	308	IAMs_20	IAMs_20		17 03 15.2		
KDAK	Kodiak Island baz=335	133.06	13	P		PKPdf	16 07 23.2	-0.9	
PNL	Peninsula baz=353	133.11	3	P		PKPdf	16 07 24.3	+0.1	
HICK	Hickman comp=Z,2µm,22.0s	133.23	308	IAMs_20	IAMs_20		17 03 45.9		
P29M	Windy Craggy baz=356	133.23	2	P		PKPdf	16 07 23.4	-1.1	
CGM3	Cape Girardeau comp=Z,2µm,19.0s	133.31	310	IAMs_20	IAMs_20		17 05 00.9		
P32M	Atlin baz=0.9	133.34	360	P		PKPdf	16 07 22.4	-2.2	
GLAT	Glass comp=Z,1µm,21.0s	133.36	308	IAMs_20	IAMs_20		17 03 27.4		
OHAK	Old Harbor baz=334	133.41	14	P		PKPdf	16 07 22.9	-1.9	
PLBC	Pleasant Camp baz=357	133.45	1	P		PKPdf	16 07 24.0	-0.8	
SKAG	Skagway comp=Z,967nm,21.0s	133.46	1	IAMs_20	IAMs_20		17 11 51.2		
R33M	Jennings River comp=Z,1µm,21.0s	133.46	358	IAMs_20	IAMs_20		17 12 34.2		
R33M	Jennings River baz=4.6	133.46	358	P		PKPdf	16 07 24.5	-0.5	
HALT	Halls comp=Z,1µm,20.0s	133.51	308	IAMs_20	IAMs_20		17 03 26.5		
LNXT	Lenox comp=Z,2µm,18.0s	133.57	308	IAMs_20	IAMs_20		17 11 42.0		
PARMO	Parma comp=Z,2µm,20.0s	133.59	309	IAMs_20	IAMs_20		17 04 48.4		
PVMO	Portageville comp=Z,2µm,21.0s	133.63	308	IAMs_20	IAMs_20		17 03 57.5		
CHNA	Chernabura Isl baz=325	133.68	20	P		PKPdf	16 07 24.6	-0.7	
SII	Sitkinak Islan comp=Z,1µm,18.0s	133.78	15	IAMs_20	IAMs_20		17 15 23.4		
SII	Sitkinak Islan baz=333	133.78	15	P		PKPdf	16 07 24.3	-1.2	
PEBM	Pemiscott Bayo comp=Z,1µm,18.0s	133.85	308	IAMs_20	IAMs_20		17 11 25.4		
OXF	Oxford baz=73	133.98	306	P		PKPdf	16 07 25.6	-1.0	
GNAR	Gosnell comp=Z,2µm,18.0s	134.01	308	IAMs_20	IAMs_20		17 11 37.8		
SCIA	State Center comp=Z,2µm,22.0s	134.03	317	IAMs_20	IAMs_20		17 04 30.1		
CHIR	Chirikof Islan comp=Z,1µm,22.0s	134.05	17	IAMs_20	IAMs_20		17 09 59.6		
CHIR	Chirikof Islan baz=331	134.05	17	P		PKPdf	16 07 25.1	-1.0	
PBMO	Poplar Bluff comp=Z,2µm,20.0s	134.06	309	IAMs_20	IAMs_20		17 07 49.0		
CCM	Cathedral Cave baz=68	134.22	311	P		PKPdf	16 07 26.2	-0.8	
TGUH	Tegucigalpa,Un comp=Z,994nm,20.0s	134.23	277	IAMs_20	IAMs_20		17 06 46.4		
P40A	Paris P40A comp=Z,2µm,19.0s	134.24	313	PKPdf IAMs_20	PKPdf IAMs_20		16 07 26.2 17 07 43.1	-0.8	
DLBC	Dease Lake comp=Z,1µm,20.0s	134.38	357	IAMs_20	IAMs_20		17 16 28.3		
HBAR	Harrisburg comp=Z,2µm,21.0s	134.64	308	IAMs_20	IAMs_20		17 03 47.4		
JIS	Juneau Island comp=Z,1µm,22.0s	134.66	0	IAMs_20	IAMs_20		17 10 38.7		
MDND	Maddock comp=Z,1µm,20.0s	134.66	327	IAMs_20	IAMs_20		17 07 55.5		
R32K	Eaglecrest comp=Z,1µm,22.0s	134.66	0	IAMs_20	IAMs_20		17 10 50.8		
R32K	Eaglecrest baz=360	134.66	0	P		PKPdf	16 07 26.7	-0.4	
346A	Big Creek Wild comp=Z,1µm,20.0s	134.84	302	IAMs_20	IAMs_20		17 06 12.5		
LCAR	Lake Charles comp=Z,2µm,19.0s	134.85	308	IAMs_20	IAMs_20		17 08 04.9		
R40A	Maddies Statio comp=Z,2µm,22.0s	134.88	312	IAMs_20	IAMs_20		17 03 21.3		
S31K	Pelican baz=358	134.95	1	P		PKPdf	16 07 26.8	-0.8	
S34M	Telegraph Cree comp=Z,1µm,21.0s	134.95	358	IAMs_20	IAMs_20		17 11 02.5		
S34M	Telegraph Cree baz=4.5	134.95	358	P		PKPdf	16 07 26.8	-0.9	
MGMO	Mountain Grove comp=Z,2µm,20.0s	135.31	310	IAMs_20	IAMs_20		17 06 35.8		
TEIG	Tepich comp=Z,2µm,20.0s	135.32	286	IAMs_20	IAMs_20		17 06 09.6		
ECSD	EROS Data Cent baz=58	135.32	321	P		PKPdf	16 07 28.1	-0.7	
S32K	Killisnoo comp=Z,1µm,21.0s	135.47	0	IAMs_20	IAMs_20		17 11 13.1		
T35M	Bob Quinn comp=Z,1µm,21.0s	135.84	357	IAMs_20	IAMs_20		17 13 51.0		
SIT	Sitka comp=Z,1µm,21.0s	135.87	1	IAMs_20	IAMs_20		17 11 16.9		
SIT	Sitka baz=359	135.87	1	P		PKPdf	16 07 29.1	-0.3	
WHAR	Wooly Hollow comp=Z,2µm,21.0s	135.98	308	IAMs_20	IAMs_20		17 04 27.9		
CCAR	Cane Creek comp=Z,2µm,22.0s	136.02	306	IAMs_20	IAMs_20		17 03 47.2		
E28A	Huff comp=Z,2µm,21.0s	136.03	327	IAMs_20	IAMs_20		17 08 59.0		
SNET	Serv Nac Est T comp=Z,1µm,22.0s	136.10	276	IAMs_20	IAMs_20		17 04 13.0		
MTO3	Montecristo comp=Z,1µm,22.0s	136.27	277	IAMs_20	IAMs_20		17 08 19.5		
EDM	Edmonton comp=Z,2µm,20.0s	136.38	342	IAMs_20	IAMs_20		17 10 38.6		
WRAK	Wrangell Islan comp=Z,976nm,20.0s	136.49	358	IAMs_20	IAMs_20		17 18 48.6		
WRAK	Wrangell Islan baz=2.9	136.49	358	P		PKPdf	16 07 30.3	-0.2	
DGMT	Dagmar comp=Z,1µm,20.0s	136.55	331	IAMs_20	IAMs_20		17 11 54.1		
DGMT	Dagmar baz=45	136.55	331	P		PKPdf	16 07 30.4	-0.7	
X40A	Basin Creek Fa comp=Z,2µm,20.0s	136.68	307	IAMs_20	IAMs_20		17 06 05.3		
BRLDA	Berland Lookou comp=Z,2µm,22.0s	136.72	345	IAMs_20	IAMs_20		17 12 10.4		
U33K	Whale Pass comp=Z,1µm,20.0s	136.81	359	IAMs_20	IAMs_20		17 19 23.7		
U33K	Whale Pass baz=1.8	136.81	359	P		PKPdf	16 07 30.1	-1.0	
HHAR	Hobbs comp=Z,2µm,21.0s	136.88	310	IAMs_20	IAMs_20		17 07 11.4		
U35K	Hyder comp=Z,1µm,19.0s	136.89	356	IAMs_20	IAMs_20		17 14 55.7		
Z41A	Richland Creek comp=Z,2µm,20.0s	137.05	305	IAMs_20	IAMs_20		17 06 24.4		
U38A	Gravette comp=Z,2µm,20.0s	137.15	310	IAMs_20	IAMs_20		17 05 42.6		
MIAR	Mount Ida baz=70	137.23	307	P		PKPdf	16 07 30.9	-1.7	
CRAG	Craig comp=Z,1µm,20.0s	137.46	359	IAMs_20	IAMs_20		17 18 54.8		
CRAG	Craig baz=1.9	137.46	359	P		PKPdf	16 07 32.1	-0.3	
V35K	Ketchikan comp=Z,1µm,20.0s	137.56	358	IAMs_20	IAMs_20		17 13 27.4		
V35K	Ketchikan baz=4.0	137.56	358	P		PKPdf	16 07 32.3	-0.3	
KSU1	Kansas State U comp=Z,2µm,19.0s	137.62	315	IAMs_20	IAMs_20		17 10 56.2		
KSU1	Kansas State U baz=62	137.62	315	P		PKPdf	16 07 32.8	-0.4	
441A	DeRidder comp=Z,2µm,20.0s	138.10	302	IAMs_20	IAMs_20		17 08 56.6		
TUL3	Leonard comp=Z,2µm,19.0s	138.41	310	IAMs_20	IAMs_20		17 10 36.7		
TUL3	Leonard baz=66	138.41	310	P		PKPdf	16 07 34.3	-0.5	
LAO	LASA Array comp=Z,2µm,21.0s	138.78	330	IAMs_20	IAMs_20		17 11 04.1		
LAO	LASA Array baz=44	138.78	330	P		PKPdf	16 07 35.0	-0.2	
OK051	E0350 and S346 comp=Z,2µm,20.0s	138.93	312	IAMs_20	IAMs_20		17 08 13.4		
CCIG	Comitan comp=Z,1µm,22.0s	139.03	280	IAMs_20	IAMs_20		17 05 27.3		
OK052	Battle Ridge R comp=Z,1µm,22.0s	139.12	311	IAMs_20	IAMs_20		17 09 34.6		
OK031	S. Brethren Rd comp=Z,2µm,18.0s	139.16	311	IAMs_20	IAMs_20		17 11 24.7		
OK033	Mehan comp=Z,1µm,20.0s	139.20	311	IAMs_20	IAMs_20		17 09 45.6		
EGMT	Eagleton comp=Z,1µm,21.0s	139.37	335	IAMs_20	IAMs_20		17 12 08.3		
EGMT	Eagleton baz=38	139.37	335	P		PKPdf	16 07 36.2	-0.1	
R32A	Long Quarter, comp=Z,2µm,21.0s	139.38	315	IAMs_20	IAMs_20		17 06 49.0		
RSSD	Black Hills baz=49	139.41	326	P		PKPdf	16 07 35.6	-1.1	
W35A	Tecumseh comp=Z,2µm,20.0s	139.52	310	IAMs_20	IAMs_20		17 08 29.3		
OK029	Liberty Lake comp=Z,1µm,21.0s	139.68	311	IAMs_20	IAMs_20		17 12 26.5		
DIB	Dawson Inlet, comp=Z,1µm,20.0s	139.71	358	IAMs_20	IAMs_20		17 14 18.4		
CROK	Carrier comp=Z,2µm,20.0s	139.76	312	IAMs_20	IAMs_20		17 09 10.4		
OK032	Salt Plains WL comp=Z,2µm,21.0s	139.79	313	IAMs_20	IAMs_20		17 06 58.1		
FNO	Franklin comp=Z,1µm,19.0s	139.87	310	IAMs_20	IAMs_20		17 11 29.5		
CBKS	Cedar Bluff comp=Z,2µm,22.0s	139.89	316	IAMs_20	IAMs_20		17 07 22.1		
OGNE	Ogallala baz=54	140.21	321	P		PKPdf	16 07 38.4	+0.3	
BBB	Bella Bella comp=Z,1µm,20.0s	140.44	354	IAMs_20	IAMs_20		17 12 36.6		
HKT	Hockley comp=Z,2µm,19.0s	140.51	302	IAMs_20	IAMs_20		17 15 00.6		
Z35A	Perchaven, San comp=Z,2µm,22.0s	140.52	307	IAMs_20	IAMs_20		17 05 59.1		
U32A	Winter Ranch, comp=Z,2µm,20.0s	140.55	313	IAMs_20	IAMs_20		17 09 56.2		
FW06	Azle comp=Z,2µm,22.0s	140.89	307	IAMs_20	IAMs_20		17 05 58.9		
WMOK	Wichita Mounta baz=65	141.12	310	P		PKPdf	16 07 39.6	-0.2	
TBI	Tubuai comp=Z,1µm,27.5s	141.12	158	*e*PP		PP	16 10 43.9	+3.9	
TBI	Tubuai comp=Z,6µm,37.5s	141.12	158	*e*SS		SS	16 29 12.6	+4.9	
TBI	Tubuai comp=Z,4µm,34.2s	141.12	158	*e*LQ		LQ	16 47 31.7		
TBI	comp=Z,6µm,23.5s			*e*LR		LR	16 53 24.7		
TBI	comp=Z,2µm,24.5s			*e*LR		LR	16 53 28.2		
WHTX	Lake Whitney, baz=69	141.17	306	P		PKPdf	16 07 39.5	-0.4	
FW03	Perrin-Whitt E comp=Z,1µm,22.0s	141.26	307	IAMs_20	IAMs_20		17 06 14.7		
RLMT	Red Lodge comp=Z,2µm,19.0s	141.37	331	IAMs_20	IAMs_20		17 15 28.7		
RLMT	Red Lodge baz=41	141.37	331	P		PKPdf	16 07 39.8	-0.4	
KSCO	Kaye Shedlock' baz=56	141.68	319	P		PKPdf	16 07 40.4	-0.5	
K22A	Casper baz=47	141.75	326	P		PKPdf	16 07 40.6	-0.3	
BRIGG	Briggsdale comp=Z,2µm,22.0s	141.82	322	IAMs_20	IAMs_20		17 09 00.6		
NEW	Newport comp=Z,2µm,21.0s	141.88	341	IAMs_20	IAMs_20		17 13 12.2		
NEW	Newport baz=28	141.88	341	P		PKPdf	16 07 40.1	-0.7	
MSO	Missoula comp=Z,2µm,20.0s	142.01	337	IAMs_20	IAMs_20		17 14 59.0		
MSO	Missoula baz=34	142.01	337	P		PKPdf	16 07 41.0	-0.2	
BOZ	Bozeman (W) baz=38	142.07	334	P		PKPdf	16 07 40.3	-1.1	
CBB	Campbell River comp=Z,1µm,21.0s	142.19	351	IAMs_20	IAMs_20		17 17 48.9		
735A	Kenedy comp=Z,1µm,19.0s	142.48	301	IAMs_20	IAMs_20		17 16 08.9		
N23A	Red Feather La baz=50	142.58	324	P		PKPdf	16 07 42.2	-0.4	
ABTX	Abilene, Hawle comp=Z,2µm,22.0s	142.64	308	IAMs_20	IAMs_20		17 07 35.3		
APMT	Aspermont	142.72	309			PKPdf	16 07 41.1	-1.6	
EF01	Eagle Ford 01 comp=Z,1µm,20.0s	142.88	302	IAMs_20	IAMs_20		17 11 47.2		
KVTX	Kingsville comp=Z,2µm,19.0s	142.93	299	IAMs_20	IAMs_20		17 18 28.9		
ISCO	Idaho Springs comp=Z,2µm,21.0s	143.08	322	IAMs_20	IAMs_20		17 09 52.0		
ISCO	Idaho Springs baz=51	143.08	322	P		PKPdf	16 07 42.6	-1.0	
CLRS	Cowhan Lake comp=Z,2µm,21.0s	143.14	349	IAMs_20	IAMs_20		17 15 36.1		
LOHW	Long Hollow comp=Z,2µm,20.0s	143.14	331	IAMs_20	IAMs_20		17 14 53.5		
PGC	Sidney comp=Z,2µm,21.0s	143.16	348	IAMs_20	IAMs_20		17 15 45.9		
AMTX	Amarillo baz=61	143.18	312	P		PKPbc	16 07 41.9	+1.4	
BW06	Boulder Array baz=43,SNR=10	143.25	329	P		PKPbc	16 07 41.4	+0.8	
PDAR	Pinedale Array	143.25	329	PKPdf		PKPbc	16 07 42.3	+1.7	
PDAR	Pinedale Array comp=Z,9.1nm,1.0s,baz=77,slow=3.2,SNR=16	143.25	329	PKP		PKPdf	16 07 42.5	-1.2	
Q24A	Divide comp=Z,2µm,20.0s	143.31	320	IAMs_20	IAMs_20		17 13 07.2		
Q24A	Divide baz=53	143.31	320	P		PKPbc	16 07 42.2	+1.2	
FXWY	Fox Creek comp=Z,2µm,20.0s	143.32	331	IAMs_20	IAMs_20		17 15 43.2		
SNOW	Snow Kings Moun comp=Z,2µm,21.0s	143.32	331	IAMs_20	IAMs_20		17 13 57.5		
D08A	Wollman Farm, comp=Z,1µm,20.0s	143.50	342	IAMs_20	IAMs_20		17 14 14.2		
JCT	Junction City comp=Z,2µm,21.0s	143.59	304	IAMs_20	IAMs_20		17 10 47.6		
JCT	Junction City baz=69	143.59	304	P		PKPbc	16 07 42.2	+0.5	
E09A	Wood Farm, Sta comp=Z,1µm,19.0s	143.75	341	IAMs_20	IAMs_20		17 16 19.8		
LTY	Liberty comp=Z,1µm,20.0s	143.81	344	IAMs_20	IAMs_20		17 17 42.3		
T25A	Trinidad comp=Z,2µm,22.0s	143.90	317	IAMs_20	IAMs_20		17 10 20.2		
T25A	Trinidad baz=56	143.90	317	P		PKPbc	16 07 42.7	0.0	
F10A	Beach Ranch, E comp=Z,2µm,20.0s	143.92	340	IAMs_20	IAMs_20		17 16 39.4		
833A	Chaparral WMA, comp=Z,1µm,20.0s	143.97	301	IAMs_20	IAMs_20		17 17 32.3		
833A	Chaparral WMA, baz=72	143.97	301	P		PKPbc	16 07 43.0	+0.1	
E08A	Dider Farm, El comp=Z,2µm,19.0s	144.05	342	IAMs_20	IAMs_20		17 20 24.7		
GNW	Green Mountain comp=Z,2µm,20.0s	144.06	347	IAMs_20	IAMs_20		17 15 46.6		
D05A	Enumclaw comp=Z,1µm,19.0s	144.22	346	IAMs_20	IAMs_20		17 18 19.8		
E07A	Sunyside comp=Z,1µm,20.0s	144.23	343	IAMs_20	IAMs_20		17 20 41.3		
SDCO	Great Sand Dun comp=Z,2µm,19.0s	144.26	319	IAMs_20	IAMs_20		17 12 57.5		
SDCO	Great Sand Dun baz=54	144.26	319	P		PKPab	16 07 43.4	-0.1	
HAWA	Hanford comp=Z,1µm,20.0s	144.28	342	IAMs_20	IAMs_20		17 16 08.8		
O20A	White River Ci baz=47	144.40	325	P		PKPab	16 07 43.1	-0.7	
MSTX	Muleshoe baz=61	144.41	312	P		PKPab	16 07 43.7	-0.2	
LON	Longmire comp=Z,2µm,21.0s	144.58	345	IAMs_20	IAMs_20		17 13 09.5		
F07A	Phinny Hill Vi comp=Z,2µm,20.0s	144.85	342	IAMs_20	IAMs_20		17 16 53.8		
HLID	Hailey comp=Z,1µm,21.0s	144.89	334	IAMs_20	IAMs_20		17 14 44.5		
HLID	Hailey baz=35	144.89	334	P		PKPab	16 07 44.3	-1.2	
E03A	Lebam comp=Z,1µm,20.0s	145.19	347	IAMs_20	IAMs_20		17 21 08.5		
RADR	Rader Ridge comp=Z,2µm,20.0s	145.36	347	IAMs_20	IAMs_20		17 20 44.9		
BSUT	Blindstream Ca comp=Z,2µm,20.0s	145.49	327	IAMs_20	IAMs_20		17 13 50.2		
F04A	Amboy comp=Z,2µm,21.0s	145.50	345	IAMs_20	IAMs_20		17 15 46.7		
F04D	Rainier, OR comp=Z,1µm,20.0s	145.50	346	IAMs_20	IAMs_20		17 15 43.7		
MFID	Camas Ranch comp=Z,1µm,19.0s	145.59	336	IAMs_20	IAMs_20		17 17 57.9		
G06A	Carlson Farm, comp=Z,1µm,20.0s	145.66	343	IAMs_20	IAMs_20		17 17 36.1		
F03A	Seaside comp=Z,1µm,18.0s	145.77	347	IAMs_20	IAMs_20		17 21 55.9		
G05A	Wamic comp=Z,1µm,21.0s	145.85	343	IAMs_20	IAMs_20		17 17 10.1		
HOOD	Mount Hood Mea comp=Z,1µm,19.0s	145.87	344	IAMs_20	IAMs_20		17 21 40.5		
PPT2	Papeete2 comp=Z,215nm,23.5s	146.24	153	*e*P		PKPdf	16 07 41.3	-8.0	
PPT2	Papeete2 comp=Z,291nm,24.8s	146.24	153	*e*PP		PP	16 11 09.3	-1.7	
PPT2	Papeete2 comp=Z,2µm,37.8s	146.24	153	*e*SS		SS	16 30 04.5	-2.7	
PPT2	Papeete2 comp=Z,974nm,34.8s	146.24	153	*e*LQ		LQ	16 49 39.3		
PPT2	comp=Z,2µm,23.2s			*e*LR		LR	16 55 43.6		
PPT2	comp=Z,2µm,23.2s			*e*LR		LR	16 55 52.9		
I07A	Izee I07A comp=Z,1µm,20.0s	146.35	340	PKPbc IAMs_20	PKPbc IAMs_20		16 07 50.0 17 17 42.6	0.0	
G03D	McMinnville, O comp=Z,1µm,19.0s	146.38	346	IAMs_20	IAMs_20		17 20 40.0		
SRU	San Rafael Swe comp=Z,1µm,20.0s	146.38	325	IAMs_20	IAMs_20		17 16 31.9		
MVCO	Mesa Verde comp=Z,2µm,22.0s	146.47	321	IAMs_20	IAMs_20		17 14 05.8		
MVCO	Mesa Verde baz=50	146.47	321	P		PKPbc	16 07 50.3	-0.4	
HEBO	Mount Hebo comp=Z,1µm,18.0s	146.49	346	IAMs_20	IAMs_20		17 20 50.0		
ANMO	Albuquerque	146.50	316	PKPbc	PKPdf		16 07 49.8	+0.3	
ANMO	Albuquerque baz=56	146.50	316	P	PKPbc		16 07 50.8	0.0	
ANMO	Albuquerque ANMO comp=Z,2µm,19.0s	146.50	316	PKP2 MLR	PKPdf MLR		16 07 49.8	+0.3	
H04A	Detroit Lake comp=Z,1µm,20.0s	146.60	344	IAMs_20	IAMs_20		17 14 47.9		
J08A	Circle Bar Ran comp=Z,1µm,20.0s	146.64	339	IAMs_20	IAMs_20		17 16 51.4		
I05D	Terrebonne, OR I05D comp=Z,935nm,20.0s	146.68	343	PKPbc IAMs_20	PKPbc IAMs_20		16 07 50.5 17 18 34.2	-0.3	
DUG	Dugway, Tooele comp=Z,2µm,22.0s	146.80	329	IAMs_20	IAMs_20		17 14 28.6		
DUG	Dugway, Tooele baz=41,SNR=14	146.80	329	P		PKPbc	16 07 51.3	-0.2	
Q16A	Castle Valley comp=Z,2µm,22.0s	146.87	326	IAMs_20	IAMs_20		17 12 25.0		
H04D	Lebanon comp=Z,1µm,22.0s	146.89	345	IAMs_20	IAMs_20		17 14 59.7		
COR	Corvallis comp=Z,1µm,18.0s	146.98	345	IAMs_20	IAMs_20		17 20 46.9		
TXAR	Lajitas Array	147.12	305	PKPbc	PKPdf		16 07 51.0	+0.4	
TXAR	Lajitas Array comp=Z,5.6nm,0.7s,baz=104,slow=3.1,SNR=33	147.12	305	PKPbc	PKPdf		16 07 51.6	+1.1	
BUCK	Buck Mountain BUCK comp=Z,1µm,20.0s	147.26	345	PKPdf IAMs_20	PKPdf IAMs_20		16 07 49.4 17 22 39.4	-0.9	
HMU	Henry Mountain comp=Z,2µm,19.0s	147.32	324	IAMs_20	IAMs_20		17 16 44.9		
MNTX	Cornudas Mount baz=61,SNR=25	147.42	310	P		PKPdf	16 07 51.7	+0.8	
I04A	Tendick Farm, comp=Z,1µm,20.0s	147.48	344	IAMs_20	IAMs_20		17 19 22.4		
WVOR	Wild Horse Val comp=Z,1µm,20.0s	147.50	338	IAMs_20	IAMs_20		17 18 12.3		
J05D	Fort Rock, OR comp=Z,1µm,18.0s	147.61	342	IAMs_20	IAMs_20		17 19 58.9		
I03D	Drain, OR comp=Z,1µm,21.0s	147.82	345	IAMs_20	IAMs_20		17 17 26.2		
K05A	Summer Lake comp=Z,2µm,20.0s	148.01	341	IAMs_20	IAMs_20		17 20 11.6		
ZAIG	Zacatecas comp=Z,978nm,19.0s	148.21	293	IAMs_20	IAMs_20		17 17 40.6		
EPT	El Paso comp=Z,1µm,22.0s	148.22	311	IAMs_20	IAMs_20		17 13 54.5		
K04D	Chiloquin, OR comp=Z,1µm,18.0s	148.37	342	IAMs_20	IAMs_20		17 19 50.0		
J01E	Myrtle Point comp=Z,2µm,20.0s	148.47	345	IAMs_20	IAMs_20		17 23 00.4		
PKCU	Pink Cliffs comp=Z,2µm,21.0s	148.55	325	IAMs_20	IAMs_20		17 15 04.4		
HUMO	Hull Mountain	148.73	344			PKPdf	16 07 54.8	+2.1	
121A	Cookes Peak, D baz=57,SNR=28	148.75	313	P		PKPdf	16 07 54.6	+1.3	
L04D	Klamath Falls comp=Z,2µm,19.0s	148.91	342	IAMs_20	IAMs_20		17 20 42.1		
CCUT	Cedar City comp=Z,2µm,20.0s	149.05	326	IAMs_20	IAMs_20		17 15 29.5		
KNB	Kanab comp=Z,2µm,21.0s	149.14	325	IAMs_20	IAMs_20		17 15 43.0		
WUAZ	Wupatki comp=Z,2µm,22.0s	149.33	321	IAMs_20	IAMs_20		17 13 38.5		
LCMT	Little Creek M comp=Z,2µm,21.0s	149.38	325	IAMs_20	IAMs_20		17 15 52.3		
YBH	Yreka Blue Hor YBH comp=Z,1µm,19.0s	149.47	343		IAMs_20	PKPbc	16 07 57.7 17 21 33.1	-0.7	
YBH	Yreka Blue Hor YBH comp=Z,1µm,19.0s	149.47	343	PKP2 MLR	PKPbc MLR		16 07 57.7	-0.7	
R11B	Troy Canyon, C baz=38,SNR=12	149.59	330	P		PKPbc	16 07 58.1	-0.9	
HPIG		149.67	302	IAMs_20	IAMs_20		17 22 31.1		
S11A	Rachel comp=Z,2µm,22.0s	150.22	329	IAMs_20	IAMs_20		17 14 25.1		
319A	Douglas comp=Z,2µm,21.0s	150.44	313	IAMs_20	IAMs_20		17 12 26.2		
YERR	Yerington comp=Z,2µm,22.0s	150.71	335	IAMs_20	IAMs_20		17 16 42.4		
PNTR	Pine Nut comp=Z,2µm,20.0s	150.76	336	IAMs_20	IAMs_20		17 20 52.8		
NVAR	Mina Array Bea comp=Z,7.4nm,0.8s,baz=109,slow=0.5,SNR=36	150.78	334	PKP		PKPdf	16 07 57.4	+1.1	
SHPR	Sheep Range comp=Z,1µm,20.0s	150.79	327	IAMs_20	IAMs_20		17 16 55.4		
TUC	Tucson	150.97	316			PKPbc	16 07 59.9	-2.4	
TUC	Tucson comp=Z,2µm,21.0s	150.97	316	IAMs_20	IAMs_20		17 17 09.5		
TUC	Tucson TUC comp=Z,2µm,21.0s	150.97	316	PKIKP MLR	PKPbc MLR		16 07 59.9	-2.4	
KMPM	Mount Pierce comp=Z,1µm,22.0s	151.09	344	IAMs_20	IAMs_20		17 16 25.8		
W13A	Hualapai Mount comp=Z,2µm,20.0s	151.11	324	IAMs_20	IAMs_20		17 17 14.3		
V12A	Nelson comp=Z,1µm,22.0s	151.20	326	IAMs_20	IAMs_20		17 15 23.5		
GMN	Gold Mountain comp=Z,754nm,20.0s	151.23	331	IAMs_20	IAMs_20		17 23 42.6		
AFDM	Forest Hills D AFDM comp=Z,1µm,19.0s	151.41	338		IAMs_20	PKPdf IAMs_20	16 07 59.3 17 20 58.8	+2.2	
DSP	Deep Springs comp=Z,2µm,21.0s	151.51	332	I

baz=41,SNR=5.4
MCCM Marconi Confer 152.80 340 IAMs_20 IAMs_20 17 18 35.3
comp=Z,1μm,21.0s
LRMC Laurel Mtn Rad 152.88 329 P **PKiKP 16 08 08.1 +1.3**
baz=38,SNR=5.6
HSIG 152.92 310 IAMs_20 IAMs_20 17 16 36.1
comp=Z,2μm,20.0s
BC3 Big Chuckawall 153.05 323 P **PKiKP 16 08 08.7 +1.5**
baz=44
GLA Glamis 153.10 322 P **PKiKP 16 08 09.3 +2.0**
baz=46
BELC Belle Mtn. Jos 153.11 325 P **PKPab 16 08 18.4 -0.3**
baz=43
PIX Pinacate 153.22 317 IAMs_20 IAMs_20 17 22 15.9
comp=Z,868nm,18.0s
BBGB Big Mountain B 153.50 335 IAMs_20 IAMs_20 17 26 00.3
comp=Z,2μm,19.0s
SAO San Andreas Ge 153.50 336 IAMs_20 IAMs_20 17 29 20.3
comp=Z,1μm,20.0s
EDW2 Edwards Air Fo 153.51 329 P **PKPab 16 08 19.4 -0.8**
baz=38
PFO Pinyon Flats O 153.65 325 P **PKPab 16 08 20.2 -0.7**
baz=42
TPFO Pinon Flats 153.66 325 P **PKPab 16 08 20.1 -0.9**
baz=42
ARVC Arvin 153.73 330 P **PKPab 16 08 20.6 -0.4**
baz=36
SWSC Sam W. Stewart 153.75 323 P **PKPab 16 08 20.9 -0.3**
baz=44
UABX UABC, Campus M 153.76 322 IAMs_20 IAMs_20 17 20 51.8
comp=Z,1μm,19.0s
GUVIX Guadalupe Vict 153.76 321 IAMs_20 IAMs_20 17 21 14.9
comp=Z,1μm,21.0s
BFSC Mount Baldy Ra 153.84 327 P **PKPab 16 08 20.8 -0.9**
baz=39
MURC Murrieta 154.07 326 P **PKPab 16 08 21.3 -1.2**
baz=41
OSI Osito Audit: C 154.09 329 P **PKPab 16 08 21.3 -1.3**
baz=37
SMMC Simmler 154.12 332 P **PKPab 16 08 21.2 -1.5**
baz=34
MONP2 Monument Peak 154.16 323 P **PKPab 16 08 21.7 -1.5**
baz=44
PKM Mcpherson Peak 154.39 331 P **PKPab 16 08 21.7 -2.4**
baz=34
SFX San Felipe 154.47 318 IAMs_20 IAMs_20 17 19 45.9
comp=Z,1μm,20.0s
ESJX Sierra Juarez 154.50 321 IAMs_20 IAMs_20 17 21 12.5
comp=Z,1μm,20.0s
FMP Fort Macarthur 154.58 327 P **PKPab 16 08 21.9 -2.7**
baz=39
SRIG Santa Rosalia 154.77 308 IAMs_20 IAMs_20 17 18 04.4
comp=Z,2μm,21.0s
VTX Valle De La Tr 154.82 320 IAMs_20 IAMs_20 17 29 22.1
comp=Z,1μm,20.0s
SCI2 San Clemente I 155.28 327 P **PKPab 16 08 22.7 -5.0**
baz=39
SNCC San Nicolas Is 155.58 329 P **PKPab 16 08 23.0 -6.0**
baz=37

IDC 15 15:56:26.5±3.6, 4°.45S×150°.77E, h0km, mb3.8/2, mbtmp3.9/3, ML1.9/1, MS2.8/1, Error ellipse: s-maj=147.6km s-min=41.2km az=114.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.09**	**216**	Pn	Pn	15 57 59.2	+1.3
	1.9nm,0.3s,baz=54,slow=7.7,SNR=8.1						
PMG				Sn	Sn	15 59 05.6	-2.7
	5.1nm,0.3s,baz=180,slow=17,SNR=6.0						
PMG				LR	LR	16 00 13.9	
	comp=Z,78nm,20.3s,baz=36,slow=37 17nm,0.6s						
WRA	**Warramunga Arr**	**22.21**	**225**	P	P	16 01 25.8	+1.0
	1.9nm,0.6s,baz=50,slow=10,SNR=7.6 1.9nm,0.6s						
ASAR	**Alice Springs**	**25.10**	**219**	P	P	16 01 51.3	-1.9
	1.8nm,0.7s,baz=51,slow=9.2,SNR=5.2 1.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.27**	**288**	PKPbc	PKPbc	16 16 15.6	-0.2
	1.2nm,0.5s,baz=65,slow=3.5,SNR=11						

*NEIC **15** 16:07:07.5±0.8, 19°.31N±0°.01×155°.195W±0°.005, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.9km az=359.0*

HVO 15 16:07:07.3±0.6, 19°.32N±0°.01×155°.189W±0°.005, h6km±2km, Md2.4/18, ML2.6/42(NEIC), Error ellipse: s-maj=2.0km s-min=0.6km az=187.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**333**		Pg	16 07 09.2	+0.2
PUH	**Pauahi**	**0.06**	**333**	IAML		16 07 11.3	
	comp=N,2μm,0.8s						
PUH				IAML		16 07 11.4	
	comp=E,1μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.06**	**19**		Pg	16 07 09.2	+0.2
STCH	**Steam Cracks**	**0.09**	**45**	Pg	Pg	16 07 09.5	+0.1
JCUZ	**Jacuzzi**	**0.10**	**54**	Pg	Pg	16 07 09.7	+0.1
NPOC	**North of Pu'u**	**0.10**	**48**	Pg	Pg	16 07 09.8	+0.1
KKO	**Keanakako`i**	**0.10**	**316**	Pg	Pg	16 07 09.8	+0.1
KKO				IAML		16 07 10.3	
	comp=E,4μm,1.3s						
RIM	**Rim**	**0.11**	**312**		Pg	16 07 09.9	+0.1
RIM				IAML		16 07 13.4	
	comp=E,4μm,0.9s						
BYL	**Byron's Ledge**	**0.11**	**323**	Pg	Pg	16 07 10.0	+0.1
BYL				IAML		16 07 13.1	
	comp=N,3μm,1.1s						
HLP	**Hilina Pali**	**0.12**	**256**		Pg	16 07 10.2	+0.4
HLP				IAML		16 07 12.9	
	comp=N,2μm,0.9s						
HLP				IAML		16 07 13.8	
	comp=E,2μm,0.7s						
SDHH	**Sand Hill**	**0.12**	**304**	Pg	Pg	16 07 10.2	+0.2
HATH	**Halema'uma'u T**	**0.12**	**326**		Pg	16 07 09.9	-0.1
SBLH	**Steaming Bluff**	**0.13**	**324**	Pg	Pg	16 07 10.2	+0.1
RSD	**Rainshed**	**0.16**	**329**	Pg	Pg	16 07 10.4	-0.3
HTC	**Hot Caves**	**0.21**	**246**		Pg	16 07 12.5	+0.9
MLH	**Mauna Loa**	**0.25**	**312**		Pg	16 07 12.3	-0.1
MLH				IAML		16 07 21.1	
	comp=E,893nm,1.1s						
MLH				IAML		16 07 21.2	
	comp=N,1μm,1.4s						
HMH	**Humu'ula Sheep**	**0.39**	**315**		Pg	16 07 14.7	-0.3
HMH				IAML		16 07 22.1	
	comp=E,772nm,0.4s						
HMH				IAML		16 07 22.2	
	comp=N,585nm,0.3s						
KHU	**Kahuku**	**0.41**	**259**		Sg	16 07 21.6	+0.8
KHU	**Kahuku**	**0.41**	**259**		Pg	16 07 15.2	-0.2
KHU				IAML		16 07 17.3	
	comp=N,462nm,1.1s						
KHU				IAML		16 07 27.0	
	comp=E,522nm,1.3s						
MWH	**Moku'aweowe**	**0.42**	**293**		Pg	16 07 15.6	0.0
MWH				IAML		16 07 25.8	
	comp=N,819nm,1.1s						
MLOA	**Mauna Loa Obse**	**0.42**	**300**		Pg	16 07 15.7	+0.1
MLOA	**Mauna Loa Obse**	**0.42**	**300**	IAML		16 07 22.6	
	comp=N,780nm,0.2s						
MLOA				IAML		16 07 22.8	
	comp=E,894nm,1.1s						
ALEP	**Alea Permanent**	**0.48**	**297**		Pg	16 07 16.3	-0.4
ALEP					Sg	16 07 23.7	+0.7
POHA	**Pohakuloa**	**0.54**	**323**		Pg	16 07 17.4	-0.4
POHA					Sg	16 07 25.2	+0.3
POHA	**Pohakuloa**	**0.54**	**323**	IAML		16 07 25.3	
	comp=E,726nm,0.1s						
POHA				IAML		16 07 25.3	
	comp=E,700nm,0.1s						
HUH	**Hualalai**	**0.71**	**301**		Pg	16 07 19.9	-1.1
HUH	**Hualalai**	**0.71**	**301**	IAML		16 07 35.5	
	comp=N,474nm,1.0s						
HUH				IAML		16 07 37.2	
	comp=E,398nm,0.5s						
HPAH	**Hawaii Prepara**	**0.85**	**326**		Sg	16 07 34.5	-0.3
HPAH	**Hawaii Prepara**	**0.85**	**326**	Pg	Pg	16 07 23.7	0.0
HPAH	**Hawaii Prepara**	**0.85**	**326**	IAML		16 07 34.6	
	comp=E,162nm,0.4s						
HPAH				IAML		16 07 37.3	
	comp=N,118nm,0.9s						

*JMA **15** 16:08:22.9±0.2, 37°.2N±0°.4×141°.5E±0°.9, h31km±1km, MV3.4/35, E OFF FUKUSHIMA PREF*
*IDC **15** 16:08:25.3±1.9, 37°.18N×141°.69E, h41km±18km, mb3.3/11, mbtmp3.6/16, ML3.2/5, Error ellipse: s-maj=15.5km s-min=11.4km az=97.0*

ISC 15 16:08:23.6±1.7, 37°.21N±0°.04×141°.49E±0°.07, h24km±11km, n37, σ1s16/35, mb3.5/11, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.52**	**288**	*i* P	**Pb**	**16 08 33.7**	**-0.3**
JFK				S	**Sb**	**16 08 41.2**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.56**	**260**	⇓P	**Pb**	**16 08 34.5**	**-0.3**
ONAJ				⇓S	**Sb**	**16 08 42.9**	**+0.4**
JMST	**Minamisoumatoc**	**0.71**	**318**	*i* P	**Pn**	**16 08 36.8**	**-1.3**
JMST				S	**Sb**	**16 08 46.8**	**+0.2**
JFFD	**Fukushimafurud**	**0.75**	**262**	⇓*i* P	**Pn**	**16 08 37.3**	**-1.4**
JFFD				⇓S	**Sb**	**16 08 48.1**	**+0.3**
JMM	**Marumori**	**0.86**	**320**	⇓*i* P	**Pn**	**16 08 39.1**	**-1.0**
JMM				⇓S	**Sn**	**16 08 51.1**	**-0.9**
JHO	**Hitachi**	**0.95**	**231**	P	**Pn**	**16 08 39.5**	**-1.8**
JHO				S	**Sn**	**16 08 52.6**	**-1.5**
JOTO	**OTAMA OYAMA**	**0.99**	**291**	*i* P	**Pb**	**16 08 41.9**	**-0.1**
JOTO				S	**Sb**	**16 08 55.3**	**+0.7**
MJAR	**Matsushiro Arr**	**2.71**	**257**	P	**Pn**	**16 09 07.2**	**+1.5**
	0.7nm,0.3s,baz=63,slow=11,SNR=26						
MJAR				S	**Sb**	**16 09 42.2**	**-2.0**
	9.7nm,0.5s,baz=76,slow=14,SNR=6.6 5.9nm,0.4s						
JHJ	**Hachijo jima 2**	**4.31**	**199**	P	**Pn**	**16 09 28.4**	**+0.9**
	5.8nm,0.3s,baz=56,slow=7.3,SNR=6.5						
JHJ				S	**Sn**	**16 10 17.4**	**+0.3**
	27nm,0.4s,baz=72,slow=19,SNR=6.1 28nm,0.5s						
ASAJ	**Asahikawa**	**6.96**	**7**	P	**Pn**	**16 10 04.0**	**+0.1**
	0.4nm,0.3s,baz=205,slow=10,SNR=5.2						
ASAJ				S	**Sn**	**16 11 22.9**	**+0.6**
	2.2nm,0.6s,baz=104,slow=33,SNR=1.5 0.9nm,0.3s						
USRK	**Ussuriysk Ar.**	**10.04**	**317**	P	Pn	16 10 52.0	+5.9
	1.4nm,0.8s,baz=135,slow=13,SNR=4.6						
JCJ	**Chichijima**	**10.10**	**176**	P	**Pn**	**16 10 48.3**	**+1.2**
	1.2nm,0.3s,baz=315,slow=20,SNR=1.4 4nm,0.9s						
KSRS	**Korea Array**	**10.81**	**275**	P	Pn	16 11 01.0	+4.3
	0.1nm,0.3s,baz=85,slow=13,SNR=1.6 0.3nm,0.4s						
TIA	**Tai'an**	**19.55**	**274**	SS	**Sn**	**16 16 33.3**	**+3.7**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
TIA				pmax	pmax		
	comp=Z,180nm,5.8s						
TIA				LR	LR		
	comp=N,260nm,17.2s						
TIA				LR	LR		
	comp=E,420nm,18.6s						
TIA				LR	LR		
	comp=Z,580nm,19.5s						
SONM	**Songino Array**	**27.74**	**304**	P	**P**	**16 14 11.4**	**+1.1**
	comp=Z,0.8nm,0.7s,baz=99,slow=8.8,SNR=4.3 comp=Z,0.8nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**28.18**	**121**	T	T	16 43 43.2	
	baz=314,slow=75,SNR=219						
H11N1	**WAKE ISLAND Hy**	**28.19**	**121**	T	T	16 43 43.8	
	baz=314,slow=75,SNR=204						
H11N3	**WAKE ISLAND Hy**	**28.20**	**121**	T	T	16 43 43.3	
	baz=314,slow=75,SNR=184						
H11S1	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	16 44 34.3	
	baz=316,slow=76,SNR=66						
H11S3	**WAKE ISLAND Hy**	**28.90**	**123**	T	T	16 44 35.4	
	baz=316,slow=76,SNR=67						
H11S2	**WAKE ISLAND Hy**	**28.92**	**123**	T	T	16 44 36.4	
	baz=316,slow=76,SNR=43						
ZALV	**Zalesovo Beam**	**41.84**	**312**	P	**P**	**16 16 12.1**	**+0.7**
	comp=Z,1.5nm,0.8s,baz=94,slow=4.5,SNR=6.2 comp=Z,1.5nm,0.8s						
MKAR	**Makanchi Array**	**44.08**	**302**	P	**P**	**16 16 30.4**	**+0.8**
	comp=Z,0.7nm,0.7s,baz=95,slow=7.8,SNR=6.9 comp=Z,0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**45.94**	**308**	P	**P**	**16 16 44.7**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=85,slow=8.5,SNR=6.5 comp=Z,1.3nm,0.9s						
ILAR	**Eielson Array**	**49.32**	**32**	P	**P**	**16 17 10.3**	**0.0**
	comp=Z,0.4nm,0.9s,baz=282,slow=6.5,SNR=3.0 comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**50.50**	**312**	P	**P**	**16 17 19.5**	**0.0**
	comp=Z,0.7nm,0.8s,baz=100,slow=7.6,SNR=2.8 comp=Z,0.7nm,0.8s						
WRA	**Warramunga Arr**	**57.24**	**188**	P	**P**	**16 18 08.9**	**0.0**
	comp=Z,0.3nm,0.7s,baz=7.8,slow=7.7,SNR=5.1 comp=Z,0.3nm,0.7s						
AKTO	**Aktyubinsk**	**58.61**	**312**	P	**P**	**16 18 17.4**	**-0.9**
	comp=Z,1.2nm,0.7s,baz=91,slow=10.0,SNR=3.8 comp=Z,1.2nm,0.7s						
ASAR	**Alice Springs**	**60.97**	**188**	P	**P**	**16 18 34.8**	**0.0**
	comp=Z,0.2nm,0.8s,baz=3.1,slow=6.8,SNR=1.2 comp=Z,0.2nm,0.8s						
KEV	**Kevo**	**63.30**	**339**	*e*P	**P**	**16 18 48.6**	**-1.2**
YKA	**Yellowknife Ar**	**63.63**	**30**	P	**P**	**16 18 52.2**	**0.0**
	comp=Z,0.1nm,0.3s,baz=254,slow=6.9,SNR=4.0 comp=Z,0.1nm,0.3s						
ARA0	**ARCESS Array S**	**63.86**	**339**	*e*P	P	16 18 57.5	+3.9
NOA	**NORSAR Array B**	**74.05**	**337**	P	**P**	**16 19 56.9**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=60,slow=6.3,SNR=1.6 comp=Z,0.1nm,0.4s						
LPAZ	**La Paz**	**146.55**	**59**	PKPbc	**PKPdf**	**16 28 01.2**	**-1.4**
	comp=Z,0.8nm,0.4s,baz=357,slow=4.2,SNR=4.0						
H03N2	**Juan Fernandez**	**146.98**	**96**	T	T	19 12 16.3	
	baz=292,slow=76,SNR=11						
H03N3	**Juan Fernandez**	**146.99**	**96**	T	T	19 12 19.2	
	baz=292,slow=76,SNR=12						
H03N1	**Juan Fernandez**	**147.00**	**96**	T	T	19 12 17.1	
	baz=292,slow=76,SNR=12						

IDC 15 16:16:01.4±341.0, 54°.38N×41°.79E, h0km, Error ellipse: s-maj=138.1km s-min=73.4km az=135.0, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I43RU	**DUBNA INFRASON**	**3.50**	**314**	I	I	16 36 50.0	
	0.1nm,0.7s,baz=130,slow=322,SNR=16						
I31KZ	**AKTYUBINSK INF**	**10.69**	**105**	I	I	17 19 40.0	
	baz=297,slow=312,SNR=3.0						
I37NO	**I37NO**	**18.18**	**333**	I	I	18 07 40.0	
	baz=132,slow=327,SNR=2.2						
I26DE	**FREYUNG INFRAS**	**18.22**	**264**	I	I	18 05 50.0	
	baz=60,slow=328,SNR=1.2						

*NEIC **15** 16:41:22.0±2.7, 8°.23S±0°.08×107°.76E±0°.06, h35km±2km, mb4.2/6, Error ellipse: s-maj=16.3km s-min=6.9km az=214.0*
*DJA **15** 16:41:29.4±0.3, 9°.5±3°×10°.8E±°, h52km±10km, M4.3/13, mb4.8/3, mB5.4/1, MLv4.1/13, Mw(mB)4.8/1*
*IDC **15** 16:41:31.9±2.6, 8°.25S×108°.38E, h132km±11km, mb3.4/7, mbtmp3.8/7, Error ellipse: s-maj=115.5km s-min=14.3km az=51.0*

ISC 15 16:41:29.3±0.9, 8°.34S±0°.09×108°.51E±0°.04, h103km±8km, n38, σ1s65/41, mb4.0/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.55**	**354**	P	**Pn**	**16 41 44.9**	**-1.0**
CMJI				S	**Sn**	**16 41 56.6**	**-1.6**
KPJI	**Karang Pucung**	**1.08**	**23**	P	**Pn**	**16 41 50.9**	**0.0**
KPJI				S	**Sn**	**16 42 07.4**	**+0.3**
CNJI	**Cibinong**	**1.70**	**307**	P	**Pn**	**16 41 58.1**	**-0.2**
CNJI				S	**Sn**	**16 42 18.6**	**-1.7**
LEM	**Lembang**	**1.74**	**329**	P	**Pn**	**16 42 00.7**	**+1.8**
	72nm,0.5s,baz=101,slow=9.1,SNR=21						
LEM				S	**Sn**	**16 42 24.2**	**+2.9**
	153nm,0.5s,baz=90,slow=20,SNR=24						
LEM	**Lembang**	**1.74**	**329**	P	**Pn**	**16 42 00.7**	**+1.8**
LEM				S	**Sn**	**16 42 24.5**	**+3.1**
YOGI	**Yogyakarta**	**1.84**	**74**	P	**Pn**	**16 42 01.6**	**+1.5**
YOGI				S	**Sn**	**16 42 22.8**	**-0.7**
UGM	**Wanagama**	**2.04**	**78**		**Pn**	**16 42 02.3**	**-0.3**
UGM	**Wanagama**	**2.04**	**78**	P	**Pn**	**16 42 02.6**	**0.0**
UGM				S	**Sn**	**16 42 25.8**	**-2.2**
SMRI	**Semarang**	**2.30**	**56**	Pn	**Pn**	**16 42 06.5**	**+0.5**
SMRI	**Semarang**	**2.30**	**56**	P	**Pn**	**16 42 07.1**	**+1.1**
SMRI				S	**Sn**	**16 42 36.2**	**+2.1**
SKJI	**Sukabumi**	**2.34**	**304**	P	**Pn**	**16 42 07.6**	**+1.1**
SKJI				S	**Sn**	**16 42 34.9**	**-0.1**
PWJI	**Pagerwojo**	**3.28**	**85**	P	**Pn**	**16 42 21.1**	**+2.2**
PWJI				S	**Sn**	**16 42 55.8**	**-1.4**
KASI	**Kota Agung**	**4.86**	**305**	P	**Pn**	**16 42 41.0**	**+0.7**
JAGI	**Jajag, Banyuwa**	**5.59**	**92**	Pn	**Pn**	**16 42 51.8**	**+1.7**
JAGI	**Jajag, Banyuwa**	**5.59**	**92**	P	**Pn**	**16 42 52.1**	**+2.0**
	40nm,1.2s,0.2nm						
MNAI	**Manna**	**6.78**	**305**	P	**Pn**	**16 43 06.4**	**0.0**
	161nm,1.1s,0.8nm						
GSI	**Gunungsitoli**	**14.51**	**311**		Pn	16 44 43.6	-6.1
GIRL	**Giralia**	**15.26**	**159**	Pn	**Pn**	**16 44 59.1**	**-0.1**
PSA00	**Pilbara Seismi**	**17.11**	**142**		**P**	**16 45 24.6**	**+2.4**
PSA00				IAmb	IAmb	16 45 45.2	
	comp=Z,47nm,1.4s						
WRA	**Warramunga Arr**	**27.53**	**118**	P	**P**	**16 47 07.5**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=289,slow=12,SNR=4.5 comp=Z,0.3nm,0.7s						
ASAR	**Alice Springs**	**28.70**	**125**	P	**P**	**16 47 17.5**	**+0.5**
	comp=Z,0.4nm,0.8s,baz=303,slow=8.6,SNR=5.1 comp=Z,0.4nm,0.8s						
H08S2	**Diego Garcia H**	**35.66**	**268**	T	T	17 25 47.5	
	baz=95,slow=74						
H08S3	**Diego Garcia H**	**35.67**	**269**	T	T	17 25 50.2	
	baz=95,slow=74						
H08S1	**Diego Carcia H**	**35.68**	**268**	T	T	17 26 04.2	
	baz=95						
STKA	**Stephens Creek**	**38.64**	**132**	P	**P**	**16 48 44.8**	**+1.9**
STKA	**Stephens Creek**	**38.64**	**132**	P	**P**	**16 48 44.7**	**+1.8**
	comp=Z,1.8nm,0.4s,baz=309,slow=8.0,SNR=6.3 comp=Z,1.8nm,0.4s						
MK31	**Makanchi Array**	**59.65**	**339**	P	**P**	**16 51 21.0**	**-1.7**
MK31				IAmb	IAmb	16 51 52.7	
	comp=Z,1.9nm,1.4s						
MKAR	**Makanchi Array**	**59.65**	**339**	P	**P**	**16 51 20.5**	**-2.1**
MKAR	**Makanchi Array**	**59.65**	**339**	P	**P**	**16 51 21.2**	**-1.4**
	comp=Z,0.6nm,0.5s,baz=148,slow=7.6,SNR=8.2 comp=Z,0.6nm,0.5s						
MAKZ	**Makanchi**	**59.77**	**339**	P	**P**	**16 51 21.1**	**-2.4**
MAKZ				IAmb	IAmb	16 51 59.8	
	comp=Z,4.7nm,1.5s						
H04N2	**CROZET ISLANDS**	**61.24**	**222**	T	T	17 58 51.0	
	baz=70,slow=75,SNR=22						
H04N1	**CROZET ISLANDS**	**61.26**	**222**	T	T	17 58 48.5	
	baz=70,slow=75,SNR=22						
H04N3	**CROZET ISLANDS**	**61.26**	**221**	T	T	17 58 48.7	
	baz=70,slow=75,SNR=26						
KURBB	**Kurchatov Arra**	**64.22**	**339**	P	**P**	**16 51 51.6**	**-1.5**
	comp=Z,0.3nm,0.4s,baz=152,slow=6.3,SNR=2.6 comp=Z,0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**65.20**	**345**	P	**P**	**16 51 57.5**	**-1.9**
	comp=Z,0.5nm,0.3s,baz=157,slow=7.2,SNR=2.5 comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**69.17**	**336**	P	**P**	**16 52 23.5**	**-1.1**
	comp=Z,1.5nm,0.6s,baz=122,slow=7.8,SNR=9.4 comp=Z,1.5nm,0.6s						
ABKAR	**Akbulak array**	**71.32**	**329**	P	**P**	**16 52 36.3**	**-1.4**
TIXI	**Tiksi**	**80.95**	**6**	P	**P**	**16 53 30.3**	**-1.6**
TIXI				IAmb	IAmb	16 54 06.8	
	comp=Z,2.6nm,1.1s						

*IDC **15** 17:42:28.6±2.2, 31°.71S×69°.10W, h98km±20km, mb3.7/8, mbtmp4.0/13, Error ellipse: s-maj=23.3km s-min=14.0km az=88.0*
*NEIC **15** 17:42:30.6±2.7, 31°.79S±0°.05×69°.16W±0°.08, h118km±6km, mb4.2/13, Error ellipse: s-maj=10.0km s-min=6.9km az=92.0*
*SJA **15** 17:42:30.3±1.0, 31°.79S×69°.16W, h116km±3km, ML4.0, MW4.0*
*GUC **15** 17:42:31.0±0.8, 31°.73S×69°.74W, h176km±8km, ML4.1*

ISC 15 17:42:29.8±0.6, 31°.75S±0°.03×69°.17W±0°.03, h117km±5km, n129, σ1s75/169, mb4.0/12, 9C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTLS	**Leoncito**	**0.12**	**245**	*e*P	**Pn**	**17 42 47.5**	**+1.1**
RTLS				*e*S	**Sn**	**17 43 00.1**	**+1.3**
RTLS				IAML		17 43 00.4	
	comp=Z,6μm,0.3s						
ZON	**Zonda**	**0.47**	**64**	Pn	**Pn**	**17 42 48.4**	**+1.1**
ZON				Sn	**Sn**	**17 43 01.6**	**+1.1**
ZON	**Zonda**	**0.47**	**64**	*e*P	**Pn**	**17 42 48.5**	**+1.1**
ZON				*e*S	**Sn**	**17 43 01.2**	**+0.7**
RTCV	**Cerro Valdivia**	**0.55**	**102**	*e*P	**Pn**	**17 42 48.9**	**+1.1**
RTCV				*e*S	**Sn**	**17 43 01.8**	**+0.4**
SJA	**San Juan**	**0.57**	**67**	*e*S	**Sn**	**17 43 02.4**	**+0.7**
SJA				IAML		17 43 06.6	
	comp=Z,1μm,0.3s						
RTLL	**Cerro Villicun**	**0.73**	**55**	*i* P	**Pn**	**17 42 50.5**	**+1.3**
RTLL				*i* S	**Sn**	**17 43 05.4**	**+1.6**
RTLL				IAML		17 43 05.8	
	comp=Z,9μm,0.4s						
DOCA	**Reserva Natura**	**0.80**	**6**	*e*P	**Pn**	**17 42 51.6**	**+1.4**
DOCA				*e*P		17 42 51.6	
DOCA				*e*S	**Sn**	**17 43 06.9**	**+1.4**
DOCA				*e*S		17 43 07.2	
ASAL	**Salagasta**	**0.89**	**161**	*e*P	**Pn**	**17 42 51.8**	**+1.1**
ASAL				*e*S	**Sn**	**17 43 06.8**	**+0.4**
ARCO	**CERRO ARCO**	**1.11**	**169**	*e*P	**Pn**	**17 42 54.0**	**+1.1**
ARCO				*e*S	**Sn**	**17 43 11.0**	**+0.6**
ACCO	**Cerro Coronel**	**1.16**	**5**	*e*P	**Pn**	**17 42 55.7**	**+2.0**
AAGR	**Agrelo**	**1.36**	**168**	*e*P	**Pn**	**17 42 56.7**	**+1.0**
AAGR				*e*S	**Sn**	**17 43 15.2**	**-0.1**
AAGR				IAML		17 43 25.3	
	comp=Z,1μm,0.8s						
VA03	**San Esteban**	**1.54**	**229**		**Pn**	**17 42 58.8**	**+1.1**
VA03				Sn	**Sn**	**17 43 20.2**	**+1.3**
VA03	**San Esteban**	**1.54**	**229**	*e*P	**Pn**	**17 42 59.2**	**+1.4**
VA03				*e*S	**Sn**	**17 43 21.4**	**+2.5**
VA03				IAML		17 43 23.3	
	comp=Z,1μm,0.2s						
VA03	**San Esteban**	**1.54**	**229**	⇑*i*P	**Pn**	**17 42 59.1**	**+1.4**
VA03				*e*S	**Sn**	**17 43 20.7**	**+1.8**
VA03				IAML		17 43 22.4	
	comp=E,4μm,0.1s						
ACDV	**Cuesta del Vie**	**1.57**	**2**	*e*P	**Pn**	**17 43 00.4**	**+2.2**
ACDV				*e*S	**Sn**	**17 43 22.7**	**+3.0**
ACDV				IAML		17 43 23.1	
	comp=Z,2μm,0.5s						
CO03	**El Pedregal**	**1.58**	**305**		**Pn**	**17 42 59.8**	**+1.6**
CO03				Sn	**Sn**	**17 43 20.8**	**+1.1**
CO03	**El Pedregal**	**1.58**	**305**	*e*P	**Pn**	**17 43 00.2**	**+2.0**
CO03				*e*S	**Sn**	**17 43 22.2**	**+2.5**
CO03				IAML		17 43 28.4	
	comp=Z,2μm,0.6s						
AROD	**Rodeo**	**1.60**	**351**	*i* P	**Pn**	**17 43 01.1**	**+2.5**
AROD				*e*S	**Sn**	**17 43 23.0**	**+2.6**
CO02	**Combarbal**	**1.65**	**289**		**Pn**	**17 42 59.9**	**+0.9**
CO02				Sn	**Sn**	**17 43 22.6**	**+1.4**
CO02	**Combarbal**	**1.65**	**289**	*e*P	**Pn**	**17 43 00.4**	**+1.4**
CO02				*i* S	**Sn**	**17 43 23.5**	**+2.3**
CO02				IAML		17 43 24.7	
	comp=Z,2μm,0.4s						
AVIZ	**Vizcacheras**	**1.81**	**162**	*e*P	**Pn**	**17 43 01.4**	**+0.6**
AVFE	**Valle Fert

ROCH				⇑*i*P		Pn	17 43 03.6	+0.6
ROCH				*e*S		Sn	17 43 28.4	0.0
ROCH				*e*S		Sn	17 43 28.4	0.0
ROCH				IAML			17 43 30.3	
	comp=N,3µm,0.6s							
ROC1	**El Roble**	**1.98**	**231**	*e*P		Pn	17 43 03.6	+0.4
ROC1				*e*S		Sn	17 43 28.2	-0.4
MT14	**Cerro Cal¡n**	**2.01**	**215**	⇑*i*P		Pn	17 43 04.7	+1.4
MT14				*e*S		Sn	17 43 30.6	+1.7
MT14				IAML			17 43 32.4	
	comp=E,2µm,0.4s							
MT16	**CCHEN**	**2.03**	**214**			Pn	17 43 04.5	+1.0
MT16				Sn		Sn	17 43 30.3	+1.0
GO04	**Tololo Observa**	**2.10**	**318**			Pn	17 43 05.8	+1.1
GO04	**Tololo Observa**	**2.10**	**318**	*e*P		Pn	17 43 06.1	+1.4
GO04				*e*S		Sn	17 43 33.2	+1.9
MT05	**Renca**	**2.10**	**218**			Pn	17 43 05.8	+1.3
MT05	**Renca**	**2.10**	**218**	*e*P		Pn	17 43 06.2	+1.7
MT05				*i* S		Sn	17 43 32.4	+1.3
MT15	**Las Vizcachas**	**2.16**	**211**	*e*P		Pn	17 43 06.6	+1.4
MT15				*e*S		Sn	17 43 34.4	+2.0
MT15				IAML			17 43 38.4	
	comp=E,2µm,0.2s							
MT13	**San Alfonso**	**2.20**	**205**			Pn	17 43 06.8	+1.0
MT13	**San Alfonso**	**2.20**	**205**	*e*P		Pn	17 43 08.2	+2.4
MT13				*e*S		Sn	17 43 36.6	+3.3
MT13				IAML			17 43 41.2	
	comp=N,532nm,0.4s							
ACHE	**Chepes**	**2.22**	**75**	*e*P		Pn	17 43 07.2	+1.1
MT02	**Curacav**	**2.24**	**227**			Pn	17 43 06.1	-0.1
LMEL	**Las Melosas**	**2.27**	**202**			Pn	17 43 07.8	+1.1
AGUA	**GUANDACOL**	**2.33**	**15**	*e*P		Pn	17 43 09.8	+2.3
AGUA				*e*S		Sn	17 43 39.8	+3.5
AGUA				IAML			17 43 45.0	
	comp=Z,645nm,0.4s							
CO06	**Fray Jorge**	**2.37**	**296**	Pn		Pn	17 43 07.7	-0.1
VA01	**Torpederas**	**2.45**	**238**			Pn	17 43 08.1	-0.8
VA01	**Torpederas**	**2.45**	**238**	*e*P		Pn	17 43 08.6	-0.2
VA01				*i* S		Sn	17 43 36.5	-2.2
MT09	**Talagante**	**2.54**	**217**			Pn	17 43 10.1	0.0
MT09	**Talagante**	**2.54**	**217**	⇑*i*P		Pn	17 43 10.2	+0.1
MT09				*e*S		Sn	17 43 40.8	-0.3
MT09				IAML			17 43 41.7	
	comp=E,2µm,0.5s							
BO04	**La Punta**	**2.54**	**208**			Pn	17 43 10.7	+0.6
CO05	**La Serena**	**2.55**	**315**			Pn	17 43 10.7	+0.5
MT01	**Popeta**	**2.74**	**219**			Pn	17 43 11.9	-0.8
MT01	**Popeta**	**2.74**	**219**	*i* P		Pn	17 43 12.0	-0.6
MT01				*i* S		Sn	17 43 43.8	-1.8
MT01	**Popeta**	**2.74**	**219**	⇑*i*P		Pn	17 43 12.1	-0.6
MT01				*e*S		Sn	17 43 44.1	-1.5
MT01				IAML			17 43 48.2	
	comp=E,488nm,0.3s							
VA05	**Santo Domingo**	**2.80**	**227**			Pn	17 43 12.8	-0.6
MRA	**San Martin**	**3.01**	**104**	*i* P		Pn	17 43 17.1	+0.8
LCO	**Las Campanas**	**3.03**	**334**			Pn	17 43 17.6	+0.9
LCO	**Las Campanas**	**3.03**	**334**	⇑*i*P		Pn	17 43 17.6	+0.9
LCO				*e*S		Sn	17 43 54.5	+1.6
AC05	**El Transito**	**3.06**	**342**			Pn	17 43 19.1	+2.2
AC05	**El Transito**	**3.06**	**342**	*e*P		Pn	17 43 19.2	+2.3
AC05				*e*S		Sn	17 43 49.5	-3.7
RFA	**San Rafael**	**3.07**	**169**	*i* P		Pn	17 43 17.0	-0.1
BO01	**Tunca**	**3.09**	**211**			Pn	17 43 16.6	-0.5
BO01	**Tunca**	**3.09**	**211**	*e*P		Pn	17 43 16.6	-0.5
BO02	**Sierra Bellavi**	**3.32**	**204**			Pn	17 43 20.4	+0.1
AC04	**Llanos de Chal**	**3.90**	**334**	Pn		Pn	17 43 28.3	+0.3
AC04	**Llanos de Chal**	**3.90**	**334**	*e*P		Pn	17 43 28.6	+0.7
AC04				*e*S		Sn	17 44 02.3	-11
GO05	**Huala**	**3.99**	**215**	Pn		Pn	17 43 27.0	-2.1
GO05	**Huala**	**3.99**	**215**	*e*P		Pn	17 43 27.1	-2.0
CYA	**Choya**	**4.40**	**42**	*e*P		Pn	17 43 34.7	-0.1
CYA				*e*P			17 43 34.9	
ML02	**Panimavida**	**4.42**	**204**			Pn	17 43 33.5	-1.4
AC06	**Mina Casimiro**	**4.50**	**346**			Pn	17 43 36.4	+0.4
AC01	**Pan de Azucar**	**5.72**	**347**	Pn		Pn	17 43 51.9	-0.6
BI05	**Punta Hualpn**	**5.99**	**213**	Pn		Pn	17 43 52.4	-3.6
GO02	**Mina Guanaco**	**6.57**	**357**	Pn		Pn	17 44 02.8	-1.5
PB14	**IPOC Station P**	**7.18**	**351**			Pn	17 44 10.4	-2.1
GO06	**Curarrehue**	**8.04**	**193**	Pn		Pn	17 44 21.6	-2.3
PB10	**IPOC Station P**	**8.29**	**351**	Pn		Pn	17 44 25.1	-2.2
H03N1	**Juan Fernandez**	**8.39**	**256**	T		T	17 51 32.6	
	baz=86,slow=73,SNR=96							
H03N3	**Juan Fernandez**	**8.40**	**256**	T		T	17 51 29.4	
	baz=86,slow=73,SNR=121							
H03N2	**Juan Fernandez**	**8.41**	**256**	T		T	17 51 28.7	
	baz=86,slow=73,SNR=100							
PB15	**IPOC Station P**	**8.51**	**358**			Pn	17 44 29.0	-1.4
TRQA	**Tornquist**	**8.63**	**139**	Pn		Pn	17 44 31.4	-0.3
LR04	**Corral**	**8.82**	**202**	Pn		Pn	17 44 29.5	-4.7
PB06	**IPOC Station P**	**9.02**	**358**	Pn		Pn	17 44 35.1	-2.1
PLCA	**Paso Flores**	**9.03**	**187**	Pn		Pn	17 44 34.6	-2.6
PLCA	**Paso Flores**	**9.03**	**187**	P		Pn	17 44 36.8	-0.5
	comp=E,1.4nm,0.4s,baz=5.0,slow=12,SNR=13							
LVC	**Limon Verde**	**9.11**	**2**	Pn		Pn	17 44 35.6	-3.0
LVC	**Limon Verde**	**9.11**	**2**	P		Pn	17 44 36.9	-1.8
	comp=E,4.8nm,0.4s,baz=209,slow=7.7,SNR=5.6							
LVC				S		Sn	17 46 16.4	-3.1
	comp=E,3.4nm,0.4s,baz=204,slow=20,SNR=1.7							
PB04	**IPOC Station P**	**9.42**	**354**	Pn		Pn	17 44 38.8	-3.9
LL04	**Puerto Octay**	**9.51**	**195**	Pn		Pn	17 44 38.5	-5.1
PB09	**IPOC Station P**	**9.91**	**360**	Pn		Pn	17 44 45.5	-3.8
PB07	**IPOC Station P**	**10.00**	**356**			Pn	17 44 48.5	-2.1
PB02	**IPOC Station P**	**10.41**	**356**	Pn		Pn	17 44 52.2	-3.8
PB01	**IPOC Station P**	**10.67**	**358**	Pn		Pn	17 44 55.5	-3.9
ITQB	**Itaqui**	**11.00**	**82**	Pn		Pn	17 45 02.4	-1.4
HMBC	**Humberstone**	**11.44**	**357**	Pn		Pn	17 45 07.2	-2.7
CPUP	**Villa Florida**	**11.68**	**65**	Pn		Pn	17 45 11.1	-1.7
CPUP	**Villa Florida**	**11.68**	**65**	P		Pn	17 45 11.3	-1.5
	comp=E,3.0nm,0.8s,baz=240,slow=12,SNR=4.4							
CPUP				S		Sn	17 47 17.0	-4.4
	comp=E,2.8nm,0.8s,baz=216,slow=19,SNR=1.5							
GO01	**Chusmiza**	**12.03**	**360**	Pn		Pn	17 45 14.6	-3.3
PLTB	**Pedras Altas**	**13.25**	**94**	Pn		Pn	17 45 30.5	-2.9
LPAZ	**La Paz**	**15.42**	**4**	P		Pn	17 46 01.8	+0.1
LPAZ	**La Paz**	**15.42**	**4**	P		Pn	17 46 01.4	-0.2
	comp=E,5.8nm,0.9s,baz=170,slow=7.8,SNR=17							
ITAB	**Concordia**	**15.50**	**77**	P		Pn	17 46 02.4	+0.3
ITAB				IAmb		IAmb	17 46 14.6	
	comp=Z,19nm,1.1s							
GO08	**Villa O'Higgin**	**16.89**	**188**	Pn		Pn	17 46 16.9	-2.0
GO08				IAmb		IAmb	17 46 22.7	
	comp=Z,6.4nm,0.7s							
SIV	**San Ignacio**	**17.34**	**27**	P		P	17 46 24.8	+0.5
	comp=Z,0.6nm,0.2s,baz=211,slow=12,SNR=5.4							
MG04	**Isla Riesco**	**21.17**	**184**	P		P	17 47 02.6	-2.8
EFI	**East Falkland**	**21.52**	**161**	P		P	17 47 07.0	-2.2
ETMB	**Extrema**	**22.00**	**8**	P		P	17 47 15.0	+0.5
MG03	**Isla Dawson**	**22.11**	**182**	P		P	17 47 15.3	-0.1
MG03				IAmb		IAmb	17 47 25.9	
	comp=Z,26nm,1.1s							
SAML	**Samuel**	**23.36**	**15**	P		P	17 47 28.8	+0.8
SAML				IAmb		IAmb	17 47 30.8	
	comp=Z,7.0nm,1.1s							
RUSC	**La Rusia**	**37.62**	**354**	P		P	17 49 36.1	+2.2
BELA	**Belgrano 2**	**48.69**	**171**	P		P	17 50 59.3	-2.3
BELA				IAmb		IAmb	17 51 03.7	
	comp=Z,2.8nm,0.8s							
SNAA	**Sanae**	**52.78**	**159**	P		P	17 51 33.7	+1.2
SNAA	**Sanae**	**52.78**	**159**	P		P	17 51 33.5	+1.0
	comp=Z,2.3nm,0.9s,baz=258,slow=4.3,SNR=2.2							
	comp=Z,2.3nm,0.9s							
QSPA	**South Pole Qui**	**58.48**	**180**	P		P	17 52 14.8	+1.5
	comp=Z,3.7nm,0.9s,baz=158,slow=2.1,SNR=10							
	comp=Z,3.7nm,0.9s							
VNDA	**Vanda**	**66.76**	**191**	P		P	17 53 09.4	+1.4
	comp=Z,1.3nm,0.8s,baz=203,slow=2.8,SNR=2.9							
	comp=Z,1.3nm,0.8s							
SAND	**Sanderson**	**68.88**	**330**	P		P	17 53 22.4	+0.6
SAND				IAmb		IAmb	17 53 24.6	
	comp=Z,3.0nm,0.6s							
TX31	**Lajitas Ar. Si**	**69.03**	**328**	P		P	17 53 24.4	+1.5
TXAR	**Lajitas Array**	**69.03**	**328**	P		P	17 53 24.4	+1.5
	comp=Z,0.7nm,0.6s,baz=151,slow=7.3,SNR=12							
	comp=Z,0.7nm,0.6s							
BOSA	**Boshof**	**78.95**	**117**	P		P	17 54 21.9	+1.0
	comp=Z,2.9nm,0.9s,baz=194,slow=15,SNR=4.1							
	comp=Z,2.9nm,0.9s							
TORD	**Torodi Ar. Bea**	**81.16**	**69**	P		P	17 54 33.8	+1.0
	comp=Z,1.5nm,0.9s,baz=251,slow=7.5,SNR=8.2							
	comp=Z,1.5nm,0.9s							
PDAR	**Pinedale Array**	**82.90**	**331**	P		P	17 54 42.5	+1.1
	comp=Z,0.3nm,0.7s,baz=122,slow=4.2,SNR=4.2							
	comp=Z,0.3nm,0.7s							
NVAR	**Mina Array Bea**	**83.47**	**323**	P		P	17 54 45.5	+1.0
	comp=Z,0.6nm,0.9s,baz=136,slow=5.7,SNR=3.9							
	comp=Z,0.6nm,0.9s							
ASAR	**Alice Springs**	**120.64**	**205**	PKP		**PKPdf**	18 01 08.3	-0.1
	comp=Z,0.2nm,0.6s,baz=138,slow=1.4,SNR=6.3							
WRA	**Warramunga Arr**	**123.88**	**207**	PKP		**PKPdf**	18 01 14.6	0.0
	comp=Z,0.3nm,0.3s,baz=154,slow=1.9,SNR=10							
KURBB	**Kurchatov Arra**	**149.58**	**42**	PKPbc		**PKPbc**	18 02 05.9	+0.9
	comp=Z,1.3nm,0.7s,baz=294,slow=3.3,SNR=12							
ZALV	**Zalesovo Beam**	**151.04**	**32**	PKPbc		**PKPbc**	18 02 09.3	+0.9
	comp=Z,2.1nm,0.5s,baz=294,slow=3.0,SNR=14							
MKAR	**Makanchi Array**	**153.47**	**47**	PKPbc		**PKiKP**	18 02 15.2	+0.9
	comp=Z,0.2nm,0.6s,baz=289,slow=3.7,SNR=4.5							

IDC ***15*** *17:47:59.0±0.9, 33.˚78N×89.˚46E, h0km, mb3.7/12, mbtmp3.7/17, ML3.2/5, MS3.4/2, Error ellipse: s-maj=30.8km s-min=17.4km az=50.0*

ISC 15 17:48:03.9±0.8, 33.˚9N±0.˚1×89.˚5E±0.˚1, h33km, n18, σ1§03/17, mb3.6/11, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MKAR	**Makanchi Array**	**14.00**	**339**	Pn		**Pn**	**17 51 17.6**	**-2.2**
	baz=149,slow=17,SNR=4.3							
	0.4nm,0.6s							
AAK	**Ala-Archa**	**14.67**	**311**	Pn		**Pn**	**17 51 28.2**	**-0.9**
	0.1nm,0.3s,baz=118,slow=15,SNR=1.0							
	0.7nm,0.5s							
CMAR	**Chiang Mai Arr**	**17.53**	**149**	P		**Pn**	**17 52 04.8**	**-1.0**
	0.1nm,0.3s,baz=88,slow=16,SNR=1.8							
	0.8nm,0.5s							
KURBB	**Kurchatov Arra**	**18.55**	**338**	P		**P**	**17 52 18.0**	**+0.4**
	0.1nm,0.3s,baz=150,slow=12,SNR=12							
	1.8nm,0.2s							
SONM	**Songino Array**	**18.81**	**37**	P		**Pn**	**17 52 22.3**	**+0.9**
	0.1nm,0.3s,baz=226,slow=12,SNR=7.4							
	0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**20.31**	**352**	P		**P**	**17 52 36.0**	**-0.8**
	2.1nm,0.8s,baz=163,slow=11,SNR=10							
	2.1nm,0.8s							
BVAR	**Borovoye Array**	**23.50**	**330**	P		**P**	**17 53 11.2**	**+0.6**
	1.3nm,0.7s,baz=142,slow=11,SNR=7.2							
	1.8nm,0.7s							
GEYT	**Alibeck**	**25.70**	**288**	P		**P**	**17 53 30.2**	**-0.8**
	0.5nm,0.4s,baz=105,slow=3.9,SNR=4.5							
GEYT				LR		LR	18 05 25.5	
	comp=Z,94nm,20.0s,baz=17,slow=41							
	0.5nm,0.4s							
KSRS	**Korea Array**	**31.23**	**72**	LR		LR	18 09 01.2	
	comp=Z,65nm,18.6s,baz=75,slow=40							
BRTR	**Keskin Array B**	**44.52**	**294**	P		**P**	**17 56 11.7**	**-0.8**
	0.8nm,0.9s,baz=86,slow=11,SNR=4.8							
	0.8nm,0.9s							
AKASG	**Malin Array Be**	**46.34**	**310**	P		**P**	**17 56 26.3**	**-0.2**
	0.2nm,0.2s,baz=80,slow=6.9,SNR=5.7							
	0.2nm,0.2s							
HFS	**Hagfors**	**54.37**	**323**	P		**P**	**17 57 28.4**	**+1.3**
	0.5nm,0.4s,baz=93,slow=6.1,SNR=2.4							
	0.5nm,0.4s							
NOA	**NORSAR Array B**	**55.46**	**325**	P		**P**	**17 57 36.0**	**+1.0**
	0.6nm,0.6s,baz=83,slow=6.9,SNR=4.0							
	0.6nm,0.6s							
GERES	**GERESS Array B**	**56.55**	**310**	P		**P**	**17 57 44.2**	**+1.2**
	1.6nm,0.8s,baz=82,slow=7.0,SNR=5.8							
	1.6nm,0.8s							
EKA	**Eskdalemuir Ar**	**64.32**	**321**	P		**P**	**17 58 36.6**	**+0.7**
	1.0nm,0.7s,baz=66,slow=7.1,SNR=2.8							
	1.0nm,0.7s							
WRA	**Warramunga Arr**	**68.47**	**135**	P		**P**	**17 59 02.9**	**0.0**
	0.2nm,0.4s,baz=330,slow=6.6,SNR=2.2							
	0.2nm,0.4s							
ASAR	**Alice Springs**	**71.12**	**137**	P		**P**	**17 59 18.9**	**-0.3**
	0.5nm,1.1s,baz=317,slow=5.1,SNR=1.4							
	0.5nm,1.1s							
TORD	**Torodi Ar. Bea**	**81.03**	**280**	P		**P**	**18 00 16.2**	**+0.4**
	0.6nm,0.9s,baz=35,slow=5.3,SNR=2.8							
	0.6nm,0.9s							

SFS ***15*** *18:04:20.2, 42.˚32N×8.˚59W, h2km, ML3.2/9, ML3.5/5, MLv3.0/9*

MDD ***15*** *18:04:21.3±0.3, 42.˚42N×8.˚49W, h11km, mb_Lg3.1/47, Error ellipse: s-maj=2.8km s-min=1.5km az=118.0*

LDG ***15*** *18:04:22.2±0.3, 42.˚46N×8.˚44W, h15km, Ml3.1/5, Error ellipse: s-maj=7.5km s-min=3.3km az=85.0*

INMG ***15*** *18:04:22.0±1.9, 42.˚43N×8.˚54W, h18km±4km, ML2.6, Error ellipse: s-maj=4.6km s-min=2.5km az=85.0*

ISC 15 18:04:20.0±0.8, 42.˚43N±0.˚02×8.˚44W±0.˚03, h10km, n65, σ2§34/109, 1D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
EZAM	**Zamans**	**0.34**	**214**	Pg		**Pg**	**18 04 28.1**	**+1.4**
EZAM				*e*Sg		**Sg**	**18 04 32.7**	**+1.5**
EZAM				*i* Vmb_Lg			18 04 33.1	
EAGO	**Agolada(Pontev**	**0.45**	**35**	Pg		**Pb**	**18 04 32.0**	**+1.9**
EAGO				Sg		**Sg**	**18 04 37.4**	**+2.5**
EAGO				*i* Vmb_Lg			18 04 40.0	
PGAV	**Gavieira, Arco**	**0.48**	**165**	⇓*i*Pg		**Pb**	**18 04 31.4**	**+0.8**
PGAV				*e*Sg		**Sg**	**18 04 38.1**	**+2.4**
PGAV				A		A	18 04 38.6	
	432nm,0.2s							
ELOB	**Lobios**	**0.63**	**153**	Pg		**Pg**	**18 04 34.0**	**+1.9**
ELOB				Sg		**Sg**	**18 04 42.3**	**+1.9**
ELOB				*i* Vmb_Lg			18 04 43.9	
EMAZ	**Mazaricos**	**0.65**	**323**	Pg		**Pg**	**18 04 33.5**	**+0.9**
EMAZ				Sg		**Sg**	**18 04 41.4**	**+0.2**
EMAZ				*i* Vmb_Lg			18 04 43.1	
POLO	**Lamas de Olo**	**1.16**	**155**	*e*Pn		**Pb**	**18 04 41.4**	**-0.8**
POLO				*e*S		**Sb**	**18 04 58.0**	**+0.7**
POLO				A		A	18 04 58.3	
	44nm,0.2s							
PVRL	**Vila Real**	**1.27**	**155**	*e*Sg		**Sb**	**18 05 01.5**	**+1.0**
PVRL				A		A	18 05 09.9	
	58nm,0.3s							
PTO	**Porto**	**1.30**	**185**	*e*Sg		**Sb**	**18 05 01.1**	**0.0**
EPON	**Pontenova**	**1.31**	**46**	Pn		**Pn**	**18 04 43.5**	**-0.8**
EPON				Sg		**Sb**	**18 05 03.6**	**+2.1**
EPON				*i* Vmb_Lg			18 05 05.8	
ECAL	**Calabor**	**1.36**	**111**	Pn		**Pn**	**18 04 44.8**	**-0.3**
ECAL				Sg		**Sg**	**18 05 06.4**	**+2.7**
ECAL	**Calabor**	**1.36**	**111**	Pn		**Pn**	**18 04 44.6**	**-0.4**
ECAL				Sg		**Sb**	**18 05 03.6**	**+0.7**
PBRG	**Braganca**	**1.41**	**116**	*e*P		**Pn**	**18 04 45.5**	**-0.2**
PBRG				*e*S		**Sb**	**18 05 06.8**	**+2.4**
PBRG				A		A	18 05 09.7	
	53nm,0.3s							
MVO	**Moncorvo**	**1.65**	**140**	*e*Pn		**Pn**	**18 04 48.5**	**-0.5**
MVO	**Moncorvo**	**1.65**	**140**	*e*Pg		**Pg**	**18 04 54.8**	**+3.2**
MVO				*e*Sg		**Sg**	**18 05 14.2**	**+1.3**
MVO				A		A	18 05 22.9	
	50nm,0.5s							
PVIS	**Viseu**	**1.76**	**166**	*e*Pg		**Pb**	**18 04 54.1**	**+1.7**
PVIS				*e*Sg		**Sg**	**18 05 17.0**	**+0.4**
PVIS				A		A	18 05 21.4	
	49nm,0.5s							
MTE	**Manteigas**	**2.14**	**161**	*e*Pg		**Pb**	**18 05 00.1**	**+1.3**
MTE				*e*Sg		**Sb**	**18 05 27.6**	**+2.2**
MTE				A		A	18 05 32.3	
	60nm,0.5s							
COI	**Coimbra**	**2.22**	**179**	*e*Sg		**Sb**	**18 05 30.2**	**+2.5**
EJUZ	**Juzbado, Salam**	**2.33**	**124**	Pn		**Pn**	**18 04 59.0**	**+0.5**
EJUZ				Sn		**Sn**	**18 05 26.5**	**-0.7**
EJUZ				Sg		**Sg**	**18 05 35.5**	**+0.6**
PCAS	**Casmilo, Conde**	**2.38**	**181**	*e*Pg		**Pb**	**18 05 04.3**	**+1.5**
PCAS				*e*Sg		**Sb**	**18 05 32.6**	**+0.4**
PCAS				A		A	18 05 44.6	
	21nm,0.5s							
EARI	**Arriondas**	**2.53**	**69**	Pn		**Pn**	**18 05 01.4**	**+0.2**
EARI				Sn		**Sn**	**18 05 29.3**	**-2.7**
EARI				Sg		**Sg**	**18 05 42.3**	**+1.1**
EARI				*i* Vmb_Lg			18 05 49.4	
PCBR	**Castelo Branco**	**2.69**	**164**	*e*Sg		**Sb**	**18 05 44.8**	**+3.7**
PCBR				A		A	18 05 47.6	
	16nm,0.4s							
EPLA	**Plasencia**	**2.96**	**142**	Pn		**Pn**	**18 05 06.6**	**-0.4**
EPLA				Sn		**Sn**	**18 05 40.1**	**-2.5**
EPLA				Sg		**Sg**	**18 05 55.0**	**+0.1**
EPLA				*i* Vmb_Lg			18 05 59.8	
PMRV	**Marv??o**	**3.10**	**165**	*e*Pn		**Pn**	**18 05 09.5**	**+0.5**
PMRV				*e*Sg		**Sg**	**18 05 57.9**	**-1.7**
PMRV				A		A	18 06 06.3	
	16nm,0.5s							
PMTG	**Montargil**	**3.36**	**177**	*e*Pn		**Pn**	**18 05 11.7**	**-0.8**
PMTG				*e*Sg		**Sb**	**18 06 04.6**	**+4.0**
PMTG				A		A	18 06 11.9	
	7.7nm,0.5s							
PESTR	**Estremoz**	**3.62**	**169**	*e*Sg		**Sg**	**18 06 13.4**	**-2.7**
PESTR				A		A	18 06 18.3	
	12nm,0.5s							
PESTR	**Estremoz**	**3.62**	**169**	Sg		**Sb**	**18 06 13.2**	**+5.2**
GUD	**Guadarrama**	**3.68**	**118**	Pn		**Pn**	**18 05 18.0**	**+0.9**
GUD				Sn		**Sn**	**18 05 59.3**	**-1.2**
GUD				Sg		**Sg**	**18 06 17.0**	**-1.1**
GUD				*i* Vmb_Lg			18 06 24.5	
ELAN	**Lanestosa**	**3.77**	**76**	Pn		**Pn**	**18 05 18.8**	**+0.7**
ELAN				Sn		**Sn**	**18 06 00.6**	**-2.0**
ELAN				Sg		**Sg**	**18 06 20.0**	**-0.9**
ELAN				*i* Vmb_Lg			18 06 28.7	
EBAD	**Badajoz**	**3.83**	**163**	Pn		**Pn**	**18 05 18.3**	**-0.7**
EBAD				Sg		**Sb**	**18 06 19.5**	**+5.6**
EBAD	**Badajoz**	**3.83**	**163**	Pn		**Pn**	**18 05 18.4**	**-0.6**
EBAD				Sn		**Sn**	**18 06 00.9**	**-3.1**
EBAD				Sg		**Sg**	**18 06 20.3**	**-2.5**
EBAD				*i* Vmb_Lg			18 06 24.8	
EVO	**Evora**	**3.91**	**175**	*e*Sg		**Sg**	**18 06 23.0**	**-2.4**
EVO				A		A	18 06 26.1	
	10.0nm,0.4s							
EVO	**Evora**	**3.91**	**175**	Sg		**Sb**	**18 06 21.3**	**+5.0**
PAB	**San Pablo**	**4.23**	**132**	Pn		**Pn**	**18 05 25.0**	**+0.4**
PAB				Sn		**Sn**	**18 06 11.3**	**-2.7**
PAB				Sg		**Sg**	**18 06 33.4**	**-2.3**
PAB				*i* Vmb_Lg			18 06 44.9	
PNCL	**Nicolau / Gran**	**4.31**	**181**	*e*Pn		**Pn**	**18 05 25.3**	**-0.3**
PNCL	**Nicolau / Gran**	**4.31**	**181**	Pn		**Pn**	**18 05 24.8**	**-0.8**
ESDC	**Sonseca Array**	**4.36**	**128**	Pn		**Pn**	**18 05 26.0**	**-0.3**
ESDC				Sn		**Sn**	**18 06 14.8**	**-2.4**
ESDC				Sg		**Sg**	**18 06 37.7**	**-2.3**
PBAR	**Barrancos**	**4.38**	**165**	*e*Pn		**Pn**	**18 05 25.9**	**-0.7**
PBAR				*e*Sg		**Sg**	**18 06 40.1**	**-0.6**
PBAR				A		A	18 06 49.6	
	7.9nm,0.4s							
PBAR	**Barrancos**	**4.38**	**165**	Pn		**Pn**	**18 05 25.6**	**-0.9**
PBAR				Sg		**Sg**	**18 06 39.0**	**-1.6**
PBEJ	**Beja**	**4.42**	**174**	*e*Sg		**Sg**	**18 06 38.5**	**-3.4**
UCM	**Universidad Co**	**4.45**	**117**	Sg		**Sg**	**18 06 43.9**	**+1.2**
MESJ	**Messejana**	**4.59**	**178**	*e*Pn		**Pn**	**18 05 28.2**	**-1.2**
ECAB	**El Cabril**	**4.92**	**151**	Sg		**Sg**	**18 06 56.4**	**-1.7**
ECAB	**El Cabril**	**4.92**	**151**	Pn		**Pn**	**18 05 35.0**	**+0.9**
ECAB				Sn		**Sn**	**18 06 28.9**	**-2.2**
ECAB				Sg		**Sg**	**18 06 54.7**	**-3.4**
ECAB				*i* Vmb_Lg			18 07 05.1	
ETOR	**Torete**	**5.05**	**106**	Pn		**Pn**	**18 05 36.1**	**+0.3**
ETOR				Sn		**Sn**	**18 06 31.6**	**-2.6**
ETOR				Sg		**Sg**	**18 06 58.0**	**-4.0**
PVAQ	**Vaqueiros**	**5.05**	**173**	*e*Pn		**Pn**	**18 05 34.9**	**-0.8**
PVAQ				*e*Sg		**Sg**	**18 07 00.2**	**-1.9**
PVAQ				A		A	18 07 18.7	
	4.8nm,0.6s							
PVAQ	**Vaqueiros**	**5.05**	**173**	Pn		**Pn**	**18 05 34.6**	**-1.1**
PSIM	**Granatula de C**	**5.07**	**134**	Pn		**Pn**	**18 05 35.2**	**-0.8**
PSIM				Sn		**Sn**	**18 06 31.7**	**-3.0**
PSIM				Sg		**Sg**	**18 06

GORR Gorreto 0.52 109 P **Pn** 18 05 42.0 +0.2
GORR S **Sn** 18 05 51.5 +0.5
GORR AML AML
comp=N,292µm,0.7s
GORR AML AML
comp=E,349µm,0.8s
GORR Gorreto 0.52 109 P **Pn** 18 05 42.0 +0.2
GORR Gorreto 0.52 109 Pg **Pn** 18 05 41.8 +0.1
MONC Moncucco Torin 0.56 302 P **Pn** 18 05 44.0 +1.8
MONC AML AML
comp=N,375µm,1.4s
MONC AML AML
comp=N,375µm,0.6s
MONC AML AML
comp=E,530µm,0.6s
MONC Moncucco Torin 0.56 302 P **Pn** 18 05 44.1 +1.9
MONC S **Sn** 18 05 55.0 +3.3
EUCT Pavia 0.57 42 AML AML
comp=E,1585µm,0.1s
EUCT AML AML
comp=N,2640µm,0.1s
CANO Canova, Maglio 0.62 205 P **Pn** 18 05 42.9 0.0
CANO S **Sn** 18 05 52.7 -0.2
CANO AML AML
comp=E,861µm,0.3s
CANO AML AML
comp=N,1335µm,0.2s
CANO Canova, Maglio 0.62 205 P **Pn** 18 05 42.9 0.0
CANO S **Sn** 18 05 52.5 -0.4
CANO Canova, Maglio 0.62 205 Pg **Pn** 18 05 42.9 0.0
CANO Canova, Maglio 0.62 205 Sg **Sn** 18 05 52.3 -0.6
GBOS Grotte di Boss 0.76 226 P **Pn** 18 05 44.9 +0.4
GBOS S **Sn** 18 05 55.8 0.0
GBOS AML AML
comp=N,86µm,0.2s
GBOS AML AML
comp=E,103µm,0.4s
GBOS Grotte di Boss 0.76 226 Pg **Pn** 18 05 45.1 +0.6
RORO Rocca Rossa 0.77 210 P **Pn** 18 05 44.5 0.0
RORO S **Sn** 18 05 55.2 -0.5
RORO Rocca Rossa 0.77 210 Pg **Pn** 18 05 44.5 0.0
RORO Rocca Rossa 0.77 210 Sg **Sn** 18 05 55.4 -0.3
MSSA Maissana 0.80 125 P **Pn** 18 05 45.2 +0.2
MSSA AML AML
comp=E,106µm,1.5s
MSSA AML AML
comp=N,135µm,1.4s
MSSA AML AML
comp=E,106µm,0.5s
MSSA AML AML
comp=N,135µm,0.6s
MGRO Montegrosso 0.93 218 Pg **Pn** 18 05 47.0 +0.4
TRAV Traversella 0.95 321 P **Pn** 18 05 46.5 -0.4
TRAV AML AML
comp=E,208µm,0.4s
TRAV AML AML
comp=N,216µm,0.2s
TRAV Traversella 0.95 321 Sn **Sn** 18 05 58.3 -1.7
TRAV Traversella 0.95 321 Pg **Pn** 18 05 46.4 -0.4
BHB Bricherasio 0.95 274 P **Pn** 18 05 46.3 -0.5
BHB S **Sn** 18 05 58.7 -1.2
BHB AML AML
comp=E,79µm,0.1s
BHB AML AML
comp=N,80µm,0.3s
BHB AML AML
comp=N,80µm,1.7s
BHB AML AML
comp=E,79µm,1.9s
BHB Bricherasio 0.95 274 Pg **Pn** 18 05 46.3 -0.5
BHB Bricherasio 0.95 274 Sg **Sn** 18 05 58.4 -1.5
IMI Imperia 1.00 211 P **Pn** 18 05 47.6 +0.2
IMI AML AML
comp=E,83µm,1.3s
IMI AML AML
comp=N,78µm,0.3s
ENR Entracque 1.01 237 P **Pn** 18 05 47.9 +0.4
ENR S **Sn** 18 06 01.5 +0.4
ENR AML AML
comp=E,244µm,0.1s
ENR AML AML
comp=N,220µm,0.4s
ENR Entracque 1.01 237 Pg **Pn** 18 05 48.0 +0.5
ENR Entracque 1.01 237 Sg **Sn** 18 06 01.6 +0.4
RSP Reno Superiore 1.02 292 P **Pn** 18 05 46.8 -0.9
RSP AML AML
comp=E,82µm,0.2s
RSP AML AML
comp=N,74µm,0.1s
RSP Reno Superiore 1.02 292 Pg **Pn** 18 05 46.8 -0.9
STV Sant Anna di V 1.05 240 P **Pn** 18 05 48.2 +0.1
STV AML AML
comp=N,54µm,1.3s
STV AML AML
comp=E,70µm,0.5s
STV AML AML
comp=N,54µm,0.7s
STV Sant Anna di V 1.05 240 Pg **Pn** 18 05 48.1 -0.1
STV Sant Anna di V 1.05 240 Sg **Sn** 18 06 01.5 -0.7
GRAM Graiana 1.08 105 P **Pn** 18 05 50.3 +1.8
GRAM AML AML
comp=E,496µm,0.3s
GRAM AML AML
comp=N,618µm,0.3s
PZZ Stroppo 1.09 256 P **Pn** 18 05 48.2 -0.5
PZZ AML AML
comp=N,87µm,0.7s
PZZ AML AML
comp=N,87µm,1.3s
PZZ AML AML
comp=E,102µm,0.2s
PZZ Stroppo 1.09 256 Pg **Pn** 18 05 48.2 -0.5
VARE Varese 1.10 6 P **Pn** 18 05 49.0 +0.2
VARE S **Sn** 18 06 03.0 -0.3
VARE AML AML
comp=N,105µm,0.2s
VARE AML AML
comp=E,113µm,0.8s
CIRO Champorcher 1.10 319 P **Pn** 18 05 48.3 -0.7
CIRO S **Sn** 18 06 01.3 -2.4
CIRO AML AML
comp=N,281µm,0.1s
CIRO AML AML
comp=E,188µm,0.2s
CIRO AML AML
comp=E,188µm,1.8s
CIRO Champorcher 1.10 319 Pg **Pn** 18 05 48.3 -0.7
CIRO Champorcher 1.10 319 Sg **Sn** 18 06 01.2 -2.4
PLMA Palmaria, Port 1.15 129 P **Pn** 18 05 49.2 -0.1
TURF col de Turini 1.18 228 Pn **Pn** 18 05 50.8 +0.9
TURF Sg **Sn** 18 06 06.1 +0.8
MUGIO Muggio 1.19 15 P **Pn** 18 05 50.2 +0.3
MUGIO AML AML
comp=E,79µm,0.5s
MUGIO AML AML
comp=N,75µm,0.9s
MUGIO AML AML
comp=E,79µm,0.5s
MUGIO AML AML
comp=N,75µm,0.9s
MUGIO AML AML
comp=E,79µm,1.5s
SPIF crte de Spivo 1.21 234 Pg **Pn** 18 05 51.0 +0.7
SBF Sospel 1.24 223 *e*Pg **Pn** 18 05 51.9 +1.4
SNR=1.0
SBF *e*Sn **Sn** 18 06 06.3 -0.2
SNR=1.0
BURY Giardini Botan 1.24 217 P **Pn** 18 05 51.0 +0.5
BURY Giardini Botan 1.24 217 Pn **Pn** 18 05 50.7 +0.2
ISO Isola 1.26 242 Pn **Pn** 18 05 50.9 +0.1
ISO S **Sn** 18 06 05.7 -1.2
EQUI Equi 1.27 118 P **Pn** 18 05 51.3 +0.5
EQUI AML AML
comp=E,45µm,0.4s
EQUI AML AML
comp=N,59µm,1.6s
EQUI AML AML
comp=N,59µm,0.4s
EQUI AML AML
comp=E,45µm,1.6s
ESCA l'Escarene 1.29 223 Pn **Pn** 18 05 52.2 +1.0
ESCA Sg **Sn** 18 06 09.4 +1.7
MBDF Montbardon 1.30 268 *e*Pn **Pn** 18 05 50.9 -0.6
SNR=1.0
MBDF Montbardon 1.30 268 *e*Pg **Pn** 18 05 52.4 +0.9
SNR=1.0
MBDF *e*Sn **Sn** 18 06 07.9 -0.3
comp=E,12nm,0.2s,SNR=1.0
SURF Saint Ours 1.31 258 Pn **Pn** 18 05 51.6 0.0
SURF Sg **Sn** 18 06 08.3 -0.1
MMK Mattmark 1.35 341 P **Pn** 18 05 52.0 -0.2
MMK AML AML
comp=E,52µm,0.2s
MMK AML AML
comp=N,66µm,0.7s
MMK AML AML
comp=E,52µm,0.2s
MVIF Mont Vial 1.36 230 Pn **Pn** 18 05 53.6 +1.4
JAUF Jausiers 1.36 256 Pn **Pn** 18 05 52.5 +0.2
JAUF Sg **Sn** 18 06 09.2 -0.5
SARO Sassorosso 1.42 114 P **Pn** 18 05 53.7 +0.8
SARO AML AML
comp=N,182µm,1.2s
SARO AML AML
comp=E,116µm,0.5s
SARO AML AML
comp=N,182µm,0.8s
VLC Villacollemand 1.42 115 P **Pn** 18 05 53.5 +0.6
CREF Crivoux 1.43 262 Pn **Pn** 18 05 53.6 +0.5
ZONE Zone 1.46 47 P **Pn** 18 05 53.8 +0.3
ZONE AML AML
comp=E,84µm,0.3s
ZONE AML AML
comp=N,75µm,1.1s
ENAUX Enaux 1.47 244 P **Pn** 18 05 55.6 +2.0
MRGE Morge 1.47 313 P **Pn** 18 05 54.2 +0.5
MRGE AML AML
comp=E,45µm,0.6s
MRGE AML AML
comp=N,71µm,0.1s
MRGE AML AML
comp=E,45µm,1.4s
LPG La Plagne 1.49 300 *e*Pn **Pn** 18 05 54.5 +0.4
SNR=1.0
LPG La Plagne 1.49 300 *e*Pg **Pn** 18 05 57.9 +3.8
LPG *e*Sn **Sn** 18 06 13.3 +0.4
comp=E,10nm,0.2s,SNR=1.0
LPL La Plagne 1.51 300 *e*Pn **Pn** 18 05 54.5 +0.2
LPL La Plagne 1.51 300 *e*Pg **Pn** 18 05 57.9 +3.6
LPL *e*Sn **Sn** 18 06 13.0 -0.3
comp=E,27nm,0.4s,SNR=1.0
EMBD Embd, Matterta 1.54 340 Pn **Pn** 18 05 54.8 +0.2
DIX Grande Dixence 1.55 328 P **Pn** 18 05 55.3 +0.4
DIX AML AML
comp=N,182µm,0.9s
DIX AML AML
comp=E,176µm,0.3s
DIX AML AML
comp=N,182µm,1.1s
DIX Grande Dixence 1.55 328 Pn **Pn** 18 05 55.0 +0.1
CALF Calern 1.58 230 Pn **Pn** 18 05 56.7 +1.5
CALF S **Sn** 18 06 16.0 +1.2
MAIM Mastiano 1.61 122 P **Pn** 18 05 55.4 0.0
MAIM AML AML
comp=E,47µm,0.8s
MAIM AML AML
comp=N,60µm,0.3s
MAIM AML AML
comp=E,47µm,1.2s
MAIM AML AML
comp=N,60µm,1.7s
SALSA La sagne 1.64 238 Pn **Pn** 18 05 57.7 +1.8
FUSIO Fusio 1.68 2 P **Pn** 18 05 56.4 -0.1
FUSIO AML AML
comp=N,26µm,0.2s
FUSIO AML AML
comp=E,29µm,1.6s
FUSIO AML AML
comp=N,26µm,0.2s
FUSIO AML AML
comp=E,29µm,0.4s
POPM Popiglio 1.71 115 P **Pn** 18 05 58.0 +1.2
POPM AML AML
comp=E,78µm,1.4s
POPM AML AML
comp=N,65µm,0.1s
POPM AML AML
comp=N,65µm,1.9s
PII Pisa 1.74 127 P **Pn** 18 05 56.7 -0.5
PII AML AML
comp=N,60µm,1.4s
PII AML AML
comp=E,79µm,0.8s
PII AML AML
comp=N,60µm,0.6s
PII AML AML
comp=E,79µm,1.2s
MAGA Magasa 1.75 54 P **Pn** 18 05 57.1 -0.3
MAGA AML AML
comp=E,274µm,0.6s
MAGA AML AML
comp=N,268µm,0.3s
OGDI Digne 1.78 249 Pg **Pn** 18 06 01.1 +3.4
OGDI S **Sn** 18 06 23.6 +4.2
TUE Stuetta 1.78 17 P **Pn** 18 05 59.1 +1.3
TUE AML AML
comp=E,37µm,0.4s
TUE AML AML
comp=N,37µm,0.6s
MBAL Monte Baldo - 1.84 59 AML AML
comp=E,163µm,0.3s
MBAL AML AML
comp=N,201µm,0.9s
MABI Malga Bissina 1.86 46 P **Pn** 18 05 59.2 +0.3
MABI AML AML
comp=E,29µm,0.4s
MABI AML AML
comp=N,42µm,0.1s
MABI AML AML
comp=N,42µm,1.9s
RONC Roncone 1.87 49 P **Pn** 18 05 59.3 +0.2
RONC AML AML
comp=E,158µm,1.6s
RONC AML AML
comp=N,180µm,0.6s
RONC AML AML
comp=E,158µm,0.4s
RONC AML AML
comp=N,180µm,1.4s
VARA Varagna 1.93 56 P **Pn** 18 05 59.5 -0.4
VARA AML AML
comp=E,228µm,0.2s
VARA AML AML
comp=N,142µm,0.5s
VARA AML AML
comp=N,142µm,1.5s
ORIF Oris-en-Rattie 1.94 275 *e*Pn **Pn** 18 06 01.9 +2.0
ORIF Oris-en-Rattie 1.94 275 *e*Pg Pn 18 06 05.6 +5.7
SNR=1.0
ORIF *e*Sn **Sn** 18 06 24.2 +0.9
comp=N,16nm,0.4s,SNR=1.0
ORIF Oris-en-Rattie 1.94 275 Pg **Pn** 18 06 02.4 +2.5
ORIF Oris-en-Rattie 1.94 275 Sg **Sn** 18 06 26.0 +2.6
AIGLE Aigle 1.95 324 Pg **Pn** 18 06 02.7 +2.7
ROVR Rover Verones 1.95 63 P **Pn** 18 05 59.9 -0.3
ROVR AML AML
comp=E,72µm,1.1s
ROVR AML AML
comp=N,123µm,0.9s
CRMI Carmignano 1.97 119 P **Pn** 18 06 00.8 +0.5
BLAF les Blancs 2.01 247 Pn **Pn** 18 06 02.4 +1.6
BLAF Sn **Sn** 18 06 26.6 +1.7
LUSI Trento, Gardas 2.03 54 P **Pn** 18 06 00.9 -0.2
LUSI AML AML
comp=E,99µm,0.1s
LUSI AML AML
comp=N,214µm,0.2s
LUSI AML AML
comp=E,99µm,1.9s
LMR La Mourre 2.08 227 *e*Pn **Pn** 18 06 01.4 -0.4
SNR=1.0
LMR *e*Sn **Sn** 18 06 24.9 -1.8
comp=E,9.6nm,0.4s,SNR=1.0
BNALP Bannalp 2.10 357 P **Pn** 18 06 03.2 +1.1
GAGG Gaggia 2.11 51 P **Pn** 18 06 02.5 +0.1
GAGG AML AML
comp=E,38µm,1.5s
GAGG AML AML
comp=N,34µm,1.6s
GAGG AML AML
comp=E,38µm,0.5s
DAVOX Davos/Dischmat 2.20 24 P **Pn** 18 06 05.3 +1.8
DAVOX AML AML
comp=N,17µm,0.7s
DAVOX AML AML
comp=N,17µm,1.3s
DAVOX AML AML
comp=E,12µm,0.4s
CARE Lago del Cares 2.21 41 P **Pn** 18 06 04.5 +0.7
PGF Pioggiola 2.25 172 *e*Pn **Pn** 18 06 03.6 -0.5
SNR=1.0
PGF *e*Sn **Sn** 18 06 27.7 -3.1
comp=E,312nm,2.3s
PANI Panarotta 2.31 56 P **Pn** 18 06 05.0 -0.1
SMRF Simiane la Rot 2.31 251 *e*Pn **Pn** 18 06 05.2 +0.3
SNR=1.0
SMRF *e*Sn **Sn** 18 06 32.9 +0.6
comp=E,9.3nm,0.2s,SNR=1.0
PLONS Plons/SG 2.34 13 AML AML
comp=N,26µm,0.9s
PLONS AML AML
comp=E,20µm,1.1s
PLONS AML AML
comp=E,20µm,0.9s
OZOL Ozolo 2.37 46 P **Pn** 18 06 06.8 +1.0
CTI Castel Tesino 2.50 58 AML AML
comp=E,90µm,0.9s
CTI AML AML
comp=N,98µm,0.8s
CGRP Cima Grappa 2.51 63 AML AML
comp=E,63µm,1.2s
CGRP AML AML
comp=N,51µm,0.7s
CABF La Chapelle 2.54 317 *e*Pn **Pn** 18 06 10.4 +2.3
SNR=1.0
CABF *e*Sn **Sn** 18 06 38.5 +0.5
comp=N,3.2nm,0.2s,SNR=1.0
CASP Castiglione de 2.58 140 AML AML
comp=E,54µm,1.2s
CASP AML AML
comp=N,70µm,0.8s
CASP AML AML
comp=N,70µm,1.2s
DAVA Damuels 2.67 19 *e*Pg **Pn** 18 06 11.7 +1.8
comp=N,3.7nm,0.3s
DAVA Sg **Sn** 18 06 44.1 +3.0
comp=N,6.9nm,0.3s
FETA Feichten 2.69 33 *e*Pn **Pn** 18 06 12.4 +2.1
comp=N,1.0nm,0.1s
VIVF Saint-Julien-I 2.79 273 *e*Pn **Pn** 18 06 13.0 +1.5
SNR=1.0
VIVF *e*Sn **Sn** 18 06 43.1 -1.0
comp=N,2.0nm,0.2s,SNR=1.0
BRES Bressanone 2.92 48 AML AML
comp=E,31µm,0.4s
BRES AML AML
comp=E,31µm,1.6s
BRES AML AML
comp=N,35µm,1.5s
SQTA Sankt Quirin 3.05 36 *i* Pn **Pn** 18 06 17.2 +2.1
comp=N,2.3nm,0.1s
MOTA Moosalm 3.10 33 *i* Pn **Pn** 18 06 18.0 +2.1
comp=N,0.7nm,0.1s
STAL STALIGIAL 3.25 61 AML AML
comp=E,33µm,1.4s
STAL AML AML
comp=N,34µm,1.2s
WTTA Wattenberg 3.27 39 *e*Pn **Pn** 18 06 20.1 +2.0
comp=N,2.2nm,0.2s
HINF Hinteralfeld 3.27 339 *e*Pn **Pn** 18 06 17.8 -0.2
SNR=1.0
HINF *e*Sn **Sn** 18 06 54.6 -1.2
comp=N,6.1nm,0.2s,SNR=1.0
WATA Walderalm 3.29 38 *i* Pn **Pn** 18 06 20.4 +2.0
comp=N,1.9nm,0.1s
ABTA Abfaltersbach 3.38 53 *i* Pn **Pn** 18 06 21.1 +1.6
comp=N,2.0nm,0.3s
LASF Ste Croix 3.47 260 *e*Pn **Pn** 18 06 21.0 +0.3
SNR=1.0
LASF *e*Sn **Sn** 18 06 58.0 -2.5
comp=N,52nm,1.2s
HAU Haudompre 3.59 335 *e*Pn **Pn** 18 06 23.3 +1.0
SNR=1.0
HAU *e*Sn **Sn** 18 07 01.8 -1.6
comp=N,14nm,0.3s,SNR=1.0
CDF Champ du Feu 3.75 346 *e*Pn **Pn** 18 06 24.7 +0.1
SNR=1.0
CDF *e*Sn **Sn** 18 07 05.7 -1.8
comp=N,2.6nm,0.3s,SNR=1.0
SMF Signal de Mont 3.82 301 *e*Pn **Pn** 18 06 27.0 +1.5
SNR=1.0
SMF *e*Sn **Sn** 18 07 08.2 -0.9
comp=N,1.4nm,0.1s,SNR=1.0
LESA Schwarzleotal 3.88 46 *i* Pn **Pn** 18 06 27.9 +1.5
comp=N,0.6nm,0.2s
LOR Lormes 4.14 309 *e*Pn **Pn** 18 06 29.6 -0.2
baz=120,SNR=1.0
LOR *e*Sn **Sn** 18 07 14.5 -2.4
comp=N,8.4nm,0.3s,SNR=1.0
AVF Avril sur Loir 4.19 301 *e*Pn **Pn** 18 06 30.3 -0.1
SNR=1.0
AVF *e*Sn **Sn** 18 07 16.4 -1.7
comp=N,1.5nm,0.2s,SNR=1.0
SFTF Sexfontaines 4.22 326 *e*P **Pn** 18 06 32.4 +1.5
SSF Saint Saulge 4.22 305 *e*Pn **Pn** 18 06 31.3 +0.3
SNR=1.0
SSF *e*Sn **Sn** 18 07 17.4 -1.6
comp=N,2.3nm,0.3s,SNR=1.0
PAGF Fort de Pagny 4.27 333 *e*Pn **Pn** 18 06 32.7 +1.1
PAGF *e*Sn **Sn** 18 07 17.8 -2.2
comp=N,6.9nm,0.5s
BGF Bois d'Agland 4.41 296 *e*P **Pn** 18 06 35.0 +1.5
BGF Bois d'Agland 4.41 296 *e*Pn **Pn** 18 06 35.5 +2.0
SNR=1.0
BGF *e*Sn **Sn** 18 07 20.9 -2.6
comp=N,11nm,0.6s
MEZF Maizieres J'vi 4.46 328 *e*P **Pn** 18 06 35.2 +1.1
MEZF *e*Sn **Sn** 18 07 23.3 -1.3
comp=N,2.7nm,0.3s
TCF Toulx Ste Croi 4.74 291 *e*Pn **Pn** 18 06 36.7 -1.3
TCF *e*Sn **Sn** 18 07 28.4 -3.2
comp=N,5.2nm,0.7s
GIVF Givet 5.91 336 *e*P **Pn** 18 06 56.1 +2.1
GIVF *e*Sn **Sn** 18 07 56.3 -4.0
comp=N,2.5nm,0.3s
BAIF Baives 6.07 332 *e*P **Pn** 18 06 57.1 +1.0
BAIF *e*Sn **Sn** 18 08 00.2 -3.9
comp=N,1.3nm,0.3s
LDF La Druitiere 7.11 306 *e*Pn **Pn** 18 07 12.2 +1.8
SNR=1.0

NEIC ***15*** *18:12:11.3±0.9, 19°.43N±0°.02×154°.92W±0°.01, h5km±1km, Error ellipse: s-maj=3.5km s-min=2.8km az=9.0*
HVO 15 18:12:11.3±1.1, 19°.46N±0°.02×154°.93W±0°.02, h2km±5km, ML2.2/3, ML2.6/23(NEIC), Error ellipse: s-maj=3.0km s-min=1.9km az=50.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAH	**Pahoa**	**0.04**	**332**		Pg	18 12 12.8	+0.7
PHO	**Puu Honuaula**	**0.04**	**62**		Pg	18 12 12.9	+0.8
PHO	**Puu Honuaula**	**0.04**	**62**		Pg	18 12 12.9	+0.7
JOKA	**Jonika Flow**	**0.08**	**248**		Pg	18 12 12.9	+0.1
JCUZ	**Jacuzzi**	**0.18**	**245**	Pg	Pg	18 12 14.9	+0.1
JCUZ				IAML		18 12 16.8	
comp=N,562nm,1.1s							
NPOC	**North of Pu'u**	**0.18**	**248**	Pg	Pg	18 12 14.9	+0.1
NPOC				IAML		18 12 18.1	
comp=N,567nm,0.8s							
STCH	**Steam Cracks**	**0.20**	**248**		Pg	18 12 15.2	0.0
STCH	**Steam Cracks**	**0.20**	**248**	IAML		18 12 20.5	
comp=N,547nm,1.4s							
STCH				IAML		18 12 20.8	
comp=E,925nm,1.3s							
HLP	**Hilina Pali**	**0.39**	**245**		Pg	18 12 19.3	+0.4
HLP	**Hilina Pali**	**0.39**	**245**	IAML		18 12 27.1	
comp=E,1µm,1.5s							
HLP				IAML		18 12 32.4	
comp=N,1µm,0.9s							
MLH	**Mauna Loa**	**0.43**	**274**		Pg	18 12 20.1	+0.4
MLH	**Mauna Loa**	**0.43**	**274**	IAML		18 12 21.7	
comp=E,558nm,0.8s							
MLH				IAML		18 12 31.6	
comp=N,1µm,0.8s							
HTC	**Hot Caves**	**0.50**	**243**		Pg	18 12 20.8	0.0
HMH	**Humu'ula Sheep**	**0.54**	**285**		Pg	18 12 22.4	+0.7
HMH				IAML		18 12 29.5	

comp=N,429nm,1.1s
HMH IAML 18 12 38.5
comp=E,369nm,1.2s
MLOA Mauna Loa Obse 0.61 277 Pg Pg 18 12 22.5 -0.6
MLOA IAML 18 12 25.8
comp=N,575nm,1.1s
MLOA IAML 18 12 35.6
comp=E,373nm,1.0s
MWH Moku'aweowe 0.63 272 Pg 18 12 23.0 -0.4
ALEP Alea Permanent 0.68 277 Pg 18 12 23.6 -0.8
KHU Kahuku 0.68 252 Pg 18 12 23.0 -1.4
KHU IAML 18 12 27.2
comp=N,336nm,1.2s
KHU IAML 18 12 42.8
comp=E,372nm,1.1s
HUH Hualalai 0.88 285 Pg 18 12 26.9 -1.3
HUH IAML 18 12 53.9
comp=N,312nm,1.1s
HUH IAML 18 12 59.3
comp=E,293nm,1.3s

IDC 15 18:15:23.9±21.0, 24°40S×69°25E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=675.0km s-min=39.0km az=53.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**16.94**	**11**	T	T	18 36 18.7	
	baz=190,slow=76,SNR=18						
H08S2	**Diego Garcia H**	**16.94**	**11**	T	T	18 36 21.5	
	baz=190,slow=76,SNR=14						
H08S3	**Diego Garcia H**	**16.96**	**11**	T	T	18 36 20.0	
	baz=190,slow=76,SNR=16						
H04N2	**CROZET ISLANDS**	**25.86**	**209**	T	T	18 48 32.7	
	baz=39,slow=75,SNR=32						
H04N1	**CROZET ISLANDS**	**25.87**	**209**	T	T	18 48 34.0	
	baz=39,slow=75,SNR=33						
H04N3	**CROZET ISLANDS**	**25.88**	**209**	T	T	18 48 34.1	
	baz=39,slow=75,SNR=31						
ASAR	**Alice Springs**	**58.55**	**104**	P	P	18 25 22.7	0.0
	0.3nm,0.6s,baz=253,slow=6.1,SNR=9.5						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**59.96**	**100**	P	P	18 25 32.4	-0.1
	0.3nm,0.6s,baz=255,slow=8.9,SNR=1.9						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**71.83**	**9**	P	P	18 26 48.5	+0.2
	0.6nm,0.9s,baz=205,slow=5.4,SNR=3.9						
	0.6nm,0.9s						
SONM	**Songino Array**	**79.27**	**24**	P	P	18 27 30.9	-0.2
	0.2nm,0.4s,baz=216,slow=7.1,SNR=3.6						
	0.2nm,0.4s						

*IDC **15** 18:15:55.3±2.8, 14°.30N×144°.59E, h148km±18km, mb3.0/5, mbtmp3.4/5, Error ellipse: s-maj=120.4km s-min=19.8km az=113.0*
*NEIC **15** 18:15:57.4±0.6, 14°.1N±0°.2×144°.9E±0°.5, h155km±8km, mb4.3/8, Error ellipse: s-maj=78.7km s-min=8.3km az=114.0*
ISC 15 18:15:56.4±0.8, 14°.1N±0°.1×145°.1E±0°.2, h150km, n18, σ1s05/16, mb3.6/9, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.56**	**205**	P	**Pn**	**18 16 19.5**	**+1.4**
	435nm,0.4s,baz=0.5,slow=2.7,SNR=205						
GUMO				S	**Sn**	**18 16 35.9**	**+1.3**
	481nm,0.3s,baz=30,slow=20,SNR=59						
JOW	**Kunigami**	**20.20**	**311**	P	**P**	**18 20 19.6**	**+0.1**
H11N1	**WAKE ISLAND Hy**	**21.56**	**72**	T	T	18 43 56.5	
	baz=262						
H11N2	**WAKE ISLAND Hy**	**21.57**	**72**	T	T	18 43 49.4	
	baz=262						
H11N3	**WAKE ISLAND Hy**	**21.58**	**72**	T	T	18 43 55.5	
	baz=262						
WB0	**Warramunga Arr**	**35.27**	**198**	P	**P**	**18 22 36.0**	**-1.0**
WB2	**Warramunga Arr**	**35.45**	**198**	P	**P**	**18 22 37.6**	**-0.9**
WB2				IAmb	IAmb	18 22 46.1	
	comp=Z,8.0nm,1.2s						
WRA	**Warramunga Arr**	**35.45**	**198**	P	**P**	**18 22 37.5**	**-1.1**
	comp=Z,0.9nm,0.7s,baz=24,slow=10.0,SNR=12						
	comp=Z,0.9nm,0.7s						
AS31	**Alice Springs**	**39.10**	**196**	P	**P**	**18 23 08.5**	**-0.8**
ASAR	**Alice Springs**	**39.11**	**196**	P	**P**	**18 23 08.4**	**-0.9**
ASAR	**Alice Springs**	**39.11**	**196**	P	**P**	**18 23 09.2**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=22,slow=13,SNR=6.4						
	comp=Z,0.3nm,0.8s						
BBOO	**Buckleboo**	**47.45**	**190**	P	**P**	**18 24 15.3**	**-0.7**
BBOO				IAmb	IAmb	18 24 20.6	
	comp=Z,15nm,1.3s						
N19K	**Bonanza Creek**	**63.52**	**28**	P	**P**	**18 26 11.1**	**+0.5**
N19K				IAmb	IAmb	18 26 26.9	
	comp=Z,6.5nm,1.4s						
CNPM	**China Poot**	**64.67**	**30**	P	**P**	**18 26 18.9**	**+0.8**
B22K	**Teshekpuk Lake**	**67.37**	**19**	P	**P**	**18 26 34.6**	**-0.4**
B22K				IAmb	IAmb	18 26 37.5	
	comp=Z,2.8nm,1.1s						
ILAR	**Eielson Array**	**68.00**	**25**	P	**P**	**18 26 37.2**	**-2.0**
	comp=Z,0.1nm,0.5s,baz=269,slow=6.5,SNR=2.1						
	comp=Z,0.1nm,0.5s						
YKA	**Yellowknife Ar**	**82.30**	**27**	P	**P**	**18 28 00.8**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=294,slow=6.0,SNR=2.5						
	comp=Z,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**86.42**	**51**	P	**P**	**18 28 23.5**	**+1.0**
	comp=Z,0.5nm,0.7s,baz=268,slow=6.3,SNR=5.6						
	comp=Z,0.5nm,0.7s						

*IDC **15** 18:20:35.0±1.9, 5°.74S×152°.72E, h0km, mb3.6/5, mbtmp3.7/6, ML1.7/1, Error ellipse: s-maj=77.1km s-min=22.8km az=123.0*
ISC 15 18:20:41.4±1.9, 5°.7S±0°.3×152°.5E±0°.3, h40km, n7, σ0s93/8, mb3.6/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.44**	**235**	Pn	**Pn**	**18 22 14.4**	**+0.6**
	1.0nm,0.3s,baz=61,slow=16,SNR=4.2						
PMG				Sn	**Sn**	**18 23 25.1**	**-1.0**
	4.3nm,0.3s,baz=342,slow=20,SNR=7.4						
	13nm,0.6s						
WRA	**Warramunga Arr**	**22.62**	**230**	P	**P**	**18 25 39.2**	**+0.1**
	1.3nm,0.6s,baz=52,slow=10.0,SNR=13						
	1.3nm,0.6s						
ASAR	**Alice Springs**	**25.27**	**223**	P	**P**	**18 26 04.2**	**0.0**
	0.9nm,0.5s,baz=58,slow=9.1,SNR=32						
	0.9nm,0.5s						
SONM	**Songino Array**	**66.97**	**328**	P	**P**	**18 31 29.4**	**-0.8**
	0.3nm,0.5s,baz=140,slow=3.2,SNR=2.7						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**80.85**	**319**	P	**P**	**18 32 52.7**	**+1.4**
	0.1nm,0.5s,baz=101,slow=7.5,SNR=1.8						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**83.13**	**22**	P	**P**	**18 33 02.2**	**-0.6**
	1.2nm,0.7s,baz=245,slow=5.3,SNR=14						
	1.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.32**	**286**	PKPbc	**PKPbc**	**18 40 29.4**	**-0.2**
	0.4nm,0.5s,baz=66,slow=2.4,SNR=3.9						

*SOME **15** 18:37:20.2, 39°.07N×76°.13E, h5km*
*NNC **15** 18:37:26.3±2.8, 39°.29N×75°.87E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=20.3km s-min=13.2km az=155.0*
ISC 15 18:37:26.3±2.6, 39°.3N±0°.1×75°.89E±0°.07, h10km, n24, σ1s87/37, 5C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**3.53**	**343**	⇑Pn	**Pn**	**18 38 24.3**	**+2.9**
	0.4nm,0.3s						
AAK				⇑Pg	**Pg**	**18 38 34.1**	**+0.2**
	1.6nm,0.4s						
AAK				⇓Lg	Lg	18 39 15.4	
	14nm,0.7s						
TKM2	**Tokmak 2**	**3.66**	**357**	⇑Pg	**Pg**	**18 38 35.4**	**-1.0**
	0.9nm,0.4s						
TKM2				⇑Lg	Lg	18 39 21.8	
	5.6nm,0.5s						
KST	**Kastek**	**3.78**	**1**	Pg	**Pb**	**18 38 33.8**	**+0.7**
	2.9nm,0.3s						
KST				Lg	Lg	18 39 26.9	
	8.5nm,0.5s						
KST	**Kastek**	**3.78**	**1**	*e*P	**Pb**	**18 38 33.8**	**+0.7**
	2.9nm,0.3s						
KST				*e*S	**Sg**	**18 39 26.9**	**-0.7**
	8.5nm,0.5s						
TNSS	**Tian-Shan**	**3.85**	**12**	Pg	**Pb**	**18 38 35.5**	**+0.9**
	3.4nm,0.5s						
TNSS				Lg	Lg	18 39 30.1	
	5.1nm,0.7s						
TNSS	**Tian-Shan**	**3.85**	**12**	*e*P	**Pb**	**18 38 35.5**	**+0.9**
	3.4nm,0.5s						
TNSS				*e*S	**Sg**	**18 39 30.1**	**0.0**
	5.1nm,0.7s						
DGS	**Degeres**	**3.98**	**359**	Pg	**Pb**	**18 38 36.2**	**-0.3**
	3.1nm,0.3s						
DGS				Lg	Lg	18 39 31.7	
	4.1nm,0.3s						
DGS	**Degeres**	**3.98**	**359**	*e*P	**Pb**	**18 38 38.0**	**+1.5**
	1.3nm,0.3s						
DGS				*e*S	**Sg**	**18 39 33.9**	**0.0**
	4.7nm,0.7s						
MDOK	**Medeo**	**3.99**	**12**	Pg	**Pb**	**18 38 37.8**	**+1.0**
	2.8nm,0.3s						
MDOK				Lg	Lg	18 39 33.8	
	9.1nm,0.7s						
MDOK	**Medeo**	**3.99**	**12**	*e*P	**Pb**	**18 38 37.8**	**+1.0**
	2.8nm,0.3s						
MDOK				*e*S	**Sg**	**18 39 33.8**	**-0.7**
	9.1nm,0.7s						
MRKS	**Merke**	**4.02**	**331**	Pg	**Pb**	**18 38 39.3**	**+2.1**
	4.6nm,0.4s						
MRKS				Lg	Lg	18 39 36.4	
	4.2nm,0.5s						
MRKS	**Merke**	**4.02**	**331**	*e*P	**Pb**	**18 38 39.3**	**+2.1**
	4.6nm,0.4s						
MRKS				*e*S	**Sg**	**18 39 36.4**	**+1.0**
	4.2nm,0.5s						
KOTS	**Kotyrbulak**	**4.07**	**13**	Pg	**Pb**	**18 38 40.1**	**+2.0**
	4.3nm,0.5s						
KOTS				Lg	Lg	18 39 37.8	
	17nm,0.4s						
KOTS	**Kotyrbulak**	**4.07**	**13**	*e*P	**Pb**	**18 38 39.3**	**+1.1**
	1.4nm,0.3s						
KOTS				*e*S	**Sg**	**18 39 36.4**	**-0.6**
	17nm,0.4s						
KTBS	**Karatobe**	**4.48**	**7**	Pg	**Pb**	**18 38 46.0**	**+0.9**
	2.1nm,0.4s						
KTBS				Lg	Lg	18 39 47.8	
	5.3nm,0.3s						
KTBS	**Karatobe**	**4.48**	**7**	*e*P	**Pb**	**18 38 46.0**	**+0.9**
	2.1nm,0.4s						
KTBS				*e*S	**Sg**	**18 39 47.8**	**-2.4**
	5.3nm,0.3s						
CHKK	**Chushkaly**	**4.66**	**10**	Pg	**Pb**	**18 38 49.8**	**+1.7**
	0.6nm,0.0s						
CHKK				Lg	Lg	18 39 54.4	
	4.3nm,0.4s						
CHKK	**Chushkaly**	**4.66**	**10**	*e*P	**Pb**	**18 38 49.8**	**+1.7**
	0.6nm,0.0s						
CHKK				*e*S	**Sg**	**18 39 54.4**	**-1.5**
	4.3nm,0.4s						
ARXS	**Arharly**	**5.15**	**16**	Pg	**Pb**	**18 38 58.2**	**+1.7**
	2.0nm,0.4s						
ARXS				Lg	Lg	18 40 08.8	
	4.8nm,0.3s						
ARXS	**Arharly**	**5.15**	**16**	*e*P	**Pb**	**18 38 58.2**	**+1.7**
	2.0nm,0.4s						
ARXS				*e*S	**Sg**	**18 40 08.8**	**-2.9**
	4.8nm,0.3s						
BLB	**Baldybastay**	**5.20**	**21**	Pg	**Pb**	**18 38 58.7**	**+1.3**
	10nm,0.4s						
BLB				Lg	Lg	18 40 09.6	
	8.3nm,0.4s						
IUG	**Iuzhnay**	**5.30**	**305**	Pg	**Pg**	**18 39 03.4**	**-4.5**
	14nm,0.6s						
IUG				Lg	Lg	18 40 17.1	
	10nm,0.7s						
IUG	**Iuzhnay**	**5.30**	**305**	*e*P	**Pg**	**18 39 03.4**	**-4.5**
	14nm,0.6s						
IUG				*e*S	**Sg**	**18 40 17.1**	**+0.7**
	10nm,0.7s						
KK31	**Karatay Array**	**5.58**	**315**	Pn	**Pn**	**18 38 49.8**	**+0.4**
	0.1nm,0.2s,baz=125,slow=12,SNR=7.3						
KK31				Pg	**Pb**	**18 39 07.5**	**+3.7**
	0.4nm,0.5s,baz=124,slow=14,SNR=4.5						
KK31				⇓Sn	**Sn**	**18 39 52.4**	**-1.2**
	0.8nm,0.5s						
KK31				⇑Lg	Lg	18 40 18.6	
	0.7nm,0.5s						

*CATAC **15** 18:38:10.5±0.8, 12°.66N×88°.22W, h32km±8km, ML3.3*
*SNET **15** 18:38:10.8±0.7, 12°.70N×88°.24W, h49km±13km, ML3.5*
ISC 15 18:38:11.1±1.5, 12°.7N±0°.1×88°.23W±0°.07, h44km±42km, n31, σ0s47/43, 1C-2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.56**	**17**	*e*P	**Pn**	**18 38 22.4**	**-0.4**
INTP				*e*S	**Sn**	**18 38 31.5**	**+0.4**
JUCU	**Jucuarın**	**0.59**	**358**	⇓*e*P	**Pn**	**18 38 22.8**	**-0.5**
JUCU				*e*S	**Sn**	**18 38 32.0**	**+0.1**
JUCU				IAML		18 38 36.2	
	comp=Z,1μm,0.2s						
CNCH	**Conchagua**	**0.72**	**32**	*e*P	**Pn**	**18 38 24.6**	**-0.4**
CNCH	**Conchagua**	**0.72**	**32**	*i* P	**Pn**	**18 38 24.6**	**-0.4**
CNCH				*i* S	**Sn**	**18 38 35.8**	**+0.7**
CNCH				IAML		18 38 39.0	
	comp=Z,4μm,1.0s						
LCND	**La Caada**	**0.72**	**27**	*e*P	**Pn**	**18 38 24.5**	**-0.5**
LCND				*e*S	**Sn**	**18 38 35.3**	**+0.4**
LCND				IAML		18 38 37.7	
	comp=Z,3μm,0.3s						
LCND	**La Caada**	**0.72**	**27**	*i* P	**Pn**	**18 38 24.6**	**-0.3**
LCND				IAML		18 38 38.5	
	comp=Z,2μm,1.0s						
LCY	**Lacayo**	**0.76**	**355**	*e*P	**Pn**	**18 38 25.2**	**-0.4**
VSM	**San Miguel**	**0.76**	**356**	*e*P	**Pn**	**18 38 25.6**	**-0.2**
RANC	**El Ranchito**	**0.77**	**355**	*e*P	**Pn**	**18 38 25.3**	**-0.4**
RANC	**El Ranchito**	**0.77**	**355**	*i* P	**Pn**	**18 38 25.4**	**-0.4**
RANC				*i* S	**Sn**	**18 38 37.3**	**+1.0**
RANC				IAML		18 38 39.1	
	comp=Z,910nm,1.0s						
BLLM	**Bellamira**	**0.78**	**359**	⇑*e*P	**Pn**	**18 38 25.2**	**-0.5**
BLLM				*e*S	**Sn**	**18 38 36.7**	**+0.3**
PACA	**Pacayal**	**0.81**	**353**	*e*P	**Pn**	**18 38 25.9**	**-0.3**
PACA	**Pacayal**	**0.81**	**353**	*i* P	**Pn**	**18 38 25.9**	**-0.3**
PACA				IAML		18 38 38.1	
	comp=Z,7μm,1.0s						
TECA	**Tecapa**	**0.87**	**342**	*e*P	**Pn**	**18 38 26.7**	**-0.4**
TECA				*e*S	**Sn**	**18 38 38.6**	**-0.2**
SCLA	**Alcaldia de Sa**	**1.15**	**335**	*e*P	**Pn**	**18 38 30.6**	**-0.1**
SCLA	**Alcaldia de Sa**	**1.15**	**335**	*i* P	**Pn**	**18 38 30.6**	**-0.1**
SCLA				*i* S	**Sn**	**18 38 45.6**	**+0.3**
SCLA				IAML		18 38 47.3	
	comp=Z,150nm,1.0s						
CRIN	**San Cristobal**	**1.15**	**88**	⇓*i* P	**Pn**	**18 38 30.9**	**+0.1**
CRIN	**San Cristobal**	**1.15**	**88**	*i* P	**Pn**	**18 38 30.9**	**+0.1**
CRIN				IAML		18 38 49.5	
	comp=Z,2μm,1.0s						
QUEN	**Al S del Volca**	**1.34**	**93**	*i* P	**Pn**	**18 38 33.3**	**-0.1**
QUEN				IAML		18 38 51.8	
	comp=Z,690nm,1.0s						
LOMA	**Loma Larga**	**1.34**	**317**	*e*P	**Pn**	**18 38 33.3**	**-0.2**
LOMA	**Loma Larga**	**1.34**	**317**	*i* P	**Pn**	**18 38 33.5**	**0.0**
LOMA				*i* S	**Sn**	**18 38 51.1**	**+0.8**
LOMA				IAML		18 38 52.8	
	comp=Z,390nm,1.0s						
PMON	**Piamonte**	**1.49**	**315**	*e*P	**Pn**	**18 38 35.5**	**-0.1**
PMON	**Piamonte**	**1.49**	**315**	*i* P	**Pn**	**18 38 35.4**	**-0.1**
PMON				IAML		18 38 56.5	
	comp=Z,450nm,1.0s						
CNGN	**Cerro Negro**	**1.50**	**96**	*i* P	**Pn**	**18 38 35.4**	**-0.2**
CNGN				*i* S	**Sn**	**18 38 55.2**	**+1.2**
CNGN				IAML		18 39 03.9	
	comp=Z,270nm,1.0s						
MACN	**El Madrono**	**1.53**	**97**	*i* P	**Pn**	**18 38 35.4**	**-0.5**
MACN				IAML		18 39 05.0	
	comp=Z,170nm,1.0s						
MOMN	**Momotombo**	**1.66**	**98**	*i* P	**Pn**	**18 38 37.4**	**-0.4**
MOMN				*i* S	**Sn**	**18 38 57.2**	**-0.8**
MOMN				IAML		18 38 59.4	
	comp=Z,11nm,1.0s						
COPN	**Copaltepe**	**1.67**	**106**	*i* P	**Pn**	**18 38 37.7**	**-0.1**
COPN				IAML		18 39 00.5	
	comp=Z,140nm,1.0s						
MOM2	**El Cardon**	**1.71**	**97**	*i* P	**Pn**	**18 38 38.0**	**-0.5**
MOM2				IAML		18 38 38.7	
	comp=Z,140nm,1.0s						
APYN	**Apoyeque**	**1.88**	**103**	*i* P	**Pn**	**18 38 40.3**	**-0.5**
APYN				IAML		18 39 05.6	
	comp=Z,250nm,1.0s						
NUBE	**Las Nubes**	**1.95**	**309**	*i* P	**Pn**	**18 38 41.7**	**-0.2**
NUBE				*i* S	**Sn**	**18 39 05.1**	**-0.2**
NUBE				IAML		18 39 08.1	
	comp=Z,240nm,1.0s						
MTO3	**Montecristo**	**2.05**	**328**	*i* P	**Pn**	**18 38 42.9**	**-0.4**
MTO3				IAML		18 38 46.7	
	comp=Z,41nm,1.0s						

*SKHL **15** 18:43:28.1±0.2, 46°.70N×150°.60E, h174km±3km, mb5.1/6, mbv5.0/3, msh5.0/3, msha5.6/6*
*MOS **15** 18:43:28.4±1.6, 46°.83N×150°.54E, h177km, mb4.0/3, Error ellipse: s-maj=16.8km s-min=7.7km az=52.4*
*IDC **15** 18:43:30.8±2.0, 47°.00N×150°.48E, h185km±18km, mb3.1/7, mbtmp3.7/12, MS3.0/2, Error ellipse: s-maj=21.8km s-min=15.1km az=130.0*
*JMA **15** 18:43:30.5±0.5, 46°N±3°×15°1E±°, h192km, MV4.0/14, KURILE ISLANDS REGION*
ISC 15 18:43:29.2±0.7, 46°.53N⇑±0°.07×150°.78E±0°.08, h200km, n66, σ2s71/74, mb3.4/10, 5C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.41**	**239**	*e*P	**Pn**	**18 44 10.4**	**-1.6**
KUR				AMB	AMB	18 44 11.3	
	70nm,0.4s						
KUR				AMB	AMB	18 44 12.1	
	810nm,4.0s						
KUR				*i* S	**Sn**	**18 44 43.5**	**-1.8**
KUR				A	A	18 44 48.2	
	3μm,4.0s						
KUR				A	A	18 44 48.2	
	1μm,4.0s						
KUR				A	A	18 44 51.2	
	180nm,0.5s						
KUR				A	A	18 44 51.2	
	170nm,0.5s						
KUR	**Kuril'sk**	**2.41**	**239**	*e*PN	**Pn**	**18 44 10.4**	**-1.6**
KUR				*i* S	**Sn**	**18 44 46.7**	**+1.4**
KUR				pmax	pmax		
	comp=N,18nm,0.4s						
KUR				pmax	pmax		
	comp=E,15nm,0.4s						
KUR				pmax	pmax		
	comp=Z,68nm,0.4s						
KUR				smax	smax		
	comp=N,181nm,0.5s						
KUR				smax	smax		
	comp=E,93nm,0.5s						
SHO	**Shikotan**	**3.85**	**228**	*i* P	**Pn**	**18 44 27.6**	**-1.5**
SHO				AMB	AMB	18 44 29.0	
	comp=E,40nm,0.5s						
SHO				*e*S	**Sn**	**18 45 11.6**	**-4.4**
SHO				A	A	18 45 13.5	
	comp=E,160nm,0.4s						
SHO				A	A	18 45 13.5	
	comp=E,90nm,0.4s						
SHO	**Shikotan**	**3.85**	**228**	⇑*i* PN	**Pn**	**18 44 27.4**	**-1.7**
SHO				*e*S	**Sn**	**18 45 10.8**	**-5.2**
SHO				pmax	pmax		
	comp=Z,37nm,0.1s						
SHO				smax	smax		
	comp=N,177nm,0.2s						
SHO				smax	smax		
	comp=E,75nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**4.27**	**236**	*i* P	**Pn**	**18 44 33.9**	**-0.4**
YUK				AMB	AMB	18 44 35.7	
	comp=E,240nm,1.0s						
YUK				AMB	AMB	18 44 36.5	
	comp=E,230nm,0.2s						
YUK				*i* S	**Sn**	**18 45 25.1**	**-0.3**
YUK				A	A	18 45 30.2	
	comp=E,240nm,0.3s						
YUK				A	A	18 45 30.2	
	comp=E,180nm,0.3s						
YUK				A	A	18 45 32.0	
	comp=E,360nm,1.0s						
YUK				A	A	18 45 32.0	
	comp=E,240nm,1.0s						
YUK	**Yuzh-Kuril'sk**	**4.27**	**236**	*d* PN	**Pn**	**18 44 34.6**	**+0.3**
YUK				*i* S	**Sn**	**18 45 24.4**	**-1.0**
YUK				pmax	pmax		
	comp=Z,240nm,1.0s						
YUK				pmax	pmax		
	comp=N,68nm,0.2s						
YUK				pmax	pmax		
	comp=Z,257nm,0.2s						
YUK				smax	smax		
	comp=E,178nm,0.2s						
YUK				smax	smax		
	comp=N,242nm,0.3s						
YUK				smax	smax		
	comp=E,240nm,1.0s						
YUK				smax	smax		
	comp=N,363nm,0.9s						
RUSJ	**Misakicho**	**4.59**	**240**	*e*PN	**Pn**	**18 44 38.0**	**-0.3**
RUSJ				*e*S	**Sn**	**18 45 35.7**	**+3.0**
JRA	**Rausu**	**4.76**	**239**	P	**Pn**	**18 44 40.2**	**-0.2**
JRA				*e*S	**Sn**	**18 45 34.1**	**-2.5**
NEM2	**Nemuro 2**	**4.77**	**230**	P	**Pn**	**18 44 38.4**	**-2.2**
NEM2				*e*S	**Sn**	**18 45 30.4**	**-6.4**
NMR	**Nemuro--Hokkai**	**4.78**	**230**	*i* P	**Pn**	**18 44 38.7**	**-2.0**
NMR	**Nemuro--Hokkai**	**4.78**	**230**	⇑*i* PN	**Pn**	**18 44 38.3**	**-2.4**
JNK	**Nakash**	**5.20**	**238**	P	**Pn**	**18 44 45.4**	**-0.7**
JNK				*e*S	**Sn**	**18 45 44.1**	**-2.6**
SKR	**Severo-Kuril's**	**5.46**	**38**	*e*P	**Pn**	**18 44 48.1**	**-1.2**
SKR				AMB	AMB	18 44 49.3	
	comp=N,130nm,0.8s						
SKR				AMB	AMB	18 44 56.3	
	comp=N,470nm,3.0s						
SKR				*e*S	**Sn**	**18 45 48.0**	**-4.7**
SKR				A	A	18 45 51.0	
	comp=N,190nm,0.8s						
SKR				A	A	18 45 51.0	
	comp=N,160nm,0.8s						
SKR				A	A	18 45 54.0	
	comp=N,550nm,3.0s						
SKR				A	A	18 45 54.0	
	comp=N,470nm,3.0s						
SKR	**Severo-Kuril's**	**5.46**	**38**	*e*PN	**Pn**	**18 44 47.5**	**-1.8**
SKR				*e*S	**Sn**	**18 45 44.9**	**-7.8**
SKR				pmax	pmax		
	comp=Z,133nm,0.8s						
SKR				smax	smax		
	comp=N,186nm,0.9s						
SKR				smax	smax		
	comp=E,157nm,0.7s						
SKR				MLR	MLR		
	comp=Z,1μm,14.0s						
JTKR	**Abashiri--Toko**	**5.48**	**245**	P	**Pn**	**18 44 49.6**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.53**	**277**	*e*P	**Pn**	**18 44 48.8**	**-1.5**
YSS				*e*rx	rx	18 45 51.6	
YSS	**Yuzh-Sakhalins**	**5.53**	**277**	⇓*e*PN	**Pn**	**18 44 49.0**	**-1.3**
YSS				*e*S	**Sn**	**18 45 51.6**	**-2.7**
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YSS				smax	smax		
	comp=E,10.0nm,1.1s						
JAK	**Akkeshi**	**5.59**	**233**	*e*P	**Pn**	**18 44 48.9**	**-2.1**
JAK				*e*S	**Sn**	**18 45 49.6**	**-6.1**
JAR	**Ashorobuto**	**5.93**	**240**	P	**Pn**	**18 44 55.4**	**-0.1**
JAR				*e*S	**Sn**	**18 46 02.3**	**-1.5**
JOB	**Onbets**	**6.13**	**236**	P	**Pn**	**18 44 56.9**	**-1.2**
JOB				*e*S	**Sn**	**18 46 03.5**	**-4.9**
JKA	**Kamikawa-asahi**	**6.25**	**250**	*e*P	**Pn**	**18 45 00.6**	**+1.0**
ASAJ	**Asahikawa**	**6.25**	**250**	P	**Pn**	**18 45 00.6**	**+1.0**
	comp=E,12nm,0.4s,baz=70,slow=10,SNR=26						
ASAJ				S	**Sn**	**18 46 11.4**	**+0.3**
	comp=E,9.2nm,0.9s,baz=108,slow=20,SNR=2.2						
JKK2	**Kamakawa 2**	**6.26**	**248**	*e*P	**Pn**	**18 45 00.2**	**+0.5**
PAU	**Pauzhetka**	**6.34**	**37**	*e*P	**Pn**	**18 44 59.9**	**-0.7**
PAU				AMB	AMB	18 45 00.6	
	comp=E,60nm,0.5s						
PAU				*e*S	**Sn**	**18 46 09.9**	**-3.3**
PAU				A	A	18 46

JNBK	**Urakawa-nobuka**	**7.14**	**236**	*e*P		**Pn**	**18 45 08.3 -2.9**
PEA0B	**Petropavlovsk-**	**7.96**	**32**	⇓*e*PN		**Pn**	**18 45 20.4 -1.3**
PETK	**Petropavlovsk-**	**7.96**	**32**	P		**Pn**	**18 45 20.4 -1.3**
	comp=E,4.1nm,0.5s,baz=200,slow=10.0,SNR=19						
PETK				S		Sn	18 47 01.0 +10
	comp=E,1.2nm,0.7s,baz=138,slow=17,SNR=0.9						
JANG	**Nango**	**9.12**	**231**	P		**Pn**	**18 45 33.3 -3.6**
JTH	**Tanohata**	**9.25**	**228**	*e*P		**Pn**	**18 45 35.8 -2.9**
USRK	**Ussuriysk Ar.**	**13.42**	**267**	P		**P**	**18 46 31.6 -2.7**
	comp=E,1.2nm,0.4s,baz=71,slow=12,SNR=8.5						
MAJO	**Matsushiro**	**13.70**	**228**	⇓*i*P		**P**	**18 46 38.1 +0.5**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MJAR	**Matsushiro Arr**	**13.70**	**228**	P		**P**	**18 46 40.6 +3.0**
	comp=Z,1.7nm,0.5s,baz=49,slow=11,SNR=7.3						
JHJ	**Hachijo jima 2**	**15.81**	**216**	LR		LR	18 53 32.2
	comp=Z,52nm,20.8s,baz=104,slow=37						
KSRS	**Korea Array**	**19.20**	**250**	P		**Pn**	**18 47 42.2 +1.0**
	comp=Z,1.1nm,0.6s,baz=54,slow=11,SNR=3.8						
JOW	**Kunigami**	**26.52**	**230**	LR		LR	18 59 40.6
	comp=Z,28nm,18.6s,baz=46,slow=36						
H11N2	**WAKE ISLAND Hy**	**29.82**	**148**	T		T	19 21 17.0
	baz=340,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**29.83**	**148**	T		T	19 20 59.5
	baz=340,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**29.84**	**148**	T		T	19 21 23.1
	baz=340,slow=75,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**30.88**	**150**	T		T	19 22 26.5
	baz=347						
H11S3	**WAKE ISLAND Hy**	**30.88**	**150**	T		T	19 22 48.7
	baz=347						
H11S2	**WAKE ISLAND Hy**	**30.89**	**150**	T		T	19 21 59.3
	baz=347						
ZALV	**Zalesovo Beam**	**41.43**	**305**	PcP		**PcP**	**18 52 52.8 +3.2**
	comp=Z,0.3nm,0.3s,baz=85,slow=3.6,SNR=2.3						
MK31	**Makanchi Array**	**45.61**	**297**	⇓*e*P		**P**	**18 51 29.0 -0.2**
MKAR	**Makanchi Array**	**45.61**	**297**	P		**P**	**18 51 28.8 -0.4**
	comp=Z,0.4nm,0.6s,baz=56,slow=6.1,SNR=5.9						
MKAR				PcP		**PcP**	**18 53 06.8 +2.8**
	comp=Z,0.3nm,0.5s,baz=68,slow=3.6,SNR=4.6						
	comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**45.61**	**297**	*e*P		**P**	**18 51 29.3 +0.1**
MKAR	**Makanchi Array**	**45.61**	**297**	*e*P		**P**	**18 51 29.3 +0.1**
KURK	**Kurchatov**	**46.14**	**303**	*e*P		**P**	**18 51 32.2 -1.1**
KURK	**Kurchatov**	**46.14**	**303**	⇓*e*P		**P**	**18 51 32.2 -1.1**
KURBB	**Kurchatov Arra**	**46.23**	**303**	P		**P**	**18 51 32.7 -1.2**
	comp=Z,0.4nm,0.4s,baz=69,slow=8.5,SNR=6.1						
KURBB				PcP		**PcP**	**18 53 08.5 +2.5**
	comp=Z,0.2nm,0.4s,baz=63,slow=3.3,SNR=1.7						
	comp=Z,0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**50.76**	**254**	P		P	18 52 12.7 +3.8
	comp=Z,1.1nm,0.8s,baz=37,slow=6.7,SNR=5.8						
	comp=Z,1.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**50.76**	**254**	*e*P		**P**	**18 52 12.0 +3.1**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**52.06**	**36**	pP		pP	18 53 01.6 +0.2
	comp=Z,0.2nm,0.5s,baz=302,slow=7.2,SNR=3.7						
FINES	**FINESS Array B**	**63.54**	**334**	P		**P**	**18 53 36.7 -1.0**
	comp=Z,0.5nm,0.5s,baz=46,slow=5.5,SNR=4.1						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**63.54**	**334**	*i* P		**P**	**18 53 37.0 -0.7**
OBN	**Obninsk**	**64.57**	**325**	*e*P		P	18 53 46.9 +2.4
OBN	**Obninsk**	**64.57**	**325**	*e*P		P	18 53 46.9 +2.4
OBN				*e*			18 54 18.7
OBN				*e**PP		pP	18 54 27.2 -2.5
OBN				*e**SP		sP	18 54 46.5 -4.4
OBN				pmax	pmax		
	comp=Z,4.0nm,0.7s						
WRA	**Warramunga Arr**	**67.81**	**197**	P		**P**	**18 54 09.9 +4.4**
	comp=Z,0.4nm,0.6s,baz=12,slow=6.7,SNR=5.3						
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**67.81**	**197**	*i* P		P	18 54 10.5 +5.0
KIV	**Kislovodsk**	**69.79**	**313**	*e*P		**P**	**18 54 19.2 +1.6**
KIV	**Kislovodsk**	**69.79**	**313**	*e*P		**P**	**18 54 19.2 +1.6**
KIV				*e*			18 54 40.0
KIV				*e**PP		**pP**	**18 54 59.6 -3.9**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ASAR	**Alice Springs**	**71.51**	**196**	P		P	18 54 33.6 +5.6
	comp=Z,0.7nm,0.7s,baz=10,slow=6.7,SNR=8.1						
	comp=Z,0.7nm,0.7s						
TXAR	**Lajitas Array**	**79.00**	**59**	P		**P**	**18 55 14.1 +3.1**
	comp=Z,0.1nm,0.6s,baz=318,slow=1.2,SNR=1.9						
	comp=Z,0.1nm,0.6s						

*IDC **15** 18:47:16.2±0.7,40.°76N×142.°81E,h0km,mb4.1/23, mbtmp4.1/28,ML3.5/5,MS3.1/7,Error ellipse: s-maj=18.7km s-min=13.9km az=99.0*
*BJI **15** 18:47:21.2±0.0,40.°80N×142.°80E,h56km,mb4.5/19, mB4.6/9*
*NIED **15** 18:47:21.3,40.°72N×142.°65E,h27km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.03; Mϑϑ-0.09; Mϕϕ -0.94; Mrϑ0.25; Mrϕ-0.13; Mϑϕ0.80; Fault plane solution: Mo1.30000×10¹⁵ NP1:ϕs14.00000°, δ65.00000°,λ.94.00000°. NP2:ϕs184.00000°,δ25.00000°, λ.81.00000°.*
*JMA **15** 18:47:21.3±0.3,40.°7N±0.°5×14.°3E±.°,h27km±4km, MD4.0/39,MV4.3/39,E OFF AOMORI PREF*
JMA Felt I J1 at E OFF AOMORI PREF .
*NEIC **15** 18:47:23.8±1.9,40.°75N±0.°05×142.°54E±0.°07,h47km±8km, mb4.2/38,Error ellipse: s-maj=9.1km s-min=5.6km az=134.0*

ISC 15 18:47:20.5±1.4,40.°73N±0.°04×142.°72E±0.°06,h27km±10km, n124,σ1§67/122,mb4.2/46,MS3.1/3,13D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JKEN	**Kujiedanarisaw**	**0.93**	**236**	⇓P		**Pn**	**18 47 37.4**	**-0.3**
JKEN				⇓*e*S		**Sn**	**18 47 48.8**	**-1.3**
JANG	**Nango**	**0.98**	**249**	⇓P		**Pn**	**18 47 38.4**	**0.0**
JANG				⇓*e*S		**Sn**	**18 47 50.6**	**-0.9**
JANG	**Nango**	**0.98**	**249**	A		A	18 47 38.4	
	comp=E,5.0nm,0.2s,comp=N,4.0nm,0.3s							
JTH	**Tanohata**	**1.02**	**220**	⇓P		**Pn**	**18 47 38.9**	**-0.1**
JARK	**Aomorirokkasho**	**1.06**	**286**	⇓P		**Pn**	**18 47 39.5**	**-0.1**
JARK				⇓*e*S		**Sn**	**18 47 51.2**	**-2.2**
JAHD	**Aomorihigashid**	**1.18**	**298**	A		A	18 47 41.4	
	comp=E,7.0nm,0.3s,comp=N,8.0nm,0.4s							
JTM	**Tenmabayashi**	**1.25**	**273**			**Pn**	**18 47 42.4**	**+0.2**
JTM				Sn		**Sn**	**18 47 55.4**	**-2.8**
JTM	**Tenmabayashi**	**1.25**	**273**	⇓*i*P		**Pn**	**18 47 42.6**	**+0.4**
ERM	**Erimo**	**1.33**	**14**			**Pb**	**18 47 44.9**	**+0.2**
ERM				Sn		**Sb**	**18 48 02.0**	**+0.7**
JEM	**Erimo**	**1.33**	**14**	P		**Pb**	**18 47 44.9**	**+0.2**
JOT	**Ohata**	**1.42**	**298**	⇓*i*P		**Pn**	**18 47 44.7**	**+0.2**
JNBK	**Urakawa-nobuka**	**1.55**	**1**	P		**Pb**	**18 47 48.1**	**-0.3**
JNBK				S		**Sb**	**18 48 09.1**	**+1.3**
JNBK	**Urakawa-nobuka**	**1.55**	**1**	A		A	18 47 48.1	
	comp=E,3.0nm,1.8s,comp=N,3.0nm,0.5s							
JOM	**Ohasama**	**1.66**	**222**	*i* P		Pn	**18 47 49.1**	**+1.3**
JOM	**Ohasama**	**1.66**	**222**	A		A	18 47 49.1	
	comp=E,5.0nm,0.3s,comp=N,3.0nm,0.3s							
JSZI	**Iwateshizukuis**	**1.67**	**234**	A		A	18 47 48.9	
	comp=E,6.0nm,0.9s,comp=N,5.0nm,1.9s							
JAH	**Hinai**	**1.68**	**252**	⇓*i*P		**Pn**	**18 47 49.5**	**+1.5**
JAH				⇓*e*S		**Sn**	**18 48 10.2**	**+1.6**
JKB	**Kayabe**	**1.72**	**313**	⇓*i*P		**Pn**	**18 47 49.1**	**+0.5**
JSI2	**Shiura 2**	**1.78**	**281**	A		A	18 47 50.4	
	comp=E,4.0nm,2.4s,comp=N,3.0nm,0.8s							
JSR	**Shiriuchi**	**1.91**	**296**	⇓*i*P		**Pn**	**18 47 52.5**	**+1.2**
JCH	**Churui**	**1.95**	**14**	P		**Pb**	**18 47 53.4**	**-1.8**
JCH				*e*S		**Sb**	**18 48 17.7**	**-1.3**
JIW	**Iwasaki**	**2.07**	**267**	P		Pn	**18 47 55.2**	**+1.8**
JRG	**Rokugo**	**2.08**	**231**	A		A	18 47 54.9	
	comp=E,4.0nm,0.5s,comp=N,3.0nm,0.7s							
JMK	**Ichinoseki**	**2.12**	**214**	*i* P		Pn	**18 47 56.4**	**+2.3**
JMM	**Marumori**	**3.22**	**208**			Pn	**18 48 11.4**	**+2.1**
JMM				Sn		**Sn**	**18 48 48.1**	**+1.3**
ASAJ	**Asahikawa**	**3.39**	**359**	Pn		Pn	**18 48 13.7**	**+2.2**
	comp=N,11nm,0.3s,baz=204,slow=16,SNR=58							
ASAJ				Sn		**Sn**	**18 48 49.9**	**-0.9**
	comp=N,5.7nm,0.3s,baz=225,slow=23,SNR=4.4							
JKA	**Kamikawa-asahi**	**3.39**	**359**	Pn		**Pn**	**18 48 13.5**	**+2.0**
JKA				Sn		**Sn**	**18 48 53.6**	**+2.8**
JSD	**Sado**	**4.38**	**234**			**Pn**	**18 48 27.5**	**+2.4**
MJB9	**Matsu-Tunnel**	**5.47**	**222**	Pn		**Pn**	**18 48 42.8**	**+2.6**
MAJO	**Matsushiro**	**5.47**	**222**			**Pn**	**18 48 42.9**	**+2.8**
MJAR	**Matsushiro Arr**	**5.47**	**222**	Pn		**Pn**	**18 48 44.0**	**+3.8**
	comp=N,0.5nm,0.3s,baz=29,slow=14,SNR=28							
MJAR				Sn		**Sn**	**18 49 46.6**	**+4.4**
	baz=50,slow=11							
MJAR				LR		LR	18 51 15.6	
	comp=N,119nm,20.7s,baz=70,slow=43							
YSS	**Yuzh-Sakhalins**	**6.22**	**0**			**Pn**	**18 48 52.9**	**+2.4**
JGF	**Kuroka**	**6.63**	**221**	Pn		**Pn**	**18 48 58.6**	**+2.4**
JSG	**Sagara**	**7.03**	**212**	Pn		**Pn**	**18 49 02.7**	**+1.2**
JHJ	**Hachijo jima 2**	**7.95**	**198**	Pn		**Pn**	**18 49 14.0**	**-0.2**
	comp=N,5.8nm,0.3s,baz=334,slow=23,SNR=12							
JHJ				Sn		**Sn**	**18 50 38.4**	**-4.8**
	comp=N,8.3nm,0.3s,baz=62,slow=20,SNR=2.1							
	comp=N,20nm,0.3s							
JHJ2	**Mitsune**	**7.95**	**198**	Pn		**Pn**	**18 49 14.1**	**-0.1**
USA0B	**Ussuriysk Arra**	**8.66**	**297**			**Pn**	**18 49 26.4**	**+2.5**
USRK	**Ussuriysk Ar.**	**8.66**	**297**	Pn		**Pn**	**18 49 26.0**	**+2.2**
USRK	**Ussuriysk Ar.**	**8.66**	**297**	Pn		**Pn**	**18 49 25.8**	**+2.0**
	comp=N,1.3nm,0.3s,baz=100,slow=14,SNR=20							
USRK				LR		LR	18 52 32.4	
	comp=N,64nm,19.3s,baz=97,slow=36							
JMN	**Monobe**	**9.92**	**228**	Pn		**Pn**	**18 49 43.5**	**+2.3**
KLR	**Kul'dur**	**11.51**	**321**	Pn		**Pn**	**18 50 02.5**	**-0.3**
	comp=N,0.2nm,0.3s,baz=243,slow=19,SNR=2.0							
KLR				LR		LR	18 54 36.4	
	comp=N,70nm,19.2s,baz=114,slow=38							
	comp=N,0.8nm,0.4s							
KSRS	**Korea Array**	**11.95**	**259**	Pn		**Pn**	**18 50 10.2**	**+1.2**
	comp=N,0.1nm,0.3s,baz=68,slow=14,SNR=1.7							
	comp=N,1.0nm,0.8s							
JNU	**Nakatsue**	**12.13**	**235**	Pn		**Pn**	**18 50 10.8**	**-0.7**
JNU	**Nakatsue**	**12.13**	**235**	Pn		**Pn**	**18 50 11.4**	**-0.1**
	comp=N,0.3nm,0.3s,baz=331,slow=8.3,SNR=3.2							
	comp=N,1.5nm,0.5s							
PETK	**Petropavlovsk-**	**16.02**	**34**	LR		LR	18 57 34.3	
	comp=N,50nm,18.8s,baz=234,slow=39							
JOW	**Kunigami**	**18.30**	**225**	P		**P**	**18 51 27.6**	**-4.7**
JOW	**Kunigami**	**18.30**	**225**	P		**P**	**18 51 31.5**	**-0.9**
	comp=N,0.4nm,0.3s,baz=124,slow=6.0,SNR=2.4							
	comp=N,1.8nm,0.5s							
YAK	**Yakutsk**	**22.74**	**344**	P		**P**	**18 52 15.4**	**-4.8**
YAK				IAmb		IAmb	18 52 33.9	
	comp=Z,8.9nm,0.9s							
YAK	**Yakutsk**	**22.74**	**344**	P		**P**	**18 52 18.4**	**-1.8**
	comp=Z,4.1nm,0.4s,baz=128,slow=3.6,SNR=8.9							
YAK				LR		LR	19 01 06.6	
	comp=Z,46nm,18.1s,baz=350,slow=36							
	comp=Z,4.1nm,0.4s							
SEY	**Seymchan**	**22.98**	**11**	P		**P**	**18 52 20.9**	**-1.6**
	comp=Z,2.0nm,0.7s,baz=212,slow=15,SNR=2.7							
	comp=Z,2.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**23.53**	**281**	*e*P		**P**	**18 52 28.6**	**+0.1**
HHC				pmax	pmax			
	comp=Z,5.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,34nm,6.0s							
SHEM	**Shemya Is, Ala**	**24.42**	**50**	P		**P**	**18 52 34.5**	**-2.0**
	comp=Z,7.0nm,0.3s,baz=285,slow=4.3,SNR=2.2							
	comp=Z,7.0nm,0.3s							
SSLB	**Suanglung**	**24.87**	**234**	P		**P**	**18 52 37.1**	**-3.8**
SSLB				IAmb		IAmb	18 53 09.4	
	comp=Z,6.1nm,1.0s							
YULB	**Yu-li**	**24.96**	**233**	P		**P**	**18 52 37.6**	**-4.0**
YULB				IAmb		IAmb	18 52 42.8	
	comp=Z,19nm,1.5s							
TPUB	**Ta-pu**	**25.43**	**234**	P		**P**	**18 52 45.3**	**-0.7**
TPUB				IAmb		IAmb	18 53 05.6	
	comp=Z,12nm,1.1s							
SONM	**Songino Array**	**26.77**	**298**	P		**P**	**18 52 58.2**	**+0.2**
SONM	**Songino Array**	**26.77**	**298**	P		**P**	**18 52 58.4**	**+0.4**
	comp=Z,1.0nm,0.4s,baz=84,slow=9.0,SNR=11							
	comp=Z,1.0nm,0.4s							
H11N2	**WAKE ISLAND Hy**	**29.40**	**128**	T		T	19 24 27.6	
	baz=318,slow=75,SNR=54							
H11N1	**WAKE ISLAND Hy**	**29.41**	**128**	T		T	19 24 30.5	
	baz=318,slow=75,SNR=67							
H11N3	**WAKE ISLAND Hy**	**29.42**	**128**	T		T	19 24 31.0	
	baz=318,slow=75,SNR=48							
H11S1	**WAKE ISLAND Hy**	**30.23**	**130**	T		T	19 25 32.8	
	baz=322,slow=76,SNR=12							
H11S3	**WAKE ISLAND Hy**	**30.24**	**130**	T		T	19 25 33.1	
	baz=322,slow=76,SNR=11							
H11S2	**WAKE ISLAND Hy**	**30.25**	**130**	T		T	19 25 34.3	
	baz=322,slow=76,SNR=10							
PZH	**PanZhiHua**	**36.62**	**260**	P		**P**	**18 54 25.6**	**+1.0**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.8s							
PZH				pmax	pmax			
	comp=Z,100nm,4.3s							
GOMU	**GeErMu**	**37.41**	**279**	P		**P**	**18 54 32.4**	**+0.8**
GOMU				pmax	pmax			
	comp=Z,6.0nm,0.7s							
I17K	**Unalakleet**	**39.82**	**35**	P		**P**	**18 54 53.9**	**+2.9**
F17K	**Baldwin Pennin**	**40.02**	**31**	P		**P**	**18 54 53.0**	**+0.4**
CNBA	**Chernabura Isl**	**40.08**	**49**	P		**P**	**18 54 54.8**	**+1.5**
ZAA0	**Zalesovo Array**	**40.27**	**309**	P		**P**	**18 54 54.6**	**-0.3**
ZALV	**Zalesovo Beam**	**40.27**	**309**	P		**P**	**18 54 54.3**	**-0.6**
ZALV	**Zalesovo Beam**	**40.27**	**309**	P		**P**	**18 54 55.1**	**+0.2**
	comp=Z,6.0nm,0.6s,baz=93,slow=8.2,SNR=24							
ZALV				PcP		**PcP**	**18 56 58.6**	**+0.5**
	comp=Z,0.6nm,0.4s,baz=114,slow=4.5,SNR=2.3							
	comp=Z,6.0nm,0.6s							
M16K	**Timber Creek**	**40.36**	**40**	P		**P**	**18 54 57.0**	**+1.5**
M16K				IAmb		IAmb	18 55 12.7	
	comp=Z,4.9nm,1.1s							
E18K	**Tukpahlearik C**	**40.47**	**30**	P		**P**	**18 54 58.3**	**+2.0**
E18K				IAmb		IAmb	18 55 02.3	
	comp=Z,4.1nm,1.3s							
C18K	**Utukok River**	**40.53**	**28**	P		**P**	**18 54 57.2**	**+0.3**
C18K				IAmb		IAmb	18 55 01.0	
	comp=Z,13nm,1.5s							
G18K	**Tagagawik**	**40.97**	**32**	P		**P**	**18 55 02.3**	**+1.9**
G18K				IAmb		IAmb	18 55 19.1	
	comp=Z,4.4nm,1.1s							
H18K	**Honhosa River**	**40.99**	**33**	P		**P**	**18 55 02.2**	**+1.6**
H18K				IAmb		IAmb	18 55 20.9	
	comp=Z,3.9nm,0.8s							
N17K	**Nushagak Hills**	**41.21**	**41**	P		**P**	**18 55 02.8**	**+0.3**
N17K				IAmb		IAmb	18 55 38.8	
	comp=Z,5.7nm,1.2s							
CRAI	**Chiangrai**	**41.33**	**253**	P		**P**	**18 55 04.3**	**+0.3**
CRAI				IAmb		IAmb	18 55 07.5	
	comp=Z,5.1nm,0.8s							
F19K	**Shaleruckik Mo**	**41.45**	**31**	P		**P**	**18 55 05.3**	**+0.9**
G19K	**Purcell Mounta**	**41.63**	**32**	P		**P**	**18 55 07.2**	**+1.3**
H19K	**Roundabout Mou**	**41.83**	**33**	P		**P**	**18 55 09.0**	**+1.5**
H19K				IAmb		IAmb	18 55 27.8	
	comp=Z,8.3nm,0.8s							
B20K	**Meade River**	**42.23**	**26**	P		**P**	**18 55 10.2**	**-0.5**
PHRA	**Phrae**	**42.54**	**251**	P		**P**	**18 55 13.7**	**-0.2**
J20K	**Nowinta River**	**42.72**	**35**	P		**P**	**18 55 16.8**	**+2.0**
B21K	**Ikpikpuk River**	**43.03**	**27**	P		**P**	**18 55 18.6**	**+1.4**
B21K				IAmb		IAmb	18 55 33.8	
	comp=Z,4.9nm,1.0s							
MK31	**Makanchi Array**	**43.12**	**299**	P		**P**	**18 55 18.2**	**-0.1**
MK31				IAmb		IAmb	18 55 19.0	
	comp=Z,2.5nm,0.7s							
MKAR	**Makanchi Array**	**43.12**	**299**	P		**P**	**18 55 18.3**	**0.0**
MKAR	**Makanchi Array**	**43.12**	**299**	P		**P**	**18 55 18.5**	**+0.2**
	comp=Z,1.9nm,0.5s,baz=84,slow=11,SNR=29							
	comp=Z,1.9nm,0.5s							
CHTO	**Chiang Mai**	**43.27**	**253**	P		**P**	**18 55 19.9**	**+0.1**
MAKZ	**Makanchi**	**43.32**	**299**	P		**P**	**18 55 20.0**	**0.0**
MAKZ				IAmb		IAmb	18 55 20.8	
	comp=Z,3.2nm,0.9s							
H21K	**Melozitna Rive**	**43.35**	**33**	P		**P**	**18 55 22.1**	**+2.2**
CMAR	**Chiang Mai Arr**	**43.50**	**253**	P		**P**	**18 55 22.2**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=39,slow=9.2,SNR=4.2							
	comp=Z,0.6nm,0.4s							
B22K	**Teshekpuk Lake**	**43.54**	**26**	P		**P**	**18 55 22.8**	**+1.5**
B22K				IAmb		IAmb	18 55 54.0	
	comp=Z,6.1nm,1.3s							
KURK	**Kurchatov**	**44.54**	**305**	P		**P**	**18 55 29.2**	**-0.4**
KURK				IAmb		IAmb	18 55 30.2	
	comp=Z,4.3nm,0.8s							
KURBB	**Kurchatov Arra**	**44.62**	**305**	P		**P**	**18 55 29.9**	**-0.3**
	comp=Z,1.9nm,0.4s,baz=80,slow=8.6,SNR=26							
KURBB				PcP		**PcP**	**18 57 12.4**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=89,slow=3.5,SNR=3.0							
	comp=Z,1.9nm,0.4s							
TOLK	**Toolik Lake Re**	**44.74**	**29**	P		**P**	**18 55 31.7**	**+0.7**
ILAR	**Eielson Array**	**45.85**	**34**	P		**P**	**18 55 40.5**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=263,slow=6.4,SNR=4.7							
	comp=Z,0.4nm,0.7s							
D25K	**Kavik River**	**45.90**	**28**	P		**P**	**18 55 41.6**	**+1.4**
BMAR	**Burnt Mountain**	**46.62**	**30**	P		**P**	**18 55 47.9**	**+2.0**
BVAR	**Borovoye Array**	**48.91**	**310**	P		**P**	**18 56 04.2**	**+0.4**
	comp=Z,4.8nm,0.4s,baz=75,slow=9.7,SNR=22							
	comp=Z,4.8nm,0.4s							
E29M	**Blow River**	**49.04**	**29**	P		**P**	**18 56 06.5**	**+2.0**
E29M				IAmb		IAmb	18 56 24.6	
	comp=Z,3.3nm,1.0s							
AAK	**Ala-Archa**	**49.71**	**296**	LR		LR	19 18 45.9	
	comp=Z,45nm,18.6s,baz=98,slow=38							
KSH	**Kashi**	**49.91**	**292**	P		**P**	**18 56 13.4**	**+1.6**
KSH				pmax	pmax			
	comp=Z,6.0nm,1.0s							
I30M	**Mount Dempster**	**50.21**	**33**	P		**P**	**18 56 14.8**	**+1.2**
I30M				IAmb		IAmb	18 56 34.2	
	comp=Z,2.6nm,0.7s							
INK	**Inuvik**	**50.65**	**29**	P		**P**	**18 56 17.7**	**+1.0**
INK				IAmb		IAmb	18 56 35.8	
	comp=Z,2.4nm,0.8s							
ABKAR	**Akbulak array**	**56.38**	**309**	P		**P**	**18 56 58.6**	**-0.5**
ABKAR				PcP		**PcP**	**18 57 55.2**	**-0.7**
ABKAR	**Akbulak array**	**56.38**	**309**	P		**P**	**18 56 58.7**	**-0.4**
ABKAR				IAmb		IAmb	18 57 13.1	
	comp=Z,3.4nm,0.5s							
WRA	**Warramunga Arr**	**60.86**	**189**	P		**P**	**18 57 30.4**	**-0.1**
	comp=Z,1.1nm,0.7s,baz=7.1,slow=6.9,SNR=11							
	comp=Z,1.1nm,0.7s							
ARCES	**ARCESS Array B**	**60.91**	**339**	P		**P**	**18 57 30.2**	**-0.1**
	comp=Z,0.8nm,0.7s,baz=46,slow=6.9,SNR=5.4							
	comp=Z,0.8nm,0.7s							
GEYT	**Alibeck**	**62.97**	**298**	P		**P**	**18 57 44.3**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=76,slow=0.6,SNR=4.4							
	comp=Z,1.2nm,0.6s							
ASAR	**Alice Springs**	**64.59**	**189**	P		**P**	**18 57 55.3**	**0.0**
	comp=Z,0.6nm,0.4s,baz=0.6,slow=4.7,SNR=12							
	comp=Z,0.6nm,0.4s							
FINES	**FINESS Array B**	**66.03**	**332**	P		**P**	**18 58 04.1**	**-0.1**
	comp=Z,3.2nm,0.5s,baz=45,slow=7.4,SNR=35							
	comp=Z,3.2nm,0.5s							
KBZ	**Khabaz**	**69.28**	**310**	P		**P**	**18 58 25.7**	**+0.7**
	comp=Z,1.1nm,0.5s,baz=41,slow=5.4,SNR=5.6							
	comp=Z,1.1nm,0.5s							
HFS	**Hagfors**	**71.14**	**336**	P		**P**	**18 58 35.9**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=47,slow=6.5,SNR=13							
	comp=Z,1.5nm,0.3s							
NB2	**NORSAR Subarra**	**71.18**	**337**	P		**P**	**18 58 36.3**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=35,slow=6.5							
NOA	**NORSAR Array B**	**71.18**	**337**	P		**P**	**18 58 35.9**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=38,slow=6.1,SNR=6.3							
NOA				LR		LR	19 34 57.9	
	comp=Z,11nm,18.8s,baz=215,slow=40							
	comp=Z,1.3nm,0.8s							
AKASG	**Malin Array Be**	**72.00**	**322**	P		**P**	**18 58 41.5**	**0.0**
	comp=Z,0.6nm,0.5s,baz=42,slow=5.8,SNR=6.0							
	comp=Z,0.6nm,0.5s							
BRTR	**Keskin Array B**	**77.17**	**312**	P		**P**	**18 59 12.4**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=85,slow=4.2,SNR=4.6							
	comp=Z,0.6nm,0.5s							
EKA	**Eskdalemuir Ar**	**79.98**	**341**	P		**P**	**18 59 26.9**	**0.0**
	comp=Z,0.7nm,0.6s,baz=16,slow=4.3,SNR=4.0							
	comp=Z,0.7nm,0.6s							
MMAI	**Mount Meron Ar**	**80.65**	**306**	P		**P**	**18 59 31.7**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=22,slow=5.1,SNR=1.9							
	comp=Z,0.4nm,0.3s							
TXAR	**Lajit

NNSB				S	Sb	19 19 37.0	+1.1		
	baz=271								
NNS	**Nan Shan**	**0.32**	**273**	*eP*	Pn	19 19 32.0	-0.5		
	baz=272								
NNS				S	Sn	19 19 37.2	-1.1		
	baz=272								
FUSB	**Fushanzhiwuyua**	**0.36**	**340**	P	Pb	19 19 32.1	+0.6		
	baz=339								
FUSB				S	Sb	19 19 38.0	+1.0		
	baz=339								
YHNB	**Yeheng**	**0.40**	**308**	P	Pb	19 19 32.8	+0.6		
	baz=307								
YHNB				S	Sn	19 19 39.4	-0.9		
	baz=307								
NWLT	**Wulai**	**0.41**	**330**	P	Pb	19 19 32.7	+0.5		
	baz=330								
NWLT				S	Sb	19 19 39.1	+0.8		
	baz=330								
NSK	**Sanguang**	**0.42**	**307**	*eP*	Pb	19 19 32.4	0.0		
	baz=307								
NSK				*i* S	Sn	19 19 39.8	-0.9		
	baz=307								
FUSS	**Fushou**	**0.47**	**248**	*eP*	Pb	19 19 33.6	+0.1		
	baz=248								
FUSS				S	Sb	19 19 41.1	+0.9		
	baz=248								
WHF	**Hehuan Shan**	**0.50**	**237**	*eP*	Pb	19 19 33.9	-0.1		
	baz=236								
WHF				*e*S	Sn	19 19 42.4	-0.8		
	baz=236								

NEIC ***15*** *19:30:01.6±0.8, 19°.446N±0°.008×155°.400W±0°.007, h12km±1km, Error ellipse: s-maj=1.2km s-min=0.9km az=183.0*

HVO 15 19:30:01.7±0.5, 19°.432N±0°.008×155°.396W±0°.003, h9km±2km, ML2.6/14, ML2.6/48(NEIC), Error ellipse: s-maj=1.2km s-min=0.3km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.06**	**8**	Pg	Pg	19 30 04.1	+0.1
MLH				Sg	Sg	19 30 05.8	+0.2
MLH				IAML		19 30 06.0	
	comp=N,2μm,0.2s						
WRMHI	**West Rim**	**0.09**	**106**		Pg	19 30 04.5	+0.3
UWE	**Uwekahuna**	**0.10**	**96**	Pg	Pg	19 30 04.7	+0.4
SDHHI	**Sand Hill**	**0.10**	**114**	IAML	Pg	19 30 04.7	+0.3
	comp=N,4μm,0.9s						
SDHHI				Pg	Pg	19 30 04.7	+0.3
OBL	**Observatory Le**	**0.11**	**98**	Pg	Pg	19 30 04.8	+0.4
OBL				Sg	Sg	19 30 06.2	-0.1
NPH	**North Pit**	**0.11**	**101**	Pg	Pg	19 30 04.1	-0.3
NPH				IAML		19 30 05.3	
	comp=N,2μm,0.8s						
NPH				IAML		19 30 05.8	
	comp=E,2μm,0.6s						
UWB	**Uwekahuna B**	**0.11**	**94**	Pg	Pg	19 30 04.5	0.0
UWB				IAML		19 30 06.9	
	comp=E,1μm,0.5s						
UWB				IAML		19 30 07.0	
	comp=N,2μm,1.1s						
RSD	**Rainshed**	**0.12**	**75**		Pg	19 30 04.6	0.0
RSD				IAML		19 30 05.0	
	comp=N,2μm,1.1s						
RSD					Sg	19 30 06.8	+0.3
RIM	**Rim**	**0.12**	**108**	Pg	Pg	19 30 04.7	+0.1
RIM				IAML		19 30 05.4	
	comp=E,2μm,0.6s						
SBLHI	**Steaming Bluff**	**0.12**	**92**	Pg	Pg	19 30 04.4	-0.2
SBLHI				IAML		19 30 06.7	
	comp=N,3μm,0.4s						
HATHI	**Halema'uma'u T**	**0.13**	**94**	Pg	Pg	19 30 04.4	-0.3
HATHI				IAML		19 30 05.6	
	comp=E,3μm,1.4s						
KKO	**Keanakako`i**	**0.13**	**106**	Sg	Sg	19 30 06.3	-0.5
BYL	**Byron's Ledge**	**0.13**	**99**	Pg	Pg	19 30 04.8	+0.1
HLP	**Hilina Pali**	**0.16**	**149**		Pg	19 30 05.6	+0.5
HLP	**Hilina Pali**	**0.16**	**149**	IAML		19 30 08.7	
	comp=E,2μm,0.4s						
HLP				IAML		19 30 08.8	
	comp=N,3μm,0.3s						
PUH	**Pauahi**	**0.18**	**109**		Sg	19 30 08.7	+0.5
PUH	**Pauahi**	**0.18**	**109**		Pg	19 30 05.7	+0.2
PUH	**Pauahi**	**0.18**	**109**	IAML		19 30 06.4	
	comp=E,751nm,0.9s						
PUH				IAML		19 30 07.0	
	comp=N,2μm,1.1s						
HMH	**Humu'ula Sheep**	**0.19**	**334**		Pg	19 30 06.2	+0.4
HMH					Sg	19 30 09.3	+0.7
HMH	**Humu'ula Sheep**	**0.19**	**334**	IAML		19 30 09.5	
	comp=N,2μm,0.2s						
HMH				IAML		19 30 09.5	
	comp=E,750nm,0.4s						
HTC	**Hot Caves**	**0.19**	**181**		Pg	19 30 06.1	+0.3
MWH	**Moku'aweowe**	**0.20**	**285**		Pg	19 30 06.2	+0.2
MWH	**Moku'aweowe**	**0.20**	**285**	IAML		19 30 10.8	
	comp=N,956nm,1.1s						
MWH				IAML		19 30 10.9	
	comp=E,1μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.20**	**301**		Pg	19 30 06.3	+0.2
MLOA					Sg	19 30 09.5	+0.4
MLOA	**Mauna Loa Obse**	**0.20**	**301**	IAML		19 30 09.7	
	comp=N,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.22**	**104**		Pg	19 30 06.4	+0.2
ALEP	**Alea Permanent**	**0.26**	**295**		Pg	19 30 07.1	+0.1
ALEP					Sg	19 30 11.0	+0.4
STCH	**Steam Cracks**	**0.26**	**100**		Pg	19 30 06.9	-0.1
NPOC	**North of Pu'u**	**0.27**	**98**		Sb	19 30 12.7	-0.9
NPOC	**North of Pu'u**	**0.27**	**98**		Pg	19 30 07.1	-0.1
NPOC				IAML		19 30 15.5	
	comp=N,615nm,1.2s						
NPOC				IAML		19 30 16.0	
	comp=E,468nm,1.6s						
KHU	**Kahuku**	**0.28**	**228**		Pg	19 30 07.2	-0.2
KHU					Sg	19 30 11.2	0.0
JCUZ	**Jacuzzi**	**0.28**	**100**	Pg	Pg	19 30 07.0	-0.4
POHA	**Pohakuloa**	**0.35**	**338**	Pg	Pg	19 30 09.0	+0.3
POHA				IAML		19 30 18.5	
	comp=E,485nm,0.2s						
POHA				IAML		19 30 19.8	
	comp=E,609nm,0.2s						
HUH	**Hualalai**	**0.48**	**301**	Pg	Pg	19 30 11.3	+0.1
HUH				IAML		19 30 23.1	
	comp=E,736nm,0.3s						
HUH				IAML		19 30 25.2	
	comp=N,535nm,0.4s						
HPAH	**Hawaii Prepara**	**0.66**	**335**	Pg	Pg	19 30 12.6	-1.9
MHA	**Mahukona**	**0.89**	**328**	Pg	Pg	19 30 16.9	-1.9

IDC ***15*** *19:30:14.4±1.4, 1°.89N×127°.00E, h0km, mb3.8/5, mbtmp3.8/5, MS3.4/1, Error ellipse: s-maj=137.5km s-min=19.0km az=68.0*

NEIC ***15*** *19:30:26.9±1.8, 1°.87N±0°.09×126°.98E±0°.07, h102km±5km, mb4.7/14, Error ellipse: s-maj=13.7km s-min=10.0km az=197.0*

DJA ***15*** *19:30:27.7±1.1, 2°.N±2°×12°.7E±°, h29km±11km, M4.2/12, mb4.4/6, mB4.9/2, MLv4.1/12, Mw(mB)4.2/2*

ISC 15 19:30:26.2±0.7, 1°.90N±0°.06×126°.98E±0°.06, h100km, n39, σ1§44/45, mb4.3/12, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.19**	**161**		**Pn**	**19 30 49.7**	**+1.1**
TNTI				Sn	**Sn**	**19 31 05.9**	**+0.2**
TNTI	**Ternate**	**1.19**	**161**	P	**Pn**	**19 30 49.8**	**+1.1**
TNTI				S	**Sn**	**19 31 07.3**	**+1.6**
SGSI	**Sangihe**	**2.29**	**321**	P	**Pn**	**19 31 03.4**	**+0.9**
SGSI				S	**Sn**	**19 31 30.9**	**+0.5**
LBMI	**Labuha**	**2.58**	**168**	P	**Pn**	**19 31 07.5**	**+1.2**
KMSI	**Cibinong**	**3.27**	**246**	P	**Pn**	**19 31 16.9**	**+1.3**
KMSI				S	**Sn**	**19 31 55.9**	**+2.1**
SANI	**Sanana**	**4.05**	**194**	P	**Pn**	**19 31 24.9**	**-1.1**
GTOI	**Gorontalo**	**4.16**	**252**	P	**Pn**	**19 31 29.8**	**+2.3**
SWI	**Sorong**	**5.08**	**123**	P	**Pn**	**19 31 41.5**	**+1.4**
	6.6nm,1.0s,0.0nm						
LUWI	**Luwuk**	**5.12**	**235**	Pn	**Pn**	**19 31 42.1**	**+1.5**
LUWI				Sn	**Sn**	**19 32 37.5**	**-1.0**
LUWI	**Luwuk**	**5.12**	**235**	P	**Pn**	**19 31 43.1**	**+2.5**
	44nm,1.0s,1μm0.9nm						
TOLI2	**Tolitoli**	**6.25**	**263**		**Pn**	**19 31 56.1**	**+0.2**
TOLI2				Sn	**Sn**	**19 33 02.8**	**-3.1**
FAKI	**Fak Fak**	**7.12**	**132**	Pn	**Pn**	**19 32 07.7**	**-0.1**
FAKI	**Fak Fak**	**7.12**	**132**	P	**Pn**	**19 32 09.7**	**+2.0**
	31nm,1.2s,0.2nm						
BBSI	**Bau Bau**	**8.56**	**211**	P	**Pn**	**19 32 29.2**	**+1.9**
	49nm,1.4s						
KAPI	**Kappang**	**9.97**	**226**	Pn	**Pn**	**19 32 46.6**	**+0.2**
EDFI	**Ende, Flores**	**11.82**	**206**	P	**Pn**	**19 33 14.0**	**+2.4**
SBUM	**Sibu**	**14.76**	**272**	P	**P**	**19 33 55.1**	**+1.8**
MTN	**Manton Dam**	**15.22**	**164**	Pn	**Pn**	**19 33 53.2**	**-2.6**
MTN				IAmb	IAmb	19 33 55.3	
	comp=Z,73nm,1.4s						
UGM	**Wanagama**	**19.09**	**239**	P	**Pn**	**19 34 43.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**19.92**	**184**		**P**	**19 34 49.0**	**-1.0**
WB0	**Warramunga Arr**	**22.73**	**162**	P	**P**	**19 35 18.1**	**-1.8**
WB0				IAmb	IAmb	19 35 25.7	
	comp=Z,7.0nm,0.6s						
WRA	**Warramunga Arr**	**22.88**	**162**	P	**P**	**19 35 19.8**	**-1.6**
WRA	**Warramunga Arr**	**22.88**	**162**	P	**P**	**19 35 19.9**	**-1.6**
	comp=Z,1.4nm,0.5s,baz=340,slow=11,SNR=42						
WRA				LR	LR	19 44 54.8	
	comp=Z,78nm,18.3s,baz=40,slow=38 comp=Z,1.4nm,0.5s						
AS31	**Alice Springs**	**26.29**	**166**	P	**P**	**19 35 51.1**	**-1.4**
ASAR	**Alice Springs**	**26.29**	**166**	P	**P**	**19 35 51.8**	**-0.8**
ASAR	**Alice Springs**	**26.29**	**166**	P	**P**	**19 35 51.5**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=343,slow=7.9,SNR=9.6 comp=Z,0.2nm,0.3s						
FORT	**Forrest**	**32.52**	**178**	P	**P**	**19 36 46.6**	**-0.9**
FORT				IAmb	IAmb	19 37 03.7	
	comp=Z,23nm,1.1s						
MORW	**Morawa**	**32.53**	**198**	P	**P**	**19 36 47.6**	**-0.1**
MORW				IAmb	IAmb	19 37 20.2	
	comp=Z,22nm,1.2s						
BBOO	**Buckleboo**	**35.58**	**167**	P	**P**	**19 37 13.1**	**-0.9**
NWAO	**Narrogin (SRO)**	**35.84**	**194**	IAmb	IAmb	19 37 15.7	
	comp=Z,24nm,1.4s						
NWAO				P	**P**	**19 37 16.1**	**-0.2**
ARMA	**Armidale**	**39.82**	**146**	P	**P**	**19 37 49.8**	**-0.1**
ARMA				IAmb	IAmb	19 38 29.2	
	comp=Z,29nm,1.4s						
SONM	**Songino Array**	**49.10**	**342**	P	**P**	**19 39 02.3**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=156,slow=8.7,SNR=1.6 comp=Z,0.2nm,0.3s						
MK31	**Makanchi Array**	**59.19**	**326**	P	**P**	**19 40 17.6**	**+0.9**
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**19 40 17.5**	**+0.7**
MKAR	**Makanchi Array**	**59.19**	**326**	P	**P**	**19 40 18.0**	**+1.2**
	comp=Z,1.3nm,0.5s,baz=117,slow=7.7,SNR=20 comp=Z,1.3nm,0.5s						
MAKZ	**Makanchi**	**59.38**	**326**	P	**P**	**19 40 18.9**	**+0.9**
MAKZ				IAmb	IAmb	19 40 20.3	
	comp=Z,2.9nm,1.2s						
KURBB	**Kurchatov Arra**	**63.41**	**328**	P	**P**	**19 40 46.0**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=130,slow=6.1,SNR=16 comp=Z,1.5nm,0.5s						
KURK	**Kurchatov**	**63.41**	**328**	P	**P**	**19 40 45.8**	**+0.7**
KURK				IAmb	IAmb	19 40 47.6	
	comp=Z,4.2nm,0.6s						
ABKAR	**Akbulak array**	**73.72**	**321**	P	**P**	**19 41 50.3**	**+1.0**

IDC ***15*** *19:34:55.9±2.3, 21°.15N×38°.05E, h0km, mb3.7/4, mbtmp3.6/5, ML3.0/1, MS3.1/7, Error ellipse: s-maj=71.9km s-min=29.3km az=156.0*

SGS ***15*** *19:34:58.6, 21°.34N×38°.41E, h24km, Ml2.8*

ISC 15 19:34:59.5±1.4, 21°.40N±0°.05×38°.48E±0°.09, h10km, n39, σ1§00/34, mb3.6/4, MS3.1/5, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLS	**Khulais**	**1.00**	**49**	P	**Pn**	**19 35 18.9**	**-0.7**
KHLS	**Khulais**	**1.00**	**49**	S	**Sn**	**19 35 34.4**	**+0.6**
KAUST	**King Abdullah**	**1.09**	**32**	P	**Pb**	**19 35 19.9**	**-0.7**
SHBS		**1.19**	**109**	P	**Pb**	**19 35 21.6**	**-0.6**
SHBS		**1.19**	**109**	S	**Sn**	**19 35 38.6**	**+0.2**
KHLS2	**Khulais**	**1.29**	**48**	P	**Pg**	**19 35 23.3**	**-1.1**
KHLS2	**Khulais**	**1.29**	**48**	S	**Sn**	**19 35 42.2**	**+1.1**
JURS	**JURS**	**1.31**	**69**	S	**Sn**	**19 35 43.5**	**+1.9**
JURS				P	**Pg**	**19 35 24.1**	**-0.7**
LBNS	**Jabal Laban**	**1.37**	**104**	P	**Pn**	**19 35 24.4**	**-0.3**
LBNS	**Jabal Laban**	**1.37**	**104**	S	**Sg**	**19 35 43.3**	**-0.3**
FRJS	**Jabal Farasan**	**1.44**	**34**	P	**Pn**	**19 35 24.4**	**-1.3**
YLMLM	**YLMLM**	**1.50**	**114**	P	**Pn**	**19 35 25.9**	**-0.6**
MDRAS	**Madrakah**	**1.57**	**64**	P	**Pb**	**19 35 28.3**	**-0.5**
SADE2	**SADE2**	**1.57**	**119**	P	**Pn**	**19 35 26.5**	**-1.0**
SADE1	**SADE1**	**1.67**	**119**	P	**Pn**	**19 35 27.9**	**-0.9**
SADE1	**SADE1**	**1.67**	**119**	S	**Sn**	**19 35 50.6**	**+0.3**
NLITH	**NLITH**	**1.73**	**123**	P	**Pn**	**19 35 28.8**	**-0.8**
FDAS		**1.80**	**76**	P	**Pb**	**19 35 31.6**	**-1.1**
HAJR	**Hajar**	**1.86**	**36**	P	**Pn**	**19 35 30.6**	**-0.9**
MDRK2	**MDRK2**	**1.88**	**61**	P	**Pb**	**19 35 32.4**	**-1.7**
FRAS	**Faraa**	**1.93**	**100**	P	**Pn**	**19 35 33.3**	**+0.6**
GHMGH	**GHMGH**	**2.05**	**113**	P	**Pn**	**19 35 34.6**	**+0.5**
RHT19	**RHT19**	**2.21**	**34**	P	**Pn**	**19 35 35.7**	**-0.6**
WASQA	**WASQA**	**2.54**	**119**	P	**Pn**	**19 35 40.8**	**0.0**
RHT05	**RHT05**	**2.58**	**14**	P	**Pn**	**19 35 40.6**	**-0.8**
RHT17	**RHT17**	**2.62**	**30**	P	**Pn**	**19 35 43.5**	**+1.4**
RHT03	**RHT03**	**3.24**	**28**	P	**Pn**	**19 35 51.3**	**+0.8**
RHT09	**RHT09**	**3.62**	**21**	P	**Pn**	**19 35 55.9**	**+0.1**
KBR07	**Khaybar**	**3.95**	**13**	P	**Pn**	**19 35 59.2**	**-1.0**
EIL	**Elat**	**8.83**	**340**	LR	LR	19 39 54.4	
	comp=Z,66nm,20.2s,baz=246,slow=33						
BRTR	**Keskin Array B**	**18.73**	**348**	P	**P**	**19 39 17.7**	**-0.9**
	0.1nm,0.3s,baz=183,slow=10,SNR=2.7						
BRTR				LR	LR	19 46 51.9	
	comp=Z,34nm,20.0s,baz=180,slow=38 0.4nm,0.7s						
GEYT	**Alibeck**	**23.64**	**42**	LR	LR	19 50 44.6	
	comp=Z,42nm,18.7s,baz=200,slow=39						
TORD	**Torodi Ar. Bea**	**36.00**	**263**	P	P	19 41 55.3	-5.8
	0.8nm,1.0s,baz=63,slow=9.9,SNR=3.2 0.8nm,1.0s						
BVAR	**Borovoye Array**	**39.92**	**30**	LR	LR	20 01 42.5	
	comp=Z,34nm,20.5s,baz=265,slow=40						
KURBB	**Kurchatov Arra**	**42.78**	**37**	P	**P**	**19 42 59.4**	**+2.2**
	1.0nm,0.8s,baz=243,slow=7.9,SNR=5.2 1.0nm,0.8s						
MKAR	**Makanchi Array**	**43.48**	**44**	P	**P**	**19 43 04.2**	**+1.2**
	0.7nm,0.7s,baz=246,slow=6.1,SNR=7.6						
MKAR				LR	LR	20 02 57.6	
	comp=Z,20nm,19.0s,baz=202,slow=38 0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**47.71**	**35**	LR	LR	20 07 54.5	
	comp=Z,19nm,18.4s,baz=348,slow=41						
BOSA	**Boshof**	**51.33**	**195**	LR	LR	20 06 11.1	
	comp=Z,73nm,21.3s,baz=211,slow=37						
SONM	**Songino Array**	**59.73**	**46**	P	**P**	**19 45 05.3**	**+0.6**
	0.7nm,0.7s,baz=262,slow=8.6,SNR=8.0 0.7nm,0.7s						

IDC ***15*** *19:37:51.2±0.6, 28°.31S×178°.56W, h276km±5km, mb3.5/12, mbtmp4.1/12, Error ellipse: s-maj=17.8km s-min=14.8km az=94.0*

NEIC ***15*** *19:37:53.0±2.5, 28°.5S±0°.1×178°.8W±0°.2, h281km±8km, mb4.2/16, Error ellipse: s-maj=27.2km s-min=16.0km az=86.0*

ISC 15 19:37:52.9±0.5, 28°.65S±0°.07×178°.6W±0°.1, h300km, n96, σ1§81/102, mb3.9/21, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.85**	**135**		**Pn**	**19 38 31.3**	**-1.3**
RAO	**Raoul Island**	**0.85**	**135**	P	**Pn**	**19 38 30.9**	**-1.7**
	1μm,0.2s,baz=45,slow=19,SNR=18						
RAO				S	**S**	**19 38 59.7**	**-4.4**
	1μm,0.3s,baz=309,slow=20,SNR=6.1						
MXZ	**Matakaoa Point**	**9.26**	**195**	Pn	**Pn**	**19 40 02.6**	**+0.7**
PUZ	**Puketiti**	**9.76**	**195**	P	**Pn**	**19 40 06.1**	**-1.9**
RUGZ	**Raukumara Rang**	**9.80**	**198**	P	**Pn**	**19 40 06.9**	**-1.7**
TWGZ	**Tauwhareparae**	**9.92**	**196**	P	**Pn**	**19 40 08.6**	**-1.4**
TGRZ	**Tauranga**	**10.03**	**204**	P	P	19 40 20.5	+5.7
CNGZ	**Carnagh Statio**	**10.16**	**194**	P	**Pn**	**19 40 09.9**	**-3.0**
MWZ	**Matawai**	**10.19**	**197**	P	**Pn**	**19 40 14.5**	**+1.3**
URZ	**Urewera**	**10.23**	**199**	P	**Pn**	**19 40 12.3**	**-1.4**
	7.4nm,0.3s,baz=7.5,slow=2.3,SNR=20						
URZ				S	**S**	**19 42 04.2**	**-4.6**
	22nm,0.3s,baz=358,slow=23,SNR=9.8						
URZ	**Urewera**	**10.23**	**199**	P	**Pn**	**19 40 12.7**	**-1.1**
MUGZ	**Murupara**	**10.53**	**200**	P	**Pn**	**19 40 17.2**	**-0.3**
RTZ	**Ruatahuna**	**10.60**	**199**	Pn	**Pn**	**19 40 16.3**	**-2.1**
NMHZ	**Naumai**	**11.10**	**199**	P	**Pn**	**19 40 24.7**	**+0.3**
HIZ	**Hauiti**	**11.25**	**207**	P	**P**	**19 40 31.0**	**+2.6**
BKZ	**Black Stump Fm**	**11.25**	**200**	Pn	**Pn**	**19 40 25.5**	**-0.9**
BKZ	**Black Stump Fm**	**11.25**	**200**	P	**Pn**	**19 40 25.4**	**-0.9**
KWHZ	**Kaweka Forest**	**11.51**	**200**	P	**Pn**	**19 40 28.5**	**-1.0**
OTVZ	**Oturere**	**11.52**	**203**	P	**Pn**	**19 40 29.7**	**0.0**
BHHZ	**Black Hill Sta**	**11.68**	**201**	P	**Pn**	**19 40 29.3**	**-2.3**
WNVZ	**Wahianoa**	**11.69**	**203**	P	**Pn**	**19 40 29.7**	**-2.0**
KRHZ	**Kereru**	**11.73**	**199**	P	**Pn**	**19 40 31.0**	**-1.1**
PNHZ	**Pukenui**	**12.03**	**200**	P	**Pn**	**19 40 32.7**	**-3.1**
TSZ	**Takapari Road**	**12.23**	**200**	P	**Pn**	**19 40 36.3**	**-1.9**
PRHZ	**Porangahau**	**12.23**	**197**	P	**Pn**	**19 40 37.0**	**-1.2**
DVHZ	**Dannevirke**	**12.39**	**199**	P	**Pn**	**19 40 38.3**	**-1.9**
PRWZ	**Pori Road**	**12.69**	**199**	P	**Pn**	**19 40 42.3**	**-1.3**
BFZ	**Birch Farm**	**12.73**	**198**	P	**Pn**	**19 40 41.9**	**-2.3**
MRZ	**Mangatainoka R**	**12.90**	**200**	Pn	**Pn**	**19 40 43.3**	**-2.9**
MRZ	**Mangatainoka R**	**12.90**	**200**	P	**Pn**	**19 40 43.3**	**-2.9**
HOWZ	**Holdsworth Sta**	**13.14**	**200**	P	**Pn**	**19 40 45.9**	**-3.2**
OGWZ	**Otaki Gorge**	**13.17**	**201**	P	**Pn**	**19 40 45.9**	**-3.5**
TMWZ	**Te Maipa**	**13.22**	**199**	P	**Pn**	**19 40 48.2**	**-1.9**
TCW	**Tory Channel**	**13.82**	**203**	P	**P**	**19 40 53.5**	**-3.4**
PLWZ	**Palliser**	**13.83**	**200**	P	**P**	**19 40 54.9**	**-2.1**
TUWZ	**Tuamarina**	**14.13**	**204**	P	**P**	**19 40 57.5**	**-2.8**
NNZ	**Nelson**	**14.15**	**206**	P	**P**	**19 40 58.2**	**-2.3**
MRNZ	**Matariki Terra**	**14.55**	**207**	P	**P**	**19 41 02.8**	**-2.1**
MRNZ	**Matariki Terra**	**14.55**	**207**	P	**P**	**19 41 03.5**	**-1.4**
THZ	**Tophouse**	**14.80**	**206**	P	**P**	**19 41 05.9**	**-1.8**
DZM	**Mont Dzumac**	**15.02**	**292**	P	**Pn**	**19 41 12.6**	**+0.9**
	6.8nm,0.6s,baz=169,slow=15,SNR=10						
KHZ	**Kahutara**	**15.14**	**203**	P	**P**	**19 41 10.0**	**-1.4**
KHZ	**Kahutara**	**15.14**	**203**	P	**P**	**19 41 10.4**	**-1.0**
OXZ	**Oxford**	**16.47**	**205**	P	**P**	**19 41 24.6**	**-1.4**
HNR	**Honiara**	**27.78**	**309**	P	**P**	**19 43 11.1**	**-3.9**
CTAO	**Charters Tower**	**33.04**	**277**	P	**P**	**19 44 01.2**	**+0.2**
CTAO				IAmb	IAmb	19 44 21.1	
	comp=Z,11nm,1.1s						
COEN	**Coen**	**38.31**	**284**	P	**P**	**19 44 46.5**	**+0.9**
COEN				IAmb	IAmb	19 45 18.0	
	comp=Z,21nm,1.2s						
ASAR	**Alice Springs**	**42.71**	**265**	P	**P**	**19 45 21.3**	**-0.1**
ASAR	**Alice Springs**	**42.71**	**265**	P	**P**	**19 45 22.0**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.2,SNR=26						
ASAR				PcP	**PcP**	**19 47 07.5**	**+0.5**
	comp=Z,0.3nm,0.4s,baz=108,slow=4.4,SNR=1.2						
ASAR				ScP	**ScP**	**19 50 31.9**	**+3.1**
	comp=Z,0.9nm,0.8s,baz=100,slow=3.8,SNR=4.9 comp=Z,1.1nm,0.6s						
WR0	**Warramunga Arr**	**43.35**	**271**	P	**P**	**19 45 26.2**	**-0.3**
WR0				IAmb	IAmb	19 45 27.2	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**43.52**	**271**	P	**P**	**19 45 27.8**	**-0.1**
WB2				IAmb	IAmb	19 45 49.8	
	comp=Z,8.9nm,1.2s						
WRA	**Warramunga Arr**	**43.53**	**271**	P	**P**	**19 45 28.1**	**+0.2**
WRA	**Warramunga Arr**	**43.53**	**271**	P	**P**	**19 45 28.0**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=108,slow=6.3,SNR=12						
WRA				PcP	**PcP**	**19 47 09.0**	**-0.9**
	comp=Z,0.6nm,0.5s,baz=124,slow=2.6,SNR=2.2						
WRA				ScP	**ScP**	**19 50 35.6**	**+3.3**
	comp=Z,0.5nm,0.7s,baz=104,slow=3.8,SNR=1.5 comp=Z,1.4nm,0.5s						
WB0	**Warramunga Arr**	**43.55**	**271**	P	**P**	**19 45 28.2**	**+0.2**
WB0				IAmb	IAmb	19 45 35.6	
	comp=Z,17nm,1.4s						
FORT	**Forrest**	**46.01**	**254**	P	**P**	**19 45 46.1**	**-1.1**
FORT				IAmb	IAmb	19 45 49.1	
	comp=Z,18nm,0.8s						
SBA	**Scott Base**	**49.74**	**184**	P	P	19 46 20.4	+5.5
VNDA	**Vanda**	**49.78**	**185**	P	**P**	**19 46 19.3**	**+4.1**
VNDA	**Vanda**	**49.78**	**185**	P	**P**	**19 46 18.6**	**+3.4**
	comp=Z,1.4nm,0.6s,baz=10.0,slow=8.6,SNR=8.4 comp=Z,1.4nm,0.6s						
CASY	**Casey**	**56.45**	**207**	P	**P**	**19 47 04.6**	**+1.1**
CASY				IAmb	IAmb	19 47 28.8	
	comp=Z,6.9nm,1.2s						
QSPA	**South Pole Qui**	**61.45**	**180**	P	**P**	**19 47 41.4**	**+3.4**
QSPA	**South Pole Qui**	**61.45**	**180**	P	**P**	**19 47 41.3**	**+3.4**
	comp=Z,1.8nm,0.8s,baz=92,slow=0.8,SNR=14 comp=Z,1.8nm,0.8s						
BELA	**Belgrano 2**	**71.58**	**172**	P	**P**	**19 48 43.7**	**+2.4**
BELA				IAmb	IAmb	19 49 04.1	
	comp=Z,2.7nm,1.3s						
MAW	**Mawson**	**73.76**	**201**	P	**P**	**19 48 56.2**	**+2.0**
	comp=Z,1.3nm,0.7s,baz=57,slow=4.9,SNR=2.4 comp=Z,1.3nm,0.7s						
JOW	**Kunigami**	**75.10**	**312**	P	**P**	**19 49 02.6**	**+0.1**
JOW				IAmb	IAmb	19 49 05.1	
	comp=Z,8.9nm,1.1s						
MJAR	**Matsushiro Arr**	**76.51**	**325**	P	**P**	**19 49 09.3**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=138,slow=3.4,SNR=2.9 comp=Z,0.9nm,0.8s						
KSRS	**Korea Array**	**82.68**	**320**	P	**P**	**19 49 44.2**	**+1.0**
	comp=Z,1.1nm,0.8s,

	baz=283							
TWB1	**Santiao Chiao**	**0.47 313**	*e*P	**Pn**	**20 20 51.7**	**-0.3**		
	baz=306							
TWB1			*i* S	**Sn**	**20 21 02.1**	**-0.2**		
	baz=306							
TWC	**Suao**	**0.48 261**	*i* P	**Pn**	**20 20 51.8**	**-0.3**		
	baz=258							
TWC			*e*S	**Sn**	**20 21 01.6**	**-0.8**		
	baz=258							
ESAO	**Su ao**	**0.49 257**	*e*P	**Pn**	**20 20 52.1**	**0.0**		
	baz=257							
ESAO			*i* S	**Sn**	**20 21 02.2**	**-0.4**		
	baz=257							
EOS4	**EOS4**	**0.57 185**	*e*P	**Pn**	**20 20 52.8**	**+0.4**		
	baz=190							
TIPB	**Shuangxi**	**0.57 300**	*i* P	**Pn**	**20 20 52.8**	**-0.2**		
	baz=293							
TIPB			*i* S	**Sn**	**20 21 03.3**	**-0.6**		
	baz=293							
ILA	**Ilan**	**0.57 278**	*e*P	**Pn**	**20 20 53.2**	**+0.4**		
	baz=275							
ILA			*e*S	**Sn**	**20 21 03.5**	**-0.3**		
	baz=275							
JYNG	**Yonagunijimaku**	**0.57 114**	P	**Pn**	**20 20 53.0**	**+0.1**		
JYNG			S	**Sn**	**20 21 04.0**	**+0.2**		
EWUT	**Wuta**	**0.59 246**	*e*P	**Pn**	**20 20 53.2**	**+0.2**		
	baz=246							
EWUT			*e*S	**Sn**	**20 21 04.1**	**0.0**		
	baz=246							
NDS	**Dongshan**	**0.60 265**	*e*P	**Pn**	**20 20 53.3**	**+0.2**		
	baz=262							
NDS			*e*S	**Sn**	**20 21 03.8**	**-0.5**		
	baz=262							
SXI1	**Grass Mountain**	**0.60 312**	P	**Pn**	**20 20 53.1**	**-0.2**		
	baz=306							
SXI1			*e*S	**Sn**	**20 21 04.2**	**-0.3**		
	baz=306							
YOJ	**Yonaguni jima**	**0.62 111**	P	**Pn**	**20 20 53.4**	**+0.1**		
YOJ	**Yonaguni jima**	**0.62 111**	P	**Pn**	**20 20 53.5**	**+0.1**		
YOJ			S	**Sn**	**20 21 04.8**	**+0.1**		
YOJ	**Yonaguni jima**	**0.62 111**	*i* P	**Pn**	**20 20 53.5**	**+0.1**		
	baz=118							
YOJ			*i* S	**Sn**	**20 21 05.0**	**+0.3**		
	baz=118							
ENA	**Nanau**	**0.63 246**	*e*P	**Pn**	**20 20 53.6**	**+0.2**		
	baz=246							
ENA			*e*S	**Sn**	**20 21 05.1**	**+0.3**		
	baz=246							
TWE	**Neicheng**	**0.64 273**	*i* P	**Pn**	**20 20 53.6**	**+0.1**		
	baz=270							
TWE			*i* S	**Sn**	**20 21 05.0**	**+0.1**		
	baz=270							
NWF	**Wu-fen Shan**	**0.66 306**	*e*P	**Pn**	**20 20 53.3**	**-0.5**		
	baz=298							
NWF			*e*S	**Sn**	**20 21 05.1**	**-0.3**		
	baz=298							
WFSB	**Wu-fen Shan**	**0.66 306**	*e*P	**Pn**	**20 20 53.8**	**+0.1**		
	baz=298							
WFSB			*e*S	**Sn**	**20 21 04.8**	**-0.4**		
	baz=298							
EAHA	**Aohua**	**0.68 238**	*i* P	**Pn**	**20 20 54.1**	**+0.2**		
	baz=236							
EAHA			S	**Sn**	**20 21 06.1**	**+0.6**		
	baz=236							
TNOU	**National Taiwa**	**0.71 310**	*e*P	**Pn**	**20 20 53.9**	**-0.4**		
	baz=309							
FUSB	**Fushanzhiwuyua**	**0.72 276**	*i* P	**Pn**	**20 20 54.4**	**0.0**		
	baz=279							
FUSB			S	**Sn**	**20 21 05.9**	**-0.5**		
	baz=279							
ENTT	**Nioudou**	**0.73 266**	*e*P	**Pn**	**20 20 54.8**	**+0.3**		
	baz=268							
ENTT			*e*S	**Sn**	**20 21 07.2**	**+0.6**		
	baz=268							
TWA	**Mucha**	**0.77 292**	*e*P	**Pn**	**20 20 54.7**	**-0.1**		
	baz=284							
TWA			*e*S	**Sn**	**20 21 06.2**	**-1.1**		
	baz=284							
LATG	**Datong**	**0.78 259**	*i* P	**Pn**	**20 20 55.5**	**+0.4**		
	baz=253							
LATG			S	**Sn**	**20 21 08.4**	**+0.7**		
	baz=253							
NDT	**Datong Townshi**	**0.79 264**	*e*P	**Pn**	**20 20 55.6**	**+0.5**		
	baz=264							
NDT			*e*S	**Sn**	**20 21 08.2**	**+0.6**		
	baz=264							
NWLT	**Wulai**	**0.79 277**	*i* P	**Pn**	**20 20 55.0**	**-0.1**		
	baz=281							
NWLT			*e*S	**Sn**	**20 21 07.4**	**-0.4**		
	baz=281							
TATO	**Taipei**	**0.85 290**	P	**Pn**	**20 20 55.5**	**-0.2**		
YM01	**YM01**	**0.86 302**	*i* P	**Pn**	**20 20 55.7**	**-0.1**		
	baz=292							
YM01			*e*S	**Sn**	**20 21 08.2**	**-0.8**		
	baz=292							
YM08	**YM08**	**0.87 305**	*e*P	**Pn**	**20 20 55.4**	**-0.5**		
	baz=295							
YM08			*e*S	**Sn**	**20 21 08.4**	**-0.7**		
	baz=295							
NACB	**Ninganchiao**	**0.87 234**	P	**Pn**	**20 20 55.3**	**-0.7**		
NACB	**Ninganchiao**	**0.87 234**	*e*P	**Pn**	**20 20 55.5**	**-0.5**		
	baz=225							
NACB			*e*S	**Sn**	**20 21 07.8**	**-1.4**		
	baz=225							
YHNB	**Yeheng**	**0.91 269**	P	**Pn**	**20 20 56.6**	**+0.2**		
YHNB	**Yeheng**	**0.91 269**	*i* P	**Pn**	**20 20 56.8**	**+0.4**		
	baz=273							
YHNB			*i* S	**Sn**	**20 21 10.2**	**+0.2**		
	baz=273							
TWY	**Chenhua**	**0.91 310**	*e*P	**Pn**	**20 20 56.4**	**0.0**		
	baz=309							
TWY			*e*S	**Sn**	**20 21 09.9**	**-0.1**		
	baz=309							
ANP	**Anpu**	**0.92 303**	*e*P	**Pn**	**20 20 56.2**	**-0.4**		
	baz=293							
TWD	**Chiawan**	**0.93 230**	*e*P	**Pn**	**20 20 56.6**	**0.0**		
	baz=221							
TWD			*e*S	**Sn**	**20 21 10.1**	**-0.3**		
	baz=221							
NNSB	**Datong**	**0.94 254**	*i* P	**Pn**	**20 20 57.0**	**+0.2**		
	baz=246							
NNSB			*e*S	**Sn**	**20 21 10.3**	**-0.4**		
	baz=246							
NNS	**Nan Shan**	**0.94 255**	*i* P	**Pn**	**20 20 57.1**	**+0.2**		
	baz=247							
NNS			*e*S	**Sn**	**20 21 10.6**	**-0.2**		
	baz=247							
TWS1	**Kuangyinshan**	**0.96 296**	*e*P	**Pn**	**20 20 56.8**	**-0.1**		
	baz=294							
TWS1			*e*S	**Sn**	**20 21 12.8**	**+1.8**		
	baz=294							
NTST	**Danshui**	**0.96 300**	*i* P	**Pn**	**20 20 57.0**	**0.0**		
	baz=293							
NTST			*e*S	**Sn**	**20 21 11.0**	**0.0**		
	baz=293							
PCYT	**Pengchaiyu**	**0.98 344**	*e*P	**Pn**	**20 20 57.6**	**+0.4**		
	baz=335							
PCYT			*e*S	**Sn**	**20 21 12.1**	**+0.8**		
	baz=335							
ETM	**Tongmen**	**1.08 228**	*e*P	**Pn**	**20 20 58.1**	**-0.2**		
	baz=226							
ETM			*e*S	**Sn**	**20 21 12.3**	**-1.2**		
	baz=226							
LXIB	**Xiulin Townshi**	**1.10 233**	*e*P	**Pn**	**20 20 58.3**	**-0.5**		
	baz=231							
LXIB			*e*S	**Sn**	**20 21 12.9**	**-1.2**		
	baz=231							
FUSS	**Fushou**	**1.12 247**	*e*P	**Pn**	**20 20 59.5**	**+0.4**		
	baz=239							
FUSS			*e*S	**Sn**	**20 21 14.4**	**-0.4**		
	baz=239							
NFF	**Wufeng Townshi**	**1.14 267**	P	**Pn**	**20 20 59.5**	**+0.3**		
	baz=272							
NFF			*e*S	**Sn**	**20 21 14.9**	**-0.1**		
	baz=272							
WHF	**Hehuan Shan**	**1.14 242**	*i* P	**Pn**	**20 20 59.6**	**0.0**		
	baz=234							
WHF			*i* S	**Sn**	**20 21 15.4**	**-0.2**		
	baz=234							
SHUL	**Shoufeng**	**1.16 220**	*e*P	**Pn**	**20 20 59.5**	**+0.1**		
	baz=209							
SHUL			*e*S	**Sn**	**20 21 14.7**	**-0.5**		
	baz=209							
TWT	**Tachien**	**1.17 249**	P	**Pn**	**20 21 00.3**	**+0.7**		
	baz=239							
TWT			*e*S	**Sn**	**20 21 16.3**	**+0.5**		
	baz=239							
TDCB	**Techi**	**1.19 249**	*e*P	**Pn**	**20 21 00.4**	**+0.5**		
	baz=239							
TDCB			*e*S	**Sn**	**20 21 15.8**	**-0.3**		
	baz=239							
ESL	**Shilin**	**1.22 225**	*e*P	**Pn**	**20 20 59.2**	**-1.0**		
	baz=231							
ESL			*e*S	**Sn**	**20 21 15.2**	**-1.4**		
	baz=231							
LIOB	**Emei**	**1.23 268**	P	**Pn**	**20 21 00.7**	**+0.4**		
	baz=266							
LIOB			S	**Sn**	**20 21 17.1**	**+0.2**		
	baz=266							
NSTT	**Nanjuang**	**1.25 268**	*e*P	**Pn**	**20 21 00.7**	**+0.3**		
	baz=266							
NSTT			*i* S	**Sn**	**20 21 17.2**	**0.0**		
	baz=266							
CHGB	**Renai**	**1.26 240**	*e*P	**Pn**	**20 21 01.1**	**+0.3**		
	baz=232							
CHGB			*e*S	**Sn**	**20 21 17.2**	**-0.5**		
	baz=232							
IRIF	**Iriomote-Funau**	**1.29 106**	P	**Pn**	**20 21 00.7**	**-0.2**		
IRIF			S	**Sn**	**20 21 18.7**	**+0.6**		
OWD	**Renai**	**1.31 236**	*e*P	**Pn**	**20 21 01.4**	**0.0**		
	baz=229							
OWD			*e*S	**Sn**	**20 21 18.2**	**-0.7**		
	baz=229							
WARBT	**Fenglin Townsh**	**1.32 223**	*e*P	**Pn**	**20 21 00.4**	**-1.0**		
	baz=228							
WARBT			*e*S	**Sn**	**20 21 17.1**	**-1.8**		
	baz=228							
WUSB	**Renai**	**1.34 239**	*i* P	**Pn**	**20 21 02.2**	**+0.5**		
	baz=231							
WUSB			*i* S	**Sn**	**20 21 19.5**	**+0.1**		
	baz=231							
WHP	**Taichung City**	**1.36 253**	P	**Pn**	**20 21 03.1**	**+1.1**		
	baz=251							
WHP			*i* S	**Sn**	**20 21 20.7**	**+0.8**		
	baz=251							
NMLH	**Miaoli**	**1.45 264**	*e*P	**Pn**	**20 21 03.4**	**+0.4**		
	baz=262							
NMLH			S	**Sn**	**20 21 21.8**	**+0.2**		
	baz=262							
VWDT	**VWDT**	**1.46 231**	*e*P	**Pn**	**20 21 03.3**	**+0.2**		
	baz=224							
VWDT			*e*S	**Sn**	**20 21 21.2**	**-0.7**		
	baz=224							
WCS	**Beigang Elemen**	**1.47 245**	*e*P	**Pn**	**20 21 04.2**	**+0.9**		
	baz=237							
WCS			*e*S	**Sn**	**20 21 22.9**	**+0.7**		
	baz=237							
HGSD	**Ruisui**	**1.47 216**	*e*P	**Pn**	**20 21 03.2**	**-0.1**		
	baz=208							
HGSD			*e*S	**Sn**	**20 21 21.8**	**-0.5**		
	baz=208							
NSY	**Sanyi**	**1.49 260**	*e*P	**Pn**	**20 21 04.0**	**+0.5**		
	baz=258							
NSY			*e*S	**Sn**	**20 21 23.4**	**+0.7**		
	baz=258							
TWQ1	**Liyutan**	**1.49 257**	*e*P	**Pn**	**20 21 04.0**	**+0.4**		
	baz=255							
TWQ1			*e*S	**Sn**	**20 21 22.4**	**-0.3**		
	baz=255							
EHY	**Hungye**	**1.52 219**	*e*P	**Pn**	**20 21 03.5**	**-0.4**		
	baz=226							
EHY			*e*S	**Sn**	**20 21 21.4**	**-1.9**		
	baz=226							
SMLT	**Sun Moon Lake**	**1.56 239**	P	**Pn**	**20 21 06.0**	**+1.5**		
	baz=231							
SMLT			*e*S	**Sn**	**20 21 24.7**	**+0.2**		
	baz=231							
SSLB	**Suanglung**	**1.57 236**	P	**Pn**	**20 21 05.2**	**+0.5**		
SSLB	**Suanglung**	**1.57 236**	*e*P	**Pn**	**20 21 05.1**	**+0.5**		
	baz=234							
TYC	**Yuchr**	**1.59 241**	*e*P	**Pn**	**20 21 05.9**	**+1.2**		
	baz=239							
TYC			*e*S	**Sn**	**20 21 26.0**	**+1.2**		
	baz=239							
YULB	**Yu-li**	**1.62 217**	P	**Pn**	**20 21 05.3**	**+0.1**		
YULB	**Yu-li**	**1.62 217**	*e*P	**Pn**	**20 21 04.1**	**-1.2**		
	baz=225							
YULB			*e*S	**Sn**	**20 21 23.4**	**-2.3**		
	baz=225							
EYUL	**Yuli**	**1.65 216**	*e*P	**Pn**	**20 21 06.3**	**+0.8**		
	baz=223							
JIJ	**Ishigaki jima**	**1.65 101**	P	**Pn**	**20 21 05.7**	**+0.2**		
TWF1	**Yuli**	**1.65 217**	*e*P	**Pn**	**20 21 04.9**	**-0.8**		
	baz=223							
WHYT	**Xinyi Township**	**1.70 235**	*e*P	**Pn**	**20 21 07.7**	**+1.4**		
	baz=233							
WHYT			*i* S	**Sn**	**20 21 29.3**	**+1.7**		
	baz=233							
WNT	**Mingjian**	**1.74 243**	*e*P	**Pn**	**20 21 07.7**	**+0.9**		
	baz=251							
WNT			*e*S	**Sn**	**20 21 29.6**	**+1.2**		
	baz=251							
WCHH	**Zhanghua**	**1.76 250**	*e*P	**Pn**	**20 21 07.2**	**+0.2**		
	baz=248							
WCHH			*e*S	**Sn**	**20 21 29.2**	**+0.3**		
	baz=248							
JISG	**Ishigakijimahi**	**1.77 93**	P	**Pn**	**20 21 07.5**	**+0.4**		
FULB	**Fuli**	**1.78 214**	*e*P	**Pn**	**20 21 07.7**	**+0.3**		
	baz=222							
FULB			*e*S	**Sn**	**20 21 29.1**	**-0.3**		
	baz=222							
CHKT	**Chengkung**	**1.83 210**	*e*P	**Pn**	**20 21 08.6**	**+0.6**		
	baz=201							
CHKT			*e*S	**Sn**	**20 21 28.3**	**-2.2**		
	baz=201							
ALS	**Alishan**	**1.85 231**	*e*P	**Pn**	**20 21 09.5**	**+1.0**		
	baz=222							
ALS			*e*S	**Sn**	**20 21 32.9**	**+1.4**		
	baz=222							
EHD	**Haiduan**	**1.87 215**	*e*P	**Pn**	**20 21 08.5**	**+0.1**		
	baz=213							
EHD			*e*S	**Sn**	**20 21 31.9**	**+0.5**		
	baz=213							
ELDTW	**Lidau**	**1.94 220**	*e*P	**Pn**	**20 21 09.2**	**-0.4**		
	baz=212							
ELDTW			*e*S	**Sn**	**20 21 33.2**	**-0.1**		
	baz=212							
WDLH	**Douliu**	**1.95 240**	*e*P	**Pn**	**20 21 10.2**	**+0.7**		
	baz=238							
WDLH			*e*S	**Sn**	**20 21 36.0**	**+2.7**		
	baz=238							
EDH	**Donghe**	**1.97 210**	*e*P	**Pn**	**20 21 10.5**	**+0.7**		
	baz=202							
EDH			*e*S	**Sn**	**20 21 31.6**	**-2.2**		
	baz=202							
WRL	**Guolierlin Hig**	**1.98 247**	*e*P	**Pn**	**20 21 10.0**	**+0.1**		
	baz=253							
WRL			*i* S	**Sn**	**20 21 33.5**	**-0.6**		
	baz=253							
WCKO	**Fanlu**	**2.04 233**	P	**Pn**	**20 21 11.8**	**+1.1**		
	baz=223							
WCKO			*i* S	**Sn**	**20 21 36.9**	**+1.4**		
	baz=223							
WTK	**Tuku**	**2.07 242**	*e*P	**Pn**	**20 21 11.3**	**+0.3**		
	baz=239							
WTK			*e*S	**Sn**	**20 21 36.1**	**0.0**		
	baz=239							
STYH	**Taoyuan**	**2.10 224**	*e*P	**Pn**	**20 21 12.6**	**+1.1**		
	baz=214							
STYH			*e*S	**Sn**	**20 21 37.3**	**+0.4**		
	baz=214							
CHN4	**Tsaushan**	**2.10 231**	*e*P	**Pn**	**20 21 12.6**	**+1.1**		
	baz=229							
CHN4			*e*S	**Sn**	**20 21 39.4**	**+2.4**		
	baz=229							
LONT	**Longtian**	**2.11 213**	*e*P	**Pn**	**20 21 10.9**	**-0.8**		
	baz=211							
LONT			*e*S	**Sn**	**20 21 36.3**	**-0.8**		
	baz=211							
TPUB	**Ta-pu**	**2.11 229**	P	**Pn**	**20 21 13.6**	**+1.9**		
TPUB	**Ta-pu**	**2.11 229**	*e*P	**Pn**	**20 21 12.5**	**+0.8**		
	baz=227							
TPUB			*e*S	**Sn**	**20 21 37.9**	**+0.7**		
	baz=227							
WTP	**Ta-pu**	**2.15 229**	*e*P	**Pn**	**20 21 13.6**	**+1.3**		
	baz=227							
WTP			*e*S	**Sn**	**20 21 39.2**	**+0.9**		
	baz=227							
LDUT	**Ludao**	**2.17 203**	*e*P	**Pn**	**20 21 12.5**	**+0.1**		
	baz=206							
LDUT			*e*S	**Sn**	**20 21 36.4**	**-2.2**		
	baz=206							
TWGBT	**Beinan**	**2.21 213**	*e*P	**Pn**	**20 21 12.8**	**-0.2**		
	baz=211							
TWGBT			*e*S	**Sn**	**20 21 37.9**	**-1.6**		
	baz=211							
TWG	**Pinlang**	**2.21 213**	*e*P	**Pn**	**20 21 12.8**	**-0.2**		
	baz=211							
TWG			*e*S	**Sn**	**20 21 38.1**	**-1.4**		
	baz=211							
TWK	**Hsinying**	**2.23 231**	*e*P	**Pn**	**20 21 15.0**	**+1.7**		
	baz=229							
TWK			*e*S	**Sn**	**20 21 41.5**	**+1.3**		
	baz=229							
SNST	**Tainan City**	**2.25 230**	*e*P	**Pn**	**20 21 13.7**	**+0.1**		
	baz=228							
SNST			*e*S	**Sn**	**20 21 41.6**	**+1.0**		
	baz=228							
CHN1	**Nanshi**	**2.25 229**	*e*P	**Pn**	**20 21 14.3**	**+0.7**		
	baz=227							
CHN1			*e*S	**Sn**	**20 21 41.5**	**+0.8**		
	baz=227							
SGST	**Jiashian**	**2.29 226**	*e*P	**Pn**	**20 21 13.4**	**-0.6**		
	baz=224							
SGST			*e*S	**Sn**	**20 21 42.4**	**+0.9**		
	baz=224							
SLGT	**Liugui**	**2.31 223**	*e*P	**Pn**	**20 21 15.8**	**+1.5**		
	baz=230							
SLGT			*e*S	**Sn**	**20 21 43.4**	**+1.4**		
	baz=230							
SSD	**Sandimen**	**2.50 220**	*e*P	**Pn**	**20 21 18.4**	**+1.4**		
	baz=229							
SSD			*e*S	**Sn**	**20 21 47.8**	**+1.1**		
	baz=229							
TSCK	**Chigu Township**	**2.59 234**	*e*P	**Pn**	**20 21 18.6**	**+0.5**		
	baz=242							
MASBT	**Mashibuluo**	**2.61 218**	*e*P	**Pn**	**20 21 19.9**	**+1.6**		
	baz=216							
MASBT			*e*S	**Sn**	**20 21 49.6**	**+0.4**		
	baz=216							
MATB	**Ma-tsu**	**2.63 304**	*e*P	**Pn**	**20 21 17.4**	**-1.3**		
	baz=302							
VWUC	**VWUC**	**2.67 277**	*e*P	**Pn**	**20 21 18.4**	**-0.7**		
	baz=275							
EAST	**Anshuo**	**2.69 212**	*e*P	**Pn**	**20 21 18.6**	**-0.8**		
	baz=204							
EAST			*e*S	**Sn**	**20 21 49.6**	**-1.5**		
	baz=204							
PNG	**Penghu**	**2.80 247**	*e*P	**Pn**	**20 21 19.6**	**-1.4**		
	baz=245							
PHUB	**P'eng-hu**	**2.81 246**	*e*P	**Pn**	**20 21 20.1**	**-0.9**		
	baz=244							
WDGT	**Dungji**	**2.86 241**	*e*P	**Pn**	**20 21 21.7**	**+0.1**		
	baz=239							

HEL 15 20:23:30.9±0.6, 67°.83N×20°.40E, *h*0km, ML1.2,
Suspected explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LANU	**Lannavaara**	**0.64**	**70**	PG	Pg	20 23 43.8	+0.7
LANU				SG	Sg	20 23 51.0	-0.4
PAJU	**Pajala**	**1.32**	**127**	PG	Pg	20 23 54.1	-2.1
PAJU				SG	Sb	20 24 14.4	+0.3
HEF	**Hetta**	**1.35**	**63**	PG	Pg	20 23 54.9	-1.8
	baz=242						
HEF				MSG		20 24 11.6	
	comp=Z,1.7nm,0.2s						
HEF				SN	Sn	20 24 15.8	+0.2
KLF	**Kolari**	**1.50**	**112**	PG	Pn	20 23 58.1	-0.9
KLF				MSG		20 24 15.7	
	comp=Z,1.1nm,0.2s						
KLF				SN	Sn	20 24 21.0	+1.9
TRO	**Tromso**	**1.89**	**344**	SN	Sn	20 24 28.5	-0.3
KALU	**Kalix**	**2.30**	**148**	PB	Pb	20 24 11.9	-1.3
KALU				SG	Sb	20 24 42.7	+0.6
TOF	**Tornio**	**2.34**	**137**	MSG		20 24 40.4	
	comp=Z,0.7nm,0.2s						
TOF				SG	Sg	20 24 45.2	-0.8
RNF	**Rovaniemi**	**2.51**	**117**	PB	Pb	20 24 15.3	-1.4
RNF				SG	Sb	20 24 49.2	+1.1
KMNF	**Kaamanen**	**2.77**	**58**	PB	Pn	20 24 18.3	+1.9
KMNF				SG	Sb	20 24 55.1	-0.4
KEV	**Kevo**	**3.08**	**48**	PB	Pb	20 24 24.0	-2.4
KEV				MSG		20 25 01.3	
	comp=Z,0.9nm,0.2s						
KEV				SB	Sb	20 25 02.5	-2.1
KU6	**Riekki**	**4.15**	**111**	PB	Pb	20 24 41.7	-3.0

HEL 15 20:23:31.1±0.1, 67°.61N×33°.90E, *h*0km, ML1.2,
Suspected explosion, Baltic
States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVZ	**Lovozero**	**0.41**	**44**	PG	Pg	20 23 38.7	-0.3
	baz=225						
LVZ				SG	Sg	20 23 43.9	-0.4
VRF	**Varrio**	**1.64**	**277**	PG	Pn	20 24 00.7	-0.5
	baz=92						
VRF				MSG		20 24 20.4	
	comp=Z,2.3nm,0.2s						
VRF				SG	Sn	20 24 21.4	-1.6
OLKF	**Oulanka, Finla**	**2.19**	**236**	PG	Pb	20 24 10.8	-0.7
OLKF				MSG		20 24 35.9	
	comp=Z,0.8nm,0.2s						
OLKF				SG	Sb	20 24 39.0	-0.2
KU6	**Riekki**	**2.24**	**227**	PG	Pb	20 24 11.1	-1.3
	baz=46						
KU6				MSG		20 24 37.4	
	comp=Z,0.6nm,0.2s						
KU6				SG	Sb	20 24 39.9	-0.8
RAJF	**Raja-Jooseppi**	**2.27**	**295**	SB	Sn	20 24 39.0	+0.4
MSF	**Maaselka**	**2.57**	**231**	SG	Sb	20 24 49.5	-0.6
LANU	**Lannavaara**	**4.53**	**281**	SG	Sg	20 25 51.5	-5.0

*IDC **15** 20:25:15.6±0.5, 12°.85S×45°.62E, *h*0km, mb4.1/25, mbtmp4.1/27, ML4.5/3, MS3.6/28, Error ellipse: s-maj=18.8km s-min=12.7km az=80.0*
*NEIC **15** 20:25:17.1±1.6, 12°.88S±0°.08×45°.6E±0°.1, *h*10km±1km, mb4.7/58, Error ellipse: s-maj=17.6km s-min=12.8km az=104.0*
ISC 15 20:25:16.6±0.3, 12°.93S±0°.05×45°.60E±0°.07, h10km, n154,
σ1§41/137, mb4.5/64, MS3.6/28, 5C-1D, Northwest of
Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.81**	**165**	Pn	**Pn**	**20 26 44.8**	**+1.7**
	4.9nm,0.3s,baz=350,slow=11,SNR=9.0						
OPO				Sn	**Sn**	**20 27 46.0**	**-4.0**
	28nm,0.3s,baz=279,slow=19,SNR=30						
ABPO	**Ambohimpanom**	**6.25**	**166**	Pn	**Pn**	**20 26 46.8**	**-2.4**
ABPO				Sn	**Sn**	**20 27 54.7**	**-6.2**
VOI	**Vohitsoka**	**9.00**	**173**	Pn	**Pn**	**20 27 27.5**	**+0.7**
VOI				Sn	**Sn**	**20 29 03.6**	**-4.8**
ZOMB	**Zomba**	**10.24**	**255**	*e*PN	**Pn**	**20 27 42.5**	**-1.3**
ZOMB				*e*SN	Sn	20 29 28.6	-10
ZOMB	**Zomba**	**10.24**	**255**	*e*PN	**Pn**	**20 27 42.5**	**-1.3**
ZOMB				*e*SN	Sn	20 29 28.6	-10
FOMA	**Nahampoana Res**	**12.06**	**174**	Pn	**Pn**	**20 28 08.7**	**+0.2**
RER	**Riviere de l'E**	**12.69**	**132**	Pn	**Pn**	**20 28 15.8**	**-1.4**
MSEY	**Mahe Island**	**12.74**	**51**	Pn	**Pn**	**20 28 14.9**	**-3.1**
KIBK	**Kibwezi**	**12.91**	**324**	Pn	**Pn**	**20 28 16.0**	**-4.4**
KIBK				Sn	Sn	20 30 27.5	-17
KIBK	**Kibwezi**	**12.91**	**324**	*e*P	**Pn**	**20 28 16.6**	**-3.8**
KRI	**Karoi**	**15.93**	**254**	*i* P	**Pn**	**20 28 01.3**	**+0.2**
KRI	**Karoi**	**15.93**	**254**	*i* P	Pn	20 28 51.4	-10
LSZ	**Lusaka**	**17.05**	**260**	Pn	**Pn**	**20 29 13.2**	**-2.2**
MOPA	**Mopani**	**17.10**	**230**	*i* P	**Pn**	**20 29 14.7**	**-1.2**
MOPA	**Mopani**	**17.10**	**230**	*i* P	Pn	20 29 02.6	-13
MUSN	**Musina, Limpop**	**17.64**	**236**	*i* P	**P**	**20 29 24.3**	**+0.7**
MUSN	**Musina, Limpop**	**17.64**	**236**	*i* P	Pn	20 29 10.3	-12

comp=Z,46nm,1.2s
ATD Arta Tunnel 24.45 353 LR LR 20 39 21.9
comp=Z,5.3nm,19.0s,baz=175,slow=35
BOSA Boshof 24.54 227 P **P** **20 30 37.2 +0.4**
BOSA IAmb IAmb 20 30 40.6
comp=Z,11nm,0.7s
BOSA Boshof 24.54 227 *i* P **P** **20 30 38.0 +1.3**
BOSA Boshof 24.54 227 P **P** **20 30 36.9 +0.2**
comp=Z,9.2nm,0.6s,baz=57,slow=9.4,SNR=32
BOSA LR LR 20 40 20.9
comp=Z,124nm,19.4s,baz=35,slow=37
comp=Z,9.2nm,0.6s
BOSA Boshof 24.54 227 *i* P P 20 30 26.1 -11
GRHM Grahamstown, E 26.80 218 P **P** **20 30 54.6 -2.4**
GRHM IAmb IAmb 20 31 35.3
comp=Z,38nm,1.5s
TSUM Tsumeb 27.61 253 LR LR 20 41 42.9
comp=Z,88nm,18.3s,baz=90,slow=36
SUR Sutherland 29.84 225 P **P** **20 31 25.4 +1.0**
SUR Sutherland 29.84 225 LR LR 20 42 47.5
comp=Z,98nm,21.4s,baz=47,slow=35
RAYN Ar Rayn 36.23 360 P **P** **20 32 20.2 +0.3**
WSAR Wadi Sarin 38.14 20 LR LR 20 45 06.5
comp=Z,123nm,21.4s,baz=215,slow=31
PALK Pallekele 40.24 62 LR LR 20 45 54.7
comp=Z,53nm,18.2s,baz=348,slow=31
EIL Elat 43.58 347 LR LR 20 49 39.4
comp=Z,33nm,21.8s,baz=246,slow=34
MMAI Mount Meron Ar 46.71 348 P **P** **20 33 46.8 +0.9**
comp=Z,0.3nm,0.3s,baz=131,slow=5.9,SNR=1.7
MMAI LR LR 20 53 55.2
comp=Z,79nm,18.5s,baz=102,slow=37
comp=Z,0.3nm,0.3s
TORD Torodi Ar. Bea 50.65 299 P **P** **20 34 15.1 -1.3**
TORD Torodi Ar. Bea 50.65 299 P **P** **20 34 17.1 +0.6**
comp=Z,2.4nm,1.0s,baz=133,slow=7.2,SNR=9.0
TORD LR LR 20 56 53.8
comp=Z,119nm,18.1s,baz=132,slow=38
comp=Z,2.4nm,1.0s
GURO Guroymak-BITLI 51.32 356 P **P** **20 34 22.2 +1.0**
GEYT Alibeck 51.93 13 P **P** **20 34 25.5 -0.2**
GEYT Alibeck 51.93 13 P **P** **20 34 26.0 +0.3**
comp=Z,0.6nm,0.7s,baz=223,slow=5.9,SNR=2.0
GEYT LR LR 20 55 45.9
comp=Z,58nm,21.6s,baz=190,slow=35
comp=Z,0.6nm,0.7s
ARPR Arapgir-MALATY 52.19 353 P **P** **20 34 27.9 +0.2**
ARPR IAmb IAmb 20 34 36.9
comp=Z,8.7nm,1.1s
KBL Kabul 52.20 25 P **P** **20 34 28.6 +0.6**
KBL IAmb IAmb 20 34 37.0
comp=Z,7.3nm,1.1s
BNN Bunyan 52.31 350 P **P** **20 34 27.6 -1.1**
BNN IAmb IAmb 20 34 42.0
comp=Z,7.4nm,0.9s
GNI Garni 52.81 359 LR LR 20 57 51.5
comp=Z,97nm,20.5s,baz=188,slow=37
NIL Nilore 53.29 29 P **P** **20 34 36.1 +0.3**
NIL IAmb IAmb 20 34 43.5
comp=Z,8.6nm,1.0s
BRTR Keskin Array B 53.55 349 P **P** **20 34 36.5 -1.3**
BRTR Keskin Array B 53.55 349 P **P** **20 34 38.3 +0.5**
comp=Z,1.5nm,0.7s,baz=171,slow=10,SNR=12
comp=Z,1.5nm,0.7s
BR131 Keskin Array S 53.55 349 P **P** **20 34 37.6 -0.2**
BR131 IAmb IAmb 20 34 39.4
comp=Z,7.8nm,1.5s
DBIC Dimbokro 53.78 288 LR LR 20 57 18.6
comp=Z,55nm,18.3s,baz=102,slow=36
ITM Ithomi 54.59 337 P **P** **20 34 45.0 -0.3**
ITM IAmb IAmb 20 35 09.9
comp=Z,13nm,1.2s
MDUB Mudurnu 54.78 347 P **P** **20 34 46.2 -0.5**
ONI Oni 55.28 358 P **P** **20 34 49.9 -0.3**
ONI IAmb IAmb 20 34 58.6
comp=Z,5.8nm,1.1s
SIMJ Simiganj 55.79 22 P **P** **20 34 54.5 +0.4**
MAW Mawson 55.80 172 P **P** **20 34 55.1 +1.6**
comp=Z,1.8nm,0.7s,baz=329,slow=9.1,SNR=6.3
MAW LR LR 20 56 20.8
comp=Z,81nm,18.4s,baz=320,slow=33
comp=Z,1.8nm,0.7s
CHGR Chuyangaron 55.84 22 P **P** **20 34 54.1 -0.3**
AGG Agios Georgios 56.06 338 P **P** **20 34 55.7 -0.2**
AGG IAmb IAmb 20 34 57.9
comp=Z,5.3nm,1.0s
TATN Tataouine 56.32 324 P **P** **20 34 57.3 -0.6**
KBZ Khabaz 56.43 358 P **P** **20 34 58.7 +0.3**
comp=Z,2.8nm,0.8s,baz=145,slow=4.3,SNR=7.3
KBZ LR LR 21 00 28.6
comp=Z,61nm,19.6s,baz=182,slow=38
comp=Z,2.8nm,0.8s
GAR Garm 56.58 23 P **P** **20 34 59.5 -0.2**
KIV Kislovodsk 56.67 357 P **P** **20 35 00.5 +0.3**
KIV IAmb IAmb 20 35 08.5
comp=Z,14nm,1.1s
BTK Batken 57.69 23 P **P** **20 35 06.6 -0.9**
BTK IAmb IAmb 20 35 17.0
comp=Z,7.9nm,1.2s
FNA Florina 57.96 338 P **P** **20 35 08.8 -0.6**
KEST Kesra 59.31 326 P **P** **20 35 19.8 +0.9**
comp=Z,5.2nm,0.9s,baz=163,slow=14,SNR=4.7
KEST LR LR 21 02 10.9
comp=Z,93nm,18.5s,baz=256,slow=37
comp=Z,5.2nm,0.9s
KSH Kashi 59.35 27 P **P** **20 35 18.8 -0.3**
KSH pP sP 20 35 22.8 +0.6
KK31 Karatay Array 60.24 21 P **P** **20 35 25.2 +0.2**
KK31 IAmb IAmb 20 35 34.5
comp=Z,6.2nm,0.9s
KKAR Karatay Array 60.24 21 P **P** **20 35 24.8 -0.3**
KKAR IAmb IAmb 20 35 34.5
comp=Z,6.2nm,0.9s
KKAR Karatay Array 60.24 21 P **P** **20 35 24.9 -0.3**
ELIB Princess Elisa 60.49 188 *d*P **P** **20 35 28.7 +2.1**
comp=Z,3.9nm,1.0s
CMAR Chiang Mai Arr 61.15 60 P **P** **20 35 31.7 0.0**
comp=Z,0.3nm,0.3s,baz=297,slow=12,SNR=1.9
CMAR LR LR 20 59 24.2
comp=Z,15nm,18.3s,baz=200,slow=34
comp=Z,0.3nm,0.3s
CHTO Chiang Mai 61.31 60 P **P** **20 35 32.6 -0.1**
AAK Ala-Archa 61.32 24 LR LR 21 00 38.9
comp=Z,22nm,20.7s,baz=233,slow=35
BURAR Bucovina Array 62.96 345 P **P** **20 35 42.7 -0.7**
BUR08 Bucovina Ar. S 62.99 345 P **P** **20 35 42.7 -0.9**
BUR08 IAmb IAmb 20 35 49.9
comp=Z,6.5nm,1.4s
CRAI Chiangrai 63.15 59 P **P** **20 35 44.3 -0.8**
CRAI IAmb IAmb 20 35 55.1
comp=Z,2.8nm,1.0s
ABKAR Akbulak array 63.19 10 P **P** **20 35 44.0 -0.8**
ABKAR Akbulak array 63.19 10 P **P** **20 35 44.2 -0.6**
ABKAR IAmb IAmb 20 35 52.5
comp=Z,16nm,0.8s
AKTO Aktyubinsk 64.02 9 LR LR 21 06 37.9
comp=Z,42nm,19.4s,baz=314,slow=39
TROLL Troll, Antarti 64.37 194 ⇑P **P** **20 35 55.1 +2.6**
comp=Z,644nm,0.8s
AKASG Malin Array Be 64.96 349 P **P** **20 35 55.5 -0.8**
comp=Z,1.7nm,0.8s,baz=173,slow=5.9,SNR=7.4
AKASG LR LR 21 03 48.3
comp=Z,22nm,20.6s,baz=184,slow=36
comp=Z,1.7nm,0.8s
KOLS Kolonicke sedl 64.96 343 *e*P **P** **20 35 57.5 +1.1**
BELG Belogornoye 65.07 1 LR LR 21 07 15.1
comp=Z,62nm,19.4s,baz=173,slow=39
KECS Kecovo 65.08 342 *e*P **P** **20 35 57.8 +0.6**
SOKA Soboth 65.37 337 *i* P **P** **20 35 59.9 +0.7**
comp=Z,1.1nm,0.4s
SNAA Sanae 65.45 195 ⇑P **P** **20 35 58.3 -1.2**
ARSA Arzberg 65.67 338 *i* P **P** **20 36 01.7 +0.6**
comp=Z,1.1nm,0.4s
RONA Rosalia, Austr 65.77 339 *i* P **P** **20 36 02.3 +0.5**
comp=Z,5.1nm,0.6s
MODS Modra-Piesok 66.01 340 *e*P **P** **20 36 03.6 +0.3**
MDT Midelt 66.07 315 LR LR 21 06 16.3
comp=Z,77nm,18.7s,baz=163,slow=37
CONA Conrad Observa 66.12 339 *i* P **P** **20 36 04.5 +0.4**
comp=Z,2.7nm,0.7s
VNA2 Neumayer--Watz 66.24 197 ⇑P **P** **20 36 07.0 +2.5**
comp=Z,5.4nm,0.6s,baz=18,slow=7.6
JAVC Velka Javorina 66.30 340 *e*P **P** **20 36 04.6 -0.6**
VNA1 Neumayer--Stat 66.35 197 ⇑P **P** **20 36 07.5 +2.4**
comp=Z,9.1nm,1.0s
ABTA Abfaltersbach 66.40 336 *i* P **P** **20 36 06.1 +0.2**
comp=Z,2.3nm,0.7s

OJC Ojcow 66.83 342 P **P** **20 36 07.3 -1.1**
OJC IAmb IAmb 20 36 09.0
comp=Z,3.6nm,0.9s
LESA Schwarzleotal 66.89 336 *e*P **P** **20 36 08.8 -0.2**
comp=Z,0.3nm,0.2s
KRUC Moravsky 66.90 340 *e*P **P** **20 36 08.8 -0.1**
VNA3 Neumayer Olymp 67.04 197 ⇑P **P** **20 36 11.6 +1.9**
comp=Z,8.2nm,0.7s
MORC Moravsky Berou 67.14 341 P **P** **20 36 09.6 -0.9**
MORC IAmb IAmb 20 36 11.5
comp=Z,5.1nm,0.8s
MORC Moravsky Berou 67.14 341 *e*P **P** **20 36 10.4 -0.1**
FUORN Ofenpass-Fuorn 67.22 334 P **P** **20 36 08.5 -2.8**
FUORN IAmb IAmb 20 36 21.3
comp=Z,3.3nm,1.0s
FETA Feichten 67.35 335 *e*P **P** **20 36 12.4 +0.3**
comp=Z,6.3nm,1.0s
MOTA Moosalm 67.45 335 *e*P **P** **20 36 12.9 +0.2**
comp=Z,3.4nm,0.9s
DAVOX Davos/Dischmat 67.51 334 LR LR 21 10 07.1
comp=Z,18nm,18.3s,baz=87,slow=40
GEC2 GERESS Array S 67.67 338 P **P** **20 36 12.9 -1.1**
GEC2 IAmb IAmb 20 36 14.4
comp=Z,5.0nm,1.0s
GERES GERESS Array B 67.67 338 P **P** **20 36 12.9 -1.1**
GERES GERESS Array B 67.67 338 P **P** **20 36 13.6 -0.4**
comp=Z,2.3nm,0.8s,baz=125,slow=6.7,SNR=10
GERES LR LR 21 09 16.6
comp=Z,12nm,18.2s,baz=210,slow=39
comp=Z,2.3nm,0.8s
MAKZ Makanchi 67.81 26 P **P** **20 36 14.8 0.0**
MAKZ IAmb IAmb 20 36 22.9
comp=Z,8.9nm,1.2s
MK31 Makanchi Array 67.94 26 P **P** **20 36 15.6 0.0**
MKAR Makanchi Array 67.94 26 P **P** **20 36 14.6 -1.0**
MKAR Makanchi Array 67.94 26 P **P** **20 36 15.3 -0.2**
comp=Z,0.5nm,0.8s,baz=193,slow=4.7,SNR=3.3
comp=Z,0.5nm,0.8s
SENIN Lac Senin/Sane 68.32 332 P **P** **20 36 17.2 -1.1**
BVAR Borovoye Array 69.05 16 P **P** **20 36 21.0 -1.4**
comp=Z,0.7nm,0.6s,baz=198,slow=4.1,SNR=3.3
comp=Z,0.7nm,0.6s
BRVK Borovoye 69.05 16 P **P** **20 36 22.1 -0.3**
BRVK IAmb IAmb 20 36 30.5
comp=Z,10nm,1.5s
KURBB Kurchatov Arra 69.52 22 P **P** **20 36 27.4 +2.1**
comp=Z,0.9nm,0.2s,baz=222,slow=6.8,SNR=1.2
comp=Z,0.9nm,0.2s
ESDC Sonseca Array 69.71 321 P **P** **20 36 27.3 +0.4**
ESDC IAmb IAmb 20 36 29.2
comp=Z,3.3nm,1.1s
ESDC Sonseca Array 69.71 321 P **P** **20 36 28.1 +1.2**
comp=Z,2.2nm,0.9s,baz=131,slow=5.9,SNR=12
comp=Z,2.2nm,0.9s
ARU Arti 69.94 8 P **P** **20 36 26.9 -0.9**
CLL Collm 69.97 339 *i* P **P** **20 36 28.2 +0.1**
comp=Z,4.0nm,1.0s
CLL *e*PP **PP** **20 39 03.0 -0.1**
GTA Gaotai 72.47 41 *e*P **P** **20 36 47.5 +3.8**
GTA pP pwP 20 36 51.3 +1.3
GTA pmax pmax
comp=Z,1.0nm,1.5s
ZAA0 Zalesovo Array 74.50 23 P **P** **20 36 54.4 -0.7**
ZALV Zalesovo Beam 74.50 23 P **P** **20 36 54.5 -0.6**
ZALV Zalesovo Beam 74.50 23 P **P** **20 36 54.7 -0.4**
comp=Z,0.3nm,0.4s,baz=235,slow=5.1,SNR=2.2
comp=Z,0.3nm,0.4s
BELA Belgrano 2 75.39 192 P **P** **20 37 01.9 +1.9**
BELA IAmb IAmb 20 37 03.5
comp=Z,5.6nm,1.0s
FIA1 FINESS Array S 75.72 350 P **P** **20 37 02.0 0.0**
FINES FINESS Array B 75.72 350 P **P** **20 37 02.0 0.0**
FINES FINESS Array B 75.72 350 P **P** **20 37 01.9 -0.1**
comp=Z,2.8nm,0.8s,baz=114,slow=6.9,SNR=11
comp=Z,2.8nm,0.8s
QSPA South Pole Qui 77.17 180 P **P** **20 37 11.7 +1.2**
comp=Z,8.6nm,1.1s,baz=246,slow=3.8,SNR=14
QSPA LR LR 21 08 54.8
comp=Z,107nm,18.5s,baz=275,slow=34
comp=Z,8.6nm,1.1s
HFS Hagfors 77.19 344 P **P** **20 37 10.5 +0.1**
comp=Z,3.4nm,0.7s,baz=130,slow=8.0,SNR=13
HFS LR LR 21 12 21.9
comp=Z,25nm,21.2s,baz=168,slow=37
comp=Z,3.4nm,0.7s
NAO01 NORSAR Array S 78.54 343 P **P** **20 37 16.9 -1.0**
NAO01 IAmb IAmb 20 37 19.5
comp=Z,7.3nm,1.0s
NB201 NORSAR Array S 78.60 344 P **P** **20 37 17.1 -1.1**
NB201 IAmb IAmb 20 37 19.7
comp=Z,5.1nm,0.8s
NB2 NORSAR Subarra 78.61 344 P **P** **20 37 18.4 +0.1**
comp=Z,4.8nm,1.2s,baz=146,slow=5.6
NOA NORSAR Array B 78.61 344 P **P** **20 37 18.6 +0.3**
comp=Z,1.1nm,0.9s,baz=135,slow=5.4,SNR=6.0
NOA LR LR 21 17 30.0
comp=Z,15nm,18.5s,baz=110,slow=40
comp=Z,1.1nm,0.9s
NC303 NORSAR Array S 78.73 344 P **P** **20 37 18.1 -0.8**
EKA Eskdalemuir Ar 79.35 334 P **P** **20 37 24.1 +1.6**
comp=Z,1.4nm,0.9s,baz=148,slow=5.7,SNR=2.3
comp=Z,1.4nm,0.9s
HHC Hu-ho-hao-te 81.00 45 *e*P **P** **20 37 30.8 -1.0**
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,59nm,5.2s
SONM Songino Array 81.01 37 P **P** **20 37 31.9 +0.2**
comp=Z,0.7nm,1.1s,baz=256,slow=1.2,SNR=3.2
comp=Z,0.7nm,1.1s
VNDA Vanda 82.93 169 P **P** **20 37 42.9 +1.6**
comp=Z,1.1nm,0.7s,baz=266,slow=5.8,SNR=5.3
VNDA LR LR 21 12 25.2
comp=Z,80nm,18.2s,baz=245,slow=34
comp=Z,1.1nm,0.7s
NJ2 Nanjing 83.04 55 *e*P **P** **20 37 43.8 +1.2**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
ASAR Alice Springs 83.39 113 P **P** **20 37 44.9 +0.1**
ASAR Alice Springs 83.39 113 P **P** **20 37 45.4 +0.7**
comp=Z,1.7nm,0.6s,baz=264,slow=4.8,SNR=30
comp=Z,1.7nm,0.6s
AS31 Alice Springs 83.39 113 P **P** **20 37 44.6 -0.1**
ARCES ARCESS Array B 83.46 353 LR LR 21 18 20.9
comp=Z,28nm,18.1s,baz=168,slow=38
WRA Warramunga Arr 84.52 109 P **P** **20 37 51.1 +0.6**
WRA Warramunga Arr 84.52 109 P **P** **20 37 51.3 +0.8**
comp=Z,2.4nm,0.9s,baz=258,slow=2.8,SNR=10.0
comp=Z,2.4nm,0.9s
WB2 Warramunga Arr 84.53 109 P **P** **20 37 50.6 0.0**
WB0 Warramunga Arr 84.60 109 P **P** **20 37 50.7 -0.2**
XLT XiLinHaoTe 85.30 43 *e*P **P** **20 37 56.3 +2.3**
XLT pP pwP 20 38 04.1 +3.8
XLT sP sP 20 38 08.8 +12
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,58nm,4.0s
TBI Tubuai 141.05 158 *e*LR LR 21 30 40.7
comp=Z,923nm,31.8s
TBI *e*LR LR 21 30 48.3
comp=Z,2µm,35.5s
PPT2 Papeete2 146.18 153 *e*LR LR 21 33 12.7
comp=Z,119nm,26.2s
TXAR Lajitas Array 147.15 305 PKPbc **PKPbc** **20 45 00.7 -0.1**
comp=Z,0.5nm,0.8s,baz=80,slow=2.6,SNR=6.8
ELK Elko 147.59 332 PKPbc **PKPbc** **20 45 02.5 +0.6**
comp=Z,0.4nm,0.4s,baz=328,slow=9.5,SNR=4.5
NVAR Mina Array Bea 150.85 333 PKPbc **PKPbc** **20 45 09.6 -0.5**
comp=Z,0.1nm,0.3s,baz=126,slow=1.2,SNR=2.3

IDC ***15*** *20:25:32.2±9.3, 16°.29S×172°.05W, h0km, mb4.3/4, mbtmp4.3/4, Error ellipse: s-maj=195.0km s-min=161.0km az=134.0*
NEIC ***15*** *20:27:11.4±1.3, 18°.5S±0°.1×177°.81W±0°.08, h580km±9km, mb4.3/22, Error ellipse: s-maj=18.2km s-min=8.2km az=206.0*
ISC 15 20:27:11.7±0.7, 18°.4S±0°.2×177°.9W±0°.1, h600km, n30,
σ1s79/32, mb4.2/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.95**	**279**	P	**P**	**20 28 34.9**	**-2.1**
AFI	**Afiamalu**	**7.34**	**54**	P	**P**	**20 29 01.6**	**-3.3**
PINNC	**Pines Island,**	**14.40**	**251**	P	**P**	**20 30 16.0**	**+1.6**

DZM Mont Dzumac 15.19 253 P **P** **20 30 18.6 -3.1**
3.1nm,0.6s,baz=90,slow=19,SNR=2.0
3.1nm,0.6s
THZ Tophouse 24.61 197 P **P** **20 31 46.6 +0.3**
MLZ Mavora Lakes 29.34 200 P **P** **20 32 27.3 -0.2**
EIDS Eidsvold 29.61 251 P **P** **20 32 30.0 -0.2**
EIDS IAmb IAmb 20 32 36.6
comp=Z,14nm,1.3s
ARMA Armidale 30.17 241 P **P** **20 32 35.2 +0.2**
CTAO Charters Tower 33.89 261 P **P** **20 33 06.5 0.0**
CTAO IAmb IAmb 20 33 26.3
comp=Z,21nm,1.3s
TOO Toolangi 37.29 232 P **P** **20 33 34.6 +0.3**
TOO IAmb IAmb 20 34 02.7
comp=Z,24nm,1.4s
COEN Coen 37.64 271 P **P** **20 33 38.3 +0.9**
STKA Stephens Creek 38.87 242 P **P** **20 33 48.2 +1.0**
STKA Stephens Creek 38.87 242 P **P** **20 33 48.1 +1.0**
comp=Z,2.0nm,0.5s,baz=91,slow=11,SNR=4.8
comp=Z,2.0nm,0.5s
BBOO Buckleboo 43.64 242 P **P** **20 34 25.1 +0.4**
BBOO IAmb IAmb 20 34 58.9
comp=Z,32nm,1.4s
BBOO PcP **PcP** **20 35 54.6 -3.7**
WB0 Warramunga Arr 45.04 260 P **P** **20 34 35.2 -0.5**
WB0 IAmb IAmb 20 35 06.9
comp=Z,12nm,1.2s
WB2 Warramunga Arr 45.06 260 P **P** **20 34 35.0 -0.7**
WB2 IAmb IAmb 20 34 49.1
comp=Z,13nm,1.4s
WRA Warramunga Arr 45.07 260 P **P** **20 34 34.7 -1.1**
comp=Z,1.7nm,0.4s,baz=97,slow=7.0,SNR=42
comp=Z,1.7nm,0.4s
AS31 Alice Springs 45.17 255 P **P** **20 34 37.0 +0.3**
ASAR Alice Springs 45.17 255 P **P** **20 34 36.0 -0.6**
ASAR PcP **PcP** **20 36 02.2 -1.7**
ASAR Alice Springs 45.17 255 P **P** **20 34 37.1 +0.5**
comp=Z,4.3nm,0.4s,baz=92,slow=7.6,SNR=78
comp=Z,4.3nm,0.4s
MTN Manton Dam 49.32 269 P **P** **20 35 07.6 -0.1**
FITZ Fitzroy Crossi 53.47 261 P **P** **20 35 37.9 +0.4**
P18K Big Mountain, 79.67 12 P **P** **20 38 19.8 +2.1**
P18K IAmb IAmb 20 38 32.1
comp=Z,9.3nm,1.3s
O18K Koktuh Hills 80.11 11 P **P** **20 38 22.0 +2.0**
O18K IAmb IAmb 20 38 29.8
comp=Z,7.3nm,1.1s
K15K Wolf Creek Mou 81.44 8 P **P** **20 38 29.8 +3.1**
BELA Belgrano 2 81.63 173 P **P** **20 38 29.1 +1.5**
B04A Port Angeles 82.02 33 P **P** **20 38 31.7 +1.8**
GHO Glory Hole Cre 83.14 13 P **P** **20 38 37.5 +2.1**
GHO IAmb IAmb 20 38 42.9
comp=Z,11nm,1.4s
K20K Telida 83.57 11 P **P** **20 38 40.1 +2.7**
K20K IAmb IAmb 20 38 40.5
comp=Z,9.3nm,1.2s
N25K Chitina, Valde 84.01 15 P **P** **20 38 42.4 +2.7**
N25K IAmb IAmb 20 38 43.2
comp=Z,2.8nm,0.8s

WEL 15 20:27:52.1±0.5, 39°.5S±3°×17°.8E±°, h22km±3km, M3.5/20, ML3.9/21, MLv3.5/20, Error ellipse: s-maj=0.0km s-min=0.0km az=137.1, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MHGZ	**Mahia Peninsul**	**0.14**	**32**	P	Pb	20 27 58.1	+0.8
MHGZ				S	Sb	20 28 03.2	+2.3
KNZ	**Kokohu**	**0.27**	**337**	P	Pb	20 27 59.0	+0.5
KNZ				S	Sn	20 28 04.6	-1.6
PRGZ	**Paritu Road**	**0.36**	**9**	P	Pn	20 28 00.9	-1.1
WHHZ	**Waihua**	**0.49**	**294**	P	Pb	20 28 02.6	+0.6
RIGZ	**Rimuhau**	**0.57**	**356**	P	Pb	20 28 04.1	+0.7
RIGZ				S	Sn	20 28 14.0	+0.4
SNGZ	**Shannon Statio**	**0.61**	**323**	P	Pb	20 28 04.6	+0.4
SNGZ				S	Sn	20 28 14.6	-0.1
ARHZ	**Aropaoanui**	**0.63**	**271**	P	Pn	20 28 05.2	-0.6
RAHZ	**Arahi**	**0.67**	**302**	P	Pb	20 28 05.4	+0.3
RAHZ				S	Sn	20 28 15.6	-0.5
CKHZ	**Cape Kidnapper**	**0.68**	**236**	P	Pn	20 28 06.2	-0.3
NMHZ	**Naumai**	**0.80**	**283**	P	Pn	20 28 07.8	-0.3
NMHZ				S	Sn	20 28 19.7	+0.3
RAGZ	**Rawiri**	**0.84**	**338**	P	Pb	20 28 08.1	+0.1
RAGZ				S	Sn	20 28 20.7	+0.4
CNGZ	**Carnagh Statio**	**0.85**	**22**	P	Pn	20 28 08.6	-0.1
MTHZ	**Maungataniwha**	**0.86**	**299**	P	Pb	20 28 08.3	-0.1
MTHZ				S	Sn	20 28 20.4	-0.5
MCHZ	**McNeill Hill**	**0.88**	**259**	P	Pn	20 28 09.2	0.0
MCHZ				S	Sn	20 28 22.7	+1.5
KAHZ	**Kahuranaki**	**0.89**	**234**	P	Pn	20 28 09.4	+0.1
RTZ	**Ruatahuna**	**0.92**	**315**	P	Pb	20 28 09.3	-0.1
RTZ				S	Sn	20 28 22.2	-0.3
MWZ	**Matawai**	**0.96**	**347**	P	Pb	20 28 09.8	-0.3
BKZ	**Black Stump Fm**	**1.03**	**276**	P	Pb	20 28 10.9	-0.3
PXZ	**Pawanui**	**1.05**	**224**	P	Pn	20 28 10.1	-0.6
KWHZ	**Kaweka Forest**	**1.09**	**262**	P	Pn	20 28 11.7	-0.3
TWGZ	**Tauwhareparae**	**1.10**	**7**	P	Pn	20 28 12.0	-0.2
TWGZ				S	Sn	20 28 27.9	+1.0
MUGZ	**Murupara**	**1.14**	**314**	P	Pn	20 28 12.6	0.0
URZ	**Urewera**	**1.15**	**331**	P	Pn	20 28 12.5	-0.3
MRHZ	**Matea Rd**	**1.17**	**292**	P	Pn	20 28 13.3	+0.1
MRHZ				S	Sn	20 28 28.5	0.0
KRHZ	**Kereru**	**1.17**	**251**	P	Pn	20 28 12.8	-0.4
PUZ	**Puketiti**	**1.25**	**16**	P	Pn	20 28 13.5	-0.8
RUGZ	**Raukumara Rang**	**1.31**	**355**	P	Pn	20 28 14.8	-0.4
WPHZ	**Waipukurau**	**1.32**	**233**	P	Pn	20 28 14.7	-0.4
PRHZ	**Porangahau**	**1.34**	**222**	P	Pn	20 28 14.6	-0.9
ALRZ	**Allen Road**	**1.35**	**301**	P	Pb	20 28 18.3	+1.6
PRRZ	**Plateau Road**	**1.35**	**305**	P	Pb	20 28 17.6	+0.9
BHHZ	**Black Hill Sta**	**1.37**	**260**	P	Pn	20 28 15.6	-0.3
RRRZ	**Republican Roa**	**1.38**	**312**	P	Pn	20 28 21.7	+4.6
PNHZ	**Pukenui**	**1.40**	**242**	P	Pn	20 28 15.7	-0.6
PKGZ	**Pakihiroa**	**1.40**	**9**	P	Pn	20 28 15.9	-0.5
EDRZ	**Edgecumbe**	**1.44**	**324**	P	Pb	20 28 19.4	+1.2
TARZ	**Mount Tarawera**	**1.46**	**315**	P	Pb	20 28 18.1	-0.4
HRRZ	**Handcock Road**	**1.48**	**306**	P	Pb	20 28 20.4	+1.4
WPRZ	**Whakapapatarin**	**1.49**	**300**	P	Pb	20 28 19.8	+0.7
HAZ	**Te Kaha**	**1.52**	**359**	P	Pn	20 28 17.5	-0.4
WMGZ	**Waiomatatini S**	**1.53**	**18**	P	Pn	20 28 17.6	-0.5
HLRZ	**Highlands Stat**	**1.53**	**311**	P	Pb	20 28 25.7	+6.0
HSRZ	**Hossack Road**	**1.56**	**308**	P	Pb	20 28 22.6	+2.4
MOVZ	**Moawhango**	**1.60**	**265**	P	Pn	20 28 19.7	+0.6
GRRZ	**Galatos Road**	**1.62**	**304**	P	Pb	20 28 24.9	+3.6
OMRZ	**Omania**	**1.62**	**316**	P	Pb	20 28 25.6	+4.3
DVHZ	**Dannevirke**	**1.63**	**231**	P	Pn	20 28 18.3	-1.2
ETVZ	**East Tongariro**	**1.64**	**274**	P	Pb	20 28 22.6	+1.0
RATZ	**Rangitukua**	**1.64**	**284**	P	Pb	20 28 22.6	+0.9
TMVZ	**Te Maari**	**1.64**	**275**	P	Pb	20 28 21.6	-0.1
NTVZ	**North Tongarir**	**1.67**	**275**	P	Pb	20 28 22.3	+0.1
OTVZ	**Ohurere**	**1.67**	**273**	P	Pn	20 28 17.4	-2.7
KATZ	**Kakaranea**	**1.67**	**280**	P	Pb	20 28 22.5	+0.3
SNVZ	**South Ngauruho**	**1.69**	**272**	P	Pb	20 28 26.3	+3.7
KRVZ	**Karewarewa**	**1.69**	**275**	P	Pb	20 28 22.1	-0.5
NNVZ	**North Ngauruho**	**1.71**	**274**	P	Pb	20 28 22.9	0.0
WNVZ	**Wahianoa**	**1.72**	**268**	P	Pb	20 28 27.2	+4.1
NGZ	**Ngauruhoe**	**1.72**	**273**	P	Pb	20 28 25.6	+2.6
WHVZ	**Whangaehu Hut**	**1.72**	**269**	P	Pb	20 28 26.9	+3.7
WTVZ	**West Tongariro**	**1.73**	**275**	P	Pb	20 28 23.6	+0.3
MAVZ	**Matarangi**	**1.75**	**270**	P	Pb	20 28 26.8	+3.2
FWVZ	**Far West T-bar**	**1.75**	**270**	P	Pb	20 28 24.0	+0.4
COVZ	**Chateau Observ**	**1.76**	**272**	P	Pb	20 28 24.5	+0.7
BFZ	**Birch Farm**	**1.85**	**220**	P	Pn	20 28 21.2	-1.3
POWZ	**Post Office Ro**	**1.93**	**234**	P	Pn	20 28 22.9	-0.6
MRZ	**Mangatainoka R**	**2.20**	**230**	P	Pn	20 28 26.0	-1.3
TMWZ	**Te Maipa**	**2.35**	**218**	P	Pn	20 28 27.6	-1.7
HOWZ	**Holdsworth Sta**	**2.39**	**227**	P	Pn	20 28 27.9	-2.1
HIZ	**Hauiti**	**2.43**	**287**	P	Pb	20 28 37.1	+2.1
OGWZ	**Otaki Gorge**	**2.54**	**232**	P	Pn	20 28 30.4	-1.6
MTW	**Mount Morrison**	**2.58**	**222**	P	Pn	20 28 30.3	-2.2
PAWZ	**Paruwai Farm**	**2.78**	**220**	P	Pn	20 28 33.0	-2.3
CAW	**Cannon Point**	**2.79**	**228**	P	Pn	20 28 34.0	-1.4
PLWZ	**Palliser**	**3.01**	**220**	P	Pn	20 28 35.4	-3.0
MRNZ	**Matariki Terra**	**4.41**	**240**	P	Pn	20 28 55.7	-1.9
GVZ	**Greta Valley S**	**5.16**	**223**	P	Pn	20 29 07.7	-0.3
LTZ	**Lake Taylor**	**5.46**	**228**	P	Pn	20 29 10.3	-1.9
AKCZ	**Akaroa Harbour**	**5.88**	**217**	P	Pn	20 29 16.0	-1.9
CTZ	**Chatham Island**	**6.11**	**139**	P	Pn	20 29 20.7	-0.3
CTZ				S	Sn	20 30 24.0	-6.2

IDC ***15*** *20:31:52.3±0.8,61˚.18N×140˚.31W,h0km,mb3.6/6, mbtmp3.7/12,ML3.4/6,MS3.1/16,Error ellipse: s-maj=14.1km s-min=8.1km az=33.0*

NEIC ***15*** *20:31:52.8,61˚.18N×140˚.49W,h2km*

AEIC ***15*** *20:31:52.5±1.4,61˚.15N±0˚.02×140˚.48W±0˚.03,h2km±6km, Error ellipse: s-maj=2.7km s-min=2.1km az=153.0*

PGC ***15*** *20:31:53.4,61˚.16N×140˚.48W,h1km,ML4.0/24,Mw4.4, 165km west of Haines Jct., Yt Southern Yukon Territory, Canada*

NEIC ***15*** *20:31:53.4,61˚.16N×140˚.48W,h6km,Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}2.78; $M_{\theta\theta}$-3.48; $M_{\phi\phi}$-1.34; $M_{r\theta}$2.45; $M_{\theta\phi}$1.64; $M_{\phi r}$-1.79; Fault plane solution: M_o4.80000×10^{15} NP1:ϕ_s124.00000°, δ65.00000°,λ.95.00000°. NP2:ϕ_s293.00000°,δ25.00000°, λ.80.00000°. Principal axes: T 4.5904, Plg69.0000°, Azm43.0000°; N 0.1960, Plg4.0000°, Azm302.0000°; P -4.7864, Plg20.0000°, Azm210.0000°;*

ANF ***15*** *20:31:53.2±0.1,61˚.17N×140˚.41W,h0km,ML4.3/72 Error ellipse: s-maj=1.5km s-min=1.1km az=5.0*

NEIC ***15*** *20:31:53.1±1.6,61˚.17N±0˚.01×140˚.54W±0˚.05,h6km±4km, ML4.1/179,Mwr3.9/79,ML3.9(AEIC),Mwr4.4(OTT),Error ellipse: s-maj=3.3km s-min=1.6km az=98.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}-0.39; $M_{\theta\theta}$-4.11; $M_{\phi\phi}$4.50; $M_{r\theta}$2.78; $M_{\theta\phi}$6.85; $M_{\phi r}$-1.27; Fault plane solution: M_o8.66000×10^{14} NP1: ϕ_s252.29000°,δ77.50000°,λ-15.25000°. NP2: ϕ_s345.66000°,δ75.12000°,λ-167.06000°. Principal axes: T 8.2924, Plg2.0000°, Azm299.0000°; N 0.6853, Plg70.0000°, Azm34.0000°; P -8.9777, Plg20.0000°, Azm209.0000°;*

ISC 15 20:31:52.7±1.0,61˚.17N±0˚.02×140˚.50W±0˚.01,h3km±7km, n524,σ1§05/560,mb3.8/7,MS3.1/12,Southern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK8	**Steele Glacier**	**0.37**	**71**		**Pg**	**20 31 59.9**	**-0.1**
YUK8					**Sg**	**20 32 05.4**	**+0.5**
YUK8	**Steele Glacier**	**0.37**	**71**	P	**Pg**	**20 31 59.7**	**-0.2**
	baz=250,SNR=1000						
YUK8				S	**Sg**	**20 32 05.3**	**+0.4**
	baz=250						
YUK8	**Steele Glacier**	**0.37**	**71**	P	**Pg**	**20 31 59.8**	**-0.1**
YUK8				S	**Sg**	**20 32 04.7**	**-0.2**
LOGN	**Logan Glacier**	**0.42**	**216**		**Pg**	**20 32 00.6**	**-0.3**
LOGN				Sg	**Sg**	**20 32 06.7**	**+0.3**
LOGN	**Logan Glacier**	**0.42**	**216**	P	**Pg**	**20 32 00.8**	**-0.1**
LOGN				S	**Sg**	**20 32 06.4**	**0.0**
O28M	**Mount Upton**	**0.42**	**159**		**Pg**	**20 32 00.5**	**-0.5**
O28M					**Sg**	**20 32 06.3**	**-0.2**
O28M	**Mount Upton**	**0.42**	**159**	P	**Pg**	**20 32 00.4**	**-0.5**
	baz=340,SNR=1000						
O28M				S	**Sg**	**20 32 06.3**	**-0.2**
	baz=340						
O28M	**Mount Upton**	**0.42**	**159**	P	**Pg**	**20 32 00.7**	**-0.2**
O28M				S	**Sg**	**20 32 06.1**	**-0.4**
CTGM	**Chitina Glacie**	**0.45**	**244**		**Pg**	**20 32 01.0**	**-0.5**
CTGM				Sg	**Sg**	**20 32 07.7**	**+0.3**
CTGM				IAML		20 32 08.3	
	comp=E,10μm,0.5s						
CTGM				IAML		20 32 08.3	
	comp=N,16μm,0.5s						
CTGM	**Chitina Glacie**	**0.45**	**244**	P	**Pg**	**20 32 01.3**	**-0.1**
CTGM				S	**Sg**	**20 32 07.4**	**+0.1**
CTG	**Chitna Glacier**	**0.46**	**244**	P	**Pg**	**20 32 01.2**	**-0.3**
	baz=65,SNR=1000						
CTG				S	**Sg**	**20 32 07.7**	**+0.2**
	baz=65						
BARN	**Barnard Glacie**	**0.57**	**260**		**Pg**	**20 32 03.0**	**-0.7**
BARN				Sg	**Sg**	**20 32 11.2**	**+0.1**
YUK3	**Moose Creek**	**0.61**	**2**		**Pg**	**20 32 04.1**	**-0.3**
YUK3	**Moose Creek**	**0.61**	**2**	P	**Pg**	**20 32 04.2**	**-0.3**
	baz=181,SNR=1000						
YUK3				S	**Sg**	**20 32 13.0**	**+0.6**
	baz=181						
YUK3	**Moose Creek**	**0.61**	**2**	P	**Pg**	**20 32 04.5**	**+0.1**
YUK3				S	**Sg**	**20 32 12.7**	**+0.3**
YUK2	**White River**	**0.64**	**345**		**Pg**	**20 32 04.9**	**-0.2**
YUK2					**Sg**	**20 32 14.6**	**+1.2**
YUK2	**White River**	**0.64**	**345**	P	**Pg**	**20 32 05.0**	**0.0**
YUK2				S	**Sg**	**20 32 14.1**	**+0.7**
YUK4	**Talbot Arm**	**0.91**	**78**	P	**Pg**	**20 32 10.5**	**+0.3**
	baz=254,SNR=1000						
YUK4				S	**Sb**	**20 32 23.9**	**-0.1**
	baz=254						
YUK4	**Talbot Arm**	**0.91**	**78**	P	**Pg**	**20 32 10.7**	**+0.5**
YUK4				S	**Sb**	**20 32 23.7**	**-0.2**
KIAG	**Kiagna River**	**0.94**	**256**		**Pg**	**20 32 09.8**	**-0.9**
KIAG	**Kiagna River**	**0.94**	**256**	P	**Pg**	**20 32 09.8**	**-0.9**
KIAG				S	**Sg**	**20 32 22.2**	**-0.6**
PTPK	**Patty Peak**	**0.95**	**272**		**Pg**	**20 32 10.3**	**-0.7**
PTPK					**Sg**	**20 32 24.4**	**+1.0**
PTPK	**Patty Peak**	**0.95**	**272**	P	**Pg**	**20 32 10.3**	**-0.7**
PTPK				S	**Sg**	**20 32 23.9**	**+0.6**
SAMH	**Samovar Hills**	**1.05**	**188**		**Pg**	**20 32 12.3**	**-0.6**
YUK6	**Outpost Mounta**	**1.06**	**101**		**Pg**	**20 32 12.1**	**-1.0**
YUK6	**Outpost Mounta**	**1.06**	**101**	P	**Pg**	**20 32 12.0**	**-1.0**
	baz=283,SNR=1000						
YUK6	**Outpost Mounta**	**1.06**	**101**	P	**Pg**	**20 32 12.0**	**-1.0**
ISLE	**Juniper Island**	**1.06**	**239**		**Pg**	**20 32 11.9**	**-1.2**
ISLE				Sg	**Sg**	**20 32 26.1**	**-0.8**
ISLE				IAML		20 32 27.2	
	comp=E,7μm,0.3s						
ISLE				IAML		20 32 27.6	
	comp=N,6μm,0.8s						
MESA	**MESA**	**1.22**	**216**		**Pg**	**20 32 15.8**	**-0.3**
MESA				Sg	**Sg**	**20 32 32.7**	**+0.7**
MESA				IAML		20 32 33.7	
	comp=N,4μm,0.3s						
MESA				IAML		20 32 33.9	
	comp=E,4μm,0.5s						
MESA	**MESA**	**1.22**	**216**	P	**Pg**	**20 32 15.9**	**-0.3**
	baz=36,SNR=1000						
MESA				S	**Sg**	**20 32 32.9**	**+0.9**
	baz=36						
MESA	**MESA**	**1.22**	**216**	P	**Pg**	**20 32 16.0**	**-0.1**
MESA				S	**Sg**	**20 32 32.7**	**+0.7**
MCARA	**McCarthy VSAT**	**1.24**	**281**		**Pg**	**20 32 15.2**	**-1.2**
MCARA				Sg	**Sg**	**20 32 32.0**	**-0.5**
MCARA	**McCarthy VSAT**	**1.24**	**281**	P	**Pg**	**20 32 15.3**	**-1.2**
	baz=99,SNR=1000						
MCARA				S	**Sg**	**20 32 33.0**	**+0.5**
	baz=99						
MCARA	**McCarthy VSAT**	**1.24**	**281**	P	**Pg**	**20 32 15.2**	**-1.2**
MCARA				S	**Sg**	**20 32 32.4**	**-0.1**
BARK	**Barkley Ridge**	**1.24**	**233**		**Pg**	**20 32 15.5**	**-1.0**
BVCY	**Beaver Creek**	**1.26**	**352**		**Pg**	**20 32 16.1**	**-0.8**
BVCY	**Beaver Creek**	**1.26**	**352**	S	**Sg**	**20 32 33.6**	**+0.3**
	baz=172						
BVCY	**Beaver Creek**	**1.26**	**352**	P	**Pg**	**20 32 16.2**	**-0.8**
BCPM	**Bancas Point**	**1.29**	**160**		**Pg**	**20 32 15.8**	**-1.6**
BCPM				Sn	**Sg**	**20 32 34.2**	**0.0**
BCPM				IAML		20 32 36.6	
	comp=N,3μm,1.1s						
BCPM				IAML		20 32 39.4	
	comp=E,4μm,0.5s						
YUK7	**Dusty Glacier**	**1.32**	**118**		**Pg**	**20 32 16.6**	**-1.5**
YUK7					**Sg**	**20 32 35.0**	**0.0**
YUK7	**Dusty Glacier**	**1.32**	**118**	P	**Pg**	**20 32 16.7**	**-1.3**
WAX	**Waxell Ridge**	**1.36**	**239**		**Pg**	**20 32 17.0**	**-1.7**
WAX				IAML		20 32 41.3	
	comp=E,4μm,0.6s						
M27K	**Edge Creek, AK**	**1.36**	**332**	Pn	**Pg**	**20 32 17.3**	**-1.5**
M27K				Sg	**Sg**	**20 32 36.4**	**-0.1**
M27K				IAML		20 32 41.8	
	comp=E,2μm,0.7s						
M27K				IAML		20 32 42.5	
	comp=N,3μm,0.5s						
M27K	**Edge Creek, AK**	**1.36**	**332**	P	**Pg**	**20 32 17.6**	**-1.3**
	baz=151,SNR=1000						
M27K				S	**Sg**	**20 32 36.6**	**+0.1**
	baz=151						
M27K	**Edge Creek, AK**	**1.36**	**332**	P	**Pg**	**20 32 17.5**	**-1.3**
M27K				S	**Sg**	**20 32 36.7**	**+0.1**
VRDI	**Verde Repeater**	**1.43**	**274**	Pn	**Pn**	**20 32 18.0**	**-1.8**
VRDI				IAML		20 32 39.8	
	comp=E,3μm,0.5s						
CYK	**Cape Yakataga**	**1.46**	**223**		**Pn**	**20 32 20.7**	**+0.7**
HYT	**Haines Junctio**	**1.50**	**102**	Pn	**Pn**	**20 32 19.2**	**-1.5**
HYT				IAML		20 32 47.5	
	comp=E,2μm,0.7s						
HYT	**Haines Junctio**	**1.50**	**102**		**Sg**	**20 32 40.9**	**0.0**
HYT	**Haines Junctio**	**1.50**	**102**	P	**Pn**	**20 32 19.3**	**-1.4**
	baz=284,SNR=1000						
HYT				S	**Sg**	**20 32 40.7**	**-0.1**
	baz=284						
HYT	**Haines Junctio**	**1.50**	**102**	P	**Pn**	**20 32 19.5**	**-1.1**
SNH	**Sunshine Point**	**1.52**	**230**		**Pn**	**20 32 20.9**	**0.0**
SNH				IAML		20 32 44.1	
	comp=N,2μm,0.4s						
SNH				IAML		20 32 48.9	
	comp=E,2μm,0.9s						
KHIT	**Khitrov Hills**	**1.53**	**243**		**Pn**	**20 32 20.4**	**-0.7**
KHIT					**Sn**	**20 32 42.0**	**+0.4**
PNL	**Peninsula**	**1.60**	**160**		**Pn**	**20 32 21.1**	**-0.9**
PNL	**Peninsula**	**1.60**	**160**	P	**Pn**	**20 32 21.8**	**-0.2**
	baz=341,SNR=875						
PNL				S	**Sn**	**20 32 43.6**	**+0.5**
	baz=341						
PNL	**Peninsula**	**1.60**	**160**	Pn	**Pn**	**20 32 21.8**	**-0.2**
M29M	**Somme Creek**	**1.60**	**36**		**Pn**	**20 32 21.9**	**-0.2**
M29M	**Somme Creek**	**1.60**	**36**		**Sn**	**20 32 43.6**	**+0.2**
M29M	**Somme Creek**	**1.60**	**36**	IAML		20 32 45.8	
	comp=E,3μm,0.5s						
M29M				IAML		20 32 46.1	
	comp=N,2μm,0.4s						
M29M	**Somme Creek**	**1.60**	**36**	P	**Pn**	**20 32 22.1**	**0.0**
	baz=218,SNR=1000						
M29M				S	**Sn**	**20 32 43.4**	**+0.1**
	baz=218						
M29M	**Somme Creek**	**1.60**	**36**	Pn	**Pn**	**20 32 22.2**	**+0.1**
GLB	**Gilahina Butte**	**1.62**	**281**		**Pn**	**20 32 21.2**	**-1.1**
GLB				IAML		20 32 48.1	
	comp=N,2μm,0.5s						
GLB				IAML		20 32 48.2	
	comp=E,1μm,0.5s						
GRIN	**Grindle Hills**	**1.65**	**239**		**Sn**	**20 32 45.0**	**+0.7**
N30M	**Aishikik Lake**	**1.67**	**78**		**Pn**	**20 32 22.3**	**-0.7**
N30M				IAML		20 32 47.5	
	comp=N,2μm,0.6s						
N30M	**Aishikik Lake**	**1.67**	**78**	P	**Pn**	**20 32 22.5**	**-0.5**
	baz=261,SNR=1000						
N30M				S	**Sn**	**20 32 45.3**	**+0.4**
	baz=261						
N30M	**Aishikik Lake**	**1.67**	**78**	Pn	**Pn**	**20 32 22.6**	**-0.3**
YKU2	**Yakutat**	**1.71**	**166**		**Pb**	**20 32 24.6**	**-0.1**
M26K	**Nabesna, AK**	**1.71**	**317**	Pn	**Pn**	**20 32 23.4**	**-0.1**
M26K				IAML		20 32 50.7	
	comp=N,1μm,0.4s						
M26K				IAML		20 32 57.6	
	comp=E,1μm,0.7s						
M26K	**Nabesna, AK**	**1.71**	**317**	P	**Pn**	**20 32 23.7**	**+0.1**
	baz=135,SNR=1000						
M26K				S	**Sb**	**20 32 47.4**	**+0.5**
	baz=135						
BGLC	**Bering Glacier**	**1.73**	**234**		**Pn**	**20 32 23.0**	**-0.6**
BGLC	**Bering Glacier**	**1.73**	**234**	P	**Pn**	**20 32 23.9**	**+0.2**
	baz=52						
NICHA	**Nichawak Mount**	**1.94**	**243**		**Pn**	**20 32 27.3**	**+0.7**
SUCK	**Suckling Hills**	**1.96**	**237**		**Pb**	**20 32 28.8**	**-0.2**
SUCK				IAML		20 32 58.9	
	comp=E,2μm,0.6s						
SUCK				IAML		20 33 05.6	
	comp=N,971nm,0.8s						
BCAR	**Beaver Creek A**	**2.00**	**343**	Pn	**Pn**	**20 32 27.2**	**-0.2**
L27K	**Beaver Creek,**	**2.00**	**342**	Pn	**Pn**	**20 32 27.3**	**-0.1**
L27K				IAML		20 32 58.4	
	comp=E,996nm,0.7s						
L27K	**Beaver Creek,**	**2.00**	**342**	P	**Pn**	**20 32 27.3**	**-0.1**
	baz=161,SNR=329						
L27K				S	**Sn**	**20 32 54.4**	**+1.3**
	baz=161						
L27K	**Beaver Creek,**	**2.00**	**342**	Pn	**Pn**	**20 32 28.0**	**+0.5**
BMRM	**Bremner River**	**2.01**	**266**		**Pn**	**20 32 27.1**	**-0.4**
BMRM	**Bremner River**	**2.01**	**266**	P	**Pn**	**20 32 27.2**	**-0.4**
	baz=83						
WACK	**Wrangell Chich**	**2.01**	**296**		**Pn**	**20 32 29.2**	**+1.4**
N25K	**Chitina, Valde**	**2.02**	**284**		**Pn**	**20 32 27.8**	**0.0**
N25K				IAML		20 33 05.4	
	comp=N,1μm,1.2s						
N25K	**Chitina, Valde**	**2.02**	**284**	P	**Pn**	**20 32 28.0**	**+0.2**
	baz=101						
N25K				S	**Sb**	**20 32 55.9**	**+0.1**
	baz=101						
HMT	**Hamilton**	**2.03**	**247**		**Pn**	**20 32 29.0**	**+1.2**
P30M	**Million Dollar**	**2.04**	**120**		**Pn**	**20 32 28.6**	**+0.7**
P30M	**Million Dollar**	**2.04**	**120**	P	**Pn**	**20 32 28.1**	**+0.2**
	baz=302						
P30M				Sb	**Sg**	**20 32 58.0**	**0.0**
	baz=302						
P29M	**Windy Craggy**	**2.06**	**137**		**Pn**	**20 32 29.1**	**+0.7**
P29M				IAML		20 33 00.8	
	comp=E,2μm,0.4s						
P29M	**Windy Craggy**	**2.06**	**137**	P	**Pn**	**20 32 28.7**	**+0.4**
	baz=320,SNR=500						
P29M	**Windy Craggy**	**2.06**	**137**	Pn	**Pn**	**20 32 29.6**	**+1.3**
O30N	**Mendenhall**	**2.19**	**99**		**Pn**	**20 32 29.8**	**-0.2**
O30N				IAML		20 33 06.9	
	comp=N,858nm,0.6s						
O30N	**Mendenhall**	**2.19**	**99**	P	**Pn**	**20 32 30.1**	**+0.1**
	baz=282,SNR=344						
O30N				S	**Sn**	**20 32 59.3**	**+1.7**
	baz=282						
RAGM	**Ragged Mountai**	**2.19**	**251**		**Pn**	**20 32 31.7**	**+1.6**
L29M	**L29M**	**2.24**	**29**	Pn	**Pn**	**20 32 30.6**	**-0.2**
L29M	**L29M**	**2.24**	**29**	P	**Pn**	**20 32 31.3**	**+0.5**
	baz=210,SNR=137						
L29M				Sb	**Sg**	**20 33 03.9**	**-0.8**
	baz=210						
M30M	**Minto, Yukon**	**2.25**	**50**		**Pn**	**20 32 30.4**	**-0.5**
M30M				IAML		20 33 05.0	
	comp=E,1μm,0.8s						
M30M				IAML		20 33 06.2	
	comp=N,1μm,0.8s						
M30M	**Minto, Yukon**	**2.25**	**50**	P	**Pn**	**20 32 30.6**	**-0.3**
	baz=232,SNR=1000						
M30M				Sb	**Sb**	**20 33 04.0**	**+1.6**
	baz=232						
L26K	**Log Cabin Wild**	**2.30**	**326**		**Pn**	**20 32 31.3**	**-0.2**
L26K				IAML		20 33 07.3	
	comp=E,1μm,0.4s						
L26K				IAML		20 33 13.0	
	comp=N,874nm,0.5s						
L26K	**Log Cabin Wild**	**2.30**	**326**	P	**Pn**	**20 32 32.2**	**+0.7**
	baz=143,SNR=43						
N31M	**Braeburn, Yuko**	**2.30**	**80**	Pn	**Pn**	**20 32 31.6**	**0.0**
N31M				IAML		20 33 07.4	
	comp=E,1μm,1.0s						
N31M				IAML		20 33 15.2	
	comp=N,1μm,0.8s						
N31M	**Braeburn, Yuko**	**2.30**	**80**	P	**Pn**	**20 32 31.6**	**0.0**
	baz=264,SNR=81						
N31M	**Braeburn, Yuko**	**2.30**	**80**	Pn	**Pn**	**20 32 31.9**	**+0.3**
KAIM	**Kayak Island**	**2.30**	**239**		**Pn**	**20 32 31.4**	**-0.2**
KAIM				IAML		20 33 09.6	
	comp=E,1μm,0.5s						
KAIM				IAML		20 33 12.7	
	comp=N,1μm,0.7s						
KAIM	**Kayak Island**	**2.30**	**239**	P	**Pn**	**20 32 32.8**	**+1.2**
	baz=56						
MENT	**Mentasta**	**2.34**	**321**		**Pn**	**20 32 32.1**	**0.0**
MENT				IAML		20 33 23.2	
	comp=E,652nm,0.6s						
HARP	**HAARP**	**2.53**	**301**		**Pn**	**20 32 34.4**	**-0.4**
HARP	**HAARP**	**2.53**	**301**	P	**Pn**	**20 32 36.3**	**+1.5**
	baz=117						
DIV	**Divide**	**2.56**	**271**		**Pn**	**20 32 35.4**	**+0.2**
DIV	**Divide**	**2.56**	**271**	Pn	**Pn**	**20 32 36.5**	**+1.3**
KLU	**Klutina**	**2.63**	**279**		**Pn**	**20 32 36.2**	**0.0**
KLU				IAML		20 33 16.7	
	comp=N,1μm,1.0s						
KLU	**Klutina**	**2.63**	**279**	P	**Pn**	**20 32 37.9**	**+1.6**
	baz=95						
EYAK	**Cordova Ski Ar**	**2.64**	**259**		**Pn**	**20 32 38.4**	**+2.2**
EYAK	**Cordova Ski Ar**	**2.64**	**259**	P	**Pn**	**20 32 38.5**	**+2.2**
	baz=74						
PLBC	**Pleasant Camp**	**2.68**	**128**	P	**Pn**	**20 32 37.5**	**+0.8**
	baz=312,SNR=74						
WHY	**Whitehorse**	**2.79**	**98**		**Pn**	**20 32 38.3**	**-0.1**
WHY				IAML		20 33 21.1	
	comp=N,473nm,0.7s						
WHY	**Whitehorse**	**2.79**	**98**	P	**Pn**	**20 32 38.6**	**+0.2**
	baz=283,SNR=217						
WHY	**Whitehorse**	**2.79**	**98**	Pn	**Pn**	**20 32 38.6**	**+0.2**
WHY	**Whitehorse**	**2.79**	**98**	Sg	**Sb**	**20 33 19.7**	**+1.8**
M24K	**Tolsona, Glenn**	**2.87**	**292**		**Pn**	**20 32 41.2**	**+1.8**
M24K				IAML		20 33 29.1	
	comp=N,623nm,1.3s						
M24K				IAML		20 33 35.8	
	comp=E,680nm,1.2s						
M24K	**Tolsona, Glenn**	**2.87**	**292**	Pb	**Pb**	**20 32 43.1**	**-1.4**
	baz=107						
FID	**Port Fidalgo**	**2.95**	**264**		**Pn**	**20 32 42.0**	**+1.6**
FID				IAML		20 33 31.4	
	comp=N,702nm,0.7s						
FID				IAML		20 33 32.9	
	comp=E,806nm,0.9s						
DAWY	**Dawson**	**2.95**	**9**		**Pn**	**20 32 41.0**	**+0.4**
DAWY				IAML		20 33 29.5	
	comp=E,739nm,0.7s						
DAWY				IAML		20 33 31.8	
	comp=N,716nm,0.7s						
DAWY	**Dawson**	**2.95**	**9**	P	**Pn**	**20 32 41.2**	**+0.6**
	baz=190,SNR=83						
DAWY	**Dawson**	**2.95**	**9**	Pn	**Pn**	**20 32 41.0**	**+0.4**
DAWY	**Dawson**	**2.95**	**9**	Sg	**Sb**	**20 33 25.4**	**+3.0**
PAX	**Paxson**	**2.96**	**310**		**Pn**	**20 32 40.9**	**+0.2**
PAX	**Paxson**	**2.96**	**310**	P	**Pn**	**20 32 41.0**	**+0.4**
	baz=126						
PAX	**Paxson**	**2.96**	**310**	Pn	**Pn**	**20 32 41.1**	**+0.4**
K27K	**Chicken**	**2.96**	**346**		**Pn**	**20 32 41.0**	**+0.4**
K27K	**Chicken**	**2.96**	**346**	IAML		20 33 27.6	
	comp=E,491nm,1.4s						
K27K	**Chicken**	**2.96**	**346**	P	**Pn**	**20 32 41.2**	**+0.6**
	baz=165						
K29M	**Barlow Dome**	**3.02**	**26**		**Pn**	**20 32 41.8**	**+0.3**
K29M				IAML		20 33 30.7	
	comp=E,344nm,0.8s						
K29M	**Barlow Dome**	**3.02**	**26**	P	**Pn**	**20 32 42.3**	**+0.7**
	baz=208,SNR=453						
K29M	**Barlow Dome**	**3.02**	**26**	Pn	**Pn**	**20 32 42.3**	**+0.7**
HIN	**Hinchinbrook I**	**3.04**	**258**		**Pn**	**20 32 42.4**	**+0.6**
HIN				IAML		20 33 28.7	
	comp=N,848nm,0.6s						
M31M	**Drury Creek, Y**	**3.09**	**68**		**Pn**	**20 32 42.8**	**+0.4**
M31M				IAML		20 33 34.4	
	comp=N,484nm,0.6s						
M31M				IAML		20 33 35.3	
	comp=E,644nm,0.7s						
M31M	**Drury Creek, Y**	**3.09**	**68**	P	**Pn**	**20 32 42.8**	**+0.4**
	baz=253,SNR=11						
M31M	**Drury Creek, Y**	**3.09**	**68**	Pn	**Pn**	**20 32 42.8**	**+0.4**
SKAG	**Skagway**	**3.09**	**121**		**Pn**	**20 32 42.9**	**+0.6**
SKAG				IAML		20 33 33.0	
	comp=E,298nm,1.0s						
SKAG	**Skagway**	**3.09**	**121**	P	**Pn**	**20 32 43.5**	**+1.1**
	baz=306						
GLI	**Glacier Island**	**3.22**	**268**		**Pn**	**20 32 44.8**	**+0.6**
GLI				IAML		20 33 36.2	
	comp=E,548nm,0.9s						
GLI				IAML		20 33 39.6	
	comp=N,540nm,0.8s						
GLI	**Glacier Island**	**3.22**	**268**	P	**Pn**	**20 32 46.0**	**+1.8**
	baz=82						
MAYO	**Mayo, Yukon**	**3.25**	**39**		**Pn**	**20 32 44.6**	**+0.1**
SCRK	**Sand Creek**	**3.25**	**332**		**Pn**	**20 32 44.9**	**+0.2**
SCRK	**Sand Creek**	**3.25**	**332**	P	**Pn**	**20 32 45.0**	**+0.3**
	baz=149,SNR=201						
SCM	**Sheep Creek Mo**	**3.34**	**285**		**Pn**	**20 32 47.8**	**+1.9**
SCM				IAML		20 33 41.2	
	comp=E,435nm,1.1s						
SCM				IAML		20 33 43.8	
	comp=N,557nm,1.1s						
SCM	**Sheep Creek Mo**	**3.34**	**285**	P	**Pn**	**20 32 48.3**	**+2.4**
	baz=99						
Q23K	**Middleton Isla**	**3.39**	**242**	Pn	**Pn**	**20 32 47.9**	**+1.4**
Q23K				IAML		20 33 36.9	
	comp=N,246nm,0.6s						
Q23K				IAML		20 33 41.6	
	comp=E,243nm,0.7s						
Q23K	**Middleton Isla**	**3.39**	**242**	P	**Pn**	**20 32 47.9**	**+1.4**
	baz=57						
J29N	**Klondike Camp**	**3.46**	**17**		**Pn**	**20 32 48.5**	**+0.9**
J29N	**Klondike Camp**	**3.46**	**17**	P	**Pn**	**20 32 48.8**	**+1.2**
	baz=198,SNR=20						
M23K	**Glacier View**	**3.52**	**283**	P	**Pn**	**20 32 50.8**	**+2.4**
	baz=97						
FARO	**Faro, Yukon**	**3.57**	**70**		**Pn**	**20 32 49.2**	**+0.2**
FARO	**Faro, Yukon**	**3.57**	**70**	P	**Pn**	**20 32 49.3**	**+0.2**
	baz=256						
N32M	**Quiet Lake**	**3.59**	**87**		**Pn**	**20 32 49.6**	**+0.2**
N32M	**Quiet Lake**	**3.59**	**87**	P	**Pn**	**20 32 49.8**	**+0.4**
	baz=273,SNR=8.4						
N32M	**Quiet Lake**	**3.59**	**87**	Pn	**Pn**	**20 32 50.0**	**+0.7**
P23K	**Montague Islan**	**3.60**	**254**	P	**Pn**	**20 32 50.8**	**+1.3**
	baz=68						
K24K	**Donnelly Dome**	**3.60**	**319**		**Pn**	**20 32 50.5**	**+1.0**
K24K	**Donnelly Dome**	**3.60**	**319**	P	**Pn**	**20 32 50.7**	**+1.2**
	baz=135						
J26L	**Joseph Creek**	**3.63**	**339**		**Pn**	**20 32 50.1**	**+0.2**
J26L				IAML		20 33 48.2	
	comp=E,315nm,0.6s						
J26L				IAML		20 33 53.0	
	comp=N,363nm,0.7s						
J26L	**Joseph Creek**	**3.63**	**339**	P	**Pn**	**20 32 50.7**	**+0.9**
	baz=156,SNR=197						
EGAK	**Eagle**	**3.64**	**356**		**Pn**	**20 32 50.1**	**+0.2**
EGAK	**Eagle**	**3.64**	**356**	P	**Pn**	**20 32 51.3**	**+1.5**
	baz=175,SNR=16						
WAT6	**Susitna Watana**	**3.71**	**296**		**Pn**	**20 32 52.9**	**+1.9**
WAT6	**Susitna Watana**	**3.71**	**296**	P	**Pn**	**20 32 53.4**	**+2.3**
	baz=109						
P32M	**Atlin**	**3.72**	**112**		**Pn**	**20 32 50.8**	**-0.3**
P32M	**Atlin**	**3.72**	**112**	P	**Pn**	**20 32 51.9**	**+0.8**
	baz=298,SNR=15						
P32M	**Atlin**	**3.72**	**112**	Pn	**Pn**	**20 32 51.6**	**+0.5**
DHY	**Denali Highway**	**3.75**	**304**		**Pn**	**20 32 52.5**	**+0.9**
DHY	**Denali Highway**	**3.75**	**304**	P	**Pn**	**20 32 54.3**	**+2.6**
	baz=118						
SML	**Sawmill**	**3.81**	**283**		**Pn**	**20 32 54.1**	**+1.7**

WAT7 **Susitna Watana** 4.28 297 Pn Pn 20 33 00.5 +1.8
I28M **Miner Creek** 4.30 3 Pn Pn 20 32 59.2 +0.1
I28M IAML 20 34 11.9
comp=E,288nm,0.8s
I28M IAML 20 34 12.9
comp=N,272nm,0.6s
I28M Miner Creek 4.30 3 P Pn 20 33 00.4 +1.2
baz=184,SNR=115
I28M **Miner Creek** 4.30 3 Pn Pn 20 32 59.9 +0.8
I26K **Coal Creek Min** 4.32 345 Pn 20 33 00.9 +1.6
I26K **Coal Creek Min** 4.32 345 P Pn 20 33 00.7 +1.4
baz=163
I29M **Ogilvie Camp,** 4.32 12 Pn 20 32 59.3 -0.1
I29M **Ogilvie Camp,** 4.32 12 P Pn 20 32 60.0 +0.6
baz=194,SNR=27
I29M **Ogilvie Camp,** 4.32 12 Pn Pn 20 33 00.0 +0.6
HDA **Harding Lake** 4.40 320 Pn 20 33 00.4 +0.1
HDA **Harding Lake** 4.40 320 P Pn 20 33 00.3 0.0
baz=135
I30M **Mount Dempster** 4.48 23 Pn 20 33 03.0 +1.4
I30M **Mount Dempster** 4.48 23 IAML 20 34 16.3
comp=E,238nm,0.8s
I30M IAML 20 34 17.8
comp=N,225nm,0.9s
I30M Mount Dempster 4.48 23 P Pn 20 33 02.3 +0.7
baz=206,SNR=332
I30M **Mount Dempster** 4.48 23 Pn Pn 20 33 02.6 +1.1
I27K **Kandik River** 4.48 354 P Pn 20 33 02.6 +1.0
baz=173,SNR=84
I27K **Kandik River** 4.48 354 Pn Pn 20 33 02.8 +1.3
RC01 **Rabbit Creek A** 4.48 273 Pn Pn 20 33 02.0 +0.6
RC01 IAML 20 34 17.7
comp=N,210nm,1.0s
RC01 IAML 20 34 19.6
comp=E,132nm,0.7s
RC01 Rabbit Creek A 4.48 273 P Pn 20 33 03.4 +1.9
baz=85
RND **Reindeer** 4.50 304 Pn 20 33 01.4 -0.4
SEW **Seward** 4.54 260 P Pn 20 33 03.4 +1.1
baz=73
O22K **Cooper Landing** 4.57 265 Pn 20 33 02.3 -0.4
O22K **Cooper Landing** 4.57 265 P Pn 20 33 04.1 +1.5
baz=78
MMPY **Sheldon Lake,** 4.61 68 Pn 20 33 02.8 -0.4
MMPY **Sheldon Lake,** 4.61 68 P Pn 20 33 03.3 +0.1
baz=256,SNR=30
MMPY **Sheldon Lake,** 4.61 68 Pn Pn 20 33 03.1 -0.2
IL31 4.64 324 Pn 20 33 03.0 -0.7
ILAR **Eielson Array** 4.64 324 Pn 20 33 02.9 -0.8
ILAR **Eielson Array** 4.64 324 Pn Pn 20 33 03.1 -0.6
comp=E,1.9nm,0.3s,baz=146,slow=13,SNR=155
ILAR Pg Pb 20 33 10.2 -4.5
comp=E,3.4nm,0.3s,baz=149,slow=13,SNR=16
ILAR Lg Lg 20 34 20.8
comp=E,8.1nm,0.3s,baz=128,slow=28,SNR=8.2
ILAR LR LR 20 35 16.2
comp=E,92nm,21.4s,baz=128,slow=44
comp=E,7.7nm,0.6s
M22K **Willow** 4.65 281 Pn 20 33 03.7 -0.2
MCK **McKinley** 4.69 307 Pn 20 33 05.0 +0.6
MCK **McKinley** 4.69 307 P Pn 20 33 06.5 +2.1
baz=120
S32K **Killisnoo** 4.79 138 Pn 20 33 06.3 +0.6
S32K **Killisnoo** 4.79 138 P Pn 20 33 06.6 +0.9
baz=323
S32K **Killisnoo** 4.79 138 Pn Pn 20 33 06.4 +0.6
CUT **Chulitna** 4.80 289 Pn 20 33 06.1 +0.2
SLKM **Skilak Lake** 4.80 266 Pn 20 33 07.8 +1.9
WRH **Wood River Hil** 4.81 317 Pn 20 33 06.2 +0.2
CCB **Clear Creek Bu** 4.83 319 Pn 20 33 05.7 -0.6
SIT **Sitka** 4.91 145 Pn 20 33 06.6 -0.7
PRP **Porcupine Dome** 4.92 335 Pn 20 33 07.3 -0.3
PRP IAML 20 34 29.2
comp=N,160nm,0.6s
PRP IAML 20 34 32.1
comp=E,155nm,0.7s
PRP Porcupine Dome 4.92 335 P Pn 20 33 08.2 +0.6
baz=150
SUA **Susitna One** 4.95 278 Pn Pn 20 33 08.2 +0.2
SUA **Susitna One** 4.95 278 P Pn 20 33 10.8 +2.7
baz=89
COLA **College** 5.00 321 Pn Pn 20 33 07.8 -0.8
COLA IAML 20 34 37.9
comp=E,163nm,0.6s
POKR **Poker Plat Res** 5.06 325 Pn 20 33 08.8 -0.6
POKR IAML 20 34 43.2
comp=N,93nm,0.7s
POKR IAML 20 34 45.6
comp=E,79nm,1.4s
POKR Poker Plat Res 5.06 325 P Pn 20 33 09.3 -0.1
baz=138
R33M **Jennings River** 5.07 106 Pn 20 33 09.1 -0.5
R33M IAML 20 34 36.8
comp=N,158nm,0.8s
R33M IAML 20 34 40.3
comp=E,118nm,1.3s
R33M Jennings River 5.07 106 P Pn 20 33 10.1 +0.4
baz=295,SNR=13
R33M **Jennings River** 5.07 106 Pn Pn 20 33 10.0 +0.4
H27K **Steamboat Moun** 5.10 355 P Pn 20 33 11.0 +0.9
baz=174,SNR=54
H27K **Steamboat Moun** 5.10 355 Pn Pn 20 33 11.3 +1.2
TRF **Thorofare Moun** 5.11 301 Pn 20 33 09.6 -0.6
TRF IAML 20 34 39.4
comp=E,80nm,1.1s
TRF IAML 20 34 49.4
comp=N,76nm,1.2s
TRF Thorofare Moun 5.11 301 P Pn 20 33 12.5 +2.2
baz=112
BWN **Browne** 5.11 310 Pn 20 33 11.5 +1.4
BWN IAML 20 34 54.3
comp=N,176nm,1.6s
BWN IAML 20 34 59.6
comp=E,136nm,1.1s
H29M **Whitestone** 5.16 10 Pn Pn 20 33 10.7 -0.1
H29M **Whitestone** 5.16 10 P Pn 20 33 10.9 +0.1
baz=191,SNR=92
H29M **Whitestone** 5.16 10 Pn Pn 20 33 10.8 +0.1
MDM **Murphy Dome** 5.18 321 Pn 20 33 10.2 -0.8
CAPN **Captain Cook N** 5.21 270 Pn Pn 20 33 10.8 -0.6
CAPN **Captain Cook N** 5.21 270 P Pn 20 33 12.2 +0.8
baz=81
NEA2 **Nenana** 5.21 315 Pn 20 33 11.2 -0.3
NEA2 **Nenana** 5.21 315 P Pn 20 33 11.8 +0.2
baz=127
BRSE **Bradley Lake S** 5.27 259 P Pn 20 33 13.4 +1.1
baz=70
BRLK **Bradley Lake** 5.33 259 Pn 20 33 13.6 +0.4
SKT **Skwentna** 5.33 284 IAML 20 34 35.0
comp=N,110nm,1.5s
SKT IAML 20 34 50.8
comp=E,84nm,1.2s
SKT Skwentna 5.33 284 P Pn 20 33 15.1 +1.8
baz=94
H31M **Peel River** 5.41 28 Pn Pn 20 33 14.3 +0.1
H31M **Peel River** 5.41 28 P Pn 20 33 14.8 +0.6
baz=213,SNR=61
H31M **Peel River** 5.41 28 Pn Pn 20 33 14.7 +0.5
KTH **Kantishna Hill** 5.41 301 Pn 20 33 14.5 +0.2
KTH IAML 20 35 02.7
comp=N,91nm,1.3s
KTH IAML 20 35 07.9
comp=E,76nm,1.3s
EPYK Eagle Plains 5.48 16 P Pn 20 33 16.2 +0.9
baz=199
CNPM **China Poot** 5.58 258 Pn 20 33 16.9 +0.3
SPCP **Crater Peak Br** 5.63 276 Pn 20 33 19.2 +1.7
H25L **Birch Creek** 5.64 338 Pn 20 33 18.7 +1.4
H25L **Birch Creek** 5.64 338 P Pn 20 33 18.9 +1.6
baz=153
SPCN **Chakachatna No** 5.65 276 Pn 20 33 19.1 +1.6
BPAW **Bear Paw Mtn.** 5.66 306 Pn 20 33 18.7 +1.0
BPAW **Bear Paw Mtn.** 5.66 306 P Pn 20 33 19.5 +1.8
baz=117
I23K **Minto, Yukon-K** 5.66 319 Pn 20 33 17.7 +0.1
I23K **Minto, Yukon-K** 5.66 319 P Pn 20 33 17.9 +0.3
baz=131
N20K **Mount Spurr** 5.67 275 P Pn 20 33 20.0 +2.2
baz=85
G27K **Doyon Strip** 5.69 355 Pn Pn 20 33 17.9 -0.1
G27K **Doyon Strip** 5.69 355 P Pn 20 33 18.8 +0.8
baz=174,SNR=21
G27K **Doyon Strip** 5.69 355 Pn Pn 20 33 18.9 +0.8
H24K **Noodor Dome** 5.73 328 Pn 20 33 18.4 -0.3
H24K **Noodor Dome** 5.73 328 P Pn 20 33 19.0 +0.3
baz=142
PPLA **Purkeypile** 5.77 293 Pn 20 33 20.0 +0.7
PPLA **Purkeypile** 5.77 293 P Pn 20 33 21.1 +1.8
baz=102
S34M **Telegraph Cree** 5.77 120 Pn 20 33 18.0 -1.2
S34M **Telegraph Cree** 5.77 120 P Pn 20 33 21.2 +2.0
baz=308
FYU **Fort Yukon** 5.81 341 Pn 20 33 20.3 +0.6
CAST **Castle Rocks** 5.86 298 Pn 20 33 20.5 +0.1
CAST **Castle Rocks** 5.86 298 P Pn 20 33 21.6 +1.2
baz=108
G29M **Pine Creek** 5.87 10 Pn 20 33 20.1 -0.4
G29M **Pine Creek** 5.87 10 P Pn 20 33 21.0 +0.4
baz=192,SNR=7.2
G29M **Pine Creek** 5.87 10 Pn Pn 20 33 20.1 -0.4
SPNN **North Nagishla** 5.89 277 Pn 20 33 22.7 +1.8
TGTN **Hyland Airport** 5.89 81 P Pn 20 33 21.6 +0.6
baz=272
DLBC **Dease Lake** 5.95 113 Pn 20 33 21.0 -0.7
DLBC **Dease Lake** 5.95 113 P Pn 20 33 21.2 -0.5
baz=302
DLBC **Dease Lake** 5.95 113 Pn Pn 20 33 20.2 -1.5
comp=E,0.2nm,0.3s,baz=347,slow=18,SNR=3.5
DLBC Pg Pb 20 33 33.6 -3.5
comp=E,1.6nm,0.3s,baz=278,slow=15,SNR=6.7
DLBC Lg Lg 20 34 59.0
comp=E,2.1nm,0.3s,baz=240,slow=23,SNR=4.2
comp=E,1.2nm,0.4s
G26K **Porcupine Rive** 5.98 347 P Pn 20 33 23.0 +1.0
baz=164,SNR=32
MLY **Manley** 6.05 314 Pn Pn 20 33 22.4 -0.7
MLY **Manley** 6.05 314 P Pn 20 33 23.7 +0.7
baz=125
O20K **Slope Mountain** 6.07 265 Pn 20 33 24.5 +1.2
O20K **Slope Mountain** 6.07 265 P Pn 20 33 24.8 +1.5
baz=74
M20K **Styx River** 6.09 282 Pn 20 33 25.6 +1.9
M20K **Styx River** 6.09 282 P Pn 20 33 25.4 +1.8
baz=91
NCT **North Crescent** 6.11 270 Pn 20 33 24.8 +0.9
CHUM **Lake Minchumin** 6.11 302 P Pn 20 33 25.7 +1.9
baz=111
G30M **tAoh Zraii Nji** 6.13 16 Pn Pn 20 33 23.4 -0.7
G30M **tAoh Zraii Nji** 6.13 16 P Pn 20 33 24.2 +0.1
baz=200,SNR=84
G30M **tAoh Zraii Nji** 6.13 16 Pn Pn 20 33 24.0 -0.1
G25K **Bearman Lake** 6.13 339 P Pn 20 33 24.9 +0.8
baz=154
H23K **Yukon River** 6.18 323 P Pn 20 33 24.7 -0.1
baz=135
IVE **Iliamna Volcan** 6.28 265 Pn 20 33 26.4 +0.2
G24K **Hadweenzic Riv** 6.34 334 Pn 20 33 27.1 0.0
G24K **Hadweenzic Riv** 6.34 334 P Pn 20 33 27.8 +0.7
baz=148
WRAK **Wrangell Islan** 6.37 135 P Pn 20 33 27.7 +0.3
baz=322
G31M **Satah River** 6.39 23 Pn 20 33 26.8 -0.8
G31M **Satah River** 6.39 23 P Pn 20 33 27.4 -0.2
baz=208,SNR=71
G31M **Satah River** 6.39 23 Pn Pn 20 33 27.8 +0.2
L20K **Farewell, AK** 6.47 288 P Pn 20 33 29.6 +0.8
baz=96
F28M **Old Crow** 6.48 2 P Pn 20 33 29.4 +0.5
baz=183,SNR=15
F28M **Old Crow** 6.48 2 Pn Pn 20 33 29.9 +1.0
P19K **Oil Pt** 6.49 262 Pn 20 33 29.1 0.0
P19K **Oil Pt** 6.49 262 P Pn 20 33 29.5 +0.5
baz=71
SYI **Shuyak Island** 6.51 252 Pn 20 33 29.6 +0.3
Q20K **Shuyak Island** 6.51 252 P Pn 20 33 30.5 +1.1
baz=62
BMAR **Burnt Mountain** 6.53 346 Pn 20 33 30.0 +0.3
M19K **Big River Lodg** 6.68 282 Pn 20 33 32.6 +0.8
M19K **Big River Lodg** 6.68 282 P Pn 20 33 32.8 +1.1
baz=90
K20K **Telida** 6.70 295 Pn 20 33 32.5 +0.5
K20K **Telida** 6.70 295 P Pn 20 33 32.9 +0.9
baz=103
F26K **Sheenjek River** 6.74 348 P Pn 20 33 33.6 +1.2
baz=165,SNR=160
T35M **Bob Quinn** 6.74 124 P Pn 20 33 33.7 +1.1
baz=313
F30M **Barrier River** 6.78 15 Pn 20 33 32.8 -0.3
F30M **Barrier River** 6.78 15 P Pn 20 33 33.0 -0.1
baz=200,SNR=25
F30M **Barrier River** 6.78 15 Pn Pn 20 33 32.9 -0.1
H22K **Ishtalitna Cre** 6.79 319 P Pn 20 33 33.6 +0.5
baz=129
N19K **Bonanza Creek** 6.81 273 Pn 20 33 33.3 -0.3
N19K **Bonanza Creek** 6.81 273 P Pn 20 33 34.1 +0.6
baz=81
F25K **Christian Rive** 6.82 343 P Pn 20 33 34.7 +1.1
baz=158,SNR=47
O19K **Port Alsworth** 6.86 268 P Pn 20 33 35.4 +1.3
baz=76
L19K **White Mountain** 6.91 285 Pn 20 33 35.5 +0.7
L19K **White Mountain** 6.91 285 P Pn 20 33 35.9 +1.1
baz=92
F31M **Tsiigehtchic** 6.94 22 P Pn 20 33 35.5 +0.3
baz=208
Q19K **Cape Douglas,** 6.96 257 Pn 20 33 37.2 +1.7
Q19K **Cape Douglas,** 6.96 257 P Pn 20 33 37.5 +2.1
baz=66
G23K **Bananza Creek** 6.96 327 P Pn 20 33 36.1 +0.6
baz=139
J20K **Nowinta River** 6.97 302 Pn 20 33 36.7 +1.1
J20K **Nowinta River** 6.97 302 P Pn 20 33 37.4 +1.9
baz=110
KDAK **Kodiak Island** 7.03 246 Pn 20 33 37.1 +0.7
KDAK **Kodiak Island** 7.03 246 P Pn 20 33 37.5 +1.1
baz=56
KDAK **Kodiak Island** 7.03 246 Pn Pn 20 33 36.9 +0.5
comp=E,6.2nm,0.3s,baz=68,slow=7.6,SNR=73
KDAK Sn Sn 20 34 53.1 -3.6
baz=323,slow=20
KDAK LR LR 20 36 43.3
comp=E,127nm,18.3s,baz=358,slow=41
comp=E,16nm,0.4s
E27K **Coleen River** 7.06 357 Pn 20 33 37.5 +0.6
E27K **Coleen River** 7.06 357 P Pn 20 33 37.5 +0.6
baz=176,SNR=11
E27K **Coleen River** 7.06 357 Pn Pn 20 33 37.1 +0.2
H21K **Melozitna Rive** 7.12 315 Pn 20 33 38.4 +0.7
H21K **Melozitna Rive** 7.12 315 P Pn 20 33 38.5 +0.9
baz=124
F24K **Squaw Lake** 7.13 337 Pn 20 33 38.4 +0.6
F24K **Squaw Lake** 7.13 337 P Pn 20 33 39.2 +1.4
baz=150
E25K **Arctic Village** 7.31 345 Pn 20 33 41.5 +1.2
E25K **Arctic Village** 7.31 345 P Pn 20 33 41.8 +1.5
baz=160,SNR=37
E29M **Blow River** 7.33 8 Pn 20 33 40.1 -0.5
E29M **Blow River** 7.33 8 P Pn 20 33 40.6 0.0
baz=190,SNR=15
E29M **Blow River** 7.33 8 Pn Pn 20 33 40.6 0.0
O18K **Koktuh Hills** 7.38 266 Pn 20 33 42.0 +0.7
O18K **Koktuh Hills** 7.38 266 P Pn 20 33 41.5 +0.3
baz=74
M18K **Stony River** 7.38 279 Pn 20 33 42.3 +1.1
M18K **Stony River** 7.38 279 P Pn 20 33 42.2 +0.9
baz=86
COLD **Coldfoot** 7.40 329 P Pn 20 33 42.4 +0.9
baz=141
COLD **Coldfoot** 7.40 329 Pn Pn 20 33 42.6 +1.0
E28M **Babbage River** 7.48 3 P Pn 20 33 43.1 +0.5
baz=184,SNR=24
E28M **Babbage River** 7.48 3 Pn Pn 20 33 42.8 +0.2
V35K **Ketchikan** 7.50 137 Pn 20 33 42.6 -0.2
V35K **Ketchikan** 7.50 137 P Pn 20 33 43.8 +1.0
baz=325
N18K **Kilae Creek** 7.52 273 Pn 20 33 42.8 -0.3
N18K **Kilae Creek** 7.52 273 P Pn 20 33 43.9 +0.7
baz=80
G22K **Bettles** 7.52 325 P Pn 20 33 43.7 +0.6
baz=135
J19K **Poorman** 7.53 299 Pn 20 33 43.8 +0.5
J19K **Poorman** 7.53 299 P Pn 20 33 44.4 +1.1
baz=105
P18K **Big Mountain,** 7.54 263 Pn 20 33 44.1 +0.7
P18K **Big Mountain,** 7.54 263 P Pn 20 33 44.2 +0.7
baz=70
OHAK **Old Harbor** 7.66 245 Pn 20 33 44.0 -1.1
OHAK **Old Harbor** 7.66 245 P Pn 20 33 45.9 +0.8
baz=54
E24K **Your Creek** 7.73 337 P Pn 20 33 47.5 +1.5
baz=150
INK **Inuvik** 7.76 20 Pn Pn 20 33 47.0 +0.6
comp=E,0.7nm,0.3s,baz=217,slow=11,SNR=9.5
INK Sn Sn 20 35 12.0 -2.6
comp=E,6.5nm,0.3s,baz=252,slow=18,SNR=11
INK Lg Lg 20 35 54.8
comp=E,1.2nm,0.3s,baz=144,slow=19,SNR=4.0
INK LR LR 20 37 24.4
comp=E,48nm,18.9s,baz=166,slow=43
comp=E,3.0nm,0.5s
L18K **Granite Mounta** 7.77 285 Pn 20 33 47.2 +0.6
L18K **Granite Mounta** 7.77 285 P Pn 20 33 47.7 +1.1
baz=91
H20K **Anotleneega Mo** 7.78 310 Pn 20 33 46.0 -0.8
H20K **Anotleneega Mo** 7.78 310 P Pn 20 33 47.9 +1.2
baz=117
G21K **Allakaket** 7.85 319 Pn 20 33 48.0 +0.2
G21K **Allakaket** 7.85 319 P Pn 20 33 47.9 +0.2
baz=127
J18K **Innoko River** 7.89 294 Pn 20 33 48.3 0.0
J18K **Innoko River** 7.89 294 P Pn 20 33 48.5 +0.2
baz=100
D27M **Malcolm River** 8.11 359 Pn 20 33 51.8 +0.4
D27M **Malcolm River** 8.11 359 P Pn 20 33 52.6 +1.3
baz=178,SNR=15
F22K **John River** 8.12 327 P Pn 20 33 52.3 +0.8
baz=136
ANCK **Angle Creek** 8.15 255 Pn 20 33 51.8 -0.1
M17K **Holitna River** 8.16 279 Pn 20 33 51.7 -0.3
M17K **Holitna River** 8.16 279 P Pn 20 33 52.5 +0.6
baz=84
N17K **Nushagak Hills** 8.17 273 P Pn 20 33 52.5 +0.4
baz=78
P17K **Kvichak River** 8.19 263 Pn 20 33 52.4 +0.1
P17K **Kvichak River** 8.19 263 P Pn 20 33 53.0 +0.7
baz=69
D28M **Stokes Point** 8.23 4 Pn 20 33 53.2 +0.4
D28M **Stokes Point** 8.23 4 P Pn 20 33 53.6 +0.7
baz=186,SNR=36
F21K **Alatna River** 8.29 323 Pn 20 33 52.9 -0.8
F21K **Alatna River** 8.29 323 P Pn 20 33 53.9 +0.2
baz=131
CNTC **Contact Creek** 8.30 256 Pn 20 33 55.0 +1.1
Q17K **Contact Creek** 8.30 256 P Pn 20 33 55.6 +1.6
baz=63
O17K **Koliganek Bris** 8.32 268 Pn 20 33 55.6 +1.5
O17K **Koliganek Bris** 8.32 268 P Pn 20 33 55.2 +1.1
baz=73
H19K **Roundabout Mou** 8.39 308 Pn 20 33 55.9 +0.9
H19K **Roundabout Mou** 8.39 308 P Pn 20 33 56.1 +1.1
baz=114
TOLK **Toolik Lake Re** 8.42 337 Pn 20 33 57.5 +2.0
TOLK **Toolik Lake Re** 8.42 337 P Pn 20 33 57.8 +2.3
baz=149
SII **Sitkinak Islan** 8.46 243 P Pn 20 33 57.5 +1.5
baz=51
E22K **Anaktuvuk Pass** 8.50 330 P Pn 20 33 57.8 +1.3
baz=140
L17K **Donlin** 8.52 284 Pn 20 33 57.8 +0.9
L17K **Donlin** 8.52 284 P Pn 20 33 57.7 +0.8
baz=89
K17K **Iditarod** 8.53 288 Pn 20 33 57.4 +0.4
K17K **Iditarod** 8.53 288 P Pn 20 33 57.9 +0.9
baz=93
D25K **Kavik River** 8.55 346 P Pn 20 33 59.5 +2.3
baz=160,SNR=27
C27K **Jago River** 8.60 352 Pn 20 33 59.6 +1.7
C27K **Jago River** 8.60 352 P Pn 20 34 00.1 +2.2
baz=170,SNR=31
D24K **Happy Valley** 8.74 340 Pn 20 34 01.4 +1.5
D24K **Happy Valley** 8.74 340 P Pn 20 34 00.9 +1.1
baz=152
O16K **Kokwok River B** 8.85 267 Pn 20 34 02.6 +1.2
O16K **Kokwok River B** 8.85 267 P Pn 20 34 03.0 +1.6
baz=72
F20K **Avaraart Lake** 8.88 318 Pn 20 34 02.9 +1.2
F20K **Avaraart Lake** 8.88 318 P Pn 20 34 02.8 +1.1
baz=124
G19K **Purcell Mounta** 8.89 311 Pn 20 34 03.2 +1.4
G19K **Purcell Mounta** 8.89 311 P Pn 20 34 03.2 +1.4
baz=116
D23K **Nanushuk River** 8.92 336 Pn 20 34 03.5 +1.2
D23K **Nanushuk River** 8.92 336 P Pn 20 34 03.9 +1.6
baz=146
J17K **VABM Dome** 8.94 293 P Pn 20 34 03.1 +0.6
baz=96
M16K **Timber Creek** 8.94 277 Pn 20 34 02.9 +0.3
M16K **Timber Creek** 8.94 277 P Pn 20 34 03.2 +0.6
baz=81
N16K **Nishlik Lake** 8.95 274 Pn 20 34 03.8 +1.0
N16K **Nishlik Lake** 8.95 274 P Pn 20 34 03.6 +0.8
baz=78
C26K **Camden Bay** 8.97 350 P Pn 20 34 03.7 +0.7
baz=166
P16K **Nushagak River** 8.99 264 P Pn 20 34 05.2 +1.9
baz=69
H18K **Honhosa River** 9.00 304 P Pn 20 34 04.7 +1.3
baz=108
L16K **Owhat River** 9.10 282 Pn 20 34 06.0 +1.1
L16K **Owhat River** 9.10 282 P Pn 20 34 05.6 +0.7
baz=85
C24K **Franklin Bluff** 9.23 342 P Pn 20 34 07.1 +0.5
baz=154
E21K **Killik River** 9.27 328 Pn 20 34 08.2 +1.1
E21K **Killik River** 9.27 328 P Pn 20 34 07.8 +0.7
baz=136
D22K **Ayikyak River** 9.28 332 Pn 20 34 08.0 +0.8
D22K **Ayikyak River** 9.28 332 P Pn 20 34 08.1 +0.8
baz=141
G18K **Tagagawik** 9.37 308 Pn 20 34 10.1 +1.6
G18K **Tagagawik** 9.37 308 P Pn 20 34 09.8 +1.4
baz=112
F19K **Shaleruckik Mo** 9.45 314 P Pn 20 34 10.7 +1.1
baz=119
H17K **Granite Mounta** 9.57 302 Pn 20 34 11.3 +0.1
H17K **Granite Mounta** 9.57 302 P Pn 20 34 12.3 +1.1
baz=104
E19K **Redstone River** 9.59 318 P Pn 20 34 13.1 +1.6
baz=123
J16K **Anvik River** 9.61 291 P Pn 20 34 12.2 +0.4
baz=94
C23K **Itkillik River** 9.64 339 Pn 20 34 13.4 +1.2
C23K **Itkillik River** 9.64 339 P Pn 20 34 13.8 +1.6
baz=150
N15K **Kwethluk River** 9.66 273 Pn 20 34 13.6 +1.1
N15K **Kwethluk River** 9.66 273 P Pn 20 34 13.7 +1.1
baz=76
I17K **Unalakleet** 9.71 295 P Pn 20 34 14.4 +1.3
baz=97
E20K **Nigu River** 9.75 323 P Pn 20 34 14.4 +0.7
baz=129
O15K **Ungalikthiuk R** 9.83 267 Pn 20 34 15.0 +0.3
O15K **Ungalikthiuk R** 9.83 267 P Pn 20 34 16.1 +1.3
baz=70
M15K **Kasigluk River** 9.83 276 Pn 20 34 14.9 +0.1
M15K **Kasigluk River** 9.83 276 P Pn 20 34 14.8 0.0
baz=78
C21K **Knifeblade Rid** 9.99 329 Pn 20 34 17.8 +0.8
C21K **Knifeblade Rid** 9.99 329 P Pn 20 34 18.6 +1.7
baz=136
F18K **Selawik** 10.02 311 P Pn 20 34 18.1 +0.8
baz=114
G17K **Kiwalik Mounta** 10.02 304 P Pn 20 34 17.8 +0.4
baz=106
K15K **Wolf Creek Mou** 10.03 286 Pn 20 34 16.9 -0.7
K15K **Wolf Creek Mou** 10.03 286 P Pn 20 34 18.2 +0.6
baz=87
L15K **Ungalak Mounta** 10.06 282 P Pn 20 34 18.7 +0.8
baz=84
D20K **Etivluk River** 10.16 325 P Pn 20 34 19.3 0.0
baz=130
B21K **Ikpikpuk River** 10.29 331 Pn 20 34 20.6 -0.5
B21K **Ikpikpuk River** 10.29 331 P Pn 20 34 21.3 +0.3
baz=139
M14K **Bethel** 10.43 277 Pn 20 34 22.8 -0.3
M14K **Bethel** 10.43 277 P Pn 20 34 24.5 +1.5
baz=78
D19K **Kuna River** 10.46 322 P Pn 20 34 24.1 +0.7
baz=126
N14K **Kuskokwak Cree** 10.50 273 P Pn 20 34 25.2 +1.3
baz=74
O14K **Tigyukauivet M** 10.50 269 P Pn 20 34 25.3 +1.4
baz=71
F17K **Baldwin Pennin** 10.55 309 P Pn 20 34 26.2 +1.6
baz=110
B22K **Teshekpuk Lake** 10.60 336 Pn 20 34 25.4 +0.1
B22K **Teshekpuk Lake** 10.60 336 P Pn 20 34 26.3 +1.1

baz=144
C36M Paulatuk 10.67 33 Pn Pn 20 34 24.4 -1.7
C36M Paulatuk 10.67 33 P **Pn 20 34 25.6 -0.5**
baz=228,SNR=16
L14K Kuka Creek 10.67 281 Pn Pn 20 34 25.9 -0.4
L14K Kuka Creek 10.67 281 P **Pn 20 34 27.8 +1.5**
baz=81
G16K Koyuk River 10.68 303 P **Pn 20 34 28.9 +2.5**
baz=103
E18K Tukpahlearik C 10.71 314 Pn Pn 20 34 25.7 -1.1
E18K Tukpahlearik C 10.71 314 P **Pn 20 34 29.2 +2.5**
baz=116
E17K Hotham Inlet 11.00 312 P **Pn 20 34 32.4 +1.6**
baz=112
S14K Fog Glacier 11.03 252 P **Pn 20 34 33.6 +2.3**
baz=56
M13K Dall Lake 11.18 276 Pn 20 34 31.2 -2.0
M13K Dall Lake 11.18 276 P **Pn 20 34 34.7 +1.5**
baz=76
B20K Meade River 11.18 329 P **Pn 20 34 33.9 +0.7**
baz=134
C19K Lookout Ridge 11.25 323 P **Pn 20 34 34.9 +0.6**
baz=126
BBB Bella Bella 11.27 137 Pn **Pn 20 34 35.5 +1.0**
comp=E,0.3nm,0.3s,baz=334,slow=9.3,SNR=1.9
comp=E,15nm,1.0s
G15K Niukluk 11.30 300 P **Pn 20 34 36.3 +1.4**
baz=99
A22K Sinclair Lake 11.44 336 P **Pn 20 34 38.3 +1.5**
baz=142
C18K Utukok River 11.49 319 P **Pn 20 34 39.4 +1.9**
baz=121
F15K North Star Dit 11.68 303 P **Pn 20 34 41.7 +1.6**
baz=102
D17K Noatak River 11.69 314 P **Pn 20 34 41.4 +1.3**
baz=113
RDOG Red Dog Mine 11.77 315 P **Pn 20 34 42.2 +0.9**
baz=115
ANM Nome 11.82 297 P **Pn 20 34 42.0 0.0**
baz=95
CHNA Chernabura Isl 11.92 246 P **Pn 20 34 44.3 +0.9**
baz=50
SDPT Sand Point 12.00 250 P **Pn 20 34 44.5 0.0**
baz=53
YKA Yellowknife Ar 12.28 72 Pn **Pn 20 34 45.8 -2.4**
comp=E,0.2nm,0.3s,baz=346,slow=5.6,SNR=4.4
YKA Sn Sn 20 36 54.4 -11
baz=278,slow=17,SNR=1.9
YKA Lg Lg 20 38 14.2
baz=274,slow=30
comp=E,0.3nm,0.5s
A36M Sachs Harbour 12.38 22 P **Pn 20 34 49.1 -0.5**
baz=216
S12K Black Hills 12.52 254 P **Pn 20 34 53.3 +1.7**
baz=55
UNV Unalaska Valle 15.70 254 P **Pn 20 35 36.5 +2.0**
baz=52
NEW Newport 18.55 124 LR LR 20 43 40.4
comp=E,84nm,19.1s,baz=312,slow=38
RES Resolute Bay 21.04 32 P **P 20 36 37.3 +0.1**
comp=E,0.9nm,0.8s,baz=243,slow=11,SNR=8.0
RES S **S 20 40 27.3 -4.3**
comp=E,0.8nm,0.8s,baz=280,slow=12,SNR=1.9
RES LR LR 20 45 14.9
comp=E,65nm,18.9s,baz=0.0,slow=38
comp=E,0.9nm,0.8s
EGMT Eagleton 21.88 113 P **P 20 36 48.4 +1.7**
baz=318
YBH Yreka Blue Hor 22.25 143 LR LR 20 43 42.3
comp=E,32nm,20.5s,baz=355,slow=32
PDAR Pinedale Array 26.11 121 P **P 20 37 27.4 -0.5**
comp=E,0.2nm,0.7s,baz=309,slow=4.5,SNR=1.8
PDAR LR LR 20 48 09.5
comp=E,46nm,19.3s,baz=80,slow=38
comp=E,0.2nm,0.7s
NVAR Mina Array Bea 26.63 139 P **P 20 37 35.0 +2.4**
comp=E,0.2nm,0.4s,baz=317,slow=6.5,SNR=1.5
FRB Frobisher Bay 31.77 53 LR LR 20 51 20.1
comp=E,53nm,19.3s,baz=217,slow=37
MA2 Magadan 32.61 298 LR LR 20 53 04.6
comp=E,35nm,19.3s,baz=4.5,slow=39
PETK Petropavlovsk- 33.29 285 P **P 20 38 30.5 -0.6**
comp=E,3.2nm,0.9s,baz=87,slow=6.1,SNR=1.9
PETK LR LR 20 52 15.5
comp=E,26nm,19.6s,baz=19,slow=37
comp=E,3.2nm,0.9s
TIXI Tiksi 34.11 326 LR LR 20 55 56.4
comp=E,14nm,19.5s,baz=22,slow=42
SFJD Kangerlussuaq 36.42 41 LR LR 20 54 36.5
comp=E,38nm,19.6s,baz=218,slow=38
TXAR Lajitas Array 40.09 126 LR LR 20 57 37.2
comp=E,46nm,18.9s,baz=278,slow=39
TKL Tuckaleechee C 43.60 99 LR LR 21 00 34.3
comp=E,21nm,19.3s,baz=181,slow=40
KLR Kul'dur 47.70 298 LR LR 21 00 48.1
comp=E,21nm,18.5s,baz=91,slow=36
FINES FINESS Array B 57.28 8 P **P 20 41 41.4 +0.4**
comp=E,1.5nm,1.1s,baz=354,slow=12,SNR=2.6
comp=E,1.5nm,1.1s
ZALV Zalesovo Beam 59.73 331 P **P 20 41 57.7 -0.5**
comp=E,0.3nm,0.4s,baz=65,slow=10,SNR=1.2
ZALV LR LR 21 12 09.2
comp=E,19nm,18.3s,baz=338,slow=40
comp=E,0.3nm,0.4s
AKASG Malin Array Be 68.18 7 P **P 20 42 53.8 +0.1**
comp=E,0.5nm,0.5s,baz=354,slow=6.0,SNR=2.3
comp=E,0.5nm,0.5s
QSPA South Pole Qui 150.99 180 PKPbc **PKPbc 20 51 45.7 +0.4**
comp=E,1.1nm,0.9s,baz=90,slow=4.0,SNR=2.0

*CATAC **15** 20:32:08.6±0.4, 13°.29N×88°.07W, h7km±5km, ML3.0*
*SNET **15** 20:32:08.0±0.5, 13°.26N×88°.06W, h5km±22km, ML2.9*
ISC 15 20:32:08.4±1.3, 13°.2N±0°.1×88°.08W±0°.05, h11km±11km,
n18,σ0°66/25, 3C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LCND	**La Caada**	**0.20**	**71**	*eP*		**Pg**	**20 32 12.3**	**-0.3**
LCND				*eS*		**Sg**	**20 32 15.3**	**-0.3**
LCND				IAML			20 32 17.0	
	comp=Z,6μm,0.4s							
CNCH	**Conchagua**	**0.24**	**83**	*i*	*P*	**Pg**	**20 32 13.4**	**-0.2**
CNCH				*e*	*S*	**Sg**	**20 32 17.1**	**+0.1**
CNCH	**Conchagua**	**0.24**	**83**	*i*	*P*	**Pg**	**20 32 13.4**	**-0.2**
CNCH				*i*	*S*	**Sg**	**20 32 17.3**	**+0.3**
CNCH				IAML			20 32 17.8	
	comp=Z,10μm,1.0s							
CNRM	**Centro Naciona**	**0.24**	**339**	*i*	*P*	**Pg**	**20 32 13.3**	**-0.2**
CNRM				*i*	*S*	**Sg**	**20 32 17.7**	**+0.8**
CNRM				IAML			20 32 19.5	
	comp=Z,5μm,1.0s							
BLLM	**Bellamira**	**0.25**	**322**	⇑*i*	*P*	**Pg**	**20 32 13.8**	**+0.2**
VSM	**San Miguel**	**0.26**	**314**	*e*	*P*	**Pb**	**20 32 14.4**	**-0.9**
LCY	**Lacayo**	**0.27**	**311**	⇑*i*	*P*	**Pg**	**20 32 14.5**	**+0.4**
RANC	**El Ranchito**	**0.28**	**313**	⇑*i*	*P*	**Pg**	**20 32 14.5**	**+0.4**
RANC	**El Ranchito**	**0.28**	**313**	*i*	*P*	**Pg**	**20 32 14.6**	**+0.4**
RANC				*i*	*S*	**Sb**	**20 32 19.7**	**-0.6**
RANC				IAML			20 32 21.1	
	comp=Z,1μm,1.0s							
PACA	**Pacayal**	**0.32**	**314**	*e*	*P*	**Pg**	**20 32 15.3**	**+0.3**
PACA	**Pacayal**	**0.32**	**314**	*i*	*P*	**Pb**	**20 32 15.6**	**-0.7**
PACA				IAML			20 32 27.6	
	comp=Z,5μm,1.0s							
TECA	**Tecapa**	**0.48**	**301**	*e*	*P*	**Pg**	**20 32 18.2**	**+0.4**
COEB	**Comit de Eme**	**0.50**	**300**	*i*	*P*	**Pg**	**20 32 17.5**	**-0.8**
COEB				*i*	*S*	**Sg**	**20 32 25.6**	**+0.6**
COEB				IAML			20 32 27.9	
	comp=Z,230nm,1.0s							
TECO	**Alcaldia de Te**	**0.74**	**293**	*i*	*S*	**Sb**	**20 32 33.4**	**-0.1**
UESV	**Universidad de**	**0.79**	**300**	*i*	*S*	**Sb**	**20 32 35.0**	**+0.1**
PAVA	**Las Pavas**	**0.95**	**299**	*i*	*P*	**Pg**	**20 32 25.6**	**-1.2**
PAVA				IAML			20 32 44.0	
	comp=Z,440nm,1.0s							
CRIN	**San Cristobal**	**1.14**	**118**	*i*	*P*	**Pg**	**20 32 30.1**	**-0.3**
CRIN				IAML			20 32 30.7	
	comp=Z,650nm,1.0s							
CRIN				*i*	*S*	**Sn**	**20 32 47.9**	**+1.7**
MACN	**El Madrono**	**1.58**	**119**	*i*	*P*	**Pn**	**20 32 36.7**	**+0.3**
MACN				IAML			20 32 40.5	
	comp=Z,71nm,1.0s							

*IDC **15** 20:34:05.7±1.3, 15°.16S×167°.98E, h0km, mb4.0/6, mbtmp3.9/7, ML3.4/1, Error ellipse: s-maj=50.6km s-min=24.6km az=136.0*

ISC 15 20:34:06.6±1.1, 15°.4S±0°.1×168°.1E±0°.2, h10km**, n7,**
σ2s06/7, mb4.0/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
DZM	**Mont Dzumac**	**6.81**	**193**	Pn		**Pn**	**20 35 48.2**	**+1.4**
	0.7nm,0.3s,baz=346,slow=19,SNR=10							
DZM				Sn		**Sn**	**20 37 02.1**	**-2.4**
	baz=10,slow=22							
	9.2nm,0.8s							
WRA	**Warramunga Arr**	**32.42**	**257**	P		**P**	**20 40 38.1**	**+1.1**
	0.5nm,0.6s,baz=81,slow=6.2,SNR=2.6							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**33.16**	**250**	P		**P**	**20 40 44.8**	**+1.2**
	1.2nm,0.7s,baz=75,slow=8.8,SNR=13							
	1.2nm,0.7s							
SONM	**Songino Array**	**83.49**	**323**	P		**P**	**20 46 32.7**	**-2.1**
	1.0nm,0.9s,baz=95,slow=6.7,SNR=4.1							
	1.0nm,0.9s							
ILAR	**Eielson Array**	**86.92**	**18**	P		**P**	**20 46 50.5**	**-0.9**
	1.2nm,0.7s,baz=241,slow=5.3,SNR=12							
	1.2nm,0.7s							
NVAR	**Mina Array Bea**	**87.12**	**49**	P		**P**	**20 46 54.6**	**+1.3**
	0.3nm,0.5s,baz=231,slow=7.8,SNR=2.3							
	0.3nm,0.5s							
YKA	**Yellowknife Ar**	**97.78**	**27**	P		Pdif	20 47 42.5	+0.7
	0.9nm,0.8s,baz=263,slow=4.7,SNR=15							
	0.9nm,0.8s							

*NEIC **15** 20:35:20.8±2.2, 25°.00S±0°.05×179°.8E±0°.1, h480km±6km, mb4.6/61, Error ellipse: s-maj=15.8km s-min=6.0km az=74.0*
*IDC **15** 20:35:23.8±1.4, 25°.03S×179°.54E, h509km±13km, mb3.7/15, mbtmp4.6/17, Error ellipse: s-maj=12.3km s-min=11.1km az=64.0*
*NOU **15** 20:35:24.0, 24°.94S×179°.88E, h566km, mb4.7/9, South of Fiji Islands*
ISC 15 20:35:22.4±0.4, 25°.07S±0°.05×179°.71E±0°.07, h500km**,**
n201,σ1s40/206, mb4.6/45, 5C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MSVF	**Nonsavu**	**7.46**	**348**	P		**P**	**20 37 15.3**	**+1.8**
MSVF	**Nonsavu**	**7.46**	**348**	P		**P**	**20 37 13.7**	**+0.2**
TAVE	**Taveuni**	**8.33**	**3**	P		**P**	**20 37 25.2**	**+2.8**
YSA	**Yasawairara**	**8.57**	**346**	P		**P**	**20 37 26.9**	**+2.1**
NIUE	**Niue**	**11.31**	**60**	P		**P**	**20 37 51.5**	**-2.3**
PINNC	**Pines Island,**	**11.48**	**280**	P		**P**	**20 37 57.8**	**+2.2**
QUENC	**Quen Island, N**	**12.07**	**280**	P		**P**	**20 38 03.6**	**+1.7**
KUZ	**Kuaotunu**	**12.13**	**195**	P		**P**	**20 38 05.3**	**+3.2**
LIFNC	**LIFOU**	**12.26**	**288**	P		**P**	**20 38 04.3**	**+0.5**
DZM	**Mont Dzumac**	**12.52**	**281**	P		**P**	**20 38 09.4**	**+2.7**
DZM	**Mont Dzumac**	**12.52**	**281**	P		**P**	**20 38 07.2**	**+0.5**
DZM	**Mont Dzumac**	**12.52**	**281**	P		**P**	**20 38 08.2**	**+1.5**
	42nm,0.9s,baz=88,slow=14,SNR=14							
NOUC	**Port Laguerre**	**12.64**	**281**	P		**P**	**20 38 10.8**	**+3.0**
TOZ	**Tahuroa Road**	**13.12**	**195**	P		**P**	**20 38 12.3**	**-0.3**
URZ	**Urewera**	**13.33**	**189**	P		**P**	**20 38 14.5**	**-0.3**
	161nm,0.5s,baz=54,slow=2.5,SNR=125							
URZ				S		**S**	**20 40 34.6**	**-2.5**
	9.5nm,0.4s,baz=86,slow=23,SNR=5.9							
AFI	**Afiamalu**	**13.70**	**37**	P		**P**	**20 38 15.2**	**-4.0**
RTZ	**Ruatahuna**	**13.70**	**189**	P		**P**	**20 38 16.6**	**-2.3**
RTZ						**S**	**20 40 42.7**	**-1.6**
BKZ	**Black Stump Fm**	**14.31**	**190**	P		**P**	**20 38 28.2**	**+2.9**
BKZ	**Black Stump Fm**	**14.31**	**190**	P		**P**	**20 38 25.0**	**-0.3**
ARHZ	**Aropaoanui**	**14.33**	**189**	P		P	20 38 45.0	+20
KOUNC	**Koumac, New Ca**	**14.91**	**284**	P		**P**	**20 38 32.7**	**+0.9**
DVHZ	**Dannevirke**	**15.47**	**190**	P		**S**	**20 41 16.5**	**-1.7**
POWZ	**Post Office Ro**	**15.63**	**191**	P		**S**	**20 41 21.3**	**+0.1**
PRWZ	**Pori Road**	**15.75**	**191**	P		**S**	**20 41 24.5**	**+1.0**
BFZ	**Birch Farm**	**15.83**	**190**	P		**P**	**20 38 41.3**	**+0.2**
BFZ	**Birch Farm**	**15.83**	**190**	P		**P**	**20 38 38.8**	**-2.3**
BFZ	**Birch Farm**	**15.83**	**190**	P		**S**	**20 41 23.8**	**-1.2**
MRZ	**Mangatainoka R**	**15.92**	**192**	P		**P**	**20 38 39.0**	**-3.1**
MRZ	**Mangatainoka R**	**15.92**	**192**	P		**S**	**20 41 23.5**	**-3.2**
CPWZ	**Castlepoint**	**16.06**	**190**	P		**S**	**20 41 31.2**	**+2.0**
OGWZ	**Otaki Gorge**	**16.15**	**192**	P		**S**	**20 41 29.6**	**-1.3**
HOWZ	**Holdsworth Sta**	**16.16**	**191**	P		**S**	**20 41 26.2**	**-5.0**
TMWZ	**Te Maipa**	**16.30**	**190**	P		**S**	**20 41 35.4**	**+1.7**
DUWZ	**D'Urville Isla**	**16.41**	**196**	P		**P**	**20 38 47.1**	**-0.2**
DUWZ	**D'Urville Isla**	**16.41**	**196**	P		**S**	**20 41 34.7**	**-1.0**
MTW	**Mount Morrison**	**16.42**	**191**	P		**S**	**20 41 34.2**	**-1.6**
CAW	**Cannon Point**	**16.45**	**192**	P		**P**	**20 38 47.6**	**0.0**
CAW	**Cannon Point**	**16.45**	**192**	P		**S**	**20 41 36.3**	**0.0**
TRWZ	**Traveller**	**16.62**	**191**	P		**P**	**20 38 48.7**	**-0.7**
PAWZ	**Paruwai Farm**	**16.65**	**191**	P		**P**	**20 38 48.6**	**-1.1**
PAWZ	**Paruwai Farm**	**16.65**	**191**	P		**S**	**20 41 37.6**	**-2.3**
TCW	**Tory Channel**	**16.72**	**194**	P		**P**	**20 38 50.4**	**+0.1**
TCW	**Tory Channel**	**16.72**	**194**	P		**S**	**20 41 37.8**	**-3.2**
SNZO	**South Karori**	**16.72**	**193**	P		**P**	**20 38 50.0**	**-0.4**
BHW	**Baring Head**	**16.78**	**193**	P		**P**	**20 38 49.3**	**-1.7**
BHW	**Baring Head**	**16.78**	**193**	P		**P**	**20 38 50.1**	**-0.9**
QRZ	**Quartz Range**	**16.81**	**199**	P		**P**	**20 38 51.7**	**+0.4**
QRZ	**Quartz Range**	**16.81**	**199**	P		**P**	**20 38 51.3**	**0.0**
QRZ	**Quartz Range**	**16.81**	**199**	P		**P**	**20 38 52.2**	**+0.8**
PLWZ	**Palliser**	**16.86**	**192**	P		**P**	**20 38 50.3**	**-1.5**
PLWZ	**Palliser**	**16.86**	**192**	P		**S**	**20 41 43.5**	**-0.1**
TKNZ	**Takaka Hill**	**16.88**	**198**	P		**P**	**20 38 51.4**	**-0.7**
TKNZ	**Takaka Hill**	**16.88**	**198**	P		**P**	**20 38 52.1**	**0.0**
NNZ	**Nelson**	**16.94**	**197**	P		**P**	**20 38 51.9**	**-0.7**
NNZ	**Nelson**	**16.94**	**197**	P		**S**	**20 41 42.7**	**-2.1**
TUWZ	**Tuamarina**	**17.00**	**195**	P		**P**	**20 38 52.3**	**-0.9**
TUWZ	**Tuamarina**	**17.00**	**195**	P		**P**	**20 38 51.8**	**-1.4**
TUWZ	**Tuamarina**	**17.00**	**195**	P		**S**	**20 41 41.4**	**-4.4**
CMWZ	**Cape Campbell**	**17.25**	**194**	P		**P**	**20 38 54.9**	**-0.7**
MRNZ	**Matariki Terra**	**17.28**	**198**	P		**P**	**20 38 54.9**	**-1.0**
MRNZ	**Matariki Terra**	**17.28**	**198**	P		**P**	**20 38 56.2**	**+0.3**
MRNZ	**Matariki Terra**	**17.28**	**198**	P		**S**	**20 41 54.5**	**+4.0**
BSWZ	**Blackbirch Sta**	**17.29**	**195**	P		**P**	**20 38 56.6**	**+0.6**
BSWZ	**Blackbirch Sta**	**17.29**	**195**	P		**S**	**20 41 46.7**	**-4.0**
THZ	**Tophouse**	**17.58**	**197**	P		**P**	**20 38 58.1**	**-0.6**
THZ	**Tophouse**	**17.58**	**197**	P		**P**	**20 38 59.0**	**+0.2**
THZ	**Tophouse**	**17.58**	**197**	P		**S**	**20 41 53.1**	**-2.4**
DSZ	**Denniston Nort**	**17.87**	**200**	P		**P**	**20 39 01.3**	**-0.2**
DSZ	**Denniston Nort**	**17.87**	**200**	P		**P**	**20 39 02.3**	**+0.8**
KHZ	**Kahutara**	**18.03**	**195**	P		**P**	**20 39 02.6**	**-0.3**
KHZ	**Kahutara**	**18.03**	**195**	P		**P**	**20 38 59.5**	**-3.3**
GVZ	**Greta Valley S**	**18.68**	**195**	P		**P**	**20 39 07.8**	**-1.0**
GVZ	**Greta Valley S**	**18.68**	**195**	P		**P**	**20 39 08.5**	**-0.3**
LTZ	**Lake Taylor**	**18.70**	**197**	P		**P**	**20 39 08.9**	**-0.1**
LTZ	**Lake Taylor**	**18.70**	**197**	P		**P**	**20 39 08.8**	**-0.2**
INZ	**Inchbonnie**	**18.88**	**199**	P		**P**	**20 39 10.7**	**+0.1**
INZ	**Inchbonnie**	**18.88**	**199**	P		**P**	**20 39 11.0**	**+0.4**
OXZ	**Oxford**	**19.27**	**197**	P		**P**	**20 39 16.2**	**+2.1**
WVZ	**Waitaha Valley**	**19.41**	**200**	P		**P**	**20 39 16.2**	**+0.7**
MQZ	**McQueen's Vall**	**19.46**	**195**	P		**P**	**20 39 14.8**	**-1.1**
MQZ				IAmb		IAmb	20 39 52.7	
	comp=Z,41nm,1.4s							
MQZ	**McQueen's Vall**	**19.46**	**195**	P		**P**	**20 39 17.2**	**+1.3**
AKCZ	**Akaroa Harbour**	**19.56**	**195**	P		**P**	**20 39 17.9**	**+1.1**
RPZ	**Rata Peaks**	**19.90**	**199**	P		**P**	**20 39 18.1**	**-1.8**
RPZ				IAmb		IAmb	20 39 23.9	
	comp=Z,25nm,0.5s							
RPZ	**Rata Peaks**	**19.90**	**199**	P		**P**	**20 39 19.5**	**-0.4**
	comp=Z,23nm,0.5s,baz=10,slow=0.6,SNR=14							
ARCZ	**Arundel**	**20.08**	**198**	P		**P**	**20 39 22.6**	**+1.1**
DCZ	**Deep Cove**	**22.73**	**203**	P		**P**	**20 39 45.2**	**-0.2**
DCZ				IAmb		IAmb	20 40 17.8	
	comp=Z,36nm,1.4s							
WHZ	**Wether Hill Ro**	**22.83**	**202**	P		**P**	**20 39 45.7**	**-0.7**
WHZ				IAmb		IAmb	20 40 16.4	
	comp=Z,14nm,1.0s							
ARMA	**Armidale**	**25.38**	**252**	P		**P**	**20 40 09.3**	**-0.1**
ARMA				IAmb		IAmb	20 40 11.3	
	comp=Z,35nm,1.5s							
EIDS	**Eidsvold**	**25.88**	**263**	P		**P**	**20 40 14.6**	**+0.8**
EIDS				IAmb		IAmb	20 40 15.8	
	comp=Z,25nm,0.9s							
CAN	**Canberra**	**28.34**	**242**	P		**P**	**20 40 36.5**	**+1.1**
CAN				IAmb		IAmb	20 40 44.2	
	comp=Z,28nm,1.3s							
CTAO	**Charters Tower**	**31.23**	**272**	P		**P**	**20 41 01.5**	**+0.9**
TOO	**Toolangi**	**31.60**	**239**	P		**P**	**20 41 04.3**	**+0.7**
TOO				IAmb		IAmb	20 41 21.6	
	comp=Z,18nm,1.3s							
TAU	**Tasmania Unive**	**31.95**	**228**	P		**P**	**20 41 08.7**	**+2.3**
TAU				IAmb		IAmb	20 41 10.0	
	comp=Z,57nm,1.4s							
STKA	**Stephens Creek**	**34.05**	**250**	P		**P**	**20 41 24.2**	**-0.2**
STKA	**Stephens Creek**	**34.05**	**250**	P		**P**	**20 41 25.0**	**+0.6**
	comp=Z,3.7nm,0.4s,baz=100,slow=12,SNR=10							
	comp=Z,3.7nm,0.4s							
PMG	**Port Moresby**	**34.64**	**291**	P		**P**	**20 41 29.5**	**0.0**
	comp=Z,20nm,0.8s,baz=88,slow=5.7,SNR=5.2							
	comp=Z,20nm,0.8s							
COEN	**Coen**	**36.05**	**281**	P		**P**	**20 41 41.5**	**+0.1**
COEN				IAmb		IAmb	20 41 43.4	
	comp=Z,14nm,0.7s							
BBOO	**Buckleboo**	**38.75**	**248**	P		**P**	**20 42 02.6**	**-0.7**
BBOO				IAmb		IAmb	20 42 36.7	
	comp=Z,39nm,1.4s							
BBOO				PcP		**PcP**	**20 44 01.9**	**-0.4**
AS31	**Alice Springs**	**41.59**	**262**	P		**P**	**20 42 25.6**	**-0.7**
ASAR	**Alice Springs**	**41.59**	**262**	P		**P**	**20 42 25.4**	**-0.8**
ASAR	**Alice Springs**	**41.59**	**262**	P		**P**	**20 42 26.1**	**-0.2**
	comp=Z,14nm,0.9s,baz=91,slow=6.6,SNR=86							
ASAR				PcP		**PcP**	**20 44 11.9**	**0.0**
	comp=Z,1.2nm,0.6s,baz=110,slow=4.0,SNR=4.6							
ASAR				S		**S**	**20 48 03.5**	**-2.6**
	comp=Z,0.8nm,0.7s,baz=99,slow=13,SNR=6.6							
	comp=Z,14nm,0.9s							
WB2	**Warramunga Arr**	**42.06**	**268**			**P**	**20 42 29.1**	**-0.8**
WB2				IAmb		IAmb	20 42 30.4	
	comp=Z,18nm,0.8s							
WRAB	**Tennant Creek**	**42.07**	**268**	P		**P**	**20 42 29.0**	**-1.0**
WRAB				IAmb		IAmb	20 42 30.4	
	comp=Z,14nm,0.8s							
WRA	**Warramunga Arr**	**42.07**	**268**			**P**	**20 42 29.0**	**-1.1**
WRA	**Warramunga Arr**	**42.07**	**268**	P		**P**	**20 42 29.1**	**-0.9**
	comp=Z,17nm,0.6s,baz=99,slow=7.1,SNR=136							
WRA				PcP		**PcP**	**20 44 13.4**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=98,slow=7.2,SNR=2.2							
WRA				ScP		**ScP**	**20 47 17.1**	**+0.9**
	comp=Z,1.6nm,1.0s,baz=97,slow=4.0,SNR=4.3							
WRA				S		**S**	**20 48 09.1**	**-3.9**
	comp=Z,1.4nm,0.7s,baz=102,slow=14,SNR=4.8							
	comp=Z,17nm,0.6s							
FORT	**Forrest**	**45.66**	**251**	P		**P**	**20 42 56.7**	**-1.1**
FORT				IAmb		IAmb	20 42 57.9	
	comp=Z,24nm,0.7s							
MTN	**Manton Dam**	**47.29**	**276**	P		**P**	**20 43 09.6**	**-0.7**
MTN				IAmb		IAmb	20 43 31.5	
	comp=Z,38nm,1.2s							
FITZ	**Fitzroy Crossi**	**50.48**	**267**	P		**P**	**20 43 33.6**	**-0.4**
FAKI	**Fak Fak**	**50.68**	**288**	P		**P**	**20 43 34.5**	**-1.0**
FAKI				IAmb		IAmb	20 44 09.1	
	comp=Z,58nm,1.3s							
VNDA	**Vanda**	**53.19**	**185**	P		**P**	**20 43 54.5**	**+1.8**
VNDA	**Vanda**	**53.19**	**185**	P		**P**	**20 43 54.2**	**+1.5**
	comp=Z,2.2nm,0.6s,baz=6.6,slow=7.0,SNR=14							
	comp=Z,2.2nm,0.6s							
SBA	**Scott Base**	**53.20**	**183**	P		**P**	**20 43 55.7**	**+3.0**
SBA				IAmb		IAmb	20 44 27.4	
	comp=Z,30nm,1.4s							
SOEI	**Soe**	**54.69**	**276**			**P**	**20 44 04.9**	**+0.5**
SOEI				IAmb		IAmb	20 44 29.1	
	comp=Z,54nm,1.1s							
PSA00	**Pilbara Seismi**	**54.70**	**261**	P		**P**	**20 44 03.1**	**-1.2**
PSA00				IAmb		IAmb	20 44 25.7	
	comp=Z,34nm,1.3s							
PSA00	**Pilbara Seismi**	**54.70**	**261**	P		**P**	**20 44 03.4**	**-0.9**
PSA00				IAmb		IAmb	20 44 25.6	
	comp=Z,9.5nm,1.1s							
MBWA	**Marble Bar**	**54.91**	**261**	P		**P**	**20 44 05.0**	**-0.8**
MBWA				IAmb		IAmb	20 44 09.3	
	comp=Z,63nm,1.4s							
MORW	**Morawa**	**56.23**	**251**	P		**P**	**20 44 14.3**	**-0.6**
MORW				IAmb		IAmb	20 44 40.7	
	comp=Z,27nm,1.4s							
CASY	**Casey**	**58.95**	**206**	P		**P**	**20 44 32.9**	**+0.2**
TOLI2	**Tolitoli**	**62.62**	**285**	P		**P**	**20 44 55.8**	**-2.1**
JAGI	**Jajag, Banyuwa**	**64.35**	**273**	P		**P**	**20 45 07.4**	**-1.5**
QSPA	**South Pole Qui**	**65.02**	**180**	P		**P**	**20 45 13.7**	**+1.2**
QSPA				IAmb		IAmb	20 45 15.1	
	comp=Z,31nm,1.2s							
QSPA	**South Pole Qui**	**65.02**	**180**	P		**P**	**20 45 13.7**	**+1.2**
	comp=Z,12nm,0.7s,baz=358,slow=0.6,SNR=42							
	comp=Z,12nm,0.7s							
JOW	**Kunigami**	**71.58**	**313**	P		**P**	**20 45 52.8**	**0.0**
MJAR	**Matsushiro Arr**	**72.71**	**326**	P		**P**	**20 45 58.3**	**-0.9**
	comp=Z,3.3nm,0.8s,baz=160,slow=5.3,SNR=9.5							
	comp=Z,3.3nm,0.8s							
MAJO	**Matsushiro**	**72.71**	**326**	P		**P**	**20 45 59.1**	**0.0**
JMN	**Monobe**	**72.92**	**321**	P		**P**	**20 46 01.0**	**+0.5**
JMN				IAmb		IAmb	20 46 23.4	
	comp=Z,17nm,1.3s							
JNU	**Nakatsue**	**74.23**	**319**	P		**P**	**20 46 07.7**	**-0.3**
JTM	**Tenmabayashi**	**74.71**	**331**	P		**P**	**20 46 09.6**	**-0.8**
JTM				IAmb		IAmb	20 46 12.7	
	comp=Z,54nm,1.5s							
BELA	**Belgrano 2**	**75.31**	**173**	P		**P**	**20 46 13.9**	**+0.6**
BELA				IAmb		IAmb	20 46 14.7	
	comp=Z,8.6nm,0.7s							
MAW	**Mawson**	**76.56**	**201**	P		**P**	**20 46 21.4**	**+1.0**
	comp=Z,6.7nm,0.6s,baz=136,slow=6.1,SNR=19							
	comp=Z,6.7nm,0.6s							
DLV	**T Lat**	**78.52**	**289**	P		**P**	**20 46 32.3**	**+0.2**
DLV				IAmb		IAmb	20 46 33.8	
	comp=Z,8.4nm,0.5s							
KSRS	**Korea Array**	**78.97

comp=Z,0.5nm,0.4s,baz=146,slow=8.0,SNR=2.4
ARA0 ARCESS Array S 132.97 348 *e*P **PKPdf 20 53 40.5 +0.8**
ARCES ARCESS Array B 132.97 348 PKhKP PKPpre 20 53 31.2
comp=Z,2.3nm,0.9s,baz=72,slow=4.0,SNR=4.7
ARCES PKP **PKPdf 20 53 39.0 -0.8**
comp=Z,2.5nm,0.7s,baz=70,slow=2.3,SNR=13
ARCES SKPbc **SKPbc 20 56 19.7 -0.7**
comp=Z,1.9nm,0.7s,baz=40,slow=4.0,SNR=9.4
TRO Tromso 133.99 351 *e* PKiKP 20 53 59.4 +16
MOR8 Moi Rana 137.85 351 *e* PKiKP 20 54 03.4 +12
FINES FINESS Array B 139.46 341 PKhKP PKPpre 20 53 42.4
comp=Z,0.7nm,0.5s,baz=55,slow=4.2,SNR=10.0
FINES PKP **PKPdf 20 53 51.6 -0.3**
comp=Z,0.9nm,0.7s,baz=72,slow=6.2,SNR=5.1
FINES SKPbc **SKPbc 20 56 39.0 -1.0**
comp=Z,2.6nm,0.8s,baz=104,slow=6.1,SNR=9.4
NB2 NORSAR Subarra143.19 351 PKP PKPab 20 53 56.0 -0.4
comp=Z,2.6nm,0.6s,baz=14,slow=3.1
NOA NORSAR Array B 143.19 351 PKP PKPab 20 53 56.1 -0.3
comp=Z,2.0nm,0.6s,baz=15,slow=5.0,SNR=18
HFS Hagfors 143.64 348 PKP PKPab 20 53 57.5 -0.5
comp=Z,12nm,0.3s,baz=63,slow=3.6,SNR=174
SUE Sulen 143.86 356 *e*P PKPbc 20 53 58.7 -0.1
ASK Askoy 144.40 355 *e*P PKPbc 20 53 57.8 -2.6
KONO Kongsberg 144.76 351 PKPdf 20 54 01.0 -0.4
KONO Kongsberg 144.76 351 *e*P **PKPdf 20 54 01.5 +0.2**
PABE Paberze 144.78 336 PKPdf 20 54 01.2 -0.3
BLS5 Blasjo 145.34 354 *e*P **PKPdf 20 54 03.0 +0.6**
AK03 Malin Array Si 145.78 326 PKP **PKPdf 20 54 03.7 +0.3**
AKASG Malin Array Be 145.80 326 PKPbc **PKPdf 20 54 03.8 +0.4**
comp=Z,2.1nm,0.4s,baz=43,slow=4.3,SNR=26
AKBB Malin Array Si 145.80 326 PKP **PKPdf 20 54 03.6 +0.2**
AK01 Malin Array Si 145.81 326 PKP **PKPdf 20 54 03.6 +0.2**
KIEV Kiev 145.81 326 PKPdf 20 54 03.8 +0.4
KIEV Kiev 145.81 326 PKP **PKPdf 20 54 03.6 +0.2**
AK04 Malin Array Si 145.81 326 PKP **PKPdf 20 54 04.2 +0.8**
AK09 Malin Array Si 145.82 326 PKP **PKPdf 20 54 03.9 +0.5**
AK08 Malin Array Si 145.82 326 PKP **PKPdf 20 54 04.2 +0.8**
AK02 Malin Array Si 145.84 326 PKP **PKPbc 20 54 04.9 -0.2**
AK22 Malin Array Si 145.84 326 PKP **PKPdf 20 54 03.9 +0.4**
AK11 Malin Array Si 145.84 326 PKP **PKPdf 20 54 04.4 +0.9**
HOMB Homborsund 146.24 352 *e*P **PKPbc 20 54 05.9 -0.1**
MI28 Mi28,Pidlybu 146.43 328 PKP **PKPdf 20 54 05.6 +1.1**
BNN Bunyan 146.63 303 PKPbc 20 54 07.8 -0.1
MMAI Mount Meron Ar 147.92 293 PKPbc **PKPbc 20 54 12.2 +0.8**
comp=Z,6.7nm,0.5s,baz=74,slow=6.2,SNR=12
BR131 Keskin Array S 148.05 306 PKPbc 20 54 11.5 -0.2
BRTR Keskin Array B 148.05 306 PKPdf 20 54 09.9 +2.2
BRTR Keskin Array B 148.05 306 PKPbc **PKPbc 20 54 11.4 -0.2**
comp=Z,1.4nm,0.6s,baz=145,slow=4.6,SNR=12
EKA Eskdalemuir Ar 149.70 3 PKPbc **PKPbc 20 54 14.5 -0.4**
comp=Z,0.8nm,0.4s,baz=357,slow=3.2,SNR=17
BURAR Bucovina Array 149.78 325 PKPbc 20 54 16.1 +0.5
CLL Collm 151.89 342 PKPbc 20 54 19.5 -0.6
CLL Collm 151.89 342 *i* PKPbc **PKPbc 20 54 20.1 0.0**
comp=Z,7.0nm,0.8s
CLL *i* PKPab **PKPab 20 54 31.9 +0.3**
comp=Z,4.0nm,0.6s
BRG Berggiesshubel 152.00 341 *i* P **PKPbc 20 54 20.9 +0.5**
BRG Amp 20 54 22.0
comp=Z,3.7nm,0.6s
TORD Torodi Ar. Bea 167.99 189 PKPab **PKPab 20 55 42.6 +0.1**
comp=Z,1.6nm,0.8s,baz=158,slow=2.7,SNR=9.4

JMA ***15*** *20:40:25.6±0.4, 33.7N±0.8×14.2E±, h53km, MV3.1/47, E OFF HACHIJOJIMA ISLAND*
IDC ***15*** *20:40:28.2±2.2, 32.92N×139.73E, h0km, mb3.6/4, mbtmp3.5/5, ML2.3/1, Error ellipse: s-maj=77.7km s-min=21.8km az=73.0*
ISC 15 20:40:27.2±1.3, 33.67N±0.06×141.7E±0.1, h50km, n20, σ1§**45/23, mb3.6/4, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**1.15**	**328**	P	**Pn**	**20 40 45.5**	**-1.0**
BSO3	**Boso 3**	**1.50**	**319**	*e*P	**Pn**	**20 40 50.6**	**-0.9**
JHJ2	**Mitsune**	**1.68**	**251**	P	**Pn**	**20 40 53.0**	**-1.1**
JHCJ	**Hachijojimakas**	**1.71**	**250**	*e*P	**Pn**	**20 40 53.0**	**-1.5**
JMKN	**Mikurajimanish**	**1.78**	**278**	P	**Pn**	**20 40 54.5**	**-1.0**
JMKN				*e*S	**Sn**	**20 41 15.7**	**-1.3**
JMYK	**Miyake Tsubota**	**1.84**	**283**	*e*P	**Pn**	**20 40 55.1**	**-1.3**
JAOM	**Aogashimamukai**	**2.03**	**234**	P	**Pn**	**20 40 57.3**	**-1.7**
JIZS	**Izushimoda**	**2.57**	**295**	P	**Pn**	**20 41 05.4**	**-0.9**
JOD2	**Odawara 2**	**2.69**	**307**	P	**Pn**	**20 41 06.6**	**-1.3**
JYT	**Yasato**	**2.84**	**334**	P	**Pn**	**20 41 10.3**	**+0.4**
JHU	**Hanno**	**2.96**	**318**	P	**Pn**	**20 41 10.5**	**-1.1**
JHO	**Hitachi**	**3.08**	**343**	P	**Pn**	**20 41 12.0**	**-1.3**
JRY	**Ryogami san**	**3.29**	**316**	P	**Pn**	**20 41 15.5**	**-0.7**
JAG	**Ashikaga**	**3.31**	**327**	P	**Pn**	**20 41 16.1**	**-0.4**
JFK	**Kawauchi**	**3.75**	**350**	P	**Pn**	**20 41 20.8**	**-1.8**
JFK				*e*S	**Sn**	**20 42 01.9**	**-3.4**
MJAR	**Matsushiro Arr**	**4.05**	**316**	Pn	**Pn**	**20 41 26.9**	**+0.2**
	0.2nm,0.3s,baz=164,slow=13,SNR=12						
MJAR				Sn	**Sn**	**20 42 14.8**	**+1.9**
	0.1nm,0.3s,baz=164,slow=23,SNR=1.5						
	1.8nm,0.3s						
MKAR	**Makanchi Array**	**46.18**	**305**	P	**P**	**20 48 48.0**	**+1.1**
	0.3nm,0.5s,baz=92,slow=9.3,SNR=5.2						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**48.31**	**310**	P	**P**	**20 49 04.6**	**+1.3**
	0.5nm,0.3s,baz=75,slow=7.5,SNR=2.7						
	0.5nm,0.3s						
WRA	**Warramunga Arr**	**53.78**	**189**	P	**P**	**20 49 45.0**	**+0.3**
	0.5nm,0.8s,baz=5.5,slow=7.6,SNR=5.9						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**57.50**	**188**	P	**P**	**20 50 12.8**	**+1.4**
	0.3nm,0.7s,baz=12,slow=6.9,SNR=2.0						
	0.3nm,0.7s						

IDC ***15*** *21:09:20.8±0.5, 6.14S×151.38E, h0km, mb4.4/21, mbtmp4.4/22, ML2.3/1, MS4.1/46, Error ellipse: s-maj=22.2km s-min=13.1km az=108.0*
NEIC ***15*** *21:09:23.1.6, 6.2IS±0.06×151.17E±0.03, h10km±1km, mb4.8/63, Error ellipse: s-maj=11.3km s-min=2.9km az=203.0*
GCMT ***15*** *21:09:31.0±0.2, 6.27S±0.01×151.17E±0.02, h18km, MW5.1/106, Moment Tensor Solution. s81,c118; s106,c179; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr3.96±.13; Mθθ-3.31±.09; Mφφ-0.65±.09; Mrθ3.03±.21; Mθφ-1.38±.06; Mrφ0.25±.22; Best double couple: Mo4.96400×10¹⁶ NP1:φs78.00000°, δ64.00000°, λ99.00000°. NP2:φs237.00000°, δ28.00000°, λ72.00000°. Principal axes: T 5.0670, Plg70.0000°, Azm7.0000°; N -0.2060, Plg8.0000°, Azm254.0000°; P -4.8610, Plg18.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***15*** *21:09:31.9±0.5, 6.3S×15.1E±, h71km±8km, M4.9/17, mb4.9/17, mB5.3/4, MLv4.9/1, Mw(mB)4.7/4*
ISC 15 21:09:23.0±0.3, 6.19S±0.05×151.26E±0.05, h10km, n411, σ1§**18/380, mb4.8/60, MS4.1/49, 4D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRVT	**Keravat (AS076**	**2.02**	**22**	LR	LR	21 10 19.5	
	comp=Z,546nm,18.8s,baz=227,slow=30						
I40PG	**Keravat**	**2.02**	**22**	Pn	**Pb**	**21 10 00.6**	**+0.7**
	baz=192,slow=18						
I40PG				I	I	21 18 30.0	
	baz=224,slow=316,SNR=2.8						
RABL	**Rabaul**	**2.18**	**25**		**Pn**	**21 10 01.2**	**+1.8**
PMG	**Port Moresby**	**5.17**	**232**	Pn	**Pn**	**21 10 42.1**	**+1.6**
	7.2nm,0.3s,baz=64,slow=8.2,SNR=12						
PMG				Sn	**Sn**	**21 11 41.8**	**+1.6**
	46nm,0.3s,baz=310,slow=23,SNR=3.7						
	55nm,0.9s						
MANU	**Manus Island**	**5.66**	**317**	Pn	**Pn**	**21 10 48.6**	**+1.4**
HNR	**Honiara**	**9.19**	**111**	Pn	**Pn**	**21 11 37.5**	**+1.7**
COEN	**Coen**	**11.08**	**225**	P	Pn	21 12 05.6	+3.9
	baz=11,SNR=4.6						
COEN	**Coen**	**11.08**	**225**	P	Pn	21 12 07.1	+5.3
COEN	**Coen**	**11.08**	**225**	Pn	**Pn**	**21 12 01.0**	**-0.8**
MTSU	**Mount Surprise**	**13.67**	**209**	P	**Pn**	**21 12 40.6**	**+3.4**
	baz=14,SNR=9.6						
QIS	**Mount Isa**	**18.22**	**217**	P	**P**	**21 13 38.1**	**+1.7**
	baz=18,SNR=17						
QIS	**Mount Isa**	**18.22**	**217**	P	**P**	**21 13 40.3**	**+3.8**
EIDS	**Eidsvold**	**19.07**	**180**	P	**Pn**	**21 13 48.5**	**+1.8**
	baz=19,SNR=4.8						
EIDS	**Eidsvold**	**19.07**	**180**		**Pn**	**21 13 47.2**	**+0.6**
EIDS				IAmb	IAmb	21 13 50.2	
	comp=Z,61nm,1.2s						
FAKI	**Fak Fak**	**19.22**	**279**	P	**Pn**	**21 13 48.2**	**-0.3**
FAKI				IAmb	IAmb	21 13 49.1	
	comp=Z,87nm,1.5s						
FAKI	**Fak Fak**	**19.22**	**279**	P	**Pn**	**21 13 47.6**	**-0.9**
	comp=Z,36nm,1.5s						
KDU	**Kakadu**	**19.61**	**249**	P	**Pn**	**21 13 52.4**	**-0.8**
	baz=20,SNR=14						
KDU	**Kakadu**	**19.61**	**249**	P	**Pn**	**21 13 53.0**	**-0.2**
SWI	**Sorong**	**20.64**	**284**	P	Pn	21 14 05.7	+0.4
	comp=Z,26nm,0.9s,comp=Z,1μm						
GUMO	**Guam**	**20.65**	**342**	P	Pn	21 14 05.5	+0.2
	comp=Z,44nm,0.8s,baz=258,slow=8.3,SNR=3.7						
GUMO				LR	LR	21 22 52.6	
	comp=Z,391nm,18.2s,baz=170,slow=39						
MTN	**Manton Dam**	**20.91**	**250**	P	Pn	21 14 07.2	-1.2
	baz=21						
MTN	**Manton Dam**	**20.91**	**250**	Pn	Pn	21 14 06.4	-2.0
WB0	**Warramunga Arr**	**21.23**	**229**		**P**	**21 14 09.5**	**+0.1**
WB0				IAmb	IAmb	21 14 21.6	
	comp=Z,55nm,0.8s						
QLP	**Quilpie**	**21.36**	**197**	P	**P**	**21 14 12.9**	**+2.3**
	baz=21,SNR=9.1						
QLP	**Quilpie**	**21.36**	**197**	P	P	**21 14 15.5**	**+4.9**
WB2	**Warramunga Arr**	**21.37**	**229**	P	P	**21 14 11.5**	**+0.7**
	baz=21						
WRA	**Warramunga Arr**	**21.38**	**229**	P	**P**	**21 14 09.8**	**-1.2**
WRA	**Warramunga Arr**	**21.38**	**229**	P	**P**	**21 14 11.7**	**+0.7**
	comp=Z,31nm,0.6s,baz=53,slow=10,SNR=47						
WRA				ScP	**ScP**	**21 21 52.3**	**0.0**
	comp=Z,2.2nm,1.0s,baz=54,slow=2.8,SNR=5.1						
WRA				LR	LR	21 22 54.6	
	comp=Z,469nm,19.0s,baz=312,slow=38						
	comp=Z,31nm,0.6s						
DZM	**Mont Dzumac**	**21.56**	**139**	*e*P	**P**	**21 14 13.0**	**+0.1**
	comp=Z,62nm,1.4s						
DZM				*e*S	**S**	**21 18 05.2**	**-6.9**
	comp=Z,1μm,26.6s						
DZM				*e*LR	LR	21 19 23.7	
	comp=Z,2μm,25.4s						
DZM	**Mont Dzumac**	**21.56**	**139**		**P**	**21 14 14.2**	**+1.3**
DZM				IAmb	IAmb	21 14 31.0	
	comp=Z,112nm,1.8s						
DZM	**Mont Dzumac**	**21.56**	**139**	LR	LR	21 21 10.4	
	comp=Z,1μm,21.0s,baz=318,slow=33						
AS31	**Alice Springs**	**24.09**	**222**		**P**	**21 14 39.3**	**+0.3**
ASAR	**Alice Springs**	**24.10**	**222**	P	**P**	**21 14 39.4**	**+0.3**
ASAR	**Alice Springs**	**24.10**	**222**	P	**P**	**21 14 39.9**	**+0.8**
	comp=Z,54nm,0.9s,baz=56,slow=9.6,SNR=94						
ASAR				ScP	**ScP**	**21 21 60.0**	**+0.6**
	comp=Z,1.2nm,0.9s,baz=41,slow=4.0,SNR=6.1						
ASAR				LR	LR	21 25 29.2	
	comp=Z,644nm,18.2s,baz=58,slow=40						
	comp=Z,54nm,0.9s						
CMSA	**Cobar Meteorol**	**25.75**	**191**	P	**P**	**21 14 56.0**	**+2.0**
	baz=26,SNR=9.2						
CMSA	**Cobar Meteorol**	**25.75**	**191**	P	**P**	**21 14 57.0**	**+3.0**
LCRK	**Leigh Creek**	**27.07**	**205**	P	**P**	**21 15 08.0**	**+2.1**
STKA	**Stephens Creek**	**27.11**	**198**	P	**P**	**21 15 07.0**	**+0.8**
	baz=27,SNR=7.6						
STKA	**Stephens Creek**	**27.11**	**198**	P	**P**	**21 15 08.6**	**+2.4**
STKA	**Stephens Creek**	**27.11**	**198**	P	**P**	**21 15 06.0**	**-0.2**
STKA	**Stephens Creek**	**27.11**	**198**	P	**P**	**21 15 06.5**	**+0.3**
	comp=Z,12nm,0.9s,baz=18,slow=12,SNR=11						
STKA				LR	LR	21 25 24.6	
	comp=Z,586nm,21.2s,baz=9.2,slow=35						
	comp=Z,12nm,0.9s						
BATI	**Bauata**	**27.59**	**260**	P	**P**	**21 15 11.9**	**+1.0**
	comp=Z,20nm,0.6s,baz=120,slow=12,SNR=2.3						
BATI				LR	LR	21 28 52.0	
	comp=Z,581nm,18.1s,baz=100,slow=42						
	comp=Z,20nm,0.6s						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**21 15 11.3**	**0.0**
	baz=28,SNR=15						
FITZ	**Fitzroy Crossi**	**27.65**	**242**	P	**P**	**21 15 10.4**	**-0.8**
DAV	**Davao City (W)**	**28.81**	**297**	LR	LR	21 24 20.3	
	comp=Z,180nm,21.8s,baz=114,slow=31						
WRKA	**Warakurna**	**28.89**	**227**	P	**P**	**21 15 22.3**	**-0.1**
	baz=29,SNR=16						
MULG	**Mulgathing**	**28.92**	**212**	P	**P**	**21 15 22.4**	**0.0**
HTT	**Hallett**	**29.43**	**201**	P	**P**	**21 15 27.5**	**+0.5**
	baz=30,SNR=4.2						
HTT	**Hallett**	**29.43**	**201**	P	**P**	**21 15 29.1**	**+2.1**
TOLI2	**Tolitoli**	**31.28**	**282**	P	**P**	**21 15 41.9**	**-1.7**
KAPI	**Kappang**	**31.37**	**271**	LR	LR	21 29 48.7	
	comp=Z,245nm,21.3s,baz=96,slow=39						
FORT	**Forrest**	**32.75**	**219**	P	**P**	**21 15 57.4**	**+1.1**
FORT	**Forrest**	**32.75**	**219**	P	**P**	**21 15 54.2**	**-2.0**
PLAI	**Plampang**	**33.29**	**263**	P	**P**	**21 15 58.5**	**-2.7**
PLAI	**Plampang**	**33.29**	**263**	P	**P**	**21 16 00.0**	**-1.2**
	comp=Z,71nm,0.7s						
MBWA	**Marble Bar**	**33.95**	**241**	P	**P**	**21 16 04.9**	**-2.0**
JCJ	**Chichijima**	**34.23**	**346**	LR	LR	21 28 32.5	
	comp=Z,273nm,21.2s,baz=144,slow=34						
JAGI	**Jajag, Banyuwa**	**36.86**	**264**	P	**P**	**21 16 31.5**	**-0.5**
JAGI	**Jajag, Banyuwa**	**36.86**	**264**	P	**P**	**21 16 29.1**	**-2.9**
RAO	**Raoul Island**	**37.05**	**132**	LR	LR	21 29 24.2	
	comp=Z,223nm,18.0s,baz=8.0,slow=32						
MEEK	**Meekatharra**	**37.15**	**233**	P	**P**	**21 16 34.7**	**+0.4**
	baz=37,SNR=9.0						
URZ	**Urewera**	**39.61**	**147**	LR	LR	21 32 56.8	
	comp=Z,343nm,18.0s,baz=31,slow=36						
JOW	**Kunigami**	**39.66**	**327**	P	**P**	**21 16 54.0**	**-1.4**
JOW				IAmb	IAmb	21 16 57.5	
	comp=Z,58nm,1.6s						
JOW	**Kunigami**	**39.66**	**327**	LR	LR	21 32 53.3	
	comp=Z,231nm,18.5s,baz=135,slow=36						
UGM	**Wanagama**	**40.45**	**265**	P	**P**	**21 17 00.7**	**-1.5**
JHJ	**Hachijo jima 2**	**40.58**	**345**	LR	LR	21 33 34.8	
	comp=Z,152nm,18.0s,baz=163,slow=36						
YOJ	**Yonaguni jima**	**41.06**	**319**	P	**P**	**21 17 07.0**	**0.0**
RPZ	**Rata Peaks**	**41.23**	**158**	LR	LR	21 33 48.1	
	comp=Z,736nm,18.3s,baz=322,slow=36						
NWAO	**Narrogin (SRO)**	**41.33**	**225**	LR	LR	21 34 55.2	
	comp=Z,425nm,19.8s,baz=88,slow=37						
NACB	**Ninganchiao**	**41.80**	**317**	P	**P**	**21 17 11.4**	**-1.7**
NACB				IAmb	IAmb	21 17 14.5	
	comp=Z,23nm,1.0s						
TPUB	**Ta-pu**	**41.88**	**315**	P	**P**	**21 17 12.6**	**-1.3**
TPUB				IAmb	IAmb	21 17 18.2	
	comp=Z,17nm,1.1s						
KPJI	**Karang Pucung**	**42.04**	**266**	P	**P**	**21 17 15.8**	**+0.6**
	comp=Z,68nm,0.5s						
YHNB	**Yeheng**	**42.28**	**318**	P	**P**	**21 17 16.5**	**-0.7**
YHNB				IAmb	IAmb	21 17 19.6	
	comp=Z,25nm,0.9s						
LEM	**Lembang**	**43.35**	**267**	LR	LR	21 39 55.9	
	comp=Z,186nm,19.0s,baz=20,slow=42						
JNU	**Nakatsue**	**43.62**	**335**	P	**P**	**21 17 27.8**	**0.0**
JNU				IAmb	IAmb	21 17 33.6	
	comp=Z,19nm,0.7s						
JNU	**Nakatsue**	**43.62**	**335**	LR	LR	21 33 30.8	
	comp=Z,81nm,20.9s,baz=160,slow=33						
CNJI	**Cibinong**	**43.82**	**266**	P	**P**	**21 17 30.1**	**+0.4**
	comp=Z,68nm,1.3s						
MJAR	**Matsushiro Arr**	**44.23**	**345**	P	**P**	**21 17 31.3**	**-1.3**
	comp=Z,1.2nm,1.0s,baz=133,slow=18,SNR=2.4						
MJAR				ScP	**ScP**	**21 23 08.9**	**-0.6**
	comp=Z,1.8nm,0.9s,baz=182,slow=4.0,SNR=6.0						
	comp=Z,1.2nm,1.0s						
LWLI	**Liwa**	**46.98**	**269**	P	**P**	**21 17 55.5**	**+0.6**
QIZ	**Qiongzhong**	**47.88**	**302**	P	**P**	**21 18 01.1**	**-0.6**
QIZ				S	**S**	**21 25 00.3**	**+1.1**
QIZ				LR	LR		
	comp=N,110nm,12.8s						
QIZ				LR	LR		
	comp=E,170nm,19.6s						
QIZ				LR	LR		
	comp=Z,260nm,16.7s						
KSRS	**Korea Array**	**48.57**	**335**	P	**P**	**21 18 07.8**	**+1.1**
	comp=Z,3.7nm,0.7s,baz=153,slow=8.2,SNR=13						
	comp=Z,3.7nm,0.7s						
NJ2	**Nanjing**	**48.98**	**323**	*e*P	**P**	**21 18 11.3**	**+1.3**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
RAR	**Rarotonga**	**49.65**	**113**	LR	LR	21 35 48.5	
	comp=Z,148nm,21.2s,baz=274,slow=32						
KULM	**Kulim**	**51.79**	**282**	P	**P**	**21 18 29.9**	**-1.7**
KULM				IAmb	IAmb	21 19 18.5	
	comp=Z,14nm,1.3s						
USRK	**Ussuriysk Ar.**	**53.08**	**343**	P	**P**	**21 18 39.6**	**-0.9**
	comp=Z,0.7nm,0.2s,baz=99,slow=8.9,SNR=5.7						
USRK				LR	LR	21 39 33.2	
	comp=Z,113nm,21.0s,baz=160,slow=34						
	comp=Z,0.7nm,0.2s						
ENH	**Enshi**	**54.00**	**315**	P	**P**	**21 18 47.3**	**-0.4**
GSI	**Gunungsitoli**	**54.10**	**276**	P	**P**	**21 18 46.5**	**-2.2**
GSI				IAmb	IAmb	21 18 52.3	
	comp=Z,9.8nm,0.7s						
BNX	**BinXian**	**55.92**	**340**	⇓P	**P**	**21 19 00.6**	**-0.6**
BNX				pmax	pmax		
	comp=Z,5.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,95nm,5.9s						
CRAI	**Chiangrai**	**56.48**	**299**	P	**P**	**21 19 06.5**	**+0.7**
CRAI				IAmb	IAmb	21 20 24.5	
	comp=Z,11nm,1.7s						
CMAR	**Chiang Mai Arr**	**57.09**	**297**	P	**P**	**21 19 09.2**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=101,slow=6.0,SNR=2.4						
CMAR				LR	LR	21 42 24.1	
	comp=Z,57nm,20.7s,baz=150,slow=35						
	comp=Z,0.4nm,0.6s						
KLR	**Kul'dur**	**57.76**	**345**	LR	LR	21 43 14.8	
	comp=Z,98nm,18.6s,baz=181,slow=35						
PZH	**PanZhiHua**	**57.93**	**306**	P	**P**	**21 19 17.9**	**+1.9**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,5.5s						
CD2	**Chengdu**	**58.49**	**312**	P	**P**	**21 19 19.5**	**-0.3**
PPT2	**Papeete2**	**58.79**	**107**	*e*S	S	21 27 19.3	-8.6
	comp=Z,81nm,24.8s						
PPT2				*e*LQ	LQ	21 34 10.8	
	comp=Z,380nm,26.8s						
PPT2				*e*LR	LR	21 36 33.7	
	comp=Z,78nm,27.0s						
PPT2				*e*LR	LR	21 36 38.7	
	comp=Z,119nm,26.2s						
HHC	**Hu-ho-hao-te**	**59.30**	**326**	*e*P	**P**	**21 19 27.8**	**+2.6**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,70nm,5.6s						
PEA0B	**Petropavlovsk-**	**59.32**	**5**	P	**P**	**21 19 24.3**	**-0.8**
PETK	**Petropavlovsk-**	**59.32**	**5**	P	**P**	**21 19 24.1**	**-1.0**
PETK	**Petropavlovsk-**	**59.32**	**5**	P	**P**	**21 19 22.4**	**-2.6**
	comp=Z,4.7nm,0.9s,baz=216,slow=4.8,SNR=3.8						
PETK				LR	LR	21 41 59.3	
	comp=Z,111nm,20.8s,baz=188,slow=33						
	comp=Z,4.7nm,0.9s						
TBI	**Tubuai**	**59.41**	**113**	*e*LQ	LQ	21 34 21.9	
	comp=Z,2μm,30.2s						
TBI				*e*LR	LR	21 37 02.2	
	comp=Z,2μm,35.5s						
LZH	**Lanzhou**	**61.17**	**317**	*e*P	**P**	**21 19 39.4**	**+1.1**
LZH				sP	pwP	21 19 45.6	+0.3
LZH				S	**S**	**21 28 03.8**	**+5.6**
LZH	**Lanzhou**	**61.17**	**317**	SS	SS	21 31 50.8	-7.6
LZH				pmax	pmax		
	comp=Z,12nm,1.4s						
LZH				LR	LR		
	comp=N,150nm,12.7s						
LZH				LR	LR		
	comp=E,68nm,11.3s						
LZH				LR	LR		
	comp=Z,91nm,12.7s						
SHEM	**Shemya Is, Ala**	**61.82**	**16**	P	**P**	**21 19 41.8**	**-0.2**
	comp=Z,14nm,0.3s,baz=241,slow=2.3,SNR=5.6						
SHEM				LR	LR	21 43 40.2	
	comp=Z,164nm,19.3s,baz=208,slow=33						
	comp=Z,14nm,0.3s						
MA2	**Magadan**	**65.55**	**360**	LR	LR	21 49 11.1	
	comp=Z,140nm,18.9s,baz=160,slow=36						
GTA	**Gaotai**	**65.64**	**318**	*e*P	**P**	**21 20 08.0**	**+0.2**
GTA				sP	pwP	21 20 15.3	+0.5
GTA				pmax	pmax		
	comp=Z,2.0nm,1.3s						
GTA				LR	LR		
	comp=N,71nm,18.2s						
GTA				LR	LR		
	comp=E,82nm,16.4s						
GTA				LR	LR		
	comp=Z,100nm,17.1s						
CASY	**Casey**	**66.25**	**197**	P	**P**	**21 20 11.1**	**+0.1**
CASY				IAmb	IAmb	21 20 17.4	
	comp=Z,9.8nm,0.9s						
SONM	**Songino Array**	**66.69**	**329**	P	**P**	**21 20 13.6**	**-0.8**
SONM	**Songino Array**	**66.69**	**329**	P	**P**	**21 20 13.8**	**-0.5**
	comp=Z,0.7nm,0.6s,baz=138,slow=4.6,SNR=5.1						
SONM				LR	LR	21 48 47.4	
	comp=Z,211nm,21.0s,baz=140,slow=36						
	comp=Z,0.7nm,0.6s						
SEY	**Seymchan**	**68.93**	**1**	LR	LR	21 50 23.9	
	comp=Z,86nm,19.3s,baz=186,slow=36						
YAK	**Yakutsk**	**70.03**	**349**	LR	LR	21 49 02.4	
	comp=Z,88nm,21.6s,baz=158,slow=34						
VNDA	**Vanda**	**71.51**	**178**	P	**P**	**21 20 43.8**	**+0.2**
VNDA				IAmb	IAmb	21 20 56.6	
	comp=Z,4.3nm,0.8s						
VNDA	**Vanda**	**71.51**	**178**	P	**P**	**21 20 43.9**	**+0.2**
	comp=Z,2.0nm,0.9s,baz=319,slow=6.6,SNR=6.3						
VNDA				LR	LR	21 50 17.6	
	comp=Z,103nm,18.9s,baz=337,slow=34						
	comp=Z,2.0nm,0.9s						
PALK	**Pallekele**	**71.64**	**280**	P	**P**	**21 20 44.5**	**-1.1**
PALK				IAmb	IAmb	21 20 49.5	
	comp=Z,23nm,1.5s						
PALK	**Pallekele**	**71.64**	**280**	LR	LR	21 54 34.6	
	comp=Z,69nm,20.8s,baz=211,slow=38						
S12K	**Black Hills**	**72.67**	**26**	P	**P**	**21 20 51.4**	**+0.5**
	baz=229			

KDAK **Kodiak Island** 78.10 27 P P 21 21 23.4 +1.4
baz=238
O18K **Koktuh Hills** 78.12 25 P P 21 21 22.6 +0.4
baz=235
M17K **Holitna River** 78.16 23 P P 21 21 22.8 +0.5
baz=232
J16K **Anvik River** 78.21 20 P P 21 21 23.7 +1.2
baz=229
Q19K **Cape Douglas,** 78.26 26 P P 21 21 21.7 -1.3
Q19K **Cape Douglas,** 78.26 26 P P 21 21 22.1 -0.9
baz=236
G15K **Niukluk** 78.26 18 P P 21 21 23.3 +0.6
baz=226
L17K **Donlin** 78.29 22 P P 21 21 24.5 +1.5
baz=232
N18K **Kilae Creek** 78.33 24 P P 21 21 24.4 +1.1
baz=234
H16K **Elim** 78.57 19 P P 21 21 25.4 +0.9
baz=227
F15K **North Star Dit** 78.58 17 P P 21 21 25.8 +1.2
baz=225
K17K **Iditarod** 78.65 21 P P 21 21 24.8 -0.2
baz=232
J17K **VABM Dome** 78.81 20 P P 21 21 25.7 -0.2
baz=231
M18K **Stony River** 78.83 23 P P 21 21 26.5 +0.5
baz=234
L18K **Granite Mounta** 78.94 22 P P 21 21 26.5 -0.1
L18K IAmb IAmb 21 21 33.5
comp=Z,7,4nm,1.0s
L18K **Granite Mounta** 78.94 22 P P 21 21 26.8 +0.3
baz=233
N19K **Bonanza Creek** 78.97 24 P P 21 21 27.0 +0.1
baz=235
G16K **Koyuk River** 79.05 18 P P 21 21 27.0 -0.1
baz=227
TIXI **Tiksi** 79.07 353 P P 21 21 27.5 +0.4
TIXI **Tiksi** 79.07 353 LR LR 21 55 14.2
comp=Z,48nm,20.5s,baz=170,slow=35
H17K **Granite Mounta** 79.52 19 P P 21 21 30.1 +0.4
baz=230
L19K **White Mountain** 79.61 23 P P 21 21 30.6 +0.3
baz=235,SNR=9.5
CNPM **China Poot** 79.62 26 P P 21 21 30.5 0.0
M19K **Big River Lodg** 79.63 23 P P 21 21 29.8 -0.6
baz=235
G17K **Kiwalik Mounta** 79.65 18 P P 21 21 30.4 -0.1
baz=229
J18K **Innoko River** 79.68 21 P P 21 21 30.5 -0.1
baz=233
BRSE **Bradley Lake S** 79.95 26 P P 21 21 31.9 -0.3
baz=239
F17K **Baldwin Pennin** 80.10 18 P P 21 21 33.1 +0.3
baz=228
N20K **Mount Spurr** 80.11 24 P P 21 21 33.6 +0.5
baz=237
M20K **Styx River** 80.11 23 P P 21 21 33.5 +0.4
M20K **Styx River** 80.11 23 P P 21 21 33.3 +0.2
baz=236
L20K **Farewell, AK** 80.15 23 P P 21 21 34.3 +1.1
baz=236,SNR=5.5
H18K **Honhosa River** 80.16 19 P P 21 21 33.7 +0.4
baz=231
C16K **Lisburne Hills** 80.24 15 P P 21 21 34.2 +0.7
baz=224
E17K **Hotham Inlet** 80.36 17 P P 21 21 34.1 -0.2
baz=228
MK31 **Makanchi Array** 80.36 319 P P 21 21 33.4 -1.4
MKAR **Makanchi Array** 80.36 319 P P 21 21 33.6 -1.1
comp=Z,0.6nm,0.7s,baz=110,slow=6.6,SNR=7.6
MKAR LR LR 21 57 45.5
comp=Z,110nm,19.1s,baz=76,slow=36
comp=Z,0.6nm,0.7s
J19K **Poorman** 80.39 21 P P 21 21 35.0 +0.5
baz=234
D17K **Noatak River** 80.43 16 P P 21 21 35.7 +1.1
baz=226
G18K **Tagagawik** 80.54 19 P P 21 21 36.3 +1.1
baz=231
MAKZ **Makanchi** 80.57 319 P P 21 21 35.5 -0.3
K20K **Telida** 80.58 22 P P 21 21 35.9 +0.4
baz=235,SNR=5.3
F18K **Selawik** 80.68 18 P P 21 21 36.6 +0.6
baz=230
SEW **Seward** 80.69 26 P P 21 21 36.6 +0.5
baz=240
RDOG **Red Dog Mine** 80.72 16 P P 21 21 35.7 -0.4
baz=226
SKT **Skwentna** 80.80 24 P P 21 21 36.9 +0.1
baz=238
SUA **Susitna One** 80.84 24 P P 21 21 36.4 -0.7
SUA IAmb IAmb 21 21 56.1
comp=Z,5.7nm,0.9s
SUA **Susitna One** 80.84 24 P P 21 21 36.7 -0.4
baz=239
E18K **Tukpahlearik C** 80.94 17 P P 21 21 37.7 +0.4
baz=229
C17K **DeLong Mountai** 80.95 15 P P 21 21 37.6 +0.2
baz=226
J20K **Nowinta River** 81.02 21 P P 21 21 37.9 +0.1
baz=235
H19K **Roundabout Mou** 81.03 19 P P 21 21 37.4 -0.4
baz=233
PPLA **Purkeypile** 81.03 23 P P 21 21 38.4 +0.3
baz=237
RC01 **Rabbit Creek A** 81.07 25 P P 21 21 37.7 -0.4
baz=240
G19K **Purcell Mounta** 81.19 19 P P 21 21 38.6 -0.1
baz=232
CAST **Castle Rocks** 81.36 22 P P 21 21 39.4 -0.3
CAST IAmb IAmb 21 21 41.0
comp=Z,7.1nm,1.0s
CAST **Castle Rocks** 81.36 22 P P 21 21 39.1 -0.6
baz=237,SNR=8.5
F19K **Shaleruckik Mo** 81.41 18 P P 21 21 39.8 0.0
baz=231
ZAA0 **Zalesovo Array** 81.46 327 P P 21 21 39.3 -1.0
ZALV **Zalesovo Beam** 81.46 327 P P 21 21 39.2 -1.1
ZALV **Zalesovo Beam** 81.46 327 P P 21 21 41.2 +0.9
comp=Z,1.3nm,0.6s,baz=108,slow=5.4,SNR=6.0
ZALV LR LR 21 58 04.6
comp=Z,94nm,20.9s,baz=120,slow=36
comp=Z,1.3nm,0.6s
CHUM **Lake Minchumin** 81.53 22 P P 21 21 40.6 +0.1
baz=237,SNR=10.0
H20K **Anotleneega Mo** 81.53 20 P P 21 21 40.5 -0.1
baz=234
KTH **Kantishna Hill** 81.87 23 P P 21 21 41.2 -1.2
KTH IAmb IAmb 21 21 43.3
comp=Z,6.9nm,1.1s
B18K **Kokolik River** 81.92 15 P P 21 21 42.3 -0.2
baz=227
E19K **Redstone River** 81.96 18 P P 21 21 42.2 -0.6
baz=232
SML **Sawmill** 82.01 25 P P 21 21 42.7 -0.5
SML IAmb IAmb 21 21 54.8
comp=Z,8.7nm,0.8s
SML **Sawmill** 82.01 25 P P 21 21 42.4 -0.8
baz=241
TRF **Thorofare Moun** 82.06 23 P P 21 21 42.6 -0.9
TRF IAmb IAmb 21 21 48.0
comp=Z,4.8nm,0.9s
TRF **Thorofare Moun** 82.06 23 P P 21 21 43.7 +0.1
baz=239
GLI **Glacier Island** 82.09 26 P P 21 21 42.8 -0.7
baz=242
BPAW **Bear Paw Mtn.** 82.14 22 P P 21 21 42.0 -1.7
BPAW **Bear Paw Mtn.** 82.14 22 P P 21 21 43.1 -0.7
baz=238,SNR=5.2
F20K **Avaraart Lake** 82.18 18 P P 21 21 43.3 -0.6
baz=233
M23K **Glacier View** 82.26 25 P P 21 21 43.5 -1.0
baz=241
H21K **Melozitna Rive** 82.33 20 P P 21 21 44.2 -0.6
baz=236
C19K **Lookout Ridge** 82.34 16 P P 21 21 44.0 -0.8
baz=229
D19K **Kuna River** 82.36 17 P P 21 21 45.2 +0.4
baz=231
WAT1 **Susitna Watana** 82.43 24 P P 21 21 45.3 -0.1
baz=240
SCM **Sheep Creek Mo** 82.44 25 P P 21 21 44.1 -1.4
SCM IAmb IAmb 21 21 47.9
comp=Z,9.5nm,1.1s
SCM **Sheep Creek Mo** 82.44 25 P P 21 21 45.2 -0.3
baz=242
EYAK **Cordova Ski Ar** 82.53 26 P P 21 21 45.7 -0.1
baz=243

G21K **Allakaket** 82.58 19 P P 21 21 46.6 +0.6
baz=236
WAT6 **Susitna Watana** 82.63 24 P P 21 21 46.8 +0.2
baz=241
A19K **Wainwright** 82.68 15 P P 21 21 47.0 +0.6
baz=228
MLY **Manley** 82.72 21 P P 21 21 46.3 -0.6
MLY IAmb IAmb 21 21 48.4
comp=Z,4.7nm,0.6s
MLY **Manley** 82.72 21 P P 21 21 46.8 -0.1
baz=238
MCK **McKinley** 82.73 23 P P 21 21 47.0 +0.1
baz=240,SNR=7.7
E20K **Nigu River** 82.77 17 P P 21 21 47.9 +0.9
baz=233
KAIM **Kayak Island** 82.85 27 P P 21 21 48.1 +0.6
baz=245
KLU **Klutina** 82.88 25 P P 21 21 48.2 +0.4
baz=243
D20K **Etivluk River** 82.92 17 P P 21 21 48.6 +0.8
baz=232
H22K **Ishtalitna Cre** 82.96 20 P P 21 21 48.8 +0.8
baz=238
F21K **Alatna River** 82.99 19 P P 21 21 48.7 +0.5
baz=235
DHY **Denali Highway** 83.02 24 P P 21 21 48.9 +0.3
baz=242
M24K **Tolsona, Glenn** 83.05 25 P P 21 21 49.5 +0.8
baz=243
NEA2 **Nenana** 83.11 22 P P 21 21 48.4 -0.4
baz=240
BMRM **Bremner River** 83.22 26 P P 21 21 49.1 -0.4
baz=244
I23K **Minto, Yukon-K** 83.28 21 P P 21 21 49.5 -0.1
baz=240
BOOM **Boumskoye usch** 83.43 314 P P 21 21 50.3 -0.9
G22K **Bettles** 83.47 19 P P 21 21 51.3 +0.7
baz=237
N25K **Chitina, Valde** 83.50 26 P P 21 21 51.0 0.0
baz=244
E21K **Killik River** 83.54 18 P P 21 21 51.0 0.0
baz=235
H23K **Yukon River** 83.56 21 P P 21 21 51.8 +0.6
baz=239
F22K **John River** 83.57 19 P P 21 21 52.1 +1.0
baz=237
B20K **Meade River** 83.57 16 P P 21 21 51.4 +0.4
baz=232
CCB **Clear Creek Bu** 83.61 22 P P 21 21 49.6 -1.8
HARP **HAARP** 83.61 25 P P 21 21 51.7 +0.2
baz=244
MAW **Mawson** 83.71 203 LR LR 21 57 04.5
comp=Z,139nm,20.6s,baz=138,slow=34
C21K **Knifeblade Rid** 83.72 17 P P 21 21 51.4 -0.5
baz=234
PAX **Paxson** 83.74 24 P P 21 21 51.9 -0.3
baz=243
QSPA **South Pole Qui** 83.78 180 P P 21 21 52.0 -0.5
QSPA IAmb IAmb 21 21 58.9
comp=Z,7.2nm,0.8s
QSPA **South Pole Qui** 83.78 180 P P 21 21 51.5 -1.0
comp=Z,5.8nm,0.8s,baz=327,slow=2.3,SNR=14
QSPA LR LR 21 58 19.8
comp=Z,109nm,18.1s,baz=342,slow=35
comp=Z,5.8nm,0.8s
HDA **Harding Lake** 83.82 23 P P 21 21 51.5 -0.9
HDA IAmb IAmb 21 21 55.5
comp=Z,6.3nm,1.2s
HDA **Harding Lake** 83.82 23 P P 21 21 52.4 -0.1
baz=242
G23K **Bananza Creek** 83.86 20 P P 21 21 52.9 +0.2
baz=239
KURK **Kurchatov** 83.92 322 P P 21 21 51.6 -1.6
KURK IAmb IAmb 21 22 13.4
comp=Z,4.7nm,1.1s
KURBB **Kurchatov Arra** 83.94 322 P P 21 21 52.4 -0.9
comp=Z,1.2nm,0.9s,baz=117,slow=4.1,SNR=8.1
comp=Z,1.2nm,0.9s
POKR **Poker Plat Res** 83.98 22 P P 21 21 51.2 -2.0
baz=241
K24K **Donnelly Dome** 83.99 23 P P 21 21 51.3 -2.1
baz=243
ILAR **Eielson Array** 84.02 22 P P 21 21 52.1 -1.4
ILAR **Eielson Array** 84.02 22 P P 21 21 51.8 -1.7
comp=Z,4.0nm,0.7s,baz=249,slow=4.9,SNR=37
ILAR LR LR 21 57 01.0
comp=Z,120nm,19.2s,baz=259,slow=34
comp=Z,4.0nm,0.7s
E22K **Anaktuvuk Pass** 84.03 18 P P 21 21 52.2 -1.3
baz=237
B21K **Ikpikpuk River** 84.04 17 P P 21 21 53.0 -0.5
baz=234
COLD **Coldfoot** 84.07 20 P P 21 21 52.1 -1.5
baz=239
MCARA **McCarthy VSAT** 84.09 26 P P 21 21 52.3 -1.6
baz=246
H24K **Noodor Dome** 84.16 21 P P 21 21 52.4 -1.8
baz=241
D22K **Ayikyak River** 84.18 18 P P 21 21 51.7 -2.5
baz=236,SNR=5.4
MENT **Mentasta** 84.44 25 P P 21 21 55.7 0.0
J25K **Saicha River,** 84.52 23 P P 21 21 55.4 -0.7
baz=243,SNR=22
M26K **Nabesna, AK** 84.52 25 P P 21 21 55.4 -0.7
baz=246
L26K **Log Cabin Wild** 84.64 25 P P 21 21 55.8 -0.9
baz=245
CTG **Chitna Glacier** 84.67 27 P P 21 21 55.0 -2.1
baz=247
CTGM **Chitina Glacie** 84.67 27 P P 21 21 57.4 +0.3
CTGM IAmb IAmb 21 22 21.8
comp=Z,7.5nm,1.0s
G24K **Hadweenzic Riv** 84.73 21 P P 21 21 55.7 -1.3
baz=241,SNR=5.4
SCRK **Sand Creek** 84.78 24 P P 21 21 57.5 0.0
SCRK IAmb IAmb 21 21 59.0
comp=Z,4.0nm,0.9s
SCRK **Sand Creek** 84.78 24 P P 21 21 55.7 -1.8
baz=245,SNR=6.9
B22K **Teshekpuk Lake** 84.80 16 P P 21 21 55.8 -1.5
baz=235
D23K **Nanushuk River** 84.83 18 P P 21 21 56.7 -0.8
baz=238
PRP **Porcupine Dome** 84.87 22 P P 21 21 57.2 -0.8
baz=243
M27K **Edge Creek, AK** 84.98 26 P P 21 21 58.2 -0.4
baz=247,SNR=10
F24K **Squaw Lake** 84.99 20 P P 21 21 57.5 -0.9
baz=241
TOLK **Toolik Lake Re** 85.01 18 P P 21 21 58.9 +0.4
TOLK IAmb IAmb 21 22 19.1
comp=Z,6.4nm,1.1s
TOLK **Toolik Lake Re** 85.01 18 P P 21 21 57.8 -0.6
baz=239
E24K **Your Creek** 85.06 19 P P 21 21 58.4 -0.4
baz=240
PNL **Peninsula** 85.08 28 P P 21 21 58.0 -1.0
baz=249
H25L **Birch Creek** 85.11 21 P P 21 21 57.4 -1.5
baz=243
O28M **Mount Upton** 85.12 27 P P 21 21 57.4 -2.0
baz=248
J26L **Joseph Creek** 85.17 23 P P 21 21 58.2 -1.2
baz=245,SNR=6.2
G25K **Bearman Lake** 85.24 21 P P 21 21 59.2 -0.3
baz=242
L27K **Beaver Creek,** 85.28 25 P P 21 21 58.7 -1.2
baz=247,SNR=5.2
BCAR **Beaver Creek A** 85.30 25 P P 21 22 00.8 +0.7
C23K **Itkillik River** 85.32 17 P P 21 21 59.1 -0.8
baz=238
YUK3 **Moose Creek** 85.37 26 P P 21 21 58.9 -1.7
baz=248
YUK8 **Steele Glacier** 85.50 27 P P 21 22 00.1 -1.3
baz=249
D24K **Happy Valley** 85.50 18 P P 21 22 00.3 -0.6
baz=240
K27K **Chicken** 85.57 24 P P 21 22 00.1 -1.1
baz=246
I26K **Coal Creek Min** 85.67 23 P P 21 21 59.9 -1.8
baz=245
F25K **Christian Rive** 85.78 20 P P 21 22 01.9 -0.5
baz=243
C24K **Franklin Bluff** 85.83 18 P P 21 22 01.6 -0.8
baz=240
P29M **Windy Craggy** 85.86 29 P P 21 22 01.3 -1.5
baz=250
YUK6 **Outpost Mounta** 86.01 27 P P 21 22 02.7 -1.2
baz=250
YUK4 **Talbot Arm** 86.02 27 P P 21 22 03.5 -0.4
baz=250
E25K **Arctic Village** 86.05 20 P P 21 22 04.4 +0.8
baz=243
BMAR **Burnt Mountain** 86.07 20 P P 21 22 04.3 +0.5
G26K **Porcupine Rive** 86.14 21 P P 21 22 03.7 -0.4
baz=245,SNR=14
EGAK **Eagle** 86.23 23 P P 21 22 03.9 -0.7
baz=247,SNR=12
SIT **Sitka** 86.25 32 P P 21 22 03.9 -0.9
baz=253
F26K **Sheenjek River** 86.34 20 P P 21 22 04.6 -0.5
baz=244,SNR=5.6
D25K **Kavik River** 86.35 18 P P 21 22 04.9 -0.2
baz=242,SNR=6.0
HYT **Haines Junctio** 86.37 28 P P 21 22 05.5 +0.1
baz=251,SNR=8.0
I27K **Kandik River** 86.38 23 P P 21 22 04.9 -0.5
baz=247,SNR=12
P30M **Million Dollar** 86.39 28 P P 21 22 03.7 -1.8
baz=251
PLBC **Pleasant Camp** 86.46 29 P P 21 22 05.5 -0.3
baz=252
M29M **Somme Creek** 86.49 26 P P 21 22 05.2 -0.9
baz=250
H27K **Steamboat Moun** 86.66 22 P P 21 22 05.5 -1.2
baz=247,SNR=9.4
DAWY **Dawson** 86.67 24 P P 21 22 06.3 -0.5
baz=249
S32K **Killisnoo** 86.76 31 P P 21 22 07.5 +0.2
baz=253
N30M **Aishikik Lake** 86.77 27 P P 21 22 07.7 +0.3
N30M **Aishikik Lake** 86.77 27 P P 21 22 06.0 -1.3
baz=251
G27K **Doyon Strip** 86.85 21 P P 21 22 06.6 -1.0
baz=247,SNR=5.9
L29M **L29M** 86.86 25 P P 21 22 06.0 -1.8
baz=250,SNR=8.2
I28M **Miner Creek** 86.97 23 P P 21 22 06.7 -1.6
baz=248,SNR=6.3
CRAG **Craig** 86.98 34 P P 21 22 07.6 -0.8
baz=255
O30N **Mendenhall** 87.01 28 P P 21 22 09.1 +0.6
O30N IAmb IAmb 21 22 11.6
comp=Z,7.2nm,1.0s
O30N **Mendenhall** 87.01 28 P P 21 22 07.7 -0.9
baz=252,SNR=5.5
R32K **Eaglecrest** 87.02 31 P P 21 22 06.5 -2.0
baz=253
C26K **Camden Bay** 87.08 18 P P 21 22 07.7 -0.9
baz=243,SNR=8.0
M30M **Minto, Yukon** 87.26 26 P P 21 22 10.1 +0.4
M30M IAmb IAmb 21 22 12.8
comp=Z,5.0nm,0.9s
M30M **Minto, Yukon** 87.26 26 P P 21 22 08.2 -1.6
baz=251,SNR=8.0
C27K **Jago River** 87.32 19 P P 21 22 08.4 -1.4
baz=244,SNR=5.5
K29M **Barlow Dome** 87.37 25 P P 21 22 08.4 -1.9
baz=250,SNR=21
N31M **Braeburn, Yuko** 87.37 27 P P 21 22 08.9 -1.3
baz=252,SNR=7.4
E27K **Coleen River** 87.42 20 P P 21 22 09.6 -0.7
baz=247
KK31 **Karatay Array** 87.47 314 P P 21 22 09.8 -1.3
KKAR **Karatay Array** 87.47 314 P P 21 22 09.7 -1.4
WHY **Whitehorse** 87.54 28 P P 21 22 12.4 +1.2
baz=253,SNR=5.6
V35K **Ketchikan** 87.78 34 P P 21 22 12.1 -0.2
baz=256
P32M **Atlin** 87.79 29 P P 21 22 11.7 -0.7
baz=254
F28M **Old Crow** 87.80 21 P P 21 22 10.9 -1.2
baz=248,SNR=6.3
H29M **Whitestone** 87.85 22 P P 21 22 12.1 -0.3
baz=250
D27M **Malcolm River** 88.05 19 P P 21 22 12.8 -0.6
baz=247
J30M **Hart River** 88.10 24 P P 21 22 12.6 -1.2
baz=252,SNR=8.0
M31M **Drury Creek, Y** 88.22 27 P P 21 22 14.4 +0.1
baz=253,SNR=6.3
G29M **Pine Creek** 88.22 22 P P 21 22 13.4 -0.8
baz=250
E28M **Babbage River** 88.29 20 P P 21 22 14.2 -0.3
baz=248
I30M **Mount Dempster** 88.29 24 P P 21 22 13.5 -1.2
baz=252
P33M **Teslin, Yukon** 88.40 29 P P 21 22 14.0 -1.2
baz=255
N32M **Quiet Lake** 88.52 28 P P 21 22 14.8 -0.9
baz=254
EPYK **Eagle Plains** 88.53 23 P P 21 22 14.3 -1.3
baz=251
S34M **Telegraph Cree** 88.66 31 P P 21 22 14.8 -1.6
baz=256
D28M **Stokes Point** 88.82 19 P P 21 22 17.1 +0.3
baz=249
G30M **tAoh Zraii Nji** 88.91 22 P P 21 22 17.4 -0.1
baz=252
T35M **Bob Quinn** 88.91 32 P P 21 22 17.4 -0.3
baz=257
R33M **Jennings River** 89.10 30 P P 21 22 18.0 -0.6
baz=256
BBB **Bella Bella** 89.12 37 LR LR 21 56 54.7
comp=Z,98nm,19.1s,baz=228,slow=32
F30M **Barrier River** 89.27 21 P P 21 22 19.8 +0.7
baz=252
H31M **Peel River** 89.28 23 P P 21 22 19.2 0.0
baz=253
DLBC **Dease Lake** 89.35 31 P P 21 22 19.5 -0.3
baz=257
DLBC **Dease Lake** 89.35 31 P P 21 22 18.3 -1.5
comp=Z,3.3nm,0.8s,baz=228,slow=6.6,SNR=4.9
comp=Z,3.3nm,0.8s
BVAR **Borovoye Array** 89.43 323 P P 21 22 18.5 -1.7
comp=Z,0.5nm,0.5s,baz=255,slow=40,SNR=2.6
BVAR LR LR 22 04 13.9
comp=Z,70nm,18.7s,baz=86,slow=37
comp=Z,0.5nm,0.5s
G31M **Satah River** 89.63 22 P P 21 22 20.4 -0.3
baz=253
MMPY **Sheldon Lake,** 89.73 27 P P 21 22 21.4 0.0
baz=256
INK **Inuvik** 90.29 21 LR LR 22 04 40.6
comp=Z,55nm,18.1s,baz=194,slow=37
YBH **Yreka Blue Hor** 91.12 48 LR LR 21 58 25.2
comp=Z,197nm,19.7s,baz=308,slow=32
A36M **Sachs Harbour** 93.83 18 P P 21 22 40.4 +0.3
baz=262
C36M **Paulatuk** 93.86 21 P P 21 22 40.5 +0.2
baz=263
NVAR **Mina Array Bea** 94.14 52 P P 21 22 43.0 +0.3
comp=Z,1.5nm,0.7s,baz=272,slow=11,SNR=3.0
comp=Z,1.5nm,0.7s
PFO **Pinyon Flats O** 95.28 57 LR LR 22 00 51.9
comp=Z,79nm,18.1s,baz=212,slow=32
RPN **Rapa Nui** 95.53 118 LR LR 22 00 56.3
comp=Z,23nm,18.6s,baz=234,slow=32
NEW **Newport** 95.65 42 LR LR 22 02 10.1
comp=Z,114nm,18.4s,baz=277,slow=33
ARU **Arti** 96.60 326 LR LR 22 05 56.8
comp=Z,154nm,21.9s,baz=100,slow=35
ELK **Elko** 96.65 50 LR LR 22 01 04.6
comp=Z,206nm,20.3s,baz=294,slow=32
AKTO **Aktyubinsk** 96.79 320 LR LR 22 08 36.0
comp=Z,90nm,18.4s,baz=318,slow=37
YKA **Yellowknife Ar** 97.36 28 P P 21 22 56.1 -0.3
comp=Z,1.2nm,0.9s,baz=277,slow=4.8,SNR=12
YKA LR LR 22 01 23.2
comp=Z,84nm,21.9s,baz=308,slow=32
comp=Z,1.2nm,0.9s
PDAR **Pinedale Array** 100.91 48 P Pdif 21 23 13.1 0.0
comp=Z,0.1nm,0.3s,baz=319,slow=9.5,SNR=2.2
SPITS **Spitsbergen Ar** 104.44 351 Pdiff Pdif 21 23 27.7 0.0
comp=Z,4.7nm,1.0s,baz=207,slow=4.7,SNR=1.5
FINES **FINESS Array B** 111.66 335 PKiKP PKiKP 21 27 56.5 -1.2
comp=Z,0.8nm,0.7s,baz=35,slow=5.1,SNR=5.0
AKASG **Malin Array Be** 114.71 324 PKP PKiKP 21 28 02.0 -1.8
comp=Z,0.5nm,0.5s,baz=79,slow=1.6,SNR=1.9
BRTR **Keskin Array B** 115.06 311 PKP PKiKP 21 28 03.9 -1.2
comp=Z,0.2nm,0.5s,baz=142,slow=5.4,SNR=1.7
HFS **Hagfors** 117.38 339 PKP PKPdf 21 28 07.5 -1.2
comp=Z,0.5nm,0.4s,baz=94,slow=5.8,SNR=2.6
NB2 **NORSAR Subarra** 117.67 339 PKPdf PKPdf 21 28 08.7 -0.6
comp=Z,0.4nm,0.6s,baz=44,slow=1.9
NOA **NORSAR Array B** 117.67 339 PKP PKPdf 21 28 08.3 -1.1

comp=Z,0.6nm,0.6s,baz=47,slow=1.8,SNR=6.8
MORC Moravsky Berou 121.80 327 *e*PKP **PKPdf 21 28 17.5 -0.1**
JAVC Velka Javorina 122.22 326 *e*PKP **PKiKP 21 28 19.1 +0.5**
SCHQ Schefferville 122.69 25 PKP **PKPdf 21 28 17.8 -1.3**
comp=Z,1.1nm,0.3s,baz=90,slow=5.1,SNR=2.0
MODS Modra-Piesok 122.69 325 *e*PKP **PKiKP 21 28 19.9 +0.4**
KRUC Moravsky 122.82 326 *e*PKP **PKiKP 21 28 19.0 -0.5**
BRG Berggiesshubel 123.08 329 *e*P **PKiKP 21 28 20.1 -0.1**
BRG Amp 21 28 22.6
comp=Z,3.2nm,0.9s
CONA Conrad Observa 123.73 325 *e*PKP **PKPdf 21 28 20.8 -0.6**
comp=Z,1.2nm,0.6s
GERES GERESS Array B 124.41 327 PKP **PKPdf 21 28 22.5 -0.2**
comp=Z,2.2nm,0.7s,baz=342,slow=0.4,SNR=12
SOKA Soboth 124.89 324 *e*PKiKP **PKiKP 21 28 24.1 +0.1**
comp=Z,0.5nm,0.3s
LESA Schwarzleotal 125.79 326 *e*PKP **PKPdf 21 28 25.0 -0.4**
comp=Z,3.0nm,0.8s
ABTA Abfaltersbach 126.28 326 *i* PKP **PKPdf 21 28 25.7 -0.6**
comp=Z,1.5nm,0.6s
WTTA Wattenberg 126.46 327 *e*PKiKP **PKPdf 21 28 26.9 +0.1**
comp=Z,1.5nm,0.4s
MOTA Moosalm 126.70 327 *e*PKP **PKPdf 21 28 26.8 -0.4**
comp=Z,3.3nm,0.6s
SQTA Sankt Quirin 126.72 327 *e*PKiKP **PKPdf 21 28 27.2 0.0**
comp=Z,2.0nm,0.5s
EKA Eskdalemuir Ar 126.89 342 PKP **PKPdf 21 28 27.3 +0.2**
comp=Z,1.6nm,0.8s,baz=46,slow=4.8,SNR=4.5
MEM Membach 127.09 333 *d*PKP **PKPdf 21 28 25.9 -1.8**
FETA Feichten 127.10 327 *e*PKiKP **PKiKP 21 28 28.4 -0.1**
comp=Z,2.9nm,0.8s
DAVA Damuels 127.39 328 *i* PKiKP **PKPdf 21 28 28.5 -0.1**
comp=Z,2.0nm,0.5s
BCLA Clavier 127.54 333 *d*PKP **PKPdf 21 28 28.1 -0.4**
BMRD Maredsous 127.86 333 *d*PKP **PKiKP 21 28 29.9 +0.2**
LPAZ La Paz 135.08 120 PKP **PKiKP 21 28 48.9 +2.9**
comp=Z,1.0nm,0.5s,baz=78,slow=2.9,SNR=3.8
ESDC Sonseca Array 139.89 330 PKP **PKPdf 21 28 52.9 +0.8**
comp=Z,0.5nm,0.8s,baz=351,slow=4.2,SNR=1.9
TORD Torodi Ar. Bea 149.23 285 PKPbc **PKPbc 21 29 12.2 -0.8**
comp=Z,6.7nm,0.7s,baz=41,slow=3.4,SNR=21
BDFB Brasilia 151.11 139 PKPbc **PKPbc 21 29 15.7 -2.0**
comp=Z,2.2nm,0.5s,baz=219,slow=6.3,SNR=4.6

*SJA **15** 21:10:14.1±0.7,21°.40S×68°.86W,h114km±3km, ML3.4, MW3.5*
*GUC **15** 21:10:15.5±0.8,21°.41S×68°.80W,h108km±4km, ML3.4*
ISC 15 21:10:15.9±1.4**,21°.38S**±0°.03×**68°.89W**±0°.06**, h108**km±9km**, n35,** σ0**°90**/64**, 8C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.53**	**218**	*e*P	**Pn**	**21 10 32.3**	**-0.6**
PB09				*e*S	**Sn**	**21 10 46.1**	**+0.4**
PB09				IAML		21 10 46.3	
	comp=Z,392nm,0.2s						
PB09	**IPOC Station P**	**0.53**	**218**	↑*i*P	**Pn**	**21 10 32.4**	**-0.5**
PB09				*i* S	**Sn**	**21 10 45.6**	**-0.1**
PB09				IAML		21 10 46.2	
	comp=N,498nm,0.2s						
PB01	**IPOC Station P**	**0.65**	**301**	*e*P	**Pn**	**21 10 33.1**	**-0.6**
PB01				IAML		21 10 47.6	
	comp=Z,688nm,0.1s						
PB01				*e*S	**Sn**	**21 10 47.6**	**+0.5**
PB01	**IPOC Station P**	**0.65**	**301**	↑*i*P	**Pn**	**21 10 33.2**	**-0.6**
PB01				*i* S	**Sn**	**21 10 47.0**	**-0.1**
PB01				IAML		21 10 47.6	
	comp=N,2μm,0.2s						
PB02	**IPOC Station P**	**0.94**	**274**	*e*P	**Pn**	**21 10 36.2**	**-0.2**
PB02				*e*S	**Sn**	**21 10 53.3**	**+1.4**
PB02				IAML		21 10 56.8	
	comp=Z,1μm,0.3s						
PB02	**IPOC Station P**	**0.94**	**274**	↑*i*P	**Pn**	**21 10 36.2**	**-0.2**
PB02				*i* S	**Sn**	**21 10 52.4**	**+0.5**
PB02				IAML		21 10 53.8	
	comp=E,1μm,0.2s						
PB07	**IPOC Station P**	**0.99**	**249**	*e*P	**Pn**	**21 10 36.6**	**-0.3**
PB07				*e*S	**Sn**	**21 10 53.4**	**+0.5**
PB07				IAML		21 10 54.6	
	comp=Z,620nm,0.4s						
PB07	**IPOC Station P**	**0.99**	**249**	↑*i*P	**Pn**	**21 10 36.7**	**-0.3**
PB07				*i* S	**Sn**	**21 10 53.4**	**+0.5**
PB07				IAML		21 10 54.4	
	comp=N,1μm,0.1s						
LVC	**Limon Verde**	**1.22**	**181**	*e*P	**Pn**	**21 10 39.0**	**-0.7**
LVC				*e*S	**Sn**	**21 10 57.7**	**-0.1**
LVC	**Limon Verde**	**1.22**	**181**	↓*i*P	**Pn**	**21 10 39.0**	**-0.7**
LVC				*i* S	**Sn**	**21 10 57.0**	**-0.7**
LVC				IAML		21 10 58.4	
	comp=N,939nm,0.5s						
PB08	**IPOC Station P**	**1.26**	**349**	*e*P	**Pn**	**21 10 40.1**	**-0.1**
PB08				*e*S	**Sn**	**21 10 59.4**	**+0.9**
PB08				IAML		21 11 00.9	
	comp=Z,334nm,0.3s						
PB08	**IPOC Station P**	**1.26**	**349**	↓*i*P	**Pn**	**21 10 40.2**	**+0.1**
PB08				*i* S	**Sn**	**21 10 59.1**	**+0.7**
PB08				IAML		21 11 00.2	
	comp=E,696nm,0.2s						
PATCX	**Punta Patache**	**1.30**	**295**	*e*P	**Pn**	**21 10 40.0**	**-0.4**
PATCX				*e*S	Sn	21 10 40.7	-18
PATCX				IAML		21 10 41.2	
	comp=Z,1μm,0.1s						
PATCX	**Punta Patache**	**1.30**	**295**	↑*i*P	**Pn**	**21 10 40.5**	**+0.2**
PATCX				*i* S	**Sn**	**21 10 59.9**	**+1.0**
PATCX				IAML		21 11 02.4	
	comp=N,646nm,0.4s						
HMBC	**Humberstone**	**1.44**	**319**	*e*P	**Pn**	**21 10 41.7**	**-0.3**
HMBC				*e*S	**Sn**	**21 11 02.4**	**+0.6**
HMBC				IAML		21 11 03.2	
	comp=Z,860nm,0.4s						
HMBC	**Humberstone**	**1.44**	**319**	↑*i*P	**Pn**	**21 10 41.7**	**-0.3**
HMBC				*i* S	**Sn**	**21 11 02.1**	**+0.2**
HMBC				IAML		21 11 04.1	
	comp=N,1μm,0.4s						
TA01	**Diego Aracena**	**1.46**	**304**	*e*P	**Pn**	**21 10 41.8**	**-0.2**
TA01				IAML		21 11 04.0	
	comp=Z,210nm,0.3s						
TA01	**Diego Aracena**	**1.46**	**304**	↑*i*P	**Pn**	**21 10 41.7**	**-0.2**
TA01				*i* S	**Sn**	**21 11 02.2**	**+0.4**
TA01				IAML		21 11 03.7	
	comp=E,500nm,0.4s						
PB06	**IPOC Station P**	**1.46**	**206**	*e*P	**Pn**	**21 10 41.6**	**-0.7**
PB06				*e*S	**Sn**	**21 11 02.7**	**+0.3**
PB06				IAML		21 11 04.1	
	comp=Z,287nm,0.3s						
PB06	**IPOC Station P**	**1.46**	**206**	↓*i*P	**Pn**	**21 10 41.8**	**-0.5**
PB06				*i* S	**Sn**	**21 11 02.3**	**0.0**
PB06				IAML		21 11 03.0	
	comp=E,576nm,0.2s						
PB04	**IPOC Station P**	**1.51**	**231**	*e*P	**Pn**	**21 10 42.9**	**0.0**
PB04				*e*S	**Sn**	**21 11 03.0**	**-0.2**
PB04				IAML		21 11 06.0	
	comp=Z,414nm,0.1s						
PB04	**IPOC Station P**	**1.51**	**231**	*e*P	**Pn**	**21 10 42.0**	**-0.8**
PB04				*i* S	**Sn**	**21 11 03.9**	**+0.6**
PB04				IAML		21 11 07.4	
	comp=N,819nm,0.1s						
TA02	**Huaiquique**	**1.60**	**313**	*e*P	**Pn**	**21 10 43.6**	**-0.3**
TA02				*e*S	**Sn**	**21 11 06.2**	**+1.1**
TA02				IAML		21 11 11.9	
	comp=Z,484nm,0.1s						
TA02	**Huaiquique**	**1.60**	**313**	*e*P	**Pn**	**21 10 43.5**	**-0.3**
TA02				*e*S	**Sn**	**21 11 04.6**	**-0.5**
GO01	**Chusmiza**	**1.73**	**350**	*e*P	**Pn**	**21 10 45.8**	**-0.1**
GO01	**Chusmiza**	**1.73**	**350**	↓*i*P	**Pn**	**21 10 45.6**	**-0.3**
GO01				*i* S	**Sn**	**21 11 09.3**	**+0.7**
GO01				IAML		21 11 12.3	
	comp=N,750nm,0.1s						
PB11	**IPOC Station P**	**1.77**	**336**	*e*P	**Pn**	**21 10 45.6**	**-0.4**
PB11				*e*S	**Sn**	**21 11 09.6**	**+0.7**
PB11				IAML		21 11 11.2	
	comp=Z,222nm,0.3s						
PB11	**IPOC Station P**	**1.77**	**336**	↑*i*P	**Pn**	**21 10 45.6**	**-0.4**
PB11				*i* S	**Sn**	**21 11 08.9**	**0.0**
PB11				IAML		21 11 10.9	
	comp=N,685nm,0.2s						
PB15	**IPOC Station P**	**1.90**	**196**	*e*P	**Pn**	**21 10 47.1**	**-0.6**
PB15				*e*S	**Sn**	**21 11 13.3**	**+1.3**
PB15				IAML		21 11 15.8	
	comp=Z,542nm,0.3s						
PB15	**IPOC Station P**	**1.90**	**196**	↓*i*P	**Pn**	**21 10 47.0**	**-0.6**
PB15				*i* S	**Sn**	**21 11 11.7**	**-0.3**
PB10	**IPOC Station P**	**2.62**	**216**	*e*P	**Pn**	**21 10 57.4**	**+0.6**
PB10				*e*S	Sn	21 11 17.1	-11
PB12	**IPOC Station P**	**3.07**	**334**	*e*P	**Pn**	**21 11 01.5**	**-1.4**
PB12				*e*S	**Sn**	**21 11 34.0**	**-5.0**
PB12				IAML		21 11 43.0	
	comp=Z,50nm,0.6s						
YJA	**Yavi**	**3.23**	**105**	*e*P	**Pn**	**21 11 05.2**	**-0.2**
YJA				*e*S	Sn	21 11 58.4	+15
PB14	**IPOC Station P**	**3.52**	**203**	*e*P	**Pn**	**21 11 09.3**	**+0.2**
PB14				*e*S	**Sn**	**21 11 51.0**	**+0.9**
LPAZ	**La Paz**	**5.12**	**8**	*e*P	**Pn**	**21 11 32.6**	**+1.7**

RSNC 15 21:14:48.8±0.0**, 7°N**±1°×**7°3W**±°**, h144**km±3km**, M2.8, mb3.6, ML2.8, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.22**	**199**	P	Pn	21 15 07.7	-1.0
BARC				S	Sn	21 15 23.0	-0.8
PAMC	**Pamplona, Colo**	**0.67**	**37**	P	Pn	21 15 10.4	-0.7
PAMC				S	Sn	21 15 27.8	-0.2
RUSC	**La Rusia**	**0.90**	**178**	P	Pn	21 15 11.5	-1.3
RUSC				S	Sn	21 15 30.2	-0.8
TAMC	**Tame, Arauca**	**1.36**	**105**	P	Pn	21 15 15.8	-0.7
TAMC				S	Sn	21 15 36.2	-1.4
PTBC	**PUERTO BERRIO,**	**1.36**	**259**	P	Pn	21 15 14.4	-2.1
PTBC				S	Sn	21 15 35.6	-2.0
OCAC	**Ocana**	**1.45**	**352**	P	Pn	21 15 15.8	-1.7
OCAC				S	Sn	21 15 38.9	-0.6
SPBC	**San Pablo de B**	**1.49**	**220**	P	Pn	21 15 16.6	-1.3
SPBC				S	Sn	21 15 39.0	-1.1
ZARC	**Zaragoza, Cauc**	**1.87**	**292**	P	Pn	21 15 20.1	-1.9
ZARC				S	Sn	21 15 46.8	-0.7
NORC	**Norcasia**	**2.14**	**235**	P	Pn	21 15 23.6	-1.7
NORC				S	Sn	21 15 51.6	-1.7
CHIC	**Chingaza**	**2.24**	**196**	P	Pn	21 15 25.4	-1.5
CHIC				S	Sn	21 15 56.2	0.0
ROSC	**El Rosal**	**2.29**	**212**	P	Pn	21 15 27.1	-0.4
ROSC				S	Sn	21 15 58.8	+1.7
CVER	**Cruz Verde, Cu**	**2.46**	**203**	P	Pn	21 15 28.8	-0.8
CVER				S	Sn	21 16 00.7	-0.3
UREC	**San Jos de Ur**	**2.58**	**292**	P	Pn	21 15 27.8	-2.9
UREC				S	Sn	21 15 59.3	-3.7
VILC	**Villavicencio,**	**2.73**	**192**	P	Pn	21 15 31.4	-1.3
VILC				S	Sn	21 16 06.3	-0.3
PTGC	**Puerto Gaitan,**	**2.76**	**159**	P	Pn	21 15 30.6	-2.3
PTGC				S	Sn	21 16 03.6	-3.4
DBBC	**Dabeiba**	**3.08**	**274**	P	Pn	21 15 35.5	-1.6
DBBC				S	Sn	21 16 11.2	-3.2
ARGC	**Ariguani, Magd**	**3.24**	**340**	P	Pn	21 15 38.7	-0.3
ARGC				S	Sn	21 16 16.7	-1.2
PRAC	**Prado**	**3.54**	**210**	P	Pn	21 15 41.2	-1.8
PRAC				S	Sn	21 16 23.4	-1.5
APAC	**Apartado, Choc**	**3.61**	**288**	P	Pn	21 15 41.7	-2.1
APAC				S	Sn	21 16 25.5	-1.0
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	21 15 43.5	-1.2
PLMC				S	Sn	21 16 26.1	-2.0
SJCC	**San Jacinto, C**	**3.70**	**326**	P	Pn	21 15 41.9	-3.1
SJCC				P		21 15 42.2	
SJCC				S	Sn	21 16 23.2	-5.4
URMC	**La Uribe, Meta**	**3.75**	**200**	P	Pn	21 15 44.3	-1.4
URMC				S	Sn	21 16 28.0	-1.9
CRJC	**Cerrejon, Guaj**	**4.20**	**3**	P	Pn	21 15 48.7	-2.9
CRJC				S	Sn	21 16 36.5	-4.0
SMRC	**Santa Marta, M**	**4.47**	**346**	P	Pn	21 15 52.7	-2.5
SMRC				S	Sn	21 16 40.8	-6.0
MACC	**Macarena, Meta**	**4.68**	**189**	P	Pn	21 15 54.6	-3.4
MACC				S	Sn	21 16 45.8	-6.0
URIC	**Uribia, Colomb**	**4.99**	**13**	P	Pn	21 15 58.1	-4.0
	6.5nm,0.8s						
POPC	**Popayan, Colom**	**5.53**	**220**	P	Pn	21 16 10.5	+1.1
	4.7nm,0.7s						
POPC				S	Sn	21 17 11.2	-1.0
	4.7nm,0.7s						
FLOC	**Florencia**	**5.77**	**206**	P	Pn	21 16 11.1	-1.4

IDC 15 21:23:25.0±2.0**, 5°86S**×**151°07E, h0**km**, mb3.7/3, mbtmp3.7/4, ML1.3/1, Error ellipse: s-maj=121.0km s-min=25.8km az=128.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.24**	**227**	Pn	Pn	21 24 44.8	+0.1
	0.7nm,0.3s,baz=254,slow=18,SNR=1.8						
PMG				Sn	Sn	21 25 46.6	+0.8
	2.5nm,0.3s,baz=328,slow=22,SNR=3.9						
	8.0nm,0.8s						
WRA	**Warramunga Arr**	**21.46**	**228**	P	P	21 28 15.4	+0.2
	1.5nm,0.5s,baz=54,slow=11,SNR=21						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**24.21**	**221**	P	P	21 28 43.6	-0.1
	1.8nm,0.8s,baz=56,slow=9.1,SNR=16						
	1.8nm,0.8s						
ILAR	**Eielson Array**	**83.79**	**22**	P	P	21 35 55.7	-0.2
	0.3nm,0.7s,baz=246,slow=4.1,SNR=3.0						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**148.96**	**286**	PKPbc	PKPbc	21 43 15.7	-0.4
	0.5nm,0.6s,baz=80,slow=3.3,SNR=4.2						

WEL 15 21:26:11.1, 38°S±24°×**17°6E**±3°**9, h144**km±41km**, M2.4**/14**, mB5.2**/1**, ML2.4**/10**, MLv2.4**/14**, Mw(mB)4.6**/1**, Error ellipse: s-maj=0.1km s-min=0.0km az=100.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MOVZ	**Moawhango**	**0.98**	**173**	P	Pn	21 26 36.5	+1.2
BKZ	**Black Stump Fm**	**1.01**	**137**	P	Pn	21 26 35.8	+0.4
MTHZ	**Maungataniwha**	**1.05**	**114**	P	Pn	21 26 36.0	+0.2
BHHZ	**Black Hill Sta**	**1.12**	**162**	P	Pn	21 26 37.3	+0.8
NMHZ	**Naumai**	**1.15**	**126**	P	Pn	21 26 37.9	+1.1
KWHZ	**Kaweka Forest**	**1.18**	**148**	P	Pn	21 26 37.8	+0.8
KRHZ	**Kereru**	**1.35**	**154**	P	Pn	21 26 39.3	+0.6
PNHZ	**Pukenui**	**1.55**	**163**	P	Pn	21 26 41.1	+0.3
TSZ	**Takapari Road**	**1.65**	**171**	P	Pn	21 26 42.3	+0.5
KAHZ	**Kahuranaki**	**1.68**	**145**	P	Pn	21 26 42.3	0.0
RUGZ	**Raukumara Rang**	**1.69**	**75**	P	Pn	21 26 40.0	-2.5
PXZ	**Pawanui**	**1.87**	**149**	P	Pn	21 26 44.1	-0.3
DVHZ	**Dannevirke**	**1.92**	**167**	P	Pn	21 26 44.4	-0.5
ABAZ	**Army Bay**	**1.93**	**341**	P	Pn	21 26 42.8	-2.2
PRHZ	**Porangahau**	**2.00**	**157**	P	Pn	21 26 45.5	-0.3
ANWZ	**Angora Road**	**2.14**	**162**	P	Pn	21 26 47.0	-0.5
PRWZ	**Pori Road**	**2.14**	**173**	P	Pn	21 26 47.4	-0.2
MRZ	**Mangatainoka R**	**2.23**	**181**	P	Pn	21 26 48.0	-0.6
WMGZ	**Waiomatatini S**	**2.29**	**76**	P	Pn	21 26 46.9	-2.5
HOWZ	**Holdsworth Sta**	**2.47**	**182**	P	Pn	21 26 50.6	-1.0
CAW	**Cannon Point**	**2.71**	**189**	P	Pn	21 26 53.5	-1.0
TRWZ	**Traveller**	**2.97**	**179**	P	Pn	21 26 56.2	-1.6
PLWZ	**Palliser**	**3.15**	**185**	P	Pn	21 26 58.1	-2.1
TUWZ	**Tuamarina**	**3.26**	**203**	P	Pn	21 27 00.6	-0.9
MSZ	**Milford Sound**	**8.49**	**220**	P	Pn	21 28 08.1	-2.8

*NEIC **15** 21:33:35.2±0.4, 19°.36N±0°.03×155°.12W±0°.02, h7km±1km, Error ellipse: s-maj=4.9km s-min=1.5km az=142.0*
HVO 15 21:33:35.0±0.6**, 19°.34N**±0°.03×**155°.12W**±0°.02**, h6**km±2km**, Md2.0**/8**, ML2.5**/24(NEIC), **Error ellipse: s-maj=5.1km s-min=1.6km az=143.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.04**	**349**		Pg	21 33 36.7	+0.2
STCH				IAML		21 33 38.3	
	comp=E,2μm,0.1s						
JCUZ	**Jacuzzi**	**0.04**	**20**		Pg	21 33 36.7	+0.2
JCUZ				Sg	Sg	21 33 37.5	0.0
NPOC	**North of Pu'u**	**0.05**	**8**		Pg	21 33 36.8	+0.3
KNHH	**Kane Nui o Ham**	**0.06**	**305**		Pg	21 33 36.9	+0.2
PUH	**Pauahi**	**0.10**	**287**		Pg	21 33 37.5	+0.2
PUH				Sg	Sg	21 33 39.2	+0.3
PUH				IAML		21 33 39.5	
	comp=N,2μm,1.0s						
JOKA	**Jonika Flow**	**0.14**	**50**		Pg	21 33 37.9	0.0
HLP	**Hilina Pali**	**0.19**	**255**		Pg	21 33 39.0	+0.3
HLP				IAML		21 33 40.8	
	comp=N,1μm,1.0s						
RSD	**Rainshed**	**0.19**	**308**	Pg	Pg	21 33 39.1	+0.2
RSD				IAML		21 33 39.9	
	comp=N,1μm,1.0s						
RSD				IAML		21 33 42.9	
	comp=E,1μm,1.1s						
HTC	**Hot Caves**	**0.29**	**248**		Pg	21 33 41.2	+0.6
MLH	**Mauna Loa**	**0.29**	**300**		Pg	21 33 41.0	+0.1
MLH				IAML		21 33 50.3	
	comp=E,797nm,0.9s						
HMH	**Humu'ula Sheep**	**0.43**	**307**		Pg	21 33 43.4	0.0
HMH				IAML		21 33 48.6	
	comp=E,522nm,0.8s						
HMH					Sg	21 33 49.5	+0.4
MLOA	**Mauna Loa Obse**	**0.47**	**294**		Pg	21 33 44.1	-0.1
MLOA					Sg	21 33 50.9	+0.4
MLOA				IAML		21 33 54.5	
	comp=E,433nm,1.0s						
MWH	**Moku'aweowe**	**0.47**	**287**		Pg	21 33 44.1	-0.2
KHU	**Kahuku**	**0.48**	**258**		Pg	21 33 44.1	-0.2
KHU				IAML		21 33 47.3	
	comp=N,359nm,1.1s						
KHU					Sg	21 33 51.0	+0.3
KHU				IAML		21 33 52.1	
	comp=E,376nm,1.2s						
HUH	**Hualalai**	**0.76**	**297**	Pg	Pg	21 33 49.1	-0.5
HUH				IAML		21 34 03.3	
	comp=E,254nm,1.1s						
HUH				IAML		21 34 09.9	
	comp=N,281nm,1.1s						

IDC 15 21:35:09.5±2.1**, 5°99S**×**128°15E, h0**km**, mb3.4/1, mbtmp3.8/3, ML3.8/2, Error ellipse: s-maj=116.3km s-min=32.1km az=66.0, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.12**	**157**	Pn	Pn	21 38 46.0	+1.4
	0.4nm,0.3s,baz=336,slow=13,SNR=13						
WRA				Sn	Sn	21 41 29.8	-3.2
	0.1nm,0.3s,baz=335,slow=18,SNR=2.2						
	1.6nm,0.6s						
ASAR	**Alice Springs**	**18.43**	**163**	P	Pn	21 39 25.7	-0.9
	0.6nm,0.3s,baz=345,slow=11,SNR=44						
	3.2nm,0.4s						
MKAR	**Makanchi Array**	**66.38**	**327**	P	P	21 46 00.4	+0.1
	0.1nm,0.4s,baz=126,slow=6.2,SNR=2.2						
	0.1nm,0.4s						

AUST 15 21:42:10.8±2.9**, 30°.43S**×**136°.81E, h0**km**, Error ellipse: s-maj=48.6km s-min=34.6km az=20.0, Mining explosion., South Australia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LCRK	**Leigh Creek**	**1.21**	**91**	P	Pg	21 42 28.7	-5.2
	baz=1.0						
LCRK	**Leigh Creek**	**1.21**	**91**	P	Pg	21 42 29.1	-4.9
	baz=1.2						
LCRK				S	Sg	21 42 41.4	-8.3
	baz=1.2						
MULG	**Mulgathing**	**2.39**	**273**	P	Pg	21 42 55.6	-0.9
	baz=2.6						
MULG	**Mulgathing**	**2.39**	**273**	P	Pn	21 42 48.7	-2.4
	baz=2.4						
MULG				S	Sg	21 43 28.6	+1.1
	baz=2.4						
BBOO	**Buckleboo**	**2.46**	**195**	P	Pn	21 42 48.8	-3.3
	baz=2.4						
BBOO	**Buckleboo**	**2.46**	**195**	P	Pn	21 42 54.0	+1.8
	baz=2.5						
BBOO				S	Sg	21 43 28.4	-1.4
	baz=2.5						
OOD	**Oodnadatta**	**2.81**	**339**	P	Pn	21 42 58.2	+1.3
	baz=3.0						
OOD	**Oodnadatta**	**2.81**	**339**	P	Pn	21 42 58.4	+1.5
	baz=2.8						
OOD				S	Sg	21 43 40.5	-0.4
	baz=2.8						
HTT	**Hallett**	**3.49**	**150**	P	Pn	21 43 04.3	-2.0
	baz=3.3						
HTT	**Hallett**	**3.49**	**150**	P	Pn	21 43 03.1	-3.3
	baz=3.5						
HTT				S	Sb	21 43 57.3	+0.9
	baz=3.5						
STKA	**Stephens Creek**	**4.34**	**111**	P	Pb	21 43 25.7	-2.4
	baz=4.3						
STKA				S	Sn	21 44 05.0	-4.4
	baz=4.3						
FORT	**Forrest**	**7.55**	**265**	S	Sn	21 45 27.1	-1.5
	baz=7.5						

*IDC **15** 21:52:39.7±0.7, 60°.24S×47°.71W, h0km, mb4.1/9, mbtmp4.2/10, ML4.2/1, MS3.5/5, Error ellipse: s-maj=24.3km s-min=17.8km az=71.0*
*NEIC **15** 21:52:39.1±1.9, 60°.42S±0°.08×47°.3W±0°.1, h10km±1km, mb4.6/19, Error ellipse: s-maj=13.7km s-min=8.8km az=191.0*
ISC 15 21:52:40.0±0.5**, 60°37S**±0°.07×**47°.32W**±0°.06**, h10**km**, n44,** σ1**°53**/40**, mb4.5**/14**, MS3.4**/4**, Scotia Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ORCD	**Orcadas**	**1.33**	**107**	Pn	**Pn**	**21 53 01.2**	**-3.4**
ORCD				Sn	**Sn**	**21 53 20.2**	**-2.1**
HOPE	**Hope Point**	**8.45**	**49**		**Pn**	**21 54 43.3**	**+1.0**
PMSA	**Palmer Station**	**8.88**	**233**	Pn	**Pn**	**21 54 46.2**	**-2.0**
PMSA	**Palmer Station**	**8.88**	**233**	Pn	**Pn**	**21 54 47.7**	**-0.4**
	2.5nm,0.3s,baz=53,slow=9.6,SNR=6.3						
PMSA				Sn	**Sn**	**21 56 28.7**	**+0.6**
	1.0nm,0.3s,baz=113,slow=22,SNR=1.1						
PMSA				LR	LR	21 58 00.6	
	comp=Z,282nm,19.6s,baz=112,slow=36						
	23nm,0.8s						
EFI	**East Falkland**	**10.57**	**321**	Pn	**Pn**	**21 55 10.2**	**-1.1**
BELA	**Belgrano 2**	**18.08**	**171**	P	**Pn**	**21 56 50.1**	**-0.7**
SNAA	**Sanae**	**20.71**	**141**	P	**P**	**21 57 18.6**	**-1.5**
SNAA	**Sanae**	**20.71**	**141**	P	Pn	21 57 24.7	+2.3
	5.2nm,0.8s,baz=310,slow=6.1,SNR=6.0						
	5.2nm,0.8s						
TRQA	**Tornquist**	**24.18**	**331**	P	**P**	**21 57 54.8**	**-1.5**
TRQA				IAmb	IAmb	21 57 57.9	
	comp=Z,19nm,0.9s						
PLCA	**Paso Flores**	**24.34**	**313**		**P**	**21 57 57.2**	**-0.7**
PLCA				IAmb	IAmb	21 57 57.9	
	comp=Z,14nm,0.7s

comp=Z,31nm,18.2s,baz=228,slow=40
comp=Z,0.5nm,0.4s

SUR	**Sutherland**	**51.75**	**89**	P	**P**	**22 01 48.9**	**+1.3**
SAML	**Samuel**	**52.67**	**340**	P	**P**	**22 01 54.1**	**-0.2**
BOSA	**Boshof**	**57.03**	**91**	P	**P**	**22 02 25.0**	**-1.0**
BOSA				IAmb	IAmb	22 02 36.3	

comp=Z,12nm,1.4s

BOSA	**Boshof**	**57.03**	**91**	P	**P**	**22 02 27.4**	**+1.5**

comp=Z,1.4nm,0.7s,baz=213,slow=4.0,SNR=4.1
comp=Z,1.4nm,0.7s

H10N3	**ASCENSION HYDR**	**57.90**	**39**	T	T	23 06 00.6	

baz=199,slow=75,SNR=4.3

H10N1	**ASCENSION HYDR**	**57.90**	**39**	T	T	23 05 59.8	

baz=199,slow=75,SNR=2.8

H10N2	**ASCENSION HYDR**	**57.92**	**39**	T	T	23 06 01.7	

baz=199,slow=75,SNR=4.7

TOA0	**Torodi Ar. Sit**	**83.03**	**48**	P	**P**	**22 05 05.8**	**+0.5**
TOA0				IAmb	IAmb	22 05 18.0	

comp=Z,6.4nm,1.4s

TORD	**Torodi Ar. Bea**	**83.03**	**48**	P	**P**	**22 05 06.0**	**+0.7**
TORD				IAmb	IAmb	22 05 19.7	

comp=Z,4.9nm,1.4s

TORD	**Torodi Ar. Bea**	**83.03**	**48**	P	**P**	**22 05 08.0**	**+2.7**

comp=Z,0.6nm,0.7s,baz=199,slow=6.3,SNR=3.7
comp=Z,0.6nm,0.7s

ASAR	**Alice Springs**	**96.27**	**181**	P	**P**	**22 06 09.7**	**+1.2**

comp=Z,0.2nm,0.4s,baz=177,slow=6.0,SNR=1.9
comp=Z,0.2nm,0.4s

WRA	**Warramunga Arr**	**99.97**	**182**	P	**Pdif**	**22 06 25.4**	**+0.2**

comp=Z,1.3nm,1.0s,baz=181,slow=4.4,SNR=2.2

FINES	**FINESS Array B**	**133.85**	**40**	PKhKP	PKPpre	22 11 51.0		

comp=Z,1.0nm,0.8s,baz=164,slow=30,SNR=1.9

ARCES	**ARCESS Array B**	**139.53**	**31**	PKhKP	PKPpre	22 11 59.6		

comp=Z,1.5nm,0.9s,baz=197,slow=0.9,SNR=1.2

ARCES				PKP	**PKPdf**	**22 12 05.8**	**-0.1**

comp=Z,1.6nm,0.9s,baz=232,slow=1.4,SNR=5.7

ILAR	**Eielson Array**	**145.03**	**312**	PKP	**PKPab**	**22 12 14.5**	**-0.8**

comp=Z,1.2nm,0.5s,baz=159,slow=1.3,SNR=17

BVAR	**Borovoye Array**	**146.22**	**74**	PKPbc	**PKPab**	**22 12 20.1**	**+0.1**

comp=Z,2.1nm,0.8s,baz=246,slow=2.8,SNR=11

MKAR	**Makanchi Array**	**148.02**	**92**	PKPbc	**PKPbc**	**22 12 25.0**	**+0.4**

comp=Z,0.5nm,0.6s,baz=231,slow=1.8,SNR=6.4

KURBB	**Kurchatov Arra**	**148.69**	**83**	PKPbc	**PKiKP**	**22 12 27.1**	**-0.5**

comp=Z,0.4nm,0.6s,baz=228,slow=3.0,SNR=5.0

ANF 15 21:58:08.5±0.1, 66°43N×135°66W, h15km, ML3.6/54, Error ellipse: s-maj=1.2km s-min=1.1km az=92.0, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EPYK	**Eagle Plains**	**0.43**	**262**	P	Pb	21 58 17.6	-0.3
EPYK				S	Sb	21 58 23.6	-0.5

baz=81,SNR=170
baz=81

G30M	**tAoh Zrail Nji**	**0.60**	**338**	P	Pg	21 58 20.1	-0.2
G30M				S	Sg	21 58 28.3	+0.1

baz=161,SNR=1000
baz=161

G31M	**Satah River**	**0.74**	**48**	P	Pb	21 58 23.2	+0.1
G31M				S	Sb	21 58 33.7	+0.6

baz=230,SNR=1000
baz=230

H31M	**Peel River**	**0.83**	**139**	P	Pg	21 58 24.4	-0.2
H31M				S	Sb	21 58 35.6	+0.1

baz=318,SNR=1000
baz=318

G29M	**Pine Creek**	**1.06**	**298**	P	Pb	21 58 28.2	-0.3
G29M				S	Sb	21 58 42.4	+0.3

baz=117,SNR=1000
baz=117

H29M	**Whitestone**	**1.11**	**260**	P	Pb	21 58 29.1	-0.4
H29M				S	Sg	21 58 44.3	-0.2

baz=78,SNR=1000
baz=78

F30M	**Barrier River**	**1.19**	**358**	P	Pn	21 58 29.9	-0.7
F30M				S	Sg	21 58 47.1	+0.2

baz=179,SNR=1000
baz=179

I30M	**Mount Dempster**	**1.25**	**194**	P	Pn	21 58 31.2	-0.3
I30M				S	Sn	21 58 48.2	+0.1

baz=12,SNR=1000
baz=12

F31M	**Tsiigehtchic**	**1.27**	**36**	P	Pn	21 58 31.6	0.0
F31M				S	Sn	21 58 48.8	+0.5

baz=219,SNR=73
baz=219

I29M	**Ogilvie Camp,**	**1.53**	**227**	P	Pn	21 58 35.3	0.0
I29M				S	Sn	21 58 55.1	+0.2

baz=43,SNR=24
baz=43

J30M	**Hart River**	**1.88**	**189**	P	Pn	21 58 40.1	-0.1
J30M				Sb	Sb	21 59 07.1	+1.1

baz=7.3,SNR=509
baz=7.3

I28M	**Miner Creek**	**2.01**	**243**	P	Pn	21 58 41.1	-0.9
I28M				Sb	Sb	21 59 10.6	+1.0

baz=58,SNR=46
baz=58

F28M	**Old Crow**	**2.04**	**308**	P	Pn	21 58 41.8	-0.5
F28M				S	Sn	21 59 08.3	+0.9

baz=124,SNR=109
baz=124

INK	**Inuvik**	**2.06**	**23**	P	Pn	21 58 42.4	-0.1
INK				S	Sn	21 59 08.1	+0.2

baz=205,SNR=11
baz=205

E29M	**Blow River**	**2.15**	**337**	P	Pn	21 58 44.0	+0.2
E29M				Sg	Sg	21 59 19.7	+2.2

baz=156,SNR=203
baz=156

J29N	**Klondike Camp**	**2.25**	**209**	P	Pn	21 58 45.5	+0.1
J29N				Sb	Sb	21 59 18.6	+2.0

baz=26
baz=26

H27K	**Steamboat Moun**	**2.38**	**268**	P	Pn	21 58 46.5	-0.4
H27K				S	Sn	21 59 15.0	-0.8

baz=82,SNR=175
baz=82

G27K	**Doyon Strip**	**2.42**	**282**	P	Pn	21 58 47.6	+0.1
G27K				S	Sn	21 59 17.1	+0.2

baz=96,SNR=153
baz=96

I27K	**Kandik River**	**2.57**	**254**	P	Pn	21 58 49.2	-0.4
I27K				S	Sn	21 59 20.3	-0.3

baz=68,SNR=50
baz=68

E28M	**Babbage River**	**2.64**	**327**	P	Pn	21 58 50.3	-0.3
E28M				S	Sn	21 59 22.1	-0.2

baz=144,SNR=36
baz=144

K29M	**Barlow Dome**	**2.71**	**198**	P	Pn	21 58 51.7	+0.1
K29M				Sb	Sb	21 59 32.3	+2.4

baz=15,SNR=339
baz=15

EGAK	**Eagle**	**2.82**	**237**	P	Pn	21 58 52.4	-0.6
EGAK				Sb	Sb	21 59 35.1	+2.2

baz=51
baz=51

DAWY	**Dawson**	**2.85**	**215**	P	Pn	21 58 53.3	-0.1
MAYO	**Mayo, Yukon**	**2.85**	**182**	Sb	Sb	21 59 36.5	+2.9

baz=31,SNR=66
baz=1.2

E27K	**Coleen River**	**2.90**	**310**	P	Pn	21 58 53.8	-0.4
E27K				Sb	Sb	21 59 36.9	+1.8

baz=125,SNR=37
baz=125

D28M	**Stokes Point**	**3.14**	**340**	P	Pn	21 58 57.5	+0.2
D28M				S	Sn	21 59 35.9	+1.5

baz=157,SNR=30
baz=157

G26K	**Porcupine Rive**	**3.27**	**283**	P	Pn	21 58 58.4	-0.7
G26K				Sb	Sb	21 59 48.6	+2.8

baz=96,SNR=13
baz=96

I26K	**Coal Creek Min**	**3.28**	**253**	Sb	Sb	21 59 48.3	+2.3

baz=66

D27M	**Malcolm River**	**3.47**	**327**	P	Pn	21 59 01.7	-0.2
D27M				S	Sn	21 59 42.7	0.0

baz=143,SNR=26
baz=143

L29M	**L29M**	**3.50**	**199**	P	Pn	21 59 02.6	+0.2
L29M				Sb	Sb	21 59 54.5	+2.2

baz=16,SNR=42
baz=16

F26K	**Sheenjek River**	**3.56**	**295**	P	Pn	21 59 02.3	-0.8

baz=107,SNR=17

K27K	**Chicken**	**3.62**	**231**	P	Pn	21 59 03.2	-0.8

baz=45

K27K				Sb	Sb	21 59 58.4	+2.7

baz=45

J26L	**Joseph Creek**	**3.82**	**243**	P	Pn	21 59 05.9	-1.0

baz=56,SNR=24

M30M	**Minto, Yukon**	**3.90**	**188**	P	Pn	21 59 08.0	+0.1

baz=6.2,SNR=75

F25K	**Christian Rive**	**4.09**	**291**	P	Pn	21 59 10.0	-0.4

baz=102,SNR=14

H25L	**Birch Creek**	**4.10**	**272**	P	Pn	21 59 09.8	-0.7

baz=83

PRP	**Porcupine Dome**	**4.14**	**262**	P	Pn	21 59 10.4	-0.8

baz=73

G25K	**Bearman Lake**	**4.18**	**279**	P	Pn	21 59 11.1	-0.5

baz=90

M29M	**Somme Creek**	**4.18**	**198**	P	Pn	21 59 12.1	+0.3

baz=33,SNR=66

E25K	**Arctic Village**	**4.20**	**298**	P	Pn	21 59 11.9	-0.1

baz=109,SNR=8.1

MMPY	**Sheldon Lake,**	**4.27**	**152**	P	Pn	21 59 12.9	-0.1

baz=335,SNR=11

M31M	**Drury Creek, Y**	**4.28**	**172**	P	Pn	21 59 13.0	-0.1

baz=353,SNR=6.9

SCRK	**Sand Creek**	**4.28**	**239**	P	Pn	21 59 12.2	-1.0

baz=51,SNR=16

L27K	**Beaver Creek,**	**4.29**	**221**	P	Pn	21 59 13.0	-0.2

baz=35,SNR=14

C27K	**Jago River**	**4.41**	**320**	P	Pn	21 59 15.4	+0.6

baz=133,SNR=25

J25K	**Salcha River,**	**4.43**	**250**	P	Pn	21 59 14.5	-0.6

baz=61

M27K	**Edge Creek, AK**	**4.90**	**216**	P	Pn	21 59 21.2	-0.5

baz=30,SNR=69

C26K	**Camden Bay**	**4.91**	**320**	P	Pn	21 59 21.9	+0.1

baz=131,SNR=23

F24K	**Squaw Lake**	**4.92**	**288**	P	Pn	21 59 21.4	-0.5

baz=97

N31M	**Braeburn, Yuko**	**4.96**	**181**	P	Pn	21 59 22.4	-0.1

baz=0.2,SNR=7.8

D25K	**Kavik River**	**4.98**	**310**	P	Pn	21 59 23.2	+0.5

baz=121,SNR=36

H24K	**Noodor Dome**	**5.00**	**269**	P	Pn	21 59 22.6	-0.3

baz=78

N30M	**Aishikik Lake**	**5.03**	**188**	P	Pn	21 59 23.6	+0.2

baz=6.2,SNR=30

YUK3	**Moose Creek**	**5.12**	**206**	P	Pn	21 59 24.6	-0.2

baz=22,SNR=39

M26K	**Nabesna, AK**	**5.14**	**222**	P	Pn	21 59 24.6	-0.3

baz=35

E24K	**Your Creek**	**5.24**	**294**	P	Pn	21 59 26.1	-0.2

baz=102

C36M	**Paulatuk**	**5.26**	**51**	P	Pn	21 59 25.1	-1.4

baz=2

YUK4	**Talbot Arm**	**5.27**	**196**	P	Pn	21 59 25.7	-1.2

baz=13,SNR=59

N32M	**Quiet Lake**	**5.42**	**167**	P	Pn	21 59 28.5	-0.3

baz=349

PAX	**Paxson**	**5.45**	**235**	P	Pn	21 59 29.8	+0.6

baz=46

YUK8	**Steele Glacier**	**5.47**	**201**	P	Pn	21 59 29.9	+0.2

baz=17,SNR=33

YUK6	**Outpost Mounta**	**5.64**	**194**	P	Pn	21 59 32.4	+0.5

baz=11,SNR=43

O30N	**Mendenhall**	**5.69**	**182**	P	Pn	21 59 32.6	+0.2

baz=1.4,SNR=16

HYT	**Haines Junctio**	**5.69**	**189**	P	Pn	21 59 32.8	+0.3

baz=7.2,SNR=14

G23K	**Bananza Creek**	**5.74**	**279**	P	Pn	21 59 32.5	-0.6

baz=86

HARP	**HAARP**	**5.77**	**230**	P	Pn	21 59 34.1	+0.7

baz=41

TOLK	**Toolik Lake Re**	**5.77**	**299**	P	Pn	21 59 34.5	+0.9

baz=106

I23K	**Minto, Yukon-K**	**5.78**	**263**	P	Pn	21 59 33.6	0.0

baz=71

COLD	**Coldfoot**	**5.79**	**285**	P	Pn	21 59 34.0	+0.2

baz=91

WHY	**Whitehorse**	**5.80**	**176**	P	Pn	21 59 33.8	-0.3

baz=357,SNR=6.5

NEA2	**Nenana**	**5.87**	**258**	P	Pn	21 59 34.4	-0.5

baz=2

C24K	**Franklin Bluff**	**5.89**	**310**	P	Pn	21 59 37.1	+2.0

baz=118

MCARA	**McCarthy VSAT**	**6.01**	**216**	P	Pn	21 59 37.2	+0.4

baz=29,SNR=6.7

O28M	**Mount Upton**	**6.03**	**202**	P	Pn	21 59 38.0	+0.7

baz=17

DHY	**Denali Highway**	**6.03**	**242**	P	Pn	21 59 37.6	+0.3

baz=51

CTG	**Chitna Glacier**	**6.04**	**207**	P	Pn	21 59 37.8	+0.5

baz=22

D23K	**Nanushuk River**	**6.25**	**301**	P	Pn	21 59 40.1	0.0

baz=107

P30M	**Million Dollar**	**6.36**	**186**	P	Pn	21 59 42.3	+0.6

baz=4.4

P33M	**Teslin, Yukon**	**6.37**	**167**	P	Pn	21 59 41.5	-0.3

baz=349,SNR=8.1

E22K	**Anaktuvuk Pass**	**6.48**	**293**	P	Pn	21 59 43.8	+0.5

baz=98

WAT6	**Susitna Watana**	**6.48**	**239**	P	Pn	21 59 44.1	+0.6

baz=48

C23K	**Itkillik River**	**6.54**	**308**	P	Pn	21 59 44.3	+0.3

baz=114

F22K	**John River**	**6.57**	**287**	P	Pn	21 59 44.4	-0.1

baz=92

A36M	**Sachs Harbour**	**6.69**	**29**	P	Pn	21 59 45.9	-0.1

baz=219,SNR=5.7

P32M	**Atlin**	**6.92**	**172**	P	Pn	21 59 49.5	+0.1

baz=353

F21K	**Alatna River**	**7.07**	**285**	P	Pn	21 59 51.0	-0.3

baz=88

B22K	**Teshekpuk Lake**	**7.62**	**309**	P	Pn	21 59 59.3	+0.5

baz=112

C21K	**Knifeblade Rid**	**7.73**	**299**	P	Pn	22 00 01.1	+0.8

baz=102

B21K	**Ikpikpuk River**	**7.78**	**303**	P	Pn	22 00 01.3	+0.4

baz=105

H20K	**Anotleneega Mo**	**7.90**	**272**	P	Pn	22 00 02.8	+0.1

baz=74

F20K	**Avaraart Lake**	**7.96**	**284**	P	Pn	22 00 02.9	-0.6

baz=85

DLBC	**Dease Lake**	**8.43**	**159**	P	Pn	22 00 10.5	+0.4

baz=344

E19K	**Redstone River**	**8.51**	**287**	P	Pn	22 00 11.5	+0.4

baz=87

J19K	**Poorman**	**8.72**	**263**	P	Pn	22 00 13.9	-0.1

baz=65

B20K	**Meade River**	**8.73**	**304**	P	Pn	22 00 14.3	+0.2

baz=104

D19K	**Kuna River**	**8.85**	**294**	P	Pn	22 00 16.0	+0.3

baz=93

C18K	**Utukok River**	**9.98**	**294**	P	Pn	22 00 31.7	+0.5

baz=91

IDC 15 22:07:18.4±3.8, 5°79S×150°94E, h0km, mb3.7/2, mbtmp3.8/2, Error ellipse: s-maj=137.1km s-min=51.3km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.41**	**227**	P	P	22 12 08.1	+0.1

1.5nm,0.5s,baz=54,slow=10,SNR=14
1.5nm,0.5s

ASAR	**Alice Springs**	**24.18**	**221**	P	P	22 12 36.6	0.0

2.0nm,0.7s,baz=54,slow=9.1,SNR=22
2.0nm,0.7s

TORD	**Torodi Ar. Bea**	**148.82**	**286**	PKPbc	PKPbc	22 27 08.4	-0.7

0.3nm,0.6s,baz=60,slow=3.1,SNR=1.3

IDC 15 22:09:32.3±4.4, 20°57S×177°73W, h543km±47km, mb3.2/12, mbtmp4.0/13, Error ellipse: s-maj=25.2km s-min=15.4km az=97.0
ISC 15 22:09:32.8±0.7, 20°5S±0°1×177°8W±0°2, h550km, n20, σ0s71/20, mb3.5/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**18.22**	**193**	P	**P**	**22 13 11.9**	**-0.5**

4.7nm,0.6s,baz=99,slow=17,SNR=1.3

URZ				S	**S**	**22 16 10.0**	**-1.2**

4.0nm,0.6s,baz=70,slow=8.0,SNR=1.3

ASAR	**Alice Springs**	**44.72**	**257**	P	**P**	**22 16 58.1**	**+0.5**

2.4nm,0.6s,baz=96,slow=7.6,SNR=29

ASAR				PcP	**PcP**	**22 18 28.3**	**+0.2**

0.3nm,0.5s,baz=113,slow=3.2,SNR=1.6

WRA	**Warramunga Arr**	**44.80**	**262**	P	**P**	**22 16 58.1**	**-0.2**

0.9nm,0.3s,baz=96,slow=7.6,SNR=25
0.9nm,0.3s

QSPA	**South Pole Qui**	**69.54**	**180**	P	**P**	**22 19 47.4**	**+1.0**

0.8nm,0.8s,baz=292,slow=12,SNR=1.8
0.8nm,0.8s

MJAR	**Matsushiro Arr**	**70.36**	**324**	P	**P**	**22 19 50.9**	**-0.7**

1.2nm,0.6s,baz=142,slow=6.3,SNR=4.8
1.2nm,0.6s

PETK	**Petropavlovsk-**	**76.35**	**345**	P	**P**	**22 20 24.8**	**-0.6**

3.6nm,1.0s,baz=159,slow=9.3,SNR=2.9
3.6nm,1.0s

KSRS	**Korea Array**	**77.05**	**318**	P	**P**	**22 20 29.9**	**+0.4**

0.5nm,0.5s,baz=40,slow=34,SNR=1.6
0.5nm,0.5s

USRK	**Ussuriysk Ar.**	**79.11**	**326**	P	**P**	**22 20 41.7**	**+1.3**

1.8nm,0.7s,baz=104,slow=6.1,SNR=4.4
1.8nm,0.7s

NVAR	**Mina Array Bea**	**80.90**	**43**	P	**P**	**22 20 49.3**	**-0.9**

0.2nm,0.6s,baz=278,slow=2.6,SNR=2.6
0.2nm,0.6s

ILAR	**Eielson Array**	**88.29**	**13**	P	**P**	**22 21 25.4**	**-0.1**

0.6nm,0.8s,baz=216,slow=5.5,SNR=4.4
0.6nm,0.8s

PDAR	**Pinedale Array**	**88.84**	**43**	P	**P**	**22 21 29.7**	**+0.9**

0.2nm,0.5s,baz=180,slow=3.0,SNR=2.4
0.2nm,0.5s

CMAR	**Chiang Mai Arr**	**90.32**	**289**	P	**P**	**22 21 35.7**	**-0.2**

0.5nm,0.3s,baz=124,slow=1.9,SNR=4.2
0.5nm,0.3s

SONM	**Songino Array**	**95.91**	**319**	P	**P**	**22 22 00.6**	**-0.3**

0.1nm,0.3s,baz=205,slow=38,SNR=1.7
0.1nm,0.3s

KURBB	**Kurchatov Arra**	**114.21**	**317**	PKP	PKPdf	22 27 08.2	-1.6

0.1nm,0.3s,baz=185,slow=13,SNR=2.1

SPITS	**Spitsbergen Ar**	**121.91**	**357**	PKP	**PKiKP**	**22 27 24.1**	**+0.1**

1.8nm,0.7s,baz=128,slow=9.5,SNR=1.0

AKASG	**Malin Array Be**	**143.14**	**331**	PKP	PKPab	22 28 01.9	-0.1

1.0nm,0.4s,baz=44,slow=4.3,SNR=14

EKA	**Eskdalemuir Ar**	**145.01**	**5**	PKPbc	**PKPab**	**22 28 08.8**	**-0.2**

2.1nm,1.0s,baz=180,slow=0.7,SNR=3.9

BRTR	**Keskin Array B**	**147.01**	**312**	PKPbc	**PKPbc**	**22 28 14.9**	**+0.6**

0.6nm,0.5s,baz=150,slow=5.9,SNR=5.4

MMAI	**Mount Meron Ar**	**148.01**	**300**	PKPbc	**PKiKP**	**22 28 18.6**	**+0.2**

1.0nm,0.4s,baz=56,slow=7.4,SNR=7.6

GERES	**GERESS Array B**	**150.28**	**345**	PKPbc	**PKPbc**	**22 28 21.4**	**-0.7**

0.2nm,0.3s,baz=347,slow=7.4,SNR=2.3

IDC 15 22:14:24.1±1.7, 5°87S×151°03E, h0km, mb4.0/5, mbtmp4.1/5, MS3.4/1, Error ellipse: s-maj=61.3km s-min=20.1km az=120.0
ISC 15 22:14:30.5±1.9, 5°8S±0°3×151°1E±0°4, h43km, n7, σ1s74/7, mb4.2/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.52**	**228**	P	**P**	**22 19 14.4**	**-1.6**

3.8nm,0.6s,baz=54,slow=10,SNR=27
3.8nm,0.6s

ASAR	**Alice Springs**	**24.28**	**221**	P	**P**	**22 19 42.8**	**-1.2**

4.8nm,0.7s,baz=55,slow=9.2,SNR=41

ASAR				S	**S**	**22 24 02.6**	**+2.4**

0.2nm,0.4s,baz=44,slow=31,SNR=1.6
4.8nm,0.7s

NWAO	**Narrogin (SRO)**	**41.48**	**225**	LR	LR	22 41 45.9	

comp=Z,44nm,18.6s,baz=159,slow=40

CMAR	**Chiang Mai Arr**	**56.73**	**296**	P	**P**	**22 24 11.1**	**+0.7**

0.6nm,0.3s,baz=121,slow=8.7,SNR=4.7
0.6nm,0.3s

ILAR	**Eielson Array**	**83.70**	**22**	P	**P**	**22 26 55.4**	**+0.9**

0.4nm,0.6s,baz=243,slow=4.6,SNR=6.0
0.4nm,0.6s

BVAR	**Borovoye Array**	**88.98**	**323**	P	**P**	**22 27 19.6**

MULD				*i* Sg	**Sg**	**22 40 44.6**	**-1.2**
	comp=E,6μm,0.1s							
TANN	**Tannenbergstha**	**0.15**	**11**	*i* Pg	**Pg**	**22 40 42.5**	**-0.7**
TANN				*i* Sg	**Sg**	**22 40 44.6**	**-1.3**
TANN				IAML		22 40 44.8		
	comp=E,7μm,0.2s							
TANN	**Tannenbergstha**	**0.15**	**11**	*i* Pg	**Pg**	**22 40 42.5**	**-0.7**
TANN				*i* Sg	**Sg**	**22 40 44.6**	**-1.3**
	comp=E,7μm,0.2s							
TRCW	**Trojmez**	**0.18**	**283**	⇓P	**Pg**	**22 40 43.3**	**-0.2**
TRCW				S	**Sg**	**22 40 46.0**	**-0.4**
WERD	**Werda**	**0.20**	**340**	*i* Pg	**Pg**	**22 40 43.4**	**-0.4**
WERD				*i* Sg	**Sg**	**22 40 46.0**	**-0.9**
WERD				IAML		22 40 46.1		
	comp=E,1μm,0.3s							
WERD	**Werda**	**0.20**	**340**	*i* Pg	**Pg**	**22 40 43.4**	**-0.4**
WERD				*i* Sg	**Sg**	**22 40 46.0**	**-0.9**
	comp=E,1μm,0.3s							
TRIB	**Obertriebel**	**0.20**	**296**	*i* Pg	**Pg**	**22 40 43.6**	**-0.2**
TRIB				*i* Sg	**Sg**	**22 40 46.4**	**-0.5**
TRIB				IAML		22 40 46.7		
	comp=N,1μm,0.2s							
TRIB	**Obertriebel**	**0.20**	**296**	*i* Pg	**Pg**	**22 40 43.6**	**-0.2**
TRIB				*i* Sg	**Sg**	**22 40 46.4**	**-0.5**
	comp=N,1μm,0.2s							
ZHC	**Zelena Hora**	**0.20**	**199**	⇑P	**Pg**	**22 40 43.9**	**-0.1**
ZHC				S	**Sg**	**22 40 47.0**	**-0.2**
VIEL	**Selb-Vielitz**	**0.21**	**249**	*i* Pg	**Pg**	**22 40 44.0**	**-0.1**
VIEL				*i* Sg	**Sg**	**22 40 47.1**	**-0.3**
VIEL	**Selb-Vielitz**	**0.21**	**249**	*i* Pg	**Pg**	**22 40 44.0**	**-0.1**
VIEL				*i* Sg	**Sg**	**22 40 47.1**	**-0.3**
LACW	**Lazy**	**0.25**	**147**	*i* Pg	**Pg**	**22 40 44.6**	**-0.1**
LACW				*i* Sg	**Sg**	**22 40 48.1**	**-0.3**
LACW	**Lazy**	**0.25**	**147**	*i* Pg	**Pg**	**22 40 44.6**	**-0.1**
LACW				*i* Sg	**Sg**	**22 40 48.1**	**-0.3**
LACW	**Lazy**	**0.25**	**147**	⇓P	**Pg**	**22 40 44.6**	**-0.1**
LACW				S	**Sg**	**22 40 48.2**	**-0.3**
PLN	**Plauen**	**0.28**	**324**	*i* Pg	**Pg**	**22 40 44.8**	**-0.3**
PLN				*i* Sg	**Sg**	**22 40 48.7**	**-0.5**
PLN				IAML		22 40 49.1		
	comp=E,1μm,0.2s							
PLN	**Plauen**	**0.28**	**324**	*i* Pg	**Pg**	**22 40 44.8**	**-0.3**
PLN				*i* Sg	**Sg**	**22 40 48.7**	**-0.5**
	comp=E,1μm,0.2s							
MANZ	**Manzenberg**	**0.34**	**215**	*e*Pg	**Pg**	**22 40 46.3**	**0.0**
MANZ				*e*Sg	**Sg**	**22 40 51.0**	**0.0**
SCHF	**Schoenfels**	**0.41**	**359**	*i* Pg	**Pg**	**22 40 47.2**	**-0.4**
SCHF				*i* Sg	**Sg**	**22 40 52.6**	**-0.7**
SCHF				IAML		22 40 52.8		
	comp=E,1μm,0.2s							
SCHF	**Schoenfels**	**0.41**	**359**	*i* Pg	**Pg**	**22 40 47.2**	**-0.4**
SCHF				*i* Sg	**Sg**	**22 40 52.6**	**-0.7**
	comp=E,1μm,0.2s							
GRZ1	**Mausoleum Wald**	**0.45**	**344**	*i* Pg	**Pg**	**22 40 47.8**	**-0.3**
GRZ1				*i* Sg	**Sg**	**22 40 53.4**	**-0.8**
GRZ1				IAML		22 40 55.1		
	comp=N,494nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.45**	**344**	*i* Pg	**Pg**	**22 40 47.8**	**-0.3**
GRZ1				*i* Sg	**Sg**	**22 40 53.4**	**-0.8**
	comp=N,494nm,0.3s							
ROTZ	**Rotzenmuhle**	**0.52**	**195**	*e*Pg	**Pg**	**22 40 49.4**	**0.0**
ROTZ				*e*Sg	**Sg**	**22 40 56.3**	**0.0**
MOX	**Moxa**	**0.64**	**307**	*e*Pg	**Pg**	**22 40 51.5**	**-0.2**
MOX				*e*Sg	**Sg**	**22 41 00.2**	**0.0**
HSKC	**Hora Svate Kat**	**0.74**	**62**	*e*PG	**Pg**	**22 40 52.5**	**-1.0**
HSKC				*e*SG	**Sg**	**22 41 02.3**	**-1.0**
	comp=N,204nm,0.2s							
FBE	**Freiberg**	**0.89**	**42**	*e*Pg	**Pg**	**22 40 55.9**	**-0.5**
FBE				*e*Sg	**Sg**	**22 41 07.0**	**-1.1**
GRF	**Grafenberg Arr**	**0.96**	**234**	*e*Pg	**Pg**	**22 40 57.7**	**-0.1**
GRF				*e*Sg	**Sg**	**22 41 10.8**	**+0.5**
CLL	**Collm**	**1.11**	**19**	*i* Pg	**Pg**	**22 40 59.7**	**-0.9**
CLL				*i* x	x	22 41 01.8		
CLL				*i* x	x	22 41 03.3		
CLL				*i* Sg	**Sg**	**22 41 13.9**	**-1.2**
	comp=Z,145nm,0.6s							
CLL				*i* x	x	22 41 18.3		
CLL	**Collm**	**1.11**	**19**	*e*Pg	**Pg**	**22 40 59.3**	**-1.3**
CLL				*e*Sg	**Sg**	**22 41 14.0**	**-1.2**
RICC	**Richard**	**1.11**	**75**	*e*SG	**Sg**	**22 41 14.1**	**-1.1**
	comp=Z,266nm,0.3s							
BRG	**Berggiesshubel**	**1.15**	**57**	Pg	**Pg**	**22 41 00.5**	**-0.9**
BRG				Sg	**Sg**	**22 41 15.3**	**-1.1**
BRG				Amp		22 41 16.4		
	comp=Z,107nm,0.3s							
BRG	**Berggiesshubel**	**1.15**	**57**	*e*Pg	**Pg**	**22 41 00.5**	**-0.9**
BRG				*e*Sg	**Sg**	**22 41 15.2**	**-1.1**
WET	**Wettzell**	**1.16**	**165**	*e*Pg	**Pb**	**22 41 00.7**	**-0.3**
WET				*e*Sg	**Sg**	**22 41 16.1**	**-0.6**
PRA	**Prague**	**1.31**	**98**	*e*Pn	**Pn**	**22 41 03.0**	**0.0**
PRA	**Prague**	**1.31**	**98**	*e*SG	**Sb**	**22 41 19.8**	**-0.4**
KHC	**Kasperske Hory**	**1.36**	**146**	*e*PG	**Pn**	**22 41 03.7**	**0.0**
KHC				*e*SG	**Sb**	**22 41 21.4**	**-0.3**
	comp=Z,55nm,0.2s							
PRU	**Pruhonice**	**1.40**	**101**	*e*PG	**Pn**	**22 41 04.1**	**-0.1**
PRU				*e*SG	**Sb**	**22 41 22.8**	**+0.2**
	comp=Z,42nm,0.3s							
PRU	**Pruhonice**	**1.40**	**101**	*e*Pn	**Pn**	**22 41 04.0**	**-0.1**
PRU				*e*Sg	**Sb**	**22 41 23.4**	**+0.8**
PVCC	**Panska Ves**	**1.40**	**78**	*e*SG	**Sb**	**22 41 23.5**	**+0.7**
	comp=Z,159nm,0.2s							
ZVC	**Zvikov**	**1.42**	**125**	*e*SG	**Sb**	**22 41 23.6**	**+0.4**
	comp=Z,25nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.57**	**102**	*e*SG	**Sn**	**22 41 28.3**	**+1.7**
GEC2	**GERESS Array S**	**1.65**	**149**	*e*Pn	**Pn**	**22 41 07.6**	**-0.1**
GEC2				*e*Sg	**Sn**	**22 41 30.4**	**+1.7**
CKRC	**Cesky Krumlov**	**1.90**	**139**	*e*SG	**Sb**	**22 41 37.5**	**+0.4**
TREC	**Trest**	**2.22**	**115**	*e*SG	**Sb**	**22 41 47.2**	**+1.0**
UPC	**Upice**	**2.32**	**83**	*e*SG	**Sb**	**22 41 51.0**	**+1.9**
	comp=Z,29nm,0.2s							
CHVC	**Chvalec**	**2.35**	**81**	*e*SG	**Sb**	**22 41 52.5**	**+2.4**
	comp=Z,16nm,0.3s							
OSTC	**Ostas**	**2.45**	**82**	*e*SG	**Sb**	**22 41 55.4**	**+2.5**
DPC	**Dobruska-Polom**	**2.51**	**87**	*e*SG	**Sb**	**22 41 56.4**	**+1.8**
	comp=Z,27nm,0.3s							
MOA	**Molln**	**2.71**	**153**	*e*Pn	**Pn**	**22 41 22.7**	**+0.5**
	comp=Z,0.6nm,0.2s							
MOA				*e*Pg	**Pg**	**22 41 30.3**	**-0.7**
	comp=Z,0.9nm,0.1s							
KRLC	**Kraliky**	**2.81**	**92**	*e*SG	**Sg**	**22 42 08.0**	**-1.6**
LESA	**Schwarzleotal**	**2.85**	**176**	*e*Pn	**Pn**	**22 41 24.3**	**+0.1**
	comp=Z,0.2nm,0.1s							
LESA				Pg	**Pg**	**22 41 33.4**	**-0.3**
	comp=Z,2.2nm,0.3s							
KRUC	**Moravsky**	**2.85**	**113**	*e*Pn	**Pn**	**22 41 23.9**	**-0.3**
	baz=297							
KRUC				*e*Sg	**Sb**	**22 42 07.9**	**+3.4**
	comp=Z,48nm,0.6s,baz=297							
WATA	**Walderalm**	**2.98**	**191**	*e*Pn	**Pn**	**22 41 25.5**	**-0.6**
	comp=Z,0.5nm,0.2s							
WATA				*e*Pg	**Pg**	**22 41 35.8**	**-0.5**
	comp=Z,4.3nm,0.4s							
WTTA	**Wattenberg**	**3.05**	**190**	*e*Pn	**Pn**	**22 41 26.4**	**-0.6**
	comp=Z,0.2nm,0.2s							
MOTA	**Moosalm**	**3.05**	**197**	*e*Pn	**Pn**	**22 41 26.4**	**-0.6**
	comp=Z,0.1nm,0.1s							
MOTA				Pg	**Pg**	**22 41 37.5**	**-0.1**
	comp=Z,5.0nm,0.3s,SNR=4.7							
MOTA				*e*Sg	**Sg**	**22 42 18.0**	**+1.0**
	comp=Z,4.7nm,0.2s							
GUT	**Gutenstein**	**3.08**	**226**	P	**Pn**	**22 41 25.5**	**-1.9**
GUT	**Gutenstein**	**3.08**	**226**	Pg	**Pb**	**22 41 36.7**	**+2.9**
GUT	**Gutenstein**	**3.08**	**226**	Sg	**Sg**	**22 42 16.8**	**-1.4**
NEEW	**Neewiller pres**	**3.09**	**247**	Pg	**Sg**	**22 41 39.4**	**+1.0**
NEEW				Sg	**Sg**	**22 42 18.7**	**+0.2**
SQTA	**Sankt Quirin**	**3.15**	**195**	*e*Pn	**Pn**	**22 41 28.0**	**-0.4**
	comp=Z,0.7nm,0.2s							
SQTA				*e*Pg	**Pg**	**22 41 38.8**	**-0.7**
	comp=Z,3.6nm,0.2s,SNR=6.6							
SQTA				Sg	**Sg**	**22 42 20.8**	**+0.5**
	comp=Z,9.0nm,0.3s							
BABA	**Baden-Baden-Ne**	**3.16**	**242**	P	**Pn**	**22 41 29.8**	**+1.5**
BABA	**Baden-Baden-Ne**	**3.16**	**242**	Pg	**Pg**	**22 41 39.7**	**0.0**
ABH	**Alteburg**	**3.16**	**265**	Pg	**Pn**	**22 41 32.9**	**+4.5**
ABH	**Alteburg**	**3.16**	**265**	Sg	**Sg**	**22 42 19.3**	**-1.3**
ABH	**Alteburg**	**3.16**	**265**	Pn	**Pn**	**22 41 29.6**	**+1.2**
CONA	**Conrad Observa**	**3.25**	**135**	*e*Pn	**Pn**	**22 41 30.4**	**+0.6**
	comp=Z,0.9nm,0.4s							
CONA				*e*Pg	**Pg**	**22 41 40.0**	**-1.5**
	comp=Z,2.7nm,0.2s							
LEMB	**Lembach**	**3.27**	**250**	P	**Pn**	**22 41 30.2**	**+0.4**
LEMB				Pg	**Pg**	**22 41 42.6**	**+0.8**
LEMB				S	**Sg**	**22 42 24.1**	**+0.1**
OPP	**Oppenau**	**3.28**	**239**	P	**Pn**	**22 41 30.7**	**+0.7**
OPP	**Oppenau**	**3.28**	**239**	S	**Sb**	**22 42 21.9**	**+5.1**
OPP	**Oppenau**	**3.28**	**239**	Pg	**Pg**	**22 41 40.8**	**-1.2**
OPP	**Oppenau**	**3.28**	**239**	Sn	**Sn**	**22 42 08.7**	**-0.1**
MORC	**Moravsky Berou**	**3.34**	**96**	*e*Pn	**Pn**	**22 41 30.8**	**-0.1**
	baz=281							
MORC				*e*Sg	**Sb**	**22 42 23.0**	**+4.3**
	comp=Z,26nm,0.6s,baz=281							
DAVA	**Damuels**	**3.42**	**210**	*e*Pn	**Pn**	**22 41 31.1**	**-0.9**
	comp=Z,0.3nm,0.1s							
DAVA				Pg	**Pg**	**22 41 44.3**	**-0.4**
	comp=Z,4.4nm,0.3s							
FETA	**Feichten**	**3.43**	**200**	*e*Pn	**Pn**	**22 41 31.6**	**-0.7**
	comp=Z,0.2nm,0.2s							
ABTA	**Abfaltersbach**	**3.52**	**179**	*e*Pn	**Pn**	**22 41 33.6**	**+0.2**
	comp=Z,0.3nm,0.2s							
ABTA				Pg	**Pg**	**22 41 46.3**	**-0.3**
	comp=Z,3.0nm,0.4s							
SLE	**Schleitheim**	**3.59**	**227**	P	**Pn**	**22 41 33.4**	**-1.0**
SLE	**Schleitheim**	**3.59**	**227**	Pg	**Pg**	**22 41 46.6**	**-1.4**
SLE	**Schleitheim**	**3.59**	**227**	S	**Sg**	**22 42 32.3**	**-2.3**
JAVC	**Velka Javorina**	**3.70**	**110**	*e*PN	**Pn**	**22 41 36.4**	**+0.5**
JAVC				*e*SG	**Sg**	**22 42 35.8**	**-2.1**
MODS	**Modra-Piesok**	**3.70**	**119**	*e*SG	**Sg**	**22 42 35.7**	**-2.3**
ZST	**Bratislava**	**3.71**	**122**	*e*SG	**Sg**	**22 42 34.9**	**-3.2**
OKC	**Ostrava-Krasne**	**3.72**	**94**	*e*SG	**Sg**	**22 42 34.7**	**-3.9**
KIZ	**Kirchzarten**	**3.75**	**234**	P	**Pn**	**22 41 36.1**	**-0.4**
KIZ	**Kirchzarten**	**3.75**	**234**	Pg	**Pg**	**22 41 49.5**	**-1.5**
KIZ	**Kirchzarten**	**3.75**	**234**	S	**Sg**	**22 42 36.7**	**-2.9**
FELD	**Feldberg im Sc**	**3.76**	**232**	Pg	**Pg**	**22 41 49.3**	**-1.8**
FELD	**Feldberg im Sc**	**3.76**	**232**	Sg	**Sg**	**22 42 38.5**	**-1.3**
WLS	**Welschbruch**	**3.79**	**243**	Pg	**Pg**	**22 41 51.5**	**-0.3**
VOGT	**Vogtsburg - To**	**3.80**	**237**	Pg	**Pg**	**22 41 51.8**	**-0.2**
VOGT	**Vogtsburg - To**	**3.80**	**237**	Sg	**Sg**	**22 42 39.3**	**-2.0**
CDF	**Champ du Feu**	**3.84**	**243**	*e*Pn	**Pn**	**22 41 38.0**	**+0.2**
CDF	**Champ du Feu**	**3.84**	**243**	*e*Pg	**Pb**	**22 41 50.3**	**+3.7**
CDF				*e*SG	**Sb**	**22 42 38.4**	**+5.5**
	comp=Z,13nm,0.4s							
ZUR	**Degenried**	**3.85**	**223**	Pg	**Pg**	**22 41 52.3**	**-0.5**
SULZ	**Cheisacher**	**3.94**	**228**	P	**Pb**	**22 41 51.7**	**+3.3**
SULZ	**Cheisacher**	**3.94**	**228**	S	**Sg**	**22 42 43.7**	**-2.1**
SULZ	**Cheisacher**	**3.94**	**228**	Pn	**Pn**	**22 41 37.1**	**-2.1**
ENDD	**Endenburg**	**4.00**	**232**	Pg	**Pg**	**22 41 54.2**	**-1.5**
ENDD	**Endenburg**	**4.00**	**232**	S	**Sg**	**22 42 44.2**	**-3.4**
WALT	**Westhalten**	**4.08**	**238**	Pg	**Pg**	**22 41 58.1**	**+0.7**
WALT				Sg	**Sg**	**22 42 48.2**	**-2.1**
WLF	**Walferdange**	**4.09**	**264**	Sg	**Sg**	**22 42 46.8**	**-3.5**
ILLF	**Illfurth**	**4.27**	**235**	Pg	**Pg**	**22 41 59.9**	**-1.0**
ILLF				Sg	**Sg**	**22 42 55.2**	**-0.9**
BALST	**Balsthal**	**4.28**	**229**	Sg	**Sg**	**22 42 55.8**	**-0.7**
BALST	**Balsthal**	**4.28**	**229**	Pg	**Pg**	**22 41 59.2**	**-1.9**
HINF	**Hinteralfeld**	**4.40**	**238**	*e*Pn	**Pn**	**22 41 45.1**	**-0.4**
HINF	**Hinteralfeld**	**4.40**	**238**	*e*Pg	**Pg**	**22 42 02.3**	**-1.2**
HINF				*e*Sn	**Sn**	**22 42 33.5**	**-3.0**
HINF				*e*Sg	**Sg**	**22 42 57.0**	**-3.4**
	comp=Z,12nm,0.3s							
BOURR	**Bourrignon**	**4.47**	**232**	P	**Pg**	**22 42 02.5**	**-2.3**
BOURR	**Bourrignon**	**4.47**	**232**	S	**Sg**	**22 43 00.3**	**-2.3**
HAU	**Haudompre**	**4.58**	**243**	*e*Pn	**Pn**	**22 41 47.6**	**-0.3**
HAU	**Haudompre**	**4.58**	**243**	*e*Pg	**Pb**	**22 42 03.9**	**+4.7**
HAU				*e*Sn	**Sn**	**22 42 38.5**	**-2.3**
HAU				*e*Sg	**Sg**	**22 43 04.1**	**-2.0**
	comp=Z,7.3nm,0.3s							
PAGF	**Fort de Pagny**	**4.69**	**251**	*e*Pg	**Pg**	**22 42 09.3**	**+0.3**
PAGF				*e*Sg	**Sg**	**22 43 05.1**	**-4.6**
	comp=Z,9.8nm,0.4s							
LANS	**Liptovska Anna**	**4.71**	**101**	*e*PN	**Pn**	**22 41 50.5**	**+0.8**
LANS				*e*SG	**Sg**	**22 43 07.5**	**-2.9**
CHMF	**Charmoille**	**4.86**	**234**	Pg	**Pg**	**22 42 10.4**	**-1.8**
CHMF				Sn	**Sn**	**22 42 45.6**	**-2.3**
CHMF				Sg	**Sg**	**22 43 13.6**	**-1.5**
GIVF	**Givet**	**4.88**	**271**	*e*Pg	**Pg**	**22 42 09.9**	**-2.7**
GIVF				*e*Sg	**Sg**	**22 43 11.7**	**-4.1**
	comp=Z,3.0nm,0.2s							
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pn	**Pn**	**22 41 57.7**	**+0.6**
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pg	**Pg**	**22 42 17.2**	**-2.5**
SFTF				*e*Sg	**Sg**	**22 43 24.4**	**-3.3**
	comp=Z,6.2nm,0.4s							
BAIF	**Baives**	**5.28**	**271**	*e*Sg	**Sg**	**22 43 24.8**	**-3.7**
	comp=Z,7.7nm,0.3s							
CABF	**La Chapelle**	**5.57**	**231**	*e*Pn	**Pn**	**22 42 02.0**	**+0.4**
CABF	**La Chapelle**	**5.57**	**231**	*e*Pg	**Pg**	**22 42 23.6**	**-2.3**
CABF				*e*Sg	**Sg**	**22 43 35.8**	**-2.2**
	comp=Z,7.5nm,0.5s							
LOR	**Lormes**	**6.40**	**245**	*e*Pn	**Pn**	**22 42 13.6**	**+0.7**
LOR	**Lormes**	**6.40**	**245**	*e*Pg	**Pg**	**22 42 37.7**	**-3.9**
LOR				*e*Sg	**Sg**	**22 43 59.8**	**-4.7**
	comp=Z,2.8nm,0.3s							
SSF	**Saint Saulge**	**6.71**	**245**	*e*Pn	**Pn**	**22 42 17.3**	**+0.1**
SSF	**Saint Saulge**	**6.71**	**245**	*e*Pg	**Pg**	**22 42 44.1**	**-3.5**
SSF				*e*Sn	**Sn**	**22 43 29.7**	**-3.6**
SSF				*e*Sg	**Sg**	**22 44 09.3**	**-5.2**
	comp=Z,3.7nm,0.4s							
SMF	**Signal de Mont**	**6.75**	**241**	*e*Pg	Pg	22 42 44.4	-4.0
SMF				*e*Sn	**Sn**	**22 43 32.2**	**-2.1**
SMF				*e*Sg	**Sg**	**22 44 10.6**	**-5.2**
	comp=Z,5.4nm,0.5s							
AVF	**Avril sur Loir**	**6.95**	**243**	*e*Pg	**Pg**	**22 42 49.1**	**-3.0**
AVF				*e*Sg	**Sg**	**22 44 16.8**	**-5.2**
	comp=Z,0.5nm,0.3s							
HYF	**Humbligny**	**7.12**	**249**	*e*Sg	**Sg**	**22 44 22.7**	**-4.8**
BGF	**Bois d'Agland**	**7.37**	**243**	*e*Pg	**Pg**	**22 42 57.2**	**-2.9**
BGF				*e*Sn	**Sn**	**22 43 45.6**	**-3.8**
BGF				*e*Sg	**Sg**	**22 44 30.0**	**-5.4**
	comp=Z,4.6nm,0.3s							
TCF	**Toulx Ste Croi**	**7.88**	**244**	*e*Pg	**Pg**	**22 43 06.8**	**-3.2**
TCF				*e*Sg	**Sg**	**22 44 45.9**	**-6.1**
	comp=Z,2.4nm,0.5s							

NEIC ***15*** *22:44:02.9±1.1, 25.01S±0.09×177.3W±0.2, h128km±8km, mb4.3/9, Error ellipse: s-maj=21.1km s-min=13.0km az=82.0*
IDC ***15*** *22:44:09.5±3.8, 25.27S×177.48W, h184km±31km, mb3.9/4, mbtmp4.4/6, Error ellipse: s-maj=31.7km s-min=23.4km az=33.0*

ISC 15 22:44:03.7±0.7, 25.02S±0.07×177.4W±0.1, h150km, n54, σ1s89/60, mb4.3/6, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.24**	**186**	Pn	**Pn**	**22 45 07.2**	**+0.1**
RAO				Sn	**Sn**	**22 45 54.2**	**-2.2**
RAO	**Raoul Island**	**4.24**	**186**	P	**Pn**	**22 45 10.7**	**+3.6**
	292nm,0.3s,baz=62,slow=22,SNR=3.0						
RAO				S	**Sn**	**22 45 52.3**	**-4.2**
	268nm,0.3s,baz=33,slow=22,SNR=1.6						
MSVF	**Nonsavu**	**8.39**	**329**		**Pn**	**22 46 00.1**	**-2.4**
URZ	**Urewera**	**14.00**	**198**	P	**Pn**	**22 47 15.3**	**-0.2**
	3.4nm,0.4s,baz=13,slow=9.8,SNR=1.7						
URZ				S	Sn	22 49 38.0	-13
	2.2nm,0.4s,baz=258,slow=23,SNR=1.3						
PINNC	**Pines Island,**	**14.07**	**277**		**P**	**22 47 18.3**	**-1.3**
ONTNC	**Ouen Toro**	**15.04**	**277**	Pn	**Pn**	**22 47 28.2**	**-0.4**
DZM	**Mont Dzumac**	**15.10**	**278**	Pn	**P**	**22 47 30.6**	**-0.6**
DZM				IAmb	IAmb	22 47 38.2	
	comp=Z,13nm,1.1s						
DZM	**Mont Dzumac**	**15.10**	**278**	P	**P**	**22 47 37.0**	**+5.8**
	comp=Z,5.6nm,0.8s,baz=99,slow=21,SNR=5.5						
MRZ	**Mangatainoka R**	**16.66**	**199**	Pn	**P**	**22 47 43.4**	**-4.8**
MRZ				IAmb	IAmb	22 47 56.5	
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**33.85**	**271**	P	**P**	**22 50 33.2**	**+1.1**
CTAO				IAmb	IAmb	22 50 39.7	
	comp=Z,8.1nm,1.1s						
ASAR	**Alice Springs**	**44.19**	**261**	P	**P**	**22 51 58.6**	**+0.6**
ASAR	**Alice Springs**	**44.19**	**261**	P	**P**	**22 52 00.2**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=89,slow=6.7,SNR=14						
ASAR				PcP	**PP**	**22 53 41.9**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=96,slow=5.7,SNR=1.2						
	comp=Z,0.7nm,0.4s						
WR0	**Warramunga Arr**	**44.51**	**266**	P	**P**	**22 52 01.5**	**+1.0**
WR0				IAmb	IAmb	22 52 03.8	
	comp=Z,6.5nm,1.1s						
WRA	**Warramunga Arr**	**44.70**	**266**	P	**P**	**22 52 03.0**	**+0.9**
WRA	**Warramunga Arr**	**44.70**	**266**	P	**P**	**22 52 03.6**	**+1.5**
	comp=Z,4.2nm,0.5s,baz=104,slow=7.9,SNR=25						
WRA				PcP	**PcP**	**22 53 44.1**	**+2.1**
	comp=Z,0.3nm,0.6s,baz=108,slow=3.1,SNR=1.8						
	comp=Z,4.2nm,0.5s						
FITZ	**Fitzroy Crossi**	**53.10**	**266**	P	**P**	**22 53 08.0**	**+1.9**
SBA	**Scott Base**	**53.42**	**184**	P	**P**	**22 53 08.7**	**+1.1**
CASY	**Casey**	**60.15**	**206**	P	**P**	**22 53 56.4**	**+1.3**
QSPA	**South Pole Qui**	**65.07**	**180**	P	**P**	**22 54 29.4**	**+1.5**
QSPA				IAmb	IAmb	22 54 31.6	
	comp=Z,6.2nm,1.1s						
QSPA	**South Pole Qui**	**65.07**	**180**	P	**P**	**22 54 28.2**	**+0.3**
	comp=Z,3.1nm,1.0s,baz=67,slow=2.1,SNR=8.1						
	comp=Z,3.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**92.13**	**289**	P	**P**	**22 56 59.2**	**+2.6**
	comp=Z,0.9nm,0.3s,baz=142,slow=2.2,SNR=1.6						
	comp=Z,0.9nm,0.3s						
BVAR	**Borovoye Array**	**122.84**	**318**	PKP	**PKiKP**	**23 02 42.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=96,slow=4.5,SNR=2.2						
ARCES	**ARCESS Array B**	**133.44**	**349**	PKP	**PKiKP**	**23 03 01.1**	**-1.4**
	comp=Z,0.9nm,0.7s,baz=29,slow=2.1,SNR=3.6						
FINES	**FINESS Array B**	**140.24**	**343**	PKhKP	PKPpre	23 03 07.9	
	comp=Z,1.3nm,1.0s,baz=107,slow=8.9,SNR=1.3						
HFS	**Hagfors**	**144.07**	**351**	PKP	**PKiKP**	**23 03 24.2**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=20,slow=4.6,SNR=5.2						
PABE	**Paberze**	**145.75**	**338**		**PKPab**	**23 03 24.2**	**-1.0**
AKASG	**Malin Array Be**	**147.18**	**328**	PKPbc	**PKPab**	**23 03 29.8**	**-1.2**
	comp=Z,3.1nm,0.5s,baz=42,slow=4.2,SNR=25						
AKBB	**Malin Array Si**	**147.18**	**328**		**PKPab**	**23 03 29.8**	**-1.1**
AKBB	**Malin Array Si**	**147.18**	**328**	PKP	**PKPab**	**23 03 29.7**	**-1.3**
AK01	**Malin Array Si**	**147.19**	**328**	PKP	**PKPab**	**23 03 30.0**	**-1.0**
KIEV	**Kiev**	**147.19**	**328**		**PKPab**	**23 03 29.9**	**-1.1**
KIEV	**Kiev**	**147.19**	**328**	PKP	**PKPab**	**23 03 29.9**	**-1.1**
AK04	**Malin Array Si**	**147.19**	**328**	PKP	**PKPab**	**23 03 29.9**	**-1.1**
AK09	**Malin Array Si**	**147.20**	**328**	PKP	**PKPab**	**23 03 30.0**	**-1.1**
AK08	**Malin Array Si**	**147.21**	**328**	PKP	**PKPab**	**23 03 30.1**	**-1.0**
AK22	**Malin Array Si**	**147.21**	**328**	PKP	**PKPab**	**23 03 30.1**	**-1.0**
AK21	**Malin Array Si**	**147.21**	**329**	PKP	**PKPab**	**23 03 30.1**	**-1.0**
AK02	**Malin Array Si**	**147.21**	**328**	PKP	**PKPab**	**23 03 30.1**	**-1.0**
AK11	**Malin Array Si**	**147.22**	**328**	PKP	**PKPab**	**23 03 30.1**	**-1.0**
MI30	**MI30,Zelenitsa**	**147.63**	**329**	PKP	**PKiKP**	**23 03 30.8**	**-1.3**
LUBAR	**Lubar, Ukraine**	**148.40**	**328**	PKP	**PKPbc**	**23 03 32.0**	**-0.2**
EKA	**Eskdalemuir Ar**	**149.42**	**6**	PKPbc	**PKPab**	**23 03 37.4**	**-2.4**
	comp=Z,1.1nm,0.8s,baz=295,slow=28,SNR=3.7						
EKA				PKPab	PKiKP	23 03 44.0	+8.3
	comp=Z,0.5nm,0.4s,baz=350,slow=2.9,SNR=3.7						
KMPD	**K-Podol'skiy**	**149.94**	**328**	PKP	**PKPbc**	**23 03 34.5**	**-1.6**
KMPD				PKP	**PKPbc**	**23 03 34.5**	**-1.6**
BR131	**Keskin Array S**	**150.14**	**307**		**PKPbc**	**23 03 36.7**	**-0.4**
BRTR	**Ke

MXZ	Matakaoa Point	13.11	186	P		P	23	18	55.8 +3.1
URZ	Urewera	13.94	189	P		P	23	18	59.4 -2.0
	12nm,0.4s,baz=2.0,slow=1.7,SNR=15								
URZ				S		S	23	21	27.7 -1.0
	5.9nm,0.5s,baz=145,slow=15,SNR=2.0								
RTZ	Ruatahuna	14.31	189	P		P	23	19	04.4 -0.9
HIZ	Hauiti	14.63	196	P		P	23	19	12.0 +3.3
HIZ	Hauiti	14.63	196	P		P	23	19	13.6 +4.9
NMHZ	Naumai	14.80	190	P		P	23	19	12.8 +2.2
BKZ	Black Stump Fm	14.92	190	P		P	23	19	12.8 +1.0
BKZ	Black Stump Fm	14.92	190	P		P	23	19	11.5 -0.3
BKZ	Black Stump Fm	14.92	190	P		P	23	19	12.7 +1.0
TMVZ	Te Maari	15.02	193	P		P	23	19	13.8 +0.9
OTVZ	Oturere	15.07	193	P		P	23	19	12.8 -0.7
TRVZ	Turoa	15.23	193	P		P	23	19	10.9 -4.2
WNVZ	Wahianoa	15.24	193	P		P	23	19	14.7 -0.5
MOVZ	Moawhango	15.29	192	P		P	23	19	16.0 +0.3
BHHZ	Black Hill Sta	15.31	191	P		P	23	19	14.9 -0.9
KRHZ	Kereru	15.41	190	P		P	23	19	16.3 -0.5
DREZ	Durham Road	15.44	197	P		P	23	19	16.4 -0.7
KAHZ	Kahuranaki	15.48	189	P		P	23	19	17.7 +0.2
PNHZ	Pukenui	15.70	191	P		P	23	19	18.6 -1.2
PXZ	Pawanui	15.71	189	P		P	23	19	19.9 0.0
TSZ	Takapari Road	15.88	191	P		P	23	19	18.8 -2.9
PRHZ	Porangahau	15.98	189	P		P	23	19	22.4 -0.2
DVHZ	Dannevirke	16.08	190	P		P	23	19	24.1 +0.4
BFZ	Birch Farm	16.44	190	P		P	23	19	26.5 -0.8
BFZ	Birch Farm	16.44	190	P		P	23	19	26.1 -1.3
MRZ	Mangatainoka R	16.54	192	P		P	23	19	25.1 -3.2
OGWZ	Otaki Gorge	16.77	193	P		P	23	19	27.7 -2.9
HOWZ	Holdsworth Sta	16.78	192	P		P	23	19	29.8 -0.9
DUWZ	D'Urville Isla	17.03	196	P		P	23	19	33.2 0.0
MTW	Mount Morrison	17.03	191	P		P	23	19	31.0 -2.1
CAW	Cannon Point	17.07	193	P		P	23	19	32.8 -0.7
TRWZ	Traveller	17.23	191	P		P	23	19	33.8 -1.3
PAWZ	Paruwai Farm	17.26	192	P		P	23	19	33.5 -1.9
TCW	Tory Channel	17.33	194	P		P	23	19	34.1 -1.9
SNZO	South Karori	17.34	193	P		P	23	19	36.4 +0.5
SNZO	South Karori	17.34	193	P		P	23	19	33.3 -2.6
BHW	Baring Head	17.39	193	P		P	23	19	36.4 -0.1
QRZ	Quartz Range	17.43	199	P		P	23	19	37.4 +0.5
QRZ	Quartz Range	17.43	199	P		P	23	19	36.7 -0.2
QRZ	Quartz Range	17.43	199	P		P	23	19	37.2 +0.4
PLWZ	Palliser	17.48	192	P		P	23	19	35.7 -1.6
NNZ	Nelson	17.56	197	P		P	23	19	36.9 -1.1
TUWZ	Tuamarina	17.62	195	P		P	23	19	37.9 -0.7
TUWZ	Tuamarina	17.62	195	P		P	23	19	38.0 +0.5
BSWZ	Blackbirch Sta	17.91	195	P		P	23	19	41.7 +0.5
THZ	Tophouse	18.19	197	P		P	23	19	43.2 -0.7
THZ				IAmb		IAmb	23	19	51.6
	comp=Z,8.2nm,1.0s								
THZ	Tophouse	18.19	197	P		P	23	19	43.4 -0.5
KHZ	Kahutara	18.65	195	P		P	23	19	47.5 -0.4
INZ	Inchbonnie	19.50	199	P		P	23	19	54.6 -1.1
OXZ	Oxford	19.88	197	P		P	23	19	58.7 -0.5
RPZ	Rata Peaks	20.52	199	P		P	23	20	04.6 -0.4
RPZ	Rata Peaks	20.52	199	P		P	23	20	05.6 +0.7
	comp=Z,11nm,0.5s,baz=31,slow=1.9,SNR=13								
	comp=Z,11nm,0.5s								
JCZ	Jackson Bay	21.56	202	P		P	23	20	14.9 +0.4
CTAO	Charters Tower	31.43	271	P		P	23	21	41.2 -0.3
CTAO				IAmb		IAmb	23	21	42.8
	comp=Z,5.5nm,0.6s								
STKA	Stephens Creek	34.45	249	P		P	23	22	07.2 +0.2
	comp=Z,1.6nm,0.5s,baz=97,slow=9.5,SNR=4.8								
	comp=Z,1.6nm,0.5s								
BBOO	Buckleboo	39.16	248	P		P	23	22	45.3 -0.5
BBOO				IAmb		IAmb	23	22	50.2
	comp=Z,5.3nm,1.0s								
ASAR	Alice Springs	41.88	261	P		P	23	23	07.5 -0.2
	comp=Z,1.8nm,0.8s,baz=98,slow=6.9,SNR=18								
ASAR				PcP		PcP	23	24	51.6 +0.1
	comp=Z,0.4nm,0.5s,baz=99,slow=5.1,SNR=2.1								
	comp=Z,1.8nm,0.8s								
WR0	Warramunga Arr	42.12	267	P		P	23	23	08.5 -1.1
WB2	Warramunga Arr	42.30	267	P		P	23	23	10.0 -1.0
WB2				IAmb		IAmb	23	23	18.6
	comp=Z,6.8nm,1.1s								
WB0	Warramunga Arr	42.31	267	P		P	23	23	09.6 -1.4
WB0				IAmb		IAmb	23	23	10.8
	comp=Z,4.8nm,0.8s								
WRA	Warramunga Arr	42.31	267	P		P	23	23	09.9 -1.2
WRA	Warramunga Arr	42.31	267	P		P	23	23	10.4 -0.7
	comp=Z,4.2nm,0.5s,baz=100,slow=8.3,SNR=26								
	comp=Z,4.2nm,0.5s								
FORT	Forrest	46.05	250	P		P	23	23	38.9 -1.0
FORT				IAmb		IAmb	23	23	43.4
	comp=Z,16nm,1.0s								
FITZ	Fitzroy Crossi	50.73	266	P		P	23	24	13.7 -1.2
FITZ				IAmb		IAmb	23	24	40.7
	comp=Z,43nm,1.1s								
PSA00	Pilbara Seismi	55.00	260	P		P	23	24	44.5 -1.0
PSA00				IAmb		IAmb	23	24	49.8
	comp=Z,17nm,0.9s								
MBWA	Marble Bar	55.22	260	P		P	23	24	45.8 -1.1
MBWA				IAmb		IAmb	23	25	01.2
	comp=Z,28nm,1.1s								
MORW	Morawa	56.62	250	P		P	23	24	56.0 -0.5
QSPA	South Pole Qui	65.60	180	P		P	23	25	56.7 +1.7
QSPA	South Pole Qui	65.60	180	P		P	23	25	56.7 +1.7
	comp=Z,1.7nm,1.0s,baz=192,slow=2.8,SNR=3.0								
	comp=Z,1.7nm,1.0s								
MJAR	Matsushiro Arr	72.35	326	P		P	23	26	35.7 -0.2
	comp=Z,1.5nm,0.4s,baz=158,slow=4.9,SNR=4.7								
	comp=Z,1.5nm,0.4s								
KSRS	Korea Array	78.66	320	P		P	23	27	11.2 +0.3
	comp=Z,1.7nm,0.8s,baz=136,slow=6.2,SNR=6.1								
	comp=Z,1.7nm,0.8s								
PETK	Petropavlovsk-	79.66	347	P		P	23	27	15.2 -0.7
PETK	Petropavlovsk-	79.66	347	P		P	23	27	16.1 +0.2
	comp=Z,2.2nm,0.6s,baz=114,slow=3.6,SNR=2.4								
	comp=Z,2.2nm,0.6s								
USRK	Ussuriysk Ar.	81.22	327	P		P	23	27	25.0 +0.8
	comp=Z,1.2nm,0.5s,baz=168,slow=8.5,SNR=2.5								
	comp=Z,1.2nm,0.5s								
NVAR	Mina Array Bea	85.21	44	P		P	23	27	45.2 +0.6
	comp=Z,0.6nm,0.7s,baz=220,slow=7.1,SNR=5.5								
	comp=Z,0.6nm,0.7s								
PINE	Pine Mountain	86.88	38	P		P	23	27	54.8 +2.3
PINE				IAmb		IAmb	23	27	55.5
	comp=Z,4.8nm,0.9s								
J18K	Innoko River	89.57	10	P		P	23	28	04.7 +0.3
J18K				IAmb		IAmb	23	28	05.1
	comp=Z,2.3nm,0.9s								
CMAR	Chiang Mai Arr	89.67	290	P		P	23	28	07.5 +1.7
	comp=Z,2.9nm,0.3s,baz=129,slow=2.4,SNR=5.8								
	comp=Z,2.9nm,0.3s								
TXAR	Lajitas Array	90.79	58	P		P	23	28	12.5 +1.6
	comp=Z,1.2nm,0.8s,baz=222,slow=6.7,SNR=6.4								
	comp=Z,1.2nm,0.8s								
ILAR	Eielson Array	92.61	14	P		P	23	28	18.8 +0.5
	comp=Z,0.3nm,0.9s,baz=213,slow=6.5,SNR=2.6								
	comp=Z,0.3nm,0.9s								
PDAR	Pinedale Array	93.15	44	P		P	23	28	21.5 -0.1
	comp=Z,0.3nm,0.6s,baz=188,slow=5.5,SNR=3.7								
	comp=Z,0.3nm,0.6s								
MKAR	Makanchi Array	112.51	313	PKiKP		PKiKP	23	33	39.0 -0.9
	comp=Z,0.2nm,0.5s,baz=337,slow=0.3,SNR=4.1								
KURBB	Kurchatov Arra	115.63	316	PKP		PKPdf	23	33	44.7 -1.0
	comp=Z,0.7nm,0.7s,baz=88,slow=1.9,SNR=7.4								
BVAR	Borovoye Array	120.84	318	PKP		PKPdf	23	33	54.9 -0.8
	comp=Z,1.5nm,0.6s,baz=64,slow=3.4,SNR=6.4								
SPITS	Spitsbergen Ar	125.70	356	PKP		PKPdf	23	34	04.1 -0.3
	comp=Z,6.8nm,1.0s,baz=204,slow=3.2,SNR=7.2								
GEYT	Alibeck	129.21	300	PKP		PKPdf	23	34	12.1 -0.1
	comp=Z,0.4nm,0.5s,baz=208,slow=2.9,SNR=4.0								
ARCES	ARCESS Array B	132.45	348	PKP		PKPdf	23	34	16.8 -0.5
	comp=Z,0.7nm,0.8s,baz=15,slow=5.3,SNR=3.7								
FINES	FINESS Array B	138.98	341	PKhKP		PKPpre	23	34	19.8
	comp=Z,0.5nm,0.4s,baz=65,slow=3.2,SNR=11								
BCA	Borcka	141.57	306	⇑P		PKPpre	23	34	30.7
NB2	NORSAR Subarra	142.65	351	PKP		PKPdf	23	34	32.7 -3.6
	comp=Z,0.6nm,0.7s,baz=15,slow=3.5								
NOA	NORSAR Array B	142.65	351	PKhKP		PKPpre	23	34	32.6
	comp=Z,1.2nm,0.8s,baz=16,slow=4.9,SNR=6.3								
HFS	Hagfors	143.11	349	PKP		PKPab	23	34	34.1 -0.6
	comp=Z,6.7nm,0.4s,baz=64,slow=3.4,SNR=80								
KONO	Kongsberg	144.21	352			PKPbc	23	34	38.2 -0.4
PABE	Paberze	144.33	337			PKPbc	23	34	38.9 -0.2
AK03	Malin Array Si	145.41	327	PKP		PKPdf	23	34	40.6 -0.7
AKASG	Malin Array Be	145.43	327	PKPbc		PKPdf	23	34	41.7 +0.4
	comp=Z,2.0nm,0.5s,baz=45,slow=3.9,SNR=14								
AKBB	Malin Array Si	145.43	327	PKP		PKPdf	23	34	40.9 -0.5
AK01	Malin Array Si	145.44	327	PKP		PKPdf	23	34	41.1 -0.3
KIEV	Kiev	145.44	327	⇓P		PKPbc	23	34	41.9 -0.7
KIEV	Kiev	145.44	327	PKP		PKPdf	23	34	41.1 -0.3
AK04	Malin Array Si	145.44	327	PKP		PKPdf	23	34	40.7 -0.7
AK08	Malin Array Si	145.46	327	PKP		PKPdf	23	34	41.0 -0.4
AK11	Malin Array Si	145.47	327	PKP		PKPdf	23	34	41.3 -0.1
MI30	MI30,Zelenitsa	145.91	328	PKP		PKPdf	23	34	41.7 -0.5
MI28	Mi28,Pidlybu	146.05	328	PKP		PKPdf	23	34	42.0 -0.4
BNN	Bunyan	146.48	304			PKPbc	23	34	45.8 -0.3
RNPP9	Sopachiv	146.55	330	PKP		PKPdf	23	34	43.2 0.0
LUBAR	Lubar, Ukraine	146.65	327	PKP		PKPdf	23	34	43.7 +0.2
SORM	Soroca	147.44	324	⇑P		PKPbc	23	34	47.8 -0.4
BR131	Keskin Array S	147.88	306	PKPbc		PKPbc	23	34	49.3 -0.5
BRTR	Keskin Array B	147.88	306	PKPbc		PKPbc	23	34	48.3 -1.5
BRTR	Keskin Array B	147.88	306	PKPbc		PKPbc	23	34	48.8 -1.0
	comp=Z,1.4nm,0.7s,baz=143,slow=4.4,SNR=11								
MMAI	Mount Meron Ar	147.89	294	PKPbc		PKPbc	23	34	50.3 +0.4
	comp=Z,4.6nm,0.5s,baz=72,slow=6.4,SNR=20								
MILM	Milestii Mici	147.89	321	⇑P		PKPbc	23	34	48.6 -0.8
BR106	Keskin Array S	147.89	306	PKP		PKPdf	23	34	45.6 -0.5
BR105	Keskin Array S	147.90	306	PKP		PKPdf	23	34	45.6 -0.5
KMPD	K-Podol'skiy	148.17	326	PKP		PKPdf	23	34	46.4 +0.4
EKA	Eskdalemuir Ar	149.10	3	PKPbc		PKPbc	23	34	51.5 -0.6
	comp=Z,0.8nm,0.4s,baz=349,slow=3.5,SNR=10								
BUR08	Bucovina Ar. S	149.41	325	PKPbc		PKiKP	23	34	53.8 -0.3
BURAR	Bucovina Array	149.42	325	⇑P		PKiKP	23	34	54.4 +0.3
BURAR	Bucovina Array	149.42	325	PKPbc		PKPbc	23	34	53.4 +0.1
OJC	Ojcow	150.04	334	PKPbc		PKPbc	23	34	53.7 -0.8
STHS	Stebnicka Huta	150.05	332	*e*PKP		PKPbc	23	34	54.3 -0.3
MLR	Muntele Rosu	150.34	321	⇑P		PKiKP	23	34	55.9 -0.2
DOPR	Dopca	150.36	323	⇑P		PKiKP	23	34	56.0 +0.1
CJR	Cluj-Napoca	150.84	325	⇓P		PKiKP	23	34	57.0 0.0
LANS	Liptovska Anna	151.01	333	*e*PKP		PKiKP	23	34	57.3 +0.1
CLL	Collm	151.40	343	PKPbc		PKiKP	23	34	57.6 -0.3
CLL				PKPab		PKPab	23	35	07.5 -0.7
CLL	Collm	151.40	343	*i* PKPbc		PKPbc	23	34	57.4 -0.2
	comp=Z,7.0nm,0.8s								
BRG	Berggiesshubel	151.52	341	*i* PKP		PKiKP	23	34	58.3 +0.1
BRG				Amp			23	34	58.8
	comp=Z,3.6nm,0.6s								
BZS	Buzias	152.60	326	⇑P		PKPbc	23	35	00.1 -0.4
MORH	Mrgy, Hungar	153.62	330	⇑P		PKPbc	23	35	01.7 -0.9
TORD	Torodi Ar. Bea	168.60	189	PKP		PKPdf	23	35	09.8 -1.1
	comp=Z,0.3nm,0.7s,baz=348,slow=2.9,SNR=2.2								
TORD				PKPab		PKPab	23	36	23.6 -0.4
	comp=Z,0.5nm,0.8s,baz=192,slow=2.9,SNR=2.8								

NEIC ***15*** *23:18:10.3±1.2, 19°.41N±0°.06×155°.28W±0°.04, h5km±2km, Error ellipse: s-maj=11.5km s-min=3.4km az=213.0*

HVO 15 23:18:10.1±0.6, 19°.40N±0°.09×155°.29W±0°.05, h1km±8km, ML3.1/5, ML2.1/34(NEIC), Error ellipse: s-maj=14.9km s-min=1.8km az=204.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDHHI	Sand Hill	0.01	199	Pg	Pg	23 18 10.7	+0.1
SDHHI					Sg	23 18 11.3	+0.4
WRMHI	West Rim	0.01	306	Pg	Pg	23 18 10.8	+0.2
WRMHI				Sg	Sg	23 18 11.3	+0.4
NPH	North Pit	0.01	36	Pg	Pg	23 18 10.3	-0.3
NPH				Sg	Sg	23 18 11.0	+0.1
RIM	Rim	0.02	106	IAML		23 18 10.7	
	comp=N,7μm,0.9s						
RIM				Pg	Pg	23 18 10.9	+0.3
RIM				Sg	Sg	23 18 11.3	+0.4
OBL	Observatory Le	0.02	18	IAML		23 18 10.7	
	comp=N,7μm,0.7s						
OBL				Sg	Sg	23 18 11.5	+0.5
OBL				Pg	Pg	23 18 11.0	+0.4
UWE	Uwekahuna	0.02	353	Pg	Pg	23 18 11.0	+0.4
UWE				IAML		23 18 11.1	
	comp=N,5μm,0.6s						
UWE				Sg	Sg	23 18 11.8	+0.7
KKO	Keanakako`i	0.02	95	Pg	Pg	23 18 10.8	+0.2
KKO				Sg	Sg	23 18 11.6	+0.6
UWB	Uwekahuna B	0.03	25	IAML		23 18 10.8	
	comp=E,3μm,1.2s						
UWB				Pg	Pg	23 18 11.1	+0.4
UWB				Sg	Sg	23 18 11.9	+0.8
BYL	Byron's Ledge	0.03	67	Pg	Pg	23 18 11.1	+0.4
BYL				IAML		23 18 11.3	
	comp=N,4μm,1.2s						
BYL				IAML		23 18 11.3	
	comp=E,4μm,0.9s						
BYL				Sg	Sg	23 18 12.0	+0.8
SBLHI	Steaming Bluff	0.03	38	IAML		23 18 11.1	
	comp=E,5μm,0.9s						
SBLHI				Pg	Pg	23 18 11.5	+0.7
HATHI	Halema'uma'u T	0.04	50	Pg	Pg	23 18 11.5	+0.7
RSD	Rainshed	0.06	10	Pg	Pg	23 18 12.0	+0.6
RSD				IAML		23 18 12.8	
	comp=N,1μm,1.0s						
RSD				IAML		23 18 12.8	
	comp=E,1μm,0.6s						
PUH	Pauahi	0.07	110	Pg	Pg	23 18 12.1	+0.6
PUH				IAML		23 18 12.2	
	comp=N,1μm,1.1s						
PUH				Sg	Sg	23 18 13.8	+1.2
HLP	Hilina Pali	0.10	189	Pg	Pg	23 18 13.0	+0.9
HLP				Sg	Sg	23 18 14.3	+0.9
HLP				IAML		23 18 14.6	
	comp=N,1μm,1.1s						
MLH	Mauna Loa	0.13	316	Pg	Pg	23 18 13.6	+0.9
MLH				Sg	Sg	23 18 16.0	+1.6
MLH				IAML		23 18 16.8	
	comp=E,715nm,0.6s						
STCH	Steam Cracks	0.16	95	Pg	Pg	23 18 13.7	+0.5
STCH				IAML		23 18 15.7	
	comp=N,573nm,1.2s						
STCH				IAML		23 18 17.4	
	comp=E,497nm,0.9s						
NPOC	North of Pu'u	0.17	92	Pg	Pg	23 18 13.7	+0.3
NPOC				IAML		23 18 17.9	
	comp=E,766nm,1.2s						
NPOC				IAML		23 18 18.3	
	comp=N,736nm,1.4s						
HTC	Hot Caves	0.19	212		Pg	23 18 14.6	+0.9
HMH	Humu'ula Sheep	0.27	318	Pg	Pg	23 18 15.9	+0.6
HMH				IAML		23 18 17.9	
	comp=N,288nm,1.9s						
HMH				IAML		23 18 24.2	
	comp=E,444nm,1.3s						
MWH	Moku'aweowe	0.30	286	Pg	Pg	23 18 16.6	+0.7
KHU	Kahuku	0.34	244	Pg	Pg	23 18 16.8	+0.1
HUH	Hualalai	0.59	299	Pg	Pg	23 18 22.0	+0.6

IDC 15 23:24:10.4±5.3, 25°.99S×177°.12W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=268.6km s-min=43.2km az=154.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	44.30	262	P	P	23 32 22.0	-0.4
	0.3nm,0.3s,baz=95,slow=7.7,SNR=6.8						
	0.3nm,0.3s						
WRA	Warramunga Arr	44.90	267	P	P	23 32 27.2	+0.1
	0.7nm,0.6s,baz=107,slow=7.6,SNR=4.6						
	0.7nm,0.6s						
NOA	NORSAR Array B	144.50	353	PKP	PKPbc	23 43 47.0	+0.1
	0.4nm,0.6s,baz=6.2,slow=2.6,SNR=3.3						
HFS	Hagfors	145.06	351	PKPbc	PKPbc	23 43 48.2	-0.4
	0.9nm,0.4s,baz=72,slow=4.8,SNR=15						
AKASG	Malin Array Be	148.13	328	PKPbc	PKPbc	23 43 57.0	-0.9
	0.4nm,0.4s,baz=39,slow=3.7,SNR=2.3						

NEIC ***15*** *23:39:24.3±1.3, 42°.00N±0°.04×126°.8W±0°.1, h10km±2km, mb3.8/8, ML2.8/60, Error ellipse: s-maj=16.9km s-min=5.7km az=283.0*

IDC ***15*** *23:39:29.6±2.3, 42°.62N×126°.18W, h0km, mb3.0/3, mbtmp3.0/7, ML3.3/3, MS3.2/10, Error ellipse: s-maj=44.9km s-min=15.6km az=41.0*

ISC 15 23:39:25.4±1.4, 42°.00N±0°.07×126°.7W±0°.1, h10km, n68, σ1°.22/54, mb3.2/5, MS3.1/7, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBO	Bosley Butte	1.87	83	Pn	Pn	23 39 57.2	-0.3
KBO				IAML		23 40 23.5	
	comp=N,49nm,1.6s						
KBO				IAML		23 40 27.1	
	comp=E,54nm,1.5s						
KSXB	Camp Six Broad	2.13	94	Pn	Pn	23 40 00.4	-0.8
KRMB	Red Mountain	2.16	102	Pn	Pn	23 40 00.5	-1.1
KRPM	Rodgers	2.20	112	Pn	Pn	23 40 01.1	-0.9
KRPM				IAML		23 40 51.5	
	comp=E,44nm,3.4s						
KRPM				IAML		23 41 20.0	
	comp=N,48nm,3.4s						
JCC	Jacoby Creek,	2.35	119	Pn	Pn	23 40 02.7	-1.3
L02F	Cave Junction	2.35	86	Pn	Pn	23 40 03.4	-0.7
J01E	Myrtle Point	2.37	60	Pn	Pn	23 40 03.6	-0.7
J01E				IAML		23 40 47.6	
	comp=N,37nm,1.9s						
J01E				IAML		23 40 48.7	
	comp=E,41nm,1.5s						
K02D	Willamette Mer	2.37	72	Pn	Pn	23 40 04.2	-0.3
K02D				IAML		23 40 37.8	
	comp=E,40nm,1.9s						
KHMM	Horse Mountain	2.52	116	Pn	Pn	23 40 06.4	-0.1
KHMM				IAML		23 40 22.6	
	comp=E,26nm,1.8s						
KMPM	Mount Pierce	2.52	128	Pn	Pn	23 40 06.0	-0.6
KMPM				IAML		23 40 33.9	
	comp=E,23nm,1.7s						
KMPM				IAML		23 40 59.7	
	comp=N,22nm,3.4s						
DBO	Dodson Butte	2.81	65	Pn	Pn	23 40 10.5	+0.1
DBO				IAML		23 40 48.4	
	comp=E,41nm,1.6s						
DBO				IAML		23 40 55.2	
	comp=N,24nm,1.4s						
HUMO	Hull Mountain	2.86	77	Pn	Pn	23 40 10.8	-0.3
KMRM	Mail Ridge	2.89	127	Pn	Pn	23 40 10.5	-1.1
KMRM				IAML		23 41 40.6	
	comp=N,21nm,5.0s						
I03D	Drain, OR	3.01	55	Pn	Pn	23 40 12.6	-0.5
I03D				IAML		23 41 19.6	
	comp=N,14nm,2.5s						
I03D				IAML		23 41 21.1	
	comp=E,21nm,3.1s						
YBH	Yreka Blue Hor	3.01	94	Pn	Pn	23 40 13.1	-0.1
YBH	Yreka Blue Hor	3.01	94	Pn	Pn	23 40 14.3	+1.0
	comp=E,1.3nm,0.3s,baz=286,slow=14,SNR=23						
YBH				Sn	Sn	23 40 48.8	-0.6
	comp=E,0.2nm,0.3s,baz=303,slow=10.0,SNR=1.4						
	comp=E,5.6nm,0.5s						
L04D	Klamath Falls	3.30	85	Pn	Pn	23 40 17.1	-0.1
L04D				IAML		23 40 59.3	
	comp=E,18nm,1.4s						
L04D				IAML		23 41 33.4	
	comp=N,15nm,1.6s						
KCPM	Cahto Peak	3.32	133	Pn	Pn	23 40 17.5	0.0
KCPM				IAML		23 41 07.2	
	comp=E,20nm,4.7s						
KCPM				IAML		23 41 26.0	
	comp=N,15nm,4.0s						
BUCK	Buck Mountain	3.51	50	Pn	Pn	23 40 19.0	-1.1
BUCK				IAML		23 41 10.3	
	comp=E,25nm,3.2s						
I04A	Tendick Farm,	3.64	59	Pn	Pn	23 40 21.9	0.0
I04A				IAML		23 41 08.8	
	comp=N,18nm,1.4s						
K04D	Chiloquin, OR	3.74	79	Pn	Pn	23 40 22.4	-0.9
H04D	Lebanon	3.85	48	Pn	Pn	23 40 24.3	-0.4
HEBO	Mount Hebo	3.87	33	Pn	Pn	23 40 24.6	-0.4
J05D	Fort Rock, OR	4.25	71	Pn	Pn	23 40 30.6	+0.3
J05D				IAML		23 41 33.6	
	comp=E,12nm,2.5s						
J05D				IAML		23 42 42.6	
	comp=N,14nm,4.3s						
H04A	Detroit Lake	4.26	49	Pn	Pn	23 40 28.8	-1.5
H04A				IAML		23 41 24.2	
	comp=N,12nm,0.6s						
H04A				IAML		23 41 25.1	
	comp=E,13nm,0.4s						
K05A	Summer Lake	4.38	79	Pn	Pn	23 40 32.6	+0.4
K05A				IAML		23 42 59.8	
	comp=

mb4.1/14, Error ellipse: s-maj=18.6km s-min=9.5km az=188.0

ISC 15 23:40:33.6±0.7, **2°61N**±0°09×**90°34E**±0°08, **h10**km, **n59**, σ1§**69**/44, **mb4.1**/12, **MS3.3**/7, **Off west coast of northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LHMI	**Lhok Sumawe**	**7.09**	**68**	Pn	**Pn**	**23 42 17.9**	**+0.5**
GSI	**Gunungsitoli**	**7.34**	**100**	Pn	**Pn**	**23 42 20.4**	**-0.5**
PBA	**Port Blair**	**9.30**	**15**	*e*P	**Pn**	**23 42 49.7**	**+1.9**
PBA				*e*S	**Sn**	**23 44 30.2**	**-2.4**
KULM	**Kulim**	**10.62**	**75**	Pn	**Pn**	**23 43 06.0**	**0.0**
PALK	**Pallekele**	**10.66**	**296**	Pn	**Pn**	**23 43 04.0**	**-2.5**
PALK	**Pallekele**	**10.66**	**296**	Pn	**Pn**	**23 43 05.3**	**-1.3**
	1.0nm,0.3s,baz=208,slow=12,SNR=7.5						
PALK				Sn	Sn	23 44 53.3	-13
	4.9nm,0.3s,baz=307,slow=18,SNR=9.4						
PALK				LR	LR	23 46 42.4	
	comp=Z,65nm,19.1s,baz=222,slow=35 2.4nm,0.3s						
IPM	**Ipoh**	**10.82**	**80**	Pn	**Pn**	**23 43 09.6**	**+0.8**
SRIT	**Nakonsritamara**	**10.97**	**57**	Pn	**Pn**	**23 43 10.8**	**+0.1**
MDRS	**Chennai**	**14.41**	**317**	*e*P	**Pn**	**23 43 55.7**	**-2.2**
MDRS				IAmb	IAmb	23 44 03.8	
	comp=Z,19nm,0.6s						
MDRS				*ex*	Sn	23 46 25.2	-13
KOD	**Kodaikanal**	**14.86**	**301**	*e*P	**Pn**	**23 44 04.5**	**+0.3**
KOD				*i* x	**P**	**23 44 10.9**	**+0.8**
KOD				IAmb	IAmb	23 44 20.1	
	comp=Z,14nm,1.1s						
KOD				*ex*	Sn	23 46 34.6	-15
SALM	**Salem**	**15.02**	**307**	*e*P	**Pn**	**23 44 06.9**	**+0.8**
SALM				*e*P	**P**	**23 44 15.6**	**+4.1**
SALM				*ex*	Sn	23 46 35.2	-17
VIS	**Vishakhapatnam**	**16.52**	**336**	*ex*	x	23 43 54.4	
VIS				IAmb	IAmb	23 44 38.3	
	comp=Z,16nm,0.6s						
VIS				*ex*	Sn	23 47 16.7	-12
CMAR	**Chiang Mai Arr**	**17.87**	**28**	P	**P**	**23 44 44.1**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=225,slow=13,SNR=1.2						
CMAR				LR	LR	23 52 14.7	
	comp=Z,38nm,18.7s,baz=165,slow=39						
UBPT	**Khong Chiam**	**19.52**	**49**	P	**P**	**23 45 01.2**	**-0.1**
UBPT				IAmb	IAmb	23 45 45.1	
	comp=Z,15nm,1.4s						
CRAI	**Chiangrai**	**20.07**	**28**	P	**P**	**23 45 08.7**	**+1.4**
CRAI				IAmb	IAmb	23 45 31.8	
	comp=Z,5.2nm,1.1s						
H08S2	**Diego Garcia H**	**20.51**	**240**	T	T	00 06 14.4	
	baz=59,slow=76,SNR=130						
H08S3	**Diego Garcia H**	**20.51**	**240**	T	T	00 06 03.4	
	baz=59,slow=76,SNR=239						
H08S1	**Diego Garcia H**	**20.53**	**240**	T	T	00 06 10.2	
	baz=59,slow=76,SNR=120						
BOK	**Bokaro**	**21.50**	**349**	*e*P	**P**	**23 45 24.0**	**+1.3**
LSA	**Lhasa**	**26.96**	**2**	P	**P**	**23 46 15.3**	**-0.7**
LSA				IAmb	IAmb	23 46 34.0	
	comp=Z,7.0nm,0.6s						
KSH	**Kashi**	**38.99**	**342**	P	**P**	**23 48 01.1**	**+0.7**
WMQ	**Urumqi**	**41.11**	**357**	*e*P	**P**	**23 48 18.3**	**+0.5**
WMQ				PcP	**PcP**	**23 50 24.5**	**+7.2**
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
WMQ				pmax	pmax		
	comp=Z,60nm,3.9s						
AAK	**Ala-Archa**	**42.30**	**343**	LR	LR	00 05 40.1	
	comp=Z,27nm,21.4s,baz=226,slow=36						
H01W3	**Cape Leeuwin H**	**43.47**	**151**	T	T	00 34 59.2	
	baz=326,slow=75,SNR=21						
H01W2	**Cape Leeuwin H**	**43.48**	**151**	T	T	00 35 03.5	
	baz=326,slow=75,SNR=17						
H01W1	**Cape Leeuwin H**	**43.48**	**151**	T	T	00 35 04.0	
	baz=326,slow=75,SNR=16						
KK31	**Karatay Array**	**44.03**	**339**	P	**P**	**23 48 40.2**	**-1.3**
KK31				IAmb	IAmb	23 49 06.9	
	comp=Z,1.7nm,0.8s						
KKAR	**Karatay Array**	**44.03**	**339**	P	**P**	**23 48 40.9**	**-0.6**
MK31	**Makanchi Array**	**44.57**	**352**	P	**P**	**23 48 45.0**	**-0.8**
MKAR	**Makanchi Array**	**44.57**	**352**	P	**P**	**23 48 45.5**	**-0.3**
MKAR	**Makanchi Array**	**44.57**	**352**	P	**P**	**23 48 46.0**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=172,slow=8.7,SNR=9.9						
	comp=Z,1.2nm,0.8s						
GEYT	**Alibeck**	**45.90**	**324**	P	**P**	**23 48 56.0**	**-0.5**
GEYT				IAmb	IAmb	23 49 06.3	
	comp=Z,2.2nm,0.8s						
GEYT	**Alibeck**	**45.90**	**324**	P	**P**	**23 48 57.1**	**+0.6**
	comp=Z,1.4nm,0.6s,baz=161,slow=9.4,SNR=5.8						
	comp=Z,1.4nm,0.6s						
SONM	**Songino Array**	**47.14**	**15**	P	**P**	**23 49 06.2**	**0.0**
SONM				IAmb	IAmb	23 49 21.1	
	comp=Z,1.9nm,0.8s						
SONM	**Songino Array**	**47.14**	**15**	P	**P**	**23 49 07.2**	**+0.9**
	comp=Z,1.3nm,0.4s,baz=192,slow=9.0,SNR=14						
	comp=Z,1.3nm,0.4s						
JNU	**Nakatsue**	**48.57**	**47**	LR	LR	00 10 02.2	
	comp=Z,19nm,21.2s,baz=226,slow=36						
WB0	**Warramunga Arr**	**48.64**	**119**	P	**P**	**23 49 17.5**	**-0.5**
WRA	**Warramunga Arr**	**48.64**	**119**	P	**P**	**23 49 17.0**	**-1.2**
WRA	**Warramunga Arr**	**48.64**	**119**	P	**P**	**23 49 18.2**	**0.0**
	comp=Z,1.0nm,0.5s,baz=296,slow=8.6,SNR=8.0						
	comp=Z,1.0nm,0.5s						
WB2	**Warramunga Arr**	**48.65**	**119**	P	**P**	**23 49 16.0**	**-2.3**
WR0	**Warramunga Arr**	**48.83**	**119**	P	**P**	**23 49 18.6**	**-1.0**
KURBB	**Kurchatov Arra**	**48.88**	**350**	P	**P**	**23 49 19.6**	**+0.2**
	comp=Z,0.9nm,0.8s,baz=176,slow=7.3,SNR=8.1						
	comp=Z,0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**51.38**	**356**	P	**P**	**23 49 37.6**	**-0.7**
ZALV	**Zalesovo Beam**	**51.38**	**356**	P	**P**	**23 49 38.2**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=173,slow=6.5,SNR=4.3						
ZALV				LR	LR	00 12 31.3	
	comp=Z,27nm,21.7s,baz=108,slow=37						
	comp=Z,0.9nm,0.5s						
BVAR	**Borovoye Array**	**52.90**	**345**	LR	LR	00 13 12.5	
	comp=Z,36nm,18.3s,baz=204,slow=37						
ABKAR	**Akbulak array**	**53.23**	**336**	P	**P**	**23 49 50.0**	**-2.2**
ABKAR				IAmb	IAmb	23 50 01.0	
	comp=Z,2.1nm,1.0s						
KLR	**Kul'dur**	**58.31**	**31**	LR	LR	00 17 50.8	
	comp=Z,23nm,19.2s,baz=158,slow=38						
H04N2	**CROZET ISLANDS**	**59.30**	**210**	T	T	00 55 29.0	
	SNR=55						
H04N1	**CROZET ISLANDS**	**59.31**	**210**	T	T	00 54 48.1	
	baz=46,slow=75,SNR=91						
H04N3	**CROZET ISLANDS**	**59.31**	**210**	T	T	00 54 46.7	
	baz=57,slow=75,SNR=114						
STKA	**Stephens Creek**	**59.46**	**130**	P	**P**	**23 50 37.1**	**+0.1**
	comp=Z,1.1nm,0.3s,baz=295,slow=7.4,SNR=4.7						
	comp=Z,1.1nm,0.3s						
H04S1	**CROZET ISLANDS**	**59.71**	**210**	T	T	00 55 21.1	
	baz=45						
H04S3	**CROZET ISLANDS**	**59.72**	**210**	T	T	00 55 18.6	
	baz=45,SNR=4.3						
H04S2	**CROZET ISLANDS**	**59.73**	**210**	T	T	00 55 37.6	
	baz=45						
ASAJ	**Asahikawa**	**61.85**	**40**	LR	LR	00 20 07.5	
	comp=Z,24nm,18.1s,baz=234,slow=38						
BRTR	**Keskin Array B**	**63.15**	**314**	P	**P**	**23 51 01.3**	**-0.7**
	comp=Z,0.3nm,0.7s,baz=100,slow=6.4,SNR=2.1						
	comp=Z,0.3nm,0.7s						
FINES	**FINESS Array B**	**75.64**	**333**	P	**P**	**23 52 17.9**	**-0.8**
SPITS	**Spitsbergen Ar**	**84.20**	**349**	LR	LR	00 34 35.9	
	comp=Z,17nm,21.0s,baz=198,slow=38						
TXAR	**Lajitas Array**	**145.52**	**22**	PKPbc	**PKPdf**	**00 00 12.5**	**-0.5**
	comp=Z,0.5nm,0.7s,baz=324,slow=1.3,SNR=6.5						

*IDC **15** 23:57:23.8±1.1, 11°68S×73°24W, h0km, mb3.8/4, mbtmp3.8/7, ML3.7/3, MS3.0/2, Error ellipse: s-maj=39.1km s-min=17.2km az=26.0*

ISC 15 23:57:28.8±0.8, **11°7S**±0°1×**73°23W**±0°08, **h35**km, **n12**, σ1§**06**/11, **mb3.8**/3, **Central Peru**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.54**	**266**	Pn	**Pn**	**23 58 20.5**	**-0.8**
	21nm,0.3s,baz=90,slow=9.0,SNR=22						
NNA				Sn	**Sn**	**23 59 03.3**	**+1.2**
	27nm,0.3s,baz=278,slow=15,SNR=5.7						
	41nm,0.3s						
LPAZ	**La Paz**	**6.70**	**133**	Pn	Pn	23 59 13.6	+8.2
	0.2nm,0.3s,baz=221,slow=4.3,SNR=4.2						
LPAZ				Lg	Lg	00 00 58.9	
	1.5nm,0.3s,baz=40,slow=13,SNR=2.3						
ATAH	**Atahualpa**	**6.85**	**312**	Pn	**Pn**	**23 59 06.2**	**-0.9**
	1.5nm,0.3s,baz=2.9,slow=9.2,SNR=9.1						
ATAH				Sn	**Sn**	**00 00 25.8**	**+1.6**
	0.9nm,0.3s,baz=93,slow=20,SNR=1.2						
ATAH				LR	LR	00 02 08.0	
	comp=Z,68nm,18.9s,baz=24,slow=42 5.1nm,0.4s						
SIV	**San Ignacio**	**12.54**	**111**	Pn	**Pn**	**00 00 25.4**	**+0.5**
	baz=321,slow=14,SNR=2.2						
SIV				Lg	Lg	00 04 04.6	
	0.1nm,0.3s,baz=189,slow=23,SNR=2.2 0.3nm,0.3s						
ROSC	**El Rosal**	**16.51**	**356**	Lg	Lg	00 06 07.0	
	0.7nm,0.3s,baz=170,slow=23,SNR=1.4						
CPUP	**Villa Florida**	**20.86**	**136**	P	**P**	**00 00 08.2**	**+0.4**
	2.0nm,0.7s,baz=319,slow=9.3,SNR=6.7 2.0nm,0.7s						
BDFB	**Brasilia**	**24.80**	**102**	LR	LR	00 13 11.2	
	comp=Z,58nm,19.2s,baz=49,slow=38						
TXAR	**Lajitas Array**	**50.30**	**325**	P	**P**	**00 00 22.4**	**+0.1**
	0.5nm,0.5s,baz=156,slow=8.7,SNR=11 0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**78.32**	**74**	P	**P**	**00 00 09 26.6**	**+0.5**
	1.2nm,0.8s,baz=266,slow=4.9,SNR=6.6 1.2nm,0.8s						
YKA	**Yellowknife Ar**	**80.67**	**342**	P	**P**	**00 00 09 37.8**	**0.0**
	0.6nm,0.8s,baz=136,slow=5.2,SNR=11 0.6nm,0.8s						
ZALV	**Zalesovo Beam**	**134.43**	**18**	PKP	**PKPdf**	**00 16 41.6**	**-1.5**
	0.5nm,0.5s,baz=113,slow=3.3,SNR=3.8						
SONM	**Songino Array**	**144.02**	**0**	PKP	**PKPdf**	**00 17 00.3**	**-0.6**
	0.3nm,0.4s,baz=95,slow=1.6,SNR=2.9						

*PRU **16** 00:00:49.8, 50°26N×12°45E, h10km, West Bohemia Swarm*
*VIE **16** 00:00:49.8±0.1, 50°24N×12°40E, h10km, mb2.3/5, ml2.4/8, Error ellipse: s-maj=3.0km s-min=1.3km az=43.0*
*CLL **16** 00:00:50.7±0.3, 50°27N×12°43E, h9km±1km, ML2.4*
*BGR **16** 00:00:50.1±0.2, 50°26N×12°44E, h12km±1km, ML2.2/7, Error ellipse: s-maj=2.2km s-min=1.1km az=98.0*
*WBNET **16** 00:00:50.4, 50°26N×12°44E, h10km, Ml2.5*

ISC 16 00:00:50.1±0.8, **50°26N**±0°01×**12°45E**±0°02, **h13**km±3km, **n75**, σ0§**72**/131, **5C-7D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**190**	*i* Pg	**Pg**	**00 00 52.4**	**-0.1**
NKC				*i* Sg	**Sg**	**00 00 53.7**	**-0.5**
NKC				IAML		00 00 53.8	
	comp=E,907nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**190**	*e*PG	**Pg**	**00 00 52.3**	**-0.1**
NKC				*e*SG	**Sg**	**00 00 53.6**	**-0.5**
	comp=E,261nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**190**	*i* Pg	**Pg**	**00 00 52.4**	**-0.1**
NKC				*i* Sg	**Sg**	**00 00 53.7**	**-0.5**
	comp=E,907nm,0.2s						
NKC	**Novy Kostel**	**0.02**	**190**	⇓P	**Pg**	**00 00 52.4**	**-0.1**
NKC				S	**Sg**	**00 00 53.7**	**-0.5**
LBCW	**Luby**	**0.03**	**290**	⇓P	**Pg**	**00 00 52.4**	**-0.2**
LBCW				S	**Sg**	**00 00 53.7**	**-0.5**
STCW	**Studenec**	**0.04**	**86**	⇑P	**Pg**	**00 00 52.5**	**-0.1**
STCW				S	**Sg**	**00 00 53.8**	**-0.5**
VAC	**Vackov**	**0.06**	**247**	⇓P	**Pg**	**00 00 52.5**	**-0.2**
VAC				S	**Sg**	**00 00 53.9**	**-0.6**
WERN	**Wernitzgruen**	**0.06**	**302**	*i* Pg	**Pg**	**00 00 52.5**	**-0.2**
WERN				*i*		00 00 53.6	
WERN				*i* Sg	**Sg**	**00 00 54.0**	**-0.6**
WERN				IAML		00 00 54.1	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**302**	*i* Pg	**Pg**	**00 00 52.5**	**-0.2**
WERN				*i* Sg	**Sg**	**00 00 54.0**	**-0.6**
	comp=E,2μm,0.2s						
KVC	**Kvetna**	**0.06**	**142**	⇓P	**Pg**	**00 00 52.7**	**-0.1**
KVC				S	**Sg**	**00 00 54.2**	**-0.4**
POCW	**Potky**	**0.07**	**345**	⇑P	**Pg**	**00 00 52.7**	**-0.2**
POCW				S	**Sg**	**00 00 54.2**	**-0.5**
KRCW	**Kraslice**	**0.09**	**33**	⇑P	**Pg**	**00 00 52.9**	**-0.2**
KRCW				S	**Sg**	**00 00 54.6**	**-0.6**
ROHR	**Rohrbach**	**0.09**	**256**	*i* Pg	**Pg**	**00 00 52.8**	**-0.3**
ROHR				*i* Sg	**Sg**	**00 00 54.4**	**-0.7**
ROHR				IAML		00 00 54.5	
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**256**	*i* Pg	**Pg**	**00 00 52.8**	**-0.3**
ROHR				*i* Sg	**Sg**	**00 00 54.4**	**-0.7**
	comp=E,2μm,0.1s						
SKC	**Skalna**	**0.10**	**215**	⇑P	**Pg**	**00 00 53.1**	**-0.1**
SKC				S	**Sg**	**00 00 55.0**	**-0.4**
GUNZ	**Gunzen**	**0.13**	**324**	*i* Pg	**Pg**	**00 00 53.4**	**-0.2**
GUNZ				*i* Sg	**Sg**	**00 00 55.4**	**-0.6**
GUNZ				IAML		00 00 55.6	
	comp=E,1μm,0.2s						
GUNZ	**Gunzen**	**0.13**	**324**	*i* Pg	**Pg**	**00 00 53.4**	**-0.2**
GUNZ				*i* Sg	**Sg**	**00 00 55.4**	**-0.6**
	comp=E,1μm,0.2s						
KOCW	**Kopaniny**	**0.14**	**274**	⇓P	**Pg**	**00 00 53.5**	**-0.2**
KOCW				S	**Sg**	**00 00 55.6**	**-0.6**
MULD	**Muldenberg**	**0.16**	**348**	*i* Pg	**Pg**	**00 00 53.8**	**-0.2**
MULD				*i* Sg	**Sg**	**00 00 56.0**	**-0.7**
MULD				IAML		00 00 56.1	
	comp=E,1μm,0.1s						
MULD	**Muldenberg**	**0.16**	**348**	*i* Pg	**Pg**	**00 00 53.8**	**-0.2**
MULD				*i* Sg	**Sg**	**00 00 56.0**	**-0.7**
	comp=E,1μm,0.1s						
TANN	**Tannenbergstha**	**0.16**	**2**	*i* Pg	**Pg**	**00 00 53.8**	**-0.2**
TANN				*i* Sg	**Sg**	**00 00 56.0**	**-0.7**
TANN				IAML		00 00 56.4	
	comp=E,959nm,0.2s						
TANN	**Tannenbergstha**	**0.16**	**2**	*i* Pg	**Pg**	**00 00 53.8**	**-0.2**
TANN				*i* Sg	**Sg**	**00 00 56.0**	**-0.7**
	comp=E,959nm,0.2s						
TRCW	**Trojmez**	**0.20**	**284**	⇓P	**Pg**	**00 00 54.5**	**-0.2**
TRCW				S	**Sg**	**00 00 57.3**	**-0.5**
ZHC	**Zelena Hora**	**0.21**	**207**	⇑P	**Pg**	**00 00 54.8**	**+0.1**
ZHC				S	**Sg**	**00 00 57.7**	**-0.1**
WERD	**Werda**	**0.21**	**334**	*i* Pg	**Pg**	**00 00 54.7**	**-0.2**
WERD				*i* Sg	**Sg**	**00 00 57.4**	**-0.7**
WERD				IAML		00 00 57.5	
	comp=E,332nm,0.2s						
WERD	**Werda**	**0.21**	**334**	*i* Pg	**Pg**	**00 00 54.7**	**-0.2**
WERD				*i* Sg	**Sg**	**00 00 57.4**	**-0.7**
	comp=E,332nm,0.2s						
TRIB	**Obertriebel**	**0.23**	**295**	*i* Pg	**Pg**	**00 00 54.8**	**-0.3**
TRIB				*i* Sg	**Sg**	**00 00 57.7**	**-0.6**
TRIB				IAML		00 00 58.2	
	comp=E,273nm,0.1s						
TRIB	**Obertriebel**	**0.23**	**295**	*i* Pg	**Pg**	**00 00 54.8**	**-0.3**
TRIB				*i* Sg	**Sg**	**00 00 57.7**	**-0.6**
	comp=E,273nm,0.1s						
LACW	**Lazy**	**0.23**	**152**	⇓P	**Pg**	**00 00 55.5**	**+0.3**
LACW				S	**Sg**	**00 00 58.9**	**+0.3**
VIEL	**Selb-Vielitz**	**0.24**	**253**	*i* Pg	**Pg**	**00 00 55.0**	**-0.2**
VIEL				*i* Sg	**Sg**	**00 00 58.1**	**-0.5**
VIEL	**Selb-Vielitz**	**0.24**	**253**	*i* Pg	**Pg**	**00 00 55.0**	**-0.2**
VIEL				*i* Sg	**Sg**	**00 00 58.1**	**-0.5**
PLN	**Plauen**	**0.30**	**320**	*i* Pg	**Pg**	**00 00 56.0**	**-0.3**
PLN				*i* Sg	**Sg**	**00 00 60.0**	**-0.5**
PLN				IAML		00 01 00.1	
	comp=E,381nm,0.1s						
PLN	**Plauen**	**0.30**	**320**	*i* Pg	**Pg**	**00 00 56.0**	**-0.3**
PLN				*i* Sg	**Sg**	**00 00 60.0**	**-0.5**
	comp=E,381nm,0.1s						
MANZ	**Manzenberg**	**0.35**	**220**	*e*Pg	**Pg**	**00 00 57.2**	**-0.1**
MANZ				*e*Sg	**Sg**	**00 01 01.7**	**-0.3**
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg	**Pg**	**00 00 58.4**	**-0.2**
SCHF				*i* Sg	**Sg**	**00 01 04.0**	**-0.3**
SCHF				IAML		00 01 04.2	
	comp=E,258nm,0.2s						
SCHF	**Schoenfels**	**0.42**	**356**	*i* Pg	**Pg**	**00 00 58.4**	**-0.2**
SCHF				*i* Sg	**Sg**	**00 01 04.0**	**-0.3**
	comp=E,258nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.46**	**341**	*i* Pg	**Pg**	**00 00 59.0**	**-0.2**
GRZ1				*i* Sg	**Sg**	**00 01 04.8**	**-0.7**
GRZ1				IAML		00 01 05.5	
	comp=N,134nm,0.1s						
GRZ1	**Mausoleum Wald**	**0.46**	**341**	*i* Pg	**Pg**	**00 00 59.0**	**-0.2**
GRZ1				*i* Sg	**Sg**	**00 01 04.8**	**-0.7**
	comp=N,134nm,0.1s						
ROTZ	**Rotzenmuhle**	**0.52**	**198**	*e*Pg	**Pg**	**00 01 00.2**	**0.0**
ROTZ				*e*Sg	**Sg**	**00 01 07.1**	**0.0**
MOX	**Moxa**	**0.66**	**306**	*e*Pg	**Pg**	**00 01 02.7**	**-0.3**
MOX				*e*Sg	**Sg**	**00 01 11.2**	**-0.5**
HSKC	**Hora Svate Kat**	**0.72**	**60**	*e*PG	**Pg**	**00 01 03.9**	**-0.2**
HSKC				*e*SG	**Sg**	**00 01 13.2**	**-0.3**
	comp=N,91nm,0.2s						
FBE	**Freiberg**	**0.88**	**40**	*e*Pg	**Pg**	**00 01 07.0**	**-0.1**
FBE				*e*Sg	**Sg**	**00 01 18.0**	**-0.6**
GRF	**Grafenberg Arr**	**0.98**	**235**	*e*Pg	**Pg**	**00 01 08.8**	**-0.2**
GRF				*e*Sg	**Sg**	**00 01 21.2**	**-0.5**
RICC	**Richard**	**1.09**	**74**	*e*PG	**Pb**	**00 01 10.7**	**-0.1**
RICC				*e*SG	**Sg**	**00 01 25.0**	**-0.3**
	comp=N,43nm,0.4s						
CLL	**Collm**	**1.11**	**18**	*i* Pg	**Pb**	**00 01 10.8**	**-0.3**
CLL				*i* x	x	00 01 12.8	
CLL				*i* x	x	00 01 14.8	
CLL				*i* Sg	**Sg**	**00 01 25.2**	**-0.7**
	comp=Z,22nm,0.4s						
CLL	**Collm**	**1.11**	**18**	*e*Pg	**Pb**	**00 01 10.8**	**-0.3**
CLL				*e*Sg	**Sg**	**00 01 25.6**	**-0.3**
BRG	**Berggiesshubel**	**1.13**	**56**	Pg	**Pb**	**00 01 11.5**	**0.0**
BRG				Sg	**Sb**	**00 01 26.4**	**+0.2**
BRG				Amp		00 01 26.7	
	comp=Z,44nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**56**	*e*Pg	**Pb**	**00 01 11.7**	**+0.1**
BRG				*e*Sg	**Sb**	**00 01 25.9**	**-0.2**
WET	**Wettzell**	**1.15**	**166**	*e*Pg	**Pb**	**00 01 11.7**	**-0.1**
WET				*e*Sg	**Sb**	**00 01 26.8**	**+0.2**
PRA	**Prague**	**1.29**	**98**	*e*SG	**Sn**	**00 01 31.5**	**+0.7**
KHC	**Kasperske Hory**	**1.34**	**147**	*e*PG	**Pn**	**00 01 14.7**	**+0.1**
KHC				*e*SG	**Sb**	**00 01 31.7**	**-0.5**
	comp=Z,23nm,0.4s						
PRU	**Pruhonice**	**1.37**	**100**	*e*SG	**Sn**	**00 01 33.8**	**+0.9**
	comp=Z,12nm,0.2s						
PRU	**Pruhonice**	**1.37**	**100**	*e*Pg	**Pn**	**00 01 15.5**	**+0.6**
PRU				*e*Sg	**Sg**	**00 01 34.3**	**0.0**
PVCC	**Panska Ves**	**1.38**	**78**	*e*SG	**Sn**	**00 01 34.2**	**+1.0**
	comp=Z,61nm,0.2s						
ZVC	**Zvikov**	**1.39**	**125**	*e*SG	**Sn**	**00 01 33.9**	**+0.5**
	comp=Z,6.4nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**102**	*e*SG	**Sb**	**00 01 39.2**	**+1.3**
	comp=Z,9.8nm,0.3s						
GEC2	**GERESS Array S**	**1.63**	**150**	*e*Pg	**Pg**	**00 01 21.0**	**-0.4**
GEC2				*e*Sg	**Sb**	**00 01 41.1**	**+0.5**
CKRC	**Cesky Krumlov**	**1.88**	**139**	*e*SG	**Sb**	**00 01 48.2**	**+0.6**
	comp=Z,9.8nm,0.2s						
TREC	**Trest**	**2.19**	**115**	*e*SG	**Sb**	**00 01 58.5**	**+1.9**
UPC	**Upice**	**2.29**	**82**	*e*SG	**Sb**	**00 02 01.7**	**+2.2**
	comp=Z,8.5nm,0.5s						
CHVC	**Chvalec**	**2.33**	**80**	*e*SG	**Sg**	**00 02 03.7**	**-1.2**
OSTC	**Ostas**	**2.42**	**81**	*e*SG	**Sg**	**00 02 06.4**	**-1.6**
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	**Sb**	**00 02 07.4**	**+2.4**
	comp=Z,6.5nm,0.3s						
MOA	**Molln**	**2.69**	**153**	*e*Pg	**Pg**	**00 01 41.4**	**-0.2**
	comp=Z,0.4nm,0.2s						
KRLC	**Kraliky**	**2.79**	**92**	*e*SG	**Sg**	**00 02 17.9**	**-1.7**
	comp=Z,2.6nm,0.5s						
KRUC	**Moravsky**	**2.83**	**114**	*e*PN	**Pn**	**00 01 35.3**	**+0.4**
KRUC				*e*SG	**Sg**	**00 02 18.7**	**-2.1**
LESA	**Schwarzleotal**	**2.84**	**177**	*e*Pg	**Pg**	**00 01 44.3**	**-0.1**
	comp=Z,1.2nm,0.3s						
WTTA	**Wattenberg**	**3.04**	**191**	*e*Pg	**Pg**	**00 01 47.4**	**-1.0**
	comp=Z,0.5nm,0.2s						
MOTA	**Moosalm**	**3.05**	**198**	*e*Pn	**Pn**	**00 01 37.6**	**-0.5**
	comp=Z,0.3nm,0.1s						
SQTA	**Sankt Quirin**	**3.15**	**196**	*e*Pg	**Pg**	**00 01 49.6**	**-0.8**
	comp=Z,1.9nm,0.2s						
CONA	**Conrad Observa**	**3.23**	**135**	Pg	**Pg**	**00 01 51.0**	**-1.0**
	comp=Z,0.4nm,0.2s						
MORC	**Moravsky Berou**	**3.32**	**96**	*e*PN	**Pn**	**00 01 42.0**	**+0.3**
MORC				*e*SG	**Sg**	**00 02 33.5**	**-3.1**
FETA	**Feichten**	**3.43**	**200**	Pg	**Pg**	**00 01 55.9**	**0.0**
	comp=Z,1.6nm,0.6s						
ABTA	**Abfaltersbach**	**3.51**	**179**	*i* Pn	**Pn**	**00 01 44.3**	**-0.1**
	comp=Z,0.2nm,0.1s						
ABTA				Pg	**Pg**	**00 01 56.7**	**-0.7**
	comp=Z,1.7nm,0.4s						
ABTA				*e*Sn	**Sn**	**00 02 26.6**	**+0.7**
	comp=Z,0.8nm,0.2s						
MODS	**Modra-Piesok**	**3.67**	**119**	*e*SG	**Sg**	**00 02 45.6**	**-2.5**

*NOU **16** 00:03:42.8, 38°50S×175°90E, h181km, MLv4.7/14, North Island, New Zealand*
*IDC **16** 00:03:43.8±0.4, 38°07S×176°25E, h171km±5km, mb3.8/8, mbtmp4.3/9, Error ellipse: s-maj=25.5km s-min=14.0km az=59.0*
*NEIC **16** 00:03:43.7±2.8, 38°51S±0°05×175°92E±0°07, h168km±4km, mb4.5/16, Error ellipse: s-maj=7.8km s-min=7.5km az=205.0*
*WEL **16** 00:03:45.7±0.5, 38°S±3°×17°6E±°, h152km±4km, M4.

BKZ	**Black Stump Fm**	**0.83**	**145**	P	**Pn**	00 04 10.0	-0.7
BKZ	**Black Stump Fm**	**0.83**	**145**	Pn	**Pn**	00 04 09.8	-0.8
BKZ				Sn	**Sn**	00 04 27.9	-2.9
BKZ	**Black Stump Fm**	**0.83**	**145**	P	**Pn**	00 04 10.1	-0.5
OPRZ	**Ohinepanea**	**0.83**	**40**	P	**Pn**	00 04 08.9	-1.7
OPRZ				S	**Sn**	00 04 27.4	-3.0
WHVZ	**Whangaehu Hut**	**0.83**	**196**	P	**Pn**	00 04 10.7	-0.2
MTHZ	**Maungataniwha**	**0.83**	**116**	P	**Pn**	00 04 09.9	-0.8
MTHZ				S	**Sn**	00 04 28.3	-2.3
TRVZ	**Turoa**	**0.85**	**198**	P	**Pn**	00 04 11.1	0.0
RTZ	**Ruatahuna**	**0.87**	**99**	Pn	**Pn**	00 04 09.4	-1.6
RTZ				Sn	**Sn**	00 04 28.0	-3.1
RTZ	**Ruatahuna**	**0.87**	**99**	P	**Pn**	00 04 09.8	-1.2
RTZ				S	**Sn**	00 04 28.5	-2.6
WNVZ	**Wahianoa**	**0.87**	**195**	P	**Pn**	00 04 11.0	-0.1
PKVZ	**Pokaka**	**0.91**	**208**	P	**Pn**	00 04 11.2	0.0
MOVZ	**Moawhango**	**0.93**	**186**	P	**Pn**	00 04 11.0	-0.4
MOVZ				S	**Sn**	00 04 29.8	-2.2
NMHZ	**Naumai**	**0.94**	**131**	P	**Pn**	00 04 11.7	+0.2
NMHZ				S	**Sn**	00 04 32.0	-0.1
MTVZ	**Mangateitei**	**0.95**	**200**	P	**Pn**	00 04 11.6	0.0
URZ	**Urewera**	**0.99**	**77**	P	**Pn**	00 04 09.7	-2.0
URZ	**Urewera**	**0.99**	**77**	P	**Pn**	00 04 09.7	-2.0
	3µm,0.4s,baz=332,slow=6.5,SNR=4697						
URZ				S	**Sn**	00 04 28.2	-4.2
	2µm,0.3s,baz=256,slow=23,SNR=43						
URZ	**Urewera**	**0.99**	**77**	P	**Pn**	00 04 09.8	-2.0
URZ				S	**Sn**	00 04 28.3	-4.2
BHHZ	**Black Hill Sta**	**1.01**	**172**	P	**Pn**	00 04 11.6	-0.4
BHHZ				S	**Sn**	00 04 30.7	-2.4
KWHZ	**Kaweka Forest**	**1.02**	**156**	P	**Pn**	00 04 12.0	-0.1
RAHZ	**Arahi**	**1.03**	**115**	P	**Pn**	00 04 11.7	-0.4
RAHZ				S	**Sn**	00 04 31.6	-1.6
WHRZ	**Whale Island**	**1.06**	**54**	P	**Pn**	00 04 10.6	-1.7
VRZ	**Vera Road**	**1.09**	**234**	P	**Pn**	00 04 12.7	+0.2
MCHZ	**McNeill Hill**	**1.15**	**147**	P	**Pn**	00 04 13.4	+0.5
ARHZ	**Arapoaanui**	**1.16**	**132**	P	**Pn**	00 04 13.2	0.0
ARHZ				S	**Sn**	00 04 33.9	-1.1
SNGZ	**Shannon Statio**	**1.18**	**105**	P	**Pn**	00 04 12.7	-0.5
SNGZ				S	**Sn**	00 04 32.9	-2.3
RAGZ	**Rawiri**	**1.20**	**91**	P	**Pn**	00 04 12.3	-1.2
WHHZ	**Waihua**	**1.21**	**120**	P	**Pn**	00 04 13.2	-0.3
WHHZ				S	**Sn**	00 04 34.2	-1.5
KRHZ	**Kereru**	**1.22**	**162**	P	**Pn**	00 04 13.6	0.0
KRHZ				S	**Sn**	00 04 34.4	-1.6
MYMZ	**Mayor Island**	**1.24**	**13**	P	**Pn**	00 04 12.3	-1.5
MWZ	**Matawai**	**1.30**	**84**	P	**Pn**	00 04 12.8	-1.6
MHEZ	**Mangahewa**	**1.36**	**244**	P	**Pn**	00 04 15.7	+0.9
WSRZ	**White Island S**	**1.40**	**47**	P	**Pn**	00 04 13.3	-2.1
WIZ	**White Island**	**1.41**	**47**	P	**Pn**	00 04 13.1	-2.2
PNHZ	**Pukenui**	**1.45**	**170**	P	**Pn**	00 04 15.5	-0.2
WAZ	**Wanganui**	**1.45**	**209**	P	**Pn**	00 04 16.0	+0.3
RIGZ	**Rimuhau**	**1.48**	**99**	P	**Pn**	00 04 15.3	-0.8
CKHZ	**Cape Kidnapper**	**1.49**	**142**	P	**Pn**	00 04 16.3	+0.2
DREZ	**Durham Road**	**1.49**	**241**	P	**Pn**	00 04 16.9	+0.8
KNZ	**Kokohu**	**1.50**	**112**	P	**Pn**	00 04 15.4	-0.7
MKAZ	**Moumakai**	**1.50**	**337**	P	**Pn**	00 04 15.0	-1.2
RUGZ	**Raukumara Rang**	**1.50**	**70**	P	**Pn**	00 04 13.8	-2.6
LREZ	**Lake Rotokare**	**1.51**	**229**	P	**Pn**	00 04 17.0	+0.8
KAHZ	**Kahuranaki**	**1.52**	**150**	P	**Pn**	00 04 16.6	+0.2
TSZ	**Takapari Road**	**1.57**	**178**	P	**Pn**	00 04 16.9	-0.1
PREZ	**Palmer Road**	**1.60**	**237**	P	**Pn**	00 04 17.9	+0.7
KBZ	**Karaka Road Bo**	**1.60**	**330**	P	**Pn**	00 04 16.3	-0.9
NEZ	**North Egmont**	**1.60**	**240**	P	**Pn**	00 04 18.0	+0.7
PRGZ	**Paritu Road**	**1.62**	**106**	P	**Pn**	00 04 16.6	-0.8
WPHZ	**Waipukurau**	**1.63**	**165**	P	**Pn**	00 04 17.5	0.0
PKE	**Pukeiti**	**1.64**	**244**	P	**Pn**	00 04 18.2	+0.5
HAZ	**Te Kaha**	**1.66**	**65**	P	**Pn**	00 04 15.3	-2.5
TWGZ	**Tauwhareparae**	**1.67**	**80**	P	**Pn**	00 04 16.8	-1.2
ETAZ	**East Tamaki Re**	**1.71**	**333**	P	**Pn**	00 04 17.0	-1.3
MHGZ	**Mahia Peninsul**	**1.71**	**114**	P	**Pn**	00 04 18.0	-0.4
PXZ	**Pawanui**	**1.72**	**154**	P	**Pn**	00 04 18.3	0.0
AWAZ	**Awhitu Peninsu**	**1.73**	**325**	P	**Pn**	00 04 17.5	-1.1
KUZ	**Kuaotunu**	**1.74**	**356**	P	**Pn**	00 04 16.9	-1.8
KUZ	**Kuaotunu**	**1.74**	**356**	P	**Pn**	00 04 17.0	-1.6
NBEZ	**Newall Road No**	**1.76**	**243**	P	**Pn**	00 04 19.4	+0.6
OHWZ	**Ohakea**	**1.77**	**194**	P	**Pn**	00 04 19.4	+0.5
WIAZ	**Waiheke Island**	**1.79**	**340**	P	**Pn**	00 04 18.0	-1.2
CNGZ	**Carnagh Statio**	**1.82**	**91**	P	**Pn**	00 04 18.7	-0.7
NMEZ	**Namu Road**	**1.82**	**239**	P	**Pn**	00 04 19.9	+0.5
DVHZ	**Dannevirke**	**1.82**	**173**	P	**Pn**	00 04 18.1	-0.3
PKHZ	**Pakihiroa**	**1.82**	**72**	P	**Pn**	00 04 17.8	-1.8
EPAZ	**Eden Park BICE**	**1.85**	**330**	P	**Pn**	00 04 18.4	-1.3
WTAZ	**Waiatarua**	**1.87**	**326**	P	**Pn**	00 04 19.2	-0.8
PRHZ	**Porangahau**	**1.87**	**162**	P	**Pn**	00 04 20.0	0.0
HBAZ	**Herne Bay Bore**	**1.87**	**330**	P	**Pn**	00 04 18.9	-1.2
MBAZ	**Motutapu North**	**1.89**	**335**	P	**Pn**	00 04 18.9	-1.3
POWZ	**Post Office Ro**	**1.91**	**183**	P	**Pn**	00 04 20.0	-0.3
PUZ	**Puketiti**	**1.91**	**78**	P	**Pn**	00 04 18.6	-1.9
RVAZ	**Riverhead Bore**	**2.00**	**328**	P	**Pn**	00 04 20.3	-1.1
ANWZ	**Angora Road**	**2.02**	**167**	P	**Pn**	00 04 21.6	0.0
ABAZ	**Army Bay**	**2.06**	**336**	P	**Pn**	00 04 21.0	-1.1
PRWZ	**Pori Road**	**2.07**	**178**	P	**Pn**	00 04 21.9	-0.2
WMGZ	**Waiomatatini S**	**2.10**	**72**	P	**Pn**	00 04 20.6	-1.9
MXZ	**Matakaoa Point**	**2.12**	**65**	P	**Pn**	00 04 21.0	-1.8
MXZ	**Matakaoa Point**	**2.12**	**65**	Pn	**Pn**	00 04 20.5	-2.2
MXZ				Sn	**Sn**	00 04 46.8	-5.3
MXZ	**Matakaoa Point**	**2.12**	**65**	P	**Pn**	00 04 21.0	-1.8
MRZ	**Mangatainoka R**	**2.19**	**186**	Pn	**Pn**	00 04 22.2	-1.1
MRZ				Sn	**Sn**	00 04 49.7	-3.8
MRZ	**Mangatainoka R**	**2.19**	**186**	P	**Pn**	00 04 22.9	-0.6
BFZ	**Birch Farm**	**2.21**	**173**	P	**Pn**	00 04 23.3	-0.5
BFZ	**Birch Farm**	**2.21**	**173**	Pn	**Pn**	00 04 22.9	-0.9
BFZ				Sn	**Sn**	00 04 49.1	-4.9
BFZ	**Birch Farm**	**2.21**	**173**	P	**Pn**	00 04 23.2	-0.5
GRZ	**Great Barrier**	**2.26**	**351**	P	**Pn**	00 04 22.9	-1.4
TIWZ	**Tintock**	**2.29**	**180**	P	**Pn**	00 04 24.1	-0.6
OGWZ	**Otaki Gorge**	**2.39**	**193**	P	**Pn**	00 04 25.3	-0.6
HOWZ	**Holdsworth Sta**	**2.43**	**187**	P	**Pn**	00 04 25.3	-0.9
CPWZ	**Castlepoint**	**2.43**	**174**	P	**Pn**	00 04 26.2	-0.1
KIW	**Kapiti Island**	**2.49**	**197**	P	**Pn**	00 04 26.0	-1.0
TMWZ	**Te Maipa**	**2.62**	**180**	P	**Pn**	00 04 27.5	-1.0
MTW	**Mount Morrison**	**2.69**	**186**	P	**Pn**	00 04 28.1	-1.2
CAW	**Cannon Point**	**2.69**	**193**	P	**Pn**	00 04 28.3	-1.1
DUWZ	**D'Urville Isla**	**2.77**	**213**	P	**Pn**	00 04 29.0	-1.2
WCZ	**Waipu Caves**	**2.83**	**334**	P	**Pn**	00 04 29.9	-1.1
TRWZ	**Traveller**	**2.91**	**183**	P	**Pn**	00 04 30.7	-1.3
PAWZ	**Paruwai Farm**	**2.91**	**187**	P	**Pn**	00 04 30.7	-1.4
WEL	**Wellington**	**2.92**	**197**	P	**Pn**	00 04 30.9	-1.2
SNZO	**South Karori**	**2.96**	**198**	Pn	**Pn**	00 04 30.9	-1.7
SNZO				Sn	**Sn**	00 05 05.7	-4.3
MSWZ	**Moikau Station**	**2.97**	**189**	Pn	**Pn**	00 04 30.8	-1.9
MSWZ				Sn	**Sn**	00 05 06.1	-4.1
MSWZ	**Moikau Station**	**2.97**	**189**	P	**Pn**	00 04 31.4	-1.3
TCW	**Tory Channel**	**2.99**	**204**	Pn	**Pn**	00 04 31.0	-1.9
TCW	**Tory Channel**	**2.99**	**204**	P	**Pn**	00 04 31.6	-1.3
BHW	**Baring Head**	**3.02**	**195**	Pn	**Pn**	00 04 31.6	-1.7
BHW	**Baring Head**	**3.02**	**195**	P	**Pn**	00 04 31.9	-1.5
PLWZ	**Palliser**	**3.12**	**189**	Pn	**Pn**	00 04 32.5	-2.1
PLWZ	**Palliser**	**3.12**	**189**	P	**Pn**	00 04 32.9	-1.7
TUWZ	**Tuamarina**	**3.30**	**206**	Pn	**Pn**	00 04 34.6	-2.2
TUWZ	**Tuamarina**	**3.30**	**206**	P	**Pn**	00 04 35.1	-1.7
NNZ	**Nelson**	**3.34**	**214**	Pn	**Pn**	00 04 35.1	-2.2
NNZ	**Nelson**	**3.34**	**214**	P	**Pn**	00 04 35.6	-1.7
TKNZ	**Takaka Hill**	**3.40**	**221**	Pn	**Pn**	00 04 35.4	-2.7
TKNZ	**Takaka Hill**	**3.40**	**221**	P	**Pn**	00 04 36.1	-2.0
QRZ	**Quartz Range**	**3.49**	**227**	P	**Pn**	00 04 37.2	-2.1
QRZ	**Quartz Range**	**3.49**	**227**	Pn	**Pn**	00 04 37.1	-2.1
QRZ	**Quartz Range**	**3.49**	**227**	P	**Pn**	00 04 37.1	-2.1
CMWZ	**Cape Campbell**	**3.50**	**201**	Pn	**Pn**	00 04 38.2	-1.1
CMWZ	**Cape Campbell**	**3.50**	**201**	P	**Pn**	00 04 38.5	-0.8
BSWZ	**Blackbirch Sta**	**3.58**	**205**	Pn	**Pn**	00 04 38.3	-1.9
BSWZ	**Blackbirch Sta**	**3.58**	**205**	P	**Pn**	00 04 38.3	-1.9
OUZ	**Omahuta**	**3.74**	**330**	P	**Pn**	00 04 41.7	-0.7
OUZ	**Omahuta**	**3.74**	**330**	P	**Pn**	00 04 41.7	-0.7
MRNZ	**Matariki Terra**	**3.77**	**219**	Pn	**Pn**	00 04 40.0	-2.7
MRNZ	**Matariki Terra**	**3.77**	**219**	P	**Pn**	00 04 40.5	-2.3
THZ	**Tophouse**	**3.99**	**214**	P	**Pn**	00 04 43.4	-2.2
KHZ	**Kahutara**	**4.32**	**204**	P	**Pn**	00 04 47.8	-1.8
KHZ	**Kahutara**	**4.32**	**204**	P	**Pn**	00 04 47.9	-1.8
DSZ	**Denniston Nort**	**4.52**	**223**	P	**Pn**	00 04 49.5	-2.9
GVZ	**Greta Valley S**	**4.97**	**205**	P	**Pn**	00 04 55.9	-2.3
LTZ	**Lake Taylor**	**5.10**	**212**	P	**Pn**	00 04 56.7	-3.2
AMCZ	**Amberley**	**5.29**	**207**	P	**Pn**	00 04 59.7	-2.6
INZ	**Inchbonnie**	**5.42**	**217**	Pn	**Pn**	00 05 00.3	-3.7
INZ	**Inchbonnie**	**5.42**	**217**	P	**Pn**	00 05 00.6	-3.4
OXZ	**Oxford**	**5.65**	**210**	P	**Pn**	00 05 03.0	-4.0
MQZ	**McQueen's Vall**	**5.76**	**204**	P	**Pn**	00 05 05.1	-3.3
AKCZ	**Akaroa Harbour**	**5.83**	**202**	P	**Pn**	00 05 06.5	-3.0

MHCZ	**Mount Hutt**	**6.01**	**212**	P	**Pn**	00 05 08.0	-3.8
WVZ	**Waitaha Valley**	**6.02**	**219**	P	**Pn**	00 05 09.8	-2.2
WACZ	**Wakanui South**	**6.25**	**208**	P	**Pn**	00 05 11.5	-3.3
RPZ	**Rata Peaks**	**6.37**	**213**	P	**Pn**	00 05 13.7	-2.9
RPZ	**Rata Peaks**	**6.37**	**213**	P	**Pn**	00 05 14.2	-2.3
	95nm,0.4s,baz=340,slow=1.0,SNR=110						
RPZ				S	**Sn**	00 06 22.7	-6.1
	125nm,0.3s,baz=54,slow=13,SNR=19						
RPZ	**Rata Peaks**	**6.37**	**213**	P	**Pn**	00 05 13.2	-3.4
GCSZ	**Gaunt Creek Bo**	**6.40**	**219**	P	**Pn**	00 05 13.2	-3.8
ARCZ	**Arundel**	**6.51**	**212**	P	**Pn**	00 05 15.5	-2.9
FOZ	**Fox Glacier**	**6.82**	**220**	P	**Pn**	00 05 18.1	-4.3
TMZ	**Timaru**	**6.94**	**210**	P	**Pn**	00 05 19.9	-4.1
LBZ	**Lake Benmore**	**7.29**	**214**	P	**Pn**	00 05 25.1	-3.5
ODZ	**Otahua Downs**	**7.63**	**209**	P	**Pn**	00 05 30.6	-2.6
ODZ	**Otahua Downs**	**7.63**	**209**	P	**Pn**	00 05 30.1	-3.1
CTZ	**Chatham Island**	**7.71**	**135**	P	**Pn**	00 05 35.0	+0.8
JCZ	**Jackson Bay**	**7.73**	**222**	P	**Pn**	00 05 31.6	-2.9
JCZ	**Jackson Bay**	**7.73**	**222**	P	Pn	00 05 30.0	-4.6
WKZ	**Wanaka**	**8.16**	**217**	P	**Pn**	00 05 36.2	-4.0
EAZ	**Earnscleugh**	**8.34**	**214**	P	**Pn**	00 05 38.6	-3.8
HHSZ	**Highcliff Hill**	**8.37**	**206**	P	**Pn**	00 05 40.5	-2.3
TUZ	**Tuapeka**	**8.79**	**210**	P	**Pn**	00 05 46.0	-2.3
SYZ	**Scrubby Hill**	**9.46**	**210**	P	**Pn**	00 05 55.0	-2.2
PYZ	**Puysegur Point**	**10.26**	**219**	P	**Pn**	00 06 06.2	-1.5
PYZ	**Puysegur Point**	**10.26**	**219**	Pn	**Pn**	00 06 05.6	-2.1
DZM	**Mont Dzumac**	**18.26**	**331**	P	Pn	00 07 45.9	-1.6
DZM				IAmb	IAmb	00 07 49.8	
	comp=Z,28nm,1.3s						
DZM	**Mont Dzumac**	**18.26**	**331**	P	**P**	**00 07 43.4**	**-2.0**
	comp=Z,4.4nm,1.0s,baz=142,slow=20,SNR=2.5						
MSVF	**Nonsavu**	**20.76**	**6**	P	**P**	**00 08 11.6**	**-0.7**
MSVF				IAmb	IAmb	00 08 18.8	
	comp=Z,26nm,1.1s						
TAU	**Tasmania Unive**	**22.05**	**249**	P	**P**	**00 08 27.1**	**+1.5**
BBOO	**Buckleboo**	**32.67**	**268**	P	**P**	**00 10 01.2**	**+0.6**
BBOO				IAmb	IAmb	00 10 37.6	
	comp=Z,24nm,1.4s						
COEN	**Coen**	**37.85**	**301**	P	**P**	**00 10 45.6**	**+0.7**
AS31	**Alice Springs**	**38.53**	**280**	P	**P**	**00 10 50.6**	**0.0**
ASAR	**Alice Springs**	**38.53**	**280**	P	**P**	**00 10 50.8**	**+0.2**
ASAR	**Alice Springs**	**38.53**	**280**	P	**P**	**00 10 51.5**	**+0.9**
	comp=Z,8.0nm,0.9s,baz=120,slow=7.6,SNR=40						
ASAR				PcP	**PcP**	**00 12 58.6**	**-1.1**
	comp=Z,0.4nm,0.4s,baz=127,slow=3.7,SNR=2.5						
	comp=Z,8.0nm,0.9s						
VNDA	**Vanda**	**39.60**	**185**	P	**P**	**00 11 01.6**	**+2.9**
VNDA	**Vanda**	**39.60**	**185**	P	**P**	**00 11 01.9**	**+3.2**
	comp=Z,2.4nm,0.8s,baz=353,slow=5.5,SNR=11						
VNDA				PcP	**PcP**	**00 13 02.5**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=336,slow=12,SNR=1.9						
	comp=Z,2.4nm,0.8s						
FORT	**Forrest**	**39.73**	**266**	P	**P**	**00 10 59.8**	**-0.7**
WR0	**Warramunga Arr**	**40.14**	**285**	P	**P**	**00 11 01.2**	**-2.7**
WR0				IAmb	IAmb	00 11 14.2	
	comp=Z,11nm,1.2s						
WB2	**Warramunga Arr**	**40.29**	**285**	P	**P**	**00 11 05.0**	**-0.2**
WB2				IAmb	IAmb	00 11 42.3	
	comp=Z,20nm,1.5s						
WRA	**Warramunga Arr**	**40.30**	**285**	P	**P**	**00 11 05.7**	**+0.4**
WRA	**Warramunga Arr**	**40.30**	**285**	P	**P**	**00 11 05.7**	**+0.4**
	comp=Z,0.9nm,0.5s,baz=122,slow=8.7,SNR=11						
	comp=Z,0.9nm,0.5s						
WB0	**Warramunga Arr**	**40.36**	**286**	P	**P**	**00 11 05.4**	**-0.3**
WB0				IAmb	IAmb	00 11 26.1	
	comp=Z,12nm,1.3s						
FITZ	**Fitzroy Crossi**	**48.03**	**280**	P	**P**	**00 12 07.7**	**+1.0**
MORW	**Morawa**	**49.86**	**262**	P	**P**	**00 12 19.4**	**-1.0**
MORW				IAmb	IAmb	00 12 25.6	
	comp=Z,8.3nm,1.1s						
QSPA	**South Pole Qui**	**51.64**	**180**	P	**P**	**00 12 36.6**	**+3.2**
QSPA	**South Pole Qui**	**51.64**	**180**	P	**P**	**00 12 36.5**	**+3.1**
	comp=Z,3.5nm,0.4s,baz=9.7,slow=1.4,SNR=69						
QSPA				PcP	**PcP**	**00 13 45.2**	**+0.7**
	comp=Z,1.9nm,0.7s,baz=359,slow=11,SNR=2.0						
	comp=Z,3.5nm,0.4s						
MAW	**Mawson**	**62.94**	**203**	P	**P**	**00 13 53.4**	**+1.2**
	comp=Z,3.8nm,0.9s,baz=97,slow=11,SNR=5.4						
	comp=Z,3.8nm,0.9s						
TROLL	**Troll, Antarti**	**69.71**	**182**	⇑P	**P**	**00 14 34.8**	**-0.6**
	comp=Z,153nm,0.5s						
SNAA	**Sanae**	**70.14**	**180**	P	**P**	**00 14 38.9**	**+1.0**
SNAA				IAmb	IAmb	00 14 50.7	
	comp=Z,8.9nm,1.4s						
SNAA	**Sanae**	**70.14**	**180**	⇑P	**P**	**00 14 39.0**	**+1.1**
	comp=Z,34nm,0.5s						
SNAA	**Sanae**	**70.14**	**180**	P	**P**	**00 14 39.5**	**+1.5**
	comp=Z,0.8nm,0.3s,baz=187,slow=14,SNR=7.2						
	comp=Z,0.8nm,0.3s						
VNA3	**Neumayer Olymp**	**70.50**	**178**	⇑P	**P**	**00 14 41.9**	**+1.9**
	comp=Z,4.2nm,0.5s						
VNA2	**Neumayer--Watz**	**70.87**	**179**	⇑P	**P**	**00 14 44.4**	**+2.2**
	comp=Z,7.2nm,0.6s,baz=174,slow=5.2						
VNA1	**Neumayer--Stat**	**71.13**	**179**	⇑P	**P**	**00 14 44.9**	**+1.1**
	comp=Z,8.7nm,0.6s						
PLCA	**Paso Flores**	**80.53**	**135**	P	**P**	**00 15 38.5**	**+0.7**
	comp=Z,1.7nm,0.8s,baz=224,slow=6.9,SNR=4.4						
	comp=Z,1.7nm,0.8s						
KSRS	**Korea Array**	**87.54**	**324**	P	**P**	**00 16 13.2**	**+0.5**
	comp=Z,1.8nm,0.8s,baz=146,slow=5.5,SNR=5.7						
	comp=Z,1.8nm,0.8s						
NJ2	**Nanjing**	**87.98**	**315**	*e*P	**P**	**00 16 17.9**	**+2.9**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,110nm,4.3s						
PZH	**PanZhiHua**	**94.76**	**300**	P	**P**	**00 16 47.8**	**+1.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
HHC	**Hu-ho-hao-te**	**98.39**	**316**	*e*P	Pdif	00 17 05.3	+2.5
HHC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**118.96**	**308**	PKP	**PKPdf**	**00 22 10.2**	**-2.0**
	comp=Z,0.3nm,0.5s,baz=102,slow=2.9,SNR=4.2						
KURBB	**Kurchatov Arra**	**122.81**	**311**	PKP	**PKPdf**	**00 22 17.4**	**-2.0**
	comp=Z,0.8nm,0.6s,baz=115,slow=2.0,SNR=9.2						
KBZ	**Khabaz**	**144.57**	**294**	PKP	PKPbc	00 22 58.6	-0.7
	comp=Z,2.3nm,0.6s,baz=95,slow=3.3,SNR=6.9						
ARCES	**ARCESS Array B**	**145.10**	**342**	PKP	**PKPbc**	**00 22 58.9**	**-1.3**
	comp=Z,1.7nm,0.6s,baz=41,slow=1.9,SNR=19						
MMAI	**Mount Meron Ar**	**147.65**	**273**	PKPbc	**PKPbc**	**00 23 08.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=87,slow=2.9,SNR=5.0						
FINES	**FINESS Array B**	**150.40**	**331**	PKPbc	**PKPbc**	**00 23 12.9**	**-1.7**
	comp=Z,1.5nm,0.5s,baz=42,slow=3.2,SNR=31						
BRTR	**Keskin Array B**	**150.82**	**284**	PKPbc	**PKPbc**	**00 23 15.2**	**-1.4**
	comp=Z,1.5nm,0.6s,baz=143,slow=4.2,SNR=14						
TORD	**Torodi Ar. Bea**	**154.24**	**193**	PKPbc	**PKPbc**	**00 23 23.7**	**-1.0**
	comp=Z,0.6nm,0.3s,baz=151,slow=2.4,SNR=17						

STR ***16*** *00:03:47.3±0.8, 44°N±5°×±°, h21km±7km, MLv1.4/13, Error ellipse: s-maj=0.0km s-min=0.0km az=165.5, preliminary*

LDG 16 00:03:47.6±0.1, 43°55N×6°64E, h15km, Md1.5/1, Ml1.4/1, Error ellipse: s-maj=2.6km s-min=1.4km az=160.0, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LMR	**La Mourre**	**0.24**	**203**	*e*Pg	Pg	00 03 52.3	-0.5
LMR				*e*Sg	Sb	00 03 57.2	-0.4
	2.2nm,0.1s						
CALF	**Calern**	**0.29**	**46**	Pg	Pg	00 03 53.6	-0.2
CALF				Sg	Sg	00 03 58.5	+0.5
FLAF	**Flassans-sur-l**	**0.33**	**239**	Pg	Pb	00 03 54.8	-0.3
FLAF				Sg	Sb	00 03 59.7	-0.5
SALSA	**La sagne**	**0.33**	**7**	Pg	Pg	00 03 54.5	0.0
SALSA				Sg	Sg	00 03 59.6	+0.4
MVIF	**Mont Vial**	**0.51**	**47**	Pg	Pb	00 03 58.1	-0.3
MVIF				Sg	Sg	00 04 04.7	+0.1
BLAF	**les Blancs**	**0.58**	**313**	Pg	Pg	00 03 59.2	0.0
BLAF				Sg	Sg	00 04 07.0	0.0
ESCA	**l'Escarene**	**0.60**	**62**	Pg	Pg	00 03 59.4	-0.1
ARTF	**Artigues**	**0.61**	**274**	Sg	Sg	00 04 07.8	+0.3
SBF	**Sospel**	**0.66**	**62**	*e*Pg	Pg	00 04 00.5	0.0
SBF				*e*Sg	Sg	00 04 09.3	+0.1
	1.3nm,0.2s						
SPIF	**crte de Spivo**	**0.67**	**41**	Pg	Pg	00 04 00.4	-0.3
SPIF				Sg	Sg	00 04 09.3	-0.2
LEPF	**PUYLOUBIER**	**0.68**	**268**	Sg	Sg	00 04 09.8	-0.1
TURF	**col de Turini**	**0.69**	**52**	Pg	Pg	00 04 01.0	-0.2
TURF				Sg	Sg	00 04 10.5	+0.2
BURY	**Giardini Botan**	**0.71**	**71**	Pg	Pg	00 04 00.2	-1.2
BURY	**Giardini Botan**	**0.71**	**71**	Sg	Sb	00 04 11.3	+0.2
BSTF	**la Bastide-des**	**0.79**	**295**	Pg	Pg	00 04 02.0	-1.0
BSTF				Sg	Sg	00 04 12.3	-1.1
SMRF	**Simiane la Rot**	**0.88**	**299**	*e*Pg	Pb	00 04 04.2	-0.4
SMRF				*e*Sg	Sg	00 04 16.7	+0.5
	1.0nm,0.2s						
ENR	**Entracque**	**0.88**	**40**	Pg	Pb	00 04 04.1	-0.6
JAUF	**Jausiers**	**0.88**	**5**	Pg	Pg	00 04 04.8	+0.1
RUSF	**Rustrel**	**0.92**	**295**	Pg	Pb	00 04 05.2	-0.1
RUSF				Sg	Sg	00 04 17.9	+0.4

STR 16 00:04:45.0±1.1, 44°N±9°×±°, h18km, MLv1.0/3, Error ellipse: s-maj=0.0km s-min=0.0km az=134.0, preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CALF	**Calern**	**0.28**	**43**	Pg	Pg	00 04 51.3	0.0
CALF				Sg	Sg	00 04 55.5	-0.2
FLAF	**Flassans-sur-l**	**0.33**	**241**	Pg	Pg	00 04 52.1	0.0
FLAF				Sg	Sg	00 04 57.0	+0.1
SALSA	**La sagne**	**0.34**	**4**	Pg	Pg	00 04 52.0	-0.3
SALSA				Sg	Sg	00 04 57.2	0.0

IDC ***16*** *00:13:49.0±1.4, 3°03N×125°58E, h0km, mb4.0/5, mbtmp4.0/5, MS2.8/2, Error ellipse: s-maj=173.7km s-min=18.6km az=64.0*

NEIC ***16*** *00:13:55.1±1.6, 3°4N±0°1×126°6E±0°1

comp=N,1μm,0.5s
DMLN Damoulianata-K 0.53 196 P **Pg** **00 24 24.3 +0.1**
KEF3 Kipouria, Keph 0.57 197 P **Pg** **00 24 24.6 -0.3**
KEF3 Kipouria, Keph 0.57 197 P **Pg** **00 24 24.4 -0.5**
KEF3 S **Sg** **00 24 32.2 -0.2**
VLS Valsamata 0.57 177 P **Pg** **00 24 24.9 0.0**
VLS S **Sg** **00 24 33.5 +1.0**
comp=N,572nm,0.4s
VLS Valsamata 0.57 177 P **Pg** **00 24 24.9 0.0**
VLS S **Sg** **00 24 32.8 +0.3**
VLS AML AML 00 24 34.2
comp=E,1088μm,0.5s
VLS AML AML 00 24 38.0
comp=N,1188μm,0.4s
PSDA Pessada-Kefalo 0.64 178 P **Pg** **00 24 26.1 0.0**
PVO Paravola 0.77 100 P **Pg** **00 24 28.9 +0.2**
PVO S **Sb** **00 24 40.4 +0.6**
comp=N,1μm,0.4s
PVO Paravola 0.77 100 P **Pg** **00 24 28.8 +0.2**
PVO S **Sg** **00 24 39.6 +0.8**
IGT Igoumenitsa 0.80 348 P **Pg** **00 24 29.2 0.0**
IGT Igoumenitsa 0.80 348 P **Pg** **00 24 29.7 +0.4**
IGT S **Sg** **00 24 41.0 +1.3**
IGT AML AML 00 24 43.9
comp=E,324μm,0.4s
IGT AML AML 00 24 47.2
comp=N,361μm,0.3s
JAN Janina 0.93 14 P **Pn** **00 24 34.2 +1.2**
JAN S **Sb** **00 24 46.9 +2.4**
comp=N,295nm,0.7s
EVR Evrytania 0.99 80 P **Pg** **00 24 33.6 +0.7**
EVR Evrytania 0.99 80 P **Pg** **00 24 33.1 +0.2**
EVR S **Sg** **00 24 46.2 +0.3**
EVR AML AML 00 24 57.0
comp=N,245μm,0.8s
EVR AML AML 00 25 01.3
comp=E,194μm,0.5s
RLS Riolos of Patr 1.00 134 P **Pg** **00 24 32.2 -0.8**
RLS Riolos of Patr 1.00 134 P **Pg** **00 24 32.6 -0.4**
RLS S **Sb** **00 24 46.6 +0.3**
RLS AML AML 00 24 54.4
comp=N,242μm,0.7s
RLS AML AML 00 24 56.2
comp=E,191μm,0.6s
ANX Ano Chora 1.08 98 P **Pg** **00 24 34.2 -0.4**
ANX Ano Chora 1.08 98 P **Pg** **00 24 34.2 -0.4**
EFP Efpalio 1.11 107 P **Pg** **00 24 34.3 -0.8**
THL Klokotos Trika 1.40 54 P **Pn** **00 24 39.7 +0.4**
THL Klokotos Trika 1.40 54 P **Pn** **00 24 39.6 +0.3**
AGG Agios Georgios 1.41 78 P **Pn** **00 24 40.5 +1.0**
KLV Kalavryta, Ach 1.44 119 P **Pn** **00 24 39.4 -0.5**
DBRK Dubrovnik 4.32 336 *e*Pn **Pn** **00 25 18.9 -0.6**
STON Ston 4.65 333 *e*Pn **Pn** **00 25 23.6 -0.4**
STON Sn **Sn** **00 26 16.4 -1.6**
LSTV Lastovo 4.88 326 *e*Pn **Pn** **00 25 26.9 -0.3**
LSTV Sn **Sn** **00 26 20.8 -2.9**
MAKA Makarska 5.26 331 *e*Pn **Pn** **00 25 32.5 +0.1**
MORI Morici 6.28 326 *e*Pn **Pn** **00 25 46.6 +0.3**

*IDC **16** 00:29:43.3±4.1,6˚.11S×147˚.58E,h131km±49km,mb3.5/4, mbtmp3.8/6,Error ellipse: s-maj=85.2km s-min=36.5km az=107.0*
ISC 16 00:29:42.2±1.9,**5˚.9S**±0˚.1×**147˚.1E**±0˚.4,**h100**km,**n7,** σ1§**41**/8,**mb3.5**/4,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.45**	**179**	P		**Pn**	**00 30 35.3**	**+1.4**
	12nm,0.6s,baz=301,slow=18,SNR=1.6							
PMG				S		**Sn**	**00 31 12.8**	**-1.2**
	12nm,0.5s,baz=333,slow=11,SNR=1.7							
WRA	**Warramunga Arr**	**18.65**	**221**	P		**Pn**	**00 33 52.9**	**-1.0**
	1.9nm,0.6s,baz=42,slow=12,SNR=12							
ASAR	**Alice Springs**	**21.73**	**214**	P		**P**	**00 34 26.2**	**+0.6**
	1.2nm,0.5s,baz=52,slow=9.1,SNR=11							
	1.2nm,0.5s							
CMAR	**Chiang Mai Arr**	**53.32**	**298**	P		**P**	**00 38 52.8**	**+1.3**
	2.2nm,0.3s,baz=111,slow=7.6,SNR=4.8							
	2.2nm,0.3s							
MKAR	**Makanchi Array**	**77.52**	**320**	P		**P**	**00 41 26.9**	**-0.1**
	0.2nm,0.5s,baz=101,slow=7.5,SNR=3.0							
	0.2nm,0.5s							
ZALV	**Zalesovo Beam**	**79.02**	**328**	P		**P**	**00 41 34.5**	**-0.6**
	0.3nm,0.3s,baz=105,slow=6.0,SNR=1.8							
	0.3nm,0.3s							
TORD	**Torodi Ar. Bea**	**145.18**	**284**	PKPbc		**PKPbc**	**00 49 07.1**	**-1.8**
	0.2nm,0.6s,baz=111,slow=5.0,SNR=1.3							

*NEIC **16** 00:35:32.6±1.7,2˚.74N±0˚.06×128˚.6E±0˚.1,h229km±7km, mb4.3/46,Error ellipse: s-maj=15.2km s-min=8.1km az=83.0*
*DJA **16** 00:35:33.8±0.7,3˚N±6˚×12˚.8E±˚,h213km±6km,M4.2/8, mb4.0/3,mB4.7/1,MLv4.3/8,Mw(mB)3.9/1*
*IDC **16** 00:35:33.4±2.4,2˚.81N×128˚.76E,h247km±24km,mb3.8/22, mbtmp4.4/23,Error ellipse: s-maj=20.5km s-min=9.0km az=77.0*
ISC 16 00:35:33.9±0.4,**2˚.67N**±0˚.05×**128˚.39E**±0˚.07,**h250**km,**n93,** σ1§**48**/98,**mb4.3**/46,**1C, Halmahera**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**2.15**	**208**	P		**Pn**	**00 36 16.2**	**-1.5**
TNTI	**Ternate**	**2.15**	**208**	Pn		**Pn**	**00 36 15.8**	**-1.9**
TNTI	**Ternate**	**2.15**	**208**	P		**Pn**	**00 36 16.2**	**-1.5**
SGSI	**Sangihe**	**3.03**	**290**	P		**Pn**	**00 36 24.2**	**-2.5**
SGSI				S		**S**	**00 37 04.6**	**-3.9**
LBMI	**Labuha**	**3.40**	**195**	P		**Pn**	**00 36 29.8**	**-1.1**
SANI	**Sanana**	**5.27**	**207**	P		**Pn**	**00 36 51.3**	**-1.7**
	111nm,0.7s,1μm0.4nm							
SANI				S		**S**	**00 37 49.6**	**-6.6**
	111nm,0.7s,1μm0.4nm							
GTOI	**Gorontalo**	**5.74**	**249**	P		**Pn**	**00 37 00.5**	**+1.6**
	8.3nm,0.7s,0.0nm							
FAKI	**Fak Fak**	**6.76**	**145**	Pn		**Pn**	**00 37 11.1**	**-0.6**
TOLI2	**Tolitoli**	**7.76**	**259**	Pn		**Pn**	**00 37 27.5**	**+3.3**
GENI	**Genyem**	**12.88**	**114**	P		**P**	**00 38 31.3**	**+0.9**
SOEI	**Soe**	**13.01**	**198**	Pn		**Pn**	**00 38 29.7**	**-0.5**
BATI	**Baumata**	**13.63**	**200**	P		**P**	**00 38 38.5**	**-0.3**
	30nm,0.4s,baz=30,slow=4.2,SNR=4.5							
TABU	**Tabubil**	**15.05**	**122**	P		**Pn**	**00 38 58.7**	**+3.7**
MTN	**Manton Dam**	**15.65**	**170**	P		**P**	**00 39 00.7**	**-0.3**
SBUM	**Sibu**	**16.15**	**270**	P		**Pn**	**00 39 10.2**	**+2.2**
SBUM				IAmb		IAmb	00 39 12.7	
	comp=Z,7.2nm,0.9s							
KSM	**Kuching**	**18.11**	**267**	P		**Pn**	**00 39 31.5**	**+0.6**
KSM	**Kuching**	**18.11**	**267**	P		**Pn**	**00 39 30.7**	**-0.2**
FITZ	**Fitzroy Crossi**	**20.82**	**187**	P		**P**	**00 39 56.3**	**-0.4**
YULB	**Yu-li**	**21.71**	**342**	P		**P**	**00 40 05.3**	**-0.1**
YULB				IAmb		IAmb	00 40 09.9	
	comp=Z,16nm,1.2s							
SSLB	**Suanglung**	**22.19**	**342**	P		**P**	**00 40 09.9**	**+0.1**
SSLB	**Suanglung**	**22.19**	**342**	P		**P**	**00 40 08.0**	**-1.7**
SSLB				IAmb		IAmb	00 40 10.3	
	comp=Z,13nm,0.8s							
WB0	**Warramunga Arr**	**23.07**	**165**	P		**P**	**00 40 17.0**	**-0.8**
WRA	**Warramunga Arr**	**23.22**	**166**	P		**P**	**00 40 19.5**	**+0.3**
WRA	**Warramunga Arr**	**23.22**	**166**	P		**P**	**00 40 19.4**	**+0.3**
	comp=Z,3.0nm,0.3s,baz=343,slow=10,SNR=40							
	comp=Z,3.0nm,0.3s							
WR0	**Warramunga Arr**	**23.29**	**165**	P		**P**	**00 40 19.5**	**-0.2**
WR0				IAmb		IAmb	00 40 19.8	
	comp=Z,18nm,1.4s							
PSA00	**Pilbara Seismi**	**25.50**	**199**	P		**P**	**00 40 40.8**	**+1.0**
UBPT	**Khong Chiam**	**25.83**	**300**	P		**P**	**00 40 45.0**	**+2.2**
UBPT	**Khong Chiam**	**25.83**	**300**	P		**P**	**00 40 44.4**	**+1.6**
UBPT				IAmb		IAmb	00 40 45.4	
	comp=Z,6.3nm,0.8s							
AS31	**Alice Springs**	**26.72**	**169**	P		**P**	**00 40 51.4**	**+0.7**
AS31				IAmb		IAmb	00 40 51.9	
	comp=Z,2.6nm,0.3s							
ASAR	**Alice Springs**	**26.72**	**169**	P		**P**	**00 40 51.8**	**+1.1**
ASAR	**Alice Springs**	**26.72**	**169**	P		**P**	**00 40 51.2**	**+0.5**
	comp=Z,3.4nm,0.3s,baz=352,slow=7.4,SNR=49							
	comp=Z,3.4nm,0.3s							
GSI	**Gunungsitoli**	**30.82**	**268**	P		**P**	**00 41 28.3**	**+1.2**
PHRA	**Phrae**	**31.75**	**302**	P		**P**	**00 41 37.5**	**+2.4**
CMAR	**Chiang Mai Arr**	**32.83**	**301**	P		**P**	**00 41 47.0**	**+2.5**
	comp=Z,4.8nm,0.6s,baz=116,slow=7.1,SNR=24							
	comp=Z,4.8nm,0.6s							
CHTO	**Chiang Mai**	**32.98**	**301**	P		**P**	**00 41 47.8**	**+2.0**
CHTO				IAmb		IAmb	00 41 48.8	
	comp=Z,9.7nm,0.8s							
FORT	**Forrest**	**33.26**	**181**	P		**P**	**00 41 48.4**	**+0.4**
MORW	**Morawa**	**33.71**	**200**	P		**P**	**00 41 52.1**	**+0.3**
MORW				IAmb		IAmb	00 42 21.9	
	comp=Z,12nm,1.1s							
KSRS	**Korea Array**	**34.62**	**359**	P		**P**	**00 41 58.7**	**-0.8**
	comp=Z,12nm,0.4s,baz=177,slow=9.8,SNR=7.3							
	comp=Z,12nm,0.4s							
PZH	**PanZhiHua**	**34.85**	**315**	P		**P**	**00 42 05.1**	**+3.2**
PZH				pmax		pmax		
	comp=Z,6.0nm,0.8s							
PZH				pmax		pmax		
	comp=Z,90nm,4.5s							
MJAR	**Matsushiro Arr**	**34.90**	**14**	P		**P**	**00 41 59.4**	**-2.7**
	comp=Z,1.9nm,0.4s,baz=180,slow=9.1,SNR=9.4							
	comp=Z,1.9nm,0.4s							
BBOO	**Buckleboo**	**36.03**	**169**	P		**P**	**00 42 12.0**	**+0.4**
BBOO				IAmb		IAmb	00 42 38.7	
	comp=Z,29nm,1.4s							
STKA	**Stephens Creek**	**36.58**	**161**	P		**P**	**00 42 16.2**	**0.0**
STKA	**Stephens Creek**	**36.58**	**161**	P		**P**	**00 42 16.2**	**0.0**
	comp=Z,3.7nm,0.4s,baz=336,slow=7.2,SNR=8.9							
	comp=Z,3.7nm,0.4s							
NWAO	**Narrogin (SRO)**	**36.95**	**196**	P		**P**	**00 42 20.6**	**+1.2**
NWAO				IAmb		IAmb	00 42 34.7	
	comp=Z,25nm,1.4s							
ARMA	**Armidale**	**39.69**	**148**	P		**P**	**00 42 41.7**	**-0.6**
ARMA				IAmb		IAmb	00 42 52.1	
	comp=Z,28nm,1.5s							
LZH	**Lanzhou**	**40.26**	**329**	⇑P		**P**	**00 42 48.8**	**+1.8**
LZH				sP		sP	00 44 10.3	+4.6
LZH				pmax		pmax		
	comp=Z,31nm,1.5s							
HHC	**Hu-ho-hao-te**	**40.93**	**340**	*e*P		**P**	**00 42 54.5**	**+2.2**
HHC				pmax		pmax		
	comp=Z,4.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,28nm,4.1s							
USRK	**Ussuriysk Ar.**	**41.48**	**4**	P		**P**	**00 42 55.4**	**-1.1**
USRK	**Ussuriysk Ar.**	**41.48**	**4**	P		**P**	**00 42 55.3**	**-1.3**
	comp=Z,2.6nm,0.7s,baz=176,slow=8.0,SNR=6.3							
	comp=Z,2.6nm,0.7s							
KLR	**Kul'dur**	**46.48**	**3**	P		**P**	**00 43 34.3**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=201,slow=8.6,SNR=4.5							
	comp=Z,0.7nm,0.4s							
ULN	**Ulaanbaatar**	**48.64**	**341**	P		**P**	**00 43 53.0**	**+0.1**
SONM	**Songino Array**	**48.83**	**340**	P		**P**	**00 43 54.4**	**0.0**
SONM	**Songino Array**	**48.83**	**340**	P		**P**	**00 43 54.5**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=154,slow=7.5,SNR=10							
	comp=Z,1.9nm,0.6s							
PETK	**Petropavlovsk-**	**55.80**	**21**	P		**P**	**00 44 43.5**	**-1.7**
	comp=Z,1.4nm,0.7s,baz=216,slow=48,SNR=1.9							
	comp=Z,1.4nm,0.7s							
MK31	**Makanchi Array**	**59.37**	**325**	P		**P**	**00 45 10.1**	**0.0**
MKAR	**Makanchi Array**	**59.37**	**325**	P		**P**	**00 45 10.5**	**+0.4**
MKAR	**Makanchi Array**	**59.37**	**325**	P		**P**	**00 45 10.7**	**+0.6**
	comp=Z,4.1nm,0.6s,baz=119,slow=8.3,SNR=47							
MKAR				PcP		**PcP**	**00 45 54.9**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=107,slow=5.0,SNR=5.7							
MKAR				ScP		**ScP**	**00 49 33.3**	**+1.5**
	comp=Z,0.7nm,0.9s,baz=127,slow=3.8,SNR=4.1							
	comp=Z,4.1nm,0.6s							
LBZ	**Lake Benmore**	**59.89**	**146**	P		**P**	**00 45 14.2**	**+0.6**
KSH	**Kashi**	**59.96**	**315**	P		**P**	**00 45 16.4**	**+2.0**
RTZ	**Ruatahuna**	**60.74**	**138**	P		**P**	**00 45 19.2**	**-0.3**
ZAA0	**Zalesovo Array**	**62.28**	**333**	P		**P**	**00 45 28.4**	**-1.0**
ZALV	**Zalesovo Beam**	**62.28**	**333**	P		**P**	**00 45 28.0**	**-1.5**
ZALV	**Zalesovo Beam**	**62.28**	**333**	P		**P**	**00 45 28.7**	**-0.8**
	comp=Z,1.8nm,0.4s,baz=115,slow=6.2,SNR=12							
	comp=Z,1.8nm,0.4s							
ARSB	**Arslanbob**	**62.77**	**316**	P		**P**	**00 45 33.8**	**+0.6**
KURBB	**Kurchatov Arra**	**63.52**	**327**	P		**P**	**00 45 37.8**	**+0.1**
	comp=Z,8.2nm,0.6s,baz=127,slow=6.0,SNR=103							
KURBB				PcP		**PcP**	**00 46 11.6**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=120,slow=4.1,SNR=1.5							
	comp=Z,8.2nm,0.6s							
KURK	**Kurchatov**	**63.52**	**327**	P		**P**	**00 45 37.2**	**-0.5**
KK31	**Karatay Array**	**65.13**	**317**	P		**P**	**00 45 48.5**	**+0.2**
KK31				IAmb		IAmb	00 45 49.5	
	comp=Z,4.5nm,1.1s							
BVAR	**Borovoye Array**	**69.11**	**327**	P		**P**	**00 46 13.1**	**+0.1**
	comp=Z,5.0nm,0.6s,baz=118,slow=7.3,SNR=27							
	comp=Z,5.0nm,0.6s							
BRVK	**Borovoye**	**69.18**	**327**	P		**P**	**00 46 13.5**	**+0.1**
BRVK				IAmb		IAmb	00 46 14.4	
	comp=Z,5.2nm,0.8s							
GEYT	**Alibeck**	**72.84**	**309**	P		**P**	**00 46 36.7**	**+0.9**
	comp=Z,1.5nm,0.6s,baz=51,slow=2.8,SNR=8.4							
	comp=Z,1.5nm,0.6s							
ABKAR	**Akbulak array**	**74.01**	**321**	P		**P**	**00 46 41.9**	**-0.4**
M14K	**Bethel**	**77.83**	**28**	P		**P**	**00 47 03.9**	**+0.4**
M14K				IAmb		IAmb	00 47 25.0	
	comp=Z,9.4nm,1.4s							
M16K	**Timber Creek**	**79.31**	**28**	P		**P**	**00 47 11.9**	**+0.3**
M16K				IAmb		IAmb	00 47 20.6	
	comp=Z,6.2nm,1.4s							
H17K	**Granite Mounta**	**79.89**	**24**	P		**P**	**00 47 15.5**	**+0.8**
H17K				IAmb		IAmb	00 47 27.1	
	comp=Z,6.0nm,1.4s							
E18K	**Tukpahlearik C**	**80.32**	**22**	P		**P**	**00 47 17.6**	**+0.7**
L18K	**Granite Mounta**	**80.64**	**27**	P		**P**	**00 47 19.9**	**+1.2**
C19K	**Lookout Ridge**	**81.15**	**20**	P		**P**	**00 47 22.3**	**+0.9**
C19K				IAmb		IAmb	00 47 23.4	
	comp=Z,8.0nm,1.1s							
G19K	**Purcell Mounta**	**81.33**	**23**	P		**P**	**00 47 22.3**	**0.0**
G19K				IAmb		IAmb	00 47 23.9	
	comp=Z,3.1nm,0.7s							
H19K	**Roundabout Mou**	**81.45**	**24**	P		**P**	**00 47 23.1**	**+0.2**
H19K				IAmb		IAmb	00 47 24.8	
	comp=Z,2.4nm,0.6s							
D19K	**Kuna River**	**81.51**	**21**	P		**P**	**00 47 23.7**	**+0.5**
D19K				IAmb		IAmb	00 47 24.5	
	comp=Z,3.3nm,0.5s							
J20K	**Nowinta River**	**82.15**	**26**	P		**P**	**00 47 27.1**	**+0.6**
VNDA	**Vanda**	**82.18**	**173**	P		**P**	**00 47 25.6**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=0.8,slow=8.7,SNR=2.8							
	comp=Z,0.6nm,0.4s							
CAST	**Castle Rocks**	**82.93**	**26**	P		**P**	**00 47 31.9**	**+1.2**
B21K	**Ikpikpuk River**	**82.99**	**20**	P		**P**	**00 47 31.4**	**+0.7**
B21K				IAmb		IAmb	00 47 32.6	
	comp=Z,4.0nm,0.6s							
B22K	**Teshekpuk Lake**	**83.53**	**19**	P		**P**	**00 47 34.2**	**+0.7**
B22K				IAmb		IAmb	00 47 34.7	
	comp=Z,2.6nm,0.6s							
C23K	**Itkillik River**	**84.40**	**20**	P		**P**	**00 47 38.3**	**+0.4**
C23K				IAmb		IAmb	00 47 39.6	
	comp=Z,2.9nm,0.6s							
ILAR	**Eielson Array**	**85.34**	**25**	P		**P**	**00 47 41.0**	**-1.7**
	comp=Z,0.1nm,0.4s,baz=274,slow=4.4,SNR=2.0							
	comp=Z,0.1nm,0.4s							
SPITS	**Spitsbergen Ar**	**91.83**	**349**	P		**P**	**00 48 12.3**	**-0.8**
	comp=Z,3.6nm,0.9s,baz=96,slow=11,SNR=1.8							
	comp=Z,3.6nm,0.9s							
ARCES	**ARCESS Array B**	**92.01**	**340**	P		**P**	**00 48 13.3**	**-0.7**
	comp=Z,2.6nm,0.6s,baz=86,slow=5.7,SNR=20							
	comp=Z,2.6nm,0.6s							
QSPA	**South Pole Qui**	**92.58**	**180**	P		**P**	**00 48 17.8**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=294,slow=18,SNR=9.5							
	comp=Z,1.0nm,0.8s							
FINES	**FINESS Array B**	**93.54**	**332**	P		**P**	**00 48 20.1**	**-1.2**
	comp=Z,1.3nm,0.8s,baz=71,slow=6.5,SNR=4.5							
	comp=Z,1.3nm,0.8s							
HFS	**Hagfors**	**99.72**	**333**	P		**Pdif**	**00 48 48.2**	**-1.0**
	comp=Z,0.7nm,0.5s,baz=93,slow=5.9,SNR=6.6							
	comp=Z,0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**124.82**	**288**	PKP		**PKiKP**	**00 54 05.3**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=59,slow=1.9,SNR=8.0							

*SOME **16** 00:49:32.2,41˚.30N×83˚.43E,h0km*
*NNC **16** 00:49:35.8±1.4,41˚.39N×83˚.33E,h4km±5km,mb3.6, mpv3.3,Error ellipse: s-maj=10.5km s-min=6.7km az=164.0*
ISC 16 00:49:41.9±2.5,**41˚.6N**±0˚.1×**83˚.15E**±0˚.08,**h10**km,**n34,** σ1§**48**/49,**1C-5D, Southern Xinjiang**

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
SHLS	**Shalkode**	**3.16**	**301**	Lg		Lg	00 51 17.7	
SHLS	**Shalkode**	**3.16**	**301**	*e*P		**Pn**	**00 50 33.4**	**+1.6**
	20nm,0.3s							
SHLS				*e*S		**Sb**	**00 51 17.6**	**+0.8**
	110nm,0.3s							
PDGK	**Podgornoye**	**3.23**	**304**	Pg		**Pb**	**00 50 37.0**	**-2.3**
	3.2nm,0.5s							
PDGK	**Podgornoye**	**3.23**	**304**	Pn		**Pn**	**00 50 30.2**	**-2.6**
PDGK				Sn		**Sn**	**00 51 12.8**	**+1.5**
UZB	**Uzynbulak**	**3.44**	**299**	Pg		**Pb**	**00 50 42.3**	**-0.7**
	4.1nm,0.4s							
UZB				Lg		Lg	00 51 32.8	
	37nm,0.3s							
UZB	**Uzynbulak**	**3.44**	**299**	*e*P		**Pb**	**00 50 42.3**	**-0.7**
	4.3nm,0.2s							
UZB				*e*S		**Sg**	**00 51 32.8**	**+0.4**
	37nm,0.3s							
DJR	**Jarkent**	**3.70**	**319**	Lg		Lg	00 51 42.9	
	16nm,0.4s							
DJR	**Jarkent**	**3.70**	**319**	*e*P		**Pb**	**00 50 48.0**	**+0.7**
	13nm,0.2s							
DJR				*e*S		**Sg**	**00 51 42.9**	**+2.2**
	16nm,0.4s							
SATY	**Saty**	**3.82**	**294**	Lg		Lg	00 51 46.1	
	45nm,0.8s							
SATY	**Saty**	**3.82**	**294**	*e*P		**Pb**	**00 50 50.1**	**+0.6**
	4.8nm,0.1s							
SATY				*e*S		**Sg**	**00 51 46.1**	**+1.6**
	41nm,0.2s							
KURS	**Kuram**	**4.15**	**299**	Pg		**Pb**	**00 50 55.3**	**+0.3**
	5.8nm,0.9s							
KURS				Lg		Lg	00 51 54.8	
	14nm,0.9s							
KURS	**Kuram**	**4.15**	**299**	*e*P		**Pb**	**00 50 55.3**	**+0.3**
	5.8nm,0.3s							
KURS				*e*S		**Sg**	**00 51 54.8**	**-0.3**
	15nm,0.3s							
BLB	**Baldybastay**	**4.26**	**308**	Pg		**Pb**	**00 50 58.1**	**+1.1**
	22nm,0.6s							
BLB				Lg		Lg	00 52 00.3	
	22nm,0.8s							
KAPS	**Kapalarasan**	**4.63**	**325**	Pg		**Pb**	**00 51 03.0**	**-0.2**
	3.4nm,0.4s							
KAPS				Lg		Lg	00 52 08.7	
	11nm,0.7s							
KAPS	**Kapalarasan**	**4.63**	**325**	*e*P		**Pb**	**00 51 03.0**	**-0.2**
	3.4nm,0.4s							
KAPS				*e*S		**Sg**	**00 52 08.7**	**-1.7**
	11nm,0.4s							
ARXS	**Arharly**	**4.72**	**306**	Lg		Lg	00 52 13.7	
	15nm,0.5s							
ARXS	**Arharly**	**4.72**	**306**	*e*P		**Pb**	**00 51 06.0**	**+1.3**
	3.7nm,0.3s							
ARXS				*e*S		**Sg**	**00 52 13.7**	**+0.3**
	16nm,0.3s							
KOTS	**Kotyrbulak**	**4.77**	**292**	Pg		**Pb**	**00 51 07.0**	**+1.4**
	6.5nm,0.6s							
KOTS				Lg		Lg	00 52 15.2	
	43nm,0.4s							
KOTS	**Kotyrbulak**	**4.77**	**292**	*e*P		**Pb**	**00 51 07.0**	**+1.4**
	6.5nm,0.2s							
KOTS				*e*S		**Sg**	**00 52 15.2**	**+0.2**
	48nm,0.3s							
MDOK	**Medeo**	**4.79**	**291**	Pg		**Pb**	**00 51 06.9**	**+0.8**
	2.4nm,0.6s							
MDOK				Lg		Lg	00 52 15.0	
	19nm,0.9s							
MDOK	**Medeo**	**4.79**	**291**	*e*P		**Pb**	**00 51 06.9**	**+0.8**
	2.4nm,0.6s							
MDOK				*e*S		**Sg**	**00 52 15.0**	**-0.8**
	23nm,0.3s							
TNSS	**Tian-Shan**	**4.83**	**290**	Pg		**Pb**	**00 51 07.8**	**+1.0**
	1.8nm,0.4s							
TNSS				Lg		Lg	00 52 16.5	
	7.6nm,0.6s							
TNSS	**Tian-Shan**	**4.83**	**290**	*e*P		**Pb**	**00 51 07.8**	**+1.0**
	1.8nm,0.2s							
TNSS				*e*S		**Sg**	**00 52 16.5**	**-0.5**
	12nm,0.4s							
IZV	**Izvestkoviy**	**5.07**	**289**	Pg		**Pb**	**00 51 12.2**	**+1.5**
	1.3nm,0.4s							
IZV				Lg		Lg	00 52 24.2	
	19nm,0.8s							
IZV	**Izvestkoviy**	**5.07**	**289**	*e*P		**Pb**	**00 51 12.2**	**+1.5**
	1.3nm,0.4s							
IZV				*e*S		**Sg**	**00 52 24.2**	**-0.3**
	19nm,0.8s							
KTBS	**Karatobe**	**5.23**	**296**	Lg		Lg	00 52 27.4	
	14nm,0.3s							
KTBS	**Karatobe**	**5.23**	**296**	*e*P		**Pb**	**00 51 13.9**	**+0.5**
	1.7nm,0.1s							
KTBS				*e*S		**Sg**	**00 52 27.4**	**-2.3**
	25nm,0.2s							
MK31	**Makanchi Array**	**5.26**	**354**	⇓Pn		**Pn**	**00 50 58.7**	**-1.8**
	0.5nm,0.6s,baz=184,slow=14,SNR=10.0							
MK31				⇓Pg		**Pb**	**00 51 15.3**	**+1.5**
	2.9nm,0.7s,baz=178,slow=12,SNR=5.1							
MK31				Sn		**Sn**	**00 52 02.5**	**+1.3**
	baz=176,slow=24							
MK31				⇓Lg		Lg	00 52 27.8	
	16nm,0.6s							
MAKZ	**Makanchi**	**5.30**	**351**	⇑Pn		**Pn**	**00 50 58.3**	**-2.8**
	1.3nm,0.9s							
MAKZ				⇓Pg		**Pb**	**00 51 16.6**	**+1.9**
	1.3nm,0.6s							
MAKZ				Sn		**Sn**	**00 52 02.9**	**+0.7**
MAKZ				⇓Lg		Lg	00 52 28.3	
	9.0nm,0.7s							
KST	**Kastek**	**5.53**	**288**	Pg		**Pb**	**00 51 19.9**	**+1.3**
	2.3nm,0.7s							
KST				Lg		Lg	00 52 37.6	
	26nm,0.8s							
KST	**Kastek**	**5.53**	**288**	*e*P		**Pb**	**00 51 19.9**	**+1.3**
	1.9nm,0.2s							
KST				*e*S		**Sg**	**00 52 37.6**	**-1.8**
	23nm,0.

AHML	**Horco Molle**	**3.18**	**155**	*eP*		**Pn**	**00 51 42.4**	**+1.2**
PB14	**IPOC Station P**	**3.34**	**257**	*eP*		**Pn**	**00 51 45.4**	**+1.9**
PB14				*eS*		**Sn**	**00 52 25.1**	**-1.5**
PB14				IAML			00 52 31.1	
	comp=Z,41nm,0.2s							
PB14	**IPOC Station P**	**3.34**	**257**	⇓*eP*		**Pn**	**00 51 44.7**	**+1.2**
PB14				*eS*		**Sn**	**00 52 24.0**	**-2.6**
PB04	**IPOC Station P**	**3.43**	**296**	*eP*		**Pn**	**00 51 46.1**	**+1.7**
PB04				*eS*		**Sn**	**00 52 27.4**	**-0.9**
PB04				IAML			00 52 31.7	
	comp=Z,144nm,0.3s							
PB04	**IPOC Station P**	**3.43**	**296**	*i* P		**Pn**	**00 51 46.0**	**+1.5**
PB04				*eS*		**Sn**	**00 52 24.5**	**-3.8**
PB10	**IPOC Station P**	**3.44**	**276**	*eP*		**Pn**	**00 51 45.9**	**+1.6**
PB10				*eS*		**Sn**	**00 52 28.5**	**+0.4**
PB10				IAML			00 52 29.2	
	comp=Z,41nm,0.1s							
PB10	**IPOC Station P**	**3.44**	**276**	*eP*		**Pn**	**00 51 45.8**	**+1.6**
PB10				*eS*		**Sn**	**00 52 23.6**	**-4.5**
PB10				IAML			00 52 30.6	
	comp=E,67nm,0.2s							
PB07	**IPOC Station P**	**3.55**	**307**	*eP*		**Pn**	**00 51 47.1**	**+1.2**
PB07				*eS*		**Sn**	**00 52 29.1**	**-1.8**
PB07				IAML			00 52 30.4	
	comp=Z,130nm,0.3s							
PB07	**IPOC Station P**	**3.55**	**307**	*eP*		**Pn**	**00 51 47.2**	**+1.3**
PB07				*eS*		**Sn**	**00 52 28.8**	**-2.1**
PB01	**IPOC Station P**	**3.76**	**319**	*eP*		**Pn**	**00 51 49.7**	**+1.4**
PB01				*eS*		**Sn**	**00 52 34.5**	**-0.7**
PB01				IAML			00 52 36.9	
	comp=Z,83nm,0.1s							
PB01	**IPOC Station P**	**3.76**	**319**	*eP*		**Pn**	**00 51 49.6**	**+1.4**
PB01				*eS*		**Sn**	**00 52 33.9**	**-1.3**
PB02	**IPOC Station P**	**3.82**	**312**	*eP*		**Pn**	**00 51 50.5**	**+1.5**
PB02				*eS*		**Sn**	**00 52 35.1**	**-1.5**
PB02				IAML			00 52 39.9	
	comp=Z,150nm,0.1s							
PB02	**IPOC Station P**	**3.82**	**312**	*eP*		**Pn**	**00 51 50.3**	**+1.3**
PB02				*eS*		**Sn**	**00 52 34.1**	**-2.5**
AC01	**Pan de Azucar**	**4.09**	**236**	*eP*		**Pn**	**00 51 52.8**	**+0.6**
AC01				*eS*		**Sn**	**00 52 40.2**	**-2.1**
PB08	**IPOC Station P**	**4.32**	**330**	*eP*		**Pn**	**00 51 57.5**	**+2.1**
PB08				*eS*		**Sn**	**00 52 48.5**	**+0.5**
PB08				IAML			00 52 52.6	
	comp=Z,18nm,0.3s							
PB08	**IPOC Station P**	**4.32**	**330**	*eP*		**Pn**	**00 51 57.4**	**+2.0**
PB08				*eS*		**Sn**	**00 52 48.3**	**+0.3**
PATCX	**Punta Patache**	**4.34**	**314**	*eP*		**Pn**	**00 51 56.3**	**+0.9**
PATCX				*eS*		**Sn**	**00 52 46.6**	**-1.5**
PATCX				IAML			00 52 49.6	
	comp=Z,23nm,0.2s							
TA01	**Diego Aracena**	**4.54**	**316**	*eP*		**Pn**	**00 51 58.8**	**+1.0**
TA01				*eS*		**Sn**	**00 52 51.5**	**-0.9**
TA01				IAML			00 52 52.9	
	comp=Z,21nm,0.5s							
HMBC	**Humberstone**	**4.58**	**321**	*eP*		**Pn**	**00 51 58.6**	**+0.2**
HMBC				*eS*		**Sn**	**00 52 51.0**	**-2.6**
HMBC				IAML			00 52 53.1	
	comp=Z,72nm,0.2s							
HMBC	**Humberstone**	**4.58**	**321**	*eP*		**Pn**	**00 51 58.5**	**+0.2**
HMBC				*i* S		**Sn**	**00 52 50.9**	**-2.7**
GO01	**Chusmiza**	**4.75**	**332**	*eS*		**Sn**	**00 52 59.9**	**+2.0**
PB11	**IPOC Station P**	**4.88**	**327**	*eP*		**Pn**	**00 52 02.5**	**+0.3**
PB11				*eS*		**Sn**	**00 52 58.6**	**-1.8**
PB11				IAML			00 53 03.3	
	comp=Z,34nm,0.4s							

IDC ***16*** *00:55:27.4±2.0, 12°.94N×145°.47E, h49km±15km, mb3.8/15, mbtmp4.1/15, MS3.2/5, Error ellipse: s-maj=27.2km s-min=16.5km az=91.0*
NEIC ***16*** *00:55:27.1±1.2, 13°.0N±0°.1×145°.41E±0°.10, h34km±5km, mb4.4/29, Error ellipse: s-maj=17.6km s-min=13.5km az=166.0*

ISC 16 00:55:26.9±0.8, 12°.9N±0°.1×145°.4E±0°.1, h43km, n53, σ0§93/49, mb4.2/28, MS3.2/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.88**	**324**	Pn	**Pn**	**00 55 41.8**	**-1.1**
GUMO	**Guam**	**0.88**	**324**	P	**Pn**	**00 55 42.2**	**-0.7**
	974nm,0.3s,baz=162,slow=9.9,SNR=87						
GUMO				S	**Sn**	**00 55 56.3**	**+1.9**
	2um,0.3s,baz=162,slow=20,SNR=10						
DAV	**Davao City (W)**	**20.34**	**255**	LR	LR	01 07 46.7	
	comp=Z,37nm,21.3s,baz=122,slow=36						
JOW	**Kunigami**	**21.23**	**313**	P	**P**	**01 00 07.8**	**-1.4**
	3.5nm,0.5s,baz=113,slow=22,SNR=6.7						
JOW				LR	LR	01 06 53.6	
	comp=Z,87nm,20.1s,baz=90,slow=32						
	3.5nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**21.71**	**69**	T	T	01 23 11.9	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**21.72**	**69**	T	T	01 23 16.1	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**21.73**	**69**	T	T	01 23 12.7	
	baz=257						
WB0	**Warramunga Arr**	**34.20**	**199**	P	**P**	**01 02 08.5**	**0.0**
WB0				IAmb	IAmb	01 02 34.8	
	comp=Z,6.4nm,1.1s						
WR0	**Warramunga Arr**	**34.33**	**198**	P	**P**	**01 02 10.8**	**+1.1**
WB2	**Warramunga Arr**	**34.38**	**199**	P	**P**	**01 02 11.2**	**+1.1**
WRA	**Warramunga Arr**	**34.38**	**199**	P	**P**	**01 02 07.1**	**-3.0**
WRA	**Warramunga Arr**	**34.38**	**199**	P	**P**	**01 02 10.6**	**+0.4**
	comp=Z,1.4nm,0.6s,baz=21,slow=9.7,SNR=14						
	comp=Z,1.4nm,0.6s						
KLR	**Kul'dur**	**37.96**	**345**	LR	LR	01 17 36.4	
	comp=Z,35nm,18.4s,baz=162,slow=35						
ASAR	**Alice Springs**	**38.02**	**197**	P	**P**	**01 02 42.2**	**+1.1**
	comp=Z,1.1nm,1.0s,baz=18,slow=9.6,SNR=6.6						
	comp=Z,1.1nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.98**	**283**	P	**P**	**01 03 39.0**	**+0.6**
	comp=Z,1.5nm,0.5s,baz=80,slow=7.0,SNR=2.1						
	comp=Z,1.5nm,0.5s						
SONM	**Songino Array**	**47.61**	**325**	P	**P**	**01 03 58.7**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=116,slow=6.6,SNR=2.8						
	comp=Z,0.7nm,0.7s						
MK31	**Makanchi Array**	**62.36**	**316**	P	**P**	**01 05 46.5**	**+1.3**
MKAR	**Makanchi Array**	**62.36**	**316**	P	**P**	**01 05 46.4**	**+1.1**
MKAR	**Makanchi Array**	**62.36**	**316**	P	**P**	**01 05 45.5**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=89,slow=9.5,SNR=7.7						
	comp=Z,0.4nm,0.5s						
MAKZ	**Makanchi**	**62.57**	**316**	P	**P**	**01 05 46.7**	**+0.1**
H18K	**Honhosa River**	**64.56**	**23**	P	**P**	**01 05 59.6**	**+0.2**
H18K				IAmb	IAmb	01 06 07.1	
	comp=Z,4.1nm,1.3s						
G19K	**Purcell Mounta**	**65.46**	**22**	P	**P**	**01 06 05.5**	**+0.2**
G19K				IAmb	IAmb	01 06 06.5	
	comp=Z,3.0nm,0.9s						
KURBB	**Kurchatov Arra**	**65.50**	**320**	P	**P**	**01 06 05.3**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=101,slow=6.6,SNR=10.0						
	comp=Z,0.9nm,0.6s						
J20K	**Nowinta River**	**65.82**	**25**	P	**P**	**01 06 07.8**	**+0.2**
J20K				IAmb	IAmb	01 06 09.7	
	comp=Z,3.8nm,1.1s						
CAST	**Castle Rocks**	**66.41**	**26**	P	**P**	**01 06 11.1**	**-0.3**
CAST				IAmb	IAmb	01 06 27.6	
	comp=Z,6.6nm,1.4s						
B20K	**Meade River**	**67.15**	**18**	P	**P**	**01 06 17.3**	**+1.4**
B21K	**Ikpikpuk River**	**67.78**	**19**	P	**P**	**01 06 20.5**	**+0.6**
B22K	**Teshekpuk Lake**	**68.44**	**19**	P	**P**	**01 06 23.7**	**-0.4**
B22K				IAmb	IAmb	01 06 46.2	
	comp=Z,4.3nm,1.1s						
ILAR	**Eielson Array**	**68.99**	**25**	P	**P**	**01 06 26.4**	**-1.3**
	comp=Z,0.9nm,0.8s,baz=261,slow=4.6,SNR=7.7						
	comp=Z,0.9nm,0.8s						
C23K	**Itkillik River**	**69.15**	**19**	P	**P**	**01 06 29.3**	**+0.8**
G24K	**Hadweenzic Riv**	**69.27**	**23**	P	**P**	**01 06 29.6**	**+0.2**
G24K				IAmb	IAmb	01 06 35.1	
	comp=Z,3.6nm,1.2s						
E24K	**Your Creek**	**69.30**	**22**	P	**P**	**01 06 30.5**	**+1.0**
E24K				IAmb	IAmb	01 06 33.2	
	comp=Z,3.3nm,1.2s						
D24K	**Happy Valley**	**69.52**	**20**	P	**P**	**01 06 31.3**	**+0.5**
SCRK	**Sand Creek**	**70.03**	**26**	P	**P**	**01 06 34.4**	**+0.1**
SCRK				IAmb	IAmb	01 06 48.6	
	comp=Z,4.7nm,1.5s						
J26L	**Joseph Creek**	**70.32**	**26**	P	**P**	**01 06 36.8**	**+0.9**
J26L				IAmb	IAmb	01 06 45.0	
	comp=Z,6.7nm,1.4s						
D25K	**Kavik River**	**70.40**	**20**	P	**P**	**01 06 36.5**	**+0.1**
D25K				IAmb	IAmb	01 06 38.3	
	comp=Z,4.7nm,1.1s						
BMAR	**Burnt Mountain**	**70.56**	**23**	P	**P**	**01 06 38.2**	**+0.9**
BVAR	**Borovoye Array**	**70.80**	**322**	P	**P**	**01 06 38.2**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=104,slow=9.7,SNR=6.7						
BVAR				LR	LR	01 39 16.9	
	comp=Z,30nm,19.1s,baz=89,slow=37						
	comp=Z,0.8nm,0.5s						
I28M	**Miner Creek**	**72.01**	**25**	P	**P**	**01 06 47.2**	**+1.0**
F28M	**Old Crow**	**72.37**	**23**	P	**P**	**01 06 47.9**	**-0.3**
F28M				IAmb	IAmb	01 06 50.1	
	comp=Z,2.7nm,0.9s						
L29M	**L29M**	**72.49**	**28**	P	**P**	**01 06 50.0**	**+1.0**
K29M	**Barlow Dome**	**72.84**	**27**	P	**P**	**01 06 52.3**	**+1.1**
G31M	**Satah River**	**74.45**	**24**	P	**P**	**01 07 00.5**	**+0.1**
INK	**Inuvik**	**74.83**	**22**	P	**P**	**01 07 02.5**	**-0.1**
INK				IAmb	IAmb	01 07 03.5	
	comp=Z,3.4nm,0.9s						
INK	**Inuvik**	**74.83**	**22**	P	**P**	**01 07 02.3**	**-0.2**
	comp=Z,3.5nm,1.0s,baz=233,slow=8.7,SNR=8.3						
	comp=Z,3.5nm,1.0s						
ABKAR	**Akbulak array**	**77.41**	**318**	P	**P**	**01 07 17.8**	**+0.2**
C36M	**Paulatuk**	**78.24**	**21**	P	**P**	**01 07 21.9**	**+0.1**
C36M				IAmb	IAmb	01 07 22.7	
	comp=Z,2.3nm,0.8s						
YKA	**Yellowknife Ar**	**83.25**	**27**	P	**P**	**01 07 49.1**	**+0.4**
	comp=Z,0.7nm,0.9s,baz=343,slow=9.2,SNR=7.9						
	comp=Z,0.7nm,0.9s						
RES	**Resolute Bay**	**85.12**	**13**	P	**P**	**01 07 59.1**	**+1.1**
RES				IAmb	IAmb	01 08 00.4	
	comp=Z,6.0nm,1.5s						
RES	**Resolute Bay**	**85.12**	**13**	P	**P**	**01 07 58.4**	**+0.4**
	comp=Z,1.6nm,1.0s,baz=270,slow=2.0,SNR=3.4						
	comp=Z,1.6nm,1.0s						
ARCES	**ARCESS Array B**	**87.92**	**342**	P	**P**	**01 08 10.7**	**-1.2**
	comp=Z,4.3nm,1.0s,baz=33,slow=9.2,SNR=5.2						
	comp=Z,4.3nm,1.0s						
FINES	**FINESS Array B**	**92.02**	**335**	P	**P**	**01 08 30.4**	**-0.7**
	comp=Z,1.3nm,0.5s,baz=71,slow=5.2,SNR=15						
	comp=Z,1.3nm,0.5s						
NOA	**NORSAR Array B**	**97.89**	**339**	P	**P**	**01 08 56.9**	**-1.1**
	comp=Z,0.5nm,0.7s,baz=50,slow=5.5,SNR=1.9						
NOA				LR	LR	01 56 13.0	
	comp=Z,9.2nm,19.5s,baz=5.0,slow=37						
	comp=Z,0.5nm,0.7s						

IDC ***16*** *01:09:48.4±0.8, 2°.79S×140°.50E, h0km, mb4.2/11, mbtmp4.3/13, ML4.4/1, MS3.4/21, Error ellipse: s-maj=35.8km s-min=16.5km az=80.0*
NEIC ***16*** *01:09:55.1±2.1, 2°.86S±0°.09×140°.3E±0°.1, h43km±9km, mb4.4/25, Error ellipse: s-maj=18.5km s-min=8.3km az=49.0*

ISC 16 01:09:54.2±0.6, 2°.89S±0°.07×140°.3E±0°.1, h35km, n77, σ1§07/52, mb4.4/27, MS3.2/18, 1D, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**8.07**	**270**		**Pn**	**01 11 49.5**	**+0.6**
PMG	**Port Moresby**	**9.38**	**134**	LR	LR	01 17 01.6	
	comp=Z,547nm,18.9s,baz=302,slow=46						
COEN	**Coen**	**11.36**	**166**	Pn	**Pn**	**01 12 36.1**	**+2.1**
MTN	**Manton Dam**	**13.44**	**222**	Pn	**Pn**	**01 13 01.7**	**-0.8**
GUMO	**Guam**	**16.98**	**15**	LR	LR	01 19 52.4	
	comp=Z,87nm,18.9s,baz=178,slow=36						
WB0	**Warramunga Arr**	**17.75**	**199**		**Pn**	**01 13 58.7**	**0.0**
WR0	**Warramunga Arr**	**17.89**	**198**	P	**Pn**	**01 14 00.0**	**-0.3**
WRAB	**Tennant Creek**	**17.92**	**199**	P	**P**	**01 14 01.6**	**+0.5**
WRAB				IAmb	IAmb	01 14 09.6	
	comp=Z,31nm,0.9s						
WB2	**Warramunga Arr**	**17.93**	**199**	P	**P**	**01 14 01.1**	**-0.1**
WB2				IAmb	IAmb	01 14 04.9	
	comp=Z,29nm,0.8s						
WRA	**Warramunga Arr**	**17.93**	**199**	P	**Pn**	**01 13 59.6**	**-1.3**
WRA	**Warramunga Arr**	**17.93**	**199**	P	**Pn**	**01 14 00.3**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=22,slow=12,SNR=35						
WRA				LR	LR	01 22 04.4	
	comp=Z,402nm,18.1s,baz=328,slow=41						
	comp=Z,20nm,0.8s						
BATI	**Baumata**	**18.07**	**245**	P	**P**	**01 14 03.1**	**+0.3**
	comp=Z,11nm,0.3s,baz=73,slow=11,SNR=1.3						
TOLI2	**Tolitoli**	**19.94**	**281**	P	**P**	**01 14 20.5**	**-2.8**
KAPI	**Kappang**	**20.63**	**263**	LR	LR	01 22 54.8	
	comp=Z,42nm,20.0s,baz=91,slow=38						
FITZ	**Fitzroy Crossi**	**20.88**	**223**	P	**P**	**01 14 34.3**	**+0.9**
AS31	**Alice Springs**	**21.57**	**196**	P	**P**	**01 14 41.8**	**+0.9**
ASAR	**Alice Springs**	**21.57**	**196**	P	**P**	**01 14 40.8**	**-0.1**
ASAR	**Alice Springs**	**21.57**	**196**	P	**P**	**01 14 41.4**	**+0.4**
	comp=Z,12nm,0.8s,baz=28,slow=9.8,SNR=84						
ASAR				LR	LR	01 24 10.9	
	comp=Z,288nm,18.6s,baz=19,slow=40						
	comp=Z,12nm,0.8s						
EIDS	**Eidsvold**	**24.64**	**156**	P	**P**	**01 15 11.3**	**-0.3**
STKA	**Stephens Creek**	**28.86**	**178**	P	**P**	**01 15 49.8**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=329,slow=12,SNR=1.9						
STKA				LR	LR	01 28 16.9	
	comp=Z,205nm,19.6s,baz=6.2,slow=38						
	comp=Z,0.8nm,0.4s						
BBOO	**Buckleboo**	**30.04**	**187**	P	**P**	**01 15 58.6**	**-1.3**
FORT	**Forrest**	**30.07**	**201**	P	**P**	**01 15 58.3**	**-1.9**
DZM	**Mont Dzumac**	**31.73**	**129**	LR	LR	01 27 28.2	
	comp=Z,153nm,20.5s,baz=284,slow=34						
JOW	**Kunigami**	**31.75**	**339**	LR	LR	01 26 44.0	
	comp=Z,44nm,21.5s,baz=108,slow=32						
H11S3	**WAKE ISLAND Hy**	**33.54**	**50**	T	T	01 51 21.5	
	baz=232,slow=75,SNR=126						
H11S2	**WAKE ISLAND Hy**	**33.55**	**50**	T	T	01 51 21.4	
	baz=232,slow=75,SNR=107						
H11S1	**WAKE ISLAND Hy**	**33.56**	**50**	T	T	01 51 18.5	
	baz=232,slow=75,SNR=104						
H11N1	**WAKE ISLAND Hy**	**34.43**	**48**	T	T	01 52 29.3	
	baz=229,slow=75,SNR=30						
H11N2	**WAKE ISLAND Hy**	**34.44**	**48**	T	T	01 52 27.9	
	baz=229,slow=75,SNR=42						
H11N3	**WAKE ISLAND Hy**	**34.45**	**48**	T	T	01 52 31.2	
	baz=229,slow=75,SNR=25						
NWAO	**Narrogin (SRO)**	**36.90**	**213**	LR	LR	01 34 18.2	
	comp=Z,280nm,18.9s,baz=90,slow=40						
JNU	**Nakatsue**	**36.91**	**347**	LR	LR	01 29 48.4	
	comp=Z,40nm,20.0s,baz=156,slow=33						
MJAR	**Matsushiro Arr**	**39.27**	**357**	LR	LR	01 31 41.8	
	comp=Z,35nm,20.3s,baz=230,slow=34						
KSRS	**Korea Array**	**41.76**	**345**	LR	LR	01 34 05.8	
	comp=Z,30nm,19.6s,baz=150,slow=35						
LYN	**LuoYang**	**45.53**	**327**	*eP*	**P**	**01 18 10.5**	**0.0**
LYN				pP	pP	01 18 14.4	-6.6
LYN				sP	sP	01 18 17.5	-7.7
LYN				pmax	pmax		
	comp=Z,9.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**45.93**	**299**	LR	LR	01 36 08.3	
	comp=Z,13nm,21.1s,baz=135,slow=34						
ASAJ	**Asahikawa**	**46.84**	**2**	LR	LR	01 36 33.4	
	comp=Z,20nm,21.1s,baz=198,slow=34						
PZH	**PanZhiHua**	**47.36**	**311**	P	**P**	**01 18 27.3**	**+2.1**
PZH				pmax	pmax		
	comp=Z,7.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,80nm,4.3s						
URZ	**Urewera**	**48.66**	**141**	LR	LR	01 39 24.3	
	comp=Z,96nm,18.1s,baz=27,slow=36						
BNX	**BinXian**	**49.76**	**348**	⇓P	**P**	**01 18 42.9**	**-0.2**
BNX				pmax	pmax		
	comp=Z,7.0nm,1.9s						
BNX				pmax	pmax		
	comp=Z,85nm,5.0s						
HHC	**Hu-ho-hao-te**	**50.83**	**332**	*eP*	**P**	**01 18 53.6**	**+2.1**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,54nm,5.1s						
KLR	**Kul'dur**	**52.44**	**353**	LR	LR	01 37 40.9	
	comp=Z,28nm,22.0s,baz=153,slow=32						
PETK	**Petropavlovsk-**	**57.67**	**12**	LR	LR	01 43 04.8	
	comp=Z,10nm,20.4s,baz=264,slow=35						
SONM	**Songino Array**	**58.58**	**334**	P	**P**	**01 19 47.5**	**-0.1**
	comp=Z,0.4nm,0.6s,baz=74,slow=23,SNR=2.2						
	comp=Z,0.4nm,0.6s						
MA2	**Magadan**	**62.82**	**6**	LR	LR	01 44 40.3	
	comp=Z,18nm,21.9s,baz=285,slow=33						
WMQ	**Urumqi**	**66.16**	**321**	*eP*	P	01 20 42.6	+4.3
WMQ				pmax	pmax		
	comp=Z,29nm,0.9s						
SEY	**Seymchan**	**66.28**	**6**	LR	LR	01 51 36.7	
	comp=Z,18nm,18.4s,baz=146,slow=38						
MK31	**Makanchi Array**	**70.92**	**322**	P	**P**	**01 21 08.1**	**+0.1**
MK31				IAmb	IAmb	01 21 09.6	
	comp=Z,3.3nm,1.0s						
MKAR	**Makanchi Array**	**70.92**	**322**	P	**P**	**01 21 08.4**	**+0.5**
	comp=Z,1.9nm,0.6s,baz=120,slow=7.4,SNR=24						
	comp=Z,1.9nm,0.6s						
MAKZ	**Makanchi**	**71.12**	**322**	P	**P**	**01 21 09.3**	**+0.1**
KSH	**Kashi**	**72.38**	**313**	P	**P**	**01 21 18.4**	**+1.3**
KSH				sP	PcP	01 21 34.3	-0.6
ZAA0	**Zalesovo Array**	**72.90**	**329**	P	**P**	**01 21 19.3**	**-0.3**
ZALV	**Zalesovo Beam**	**72.90**	**329**	P	**P**	**01 21 17.8**	**-1.8**
ZALV	**Zalesovo Beam**	**72.90**	**329**	P	**P**	**01 21 18.6**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=122,slow=7.7,SNR=4.8						
	comp=Z,0.5nm,0.3s						
BOOM	**Boomskoye usch**	**73.40**	**316**	P	**P**	**01 21 24.0**	**+0.9**
BOOM				IAmb	IAmb	01 21 29.2	
	comp=Z,3.7nm,0.8s						
TIXI	**Tiksi**	**74.78**	**356**	LR	LR	01 52 29.6	
	comp=Z,15nm,20.8s,baz=9.5,slow=34						
KURK	**Kurchatov**	**74.79**	**325**	P	**P**	**01 21 29.2**	**-1.6**
KURK				IAmb	IAmb	01 21 44.0	
	comp=Z,4.4nm,1.1s						
KURBB	**Kurchatov Arra**	**74.81**	**324**	P	**P**	**01 21 30.4**	**-0.5**
	comp=Z,1.3nm,0.2s,baz=117,slow=5.1,SNR=5.6						
	comp=Z,1.3nm,0.2s						
VNDA	**Vanda**	**75.47**	**175**	P	**P**	**01 21 33.9**	**-0.4**
	comp=Z,1.4nm,1.0s,baz=14,slow=4.2,SNR=3.8						
	comp=Z,1.4nm,1.0s						
L14K	**Kuka Creek**	**77.38**	**24**	P	**P**	**01 21 45.2**	**-0.1**
L14K				IAmb	IAmb	01 21 50.0	
	comp=Z,2.7nm,0.8s						
KKAR	**Karatay Array**	**77.39**	**315**	P	**P**	**01 21 45.5**	**-0.3**
J17K	**VABM Dome**	**79.86**	**23**	P	**P**	**01 21 59.0**	**+0.1**
J17K				IAmb	IAmb	01 22 19.1	
	comp=Z,7.8nm,1.4s						
L18K	**Granite Mounta**	**80.31**	**25**	P	**P**	**01 22 01.8**	**+0.4**
L18K				IAmb	IAmb	01 22 07.2	
	comp=Z,4.7nm,1.1s						
BVAR	**Borovoye Array**	**80.38**	**325**	P	**P**	**01 22 02.1**	**+0.1**
	comp=Z,3.6nm,0.8s,baz=107,slow=7.9,SNR=15						
	comp=Z,3.6nm,0.8s						
N19K	**Bonanza Creek**	**80.69**	**27**	P	**P**	**01 22 02.3**	**-1.2**
N19K				IAmb	IAmb	01 22 12.2	
	comp=Z,3.8nm,0.9s						
L19K	**White Mountain**	**81.07**	**25**	P	**P**	**01 22 03.5**	**-2.0**
L19K				IAmb	IAmb	01 22 34.7	
	comp=Z,7.2nm,1.4s						
K20K	**Telida**	**81.88**	**25**	P	**P**	**01 22 09.7**	**0.0**
J20K	**Nowinta River**	**82.17**	**24**	P	**P**	**01 22 10.7**	**-0.5**
J20K				IAmb	IAmb	01 22 16.4	
	comp=Z,4.7nm,1.1s						
CAST	**Castle Rocks**	**82.72**	**25**	P	**P**	**01 22 13.3**	**-0.9**
CAST				IAmb	IAmb	01 22 18.5	
	comp=Z,6.1nm,1.5s						
MLY	**Manley**	**83.85**	**23**	P	**P**	**01 22 19.4**	**-0.6**
MLY				IAmb	IAmb	01 22 27.3	
	comp=Z,4.2nm,1.4s						
ILAR	**Eielson Array**	**85.33**	**24**	P	**P**	**01 22 25.2**	**-2.2**
	comp=Z,0.8nm,0.7s,baz=266,slow=4.6,SNR=6.6						
	comp=Z,0.8nm,0.7s						
GEYT	**Alibeck**	**85.62**	**308**	P	**P**	**01 22 29.7**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=81,slow=3.6,SNR=6.0						
	comp=Z,1.8nm,0.7s						
QSPA	**South Pole Qui**	**87.06**	**180**	P	**P**	**01 22 36.1**	**0.0**
	comp=Z,2.2nm,0.8s,baz=351,slow=7.1,SNR=8.7						
	comp=Z,2.2nm,0.8s						
BBB	**Bella Bella**	**93.22**	**38**	LR	LR	01 57 52.1	
	comp=Z,35nm,20.2s,baz=254,slow=31						
LPAZ	**La Paz**	**146.03**	**125**	PKPbc	**PKPab**	**01 29 32.0**	**-0.7**
	comp=Z,4.1nm,0.8s,baz=281,slow=1.7,SNR=19						
CPUP	**Villa Florida**	**146.31**	**151**	PKPbc	**PKPab**	**01 29 31.4**	**-1.3**
	comp=Z,2.8nm,1.0s,baz=233,slow=4.8,SNR=3.5						

NEIC ***16*** *01:23:05.1±2.1, 55°.83N±0°.07×150°.0W±0°.1, h10km±2km, mb3.5/2, ML3.5/44, ML3.3(AEIC), Error ellipse: s-maj=12.3km s-min=9.4km az=159.0*
AEIC ***16*** *01:23:11.2±1.9, 55°.92N±0°.08×149°.9W±0°.1, h12km±7km, Error ellipse: s-maj=11.4km s-min=8.1km az=158.0*

ISC 16 01:23:05.7±1.3, 55°.93N±0°.08×150°.00W±0°.06, h10km, n211, σ1§14/222, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.23**	**307**	Pn	**Pn**	**01 23 42.8**	**0.0**
OHAK					**Sn**	**01 24 07.5**	**-2.8**
OHAK	**Old Harbor**	**2.23**	**307**	P	**Pn**	**01 23 43.2**	**+0.4**
	baz=126						
OHAK				S	**Sn**	**01 24 08.4**	**-1.9**
	baz=126						
KDAK	**Kodiak Island**	**2.34**	**324**	Pn	**Pn**	**01 23 44.6**	**+0.4**
KDAK					**Sn**	**01 24 11.2**	**-1.7**
KDAK	**Kodiak

P18K	**Big Mountain,** baz=139	4.46	323	P		**Pn**	01 24 14.2	+0.8
ANNE	**Aniakchak Nort**	4.58	286			**Pn**	01 24 17.4	+2.4
SLKM	**Skilak Lake**	4.59	359			**Pn**	01 24 15.0	-0.2
CHGN	**Chignik**	4.72	278	Pn		**Pn**	01 24 16.9	-0.1
RED	**Redoubt Volcan**	4.74	343			**Pn**	01 24 16.9	-0.3
P17K	**Kvichak River**	4.77	316			**Pn**	01 24 19.3	+1.8
P17K	**Kvichak River** baz=131	4.77	316	P		**Pn**	01 24 19.3	+1.8
O18K	**Koktuh Hills**	4.82	327	Pn		**Pn**	01 24 18.4	+0.2
O18K	comp=N,30nm,0.7s			IAML			01 25 15.4	
O18K	comp=E,23nm,0.8s			IAML			01 25 28.4	
O18K	**Koktuh Hills** baz=143	4.82	327	P		**Pn**	01 24 19.0	+0.7
HIN	**Hinchinbrook I**	4.85	21	Pn		**Pn**	01 24 18.4	-0.3
HIN	comp=E,45nm,1.0s			IAML			01 25 14.0	
HIN	comp=N,39nm,0.5s			IAML			01 25 14.7	
KAIM	**Kayak Island**	4.99	34	Pn		**Pn**	01 24 20.2	-0.4
KAIM	comp=E,48nm,0.7s			IAML			01 25 22.0	
KAIM	**Kayak Island** baz=218	4.99	34	P		**Pn**	01 24 20.8	+0.2
EYAK	**Cordova Ski Ar**	5.15	24	Pn		**Pn**	01 24 22.3	-0.4
EYAK	**Cordova Ski Ar** baz=207	5.15	24	P		**Pn**	01 24 23.2	+0.4
FID	**Port Fidalgo**	5.18	20	Pn		**Pn**	01 24 22.1	-1.1
FID	comp=E,31nm,0.5s			IAML			01 25 20.8	
FID	comp=N,23nm,0.7s			IAML			01 25 22.0	
RC01	**Rabbit Creek A**	5.18	1	Pn		**Pn**	01 24 22.7	-0.5
RC01	comp=E,29nm,0.5s			IAML			01 25 22.3	
RC01	comp=N,34nm,0.5s			IAML			01 25 23.7	
GLI	**Glacier Island**	5.19	16	Pn		**Pn**	01 24 22.4	-1.1
GLI	comp=E,37nm,0.7s			IAML			01 25 21.9	
GLI	comp=N,25nm,0.5s			IAML			01 25 29.5	
GLI	**Glacier Island** baz=198	5.19	16	P		**Pn**	01 24 23.8	+0.4
RAGM	**Ragged Mountai**	5.28	30	Pn		**Pn**	01 24 23.8	-0.9
SUCK	**Suckling Hills**	5.31	36	Pn		**Pn**	01 24 24.9	-0.1
SUCK	comp=N,37nm,1.3s			IAML			01 25 23.5	
SUCK	comp=E,36nm,1.4s			IAML			01 25 27.1	
HMT	**Hamilton**	5.36	32	Pn		**Pn**	01 24 25.6	-0.2
NICHA	**Nichawak Mount**	5.37	34			**Pn**	01 24 26.2	+0.3
O17K	**Koliganek Bris**	5.40	318			**Pn**	01 24 27.6	+1.3
O17K	**Koliganek Bris** baz=133	5.40	318	P		**Pn**	01 24 27.6	+1.3
GOAT	**Goat Mountain**	5.43	29			**Pn**	01 24 27.0	+0.3
N19K	**Bonanza Creek**	5.44	336	Pn		**Pn**	01 24 26.3	-0.5
N19K	**Bonanza Creek** baz=152	5.44	336	P		**Pn**	01 24 27.2	+0.4
BGLC	**Bering Glacier**	5.51	38			**Pn**	01 24 28.4	+0.7
BGLC	**Bering Glacier** baz=222	5.51	38	P		**Pn**	01 24 28.4	+0.7
KNK	**Knik Glacier**	5.56	8	Pn		**Pn**	01 24 28.2	-0.2
SUA	**Susitna One**	5.56	356	Pn		**Pn**	01 24 28.7	0.0
SUA	**Susitna One** baz=176	5.56	356	P		**Pn**	01 24 28.5	-0.1
CNBA	**Chernabura Isl**	5.58	262	Pn		**Pn**	01 24 28.8	+0.1
GRIN	**Grindle Hills**	5.62	36			**Pn**	01 24 29.7	+0.4
STLK	**Strandline Lak**	5.67	351			**Pn**	01 24 30.1	+0.1
O16K	**Kokwok River B**	5.68	314	Pn		**Pn**	01 24 31.0	+0.9
O16K	**Kokwok River B** baz=127	5.68	314	P		**Pn**	01 24 31.6	+1.5
N18K	**Kilae Creek**	5.69	329	Pn		**Pn**	01 24 30.4	+0.2
N18K	**Kilae Creek** baz=145	5.69	329	P		**Pn**	01 24 30.7	+0.5
SNH	**Sunshine Point**	5.71	39	Pn		**Pn**	01 24 29.9	-0.7
KHIT	**Khitrov Hills**	5.76	35			**Pn**	01 24 31.5	+0.2
BMRM	**Bremner River**	5.79	27	Pn		**Pn**	01 24 31.1	-0.5
BMRM	**Bremner River** baz=211	5.79	27	P		**Pn**	01 24 32.1	+0.4
GHO	**Glory Hole Cre**	5.89	5	Pn		**Pn**	01 24 32.5	-0.5
WAX	**Waxell Ridge**	5.90	37	Pn		**Pn**	01 24 33.3	+0.1
SML	**Sawmill**	5.96	8	Pn		**Pn**	01 24 34.5	+0.5
SML	**Sawmill** baz=189	5.96	8	P		**Pn**	01 24 34.6	+0.7
KLU	**Klutina**	5.97	19	Pn		**Pn**	01 24 34.2	+0.1
KLU	**Klutina** baz=202	5.97	19	P		**Pn**	01 24 34.6	+0.4
N17K	**Nushagak Hills**	5.97	323	Pn		**Pn**	01 24 34.3	+0.3
N17K	**Nushagak Hills** baz=138	5.97	323	P		**Pn**	01 24 34.9	+0.8
BARK	**Barkley Ridge**	5.99	38			**Pn**	01 24 34.7	+0.2
MESA	**MESA**	6.03	42	Pn		**Pn**	01 24 34.6	-0.5
MESA	**MESA** baz=228	6.03	42	P		**Pn**	01 24 35.3	+0.2
SCM	**Sheep Creek Mo**	6.08	12	Pn		**Pn**	01 24 36.9	+1.2
SCM	**Sheep Creek Mo** baz=194	6.08	12	P		**Pn**	01 24 37.1	+1.4
SKT	**Skwentna**	6.12	353	Pn		**Pn**	01 24 35.8	-0.4
SKT	**Skwentna** baz=172	6.12	353	P		**Pn**	01 24 36.6	+0.4
ISLE	**Juniper Island**	6.18	38	Pn		**Pn**	01 24 36.6	-0.5
O15K	**Ungalikthiuk R**	6.21	306			**Pn**	01 24 39.1	+1.8
O15K	**Ungalikthiuk R** baz=118	6.21	306	P		**Pn**	01 24 39.1	+1.8
VRDI	**Verde Repeater**	6.32	30	Pn		**Pn**	01 24 38.9	-0.1
N25K	**Chitina, Valde**	6.35	24	Pn		**Pn**	01 24 39.2	-0.1
N25K	**Chitina, Valde** baz=208	6.35	24	P		**Pn**	01 24 39.9	+0.6
M18K	**Stony River**	6.35	334			**Pn**	01 24 39.4	+0.1
M18K	**Stony River** baz=149	6.35	334	P		**Pn**	01 24 39.4	+0.1
GLB	**Gilahina Butte**	6.40	28	Pn		**Pn**	01 24 39.7	-0.3
KIAG	**Kiagna River**	6.41	36			**Pn**	01 24 40.5	+0.2
SAMH	**Samovar Hills**	6.46	45			**Pn**	01 24 41.9	+1.0
M24K	**Tolsona, Glenn**	6.50	16	Pn		**Pn**	01 24 42.4	+1.0
MCARA	**McCarthy VSAT**	6.57	31	Pn		**Pn**	01 24 41.6	-0.7
MCARA	**McCarthy VSAT** baz=216	6.57	31	P		**Pn**	01 24 43.1	+0.8
PTPK	**Patty Peak**	6.58	34			**Pn**	01 24 43.2	+0.6
M17K	**Holitna River**	6.72	328	Pn		**Pn**	01 24 45.4	+1.1
M17K	**Holitna River** baz=142	6.72	328	P		**Pn**	01 24 45.4	+1.1
BARN	**Barnard Glacie**	6.75	37	Pn		**Pn**	01 24 44.5	-0.4
L19K	**White Mountain**	6.75	340	Pn		**Pn**	01 24 44.5	-0.3
L19K	**White Mountain** baz=156	6.75	340	P		**Pn**	01 24 44.9	+0.1
HAG	**Hague Volcano**	6.77	270			**Pn**	01 24 46.7	+1.6
CTG	**Chitna Glacier** baz=225	6.79	38	P		**Pn**	01 24 45.8	+0.4
CTGM	**Chitina Glacie**	6.79	38	Pn		**Pn**	01 24 45.1	-0.3
PNL	**Peninsula**	6.79	52			**Pn**	01 24 45.9	+0.5
PNL	**Peninsula** baz=240	6.79	52	P		**Pn**	01 24 45.9	+0.5
S12K	**Black Hills**	6.80	273	Pn		**Pn**	01 24 46.2	+0.7
S12K	**Black Hills** baz=84	6.80	273	P		**Pn**	01 24 46.6	+1.1
LOGN	**Logan Glacier**	6.81	40	Pn		**Pn**	01 24 44.7	-1.1
N15K	**Kwethluk River**	6.83	313	Pn		**Pn**	01 24 47.8	+1.8
N15K	**Kwethluk River** baz=124	6.83	313	P		**Pn**	01 24 48.1	+2.2
O14K	**Tigyukauivet M**	6.91	303	Pn		**Pn**	01 24 48.8	+1.9
O14K	**Tigyukauivet M** baz=115	6.91	303	P		**Pn**	01 24 48.9	+1.9
M16K	**Timber Creek**	6.94	321	Pn		**Pn**	01 24 48.3	+1.0
M16K	**Timber Creek** baz=134	6.94	321	P		**Pn**	01 24 48.7	+1.4
O28M	**Mount Upton**	7.08	43			**Pn**	01 24 50.3	+0.7
O28M	**Mount Upton** baz=230	7.08	43	P		**Pn**	01 24 50.3	+0.7
L18K	**Granite Mounta**	7.18	334	Pn		**Pn**	01 24 50.3	-0.5
DHY	**Denali Highway**	7.29	9	Pn		**Pn**	01 24 52.7	+0.4
M15K	**Kasigluk River**	7.38	315			**Pn**	01 24 55.5	+2.1
M15K	**Kasigluk River** baz=126	7.38	315	P		**Pn**	01 24 55.5	+2.1
N14K	**Kuskokwak Cree**	7.40	308			**Pn**	01 24 55.8	+2.2
N14K	**Kuskokwak Cree** baz=118	7.40	308	P		**Pn**	01 24 55.8	+2.2
M26K	**Nabesna, AK**	7.42	26	Pn		**Pn**	01 24 53.8	-0.2
P29M	**Windy Craggy**	7.53	55	Pn		**Pn**	01 24 55.2	-0.3
P29M	**Windy Craggy** baz=245	7.53	55	P		**Pn**	01 24 55.6	+0.1
YUK2	**White River**	7.55	35			**Pn**	01 24 56.8	+1.0
TRF	**Thorofare Moun**	7.55	359	Pn		**Pn**	01 24 57.8	+1.9
L17K	**Donlin**	7.55	329			**Pn**	01 24 57.1	+1.4
L17K	**Donlin** baz=142	7.55	329	P		**Pn**	01 24 57.1	+1.4
YUK8	**Steele Glacier**	7.57	41			**Pn**	01 24 57.3	+1.0
YUK8	**Steele Glacier** baz=229	7.57	41	P		**Pn**	01 24 57.3	+1.0
CAST	**Castle Rocks**	7.59	353	Pn		**Pn**	01 24 57.7	+1.4
L16K	**Owhat River**	7.60	324	Pn		**Pn**	01 24 57.5	+1.1
L16K	**Owhat River** baz=136	7.60	324	P		**Pn**	01 24 57.3	+0.9
KTH	**Kantishna Hill**	7.66	357	Pn		**Pn**	01 24 59.1	+1.8
M27K	**Edge Creek, AK**	7.68	30	Pn		**Pn**	01 24 57.9	+0.3
M27K	**Edge Creek, AK** baz=216	7.68	30	P		**Pn**	01 24 58.0	+0.4
MENT	**Mentasta**	7.72	22	Pn		**Pn**	01 24 58.9	+0.8
K20K	**Telida**	7.73	346	Pn		**Pn**	01 24 56.5	-1.7
YUK7	**Dusty Glacier**	7.77	49			**Pn**	01 25 00.2	+1.3
S31K	**Pelican**	7.80	69	Pn		**Pn**	01 24 57.6	-1.5
YUK6	**Outpost Mounta**	7.90	46			**Pn**	01 25 02.0	+1.2
YUK6	**Outpost Mounta** baz=235	7.90	46	P		**Pn**	01 25 02.0	+1.2
M14K	**Bethel**	7.93	312	Pn		**Pn**	01 25 02.1	+1.2
K17K	**Iditarod**	8.02	331	Pn		**Pn**	01 25 01.6	-0.5
YUK4	**Talbot Arm** baz=232	8.03	43	P		**Pn**	01 25 05.4	+2.9
P30M	**Million Dollar**	8.09	53	Pn		**Pn**	01 25 03.5	+0.2
P30M	**Million Dollar** baz=244	8.09	53	P		**Pn**	01 25 03.9	+0.7
HYT	**Haines Junctio**	8.19	48	Pn		**Pn**	01 25 04.0	-0.7
BPAW	**Bear Paw Mtn.**	8.21	357	Pn		**Pn**	01 25 04.7	-0.1
L27K	**Beaver Creek,**	8.27	27	Pn		**Pn**	01 25 06.2	+0.6
BCAR	**Beaver Creek A**	8.28	27	Pn		**Pn**	01 25 06.0	+0.2
J18K	**Innoko River**	8.28	339	Pn		**Pn**	01 25 07.9	+2.1
L15K	**Ungalak Mounta**	8.29	319			**Pn**	01 25 07.6	+1.8
L15K	**Ungalak Mounta** baz=129	8.29	319	P		**Pn**	01 25 07.6	+1.8
J20K	**Nowinta River**	8.53	348	Pn		**Pn**	01 25 10.1	+0.9
L14K	**Kuka Creek**	8.55	315	Pn		**Pn**	01 25 11.2	+1.8
J19K	**Poorman**	8.56	343	Pn		**Pn**	01 25 08.7	-0.9
SCRK	**Sand Creek**	8.61	18	Pn		**Pn**	01 25 10.6	+0.2
K15K	**Wolf Creek Mou**	8.70	322	Pn		**Pn**	01 25 12.7	+1.2
K15K	**Wolf Creek Mou** baz=132	8.70	322	P		**Pn**	01 25 13.4	+1.9
N30M	**Aishikik Lake**	8.70	45	Pn		**Pn**	01 25 11.7	+0.1
N30M	**Aishikik Lake** baz=236	8.70	45	P		**Pn**	01 25 12.4	+0.8
R32K	**Eaglecrest**	8.75	68	Pn		**Pn**	01 25 11.2	-0.9
O30N	**Mendenhall**	8.77	51	Pn		**Pn**	01 25 12.3	-0.2
M29M	**Somme Creek**	8.80	37	Pn		**Pn**	01 25 13.7	+0.6
M29M	**Somme Creek** baz=227	8.80	37	P		**Pn**	01 25 13.9	+0.9
CCB	**Clear Creek Bu**	8.81	6	Pn		**Pn**	01 25 15.4	+2.4
JIS	**Juneau Island**	8.82	68	Pn		**Pn**	01 25 11.6	-1.5
IL31		9.00	9	Pn		**Pn**	01 25 17.2	+1.6
ILAR	**Eielson Array**	9.00	9	Pn		**Pn**	01 25 17.2	+1.5
J16K	**Anvik River**	9.11	328	Pn		**Pn**	01 25 17.7	+0.6
MLY	**Manley**	9.14	358	Pn		**Pn**	01 25 17.7	+0.1
J26L	**Joseph Creek**	9.17	18	Pn		**Pn**	01 25 18.5	+0.5
N31M	**Braeburn, Yuko**	9.25	47	Pn		**Pn**	01 25 19.6	+0.6
WHY	**Whitehorse**	9.26	53	Pn		**Pn**	01 25 19.2	0.0
L29M	**L29M**	9.38	35	Pn		**Pn**	01 25 21.1	+0.3
P32M	**Atlin**	9.44	66	Pn		**Pn**	01 25 21.2	-0.5
U33K	**Whale Pass**	9.45	82	Pn		**Pn**	01 25 19.6	-2.2
M30M	**Minto, Yukon**	9.48	40	Pn		**Pn**	01 25 22.8	+0.6
K13K	**Kusilvak Mount**	9.66	315	Pn		**Pn**	01 25 26.2	+1.5
DAWY	**Dawson**	9.72	29	Pn		**Pn**	01 25 26.2	+0.7
H21K	**Melozitna Rive**	9.86	353	Pn		**Pn**	01 25 27.8	+0.5
H24K	**Noodor Dome**	9.99	5	Pn		**Pn**	01 25 31.2	+2.0
P33M	**Teslin, Yukon**	10.05	58	Pn		**Pn**	01 25 29.7	-0.3
K29M	**Barlow Dome**	10.09	33	Pn		**Pn**	01 25 31.3	+0.6
H18K	**Honhosa River**	10.12	340	Pn		**Pn**	01 25 32.0	+1.2
M31M	**Drury Creek, Y**	10.18	46	Pn		**Pn**	01 25 33.2	+1.4
FARO	**Faro, Yukon**	10.62	47	Pn		**Pn**	01 25 37.9	+0.1
I28M	**Miner Creek**	10.73	23	Pn		**Pn**	01 25 40.2	+0.9
G23K	**Bananza Creek**	10.82	360	Pn		**Pn**	01 25 41.2	+0.7
FYU	**Fort Yukon**	10.91	10	Pn		**Pn**	01 25 40.4	-1.4
J30M	**Hart River**	10.98	32	Pn		**Pn**	01 25 43.5	+0.6
C36M	**Paulatuk**	17.75	31			**Pn**	01 27 12.9	+0.4
C36M	comp=Z,2.6nm,0.9s			IAmb		IAmb	01 27 36.7	
YKA	**Yellowknife Ar**	19.07	55	P		**P**	01 27 27.9	0.0
A36M	**Sachs Harbour**	19.16	23	P		**Pn**	01 27 30.4	+0.7
A36M	comp=Z,4.1nm,0.8s			IAmb		IAmb	01 27 41.0	

*IDC **16** 01:38:30.6±0.6,26°49S×64°29W, h0km, mb4.1/11, mbtmp4.0/16, ML3.8/5, MS2.9/4, Error ellipse: s-maj=16.0km s-min=12.1km az=141.0*
*SJA **16** 01:38:30.9±1.0,26°58S×64°16W, h23km±7km, ML4.4, MW4.0*
*VAO **16** 01:38:32.8±0.4,27°02S×64°78W, h168km±3km, mb4.4*
*NEIC **16** 01:38:33.5±2.3,26°66S±0°07×64°27W±0°06, h10km±2km, mb4.1/7, Error ellipse: s-maj=13.2km s-min=7.5km az=327.0*

ISC 16 01:38:32.4±0.4,**26°60S**±0°04×**64°36W**±0°04,**h10**km,**n116,**
σ²**48**/131,**mb4.1**/12,**Tucuman Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
FSA	**Cafayete**	**1.54**	**288**	*i* P		**Pb**		01 39 01.1	+0.1
SLA	**San Lorenzo**	**2.14**	**331**	*i* P		**Pn**		01 39 09.2	+0.9
SLA				*i* S		**Sb**		01 39 37.9	-0.1
AZAP	**Zapla**	**2.45**	**345**	*i* P		**Pn**		01 39 13.1	+0.4
AZAP				*i* S		**Sn**		01 39 44.0	+1.2
ASTB	**Santa Barbara**	**2.64**	**358**	*i* P		**Pn**		01 39 15.2	0.0
ALOL	**LOMAS DE OLMED**	**2.79**	**7**	*i* P		**Pn**		01 39 16.8	-0.3
ALOL				*i* S		**Sn**		01 39 49.5	-1.4
HJA	**Humahuaca**	**3.51**	**344**	*i* P		**Pn**		01 39 28.0	+0.6
HJA				*i* S		**Sn**		01 40 11.6	+2.5
HJA	comp=Z,919nm,0.4s			IAML				01 40 27.3	
VCA	**Vinchina**	**4.03**	**237**	*i* P		**Pn**		01 39 36.9	+2.6
VCA				*i* S		**Sn**		01 40 25.5	+3.9
VCA	comp=Z,615nm,0.7s			IAML				01 40 57.7	
YJA	**Yavi**	**4.53**	**346**	*i* P		**Pn**		01 39 43.3	+1.9
YJA				*i* S		**Sn**		01 40 36.1	+1.7
YJA	comp=Z,170nm,0.4s			IAML				01 41 03.2	
AGUA	**GUANDACOL**	**4.65**	**231**	*i* P		**Pn**		01 39 45.9	+3.0
AGUA	comp=Z,271nm,1.0s			IAML				01 41 14.4	
TCA	**Tanti**	**4.73**	**182**	*i* P		**Pn**		01 39 45.7	+1.8
TCA				*i* S		**Sn**		01 40 39.7	+0.9
AVFE	**Valle Fertil**	**4.88**	**213**	*i* P		**Pn**		01 39 47.5	+1.5
AVFE				*i* S		**Sn**		01 40 46.0	+3.4
AVFE	comp=Z,185nm,0.5s			IAML				01 41 16.9	
GO02	**Mina Guanaco**	**4.93**	**286**	Pn		**Pn**		01 39 48.1	+1.3
ACHE	**Chepes**	**4.98**	**203**	*i* P		**Pn**		01 39 49.0	+1.6
ACHE				*i* S		**Sn**		01 40 47.7	+2.6
AF01	**San Pedro de A**	**5.02**	**315**	Pn		**Pn**		01 39 49.0	+0.8
AC06	**Mina Casimiro**	**5.41**	**261**	Pn		**Pn**		01 39 54.8	+1.7
AC01	**Pan de Azucar**	**5.62**	**273**	Pn		**Pn**		01 39 56.9	+0.9
AC05	**El Transito**	**5.70**	**246**	Pn		**Pn**		01 39 59.7	+2.4
LVC	**Limon Verde**	**5.74**	**313**	Pn		**Pn**		01 40 00.3	+2.3
LVC	**Limon Verde** comp=Z,71nm,18.2s,baz=152,slow=36	**5.74**	**313**	LR		LR		01 41 54.8	
LVC	**Limon Verde**	**5.74**	**313**	*e*P		**Pn**		01 39 58.3	+0.3
PB15	**IPOC Station P**	**5.74**	**305**	Pn		**Pn**		01 39 59.9	+2.0
PB14	**IPOC Station P**	**5.80**	**288**	Pn		**Pn**		01 39 59.6	+0.7
CO01	**Juntas del Tor**	**6.08**	**235**	Pn		**Pn**		01 40 04.8	+2.2
LCO	**Las Campanas**	**6.11**	**245**	Pn		**Pn**		01 40 05.1	+2.0
PB06	**IPOC Station P**	**6.12**	**308**	Pn		**Pn**		01 40 05.5	+2.3
AC04	**Llanos de Chal**	**6.18**	**253**	Pn		**Pn**		01 40 06.2	+2.3
ZON	**Zonda**	**6.21**	**216**	Pn		**Pn**		01 40 05.7	+1.4
CPUP	**Villa Florida**	**6.30**	**89**	Pn		**Pn**		01 40 04.6	-0.9
CPUP	**Villa Florida** comp=Z,1.1nm,0.3s,baz=272,slow=11,SNR=30	**6.30**	**89**	Pn		**Pn**		01 40 05.2	-0.2
CPUP	comp=Z,10nm,0.3s,baz=269,slow=16,SNR=11			Pg		**Pb**		01 40 24.2	+1.9
CPUP	comp=Z,23nm,0.3s,baz=225,slow=17,SNR=3.2			Lg		Lg		01 41 48.0	
CPUP	comp=Z,152nm,20.6s,baz=252,slow=40 comp=Z,9.4nm,0.7s			LR		LR		01 42 40.4	
CPUP	**Villa Florida**	**6.30**	**89**	*e*P		**Pn**		01 40 09.0	+3.6
PB10	**IPOC Station P**	**6.40**	**297**	Pn		**Pn**		01 40 09.1	+2.2
PB09	**IPOC Station P**	**6.54**	**316**	Pn		**Pn**		01 40 10.3	+1.5
GO04	**Tololo Observa**	**6.70**	**236**	Pn		**Pn**		01 40 13.6	+2.5
PB04	**IPOC Station P**	**6.77**	**308**	Pn		**Pn**		01 40 12.7	+0.6
CO05	**La Serena**	**6.91**	**240**	Pn		**Pn**		01 40 19.2	+5.3
CO03	**El Pedregal**	**6.98**	**231**	Pn		**Pn**		01 40 16.5	+1.6
PB07	**IPOC Station P**	**7.00**	**313**	Pn		**Pn**		01 40 15.6	+0.4
PB01	**IPOC Station P**	**7.25**	**319**	Pn		**Pn**		01 40 19.9	+1.3
PB02	**IPOC Station P**	**7.30**	**315**	Pn		**Pn**		01 40 22.1	+2.8
CO02	**Combarbal**	**7.42**	**230**	Pn		**Pn**		01 40 21.8	+1.0
PSAL	**Palomas, Salto**	**7.42**	**129**	*e*P		**Pn**		01 40 19.1	-1.6
PSAL				*e*S		**Sn**		01 41 42.1	-2.7
ITQB	**Itaqui**	**7.48**	**116**	Pn		**Pn**		01 40 22.2	+0.6
ITQB	**Itaqui**	**7.48**	**116**	*e*P		**Pn**		01 40 22.4	+0.8
CO06	**Fray Jorge**	**7.58**	**236**	Pn		**Pn**		01 40 23.6	+0.7
PB08	**IPOC Station P**	**7.79**	**325**	Pn		**Pn**		01 40 29.3	+3.0
TA01	**Diego Aracena**	**8.04**	**317**	Pn		**Pn**		01 40 32.9	+3.6
HMBC	**Humberstone**	**8.08**	**320**	Pn		**Pn**		01 40 32.2	+2.2
VA03	**San Esteban**	**8.17**	**220**	Pn		**Pn**		01 40 32.6	+1.5
GO01	**Chusmiza**	**8.21**	**326**	Pn		**Pn**		01 40 33.8	+1.7
PB11	**IPOC Station P**	**8.37**	**323**	Pn		**Pn**		01 40 36.9	+2.9
MT08	**Bocatoma Ro**	**8.40**	**214**	Pn		**Pn**		01 40 36.0	+1.5
UNIS	**Unistalda (Bra**	**8.58**	**109**	*e*P		**Pn**		01 40 36.8	0.0
LMEL	**Las Melosas**	**8.82**	**214**	Pn		**Pn**		01 40 40.1	0.0
MT02	**Curacav**	**8.87**	**220**	Pn		**Pn**		01 40 40.5	-0.1
RODS	**Rosario do Sul**	**8.88**	**117**	*e*P		**Pn**		01 40 40.6	-0.3
TBOT	**Tacuaremb**	**8.94**	**127**	*e*P		**Pn**		01 40 39.5	-2.1
BO04	**La Punta**	**9.14**	**215**	Pn		**Pn**		01 40 42.9	-1.5
MT09	**Talagante**	**9.17**	**217**	Pn		**Pn**		01 40 43.1	-1.8
CRSM	**Crissiumal (Br**	**9.24**	**98**	*e*P		**Pn**		01 40 46.3	+0.6
CRSM				*e*S		**Sn**		01 42 33.4	+3.6
AMBA	**Amambai (Brazi**	**9.26**	**69**	*e*P		**Pn**		01 40 49.5	+3.4
BDQN	**Bodoquena, MS**	**9.28**	**50**	*e*P		**Pn**		01 40 50.3	+4.0
BDQN				*e*S		Sn		01 42 43.3	+12
BBRB	**Robore, Bolivi**	**9.28**	**28**	*e*P		**Pn**		01 40 43.2	-3.2
BBRB				*e*S		Sn		01 42 44.2	+13
BO02	**Sierra Bellavi**	**9.86**	**213**	Pn		**Pn**		01 40 53.8	-0.5
BBSD	**Serra de San D**	**9.99**	**21**	*e*P		**Pn**		01 40 54.1	-2.0
AQDB	**Aquidauana**	**10.01**	**54**	Pn		Pn		01 41 00.9	+4.6
AQDB	**Aquidauana**	**10.01**	**54**	*e*P		**Pn**		01 40 54.2	-2.1
ALGR	**Alto Alegre (B**	**10.28**	**105**	*e*P		**Pn**		01 41 00.6	+0.6
CPSB	**Cacapava Do Su**	**10.32**	**114**	*e*P		**Pn**		01 40 58.9	-1.7
GO05	**Huala**	**10.61**	**216**	Pn		**Pn**		01 41 09.0	+4.5
PLTB	**Pedras Altas**	**10.71**	**121**	Pn		**Pn**		01 41 05.3	-0.6
PLTB	**Pedras Altas**	**10.71**	**121**	*e*P		**Pn**		01 41 05.0	-1.0
LPAZ	**La Paz**	**10.84**	**340**	Pn		**Pn**		01 41 11.6	+3.3
LPAZ	**La Paz** comp=Z,0.1nm,0.3s,baz=178,slow=6.3,SNR=8.1	**10.84**	**340**	Pn		**Pn**		01 41 08.7	+0.4
LPAZ	comp=Z,320nm,21.1s,baz=153,slow=38 comp=Z,1.1nm,0.5s			LR		LR		01 45 17.3	
LPAZ	**La Paz**	**10.84**	**340**	*e*P		**Pn**		01 41 08.7	+0.4
ITAB	**Concordia**	**10.93**	**96**	Pn		**Pn**		01 41 12.7

NIUE	**Niue**	**5.80**	**68**	Pn	**Pn**	**01 41 47.2**	**-1.1**
RAO	**Raoul Island**	**8.17**	**194**	Pn	**Pn**	**01 42 19.4**	**-1.1**
LIFNC	**LIFOU**	**16.00**	**269**	Pn	**P**	**01 44 09.0**	**+3.3**
LIFNC				IAmb	IAmb	01 44 11.9	
	comp=Z,54nm,1.1s						
DZM	**Mont Dzumac**	**16.68**	**264**	P	**P**	**01 44 15.4**	**+2.1**
	comp=Z,7.8nm,0.8s,baz=89,slow=15,SNR=3.9						
BKZ	**Black Stump Fm**	**19.03**	**199**	Pn	**Pn**	**01 44 41.9**	**+1.1**
BKZ				IAmb	IAmb	01 45 08.2	
	comp=Z,11nm,1.2s						
MRZ	**Mangatainoka R**	**20.68**	**199**	P	**P**	**01 44 56.5**	**-0.2**
MRZ				IAmb	IAmb	01 45 13.8	
	comp=Z,23nm,1.2s						
TUWZ	**Tuamarina**	**21.91**	**201**	P	**P**	**01 45 09.0**	**-0.8**
LTZ	**Lake Taylor**	**23.68**	**203**	P	**P**	**01 45 27.9**	**+0.5**
LTZ				IAmb	IAmb	01 45 43.2	
	comp=Z,8.9nm,1.2s						
CTAO	**Charters Tower**	**35.62**	**265**	P	**P**	**01 47 12.0**	**-1.2**
STKA	**Stephens Creek**	**39.45**	**245**	P	**P**	**01 47 45.6**	**+0.2**
STKA	**Stephens Creek**	**39.45**	**245**	P	**P**	**01 47 45.5**	**+0.2**
	comp=Z,1.1nm,0.4s,baz=95,slow=12,SNR=5.8						
	comp=Z,1.1nm,0.4s						
COEN	**Coen**	**39.85**	**274**	P	**P**	**01 47 48.2**	**-0.6**
BBOO	**Buckleboo**	**44.19**	**244**	P	**P**	**01 48 22.3**	**-1.6**
BBOO				IAmb	IAmb	01 48 38.4	
	comp=Z,11nm,1.1s						
AS31	**Alice Springs**	**46.49**	**257**	P	**P**	**01 48 41.9**	**-0.5**
ASAR	**Alice Springs**	**46.50**	**257**	P	**P**	**01 48 40.6**	**-1.7**
ASAR	**Alice Springs**	**46.50**	**257**	P	**P**	**01 48 41.6**	**-0.7**
	comp=Z,1.5nm,0.7s,baz=90,slow=8.6,SNR=12						
ASAR				PcP	**PcP**	**01 50 15.4**	**+0.1**
	comp=Z,0.5nm,0.6s,baz=107,slow=3.6,SNR=2.5						
	comp=Z,1.5nm,0.7s						
WR0	**Warramunga Arr**	**46.50**	**262**	P	**P**	**01 48 41.4**	**-0.9**
WR0				IAmb	IAmb	01 49 09.4	
	comp=Z,7.3nm,1.1s						
WB0	**Warramunga Arr**	**46.67**	**263**	P	**P**	**01 48 42.1**	**-1.6**
WB0				IAmb	IAmb	01 49 10.0	
	comp=Z,2.5nm,0.9s						
WB2	**Warramunga Arr**	**46.68**	**262**	P	**P**	**01 48 42.3**	**-1.5**
WB2				IAmb	IAmb	01 49 08.2	
	comp=Z,6.1nm,1.1s						
WRAB	**Tennant Creek**	**46.68**	**262**	P	**P**	**01 48 42.4**	**-1.4**
WRA	**Warramunga Arr**	**46.69**	**262**	P	**P**	**01 48 42.2**	**-1.6**
WRA	**Warramunga Arr**	**46.69**	**262**	P	**P**	**01 48 42.5**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=94,slow=8.2,SNR=20						
	comp=Z,1.0nm,0.5s						
FORT	**Forrest**	**51.02**	**247**	P	**P**	**01 49 17.5**	**+0.7**
VNDA	**Vanda**	**57.31**	**186**	P	**P**	**01 50 01.5**	**-0.3**
VNDA				IAmb	IAmb	01 50 06.2	
	comp=Z,2.6nm,1.1s						
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**	**01 51 19.0**	**+1.1**
QSPA	**South Pole Qui**	**68.76**	**180**	P	**P**	**01 51 20.1**	**+2.3**
	comp=Z,1.3nm,1.1s,baz=329,slow=5.9,SNR=1.7						
	comp=Z,1.3nm,1.1s						
H03S2	**Juan Fernandez**	**83.70**	**124**	T	T	03 24 57.4	
	baz=247,slow=74,SNR=17						
H03S1	**Juan Fernandez**	**83.71**	**124**	T	T	03 24 58.5	
	baz=247,slow=74,SNR=26						
H03S3	**Juan Fernandez**	**83.72**	**124**	T	T	03 24 58.7	
	baz=247,slow=74,SNR=18						
H03N2	**Juan Fernandez**	**83.84**	**123**	T	T	03 25 08.6	
	baz=248,slow=72,SNR=9.8						
H03N3	**Juan Fernandez**	**83.84**	**123**	T	T	03 25 08.5	
	baz=248,slow=72,SNR=7.5						
H03N1	**Juan Fernandez**	**83.86**	**123**	T	T	03 25 09.0	
	baz=248,slow=72,SNR=5.1						
TXAR	**Lajitas Array**	**85.64**	**56**	P	**P**	**01 52 55.1**	**+2.5**
	comp=Z,0.2nm,0.8s,baz=215,slow=7.7,SNR=2.3						
	comp=Z,0.2nm,0.8s						
BRTR	**Keskin Array B**	**149.02**	**313**	PKPbc	**PKPbc**	**01 59 59.8**	**-1.9**
	comp=Z,0.4nm,0.7s,baz=49,slow=4.3,SNR=4.2						
MMAI	**Mount Meron Ar**	**150.14**	**300**	PKPbc	**PKiKP**	**02 00 04.6**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=95,slow=4.9,SNR=2.1						

TAP 16 01:54:37.0,24.06N×122.02E,h32km,ML2.2,1C-1D,C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.28**	**78**	*e*P	Pn	01 54 44.8	+0.3
	baz=78						
EOS4				*e*S	Sb	01 54 49.0	+0.1
	baz=78						
EOS3	**EOS3**	**0.35**	**50**	P	Pb	01 54 45.5	+0.2
	baz=50						
EOS3				S	Sb	01 54 50.9	0.0
	baz=50						
EHP	**Heping Village**	**0.35**	**314**	*e*P	Pn	01 54 45.7	-0.2
	baz=314						
EAHA	**Aohua**	**0.37**	**316**	⇑*i*P	Pb	01 54 45.3	-0.3
	baz=315						
EAHA				*e*S	Sn	01 54 52.7	+0.5
	baz=315						
HWA	**Hwalien**	**0.39**	**257**	*e*P	Pb	01 54 46.0	0.0
	baz=256						
EOS2	**EOS2**	**0.40**	**28**	*i* P	Pb	01 54 46.0	-0.1
	baz=28						
EOS2				*i* S	Sb	01 54 52.4	+0.2
	baz=28						
NACB	**Ninganchiao**	**0.41**	**286**	⇓P	Pb	01 54 45.4	-0.8
	baz=285						
NACB				*i* S	Sb	01 54 52.5	+0.1
	baz=285						
NACB	**Ninganchiao**	**0.41**	**286**	*e*P	Pb	01 54 45.3	-0.9
	baz=17						
EWUT	**Wuta**	**0.44**	**330**	*i* P	Pb	01 54 46.3	-0.4
	baz=329						
EWUT				*i* S	Sb	01 54 53.3	0.0
	baz=329						
ENA	**Nanau**	**0.45**	**325**	*e*P	Pb	01 54 45.5	-1.3
	baz=325						
ENA				*e*S	Sb	01 54 52.3	-1.1
	baz=325						
SHUL	**Shoufeng**	**0.50**	**237**	*e*P	Pb	01 54 45.3	-2.3
	baz=236						
SHUL				*e*S	Sb	01 54 54.1	-0.8
	baz=236						
SHUL	**Shoufeng**	**0.50**	**237**	*i* S	Pn	01 54 44.8	-3.1
	baz=154						
WARBT	**Fenglin Townsh**	**0.68**	**240**	S	Sn	01 54 59.8	0.0
	baz=239						
NNSB	**Datong**	**0.69**	**302**	P	Pn	01 54 49.9	-0.7
	baz=301						
NNSB				*i* S	Sb	01 54 60.0	-0.1
	baz=301						
WHF	**Hehuan Shan**	**0.70**	**277**	*e*P	Pn	01 54 50.4	-0.7
	baz=276						
WHF				*e*S	Sb	01 55 00.7	0.0
	baz=276						
WHF	**Hehuan Shan**	**0.70**	**277**	S	Pn	01 54 50.4	-0.7
	baz=318						
FUSS	**Fushou**	**0.73**	**285**	*e*P	Pn	01 54 51.1	-0.3
	baz=284						
EGS		**0.78**	**354**	P	Pn	01 54 51.9	+0.1
	baz=354						
EGS				*i* S	Sn	01 55 02.2	-0.3
	baz=354						
TYC	**Yuchr**	**1.08**	**262**	*e*P	Pn	01 54 54.9	-0.9
	baz=261						
HSN	**Hsinchu**	**1.21**	**308**	*e*P	Pn	01 54 55.9	-1.8
	baz=309						
ELDTW	**Lidau**	**1.27**	**227**	*e*P	Pn	01 54 58.0	-0.6
	baz=226						
ELDTW				*e*S	Sn	01 55 14.2	-0.4
	baz=226						

TAP 16 01:54:38.1,23.91N×121.50E,h12km±1km,ML0.7,1D,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETM	**Tongmen**	**0.06**	**352**	⇓P	Pg	01 54 40.7	+0.2
	baz=352						
ETM				S	Sg	01 54 42.8	+0.6
	baz=352						
ESL	**Shilin**	**0.11**	**214**	*i* P	Pg	01 54 41.6	+0.6
	baz=210						
ESL				S	Sg	01 54 44.4	+1.2
	baz=210						
HWA	**Hwalien**	**0.12**	**53**	P	Pb	01 54 42.0	-0.4
	baz=56						
HWA				*i* S	Sg	01 54 44.5	+1.2
	baz=56						
SHUL	**Shoufeng**	**0.13**	**155**	*e*P	Pg	01 54 41.3	0.0
	baz=154						
LXIB	**Xiulin Townshi**	**0.14**	**324**	*i* P	Pb	01 54 42.2	-0.6
	baz=324						
LXIB				*e*S	Sg	01 54 45.9	+1.8
	baz=324						
NACB	**Ninganchiao**	**0.28**	**18**	*e*S	Sb	01 54 50.7	+0.9
	baz=17						
WHF	**Hehuan Shan**	**0.32**	**318**	*e*P	Pg	01 54 44.3	-0.5
	baz=318						

NEIC ***16*** *01:56:48.5±1.4, 19.40N±0.02×155.02W±0.02, h5km±1km, Error ellipse: s-maj=4.8km s-min=2.4km az=137.0*

HVO 16 01:56:47.8±1.1,19.39N±0.03×154.98W±0.01,h6km±3km, ML2.8/5,ML2.9/30(NEIC),Error ellipse: s-maj=4.1km s-min=0.9km az=153.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**331**		Pg	01 56 49.5	0.0
JCUZ	**Jacuzzi**	**0.12**	**268**	Pg	Pg	01 56 50.2	-0.2
JCUZ				Sg	Sg	01 56 52.4	+0.2
JCUZ				IAML		01 56 53.0	
	comp=E,3μm,0.7s						
NPOC	**North of Pu'u**	**0.12**	**272**	Pg	Pg	01 56 50.2	-0.3
NPOC				Sg	Sg	01 56 52.6	+0.2
NPOC				IAML		01 56 53.1	
	comp=E,5μm,0.8s						
STCH	**Steam Cracks**	**0.14**	**269**	Pg	Pg	01 56 50.7	-0.1
STCH				Sg	Sg	01 56 52.9	+0.1
STCH				IAML		01 56 53.3	
	comp=E,4μm,0.2s						
PUH	**Pauahi**	**0.23**	**267**	Pg	Pg	01 56 51.9	-0.5
PUH				Sg	Sg	01 56 55.3	-0.1
PUH				IAML		01 56 56.6	
	comp=N,2μm,1.0s						
PUH				IAML		01 56 59.7	
	comp=E,1μm,0.9s						
RSD	**Rainshed**	**0.29**	**285**	Pg	Pg	01 56 53.6	-0.1
RSD				Sg	Sg	01 56 57.0	-0.6
RSD				IAML		01 56 59.0	
	comp=N,3μm,0.7s						
RSD				IAML		01 57 01.4	
	comp=E,2μm,1.6s						
HLP	**Hilina Pali**	**0.33**	**254**	Pg	Pg	01 56 54.3	+0.1
HLP				Sg	Sg	01 56 59.4	+0.8
HLP				IAML		01 57 03.0	
	comp=N,3μm,0.8s						
MLH	**Mauna Loa**	**0.40**	**285**	Pg	Pg	01 56 55.5	-0.1
MLH				Sg	Sg	01 57 01.5	+0.5
MLH				IAML		01 57 09.1	
	comp=E,943nm,1.1s						
HTC	**Hot Caves**	**0.42**	**249**		Pg	01 56 56.1	0.0
HMH	**Humu'ula Sheep**	**0.52**	**294**	Pg	Pg	01 56 57.6	-0.4
HMH				Sg	Sg	01 57 05.3	+0.4
MLOA	**Mauna Loa Obse**	**0.58**	**285**	Pg	Pg	01 56 58.2	-1.0
MLOA				IAML		01 57 05.1	
	comp=N,883nm,0.9s						
MLOA				Sg		01 57 06.4	-0.5
MLOA				IAML		01 57 07.0	
	comp=E,1μm,0.7s						
MWH	**Moku'aweowe**	**0.59**	**280**	Pg	Pg	01 56 58.2	-1.2
MWH				IAML		01 57 05.6	
	comp=N,1μm,1.0s						
MWH				Sg	Sg	01 57 07.0	-0.2
KHU	**Kahuku**	**0.62**	**257**	Pg	Pg	01 56 58.4	-1.4
KHU				Sg	Sg	01 57 07.0	-0.9
KHU				IAML		01 57 13.1	
	comp=N,629nm,1.0s						
KHU				IAML		01 57 19.0	
	comp=E,815nm,1.3s						
POHA	**Pohakuloa**	**0.64**	**305**	Pg	Pg	01 56 58.5	-1.7
POHA				Sg	Sg	01 57 07.5	-1.1
POHA				IAML		01 57 16.1	
	comp=E,660nm,0.6s						
POHA				IAML		01 57 20.2	
	comp=E,728nm,0.7s						
ALEP	**Alep Permanent**	**0.65**	**284**		Pg	01 56 59.2	-1.1
ALEP					Sg	01 57 08.6	-0.3
HUH	**Hualalai**	**0.86**	**290**	Pg	Pg	01 57 03.2	-1.2
HUH				Sg	Sg	01 57 14.0	-1.6
HPAH	**Hawaii Prepara**	**0.93**	**313**	Pg	Pg	01 57 02.6	-3.2
HPAH				Sg	Sg	01 57 13.6	-4.3

IDC 16 02:03:30.4±1.9,3.32S×145.48E,h0km,mb3.9/5, mbtmp3.9/6,ML3.7/1,Error ellipse: s-maj=76.4km s-min=24.8km az=106.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.77**	**212**	P	P	02 08 02.4	+0.1
	0.2nm,0.3s,baz=39,slow=12,SNR=20						
	8.4nm,0.9s						
ASAR	**Alice Springs**	**23.11**	**208**	P	P	02 08 38.4	+0.1
	3.0nm,0.8s,baz=37,slow=9.5,SNR=18						
	3.0nm,0.8s						
MKAR	**Makanchi Array**	**74.48**	**320**	P	P	02 15 10.5	-0.3
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.5						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**78.19**	**323**	P	P	02 15 31.9	+0.1
	0.7nm,0.9s,baz=103,slow=4.8,SNR=2.4						
	0.7nm,0.9s						
ILAR	**Eielson Array**	**83.64**	**24**	P	P	02 16 00.1	-0.4
	0.9nm,0.7s,baz=253,slow=4.7,SNR=4.0						
	0.9nm,0.7s						
BVAR	**Borovoye Array**	**83.73**	**324**	P	P	02 16 01.8	+0.5
	1.8nm,0.9s,baz=106,slow=4.7,SNR=4.3						
	1.8nm,0.9s						

NEIC ***16*** *02:05:09.1±1.8, 19.393N±0.010×155.300W±0.007, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.6km az=357.0*

HVO 16 02:05:08.7±1.0,19.41N±0.01×155.287W±0.006, h0km±3km,ML2.9/22,ML2.2/38(NEIC),Error ellipse: s-maj=1.5km s-min=0.8km az=171.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**39**		Pg	02 05 09.3	+0.2
WRMHI	**West Rim**	**0.01**	**278**	Pg	Pg	02 05 09.3	+0.2
WRMHI				IAML		02 05 09.0	
	comp=E,17μm,0.7s						
OBL	**Observatory Le**	**0.01**	**14**	IAML		02 05 09.0	
	comp=E,5μm,0.8s						
OBL				IAML		02 05 09.2	
	comp=N,5μm,0.5s						
OBL				Pg	Pg	02 05 09.2	+0.1
RIM	**Rim**	**0.02**	**127**	Pg	Pg	02 05 09.4	+0.3
SDHHI	**Sand Hill**	**0.02**	**203**	Pg	Pg	02 05 09.4	+0.2
UWE	**Uwekahuna**	**0.02**	**342**	IAML		02 05 09.3	
	comp=N,4μm,0.6s						
UWE				Pg	Pg	02 05 09.4	+0.2
KKO	**Keanakako`i**	**0.02**	**109**	IAML		02 05 09.4	
	comp=E,3μm,0.8s						
KKO				Pg	Pg	02 05 09.6	+0.4
UWB	**Uwekahuna B**	**0.02**	**24**	Pg	Pg	02 05 09.6	+0.4
BYL	**Byron's Ledge**	**0.03**	**74**	Pg	Pg	02 05 09.4	+0.1
SBLHI	**Steaming Bluff**	**0.03**	**39**	IAML		02 05 09.5	
	comp=E,4μm,0.5s						
SBLHI				IAML		02 05 09.7	
	comp=N,4μm,1.0s						
SBLHI				Pg	Pg	02 05 09.8	+0.5
HATHI	**Halema'uma'u T**	**0.03**	**54**	IAML		02 05 09.5	
	comp=N,5μm,1.2s						
HATHI				IAML		02 05 09.6	
	comp=E,6μm,1.0s						
HATHI				Pg	Pg	02 05 09.8	+0.5
RSD	**Rainshed**	**0.06**	**9**	Pg	Pg	02 05 10.2	+0.3
RSD				IAML		02 05 10.6	
	comp=E,1μm,0.8s						
RSD				IAML		02 05 11.4	
	comp=N,2μm,0.8s						
PUH	**Pauahi**	**0.07**	**114**	Pg	Pg	02 05 10.8	+0.6
PUH				IAML		02 05 11.7	
	comp=N,2μm,0.8s						
PUH				IAML		02 05 12.3	
	comp=E,2μm,0.7s						
HLP	**Hilina Pali**	**0.11**	**190**	Pg	Pg	02 05 11.3	+0.5
KNHH	**Kane Nui o Ham**	**0.11**	**103**		Pg	02 05 12.1	+1.2
MLH	**Mauna Loa**	**0.13**	**314**	Pg	Pg	02 05 11.9	+0.7
STCH	**Steam Cracks**	**0.15**	**97**	Pg	Pg	02 05 12.5	+0.8
STCH				IAML		02 05 16.2	
	comp=E,1μm,0.8s						
STCH				IAML		02 05 16.7	
	comp=N,1μm,0.7s						
NPOC	**North of Pu'u**	**0.17**	**94**	Pg	Pg	02 05 12.4	+0.4
NPOC				IAML		02 05 16.7	
	comp=E,1μm,0.8s						
NPOC				IAML		02 05 17.1	
	comp=N,1μm,0.5s						
JCUZ	**Jacuzzi**	**0.18**	**97**	Pg	Pg	02 05 12.7	+0.6
JCUZ				IAML		02 05 16.5	
	comp=N,953nm,1.2s						
JCUZ				IAML		02 05 18.3	
	comp=E,663nm,0.7s						
HTC	**Hot Caves**	**0.20**	**212**		Pg	02 05 13.4	+1.0
HMH	**Humu'ula Sheep**	**0.27**	**317**	Pg	Pg	02 05 14.4	+0.5
HMH				IAML		02 05 21.0	
	comp=N,710nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**	Pg	Pg	02 05 14.7	+0.2
MWH	**Moku'aweowe**	**0.30**	**285**	Pg	Pg	02 05 14.7	+0.1
KHU	**Kahuku**	**0.35**	**243**	Pg	Pg	02 05 15.5	+0.1
ALEP	**Alea Permanent**	**0.36**	**292**		Pg	02 05 16.5	+0.9
HUH	**Hualalai**	**0.59**	**298**	Pg	Pg	02 05 20.7	+0.7

BJI ***16*** *02:12:14.2±0.0,3.79S×138.99E,h98km,mb5.7/99, mB5.5/63*

NEIC ***16*** *02:12:16,3.78S×138.62E,h76km*

NEIC ***16*** *02:12:16,3.78S×138.72E,h80km,Moment Tensor Solution. Duration: 29 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.13; $M_{\theta\theta}$=1.53; $M_{\phi\phi}$1.66; $M_{r\theta}$-1.08; $M_{\theta\phi}$0.67; $M_{\phi r}$0.31; Fault plane solution: $M_0$2.02000×10^{17} NP1: ϕ_s149.50000°,δ73.15000°,λ-157.31000°. NP2: ϕ_s52.58000°,δ68.33000°,λ-18.18000°. Principal axes: T 1.7945, Plg3.0000°, Azm280.0000°; N 0.4606, Plg62.0000°, Azm184.0000°; P -2.2552, Plg28.0000°, Azm12.0000°;*

DJA ***16*** *02:12:16.1±0.2,4.7S±2.7×137.9E±7,h87km±2km,M5.7/79, mb5.9/79,mB6.1/55,MLv6.5/6,Mw5.6/16,Mw(mB)5.8/55, MwMwp5.2/22,Mwp5.4/22*

NEIC ***16*** *02:12:16,3.78S×138.62E,h80km*

IDC ***16*** *02:12:16.6±2.2,3.69S×138.58E,h82km±19km,mb5.3/29, mbtmp5.6/32,MS4.3/49,Error ellipse: s-maj=13.7km s-min=7.8km az=83.0*

MOS ***16*** *02:12:17.0±0.8,3.68S×138.55E,h105km,mb6.1/46, MS4.4/8,Error ellipse: s-maj=8.9km s-min=4.5km az=112.4*

NEIC ***16*** *02:12:17.4±1.8,3.79S±0.07×138.59E±0.07,h90km±1km, mb5.9/341,Mwb5.5/32,Mww5.5/26,Error ellipse: s-maj=12.0km s-min=11.0km az=182.0,Moment Tensor Solution. Moment tensor: Scale 10^{17}Nm; M_{rr}-0.25; $M_{\theta\theta}$-1.56; $M_{\phi\phi}$ 1.81; $M_{r\theta}$-1.27; $M_{\theta\phi}$0.10; $M_{\phi r}$0.17; Fault plane solution: $M_0$2.13000×10^{17} NP1:ϕ_s140.51000°, δ71.90000°,λ-153.39000°. NP2:ϕ_s41.67000°,δ64.80000°, λ-20.08000°. Principal axes: T 1.8244, Plg5.0000°, Azm270.0000°; N 0.5174, Plg58.0000°, Azm172.0000°; P -2.3418, Plg31.0000°, Azm3.0000°;*

GCMT ***16*** *02:12:19.4±0.1,3.59S±0.01×138.62E±0.01,h103km, MW5.6/149,Moment Tensor Solution. s142,c255; s149,c307; Duration: 185 Moment tensor: Scale 10^{17} Nm; M_{rr}-0.19±.03; $M_{\theta\theta}$-2.76±.03; $M_{\phi\phi}$2.95±.03; $M_{r\theta}$-1.33±.02; $M_{\theta\phi}$0.25±.03; $M_{\phi r}$0.22±.02; Best double couple: $M_0$3.15500×10^{17} NP1:ϕ_s140.00000°,δ76.00000°, λ-161.00000°. NP2:ϕ_s45.00000°,δ72.00000°, λ-14.00000°. Principal axes: T 2.9700, Plg3.0000°, Azm272.0000°; N 0.3730, Plg67.0000°, Azm174.0000°; P -3.3400, Plg23.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 02:12:16.9±0.2,3.70S±0.03×138.58E±0.03,h88km±1km, h88km:pP-P,n1317,σ1943/1460,mb5.9/295,16C-57D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**1.93**	**55**	P	**Pn**	**02 12 47.4**	**-0.8**
GENI	**Genyem**	**1.93**	**55**	P	**Pn**	**02 12 46.7**	**-1.5**
JAY	**Jayapura**	**2.43**	**61**	P	**Pn**	**02 12 52.4**	**-2.4**
JAY				S	**Sn**	**02 13 19.0**	**-4.9**
TABU	**Tabubil**	**3.06**	**121**	P	**Pn**	**02 13 04.9**	**+1.6**
KMPI	**Kaimana, Papua**	**4.86**	**270**	P	**Pn**	**02 13 29.5**	**+1.8**
MMPI	**Merauke**	**5.06**	**159**	P	**Pn**	**02 13 31.7**	**+1.3**
	17μm,0.8s,339μm35μm157nm						
MMPI				S	**Sn**	**02 14 27.5**	**-0.1**
	17μm,0.8s,339μm35μm157nm						
FAKI	**Fak Fak**	**6.37**	**277**	P	**Pn**	**02 13 49.4**	**+1.2**
FAKI	**Fak Fak**	**6.37**	**277**		**Pn**	**02 13 48.9**	**+0.7**
FAKI	**Fak Fak**	**6.37**	**277**	P	**Pn**	**02 13 48.3**	**+0.1**
	3μm,0.8s,25μm15μm10.0nm						
SWI	**Sorong**	**7.84**	**291**	P	**Pn**	**02 14 07.7**	**-0.6**
	3μm,0.6s,37μm7μm13nm						
SAUI	**Saumlaki**	**8.40**	**239**	P	**Pn**	**02 14 17.4**	**+1.5**
SAUI	**Saumlaki**	**8.40**	**239**	Pn	**Pn**	**02 14 16.7**	**+0.8**
SAUI	**Saumlaki**	**8.40**	**239**	P	**Pn**	**02 14 17.3**	**+1.4**
	4μm,0.9s,48μm						
BNDI	**Bandanaira**	**8.69**	**264**	P	**Pn**	**02 14 20.5**	**+0.6**
BNDI	**Bandanaira**	**8.69**	**264**	P	**Pn**	**02 14 19.1**	**-0.8**
	5μm,1.3s,67μm12μm						
MANU	**Manus Island**	**8.93**	**80**	P	**Pn**	**02 14 24.1**	**+0.9**
MANU	**Manus Island**	**8.93**	**80**	Pn	**Pn**	**02 14 23.4**	**+0.2**
PMG	**Port Moresby**	**10.23**	**124**	P	**Pn**	**02 14 42.0**	**+1.0**
	3μm,0.8s,baz=310,slow=8.5,SNR=282						
PMG				S	**Sn**	**02 16 29.9**	**-4.1**
	360nm,0.8s,baz=202,slow=23,SNR=2.0						
PMG				LR	LR	02 19 59.1	
	comp=Z,2μm,20.4s,baz=220,slow=45						
KDU	**Kakadu**	**10.78**	**214**	P	**Pn**	**02 14 47.0**	**-1.4**
	baz=11,SNR=559						
KDU	**Kakadu**	**10.78**	**214**	P	**Pn**	**02 14 46.9**	**-1.4**
COEN	**Coen**	**11.15**	**156**	P	**Pn**	**02 14 52.1**	**-1.4**
	baz=11,SNR=404						
COEN	**Coen**	**11.15**	**156**	P	**Pn**	**02 14 52.1**	**-1.4**
COEN	**Coen**	**11.15**	**156**	Pn	**Pn**	**02 14 50.9**	**-2.6**
NLAI	**Namlea**	**11.47**	**272**	P	**Pn**	**02 15 00.0**	**+2.2**
	737nm,1.2s						
LBMI	**Labuha**	**11.48**	**285**	P	**Pn**	**02 14 57.4**	**-0.5**
	5μm,1.1s,38μm						
DRS	**Darwin Rock St**	**11.53**	**221**	P	**Pn**	**02 14 58.2**	**-0.4**
MTN	**Manton Dam**	**11.69**	**219**	P	**Pn**	**02 14 59.4**	**-1.3**
	baz=12,SNR=127						
MTN	**Manton Dam**	**11.69**	**219**	P	**Pn**	**02 14 59.8**	**-1.0**
MTN	**Manton Dam**	**11.69**	**219**	Pn	**Pn**	**02 14 58.9**	**-1.9**
I39PW	**PALAU INFRASON**	**11.87**	**340**	I	I	03 17 50.0	
	baz=166,slow=321,SNR=2.0						
TNTI	**Ternate**	**12.05**	**291**	P	**Pn**	**02 15 06.3**	**+0.6**
TNTI	**Ternate**	**12.05**	**291**	Pn	**Pn**	**02 15 06.6**	**+0.9**
TNTI	**Ternate**	**12.05**	**291**	P	**Pn**	**02 15 06.6**	**+0.9**
	446nm,1.6s,5μm3μm						
SANI	**Sanana**	**12.68**	**277**	P	**Pn**	**02 15 14.0**	**-0.1**
SANI	**Sanana**	**12.68**	**277**	P	**Pn**	**02 15 11.9**	**-2.2**
	1μm,0.7s,12μm5μm						
RABL	**Raba

WRAB pmax pmax
comp=Z,1µm,0.9s
WB2 Warramunga Arr 16.66 194 P **Pn** **02 16 02.7 -2.5**
baz=17
WB2 Warramunga Arr 16.66 194 Pn **Pn** **02 16 02.1 -3.0**
WRA Warramunga Arr 16.66 194 Pn **Pn** **02 16 00.9 -4.3**
WRA Warramunga Arr 16.66 194 P **Pn** **02 16 03.0 -2.1**
comp=Z,156nm,0.7s,baz=15,slow=13,SNR=104
WRA S **Sn** **02 18 60.0 -10**
comp=Z,580nm,0.8s,baz=9.8,slow=22,SNR=8.7
WRA LR LR 02 22 36.4
comp=Z,2µm,20.8s,baz=16,slow=37
WRA Warramunga Arr 16.66 194 P **Pn** **02 16 00.9 -4.3**
QIS Mount Isa 16.78 177 P **Pn** **02 16 03.7 -3.0**
baz=17,SNR=470
DAV Davao City (W) 16.82 310 Pn **P** **02 16 10.1 +2.3**
DAV Davao City (W) 16.82 310 P **P** **02 16 09.8 +1.9**
comp=Z,347nm,0.4s,baz=78,slow=5.4,SNR=8.0
DAV LR LR 02 24 03.9
comp=Z,624nm,18.4s,baz=114,slow=42
DAV Davao City (W) 16.82 310⇑ *e*P **P** **02 16 09.0 +1.1**
MMRI Maumere 16.96 252 P **P** **02 16 10.5 +1.0**
MMRI Maumere 16.96 252 **Pn** **02 16 08.4 -0.6**
MMRI Maumere 16.96 252 P **Pn** **02 16 08.5 -0.4**
comp=Z,552nm,1.1s
TV1H Townsville Har 17.42 153 P **Pn** **02 16 16.0 +1.5**
EDFI Ende, Flores 17.52 253 P **P** **02 16 14.8 -0.9**
comp=Z,465nm,1.0s,comp=Z,5µm
CTAO Charters Tower 17.92 156 P **Pn** **02 16 21.2 +0.6**
CTAO Charters Tower 17.92 156 P **Pn** **02 16 21.1 +0.5**
CTAO Charters Tower 17.92 156 P **Pn** **02 16 21.1 +0.5**
AUAYR Ayr State High 17.98 152 P **Pn** **02 16 22.4 +1.2**
GUMO Guam 18.28 20 P **P** **02 16 24.1 +0.2**
GUMO Guam 18.28 20 P **Pn** **02 16 24.7 -0.1**
GUMO Guam 18.28 20 P **P** **02 16 22.9 -1.0**
comp=Z,200nm,1.0s,baz=212,slow=1.0,SNR=13
GUMO LR LR 02 23 02.7
comp=Z,757nm,19.7s,baz=200,slow=35
GUMO Guam 18.28 20 P **Pn** **02 16 24.7 -0.1**
TOLI2 Tolitoli 18.42 285 P **P** **02 16 26.0 +0.5**
TOLI2 Tolitoli 18.42 285 P **P** **02 16 26.0 +0.5**
TTSI Tana Toraja 18.74 271 P **Pn** **02 16 31.6 +1.2**
comp=Z,462nm,1.1s,comp=Z,10µmcomp=Z,7µm
KAPI Kappang 18.82 265 P **Pn** **02 16 32.1 +0.8**
KAPI Kappang 18.82 265 P **Pn** **02 16 30.7 -0.6**
comp=Z,113nm,0.9s,baz=87,slow=5.1,SNR=20
KAPI Kappang 18.82 265 P **Pn** **02 16 33.5 +2.2**
KAPI S **Sn** **02 20 09.5 +7.5**
KAPI Kappang 18.82 265*c i*P **Pn** **02 16 31.5 +0.2**
KAPI pmax pmax
comp=Z,389nm,1.3s
BASI Baing, Sumba 19.00 249 P **Pn** **02 16 34.4 +1.0**
comp=Z,1µm,1.3s,comp=Z,12µm
FITZ Fitzroy Crossi 19.11 221 P **Pn** **02 16 34.7 -0.1**
baz=19,SNR=58
FITZ Fitzroy Crossi 19.11 221 P **Pn** **02 16 34.4 -0.4**
FITZ Fitzroy Crossi 19.11 221 P **P** **02 16 33.4 +0.4**
AS31 Alice Springs 20.35 192 P Pn 02 16 48.6 -0.7
ASAR Alice Springs 20.36 192 P Pn 02 16 48.6 -0.8
ASAR Alice Springs 20.36 192 P Pn 02 16 48.4 -1.0
comp=Z,379nm,0.8s,baz=18,slow=12,SNR=1105
ASAR S **S** **02 20 30.0 0.0**
comp=Z,208nm,1.1s,baz=8.1,slow=28,SNR=4.1
ASAR LR LR 02 24 41.6
comp=Z,2µm,22.0s,baz=11,slow=37
comp=Z,379nm,0.8s
PLAI Plampang 21.29 255 P **P** **02 16 55.0 -1.6**
PLAI Plampang 21.29 255 P **P** **02 16 53.5 -3.1**
comp=Z,225nm,0.8s,comp=Z,3µm
BKB Balikpapan 21.80 276 P **P** **02 17 02.9 +0.9**
BKB Balikpapan 21.80 276 P **P** **02 17 05.0 +3.0**
BKB Balikpapan 21.80 276 P **P** **02 17 05.8 +3.8**
comp=Z,3µm,0.9s,comp=Z,17µmcomp=Z,10µm
HNR Honiara 21.97 106 P **P** **02 17 05.2 +1.3**
HNR Honiara 21.97 106 P **P** **02 17 02.4 -1.5**
HNR Honiara 21.97 106 P **P** **02 17 02.4 -1.5**
PATS Pohnpei 22.31 62 P **P** **02 17 06.9 -0.6**
baz=22,SNR=9.6
PATS Pohnpei 22.31 62 P **P** **02 17 07.5 0.0**
PATS Pohnpei 22.31 62 P **P** **02 17 05.9 -1.6**
RK1H Rockhampton Ha 22.71 151 P **P** **02 17 11.8 +0.2**
QLP Quilpie 23.39 167 P **P** **02 17 17.9 -0.2**
baz=24,SNR=57
QLP Quilpie 23.39 167 P **P** **02 17 19.2 +1.1**
WRKA Warakurna 23.41 204 P **P** **02 17 18.7 +0.4**
baz=24,SNR=153
WRKA Warakurna 23.41 204 P **P** **02 17 18.9 +0.5**
GD1S Gladstone Soft 23.43 150 P **P** **02 17 20.0 +1.5**
SRBI Singaraja 23.64 258 P **P** **02 17 19.3 -1.2**
comp=Z,290nm,1.3s,comp=Z,6µm
DNP Denpasar 23.75 257 P **P** **02 17 21.1 -0.4**
comp=Z,659nm,1.0s
MTKI Muara Teweh, K 23.82 276 P **P** **02 17 23.4 +1.2**
comp=Z,273nm,1.2s
INKA Innaminka 24.00 175 P **P** **02 17 25.0 +1.5**
OOD Oodnadatta 24.12 186 P **P** **02 17 25.5 +0.9**
ABJI Asem Bagus 24.56 259 P **P** **02 17 28.4 -0.4**
comp=Z,294nm,0.9s,comp=Z,6µm
RMQ Roma 24.66 158 P **P** **02 17 31.4 +1.7**
EIDS Eidsvold 24.67 152 P **P** **02 17 30.9 +1.2**
baz=25,SNR=45
EIDS Eidsvold 24.67 152 P **P** **02 17 31.5 +1.8**
EIDS Eidsvold 24.67 152 P **P** **02 17 30.6 +0.9**
JAGI Jajag, Banyuwa 24.74 258 P **P** **02 17 31.5 +1.0**
JAGI Jajag, Banyuwa 24.74 258 P **P** **02 17 27.5 -3.0**
JAGI Jajag, Banyuwa 24.74 258 P **P** **02 17 28.1 -2.4**
comp=Z,183nm,0.9s,comp=Z,4µm
TGY Tagaytay City 24.88 316 P **P** **02 17 32.5 +0.7**
comp=Z,292nm,0.5s,baz=126,slow=9.8,SNR=20
comp=Z,292nm,0.5s
BLJI Banyuglugur 25.18 260 P **P** **02 17 33.7 -0.7**
comp=Z,171nm,0.7s
MBWA Marble Bar 25.24 225 P **P** **02 17 35.9 +1.0**
MBWA Marble Bar 25.24 225 P **P** **02 17 34.2 -0.7**
MBWA Marble Bar 25.24 225 P **P** **02 17 35.9 +1.0**
PSA00 Pilbara Seismi 25.43 224 P **P** **02 17 38.0 +1.3**
PSA00 Pilbara Seismi 25.43 224 P **P** **02 17 37.0 +0.4**
GRJI Gresik 26.18 262 P **P** **02 17 47.7 +4.2**
comp=Z,551nm,0.9s,comp=Z,9µm
LCRK Leigh Creek 26.60 181 P **P** **02 17 48.6 +1.5**
MULG Mulgathing 26.78 189 P **P** **02 17 49.8 +1.1**
PWJI Pagerwojo 26.97 260 P **P** **02 17 49.2 -1.5**
comp=Z,114nm,0.9s
SBUM Sibu 27.04 283 P **P** **02 17 52.4 +1.1**
AULRC Lightning Ridg 27.10 162 P **P** **02 17 53.1 +1.5**
STKI Sintang 27.34 277 P **P** **02 17 52.5 -1.5**
comp=Z,68nm,0.8s
STKA Stephens Creek 28.17 175 P **P** **02 18 01.1 0.0**
baz=28,SNR=15
STKA Stephens Creek 28.17 175 P **P** **02 18 03.1 +2.0**
STKA Stephens Creek 28.17 175 P **P** **02 17 59.9 -1.3**
STKA Stephens Creek 28.17 175 P **P** **02 18 01.5 +0.4**
comp=Z,12nm,0.7s,baz=345,slow=7.9,SNR=17
comp=Z,12nm,0.7s
STKA Stephens Creek 28.17 175⇓ *e*P **P** **02 18 00.5 -0.6**
SMRI Semarang 28.21 262 P **P** **02 18 03.0 +1.3**
SMRI Semarang 28.21 262 P **P** **02 18 01.7 0.0**
SMRI IAmb IAmb 02 18 59.6
comp=Z,217nm,1.0s
SMRI Semarang 28.21 262 P **P** **02 18 01.4 -0.3**
comp=Z,217nm,1.0s
CMSA Cobar Meteorol 28.49 167 P **P** **02 18 04.8 +0.8**
baz=29,SNR=17
CMSA Cobar Meteorol 28.49 167 P **P** **02 18 05.0 +1.0**
FORT Forrest 28.70 199 P **P** **02 18 06.3 +0.4**
baz=29,SNR=29
FORT Forrest 28.70 199 P **P** **02 18 07.3 +1.4**
FORT Forrest 28.70 199 P **P** **02 18 04.8 -1.1**
KSM Kuching 28.72 280 P **P** **02 18 07.6 +1.3**
KSM Kuching 28.72 280 P **P** **02 18 05.6 -0.7**
BBOO Buckleboo 29.05 184 P **P** **02 18 08.7 -0.3**
baz=29,SNR=10
BBOO Buckleboo 29.05 184 P **P** **02 18 10.4 +1.4**
BBOO Buckleboo 29.05 184 IAmb IAmb 02 18 42.6
comp=Z,192nm,0.8s
WHYH Whyalla 29.20 182 P **P** **02 18 11.9 +1.7**
ARMA Armidale 29.30 157 P **P** **02 18 13.7 +2.4**
baz=29,SNR=12
ARMA Armidale 29.30 157 P **P** **02 18 12.8 +1.5**
ARMA Armidale 29.30 157 P **P** **02 18 11.9 +0.6**
HTT Hallett 29.58 179 P **P** **02 18 14.9 +1.2**
baz=30,SNR=14
HTT Hallett 29.58 179 P **P** **02 18 15.5 +1.8**
AUPHS Peel High Scho 29.62 158 P **P** **02 18 15.6 +1.5**
KPJI Karang Pucung 29.72 262 P **P** **02 18 14.3 -0.9**
comp=Z,83nm,0.7s
MEEK Meekatharra 29.76 218 P **P** **02 18 15.9 +0.5**
baz=30,SNR=12
MEEK Meekatharra 29.76 218 P **P** **02 18 16.8 +1.5**
GIRL Giralia 30.17 229 P **P** **02 18 20.9 +1.9**
baz=30,SNR=6.3
JMZ Minamidaito 2 30.20 347 P **P** **02 18 19.4 +0.2**
JMZ Minamidaito 2 30.20 347 P **P** **02 18 18.4 -0.7**
JMZ IAmb IAmb 02 18 20.2
comp=Z,354nm,1.3s
JCJ Chichijima 30.82 6 P **P** **02 18 25.1 +0.5**
JCJ Chichijima 30.82 6 P **P** **02 18 21.9 -2.6**
JCJ IAmb IAmb 02 18 24.8
comp=Z,189nm,0.7s
JCJ Chichijima 30.82 6 LR LR 02 28 25.0
comp=Z,446nm,21.8s,baz=137,slow=31
BBJI Bungbulang 31.00 262 P **P** **02 18 25.7 -0.8**
TWGBT Beinan 31.41 328 P **P** **02 18 28.5 -1.4**
TWG Pinlang 31.42 328 P **P** **02 18 26.8 -3.2**
CNJI Cibinong 31.50 262 P **P** **02 18 29.4 -1.4**
comp=Z,69nm,0.9s
KMBL Kambalda 31.69 208 P **P** **02 18 32.4 +0.1**
baz=32,SNR=10
KMBL Kambalda 31.69 208 P **P** **02 18 33.7 +1.4**
YULB Yu-li 31.77 329 P **P** **02 18 33.3 +0.2**
YNG Young 31.78 164 P **P** **02 18 34.4 +1.3**
baz=32,SNR=12
YNG Young 31.78 164 P **P** **02 18 34.4 +1.3**
YOJ Yonaguni jima 31.83 332 P **P** **02 18 33.9 +0.4**
YOJ Yonaguni jima 31.83 332 P **P** **02 18 32.6 -0.9**
YOJ IAmb IAmb 02 18 34.6
comp=Z,229nm,1.0s
YOJ Yonaguni jima 31.83 332 P **P** **02 18 32.6 -0.9**
YOJ pmax pmax
comp=Z,229nm,1.0s
TNG Tangerang 31.90 264 P **P** **02 18 34.1 -0.3**
comp=Z,617nm,0.5s
JOW Kunigami 31.95 342 P **P** **02 18 35.3 +0.7**
JOW Kunigami 31.95 342 IAmb IAmb 02 18 36.2
comp=Z,360nm,1.2s
JOW Kunigami 31.95 342 P **P** **02 18 34.8 +0.3**
comp=Z,154nm,1.1s,baz=166,slow=8.4,SNR=40
JOW LR LR 02 29 35.6
comp=Z,611nm,21.4s,baz=144,slow=32
comp=Z,154nm,1.1s
SKJI Sukabumi 32.05 263 P **P** **02 18 33.8 -1.8**
comp=Z,180nm,0.8s
TPUB Ta-pu 32.05 328 P **P** **02 18 34.5 -1.0**
TPUB Ta-pu 32.05 328 IAmb IAmb 02 18 34.9
comp=Z,140nm,1.0s
NACB Ninganchiao 32.27 330 P **P** **02 18 37.9 +0.5**
SSLB Suanglung 32.27 329 P **P** **02 18 36.9 -0.6**
SSLB Suanglung 32.27 329 IAmb IAmb 02 18 39.8
comp=Z,585nm,1.9s
DZM Mont Dzumac 32.62 126 *e*P **P** **02 18 38.6 -2.0**
comp=Z,140nm,1.2s
DZM *e*S S 02 24 01.6 +11
comp=Z,374nm,24.6s
DZM *e*LR LR 02 27 07.8
comp=Z,1µm,21.4s
DZM Mont Dzumac 32.62 126 P **P** **02 18 39.6 -1.0**
DZM Mont Dzumac 32.62 126 P **P** **02 18 40.5 -0.1**
DZM pP **pP** **02 19 01.7 +0.1**
DZM sP **sP** **02 19 11.9 -0.2**
LIFNC LIFOU 32.65 124 P **P** **02 18 42.2 +1.4**
LIFNC LIFOU 32.65 124 IAmb IAmb 02 19 17.1
comp=Z,297nm,1.2s
YHNB Yeheng 32.79 330 P **P** **02 18 42.6 +0.6**
CAN Canberra 32.91 164 P **P** **02 18 44.5 +1.5**
CAN Canberra 32.91 164 P P 02 18 48.0 +5.0
CAN pP pP 02 19 08.2 +4.0
CAN sP sP 02 19 18.4 +3.6
CAN PcP **PcP** **02 21 26.6 +1.0**
TATO Taipei 32.99 331 P **P** **02 18 44.1 +0.4**
TATO Taipei 32.99 331 P **P** **02 18 43.7 0.0**
TATO Taipei 32.99 331 P **P** **02 18 44.1 +0.4**
TATO S **S** **02 23 54.3 -1.6**
TATO Taipei 32.99 331 P **P** **02 18 43.8 0.0**
TATO PcP **PcP** **02 21 26.9 +0.9**
CNB Canberra Magne 33.01 164 P **P** **02 18 46.4 +2.5**
baz=33,SNR=5.6
CNB Canberra Magne 33.01 164 P **P** **02 18 45.6 +1.8**
ARPS Mount Arapiles 33.05 175 P **P** **02 18 45.9 +1.9**
baz=33,SNR=22
ARPS Mount Arapiles 33.05 175 P **P** **02 18 45.8 +1.8**
MORW Morawa 33.08 218 P **P** **02 18 46.0 +1.5**
baz=33,SNR=6.4
MORW Morawa 33.08 218 P **P** **02 18 45.7 +1.2**
MORW Morawa 33.08 218 IAmb IAmb 02 19 09.0
comp=Z,142nm,0.9s
DLV T Lat 33.72 298 P **P** **02 18 51.0 +0.6**
DLV T Lat 33.72 298 P **P** **02 18 50.0 -0.4**
BLDU Ballidu 33.81 215 P **P** **02 18 50.8 0.0**
baz=34,SNR=20
BLDU Ballidu 33.81 215 P **P** **02 18 52.1 +1.3**
KLBR Kellerberrin 33.96 213 P **P** **02 18 51.9 -0.2**
baz=34,SNR=25
KLBR Kellerberrin 33.96 213 P **P** **02 18 52.8 +0.7**
KASI Kota Agung 34.02 266 P **P** **02 18 50.6 -2.2**
comp=Z,153nm,0.9s,comp=Z,1µm
BRAT Ballarat 34.04 172 P **P** **02 18 54.2 +1.5**
TOO Toolangi 34.30 170 P **P** **02 18 56.6 +1.6**
baz=34,SNR=5.7
TOO Toolangi 34.30 170 P **P** **02 18 56.9 +1.9**
TOO Toolangi 34.30 170 P **P** **02 18 55.3 +0.3**
TOO IAmb IAmb 02 20 05.9
comp=Z,197nm,1.4s
TOO Toolangi 34.30 170 P **P** **02 18 55.3 +0.3**
TOO pmax pmax
comp=Z,197nm,1.4s
AUHPC Hawkesdale P12 34.42 175 P **P** **02 18 57.4 +1.5**
LWLI Liwa 34.44 267 P **P** **02 18 56.7 +0.1**
comp=Z,247nm,0.9s,comp=Z,13µm
QZH Quanzhou 34.47 327⇑ *i*P **P** **02 18 56.4 -0.1**
QZH S **S** **02 24 17.3 -1.3**
QZH pmax pmax
comp=Z,190nm,1.2s
QZH LR LR
comp=Z,590nm,14.8s
QZH LR LR
comp=Z,500nm,19.6s
QZH LR LR
comp=Z,750nm,20.3s
MILA Mila 34.59 165 P **P** **02 18 58.9 +1.4**
baz=35,SNR=6.8
TARA Tarawa 34.69 82 P **P** **02 18 59.8 +1.1**
TARA Tarawa 34.69 82 P **P** **02 18 58.0 -0.7**
MYKOM Kota Tinggi 35.14 278 P **P** **02 19 02.8 +0.3**
MYKOM IAmb IAmb 02 19 04.6
comp=Z,81nm,0.9s
HKPS Hong Kong Po S 35.18 318 P **P** **02 19 03.3 +0.6**
NWAO Narrogin (SRO) 35.27 212 P **P** **02 19 03.7 +0.3**
baz=35,SNR=5.4
NWAO P **P** **02 19 03.7 +0.3**
baz=35,SNR=5.4
NWAO Narrogin (SRO) 35.27 212 P **P** **02 19 05.1 +1.7**
NWAO Narrogin (SRO) 35.27 212 P **P** **02 19 04.1 +0.7**
NWAO Narrogin (SRO) 35.27 212 P **P** **02 19 02.5 -0.9**
NWAO IAmb IAmb 02 20 20.8
comp=Z,114nm,0.8s
NWAO Narrogin (SRO) 35.27 212 LR LR 02 35 58.3
comp=Z,586nm,19.4s,baz=34,slow=40
NWAO Narrogin (SRO) 35.27 212 P **P** **02 19 03.9 +0.5**
NWAO Narrogin (SRO) 35.27 212 P **P** **02 19 02.5 -0.9**
NWAO pmax pmax
comp=Z,114nm,0.8s
NWAO Narrogin (SRO) 35.27 212 P **P** **02 19 04.0 +0.7**
NWAO pP **pP** **02 19 25.0 +0.6**
H11S3 WAKE ISLAND Hy 35.40 51 P **P** **02 19 03.8 -0.7**
baz=238,slow=8.0,SNR=8.2
H11S2 WAKE ISLAND Hy 35.41 51 P **P** **02 19 03.8 -0.7**
baz=238,slow=8.0,SNR=7.8
H11S1 WAKE ISLAND Hy 35.42 51 P **P** **02 19 03.9 -0.7**
baz=238,slow=8.0,SNR=3.0
QIZ Qiongzhong 36.19 310 P **P** **02 19 12.0 +0.6**
QIZ Qiongzhong 36.19 310 P **P** **02 19 11.8 +0.4**
QIZ pP **pP** **02 19 32.8 +0.7**
QIZ PP **PP** **02 20 37.8 +2.4**
QIZ S **S** **02 24 47.3 +1.9**
QIZ sS **sS** **02 25 22.8 +1.0**
QIZ pmax pmax
comp=Z,54nm,1.1s
QIZ LR LR
comp=Z,960nm,19.6s
QIZ LR LR
comp=Z,760nm,19.0s
QIZ LR LR
comp=Z,740nm,19.3s
QIZ Qiongzhong 36.19 310 P **P** **02 19 11.5 +0.1**
QIZ pP **pP** **02 19 31.6 -0.5**
QIZ sP **sP** **02 19 41.6 -0.7**
GZH Guangzhou 36.27 318 P **P** **02 19 14.3 +2.3**
GZH pP **pP** **02 19 33.0 +0.4**
GZH S **S** **02 24 50.0 +3.7**
GZH SS **SS** **02 27 26.5 -1.2**
GZH pmax pmax
comp=Z,53nm,0.9s
GZH LR LR
comp=Z,220nm,10.8s
GZH LR LR
comp=Z,280nm,10.9s
GZH LR LR
comp=Z,410nm,8.6s
JHJ2 Mitsune 36.63 2 P **P** **02 19 15.1 +0.1**
JHJ2 IAmb IAmb 02 19 16.7
comp=Z,162nm,0.8s
JHJ Hachijo jima 2 36.64 2 P **P** **02 19 15.4 +0.4**
comp=Z,140nm,0.8s,baz=205,slow=6.8,SNR=7.0
JHJ LR LR 02 31 15.3
comp=Z,615nm,21.4s,baz=253,slow=31
comp=Z,140nm,0.8s
JNU Nakatsue 37.34 349 P **P** **02 19 21.1 +0.1**
JNU Nakatsue 37.34 349 P **P** **02 19 20.8 -0.2**
comp=Z,377nm,1.1s,baz=140,slow=2.8,SNR=113
JNU LR LR 02 34 25.4
comp=Z,645nm,18.2s,baz=167,slow=36
comp=Z,377nm,1.1s
JMN Monobe 37.49 354 P **P** **02 19 22.5 +0.2**
BKNI Bangkinang 37.73 275 P **P** **02 19 26.1 +1.5**
BKNI Bangkinang 37.73 275 P **P** **02 19 25.4 +0.8**
comp=Z,446nm,1.0s,comp=Z,6µm
UBPT Khong Chiam 37.82 301 P **P** **02 19 26.1 +0.8**
GLAD Gladstone 38.08 168 P **P** **02 19 29.0 +1.9**
PDSI Padang 38.18 273 P **P** **02 19 27.4 -1.0**
comp=Z,60nm,0.5s
CORO Coronation Par 38.36 170 P **P** **02 19 31.2 +1.7**
SSE Sheshan 38.37 336 P **P** **02 19 30.0 +0.3**
SSE S **S** **02 25 16.9 -1.2**
SSE pmax pmax
comp=Z,100nm,1.0s
SSE pmax pmax
comp=Z,340nm,4.2s
SSE LR LR
comp=Z,350nm,16.4s
SSE LR LR
comp=Z,540nm,16.3s
SSE Sheshan 38.37 336 P **P** **02 19 29.9 +0.2**
IPM Ipoh 38.39 282 P **P** **02 19 31.1 +0.9**
IPM Ipoh 38.39 282 P **P** **02 19 29.8 -0.4**
IPM IAmb IAmb 02 20 08.3
comp=Z,156nm,1.3s
INU Inuyama 38.87 358 P **P** **02 19 33.4 -0.4**
INU Inuyama 38.87 358 P **P** **02 19 33.0 -0.8**
INU PcP **PcP** **02 21 44.0 +0.8**
JTU Tsushima 38.99 348 P **P** **02 19 35.1 +0.3**
JTU Tsushima 38.99 348 P **P** **02 19 33.7 -1.1**
JTU IAmb IAmb 02 19 36.3
comp=Z,352nm,1.6s
JGF Kuroka 39.11 358 P **P** **02 19 35.0 -0.9**
MOO Moorlands 39.33 170 P **P** **02 19 40.5 +2.9**
baz=40,SNR=6.9
MOO Moorlands 39.33 170 P **P** **02 19 38.9 +1.3**
SISI Saibi 39.52 272 P **P** **02 19 39.0 -0.5**
comp=Z,76nm,0.7s,comp=Z,2µm
TAU Tasmania Unive 39.81 170 P **P** **02 19 43.2 +1.7**
TAU Tasmania Unive 39.81 170 P **P** **02 19 41.4 -0.1**
TAU IAmb IAmb 02 19 44.9
comp=Z,153nm,1.0s
TAU Tasmania Unive 39.81 170 P **P** **02 19 41.4 -0.1**
TAU pmax pmax
comp=Z,153nm,1.0s
TAU Tasmania Unive 39.81 170 P **P** **02 19 44.0 +2.5**
MJAR Matsushiro Arr 40.04 360 P **P** **02 19 41.9 -1.6**
comp=Z,15nm,0.6s,baz=174,slow=8.8,SNR=47
MJAR PcP **PcP** **02 21 47.2 +0.3**
comp=Z,15nm,0.8s,baz=178,slow=3.0,SNR=6.6
MJAR LR LR 02 34 51.4
comp=Z,370nm,20.0s,baz=177,slow=34
comp=Z,15nm,0.6s
MAJO Matsushiro 40.04 360 P **P** **02 19 42.4 -1.1**
MAJO Matsushiro 40.04 360 P **P** **02 19 40.7 -2.8**
MAJO Matsushiro 40.04 360*d i*P **P** **02 19 41.6 -1.9**
MAJO pmax pmax
comp=Z,91nm,1.4s
MAJO MLR MLR
comp=Z,263nm,18.0s
MAJO Matsushiro 40.04 360 P **P** **02 19 41.9 -1.6**
MAJO PcP **PcP** **02 21 47.0 +0.1**
PSI Prapat 40.16 279 P **P** **02 19 45.2 +0.2**
CNSH ChangSha 40.18 324⇑ P **P** **02 19 46.8 +2.0**
CNSH S **S** **02 25 49.1 +3.8**
CNSH pmax pmax
comp=Z,130nm,1.4s
CNSH LR LR
comp=Z,430nm,21.2s
CNSH LR LR
comp=Z,640nm,18.2s
CNSH LR LR
comp=Z,550nm,29.4s
NJ2 Nanjing 40.20 334⇓ *i*P **P** **02 19 45.6 +0.7**
NJ2 pP **pP** **02 20 03.1 -2.5**
NJ2 sP **sP** **02 20 14.4 -1.3**
NJ2 PP **PP** **02 21 20.9 +1.8**
NJ2 PcP **PcP** **02 21 45.3 -2.2**
NJ2 S **S** **02 25 45.8 +0.4**
NJ2 pmax pmax
comp=Z,88nm,1.0s
SRIT Nakonsritamara 40.74 288 P **P** **02 19 51.2 +1.6**
SRIT Nakonsritamara 40.74 288 P **P** **02 19 49.4 -0.2**
SRIT IAmb IAmb 02 20 25.1
comp=Z,149nm,1.1s
MSVF Nonsavu 41.09 113 P **P** **02 19 54.6 +2.0**
MSVF Nonsavu 41.09 113 P **P** **02 19 52.6 0.0**
MSVF Nonsavu 41.09 113⇑ *e*P **P** **02 19 53.7 +1.1**
MSVF pmax pmax
comp=Z,114nm,1.4s
MSVF Nonsavu 41.09 113 P **P** **02 19 54.3 +1.7**
MSVF pP **pP** **02 20 15.9 +1.7**
MSVF sP **sP** **02 20 25.9 +1.3**
WHN Wuhan 41.18 327⇓ P **P** **02 19 54.4 +1.5**
WHN pP **pP** **02 20 18.8 +4.8**
WHN S **S** **02 26 03.3 +3.3**
WHN SS **SS** **02 29 05.8 -0.6**
WHN pmax pmax
comp=Z,2µm,1.9s
TJN Taejon 41.23 346 P **P** **02 19 53.7 +0.5**
TJN Taejon 41.23 346 P **P** **02 19 53.1 -0.1**
TJN Taejon 41.23 346*d i*P **P** **02 19 52.9 -0.3**
GSI Gunungsitoli 41.28 276 P **P** **02 19 54.7 +0.6**
GSI Gunungsitoli 41.28 276 P **P** **02 19 52.4 -1.7**
GSI IAmb IAmb 02 20 31.7
comp=Z,116nm,0.8s
GSI Gunungsitoli 41.28 276 P **P** **02 19 52.4 -1.7**
comp=Z,99nm,0.8s
KCSI Kotacane, Aceh 41.41 280 P **P** **02 19 54.3 -0.9**
comp=Z,106nm,0.9s,comp=Z,3µm
JMM Marumori 41.41 3 P **P** **02 19 55.6 +0.9**
JMM Marumori 41.41 3 P **P** **02 19 54.0 -0.7**
JSD Sado 41.53 360 P **P** **02 19 55.7 0.0**
SLVN Son La 42.10 308 P **P** **02 20 00.6 -0.1**
KSAR Wonju Array Be 42.13 347 P **P** **02 20 00.4 -0.2**
KSAR Wonju Array Be 42.13 347 P **P** **02 20 00.4 -0.2**
KSRS Korea Array 42.13 347 P **P** **02 20 01.1 +0.5**
comp=Z,102nm,0.8s,baz=166,slow=10.0,SNR=16
KSRS PcP **PcP** **02 21 54.3 +0.7**
comp=Z,18nm,0.9s,baz=167,slow=3.4,SNR=5.8
KSRS LR LR 02 37 23.3
comp=Z,452nm,19.2s,baz=160,slow=36
comp=Z,102nm,0.8s
KS19 Wonju Array Si 42.19 347 P **P** **02 20 00.8 -0.3**
KS19 IAmb IAmb 02 20 02.3
comp=Z,183nm,1.0s
INCN Inchon 42.45 346 P **P** **02 20 04.5 +1.2**
INCN Inchon 42.45 346 P **P** **02 20 03.5 +0.2**
INCN Inchon 42.45 346 P **P** **02 20 04.2 +0.9**
INCN S **S** **02 26 19.7 +0.9**
INCN Inchon 42.45 346 P **P** **02 20 03.5 +0.2**
INCN pmax pmax
comp=Z,412nm,1.0s

INCN	**Inchon**	**42.45**	**346**	P	**P**	**02 20 03.9**	**+0.6**
INCN				PcP	**PcP**	**02 21 56.0**	**+1.2**
LHMI	**Lhok Sumawe**	**42.52**	**282**	P	**P**	**02 20 05.2**	**+1.0**
LHMI	**Lhok Sumawe**	**42.52**	**282**	IAmb	IAmb	02 20 08.1	
	comp=Z,219nm,0.8s						
GYA	**Guiyang**	**43.03**	**316**⇑	*i*P	**P**	**02 20 09.5**	**+1.2**
GYA				pP	pP	02 20 33.9	+4.6
GYA				S	**S**	**02 26 26.5**	**-1.3**
GYA				sS	sS	02 27 11.3	+6.4
GYA				pmax	pmax		
	comp=Z,33nm,1.3s						
GYA				pmax	pmax		
	comp=Z,320nm,6.4s						
GYA				LR	LR		
	comp=Z,340nm,14.0s						
GYA				LR	LR		
	comp=Z,400nm,14.6s						
GYA				LR	LR		
	comp=Z,470nm,20.2s						
ENH	**Enshi**	**43.76**	**323**	P	**P**	**02 20 13.6**	**-0.4**
ENH	**Enshi**	**43.76**	**323**	IAmb	IAmb	02 20 15.6	
	comp=Z,130nm,0.8s						
ENH	**Enshi**	**43.76**	**323**	P	**P**	**02 20 14.5**	**+0.5**
JTM	**Tenmabayashi**	**44.33**	**3**	P	**P**	**02 20 18.3**	**0.0**
CRAI	**Chiangrai**	**44.41**	**304**	P	**P**	**02 20 19.5**	**+0.2**
TIA	**Tai'an**	**44.49**	**335**	⇓P	**P**	**02 20 19.3**	**-0.3**
TIA				PP	**PcP**	**02 22 00.8**	**-0.9**
TIA				S	**S**	**02 26 46.9**	**-1.5**
TIA				pmax	pmax		
	comp=Z,43nm,1.1s						
TIA				pmax	pmax		
	comp=Z,270nm,6.3s						
TIA				LR	LR		
	comp=Z,260nm,16.7s						
TIA				LR	LR		
	comp=Z,420nm,17.7s						
TIA				LR	LR		
	comp=Z,590nm,38.2s						
CMAR	**Chiang Mai Arr**	**44.82**	**301**	P	**P**	**02 20 21.8**	**-0.9**
CMAR	**Chiang Mai Arr**	**44.82**	**301**	P	**P**	**02 20 23.3**	**+0.7**
	comp=Z,19nm,1.0s,baz=121,slow=6.0,SNR=54						
CMAR				LR	LR	02 41 09.0	
	comp=Z,231nm,18.4s,baz=110,slow=39						
	comp=Z,19nm,1.0s						
CMAR	**Chiang Mai Arr**	**44.82**	**301**	*i* P	**P**	**02 20 23.8**	**+1.2**
CMAR				pmax	pmax		
	comp=Z,21nm,1.0s						
CHTO	**Chiang Mai**	**44.97**	**301**	P	**P**	**02 20 23.7**	**-0.1**
CHTO	**Chiang Mai**	**44.97**	**301**	P	**P**	**02 20 23.7**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,53nm,1.1s						
KMI	**Kunming**	**45.07**	**311**	⇓P	**P**	**02 20 25.6**	**+0.9**
KMI				pP	pP	02 20 49.8	+3.7
KMI				sP	sP	02 21 03.8	+7.6
KMI				sS	sS	02 27 42.9	+7.9
KMI				SS	**ScS**	**02 30 12.8**	**-1.0**
KMI				pmax	pmax		
	comp=Z,35nm,1.2s						
KMI				LR	LR		
	comp=Z,310nm,17.3s						
KMI				LR	LR		
	comp=Z,540nm,22.1s						
KMI				LR	LR		
	comp=Z,440nm,21.6s						
DL2	**Dalian**	**45.20**	**341**	P	**P**	**02 20 25.8**	**+0.6**
DL2				S	**S**	**02 26 57.9**	**-0.7**
DL2				pmax	pmax		
	comp=Z,160nm,0.7s						
DL2				LR	LR		
	comp=Z,670nm,11.2s						
DL2				LR	LR		
	comp=Z,1μm,13.7s						
DL2				LR	LR		
	comp=Z,540nm,17.1s						
LYN	**LuoYang**	**45.30**	**329**⇓	*i*P	**P**	**02 20 26.5**	**+0.4**
LYN				pP	pP	02 20 44.4	-3.0
LYN				PP	**PP**	**02 22 12.5**	**-1.3**
LYN				S	**S**	**02 27 00.5**	**+0.3**
LYN				SS	**ScS**	**02 30 17.0**	**+2.6**
LYN				pmax	pmax		
	comp=Z,370nm,1.0s						
LYN				pmax	pmax		
	comp=Z,530nm,5.9s						
LYN				LR	LR		
	comp=Z,550nm,21.3s						
LYN				LR	LR		
	comp=Z,600nm,17.4s						
LYN				LR	LR		
	comp=Z,1μm,28.5s						
ERM	**Erimo**	**45.69**	**5**	P	**P**	**02 20 29.6**	**+0.6**
ERM	**Erimo**	**45.69**	**5**	P	**P**	**02 20 28.7**	**-0.3**
ERM	**Erimo**	**45.69**	**5***d*	*i*P	**P**	**02 20 28.7**	**-0.3**
ERM				pmax	pmax		
	comp=Z,159nm,1.8s						
ERM	**Erimo**	**45.69**	**5**	P	**P**	**02 20 29.2**	**+0.1**
ERM				sP	**sP**	**02 21 00.2**	**0.0**
JEM	**Erimo**	**45.69**	**5**	P	**P**	**02 20 29.6**	**+0.6**
HNS	**HongShan**	**46.53**	**334**	⇓P	**P**	**02 20 35.8**	**+0.1**
HNS				pP	**pP**	**02 20 59.4**	**+2.4**
HNS				sP	**sP**	**02 21 11.9**	**+4.9**
HNS				PP	**PP**	**02 22 22.8**	**-3.6**
HNS				S	**S**	**02 27 16.6**	**-1.2**
HNS				SS	**SS**	**02 30 36.8**	**-8.1**
HNS				pmax	pmax		
	comp=Z,170nm,1.1s						
HNS				LR	LR		
	comp=Z,470nm,17.3s						
HNS				LR	LR		
	comp=Z,290nm,16.9s						
HNS				LR	LR		
	comp=Z,540nm,17.9s						
MSHR	**Mys Shultsa**	**46.55**	**352***d*	*i*P	**P**	**02 20 36.3**	**+0.5**
MSHR				pmax	pmax		
	comp=Z,220nm,1.9s						
PZH	**PanZhiHua**	**46.59**	**312**	⇑P	**P**	**02 20 37.1**	**+0.6**
PZH				S	**S**	**02 27 16.9**	**-2.3**
PZH				pmax	pmax		
	comp=Z,30nm,1.4s						
PZH				pmax	pmax		
	comp=Z,160nm,5.7s						
PZH				LR	LR		
	comp=Z,260nm,19.6s						
PZH				LR	LR		
	comp=Z,270nm,18.0s						
PZH				LR	LR		
	comp=Z,360nm,19.0s						
PSTR	**Posyet**	**46.67**	**352***d*	*i*P	**P**	**02 20 37.2**	**+0.5**
XAN	**Xi'an**	**46.81**	**326**	⇓P	**P**	**02 20 38.1**	**0.0**
XAN				S	**S**	**02 27 20.4**	**-1.7**
XAN				pmax	pmax		
	comp=Z,260nm,1.3s						
XAN				pmax	pmax		
	comp=Z,1μm,5.7s						
XAN				LR	LR		
	comp=Z,370nm,16.8s						
XAN				LR	LR		
	comp=Z,690nm,16.5s						
XAN				LR	LR		
	comp=Z,800nm,17.1s						
XAN	**Xi'an**	**46.81**	**326**	P	**P**	**02 20 38.3**	**+0.2**
SNY	**Shenyang**	**47.33**	**345**	⇓P	**P**	**02 20 41.9**	**+0.1**
SNY				sP	**sP**	**02 21 13.3**	**+0.2**
SNY				S	**S**	**02 27 28.4**	**-0.6**
SNY				pmax	pmax		
	comp=Z,120nm,1.2s						
SNY				pmax	pmax		
	comp=Z,730nm,4.3s						
SNY				LR	LR		
	comp=Z,250nm,22.8s						
SNY				LR	LR		
	comp=Z,270nm,13.9s						
SNY				LR	LR		
	comp=Z,430nm,22.1s						
ASAJ	**Asahikawa**	**47.74**	**4**	P	**P**	**02 20 45.0**	**0.0**
	comp=Z,120nm,0.8s,baz=203,slow=10,SNR=90						
ASAJ				LR	LR	02 40 02.3	
	comp=Z,246nm,21.6s,baz=187,slow=35						
	comp=Z,120nm,0.8s						
ASAJ	**Asahikawa**	**47.74**	**4**	P	**P**	**02 20 44.0**	**-1.0**
ASAJ				pmax	pmax		
	comp=Z,228nm,1.0s						
JKA	**Kamikawa-asahi**	**47.74**	**4**	P	**P**	**02 20 44.0**	**-1.0**
JKA				IAmb	IAmb	02 20 46.5	
	comp=Z,228nm,1.0s						
TIY	**Taiyuan**	**47.83**	**332**	*e*P	**P**	**02 20 46.3**	**+0.4**
TIY				pP	**pP**	**02 21 10.3**	**+3.0**
TIY				sP	**sP**	**02 21 22.3**	**+5.1**
TIY				S	**S**	**02 27 35.6**	**-0.8**
TIY				pmax	pmax		
	comp=Z,77nm,0.6s						
CD2	**Chengdu**	**47.83**	**319**	P	**P**	**02 20 47.3**	**+1.3**
CD2				pP	pP	02 21 06.5	-1.2
CD2				sP	sP	02 21 19.1	+1.3
CD2				PP	**PP**	**02 22 39.9**	**+1.2**
CD2				S	**S**	**02 27 35.6**	**-1.0**
CD2				sS	sS	02 28 15.5	+1.3
CD2				pmax	pmax		
	comp=Z,80nm,0.8s						
CD2				pmax	pmax		
	comp=Z,230nm,6.3s						
CD2				LR	LR		
	comp=Z,450nm,12.8s						
CD2				LR	LR		
	comp=Z,440nm,16.9s						
CD2				LR	LR		
	comp=Z,470nm,15.9s						
YUK	**Yuzh-Kuril'sk**	**47.97**	**7**⇑	*e*P	**P**	**02 20 46.9**	**+0.1**
MYRZ	**Mayor Island**	**48.02**	**139**	P	P	02 21 06.1	+19
USA0B	**Ussuriysk Arra**	**48.05**	**354**	P	**P**	**02 20 46.9**	**-0.5**
USA0B				IAmb	IAmb	02 20 49.3	
	comp=Z,223nm,0.9s						
USA0B	**Ussuriysk Arra**	**48.05**	**354***d*	*i*P	**P**	**02 20 47.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**48.05**	**354**	P	**P**	**02 20 47.8**	**+0.4**
USRK	**Ussuriysk Ar.**	**48.05**	**354**	P	**P**	**02 20 48.0**	**+0.5**
	comp=Z,127nm,0.7s,baz=186,slow=7.4,SNR=328						
USRK				LR	LR	02 39 44.8	
	comp=Z,344nm,18.4s,baz=170,slow=34						
	comp=Z,127nm,0.7s						
USRK	**Ussuriysk Ar.**	**48.05**	**354**	P	**P**	**02 20 47.8**	**+0.4**
BJT	**Baijiatuau**	**48.13**	**337**	P	**P**	**02 20 48.8**	**+0.7**
BJT	**Baijiatuau**	**48.13**	**337**	IAmb	IAmb	02 20 49.5	
	comp=Z,491nm,1.7s						
BJT	**Baijiatuau**	**48.13**	**337**	P	**P**	**02 20 48.3**	**+0.2**
BJI	**Beijing**	**48.15**	**337**	P	**P**	**02 20 48.0**	**-0.2**
BJI				S	**S**	**02 27 39.8**	**-0.8**
BJI				pmax	pmax		
	comp=Z,79nm,1.3s						
BJI				LR	LR		
	comp=Z,86nm,18.1s						
BJI				LR	LR		
	comp=Z,130nm,17.5s						
BJI				LR	LR		
	comp=Z,140nm,18.2s						
JCZ	**Jackson Bay**	**48.23**	**151**	P	**P**	**02 20 50.6**	**+1.6**
TNCH	**TengChong**	**48.25**	**308**	⇑P	**P**	**02 20 50.8**	**+1.3**
TNCH				pmax	pmax		
	comp=Z,240nm,3.8s						
RAO	**Raoul Island**	**48.41**	**126**	LR	LR	02 41 19.4	
	comp=Z,160nm,19.0s,baz=350,slow=36						
DCZ	**Deep Cove**	**48.52**	**153**	P	**P**	**02 20 51.5**	**+0.5**
DCZ				IAmb	IAmb	02 21 17.2	
	comp=Z,190nm,1.1s						
CN2	**Changchun**	**48.74**	**347**	⇓P	**P**	**02 20 52.5**	**-0.2**
CN2				*e*pP	pP	02 21 13.0	-1.1
CN2				*e*S	**S**	**02 27 48.3**	**-0.6**
CN2				pmax	pmax		
	comp=Z,80nm,0.9s						
CN2				pmax	pmax		
	comp=Z,600nm,3.0s						
MDJ	**Mudanjiang**	**48.77**	**351**	P	**P**	**02 20 54.2**	**+1.3**
MDJ	**Mudanjiang**	**48.77**	**351**	P	**P**	**02 20 53.1**	**+0.2**
MDJ				sP	sP	02 21 24.8	+0.6
MDJ				S	**S**	**02 27 51.4**	**+2.1**
MDJ				ScS	**ScS**	**02 30 35.9**	**-0.9**
MDJ				pmax	pmax		
	comp=Z,420nm,0.9s						
MDJ				pmax	pmax		
	comp=Z,1μm,3.6s						
MDJ				LR	LR		
	comp=Z,410nm,20.6s						
MDJ				LR	LR		
	comp=Z,360nm,24.0s						
MDJ				LR	LR		
	comp=Z,530nm,24.7s						
MDJ	**Mudanjiang**	**48.77**	**351**	P	**P**	**02 20 53.6**	**+0.7**
RPZ	**Rata Peaks**	**49.11**	**149**	P	**P**	**02 20 55.3**	**-0.3**
RPZ				IAmb	IAmb	02 21 27.6	
	comp=Z,142nm,0.9s						
RPZ	**Rata Peaks**	**49.11**	**149**	LR	LR	02 42 08.0	
	comp=Z,529nm,18.9s,baz=312,slow=36						
URZ	**Urewera**	**49.15**	**140**	LR	LR	02 43 22.1	
	comp=Z,344nm,18.6s,baz=30,slow=38						
URZ	**Urewera**	**49.15**	**140**	P	**P**	**02 20 59.6**	**+3.6**
BHHZ	**Black Hill Sta**	**49.20**	**142**	P	**P**	**02 20 59.6**	**+3.2**
RTZ	**Ruatahuna**	**49.27**	**140**	IAmb	IAmb	02 21 31.3	
	comp=Z,378nm,1.6s						
BKZ	**Black Stump Fm**	**49.28**	**141**	P	**P**	**02 20 58.8**	**+1.8**
BKZ	**Black Stump Fm**	**49.28**	**141**	P	**P**	**02 21 00.7**	**+3.6**
OXZ	**Oxford**	**49.35**	**148**	IAmb	IAmb	02 21 25.5	
	comp=Z,50nm,0.6s						
RUGZ	**Raukumara Rang**	**49.35**	**139**	P	**P**	**02 21 00.8**	**+3.1**
KUR	**Kuril'sk**	**49.42**	**9***d*	*e*P	**P**	**02 20 58.2**	**+0.4**
KUR				pmax	pmax		
	comp=Z,618nm,1.0s						
NMHZ	**Naumai**	**49.44**	**141**	P	P	02 21 03.3	+5.0
MWZ	**Matawai**	**49.46**	**139**	P	**P**	**02 21 01.8**	**+3.4**
TSZ	**Takapari Road**	**49.48**	**142**	P	**P**	**02 21 00.5**	**+1.9**
KRHZ	**Kereru**	**49.48**	**142**	P	**P**	**02 21 01.0**	**+2.4**
PNHZ	**Pukenui**	**49.54**	**142**	P	**P**	**02 21 00.8**	**+1.8**
MRZ	**Mangatainoka R**	**49.61**	**143**	P	**P**	**02 20 58.1**	**-1.5**
WMGZ	**Waiomatatini S**	**49.76**	**138**	P	**P**	**02 20 60.0**	**-0.7**
PRWZ	**Pori Road**	**49.79**	**143**	P	**P**	**02 21 01.1**	**+0.3**
KAHZ	**Kahuranaki**	**49.89**	**141**	P	**P**	**02 21 04.6**	**+2.9**
MQZ	**McQueen's Vall**	**49.94**	**148**	P	**P**	**02 21 00.9**	**-0.9**
MQZ				IAmb	IAmb	02 21 27.1	
	comp=Z,276nm,1.5s						
BFZ	**Birch Farm**	**50.03**	**143**	P	**P**	**02 21 04.4**	**+1.7**
BFZ	**Birch Farm**	**50.03**	**143**	IAmb	IAmb	02 21 37.4	
	comp=Z,79nm,0.8s						
BFZ	**Birch Farm**	**50.03**	**143**	P	**P**	**02 21 02.6**	**-0.1**
BNX	**BinXian**	**50.22**	**350**	⇓P	**P**	**02 21 03.8**	**-0.1**
BNX				S	**S**	**02 28 08.9**	**-0.6**
BNX				pmax	pmax		
	comp=Z,450nm,0.9s						
BNX				pmax	pmax		
	comp=Z,1μm,3.3s						
BNX				LR	LR		
	comp=Z,350nm,18.5s						
BNX				LR	LR		
	comp=Z,170nm,18.3s						
BNX				LR	LR		
	comp=Z,390nm,19.3s						
YSS	**Yuzh-Sakhalins**	**50.57**	**4**	P	**P**	**02 21 07.2**	**+0.6**
YSS	**Yuzh-Sakhalins**	**50.57**	**4**	P	**P**	**02 21 05.9**	**-0.7**
YSS	**Yuzh-Sakhalins**	**50.57**	**4***k*	*e*P	**P**	**02 21 06.4**	**-0.1**
YSS				*e**SP	**sP**	**02 21 33.4**	**-4.6**
YSS				*e*		02 22 24.0	
YSS				*e*S	**S**	**02 28 10.4**	**-3.9**
YSS				pmax	pmax		
	comp=N,500nm,3.5s						
YSS				pmax	pmax		
	comp=Z,800nm,3.5s						
YSS				pmax	pmax		
	comp=Z,170nm,0.8s						
YSS				smax	smax		
	comp=N,200nm,9.0s						
YSS	**Yuzh-Sakhalins**	**50.57**	**4**	P	**P**	**02 21 06.5**	**-0.1**
HHC	**Hu-ho-hao-te**	**50.75**	**334**	*e*P	**P**	**02 21 09.5**	**+1.3**
HHC				pmax	pmax		
	comp=N,13nm,0.7s						
HHC				pmax	pmax		
	comp=N,29nm,4.9s						
LZH	**Lanzhou**	**51.19**	**324**	⇓P	**P**	**02 21 12.9**	**+1.2**
LZH				pP	pP	02 21 34.8	+1.6
LZH				sP	sP	02 21 45.9	+2.8
LZH				PcS	**PcS**	**02 26 24.6**	**+0.7**
LZH				S	**S**	**02 28 24.3**	**+0.6**
LZH				pmax	pmax		
	comp=N,200nm,1.5s						
LZH				pmax	pmax		
	comp=N,200nm,4.8s						
LZH				LR	LR		
	comp=N,370nm,14.8s						
LZH				LR	LR		
	comp=N,430nm,15.1s						
LZH				LR	LR		
	comp=N,440nm,14.4s						
BTO	**Baotou**	**51.26**	**332**	*e*P	**P**	**02 21 13.4**	**+1.4**
BTO				pP	**pP**	**02 21 36.8**	**+3.2**
BTO				sP	**sP**	**02 21 48.1**	**+4.6**
BTO				PP	**PP**	**02 23 08.3**	**-1.5**
BTO				S	**S**	**02 28 27.4**	**+3.1**
BTO				SS	**SS**	**02 32 02.6**	**+1.5**
BTO				pmax	pmax		
	comp=N,180nm,1.2s						
BTO				pmax	pmax		
	comp=N,330nm,4.7s						
BTO				LR	LR		
	comp=N,1μm,20.3s						
BTO				LR	LR		
	comp=N,730nm,21.5s						
BTO				LR	LR		
	comp=N,1μm,22.0s						
XLT	**XiLinHaoTe**	**51.52**	**339**	*e*P	**P**	**02 21 13.5**	**-0.4**
XLT				pP	pP	02 21 35.9	+0.3
XLT				sP	sP	02 21 47.5	+2.0
XLT				S	**S**	**02 28 24.8**	**-3.0**
XLT				pmax	pmax		
	comp=N,48nm,0.8s						
XLT				pmax	pmax		
	comp=N,220nm,4.8s						
XLT				LR	LR		
	comp=N,450nm,15.3s						
XLT				LR	LR		
	comp=N,370nm,15.7s						
UGL	**Uglegorsk**	**52.65**	**3***d*	*i*P	**P**	**02 21 22.5**	**+0.5**
UGL				*e*S	**S**	**02 28 42.6**	**-0.2**
UGL				pmax	pmax		
	comp=Z,300nm,1.2s						
UGL				pmax	pmax		
	comp=E,290nm,1.4s						
UGL				pmax	pmax		
	comp=N,500nm,2.0s						
UGL				pmax	pmax		
	comp=Z,1μm,2.0s						
UGL				smax	smax		
	comp=E,230nm,3.0s						
UGL				smax	smax		
	comp=N,540nm,8.0s						
KLR	**Kul'dur**	**53.05**	**354**	P	**P**	**02 21 26.0**	**+1.1**
	comp=N,237nm,0.7s,baz=189,slow=4.7,SNR=761						
KLR				LR	LR	02 41 00.3	
	comp=N,408nm,21.4s,baz=179,slow=32						
	comp=N,237nm,0.7s						
KLR	**Kul'dur**	**53.05**	**354***d*	*i*P	**P**	**02 21 25.4**	**+0.4**
KLR				pmax	pmax		
	comp=Z,686nm,1.7s						
SHL	**Shillong**	**53.79**	**305**	P	**P**	**02 21 31.7**	**+0.6**
	SNR=22						
GRNR	**Gornyy**	**54.29**	**358**⇓	*i*P	**P**	**02 21 34.5**	**+0.5**
GRNR				pmax	pmax		
	comp=N,70nm,1.1s						
GRNR				pmax	pmax		
	comp=Z,150nm,0.9s						
TYV	**Tymovskoe**	**54.47**	**3**	*e*P	**P**	**02 21 36.0**	**+0.8**
TYV				*e*S	**S**	**02 29 10.1**	**+2.8**
TYV				pmax	pmax		
	comp=Z,700nm,2.8s						
TYV				pmax	pmax		
	comp=Z,83nm,1.2s						
TYV				smax	smax		
	comp=N,300nm,6.3s						
TYV				smax	smax		
	comp=E,200nm,6.3s						
HEH	**HeiHe**	**54.60**	**351**	*e*P	**P**	**02 21 35.5**	**-0.7**
HEH				sP	**sP**	**02 22 07.3**	**-0.6**
HEH				S	**S**	**02 29 05.3**	**-3.8**
HEH				pmax	pmax		
	comp=E,240nm,1.3s						
HEH				pmax	pmax		
	comp=E,1μm,4.4s						
HIA	**Hailar**	**55.23**	**345**	P	**P**	**02 21 41.6**	**+0.7**
HIA	**Hailar**	**55.23**	**345**	P	**P**	**02 21 41.5**	**+0.6**
HIA				PcP	**PcP**	**02 22 41.9**	**+1.1**
GTA	**Gaotai**	**55.79**	**324**	⇓P	**P**	**02 21 46.1**	**+0.9**
GTA				S	**S**	**02 29 26.3**	**+0.6**
GTA				pmax	pmax		
	comp=E,97nm,1.2s						
GTA				pmax	pmax		
	comp=E,510nm,8.0s						
GTA				LR	LR		
	comp=E,210nm,14.7s						
GTA				LR	LR		
	comp=E,440nm,18.7s						
GTA				LR	LR		
	comp=E,370nm,21.9s						
LSA	**Lhasa**	**56.24**	**310**	P	**P**	**02 21 50.4**	**+1.4**
LSA				pmax	pmax		
	comp=E,15nm,0.8s						
GOMU	**GeErMu**	**56.96**	**318**	P	**P**	**02 21 54.8**	**+0.9**
GOMU				SS	**SS**	**02 33 28.8**	**-2.9**
GOMU				pmax	pmax		
	comp=E,13nm,1.1s						
GOMU				LR	LR		
	comp=E,740nm,17.5s						
GOMU				LR	LR		
	comp=E,470nm,19.8s						
GOMU				LR	LR		
	comp=E,830nm,21.2s						
ZEA	**Zeya**	**58.02**	**352**	*e*P	**P**	**02 22 00.9**	**+0.4**
ZEA				*e**SP	**sP**	**02 22 31.6**	**-0.7**
ZEA				*e*S	**S**	**02 29 58.1**	**+3.9**
ZEA				pmax	pmax		
	comp=E,20nm,0.6s						
ZEA				pmax	pmax		
	comp=N,90nm,1.2s						
ZEA				pmax	pmax		
	comp=Z,150nm,1.4s						
ZEA				pmax	pmax		
	comp=Z,200nm,1.4s						
ULN	**Ulaanbaatar**	**58.31**	**336**	P	**P**	**02 22 03.2**	**+0.3**
ULN				IAmb	IAmb	02 22 05.2	
	comp=Z,91nm,1.1s						
ULN	**Ulaanbaatar**	**58.31**	**336**	P	**P**	**02 22 04.1**	**+1.3**
ULN				S	**S**	**02 30 00.9**	**+2.3**
ULN	**Ulaanbaatar**	**58.31**	**336***d*	*i*P	**P**	**02 22 03.8**	**+1.0**
ULN				pmax	pmax		
	comp=Z,95nm,1.0s						
ULN	**Ulaanbaatar**	**58.31**	**336**	P	**P**	**02 22 03.8**	**+1.0**
ULN				PcP	**PcP**	**02 22 54.2**	**+1.1**
SONM	**Songino Array**	**58.56**	**335**	P	**P**	**02 22 04.6**	**0.0**
SONM				IAmb	IAmb	02 22 06.8	
	comp=Z,186nm,1.8s						
SONM	**Songino Array**	**58.56**	**335**	P	**P**	**02 22 05.3**	**+0.7**
	comp=Z,24nm,0.9s,baz=149,slow=7.1,SNR=112						
SONM				LR	LR	02 46 48.4	
	comp=Z,334nm,21.8s,baz=147,slow=35						
SONM				PKP2bc		02 51 54.1	
	comp=Z,2.8nm,1.1s,baz=306,slow=1.8,SNR=9.3						
	comp=Z,24nm,0.9s						
SONM	**Songino Array**	**58.56**	**335**	P	**P**	**02 22 04.6**	**0.0**
SONM				pmax	pmax		
	comp=Z,186nm,1.8s						
PALK	**Pallekele**	**58.78**	**281**	P	**P**	**02 22 05.6**	**-1.0**
PALK	**Pallekele**	**58.78**	**281**	P	**P**	**02 22 07.9**	**+1.3**
PALK				P	**P**	**02 22 08.0**	**+1.5**
PALK	**Pallekele**	**58.78**	**281**	P	**P**	**02 22 05.6**	**-1.0**
PALK				pmax	pmax		
	comp=Z,20nm,0.9s						
PEA0B	**Petropavlovsk-**	**58.85**	**13***d*	*i*P	**P**	**02 22 06.6**	**+0.3**
PETK	**Petropavlovsk-**	**58.85**	**13**	P	**P**	**02 22 06.5**	**+0.2**
PETK	**Petropavlovsk-**	**58.85**	**13**	P	**P**	**02 22 06.8**	**+0.5**
	comp=Z,62nm,0.9s,baz=187,slow=5.8,SNR=54						
PETK				LR	LR	02 43 50.6	
	comp=Z,341nm,21.7s,baz=199,slow=32						
	comp=Z,62nm,0.9s						
PETK	**Petropavlovsk-**	**58.85**	**13**	P	**P**	**02 22 06.5**	**+0.2**
PET	**Petropavlovsk**	**59.00**	**14**	P	**P**	**02 22 07.9**	**+0.6**
PET	**Petropavlovsk**	**59.00**	**14**	*e*P	**P**	**02 22 05.2**	**-2.1**
PET				*e*S	**S**	**02 30 08.9**	**+2.0**
PET				pmax	pmax		
	comp=Z,800nm,6.2s						
PET				pmax	pmax		
	comp=Z,34nm,1.1s						
PET				pmax	pmax		
	comp=Z,300nm,15.3s						
PET	**Petropavlovsk**	**59.00**	**14**	P	**P**	**02 22 08.1**	**+0.8**
	comp=Z,117nm,1.4s,comp=Z,2μm						
CIT	**Chita**	**59.45**	**342**	*e*P	**P**	**02 22 11.6**	**+1.1**
CIT				*e*		02 22 55.4	
CIT				*e*		02 24 22.8	
CIT				pmax	pmax		
	comp=Z,409nm,1.7s						
ZAK	**Zakamensk**	**61.83**	**335**	*e*P	**P**	**02 22 26.6**	**-0.2**
ZAK				*e*		02 22 56.3	
ZAK				pmax	pmax		

ZAK pmax pmax
comp=Z,164nm,1.3s
comp=Z,73nm,1.2s
RAR Rarotonga 62.27 112 LR LR 02 46 22.0
comp=Z,198nm,21.6s,baz=282,slow=33
HYB Hyderabad 62.81 292 *e*P **P** **02 22 34.3 +0.4**
HYB IVmB_BB 02 23 27.1
comp=Z,627nm,2.3s
IRK Irkutsk 62.85 337 *e*P **P** **02 22 33.7 +0.2**
IRK *e* 02 23 08.2
IRK pmax pmax
comp=Z,232nm,1.9s
DRV Dumont d'Urvil 62.85 179 P **P** **02 22 33.5 +0.3**
DRV pP **pP** **02 22 57.0 +0.4**
DRV sP **sP** **02 23 06.8 +0.1**
SHEM Shemya Is, Ala 63.70 23 LR LR 02 48 38.6
comp=Z,244nm,20.1s,baz=262,slow=34
MOY Mondy 63.75 335 *e*P **P** **02 22 40.5 +1.0**
MOY pmax pmax
comp=Z,273nm,1.9s
MA2 Magadan 63.82 7 P **P** **02 22 40.5 +0.8**
MA2 Magadan 63.82 7 P **P** **02 22 39.9 +0.2**
MA2 Magadan 63.82 7 P **P** **02 22 40.3 +0.6**
comp=Z,219nm,0.8s,baz=173,slow=6.0,SNR=80
comp=Z,219nm,0.8s
MA2 Magadan 63.82 7*d i*P **P** **02 22 40.1 +0.4**
MA2 pmax pmax
comp=Z,605nm,1.7s
MA2 Magadan 63.82 7 P **P** **02 22 40.3 +0.6**
MA2 Magadan 63.82 7 P **P** **02 22 39.9 +0.2**
comp=Z,406nm,1.1s,comp=Z,4µm
BOD Bodaibo 64.44 346 *e*P **P** **02 22 43.4 -0.3**
BOD pmax pmax
comp=Z,154nm,1.6s
AMKA Amchitka 64.91 27 P **P** **02 22 46.9 -0.1**
CASY Casey 65.48 192 P **P** **02 22 50.0 -0.4**
CASY IAmb IAmb 02 23 16.7
comp=Z,281nm,1.1s
CASY Casey 65.48 192 P **P** **02 22 51.2 +0.8**
CASY pP **pP** **02 23 14.3 +0.6**
CASY sP **sP** **02 23 24.3 +0.6**
WMQ Urumqi 65.70 322 ǁ *i*P **P** **02 22 53.3 +0.9**
WMQ sP sP 02 23 23.9 -0.8
WMQ S **S** **02 31 33.0 +1.3**
WMQ pmax pmax
comp=Z,140nm,1.3s
WMQ pmax pmax
comp=Z,450nm,4.5s
WMQ LR LR
comp=Z,230nm,22.3s
WMQ Urumqi 65.70 322 P **P** **02 22 53.5 +1.2**
YAK Yakutsk 65.91 355 P **P** **02 22 52.8 -0.4**
YAK Yakutsk 65.91 355 LR LR 02 48 30.2
comp=Z,348nm,21.5s,baz=182,slow=33
YAK Yakutsk 65.91 355*d i*P **P** **02 22 53.4 +0.3**
YAK *e**PP **pP** **02 23 16.0 +0.4**
YAK *e* 02 23 25.7
YAK *e* 02 25 16.8
YAK *e*S **S** **02 31 34.9 +1.6**
YAK *e*SS **SS** **02 35 49.9 -0.1**
YAK *e*SSS SSS 02 38 40.8
YAK pmax pmax
comp=Z,249nm,0.9s
YAK pmax pmax
comp=N,80nm,1.3s
YAK pmax pmax
comp=E,6.0nm,0.8s
YAK pmax pmax
comp=Z,65nm,1.3s
YAK pmax pmax
comp=N,95nm,2.0s
YAK pmax pmax
comp=E,52nm,1.5s
YAK smax smax
comp=N,83nm,1.8s
YAK smax smax
comp=E,55nm,1.6s
YAK Yakutsk 65.91 355 P **P** **02 22 53.5 +0.3**
YAK sP **sP** **02 23 26.6 +1.3**
HON Honolulu 66.85 65 P **P** **02 23 00.1 +0.1**
HON Honolulu 66.85 65 P **P** **02 23 00.1 +0.1**
HON pmax pmax
comp=Z,360nm,0.8s
KIP Kipapa 66.86 65 P **P** **02 23 01.4 +1.3**
KIP Kipapa 66.86 65 P **P** **02 23 01.6 +1.5**
KIP Kipapa 66.86 65 P **P** **02 22 59.9 -0.2**
KIP IAmb IAmb 02 23 02.3
comp=Z,208nm,0.8s
KIP Kipapa 66.86 65*d i*P **P** **02 23 00.9 +0.8**
KIP pmax pmax
comp=Z,345nm,1.3s
KIP Kipapa 66.86 65 P **P** **02 23 01.3 +1.2**
SEY Seymchan 67.28 7*d i*P **P** **02 23 02.4 +0.5**
SEY pmax pmax
comp=Z,256nm,1.7s
ATKA Atka Island 68.50 29 P **P** **02 23 10.1 +0.4**
DGZ Jazzator, Alta 69.04 327*d i*P **P** **02 23 13.9 +0.5**
DGZ pmax pmax
comp=Z,187nm,0.9s
ZSN Zaisan 69.28 324 *e*P **P** **02 23 14.3 -0.6**
baz=324
ZSN *e*S **S** **02 32 14.1 -0.3**
baz=324
ZSN Zaisan 69.28 324 *e*P **P** **02 23 14.2 -0.6**
ZSN *e*S **S** **02 32 14.1 -0.3**
WUS Wushi 70.02 316 P **P** **02 23 20.1 +0.5**
MK31 Makanchi Array 70.49 323 IAmb IAmb 02 23 24.4
comp=Z,116nm,1.1s
MK31 Makanchi Array 70.49 323*d i*P **P** **02 23 23.2 +1.0**
MKAR Makanchi Array 70.49 323 P **P** **02 23 22.6 +0.4**
MKAR Makanchi Array 70.49 323 P **P** **02 23 23.0 +0.8**
comp=Z,94nm,0.8s,baz=114,slow=8.1,SNR=640
MKAR PKPPKP **P'P'df** **02 51 24.1 +2.2**
comp=Z,0.9nm,0.9s,baz=286,slow=4.5,SNR=5.1
MKAR LR LR 02 56 05.3
comp=Z,137nm,18.8s,baz=134,slow=37
comp=Z,94nm,0.8s
MKAR Makanchi Array 70.49 323 P **P** **02 23 23.0 +0.8**
SHLS Shalkode 70.66 318 *e*P **P** **02 23 21.4 -2.2**
baz=318
SHLS Shalkode 70.66 318 *e*P **P** **02 23 21.3 -2.2**
MAKZ Makanchi 70.69 323 P **P** **02 23 23.6 +0.2**
MAKZ IAmb IAmb 02 23 25.4
comp=Z,146nm,0.8s
MAKZ Makanchi 70.69 323 P **P** **02 23 23.6 +0.2**
MAKZ pmax pmax
comp=Z,146nm,0.9s
MAKZ Makanchi 70.69 323 P **P** **02 23 24.1 +0.7**
UZB Uzynbulak 70.95 318 *e*P **P** **02 23 24.8 -0.5**
baz=318
UZB Uzynbulak 70.95 318 *e*P **P** **02 23 24.7 -0.5**
SATY Saty 71.33 318 *e*P **P** **02 23 27.0 -0.6**
baz=318
SATY *e*S **S** **02 32 38.2 -0.5**
baz=318
SATY Saty 71.33 318 *e*P **P** **02 23 26.9 -0.6**
SATY *e*S **S** **02 32 38.1 -0.5**
ZHN Zhinishke 71.35 318 *e*P **P** **02 23 27.1 -0.5**
baz=318
ZHN Zhinishke 71.35 318 *e*P **P** **02 23 27.1 -0.5**
PPT Papeete 71.59 107 LR LR 02 51 26.1
comp=Z,126nm,21.9s,baz=284,slow=33
PPT2 Papeete2 71.59 107 *e*P **P** **02 23 30.2 +0.7**
comp=Z,64nm,26.0s
PPT2 *e*S **S** **02 32 45.7 +3.3**
comp=Z,329nm,24.8s
PPT2 *e*SS **SS** **02 37 19.9 +0.5**
comp=Z,142nm,20.8s
PPT2 *e*LQ LQ 02 42 14.4
comp=Z,2µm,39.8s
PPT2 *e*LR LR 02 45 13.0
comp=Z,510nm,28.8s
PPT2 *e*LR LR 02 45 19.5
comp=Z,350nm,37.2s
KSH Kashi 71.67 314 P **P** **02 23 31.3 +1.7**
KSH PcP **PcP** **02 23 49.3 +1.0**
KSH S **S** **02 32 45.9 +3.2**
KSH SS **SS** **02 37 23.5 +3.4**
KSH pmax pmax
comp=Z,28nm,1.0s
KSH pmax pmax
comp=Z,180nm,4.6s
KSH LR LR
comp=Z,200nm,15.6s
KSH LR LR
comp=Z,240nm,16.7s
KSH LR LR
comp=Z,240nm,16.0s
NIL Nilore 71.81 307 P **P** **02 23 28.4 -2.1**
NIL Nilore 71.81 307 P **P** **02 23 31.6 +1.1**
NIL Nilore 71.81 307 P **P** **02 23 28.4 -2.1**
NIL pmax pmax
comp=Z,72nm,1.0s
CCD Concordia, Ant 71.88 184 P **P** **02 23 31.1 +0.5**
CCD pP **pP** **02 23 54.7 +0.4**
TVO Taravao 71.90 107 *e*P **P** **02 23 34.3 +2.9**
comp=Z,24nm,0.9s
TBI Tubuai 71.98 113 *e*S **SKiKP** **02 32 54.3 -6.6**
comp=Z,2µm,29.0s
TBI *e*SS **SS** **02 37 29.2 +4.1**
comp=Z,1µm,31.8s
TBI *e*LQ LQ 02 42 22.8
comp=Z,6µm,41.5s
TBI *e*LR LR 02 45 28.0
comp=Z,675nm,31.2s
TBI *e*LR LR 02 45 30.2
comp=Z,3µm,38.5s
TDK Taldyqorghan 72.12 320 *e*P **P** **02 23 31.7 -0.5**
comp=Z,111nm,0.9s,baz=320
TDK Taldyqorghan 72.12 320 *e*P **P** **02 23 31.6 -0.5**
TDK pmax pmax
comp=Z,111nm,0.9s
ARXS Arharly 72.18 319 *i* P **P** **02 23 32.2 -0.3**
MDOK Medeo 72.28 318 *e*P **P** **02 23 32.5 -0.7**
baz=318
MDOK *e*S **S** **02 32 49.0 -0.7**
baz=318
MDOK Medeo 72.28 318 *e*P **P** **02 23 32.5 -0.7**
MDOK *e*S **S** **02 32 48.9 -0.7**
AAA Alma-Ata 72.39 318 *e*P **P** **02 23 34.0 +0.2**
ULHL Ulahol 72.48 316 P **P** **02 23 35.9 +1.4**
SNR=6.4
CHKK Chushkaly 72.59 318 *e*P **P** **02 23 34.2 -0.8**
baz=318
CHKK Chushkaly 72.59 318 *e*P **P** **02 23 34.1 -0.8**
ZALV Zalesovo Beam 72.72 330 P **P** **02 23 34.0 -1.4**
ZALV Zalesovo Beam 72.72 330 P **P** **02 23 35.0 -0.4**
comp=Z,61nm,0.9s,baz=104,slow=6.3,SNR=147
ZALV LR LR 02 55 37.0
comp=Z,95nm,21.1s,baz=127,slow=36
comp=Z,61nm,0.9s
ZALV Zalesovo Beam 72.72 330 P **P** **02 23 35.0 -0.4**
KUU Kurty 73.04 318 *e*P **P** **02 23 37.1 -0.5**
comp=Z,169nm,1.1s,baz=318
KUU Kurty 73.04 318 *e*P **P** **02 23 37.1 -0.5**
KUU pmax pmax
comp=Z,169nm,1.1s
PMOR Pomariorio Ree 73.14 104 *e*P **P** **02 23 41.2 +2.5**
comp=Z,178nm,1.2s
TKM2 Tokmak 2 73.17 317 P **P** **02 23 39.3 +0.7**
SNR=23
UNV Unalaska Valle 73.25 30 P **P** **02 23 39.2 +0.7**
UNV Unalaska Valle 73.25 30 P **P** **02 23 38.6 +0.1**
baz=238,SNR=27
UNV S **SKiKP** **02 33 03.3 +1.4**
baz=238
P08K Saint George I 73.30 27 P **P** **02 23 39.9 +1.2**
baz=235,SNR=7.8
SPIA Saint Paul Isl 73.32 26 P **P** **02 23 40.1 +1.2**
SPIA Saint Paul Isl 73.32 26 P **P** **02 23 39.5 +0.7**
baz=234,SNR=5.8
KBK Karagaybulak 73.52 316 P **P** **02 23 41.1 +0.4**
SNR=8.6
UCH Uchtor 73.67 316 P **P** **02 23 42.9 +1.0**
SNR=50
CHMS Chumysh 73.78 317 P **P** **02 23 42.6 +0.7**
SNR=8.7
AAK Ala-Archa 73.83 316 P **P** **02 23 43.4 +1.0**
SNR=10
AAK Ala-Archa 73.83 316 P **P** **02 23 42.2 -0.2**
AAK Ala-Archa 73.83 316 LR LR 02 58 26.1
comp=Z,132nm,20.2s,baz=118,slow=38
AAK Ala-Archa 73.83 316 P **P** **02 23 43.3 +1.0**
AAK S **S** **02 33 08.9 +1.8**
AAK Ala-Archa 73.83 316*d i*P **P** **02 23 43.1 +0.7**
AAK pmax pmax
comp=Z,47nm,1.4s
SGDS Sogindy 74.03 317 *e*P **P** **02 23 42.5 -0.9**
baz=317
SGDS Sogindy 74.03 317 *e*P **P** **02 23 42.5 -0.9**
USP Ospenovka 74.05 317 P **P** **02 23 44.4 +0.9**
SNR=24
BILL Bilibino 74.16 10 P **P** **02 23 43.2 -0.4**
BILL Bilibino 74.16 10 *i* P **P** **02 23 43.6 0.0**
EKS2 Erkin-Say 74.33 316 P **P** **02 23 46.4 +1.1**
SNR=11
KURK Kurchatov 74.45 325 P **P** **02 23 45.7 +0.1**
KURK IAmb IAmb 02 23 47.4
comp=Z,188nm,1.0s
KURK Kurchatov 74.45 325 P **P** **02 23 46.5 +0.9**
KURK S **S** **02 33 14.5 +1.1**
KURK Kurchatov 74.45 325*d i*P **P** **02 23 45.3 -0.3**
KURK pmax pmax
comp=Z,237nm,1.1s
KURBB Kurchatov Arra 74.46 325 P **P** **02 23 46.0 +0.3**
comp=Z,105nm,0.9s,baz=115,slow=5.5,SNR=539
comp=Z,105nm,0.9s
VNDA Vanda 74.81 175 P **P** **02 23 46.6 -0.7**
VNDA Vanda 74.81 175 P **P** **02 23 47.6 +0.4**
comp=Z,6.8nm,0.8s,baz=322,slow=7.7,SNR=31
VNDA LR LR 02 56 24.1
comp=Z,507nm,19.8s,baz=346,slow=35
comp=Z,6.8nm,0.8s
VNDA Vanda 74.81 175 P **P** **02 23 46.6 -0.7**
VNDA pmax pmax
comp=Z,31nm,1.1s
BTLS Baital 74.99 318 *e*P **P** **02 23 48.2 -0.7**
baz=318
BTLS Baital 74.99 318 *e*P **P** **02 23 48.2 -0.7**
FALS False Pass 75.32 30 P **P** **02 23 51.0 +0.5**
FALS False Pass 75.32 30 P **P** **02 23 50.9 +0.5**
baz=241,SNR=13
KBL Kabul 75.41 307 P **P** **02 23 50.8 -1.0**
KBL Kabul 75.41 307 P **P** **02 23 52.4 +0.6**
SNR=11
KBL S **S** **02 33 22.9 -2.4**
KBL Kabul 75.41 307 P **P** **02 23 50.8 -1.0**
KBL pmax pmax
comp=Z,36nm,0.9s
TIXI Tiksi 75.48 357 P **P** **02 23 50.0 -1.0**
TIXI Tiksi 75.48 357 LR LR 02 54 57.3
comp=Z,365nm,21.8s,baz=218,slow=34
TIXI Tiksi 75.48 357*d i*P **P** **02 23 49.7 -1.4**
TIXI pmax pmax
comp=Z,24nm,0.7s
TIXI MLR MLR
comp=Z,169nm,18.0s
DZA Taraz 76.11 316 *e*P **P** **02 23 54.8 -0.5**
baz=316
DZA Taraz 76.11 316 *e*P **P** **02 23 54.8 -0.5**
S12K Black Hills 76.41 30 P **P** **02 23 57.2 +0.4**
baz=242
S12K S **S** **02 33 35.7 +0.8**
baz=242
SIMJ Simiganj 76.54 311 P **P** **02 23 57.2 -0.8**
KKAR Karatay Array 76.74 316 P **P** **02 23 58.6 -0.3**
KKAR Karatay Array 76.74 316 P **P** **02 23 58.6 -0.3**
IUG Iuzhnay 76.79 315 *e*P **P** **02 23 58.8 -0.5**
baz=315
IUG Iuzhnay 76.79 315 *e*P **P** **02 23 58.8 -0.5**
M11K Mekoryuk 76.88 25 P **P** **02 24 00.5 +1.3**
baz=237,SNR=9.4
SDPT Sand Point 77.05 31 P **P** **02 24 01.1 +0.8**
SDPT Sand Point 77.05 31 P **P** **02 24 00.5 +0.2**
baz=243,SNR=25
SDPT S **S** **02 33 43.8 +2.0**
baz=243
BRLS Borolday 77.19 316 *e*P **P** **02 24 00.9 -0.6**
baz=315
BRLS Borolday 77.19 316 *e*P **P** **02 24 00.8 -0.6**
CNBA Chernabura Isl 77.27 32 IAmb IAmb 02 24 02.9
comp=Z,141nm,0.7s
CHNA Chernabura Isl 77.28 32 P **P** **02 24 01.9 +0.4**
baz=244,SNR=28
CHNA S **S** **02 33 45.1 +0.7**
baz=244
BRZS Berezniki 77.64 323 *e*P **P** **02 24 03.0 -0.8**
baz=323
BRZS Berezniki 77.64 323 *e*P **P** **02 24 03.0 -0.8**
S14K Fog Glacier 77.93 30 P **P** **02 24 06.1 +0.7**
baz=244,SNR=17
S14K S **S** **02 33 54.7 +3.2**
baz=244
M13K Dall Lake 78.10 25 P **P** **02 24 07.7 +1.7**
baz=240,SNR=25
M13K S **S** **02 33 57.0 +4.0**
baz=240
K13K Kusilvak Mount 78.34 24 P **P** **02 24 07.3 -0.1**
K13K Kusilvak Mount 78.34 24 P **P** **02 24 08.8 +1.5**
baz=238,SNR=143
K13K S **S** **02 33 59.1 +3.6**
baz=238
O14K Tigyukauivet M 78.46 27 IAmb IAmb 02 24 10.1
comp=Z,176nm,0.8s
O14K Tigyukauivet M 78.46 27 P **P** **02 24 08.8 +0.8**
baz=242,SNR=60
O14K S **S** **02 33 59.3 +2.5**
baz=242
CHGN Chignik 78.51 30 IAmb IAmb 02 24 09.5
comp=Z,135nm,0.8s
CHGN Chignik 78.51 30 P **P** **02 24 08.6 +0.2**
baz=245,SNR=24
N14K Kuskokwak Cree 78.58 26 P **P** **02 24 09.7 +1.0**
baz=242,SNR=43
N14K S **S** **02 34 00.3 +2.1**
baz=242
L14K Kuka Creek 78.84 25 P **P** **02 24 11.5 +1.4**
baz=240,SNR=298
L14K S **S** **02 34 03.8 +2.9**
baz=240
M14K Bethel 78.86 26 P **P** **02 24 10.8 +0.6**
M14K Bethel 78.86 26 P **P** **02 24 11.5 +1.3**
baz=241,SNR=241
M14K S **S** **02 34 03.5 +2.4**
baz=241
O15K Ungalikthiuk R 79.08 27 P **P** **02 24 12.4 +0.9**
baz=243,SNR=58
O15K S **S** **02 34 05.6 +2.0**
baz=243
TNA Tin City 79.13 20 P **P** **02 24 12.5 +0.9**
baz=235,SNR=32
TNA S **S** **02 34 06.1 +2.3**
baz=235
J14K Nanvaranak Lak 79.20 23 IAmb IAmb 02 24 14.6
comp=Z,161nm,1.0s
J14K Nanvaranak Lak 79.20 23 P **P** **02 24 13.3 +1.3**
baz=239,SNR=68
J14K S **S** **02 34 07.0 +2.4**
baz=239
M15K Kasigluk River 79.39 26 P **P** **02 24 13.8 +0.7**
baz=242,SNR=175
M15K S **S** **02 34 08.2 +1.5**
baz=242
N15K Kwethluk River 79.41 27 P **P** **02 24 14.4 +1.2**
baz=243,SNR=142
N15K S **S** **02 34 09.2 +2.1**
baz=243
R16K Pilot Point 79.45 29 P **P** **02 24 13.8 +0.3**
baz=246
ANM Nome 79.47 21 P **P** **02 24 14.6 +1.1**
baz=237,SNR=14
ANM S **S** **02 34 09.9 +2.5**
baz=237
L15K Ungalak Mounta 79.51 25 P **P** **02 24 14.3 +0.6**
baz=241,SNR=97
L15K S **S** **02 34 09.5 +1.5**
baz=241
F14K Arctic Creek 79.62 20 P **P** **02 24 15.6 +1.2**
baz=236,SNR=64
F14K S **S** **02 34 11.6 +2.6**
baz=236
K15K Wolf Creek Mou 79.79 24 IAmb IAmb 02 24 17.8
comp=Z,271nm,0.9s
K15K Wolf Creek Mou 79.79 24 P **P** **02 24 16.6 +1.3**
baz=241,SNR=264
K15K S **S** **02 34 13.3 +2.4**
baz=241
P16K Nushagak River 79.87 28 P **P** **02 24 16.4 +0.7**
baz=245,SNR=50
P16K S **S** **02 34 12.6 +0.7**
baz=245
BVAR Borovoye Array 80.05 325 P **P** **02 24 17.5 +0.6**
comp=Z,244nm,0.7s,baz=114,slow=7.2,SNR=1332
BVAR LR LR 03 02 32.4
comp=Z,87nm,19.9s,baz=103,slow=38
comp=Z,244nm,0.7s
O16K Kokwok River B 80.06 27 IAmb IAmb 02 24 18.9
comp=Z,231nm,1.0s
O16K Kokwok River B 80.06 27 P **P** **02 24 17.6 +0.8**
baz=245,SNR=186
O16K S **S** **02 34 15.7 +1.8**
baz=245
BRVK Borovoye 80.12 325 P **P** **02 24 17.6 +0.3**
BRVK Borovoye 80.12 325 P **P** **02 24 18.5 +1.3**
BRVK Borovoye 80.12 325*d i*P **P** **02 24 17.9 +0.7**
BRVK pmax pmax
comp=Z,465nm,1.3s
N16K Nishlik Lake 80.13 27 P **P** **02 24 18.6 +1.4**
baz=244
N16K S **S** **02 34 17.2 +2.5**
baz=244
G15K Niukluk 80.18 21 P **P** **02 24 18.0 +0.7**
baz=238,SNR=72
G15K S **S** **02 34 17.3 +2.4**
baz=238
M16K Timber Creek 80.29 26 P **P** **02 24 19.1 +1.1**
baz=244,SNR=251
M16K S **S** **02 34 18.6 +2.3**
baz=244
F15K North Star Dit 80.34 21 IAmb IAmb 02 24 20.4
comp=Z,162nm,1.0s
F15K North Star Dit 80.34 21 P **P** **02 24 19.3 +1.1**
baz=238,SNR=76
F15K S **S** **02 34 18.6 +2.0**
baz=238
Q16K King Salmon 80.35 29 P **P** **02 24 18.0 -0.4**
baz=246,SNR=17
L16K Owhat River 80.38 25 IAmb IAmb 02 24 20.6
comp=Z,215nm,0.9s
L16K Owhat River 80.38 25 P **P** **02 24 19.3 +0.8**
baz=243,SNR=187
L16K S **S** **02 34 18.5 +1.4**
baz=243
Q17K Contact Creek 80.56 29 P **P** **02 24 19.2 -0.4**
baz=247,SNR=208
Q17K S **S** **02 34 18.9 -0.6**
baz=247
O17K Koliganek Bris 80.59 28 P **P** **02 24 20.8 +1.1**
baz=246
O17K S **S** **02 34 21.8 +2.4**
baz=246
J16K Anvik River 80.64 24 IAmb IAmb 02 24 22.6
comp=Z,242nm,0.9s
J16K Anvik River 80.64 24 P **P** **02 24 21.3 +1.5**
baz=242,SNR=171
J16K S **S** **02 34 24.0 +4.2**
baz=242
H16K Elim 80.66 22 P **P** **02 24 20.8 +0.9**
baz=240,SNR=64
H16K S **S** **02 34 22.5 +2.5**
baz=240
P17K Kvichak River 80.67 28 P **P** **02 24 19.7 -0.3**
baz=246,SNR=27
SII Sitkinak Islan 80.77 31 P **P** **02 24 21.9 +1.2**
SII Sitkinak Islan 80.77 31 P **P** **02 24 21.8 +1.1**
baz=249,SNR=23
HRA Herat 80.86 306 P **P** **02 24 20.8 -1.1**
N17K Nushagak Hills 80.86 27 IAmb IAmb 02 24 23.7
comp=Z,211nm,1.0s
N17K Nushagak Hills 80.86 27 P **P** **02 24 22.5 +1.4**
baz=246,SNR=122
N17K S **S** **02 34 24.6 +2.4**
baz=246
I17K Unalakleet 80.88 23 IAmb IAmb 02 24 24.0
comp=Z,245nm,1.1s
I17K Unalakleet 80.88 23 P **P** **02 24 22.7 +1.6**
baz=242,SNR=77
I17K S **S** **02 34 26.0 +3.7**
baz=242
G16K Koyuk River 80.99 21 IAmb IAmb 02 24 23.9
comp=Z,150nm,0.9s
G16K Koyuk River 80.99 21 P **P** **02 24 22.7 +1.0**
baz=240
G16K S **S** **02 34 25.9 +2.5**
baz=240
L17K Donlin 81.06 25 P **P** **02 24 23.7 +1.6**
baz=244,SNR=154
L17K S **S** **02 34 27.6 +3.3**
baz=244

M17K **Holitna River** 81.12 26 P P 02 24 24.0 +1.6
baz=245,SNR=255
M17K S S 02 34 28.7 +3.8
baz=245
MAW **Mawson** 81.16 202 P P 02 24 23.6 +1.1
comp=Z,9.1nm,0.8s,baz=102,slow=7.0,SNR=18
MAW LR LR 02 57 28.5
comp=Z,161nm,20.8s,baz=68,slow=33
comp=Z,9.1nm,0.8s
J17K **VABM Dome** 81.30 24 IAmb IAmb 02 24 26.0
comp=Z,268nm,0.9s
J17K **VABM Dome** 81.30 24 P P 02 24 24.8 +1.5
baz=243,SNR=168
J17K S S 02 34 30.0 +3.3
baz=243
P18K **Big Mountain,** 81.31 28 IAmb IAmb 02 24 24.3
comp=Z,102nm,0.9s
P18K **Big Mountain,** 81.31 28 P P 02 24 23.1 -0.5
baz=247,SNR=35
K17K **Iditarod** 81.31 25 P P 02 24 24.0 +0.6
K17K **Iditarod** 81.31 25 P P 02 24 24.9 +1.4
baz=244,SNR=359
K17K S S 02 34 29.2 +2.4
baz=244
OHAK **Old Harbor** 81.47 31 P P 02 24 25.4 +1.1
OHAK **Old Harbor** 81.47 31 IAmb IAmb 02 24 26.1
comp=Z,231nm,1.0s
OHAK **Old Harbor** 81.47 31 P P 02 24 25.0 +0.6
baz=249,SNR=55
OHAK S S 02 34 30.4 +1.8
baz=249
C16K **Lisburne Hills** 81.50 18 P P 02 24 24.9 +0.6
baz=237,SNR=34
O18K **Koktuh Hills** 81.50 28 IAmb IAmb 02 24 25.9
comp=Z,110nm,0.9s
O18K **Koktuh Hills** 81.50 28 P P 02 24 24.8 +0.3
baz=247,SNR=52
O18K S S 02 34 30.2 +1.2
baz=247
N18K **Kilae Creek** 81.51 27 IAmb IAmb 02 24 27.1
comp=Z,166nm,1.0s
N18K **Kilae Creek** 81.51 27 P P 02 24 25.8 +1.2
baz=247,SNR=111
N18K S S 02 34 31.7 +2.7
baz=247
G17K **Kiwalik Mounta** 81.67 22 P P 02 24 26.4 +1.2
baz=242,SNR=121
G17K S S 02 34 33.0 +2.6
baz=242
H17K **Granite Mounta** 81.68 22 IAmb IAmb 02 24 27.8
comp=Z,173nm,0.9s
H17K **Granite Mounta** 81.68 22 P P 02 24 26.5 +1.2
baz=242,SNR=120
H17K S S 02 34 33.9 +3.3
baz=242
L18K **Granite Mounta** 81.78 25 IAmb IAmb 02 24 28.5
comp=Z,208nm,0.8s
L18K **Granite Mounta** 81.78 25 P P 02 24 27.3 +1.4
baz=246,SNR=237
L18K S S 02 34 34.3 +2.6
baz=246
SVW2 **Sparrevohn** 81.81 27 P P 02 24 27.1 +1.0
SVW2 **Sparrevohn** 81.81 27 IAmb IAmb 02 24 28.6
comp=Z,110nm,1.0s
WBK **Wadi Bani Khal** 81.85 293 P P 02 24 28.1 +0.9
M18K **Stony River** 81.86 26 P P 02 24 27.6 +1.3
baz=247,SNR=182
M18K S S 02 34 35.4 +2.8
baz=247
Q19K **Cape Douglas,** 81.90 29 IAmb IAmb 02 24 27.4
comp=Z,143nm,0.8s
Q19K **Cape Douglas,** 81.90 29 P P 02 24 26.3 -0.3
baz=249,SNR=14
F17K **Baldwin Pennin** 81.91 21 IAmb IAmb 02 24 28.6
comp=Z,104nm,0.8s
F17K **Baldwin Pennin** 81.91 21 P P 02 24 27.6 +1.1
baz=241,SNR=29
F17K S S 02 34 35.5 +2.8
baz=241
D17K **Noatak River** 81.92 19 P P 02 24 27.8 +1.3
baz=239,SNR=201
D17K S S 02 34 35.6 +2.7
baz=239
KDAK **Kodiak Island** 82.02 30 P P 02 24 27.6 +0.4
KDAK IAmb IAmb 02 24 29.0
comp=Z,214nm,1.0s
KDAK **Kodiak Island** 82.02 30 P P 02 24 27.8 +0.6
baz=250
KDAK S S 02 34 35.9 +1.6
baz=250
KDAK **Kodiak Island** 82.02 30 LR LR 02 57 37.5
comp=Z,308nm,20.0s,baz=261,slow=33
KDAK **Kodiak Island** 82.02 30 *d i* P P 02 24 27.7 +0.5
KDAK pmax pmax
comp=Z,348nm,1.1s
E17K **Hotham Inlet** 82.02 20 P P 02 24 28.2 +1.2
baz=240,SNR=92
E17K S S 02 34 36.5 +2.6
baz=240
O19K **Port Alsworth** 82.04 28 P P 02 24 27.3 0.0
baz=248
O19K S S 02 34 36.3 +1.9
baz=248
RDOG **Red Dog Mine** 82.16 19 IAmb IAmb 02 24 30.0
comp=Z,208nm,1.0s
RDOG **Red Dog Mine** 82.16 19 P P 02 24 28.9 +1.1
baz=239,SNR=56
N19K **Bonanza Creek** 82.20 27 IAmb IAmb 02 24 30.4
comp=Z,215nm,0.9s
N19K **Bonanza Creek** 82.20 27 P P 02 24 29.1 +0.9
baz=248,SNR=127
N19K S S 02 34 38.8 +2.5
baz=248
WSAR **Wadi Sarin** 82.24 294 P P 02 24 29.7 +0.6
comp=Z,8.0nm,1.0s,baz=120,slow=8.1,SNR=4.9
WSAR LR LR 03 04 49.0
comp=Z,54nm,20.0s,baz=113,slow=38
comp=Z,8.0nm,1.0s
C17K **DeLong Mountai** 82.29 18 P P 02 24 29.3 +0.9
baz=239,SNR=63
C17K S SKSac 02 34 40.3 -0.8
baz=239
J18K **Innoko River** 82.29 24 IAmb IAmb 02 24 30.5
comp=Z,162nm,0.9s
J18K **Innoko River** 82.29 24 P P 02 24 29.3 +0.7
baz=246,SNR=176
J18K S S 02 34 37.7 +0.8
baz=246
P19K **Oil Pt** 82.36 28 P P 02 24 28.2 -0.8
P19K IAmb IAmb 02 24 30.0
comp=Z,181nm,0.8s
P19K **Oil Pt** 82.36 28 P P 02 24 28.9 -0.2
baz=249,SNR=34
H18K **Honhosa River** 82.36 22 IAmb IAmb 02 24 30.6
comp=Z,94nm,0.9s
H18K **Honhosa River** 82.36 22 P P 02 24 29.4 +0.5
baz=244,SNR=85
Q20K **Shuyak Island** 82.40 30 P P 02 24 29.5 +0.3
baz=250,SNR=11
Q20K S S 02 34 38.6 +0.5
baz=250
SYI **Shuyak Island** 82.40 30 IAmb IAmb 02 24 30.6
comp=Z,160nm,1.1s
F18K **Selawik** 82.55 21 P P 02 24 30.4 +0.6
baz=242,SNR=90
F18K S S 02 34 41.2 +1.9
baz=242
L19K **White Mountain** 82.56 26 P P 02 24 31.2 +1.2
baz=247,SNR=174
L19K S S 02 34 41.6 +1.8
baz=247
MHTO **MHTO** 82.57 292 P P 02 24 31.8 +0.9
SNR=6.0
MHTO S S 02 34 39.4 -1.9
G18K **Tagagawik** 82.58 22 IAmb IAmb 02 24 31.8
comp=Z,108nm,0.8s
G18K **Tagagawik** 82.58 22 P P 02 24 30.7 +0.7
baz=243,SNR=137
G18K S SKSac 02 34 42.7 -0.4
baz=243
E18K **Tukpahlearik C** 82.60 20 IAmb IAmb 02 24 32.4
comp=Z,222nm,0.9s
E18K **Tukpahlearik C** 82.60 20 P P 02 24 31.2 +1.2
baz=241,SNR=229
E18K S S 02 34 42.2 +2.2
baz=241
JMDO **Jabal Madar** 82.61 293 P P 02 24 32.4 +1.3
M19K **Big River Lodg** 82.65 26 P P 02 24 30.2 -0.3
M19K IAmb IAmb 02 24 32.9
comp=Z,126nm,0.9s
M19K **Big River Lodg** 82.65 26 P P 02 24 31.7 +1.2
baz=248
M19K S SKSac 02 34 43.2 -0.5
baz=248
BIDO **Bidbid** 82.73 294 P P 02 24 32.7 +1.0
SNR=10.0
SMDO **Samad** 82.75 294 P P 02 24 32.7 +0.7
GCSA **Galena City Sc** 82.76 23 P P 02 24 31.7 +0.8
baz=245,SNR=41
GCSA S SKSac 02 34 43.7 -0.4
baz=245
O20K **Slope Mountain** 82.79 28 P P 02 24 30.8 -0.5
baz=250,SNR=6.1
J19K **Poorman** 82.95 24 IAmb IAmb 02 24 34.2
comp=Z,208nm,0.9s
J19K **Poorman** 82.95 24 P P 02 24 33.1 +1.1
baz=246,SNR=336
J19K S SKSac 02 34 45.8 +0.3
baz=246
C18K **Utukok River** 83.00 19 IAmb IAmb 02 24 34.0
comp=Z,113nm,0.9s
C18K **Utukok River** 83.00 19 P P 02 24 32.9 +0.7
baz=241,SNR=59
C18K S SKSac 02 34 45.9 0.0
baz=241
L20K **Farewell, AK** 83.09 26 P P 02 24 33.7 +1.0
baz=248,SNR=117
L20K S SKSac 02 34 46.8 +0.2
baz=248
HOM **Homer** 83.12 29 P P 02 24 33.0 +0.2
baz=250,SNR=8.4
B18K **Kokolik River** 83.17 18 P P 02 24 34.4 +1.4
baz=240,SNR=18
M20K **Styx River** 83.20 26 IAmb IAmb 02 24 35.5
comp=Z,211nm,0.9s
M20K **Styx River** 83.20 26 P P 02 24 34.3 +0.9
baz=249
M20K S SKSac 02 34 48.4 +1.0
baz=249
H19K **Roundabout Mou** 83.25 22 IAmb IAmb 02 24 35.8
comp=Z,217nm,1.1s
H19K **Roundabout Mou** 83.25 22 P P 02 24 34.5 +1.1
baz=246,SNR=190
H19K S SKSac 02 34 48.6 +1.2
baz=246
CNPM **China Poot** 83.27 29 IAmb IAmb 02 24 35.0
comp=Z,171nm,1.0s
G19K **Purcell Mounta** 83.27 22 IAmb IAmb 02 24 35.8
comp=Z,183nm,0.9s
G19K **Purcell Mounta** 83.27 22 P P 02 24 34.5 +1.0
baz=245,SNR=259
G19K S SKSac 02 34 48.6 +1.0
baz=245
F19K **Shaleruckik Mo** 83.32 21 P P 02 24 33.7 -0.1
F19K IAmb IAmb 02 24 35.5
comp=Z,82nm,0.9s
F19K **Shaleruckik Mo** 83.32 21 P P 02 24 34.2 +0.4
baz=244,SNR=140
F19K S S 02 34 48.1 +1.0
baz=244
K20K **Telida** 83.34 25 IAmb IAmb 02 24 36.4
comp=Z,238nm,0.9s
K20K **Telida** 83.34 25 P P 02 24 35.2 +1.2
baz=248,SNR=208
K20K S SKSac 02 34 49.3 +1.1
baz=248
N20K **Mount Spurr** 83.37 27 P P 02 24 33.7 -0.6
baz=250,SNR=20
N20K S SKSac 02 34 49.5 +0.9
baz=250
HOQ **Hoqain** 83.48 294 P P 02 24 36.5 +0.9
SNR=18
HOQ S SKSac 02 34 50.3 -0.4
BSY **Bisya** 83.49 293 P P 02 24 36.3 +0.7
BRLK **Bradley Lake** 83.51 29 IAmb IAmb 02 24 36.7
comp=Z,93nm,0.9s
BRSE **Bradley Lake S** 83.58 29 P P 02 24 35.2 -0.1
baz=251,SNR=15
BRSE S SKSac 02 34 50.6 +0.8
baz=251
J20K **Nowinta River** 83.62 24 IAmb IAmb 02 24 37.8
comp=Z,246nm,1.0s
J20K **Nowinta River** 83.62 24 P P 02 24 36.6 +1.2
baz=248,SNR=252
J20K S S 02 34 51.0 +0.7
baz=248
CAPN **Captain Cook N** 83.71 28 P P 02 24 36.7 +0.8
baz=251
I20K **Naaghedeneel** 83.72 23 P P 02 24 37.2 +1.3
baz=247,SNR=40
C19K **Locout Ridge** 83.73 19 P P 02 24 37.4 +1.4
baz=242,SNR=141
C19K S SKSac 02 34 51.5 +0.9
baz=242
E19K **Redstone River** 83.78 20 P P 02 24 37.2 +1.0
baz=245,SNR=585
E19K S S 02 34 52.1 +0.3
baz=245
A19K **Wainwright** 83.81 17 P P 02 24 37.6 +1.4
baz=241,SNR=11
A19K S S 02 34 53.7 +1.7
baz=241
H20K **Anotleneega Mo** 83.83 23 P P 02 24 37.4 +1.0
baz=247,SNR=190
H20K S S 02 34 53.5 +1.0
baz=247
D19K **Kuna River** 83.93 19 IAmb IAmb 02 24 39.1
comp=Z,270nm,1.1s
D19K **Kuna River** 83.93 19 P P 02 24 37.9 +0.9
baz=244,SNR=122
SKT **Skwentna** 83.94 26 P P 02 24 35.6 -1.5
SKT IAmb IAmb 02 24 38.0
comp=Z,139nm,1.1s
SKT **Skwentna** 83.94 26 P P 02 24 36.1 -1.0
baz=250,SNR=76
PPLA **Purkeypile** 83.97 26 P P 02 24 37.5 +0.1
baz=250,SNR=48
SUA **Susitna One** 84.13 27 IAmb IAmb 02 24 38.7
comp=Z,129nm,0.9s
SUA **Susitna One** 84.13 27 P P 02 24 37.6 -0.6
baz=251,SNR=36
F20K **Avaraart Lake** 84.14 21 IAmb IAmb 02 24 40.5
comp=Z,154nm,1.1s
F20K **Avaraart Lake** 84.14 21 P P 02 24 39.2 +1.3
baz=246,SNR=249
ARQ **Araqi** 84.17 294 P P 02 24 39.9 +0.8
CAST **Castle Rocks** 84.19 25 IAmb IAmb 02 24 39.8
comp=Z,141nm,1.1s
CAST **Castle Rocks** 84.19 25 P P 02 24 38.3 0.0
baz=250,SNR=128
SOHO **SOHO** 84.25 295 P P 02 24 40.1 +0.6
CHUM **Lake Minchumin** 84.26 25 P P 02 24 39.6 +1.0
baz=250,SNR=350
O22K **Cooper Landing** 84.29 28 P P 02 24 39.1 +0.2
baz=252,SNR=9.3
SEW **Seward** 84.31 29 P P 02 24 39.1 +0.2
baz=252,SNR=26
SHAO **Shalim** 84.45 288 P P 02 24 41.5 +0.9
SHAO S SKSac 02 34 58.6 +1.4
RC01 **Rabbit Creek A** 84.47 28 P P 02 24 39.7 -0.1
baz=252,SNR=28
E20K **Nigu River** 84.48 20 P P 02 24 40.7 +1.0
baz=246,SNR=185
M22K **Willow** 84.50 27 P P 02 24 39.6 -0.3
baz=252,SNR=71
D20K **Etivluk River** 84.53 19 P P 02 24 40.9 +1.0
baz=245,SNR=266
MDH **Madna** 84.60 296 P P 02 24 43.2 +2.0
CUT **Chulitna** 84.64 26 P P 02 24 40.1 -0.5
baz=252,SNR=33
UOSS **Minazif** 84.65 295 P P 02 24 40.6 -0.9
UOSS **Minazif** 84.65 295 P P 02 24 41.6 +0.1
H21K **Melozitna Rive** 84.69 23 IAmb IAmb 02 24 42.9
comp=Z,100nm,0.9s
H21K **Melozitna Rive** 84.69 23 P P 02 24 41.7 +0.8
baz=249,SNR=148
HATD **Hatta, Dubai** 84.70 295 P P 02 24 42.5 +0.8
SNR=6.4
HATD S S 02 35 01.1 -1.6
KTH **Kantishna Hill** 84.73 25 IAmb IAmb 02 24 42.0
comp=Z,182nm,0.9s
MASF **Masafi** 84.73 296 P P 02 24 42.7 +0.8
SNR=8.1
MASF S SKSac 02 35 01.3 +2.4
G21K **Allakaket** 84.74 22 P P 02 24 41.8 +0.8
baz=248,SNR=94
ASHO **Ashiyiah** 84.75 295 P P 02 24 42.7 +0.6
SNR=6.1
GEYT **Alibeck** 84.75 308 P P 02 24 41.8 0.0
GEYT **Alibeck** 84.75 308 P P 02 24 42.5 +0.7
comp=Z,8.6nm,0.7s,baz=108,slow=4.8,SNR=31
GEYT LR LR 03 04 48.4
comp=Z,104nm,21.9s,baz=92,slow=37
comp=Z,8.6nm,0.7s
GEYT **Alibeck** 84.75 308 P P 02 24 41.8 0.0
GEYT pmax pmax
comp=Z,83nm,1.3s
SHME **Shamm** 84.83 296 P P 02 24 43.2 +0.9
I21K **Tanana** 84.85 23 IAmb IAmb 02 24 43.9
comp=Z,132nm,1.0s
I21K **Tanana** 84.85 23 P P 02 24 42.5 +1.0
baz=250
BPAW **Bear Paw Mtn.** 84.89 25 P P 02 24 41.3 -0.5
BPAW **Bear Paw Mtn.** 84.89 25 P P 02 24 41.7 -0.1
baz=251,SNR=52
B20K **Meade River** 84.90 18 IAmb IAmb 02 24 44.0
comp=Z,256nm,1.1s
B20K **Meade River** 84.90 18 P P 02 24 42.7 +0.9
baz=244,SNR=80
ALNE **Al Ain** 84.96 294 P P 02 24 43.9 +0.9
SNR=6.6
ALNE S SKSac 02 35 01.0 +0.8
TRF **Thorofare Moun** 84.97 25 IAmb IAmb 02 24 46.0
comp=Z,69nm,0.9s
TRF **Thorofare Moun** 84.97 25 P P 02 24 42.0 -0.4
baz=251,SNR=63
F21K **Alatna River** 85.02 21 P P 02 24 43.0 +0.6
baz=248,SNR=34
GHO **Glory Hole Cre** 85.05 27 IAmb IAmb 02 24 43.9
comp=Z,155nm,1.0s
DMTO **DMTO** 85.06 288 P P 02 24 42.7 -1.0
KNK **Knik Glacier** 85.16 27 P P 02 24 43.1 -0.2
KNK **Knik Glacier** 85.16 27 P P 02 24 43.6 +0.4
baz=253,SNR=117
FAQ **Al Faqa, Dubai** 85.18 295 P P 02 24 44.4 +0.3
P23K **Montague Islan** 85.26 29 P P 02 24 44.2 +0.5
baz=254,SNR=21
MLY **Manley** 85.29 24 IAmb IAmb 02 24 47.3
comp=Z,98nm,0.8s
MLY **Manley** 85.29 24 P P 02 24 44.5 +0.6
baz=251,SNR=79
E21K **Killik River** 85.31 20 P P 02 24 44.8 +0.9
baz=248
C21K **Knifebilde Rid** 85.31 19 P P 02 24 45.1 +1.3
baz=247,SNR=218
H22K **Ishtalitna Cre** 85.33 23 P P 02 24 45.0 +0.9
baz=250,SNR=128
SML **Sawmill** 85.33 27 P P 02 24 44.4 +0.2
baz=253,SNR=146
ABKAR **Akbulak array** 85.39 320 P P 02 24 43.6 -1.0
ASUD **Al Ashush, Dub** 85.40 295 P P 02 24 46.1 +0.9
WAT1 **Susitna Watana** 85.53 26 P P 02 24 45.0 -0.1
baz=253
B21K **Ikpikpuk River** 85.55 19 P P 02 24 46.0 +1.0
baz=247,SNR=251
F22K **John River** 85.59 21 P P 02 24 46.7 +1.4
baz=249,SNR=196
M23K **Glacier View** 85.60 27 P P 02 24 45.4 -0.1
baz=254,SNR=48
Q23K **Middleton Isla** 85.62 30 P P 02 24 46.2 +0.7
baz=255
MCK **McKinley** 85.63 25 P P 02 24 45.1 -0.5
baz=253,SNR=156
A21K **Barrow** 85.63 17 P P 02 24 45.9 +0.6
baz=245,SNR=8.8
G22K **Bettles** 85.63 22 P P 02 24 46.3 +0.9
baz=250
GLI **Glacier Island** 85.64 28 P P 02 24 45.9 +0.3
baz=254,SNR=30
AJN **Ajban** 85.70 295 P P 02 24 47.6 +0.9
AJN S SKSac 02 35 08.7 +3.8
RBK **Rabkut** 85.75 288 P P 02 24 47.8 +0.6
SCM **Sheep Creek Mo** 85.80 27 P P 02 24 46.9 +0.4
baz=254,SNR=133
HIN **Hinchinbrook I** 85.80 29 P P 02 24 46.6 +0.1
WAT6 **Susitna Watana** 85.82 26 P P 02 24 46.6 -0.1
baz=254,SNR=109
NEA2 **Nenana** 85.83 24 IAmb IAmb 02 24 50.1
comp=Z,68nm,0.9s
NEA2 **Nenana** 85.83 24 P P 02 24 45.9 -0.6
baz=252,SNR=101
I23K **Minto, Yukon-K** 85.89 24 P P 02 24 47.3 +0.5
baz=252,SNR=259
FID **Port Fidalgo** 85.90 28 IAmb IAmb 02 24 48.2
comp=Z,164nm,0.8s
D22K **Ayikyak River** 85.91 20 P P 02 24 48.2 +1.4
baz=249,SNR=179
DOK **Doka** 85.92 289 P P 02 24 47.9 0.0
SNR=5.4
E22K **Anaktuvuk Pass** 85.94 21 P P 02 24 48.3 +1.2
baz=250
A22K **Sinclair Lake** 85.99 18 P P 02 24 47.7 +0.6
baz=246,SNR=114
H23K **Yukon River** 86.02 23 IAmb IAmb 02 24 49.5
comp=Z,85nm,0.8s
H23K **Yukon River** 86.02 23 P P 02 24 48.4 +0.9
baz=252,SNR=117
DHY **Denali Highway** 86.11 26 P P 02 24 48.4 +0.3
baz=254,SNR=245
G23K **Bananza Creek** 86.12 22 P P 02 24 49.1 +1.2
baz=251,SNR=241
WHFO **Wadi Hawf** 86.19 288 P P 02 24 49.5 +0.1
EYAK **Cordova Ski Ar** 86.20 29 P P 02 24 49.2 +0.8
EYAK **Cordova Ski Ar** 86.20 29 P P 02 24 48.8 +0.4
baz=256,SNR=23
B22K **Teshekpuk Lake** 86.21 18 P P 02 24 49.0 +0.8
baz=248,SNR=127
COLD **Coldfoot** 86.22 22 P P 02 24 49.8 +1.4
baz=251,SNR=45
QSPA **South Pole Qui** 86.25 180 P P 02 24 48.2 -0.5
QSPA IAmb IAmb 02 25 21.0
comp=Z,107nm,0.9s
QSPA **South Pole Qui** 86.25 180 P P 02 24 49.0 +0.3
comp=Z,42nm,0.9s,baz=329,slow=1.7,SNR=62
QSPA LR LR 03 05 48.5
comp=Z,440nm,18.3s,baz=1.5,slow=37
comp=Z,42nm,0.9s
KLU **Klutina** 86.35 28 IAmb IAmb 02 24 51.0
comp=Z,133nm,1.0s
KLU **Klutina** 86.35 28 P P 02 24 49.7 +0.5
baz=255,SNR=90
M24K **Tolsona, Glenn** 86.39 27 P P 02 24 50.2 +0.8
baz=255,SNR=52
COLA **College** 86.42 24 P P 02 24 48.6 -0.7
COLA **College** 86.42 24 P P 02 24 48.9 -0.5
baz=254
COLA **College** 86.42 24 *d i* P P 02 24 48.4 -0.9
COLA pmax pmax
comp=Z,83nm,0.9s
SVE **Sverdlovsk** 86.50 327 *ce* P P 02 24 50.0 +0.1
SVE pmax pmax
comp=Z,73nm,1.0s
ABTO **Aybut** 86.60 288 P P 02 24 52.2 +0.9
D23K **Nanushuk River** 86.62 20 P P 02 24 51.6 +1.3
baz=251,SNR=536
POKR **Poker Plat Res** 86.66 24 P P 02 24 49.0 -1.5
POKR **Poker Plat Res** 86.66 24 P P 02 24 49.6 -1.0
baz=254,SNR=11
POKR S S 02 35 18.5 -1.8
baz=254
HDA **Harding Lake** 86.66 25 IAmb IAmb 02 24 52.2
comp=Z,192nm,0.8s
HDA **Harding Lake** 86.66 25 P P 02 24 50.0 -0.6
baz=254,SNR=172
HDA S S 02 35 19.0 -1.4
baz=254
HDA S S 02 35 19.0 -1.4
baz=254
H24K **Noodor Dome** 86.68 23 P P 02 24 51.1 +0.4
baz=253,SNR=208
H24K S S 02 35 21.3 +0.7
baz=253
KAIM **Kayak Island** 86.70 29 P P 02 24 51.7 +0.9
baz=257,SNR=19
IL31 **86.78** 24 IAmb IAmb 02 24 51.3
comp=Z,124nm,0.8s
ILAR **Eielson Array** 86.78 24 P P 02 24 49.4 -1.8
ILAR **Eielson Array** 86.78 24 P P 02 24 50.2 -1.0
comp=Z,89nm,0.8s,baz=258,slow=4.9,SNR=667
ILAR LR LR 03 00 11.3
comp=Z,110nm,21.1s,baz=252,slow=33
comp=Z,89nm,0.8s
AKTO **Aktyubinsk** 86.83 321 P P 02 24 50.9 -0.8

comp=Z,30nm,1.0s,baz=87,slow=4.2,SNR=42
AKTO LR LR 03 06 43.5

comp=Z,121nm,19.1s,baz=36,slow=38
comp=Z,30nm,1.0s
BMRM Bremner River 86.84 28 P **P** **02 24 52.3 +0.7**
baz=257,SNR=69
BMRM S **S** **02 35 23.0 +0.6**

baz=257
TOLK Toolik Lake Re 86.89 20 P **P** **02 24 52.9 +1.2**
baz=252,SNR=230
TOLK S **S** **02 35 24.2 +1.7**

baz=252
PAX Paxson 86.93 26 P **P** **02 24 52.3 +0.2**
baz=256,SNR=91
PAX S **S** **02 35 24.6 +1.5**

baz=256
HARP HAARP 86.93 27 P **P** **02 24 52.6 +0.6**
baz=256,SNR=15
HARP S **S** **02 35 25.2 +2.1**

baz=256
C23K Itkillik River 86.93 19 P **P** **02 24 52.3 +0.5**
baz=251,SNR=345
N25K Chitina, Valde 87.00 28 IAmb IAmb 02 24 55.1
comp=Z,106nm,1.0s
N25K Chitina, Valde 87.00 28 P **P** **02 24 53.1 +0.7**
baz=257,SNR=82
K24K Donnelly Dome 87.00 26 P **P** **02 24 52.5 +0.2**
baz=255,SNR=59
SUCK Suckling Hills 87.04 29 IAmb IAmb 02 24 54.8
comp=Z,234nm,1.3s
G24K Hadweenzic Riv 87.08 23 P **P** **02 24 53.8 +1.2**
baz=254,SNR=300
G24K S **S** **02 35 26.1 +1.7**

baz=254
E24K Your Creek 87.10 21 IAmb IAmb 02 24 55.1
comp=Z,122nm,1.3s
E24K Your Creek 87.10 21 P **P** **02 24 53.6 +0.8**
baz=253,SNR=86
E24K S **S** **02 35 27.2 +2.6**

baz=253
F24K Squaw Lake 87.16 22 P **P** **02 24 54.4 +1.4**
baz=253,SNR=283
F24K S **S** **02 35 27.4 +2.3**

baz=253
BGLC Bering Glacier 87.30 29 P **P** **02 24 54.9 +1.3**
baz=258
D24K Happy Valley 87.31 20 P **P** **02 24 53.6 0.0**
D24K Happy Valley 87.31 20 P **P** **02 24 54.5 +0.9**
baz=252,SNR=216
D24K S **S** **02 35 29.0 +2.6**

baz=252
GLB Gilahina Butte 87.33 28 IAmb IAmb 02 24 55.6
comp=Z,166nm,1.0s
J25K Salcha River, 87.37 25 P **P** **02 24 53.8 -0.3**
baz=256,SNR=228
VRDI Verde Repeater 87.45 28 IAmb IAmb 02 24 56.3
comp=Z,99nm,1.0s
C24K Franklin Bluff 87.52 19 P **P** **02 24 55.1 +0.5**
baz=252
C24K S **S** **02 35 30.3 +1.9**

baz=252
PRP Porcupine Dome 87.53 24 P **P** **02 24 53.5 -1.5**
baz=256,SNR=58
ARU Arti 87.55 327 P **P** **02 24 53.5 -1.5**
ARU IAmb IAmb 02 24 55.4

comp=Z,98nm,0.8s
ARU Arti 87.55 327 LR LR 03 07 13.1
comp=Z,94nm,18.9s,baz=102,slow=38
ARU Arti 87.55 327 *d* iP **P** **02 24 54.1 -0.9**
ARU *PP **pP** **02 25 19.3 +0.3**
ARU 02 28 16.1
ARU S **SKSac** **02 35 13.0 -1.9**
ARU pmax pmax

comp=Z,115nm,0.8s
ARU Arti 87.55 327 P **P** **02 24 53.9 -1.1**
comp=Z,140nm,0.9s,comp=Z,1µm
H25L Birch Creek 87.61 23 P **P** **02 24 55.9 +0.9**
baz=255
H25L S **S** **02 35 31.1 +1.8**

baz=255
G25K Bearman Lake 87.62 23 P **P** **02 24 56.5 +1.3**
baz=255,SNR=278
G25K S **S** **02 35 33.4 +4.0**

baz=255
MCARA McCarthy VSAT 87.68 28 IAmb IAmb 02 24 57.5
comp=Z,111nm,1.0s
MCARA McCarthy VSAT 87.68 28 P **P** **02 24 56.3 +0.7**
baz=258,SNR=53
MCARA S **S** **02 35 30.0 -0.3**

baz=258
MENT Mentasta 87.70 27 P **P** **02 24 56.8 +1.1**
MENT Mentasta 87.70 27 IAmb IAmb 02 24 57.6
comp=Z,124nm,0.9s
SCRK Sand Creek 87.81 26 IAmb IAmb 02 24 57.9
comp=Z,77nm,1.1s
SCRK Sand Creek 87.81 26 P **P** **02 24 56.4 +0.2**
baz=257,SNR=90
SCRK S **S** **02 35 30.9 -0.7**

baz=257
ISLE Juniper Island 87.85 29 IAmb IAmb 02 24 58.4
comp=Z,195nm,1.0s
L26K Log Cabin Wild 87.88 27 IAmb IAmb 02 24 58.5
comp=Z,114nm,0.9s
L26K Log Cabin Wild 87.88 27 P **P** **02 24 57.1 +0.6**
baz=258,SNR=76
M26K Nabesna, AK 87.91 27 P **P** **02 24 57.1 +0.4**
baz=258,SNR=55
M26K S **S** **02 35 33.0 +0.5**

baz=258
FYU Fort Yukon 87.91 23 P **P** **02 24 57.2 +0.7**
MESA MESA 87.96 29 IAmb IAmb 02 24 59.2
comp=Z,136nm,0.9s
MESA MESA 87.96 29 P **P** **02 24 57.9 +0.7**
baz=259,SNR=12
F25K Christian Rive 88.01 22 P **P** **02 24 58.5 +1.5**
baz=255,SNR=183
F25K S **S** **02 35 34.1 +0.8**

baz=255
J26L Joseph Creek 88.11 25 P **P** **02 24 58.2 +0.6**
baz=257,SNR=365
J26L S **S** **02 35 33.4 -1.0**

baz=257
E25K Arctic Village 88.17 21 P **P** **02 24 58.8 +1.0**
baz=255,SNR=220
E25K S **S** **02 35 36.8 +2.1**

baz=255
D25K Kavik River 88.19 20 IAmb IAmb 02 25 00.1
comp=Z,224nm,1.8s
D25K Kavik River 88.19 20 P **P** **02 24 58.1 +0.2**
baz=255,SNR=68
D25K S **S** **02 35 36.4 +1.4**

baz=255
BMAR Burnt Mountain 88.36 22 P **P** **02 24 59.4 +0.6**
CTG Chitna Glacier 88.40 29 P **P** **02 25 00.3 +1.1**
baz=260,SNR=211
CTG S **S** **02 35 39.0 +1.6**

baz=260
M27K Edge Creek, AK 88.41 27 IAmb IAmb 02 25 01.4
comp=Z,184nm,1.1s
M27K Edge Creek, AK 88.41 27 P **P** **02 25 00.1 +1.0**
baz=259,SNR=161
M27K S **S** **02 35 39.0 +1.6**

baz=259
I26K Coal Creek Min 88.45 24 IAmb IAmb 02 25 00.5
comp=Z,150nm,1.2s
I26K Coal Creek Min 88.45 24 P **P** **02 24 59.3 +0.2**
baz=258
I26K S **S** **02 35 39.2 +1.8**

baz=258
LOGN Logan Glacier 88.54 29 IAmb IAmb 02 25 01.9
comp=Z,149nm,0.9s
G26K Porcupine Rive 88.56 23 P **P** **02 25 00.9 +1.4**
baz=257,SNR=370
G26K S **S** **02 35 40.9 +2.6**

baz=257
L27K Beaver Creek, 88.57 27 IAmb IAmb 02 25 02.0
comp=Z,156nm,0.9s
L27K Beaver Creek, 88.57 27 P **P** **02 25 00.7 +0.9**
baz=259,SNR=305
L27K S **S** **02 35 40.3 +1.6**

baz=259
F26K Sheenjek River 88.59 22 P **P** **02 25 01.1 +1.3**
baz=257,SNR=260
F26K S **S** **02 35 41.8 +3.1**

baz=257
K27K Chicken 88.64 26 P **P** **02 25 01.6 +1.5**
baz=259
K27K S **S** **02 35 41.2 +2.0**

baz=259
C26K Camden Bay 88.84 20 P **P** **02 25 01.7 +0.9**
baz=256,SNR=30
C26K S **S** **02 35 42.8 +1.9**

baz=256
O28M Mount Upton 88.92 29 P **P** **02 25 02.6 +0.8**
baz=260,SNR=100
O28M S **S** **02 35 43.1 +0.4**

baz=260
YUK3 Moose Creek 88.96 28 P **P** **02 25 02.7 +0.8**
baz=260,SNR=179
YUK3 S **S** **02 35 43.3 +0.4**

baz=260
BCPM Bancas Point 89.06 30 P **P** **02 25 02.5 +0.4**
BCPM IAmb IAmb 02 25 04.2
comp=Z,149nm,1.1s
I27K Kandik River 89.14 24 P **P** **02 25 03.5 +1.1**
baz=259,SNR=438
I27K S **S** **02 35 44.7 +0.7**

baz=259
PNL Peninsula 89.14 30 P **P** **02 25 03.9 +1.4**
PNL Peninsula 89.14 30 P **P** **02 25 03.5 +1.0**
baz=261,SNR=32
PNL S **S** **02 35 44.1 -0.1**

baz=261
EGAK Eagle 89.18 25 P **P** **02 25 03.2 +0.6**
baz=260,SNR=166
EGAK S **S** **02 35 45.7 +1.5**

baz=260
C27K Jago River 89.18 20 P **P** **02 25 03.1 +0.7**
baz=257,SNR=42
C27K S **S** **02 35 46.3 +2.2**

baz=257
YUK8 Steele Glacier 89.21 29 P **P** **02 25 04.2 +1.0**
baz=261,SNR=68
YUK8 S **S** **02 35 46.4 +1.1**

baz=261
H27K Steamboat Moun 89.29 24 P **P** **02 25 04.5 +1.4**
baz=259,SNR=296
H27K S **S** **02 35 47.6 +2.2**

baz=259
G27K Doyon Strip 89.35 23 P **P** **02 25 04.5 +1.1**
baz=259,SNR=59
G27K S **S** **02 35 48.2 +2.3**

baz=259
E27K Coleen River 89.63 22 IAmb IAmb 02 25 08.6
comp=Z,100nm,1.3s
E27K Coleen River 89.63 22 P **P** **02 25 05.5 +0.8**
baz=259,SNR=69
E27K S **S** **02 35 50.6 +2.2**

baz=259
YUK4 Talbot Arm 89.75 29 P **P** **02 25 06.7 +1.1**
baz=262,SNR=123
YUK4 S **S** **02 35 52.0 +1.8**

baz=262
I28M Miner Creek 89.80 24 IAmb IAmb 02 25 07.9
comp=Z,120nm,0.9s
I28M Miner Creek 89.80 24 P **P** **02 25 06.4 +0.8**
baz=261,SNR=160
I28M S **S** **02 35 50.8 +0.6**

baz=261
DAWY Dawson 89.81 26 P **P** **02 25 06.5 +0.9**
baz=261,SNR=210
DAWY S **S** **02 35 49.5 -0.8**

baz=261
YUK6 Outpost Mounta 89.83 29 P **P** **02 25 06.8 +0.8**
baz=262,SNR=36
YUK6 S **S** **02 35 51.8 +0.8**

baz=262
P29M Windy Craggy 89.97 30 IAmb IAmb 02 25 08.7
comp=Z,170nm,1.4s
P29M Windy Craggy 89.97 30 P **P** **02 25 07.5 +1.1**
baz=263,SNR=40
P29M S **S** **02 35 52.1 +0.2**

baz=263
M29M Somme Creek 89.99 27 IAmb IAmb 02 25 08.9
comp=Z,94nm,0.9s
M29M Somme Creek 89.99 27 P **P** **02 25 07.5 +0.9**
baz=262,SNR=207
M29M S **S** **02 35 53.6 +1.5**

baz=262
D27M Malcolm River 90.05 21 P **P** **02 25 07.1 +0.5**
baz=260,SNR=13
D27M S **S** **02 35 52.3 -0.1**

baz=260
F28M Old Crow 90.18 22 P **P** **02 25 07.7 +0.5**
baz=261,SNR=40
F28M S **S** **02 35 56.2 +2.7**

baz=261
HYT Haines Junctio 90.23 29 P **P** **02 25 08.7 +1.0**
baz=263,SNR=136
HYT S **S** **02 35 55.9 +1.4**

baz=263
L29M L29M 90.24 27 IAmb IAmb 02 25 10.1
comp=Z,78nm,1.0s
L29M L29M 90.24 27 P **P** **02 25 08.8 +1.2**
baz=262,SNR=66
L29M S **S** **02 35 55.6 +1.4**

baz=262
J29N Klondike Camp 90.38 26 IAmb IAmb 02 25 10.9
comp=Z,76nm,1.1s
J29N Klondike Camp 90.38 26 P **P** **02 25 09.4 +1.2**
baz=262
J29N S **S** **02 35 56.8 +1.3**

baz=262
P30M Million Dollar 90.42 30 P **P** **02 25 09.5 +1.0**
baz=263
P30M S **S** **02 35 56.4 +0.4**

baz=263
E28M Babbage River 90.46 21 P **P** **02 25 07.5 -1.0**
E28M IAmb IAmb 02 25 12.2
comp=Z,43nm,0.8s
E28M Babbage River 90.46 21 P **P** **02 25 09.0 +0.5**
baz=261,SNR=53
E28M S **S** **02 35 57.2 +1.2**

baz=261
I29M Ogilvie Camp, 90.46 25 IAmb IAmb 02 25 11.2
comp=Z,123nm,1.2s
I29M Ogilvie Camp, 90.46 25 P **P** **02 25 09.2 +0.6**
baz=262,SNR=98
N30M Aishikik Lake 90.51 29 IAmb IAmb 02 25 11.1
comp=Z,102nm,0.9s
N30M Aishikik Lake 90.51 29 P **P** **02 25 09.8 +0.8**
baz=263,SNR=141
N30M S **S** **02 35 58.0 +1.1**

baz=263
S31K Pelican 90.55 32 IAmb IAmb 02 25 11.0
comp=Z,111nm,1.8s
S31K Pelican 90.55 32 P **P** **02 25 09.7 +0.7**
baz=264,SNR=5.8
S31K S **S** **02 35 58.1 +1.0**

baz=264
H29M Whitestone 90.55 24 IAmb IAmb 02 25 32.6
comp=Z,43nm,0.9s
H29M Whitestone 90.55 24 P **P** **02 25 09.3 +0.3**
baz=262,SNR=30
H29M S **S** **02 35 57.6 +0.7**

baz=262
K29M Barlow Dome 90.60 26 IAmb IAmb 02 25 11.7
comp=Z,60nm,0.8s
K29M Barlow Dome 90.60 26 P **P** **02 25 10.3 +1.0**
baz=263,SNR=83
K29M S **S** **02 35 58.1 +0.4**

baz=263
PLBC Pleasant Camp 90.64 31 P **P** **02 25 10.1 +0.6**
baz=264,SNR=28
M30M Minto, Yukon 90.78 27 IAmb IAmb 02 25 12.3
comp=Z,55nm,1.1s
M30M Minto, Yukon 90.78 27 P **P** **02 25 11.0 +0.9**
baz=264,SNR=58
M30M S **S** **02 36 00.3 +1.1**

baz=264
G29M Pine Creek 90.78 23 P **P** **02 25 09.6 -0.4**
G29M IAmb IAmb 02 25 12.0
comp=Z,165nm,1.9s
G29M Pine Creek 90.78 23 P **P** **02 25 10.4 +0.4**
baz=262,SNR=34
G29M S **S** **02 36 00.9 +1.9**

baz=262
D28M Stokes Point 90.85 21 P **P** **02 25 10.8 +0.6**
baz=262,SNR=19
D28M S **S** **02 36 01.0 +1.5**

baz=262
O30N Mendenhall 90.92 29 IAmb IAmb 02 25 12.8
comp=Z,103nm,1.2s
O30N Mendenhall 90.92 29 P **P** **02 25 11.6 +0.7**
baz=264,SNR=55
O30N S **S** **02 36 01.2 +0.7**

baz=264
SIT Sitka 90.95 33 P **P** **02 25 11.4 +0.5**
baz=265
E29M Blow River 91.03 22 P **P** **02 25 11.0 -0.1**
baz=263,SNR=33
E29M S **S** **02 36 02.9 +1.8**

baz=263
N31M Braeburn, Yuko 91.14 29 IAmb IAmb 02 25 13.9
comp=Z,95nm,0.9s
N31M Braeburn, Yuko 91.14 29 P **P** **02 25 12.6 +0.8**
baz=264,SNR=59
N31M S **S** **02 36 04.2 +1.7**

baz=264
SKAG Skagway 91.17 31 P **P** **02 25 13.4 +1.5**
SKAG Skagway 91.17 31 IAmb IAmb 02 25 14.0
comp=Z,127nm,1.5s
SKAG Skagway 91.17 31 P **P** **02 25 12.8 +0.9**
baz=265,SNR=10
J30M Hart River 91.20 25 IAmb IAmb 02 25 14.5
comp=Z,58nm,0.8s
J30M Hart River 91.20 25 P **P** **02 25 13.0 +0.8**
baz=264,SNR=104
J30M S **S** **02 36 04.0 +0.8**

baz=264
EPYK Eagle Plains 91.23 24 IAmb IAmb 02 25 14.7
comp=Z,77nm,1.4s
EPYK Eagle Plains 91.23 24 P **P** **02 25 12.3 +0.1**
baz=264,SNR=35
EPYK S **S** **02 36 03.3 +0.1**

baz=264
I30M Mount Dempster 91.25 25 IAmb IAmb 02 25 14.3
comp=Z,35nm,0.9s
I30M Mount Dempster 91.25 25 P **P** **02 25 12.7 +0.3**
baz=264,SNR=62
I30M S **S** **02 36 03.6 0.0**

baz=264
MAYO Mayo, Yukon 91.29 26 P **P** **02 25 13.3 +0.8**
baz=264,SNR=5.4
S32K Killisnoo 91.39 33 P **P** **02 25 13.2 +0.3**
baz=265
R32K Eaglecrest 91.49 32 P **P** **02 25 13.4 -0.1**
R32K Eaglecrest 91.49 32 P **P** **02 25 14.0 +0.5**
baz=265,SNR=8.3
G30M tAoh Zrail Nji 91.50 23 IAmb IAmb 02 25 14.3
comp=Z,55nm,1.4s
G30M tAoh Zrail Nji 91.50 23 P **P** **02 25 13.0 -0.4**
baz=264,SNR=30
G30M S **S** **02 36 06.7 +1.2**

baz=264
WHY Whitehorse 91.50 29 IAmb IAmb 02 25 15.5
comp=Z,53nm,1.0s
WHY Whitehorse 91.50 29 P **P** **02 25 14.2 +0.6**
baz=265,SNR=41
WHY S **S** **02 36 06.1 +0.2**

baz=265
JIS Juneau Island 91.56 32 P **P** **02 25 14.6 +0.9**
JIS Juneau Island 91.56 32 P **P** **02 25 13.9 +0.2**
F30M Barrier River 91.73 22 P **P** **02 25 14.3 -0.1**
baz=264,SNR=28
F30M S **S** **02 36 07.5 0.0**

baz=264
M31M Drury Creek, Y 91.86 28 IAmb IAmb 02 25 16.7
comp=Z,50nm,1.4s
M31M Drury Creek, Y 91.86 28 P **P** **02 25 15.4 +0.3**
baz=266,SNR=33
M31M S **S** **02 36 07.8 -1.2**

baz=266
P32M Atlin 92.00 31 P **P** **02 25 16.4 +0.6**
baz=266,SNR=17
P32M S **S** **02 36 10.1 -0.3**

baz=266
CRAG Craig 92.05 35 P **P** **02 25 16.6 +0.5**
baz=266
CRAG S **S** **02 36 12.3 +1.4**

baz=266
U33K Whale Pass 92.09 34 P **P** **02 25 16.8 +0.6**
baz=266
U33K S **S** **02 36 12.2 +1.0**

baz=266
H31M Peel River 92.15 24 P **P** **02 25 16.4 0.0**
baz=266,SNR=23
H31M S **S** **02 36 11.7 +0.2**

baz=266
G31M Satah River 92.26 23 IAmb IAmb 02 25 20.7
comp=Z,31nm,0.9s
G31M Satah River 92.26 23 P **P** **02 25 16.6 -0.1**
baz=266,SNR=22
G31M S **S** **02 36 13.8 +1.6**

baz=266
DIB Dawson Inlet, 92.30 37 IAmb IAmb 02 25 18.6
comp=Z,47nm,1.0s
FARO Faro, Yukon 92.35 28 IAmb IAmb 02 25 18.9
comp=Z,56nm,1.1s
FARO Faro, Yukon 92.35 28 P **P** **02 25 17.7 +0.3**
baz=266,SNR=67
N32M Quiet Lake 92.41 29 P **P** **02 25 18.3 +0.6**
baz=267
N32M S **S** **02 36 12.8 -1.2**

baz=267
P33M Teslin, Yukon 92.49 30 P **P** **02 25 18.3 +0.1**
baz=267,SNR=27
F31M Tsiigehtchic 92.50 23 P **P** **02 25 17.1 -0.8**
baz=266
F31M S **S** **02 36 16.1 +1.7**

baz=266
WRAK Wrangell Islan 92.54 34 IAmb IAmb 02 25 20.7
comp=Z,44nm,1.1s
WRAK Wrangell Islan 92.54 34 P **P** **02 25 18.8 +0.5**
baz=267,SNR=6.6
INK Inuvik 92.63 22 P **P** **02 25 16.9 -1.6**
INK IAmb IAmb 02 25 19.1

comp=Z,40nm,1.1s
INK Inuvik 92.63 22 P **P** **02 25 18.0 -0.5**
baz=267,SNR=35
INK S **S** **02 36 17.5 +2.0**

baz=267
INK Inuvik 92.63 22 LR LR 03 06 45.8
comp=Z,97nm,19.5s,baz=350,slow=35
INK Inuvik 92.63 22 P **P** **02 25 16.9 -1.6**
INK pmax pmax

comp=Z,40nm,1.1s
KIRV Kirov 92.69 328 LR LR 03 08 17.4
comp=Z,183nm,21.5s,baz=91,slow=36
KIRV Kirov 92.69 328 *d* iP **P** **02 25 17.6 -1.4**
V35K Ketchikan 92.91 35 IAmb IAmb 02 25 26.3
comp=Z,54nm,1.6s
V35K Ketchikan 92.91 35 P **P** **02 25 20.1 +0.1**
baz=268
S34M Telegraph Cree 93.26 32 P **P** **02 25 22.3 +0.6**
baz=268,SNR=14
MAK Makhachkala 93.28 313 *e*P **P** **02 25 20.0 -2.1**
MAK *e**PP **pP** **02 25 44.9 -1.4**
MAK *e**SP **sP** **02 25 54.4 -1.5**
MAK *e* 02 29 04.4
MAK *e*PPP PPP 02 31 06.6
MAK *e* 02 35 45.3
MAK *e*SS SS 02 42 41.9 +1.8
MAK *e*SSS SSS 02 46 21.3
MAK pmax pmax

comp=Z,48nm,1.1s
MMPY Sheldon Lake, 93.33 28 IAmb IAmb 02 25 23.9
comp=Z,55nm,1.6s
MMPY Sheldon Lake, 93.33 28 P **P** **02 25 22.4 +0.4**
baz=268,SNR=21
MMPY S **S** **02 36 23.5 +1.4**

baz=268
R33M Jennings River 93.39 31 P **P** **02 25 22.8 +0.4**
baz=268,SNR=9.5
BELG Belogornoye 93.49 322 P **P** **02 25 21.8 -1.0**
comp=Z,144nm,0.8s,baz=172,slow=1.8,SNR=34
BELG LR LR 03 11 50.9
comp=Z,64nm,18.9s,baz=77,slow=38
comp=Z,144nm,0.8s
BELG Belogornoye 93.49 322 *d* iP **P** **02 25 21.7 -1.0**
BELG pmax pmax

comp=Z,37nm,1.0s
T35M Bob Quinn 93.72 33 P **P** **02 25 23.8 0.0**
baz=269
DLBC Dease Lake 93.86 32 P **P** **02 25 24.9 +0.4**
baz=269,SNR=15
DLBC Dease Lake 93.86 32 LR LR 03 03 38.9
comp=Z,125nm,19.4s,baz=274,slow=33
ELIB Princess Elisa 94.11 196 *d*P **P** **02 25 26.3 +0.8**
comp=Z,43nm,1.2s
ELIB *dx* x 02 25 52.1
RAYN Ar Rayn 94.28 293 P **P** **02 25 25.7 -1.5**
RAYN Ar Rayn 94.28 293 P **P** **02 25 25.7 -1.5**

RAYN pmax pmax
comp=Z,11nm,1.0s
GROC Groznyy 94.54 313 *e*P **P** **02 25 26.7 -1.2**
GROC *e**PP **pP** **02 25 51.9 -0.2**
GROC *e**SP **sP** **02 26 01.7 0.0**
GROC *e*S **SKSac** **02 35 53.7 -1.7**
GROC pmax pmax
comp=Z,28nm,1.2s
TGTN Hyland Airport 94.74 29 P **P** **02 25 28.8 +0.3**
baz=271
BBB Bella Bella 94.93 38 LR LR 03 01 42.0
comp=Z,169nm,19.8s,baz=264,slow=31
GNI Garni 95.30 310 P **P** **02 25 30.6 -1.0**
comp=Z,1.2nm,0.4s,baz=131,slow=20,SNR=3.9
GNI LR LR 03 14 09.9
comp=Z,40nm,20.2s,baz=86,slow=39
comp=Z,1.2nm,0.4s
GNI Garni 95.30 310 *de*P **P** **02 25 31.2 -0.4**
GNI pmax pmax
comp=Z,10.0nm,1.3s
A36M Sachs Harbour 95.41 18 P **P** **02 25 30.5 -0.7**
baz=275
A36M S **S** **02 36 39.9 +0.2**
baz=275
C36M Paulatuk 96.04 21 IAmb IAmb 02 25 34.4
comp=Z,44nm,0.9s
C36M Paulatuk 96.04 21 P **P** **02 25 33.3 -0.8**
baz=276
C36M S **S** **02 36 46.6 +1.4**
baz=276
NCK Nalchik 96.15 313 ⇓ *e*P **P** **02 25 34.6 -0.6**
NCK pmax pmax
comp=Z,12nm,1.2s
TOAD Toad River Com 96.36 31 P **P** **02 25 35.3 -0.5**
baz=273
KBZ Khabaz 96.65 313 P **P** **02 25 36.1 -1.3**
comp=Z,3.0nm,0.9s,baz=58,slow=2.9,SNR=8.9
KBZ LR LR 03 16 14.0
comp=Z,48nm,18.7s,baz=78,slow=40
comp=Z,3.0nm,0.9s
KBZ Khabaz 96.65 313 ⇑ *i*P **P** **02 25 36.3 -1.1**
KBZ pmax pmax
comp=Z,8.0nm,1.5s
OZB Mount Ozzard 96.67 41 IAmb IAmb 02 25 40.0
comp=Z,24nm,0.9s
KIV Kislovodsk 96.80 314 *e*P **P** **02 25 36.6 -1.7**
KIV *i* 02 26 01.4
KIV *i* 02 29 29.1
KIV pmax pmax
comp=Z,9.0nm,0.9s
KIV MLR MLR
comp=Z,113nm,21.0s
KOTAN Kotaneelee Air 96.87 30 P **P** **02 25 38.0 -0.1**
baz=274
VRH Novokhopyorsk 97.17 321 *e*P **P** **02 25 37.5 -2.1**
VRH pmax pmax
comp=Z,69nm,0.8s
KLMR Klimovskoe 97.63 331 *e*P P 02 25 36.6 -4.9
KLMR *e**PP pP 02 26 02.4 -3.2
KLMR pmax pmax
comp=Z,76nm,1.4s
NVL N'lazarevskaya 97.89 196 *e*P **P** **02 25 38.9 -3.6**
NVL pmax pmax
comp=Z,7.0nm,0.9s
KMPM Mount Pierce 97.95 50 P Pdif 02 25 43.8 +0.2
KMPM IAmb IAmb 02 25 45.9
comp=Z,35nm,0.9s
J01E Myrtle Point 97.98 47 IAmb IAmb 02 25 45.5
comp=Z,26nm,0.9s
KRPM Rodgers 98.00 49 IAmb IAmb 02 25 46.3
comp=Z,41nm,1.0s
JCC Jacoby Creek, 98.00 49 IAmb IAmb 02 25 46.0
comp=Z,34nm,1.1s
E03A Lebam 98.08 44 IAmb IAmb 02 25 46.2
comp=Z,47nm,1.0s
F03A Seaside 98.12 44 IAmb IAmb 02 25 46.1
comp=Z,60nm,1.1s
LABN Labinsk 98.18 314 *e*P **P** **02 25 41.7 -2.6**
LABN pmax pmax
comp=Z,13nm,0.5s
LABN MLR MLR
comp=Z,163nm,15.0s
KHMM Horse Mountain 98.23 49 IAmb IAmb 02 25 47.9
comp=Z,53nm,1.1s
KMRM Mail Ridge 98.27 50 IAmb IAmb 02 25 47.4
comp=Z,29nm,1.0s
L02F Cave Junction 98.30 48 P **P** **02 25 43.1 -1.8**
G03D McMinnville, O 98.36 45 IAmb IAmb 02 25 47.1
comp=Z,49nm,1.2s
KCPM Cahto Peak 98.39 51 IAmb IAmb 02 25 47.6
comp=Z,39nm,1.0s
BUCK Buck Mountain 98.62 46 IAmb IAmb 02 25 48.6
comp=Z,44nm,1.2s
LVZ Lovozero 98.64 338 P **P** **02 25 43.0 -3.0**
LVZ IAmb IAmb 02 25 44.7
comp=Z,40nm,0.8s
LVZ Lovozero 98.64 338 *ce*P **P** **02 25 43.6 -2.3**
LVZ pmax pmax
comp=Z,36nm,0.7s
VORR Voronezh 98.71 322 *e*P **P** **02 25 45.1 -1.4**
VORR pmax pmax
comp=Z,50nm,0.9s
VORD Divnogorie 98.71 321 *e*P **P** **02 25 43.7 -2.8**
VORD pmax pmax
comp=Z,30nm,0.8s
HUMO Hull Mountain 98.73 48 P **P** **02 25 46.6 -0.2**
HUMO IAmb IAmb 02 25 49.0
comp=Z,16nm,0.8s
VSR Storozhevoye 98.77 321 *e*P **P** **02 25 43.2 -3.6**
VSR pmax pmax
comp=Z,40nm,1.0s
H04D Lebanon 98.78 46 IAmb IAmb 02 25 49.0
comp=Z,27nm,1.2s
LPSR Galich'ya Gora 98.79 323 *e*P **P** **02 25 44.7 -2.2**
LPSR pmax pmax
comp=Z,50nm,0.8s
HOPS Hopland Field 98.81 51 IAmb IAmb 02 25 49.2
comp=Z,21nm,1.1s
YBH Yreka Blue Hor 98.95 49 LR LR 03 04 24.2
comp=Z,307nm,20.0s,baz=284,slow=32
SOC Sochi 98.96 313 *e*P **P** **02 25 45.4 -2.5**
SOC *e* 02 29 47.7
SOC *e*PPP PPP 02 31 54.4
SOC *e*S **SKSac** **02 36 15.2 -3.1**
SOC *e*SS **SS** **02 43 58.2 -2.1**
SOC MLR MLR
comp=Z,79nm,20.0s
APA Apatity 99.18 338 ⇓ *i*P **Pdif** **02 25 46.0 -2.3**
APA pmax pmax
comp=Z,21nm,0.9s
MOS Moscow 99.22 326 *e*P **Pdif** **02 25 46.1 -2.6**
MOS *e**SP **sP** **02 26 18.7 -3.6**
MOS *e* 02 29 51.5
MOS *e* 02 36 17.5
MOS pmax pmax
comp=Z,100nm,1.1s
MOS pmax pmax
comp=Z,48nm,0.9s
L04D Klamath Falls 99.23 48 IAmb IAmb 02 25 51.0
comp=Z,18nm,0.9s
OBN Obninsk 99.89 325 LR LR 03 13 39.1
comp=Z,95nm,20.2s,baz=52,slow=37
OBN Obninsk 99.89 325 *d*P **Pdif** **02 25 50.3 -1.4**
OBN *i* 02 29 57.8
OBN *i* S S 02 37 04.8 -14
OBN *i* SS **SS** **02 44 05.5 -7.0**
OBN pmax pmax
comp=Z,49nm,1.0s
OBN MLR MLR
comp=Z,121nm,18.0s
OBN Obninsk 99.89 325 P **Pdif** **02 25 50.7 -1.0**
comp=Z,49nm,1.1s
SPITS Spitsbergen Ar 99.93 350 LR LR 03 10 29.3
comp=Z,140nm,21.6s,baz=24,slow=35
VADS Vadso 99.94 341 *e*P **Pdif** **02 25 50.8 -0.8**
ANN Anapa 100.51 315 *e*P **Pdif** **02 25 50.9 -3.8**
ANN *e* 02 36 22.1
ANN pmax pmax
comp=Z,12nm,0.8s
SNAA Sanae 100.72 192 ⇑ pPdiff pPdif 02 26 25.2 +5.5
comp=Z,166nm,0.8s
YKA Yellowknife Ar 101.00 27 Pdif **Pdif** **02 25 55.5 -1.0**
YKA Yellowknife Ar 101.00 27 P **Pdif** **02 25 56.3 -0.2**
comp=Z,3.1nm,0.8s,baz=294,slow=5.1,SNR=36
YKA PKiKP **PKiKP** **02 30 21.0 -0.3**
comp=Z,1.0nm,0.8s,baz=304,slow=2.1,SNR=4.2

YKA Yellowknife Ar 101.00 27 *i* P **Pdif** **02 25 56.5 0.0**
YKA pmax pmax
comp=Z,3.0nm,0.8s
JOF Joensuu 101.10 334 *e*P **Pdif** **02 25 55.9 -1.0**
ARA0 ARCESS Array S 101.40 341 *e*P **Pdif** **02 25 57.6 -0.5**
ARCES ARCESS Array B 101.40 341 Pdif **Pdif** **02 25 56.6 -1.6**
ARCES ARCESS Array B 101.40 341 P **Pdif** **02 25 57.6 -0.6**
comp=Z,23nm,0.8s,baz=74,slow=7.0,SNR=57
SMMC Simmler 101.45 55 P **Pdif** **02 25 59.1 -0.1**
baz=274
HAMF Hammerfest 101.57 342 *e*P **Pdif** **02 25 58.2 -0.7**
PKM Mcpherson Peak 101.63 55 P **Pdif** **02 26 00.3 +0.1**
baz=274
VALR Valaam 101.67 332 ⇓ *e*P **Pdif** **02 25 59.3 -0.2**
VALR pmax pmax
comp=Z,21nm,1.3s
VES Vestal, Richgr 102.16 54 P **Pdif** **02 26 02.1 -0.1**
baz=274
VNA2 Neumayer--Watz 102.20 191 ⇑ pPdiff pPdif 02 26 26.3 +0.1
comp=Z,19nm,0.8s,baz=311,slow=33
NEW Newport 102.26 41 P **Pdif** **02 26 02.6 +0.1**
baz=278
NVAR Mina Array Bea 102.57 52 Pdif **Pdif** **02 26 04.0 -0.3**
NVAR Mina Array Bea 102.57 52 P **Pdif** **02 26 05.0 +0.7**
comp=Z,4.1nm,0.9s,baz=252,slow=7.7,SNR=17
NVAR PKiKP **PKiKP** **02 30 24.8 -0.5**
comp=Z,2.0nm,0.9s,baz=242,slow=1.9,SNR=3.8
VNA1 Neumayer--Stat 102.59 191 ⇑ pPdiff pPdif 02 26 28.2 +0.3
comp=Z,12nm,0.8s
SIM Simferopol' 102.83 315 *e*P **Pdif** **02 26 00.5 -4.6**
SIM *e*S **Sdif** **02 37 39.0 -4.6**
SIM pmax pmax
comp=Z,16nm,1.0s
CWC Cottonwood Cre 102.92 54 P **Pdif** **02 26 06.2 +0.3**
baz=275
JETT Jettan, Norway 103.04 341 *e*P **Pdif** **02 26 05.0 -0.5**
EDW2 Edwards Air Fo 103.12 55 P **Pdif** **02 26 07.8 +1.1**
baz=275
MPMC Manual Prospec 103.43 54 P **Pdif** **02 26 08.6 +0.4**
baz=275
BFSC Mcnt Baldy Ra 103.45 56 P **Pdif** **02 26 08.7 +0.4**
baz=275
TRO Tromso 103.47 342 *e*P **Pdif** **02 26 06.1 -1.2**
BR131 Keskin Array S 103.84 310 ⇓ *i*P **Pdif** **02 26 08.5 -1.4**
BRTR Keskin Array B 103.84 310 Pdiff **Pdif** **02 26 08.4 -1.4**
comp=Z,0.6nm,0.7s,baz=117,slow=3.5,SNR=5.8
FINES FINESS Array B 103.87 333 Pdif **Pdif** **02 26 07.3 -2.0**
FINES FINESS Array B 103.87 333 Pdiff **Pdif** **02 26 08.4 -0.9**
comp=Z,6.2nm,0.7s,baz=72,slow=6.2,SNR=26
FINES PKiKP **PP** **02 30 27.8 +0.7**
comp=Z,3.4nm,0.9s,baz=60,slow=8.2,SNR=6.2
FINES FINESS Array B 103.87 333 *i* P **Pdif** **02 26 07.3 -2.0**
GSC Goldstone, Bar 104.06 55 P **Pdif** **02 26 11.2 +0.4**
baz=275
KEF Keuruu 104.18 334 *e*P **Pdif** **02 26 09.0 -1.6**
VSU Vasula 104.46 330 *d i*P **Pdif** **02 26 10.9 -1.0**
TPFO Pinon Flats 104.50 56 P **Pdif** **02 26 13.7 +0.8**
baz=275
MONP2 Monument Peak 104.59 57 P **Pdif** **02 26 13.6 +0.1**
baz=275
MSO Missoula 104.62 43 P **Pdif** **02 26 14.2 +1.1**
baz=280
R11B Troy Canyon, C 104.70 51 P **Pdif** **02 26 13.1 -0.6**
baz=277
TUQ Turquoise Moun 104.76 54 P **Pdif** **02 26 13.1 -0.9**
baz=276
VAF Ylistaro 104.82 335 *e*P **Pdif** **02 26 12.5 -0.9**
BELC Belle Mtn. Jos 104.84 56 P **Pdif** **02 26 14.0 -0.4**
baz=276
HLID Hailey 104.85 46 P **Pdif** **02 26 13.5 -0.8**
baz=279
IKP In-Ko-Pah, Jac 104.88 57 P **Pdif** **02 26 13.0 -1.5**
baz=275
MNK Minsk 104.94 326 *i* P **Pdif** **02 26 13.1 -1.1**
MNK *i* 02 30 34.4
MNK *i* PPP PPP 02 32 47.8
MNK *i* 02 37 31.2
MNK *i* S **Sdif** **02 37 59.1 -1.6**
MNK *i* PS **PS** **02 39 51.2 0.0**
MNK *i* SS **SS** **02 45 23.0 +0.9**
MNK pmax pmax
comp=Z,23nm,0.8s
MNK pmax pmax
comp=E,6.0nm,0.9s
MNK pmax pmax
comp=N,3.0nm,0.7s
MNK MLR MLR
comp=Z,214nm,20.0s
MNK MLR MLR
comp=E,90nm,21.0s
MNK MLR MLR
comp=N,40nm,16.0s
AK09 Malin Array Si 105.04 321 P **Pdif** **02 26 13.6 -1.1**
MEF Metsahovi 105.05 332 *e*P **Pdif** **02 26 14.4 -0.1**
AK08 Malin Array Si 105.06 322 P **Pdif** **02 26 14.1 -0.7**
AKASG Malin Array Be 105.06 322 Pdiff **Pdif** **02 26 13.7 -1.1**
comp=N,3.8nm,0.7s,baz=65,slow=4.4,SNR=14
AKASG PKiKP **PKiKP** **02 30 28.1 -0.9**
comp=N,0.2nm,0.2s,baz=61,slow=5.2,SNR=5.1
AKBB Malin Array Si 105.06 322 ⇑ *i*P **Pdif** **02 26 13.8 -1.0**
AKBB Malin Array Si 105.06 322 P **Pdif** **02 26 13.7 -1.0**
AK10 Malin Array Si 105.06 321 P **Pdif** **02 26 13.9 -0.9**
AK01 Malin Array Si 105.07 322 P **Pdif** **02 26 13.9 -0.9**
KIEV Kiev 105.07 322 P **Pdif** **02 26 13.7 -1.1**
AK02 Malin Array Si 105.08 322 P **Pdif** **02 26 13.9 -1.0**
BC3 Big Chuckawall 105.33 56 P **PKiKP** **02 30 30.0 -0.2**
baz=276
IDID Didziasalis 105.36 327 *e*P **Pdif** **02 26 16.6 +0.5**
STEI Steigen 105.46 341 *e*P **Pdif** **02 26 15.3 -0.9**
MTSE Matsula 105.83 330 *e*P **Pdif** **02 26 18.1 +0.1**
MI28 Mi28,Pidlybu 105.96 322 P **Pdif** **02 26 18.1 -0.7**
RAF Rauma 105.98 333 *e*P **Pdif** **02 26 18.1 -0.5**
MI29 MI29, Kamyanyy 105.98 322 P **Pdif** **02 26 18.0 -0.9**
NEEM North Greenlan 106.13 2 *i* P **Pdif** **02 26 15.4 -4.0**
LUBAR Lubar, Ukraine 106.15 321 P **Pdif** **02 26 18.8 -0.9**
BOZ Bozeman (W) 106.43 44 P **PKiKP** **02 30 31.9 -0.1**
baz=282
DUG Dugway, Tooele 106.57 49 P **PKiKP** **02 30 32.2 -0.2**
baz=279
PABE Iberze 106.81 327 *e*P **Pdif** **02 26 22.7 +0.2**
RNPP9 Sopachiv 106.92 323 P **Pdif** **02 26 21.5 -1.6**
EGMT Eagleton 107.15 41 P **PKiKP** **02 30 33.1 -0.1**
baz=284
H17A Grant Village 107.42 45 P **PKiKP** **02 30 33.2 -0.8**
baz=282
214A Organ Pipe Nat 107.73 58 P **PKiKP** **02 30 33.4 -1.2**
baz=277
RLMT Red Lodge 108.16 44 P **PKiKP** **02 30 33.7 -1.6**
baz=283
UPP Uppsala 108.33 333 *e*P **Pdif** **02 26 28.6 -0.5**
WUAZ Wupatki 108.43 54 P **PKiKP** **02 30 35.1 -0.9**
baz=279
PDAR Pinedale Array 108.48 46 Pdiff **Pdif** **02 26 33.4 +2.8**
comp=N,1.9nm,0.9s,baz=267,slow=2.7,SNR=12
PDAR PKiKP **PKiKP** **02 30 36.5 +0.4**
comp=N,0.9nm,0.8s,baz=259,slow=1.5,SNR=5.8
VIKU Vikbolandet 109.35 332 *e*P **Pdif** **02 26 33.2 -0.5**
TUC Tucson 109.39 57 P **PKiKP** **02 30 37.8 0.0**
baz=278
LAO LASA Array 109.82 41 P **PKiKP** **02 30 38.2 +0.1**
baz=286
W18A Petrified Fore 109.82 54 P **PKiKP** **02 30 38.8 +0.1**
baz=280
KOLS Kolonicke sedl 109.87 321 *e*PP **PP** **02 31 12.7 +1.3**
HFS Hagfors 109.95 334 Pdiff **Pdif** **02 26 35.8 -0.6**
comp=N,1.8nm,0.8s,baz=167,slow=7.0,SNR=4.8
HFS PP **PP** **02 31 08.3 -3.3**
comp=N,2.4nm,0.7s,baz=69,slow=7.9,SNR=4.2
O20A White River Ci 110.02 49 P **PKiKP** **02 30 38.4 -0.5**
baz=282
STHS Stebnicka Huta 110.36 322 *e*PP **PP** **02 31 17.0 +2.1**
CRVS Cervenica-Dubn 110.39 321 *e*PDIFF **Pdif** **02 26 39.7 +1.1**
MVCO Mesa Verde 110.42 52 P **PKiKP** **02 30 38.8 -1.0**
baz=281
NB2 NORSAR Subarra 110.53 336 P **Pdif** **02 26 37.5 -1.5**
comp=Z,5.1nm,1.1s,baz=54,slow=4.8
NB2 PP PP 02 30 57.8 -18
comp=Z,6.6nm,1.7s,baz=75,slow=8.6
NB2 NORSAR Subarra 110.53 336 P **Pdif** **02 26 37.5 -1.5**
baz=54,slow=4.8
NOA NORSAR Array B 110.53 336 Pdiff **Pdif** **02 26 38.0 -1.0**
comp=Z,1.6nm,0.9s,baz=57,slow=4.5,SNR=4.3
NOA PKiKP **PKiKP** **02 30 38.3 -0.7**
comp=Z,0.5nm,0.7s,baz=52,slow=1.5,SNR=4.0
NOA PP **PP** **02 31 13.4 -2.4**
comp=Z,4.6nm,1.0s,baz=59,slow=6.9,SNR=5.6

DGMT Dagmar 110.59 39 P **PKiKP** **02 30 38.6 -0.9**
baz=289
K22A Casper 110.69 46 P **PKiKP** **02 30 39.0 -1.1**
baz=285
IDI Anoyia 111.40 306 PKiKP **PKiKP** **02 30 42.1 +0.6**
comp=Z,0.1nm,0.7s,baz=49,slow=1.5,SNR=6.6
N23A Red Feather La 111.55 47 P **PKiKP** **02 30 40.2 -1.6**
baz=284
121A Cookes Peak, D 111.86 56 P **PKiKP** **02 30 41.4 -1.2**
baz=280
RSSD Black Hills 112.03 44 P **PKiKP** **02 30 41.9 -0.8**
baz=287
ISCO Idaho Springs 112.06 48 P **PKiKP** **02 30 41.6 -1.4**
baz=284
VYHS Vyhne 112.16 321 *e*PDIFF **Pdif** **02 26 44.9 -1.6**
VYHS *e*PP **PP** **02 31 28.9 +1.0**
VYHS Vyhne 112.16 321 *e*P **Pdif** **02 26 44.9 -1.6**
VYHS *e* 02 31 28.9
MORC Moravsky Berou 112.48 323 *e*PDIFF **Pdif** **02 26 48.0 +0.1**
MORC *e*PKIKP **PKiKP** **02 30 43.8 +0.7**
ANMO Albuquerque 112.49 54 P **PKiKP** **02 30 42.6 -1.2**
baz=282
Q24A Divide 112.61 49 P **PKiKP** **02 30 42.8 -1.2**
baz=284
SDCO Great Sand Dun 112.64 51 P **PKiKP** **02 30 42.9 -1.2**
baz=283
JAVC Velka Javorina 112.75 322 *e*PDIFF **Pdif** **02 26 50.5 +1.3**
JAVC *e*PKIKP **PKiKP** **02 30 45.2 +1.6**
KRUC Moravsky 113.45 323 *e*PDIFF **Pdif** **02 26 52.1 -0.1**
KRUC *e*PKIKP **PKiKP** **02 30 44.8 -0.1**
T25A Trinidad 113.62 51 P **PKiKP** **02 30 44.4 -1.5**
baz=284
MNTX Cornudas Mount 114.01 57 P PKPdf 02 30 45.5 -1.0
baz=281
RONA Rosalia, Austr 114.04 321 *e*PKiKP PKPdf 02 30 46.0 -0.1
comp=Z,3.4nm,1.4s
RONA *es*PKP 02 31 18.7
comp=Z,4.3nm,1.0s
RONA *e*PP **PP** **02 31 44.1 +2.9**
comp=Z,4.1nm,1.2s
PRU Pruhonice 114.17 324 AMS AMS 03 19 20.0
comp=Z,200nm,22.6s
CONA Conrad Observa 114.22 322 *e*PP **PP** **02 31 44.6 +2.1**
comp=Z,8.1nm,1.2s
OGNE Ogallala 114.38 46 P PKPdf 02 30 46.2 -0.9
baz=287
CLL Collm 114.48 326 *i* P **Pdif** **02 26 57.0 +0.3**
CLL *e* 02 30 47.0
CLL pmax pmax
comp=Z,11nm,1.2s
KSCO Kaye Shedlock' 114.50 49 P PKPdf 02 30 46.1 -1.4
baz=286
CKRC Cesky Krumlov 114.80 323 AMS AMS 03 19 30.0
comp=Z,200nm,17.5s
ULM Lac du Bonnet 114.94 35 PKP **PKiKP** **02 30 47.0 -0.7**
comp=Z,3.0nm,0.8s,baz=270,slow=5.4,SNR=5.0
ULM PP **PP** **02 31 46.5 -0.9**
comp=Z,3.1nm,1.0s,baz=262,slow=7.6,SNR=3.5
ULM Lac du Bonnet 114.94 35 PKiKP **PKiKP** **02 30 47.0 -0.7**
KHC Kasperske Hory 115.11 324 *e*SP SP 02 41 16.9 -1.6
KHC AMS AMS 03 18 50.0
comp=Z,200nm,21.1s
GERES GERESS Array B 115.16 323 **PKiKP** **02 30 47.2 -1.1**
GERES GERESS Array B 115.16 323 Pdiff **Pdif** **02 26 60.0 +0.1**
comp=Z,1.2nm,0.8s,baz=27,slow=9.0,SNR=4.8
GERES PKP **PKPdf** **02 30 48.3 0.0**
comp=Z,2.1nm,0.7s,baz=90,slow=1.3,SNR=7.8
SOKA Soboth 115.23 321 *e*PKP **PKiKP** **02 30 47.9 -0.6**
comp=Z,4.4nm,1.1s
SOKA *es*PKP 02 31 20.5
comp=Z,6.8nm,1.0s
SOKA *e*PP **PP** **02 31 50.3 +0.6**
comp=Z,7.3nm,1.5s
MOA Molln 115.23 322 *e*PP **PP** **02 31 51.7 +2.1**
comp=Z,17nm,1.4s
SUSD Miller 115.37 42 P **PKiKP** **02 30 47.9 -0.9**
baz=291
MSTX Muleshoe 115.68 54 P **PKPdf** **02 30 49.0 -0.8**
baz=284
BIOA Bad Ischl, Aus 115.69 322 *es*PKP 02 31 21.1
comp=Z,6.1nm,1.0s
BIOA *e*PP **PP** **02 31 54.7 +1.9**
comp=Z,8.4nm,1.1s
AGMN Agassiz Nation 115.80 37 P **PKiKP** **02 30 48.0 -1.5**
baz=296
TXAR Lajitas Array 115.92 59 PKPdf **PKPdf** **02 30 49.3 -1.1**
TXAR Lajitas Array 115.92 59 PKP **PKiKP** **02 30 50.8 +0.5**
comp=Z,3.3nm,0.9s,baz=270,slow=0.9,SNR=25
TXAR PKKPbc **PKKPbc** **02 41 21.4 -0.8**
comp=Z,1.1nm,0.9s,baz=131,slow=5.5,SNR=5.7
TXAR Lajitas Array 115.92 59 PKiKP **PKPdf** **02 30 49.3 -1.1**
KBA Koelnbreinsper 116.12 322 *e*PKiKP **PKiKP** **02 30 50.6 +0.2**
comp=Z,1.8nm,0.5s
KBA *es*PKP 02 31 21.6
comp=Z,9.6nm,1.6s
AMTX Amarillo 116.33 53 P **PKPdf** **02 30 49.7 -1.3**
baz=285
LESA Schwarzleotal 116.39 322 *e*PKiKP **PKPdf** **02 30 50.6 -0.1**
comp=Z,3.6nm,0.6s
LESA *e*PP **PP** **02 31 59.0 +1.2**
comp=Z,12nm,1.3s
CBKS Cedar Bluff 116.71 48 P **PKPdf** **02 30 50.6 -0.9**
baz=288
ABTA Abfaltersbach 116.78 321 *e*PKiKP **PKPdf** **02 30 51.2 -0.3**
comp=Z,6.9nm,0.7s
ABTA *es*PKP 02 31 23.5
comp=Z,12nm,1.1s
ABTA PP **PP** **02 32 01.7 +1.2**
comp=Z,7.3nm,1.3s
BGNE Belgrade 117.01 45 P **PKPdf** **02 30 50.8 -1.2**
baz=290
WTTA Wattenberg 117.09 322 *e*PKiKP **PKiKP** **02 30 52.5 +0.3**
comp=Z,7.7nm,0.6s
WTTA *e*PP **PP** **02 32 03.8 +1.0**
comp=Z,21nm,1.6s
WATA Walderalm 117.10 322 *e*PKiKP **PKPdf** **02 30 52.1 -0.1**
comp=Z,3.0nm,0.6s
WATA *es*PKP 02 31 24.0
comp=Z,8.8nm,1.2s
ECSD EROS Data Cent 117.20 42 P **PKPdf** **02 30 50.8 -1.5**
baz=293
SQTA Sankt Quirin 117.37 322 *e*PKiKP **PKiKP** **02 30 52.9 +0.2**
comp=Z,4.9nm,0.8s
SQTA *es*PKP 02 31 24.8
comp=Z,6.5nm,0.8s
MOTA Moosalm 117.38 323 *i* PKiKP **PKPdf** **02 30 52.6 -0.1**
comp=Z,4.1nm,0.6s
MOTA *es*PKP 02 31 24.7
comp=Z,9.8nm,1.1s
MOTA *e*PP **PP** **02 32 06.7 +1.9**
comp=Z,12nm,1.2s
SMWD Samnorwood 117.41 52 PKPdf **PKPdf** **02 30 53.0 0.0**
FETA Feichten 117.76 322 *i* PKiKP **PKiKP** **02 30 53.8 +0.3**
comp=Z,8.3nm,1.2s
FETA *es*PKP 02 31 25.7
comp=Z,6.0nm,1.0s
FETA *e*PP **PP** **02 32 08.4 +1.0**
comp=Z,9.8nm,1.1s
DAVA Damuels 118.15 323 *e*PKiKP **PKiKP** **02 30 54.6 +0.4**
comp=Z,6.9nm,0.6s
DAVA *es*PKP 02 31 25.8
comp=Z,10nm,1.1s
ABTX Abilene, Hawle 118.55 55 P **PKPdf** **02 30 54.0 -1.3**
baz=285
EYMN Ely 118.56 36 PKPdf **PKPdf** **02 30 53.9 -0.9**
EYMN Ely 118.56 36 P **PKPdf** **02 30 53.4 -1.4**
baz=299
MEM Membach 118.66 328 *d*PKP **PKiKP** **02 30 55.7 +0.8**
WMOK Wichita Mounta 118.66 52 P **PKPdf** **02 30 54.0 -1.4**
baz=287
TUE Stuetta 118.85 322 PKPdf **PKPdf** **02 30 54.9 -0.8**
KSU1 Kansas State U 118.92 47 P **PKPdf** **02 30 54.7 -1.1**
baz=291
JCT Junction City 118.95 57 P **PKPdf** **02 30 55.3 -0.8**
baz=284,SNR=13
SPMN Marine on St. 119.05 39 P **PKPdf** **02 30 55.1 -0.7**
baz=297
BCLA Clavier 119.14 328 *d*PKPdf **PKiKP** **02 30 56.5 +0.7**
RCHB Rochefort 119.32 328 *d*PKP **PKPdf** **02 30 56.0 -0.1**
BMRD Maredsous 119.49 328 *d*PKP **PKiKP** **02 30 57.1 +0.6**
DOU Dourbes 119.70 328 *d*PKPdf **PKiKP** **02 30 57.5 +0.6**
833A Chaparral WMA, 119.79 59 P **PKPdf** **02 30 56.7 -1.0**
baz=283
EKA Eskdalemuir Ar 120.02 336 PP **PP** **02 32 20.9 -1.4**
comp=Z,5.8nm,1.0s,baz=43,slow=6.2,SNR=4.6
WHTX Lake Whitney, 120.50 55 P **PKPdf** **02 30 58.1 -0.9**
baz=286,SNR=9.5

TUL3	Leonard baz=290	120.62	50	P		PKPdf	02 30 57.9	-1.2
G40A	Rib Lake	120.65	38	PKPdf		PKPdf	02 30 57.7	-1.2
435B	Jarrell baz=285	120.72	56	P		PKPdf	02 30 57.8	-1.7
I40A	Norwalk	121.05	40	PKPdf		PKPdf	02 30 58.9	-0.8
X37A	Clayton	121.38	51	PKPdf		PKPdf	02 31 00.3	-0.2
JFWS	Jewell Farm baz=298	121.75	41	P		PKPdf	02 30 59.9	-1.2
S39A	Bolivar	121.84	47	PKPdf		PKPdf	02 31 00.6	-0.8
R40A	Maddies Statio	122.37	46	PKPdf		PKPdf	02 31 01.2	-1.2
MIAR	Mount Ida baz=290,SNR=14	122.79	51	P		PKPdf	02 31 02.2	-1.1
NATX	Nacogdoches baz=288	122.84	54	P		PKPdf	02 31 02.5	-1.0
CCM	Cathedral Cave baz=294	123.20	46	P		PKPdf	02 31 02.7	-1.3
CCM	Cathedral Cave	123.20	46	PKIKP		PKPdf	02 31 03.5	-0.5
KEST	Kesra comp=Z,6.0nm,0.9s,baz=356,slow=5.8,SNR=6.8	123.42	311	PKP		PKiKP	02 31 05.0	+0.2
HDIL	Hopedale	123.47	43	PKPdf		PKPdf	02 31 04.0	-0.5
HDIL	Hopedale baz=298	123.47	43	P		PKPdf	02 31 03.2	-1.3
L44A	Lake County Fo baz=300	123.61	40	P		PKPdf	02 31 04.0	-0.7
FVM	French Village	123.82	46	PKPdf		PKPdf	02 31 04.4	-0.8
FVM	French Village	123.82	46	PKIKP		PKPdf	02 31 04.4	-0.8
GLMI	Grayling baz=304	124.25	36	P		PKPdf	02 31 05.0	-0.8
Q44A	Meyer Farm, Va	124.42	44	PKPdf		PKPdf	02 31 05.4	-0.9
J47A	Sunmer	125.01	38	PKPdf		PKPdf	02 31 06.4	-0.9
SCHQ	Schefferville comp=Z,8.3nm,0.8s,baz=317,slow=1.7,SNR=8.6	125.02	18	PKP		PKiKP	02 31 07.4	+0.1
SFIN	Lafayette baz=299	125.03	42	P		PKPdf	02 31 06.8	-0.6
P46A	Rosedale	125.33	43	PKPdf		PKPdf	02 31 07.4	-0.6
OXF	Oxford baz=294	126.00	49	P		PKPdf	02 31 08.3	-1.1
VBMS	Vicksburg baz=291	126.01	52	P		PKPdf	02 31 08.4	-1.2
AAM	Ann Arbor baz=304	126.24	38	P		PKPdf	02 31 08.9	-0.7
O48B	Farmland baz=301,SNR=12	126.38	41	P		PKPdf	02 31 09.6	-0.5
WVT	Waverly	126.49	47	PKPdf		PKPdf	02 31 09.1	-1.3
WVT	Waverly baz=296	126.49	47	P		PKPdf	02 31 09.1	-1.3
WVT	Waverly	126.49	47	PKIKP		PKPdf	02 31 09.1	-1.3
WCI	Wyandotte Cave	126.62	44	PKPdf		PKPdf	02 31 09.9	-0.6
WCI	Wyandotte Cave baz=299	126.62	44	P		PKPdf	02 31 10.0	-0.5
WCI	Wyandotte Cave	126.62	44	PKIKP		PKPdf	02 31 09.9	-0.6
O49A	Covington	126.95	41	PKPdf		PKPdf	02 31 10.9	-0.2
P49A	Miami Univ. Ec baz=301,SNR=13	127.04	42	P		PKPdf	02 31 11.2	-0.1
ACSO	Alum Creek Sta baz=303,SNR=10	127.80	40	P		PKPdf	02 31 12.4	-0.3
N51A	Ashland	127.81	39	PKPdf		PKPdf	02 31 11.7	-1.0
SWET	Sewanee	128.28	47	PKPdf		PKPdf	02 31 12.6	-1.3
PLCA	Paso Flores comp=Z,3.2nm,0.8s,baz=234,slow=4.4,SNR=7.6	128.37	152	PKP		PKiKP	02 31 15.2	+0.6
LRAL	Lakeview Retre baz=294,SNR=9.0	128.43	50	P		PKPdf	02 31 13.1	-1.0
M53A	WI Miller and baz=306,SNR=5.7	128.56	37	P		PKPdf	02 31 13.3	-0.8
ERPA	Erie baz=307	128.56	36	P		PKPdf	02 31 14.2	+0.1
P52A	Corning baz=304,SNR=12	128.68	40	P		PKPdf	02 31 14.3	-0.2
FPAL	Fort Paine	128.82	48	PKPdf		PKPdf	02 31 12.7	-2.2
O53A	New Philadelph baz=305,SNR=8.9	128.91	39	P		PKPdf	02 31 14.7	-0.2
TZTN	Tazewell	129.35	44	PKPdf		PKPdf	02 31 16.0	+0.1
TZTN	Tazewell baz=300	129.35	44	P		PKPdf	02 31 15.0	-0.8
LONY	Lake Ozonia baz=315	129.90	31	P		PKPdf	02 31 16.9	+0.3
MCWV	Mont Chateau baz=306	130.11	39	P		PKPdf	02 31 16.8	-0.4
NCB	Newcomb	130.54	31	PKPdf		PKPdf	02 31 18.2	+0.4
ESDC	Sonseca Array comp=Z,1.6nm,0.7s,baz=44,slow=0.8,SNR=12	130.71	322	PKP		PKiKP	02 31 19.3	+0.1
ESDC				PP		PP	02 33 33.0	-1.0
SSPA	Standing Stone baz=308	130.72	37	P		PKPdf	02 31 17.9	-0.4
BINY	Binghamton baz=312	130.81	34	P		PKPdf	02 31 17.9	-0.5
GOGA	Godfrey baz=298,SNR=7.1	130.92	48	P		PKPdf	02 31 18.5	-0.3
BLA	Blacksburg baz=304,SNR=7.0	131.13	42	P		PKPdf	02 31 18.7	-0.5
MVO	Moncorvo	131.59	325	*e*PKPdf		PKiKP	02 31 22.3	+1.3
MVO	Moncorvo comp=Z,123nm,22.0s	131.59	325	*e*LR		LR	03 16 10.9	
KMSC	Kings Mountain baz=301,SNR=8.6	131.61	45	P		PKPdf	02 31 19.4	-0.7
TIGA	Tifton baz=296	131.72	50	P		PKPdf	02 31 19.3	-1.1
PGAV	Gavieira, Arco	131.75	327	*e*PKPdf		PKiKP	02 31 22.1	+0.8
PGAV	Gavieira, Arco comp=Z,121nm,22.0s	131.75	327	*e*LR		LR	03 16 03.5	
POLO	Lamas de Olo	131.88	326	*e*PKPdf		PKiKP	02 31 22.0	+0.4
PVRL	Vila Real	131.91	326	*e*PKPdf		PKiKP	02 31 22.8	+1.2
PKME	Peaks-Kenny Pk baz=321	131.95	26	P		PKPdf	02 31 20.2	-0.2
PVIS	Viseu	132.38	325	*e*PKPdf		PKiKP	02 31 23.7	+1.1
MTE	Manteigas	132.39	325	*e*PKPdf		PKiKP	02 31 23.6	+1.0
MTE	Manteigas comp=Z,128nm,22.0s	132.39	325	A		A	03 33 04.5	
PCBR	Castelo Branco	132.71	324	*e*PKPdf		PKiKP	02 31 24.0	+0.8
PAL	Palisades baz=313	132.77	34	P		PKPdf	02 31 21.6	-0.5
PMRV	Marv??o comp=Z,119nm,22.0s	132.93	324	*e*LR		LR	03 21 45.4	
HRV	Adam Dziewonsk baz=317	132.95	30	P		PKPdf	02 31 21.9	-0.5
PCAS	Casmilo, Conde	133.16	325	*e*PKPdf		PKiKP	02 31 25.2	+1.1
CNNC	Cliffs of the baz=305	133.93	42	P		PKPdf	02 31 24.1	-0.4
PVAQ	Vaqueiros comp=Z,142nm,18.0s	134.42	322	*e*LR		LR	03 24 52.6	
MESJ	Messejana	134.45	323	*e*PKPdf		PKiKP	02 31 28.3	+1.5
PCVE	Castro Verde	134.47	322	*e*PKPdf		PKiKP	02 31 28.0	+1.2
TORD	Torodi Ar. Bea	136.40	285	PKPdf		PKPdf	02 31 27.4	-2.2
TORD	Torodi Ar. Bea comp=Z,0.6nm,0.8s,baz=68,slow=3.4,SNR=4.0	136.40	285	PKhKP		PKPpre	02 31 17.4	
TORD				PKP		PKPdf	02 31 29.5	-0.1
SRBA	San Rafael, Bu comp=Z,6.6nm,0.7s,baz=127,slow=0.7,SNR=26	137.99	80			PKPdf	02 31 31.1	-1.7
ATAH	Atahualpa comp=Z,9.3nm,0.8s,baz=306,slow=5.2,SNR=6.2	141.56	106	PKhKP		PKPpre	02 31 36.4	
LVC	Limon Verde comp=Z,12nm,0.9s,baz=253,slow=3.6,SNR=6.8	142.52	136	PKP		PKPdf	02 31 41.6	+0.5
PAGU	Agualuz, Azore	142.77	341	*e*PKP		PKPdf	02 31 40.5	-0.1
PULU	Pululahua	142.77	95	PKPdf		PKPdf	02 31 38.5	-3.4
PSCM	Serra do Cume	142.81	341	*e*PKP		PKPdf	02 31 38.3	-2.4
PSBA	Serra de Santa	142.81	342	*e*PKP		PKPdf	02 31 40.2	-0.5
BART	Pico Bartolome	142.97	338	*e*PKP		PKPdf	02 31 40.5	-0.6
CMLA	Cha da Macela	143.11	339	*e*PKP		PKPbc	02 31 38.6	+0.3
PSET	Sete Cidades	143.12	339	*e*PKP		PKPdf	02 31 40.9	-0.4
ROSA	Rosais	143.13	343	*e*PKP		PKPdf	02 31 40.4	-0.8
PMAN	Manadas	143.17	342	*e*PKP		PKPdf	02 31 40.5	-0.8
PID	Ribeirinha	143.35	342	*e*PKP		PKPbc	02 31 38.7	-0.2
PPNO	Prainha do Nor	143.37	343	*e*PKP		PKPbc	02 31 40.2	+1.2
KIC	Kosan Boka comp=Z,13nm,0.8s	143.37	276	*e*P		PKPbc	02 31 39.5	-0.2
PICO	Pico	143.39	343	*e*PKP		PKPdf	02 31 41.3	-0.5
CALA	Caldeira	143.40	343	*e*PKP		PKPdf	02 31 40.5	-1.3
PCAN	Candelaria	143.44	343	*e*PKP		PKPbc	02 31 39.8	+0.6
PSMN	Pico do Norte,	143.61	338	*e*PKP		PKPbc	02 31 40.9	+1.2
TIC	Toumodi comp=Z,12nm,0.7s	143.64	276	*e*P		PKPdf	02 31 41.8	-1.0
PSMA	Santa Maria	143.64	338	*e*PKP		PKPbc	02 31 40.7	+0.9
LIC	Lamto comp=Z,22nm,0.9s	143.66	275	*e*P		PKPbc	02 31 40.5	0.0
BBSR	BB Station	144.09	35	PKPdf		PKPab	02 31 39.9	-0.8
CPUP	Villa Florida comp=Z,11nm,0.8s,baz=222,slow=3.4,SNR=13	146.41	154	PKPbc		PKPbc	02 31 48.8	+0.2
LPAZ	La Paz comp=Z,49nm,0.9s,baz=227,slow=1.2,SNR=77	146.96	128	PKPbc		PKPbc	02 31 50.9	-0.3
ROSC	El Rosal comp=Z,89nm,0.9s,baz=284,slow=4.2,SNR=27	147.18	87	PKPbc		PKPbc	02 31 51.8	+0.1
ITAB	Concordia	147.55	162	*e*P		PKPbc	02 31 51.2	-0.6
PTGB	Pitanga	149.92	160	*e*P		PKPdf	02 31 55.0	+1.8
AMBA	Amambai (Brazi	150.40	154	*e*P		PKPdf	02 31 55.4	+1.5
SDV	Santo Domingo	150.52	79	PKPbc		PKPbc	02 31 59.5	-0.5
SDV	Santo Domingo comp=Z,146nm,1.0s,baz=299,slow=2.2,SNR=9.1	150.52	79	PKP		PKPdf	02 31 55.4	+0.9
SDV				PKPbc		PKiKP	02 32 00.4	-0.2
CELP	Cerrillos comp=Z,146nm,1.0s,baz=259,slow=1.3,SNR=37	151.53	58	PKPbc		PKPbc	02 32 01.0	-0.9
ETMB	Extrema	151.89	119	*e*P		PKPdf	02 31 56.7	+0.4
FRTB	Fartura	151.97	164	*e*P		PKPdf	02 31 58.3	+2.0
AQDB	Aquidauana	152.18	150	PKPbc		PKPbc	02 32 02.7	-0.6
SIV	San Ignacio comp=Z,1.7nm,0.8s,baz=215,slow=2.2,SNR=8.8	152.42	136	PKP		PKPdf	02 31 57.8	+0.7
SIV				PKPbc		PKPbc	02 32 04.1	+0.1
PCMB	Pacaembu	153.06	159	*e*P		PKPdf	02 31 59.8	+1.9
PTLB	Pontes e Lacer	154.12	138	*e*P		PKPdf	02 32 00.7	+1.2
VILB	Vilhena	155.07	132	PKPdf		PKPdf	02 31 57.8	-3.1
VILB	Vilhena	155.07	132	*e*P		PKPdf	02 32 02.2	+1.3
TEFE	Tefe	155.72	107	*e*P		PKPdf	02 32 02.9	+1.1
SALV	Santo Antonio	155.94	144	*e*P		PKPdf	02 32 04.2	+2.2
ARAG	Araguaiana, MT	158.15	152	*e*P		PKPdf	02 32 06.0	+1.2
BDFB	Brasilia comp=Z,4.2nm,0.8s,baz=283,slow=3.7,SNR=5.7	159.70	161	PKP		PKPdf	02 32 07.7	+0.9
SNDB	Serra Nova Dou	161.59	148	*e*P		PKPdf	02 32 10.4	+1.7
NPGB	Novo Progresso	162.47	127	*e*P		PKPdf	02 32 11.3	+1.6
ITTB	Itaituba	163.61	119	*e*P		PKPdf	02 32 13.1	+2.3
SMTB	Santa Maria do	166.09	154	*e*P		PKPdf	02 32 15.3	+2.4
PRPB	Parauapebas	167.10	139	*e*P		PKPdf	02 32 14.9	+1.2

NEIC ***16*** *02:31:38.2±1.2, 19°.32N±0°.02×155°.02W±0°.02, h5km±1km, Error ellipse: s-maj=4.8km s-min=2.9km az=311.0*

HVO 16 02:31:38.4±1.3, **19°.37N**±0°.03×**155°.01W**±0°.02, **h5**km±2km, **ML3.2**/20, **ML3.4**/46(NEIC), **Error ellipse: s-maj=4.7km s-min=1.3km az=139.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	Jonika Flow	0.07	6		Pg	02 31 40.3	+0.2
JOKA					Sg	02 31 42.3	+1.1
JCUZ	Jacuzzi	0.09	281	Pg	Pg	02 31 40.6	+0.2
JCUZ				Sg	Sg	02 31 42.2	+0.5
NPOC	North of Pu'u	0.10	285	Pg	Pg	02 31 40.7	+0.2
NPOC					Sg	02 31 40.8	-1.1
NPOC	comp=N,17μm,0.3s			IAML		02 31 42.9	
NPOC	comp=E,26μm,0.4s			IAML		02 31 43.1	
STCH	Steam Cracks	0.11	279	Pg	Pg	02 31 40.8	+0.1
STCH					Sg	02 31 41.0	-1.3
STCH	comp=E,17μm,0.2s			IAML		02 31 43.0	
PAH	Pahoa	0.14	26		Pg	02 31 43.8	+2.5
KNHH	Kane Nui o Ham	0.15	274		Pg	02 31 41.6	+0.1
PUH	Pauahi	0.19	272	Pg	Pg	02 31 42.2	0.0
PUH				Sg	Sg	02 31 44.8	-0.1
BYL	Byron's Ledge	0.24	281	Pg	Pg	02 31 43.1	0.0
BYL				Sg	Sg	02 31 46.5	+0.3
BYL	comp=E,6μm,0.7s			IAML		02 31 46.6	
BYL	comp=N,6μm,0.5s			IAML		02 31 48.1	
HATHI	Halema'uma'u T	0.24	283	Pg	Pg	02 31 43.1	-0.1
HATHI				Sg	Sg	02 31 47.4	+1.0
HATHI	comp=N,9μm,1.0s			IAML		02 31 51.3	
KKO	Keanakako`i	0.24	277	Pg	Pg	02 31 42.9	-0.3
KKO	comp=N,9μm,0.8s			IAML		02 31 44.3	
KKO	comp=E,5μm,0.7s			IAML		02 31 48.6	
SBLHI	Steaming Bluff	0.25	284	Pg	Pg	02 31 43.6	+0.3
SBLHI				Sg	Sg	02 31 47.5	+0.8
SBLHI	comp=E,9μm,0.5s			IAML		02 31 50.0	
SBLHI	comp=N,8μm,0.9s			IAML		02 31 50.1	
RIM	Rim	0.25	276	Pg	Pg	02 31 43.6	+0.3
RIM	comp=N,7μm,0.7s			IAML		02 31 47.0	
RIM	comp=E,6μm,0.5s			IAML		02 31 48.9	
NPH	North Pit	0.26	280	Pg	Pg	02 31 43.4	-0.1
UWB	Uwekahuna B	0.26	283	Pg	Pg	02 31 43.4	-0.1
UWB				Sg	Sg	02 31 47.5	+0.6
SDHHI	Sand Hill	0.27	275	Pg	Pg	02 31 43.8	+0.2
SDHHI				Sg	Sg	02 31 47.2	0.0
SDHHI	comp=N,8μm,0.7s			IAML		02 31 50.7	
SDHHI	comp=E,6μm,0.6s			IAML		02 31 51.5	
RSD	Rainshed	0.27	291	Pg	Pg	02 31 43.7	0.0
RSD				Sg	Sg	02 31 48.2	+1.0
RSD	comp=N,6μm,1.0s			IAML		02 31 48.9	
RSD	comp=E,6μm,0.3s			IAML		02 31 51.1	
UWE	Uwekahuna	0.27	281	Pg	Pg	02 31 43.2	-0.5
UWE				Sg	Sg	02 31 48.9	+1.5
WRMHI	West Rim	0.27	278	Pg	Pg	02 31 44.0	+0.2
HLP	Hilina Pali	0.29	256	Pg	Pg	02 31 44.6	+0.6
HLP				Sg	Sg	02 31 49.5	+1.6
HLP	comp=E,5μm,0.6s			IAML		02 31 50.4	
HLP	comp=N,7μm,0.5s			IAML		02 31 53.8	
MLH	Mauna Loa	0.37	290	Pg	Pg	02 31 45.8	+0.1
MLH				Sg	Sg	02 31 52.0	+1.2
MLH	comp=E,4μm,0.5s			IAML		02 31 52.0	
MLH	comp=N,5μm,0.3s			IAML		02 31 55.8	
HMH	Humu'ula Sheep	0.50	298	Pg	Pg	02 31 48.1	0.0
HMH				Sg	Sg	02 31 55.4	+0.7
MLOA	Mauna Loa Obse	0.56	288	Pg	Pg	02 31 48.7	-0.5
MLOA				Sg	Sg	02 31 56.2	-0.3
MWH	Moku'aweowe	0.56	282	Pg	Pg	02 31 48.6	-0.7
MWH				Sg	Sg	02 31 56.6	-0.1
MWH	comp=N,3μm,0.5s			IAML		02 32 06.5	
KHU	Kahuku	0.58	258	Pg	Pg	02 31 49.0	-0.6
KHU				Sg	Sg	02 31 57.2	0.0
KHU	comp=E,2μm,0.4s			IAML		02 31 58.7	
KHU	comp=N,2μm,0.5s			IAML		02 32 05.7	
ALEP	Alea Permanent	0.62	286		Pg	02 31 49.4	-1.0
ALEP					Sg	02 31 58.5	0.0
POHA	Pohakuloa	0.62	308	Pg	Pg	02 31 49.7	-0.8
POHA				Sg	Sg	02 31 57.9	-0.7
POHA	comp=N,3μm,0.6s			IAML		02 32 07.1	
HUH	Hualalai	0.84	292	Pg	Pg	02 31 52.8	-1.7
HUH				Sg	Sg	02 32 04.4	-1.1
HPAH	Hawaii Prepara	0.92	316	Pg	Pg	02 31 53.2	-2.9
MHA	Mahukona	1.17	314		Pg	02 31 57.0	-3.9

NEIC ***16*** *03:03:35.2±1.0, 19°.41N±0°.01×155°.262W±0°.007, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.7km az=65.0*

HVO 16 03:03:34.5±0.9, **19°.40N**±0°.01×**155°.268W**±0°.007, **h0**km±3km, **ML3.1**/11, **ML2.0**/27(NEIC), **Error ellipse: s-maj=1.6km s-min=0.9km az=187.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	Keanakako`i	0.01	160		Pg	03 03 35.2	+0.4
RIM	Rim	0.01	213		Pg	03 03 35.3	+0.4
BYL	Byron's Ledge	0.01	43		Pg	03 03 35.3	+0.4
NPH	North Pit	0.01	304		Pg	03 03 35.3	+0.3
HATHI	Halema'uma'u T	0.02	19		Pg	03 03 35.4	+0.4
OBL	Observatory Le	0.02	313		Pg	03 03 35.0	0.0
SBLHI	Steaming Bluff	0.02	0		Pg	03 03 35.6	+0.5
UWB	Uwekahuna B	0.02	336		Pg	03 03 35.4	+0.4
UWB	comp=N,3μm,0.7s			IAML		03 03 35.5	
SDHHI	Sand Hill	0.03	240	IAML		03 03 35.2	
SDHHI	comp=N,3μm,0.5s			IAML		03 03 35.4	
SDHHI	comp=E,2μm,0.8s				Pg	03 03 35.6	+0.6
UWE	Uwekahuna	0.03	307	IAML	Pg	03 03 35.5	+0.3
UWE	comp=N,2μm,0.6s				Pg	03 03 35.5	+0.4
UWE	comp=E,4μm,0.8s			IAML		03 03 35.5	
WRMHI	West Rim	0.03	275	IAML		03 03 35.3	
WRMHI	comp=E,3μm,0.6s			IAML		03 03 35.6	
WRMHI	comp=N,3μm,0.8s				Pg	03 03 36.2	+1.1
RSD	Rainshed	0.06	351		Pg	03 03 36.7	+1.0
RSD	comp=N,1μm,0.3s			IAML		03 03 37.6	
KNHH	Kane Nui o Ham	0.10	104		Pg	03 03 37.4	+1.1
HLP	Hilina Pali	0.11	199	IAML		03 03 37.4	
HLP	comp=E,858nm,0.9s			IAML		03 03 37.8	
HLP	comp=N,946nm,0.9s				Pg	03 03 37.8	+1.1
STCH	Steam Cracks	0.14	98		Pg	03 03 38.0	+0.9
STCH	Steam Cracks	0.14	98	IAML		03 03 40.1	
STCH	comp=N,766nm,0.6s			IAML		03 03 40.8	
MLH	Mauna Loa	0.14	309		Pg	03 03 38.0	+0.7
MLH	comp=E,387nm,1.0s			IAML		03 03 38.1	
MLH	comp=N,535nm,0.7s			IAML		03 03 39.5	
NPOC	North of Pu'u	0.15	94		Pg	03 03 38.2	+0.8
JCUZ	Jacuzzi	0.16	97		Pg	03 03 38.5	+0.9
JCUZ				IAML		03 03 41.1	
JCUZ	comp=E,533nm,0.6s			IAML		03 03 42.1	
JCUZ	comp=N,599nm,0.6s				Pg	03 03 40.0	+0.7
JOKA	Jonika Flow	0.25	83		Sg	03 03 43.4	+0.8
JOKA					Pg	03 03 42.1	+0.7
KHU	Kahuku	0.36	244				

DJA ***16*** *03:08:03.1±0.9, 1°.5±3°.3×12°.8E±°, h26km±9km, M4.3/12, mb4.7/6, mB4.7/3, MLv4.2/12, Mw(mB)4.0/3*

IDC ***16*** *03:08:07.1±4.1, 1°.39S×128°.40E, h75km±33km, mb3.3/3, mbtmp3.9/5, MS3.0/2, Error ellipse: s-maj=56.9km s-min=15.3km az=71.0*

ISC 16 03:08:00.3±0.7, **1°.09S**±0°.07×**128°.33E**±0°.05, **h17**km, **n15**, σ**2**s**18**/19, **mb3.8**/3, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	Labuha	0.95	299	P	Pg	03 08 18.3	-0.4
LBMI				S	Sg	03 08 30.9	-0.3
TNTI	Ternate	2.09	332	P	Pb	03 08 37.3	-0.5
NLAI	Namlea	2.46	210	P	Pn	03 08 42.1	+2.4
NLAI				S	Sn	03 09 09.7	+0.3
SANI	Sanana	2.53	248	P	Pn	03 08 39.9	-0.7
SANI				S	Sn	03 09 09.2	-1.9
SWI	Sorong	2.94	86	P	Pn	03 08 48.2	+2.0
SWI				S	Sb	03 09 25.1	-2.7
FAKI	Fak Fak	4.31	115	P	Pn	03 09 06.5	+1.3
FAKI				S	Sn	03 09 55.7	+0.6
LUWI	Luwuk 127nm,1.2s,5μm0.7nm	5.56	270	P	Pn	03 09 23.5	+1.2
DAV	Davao City (W) comp=Z,54nm,21.7s,baz=254,slow=35	8.56	341	LR	LR	03 13 13.6	
TTSI	Tana Toraja	8.73	257	P	Pn	03 10 07.1	+1.3
KAPI	Kappang 20nm,0.6s,baz=58,slow=9.5,SNR=13	9.41	245	P	Pn	03 10 18.8	+3.6
WRA	Warramunga Arr 3.3nm,0.7s,baz=344,slow=12,SNR=24	19.63	163	P	P	03 12 27.0	-1.2
WRA				S	S	03 15 59.0	-10
ASAR	Alice Springs 5.1nm,0.8s,baz=348,slow=12,SNR=38	23.08	167	P	P	03 13 04.7	-0.6
ASAR				S	S	03 17 10.3	-5.5
USRK	Ussuriysk Ar. comp=Z,34nm,18.5s,baz=93,slow=36	45.21	4	LR	LR	03 35 07.4	
MKAR	Makanchi Array 0.1nm,0.4s,baz=116,slow=9.8,SNR=2.3 0.1nm,0.4s	62.42	326	P	P	03 18 24.5	+2.0
KURBB	Kurchatov Arra 0.2nm,0.3s,baz=134,slow=5.9,SNR=2.2 0.2nm,0.3s	66.64	328	P	P	03 18 50.3	+0.4

IDC ***16*** *03:17:19.2±0.6, 20°.12S×66°.68E, h0km, mb4.4/16, mbtmp4.4/16, MS3.7/11, Error ellipse: s-maj=20.2km s-min=18.2km az=41.0*

NEIC ***16*** *03:17:21.2±1.3, 20°.0S±0°.1×66°.56E±0°.10, h10km±1km, mb4.8/51, Error ellipse: s-maj=21.2km s-min=15.4km az=175.0*

ISC 16 03:17:21.7±0.5, **20°.11S**±0°.10×**66°.61E**±0°.08, **h16**km, **n113**, σ**0**s**83**/101, **mb4.7**/50, **MS3.7**/11, **1C-1D, Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCAM	Rodrigues Isla	3.07	276	Pn	Pn	03 18 07.3	-2.2
RER	Riviere de l'E	10.22	262	Pn	Pn	03 19 47.1	-0.9
H08S1	Diego Carcia H baz=203,slow=76,SNR=106	13.63	25	T	T	03 34 22.3	
H08S2	Diego Garcia H baz=203,slow=76,SNR=80	13.64	26	T	T	03 34 26.5	
H08S3	Diego Garcia H baz=203,slow=76,SNR=130	13.65	25	T	T	03 34 22.8	
H04N2	CROZET ISLANDS baz=31,slow=75,SNR=1286	28.69	202	T	T	03 53 19.0	
H04N1	CROZET ISLANDS baz=31,slow=75,SNR=1173	28.70	202	T	T	03 53 20.0	
H04N3	CROZET ISLANDS baz=31,slow=75,SNR=1569	28.71	202	T	T	03 53 18.7	
PALK	Pallekele comp=Z,118nm,18.1s,baz=308,slow=31	30.54	28	LR	LR	03 33 02.7	
BOSA	Boshof	38.46	249	P	P	03 24 43.2	0.0
BOSA	comp=Z,32nm,1.7s			IAmb	IAmb	03 25 45.0	
BOSA	comp=Z,3.0nm,0.7s,baz=64,slow=8.8,SNR=6.0	38.46	249	P	P	03 24 43.2	0.0
BOSA	comp=Z,123nm,18.8s,baz=79,slow=31 comp=Z,3.0nm,0.7s			LR	LR	03 37 28.3	
IPM	Ipoh comp=Z,32nm,1.4s	41.72	58	P	P	03 25 11.3	+1.0
IPM				IAmb	IAmb	03 25 12.8	
LEM	Lembang comp=Z,96nm,21.7s,baz=49,slow=30	41.88	77	LR	LR	03 38 00.1	
KULM	Kulim	41.91	57	P	P	03 25 13.1	+1.3
SUR	Sutherland comp=Z,177nm,20.4s,baz=78,slow=31	42.56	244	LR	LR	03 39 12.9	
SRIT	Nakonsritamara	43.22	52	P	P	03 25 21.4	-1.0
TSUM	Tsumeb comp=Z,162nm,19.0s,baz=142,slow=34	46.04	262	LR	LR	03 43 19.9	
CM31	Chiang Mai Arr	49.75	42	P	P	03 26 12.9	-0.7
CM31	comp=Z,9.8nm,0.7s			IAmb	IAmb	03 26 15.6	
CMAR	Chiang Mai Arr	49.75	42	P	P	03 26 13.2	-0.4
CMAR	Chiang Mai Arr comp=Z,5.2nm,0.7s,baz=237,slow=8.1,SNR=27	49.75	42	P	P	03 26 13.9	+0.3
CMAR	comp=Z,70nm,18.9s,baz=210,slow=34 comp=Z,5.2nm

PZH	**PanZhiHua**	**57.52**	**38**	P	**P**	**03 27 14.3**	**+3.7**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,110nm,5.2s							
GEYT	**Alibeck**	**58.28**	**352**	P	**P**	**03 27 15.0**	**-0.6**
DRK	**Karamyk**	**59.47**	**5**	P	**P**	**03 27 23.2**	**-1.1**
ARSB	**Arslanbob**	**61.40**	**5**	P	**P**	**03 27 37.0**	**-0.2**
CD2	**Chengdu**	**62.02**	**36**	P	**P**	**03 27 42.6**	**+1.1**
ASAR	**Alice Springs**	**62.03**	**107**	P	**P**	**03 27 41.5**	**-0.4**
ASAR	**Alice Springs**	**62.03**	**107**	P	**P**	**03 27 41.2**	**-0.6**
	comp=Z,3.4nm,0.7s,baz=264,slow=5.8,SNR=29							
	comp=Z,3.4nm,0.7s							
AAK	**Ala-Archa**	**62.85**	**7**	P	**P**	**03 27 46.9**	**0.0**
AAK				IAmb	IAmb	03 27 48.6		
	comp=Z,6.1nm,0.9s							
AAK	**Ala-Archa**	**62.85**	**7**	LR	LR	03 53 51.6		
	comp=Z,37nm,18.5s,baz=208,slow=35							
BOOM	**Boomskoye usch**	**62.88**	**8**	P	**P**	**03 27 46.8**	**-0.3**
KK31	**Karatay Array**	**63.00**	**3**	P	**P**	**03 27 47.7**	**0.0**
KK31				IAmb	IAmb	03 27 49.3		
	comp=Z,6.5nm,1.2s							
KKAR	**Karatay Array**	**63.00**	**3**	P	**P**	**03 27 47.8**	**+0.1**
KKAR	**Karatay Array**	**63.00**	**3**	P	**P**	**03 27 47.8**	**+0.1**
KKAR				IAmb	IAmb	03 27 49.4		
	comp=Z,6.5nm,1.2s							
WRA	**Warramunga Arr**	**63.20**	**103**	P	**P**	**03 27 48.8**	**-0.8**
WRA	**Warramunga Arr**	**63.20**	**103**	P	**P**	**03 27 49.4**	**-0.3**
	comp=Z,6.8nm,1.1s,baz=261,slow=5.9,SNR=16							
	comp=Z,6.8nm,1.1s							
WB2	**Warramunga Arr**	**63.21**	**103**	P	**P**	**03 27 48.4**	**-1.3**
WB0	**Warramunga Arr**	**63.29**	**103**	P	**P**	**03 27 49.1**	**-1.2**
GNI	**Garni**	**63.32**	**341**	P	**P**	**03 27 51.2**	**+1.1**
WR0	**Warramunga Arr**	**63.38**	**103**	P	**P**	**03 27 50.4**	**-0.4**
ENH	**Enshi**	**64.89**	**41**	P	**P**	**03 28 00.1**	**-0.4**
LZH	**Lanzhou**	**66.07**	**32**	⇑P	**P**	**03 28 08.8**	**+0.7**
LZH				sP	pwP	03 28 14.8	-1.4	
LZH				pmax	pmax			
	comp=Z,10.0nm,1.6s							
WMQ	**Urumqi**	**66.49**	**16**	*e*P	**P**	**03 28 11.6**	**+1.1**
WMQ				pmax	pmax			
	comp=Z,16nm,0.9s							
WMQ	**Urumqi**	**66.49**	**16**	P	**P**	**03 28 10.9**	**+0.4**
GTA	**Gaotai**	**66.86**	**27**	P	**P**	**03 28 14.0**	**+1.0**
GTA				pP	sP	03 28 18.3	-0.6	
GTA				pmax	pmax			
	comp=Z,14nm,1.1s							
BR131	**Keskin Array S**	**67.01**	**333**	P	**P**	**03 28 13.9**	**-0.2**
BRTR	**Keskin Array B**	**67.01**	**333**	P	**P**	**03 28 15.1**	**+1.0**
BRTR	**Keskin Array B**	**67.01**	**333**	P	**P**	**03 28 14.8**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=156,slow=7.4,SNR=9.6							
	comp=Z,1.3nm,0.8s							
KBZ	**Khabaz**	**67.15**	**342**	P	**P**	**03 28 15.4**	**+0.8**
	comp=Z,1.0nm,0.4s,baz=182,slow=5.4,SNR=4.5							
	comp=Z,1.0nm,0.4s							
XAN	**Xi'an**	**67.25**	**37**	P	**P**	**03 28 15.0**	**-0.6**
XAN				pmax	pmax			
	comp=Z,19nm,1.0s							
XAN	**Xi'an**	**67.25**	**37**	P	**P**	**03 28 14.5**	**-1.1**
XAN				IAmb	IAmb	03 28 16.3		
	comp=Z,12nm,1.0s							
KIV	**Kislovodsk**	**67.42**	**342**	P	**P**	**03 28 17.1**	**+0.6**
KIV				IAmb	IAmb	03 28 19.9		
	comp=Z,13nm,1.1s							
MAKZ	**Makanchi**	**68.03**	**11**	P	**P**	**03 28 19.2**	**-1.0**
MK31	**Makanchi Array**	**68.08**	**12**	P	**P**	**03 28 20.0**	**-0.5**
MK31				IAmb	IAmb	03 28 21.3		
	comp=Z,5.5nm,1.1s							
MKAR	**Makanchi Array**	**68.08**	**12**	P	**P**	**03 28 20.0**	**-0.5**
MKAR	**Makanchi Array**	**68.08**	**12**	P	**P**	**03 28 20.4**	**0.0**
	comp=Z,5.6nm,1.0s,baz=205,slow=5.4,SNR=28							
MKAR				LR	LR	03 56 18.5		
	comp=Z,39nm,21.5s,baz=248,slow=34							
	comp=Z,5.6nm,1.0s							
ABKAR	**Akbulak array**	**69.30**	**355**	P	**P**	**03 28 27.3**	**-0.7**
ABKAR	**Akbulak array**	**69.30**	**355**	P	**P**	**03 28 27.1**	**-0.9**
ABKAR				IAmb	IAmb	03 28 28.6		
	comp=Z,4.7nm,0.8s							
QSPA	**South Pole Qui**	**70.00**	**180**	P	**P**	**03 28 33.6**	**+1.2**
QSPA				IAmb	IAmb	03 28 48.7		
	comp=Z,8.7nm,1.2s							
QSPA	**South Pole Qui**	**70.00**	**180**	P	**P**	**03 28 32.7**	**+0.2**
	comp=Z,1.2nm,0.8s,baz=262,slow=3.1,SNR=6.3							
	comp=Z,1.2nm,0.8s							
KURBB	**Kurchatov Arra**	**71.20**	**8**	P	**P**	**03 28 39.7**	**+0.1**
	comp=Z,4.9nm,0.8s,baz=204,slow=6.6,SNR=22							
	comp=Z,4.9nm,0.8s							
KURK	**Kurchatov**	**71.30**	**8**	P	**P**	**03 28 40.1**	**-0.1**
KURK				IAmb	IAmb	03 28 41.3		
	comp=Z,8.5nm,1.1s							
TOA0	**Torodi Ar. Sit**	**71.89**	**292**	P	**P**	**03 28 45.4**	**+0.9**
TOA0				IAmb	IAmb	03 28 51.3		
	comp=Z,12nm,1.6s							
TORD	**Torodi Ar. Bea**	**71.89**	**292**	P	**P**	**03 28 45.4**	**+0.9**
	comp=Z,2.0nm,1.2s,baz=95,slow=12,SNR=3.8							
	comp=Z,2.0nm,1.2s							
NJ2	**Nanjing**	**72.05**	**45**	*e*P	**P**	**03 28 45.5**	**+0.3**
NJ2				pmax	pmax			
	comp=Z,9.0nm,0.6s							
NJ2				pmax	pmax			
	comp=Z,140nm,5.4s							
CAN	**Canberra**	**72.63**	**122**	P	**P**	**03 28 48.3**	**-0.6**
BVAR	**Borovoye Array**	**72.90**	**2**	P	**P**	**03 28 49.5**	**-0.3**
	comp=Z,3.0nm,0.7s,baz=162,slow=6.2,SNR=18							
	comp=Z,3.0nm,0.7s							
COEN	**Coen**	**72.91**	**99**	P	**P**	**03 28 50.0**	**-0.7**
BRVK	**Borovoye**	**72.93**	**2**	P	**P**	**03 28 49.1**	**-0.8**
BRVK				IAmb	IAmb	03 28 50.6		
	comp=Z,9.7nm,1.4s							
HHC	**Hu-ho-hao-te**	**73.63**	**34**	*e*P	**P**	**03 28 52.8**	**-1.7**
HHC				pmax	pmax			
	comp=Z,9.0nm,0.7s							
HHC				pmax	pmax			
	comp=Z,89nm,6.1s							
MLR	**Muntele Rosu**	**75.02**	**332**	P	**P**	**03 29 02.4**	**-0.1**
MLR				IAmb	IAmb	03 29 04.7		
	comp=Z,14nm,1.4s							
ZAA0	**Zalesovo Array**	**75.40**	**11**	P	**P**	**03 29 03.8**	**-0.6**
ZAA0				IAmb	IAmb	03 29 05.0		
	comp=Z,9.6nm,0.9s							
ZALV	**Zalesovo Beam**	**75.40**	**11**	P	**P**	**03 29 03.7**	**-0.7**
ZALV	**Zalesovo Beam**	**75.40**	**11**	P	**P**	**03 29 04.0**	**-0.3**
	comp=Z,7.8nm,0.7s,baz=200,slow=5.8,SNR=29							
	comp=Z,7.8nm,0.7s							
SONM	**Songino Array**	**76.47**	**26**	P	**P**	**03 29 10.6**	**-0.2**
SONM				IAmb	IAmb	03 29 12.3		
	comp=Z,6.4nm,0.9s							
SONM	**Songino Array**	**76.47**	**26**	P	**P**	**03 29 11.3**	**+0.5**
	comp=Z,5.9nm,0.8s,baz=218,slow=6.1,SNR=28							
	comp=Z,5.9nm,0.8s							
ULN	**Ulaanbaatar**	**76.77**	**27**	P	**P**	**03 29 12.5**	**0.0**
ULN				IAmb	IAmb	03 29 13.7		
	comp=Z,7.7nm,1.0s							
BURAR	**Bucovina Array**	**76.98**	**333**	P	**P**	**03 29 14.1**	**+0.5**
AKASG	**Malin Array Be**	**77.81**	**337**	P	**P**	**03 29 18.1**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=136,slow=4.7,SNR=16							
	comp=Z,2.4nm,0.6s							
AKBB	**Malin Array Si**	**77.81**	**337**	P	**P**	**03 29 17.1**	**-1.0**
AKBB				IAmb	IAmb	03 29 18.7		
	comp=Z,6.2nm,0.8s							
KIEV	**Kiev**	**77.81**	**337**	P	**P**	**03 29 17.5**	**-0.5**
KIEV				IAmb	IAmb	03 29 18.8		
	comp=Z,5.6nm,0.8s							
KWP	**Kalwaria Pacla**	**79.59**	**333**	P	**P**	**03 29 28.4**	**+0.5**
VYHS	**Vyhne**	**80.50**	**330**	*e*P	**P**	**03 29 34.3**	**+1.4**
MODS	**Modra-Piesok**	**81.16**	**329**	*e*P	**P**	**03 29 37.9**	**+1.5**
RONA	**Rosalia, Austr**	**81.18**	**328**	*e*P	**P**	**03 29 37.1**	**+0.5**
	comp=Z,2.5nm,0.7s							
KSRS	**Korea Array**	**81.25**	**45**	LR	LR	04 05 29.6		
	comp=Z,60nm,19.0s,baz=195,slow=36							
JAVC	**Velka Javorina**	**81.31**	**330**	*e*P	**P**	**03 29 37.2**	**0.0**
CONA	**Conrad Observa**	**81.55**	**328**	*e*P	**P**	**03 29 39.3**	**+0.7**
	comp=Z,1.7nm,0.6s							
MORC	**Moravsky Berou**	**82.01**	**330**	*e*P	**P**	**03 29 41.1**	**+0.2**
KRUC	**Moravsky**	**82.06**	**329**	*e*P	**P**	**03 29 41.3**	**+0.2**
MOA	**Molln**	**82.29**	**327**	*e*P	**P**	**03 29 42.9**	**+0.5**
	comp=Z,3.5nm,0.9s							
ABTA	**Abfaltersbach**	**82.48**	**326**	P	**P**	**03 29 43.7**	**+0.3**
	comp=Z,2.4nm,0.9s							
LESA	**Schwarzleotal**	**82.83**	**326**	*e*P	**P**	**03 29 45.5**	**+0.2**
	comp=Z,5.7nm,1.4s							
MOTA	**Moosalm**	**83.61**	**326**	*e*P	**P**	**03 29 49.5**	**+0.1**
	comp=Z,1.7nm,0.5s							
CLL	**Collm**	**85.18**	**330**	*e*P	**P**	**03 29 58.0**	**+0.9**
CLL				*ex*	x	03 30 18.0		
MJAR	**Matsushiro Arr**	**87.92**	**50**	P	**P**	**03 30 10.9**	**0.0**
	comp=Z,8.2nm,0.9s,baz=231,slow=5.3,SNR=17							
MJAR				LR	LR	04 08 33.0		
	comp=Z,35nm,21.2s,baz=216,slow=35							
	comp=Z,8.2nm,0.9s							
ESDC	**Sonseca Array**	**88.63**	**313**	P	**P**	**03 30 14.7**	**+0.5**
	comp=Z,1.2nm,1.0s,baz=113,slow=3.1,SNR=4.1							
	comp=Z,1.2nm,1.0s							
ILAR	**Eielson Array**	**130.14**	**18**	PKP	**PKPdf**	**03 36 30.3**	**-0.1**
	comp=Z,0.4nm,0.8s,baz=320,slow=3.5,SNR=5.7							
YKA	**Yellowknife Ar**	**137.64**	**1**	PKP	**PKPdf**	**03 36 44.4**	**-0.2**
	comp=Z,0.9nm,0.9s,baz=0.0,slow=2.7,SNR=11							
ULM	**Lac du Bonnet**	**146.87**	**339**	PKPbc	**PKPbc**	**03 37 02.1**	**-1.0**
	comp=Z,4.1nm,1.0s,baz=41,slow=2.8,SNR=5.3							
NVAR	**Mina Array Bea**	**161.25**	**12**	PKPab	**PKPab**	**03 38 05.8**	**+0.2**
	comp=Z,0.1nm,0.4s,baz=19,slow=5.0,SNR=3.9							
TXAR	**Lajitas Array**	**167.26**	**318**	PKP	**PKPdf**	**03 37 27.9**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=270,slow=0.9,SNR=3.5							
TXAR				PKPab	**PKPab**	**03 38 33.3**	**+1.1**
	comp=Z,1.1nm,0.8s,baz=81,slow=4.2,SNR=11							

IDC ***16*** *03:37:41.3±1.9, 6.°00S×130.°67E, h0km, mb4.1/2, mbtmp4.1/4, ML4.0/2, Error ellipse: s-maj=140.8km s-min=25.3km az=68.0*

ISC 16 03:37:52.2±1.7, 6.°0S±0.°2×131.°3E±0.°2, h100km, n7, σ1s74/7, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**6.41**	**183**	P	**Pn**	**03 39 25.2**	**+1.0**
KDU	**Kakadu**	**6.76**	**170**	P	**Pn**	**03 39 30.6**	**+1.7**
SOEI	**Soe**	**7.88**	**241**	P	**Pn**	**03 39 43.3**	**-1.0**
WRA	**Warramunga Arr**	**14.19**	**168**	Pn	**Pn**	**03 41 06.3**	**-2.4**
	0.6nm,0.3s,baz=348,slow=13,SNR=15						
WRA				Sn	Sn	03 43 33.0	-12
	1.9nm,0.3s,baz=332,slow=23,SNR=13						
	1.2nm,0.4s						
ASAR	**Alice Springs**	**17.76**	**172**	P	**Pn**	**03 41 52.7**	**-0.5**
	0.7nm,0.3s,baz=351,slow=11,SNR=36						
ASAR				S	Sn	03 44 57.7	-14
	1.6nm,0.6s,baz=352,slow=26,SNR=5.7						
	4.6nm,0.8s						
STKA	**Stephens Creek**	**27.51**	**161**	P	**P**	**03 43 30.4**	**+1.0**
	2.1nm,0.7s,baz=353,slow=11,SNR=3.9						
	2.1nm,0.7s						
MKAR	**Makanchi Array**	**68.09**	**326**	P	**P**	**03 48 41.1**	**-0.2**
	0.8nm,0.4s,baz=121,slow=7.6,SNR=9.2						
	0.8nm,0.4s						

NEIC ***16*** *03:45:47.5±1.2, 19.°17N±0.°06×155.°49W±0.°06, h35km±2km, Error ellipse: s-maj=12.1km s-min=5.3km az=315.0*

HVO 16 03:45:49.4±1.3, 19.°20N±0.°07×155.°47W±0.°04, h32km±7km, ML3.0/12, ML3.3/31(NEIC), Error ellipse: s-maj=10.8km s-min=5.3km az=168.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.08**	**61**		Pb	03 45 54.6	-0.4
KHU	**Kahuku**	**0.14**	**290**		Pb	03 45 54.9	-0.8
KHU				IAML		03 45 59.1	
	comp=E,3μm,0.1s						
KHU				IAML		03 45 59.1	
	comp=N,5μm,0.4s						
HLP	**Hilina Pali**	**0.18**	**58**		Pb	03 45 55.3	-0.6
HLP	**Hilina Pali**	**0.18**	**58**	IAML		03 45 59.9	
	comp=N,4μm,0.3s						
SDHHI	**Sand Hill**	**0.26**	**41**		Sb	03 46 00.5	-1.1
SDHHI	**Sand Hill**	**0.26**	**41**	Pg	Pb	03 45 56.6	-0.1
SDHHI	**Sand Hill**	**0.26**	**41**	IAML		03 46 00.9	
	comp=E,11μm,0.4s						
SDHHI				IAML		03 46 01.6	
	comp=N,12μm,0.3s						
WRMHI	**West Rim**	**0.27**	**38**		Pn	03 46 00.6	+3.3
WRMHI	**West Rim**	**0.27**	**38**	IAML		03 46 02.8	
	comp=N,10μm,0.6s						
WRMHI				IAML		03 46 09.0	
	comp=E,13μm,0.8s						
RIM	**Rim**	**0.27**	**44**		Sb	03 46 00.9	-1.0
KKO	**Keanakako`i**	**0.28**	**44**		Sb	03 46 00.7	-1.3
KKO	**Keanakako`i**	**0.28**	**44**	Pg	Pb	03 45 56.0	-0.9
KKO	**Keanakako`i**	**0.28**	**44**	IAML		03 46 02.8	
	comp=E,4μm,0.8s						
KKO				IAML		03 46 07.3	
	comp=N,8μm,1.1s						
UWE	**Uwekahuna**	**0.28**	**37**		Sb	03 46 01.1	-1.0
PUH	**Pauahi**	**0.30**	**54**		Sb	03 46 00.9	-1.5
SBLHI	**Steaming Bluff**	**0.30**	**40**		Sb	03 46 01.0	-1.5
HATHI	**Halema'uma'u T**	**0.30**	**42**		Sb	03 46 00.9	-1.6
HATHI	**Halema'uma'u T**	**0.30**	**42**	Pg	Pb	03 45 57.3	+0.1
HATHI	**Halema'uma'u T**	**0.30**	**42**	IAML		03 46 08.3	
	comp=N,6μm,1.1s						
HATHI				IAML		03 46 10.6	
	comp=E,6μm,0.9s						
MLH	**Mauna Loa**	**0.31**	**16**		Pb	03 45 56.5	-0.9
MLH					Sb	03 46 01.6	-1.3
MLH	**Mauna Loa**	**0.31**	**16**	IAML		03 46 01.9	
	comp=E,3μm,0.4s						
MLH				IAML		03 46 02.2	
	comp=N,5μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.34**	**58**		Pb	03 45 56.6	-1.1
MLOA	**Mauna Loa Obse**	**0.35**	**344**		Pb	03 45 57.0	-1.2
MLOA					Sb	03 46 02.4	-1.7
MLOA	**Mauna Loa Obse**	**0.35**	**344**	IAML		03 46 02.5	
	comp=E,1μm,0.2s						
MLOA				IAML		03 46 02.6	
	comp=N,3μm,0.5s						
ALEP	**Alea Permanent**	**0.38**	**335**		Pn	03 45 59.4	+0.4
STCH	**Steam Cracks**	**0.38**	**60**		Pb	03 45 57.0	-1.3
STCH					Sb	03 46 02.5	-1.7
STCH	**Steam Cracks**	**0.38**	**60**	IAML		03 46 02.8	
	comp=E,1μm,0.2s						
STCH				IAML		03 46 07.5	
	comp=N,994nm,0.4s						
NPOC	**North of Pu'u**	**0.40**	**60**		Pb	03 45 57.1	-1.3
NPOC					Sb	03 46 02.8	-1.8
NPOC	**North of Pu'u**	**0.40**	**60**	IAML		03 46 03.2	
	comp=N,1μm,0.4s						
NPOC				IAML		03 46 12.7	
	comp=E,879nm,0.8s						
JCUZ	**Jacuzzi**	**0.40**	**62**		Pb	03 45 57.3	-1.2
JCUZ	**Jacuzzi**	**0.40**	**62**	IAML		03 46 03.2	
	comp=E,1μm,0.2s						
JCUZ				IAML		03 46 12.9	
	comp=N,840nm,1.4s						
HMH	**Humu'ula Sheep**	**0.40**	**359**		Pb	03 45 57.9	-0.9
HMH				IAML		03 46 04.4	
	comp=E,2μm,0.3s						
JOKA	**Jonika Flow**	**0.50**	**62**		Pb	03 45 58.4	-1.7
JOKA					Sb	03 46 05.0	-2.3
CPH	**Captain Cook**	**0.51**	**305**		Pb	03 45 58.3	-1.8
POHA	**Pohakuloa**	**0.56**	**354**		Pb	03 45 59.3	-1.9
POHA				IAML		03 46 12.6	
	comp=E,2μm,0.4s						
POHA				IAML		03 46 12.7	
	comp=E,2μm,0.2s						
PAH	**Pahoa**	**0.58**	**59**		Sb	03 46 07.1	-2.2
HUH	**Hualalai**	**0.59**	**325**		Pb	03 46 00.1	-1.6
HUH	**Hualalai**	**0.59**	**325**	IAML		03 46 13.6	
	comp=N,2μm,0.3s						
HUH				IAML		03 46 16.2	
	comp=E,1μm,0.4s						
HPAH	**Hawaii Prepara**	**0.86**	**346**		Pn	03 46 03.1	-2.3
HPAH					Sn	03 46 13.4	-3.4
HPAH	**Hawaii Prepara**	**0.86**	**346**	IAML		03 46 13.9	
	comp=N,643nm,0.1s						
HPAH				IAML		03 46 14.0	
	comp=E,681nm,0.2s						

KRSC 16 03:55:07.0±1.5, 54.°64N×165.°86E, h17km±19km, Ml4.0, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.57**	**7**	*e*P	Pg	03 55 17.3	-1.0
BKI				*e*S	Sg	03 55 25.1	-0.8
KBTR	**Krutoberegovo**	**2.34**	**313**	*e*P	Pb	03 55 48.0	-0.6
TUMD	**Tumrok D**	**3.20**	**282**	*e*S	Sb	03 56 39.7	-2.3
BZGR	**Bezymyannyi-Gr**	**3.22**	**296**	*e*P	Pb	03 56 00.7	-3.1
KMNR	**Kamenistaya**	**3.41**	**291**	*e*P	Pn	03 56 02.9	+3.6
SPN	**Mys Shipunski**	**3.78**	**248**	*e*S	Sn	03 56 50.5	+2.0
NLC	**Nalytchevo**	**4.12**	**252**	*e*S	Sn	03 57 00.1	+3.3
SMAR	**Somma**	**4.39**	**255**	*e*P	Pn	03 56 17.9	+4.9
KRER	**Koryakskii**	**4.41**	**255**	*e*P	Pn	03 56 18.0	+4.9
AVH	**Avacha**	**4.43**	**255**	*e*P	Pn	03 56 18.1	+4.8
AVH				*e*S	Sn	03 57 08.6	+4.2
KRX	**Arik**	**4.44**	**256**	*e*P	Pn	03 56 18.4	+4.8
KOK	**Koryaka**	**4.47**	**255**	*e*P	Pn	03 56 18.7	+4.7
GNL	**Ganaly**	**4.75**	**262**	*e*P	Pn	03 56 22.3	+4.6
KRMR	**Karymshinskiy**	**4.93**	**252**	*e*P	Pn	03 56 24.5	+4.3
KRMR				*e*S	Sn	03 57 21.6	+4.8
GRL	**Gorelyy**	**5.09**	**249**	*e*P	Pn	03 56 27.3	+4.8
ASAK	**Asacha**	**5.26**	**248**	*e*P	Pn	03 56 29.8	+5.0

IDC ***16*** *04:32:59.6±6.0, 5.°37S×154.°18E, h123km±49km, mb3.3/6, mbtmp3.8/7, Error ellipse: s-maj=46.1km s-min=27.0km az=99.0*

ISC 16 04:32:56.9±1.0, 5.°4S±0.°2×154.°3E±0.°2, h100km, n11, σ0s94/9, mb3.3/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**8.16**	**240**	P	**Pn**	**04 34 54.3**	**+1.6**
	52nm,0.6s,baz=59,slow=9.5,SNR=11						
PMG				S	**Sn**	**04 36 22.2**	**-1.2**
	38nm,0.4s,baz=93,slow=15,SNR=6.6						
WRA	**Warramunga Arr**	**24.25**	**232**	P	**P**	**04 38 04.6**	**-0.3**
	0.5nm,0.6s,baz=57,slow=9.7,SNR=5.1						
	0.5nm,0.6s						
H11S3	**WAKE ISLAND Hy**	**26.65**	**27**	T	T	05 06 56.0	
	baz=208,slow=76,SNR=11						
H11S2	**WAKE ISLAND Hy**	**26.65**	**27**	T	T	05 06 54.9	
	baz=208,slow=76,SNR=9.7						
H11S1	**WAKE ISLAND Hy**	**26.67**	**27**	T	T	05 06 56.8	
	baz=208,slow=76,SNR=9.2						
ASAR	**Alice Springs**	**26.80**	**225**	P	**P**	**04 38 27.1**	**-0.8**
	0.5nm,0.6s,baz=55,slow=8.8,SNR=3.0						
	0.5nm,0.6s						
VNDA	**Vanda**	**72.23**	**178**	P	**P**	**04 44 11.1**	**+0.3**
	0.9nm,0.7s,baz=335,slow=6.6,SNR=3.5						
	0.9nm,0.7s						
MKAR	**Makanchi Array**	**81.74**	**319**	P	**P**	**04 45 04.5**	**-0.1**
	0.2nm,0.4s,baz=126,slow=5.1,SNR=3.0						
	0.2nm,0.4s						
ILAR	**Eielson Array**	**82.10**	**22**	P	**P**	**04 45 06.2**	**+0.1**
	0.3nm,0.6s,baz=241,slow=5.1,SNR=6.1						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**84.61**	**180**	P	**P**	**04 45 18.9**	**-0.3**
	1.7nm,0.6s,baz=12,slow=0.6,SNR=15						
	1.7nm,0.6s						
TORD	**Torodi Ar. Bea**	**151.92**	**288**	PKPbc	**PKPbc**	**04 52 40.8**	**-0.6**
	0.2nm,0.3s,baz=90,slow=2.1,SNR=7.3						

NEIC ***16*** *04:40:44.5±1.3, 19.°36N±0.°02×155.°06W±0.°04, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.8km az=286.0*

HVO 16 04:40:43.6±1.0, 19.°35N±0.°02×155.°02W±0.°03, h4km±5km, Md2.3/15, ML2.7/20(NEIC), Error ellipse: s-maj=4.6km s-min=2.1km az=119.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.08**	**293**		Pg	04 40 45.8	+0.3
JOKA	**Jonika Flow**	**0.08**	**12**		Pg	04 40 45.9	+0.5
NPOC	**North of Pu'u**	**0.09**	**296**		Pg	04 40 46.0	+0.3
NPOC	**North of Pu'u**	**0.09**	**296**	IAML		04 40 48.0	
	comp=N,1μm,0.2s						
NPOC				IAML		04 40 48.1	
	comp=E,2μm,0.3s						
STCH	**Steam Cracks**	**0.10**	**289**		Pg	04 40 46.1	+0.3
STCH	**Steam Cracks**	**0.10**	**289**	IAML		04 40 47.9	
	comp=E,2μm,0.3s						
STCH				IAML		04 40 48.8	
	comp=N,1μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.14**	**281**		Pg	04 40 46.7	+0.2
PUH	**Pauahi**	**0.18**	**277**		Pg	04 40 47.4	+0.1
PUH	**Pauahi**	**0.18**	**277**	IAML		04 40 47.9	
	comp=E,911nm,1.0s						
PUH				IAML		04 40 49.9	
	comp=N,2μm,1.2s						
RSD	**Rainshed**	**0.27**	**295**		Pg	04 40 49.4	+0.6
RSD	**Rainshed**	**0.27**	**295**	IAML		04 40 55.0	
	comp=E,2μm,1.7s						
RSD				IAML		04 40 55.1	
	comp=N,2μm,0.7s						
HLP	**Hilina Pali**	**0.28**	**258**		Pg	04 40 49.9	+0.9
HLP	**Hilina Pali**	**0.28**	**258**	IAML		04 40 52.7	
	comp=N,1μm,0.8s						
HLP				IAML		04 40 57.0	
	comp=E,2μm,1.1s						
MLH	**Mauna Loa**	**0.37**	**292**		Sg	04 40 56.9	+1.1
MLH	**Mauna Loa**	**0.37**	**292**		Pg	04 40 51.1	+0.2
MLH				IAML		04 40 58.1	
	comp=N,1μm,1.1s						
MLH	**Mauna Loa**	**0.37**	**292**	IAML		04 40 56.4	
	comp=E,561nm,1.1s						
HTC	**Hot Caves**	**0.37**	**252**		Pg	04 40 51.5	+0.7
HMH	**Humu'ula Sheep**	**0.50**	**300**		Pg	04 40 53.4	+0.1
HMH					Sg	04 41 00.5

UESV				IAML			04 46 41.5	
	comp=Z,330nm,1.0s							
UESV			*i* S		**Sb**		**04 46 51.5**	**+0.5**
COEG	**Centro de Oper**	**0.96**	**296**	*e*P	**Pg**		**04 46 40.2**	**-0.3**
COEG	**Centro de Oper**	**0.96**	**296**	*i* P	**Pg**		**04 46 40.1**	**-0.4**
COEG				*i* S	**Sb**		**04 46 53.2**	**0.0**
COEG				IAML			04 46 57.7	
	comp=Z,350nm,1.0s							
CRIN	**San Cristobal**	**1.04**	**118**	*i* P	**Pn**		**04 46 42.7**	**+0.3**
CRIN				IAML			04 46 47.7	
	comp=Z,1µm,1.0s							
PAVA	**Las Pavas**	**1.05**	**299**	*i* P	**Pb**		**04 46 42.0**	**-0.1**
PAVA				IAML			04 46 45.4	
	comp=Z,870nm,1.0s							
PAVA				*i* S	**Sn**		**04 46 56.8**	**-0.3**
TGUH	**Tegucigalpa,Un**	**1.10**	**39**	*e*P	**Pb**		**04 46 42.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**1.10**	**39**	*i* P	**Pb**		**04 46 42.2**	**-0.8**
TGUH				*i* S	**Sb**		**04 46 56.7**	**-0.6**
TGUH				IAML			04 47 03.5	
	comp=Z,1µm,1.0s							
PANCS	**Alcalda de**	**1.23**	**290**	*i* P	**Pn**		**04 46 44.5**	**-0.4**
PANCS				*i* S	**Sb**		**04 47 00.5**	**-0.3**
PANCS				IAML			04 47 44.2	
	comp=Z,2µm,1.0s							
LOMA	**Loma Larga**	**1.23**	**291**	*i* P	**Pn**		**04 46 44.5**	**-0.5**
LOMA				IAML			04 47 11.7	
	comp=Z,410nm,1.0s							
PMON	**Piamonte**	**1.38**	**292**	*i* P	**Pb**		**04 46 47.6**	**-0.2**
PMON				*i* S	**Sg**		**04 47 06.2**	**-0.4**
PMON				IAML			04 47 16.9	
	comp=Z,370nm,1.0s							
CNGA	**Al SSO del Vol**	**1.44**	**119**	*i* P	**Pn**		**04 46 46.6**	**-1.2**
CNGA				*i* S	**Sn**		**04 47 07.0**	**+0.3**
CNGA				IAML			04 47 34.4	
	comp=Z,220nm,1.0s							
CNGN	**Cerro Negro**	**1.44**	**119**	*i* P	**Pn**		**04 46 47.9**	**+0.1**
CNGN				IAML			04 47 23.6	
	comp=Z,280nm,1.0s							
MACN	**El Madrono**	**1.48**	**120**	*i* P	**Pn**		**04 46 48.7**	**+0.4**
MACN				IAML			04 46 53.1	
	comp=Z,130nm,1.0s							
MOMN	**Momotombo**	**1.62**	**119**	*i* P	**Pb**		**04 46 51.2**	**-0.6**
MOMN				*i* S	**Sb**		**04 47 13.3**	**+1.1**
MOMN				IAML			04 47 16.9	
	comp=Z,7.7nm,1.0s							
MOM2	**El Cardon**	**1.66**	**117**	*i* P	**Pn**		**04 46 50.8**	**+0.1**
MOM2				IAML			04 47 03.1	
	comp=Z,190nm,1.0s							
MOM2				*i* S	**Sg**		**04 47 15.6**	**+0.3**
COPN	**Copaltepe**	**1.70**	**126**	*i* P	**Pn**		**04 46 52.4**	**+1.0**
COPN				IAML			04 47 31.8	
	comp=Z,100nm,1.0s							
CEVE	**Cerro Verde**	**1.71**	**292**	*i* P	**Pb**		**04 46 52.7**	**-0.6**
CEVE				IAML			04 47 20.3	
	comp=Z,270nm,1.0s							
MTO3	**Montecristo**	**1.78**	**312**	*i* P	**Pn**		**04 46 53.4**	**+0.7**
MTO3				IAML			04 46 55.7	
	comp=Z,80nm,1.0s							
MTO3				*i* S	**Sb**		**04 47 17.8**	**+0.7**
APYN	**Apoyeque**	**1.87**	**121**	*i* P	**Pb**		**04 46 55.1**	**-0.9**
APYN				IAML			04 46 56.7	
	comp=Z,210nm,1.0s							
NUBE	**Las Nubes**	**1.87**	**292**	*i* P	**Pn**		**04 46 54.9**	**+1.0**
NUBE				*i* S	**Sb**		**04 47 20.5**	**+0.9**
NUBE				IAML			04 47 27.1	
	comp=Z,170nm,1.0s							

AEIC ***16*** *04:53:46.0±2.1, 61°43N±0°02×152°63W±0°04, h10km±4km, ML3.3, ML3.5/190(NEIC), Error ellipse: s-maj=3.6km s-min=2.6km az=178.0*

IDC ***16*** *04:53:47.8±0.9, 61°69N×152°50W, h0km, mb3.7/8, mbtmp3.6/10, ML3.2/2, MS2.7/2, Error ellipse: s-maj=22.9km s-min=15.8km az=62.0*

NEIC ***16*** *04:53:48.0±1.8, 61°41N±0°02×152°64W±0°01, h10km±2km, Error ellipse: s-maj=3.5km s-min=3.0km az=20.0*

ISC 16 04:53:48.0±0.6, 61°42N±0°02×152°65W±0°02, h10km, n365, σ1$05/354, mb3.8/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SPNN	**North Nagishla**	**0.06**	**208**			**Pg**	**04 53 49.8**	**-0.4**
SPBG	**Spurr Blockage**	**0.20**	**140**			**Pg**	**04 53 53.5**	**+1.3**
SPCP	**Crater Peak Br**	**0.28**	**122**			**Pg**	**04 53 51.9**	**-1.8**
SPCP						**Sg**	**04 53 55.9**	**-1.6**
SPCN	**Chakachatna No**	**0.29**	**131**			**Pg**	**04 53 52.5**	**-1.4**
SPCN						**Sg**	**04 53 57.3**	**-0.5**
N20K	**Mount Spurr** baz=319	**0.30**	**136**	P		**Pg**	**04 53 52.4**	**-1.6**
SPCR	**Spurr Chakacha**	**0.30**	**136**			**Pg**	**04 53 52.4**	**-1.6**
SPCG	**Spurr Capps Gl**	**0.33**	**112**			**Pg**	**04 53 52.5**	**-2.0**
STLK	**Strandline Lak**	**0.40**	**78**			**Pg**	**04 53 53.6**	**-2.2**
STLK						**Sg**	**04 53 59.2**	**-1.8**
M20K	**Styx River**	**0.52**	**334**	Pg		**Pg**	**04 53 56.5**	**-1.7**
M20K	**Styx River** baz=152	**0.52**	**334**	P		**Pg**	**04 53 56.4**	**-1.7**
SKT	**Skwentna**	**0.78**	**43**	Pg		**Pg**	**04 54 00.4**	**-2.5**
SKT	comp=E,2µm,0.3s			IAML			04 54 11.4	
SKT	comp=N,2µm,0.3s			IAML			04 54 11.8	
SKT	**Skwentna** baz=224	**0.78**	**43**	P		**Pg**	**04 54 00.5**	**-2.4**
DFR	**Drift River**	**0.83**	**181**			**Pg**	**04 54 02.0**	**-1.9**
RDT	**Redoubt**	**0.85**	**172**			**Pg**	**04 54 02.5**	**-1.9**
RDT						**Sg**	**04 54 14.3**	**-1.1**
SUA	**Susitna One**	**0.91**	**86**	Pg		**Pg**	**04 54 02.7**	**-2.8**
SUA	**Susitna One** baz=268	**0.91**	**86**	P		**Pg**	**04 54 03.3**	**-2.3**
RDWB	**Redoubt West**	**0.94**	**186**			**Pg**	**04 54 04.2**	**-1.7**
M19K	**Big River Lodg**	**0.97**	**301**			**Pg**	**04 54 04.7**	**-1.8**
M19K						**Sg**	**04 54 18.2**	**-0.9**
M19K	**Big River Lodg** baz=119	**0.97**	**301**	P		**Pg**	**04 54 04.7**	**-1.8**
M19K	baz=119			S		**Sg**	**04 54 18.2**	**-0.9**
CAPN	**Captain Cook N**	**0.97**	**131**	Pn		**Pg**	**04 54 06.0**	**-0.6**
CAPN	comp=E,1µm,0.3s			IAML			04 54 30.1	
CAPN	comp=N,1µm,0.5s			IAML			04 54 36.0	
N19K	**Bonanza Creek**	**1.08**	**237**			**Pg**	**04 54 07.0**	**-1.7**
N19K	comp=N,2µm,0.7s			IAML			04 54 27.2	
N19K	comp=E,1µm,0.6s			IAML			04 54 28.5	
N19K	**Bonanza Creek**	**1.08**	**237**			**Sg**	**04 54 21.5**	**-1.1**
N19K	**Bonanza Creek** baz=55	**1.08**	**237**	P		**Pg**	**04 54 07.0**	**-1.7**
N19K	baz=55			S		**Sg**	**04 54 21.5**	**-1.1**
FIS	**Fire Island**	**1.20**	**102**			**Pn**	**04 54 10.1**	**-0.7**
FIS	**Fire Island** comp=N,1µm,0.7s	**1.20**	**102**	IAML			04 54 31.5	
FIS	comp=E,1µm,0.5s			IAML			04 54 40.7	
L20K	**Farewell, AK**	**1.22**	**332**			**Pn**	**04 54 09.2**	**-1.8**
L20K	**Farewell, AK** baz=150	**1.22**	**332**	P		**Pn**	**04 54 09.3**	**-1.7**
M22K	**Willow**	**1.25**	**73**			**Pn**	**04 54 09.1**	**-2.3**
M22K	comp=E,1µm,0.4s			IAML			04 54 30.9	
M22K	**Willow** baz=256	**1.25**	**73**	P		**Pn**	**04 54 09.3**	**-2.2**
L19K	**White Mountain**	**1.30**	**307**	Pn		**Pn**	**04 54 10.9**	**-1.3**
L19K	comp=N,702nm,0.9s			IAML			04 54 34.3	
L19K	**White Mountain** baz=125	**1.30**	**307**	P		**Pn**	**04 54 11.0**	**-1.2**
O20K	**Slope Mountain**	**1.34**	**180**			**Pn**	**04 54 11.6**	**-1.2**
O20K						**Sb**	**04 54 30.1**	**-0.3**
O20K	**Slope Mountain** baz=360	**1.34**	**180**	P		**Pn**	**04 54 11.6**	**-1.2**
O20K	baz=360			S		**Sb**	**04 54 30.2**	**-0.1**
IVE	**Iliamna Volcan**	**1.42**	**188**			**Pn**	**04 54 12.3**	**-1.5**
RC01	**Rabbit Creek A**	**1.44**	**102**			**Pn**	**04 54 12.7**	**-1.4**
RC01	**Rabbit Creek A** comp=N,687nm,0.4s	**1.44**	**102**	IAML			04 54 33.8	
RC01	comp=E,465nm,0.4s			IAML			04 54 34.1	
RC01	**Rabbit Creek A** baz=285	**1.44**	**102**	P		**Pn**	**04 54 12.9**	**-1.2**
SVW2	**Sparrevohn**	**1.46**	**259**			**Pn**	**04 54 14.1**	**-0.2**
SVW2						**Sb**	**04 54 33.7**	**0.0**
ILSW	**Iliamna Southw**	**1.46**	**190**			**Pn**	**04 54 13.1**	**-1.3**
O19K	**Port Alsworth**	**1.48**	**215**			**Pn**	**04 54 13.8**	**-0.8**
O19K	**Port Alsworth** baz=33	**1.48**	**215**	P		**Pn**	**04 54 13.9**	**-0.6**
SLKM	**Skilak Lake**	**1.49**	**127**			**Pn**	**04 54 13.6**	**-1.2**
CUT	**Chulitna**	**1.50**	**48**			**Pn**	**04 54 13.7**	**-1.2**
CUT	**Chulitna** baz=230	**1.50**	**48**	P		**Pn**	**04 54 14.0**	**-0.9**
PPLA	**Purkeypile**	**1.50**	**8**			**Pn**	**04 54 14.2**	**-0.9**
PPLA	**Purkeypile** baz=189	**1.50**	**8**	P		**Pn**	**04 54 14.1**	**-0.9**
M18K	**Stony River**	**1.53**	**274**			**Pn**	**04 54 15.2**	**-0.1**
M18K	**Stony River** baz=91	**1.53**	**274**	P		**Pn**	**04 54 15.2**	**-0.1**
O22K	**Cooper Landing**	**1.71**	**122**			**Pn**	**04 54 17.2**	**-0.5**
O22K	**Cooper Landing** baz=305	**1.71**	**122**	P		**Pn**	**04 54 17.5**	**-0.2**
N18K	**Kilae Creek**	**1.74**	**246**	Pn		**Pn**	**04 54 17.5**	**-0.7**
N18K	comp=E,652nm,0.8s			IAML			04 54 44.2	
N18K	**Kilae Creek** baz=63	**1.74**	**246**	P		**Pn**	**04 54 18.1**	**-0.2**
P19K	**Oil Pt**	**1.79**	**190**			**Pn**	**04 54 19.5**	**+0.5**
P19K	comp=E,572nm,0.5s			IAML			04 54 47.2	
P19K	**Oil Pt** baz=9.3	**1.79**	**190**	P		**Pn**	**04 54 19.8**	**+0.8**
GHO	**Glory Hole Cre**	**1.81**	**77**			**Pn**	**04 54 18.7**	**-0.6**
GHO	**Glory Hole Cre** comp=E,618nm,0.9s	**1.81**	**77**	IAML			04 54 48.2	
HOM	**Homer**	**1.83**	**164**			**Pn**	**04 54 19.8**	**+0.4**
HOM						**Sb**	**04 54 43.9**	**-0.5**
HOM	**Homer** baz=345	**1.83**	**164**	P		**Pn**	**04 54 19.8**	**+0.4**
HOM	baz=345			S		**Sb**	**04 54 43.9**	**-0.5**
BRLK	**Bradley Lake**	**1.87**	**152**			**Pn**	**04 54 19.6**	**-0.4**
BRSE	**Bradley Lake S**	**1.93**	**150**			**Pn**	**04 54 20.6**	**-0.2**
BRSE	**Bradley Lake S** baz=332	**1.93**	**150**	P		**Pn**	**04 54 20.6**	**-0.2**
KNK	**Knik Glacier**	**2.01**	**88**			**Pn**	**04 54 22.6**	**+0.6**
KNK	**Knik Glacier** baz=272	**2.01**	**88**	P		**Pn**	**04 54 22.8**	**+0.9**
O18K	**Koktuh Hills**	**2.01**	**220**	Pn		**Pn**	**04 54 21.8**	**-0.2**
O18K	**Koktuh Hills** baz=38	**2.01**	**220**	P		**Pn**	**04 54 22.1**	**+0.2**
CNPM	**China Poot**	**2.02**	**159**			**Pn**	**04 54 21.8**	**-0.3**
CNPM	comp=N,348nm,0.3s			IAML			04 54 50.5	
CNPM	comp=E,496nm,0.5s			IAML			04 54 51.3	
CAST	**Castle Rocks**	**2.03**	**7**	Pn		**Pn**	**04 54 22.1**	**0.0**
CAST	**Castle Rocks**	**2.03**	**7**			**Sn**	**04 54 48.6**	**+1.0**
CAST	**Castle Rocks** baz=187	**2.03**	**7**	P		**Pn**	**04 54 22.1**	**0.0**
CAST	baz=187			S		**Sn**	**04 54 48.6**	**+1.0**
SEW	**Seward**	**2.05**	**129**			**Pn**	**04 54 22.7**	**+0.4**
SEW	**Seward** baz=312	**2.05**	**129**	P		**Pn**	**04 54 22.7**	**+0.4**
K20K	**Telida**	**2.06**	**342**	Pn		**Pn**	**04 54 21.7**	**-0.9**
K20K	comp=N,333nm,0.8s			IAML			04 54 56.6	
K20K	**Telida** baz=160	**2.06**	**342**	P		**Pn**	**04 54 22.2**	**-0.3**
L18K	**Granite Mounta**	**2.08**	**295**	Pn		**Pn**	**04 54 22.9**	**+0.1**
L18K	comp=E,267nm,0.6s			IAML			04 54 54.6	
L18K	comp=N,312nm,0.8s			IAML			04 54 54.7	
L18K	**Granite Mounta** baz=111	**2.08**	**295**	P		**Pn**	**04 54 23.2**	**+0.4**
AUCH	**Augustine Cone**	**2.10**	**191**			**Pb**	**04 54 25.0**	**-1.1**
SML	**Sawmill**	**2.10**	**77**			**Pn**	**04 54 22.1**	**-1.1**
SML	comp=N,382nm,0.6s			IAML			04 54 58.2	
SML	**Sawmill** baz=261	**2.10**	**77**	P		**Pn**	**04 54 23.0**	**-0.1**
WAT7	**Susitna Watana**	**2.28**	**50**			**Pn**	**04 54 25.7**	**0.0**
KTH	**Kantishna Hill**	**2.29**	**20**			**Pn**	**04 54 26.6**	**+0.8**
KTH	**Kantishna Hill** comp=E,215nm,0.8s	**2.29**	**20**	IAML			04 55 02.4	
KTH	comp=N,209nm,0.9s			IAML			04 55 15.3	
M17K	**Holitna River**	**2.31**	**272**	Pn		**Pn**	**04 54 25.7**	**-0.3**
M17K	**Holitna River** baz=87	**2.31**	**272**	P		**Pn**	**04 54 26.1**	**+0.2**
TRF	**Thorofare Moun**	**2.32**	**27**			**Pn**	**04 54 26.3**	**0.0**
TRF	comp=E,259nm,0.6s			IAML			04 55 01.9	
TRF	comp=N,314nm,0.6s			IAML			04 55 03.0	
TRF	**Thorofare Moun** baz=209	**2.32**	**27**	P		**Pn**	**04 54 26.7**	**+0.4**
M23K	**Glacier View**	**2.38**	**79**			**Pn**	**04 54 28.0**	**+1.0**
M23K	**Glacier View** baz=263	**2.38**	**79**	P		**Pn**	**04 54 28.0**	**+1.0**
N17K	**Nushagak Hills**	**2.39**	**250**	Pn		**Pn**	**04 54 27.0**	**-0.1**
N17K	comp=N,314nm,0.7s			IAML			04 55 07.7	
N17K	**Nushagak Hills** baz=66	**2.39**	**250**	P		**Pn**	**04 54 27.1**	**0.0**
WAT1	**Susitna Watana**	**2.39**	**52**			**Pn**	**04 54 27.4**	**+0.2**
WAT1	**Susitna Watana** baz=235	**2.39**	**52**	P		**Pn**	**04 54 27.7**	**+0.5**
P18K	**Big Mountain,**	**2.40**	**213**			**Pn**	**04 54 27.4**	**+0.1**
P18K	**Big Mountain,** baz=31	**2.40**	**213**	P		**Pn**	**04 54 27.7**	**+0.4**
CHUM	**Lake Minchumin**	**2.48**	**3**			**Pn**	**04 54 28.3**	**0.0**
Q19K	**Cape Douglas,**	**2.54**	**192**			**Pn**	**04 54 30.4**	**+1.1**
Q19K	**Cape Douglas,** baz=11	**2.54**	**192**	P		**Pn**	**04 54 30.4**	**+1.1**
SCM	**Sheep Creek Mo**	**2.57**	**78**			**Pn**	**04 54 30.6**	**+0.9**
SCM	comp=E,260nm,0.7s			IAML			04 55 06.7	
SCM	comp=N,265nm,1.0s			IAML			04 55 10.7	
SCM	**Sheep Creek Mo** baz=263	**2.57**	**78**	P		**Pn**	**04 54 30.9**	**+1.2**
WAT6	**Susitna Watana**	**2.59**	**61**			**Pn**	**04 54 30.6**	**+0.6**
WAT6	**Susitna Watana** baz=245	**2.59**	**61**	P		**Pn**	**04 54 31.1**	**+1.1**
RND	**Reindeer**	**2.67**	**40**	Pn		**Pn**	**04 54 30.0**	**-1.0**
RND	comp=N,281nm,0.7s			IAML			04 55 11.1	
RND	comp=E,223nm,0.7s			IAML			04 55 11.5	
GLI	**Glacier Island**	**2.74**	**99**			**Pn**	**04 54 32.4**	**+0.4**
GLI	**Glacier Island** comp=N,156nm,0.7s	**2.74**	**99**	IAML			04 55 11.1	
GLI	comp=E,200nm,0.6s			IAML			04 55 15.0	
GLI	**Glacier Island** baz=284	**2.74**	**99**	P		**Pn**	**04 54 32.7**	**+0.7**
O17K	**Koliganek Bris**	**2.75**	**235**			**Pn**	**04 54 32.2**	**+0.2**
O17K	**Koliganek Bris** baz=51	**2.75**	**235**	P		**Pn**	**04 54 32.2**	**+0.2**
L17K	**Donlin**	**2.78**	**287**			**Pn**	**04 54 32.8**	**+0.3**
L17K	**Donlin** baz=102	**2.78**	**287**	P		**Pn**	**04 54 32.8**	**+0.3**
J18K	**Innoko River**	**2.79**	**319**	Pn		**Pn**	**04 54 32.3**	**-0.4**
J18K	**Innoko River** baz=135	**2.79**	**319**	P		**Pn**	**04 54 32.9**	**+0.2**
BPAW	**Bear Paw Mtn.**	**2.80**	**15**			**Pn**	**04 54 33.3**	**+0.6**
BPAW	**Bear Paw Mtn.** comp=N,118nm,0.7s	**2.80**	**15**	IAML			04 55 22.8	
BPAW	**Bear Paw Mtn.** baz=196	**2.80**	**15**	P		**Pn**	**04 54 33.5**	**+0.7**
Q20K	**Shuyak Island** baz=358	**2.82**	**177**	P		**Pn**	**04 54 34.9**	**+1.9**
SYI	**Shuyak Island**	**2.82**	**177**			**Pn**	**04 54 34.9**	**+1.9**
SYI	**Shuyak Island** comp=E,112nm,0.9s	**2.82**	**177**	IAML			04 55 15.9	
J20K	**Nowinta River**	**2.86**	**347**	Pn		**Pn**	**04 54 33.2**	**-0.3**
J20K	comp=E,189nm,0.8s			IAML			04 55 18.3	
J20K	comp=N,192nm,0.7s			IAML			04 55 22.8	
J20K	**Nowinta River** baz=165	**2.86**	**347**	P		**Pn**	**04 54 33.3**	**-0.2**
MCK	**McKinley**	**2.89**	**35**			**Pn**	**04 54 34.9**	**+0.9**
MCK	**McKinley** baz=218	**2.89**	**35**	P		**Pn**	**04 54 34.9**	**+0.9**
P17K	**Kvichak River**	**2.92**	**222**			**Pn**	**04 54 35.1**	**+0.7**
P17K	**Kvichak River** baz=39	**2.92**	**222**	P		**Pn**	**04 54 35.1**	**+0.7**
J19K	**Poorman**	**2.93**	**333**	Pn		**Pn**	**04 54 34.5**	**-0.1**
J19K	comp=E,193nm,0.8s			IAML			04 55 26.4	
J19K	comp=N,163nm,0.8s			IAML			04 55 27.6	
J19K	**Poorman** baz=150	**2.93**	**333**	P		**Pn**	**04 54 34.6**	**+0.1**
P23K	**Montague Islan**	**2.94**	**117**			**Pn**	**04 54 34.7**	**0.0**
P23K	**Montague Islan** baz=302	**2.94**	**117**	P		**Pn**	**04 54 34.7**	**0.0**
K17K	**Iditarod**	**2.96**	**299**	Pn		**Pn**	**04 54 35.2**	**+0.2**
K17K	**Iditarod** baz=113	**2.96**	**299**	P		**Pn**	**04 54 35.5**	**+0.5**
DHY	**Denali Highway**	**2.98**	**54**	Pn		**Pn**	**04 54 35.2**	**-0.1**
DHY	comp=N,137nm,0.7s			IAML			04 55 20.4	
DHY	comp=E,141nm,0.7s			IAML			04 55 30.3	
DHY	**Denali Highway** baz=238	**2.98**	**54**	P		**Pn**	**04 54 35.9**	**+0.6**
FID	**Port Fidalgo**	**3.07**	**100**			**Pn**	**04 54 36.2**	**-0.2**
FID	**Port Fidalgo** comp=E,116nm,0.7s	**3.07**	**100**	IAML			04 55 25.9	
M16K	**Timber Creek**	**3.08**	**265**			**Pn**	**04 54 37.0**	**+0.4**
M16K	**Timber Creek** comp=N,91nm,0.8s	**3.08**	**265**	IAML			04 55 28.2	
M16K	**Timber Creek** baz=80	**3.08**	**265**	P		**Pn**	**04 54 37.1**	**+0.5**
BWN	**Browne**	**3.13**	**26**			**Pn**	**04 54 37.4**	**+0.1**
N16K	**Nishlik Lake**	**3.13**	**255**			**Pn**	**04 54 37.6**	**+0.3**
N16K	**Nishlik Lake** baz=70	**3.13**	**255**	P		**Pn**	**04 54 37.6**	**+0.3**
M24K	**Tolsona, Glenn**	**3.15**	**74**			**Pn**	**04 54 39.5**	**+1.8**
M24K	**Tolsona, Glenn** comp=N,186nm,1.4s	**3.15**	**74**	IAML			04 55 31.4	
M24K	**Tolsona, Glenn** baz=260	**3.15**	**74**	P		**Pn**	**04 54 39.5**	**+1.8**
HIN	**Hinchinbrook I**	**3.17**	**106**			**Pn**	**04 54 38.3**	**+0.5**
KLU	**Klutina**	**3.23**	**86**			**Pn**	**04 54 39.2**	**+0.5**
KLU	**Klutina** comp=N,96nm,0.6s	**3.23**	**86**	IAML			04 55 28.3	
KLU	comp=E,117nm,0.8s			IAML			04 55 29.8	
KLU	**Klutina** baz=272	**3.23**	**86**	P		**Pn**	**04 54 39.5**	**+0.8**
O16K	**Kokwok River B**	**3.26**	**238**	Pn		**Pn**	**04 54 38.9**	**-0.1**
O16K	comp=N,136nm,0.5s			IAML			04 55 36.6	
O16K	comp=E,115nm,0.6s			IAML			04 55 37.8	
O16K	**Kokwok River B** baz=53	**3.26**	**238**	P		**Pn**	**04 54 39.3**	**+0.3**
L16K	**Owhat River**	**3.28**	**278**	Pn		**Pn**	**04 54 39.2**	**-0.2**
L16K	comp=N,115nm,0.7s			IAML			04 55 39.0	
L16K	**Owhat River** baz=92	**3.28**	**278**	P		**Pn**	**04 54 39.5**	**+0.2**
DIV	**Divide**	**3.33**	**92**			**Pn**	**04 54 39.6**	**-0.5**
ACHA	**Angle Creek He**	**3.49**	**204**			**Pn**	**04 54 43.6**	**+1.3**
ANCK	**Angle Creek**	**3.53**	**205**			**Pn**	**04 54 44.1**	**+1.2**
CNTC	**Contact Creek**	**3.56**	**209**			**Pn**	**04 54 44.2**	**+1.0**
Q17K	**Contact Creek** baz=26	**3.56**	**209**	P		**Pn**	**04 54 44.2**	**+0.9**
NEA2	**Nenana**	**3.58**	**26**			**Pn**	**04 54 43.4**	**-0.1**
NEA2	**Nenana** baz=209	**3.58**	**26**	P		**Pn**	**04 54 43.4**	**-0.1**
P16K	**Nushagak River**	**3.58**	**230**			**Pn**	**04 54 44.5**	**+1.0**
P16K	**Nushagak River** baz=46	**3.58**	**230**	P		**Pn**	**04 54 44.5**	**+1.0**
J17K	**VABM Dome**	**3.59**	**306**	Pn		**Pn**	**04 54 43.4**	**-0.2**
J17K	comp=E,92nm,0.9s			IAML			04 55 49.6	
J17K	comp=N,129nm,0.8s			IAML			04 55 50.7	
J17K	**VABM Dome** baz=120	**3.59**	**306**	P		**Pn**	**04 54 44.1**	**+0.5**
KDAK	**Kodiak Island** comp=N,3.2nm,0.3s,baz=46,slow=8.2,SNR=39	**3.65**	**179**	Pn		**Pn**	**04 54 46.1**	**+1.8**
KDAK	comp=N,0.9nm,0.3s,baz=357,slow=12,SNR=1.7			Sn		**Sb**	**04 55 33.1**	**-3.5**
KDAK	comp=N,130nm,18.7s,baz=36,slow=38			LR		LR	04 56 16.5	
HARP	**HAARP** comp=N,11nm,0.3s	**3.68**	**71**			**Pn**	**04 54 46.9**	**+2.1**
HARP	**HAARP** baz=258	**3.68**	**71**	P		**Pn**	**04 54 46.9**	**+2.1**
PAX	**Paxson**	**3.71**	**62**			**Pn**	**04 54 47.1**	**+1.8**
PAX	**Paxson** baz=248	**3.71**	**62**	P		**Pn**	**04 54 47.1**	**+1.8**
WRH	**Wood River Hil**	**3.71**	**32**			**Pn**	**04 54 45.1**	**0.0**
MLY	**Manley**	**3.73**	**13**	Pn		**Pn**	**04 54 45.1**	**-0.5**
MLY	**Manley** baz=194	**3.73**	**13**	P		**Pn**	**04 54 45.7**	**+0.1**
I21K	**Tanana**	**3.79**	**4**			**Pn**	**04 54 46.4**	**0.0**
I21K	**Tanana** comp=N,70nm,0.8s	**3.79**	**4**	IAML			04 55 53.3	
I21K	comp=E,62nm,0.8s			IAML			04 55 55.0	
I21K	**Tanana** baz=185	**3.79**	**4**	P		**Pn**	**04 54 46.5**	**+0.1**
N15K	**Kwethluk River**	**3.86**	**254**	Pn		**Pn**	**04 54 46.8**	**-0.5**
N15K	**Kwethluk River** baz=68	**3.86**	**254**	P		**Pn**	**04 54 48.2**	**+0.9**
N25K	**Chitina, Valde**	**3.86**	**84**	Pn		**Pn**	**04 54 46.9**	**-0.5**
N25K	comp=N,48nm,0.9s			IAML			04 55 44.9	
N25K	**Chitina, Valde** baz=271	**3.86**	**84**	P		**Pn**	**04 54 48.6**	**+1.2**
CCB	**Clear Creek Bu**	**3.92**	**32**			**Pn**	**04 54 48.0**	**-0.1**
CCB	**Clear Creek Bu** comp=N,51nm,0.7s	**3.92**	**32**	IAML			04 55 54.9	
CCB	comp=E,69nm,0.8s			IAML			04 55 56.3	
GOAT	**Goat Mountain**	**3.95**	**99**			**Pn**	**04 54 48.7**	**+0.2**
HDA	**Harding Lake**	**3.98**	**38**			**Pn**	**04 54 48.4**	**-0.5**
HDA	comp=E,74nm,0.8s			IAML			04 55 54.2	
HDA	comp=N,89nm,0.6s			IAML			04 55 54.7	
M15K	**Kasigluk River**	**3.98**	**263**			**Pn**	**04 54 49.1**	**+0.2**
M15K	**Kasigluk River** baz=76	**3.98**	**263**	P		**Pn**	**04 54 49.1**	**+0.2**
RAGM	**Ragged Mountai**	**4.03**	**101**			**Pn**	**04 54 49.8**	**+0.2**
I23K	**Minto, Yukon-K**	**4.03**	**20**			**Pn**	**04 54 48.9**	**-0.7**
I23K	comp=E,52nm,0.6s			IAML			04 55 53.1	
I23K	comp=N,78nm,0.6s			IAML			04 55 53.1	
I23K	**Minto, Yukon-K** baz=203	**4.03**	**20**	P		**Pn**	**04 54 49.8**	**+0.2**
MDM	**Murphy Dome**	**4.08**	**27**			**Pn**	**04 54 50.2**	**-0.1**
MDM	**Murphy Dome** comp=E,43nm,0.7s	**4.08**	**27**	IAML			04 56 03.2	
COLA	**College**	**4.09**	**30**			**Pn**	**04 54 50.7**	**+0.2**
J16K	**Anvik River**	**4.16**	**300**			**Pn**	**04 54 52.1**	**+0.8**
J16K	**Anvik River** comp=E,44nm,0.9s	**4.16**	**300**	IAML			04 56 05.1	
J16K	comp=N,75nm,0.9s			IAML			04 56 11.8	
J16K	**Anvik River** baz=113	**4.16**	**300**	P		**Pn**	**04 54 52.1**	**+0.8**
H20K	**Anotleneega Mo**	**4.21**	**347**			**Pn**	**04

ILAR Lg Lg 04 55 58.8
comp=N,5.2nm,0.3s,baz=215,slow=27,SNR=14
ILAR LR LR 04 56 35.3
comp=N,77nm,18.2s,baz=95,slow=42
K15K Wolf Creek Mou 4.30 286 Pn **Pn 04 54 53.5 +0.1**
K15K Wolf Creek Mou 4.30 286 P **Pn 04 54 54.1 +0.7**
baz=98
VRDI Verde Repeater 4.43 88 Pn **Pn 04 54 55.2 -0.2**
VRDI IAML 04 56 04.6
comp=N,31nm,0.9s
MENT Mentasta 4.45 66 Pn 04 54 59.0 +3.5
I17K Unalakleet 4.46 307 Pn **Pn 04 54 56.2 +0.7**
I17K Unalakleet 4.46 307 P **Pn 04 54 56.7 +1.2**
baz=120
H19K Roundabout Mou 4.47 339 Pn **Pn 04 54 55.2 -0.4**
H19K IAML 04 56 13.4
comp=E,36nm,0.6s
H19K IAML 04 56 17.4
comp=N,56nm,2.2s
H19K Roundabout Mou 4.47 339 P **Pn 04 54 56.2 +0.6**
baz=156
H22K Ishtalitna Cre 4.53 7 Pn 04 54 56.6 +0.1
H22K Ishtalitna Cre 4.53 7 P **Pn 04 54 56.6 +0.1**
baz=188
H18K Honhosa River 4.55 328 Pn **Pn 04 54 57.3 +0.5**
H18K IAML 04 56 18.2
comp=N,38nm,0.9s
H18K IAML 04 56 18.8
comp=E,33nm,0.8s
H18K Honhosa River 4.55 328 P **Pn 04 54 57.5 +0.7**
baz=143
M14K Bethel 4.57 266 Pn **Pn 04 54 57.6 +0.6**
M14K IAML 04 56 14.7
comp=N,37nm,0.9s
M14K IAML 04 56 26.8
comp=E,51nm,1.1s
M14K Bethel 4.57 266 P **Pn 04 54 57.8 +0.7**
baz=77
J25K Salcha River, 4.61 43 Pn 04 54 57.8 +0.1
J25K IAML 04 56 14.4
comp=N,41nm,0.8s
J25K IAML 04 56 21.3
comp=E,45nm,0.8s
J25K Salcha River, 4.61 43 P **Pn 04 54 58.1 +0.4**
baz=229
MCARA McCarthy VSAT 4.62 86 Pn 04 54 58.1 +0.3
H23K Yukon River 4.64 16 Pn 04 54 57.5 -0.5
H23K IAML 04 56 20.7
comp=E,30nm,1.0s
H23K Yukon River 4.64 16 P **Pn 04 54 58.3 +0.3**
baz=199
L26K Log Cabin Wild 4.64 66 Pn 04 54 58.0 0.0
L26K IAML 04 56 26.1
comp=E,37nm,0.5s
L26K IAML 04 56 36.1
comp=N,38nm,0.8s
M26K Nabesna, AK 4.67 74 Pn 04 54 59.2 +0.7
M26K Nabesna, AK 4.67 74 IAML 04 56 20.0
comp=N,39nm,0.7s
M26K IAML 04 56 26.4
comp=E,26nm,0.6s
M26K Nabesna, AK 4.67 74 P **Pn 04 54 59.2 +0.7**
baz=262
N14K Kuskokwak Cree 4.69 255 Pn 04 54 59.6 +0.9
N14K Kuskokwak Cree 4.69 255 P **Pn 04 54 59.6 +0.9**
baz=67
SCRK Sand Creek 4.74 53 Pn 04 55 00.9 +1.4
SCRK Sand Creek 4.74 53 IAML 04 56 17.9
comp=N,37nm,0.7s
SCRK IAML 04 56 21.4
comp=E,46nm,0.9s
SCRK Sand Creek 4.74 53 P **Pn 04 55 00.3 +0.8**
baz=241
O14K Tigyukauivet M 4.80 247 Pn 04 55 00.8 +0.6
O14K Tigyukauivet M 4.80 247 IAML 04 56 27.1
comp=E,44nm,1.0s
O14K Tigyukauivet M 4.80 247 P **Pn 04 55 00.9 +0.7**
baz=59
H17K Granite Mounta 4.83 320 Pn **Pn 04 54 58.8 -1.8**
H17K Granite Mounta 4.83 320 P **Pn 04 55 01.7 +1.1**
baz=134
L14K Kuka Creek 4.83 274 Pn **Pn 04 55 01.1 +0.5**
L14K IAML 04 56 40.1
comp=N,43nm,1.2s
L14K Kuka Creek 4.83 274 P **Pn 04 55 01.5 +0.9**
baz=85
WAX Waxell Ridge 4.87 97 Pn **Pn 04 54 59.5 -1.8**
WAX IAML 04 56 29.8
comp=E,33nm,0.7s
PTPK Patty Peak 4.91 88 Pn 04 55 02.3 +0.4
H24K Noodor Dome 4.92 24 Pn 04 55 02.5 +0.6
H24K Noodor Dome 4.92 24 IAML 04 56 30.9
comp=E,24nm,1.2s
H24K Noodor Dome 4.92 24 P **Pn 04 55 02.5 +0.6**
baz=208
KIAG Kiagna River 5.00 91 Pn 04 55 03.1 0.0
G21K Allakaket 5.13 356 Pn 04 55 05.0 +0.2
G21K Allakaket 5.13 356 IAML 04 56 36.1
comp=N,40nm,0.8s
G21K Allakaket 5.13 356 P **Pn 04 55 05.0 +0.2**
baz=175
G19K Purcell Mounta 5.14 339 Pn 04 55 05.1 +0.3
G19K Purcell Mounta 5.14 339 IAML 04 56 42.6
comp=E,26nm,1.0s
G19K Purcell Mounta 5.14 339 P **Pn 04 55 05.1 +0.3**
baz=155
J26L Joseph Creek 5.17 49 Pn **Pn 04 55 06.1 +0.7**
J26L IAML 04 56 35.4
comp=E,24nm,0.9s
J26L IAML 04 56 41.8
comp=N,31nm,0.8s
M27K Edge Creek, AK 5.18 75 Pn **Pn 04 55 05.8 +0.3**
M27K IAML 04 56 41.6
comp=E,20nm,1.1s
M27K IAML 04 56 45.0
comp=N,20nm,0.9s
PRP Porcupine Dome 5.21 35 Pn 04 55 06.3 +0.4
PRP Porcupine Dome 5.21 35 IAML 04 56 34.6
comp=E,22nm,0.7s
PRP IAML 04 56 47.1
comp=N,30nm,0.9s
PRP Porcupine Dome 5.21 35 P **Pn 04 55 06.5 +0.6**
baz=221
G18K Tagagawik 5.23 332 Pn **Pn 04 55 06.5 +0.3**
G18K Tagagawik 5.23 332 P **Pn 04 55 06.8 +0.6**
baz=146
J14K Nanvaranak Lak 5.30 289 Pn 04 55 07.8 +0.8
J14K Nanvaranak Lak 5.30 289 IAML 04 56 45.6
comp=E,20nm,0.7s
J14K IAML 04 56 58.8
comp=N,24nm,1.1s
J14K Nanvaranak Lak 5.30 289 P **Pn 04 55 07.8 +0.8**
baz=100
L27K Beaver Creek, 5.32 67 Pn 04 55 09.5 +2.1
L27K Beaver Creek, 5.32 67 IAML 04 56 39.6
comp=N,18nm,0.8s
L27K Beaver Creek, 5.32 67 P **Pn 04 55 09.5 +2.1**
baz=257
BCAR Beaver Creek A 5.34 67 Pn 04 55 08.0 +0.3
H16K Elim 5.43 311 Pn 04 55 09.9 +1.1
H16K Elim 5.43 311 P **Pn 04 55 10.1 +1.2**
baz=122
G23K Bananza Creek 5.44 11 Pn **Pn 04 55 08.7 -0.3**
G23K Bananza Creek 5.44 11 P **Pn 04 55 09.5 +0.5**
baz=193
G17K Kiwalik Mounta 5.45 322 Pn 04 55 10.0 +0.9
G17K Kiwalik Mounta 5.45 322 P **Pn 04 55 10.0 +0.9**
baz=135
K27K Chicken 5.52 57 Pn 04 55 11.6 +1.5
K27K Chicken 5.52 57 P **Pn 04 55 11.9 +1.7**
baz=246
H25L Birch Creek 5.73 29 Pn 04 55 13.6 +0.7
H25L Birch Creek 5.73 29 P **Pn 04 55 13.6 +0.7**
baz=215
G24K Hadweenzic Riv 5.77 21 Pn **Pn 04 55 11.9 -1.6**
I26K Coal Creek Min 5.78 43 Pn 04 55 12.7 -1.0
F20K Avaraart Lake 5.81 348 Pn **Pn 04 55 13.4 -0.7**
F20K Avaraart Lake 5.81 348 P **Pn 04 55 15.0 +1.0**
baz=165
YUK3 Moose Creek 5.83 81 Pn 04 55 15.4 +0.8
YUK3 Moose Creek 5.83 81 P **Pn 04 55 15.4 +0.8**
baz=272
F21K Alatna River 5.84 357 Pn 04 55 15.2 +0.7
F21K Alatna River 5.84 357 P **Pn 04 55 15.2 +0.7**
baz=176
F19K Shaleruckik Mo 5.88 340 Pn 04 55 15.0 0.0
G16K Koyuk River 5.91 317 Pn 04 55 16.1 +0.8
G16K Koyuk River 5.91 317 P **Pn 04 55 16.2 +0.8**
baz=128
COLD Coldfoot 5.93 9 Pn 04 55 16.4 +0.7
COLD Coldfoot 5.93 9 P **Pn 04 55 16.5 +0.8**
baz=191
F18K Selawik 6.04 332 Pn 04 55 18.1 +0.9
F18K Selawik 6.04 332 P **Pn 04 55 18.1 +0.9**
baz=146
O28M Mount Upton 6.08 91 Pn 04 55 19.1 +1.1
O28M Mount Upton 6.08 91 P **Pn 04 55 18.9 +0.9**
baz=282
G25K Bearman Lake 6.08 25 Pn 04 55 18.2 +0.4
G25K Bearman Lake 6.08 25 P **Pn 04 55 18.2 +0.4**
baz=211
EGAK Eagle 6.21 52 Pn 04 55 18.7 -0.8
G15K Niukluk 6.28 310 Pn 04 55 21.5 +1.1
G15K Niukluk 6.28 310 P **Pn 04 55 21.5 +1.1**
baz=120
F17K Baldwin Pennin 6.31 327 Pn 04 55 21.0 +0.2
E19K Redstone River 6.38 344 Pn **Pn 04 55 22.3 +0.4**
E19K Redstone River 6.38 344 P **Pn 04 55 23.1 +1.3**
baz=160
F24K Squaw Lake 6.46 16 Pn 04 55 23.6 +0.5
F24K Squaw Lake 6.46 16 P **Pn 04 55 24.4 +1.3**
baz=201
I27K Kandik River 6.48 45 Pn 04 55 24.9 +1.6
I27K Kandik River 6.48 45 P **Pn 04 55 25.1 +1.9**
baz=235
ANM Nome 6.60 304 Pn 04 55 26.0 +1.1
ANM Nome 6.60 304 P **Pn 04 55 26.0 +1.1**
baz=113
DAWY Dawson 6.64 61 Pn 04 55 26.5 +1.0
DAWY Dawson 6.64 61 P **Pn 04 55 26.8 +1.3**
baz=252
E22K Anaktuvuk Pass 6.76 3 Pn 04 55 27.9 +0.8
E22K Anaktuvuk Pass 6.76 3 P **Pn 04 55 28.3 +1.2**
baz=183
G26K Porcupine Rive 6.76 31 Pn 04 55 27.8 +0.7
G26K Porcupine Rive 6.76 31 P **Pn 04 55 28.3 +1.2**
baz=219
M29M Somme Creek 6.77 75 Pn 04 55 28.5 +1.1
M29M Somme Creek 6.77 75 P **Pn 04 55 28.5 +1.1**
baz=268
F15K North Star Dit 6.87 314 Pn 04 55 29.0 +0.5
H27K Steamboat Moun 6.89 41 Pn 04 55 30.1 +1.2
H27K Steamboat Moun 6.89 41 P **Pn 04 55 30.6 +1.7**
baz=231
E24K Your Creek 6.92 13 Pn 04 55 30.0 +0.7
E24K Your Creek 6.92 13 P **Pn 04 55 30.2 +0.9**
baz=197
E18K Tukpahlearik C 6.94 334 Pn **Pn 04 55 30.2 +0.7**
E18K Tukpahlearik C 6.94 334 P **Pn 04 55 31.1 +1.6**
baz=146
E17K Hotham Inlet 6.95 329 Pn 04 55 30.8 +1.2
E17K Hotham Inlet 6.95 329 P **Pn 04 55 30.9 +1.3**
baz=140
BMAR Burnt Mountain 6.97 27 Pn **Pn 04 55 27.4 -2.5**
I28M Miner Creek 6.98 49 Pn 04 55 32.2 +1.9
I28M Miner Creek 6.98 49 P **Pn 04 55 32.2 +1.9**
baz=240
L29M L29M 6.98 70 Pn **Pn 04 55 28.4 -1.9**
E20K Nigu River 7.03 349 Pn 04 55 32.6 +1.7
E20K Nigu River 7.03 349 P **Pn 04 55 32.6 +1.7**
baz=166
G27K Doyon Strip 7.23 37 Pn **Pn 04 55 33.1 -0.5**
F26K Sheenjek River 7.28 26 Pn 04 55 34.4 +0.1
F26K Sheenjek River 7.28 26 P **Pn 04 55 34.6 +0.4**
baz=214
F14K Arctic Creek 7.35 310 Pn 04 55 37.0 +1.8
F14K Arctic Creek 7.35 310 P **Pn 04 55 37.0 +1.8**
baz=117
TOLK Toolik Lake Re 7.37 9 Pn **Pn 04 55 34.5 -1.0**
E25K Arctic Village 7.37 21 Pn 04 55 35.8 +0.3
E25K Arctic Village 7.37 21 P **Pn 04 55 35.8 +0.3**
baz=207
K29M Barlow Dome 7.38 64 Pn **Pn 04 55 34.6 -1.1**
N30M Aishikik Lake 7.46 83 Pn 04 55 37.0 +0.3
N30M Aishikik Lake 7.46 83 P **Pn 04 55 37.5 +0.7**
baz=277
D19K Kuna River 7.47 344 Pn 04 55 38.1 +1.2
D19K Kuna River 7.47 344 P **Pn 04 55 38.1 +1.2**
baz=159
D20K Etivluk River 7.52 349 Pn 04 55 38.3 +0.9
D20K Etivluk River 7.52 349 P **Pn 04 55 38.8 +1.4**
baz=165
P29M Windy Craggy 7.57 97 Pn 04 55 39.9 +1.7
P29M Windy Craggy 7.57 97 P **Pn 04 55 39.9 +1.7**
baz=290
D17K Noatak River 7.73 329 Pn 04 55 41.2 +0.8
D17K Noatak River 7.73 329 P **Pn 04 55 41.5 +1.1**
baz=140
C21K Knifeblade Rid 7.83 354 Pn 04 55 42.8 +1.1
C21K Knifeblade Rid 7.83 354 P **Pn 04 55 42.8 +1.1**
baz=172
C19K Lookout Ridge 8.24 342 Pn 04 55 48.7 +1.2
C19K Lookout Ridge 8.24 342 P **Pn 04 55 48.7 +1.2**
baz=156
E27K Coleen River 8.26 30 Pn 04 55 48.8 +1.2
E27K Coleen River 8.26 30 P **Pn 04 55 48.8 +1.2**
baz=220
F28M Old Crow 8.29 36 Pn 04 55 47.8 -0.3
F28M Old Crow 8.29 36 P **Pn 04 55 47.8 -0.3**
baz=228
YKA Yellowknife Ar 17.75 70 P **Pn 04 57 54.5 -0.3**
comp=N,0.1nm,0.3s,baz=286,slow=10,SNR=7.7
comp=N,0.7nm,0.8s
NVAR Mina Array Bea 31.29 121 P **P 05 00 09.9 +1.9**
comp=N,0.4nm,0.6s,baz=318,slow=8.6,SNR=3.9
comp=N,0.4nm,0.6s
PDAR Pinedale Array 31.59 106 P **P 05 00 12.0 +1.3**
comp=N,0.2nm,0.5s,baz=312,slow=4.3,SNR=1.5
comp=N,0.2nm,0.5s
ULM Lac du Bonnet 32.71 84 P **P 05 00 20.9 +0.7**
comp=N,2.0nm,0.8s,baz=329,slow=5.9,SNR=3.9
comp=N,2.0nm,0.8s
TXAR Lajitas Array 45.34 112 P **P 05 02 08.1 +2.1**
comp=N,0.2nm,0.6s,baz=331,slow=5.4,SNR=3.0
comp=N,0.2nm,0.6s
SONM Songino Array 54.11 305 P **P 05 03 14.7 +2.1**
comp=N,1.9nm,0.7s,baz=40,slow=8.4,SNR=8.7
comp=N,1.9nm,0.7s
ZALV Zalesovo Beam 56.34 323 P **P 05 03 26.7 -1.7**
comp=N,0.5nm,0.4s,baz=18,slow=6.1,SNR=1.9
comp=N,0.5nm,0.4s
MKAR Makanchi Array 63.44 321 P **P 05 04 17.7 +0.3**
comp=N,0.3nm,0.5s,baz=22,slow=5.6,SNR=4.1
comp=N,0.3nm,0.5s
AKASG Malin Array Be 68.22 359 P **P 05 04 47.6 -0.5**
comp=N,0.6nm,0.5s,baz=6.1,slow=7.2,SNR=2.0
comp=N,0.6nm,0.5s

IDC 16 05:00:11.7±2.9, 54°13N×86°46E, h0km, mbtmp2.7/2, ML2.6/2, Error ellipse: s-maj=22.9km s-min=13.5km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**260**	I	I		05 07 14.3	
	baz=79,slow=335,SNR=2.1							
ZALV	**Zalesovo Beam**	**0.98**	**260**	Pg	Pg		05 00 28.6	-1.9
	0.6nm,0.3s,baz=77,slow=16,SNR=5.7							
ZALV				Lg	Lg		05 00 44.6	
	1.1nm,0.3s,baz=79,slow=29,SNR=9.2							
KURBB	**Kurchatov Arra**	**5.99**	**237**	Pn	Pn		05 01 43.5	+2.0
	0.1nm,0.3s,baz=55,slow=13,SNR=3.2							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn		05 02 07.2	+0.7
	0.2nm,0.3s,baz=26,slow=14,SNR=4.7							
	0.1nm,0.3s							

*BJI **16** 05:05:06.7±0.0, 6°46N×123°98E, h48km, mb4.7/58, mB4.8/31, Ms4.3/32, Ms7 4.2/35*
*GCMT **16** 05:05:06.2±0.2, 6°59N±0°02×123°88E±0°02, h29km, MW5.0/89, Moment Tensor Solution. s58,c64; s89,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.73±.13; $M_{\theta\theta}$0.29±.09; $M_{\phi\phi}$-3.02±.09; $M_{r\theta}$-0.64±.14; $M_{\theta\phi}$0.77±.06; $M_{\phi r}$-1.87±.14; Best double couple: M_o3.57800×10^{16} NP1:ϕ_s329.00000°, δ33.00000°, λ59.00000°. Principal axes: T 3.5020, Plg67.0000°, Azm131.0000°; N 0.1520, Plg16.0000°, Azm356.0000°; P -3.6550, Plg15.0000°, Azm261.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **16** 05:05:07.4±1.2, 6°N±3°×12°4E±°, h25km±10km, M4.8/16, mb4.9/16, mB5.1/9, MLv5.1/11, Mw(mB)4.5/9, MwMwp4.5/1, Mwp4.9/1*
*NEIC **16** 05:05:09.2±2.0, 6°42N±0°07×123°94E±0°07, h55km±4km, mb4.8/133, Error ellipse: s-maj=10.9km s-min=9.2km az=122.0*
*IDC **16** 05:05:11.3±2.3, 6°53N×124°16E, h82km±21km, mb4.2/24, mbtmp4.5/24, MS3.8/43, Error ellipse: s-maj=22.9km s-min=10.5km az=72.0*

ISC 16 05:05:08.5±0.5, 6°44N±0°04×123°95E±0°05, h55km±4km, h56km: pP-P, n488, σ0°89/428, mb4.7/104, MS3.9/54, 3C-4D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.74**	**69**	P	**Pn**		**05 05 35.9**	**-0.4**
	3μm,0.3s,baz=223,slow=7.0,SNR=116							
DAV				S	**Sn**		**05 05 59.9**	**+2.5**
	3μm,0.5s,baz=313,slow=23,SNR=12							
DAV				LR	LR		05 06 04.9	
	comp=Z,5μm,21.3s,baz=166,slow=36							
DAV	**Davao City (W)**	**1.74**	**69**	↑*iP*	**Pn**		**05 05 34.0**	**-2.3**
SGSI	**Sangihe**	**3.15**	**150**	P	**Pn**		**05 05 54.8**	**-0.9**
SGSI				S	**Sn**		**05 06 30.9**	**-1.2**
KMSI	**Cibinong**	**5.82**	**180**	P	**Pn**		**05 06 33.8**	**+1.5**
	357nm,0.6s,3.1nm							
GTOI	**Gorontalo**	**5.84**	**189**	P	**Pn**		**05 06 28.9**	**-3.6**
	50nm,0.7s,696nm0.5nm							
TOLI2	**Tolitoli**	**6.16**	**211**	Pn	**Pn**		**05 06 33.7**	**-3.2**
TNTI	**Ternate**	**6.58**	**149**	Pn	**Pn**		**05 06 42.4**	**-0.3**
TNTI	**Ternate**	**6.58**	**149**	P	**Pn**		**05 06 41.9**	**-0.8**
	57nm,0.5s,1μm0.3nm							
MPSI	**Mapaga**	**7.28**	**214**	P	**Pn**		**05 06 51.0**	**-1.3**
	8.4nm,1.3s,364nm0.3nm							
LUWI	**Luwuk**	**7.52**	**189**	Pn	**Pn**		**05 06 54.0**	**-1.6**
LUWI	**Luwuk**	**7.52**	**189**	P	**Pn**		**05 06 57.2**	**+1.7**
	148nm,0.8s,4μm1.7nm							
LBMI	**Labuha**	**7.87**	**153**	P	**Pn**		**05 06 57.6**	**-2.8**
	104nm,1.1s,0.4nm							
SANI	**Sanana**	**8.67**	**166**	P	**Pn**		**05 07 09.6**	**-1.7**
	32nm,0.8s							
KAPI	**Kappang**	**12.12**	**200**	LR	LR		05 12 44.8	
	comp=Z,574nm,20.8s,baz=18,slow=37							
SBUM	**Sibu**	**12.34**	**252**	Pn	**Pn**		**05 08 00.3**	**-1.3**
KSM	**Kuching**	**14.47**	**251**	Pn	**Pn**		**05 08 30.1**	**-0.2**
DLV	**T Lat**	**16.21**	**291**	Pn	**Pn**		**05 08 52.7**	**-0.2**
TPUB	**Ta-pu**	**17.07**	**350**	Pn	P		05 09 11.0	+6.5
TPUB				IAmb	IAmb		05 09 13.0	
	comp=Z,148nm,2.0s							
GENI	**Genyem**	**18.51**	**118**	P	**Pn**		**05 09 24.1**	**+3.0**
	comp=Z,453nm,1.4s,comp=Z,6μm							
QIZ	**Qiongzhong**	**18.58**	**314**	P	**Pn**		**05 09 22.6**	**+0.7**
QIZ				sP	**sP**		**05 09 40.3**	**+1.6**
QIZ				S	**S**		**05 12 49.6**	**-0.6**
QIZ				pmax	pmax			
	comp=Z,18nm,1.2s							
QIZ				LR	LR			
	comp=Z,410nm,13.6s							
QIZ				LR	LR			
	comp=Z,270nm,14.4s							
QIZ				LR	LR			
	comp=Z,440nm,13.6s							
JAY	**Jayapura**	**18.95**	**117**	P	**P**		**05 09 25.6**	**+0.4**
	comp=Z,47nm,0.9s,comp=Z,526nm							
QZH	**Quanzhou**	**19.11**	**345**	↑*iP*	**P**		**05 09 25.4**	**-1.4**
QZH				S	**S**		**05 12 58.6**	**-2.1**
QZH				LR	LR			
	comp=Z,740nm,15.8s							
QZH				LR	LR			
	comp=Z,880nm,17.5s							
UBPT	**Khong Chiam**	**20.15**	**297**	P	Pn		05 09 39.7	-0.9
MTN	**Manton Dam**	**20.44**	**160**	P	**P**		**05 09 41.7**	**+0.2**
MTN				IAmb	IAmb		05 09 46.4	
	comp=Z,37nm,1.2s							
JMZ	**Minamidaito 2**	**20.49**	**19**	P	Pn		05 09 44.0	-0.5
JOW	**Kunigami**	**20.70**	**11**	P	**P**		**05 09 44.2**	**0.0**
JOW				IAmb	IAmb		05 09 46.7	
	comp=Z,47nm,1.1s							
JOW	**Kunigami**	**20.70**	**11**	P	Pn		05 09 45.1	-1.9
	comp=Z,26nm,1.0s,baz=178,slow=8.6,SNR=10							
JOW				LR	LR		05 18 40.8	
	comp=Z,322nm,19.6s,baz=149,slow=39							
	comp=Z,26nm,1.0s							
GUMO	**Guam**	**21.78**	**69**	LR	LR		05 16 55.6	
	comp=Z,331nm,22.0s,baz=221,slow=33							
KULM	**Kulim**	**23.20**	**268**	P	**P**		**05 10 11.6**	**+0.8**
KULM				IAmb	IAmb		05 10 26.1	
	comp=Z,27nm,1.1s							
BKNI	**Bangkinang**	**23.65**	**256**	P	**P**		**05 10 16.2**	**+1.2**
SRIT	**Nakonsritamara**	**24.23**	**277**	P	**P**		**05 10 21.1**	**+0.7**
SRIT				IAmb	IAmb		05 10 23.7	
	comp=Z,27nm,1.0s							
MANU	**Manus Island**	**24.85**	**109**	P	**P**		**05 10 27.2**	**+1.2**
WHN	**Wuhan**	**25.62**	**341**	P	**P**		**05 10 36.9**	**+4.1**
WHN				pP	**pP**		**05 10 44.9**	**-0.6**
NJ2	**Nanjing**	**25.93**	**350**	*eP*	**P**		**05 10 38.3**	**+2.8**
NJ2				pmax	pmax			
	comp=Z,15nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,140nm,4.3s							
PHRA	**Phrae**	**26.04**	**300**	P	**P**		**05 10 37.5**	**+0.8**
CRAI	**Chiangrai**	**26.67**	**303**	P	**P**		**05 10 44.5**	**+2.0**
GSI	**Gunungsitoli**	**26.79**	**260**	P	**P**		**05 10 43.9**	**+0.2**
JCJ	**Chichijima**	**26.89**	**38**	LR	LR		05 19 30.3	
	comp=Z,227nm,21.7s,baz=102,slow=32							
CMAR	**Chiang Mai Arr**	**27.14**	**298**	P	**P**		**05 10 48.9**	**+2.2**
	comp=Z,0.8nm,0.3s,baz=114,slow=11,SNR=5.2							
CMAR				PcP	**PcP**		**05 14 06.4**	**0.0**
	comp=Z,0.7nm,0.3s,baz=95,slow=1.9,SNR=4.2							
CMAR				LR	LR		05 21 44.8	
	comp=Z,346nm,18.5s,baz=105,slow=36							
	comp=Z,0.8nm,0.3s							
CHTO	**Chiang Mai**	**27.28**	**299**	P	**P**		**05 10 49.0**	**+1.1**
CHTO				IAmb	IAmb		05 11 07.5	
	comp=Z,38nm,2.0s							
JNU	**Nakatsue**	**27.32**	**13**	LR	LR		05 20 44.4	
	comp=Z,133nm,21.2s,baz=222,slow=34							
PMG	**Port Moresby**	**27.98**	**124**	LR	LR		05 22 31.4	
	comp=Z,105nm,21.4s,baz=312,slow=37							
WB0	**Warramunga Arr**	**27.99**	**159**	P	**P**		**05 10 54.8**	**+0.5**
WB0				IAmb	IAmb		05 11 16.9	
	comp=Z,28nm,1.4s							
WRA	**Warramunga Arr**	**28.14**	**159**	P	**P**		**05 10 55.8**	**+0.3**
WRA	**Warramunga Arr**	**28.14**	**159**	P	**P**		**05 10 55.0**	**-0.5**
	comp=Z,5.7nm,1.0s,baz=338,slow=9.7,SNR=13							
	comp=Z,5.7nm,1.0s							
WB2	**Warramunga Arr**	**28.14**	**159**	P	**P**		**05 10 55.7**	**+0.1**
WR0	**Warramunga Arr**	**28.22**	**159**	P	**P**		**05 10 56.7**	**+0.4**
WR0				IAmb	IAmb		05 11 19.8	
	comp=Z,20nm,1.1s							
PZH	**PanZhiHua**	**29.09**	**316**	P	**P**		**05 11 05.8**	**+1.7**
PZH				S	**S**		**05 15 53.8**	**+1.6**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,80nm,6.7s							
PZH				LR	LR			
	comp=Z,260nm,17.8s							
PZH				LR	LR			
	comp=Z,200nm,18.2s							
PZH				LR	LR			
	comp=Z,360nm,19.0s							
LYN	**LuoYang**	**29.92**	**341**	*eP*	**P**		**05 11 14.8**	**+3.6**
LYN				pP	pP		05 11 27.3	+2.2
LYN				sP	sP		05 11 33.3	+1.7
LYN				S	S		05 16 12.1	+7.2
LYN				SS	**ScP**		**05 17 47.5**	**-3.1**
LYN				pmax	pmax			
	comp=Z,13nm,1.0s							
LYN				LR	LR			
	comp=Z,470nm,14.7s							
LYN				LR	LR			
	comp=Z,270nm,13.3s							
LYN				LR	LR			
	comp=Z,600nm,15.7s							
XAN	**Xi'an**	**30.79**	**335**	↑P	**P**		**05 11 19.6**	**+0.6**
XAN				S	S		05 16 26.8	+8.2
XAN				pmax	pmax			
	comp=Z,9.0nm,1.1s							
XAN				LR	LR			
	comp=Z,470nm,15.2s							

XAN LR LR
comp=Z,320nm,15.5s
XAN LR LR
comp=Z,660nm,15.2s
CD2 Chengdu 30.84 325 P **P** **05 11 19.8 +0.3**
CD2 S **S** **05 16 19.8 +0.3**
CD2 sS sS 05 16 45.3 +2.4
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,80nm,5.3s
CD2 LR LR
comp=Z,260nm,16.3s
CD2 LR LR
comp=Z,340nm,14.5s
CD2 LR LR
comp=Z,390nm,17.5s
KSRS Korea Array 31.09 6 P **P** **05 11 21.4 -0.1**
comp=Z,12nm,0.3s,baz=189,slow=10,SNR=8.6
KSRS LR LR 05 23 14.3
comp=Z,152nm,21.3s,baz=175,slow=35
comp=Z,12nm,0.3s
ASAR Alice Springs 31.46 162 P **P** **05 11 25.4 +0.5**
comp=Z,1.5nm,0.4s,baz=339,slow=6.9,SNR=20
ASAR LR LR 05 26 21.3
comp=Z,99nm,20.8s,baz=356,slow=40
comp=Z,1.5nm,0.4s
HNS HongShan 31.95 346 ⇓P **P** **05 11 29.3 +0.2**
HNS pmax pmax
comp=Z,6.0nm,1.0s
HNS LR LR
comp=Z,400nm,18.6s
HNS LR LR
comp=Z,180nm,16.9s
HNS LR LR
comp=Z,450nm,18.0s
MJAR Matsushiro Arr 32.68 22 P **P** **05 11 33.0 -2.6**
comp=Z,0.9nm,0.2s,baz=179,slow=8.1,SNR=4.9
MJAR LR LR 05 23 27.6
comp=Z,272nm,21.4s,baz=210,slow=34
comp=Z,0.9nm,0.2s
BJT Baijiatuau 34.16 349 P **P** **05 11 48.5 +0.1**
BJI Beijing 34.18 349 P **P** **05 11 48.6 +0.1**
BJI pmax pmax
comp=Z,6.0nm,1.0s
BJI pmax pmax
comp=Z,51nm,3.9s
LZH Lanzhou 34.79 331 ⇓P **P** **05 11 55.6 +1.5**
LZH S **S** **05 17 22.8 +1.8**
LZH pmax pmax
comp=Z,15nm,1.5s
LZH LR LR
comp=Z,250nm,16.8s
LZH LR LR
comp=Z,270nm,15.8s
LZH LR LR
comp=Z,420nm,15.1s
SNY Shenyang 35.25 360 ⇓P **P** **05 11 57.6 -0.1**
SNY pmax pmax
comp=Z,15nm,1.2s
SNY pmax pmax
comp=Z,52nm,2.7s
SNY LR LR
comp=Z,220nm,17.6s
SNY LR LR
comp=Z,140nm,14.1s
SNY LR LR
comp=Z,270nm,16.3s
HHC Hu-ho-hao-te 36.01 344 *e*P **P** **05 12 06.8 +2.4**
HHC pmax pmax
comp=Z,5.0nm,0.5s
HHC pmax pmax
comp=Z,46nm,4.4s
HHC LR LR
comp=Z,240nm,15.5s
HHC LR LR
comp=Z,200nm,15.0s
MORW Morawa 36.11 192 P **P** **05 12 06.6 +1.4**
BTO Baotou 36.24 342 *e*P P 05 12 11.3 +5.0
BTO pP pP 05 12 22.8 +2.8
BTO sP sP 05 12 29.1 +2.8
BTO PP **PP** **05 13 29.8 +0.1**
BTO S S 05 17 51.5 +8.6
BTO pmax pmax
comp=Z,19nm,0.5s
BTO pmax pmax
comp=Z,190nm,4.7s
BTO LR LR
comp=Z,570nm,20.0s
BTO LR LR
comp=Z,450nm,13.0s
BTO LR LR
comp=Z,470nm,17.9s
FORT Forrest 37.21 174 P **P** **05 12 14.3 -0.2**
XLT XiLinHaoTe 37.95 351 *e*P **P** **05 12 20.8 0.0**
XLT pP pP 05 12 32.3 -2.1
XLT sP sP 05 12 37.1 -3.5
XLT pmax pmax
comp=Z,12nm,1.0s
XLT pmax pmax
comp=Z,69nm,4.3s
USA0B Ussuriysk Arra 38.27 9 P **P** **05 12 24.2 +0.8**
USA0B IAmb IAmb 05 12 35.0
comp=Z,17nm,1.1s
USRK Ussuriysk Ar. 38.27 9 P **P** **05 12 24.0 +0.6**
USRK Ussuriysk Ar. 38.27 9 P **P** **05 12 23.1 -0.2**
comp=Z,0.8nm,0.4s,baz=197,slow=4.5,SNR=2.4
USRK LR LR 05 29 17.7
comp=Z,133nm,20.0s,baz=198,slow=38
comp=Z,0.8nm,0.4s
MDJ Mudanjiang 38.35 6 P P 05 12 29.8 +5.8
MDJ pmax pmax
comp=Z,19nm,1.1s
MDJ pmax pmax
comp=Z,59nm,4.0s
BNX BinXian 39.27 4 ⇓P **P** **05 12 32.3 +0.6**
BNX pmax pmax
comp=Z,3.0nm,0.5s
BNX pmax pmax
comp=Z,66nm,6.1s
GTA Gaotai 39.38 330 *e*P **P** **05 12 34.4 +1.5**
GTA pmax pmax
comp=Z,15nm,0.8s
GTA LR LR
comp=Z,290nm,18.7s
GTA LR LR
comp=Z,200nm,19.1s
GTA LR LR
comp=Z,440nm,19.9s
NWAO Narrogin (SRO) 39.66 189 LR LR 05 32 26.8
comp=Z,56nm,18.3s,baz=299,slow=41
GOMU GeErMu 39.86 322 P **P** **05 12 39.8 +2.5**
GOMU pmax pmax
comp=Z,10.0nm,1.1s
GOMU LR LR
comp=Z,280nm,14.9s
GOMU LR LR
comp=Z,250nm,14.4s
GOMU LR LR
comp=Z,300nm,17.5s
EIDS Eidsvold 41.18 141 P **P** **05 12 47.8 0.0**
STKA Stephens Creek 41.65 157 P **P** **05 12 51.5 -0.1**
STKA Stephens Creek 41.65 157 P **P** **05 12 52.5 +0.9**
comp=Z,10nm,0.7s,baz=344,slow=7.7,SNR=17
STKA LR LR 05 32 33.1
comp=Z,116nm,18.8s,baz=26,slow=39
comp=Z,10nm,0.7s
PALK Pallekele 42.93 274 LR LR 05 34 20.3
comp=Z,55nm,18.1s,baz=199,slow=40
ULN Ulaanbaatar 43.73 344 P **P** **05 13 08.7 +0.3**
ULN IAmb IAmb 05 13 10.2
comp=Z,15nm,1.0s
ULN Ulaanbaatar 43.73 344 P **P** **05 13 09.0 +0.6**
ULN pP **pP** **05 13 21.4 -1.0**
HEH HeiHe 43.77 3 *e*P **P** **05 13 04.1 -4.4**
HEH pmax pmax
comp=Z,4.0nm,0.7s
HEH pmax pmax
comp=Z,82nm,4.4s
SONM Songino Array 43.89 343 P **P** **05 13 09.9 +0.2**
SONM Songino Array 43.89 343 P **P** **05 13 09.8 +0.1**
comp=Z,8.4nm,0.9s,baz=162,slow=8.9,SNR=38
SONM LR LR 05 33 18.4
comp=Z,160nm,18.6s,baz=157,slow=38
comp=Z,8.4nm,0.9s
WMQ Urumqi 48.94 325 *e*P **P** **05 13 51.3 +2.0**
WMQ pmax pmax
comp=Z,17nm,1.5s
WMQ LR LR
comp=Z,310nm,19.7s
WMQ LR LR
comp=Z,180nm,15.7s
DZM Mont Dzumac 50.35 126 *e*P **P** **05 14 02.9 +2.6**
comp=Z,68nm,24.4s
DZM *e*S **S** **05 21 07.9 -1.8**
comp=Z,71nm,29.4s
DZM *e*SS **SS** **05 24 46.0 +1.8**
comp=Z,120nm,32.0s
DZM *e*LR LR 05 28 26.6
comp=Z,150nm,22.4s
DZM Mont Dzumac 50.35 126 LR LR 05 34 21.1
comp=Z,106nm,20.9s,baz=17,slow=35
MK31 Makanchi Array 53.77 326 IAmb IAmb 05 14 27.3
comp=Z,13nm,0.9s
MKAR Makanchi Array 53.77 326 P **P** **05 14 25.8 +0.5**
MKAR Makanchi Array 53.77 326 P **P** **05 14 26.0 +0.7**
comp=Z,10nm,0.8s,baz=120,slow=8.5,SNR=76
comp=Z,10nm,0.8s
MAKZ Makanchi 53.95 325 P **P** **05 14 27.2 +0.5**
MAKZ Makanchi 53.95 325 P **P** **05 14 27.5 +0.8**
MAKZ pP **pP** **05 14 39.1 -1.3**
PETK Petropavlovsk- 54.06 24 P **P** **05 14 27.1 -0.2**
comp=Z,4.7nm,0.9s,baz=197,slow=4.4,SNR=3.1
PETK LR LR 05 35 48.2
comp=Z,109nm,21.2s,baz=221,slow=34
comp=Z,4.7nm,0.9s
NIL Nilore 54.09 307 P **P** **05 14 28.3 +0.4**
NIL Nilore 54.09 307 P **P** **05 14 29.1 +1.2**
NIL pP **pP** **05 14 41.1 -0.4**
KSH Kashi 54.18 315 P **P** **05 14 31.3 +2.7**
YAK Yakutsk 55.64 3 LR LR 05 39 34.5
comp=Z,105nm,21.3s,baz=198,slow=37
AAK Ala-Archa 56.51 318 LR LR 05 42 07.7
comp=Z,69nm,18.2s,baz=113,slow=39
MA2 Magadan 56.83 16 LR LR 05 40 04.5
comp=Z,49nm,20.7s,baz=222,slow=37
ZAA0 Zalesovo Array 56.94 334 P **P** **05 14 48.1 +0.2**
ZALV Zalesovo Beam 56.94 334 P **P** **05 14 47.6 -0.4**
comp=Z,4.8nm,0.9s,baz=133,slow=6.3,SNR=13
ZALV LR LR 05 40 35.8
comp=Z,99nm,19.1s,baz=105,slow=37
comp=Z,4.8nm,0.9s
KURBB Kurchatov Arra 57.98 328 P **P** **05 14 55.7 +0.4**
comp=Z,16nm,0.9s,baz=125,slow=6.4,SNR=108
comp=Z,16nm,0.9s
KURK Kurchatov 57.99 328 P **P** **05 14 55.7 +0.3**
KURK Kurchatov 57.99 328 P **P** **05 14 56.0 +0.7**
KURK pP **pP** **05 15 07.5 -1.7**
BTK Batken 58.06 314 IAmb IAmb 05 15 26.5
comp=Z,8.9nm,1.1s
KK31 Karatay Array 59.38 317 P **P** **05 15 05.8 +0.6**
KKAR Karatay Array 59.38 317 P **P** **05 15 06.1 +0.9**
KKAR Karatay Array 59.38 317 P **P** **05 15 04.7 -0.6**
SEY Seymchan 60.08 15 LR LR 05 40 58.2
comp=Z,51nm,21.1s,baz=167,slow=36
SHEM Shemya Is, Ala 61.60 32 LR LR 05 38 37.4
comp=Z,26nm,21.7s,baz=27,slow=33
BVAR Borovoye Array 63.56 327 P **P** **05 15 33.2 0.0**
comp=Z,13nm,0.9s,baz=126,slow=9.1,SNR=43
BVAR LR LR 05 43 57.9
comp=Z,106nm,20.6s,baz=135,slow=37
comp=Z,13nm,0.9s
BRVK Borovoye 63.63 327 P **P** **05 15 33.9 +0.2**
BRVK Borovoye 63.63 327 P **P** **05 15 34.2 +0.5**
TIXI Tiksi 65.22 2 P **P** **05 15 42.0 -1.7**
TIXI IAmb IAmb 05 16 28.3
comp=Z,4.9nm,0.5s
TIXI Tiksi 65.22 2 LR LR 05 47 33.7
comp=Z,111nm,18.6s,baz=208,slow=39
GEYT Alibeck 67.05 308 P **P** **05 15 56.9 +0.7**
GEYT IAmb IAmb 05 15 58.6
comp=Z,15nm,1.3s
GEYT Alibeck 67.05 308 P **P** **05 15 57.2 +1.1**
comp=Z,1.7nm,0.4s,baz=93,slow=7.2,SNR=7.0
GEYT LR LR 05 50 00.9
comp=Z,62nm,19.3s,baz=51,slow=40
comp=Z,1.7nm,0.4s
GYA0B ALIBECK ARRAY 67.05 308 P **P** **05 15 56.5 +0.3**
GYA0B IAmb IAmb 05 15 58.6
comp=Z,6.9nm,0.9s
ABKAR Akbulak array 68.32 321 P **P** **05 16 03.7 -0.2**
ABKAR Akbulak array 68.32 321 IAmb IAmb 05 16 05.1
comp=Z,9.2nm,0.9s
AKTO Aktyubinsk 69.83 322 LR LR 05 48 52.3
comp=Z,235nm,19.6s,baz=102,slow=38
ARU Arti 71.19 328 P **P** **05 16 20.5 -0.8**
ARU IAmb IAmb 05 16 28.6
comp=Z,7.5nm,0.7s
ARU Arti 71.19 328 LR LR 05 49 00.0
comp=Z,60nm,18.8s,baz=95,slow=37
SPIA Saint Paul Isl 71.63 32 P **P** **05 16 24.3 +0.3**
baz=253
P08K Saint George I 71.83 32 P **P** **05 16 25.1 -0.1**
baz=254
UNV Unalaska Valle 72.81 36 P **P** **05 16 31.1 -0.1**
baz=257
M11K Mekoryuk 74.53 29 P **P** **05 16 40.9 -0.2**
baz=255
TNA Tin City 75.21 24 P **P** **05 16 45.0 +0.1**
baz=252
K13K Kusilvak Mount 75.64 28 P **P** **05 16 47.7 +0.3**
baz=256
S12K Black Hills 75.70 34 P **P** **05 16 48.1 +0.1**
baz=260
F14K Arctic Creek 75.82 24 P **P** **05 16 49.0 +0.6**
baz=254
M13K Dall Lake 75.92 29 P **P** **05 16 49.4 +0.4**
baz=258
ANM Nome 75.97 25 P **P** **05 16 49.8 +0.5**
baz=255
J14K Nanvaranak Lak 76.33 27 P **P** **05 16 51.4 +0.1**
baz=257
L14K Kuka Creek 76.43 28 P **P** **05 16 51.5 -0.4**
L14K IAmb IAmb 05 16 53.0
comp=Z,12nm,1.1s
L14K Kuka Creek 76.43 28 P **P** **05 16 51.8 -0.1**
baz=258
SDPT Sand Point 76.54 35 P **P** **05 16 52.5 -0.1**
baz=262
F15K North Star Dit 76.56 24 P **P** **05 16 53.2 +0.6**
baz=256
BELG Belogornoye 76.59 322 LR LR 05 52 09.4
comp=Z,81nm,21.6s,baz=94,slow=37
G15K Niukluk 76.63 25 P **P** **05 16 53.7 +0.6**
baz=256
N14K Kuskokwak Cree 76.64 30 P **P** **05 16 53.4 +0.2**
baz=260
M14K Bethel 76.66 29 IAmb IAmb 05 16 54.7
comp=Z,10nm,1.0s
M14K Bethel 76.66 29 P **P** **05 16 53.8 +0.6**
baz=259
O14K Tigyukauivet M 76.73 31 P **P** **05 16 53.4 -0.3**
baz=260
RAYN Ar Rayn 76.89 293 P **P** **05 16 55.1 -0.3**
RAYN IAmb IAmb 05 17 04.3
comp=Z,8.1nm,1.1s
C16K Lisburne Hills 76.96 21 P **P** **05 16 54.5 -0.3**
baz=254
CHNA Chernabura Isl 76.97 35 P **P** **05 16 55.4 +0.3**
baz=263
L15K Ungalak Mounta 77.06 28 P **P** **05 16 55.5 0.0**
baz=259
K15K Wolf Creek Mou 77.15 28 P **P** **05 16 55.9 -0.1**
baz=259
S14K Fog Glacier 77.19 34 P **P** **05 16 55.5 -1.0**
baz=262
M15K Kasigluk River 77.26 29 P **P** **05 16 56.3 -0.4**
baz=260
G16K Koyuk River 77.41 24 P **P** **05 16 57.1 -0.3**
baz=258
O15K Ungalikthiuk R 77.45 31 P **P** **05 16 57.4 -0.3**
baz=261
N15K Kwethluk River 77.47 30 IAmb IAmb 05 16 59.3
comp=Z,13nm,1.1s
N15K Kwethluk River 77.47 30 P **P** **05 16 57.8 -0.1**
baz=261,SNR=6.1
D17K Noatak River 77.64 22 P **P** **05 16 59.1 +0.4**
baz=257
J16K Anvik River 77.75 27 P **P** **05 16 59.6 +0.2**
baz=260
RDOG Red Dog Mine 77.79 22 P **P** **05 16 59.7 +0.2**
baz=257
C17K DeLong Mountai 77.79 21 P **P** **05 16 59.3 -0.2**
baz=256
I17K Unalakleet 77.82 26 P **P** **05 16 59.5 -0.2**
baz=260
E17K Hotham Inlet 77.98 23 P **P** **05 16 59.9 -0.6**
baz=258
L16K Owhat River 78.01 28 IAmb IAmb 05 17 02.1
comp=Z,14nm,1.4s
L16K Owhat River 78.01 28 P **P** **05 17 00.7 0.0**
baz=261,SNR=6.1
F17K Baldwin Pennin 78.07 23 P **P** **05 17 01.1 +0.1**
baz=259
G17K Kiwalik Mounta 78.13 24 P **P** **05 17 01.5 +0.1**
baz=259
M16K Timber Creek 78.15 29 P **P** **05 17 01.3 -0.3**
baz=262
N16K Nishlik Lake 78.17 30 P **P** **05 17 02.3 +0.5**
baz=262
H17K Granite Mounta 78.34 25 IAmb IAmb 05 17 04.0
comp=Z,8.7nm,1.1s
H17K Granite Mounta 78.34 25 P **P** **05 17 02.7 +0.1**
baz=260
O16K Kokwok River B 78.39 31 IAmb IAmb 05 17 04.3
comp=Z,11nm,1.1s
O16K Kokwok River B 78.39 31 P **P** **05 17 02.6 -0.3**
baz=263,SNR=7.8
J17K VABM Dome 78.45 27 P **P** **05 17 03.3 +0.1**
baz=261
B18K Kokolik River 78.48 20 P **P** **05 17 04.0 +0.8**
baz=258
E18K Tukpahlearik C 78.52 22 P **P** **05 17 04.0 +0.5**
baz=259
C18K Utukok River 78.54 21 P **P** **05 17 04.1 +0.4**
baz=258
L17K Donlin 78.62 28 P **P** **05 17 04.3 +0.2**
baz=262,SNR=5.9
ONI Oni 78.68 312 P **P** **05 17 05.7 +0.7**
ONI IAmb IAmb 05 17 19.5
comp=Z,11nm,1.0s
K17K Iditarod 78.70 27 IAmb IAmb 05 17 06.4
comp=Z,8.7nm,1.1s
K17K Iditarod 78.70 27 P **P** **05 17 04.8 +0.2**
baz=262
F18K Selawik 78.73 23 P **P** **05 17 04.0 -0.6**
baz=260
O17K Koliganek Bris 78.91 30 P **P** **05 17 05.6 -0.2**
baz=264
M17K Holitna River 78.93 29 IAmb IAmb 05 17 07.8
comp=Z,9.0nm,1.1s
M17K Holitna River 78.93 29 P **P** **05 17 05.3 -0.6**
baz=263
N17K Nushagak Hills 78.95 30 P **P** **05 17 06.3 +0.3**
N17K IAmb IAmb 05 17 08.0
comp=Z,8.1nm,1.1s
N17K Nushagak Hills 78.95 30 P **P** **05 17 06.0 0.0**
baz=264,SNR=9.2
G18K Tagagawik 79.02 24 P **P** **05 17 06.9 +0.6**
baz=261
H18K Honhosa River 79.02 25 P **P** **05 17 06.1 -0.3**
baz=262
KBZ Khabaz 79.12 313 P **P** **05 17 08.0 +0.7**
comp=Z,2.5nm,0.7s,baz=83,slow=4.4,SNR=10
KBZ LR LR 05 57 21.1
comp=Z,44nm,18.2s,baz=89,slow=40
comp=Z,2.5nm,0.7s
P17K Kvichak River 79.18 31 P **P** **05 17 07.3 0.0**
baz=264,SNR=5.7
C19K Lookout Ridge 79.20 21 P **P** **05 17 07.5 +0.2**
baz=260
CHIR Chirikof Islan 79.33 34 P **P** **05 17 08.4 +0.2**
baz=266
L18K Granite Mounta 79.38 28 P **P** **05 17 08.3 0.0**
baz=264,SNR=5.1
Q17K Contact Creek 79.38 32 P **P** **05 17 08.5 -0.1**
baz=265
F19K Shaleruckik Mo 79.51 23 P **P** **05 17 09.3 +0.4**
baz=262
J18K Innoko River 79.51 27 P **P** **05 17 09.4 +0.3**
baz=263
N18K Kilae Creek 79.60 30 P **P** **05 17 09.4 -0.2**
baz=265
D19K Kuna River 79.63 22 P **P** **05 17 09.7 +0.1**
baz=261
G19K Purcell Mounta 79.68 24 IAmb IAmb 05 17 11.3
comp=Z,18nm,1.8s
G19K Purcell Mounta 79.68 24 P **P** **05 17 10.1 +0.2**
baz=262
M18K Stony River 79.71 29 P **P** **05 17 10.7 +0.6**
baz=264
E19K Redstone River 79.80 23 P **P** **05 17 11.2 +0.6**
baz=262
P18K Big Mountain, 79.82 31 P **P** **05 17 10.9 +0.1**
baz=265
O18K Koktuh Hills 79.87 30 P **P** **05 17 11.2 +0.1**
baz=265,SNR=5.8
H19K Roundabout Mou 79.87 25 IAmb IAmb 05 17 12.6
comp=Z,9.6nm,1.1s
H19K Roundabout Mou 79.87 25 P **P** **05 17 10.9 0.0**
baz=263,SNR=6.0
J19K Poorman 80.05 26 P **P** **05 17 12.4 +0.5**
baz=264
D20K Etivluk River 80.20 21 P **P** **05 17 13.1 +0.4**
baz=262
L19K White Mountain 80.23 28 P **P** **05 17 12.6 -0.4**
baz=265,SNR=8.1
E20K Nigu River 80.30 22 P **P** **05 17 13.3 0.0**
baz=263
N19K Bonanza Creek 80.30 29 IAmb IAmb 05 17 15.2
comp=Z,13nm,1.1s
N19K Bonanza Creek 80.30 29 P **P** **05 17 13.6 +0.2**
baz=266
F20K Avaraart Lake 80.33 23 P **P** **05 17 13.7 +0.3**
baz=264
O19K Port Alsworth 80.34 30 P **P** **05 17 13.9 +0.4**
baz=266
M19K Big River Lodg 80.43 28 IAmb IAmb 05 17 15.9
comp=Z,15nm,1.4s
M19K Big River Lodg 80.43 28 P **P** **05 17 13.9 -0.2**
baz=266
H20K Anotleneega Mo 80.51 25 P **P** **05 17 14.4 0.0**
baz=265,SNR=8.1
K20K Telida 80.69 27 P **P** **05 17 15.8 +0.4**
baz=266,SNR=6.6
OHAK Old Harbor 80.71 33 P **P** **05 17 16.5 +0.9**
baz=267
L20K Farewell, AK 80.71 28 P **P** **05 17 16.4 +0.8**
baz=266
J20K Nowinta River 80.71 26 IAmb IAmb 05 17 18.0
comp=Z,10nm,1.4s
J20K Nowinta River 80.71 26 P **P** **05 17 15.6 +0.1**
baz=266
P19K Oil Pt 80.85 31 P **P** **05 17 16.0 -0.4**
baz=267
C21K Knifeblade Rid 80.91 21 P **P** **05 17 16.7 +0.2**
baz=264
B21K Ikpikpuk River 81.02 21 IAmb IAmb 05 17 37.9
comp=Z,8.6nm,1.0s
B21K Ikpikpuk River 81.02 21 P **P** **05 17 17.5 +0.5**
baz=264
M20K Styx River 81.02 28 P **P** **05 17 16.6 -0.7**
M20K IAmb IAmb 05 17 19.0
comp=Z,15nm,1.1s
M20K Styx River 81.02 28 P **P** **05 17 16.9 -0.4**
baz=267,SNR=12
A22K Sinclair Lake 81.05 19 P **P** **05 17 17.0 -0.1**
baz=264
KDAK Kodiak Island 81.11 33 P **P** **05 17 17.4 -0.3**
baz=268
E21K Killik River 81.14 22 P **P** **05 17 17.6 -0.1**
baz=265
G21K Allakaket 81.16 24 P **P** **05 17 17.6 -0.2**
baz=266,SNR=7.4
O20K Slope Mountain 81.18 30 P **P** **05 17 18.0 -0.2**
baz=268
H21K Melozitna Rive 81.39 25 P **P** **05 17 18.7 -0.3**
H21K Melozitna Rive 81.39 25 P **P** **05 17 18.8 -0.3**
baz=266,SNR=6.3
N20K Mount Spurr 81.43 29 P **P** **05 17 18.9 -0.5**
baz=268
B22K Teshekpuk Lake 81.50 20 P **P** **05 17 19.4 -0.1**
baz=265
CHUM Lake Minchumin 81.50 26 P **P** **05 17 19.5 -0.1**
baz=267
PPLA Purkeypile 81.51 27 P **P** **05 17 19.6 -0.4**
baz=268
CAST Castle Rocks 81.58 27 P **P** **05 17 20.0 -0.2**
CAST IAmb IAmb 05 17 21.3
comp=Z,9.6nm,1.0s
CAST Castle Rocks 81.58 27 P **P** **05 17 19.8 -0.3**
baz=268,SNR=15

D22K	Ayikyak River baz=266	81.64	21	P	P	05 17 20.4	0.0	
I21K	Tanana baz=267	81.70	25	P	P	05 17 20.7	0.0	
F22K	John River baz=267	81.75	23	P	P	05 17 20.9	0.0	
SKT	Skwentna comp=Z,10nm,1.1s	81.78	28	IAmb	IAmb	05 17 21.4		
SKT	Skwentna baz=268,SNR=6.5	81.78	28	P	P	05 17 20.7	-0.5	
E22K	Anaktuvuk Pass baz=267	81.92	22	P	P	05 17 22.2	+0.3	
G22K	Bettles baz=268	81.98	23	P	P	05 17 22.3	+0.1	
H22K	Ishtalitna Cre baz=268	81.99	24	P	P	05 17 22.4	+0.2	
BPAW	Bear Paw Mtn.	82.09	26	P	P	05 17 22.5	-0.4	
BPAW	comp=Z,11nm,1.0s			IAmb	IAmb	05 17 24.0		
BPAW	Bear Paw Mtn. baz=268,SNR=11	82.09	26	P	P	05 17 22.9	+0.1	
BRSE	Bradley Lake S baz=269	82.12	31	P	P	05 17 22.4	-0.6	
SUA	Susitna One baz=269	82.14	29	P	P	05 17 22.7	-0.6	
MLY	Manley baz=268	82.23	25	P	P	05 17 23.3	-0.2	
D23K	Nanushuk River baz=268	82.37	21	P	P	05 17 24.3	+0.1	
CUT	Chulitna baz=269	82.38	28	P	P	05 17 24.1	-0.2	
TRF	Thorofare Moun baz=269	82.39	27	P	P	05 17 24.3	-0.3	
C23K	Itkillik River comp=Z,21nm,1.6s	82.42	20	IAmb	IAmb	05 17 25.8		
C23K	Itkillik River baz=268,SNR=6.6	82.42	20	P	P	05 17 24.2	-0.2	
COLD	Coldfoot baz=269	82.50	23	P	P	05 17 25.2	+0.3	
G23K	Bananza Creek baz=269,SNR=5.6	82.56	24	P	P	05 17 25.5	+0.3	
H23K	Yukon River baz=270	82.74	24	P	P	05 17 26.4	+0.2	
TOLK	Toolik Lake Re baz=269	82.77	22	P	P	05 17 26.6	+0.3	
SEW	Seward baz=270	82.77	30	P	P	05 17 26.1	-0.2	
I23K	Minto, Yukon-K comp=Z,13nm,1.2s	82.81	25	IAmb	IAmb	05 17 29.2		
I23K	Minto, Yukon-K baz=270,SNR=7.2	82.81	25	P	P	05 17 26.2	-0.3	
NEA2	Nenana baz=270	82.93	26	P	P	05 17 27.9	+0.7	
MCK	McKinley baz=270,SNR=9.2	83.00	27	P	P	05 17 26.8	-0.7	
RND	Reindeer comp=Z,8.3nm,0.8s	83.03	27	IAmb	IAmb	05 17 28.8		
D24K	Happy Valley baz=270,SNR=5.2	83.04	21	P	P	05 17 27.6	0.0	
C24K	Franklin Bluff baz=270	83.09	21	P	P	05 17 27.8	-0.1	
E24K	Your Creek baz=270	83.16	22	P	P	05 17 27.8	-0.6	
WAT1	Susitna Watana baz=271	83.18	28	P	P	05 17 27.9	-0.6	
KNK	Knik Glacier baz=271	83.24	29	P	P	05 17 28.4	-0.4	
SML	Sawmill	83.30	29	P	P	05 17 27.4	-1.8	
SML	Sawmill baz=271,SNR=5.8	83.30	29	P	P	05 17 28.8	-0.4	
WRH	Wood River Hil comp=Z,14nm,1.2s	83.36	26	IAmb	IAmb	05 17 29.9		
F24K	Squaw Lake baz=271	83.40	23	P	P	05 17 29.7	+0.1	
H24K	Noodor Dome comp=Z,14nm,1.2s	83.42	24	IAmb	IAmb	05 17 32.8		
H24K	Noodor Dome baz=271,SNR=11	83.42	24	P	P	05 17 30.4	+0.6	
COLA	College baz=271	83.45	25	P	P	05 17 29.8	0.0	
WAT6	Susitna Watana baz=272,SNR=11	83.56	28	P	P	05 17 29.9	-0.7	
G24K	Hadweenzic Riv comp=Z,12nm,1.4s	83.57	24	IAmb	IAmb	05 17 32.3		
G24K	Hadweenzic Riv baz=271	83.57	24	P	P	05 17 30.1	-0.3	
M23K	Glacier View baz=272	83.58	29	P	P	05 17 30.3	-0.3	
POKR	Poker Plat Res baz=272	83.63	25	P	P	05 17 31.0	+0.2	
DHY	Denali Highway baz=272	83.71	27	P	P	05 17 30.8	-0.6	
SCM	Sheep Creek Mo comp=Z,15nm,1.1s	83.77	29	IAmb	IAmb	05 17 32.1		
SCM	Sheep Creek Mo baz=272	83.77	29	P	P	05 17 31.0	-0.6	
P23K	Montague Islan baz=272	83.80	30	P	P	05 17 30.7	-1.0	
HDA	Harding Lake baz=272,SNR=5.5	83.86	26	P	P	05 17 31.2	-0.7	
ILAR	Eielson Array	83.87	26	P	P	05 17 29.8	-2.2	
ILAR	Eielson Array comp=Z,1.8nm,0.9s,baz=257,slow=5.0,SNR=14 comp=Z,1.8nm,0.9s	83.87	26	P	P	05 17 30.9	-1.1	
D25K	Kavik River baz=272,SNR=6.8	83.91	21	P	P	05 17 31.7	-0.4	
GLI	Glacier Island baz=272	83.92	29	P	P	05 17 31.9	-0.4	
G25K	Bearman Lake baz=272	84.11	24	P	P	05 17 32.6	-0.5	
H25L	Birch Creek baz=273	84.25	24	P	P	05 17 33.8	-0.1	
F25K	Christian Rive baz=273,SNR=6.4	84.25	23	P	P	05 17 33.9	0.0	
E25K	Arctic Village comp=Z,11nm,1.3s	84.26	22	IAmb	IAmb	05 17 35.9		
E25K	Arctic Village baz=273,SNR=8.9	84.26	22	P	P	05 17 34.0	+0.1	
M24K	Tolsona, Glenn baz=273	84.30	28	P	P	05 17 33.8	-0.5	
Q23K	Middleton Isla baz=273	84.36	31	P	P	05 17 34.1	-0.4	
C26K	Camden Bay baz=273	84.40	20	P	P	05 17 34.3	-0.2	
K24K	Donnelly Dome baz=273,SNR=6.4	84.40	26	P	P	05 17 34.4	-0.4	
PRP	Porcupine Dome baz=273	84.41	25	P	P	05 17 34.2	-0.6	
KLU	Klutina baz=273	84.46	29	P	P	05 17 34.0	-1.1	
FYU	Fort Yukon comp=Z,7.4nm,0.9s	84.47	24	IAmb	IAmb	05 18 17.8		
J25K	Salcha River, baz=273	84.53	26	P	P	05 17 34.8	-0.6	
PAX	Paxson baz=274,SNR=7.6	84.58	27	P	P	05 17 35.5	-0.3	
EYAK	Cordova Ski Ar baz=273	84.59	30	P	P	05 17 35.5	-0.2	
BMAR	Burnt Mountain	84.67	23	P	P	05 17 37.0	+1.0	
HARP	HAARP baz=274	84.76	28	P	P	05 17 36.2	-0.3	
F26K	Sheenjek River baz=274,SNR=5.1	84.82	23	P	P	05 17 37.2	+0.4	
C27K	Jago River baz=274,SNR=6.5	84.83	21	P	P	05 17 37.0	+0.3	
G26K	Porcupine Rive baz=275,SNR=9.7	85.02	23	P	P	05 17 38.2	+0.5	
N25K	Chitina, Valde comp=Z,12nm,1.2s	85.08	29	IAmb	IAmb	05 17 39.7		
N25K	Chitina, Valde baz=274,SNR=5.0	85.08	29	P	P	05 17 37.9	-0.3	
BMRM	Bremner River baz=274	85.13	29	P	P	05 17 38.1	-0.4	
SCRK	Sand Creek comp=Z,10nm,1.4s	85.17	26	IAmb	IAmb	05 17 51.9		
SCRK	Sand Creek baz=275,SNR=8.8	85.17	26	P	P	05 17 38.3	-0.5	
KAIM	Kayak Island baz=275	85.30	30	P	P	05 17 39.4	+0.1	
J26L	Joseph Creek comp=Z,7.5nm,1.1s	85.31	26	IAmb	IAmb	05 17 40.1		
J26L	Joseph Creek baz=275,SNR=10	85.31	26	P	P	05 17 39.0	-0.4	
MMAI	Mount Meron Ar comp=Z,34nm,18.5s,baz=124,slow=41	85.32	303	LR	LR	06 03 40.8		
I26K	Coal Creek Min baz=275	85.42	25	P	P	05 17 39.1	-0.6	
GLB	Gilahina Butte	85.47	29	IAmb	IAmb	05 17 41.4		
	comp=Z,11nm,1.2s							
L26K	Log Cabin Wild comp=Z,6.6nm,1.1s	85.54	27	IAmb	IAmb	05 17 41.8		
L26K	Log Cabin Wild baz=275	85.54	27	P	P	05 17 40.7	+0.2	
VRDI	Verde Repeater comp=Z,7.2nm,1.2s	85.66	29	IAmb	IAmb	05 17 42.3		
E27K	Coleen River comp=Z,7.9nm,1.1s	85.73	22	IAmb	IAmb	05 17 43.0		
E27K	Coleen River baz=276,SNR=6.7	85.73	22	P	P	05 17 41.5	+0.2	
M26K	Nabesna, AK baz=276,SNR=6.1	85.77	28	P	P	05 17 41.6	-0.1	
D27M	Malcolm River baz=277	85.84	21	P	P	05 17 42.2	+0.4	
G27K	Doyon Strip comp=Z,6.4nm,1.2s	85.87	23	IAmb	IAmb	05 17 44.0		
G27K	Doyon Strip baz=277,SNR=6.5	85.87	23	P	P	05 17 42.5	+0.5	
H27K	Steamboat Moun baz=277,SNR=7.8	85.99	24	P	P	05 17 42.9	+0.2	
K27K	Chicken baz=276	86.01	26	P	P	05 17 43.1	+0.4	
I27K	Kandik River baz=277,SNR=16	86.02	25	P	P	05 17 43.2	+0.3	
BR131	Keskin Array S	86.17	309	P	P	05 17 44.0	-0.2	
BRTR	Keskin Array B	86.17	309	P	P	05 17 43.7	-0.6	
BRTR	Keskin Array B comp=Z,1.6nm,0.9s,baz=110,slow=6.3,SNR=7.4 comp=Z,1.6nm,0.9s	86.17	309	P	P	05 17 42.7	-1.6	
L27K	Beaver Creek, comp=Z,7.0nm,1.1s	86.23	27	IAmb	IAmb	05 17 45.7		
L27K	Beaver Creek, baz=277,SNR=7.9	86.23	27	P	P	05 17 44.1	+0.3	
BCAR	Beaver Creek A	86.25	27	P	P	05 17 43.9	-0.1	
M27K	Edge Creek, AK baz=277	86.29	28	P	P	05 17 43.9	-0.4	
EGAK	Eagle	86.31	25	P	P	05 17 44.1	-0.1	
EGAK	comp=Z,16nm,1.9s			IAmb	IAmb	05 18 21.9		
EGAK	Eagle baz=277	86.31	25	P	P	05 17 44.1	-0.1	
E28M	Babbage River baz=278	86.44	21	P	P	05 17 44.9	+0.2	
VNDA	Vanda	86.45	172	P	P	05 17 45.0	+0.5	
VNDA	Vanda comp=Z,3.9nm,0.9s,baz=309,slow=6.8,SNR=12	86.45	172	P	P	05 17 45.1	+0.6	
VNDA	comp=Z,68nm,20.4s,baz=315,slow=35 comp=Z,3.9nm,0.9s			LR	LR	05 56 10.2		
F28M	Old Crow baz=278	86.45	22	P	P	05 17 45.0	+0.1	
MESA	MESA baz=277	86.51	30	P	P	05 17 45.5	0.0	
BARN	Barnard Glacie comp=Z,9.5nm,1.3s	86.55	29	IAmb	IAmb	05 17 47.3		
CTG	Chitna Glacier baz=277	86.71	29	P	P	05 17 46.5	+0.1	
CTGM	Chitina Glacie comp=Z,10nm,1.2s	86.72	29	IAmb	IAmb	05 18 29.8		
I28M	Miner Creek baz=278,SNR=6.1	86.74	25	P	P	05 17 46.2	-0.2	
ARCES	ARCESS Array B comp=Z,1.7nm,0.9s,baz=51,slow=7.1,SNR=2.7	86.97	340	P	P	05 17 45.5	-1.8	
ARCES	comp=Z,67nm,18.6s,baz=112,slow=39 comp=Z,1.7nm,0.9s			LR	LR	06 01 05.0		
YUK3	Moose Creek baz=278	87.03	28	P	P	05 17 47.7	-0.3	
E29M	Blow River baz=280	87.07	22	P	P	05 17 47.9	+0.1	
DAWY	Dawson baz=277	87.17	26	P	P	05 17 48.4	-0.1	
H29M	Whitestone comp=Z,14nm,1.6s	87.25	24	IAmb	IAmb	05 18 32.6		
H29M	Whitestone baz=280	87.25	24	P	P	05 17 48.6	-0.2	
G29M	Pine Creek comp=Z,7.7nm,1.3s	87.27	23	IAmb	IAmb	05 17 50.3		
G29M	Pine Creek baz=280	87.27	23	P	P	05 17 48.5	-0.3	
O28M	Mount Upton baz=278	87.30	29	P	P	05 17 49.0	-0.5	
SPITS	Spitsbergen Ar comp=Z,86nm,18.3s,baz=29,slow=39	87.30	349	LR	LR	06 02 30.7		
I29M	Ogilvie Camp, baz=280	87.42	25	P	P	05 17 49.5	-0.2	
YUK8	Steele Glacier baz=279	87.42	29	P	P	05 17 49.7	-0.3	
M29M	Somme Creek baz=280	87.85	27	P	P	05 17 51.2	-0.7	
PNL	Peninsula baz=279	87.85	30	P	P	05 17 51.1	-0.7	
EPYK	Eagle Plains comp=Z,6.4nm,1.1s	87.88	23	IAmb	IAmb	05 17 52.2		
EPYK	Eagle Plains baz=281	87.88	23	P	P	05 17 51.2	-0.6	
L29M	L29M comp=Z,9.0nm,1.4s	87.89	27	IAmb	IAmb	05 18 28.5		
L29M	L29M baz=280	87.89	27	P	P	05 17 51.1	-0.8	
YUK4	Talbot Arm baz=280	87.95	29	P	P	05 17 51.8	-0.7	
G30M	tAoh Zraii Nji baz=282	87.96	23	P	P	05 17 52.0	-0.2	
F30M	Barrier River baz=282	88.00	22	P	P	05 17 51.9	-0.3	
K29M	Barlow Dome baz=280	88.03	26	P	P	05 17 51.6	-1.0	
AKASG	Malin Array Be comp=Z,0.2nm,0.2s,baz=71,slow=4.3,SNR=1.3 comp=Z,0.2nm,0.2s	88.06	321	P	P	05 17 51.4	-1.5	
FINES	FINESS Array B comp=Z,1.5nm,0.8s,baz=60,slow=5.5,SNR=8.3 comp=Z,1.5nm,0.8s	88.15	332	P	P	05 17 51.6	-1.5	
YUK6	Outpost Mounta baz=280	88.15	29	P	P	05 17 52.8	-0.7	
I30M	Mount Dempster baz=282	88.25	25	P	P	05 17 53.6	-0.1	
J30M	Hart River baz=282	88.40	25	P	P	05 17 54.3	-0.1	
PPT2	Papeete2 comp=Z,95nm,24.5s	88.58	108	*e*LR	LR	05 46 09.1		
HYT	Haines Junctio baz=281	88.59	29	P	P	05 17 55.0	-0.4	
M30M	Minto, Yukon baz=281	88.59	27	P	P	05 17 55.4	+0.2	
N30M	Aishikik Lake baz=281	88.67	28	P	P	05 17 55.9	+0.2	
INK	Inuvik baz=284	88.67	21	P	P	05 17 55.1	-0.3	
INK	Inuvik comp=Z,39nm,21.9s,baz=220,slow=37	88.67	21	LR	LR	05 59 30.5		
P29M	Windy Craggy baz=280	88.69	30	P	P	05 17 55.9	+0.1	
G31M	Satah River baz=283	88.72	23	P	P	05 17 56.3	+0.6	
H31M	Peel River comp=Z,5.1nm,1.1s	88.95	24	IAmb	IAmb	05 17 57.7		
H31M	Peel River baz=283	88.95	24	P	P	05 17 56.9	0.0	
P30M	Million Dollar baz=281	88.98	30	P	P	05 17 57.5	+0.3	
N31M	Braeburn, Yuko comp=Z,4.8nm,1.0s	89.28	28	IAmb	IAmb	05 17 59.8		
N31M	Braeburn, Yuko baz=282	89.28	28	P	P	05 17 59.3	+0.8	
O30N	Mendenhall baz=282	89.28	29	P	P	05 17 59.2	+0.7	
PLBC	Pleasant Camp baz=282	89.41	30	P	P	05 17 59.2	+0.1	
M31M	Drury Creek, Y baz=283	89.76	27	P	P	05 18 00.1	-0.6	
S31K	Pelican baz=282	89.78	32	P	P	05 18 00.8	0.0	
WHY	Whitehorse comp=Z,5.2nm,1.0s	89.88	29	IAmb	IAmb	05 18 02.6		
WHY	Whitehorse baz=283	89.88	29	P	P	05 18 01.8	+0.4	
FARO	Faro, Yukon	90.23	27	P	P	05 18 02.5	-0.4	
FARO	comp=Z,4.9nm,0.9s			IAmb	IAmb	05 18 03.9		
FARO	Faro, Yukon baz=284	90.23	27	P	P	05 18 03.1	+0.1	
A36M	Sachs Harbour baz=292	90.23	17	P	P	05 18 03.3	+0.6	
SIT	Sitka baz=282	90.45	32	P	P	05 18 04.2	+0.3	
R32K	Eaglecrest baz=283	90.60	31	P	P	05 18 04.7	0.0	
N32M	Quiet Lake baz=284	90.62	28	P	P	05 18 04.8	0.0	
P32M	Atlin baz=284	90.70	30	P	P	05 18 04.6	-0.6	
S32K	Killisnoo baz=283	90.75	32	P	P	05 18 04.7	-0.6	
P33M	Teslin, Yukon baz=285	90.98	29	P	P	05 18 06.1	-0.4	
MLR	Muntele Rosu comp=Z,79nm,20.1s,baz=128,slow=39	91.04	316	LR	LR	06 04 21.0		
C36M	Paulatuk baz=293	91.60	19	P	P	05 18 09.0	0.0	
U33K	Whale Pass baz=284	91.85	33	P	P	05 18 10.5	0.0	
CRAG	Craig baz=284	92.01	34	P	P	05 18 10.7	-0.5	
R33M	Jennings River baz=286	92.10	30	P	P	05 18 11.5	-0.3	
WRAK	Wrangell Islan baz=285	92.19	33	P	P	05 18 11.8	-0.3	
S34M	Telegraph Cree baz=286	92.43	31	P	P	05 18 13.0	-0.2	
TGTN	Hyland Airport baz=289	92.73	27	P	P	05 18 14.0	-0.6	
DLBC	Dease Lake baz=287	92.84	30	P	P	05 18 15.0	-0.2	
V35K	Ketchikan baz=286	92.88	34	P	P	05 18 14.9	-0.3	
MBAR	Mbarara comp=Z,14nm,19.3s,baz=32,slow=38	93.26	270	LR	LR	06 03 44.5		
HFS	Hagfors comp=Z,49nm,18.4s,baz=78,slow=38	94.35	332	LR	LR	06 04 41.7		
TOAD	Toad River Com baz=291	95.08	29	P	P	05 18 25.3	-0.1	
NOA	NORSAR Array B comp=Z,67nm,18.1s,baz=30,slow=38	95.14	333	LR	LR	06 05 19.3		
RES	Resolute Bay comp=Z,24nm,19.2s,baz=22,slow=38	95.64	10	LR	LR	06 06 02.4		
QSPA	South Pole Qui comp=Z,3.9nm,1.1s,baz=327,slow=1.7,SNR=5.6	96.32	180	P	P	05 18 31.3	+0.4	
QSPA	comp=Z,56nm,19.4s,baz=350,slow=37 comp=Z,3.9nm,1.1s			LR	LR	06 05 09.4		
JMIC	Jan Mayen comp=Z,37nm,18.3s,baz=76,slow=39	96.58	346	LR	LR	06 08 21.3		
YKA	Yellowknife Ar comp=Z,0.6nm,0.9s,baz=306,slow=5.5,SNR=9.0 comp=Z,0.6nm,0.9s	98.17	24	P	P	05 18 38.0	-1.2	
GERES	GERESS Array B comp=Z,42nm,21.1s,baz=120,slow=37	98.26	321	LR	LR	06 05 40.4		
NEW	Newport baz=296	103.79	37	P	Pdif	05 19 03.6	-1.1	
MSO	Missoula baz=299	106.37	37	P	PKiKP	05 23 26.7	-0.6	
EGMT	Eagleton baz=303	108.20	35	P	PKiKP	05 23 30.1	-0.5	
OSI	Osito Audit: C baz=292	108.26	50	P	PKiKP	05 23 30.9	-0.2	
BOZ	Bozeman (W) baz=300	108.37	38	P	PKiKP	05 23 30.8	-0.3	
PFO	Pinyon Flats O baz=293	110.38	51	P	PKiKP	05 23 34.0	-1.3	
TPFO	Pinon Flats baz=293	110.38	51	P	PKiKP	05 23 34.3	-0.9	
MONP2	Monument Peak baz=293	110.68	51	P	PKiKP	05 23 35.3	-0.6	
LAO	LASA Array baz=305	110.94	34	P	PKiKP	05 23 35.8	0.0	
RSSD	Black Hills baz=306	113.69	36	P	PKiKP	05 23 41.2	-0.2	
ISCO	Idaho Springs baz=303	115.19	40	P	PKPdf	05 23 44.2	-0.3	
SDCO	Great Sand Dun baz=303	116.38	42	P	PKPdf	05 23 46.0	-0.8	
ANMO	Albuquerque baz=301	117.18	45	P	PKiKP	05 23 47.9	-0.4	
121A	Cookes Peak, D baz=299	117.41	48	P	PKiKP	05 23 48.5	-0.3	
T25A	Trinidad baz=303	117.44	42	P	PKiKP	05 23 48.6	-0.2	
EYMN	Ely baz=320	117.51	26	P	PKiKP	05 23 48.5	+0.2	
ECSD	EROS Data Cent baz=313	118.07	32	P	PKiKP	05 23 49.3	-0.2	
BGNE	Belgrade baz=311	118.77	35	P	PKiKP	05 23 50.6	-0.4	
SPMN	Marine on St. baz=317	118.94	29	P	PKiKP	05 23 50.8	-0.3	
TORD	Torodi Ar. Bea comp=Z,1.2nm,1.0s,baz=50,slow=4.5,SNR=5.7	119.44	289	PKP	PKPdf	05 23 51.7	-1.2	
AMTX	Amarillo baz=305	120.53	43	P	PKPdf	05 23 53.8	-0.8	
SCIA	State Center baz=316	121.14	32	P	PKiKP	05 23 54.9	-0.6	
KSU1	Kansas State U baz=311	121.17	36	P	PKPdf	05 23 54.9	-0.7	
JFWS	Jewell Farm baz=319	121.89	29	P	PKPdf	05 23 56.1	-0.7	
TXAR	Lajitas Array comp=Z,0.7nm,1.0s,baz=232,slow=1.0,SNR=6.0	122.05	50	PKP	PKPdf	05 23 56.0	-1.7	
WMOK	Wichita Mounta baz=307	122.55	42	P	PKiKP	05 23 58.2	-0.4	
GLMI	Grayling baz=326	122.88	24	P	PKiKP	05 23 58.2	-0.7	
ABTX	Abilene, Hawle baz=305	123.21	44	P	PKiKP	05 23 59.3	-0.7	
L44A	Lake County Fo baz=321	123.57	28	P	PKiKP	05 23 59.9	-0.4	
TUL3	Leonard baz=310	123.73	39	P	PKPdf	05 23 59.9	-0.7	
HDIL	Hopedale baz=319	124.14	30	P	PKPdf	05 24 00.6	-0.6	
JCT	Junction City baz=304	124.30	46	P	PKPdf	05 24 01.2	-0.7	
CCM	Cathedral Cave baz=316	124.94	34	P	PKPdf	05 24 02.2	-0.7	
WHTX	Lake Whitney, baz=307	125.08	43	P	PKPdf	05 24 02.5	-0.8	
SFIN	Lafayette baz=321	125.35	29	P	PKiKP	05 24 03.4	-0.5	
833A	Chaparral WMA, baz=303	125.78	48	P	PKiKP	05 24 04.3	-0.8	
MIAR	Mount Ida baz=312	126.00	38	P	PKiKP	05 24 04.6	-0.8	
O48B	Farmland baz=323	126.36	28	P	PKiKP	05 24 05.1	-0.9	
LONY	Lake Ozonia baz=337	126.51	16	P	PKPdf	05 24 05.2	-0.5	
ERPA	Erie baz=330	126.97	22	P	PKPdf	05 24 05.9	-0.8	
P49A	Miami Univ. Ec baz=323	127.14	28	P	PKPdf	05 24 06.1	-0.9	
PKME	Peaks-Kenny Pk baz=344	127.18	12	P	PKiKP	05 24 06.7	-0.7	
M53A	WI Miller and baz=329	127.29	23	P	PKPdf	05 24 06.3	-1.0	
ACSO	Alum Creek Sta baz=326	127.35	26	P	PKPdf	05 24 06.8	-0.6	
WCI	Wyandotte Cave baz=321	127.41	30	P	PKPdf	05 24 07.1	-0.5	
LBNH	Lisbon baz=340	127.56	14	P	PKiKP	05 24 07.4	-0.8	
O53A	New Philadelph baz=328	128.08	24	P	PKiKP	05 24 08.4	-1.0	
P52A	Corning baz=326	128.21	26	P	PKiKP	05 24 08.7	-1.0	
WVT	Waverly baz=318	128.21	33	P	PKiKP	05 24 08.9	-0.9	
BINY	Binghamton baz=334	128.29	19	P	PKiKP	05 24 08.8	-1.0	
OXF	Oxford baz=316	128.51	35	P	PKiKP	05 24 09.7	-0.7	
SSPA	Standing Stone baz=332	129.04	21	P	PKPdf	05 24 10.2	-0.4	
L61B	Northampton baz=339	129.04	16	P	PKiKP	05 24 10.3	-0.9	
HRV	Adam Dziewonsk baz=340	129.28	15	P	PKPdf	05 24 10.6	-0.5	
PAL	Palisades baz=337	130.03	18	P	PKiKP	05 24 12.4	-0.8	
TZTN	Tazewell baz=323	130.08	29	P	PKiKP	05 24 13.3	-0.3	
LRAL	Lakeview Retre baz=318	130.96	35	P	PKiKP	05 24 14.8	-0.5	
BLA	Blacksburg baz=327	130.97	26	P	PKiKP	05 24 14.7	-0.7	
CBN	Corbin Frederi	131.36	22	P	PKiKP	05 24 15.3	-0.7	

baz=331
KMSC **Kings Mountain** 132.27 28 P PKiKP 05 24 17.4 -0.6
baz=325
TIGA **Tifton** 134.06 33 P PKiKP 05 24 20.5 -1.2
baz=320
CPUP **Villa Florida** 160.18 177 PKPab PKPab 05 25 43.6 +1.2
comp=Z,2.6nm,0.9s,baz=220,slow=9.1,SNR=5.4

IDC 16 05:08:07.6±436.0, 0°28S×77°09W, h0km, Error ellipse: s-maj=238.9km s-min=157.8km az=17.0, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I20EC	**Galapagos**	**13.28**	**269**	I	I	06 28 20.0	
	baz=87,slow=323,SNR=2.6						
I08BO	**LAS PENAS INFR**	**17.98**	**152**	I	I	06 55 30.0	
	baz=330,slow=328,SNR=1.4						
I09BR	**BRASILIA INFRA**	**32.51**	**119**	I	I	08 26 30.0	
	baz=293,slow=324,SNR=1.9						

*JMA **16** 05:32:24.3±0.2, 35°7N±0°.5×140°.2E±0°.8, h65km±1km, MV3.1/38, CENTRAL CHIBA PREF*
*IDC **16** 05:32:26.1±3.1, 35°.49N×140°.04E, h74km±20km, mb3.3/5, mbtmp3.7/6, MS3.0/1, Error ellipse: s-maj=49.3km s-min=7.6km az=67.0*
ISC 16 05:32:24.6±0.9, 35°.60N±0°.04×140°.21E±0°.04, h67km±6km, n35, σ0°65/38, mb3.7/5, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCN	**Nagara**	**0.18**	**182**	P	**Pn**	**05 32 35.1**	**+0.3**
JCN				*e*S	**Sn**	**05 32 42.9**	**+0.8**
JSMT	**Sammumatsuo**	**0.20**	**78**	P	**Pn**	**05 32 34.7**	**-0.2**
JSMT				*e*S	**Sn**	**05 32 42.3**	**0.0**
TOK	**Tokyo**	**0.38**	**283**	*e*P	**Pn**	**05 32 36.1**	**+0.2**
JIHU	**Itakohorinouch**	**0.45**	**35**	*e*P	**Pn**	**05 32 36.5**	**-0.1**
BSO3	**Boso 3**	**0.83**	**163**	*i* P	**Pn**	**05 32 40.8**	**+0.1**
JOD2	**Odawara 2**	**0.97**	**250**	*i* P	**Pn**	**05 32 42.2**	**-0.4**
JOD2				S	**Sn**	**05 32 55.4**	**-0.7**
JAG	**Ashikaga**	**1.03**	**324**	*i* P	**Pn**	**05 32 42.5**	**-0.8**
JAG				S	**Sn**	**05 32 55.9**	**-1.3**
JIM2	**Oshima 3**	**1.09**	**216**	P	**Pn**	**05 32 43.4**	**-0.7**
JIM2				S	**Sn**	**05 32 58.1**	**-0.5**
BSO1	**Boso 1**	**1.14**	**146**	P	**Pn**	**05 32 43.8**	**-0.4**
BSO1				*e*S	**Sn**	**05 32 59.7**	**+0.9**
JRY	**Ryogami san**	**1.14**	**292**	*i* P	**Pn**	**05 32 44.8**	**0.0**
JRY				S	**Sn**	**05 32 60.0**	**+0.1**
JFNN	**Fujinakano**	**1.31**	**252**	P	**Pn**	**05 32 46.9**	**-0.1**
JFNN				S	**Sn**	**05 33 04.1**	**+0.4**
JYN	**Shimob**	**1.36**	**266**	*i* P	**Pn**	**05 32 47.4**	**-0.3**
JIZS	**Izushimoda**	**1.40**	**231**	P	**Pn**	**05 32 47.8**	**-0.4**
JIZS				S	**Sn**	**05 33 05.1**	**-0.8**
MJAR	**Matsushiro Arr**	**1.87**	**301**	P	**Pn**	**05 32 54.5**	**-0.1**
	22nm,0.4s,baz=112,slow=13,SNR=82						
MJAR				S	**Sn**	**05 33 17.4**	**+0.2**
	20nm,0.5s,baz=137,slow=19,SNR=3.6						
MAJO	**Matsushiro**	**1.88**	**301**	P	**Pn**	**05 32 54.9**	**+0.3**
JMM	**Marumori**	**2.31**	**12**	P	**Pn**	**05 33 00.8**	**+0.4**
JGF	**Kuroka**	**2.32**	**271**	P	**Pn**	**05 33 01.9**	**+1.3**
JHJ	**Hachijo jima 2**	**2.50**	**188**	P	**Pn**	**05 33 02.7**	**-0.3**
	218nm,0.3s,baz=97,slow=18,SNR=42						
JHJ				S	**Sn**	**05 33 31.7**	**-0.7**
	204nm,0.3s,baz=118,slow=23,SNR=9.4						
JHJ2	**Mitsune**	**2.50**	**188**	P	**Pn**	**05 33 03.2**	**+0.2**
INU	**Inuyama**	**2.62**	**265**	P	**Pn**	**05 33 05.5**	**+0.9**
JSD	**Sado**	**2.89**	**328**	P	**Pn**	**05 33 08.2**	**-0.1**
JMN	**Monobe**	**5.54**	**252**	P	**Pn**	**05 33 45.6**	**+1.0**
JCJ	**Chichijima**	**8.64**	**168**	P	Pn	05 34 19.3	-7.7
	36nm,0.4s,baz=299,slow=19,SNR=14						
JCJ				S	Sn	05 35 44.5	-18
	48nm,0.8s,baz=284,slow=17,SNR=1.6						
H11N2	**WAKE ISLAND Hy**	**28.31**	**117**	T	T	06 08 10.8	
	baz=308,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**28.32**	**117**	T	T	06 08 05.5	
	baz=308,slow=75,SNR=13						
H11N3	**WAKE ISLAND Hy**	**28.33**	**117**	T	T	06 08 05.9	
	baz=308,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	06 08 17.0	
	baz=312,slow=76,SNR=7.9						
H11S3	**WAKE ISLAND Hy**	**28.96**	**119**	T	T	06 08 20.6	
	baz=312,slow=76,SNR=6.6						
H11S2	**WAKE ISLAND Hy**	**28.97**	**119**	T	T	06 08 23.3	
	baz=312,slow=76,SNR=4.0						
DAV	**Davao City (W)**	**31.41**	**209**	LR	LR	05 50 31.2	
	comp=Z,26nm,20.7s,baz=13,slow=35						
MKAR	**Makanchi Array**	**44.07**	**303**	P	**P**	**05 40 27.0**	**+1.1**
	0.1nm,0.3s,baz=80,slow=9.3,SNR=1.2						
	0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**46.13**	**309**	P	**P**	**05 40 42.4**	**+0.3**
	0.5nm,0.5s,baz=85,slow=7.5,SNR=6.4						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**55.52**	**187**	P	**P**	**05 41 52.3**	**-0.6**
	0.7nm,0.4s,baz=0.7,slow=7.6,SNR=18						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**59.24**	**187**	P	**P**	**05 42 19.9**	**+0.8**
	0.4nm,0.5s,baz=18,slow=12,SNR=9.7						
	0.4nm,0.5s						
AKASG	**Malin Array Be**	**74.83**	**322**	P	**P**	**05 43 56.6**	**-1.1**
	0.2nm,0.3s,baz=47,slow=6.1,SNR=2.0						
	0.2nm,0.3s						

*TIR **16** 05:53:02.9, 39°.62N×20°.31E, h19km, Md2.6, Ml2.5*
*THE **16** 05:53:03.5, 39°.65N×20°.14E, h13km±4km, ML2.5/2, Error ellipse: s-maj=5.8km s-min=1.6km az=120.0*
*ATH **16** 05:53:05.3, 39°.65N×20°.26E, h7km±3km, ML2.3/4, Error ellipse: s-maj=3.4km s-min=1.3km az=228.0*
ISC 16 05:53:04.9±0.9, 39°.66N±0°.03×20°.27E±0°.03, h11km±8km, n17, σ0°84/26, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.13**	**158**	P	**Pg**	**05 53 07.6**	**-0.5**
IGT				S	**Sg**	**05 53 10.5**	**+0.1**
	2µm,0.3s						
IGT	**Igoumenitsa**	**0.13**	**158**	P	**Pg**	**05 53 07.8**	**-0.3**
IGT				S	**Sg**	**05 53 10.4**	**0.0**
IGT				AML	AML	05 53 10.6	
	comp=E,3545µm,0.2s						
IGT				AML	AML	05 53 11.4	
	comp=N,4146µm,0.2s						
KASA	**Kassiopi**	**0.27**	**290**	P	**Pg**	**05 53 10.7**	**+0.2**
KASA				S	**Sg**	**05 53 14.6**	**+0.4**
KASA				AML	AML	05 53 17.9	
	comp=N,2251µm,0.2s						
KASA				AML	AML	05 53 18.0	
	comp=E,2273µm,0.3s						
SRN	**Sarande**	**0.30**	**318**	P	**Pg**	**05 53 10.7**	**-0.4**
	baz=319						
SRN				S	**Sg**	**05 53 16.6**	**+1.4**
	baz=319						
SRN				AMP			
	comp=N,0.8nm,0.1s,baz=319						
JAN	**Janina**	**0.45**	**90**	P	**Pg**	**05 53 14.8**	**+1.0**
JAN				S	**Sb**	**05 53 22.2**	**+0.6**
	comp=N,728nm,0.3s						
JAN	**Janina**	**0.45**	**90**	P	**Pg**	**05 53 14.7**	**+1.0**
JAN				S	**Sg**	**05 53 20.6**	**+0.8**
JAN				AML	AML	05 53 25.9	
	comp=E,1278µm,0.3s						
JAN				AML	AML	05 53 25.9	
	comp=N,1626µm,0.3s						
LSK	**Leskovik**	**0.56**	**27**	P	**Pg**	**05 53 14.9**	**-0.9**
	baz=22						
LSK				S	**Sg**	**05 53 23.7**	**+0.5**
	baz=22						
LSK				AMP			
	comp=N,2.0nm,0.4s,baz=22						
PENT	**Pentalofos**	**0.86**	**51**	P	**Pg**	**05 53 21.2**	**-0.4**
TSLK	**Tsoukalades, L**	**0.88**	**160**	P	**Pg**	**05 53 21.2**	**-0.7**
TSLK	**Tsoukalades, L**	**0.88**	**160**	P	**Pg**	**05 53 21.4**	**-0.5**
LKD2	**Lefkada island**	**0.92**	**161**	P	**Pg**	**05 53 22.4**	**-0.2**
NEST	**Nestorio**	**0.97**	**38**	P	**Pg**	**05 53 22.7**	**-0.9**
NEST	**Nestorio**	**0.97**	**38**	P	**Pg**	**05 53 23.0**	**-0.6**
NEST				S	**Sg**	**05 53 36.5**	**+0.3**
NEST				AML	AML	05 53 46.2	
	comp=E,236µm,0.6s						
NEST				AML	AML	05 53 46.4	
	comp=N,239µm,0.5s						
FSK	**Fiskardo**	**1.22**	**169**	P	**Pb**	**05 53 28.1**	**+0.2**
THL	**Klokotos Trika**	**1.35**	**93**	P	**Pn**	**05 53 29.8**	**0.0**
FNA	**Florina**	**1.41**	**37**	P	**Pn**	**05 53 28.2**	**-2.4**
PUK	**Puka**	**2.40**	**353**	P	**Pn**	**05 53 45.2**	**+1.0**
	baz=353						
PUK				S	**Sb**	**05 54 18.0**	**+0.1**
	baz=353						
PUK				AMP			
	comp=E,0.1nm,0.4s,baz=353						

IDC 16 06:00:20.7±2.5, 54°.11N×86°.46E, h0km, mbtmp3.3/2, ML3.2/2, Error ellipse: s-maj=20.0km s-min=12.3km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**261**	I	I	06 07 20.0	
	baz=80,slow=329,SNR=3.6						
ZALV	**Zalesovo Beam**	**0.98**	**261**	Pg	Pg	06 00 38.5	-1.0
	2.0nm,0.3s,baz=80,slow=17,SNR=16						
ZALV				Lg	Lg	06 00 53.6	
	2.8nm,0.3s,baz=80,slow=29,SNR=11						
ZALV				Rg	Rg	06 01 00.2	
	14nm,1.0s,baz=73,slow=31,SNR=9.8						
KURBB	**Kurchatov Arra**	**5.98**	**237**	Pn	Pn	06 01 51.1	+0.7
	0.3nm,0.3s,baz=54,slow=13,SNR=9.8						
KURBB				Lg	Lg	06 03 30.2	
	baz=55,slow=35,SNR=4.0						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**7.79**	**202**	Pn	Pn	06 02 16.6	+1.3
	0.7nm,0.3s,baz=24,slow=13,SNR=11						
MKAR				Lg	Lg	06 04 25.4	
	0.1nm,0.3s,baz=23,slow=33,SNR=2.2						
	0.8nm,0.3s						

*SJA **16** 06:11:33.4±0.6, 31°.11S×68°.38W, h106km±3km, ML3.9, MW3.9*
*IDC **16** 06:11:34.2±0.9, 31°.02S×68°.31W, h107km±6km, mb3.5/7, mbtmp3.9/11, MS3.0/1, Error ellipse: s-maj=27.6km s-min=17.9km az=77.0*
ISC 16 06:11:33.7±0.6, 31°.10S±0°.03×68°.35W±0°.04, h104km±5km, n70, σ1°46/99, mb3.7/7, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJA	**San Juan**	**0.46**	**203**	*e*P	**Pn**	**06 11 50.3**	**+0.5**
SJA				*e*S	**Sn**	**06 12 03.7**	**+1.9**
SJA				IAML		06 12 04.2	
	comp=Z,2µm,0.2s						
ZON	**Zonda**	**0.53**	**212**	*e*P	**Pn**	**06 11 50.4**	**+0.2**
ZON				*e*S	**Sn**	**06 12 03.0**	**+0.4**
ZON				IAML		06 12 03.3	
	comp=Z,2µm,0.4s						
DOCA	**Reserva Natura**	**0.64**	**283**	*e*P	**Pn**	**06 11 51.0**	**-0.5**
RTCV	**Cerro Valdivia**	**0.78**	**192**	*e*P	**Pn**	**06 11 52.6**	**+0.3**
ACCO	**Cerro Coronel**	**0.80**	**309**	*e*P	**Pn**	**06 11 53.5**	**+0.7**
ACCO				IAML		06 12 10.8	
	comp=Z,2µm,0.6s						
AVFE	**Valle Fertil**	**0.89**	**61**	*e*P	**Pn**	**06 11 54.5**	**+1.1**
AVFE				IAML		06 12 11.1	
	comp=Z,5µm,0.4s						
RTLS	**Leoncito**	**1.07**	**229**	*e*P	**Pn**	**06 11 56.3**	**+0.8**
RTLS				IAML		06 12 16.0	
	comp=Z,3µm,0.4s						
ACDV	**Cuesta del Vie**	**1.14**	**324**	*e*P	**Pn**	**06 11 56.9**	**+0.8**
ACDV				IAML		06 12 15.1	
	comp=Z,939nm,0.3s						
AROD	**Rodeo**	**1.34**	**314**	*e*P	**Pn**	**06 11 59.6**	**+1.0**
ACHE	**Chepes**	**1.45**	**93**	*e*P	**Pn**	**06 12 00.8**	**+1.1**
ASAL	**Salagasta**	**1.54**	**195**	*e*P	**Pn**	**06 12 01.6**	**+0.8**
ASAL				IAML		06 12 24.1	
	comp=Z,1µm,0.4s						
AGUA	**GUANDACOL**	**1.61**	**356**	*e*P	**Pn**	**06 12 02.9**	**+1.3**
AGUA				IAML		06 12 26.4	
	comp=Z,762nm,0.5s						
ARCO	**CERRO ARCO**	**1.81**	**196**	*e*P	**Pn**	**06 12 04.8**	**+0.7**
ARCO				*e*S	**Sn**	**06 12 23.6**	**-3.8**
ARCO				IAML		06 12 29.8	
	comp=Z,2µm,0.3s						
CO01	**Juntas del Tor**	**1.87**	**306**	*e*P	**Pn**	**06 12 06.7**	**+1.7**
CO01				*e*S	**Sn**	**06 12 31.1**	**+2.2**
CO01				IAML		06 12 32.9	
	comp=Z,564nm,0.2s						
CO01	**Juntas del Tor**	**1.87**	**306**	*e*P	**Pn**	**06 12 06.7**	**+1.7**
CO01				*i* S	**Sn**	**06 12 30.6**	**+1.7**
AAGR	**Agrelo**	**2.02**	**191**	*e*P	**Pn**	**06 12 07.6**	**+0.8**
AAGR				IAML		06 12 34.6	
	comp=Z,903nm,4.2s						
CO03	**El Pedregal**	**2.02**	**277**	*e*P	**Pn**	**06 12 07.3**	**+0.5**
CO03				IAML		06 12 35.9	
	comp=Z,1µm,0.3s						
CO03	**El Pedregal**	**2.02**	**277**	*e*P	**Pn**	**06 12 08.0**	**+1.2**
CO03				*i* S	**Sn**	**06 12 33.8**	**+1.7**
CO02	**Combarbal**	**2.27**	**267**	*e*P	**Pn**	**06 12 10.7**	**+0.6**
CO02				*e*S	**Sn**	**06 12 39.0**	**+1.1**
CO02				IAML		06 12 40.3	
	comp=Z,715nm,0.7s						
CO02	**Combarbal**	**2.27**	**267**	*e*P	**Pn**	**06 12 10.5**	**+0.5**
CO02				*i* S	**Sn**	**06 12 39.0**	**+1.1**
GO04	**Tololo Observa**	**2.30**	**293**	*e*P	**Pn**	**06 12 11.2**	**+0.7**
GO04	**Tololo Observa**	**2.30**	**293**	*e*P	**Pn**	**06 12 11.5**	**+0.9**
GO04				*i* S	**Sn**	**06 12 39.8**	**+1.0**
VCA	**Vinchina**	**2.36**	**3**	*e*P	**Pn**	**06 12 12.6**	**+1.4**
VCA				*e*S	**Sn**	**06 12 43.4**	**+3.4**
VCA				IAML		06 12 45.4	
	comp=Z,718nm,0.3s						
AVIZ	**Vizcaderas**	**2.37**	**183**	*e*P	**Pn**	**06 12 12.1**	**+0.7**
VA03	**San Esteban**	**2.50**	**228**	*e*P	**Pn**	**06 12 14.1**	**+1.1**
VA03				IAML		06 12 49.0	
	comp=Z,525nm,0.6s						
VA03	**San Esteban**	**2.50**	**228**	*e*P	**Pn**	**06 12 13.7**	**+0.7**
VA03				*i* S	**Sn**	**06 12 45.1**	**+1.9**
VA03				IAML		06 12 47.0	
	comp=E,1µm,0.6s						
MRA	**San Martin**	**2.60**	**121**	*e*P	**Pn**	**06 12 15.2**	**+0.9**
MRA				*e*S	Sn	06 12 33.1	-12
MT08	**Bocatoma Ro**	**2.73**	**211**	*e*P	**Pn**	**06 12 17.6**	**+1.4**
MT08				*i* S	**Sn**	**06 12 51.5**	**+2.6**
MT08				IAML		06 12 53.7	
	comp=N,571nm,0.4s						
FCH	**Farellones**	**2.77**	**216**	*e*P	**Pn**	**06 12 18.0**	**+1.3**
FCH				*i* S	**Sn**	**06 12 51.8**	**+2.0**
AC05	**El Transito**	**2.80**	**323**	*e*P	**Pn**	**06 12 18.6**	**+1.5**
AC05				IAML		06 12 54.5	
	comp=Z,334nm,0.6s						
AC05	**El Transito**	**2.80**	**323**	*e*P	**Pn**	**06 12 18.3**	**+1.2**
AC05				*i* S	**Sn**	**06 12 52.3**	**+1.9**
PEL	**Peldehue**	**2.84**	**224**	*e*P	**Pn**	**06 12 18.2**	**+0.7**
PEL				*e*S	**Sn**	**06 12 52.8**	**+1.6**
PEL	**Peldehue**	**2.84**	**224**	*e*P	**Pn**	**06 12 17.5**	**0.0**
PEL				*i* S	**Sn**	**06 12 51.7**	**+0.5**
PEL				IAML		06 12 54.2	
	comp=N,352nm,0.4s						
MT10	**Hacienda Santa**	**2.85**	**220**	*e*P	**Pn**	**06 12 18.7**	**+1.0**
MT10				*i* S	**Sn**	**06 12 52.9**	**+1.4**
MT10				IAML		06 12 56.0	
	comp=N,1µm,0.4s						
LCO	**Las Campanas**	**2.91**	**315**	*e*P	**Pn**	**06 12 19.5**	**+0.9**
LCO				*e*S	**Sn**	**06 12 54.7**	**+1.6**
LCO				IAML		06 12 57.6	
	comp=Z,690nm,0.2s						
ROCH	**El Roble**	**2.93**	**230**	*e*P	**Pn**	**06 12 18.9**	**+0.1**
ROCH				*i* S	**Sn**	**06 12 53.8**	**+0.3**
ROCH				IAML		06 12 58.7	
	comp=N,621nm,0.2s						
ROC1	**El Roble**	**2.94**	**230**	*e*P	**Pn**	**06 12 18.9**	**0.0**
MT16	**CCHEN**	**2.96**	**218**	*e*P	**Pn**	**06 12 19.9**	**+0.8**
MT16				*i* S	**Sn**	**06 12 55.2**	**+1.1**
MT16				IAML		06 13 00.3	
	comp=N,216nm,0.5s						
MT05	**Renca**	**3.05**	**221**	*e*P	**Pn**	**06 12 21.8**	**+1.6**
MT05				*e*S	**Sn**	**06 12 58.0**	**+1.8**
MT05				IAML		06 13 00.5	
	comp=Z,544nm,0.2s						
MT05	**Renca**	**3.05**	**221**	*e*P	**Pn**	**06 12 21.7**	**+1.4**
MT05				*i* S	**Sn**	**06 12 57.3**	**+1.1**
MT15	**Las Vizcachas**	**3.09**	**216**	*e*P	**Pn**	**06 12 22.0**	**+1.2**
MT15				*i* S	**Sn**	**06 12 58.6**	**+1.5**
MT15				IAML		06 13 01.7	
	comp=N,935nm,0.5s						
MT13	**San Alfonso**	**3.10**	**211**	*e*P	**Pn**	**06 12 22.3**	**+1.3**
MT13				*i* S	**Sn**	**06 12 59.2**	**+1.7**
MT13				IAML		06 13 08.0	
	comp=N,299nm,0.3s						
LMEL	**Las Melosas**	**3.16**	**209**	*e*P	**Pn**	**06 12 22.7**	**+0.9**
LMEL				*i* S	**Sn**	**06 13 02.6**	**+3.8**
MT02	**Curacav**	**3.20**	**227**	*e*P	**Pn**	**06 12 21.5**	**-0.6**
VA01	**Torpederas**	**3.39**	**235**	*e*S	Sn	06 12 52.6	-12
CYA	**Choya**	**3.45**	**41**	*e*P	**Pn**	**06 12 25.7**	**+0.1**
CYA				*e*S	Sn	06 12 53.0	-13
CYA				IAML		06 13 06.0	
	comp=Z,191nm,0.5s						
RFA	**San Rafael**	**3.66**	**181**	*e*P	**Pn**	**06 12 28.1**	**-0.4**
RFA				*e*S	Sn	06 12 59.0	-12
RFA				IAML		06 13 40.3	
	comp=Z,297nm,0.4s						
MT01	**Popeta**	**3.69**	**221**	*e*P	**Pn**	**06 12 27.4**	**-1.4**
MT01				*i* S	**Sn**	**06 13 08.8**	**-2.6**
AC04	**Llanos de Chal**	**3.73**	**320**	*e*P	**Pn**	**06 12 29.2**	**-0.1**
AC04				IAML		06 13 22.4	
	comp=Z,218nm,0.3s						
VA05	**Santo Domingo**	**3.76**	**226**	*e*P	**Pn**	**06 12 28.1**	**-1.6**
VA05				*i* S	**Sn**	**06 13 11.8**	**-1.2**
BO01	**Tunca**	**4.01**	**214**	*e*P	**Pn**	**06 12 31.8**	**-1.2**
BO01				IAML		06 13 20.8	
	comp=Z,105nm,1.1s						
AC01	**Pan de Azucar**	**5.31**	**338**	IAML		06 14 02.1	
	comp=Z,71nm,0.8s						
LVC	**Limon Verde**	**8.47**	**356**	P	**Pn**	**06 13 31.7**	**-2.2**
	comp=Z,15nm,0.3s,baz=199,slow=11,SNR=41						
LVC				S	**Sn**	**06 15 02.1**	**-5.9**
	comp=Z,5.3nm,0.4s,baz=146,slow=14,SNR=1.9						
PLCA	**Paso Flores**	**9.78**	**190**	P	**Pn**	**06 13 49.7**	**-1.6**
	comp=Z,1.1nm,0.3s,baz=47,slow=18,SNR=22						
CPUP	**Villa Florida**	**10.78**	**67**	P	**Pn**	**06 14 04.3**	**-0.6**
	comp=Z,0.6nm,0.4s,baz=230,slow=16,SNR=2.6						
LPAZ	**La Paz**	**14.74**	**1**	P	**Pn**	**06 14 56.7**	**-0.9**
	comp=Z,2.0nm,0.5s,baz=171,slow=7.5,SNR=18						
SIV	**San Ignacio**	**16.44**	**26**	P	**Pn**	**06 15 16.8**	**-1.5**
	comp=Z,1.5nm,0.6s,baz=236,slow=13,SNR=7.6						
NNA	**Nana**	**20.57**	**336**	LR	LR	06 23 34.4	
	comp=Z,44nm,20.4s,baz=282,slow=35						
SNAA	**Sanae**	**53.13**	**159**	P	**P**	**06 20 40.6**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=276,slow=18,SNR=1.9						
	comp=Z,0.9nm,0.3s						
QSPA	**South Pole Qui**	**59.13**	**180**	P	**P**	**06 21 23.7**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=191,slow=8.2,SNR=5.8						
	comp=Z,0.8nm,0.8s						
TXAR	**Lajitas Array**	**68.86**	**327**	P	**P**	**06 22 27.3**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=151,slow=8.2,SNR=13						
	comp=Z,0.7nm,0.7s						
TORD	**Torodi Ar. Bea**	**80.27**	**68**	P	**P**	**06 23 33.5**	**+0.2**
	comp=Z,0.4nm,0.5s,baz=274,slow=4.5,SNR=6.8						
TORD				pP	**pP**	**06 24 00.8**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=296,slow=6.0,SNR=4.2						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**82.67**	**331**	P	**P**	**06 23 45.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=134,slow=5.2,SNR=4.8						
	comp=Z,0.6nm,0.8s						
NVAR	**Mina Array Bea**	**83.38**	**323**	P	**P**	**06 23 50.3**	**+0.9**
	comp=Z,0.5nm,0.9s,baz=171,slow=6.4,SNR=2.7						
	comp=Z,0.5nm,0.9s						
ULM	**Lac du Bonnet**	**84.59**	**343**	P	**P**	**06 23 54.5**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=175,slow=5.6,SNR=3.4						
	comp=Z,1.4nm,0.6s						
WRA	**Warramunga Arr**	**124.77**	**206**	PKP	**PKPdf**	**06 30 20.4**	**-1.4**
	comp=Z,0.2nm,0.4s,baz=156,slow=1.8,SNR=4.8						
KURBB	**Kurchatov Arra**	**148.63**	**42**	PKPbc	**PKPbc**	**06 31 07.7**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=294,slow=2.0,SNR=5.1						
KURBB				pPKPbc	**pPKPbc**	**06 31 37.3**	**+0.5**
	comp=Z,0.2nm,0.2s,baz=313,slow=2.0,SNR=1.0						
ZALV	**Zalesovo Beam**	**150.12**	**32**	PKPbc	**PKPbc**	**06 31 11.7**	**0.0**
	comp=Z,1.3nm,0.4s,baz=306,slow=4.8,SNR=6.0						
MKAR	**Makanchi Array**	**152.51**	**47**	PKPbc	**PKPbc**	**06 31 17.4**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=317,slow=2.1,SNR=6.6						
MKAR				PKPab	**PKPab**	**06 31 27.5**	**-0.8**
	comp=Z,0.5nm,0.7s,baz=309,slow=3.9,SNR=4.9						
MKAR				pPKPbc	**pPKPbc**	**06 31 46.3**	**+0.1**
	comp=Z,0.2nm,0.5s,baz=337,slow=3.3,SNR=2.5						
SONM	**Songino Array**	**162.81**	**12**	PKP	**PKPdf**	**06 31 24.4**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=328,slow=5.1,SNR=2.6						

*SJA **16** 06:16:11.6±0.6, 24°.12S×66°.76W, h230km±5km, ML3.5, MW3.4*
*GUC **16** 06:16:14.2±0.6, 24°.12S×67°.06W, h237km±15km, ML4.0*
*IDC **16** 06:16:15.0±2.7, 23°.93S×66°.83W, h216km±23km, mb3.0/2, mbtmp3.4/5, Error ellipse: s-maj=41.6km s-min=29.2km az=134.0*
ISC 16 06:16:13.0±0.9, 24°.12S±0°.04×66°.84W±0°.04, h216km±8km, n41, σ1°04/70, 1C, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.36**	**117**	*e*P	**Pn**	**06 16 46.7**	**-0.5**
SLA				*e*S	**S**	**06 17 13.0**	**-0.7**
HJA	**Humahuaca**	**1.59**	**56**	*e*P	**Pn**	**06 16 49.3**	**-0.1**
AZAP	**Zapla**	**1.63**	**94**	*e*P	**Pn**	**06 16 48.8**	**-0.7**
FSA	**Cafayete**	**2.14**	**159**	*e*P	**Pn**	**06 16 54.3**	**+0.1**
YJA	**Yavi**	**2.29**	**33**	*e*P	**Pn**	**06 16 56.6**	**+0.5**
YJA				*e*S	**S**	**06 17 30.6**	**+1.1**
LVC	**Limon Verde**	**2.42**	**308**	*e*P	**Pn**	**06 16 58.2**	**+0.8**
LVC				*e*S	**S**	**06 17 33.5**	**+1.6**
LVC	**Limon Verde**	**2.42**	**308**	P	**Pn**	**06 16 58.3**	**+0.8**
	43nm,0.3s,baz=115,slow=8.2,SNR=71						
LVC				S	**S**	**06 17 32.5**	**+0.7**
	20nm,0.2s,baz=237,slow=21,SNR=11						
PB15	**IPOC Station P**	**2.57**	**290**	*e*P	**Pn**	**06 16 59.7**	**+0.8**
PB15	**IPOC Station P**	**2.57**	**290**

PB02	**IPOC Station P**	**3.96**	**314**	*eP*	**Pn**	06 17 14.8	**-0.3**
PB02				*eS*	**S**	**06 18 01.2**	**-2.4**
PATCX	**Punta Patache**	**4.49**	**316**	*eP*	**Pn**	06 17 21.2	**-0.3**
PATCX				*eS*	**S**	**06 18 14.5**	**-0.8**
PATCX				IAML		06 18 15.7	
	comp=Z,20nm,0.4s						
PB08	**IPOC Station P**	**4.50**	**331**	*eP*	**Pn**	**06 17 22.9**	**+0.9**
PB08				*eS*	**S**	**06 18 15.7**	**-0.4**
PB08				IAML		06 18 18.8	
	comp=Z,29nm,0.2s						
TA01	**Diego Aracena**	**4.69**	**318**	*eP*	**Pn**	**06 17 24.1**	**+0.1**
TA01				IAML		06 18 27.0	
	comp=Z,15nm,0.7s						
HMBC	**Humberstone**	**4.75**	**323**	*eP*	**Pn**	**06 17 24.0**	**-0.8**
HMBC				*eS*	**S**	**06 18 19.0**	**-2.3**
HMBC				IAML		06 18 21.6	
	comp=Z,45nm,0.4s						
GO01	**Chusmiza**	**4.94**	**333**	*eP*	**Pn**	**06 17 28.0**	**+0.5**
GO01				*eS*	**S**	**06 18 26.7**	**+0.6**
PB11	**IPOC Station P**	**5.06**	**328**	*eP*	**Pn**	**06 17 28.6**	**-0.2**
PB11				*eS*	**S**	**06 18 25.7**	**-2.8**
PB11				IAML		06 18 29.2	
	comp=Z,33nm,0.2s						
LPAZ	**La Paz**	**7.88**	**351**	P	**Pn**	**06 18 05.9**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=168,slow=7.1,SNR=14						
LPAZ				S	**S**	**06 19 33.0**	**-2.0**
	comp=Z,1.1nm,1.1s,baz=6.1,slow=7.6,SNR=1.5						
SIV	**San Ignacio**	**9.73**	**35**	P	**Pn**	**06 18 28.7**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=231,slow=13,SNR=2.0						
TORD	**Torodi Ar. Bea**	**76.48**	**69**	P	**P**	**06 27 40.0**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=247,slow=5.9,SNR=1.9						
	comp=Z,0.2nm,0.5s						
YKA	**Yellowknife Ar**	**94.28**	**340**	P	**P**	**06 29 07.1**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=132,slow=3.5,SNR=2.1						
	comp=Z,0.1nm,0.5s						
MKAR	**Makanchi Array**	**146.52**	**40**	PKPbc	**PKPab**	**06 35 30.7**	**+0.6**
	comp=Z,0.4nm,0.6s,baz=320,slow=3.2,SNR=5.4						

*NEIC **16** 06:29:38.1±0.3,36.067N±0.010×97.56W±0.01,h3km±2km, Error ellipse: s-maj=1.6km s-min=1.3km az=204.0*

TUL 16 06:29:38.4±0.5,36.074N±0.010×97.56W±0.01,h7km±3km, ML2.6,mb_Lg2.4/42(NEIC),ML2.6/70(NEIC),Error ellipse: s-maj=1.4km s-min=1.3km az=206.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**163**		Pg	06 29 44.2	+0.1
OK029				Sg	Sg	06 29 48.2	+0.3
OK029				IAML		06 29 48.9	
	618nm,0.4s						
OK029				IAML		06 29 48.9	
	1um,0.4s						
ADOK	**Arcadia Dam**	**0.45**	**160**	Pg	Pg	06 29 47.4	+0.4
OK033	**Mehan**	**0.50**	**93**		Pg	06 29 47.9	-0.3
OK033				IAML		06 29 55.9	
	510nm,0.2s						
CROK	**Carrier**	**0.55**	**321**	Pg	Pg	06 29 49.4	+0.3
CROK				Sg	Sg	06 29 56.3	+0.1
CROK				IAML		06 29 57.1	
	comp=E,571nm,0.3s						
OK031	**S. Brethren Rd**	**0.59**	**102**		Pg	06 29 50.2	+0.3
OK048	**Pawnee Station**	**0.60**	**55**	Pg	Pg	06 29 50.3	+0.3
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	06 29 50.5	+0.2
OKCSW	**OKLAHOMA CITY**	**0.67**	**172**	Pg	Pg	06 29 51.5	+0.1
OKCSW				Sg	Sg	06 30 00.4	+0.3
OKCSW				IAML		06 30 03.4	
	comp=E,323nm,0.5s						
QUOK	**Quay**	**0.69**	**82**		Pg	06 29 51.9	+0.1
QUOK				Sg	Sg	06 30 00.5	-0.3
QUOK				IAML		06 30 01.7	
	comp=N,430nm,0.5s						
QUOK				IAML		06 30 04.5	
	comp=E,194nm,0.2s						
OK051	**E0350 and S346**	**0.72**	**53**		Pg	06 29 52.4	+0.1
OK051				IAML		06 30 03.6	
	comp=E,240nm,0.2s						
OK051				IAML		06 30 05.3	
	comp=E,271nm,0.2s						
BLOK	**Blackwell**	**0.74**	**22**	Pg	Pg	06 29 52.6	0.0
BLOK				IAML		06 30 15.5	
	comp=N,196nm,0.2s						
BLOK				IAML		06 30 16.0	
	comp=E,246nm,0.2s						
GC02	**Grant County #**	**0.81**	**343**	Pg	Pg	06 29 54.1	+0.1
GC02				Sg	Sg	06 30 04.4	-0.2
FNO	**Franklin**	**0.82**	**171**	Pg	Pg	06 29 54.1	-0.1
FNO				Sg	Sg	06 30 05.4	+0.4
FNO				IAML		06 30 08.1	
	comp=E,230nm,0.5s						
DEOK	**Depew**	**0.89**	**105**	Pg	Pg	06 29 55.3	-0.2
DEOK				Sg	Sg	06 30 07.6	+0.5
OK032	**Salt Plains WL**	**0.90**	**324**	IAML		06 30 13.1	
	comp=E,310nm,0.2s						
KAN13	**South Haven SW**	**0.94**	**4**		Pg	06 29 56.4	-0.1
KAN13				Sg	Sg	06 30 08.7	0.0
KAN13				IAML		06 30 15.7	
	comp=N,220nm,0.3s						
KAN14	**Manchester OK**	**0.94**	**340**	Sg	Sg	06 30 08.9	+0.2
KAN14				IAML		06 30 11.2	
	comp=N,216nm,0.3s						
KAN17	**Caldwell West**	**0.98**	**350**		Pg	06 29 57.0	-0.3
KAN17				IAML		06 30 11.5	
	comp=E,242nm,0.3s						
KAN17				IAML		06 30 13.8	
	comp=N,224nm,0.2s						
W35A	**Tecumseh**	**1.07**	**149**	Pg	Pg	06 29 58.5	-0.5
W35A				IAML		06 30 14.9	
	comp=N,137nm,0.3s						
W35A				IAML		06 30 18.3	
	comp=E,226nm,0.5s						
KAN01	**Argonia South**	**1.09**	**352**		Pg	06 29 58.9	-0.4
KAN01				IAML		06 30 13.9	
	comp=N,111nm,0.2s						
KAN01				IAML		06 30 16.2	
	comp=E,158nm,0.4s						
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	06 29 59.5	-0.4
T35A	**Sooner Cattle**	**1.19**	**45**	IAML		06 30 17.4	
	comp=N,123nm,0.4s						
T35A				IAML		06 30 23.9	
	comp=E,179nm,0.5s						
U32A	**Winter Ranch,**	**1.21**	**285**		Pg	06 30 00.8	-0.7
U32A				IAML		06 30 18.6	
	comp=E,152nm,0.1s						
U32A				IAML		06 30 18.8	
	comp=N,123nm,0.1s						
WMOK	**Wichita Mounta**	**1.67**	**217**		Pn	06 30 08.3	+0.2
RLO	**Rose Lookout**	**2.05**	**87**		Pn	06 30 13.9	+0.5
LOOK	**Love County**	**2.10**	**171**	Pn	Pn	06 30 14.8	+0.8
X37A	**Clayton**	**2.32**	**129**		Pn	06 30 17.8	+0.7
X37A				IAmb_Lg		06 30 57.6	
	comp=Z,13nm,0.9s						
SMWD	**Samnorwood**	**2.39**	**247**	Pn	Pn	06 30 19.7	+1.6
WTFS	**Witchita Falls**	**2.42**	**198**		Pn	06 30 19.0	+0.6
U38A	**Gravette**	**2.59**	**81**		Pb	06 30 23.0	-2.1
HHAR	**Hobbs**	**2.93**	**85**		Pn	06 30 25.7	+0.2
CBKS	**Cedar Bluff**	**3.24**	**328**	IAmb_Lg		06 31 22.9	
	comp=Z,7.5nm,0.7s						
PLPT	**Palo Pinto**	**3.31**	**191**	IAmb_Lg		06 31 27.4	
	comp=Z,7.0nm,0.8s						
Z38A	**Mt. Pleasant**	**3.52**	**142**	IAmb_Lg		06 31 35.7	
	comp=Z,14nm,0.8s						
AMTX	**Amarillo**	**3.57**	**252**	IAmb_Lg		06 31 38.0	
	comp=Z,10.0nm,0.8s						
MIAR	**Mount Ida**	**3.59**	**114**	Pn	Pn	06 30 35.4	+0.8
S39A	**Bolivar**	**3.76**	**63**	IAmb_Lg		06 31 41.0	
	comp=Z,12nm,0.9s						
ABTX	**Abilene, Hawle**	**3.85**	**207**	IAmb_Lg		06 31 42.6	
	comp=Z,5.6nm,0.8s						
X40A	**Basin Creek Fa**	**4.18**	**111**	IAmb_Lg		06 31 50.7	
	comp=Z,4.8nm,0.8s						
RTBA	**Rita Blanca**	**4.20**	**276**	IAmb_Lg		06 31 53.4	
	comp=Z,5.7nm,0.8s						
SN05	**Snyder 5**	**4.21**	**222**	IAmb_Lg		06 32 01.3	
	comp=Z,6.9nm,0.7s						
WHAR	**Wooly Hollow**	**4.36**	**99**	IAmb_Lg		06 31 58.1	
	comp=Z,8.5nm,0.9s						
MGMO	**Mountain Grove**	**4.39**	**74**	IAmb_Lg		06 31 55.6	
	comp=Z,11nm,0.7s						
FCAR	**Ozark Folk Cen**	**4.41**	**91**	IAmb_Lg		06 31 59.7	
	comp=Z,9.2nm,0.8s						
POST	**Post**	**4.43**	**228**	IAmb_Lg		06 32 01.7	
	comp=Z,5.6nm,0.7s						
P38A	**Dawn**	**4.76**	**41**	IAmb_Lg		06 32 18.0	
	comp=Z,6.4nm,0.8s						
MSTX	**Muleshoe**	**4.77**	**245**	IAmb_Lg		06 32 22.2	
	comp=Z,5.7nm,1.0s						
KSCO	**Kaye Shedlock'**	**4.98**	**308**	IAmb_Lg		06 32 21.3	
	comp=Z,6.2nm,0.7s						
LCAR	**Lake Charles**	**5.19**	**88**	IAmb_Lg		06 32 25.5	
	comp=Z,4.5nm,0.8s						
435B	**Jarrell**	**5.28**	**180**	IAmb_Lg		06 32 32.7	
	comp=Z,8.0nm,1.0s						
P40A	**Paris**	**5.56**	**50**	IAmb_Lg		06 32 38.1	
	comp=Z,9.6nm,0.7s						
JCT	**Junction City**	**5.89**	**199**	IAmb_Lg		06 32 51.2	
	comp=Z,6.8nm,0.8s						
FVM	**French Village**	**6.01**	**69**	IAmb_Lg		06 32 49.1	
	comp=Z,11nm,0.9s						

*IDC **16** 06:42:13.3±1.2,5.86S×151.07E,h0km,mb3.7/6, mbtmp3.8/7,ML1.9/1,MS3.2/2,Error ellipse: s-maj=58.2km s-min=23.4km az=125.0*

ISC 16 06:42:19.7±1.0,5.9S±0.2×150.9E±0.3,h43km,n10, σ0.967/9,mb3.8/6,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.11**	**227**	Pn	**Pn**	**06 43 34.3**	**+0.5**
	2.5nm,0.3s,baz=94,slow=14,SNR=2.7						
PMG				Sn	**Sn**	**06 44 30.9**	**-0.6**
	2.6nm,0.3s,baz=354,slow=19,SNR=2.0						
	8.3nm,0.4s						
WRA	**Warramunga Arr**	**21.33**	**228**	P	**P**	**06 47 03.7**	**+0.5**
	2.9nm,0.5s,baz=54,slow=10,SNR=28						
	2.9nm,0.5s						
DZM	**Mont Dzumac**	**21.98**	**139**	LR	LR	06 54 55.6	
	comp=Z,100nm,18.1s,baz=19,slow=35						
ASAR	**Alice Springs**	**24.10**	**221**	P	**P**	**06 47 31.8**	**+0.3**
	4.5nm,0.7s,baz=54,slow=9.3,SNR=38						
	4.5nm,0.7s						
MA2	**Magadan**	**65.27**	**360**	LR	LR	07 19 38.6	
	comp=Z,12nm,20.1s,baz=299,slow=34						
MKAR	**Makanchi Array**	**79.94**	**319**	P	**P**	**06 54 24.3**	**-0.1**
	0.1nm,0.3s,baz=99,slow=8.9,SNR=1.9						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**83.88**	**22**	P	**P**	**06 54 43.9**	**-0.8**
	0.3nm,0.6s,baz=254,slow=4.6,SNR=4.9						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**84.06**	**180**	P	**P**	**06 54 45.1**	**-0.6**
	0.7nm,0.7s,baz=337,slow=1.5,SNR=1.5						
	0.7nm,0.7s						
NVAR	**Mina Array Bea**	**94.22**	**52**	P	**P**	**06 55 35.7**	**+0.9**
	0.1nm,0.3s,baz=250,slow=1.8,SNR=2.3						
	0.1nm,0.3s						
TORD	**Torodi Ar. Bea**	**148.85**	**286**	PKPbc	**PKPbc**	**07 02 03.9**	**+0.1**
	0.8nm,0.8s,baz=63,slow=3.7,SNR=3.7						

TRN 16 06:58:42.2,15.64N×61.33W,h156km,MD3.6,Near North-east coast of Dominica.,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.31**	**9**	*eP*	Pn	06 59 04.9	+1.4
TDBA	**Terre de Bas,**	**0.36**	**305**	*eP*	Pn	06 59 04.6	+1.0
TBG	**Guadaloupe-3**	**0.37**	**305**	*eP*	Pn	06 59 04.5	+0.8
TBG	**Guadaloupe-3**	**0.37**	**305**	*ex*	x	06 59 16.5	
CBE	**Ff, Capester**	**0.50**	**328**	*eP*	Pn	06 59 07.8	+3.5
CBE				*eS*	Sn	06 59 25.3	+4.0
SVN	**Savane Anatole**	**0.81**	**169**	*eP*	Pn	06 59 07.3	+1.1
SVN	**Savane Anatole**	**0.81**	**169**	*eP*	Pn	06 59 07.4	+1.2
PCM	**Pelee Case Pet**	**0.83**	**172**	*eP*	Pn	06 59 07.1	+0.8
PCM	**Pelee Case Pet**	**0.83**	**172**	*eP*	Pn	06 59 07.8	+1.5
BAMF	**Morne Balai**	**0.84**	**168**	*eP*	Pn	06 59 07.6	+1.1
ABD	**La Joyeuse, An**	**0.84**	**350**	*eP*	Pn	06 59 11.1	+4.8
ABD				*eS*	Sn	06 59 31.7	+6.9
CXM	**Morne La Croix**	**0.84**	**169**	*eP*	Pn	06 59 07.8	+1.2
GBMF	**Grand Be**	**0.85**	**169**	*eP*	Pn	06 59 07.9	+1.3
FDF	**Fort de France**	**0.92**	**169**	*eP*	Pn	06 59 07.4	+0.4
ILAM	**Ilet Lapin Mar**	**0.97**	**153**	*eP*	Pn	06 59 08.6	+1.3
ILAM				*eS*	Sn	06 59 27.3	+0.7
ZAM	**Aeronautique**	**1.10**	**165**	*eP*	Pn	06 59 09.4	+1.0
LPMF	**Morne Lapointe**	**1.12**	**162**	*eP*	Pn	06 59 09.3	+0.7
BIM	**Bigot**	**1.15**	**167**	*eP*	Pn	06 59 09.9	+1.0
MVM	**Montagne Vaucl**	**1.16**	**159**	*eP*	Pn	06 59 10.1	+1.1
MPOM	**Morne Pois Mar**	**1.27**	**159**	*eP*	Pn	06 59 04.7	-5.3
MBFL	**Flemmings, Mon**	**1.39**	**323**	*eP*	Pn	06 59 12.1	+1.0
ANBD	**Bethesda, Anti**	**1.46**	**343**	*eP*	Pn	06 59 13.2	+1.4
ANBD				*eS*	Sn	06 59 34.4	-0.2
ANDO	**Antigua, Disas**	**1.54**	**342**	*eP*	Pn	06 59 13.9	+1.3
ANDO				*eS*	Sn	06 59 35.9	-0.2
SLBI	**Saint Lucia, B**	**1.65**	**168**	*eP*	Pn	06 59 14.5	+0.7
SLBI				*eS*	Sn	06 59 38.2	+0.1
SLCP	**Castries, St.**	**1.66**	**168**	*eP*	Pn	06 59 14.7	+0.8

*IDC **16** 07:06:24.4±4.8,36.20N×71.15E,h93km±30km,mb3.3/8, mbtmp3.7/14,Error ellipse: s-maj=49.8km s-min=18.8km az=154.0*

*NNC **16** 07:06:34.6±7.6,36.98N×70.40E,h109km±177km,mb3.3, mpv4.0,Error ellipse: s-maj=60.4km s-min=50.3km az=22.0*

ISC 16 07:06:27.0±1.4,36.5N±0.1×70.96E±0.09,h100km,n26, σ1.960/28,mb3.5/7,4C,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**5.73**	**353**	Lg	Lg	07 08 48.5	
	13nm,0.6s						
UCH	**Uchtor**	**6.38**	**24**	P	**Pn**	**07 07 59.7**	**+0.8**
	SNR=24						
MRKS	**Merke**	**6.52**	**15**	Pg	**Pn**	**07 08 01.1**	**+0.7**
	8.9nm,0.7s						
MRKS				Lg	Lg	07 09 11.9	
	15nm,0.5s						
EKS2	**Erkin-Say**	**6.56**	**18**	P	**Pn**	**07 08 03.6**	**+2.6**
	SNR=6.2						
BRLS	**Borolday**	**6.62**	**353**	Pg	**Pn**	**07 07 59.3**	**-2.4**
	6.2nm,0.1s						
BRLS				Lg	Lg	07 09 07.8	
	5.7nm,0.5s						
KK31	**Karatay Array**	**6.64**	**357**	P	**Pn**	**07 08 03.3**	**+1.3**
	6.0nm,0.3s,baz=178,slow=12,SNR=73						
KK31				⇑S	**Sn**	**07 09 12.8**	**-3.4**
	3.4nm,0.4s,baz=185,slow=21						
AAK	**Ala-Archa**	**6.75**	**23**	P	**Pn**	**07 08 05.4**	**+1.8**
	SNR=10						
AAK	**Ala-Archa**	**6.75**	**23**	⇑P	**Pn**	**07 08 06.7**	**+3.2**
	0.7nm,0.2s						
AAK				⇑S	**Sn**	**07 09 18.8**	**0.0**
	6.5nm,0.5s						
AAK	**Ala-Archa**	**6.75**	**23**	P	**Pn**	**07 08 05.0**	**+1.5**
	8.9nm,0.3s,baz=182,slow=8.0,SNR=20						
AAK				S	**Sn**	**07 09 18.2**	**-0.6**
	3.3nm,0.4s,baz=334,slow=22,SNR=1.4						
CHMS	**Chumysh**	**7.15**	**23**	P	**Pn**	**07 08 10.5**	**+1.6**
	SNR=6.4						
USP	**Ospenovka**	**7.32**	**21**	P	**Pn**	**07 08 12.2**	**+1.0**
	SNR=15						
TKM2	**Tokmak 2**	**7.38**	**28**	P	Pn	07 08 17.9	+5.8
	SNR=5.7						
GEYT	**Alibeck**	**10.35**	**282**	P	**Pn**	**07 08 53.2**	**+0.7**
	0.8nm,0.4s,baz=85,slow=9.0,SNR=1.9						
GEYT				S	**Sn**	**07 10 47.4**	**+0.9**
	1.2nm,0.4s,baz=106,slow=26,SNR=2.3						
MKAR	**Makanchi Array**	**13.34**	**36**	P	**Pn**	**07 09 31.7**	**-0.6**
	0.3nm,0.6s,baz=231,slow=16,SNR=3.0						
AB31	**Akbulak array**	**15.11**	**331**	P	**Pn**	**07 09 54.4**	**-0.5**
	1.0nm,0.4s,baz=144,slow=13,SNR=57						
AB31				⇑S	Sn	07 12 31.7	-10
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**15.17**	**19**	P	**Pn**	**07 09 57.3**	**+1.6**
	0.7nm,0.5s,baz=208,slow=11,SNR=3.1						
BVAR	**Borovoye Array**	**16.57**	**359**	P	**Pn**	**07 10 13.6**	**+0.5**
	1.1nm,0.5s,baz=171,slow=10,SNR=6.7						
AKTO	**Aktyubinsk**	**16.80**	**330**	P	**P**	**07 10 18.4**	**+1.9**
	2.0nm,0.5s,baz=144,slow=12,SNR=9.5						
ZALV	**Zalesovo Beam**	**19.96**	**24**	P	**P**	**07 10 50.8**	**-0.3**
	1.8nm,0.4s,baz=217,slow=9.6,SNR=1.3						
	1.8nm,0.4s						
FINES	**FINESS Array B**	**37.50**	**326**	P	**P**	**07 13 31.6**	**+0.9**
	1.0nm,0.9s,baz=110,slow=12,SNR=1.5						
	1.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.17**	**338**	P	**P**	**07 14 02.0**	**+0.9**
	0.4nm,0.5s,baz=104,slow=7.5,SNR=7.2						
	0.4nm,0.5s						
HFS	**Hagfors**	**43.08**	**322**	P	**P**	**07 14 17.7**	**+1.0**
	0.8nm,0.4s,baz=91,slow=8.6,SNR=4.7						
	0.8nm,0.4s						
NOA	**NORSAR Array B**	**44.39**	**323**	P	**P**	**07 14 27.5**	**+0.2**
	0.6nm,0.5s,baz=96,slow=7.7,SNR=3.3						
	0.6nm,0.5s						
TORD	**Torodi Ar. Bea**	**65.69**	**269**	P	**P**	**07 16 58.8**	**-2.2**
	0.4nm,0.6s,baz=33,slow=5.3,SNR=2.3						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**74.83**	**16**	P	**P**	**07 17 54.8**	**-1.2**
	0.2nm,0.8s,baz=323,slow=33,SNR=1.3						
	0.2nm,0.8s						
YKA	**Yellowknife Ar**	**81.29**	**3**	P	**P**	**07 18 31.4**	**-0.3**
	0.2nm,0.6s,baz=351,slow=6.1,SNR=6.4						
	0.2nm,0.6s						

*IDC **16** 07:08:44.7±10.0,21.33S×175.67W,h56km±91km,mb3.9/6, mbtmp4.1/7,ML3.4/1,MS3.5/3,Error ellipse: s-maj=37.9km s-min=33.8km az=89.0*

ISC 16 07:08:45.2±1.0,21.3S±0.2×175.7W±0.2,h60km,n17, σ0.883/10,mb4.2/6,MS3.8/3,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.62**	**264**	P	**P**	**07 12 36.3**	**+0.3**
	0.1nm,0.3s,baz=82,slow=19,SNR=1.9						
	3.7nm,0.8s						
PPT	**Papeete**	**24.89**	**86**	LR	LR	07 22 33.0	
	comp=Z,33nm,20.3s,baz=294,slow=33						
STKA	**Stephens Creek**	**39.40**	**245**	P	**P**	**07 16 09.5**	**+0.2**
	2.2nm,0.6s,baz=90,slow=13,SNR=7.3						
	2.2nm,0.6s						
ASAR	**Alice Springs**	**46.44**	**257**	P	**P**	**07 17 06.3**	**-0.1**
	5.4nm,0.7s,baz=96,slow=8.1,SNR=45						
ASAR				PcP	**PcP**	**07 18 42.0**	**+1.6**
	0.4nm,0.7s,baz=99,slow=5.7,SNR=1.8						
	5.4nm,0.7s						
WRA	**Warramunga Arr**	**46.63**	**262**	P	**P**	**07 17 06.7**	**-1.3**
	0.9nm,0.3s,baz=95,slow=8.2,SNR=45						
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**68.77**	**180**	P	**P**	**07 19 42.4**	**-0.3**
	3.1nm,1.0s,baz=307,slow=1.4,SNR=8.8						
	3.1nm,1.0s						
ASAJ	**Asahikawa**	**75.47**	**330**	LR	LR	07 46 47.4	
	comp=Z,55nm,21.8s,baz=122,slow=30						
PETK	**Petropavlovsk-**	**77.62**	**344**	P	**P**	**07 20 34.8**	**+0.1**
	2.9nm,0.9s,baz=126,slow=5.9,SNR=1.8						
PETK				LR	LR	07 50 53.0	
	comp=Z,78nm,21.4s,baz=205,slow=33						
	2.9nm,0.9s						
H03S2	**Juan Fernandez**	**83.76**	**124**	T	T	08 53 26.9	
	baz=248,slow=74,SNR=207						
H03S1	**Juan Fernandez**	**83.77**	**124**	T	T	08 53 26.8	
	baz=248,slow=74,SNR=270						
H03S3	**Juan Fernandez**	**83.77**	**124**	T	T	08 53 26.7	
	baz=248,slow=74,SNR=198						
H03N2	**Juan Fernandez**	**83.89**	**123**	T	T	08 53 27.8	
	baz=249,slow=71,SNR=62						
H03N3	**Juan Fernandez**	**83.90**	**123**	T	T	08 53 18.5	
	baz=249,slow=71,SNR=39						
H03N1	**Juan Fernandez**	**83.91**	**123**	T	T	08 53 21.2	
	baz=249,slow=71,SNR=33						
TXAR	**Lajitas Array**	**85.69**	**56**	P	**P**	**07 21 18.0**	**0.0**
	0.3nm,0.9s,baz=208,slow=3.1,SNR=2.6						
	0.3nm,0.9s						
AKASG	**Malin Array Be**	**144.74**	**332**	PKP	**PKPab**	**07 28 13.3**	**-0.7**
	1.0nm,0.5s,baz=40,slow=4.0,SNR=7.0						
BRTR	**Keskin Array B**	**148.97**	**313**	PKPbc	**PKPbc**	**07 28 27.0**	**+0.2**
	0.6nm,0.7s,baz=60,slow=8.5,SNR=3.6						

*IDC **16** 07:24:27.0±0.7,13.07N×145.52E,h0km,mb4.1/18, mbtmp4.1/18,MS3.7/31,Error ellipse: s-maj=25.6km s-min=15.9km az=90.0*

*NEIC **16** 07:24:33.7±1.2,12.93N±0.08×145.41E±0.09,h40km±7km, mb4.6/95,Error ellipse: s-maj=13.8km s-min=10.9km az=63.0*

ISC 16 07:24:33.6±0.5,12.98N±0.08×145.5E±0.1,h43km,n307, σ0.975/254,mb4.5/69,MS3.7/32,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.83**	**317**	Pn	**Pn**	**07 24 48.6**	**-0.3**
PATS	**Pohnpei**	**14.06**	**114**	Pn	Pn	07 27 44.9	-5.5
MANU	**Manus Island**	**15.04**	**173**	Pn	**Pn**	**07 28 02.4**	**-1.0**
DAV	**Davao City (W)**	**20.42**	**255**	LR	LR	07 37 13.4	
	comp=Z,92nm,20.3s,baz=150,slow=37						
FAKI	**Fak Fak**	**20.52**	**221**	P	**P**	**07 29 09.1**	**+0.6**
FAKI				IAmb	IAmb	07 29 36.7	
	comp=Z,36nm,1.1s						
JOW	**Kunigami**	**21.20**	**313**	P	**P**	**07 29 16.6**	**+0.9**
JOW	**Kunigami**	**21.20**	**313**	P	**P**	**07 29 14.5**	**-1.2**
	comp=Z,4.5nm,0.7s,baz=122,slow=27,SNR=2.2						
JOW				LR	LR	07 36 56.6	
	comp=Z,226nm,18.4s,baz=120,slow=35						
	comp=Z,4.5nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**21.62**	**69**	T	T	07 52 32.7	
	baz=256						
H11N2	**WAKE ISLAND Hy**	**21.64**	**69**	T	T	07 52 04.1	
	baz=256						
H11N3	**WAKE ISLAND Hy**	**21.64**	**69**	T	T	07 52 13.1	
	baz=256						
PMG	**Port Moresby**	**22.30**	**176**	LR	LR	07 36 43.5	
	comp=Z,80nm,19.6s,baz=156,slow=33						
JNU	**Nakatsue**	**24.07**	**329**	LR	LR	07 38 40.2	
	comp=Z,51nm,19.0s,baz=164,slow=36						
MJAR	**Matsushiro Arr**	**24.35**	**346**	P	**P**	**07 29 45.5**	**-2.1**
	comp=Z,0.9nm,0.4s,baz=157,slow=13,SNR=1.3						
MJAR				LR	LR	07 38 05.0	
	comp=Z,115nm,18.4s,baz=152,slow=34						
	comp=Z,0.9nm,0.4s				

comp=Z,0.7nm,0.3s,baz=86,slow=2.7,SNR=4.9
CMAR LR LR 07 52 16.8
comp=Z,38nm,18.1s,baz=110,slow=37
comp=Z,1.6nm,0.5s
SONM Songino Array 47.55 325 P **P** **07 33 04.4 -0.7**
comp=Z,0.5nm,0.5s,baz=131,slow=8.2,SNR=4.7
comp=Z,0.5nm,0.5s
YAK Yakutsk 50.28 350 LR LR 07 56 05.2
comp=Z,38nm,19.4s,baz=150,slow=38
TIXI Tiksi 59.50 354 LR LR 08 03 30.7
comp=Z,20nm,19.0s,baz=128,slow=40
K13K Kusilvak Mount 60.42 25 P **P** **07 34 38.1 -0.4**
K13K Kusilvak Mount 60.42 25 P **P** **07 34 38.8 +0.2**
baz=239
O14K Tigyukauivet M 60.60 28 P **P** **07 34 40.6 +0.8**
baz=244
N14K Kuskokwak Cree 60.72 27 P **P** **07 34 41.4 +0.9**
baz=243
CHGN Chignik 60.79 32 P **P** **07 34 42.0 +0.9**
baz=248
L14K Kuka Creek 60.95 26 P **P** **07 34 43.6 +1.5**
L14K Kuka Creek 60.95 26 P **P** **07 34 43.2 +1.1**
baz=241
M14K Bethel 60.98 26 P **P** **07 34 43.3 +1.0**
baz=242
RPZ Rata Peaks 61.07 159 LR LR 07 59 54.4
comp=Z,91nm,19.2s,baz=134,slow=35
O15K Ungalikthiuk R 61.24 29 P **P** **07 34 44.9 +0.8**
baz=245
J14K Nanvaranak Lak 61.28 24 P **P** **07 34 45.2 +0.8**
baz=240
N15K Kwethluk River 61.54 28 P **P** **07 34 46.6 +0.4**
baz=244
ANM Nome 61.55 22 P **P** **07 34 46.7 +0.6**
baz=237
L15K Ungalak Mounta 61.61 26 P **P** **07 34 46.9 +0.3**
baz=242
F14K Arctic Creek 61.72 21 P **P** **07 34 47.5 +0.3**
baz=236
K15K Wolf Creek Mou 61.88 25 P **P** **07 34 49.2 +0.8**
baz=242
P16K Nushagak River 62.05 29 P **P** **07 34 50.3 +0.8**
baz=247
O16K Kokwok River B 62.22 29 P **P** **07 34 52.0 +1.3**
baz=247
N16K Nishlik Lake 62.27 28 P **P** **07 34 51.7 +0.6**
baz=246
MKAR Makanchi Array 62.32 316 P **P** **07 34 51.2 -0.5**
comp=Z,0.5nm,0.5s,baz=89,slow=8.0,SNR=7.2
comp=Z,0.5nm,0.5s
M16K Timber Creek 62.41 27 P **P** **07 34 52.3 +0.3**
baz=245
F15K North Star Dit 62.43 21 P **P** **07 34 52.3 +0.3**
baz=237
ZALV Zalesovo Beam 62.45 324 P **P** **07 34 51.7 -0.6**
comp=Z,0.5nm,0.3s,baz=104,slow=6.7,SNR=1.5
ZALV LR LR 08 02 51.4
comp=Z,43nm,18.6s,baz=52,slow=37
comp=Z,0.5nm,0.3s
L16K Owhat River 62.48 26 P **P** **07 34 53.3 +0.8**
baz=244
Q16K King Salmon 62.55 30 P **P** **07 34 54.2 +1.3**
baz=248
J16K Anvik River 62.72 24 P **P** **07 34 54.8 +0.8**
baz=242
H16K Elim 62.74 23 P **P** **07 34 54.9 +0.8**
baz=240
O17K Koliganek Bris 62.76 29 P **P** **07 34 55.3 +1.0**
baz=248
P17K Kvichak River 62.85 29 P **P** **07 34 55.2 +0.3**
baz=248
I17K Unalakleet 62.97 24 P **P** **07 34 55.8 +0.2**
baz=242
N17K Nushagak Hills 63.01 28 P **P** **07 34 56.3 +0.3**
baz=247
M17K Holitna River 63.24 27 P **P** **07 34 57.8 +0.3**
baz=246
J17K VABM Dome 63.39 25 P **P** **07 34 58.6 +0.1**
J17K IAmb IAmb 07 35 00.8
comp=Z,7.0nm,1.1s
J17K VABM Dome 63.39 25 P **P** **07 34 59.1 +0.6**
baz=244,SNR=5.4
K17K Iditarod 63.41 25 P **P** **07 34 59.7 +1.1**
K17K Iditarod 63.41 25 P **P** **07 34 59.9 +1.2**
baz=245,SNR=6.2
N18K Kilae Creek 63.66 28 P **P** **07 35 01.2 +0.9**
baz=248
O18K Koktuh Hills 63.67 29 P **P** **07 35 00.7 +0.2**
baz=249
G17K Kiwalik Mounta 63.75 22 P **P** **07 35 00.9 +0.1**
baz=241
H17K Granite Mounta 63.76 23 P **P** **07 35 01.1 +0.2**
H17K IAmb IAmb 07 35 02.7
comp=Z,5.4nm,1.1s
H17K Granite Mounta 63.76 23 P **P** **07 35 01.4 +0.5**
baz=242
L18K Granite Mounta 63.89 26 P **P** **07 35 01.7 -0.1**
L18K IAmb IAmb 07 35 05.0
comp=Z,8.4nm,1.4s
L18K Granite Mounta 63.89 26 P **P** **07 35 02.0 +0.2**
baz=247
M18K Stony River 63.99 27 P **P** **07 35 02.9 +0.4**
baz=248
F17K Baldwin Pennin 63.99 21 P **P** **07 35 02.7 +0.4**
baz=240
D17K Noatak River 64.02 19 P **P** **07 35 02.9 +0.4**
baz=238
E17K Hotham Inlet 64.12 20 P **P** **07 35 03.7 +0.5**
baz=240
O19K Port Alsworth 64.21 29 P **P** **07 35 04.3 +0.4**
baz=250
KDAK Kodiak Island 64.29 32 LR LR 08 00 00.8
comp=Z,43nm,20.4s,baz=268,slow=33
N19K Bonanza Creek 64.35 28 P **P** **07 35 06.1 +1.2**
baz=250
J18K Innoko River 64.38 25 P **P** **07 35 05.8 +0.8**
J18K IAmb IAmb 07 35 07.2
comp=Z,8.6nm,1.5s
J18K Innoko River 64.38 25 P **P** **07 35 05.7 +0.7**
baz=246
H18K Honhosa River 64.44 23 P **P** **07 35 05.5 +0.1**
H18K IAmb IAmb 07 35 06.6
comp=Z,5.4nm,1.1s
H18K Honhosa River 64.44 23 P **P** **07 35 06.1 +0.7**
baz=244
P19K Oil Pt 64.55 30 P **P** **07 35 06.6 +0.4**
baz=251
F18K Selawik 64.63 21 P **P** **07 35 06.9 +0.4**
baz=242
G18K Tagagawik 64.67 22 P **P** **07 35 06.5 -0.3**
G18K IAmb IAmb 07 35 08.1
comp=Z,7.1nm,1.1s
G18K Tagagawik 64.67 22 P **P** **07 35 06.8 -0.1**
baz=243,SNR=5.2
E18K Tukpahlearik C 64.70 20 P **P** **07 35 07.0 +0.1**
E18K IAmb IAmb 07 35 08.8
comp=Z,5.4nm,1.0s
E18K Tukpahlearik C 64.70 20 P **P** **07 35 07.3 +0.4**
baz=241
M19K Big River Lodg 64.78 27 P **P** **07 35 08.4 +0.8**
baz=249
J19K Poorman 65.04 25 P **P** **07 35 10.1 +0.8**
J19K IAmb IAmb 07 35 11.1
comp=Z,5.1nm,1.1s
J19K Poorman 65.04 25 P **P** **07 35 09.8 +0.6**
baz=247,SNR=5.2
C18K Utukok River 65.12 19 P **P** **07 35 11.8 +1.9**
C18K Utukok River 65.12 19 P **P** **07 35 09.9 +0.1**
baz=240
L20K Farewell, AK 65.20 26 P **P** **07 35 10.8 +0.4**
baz=249
M20K Styx River 65.33 27 P **P** **07 35 11.7 +0.4**
baz=250
H19K Roundabout Mou 65.33 23 P **P** **07 35 11.6 +0.5**
H19K IAmb IAmb 07 35 13.0
comp=Z,5.4nm,1.0s
H19K Roundabout Mou 65.33 23 P **P** **07 35 11.8 +0.8**
baz=246
G19K Purcell Mounta 65.35 22 P **P** **07 35 11.7 +0.5**
G19K Purcell Mounta 65.35 22 P **P** **07 35 11.8 +0.6**
baz=245,SNR=8.4
KURK Kurchatov 65.41 320 P **P** **07 35 10.9 -1.0**
K20K Telida 65.44 26 P **P** **07 35 12.4 +0.5**
K20K IAmb IAmb 07 35 25.7
comp=Z,3.8nm,0.8s
K20K Telida 65.44 26 P **P** **07 35 12.6 +0.7**
baz=249
KURBB Kurchatov Arra 65.45 320 P **P** **07 35 11.5 -0.7**
comp=Z,0.9nm,0.6s,baz=103,slow=6.9,SNR=6.0
comp=Z,0.9nm,0.6s
J20K Nowinta River 65.70 25 P **P** **07 35 14.0 +0.4**
J20K Nowinta River 65.70 25 P **P** **07 35 14.0 +0.4**
baz=248,SNR=6.6
C19K Lookout Ridge 65.86 19 P **P** **07 35 15.9 +1.4**
baz=241
E19K Redstone River 65.87 21 IAmb IAmb 07 35 16.2
comp=Z,4.9nm,1.0s
E19K Redstone River 65.87 21 P **P** **07 35 15.0 +0.4**
baz=244,SNR=5.0
H20K Anotleneega Mo 65.91 23 P **P** **07 35 15.0 +0.1**
baz=247,SNR=6.5
A19K Wainwright 65.96 17 P **P** **07 35 15.8 +0.8**
baz=239
D19K Kuna River 66.04 20 P **P** **07 35 15.8 +0.1**
baz=243
SKT Skwentna 66.08 27 P **P** **07 35 16.5 +0.4**
baz=252
F20K Avaraart Lake 66.23 22 P **P** **07 35 17.7 +0.9**
baz=246
SUA Susitna One 66.28 28 P **P** **07 35 17.2 -0.3**
baz=253
CAST Castle Rocks 66.30 26 P **P** **07 35 18.0 +0.6**
CAST IAmb IAmb 07 35 19.2
comp=Z,7.0nm,1.0s
CAST Castle Rocks 66.30 26 P **P** **07 35 17.7 +0.2**
baz=251,SNR=11
CHUM Lake Minchumin 66.36 25 P **P** **07 35 18.4 +0.7**
baz=250
SEW Seward 66.50 30 P **P** **07 35 18.8 +0.1**
baz=254
E20K Nigu River 66.57 20 P **P** **07 35 19.7 +0.5**
baz=245
D20K Etivluk River 66.63 20 P **P** **07 35 19.6 +0.1**
baz=244
M22K Willow 66.65 28 P **P** **07 35 20.1 +0.5**
baz=253
H21K Melozitna Rive 66.78 23 P **P** **07 35 20.9 +0.5**
H21K IAmb IAmb 07 35 22.4
comp=Z,4.8nm,1.1s
H21K Melozitna Rive 66.78 23 P **P** **07 35 20.7 +0.3**
baz=249,SNR=7.6
G21K Allakaket 66.83 22 P **P** **07 35 20.5 -0.2**
baz=248
I21K Tanana 66.93 24 IAmb IAmb 07 35 23.5
comp=Z,6.4nm,1.1s
I21K Tanana 66.93 24 P **P** **07 35 21.6 +0.2**
baz=250
BPAW Bear Paw Mtn. 66.98 25 P **P** **07 35 22.1 +0.3**
BPAW IAmb IAmb 07 35 23.4
comp=Z,6.1nm,1.0s
BPAW Bear Paw Mtn. 66.98 25 P **P** **07 35 22.0 +0.2**
baz=251,SNR=8.4
B20K Meade River 67.03 18 P **P** **07 35 22.3 +0.4**
baz=243
F21K Alatna River 67.10 22 P **P** **07 35 23.5 +1.0**
baz=248
KNK Knik Glacier 67.32 28 P **P** **07 35 23.8 -0.2**
baz=255
AAK Ala-Archa 67.34 311 LR LR 08 07 56.7
comp=Z,64nm,18.1s,baz=94,slow=39
MLY Manley 67.38 24 P **P** **07 35 25.2 +0.8**
MLY IAmb IAmb 07 35 26.6
comp=Z,5.7nm,1.1s
MLY Manley 67.38 24 P **P** **07 35 24.5 +0.2**
baz=251,SNR=10
E21K Killik River 67.40 20 P **P** **07 35 24.0 -0.4**
baz=247
H22K Ishtalitna Cre 67.41 23 P **P** **07 35 24.5 +0.1**
baz=250
C21K Knifeblade Rid 67.42 20 P **P** **07 35 24.9 +0.5**
baz=246
P23K Montague Islan 67.47 30 P **P** **07 35 24.7 -0.2**
baz=256
SML Sawmill 67.48 28 P **P** **07 35 25.1 +0.1**
baz=255
B21K Ikpikpuk River 67.66 19 P **P** **07 35 26.7 +0.8**
baz=246
F22K John River 67.67 22 P **P** **07 35 26.9 +0.8**
baz=249
RND Reindeer 67.68 26 IAmb IAmb 07 35 28.2
comp=Z,8.4nm,1.2s
G22K Bettles 67.71 22 P **P** **07 35 27.0 +0.7**
baz=250
MCK McKinley 67.73 26 P **P** **07 35 27.2 +0.6**
baz=254
A21K Barrow 67.79 17 P **P** **07 35 27.6 +0.9**
baz=243
Q23K Middleton Isla 67.86 31 P **P** **07 35 28.0 +0.7**
baz=258
MID Middleton Isla 67.87 31 IAmb IAmb 07 35 31.5
comp=Z,4.8nm,0.8s
NEA2 Nenana 67.93 25 P **P** **07 35 28.0 +0.2**
baz=253
SCM Sheep Creek Mo 67.95 28 P **P** **07 35 28.3 +0.3**
baz=256
I23K Minto, Yukon-K 67.97 24 P **P** **07 35 28.9 +1.0**
baz=253,SNR=7.5
D22K Ayikyak River 68.00 20 P **P** **07 35 27.8 -0.3**
D22K IAmb IAmb 07 35 39.2
comp=Z,4.2nm,0.8s
D22K Ayikyak River 68.00 20 P **P** **07 35 28.9 +0.8**
baz=248
E22K Anaktuvuk Pass 68.03 21 P **P** **07 35 28.7 +0.4**
baz=249
H23K Yukon River 68.10 24 IAmb IAmb 07 35 30.8
comp=Z,5.4nm,1.1s
H23K Yukon River 68.10 24 P **P** **07 35 29.2 +0.4**
baz=252
A22K Sinclair Lake 68.13 18 P **P** **07 35 29.3 +0.5**
baz=245
G23K Bananza Creek 68.20 23 IAmb IAmb 07 35 44.2
comp=Z,6.5nm,1.2s
G23K Bananza Creek 68.20 23 P **P** **07 35 29.9 +0.5**
baz=251,SNR=7.5
COLD Coldfoot 68.30 22 P **P** **07 35 30.7 +0.8**
baz=251,SNR=8.1
WRH Wood River Hil 68.30 25 IAmb IAmb 07 35 30.7
comp=Z,7.5nm,1.0s
B22K Teshekpuk Lake 68.33 19 P **P** **07 35 30.7 +0.6**
baz=247
MDM Murphy Dome 68.38 25 P **P** **07 35 31.2 +0.6**
KLU Klutina 68.52 29 P **P** **07 35 31.6 0.0**
baz=257
D23K Nanushuk River 68.71 20 P **P** **07 35 32.9 +0.3**
baz=250
POKR Poker Flat Res 68.74 25 P **P** **07 35 32.6 -0.2**
baz=254
H24K Noodor Dome 68.76 24 IAmb IAmb 07 35 34.9
comp=Z,7.2nm,1.1s
H24K Noodor Dome 68.76 24 P **P** **07 35 32.6 -0.4**
baz=254,SNR=7.6
IL31 68.88 25 IAmb IAmb 07 35 33.8
comp=Z,6.9nm,1.1s
ILAR Eielson Array 68.88 25 P **P** **07 35 32.1 -1.6**
ILAR Eielson Array 68.88 25 P **P** **07 35 32.5 -1.2**
comp=Z,3.3nm,1.0s,baz=262,slow=4.0,SNR=24
comp=Z,3.3nm,1.0s
TOLK Toolik Lake Re 68.98 21 P **P** **07 35 35.1 +0.8**
TOLK IAmb IAmb 07 35 36.4
comp=Z,10.0nm,1.3s
TOLK Toolik Lake Re 68.98 21 P **P** **07 35 34.4 +0.1**
baz=251
BMRM Bremner River 69.03 29 P **P** **07 35 34.6 -0.2**
baz=259
C23K Itkillik River 69.04 19 P **P** **07 35 34.9 +0.4**
baz=250,SNR=7.4
PAX Paxson 69.05 27 P **P** **07 35 34.7 -0.2**
baz=257
HARP HAARP 69.07 28 P **P** **07 35 35.2 +0.2**
baz=258
K24K Donnelly Dome 69.11 26 P **P** **07 35 35.2 0.0**
baz=256
G24K Hadweenzic Riv 69.16 23 IAmb IAmb 07 36 01.1
comp=Z,7.4nm,1.3s
G24K Hadweenzic Riv 69.16 23 P **P** **07 35 36.1 +0.7**
baz=254
E24K Your Creek 69.19 22 IAmb IAmb 07 35 43.0
comp=Z,7.0nm,1.2s
E24K Your Creek 69.19 22 P **P** **07 35 36.0 +0.5**
baz=252
F24K Squaw Lake 69.24 22 IAmb IAmb 07 35 38.2
comp=Z,6.2nm,1.1s
F24K Squaw Lake 69.24 22 P **P** **07 35 36.5 +0.6**
baz=253,SNR=6.3
D24K Happy Valley 69.40 20 P **P** **07 35 37.5 +0.7**
baz=252,SNR=14
J25K Salcha River, 69.47 25 P **P** **07 35 38.1 +0.7**
baz=257
PRP Porcupine Dome 69.62 25 P **P** **07 35 38.6 +0.2**
baz=256
C24K Franklin Bluff 69.62 20 P **P** **07 35 38.6 +0.5**
baz=252
H25L Birch Creek 69.69 24 P **P** **07 35 39.3 +0.7**
baz=256,SNR=9.5
G25K Bearman Lake 69.70 23 P **P** **07 35 38.9 +0.2**
baz=255
SCRK Sand Creek 69.92 26 P **P** **07 35 40.0 -0.3**
baz=258
L26K Log Cabin Wild 70.01 27 P **P** **07 35 40.5 -0.2**
baz=259
M26K Nabesna, AK 70.06 28 P **P** **07 35 41.3 +0.3**
baz=260
F25K Christian Rive 70.09 22 P **P** **07 35 42.0 +0.9**
baz=255,SNR=9.8
J26L Joseph Creek 70.21 26 P **P** **07 35 42.4 +0.4**
baz=258,SNR=8.0
E25K Arctic Village 70.25 22 IAmb IAmb 07 35 50.7
comp=Z,6.5nm,1.1s
E25K Arctic Village 70.25 22 P **P** **07 35 42.9 +0.8**
baz=255,SNR=7.3
D25K Kavik River 70.29 21 IAmb IAmb 07 35 44.1
comp=Z,7.6nm,1.0s
D25K Kavik River 70.29 21 P **P** **07 35 43.1 +0.8**
baz=254
BMAR Burnt Mountain 70.44 23 P **P** **07 35 43.5 +0.1**
I26K Coal Creek Min 70.54 25 P **P** **07 35 44.5 +0.6**
baz=258
M27K Edge Creek, AK 70.56 28 IAmb IAmb 07 35 57.9
comp=Z,7.3nm,1.4s
M27K Edge Creek, AK 70.56 28 P **P** **07 35 44.5 +0.3**
baz=261
CTG Chitna Glacier 70.60 30 P **P** **07 35 45.5 +1.0**
baz=262
G26K Porcupine Rive 70.64 23 P **P** **07 35 45.7 +1.3**
baz=257,SNR=13
F26K Sheenjek River 70.67 22 P **P** **07 35 45.5 +0.9**
baz=257,SNR=9.7
L27K Beaver Creek, 70.70 27 P **P** **07 35 45.7 +0.7**
baz=260
BVAR Borovoye Array 70.75 322 P **P** **07 35 45.2 -0.2**
comp=Z,1.2nm,0.5s,baz=108,slow=9.3,SNR=6.9
BVAR LR LR 08 08 33.1
comp=Z,65nm,19.2s,baz=96,slow=37
comp=Z,1.2nm,0.5s
K27K Chicken 70.76 26 IAmb IAmb 07 35 48.1
comp=Z,5.4nm,1.1s
K27K Chicken 70.76 26 P **P** **07 35 46.6 +1.4**
baz=260
C26K Camden Bay 70.94 20 P **P** **07 35 47.5 +1.3**
baz=255,SNR=9.3
PPT Papeete 70.95 114 LR LR 08 00 54.6
comp=Z,106nm,20.8s,baz=338,slow=31
PPT2 Papeete2 70.95 114 *e*LR LR 07 57 13.0
comp=Z,65nm,21.0s
PPT2 *e*LR LR 07 57 19.1
comp=Z,102nm,26.0s
O28M Mount Upton 71.13 30 P **P** **07 35 48.1 +0.2**
baz=263
YUK3 Moose Creek 71.14 29 P **P** **07 35 48.2 +0.3**
baz=262
I27K Kandik River 71.23 25 P **P** **07 35 48.5 +0.3**
baz=260
C27K Jago River 71.27 20 P **P** **07 35 48.6 +0.4**
baz=256,SNR=5.4
EGAK Eagle 71.28 26 P **P** **07 35 48.9 +0.6**
EGAK Eagle 71.28 26 P **P** **07 35 49.2 +0.8**
baz=260,SNR=6.4
H27K Steamboat Moun 71.38 24 P **P** **07 35 49.5 +0.5**
baz=260,SNR=15
YUK8 Steele Glacier 71.40 29 P **P** **07 35 50.1 +0.6**
baz=263
G27K Doyon Strip 71.43 24 P **P** **07 35 50.4 +1.1**
baz=259
E27K Coleen River 71.72 22 IAmb IAmb 07 35 53.2
comp=Z,6.4nm,1.1s
E27K Coleen River 71.72 22 P **P** **07 35 51.9 +1.0**
baz=259,SNR=5.5
I28M Miner Creek 71.89 25 P **P** **07 35 52.3 +0.1**
baz=261
DAWY Dawson 71.93 27 P **P** **07 35 53.2 +0.8**
DAWY IAmb IAmb 07 35 55.1
comp=Z,7.5nm,1.3s
DAWY Dawson 71.93 27 P **P** **07 35 53.0 +0.6**
baz=262,SNR=10
YUK4 Talbot Arm 71.95 29 P **P** **07 35 53.4 +0.7**
baz=264
YUK6 Outpost Mounta 72.04 30 P **P** **07 35 53.3 -0.1**
baz=264
D27M Malcolm River 72.14 21 P **P** **07 35 55.2 +1.7**
D27M IAmb IAmb 07 36 33.7
comp=Z,13nm,1.4s
D27M Malcolm River 72.14 21 P **P** **07 35 54.7 +1.2**
baz=259
M29M Somme Creek 72.15 28 P **P** **07 35 54.5 +0.7**
baz=264
P29M Windy Craggy 72.23 31 P **P** **07 35 55.0 +0.7**
baz=265
F28M Old Crow 72.26 23 IAmb IAmb 07 35 56.3
comp=Z,5.8nm,0.9s
F28M Old Crow 72.26 23 P **P** **07 35 54.8 +0.6**
baz=261,SNR=13
L29M L29M 72.38 28 IAmb IAmb 07 36 25.2
comp=Z,9.8nm,1.5s
L29M L29M 72.38 28 P **P** **07 35 54.9 -0.1**
baz=264
HYT Haines Junctio 72.45 30 P **P** **07 35 55.1 -0.5**
baz=265
E28M Babbage River 72.54 22 IAmb IAmb 07 36 03.9
comp=Z,7.8nm,1.1s
E28M Babbage River 72.54 22 P **P** **07 35 56.5 +0.6**
baz=261
I29M Ogilvie Camp, 72.56 25 IAmb IAmb 07 35 57.9
comp=Z,7.4nm,1.2s
I29M Ogilvie Camp, 72.56 25 P **P** **07 35 56.5 +0.4**
baz=263
H29M Whitestone 72.64 24 P **P** **07 35 57.1 +0.6**
baz=263,SNR=6.1
N30M Aishikik Lake 72.70 29 P **P** **07 35 58.0 +0.9**
baz=265
K29M Barlow Dome 72.72 27 IAmb IAmb 07 36 00.3
comp=Z,9.9nm,1.4s
K29M Barlow Dome 72.72 27 P **P** **07 35 57.6 +0.4**
baz=264,SNR=8.9
G29M Pine Creek 72.87 24 IAmb IAmb 07 36 21.2
comp=Z,7.1nm,0.9s
G29M Pine Creek 72.87 24 P **P** **07 35 58.3 +0.5**
baz=263,SNR=7.0
PLBC Pleasant Camp 72.92 32 P **P** **07 35 59.0 +0.8**
baz=266
M30M Minto, Yukon 72.93 28 P **P** **07 35 58.9 +0.5**
baz=265
D28M Stokes Point 72.94 21 P **P** **07 35 59.0 +0.8**
baz=261
E29M Blow River 73.11 22 P **P** **07 35 59.9 +0.7**
baz=262
J30M Hart River 73.31 26 P **P** **07 36 00.7 0.0**
baz=265,SNR=6.1
EPYK Eagle Plains 73.32 24 IAmb IAmb 07 36 15.8
comp=Z,14nm,1.5s
EPYK Eagle Plains 73.32 24 P **P** **07 36 00.3 -0.2**
baz=264
I30M Mount Dempster 73.35 26 P **P** **07 36 01.8 +1.0**
I30M Mount Dempster 73.35 26 P **P** **07 36 01.4 +0.5**
baz=265
G30M tAoh Zraii Nji 73.58 24 P **P** **07 36 02.5 +0.4**
baz=264,SNR=10
WHY Whitehorse 73.72 30 P **P** **07 36 03.5 +0.4**
baz=267
F30M Barrier River 73.81 23 P **P** **07 36 04.3 +0.9**
baz=265,SNR=14
R32K Eaglecrest 73.82 33 P **P** **07 36 04.5 +0.9**
baz=268
M31M Drury Creek, Y 74.03 29 P **P** **07 36 05.5 +0.8**
baz=267
H31M Peel River 74.24 25 P **P** **07 36 06.6 +0.6**
baz=266,SNR=9.5
G31M Satah River 74.34 24 P **P** **07 36 06.7 +0.3**
baz=266,SNR=14
U33K Whale Pass 74.56 35 P **P** **07 36 07.7 -0.2**
baz=270
INK Inuvik 74.71 22 IAmb IAmb 07 36 09.8
comp=Z,7.4nm,0.9s
INK Inuvik 74.71 22 P **P** **07 36 08.5 -0.1**
baz=266,SNR=11

P33M	**Teslin, Yukon**	**74.73**	**31**	P		**P**	**07 36 09.0**	**0.0**
	baz=269								
WRAK	**Wrangell Islan**	**74.99**	**35**	P		**P**	**07 36 10.4**	**0.0**
	baz=271								
V35K	**Ketchikan**	**75.43**	**36**	P		**P**	**07 36 13.3**	**+0.4**
	baz=272								
S34M	**Telegraph Cree**	**75.62**	**33**	P		**P**	**07 36 14.2**	**+0.2**
	baz=271								
R33M	**Jennings River**	**75.67**	**32**	P		**P**	**07 36 14.8**	**+0.3**
	baz=271								
T35M	**Bob Quinn**	**76.13**	**34**	P		**P**	**07 36 17.8**	**+0.8**
	baz=272								
DLBC	**Dease Lake**	**76.19**	**33**	P		**P**	**07 36 18.1**	**+0.8**
	baz=272								
WTLY	**Watson Lake, Y**	**76.75**	**31**	P		**P**	**07 36 20.7**	**+0.3**
	baz=273								
ABKAR	**Akbulak array**	**77.37**	**318**	P		**P**	**07 36 23.6**	**-0.5**
A36M	**Sachs Harbour**	**77.54**	**19**	P		**P**	**07 36 25.1**	**+0.5**
A36M				IAmb		IAmb	07 36 31.8	
	comp=Z,7.1nm,0.9s								
A36M	**Sachs Harbour**	**77.54**	**19**	P		**P**	**07 36 24.6**	**0.0**
	baz=273,SNR=8.0								
ARU	**Arti**	**77.59**	**325**	LR		LR	08 12 28.4	
	comp=Z,38nm,18.2s,baz=304,slow=37								
BBB	**Bella Bella**	**77.69**	**39**	LR		LR	08 04 08.5	
	comp=Z,64nm,21.3s,baz=258,slow=31								
C36M	**Paulatuk**	**78.13**	**21**	P		**P**	**07 36 28.1**	**+0.3**
	baz=275,SNR=6.3								
AKTO	**Aktyubinsk**	**78.50**	**319**	LR		LR	08 11 58.3	
	comp=Z,82nm,20.9s,baz=12,slow=36								
GEYT	**Alibeck**	**80.07**	**307**	LR		LR	08 14 17.1	
	comp=Z,31nm,21.1s,baz=356,slow=37								
YBH	**Yreka Blue Hor**	**82.85**	**49**	P		**P**	**07 36 54.4**	**+0.5**
YBH	**Yreka Blue Hor**	**82.85**	**49**	LR		LR	08 08 48.1	
	comp=Z,34nm,19.4s,baz=326,slow=32								
YKA	**Yellowknife Ar**	**83.14**	**27**	P		**P**	**07 36 54.6**	**-0.2**
	comp=Z,1.1nm,0.6s,baz=290,slow=5.5,SNR=15								
	comp=Z,1.1nm,0.6s								
SPITS	**Spitsbergen Ar**	**84.74**	**351**	P		**P**	**07 37 02.9**	**0.0**
	comp=Z,3.4nm,1.0s,baz=37,slow=7.7,SNR=1.0								
	comp=Z,3.4nm,1.0s								
RES	**Resolute Bay**	**85.01**	**13**	IAmb		IAmb	07 37 05.6		
	comp=Z,5.6nm,1.1s								
NEW	**Newport**	**85.31**	**42**	LR		LR	08 09 13.1		
	comp=Z,40nm,20.5s,baz=228,slow=32								
NVAR	**Mina Array Bea**	**86.86**	**51**	P		**P**	**07 37 13.5**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=260,slow=5.4,SNR=4.2								
	comp=Z,0.6nm,0.8s								
ARCES	**ARCESS Array B**	**87.84**	**342**	P		**P**	**07 37 16.8**	**-1.4**
	comp=Z,7.5nm,1.0s,baz=56,slow=6.7,SNR=10.0								
ARCES				LR		LR	08 19 55.6		
	comp=Z,28nm,19.8s,baz=206,slow=38								
	comp=Z,7.5nm,1.0s								
ELK	**Elko**	**88.55**	**49**	P		**P**	**07 37 23.8**	**+1.3**
ELK				IAmb		IAmb	07 37 44.2		
	comp=Z,5.2nm,1.3s								
ELK	**Elko**	**88.55**	**49**	LR		LR	08 14 31.1		
	comp=Z,42nm,18.6s,baz=256,slow=34								
VNDA	**Vanda**	**90.82**	**176**	LR		LR	08 18 47.4		
	comp=Z,116nm,18.8s,baz=314,slow=36								
FINES	**FINESS Array B**	**91.95**	**335**	P		**P**	**07 37 36.1**	**-1.4**
	comp=Z,2.1nm,0.6s,baz=57,slow=5.8,SNR=8.7								
FINES				LR		LR	08 22 05.2		
	comp=Z,22nm,18.8s,baz=200,slow=38								
	comp=Z,2.1nm,0.6s								
PDAR	**Pinedale Array**	**91.99**	**45**	LR		LR	08 12 18.8		
	comp=Z,36nm,21.0s,baz=242,slow=31								
AKASG	**Malin Array Be**	**95.84**	**325**	LR		LR	08 23 47.2		
	comp=Z,73nm,19.0s,baz=228,slow=37								
ULM	**Lac du Bonnet**	**97.42**	**35**	LR		LR	08 22 53.0		
	comp=Z,54nm,18.1s,baz=320,slow=36								
NOA	**NORSAR Array B**	**97.82**	**339**	LR		LR	08 25 20.1		
	comp=Z,26nm,19.3s,baz=40,slow=37								
TORD	**Torodi Ar. Bea**	**135.68**	**304**	PKP		**PKiKP**	**07 43 52.3**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=33,slow=2.7,SNR=4.2								
DBIC	**Dimbokro**	**144.62**	**302**	PKP		**PKPdf**	**07 44 06.1**	**-0.6**
	comp=Z,9.2nm,0.8s,baz=42,slow=5.3,SNR=7.1								

*SNET **16** 07:27:28.8±0.6, 13°.52N×86°.68W, h18km±2km, ML3.7*
*CATAC **16** 07:27:28.1±2.0, 13°.53N×86°.68W, h5km±5km, ML3.9*
ISC 16 07:27:27.4±1.5, 13°.52N±0°.05×86°.67W±0°.04, h3km±11km, n66, σ0°87/90, 2C-1D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**0.79**	**312**	*eP*			**Pb**	**07 27 43.6**	**-0.2**
TGUH				*eS*			**Sb**	**07 27 54.3**	**-0.6**
TGUH	**Tegucigalpa,Un**	**0.79**	**312**	*i* P			**Pb**	**07 27 43.7**	**-0.1**
TGUH				*i* S			**Sb**	**07 27 54.3**	**-0.6**
TGUH					IAML			07 27 56.2	
	comp=Z,4μm,1.0s								
BRAN	**Las Pilas**	**0.86**	**158**	*i* P		Pn		07 27 53.6	+7.3
BRAN				*i* S		Sn		07 28 12.2	+13
BRAN					IAML			07 28 13.8	
	comp=Z,1μm,1.0s								
CRIN	**San Cristobal**	**0.90**	**204**	*eP*			**Pg**	**07 27 44.9**	**+0.3**
CRIN				*eS*			**Sg**	**07 27 57.9**	**+1.7**
CRIN	**San Cristobal**	**0.90**	**204**	*i* P			**Pg**	**07 27 45.3**	**+0.7**
CRIN				*i* S			**Sn**	**07 28 00.5**	**+0.1**
CRIN					IAML			07 28 03.9	
	comp=Z,11μm,1.0s								
QUEN	**Al S del Volca**	**0.94**	**191**	*i* P			**Pg**	**07 27 45.0**	**-0.5**
QUEN					IAML			07 28 02.3	
	comp=Z,4μm,1.0s								
CNGN	**Cerro Negro**	**1.02**	**181⇓**	*eP*			**Pg**	**07 27 47.1**	**+0.2**
CNGN				*eS*			**Sg**	**07 28 00.9**	**+0.8**
CNGN	**Cerro Negro**	**1.02**	**181**	*i* P			**Pg**	**07 27 47.1**	**+0.2**
CNGN					IAML			07 28 04.1	
	comp=Z,3μm,1.0s								
CNGA	**Al SSO del Vol**	**1.02**	**182**	*i* P			**Pg**	**07 27 45.6**	**-1.4**
CNGA				*i* S			**Sg**	**07 27 59.7**	**-0.6**
CNGA					IAML			07 28 06.3	
	comp=Z,3μm,1.0s								
MACN	**El Madrono**	**1.05**	**180**	*i* P			**Pg**	**07 27 47.5**	**-0.1**
MACN				*i* S			**Sg**	**07 28 01.4**	**+0.2**
MACN					IAML			07 28 03.8	
	comp=Z,2μm,1.0s								
MOM2	**El Cardon**	**1.10**	**170**	*i* P			**Pg**	**07 27 48.6**	**+0.2**
MOM2				*i* S			**Sg**	**07 28 03.2**	**+0.6**
MOM2					IAML			07 28 06.4	
	comp=Z,2μm,1.0s								
MOMN	**Momotombo**	**1.12**	**173**	*i* P			**Pg**	**07 27 48.7**	**-0.1**
MOMN				*i* S			**Sg**	**07 28 03.8**	**+0.5**
MOMN					IAML			07 28 06.4	
	comp=Z,140nm,1.0s								
LEVN	**Ruinas Leon Vi**	**1.12**	**177**	*i* P			**Pg**	**07 27 48.9**	**+0.1**
LEVN				*i* S			**Sn**	**07 28 06.1**	**+0.4**
LEVN					IAML			07 28 13.5	
	comp=Z,2μm,1.0s								
CNCH	**Conchagua**	**1.16**	**258⇑**	*eP*			**Pb**	**07 27 49.5**	**-0.6**
CNCH				*eS*			**Sg**	**07 28 05.5**	**+0.9**
CNCH	**Conchagua**	**1.16**	**258**	*i* P			**Pb**	**07 27 49.2**	**-0.9**
CNCH					IAML			07 27 51.1	
	comp=Z,4μm,1.0s								
LCND	**La Caada**	**1.20**	**260⇑**	*eP*			**Pn**	**07 27 50.2**	**-0.9**
LCND				*eS*			**Sb**	**07 28 06.5**	**-0.3**
LCND					IAML			07 28 12.5	
	comp=Z,2μm,0.3s								
LCND	**La Caada**	**1.20**	**260**	*i* P			**Pn**	**07 27 50.0**	**-1.1**
LCND				*i* S			**Sb**	**07 28 07.0**	**+0.2**
LCND					IAML			07 28 12.2	
	comp=Z,2μm,1.0s								
APYN	**Apoyeque**	**1.32**	**166**	*i* P			**Pn**	**07 27 51.9**	**-0.8**
APYN					IAML			07 28 11.1	
	comp=Z,2μm,1.0s								
COPN	**Copaltepe**	**1.34**	**177**	*i* P			**Pn**	**07 27 52.6**	**-0.3**
COPN					IAML			07 28 16.6	
	comp=Z,690nm,1.0s								
SAPS	**Ciudad Sandino**	**1.37**	**169**	*i* P			**Pn**	**07 27 53.2**	**-0.2**
SAPS					IAML			07 28 21.5	
	comp=Z,2μm,1.0s								
INTP	**Intipuca**	**1.38**	**257**	*eP*			**Pn**	**07 27 52.7**	**-0.9**
INTP				*eS*			**Sb**	**07 28 12.1**	**+0.2**
R4DEC	**Barrio San Lui**	**1.43**	**163**	*i* P			**Pg**	**07 27 56.1**	**+1.3**
R4DEC				*i* P			**Pn**	**07 27 54.1**	**-0.1**
R4DEC					IAML			07 28 20.0	
	comp=Z,1μm,1.0s								
R4DEC					IAML			07 28 22.2	
	comp=Z,1μm,1.0s								
TISN	**Laguna Tiscapa**	**1.43**	**164**	*i* P			**Pn**	**07 27 53.1**	**-1.1**
TISN					IAML			07 28 19.3	
	comp=Z,76nm,1.0s								
WILN	**Americas 2**	**1.44**	**161**	*i* P			**Pn**	**07 27 54.1**	**-0.2**
WILN				*i* S			**Sg**	**07 28 13.9**	**+0.4**
WILN					IAML			07 28 14.7	
	comp=Z,1μm,1.0s								
RE6B4	**Centro civico**	**1.44**	**165**	*i* P			**Pn**	**07 27 54.3**	**0.0**
RE6B4					IAML			07 28 22.5	
	comp=Z,990nm,1.0s								
RB28C	**Hialeah**	**1.45**	**164**	*i* P			**Pn**	**07 27 54.3**	**-0.1**
RB28C					IAML			07 28 19.2	
	comp=Z,1μm,1.0s								
R0529	**La Mascota**	**1.46**	**163**	*i* P			**Pn**	**07 27 54.6**	**+0.1**
R0529					IAML			07 28 19.5	
	comp=Z,2μm,1.0s								
CNRM	**Centro Naciona**	**1.46**	**268**	*eP*			**Pn**	**07 27 54.3**	**-0.3**
CNRM	**Centro Naciona**	**1.46**	**268**	*i* P			**Pn**	**07 27 54.2**	**-0.3**
CNRM				*i* S			**Sb**	**07 28 14.7**	**+0.6**
CNRM					IAML			07 28 26.1	
	comp=Z,3μm,1.0s								
BLLM	**Bellamira**	**1.52**	**267**	*eP*			**Pn**	**07 27 55.1**	**-0.5**
VSM	**San Miguel**	**1.56**	**267**	*eP*			**Pn**	**07 27 55.8**	**-0.5**
RANC	**El Ranchito**	**1.57**	**267**	*eP*			**Pn**	**07 27 55.9**	**-0.4**
RANC	**El Ranchito**	**1.57**	**267**	*i* P			**Pn**	**07 27 55.7**	**-0.6**
RANC					IAML			07 27 57.5	
	comp=Z,840nm,1.0s								
LCY	**Lacayo**	**1.58**	**267**	*eP*			**Pn**	**07 27 55.9**	**-0.5**
PACA	**Pacayal**	**1.61**	**268**	*eP*			**Pn**	**07 27 56.5**	**-0.2**
PACA	**Pacayal**	**1.61**	**268**	*i* P			**Pn**	**07 27 56.5**	**-0.2**
PACA					IAML			07 28 02.0	
	comp=Z,5μm,1.0s								
RB213	**Mirador 2 Volc**	**1.61**	**162**	*i* P			**Pn**	**07 27 54.2**	**-2.5**
RB213					IAML			07 28 15.7	
	comp=Z,2μm,1.0s								
COEB	**Comit de Eme**	**1.81**	**269**	*eP*			**Pn**	**07 27 59.4**	**-0.1**
COEB	**Comit de Eme**	**1.81**	**269**	*i* P			**Pn**	**07 27 59.4**	**-0.1**
COEB					IAML			07 28 03.7	
	comp=Z,400nm,1.0s								
NADN	**Granada**	**1.87**	**160**	*i* P			**Pn**	**07 27 57.4**	**-2.9**
NADN					IAML			07 28 35.4	
	comp=Z,770nm,1.0s								
SCLA	**Alcaldia de Sa**	**2.01**	**275**	*eP*			**Pn**	**07 28 02.0**	**-0.1**
SCLA	**Alcaldia de Sa**	**2.01**	**275**	*i* P			**Pn**	**07 28 02.1**	**-0.1**
SCLA					IAML			07 28 06.8	
	comp=Z,350nm,1.0s								
TECO	**Alcaldia de Te**	**2.05**	**271**	*eP*			**Pn**	**07 28 02.2**	**-0.5**
TECO	**Alcaldia de Te**	**2.05**	**271**	*i* P			**Pn**	**07 28 02.4**	**-0.4**
TECO					IAML			07 28 43.1	
	comp=Z,190nm,1.0s								
UESV	**Universidad de**	**2.06**	**273**	*eP*			**Pn**	**07 28 02.2**	**-0.7**
UESV	**Universidad de**	**2.06**	**273**	*i* P			**Pn**	**07 28 03.1**	**+0.2**
UESV					IAML			07 28 07.4	
	comp=Z,420nm,1.0s								
UESV				*i* S			**Sg**	**07 28 33.3**	**-0.3**
ACON	**Acoyapa**	**2.13**	**136**	*i* P			**Pn**	**07 28 03.9**	**+0.1**
ACON				*i* S			**Sb**	**07 28 34.1**	**+0.7**
ACON					IAML			07 28 42.8	
	comp=Z,1μm,1.0s								
COEG	**Centro de Oper**	**2.15**	**273**	*eP*			**Pn**	**07 28 04.0**	**-0.2**
COEG					IAML			07 28 10.0	
	comp=Z,476nm,0.3s								
COEG	**Centro de Oper**	**2.15**	**273**	*i* P			**Pn**	**07 28 04.5**	**+0.3**
COEG					IAML			07 28 09.8	
	comp=Z,430nm,1.0s								
COEG				*i* S			**Sb**	**07 28 35.5**	**+1.4**
CONN	**Concepcion**	**2.20**	**152**	*i* P			**Pn**	**07 28 04.8**	**0.0**
CONN				*i* S			**Sg**	**07 28 37.2**	**-0.9**
CONN					IAML			07 28 38.2	
	comp=Z,5μm,1.0s								
MORN	**Al O del Volca**	**2.21**	**153**	*i* P			**Pn**	**07 28 04.6**	**-0.3**
MORN					IAML			07 28 44.7	
	comp=Z,2μm,1.0s								
PAVA	**Las Pavas**	**2.21**	**275**	*eP*			**Pn**	**07 28 04.6**	**-0.4**
PAVA	**Las Pavas**	**2.21**	**275**	*i* P			**Pn**	**07 28 04.9**	**-0.1**
PAVA					IAML			07 28 10.4	
	comp=Z,1μm,1.0s								
JAPN	**Al SSO del Vol**	**2.21**	**154**	*i* P			**Pn**	**07 28 05.5**	**+0.6**
JAPN					IAML			07 28 42.6	
	comp=Z,610nm,1.0s								
OMEN	**Al SSO del Vol**	**2.25**	**153**	*i* P			**Pn**	**07 28 05.1**	**-0.4**
OMEN					IAML			07 28 43.1	
	comp=Z,890nm,1.0s								
LOMA	**Loma Larga**	**2.43**	**273**	*i* P			**Pn**	**07 28 08.8**	**+0.7**
LOMA					IAML			07 28 15.9	
	comp=Z,220nm,1.0s								
UEES	**Universidad Ev**	**2.50**	**275**	*eP*			**Pn**	**07 28 09.1**	**0.0**
UEES	**Universidad Ev**	**2.50**	**275**	*i* P			**Pn**	**07 28 09.0**	**0.0**
UEES					IAML			07 28 16.7	
	comp=Z,190nm,1.0s								
UEES				*i* S			**Sg**	**07 28 47.1**	**-0.8**
PMON	**Piamonte**	**2.58**	**274**	*eP*			**Pn**	**07 28 10.1**	**+0.1**
PMON	**Piamonte**	**2.58**	**274**	*i* P			**Pb**	**07 28 13.8**	**-0.5**
PMON					IAML			07 28 17.1	
	comp=Z,350nm,1.0s								
MTO3	**Montecristo**	**2.75**	**289**	*i* P			**Pn**	**07 28 12.7**	**+0.1**
MTO3					IAML			07 28 20.0	
	comp=Z,150nm,1.0s								
MTO3				*i* S			**Sb**	**07 28 54.0**	**+2.5**
UNIC	**Universidad Ca**	**2.83**	**280**	*i* P			**Pb**	**07 28 17.3**	**-1.3**
UNIC					IAML			07 28 20.9	
	comp=Z,270nm,1.0s								
UNIC				*i* S			**Sb**	**07 28 55.1**	**+1.4**
SNJE	**San Jose**	**2.87**	**277**	*eP*			**Pn**	**07 28 14.0**	**-0.2**
CEVE	**Cerro Verde**	**2.88**	**276**	*i* P			**Pb**	**07 28 19.0**	**-0.6**
CEVE					IAML			07 28 24.2	
	comp=Z,350nm,1.0s								
NUBE	**Las Nubes**	**3.04**	**277**	*i* P			**Pb**	**07 28 19.5**	**-2.8**
NUBE					IAML			07 28 25.6	
	comp=Z,180nm,1.0s								
NUBE				*i* S			**Sb**	**07 29 02.5**	**+2.6**
SOCE	**Pocosol**	**3.71**	**147**	*i* P			**Pn**	**07 28 26.2**	**+0.5**
SOCE					IAML			07 29 23.8	
	comp=Z,240nm,1.0s								

IDC 16 07:41:33.6±3.4, 53°.46N×90°.66E, h0km, mbtmp3.2/3, ML2.7/3, Error ellipse: s-maj=28.4km s-min=23.7km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.50**	**280**	I			I	08 04 06.2	
	0.1nm,1.0s,baz=91,slow=331,SNR=7.1								
ZALV	**Zalesovo Beam**	**3.50**	**280**	Pn			Pn	07 42 30.8	+1.5
	1.6nm,0.3s,baz=100,slow=16,SNR=10								
ZALV				Lg			Lg	07 43 24.1	
	1.1nm,0.3s,baz=88,slow=27,SNR=3.8								
	3.5nm,0.5s								
KURBB	**Kurchatov Arra**	**8.00**	**254**	Pn			Pn	07 43 30.5	-0.4
	0.2nm,0.3s,baz=65,slow=14,SNR=10.0								
KURBB				Sn			Sn	07 45 01.3	-0.7
	baz=66,slow=26,SNR=1.6								
KURBB				Lg			Lg	07 45 47.6	
	baz=62,slow=32,SNR=2.1								
	1.7nm,0.5s								
MKAR	**Makanchi Array**	**8.57**	**222**	Pn			Pn	07 43 39.9	+1.1
	0.2nm,0.3s,baz=40,slow=13,SNR=4.6								
MKAR				Sn			Sn	07 45 13.6	-2.5
	baz=35,slow=26								
MKAR				Lg			Lg	07 46 07.2	
	0.1nm,0.3s,baz=45,slow=30,SNR=6.4								
	0.4nm,0.5s								

*IDC **16** 08:02:10.5±1.1, 30°.83S×71°.47W, h0km, mb3.9/4, mbtmp3.7/9, ML3.6/5, MS3.0/3, Error ellipse: s-maj=34.3km s-min=23.6km az=94.0*
*GUC **16** 08:02:16.9±0.7, 30°.71S×71°.41W, h46km±2km, ML3.9*
ISC 16 08:02:16.2±0.8, 30°.78S±0°.04×71°.63W±0°.04, h49km±7km, n33, σ2°35/44, mb3.8/4, 1C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CO06	**Fray Jorge**	**0.10**	**357**	*eP*			**Pn**	**08 02 24.3**	**+0.3**
CO06				*i* S			**Sn**	**08 02 29.4**	**-0.1**
CO02	**Combarbal**	**0.69**	**128**	*i* P			**Pn**	**08 02 29.3**	**-0.6**
CO02				*i* S			**Sn**	**08 02 38.2**	**-1.5**
CO02					IAML			08 02 39.1	
	comp=E,21μm,0.5s								
CO03	**El Pedregal**	**0.81**	**95⇓**	*i* P			**Pn**	**08 02 29.8**	**-1.7**
CO03				*i* S			**Sn**	**08 02 38.6**	**-4.0**
CO03					IAML			08 02 39.9	
	comp=E,7μm,0.3s								
CO05	**La Serena**	**0.92**	**22**	*eP*			**Pn**	**08 02 32.0**	**-0.8**
CO05				*i* S			**Sn**	**08 02 42.0**	**-3.0**
CO05					IAML			08 02 44.6	
	comp=E,8μm,0.1s								
GO04	**Tololo Observa**	**0.94**	**50**	*eP*			**Pn**	**08 02 31.7**	**-1.7**
GO04				*i* S			**Sn**	**08 02 42.6**	**-3.2**
CO01	**Juntas del Tor**	**1.55**	**59**	*eP*			**Pn**	**08 02 40.9**	**-0.7**
CO01				*i* S			**Sn**	**08 02 56.9**	**-3.8**
CO01					IAML			08 03 03.5	
	comp=N,2μm,0.4s								
VA03	**San Esteban**	**2.18**	**155⇑**	*eP*			**Pn**	**08 02 52.2**	**+2.1**
VA03				*i* S			**Sn**	**08 03 18.4**	**+2.3**
VA03					IAML			08 03 25.6	
	comp=N,1μm,0.3s								
VA01	**Torpederas**	**2.24**	**180**	*eP*			**Pn**	**08 02 52.2**	**+1.4**
VA01					IAML			08 03 27.2	
	comp=E,824nm,0.8s								
AC05	**El Transito**	**2.27**	**32**	*eP*			**Pn**	**08 02 51.9**	**+0.5**
AC05					IAML			08 03 31.2	
	comp=N,1μm,0.2s								
AC04	**Llanos de Chal**	**2.61**	**11**	*eP*			**Pn**	**08 02 56.1**	**+0.1**
FCH	**Farellones**	**2.78**	**156**	*eP*			**Pn**	**08 03 01.2**	**+2.6**
BO04	**La Punta**	**3.31**	**165**	*eP*			**Pn**	**08 03 07.5**	**+1.9**
BO04					IAML			08 04 04.6	
	comp=N,384nm,0.6s								
H03N1	**Juan Fernandez**	**6.73**	**245**	Pn			**Pn**	**08 03 54.0**	**+1.9**
	baz=112,slow=19								
H03N1				Sn			Sn	08 05 04.6	-2.7
H03N1				T			T	08 10 50.7	
	baz=72,slow=72								
H03N3	**Juan Fernandez**	**6.74**	**245**	Pn			**Pn**	**08 03 54.4**	**+2.0**
	baz=112,slow=19								
H03N3				Sn			Sn	08 05 03.7	-4.0
H03N3				T			T	08 10 50.8	
	baz=72,slow=72								
H03N2	**Juan Fernandez**	**6.74**	**245**	Pn			**Pn**	**08 03 54.3**	**+2.0**
	baz=112,slow=19								
H03N2				Sn			Sn	08 05 04.3	-3.3
H03N2				T			T	08 10 51.7	
	baz=72,slow=72								
H03S3	**Juan Fernandez**	**6.87**	**242**	Pn			**Pn**	**08 03 54.9**	**+0.8**
H03S3				Sn			Sn	08 05 07.5	-3.4
H03S1	**Juan Fernandez**	**6.88**	**242**	Pn			**Pn**	**08 03 55.0**	**+0.8**
H03S1				Sn			Sn	08 05 07.3	-3.7
H03S2	**Juan Fernandez**	**6.89**	**242**	Pn			**Pn**	**08 03 54.6**	**+0.2**
H03S2				Sn			Sn	08 05 07.7	-3.6
LVC	**Limon Verde**	**8.49**	**17**	Pn			**Pn**	**08 04 15.6**	**-1.4**
	comp=N,0.4nm,0.3s,baz=183,slow=11,SNR=8.7								
LVC				Sn			**Sn**	**08 05 57.3**	**+5.6**
	comp=N,0.8nm,0.3s,baz=199,slow=18,SNR=1.4								
LVC				LR			LR	08 07 57.0	
	comp=N,72nm,19.8s,baz=149,slow=41								
	comp=N,2.0nm,0.6s								
PLCA	**Paso Flores**	**9.97**	**175**	Pn			**Pn**	**08 04 34.6**	**-2.3**
	comp=N,0.1nm,0.3s,baz=345,slow=10,SNR=4.7								
PLCA				LR			LR	08 09 09.6	
	comp=N,70nm,18.8s,baz=256,slow=42								
	comp=N,1.8nm,1.0s								
CPUP	**Villa Florida**	**13.32**	**74**	Pn			**Pn**	**08 05 20.8**	**-1.9**
	comp=N,0.1nm,0.3s,baz=255,slow=12,SNR=2.1								
CPUP				LR			LR	08 10 39.3	
	comp=N,73nm,18.5s,baz=252,slow=38								
	comp=N,1.2nm,0.8s								
LPAZ	**La Paz**	**14.78**	**13**	Pn			**Pn**	**08 05 42.3**	**-0.5**
	comp=N,0.1nm,0.3s,baz=189,slow=7.9,SNR=5.4								
	comp=N,0.5nm,0.4s								
SIV	**San Ignacio**	**17.60**	**36**	P			**Pn**	**08 06 17.6**	**-0.5**
	baz=201,slow=9.0,SNR=6.3								
	comp=N,0.8nm,0.6s								
BDFB	**Brasilia**	**26.34**	**60**	P			**P**	**08 07 47.3**	**-0.6**
	comp=N,2.3nm,0.7s,baz=176,slow=7.8,SNR=4.0								
	comp=N,2.3nm,0.7s								
SNAA	**Sanae**	**54.44**	**159**	P			**P**	**08 11 39.1**	**+0.9**
	comp=N,1.9nm,0.9s,baz=286,slow=15,SNR=2.3								
	comp=N,1.9nm,0.9s								
TXAR	**Lajitas Array**	**67.12**	**330**	P			**P**	**08 13 07.1**	**+2.3**
	comp=N,0.5nm,0.8s,baz=155,slow=8.1,SNR=6.7								
	comp=N,0.5nm,0.8s								
TORD	**Torodi Ar. Bea**	**82.79**	**70**	P			**P**	**08 14 36.0**	**+0.5**
	comp=N,0.4nm,0.4s,baz=286,slow=7.1,SNR=8.5								
	comp=N,0.4nm,0.4s								
H11S2	**WAKE ISLAND Hyl**	**26.11**	**271**	T			T	10 40 00.4	
	baz=115,slow=75,SNR=35								
H11S1	**WAKE ISLAND Hyl**	**26.12**	**271**	T			T	10 40 03.3	
	baz=115,slow=75,SNR=50								
H11S3	**WAKE ISLAND Hyl**	**26.12**	**271**	T			T	10 40 03.0	
	baz=115,slow=75,SNR=31								
BVAR	**Borovoye Array**	**144.64**	**40**

comp=Z,80nm,1.0s
MACN El Madrono 1.54 118 *i* P **Pn 08 05 45.7 +1.3**
MACN IAML 08 05 49.5
comp=Z,37nm,1.0s
MTO3 Montecristo 1.73 313 *i* P **Pn 08 05 48.2 +0.9**
MTO3 *i* S **Sb 08 06 11.5 +0.6**
MTO3 IAML 08 06 15.1
comp=Z,21nm,1.0s
COPN Copaltepe 1.76 125 *i* P **Pn 08 05 47.8 +0.4**
COPN IAML 08 06 56.3
comp=Z,56nm,1.0s
NUBE Las Nubes 1.81 293 *i* P **Pb 08 05 49.8 -0.5**
NUBE *i* S **Sb 08 06 13.9 +0.9**
NUBE IAML 08 06 23.4
comp=Z,53nm,1.0s

*IDC **16** 08:07:30.2±1.3,63°.01N×150°.62W,h112km±21km,mb3.0/1, mbtmp3.3/4,Error ellipse: s-maj=23.1km s-min=10.6km az=109.0*
*NEIC **16** 08:07:31.8±0.7,63°.12N±0°.03×150°.71W±0°.06, h121km±5km,Error ellipse: s-maj=5.5km s-min=1.7km az=221.0*
*AEIC **16** 08:07:32.1±0.6,63°.10N±0°.04×150°.70W±0°.08, h118km±5km,ML2.8,ML2.9/210(NEIC),Error ellipse: s-maj=5.2km s-min=5.1km az=186.0*
ISC 16 08:07:31.5±0.9,63°.11N±0°.03×150°.71W±0°.03, h123km±6km,n181,s0872/152,Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRF	**Thorofare Moun**	**0.39**	**29**		**Pn**	**08 07 49.6**	**+0.1**
TRF				IAML		08 08 03.2	
	comp=N,249nm,0.3s						
TRF				IAML		08 08 03.4	
	comp=E,277nm,0.4s						
TRF	**Thorofare Moun**	**0.39**	**29**		**Sn**	**08 08 02.9**	**-0.2**
KTH	**Kantishna Hill**	**0.46**	**348**		**Pn**	**08 07 49.7**	**0.0**
KTH				IAML		08 08 03.1	
	comp=E,354nm,0.7s						
KTH				IAML		08 08 03.6	
	comp=N,184nm,0.9s						
KTH	**Kantishna Hill**	**0.46**	**348**		**Sn**	**08 08 02.6**	**-0.8**
CAST	**Castle Rocks**	**0.70**	**297**		**Pn**	**08 07 50.9**	**-0.3**
CAST				IAML		08 08 05.8	
	comp=N,128nm,0.7s						
CAST	**Castle Rocks**	**0.70**	**297**		**Sn**	**08 08 05.1**	**-0.9**
PPLA	**Purkeypile**	**0.71**	**253**		**Pn**	**08 07 51.5**	**+0.1**
PPLA					**Sn**	**08 08 06.3**	**-0.1**
CUT	**Chulitna**	**0.73**	**164**		**Pn**	**08 07 51.5**	**+0.1**
CUT	**Chulitna**	**0.73**	**164**		**Sn**	**08 08 06.5**	**0.0**
RND	**Reindeer**	**0.89**	**70**		**Pn**	**08 07 53.0**	**+0.1**
RND				IAML		08 08 11.1	
	comp=N,299nm,0.3s						
RND				IAML		08 08 11.2	
	comp=E,437nm,0.3s						
WAT7	**Susitna Watana**	**0.90**	**107**		**Pn**	**08 07 52.7**	**-0.3**
WAT7					**Sn**	**08 08 08.9**	**-0.2**
BPAW	**Bear Paw Mtn.**	**1.00**	**353**		**Pn**	**08 07 53.8**	**-0.1**
BPAW				IAML		08 08 10.4	
	comp=N,137nm,0.9s						
BPAW				IAML		08 08 10.6	
	comp=E,166nm,0.5s						
MCK	**McKinley**	**1.02**	**51**		**Pn**	**08 07 54.2**	**+0.2**
MCK					**Sn**	**08 08 11.3**	**+0.3**
WAT1	**Susitna Watana**	**1.03**	**105**		**Pn**	**08 07 54.0**	**-0.1**
CHUM	**Lake Minchumin**	**1.06**	**318**		**Pn**	**08 07 54.6**	**+0.3**
SKT	**Skwentna**	**1.19**	**199**	Pn	**Pn**	**08 07 55.7**	**-0.1**
SKT	**Skwentna**	**1.19**	**199**		**Sn**	**08 08 13.7**	**-0.5**
BWN	**Browne**	**1.21**	**27**		**Pn**	**08 07 56.4**	**+0.5**
BWN				IAML		08 08 15.3	
	comp=N,102nm,0.7s						
BWN				IAML		08 08 21.8	
	comp=E,65nm,0.6s						
M22K	**Willow**	**1.39**	**168**		**Pn**	**08 07 57.9**	**+0.1**
WAT6	**Susitna Watana**	**1.46**	**110**		**Pn**	**08 07 58.8**	**-0.1**
DHY	**Denali Highway**	**1.52**	**90**	Pn	**Pn**	**08 07 59.8**	**+0.3**
DHY				IAML		08 08 21.8	
	comp=E,237nm,0.8s						
DHY	**Denali Highway**	**1.52**	**90**		**Sn**	**08 08 21.2**	**+0.4**
K20K	**Telida**	**1.54**	**281**		**Pn**	**08 07 59.7**	**+0.1**
GHO	**Glory Hole Cre**	**1.58**	**147**		**Pn**	**08 08 00.4**	**+0.3**
L20K	**Farewell, AK**	**1.59**	**248**		**Pn**	**08 08 00.2**	**0.0**
L20K					**Sn**	**08 08 21.9**	**-0.1**
SUA	**Susitna One**	**1.65**	**181**		**Pn**	**08 08 01.5**	**+0.5**
SUA				IAML		08 08 27.0	
	comp=E,147nm,0.5s						
SUA				IAML		08 08 30.4	
	comp=N,179nm,0.6s						
NEA2	**Nenana**	**1.66**	**25**		**Pn**	**08 08 00.7**	**-0.3**
NEA2				IAML		08 08 22.1	
	comp=E,68nm,0.6s						
NEA2	**Nenana**	**1.66**	**25**		**Sn**	**08 08 21.9**	**-1.6**
M20K	**Styx River**	**1.67**	**224**		**Pn**	**08 08 01.0**	**-0.2**
M20K	**Styx River**	**1.67**	**224**	IAML		08 08 28.2	
	comp=N,84nm,0.2s						
M20K				IAML		08 08 29.6	
	comp=E,95nm,0.5s						
SML	**Sawmill**	**1.71**	**139**	Pn	**Pn**	**08 08 01.4**	**-0.2**
SML				IAML		08 08 27.0	
	comp=N,211nm,0.6s						
SML	**Sawmill**	**1.71**	**139**		**Sn**	**08 08 24.9**	**+0.3**
WRH	**Wood River Hil**	**1.80**	**39**		**Pn**	**08 08 02.6**	**0.0**
J20K	**Nowinta River**	**1.87**	**307**	Pn	**Pn**	**08 08 03.8**	**+0.3**
J20K				IAML		08 08 27.6	
	comp=E,69nm,0.5s						
J20K				IAML		08 08 29.7	
	comp=N,59nm,0.5s						
M23K	**Glacier View**	**1.91**	**132**		**Pn**	**08 08 03.7**	**-0.4**
M23K					**Sn**	**08 08 27.8**	**-1.2**
SPCG	**Spurr Capps Gl**	**1.92**	**199**		**Pn**	**08 08 04.5**	**+0.2**
MLY	**Manley**	**1.93**	**360**	Pn	**Pn**	**08 08 04.4**	**+0.1**
MLY	**Manley**	**1.93**	**360**		**Sn**	**08 08 29.0**	**-0.4**
SPCP	**Crater Peak Br**	**1.97**	**201**		**Pn**	**08 08 05.8**	**+0.9**
SPNN	**North Nagishla**	**1.98**	**209**		**Pn**	**08 08 05.4**	**+0.4**
FIS	**Fire Island**	**1.98**	**173**		**Pn**	**08 08 06.8**	**+2.0**
KNK	**Knik Glacier**	**2.00**	**147**		**Pn**	**08 08 05.1**	**0.0**
KNK	**Knik Glacier**	**2.00**	**147**		**Sn**	**08 08 30.7**	**-0.2**
CCB	**Clear Creek Bu**	**2.01**	**38**	IAML		08 08 32.1	
	comp=E,64nm,0.7s						
CCB				IAML		08 08 32.3	
	comp=N,34nm,0.6s						
SPBG	**Spurr Blockage**	**2.01**	**203**		**Pn**	**08 08 06.4**	**+1.0**
SCM	**Sheep Creek Mo**	**2.03**	**128**		**Pn**	**08 08 05.4**	**-0.1**
SCM				IAML		08 08 33.3	
	comp=E,178nm,0.5s						
SCM				IAML		08 08 33.4	
	comp=N,183nm,0.5s						
SCM	**Sheep Creek Mo**	**2.03**	**128**		**Sn**	**08 08 32.2**	**+0.7**
SPCR	**Spurr Chakacha**	**2.04**	**201**		**Pn**	**08 08 05.7**	**0.0**
RC01	**Rabbit Creek A**	**2.08**	**167**	Pn	**Pn**	**08 08 06.0**	**0.0**
RC01				IAML		08 08 32.8	
	comp=E,170nm,0.3s						
RC01	**Rabbit Creek A**	**2.08**	**167**		**Sn**	**08 08 32.2**	**-0.3**
M19K	**Big River Lodg**	**2.09**	**236**	IAML		08 08 40.7	
	comp=E,32nm,0.7s						
M19K				IAML		08 08 45.6	
	comp=N,31nm,0.3s						
HDA	**Harding Lake**	**2.12**	**50**		**Pn**	**08 08 06.2**	**-0.4**
HDA				IAML		08 08 37.1	
	comp=E,67nm,0.3s						
HDA				IAML		08 08 38.2	
	comp=N,59nm,0.4s						
HDA	**Harding Lake**	**2.12**	**50**		**Sn**	**08 08 32.2**	**-1.3**
I23K	**Minto, Yukon-K**	**2.13**	**16**		**Pn**	**08 08 06.8**	**+0.1**
I21K	**Tanana**	**2.15**	**346**		**Pn**	**08 08 07.1**	**+0.1**
I21K	**Tanana**	**2.15**	**346**	IAML		08 08 33.8	
	comp=E,38nm,0.9s						
I21K				IAML		08 08 35.1	
	comp=N,30nm,1.2s						
MDM	**Murphy Dome**	**2.16**	**29**	Pn	**Pn**	**08 08 07.0**	**0.0**
COLA	**College**	**2.18**	**34**		**Pn**	**08 08 07.3**	**+0.1**
COLA					**Sn**	**08 08 34.4**	**-0.3**
COLA	**College**	**2.18**	**34**	IAML		08 08 36.5	
	comp=N,55nm,0.6s						
COLA				IAML		08 08 37.7	
	comp=N,49nm,0.5s						
K24K	**Donnelly Dome**	**2.32**	**70**		**Sn**	**08 08 39.3**	**+1.2**
M24K	**Tolsona, Glenn**	**2.33**	**114**		**Pn**	**08 08 09.7**	**+0.4**
CAPN	**Captain Cook N**	**2.36**	**185**		**Pn**	**08 08 11.5**	**+2.0**
J19K	**Poorman**	**2.37**	**294**	Pn	**Pn**	**08 08 10.0**	**+0.2**
J19K				IAML		08 08 38.4	
	comp=E,39nm,0.8s						
J19K				IAML		08 08 39.6	
	comp=N,79nm,0.5s						
I20K	**Naaghedeneel**	**2.38**	**317**		**Sn**	**08 08 38.7**	**-0.4**
I20K	**Naaghedeneel**	**2.38**	**317**	IAML		08 08 39.9	
	comp=N,161nm,0.7s						
I20K				IAML		08 09 46.7	
	comp=E,2μm,0.8s						
IL31		**2.38**	**44**		**Pn**	**08 08 09.8**	**+0.1**
ILAR	**Eielson Array**	**2.38**	**44**	P	**Pn**	**08 08 09.7**	**-0.1**
	comp=E,11nm,0.4s,baz=225,slow=13,SNR=206						
ILAR				S	**Sn**	**08 08 38.4**	**-0.8**
	comp=E,4.5nm,0.5s,baz=215,slow=17,SNR=17						
SLKM	**Skilak Lake**	**2.62**	**175**		**Pn**	**08 08 12.9**	**0.0**
HARP	**HAARP**	**2.65**	**103**		**Pn**	**08 08 13.6**	**+0.2**
RDT	**Redoubt**	**2.67**	**198**		**Sn**	**08 08 46.1**	**+0.2**
O22K	**Cooper Landing**	**2.68**	**169**		**Pn**	**08 08 13.8**	**+0.1**
DFR	**Drift River**	**2.69**	**201**		**Pn**	**08 08 13.9**	**-0.1**
H21K	**Melozitna Rive**	**2.72**	**341**	Pn	**Pn**	**08 08 14.2**	**+0.1**
J18K	**Innoko River**	**2.74**	**280**		**Pn**	**08 08 14.7**	**+0.3**
KLU	**Klutina**	**2.76**	**124**		**Pn**	**08 08 14.6**	**-0.3**
NCT	**North Crescent**	**2.76**	**203**		**Pn**	**08 08 15.4**	**+0.5**
H23K	**Yukon River**	**2.78**	**10**	IAML		08 08 49.0	
	comp=N,19nm,0.7s						
J25K	**Salcha River,**	**2.81**	**55**	IAML		08 08 52.6	
	comp=N,37nm,0.5s						
J25K				IAML		08 08 55.1	
	comp=E,41nm,0.5s						
GLI	**Glacier Island**	**2.81**	**141**	Pn	**Pn**	**08 08 14.9**	**-0.5**
L18K	**Granite Mounta**	**2.90**	**255**	Pn	**Pn**	**08 08 16.7**	**+0.2**
N19K	**Bonanza Creek**	**2.91**	**219**	Pn	**Pn**	**08 08 17.3**	**+0.5**
N19K				IAML		08 09 10.1	
	comp=E,18nm,0.9s						
SVW2	**Sparrevohn**	**3.05**	**231**	Pn	**Pn**	**08 08 18.9**	**+0.4**
SVW2				IAML		08 08 57.8	
	comp=E,20nm,0.7s						
SVW2				IAML		08 09 08.5	
	comp=N,15nm,1.2s						
FID	**Port Fidalgo**	**3.10**	**138**		**Pn**	**08 08 18.2**	**-1.0**
SCRK	**Sand Creek**	**3.13**	**71**	Pn	**Pn**	**08 08 19.7**	**0.0**
SCRK				IAML		08 09 03.1	
	comp=E,26nm,0.5s						
SCRK				IAML		08 09 03.5	
	comp=N,20nm,0.7s						
O20K	**Slope Mountain**	**3.17**	**198**		**Pn**	**08 08 20.8**	**+0.6**
MENT	**Mentasta**	**3.19**	**90**		**Pn**	**08 08 20.8**	**+0.4**
MENT	**Mentasta**	**3.19**	**90**	IAML		08 09 15.2	
	comp=E,69nm,0.7s						
MENT				IAML		08 09 15.8	
	comp=N,52nm,0.6s						
N25K	**Chitina, Valde**	**3.22**	**115**	IAML		08 08 59.9	
	comp=E,67nm,0.4s						
WASW	**Wrangell South**	**3.25**	**108**		**Pn**	**08 08 21.4**	**-0.1**
PRP	**Porcupine Dome**	**3.31**	**41**	IAML		08 09 05.1	
	comp=E,15nm,1.0s						
PRP				IAML		08 09 05.9	
	comp=N,16nm,0.8s						
ILSW	**Iliamna Southw**	**3.34**	**201**	Pn	**Pn**	**08 08 23.6**	**+1.1**
ILSW				IAML		08 09 26.2	
	comp=E,14nm,1.3s						
ILSW				IAML		08 09 41.3	
	comp=N,14nm,0.9s						
L26K	**Log Cabin Wild**	**3.35**	**88**		**Pn**	**08 08 22.8**	**+0.3**
L26K	**Log Cabin Wild**	**3.35**	**88**	IAML		08 09 09.6	
	comp=E,57nm,0.5s						
BRLK	**Bradley Lake**	**3.36**	**182**		**Pn**	**08 08 22.9**	**+0.4**
BRSE	**Bradley Lake S**	**3.38**	**180**		**Pn**	**08 08 22.9**	**+0.1**
O19K	**Port Alsworth**	**3.39**	**212**		**Pn**	**08 08 23.6**	**+0.7**
O19K				IAML		08 09 03.5	
	comp=N,37nm,0.5s						
O19K				IAML		08 09 05.5	
	comp=E,61nm,0.5s						
N18K	**Kilae Creek**	**3.46**	**227**	Pn	**Pn**	**08 08 23.4**	**-0.5**
N18K				IAML		08 09 04.2	
	comp=E,12nm,1.1s						
N18K				IAML		08 09 24.5	
	comp=N,12nm,0.8s						
J26L	**Joseph Creek**	**3.46**	**63**	IAML		08 09 09.2	
	comp=N,38nm,0.6s						
J26L				IAML		08 09 10.0	
	comp=E,40nm,0.6s						
HOM	**Homer**	**3.49**	**188**		**Pn**	**08 08 25.3**	**+1.0**
M17K	**Holitna River**	**3.58**	**244**	IAML		08 09 42.3	
	comp=E,20nm,0.9s						
M17K				IAML		08 09 45.1	
	comp=N,21nm,0.7s						
BMRM	**Bremner River**	**3.59**	**124**		**Pn**	**08 08 24.7**	**-1.0**
CNPM	**China Poot**	**3.60**	**184**		**Pn**	**08 08 25.9**	**+0.1**
M26K	**Nabesna, AK**	**3.62**	**98**	IAML		08 09 21.4	
	comp=N,26nm,0.5s						
M26K				IAML		08 09 25.2	
	comp=E,25nm,0.5s						
G23K	**Bananza Creek**	**3.63**	**4**	IAML		08 09 08.0	
	comp=E,23nm,0.9s						
G23K				IAML		08 09 08.7	
	comp=N,17nm,0.6s						
GLB	**Gilahina Butte**	**3.63**	**114**	Pn	**Pn**	**08 08 26.3**	**+0.1**
GLB				IAML		08 09 08.0	
	comp=E,41nm,0.4s						
J17K	**VABM Dome**	**3.79**	**278**	Pn	**Pn**	**08 08 28.4**	**+0.2**
GOAT	**Goat Mountain**	**3.80**	**129**		**Pn**	**08 08 27.8**	**-0.7**
G24K	**Hadweenzic Riv**	**3.86**	**19**	IAML		08 09 14.8	
	comp=N,8.1nm,0.7s						
VRDI	**Verde Repeater**	**3.89**	**116**	IAML		08 09 15.4	
	comp=N,34nm,0.6s						
VRDI				IAML		08 09 16.7	
	comp=E,21nm,0.7s						
O18K	**Koktuh Hills**	**3.91**	**215**		**Pn**	**08 08 30.1**	**+0.2**
O18K	**Koktuh Hills**	**3.91**	**215**	IAML		08 09 15.5	
	comp=E,9.9nm,1.1s						
O18K				IAML		08 09 15.9	
	comp=N,12nm,1.1s						
H18K	**Honhosa River**	**3.93**	**305**		**Pn**	**08 08 30.4**	**+0.2**
K27K	**Chicken**	**3.97**	**73**		**Pn**	**08 08 30.7**	**0.0**
K27K	**Chicken**	**3.97**	**73**	IAML		08 09 22.0	
	comp=N,24nm,0.5s						
K27K				IAML		08 09 23.1	
	comp=E,25nm,0.5s						
I26K	**Coal Creek Min**	**3.97**	**53**		**Pn**	**08 08 30.8**	**+0.1**
I26K	**Coal Creek Min**	**3.97**	**53**	IAML		08 09 21.2	
	comp=E,20nm,0.8s						
I26K				IAML		08 09 23.7	
	comp=N,15nm,0.8s						
N17K	**Nushagak Hills**	**4.02**	**233**		**Pn**	**08 08 31.5**	**+0.2**
N17K				IAML		08 09 33.7	
	comp=E,10.0nm,1.1s						
N17K				IAML		08 09 56.7	
	comp=N,8.6nm,0.6s						
L27K	**Beaver Creek,**	**4.04**	**87**	IAML		08 09 43.1	
	comp=N,6.8nm,0.8s						
L27K				IAML		08 09 44.5	
	comp=E,6.8nm,1.7s						
BCAR	**Beaver Creek A**	**4.06**	**87**	Pn	**Pn**	**08 08 31.5**	**-0.3**
M27K	**Edge Creek, AK**	**4.13**	**97**	IAML		08 09 42.4	
	comp=N,10nm,1.2s						
M27K				IAML		08 09 47.2	
	comp=E,9.4nm,1.0s						
FYU	**Fort Yukon**	**4.19**	**32**	IAML		08 09 24.2	
	comp=N,15nm,3.7s						
FYU				IAML		08 11 09.9	
	comp=E,10nm,4.3s						
F21K	**Alatna River**	**4.29**	**345**	Pn	**Pn**	**08 08 35.7**	**+0.7**
L16K	**Owhat River**	**4.31**	**255**	IAML		08 09 26.1	
	comp=E,5.9nm,2.1s						
G18K	**Tagagawik**	**4.43**	**313**		**Pn**	**08 08 37.4**	**+0.6**
KHIT	**Khitrov Hills**	**4.44**	**124**		**Pn**	**08 08 37.1**	**+0.1**
H17K	**Granite Mounta**	**4.44**	**298**		**Pn**	**08 08 37.3**	**+0.4**
H17K	**Granite Mounta**	**4.44**	**298**	IAML		08 09 27.6	
	comp=N,9.5nm,0.5s						
H17K				IAML		08 09 30.0	
	comp=E,6.8nm,0.6s						
F20K	**Avaraart Lake**	**4.49**	**334**		**Pn**	**08 08 38.1**	**+0.6**
KIAG	**Kiagna River**	**4.50**	**115**		**Pn**	**08 08 37.1**	**-0.9**
GRIN	**Grindle Hills**	**4.52**	**126**		**Pn**	**08 08 38.3**	**+0.3**
EGAK	**Eagle**	**4.54**	**64**		**Pn**	**08 08 38.5**	**+0.4**
EGAK				IAML		08 09 33.7	
	comp=E,14nm,1.2s						
EGAK				IAML		08 09 47.0	
	comp=E,11nm,0.8s						
O17K	**Koliganek Bris**	**4.54**	**225**		**Pn**	**08 08 38.6**	**+0.5**
I17K	**Unalakleet**	**4.54**	**284**		**Pn**	**08 08 38.9**	**+0.6**
I17K	**Unalakleet**	**4.54**	**284**	IAML		08 09 32.6	
	comp=E,6.3nm,0.8s						
I17K				IAML		08 10 29.4	
	comp=N,4.7nm,3.3s						
WAX	**Waxell Ridge**	**4.58**	**122**		**Pn**	**08 08 38.6**	**-0.3**
SYI	**Shuyak Island**	**4.59**	**191**		**Pn**	**08 08 38.6**	**-0.3**
SYI	**Shuyak Island**	**4.59**	**191**	IAML		08 09 30.2	
	comp=E,22nm,1.4s						
N16K	**Nishlik Lake**	**4.65**	**239**		**Pn**	**08 08 39.3**	**-0.4**
I27K	**Kandik River**	**4.68**	**54**		**Pn**	**08 08 40.5**	**+0.3**
ISLE	**Juniper Island**	**4.69**	**119**		**Pn**	**08 08 39.9**	**-0.6**
ISLE				IAML		08 09 58.9	
	comp=E,21nm,0.7s						
BARN	**Barnard Glacie**	**4.72**	**112**	IAML		08 09 36.7	
	comp=E,10nm,0.4s						
BARN				IAML		08 09 55.3	
	comp=N,10nm,0.7s						
SNH	**Sunshine Point**	**4.76**	**124**		**Pn**	**08 08 41.7**	**+0.4**
G26K	**Porcupine Rive**	**4.85**	**34**		**Pn**	**08 08 42.6**	**+0.4**
CTGM	**Chitina Glacie**	**4.91**	**112**	IAML		08 10 06.4	
	comp=N,10.0nm,0.9s						
CTGM				IAML		08 11 36.8	
	comp=E,6.0nm,3.6s						
O16K	**Kokwok River B**	**5.00**	**229**		**Pn**	**08 08 44.6**	**+0.2**
O16K	**Kokwok River B**	**5.00**	**229**	IAML		08 10 16.8	
	comp=E,5.1nm,1.9s						
O16K				IAML		08 10 21.1	
	comp=N,5.1nm,1.6s						
BMAR	**Burnt Mountain**	**5.04**	**28**	Pn	**Pn**	**08 08 42.9**	**-2.1**
K15K	**Wolf Creek Mou**	**5.05**	**266**	IAML		08 10 01.9	
	comp=E,4.9nm,2.2s						
K15K				IAML		08 10 08.9	
	comp=N,5.5nm,3.8s						
E24K	**Your Creek**	**5.07**	**9**		**Pn**	**08 08 46.0**	**+0.6**
E24K	**Your Creek**	**5.07**	**9**	IAML		08 10 04.4	
	comp=N,3.5nm,3.7s						
LOGN	**Logan Glacier**	**5.12**	**112**		**Pn**	**08 08 46.2**	**0.0**
LOGN	**Logan Glacier**	**5.12**	**112**	IAML		08 10 06.0	
	comp=E,9.4nm,1.3s						
LOGN				IAML		08 10 07.4	
	comp=N,8.7nm,0.9s						
DAWY	**Dawson**	**5.15**	**74**		**Pn**	**08 08 46.3**	**-0.1**
E19K	**Redstone River**	**5.15**	**331**	IAML		08 10 25.3	
	comp=N,3.4nm,2.5s						
I28M	**Miner Creek**	**5.25**	**59**	IAML		08 10 04.0	
	comp=E,4.9nm,1.1s						
I28M				IAML		08 10 12.7	
	comp=N,5.7nm,0.7s						
M15K	**Kasigluk River**	**5.30**	**247**		**Pn**	**08 08 49.4**	**+1.0**
G27K	**Doyon Strip**	**5.35**	**42**		**Pn**	**08 08 48.5**	**-0.5**
G27K	**Doyon Strip**	**5.35**	**42**	IAML		08 11 13.9	
	comp=E,2.7nm,4.0s						
G27K				IAML		08 11 50.4	
	comp=N,3.4nm,4.0s						
F26K	**Sheenjek River**	**5.36**	**28**		**Pn**	**08 08 49.5**	**+0.3**
ACHA	**Angle Creek He**	**5.41**	**207**		**Pn**	**08 08 51.1**	**+1.1**
KDAK	**Kodiak Island**	**5.42**	**191**		**Pn**	**08 08 49.1**	**-1.0**
KDAK	**Kodiak Island**	**5.42**	**191**	P	**Pn**	**08 08 48.9**	**-1.2**
	comp=N,4.7nm,0.2s,baz=37,slow=10,SNR=92						
KDAK				S	**Sn**	**08 09 46.9**	**-4.4**
	comp=N,7.6nm,0.8s,baz=332,slow=23,SNR=8.1						
ANCK	**Angle Creek**	**5.46**	**208**		**Pn**	**08 08 51.6**	**+1.0**
SAMH	**Samovar Hills**	**5.60**	**118**		**Pn**	**08 08 53.5**	**+1.0**
E20K	**Nigu River**	**5.64**	**339**		**Pn**	**08 08 54.5**	**+1.4**
D22K	**Ayikyak River**	**5.85**	**353**	Pn	**Pn**	**08 08 56.8**	**+0.9**
I29M	**Ogilvie Camp,**	**5.86**	**62**		**Pn**	**08 08 56.3**	**+0.3**
L14K	**Kuka Creek**	**5.87**	**258**		**Pn**	**08 08 57.0**	**+1.0**
J14K	**Nanvaranak Lak**	**5.88**	**272**		**Pn**	**08 08 56.5**	**+0.4**
D23K	**Nanushuk River**	**5.88**	**0**		**Pn**	**08 08 57.9**	**+1.7**
D20K	**Etivluk River**	**6.12**	**339**		**Pn**	**08 09 00.1**	**+0.6**
H29M	**Whitestone**	**6.15**	**54**		**Pn**	**08 08 60.0**	**+0.2**
BCPM	**Bancas Point**	**6.17**	**116**		**Pn**	**08 08 59.5**	**-0.6**
C21K	**Knifeblade Rid**	**6.29**	**347**		**Pn**	**08 09 03.2**	**+1.4**
M30M	**Minto, Yukon**	**6.40**	**89**		**Pn**	**08 09 02.6**	**-0.6**
F28M	**Old Crow**	**6.40**	**40**		**Pn**	**08 09 03.0**	**-0.1**
PNL	**Peninsula**	**6.43**	**117**		**Pn**	**08 09 03.4**	**-0.3**
D25K	**Kavik River**	**6.48**	**14**		**Pn**	**08 09 05.4**	**+1.1**
J30M	**Hart River**	**6.53**	**71**		**Pn**	**08 09 05.6**	**+0.5**
YKA	**Yellowknife Ar**	**16.39**	**76**	P	**Pn**	**08 11 14.6**	**+0.6**
	comp=N,0.2nm,0.6s,baz=288,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**62.67**	**322**	P	**P**	**08 17 42.7**	**+0.1**
	comp=N,0.2nm,0.5s,baz=55,slow=6.8,SNR=2.9						
	comp=N,0.2nm,0.5s						

*NEIC **16** 08:11:56.4±0.4,36°.064N±0°.010×97°.56W±0°.01,h5km±2km, Error ellipse: s-maj=1.5km s-min=1.2km az=153.0*
TUL 16 08:11:56.6±0.4,36°.074N±0°.009×97°.56W±0°.01,h7km±3km, ML2.7,mb_Lg2.4/30(NEIC),**ML2.7**/64(NEIC),**Error ellipse: s-maj=1.6km s-min=1.1km az=130.0,Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.29**	**163**		Pg	08 12 02.6	+0.3
OK029				Sg	Sg	08 12 06.6	+0.5
OK029				IAML		08 12 07.1	
	1μm,0.3s						
ADOK	**Arcadia Dam**	**0.45**	**160**	Pg	Pg	08 12 05.6	+0.3
ADOK				Sg	Sg	08 12 11.8	+0.7
OK033	**Mehan**	**0.51**	**93**		Pg	08 12 06.6	+0.2
OK033				Sg	Sg	08 12 13.5	+0.6
CROK	**Carrier**	**0.55**	**322**	Pg	Pg	08 12 07.2	0.0
CROK				IAML		08 12 15.3	
	comp=N,558nm,0.4s						
CROK				IAML		08 12 15.3	
	comp=E,476nm,0.3s						
OK031	**S. Brethren Rd**	**0.60**	**101**		Pg	08 12 08.4	+0.3
OK031				Sg	Sg	08 12 16.4	+0.5
OK031				IAML		08 12 16.8	
	comp=E,293nm,0.3s						
OK048	**Pawnee Station**	**0.60**	**55**	Pg	Pg	08 12 08.4	+0.1
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	08 12 08.6	+0.1
OK052				IAML		08 12 17.4	
	comp=E,421nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**0.67**	**171**	Pg	Pg	08 12 09.5	-0.1
OKCSW				Sg	Sg	08 12 18.9	+0.6
OKCSW				IAML		08 12 19.9	
	comp=E,410nm,0.1s						
QUOK	**Quay**	**0.70**	**82**		Pg	08 12 10.1

comp=Z,16nm,0.7s
X37A Clayton 2.32 129 Pn Pn 08 12 36.0 +0.7
X37A lAmb_Lg 08 13 16.2
comp=Z,9.8nm,0.9s
SMWD Samnorwood 2.39 247 Pn Pn 08 12 36.8 +0.6
U38A Gravette 2.59 81 Pn 08 12 40.2 +1.2
HHAR Hobbs 2.94 85 Pn 08 12 44.4 +0.6
CBKS Cedar Bluff 3.24 328 lAmb_Lg 08 13 39.7
comp=Z,10nm,1.3s
Z38A Mt. Pleasant 3.52 142 lAmb_Lg 08 13 54.3
comp=Z,12nm,0.8s
AMTX Amarillo 3.57 252 lAmb_Lg 08 13 55.0
comp=Z,8.0nm,0.7s
S39A Bolivar 3.76 63 lAmb_Lg 08 13 59.2
comp=Z,8.5nm,0.8s
SN07 Snyder 07 4.05 224 lAmb_Lg 08 14 10.2
comp=Z,5.0nm,0.9s
MGMO Mountain Grove 4.39 74 lAmb_Lg 08 14 13.8
comp=Z,10nm,0.7s
FCAR Ozark Folk Cen 4.41 91 lAmb_Lg 08 14 17.8
comp=Z,8.6nm,0.8s
N35A Tabor 5.01 17 lAmb_Lg 08 14 50.0
comp=Z,12nm,0.8s
CCM Cathedral Cave 5.42 67 lAmb_Lg 08 14 56.2
comp=Z,5.4nm,0.7s
P40A Paris 5.56 50 lAmb_Lg 08 14 56.2
comp=Z,7.4nm,0.7s
PBMO Poplar Bluff 5.79 81 lAmb_Lg 08 15 05.6
comp=Z,10nm,0.7s
JCT Junction City 5.89 199 lAmb_Lg 08 15 08.0
comp=Z,6.2nm,0.9s
FVM French Village 6.02 69 lAmb_Lg 08 15 10.5
comp=Z,9.9nm,0.9s
CGM3 Cape Girardeau 6.47 77 lAmb_Lg 08 15 21.8
comp=Z,9.0nm,0.8s

IDC 16 08:23:04.2±2.8, 8°24'S×157°00'E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=84.1km s-min=40.9km az=109.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.82**	**240**	P	P	08 28 27.7	-0.7
	0.6nm,0.5s,baz=66,slow=9.6,SNR=12						
WRA				PcP	PcP	08 32 03.9	-1.1
	2.3nm,1.3s,baz=63,slow=2.4,SNR=4.8						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**26.92**	**233**	P	P	08 28 48.0	+0.7
	0.9nm,1.2s,baz=72,slow=10,SNR=2.6						
	0.9nm,1.2s						
STKA	**Stephens Creek**	**27.54**	**209**	P	P	08 28 53.3	+0.5
	0.9nm,0.5s,baz=33,slow=13,SNR=3.3						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**85.65**	**318**	P	P	08 35 45.5	+0.6
	0.2nm,0.4s,baz=94,slow=6.4,SNR=2.9						
	0.2nm,0.4s						

*IDC **16** 08:26:00.6±1.1, 25°.00N×99°.33E, h0km, mb3.9/8, mbtmp3.8/9, ML4.1/1, MS3.0/1, Error ellipse: s-maj=47.6km s-min=16.7km az=75.0*
*NEIC **16** 08:26:01.2±2.1, 25°.02N±0°.08×99°.43E±0°.02, h10km±1km, mb4.3/6, Error ellipse: s-maj=13.5km s-min=3.1km az=173.0*
ISC 16 08:26:01.1±0.7, 24°.95N±0°.07×99°.5E±0°.1, h10km, n23, σ0s97/24, mb4.0/12, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLVN	**Son La**	**5.45**	**130**		**Pn**	**08 27 23.3**	**+0.8**
CHTO	**Chiang Mai**	**6.13**	**185**		**Pn**	**08 27 31.5**	**-0.3**
PHRA	**Phrae**	**6.46**	**174**		**Pn**	**08 27 36.9**	**+0.6**
CM31	**Chiang Mai Arr**	**6.48**	**184**		**Pn**	**08 27 37.8**	**+1.1**
CMAR	**Chiang Mai Arr**	**6.48**	**184**	Pn	**Pn**	**08 27 37.8**	**+1.1**
	0.9nm,0.3s,baz=1.0,slow=13,SNR=4.1						
CMAR				Pg	**Pg**	**08 28 03.5**	**-1.8**
	2.5nm,0.3s,baz=357,slow=18,SNR=32						
CMAR				Lg	Lg	08 29 27.8	
	3.1nm,0.3s,baz=3.9,slow=20,SNR=7.9						
	1.3nm,0.4s						
ENH	**Enshi**	**10.35**	**57**	Pn	**Pn**	**08 28 27.9**	**-1.8**
SONM	**Songino Array**	**23.49**	**12**	P	**P**	**08 31 11.4**	**+0.3**
	0.7nm,0.8s,baz=194,slow=10,SNR=2.7						
SONM				LR	LR	08 41 36.7	
	comp=Z,37nm,21.8s,baz=212,slow=40						
	0.7nm,0.8s						
MK31	**Makanchi Array**	**25.75**	**332**	P	**P**	**08 31 31.1**	**-0.8**
MK31				lAmb	lAmb	08 31 34.2	
	comp=Z,2.4nm,0.8s						
MKAR	**Makanchi Array**	**25.75**	**332**	P	**P**	**08 31 30.8**	**-1.1**
MKAR	**Makanchi Array**	**25.75**	**332**	P	**P**	**08 31 32.6**	**+0.8**
	comp=Z,2.4nm,0.7s,baz=142,slow=10,SNR=26						
	comp=Z,2.4nm,0.7s						
KURBB	**Kurchatov Arra**	**30.29**	**333**	P	**P**	**08 32 12.8**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=140,slow=9.2,SNR=5.1						
	comp=Z,0.5nm,0.3s						
ZALV	**Zalesovo Beam**	**30.96**	**343**	P	**P**	**08 32 17.9**	**-0.4**
ZALV	**Zalesovo Beam**	**30.96**	**343**	P	**P**	**08 32 18.6**	**+0.3**
	comp=Z,0.8nm,0.4s,baz=134,slow=13,SNR=5.3						
	comp=Z,0.8nm,0.4s						
BVAR	**Borovoye Array**	**35.55**	**330**	P	**P**	**08 32 59.0**	**+0.6**
	comp=Z,1.2nm,0.7s,baz=126,slow=10.0,SNR=6.4						
	comp=Z,1.2nm,0.7s						
WRA	**Warramunga Arr**	**56.06**	**140**	P	**P**	**08 35 42.7**	**+2.1**
	comp=Z,1.5nm,0.8s,baz=329,slow=7.9,SNR=6.7						
	comp=Z,1.5nm,0.8s						
FINES	**FINESS Array B**	**60.49**	**328**	P	**P**	**08 36 11.0**	**0.0**
	comp=Z,0.8nm,0.7s,baz=119,slow=14,SNR=2.1						
	comp=Z,0.8nm,0.7s						
HFS	**Hagfors**	**66.63**	**327**	P	**P**	**08 36 50.9**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=165,slow=7.4,SNR=3.3						
	comp=Z,2.0nm,0.8s						
A36M	**Sachs Harbour**	**78.58**	**13**	P	**P**	**08 38 02.6**	**+0.1**
A36M				lAmb	lAmb	08 38 03.3	
	comp=Z,3.3nm,0.8s						
L27K	**Beaver Creek,**	**79.93**	**24**	P	**P**	**08 38 10.8**	**+0.7**
BCAR	**Beaver Creek A**	**79.94**	**24**	P	**P**	**08 38 10.9**	**+0.7**
BMRM	**Bremner River**	**80.06**	**26**	P	**P**	**08 38 11.0**	**+0.1**
C36M	**Paulatuk**	**80.87**	**14**	P	**P**	**08 38 14.6**	**-0.4**
C36M				lAmb	lAmb	08 38 15.1	
	comp=Z,2.9nm,0.8s						
BARN	**Barnard Glacie**	**81.18**	**26**	P	**P**	**08 38 17.6**	**+0.5**
BARN				lAmb	lAmb	08 38 41.5	
	comp=Z,4.5nm,1.2s						

*VIE **16** 08:27:23.5±0.2, 50°.26N×12°.41E, h10km, mb2.6/1, ml2.7/5, Error ellipse: s-maj=4.6km s-min=1.5km az=42.0*
*BGR **16** 08:27:23.8±0.2, 50°.27N×12°.43E, h12km±1km, ML2.3/6, Error ellipse: s-maj=1.1km s-min=1.1km az=98.0*
*PRU **16** 08:27:23.4, 50°.27N×12°.45E, h10km, West Bohemia Swarm*
*CLL **16** 08:27:24.4±0.3, 50°.27N×12°.43E, h9km, ML2.4*
*WBNET **16** 08:27:24.1, 50°.27N×12°.44E, h10km, Ml2.6*
ISC 16 08:27:23.8±0.8, 50°.27N±0°.01×12°.45E±0°.02, h12km±3km, n88, σ0s52/159, 12C-12D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**252**	⇓P	**Pg**	**08 27 25.8**	**-0.2**
LBCW				S	**Sg**	**08 27 27.2**	**-0.4**
LBCW	**Luby**	**0.02**	**252**	⇓P	**Pg**	**08 27 26.0**	**0.0**
LBCW				S	**Sg**	**08 27 27.4**	**-0.2**
NKC	**Novy Kostel**	**0.04**	**180**	*i* Pg	**Pg**	**08 27 26.1**	**0.0**
NKC				*i* Sg	**Sg**	**08 27 27.4**	**-0.3**
NKC				IAML		08 27 27.6	
	comp=E,846nm,0.1s						
NKC	**Novy Kostel**	**0.04**	**180**	*e*PG	**Pg**	**08 27 26.1**	**0.0**
NKC				*e*SG	**Sg**	**08 27 27.3**	**-0.4**
	comp=E,459nm,0.2s						
NKC	**Novy Kostel**	**0.04**	**180**	*i* Pg	**Pg**	**08 27 26.1**	**0.0**
NKC				*i* Sg	**Sg**	**08 27 27.4**	**-0.3**
	comp=E,846nm,0.1s						
NKC	**Novy Kostel**	**0.04**	**180**	⇑P	**Pg**	**08 27 25.9**	**-0.2**
NKC				S	**Sg**	**08 27 27.2**	**-0.4**
NKC	**Novy Kostel**	**0.04**	**180**	⇑P	**Pg**	**08 27 26.1**	**0.0**
NKC				S	**Sg**	**08 27 27.4**	**-0.3**
STCW	**Studenec**	**0.05**	**107**	*i* Pg	**Pg**	**08 27 26.2**	**0.0**
STCW				*i* Sg	**Sg**	**08 27 27.6**	**-0.3**
STCW	**Studenec**	**0.05**	**107**	*i* Pg	**Pg**	**08 27 26.2**	**0.0**
STCW				*i* Sg	**Sg**	**08 27 27.6**	**-0.3**
STCW	**Studenec**	**0.05**	**107**	⇑P	**Pg**	**08 27 26.0**	**-0.2**
STCW				S	**Sg**	**08 27 27.4**	**-0.5**
STCW	**Studenec**	**0.05**	**107**	⇑P	**Pg**	**08 27 26.2**	**0.0**
STCW				S	**Sg**	**08 27 27.6**	**-0.6**
WERN	**Wernitzgruen**	**0.05**	**287**	*i* Pg	**Pg**	**08 27 27.6**	**-0.3**
WERN				*i* Sg	**Sg**	**08 27 27.6**	**-0.3**
WERN				IAML		08 27 27.7	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.05**	**287**	*i* Pg	**Pg**	**08 27 26.2**	**0.0**
WERN				*i* Sg	**Sg**	**08 27 27.6**	**-0.3**
	comp=E,2μm,0.2s						
POCW	**Potky**	**0.05**	**344**	⇑P	**Pg**	**08 27 26.0**	**-0.2**
POCW				S	**Sg**	**08 27 27.6**	**-0.4**
POCW	**Potky**	**0.05**	**344**	⇓P	**Pg**	**08 27 26.2**	**0.0**
POCW				S	**Sg**	**08 27 27.8**	**-0.1**
VAC	**Vackov**	**0.06**	**230**	*i* Pg	**Pg**	**08 27 26.2**	**-0.1**
VAC				*i* Sg	**Sg**	**08 27 27.6**	**-0.4**
VAC	**Vackov**	**0.06**	**230**	⇓P	**Pg**	**08 27 26.0**	**-0.3**
VAC				S	**Sg**	**08 27 27.4**	**-0.7**
VAC	**Vackov**	**0.06**	**230**	⇑P	**Pg**	**08 27 26.2**	**-0.1**
VAC				S	**Sg**	**08 27 27.6**	**-0.4**
KRCW	**Kraslice**	**0.08**	**42**	⇑P	**Pg**	**08 27 26.3**	**-0.2**
KRCW				S	**Sg**	**08 27 28.0**	**-0.4**
KRCW	**Kraslice**	**0.08**	**42**	⇑P	**Pg**	**08 27 26.5**	**0.0**
KRCW				S	**Sg**	**08 27 28.3**	**-0.2**
KVC	**Kvetna**	**0.08**	**147**	*i* Pg	**Pg**	**08 27 26.5**	**0.0**
KVC				*i* Sg	**Sg**	**08 27 28.1**	**-0.3**
KVC	**Kvetna**	**0.08**	**147**	⇓P	**Pg**	**08 27 26.3**	**-0.2**
KVC				S	**Sg**	**08 27 27.9**	**-0.5**
KVC	**Kvetna**	**0.08**	**147**	⇓P	**Pg**	**08 27 26.5**	**0.0**
KVC				S	**Sg**	**08 27 28.1**	**-0.3**
ROHR	**Rohrbach**	**0.09**	**245**	*i* Pg	**Pg**	**08 27 26.5**	**-0.1**
ROHR				*i* Sg	**Sg**	**08 27 28.1**	**-0.6**
ROHR				IAML		08 27 28.2	
	comp=E,3μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**245**	*i* Pg	**Pg**	**08 27 26.5**	**-0.1**
ROHR				*i* Sg	**Sg**	**08 27 28.1**	**-0.6**
	comp=E,3μm,0.1s						
GUNZ	**Gunzen**	**0.12**	**321**	*i* Pg	**Pg**	**08 27 27.0**	**0.0**
GUNZ				*i* Sg	**Sg**	**08 27 28.9**	**-0.3**
GUNZ				IAML		08 27 29.0	
	comp=E,724nm,0.2s						
GUNZ	**Gunzen**	**0.12**	**321**	*i* Pg	**Pg**	**08 27 27.0**	**0.0**
GUNZ				*i* Sg	**Sg**	**08 27 28.9**	**-0.3**
	comp=E,724nm,0.2s						
SKC	**Skalna**	**0.12**	**208**	⇑P	**Pg**	**08 27 26.7**	**-0.2**
SKC				S	**Sg**	**08 27 28.6**	**-0.5**
SKC	**Skalna**	**0.12**	**208**	⇑P	**Pg**	**08 27 26.9**	**0.0**
SKC				S	**Sg**	**08 27 28.8**	**-0.3**
KOCW	**Kopaniny**	**0.14**	**267**	⇓P	**Pg**	**08 27 26.9**	**-0.3**
KOCW				S	**Sg**	**08 27 28.9**	**-0.7**
KOCW	**Kopaniny**	**0.14**	**267**	⇓P	**Pg**	**08 27 27.1**	**-0.1**
KOCW				S	**Sg**	**08 27 29.2**	**-0.5**
MULD	**Muldenberg**	**0.14**	**349**	*i* Pg	**Pg**	**08 27 27.3**	**0.0**
MULD				*i* Sg	**Sg**	**08 27 29.4**	**-0.4**
MULD				IAML		08 27 29.6	
	comp=E,1μm,0.1s						
MULD	**Muldenberg**	**0.14**	**349**	*i* Pg	**Pg**	**08 27 27.3**	**0.0**
MULD				*i* Sg	**Sg**	**08 27 29.4**	**-0.4**
	comp=E,1μm,0.1s						
TANN	**Tannenbergstha**	**0.14**	**3**	*i* Pg	**Pg**	**08 27 27.3**	**0.0**
TANN				*i* Sg	**Sg**	**08 27 29.4**	**-0.4**
TANN				IAML		08 27 29.6	
	comp=E,1μm,0.2s						
TANN	**Tannenbergstha**	**0.14**	**3**	*i* Pg	**Pg**	**08 27 27.3**	**0.0**
TANN				*i* Sg	**Sg**	**08 27 29.4**	**-0.4**
	comp=E,1μm,0.2s						
TRCW	**Trojmez**	**0.20**	**279**	⇓P	**Pg**	**08 27 27.8**	**-0.3**
TRCW				S	**Sg**	**08 27 30.5**	**-0.6**
TRCW	**Trojmez**	**0.20**	**279**	⇓P	**Pg**	**08 27 28.1**	**-0.1**
TRCW				S	**Sg**	**08 27 30.7**	**-0.4**
WERD	**Werda**	**0.20**	**333**	*i* Pg	**Pg**	**08 27 28.1**	**0.0**
WERD				*i* Sg	**Sg**	**08 27 30.8**	**-0.4**
WERD				IAML		08 27 31.0	
	comp=N,300nm,0.2s						
WERD	**Werda**	**0.20**	**333**	*i* Pg	**Pg**	**08 27 28.1**	**0.0**
WERD				*i* Sg	**Sg**	**08 27 30.8**	**-0.4**
	comp=N,300nm,0.2s						
TRIB	**Obertriebel**	**0.21**	**292**	*i* Pg	**Pg**	**08 27 28.3**	**-0.1**
TRIB				*e*Sg	**Sg**	**08 27 31.3**	**-0.3**
TRIB				IAML		08 27 31.6	
	comp=E,158nm,0.1s						
TRIB	**Obertriebel**	**0.21**	**292**	*i* Pg	**Pg**	**08 27 28.3**	**-0.1**
TRIB				*e*Sg	**Sg**	**08 27 31.3**	**-0.3**
	comp=E,158nm,0.1s						
ZHC	**Zelena Hora**	**0.22**	**204**	⇑P	**Pg**	**08 27 28.4**	**-0.2**
ZHC				S	**Sg**	**08 27 31.4**	**-0.4**
ZHC	**Zelena Hora**	**0.22**	**204**	⇑P	**Pg**	**08 27 28.6**	**0.0**
ZHC				S	**Sg**	**08 27 31.6**	**-0.2**
VIEL	**Selb-Vielitz**	**0.24**	**249**	*i* Pg	**Pg**	**08 27 28.7**	**-0.1**
VIEL				*i* Sg	**Sg**	**08 27 31.8**	**-0.5**
VIEL	**Selb-Vielitz**	**0.24**	**249**	*i* Pg	**Pg**	**08 27 28.7**	**-0.1**
VIEL				*i* Sg	**Sg**	**08 27 31.8**	**-0.5**
LACW	**Lazy**	**0.25**	**153**	*i* Pg	**Pg**	**08 27 29.3**	**+0.2**
LACW				*i* Sg	**Sg**	**08 27 32.8**	**+0.3**
LACW	**Lazy**	**0.25**	**153**	*i* Pg	**Pg**	**08 27 29.3**	**+0.2**
LACW				*i* Sg	**Sg**	**08 27 32.8**	**+0.3**
LACW	**Lazy**	**0.25**	**153**	⇓P	**Pg**	**08 27 29.1**	**0.0**
LACW				S	**Sg**	**08 27 32.7**	**+0.1**
LACW	**Lazy**	**0.25**	**153**	⇓P	**Pg**	**08 27 29.3**	**+0.2**
LACW				S	**Sg**	**08 27 32.9**	**+0.3**
PLN	**Plauen**	**0.28**	**319**	*i* Pg	**Pg**	**08 27 29.6**	**-0.1**
PLN				*i* Sg	**Sg**	**08 27 33.5**	**-0.1**
PLN				IAML		08 27 33.7	
	comp=E,252nm,0.1s						
PLN	**Plauen**	**0.28**	**319**	*i* Pg	**Pg**	**08 27 29.6**	**-0.1**
PLN				*i* Sg	**Sg**	**08 27 33.5**	**-0.1**
	comp=E,252nm,0.1s						
MANZ	**Manzenberg**	**0.36**	**217**	*e*Pg	**Pg**	**08 27 30.9**	**-0.1**
MANZ				*e*Sg	**Sg**	**08 27 35.4**	**-0.5**
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**08 27 31.9**	**0.0**
SCHF				*i* Sg	**Sg**	**08 27 37.3**	**0.0**
SCHF				IAML		08 27 37.6	
	comp=E,556nm,0.2s						
SCHF	**Schoenfels**	**0.41**	**356**	*i* Pg	**Pg**	**08 27 31.9**	**0.0**
SCHF				*i* Sg	**Sg**	**08 27 37.3**	**0.0**
	comp=E,556nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.44**	**341**	*i* Pg	**Pg**	**08 27 32.5**	**0.0**
GRZ1				*i* Sg	**Sg**	**08 27 38.2**	**-0.3**
GRZ1				IAML		08 27 39.3	
	comp=N,207nm,0.1s						
GRZ1	**Mausoleum Wald**	**0.44**	**341**	*i* Pg	**Pg**	**08 27 32.5**	**0.0**
GRZ1				*i* Sg	**Sg**	**08 27 38.2**	**-0.3**
	comp=N,207nm,0.1s						
ROTZ	**Rotzenmuhle**	**0.53**	**197**	*e*Pg	**Pg**	**08 27 34.0**	**-0.1**
ROTZ				*e*Sg	**Sg**	**08 27 40.9**	**-0.3**
MOX	**Moxa**	**0.65**	**305**	*e*Pg	**Pg**	**08 27 36.3**	**-0.1**
MOX				*e*Sg	**Sg**	**08 27 44.6**	**-0.4**
HSKC	**Hora Svate Kat**	**0.71**	**62**	*e*PG	**Pg**	**08 27 37.3**	**-0.3**
HSKC				*e*SG	**Sg**	**08 27 46.8**	**-0.2**
	comp=N,103nm,0.2s						
FBE	**Freiberg**	**0.87**	**41**	*e*Pg	**Pg**	**08 27 40.7**	**+0.1**
FBE				*e*Sg	**Sg**	**08 27 51.9**	**0.0**
GRF	**Grafenberg Arr**	**0.98**	**234**	*e*Pg	**Pg**	**08 27 42.5**	**-0.3**
GRF				*e*Sg	**Sg**	**08 27 55.2**	**-0.3**
RICC	**Richard**	**1.09**	**75**	*e*SG	**Sg**	**08 27 58.6**	**-0.4**
	comp=N,82nm,0.4s						
CLL	**Collm**	**1.09**	**19**	*i* Pg	**Pb**	**08 27 44.3**	**-0.4**
CLL				*i* x	x	08 27 46.7	
CLL				*i* x	x	08 27 48.4	
CLL				*i* Sg	**Sg**	**08 27 58.6**	**-0.5**
	comp=Z,38nm,0.6s						
CLL				*i* x	x	08 28 03.1	
CLL	**Collm**	**1.09**	**19**	*e*Pg	**Pb**	**08 27 44.5**	**-0.2**
CLL				*e*Sg	**Sg**	**08 27 58.6**	**-0.5**
BRG	**Berggiesshubel**	**1.13**	**57**	Pg	**Pb**	**08 27 45.1**	**-0.2**
BRG				Sg	**Sb**	**08 27 59.9**	**+0.1**
BRG				Amp		08 28 01.1	
	comp=Z,64nm,0.3s						
BRG	**Berggiesshubel**	**1.13**	**57**	*e*Pg	**Pb**	**08 27 45.3**	**+0.1**
				*e*Sg	**Sb**	**08 27 59.9**	**+0.1**
WET	**Wettzell**	**1.16**	**166**	*e*Pg	**Pb**	**08 27 45.9**	**0.0**
WET				*e*Sg	**Sb**	**08 28 00.7**	**-0.2**
PRA	**Prague**	**1.29**	**98**	*e*SG	**Sb**	**08 28 04.8**	**+0.2**
	comp=Z,20nm,0.2s						
KHC	**Kasperske Hory**	**1.36**	**147**	*e*PG	**Pn**	**08 27 47.9**	**-0.7**
KHC				*e*SG	**Sb**	**08 28 06.4**	**-0.1**
	comp=Z,31nm,0.3s						
PRU	**Pruhonice**	**1.38**	**101**	*e*PG	**Pn**	**08 27 48.7**	**-0.2**
PRU				*e*SG	**Sn**	**08 28 07.6**	**+0.6**
	comp=Z,24nm,0.2s						
PRU	**Pruhonice**	**1.38**	**101**	*e*Pg	**Pb**	**08 27 49.7**	**+0.2**
PRU				*e*Sg	**Sg**	**08 28 08.2**	**+0.1**
PVCC	**Panska Ves**	**1.38**	**79**	*e*SG	**Sg**	**08 28 08.2**	**-0.1**
	comp=Z,101nm,0.3s						
ZVC	**Zvikov**	**1.40**	**126**	*e*SG	**Sn**	**08 28 08.1**	**+0.4**
GOPC	**GO Pecny, Ondr**	**1.55**	**103**	*e*SG	**Sb**	**08 28 12.8**	**+0.8**
	comp=Z,24nm,0.2s						
GEC2	**GERESS Array S**	**1.65**	**150**	*e*Pg	**Pb**	**08 27 54.2**	**+0.1**
GEC2				*e*Sg	**Sb**	**08 28 15.3**	**+0.5**
CKRC	**Cesky Krumlov**	**1.89**	**139**	*e*SG	**Sb**	**08 28 22.2**	**+0.3**
UPC	**Upice**	**2.29**	**83**	*e*SG	**Sg**	**08 28 35.8**	**-1.7**
	comp=Z,20nm,0.5s						
CHVC	**Chvalec**	**2.33**	**81**	*e*SG	**Sg**	**08 28 37.2**	**-1.4**
OSTC	**Ostas**	**2.43**	**82**	*e*SG	**Sg**	**08 28 40.0**	**-1.7**
	comp=Z,6.8nm,0.2s						
DPC	**Dobruska-Polom**	**2.48**	**87**	*e*SG	**Sb**	**08 28 41.1**	**+2.1**
	comp=Z,12nm,0.3s						
MOA	**Molln**	**2.70**	**153**	Pg	**Pg**	**08 28 14.9**	**-0.7**
	comp=Z,0.6nm,0.1s						
KRLC	**Kraliky**	**2.79**	**92**	*e*SG	**Sg**	**08 28 52.5**	**-1.0**
	comp=Z,9.7nm,0.4s						
KRUC	**Moravsky**	**2.84**	**114**	*e*PN	**Pn**	**08 28 08.9**	**0.0**
KRUC				*e*SG	**Sb**	**08 28 51.8**	**+2.8**
WATA	**Walderalm**	**3.00**	**191**	*e*Sn	**Sn**	**08 28 48.8**	**+1.6**
	comp=Z,8.8nm,0.2s						
WTTA	**Wattenberg**	**3.06**	**190**	Pg	**Pg**	**08 28 22.5**	**+0.1**
	comp=Z,2.9nm,0.5s						
MOTA	**Moosalm**	**3.06**	**197**	Pg	**Pg**	**08 28 22.2**	**-0.2**
	comp=Z,1.0nm,0.2s						
CONA	**Conrad Observa**	**3.25**	**135**	*e*Pg	**Pg**	**08 28 24.6**	**-1.4**
	comp=Z,1.2nm,0.2s						
MAUC	**Maruska**	**3.60**	**103**	*e*SG	**Sg**	**08 29 17.4**	**-2.0**

*IDC **16** 08:35:02.8±3.0, 24°.38S×179°.94E, h474km±32km, mb3.4/8, mbtmp4.3/8, Error ellipse: s-maj=26.3km s-min=20.6km az=170.0*
*NEIC **16** 08:35:02.9±1.1, 24°.8S±0°.2×179°.6W±0°.1, h502km±12km, mb4.4/17, Error ellipse: s-maj=33.9km s-min=19.3km az=187.0*
ISC 16 08:35:04.6±0.8, 24°.56S±0°.10×180°.0W±0°.1, h500km, n35, σ1s16/35, mb4.3/15, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**7.04**	**344**	P	**P**	**08 36 51.5**	**+0.1**
PINNC	**Pines Island,**	**11.70**	**277**	P	**P**	**08 37 41.9**	**+1.9**
OUENC	**Ouen Island, N**	**12.29**	**277**	P	**P**	**08 37 47.9**	**+1.6**
DZM	**Mont Dzumac**	**12.73**	**278**	P	**P**	**08 37 52.2**	**+1.1**
DZM	**Mont Dzumac**	**12.73**	**278**	P	**P**	**08 37 51.6**	**+0.6**
	11nm,0.6s,baz=67,slow=19,SNR=10						
URZ	**Urewera**	**13.88**	**190**	S	**S**	**08 40 31.0**	**+1.0**
	9.4nm,0.8s,baz=129,slow=20,SNR=1.7						
RPZ	**Rata Peaks**	**20.48**	**199**	P	**P**	**08 39 08.5**	**+1.0**
	7.8nm,0.8s,baz=32,slow=9.5,SNR=1.3						
	7.8nm,0.8s						
EIDS	**Eidsvold**	**26.24**	**262**	P	**P**	**08 39 59.2**	**+0.1**
EIDS				lAmb	lAmb	08 40 19.5	
	comp=Z,10nm,1.1s						
CAN	**Canberra**	**28.84**	**241**	P	**P**	**08 40 22.4**	**+0.4**
CAN				lAmb	lAmb	08 40 48.6	
	comp=Z,18nm,1.3s						
CTAO	**Charters Tower**	**31.51**	**271**	P	**P**	**08 40 45.5**	**+0.3**
STKA	**Stephens Creek**	**34.51**	**249**	P	**P**	**08 41 10.6**	**+0.2**
STKA	**Stephens Creek**	**34.51**	**249**	P	**P**	**08 41 10.4**	**0.0**
	comp=Z,4.2nm,0.4s,baz=90,slow=10.0,SNR=20						
	comp=Z,4.2nm,0.4s						
COEN	**Coen**	**36.25**	**280**	P	**P**	**08 41 25.5**	**+0.3**
COEN				lAmb	lAmb	08 41 39.8	
	comp=Z,25nm,1.4s						
BBOO	**Buckleboo**	**39.22**	**248**	P	**P**	**08 41 48.3**	**-0.9**
BBOO				lAmb	lAmb	08 41 48.6	
	comp=Z,9.8nm,0.8s						
AS31	**Alice Springs**	**41.96**	**261**	P	**P**	**08 42 10.8**	**-0.5**
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**08 42 10.6**	**-0.8**
ASAR	**Alice Springs**	**41.96**	**261**	P	**P**	**08 42 10.8**	**-0.6**
	comp=Z,2.1nm,0.4s,baz=91,slow=6.4,SNR=67						
	comp=Z,2.1nm,0.4s						
WR0	**Warramunga Arr**	**42.20**	**267**	P	**P**	**08 42 12.3**	**-1.0**
WR0				lAmb	lAmb	08 42 34.7	
	comp=Z,20nm,1.4s						
WB2	**Warramunga Arr**	**42.38**	**267**	P	**P**	**08 42 13.9**	**-0.9**
WB0	**Warramunga Arr**	**42.39**	**267**	P	**P**	**08 42 13.8**	**-1.0**
WB0				lAmb	lAmb	08 42 14.6	
	comp=Z,9.1nm,0.7s						
WRA	**Warramunga Arr**	**42.39**	**267**	P	**P**	**08 42 13.3**	**-1.5**
WRA	**Warramunga Arr**	**42.39**	**267**	P	**P**	**08 42 13.8**	**-1.1**
	comp=Z,7.9nm,0.5s,baz=100,slow=7.0,SNR=186						
WRA				ScP	**ScP**	**08 47 02.5**	**+2.8**
	comp=Z,2.0nm,0.9s,baz=98,slow=3.8,SNR=9.2						
	comp=Z,7.9nm,0.5s						
FORT	**Forrest**	**46.11**	**250**	P	**P**	**08 42 42.1**	**-1.3**
FITZ	**Fitzroy Crossi**	**50.81**	**266**	P	**P**	**08 43 18.5**	**-0.1**
PSA00	**Pilbara Seismi**	**55.07**	**260**	P	**P**	**08 43 48.3**	**-0.8**
PSA00				lAmb	lAmb

M16K	**Timber Creek**	**15.53**	**44**			**P**	**08 47 18.3**	**-0.3**
M16K					IAmb	IAmb	08 47 23.4	
	comp=Z,4.8nm,0.9s							
N17K	**Nushagak Hills**	**16.11**	**47**			**P**	**08 47 24.7**	**-0.3**
N17K					IAmb	IAmb	08 47 28.0	
	comp=Z,6.0nm,1.1s							
K17K	**Iditarod**	**16.62**	**39**			**P**	**08 47 32.0**	**+1.4**
K17K					IAmb	IAmb	08 47 33.5	
	comp=Z,5.1nm,0.8s							
N19K	**Bonanza Creek**	**17.46**	**48**	P		**Pn**	**08 47 41.5**	**+1.4**
KDAK	**Kodiak Island**	**17.70**	**59**	P		**P**	**08 47 40.1**	**-2.3**
	comp=Z,3.2nm,0.3s,baz=255,slow=3.8,SNR=21							
ILSW	**Iliamna Southw**	**17.85**	**51**	P		**Pn**	**08 47 45.2**	**+0.4**
ILSW					IAmb	IAmb	08 47 48.2	
	comp=Z,11nm,1.3s							
M19K	**Big River Lodg**	**17.89**	**45**	P		**Pn**	**08 47 46.0**	**+0.8**
H18K	**Honhosa River**	**17.98**	**33**	P		**Pn**	**08 47 46.5**	**+0.2**
J19K	**Poorman**	**18.31**	**38**	P		**Pn**	**08 47 50.3**	**0.0**
M20K	**Styx River**	**18.44**	**45**	P		**Pn**	**08 47 52.7**	**+0.9**
M20K					IAmb	IAmb	08 47 58.7	
	comp=Z,4.5nm,0.6s							
K20K	**Telida**	**18.62**	**41**	P		**Pn**	**08 47 54.0**	**0.0**
CNPM	**China Poot**	**18.68**	**53**	P		**P**	**08 47 53.4**	**+0.1**
J20K	**Nowinta River**	**18.97**	**38**			**Pn**	**08 47 57.6**	**-0.5**
G19K	**Purcell Mounta**	**19.00**	**31**	IAmb		IAmb	08 48 03.2	
	comp=Z,5.7nm,0.8s							
SKT	**Skwentna**	**19.18**	**46**			**P**	**08 47 59.5**	**+0.8**
F19K	**Shaleruckik Mo**	**19.23**	**29**	P		**Pn**	**08 48 00.1**	**-0.9**
F19K					IAmb	IAmb	08 48 05.2	
	comp=Z,3.3nm,0.7s							
SUA	**Susitna One**	**19.38**	**48**	P		**Pn**	**08 48 02.1**	**-0.9**
SUA					IAmb	IAmb	08 48 26.2	
	comp=Z,7.6nm,1.0s							
CAST	**Castle Rocks**	**19.46**	**42**			**P**	**08 48 02.3**	**+0.5**
RC01	**Rabbit Creek A**	**19.75**	**49**	P		**P**	**08 48 05.0**	**0.0**
KTH	**Kantishna Hill**	**20.00**	**42**	IAmb		IAmb	08 48 11.9	
	comp=Z,3.6nm,0.8s							
BPAW	**Bear Paw Mtn.**	**20.18**	**40**			**P**	**08 48 10.6**	**+1.0**
BPAW					IAmb	IAmb	08 48 13.8	
	comp=Z,5.1nm,1.1s							
H21K	**Melozitna Rive**	**20.19**	**35**	IAmb		IAmb	08 48 11.6	
	comp=Z,4.6nm,0.8s							
TRF	**Thorofare Moun**	**20.22**	**42**	P		**P**	**08 48 11.2**	**+1.0**
TRF					IAmb	IAmb	08 48 13.4	
	comp=Z,4.1nm,0.7s							
D19K	**Kuna River**	**20.26**	**25**	IAmb		IAmb	08 48 22.3	
	comp=Z,8.3nm,1.4s							
I21K	**Tanana**	**20.26**	**37**	IAmb		IAmb	08 48 12.4	
	comp=Z,5.3nm,0.8s							
G21K	**Allakaket**	**20.40**	**33**	IAmb		IAmb	08 48 13.6	
	comp=Z,4.5nm,0.9s							
SML	**Sawmill**	**20.59**	**48**	P		**P**	**08 48 14.2**	**+0.3**
SML					IAmb	IAmb	08 48 16.7	
	comp=Z,5.9nm,0.8s							
F21K	**Alatna River**	**20.80**	**31**	IAmb		IAmb	08 48 20.1	
	comp=Z,3.7nm,0.8s							
SCM	**Sheep Creek Mo**	**21.05**	**48**	P		**P**	**08 48 19.2**	**+0.2**
DHY	**Denali Highway**	**21.35**	**45**	P		**P**	**08 48 22.2**	**0.0**
MDM	**Murphy Dome**	**21.61**	**39**	IAmb		IAmb	08 48 27.1	
	comp=Z,3.7nm,0.7s							
KLU	**Klutina**	**21.64**	**49**	P		**P**	**08 48 24.8**	**-0.5**
KLU					IAmb	IAmb	08 48 31.6	
	comp=Z,4.3nm,0.7s							
M24K	**Tolsona, Glenn**	**21.65**	**48**	P		**P**	**08 48 26.5**	**+1.2**
G23K	**Bananza Creek**	**21.69**	**34**	IAmb		IAmb	08 48 28.4	
	comp=Z,4.7nm,0.9s							
E22K	**Anaktuvuk Pass**	**21.84**	**30**	IAmb		IAmb	08 48 30.4	
	comp=Z,7.2nm,1.2s							
HDA	**Harding Lake**	**21.94**	**41**	P		**P**	**08 48 28.9**	**+0.6**
HDA					IAmb	IAmb	08 48 30.5	
	comp=Z,2.4nm,0.5s							
RAGM	**Ragged Mountai**	**22.07**	**52**	P		**P**	**08 48 30.2**	**+0.3**
IL31		**22.08**	**40**	P		**P**	**08 48 29.5**	**-0.3**
ILAR	**Eielson Array**	**22.08**	**40**	P		**P**	**08 48 29.7**	**-0.1**
	comp=Z,0.5nm,0.5s,baz=238,slow=7.9,SNR=18							
	comp=Z,0.5nm,0.5s							
H24K	**Noodor Dome**	**22.09**	**37**	IAmb		IAmb	08 48 32.9	
	comp=Z,8.2nm,1.4s							
N25K	**Chitina, Valde**	**22.29**	**49**	IAmb		IAmb	08 48 37.5	
	comp=Z,4.0nm,1.1s							
GLB	**Gilahina Butte**	**22.63**	**50**	P		**P**	**08 48 35.1**	**-0.6**
GLB					IAmb	IAmb	08 48 37.6	
	comp=Z,9.8nm,1.4s							
VRDI	**Verde Repeater**	**22.77**	**50**	P		**P**	**08 48 37.1**	**-0.1**
VRDI					IAmb	IAmb	08 48 38.9	
	comp=Z,5.5nm,0.8s							
F24K	**Squaw Lake**	**22.81**	**33**	P		**P**	**08 48 37.5**	**+0.1**
F24K					IAmb	IAmb	08 48 40.7	
	comp=Z,2.4nm,0.6s							
TOLK	**Toolik Lake Re**	**22.82**	**30**	P		**P**	**08 48 38.0**	**+0.5**
TOLK					IAmb	IAmb	08 48 39.2	
	comp=Z,5.6nm,0.9s							
PRP	**Porcupine Dome**	**22.88**	**39**	P		**P**	**08 48 36.7**	**-1.5**
MCARA	**McCarthy VSAT**	**23.00**	**50**	P		**P**	**08 48 39.2**	**-0.1**
L26K	**Log Cabin Wild**	**23.12**	**46**	IAmb		IAmb	08 48 43.5	
	comp=Z,2.9nm,0.6s							
J26L	**Joseph Creek**	**23.37**	**42**	IAmb		IAmb	08 48 43.2	
	comp=Z,2.9nm,0.6s							
BARN	**Barnard Glacie**	**23.62**	**51**	P		**P**	**08 48 45.2**	**0.0**
M27K	**Edge Creek, AK**	**23.67**	**48**	IAmb		IAmb	08 48 47.1	
	comp=Z,5.1nm,1.1s							
BCAR	**Beaver Creek A**	**23.83**	**46**	P		**P**	**08 48 47.3**	**+0.4**
E25K	**Arctic Village**	**23.87**	**33**	IAmb		IAmb	08 48 48.8	
	comp=Z,2.9nm,0.6s							
K27K	**Chicken**	**23.89**	**44**	IAmb		IAmb	08 48 49.7	
	comp=Z,5.6nm,1.3s							
LOGN	**Logan Glacier**	**23.92**	**52**	P		**P**	**08 48 47.5**	**-0.3**
EGAK	**Eagle**	**24.44**	**42**	P		**P**	**08 48 52.1**	**-0.2**
DAWY	**Dawson**	**25.05**	**44**	P		**P**	**08 48 57.9**	**-0.1**
DAWY					IAmb	IAmb	08 49 01.1	
	comp=Z,3.6nm,0.7s							
I28M	**Miner Creek**	**25.10**	**41**	IAmb		IAmb	08 48 58.6	
	comp=Z,2.8nm,0.8s							
M29M	**Somme Creek**	**25.26**	**48**	P		**P**	**08 48 59.5**	**-0.4**
M29M					IAmb	IAmb	08 49 24.6	
	comp=Z,4.2nm,1.1s							
J30M	**Hart River**	**26.45**	**43**	IAmb		IAmb	08 49 32.6	
	comp=Z,3.6nm,1.4s							
KLR	**Kul'dur**	**29.45**	**284**	P		**P**	**08 49 38.0**	**+0.6**
	comp=Z,2.2nm,0.6s,baz=59,slow=6.8,SNR=7.8							
	comp=Z,2.2nm,0.6s							
A36M	**Sachs Harbour**	**31.64**	**30**	P		**P**	**08 49 57.7**	**+1.3**
H11N2	**WAKE ISLAND Hy**	**33.17**	**200**	T		T	09 25 42.6	
	baz=11,slow=76,SNR=14							
H11N3	**WAKE ISLAND Hy**	**33.18**	**200**	T		T	09 25 50.1	
	baz=11,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**33.19**	**200**	T		T	09 25 49.8	
	baz=11,slow=76,SNR=14							
H11S1	**WAKE ISLAND Hy**	**34.40**	**200**	T		T	09 27 13.0	
	baz=11							
H11S2	**WAKE ISLAND Hy**	**34.41**	**200**	T		T	09 27 15.0	
	baz=11							
H11S3	**WAKE ISLAND Hy**	**34.41**	**200**	T		T	09 27 14.5	
	baz=11							
YKA	**Yellowknife Ar**	**36.24**	**46**	P		**P**	**08 50 36.4**	**0.0**
	comp=Z,0.7nm,0.7s,baz=285,slow=8.5,SNR=8.1							
	comp=Z,0.7nm,0.7s							
NVAR	**Mina Array Bea**	**45.20**	**81**	P		**P**	**08 51 51.3**	**+0.9**
	comp=Z,1.8nm,0.6s,baz=300,slow=7.3,SNR=22							
	comp=Z,1.8nm,0.6s							
PDAR	**Pinedale Array**	**47.83**	**71**	P		**P**	**08 52 10.5**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=324,slow=3.2,SNR=9.5							
	comp=Z,0.9nm,0.6s							
SPITS	**Spitsbergen Ar**	**49.92**	**355**	P		**P**	**08 52 25.7**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=27,slow=10.0,SNR=10							
	comp=Z,1.4nm,0.5s							
TXAR	**Lajitas Array**	**60.28**	**79**	P		**P**	**08 53 41.7**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=306,slow=5.2,SNR=14							
	comp=Z,0.8nm,0.7s							
HFS	**Hagfors**	**67.85**	**352**	P		**P**	**08 54 30.3**	**0.0**
	comp=Z,1.2nm,0.8s,baz=334,slow=8.6,SNR=1.7							
	comp=Z,1.2nm,0.8s							

IGQ 16 08:44:00.8±1.4,1°S±7°×8°1W±3°0,h30km,M4.1/8,Off coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECV	**Mancha de Ca P**	**1.12**	**86**	P	Pn	08 44 11.5	-9.0
AQUE	**Quevedo**	**1.69**	**97**	P	Pn	08 44 26.1	-2.2
CHSH	**Refugio Sur-Vo**	**2.38**	**106**	P	Pn	08 44 36.8	-1.6
ILLI	**Illinizas Sur**	**2.44**	**87**	P	Pn	08 44 37.0	-2.1
ILLI				S	Sn	08 45 07.6	-0.7
PORT	**Chimborazo Vol**	**2.47**	**104**	P	Pn	08 44 37.5	-2.1
PORT				S	Sn	08 45 09.4	+0.3
TAMH	**Tambohuasha Ch**	**2.48**	**106**	P	Pn	08 44 37.8	-1.9
TAMH				S	Sn	08 45 08.8	-0.4
HPAL	**Hacienda Las P**	**2.59**	**76**	P	Pn	08 44 39.1	-2.0
PAC1	**Pacto, Paraso**	**2.62**	**65**	P	Pn	08 44 37.8	-3.4
GGPT	**Toaza - Volcan**	**2.62**	**76**	P	Pn	08 44 39.0	-2.5
GGPT				S	Sn	08 45 12.7	+0.2
TERV	**Terraza Guagua**	**2.65**	**75**	P	Pn	08 44 39.7	-2.3
PINO	**Pino**	**2.65**	**75**	P	Pn	08 44 39.6	-2.4
GGPC	**Guagua Pichinc**	**2.65**	**76**	P	Pn	08 44 40.0	-2.2
CAMI	**Rancho Maria**	**2.67**	**86**	P	Pn	08 44 41.8	-0.4
SLOR	**San Lorenzo -**	**2.67**	**88**	P	Pn	08 44 41.3	-1.0
SUCR	**Mariscal Sucre**	**2.68**	**86**	P	Pn	08 44 41.6	-0.8
BRRN	**Barrancas-Volc**	**2.69**	**89**	P	Pn	08 44 42.1	-0.4
BMOR	**Cotopaxi Volca**	**2.71**	**88**	P	Pn	08 44 42.0	-0.8
BREF	**Cotopaxi Volca**	**2.73**	**86**	P	Pn	08 44 42.9	-0.3
PITA	**Cotopaxi Volc**	**2.75**	**84**	P	Pn	08 44 42.7	-0.6
JUI6	**Juive**	**2.76**	**102**	P	Pn	08 44 44.4	+1.1
BMAS	**Trigal station**	**2.77**	**104**	P	Pn	08 44 42.7	-0.8
TUYU	**Q. Yuibug Volc**	**2.77**	**103**	P	Pn	08 44 42.7	-0.8
BTAM	**Cotopaxi Volca**	**2.77**	**86**	P	Pn	08 44 43.3	-0.5
PIS1	**Pisayambo**	**2.79**	**94**	P	Pn	08 44 43.8	-0.1
ARRY	**Arrayan**	**2.79**	**104**	P	Pn	08 44 42.9	-0.9
BRUN	**Tungurahua Vol**	**2.80**	**102**	P	Pn	08 44 43.5	-0.4
PULU	**Pululahua**	**2.80**	**72**	P	Pn	08 44 42.9	-1.0
TAMB	**Tambo**	**2.80**	**87**	P	Pn	08 44 44.3	+0.1
BULB	**Ulba Tungurahu**	**2.82**	**102**	P	Pn	08 44 46.6	+2.4
ARNL	**Arenillas**	**2.90**	**158**	P	Pn	08 44 43.3	-1.7
ANTG	**Antisana-Guama**	**2.93**	**83**	P	Pn	08 44 45.1	-0.8
CUSE	**Cuicocha Este**	**3.00**	**68**	P	Pn	08 44 45.5	-1.2
ANTS	**Antisana-Sarah**	**3.02**	**83**	P	Pn	08 44 47.2	+0.1
ANTI	**Antisana**	**3.03**	**83**	P	Pn	08 44 47.2	-0.1
IMBA	**Imbabura, San**	**3.17**	**69**	P	Pn	08 44 48.1	-1.0
URCU	**Urcuqui**	**3.18**	**66**	P	Pn	08 44 47.8	-1.4
CAYR	**Refugio Cayamb**	**3.27**	**75**	P	Pn	08 44 51.0	+0.3
ANGU	**Angureal**	**3.28**	**74**	P	Pn	08 44 50.6	-0.2
CAYA	**Cayambe**	**3.31**	**74**	P	Pn	08 44 50.9	-0.1
YAHU	**Yahuarcocha**	**3.32**	**69**	P	Pn	08 44 51.0	-0.1
ARDO	**Archidona, Ten**	**3.37**	**93**	P	Pn	08 44 53.6	+2.1
ECEN	**Cerro Negro**	**3.60**	**63**	P	Pn	08 44 54.3	-0.8
CHL1	**Volc¡n Chiles**	**3.61**	**63**	P	Pn	08 44 54.3	-1.0
CHL2	**Volc¡n Chiles**	**3.64**	**63**	P	Pn	08 44 56.4	+0.8

*IDC **16** 08:44:01.7±1.1,29°.14N×102°.32E,h0km,mb3.6/6, mbtmp3.6/7,MS3.8/3,Error ellipse: s-maj=40.5km s-min=19.9km az=58.0*

ISC 16 08:44:07.0±1.3,29°2N±0°.2×102°4E±0°.2,h35km,n10, σ0s57/7,mb3.7/6,MS3.8/3,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**18.86**	**8**	P	**Pn**	**08 48 25.2**	**+0.4**
	1.0nm,0.7s,baz=190,slow=10,SNR=6.2						
KSRS	**Korea Array**	**22.80**	**62**	P	**P**	**08 49 06.2**	**-0.4**
	1.5nm,0.7s,baz=252,slow=10,SNR=5.1						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**23.55**	**324**	P	**P**	**08 49 13.2**	**-0.9**
	0.4nm,0.6s,baz=117,slow=10,SNR=6.0						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**27.94**	**327**	P	**P**	**08 49 53.9**	**0.0**
	1.2nm,0.9s,baz=131,slow=10,SNR=5.3						
	1.2nm,0.9s						
WSAR	**Wadi Sarin**	**39.55**	**272**	LR	LR	09 10 26.1	
	comp=Z,110nm,20.4s,baz=98,slow=40						
WRA	**Warramunga Arr**	**57.76**	**144**	P	**P**	**08 53 54.5**	**-0.2**
	1.0nm,0.8s,baz=327,slow=8.7,SNR=7.0						
	1.0nm,0.8s						
ARCES	**ARCESS Array B**	**58.39**	**336**	P	**P**	**08 53 58.8**	**+0.3**
	0.9nm,0.9s,baz=115,slow=15,SNR=1.4						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**60.67**	**147**	P	**P**	**08 54 15.2**	**+0.4**
	0.5nm,0.6s,baz=326,slow=6.5,SNR=4.6						
	0.5nm,0.6s						
BORG	**Borgarnes**	**76.69**	**338**	LR	LR	09 32 10.1	
	comp=Z,50nm,19.0s,baz=47,slow=38						
FRB	**Frobisher Bay**	**87.09**	**356**	LR	LR	09 39 22.5	
	comp=Z,79nm,18.9s,baz=334,slow=38						

*BJI **16** 08:46:12.9±0.0,29°.23N×102°.31E,h10km,mb4.5/39, mB4.7/18,ML4.7/17,Ms4.5/53,Ms7 4.3/49*
*NEIC **16** 08:46:14.2±1.9,29°.40N±0°.07×102°.37E±0°.02,h10km±1km, mb4.6/95,Error ellipse: s-maj=12.3km s-min=3.9km az=170.0*
*MOS **16** 08:46:17.1±1.2,29°.27N×102°.34E,h60km,mb4.6/21, MS4.1/4,Error ellipse: s-maj=8.0km s-min=5.7km az=100.6*
*IDC **16** 08:46:18.0±2.4,29°.28N×102°.40E,h55km±22km,mb3.9/21, mbtmp4.1/23,ML4.3/2,MS3.9/39,Error ellipse: s-maj=17.5km s-min=12.3km az=32.0*

ISC 16 08:46:11.9±0.3,29°30N±0°.03×102°29E±0°.04,h10km,n424, σ19s92/391,mb4.5/89,MS4.0/47,15C-8D,Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.05**	**38**	Pn	**Pg**	**08 46 50.3**	**-1.0**
CD2				Pg	**Pb**	**08 46 52.3**	**+2.9**
CD2				Sn	**Sb**	**08 47 14.5**	**-0.5**
CD2				Sg	**Sg**	**08 47 18.1**	**+0.1**
CD2				LR	LR		
	comp=N,9μm,4.3s						
CD2				LR	LR		
	comp=E,10μm,5.3s						
CD2				LR	LR		
	comp=Z,12μm,4.9s						
PZH	**PanZhiHua**	**2.82**	**190**	Pn	**Pn**	**08 47 00.3**	**+3.1**
PZH				Pg	**Pb**	**08 47 04.8**	**+2.3**
PZH				Sn	**Sn**	**08 47 30.3**	**-1.1**
PZH				Sg	**Sb**	**08 47 37.9**	**+0.7**
PZH				smax	smax		
	comp=N,3μm,1.1s						
PZH				smax	smax		
	comp=E,5μm,1.0s						
KMI	**Kunming**	**4.17**	**174**	⇑Pn	**Pn**	**08 47 18.3**	**+2.4**
KMI				Sn	**Sn**	**08 47 59.1**	**-5.8**
KMI				Sg	**Sb**	**08 48 19.1**	**+2.9**
KMI				smax	smax		
	comp=N,2μm,1.1s						
KMI				smax	smax		
	comp=E,2μm,0.9s						
KMI				LR	LR		
	comp=N,7μm,4.1s						
KMI				LR	LR		
	comp=E,10μm,5.5s						
KMI				LR	LR		
	comp=Z,4μm,5.2s						
TNCH	**TengChong**	**5.41**	**219**	Pn	**Pn**	**08 47 32.5**	**-0.4**
TNCH				Pg	Pb	08 47 52.5	+5.8
TNCH				Sn	**Sn**	**08 48 37.0**	**+1.6**
TNCH				Sg	**Sg**	**08 49 03.3**	**-2.5**
TNCH				smax	smax		
	comp=N,990nm,1.1s						
TNCH				smax	smax		
	comp=E,990nm,1.5s						
TNCH				LR	LR		
	comp=N,3μm,2.8s						
TNCH				LR	LR		
	comp=E,3μm,2.6s						
TNCH				LR	LR		
	comp=Z,1μm,5.6s						
ENH	**Enshi**	**6.33**	**79**	Pn	**Pn**	**08 47 47.2**	**+1.8**
ENH				Sn	**Sn**	**08 48 57.9**	**0.0**
XAN	**Xi'an**	**7.37**	**48**	⇑Pn	**Pn**	**08 47 58.9**	**-0.8**
XAN				Sn	**Sn**	**08 49 21.4**	**-2.0**
XAN				Sg	**Sg**	**08 50 06.8**	**-1.7**
XAN				smax	smax		
	comp=N,1μm,1.0s						
XAN				smax	smax		
	comp=E,880nm,1.0s						
XAN				LR	LR		
	comp=N,7μm,7.9s						
XAN				LR	LR		
	comp=E,5μm,7.9s						
XAN				LR	LR		
	comp=Z,4μm,7.0s						
SLVN	**Son La**	**8.06**	**169**		**Pn**	**08 48 13.4**	**+4.2**
GULI	**GuiLin**	**8.22**	**117**	P	**Pn**	**08 48 10.0**	**-1.3**
GULI				S	**Sn**	**08 49 40.3**	**-3.9**
GULI				LR	LR		
	comp=N,5μm,7.6s						
GULI				LR	LR		
	comp=E,4μm,8.1s						
GULI				LR	LR		
	comp=Z,2μm,4.0s						
CRAI	**Chiangrai**	**9.19**	**191**		**Pn**	**08 48 28.2**	**+3.5**
CNSH	**ChangSha**	**9.41**	**94**	⇓P	**Pn**	**08 48 31.9**	**+4.3**
CNSH				S	**Sn**	**08 50 09.3**	**-4.2**
CNSH				smax	smax		
	comp=N,450nm,0.8s						
CNSH				smax	smax		
	comp=E,300nm,0.6s						
LSA	**Lhasa**	**9.71**	**275**	P	Pn	08 48 38.3	+6.1
LSA				LR	LR		
	comp=E,710nm,11.5s						
LSA				LR	LR		
	comp=Z,670nm,8.6s						
LSA	**Lhasa**	**9.71**	**275**	Pn	**Pn**	**08 48 34.6**	**+2.4**
LSA	**Lhasa**	**9.71**	**275**	P	**Pn**	**08 48 34.6**	**+2.4**
GTA	**Gaotai**	**10.29**	**349**	*e*P	Pn	08 48 47.6	+7.8
GTA				pP		08 48 52.0	
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
GTA				LR	LR		
	comp=N,1μm,15.9s						
GTA				LR	LR		
	comp=Z,2μm,11.5s						
WHN	**Wuhan**	**10.54**	**80**	⇑P	**Pn**	**08 48 45.3**	**+2.2**
WHN				S	**Sn**	**08 50 43.3**	**+2.1**
WHN				pmax	pmax		
	comp=Z,130nm,0.8s						
WHN				LR	LR		
	comp=E,3μm,3.6s						
WHN				LR	LR		
	comp=Z,5μm,5.4s						
CHTO	**Chiang Mai**	**10.87**	**197**		Pn	08 48 52.9	+5.3
CHTO	**Chiang Mai**	**10.87**	**197**	P	Pn	08 48 52.9	+5.3
PHRA	**Phrae**	**10.91**	**190**		Pn	08 48 53.1	+4.9
CMAR	**Chiang Mai Arr**	**11.21**	**197**	Pn	**Pn**	**08 48 56.8**	**+4.4**
CMAR	**Chiang Mai Arr**	**11.21**	**197**	P	**Pn**	**08 48 56.5**	**+4.1**
	0.9nm,0.3s,baz=9.0,slow=12,SNR=10						
CMAR				LR	LR	08 53 26.3	
	comp=Z,308nm,19.0s,baz=15,slow=38						
	1.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**11.21**	**197**	*i* P	Pn	08 48 58.2	+5.8
CMAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
QIZ	**Qiongzhong**	**12.32**	**144**	P	**Pn**	**08 49 05.8**	**-1.7**
QIZ				S	**Sn**	**08 51 23.5**	**-1.5**
QIZ				LR	LR		
	comp=Z,1μm,7.7s						
QIZ				LR	LR		
	comp=Z,2μm,8.2s						
QIZ				LR	LR		
	comp=Z,2μm,8.7s						
BTO	**Baotou**	**12.94**	**27**	*e*P	**Pn**	**08 49 17.8**	**+1.9**
BTO				pP		08 49 21.3	
BTO				sP		08 49 23.6	
BTO				PP	**PnPn**	**08 49 28.3**	**+4.4**
BTO				S	**Sn**	**08 51 44.8**	**+4.8**
BTO				pmax	pmax		
	comp=Z,42nm,0.7s						
BTO				LR	LR		
	comp=Z,900nm,6.2s						
BTO				LR	LR		
	comp=Z,1μm,12.3s						
HNS	**HongShan**	**13.15**	**49**	⇑P	**Pn**	**08 49 21.0**	**+2.3**
HNS				S	**Sn**	**08 51 50.3**	**+5.3**
HNS				pmax	pmax		
	comp=Z,13nm,0.8s						
HNS				LR	LR		
	comp=Z,3μm,8.7s						
HNS				LR	LR		
	comp=Z,2μm,10.3s						
HHC	**Hu-ho-hao-te**	**13.79**	**31**	*e*P	**Pn**	**08 49 30.8**	**+3.2**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,64nm,3.9s						
HHC				LR	LR		
	comp=Z,670nm,8.5s						
HHC				LR	LR		
	comp=Z,810nm,7.8s						
UBPT	**Khong Chiam**	**14.25**	**167**		**Pn**	**08 49 36.0**	**+2.0**
TIA	**Tai'an**	**14.26**	**57**	⇓P	**Pn**	**08 49 35.0**	**+1.1**
TIA				pmax	pmax		
	comp=Z,17nm,0.8s						
TIA				LR	LR		
	comp=Z,1μm,15.2s						
TIA				LR	LR		
	comp=Z,530nm,12.3s						
BJT	**Baijiatuan**	**15.63**	**43**		**Pn**	**08 49 52.9**	**+0.6**
BJT	**Baijiatuan**	**15.63**	**43**	P	**Pn**	**08 49 52.9**	**+0.6**
BJT				pmax	pmax		
	comp=Z,18nm,0.9s						
BJI	**Beijing**	**15.65**	**43**	P	**Pn**	**08 49 54.0**	**+1.5**
BJI				pmax	pmax		
	comp=Z,8.0nm,0.8s						
SSE	**Sheshan**	**16.44**	**79**	P	**Pn**	**08 50 01.1**	**-1.6**
SSE				S	**Sn**	**08 53 02.4**	**-2.9**
SSE				pmax	pmax		
	comp=Z,11nm,0.8s						
SSE				pmax	pmax		
	comp=Z,48nm,5.3s						
SSE				LR	LR		
	comp=Z,740nm,13.8s						
SSLB	**Suanglung**	**17.57**	**104**		**P**	**08 50 19.4**	**+1.3**
XLT	**XiLinHaoTe**	**18.27**	**33**	*e*P	**P**	**08 50 26.8**	**+1.1**
XLT				pP	sP	08 50 30.3	-0.2
XLT				sP	pP	08 50 35.0	+6.0
XLT				PP	**PnPn**	**08 50 40.5**	**+3.6**
XLT				S	**S**	**08 53 55.1**	**+0.4**
XLT				sS	sS	08 54 04.0	+4.0
XLT				pmax	pmax		
	comp=Z,16nm,0.9s						
XLT				pmax	pmax		
	comp=Z,69nm,4.6s						
XLT				LR	LR		
	comp=Z,620nm,9.8s						
XLT				LR	LR		
	comp=Z,480nm,13.2s						
SONM	**Songino Array**	**18.78**	**9**		**Pn**	**08 50 34.1**	**+2.2**
SONM	**Songino Array**	**18.78**	**9**	P	**Pn**	**08 50 33.6**	**+1.7**
	comp=Z,0.5nm,0.3s,baz=191,slow=11,SNR=31						
	comp=Z,6.1nm,0.7s						
ULN	**Ulaanbaatar**	**18.

CN2 eS S 08 55 28.8 -6.3
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 pmax pmax
comp=Z,100nm,4.0s
CN2 LR LR
comp=Z,300nm,11.0s
CN2 LR LR
comp=Z,200nm,11.0s
MAKZ Makanchi 23.58 323 P **P** **08 51 23.7 +1.0**
MAKZ Makanchi 23.58 323 P **P** **08 51 23.7 +1.0**
MAKZ pmax pmax
comp=Z,9.0nm,1.0s
KSH Kashi 23.91 302 P **P** **08 51 31.6 +5.5**
KSH pmax pmax
comp=Z,9.0nm,1.5s
KSH LR LR
comp=Z,600nm,14.4s
KSH LR LR
comp=Z,600nm,13.4s
KSH LR LR
comp=Z,890nm,12.9s
HIA Hailar 23.98 29*c iP* **P** **08 51 28.3 +1.7**
HIA pmax pmax
comp=Z,13nm,0.8s
JNU Nakatsue 24.72 74 **P**
JNU IAmb IAmb 08 51 39.6
comp=Z,18nm,0.9s
JNU Nakatsue 24.72 74 P **P** **08 51 34.4 +0.9**
comp=Z,15nm,0.8s,baz=248,slow=1.4,SNR=8.7
JNU LR LR 09 01 19.5
comp=Z,186nm,19.1s,baz=266,slow=37
comp=Z,15nm,0.8s
NIL Nilore 25.10 287 **P** **08 51 38.2 +1.3**
NIL IAmb IAmb 08 52 16.1
comp=Z,14nm,0.8s
NIL Nilore 25.10 287 P **P** **08 51 38.2 +1.3**
NIL pmax pmax
comp=Z,14nm,0.8s
BNX BinXian 25.66 43 ⇓P **P** **08 51 43.6 +1.8**
BNX pmax pmax
comp=Z,15nm,1.6s
BNX LR LR
comp=Z,380nm,8.9s
BNX LR LR
comp=Z,560nm,10.4s
AAK Ala-Archa 26.00 308 P **P** **08 51 47.1 +1.9**
AAK Ala-Archa 26.00 308 LR LR 09 04 00.3
comp=Z,178nm,19.8s,baz=43,slow=41
AAK Ala-Archa 26.00 308*ceP* **P** **08 51 48.5 +3.3**
AAK pmax pmax
comp=Z,12nm,1.8s
MDJ Mudanjiang 26.48 47 P **P** **08 51 53.4 +4.1**
MDJ S **S** **08 56 26.5 +3.3**
MDJ sS sS 08 56 30.8 +1.4
MDJ SS **SnSn** **08 57 29.0 +4.6**
MDJ pmax pmax
comp=Z,13nm,1.6s
MDJ pmax pmax
comp=Z,65nm,3.7s
MDJ LR LR
comp=Z,440nm,12.4s
MDJ LR LR
comp=Z,390nm,9.6s
MDJ LR LR
comp=Z,530nm,13.7s
ARSB Arslanbob 26.63 305 P **P** **08 51 52.9 +2.1**
ARSB Arslanbob 26.63 305 P **P** **08 51 52.9 +2.1**
ARSB pmax pmax
comp=Z,1.0nm,0.9s
ZALV Zalesovo Beam 27.73 338 **P** **08 52 01.3 +1.0**
ZALV Zalesovo Beam 27.73 338 P **P** **08 52 01.6 +1.2**
comp=Z,4.0nm,0.6s,baz=151,slow=9.6,SNR=7.5
ZALV LR LR 09 04 00.1
comp=Z,92nm,20.4s,baz=212,slow=38
comp=Z,4.0nm,0.6s
ZALV Zalesovo Beam 27.73 338 *i* P **P** **08 52 01.7 +1.3**
ZALV pmax pmax
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 27.81 327 P **P** **08 52 02.4 +1.3**
comp=Z,6.3nm,0.8s,baz=132,slow=9.7,SNR=37
KURBB PcP **PcP** **08 55 16.7 -0.4**
comp=Z,1.0nm,0.7s,baz=131,slow=2.5,SNR=3.0
comp=Z,6.3nm,0.8s
KURK Kurchatov 27.82 327 **P** **08 52 02.5 +1.2**
KURK IAmb IAmb 08 52 04.0
comp=Z,9.7nm,0.8s
KURK Kurchatov 27.82 327*d iP* **P** **08 52 02.5 +1.2**
KURK pmax pmax
comp=Z,11nm,0.9s
USA0B Ussuriysk Arra 27.88 50 *eP* **P** **08 52 03.5 +1.7**
USRK Ussuriysk Ar. 27.88 50 P **P** **08 52 01.7 -0.1**
comp=Z,1.9nm,0.7s,baz=238,slow=13,SNR=3.2
USRK LR LR 09 03 48.1
comp=Z,375nm,18.2s,baz=248,slow=38
comp=Z,1.9nm,0.7s
BTK Batken 27.89 301 P **P** **08 52 03.4 +1.3**
BTK Batken 27.89 301 P **P** **08 52 03.4 +1.3**
BTK pmax pmax
comp=Z,11nm,0.6s
GAR Garm 28.05 299 P **P** **08 52 05.3 +1.7**
GAR IAmb IAmb 08 52 48.1
comp=Z,14nm,1.0s
HEH HeiHe 28.24 35 *eP* **P** **08 52 05.3 +0.3**
HEH pmax pmax
comp=Z,3.0nm,0.5s
HEH LR LR
comp=Z,390nm,15.9s
HEH LR LR
comp=Z,520nm,15.7s
KBL Kabul 28.62 289 P **P** **08 52 11.3 +2.5**
KBL IAmb IAmb 08 52 40.3
comp=Z,15nm,1.4s
KBL Kabul 28.62 289 P **P** **08 52 11.3 +2.5**
KBL pmax pmax
comp=Z,15nm,1.4s
KK31 Karatay Array 28.92 307 P **P** **08 52 13.0 +1.8**
KK31 Karatay Array 28.92 307 P **P** **08 52 13.0 +1.8**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 28.92 307 P **P** **08 52 13.4 +2.2**
KKAR Karatay Array 28.92 307 P **P** **08 52 12.8 +1.7**
KKAR Karatay Array 28.92 307 *eP* **P** **08 52 12.8 +1.7**
PALK Pallekele 29.89 227 LR LR 09 07 37.6
comp=Z,194nm,18.2s,baz=141,slow=43
KLR Kul'dur 29.98 40 P **P** **08 52 20.6 +0.1**
comp=Z,2.0nm,0.8s,baz=305,slow=8.0,SNR=6.6
KLR LR LR 09 06 02.6
comp=Z,205nm,19.2s,baz=229,slow=40
comp=Z,2.0nm,0.8s
KLR Kul'dur 29.98 40*c iP* **P** **08 52 21.3 +0.8**
KLR pmax pmax
comp=Z,3.0nm,1.0s
MJAR Matsushiro Arr 30.88 67 P **P** **08 52 28.6 0.0**
comp=Z,0.8nm,0.5s,baz=282,slow=8.8,SNR=4.4
MJAR LR LR 09 04 27.3
comp=Z,186nm,21.1s,baz=190,slow=35
comp=Z,0.8nm,0.5s
JHJ Hachijo jima 2 32.19 74 LR LR 09 06 43.6
comp=Z,225nm,18.3s,baz=11,slow=38
BVAR Borovoye Array 33.29 324 P **P** **08 52 51.6 +2.0**
comp=Z,2.2nm,0.8s,baz=108,slow=9.3,SNR=7.1
BVAR PcP **PcP** **08 55 31.3 -0.2**
comp=Z,2.0nm,0.5s,baz=158,slow=1.6,SNR=4.8
comp=Z,2.2nm,0.8s
BRVK Borovoye 33.36 324 P **P** **08 52 51.4 +1.2**
BRVK Borovoye 33.36 324*c iP* **P** **08 52 51.3 +1.2**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
JCJ Chichijima 35.12 84 LR LR 09 07 13.5
comp=Z,187nm,20.0s,baz=14,slow=36
YAK Yakutsk 37.35 21 LR LR 09 10 38.0
comp=Z,163nm,22.0s,baz=231,slow=39
GEYT Alibeck 37.49 295 P **P** **08 53 28.2 +2.3**
GEYT Alibeck 37.49 295 P **P** **08 53 27.9 +2.0**
comp=Z,1.5nm,0.7s,baz=104,slow=9.2,SNR=2.2
GEYT LR LR 09 12 06.4
comp=Z,313nm,18.9s,baz=112,slow=41
comp=Z,1.5nm,0.7s
GEYT Alibeck 37.49 295 P **P** **08 53 28.2 +2.3**
GEYT pmax pmax
comp=Z,7.0nm,0.9s
ABKAR Akbulak array 37.74 314 **P** **08 53 29.5 +1.7**
ABKAR Akbulak array 37.74 314 **P** **08 53 29.1 +1.3**
KAPI Kappang 38.02 151 LR LR 09 09 07.1
comp=Z,56nm,20.5s,baz=298,slow=36
ARU Arti 40.94 324 P **P** **08 53 54.3 -0.1**
ARU Arti 40.94 324 LR LR 09 11 32.8
comp=Z,167nm,19.2s,baz=104,slow=37
ARU Arti 40.94 324*c iP* **P** **08 53 56.0 +1.6**
ARU S **S** **09 00 05.5 -0.5**
ARU SS **SS** **09 03 06.9 -0.5**
ARU pmax pmax
comp=Z,6.0nm,0.9s
GUMO Guam 42.35 102 LR LR 09 12 56.1
comp=Z,51nm,18.3s,baz=303,slow=38
MA2 Magadan 44.46 33 LR LR 09 14 49.7
comp=Z,121nm,18.1s,baz=260,slow=38
MA2 Magadan 44.46 33 ⇓*iP* **P** **08 54 25.7 +2.7**
MA2 pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 44.83 12 **P** **08 54 25.8 +0.1**
TIXI Tiksi 44.83 12 LR LR 09 14 58.6
comp=Z,314nm,20.8s,baz=243,slow=38
TIXI Tiksi 44.83 12 ⇓*iP* **P** **08 54 26.1 +0.4**
TIXI pmax pmax
comp=Z,7.0nm,1.2s
MAK Makhachkala 45.54 303 *eP* **P** **08 54 30.5 -1.3**
MAK *e**PP sP 08 54 49.1 +12
MAK *e* 08 56 19.3
MAK *eS* **S** **09 01 07.8 -6.1**
MAK pmax pmax
comp=Z,27nm,0.4s
MAK MLR MLR
comp=Z,185nm,12.0s
SEY Seymchan 46.43 29 LR LR 09 15 21.3
comp=Z,272nm,18.6s,baz=215,slow=38
PETK Petropavlovsk- 46.58 43 LR LR 09 14 46.3
comp=Z,201nm,19.9s,baz=259,slow=37
KIV Kislovodsk 49.01 304 *i* P **P** **08 54 58.6 -0.4**
KIV *i* 08 56 25.1
KIV pmax pmax
comp=Z,5.0nm,0.8s
KIV MLR MLR
comp=Z,183nm,16.0s
SHA1 Shidzhatmaz 49.04 304 *eP* **P** **08 55 01.3 +1.9**
KLMR Klimovskoe 51.67 326 *eP* **P** **08 55 18.9 +0.2**
KLMR pmax pmax
comp=Z,11nm,0.8s
KLMR MLR MLR
comp=Z,189nm,20.0s
OBN Obninsk 52.78 319 LR LR 09 18 21.5
comp=Z,168nm,20.1s,baz=50,slow=36
OBN Obninsk 52.78 319 *eP* **P** **08 55 29.3 +2.3**
OBN pmax pmax
comp=Z,4.0nm,0.8s
BILL Bilibino 53.48 25 *i* P **P** **08 55 32.2 +0.2**
LVZ Lovozero 54.80 335 ⇑*iP* **P** **08 55 40.9 -0.8**
LVZ pmax pmax
comp=Z,5.0nm,0.9s
BRTR Keskin Array B 56.28 300 LR LR 09 24 31.9
comp=Z,79nm,21.5s,baz=90,slow=41
AKASG Malin Array Be 57.48 314 P **P** **08 56 01.5 +0.4**
comp=Z,0.5nm,0.4s,baz=68,slow=6.8,SNR=4.3
comp=Z,0.5nm,0.4s
AKASG Malin Array Be 57.48 314*ceP* **P** **08 56 03.0 +1.9**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
MNK Minsk 57.83 318 *i* P **P** **08 56 02.0 -1.5**
MNK *i* *PP sP 08 56 22.2 +14
MNK *i* 08 56 53.3
MNK *i* 08 58 11.1
MNK *i* S **S** **09 03 56.3 -6.5**
MNK *i* 09 05 43.7
MNK *i* SS **SS** **09 07 49.7 -3.3**
MNK pmax pmax
comp=E,5.0nm,0.7s
MNK pmax pmax
comp=Z,12nm,0.6s
MNK pmax pmax
comp=N,18nm,0.8s
MNK MLR MLR
comp=N,513nm,20.0s
MNK MLR MLR
comp=Z,131nm,17.0s
WRA Warramunga Arr 57.90 144 P **P** **08 56 03.5 -0.8**
comp=Z,4.4nm,0.8s,baz=331,slow=7.8,SNR=8.3
WRA LR LR 09 23 48.3
comp=Z,68nm,19.4s,baz=72,slow=39
comp=Z,4.4nm,0.8s
WRA Warramunga Arr 57.90 144 *i* P **P** **08 56 04.0 -0.3**
WRA pmax pmax
comp=Z,6.0nm,0.7s
WB2 Warramunga Arr 57.90 144 P **P** **08 56 04.0 -0.3**
WR0 Warramunga Arr 58.02 144 P **P** **08 56 06.5 +1.3**
FINES FINESS Array B 58.20 327 P **P** **08 56 06.1 +0.2**
FINES FINESS Array B 58.20 327 P **P** **08 56 05.9 0.0**
comp=Z,4.0nm,0.9s,baz=101,slow=8.0,SNR=7.5
comp=Z,4.0nm,0.9s
FINES FINESS Array B 58.20 327 *i* P **P** **08 56 06.9 +1.0**
FINES pmax pmax
comp=Z,3.0nm,0.9s
ARCES ARCESS Array B 58.27 336 P **P** **08 56 06.7 +0.4**
comp=Z,1.6nm,0.9s,baz=76,slow=7.5,SNR=2.1
comp=Z,1.6nm,0.9s
ASAR Alice Springs 60.81 147 P **P** **08 56 24.1 -0.4**
comp=Z,1.6nm,0.6s,baz=329,slow=6.6,SNR=5.6
comp=Z,1.6nm,0.6s
C16K Lisburne Hills 64.00 24 P **P** **08 56 44.2 -1.0**
baz=284
F14K Arctic Creek 64.31 28 P **P** **08 56 46.7 -0.6**
baz=284
SPIA Saint Paul Isl 64.58 37 P **P** **08 56 47.5 -1.6**
baz=285
F15K North Star Dit 64.92 27 P **P** **08 56 49.7 -1.5**
baz=286
D17K Noatak River 64.97 25 P **P** **08 56 50.4 -1.1**
baz=286
NOA NORSAR Array B 65.34 328 P **P** **08 56 54.5 +0.4**
comp=Z,0.2nm,0.5s,baz=46,slow=5.8,SNR=1.3
comp=Z,0.2nm,0.5s
G15K Niukluk 65.36 28 P **P** **08 56 52.6 -1.5**
baz=286
C18K Utukok River 65.38 24 P **P** **08 56 53.3 -1.0**
baz=287
E17K Hotham Inlet 65.62 25 P **P** **08 56 54.1 -1.6**
baz=287
M11K Mekoryuk 65.73 33 P **P** **08 56 55.2 -1.4**
baz=287
C19K Lookout Ridge 65.79 23 P **P** **08 56 55.6 -1.3**
baz=288
G16K Koyuk River 65.92 27 IAmb IAmb 08 57 05.2
comp=Z,7.9nm,1.2s
G16K Koyuk River 65.92 27 P **P** **08 56 56.3 -1.4**
baz=288
E18K Tukpahlearik C 65.97 25 P **P** **08 56 56.0 -2.0**
baz=288
K13K Kusilvak Mount 65.99 31 P **P** **08 56 57.1 -1.1**
baz=287
H16K Elim 66.21 28 P **P** **08 56 58.4 -1.2**
baz=288
J14K Nanvaranak Lak 66.23 30 P **P** **08 56 58.9 -0.9**
baz=288
B20K Meade River 66.29 22 P **P** **08 56 59.3 -0.8**
baz=290
D19K Kuna River 66.50 23 P **P** **08 57 00.7 -0.8**
baz=290,SNR=5.3
G17K Kiwalik Mounta 66.57 27 P **P** **08 57 01.2 -0.6**
baz=289
F18K Selawik 66.59 26 P **P** **08 57 00.9 -1.1**
baz=290
A22K Sinclair Lake 66.62 20 P **P** **08 57 01.6 -0.5**
baz=292
D20K Etivluk River 66.94 23 P **P** **08 57 03.5 -0.8**
baz=291,SNR=7.1
H17K Granite Mounta 67.05 27 P **P** **08 57 06.2 +1.3**
H17K IAmb IAmb 08 57 10.7
comp=Z,3.4nm,0.9s
H17K Granite Mounta 67.05 27 P **P** **08 57 04.2 -0.8**
baz=290
M13K Dall Lake 67.07 32 P **P** **08 57 04.3 -0.8**
baz=289
L14K Kuka Creek 67.07 31 P **P** **08 57 03.9 -1.3**
baz=289
I17K Unalakleet 67.09 28 P **P** **08 57 03.9 -1.4**
baz=290
E19K Redstone River 67.18 24 IAmb IAmb 08 57 11.1
comp=Z,4.3nm,0.8s
E19K Redstone River 67.18 24 P **P** **08 57 05.1 -0.7**
baz=291,SNR=7.6
F19K Shaleruckik Mo 67.21 25 P **P** **08 57 05.2 -0.7**
baz=291,SNR=7.9
G18K Tagagawik 67.21 26 P **P** **08 57 06.0 +0.1**
baz=291
E20K Nigu River 67.25 23 P **P** **08 57 05.4 -0.8**
baz=292,SNR=6.7
B21K Ikpikpuk River 67.26 22 P **P** **08 57 05.3 -0.9**
baz=293
K15K Wolf Creek Mou 67.27 30 P **P** **08 57 04.7 -1.7**
baz=290
J16K Anvik River 67.33 29 P **P** **08 57 05.1 -1.7**
baz=290
B22K Teshekpuk Lake 67.35 21 P **P** **08 57 05.4 -1.3**
baz=293,SNR=9.5
C21K Knifeblade Rid 67.38 22 P **P** **08 57 05.8 -1.2**
baz=293
L15K Ungalak Mounta 67.50 31 P **P** **08 57 07.0 -0.8**
baz=290
H18K Honhosa River 67.59 27 P **P** **08 57 06.9 -1.5**
baz=291
UNV Unalaska Valle 67.59 40 P **P** **08 57 06.9 -1.6**
baz=289
M14K Bethel 67.60 32 P **P** **08 57 07.5 -0.9**
baz=290
GERES GERESS Array B 67.69 314 P **P** **08 57 09.7 +0.3**
comp=Z,0.4nm,0.3s,baz=64,slow=6.7,SNR=1.3
GERES LR LR 09 28 35.6
comp=Z,184nm,19.2s,baz=70,slow=37
comp=Z,0.4nm,0.3s
G19K Purcell Mounta 67.72 26 P **P** **08 57 07.8 -1.4**
baz=292
F20K Avaraart Lake 67.87 24 P **P** **08 57 09.4 -0.8**
baz=293
E21K Killik River 67.94 23 P **P** **08 57 09.5 -1.0**
baz=294
J17K VABM Dome 67.94 29 P **P** **08 57 10.2 -0.4**
baz=291
D22K Ayikyak River 68.19 22 P **P** **08 57 10.5 -1.6**
baz=295,SNR=6.0
H19K Roundabout Mou 68.19 26 P **P** **08 57 10.9 -1.2**
baz=293,SNR=8.7
M15K Kasigluk River 68.21 32 P **P** **08 57 11.3 -1.0**
baz=291
L16K Owhat River 68.38 30 P **P** **08 57 11.7 -1.7**
baz=292
C23K Itkillik River 68.44 21 P **P** **08 57 13.1 -0.5**
baz=296,SNR=11
O14K Tigyukauivet M 68.45 33 P **P** **08 57 13.3 -0.6**
baz=291
K17K Iditarod 68.52 29 P **P** **08 57 14.5 +0.2**
K17K Iditarod 68.52 29 P **P** **08 57 14.0 -0.3**
baz=292
F21K Alatna River 68.61 24 IAmb IAmb 08 57 16.6
comp=Z,5.0nm,0.9s
F21K Alatna River 68.61 24 P **P** **08 57 13.7 -1.1**
baz=294,SNR=9.0
N15K Kwethluk River 68.67 32 P **P** **08 57 14.2 -1.0**
baz=292
L17K Donlin 68.74 30 P **P** **08 57 14.7 -1.0**
baz=292
E22K Anaktuvuk Pass 68.79 23 P **P** **08 57 15.2 -0.7**
baz=296
D23K Nanushuk River 68.80 22 P **P** **08 57 15.4 -0.6**
baz=296
H20K Anotleneega Mo 68.81 26 P **P** **08 57 15.2 -0.9**
baz=294
M16K Timber Creek 68.87 31 P **P** **08 57 15.5 -1.0**
baz=292
G21K Allakaket 68.89 25 IAmb IAmb 08 57 18.2
comp=Z,5.4nm,1.0s
G21K Allakaket 68.89 25 P **P** **08 57 16.1 -0.5**
baz=295,SNR=5.7
J18K Innoko River 68.89 28 IAmb IAmb 08 57 20.1
comp=Z,4.5nm,0.9s
J18K Innoko River 68.89 28 P **P** **08 57 16.0 -0.7**
baz=293
F22K John River 68.94 23 P **P** **08 57 16.5 -0.4**
baz=296
C24K Franklin Bluff 69.08 21 P **P** **08 57 17.4 -0.3**
baz=298
J19K Poorman 69.13 27 IAmb IAmb 08 57 33.0
comp=Z,4.1nm,0.9s
J19K Poorman 69.13 27 P **P** **08 57 16.8 -1.2**
baz=294
N16K Nishlik Lake 69.17 32 P **P** **08 57 16.6 -1.8**
baz=293
O15K Ungalikthiuk R 69.17 33 P **P** **08 57 16.9 -1.5**
baz=292
TOLK Toolik Lake Re 69.31 22 **P** **08 57 20.1 +0.9**
TOLK Toolik Lake Re 69.31 22 P **P** **08 57 18.2 -1.0**
baz=297,SNR=5.6
D24K Happy Valley 69.31 21 P **P** **08 57 18.8 -0.3**
baz=298,SNR=5.8
S12K Black Hills 69.35 37 P **P** **08 57 18.4 -1.2**
baz=292
L18K Granite Mounta 69.40 29 P **P** **08 57 18.8 -1.0**
baz=294
M17K Holitna River 69.40 30 P **P** **08 57 18.7 -1.1**
baz=293
G22K Bettles 69.44 24 P **P** **08 57 19.2 -0.7**
baz=296
H21K Melozitna Rive 69.52 25 IAmb IAmb 08 57 36.0
comp=Z,5.4nm,1.1s
H21K Melozitna Rive 69.52 25 P **P** **08 57 19.3 -1.2**
baz=296
J20K Nowinta River 69.64 27 P **P** **08 57 20.7 -0.5**
baz=295
COLD Coldfoot 69.75 23 P **P** **08 57 21.5 -0.4**
baz=297
O16K Kokwok River B 69.83 32 P **P** **08 57 21.0 -1.4**
baz=293
N17K Nushagak Hills 69.87 31 P **P** **08 57 21.0 -1.6**
baz=294
E24K Your Creek 69.93 22 IAmb IAmb 08 57 29.4
comp=Z,5.7nm,0.8s
E24K Your Creek 69.93 22 P **P** **08 57 22.0 -1.0**
baz=298
H22K Ishtalitna Cre 69.94 25 P **P** **08 57 22.2 -0.9**
baz=297
D25K Kavik River 69.99 21 IAmb IAmb 08 57 34.0
comp=Z,3.4nm,0.8s
D25K Kavik River 69.99 21 P **P** **08 57 21.6 -1.8**
baz=300
K20K Telida 70.02 28 IAmb IAmb 08 57 39.5
comp=Z,8.6nm,1.4s
K20K Telida 70.02 28 P **P** **08 57 21.8 -1.8**
baz=295
I21K Tanana 70.04 26 P **P** **08 57 22.7 -1.0**
baz=296
G23K Bananza Creek 70.05 24 P **P** **08 57 24.5 +0.7**
G23K IAmb IAmb 08 57 25.7
comp=Z,4.0nm,1.1s
G23K Bananza Creek 70.05 24 P **P** **08 57 22.6 -1.1**
baz=298
M18K Stony River 70.08 30 P **P** **08 57 23.1 -0.8**
baz=295
C26K Camden Bay 70.13 20 P **P** **08 57 22.8 -1.3**
baz=301
L19K White Mountain 70.20 29 IAmb IAmb 08 57 33.9
comp=Z,5.1nm,1.1s
L19K White Mountain 70.20 29 P **P** **08 57 23.3 -1.4**
baz=295
O17K Koliganek Bris 70.22 32 P **P** **08 57 24.0 -0.8**
baz=294
SDPT Sand Point 70.32 37 P **P** **08 57 24.4 -1.1**
baz=293
N18K Kilae Creek 70.39 31 P **P** **08 57 24.1 -1.8**
baz=295
F24K Squaw Lake 70.40 23 P **P** **08 57 24.7 -1.2**
baz=299
L20K Farewell, AK 70.48 29 P **P** **08 57 24.7 -1.8**
baz=296
CHUM Lake Minchumin 70.50 27 P **P** **08 57 25.2 -1.2**
baz=297
M19K Big River Lodg 70.52 29 P **P** **08 57 25.5 -1.2**
baz=296
MLY Manley 70.58 25 IAmb IAmb 08 57 33.1
comp=Z,3.4nm,0.8s
MLY Manley 70.58 25 P **P** **08 57 25.6 -1.4**
baz=298,SNR=6.7
C27K Jago River 70.64 20 P **P** **08 57 25.4 -1.8**
baz=302
H23K Yukon River 70.64 25 IAmb IAmb 08 58 09.0
comp=Z,5.4nm,1.1s
H23K Yukon River 70.64 25 P **P** **08 57 26.1 -1.3**
baz=298
P17K Kvichak River 70.76 32 P **P** **08 57 26.7 -1.4**
baz=295
CAST Castle Rocks 70.80 27 **P** **08 57 29.6 +1.2**
CAST Castle Rocks 70.80 27 P **P** **08 57 26.9 -1.4**
baz=297
DAVOX Davos/Dischmat 70.83 313 LR LR 09 30 33.8

comp=Z,197nm,18.9s,baz=76,slow=38
BPAW **Bear Paw Mtn.** 70.92 26 P P 08 57 29.2 +0.1
BPAW **Bear Paw Mtn.** 70.92 26 P P 08 57 27.8 -1.3
baz=298,SNR=10
G24K **Hadweenzic Riv** 70.95 23 P P 08 57 28.5 -0.7
baz=300
N19K **Bonanza Creek** 70.95 30 P P 08 57 27.6 -1.9
baz=296
PPLA **Purkeypile** 71.00 28 P P 08 57 27.7 -2.0
baz=297
CHNA **Chernabura Isl** 71.00 37 P P 08 57 27.9 -1.7
baz=294
I23K **Minto, Yukon-K** 71.04 25 IAmb IAmb 08 57 37.9
comp=Z,5.3nm,1.1s
I23K **Minto, Yukon-K** 71.04 25 P P 08 57 28.7 -1.0
baz=299
O18K **Koktuh Hills** 71.05 31 P P 08 57 28.3 -1.6
baz=296
M20K **Styx River** 71.06 29 IAmb IAmb 08 57 41.0
comp=Z,5.8nm,0.8s
M20K **Styx River** 71.06 29 P P 08 57 28.9 -1.2
baz=297
F25K **Christian Rive** 71.11 22 P P 08 57 29.4 -0.8
baz=301
H24K **Noodor Dome** 71.24 24 IAmb IAmb 08 58 16.6
comp=Z,4.5nm,1.1s
H24K **Noodor Dome** 71.24 24 P P 08 57 30.1 -1.0
baz=300
P18K **Big Mountain,** 71.24 32 P P 08 57 29.6 -1.5
baz=296
VAE **Valguarnera** 71.29 303 LR LR 09 33 44.7
comp=Z,72nm,18.6s,baz=110,slow=40
OPO **Ambohidratompo** 71.34 235 LR LR 09 29 32.0
comp=Z,49nm,19.5s,baz=64,slow=36
G25K **Bearman Lake** 71.39 23 P P 08 57 30.0 -1.8
baz=301
STKA **Stephens Creek** 71.39 145 LR LR 09 32 38.0
comp=Z,80nm,19.3s,baz=206,slow=39
NEA2 **Nenana** 71.42 26 IAmb IAmb 08 58 12.4
comp=Z,7.9nm,1.0s
NEA2 **Nenana** 71.42 26 P P 08 57 30.8 -1.3
baz=299,SNR=7.9
Q17K **Contact Creek** 71.42 33 P P 08 57 30.7 -1.6
baz=296
TRF **Thorofare Moun** 71.50 27 P P 08 57 31.5 -1.3
baz=298
F26K **Sheenjek River** 71.54 22 P P 08 57 31.8 -1.0
baz=302
BMAR **Burnt Mountain** 71.54 22 P P 08 57 34.3 +1.4
D27M **Malcolm River** 71.66 20 P P 08 57 32.1 -1.4
baz=305
SKT **Skwentna** 71.69 29 IAmb IAmb 08 58 09.0
comp=Z,5.8nm,1.1s
SKT **Skwentna** 71.69 29 P P 08 57 32.2 -1.6
baz=298
COLA **College** 71.73 25 P P 08 57 34.3 +0.4
COLA **College** 71.73 25 P P 08 57 32.4 -1.5
baz=300
COLA **College** 71.73 25 P P 08 57 34.3 +0.4
COLA pmax pmax
comp=Z,10.0nm,0.9s
H25L **Birch Creek** 71.74 23 P P 08 57 32.2 -1.8
baz=301
POKR **Poker Plat Res** 71.76 25 P P 08 57 32.2 -2.0
baz=300
N20K **Mount Spurr** 71.77 29 P P 08 57 32.8 -1.5
baz=298
CCB **Clear Creek Bu** 71.86 25 IAmb IAmb 08 57 43.4
comp=Z,6.9nm,1.3s
G26K **Porcupine Rive** 72.06 22 P P 08 57 34.3 -1.5
baz=303,SNR=5.2
E27K **Coleen River** 72.07 21 IAmb IAmb 08 58 09.6
comp=Z,6.6nm,1.1s
E27K **Coleen River** 72.07 21 P P 08 57 34.4 -1.6
baz=304
RND **Reindeer** 72.08 27 IAmb IAmb 08 57 50.5
comp=Z,8.9nm,1.2s
O20K **Slope Mountain** 72.11 31 P P 08 57 34.9 -1.4
baz=298
ILAR **Eielson Array** 72.14 25 P P 08 57 36.2 -0.2
comp=Z,1.1nm,0.9s,baz=284,slow=5.9,SNR=10
comp=Z,1.1nm,0.9s
Q19K **Cape Douglas,** 72.18 32 P P 08 57 34.7 -2.1
baz=297
PRP **Porcupine Dome** 72.24 24 IAmb IAmb 08 58 22.5
comp=Z,4.7nm,0.8s
PRP **Porcupine Dome** 72.24 24 P P 08 57 35.9 -1.2
baz=302,SNR=8.8
D28M **Stokes Point** 72.25 19 P P 08 57 36.4 -0.6
baz=307
SUA **Susitna One** 72.27 29 P P 08 57 36.0 -1.4
baz=299
M22K **Willow** 72.39 28 P P 08 57 37.6 -0.3
baz=299
CAPN **Captain Cook N** 72.43 30 P P 08 57 37.3 -0.8
baz=299
E28M **Babbage River** 72.45 20 IAmb IAmb 08 57 40.4
comp=Z,4.6nm,0.9s
E28M **Babbage River** 72.45 20 P P 08 57 37.2 -1.0
baz=306,SNR=5.6
WAT1 **Susitna Watana** 72.49 27 P P 08 57 37.1 -1.5
baz=300
J25K **Salcha River,** 72.78 25 P P 08 57 39.5 -0.8
baz=302
DHY **Denali Highway** 72.83 27 P P 08 57 39.2 -1.5
baz=301
G27K **Doyon Strip** 72.84 22 P P 08 57 39.9 -0.7
baz=305,SNR=6.3
RC01 **Rabbit Creek A** 72.88 29 P P 08 57 39.5 -1.3
baz=300
F28M **Old Crow** 72.94 21 IAmb IAmb 08 57 58.6
comp=Z,5.5nm,1.1s
F28M **Old Crow** 72.94 21 P P 08 57 39.9 -1.3
baz=306
WAT6 **Susitna Watana** 72.94 27 P P 08 57 40.2 -1.2
baz=301
K24K **Donnelly Dome** 73.06 25 P P 08 57 41.0 -0.9
baz=302,SNR=6.9
E29M **Blow River** 73.07 20 IAmb IAmb 08 57 44.1
comp=Z,5.1nm,0.9s
E29M **Blow River** 73.07 20 P P 08 57 41.2 -0.7
baz=308,SNR=8.9
SML **Sawmill** 73.10 28 P P 08 57 41.9 -0.4
SML **Sawmill** 73.10 28 P P 08 57 41.4 -0.8
baz=300
BRSE **Bradley Lake S** 73.10 30 P P 08 57 40.9 -1.4
baz=299
I26K **Coal Creek Min** 73.19 24 P P 08 57 41.8 -0.8
baz=304
KDAK **Kodiak Island** 73.21 33 P P 08 57 41.8 -1.0
baz=298
KDAK **Kodiak Island** 73.21 33 LR LR 09 32 37.2
comp=Z,116nm,19.7s,baz=309,slow=38
KDAK **Kodiak Island** 73.21 33 *i*P P 08 57 42.9 +0.1
KDAK pmax pmax
comp=Z,43nm,1.6s
H27K **Steamboat Moun** 73.22 22 P P 08 57 41.8 -1.0
baz=305,SNR=12
KNK **Knik Glacier** 73.25 28 P P 08 57 41.8 -1.3
baz=300
SEW **Seward** 73.49 30 P P 08 57 43.3 -1.1
baz=300
J26L **Joseph Creek** 73.49 24 IAmb IAmb 08 58 25.7
comp=Z,5.1nm,0.9s
J26L **Joseph Creek** 73.49 24 P P 08 57 43.1 -1.4
baz=304,SNR=8.5
SCM **Sheep Creek Mo** 73.49 28 P P 08 57 43.4 -1.2
baz=301
I27K **Kandik River** 73.55 23 P P 08 57 44.0 -0.8
baz=305
PAX **Paxson** 73.62 26 P P 08 57 44.3 -1.0
baz=303
SCRK **Sand Creek** 73.63 25 IAmb IAmb 08 57 52.2
comp=Z,4.6nm,1.0s
SCRK **Sand Creek** 73.63 25 P P 08 57 44.3 -1.1
baz=304
A36M **Sachs Harbour** 73.79 14 P P 08 57 46.9 +0.8
A36M IAmb IAmb 08 57 52.8
comp=Z,7.9nm,0.8s
A36M **Sachs Harbour** 73.79 14 P P 08 57 45.6 -0.4
baz=318,SNR=8.3
M24K **Tolsona, Glenn** 73.81 27 P P 08 57 45.5 -1.0
baz=302
G29M **Pine Creek** 73.94 21 IAmb IAmb 08 57 57.4
comp=Z,5.6nm,0.8s
G29M **Pine Creek** 73.94 21 P P 08 57 46.7 -0.3
baz=308
GLI **Glacier Island** 74.09 28 P P 08 57 46.4 -1.6
baz=302
F30M **Barrier River** 74.17 20 P P 08 57 47.7 -0.7
baz=310,SNR=7.9
EGAK **Eagle** 74.19 23 P P 08 57 48.0 -0.5
baz=306
I28M **Miner Creek** 74.21 23 P P 08 57 48.2 -0.5
baz=306,SNR=9.1
KLU **Klutina** 74.24 28 P P 08 57 48.5 -0.5
baz=303,SNR=8.2
H29M **Whitestone** 74.25 22 IAmb IAmb 08 58 28.8
comp=Z,4.6nm,0.9s
H29M **Whitestone** 74.25 22 P P 08 57 48.9 +0.1
baz=308
K27K **Chicken** 74.30 24 IAmb IAmb 08 57 56.8
comp=Z,5.2nm,1.1s
K27K **Chicken** 74.30 24 P P 08 57 47.8 -1.3
baz=305
INK **Inuvik** 74.37 19 P 08 57 50.3 +0.8
INK IAmb IAmb 08 57 55.6
comp=Z,5.2nm,0.8s
INK **Inuvik** 74.37 19 P P 08 57 48.0 -1.4
baz=311,SNR=7.4
INK **Inuvik** 74.37 19 P P 08 57 50.3 +0.8
INK pmax pmax
comp=Z,5.0nm,0.8s
P23K **Montague Islan** 74.42 29 P P 08 57 48.5 -1.5
baz=302
G30M **tAoh Zraii Nji** 74.45 20 P P 08 57 48.9 -1.1
baz=309,SNR=17
EPYK **Eagle Plains** 74.68 21 P P 08 57 49.5 -1.9
baz=309
N25K **Chitina, Valde** 74.71 27 P P 08 57 50.7 -1.0
baz=304
I29M **Ogilvie Camp,** 74.80 22 P P 08 57 51.2 -0.9
baz=308
EYAK **Cordova Ski Ar** 74.83 28 P P 08 57 51.3 -0.9
baz=303
F31M **Tsiigehtchic** 74.88 19 P P 08 57 51.3 -1.1
baz=311
M26K **Nabesna, AK** 74.89 26 IAmb IAmb 08 58 08.3
comp=Z,6.7nm,1.1s
M26K **Nabesna, AK** 74.89 26 P P 08 57 51.1 -1.6
baz=305
L27K **Beaver Creek,** 74.95 25 IAmb IAmb 08 57 60.0
comp=Z,8.1nm,1.4s
L27K **Beaver Creek,** 74.95 25 P P 08 57 50.4 -2.6
baz=306
BCAR **Beaver Creek A** 74.96 25 P P 08 57 52.6 -0.5
BMRM **Bremner River** 75.06 28 P P 08 57 52.1 -1.7
baz=304,SNR=6.2
G31M **Satah River** 75.07 20 IAmb IAmb 08 57 59.5
comp=Z,6.2nm,0.9s
G31M **Satah River** 75.07 20 P P 08 57 51.2 -2.4
baz=311
DAWY **Dawson** 75.23 24 P P 08 57 53.9 -0.7
baz=307
M27K **Edge Creek, AK** 75.34 26 IAmb IAmb 08 58 40.8
comp=Z,5.0nm,0.9s
M27K **Edge Creek, AK** 75.34 26 P P 08 57 55.3 -0.1
baz=306
MCARA **McCarthy VSAT** 75.46 27 P P 08 57 55.0 -1.0
baz=305
I30M **Mount Dempster** 75.52 22 P P 08 57 54.0 -2.3
baz=310,SNR=7.6
KAIM **Kayak Island** 75.72 29 P P 08 57 55.5 -1.9
baz=304
KEST **Kesra** 75.73 303 LR LR 09 40 42.3
comp=Z,53nm,18.1s,baz=316,slow=43
H31M **Peel River** 75.79 21 P P 08 57 55.6 -2.2
baz=311,SNR=9.2
J30M **Hart River** 75.95 22 P P 08 57 58.5 -0.3
baz=310
K29M **Barlow Dome** 76.02 23 P P 08 57 57.8 -1.4
baz=309,SNR=5.9
C36M **Paulatuk** 76.04 15 P 08 57 59.6 +0.5
C36M IAmb IAmb 08 58 05.3
comp=Z,5.3nm,0.8s
C36M **Paulatuk** 76.04 15 P P 08 57 58.0 -1.1
baz=319,SNR=8.6
YUK3 **Moose Creek** 76.22 26 P P 08 57 56.8 -3.8
baz=307
L29M **L29M** 76.26 24 P P 08 57 57.3 -3.2
baz=308
CTG **Chitna Glacier** 76.37 27 P P 08 57 57.3 -4.0
baz=306
M29M **Somme Creek** 76.56 25 P P 08 57 59.6 -2.7
baz=308
YUK8 **Steele Glacier** 76.79 26 P P 08 58 00.9 -2.9
baz=308
O28M **Mount Upton** 76.94 27 P P 08 58 02.4 -2.3
baz=307
M30M **Minto, Yukon** 77.08 24 P P 08 58 02.9 -2.3
baz=310
YUK4 **Talbot Arm** 77.18 26 P P 08 58 03.3 -2.6
baz=308
YUK6 **Outpost Mounta** 77.53 26 P P 08 58 06.0 -2.0
baz=309
N30M **Aishikik Lake** 77.69 25 P P 08 58 05.3 -3.3
baz=310
PNL **Peninsula** 77.93 27 P P 08 58 07.3 -2.6
baz=308
HYT **Haines Junctio** 77.94 26 P P 08 58 08.3 -1.8
baz=310
N31M **Braeburn, Yuko** 78.15 25 P P 08 58 08.8 -2.3
baz=311
M31M **Drury Creek, Y** 78.17 24 P P 08 58 08.3 -2.9
baz=312
O30N **Mendenhall** 78.50 25 P P 08 58 12.0 -1.1
baz=311
P30M **Million Dollar** 78.59 26 P P 08 58 10.3 -3.3
baz=310
P29M **Windy Craggy** 78.61 27 P P 08 58 10.7 -3.0
baz=310
N32M **Quiet Lake** 79.34 24 P P 08 58 14.4 -3.3
baz=313
P32M **Atlin** 80.18 25 P P 08 58 18.9 -3.4
baz=313
TGTN **Hyland Airport** 80.72 22 P P 08 58 23.3 -1.8
baz=317
R32K **Eaglecrest** 80.76 27 P P 08 58 22.1 -3.3
baz=312
ESDC **Sonseca Array** 83.06 312 P P 08 58 38.4 +0.5
comp=Z,0.5nm,0.7s,baz=35,slow=7.0,SNR=2.4
comp=Z,0.5nm,0.7s
YKA **Yellowknife Ar** 83.87 16 P P 08 58 40.3 -1.2
comp=Z,0.8nm,0.8s,baz=329,slow=5.5,SNR=11
comp=Z,0.8nm,0.8s
YKA **Yellowknife Ar** 83.87 16 *i*P P 08 58 42.4 +0.9
YKA pmax pmax
comp=Z,1.0nm,0.8s
BBB **Bella Bella** 87.66 28 LR LR 09 40 28.9
comp=Z,37nm,19.5s,baz=2.5,slow=37
TORD **Torodi Ar. Bea** 92.66 287 LR LR 09 47 28.9
comp=Z,59nm,19.8s,baz=123,slow=40
NEW **Newport** 95.09 25 LR LR 09 44 51.7
comp=Z,59nm,19.2s,baz=329,slow=37
SCHQ **Schefferville** 95.70 354 LR LR 09 46 42.7
comp=Z,60nm,19.5s,baz=322,slow=38
YBH **Yreka Blue Hor** 98.02 32 LR LR 09 43 52.6
comp=Z,27nm,18.5s,baz=294,slow=35
SUR **Sutherland** 98.62 238 LR LR 09 40 34.6
comp=Z,68nm,19.7s,baz=100,slow=33
ULM **Lac du Bonnet** 99.18 12 LR LR 09 49 07.5
comp=Z,52nm,18.2s,baz=68,slow=38
SNCC **San Nicolas Is** 106.26 36 P PKiKP 09 04 33.3 -3.8
baz=323
LONY **Lake Ozonia** 106.39 358 P PKiKP 09 04 34.8 -2.2
baz=2.8
BFSC **Mount Baldy Ra** 106.39 34 P PKiKP 09 04 34.1 -3.3
baz=324
ISCO **Idaho Springs** 106.52 22 P PKiKP 09 04 34.0 -3.7
baz=335
HEC **Hector,Ludlow** 106.54 32 P PKiKP 09 04 33.5 -4.2
baz=325
OGNE **Ogallala** 106.57 19 P PKiKP 09 04 34.1 -3.4
baz=338
CIS **Catalina Islan** 106.69 35 P PKiKP 09 04 35.0 -2.8
baz=324
PFO **Pinyon Flats O** 107.48 33 P PKiKP 09 04 36.2 -3.3
baz=325
TPFO **Pinon Flats** 107.48 33 P PKiKP 09 04 36.2 -3.3
baz=325
IRM **Iron Mountain** 107.64 32 P PKiKP 09 04 36.8 -2.9
baz=326
SCIA **State Center** 107.72 12 P PKiKP 09 04 37.2 -2.3
baz=346
109C **Camp Elliot, M** 107.75 34 P PKiKP 09 04 37.0 -2.8
baz=324
MONP2 **Monument Peak** 108.08 34 P PKiKP 09 04 37.3 -3.4
baz=325
WUAZ **Wupatki** 108.15 28 P PKiKP 09 04 37.7 -3.0
baz=329
SWSC **Sam W. Stewart** 108.34 33 P PKiKP 09 04 38.1 -2.8
baz=326
SDCO **Great Sand Dun** 108.41 23 P PKiKP 09 04 37.8 -3.5
baz=335
IKP **In-Ko-Pah, Jac** 108.43 34 P PKiKP 09 04 38.6 -2.6
baz=325
TXAR **Lajitas Array** 116.65 25 PKP PKPdf 09 04 56.4 -0.6
comp=Z,0.2nm,0.8s,baz=32,slow=4.3,SNR=2.1
QSPA **South Pole Qui** 119.08 180 PKP PKPdf 09 04 59.2 -1.1
comp=Z,1.5nm,1.1s,baz=266,slow=1.6,SNR=2.0
ROSC **El Rosal** 145.91 354 PKPbc PKPdf 09 05 52.0 -0.3
comp=Z,20nm,0.7s,baz=18,slow=13,SNR=4.7

BJI 16 08:46:41.0±0.0, 29°.19N×102°.27E, h10km, mb4.7/8, ML4.7/5, Ms4.3/2, Ms7 4.1/5, 1C, Sichuan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZH	**PanZhiHua**	2.72	190	Pg	Pg	08 47 33.3	+0.2
PZH				Sg	Sg	08 48 06.3	-2.0
TNCH	**TengChong**	5.32	220	Pn	Pn	08 48 01.8	+1.0
TNCH				Sg	Sg	08 49 32.6	+0.6
TNCH				smax	smax		
	comp=N,760nm,1.3s						
TNCH				smax	smax		
	comp=E,690nm,2.0s						
TNCH				LR	LR		
	comp=Z,1μm,5.5s						
XAN	**Xi'an**	7.45	48	Pn	Pn	08 48 26.8	-3.0
XAN				Sn	Sn	08 49 52.3	-2.2
WHN	**Wuhan**	10.57	80 ⇑	P	Pn	08 49 15.3	+2.7
QIZ	**Qiongzhong**	12.25	144	P	Pn	08 49 35.8	+0.2
QIZ				S	Sn	08 51 54.1	+1.9
TIA	**Tai'an**	14.32	57	*e*P	Pn	08 50 02.5	-1.4
TIA				pmax	pmax		
	comp=Z,7.0nm,1.4s						
TIA				LR	LR		
	comp=N,700nm,13.0s						
TIA				LR	LR		
	comp=Z,480nm,11.3s						
WMQ	**Urumqi**	18.68	325	*e*P	Pn	08 51 00.8	+1.2
WMQ				LR	LR		
	comp=Z,280nm,24.2s						
DL2	**Dalian**	18.71	54	P	Pn	08 51 01.6	+1.6
DL2				S	S	08 54 34.0	+1.4
DL2				LR	LR		
	comp=Z,680nm,16.1s						

*IDC **16** 08:49:52.7±1.0, 4°.12N×125°.31E, h0km, mb3.9/5, mbtmp4.0/6, ML4.0/1, MS3.1/2, Error ellipse: s-maj=64.0km s-min=16.8km az=73.0*
*DJA **16** 08:50:01.3±0.9, 5°.1N±8°.1×12°.7E±°, h37km±13km, M4.2/9, mb4.4/7, mB4.5/3, MLv4.2/9, Mw(mB)3.6/3*
ISC 16 08:49:56.6±1.2, 4°.9N±0°.1×126°.6E±0°.1, h35km, n14, σ1s51/12, mb3.9/5, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	1.58	223	P	**Pn**	**08 50 22.9**	**+0.8**
SGSI				S	**Sn**	**08 50 41.6**	**+0.3**
DAV	**Davao City (W)**	2.43	335	Pn	Pn	08 50 41.4	+7.6
	20nm,0.3s,baz=277,slow=17,SNR=1.3						
DAV				Sn	Sn	08 51 17.0	+15
	26nm,0.3s,baz=244,slow=20,SNR=3.6						
DAV				LR	LR	08 52 00.4	
	comp=Z,85nm,18.8s,baz=187,slow=43						
	100nm,0.3s						
TNTI	**Ternate**	4.12	169	P	**Pn**	**08 50 59.7**	**+2.5**
GTOI	**Gorontalo**	5.51	221	P	**Pn**	**08 51 16.8**	**+0.5**
	9.7nm,0.5s,236nm0.1nm						
LBMI	**Labuha**	5.53	171	P	**Pn**	**08 51 17.2**	**+0.7**
	43nm,0.6s,0.2nm						
LUWI	**Luwuk**	7.00	213	P	Pn	08 51 42.4	+5.8
SWI	**Sorong**	7.34	141	P	**Pn**	**08 51 43.1**	**+1.7**
	14nm,0.4s,0.1nm						
FAKI	**Fak Fak**	9.56	144	P	**Pn**	**08 52 13.1**	**+1.2**
WRA	**Warramunga Arr**	25.79	163	P	**P**	**08 55 23.1**	**-1.4**
	2.3nm,0.7s,baz=339,slow=10,SNR=19						
	2.3nm,0.7s						
ASAR	**Alice Springs**	29.23	166	P	**P**	**08 55 53.2**	**-2.1**
	0.8nm,0.6s,baz=338,slow=6.7,SNR=11						
	0.8nm,0.6s						
STKA	**Stephens Creek**	39.22	160	P	**P**	**08 57 20.6**	**-1.0**
	1.1nm,0.4s,baz=338,slow=11,SNR=2.7						
	1.1nm,0.4s						
MKAR	**Makanchi Array**	56.57	325	P	**P**	**08 59 36.6**	**+0.8**
	0.6nm,0.5s,baz=118,slow=7.6,SNR=10						
	0.6nm,0.5s						
ZALV	**Zalesovo Beam**	59.54	333	LR	LR	09 27 31.7	
	comp=Z,46nm,18.8s,baz=67,slow=38						
KURBB	**Kurchatov Arra**	60.73	327	P	**P**	**09 00 04.9**	**+0.2**
	0.5nm,0.4s,baz=132,slow=6.2,SNR=5.6						
	0.5nm,0.4s						

*IDC **16** 08:52:24.6±2.4, 52°.58N×173°.00E, h0km, mb3.8/7, mbtmp3.8/8, ML2.6/1, Error ellipse: s-maj=72.6km s-min=13.3km az=3.0*
*NEIC **16** 08:52:30.1±2.5, 52°.1N±0°.2×172°.85E±0°.10, h47km±16km, mb4.0/15, Error ellipse: s-maj=32.8km s-min=4.1km az=193.0*
ISC 16 08:52:28.9±1.1, 52°.4N±0°.2×172°.91E±0°.06, h31km, n36, σ1s54/30, mb4.1/9, Near Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEM	**Shemya Is, Ala**	0.79	68	LR	LR	08 52 28.0	
	comp=Z,27nm,21.0s,baz=318,slow=4.9						
SHEM				Pn	**Pn**	**08 52 42.2**	**-1.6**
	43nm,0.3s,baz=144,slow=4.5,SNR=49						
SHEM				Sn	**Sb**	**08 52 52.1**	**-2.3**
	162nm,0.3s,baz=342,slow=20,SNR=15						
AMKA	**Amchitka**	4.10	102		**Pn**	**08 53 29.5**	**+0.1**
PEA0B	**Petropavlovsk-**	9.25	280	Pn	**Pn**	**08 54 41.6**	**+1.6**
PEA0B	**Petropavlovsk-**	9.25	280	P	**Pn**	**08 54 41.6**	**+1.6**
PETK	**Petropavlovsk-**	9.25	280	Pn	**Pn**	**08 54 41.4**	**+1.4**
PETK	**Petropavlovsk-**	9.25	280	Pn	**Pn**	**08 54 39.8**	**-0.2**
	0.3nm,0.3s,baz=99,slow=19,SNR=11						
PETK				Sn	**Sn**	**08 56 19.8**	**-3.0**
	0.2nm,0.3s,baz=329,slow=31,SNR=1.6						
	3.2nm,0.9s						
PETK	**Petropavlovsk-**	9.25	280	P	**Pn**	**08 54 39.8**	**-0.2**
K13K	**Kusilvak Mount**	15.36	43	Pn	**Pn**	**08 56 05.0**	**+1.9**
L14K	**Kuka Creek**	15.95	46	Pn	**P**	**08 56 14.3**	**+0.3**
M14K	**Bethel**	16.06	49		**P**	**08 56 16.7**	**+1.4**
M14K				IAmb	IAmb	08 56 50.7	
	comp=Z,7.3nm,1.2s						
L18K	**Granite Mounta**	18.93	47	P	**Pn**	**08 56 48.4**	**+0.7**
H18K	**Honhosa River**	19.36	38	P	**Pn**	**08 56 53.2**	**+0.4**
H18K				IAmb	IAmb	08 57 29.0	
	comp=Z,7.0nm,1.5s						
E18K	**Tukpahlearik C**	19.79	31	P	**Pn**	**08 56 59.2**	**+1.3**
E18K				IAmb	IAmb	08 57 24.2	
	comp=Z,3.5nm,1.0s						
OHAK	**Old Harbor**	19.92	63	P	**P**	**08 56 56.8**	**-0.9**
KDAK	**Kodiak Island**	20.30	61	P	**P**	**08 57 02.9**	**+1.1**
KDAK				IAmb	IAmb	08 57 44.5	
	comp=Z,16nm,1.1s						
KDAK	**Kodiak Island**	20.30	61	P	**P**	**08 57 00.6**	**-1.2**
	comp=Z,7.0nm,1.1s,baz=307,slow=15,SNR=1.7						
	comp=Z,7.0nm,1.1s						
F19K	**Shaleruckik Mo**	20.39	34		Pn	08 57 06.1	+1.2
F19K				IAmb	IAmb	08 57 13.3	
	comp=Z,5.2nm,1.0s						
M20K	**Styx River**	20.46	49	P	Pn	08 57 07.5	+1.5
SUA	**Susitna One**	21.51	51	P	**P**	**08 57 18.2**	**+3.2**
SUA				IAmb	IAmb	08 57 40.6	
	comp=Z,11nm,0.9s						
BPAW	**Bear Paw Mtn.**	21.94	44	P	**P**	**08 57 23.2**	**+3.7**
BPAW				IAmb	IAmb	08 57 36.5	
	comp=Z,11nm,1.2s						
SML	**Sawmill**	22.70	50	P	**P**	**08 57 28.1**	**+0.4**
M24K	**Tolsona, Glenn**	23.74	50	P	**P**	**08 57 38.1**	**0.0**
H11N2	**WAKE ISLAND Hy**	32.98	190	T	T	09 33 52.2	
	baz=7.4,slow=76,SNR=23						
H11N3	**WAKE ISLAND Hy**	32.99	190	T	T	09 33 57.0	
	baz=7.4,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	32.99	190	T	T	09 33 56.8	
	baz=7.4,slow=76,SNR=25						

H11S1	**WAKE ISLAND Hy**	**34.21**	**191**	T	T	09 35 28.5
	baz=7.1,slow=76,SNR=29					
H11S3	**WAKE ISLAND Hy**	**34.22**	**191**	T	T	09 35 30.0
	baz=7.1,slow=76,SNR=28					
H11S2	**WAKE ISLAND Hy**	**34.22**	**190**	T	T	09 35 29.8
	baz=7.1,slow=76,SNR=30					
KURBB	**Kurchatov Arra**	**54.56**	**309**	P	**P**	**09 01 53.1 -0.6**
	comp=Z,0.5nm,0.3s,baz=50,slow=7.5,SNR=5.0					
	comp=Z,0.5nm,0.3s					
MKAR	**Makanchi Array**	**55.25**	**303**	P	**P**	**09 01 57.6 -1.2**
	comp=Z,0.2nm,0.3s,baz=48,slow=6.4,SNR=2.1					
	comp=Z,0.2nm,0.3s					
BVAR	**Borovoye Array**	**56.63**	**315**	P	**P**	**09 02 09.1 +0.5**
	comp=Z,1.1nm,0.4s,baz=31,slow=9.7,SNR=3.6					
	comp=Z,1.1nm,0.4s					
FINES	**FINESS Array B**	**63.44**	**343**	P	**P**	**09 02 55.3 +0.3**
	comp=Z,0.8nm,0.5s,baz=55,slow=6.9,SNR=9.3					
	comp=Z,0.8nm,0.5s					
TXAR	**Lajitas Array**	**63.48**	**76**	P	**P**	**09 02 55.9 -0.1**
	comp=Z,0.2nm,0.5s,baz=306,slow=5.8,SNR=8.1					
	comp=Z,0.2nm,0.5s					
ABKAR	**Akbulak array**	**63.84**	**318**	P	**P**	**09 02 58.9 +0.9**
ABKAR	**Akbulak array**	**63.84**	**318**	P	**P**	**09 02 58.8 +0.9**
ABKAR				IAmb	IAmb	09 02 59.2
	comp=Z,1.3nm,0.6s					
HFS	**Hagfors**	**66.54**	**349**	P	**P**	**09 03 14.7 -0.5**
	comp=Z,0.5nm,0.4s,baz=28,slow=6.5,SNR=4.3					
	comp=Z,0.5nm,0.4s					

*TRN **16** 09:07:47.3, 10.81N×62.28W, h80km, MD3.3, North of the Paria peninsula.*
*FUNV **16** 09:07:47.4, 10.78N×62.24W, h82km, MW3.6*
ISC 16 09:07:45.0±1.3, 10.74N±0.04×62.26W±0.04, h99km±11km, n24, σ1§44/40, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TRN	**Trinidad (W)**	**0.85**	**96**	**⇑***iP*		**Pn**		**09 08 05.1**	**+1.3**
TRN				*eS*		**Sn**		**09 08 17.7**	**-0.2**
TPP	**Pointe-a-Pierr**	**0.90**	**118**	*eP*		**Pn**		**09 08 05.6**	**+1.2**
CRUV	**Carupano**	**0.96**	**266**	**⇓***iP*		**Pn**		**09 08 05.6**	**+0.6**
CRUV				*eS*		**Sn**		**09 08 19.0**	**-0.9**
CRUV	**Carupano**	**0.96**	**266**	*eP*		**Pn**		**09 08 05.6**	**+0.6**
CRUV				*eS*		**Sn**		**09 08 19.0**	**-0.9**
TBH	**Brigand Hill**	**1.20**	**102**	*eP*		**Pn**		**09 08 09.1**	**+1.4**
GRFF	**Grenada Fort F**	**1.40**	**22**	*eP*		**Pn**		**09 08 10.0**	**-0.1**
GRFF				*eS*		**Sn**		**09 08 27.5**	**-1.5**
GRGR	**Grenville**	**1.51**	**23**	*eP*		**Pn**		**09 08 11.7**	**+0.3**
GRGR				*eS*		**Sn**		**09 08 30.1**	**-1.3**
GRW	**Mount Saint Ca**	**1.53**	**23**	*eP*		**Pn**		**09 08 12.7**	**+0.9**
GRW				*eS*		**Sn**		**09 08 30.9**	**-1.1**
GRHS	**Sauteurs**	**1.60**	**22**	*eP*		**Pn**		**09 08 13.0**	**+0.5**
GRHS				*eS*		**Sn**		**09 08 31.9**	**-1.4**
GRSS	**Sisters**	**1.68**	**22**	*eP*		**Pn**		**09 08 14.1**	**+0.6**
GRSS				*eS*		**Sn**		**09 08 34.2**	**-0.9**
GCMP	**Grenada, Carri**	**1.92**	**25**	*eP*		**Pn**		**09 08 17.1**	**+0.5**
GCMP				*eS*		**Sn**		**09 08 39.6**	**-1.0**
PCRV	**Puerto La Cruz**	**2.40**	**257**	*eP*		**Pn**		**09 08 24.5**	**+1.7**
PCRV				*eS*		**Sn**		**09 08 50.4**	**-1.4**
PCRV	**Puerto La Cruz**	**2.40**	**257**	*eP*		**Pn**		**09 08 25.1**	**+2.2**
PCRV				*eS*		**Sn**		**09 08 52.9**	**+1.0**
SVOC	**Richmond Hill,**	**2.61**	**23**	*eS*		**Sn**		**09 08 56.3**	**-0.4**
SVOC	**Richmond Hill,**	**2.61**	**23**	*eP*		**Pn**		**09 08 28.4**	**+2.8**
SVT	**Saint Vincent**	**2.62**	**22**	*eS*		**Sn**		**09 08 56.3**	**-0.6**
SVB	**Belmont**	**2.71**	**21**	*eP*		**Pn**		**09 08 28.3**	**+1.4**
SVB				*eS*		**Sn**		**09 08 57.8**	**-1.3**
SLBI	**Saint Lucia, B**	**3.50**	**21**	*eP*		**Pn**		**09 08 38.4**	**+0.9**
SLBI				*eS*		**Sn**		**09 09 16.8**	**-1.3**
BIM	**Bigot**	**3.93**	**17**	*eP*		**Pn**		**09 08 44.9**	**+1.5**
BIM				*eS*		**Sn**		**09 09 26.8**	**-1.8**
LUEV	**Luepa**	**4.93**	**171**	*eP*		**Pn**		**09 08 58.0**	**+1.0**
LUEV				*eS*		**Sn**		**09 09 50.0**	**-2.9**
CACV	**CAICARA DEL OR**	**5.27**	**234**	*eP*		Pn		09 08 58.4	-3.0
CACV				*eS*		Sn		09 09 50.5	-10
BENV	**Beln**	**5.30**	**262**	*eP*		**Pn**		**09 09 03.4**	**+1.4**
BAUV	**El Baul**	**5.97**	**253**	*eP*		**Pn**		**09 09 11.2**	**+0.3**
BAUV				*eS*		**Sn**		**09 10 15.1**	**-2.9**
BAUV	**El Baul**	**5.97**	**253**	*eP*		**Pn**		**09 09 12.6**	**+1.7**
BAUV				*eS*		**Sn**		**09 10 16.1**	**-1.8**

*TRN **16** 09:09:05.5, 10.18N×62.14W, h31km, MD3.3, Gulf of Paria.*
*FUNV **16** 09:09:06.0, 10.39N×62.15W, h2km, MW3.3*
ISC 16 09:09:04.9±1.8, 10.21N±0.07×62.13W±0.04, h23km±19km, n16, σ1§22/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TPP	**Pointe-a-Pierr**	**0.67**	**81**	*eP*		**Pn**		**09 09 19.7**	**+0.7**
TRN	**Trinidad (W)**	**0.83**	**58**	*eP*		**Pb**		**09 09 20.5**	**-0.2**
TRN				*eS*		**Sn**		**09 09 32.7**	**-0.2**
CRUV	**Carupano**	**1.19**	**293**	*eP*		**Pn**		**09 09 25.7**	**-0.4**
CRUV				*eS*		**Sn**		**09 09 39.4**	**-2.1**
CRUV	**Carupano**	**1.19**	**293**	*eP*		**Pn**		**09 09 25.6**	**-0.4**
GRFF	**Grenada Fort F**	**1.87**	**12**	*eP*		**Pn**		**09 09 35.5**	**0.0**
GRFF				*eS*		**Sn**		**09 09 58.0**	**-0.4**
GRGR	**Grenville**	**1.97**	**14**	*eP*		**Pn**		**09 09 37.2**	**+0.4**
GRGR				*eS*		**Sn**		**09 10 00.8**	**-0.1**
GRW	**Mount Saint Ca**	**1.99**	**13**	*eP*		**Pn**		**09 09 36.8**	**-0.5**
GRW				*eS*		**Sn**		**09 10 00.9**	**-0.7**
CUMV	**Cumana_UDO**	**2.05**	**276**	*eP*		**Pb**		**09 09 41.1**	**-0.2**
GRHS	**Sauteurs**	**2.06**	**13**	*eS*		**Sn**		**09 10 02.3**	**-0.8**
GRSS	**Sisters**	**2.14**	**14**	*eP*		**Pn**		**09 09 39.5**	**+0.3**
GRSS				*eS*		**Sn**		**09 10 05.0**	**-0.1**
GCMP	**Grenada, Carri**	**2.37**	**17**	*eP*		**Pn**		**09 09 43.2**	**+0.9**
GCMP				*eS*		**Sn**		**09 10 10.7**	**0.0**
PCRV	**Puerto La Cruz**	**2.47**	**269**	*eP*		**Pn**		**09 09 45.5**	**+1.7**
PCRV				*eS*		**Sn**		**09 10 15.2**	**+1.8**
TACV	**Tcata**	**4.83**	**270**	*eP*		**Pn**		**09 10 18.6**	**+2.3**
CACV	**CAICARA DEL OR**	**5.09**	**239**	*eP*		**Pn**		**09 10 17.3**	**-2.6**
CACV				*eS*		Sn		09 11 09.5	-8.4
BENV	**Beln**	**5.39**	**268**	*eP*		**Pn**		**09 10 25.6**	**+1.5**
BAUV	**El Baul**	**5.97**	**258**	*eP*		**Pn**		**09 10 33.1**	**+1.2**
BAUV				*eS*		**Sn**		**09 11 38.6**	**-1.0**

*NNC **16** 09:36:16.4±0.6, 47.06N×77.64E, h15km±6km, mb4.2, mpv3.9, Error ellipse: s-maj=6.4km s-min=4.0km az=99.0*
*SOME **16** 09:36:20.5, 46.93N×77.58E, h20km*
ISC 16 09:36:14.9±0.7, 47.05N±0.02×77.63E±0.03, h10km, n60, σ1§66/92, 14C-13D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
TDK	**Taldyqorghan**	**2.11**	**165**	*eP*		**Pg**		**09 36 58.2**	**+2.9**
	114nm,0.2s								
TDK				*eS*		**Sg**		**09 37 25.2**	**+2.4**
	2µm,0.2s								
KAPS	**Kapalarasan**	**2.13**	**145**	*eP*		**Pg**		**09 36 55.5**	**-0.2**
	21nm,0.1s								
KAPS				*eS*		**Sb**		**09 37 20.4**	**+0.3**
	144nm,0.2s								
ARXS	**Arharly**	**2.84**	**177**	Pg		**Pg**		**09 37 08.5**	**-0.7**
	33nm,0.5s								
ARXS				Lg		Lg		09 37 43.7	
	357nm,0.5s								
ARXS	**Arharly**	**2.84**	**177**	*eP*		**Pg**		**09 37 08.8**	**-0.4**
	44nm,0.1s								
ARXS				*eS*		**Sg**		**09 37 43.7**	**-2.2**
	525nm,0.2s								
KNOS	**Konyrlen**	**2.90**	**157**	Pg		**Pg**		**09 37 09.8**	**-0.6**
	27nm,0.2s								
KNOS				Lg		Lg		09 37 45.6	
	126nm,0.6s								
MAKZ	**Makanchi**	**2.99**	**93**	Pn		**Pb**		**09 37 08.1**	**-0.1**
MAKZ				⇑Pg		**Pg**		**09 37 13.4**	**+1.3**
	12nm,0.5s								
MAKZ				⇓Lg		Lg		09 37 48.4	
	32nm,0.6s								
BLB	**Baldybastay**	**3.01**	**168**	Pg		**Pg**		**09 37 12.8**	**+0.3**
	338nm,0.8s								
BLB				Lg		Lg		09 37 50.5	
	348nm,0.5s								
DJR	**Jarkent**	**3.11**	**150**	Pg		**Pg**		**09 37 13.7**	**-0.7**
	14nm,0.6s								
DJR				Lg		Lg		09 37 52.1	
	81nm,0.4s								
DJR	**Jarkent**	**3.11**	**150**	*eP*		**Pg**		**09 37 13.7**	**-0.7**
	16nm,0.1s								
DJR				*eS*		**Sg**		**09 37 52.1**	**-2.5**
	81nm,0.2s								
BTLS	**Baital**	**3.20**	**233**	Pg		**Pg**		**09 37 15.4**	**-0.8**
	34nm,0.4s								
BTLS				Lg		Lg		09 37 55.0	
	21nm,0.6s								
BTLS	**Baital**	**3.20**	**233**	*eP*		**Pg**		**09 37 15.4**	**-0.8**
	32nm,0.1s								
BTLS				*eS*		**Sg**		**09 37 55.0**	**-2.6**
	109nm,0.3s								
MK31	**Makanchi Array**	**3.20**	**93**	⇑Pn		**Pn**		**09 37 06.0**	**+0.7**
	0.1nm,0.1s,baz=269,slow=15,SNR=165								
MK31				⇓Pg		**Pg**		**09 37 14.2**	**-2.0**
	1.7nm,0.2s,baz=273,slow=14,SNR=17								
MK31				⇑Lg		Lg		09 37 58.1	
	30nm,0.5s,baz=274,slow=28								
CHKK	**Chushkaly**	**3.22**	**188**	Pg		**Pg**		**09 37 15.9**	**-0.7**
	56nm,0.3s								
CHKK				Lg		Lg		09 37 56.1	
	355nm,0.4s								
CHKK	**Chushkaly**	**3.22**	**188**	*eP*		**Pg**		**09 37 15.9**	**-0.7**
	56nm,0.1s								
CHKK				*eS*		**Sg**		**09 37 56.1**	**-2.2**
	355nm,0.4s								
KUU	**Kurty**	**3.28**	**197**	Pg		**Pg**		**09 37 17.3**	**-0.4**
	74nm,0.6s								
KUU				Lg		Lg		09 37 58.8	
	243nm,0.5s								
KUU	**Kurty**	**3.28**	**197**	*eP*		**Pg**		**09 37 17.3**	**-0.4**
	79nm,0.2s								
KUU				*eS*		**Sg**		**09 37 58.8**	**-1.3**
	243nm,0.5s								
KTBS	**Karatobe**	**3.40**	**192**	Pg		**Pg**		**09 37 18.8**	**-1.2**
	58nm,0.4s								
KTBS				Lg		Lg		09 38 01.1	
	157nm,0.7s								
KTBS	**Karatobe**	**3.40**	**192**	*eP*		**Pg**		**09 37 18.8**	**-1.2**
	58nm,0.2s								
KTBS				*eS*		**Sg**		**09 38 01.1**	**-2.9**
	390nm,0.3s								
KRBS	**Karabastau**	**3.62**	**203**	Lg		Lg		09 38 07.8	
	70nm,0.3s								
KRBS	**Karabastau**	**3.62**	**203**	*eP*		**Pg**		**09 37 22.7**	**-1.5**
	36nm,0.1s								
KRBS				*eS*		**Sg**		**09 38 07.8**	**-3.4**
	101nm,0.2s								
KURBB	**Kurchatov Arra**	**3.63**	**9**	⇓Pn		**Pn**		**09 37 12.4**	**+1.3**
	2.0nm,0.7s,baz=182,slow=10								
KURBB				⇓Pg		**Pb**		**09 37 21.0**	**+1.9**
	16nm,0.6s								
KURBB				⇓Lg		Lg		09 38 07.2	
	270nm,0.7s								
KURK	**Kurchatov**	**3.73**	**10**	⇑Pn		**Pn**		**09 37 14.0**	**+1.5**
	1.5nm,0.4s								
KURK				⇑Pg		**Pb**		**09 37 22.4**	**+1.6**
	19nm,0.6s								
KURK				⇑Lg		Lg		09 38 08.8	
	64nm,0.6s								
OTUK	**Ortayu**	**3.77**	**290**	Pn		**Pn**		**09 37 13.4**	**+0.2**
OTUK				Pg		**Pg**		**09 37 25.1**	**-2.0**
OTUK				Lg		Lg		09 38 11.3	
KOTS	**Kotyrbulak**	**3.83**	**186**	Pg		**Pg**		**09 37 27.7**	**-0.5**
	16nm,0.3s								
KOTS				Lg		Lg		09 38 16.2	
	180nm,0.4s								
KOTS	**Kotyrbulak**	**3.83**	**186**	*eP*		**Pg**		**09 37 27.7**	**-0.5**
	16nm,0.2s								
KOTS				*eS*		**Sg**		**09 38 16.2**	**-1.6**
	211nm,0.3s								
AAA	**Alma-Ata**	**3.87**	**188**	Pg		**Pg**		**09 37 29.3**	**+0.4**
	55nm,0.3s								
AAA				Lg		Lg		09 38 18.7	
	139nm,0.6s								
MDOK	**Medeo**	**3.90**	**186**	⇓Pn		**Pn**		**09 37 15.7**	**+0.6**
	3.8nm,0.4s								
MDOK				⇑Pg		**Pg**		**09 37 28.0**	**-1.6**
	58nm,0.8s								
MDOK				Pg		Pb		09 37 29.2	+5.3
	35nm,0.6s								
MDOK				⇑Lg		Lg		09 38 18.4	
	56nm,0.6s								
MDOK				Lg		Lg		09 38 19.0	
	104nm,0.6s								
MDOK	**Medeo**	**3.90**	**186**	*eP*		**Pg**		**09 37 29.2**	**-0.4**
	8.0nm,0.2s								
MDOK				*eS*		**Sg**		**09 38 19.0**	**-1.2**
	104nm,0.6s								
ZHN	**Zhinishke**	**3.92**	**171**	Pg		**Pg**		**09 37 28.5**	**-1.5**
	11nm,0.2s								
ZHN				Lg		Lg		09 38 17.4	
	86nm,0.3s								
ZHN	**Zhinishke**	**3.92**	**171**	*eP*		**Pg**		**09 37 28.5**	**-1.5**
	11nm,0.2s								
ZHN				*eS*		**Sg**		**09 38 17.4**	**-3.3**
	138nm,0.2s								
PDGK	**Podgornoye**	**3.94**	**160**	Lg		Lg		09 38 17.3	
	29nm,0.6s								
PDGK	**Podgornoye**	**3.94**	**160**	⇓Pn		**Pn**		**09 37 16.0**	**+0.5**
	4.5nm,0.5s								
PDGK				⇑Sn		**Sn**		**09 37 59.7**	**-2.2**
	20nm,0.5s								
PDGK				⇓Lg		Lg		09 38 19.9	
	74nm,0.7s								
UZB	**Uzymbulak**	**4.02**	**165**	Pg		**Pg**		**09 37 30.4**	**-1.5**
	4.0nm,0.3s								
UZB				Lg		Lg		09 38 20.8	
	71nm,0.8s								
UZB	**Uzynbulak**	**4.02**	**165**	*eP*		**Pg**		**09 37 30.4**	**-1.5**
	4.0nm,0.3s								
UZB				*eS*		**Sg**		**09 38 20.8**	**-3.2**
	71nm,0.8s								
SATY	**Saty**	**4.02**	**172**	Pg		**Pg**		**09 37 31.5**	**-0.4**
	7.8nm,0.2s								
SATY				Lg		Lg		09 38 22.6	
	99nm,0.8s								
SATY	**Saty**	**4.02**	**172**	*eP*		**Pg**		**09 37 31.5**	**-0.4**
	7.8nm,0.2s								
SATY				*eS*		**Sg**		**09 38 22.6**	**-1.4**
	240nm,0.4s								
DGS	**Degeres**	**4.02**	**200**	Pg		**Pg**		**09 37 31.8**	**-0.1**
	43nm,0.2s								
DGS				Lg		Lg		09 38 23.0	
	203nm,0.5s								
DGS	**Degeres**	**4.02**	**200**	*eP*		**Pg**		**09 37 31.8**	**-0.1**
	25nm,0.2s								
DGS				*eS*		**Sg**		**09 38 23.0**	**-1.0**
	145nm,0.3s								
TNSS	**Tian-Shan**	**4.04**	**187**	Pg		**Pg**		**09 37 32.4**	**+0.2**
	8.0nm,0.3s								
TNSS	**Tian-Shan**	**4.04**	**187**	*eP*		**Pg**		**09 37 32.4**	**+0.2**
	10nm,0.2s								
TNSS				*eS*		**Sg**		**09 38 24.4**	**-0.1**
	31nm,0.2s								
IZV	**Izvestkoviy**	**4.07**	**191**	Pg		**Pg**		**09 37 32.4**	**-0.4**
	7.0nm,0.6s								
IZV				Lg		Lg		09 38 24.2	
	66nm,0.6s								
IZV	**Izvestkoviy**	**4.07**	**191**	*eP*		**Pg**		**09 37 32.5**	**-0.4**
	9.0nm,0.2s								
IZV				*eS*		**Sg**		**09 38 24.2**	**-1.4**
	66nm,0.6s								
KTMS	**Ketmen**	**4.08**	**151**	Pg		**Pg**		**09 37 31.8**	**-1.2**
	3.3nm,0.3s								
KTMS				Lg		Lg		09 38 23.0	
	21nm,0.7s								
KTMS	**Ketmen**	**4.08**	**151**	*eP*		**Pg**		**09 37 31.8**	**-1.2**
	3.3nm,0.1s								
KTMS				*eS*		**Sg**		**09 38 23.0**	**-2.8**
	31nm,0.2s								
SHLS	**Shalkode**	**4.10**	**161**	Pg		**Pg**		**09 37 33.7**	**+0.4**
	26nm,0.5s								
SHLS				Lg		Lg		09 38 26.6	
	140nm,0.7s								
SHLS	**Shalkode**	**4.10**	**161**	*eP*		**Pg**		**09 37 33.7**	**+0.4**
	30nm,0.2s								
SHLS				*eS*		**Sg**		**09 38 26.6**	**+0.2**
	196nm,0.4s								
SGDS	**Sogindy**	**4.17**	**212**	Pg		**Pg**		**09 37 33.4**	**-1.3**
	19nm,0.5s								
SGDS				Lg		Lg		09 38 26.3	
	54nm,0.5s								
KST	**Kastek**	**4.17**	**197**	Pg		**Pg**		**09 37 33.8**	**-1.0**
	42nm,0.5s								
KST				Lg		Lg		09 38 26.6	
	72nm,0.8s								
KST	**Kastek**	**4.17**	**197**	*eP*		**Pg**		**09 37 33.8**	**-1.0**
	11nm,0.2s								
KST				*eS*		**Sg**		**09 38 26.6**	**-2.3**
	42nm,0.3s								
TKM2	**Tokmak 2**	**4.37**	**200**	⇓Pn		**Pn**		**09 37 22.1**	**+0.7**
	1.9nm,0.4s								
TKM2				⇑Pg		**Pb**		**09 37 33.4**	**+1.6**
	12nm,0.5s								
TKM2				⇓Sn		**Sn**		**09 38 16.2**	**+3.7**
	6.2nm,0.3s								
TKM2				⇑Lg		Lg		09 38 32.3	
	32nm,0.5s								
BRZS	**Berezniki**	**4.41**	**314**	*eP*		**Pg**		**09 37 38.7**	**-0.7**
	5.9nm,0.1s								
BRZS				*eS*		**Sg**		**09 38 35.2**	**-1.2**
	122nm,0.5s								
CHMS	**Chumysh**	**4.53**	**208**	Pn		**Pg**		**09 37 40.6**	**-1.0**
CHMS				Lg		Lg		09 38 37.8	
AAK	**Ala-Archa**	**4.94**	**208**	⇑Pn		**Pn**		**09 37 31.1**	**+1.8**
	18nm,0.6s								
AAK				⇑Lg		Lg		09 38 50.8	
	111nm,1.0s								
ZSN	**Zaisan**	**4.94**	**83**	*eP*		**Pg**		**09 37 47.7**	**-1.9**
	2.9nm,0.2s								
ZSN				*eS*		**Sg**		**09 38 50.6**	**-2.9**
	29nm,0.5s								
MRKS	**Merke**	**5.32**	**218**	Lg		Lg		09 39 02.5	
	24nm,0.4s								
MRKS	**Merke**	**5.32**	**218**	*eP*		**Pg**		**09 37 54.6**	**-2.1**
	13nm,0.2s								
MRKS				*eS*		**Sg**		**09 39 02.5**	**-3.0**
	56nm,0.3s								
KK31	**Karatay Array**	**6.40**	**235**	Pn		**Pn**		**09 37 49.9**	**+0.7**
	3.2nm,0.4s,baz=54,slow=13,SNR=47								
KK31				Pg		Pb		09 38 00.8	-5.4
	baz=52,slow=14								
KK31				⇓Sn		**Sn**		**09 39 07.7**	**+5.5**
	8.7nm,0.5s								
BVA0	**Borovoye Array**	**7.58**	**325**	⇓Pn		**Pn**		**09 38 06.4**	**+1.0**
	1.9nm,0.6s,baz=139,slow=12,SNR=11								
BVA0				⇓Sn		**Sn**		**09 39 31.1**	**-0.3**
	5.0nm,0.7s,baz=131,slow=19,SNR=4.6								
BVA0				⇑Lg		Lg		09 40 10.4	
	26nm,0.7s,baz=132,slow=24								
BRVK	**Borovoye**	**7.65**	**325**	Pn		**Pn**		**09 38 07.1**	**+0.8**
BRVK				Sn		**Sn**		**09 39 30.8**	**-2.2**
AB31	**Akbulak array**	**12.02**	**287**	P		**Pn**		**09 39 04.8**	**-1.4**
	0.2nm,0.2s,baz=106,slow=7.0,SNR=3.5								

*ISN **16** 09:38:04.1±0.6, 34.67N×47.47E, h14km±3km, ML2.8*
TEH 16 09:38:09.6, 34.68N×47.98E, h9km, ML2.3, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
IBZA	**Bozab**	**0.23**	**204**			Pg	Pg	09 38 11.8	-2.6
IBZA						Sg	Sg	09 38 18.8	+1.1
SNQR	**Sonqor, Kerman**	**0.34**	**302**			Pg	Pg	09 38 09.7	-6.7
HSAM	**Samen**	**0.70**	**132**			Pg	Pg	09 38 23.6	+0.5
HSAM	**Samen**	**0.70**	**132**			Pg	Pb	09 38 23.9	-0.2
ILIN	**Lien**	**0.87**	**286**			Pg	Pg	09 38 13.1	-13
KCHF	**Cheshme Sefid,**	**0.87**	**243**			Pg	Pg	09 38 13.6	-13
HAGD	**Aghdareh**	**0.97**	**81**			Pg	Pn	09 38 29.5	-0.1
HAGD	**Aghdareh**	**0.97**	**81**			Pg	Pn	09 38 29.3	-0.4
IKFM	**Kafar-mosalman**	**1.16**	**185**			Pg	Pb	09 38 25.8	-5.9
IGHG	**Ghaleghazi**	**1.21**	**254**			Pg	Pb	09 38 19.0	-14
IDHR	**Dehrash**	**1.31**	**271**			Pg	Pn	09 38 20.4	-14
QABG	**Abgarm-Qazvin**	**1.67**	**52**			Pg	Pg	09 38 41.4	-0.3
IRAZ	**Razeghan**	**1.76**	**65**			Pg	Pg	09 38 42.9	-0.5
IBDR	**Badra**	**2.31**	**228**	*e*		Pg	Pn	09 38 40.5	-7.4
IBDR				*e*		Sg	Sn	09 39 07.0	-9.4
IBDR						AML	AML	09 39 13.8	
	comp=N,80nm,0.5s								
IBDR						AML	AML	09 39 16.9	
	comp=E,82nm,0.5s								
IKRK	**Kirkuk**	**3.07**	**285**	*e*		Pn	Pn	09 38 48.5	-10
IKRK				*e*		Sn	Sn	09 39 21.0	-14
IKRK						AML	AML	09 39 36.8	
	comp=E,79nm,0.6s								
IKRK						AML	AML	09 39 39.1	
	comp=N,82nm,0.5s								
IVRN	**Varamin**	**3.10**	**83**			Pn	Pb	09 39 02.0	-2.9
BHD	**Baghdad**	**3.30**	**246**	*e*		Pn	Pn	09 38 52.0	-9.5
BHD				*e*		Sn	Sn	09 39 27.0	-14
RAFI	**Al-Rafai**	**3.34**	**208**	*e*		Pn	Pn	09 38 55.0	-6.9
RAFI				*e*		Sn	Sn	09 39 33.0	-8.7
IDMV	**Damavand**	**3.44**	**74**			Pn	Pn	09 39 06.7	+3.0
ISFB	**Sefidab**	**3.54**	**94**			Pn	Pn	09 39 08.5	+3.7

*IDC **16** 09:42:07.6±9.7, 25.04S×179.11E, h619km±111km, mb2.7/5, mbtmp3.7/5, Error ellipse: s-maj=62.7km s-min=28.3km az=55.0*
ISC 16 09:42:04.3±0.9, 25.66S±0.2×179.5E±0.2, h600km, n24, σ1§12/20, mb3.4/5, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
KUZ	**Kuaotunu**	**11.60**	**195**			P	P	09 44 43.9	+5.1
MBAZ	**Motutapu North**	**11.84**	**198**			P	P	09 44 49.2	+7.9
MKAZ	**Moumakai**	**12.08**	**197**			P	**P**	**09 44 44.4**	**+0.8**
HAZ	**Te Kaha**	**12.24**	**186**			P	**P**	**09 44 44.5**	**-0.8**
PUZ	**Puketiti**	**12.52**	**185**			P	**P**	**09 44 49.2**	**+

RIM	**Rim**	**0.01**	**108**	Pg	Pg	09 48 03.2	+0.4	
OBL	**Observatory Le**	**0.02**	**15**	Pg	Pg	09 48 03.2	+0.3	
UWE	**Uwekahuna**	**0.02**	**350**	Pg	Pg	09 48 03.3	+0.4	
KKO	**Keanakako`i**	**0.02**	**96**	Pg	Pg	09 48 03.4	+0.5	
UWB	**Uwekahuna B**	**0.03**	**23**	Pg	Pg	09 48 03.3	+0.4	
BYL	**Byron's Ledge**	**0.03**	**66**	Pg	Pg	09 48 03.5	+0.6	
BYL				IAML		09 48 03.6		
	comp=N,5μm,0.6s							
SBLHI	**Steaming Bluff**	**0.03**	**36**		Pg	09 48 03.3	+0.3	
HATHI	**Halema'uma'u T**	**0.04**	**49**		Pg	09 48 02.8	-0.2	
HATHI				IAML		09 48 03.4		
	comp=E,5μm,0.6s							
HATHI				IAML		09 48 03.4		
	comp=N,5μm,0.6s							
RSD	**Rainshed**	**0.06**	**9**	IAML		09 48 04.1		
	comp=N,2μm,0.9s							
RSD				Pg	Pg	09 48 04.3	+0.6	
PUH	**Pauahi**	**0.07**	**111**	Pg	Pg	09 48 04.6	+0.8	
HLP	**Hilina Pali**	**0.10**	**190**		Pg	09 48 05.3	+1.0	
HLP				IAML		09 48 07.3		
	comp=N,2μm,0.8s							
KNHH	**Kane Nui o Ham**	**0.12**	**100**		Pg	09 48 06.0	+1.5	
MLH	**Mauna Loa**	**0.13**	**316**	Pg	Pg	09 48 06.0	+1.1	
MLH				IAML		09 48 08.8		
	comp=E,919nm,0.5s							
STCH	**Steam Cracks**	**0.15**	**95**		Pg	09 48 05.5	+0.2	
STCH				IAML		09 48 07.2		
	comp=N,673nm,1.2s							
STCH				IAML		09 48 09.0		
	comp=E,762nm,1.0s							
HTC	**Hot Caves**	**0.19**	**212**		Pg	09 48 06.8	+0.9	
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg	Pg	09 48 08.3	+0.8	
HMH				IAML		09 48 13.3		
	comp=E,433nm,1.4s							
HMH				IAML		09 48 13.8		
	comp=N,347nm,1.4s							
KHU	**Kahuku**	**0.34**	**244**		Pg	09 48 09.2	+0.3	
HUH	**Hualalai**	**0.59**	**299**	Pg	Pg	09 48 14.1	+0.5	
CPH	**Captain Cook**	**0.60**	**279**		Pg	09 48 13.8	0.0	

IDC 16 09:55:10.3±2.6, 54°07N×86°53E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=21.8km s-min=12.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**264**	I	I	10 02 10.0	
	baz=83,slow=332,SNR=6.3						
ZALV	**Zalesovo Beam**	**1.01**	**264**	Pg	Pg	09 55 29.1	-0.6
	0.6nm,0.3s,baz=85,slow=16,SNR=5.9						
ZALV				Lg	Lg	09 55 44.1	
	1.4nm,0.3s,baz=82,slow=29,SNR=8.0						
KURBB	**Kurchatov Arra**	**5.99**	**238**	Pn	Pn	09 56 40.3	+0.2
	0.1nm,0.3s,baz=57,slow=14,SNR=4.9						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	09 57 06.0	+1.4
	0.1nm,0.3s,baz=24,slow=13,SNR=10						
MKAR				Sn	Sn	09 58 32.6	-0.5
	0.1nm,0.3s,baz=22,slow=28,SNR=2.3						
MKAR				Lg	Lg	09 59 17.3	
	baz=34,slow=32,SNR=2.2						
	0.2nm,0.3s						

*NEIC **16** 10:00:43.0±1.2, 19°.44N±0°.02×154°.99W±0°.01, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.8km az=147.0*
HVO 16 10:00:42.5±1.3, 19°.39N±0°.03×154°.97W±0°.01, h6km±4km, ML3.0/12, ML3.2/26(NEIC), Error ellipse: s-maj=3.9km s-min=1.2km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.06**	**321**		Pg	10 00 44.2	0.0
JCUZ	**Jacuzzi**	**0.13**	**268**		Pg	10 00 45.1	-0.1
JCUZ				IAML		10 00 47.9	
	comp=E,7μm,0.7s						
NPOC	**North of Pu'u**	**0.14**	**272**		Pg	10 00 45.3	0.0
NPOC				IAML		10 00 48.0	
	comp=E,10μm,0.6s						
STCH	**Steam Cracks**	**0.15**	**269**		Pg	10 00 45.6	0.0
STCH				IAML		10 00 48.1	
	comp=E,9μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.19**	**267**		Pg	10 00 46.2	-0.2
PUH	**Pauahi**	**0.24**	**267**	Pg	Pg	10 00 46.8	-0.4
RSD	**Rainshed**	**0.30**	**284**		Pg	10 00 48.8	+0.2
RSD				IAML		10 00 55.4	
	comp=E,2μm,0.5s						
RSD				IAML		10 00 58.0	
	comp=N,2μm,0.4s						
HLP	**Hilina Pali**	**0.34**	**254**		Pg	10 00 49.5	+0.4
HLP				IAML		10 00 55.2	
	comp=N,3μm,0.2s						
MLH	**Mauna Loa**	**0.41**	**285**		Pg	10 00 50.4	-0.1
MLH				IAML		10 01 00.1	
	comp=E,2μm,0.4s						
HTC	**Hot Caves**	**0.43**	**250**		Pg	10 00 51.0	+0.1
HMH	**Humu'ula Sheep**	**0.53**	**294**		Pg	10 00 52.6	-0.2
MLOA	**Mauna Loa Obse**	**0.59**	**284**		Pg	10 00 53.4	-0.7
MLOA					Sg	10 01 01.6	-0.3
MLOA				IAML		10 01 02.1	
	comp=N,2μm,1.0s						
MWH	**Moku'aweowe**	**0.60**	**279**	Pg	Pg	10 00 53.3	-0.9
MWH				IAML		10 01 08.8	
	comp=N,2μm,0.8s						
KHU	**Kahuku**	**0.63**	**257**		Pg	10 00 53.4	-1.2
KHU				IAML		10 01 03.9	
	comp=N,938nm,0.8s						
KHU				IAML		10 01 12.8	
	comp=E,931nm,1.4s						
POHA	**Pohakuloa**	**0.65**	**305**		Pg	10 00 53.8	-1.2
POHA				IAML		10 01 08.6	
	comp=E,1μm,0.7s						
POHA				IAML		10 01 18.2	
	comp=E,1μm,0.9s						
POHA	**Pohakuloa**	**0.65**	**305**		Sg	10 00 54.1	-9.5
ALEP	**Alea Permanent**	**0.66**	**283**		Pg	10 00 53.9	-1.3
ALEP					Sg	10 01 03.5	-0.4

*GII **16** 10:40:55.3±0.2, 29°.988N±0°.001×34°.805E±0°.001, h0km, confirmed*
*IDC **16** 10:40:56.2±2.4, 30°.00N×34°.79E, h0km, Error ellipse: s-maj=34.9km s-min=12.5km az=77.0*
ISC 16 10:40:56.3±1.1, 30°.01N±0°.03×34°.81E±0°.05, h0km, n19, σ0s89/16, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRMI	**Paran Flat**	**0.13**	**327**	P	**Pg**	**10 40 58.8**	**-0.1**
HRFI	**Mount Harif**	**0.20**	**81**	P	**Pg**	**10 40 59.6**	**-0.6**
HRFI	**Mount Harif**	**0.20**	**81**	S	**Sg**	**10 41 03.9**	**+1.1**
MBRI	**Mt Berech**	**0.23**	**156**	P	**Pg**	**10 41 00.3**	**-0.4**
MBRI	**Mt Berech**	**0.23**	**156**	S	**Sg**	**10 41 04.9**	**+1.2**
EIL	**Elat**	**0.36**	**160**	Pg	**Pg**	**10 41 02.9**	**-0.3**
	8.3nm,0.3s,baz=338,slow=9.3,SNR=148						
EIL				Lg	Lg	10 41 08.3	
	16nm,0.3s,baz=342,slow=9.4,SNR=19						
EIL	**Elat**	**0.36**	**160**	P	**Pg**	**10 41 02.5**	**-0.6**
EIL	**Elat**	**0.36**	**160**	S	**Sg**	**10 41 08.3**	**+0.5**
PRNI	**Paran**	**0.39**	**26**	P	**Pg**	**10 41 04.1**	**+0.3**
PRNI	**Paran**	**0.39**	**26**	S	**Sb**	**10 41 11.0**	**-1.6**
ZFRI	**Zfri**	**0.63**	**30**	P	**Pg**	**10 41 09.0**	**+0.5**
KZIT	**Kziot**	**0.96**	**339**	P	**Pg**	**10 41 14.5**	**-0.3**
YTIR	**Yattir**	**1.38**	**11**	P	**Pg**	**10 41 21.9**	**-0.8**
MSBI	**Mazada**	**1.39**	**20**	P	**Pg**	**10 41 21.6**	**-1.3**
DSI	**Dead Sea**	**1.64**	**17**	P	**Pn**	**10 41 26.0**	**-0.4**
MMAI	**Mount Meron Ar**	**3.04**	**9**	Pg	**Pb**	**10 41 52.4**	**+1.0**
	1.8nm,0.3s,baz=174,slow=14,SNR=4.1						
I48TN	**KESRA INFRASON**	**22.13**	**292**	I	I	12 48 26.4	
	0.1nm,0.7s,baz=99,slow=317,SNR=14						
I26DE	**FREYUNG INFRAS**	**24.75**	**325**	I	I	13 12 40.0	
	baz=131,slow=326,SNR=2.0						
I43RU	**DUBNA INFRASON**	**26.76**	**3**	I	I	13 27 50.0	
	baz=186,slow=322,SNR=3.5						

*JMA **16** 10:47:53.9±0.1, 23°.4N±0°.6×122°.0E±0°.6, h38km, MV3.5/18, TAIWAN REGION*
*TAP **16** 10:47:54.7, 23°.42N×121°.96E, h39km, ML3.5, D*
*ASIES **16** 10:47:54.7, 23°.42N×121°.96E, h39km, ML3.5, Mw3.0, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}2.12; $M_{\theta\theta}$1.69; $M_{\phi\phi}$-3.89; $M_{r\theta}$-2.14; $M_{\theta\phi}$0.34; $M_{\phi r}$-1.22;*

Fault plane solution: M_o4.17283×10^{20} NP1: ϕ_s210.71000°, δ67.15000°, λ133.64000°. NP2: ϕ_s322.87000°, δ48.17000°, λ31.41000°. Principal axes: T Plg48.2600°, Azm167.8470°; N Plg39.4890°, Azm10.3920°; P Plg11.3610°, Azm270.8620°;
ISC 16 10:47:53.5±1.0, 23°.40N±0°.02×122°.00E±0°.02, h25km±10km, n159, σ0s86/300, 33C-62D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ECBN	**Changbin**	**0.51**	**261**	⇓P	**Pb**	**10 48 04.7**	**+0.7**
	baz=252						
ECBN				S	**Sb**	**10 48 12.0**	**+1.0**
	baz=252						
HGSD	**Ruisui**	**0.54**	**280**	⇓P	**Pb**	**10 48 04.4**	**+0.1**
	baz=278						
HGSD				*e*S	**Sb**	**10 48 11.5**	**-0.3**
	baz=278						
SHUL	**Shoufeng**	**0.56**	**314**	⇑P	**Pb**	**10 48 05.2**	**+0.4**
	baz=315						
SHUL				*e*S	**Sb**	**10 48 13.0**	**+0.7**
	baz=315						
EGFH	**Guangfu**	**0.59**	**297**	⇓P	**Pb**	**10 48 05.5**	**+0.2**
	baz=304						
EGFH				S	**Sb**	**10 48 13.9**	**+0.7**
	baz=304						
CHKH	**Chenggong**	**0.59**	**250**	⇓P	**Pb**	**10 48 05.4**	**+0.1**
	baz=241						
CHKH				*e*S	**Sb**	**10 48 13.2**	**-0.1**
	baz=241						
EHYH	**Wanrong**	**0.61**	**279**	⇓P	**Pb**	**10 48 06.0**	**+0.5**
	baz=278						
EHYH				*e*S	**Sb**	**10 48 14.1**	**+0.3**
	baz=278						
EYUL	**Yuli**	**0.63**	**265**	⇓*i*P	**Pb**	**10 48 06.2**	**+0.3**
	baz=254						
EYUL				S	**Sb**	**10 48 14.9**	**+0.6**
	baz=254						
EHY	**Hungye**	**0.63**	**280**	⇓*i*P	**Pb**	**10 48 06.2**	**+0.2**
	baz=278						
EHY				S	**Sb**	**10 48 15.0**	**+0.5**
	baz=278						
YULB	**Yu-li**	**0.65**	**270**	P	**Pb**	**10 48 06.2**	**0.0**
YULB	**Yu-li**	**0.65**	**270**	⇓P	**Pb**	**10 48 06.3**	**0.0**
	baz=265						
YULB				S	**Sb**	**10 48 15.9**	**+1.1**
	baz=265						
WARBT	**Fenglin Townsh**	**0.65**	**300**	⇓*i*P	**Pb**	**10 48 06.3**	**+0.1**
	baz=304						
WARBT				*i* S	**Sb**	**10 48 14.5**	**-0.4**
	baz=304						
TWF1	**Yuli**	**0.65**	**266**	⇓P	**Pb**	**10 48 06.3**	**+0.1**
	baz=257						
TWF1				S	**Sb**	**10 48 16.0**	**+1.1**
	baz=257						
CHKT	**Chengkung**	**0.66**	**243**	⇓P	**Pb**	**10 48 06.3**	**-0.1**
	baz=233						
CHKT				S	**Sb**	**10 48 15.0**	**0.0**
	baz=233						
ESL	**Shilin**	**0.66**	**309**	⇓P	**Pb**	**10 48 06.1**	**-0.5**
	baz=309						
ESL				S	**Sb**	**10 48 14.0**	**-1.4**
	baz=309						
FULB	**Fuli**	**0.68**	**253**	⇑P	**Pb**	**10 48 06.6**	**-0.2**
	baz=242						
FULB				S	**Sb**	**10 48 15.9**	**+0.1**
	baz=242						
HWA	**Hwalien**	**0.68**	**328**	⇑*i*P	**Pb**	**10 48 06.7**	**-0.1**
	baz=336						
HWA				S	**Sb**	**10 48 16.5**	**+0.7**
	baz=336						
ETM	**Tongmen**	**0.73**	**321**	⇓*e*P	**Pb**	**10 48 07.0**	**-0.6**
	baz=321						
ETM				*e*S	**Sb**	**10 48 16.1**	**-1.2**
	baz=321						
EDH	**Donghe**	**0.77**	**237**	⇑*i*P	**Pb**	**10 48 08.1**	**-0.2**
	baz=230						
EDH				*e*S	**Sb**	**10 48 18.1**	**-0.2**
	baz=230						
EHD	**Haiduan**	**0.77**	**251**	⇑P	**Pb**	**10 48 08.1**	**-0.2**
	baz=245						
EHD				*e*S	**Sb**	**10 48 18.1**	**-0.3**
	baz=245						
TWD	**Chiawan**	**0.77**	**331**	⇓P	**Pb**	**10 48 07.9**	**-0.4**
	baz=333						
TWD				S	**Sb**	**10 48 17.6**	**-0.8**
	baz=333						
EOS4	**EOS4**	**0.78**	**22**	*e*P	**Pn**	**10 48 08.7**	**+0.2**
	baz=15						
EOS4				*e*S	**Sb**	**10 48 18.6**	**+0.4**
	baz=15						
ECS	**Chishang**	**0.78**	**247**	⇑P	**Pb**	**10 48 08.7**	**+0.2**
	baz=239						
LXIB	**Xiulin Townshi**	**0.82**	**319**	⇓P	**Pb**	**10 48 08.6**	**-0.6**
	baz=320						
LXIB				*e*S	**Sb**	**10 48 19.4**	**-0.6**
	baz=320						
ETL	**Fush Village**	**0.83**	**336**	⇓P	**Pb**	**10 48 08.7**	**-0.7**
	baz=337						
ETL				S	**Sb**	**10 48 19.7**	**-0.5**
	baz=337						
NACB	**Ninganchiao**	**0.86**	**334**	P	**Pb**	**10 48 08.7**	**-1.1**
NACB	**Ninganchiao**	**0.86**	**334**	⇑P	**Pb**	**10 48 08.9**	**-0.9**
	baz=335						
NACB				S	**Sb**	**10 48 19.5**	**-1.3**
	baz=335						
VWDT	**VWDT**	**0.86**	**294**	⇓P	**Pb**	**10 48 09.8**	**0.0**
	baz=294						
VWDT				*e*S	**Sb**	**10 48 21.0**	**-0.1**
	baz=294						
LDUT	**Ludao**	**0.87**	**214**	⇓*i*P	**Pb**	**10 48 09.8**	**-0.2**
	baz=212						
LDUT				*e*S	**Sb**	**10 48 20.1**	**-1.1**
	baz=212						
ELDTW	**Lidau**	**0.93**	**257**	⇓*i*P	**Pn**	**10 48 10.3**	**-0.7**
	baz=246						
ELDTW				*i* S	**Sb**	**10 48 21.5**	**-1.5**
	baz=246						
EOS3	**EOS3**	**0.93**	**18**	⇓P	**Pb**	**10 48 11.3**	**+0.4**
	baz=15						
EOS3				S	**Sn**	**10 48 23.2**	**-0.1**
	baz=15						
OWD	**Renai**	**0.94**	**306**	⇑P	**Pn**	**10 48 10.7**	**-0.5**
	baz=306						
OWD				*e*S	**Sb**	**10 48 21.8**	**-1.5**
	baz=306						
LONT	**Longtian**	**0.94**	**239**	⇑P	**Pn**	**10 48 11.1**	**0.0**
	baz=232						
LONT				*e*S	**Sb**	**10 48 23.4**	**+0.2**
	baz=232						
EAHA	**Aohua**	**0.96**	**346**	⇑P	**Pn**	**10 48 10.7**	**-0.6**
	baz=347						
EAHA				*e*S	**Sb**	**10 48 23.3**	**-0.5**
	baz=347						
WUSB	**Renai**	**1.00**	**306**	⇓P	**Pn**	**10 48 11.8**	**-0.3**
	baz=306						
WUSB				S	**Sb**	**10 48 23.9**	**-1.2**
	baz=306						
WHF	**Hehuan Shan**	**1.00**	**318**	⇑*i*P	**Pn**	**10 48 11.8**	**-0.5**
	baz=319						
WHF				*i* S	**Sb**	**10 48 24.3**	**-1.1**
	baz=319						
CHGB	**Renai**	**1.00**	**311**	⇓P	**Pn**	**10 48 11.9**	**-0.3**
	baz=311						
CHGB				S	**Sb**	**10 48 24.3**	**-1.0**
	baz=311						
TTN	**Taitung**	**1.01**	**231**	*e*P	**Pn**	**10 48 12.2**	**+0.1**
	baz=228						
TTN				*e*S	**Sb**	**10 48 25.2**	**-0.1**
	baz=228						
TWGBT	**Beinan**	**1.02**	**236**	P	**Pn**	**10 48 11.9**	**-0.4**
TWGBT	**Beinan**	**1.02**	**236**	⇓P	**Pn**	**10 48 11.9**	**-0.4**
	baz=247						
TWGBT				*e*S	**Sb**	**10 48 24.9**	**-0.8**
	baz=247						
TWG	**Pinlang**	**1.03**	**236**	⇓P	**Pn**	**10 48 11.9**	**-0.5**
	baz=247						
TWG				S	**Sb**	**10 48 24.7**	**-1.1**
	baz=247						
SSLB	**Suanglung**	**1.03**	**292**	P	**Pn**	**10 48 12.0**	**-0.4**
SSLB	**Suanglung**	**1.03**	**292**	⇓*i*P	**Pn**	**10 48 12.1**	**-0.4**
	baz=292						
SSLB				*e*S	**Sn**	**10 48 24.7**	**-1.4**
	baz=292						
EOS2	**EOS2**	**1.04**	**12**	⇑*e*P	**Pb**	**10 48 13.0**	**+0.2**
	baz=8.0						
EOS2				*e*S	**Sb**	**10 48 27.2**	**+1.3**
	baz=8.0						
ENA	**Nanau**	**1.05**	**347**	⇑P	**Pn**	**10 48 12.3**	**-0.4**
	baz=348						
ENA				*i* S	**Sn**	**10 48 25.5**	**-1.0**
	baz=348						
EWUT	**Wuta**	**1.06**	**349**	⇓*i*P	**Pn**	**10 48 12.7**	**-0.1**
	baz=350						
EWUT				*e*S	**Sn**	**10 48 25.4**	**-1.3**
	baz=350						
FUSS	**Fushou**	**1.09**	**321**	⇓*i*P	**Pn**	**10 48 13.4**	**-0.1**
	baz=331						
FUSS				S	**Sn**	**10 48 26.3**	**-1.6**
	baz=331						
WHYT	**Xinyi Township**	**1.09**	**286**	⇓P	**Pn**	**10 48 13.8**	**+0.6**
	baz=281						
WHYT				*e*S	**Sn**	**10 48 27.4**	**-0.2**
	baz=281						
ALS	**Alishan**	**1.10**	**276**	⇓P	**Pn**	**10 48 14.1**	**+0.5**
	baz=275						
ALS				*e*S	**Sn**	**10 48 28.1**	**-0.1**
	baz=275						
SMLT	**Sun Moon Lake**	**1.12**	**296**	⇓P	**Pn**	**10 48 13.8**	**+0.1**
	baz=301						
SMLT				*e*S	**Sn**	**10 48 28.3**	**0.0**
	baz=301						
TWT	**Tachien**	**1.14**	**319**	*e*P	**Pn**	**10 48 14.6**	**+0.6**
	baz=318						
TWT				*e*S	**Sn**	**10 48 27.6**	**-1.3**
	baz=318						
TDCB	**Techi**	**1.15**	**318**	⇓P	**Pn**	**10 48 14.4**	**+0.2**
	baz=318						
TDCB				*e*S	**Sn**	**10 48 27.5**	**-1.6**
	baz=318						
STYH	**Taoyuan**	**1.15**	**259**	⇓P	**Pn**	**10 48 14.3**	**+0.4**
	baz=253						
STYH				*e*S	**Sn**	**10 48 28.6**	**-0.2**
	baz=253						
TYC	**Yuchr**	**1.16**	**296**	⇓*i*P	**Pn**	**10 48 14.4**	**+0.2**
	baz=304						
TYC				*e*S	**Sn**	**10 48 29.6**	**+0.3**
	baz=304						
NNSB	**Datong**	**1.17**	**331**	⇑P	**Pn**	**10 48 14.3**	**-0.1**
	baz=332						
NNSB				S	**Sn**	**10 48 28.6**	**-1.0**
	baz=332						
ESAO	**Su ao**	**1.18**	**353**	⇑*i*P	**Pn**	**10 48 14.7**	**+0.3**
	baz=354						
ESAO				*i* S	**Sn**	**10 48 29.2**	**-0.5**
	baz=354						
NNS	**Nan Shan**	**1.18**	**331**	⇑P	**Pn**	**10 48 14.5**	**-0.1**
	baz=332						
NNS				S	**Sn**	**10 48 28.8**	**-1.2**
	baz=332						
WCS	**Beigang Elemen**	**1.19**	**304**	⇓*i*P	**Pn**	**10 48 14.9**	**+0.3**
	baz=311						
WCS				*e*S	**Sn**	**10 48 29.2**	**-0.8**
	baz=311						
LATG	**Datong**	**1.21**	**339**	⇓P	**Pn**	**10 48 14.8**	**-0.1**
	baz=340						
LATG				*e*S	**Sn**	**10 48 29.8**	**-0.8**
	baz=340						
TWC	**Suao**	**1.21**	**354**	⇓P	**Pn**	**10 48 15.3**	**+0.5**
	baz=355						
TWC				*e*S	**Sn**	**10 48 30.3**	**-0.2**
	baz=355						
WJS	**Zhushan**	**1.24**	**290**	⇓P	**Pb**	**10 48 16.9**	**+0.6**
	baz=290						
WJS				S	**Sb**	**10 48 32.8**	**+1.0**
	baz=290						
ECL	**Taimali**	**1.25**	**231**	⇓*e*P	**Pn**	**10 48 14.8**	**-0.6**
	baz=229						
ECL				*e*S	**Sn**	**10 48 29.5**	**-1.9**
	baz=229						
NDS	**Dongshan**	**1.26**	**348**	*e*P	**Pn**	**10 48 15.8**	**+0.3**
	baz=349						
NDS				*e*S	**Sn**	**10 48 31.3**	**-0.2**
	baz=349						
TPUB	**Ta-pu**	**1.26**	**266**	P	**Pb**	**10 48 16.5**	**-0.2**
TPUB	**Ta-pu**	**1.26**	**266**	⇓P	**Pb**	**10 48 16.6**	**-0.1**
	baz=265						
TPUB				*e*S	**Sb**	**10 48 32.9**	**+0.4**
	baz=265						
NDT	**Datong Townshi**	**1.28**	**340**	⇓*i*P	**Pn**	**10 48 15.9**	**+0.1**
	baz=340						
NDT				*e*S	**Sn**	**10 48 31.3**	**-0.8**
	baz=340						
WCKO	**Fanlu**	**1.28**	**272**	⇑P	**Pb**	**10 48 17.6**	**+0.6**
	baz=271						
WCKO				*e*S	**Sb**	**10 48 33.9**	**+0.9**
	baz=271						
WTP	**Ta-pu**	**1.28**	**263**	⇓P	**Pb**	**10 48 17.0**	**-0.1**
	baz=262						
WTP				*e*S	**Sb**	**10 48 33.7**	**+0.6**
	baz=262						
CHN4	**Tsaushan**	**1.29**	**268**	⇓P	**Pb**	**10 48 17.3**	**+0.2**
	baz=267						
CHN4				*e*S	**Sb**	**10 48 34.9**	**+1.5**
	baz=267						
WNT	**Mingjian**	**1.30**	**292**	P	**Pb**	**10 48 17.7**	**+0.5**
	baz=291						
WNT				*e*S	**Sb**	**10 48 34.3**	**+0.8**
	baz=291						
WHP	**Taichung City**	**1.30**	**312**	*e*P	**Pb**	**10 48 17.4**	**0.0**
	baz=312						
WHP				*e*S	**Sn**	**10 48 33.7**	**+0.8**
	baz=312						
SLGT	**Liugui**	**1.31**	**252**	⇑P	**Pb**	**10 48 17.3**	**-0.1**
	baz=248						
SLGT				S	**Sn**	**10 48 33.4**	**+0.5**
	baz=248						
SGST	**Jiashian**	**1.34**	**257**	⇑P	**Pn**	**10 48 17.2**	**+0.5**
	baz=255						
SGST				*e*S	**Sb**	**10 48 36.6**	**+1.9**
	baz=255						
TWE	**Neicheng**	**1.35**	**347**	⇓P	**Pn**	**10 48 17.2**	**+0.5**
	baz=340						
TWE				*e*S	**Sn**	**10 48 33.2**	**-0.7**
	baz=340						
JYNG	**Yonagunijimaku**	**1.36**	**39**	P	**Pb**	**10 48 17.7**	**-0.6**
JYNG				S	**Sn**	**10 48 34.4**	**+0.3**
CHN1	**Nanshi**	**1.37**	**261**	⇓*i*P	**Pb**	**10 48 18.7**	**+0.2**
	baz=260						
CHN1				*e*S	**Sb**	**10 48 37.5**	**+1.9**
	baz=260						
WDLH	**Douliu**	**1.37**	**282**	*e*P	**Pb**	**10 48 18.7**	**+0.1**
	baz=282						
WDLH				*e*S	**Sb**	**10 48 36.8**	**+1.1**
	baz=282						
YHNB	**Yeheng**	**1.39**	**336**	P	**Pn**	**10 48 17.5**	**+0.1**
YHNB	**Yeheng**	**1.39**	**336**	⇑P	**Pn**	**10 48 17.7**	**+0.3**
	baz=336						
YHNB				*e*S	**Sn**	**10 48 33.9**	**-1.0**
	baz=336						
SNST	**Tainan City**	**1.39**	**263**	⇑P	**Pb**	**10 48 19.0**	**+0.1**
	baz=262						
SNST				*e*S	**Sb**	**10 48 37.2**	**+0.9**
	baz=262						
TWK	**Hsinying**	**1.40**	**265**	⇑P	**Pb**	**10 48 18.9**	**-0.1**
	baz=264						
TWK				*e*S	**Sb**	**10 48 38.3**	**+1.9**
	baz=264						
NSK	**Sanguang**	**1.40**	**335**	⇑P	**Pn**	**10 48 17.8**	**+0.3**
	baz=336						
NSK				*e*S	**Sn**	**10 48 34.3**	**-1.0**
	baz=336						
CHN2	**Minshiung**	**1.41**	**276**	*e*P	**Pb**	**10 48 20.2**	**+1.1**
	baz=275						
CHN2				*e*S	**Sb**	**10 48 37.5**	**+0.9**
	baz=275						
FUSB	**Fushanzhiwuyua**	**1.41**	**345**	⇑P	**Pn**	**10 48 18.1**	**+0.5**
	baz=334						
FUSB				*e*S	**Sn**	**10 48 34.7**	**-0.6**
	baz=334						
YOJ	**Yonaguni jima**	**1.41**	**41**	P	**Pn**	**10 48 18.2**	**+0.7**
YOJ	**Yonaguni jima**	**1.41**	**41**	S	**Sb**	**10 48 35.9**	**-0.7**
**YOJ

TCU			*e*S	**Sb**	**10 48 38.4**	**+1.3**
	baz=302					
TSMG	**Majia**	**1.43 241**	*i* P	**Pn**	**10 48 18.2**	**+0.4**
TSMG	baz=237		S	**Sn**	**10 48 35.1**	**-0.7**
	baz=237					
EGS		**1.44 358**	*e*P	**Pb**	**10 48 19.2**	**-0.5**
EGS	baz=9.0		*e*S	**Sn**	**10 48 34.4**	**-1.8**
	baz=9.0					
LYUB	**Lan-yu**	**1.44 195**	*e*P	**Pn**	**10 48 14.9**	**-3.1**
LYUB	baz=194		*e*S	**Sn**	**10 48 33.6**	**-2.6**
	baz=194					
NWLT	**Wulai**	**1.45 342**	*i* P	**Pn**	**10 48 18.6**	**+0.5**
NWLT	baz=342		*e*S	**Sn**	**10 48 35.7**	**-0.6**
	baz=342					
TAW	**Tawu**	**1.45 225**	P	**Pn**	**10 48 17.7**	**-0.5**
TAW	baz=230		*e*S	**Sn**	**10 48 35.1**	**-1.3**
	baz=230					
EAST	**Anshuo**	**1.47 227**	⇑P	**Pn**	**10 48 18.1**	**-0.3**
EAST	baz=232		*e*S	**Sn**	**10 48 35.7**	**-1.1**
	baz=232					
TWQ1	**Liyutan**	**1.47 310**	⇓P	**Pb**	**10 48 20.3**	**+0.1**
TWQ1	baz=324		*e*S	**Sb**	**10 48 38.8**	**+0.4**
	baz=324					
NFF	**Wufeng Townshi**	**1.47 327**	*e*P	**Pb**	**10 48 20.5**	**+0.3**
NFF	baz=327		S	**Sn**	**10 48 36.4**	**-0.6**
	baz=327					
TAWH	**Dawu Township**	**1.47 224**	*e*P	**Pn**	**10 48 18.7**	**+0.3**
TAWH	baz=230		*i* S	**Sn**	**10 48 35.9**	**-0.9**
	baz=230					
SCST	**Cishan**	**1.48 250**	⇓P	**Pb**	**10 48 20.8**	**+0.5**
SCST	baz=249		*e*S	**Sb**	**10 48 38.4**	**-0.3**
	baz=249					
MASBT	**Mashibuluo**	**1.48 238**	⇑P	**Pn**	**10 48 19.1**	**+0.5**
MASBT	baz=235		*e*S	**Sn**	**10 48 36.4**	**-0.7**
	baz=235					
WCHH	**Zhanghua**	**1.48 297**	⇓*e*P	**Pb**	**10 48 20.7**	**+0.3**
WCHH	baz=297		*e*S	**Sb**	**10 48 39.8**	**+0.9**
	baz=297					
WTK	**Tuku**	**1.51 281**	⇓P	**Pb**	**10 48 20.9**	**+0.1**
WTK	baz=281		S	**Sn**	**10 48 38.9**	**+1.2**
	baz=281					
NSY	**Sanyi**	**1.52 312**	⇑P	**Pb**	**10 48 21.2**	**+0.1**
NSY	baz=326		*e*S	**Sb**	**10 48 40.4**	**+0.5**
	baz=326					
NSTT	**Nanjuang**	**1.53 324**	⇑*i* P	**Pb**	**10 48 21.0**	**-0.2**
NSTT	baz=324		*e*S	**Sn**	**10 48 39.1**	**+0.8**
	baz=324					
LIOB	**Emei**	**1.53 324**	P	**Pb**	**10 48 21.1**	**-0.1**
LIOB	baz=324		*e*S	**Sn**	**10 48 39.6**	**+1.2**
	baz=324					
TWM1	**Shoushan**	**1.56 249**	P	**Pb**	**10 48 22.6**	**+0.9**
TWM1	baz=247		*e*S	**Sb**	**10 48 41.2**	**+0.1**
	baz=247					
WDJ	**Dajia District**	**1.56 307**	*e*S	**Sb**	**10 48 41.8**	**+0.7**
	baz=321					
SHHT	**Tainan City**	**1.56 256**	⇑*e*P	**Pb**	**10 48 23.2**	**+1.4**
SHHT	baz=255		*e*S	**Sb**	**10 48 44.9**	**+3.7**
	baz=255					
WRL	**Guolierlin Hig**	**1.57 289**	*e*P	**Pb**	**10 48 21.8**	**-0.1**
WRL	baz=279		*e*S	**Sb**	**10 48 41.9**	**+0.6**
	baz=279					
TIPB	**Shuangxi**	**1.57 354**	⇑P	**Pn**	**10 48 21.1**	**+1.2**
TIPB	baz=7.0		S	**Sn**	**10 48 40.2**	**+0.8**
	baz=7.0					
ICHU	**Yijhu**	**1.58 269**	⇑*e*P	**Pb**	**10 48 21.9**	**-0.2**
ICHU	baz=268		*e*S	**Sb**	**10 48 41.8**	**+0.2**
	baz=268					
NMLH	**Miaoli**	**1.58 316**	*e*P	**Pn**	**10 48 21.3**	**+1.3**
NMLH	baz=316		*e*S	**Sb**	**10 48 41.3**	**-0.5**
	baz=316					
TWB1	**Santiao Chiao**	**1.60 360**	*i* P	**Pn**	**10 48 21.0**	**+0.8**
TWB1	baz=1.0		*e*S	**Sn**	**10 48 39.7**	**-0.4**
	baz=1.0					
NHDH	**Xindian Distri**	**1.62 345**	⇓*i* P	**Pn**	**10 48 21.8**	**+1.3**
NHDH	baz=336		*e*S	**Sn**	**10 48 41.1**	**+0.6**
	baz=336					
SLIU	**Shizi**	**1.62 223**	*e*P	**Pn**	**10 48 20.4**	**0.0**
SLIU	baz=213		*e*S	**Sn**	**10 48 39.1**	**-1.4**
	baz=213					
TWA	**Mucha**	**1.62 347**	⇓P	**Pn**	**10 48 21.8**	**+1.3**
TWA	baz=338		*e*S	**Sn**	**10 48 41.4**	**+0.9**
	baz=338					
SCZT	**Fangliau**	**1.63 231**	P	**Pn**	**10 48 21.5**	**+0.9**
SCZT	baz=226		S	**Sn**	**10 48 40.7**	**-0.1**
	baz=226					
WTCT	**Ta-ch'eng**	**1.64 287**	*e*P	**Pn**	**10 48 20.2**	**-0.6**
WTCT	baz=274		*e*S	**Sb**	**10 48 43.5**	**+0.1**
	baz=274					
CHN8	**Yiju**	**1.64 269**	*e*P	**Pb**	**10 48 22.8**	**-0.3**
CHN8	baz=268		*e*S	**Sb**	**10 48 43.5**	**0.0**
	baz=268					
SBCB	**Hsinchu**	**1.67 326**	⇓*e*P	**Pn**	**10 48 22.5**	**+1.4**
SBCB	baz=326		*e*S	**Sb**	**10 48 44.0**	**-0.2**
	baz=326					
NWF	**Wu-fen Shan**	**1.68 353**	*e*P	**Pb**	**10 48 23.1**	**-0.7**
NWF	baz=354		*e*S	**Sn**	**10 48 43.5**	**+1.4**
	baz=354					
WFSB	**Wu-fen Shan**	**1.68 353**	*e*P	**Pb**	**10 48 23.1**	**-0.6**
WFSB	baz=354		*e*S	**Sn**	**10 48 43.1**	**+1.1**
	baz=354					
SXI1	**Grass Mountain**	**1.69 356**	⇓*e*P	**Pn**	**10 48 22.6**	**+1.0**
SXI1	baz=10.0		*e*S	**Sn**	**10 48 42.1**	**-0.3**
	baz=10.0					
NCUH	**Zhongli**	**1.73 335**	*e*P	**Pn**	**10 48 22.6**	**+0.5**
NCUH	baz=335		*i* S	**Sn**	**10 48 44.7**	**+1.4**
	baz=335					
TNOU	**National Taiwa**	**1.76 353**	*e*P	**Pn**	**10 48 22.9**	**+0.5**
TNOU	baz=354		*e*S	**Sn**	**10 48 42.9**	**-1.0**
	baz=354					
TWS1	**Kuangyinshan**	**1.78 343**	*e*P	**Pn**	**10 48 23.0**	**+0.4**
TWS1	baz=343		*e*S	**Sn**	**10 48 44.5**	**+0.1**
	baz=343					
TSCK	**Chigu Township**	**1.78 262**	*i* P	**Pn**	**10 48 24.1**	**+1.5**
TSCK	baz=261		*e*S	**Sb**	**10 48 46.4**	**-0.9**
	baz=261					
HATJ	**Hateruma jima**	**1.78 68**	P	**Pn**	**10 48 23.4**	**+0.8**
HATJ			S	**Sn**	**10 48 45.1**	**+0.7**
YM01	**YM01**	**1.78 347**	*e*P	**Pn**	**10 48 23.9**	**+1.2**
YM01	baz=335		*e*S	**Sn**	**10 48 43.5**	**-1.1**
	baz=335					
HEN	**Hengchun**	**1.81 220**	P	**Pn**	**10 48 24.1**	**+1.0**
HEN	baz=219		*e*S	**Sn**	**10 48 45.0**	**-0.3**
	baz=219					
TWKBT	**Hengchun**	**1.82 217**	*e*P	**Pn**	**10 48 23.4**	**+0.2**
TWKBT	baz=216		S	**Sn**	**10 48 45.5**	**+0.1**
	baz=216					
YM08	**YM08**	**1.82 348**	⇓P	**Pn**	**10 48 23.8**	**+0.6**
YM08	baz=335		*e*S	**Sn**	**10 48 44.7**	**-0.8**
	baz=335					
TWK1	**Hengchun**	**1.82 218**	*e*P	**Pn**	**10 48 24.1**	**+0.9**
TWK1	baz=216		*i* S	**Sn**	**10 48 45.9**	**+0.4**
	baz=216					
ANP	**Anpu**	**1.83 346**	⇓*e*P	**Pn**	**10 48 22.9**	**-0.6**
ANP	baz=337		*e*S	**Sn**	**10 48 44.7**	**-1.2**
	baz=337					
IRIF	**Iriomote-Funau**	**1.84 59**	P	**Pn**	**10 48 24.4**	**+0.9**
IRIF			*e*S	**Sn**	**10 48 46.6**	**+0.7**
TWY	**Chenhua**	**1.90 349**	*e*P	**Pn**	**10 48 22.9**	**-1.5**
TWY	baz=336		*e*S	**Sn**	**10 48 47.1**	**-0.4**
	baz=336					
JKRS	**Kuro-shima**	**2.02 65**	P	**Pn**	**10 48 27.1**	**+1.2**
JKRS			*e*S	**Sn**	**10 48 51.4**	**+1.0**
WDGT	**Dungji**	**2.15 267**	⇓P	**Pn**	**10 48 28.9**	**+1.0**
WDGT	baz=266		*e*S	**Sn**	**10 48 52.9**	**-0.8**
	baz=266					
JIJ	**Ishigaki jima**	**2.19 63**	P	**Pn**	**10 48 28.7**	**+0.4**
JIJ			S	**Sn**	**10 48 54.1**	**-0.4**
PHUB	**P'eng-hu**	**2.23 273**	⇓P	**Pn**	**10 48 29.8**	**+0.9**
PHUB	baz=260		*e*S	**Sn**	**10 48 56.3**	**+0.7**
	baz=260					
PNG	**Penghu**	**2.25 275**	⇑P	**Pn**	**10 48 30.2**	**+1.1**
PNG	baz=274		S	**Sn**	**10 48 56.6**	**+0.5**
	baz=274					
VCHM	**Qimei**	**2.37 266**	⇑P	**Pn**	**10 48 31.6**	**+0.9**
VCHM	baz=265		*e*S	**Sn**	**10 48 58.6**	**-0.5**
	baz=265					
JISG	**Ishigakijimahi**	**2.42 60**	P	**Pn**	**10 48 31.8**	**+0.3**
JISG			S	**Sn**	**10 48 59.6**	**-0.7**
JTJ	**Tarama**	**2.76 63**	P	**Pn**	**10 48 37.2**	**+1.0**
JTJ			*e*S	**Sn**	**10 49 09.1**	**+0.3**
VWUC	**VWUC**	**2.82 305**	⇓*e*P	**Pn**	**10 48 37.5**	**+0.5**
VWUC	baz=305		*e*S	**Sn**	**10 49 08.5**	**-1.5**
	baz=305					
PTMZ	**Houxiangcun**	**3.10 302**	⇓*e*P	**Pn**	**10 48 40.8**	**0.0**
PTMZ	baz=302		*e*S	**Sn**	**10 49 15.1**	**-1.9**
	baz=302					
JIRB	**Irabujima**	**3.23 63**	*e*P	**Pn**	**10 48 43.1**	**+0.5**
MATB	**Ma-tsu**	**3.32 326**	*e*P	**Pn**	**10 48 43.9**	**+0.1**
MATB	baz=315		*e*S	**Sn**	**10 49 20.4**	**-2.0**
	baz=315					
JMJ2	**Miyako jima3**	**3.32 66**	*e*P	**Pn**	**10 48 45.0**	**+1.2**
JMJ	**Miyako jima 2**	**3.32 64**	P	**Pn**	**10 48 44.7**	**+0.8**
JIKM	**Ikemajima**	**3.33 62**	P	**Pn**	**10 48 44.6**	**+0.6**
JOGS	**Gusukube**	**3.40 66**	*e*P	**Pn**	**10 48 46.2**	**+1.3**
KNM	**Kinmen**	**3.42 288**	⇓*e*P	**Pn**	**10 48 47.3**	**+2.1**
KNM	baz=287		*e*S	**Sn**	**10 49 25.7**	**+0.8**
	baz=287					
KNMB	**Chin-men Tao**	**3.47 289**	⇓P	**Pn**	**10 48 46.3**	**+0.3**
KNMB	baz=288		*e*S	**Sn**	**10 49 24.3**	**-1.9**
	baz=288					
LYJJ	**Jianjiangzhen**	**3.74 328**	*e*P	**Pn**	**10 48 49.6**	**0.0**
LYJJ	baz=317		*e*S	**Sn**	**10 49 31.3**	**-1.5**
	baz=317					
MHZQ	**Yeshan**	**3.81 316**	*e*P	**Pn**	**10 48 50.5**	**-0.1**
MHZQ	baz=315		*e*S	**Sn**	**10 49 32.4**	**-2.2**
	baz=315					
XPSS	**Dashiqiu**	**3.88 335**	*e*P	**Pn**	**10 48 51.6**	**0.0**
ZPLA	baz=336 **Ao Xicun**	**3.93 279**	*e*P	**Pn**	**10 48 52.1**	**-0.1**
SXFK	baz=278 **Yanhouchang**	**4.96 308**	*e*P	**Pn**	**10 49 06.6**	**+0.2**
	baz=308					

*SOME **16** 10:56:13.5, 44.°78N×81.°90E, h15km*
*NNC **16** 10:56:14.6±0.6, 44.°74N×81.°92E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=6.7km s-min=2.2km az=125.0, Suspected Mining explosion.*

ISC 16 10:56:13.1±1.4, 44.°64N±0.°05×81.°96E±0.°07, h0km, n22, σ1=09/31, 2C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.58**	**260**	*e*P	**Pg**	**10 56 43.6**	**+0.2**
DJR	10nm,0.2s			*e*S	**Sn**	**10 57 05.3**	**+1.6**
	16nm,0.1s						
KTMS	**Ketmen**	**1.66**	**225**	*e*P	**Pg**	**10 56 45.2**	**+0.3**
KTMS	3.6nm,0.1s			*e*S	**Sg**	**10 57 07.8**	**+1.4**
	20nm,0.5s						
KAPS	**Kapalarasan**	**1.96**	**290**	Pg	**Pb**	**10 56 49.3**	**-0.4**
KAPS	3.8nm,0.2s			Lg	Lg	10 57 15.2	
	9.4nm,0.3s						
KAPS	**Kapalarasan**	**1.96**	**290**	*e*P	**Pb**	**10 56 49.3**	**-0.4**
KAPS	3.8nm,0.2s			*e*S	**Sg**	**10 57 15.2**	**-0.7**
	14nm,0.1s						
KNOS	**Konyrlen**	**2.01**	**263**	Pg	**Pb**	**10 56 50.4**	**-0.2**
KNOS	21nm,0.4s			Lg	Lg	10 57 17.4	
	21nm,0.3s						
MK31	**Makanchi Array**	**2.17**	**6**	⇑Pn	**Pn**	**10 56 50.8**	**+0.3**
MK31	4.5nm,0.3s,baz=184,slow=14,SNR=215			⇓Sn	**Sn**	**10 57 18.5**	**+0.4**
	5.3nm,0.3s,baz=189,slow=24						
MAKZ	**Makanchi**	**2.17**	**0**	⇓Pn	**Pn**	**10 56 50.5**	**0.0**
MAKZ	3.2nm,0.3s			⇓Sn	**Sn**	**10 57 18.2**	**+0.1**
	3.1nm,0.3s						
PDGK	**Podgornoye**	**2.21**	**235**	Lg	Lg	10 57 21.5	
	5.5nm,0.6s						
PDGK	**Podgornoye**	**2.21**	**235**	⇑Pn	**Pb**	**10 56 53.1**	**-1.0**
PDGK	4.8nm,0.5s			⇓Sn	**Sg**	**10 57 23.3**	**-0.8**
	8.5nm,0.6s						
SHLS	**Shalkode**	**2.33**	**231**	Pg	**Pn**	**10 56 52.8**	**-0.1**
	23nm,0.2s						
SHLS	**Shalkode**	**2.33**	**231**	*e*P	**Pn**	**10 56 52.8**	**-0.1**
SHLS	23nm,0.2s			*e*S	**Sn**	**10 57 21.2**	**-1.2**
	28nm,0.1s						
BLB	**Baldybastay**	**2.55**	**259**	Lg	Lg	10 57 32.4	
	16nm,0.2s						
UZB	**Uzynbulak**	**2.59**	**236**	Lg	Lg	10 57 34.1	
	5.9nm,0.5s						
UZB	**Uzynbulak**	**2.59**	**236**	*e*P	**Pb**	**10 57 00.3**	**-0.3**
UZB	7.6nm,0.1s			*e*S	**Sb**	**10 57 34.1**	**+1.0**
	6.0nm,0.1s						
ARXS	**Arharly**	**2.99**	**263**	*e*P	**Pb**	**10 57 06.9**	**-0.4**
ARXS	4.3nm,0.5s			*e*S	**Sb**	**10 57 45.5**	**+1.1**
	9.9nm,0.2s						
SATY	**Saty**	**3.02**	**240**	Lg	Lg	10 57 48.3	
	8.6nm,0.2s						
SATY	**Saty**	**3.02**	**240**	*e*P	**Pb**	**10 57 08.8**	**+1.1**
SATY	1.9nm,0.1s			*e*S	**Sg**	**10 57 48.3**	**-1.6**
	22nm,0.2s						
CHKK	**Chushkaly**	**3.66**	**259**	Lg	Lg	10 58 05.8	
	4.6nm,0.3s						
CHKK	**Chushkaly**	**3.66**	**259**	*e*P	**Pb**	**10 57 18.9**	**+0.3**
CHKK	1.8nm,0.1s			*e*S	**Sb**	**10 58 05.8**	**+2.3**
	9.7nm,0.1s						
MDOK	**Medeo**	**3.84**	**249**	*e*P	**Pg**	**10 57 24.7**	**-2.0**
MDOK	3.7nm,0.5s			*e*S	**Sg**	**10 58 15.8**	**-0.7**
	3.7nm,0.2s						
KTBS	**Karatobe**	**3.91**	**258**	*e*P	**Pb**	**10 57 23.0**	**+0.1**
KTBS	1.5nm,0.2s			*e*S	**Sb**	**10 58 12.8**	**+2.1**
	6.1nm,0.3s						
TNSS	**Tian-Shan**	**3.96**	**248**	*e*P	**Pg**	**10 57 27.1**	**-1.9**
TNSS	2.5nm,0.2s			*e*S	**Sg**	**10 58 19.9**	**-0.5**
	2.2nm,0.4s						

*IDC **16** 11:05:51.8±0.7, 13.°13S×45.°32E, h0km, mb3.9/8, mbtmp3.9/9, ML4.4/2, MS3.4/6, Error ellipse: s-maj=27.2km s-min=19.6km az=121.0*
*NEIC **16** 11:05:52.7±1.5, 13.°08S±0.°07×45.°16E±0.°04, h10km±1km, mb4.5/27, Error ellipse: s-maj=12.5km s-min=2.9km az=331.0*

ISC 16 11:05:52.1±0.4, 13.°12S±0.°06×45.°20E±0.°07, h10km, n48, σ1=63/48, mb4.3/19, MS3.3/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.75**	**161**	Pn	**Pn**	**11 07 19.3**	**+1.5**
	7.4nm,0.3s,baz=342,slow=13,SNR=263						
OPO				Sn	**Sn**	**11 08 20.6**	**-3.3**
	9.5nm,0.3s,baz=22,slow=12,SNR=22						
OPO				LR	LR	11 09 28.3	
	comp=Z,179nm,21.8s,baz=122,slow=38						
ABPO	**Ambohimpanom**	**6.18**	**162**		**Pn**	**11 07 25.2**	**+1.6**
VOI	**Vohitsoka**	**8.87**	**170**	Pn	**Pn**	**11 08 00.7**	**+0.1**
VOI				Sn	**Sn**	**11 09 37.7**	**-3.0**
KIBK	**Kibwezi**	**12.84**	**326**	Pn	**Pn**	**11 08 52.7**	**-2.2**
RER	**Riviere de l'E**	**12.86**	**130**		**Pn**	**11 08 53.0**	**-2.2**
MSEY	**Mahe Island**	**13.17**	**51**	Pn	**Pn**	**11 08 59.4**	**0.0**
LSZ	**Lusaka**	**16.63**	**261**		**Pn**	**11 09 45.1**	**-0.6**
MATP	**Matopo**	**17.55**	**243**	Pn	**P**	**11 10 01.5**	**+3.2**
	0.2nm,0.3s,baz=65,slow=12,SNR=5.4						
MATP				Sn	**Sn**	**11 13 09.3**	**-3.6**
	0.1nm,0.3s,baz=352,slow=19,SNR=2.0						
	1.2nm,0.7s						
MBAR	**Mbarara**	**18.97**	**310**	P	**P**	**11 10 14.1**	**+0.1**
MBAR				IAmb	IAmb	11 10 32.7	
	comp=Z,11nm,0.3s						
LODK	**Lodwar**	**19.11**	**329**	P	**P**	**11 10 14.4**	**-1.0**
BOSA	**Boshof**	**24.13**	**227**	P	**P**	**11 11 08.1**	**-0.4**
BOSA	**Boshof**	**24.13**	**227**	P	**P**	**11 11 11.2**	**+2.7**
	comp=Z,3.1nm,0.5s,baz=50,slow=11,SNR=11						
	comp=Z,3.1nm,0.5s						
ATD	**Arta Tunnel**	**24.60**	**354**	P	**P**	**11 11 11.9**	**-0.8**
ATD				IAmb	IAmb	11 11 32.9	
	comp=Z,8.0nm,1.1s						
GRHM	**Grahamstown, E**	**26.41**	**217**	P	**P**	**11 11 28.9**	**-0.1**
GRHM				IAmb	IAmb	11 11 38.9	
	comp=Z,38nm,1.4s						
TSUM	**Tsumeb**	**27.18**	**254**	P	**P**	**11 11 36.0**	**-0.3**
SUR	**Sutherland**	**29.43**	**225**	P	**P**	**11 11 56.4**	**+0.1**
SUR				IAmb	IAmb	11 12 01.4	
	comp=Z,13nm,0.8s						
SUR	**Sutherland**	**29.43**	**225**	LR	LR	11 23 11.3	
	comp=Z,76nm,20.8s,baz=94,slow=35						
PALK	**Pallekele**	**40.67**	**62**	LR	LR	11 26 21.4	
	comp=Z,65nm,18.5s,baz=304,slow=30						
TORD	**Torodi Ar. Bea**	**50.40**	**300**	P	**P**	**11 14 51.8**	**+1.7**
	comp=Z,0.5nm,0.9s,baz=127,slow=7.5,SNR=2.0						
	comp=Z,0.5nm,0.9s						
GEYT	**Alibeck**	**52.20**	**13**	P	**P**	**11 15 03.5**	**+0.2**
ARPR	**Arapgir-MALATY**	**52.33**	**353**	P	**P**	**11 15 03.7**	**-0.6**
ARPR				IAmb	IAmb	11 15 13.3	
	comp=Z,3.7nm,1.1s						
KBL	**Kabul**	**52.53**	**25**	P	**P**	**11 15 06.4**	**+0.4**
KBL				IAmb	IAmb	11 15 11.0	
	comp=Z,8.1nm,1.2s						
GNI	**Garni**	**52.99**	**360**	LR	LR	11 38 06.2	
	comp=Z,27nm,19.6s,baz=204,slow=36						
SIMJ	**Simiganj**	**56.11**	**22**	P	**P**	**11 15 31.0**	**-0.9**
SIMJ				IAmb	IAmb	11 15 36.3	
	comp=Z,7.2nm,1.1s						
CHGR	**Chuyangaron**	**56.17**	**23**	P	**P**	**11 15 30.9**	**-1.4**
TATN	**Tataouine**	**56.24**	**325**	P	**P**	**11 15 31.9**	**-0.9**
GAR	**Garm**	**56.91**	**23**	P	**P**	**11 15 37.4**	**-0.2**
GAR				IAmb	IAmb	11 15 42.4	
	comp=Z,16nm,1.4s						
KK31	**Karatay Array**	**60.56**	**21**	P	**P**	**11 16 03.1**	**+0.4**
KK31				IAmb	IAmb	11 16 07.5	
	comp=Z,3.4nm,1.0s						
KKAR	**Karatay Array**	**60.56**	**21**	P	**P**	**11 16 02.3**	**-0.5**
PAOL	**Paolisi**	**60.87**	**334**	P	**P**	**11 16 04.6**	**-0.4**
LSA	**Lhasa**	**61.43**	**45**	P	**P**	**11 16 09.3**	**-0.2**
CM31	**Chiang Mai Arr**	**61.58**	**60**	P	**P**	**11 16 10.8**	**+0.6**
CM31				IAmb	IAmb	11 16 15.0	
	comp=Z,3.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**61.58**	**60**	P	**P**	**11 16 11.1**	**+0.9**
	comp=Z,0.6nm,0.4s,baz=245,slow=9.0,SNR=8.1						
CMAR				LR	LR	11 40 44.2	
	comp=Z,21nm,18.1s,baz=265,slow=34						
	comp=Z,0.6nm,0.4s						
BOOM	**Boomskoye usch**	**62.12**	**25**	P	**P**	**11 16 13.8**	**+0.2**
BOOM				IAmb	IAmb	11 16 17.9	
	comp=Z,2.0nm,1.0s						
ABKAR	**Akbulak array**	**63.45**	**11**	P	**P**	**11 16 19.4**	**-2.6**
SNAA	**Sanae**	**65.16**	**195**	LR	LR	11 42 12.4	
	comp=Z,37nm,18.3s,baz=95,slow=34						
MAKZ	**Makanchi**	**68.16**	**26**	P	**P**	**11 16 54.1**	**+1.6**
MAKZ				IAmb	IAmb	11 16 57.4	
	comp=Z,5.7nm,1.2s						
CASY	**Casey**	**68.24**	**157**	P	**P**	**11 16 55.5**	**+2.8**
MK31	**Makanchi Array**	**68.28**	**26**	P	**P**	**11 16 55.7**	**+2.4**
MKAR	**Makanchi Array**	**68.28**	**26**	P	**P**	**11 16 55.1**	**+1.8**
	comp=Z,1.3nm,0.8s,baz=223,slow=5.5,SNR=9.2						
	comp=Z,1.3nm,0.8s						
BVAR	**Borovoye Array**	**69.34**	**16**	P	**P**	**11 17 02.0**	**+2.3**
	comp=Z,1.2nm,0.8s,baz=212,slow=5.1,SNR=4.5						
	comp=Z,1.2nm,0.8s						
KURBB	**Kurchatov Arra**	**69.84**	**22**	P	**P**	**11 17 05.0**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=216,slow=6.8,SNR=3.6						
	comp=Z,0.5nm,0.7s						
QSPA	**South Pole Qui**	**76.98**	**180**	P	**P**	**11 17 44.5**	**-0.5**
QSPA	**South Pole Qui**	**76.98**	**180**	P	**P**	**11 17 46.8**	**+1.9**
	comp=Z,4.8nm,1.0s,baz=255,slow=4.1,SNR=5.8						
	comp=Z,4.8nm,1.0s						
ASAR	**Alice Springs**	**83.67**	**113**	P	**P**	**11 18 20.8**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=266,slow=4.7,SNR=6.9						
	comp=Z,0.5nm,0.7s						
PDAR	**Pinedale Array**	**143.27**	**328**	PKP	**PKPdf**	**11 25 27.5**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=64,slow=4.1,SNR=2.0						
TXAR	**Lajitas Array**	**146.94**	**304**	PKPbc	**PKPdf**	**11 25 34.8**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=92,slow=2.7,SNR=5.4						
NVAR	**Mina Array Bea**	**150.84**	**333**	PKP	**PKPdf**	**11 25 40.2**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=110,slow=3.9,SNR=3.9						
NVAR				PKPbc	**sPKPdf**	**11 25 44.5**	**+0.8**
	comp=Z,0.2nm,0.6s,baz=88,slow=2.3,SNR=2.2						

*NEIC **16** 11:13:20±0.8, 19.°366N±0.°005×155.°275W±0.°008, h1km±8km, Error ellipse: s-maj=1.1km s-min=0.8km az=82.0*

HVO 16 11:13:19.0±0.6, 19.°359N±0.°004×155.°271W±0.°008, h0km±7km, ML2.9/12, ML2.5/46(NEIC), Error ellipse: s-maj=1.0km s-min=0.7km az=94.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.04**	**355**		Pg	**11 13 19.6**	**-0.2**
RIM					IAML	11 13 20.1	
	comp=N,6μm,0.9s						
RIM					IAML	11 13 20.2	
	comp=E,6μm,1.2s						
SDHHI	**Sand Hill**	**0.04**	**324**		Pg	**11 13 19.8**	**0.0**
SDHHI					IAML	11 13 20.6	
	comp=E,7μm,0.7s						
KKO	**Keanakako`i**	**0.04**	**6**		Pg	**11 13 20.3**	**+0.5**
KKO					IAML	11 13 20.6	
	comp=N,9μm,0.9s						
BYL	**Byron's Ledge**	**0.05**	**11**		Pg	**11 13 21.0**	**+0.9**
BYL					IAML	11 13 21.3	
	comp=N,6μm,0.8s						
BYL					IAML	11 13 21.0	
	comp=E,5μm,1.2s						
NPH	**North Pit**	**0.05**	**349**	Pg	Pg	**11 13 21.2**	**+1.1**
PUH	**Pauahi**	**0.05**	**74**		Pg	**11 13 20.5**	**+0.4**
WRMHI	**West Rim**	**0.06**	**329**	Pg	Pg	**11 13 19.8**	**-0.3**
OBL	**Observatory Le**	**0.06**	**348**	Pg	Pg	**11 13 21.3**	**+1.1**
HATHI	**Halema'uma'u T**	**0.06**	**8**		Pg	**11 13 20.3**	**0.0**
HATHI					IAML	11 13 22.0	
	comp=N,6μm,0.9s						
UWB	**Uwekahuna B**	**0.07**	**354**	Pg	Pg	**11 13 21.1**	**+0.8**
UWB					IAML	11 13 21.3	
	comp=E,2μm,1.2s						
UWB					IAML	11 13 22.3	
	comp=N,3μm,0.9s						
UWE	**Uwekahuna**	**0.07**	**341**	Pg	Pg	**11 13 20.3**	**-0.1**

comp=E,3μm,1.0s

HLP Pg 11 13 21.7 +1.2
KNHH Kane Nui o Ham 0.10 78 Pg 11 13 21.9 +1.0
RSD Rainshed 0.10 356 Pg Pg 11 13 22.1 +1.0
STCH Steam Cracks 0.14 79 Pg 11 13 22.5 +0.8
STCH IAML 11 13 24.4
comp=N,1μm,1.0s
STCH IAML 11 13 25.6
comp=E,927nm,1.0s
NPOC North of Pu'u 0.16 78 Pg 11 13 22.8 +0.8
NPOC IAML 11 13 26.4
comp=E,821nm,1.0s
NPOC IAML 11 13 26.0
comp=N,965nm,0.9s
JCUZ Jacuzzi 0.16 81 Pg 11 13 22.9 +0.8
HTC Hot Caves 0.17 225 Pg 11 13 23.3 +1.0
MLH Mauna Loa 0.17 321 Pg 11 13 23.4 +1.0
MLH IAML 11 13 27.4
comp=E,1μm,0.8s
HMH Humu'ula Sheep 0.31 320 Pg Pg 11 13 25.9 +0.8
HMH IAML 11 13 30.5
comp=N,707nm,0.8s
HMH IAML 11 13 32.5
comp=E,515nm,1.0s
MWH Moku'aweowe 0.33 292 Pg 11 13 26.2 +0.8
MWH IAML 11 13 34.0
comp=N,776nm,1.0s
MLOA Mauna Loa Obse 0.34 301 Pg Pg 11 13 26.0 +0.5
MLOA IAML 11 13 31.3
comp=E,636nm,1.1s
MLOA IAML 11 13 36.3
comp=N,697nm,1.1s
KHU Kahuku 0.34 251 Pg 11 13 25.8 +0.2
KHU IAML 11 13 36.0
comp=N,520nm,1.0s
POHA Pohakuloa 0.47 328 Pg Pg 11 13 28.5 +0.5
POHA IAML 11 13 40.4
comp=N,422nm,0.8s
POHA IAML 11 13 43.1
comp=N,434nm,1.2s
CPH Captain Cook 0.62 282 Pg 11 13 31.0 0.0
HUH Hualalai 0.62 301 Pg Pg 11 13 31.4 +0.4

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*UPP **16** 11:18:11.8±2.9,68°.06N×33°.21E, h0km, ML1.7*
*HEL **16** 11:18:12.9±0.2,68°.12N×33°.05E, h0km, ML1.7, Explosion*
*KOLA **16** 11:18:14.2,68°.07N×33°.18E, h0km, ML1.9, Error ellipse: s-maj=2.7km s-min=1.5km az=100.0, Olenegorsk City, Mines*
*IDC **16** 11:18:16.5±2.6,68°.09N×32°.38E, h0km, mbtmp2.6/2, ML1.9/2, Error ellipse: s-maj=33.5km s-min=13.2km az=60.0*
ISC 16 11:18:12.6±0.8, 68°.13N±0°.03×33°.06E±0°.03, h0km, n30, σ1§22/51, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.53**	**183**	P	**Pg**	**11 18 22.6**	**0.0**
APA0				S	**Sg**	**11 18 29.2**	**-0.2**
APA	**Apatity**	**0.58**	**167**	P	**Pg**	**11 18 23.1**	**-0.5**
APA				S	**Sg**	**11 18 29.7**	**-1.3**
LVZ	**Lovozero**	**0.64**	**110**	P	**Pg**	**11 18 24.6**	**-0.2**
LVZ				S	**Sg**	**11 18 32.5**	**-0.6**
LVZ	**Lovozero**	**0.64**	**110**	PG	**Pg**	**11 18 24.9**	**+0.1**
LVZ				SG	**Sg**	**11 18 32.1**	**-1.0**
TERR	**Teriberka**	**1.31**	**34**	P	**Pg**	**11 18 37.4**	**-0.3**
TERR				S	**Sb**	**11 18 55.7**	**+0.3**
VRF	**Varrio**	**1.36**	**255**	PG	**Pg**	**11 18 37.2**	**-1.4**
VRF				MSG		11 18 53.6	
	comp=Z,7.6nm,0.2s						
VRF				SB	**Sg**	**11 18 55.4**	**-0.8**
RAJF	**Raja-Jooseppi**	**1.80**	**283**	PG	**Pn**	**11 18 45.2**	**+0.3**
RAJF				SN	**Sn**	**11 19 08.4**	**0.0**
OLKF	**Oulanka, Finla**	**2.31**	**220**	PB	**Pn**	**11 18 53.0**	**+1.2**
	baz=32						
OLKF				MSG		11 19 20.8	
	comp=Z,2.4nm,0.2s						
OLKF				SG	**Sb**	**11 19 22.6**	**-1.5**
VADS	**Vadso**	**2.40**	**328**	P	**Pb**	**11 18 56.0**	**-0.6**
VADS				S	**Sb**	**11 19 26.3**	**-0.4**
KMNF	**Kaamanen**	**2.45**	**298**	PG	**Pn**	**11 18 55.1**	**+1.4**
KMNF				SG	**Sb**	**11 19 28.2**	**+0.2**
KU6	**Riekki**	**2.45**	**212**	PB	**Pn**	**11 18 55.1**	**+1.3**
	baz=34						
KU6				MSG		11 19 24.9	
	comp=Z,3.1nm,0.2s						
KU6				SG	**Sb**	**11 19 27.4**	**-0.7**
SGF	**Sodankyl**	**2.58**	**258**	PN	**Pn**	**11 18 55.6**	**+0.1**
	baz=71						
SGF				SB	**Sn**	**11 19 28.6**	**+1.1**
MSF	**Maaselka**	**2.73**	**217**	PB	**Pn**	**11 18 59.3**	**+1.7**
MSF				SG	**Sb**	**11 19 36.3**	**+0.1**
KEV	**Kevo**	**2.73**	**310**	PB	**Pn**	**11 18 59.6**	**+2.0**
KEV				SB	**Sn**	**11 19 33.2**	**+1.9**
KEV				MSG		11 19 33.5	
	comp=Z,2.7nm,0.2s						
ARCES	**ARCESS Array B**	**3.08**	**301**	Pn	**Pn**	**11 19 03.3**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=120,slow=15,SNR=17						
ARCES				Pg	**Pb**	**11 19 08.0**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=118,slow=15,SNR=8.5						
ARCES				Sn	**Sn**	**11 19 39.6**	**-0.4**
	comp=Z,0.1nm,0.3s,baz=115,slow=21,SNR=2.5						
ARCES				Lg	Lg	11 19 46.8	
	comp=Z,0.6nm,0.3s,baz=118,slow=28,SNR=6.3						
	comp=Z,0.3nm,0.3s						
RNF	**Rovaniemi**	**3.12**	**244**	PN	**Pn**	**11 19 03.6**	**+0.6**
RNF				SN	**Sn**	**11 19 42.4**	**+1.5**
RANF	**Ranua**	**3.25**	**232**	PN	**Pn**	**11 19 04.9**	**+0.2**
	baz=46						
HEF	**Hetta**	**3.51**	**279**	PN	**Pn**	**11 19 08.2**	**-0.1**
HEF				SN	**Sn**	**11 19 51.0**	**+0.5**
PAJU	**Pajala**	**3.97**	**258**	PN	**Pn**	**11 19 14.5**	**-0.1**
PAJU				SG	**Sb**	**11 20 15.2**	**+3.3**
TOF	**Tornio**	**3.99**	**243**	PG	**Pb**	**11 19 25.3**	**+1.7**
RMF	**Romuvaara**	**4.13**	**199**	PN	**Pn**	**11 19 16.4**	**-0.4**
	baz=12						
LANU	**Lannavaara**	**4.15**	**274**	PN	**Pn**	**11 19 17.2**	**+0.1**
	baz=80						
LANU				SG	**Sb**	**11 20 19.9**	**+2.9**
LANU	**Lannavaara**	**4.15**	**274**	P	**Pn**	**11 19 16.8**	**-0.3**
LANU				S	**Sn**	**11 20 05.9**	**-0.3**
KALU	**Kalix**	**4.44**	**244**	P	**Pn**	**11 19 20.1**	**-0.9**
KUA	**Kurravaara**	**4.78**	**274**	S	**Sn**	**11 20 21.2**	**-0.6**
KOVU	**Salmi**	**4.82**	**277**	P	**Pn**	**11 19 26.4**	**+0.1**
KOVU				S	**Sn**	**11 20 21.7**	**-1.0**
RATU	**Laukkuluspa**	**5.08**	**273**	P	**Pn**	**11 19 27.7**	**-2.2**
I37NO	**I37NO**	**5.38**	**287**	I	I	11 50 25.0	
	baz=94,slow=322,SNR=7.0						
FAUS	**Fauske**	**6.79**	**272**	S	**Sn**	**11 21 07.8**	**-3.3**
FINES	**FINESS Array B**	**7.34**	**207**	Pn	**Pn**	**11 20 00.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=26,slow=13,SNR=2.2						
	comp=Z,1.0nm,0.8s						

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*SJA **16** 11:23:51.0±0.6,22°.61S×66°.14W, h272km±5km, ML3.6, MW3.5*
ISC 16 11:23:53.6±1.3, 22°.69S±0°.05×66°.30W±0°.05, h250km, n29, σ1§17/49, 4C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YJA	**Yavi**	**0.89**	**55**	*eP*	**Pn**	**11 24 28.3**	**-0.4**
YJA				*eS*	**S**	**11 24 55.9**	**-0.2**
HJA	**Humahuaca**	**0.96**	**122**	*eP*	**Pn**	**11 24 29.0**	**+0.1**
HJA				*eS*	**S**	**11 25 00.1**	**+3.4**
AZAP	**Zapla**	**1.90**	**144**	*eP*	**Pn**	**11 24 34.7**	**-0.7**
SLA	**San Lorenzo**	**2.15**	**160**	*eP*	**Pn**	**11 24 37.9**	**+0.4**
ALOL	**LOMAS DE OLMED**	**2.40**	**118**	*eP*	**Pn**	**11 24 38.2**	**-1.7**
LVC	**Limon Verde**	**2.42**	**271**	*eP*	**Pn**	**11 24 40.9**	**+0.5**
PB09	**IPOC Station P**	**2.87**	**288**	*eP*	**Pn**	**11 24 46.2**	**+1.3**
PB09	**IPOC Station P**	**2.87**	**288**	*iP*	**Pn**	**11 24 46.2**	**+1.3**
PB09				*i* S	**S**	**11 25 25.4**	**-0.1**
PB09				IAML		11 25 30.9	
	comp=E,37nm,0.7s						
PB06	**IPOC Station P**	**3.02**	**269**	*eP*	**Pn**	**11 24 47.7**	**+1.2**
PB06				*eS*	**S**	**11 25 30.9**	**+2.6**
PB06	**IPOC Station P**	**3.02**	**269**	*eP*	**Pn**	**11 24 47.5**	**+1.0**
PB06				*i* S	**S**	**11 25 28.3**	**-0.1**
PB01	**IPOC Station P**	**3.39**	**298**	*eP*	**Pn**	**11 24 51.0**	**+0.5**
PB01				IAML		11 25 38.1	
	comp=Z,42nm,0.7s						
PB01	**IPOC Station P**	**3.39**	**298**	*eP*	**Pn**	**11 24 50.7**	**+0.2**
PB01				*i* S	**S**	**11 25 34.6**	**-0.9**
PB07	**IPOC Station P**	**3.46**	**285**	*eP*	**Pn**	**11 24 51.3**	**-0.1**
PB07				IAML		11 25 39.1	
	comp=Z,68nm,0.4s						
PB07	**IPOC Station P**	**3.46**	**285**	*iP*	**Pn**	**11 24 51.9**	**+0.5**
PB07				*i* S	**S**	**11 25 36.0**	**-1.1**
PB04	**IPOC Station P**	**3.58**	**275**	*eP*	**Pn**	**11 24 53.3**	**+0.6**
PB04				*eS*	**S**	**11 25 39.4**	**-0.2**
PB04				IAML		11 25 41.2	
	comp=Z,78nm,0.5s						
PB04	**IPOC Station P**	**3.58**	**275**	*eP*	**Pn**	**11 24 53.3**	**+0.6**
PB04				*i* S	**S**	**11 25 38.8**	**-0.8**
PB02	**IPOC Station P**	**3.61**	**292**	*eP*	**Pn**	**11 24 53.1**	**+0.1**
PB02				*eS*	**S**	**11 25 38.9**	**-1.2**
PB02				IAML		11 25 40.0	
	comp=Z,127nm,0.2s						
PB02	**IPOC Station P**	**3.61**	**292**	*iP*	**Pn**	**11 24 53.1**	**+0.1**
PB02				*i* S	**S**	**11 25 38.4**	**-1.7**
PB08	**IPOC Station P**	**3.68**	**313**	*eP*	**Pn**	**11 24 55.0**	**+0.9**
PB08	**IPOC Station P**	**3.68**	**313**	*iP*	**Pn**	**11 24 54.8**	**+0.7**
PB08				*i* S	**S**	**11 25 41.7**	**-0.4**
GO02	**Mina Guanaco**	**3.89**	**230**	*eP*	**Pn**	**11 24 56.8**	**+0.4**
GO02				*eS*	**S**	**11 25 47.7**	**+1.5**
PB10	**IPOC Station P**	**4.00**	**257**	*eP*	**Pn**	**11 24 58.4**	**+0.9**
PB10				*eS*	**S**	**11 25 47.4**	**-0.8**
PB10				IAML		11 25 50.6	
	comp=Z,21nm,0.7s						
PB10	**IPOC Station P**	**4.00**	**257**	*eP*	**Pn**	**11 24 58.1**	**+0.6**
PB10				*i* S	**S**	**11 25 46.1**	**-2.0**
PATCX	**Punta Patache**	**4.04**	**297**	*eP*	**Pn**	**11 24 58.0**	**0.0**
PATCX				*eS*	**S**	**11 25 48.1**	**-1.0**
PATCX				IAML		11 25 49.9	
	comp=Z,59nm,0.5s						
GO01	**Chusmiza**	**4.05**	**318**	*eP*	**Pn**	**11 24 59.1**	**+0.6**
GO01				*eS*	**S**	**11 25 52.6**	**+2.7**
TA01	**Diego Aracena**	**4.19**	**300**	*eP*	**Pn**	**11 24 59.4**	**-0.2**
TA01				*eS*	**S**	**11 25 49.9**	**-2.2**
TA01				IAML		11 25 52.6	
	comp=Z,28nm,0.2s						
PB14	**IPOC Station P**	**4.23**	**242**	*eP*	**Pn**	**11 25 00.9**	**+0.5**
PB14				*eS*	**S**	**11 25 53.1**	**-0.3**
PB14				IAML		11 25 55.1	
	comp=Z,44nm,0.3s						
PB11	**IPOC Station P**	**4.28**	**312**	*eP*	**Pn**	**11 25 00.1**	**-0.8**
PB11				IAML		11 25 55.6	
	comp=Z,44nm,0.3s						
AC01	**Pan de Azucar**	**5.21**	**228**	*eP*	**Pn**	**11 25 11.5**	**-0.5**
AC01				*eS*	**S**	**11 26 13.2**	**-1.3**
AC01				IAML		11 26 28.5	
	comp=Z,23nm,4.8s						

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*NEIC **16** 11:30:45.5±1.5, 19°.41N±0°.02×155°.04W±0°.01, h10km±1km, Error ellipse: s-maj=3.6km s-min=2.0km az=146.0*
HVO 16 11:30:44.6±1.5, 19°.44N±0°.02×155°.01W±0°.01, h11km±2km, ML2.7/32, ML2.8/20(NEIC), Error ellipse: s-maj=3.2km s-min=1.5km az=153.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.00**	**140**		Pg	11 30 48.3	+1.7
PAH	**Pahoa**	**0.08**	**44**		Pg	11 30 49.4	+2.3
JCUZ	**Jacuzzi**	**0.10**	**240**		Pg	11 30 47.5	+0.1
NPOC	**North of Pu'u**	**0.11**	**246**		Pg	11 30 47.6	+0.2
NPOC				IAML		11 30 50.4	
	comp=E,3μm,0.6s						
NPOC				IAML		11 30 50.4	
	comp=N,2μm,0.3s						
STCH	**Steam Cracks**	**0.12**	**246**		Pg	11 30 47.0	-0.7
KNHH	**Kane Nui o Ham**	**0.16**	**250**		Pg	11 30 48.6	+0.3
PUH	**Pauahi**	**0.21**	**253**		Pg	11 30 47.5	-1.5
PUH				IAML		11 30 52.7	
	comp=E,1μm,0.9s						
PUH				IAML		11 30 56.3	
	comp=N,2μm,1.1s						
HLP	**Hilina Pali**	**0.32**	**244**		Pg	11 30 51.0	0.0
HLP				IAML		11 30 55.1	
	comp=E,2μm,1.1s						
HTC	**Hot Caves**	**0.42**	**242**		Pg	11 30 53.4	+0.5
HMH	**Humu'ula Sheep**	**0.48**	**290**		Pg	11 30 53.0	-1.1
MLOA	**Mauna Loa Obse**	**0.55**	**281**	Pg	Pg	11 30 55.5	+0.1
MWH	**Moku'aweowe**	**0.56**	**275**		Pg	11 30 55.5	-0.1
KHU	**Kahuku**	**0.60**	**252**		Pg	11 30 55.8	-0.6
KHU				IAML		11 31 11.2	
	comp=N,620nm,2.1s						
KHU				IAML		11 31 14.6	
	comp=E,754nm,1.2s						

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*NEIC **16** 11:30:54.8±1.6, 40°.47N±0°.03×124°.36W±0°.05, h27km±9km, Error ellipse: s-maj=5.1km s-min=4.0km az=88.0*
NCEDC 16 11:30:55.4±1.9, 40°.49N±0°.01×124°.32W±0°.07, h20km±1km, ML2.9/15, ML2.5/56(NEIC), Error ellipse: s-maj=7.3km s-min=1.4km az=80.0, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KCTM	**Capetown**	**0.02**	**229**		Pb	11 30 59.3	+0.4
KCTM					Sb	11 31 02.6	+1.4
FER	**Ferndale**	**0.10**	**25**		Pb	11 30 59.8	+0.5
FER					Sb	11 31 03.9	+1.9
KMPM	**Mount Pierce**	**0.17**	**116**		Pb	11 31 00.0	0.0
KMPM				Sg	Sb	11 31 04.0	+0.9
KCRM	**Chalk Rock**	**0.38**	**99**		Pb	11 31 03.8	+0.3
JCC	**Jacoby Creek,**	**0.39**	**33**		Pb	11 31 03.5	-0.2
JCC				Sg	Sb	11 31 10.0	+0.8
KMRM	**Mail Ridge**	**0.54**	**120**		Pb	11 31 06.3	+0.2
KMRM				Sg	Sn	11 31 15.0	-1.4
KHMM	**Horse Mountain**	**0.59**	**49**		Pb	11 31 07.0	-0.1
KRPM	**Rodgers**	**0.70**	**18**		Pb	11 31 08.2	-0.8
KRPM				IAML		11 31 21.1	
	comp=E,214nm,0.6s						
KRPM				IAML		11 31 21.2	
	comp=N,221nm,0.8s						
KHBM	**Hayfork Bally**	**0.85**	**78**		Pb	11 31 10.6	-1.0
KIPM	**Iron Peak**	**0.93**	**136**		Pb	11 31 12.0	-1.0
KCPM	**Cahto Peak**	**0.98**	**145**		Pb	11 31 13.0	-0.7
KOMM	**Orleans Mounta**	**1.02**	**39**		Pb	11 31 13.0	-1.5
KBNM	**Bluenose Ridge**	**1.05**	**124**		Pb	11 31 14.1	-0.7
KRMB	**Red Mountain**	**1.08**	**17**		Pb	11 31 13.6	-1.8
KRMB				IAML		11 31 27.7	
	comp=E,101nm,0.3s						
LBPM	**Beegum Peak**	**1.11**	**98**		Pn	11 31 14.4	-1.4
LGPM	**Granite Peak**	**1.21**	**69**		Pn	11 31 15.7	-1.5
O02D	**Mt. Diablo Mer**	**1.21**	**104**		Pn	11 31 15.5	-1.7
GTC	**Three Chop Rid**	**1.23**	**152**		Pn	11 31 15.6	-1.9
DCMP	**DeCamp, Califo**	**1.27**	**143**		Pn	11 31 15.9	-2.0
N02D	**Trinity Center**	**1.32**	**68**		Pn	11 31 17.2	-1.5
KSXB	**Camp Six Broad**	**1.38**	**14**		Pn	11 31 17.9	-1.7
KSXB				IAML		11 31 35.4	
	comp=E,82nm,0.4s						
KSXB				IAML		11 31 36.6	
	comp=N,63nm,0.5s						
LBKM	**Bonanza King**	**1.39**	**64**		Pn	11 31 18.3	-1.4
GVV	**Valley View**	**1.45**	**119**		Pn	11 31 19.5	-1.1
GHMM	**Hull Mountain**	**1.46**	**133**		Pn	11 31 19.3	-1.3
GWRM	**Wonder Ranch**	**1.50**	**148**		Pn	11 31 19.3	-1.9
LAMM	**Antelope Mount**	**1.70**	**48**		Pn	11 31 23.4	-0.6
KBO	**Bosley Butte**	**1.72**	**2**		Pn	11 31 22.6	-1.7
L02F	**Cave Junction**	**1.72**	**19**		Pn	11 31 22.6	-1.7
L02F				IAML		11 31 45.1	
	comp=N,72nm,0.4s						
L02F				IAML		11 31 45.5	
	comp=E,42nm,0.5s						
GCK	**Clark Valley**	**1.73**	**123**		Pn	11 31 24.0	-0.3
YBH	**Yreka Blue Hor**	**1.74**	**44**		Pn	11 31 23.7	-0.8
GGUM	**Gualala**	**1.75**	**159**		Pn	11 31 22.3	-2.3
GHLM	**Highland Sprin**	**1.76**	**145**		Pn	11 31 23.1	-1.7
LSHM	**Sage Hen Hill**	**1.76**	**79**		Pn	11 31 23.8	-1.0
GTSM	**Trough Springs**	**1.77**	**131**		Pn	11 31 23.8	-1.1
HOPS	**Hopland Field**	**1.77**	**147**		Pn	11 31 23.5	-1.4
M03C	**McCloud**	**1.84**	**64**		Pn	11 31 25.8	-0.1
LMPM	**Military Pass**	**1.91**	**58**		Pn	11 31 27.0	0.0
O03E	**Paynes Creek**	**1.93**	**95**		Pn	11 31 25.7	-1.5
LDBM	**Digger Butte**	**1.93**	**91**		Pn	11 31 25.7	-1.5
GFC	**Funks Creek**	**1.94**	**126**		Pn	11 31 27.0	-0.2
B040	**Montague**	**1.96**	**46**		Pn	11 31 27.1	-0.4
LBFM	**Black Fox Moun**	**2.03**	**64**		Pn	11 31 28.4	-0.2
LCMM	**Colby Mountain**	**2.16**	**98**		Pn	11 31 29.5	-0.9
LGMM	**Garner Mountai**	**2.18**	**59**		Pn	11 31 30.4	-0.2
OGOM	**Van Goodin Ran**	**2.24**	**111**		Pn	11 31 29.6	-1.6
LTIM	**Timbered Crate**	**2.25**	**71**		Pn	11 31 30.9	-0.7
OSUM	**Sutter Buttes**	**2.25**	**122**		Pn	11 31 29.6	-1.8
K02D	**Willamette Mer**	**2.26**	**12**		Pn	11 31 30.1	-1.6
K02D				IAML		11 31 58.2	
	comp=E,37nm,0.4s						
K02D				IAML		11 31 58.3	
	comp=N,31nm,0.2s						
M04C	**Macdoel**	**2.27**	**55**		Pn	11 31 31.4	-0.5
LBCM	**Butte Creek Ri**	**2.28**	**80**		Pn	11 31 31.4	-0.7
LMHM	**Little Mount H**	**2.29**	**61**		Pn	11 31 31.6	-0.6
L04D	**Klamath Falls**	**2.30**	**41**	Pn	Pn	11 31 32.5	+0.2
HUMO	**Hull Mountain**	**2.35**	**25**	Pn	Pn	11 31 32.0	-0.9
HUMO				IAML		11 32 01.8	
	comp=N,18nm,0.3s						
ORV	**Oroville**	**2.35**	**112**		Pn	11 31 32.3	-0.6
MCCM	**Marconi Confer**	**2.59**	**154**	Pn	Pn	11 31 34.9	-1.2
MCCM				IAML		11 32 42.9	
	comp=N,17nm,2.8s						
MCCM				IAML		11 33 18.8	
	comp=E,16nm,1.4s						
BBOR	**Butler Butte**	**2.69**	**27**		Pn	11 31 37.7	0.0
DBO	**Dodson Butte**	**2.75**	**17**		Pn	11 31 38.0	-0.4
AFDM	**Forest Hills D**	**3.00**	**120**		Pn	11 31 41.0	-0.9
I03D	**Drain, OR**	**3.29**	**12**	Pn	Pn	11 31 45.2	-0.5
I03D				IAML		11 33 03.8	
	comp=N,9.4nm,2.4s						
I03D				IAML		11 33 21.9	
	comp=E,13nm,4.2s						
K05A	**Summer Lake**	**3.40**	**48**		Pn	11 31 47.5	+0.1
MPK	**Martis Peak**	**3.51**	**108**		Pn	11 31 50.0	+1.0
MPK				IAML		11 32 34.9	
	comp=N,13nm,0.8s						
MPK				IAML		11 33 14.2	
	comp=E,12nm,2.1s						
EMB	**Emerald Bay**	**3.58**	**114**		Pn	11 31 49.7	-0.3
EMB				IAML		11 32 35.9	
	comp=E,7.8nm,1.1s						
EMB				IAML		11 33 06.9	
	comp=N,14nm,1.2s						
I04A	**Tendick Farm,**	**3.59**	**23**		Pn	11 31 50.2	+0.2
I04A				IAML		11 32 32.3	
	comp=N,15nm,0.2s						
I04A				IAML		11 32 33.8	
	comp=E,12nm,0.2s						
J05D	**Fort Rock, OR**	**3.62**	**38**		Pn	11 31 50.5	+0.1
PAHR	**Pah Rah Range**	**3.86**	**100**	Pn	Pn	11 31 52.9	-0.9
PNTR	**Pine Nut**	**3.89**	**110**	Pn	Pn	11 31 54.1	-0.1
PNTR				IAML		11 33 04.5	
	comp=E,9.8nm,4.7s						
PNTR				IAML		11 33 12.9	
	comp=N,8.3nm,1.3s						
PINE	**Pine Mountain**	**4.15**	**36**	Pn	Pn	11 31 58.2	+0.5
YERR	**Yerington**	**4.19**	**109**		Pn	11 31 57.8	-0.5
YERR				IAML		11 32 45.8	
	comp=N,3.8nm,4.7s						
YERR				IAML		11 33 34.5	
	comp=E,5.1nm,3.8s						
SAO	**San Andreas Ge**	**4.34**	**148**	Pn	Pn	11 32 00.5	+0.3
H04A	**Detroit Lake**	**4.48**	**20**	Pn	Pn	11 32 02.4	+0.3
KVN	**Kaiserville**	**5.00**	**105**	Pn	Pn	11 32 08.5	-0.9
KVN				IAML		11 33 56.5	
	comp=N,3.4nm,5.0s						
KVN				IAML		11 34 17.9	
	comp=E,2.8nm,4.8s						
NVAR	**Mina Array Bea**	**5.09**	**112**	Pn	Pn	11 32 11.1	+0.4
J08A	**Circle Bar Ran**	**5.21**	**55**	Pn	Pn	11 32 11.6	-0.7
F03A	**Seaside**	**5.47**	**6**	Pn	Pn	11 32 15.2	-0.5
WCT	**Wildcat Mounta**	**7.06**	**119**		Pn	11 32 36.1	-1.5

NNC 16 11:41:44.2±3.8, 36°.98N×70°.39E, h47km±180km, mb4.0, mpv3.8,2C, Error ellipse: s-maj=45.5km s-min=36.2km az=90.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Borolday**	**6.05**	**356**	Pg	Pn	11 43 08.3	-2.9
	1.9nm,0.3s						
BRLS				Lg	Lg	11 44 18.4	
	5.0nm,0.6s						
KK31	**Karatay Array**	**6.11**	**1**	⇑P	Pn	11 43 11.9	0.0
	4.2nm,0.4s,baz=182,slow=13,SNR=28						
KK31				⇑S	Sn	11 44 21.2	+0.7
	4.0nm,0.5s,baz=181,slow=21						
MRKS	**Merke**	**6.15**	**20**	Pg	Pn	11 43 10.0	-2.5
	7.9nm,0.5s						
MRKS				Lg	Lg	11 44 21.6	
	12nm,0.3s						
AB31	**Akbulak array**	**14.43**	**332**	P	Pn	11 45 05.4	0.0
	0.2nm,0.3s,baz=170,slow=12,SNR=6.9						

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*NEIC **16** 11:56:40.4±1.1, 19°.401N±0°.009×155°.289W±0°.007, h1km±6km, Error ellipse: s-maj=1.4km s-min=0.9km az=192.0*
HVO 16 11:56:39.5±1.1, 19°.40N±0°.01×155°.281W±0°.008, h0km±6km, ML3.1/14, ML2.3/37(NEIC), Error ellipse: s-maj=2.0km s-min=0.8km az=200.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPH	**North Pit**	**0.01**	**359**		Pg	11 56 40.1	+0.2
RIM	**Rim**	**0.01**	**142**		Pg	11 56 40.4	+0.4
OBL	**Observatory Le**	**0.01**	**348**	IAML		11 56 40.3	
	comp=N,13μm,0.5s						
OBL					Pg	11 56 40.3	+0.4
KKO	**Keanakako`i**	**0.01**	**113**		Pg	11 56 40.3	+0.3
WRMHI	**West Rim**	**0.02**	**279**		Pg	11 56 40.4	+0.4
SDHHI	**Sand Hill**	**0.02**	**221**		Pg	11 56 40.4	+0.4
BYL	**Byron's Ledge**	**0.02**	**67**		Pg	11 56 40.5	+0.5
UWB	**Uwekahuna B**	**0.02**	**7**		Pg	11 56 40.5	+0.4
UWE	**Uwekahuna**	**0.02**	**326**	IAML		11 56 40.3	
	comp=E,10μm,0.8s						
UWE					Pg	11 56 40.6	+0.6
UWE				IAML		11 56 40.8	
	comp=N,7μm,0.3s						
SBLHI	**Steaming Bluff**	**0.03**	**28**		Pg	11 56 40.4	+0.3
SBLHI				IAML		11 56 40.9	
	comp=E,6μm,1.0s						
HATHI	**Halema'uma'u T**	**0.03**	**44**	IAML		11 56 40.4	
	comp=N,6μm,0.8s						
HATHI				IAML		11 56 40.5	
	comp=E,6μm,0.9s						
HATHI					Pg	11 56 40.5	+0.4
RSD	**Rainshed**	**0.06**	**3**		Pg	11 56 41.4	+0.7
RSD				IAML		11 56 42.6	
	comp=E,3μm,0.4s						
PUH	**Pauahi**	**

LVSN 16 11:57:01.7±2.1, 55°97N×24°18E, h0km±6km, ML2.1, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSVD	**Vaisvydziai**	**0.14**	**276**	*eP*	Pg	11 57 05.1	+0.7
PABE	**Paberze**	**0.48**	**195**	*eP*	Pn	11 57 21.1	+5.3
PABE	**Paberze**	**0.48**	**195**	*eP*	Pg	11 57 11.4	+0.6
PABE				*eS*	Sg	11 57 18.0	+1.0
PABE				AML	AML	11 57 38.0	
	comp=N,124nm,0.6s						
PABE				AML	AML	11 57 44.1	
	comp=E,92nm,0.4s						
PABE				AML	AML	11 58 00.3	
	comp=Z,100nm,0.9s						
SLIT	**Slitere, Latvi**	**1.96**	**329**	*eP*	Pb	11 57 37.8	-0.5
SLIT				*eS*	Sg	11 58 04.6	-0.1
SLIT				AML	AML	11 58 07.0	
	comp=N,53nm,0.5s						
SLIT				AML	AML	11 58 08.4	
	comp=Z,41nm,0.4s						
SLIT				AML	AML	11 58 09.8	
	comp=E,42nm,0.8s						
SLIT	**Slitere, Latvi**	**1.96**	**329**	*eP*	Pb	11 57 37.7	-0.6
SLIT				*eS*	Sb	11 58 03.9	+0.6
SLIT				AML	AML	11 58 07.0	
	comp=N,53nm,0.4s						
SLIT				AML	AML	11 58 09.4	
	comp=Z,37nm,0.6s						
SLIT				AML	AML	11 58 09.8	
	comp=E,42nm,0.8s						
MTSE	**Matsula**	**2.76**	**356**	*eS*	Sb	11 58 26.3	+0.1
MTSE	**Matsula**	**2.76**	**356**	*eS*	Sb	11 58 26.7	+0.5
VSU	**Vasula**	**2.86**	**28**	AML	AML	11 58 28.1	
	comp=Z,20nm,0.2s						
VSU				*eS*	Sg	11 58 32.3	-1.2
VSU				AML	AML	11 58 35.3	
	comp=E,27nm,0.4s						
VSU				AML	AML	11 58 36.0	
	comp=N,678nm,0.1s						
VSU	**Vasula**	**2.86**	**28**	*eS*	Sb	11 58 27.2	-1.9

*IDC **16** 12:05:05.2±0.8, 56°.22N×148°.75W, h0km, mb4.0/18, mbtmp4.0/23, ML3.4/5, MS3.6/31, Error ellipse: s-maj=21.9km s-min=14.0km az=27.0*

*NEIC **16** 12:05:07.5±1.2, 56°.26N±0°.08×148°.7W±0°.1, h21km±2km, mb4.1/29, ML4.0/58, ML3.8(AEIC), Error ellipse: s-maj=11.6km s-min=8.1km az=172.0*

*AEIC **16** 12:05:09.4±1.7, 56°.17N±0°.08×148°.5W±0°.1, h10km±5km, Error ellipse: s-maj=11.3km s-min=8.2km az=171.0*

ISC 16 12:05:06.2±0.5, 56°.30N±0°.06×148°.61W±0°.04, h10km, n307, s0°98/285, mb4.1/35, MS3.5/27, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.63**	**306**	Pn	**Pn**	**12 05 48.5**	**-0.2**
KDAK	**Kodiak Island**	**2.63**	**306**		**Sn**	**12 06 20.0**	**-0.7**
KDAK	**Kodiak Island**	**2.63**	**306**	Pn	**Pn**	**12 05 48.1**	**-0.6**
	8.0nm,0.3s,baz=124,slow=6.7,SNR=186						
KDAK				Sn	**Sn**	**12 06 16.8**	**-3.9**
	8.7nm,0.3s,baz=111,slow=17,SNR=5.9						
	22nm,0.3s						
OHAK	**Old Harbor**	**2.74**	**292**	P	**Pn**	**12 05 49.2**	**-0.9**
OHAK	**Old Harbor**	**2.74**	**292**		**Pn**	**12 05 49.0**	**-1.1**
OHAK	**Old Harbor**	**2.74**	**292**		**Sn**	**12 06 20.6**	**-2.6**
OHAK	**Old Harbor**	**2.74**	**292**	P	**Pn**	**12 05 49.1**	**-1.1**
	baz=109						
OHAK				S	**Sn**	**12 06 20.6**	**-2.6**
	baz=109						
SYI	**Shuyak Island**	**3.09**	**320**	Pn	**Pn**	**12 05 54.9**	**-0.1**
SYI	**Shuyak Island**	**3.09**	**320**		**Sn**	**12 06 31.7**	**-0.3**
Q20K	**Shuyak Island**	**3.09**	**320**	P	**Pn**	**12 05 55.0**	**0.0**
	baz=138						
Q20K				S	**Sn**	**12 06 31.7**	**-0.3**
	baz=138						
SII	**Sitkinak Islan**	**3.10**	**277**	P	**Pn**	**12 05 54.4**	**-0.8**
SII	**Sitkinak Islan**	**3.10**	**277**		**Pn**	**12 05 54.4**	**-0.8**
SII				IAML		12 06 33.6	
	comp=E,466nm,0.8s						
SII				IAML		12 06 53.4	
	comp=N,468nm,0.8s						
SII	**Sitkinak Islan**	**3.10**	**277**		**Sn**	**12 06 29.6**	**-2.8**
SII	**Sitkinak Islan**	**3.10**	**277**	P	**Pn**	**12 05 54.4**	**-0.8**
	baz=93						
SII				S	**Sn**	**12 06 30.7**	**-1.7**
	baz=93						
Q23K	**Middleton Isla**	**3.37**	**20**		**Sn**	**12 06 36.5**	**-2.3**
Q23K	**Middleton Isla**	**3.37**	**20**	Pn	**Pn**	**12 05 58.5**	**-0.4**
Q23K				IAML		12 06 54.7	
	comp=E,209nm,0.8s						
Q23K				IAML		12 07 15.5	
	comp=N,152nm,1.0s						
Q23K	**Middleton Isla**	**3.37**	**20**	P	**Pn**	**12 05 58.2**	**-0.6**
	baz=202						
CNPM	**China Poot**	**3.53**	**338**	Pn	**Pn**	**12 06 01.2**	**+0.2**
CNPM	**China Poot**	**3.53**	**338**		**Sn**	**12 06 42.6**	**-0.2**
BRSE	**Bradley Lake S**	**3.64**	**343**		**Pn**	**12 06 02.3**	**-0.3**
BRSE					**Sn**	**12 06 44.6**	**-0.9**
BRSE	**Bradley Lake S**	**3.64**	**343**	P	**Pn**	**12 06 02.5**	**-0.1**
	baz=162						
BRLK	**Bradley Lake**	**3.68**	**342**		**Pn**	**12 06 03.3**	**+0.1**
HOM	**Homer**	**3.74**	**336**		**Pn**	**12 06 04.4**	**+0.5**
HOM				IAML		12 06 57.3	
	comp=N,332nm,0.5s						
HOM				IAML		12 07 11.2	
	comp=E,266nm,0.9s						
HOM	**Homer**	**3.74**	**336**	P	**Pn**	**12 06 04.7**	**+0.8**
	baz=154						
P23K	**Montague Islan**	**3.77**	**9**		**Pn**	**12 06 04.1**	**-0.2**
P23K					**Sn**	**12 06 46.0**	**-2.7**
P23K	**Montague Islan**	**3.77**	**9**	P	**Pn**	**12 06 04.1**	**-0.2**
	baz=191						
P23K				S	**Sn**	**12 06 46.5**	**-2.2**
	baz=191						
Q19K	**Cape Douglas,**	**3.78**	**316**	Pn	**Pn**	**12 06 05.3**	**+0.8**
Q19K				IAML		12 07 22.2	
	comp=E,400nm,0.9s						
Q19K				IAML		12 07 23.6	
	comp=N,267nm,0.9s						
Q19K	**Cape Douglas,**	**3.78**	**316**	P	**Pn**	**12 06 05.3**	**+0.8**
	baz=133						
SEW	**Seward**	**3.85**	**354**		**Pn**	**12 06 04.9**	**-0.4**
SEW	**Seward**	**3.85**	**354**	P	**Pn**	**12 06 05.2**	**-0.2**
	baz=173						
CHIR	**Chirikof Islan**	**3.96**	**266**		**Pn**	**12 06 05.5**	**-1.4**
CHIR	**Chirikof Islan**	**3.96**	**266**	IAML		12 06 50.1	
	comp=E,174nm,0.7s						
CHIR				IAML		12 06 50.4	
	comp=N,185nm,0.7s						
AU22	**Augustine Moun**	**3.99**	**323**		**Pn**	**12 06 08.3**	**+0.9**
AUCH	**Augustine Cone**	**4.02**	**322**		**Pn**	**12 06 08.9**	**+1.1**
ACHA	**Angle Creek He**	**4.12**	**301**		**Pn**	**12 06 09.8**	**+0.5**
P19K	**Oil Pt**	**4.17**	**326**	Pn	**Pn**	**12 06 10.6**	**+0.7**
P19K				IAML		12 07 03.0	
	comp=E,232nm,0.7s						
P19K				IAML		12 07 07.0	
	comp=N,209nm,0.5s						
P19K	**Oil Pt**	**4.17**	**326**	P	**Pn**	**12 06 10.8**	**+0.9**
	baz=142						
KAHC	**Katmai Hardscr**	**4.18**	**307**		**Pn**	**12 06 10.7**	**+0.6**
KAHC	**Katmai Hardscr**	**4.18**	**307**	P	**Pn**	**12 06 10.9**	**+0.7**
	baz=122						
ANCK	**Angle Creek**	**4.20**	**300**		**Pn**	**12 06 11.1**	**+0.8**
O22K	**Cooper Landing**	**4.24**	**353**		**Pn**	**12 06 11.0**	**+0.2**
O22K	**Cooper Landing**	**4.24**	**353**	P	**Pn**	**12 06 10.9**	**+0.2**
	baz=172						
HIN	**Hinchinbrook I**	**4.26**	**14**		**Pn**	**12 06 11.4**	**+0.3**
KAIM	**Kayak Island**	**4.27**	**30**	Pn	**Pn**	**12 06 10.9**	**-0.2**
KAIM				IAML		12 07 04.2	
	comp=N,233nm,0.8s						
KAIM				IAML		12 07 19.4	
	comp=E,202nm,1.0s						
SLKM	**Skilak Lake**	**4.31**	**349**		**Pn**	**12 06 11.5**	**-0.3**
O20K	**Slope Mountain**	**4.35**	**332**		**Pn**	**12 06 12.5**	**+0.1**
IVE	**Iliamna Volcan**	**4.40**	**330**		**Pn**	**12 06 12.8**	**-0.3**
CNTC	**Contact Creek**	**4.41**	**300**		**Pn**	**12 06 13.8**	**+0.5**
Q17K	**Contact Creek**	**4.41**	**300**	P	**Pn**	**12 06 13.9**	**+0.6**
	baz=114						
EYAK	**Cordova Ski Ar**	**4.52**	**18**	P	**Pn**	**12 06 14.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.52**	**18**		**Pn**	**12 06 14.7**	**+0.1**
EYAK	**Cordova Ski Ar**	**4.52**	**18**	P	**Pn**	**12 06 14.7**	**+0.1**
	baz=201						
SUCK	**Suckling Hills**	**4.57**	**32**		**Pn**	**12 06 15.4**	**0.0**
SUCK				IAML		12 07 26.2	
	comp=N,203nm,1.2s						
SUCK				IAML		12 07 27.3	
	comp=E,180nm,1.2s						
RAGM	**Ragged Mountai**	**4.60**	**25**		**Pn**	**12 06 15.9**	**+0.2**
FID	**Port Fidalgo**	**4.61**	**13**		**Pn**	**12 06 15.8**	**-0.1**
FID				IAML		12 07 08.8	
	comp=E,104nm,0.5s						
FID				IAML		12 07 26.1	
	comp=N,114nm,0.7s						
NICHA	**Nichawak Mount**	**4.65**	**30**		**Pn**	**12 06 16.5**	**0.0**
HMT	**Hamilton**	**4.66**	**28**		**Pn**	**12 06 16.8**	**+0.2**
GLI	**Glacier Island**	**4.67**	**9**	Pn	**Pn**	**12 06 16.7**	**0.0**
GLI				IAML		12 07 14.4	
	comp=N,79nm,0.5s						
GLI				IAML		12 07 33.4	
	comp=E,133nm,0.9s						
GLI	**Glacier Island**	**4.67**	**9**	P	**Pn**	**12 06 16.7**	**0.0**
	baz=191						
CAPN	**Captain Cook N**	**4.68**	**345**	Pn	**Pn**	**12 06 17.7**	**+0.8**
P18K	**Big Mountain,**	**4.70**	**314**	Pn	**Pn**	**12 06 16.9**	**-0.3**
P18K	**Big Mountain,**	**4.70**	**314**	P	**Pn**	**12 06 17.2**	**0.0**
	baz=129						
RDT	**Redoubt**	**4.73**	**337**		**Pn**	**12 06 16.8**	**-0.9**
RDWB	**Redoubt West**	**4.76**	**334**		**Pn**	**12 06 17.3**	**-0.8**
GOAT	**Goat Mountain**	**4.76**	**24**		**Pn**	**12 06 18.1**	**+0.2**
BGLC	**Bering Glacier**	**4.76**	**34**		**Pn**	**12 06 18.2**	**+0.3**
DFR	**Drift River**	**4.81**	**335**		**Pn**	**12 06 18.2**	**-0.6**
RC01	**Rabbit Creek A**	**4.84**	**354**	Pn	**Pn**	**12 06 19.2**	**+0.1**
RC01				IAML		12 07 21.5	
	comp=E,111nm,0.6s						
RC01				IAML		12 07 33.5	
	comp=N,78nm,0.7s						
RC01	**Rabbit Creek A**	**4.84**	**354**	P	**Pn**	**12 06 19.3**	**+0.2**
	baz=173						
GRIN	**Grindle Hills**	**4.88**	**33**		**Pn**	**12 06 19.7**	**+0.2**
O19K	**Port Alsworth**	**4.94**	**325**		**Pn**	**12 06 20.2**	**-0.2**
SNH	**Sunshine Point**	**4.95**	**36**		**Pn**	**12 06 20.7**	**+0.1**
SNH				IAML		12 07 22.9	
	comp=E,102nm,1.0s						
SNH				IAML		12 07 57.2	
	comp=N,87nm,1.2s						
Q16K	**King Salmon**	**4.95**	**302**		**Pn**	**12 06 21.2**	**+0.6**
Q16K	**King Salmon**	**4.95**	**302**	P	**Pn**	**12 06 21.5**	**+1.0**
	baz=116						
O18K	**Koktuh Hills**	**5.00**	**318**	Pn	**Pn**	**12 06 21.1**	**-0.2**
O18K	**Koktuh Hills**	**5.00**	**318**	P	**Pn**	**12 06 21.0**	**-0.2**
	baz=133						
KHIT	**Khitrov Hills**	**5.03**	**32**		**Pn**	**12 06 21.4**	**-0.3**
DIV	**Divide**	**5.07**	**16**		**Pn**	**12 06 22.4**	**+0.1**
P17K	**Kvichak River**	**5.10**	**308**		**Pn**	**12 06 23.4**	**+0.9**
P17K	**Kvichak River**	**5.10**	**308**	P	**Pn**	**12 06 23.5**	**+0.9**
	baz=122						
BMRM	**Bremner River**	**5.13**	**22**		**Pn**	**12 06 23.1**	**0.0**
BMRM	**Bremner River**	**5.13**	**22**	P	**Pn**	**12 06 23.1**	**0.0**
	baz=206						
KNK	**Knik Glacier**	**5.13**	**1**		**Pn**	**12 06 23.7**	**+0.6**
KNK				IAML		12 07 40.5	
	comp=E,61nm,0.8s						
KNK				IAML		12 07 54.7	
	comp=N,54nm,1.1s						
KNK	**Knik Glacier**	**5.13**	**1**	P	**Pn**	**12 06 23.7**	**+0.6**
	baz=181						
WAX	**Waxell Ridge**	**5.15**	**34**		**Pn**	**12 06 23.4**	**0.0**
BARK	**Barkley Ridge**	**5.23**	**36**		**Pn**	**12 06 24.4**	**-0.1**
MESA	**MESA**	**5.25**	**39**		**Pn**	**12 06 24.9**	**0.0**
MESA				IAML		12 07 27.5	
	comp=N,88nm,1.0s						
MESA				IAML		12 07 38.2	
	comp=E,71nm,1.1s						
ANNE	**Aniakchak Nort**	**5.25**	**281**		**Pn**	**12 06 25.1**	**+0.2**
SPCR	**Spurr Chakacha**	**5.26**	**341**		**Pn**	**12 06 24.9**	**-0.1**
SPCN	**Chakachatna No**	**5.28**	**341**		**Pn**	**12 06 25.3**	**+0.1**
SUA	**Susitna One**	**5.30**	**349**	Pn	**Pn**	**12 06 25.6**	**+0.1**
SUA				IAML		12 07 43.8	
	comp=N,46nm,0.9s						
SUA				IAML		12 07 45.1	
	comp=E,43nm,0.8s						
SPCP	**Crater Peak Br**	**5.31**	**341**		**Pn**	**12 06 26.2**	**+0.5**
SPCG	**Spurr Capps Gl**	**5.32**	**342**		**Pn**	**12 06 25.9**	**+0.2**
SPBG	**Spurr Blockage**	**5.35**	**340**		**Pn**	**12 06 26.2**	**+0.1**
KLU	**Klutina**	**5.40**	**14**		**Pn**	**12 06 27.2**	**+0.4**
ISLE	**Juniper Island**	**5.43**	**35**		**Pn**	**12 06 27.3**	**0.0**
CHGN	**Chignik**	**5.46**	**274**	Pn	**Pn**	**12 06 27.5**	**0.0**
N19K	**Bonanza Creek**	**5.47**	**328**	Pn	**Pn**	**12 06 27.8**	**0.0**
STLK	**Strandline Lak**	**5.48**	**344**		**Pn**	**12 06 28.2**	**+0.3**
GHO	**Glory Hole Cre**	**5.50**	**358**		**Pn**	**12 06 29.3**	**+1.1**
SPNN	**North Nagishla**	**5.51**	**339**		**Pn**	**12 06 28.8**	**+0.4**
M22K	**Willow**	**5.53**	**353**		**Pn**	**12 06 29.4**	**+0.9**
SML	**Sawmill**	**5.53**	**1**	Pn	**Pn**	**12 06 29.5**	**+0.9**
SCM	**Sheep Creek Mo**	**5.59**	**6**		**Pn**	**12 06 30.4**	**+1.0**
VRDI	**Verde Repeater**	**5.63**	**26**	Pn	**Pn**	**12 06 29.9**	**-0.2**
SAMH	**Samovar Hills**	**5.65**	**44**		**Pn**	**12 06 30.6**	**+0.4**
KIAG	**Kiagun River**	**5.67**	**33**		**Pn**	**12 06 30.5**	**+0.2**
O17K	**Koliganek Bris**	**5.70**	**311**		**Pn**	**12 06 31.2**	**+0.4**
N25K	**Chitina, Valde**	**5.72**	**20**	Pn	**Pn**	**12 06 31.8**	**+0.6**
GLB	**Gilahina Butte**	**5.73**	**24**	Pn	**Pn**	**12 06 31.5**	**+0.2**
P16K	**Nushagak River**	**5.73**	**302**		**Pn**	**12 06 32.2**	**+0.9**
YKU2	**Yakutat**	**5.75**	**52**	Pn	**Pn**	**12 06 31.8**	**+0.2**
N18K	**Kilae Creek**	**5.82**	**322**	Pn	**Pn**	**12 06 32.4**	**-0.1**
PTPK	**Patty Peak**	**5.86**	**31**		**Pn**	**12 06 33.2**	**+0.1**
MCARA	**McCarthy VSAT**	**5.87**	**27**		**Pn**	**12 06 33.2**	**0.0**
VNHG	**Veniaminof 1**	**5.88**	**274**		**Pn**	**12 06 33.5**	**+0.1**
SKT	**Skwentna**	**5.90**	**346**	Pn	**Pn**	**12 06 34.0**	**+0.4**
PNL	**Peninsula**	**5.96**	**52**	P	**Pn**	**12 06 34.4**	**0.0**
PNL	**Peninsula**	**5.96**	**52**		**Pn**	**12 06 34.4**	**0.0**
M24K	**Tolsona, Glenn**	**5.96**	**11**		**Pn**	**12 06 35.9**	**+1.3**
BARN	**Barnard Glacie**	**6.00**	**34**		**Pn**	**12 06 35.5**	**+0.3**
BCPM	**Bancas Point**	**6.00**	**49**		**Pn**	**12 06 35.4**	**+0.4**
SVW2	**Sparrevohn**	**6.03**	**326**	Pn	**Pn**	**12 06 35.2**	**-0.2**
CTGM	**Chitina Glacie**	**6.03**	**36**		**Pn**	**12 06 35.6**	**+0.1**
O16K	**Kokwok River B**	**6.03**	**307**	Pn	**Pn**	**12 06 35.8**	**+0.4**
LOGN	**Logan Glacier**	**6.04**	**38**		**Pn**	**12 06 35.7**	**0.0**
WASW	**Wrangell South**	**6.09**	**20**		**Pn**	**12 06 37.0**	**+0.5**
WACK	**Wrangell Chich**	**6.12**	**19**		**Pn**	**12 06 37.3**	**+0.5**
N17K	**Nushagak Hills**	**6.19**	**317**	Pn	**Pn**	**12 06 37.4**	**-0.1**
CUT	**Chulitna**	**6.19**	**353**		**Pn**	**12 06 41.2**	**+3.7**
O28M	**Mount Upton**	**6.29**	**41**		**Pn**	**12 06 39.2**	**-0.1**
WAT6	**Susitna Watana**	**6.32**	**4**		**Pn**	**12 06 40.2**	**+0.7**
M19K	**Big River Lodg**	**6.36**	**335**		**Pn**	**12 06 39.6**	**-0.3**
HARP	**HAARP**	**6.37**	**15**		**Pn**	**12 06 41.3**	**+1.2**
CNBA	**Chernabura Isl**	**6.40**	**261**	Pn	**Pn**	**12 06 39.3**	**-1.2**
M18K	**Stony River**	**6.41**	**327**		**Pn**	**12 06 39.9**	**-0.7**
WAT1	**Susitna Watana**	**6.55**	**0**		**Pn**	**12 06 43.8**	**+1.2**
WAT7	**Susitna Watana**	**6.56**	**359**		**Pn**	**12 06 43.7**	**+1.0**
O15K	**Ungalikthiuk R**	**6.66**	**300**		**Pn**	**12 06 44.9**	**+0.8**
P29M	**Windy Craggy**	**6.68**	**55**	Pn	**Pn**	**12 06 43.9**	**-0.5**
L19K	**White Mountain**	**6.71**	**334**		**Pn**	**12 06 44.7**	**-0.1**
SDPT	**Sand Point**	**6.75**	**267**	P	**Pn**	**12 06 44.8**	**-0.5**
SDPT	**Sand Point**	**6.75**	**267**	Pn	**Pn**	**12 06 44.8**	**-0.5**
L20K	**Farewell, AK**	**6.76**	**339**		**Pn**	**12 06 45.1**	**-0.3**
M26K	**Nabesna, AK**	**6.76**	**23**	Pn	**Pn**	**12 06 45.9**	**+0.4**
N16K	**Nishlik Lake**	**6.78**	**312**		**Pn**	**12 06 45.9**	**+0.2**
DHY	**Denali Highway**	**6.83**	**5**	Pn	**Pn**	**12 06 48.1**	**+1.6**
M17K	**Holitna River**	**6.86**	**322**	Pn	**Pn**	**12 06 47.3**	**+0.5**
PAX	**Paxson**	**6.88**	**12**		**Pn**	**12 06 48.1**	**+1.0**
M27K	**Edge Creek, AK**	**6.99**	**27**	Pn	**Pn**	**12 06 49.3**	**+0.7**
MENT	**Mentasta**	**7.11**	**18**		**Pn**	**12 06 52.1**	**+1.9**
RND	**Reindeer**	**7.13**	**359**	Pn	**Pn**	**12 06 52.4**	**+1.8**
M16K	**Timber Creek**	**7.18**	**316**	Pn	**Pn**	**12 06 51.5**	**+0.4**
N15K	**Kwethluk River**	**7.19**	**307**	Pn	**Pn**	**12 06 52.9**	**+1.5**
L18K	**Granite Mounta**	**7.24**	**328**	Pn	**Pn**	**12 06 51.4**	**-0.5**
L26K	**Log Cabin Wild**	**7.26**	**19**		**Pn**	**12 06 53.3**	**+1.1**
CAST	**Castle Rocks**	**7.36**	**348**		**Pn**	**12 06 54.1**	**+0.5**
SIT	**Sitka**	**7.36**	**79**	P	**Pn**	**12 06 50.5**	**-3.1**
HYT	**Haines Junctio**	**7.37**	**47**	Pn	**Pn**	**12 06 54.2**	**+0.3**
O14K	**Tigyukauivet M**	**7.38**	**299**		**Pn**	**12 06 54.7**	**+0.8**
PS4A	**Pavlof South-4**	**7.52**	**268**		**Pn**	**12 06 55.0**	**-0.9**
S12K	**Black Hills**	**7.57**	**271**	Pn	**Pn**	**12 06 55.9**	**-0.5**
K20K	**Telida**	**7.59**	**341**		**Pn**	**12 06 56.8**	**-0.1**
L27K	**Beaver Creek,**	**7.60**	**24**		**Pn**	**12 06 57.2**	**+0.2**
BCAR	**Beaver Creek A**	**7.62**	**24**		**Pn**	**12 06 57.4**	**+0.2**
L17K	**Donlin**	**7.67**	**324**		**Pn**	**12 06 57.6**	**-0.3**
M15K	**Kasigluk River**	**7.71**	**310**		**Pn**	**12 06 58.4**	**0.0**
SKAG	**Skagway**	**7.76**	**60**	P	**Pn**	**12 06 59.2**	**+0.1**
SKAG	**Skagway**	**7.76**	**60**		**Pn**	**12 06 59.0**	**0.0**
N30M	**Aishikik Lake**	**7.90**	**44**		**Pn**	**12 07 01.8**	**+0.7**
BPAW	**Bear Paw Mtn.**	**7.92**	**352**	Pn	**Pn**	**12 07 01.8**	**+0.5**
O30N	**Mendenhall**	**7.94**	**50**		**Pn**	**12 07 02.0**	**+0.4**
JIS	**Juneau Island**	**7.96**	**70**	P	**Pn**	**12 07 01.0**	**-0.8**
SCRK	**Sand Creek**	**8.04**	**15**	Pn	**Pn**	**12 07 04.4**	**+1.3**
M29M	**Somme Creek**	**8.05**	**36**	Pn	**Pn**	**12 07 04.2**	**+1.1**
K17K	**Iditarod**	**8.10**	**327**	Pn	**Pn**	**12 07 03.2**	**-0.5**
HDA	**Harding Lake**	**8.18**	**5**		**Pn**	**12 07 05.7**	**+0.8**
NEA2	**Nenana**	**8.33**	**359**		**Pn**	**12 07 07.3**	**+0.4**
J20K	**Nowinta River**	**8.37**	**343**		**Pn**	**12 07 07.9**	**+0.5**
CCB	**Clear Creek Bu**	**8.39**	**2**		**Pn**	**12 07 08.2**	**+0.5**
WHY	**Whitehorse**	**8.41**	**53**	Pn	**Pn**	**12 07 08.6**	**+0.4**
N31M	**Braeburn, Yuko**	**8.43**	**47**	Pn	**Pn**	**12 07 09.3**	**+0.9**
J19K	**Poorman**	**8.47**	**339**	Pn	**Pn**	**12 07 08.4**	**-0.5**
J25K	**Salcha River,**	**8.50**	**10**		**Pn**	**12 07 10.2**	**+0.9**
IL31		**8.55**	**5**		**Pn**	**12 07 10.5**	**+0.7**
ILAR	**Eielson Array**	**8.55**	**5**		**Pn**	**12 07 11.0**	**+1.1**
ILAR	**Eielson Array**	**8.55**	**5**	Pn	**Pn**	**12 07 09.9**	**0.0**
	comp=E,0.5nm,0.3s,baz=189,slow=13,SNR=22						
ILAR				Sn	**Sn**	**12 08 42.6**	**-3.6**
	comp=E,0.5nm,0.3s,baz=184,slow=24,SNR=7.1						
ILAR				LR	LR	12 10 40.2	
	comp=E,211nm,20.3s,baz=218,slow=39						
	comp=E,1.3nm,0.3s						
L15K	**Ungalak Mounta**	**8.55**	**314**		**Pn**	**12 07 10.4**	**+0.5**
J26L	**Joseph Creek**	**8.60**	**15**		**Pn**	**12 07 11.7**	**+1.0**
COLA	**College**	**8.62**	**2**	P	**Pn**	**12 07 12.0**	**+1.2**
L29M	**L29M**	**8.64**	**33**	Pn	**Pn**	**12 07 12.1**	**+0.9**
MDM	**Murphy Dome**	**8.70**	**1**	Pn	**Pn**	**12 07 13.2**	**+1.3**
M30M	**Minto, Yukon**	**8.70**	**39**		**Pn**	**12 07 12.6**	**+0.5**
ISLZ	**Isanotski Laza**	**8.71**	**266**		**Pn**	**12 07 11.4**	**-0.8**
ISNN	**Isanotski Nort**	**8.72**	**267**		**Pn**	**12 07 11.8**	**-0.5**
CRAG	**Craig**	**8.75**	**89**	P	**Pn**	**12 07 09.8**	**-2.9**
MLY	**Manley**	**8.83**	**354**		**Pn**	**12 07 15.0**	**+1.2**
J17K	**VABM Dome**	**8.85**	**328**	Pn	**Pn**	**12 07 13.6**	**-0.4**
SSLS	**Shishaldin Sou**	**8.88**	**266**		**Pn**	**12 07 14.0**	**-0.5**
P33M	**Teslin, Yukon**	**9.20**	**58**	Pn	**Pn**	**12 07 18.9**	**0.0**
J16K	**Anvik River**	**9.24**	**324**	Pn	**Pn**	**12 07 19.2**	**-0.1**
WESE	**West Dahl East**	**9.27**	**265**		**Pn**	**12 07 19.4**	**-0.6**
WECS	**Westdahl Cape**	**9.36**	**266**		**Pn**	**12 07 20.5**	**-0.6**
K29M	**Barlow Dome**	**9.37**	**32**	Pn	**Pn**	**12 07 22.2**	**+1.0**
M31M	**Drury Creek, Y**	**9.37**	**45**	Pn	**Pn**	**12 07 22.6**	**+1.3**
H21K	**Melozitna Rive**	**9.61**	**350**	Pn	**Pn**	**12 07 24.7**	**+0.2**
H22K	**Ishtalitna Cre**	**9.72**	**353**		**Pn**	**12 07 27.3**	**+1.3**
FARO	**Faro, Yukon**	**9.80**	**46**		**Pn**	**12 07 28.2**	**+1.1**
R33M	**Jennings River**	**9.90**	**64**	Pn	**Pn**	**12 07 28.6**	**0.0**
I28M	**Miner Creek**	**10.10**	**21**	Pn	**Pn**	**12 07 33.0**	**+1.8**
DLBC	**Dease Lake**	**10.26**	**70**	Pn	**Pn**	**12 07 33.5**	**0.0**
	comp=E,0.2nm,0.3s,baz=271,slow=7.0,SNR=7.2						
DLBC				Sn	**Sn**	**12 09 24.5**	**-4.0**
	comp=E,0.2nm,0.3s,baz=249,slow=16,SNR=1.6						
	comp=E,1.7nm,0.5s						
J30M	**Hart River**	**10.26**	**31**	Pn	**Pn**	**12 07 34.8**	**+1.3**
H17K	**Granite Mounta**	**10.27**	**332**	Pn	**Pn**	**12 07 33.1**	**-0.4**
FYU	**Fort Yukon**	**10.43**	**7**		**Pn**	**12 07 36.3**	**+0.7**
G23K	**Bananza Creek**	**10.47**	**357**	Pn	**Pn**	**12 07 37.7**	**+1.4**
G18K	**Tagagawik**	**10.77**	**337**		**Pn**	**12 07 39.7**	**-0.6**
G27K	**Doyon Strip**	**11.05**	**14**	Pn	**Pn**	**12 07 45.0**	**+0.9**
BMAR	**Burnt Mountain**	**11.33**	**8**	Pn	**Pn**	**12 07 48.3**	**+0.3**
G29M	**Pine Creek**	**11.76**	**21**		**Pn**	**12 07 54.5**	**+0.6**
F17K	**Baldwin Pennin**	**11.81**	**335**	Pn	**Pn**	**12 07 53.9**	**-0.6**
E27K	**Coleen River**	**12.36**	**12**	Pn	**Pn**	**12 08 02.2**	**+0.2**
E18K	**T

SFJD	**Kangerlussuaq**	**42.87**	**35**	LR	LR	12 31 52.0		
	comp=Z,72nm,18.0s,baz=294,slow=37							
DAG	**Danmarks Havn**	**43.50**	**15**	*i* P	**P**	**12 13 10.0**	**+1.0**	
DAG				IAmb	IAmb	12 13 11.8		
	comp=Z,1.9nm,0.8s							
T47A	**Sharon Grove**	**44.74**	**89**	P	**P**	**12 13 18.9**	**-0.6**	
ICESG	**Greenland Ices**	**44.78**	**29**	*i* P	**P**	**12 13 21.5**	**+1.7**	
ICESG				IAmb	IAmb	12 13 24.1		
	comp=Z,3.5nm,0.8s							
DBG	**Daneborg**	**45.20**	**17**	*i* P	**P**	**12 13 22.4**	**-0.3**	
DBG				IAmb	IAmb	12 13 26.0		
	comp=Z,2.0nm,1.0s							
KLR	**Kul'dur**	**46.16**	**297**	LR	LR	12 34 52.2		
	comp=Z,54nm,19.0s,baz=78,slow=39							
TKL	**Tuckaleechee C**	**47.56**	**87**	LR	LR	12 33 44.8		
	comp=Z,107nm,18.3s,baz=292,slow=36							
H11N2	**WAKE ISLAND Hy**	**49.21**	**241**	T	T	13 07 35.3		
	baz=29,slow=76,SNR=25							
H11N3	**WAKE ISLAND Hy**	**49.22**	**241**	T	T	13 07 32.4		
	baz=29,slow=76,SNR=24							
H11N1	**WAKE ISLAND Hy**	**49.23**	**241**	T	T	13 07 38.5		
	baz=29,slow=76,SNR=21							
JMIC	**Jan Mayen**	**49.90**	**16**	LR	LR	12 36 26.8		
	comp=Z,42nm,20.1s,baz=148,slow=38							
H11S1	**WAKE ISLAND Hy**	**50.35**	**240**	T	T	13 08 58.7		
	baz=29,slow=76,SNR=64							
H11S2	**WAKE ISLAND Hy**	**50.37**	**240**	T	T	13 08 58.1		
	baz=29,slow=76,SNR=19							
H11S3	**WAKE ISLAND Hy**	**50.37**	**240**	T	T	13 08 57.6		
	baz=29,slow=76,SNR=28							
BORG	**Borgarnes**	**52.77**	**25**	LR	LR	12 37 36.5		
	comp=Z,46nm,19.8s,baz=146,slow=37							
ARCES	**ARCESS Array B**	**54.40**	**3**	P	**P**	**12 14 32.8**	**+0.1**	
	comp=Z,3.5nm,1.1s,baz=331,slow=12,SNR=2.5							
	comp=Z,3.5nm,1.1s							
SONM	**Songino Array**	**58.91**	**311**	P	**P**	**12 15 04.1**	**-1.1**	
SONM	**Songino Array**	**58.91**	**311**	P	**P**	**12 15 07.1**	**+1.8**	
	comp=Z,1.9nm,0.8s,baz=36,slow=5.9,SNR=12							
SONM				PcP	**PcP**	**12 15 53.4**	**-1.0**	
	comp=Z,1.2nm,0.8s,baz=49,slow=4.0,SNR=2.4							
SONM				LR	LR	12 43 48.6		
	comp=Z,54nm,19.2s,baz=74,slow=39							
	comp=Z,1.9nm,0.8s							
ZALV	**Zalesovo Beam**	**61.75**	**327**	P	**P**	**12 15 24.5**	**+0.1**	
	comp=Z,0.6nm,0.6s,baz=47,slow=2.6,SNR=2.4							
ZALV				LR	LR	12 44 58.5		
	comp=Z,23nm,19.1s,baz=104,slow=39							
	comp=Z,0.6nm,0.6s							
NOA	**NORSAR Array B**	**61.93**	**11**	P	**P**	**12 15 24.8**	**-0.8**	
	comp=Z,0.9nm,0.8s,baz=348,slow=6.7,SNR=2.5							
NOA				LR	LR	12 44 08.5		
	comp=Z,17nm,19.0s,baz=250,slow=38							
	comp=Z,0.9nm,0.8s							
FINES	**FINESS Array B**	**62.53**	**3**	P	**P**	**12 15 30.6**	**+1.2**	
	comp=Z,2.9nm,0.8s,baz=15,slow=5.9,SNR=8.0							
	comp=Z,2.9nm,0.8s							
ARU	**Arti**	**65.50**	**344**	P	**P**	**12 15 48.5**	**-0.5**	
ARU	**Arti**	**65.50**	**344**	LR	LR	12 46 47.8		
	comp=Z,52nm,19.5s,baz=344,slow=38							
BVAR	**Borovoye Array**	**66.43**	**335**	P	**P**	**12 15 56.0**	**+0.9**	
	comp=Z,1.2nm,0.7s,baz=40,slow=7.5,SNR=4.9							
BVAR				LR	LR	12 48 56.7		
	comp=Z,45nm,19.2s,baz=31,slow=40							
	comp=Z,1.2nm,0.7s							
KURBB	**Kurchatov Arra**	**66.52**	**329**	P	**P**	**12 15 56.3**	**+0.6**	
	comp=Z,0.3nm,0.3s,baz=28,slow=6.2,SNR=3.1							
	comp=Z,0.3nm,0.3s							
MKAR	**Makanchi Array**	**68.80**	**325**	P	**P**	**12 16 10.2**	**0.0**	
	comp=Z,0.2nm,0.4s,baz=39,slow=9.7,SNR=2.8							
	comp=Z,0.2nm,0.4s							
AKTO	**Aktyubinsk**	**71.36**	**342**	P	**P**	**12 16 26.8**	**+0.9**	
	comp=Z,1.4nm,0.6s,baz=354,slow=9.1,SNR=5.2							
	comp=Z,1.4nm,0.6s							
ABKAR	**Akbulak array**	**72.16**	**341**	P	**P**	**12 16 29.6**	**-1.1**	
AKASG	**Malin Array Be**	**73.36**	**1**	P	**P**	**12 16 38.5**	**+0.8**	
	comp=Z,2.9nm,0.7s,baz=0.4,slow=5.8,SNR=10							
	comp=Z,2.9nm,0.7s							
AAK	**Ala-Archa**	**74.93**	**329**	LR	LR	12 54 44.3		
	comp=Z,38nm,18.1s,baz=20,slow=40							
KVAR	**Kislovodsk Arr**	**79.66**	**352**	LR	LR	12 55 48.2		
	comp=Z,55nm,19.0s,baz=76,slow=38							
ESDC	**Sonseca Array**	**79.81**	**27**	P	**P**	**12 17 16.1**	**+1.7**	
	comp=Z,1.2nm,0.8s,baz=342,slow=5.4,SNR=8.9							
	comp=Z,1.2nm,0.8s							
KBZ	**Khabaz**	**79.87**	**352**	P	**P**	**12 17 16.3**	**+1.7**	
	comp=Z,1.9nm,0.8s,baz=22,slow=3.6,SNR=3.8							
	comp=Z,1.9nm,0.8s							
BRTR	**Keskin Array B**	**84.33**	**358**	P	**P**	**12 17 40.3**	**+1.9**	
	comp=Z,0.6nm,0.7s,baz=12,slow=3.5,SNR=3.7							
	comp=Z,0.6nm,0.7s							
CMAR	**Chiang Mai Arr**	**86.60**	**298**	P	**P**	**12 17 50.3**	**+0.5**	
	comp=Z,1.1nm,0.7s,baz=19,slow=5.0,SNR=6.5							
CMAR				LR	LR	13 01 06.6		
	comp=Z,20nm,18.7s,baz=195,slow=39							
	comp=Z,1.1nm,0.7s							
QSPA	**South Pole Qui**	**146.09**	**180**	PKPbc	**PKPab**	**12 24 45.3**	**-0.3**	
	comp=Z,1.8nm,1.1s,baz=98,slow=0.6,SNR=7.3							

NEIC ***16*** *12:15:33.1±0.8, 19°.40N±0°.02×154°.94W±0°.02, h5km±2km, Error ellipse: s-maj=4.2km s-min=3.1km az=138.0*

HVO 16 12:15:32.7±1.0, 19°.40N±0°.02×154°.91W±0°.03, h5km±5km, Md2.1/9, ML2.8/24(NEIC), **Error ellipse: s-maj=4.6km s-min=1.3km az=124.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.10**	**293**		Pg	12 15 35.0	+0.3
PAH	**Pahoa**	**0.10**	**341**		Pg	12 15 35.3	+0.4
JCUZ	**Jacuzzi**	**0.18**	**266**	Pg	Pg	12 15 36.4	+0.1
NPOC	**North of Pu'u**	**0.19**	**269**	Pg	Pg	12 15 36.5	0.0
STCH	**Steam Cracks**	**0.20**	**267**		Pg	12 15 36.7	0.0
STCH				IAML		12 15 41.1	
	comp=E,967nm,1.1s						
STCH				IAML		12 15 42.0	
	comp=N,1μm,1.0s						
KNHH	**Kane Nui o Ham**	**0.24**	**266**		Pg	12 15 37.7	+0.2
PUH	**Pauahi**	**0.29**	**266**	Pg	Pg	12 15 38.4	0.0
PUH				IAML		12 15 41.5	
	comp=N,2μm,1.1s						
PUH				IAML		12 15 43.3	
	comp=E,1μm,0.8s						
RSD	**Rainshed**	**0.35**	**281**		Pg	12 15 39.5	0.0
RSD				IAML		12 15 43.6	
	comp=E,2μm,0.9s						
HLP	**Hilina Pali**	**0.39**	**255**		Pg	12 15 40.2	0.0
MLH	**Mauna Loa**	**0.46**	**282**	Pg	Pg	12 15 41.2	-0.4
MLH				IAML		12 15 57.0	
	comp=E,991nm,1.1s						
HMH	**Humu'ula Sheep**	**0.58**	**291**	Pg	Pg	12 15 43.4	-0.4
HMH				IAML		12 15 58.1	
	comp=N,624nm,1.2s						
HMH				IAML		12 16 02.5	
	comp=E,524nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.64**	**283**	Pg	Pg	12 15 43.3	-1.8
MLOA				IAML		12 15 51.0	
	comp=N,616nm,1.3s						
MLOA				IAML		12 15 55.4	
	comp=E,575nm,1.0s						
MWH	**Moku'aweowe**	**0.65**	**278**		Pg	12 15 44.0	-1.3
KHU	**Kahuku**	**0.68**	**257**	Pg	Pg	12 15 44.9	-0.9
KHU				IAML		12 16 07.5	
	comp=N,592nm,1.5s						
KHU				IAML		12 16 09.1	
	comp=E,531nm,1.4s						
ALEP	**Alea Permanent**	**0.71**	**282**		Pg	12 15 45.2	-1.1

NEIC ***16*** *12:31:48.2±0.2, 36°.064N±0°.010×97°.58W±0°.01, h7km±2km, Error ellipse: s-maj=1.5km s-min=1.4km az=148.0*

TUL 16 12:31:48.2±0.3, 36°.068N±0°.009×97°.573W±0°.008, h7km±2km, ML2.6, mb_Lg2.5/50(NEIC), **ML2.8**/68(NEIC), **Error ellipse: s-maj=1.4km s-min=0.7km az=205.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**161**		Pg	12 31 54.1	+0.3
OK029				Sg	Sg	12 31 58.4	+0.8
OK029				IAML		12 31 58.5	
	934nm,0.3s						
OK029				IAML		12 31 58.5	
	2μm,0.3s						
ADOK	**Arcadia Dam**	**0.45**	**158**	Pg	Pg	12 31 57.1	+0.3
ADOK				Sg	Sg	12 32 03.5	+0.8
CROK	**Carrier**	**0.55**	**323**	Pg	Pg	12 31 59.0	+0.2
CROK				IAML		12 32 06.8	
	comp=E,877nm,0.4s						
CROK				IAML		12 32 06.8	
	comp=N,867nm,0.4s						
OK031	**S. Brethren Rd**	**0.61**	**101**		Pg	12 32 00.1	+0.2
OK048	**Pawnee Station**	**0.62**	**55**	Pg	Pg	12 32 00.2	+0.1
OK052	**Battle Ridge R**	**0.63**	**97**		Pg	12 32 00.5	+0.1
OKCSW	**OKLAHOMA CITY**	**0.67**	**171**	Pg	Pg	12 32 01.2	+0.1
OKCSW				IAML		12 32 11.8	
	comp=E,570nm,0.1s						
QUOK	**Quay**	**0.71**	**81**		Pg	12 32 01.9	+0.1
QUOK				IAML		12 32 11.8	
	comp=N,361nm,0.3s						
OK051	**E0350 and S346**	**0.74**	**54**		Pg	12 32 02.5	+0.1
OK051				IAML		12 32 13.6	
	comp=N,452nm,0.2s						
OK051				IAML		12 32 17.1	
	comp=N,398nm,0.2s						
BLOK	**Blackwell**	**0.75**	**23**	Pg	Pg	12 32 02.6	0.0
BLOK				IAML		12 32 15.5	
	comp=E,422nm,0.2s						
BLOK				IAML		12 32 17.9	
	comp=N,342nm,0.2s						
GC02	**Grant County #**	**0.82**	**344**		Pg	12 32 03.7	-0.2
FNO	**Franklin**	**0.82**	**170**		Pg	12 32 03.7	-0.3
FNO				IAML		12 32 17.7	
	comp=E,276nm,0.3s						
OK032	**Salt Plains WL**	**0.90**	**325**		Pg	12 32 05.3	-0.2
DEOK	**Depew**	**0.90**	**104**	Pg	Pg	12 32 05.1	-0.4
KAN14	**Manchester OK**	**0.94**	**341**		Pg	12 32 06.0	-0.3
KAN14				IAML		12 32 23.1	
	comp=N,325nm,0.1s						
KAN13	**South Haven SW**	**0.95**	**5**		Pg	12 32 06.2	-0.2
KAN13				IAML		12 32 20.1	
	comp=E,278nm,0.3s						
KAN13				IAML		12 32 24.7	
	comp=N,411nm,0.3s						
OK038	**West end E0370**	**1.03**	**294**		Pg	12 32 07.3	-0.7
KAN05	**Bluff City Nor**	**1.07**	**347**		Pg	12 32 08.3	-0.4
KAN09	**Caldwell North**	**1.07**	**358**		Pg	12 32 08.3	-0.4
KAN01	**Argonia South**	**1.09**	**352**		Pg	12 32 08.8	-0.4
KAN01				IAML		12 32 23.7	
	comp=E,258nm,0.2s						
KAN01				IAML		12 32 31.5	
	comp=N,177nm,0.3s						
KAN10	**Anthony SW Sta**	**1.13**	**338**	Pg	Pg	12 32 09.6	-0.4
KAN10				IAML		12 32 27.2	
	comp=E,206nm,0.1s						
KAN10				IAML		12 32 30.7	
	comp=N,151nm,0.1s						
U32A	**Winter Ranch,**	**1.20**	**285**		Pg	12 32 10.3	-0.8
U32A				IAML		12 32 28.1	
	comp=N,201nm,0.1s						
U32A				IAML		12 32 29.5	
	comp=E,231nm,0.1s						
KAN06	**Argonia West S**	**1.20**	**349**		Pg	12 32 10.8	-0.5
KAN06				IAML		12 32 27.1	
	comp=N,225nm,0.2s						
KAN06				IAML		12 32 27.6	
	comp=E,229nm,0.2s						
KAN08	**Anthony NE Sta**	**1.20**	**345**		Pg	12 32 10.6	-0.6
KAN08				IAML		12 32 27.4	
	comp=N,164nm,0.3s						
KAN08				IAML		12 32 31.6	
	comp=E,201nm,0.1s						
T35A	**Sooner Cattle**	**1.20**	**45**		Pg	12 32 10.8	-0.5
T35A				IAML		12 32 27.2	
	comp=N,218nm,0.4s						
KAN12	**Harper NE Stat**	**1.27**	**345**		Pn	12 32 12.0	-0.5
TUL3	**Leonard**	**1.45**	**96**		Pn	12 32 14.4	-0.6
ELIS	**Ellis County**	**1.50**	**270**	Pg	Pn	12 32 15.5	0.0
WMOK	**Wichita Mounta**	**1.65**	**217**	Pg	Pn	12 32 17.7	-0.1
RLO	**Rose Lookout**	**2.07**	**87**		Pn	12 32 23.5	+0.1
LOOK	**Love County**	**2.10**	**171**	IAmb_Lg		12 32 56.1	
	comp=Z,18nm,1.0s						
X37A	**Clayton**	**2.33**	**129**		Pn	12 32 27.1	+0.1
SMWD	**Samnorwood**	**2.38**	**247**	Pn	Pn	12 32 28.7	+1.0
HHAR	**Hobbs**	**2.95**	**85**		Pn	12 32 36.3	+0.8
KSU1	**Kansas State U**	**3.12**	**14**	IAmb_Lg		12 33 32.0	
	comp=Z,9.4nm,0.9s						
CBKS	**Cedar Bluff**	**3.24**	**328**	IAmb_Lg		12 33 37.1	
	comp=Z,22nm,1.0s						
APMT	**Aspermont**	**3.45**	**218**	IAmb_Lg		12 33 46.1	
	comp=Z,8.4nm,0.7s						
Z38A	**Mt. Pleasant**	**3.52**	**142**	IAmb_Lg		12 33 45.6	
	comp=Z,22nm,0.9s						
AMTX	**Amarillo**	**3.56**	**252**	IAmb_Lg		12 33 40.1	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida**	**3.60**	**114**	Pn	Pn	12 32 43.9	-0.6
MIAR				IAmb_Lg		12 33 49.7	
	comp=Z,8.1nm,0.9s						
S39A	**Bolivar**	**3.77**	**63**	IAmb_Lg		12 33 46.9	
	comp=Z,16nm,0.7s						
SN07	**Snyder 07**	**4.04**	**224**	IAmb_Lg		12 33 58.8	
	comp=Z,18nm,0.9s						
X40A	**Basin Creek Fa**	**4.18**	**111**		Pn	12 32 52.5	0.0
RTBA	**Rita Blanca**	**4.19**	**277**		Pn	12 32 53.1	+0.4
RTBA				IAmb_Lg		12 34 01.1	
	comp=Z,7.2nm,1.1s						
SN05	**Snyder 5**	**4.20**	**222**	IAmb_Lg		12 34 10.0	
	comp=Z,8.8nm,0.8s						
WLAR	**White Oak Lake**	**4.37**	**122**	IAmb_Lg		12 34 06.3	
	comp=Z,13nm,0.7s						
POST	**Post**	**4.41**	**228**	IAmb_Lg		12 34 15.9	
	comp=Z,8.8nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.42**	**91**	IAmb_Lg		12 34 17.5	
	comp=Z,8.4nm,0.7s						
MSTX	**Muleshoe**	**4.75**	**245**	IAmb_Lg		12 34 31.6	
	comp=Z,6.8nm,1.1s						
P38A	**Dawn**	**4.78**	**41**	IAmb_Lg		12 34 30.0	
	comp=Z,9.3nm,0.8s						
BRDY	**Brady**	**4.92**	**194**		Pn	12 33 01.5	-1.1
KSCO	**Kaye Shedlock'**	**4.98**	**308**	IAmb_Lg		12 34 34.7	
	comp=Z,9.9nm,0.8s						
SGCY	**Sterling City**	**5.09**	**216**	IAmb_Lg		12 34 40.8	
	comp=Z,6.6nm,0.7s						
CCM	**Cathedral Cave**	**5.43**	**67**	IAmb_Lg		12 34 47.7	
	comp=Z,8.9nm,0.7s						
P40A	**Paris**	**5.57**	**50**	IAmb_Lg		12 34 44.3	
	comp=Z,12nm,0.7s						
T25A	**Trinidad**	**5.60**	**283**	IAmb_Lg		12 34 48.1	
	comp=Z,7.6nm,1.1s						
JCT	**Junction City**	**5.88**	**199**	IAmb_Lg		12 35 02.2	
	comp=Z,9.3nm,0.8s						
L34A	**Svendsen Farm,**	**5.96**	**9**	IAmb_Lg		12 34 59.1	
	comp=Z,9.5nm,0.7s						
FVM	**French Village**	**6.03**	**69**	IAmb_Lg		12 35 03.2	
	comp=Z,11nm,0.7s						
SAND	**Sanderson**	**7.19**	**213**	IAmb_Lg		12 35 46.8	
	comp=Z,3.8nm,0.7s						
N23A	**Red Feather La**	**8.14**	**309**	IAmb_Lg		12 36 11.6	
	comp=Z,4.9nm,0.8s						

NEIC ***16*** *12:40:07.8±1.1, 19°.40N±0°.02×154°.93W±0°.01, h5km±1km, Error ellipse: s-maj=3.8km s-min=2.5km az=192.0*

HVO 16 12:40:07.8±1.5, 19°.45N±0°.02×154°.92W±0°.02, h4km±2km, ML2.5/3, **ML2.7**/22(NEIC), **Error ellipse: s-maj=3.4km s-min=1.2km az=149.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**39**		Pg	12 40 09.4	+0.5
PHO	**Puu Honuaula**	**0.05**	**39**		Pg	12 40 09.3	+0.4
PAH	**Pahoa**	**0.06**	**334**		Pg	12 40 10.2	+1.1
JOKA	**Jonika Flow**	**0.08**	**262**		Pg	12 40 09.4	-0.1
JOKA					Sg	12 40 11.5	+0.9
JCUZ	**Jacuzzi**	**0.18**	**250**		Pg	12 40 11.2	-0.1
NPOC	**North of Pu'u**	**0.18**	**254**	Pg	Pg	12 40 11.3	-0.2
STCH	**Steam Cracks**	**0.20**	**253**		Pg	12 40 11.6	-0.2
STCH				IAML		12 40 14.9	
	comp=N,1μm,1.0s						
KNHH	**Kane Nui o Ham**	**0.24**	**254**		Pg	12 40 13.9	+1.3
PUH	**Pauahi**	**0.29**	**256**	Pg	Pg	12 40 13.1	-0.3
PUH				IAML		12 40 15.1	
	comp=N,2μm,0.9s						
PUH				IAML		12 40 19.6	
	comp=E,2μm,0.8s						
HLP	**Hilina Pali**	**0.39**	**248**		Pg	12 40 15.7	+0.2
MLH	**Mauna Loa**	**0.44**	**276**		Pg	12 40 16.4	0.0
MLH				IAML		12 40 29.8	
	comp=E,777nm,1.4s						
HTC	**Hot Caves**	**0.49**	**245**		Pg	12 40 17.2	-0.1
HMH	**Humu'ula Sheep**	**0.55**	**287**		Pg	12 40 18.2	-0.3
HMH				IAML		12 40 24.3	
	comp=E,448nm,0.8s						
HMH				IAML		12 40 36.8	
	comp=N,499nm,0.9s						
MLOA	**Mauna Loa Obse**	**0.62**	**278**	Pg	Pg	12 40 19.3	-0.5
MLOA				IAML		12 40 40.0	
	comp=N,571nm,1.1s						
MLOA				IAML		12 40 41.8	
	comp=E,576nm,0.9s						
MWH	**Moku'aweowe**	**0.64**	**274**		Pg	12 40 19.3	-0.8
KHU	**Kahuku**	**0.68**	**253**		Pg	12 40 19.4	-1.6
KHU				IAML		12 40 23.9	
	comp=E,599nm,1.4s						
KHU				IAML		12 40 30.1	
	comp=N,592nm,1.9s						
ALEP	**Alea Permanent**	**0.69**	**278**		Pg	12 40 20.1	-1.0

DJA 16 12:40:13.0±1.3, 1°N±3°×12°6E±°, h19km±11km, M3.8/11, **mb4.1**/1, **MLv3.7**/11, **Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSI	**Cibinong**	**1.69**	**270**	P	Pn	12 40 41.5	0.0
KMSI				S	Sn	12 41 03.3	+0.7
TNTI	**Ternate**	**1.71**	**83**	P	Pn	12 40 41.7	-0.1
TNTI				S	Sn	12 41 03.9	+0.8
LBMI	**Labuha**	**2.19**	**123**	P	Pn	12 40 48.3	-0.1
LBMI				S	Sn	12 41 14.9	-0.1
SANI	**Sanana**	**2.62**	**173**	P	Pn	12 40 52.8	-1.6
SANI				S	Sn	12 41 21.6	-4.1
GTOI	**Gorontalo**	**2.66**	**271**	P	Pn	12 40 57.3	+2.4
LUWI	**Luwuk**	**3.31**	**241**	P	Pn	12 41 04.0	+0.2

IDC ***16*** *12:41:33.2±1.2, 47°.09N×155°.78E, h0km, mb3.5/8, mbtmp3.5/9, ML2.7/1, MS2.9/2, Error ellipse: s-maj=32.5km s-min=22.2km az=149.0*

ISC 16 12:41:36.2±1.1, 47°.2N±0°.2×155°.8E±0°.2, h18km, n14, σ0°89/9, mb3.5/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**6.07**	**11**	Pn	**Pn**	**12 43 04.0**	**-0.9**
	0.9nm,0.3s,baz=187,slow=13,SNR=12						
	2.8nm,0.5s						
KLR	**Kul'dur**	**16.13**	**286**	LR	LR	12 51 08.5	
	comp=Z,30nm,19.3s,baz=100,slow=36						
YAK	**Yakutsk**	**20.98**	**325**	LR	LR	12 55 14.1	
	comp=Z,36nm,18.9s,baz=18,slow=39						
H11S1	**WAKE ISLAND Hy**	**29.97**	**159**	T	T	13 18 54.0	
	baz=345,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.98**	**159**	T	T	13 18 52.5	
	baz=345,slow=74						
H11S2	**WAKE ISLAND Hy**	**29.99**	**159**	T	T	13 18 54.5	
	baz=345						
ILAR	**Eielson Array**	**35.08**	**39**	P	**P**	**12 48 27.3**	**-0.5**
	0.4nm,0.7s,baz=263,slow=7.2,SNR=7.1						
	0.4nm,0.7s						
INK	**Inuvik**	**40.31**	**33**	P	**P**	**12 49 13.1**	**+1.2**
	1.2nm,0.6s,baz=287,slow=11,SNR=10						
	1.2nm,0.6s						
MKAR	**Makanchi Array**	**48.35**	**298**	P	**P**	**12 50 17.7**	**+1.2**
	0.2nm,0.4s,baz=68,slow=5.3,SNR=2.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**48.72**	**304**	P	**P**	**12 50 19.1**	**-0.1**
	0.9nm,0.7s,baz=66,slow=8.5,SNR=5.9						
	0.9nm,0.7s						
YKA	**Yellowknife Ar**	**49.49**	**38**	P	**P**	**12 50 25.2**	**+0.3**
	0.4nm,0.8s,baz=300,slow=8.1,SNR=5.2						
	0.4nm,0.8s						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**12 50 43.9**	**0.0**
	0.8nm,0.6s,baz=61,slow=12,SNR=3.8						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**60.62**	**64**	P	**P**	**12 51 46.4**	**+0.4**
	0.2nm,0.7s,baz=288,slow=9.4,SNR=2.6						
	0.2nm,0.7s						
ASAR	**Alice Springs**	**73.22**	**201**	P	**P**	**12 53 05.2**	**-0.7**
	0.2nm,0.6s,baz=18,slow=6.0,SNR=4.5						
	0.2nm,0.6s						

AEIC ***16*** *12:49:55.5±1.4, 66°.35N±0°.02×157°.52W±0°.06, h7km±4km, ML3.9, mb4.3/5(NEIC), ML4.0/140(NEIC), Mwr3.8/82(NEIC), Error ellipse: s-maj=3.7km s-min=2.4km az=107.0*

NEIC ***16*** *12:49:55.4, 66°.35N×157°.52W, h5km*

NEIC ***16*** *12:49:55.5±1.3, 66°.37N±0°.02×157°.50W±0°.07, h4km±5km, Error ellipse: s-maj=4.2km s-min=2.6km az=121.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=3.02; $M_{\theta\theta}$=4.80; $M_{\phi\phi}$=-1.78; $M_{r\theta}$=1.77; $M_{r\phi}$=-4.39; $M_{\theta\phi}$=3.23; Fault plane solution: $M_0$7.11000×10^{14} NP1: ϕ_s259.66000°, δ62.91000°, λ-147.52000°. NP2: ϕ_s153.49000°, δ61.44000°, λ-31.23000°. Principal axes: T 7.0021, Plg1.0000°, Azm26.0000°; N 0.2136, Plg49.0000°, Azm295.0000°; P -7.2157, Plg41.0000°, Azm117.0000°;*

IDC ***16*** *12:49:56.8±0.7, 66°.64N×157°.50W, h0km, mb3.7/11, mbtmp3.8/16, ML3.5/5, MS3.1/3 Error ellipse: s-maj=22.0km s-min=10.5km az=30.0*

ISC 16 12:49:55.9±1.0, 66°.37N±0°.02×157°.50W±0°.02, h8km±7km, n237, σ1$02/246, mb4.0/14, **Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
G19K	**Purcell Mounta**	**0.28**	**144**		**Pg**	**12 50 01.1**	**-0.4**
G19K				Sg	**Sg**	**12 50 05.1**	**-0.1**
G19K				IAML		12 50 05.6	
	comp=N,21μm,0.3s						
G19K	**Purcell Mounta**	**0.28**	**144**	P	**Pg**	**12 50 00.7**	**-0.8**
	baz=320						
G19K				S	**Sg**	**12 50 04.9**	**-0.3**
	baz=320						
F19K	**Shaleruckik Mo**	**0.48**	**347**		**Pg**	**12 50 04.9**	**-0.3**
F19K					**Sg**	**12 50 11.8**	**+0.4**
G18K	**Tagagawik**	**0.67**	**225**	Pg	**Pg**	**12 50 07.9**	**-0.9**
G18K				Sg	**Sg**	**12

	comp=E,2µm,0.6s							
G21K	**Allakaket**	1.61	83	P		Pn	12 50 24.1	-0.5
	baz=266							
E18K	**Tukpahlearik C**	1.62	312			Pn	12 50 24.7	0.0
E18K	**Tukpahlearik C**	1.62	312	P		Pn	12 50 24.9	+0.2
	baz=130							
GCSA	**Galena City Sc**	1.65	171			Pn	12 50 25.0	-0.1
GCSA						Sn	12 50 46.5	+0.1
GCSA	**Galena City Sc**	1.65	171	P		Pn	12 50 25.0	-0.1
	baz=351							
H17K	**Granite Mounta**	1.75	216			Pn	12 50 25.5	-1.0
H17K				IAML			12 50 53.5	
	comp=N,2µm,0.7s							
H17K	**Granite Mounta**	1.75	216	P		Pn	12 50 25.4	-1.1
	baz=34							
F21K	**Alatna River**	1.81	60			Pn	12 50 27.1	-0.3
F21K				IAML			12 50 56.5	
	comp=N,2µm,0.6s							
F21K				IAML			12 50 58.5	
	comp=E,2µm,0.7s							
F21K	**Alatna River**	1.81	60	P		Pn	12 50 27.0	-0.3
	baz=243							
E17K	**Hotham Inlet**	1.86	295			Pn	12 50 27.9	-0.2
E17K						Sb	12 50 53.1	-0.4
E17K	**Hotham Inlet**	1.86	295	P		Pn	12 50 27.9	-0.2
	baz=111							
E20K	**Nigu River**	1.96	14			Pb	12 50 30.8	-1.1
E20K	**Nigu River**	1.96	14	P		Pb	12 50 30.8	-1.1
	baz=196							
I20K	**Naaghedeneel**	2.02	140			Pn	12 50 30.4	+0.3
I20K	**Naaghedeneel**	2.02	140	P		Pn	12 50 30.4	+0.3
	baz=322							
H21K	**Melozitna Rive**	2.05	108			Pn	12 50 30.1	-0.5
H21K				IAML			12 51 03.6	
	comp=E,1µm,0.7s							
H21K				IAML			12 51 03.6	
	comp=N,893nm,1.1s							
H21K	**Melozitna Rive**	2.05	108	P		Pn	12 50 30.1	-0.5
	baz=292							
D19K	**Kuna River**	2.15	354			Pn	12 50 33.2	+1.2
D19K	**Kuna River**	2.15	354	P		Pn	12 50 33.0	+1.1
	baz=174							
G16K	**Koyuk River**	2.22	246			Pn	12 50 31.5	-1.5
G16K				IAML			12 51 09.1	
	comp=N,1µm,0.7s							
G16K	**Koyuk River**	2.22	246			Sn	12 51 01.2	+0.6
G16K	**Koyuk River**	2.22	246	P		Pn	12 50 31.4	-1.6
	baz=62							
D20K	**Etivluk River**	2.38	8			Pn	12 50 36.3	+1.1
F22K	**John River**	2.38	59			Pn	12 50 35.4	+0.1
G22K	**Bettles**	2.45	74			Pn	12 50 35.6	-0.5
E21K	**Killik River**	2.49	32			Pn	12 50 37.2	+0.6
E21K	**Killik River**	2.49	32	IAML			12 51 19.6	
	comp=E,812nm,0.7s							
E21K				IAML			12 51 24.7	
	comp=N,812nm,0.8s							
J19K	**Poorman**	2.51	161			Pn	12 50 37.0	-0.1
J19K				IAML			12 51 21.5	
	comp=N,583nm,0.6s							
J19K	**Poorman**	2.51	161	P		Pn	12 50 36.9	-0.1
	baz=342							
H22K	**Ishtalitna Cre**	2.53	98			Pn	12 50 37.1	-0.2
H22K	**Ishtalitna Cre**	2.53	98	P		Pn	12 50 37.1	-0.2
	baz=283							
D17K	**Noatak River**	2.57	304			Pn	12 50 37.7	+0.1
D17K	**Noatak River**	2.57	304	P		Pn	12 50 37.8	+0.1
	baz=119							
I21K	**Tanana**	2.57	115			Pn	12 50 37.5	-0.2
I21K	**Tanana**	2.57	115	IAML			12 51 23.5	
	comp=N,671nm,0.8s							
J20K	**Nowinta River**	2.61	146			Pn	12 50 38.9	+0.6
J20K				IAML			12 51 23.6	
	comp=E,556nm,0.9s							
J20K				IAML			12 51 26.9	
	comp=N,620nm,0.7s							
J20K	**Nowinta River**	2.61	146	P		Pn	12 50 38.0	-0.3
	baz=328							
H16K	**Elim**	2.63	231			Pn	12 50 36.8	-1.8
C18K	**Utukok River**	2.69	330			Pn	12 50 39.6	+0.1
C18K	**Utukok River**	2.69	330	P		Pn	12 50 39.7	+0.1
	baz=147							
RDOG	**Red Dog Mine**	2.70	311			Pn	12 50 40.2	+0.6
RDOG	**Red Dog Mine**	2.70	311	P		Pn	12 50 40.7	+1.2
	baz=127							
E22K	**Anaktuvuk Pass**	2.83	49			Pn	12 50 42.6	+1.2
E22K	**Anaktuvuk Pass**	2.83	49	IAML			12 51 32.6	
	comp=N,480nm,0.8s							
I17K	**Unalakleet**	2.84	210			Pn	12 50 40.8	-0.6
I17K	**Unalakleet**	2.84	210	P		Pn	12 50 41.0	-0.4
	baz=27							
C19K	**Lookout Ridge**	2.86	345			Pn	12 50 42.7	+0.8
C19K				IAML			12 51 34.3	
	comp=E,482nm,0.8s							
C19K	**Lookout Ridge**	2.86	345	P		Pn	12 50 42.6	+0.8
	baz=163							
J18K	**Innoko River**	2.94	173			Pn	12 50 42.6	-0.2
J18K				IAML			12 51 35.7	
	comp=N,399nm,0.8s							
J18K	**Innoko River**	2.94	173	P		Pn	12 50 42.6	-0.2
	baz=354							
C21K	**Knifeblade Rid**	2.98	19			Pn	12 50 43.9	+0.4
C21K	**Knifeblade Rid**	2.98	19	P		Pn	12 50 44.0	+0.6
	baz=202							
F15K	**North Star Dit**	2.99	260			Pn	12 50 43.0	-0.5
F15K				IAML			12 51 34.7	
	comp=N,425nm,0.8s							
F15K				IAML			12 51 35.4	
	comp=E,397nm,0.8s							
F15K	**North Star Dit**	2.99	260	P		Pn	12 50 43.1	-0.4
	baz=74							
G23K	**Bananza Creek**	3.01	80			Pn	12 50 43.1	-0.7
G23K				IAML			12 51 40.6	
	comp=E,350nm,1.0s							
G23K	**Bananza Creek**	3.01	80	P		Pn	12 50 43.0	-0.8
	baz=267							
COLD	**Coldfoot**	3.01	70			Pn	12 50 43.4	-0.5
COLD	**Coldfoot**	3.01	70	P		Pn	12 50 43.4	-0.5
	baz=256							
G15K	**Niukluk**	3.04	246			Pn	12 50 42.5	-1.7
C17K	**DeLong Mountai**	3.04	317			Pn	12 50 44.8	+0.5
J17K	**VABM Dome**	3.06	193			Pn	12 50 44.5	-0.1
J17K	**VABM Dome**	3.06	193	P		Pn	12 50 44.4	-0.1
	baz=12							
MLY	**Manley**	3.10	113			Pn	12 50 44.3	-0.8
MLY				IAML			12 51 40.1	
	comp=E,360nm,0.8s							
MLY	**Manley**	3.10	113	P		Pn	12 50 44.3	-0.8
	baz=298							
D22K	**Ayikyak River**	3.12	34			Pn	12 50 46.3	+0.9
D22K	**Ayikyak River**	3.12	34	P		Pn	12 50 46.1	+0.8
	baz=218							
H23K	**Yukon River**	3.28	96			Pn	12 50 47.8	+0.2
H23K	**Yukon River**	3.28	96	P		Pn	12 50 47.8	+0.2
	baz=283							
CHUM	**Lake Minchumin**	3.32	136			Pn	12 50 48.5	+0.5
K20K	**Telida**	3.36	153			Pn	12 50 48.7	+0.1
K20K	**Telida**	3.36	153	IAML			12 51 54.7	
	comp=E,275nm,1.1s							
J16K	**Anvik River**	3.37	205			Pn	12 50 48.7	0.0
J16K	**Anvik River**	3.37	205	P		Pn	12 50 48.4	-0.4
	baz=22							
B18K	**Kokolik River**	3.42	334			Pn	12 50 49.8	+0.4
B21K	**Ikpikpuk River**	3.44	17			Pn	12 50 49.8	+0.1
B21K				IAML			12 52 00.6	
	comp=N,451nm,1.0s							
BPAW	**Bear Paw Mtn.**	3.56	127			Pn	12 50 52.4	+0.9
BPAW				IAML			12 51 52.4	
	comp=N,243nm,0.6s							
BPAW	**Bear Paw Mtn.**	3.56	127	P		Pn	12 50 51.2	-0.2
	baz=312							
I23K	**Minto, Yukon-K**	3.57	106			Pn	12 50 51.1	-0.4
C16K	**Lisburne Hills**	3.59	306			Pn	12 50 52.4	+0.7
B20K	**Meade River**	3.66	2			Pn	12 50 53.1	+0.5
B20K	**Meade River**	3.66	2	IAML			12 51 56.8	
	comp=N,262nm,0.9s							
B20K				IAML			12 52 17.4	
	comp=E,281nm,0.9s							
D23K	**Nanushuk River**	3.68	42			Pn	12 50 54.0	+1.0
K17K	**Iditarod**	3.69	186			Pn	12 50 52.8	-0.3
K17K				IAML			12 51 53.7	
	comp=E,290nm,0.9s							
K17K				IAML			12 51 55.1	
	comp=N,327nm,1.1s							
F14K	**Arctic Creek**	3.73	260			Pn	12 50 52.9	-0.7
ANM	**Nome**	3.75	245			Pn	12 50 53.1	-0.9
ANM	**Nome**	3.75	245	IAML			12 52 07.5	
	comp=E,247nm,0.8s							
CAST	**Castle Rocks**	3.75	140			Pn	12 50 55.2	+1.2
TOLK	**Toolik Lake Re**	3.80	50			Pn	12 50 55.7	+1.0
E24K	**Your Creek**	3.90	60			Pn	12 50 56.3	+0.3
E24K	**Your Creek**	3.90	60	IAML			12 52 01.7	
	comp=E,265nm,0.8s							
NEA2	**Nenana**	3.94	113			Pn	12 50 56.6	+0.1
NEA2				IAML			12 52 04.3	
	comp=N,214nm,1.0s							
NEA2				IAML			12 52 09.9	
	comp=E,196nm,1.1s							
H24K	**Noodor Dome**	3.95	93			Pn	12 50 57.4	+0.7
H24K				IAML			12 52 09.2	
	comp=N,248nm,1.1s							
H24K				IAML			12 52 12.7	
	comp=E,247nm,0.8s							
F24K	**Squaw Lake**	3.95	69			Pn	12 50 56.6	-0.1
KTH	**Kantishna Hill**	3.98	132			Pn	12 50 57.7	+0.6
KTH				IAML			12 52 15.9	
	comp=N,210nm,1.1s							
KTH				IAML			12 52 20.1	
	comp=E,188nm,1.1s							
G24K	**Hadweenzic Riv**	4.02	81			Pn	12 50 57.4	-0.3
BWN	**Browne**	4.03	119			Pn	12 50 58.8	+1.0
BWN				IAML			12 52 07.4	
	comp=N,227nm,0.9s							
A19K	**Wainwright**	4.07	343			Pn	12 50 59.0	+0.7
MDM	**Murphy Dome**	4.09	106			Pn	12 50 58.9	+0.3
MDM				IAML			12 52 09.3	
	comp=N,200nm,1.0s							
MDM				IAML			12 52 15.6	
	comp=E,188nm,0.7s							
PPLA	**Purkeypile**	4.17	144			Pn	12 51 00.5	+0.7
L18K	**Granite Mounta**	4.18	175			Pn	12 51 00.3	+0.4
L18K				IAML			12 52 10.7	
	comp=E,258nm,1.0s							
L18K				IAML			12 52 14.3	
	comp=N,172nm,1.0s							
L20K	**Farewell, AK**	4.21	156			Pn	12 51 00.7	+0.4
TRF	**Thorofare Moun**	4.24	130			Pn	12 51 01.8	+0.9
TRF				IAML			12 52 18.9	
	comp=E,202nm,1.0s							
L17K	**Donlin**	4.27	185			Pn	12 51 01.1	0.0
COLA	**College**	4.27	106			Pn	12 51 01.4	+0.3
C23K	**Itkillik River**	4.33	33			Pn	12 52 02.1	+0.2
C23K				IAML			12 52 31.0	
	comp=N,207nm,0.8s							
C23K				IAML			12 52 34.0	
	comp=E,175nm,1.1s							
POKR	**Poker Plat Res**	4.34	102			Pn	12 52 02.0	-0.1
POKR				IAML			12 52 17.1	
	comp=N,144nm,1.2s							
POKR				IAML			12 52 17.9	
	comp=E,158nm,0.8s							
TNA	**Tin City**	4.34	264			Pn	12 51 01.5	-0.6
L19K	**White Mountain**	4.36	163			Pn	12 52 02.0	-0.4
L19K				IAML			12 51 54.8	
	comp=E,154nm,0.7s							
WRH	**Wood River Hil**	4.37	112			Pn	12 52 02.1	-0.3
WRH				IAML			12 52 15.7	
	comp=N,148nm,1.0s							
WRH				IAML			12 52 16.6	
	comp=E,170nm,1.0s							
CCB	**Clear Creek Bu**	4.39	109			Pn	12 51 01.7	-1.0
CCB	**Clear Creek Bu**	4.39	109	IAML			12 52 14.1	
	comp=N,161nm,0.7s							
CCB				IAML			12 52 17.5	
	comp=E,219nm,0.9s							
K15K	**Wolf Creek Mou**	4.45	205			Pn	12 51 03.2	-0.4
K15K				IAML			12 52 23.4	
	comp=E,118nm,1.1s							
K15K				IAML			12 52 25.9	
	comp=N,169nm,1.2s							
J14K	**Nanvaranak Lak**	4.48	219			Pn	12 52 02.6	-1.3
J14K				IAML			12 52 26.5	
	comp=N,192nm,0.8s							
MCK	**McKinley**	4.49	122			Pn	12 51 04.2	0.0
G25K	**Bearman Lake**	4.57	80			Pn	12 51 05.1	-0.1
M19K	**Big River Lodg**	4.69	162			Pn	12 51 06.9	+0.1
M19K				IAML			12 52 26.9	
	comp=E,115nm,1.0s							
IL31		4.69	105			Pn	12 51 06.5	-0.2
ILAR	**Eielson Array**	4.69	105			Pn	12 51 05.9	-0.9
ILAR	**Eielson Array**	4.69	105	Pn		Pn	12 51 06.8	-0.1
	comp=E,8.5nm,0.3s,baz=298,slow=14,SNR=392							
ILAR				Sn		Sn	12 51 59.6	-1.7
	comp=E,4.8nm,0.3s,baz=293,slow=22,SNR=9.2							
ILAR				Lg		Lg	12 52 21.7	
	comp=E,10.0nm,0.3s,baz=300,slow=31,SNR=8.2							
	comp=E,30nm,0.5s							
H25L	**Birch Creek**	4.71	86			Pn	12 51 06.4	-0.7
RND	**Reindeer**	4.73	125			Pn	12 51 07.3	-0.2
A22K	**Sinclair Lake**	4.75	10			Pn	12 51 07.5	-0.1
L16K	**Owhat River**	4.76	191			Pn	12 51 07.4	-0.4
L16K				IAML			12 52 31.6	
	comp=E,114nm,0.8s							
L16K				IAML			12 52 32.5	
	comp=N,111nm,1.0s							
F25K	**Christian Rive**	4.81	70			Pn	12 51 08.4	-0.2
HDA	**Harding Lake**	4.83	109			Pn	12 51 07.8	-1.0
HDA				IAML			12 52 31.6	
	comp=E,93nm,1.1s							
HDA				IAML			12 52 34.6	
	comp=N,131nm,0.8s							
M20K	**Styx River**	4.89	155			Pn	12 51 10.7	+1.0
M20K	**Styx River**	4.89	155	IAML			12 52 09.9	
	comp=E,102nm,0.9s							
E25K	**Arctic Village**	4.95	64			Pn	12 51 10.6	+0.1
E25K				IAML			12 52 40.8	
	comp=E,135nm,1.1s							
E25K				IAML			12 52 48.0	
	comp=N,128nm,1.1s							
M18K	**Stony River**	4.96	171			Pn	12 51 10.6	+0.1
PRP	**Porcupine Dome**	4.97	94			Pn	12 51 11.0	+0.1
PRP				IAML			12 52 33.5	
	comp=E,131nm,0.9s							
A21K	**Barrow**	4.99	3			Pn	12 51 10.4	-0.4
L15K	**Ungalak Mounta**	5.03	202			Pn	12 51 11.0	-0.5
WAT7	**Susitna Watana**	5.14	130			Pn	12 51 13.7	+0.5
WAT1	**Susitna Watana**	5.24	129			Pn	12 51 15.0	+0.6
J25K	**Salcha River,**	5.35	104			Pn	12 51 15.7	-0.3
J25K				IAML			12 53 04.0	
	comp=E,77nm,1.1s							
F26K	**Sheenjek River**	5.39	70			Pn	12 51 16.9	+0.4
M16K	**Timber Creek**	5.41	188	Pn		Pn	12 51 16.3	-0.4
M16K				IAML			12 52 46.3	
	comp=N,63nm,0.8s							
M16K				IAML			12 52 57.3	
	comp=E,62nm,1.1s							
K13K	**Kusilvak Mount**	5.44	218			Pn	12 51 15.6	-1.6
SPNN	**North Nagishla**	5.45	155			Pn	12 51 18.5	+1.0
G26K	**Porcupine Rive**	5.48	78			Pn	12 51 17.8	+0.1
STLK	**Strandline Lak**	5.49	150			Pn	12 51 18.6	+0.7
K24K	**Donnelly Dome**	5.58	112			Pn	12 51 18.9	-0.2
SPBG	**Spurr Blockage**	5.61	154			Pn	12 51 21.0	+1.4
SPCP	**Crater Peak Br**	5.64	153			Pn	12 51 21.5	+1.5
SPCG	**Spurr Capps Gl**	5.64	152			Pn	12 51 21.2	+1.1
SPCN	**Chakachatna No**	5.67	153			Pn	12 51 22.0	+1.6
WAT6	**Susitna Watana**	5.68	128			Pn	12 51 21.1	+0.5
SPCR	**Spurr Chakacha**	5.69	153			Pn	12 51 21.9	+1.2
M15K	**Kasigluk River**	5.87	196			Pn	12 51 23.0	-0.1
C26K	**Camden Bay**	5.89	47			Pn	12 51 24.8	+1.5
N16K	**Nishlik Lake**	5.95	186			Pn	12 51 23.9	-0.2
I26K	**Coal Creek Min**	5.99	94			Pn	12 51 24.3	-0.3
J26L	**Joseph Creek**	6.10	101			Pn	12 51 26.2	-0.1
C27K	**Jago River**	6.12	52			Pn	12 51 27.6	+1.1
SCRK	**Sand Creek**	6.17	107	Pn		Pn	12 51 26.9	-0.5
PAX	**Paxson**	6.18	118			Pn	12 51 28.1	+0.6
RDT	**Redoubt**	6.25	156			Pn	12 51 29.5	+1.2
RDWB	**Redoubt West**	6.26	158			Pn	12 51 29.4	+0.8
O19K	**Port Alsworth**	6.36	166			Pn	12 51 29.8	0.0
E27K	**Coleen River**	6.42	66			Pn	12 51 29.8	-0.8
H27K	**Steamboat Moun**	6.44	84			Pn	12 51 32.0	+1.2
O18K	**Koktuh Hills**	6.62	170			Pn	12 51 33.4	-0.1
O17K	**Koliganek Bris**	6.63	178			Pn	12 51 33.4	0.0
D27M	**Malcolm River**	6.88	58			Pn	12 51 38.2	+1.2
K27K	**Chicken**	6.89	103			Pn	12 51 37.3	+0.2
F28M	**Old Crow**	7.01	72			Pn	12 51 38.9	+0.2
P18K	**Big Mountain,**	7.08	171			Sn	12 53 00.0	-0.3
P18K	**Big Mountain,**	7.08	171			Pn	12 51 39.7	0.0
P17K	**Kvichak River**	7.22	176			Pn	12 51 41.7	+0.2
E28M	**Babbage River**	7.24	64			Pn	12 51 42.0	+0.2
O15K	**Ungalikthiuk R**	7.30	189			Pn	12 51 42.4	-0.3
O14K	**Tigyukauivet M**	7.35	195			Pn	12 51 43.4	0.0
P16K	**Nushagak River**	7.37	182			Pn	12 51 43.8	+0.1
BCAR	**Beaver Creek A**	7.49	109			Pn	12 51 44.4	-1.0
H29M	**Whitestone**	7.70	82			Pn	12 51 48.5	+0.2
G29M	**Pine Creek**	7.75	77			Pn	12 51 49.5	+0.7
GLB	**Gilahina Butte**	7.79	123			Pn	12 51 51.1	+1.7
E29M	**Blow River**	7.81	66			Pn	12 51 49.7	+0.1
DAWY	**Dawson**	7.94	99			Pn	12 51 51.3	-0.2
G30M	**tAoh Zrail Nji**	8.45	76			Pn	12 51 58.0	-0.4
I30M	**Mount Dempster**	8.74	88			Pn	12 52 02.1	-0.4
K29M	**Barlow Dome**	8.78	97			Pn	12 52 02.9	-0.2
WAX	**Waxell Ridge**	8.84	125			Pn	12 52 04.0	+0.2
KDAK	**Kodiak Island**	8.92	163	Pn		Pn	12 52 06.5	+1.7
	comp=E,1.0nm,0.3s,baz=322,slow=19,SNR=11							
KDAK				LR		LR	12 55 41.0	
	comp=E,82nm,19.2s,baz=90,slow=38							
	comp=E,10nm,0.9s							
J30M	**Hart River**	8.97	92			Pn	12 52 05.5	-0.2
BARK	**Barkley Ridge**	8.99	125			Pn	12 52 06.5	+0.6
M29M	**Somme Creek**	9.11	107			Pn	12 52 07.0	-0.5
INK	**Inuvik**	9.43	67			Pn	12 52 12.0	+0.3
INK	**Inuvik**	9.43	67	Pn		Pn	12 52 11.9	+0.2
	comp=E,0.3nm,0.3s,baz=283,slow=13,SNR=14							
INK				Sn		Sn	12 53 53.1	-4.6
	comp=E,0.1nm,0.3s,baz=290,slow=12,SNR=1.8							
	comp=E,1.0nm,0.4s							
M30M	**Minto, Yukon**	9.69	103			Pn	12 52 15.4	0.0
N31M	**Braeburn, Yuko**	10.70	107			Pn	12 52 28.1	-1.1
M31M	**Drury Creek, Y**	10.83	102			Pn	12 52 30.9	-0.1
O30N	**Mendenhall**	11.03	111			Pn	12 52 33.4	-0.3
A36M	**Sachs Harbour**	12.63	49			Pn	12 52 53.5	-1.9
C36M	**Paulatuk**	12.84	62			Pn	12 52 57.9	-0.5
DLBC	**Dease Lake**	14.88	109	Pn		Pn	12 53 29.1	+2.8
	comp=E,0.1nm,0.3s,baz=311,slow=14,SNR=2.0							
DLBC				Lg		Lg	12 57 46.6	
	baz=323,slow=20,SNR=4.5							
	comp=E,1.7nm,0.7s							
YKA	**Yellowknife Ar**	18.62	82	P		Pn	12 54 14.9	+1.3
	comp=E,0.1nm,0.3s,baz=303,slow=12,SNR=8.4							
	comp=E,0.6nm,0.6s							
SEY	**Seymchan**	21.25	284	P		P	12 54 43.3	+1.3
	comp=E,5.3nm,1.0s,baz=66,slow=20,SNR=7.9							
	comp=E,5.3nm,1.0s							
RES	**Resolute Bay**	21.32	40	P		P	12 54 44.0	+1.4
	comp=E,0.2nm,0.4s,baz=285,slow=12,SNR=1.3							
RES				S		S	12 58 30.1	-9.1
	comp=E,0.9nm,0.5s,baz=266,slow=21,SNR=2.1							
	comp=E,0.2nm,0.4s							
PDAR	**Pinedale Array**	35.11	108	P		P	12 56 51.6	+2.0
	comp=E,0.2nm,0.3s,baz=336,slow=2.0,SNR=1.9							
	comp=E,0.2nm,0.3s							
NVAR	**Mina Array Bea**	35.72	122	P		P	12 56 57.0	+2.1
	comp=E,0.6nm,0.7s,baz=334,slow=8.0,SNR=12							
	comp=E,0.8nm,0.7s							
BORG	**Borgarnes**	45.42	25	LR		LR	13 17 51.3	
	comp=E,25nm,21.2s,baz=321,slow=37							
TXAR	**Lajitas Array**	49.17	111	P		P	12 58 45.8	+1.7
	comp=E,0.4nm,0.5s,baz=330,slow=5.2,SNR=6.7							
	comp=E,0.4nm,0.5s							
SONM	**Songino Array**	49.66	298	P		P	12 58 49.9	+2.2
	comp=E,1.5nm,0.8s,baz=25,slow=7.2,SNR=7.4							
	comp=E,1.5nm,0.8s							
ZALV	**Zalesovo Beam**	51.14	318	P		P	12 58 58.8	+0.2
	comp=E,1.7nm,0.8s,baz=30,slow=6.7,SNR=9.6							
	comp=E,1.7nm,0.8s							
BVAR	**Borovoye Array**	55.52	327	P		P	12 59 31.5	+0.6
	comp=E,2.0nm,0.8s,baz=26,slow=8.2,SNR=10							
	comp=E,2.0nm,0.8s							
KURK	**Kurchatov**	55.70	320	P		P	12 59 31.1	-1.0
KURK				IAmb		IAmb	12 59 34.6	
	comp=Z,3.1nm,0.9s							
KURBB	**Kurchatov Arra**	55.80	320	P		P	12 59 33.3	+0.4
	comp=Z,1.8nm,0.9s,baz=25,slow=6.6,SNR=11							
	comp=Z,1.8nm,0.9s							
MK31	**Makanchi Array**	58.29	316	P		P	12 59 50.4	-0.2
MKAR	**Makanchi Array**	58.29	316	P		P	12 59 50.0	-0.6
MKAR	**Makanchi Array**	58.29	316	P		P	12 59 51.2	+0.6
	comp=Z,1.1nm,0.8s,baz=31,slow=3.3,SNR=11							
	comp=Z,1.1nm,0.8s							
MAKZ	**Makanchi**	58.37	316	P		P	12 59 51.5	+0.4
MAKZ				IAmb		IAmb	13 00 14.4	
	comp=Z,2.9nm,1.4s							
ABKAR	**Akbulak array**	61.21	333	P		P	13 00 10.1	-0.5
ABKAR				IAmb		IAmb	13 00 13.2	
	comp=Z,3.3nm,0.9s							
SIMJ	**Simiganj**	69.38	323	P		P	13 01 03.2	-0.7
CMAR	**Chiang Mai Arr**	78.56	290	P		P	13 01 58.9	+1.2
	comp=Z,0.4nm,0.3s,baz=16,slow=6.7,SNR=4.4							
CMAR				LR		LR	13 39 47.8	
	comp=Z,17nm,19.0s,baz=205,slow=38							
	comp=Z,0.4nm,0.3s							

IDC ***16*** *13:09:41.9₅3.6,24˚74N×63˚11E,h0ᵏᵐ,mb3.6/6, mbtmp3.6/6,MS3.2/1,Error ellipse: s-maj=78.7km s-min=30.1km az=155.0*
TEH ***16*** *13:09:41.3,25˚00N×63˚08E,h11ᵏᵐ,ML3.7*
OMAN ***16*** *13:09:53.2₀0.1,24˚81N×62˚47E,h33ᵏᵐ₅4ᵏᵐ, mb3.6/5, ml3.6/6, Error ellipse: s-maj=6.1km s-min=1.1km az=256.0*

**ISC 16 13:09:44.9₅1.1,25°01N₀0°06×62.79E₀0°07,h10

0.4nm,0.4s,baz=230,slow=11,SNR=2.4
0.4nm,0.4s
AKASG Malin Array Be 36.37 324 P **P** **13 16 49.8 +0.7**
0.6nm,0.4s,baz=112,slow=8.0,SNR=4.2
0.6nm,0.4s
TORD Torodi Ar. Bea 58.52 270 P **P** **13 19 42.5 +0.5**
0.4nm,0.7s,baz=65,slow=6.0,SNR=2.2
0.4nm,0.7s

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*ISK **16** 13:25:26.9, 35˚.92N×28˚.62E, h8km, ML2.5/9*
*ATH **16** 13:25:28.3±0.4, 36˚.00N×28˚.55E, h10km, ML2.1/6, Manual Solution by N.Liadopoulou This location: 2020/06/02 09:19:36 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 4 km; Longitude uncertainty: 1 km*
ISC 16 13:25:27.7±1.4, **35˚.95N**±0˚.05×**28˚.59E**±0˚.04, **h10**km±13km, **n15**, σ0§64/21, **Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARG	**Arkhangelos**	**0.46**	**305**	Pg	**Pg**	**13 25 36.9**	**+0.2**
ARG				Sg	**Sb**	**13 25 44.7**	**-0.1**
ARG	**Arkhangelos**	**0.46**	**305**	P	**Pb**	**13 25 37.2**	**-0.7**
ARG				S	**Sb**	**13 25 43.5**	**-1.3**
RGE1	**Gennadi, Rhode**	**0.54**	**278**	P	**Pg**	**13 25 38.5**	**+0.3**
RGE1				S	**Sg**	**13 25 45.5**	**+0.2**
FETY	**Fethiye**	**0.79**	**30**	Pg	**Pg**	**13 25 43.1**	**+0.1**
KSL	**Kastellorizon**	**0.83**	**76**	P	**Pn**	**13 25 44.9**	**-0.7**
KSL				S	**Sb**	**13 25 56.5**	**+1.0**
DALY	**Dalyan (Mula)**	**0.87**	**3**	Pg	**Pg**	**13 25 44.2**	**-0.2**
DALY				Sg	**Sb**	**13 25 57.4**	**+0.9**
DAT	**Datca**	**1.13**	**314**	Pn	**Pn**	**13 25 49.7**	**0.0**
KARP	**Karpathos**	**1.23**	**251**	Pn	**Pg**	**13 25 51.1**	**-0.2**
KARP	**Karpathos**	**1.23**	**251**	P	**Pg**	**13 25 51.3**	**-0.1**
KARP				S	**Sb**	**13 26 07.0**	**0.0**
ELL	**Elmali**	**1.33**	**53**	Pn	**Pn**	**13 25 52.5**	**0.0**
BODT	**Bodrum**	**1.51**	**317**	Pn	**Pb**	**13 25 55.5**	**-0.4**
APMY	**Acipayam-Deniz**	**1.62**	**20**	Pn	**Pn**	**13 25 56.8**	**+0.3**
AYDB	**Zeytinkoy-Aydi**	**2.07**	**345**	Pn	**Pn**	**13 26 03.6**	**+0.9**
ZKR	**Zakros**	**2.11**	**247**	P	**Pn**	**13 26 04.0**	**+0.9**
SMG	**Samos**	**2.25**	**322**	P	**Pn**	**13 26 05.5**	**+0.5**

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*KNET **16** 14:13:52.0±0.3, 42˚.50N×75˚.55E, h0km, ml1.2, Error ellipse: s-maj=2.6km s-min=2.1km az=0.0*
*SOME **16** 14:13:52.3, 42˚.55N×75˚.53E*
*NNC **16** 14:13:53.0±0.5, 42˚.57N×75˚.57E, h0km, mb2.5, mpv2.6, Error ellipse: s-maj=3.6km s-min=2.1km az=172.0, Suspected Mining explosion.*
ISC 16 14:13:52.2±0.9, **42˚.52N**±0˚.03×**75˚.58E**±0˚.02, **h0km**, **n16**, σ0§49/31, **6C-6D, Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TKM2	**Tokmak 2**	**0.40**	**2**	⇓P	**Pg**	**14 14 00.3**	**+0.5**
TKM2	12nm,0.2s,SNR=34			⇓S	**Sg**	**14 14 06.0**	**+0.9**
	28nm,0.2s						
KBK	**Karagaybulak**	**0.49**	**287**	⇑P	**Pg**	**14 14 02.1**	**+0.5**
KBK	11nm,0.1s,SNR=6.2			⇓S	**Sg**	**14 14 09.1**	**+1.3**
	36nm,0.1s						
ULHL	**Ulahol**	**0.56**	**119**	⇑P	**Pg**	**14 14 03.0**	**+0.1**
ULHL	3.4nm,0.1s			⇓S	**Sg**	**14 14 10.9**	**+0.7**
	12nm,0.1s						
KST	**Kastek**	**0.59**	**28**	P	**Pg**	**14 14 04.0**	**+0.4**
KST	1.5nm,0.1s			S	**Sg**	**14 14 12.2**	**+1.0**
	16nm,0.2s						
DGS	**Degeres**	**0.74**	**11**	P	**Pg**	**14 14 06.6**	**+0.3**
DGS	1.4nm,0.2s			S	**Sg**	**14 14 16.1**	**+0.3**
	5.9nm,0.3s						
AAK	**Ala-Archa**	**0.81**	**279**	⇑P	**Pg**	**14 14 07.6**	**-0.1**
AAK	9.1nm,0.3s,SNR=9.8			⇑S	**Sg**	**14 14 18.8**	**+0.5**
	6.7nm,0.2s						
UCH	**Uchtor**	**0.84**	**250**	⇑P	**Pg**	**14 14 07.9**	**-0.5**
UCH	1.4nm,0.1s,SNR=9.4			⇓S	**Sg**	**14 14 19.6**	**+0.3**
	1.8nm,0.2s						
USP	**Ospenovka**	**1.09**	**314**	⇑P	**Pg**	**14 14 12.9**	**-0.2**
USP	0.8nm,0.1s,SNR=5.5			⇓S	**Sg**	**14 14 27.4**	**+0.2**
	1.9nm,0.1s						
TNSS	**Tian-Shan**	**1.13**	**62**	P	**Pg**	**14 14 14.1**	**+0.2**
TNSS	2.6nm,0.2s			S	**Sb**	**14 14 29.8**	**-0.4**
	3.0nm,0.2s						
SGDS	**Sogindy**	**1.17**	**323**	P	**Pg**	**14 14 13.9**	**-0.6**
SGDS	1.0nm,0.1s			S	**Sg**	**14 14 29.4**	**-0.2**
	2.6nm,0.2s						
KRBS	**Karabastau**	**1.18**	**3**	P	**Pg**	**14 14 14.4**	**-0.4**
KRBS	1.2nm,0.2s			S	**Sg**	**14 14 29.8**	**-0.3**
	2.1nm,0.2s						
MDOK	**Medeo**	**1.26**	**59**	Pg	**Pg**	**14 14 16.0**	**-0.3**
MDOK	1.6nm,0.4s			Lg	Lg	14 14 32.8	
	3.1nm,0.2s						
KOTS	**Kotyrbulak**	**1.33**	**57**	P	**Pg**	**14 14 17.6**	**-0.1**
KOTS	2.0nm,0.3s			S	**Sb**	**14 14 35.6**	**-0.3**
	5.4nm,0.4s						
KTBS	**Karatobe**	**1.44**	**34**	P	**Pn**	**14 14 19.4**	**-0.2**
KTBS	1.4nm,0.3s			S	**Sb**	**14 14 38.8**	**0.0**
	9.3nm,0.6s						
CHKK	**Chushkaly**	**1.69**	**37**	P	**Pb**	**14 14 23.7**	**-0.4**
CHKK	1.0nm,0.1s			S	**Sb**	**14 14 45.9**	**+0.1**
	8.9nm,0.2s						
MRKS	**Merke**	**1.75**	**278**	P	**Pb**	**14 14 25.1**	**-0.2**
MRKS	1.8nm,0.2s			S	**Sb**	**14 14 48.3**	**+0.4**
	9.4nm,0.2s						

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*NEIC **16** 14:20:27.5±2.8, 18˚.22N×0˚.03×100˚.49W±0˚.04, h51km±6km, mb5.0/114, Md5.1/64(MEX), Error ellipse: s-maj=5.5km s-min=3.7km az=119.0*
*MOS **16** 14:20:28.1±1.5, 18˚.34N×100˚.30W, h63km, mb5.2/32, Error ellipse: s-maj=10.0km s-min=5.5km az=86.6*
*MEX **16** 14:20:29.2±1.0, 18˚.19N×100˚.48W, h53km±6km, MD5.1*
*IDC **16** 14:20:30.6±2.1, 18˚.33N×100˚.20W, h75km±17km, mb4.4/29, mbtmp4.7/32, MS4.0/56, Error ellipse: s-maj=18.4km s-min=9.1km az=51.0*
*GCMT **16** 14:20:30.5±0.2, 18˚.40N±0˚.01×100˚.32W±0˚.02, h52km, MW5.0/92, Moment Tensor Solution. s91,c125; s92,c129; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-3.60±.12; Mθθ3.80±.07; Mφφ-0.20±.09; Mrθ0.30±.07; Mθφ-0.34±.07; Mφr-1.13±.07; Best double couple: M○3.89900×10^16^ NP1:φs291.00000°, δ50.00000°, λ-68.00000°. NP2:φs79.00000°, δ44.00000°, λ-114.00000°. Principal axes: T 3.8510, Plg3.0000°, Azm6.0000°; N 0.0920, Plg16.0000°, Azm97.0000°; P -3.9460, Plg73.0000°, Azm265.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 16 14:20:27.5±0.3, **18˚.19N**±0˚.02×**100˚.43W**±0˚.03, **h56**km±2km, **n934**, σ1§38/988, **mb5.0**/99, **MS4.0**/52, **26C-17D, Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.12**	**40**		**Pn**	**14 20 35.9**	**-0.3**
ARIG					**Sn**	**14 20 42.0**	**-0.3**
ARIG	**Puente Sto Nin**	**0.12**	**40**	⇓*i*P	**Pn**	**14 20 35.9**	**-0.3**
ARIG				*i* S	**Sn**	**14 20 42.0**	**-0.3**
MEIG	**Mezcala**	**0.81**	**109**		**Pn**	**14 20 43.6**	**+0.6**
MEIG					**Sn**	**14 20 54.9**	**+0.6**
MEIG	**Mezcala**	**0.81**	**109**	⇓*i*P	**Pn**	**14 20 43.6**	**+0.6**
MEIG				*i* S	**Sn**	**14 20 54.9**	**+0.6**
PLIG	**Platanillo**	**0.90**	**77**		**Pn**	**14 20 44.9**	**+0.7**
PLIG					**Sn**	**14 20 56.7**	**+0.2**
PLIG	**Platanillo**	**0.90**	**77**	⇑*i*P	**Pn**	**14 20 44.9**	**+0.7**
PLIG				*i* S	**Sn**	**14 20 56.7**	**+0.2**
ATYC	**Atoyac**	**0.97**	**180**	*i* P	**Pn**	**14 20 44.7**	**-0.3**
ATYC				*i* S	**Sn**	**14 20 58.3**	**+0.4**
PET2	**Petatlan**	**1.03**	**231**	*i* P	**Pn**	**14 20 45.0**	**-0.8**
PET2				*i* S	**Sn**	**14 20 58.1**	**-1.1**
CAIG	**El Cayaco**	**1.15**	**172**		**Pn**	**14 20 47.1**	**-0.2**
CAIG	**El Cayaco**	**1.15**	**172**	⇑*i*P	**Pn**	**14 20 47.1**	**-0.2**
CAIG				*i* S	**Sn**	**14 20 59.6**	**-2.5**
ZIIG	**Zihuatanejo**	**1.15**	**240**		**Pn**	**14 20 46.7**	**-0.6**
ZIIG					**Sn**	**14 20 59.9**	**-2.2**
ZIIG	**Zihuatanejo**	**1.15**	**240**	⇑*i*P	**Pn**	**14 20 46.7**	**-0.6**
ZIIG				*i* S	**Sn**	**14 20 59.9**	**-2.2**
MAVM	**Malinalco, Edo**	**1.17**	**49**	*e*P	**Pn**	**14 20 48.4**	**+0.6**
UON	**La Union**	**1.34**	**261**	*i* P	**Pn**	**14 20 49.8**	**-0.1**
UON				*i* S	**Sn**	**14 21 05.7**	**-1.0**
DAIG	**Los Arroyos**	**1.38**	**147**		**Pn**	**14 20 50.8**	**+0.3**
DAIG					**Sn**	**14 21 07.7**	**0.0**
DAIG	**Los Arroyos**	**1.38**	**147**	⇑*i*P	**Pn**	**14 20 50.8**	**+0.3**
DAIG				*e*S	**Sn**	**14 21 07.7**	**0.0**
ACP2	**Acapulco**	**1.41**	**158**		**Pn**	**14 20 51.0**	**+0.1**
ACP2					**Sn**	**14 21 10.2**	**+1.9**
ACP2	**Acapulco**	**1.41**	**158**	*i* P	**Pn**	**14 20 51.0**	**+0.1**
ACP2				*i* S	**Sn**	**14 21 10.2**	**+1.9**
YAIG	**Yautepec**	**1.45**	**62**		**Pn**	**14 20 52.3**	**+0.7**
YAIG	**Yautepec**	**1.45**	**62**	⇑*i*P	**Pn**	**14 20 52.3**	**+0.7**
YAIG				*i* S	**Sn**	**14 21 06.4**	**-3.3**
INVM	**La Marquesa**	**1.48**	**42**	*e*P	**Pn**	**14 20 53.1**	**+1.0**
AOVM	**Tlapan**	**1.50**	**44**	*e*P	**Pn**	**14 20 53.3**	**+0.8**
MZVM		**1.51**	**49**	*e*P	**Pn**	**14 20 53.8**	**+1.6**
TLVM	**San Miguel Top**	**1.58**	**50**	*e*P	**Pn**	**14 20 54.9**	**+1.4**
CJVM	**Cuajimalpa**	**1.59**	**43**	*e*P	**Pn**	**14 20 54.5**	**+0.9**
XCVM	**Xochimilco**	**1.63**	**49**	*e*P	**Pn**	**14 20 55.5**	**+1.4**
UNM	**Universidad Na**	**1.64**	**46**		**Pn**	**14 20 55.4**	**+1.2**
UNM	**Universidad Na**	**1.64**	**46**	⇑*i*P	**Pn**	**14 20 55.5**	**+1.3**
UNM				*e*S	**Sn**	**14 21 15.0**	**+0.6**
UNM	**Universidad Na**	**1.64**	**46**	P	**Pn**	**14 20 55.4**	**+1.2**
MOIG	**Morelia**	**1.65**	**334**	⇑*i*P	**Pn**	**14 20 55.1**	**+0.8**
MOIG				*e*S	**Sn**	**14 21 15.1**	**+0.5**
COVM	**Coyoacan**	**1.67**	**46**	*e*P	**Pn**	**14 20 52.9**	**-1.7**
BJVM	**Benito Juarez**	**1.68**	**45**	*e*P	**Pn**	**14 20 56.0**	**+1.3**
APVM	**Azcapotzalco**	**1.73**	**42**	*e*P	**Pn**	**14 20 56.6**	**+1.2**
AZVM	**Cuida Lopez Ma**	**1.76**	**38**	*e*P	**Pn**	**14 20 57.0**	**+1.1**
PBVM	**Pinon**	**1.78**	**45**	*e*P	**Pn**	**14 20 54.2**	**-1.7**
AMVM	**AMECAMECA**	**1.82**	**59**	*e*P	**Pn**	**14 20 58.0**	**+1.3**
ACIG	**Acambay**	**1.85**	**16**	*e*P	**Pn**	**14 20 57.8**	**+0.7**
TLIG	**Tlapa**	**1.88**	**109**	⇑*i*P	**Pn**	**14 20 59.0**	**+1.7**
TLIG				*i* S	**Sn**	**14 21 15.7**	**-4.3**
TXVM	**Universitario**	**1.89**	**49**	*e*P	**Pn**	**14 20 58.8**	**+1.2**
CRIG	**Cruz Grande**	**1.90**	**139**		**Pn**	**14 20 58.0**	**+0.4**
CRIG					**Sn**	**14 21 22.1**	**+1.7**
CRIG	**Cruz Grande**	**1.90**	**139**	⇑*i*P	**Pn**	**14 20 58.0**	**+0.4**
CRIG				*e*S	**Sn**	**14 21 22.1**	**+1.7**
ZUVM	**ZUMPANGO**	**2.07**	**38**	*e*P	**Pn**	**14 21 01.1**	**+0.9**
FTIG	**Fresnillo de T**	**2.20**	**97**		**Pn**	**14 21 03.6**	**+1.8**
FTIG	**Fresnillo de T**	**2.20**	**97**	⇑*i*P	**Pn**	**14 21 03.6**	**+1.8**
VTVM	**Tizayuca**	**2.22**	**45**	*e*P	**Pn**	**14 21 02.8**	**+0.6**
DEIG	**Demacu**	**2.48**	**32**	⇑*i*P	**Pn**	**14 21 06.0**	**+0.4**
DEIG				*e*S	**Sn**	**14 21 36.1**	**+1.2**
JRQG	**Juriquilla Cam**	**2.50**	**360**		**Pn**	**14 21 06.1**	**+0.2**
JRQG	**Juriquilla Cam**	**2.50**	**360**	*e*P	**Pn**	**14 21 06.1**	**+0.2**
JRQG				*e*S	**Sn**	**14 21 37.0**	**+1.6**
HLIG	**Huajuapan de L**	**2.52**	**98**		**Pn**	**14 21 08.2**	**+2.0**
HLIG					**Sn**	**14 21 34.8**	**-1.1**
HLIG	**Huajuapan de L**	**2.52**	**98**	⇓*e*P	**Pn**	**14 21 08.2**	**+2.0**
HLIG				*e*S	**Sn**	**14 21 34.8**	**-1.1**
TXIG	**Tlaxiaco**	**2.70**	**110**		**Pn**	**14 21 10.8**	**+2.1**
TXIG					**Sn**	**14 21 41.5**	**+1.1**
TXIG	**Tlaxiaco**	**2.70**	**110**	⇑*i*P	**Pn**	**14 21 10.8**	**+2.1**
TXIG				*e*S	**Sn**	**14 21 41.5**	**+1.1**
MMIG	**Aquila**	**2.78**	**272**		**Pn**	**14 21 09.1**	**-0.4**
MMIG	**Aquila**	**2.78**	**272**	⇓*e*P	**Pn**	**14 21 09.2**	**-0.3**
MMIG				*e*S	**Sn**	**14 21 40.5**	**-1.3**
PNIG	**Pinotepa**	**2.83**	**129**		**Pn**	**14 21 11.1**	**+0.8**
PNIG					**Sn**	**14 21 44.5**	**+1.3**
PNIG	**Pinotepa**	**2.83**	**129**	⇑*i*P	**Pn**	**14 21 11.1**	**+0.8**
PNIG				*e*S	**Sn**	**14 21 44.5**	**+1.3**
TPIG	**Tehuac#an**	**2.92**	**85**		**Pn**	**14 21 13.5**	**+1.8**
TPIG					**Sn**	**14 21 45.8**	**+0.1**
TPIG	**Tehuac#an**	**2.92**	**85**	⇑*e*P	**Pn**	**14 21 13.7**	**+2.1**
TPIG				*e*S	**Sn**	**14 21 45.8**	**+0.1**
YOIG	**Yosondua**	**3.05**	**115**		**Pn**	**14 21 15.8**	**+2.2**
YOIG					**Sn**	**14 21 49.9**	**+0.9**
YOIG	**Yosondua**	**3.05**	**115**	⇑*e*P	**Pn**	**14 21 15.7**	**+2.2**
YOIG				*e*S	**Sn**	**14 21 49.9**	**+0.9**
TOIG	**Toxpalan**	**3.20**	**91**		**Pn**	**14 21 17.5**	**+2.1**
TOIG					**Sn**	**14 21 52.7**	**+0.3**
TOIG	**Toxpalan**	**3.20**	**91**	⇓*e*P	**Pn**	**14 21 17.5**	**+2.1**
TOIG				*e*S	**Sn**	**14 21 52.7**	**+0.3**
JUBC	**Volcan de Coli**	**3.25**	**294**	*e*P	**Pn**	**14 21 19.1**	**+2.8**
JUBC				*e*S	Sn	14 22 05.0	+11
EZ5V		**3.27**	**294**	*e*P	**Pn**	**14 21 19.0**	**+2.5**
EZ5V				*e*S	**Sn**	**14 22 02.9**	**+8.6**
MNGA	**Volcan de Coli**	**3.28**	**293**	*e*P	**Pn**	**14 21 19.1**	**+2.5**
MNGA				*e*S	Sn	14 22 04.4	+10
INCO	**Volcan de Coli**	**3.29**	**294**	*e*P	**Pn**	**14 21 19.7**	**+2.8**
INCO				⇓*e*S	Sn	14 22 07.0	+12
SOMAC	**Volcano de Col**	**3.31**	**294**	*e*P	**Pn**	**14 21 19.7**	**+2.5**
SOMAC				*e*S	Sn	14 22 09.0	+14
CEGR	**Campo Tres**	**3.46**	**291**	*e*P	**Pn**	**14 21 20.4**	**+1.3**
CEGR				*e*S	Sn	14 22 11.7	+13
CDAR	**Ciudad de Arme**	**3.48**	**283**	*e*P	**Pn**	**14 21 19.9**	**+0.7**
CDAR				*e*S	**Sn**	**14 22 07.0**	**+7.9**
R15V		**3.51**	**287**	*e*P	**Pn**	**14 21 20.9**	**+1.3**
R15V				*e*S	**Sn**	**14 22 01.7**	**+1.8**
JAUV	**Jalcomulco**	**3.63**	**71**	*i* P	**Pn**	**14 21 22.5**	**+1.3**
JAUV				*e*S	**Sn**	**14 22 06.0**	**+3.2**
OXIG	**Oaxaca**	**3.69**	**107**		**Pn**	**14 21 24.8**	**+2.5**
OXIG					**Sn**	**14 22 05.0**	**+0.3**
VHO	**Vista Hermosa**	**3.69**	**107**	⇑*e*P	**Pn**	**14 21 24.9**	**+2.6**
VHO				*e*S	**Sn**	**14 22 05.0**	**+0.3**
RPIG	**Rio Verde**	**3.70**	**6**		**Pn**	**14 21 23.3**	**+1.0**
RPIG	**Rio Verde**	**3.70**	**6**	*i* P	**Pn**	**14 21 23.0**	**+0.8**
CTUV	**Llano Grande**	**3.80**	**31**	*i* P	**Pn**	**14 21 24.3**	**+0.7**
LVIG	**Laguna Verde**	**4.09**	**67**	*e*P	**Pn**	**14 21 27.9**	**+0.4**
LVIG				*e*S	**Sn**	**14 22 16.1**	**+2.0**
CIHU	**Emiliano Zapat**	**4.22**	**285**	*e*P	**Pn**	**14 21 29.6**	**+0.3**
CIHU				*e*S	**Sn**	**14 22 15.1**	**-2.3**
NEUV	**Arroyo Zacate**	**4.43**	**95**	*i* P	**Pn**	**14 21 33.5**	**+1.3**
NEUV				*e*S	**Sn**	**14 22 19.0**	**-3.4**
CJM	**Chamela**	**4.56**	**287**	*e*P	**Pn**	**14 21 35.0**	**+1.0**
CJM				*e*S	**Sn**	**14 22 26.1**	**+0.3**
ESTA	**Talpa de Allen**	**4.72**	**298**	*e*P	**Pn**	**14 21 37.1**	**+0.9**
ESTA				*e*S	**Sn**	**14 22 30.0**	**+0.3**
HUIG	**Huatulco**	**4.78**	**120**		**Pn**	**14 21 39.0**	**+2.0**
HUIG	**Huatulco**	**4.78**	**120**	*e*P	**Pn**	**14 21 39.0**	**+2.0**
HUIG				*e*S	**Sn**	**14 22 27.5**	**-3.7**
ANIG	**Ahuacatlan**	**4.80**	**307**	*e*P	**Pn**	**14 21 38.0**	**+0.7**
ZAIG	**Zacatecas**	**4.98**	**337**	*e*P	**Pn**	**14 21 40.5**	**+0.5**
GTIG	**Gomez Farias**	**4.99**	**13**		**Pn**	**14 21 40.4**	**+0.5**
GTIG	**Gomez Farias**	**4.99**	**13**	⇑*i*P	**Pn**	**14 21 40.4**	**+0.5**
GTIG				*e*S	**Sn**	**14 22 40.4**	**+4.0**
PMUV	**Sontecomapan**	**5.05**	**85**	*e*P	**Pn**	**14 21 41.0**	**+0.3**
PMUV				*e*S	**Sn**	**14 22 33.1**	**-4.8**
CMIG	**Matias Romero**	**5.40**	**101**		**Pn**	**14 21 47.5**	**+2.0**
CMIG	**Matias Romero**	**5.40**	**101**	P	**Pn**	**14 21 47.6**	**+2.2**
CMIG	94nm,0.6s,baz=281,slow=9.9,SNR=118			S	**Sn**	**14 22 45.7**	**-0.6**
	222nm,0.5s,baz=162,slow=20,SNR=8.2			LR	LR	14 24 14.5	
	comp=Z,2µm,21.6s,baz=308,slow=43						
CMIG	**Matias Romero**	**5.40**	**101**	*i* P	**Pn**	**14 21 47.5**	**+2.0**
UXUV	**UXUV**	**6.05**	**97**	*e*P	**Pn**	**14 21 55.9**	**+1.5**
UXUV				*e*S	**Sn**	**14 23 01.5**	**-0.8**
LNIG	**Linares**	**6.74**	**7**	*e*P	**Pn**	**14 22 03.7**	**-0.1**
TGIG		**7.11**	**100**	*e*P	**Pn**	**14 22 10.9**	**+1.9**
PCIG		**7.33**	**109**		**Pn**	**14 22 14.4**	**+2.5**
PCIG		**7.33**	**109**	*e*P	**Pn**	**14 22 14.4**	**+2.5**
CCIG	**Comitan**	**8.14**	**102**	*e*P	**Pn**	**14 22 25.3**	**+2.0**
PDIG	**Papasquiaro**	**8.23**	**327**	*e*P	**Pn**	**14 22 28.6**	**+4.1**
PATR	**El Naranjo**	**8.43**	**110**	*i* P	**Pn**	**14 22 30.4**	**+3.3**
PATR				*e*S	**Sn**	**14 23 58.0**	**-3.0**
PAVE	**Pavencul**	**8.45**	**109**	*i* P	**Pn**	**14 22 31.0**	**+3.5**
PAVE				*e*S	**Sn**	**14 24 00.0**	**-1.6**
CHUJ	**Union Juarez**	**8.55**	**110**	*i* P	**Pn**	**14 22 32.1**	**+3.2**
CHUJ				*e*S	**Sn**	**14 24 00.0**	**-4.0**
HBVL	**Hebbronville**	**8.98**	**10**	Pn	**Pn**	**14 22 35.2**	**+0.6**
HUEH	**Huehuetenango**	**9.01**	**107**	Pn	**Pn**	**14 22 37.8**	**+2.5**
SSIG	**Sanalona**	**9.09**	**318**	*e*P	**Pn**	**14 22 36.8**	**+0.8**
RTAL	**Retalhuleu**	**9.14**	**112**	Pn	**Pn**	**14 22 39.3**	**+2.5**
KVTX	**Kingsville**	**9.60**	**14**		**Pn**	**14 22 42.6**	**-0.4**
HPIG		**9.96**	**332**	*e*P	**Pn**	**14 22 51.0**	**+2.9**
APG	**El Apazote**	**10.06**	**107**	P	**Pn**	**14 22 52.0**	**+2.4**
	1.3nm,0.4s,baz=194,slow=15,SNR=27						
APG				S	**Sn**	**14 24 39.1**	**-2.0**
	1.7nm,0.4s,baz=235,slow=19,SNR=5.4						
833A	**Chaparral WMA,**	**10.13**	**5**		**Pn**	**14 22 51.4**	**+1.1**
833A	**Chaparral WMA,**	**10.13**	**5**	P	**Pn**	**14 22 52.6**	**+2.4**
	baz=185,SNR=21						
735A	**Kenedy**	**10.88**	**12**		**Pn**	**14 23 01.6**	**+1.1**
LPIG	**La Paz**	**10.93**	**304**	LR	LR	14 27 00.7	
	comp=Z,990nm,20.6s,baz=142,slow=35						
EF01	**Eagle Ford 01**	**11.05**	**9**	Pn	**Pn**	**14 23 04.5**	**+1.7**
DRIO	**Del Rio**	**11.18**	**359**	Pn	**Pn**	**14 23 06.0**	**+1.4**
MTO3	**Montecristo**	**11.27**	**108**	Pn	**Pn**	**14 23 06.9**	**+0.8**
HNDO	**Hondo**	**11.34**	**5**		**Pn**	**14 23 06.7**	**-0.1**
TXAR	**Lajitas Array**	**11.48**	**346**		**Pn**	**14 23 11.1**	**+2.3**
TXAR	**Lajitas Array**	**11.48**	**346**	P	**Pn**	**14 23 11.8**	**+3.0**
	41nm,1.0s,baz=158,slow=14,SNR=62						
TXAR				LR	LR	14 28 04.0	
	comp=Z,801nm,19.3s,baz=160,slow=40						
TXAR	**Lajitas Array**	**11.48**	**346**	P	**Pn**	**14 23 11.1**	**+2.3**
TX31	**Lajitas Ar. Si**	**11.48**	**346**	Pn	**Pn**	**14 23 10.7**	**+1.8**
TEIG	**Tepich**	**11.66**	**78**	Pn	**Pn**	**14 23 10.3**	**-0.9**
TEIG	**Tepich**	**11.66**	**78**	LR	LR	14 28 35.4	
	comp=Z,3µm,18.9s,slow=42						
SAND	**Sanderson**	**11.81**	**353**	Pn	**Pn**	**14 23 16.8**	**+3.5**
MLDN	**Muldoon**	**11.94**	**14**		**Pn**	**14 23 15.7**	**+0.7**
JCT	**Junction City**	**12.25**	**3**	Pn	**Pn**	**14 23 19.6**	**+0.3**
JCT	**Junction City**	**12.25**	**3**	P	**Pn**	**14 23 20.9**	**+1.6**
	baz=182,SNR=12						
JCT	**Junction City**	**12.25**	**3**	P	**Pn**	**14 23 19.6**	**+0.3**
HKT	**Hockley**	**12.43**	**19**		**Pn**	**14 23 21.6**	**0.0**
HKT	**Hockley**	**12.43**	**19**	*i* P	**Pn**	**14 23 21.8**	**+0.2**
HKT				pmax	pmax		
	comp=Z,90nm,1.7s						
ALPN	**Alpine**	**12.48**	**347**	Pn	**Pn**	**14 23 24.3**	**+1.9**
OZNA	**Ozona**	**12.69**	**357**		**Pn**	**14 23 26.4**	**+1.1**
435B	**Jarrell**	**12.80**	**11**	Pn	**Pn**	**14 23 26.8**	**0.0**
435B	**Jarrell**	**12.80**	**11**	P	**Pn**	**14 23 27.2**	**+0.5**
	baz=192						
BRDY	**Brady**	**13.10**	**5**	Pn	**Pn**	**14 23 30.8**	**0.0**
VHRN	**Van Horn**	**13.21**	**343**	Pn	**Pn**	**14 23 34.5**	**+2.1**
MNHN	**Monahans**	**13.26**	**351**	Pn	**Pn**	**14 23 34.7**	**+1.6**
HNVL	**Huntsville, TX**	**13.30**	**19**		**Pn**	**14 23 32.9**	**-0.6**
PECS	**Pecos**	**13.49**	**347**		**Pn**	**14 23 38.0**	**+1.8**
SGCY	**Sterling City**	**13.68**	**357**	Pn	**Pn**	**14 23 39.8**	**+1.0**
WHTX	**Lake Whitney,**	**14.00**	**10**		**Pn**	**14 23 42.7**	**-0.3**
WHTX	**Lake Whitney,**	**14.00**	**10**	P	**Pn**	**14 23 42.7**	**-0.3**
	baz=191,SNR=9.4						
ODSA	**Odessa**	**14.00**	**353**	Pn	**Pn**	**14 23 43.8**	**+0.7**
441A	**DeRidder**	**14.13**	**26**		**Pn**	**14 23 43.4**	**-1.3**
MNTX	**Cornudas Mount**	**14.18**	**343**	P	**Pn**	**14 23 47.0**	**+1.6**
	baz=159,SNR=51						
FW13	**Cleburne**	**14.36**	**10**		**Pn**	**14 23 47.0**	**-0.8**
237A	**Washetta, Mont**	**14.37**	**16**		**Pn**	**14 23 46.4**	**-1.5**
ABTX	**Abilene, Hawle**	**14.39**	**3**		**Pn**	**14 23 48.0**	**-0.2**
ABTX	**Abilene, Hawle**	**14.39**	**3**	P	**Pn**	**14 23 48.4**	**+0.2**
	baz=182,SNR=70						
FW14	**Alvarado**	**14.45**	**11**		**Pn**	**14 23 48.5**	**-0.4**
NATX	**Nacogdoches**	**14.48**	**20**	Pn	**Pn**	**14 23 49.0**	**-0.4**
NATX	**Nacogdoches**	**14.48**	**20**	P	**Pn**	**14 23 48.4**	**-1.0**
	baz=202,SNR=20						
SN05	**Snyder 5**	**14.63**	**358**		**Pn**	**14 23 51.3**	**-0.1**
FW07	**Weatherford**	**14.65**	**9**		**Pn**	**14 23 50.6**	**-0.9

Z47A IAmb IAmb 14 24 41.5
comp=Z,68nm,0.9s
BLOK Blackwell 18.71 8 P P 14 24 40.3 -1.2
BLOK IAmb IAmb 14 24 42.7
comp=Z,89nm,0.9s
W18A Petrified Fore 18.78 336 P Pn **14 24 44.2 +0.8**
baz=151
OXF Oxford 18.99 29 P P **14 24 43.5 -1.1**
baz=214
LRAL Lakeview Retre 19.08 37 P P **14 24 44.5 -1.0**
baz=222,SNR=13
T25A Trinidad 19.20 350 P Pn **14 24 48.0 -0.4**
baz=168,SNR=92
LCAR Lake Charles 19.61 23 P P **14 24 49.5 -1.8**
LCAR IAmb IAmb 14 24 53.0
comp=Z,110nm,1.3s
GLA Glamis 19.65 322 P Pn **14 24 54.2 +0.5**
baz=135,SNR=6.4
WUAZ Wupatki 19.80 333 P Pn **14 24 56.5 +1.0**
baz=147,SNR=125
BLYC Blythe 19.98 324 P P **14 24 55.4 0.0**
BLYC IAmb IAmb 14 24 59.0
comp=Z,44nm,0.8s
SDCO Great Sand Dun 19.98 348 P P **14 24 56.2 +0.5**
baz=165,SNR=54
DWPF Disney Wildern 20.04 57 P P **14 24 54.8 -1.2**
baz=245
TIGA Tifton 20.15 46 P P **14 24 55.9 -1.3**
baz=233
IKP In-Ko-Pah, Jac 20.16 319 P P **14 24 58.9 +1.5**
baz=131
SWSC Sam W. Stewart 20.17 320 P P **14 24 58.8 +1.4**
baz=132
PDMCI Parker Dam,Lak 20.18 325 P Pn 14 25 00.1 +0.2
baz=138,SNR=8.8
152A Waverly Hall 20.19 41 P P **14 24 56.0 -1.6**
152A IAmb IAmb 14 25 01.1
comp=Z,265nm,2.0s
MVCO Mesa Verde 20.23 341 P P **14 24 59.6 +1.3**
baz=157,SNR=38
BC3 Big Chuckawall 20.45 322 P P **14 25 01.2 +0.6**
baz=134,SNR=16
MONP2 Monument Peak 20.52 319 P P **14 25 02.0 +0.6**
baz=131
CBKS Cedar Bluff 20.56 2 P P **14 25 00.6 -1.0**
baz=181,SNR=32
IRM Iron Mountain 20.63 323 P Pn 14 25 04.2 -1.0
baz=136,SNR=22
NEE2 Needles Airpor 20.79 325 P P **14 25 05.4 +1.3**
baz=138
KSCO Kaye Shedlock' 20.84 355 P P **14 25 04.5 -0.1**
baz=174,SNR=14
PMD Palm Desert 21.00 320 P P **14 25 08.0 +1.6**
BELC Belle Mtn. Jos 21.02 322 P P **14 25 08.0 +1.3**
baz=134
TPFO Pinon Flats 21.02 320 P P **14 25 08.4 +1.7**
baz=132
PFO Pinyon Flats O 21.02 320 P P **14 25 08.9 +2.2**
PFO Pinyon Flats O 21.02 320 P P **14 25 08.7 +1.9**
baz=132
PFO Pinyon Flats O 21.02 320 P P **14 25 09.3 +2.6**
comp=Z,7.6nm,0.9s,baz=132,slow=9.5,SNR=7.5
PFO LR LR 14 33 36.9
comp=Z,336nm,19.0s,baz=142,slow=37
comp=Z,7.6nm,0.9s
PFO Pinyon Flats O 21.02 320 *i* P P **14 25 08.9 +2.2**
PFO pmax pmax
comp=Z,23nm,1.2s
WVT Waverly 21.06 29 P P **14 25 05.6 -1.3**
WVT Waverly 21.06 29 P P **14 25 04.7 -2.2**
baz=215
WVT Waverly 21.06 29 P P **14 25 05.6 -1.3**
WVT pmax pmax
comp=Z,96nm,0.6s
KSU1 Kansas State U 21.10 8 P P **14 25 05.7 -1.6**
KSU1 Kansas State U 21.10 8 P P **14 25 06.4 -1.0**
baz=190,SNR=29
Q24A Divide 21.10 350 P P **14 25 07.4 -0.4**
baz=167,SNR=13
CCM Cathedral Cave 21.36 20 P P **14 25 08.2 -1.9**
CCM IAmb IAmb 14 25 16.3
comp=Z,56nm,0.8s
CCM Cathedral Cave 21.36 20 P P **14 25 08.8 -1.3**
baz=204
CCM Cathedral Cave 21.36 20 P P **14 25 08.2 -1.9**
CCM pmax pmax
comp=Z,56nm,0.8s
GMRC Granite Mounta 21.38 324 P P **14 25 12.1 +1.6**
baz=136,SNR=14
GOGA Godfrey 21.47 42 P P **14 25 08.9 -2.4**
GOGA Godfrey 21.47 42 P P **14 25 09.5 -1.8**
baz=229,SNR=11
GOGA Godfrey 21.47 42 P P **14 25 09.0 -2.4**
GOGA pmax pmax
comp=Z,25nm,0.7s
MURC Murrieta 21.47 319 P P **14 25 13.0 +1.6**
baz=131
V12A Nelson 21.64 327 P P **14 25 14.7 +1.3**
HEC Hector,Ludlow 21.80 323 P P **14 25 15.6 +0.6**
baz=135
BCIP Isla Barro Col 21.90 111 P P **14 25 17.5 +1.3**
BCIP Isla Barro Col 21.90 111 P P **14 25 17.5 +1.3**
BCIP pmax pmax
comp=Z,53nm,1.7s
ISCO Idaho Springs 22.00 349 P **14 25 16.3 -1.0**
ISCO IAmb IAmb 14 25 20.1
comp=Z,36nm,0.8s
ISCO Idaho Springs 22.00 349 P P **14 25 17.1 -0.2**
baz=166,SNR=58
ISCO Idaho Springs 22.00 349 P P **14 25 16.3 -1.0**
ISCO pmax pmax
comp=Z,36nm,0.8s
TUQ Turquoise Moun 22.00 324 P P **14 25 18.6 +1.4**
baz=137,SNR=20
BFSC Mount Baldy Ra 22.18 319 P P **14 25 20.6 +1.4**
baz=131
GSC Goldstone, Bar 22.40 323 P P **14 25 22.2 +0.7**
baz=135
SHOC Shoshone, Teco 22.54 325 P P **14 25 23.6 +0.7**
baz=137
BRIGG Briggsdale 22.57 352 P **14 25 22.5 -0.8**
SRU San Rafael Swe 22.62 339 P P **14 25 23.8 -0.1**
SRU IAmb IAmb 14 25 25.3
comp=Z,45nm,0.9s
SRU San Rafael Swe 22.62 339 P P **14 25 23.8 -0.1**
SRU pmax pmax
comp=Z,45nm,0.9s
OGNE Ogallala 22.72 357 P P **14 25 23.8 -1.0**
baz=176,SNR=14
SNCC San Nicolas Is 22.77 315 P P **14 25 26.2 +0.9**
baz=126
EDW2 Edwards Air Fo 22.82 320 P P **14 25 27.5 +1.6**
baz=132,SNR=5.8
O20A White River Ci 22.89 344 P P **14 25 27.2 +0.5**
baz=160,SNR=34
TMUT Trail Mountain 23.02 338 P P **14 25 28.5 +0.4**
TMUT IAmb IAmb 14 25 30.2
comp=Z,59nm,1.4s
N23A Red Feather La 23.12 349 P P **14 25 29.1 0.0**
baz=166,SNR=90
BGNE Belgrade 23.22 4 P P **14 25 29.5 -0.3**
baz=185,SNR=19
T50A Nancy 23.23 33 P P **14 25 26.6 -3.3**
FURC Furnace Creek, 23.27 325 P P **14 25 31.6 +1.3**
baz=136
MPMC Manual Prospec 23.33 323 P P **14 25 31.8 +0.7**
baz=135,SNR=14
P43A Skaggs, Pawnee 23.37 22 P P **14 25 29.3 -1.9**
WCI Wyandotte Cave 23.48 29 P P **14 25 30.0 -2.2**
WCI IAmb IAmb 14 25 56.7
comp=Z,44nm,0.9s
WCI Wyandotte Cave 23.48 29 P P **14 25 30.4 -1.8**
baz=215
WCI Wyandotte Cave 23.48 29 P P **14 25 30.0 -2.2**
WCI pmax pmax
comp=Z,44nm,0.9s
ARVC Arvin 23.49 320 P P **14 25 33.0 +0.6**
baz=130
TZTN Tazewell 23.57 36 P P **14 25 30.9 -2.3**
baz=223,SNR=9.5
SBC Santa Barbara 23.61 317 P P **14 25 34.8 +1.3**
baz=128
MPU Maple Canyon 23.81 338 P P **14 25 36.2 +0.7**
MPU IAmb IAmb 14 25 37.8
comp=Z,41nm,1.2s
KMSC Kings Mountain 23.93 41 P P **14 25 34.9 -1.6**
baz=230,SNR=14

GRAC Grapevine Rang 23.94 325 P P **14 25 38.5 +1.9**
baz=136
CWC Cottonwood Cre 23.94 323 P P **14 25 38.5 +1.8**
baz=134
PKM Mcpherson Peak 23.96 318 P P **14 25 38.6 +1.7**
baz=128
R11B Troy Canyon, C 24.05 330 P P **14 25 39.5 +1.8**
baz=142,SNR=19
GMN Gold Mountain 24.10 326 P P **14 25 39.2 +1.0**
VES Vestal, Richgr 24.12 320 P P **14 25 38.8 +0.7**
baz=131
RWWY Rawlins 24.13 348 P P **14 25 39.4 +0.9**
HDIL Hopedale 24.27 21 P P **14 25 38.0 -1.4**
baz=206
SMMC Simmler 24.34 318 P P **14 25 41.4 +1.2**
baz=129
DUG Dugway, Tooele 24.40 337 P P **14 25 41.7 +0.9**
baz=150,SNR=12
SCIA State Center 24.43 13 P P **14 25 40.0 -0.9**
baz=196,SNR=19
V55A Taylorsville 24.46 40 P P **14 25 39.8 -1.5**
V55A IAmb IAmb 14 25 42.3
comp=Z,54nm,1.0s
U54A Nelsons Funny 24.55 38 P P **14 25 40.4 -1.7**
U54A IAmb IAmb 14 25 44.1
comp=Z,38nm,0.8s
TCUT Toone Canyon 24.72 340 P P **14 25 44.1 +0.3**
TCUT IAmb IAmb 14 25 48.4
comp=Z,56nm,1.0s
SFIN Lafayette 24.92 25 P P **14 25 44.2 -1.2**
baz=211,SNR=12
K22A Casper 24.93 349 P P **14 25 45.6 0.0**
K22A Casper 24.93 349 P P **14 25 45.9 +0.3**
baz=166,SNR=53
P49A Miami Univ. Ec 25.25 29 P P **14 25 45.9 -2.5**
baz=217,SNR=5.2
NVAR Mina Array Bea 25.49 326 P P **14 25 53.0 +2.1**
comp=Z,6.5nm,0.6s,baz=146,slow=9.8,SNR=64
NVAR PcP **PcP** **14 29 22.5 +1.0**
comp=Z,2.3nm,1.0s,baz=147,slow=2.2,SNR=4.2
NVAR LR LR 14 36 48.4
comp=Z,468nm,18.7s,baz=136,slow=38
comp=Z,6.5nm,0.6s
Q51A Peebles 25.52 32 P P **14 25 49.1 -1.8**
Q51A IAmb IAmb 14 26 21.0
comp=Z,33nm,0.8s
O48B Farmland 25.64 28 P P **14 25 49.2 -2.7**
baz=215,SNR=11
ECSD EROS Data Cent 25.67 6 P P **14 25 50.9 -1.3**
baz=188,SNR=69
BW06 Boulder Array 25.70 344 P P **14 25 51.8 -0.9**
baz=159,SNR=53
PDAR Pinedale Array 25.70 344 P P **14 25 52.6 0.0**
comp=Z,30nm,0.8s,baz=147,slow=14,SNR=113
PDAR PcP **PcP** **14 29 22.4 +0.5**
comp=Z,2.2nm,1.0s,baz=123,slow=4.4,SNR=3.6
PDAR LR LR 14 37 07.0
comp=Z,542nm,21.9s,baz=175,slow=39
comp=Z,30nm,0.8s
ELK Elko 25.84 334 P P **14 25 55.4 +1.4**
comp=Z,2.8nm,0.8s,baz=147,slow=11,SNR=5.2
ELK PcP **PcP** **14 29 23.0 +0.8**
comp=Z,2.1nm,0.8s,baz=130,slow=7.9,SNR=3.8
ELK LR LR 14 37 13.4
comp=Z,1um,18.4s,baz=154,slow=39
comp=Z,2.8nm,0.8s
BLA Blacksburg 25.84 39 P P **14 25 51.6 -2.3**
baz=228,SNR=17
KVN Kaiserville 25.85 327 P P **14 25 55.0 +1.0**
KVN Kaiserville 25.85 327 P P **14 25 55.0 +1.0**
KVN pmax pmax
comp=Z,15nm,1.0s
P51A Williamsport 26.02 32 P P **14 25 52.6 -2.7**
RSSD Black Hills 26.03 354 P P **14 25 54.4 -1.3**
RSSD Black Hills 26.03 354 P P **14 25 55.3 -0.3**
baz=172
RSSD Black Hills 26.03 354 P P **14 25 54.4 -1.3**
RSSD pmax pmax
comp=Z,14nm,0.9s
JFWS Jewell Farm 26.12 17 P P **14 25 53.9 -2.3**
baz=202
L44A Lake County Fo 26.18 21 P P **14 25 54.5 -2.3**
baz=208
SUSD Miller 26.20 2 P P **14 25 55.4 -1.6**
baz=183
REDW Red Top Meadow 26.60 343 P P **14 26 00.6 -0.2**
P52A Corning 26.60 33 P P **14 25 57.8 -2.8**
baz=222
T59A Double "B" Far 27.47 42 P P **14 26 07.5 -0.9**
T59A IAmb IAmb 14 26 53.6
comp=Z,76nm,1.9s
H17A Grant Village 27.48 344 P P **14 26 07.9 -0.9**
baz=158
O53A New Philadelph 27.53 33 P P **14 26 06.2 -2.7**
baz=222
SPMN Marine on St. 27.70 12 P P **14 26 08.5 -1.9**
baz=195,SNR=9.4
RLMT Red Lodge 27.85 347 P P **14 26 10.6 -1.4**
baz=161,SNR=12
HLID Hailey 27.92 338 P P **14 26 11.6 -1.0**
baz=150,SNR=8.4
AAM Ann Arbor 27.95 27 P P **14 26 10.4 -2.3**
baz=216
M53A Wl Miller and 28.68 32 P P **14 26 16.6 -2.6**
baz=222
LAO LASA Array 28.82 352 P P **14 26 18.2 -2.2**
baz=168
BOZ Bozeman (W) 28.88 344 P P **14 26 19.5 -1.6**
baz=157,SNR=7.1
ERPA Erie 29.53 32 P P **14 26 23.6 -3.2**
baz=222
MDND Maddock 29.59 1 P P **14 26 25.8 -1.3**
baz=181
SSPA Standing Stone 29.60 36 P P **14 26 25.3 -2.1**
SSPA IAmb IAmb 14 26 27.6
comp=Z,26nm,1.1s
SSPA Standing Stone 29.60 36 P P **14 26 24.6 -2.7**
baz=227
GLMI Grayling 29.67 23 P P **14 26 25.7 -2.2**
baz=211
PLID Pearl Lake 29.81 338 P P **14 26 29.5 +0.1**
BPMT Black Pine Rid 30.16 342 P P **14 26 32.4 -0.2**
YBH Yreka Blue Hor 30.21 326 LR LR 14 39 24.2
comp=Z,208nm,19.4s,baz=152,slow=38
AGMN Agassiz Nation 30.26 6 P P **14 26 31.8 -1.3**
AGMN Agassiz Nation 30.26 6 P P **14 26 31.5 -1.6**
baz=188,SNR=14
LYMT Lyon Mountain 30.32 344 P P **14 26 34.0 +0.1**
DGMT Dagmar 30.36 355 P P **14 26 33.3 -0.7**
baz=172
SDV Santo Domingo 30.36 104 LR LR 14 40 55.0
comp=Z,242nm,18.6s,baz=296,slow=41
EYMN Ely 30.56 12 P P **14 26 33.8 -2.0**
baz=196
B35A Bob, Littlefor 30.58 9 P P **14 26 34.0 -2.0**
MSO Missoula 30.66 342 P P **14 26 35.8 -0.9**
baz=154
EGMT Eagleton 30.72 348 P P **14 26 36.4 -0.8**
EGMT Eagleton 30.72 348 P P **14 26 37.1 -0.1**
baz=162,SNR=6.9
F10A Beach Ranch, E 31.01 337 P P **14 26 39.7 -0.1**
BINY Binghamton 31.71 36 P P **14 26 44.3 -1.6**
baz=228,SNR=6.8
SADO Sadowa 31.93 29 P P **14 26 45.1 -2.7**
comp=Z,11nm,0.5s,baz=244,slow=7.6,SNR=18
SADO LR LR 14 42 42.6
comp=Z,245nm,21.2s,baz=200,slow=42
comp=Z,11nm,0.5s
PAL Palisades 32.16 39 P P **14 26 47.8 -2.1**
baz=233
ULM Lac du Bonnet 32.19 5 P P **14 26 48.2 -1.8**
comp=Z,35nm,0.5s,baz=190,slow=9.8,SNR=64
ULM LR LR 14 40 55.7
comp=Z,200nm,18.3s,baz=159,slow=38
comp=Z,35nm,0.5s
ULM Lac du Bonnet 32.19 5 *i* P P **14 26 48.7 -1.3**
SJG San Juan 32.54 85 P P **14 26 54.8 +1.3**
SJG pP **pP** **14 27 07.9 -0.1**
SJG sP **sP** **14 27 14.2 -0.6**
NEW Newport 32.94 339 P P **14 26 56.2 -0.5**
baz=149
NEW Newport 32.94 339 LR LR 14 41 13.0
comp=Z,243nm,21.4s,baz=164,slow=38
ATAH Atahualpa 33.26 137 LR LR 14 37 56.0
comp=Z,348nm,21.9s,baz=309,slow=32
L61B Northampton 33.76 38 P P **14 27 02.1 -1.8**
baz=233

LONY Lake Ozonia 34.09 34 P P **14 27 05.3 -1.4**
baz=228
LBNH Lisbon 35.29 36 P P **14 27 16.0 -1.1**
baz=232
PCRV Puerto La Cruz 35.55 98 LR LR 14 42 08.5
comp=Z,123nm,21.3s,slow=37
FFC Flin Flon 36.49 358 P P **14 27 25.9 -1.3**
FFC IAmb IAmb 14 27 27.3
comp=Z,26nm,0.9s
FFC Flin Flon 36.49 358 P P **14 27 25.9 -1.3**
FFC pmax pmax
comp=Z,26nm,0.9s
FFC Flin Flon 36.49 358 P P **14 27 25.8 -1.3**
FFC PcP **PcP** **14 29 50.1 +0.2**
PKME Peaks-Kenny Pk 37.41 37 P P **14 27 33.6 -1.5**
baz=234
NNA Nana 37.96 140 LR LR 14 40 44.9
comp=Z,172nm,18.4s,baz=314,slow=32
NNA Nana 37.96 140 *i* P P **14 27 41.7 +1.6**
NNA pmax pmax
comp=Z,14nm,1.1s
BBB Bella Bella 40.29 334 LR LR 14 46 31.8
comp=Z,165nm,19.5s,baz=148,slow=39
FCC Fort Churchill 40.78 5 P P **14 28 01.4 -1.6**
FCC Fort Churchill 40.78 5 P P **14 28 01.4 -1.6**
FCC pmax pmax
comp=Z,16nm,1.2s
TEFE Tefe 41.34 118 *eP* P **14 28 09.1 +0.9**
BOAV Boa Vista 42.14 107 *eP* P **14 28 15.0 +0.2**
ETMB Extrema 43.76 127 *eP* P **14 28 28.0 +0.1**
MACA Manacapuru-AM 44.53 114 *eP* P **14 28 34.4 +0.3**
SCHQ Schefferville 44.66 27 P P **14 28 32.6 -2.0**
SCHQ IAmb IAmb 14 28 33.8
comp=Z,17nm,0.8s
SCHQ Schefferville 44.66 27 P P **14 28 32.4 -2.3**
comp=Z,16nm,0.8s,baz=233,slow=7.7,SNR=16
SCHQ LR LR 14 49 10.2
comp=Z,155nm,20.7s,baz=284,slow=39
comp=Z,16nm,0.8s
T35M Bob Quinn 44.67 337 P P **14 28 34.4 -0.2**
baz=137
CRAG Craig 44.72 334 P P **14 28 34.4 -0.5**
baz=133
U33K Whale Pass 45.16 335 P P **14 28 38.3 -0.1**
baz=133
LIRD Liard River Hi 45.18 342 P P **14 28 38.1 -0.5**
baz=144
KOTAN Kotaneelee Air 45.20 344 P P **14 28 38.7 -0.1**
baz=147
YKA Yellowknife Ar 45.35 351 P P **14 28 38.0 -1.9**
YKA Yellowknife Ar 45.35 351 P P **14 28 38.4 -1.5**
comp=Z,3.1nm,0.8s,baz=160,slow=6.9,SNR=40
YKA PcP **PcP** **14 30 19.1 +0.5**
comp=Z,5.5nm,0.8s,baz=153,slow=3.1,SNR=20
YKA LR LR 14 48 59.2
comp=Z,654nm,18.5s,baz=155,slow=38
comp=Z,3.1nm,0.8s
YKA Yellowknife Ar 45.35 351 P P **14 28 38.0 -1.9**
SAML Samuel 45.59 123 P P **14 28 41.4 -1.1**
SAML IAmb IAmb 14 28 43.1
comp=Z,24nm,1.2s
SAML Samuel 45.59 123 P P **14 28 41.4 -1.1**
SAML pmax pmax
comp=Z,24nm,1.3s
SAML Samuel 45.59 123 *eP* P **14 28 41.8 -0.7**
SAML Samuel 45.59 123 P P **14 28 41.9 -0.6**
SAML pP **pP** **14 28 56.0 -1.3**
SAML PcP **PcP** **14 30 20.9 +0.6**
S34M Telegraph Cree 45.68 338 P P **14 28 42.8 +0.2**
baz=137
DLBC Dease Lake 45.68 339 P P **14 28 42.4 -0.3**
DLBC IAmb IAmb 14 28 49.0
comp=Z,18nm,1.1s
DLBC Dease Lake 45.68 339 P P **14 28 41.7 -1.0**
baz=139,SNR=6.5
DLBC Dease Lake 45.68 339 P P **14 28 43.9 +1.2**
comp=Z,9.7nm,0.9s,baz=147,slow=5.6,SNR=13
DLBC PcP **PcP** **14 30 21.0 +1.1**
comp=Z,8.1nm,0.9s,baz=169,slow=7.0,SNR=3.6
DLBC LR LR 14 49 57.6
comp=Z,465nm,18.5s,baz=128,slow=39
comp=Z,9.7nm,0.9s
RPN Rapa Nui 45.87 191 LR LR 14 43 39.5
comp=Z,249nm,21.3s,baz=24,slow=30
S32K Killisnoo 46.67 335 P P **14 28 50.5 +0.2**
baz=132
SIT Sitka 46.70 335 P P **14 28 50.1 -0.5**
baz=131
R33M Jennings River 46.72 339 P P **14 28 51.1 +0.1**
baz=138
LPAZ La Paz 46.74 135 P P **14 28 51.7 -0.5**
LPAZ IAmb IAmb 14 29 16.2
comp=Z,28nm,1.9s
LPAZ La Paz 46.74 135 P P **14 28 53.0 +0.8**
comp=Z,2.1nm,0.7s,baz=337,slow=9.0,SNR=7.5
LPAZ LR LR 14 47 09.0
comp=Z,209nm,19.5s,baz=302,slow=34
comp=Z,2.1nm,0.7s
LPAZ La Paz 46.74 135 P P **14 28 51.7 -0.5**
LPAZ pmax pmax
comp=Z,28nm,1.9s
LPAZ La Paz 46.74 135 *eP* P **14 28 52.5 +0.4**
LPAZ La Paz 46.74 135 P P **14 28 52.9 +0.7**
LPAZ pP **pP** **14 29 06.5 -0.7**
LPAZ sP **sP** **14 29 13.1 -0.7**
LPAZ PcP **PcP** **14 30 25.3 +0.3**
R32K Eaglecrest 47.20 336 P P **14 28 54.3 -0.2**
baz=133
TGTN Hyland Airport 47.53 342 P P **14 28 55.6 -1.6**
baz=143
P32M Atlin 47.83 338 P P **14 28 59.0 -0.5**
baz=135
P33M Teslin, Yukon 47.96 339 P P **14 29 00.1 -0.4**
baz=136
PB11 IPOC Station P 48.32 140 P P **14 29 02.6 -1.2**
SKAG Skagway 48.32 337 P P **14 29 02.5 -0.7**
baz=133
MDP Montagnes des 48.42 100 LR LR 14 52 25.3
comp=Z,81nm,19.1s,baz=286,slow=40
PLBC Pleasant Camp 48.71 336 P P **14 29 05.4 -0.7**
baz=132
N32M Quiet Lake 48.74 340 P P **14 29 06.7 +0.3**
baz=137,SNR=5.1
WHY Whitehorse 49.00 338 P P **14 29 07.9 -0.6**
baz=134
P29M Windy Craggy 49.35 336 P P **14 29 11.0 -0.1**
baz=130
P30M Million Dollar 49.38 337 P P **14 29 10.9 -0.5**
baz=132
ITTB Itaituba 49.43 113 *eP* P **14 29 12.3 0.0**
O30N Mendenhall 49.50 338 P P **14 29 11.2 -1.1**
baz=133
N31M Braeburn, Yuko 49.89 339 P P **14 29 13.7 -1.5**
baz=134
M31M Drury Creek, Y 49.93 340 P P **14 29 14.6 -0.9**
baz=136,SNR=5.7
PNL Peninsula 50.02 335 P P **14 29 15.6 -0.6**
baz=128
HYT Haines Junctio 50.05 337 P P **14 29 15.7 -0.8**
baz=131
VILB Vilhena 50.32 125 *eP* P **14 29 19.4 +0.3**
N30M Aishikik Lake 50.33 338 P P **14 29 17.9 -0.6**
baz=132
FRB Frobisher Bay 50.44 18 P P **14 29 18.1 -1.1**
comp=Z,8.0nm,0.6s,baz=232,slow=12,SNR=9.6
FRB PcP **PcP** **14 30 36.7 0.0**
comp=Z,14nm,0.8s,baz=228,slow=6.2,SNR=5.9
FRB LR LR 14 53 51.7
comp=Z,118nm,19.0s,baz=205,slow=40
comp=Z,8.0nm,0.6s
YUK6 Outpost Mounta 50.45 337 P P **14 29 18.6 -1.1**
baz=130
YUK4 Talbot Arm 50.81 337 P P **14 29 21.7 -0.6**
baz=130,SNR=6.4
LVC Limon Verde 50.93 142 LR LR 14 47 36.2
comp=Z,88nm,21.0s,baz=333,slow=32
LVC Limon Verde 50.93 142 *eP* P **14 29 24.7 +0.8**
MCPB Macapa, AP 50.98 106 *eP* P **14 29 24.8 +0.7**
M30M Minto, Yukon 50.99 339 P P **14 29 23.1 -0.4**
baz=133,SNR=5.2
O28M Mount Upton 51.02 336 P P **14 29 22.5 -1.6**
baz=128
NPGB Novo Progresso 51.05 115 *eP* P **14 29 24.0 -0.6**
YUK8 Steele Glacier 51.19 337 P P **14 29 24.9 -0.3**
baz=129,SNR=10
M29M Somme Creek 51.47 339 P P **14 29 26.9 -0.3**
baz=131

SIV **San Ignacio** **51.53 129** LR LR 14 50 11.9
comp=Z,112nm,20.6s,baz=311,slow=35
CTG **Chitna Glacier** **51.59 336** P **P** **14 29 27.0 -1.1**
baz=127
YUK3 **Moose Creek** **51.76 337** P **P** **14 29 28.1 -1.3**
baz=129
L29M **L29M** **51.80 339** P **P** **14 29 29.7 +0.1**
baz=132,SNR=19
K29M **Barlow Dome** **52.10 340** P **P** **14 29 32.0 +0.1**
baz=133,SNR=13
J30M **Hart River** **52.24 341** P **P** **14 29 33.3 +0.4**
baz=135
PDRB **Porto dos Gac** **52.31 121** *e*P **P** **14 29 33.1 -0.9**
MCARA **McCarthy VSAT** **52.49 336** P **P** **14 29 34.0 -0.7**
baz=126
H31M **Peel River** **52.57 343** P **P** **14 29 34.5 -0.6**
baz=138
BBSD **Serra de San D** **52.64 130** *e*P **P** **14 29 35.5 -0.8**
M27K **Edge Creek, AK** **52.64 337** P **P** **14 29 35.9 0.0**
baz=127
PTLB **Pontes e Lacer** **52.65 127** *e*P **P** **14 29 36.6 +0.2**
CLDB **Colider** **52.67 120** *e*P **P** **14 29 37.1 +0.5**
I30M **Mount Dempster** **52.72 342** P **P** **14 29 35.8 -0.6**
baz=135,SNR=7.8
DAWY **Dawson** **52.87 340** P **P** **14 29 37.3 -0.1**
baz=131
BMRM **Bremner River** **52.88 335** P **P** **14 29 37.4 -0.2**
baz=124
BCAR **Beaver Creek A** **53.05 338** P **P** **14 29 38.7 -0.1**
L27K **Beaver Creek,** **53.06 338** P **P** **14 29 38.5 -0.3**
baz=128
M26K **Nabesna, AK** **53.09 337** P **P** **14 29 40.3 +1.3**
M26K **Nabesna, AK** **53.09 337** P **P** **14 29 38.7 -0.3**
baz=126
EYAK **Cordova Ski Ar** **53.13 334** P **P** **14 29 38.2 -1.1**
baz=122
C36M **Paulatuk** **53.20 350** P **P** **14 29 38.8 -0.9**
baz=151
N25K **Chitina, Valde** **53.24 335** P **P** **14 29 39.6 -0.7**
baz=124
G31M **Satah River** **53.39 344** P **P** **14 29 41.5 +0.4**
G31M IAmb IAmb 14 29 57.8
comp=Z,16nm,1.0s
G31M **Satah River** **53.39 344** P **P** **14 29 40.6 -0.5**
baz=138,SNR=14
I29M **Ogilvie Camp,** **53.40 341** P **P** **14 29 41.5 +0.2**
I29M **Ogilvie Camp,** **53.40 341** P **P** **14 29 40.6 -0.7**
baz=133
P23K **Montague Islan** **53.54 333** P **P** **14 29 41.5 -0.9**
baz=120
EPYK **Eagle Plains** **53.64 343** P **P** **14 29 41.2 -1.9**
baz=135
F31M **Tsiigehtchic** **53.65 345** P **P** **14 29 42.9 -0.1**
baz=139
KLU **Klutina** **53.71 335** P **P** **14 29 41.8 -1.8**
baz=122
K27K **Chicken** **53.75 339** P **P** **14 29 43.3 -0.5**
baz=128
GLI **Glacier Island** **53.86 334** P **P** **14 29 43.6 -1.1**
baz=121
HARP **HAARP** **53.91 336** P **P** **14 29 43.6 -1.4**
baz=124
EGAK **Eagle** **53.91 340** P **P** **14 29 43.6 -1.4**
baz=130,SNR=8.9
BBRB **Robore, Bolivi** **53.92 130** *e*P **P** **14 29 44.7 -1.0**
G30M **tAoh Zraii Nji** **53.95 343** P **P** **14 29 43.5 -1.8**
baz=136
I28M **Miner Creek** **53.96 341** P **P** **14 29 43.8 -1.7**
baz=131
H29M **Whitestone** **54.01 342** P **P** **14 29 44.5 -1.2**
baz=134,SNR=9.8
KIP **Kipapa** **54.02 284** *ce*P **P** **14 29 49.4 +2.9**
KIP pmax pmax
comp=Z,45nm,1.0s
M24K **Tolsona, Glenn** **54.14 335** P **P** **14 29 45.8 -1.0**
baz=122
INK **Inuvik** **54.26 346** P **P** **14 29 47.1 -0.4**
baz=140,SNR=12
INK **Inuvik** **54.26 346** P **P** **14 29 47.5 0.0**
comp=Z,6.7nm,0.7s,baz=129,slow=5.7,SNR=17
INK LR LR 14 55 10.4
comp=Z,370nm,18.9s,baz=184,slow=38
comp=Z,6.7nm,0.7s
F30M **Barrier River** **54.30 344** P **P** **14 29 47.5 -0.3**
baz=137,SNR=9.7
PAX **Paxson** **54.35 337** P **P** **14 29 47.7 -0.6**
baz=124
SCRK **Sand Creek** **54.38 338** P **P** **14 29 47.7 -0.9**
baz=126,SNR=11
G29M **Pine Creek** **54.40 343** P **P** **14 29 48.6 0.0**
baz=134,SNR=7.3
SCM **Sheep Creek Mo** **54.46 335** P **P** **14 29 47.9 -1.3**
baz=121
SEW **Seward** **54.49 332** P **P** **14 29 48.6 -0.6**
baz=118
J26L **Joseph Creek** **54.55 339** P **P** **14 29 50.5 +0.8**
J26L IAmb IAmb 14 30 07.9
comp=Z,25nm,1.0s
J26L **Joseph Creek** **54.55 339** P **P** **14 29 49.8 0.0**
baz=127,SNR=18
I27K **Kandik River** **54.59 340** P **P** **14 29 48.9 -1.1**
baz=130
M23K **Glacier View** **54.60 335** P **P** **14 29 49.2 -0.9**
baz=121
KNK **Knik Glacier** **54.70 334** P **P** **14 29 49.8 -1.1**
baz=120
SML **Sawmill** **54.85 334** P **P** **14 29 50.9 -1.0**
baz=120
BRSE **Bradley Lake S** **54.90 332** P **P** **14 29 51.5 -0.8**
baz=116
I26K **Coal Creek Min** **54.91 340** P **P** **14 29 51.2 -1.0**
baz=128
K24K **Donnelly Dome** **54.93 337** P **P** **14 29 51.2 -1.3**
baz=124
KDAK **Kodiak Island** **54.94 329** P **P** **14 29 52.1 -0.5**
baz=113
KDAK **Kodiak Island** **54.94 329** P **P** **14 29 53.4 +0.9**
comp=Z,2.4nm,0.6s,baz=139,slow=7.9,SNR=6.4
KDAK LR LR 14 53 28.7
comp=Z,138nm,18.4s,baz=160,slow=36
comp=Z,2.4nm,0.6s
KDAK **Kodiak Island** **54.94 329** *i* P **P** **14 29 53.7 +1.1**
KDAK pmax pmax
comp=Z,1.0nm,0.4s
H27K **Steamboat Moun** **54.97 341** P **P** **14 29 52.0 -0.8**
baz=130
WAT6 **Susitna Watana** **55.01 335** P **P** **14 29 52.8 -0.5**
baz=121
LCO **Las Campanas** **55.01 148** P **P** **14 29 55.1 +1.3**
LCO pP **pP** **14 30 10.1 +1.0**
LCO sP **sP** **14 30 17.2 +1.6**
OHAK **Old Harbor** **55.07 328** P **P** **14 29 52.8 -0.7**
baz=112
PMR **Palmer** **55.07 334** P **P** **14 29 54.0 +0.6**
baz=119
RC01 **Rabbit Creek A** **55.09 333** P **P** **14 29 51.5 -2.1**
baz=118
DHY **Denali Highway** **55.13 336** P **P** **14 29 54.4 +0.3**
baz=122
Q20K **Shuyak Island** **55.18 330** P **P** **14 29 54.1 -0.2**
baz=114
J25K **Salcha River,** **55.25 338** P **P** **14 29 54.8 0.0**
baz=125
HOM **Homer** **55.28 331** P **P** **14 29 55.1 +0.2**
baz=115
SII **Sitkinak Islan** **55.28 327** P **P** **14 29 55.4 +0.3**
baz=111
G27K **Doyon Strip** **55.38 342** P **P** **14 29 55.6 -0.1**
baz=130,SNR=10
F28M **Old Crow** **55.40 343** P **P** **14 29 56.0 +0.2**
baz=132
E29M **Blow River** **55.41 344** P **P** **14 29 56.1 +0.3**
baz=135
WAT1 **Susitna Watana** **55.46 335** P **P** **14 29 56.3 0.0**
baz=120
PRPB **Parauapebas** **55.48 111** *e*P **P** **14 29 57.9 +0.7**
SALV **Santo Antonio** **55.58 125** *e*P **P** **14 29 58.3 +0.6**
SUA **Susitna One** **55.69 333** P **P** **14 29 58.4 +0.3**
baz=117,SNR=6.1
HDA **Harding Lake** **55.70 338** P **P** **14 29 57.5 -0.4**
baz=123,SNR=12
A36M **Sachs Harbour** **55.71 351** P **P** **14 29 57.1 -0.8**
baz=151,SNR=9.3
CHIR **Chirikof Islan** **55.78 326** P **P** **14 29 58.7 +0.1**
baz=109
PRP **Porcupine Dome** **55.83 339** P **P** **14 29 58.9 -0.1**
baz=125,SNR=12
IL31 **55.88 338** P **P** **14 29 59.3 +0.1**
IL31 IAmb IAmb 14 30 21.6
comp=Z,18nm,1.0s
ILAR **Eielson Array** **55.88 338** P **P** **14 29 59.6 +0.4**
ILAR **Eielson Array** **55.88 338** P **P** **14 29 59.5 +0.2**
comp=Z,3.6nm,0.9s,baz=136,slow=5.5,SNR=35
ILAR LR LR 14 55 53.3
comp=Z,230nm,19.3s,baz=120,slow=38
comp=Z,3.6nm,0.9s
ILAR **Eielson Array** **55.88 338** P **P** **14 29 59.6 +0.4**
O20K **Slope Mountain** **55.90 331** P **P** **14 29 59.6 0.0**
baz=115
Q19K **Cape Douglas,** **55.91 330** P **P** **14 29 59.5 0.0**
baz=113
CUT **Chulitna** **55.94 335** P **P** **14 29 59.6 0.0**
baz=118
E28M **Babbage River** **55.99 344** P **P** **14 29 58.7 -1.2**
baz=133
P19K **Pt** **56.01 331** P **P** **14 29 58.2 -2.1**
baz=114
MCK **McKinley** **56.08 336** P **P** **14 29 59.5 -1.1**
baz=121,SNR=7.0
G26K **Porcupine Rive** **56.12 341** P **P** **14 30 00.1 -0.8**
baz=128
N20K **Mount Spurr** **56.20 333** P **P** **14 30 00.1 -1.6**
baz=116,SNR=6.4
POKR **Poker Plat Res** **56.26 338** P **P** **14 30 00.6 -1.4**
baz=123
SKT **Skwentna** **56.26 334** P **P** **14 30 01.2 -0.9**
baz=117,SNR=9.9
E27K **Coleen River** **56.27 343** P **P** **14 30 00.6 -1.4**
baz=131
COLA **College** **56.28 338** P **P** **14 30 02.0 0.0**
COLA IAmb IAmb 14 31 00.6
comp=Z,25nm,1.0s
COLA **College** **56.28 338** P **P** **14 30 01.5 -0.5**
baz=122
COLA **College** **56.28 338** *i* P **P** **14 30 03.1 +1.1**
COLA pmax pmax
comp=Z,9.0nm,0.9s
COLA **College** **56.28 338** P **P** **14 30 03.3 +1.3**
COLA pP **pP** **14 30 17.7 +0.6**
COLA sP **sP** **14 30 24.0 +0.5**
COLA PcP **PcP** **14 30 59.9 +1.0**
D28M **Stokes Point** **56.29 345** P **P** **14 30 01.0 -1.1**
baz=135
H25L **Birch Creek** **56.36 340** P **P** **14 30 01.6 -1.0**
baz=125
TRF **Thorofare Moun** **56.46 336** P **P** **14 30 03.1 -0.5**
baz=119,SNR=13
NEA2 **Nenana** **56.57 337** P **P** **14 30 03.9 -0.2**
baz=121
RES **Resolute Bay** **56.59 2** LR LR 14 55 43.2
comp=Z,136nm,19.2s,baz=202,slow=37
BMAR **Burnt Mountain** **56.67 341** P **P** **14 30 04.8 0.0**
F26K **Sheenjek River** **56.70 342** P **P** **14 30 04.9 -0.1**
baz=128,SNR=6.3
O19K **Port Alsworth** **56.73 331** P **P** **14 30 04.4 -0.9**
baz=113
G25K **Bearman Lake** **56.75 340** P **P** **14 30 05.0 -0.3**
baz=125
Q17K **Contact Creek** **56.75 329** P **P** **14 30 05.0 -0.7**
baz=110
D27M **Malcolm River** **56.81 344** P **P** **14 30 05.2 -0.7**
baz=132
H24K **Noodor Dome** **56.81 339** P **P** **14 30 05.7 -0.2**
baz=123,SNR=11
P18K **Big Mountain,** **56.84 330** P **P** **14 30 04.9 -1.3**
baz=112
M20K **Styx River** **56.90 333** P **P** **14 30 06.2 -0.4**
baz=115,SNR=11
PPLA **Purkeypile** **56.95 335** P **P** **14 30 05.1 -2.0**
baz=117
I23K **Minto, Yukon-K** **56.97 338** P **P** **14 30 06.4 -0.5**
baz=121,SNR=14
SNDB **Serra Nova Dou** **57.00 118** *e*P **P** **14 30 08.8 +0.9**
O18K **Koktuh Hills** **57.01 331** P **P** **14 30 06.6 -0.7**
baz=112
BPAW **Bear Paw Mtn.** **57.05 336** P **P** **14 30 06.4 -1.2**
baz=119
N19K **Bonanza Creek** **57.05 332** P **P** **14 30 07.2 -0.5**
baz=113,SNR=7.1
F25K **Christian Rive** **57.09 341** P **P** **14 30 07.3 -0.6**
baz=126,SNR=8.4
CAST **Castle Rocks** **57.15 335** P **P** **14 30 07.2 -1.1**
baz=117,SNR=15
G24K **Hawazzie Riv** **57.16 340** P **P** **14 30 07.8 -0.5**
baz=124,SNR=13
Q16K **King Salmon** **57.27 329** P **P** **14 30 08.7 -0.5**
baz=110
P17K **Kvichak River** **57.35 330** P **P** **14 30 09.1 -0.6**
baz=110
R16K **Pilot Point** **57.37 327** P **P** **14 30 09.3 -0.5**
baz=108
E25K **Arctic Village** **57.38 342** P **P** **14 30 08.9 -1.0**
baz=127
H23K **Yukon River** **57.38 338** P **P** **14 30 08.7 -1.2**
baz=121
MLY **Manley** **57.41 337** P **P** **14 30 09.6 -0.5**
baz=119,SNR=18
CHGN **Chignik** **57.42 326** P **P** **14 30 10.0 -0.2**
baz=107
M19K **Big River Lodg** **57.45 333** P **P** **14 30 10.5 0.0**
baz=114
CHUM **Lake Minchumin** **57.46 336** P **P** **14 30 09.9 -0.5**
baz=117
L20K **Farewell, AK** **57.47 334** P **P** **14 30 10.0 -0.6**
baz=115,SNR=8.1
BDQN **Bodoquena, MS** **57.52 130** *e*P **P** **14 30 11.2 -0.2**
NRS **Narsarsuaq** **57.61 28** *i* P **P** **14 30 11.2 -0.3**
NRS IAmb IAmb 14 30 12.4
comp=Z,12nm,0.9s
N18K **Kilae Creek** **57.63 331** P **P** **14 30 11.2 -0.5**
baz=112,SNR=5.5
CHNA **Chernabura Isl** **57.66 324** P **P** **14 30 11.1 -0.8**
baz=105
MURT **Porto Murtinho** **57.67 132** *e*P **P** **14 30 11.8 -0.7**
F24K **Squaw Lake** **57.75 340** P **P** **14 30 11.6 -0.9**
baz=124
L19K **White Mountain** **57.76 333** P **P** **14 30 11.8 -0.8**
baz=114
C27K **Jago River** **57.79 344** P **P** **14 30 11.8 -0.9**
baz=129
O17K **Koliganek Bris** **57.86 330** P **P** **14 30 11.9 -1.5**
baz=110
M18K **Stony River** **57.91 332** P **P** **14 30 12.9 -0.7**
baz=112,SNR=5.6
K20K **Telida** **57.92 335** P **P** **14 30 12.3 -1.5**
baz=115,SNR=8.2
I21K **Tanana** **57.94 337** P **P** **14 30 12.8 -1.0**
baz=118
RVDE **Rio Verde (Bra** **58.00 127** *e*P **P** **14 30 14.9 0.0**
G23K **Bananza Creek** **58.02 339** P **P** **14 30 13.6 -0.8**
baz=121,SNR=6.5
S14K **Fog Glacier** **58.02 326** P **P** **14 30 13.2 -1.4**
baz=106
H22K **Ishtalitna Cre** **58.07 338** P **P** **14 30 13.9 -0.9**
baz=119,SNR=13
N17K **Nushagak Hills** **58.17 331** P **P** **14 30 15.0 -0.5**
baz=110
SFJD **Kangerlussuaq** **58.23 21** P **P** **14 30 14.7 -1.1**
SFJD **Kangerlussuaq** **58.23 21** LR LR 14 56 40.4
comp=Z,100nm,19.7s,baz=227,slow=37
SFJD **Kangerlussuaq** **58.23 21** P **P** **14 30 14.7 -1.1**
SFJD pmax pmax
comp=Z,23nm,1.1s
SFJD **Kangerlussuaq** **58.23 21** P **P** **14 30 14.9 -0.9**
SFJD **Kangerlussuaq** **58.23 21** *i* P **P** **14 30 14.8 -1.1**
SFJD IAmb IAmb 14 30 16.3
comp=Z,8.9nm,0.8s
E24K **Your Creek** **58.25 341** P **P** **14 30 14.8 -1.2**
baz=124
O16K **Kokwok River B** **58.28 330** P **P** **14 30 14.9 -1.4**
baz=109
C26K **Camden Bay** **58.30 343** P **P** **14 30 14.5 -1.7**
baz=128
AQDB **Aquidauana** **58.31 129** *e*P **P** **14 30 17.3 +0.3**
J20K **Nowinta River** **58.31 335** P **P** **14 30 15.4 -1.0**
baz=116,SNR=7.5
D25K **Kavik River** **58.34 343** P **P** **14 30 15.5 -1.1**
baz=126,SNR=10
COLD **Coldfoot** **58.34 340** P **P** **14 30 16.1 -0.5**
baz=121,SNR=7.4
H21K **Melozitna Rive** **58.47 337** P **P** **14 30 16.3 -1.2**
baz=118,SNR=13
ARAG **Araguaiana, MT** **58.54 122** *e*P **P** **14 30 19.1 +0.4**
L18K **Granite Mounta** **58.57 333** P **P** **14 30 17.8 -0.4**
baz=112,SNR=5.2
M17K **Holitna River** **58.60 332** P **P** **14 30 17.5 -1.0**
baz=111
G22K **Bettles** **58.63 339** P **P** **14 30 17.8 -0.7**
baz=120
SMTB **Santa Maria do** **58.67 113** *e*P **P** **14 30 20.8 +1.1**
I20K **Naaghedeneel** **58.71 336** P **P** **14 30 17.2 -1.9**
baz=116,SNR=5.7
J19K **Poorman** **58.82 335** P **P** **14 30 18.3 -1.7**
baz=114,SNR=18
N16K **Nishlik Lake** **58.89 330** P **P** **14 30 19.3 -1.2**
baz=109
TOLK **Toolik Lake Re** **58.90 341** P **P** **14 30 19.5 -1.0**
baz=123
D24K **Happy Valley** **58.96 342** P **P** **14 30 19.6 -1.2**
baz=124
O15K **Ungalikthiuk R** **58.99 329** P **P** **14 30 20.3 -0.9**
baz=107
J18K **Innoko River** **59.06 334** P **P** **14 30 20.6 -1.0**
baz=112,SNR=9.8
G21K **Allakaket** **59.13 338** P **P** **14 30 20.6 -1.4**
baz=117
F22K **John River** **59.15 339** P **P** **14 30 21.3 -0.9**
baz=119
M16K **Timber Creek** **59.16 331** P **P** **14 30 21.5 -0.9**
baz=109
H20K **Anotleneega Mo** **59.17 337** P **P** **14 30 20.7 -1.7**
baz=116,SNR=18
L17K **Donlin** **59.24 332** P **P** **14 30 22.2 -0.6**
baz=110
S12K **Black Hills** **59.24 325** P **P** **14 30 22.8 -0.2**
baz=103
C24K **Franklin Bluff** **59.24 342** P **P** **14 30 21.9 -0.9**
baz=124,SNR=9.1
ROSB **Rosrio** **59.26 105** *e*P **P** **14 30 24.4 +0.6**
E22K **Anaktuvuk Pass** **59.34 340** P **P** **14 30 23.4 -0.2**
baz=120
D23K **Nanushuk River** **59.42 341** P **P** **14 30 23.7 -0.3**
baz=122,SNR=7.9
N15K **Kwethluk River** **59.42 330** P **P** **14 30 24.1 -0.1**
baz=107
K17K **Iditarod** **59.45 333** P **P** **14 30 24.1 -0.2**
baz=110
F21K **Alatna River** **59.45 339** P **P** **14 30 24.3 0.0**
baz=118,SNR=15
DY2G **Dye2** **59.49 22** *i* P **P** **14 30 23.3 -1.6**
DY2G IAmb IAmb 14 30 25.1
comp=Z,34nm,0.7s
L16K **Owhat River** **59.62 332** P **P** **14 30 25.1 -0.4**
baz=109
GCSA **Galena City Sc** **59.63 336** P **P** **14 30 25.0 -0.4**
baz=113
H19K **Roundabout Mou** **59.77 336** P **P** **14 30 25.5 -1.0**
baz=114,SNR=11
FALS **False Pass** **59.82 323** P **P** **14 30 26.8 -0.1**
baz=101
M15K **Kasigluk River** **59.86 330** P **P** **14 30 27.1 0.0**
baz=107
C23K **Itkillik River** **59.86 342** P **P** **14 30 26.3 -0.7**
baz=122,SNR=13
D22K **Ayikyak River** **59.99 341** P **P** **14 30 27.9 -0.1**
baz=120,SNR=15
PPT **Papeete** **59.99 236** LR LR 14 50 32.7
comp=Z,80nm,21.1s,baz=104,slow=30
J17K **VABM Dome** **60.02 334** P **P** **14 30 27.4 -0.8**
baz=110
UPNV **Upernavik** **60.08 14** *i* P **P** **14 30 27.6 -0.9**
UPNV IAmb IAmb 14 30 29.7
comp=Z,7.0nm,0.9s
N14K **Kuskokwak Cree** **60.11 329** P **P** **14 30 28.4 -0.5**
baz=106
F20K **Avaraart Lake** **60.15 338** P **P** **14 30 28.1 -0.9**
baz=115,SNR=8.9
E21K **Killik River** **60.19 340** P **P** **14 30 28.1 -1.3**
baz=118
G19K **Purcell Mounta** **60.27 337** P **P** **14 30 28.8 -1.1**
baz=114,SNR=21
H18K **Honhosa River** **60.37 336** P **P** **14 30 28.9 -1.7**
baz=112
M14K **Bethel** **60.47 330** P **P** **14 30 31.4 +0.1**
M14K IAmb IAmb 14 30 53.9
comp=Z,14nm,0.9s
M14K **Bethel** **60.47 330** P **P** **14 30 30.1 -1.3**
baz=106
L15K **Ungalak Mounta** **60.52 331** P **P** **14 30 30.6 -1.1**
baz=107
J16K **Anvik River** **60.63 333** P **P** **14 30 33.0 +0.6**
J16K IAmb IAmb 14 30 54.9
comp=Z,17nm,1.1s
J16K **Anvik River** **60.63 333** P **P** **14 30 31.5 -0.9**
baz=108
K15K **Wolf Creek Mou** **60.73 332** P **P** **14 30 32.7 -0.3**
baz=107
G18K **Tagagawik** **60.76 336** P **P** **14 30 32.8 -0.4**
baz=112
C21K **Knifeblade Rid** **60.79 341** P **P** **14 30 33.2 -0.2**
baz=118,SNR=7.3
F19K **Shaleruckik Mo** **60.80 338** P **P** **14 30 33.1 -0.4**
baz=113,SNR=7.9
E20K **Nigu River** **60.84 339** P **P** **14 30 33.5 -0.3**
baz=116,SNR=10
E19K **Redstone River** **60.86 338** P **P** **14 30 33.8 -0.1**
baz=114
I17K **Unalakleet** **60.86 334** P **P** **14 30 34.2 +0.2**
baz=109
H17K **Granite Mounta** **60.90 335** P **P** **14 30 33.7 -0.5**
baz=110,SNR=11
CPUP **Villa Florida** **60.92 135** P **P** **14 30 34.5 -0.3**
CPUP IAmb IAmb 14 30 35.9
comp=Z,15nm,0.9s
CPUP **Villa Florida** **60.92 135** P **P** **14 30 34.5 -0.3**
comp=Z,9.5nm,0.9s,baz=322,slow=7.7,SNR=15
CPUP LR LR 14 57 08.0
comp=Z,151nm,18.8s,baz=346,slow=36
comp=Z,9.5nm,0.9s
CPUP **Villa Florida** **60.92 135** P **P** **14 30 34.5 -0.3**
CPUP pmax pmax
comp=Z,15nm,1.0s
CPUP **Villa Florida** **60.92 135** *e*P **P** **14 30 34.8 -0.1**
CPUP **Villa Florida** **60.92 135** P **P** **14 30 34.9 +0.1**
CPUP pP **pP** **14 30 49.7 -0.6**
CPUP PcP **PcP** **14 31 17.2 -0.7**
B22K **Teshekpuk Lake** **60.95 342** P **P** **14 30 33.5 -0.9**
baz=120,SNR=7.1
B21K **Ikpikpuk River** **60.96 341** P **P** **14 30 34.2 -0.3**
baz=118
L14K **Kuka Creek** **60.98 331** P **P** **14 30 34.1 -0.6**
baz=106
D20K **Etivluk River** **61.18 340** P **P** **14 30 35.6 -0.5**
baz=115
G17K **Kiwalik Mounta** **61.39 336** P **P** **14 30 37.0 -0.5**
baz=110
F18K **Selawik** **61.40 337** P **P** **14 30 36.9 -0.6**
baz=111
D19K **Kuna River** **61.59 339** P **P** **14 30 38.6 -0.2**
D19K IAmb IAmb 14 31 22.7
comp=Z,16nm,1.0s
D19K **Kuna River** **61.59 339** P **P** **14 30 37.8 -1.1**
baz=114
A22K **Sinclair Lake** **61.72 342** P **P** **14 30 38.9 -0.7**
baz=118
H16K **Elim** **61.74 334** P **P** **14 30 39.4 -0.5**
baz=108
J14K **Nanvaranak Lak** **61.75 332** P **P** **14 30 39.5 -0.4**
baz=105
ISOG **Isortoq, Green** **61.89 24** *i* P **P** **14 30 39.6 -1.2**
ISOG IAmb IAmb 14 30 41.4
comp=Z,18nm,0.8s
ITRB **Iturama** **61.91 125** *e*P **P** **14 30 42.4 +0.6**
B20K **Meade River** **61.92 341** P **P** **14 30 40.5 -0.4**
baz=116
F17K **Baldwin Pennin** **61.94 337** P **P** **14 30 40.8 -0.4**
baz=110
G16K **Koyuk River** **62.02 335** P **P** **14 30 41.3 -0.5**
baz=108
K13K **Kusilvak Mount** **62.04 331** P **P** **14 30 41.3 -0.7**
baz=104
E18K **Tukpahlearik C** **62.05 338** P **P** **14 30 41.8 -0.1**
E18K IAmb IAmb 14 31 04.0
comp=Z,17nm,1.1s
E18K **Tukpahlearik C** **62.05 338** P **P** **14 30 41.5 -0.4**
baz=111,SNR=9.7
PCMB **Pacaembu** **62.30 127** *e*P **P** **14 30 44.6 +0.3**
C19K **Lookout Ridge** **62.33 340** P **P** **14 30 43.3 -0.5**
baz=112
E17K **Hotham Inlet** **62.37 337** P **P** **14 30 43.3 -0.8**
baz=109,SNR=7.0
M11K **Mekoryuk** **62.42 329** P **P** **14 30 43.9 -0.5**
baz=102

ANGG Ammassalik, Gr 62.44 25 P **P 14 30 42.7 -1.8**
ANGG Ammassalik, Gr 62.44 25 *i* P **P 14 30 41.9 -2.6**
ANGG IAmb IAmb 14 30 44.6
comp=Z,21nm,0.7s
G15K Niukluk 62.58 335 P **P 14 30 44.7 -0.8**
baz=106
SDBA SAO DESIDERIO 62.65 115 *eP* **P 14 30 46.9 +0.1**
IPMB Ipameri, GO 62.67 122 *eP* **P 14 30 47.0 +0.1**
C18K Utukok River 62.69 339 P **P 14 30 45.3 -1.0**
baz=111,SNR=5.5
ICESG Greenland Ices 62.86 21 *i* P **P 14 30 46.5 -1.2**
ICESG IAmb IAmb 14 30 50.1
comp=Z,52nm,0.9s
ANM Nome 63.02 334 P **P 14 30 48.3 -0.2**
baz=105
F15K North Star Dit 63.03 335 P **P 14 30 48.3 -0.2**
baz=106,SNR=5.2
D17K Noatak River 63.03 338 P **P 14 30 47.8 -0.7**
baz=108
B18K Kokolik River 63.16 340 P **P 14 30 48.4 -0.8**
baz=110
A19K Wainwright 63.23 341 P **P 14 30 48.5 -1.1**
baz=112
C17K DeLong Mountai 63.32 338 P **P 14 30 49.8 -0.6**
baz=109
LDASE Londrina, Braz 63.45 129 *eP* **P 14 30 50.9 -1.1**
P08K Saint George I 63.52 325 P **P 14 30 50.7 -1.1**
baz=97
ITQB Itaqui 63.62 138 *eP* **P 14 30 53.9 +1.0**
F14K Arctic Creek 63.64 335 P **P 14 30 52.1 -0.4**
baz=104
CRSM Crissiumal (Br 63.89 134 *eP* **P 14 30 55.1 +0.4**
PSAL Palomas, Salto 63.97 140 *eP* **P 14 30 56.0 +0.9**
SPIA Saint Paul Isl 63.97 325 P **P 14 30 54.4 -0.4**
baz=96
NEEM North Greenlan 64.01 11 *i* P **P 14 30 53.5 -1.6**
NEEM IAmb IAmb 14 30 56.9
comp=Z,40nm,0.8s
C16K Lisburne Hills 64.02 338 P **P 14 30 53.9 -1.0**
baz=106
BB19B Bebedouro 64.09 125 *eP* **P 14 30 56.8 +0.6**
UNIS Unistalda (Bra 64.22 136 *eP* **P 14 30 57.8 +0.9**
TNA Tin City 64.31 335 P **P 14 30 57.2 +0.3**
baz=103
PMNB Patos De Minas 64.39 122 *eP* **P 14 30 59.2 +0.9**
JANB Januaria 64.41 117 *eP* **P 14 30 59.3 +0.9**
SUMG Summit 64.50 17 P **P 14 30 56.6 -1.9**
SUMG Summit 64.50 17 P **P 14 30 56.6 -1.9**
SUMG pmax pmax
comp=Z,25nm,0.9s
SUMG Summit 64.50 17 *i* P **P 14 30 58.1 -0.4**
SUMG IAmb IAmb 14 31 00.6
comp=Z,18nm,0.8s
FRTB Fartura 64.58 128 *eP* **P 14 30 59.7 +0.3**
PLCA Paso Flores 64.87 155 P **P 14 31 01.7 +0.8**
PLCA IAmb IAmb 14 31 03.4
comp=Z,22nm,1.2s
PLCA Paso Flores 64.87 155 P **P 14 31 01.3 +0.4**
comp=Z,9.5nm,1.1s,baz=324,slow=9.0,SNR=8.8
PLCA LR LR 14 52 47.9
comp=Z,107nm,21.0s,baz=332,slow=30
comp=Z,9.5nm,1.1s
PLCA Paso Flores 64.87 155 P **P 14 31 01.7 +0.8**
PLCA pmax pmax
comp=Z,22nm,1.2s
PLCA Paso Flores 64.87 155 *eP* **P 14 31 02.4 +1.4**
PLCA Paso Flores 64.87 155 P **P 14 31 02.2 +1.2**
PLCA pP **pP 14 31 17.1 +0.5**
RODS Rosario do Sul 64.99 137 *eP* **P 14 31 02.8 +1.0**
ITAB Concordia 65.05 133 *eP* **P 14 31 03.1 +0.8**
ALGR Alto Alegre (B 65.41 135 *eP* **P 14 31 05.1 +0.4**
TBOT Tacuaremb 65.42 139 *eP* **P 14 31 05.0 +0.5**
SOEG Soedalen 65.50 23 *i* P **P 14 31 03.6 -1.0**
SOEG IAmb IAmb 14 31 05.8
comp=Z,18nm,0.8s
RCLB Rio Claro- Sao 65.61 126 *eP* **P 14 31 07.0 +0.9**
ALE Alert 66.05 5 P **P 14 31 06.9 -1.1**
ALE pP **pP 14 31 21.8 -1.6**
CPSB Cacapava Do Su 66.17 136 *eP* **P 14 31 09.1 -0.4**
SPB Sao Paulo 66.33 127 *eP* **P 14 31 11.4 +0.8**
VAO Valinhos 66.36 126 *eP* **P 14 31 11.9 +1.0**
DIAM Diamantina, MG 66.53 120 *eP* **P 14 31 12.8 +0.7**
PET01 Itanhaem-SP 66.84 127 *eP* **P 14 31 14.8 +1.0**
PLTB Pedras Altas 66.95 138 *eP* **P 14 31 14.9 +0.5**
BSCB Bom Sucesso 67.01 123 *eP* **P 14 31 15.8 +0.7**
CNLB Canela 67.22 134 *eP* **P 14 31 17.1 +0.8**
GDU01 Guandu, BA 67.86 114 *eP* **P 14 31 21.5 +1.0**
TER01 Tubarao-SC 67.94 132 *eP* **P 14 31 21.8 +1.0**
RCBR Riachuelo 67.94 104 LR LR 15 02 59.1
comp=Z,65nm,18.9s,baz=130,slow=38
NBLA Lagarto - SE 68.27 110 *eP* **P 14 31 24.1 +1.0**
COYC Coyhaique 68.48 159 P **P 14 31 25.7 +1.9**
COYC pP **pP 14 31 41.0 +1.6**
CMC01 Camacan, BA 68.64 115 *eP* **P 14 31 26.7 +1.4**
NBCA Caruaru-PE 68.76 107 *eP* **P 14 31 27.5 +1.3**
SJMB Sao Joao De Ma 68.78 119 *eP* **P 14 31 27.3 +1.1**
GUA01 Guaratinga, BA 68.95 116 *eP* **P 14 31 28.4 +1.1**
BORG Borgarnes 69.06 27 LR LR 15 02 31.3
comp=Z,79nm,21.0s,baz=297,slow=37
NBAN Anadia - AL 69.09 108 *eP* **P 14 31 29.2 +1.0**
SCO Scoresbysund 69.14 21 *i* P **P 14 31 27.6 0.0**
SCO IAmb IAmb 14 31 29.6
comp=Z,6.1nm,0.9s
RIB01 Linhares ES 69.73 119 *eP* **P 14 31 33.0 +1.0**
CAM01 Campos-RJ 69.92 122 *eP* **P 14 31 34.6 +1.4**
DBG Daneborg 69.97 17 *i* P **P 14 31 31.9 -0.7**
DBG IAmb IAmb 14 31 34.0
comp=Z,3.7nm,0.8s
ALF01 Guarapari-ES 70.08 121 *eP* **P 14 31 35.4 +1.2**
DAG Danmarks Havn 70.53 14 *i* P **P 14 31 34.0 -2.0**
DAG IAmb IAmb 14 31 36.5
comp=Z,12nm,0.8s
NOR Nord 71.21 9 *i* P **P 14 31 38.8 -1.3**
NOR IAmb IAmb 14 31 41.0
comp=Z,7.6nm,0.8s
SHEM Shemya Is, Ala 73.03 321 LR LR 14 59 21.3
comp=Z,38nm,21.6s,baz=114,slow=32
BILL Bilibino 74.52 337 P **P 14 31 58.8 -1.1**
BILL Bilibino 74.52 337 *eP* **P 14 32 00.8 +0.9**
KBS Kingsbay 76.44 11 *eP* **P 14 32 08.5 -2.2**
KBS Kingsbay 76.44 11 *ceP* **P 14 32 10.2 -0.5**
KBS pmax pmax
comp=Z,70nm,2.5s
SPITS Spitsbergen Ar 77.57 11 P **P 14 32 17.9 +0.8**
comp=Z,8.6nm,0.8s,baz=316,slow=4.0,SNR=2.7
SPITS LR LR 15 08 40.8
comp=Z,74nm,19.7s,baz=279,slow=37
comp=Z,8.6nm,0.8s
EKA Eskdalemuir Ar 79.28 35 P **P 14 32 27.5 +0.6**
comp=Z,9.6nm,0.8s,baz=278,slow=4.6,SNR=13
comp=Z,9.6nm,0.8s
PTO Porto 79.60 50 *eP* **P 14 32 30.3 +1.4**
PGAV Gavieira, Arco 79.63 49 *eP* **P 14 32 30.1 +0.9**
PCAS Casmilo, Conde 79.96 51 *eP* **P 14 32 32.3 +1.4**
COI Coimbra 79.98 51 *eP* **P 14 32 32.3 +1.3**
HOPEN Hopen 80.08 11 *eP* **P 14 32 30.9 0.0**
POLO Lamas de Olo 80.13 50 *eP* **P 14 32 33.4 +1.5**
PVIS Viseu 80.23 50 *eP* **P 14 32 33.7 +1.3**
PMTG Montargil 80.42 52 *eP* **P 14 32 34.0 +0.6**
PNCL Nicolau / Gran 80.45 53 *eP* **P 14 32 34.7 +1.1**
PTEC Sao Teotonio 80.45 54 *eP* **P 14 32 35.8 +2.2**
PFVI Vila Bisbo 80.49 54 *eP* **P 14 32 36.2 +2.4**
MTE Manteigas 80.57 51 *eP* **P 14 32 34.9 +0.6**
MORF Marmelete 80.57 54 *eP* **P 14 32 36.2 +1.9**
MORF Marmelete 80.57 54 *eP* **P 14 32 36.2 +1.9**
MORF IAmb IAmb 14 32 40.8
comp=Z,96nm,1.5s
MORF Marmelete 80.57 54 *eP* **P 14 32 36.2 +1.9**
EVO Evora 80.73 53 *eP* **P 14 32 36.9 +1.8**
MVO Moncorvo 80.74 50 *eP* **P 14 32 35.7 +0.5**
MESJ Messejana 80.76 53 *eP* **P 14 32 37.2 +1.9**
MESJ Messejana 80.76 53 *eP* **P 14 32 36.9 +1.6**
MESJ IAmb IAmb 14 32 39.2
comp=Z,34nm,1.1s
MESJ Messejana 80.76 53 *eP* **P 14 32 36.9 +1.6**
PBRG Braganca 80.77 49 *eP* **P 14 32 36.3 +1.0**
PCBR Castelo Branco 80.77 51 *eP* **P 14 32 35.8 +0.5**
PMRV Marv??o 80.95 52 *eP* **P 14 32 36.9 +0.6**
PCVE Castro Verde 80.95 53 *eP* **P 14 32 38.1 +1.8**
PESTR Estremoz 80.96 52 *eP* **P 14 32 37.2 +0.9**
PBEJ Beja 80.98 53 *eP* **P 14 32 38.4 +2.0**
PBDV Barranco-do-Ve 81.14 54 *eP* **P 14 32 39.0 +1.6**
PVAQ Vaqueiros 81.26 54 *eP* **P 14 32 39.8 +1.9**

QUIF Quistinic 81.44 42 *eP* **P 14 32 38.7 0.0**
SEY Seymchan 81.53 334 LR LR 15 11 42.9
comp=Z,75nm,21.5s,baz=47,slow=38
SEY Seymchan 81.53 334 *ceP* **P 14 32 39.6 +0.8**
SEY pmax pmax
comp=Z,15nm,2.5s
PBAR Barrancos 81.56 53 *eP* **P 14 32 40.8 +1.3**
AKN Aaknes 81.93 27 *eP* **P 14 32 42.1 +1.1**
STEI Steigen 82.44 20 *eP* **P 14 32 45.4 +1.9**
PEA0B Petropavlovsk- 82.55 323 *i* P **P 14 32 45.5 +1.1**
PETK Petropavlovsk- 82.55 323 P **P 14 32 45.7 +1.3**
comp=Z,12nm,1.1s,baz=74,slow=11,SNR=6.5
comp=Z,12nm,1.1s
ODD1 Odda 82.67 29 *eP* **P 14 32 47.2 +2.3**
BLS5 Blasjo 82.79 30 *eP* **P 14 32 48.0 +2.5**
DOMB Dombas 82.87 27 *eP* **P 14 32 47.6 +1.7**
SKAR Skarslia 83.12 28 *eP* **P 14 32 49.7 +2.4**
JETT Jettan, Norway 83.15 18 *eP* **P 14 32 49.4 +2.2**
PAB San Pablo 83.17 51 P **P 14 32 47.6 -0.4**
PAB IAmb IAmb 14 32 51.0
comp=Z,25nm,1.0s
PAB San Pablo 83.17 51 P **P 14 32 47.6 -0.4**
PAB pmax pmax
comp=Z,25nm,1.0s
HAMF Hammerfest 83.41 16 *eP* **P 14 32 49.5 +1.0**
ESDC Sonseca Array 83.41 51 P **P 14 32 49.2 0.0**
ESDC IAmb IAmb 14 32 52.0
comp=Z,12nm,1.1s
ESDC Sonseca Array 83.41 51 P **P 14 32 49.7 +0.5**
comp=Z,6.3nm,0.8s,baz=300,slow=5.0,SNR=30
comp=Z,6.3nm,0.8s
SNART Snartemo 83.59 30 *eP* **P 14 32 52.0 +2.5**
KONO Kongsberg 84.15 29 *eP* **P 14 32 54.8 +2.4**
KONO Kongsberg 84.15 29 *ceP* **P 14 32 52.5 +0.1**
KONO pmax pmax
comp=Z,63nm,1.3s
HOMB Homborsund 84.24 30 *eP* **P 14 32 54.8 +1.9**
NB2 NORSAR Subarra 84.24 27 P **P 14 32 54.6 +1.7**
comp=Z,18nm,0.9s,baz=298,slow=5.3
NB2 NORSAR Subarra 84.24 27 P **P 14 32 54.6 +1.7**
baz=298,slow=5.3
NB2 NORSAR Subarra 84.24 27 *eP* **P 14 32 55.4 +2.5**
NOA NORSAR Array B 84.24 27 P **P 14 32 53.8 +0.8**
comp=Z,13nm,0.9s,baz=302,slow=5.1,SNR=25
comp=Z,13nm,0.9s
TIXI Tiksi 84.38 346 P **P 14 32 52.9 -0.4**
TIXI IAmb IAmb 14 32 55.1
comp=Z,12nm,0.9s
TIXI Tiksi 84.38 346 LR LR 15 14 14.7
comp=Z,74nm,20.4s,baz=74,slow=38
TIXI Tiksi 84.38 346 *ceP* **P 14 32 52.8 -0.6**
TIXI pmax pmax
comp=Z,13nm,0.8s
NC602 NORSAR Array S 84.52 27 *eP* **P 14 32 57.0 +2.7**
OSL Oslo 84.53 28 *eP* **P 14 32 56.6 +2.3**
ARA0 ARCESS Array S 84.59 17 *eP* **P 14 32 56.1 +1.5**
ARCES ARCESS Array B 84.59 17 P **P 14 32 54.5 -0.1**
ARCES ARCESS Array B 84.59 17 P **P 14 32 55.6 +1.1**
comp=Z,22nm,0.9s,baz=316,slow=5.1,SNR=39
ARCES LR LR 15 13 31.7
comp=Z,23nm,18.2s,baz=304,slow=38
comp=Z,22nm,0.9s
ARCES ARCESS Array B 84.59 17 P **P 14 32 54.5 -0.1**
KEV Kevo 84.85 16 P **P 14 32 56.7 +0.9**
KEV Kevo 84.85 16 P **P 14 32 56.7 +0.9**
KEV pmax pmax
comp=Z,40nm,1.2s
MDT Midelt 85.06 57 LR LR 15 08 50.5
comp=Z,35nm,20.1s,baz=330,slow=34
BAIF Baives 85.27 39 *eP* **P 14 32 59.9 +1.6**
DOU Dourbes 85.49 39 *dPcP* **PcP 14 33 01.4 -0.9**
BMRD Maredsous 85.51 38 *dPcP* **PcP 14 33 01.6 -0.8**
GIVF Givet 85.62 39 *eP* **P 14 33 01.7 +1.6**
BGES Gesves 85.67 38 *dPcP* **P 14 33 01.2 +1.0**
HFS Hagfors 85.75 27 P **P 14 33 01.8 +1.4**
comp=Z,6.1nm,0.9s,baz=298,slow=3.2,SNR=7.5
HFS LR LR 15 12 02.3
comp=Z,48nm,22.0s,baz=285,slow=36
comp=Z,6.1nm,0.9s
BCLA Clavier 85.78 38 *dPcP* **PcP 14 33 03.0 -0.6**
RCHB Rochefort 85.84 38 *dPcP* **P 14 33 02.0 +0.9**
BSTI Sart Tilman 85.87 38 *dPcP* **P 14 33 02.5 +1.2**
AVF Avril sur Loir 85.99 42 *eP* **P 14 33 02.8 +0.8**
MEM Membach 86.11 38 *dPcP* **PcP 14 33 03.8 -1.2**
CEST Esterri de Car 86.15 46 P **P 14 33 03.3 +0.3**
CEST IAmb IAmb 14 33 07.2
comp=Z,111nm,1.6s
BTNL Ternell 86.19 38 *dPcP* **PcP 14 33 05.1 -0.3**
BHOU Houvegnez 86.22 38 *dP* **P 14 33 02.0 -1.0**
BHOU *dPcP* **PcP 14 33 05.2 -0.3**
WLF Walferdange 86.58 39 *dPcP* **PcP 14 33 06.1 -1.1**
MSVF Nonsavu 87.73 251 P **P 14 33 13.0 +2.0**
MSVF Nonsavu 87.73 251 P **P 14 33 13.0 +2.0**
MSVF pmax pmax
comp=Z,18nm,0.9s
BFO Black Forest 88.45 39 P **P 14 33 13.5 -0.3**
BFO IAmb IAmb 14 33 16.8
comp=Z,7.6nm,1.0s
BFO Black Forest 88.45 39 P **P 14 33 13.5 -0.3**
BFO pmax pmax
comp=Z,8.0nm,1.0s
LPL La Plagne 88.66 42 *eP* **P 14 33 16.6 +1.5**
LPG La Plagne 88.68 42 *eP* **P 14 33 17.5 +2.2**
CLL Collm 89.75 35 *i* P **P 14 33 20.2 +0.4**
comp=Z,16nm,1.2s
CLL *ePS* **PnS 14 45 14.0 -5.4**
CLL Collm 89.75 35 *i* P **P 14 33 20.2 +0.4**
CLL pmax pmax
comp=Z,16nm,1.2s
CLL Collm 89.75 35 P **P 14 33 20.0 +0.2**
comp=Z,12nm,1.2s
DAVA Damuels 89.85 40 *ePcP* **PcP 14 33 21.5 -0.3**
comp=Z,8.1nm,0.7s
TUE Stuetta 89.89 41 P **P 14 33 21.2 +0.3**
comp=Z,37nm,1.2s
FINES FINESS Array B 89.98 23 P **P 14 33 20.3 -0.4**
FINES FINESS Array B 89.98 23 P **P 14 33 21.0 +0.4**
comp=Z,5.7nm,1.0s,baz=330,slow=4.8,SNR=8.4
FINES LR LR 15 15 01.0
comp=Z,94nm,19.6s,baz=322,slow=36
comp=Z,5.7nm,1.0s
DAVOX Davos/Dischmat 90.08 40 LR LR 15 14 37.6
comp=Z,64nm,20.9s,baz=263,slow=36
RETA Reutte 90.29 39 *ePcP* **PcP 14 33 23.3 -0.4**
comp=Z,8.1nm,0.9s
FUORN Ofenpass-Fuorn 90.38 40 P **P 14 33 21.9 -1.4**
FUORN IAmb IAmb 14 33 26.6
comp=Z,9.3nm,0.9s
FETA Feichten 90.48 40 *ePcP* **PcP 14 33 24.8 +0.2**
comp=Z,12nm,1.6s
BRG Berggiesshubel 90.48 35 *eP* **P 14 33 24.0 +0.7**
BRG Amp 14 33 25.9
comp=Z,12nm,0.9s
MOTA Moosalm 90.56 39 *i* PcP **PcP 14 33 25.0 0.0**
comp=Z,14nm,0.8s
SQTA Sankt Quirin 90.68 39 *ePcP* **PcP 14 33 25.9 +0.4**
comp=Z,8.9nm,0.9s
YAK Yakutsk 90.79 339 P **P 14 33 24.9 +0.4**
YAK Yakutsk 90.79 339 LR LR 15 19 13.3
comp=Z,62nm,18.9s,baz=46,slow=39
YAK Yakutsk 90.79 339 *eP* **P 14 33 25.4 +1.0**
YAK *e* 14 33 47.0
YAK pmax pmax
comp=Z,26nm,0.9s
YAK pmax pmax
comp=E,10.0nm,1.5s
YAK pmax pmax
comp=N,10.0nm,1.4s
WATA Walderalm 90.85 39 *i* PcP **P 14 33 25.5 +0.2**
comp=N,4.7nm,0.5s
WTTA Wattenberg 90.92 39 *ePcP* **P 14 33 25.9 +0.3**
comp=N,14nm,1.6s
KHC Kasperske Hory 91.15 37 *ceP* **P 14 33 26.2 -0.3**
KHC pmax pmax
comp=Z,12nm,1.3s
KHC Kasperske Hory 91.15 37 P **P 14 33 26.8 +0.3**
comp=Z,7.3nm,1.6s
GEC2 GERESS Array S 91.36 37 P **P 14 33 27.5 0.0**
GEC2 IAmb IAmb 14 33 30.5
comp=Z,6.6nm,0.9s
GERES GERESS Array B 91.36 37 P **P 14 33 26.9 -0.7**
GERES GERESS Array B 91.36 37 P **P 14 33 26.4 -1.1**
comp=Z,2.7nm,0.7s,baz=318,slow=5.3,SNR=4.2
GERES LR LR 15 15 22.6
comp=Z,64nm,20.7s,baz=294,slow=36
comp=Z,2.7nm,0.7s
GERES GERESS Array B 91.36 37 P **P 14 33 26.9 -0.7**
LESA Schwarzleotal 91.46 39 *ePcP* **PcP 14 33 29.9 +1.0**
comp=Z,3.8nm,0.8s
ABTA Abfaltersbach 91.69 39 *ePcP* **PcP 14 33 30.4 +0.5**
comp=Z,7.5nm,0.9s
BIOA Bad Ischl, Aus 91.90 38 *ePcP* **PcP 14 33 30.4 -0.4**
comp=Z,1.9nm,0.7s
KBA Koelnbreinsper 92.03 39 *i* PcP **P 14 33 30.7 -0.1**
comp=Z,9.3nm,1.1s
DPC Dobruska-Polom 92.06 35 P **P 14 33 31.3 +0.7**
comp=Z,10nm,1.1s
OSSC Osservatorio P 92.43 43 P **P 14 33 30.8 -1.7**
KRUC Moravsky 92.78 36 *eP* **P 14 33 34.5 +0.6**
MORC Moravsky Berou 93.03 35 *eP* **P 14 33 35.4 +0.3**
OBKA Obir 93.03 39 *ePcP* **P 14 33 35.1 -0.2**
comp=Z,14nm,1.0s
CONA Conrad Observa 93.07 37 *ePcP* **PcP 14 33 37.1 +1.1**
comp=Z,9.4nm,1.1s
DBIC Dimbokro 93.20 82 P **P 14 33 36.5 0.0**
comp=Z,4.7nm,0.8s,baz=263,slow=5.5,SNR=5.3
DBIC LR LR 15 10 11.9
comp=Z,41nm,21.6s,baz=125,slow=32
comp=Z,4.7nm,0.8s
SOKA Soboth 93.23 39 *ePcP* **PcP 14 33 36.9 +0.1**
comp=Z,4.3nm,1.0s
RONA Rosalia, Austr 93.44 37 *i* PcP **P 14 33 36.7 -0.4**
comp=Z,3.9nm,0.6s
JAVC Velka Javorina 93.59 36 *eP* **P 14 33 36.7 -1.1**
MODS Modra-Piesok 93.64 36 *eP* **P 14 33 40.8 +2.9**
MODS Modra-Piesok 93.64 36 *eP* **P 14 33 40.8 +2.9**
OJC Ojcow 93.99 34 P **P 14 33 40.2 +0.7**
comp=Z,4.6nm,1.1s
VYHS Vyhne 94.44 36 *eP* **P 14 33 44.0 +2.4**
VYHS Vyhne 94.44 36 *eP* **P 14 33 44.0 +2.4**
KEST Kesra 94.66 50 P **P 14 33 43.8 +0.8**
comp=Z,3.7nm,0.8s,baz=315,slow=3.7,SNR=2.8
comp=Z,3.7nm,0.8s
NIE Niedzica 94.72 34 P **P 14 33 43.6 +0.7**
comp=Z,5.1nm,1.8s
KLMR Klimovskoe 94.91 18 *eP* **P 14 33 41.4 -2.1**
KLMR pmax pmax
comp=Z,21nm,1.2s
URZ Urewera 95.35 232 LR LR 15 13 17.1
comp=Z,55nm,18.4s,baz=72,slow=33
KECS Kecovo 95.35 35 *ePDIFF* **P 14 33 48.8 +3.0**
KECS Kecovo 95.35 35 *eP* **P 14 33 48.8 +3.0**
MORH Mrgy, Hungar 95.59 38 P **P 14 33 47.2 +0.3**
CRVS Cervenica-Dubn 95.64 34 *ePDIFF* **P 14 33 49.5 +2.4**
CRVS Cervenica-Dubn 95.64 34 *eP* **P 14 33 49.5 +2.4**
KOLS Kolonicke sedl 96.05 34 *ePDIFF* **P 14 33 52.3 +3.3**
KOLS Kolonicke sedl 96.05 34 *eP* **P 14 33 52.3 +3.3**
HOLU Holmets 96.35 34 P **P 14 33 50.3 0.0**
MUKU Mukachevo 96.56 34 P **P 14 33 51.9 +0.7**
BERU Beregovo 96.67 34 P **P 14 33 51.8 +0.1**
BRIU Brid 96.81 34 P **P 14 33 52.7 +0.4**
MEZ Mezhgor'ye 96.96 34 P **P 14 33 53.2 +0.1**
TORD Torodi Ar. Bea 97.14 74 P **P 14 33 53.6 -1.0**
comp=Z,1.7nm,0.8s,baz=270,slow=4.3,SNR=8.7
TORD LR LR 15 15 47.4
comp=Z,52nm,19.4s,baz=163,slow=34
comp=Z,1.7nm,0.8s
ZEA Zeya 97.51 334 *eP* Pdif 14 33 56.6 +1.1
KSV Kosov 97.90 33 P **P 14 33 55.5 -1.8**
AK22 Malin Array Si 98.30 30 P **P 14 33 58.3 -0.7**
AK18 Malin Array Si 98.32 30 P Pdif 14 33 59.3 +0.1
OBN Obninsk 98.36 23 LR LR 15 20 21.7
comp=Z,75nm,19.0s,baz=7.0,slow=37
OBN Obninsk 98.36 23 *i* P **P 14 33 56.8 -2.4**
OBN pmax pmax
comp=Z,11nm,1.1s
OBN MLR MLR
comp=Z,95nm,21.0s
AKASG Malin Array Be 98.41 30 P **P 14 33 58.4 -1.2**
comp=Z,0.4nm,0.3s,baz=298,slow=3.9,SNR=6.2
comp=Z,0.4nm,0.3s
AKASG Malin Array Be 98.41 30 *i* P **P 14 33 58.7 -0.8**
AKBB Malin Array Si 98.41 30 *ceP* **P 14 33 59.1 -0.4**
AKBB pmax pmax
comp=Z,10.0nm,2.0s
KLR Kul'dur 98.50 328 *i* P **P 14 33 59.2 -0.8**
KLR pmax pmax
comp=Z,7.0nm,2.2s
DZM Mont Dzumac 99.44 250 LR LR 15 09 44.3
comp=Z,98nm,19.9s,baz=26,slow=30
KIRV Kirov 99.57 15 LR LR 15 20 31.1
comp=Z,68nm,21.9s,baz=322,slow=36
HEH HeiHe 99.89 331 *eP* **Pdif 14 34 03.6 -2.5**
MLR Muntele Rosu 100.14 35 LR LR 15 23 39.4
comp=Z,36nm,19.1s,baz=275,slow=38
KURBB Kurchatov Arra 111.48 1 PP **PP 14 39 29.0 -6.8**
comp=Z,0.3nm,0.5s,baz=359,slow=6.3,SNR=4.1
KURBB PKKPbc **PKKPbc 14 49 50.0 -1.7**
comp=Z,0.2nm,0.6s,baz=192,slow=6.5,SNR=4.0
HHC Hu-ho-hao-te 114.17 334 *ePKP* **PKiKP 14 38 58.1 -3.0**
BTO Baotou 115.01 335 *ePKP* **PKPdf 14 39 06.6 +3.9**
BTO LR LR
comp=Z,190nm,20.0s
MKAR Makanchi Array 115.28 358 PKP **PKiKP 14 39 01.9 -1.0**
comp=Z,0.2nm,0.7s,baz=336,slow=3.2,SNR=2.2
MKAR PKKPbc **PKKPab 14 49 43.3 -2.5**
comp=Z,0.7nm,0.9s,baz=159,slow=5.6,SNR=5.2
MKAR PKKP **PKKPdf 14 49 58.8 -3.2**
comp=Z,0.8nm,0.9s,baz=186,slow=5.2,SNR=5.2
NJ2 Nanjing 117.45 323 *ePKP* **PKPdf 14 39 06.9 -0.6**
WMQ Urumqi 117.85 353 *ePKP* **PKiKP 14 39 08.5 +0.4**
WMQ LR LR
comp=Z,150nm,24.0s
GEYT Alibeck 120.64 20 PKP **PKPdf 14 39 12.9 -0.7**
comp=Z,1.4nm,0.7s,baz=57,slow=5.3,SNR=5.2
STKA Stephens Creek 122.85 243 PKP **PKiKP 14 39 18.2 +0.1**
comp=Z,5.4nm,0.8s,baz=44,slow=2.3,SNR=12
CD2 Chengdu 125.93 334 PKP **PKPdf 14 39 22.5 -1.4**
CD2 sPKP 14 39 53.3
CD2 SKS **SKSdf 14 46 29.8 -1.6**
CD2 AMB AMB
comp=Z,60nm,5.6s
WRA Warramunga Arr 128.40 259 PKP **PKPdf 14 39 28.9 +0.2**
comp=Z,6.3nm,0.9s,baz=80,slow=2.1,SNR=23
MBAR Mbarara 128.97 76 *c i* PKIKP **PKiKP 14 39 32.2 +1.2**
MBAR pmax pmax
comp=Z,10.0nm,2.5s
ASAR Alice Springs 129.21 254 PKP **PKPdf 14 39 30.3 0.0**
comp=Z,3.9nm,0.8s,baz=94,slow=2.1,SNR=27
BOSA Boshof 129.45 112 PKP **PKPdf 14 39 30.9 +0.2**
comp=Z,0.8nm,0.7s,baz=153,slow=5.3,SNR=3.7
MAW Mawson 129.46 172 PKP **PKiKP 14 39 30.6 +0.5**
comp=Z,13nm,0.9s,baz=264,slow=6.3,SNR=18
PZH PanZhiHua 130.63 334 PKP **PKPdf 14 39 32.3 -0.8**
CMAR Chiang Mai Arr 138.91 331 PKP **PKPdf 14 39 49.2 +0.6**
comp=Z,3.3nm,0.8s,baz=345,slow=2.1,SNR=16
HYB Hyderabad 144.60 2 *ePKPdf* **PKPab 14 39 57.1 -0.2**

IDC ***16*** *14:22:33.9±6.3,21°.32S×176°.67W,h274km±55km, mb3.3/4, mbtmp4.1/5, Error ellipse: s-maj=35.8km s-min=20.7km az=66.0*

ISC 16 14:22:30.1±1.6, 21°.3S±0°.2×176°.4W±0°.2, h250km, n12, σ1s57/10, mb3.5/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**16.00**	**264**	P		**Pn**	**14 26 04.0**	**+1.5**
	6.3nm,0.6s,baz=331,slow=16,SNR=7.5							
URZ	**Urewera**	**17.82**	**197**	P		**P**	**14 26 20.5**	**-0.2**
	16nm,1.0s,baz=349,slow=5.2,SNR=15							
URZ				S		**S**	**14 29 30.1**	**-2.2**
	5.9nm,0.9s,baz=108,slow=20,SNR=1.2							
STKA	**Stephens Creek**	**38.84**	**245**	P		**P**	**14 29 31.9**	**+0.5**
	1.0nm,0.5s,baz=63,slow=9.0,SNR=3.4							
	1.0nm,0.5s							
ASAR	**Alice Springs**	**45.84**	**257**	P		**P**	**14 30 27.6**	**-0.1**
	0.9nm,0.4s,baz=85,slow=8.5,SNR=29							
ASAR				PcP		**PcP**	**14 32 00.3**	**-0.3**
	0.2nm,0.5s,baz=98,slow=4.6,SNR=4.1							
	0.9nm,0.4s							
WRA	**Warramunga Arr**	**46.01**	**262**	P		**P**	**14 30 27.9**	**-1.2**
	1.1nm,0.6s,baz=95,slow=7.2,SNR=21							
	1.1nm,0.6s							
QSPA	**South Pole Qui**	**68.78**	**180**	P		**P**	**14 33 09.3**	**+2.2**
	1.0nm,0.6s,baz=45,slow=1.4,SNR=10							
	1.0nm,0.6s							
H03S2	**Juan Fernandez**	**84.28**	**124**	T		T	16 06 55.9	
	baz=246,slow=74							
H03S1	**Juan Fernandez**	**84.29**	**124**	T		T	16 07 03.6	
	baz=246,slow=74							

H03S3	**Juan Fernandez** baz=246	**84.30**	**124**	T	T	16 06 44.5		
AKASG	**Malin Array Be** 0.2nm,0.3s,baz=36,slow=4.1,SNR=6.0	**144.44**	**332**	PKhKP	PKPpre	14 41 32.5		
BRTR	**Keskin Array B** 0.8nm,0.5s,baz=148,slow=4.1,SNR=4.9	**148.50**	**312**	PKPbc	**PKPbc**	**14 41 46.2**	**-1.5**	
MMAI	**Mount Meron Ar** 1.5nm,0.4s,baz=67,slow=3.7,SNR=5.5	**149.54**	**299**	PKPbc	**PKiKP**	**14 41 50.1**	**-1.1**	

SNET ***16*** *14:25:39.0±0.5, 13°.25N×88°.04W, h3km±2km, ML3.0*
CATAC ***16*** *14:25:39.0±0.4, 13°.26N×88°.05W, h9km±4km, ML2.9*

ISC 16 14:25:38.9±1.1, 13°.22N±0°.06×88°.05W±0°.03, h12km±6km, n17, σ0°967/22, 4C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.03**	**185**	⇓*i*P		**Pg**		**14 25 40.8**	**-0.3**
INTP				*e*S		**Sg**		**14 25 42.2**	**-0.5**
LCND	**La Caada**	**0.18**	**61**	⇑*i*P		**Pg**		**14 25 43.0**	**+0.1**
LCND				*e*S		**Sg**		**14 25 45.5**	**-0.3**
LCND	**La Caada**	**0.18**	**61**	*i*P		**Pg**		**14 25 42.9**	**-0.1**
LCND				*i*P				14 25 43.0	
LCND					IAML			14 25 43.4	
	comp=Z,2μm,1.0s								
LCND				*i*S		**Sg**		**14 25 46.8**	**+1.0**
LCND				*i*S		**Sg**		**14 25 46.8**	**+1.0**
LCND					IAML			14 26 06.9	
	comp=Z,9μm,1.0s								
CNCH	**Conchagua**	**0.22**	**76**	⇑*i*P		**Pg**		**14 25 44.0**	**+0.2**
CNCH				*e*S		**Sg**		**14 25 48.2**	**+1.2**
CNCH	**Conchagua**	**0.22**	**76**	*i*P		**Pg**		**14 25 43.9**	**+0.2**
CNCH					IAML			14 25 55.2	
	comp=Z,3μm,1.0s								
BLLM	**Bellamira**	**0.28**	**320**	⇑*e*P		**Pg**		**14 25 45.0**	**+0.2**
VSM	**San Miguel**	**0.30**	**313**	*e*P		**Pb**		**14 25 45.7**	**-0.6**
LCY	**Lacayo**	**0.31**	**310**	*e*P		**Pg**		**14 25 45.6**	**+0.3**
RANC	**El Ranchito**	**0.31**	**312**	⇑*e*P		**Pg**		**14 25 45.6**	**+0.3**
RANC	**El Ranchito**	**0.31**	**312**	*i*P		**Pg**		**14 25 45.5**	**+0.1**
RANC					IAML			14 26 00.9	
	comp=Z,650nm,1.0s								
PACA	**Pacayal**	**0.36**	**313**	*e*P		**Pg**		**14 25 46.6**	**+0.4**
PACA	**Pacayal**	**0.36**	**313**	*i*P		**Pg**		**14 25 46.7**	**+0.4**
PACA					IAML			14 25 57.3	
	comp=Z,4μm,1.0s								
TECA	**Tecapa**	**0.52**	**302**	*e*P		**Pg**		**14 25 49.3**	**+0.3**
CRIN	**San Cristobal**	**1.11**	**118**	*i*P		**Pg**		**14 26 00.6**	**+0.4**
CRIN					IAML			14 26 21.1	
	comp=Z,550nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.12**	**42**	*i*P		**Pg**		**14 25 59.5**	**-1.1**
TGUH					IAML			14 26 20.2	
	comp=Z,280nm,1.0s								
QUEN	**Al S del Volca**	**1.33**	**118**	*i*P		**Pn**		**14 26 02.4**	**-0.9**
QUEN					IAML			14 26 28.4	
	comp=Z,200nm,1.0s								
MACN	**El Madrono**	**1.54**	**119**	*i*P		**Pn**		**14 26 07.1**	**+0.9**
MACN					IAML			14 26 34.1	
	comp=Z,54nm,1.0s								

IDC ***16*** *14:30:55.1±1.6, 56°.08N×148°.69W, h0km, mb3.6/5, mbtmp3.6/10, ML3.1/5, MS2.9/1, Error ellipse: s-maj=34.3km s-min=20.5km az=25.0*
NEIC ***16*** *14:30:57.1±1.3, 56°.22N±0°.07×148°.60W±0°.10, h20km±6km, mb3.8/4, ML3.6/54, ML3.4(AEIC), Error ellipse: s-maj=9.9km s-min=7.9km az=173.0*
AEIC ***16*** *14:31:00.3±1.5, 56°.18N±0°.09×148°.6W±0°.1, h12km±7km, Error ellipse: s-maj=13.2km s-min=8.8km az=165.0*

ISC 16 14:30:56.7±0.9, 56°.29N±0°.07×148°.59W±0°.05, h10km, n233, σ0°95/231, mb3.8/5, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.64**	**306**			**Pn**		**14 31 38.9**	**-0.4**
KDAK	**Kodiak Island** baz=124	**2.64**	**306**	P		**Pn**		**14 31 38.6**	**-0.7**
KDAK				S		**Sn**		**14 32 09.3**	**-2.1**
	baz=124								
KDAK	**Kodiak Island** 5.6nm,0.3s,baz=125,slow=8.5,SNR=60	**2.64**	**306**	Pn		**Pn**		**14 31 38.7**	**-0.7**
KDAK				Sn		**Sn**		**14 32 09.3**	**-2.1**
	4.1nm,0.3s,baz=108,slow=20,SNR=7.5								
KDAK				LR		LR		14 32 55.8	
	comp=Z,246nm,20.5s,baz=125,slow=44 17nm,0.3s								
OHAK	**Old Harbor**	**2.75**	**292**	P		**Pn**		**14 31 39.4**	**-1.4**
OHAK	**Old Harbor**	**2.75**	**292**			**Pn**		**14 31 39.0**	**-1.8**
OHAK	**Old Harbor**	**2.75**	**292**			**Sn**		**14 32 10.5**	**-3.5**
OHAK	**Old Harbor** baz=109	**2.75**	**292**	P		**Pn**		**14 31 39.3**	**-1.4**
OHAK				S		**Sn**		**14 32 10.5**	**-3.5**
	baz=109								
SYI	**Shuyak Island**	**3.10**	**320**			**Pn**		**14 31 45.3**	**-0.3**
SYI	**Shuyak Island**	**3.10**	**320**			**Sn**		**14 32 22.4**	**-0.2**
Q20K	**Shuyak Island** baz=138	**3.10**	**320**	P		**Pn**		**14 31 45.6**	**0.0**
Q20K				S		**Sn**		**14 32 22.5**	**-0.3**
	baz=138								
SII	**Sitkinak Islan**	**3.12**	**277**	P		**Pn**		**14 31 45.0**	**-0.9**
SII	**Sitkinak Islan**	**3.12**	**277**			**Pn**		**14 31 45.5**	**-0.3**
SII	**Sitkinak Islan** comp=E,174nm,0.8s	**3.12**	**277**	IAML				14 32 24.0	
SII				IAML				14 32 26.4	
	comp=N,222nm,0.6s								
SII	**Sitkinak Islan** baz=94	**3.12**	**277**	P		**Pn**		**14 31 45.5**	**-0.3**
SII				S		**Sn**		**14 32 20.0**	**-3.1**
	baz=94								
Q23K	**Middleton Isla**	**3.37**	**20**			**Pn**		**14 31 49.3**	**0.0**
Q23K						**Sn**		**14 32 26.7**	**-2.5**
Q23K	**Middleton Isla** comp=E,112nm,0.9s	**3.37**	**20**	IAML				14 32 28.8	
Q23K				IAML				14 32 30.5	
	comp=N,88nm,0.9s								
Q23K	**Middleton Isla** baz=202	**3.37**	**20**	P		**Pn**		**14 31 49.3**	**0.0**
Q23K				S		**Sn**		**14 32 26.7**	**-2.5**
	baz=202								
CNPM	**China Poot**	**3.54**	**338**			**Pn**		**14 31 51.4**	**-0.3**
CNPM	**China Poot**	**3.54**	**338**			**Sn**		**14 32 33.3**	**-0.2**
BRSE	**Bradley Lake S**	**3.65**	**343**			**Pn**		**14 31 52.8**	**-0.3**
BRSE	**Bradley Lake S** baz=161	**3.65**	**343**	P		**Pn**		**14 31 52.8**	**-0.3**
BRLK	**Bradley Lake**	**3.69**	**342**			**Pn**		**14 31 53.2**	**-0.6**
HOM	**Homer**	**3.75**	**336**			**Pn**		**14 31 54.7**	**+0.2**
HOM					IAML			14 32 46.1	
	comp=E,122nm,0.6s								
HOM					IAML			14 32 53.6	
	comp=N,142nm,1.2s								
P23K	**Montague Islan**	**3.77**	**9**			**Pn**		**14 31 54.5**	**-0.3**
P23K						**Sn**		**14 32 37.2**	**-2.0**
P23K	**Montague Islan** baz=190	**3.77**	**9**	P		**Pn**		**14 31 54.5**	**-0.3**
P23K				S		**Sn**		**14 32 37.2**	**-2.0**
	baz=190								
Q19K	**Cape Douglas,**	**3.79**	**316**			**Pn**		**14 31 55.6**	**+0.5**
Q19K					IAML			14 32 49.9	
	comp=N,124nm,0.7s								
Q19K	**Cape Douglas,** baz=133	**3.79**	**316**	P		**Pn**		**14 31 55.6**	**+0.5**
SEW	**Seward**	**3.85**	**354**			**Pn**		**14 31 55.4**	**-0.5**
SEW	**Seward** baz=173	**3.85**	**354**	P		**Pn**		**14 31 55.4**	**-0.5**
CHIR	**Chirikof Islan**	**3.97**	**266**			**Pn**		**14 31 56.9**	**-0.7**
CHIR	**Chirikof Islan** comp=N,102nm,1.0s	**3.97**	**266**	IAML				14 32 46.4	
CHIR				IAML				14 32 51.3	
	comp=E,116nm,1.4s								
CHIR	**Chirikof Islan** baz=81	**3.97**	**266**	P		**Pn**		**14 31 56.9**	**-0.7**
AU22	**Augustine Moun**	**4.00**	**322**			**Pn**		**14 31 58.9**	**+0.9**
ACHA	**Angle Creek He**	**4.13**	**301**			**Pn**		**14 32 00.7**	**+0.9**
P19K	**Oil Pt**	**4.18**	**326**			**Pn**		**14 32 00.7**	**+0.3**
P19K					IAML			14 33 01.5	
	comp=N,95nm,0.6s								
P19K	**Oil Pt** baz=142	**4.18**	**326**	P		**Pn**		**14 32 00.9**	**+0.5**
KAHC	**Katmai Hardscr**	**4.19**	**307**			**Pn**		**14 32 01.2**	**+0.5**
KAHC	**Katmai Hardscr** baz=122	**4.19**	**307**	P		**Pn**		**14 32 01.2**	**+0.5**
KVTA	**Katmai Vly 10**	**4.19**	**303**			**Pn**		**14 32 01.5**	**+0.9**
O22K	**Cooper Landing**	**4.25**	**352**			**Pn**		**14 32 00.6**	**-0.7**
O22K	**Cooper Landing** baz=172	**4.25**	**352**	P		**Pn**		**14 32 01.5**	**+0.2**
HIN	**Hinchinbrook I**	**4.26**	**14**	Pn		**Pn**		**14 32 01.6**	**0.0**
KAIM	**Kayak Island**	**4.27**	**30**			**Pn**		**14 32 01.4**	**-0.3**
KAIM					IAML			14 32 53.4	
	comp=E,77nm,0.8s								
KAIM	**Kayak Island** baz=213	**4.27**	**30**	P		**Pn**		**14 32 01.3**	**-0.3**
SLKM	**Skilak Lake**	**4.32**	**349**			**Pn**		**14 32 02.1**	**-0.3**
O20K	**Slope Mountain**	**4.36**	**332**			**Pn**		**14 32 02.8**	**-0.2**
O20K	**Slope Mountain** baz=150	**4.36**	**332**	P		**Pn**		**14 32 02.8**	**-0.2**
IVE	**Iliamna Volcan**	**4.41**	**330**			**Pn**		**14 32 03.4**	**-0.3**
CNTC	**Contact Creek**	**4.42**	**300**			**Pn**		**14 32 04.3**	**+0.4**
Q17K	**Contact Creek** baz=114	**4.42**	**300**	P		**Pn**		**14 32 04.3**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.53**	**18**	P		**Pn**		**14 32 05.4**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.53**	**18**			**Pn**		**14 32 05.2**	**+0.1**
EYAK	**Cordova Ski Ar** baz=200	**4.53**	**18**	P		**Pn**		**14 32 05.2**	**+0.1**
SUCK	**Suckling Hills**	**4.57**	**32**			**Pn**		**14 32 05.7**	**-0.1**
SUCK					IAML			14 33 07.1	
	comp=E,67nm,0.7s								
SUCK					IAML			14 33 10.9	
	comp=N,66nm,0.8s								
RAGM	**Ragged Mountai**	**4.60**	**25**			**Pn**		**14 32 05.8**	**-0.4**
FID	**Port Fidalgo**	**4.61**	**13**			**Pn**		**14 32 06.2**	**-0.1**
FID					IAML			14 32 56.7	
	comp=E,42nm,0.6s								
FID					IAML			14 33 02.7	
	comp=N,45nm,0.4s								
NICHA	**Nichawak Mount**	**4.65**	**30**			**Pn**		**14 32 06.8**	**-0.1**
HMT	**Hamilton**	**4.66**	**28**			**Pn**		**14 32 07.1**	**+0.1**
GLI	**Glacier Island**	**4.67**	**9**			**Pn**		**14 32 06.9**	**-0.3**
GLI					IAML			14 33 11.5	
	comp=N,32nm,0.9s								
GLI					IAML			14 33 13.8	
	comp=E,53nm,0.6s								
GLI	**Glacier Island** baz=190	**4.67**	**9**	P		**Pn**		**14 32 07.3**	**+0.1**
P18K	**Big Mountain,**	**4.71**	**314**	Pn		**Pn**		**14 32 06.9**	**-0.9**
P18K	**Big Mountain,** baz=129	**4.71**	**314**	P		**Pn**		**14 32 07.5**	**-0.3**
RSO	**Redoubt South**	**4.72**	**334**			**Pn**		**14 32 07.3**	**-0.7**
RDT	**Redoubt**	**4.74**	**337**			**Pn**		**14 32 07.5**	**-0.7**
BGLC	**Bering Glacier**	**4.76**	**34**			**Pn**		**14 32 08.8**	**+0.4**
BGLC	**Bering Glacier** baz=218	**4.76**	**34**	P		**Pn**		**14 32 08.8**	**+0.4**
GOAT	**Goat Mountain**	**4.76**	**24**			**Pn**		**14 32 08.5**	**+0.1**
RDWB	**Redoubt West**	**4.76**	**334**			**Pn**		**14 32 07.9**	**-0.7**
RC01	**Rabbit Creek A**	**4.85**	**353**			**Pn**		**14 32 09.7**	**0.0**
RC01	**Rabbit Creek A** comp=N,32nm,0.5s	**4.85**	**353**	IAML				14 33 05.6	
RC01					IAML			14 33 13.9	
	comp=E,37nm,0.5s								
RC01	**Rabbit Creek A** baz=173	**4.85**	**353**	P		**Pn**		**14 32 09.7**	**0.0**
NCT	**North Crescent**	**4.85**	**334**			**Pn**		**14 32 09.1**	**-0.7**
GRIN	**Grindle Hills**	**4.87**	**33**			**Pn**		**14 32 10.1**	**+0.1**
SNH	**Sunshine Point**	**4.95**	**36**			**Pn**		**14 32 10.8**	**-0.2**
SNH					IAML			14 33 11.9	
	comp=E,39nm,0.6s								
SNH					IAML			14 33 38.2	
	comp=N,36nm,1.4s								
O19K	**Port Alsworth**	**4.95**	**325**			**Pn**		**14 32 10.4**	**-0.5**
O19K					IAML			14 33 16.2	
	comp=N,65nm,0.5s								
O19K					IAML			14 33 18.6	
	comp=E,66nm,0.4s								
Q16K	**King Salmon**	**4.96**	**302**			**Pn**		**14 32 11.8**	**+0.6**
Q16K	**King Salmon** baz=116	**4.96**	**302**	P		**Pn**		**14 32 11.8**	**+0.6**
O18K	**Koktuh Hills**	**5.01**	**318**	Pn		**Pn**		**14 32 10.9**	**-0.9**
O18K					IAML			14 33 39.0	
	comp=N,23nm,1.0s								
O18K	**Koktuh Hills** baz=133	**5.01**	**318**	P		**Pn**		**14 32 11.5**	**-0.4**
KHIT	**Khitrov Hills**	**5.03**	**32**			**Pn**		**14 32 11.7**	**-0.4**
DIV	**Divide**	**5.07**	**16**			**Pn**		**14 32 12.9**	**+0.2**
P17K	**Kvichak River**	**5.11**	**308**			**Pn**		**14 32 13.9**	**+0.7**
P17K	**Kvichak River** baz=122	**5.11**	**308**	P		**Pn**		**14 32 13.9**	**+0.7**
BMRM	**Bremner River**	**5.13**	**22**			**Pn**		**14 32 13.7**	**+0.1**
BMRM	**Bremner River** baz=205	**5.13**	**22**	P		**Pn**		**14 32 13.6**	**+0.1**
WAX	**Waxell Ridge**	**5.15**	**34**			**Pn**		**14 32 13.8**	**0.0**
BARK	**Barkley Ridge**	**5.23**	**35**			**Pn**		**14 32 14.8**	**-0.2**
MESA	**MESA**	**5.25**	**39**			**Pn**		**14 32 15.1**	**-0.2**
MESA					IAML			14 33 34.3	
	comp=E,25nm,0.5s								
MESA					IAML			14 33 34.4	
	comp=N,30nm,0.4s								
MESA	**MESA** baz=224	**5.25**	**39**	P		**Pn**		**14 32 15.5**	**+0.3**
ANNE	**Aniakchak Nort**	**5.27**	**281**			**Pn**		**14 32 15.4**	**0.0**
N20K	**Mount Spurr** baz=158	**5.27**	**341**	P		**Pn**		**14 32 15.2**	**-0.3**
SPCR	**Spurr Chakacha**	**5.27**	**341**			**Pn**		**14 32 15.2**	**-0.3**
SPCN	**Chakachatna No**	**5.29**	**341**			**Pn**		**14 32 16.1**	**+0.4**
SUA	**Susitna One**	**5.31**	**349**			**Pn**		**14 32 16.2**	**+0.2**
SUA	**Susitna One** comp=N,16nm,1.3s	**5.31**	**349**	IAML				14 33 18.3	
SUA					IAML			14 33 54.6	
	comp=E,17nm,1.4s								
SUA	**Susitna One** baz=167	**5.31**	**349**	P		**Pn**		**14 32 16.3**	**+0.2**
SPCP	**Crater Peak Br**	**5.32**	**341**			**Pn**		**14 32 16.6**	**+0.4**
SPCG	**Spurr Capps Gl**	**5.32**	**342**			**Pn**		**14 32 16.7**	**+0.4**
KLU	**Klutina**	**5.40**	**14**			**Pn**		**14 32 17.6**	**+0.4**
KLU	**Klutina** baz=196	**5.40**	**14**	P		**Pn**		**14 32 17.6**	**+0.4**
ISLE	**Juniper Island**	**5.43**	**35**			**Pn**		**14 32 17.3**	**-0.4**
N19K	**Bonanza Creek**	**5.48**	**328**			**Pn**		**14 32 17.3**	**-1.1**
N19K	**Bonanza Creek** baz=144	**5.48**	**328**	P		**Pn**		**14 32 18.0**	**-0.4**
STLK	**Strandline Lak**	**5.49**	**344**			**Pn**		**14 32 19.4**	**+0.9**
GHO	**Glory Hole Cre**	**5.50**	**358**			**Pn**		**14 32 18.9**	**+0.3**
SPNN	**North Nagishla**	**5.52**	**339**			**Pn**		**14 32 19.2**	**+0.2**
SML	**Sawmill**	**5.54**	**1**			**Pn**		**14 32 19.5**	**+0.4**
SML	**Sawmill** baz=182	**5.54**	**1**	P		**Pn**		**14 32 19.8**	**+0.7**
SCM	**Sheep Creek Mo**	**5.60**	**6**			**Pn**		**14 32 20.4**	**+0.4**
SCM	**Sheep Creek Mo** baz=187	**5.60**	**6**	P		**Pn**		**14 32 21.1**	**+1.1**
VRDI	**Verde Repeater**	**5.63**	**26**			**Pn**		**14 32 20.4**	**-0.1**
SAMH	**Samovar Hills**	**5.64**	**44**			**Pn**		**14 32 21.1**	**+0.5**
KIAG	**Kiagna River**	**5.67**	**32**			**Pn**		**14 32 20.8**	**-0.3**
O17K	**Koliganek Bris**	**5.71**	**311**			**Pn**		**14 32 21.6**	**+0.2**
O17K	**Koliganek Bris** baz=125	**5.71**	**311**	P		**Pn**		**14 32 21.6**	**+0.2**
N25K	**Chitina, Valde**	**5.72**	**20**			**Pn**		**14 32 21.7**	**+0.1**
N25K	**Chitina, Valde** baz=203	**5.72**	**20**	P		**Pn**		**14 32 22.1**	**+0.4**
GLB	**Gilahina Butte**	**5.73**	**24**			**Pn**		**14 32 21.4**	**-0.3**
P16K	**Nushagak River**	**5.74**	**302**			**Pn**		**14 32 22.6**	**+0.8**
P16K	**Nushagak River** baz=115	**5.74**	**302**	P		**Pn**		**14 32 22.6**	**+0.8**
N18K	**Kilae Creek**	**5.83**	**322**	Pn		**Pn**		**14 32 22.1**	**-1.0**
N18K	**Kilae Creek** baz=136	**5.83**	**322**	P		**Pn**		**14 32 22.6**	**-0.5**
PTPK	**Patty Peak**	**5.86**	**30**			**Pn**		**14 32 23.6**	**0.0**
MCARA	**McCarthy VSAT**	**5.87**	**27**			**Pn**		**14 32 24.3**	**+0.7**
MCARA	**McCarthy VSAT** baz=212	**5.87**	**27**	P		**Pn**		**14 32 24.4**	**+0.7**
SKT	**Skwentna**	**5.90**	**346**			**Pn**		**14 32 23.9**	**-0.2**
PNL	**Peninsula**	**5.95**	**52**			**Pn**		**14 32 24.7**	**-0.1**
PNL	**Peninsula** baz=193	**5.95**	**52**	P		**Pn**		**14 32 24.7**	**-0.1**
M24K	**Tolsona, Glenn**	**5.96**	**11**			**Pn**		**14 32 25.7**	**+0.7**
M24K	**Tolsona, Glenn** baz=120	**5.96**	**11**	P		**Pn**		**14 32 26.2**	**+1.2**
BARN	**Barnard Glacie**	**5.99**	**34**			**Pn**		**14 32 25.3**	**-0.2**
BCPM	**Bancas Point**	**6.00**	**49**			**Pn**		**14 32 25.5**	**+0.1**
CTG	**Chitna Glacier** baz=222	**6.03**	**36**	P		**Pn**		**14 32 25.7**	**-0.2**
CTGM	**Chitina Glacie**	**6.03**	**36**			**Pn**		**14 32 25.5**	**-0.4**
O16K	**Kokwok River B**	**6.04**	**307**	Pn		**Pn**		**14 32 26.1**	**+0.1**
O16K	**Kokwok River B** baz=120	**6.04**	**307**	P		**Pn**		**14 32 26.3**	**+0.3**
M20K	**Styx River**	**6.08**	**339**			**Pn**		**14 32 25.9**	**-0.7**
M20K	**Styx River** baz=156	**6.08**	**339**	P		**Pn**		**14 32 26.4**	**-0.1**
WACK	**Wrangell Chich**	**6.12**	**19**			**Pn**		**14 32 28.2**	**+0.9**
N17K	**Nushagak Hills**	**6.20**	**317**			**Pn**		**14 32 27.8**	**-0.3**
N17K	**Nushagak Hills** baz=130	**6.20**	**317**	P		**Pn**		**14 32 27.7**	**-0.4**
O28M	**Mount Upton**	**6.29**	**41**			**Pn**		**14 32 29.7**	**0.0**
O28M	**Mount Upton** baz=228	**6.29**	**41**	P		**Pn**		**14 32 29.7**	**0.0**
WAT6	**Susitna Watana**	**6.33**	**4**			**Pn**		**14 32 30.6**	**+0.6**
WAT6	**Susitna Watana** baz=184	**6.33**	**4**	P		**Pn**		**14 32 30.6**	**+0.6**
M19K	**Big River Lodg**	**6.37**	**334**			**Pn**		**14 32 29.7**	**-0.8**
M18K	**Stony River**	**6.42**	**327**			**Pn**		**14 32 30.5**	**-0.7**
M18K	**Stony River** baz=142	**6.42**	**327**	P		**Pn**		**14 32 30.5**	**-0.7**
WAT7	**Susitna Watana**	**6.56**	**359**			**Pn**		**14 32 34.1**	**+0.8**
O15K	**Ungalikthiuk R**	**6.67**	**300**			**Pn**		**14 32 35.2**	**+0.6**
O15K	**Ungalikthiuk R** baz=111	**6.67**	**300**	P		**Pn**		**14 32 35.2**	**+0.6**
P29M	**Windy Craggy**	**6.67**	**55**	Pn		**Pn**		**14 32 34.3**	**-0.5**
P29M	**Windy Craggy** baz=244	**6.67**	**55**	P		**Pn**		**14 32 34.5**	**-0.3**
L19K	**White Mountain**	**6.72**	**334**			**Pn**		**14 32 34.0**	**-1.4**
L19K	**White Mountain** baz=149	**6.72**	**334**	P		**Pn**		**14 32 34.7**	**-0.7**
SDPT	**Sand Point**	**6.76**	**267**	P		**Pn**		**14 32 35.7**	**-0.2**
YUK8	**Steele Glacier**	**6.79**	**39**			**Pn**		**14 32 37.6**	**+1.1**
YUK8	**Steele Glacier** baz=226	**6.79**	**39**	P		**Pn**		**14 32 37.6**	**+1.1**
N16K	**Nishlik Lake**	**6.79**	**312**			**Pn**		**14 32 37.0**	**+0.6**
N16K	**Nishlik Lake** baz=124	**6.79**	**312**	P		**Pn**		**14 32 37.0**	**+0.6**
DHY	**Denali Highway**	**6.83**	**5**			**Pn**		**14 32 37.9**	**+0.9**
DHY	**Denali Highway** baz=186	**6.83**	**5**	P		**Pn**		**14 32 38.4**	**+1.4**
M17K	**Holitna River**	**6.88**	**322**	Pn		**Pn**		**14 32 37.3**	**-0.1**
M17K	**Holitna River** baz=135	**6.88**	**322**	P		**Pn**		**14 32 37.4**	**-0.1**
PAX	**Paxson**	**6.88**	**12**			**Pn**		**14 32 38.5**	**+0.9**
PAX	**Paxson** baz=195	**6.88**	**12**	P		**Pn**		**14 32 38.5**	**+0.9**
YUK3	**Moose Creek**	**6.92**	**34**			**Pn**		**14 32 38.9**	**+0.7**
YUK3	**Moose Creek** baz=221	**6.92**	**34**	P		**Pn**		**14 32 38.9**	**+0.7**
YUK7	**Dusty Glacier**	**6.94**	**48**			**Pn**		**14 32 39.1**	**+0.6**
M27K	**Edge Creek, AK**	**6.99**	**27**			**Pn**		**14 32 39.5**	**+0.4**
M27K	**Edge Creek, AK** baz=212	**6.99**	**27**	P		**Pn**		**14 32 40.3**	**+1.3**
MENT	**Mentasta**	**7.11**	**18**			**Pn**		**14 32 42.7**	**+2.1**
RND	**Reindeer**	**7.14**	**359**			**Pn**		**14 32 41.9**	**+0.7**
M16K	**Timber Creek**	**7.19**	**316**			**Pn**		**14 32 41.4**	**-0.3**
M16K	**Timber Creek** baz=127	**7.19**	**316**	P		**Pn**		**14 32 41.7**	**0.0**
N15K	**Kwethluk River**	**7.21**	**307**	Pn		**Pn**		**14 32 43.1**	**+1.2**
P30M	**Million Dollar**	**7.25**	**53**			**Pn**		**14 32 43.2**	**+0.7**
P30M	**Million Dollar** baz=243	**7.25**	**53**	P		**Pn**		**14 32 43.2**	**+0.7**
L18K	**Granite Mounta**	**7.25**	**328**			**Pn**		**14 32 42.1**	**-0.4**
L18K	**Granite Mounta** baz=142	**7.25**	**328**	P		**Pn**		**14 32 42.1**	**-0.4**
SIT	**Sitka**	**7.35**	**78**	P		**Pn**		**14 32 40.6**	**-3.3**
CAST	**Castle Rocks**	**7.36**	**348**			**Pn**		**14 32 44.3**	**+0.1**
CAST	**Castle Rocks** baz=165	**7.36**	**348**	P		**Pn**		**14 32 44.5**	**+0.4**
HYT	**Haines Junctio**	**7.37**	**47**			**Pn**		**14 32 44.7**	**+0.4**
HYT	**Haines Junctio** baz=236	**7.37**	**47**	P		**Pn**		**14 32 44.7**	**+0.4**
KTH	**Kantishna Hill**	**7.38**	**352**			**Pn**		**14 32 45.4**	**+1.0**
HAG	**Hague Volcano**	**7.57**	**268**			**Pn**		**14 32 46.5**	**-0.4**
L27K	**Beaver Creek,**	**7.60**	**24**			**Pn**		**14 32 48.0**	**+0.6**
K20K	**Telida**	**7.60**	**341**			**Pn**		**14 32 47.3**	**-0.1**
K20K	**Telida** baz=156	**7.60**	**341**	P		**Pn**		**14 32 48.4**	**+0.9**
L17K	**Donlin**	**7.68**	**324**			**Pn**		**14 32 48.2**	**-0.3**
L17K	**Donlin** baz=136	**7.68**	**324**	P		**Pn**		**14 32 48.2**	**-0.3**
M15K	**Kasigluk River**	**7.72**	**310**			**Pn**		**14 32 49.4**	**+0.4**
M15K	**Kasigluk River** baz=120	**7.72**	**310**	P		**Pn**		**14 32 49.4**	**+0.4**
BESE	**Bessie Mountai**	**7.76**	**67**			**Pn**		**14 32 48.4**	**-1.2**
L16K	**Owhat River**	**7.81**	**319**	Pn		**Pn**		**14 32 50.0**	**-0.2**
L16K	**Owhat River** baz=130	**7.81**	**319**	P		**Pn**		**14 32 49.5**	**-0.7**
N30M	**Aishikik Lake**	**7.89**	**44**			**Pn**		**14 32 51.5**	**+0.1**
N30M	**Aishikik Lake** baz=234	**7.89**	**44**	P		**Pn**		**14 32 51.9**	**+0.4**
BPAW	**Bear Paw Mtn.**	**7.92**	**352**			**Pn**		**14 32 52.2**	**+0.4**
BPAW	**Bear Paw Mtn.** baz=170	**7.92**	**352**	P		**Pn**		**14 32 52.6**	**+0.8**
JIS	**Juneau Island**	**7.95**	**70**	P		**Pn**		**14 32 51.0**	**-1.2**
M29M	**Somme Creek**	**8.04**	**36**	Pn		**Pn**		**14 32 54.1**	**+0.5**

0.3nm,0.8s,baz=84,slow=3.2,SNR=2.1

*DJA **16** 14:37:59.6±1.0,4°S±3'×12°9E±°, h10km, M3.7/10, MLv3.7/10*
*IDC **16** 14:38:07.1±2.9,4.°67S×130.°42E, h0km, mb3.4/2, mbtmp3.4/4, ML3.6/1, Error ellipse: s-maj=223.9km s-min=28.7km az=71.0*
ISC 16 14:37:59.6±1.0,4°12S±0.°07×129°20E±0.°06, h10km, n11, σ0s94/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**0.81**	**119**	P	**Pg**	**14 38 15.5**	**+0.2**
BNDI				S	**Sg**	**14 38 26.4**	**+0.5**
NLAI	**Namlea**	**2.27**	**293**	P	**Pn**	**14 38 37.0**	**-0.1**
FAKI	**Fak Fak**	**3.27**	**69**	P	**Pn**	**14 38 50.5**	**-0.5**
SANI	**Sanana**	**3.81**	**303**	P	**Pn**	**14 38 58.8**	**+0.5**
SWI	**Sorong**	**3.84**	**33**	P	**Pn**	**14 38 59.2**	**+0.4**
LBMI	**Labuha**	**3.85**	**334**	P	**Pn**	**14 38 59.1**	**+0.1**
LBMI				S	**Sn**	**14 39 44.9**	**+0.6**
SAUI	**Saumlaki**	**4.37**	**151**	P	**Pn**	**14 39 07.0**	**+0.9**
WRA	**Warramunga Arr** 0.4nm,0.6s,baz=346,slow=10,SNR=1.9	**16.51**	**163**	Pn	**Pn**	**14 41 49.3**	**-2.2**
ASAR	**Alice Springs** 0.2nm,0.3s,baz=351,slow=12,SNR=12 1.0nm,0.6s	**19.96**	**167**	P	**P**	**14 42 32.5**	**+0.4**
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=107,slow=7.7,SNR=2.3 0.2nm,0.5s	**65.39**	**327**	P	P	14 48 58.2	+16
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=136,slow=5.7,SNR=1.7 0.1nm,0.3s	**69.65**	**328**	P	P	14 49 25.9	+17

*NEIC **16** 14:38:21±1.6, 19.°41N±0.°04×155.°29W±0.°02, h5km±1km, Error ellipse: s-maj=7.5km s-min=3.2km az=330.0*
HVO 16 14:38:20.6±0.9, 19°41N±0.°04×155°28W±0.°01, h0km±5km, ML3.2/12, ML2.2/36(NEIC), Error ellipse: s-maj=5.6km s-min=1.1km az=162.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPH	**North Pit**	**0.00**	**53**		Sg	14 38 21.3	+0.3
NPH	**North Pit**	**0.00**	**53**	Pg	Pg	14 38 21.0	+0.2
OBL	**Observatory Le**	**0.01**	**350**		Sg	14 38 21.7	+0.5
OBL	**Observatory Le**	**0.01**	**350**	Pg	Pg	14 38 21.1	+0.2
UWE	**Uwekahuna**	**0.01**	**317**	Pg	Pg	14 38 21.3	+0.3
UWE	**Uwekahuna**	**0.01**	**317**		Sg	14 38 22.2	+0.9
UWB	**Uwekahuna B**	**0.01**	**18**		Sg	14 38 21.8	+0.5
UWB	**Uwekahuna B**	**0.01**	**18**	Pg	Pg	14 38 21.4	+0.3
RIM	**Rim**	**0.02**	**152**		Pg	14 38 21.3	+0.3
RIM					Sg	14 38 21.5	+0.2
WRMHI	**West Rim**	**0.02**	**255**		Sg	14 38 22.1	+0.8
WRMHI	**West Rim** comp=E,7μm,0.4s	**0.02**	**255**	IAML		14 38 21.2	
WRMHI	comp=N,8μm,0.7s			IAML		14 38 21.2	
WRMHI				Pg	Pg	14 38 21.4	+0.4
KKO	**Keanakako`i**	**0.02**	**129**		Pg	14 38 21.6	+0.5
BYL	**Byron's Ledge**	**0.02**	**87**		Sg	14 38 22.4	+0.9
BYL	**Byron's Ledge**	**0.02**	**87**	Pg	Pg	14 38 21.4	+0.3
SBLHI	**Steaming Bluff** comp=N,4μm,1.2s	**0.02**	**41**	IAML		14 38 21.3	
SBLHI					Pg	14 38 21.7	+0.6
HATHI	**Halema'uma'u T**	**0.02**	**59**		Sg	14 38 22.5	+1.0
HATHI	**Halema'uma'u T** comp=N,6μm,0.7s	**0.02**	**59**	IAML		14 38 21.2	
HATHI	comp=E,8μm,0.8s			IAML		14 38 21.2	
HATHI				Pg	Pg	14 38 21.7	+0.5
SDHHI	**Sand Hill** comp=N,5μm,1.0s	**0.02**	**207**	IAML		14 38 21.2	
SDHHI	comp=E,6μm,0.8s			IAML		14 38 21.4	
SDHHI				Pg	Pg	14 38 21.7	+0.5
SDHHI	**Sand Hill**	**0.02**	**207**		Sg	14 38 22.4	+1.0
RSD	**Rainshed**	**0.05**	**5**		Sg	14 38 23.7	+1.3
RSD	**Rainshed**	**0.05**	**5**	Pg	Pg	14 38 22.3	+0.6
RSD	comp=N,2μm,0.6s			IAML		14 38 22.9	
RSD	comp=E,1μm,0.2s			IAML		14 38 23.1	
PUH	**Pauahi**	**0.07**	**120**	Pg	Pg	14 38 22.9	+0.8
PUH	comp=N,1μm,0.8s			IAML		14 38 23.0	
KNHH	**Kane Nui o Ham**	**0.11**	**106**		Pg	14 38 23.9	+1.1
HLP	**Hilina Pali**	**0.12**	**192**		Pg	14 38 24.0	+1.1
HLP	comp=E,2μm,1.4s			IAML		14 38 24.1	
MLH	**Mauna Loa**	**0.13**	**310**		Pg	14 38 24.1	+1.0
MLH	comp=E,1μm,0.2s			IAML		14 38 27.3	
STCH	**Steam Cracks**	**0.15**	**100**	Pg	Pg	14 38 24.3	+0.8
STCH	comp=N,524nm,1.3s			IAML		14 38 26.0	
STCH	comp=E,643nm,1.2s			IAML		14 38 27.2	
NPOC	**North of Pu'u** comp=N,830nm,1.5s	**0.16**	**96**	IAML		14 38 24.6	
NPOC				Pg	Pg	14 38 24.7	+0.9
NPOC	comp=E,541nm,0.8s			IAML		14 38 24.9	
HTC	**Hot Caves**	**0.20**	**212**		Pg	14 38 25.5	+0.9
HMH	**Humu'ula Sheep**	**0.27**	**315**		Pg	14 38 26.7	+0.9
HMH	**Humu'ula Sheep** comp=N,626nm,1.2s	**0.27**	**315**	IAML		14 38 32.9	
HMH	comp=E,366nm,0.7s			IAML		14 38 33.0	
MLOA	**Mauna Loa Obse**	**0.30**	**294**	Pg	Pg	14 38 26.9	+0.5
MWH	**Moku'aweowe**	**0.31**	**284**	Pg	Pg	14 38 27.2	+0.7
KHU	**Kahuku**	**0.35**	**242**		Pg	14 38 27.7	+0.3
KHU	comp=N,443nm,1.4s			IAML		14 38 30.5	
POHA	**Pohakuloa**	**0.42**	**326**	Pg	Pg	14 38 29.3	+0.7
HUH	**Hualalai**	**0.59**	**298**		Pg	14 38 32.5	+0.6

*SOME **16** 14:38:28.3, 40.°70N×83.°48E, h10km*
NNC 16 14:38:27.0±4.9, 40°58N×83°46E, h0km, mb3.9, mpv3.5, 1C-1D, Error ellipse: s-maj=86.7km s-min=32.1km az=38.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen** 2.6nm,0.3s	**3.68**	**322**	Pg	Pb	14 39 34.9	+1.9
KTMS	14nm,0.6s			Lg	Lg	14 40 24.2	
KTMS	**Ketmen** 2.6nm,0.3s	**3.68**	**322**	*e*P	Pb	14 39 35.2	+2.2
KTMS	14nm,0.6s			*e*S	Sg	14 40 23.5	-1.8
SHLS	**Shalkode** 15nm,0.5s	**3.94**	**312**	Pg	Pb	14 39 34.3	-3.1
SHLS	**Shalkode** 5.9nm,0.2s	**3.94**	**312**	*e*P	Pb	14 39 34.3	-3.1
SHLS	32nm,0.2s			*e*S	Sb	14 40 21.7	-4.0
PDGK	**Podgornoye** 9.1nm,0.8s	**4.04**	**314**	Lg	Lg	14 40 35.7	
PDGK	**Podgornoye** 6.0nm,0.6s	**4.04**	**314**	⇓Pn	Pn	14 39 32.2	+2.0
PDGK	13nm,0.7s			⇑Sn	Sn	14 40 17.9	-0.3
UZB	**Uzynbulak** 3.6nm,0.2s	**4.19**	**309**	*e*P	Pb	14 39 42.2	+0.6
UZB	8.1nm,0.3s			*e*S	Sb	14 40 35.2	+2.4
SATY	**Saty** 14nm,0.4s	**4.52**	**305**	Lg	Lg	14 40 50.8	
SATY	**Saty** 3.6nm,0.2s	**4.52**	**305**	*e*P	Pg	14 39 51.0	-2.5
SATY	17nm,0.2s			*e*S	Sg	14 40 50.9	-1.2
DJR	**Jarkent** 1.4nm,0.2s	**4.63**	**325**	*e*P	Pb	14 39 50.8	+1.7
DJR	7.2nm,0.2s			*e*S	Sb	14 40 50.3	+4.8
KNOS	**Konyrlen** 7.7nm,0.8s	**4.93**	**321**	Lg	Lg	14 41 00.1	
ARXS	**Arharly** 1.4nm,0.2s	**5.53**	**313**	*e*P	Pg	14 40 10.8	-2.1
ARXS	8.8nm,0.3s			*e*S	Sg	14 41 24.3	-0.2
KAPS	**Kapalarasan** 4.2nm,0.3s	**5.58**	**329**	*e*P	Pg	14 40 12.0	-2.0
KAPS	5.6nm,0.7s			*e*S	Sg	14 41 26.5	+0.2

IDC 16 14:43:03.6±2.0, 6.°16S×151.°50E, h0km, mb3.6/4, mbtmp3.7/5, ML1.5/1, Error ellipse: s-maj=85.3km s-min=25.3km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby** 1.1nm,0.3s,baz=90,slow=15,SNR=1.5	**5.38**	**233**	Pn	Pn	14 44 27.0	+1.9
PMG	3.2nm,0.3s,baz=260,slow=22,SNR=5.7 10nm,0.8s			Sn	Sn	14 45 23.2	-4.5
WRA	**Warramunga Arr** 2.2nm,0.6s,baz=54,slow=11,SNR=21 2.2nm,0.6s	**21.58**	**229**	P	P	14 47 54.2	-0.8
ASAR	**Alice Springs** 2.6nm,0.7s,baz=58,slow=9.4,SNR=32 2.6nm,0.7s	**24.28**	**222**	P	P	14 48 22.6	-0.2
MKAR	**Makanchi Array** 0.1nm,0.5s,baz=129,slow=3.9,SNR=2.0 0.1nm,0.5s	**80.50**	**319**	P	P	14 55 18.4	+0.8
ILAR	**Eielson Array** 0.3nm,0.6s,baz=249,slow=5.3,SNR=6.5 0.3nm,0.6s	**83.90**	**22**	P	P	14 55 34.7	-0.3

*ROM **16** 14:45:03.1±0.4, 39.°01N±0.°03×14.°67E±0.°03, h354km±3km, ML3.2/48, Error ellipse: s-maj=3.3km s-min=1.7km az=130.0*
*IDC **16** 14:45:10.2±2.3, 39.°22N×14.°58E, h443km±33km, mb2.8/8, mbtmp3.6/11, Error ellipse: s-maj=22.3km s-min=14.4km az=88.0*
ISC 16 14:45:03.9±0.7, 39°03N±0.°08×14°67E±0.°09, h354km±7km, n55, σ1s29/57, mb3.2/7, Tyrrhenian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IFIL	**Filicudi I Eol**	**0.48**	**190**	P	**Pn**	**14 45 49.0**	**+0.4**
IST3	**Stromboli F**	**0.49**	**118**	P	**Pn**	**14 45 50.0**	**+1.4**
IACL	**Alicudi**	**0.56**	**206**	P	**Pn**	**14 45 49.5**	**+0.6**
IVGP	**Vulcano Grotta**	**0.68**	**160**	P	**Pn**	**14 45 50.2**	**+1.1**
VPL	**Vulcano Piano**	**0.70**	**159**	P	**Pn**	**14 45 50.1**	**+0.9**
VPL	comp=E,194μm,0.7s			AML	AML		
VPL	comp=N,334μm,0.5s			AML	AML		
VPL	comp=N,334μm,1.5s			AML	AML		
VPL	comp=E,194μm,1.3s			AML	AML		
VPL	comp=E,166μm,0.3s			AML	AML		
VPL	comp=N,334μm,0.5s			AML	AML		
MILZ	**Milazzo**	**0.88**	**150**	P	**Pn**	**14 45 50.0**	**+0.3**
MUCR	**Ucria**	**1.00**	**171**	P	**Pn**	**14 45 51.2**	**+0.9**
MUCR	comp=N,57μm,1.5s			AML	AML		
MUCR	comp=E,40μm,1.1s			AML	AML		
MUCR	comp=N,57μm,0.5s			AML	AML		
MUCR	comp=E,40μm,0.9s			AML	AML		
MUCR	comp=N,54μm,0.3s			AML	AML		
MUCR	comp=E,40μm,0.6s			AML	AML		
MPNC	**Port Mandanici**	**1.04**	**149**	P	**Pn**	**14 45 50.9**	**+0.5**
JOPP	**Joppolo**	**1.04**	**114**	P	**Pn**	**14 45 50.9**	**+0.5**
JOPP				S	**S**	**14 46 26.3**	**-1.3**
JOPP	comp=E,112μm,0.6s			AML	AML		
JOPP	comp=N,139μm,1.1s			AML	AML		
JOPP	comp=N,139μm,0.9s			AML	AML		
JOPP	comp=E,98μm,0.2s			AML	AML		
JOPP	comp=N,124μm,0.2s			AML	AML		
NOV	**Novara**	**1.07**	**160**	P	**Pn**	**14 45 51.6**	**+1.1**
NOV	comp=E,120μm,0.2s			AML	AML		
NOV	comp=N,88μm,1.4s			AML	AML		
NOV	comp=E,120μm,1.8s			AML	AML		
NOV	comp=N,88μm,0.6s			AML	AML		
NOV	comp=N,84μm,0.2s			AML	AML		
NOV	comp=E,121μm,0.2s			AML	AML		
MNO	**Monte Soro**	**1.10**	**179**	P	**Pn**	**14 45 52.7**	**+1.8**
CET2	**Cetraro**	**1.11**	**63**	P	**Pn**	**14 45 51.4**	**+0.9**
CET2				S	**S**	**14 46 27.8**	**-0.3**
CET2	comp=N,220μm,1.3s			AML	AML		
CET2	comp=E,112μm,0.8s			AML	AML		
CET2	comp=E,112μm,1.2s			AML	AML		
CET2	comp=E,109μm,0.3s			AML	AML		
CET2	comp=N,193μm,0.8s			AML	AML		
PLLN	**Pollina**	**1.12**	**202**	P	**Pn**	**14 45 51.3**	**+0.6**
AIO	**Antillo**	**1.15**	**157**	P	**Pn**	**14 45 51.9**	**+1.0**
AIO	comp=N,72μm,0.9s			AML	AML		
AIO	comp=E,68μm,1.0s			AML	AML		
AIO	comp=N,72μm,1.1s			AML	AML		
AIO	comp=N,70μm,0.2s			AML	AML		
AIO	comp=E,54μm,0.2s			AML	AML		
CSLB	**Castelbuono**	**1.20**	**204**	P	**Pn**	**14 45 51.3**	**+0.2**
CSLB	comp=N,23μm,0.3s			AML	AML		
CSLB	comp=E,18μm,0.6s			AML	AML		
EPZF	**Pizzo Felice**	**1.22**	**173**	P	**Pn**	**14 45 53.0**	**+1.7**
CAR1	**CAROLEI**	**1.22**	**79**	P	**Pn**	**14 45 51.6**	**+0.5**
CAR1				S	**S**	**14 46 27.4**	**-1.5**
CAR1	comp=E,178μm,0.3s			AML	AML		
CAR1	comp=E,178μm,1.7s			AML	AML		
CAR1	comp=N,200μm,0.5s			AML	AML		
CAR1	comp=E,152μm,0.2s			AML	AML		
CAR1	comp=N,175μm,0.4s			AML	AML		
CAR1	comp=E,178μm,0.3s			AML	AML		
CAR1	comp=N,200μm,0.5s			AML	AML		
CEL	**Celeste**	**1.23**	**129**	P	**Pn**	**14 45 51.4**	**+0.1**
CEL				S	**S**	**14 46 27.5**	**-1.6**
CEL	comp=E,100μm,1.0s			AML	AML		
CEL	comp=N,98μm,1.6s			AML	AML		
CEL	comp=E,97μm,0.2s			AML	AML		
CEL	comp=N,94μm,1.2s			AML	AML		
CEL	comp=N,98μm,0.4s			AML	AML		
CEL	comp=N,94μm,0.8s			AML	AML		
CEL	comp=E,78μm,0.2s			AML	AML		
CEL	comp=N,83μm,0.3s			AML	AML		
CEL	comp=N,93μm,0.3s			AML	AML		
GMB	**Gambarie**	**1.25**	**133**	AML	AML		
GMB	comp=E,709μm,1.8s			AML	AML		
GMB	comp=E,709μm,0.2s			AML	AML		
GMB	comp=N,604μm,0.9s			AML	AML		
PETRA	**Petralia Sopra**	**1.28**	**200**	P	**Pn**	**14 45 52.2**	**+0.5**
PETRA	comp=E,114μm,0.3s			AML	AML		
PETRA	comp=N,117μm,1.1s			AML	AML		
PETRA	comp=N,117μm,0.9s			AML	AML		
PETRA	comp=E,114μm,0.3s			AML	AML		
PETRA	comp=N,107μm,0.3s			AML	AML		
MGR	**Morigerati**	**1.30**	**31**	P	**Pn**	**14 45 52.1**	**+0.8**
SOLUN	**Solunto**	**1.30**	**224**	P	**Pn**	**14 45 51.7**	**+0.3**
SOLUN	comp=E,57μm,1.3s			AML	AML		
SOLUN	comp=N,57μm,0.3s			AML	AML		
SOLUN	comp=E,57μm,0.7s			AML	AML		
SOLUN	comp=E,49μm,0.5s			AML	AML		
SOLUN	comp=N,57μm,0.3s			AML	AML		
GALF	**Gagliano Caste**	**1.32**	**184**	P	**Pn**	**14 45 53.1**	**+1.3**
GALF	comp=E,179μm,0.7s			AML	AML		
GALF	comp=N,116μm,0.8s			AML	AML		
GALF	comp=E,44μm,0.4s			AML	AML		
GALF	comp=N,42μm,0.5s			AML	AML		
MPG	**Monte Pellegri**	**1.35**	**230**	P	**Pn**	**14 45 52.2**	**+0.4**
MPG	comp=E,78μm,0.8s			AML	AML		
MPG	comp=N,90μm,0.5s			AML	AML		
MPG	comp=N,90μm,1.5s			AML	AML		
MPG	comp=E,78μm,1.2s			AML	AML		
MPG	comp=E,66μm,0.2s			AML	AML		
MPG	comp=N,82μm,0.1s			AML	AML		
CMPR	**Campora**	**1.37**	**21**	P	**Pn**	**14 45 52.6**	**+0.8**
GRI	**Girifalco**	**1.38**	**98**	P	**Pn**	**14 45 53.3**	**+1.5**
TDS	**Terranova Siba**	**1.44**	**64**	P	**Pn**	**14 45 53.5**	**+1.5**
SOI	**Samo**	**1.45**	**131**	P	**Pn**	**14 45 52.9**	**+0.6**
SOI				S	**S**	**14 46 30.0**	**-1.0**
SOI	comp=E,93μm,0.8s			AML	AML		
SOI	comp=N,96μm,0.2s			AML	AML		
ALJA	**Alia**	**1.47**	**210**	P	**Pn**	**14 45 53.6**	**+1.2**
ALJA	comp=E,147μm,1.0s			AML	AML		
ALJA	comp=N,120μm,0.6s			AML	AML		
ALJA	comp=E,147μm,1.0s			AML	AML		
ALJA	comp=N,104μm,0.2s			AML	AML		
ALJA	comp=E,146μm,0.8s			AML	AML		
PLAC	**Placanica**	**1.50**	**112**	P	**Pn**	**14 45 53.3**	**+0.7**
PLAC				S	**S**	**14 46 29.9**	**-1.7**
PLAC	comp=E,128μm,0.3s			AML	AML		
PLAC	comp=N,140μm,1.5s			AML	AML		
PLAC	comp=E,218μm,0.3s			AML	AML		
PLAC	comp=N,210μm,0.3s			AML	AML		
PLAC	comp=E,128μm,0.3s			AML	AML		
PLAC	comp=N,210μm,0.3s			AML	AML		
PLAC	comp=N,136μm,0.3s			AML	AML		
PLAC	comp=E,218μm,0.3s			AML	AML		
SALB	**San Lorenzo Be**	**1.55**	**56**	P	**Pn**	**14 45 54.0**	**+1.2**
SALB	comp=E,99μm,1.1s			AML	AML		
SALB	comp=N,61μm,1.1s			AML	AML		
SALB	comp=E,99μm,0.9s			AML	AML		
SALB	comp=N,61μm,0.9s			AML	AML		
SALB	comp=E,61μm,0.4s			AML	AML		
SALB	comp=N,56μm,0.7s			AML	AML		
MCEL	**Monticello**	**1.56**	**34**	P	**Pn**	**14 45 55.7**	**+2.9**
CORL	**Corleone**	**1.56**	**224**	P	**Pn**	**14 45 53.4**	**+0.5**
CORL	comp=E,85μm,0.2s			AML	AML		
CORL	comp=N,100μm,0.6s			AML	AML		
CORL	comp=E,85μm,0.2s			AML	AML		
CORL	comp=N,91μm,0.2s			AML	AML		
SERS	**Sersale**	**1.57**	**89**	P	**Pn**	**14 45 54.0**	**+1.0**
SERS				S	**S**	**14 46 30.9**	**-1.5**
TIP	**Timpagrande**	**1.63**	**84**	P	**Pn**	**14 45 54.4**	**+1.2**
TIP				S	**S**	**14 46 31.7**	**-1.2**
TIP	comp=E,105μm,1.0s			AML	AML		
TIP	comp=N,82μm,0.8s			AML	AML		
TIP	comp=E,105μm,1.0s			AML	AML		
TIP	comp=E,85μm,0.6s			AML	AML		
TIP	comp=N,81μm,0.6s			AML	AML		
TIP	comp=E,103μm,0.5s			AML	AML		
TIP	comp=N,79μm,0.6s			AML	AML		
HLNI	**Lentini**	**1.69**	**175**	P	**Pn**	**14 45 53.9**	**+0.3**
ORI	**Oriolo Calabro** comp=N,186μm,0.2s	**1.72**	**53**	AML	AML		
ORI	comp=E,258μm,0.1s			AML	AML		
PIPA	**Pietrapaola**	**1.73**	**74**	P	**Pn**	**14 45 55.1**	**+1.4**
PIPA	comp=E,86μm,1.5s			AML	AML		
PIPA	comp=N,84μm,0.6s			AML	AML		
PIPA	comp=E,86μm,0.5s			AML	AML		
PIPA	comp=E,74μm,0.3s			AML	AML		
PIPA	comp=N,80μm,0.5s			AML	AML		
LADO	**San Nicola del**	**1.81**	**81**	P	**Pn**	**14 45 55.5**	**+1.2**
RAFF	**Raffo Rosso**	**1.82**	**188**	P	**Pn**	**14 45 55.4**	**+0.9**
MTGR	**Montagna Grand** comp=E,21950μm,0.9s	**1.88**	**233**	AML	AML		
MTGR	comp=N,19750μm,0.2s			AML	AML		
MEU	**Monte Lauro**	**1.94**	**174**	P	**Pn**	**14 45 56.3**	**+0.9**
VIVA	**Pratoni del Vi** comp=N,772μm,1.0s	**3.08**	**332**	AML	AML		
VIVA	comp=E,980μm,1.0s			AML	AML		
IDI	**Anoyia** comp=E,0.1nm,0.5s,baz=299,slow=15,SNR=2.0	**8.97**	**111**	P	P	14 47 17.7	+5.8
MLR	**Muntele Rosu** comp=E,2.6nm,0.5s,baz=149,slow=5.9,SNR=4.4	**10.55**	**49**	P	**P**	**14 47 32.1**	**+2.8**
ESDC	**Sonseca Array** comp=E,1.0nm,0.9s,baz=82,slow=13,SNR=4.9	**14.44**	**278**	P	**P**	**14 48 13.5**	**+1.3**
BRTR	**Keskin Array B** comp=E,1.6nm,0.7s,baz=258,slow=7.8,SNR=7.6	**14.69**	**81**	P	Pn	14 48 19.7	+2.6
EKA	**Eskdalemuir Ar** comp=E,0.3nm,0.3s,baz=144,slow=11,SNR=2.0 comp=E,0.3nm,0.3s	**20.22**	**330**	P	**P**	**14 49 11.5**	**-1.8**

HFS	**Hagfors**	**21.13**	**359**	P		**P**		**14 49 19.6**	**-1.9**
	comp=E,1.5nm,0.4s,baz=179,slow=13,SNR=13								
	comp=E,1.5nm,0.4s								
NOA	**NORSAR Array B**	**22.14**	**356**	P		**P**		**14 49 29.7**	**-1.0**
	comp=E,0.5nm,0.4s,baz=168,slow=10,SNR=4.4								
	comp=E,0.5nm,0.4s								
FINES	**FINESS Array B**	**23.52**	**14**	P		**P**		**14 49 42.5**	**-0.7**
	comp=E,1.0nm,0.4s,baz=188,slow=8.7,SNR=8.8								
	comp=E,1.0nm,0.4s								
TORD	**Torodi Ar. Bea**	**28.23**	**208**	P		**P**		**14 50 28.3**	**+2.6**
	comp=E,0.1nm,0.3s,baz=18,slow=11,SNR=2.1								
	comp=E,0.1nm,0.3s								
ARCES	**ARCESS Array B**	**31.11**	**7**	P		**P**		**14 50 48.9**	**-1.3**
	comp=E,0.5nm,0.4s,baz=186,slow=9.8,SNR=10								
	comp=E,0.5nm,0.4s								
MKAR	**Makanchi Array**	**48.74**	**58**	P		**P**		**14 53 12.7**	**-1.2**
	comp=E,0.2nm,0.7s,baz=289,slow=4.4,SNR=1.6								
	comp=E,0.2nm,0.7s								
BOSA	**Boshof**	**68.02**	**170**	P		**P**		**14 55 24.5**	**-1.5**
	comp=E,2.5nm,0.7s,baz=2.1,slow=7.7,SNR=5.6								
	comp=E,2.5nm,0.7s								

MOS ***16*** *14:48:29.8±1.3, 52.°31N×160.°77E, h18km, mb4.3/7, Error ellipse: s-maj=8.3km s-min=4.8km az=115.3*
KRSC ***16*** *14:48:30.9±1.7, 52.°42N×160.°71E, h18km±24km, Ml4.2*
IDC ***16*** *14:48:30.2±1.2, 52.°64N×160.°33E, h0km, mb3.8/12, mbtmp3.9/14, ML3.8/2, Error ellipse: s-maj=28.7km s-min=18.2km az=152.0*
NEIC ***16*** *14:48:35.4±1.4, 52.°54N±0.°09×160.°5E±0.°1, h39km±10km, mb4.1/12, Error ellipse: s-maj=13.7km s-min=8.5km az=162.0*

ISC 16 14:48:31.5±1.5, 52.°42N±0.°04×160.°63E±0.°04, h16km±9km, n115, σ1°41/131, mb4.1/23, 6C, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SPN	**Mys Shipunski**	**0.77**	**331**	*e*P		**Pg**	**14 48 46.8**	**+0.3**
SPN				*e*S		**Sb**	**14 48 56.6**	**-0.2**
SPN	**Mys Shipunski**	**0.77**	**331**	PN		**Pg**	**14 48 46.8**	**+0.3**
SPN				S		**Sb**	**14 48 56.6**	**-0.2**
NLC	**Nalytchevo**	**1.08**	**314**	*e*P		**Pn**	**14 48 51.6**	**-0.4**
NLC				*e*S		**Sg**	**14 49 07.0**	**+0.5**
NLC	**Nalytchevo**	**1.08**	**314**	PN		**Pn**	**14 48 51.6**	**-0.4**
NLC				S		**Sg**	**14 49 07.0**	**+0.5**
DALK	**Dalny**	**1.30**	**299**	*e*P		**Pn**	**14 48 54.7**	**-0.2**
DALK				*e*S		**Sn**	**14 49 11.6**	**-0.3**
DALK	**Dalny**	**1.30**	**299**	PN		**Pn**	**14 48 54.7**	**-0.2**
DALK				S		**Sn**	**14 49 11.6**	**-0.3**
RUS	**Russkaya**	**1.30**	**271**	*e*P		**Pb**	**14 48 55.4**	**-0.1**
RUS				*e*S		**Sn**	**14 49 12.2**	**+0.2**
RUS	**Russkaya**	**1.30**	**271**	PN		**Pb**	**14 48 55.4**	**-0.1**
RUS				S		**Sn**	**14 49 12.2**	**+0.2**
PET	**Petropavlovsk**	**1.35**	**297**			**Pn**	**14 48 55.1**	**-0.5**
PET	**Petropavlovsk**	**1.35**	**297**	*e*P		**Pn**	**14 48 55.5**	**-0.1**
PET				*e*S		**Sn**	**14 49 13.0**	**-0.2**
PET	**Petropavlovsk**	**1.35**	**297**	*e*PN		**Pn**	**14 48 55.8**	**+0.2**
PET				*e*S		**Sn**	**14 49 12.9**	**-0.2**
PET				pmax		pmax		
	comp=Z,189nm,0.3s							
PET				smax		smax		
	comp=N,1μm,0.6s							
PET				smax		smax		
	comp=E,1μm,0.5s							
UGLR	**Uglovaya**	**1.35**	**306**	*e*P		**Pb**	**14 48 56.3**	**-0.2**
UGLR	**Uglovaya**	**1.35**	**306**	PN		**Pb**	**14 48 56.3**	**-0.2**
INSR	**Institute**	**1.39**	**298**	*e*P		**Pn**	**14 48 56.3**	**+0.1**
INSR				*e*S		**Sn**	**14 49 13.8**	**-0.5**
SMAR	**Somma**	**1.39**	**308**	*e*P		**Pn**	**14 48 56.6**	**+0.1**
SMAR	**Somma**	**1.39**	**308**	PN		**Pn**	**14 48 56.6**	**+0.1**
AVH	**Avacha**	**1.43**	**307**	*e*P		**Pb**	**14 48 57.5**	**-0.2**
AVH	**Avacha**	**1.43**	**307**	PN		**Pb**	**14 48 57.5**	**-0.2**
KRER	**Koryakskii**	**1.44**	**308**	*e*P		**Pb**	**14 48 57.7**	**-0.4**
KRER	**Koryakskii**	**1.44**	**308**	PN		**Pb**	**14 48 57.7**	**-0.4**
KOK	**Koryaka**	**1.49**	**307**	*e*P		**Pb**	**14 48 58.7**	**-0.2**
KOK	**Koryaka**	**1.49**	**307**	PN		**Pb**	**14 48 58.7**	**-0.2**
MTVR	**Mutnovka**	**1.50**	**273**	*e*P		**Pb**	**14 48 58.8**	**-0.2**
MTVR				*e*S		**Sb**	**14 49 18.5**	**+0.6**
MTVR	**Mutnovka**	**1.50**	**273**	PN		**Pb**	**14 48 58.8**	**-0.2**
MTVR				S		**Sb**	**14 49 18.5**	**+0.6**
KRX	**Arik**	**1.52**	**309**	*e*P		**Pn**	**14 48 58.5**	**+0.3**
KRX	**Arik**	**1.52**	**309**	PN		**Pn**	**14 48 58.5**	**+0.3**
GRL	**Gorelyy**	**1.57**	**276**	*e*P		**Pb**	**14 49 00.1**	**-0.1**
GRL	**Gorelyy**	**1.57**	**276**	PN		**Pb**	**14 49 00.1**	**-0.1**
KRMR	**Karymshinskiy**	**1.58**	**286**	*e*P		**Pn**	**14 48 59.1**	**+0.3**
KRMR	**Karymshinskiy**	**1.58**	**286**	PN		**Pn**	**14 48 59.1**	**+0.3**
ASAK	**Asacha**	**1.68**	**270**	*e*P		**Pb**	**14 49 01.5**	**-0.5**
ASAK				*e*S		**Sb**	**14 49 23.0**	**+0.2**
ASAK	**Asacha**	**1.68**	**270**	PN		**Pb**	**14 49 01.5**	**-0.5**
ASAK				S		**Sb**	**14 49 23.0**	**+0.2**
KDTR	**Khodutka, Kamc**	**1.69**	**250**	*e*P		**Pn**	**14 49 01.1**	**+0.8**
KDTR				*e*S		**Sb**	**14 49 22.7**	**-0.5**
KDTR	**Khodutka, Kamc**	**1.69**	**250**	PN		**Pn**	**14 49 01.1**	**+0.8**
KDTR				S		**Sb**	**14 49 22.7**	**-0.5**
KII	**Karymskiy**	**1.77**	**337**	*e*P		**Pb**	**14 49 03.1**	**-0.4**
KII	**Karymskiy**	**1.77**	**337**	PN		**Pb**	**14 49 03.1**	**-0.4**
PEA0B	**Petropavlovsk-**	**1.91**	**292**			**Pn**	**14 49 04.1**	**+0.8**
PEA0B	**Petropavlovsk-**	**1.91**	**292**	*ce*PN		**Pn**	**14 49 04.3**	**+0.9**
PETK	**Petropavlovsk-**	**1.91**	**292**			**Pn**	**14 49 03.9**	**+0.5**
PETK	**Petropavlovsk-**	**1.91**	**292**	Pn		**Pn**	**14 49 02.6**	**-0.8**
	comp=E,21nm,0.3s,baz=97,slow=14,SNR=376							
PETK				Sn		**Sb**	**14 49 29.8**	**+0.2**
	comp=E,22nm,0.3s,baz=108,slow=21,SNR=3.6							
PETK				LR		LR	14 49 57.8	
	comp=E,421nm,18.1s,baz=94,slow=53							
PETK	**Petropavlovsk-**	**1.91**	**292**	PN		**Pn**	**14 49 03.9**	**+0.5**
GNL	**Ganaly**	**2.06**	**309**	*e*P		**Pb**	**14 49 07.5**	**-1.1**
GNL				*e*S		**Sb**	**14 49 33.9**	**-0.2**
GNL	**Ganaly**	**2.06**	**309**	PN		**Pb**	**14 49 07.5**	**-1.1**
GNL				S		**Sb**	**14 49 33.9**	**-0.2**
APC	**Apacha**	**2.17**	**285**	*e*P		**Pb**	**14 49 08.9**	**-1.5**
APC				*e*S		**Sb**	**14 49 38.3**	**+1.1**
APC	**Apacha**	**2.17**	**285**	PN		**Pb**	**14 49 08.9**	**-1.5**
APC				S		**Sb**	**14 49 38.3**	**+1.1**
PAU	**Pauzhetka**	**2.55**	**249**	*e*P		**Pb**	**14 49 14.8**	**-2.0**
PAU	**Pauzhetka**	**2.55**	**249**	PN		**Pb**	**14 49 14.8**	**-2.0**
TUMD	**Tumrok D**	**2.79**	**357**	*e*P		**Pn**	**14 49 17.4**	**+2.0**
TUMR	**Tumrok**	**2.88**	**354**	*e*P		**Pb**	**14 49 19.5**	**-3.0**
TUMR	**Tumrok**	**2.88**	**354**	PN		**Pb**	**14 49 19.5**	**-3.0**
SKR	**Severo-Kuril's**	**3.31**	**240**	*e*P		**Pn**	**14 49 22.5**	**-0.1**
SKR	**Severo-Kuril's**	**3.31**	**240**	*e*PN		**Pn**	**14 49 19.7**	**-2.9**
SKR				MLR		MLR		
	comp=Z,900nm,15.0s							
BZMR	**Bezymyannaya**	**3.52**	**359**	*e*P		**Pn**	**14 49 25.1**	**-0.5**
BZMR	**Bezymyannaya**	**3.52**	**359**	PN		**Pn**	**14 49 25.1**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**3.52**	**1**	*e*P		**Pb**	**14 49 29.0**	**-4.5**
BZGR	**Bezymyannyi-Gr**	**3.52**	**1**	PN		**Pb**	**14 49 29.0**	**-4.5**
KPT	**Kopyto**	**3.56**	**356**	*e*P		**Pb**	**14 49 29.7**	**-4.4**
KPT	**Kopyto**	**3.56**	**356**	PN		**Pb**	**14 49 29.7**	**-4.4**
ESO	**Esso**	**3.69**	**343**	*e*P		**Pn**	**14 49 30.0**	**+2.2**
ESO	**Esso**	**3.69**	**343**	PN		**Pn**	**14 49 30.0**	**+2.2**
SRDR	**Sredinnyy**	**3.94**	**353**	*e*P		**Pn**	**14 49 34.5**	**+3.2**
SRDR	**Sredinnyy**	**3.94**	**353**	PN		**Pn**	**14 49 34.5**	**+3.2**
KBTR	**Krutoberegovo**	**4.00**	**18**	*e*P		**Pn**	**14 49 35.1**	**+3.0**
KBTR	**Krutoberegovo**	**4.00**	**18**	PN		**Pn**	**14 49 35.1**	**+3.0**
SHEM	**Shemya Is, Ala**	**8.21**	**83**	Pn		**Pn**	**14 50 32.9**	**+3.1**
	comp=Z,3.8nm,0.3s,baz=286,slow=14,SNR=2.1							
	comp=Z,58nm,1.0s							
ASAJ	**Asahikawa**	**14.57**	**242**	Pn		**P**	**14 52 03.8**	**+0.4**
	comp=Z,0.8nm,0.3s,baz=83,slow=13,SNR=9.4							
ERM	**Erimo**	**15.75**	**236**	Pn		**Pn**	**14 52 13.2**	**+0.8**
ERM	**Erimo**	**15.75**	**236**	P		**Pn**	**14 52 13.2**	**+0.8**
ERM				pmax		pmax		
	comp=Z,39nm,1.5s							
BILL	**Bilibino**	**15.90**	**8**	Pn		**Pn**	**14 52 15.0**	**+0.7**
BILL	**Bilibino**	**15.90**	**8**	*e*P		**P**	**14 52 19.0**	**+1.1**
KLR	**Kul'dur**	**18.47**	**272**	P		**Pn**	**14 52 46.5**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=56,slow=10,SNR=5.7							
	comp=Z,1.5nm,0.7s							
YAK	**Yakutsk**	**19.13**	**312**	*ce*P		**P**	**14 52 53.2**	**-0.3**
YAK				pmax		pmax		
	comp=Z,9.0nm,1.7s							
USRK	**Ussuriysk Ar.**	**20.64**	**258**	P		**P**	**14 53 08.6**	**-1.6**
	comp=Z,1.9nm,0.8s,baz=64,slow=9.9,SNR=4.6							
	comp=Z,1.9nm,0.8s							
MJB9	**Matsu-Tunnel**	**22.40**	**234**	P		**P**	**14 53 30.7**	**+1.6**
MJB9				IAmb		IAmb	14 53 35.2	
	comp=Z,8.4nm,0.8s							
MAJO	**Matsushiro**	**22.40**	**234**	P		**P**	**14 53 29.6**	**+0.5**
MAJO				IAmb		IAmb	14 53 34.3	
	comp=Z,8.4nm,0.8s							

MAJO	**Matsushiro**	**22.40**	**234**	*i* P		**P**		**14 53 31.0**	**+1.9**
MAJO				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MJAR	**Matsushiro Arr**	**22.40**	**234**	P		**P**		**14 53 30.8**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=19,slow=12,SNR=13								
	comp=Z,1.7nm,0.7s								
TIXI	**Tiksi**	**23.83**	**336**	P		**P**		**14 53 41.5**	**-1.8**
TIXI	**Tiksi**	**23.83**	**336**	*ce*P		**P**		**14 53 41.7**	**-1.6**
TIXI				pmax		pmax			
	comp=Z,1.0nm,0.7s								
F19K	**Shaleruckik Mo**	**24.87**	**39**	P		**P**		**14 53 54.0**	**+1.0**
F19K				IAmb		IAmb		14 54 09.2	
	comp=Z,2.6nm,1.1s								
C19K	**Lookout Ridge**	**24.94**	**33**	P		**P**		**14 53 53.9**	**+0.3**
C19K				IAmb		IAmb		14 54 07.7	
	comp=Z,11nm,1.4s								
B20K	**Meade River**	**26.06**	**32**	P		**P**		**14 54 04.1**	**+0.4**
KSRS	**Korea Array**	**27.28**	**250**	P		**P**		**14 54 14.7**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=37,slow=8.4,SNR=4.2								
	comp=Z,0.9nm,0.8s								
GHO	**Glory Hole Cre**	**28.25**	**51**	P		**P**		**14 54 24.9**	**+1.4**
GHO				IAmb		IAmb		14 54 52.8	
	comp=Z,6.1nm,0.8s								
H11N2	**WAKE ISLAND Hy**	**32.99**	**169**	T		T		15 30 32.3	
	baz=353,slow=76,SNR=32								
H11N3	**WAKE ISLAND Hy**	**33.01**	**169**	T		T		15 30 43.9	
	baz=353,slow=76,SNR=30								
H11N1	**WAKE ISLAND Hy**	**33.01**	**169**	T		T		15 30 56.2	
	baz=353,slow=76,SNR=33								
H11S1	**WAKE ISLAND Hy**	**34.18**	**170**	T		T		15 32 57.9	
	baz=352,slow=74,SNR=3.3								
H11S3	**WAKE ISLAND Hy**	**34.19**	**170**	T		T		15 33 02.4	
	baz=352,slow=74,SNR=6.8								
H11S2	**WAKE ISLAND Hy**	**34.20**	**170**	T		T		15 33 02.2	
	baz=352								
SPITS	**Spitsbergen Ar**	**47.85**	**351**	P		**P**		**14 57 07.9**	**0.0**
	comp=Z,6.6nm,0.8s,baz=54,slow=13,SNR=6.8								
	comp=Z,6.6nm,0.8s								
KURK	**Kurchatov**	**48.37**	**303**	*ce*P		**P**		**14 57 10.7**	**-1.4**
KURK				pmax		pmax			
	comp=Z,5.0nm,2.5s								
KURBB	**Kurchatov Arra**	**48.47**	**303**	P		**P**		**14 57 10.6**	**-2.4**
	comp=Z,1.2nm,0.7s,baz=56,slow=7.6,SNR=9.5								
	comp=Z,1.2nm,0.7s								
MK31	**Makanchi Array**	**48.74**	**296**	P		**P**		**14 57 13.2**	**-1.9**
MK31				IAmb		IAmb		14 57 52.2	
	comp=Z,1.8nm,1.4s								
MK31	**Makanchi Array**	**48.74**	**296**	P		**P**		**14 57 13.3**	**-1.9**
MK31				pmax		pmax			
	comp=Z,2.0nm,1.5s								
MKAR	**Makanchi Array**	**48.74**	**296**	P		**P**		**14 57 13.4**	**-1.8**
MKAR	**Makanchi Array**	**48.74**	**296**	P		**P**		**14 57 13.2**	**-1.9**
	comp=Z,0.4nm,0.5s,baz=51,slow=7.7,SNR=6.4								
	comp=Z,0.4nm,0.5s								
BVAR	**Borovoye Array**	**51.06**	**309**	P		**P**		**14 57 30.4**	**-2.3**
	comp=Z,1.0nm,0.7s,baz=64,slow=7.8,SNR=4.8								
	comp=Z,1.0nm,0.7s								
ARCES	**ARCESS Array B**	**54.03**	**342**	P		**P**		**14 57 54.1**	**-0.3**
	comp=Z,2.1nm,0.8s,baz=31,slow=9.5,SNR=4.0								
	comp=Z,2.1nm,0.8s								
ARCES	**ARCESS Array B**	**54.03**	**342**	*e*P		**P**		**14 57 54.4**	**0.0**
ARCES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
ARU	**Arti**	**54.11**	**318**	*i* P		**P**		**14 57 55.1**	**0.0**
ARU				pmax		pmax			
	comp=Z,6.0nm,2.0s								
CM31	**Chiang Mai Arr**	**58.37**	**259**	P		**P**		**14 58 26.6**	**+0.6**
CMAR	**Chiang Mai Arr**	**58.37**	**259**	P		**P**		**14 58 27.0**	**+1.0**
	comp=Z,1.0nm,0.7s,baz=31,slow=6.5,SNR=8.2								
	comp=Z,1.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**58.37**	**259**	*e*P		**P**		**14 58 27.3**	**+1.3**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ABKAR	**Akbulak array**	**58.48**	**311**	P		**P**		**14 58 26.5**	**+0.1**
FINES	**FINESS Array B**	**60.87**	**337**	P		**P**		**14 58 42.7**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=54,slow=7.1,SNR=6.3								
	comp=Z,2.3nm,0.8s								
FINES	**FINESS Array B**	**60.87**	**337**	*e*P		**P**		**14 58 43.0**	**+0.4**
FINES				pmax		pmax			
	comp=Z,2.0nm,0.8s								
OBN	**Obninsk**	**63.26**	**328**	*i* P		**P**		**14 58 58.5**	**-0.2**
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
AKASG	**Malin Array Be**	**69.36**	**329**	P		**P**		**14 59 37.3**	**-0.6**
	comp=Z,1.0nm,0.5s,baz=28,slow=5.8,SNR=5.2								
	comp=Z,1.0nm,0.5s								
AKASG	**Malin Array Be**	**69.36**	**329**	*ce*P		**P**		**14 59 37.5**	**-0.4**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.5s								
KIV	**Kislovodsk**	**70.15**	**317**	*i* P		**P**		**14 59 42.2**	**-0.9**
KIV				pmax		pmax			
	comp=Z,2.0nm,0.8s								
KBZ	**Khabaz**	**70.25**	**317**	*ce*P		**P**		**14 59 42.7**	**-0.8**
KBZ				pmax		pmax			
	comp=Z,1.0nm,0.9s								
TXAR	**Lajitas Array**	**70.60**	**67**	P		**P**		**14 59 47.9**	**+1.9**
	comp=Z,0.1nm,0.5s,baz=310,slow=7.0,SNR=2.0								
	comp=Z,0.1nm,0.5s								
WRA	**Warramunga Arr**	**75.61**	**205**	P		**P**		**15 00 16.1**	**+0.6**
WRA	**Warramunga Arr**	**75.61**	**205**	P		**P**		**15 00 16.1**	**+0.6**

CATAC ***16*** *14:57:24.4±0.4, 13.°20N×88.°08W, h7km±6km, ML3.6*
SNET ***16*** *14:57:24.6±1.5, 13.°25N×88.°05W, h3km, ML3.6*

ISC 16 14:57:23.9±0.9, 13.°20N±0.°06×88.°08W±0.°03, h17km±5km, n27, σ0°946/42, 6C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
INTP	**Intipuca**	**0.02**	**95**	↓*i*P		**Pg**	**14 57 27.0**	**+0.1**
INTP				*e*S		**Sg**	**14 57 28.6**	**-0.5**
LCND	**La Caada**	**0.21**	**59**	↑*i*P		**Pb**	**14 57 29.5**	**+0.1**
LCND				*e*S		**Sg**	**14 57 32.6**	**+0.2**
LCND	**La Caada**	**0.21**	**59**	*i* P		**Pb**	**14 57 29.3**	**-0.1**
LCND				*i* P			14 57 29.4	
LCND				*i* S		**Sg**	**14 57 32.8**	**+0.3**
LCND				IAML			14 57 34.2	
	comp=Z,18μm,1.0s							
LCND				IAML			14 57 36.1	
	comp=Z,24μm,1.0s							
CNCH	**Conchagua**	**0.25**	**72**	↑*i*P		**Pb**	**14 57 30.4**	**+0.3**
CNCH				*e*S		**Sb**	**14 57 34.1**	**-0.1**
CNCH	**Conchagua**	**0.25**	**72**	*i* P		**Pb**	**14 57 30.3**	**+0.3**
CNCH				*i* S		**Sb**	**14 57 34.5**	**+0.3**
CNCH				IAML			14 57 37.6	
	comp=Z,23μm,1.0s							
BLLM	**Bellamira**	**0.29**	**327**	↑*i*P		**Pb**	**14 57 30.8**	**+0.2**
CNRM	**Centro Naciona**	**0.29**	**342**	*e*P		**Pb**	**14 57 30.6**	**-0.1**
CNRM				*e*S		**Sb**	**14 57 34.9**	**-0.3**
CNRM	**Centro Naciona**	**0.29**	**342**	*i* P		**Pb**	**14 57 30.5**	**-0.1**
CNRM				*i* S		**Sb**	**14 57 34.9**	**-0.3**
CNRM				IAML			14 57 40.2	
	comp=Z,22μm,1.0s							
VSM	**San Miguel**	**0.30**	**320**	*e*P		**Pb**	**14 57 31.2**	**+0.3**
LCY	**Lacayo**	**0.31**	**317**	↑*i*P		**Pb**	**14 57 31.4**	**+0.3**
RANC	**El Ranchito**	**0.31**	**319**	↑*i*P		**Pb**	**14 57 31.4**	**+0.3**
RANC	**El Ranchito**	**0.31**	**319**	*i* P		**Pb**	**14 57 31.3**	**+0.2**
RANC				*i* S		**Sb**	**14 57 36.2**	**+0.3**
RANC				IAML			14 57 42.0	
	comp=Z,4μm,1.0s							
PACA	**Pacayal**	**0.36**	**318**	↑*e*P		**Pb**	**14 57 32.2**	**+0.2**
PACA	**Pacayal**	**0.36**	**318**	*i* P		**Pb**	**14 57 32.1**	**+0.2**
PACA				*i* S		**Sb**	**14 57 38.6**	**+1.3**
PACA				IAML			14 57 45.0	
	comp=Z,18μm,1.0s							
TECA	**Tecapa**	**0.51**	**305**	↓*i*P		**Pb**	**14 57 34.9**	**+0.5**
COEB	**Ccmit de Eme**	**0.53**	**304**	*e*P		**Pb**	**14 57 35.2**	**+0.4**
TECO	**Alcaldia de Te**	**0.76**	**296**	*e*P		**Pn**	**14 57 39.0**	**-0.8**
TECO	**Alcaldia de Te**	**0.76**	**296**	*i* P		**Pn**	**14 57 39.1**	**-0.8**
TECO				*i* S		**Sb**	**14 57 49.4**	**+0.6**
TECO				IAML			14 57 52.6	
	comp=Z,1μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.81**	**308**	*i* P		**Pn**	**14 57 40.1**	**-0.4**
SCLA				*i* S		**Sn**	**14 57 52.2**	**+0.1**
SCLA				IAML			14 57 56.5	
	comp=Z,400nm,1.0s							
UESV	**Universidad de**	**0.81**	**302**	*i* P		**Pn**	**14 57 40.3**	**-0.3**
UESV				*i* S		**Sn**	**14 57 51.6**	**-0.7**
UESV				IAML			14 57 52.8	
	comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**0.89**	**298**	*e*P		**Pn**	**14 57 41.6**	**0.0**
COEG	**Centro de Oper**	**0.89**	**298**	*i* P		**Pn**	**14 57 41.5**	**-0.1**
COEG				*i* S		**Sn**	**14 57 53.6**	**-0.5**
COEG				IAML			14 57 56.8	
	comp=Z,2μm,1.0s							

PAVA	**Las Pavas**	**0.98**	**302**	*i* P		**Pn**		**14 57 43.2**	**+0.2**
PAVA				*i* S		**Sn**		**14 57 57.0**	**+0.5**
PAVA				IAML				14 57 58.1	
	comp=Z,4μm,1.0s								
LOMA	**Loma Larga**	**1.15**	**293**	*i* P		**Pg**		**14 57 46.2**	**0.0**
LOMA				*i* S		**Sn**		**14 58 01.7**	**+0.9**
LOMA				IAML				14 58 05.4	
	comp=Z,1μm,1.0s								
QUEN	**Al S del Volca**	**1.34**	**117**	*i* P		**Pn**		**14 57 48.2**	**+0.3**
QUEN				IAML				14 58 11.2	
	comp=Z,630nm,1.0s								
JAYA	**Jayaque - finc**	**1.41**	**289**	*i* P		**Pg**		**14 57 50.3**	**-0.8**
COPN	**Copaltepe**	**1.77**	**125**	*i* P		**Pb**		**14 57 55.6**	**-0.3**
COPN				IAML				14 58 26.2	
	comp=Z,180nm,1.0s								

NEIC ***16*** *15:25:47.5±1.3, 18.°34N±0.°10×145.°9E±0.°2, h187km±7km, mb4.2/17, Error ellipse: s-maj=26.4km s-min=13.8km az=97.0*
IDC ***16*** *15:25:53.2±8.1, 18.°08N×145.°23E, h212km±37km, mb3.0/3, mbtmp3.6/4, Error ellipse: s-maj=117.3km s-min=32.6km az=60.0*

ISC 16 15:25:48.6±1.0, 18.°31N±0.°09×145.°7E±0.°2, h200km, n25, σ0°64/26, mb4.0/11, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GUMO	**Guam**	**4.76**	**190**	Pn		**Pn**	**15 26 59.7**	**-0.4**
GUMO	**Guam**	**4.76**	**190**	P		**Pn**	**15 27 00.8**	**+0.7**
	22nm,0.7s,baz=360,slow=22,SNR=1.7							
GUMO				S		**Sn**	**15 27 56.0**	**-0.5**
	23nm,0.4s,baz=177,slow=21,SNR=6.8							
JOW	**Kunigami**	**18.18**	**301**	P		**P**	**15 29 46.5**	**+0.1**
MANU	**Manus Island**	**20.29**	**175**	P		**P**	**15 30 10.1**	**+0.8**
MANU				IAmb		IAmb	15 30 11.5	
	comp=Z,5.7nm,0.7s							
WB0	**Warramunga Arr**	**39.44**	**197**	P		**P**	**15 32 59.2**	**-0.3**
WB0				IAmb		IAmb	15 33 28.1	
	comp=Z,10.0nm,1.2s							
WR0	**Warramunga Arr**	**39.58**	**197**	P		**P**	**15 33 00.9**	**+0.2**
WR0				IAmb		IAmb	15 33 36.4	
	comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**39.62**	**197**	P		**P**	**15 32 60.0**	**-1.0**
WRA	**Warramunga Arr**	**39.62**	**197**	P		**P**	**15 32 59.3**	**-1.7**
WRA	**Warramunga Arr**	**39.62**	**197**	P		**P**	**15 33 01.4**	**+0.4**
	comp=Z,1.4nm,0.7s,baz=33,slow=9.0,SNR=12							
	comp=Z,1.4nm,0.7s							
FITZ	**Fitzroy Crossi**	**41.21**	**210**	P		**P**	**15 33 13.8**	**-0.2**
AS31	**Alice Springs**	**43.28**	**196**	P		**P**	**15 33 30.7**	**-0.1**
ASAR	**Alice Springs**	**43.28**	**196**	P		**P**	**15 33 30.6**	**-0.2**
ASAR	**Alice Springs**	**43.28**	**196**	P		**P**	**15 33 31.2**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=13,slow=7.8,SNR=17							
	comp=Z,0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**44.28**	**278**	P		**P**	**15 33 39.0**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=82,slow=7.3,SNR=1.9							
	comp=Z

comp=Z,90nm,18.2s,baz=211,slow=47
7.3nm,0.4s
STKI Sintang 10.89 5 P Pn 15 32 53.6 -0.5
BKSI Bulukumba 11.02 61 P Pn 15 32 55.1 -0.8
30nm,0.6s
EDFI Ende, Flores 11.25 80 P Pn 15 32 56.3 -2.9
55nm,0.5s,687nm
BKB Balikpapan 11.47 34 P Pn 15 33 03.2 +1.2
58nm,0.5s
MMRI Maumere 11.81 80 P Pn 15 33 04.7 -1.9
MMRI Maumere 11.81 80 Pn Pn 15 33 04.0 -2.6
MMRI Maumere 11.81 80 P Pn 15 33 04.0 -2.6
82nm,0.7s
GIRL Giralia 12.26 163 Pn Pn 15 33 06.0 -6.8
BATI Baumata 12.99 88 Pn Pn 15 33 21.0 -1.8
18nm,0.3s,baz=285,slow=13,SNR=7.9
35nm,0.3s
BATI Baumata 12.99 88 P Pn 15 33 20.3 -2.5
81nm,0.8s
MBWA Marble Bar 13.57 140 Pn Pn 15 33 23.8 -6.9
SOEI Soe 13.62 87 P Pn 15 33 28.5 -3.0
71nm,0.8s
PSA00 Pilbara Seismi 13.94 141 Pn Pn 15 33 28.8 -7.0
LUWI Luwuk 15.63 52 Pn Pn 15 33 52.6 -5.8
LUWI IAmb IAmb 15 34 12.6
comp=Z,73nm,1.0s
TOLI2 Tolitoli 15.70 41 P Pn 15 34 00.1 +0.8
TOLI2 Tolitoli 15.70 41 Pn Pn 15 33 57.8 -1.5
FITZ Fitzroy Crossi 16.35 118 Pn Pn 15 34 04.3 -3.3
GTOI Gorontalo 16.91 48 P Pn 15 34 14.2 -0.4
comp=Z,15nm,0.7s
SANI Sanana 17.72 61 P Pn 15 34 23.0 -1.7
comp=Z,9.9nm,1.2s
MYLDM Lahad Datu 17.82 27 Pn 15 34 25.6 -0.4
NLAI Namlea 18.15 67 P Pn 15 34 28.5 -1.5
comp=Z,313nm,0.8s
KULM Kulim 18.78 328 P P 15 34 35.8 -1.2
KCSI Kotacane, Aceh 19.07 318 P P 15 34 38.7 -1.5
comp=Z,8.5nm,0.8s,comp=Z,1μm
SNSI Sinabang, Aceh 19.28 312 P P 15 34 39.1 -3.4
comp=Z,66nm,0.5s
LBMI Labuha 19.73 60 P P 15 34 46.1 -1.4
comp=Z,27nm,1.1s
BNDI Bandanaira 20.25 73 P P 15 34 51.4 -1.7
comp=Z,391nm,1.3s
MTN Manton Dam 20.32 98 P P 15 34 52.7 -1.2
MTN Manton Dam 20.32 98 P P 15 34 49.8 -4.1
MTN IAmb IAmb 15 34 55.6
comp=Z,59nm,1.5s
BLDU Ballidu 20.50 164 P P 15 34 55.0 -0.7
SGSI Sangihe 20.82 47 P P 15 34 58.6 -0.6
comp=Z,130nm,0.4s
MUN Mundaring 21.68 167 P P 15 35 07.5 -0.9
KLBR Kellerberrin 21.71 163 P P 15 35 06.4 -2.3
WRKA Warakurna 22.02 132 P P 15 35 12.8 +0.7
NWAO Narrogin (SRO) 22.83 165 P P 15 35 20.0 -0.7
NWAO Narrogin (SRO) 22.83 165 P P 15 35 19.7 -1.0
NWAO Narrogin (SRO) 22.83 165 LR LR 15 43 40.0
comp=Z,65nm,21.6s,baz=275,slow=35
SWI Sorong 22.92 66 P P 15 35 20.5 -1.2
comp=Z,13nm,0.6s,comp=Z,596nm
KMBL Kambalda 22.99 154 P P 15 35 22.0 -0.3
FAKI Fak Fak 23.00 72 P P 15 35 24.4 +1.8
WB0 Warramunga Arr 24.69 114 P P 15 35 38.5 -0.1
WB0 IAmb IAmb 15 36 05.9
comp=Z,9.4nm,0.8s
WRA Warramunga Arr 24.70 114 P P 15 35 37.7 -1.0
WRA Warramunga Arr 24.70 114 P P 15 35 38.5 -0.1
comp=Z,5.0nm,0.8s,baz=285,slow=11,SNR=18
WRA PcP PcP 15 39 16.0 +0.6
comp=Z,0.6nm,0.4s,baz=297,slow=1.8,SNR=2.5
WRA S S 15 40 06.2 +7.8
comp=Z,0.4nm,0.3s,baz=277,slow=22,SNR=6.2
comp=Z,5.0nm,0.8s
WB2 Warramunga Arr 24.71 114 P P 15 35 36.8 -1.9
WR0 Warramunga Arr 24.88 114 P P 15 35 40.3 0.0
WR0 IAmb IAmb 15 35 44.2
comp=Z,13nm,1.0s
FORT Forrest 25.68 143 P P 15 35 48.8 +1.3
FORT Forrest 25.68 143 P P 15 35 48.8 +1.3
FORT IAmb IAmb 15 36 07.0
comp=Z,19nm,0.8s
AS31 Alice Springs 25.70 123 P P 15 35 47.2 -0.5
ASAR Alice Springs 25.70 123 P P 15 35 47.7 0.0
comp=Z,6.5nm,0.6s,baz=296,slow=8.6,SNR=90
ASAR PcP PcP 15 39 18.9 +1.3
comp=Z,1.0nm,0.5s,baz=298,slow=1.7,SNR=6.0
ASAR S S 15 40 18.8 +4.4
comp=Z,0.5nm,1.0s,baz=285,slow=22,SNR=1.7
ASAR LR LR 15 47 04.4
comp=Z,53nm,18.3s,baz=250,slow=39
comp=Z,6.5nm,0.6s
OOD Oodnadatta 29.06 129 P P 15 36 18.2 +0.4
MULG Mulgathing 29.24 135 P P 15 36 19.4 +0.1
PHRA Phrae 30.87 341 P P 15 36 32.7 -1.1
CMAR Chiang Mai Arr 31.27 339 P P 15 36 38.0 +0.6
CMAR Chiang Mai Arr 31.27 339 P P 15 36 38.5 +1.2
comp=Z,2.6nm,0.7s,baz=174,slow=8.3,SNR=32
CMAR PcP PcP 15 39 33.1 +1.8
comp=Z,1.0nm,0.7s,baz=185,slow=4.0,SNR=4.8
CMAR LR LR 15 50 05.1
comp=Z,50nm,19.0s,baz=185,slow=38
comp=Z,2.6nm,0.7s
BBOO Buckleboo 32.11 137 P P 15 36 44.9 +0.2
BBOO Buckleboo 32.11 137 P P 15 36 44.4 -0.3
BBOO IAmb IAmb 15 37 00.2
comp=Z,17nm,1.2s
TPUB Ta-pu 35.37 16 P P 15 37 11.9 -1.2
TPUB IAmb IAmb 15 37 14.2
comp=Z,14nm,0.8s
STKA Stephens Creek 35.54 131 P P 15 37 14.9 +0.4
STKA Stephens Creek 35.54 131 P P 15 37 14.9 +0.4
comp=Z,4.8nm,0.6s,baz=302,slow=8.6,SNR=10
STKA LR LR 15 52 28.3
comp=Z,62nm,20.0s,baz=215,slow=38
comp=Z,4.8nm,0.6s
CTAO Charters Tower 35.62 109 P P 15 37 16.1 +0.8
YULB Yu-li 35.65 17 P P 15 37 16.2 +0.8
YULB IAmb IAmb 15 37 23.5
comp=Z,8.7nm,0.7s
SSLB Suanglung 35.92 17 P P 15 37 17.6 -0.2
SSLB IAmb IAmb 15 37 22.8
comp=Z,11nm,0.7s
NACB Ninganchiao 36.47 17 P P 15 37 20.6 -1.8
NACB IAmb IAmb 15 37 55.5
comp=Z,12nm,0.8s
YHNB Yeheng 36.88 17 P P 15 37 24.6 -1.4
YHNB IAmb IAmb 15 37 28.0
comp=Z,11nm,0.9s
TNCH TengChong 37.52 342 P P 15 37 33.4 +1.8
TNCH pP pP 15 37 36.8 -3.3
TNCH sP sP 15 37 39.6 -4.0
TNCH PP PnPn 15 39 00.5 +1.8
TNCH S S 15 43 22.1 +3.5
TNCH sS sS 15 43 30.3 -2.5
TNCH pmax pmax
comp=Z,5.0nm,0.8s
TNCH pmax pmax
comp=Z,79nm,3.5s
TNCH LR LR
comp=N,82nm,7.3s
TNCH LR LR
comp=E,80nm,5.4s
TNCH LR LR
comp=Z,75nm,7.2s
H08S2 Diego Garcia H 37.60 272 T T 16 17 14.8
baz=96,slow=74
H08S3 Diego Garcia H 37.61 272 T T 16 17 27.5
baz=96,slow=74
H08S1 Diego Carcia H 37.62 272 T T 16 18 13.5
baz=96
SHL Shillong 40.48 334 P P 15 37 56.0 -0.4
ENH Enshi 40.90 359 P P 15 37 59.9 +0.4
ENH IAmb IAmb 15 38 24.3
comp=Z,12nm,0.4s
CD2 Chengdu 42.02 351 P P 15 38 10.5 +1.7
NJ2 Nanjing 43.41 10 eP P 15 38 22.1 +2.1
NJ2 pmax pmax
comp=Z,11nm,0.5s
NJ2 pmax pmax
comp=Z,110nm,5.0s
XAN Xi'an 44.67 358 ⇑P P 15 38 30.4 +0.3
XAN pP pP 15 38 33.8 -4.9
XAN pmax pmax
comp=Z,17nm,0.8s
LZH Lanzhou 47.10 353 eP P 15 38 50.8 +1.4
LZH pP pP 15 38 55.4 -2.7
LZH pmax pmax
comp=Z,17nm,1.5s
KSRS Korea Array 50.77 18 P P 15 39 16.2 -1.0
comp=Z,3.9nm,0.9s,baz=203,slow=7.9,SNR=10.0
comp=Z,3.9nm,0.9s
GTA Gaotai 50.98 349 P P 15 39 20.4 +1.4
GTA sP sP 15 39 29.8 -1.4
GTA pmax pmax
comp=Z,10.0nm,0.6s
GTA LR LR
comp=N,110nm,18.3s
GTA LR LR
comp=E,77nm,17.1s
GTA LR LR
comp=Z,170nm,18.3s
HHC Hu-ho-hao-te 51.45 1 eP P 15 39 25.1 +2.6
HHC pmax pmax
comp=Z,9.0nm,0.8s
MJAR Matsushiro Arr 53.90 28 P P 15 39 38.8 -1.8
comp=Z,2.9nm,0.7s,baz=198,slow=7.0,SNR=12
comp=Z,2.9nm,0.7s
DZM Mont Dzumac 54.56 109 eLR LR 15 55 29.5
comp=Z,48nm,23.1s
XLT XiLinHaoTe 54.73 5 eP P 15 39 46.9 +0.3
XLT pmax pmax
comp=Z,13nm,0.8s
XLT pmax pmax
comp=Z,33nm,3.7s
USA0B Ussuriysk Arra 58.18 18 P P 15 40 10.9 -0.1
USA0B IAmb IAmb 15 40 29.5
comp=Z,5.0nm,0.9s
USRK Ussuriysk Ar. 58.18 18 P P 15 40 10.8 -0.2
USRK Ussuriysk Ar. 58.18 18 P P 15 40 10.6 -0.5
comp=Z,4.6nm,0.8s,baz=202,slow=7.3,SNR=8.5
comp=Z,4.6nm,0.8s
SONM Songino Array 58.54 357 P P 15 40 13.7 0.0
SONM IAmb IAmb 15 40 15.1
comp=Z,6.7nm,1.2s
SONM Songino Array 58.54 357 P P 15 40 14.2 +0.6
comp=Z,2.0nm,0.6s,baz=171,slow=8.0,SNR=14
comp=Z,2.0nm,0.6s
GAR Garm 62.11 325 P P 15 40 37.3 -0.9
GAR IAmb IAmb 15 40 40.1
comp=Z,6.3nm,0.8s
CHGR Chuyangaron 62.53 324 P P 15 40 39.6 -1.5
BTK Batken 62.58 327 P P 15 40 40.8 -0.5
BTK IAmb IAmb 15 40 42.2
comp=Z,3.1nm,0.7s
HEH HeiHe 62.63 12 eP P 15 40 40.8 -0.5
HEH pmax pmax
comp=Z,7.0nm,0.9s
MK31 Makanchi Array 62.68 339 P P 15 40 41.7 0.0
MK31 IAmb IAmb 15 40 43.0
comp=Z,4.1nm,0.6s
MKAR Makanchi Array 62.68 339 P P 15 40 41.7 0.0
MKAR Makanchi Array 62.68 339 P P 15 40 42.2 +0.5
comp=Z,6.4nm,0.5s,baz=146,slow=7.8,SNR=81
comp=Z,6.4nm,0.5s
MAKZ Makanchi 62.80 338 P P 15 40 43.0 +0.4
MAKZ IAmb IAmb 15 40 43.9
comp=Z,6.0nm,1.4s
MAW Mawson 64.75 198 LR LR 16 02 01.2
comp=Z,78nm,21.5s,baz=94,slow=29
KK31 Karatay Array 64.91 329 P P 15 40 55.3 -1.2
KKAR Karatay Array 64.91 329 P P 15 40 55.5 -1.1
KURBB Kurchatov Arra 67.25 339 P P 15 41 11.8 +0.5
comp=Z,2.6nm,0.6s,baz=154,slow=5.1,SNR=21
comp=Z,2.6nm,0.6s
KURK Kurchatov 67.29 339 P P 15 41 10.5 -1.1
KURK IAmb IAmb 15 41 13.0
comp=Z,7.7nm,0.9s
ZAA0 Zalesovo Array 68.13 344 P P 15 41 15.9 -0.9
ZALV Zalesovo Beam 68.13 344 P P 15 41 16.4 -0.5
ZALV Zalesovo Beam 68.13 344 P P 15 41 16.9 0.0
comp=Z,5.5nm,0.4s,baz=152,slow=4.9,SNR=28
comp=Z,5.5nm,0.4s
GEYT Alibeck 68.90 318 P P 15 41 22.1 0.0
GEYT IAmb IAmb 15 41 23.6
comp=Z,5.1nm,0.8s
GEYT Alibeck 68.90 318 P P 15 41 23.1 +1.0
comp=Z,2.7nm,0.7s,baz=200,slow=3.8,SNR=9.8
comp=Z,2.7nm,0.7s
GYA0B ALIBECK ARRAY 68.90 318 P P 15 41 22.1 0.0
GYA0B IAmb IAmb 15 41 23.6
comp=Z,3.5nm,0.8s
VNDA Vanda 71.58 170 P P 15 41 38.2 +0.5
VNDA Vanda 71.58 170 P P 15 41 38.4 +0.5
comp=Z,1.5nm,0.8s,baz=292,slow=6.8,SNR=7.0
comp=Z,1.5nm,0.8s
RAYN Ar Rayn 72.10 299 P P 15 41 42.0 +0.1
BVAR Borovoye Array 72.25 336 P P 15 41 42.7 +0.6
comp=Z,11nm,0.7s,baz=140,slow=8.2,SNR=62
comp=Z,11nm,0.7s
BRVK Borovoye 72.31 336 P P 15 41 42.1 -0.4
BRVK IAmb IAmb 15 41 44.0
comp=Z,9.3nm,0.9s
YAK Yakutsk 74.20 9 P P 15 41 52.4 -1.0
ABKAR Akbulak array 74.47 328 P P 15 41 55.4 +0.2
PETK Petropavlovsk- 75.35 27 P P 15 42 00.6 +0.3
comp=Z,3.7nm,0.7s,baz=204,slow=1.5,SNR=12
comp=Z,3.7nm,0.7s
QSPA South Pole Qui 79.16 180 P P 15 42 21.4 -0.3
QSPA IAmb IAmb 15 42 32.3
comp=Z,5.2nm,0.8s
QSPA South Pole Qui 79.16 180 P P 15 42 22.3 +0.7
comp=Z,3.3nm,0.6s,baz=248,slow=0.5,SNR=27
comp=Z,3.3nm,0.6s
MBAR Mbarara 79.80 271 P P 15 42 27.0 +0.7
MBAR IAmb IAmb 15 42 29.1
comp=Z,4.9nm,0.7s
BOSA Boshof 80.72 243 P P 15 42 32.0 +1.1
comp=Z,3.2nm,0.8s,baz=84,slow=4.6,SNR=5.4
comp=Z,3.2nm,0.8s
KBZ Khabaz 81.79 317 P P 15 42 36.6 +0.7
comp=Z,6.7nm,0.9s,baz=180,slow=4.0,SNR=14
comp=Z,6.7nm,0.9s
TIXI Tiksi 83.24 6 P P 15 42 42.5 -0.4
TIXI IAmb IAmb 15 42 43.6
comp=Z,6.7nm,0.8s
ARPR Arapgir-MALATY 83.28 312 P P 15 42 46.0 +1.9
GAZ Gaziantep 83.48 310 P P 15 42 46.4 +1.3
MMAI Mount Meron Ar 83.61 305 P P 15 42 46.5 +0.6
comp=Z,4.6nm,0.6s,baz=98,slow=6.3,SNR=7.6
comp=Z,4.6nm,0.6s
BNN Bunyan 85.04 311 P P 15 42 54.0 +1.0
SNAA Sanae 86.88 197 P P 15 43 02.4 +0.9
comp=Z,2.4nm,0.8s,baz=155,slow=5.9,SNR=4.1
comp=Z,2.4nm,0.8s
BR131 Keskin Array S 86.93 311 P P 15 43 02.4 0.0
BR131 IAmb IAmb 15 43 04.3
comp=Z,15nm,1.5s
BRTR Keskin Array B 86.93 311 P P 15 43 02.9 +0.5
BRTR Keskin Array B 86.93 311 P P 15 43 03.2 +0.9
comp=Z,2.0nm,0.6s,baz=140,slow=6.6,SNR=16
comp=Z,2.0nm,0.6s
PPT2 Papeete2 96.07 109 eLR LR 16 14 48.0
comp=Z,107nm,27.5s
PPT2 eLR LR 16 14 56.1
comp=Z,76nm,21.2s
FINES FINESS Array B 96.77 331 P P 15 43 48.1 +0.8
comp=Z,2.0nm,0.9s,baz=147,slow=2.8,SNR=3.8
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 119.20 22 PKPdf PKiKP 15 49 06.4 +0.7
YKA Yellowknife Ar 119.20 22 PKP PKiKP 15 49 06.2 +0.6
comp=Z,1.0nm,0.7s,baz=322,slow=2.6,SNR=17
NVAR Mina Array Bea 128.63 49 PKP PKiKP 15 49 27.4 +2.0
comp=Z,0.5nm,0.8s,baz=224,slow=4.0,SNR=4.5
MSU Marysvale 133.07 47 PKPdf PKiKP 15 49 35.9 +1.5
TX31 Lajitas Ar. Si 143.24 55 PKPdf PKPbc 15 49 49.6 +0.6
TXAR Lajitas Array 143.24 55 PKPdf PKPbc 15 49 49.6 +0.6
TXAR Lajitas Array 143.24 55 PKP PKPdf 15 49 50.3 -1.7
comp=Z,0.9nm,0.7s,baz=246,slow=2.9,SNR=10.0
SGCY Sterling City 144.10 49 PKPdf PKPbc 15 49 51.9 +0.5
P38A Dawn 144.29 33 PKPdf PKPbc 15 49 51.8 +0.2
WMOK Wichita Mounta 144.29 44 PKPdf PKPdf 15 49 53.2 -0.3
OK048 Pawnee Station 144.49 40 PKPdf PKPdf 15 49 52.8 -0.9
N41A Harden Midland 144.81 29 PKPdf PKPdf 15 49 53.8 -0.4
ABTX Abilene, Hawle 144.83 47 PKPdf PKPdf 15 49 55.1 +0.6
M44A Midewin, Midew 145.50 25 PKPab 15 49 56.0 +0.3
DRIO Del Rio 145.63 53 PKPab 15 49 57.1 +0.6
PLPT Palo Pinto 145.68 46 PKPab 15 49 57.5 +0.9
JCT Junction City 145.78 51 PKPab 15 49 57.0 -0.1
S39A Bolivar 145.79 35 PKPab 15 49 56.6 -0.3
R40A Maddies Statio 145.93 33 PKPbc PKPbc 15 49 56.6 -0.3
U38A Gravette 146.04 37 PKPbc PKPab 15 49 57.5 -0.4
HHAR Hobbs 146.41 37 PKPbc PKPab 15 49 58.8 -0.5
HNDO Hondo 146.62 52 PKPbc PKPab 15 49 59.8 -0.5
WHTX Lake Whitney, 146.74 47 PKPbc PKPab 15 50 00.6 -0.1
LCAR Lake Charles 148.16 34 PKPbc PKiKP 15 50 04.0 -0.9

*CATAC **16** 15:34:17.9±0.6, 13°.18N×88°.08W, h2km±4km, ML2.9*
*SNET **16** 15:34:18.0±0.6, 13°.26N×88°.06W, h4km±2km, ML2.9*

ISC 16 15:34:17.7±1.0, 13°.23N±0°.06×88°.09W±0°.04, h13km±7km, n22, σ0°.946/29, 6C-2D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
INTP	Intipuca	0.04	133	⇓*i*	P	Pg	15 34 20.2	0.0
INTP				*e*	S	Sg	15 34 21.7	-0.3
LCND	La Caada	0.21	67	⇑*i*	P	Pg	15 34 22.6	+0.3
LCND				*e*	S	Sg	15 34 25.6	+0.1
LCND	La Caada	0.21	67	*i*	P	Pg	15 34 22.5	+0.1
LCND					IAML		15 34 27.3	
	comp=Z,4μm,1.0s							
CNCH	Conchagua	0.25	79	⇑*i*	P	Pg	15 34 23.5	+0.3
CNCH				*e*	S	Sg	15 34 27.3	+0.5
CNCH	Conchagua	0.25	79	*i*	P	Pg	15 34 23.4	+0.2
CNCH					IAML		15 34 32.5	
	comp=Z,5μm,1.0s							
CNRM	Centro Naciona	0.26	342	*e*	P	Pb	15 34 23.6	-0.7
CNRM				*e*	S	Sb	15 34 28.3	-0.4
CNRM	Centro Naciona	0.26	342	*i*	P	Pb	15 34 23.8	-0.5
CNRM					IAML		15 34 29.6	
	comp=Z,5μm,1.0s							
BLLM	Bellamira	0.26	326	⇑*i*	P	Pb	15 34 24.0	-0.4
VSM	San Miguel	0.27	318	*e*	P	Pb	15 34 24.4	-0.3
LCY	Lacayo	0.28	314	⇑*i*	P	Pb	15 34 24.5	-0.2
RANC	El Ranchito	0.28	316	⇑*i*	P	Pb	15 34 24.6	-0.2
RANC	El Ranchito	0.28	316	*i*	P	Pb	15 34 24.4	-0.4
RANC					IAML		15 34 24.7	
	comp=Z,920nm,1.0s							
RANC				*i*	S	Sb	15 34 29.5	0.0
PACA	Pacayal	0.33	316	⇑*e*	P	Pb	15 34 25.3	-0.3
PACA	Pacayal	0.33	316	*i*	P	Pb	15 34 25.2	-0.4
PACA					IAML		15 34 38.1	
	comp=Z,5μm,1.0s							
TECA	Tecapa	0.48	303	⇓*e*	P	Pb	15 34 28.1	-0.1
TECO	Alcaldia de Te	0.74	295	*i*	S	Sb	15 34 42.4	-0.2
SCLA	Alcaldia de Sa	0.78	307	*i*	P	Pb	15 34 33.1	-0.1
SCLA					IAML		15 34 34.0	
	comp=Z,96nm,1.0s							
COEG	Centro de Oper	0.86	297	*i*	P	Pn	15 34 35.8	+0.1
COEG				*i*	S	Sb	15 34 46.9	+0.7
COEG					IAML		15 34 49.8	
	comp=Z,330nm,1.0s							
PAVA	Las Pavas	0.96	300	*i*	P	Pb	15 34 36.5	+0.2
PAVA				*i*	S	Sb	15 34 50.0	+1.1
PAVA					IAML		15 34 51.9	
	comp=Z,880nm,1.0s							
MACN	El Madrono	1.57	119	*i*	P	Pb	15 34 46.1	-0.6
MACN					IAML		15 35 18.6	
	comp=Z,63nm,1.0s							
MTO3	Montecristo	1.70	313	*i*	P	Pb	15 34 48.6	-0.4
MTO3					IAML		15 34 49.2	
	comp=Z,41nm,1.0s							
NUBE	Las Nubes	1.78	292	*i*	S	Sg	15 35 14.2	-0.8

SKO 16 15:51:59.0, 41°.57N×22°.52E, h9km, ML1.4, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
VAY	Valandovo	0.25	171	*i*	Pg	Pg	15 52 04.2	+0.1
VAY				*i*	Sg	Sb	15 52 09.9	-0.3
VAY				*e*	Lg	Lg	15 52 10.3	
	comp=N,50nm,0.5s							
VAY				*e*	Lg	Lg	15 52 10.6	
	comp=E,32nm,0.6s							
KNT	Kendrikon	0.50	145	*i*	Pg	Pg	15 52 08.2	-0.5
KNT				*i*	Sg	Sb	15 52 17.9	+0.6
KKB	Krupnik	0.53	59	*i*	Pg	Pg	15 52 09.0	-0.3
KKB				*i*	Sg	Sn	15 52 20.7	-1.2
MMB	Musomishta	0.92	91	*i*	Pg	Pg	15 52 16.5	-0.3
MMB				*i*	Sg	Sn	15 52 31.4	-0.2
SRS	Serrai	0.93	119	*i*	Pg	Pn	15 52 18.0	-0.2
SRS				*i*	Sg	Sn	15 52 32.6	+1.0

SOF 16 15:52:35.9, 41°.97N±0°.01×24°.28E±0°.01, h13km±2km, MD2.0/7, 1C-1D, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
PLD	Plovdiv	0.39	63	*i*	Pg	Pg	15 52 43.9	+0.2
PLD					Sg	Sg	15 52 48.9	-0.1
RZN	Rozhen	0.44	128	⇓*i*	Pg	Pg	15 52 45.0	+0.3
RZN					Sg	Sg	15 52 50.4	-0.2
PGB	Panagyurishte	0.55	352	*eP*		Pb	15 52 47.1	-0.3
PGB					S	Sg	15 52 54.5	+0.5
MMB	Musomishta	0.58	223	⇑*i*	Pg	Pb	15 52 47.7	-0.2
MMB					Sg	Sb	15 52 55.8	-0.2
KKB	Krupnik	0.87	262	*eP*		Pn	15 52 53.5	-0.3
VTS	Vitosha	1.01	310	*eP*		Pb	15 52 55.3	-0.1
VTS					S	Sb	15 53 08.4	-0.2
MPEP	Malo Peshtene	1.44	344	*i*	P	Pg	15 53 03.9	+0.3

*IDC **16** 16:00:02.5±0.6, 4°.68N×95°.07E, h0km, mb4.5/23, mbtmp4.4/25, ML3.9/2, MS3.9/47, Error ellipse: s-maj=21.6km s-min=13.8km az=44.0*
*BJI **16** 16:00:05.1±0.0, 4°.11N×94°.97E, h58km, mb4.7/58, mB4.8/33, Ms4.3/31, Ms7 4.0/33*
*DJA **16** 16:00:09.3±0.3, 5°.N±2°×9°.5E±°, h55km±4km, M4.8/25, mb4.8/25, mB5.3/8, MLv4.9/12, Mw(mB)4.7/8, MwMwp6.5/1, Mwp6.4/1*
*NEIC **16** 16:00:10.1±2.0, 4°.57N±0°.08×95°.06E±0°.05, h56km±8km, mb4.9/87, Error ellipse: s-maj=11.9km s-min=7.1km az=196.0*
*GCMT **16** 16:00:11.1±0.4, 4°.40N±0°.03×95°.10E±0°.02, h48km±1km, MW4.9/70, Moment Tensor Solution. s41,c44; s70,c92; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.95±.13; $M_{\theta\theta}$-1.55±.09; $M_{\phi\phi}$-0.40±.09; $M_{r\theta}$0.76±.06; $M_{r\phi}$0.95±.07; $M_{\theta\phi}$-1.23±.07; Best double couple: M_o2.48300×10^{16} NP1:ϕ_s136.00000°, δ63.00000°, λ106.00000°. NP2: ϕ_s284.00000°, δ31.00000°, λ62.00000°. Principal axes: T 2.5040, Plg68.0000°, Azm76.0000°; N -0.0470, Plg14.0000°, Azm308.0000°; P -2.4620, Plg17.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 16 16:00:09.5±0.5, 4°.55N±0°.04×95°.05E±0°.05, h57km±3km, h58km:pP-P, n322, σ1s22/302, mb4.9/117, MS3.9/56, 16C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
					Op	ISC	h m s	ISC
MLSI	Meulaboh, Aceh	1.38	102	P		Pn	16 00 31.9	-0.6
MLSI				S		Sn	16 00 50.3	+0.6
LHMI	Lhok Sumawe	2.01	70	P	n	Pn	16 00 41.2	+0.2
LHMI	Lhok Sumawe	2.01	70	P		Pn	16 00 41.5	+0.4
LHMI				S		Sn	16 01 06.5	+1.5
SNSI	Sinabang, Aceh	2.48	149	P		Pn	16 00 47.1	-0.4
SNSI				S		Sn	16 01 16.1	-0.4
KCSI	Kotacane, Aceh	2.90	110	P		Pn	16 00 54.2	+0.9
KCSI				S		Sn	16 01 27.7	+0.8
GSI	Gunungsitoli	4.09	142	Pn		Pn	16 01 09.2	-0.4
GSI	Gunungsitoli	4.09	142	P		Pn	16 01 09.8	+0.2
GSI				S		Sn	16 01 56.8	+0.6
PBSI	Pulau Batu	5.59	145	P		Pn	16 01 30.5	+0.3
	198nm,0.9s,0.8nm							
KULM	Kulim	5.63	82	Pn		Pn	16 01 30.2	-0.4
IPM	Ipoh	5.96	90	Pn		Pn	16 01 35.0	-0.2
SRIT	Nakonsritamara	6.05	48	Pn		Pn	16 01 36.0	-0.5
SISI	Saibi	7.09	145	P		Pn	16 01 50.9	+0.1
	78nm,0.8s,0.4nm							
BKNI	Bangkinang	7.30	125	P		Pn	16 01 53.6	-0.1
	106nm,0.7s,0.5nm							
PDSI	Padang	7.66	135	P		Pn	16 01 58.5	0.0
	53nm,0.8s,995nm0.2nm							
PPSI	Pulau Pagai	8.79	146	P		Pn	16 02 12.5	-1.5
	123nm,0.7s							
MYKOM	Kota Tinggi	9.20	107	Pn		Pn	16 02 18.4	-1.2
MNAI	Manna	11.86	138	Pn		Pn	16 02 54.5	-1.5

MNAI Manna 11.86 138 P **Pn** **16 02 54.8 -1.2**
168nm,0.9s
CM31 Chiang Mai Arr 14.34 15 P **P** **16 03 34.8 -0.4**
CMAR Chiang Mai Arr 14.34 15 Pn **Pn** **16 03 26.7 -2.9**
CMAR Chiang Mai Arr 14.34 15 Pn **Pn** **16 03 27.3 -2.3**
0.3nm,0.3s,baz=205,slow=7.6,SNR=1.8
CMAR LR LR 16 08 57.7
comp=Z,539nm,20.5s,baz=200,slow=38
0.4nm,0.3s
PALK Pallekele 14.53 281 Pn **Pn** **16 03 32.3 +0.1**
PALK Pallekele 14.53 281 Pn **Pn** **16 03 31.2 -0.9**
0.3nm,0.3s,baz=144,slow=5.4,SNR=1.7
PALK Sn Sn 16 05 58.8 -13
1.3nm,0.3s,baz=121,slow=22,SNR=3.3
PALK LR LR 16 08 30.4
comp=Z,515nm,21.4s,baz=215,slow=35
8.2nm,1.0s
CHTO Chiang Mai 14.68 15 P **P** **16 03 37.0 -1.9**
PHRA Phrae 14.76 20 Pn **Pn** **16 03 36.1 +0.9**
UBPT Khong Chiam 14.79 43 Pn **Pn** **16 03 36.5 +1.0**
DLV T Lat 15.19 60 P **P** **16 03 43.9 -0.9**
KSM Kuching 15.54 101 P **P** **16 03 48.5 0.0**
CRAI Chiangrai 16.43 18 **Pn** **16 03 56.6 +0.2**
LEM Lembang 16.88 132 LR LR 16 11 44.8
comp=Z,366nm,20.1s,baz=342,slow=41
SBUM Sibu 17.26 96 **P** **P** **16 04 07.0 -0.7**
SLVN Son La 18.77 26 P **P** **16 04 24.4 +0.1**
QIZ Qiongzhong 20.39 44 P **P** **16 04 42.8 +1.0**
QIZ S **S** **16 08 29.8 +2.6**
QIZ LR LR
comp=N,260nm,16.7s
QIZ LR LR
comp=E,370nm,22.0s
QIZ LR LR
comp=Z,410nm,19.7s
TNCH TengChong 20.64 9 P **P** **16 04 44.5 -0.1**
TNCH pP pP 16 04 59.0 +1.8
TNCH sP sP 16 05 03.8 -0.6
TNCH S **S** **16 08 25.8 -6.5**
TNCH SS **SnSn** **16 09 02.8 +7.2**
TNCH pmax pmax
comp=Z,9.0nm,1.4s
TNCH pmax pmax
comp=Z,86nm,3.7s
TNCH LR LR
comp=N,160nm,10.6s
TNCH LR LR
comp=E,160nm,7.3s
TNCH LR LR
comp=Z,270nm,13.7s
KMI Kunming 21.75 19 ⇓P **P** **16 05 00.3 +3.6**
KMI pmax pmax
comp=Z,19nm,0.9s
PZH PanZhiHua 22.75 16 P **P** **16 05 07.5 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,5.3s
MYLDM Lahad Datu 23.37 87 P **P** **16 05 14.3 +0.9**
MPSI Mapaga 25.17 99 P **P** **16 05 30.9 +1.1**
41nm,0.8s,936nm
LSA Lhasa 25.29 352 P **P** **16 05 31.8 +0.5**
LSA pmax pmax
comp=Z,16nm,0.6s
LSA Lhasa 25.29 352 P **P** **16 05 31.5 +0.2**
TWSI Taliwang, Sumb 25.45 121 P **P** **16 05 32.1 -0.3**
46nm,1.2s
H08S2 Diego Garcia H 25.56 242 T T 16 31 45.0
baz=62,slow=75,SNR=1452
H08S3 Diego Garcia H 25.56 242 T T 16 31 49.5
baz=62,slow=75,SNR=1384
H08S1 Diego Garcia H 25.58 242 T T 16 31 46.2
baz=62,slow=75,SNR=1119
TOLI2 Tolitoli 25.92 97 P **P** **16 05 36.2 -0.5**
KAPI Kappang 26.44 111 LR LR 16 16 57.1
comp=Z,263nm,19.4s,baz=287,slow=38
BKSI Bulukumba 26.89 111 P **P** **16 05 46.3 +0.9**
19nm,0.7s
CD2 Chengdu 27.48 16 P **P** **16 05 51.8 +1.3**
CD2 S **S** **16 10 29.9 +2.5**
CD2 sS sS 16 10 54.3 +3.7
CD2 LR LR
comp=N,330nm,18.2s
CD2 LR LR
comp=E,460nm,15.5s
CD2 LR LR
comp=Z,290nm,17.1s
DAV Davao City (W) 30.47 84 LR LR 16 21 20.1
comp=Z,117nm,19.6s,baz=262,slow=42
GOMU GeErMu 31.50 360 P **P** **16 06 25.9 -0.6**
GOMU pmax pmax
comp=Z,7.0nm,0.5s
YULB Yu-li 31.51 51 P **P** **16 06 26.7 +0.4**
YULB IAmb IAmb 16 06 47.2
comp=Z,35nm,1.6s
BATI Baumata 32.05 117 LR LR 16 21 11.0
comp=Z,290nm,19.2s,baz=277,slow=40
XAN Xi'an 32.05 22 ⇑P **P** **16 06 29.6 -1.4**
XAN pP pP 16 06 48.0 +2.7
XAN pmax pmax
comp=Z,71nm,0.7s
XAN LR LR
comp=Z,490nm,14.6s
XAN LR LR
comp=Z,360nm,14.3s
XAN LR LR
comp=Z,1μm,17.1s
XAN Xi'an 32.05 22 P **P** **16 06 29.6 -1.4**
LZH Lanzhou 32.42 13 *e*P P 16 06 29.4 -4.9
LZH sP sP 16 06 58.3 +3.2
LZH pmax pmax
comp=Z,17nm,1.4s
LZH LR LR
comp=N,180nm,15.1s
LZH LR LR
comp=E,230nm,14.8s
LZH LR LR
comp=Z,260nm,14.1s
LYN LuoYang 33.95 26 P **P** **16 06 48.5 +1.0**
LYN S **S** **16 12 06.9 -1.5**
LYN pmax pmax
comp=Z,50nm,0.7s
LYN pmax pmax
comp=Z,130nm,5.3s
LYN LR LR
comp=Z,560nm,15.8s
LYN LR LR
comp=Z,120nm,10.2s
LYN LR LR
comp=Z,540nm,14.9s
GTA Gaotai 34.97 6 *e*P **P** **16 06 55.3 -1.2**
GTA pP pP 16 07 08.1 -2.7
GTA pmax pmax
comp=Z,6.0nm,0.8s
GTA LR LR
comp=Z,110nm,18.3s
GTA LR LR
comp=Z,80nm,17.1s
GTA LR LR
comp=Z,160nm,20.7s
NJ2 Nanjing 35.30 36 *e*P **P** **16 07 01.3 +2.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 pmax pmax
comp=Z,90nm,5.5s
NJ2 LR LR
comp=Z,220nm,15.7s
NJ2 LR LR
comp=Z,480nm,16.2s
NJ2 LR LR
comp=Z,440nm,14.2s
HNS HongShan 37.32 26 ⇑P **P** **16 07 17.0 +0.7**
HNS S **S** **16 13 01.4 +1.4**
HNS pmax pmax
comp=Z,61nm,0.7s
HNS LR LR
comp=Z,200nm,16.5s
HNS LR LR
comp=Z,180nm,17.8s
FITZ Fitzroy Crossi 37.63 128 P **P** **16 07 18.1 -1.1**
FAKI Fak Fak 37.90 101 P **P** **16 07 20.6 -1.0**
BTO Baotou 38.34 18 *e*P **P** **16 07 25.6 +0.5**
BTO pP **pP** **16 07 37.8 -1.7**
BTO sP **sP** **16 07 44.6 -1.5**
BTO PP **PnPn** **16 08 59.8 +3.8**
BTO S **S** **16 13 16.9 +1.2**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,170nm,4.6s
BTO LR LR
comp=Z,430nm,12.7s
BTO LR LR
comp=Z,290nm,10.6s
BTO LR LR
comp=Z,750nm,22.2s
JOW Kunigami 38.69 52 P **P** **16 07 28.7 +0.6**
JOW IAmb IAmb 16 07 30.1
comp=Z,17nm,0.8s
JOW Kunigami 38.69 52 LR LR 16 23 25.8
comp=Z,153nm,21.1s,baz=251,slow=36
KSH Kashi 38.86 336 P **P** **16 07 29.0 -0.5**
KSH pP pwP 16 07 44.8 +1.1
KSH sP sP 16 07 52.6 +2.4
KSH pmax pmax
comp=Z,29nm,0.6s
HHC Hu-ho-hao-te 39.07 20 *e*P **P** **16 07 30.8 -0.4**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,73nm,4.3s
HHC LR LR
comp=Z,310nm,21.9s
HHC LR LR
comp=Z,210nm,17.8s
WMQ Urumqi 39.65 352 *e*P **P** **16 07 33.4 -2.5**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ LR LR
comp=Z,110nm,23.8s
WSAR Wadi Sarin 39.76 301 LR LR 16 23 19.1
comp=Z,80nm,20.6s,baz=114,slow=35
MTN Manton Dam 39.79 116 P **P** **16 07 36.1 -1.3**
BJT Baijiatuau 40.13 25 P **P** **16 07 40.1 +0.3**
BJT IAmb IAmb 16 07 42.6
comp=Z,18nm,0.9s
BJT Baijiatuau 40.13 25 P **P** **16 07 40.6 +0.8**
BJI Beijing 40.15 25 P **P** **16 07 40.8 +0.8**
BJI pP **pP** **16 07 53.6 -1.0**
BJI sP **sP** **16 08 00.8 -0.4**
BJI pmax pmax
comp=Z,11nm,0.8s
BJI pmax pmax
comp=Z,33nm,4.4s
PRZ Przheval'sk 40.58 341 P **P** **16 07 44.7 +0.9**
PRZ IAmb IAmb 16 07 47.0
comp=Z,16nm,0.8s
DRK Karamyk 40.65 332 P **P** **16 07 44.5 0.0**
GAR Garm 40.99 330 P **P** **16 07 46.2 -0.9**
GAR IAmb IAmb 16 07 50.0
comp=Z,40nm,1.2s
CHGR Chuyangaron 41.31 329 P **P** **16 07 48.8 -1.0**
CHGR IAmb IAmb 16 07 52.2
comp=Z,18nm,0.8s
SIMJ Simiganj 41.39 329 P **P** **16 07 48.6 -1.9**
SIMJ IAmb IAmb 16 07 53.1
comp=Z,13nm,0.5s
SIMJ Simiganj 41.39 329 P **P** **16 07 52.1 +1.6**
BOOM Boomskoye usch 41.44 339 P **P** **16 07 50.7 -0.2**
BOOM IAmb IAmb 16 07 53.2
comp=Z,25nm,0.7s
BTK Batken 41.57 332 P **P** **16 07 52.1 +0.2**
BTK IAmb IAmb 16 08 16.4
comp=Z,20nm,0.8s
ARSB Arslanbob 41.62 335 P **P** **16 07 53.3 +1.0**
ARSB IAmb IAmb 16 07 55.5
comp=Z,26nm,1.4s
UCH Uchtor 41.75 337 P **P** **16 07 54.6 +0.9**
SNR=32
KBK Karagaybulak 41.95 338 P **P** **16 07 56.6 +1.6**
SNR=24
AAK Ala-Archa 42.10 337 P **P** **16 07 58.2 +1.9**
SNR=5.0
AAK Ala-Archa 42.10 337 P **P** **16 07 57.0 +0.7**
AAK IAmb IAmb 16 07 59.8
comp=Z,17nm,0.8s
AAK Ala-Archa 42.10 337 LR LR 16 27 38.9
comp=Z,80nm,20.9s,baz=151,slow=39
AAK Ala-Archa 42.10 337 P **P** **16 07 57.7 +1.5**
FRU1 Bishkek 42.20 338 P **P** **16 07 58.3 +1.4**
CHMS Chumysh 42.31 338 P **P** **16 07 58.8 +1.0**
SNR=6.5
USP Ospenovka 42.64 338 P **P** **16 08 01.5 +1.0**
SNR=34
NWAO Narrogin (SRO) 42.80 152 LR LR 16 26 42.3
comp=Z,89nm,18.4s,baz=158,slow=37
H01W3 Cape Leeuwin H 43.14 157 T T 16 54 25.0
baz=332,slow=76,SNR=3.6
H01W2 Cape Leeuwin H 43.15 157 T T 16 54 25.9
baz=332,slow=76,SNR=4.5
H01W1 Cape Leeuwin H 43.16 157 T T 16 54 26.2
baz=332,slow=76,SNR=3.9
XLT XiLinHaoTe 43.36 22 *e*P **P** **16 08 03.4 -2.9**
XLT pP pP 16 08 17.5 -3.6
XLT sP sP 16 08 24.8 -2.9
XLT pmax pmax
comp=Z,9.0nm,0.9s
XLT pmax pmax
comp=Z,40nm,3.9s
MK31 Makanchi Array 43.51 347 P **P** **16 08 06.0 -1.4**
MKAR Makanchi Array 43.51 347 P **P** **16 08 06.6 -0.8**
MKAR Makanchi Array 43.51 347 P **P** **16 08 06.9 -0.5**
comp=Z,5.4nm,0.5s,baz=173,slow=7.5,SNR=82
MKAR PcP **PcP** **16 09 55.4 +0.9**
comp=Z,0.9nm,0.5s,baz=155,slow=4.2,SNR=1.1
MKAR LR LR 16 28 58.9
comp=Z,106nm,21.3s,baz=168,slow=40
comp=Z,5.4nm,0.5s
MAKZ Makanchi 43.59 347 P **P** **16 08 07.1 -1.0**
MAKZ Makanchi 43.59 347 P **P** **16 08 07.5 -0.6**
MAKZ pP **pwP** **16 08 24.4 -0.5**
INCN Inchon 43.67 37 P **P** **16 08 09.2 +0.3**
INCN IAmb IAmb 16 09 14.8
comp=Z,53nm,1.4s
JNU Nakatsue 43.85 45 LR LR 16 26 39.0
comp=Z,194nm,21.7s,baz=232,slow=36
KK31 Karatay Array 44.13 334 P **P** **16 08 12.6 +0.2**
KK31 IAmb IAmb 16 08 15.3
comp=Z,55nm,1.9s
KKAR Karatay Array 44.13 334 P **P** **16 08 12.3 -0.1**
KKAR IAmb IAmb 16 08 15.3
comp=Z,55nm,1.9s
SONM Songino Array 44.22 11 P **P** **16 08 12.3 -0.9**
comp=Z,1.1nm,0.5s,baz=187,slow=10,SNR=5.2
SONM PcP **PP** **16 09 57.8 +0.6**
comp=Z,2.4nm,0.7s,baz=178,slow=2.7,SNR=4.4
SONM LR LR 16 28 24.6
comp=Z,198nm,21.1s,baz=187,slow=39
comp=Z,1.1nm,0.5s
KSRS Korea Array 44.44 38 P **P** **16 08 14.1 -0.9**
comp=Z,2.9nm,0.7s,baz=222,slow=9.1,SNR=12
KSRS LR LR 16 26 51.8
comp=Z,87nm,19.2s,baz=220,slow=36
comp=Z,2.9nm,0.7s
WB0 Warramunga Arr 45.60 123 P **P** **16 08 24.9 +0.4**
WB0 IAmb IAmb 16 08 26.8
comp=Z,17nm,0.7s
WRA Warramunga Arr 45.64 124 P **P** **16 08 25.2 +0.4**
WRA Warramunga Arr 45.64 124 P **P** **16 08 25.9 +1.1**
comp=Z,11nm,0.6s,baz=302,slow=9.2,SNR=95
WRA LR LR 16 30 13.6
comp=Z,226nm,18.1s,baz=86,slow=40
comp=Z,11nm,0.6s
WRAB Tennant Creek 45.64 124 P **P** **16 08 25.2 +0.4**
WB2 Warramunga Arr 45.65 124 P **P** **16 08 25.3 +0.4**
WB2 IAmb IAmb 16 08 27.3
comp=Z,24nm,0.9s
WR0 Warramunga Arr 45.81 123 P **P** **16 08 25.8 -0.4**
JMN Monobe 46.31 46 P **P** **16 08 29.9 -0.1**
JMN IAmb IAmb 16 08 32.5
comp=Z,15nm,0.7s
AS31 Alice Springs 47.13 128 P **P** **16 08 36.1 -0.4**
ASAR Alice Springs 47.13 128 P **P** **16 08 37.0 +0.6**
ASAR Alice Springs 47.13 128 P **P** **16 08 37.5 +1.0**
comp=Z,3.5nm,0.6s,baz=300,slow=7.6,SNR=103
ASAR PcP **PcP** **16 10 09.1 +1.5**
comp=Z,1.5nm,0.7s,baz=313,slow=3.7,SNR=1.9
comp=Z,3.5nm,0.6s
GEYT Alibeck 47.29 320 P **P** **16 08 37.1 -0.4**
GEYT IAmb IAmb 16 08 40.1
comp=Z,9.3nm,0.8s
GEYT Alibeck 47.29 320 P **P** **16 08 38.2 +0.8**
comp=Z,6.2nm,0.7s,baz=139,slow=9.8,SNR=21
comp=Z,6.2nm,0.7s
GYA0B ALIBECK ARRAY 47.29 320 P **P** **16 08 38.0 +0.5**
GYA0B IAmb IAmb 16 08 40.0
comp=Z,8.7nm,0.7s
KURBB Kurchatov Arra 47.97 346 P **P** **16 08 42.7 +0.2**
comp=Z,7.1nm,0.6s,baz=169,slow=7.0,SNR=89
KURBB PcP **PcP** **16 10 11.2 +1.3**
comp=Z,2.8nm,0.6s,baz=156,slow=3.2,SNR=5.4
KURBB LR LR 16 32 56.0
comp=Z,52nm,18.1s,baz=168,slow=41
comp=Z,7.1nm,0.6s
KURK Kurchatov 48.04 346 P **P** **16 08 43.0 0.0**
KURK IAmb IAmb 16 08 44.5
comp=Z,11nm,0.8s
HIA Hailar 49.25 21 P **P** **16 08 51.1 -1.3**
HIA IAmb IAmb 16 08 52.4
comp=Z,6.5nm,0.5s
HIA Hailar 49.25 21 P **P** **16 08 52.2 -0.2**
INU Inuyama 49.36 46 P **P** **16 08 52.9 -0.5**
INU pP **pP** **16 09 10.0 +1.5**
JGF Kuroka 49.72 46 P **P** **16 08 54.6 -1.7**
JGF IAmb IAmb 16 08 57.4
comp=Z,5.7nm,0.7s
BNX BinXian 49.76 29 ⇓P **P** **16 08 55.8 -0.5**
BNX pmax pmax
comp=Z,20nm,0.6s
BNX pmax pmax
comp=Z,110nm,4.5s
ZAA0 Zalesovo Array 49.95 352 P **P** **16 08 56.3 -1.3**
ZAA0 IAmb IAmb 16 08 58.4
comp=Z,18nm,1.3s
ZALV Zalesovo Beam 49.95 352 P **P** **16 08 56.3 -1.3**
ZALV Zalesovo Beam 49.95 352 P **P** **16 08 57.1 -0.5**
comp=Z,6.8nm,0.5s,baz=184,slow=7.6,SNR=44
ZALV PcP **PcP** **16 10 16.4 -0.6**
comp=Z,1.2nm,0.4s,baz=170,slow=5.6,SNR=1.0
ZALV LR LR 16 33 34.8
comp=Z,95nm,21.9s,baz=188,slow=40
comp=Z,6.8nm,0.5s
MDJ Mudanjiang 50.09 32 P **P** **16 08 59.0 +0.2**
MDJ pmax pmax
comp=Z,10.0nm,0.7s
MDJ pmax pmax
comp=Z,44nm,3.7s
JCJ Chichijima 50.19 58 LR LR 16 27 20.7
comp=Z,68nm,21.8s,baz=100,slow=33
MJAR Matsushiro Arr 50.78 45 P **P** **16 09 04.2 -0.1**
comp=Z,1.0nm,0.6s,baz=94,slow=4.4,SNR=6.9
MJAR LR LR 16 31 53.0
comp=Z,142nm,20.8s,baz=245,slow=38
comp=Z,1.0nm,0.6s
USA0B Ussuriysk Arra 51.11 34 P **P** **16 09 06.3 -0.2**
USRK Ussuriysk Ar. 51.11 34 P **P** **16 09 05.2 -1.3**
USRK Ussuriysk Ar. 51.11 34 P **P** **16 09 06.3 -0.2**
comp=Z,4.4nm,0.6s,baz=241,slow=8.1,SNR=17
USRK LR LR 16 32 40.2
comp=Z,160nm,18.4s,baz=220,slow=38
comp=Z,4.4nm,0.6s
RAYN Ar Rayn 51.32 297 P **P** **16 09 11.5 +2.9**
RAYN pP **sP** **16 09 28.9 -0.3**
BVAR Borovoye Array 52.41 341 P **P** **16 09 16.0 -0.1**
comp=Z,16nm,0.6s,baz=144,slow=9.0,SNR=86
BVAR LR LR 16 34 34.4
comp=Z,64nm,18.5s,baz=147,slow=40
comp=Z,16nm,0.6s
BRVK Borovoye 52.47 341 P **P** **16 09 16.0 -0.5**
BRVK Borovoye 52.47 341 P **P** **16 09 16.4 -0.1**
BRVK pP **pP** **16 09 32.2 +1.3**
MANU Manus Island 52.68 96 P **P** **16 09 18.7 -0.1**
HEH HeiHe 53.06 25 *e*P **P** **16 09 18.3 -2.6**
ABKAR Akbulak array 53.57 332 P **P** **16 09 24.6 0.0**
ABKAR Akbulak array 53.57 332 P **P** **16 09 23.9 -0.7**
ABKAR IAmb IAmb 16 09 41.9
comp=Z,18nm,1.1s
KLR Kul'dur 54.31 29 LR LR 16 34 36.2
comp=Z,111nm,18.8s,baz=218,slow=38
STKA Stephens Creek 57.18 133 P **P** **16 09 51.5 +0.5**
comp=Z,1.5nm,0.7s,baz=282,slow=8.8,SNR=3.0
comp=Z,1.5nm,0.7s
ASAJ Asahikawa 57.36 39 LR LR 16 34 26.2
comp=Z,92nm,22.0s,baz=198,slow=36
GNI Garni 57.41 316 P **P** **16 09 53.0 +0.3**
GNI IAmb IAmb 16 10 14.5
comp=Z,16nm,1.3s
GNI Garni 57.41 316 P **P** **16 09 54.3 +1.6**
comp=Z,7.1nm,0.6s
GURO Guroymak-BITLI 58.73 313 P **P** **16 10 01.9 0.0**
ARU Arti 59.29 337 P **P** **16 10 04.4 -0.8**
ARU IAmb IAmb 16 10 06.2
comp=Z,11nm,1.1s
ARU Arti 59.29 337 LR LR 16 37 48.1
comp=Z,65nm,20.9s,baz=138,slow=38
ARU Arti 59.29 337 P **P** **16 10 05.3 +0.1**
ARU Arti 59.29 337 P **P** **16 10 04.8 -0.4**
comp=Z,9.4nm,1.5s
KBZ Khabaz 60.16 319 P **P** **16 10 10.3 -1.1**
comp=Z,2.4nm,0.9s,baz=32,slow=7.1,SNR=5.7
comp=Z,2.4nm,0.9s
KIV Kislovodsk 60.39 319 P **P** **16 10 13.1 -0.1**
KIV IAmb IAmb 16 10 14.7
comp=Z,15nm,1.1s
KIV Kislovodsk 60.39 319 P **P** **16 10 14.2 +1.0**
comp=Z,10nm,1.0s
EIL Elat 61.88 301 LR LR 16 37 11.2
comp=Z,113nm,20.1s,baz=67,slow=36
GAZ Gaziantep 61.89 310 P **P** **16 10 23.7 +0.3**
GAZ IAmb IAmb 16 10 49.9
comp=Z,7.9nm,0.6s
MMAI Mount Meron Ar 62.23 305 LR LR 16 40 11.4
comp=Z,78nm,18.4s,baz=68,slow=39
YAK Yakutsk 62.86 18 LR LR 16 40 04.3
comp=Z,344nm,18.4s,baz=214,slow=38
H04N2 CROZET ISLANDS 63.38 212 T T 17 19 04.0
baz=49,slow=74,SNR=942
H04N1 CROZET ISLANDS 63.39 212 T T 17 19 04.6
baz=49,slow=74,SNR=739
H04N3 CROZET ISLANDS 63.40 212 T T 17 19 03.3
baz=49,slow=74,SNR=870
BNN Bunyan 63.40 311 P **P** **16 10 33.6 +0.1**
BNN IAmb IAmb 16 10 35.5
comp=Z,13nm,0.8s
H04S1 CROZET ISLANDS 63.76 212 T T 17 19 22.9
baz=57,slow=71,SNR=147
H04S3 CROZET ISLANDS 63.77 212 T T 17 19 22.6
baz=57,slow=71,SNR=267
H04S2 CROZET ISLANDS 63.78 212 T T 17 19 24.9
baz=57,slow=71,SNR=189
KIRV Kirov 64.39 335 LR LR 16 42 40.4
comp=Z,40nm,18.9s,baz=134,slow=40
MBAR Mbarara 64.45 267 LR LR 16 35 21.3
comp=Z,156nm,21.0s,baz=68,slow=33
BR104 Keskin Array S 65.28 312 P **P** **16 10 46.1 +0.3**
comp=Z,4.9nm,0.8s,comp=Z,59nm
BR131 Keskin Array S 65.29 312 P **P** **16 10 44.8 -1.1**
BRTR Keskin Array B 65.29 312 P **P** **16 10 44.6 -1.3**
BRTR Keskin Array B 65.29 312 P **P** **16 10 45.9 0.0**
comp=Z,3.0nm,0.7s,baz=136,slow=7.6,SNR=21
BRTR LR LR 16 43 45.9
comp=Z,27nm,18.3s,baz=132,slow=40
comp=Z,3.0nm,0.7s
BR105 Keskin Array S 65.31 312 P **P** **16 10 46.2 +0.2**
comp=Z,5.0nm,0.6s,comp=Z,67nm
BR106 Keskin Array S 65.31 312 P **P** **16 10 45.9 -0.1**
comp=Z,4.9nm,0.8s,comp=Z,45nm
KLYT Kilyos 69.06 312 P **P** **16 11 10.7 +1.2**
comp=Z,21nm,1.1s,comp=Z,951nm
MA2 Magadan 69.29 27 P **P** **16 11 10.6 0.0**
KARP Karpathos 69.42 306 P **P** **16 11 12.7 +0.8**
KARP IAmb IAmb 16 11 15.4
comp=Z,19nm,0.9s
KARP Karpathos 69.42 306 P **P** **16 11 13.6 +1.7**
comp=Z,23nm,0.8s
CTYL Yalikoy Yolu 69.67 313 P **P** **16 11 14.2 +0.9**
PETK Petropavlovsk- 70.19 35 P **P** **16 11 15.5 -0.7**
comp=Z,3.9nm,1.1s,baz=285,slow=3.2,SNR=1.8
PETK LR LR 16 42 10.1
comp=Z,80nm,21.9s,baz=226,slow=36
comp=Z,3.9nm,1.1s
TIXI Tiksi 70.30 11 P **P** **16 11 14.7 -1.9**
TIXI IAmb IAmb 16 11 16.4
comp=Z,11nm,0.6s
TIXI Tiksi 70.30 11 LR LR 16 45 06.1
comp=Z,216nm,19.5s,baz=241,slow=38
TIXI Tiksi 70.30 11 P **P** **16 11 15.0 -1.6**
CFR Carcaliu 70.60 316 ⇑P **P** **16 11 19.1 +0.2**
HARR Harsova 70.63 316 ⇓P **P** **16 11 20.1 +1.0**

SORM Soroca 71.18 319 ⇑P **P** 16 11 22.2 -0.2
SORM Soroca 71.18 319 P **P** 16 11 22.1 -0.3
comp=Z,19nm,0.6s,comp=Z,538nm
AK09 Malin Array Si 71.25 322 P **P** 16 11 22.4 -0.4
AK08 Malin Array Si 71.28 322 P **P** 16 11 22.2 -0.7
AK05 Malin Array Si 71.31 322 P **P** 16 11 22.6 -0.5
AKASG Malin Array Be 71.32 322 P **P** 16 11 22.5 -0.6
comp=Z,2.1nm,0.5s,baz=90,slow=5.3,SNR=25
comp=Z,2.1nm,0.5s
AKBB Malin Array Si 71.32 322 P **P** 16 11 21.7 -1.4
AKBB IAmb IAmb 16 11 24.1
comp=Z,7.2nm,0.7s
AKBB Malin Array Si 71.32 322 P **P** 16 11 22.4 -0.7
KIEV Kiev 71.32 322 ⇑P **P** 16 11 22.7 -0.5
KIEV Kiev 71.32 322 P **P** 16 11 22.5 -0.7
KIEV sP **sP** 16 11 46.5 +2.1
KIEV Kiev 71.32 322 P **P** 16 11 22.5 -0.7
comp=Z,43nm,0.7s
SEY Seymchan 71.57 24 LR LR 16 45 38.5
comp=Z,96nm,18.8s,baz=245,slow=38
ELND Elena 71.72 314 ⇑P **P** 16 11 25.4 -0.3
VRI Vrincioaia 71.72 317 ⇑P **P** 16 11 27.0 +1.3
VRI Vrincioaia 71.72 317 P **P** 16 11 27.0 +1.3
comp=Z,28nm,1.2s
PLOR5 Plostina Array 71.76 317 P **P** 16 11 27.1 +1.1
comp=Z,26nm,0.9s
PLOR Plostina 71.77 317 ⇑P **P** 16 11 26.9 +0.8
TESR Tescani 71.92 318 ⇑P **P** 16 11 27.7 +0.7
TESR Tescani 71.92 318 P **P** 16 11 27.6 +0.7
comp=Z,35nm,0.7s
NDNU Novodnistrovsk 71.93 320 P **P** 16 11 27.1 +0.2
MI30 MI30,Zelenitsa 71.96 322 P **P** 16 11 26.3 -0.7
LUBAR Lubar, Ukraine 72.01 321 P **P** 16 11 26.9 -0.5
MI29 MI29, Kamyanyy 72.08 322 P **P** 16 11 27.4 -0.4
MLR Muntele Rosu 72.18 316 ⇑P **P** 16 11 29.1 +0.5
MLR Muntele Rosu 72.18 316 P **P** 16 11 29.2 +0.6
MLR IAmb IAmb 16 11 31.0
comp=Z,23nm,1.3s
MLR Muntele Rosu 72.18 316 P **P** 16 11 29.9 +1.3
comp=Z,16nm,1.3s
MI28 Mi28,Pidlybu 72.33 322 P **P** 16 11 29.1 -0.1
KMPD K-Podol'skiy 72.51 320 P **P** 16 11 30.6 +0.3
VOIR 72.78 316 ⇑P **P** 16 11 31.7 -0.5
VOIR 72.78 316 P **P** 16 11 32.5 +0.3
comp=Z,4.7nm,0.6s
BURAR Bucovina Array 73.11 318 ⇑P **P** 16 11 35.4 +1.3
BURAR Bucovina Array 73.11 318 P **P** 16 11 34.8 +0.7
BUR08 Bucovina Ar. S 73.13 318 P **P** 16 11 34.9 +0.7
RNPP5 Staryi Chortor 73.49 322 P **P** 16 11 36.8 +0.7
STNU Starunia 73.81 319 P **P** 16 11 39.4 +1.4
BLKB Belogradchik 74.14 314 ⇑P **P** 16 11 40.2 +0.1
JOF Joensuu 74.22 335 *e*P **P** 16 11 39.8 -0.4
MORS Morshin 74.29 320 P **P** 16 11 42.1 +1.3
MARR Marisel-Cluj 74.34 317 ⇑P **P** 16 11 42.4 +1.1
MEZ Mezhgor'ye 74.41 319 P **P** 16 11 43.3 +1.7
DZM Mont Dzumac 74.59 114 *e*LR LR 16 33 57.3
comp=Z,257nm,23.9s
KORU Korolevo 74.59 319 P **P** 16 11 44.6 +2.0
BOSA Boshof 74.62 239 LR LR 16 41 48.9
comp=Z,85nm,18.4s,baz=57,slow=34
SHIU Shidnytsya 74.65 320 P **P** 16 11 44.8 +1.9
BRIU Brid 74.70 319 P **P** 16 11 44.8 +1.6
BOVS Bovan 74.84 314 ⇓P **P** 16 11 44.0 -0.1
BERU Beregovo 74.93 319 P **P** 16 11 45.0 +0.5
LVZ Lovozero 74.98 340 P **P** 16 11 43.9 -0.6
LVZ Lovozero 74.98 340 P **P** 16 11 44.2 -0.3
comp=Z,25nm,0.7s
KWP Kalwaria Pacla 75.14 320 P **P** 16 11 47.7 +1.9
comp=Z,20nm,1.4s
KOLS Kolonicke sedl 75.30 319 *e*P **P** 16 11 48.7 +2.0
MAW Mawson 75.49 192 LR LR 16 38 08.0
comp=Z,138nm,21.7s,baz=66,slow=30
PABE Paberze 75.60 326 P **P** 16 11 47.8 -0.4
PABE IAmb IAmb 16 11 49.8
comp=Z,16nm,0.6s
PABE Paberze 75.60 326 *e*P **P** 16 11 49.2 +1.0
SUW Suwalki 75.72 325 P **P** 16 11 49.4 +0.5
CRVS Cervenica-Dubn 75.82 319 *e*P **P** 16 11 51.6 +1.9
STHS Stebnicka Huta 76.04 320 *e*P **P** 16 11 51.5 +0.5
FINES FINESS Array B 76.06 332 P **P** 16 11 50.8 +0.1
comp=Z,2.8nm,0.3s,baz=108,slow=5.5,SNR=71
FINES LR LR 16 49 24.6
comp=Z,29nm,19.6s,baz=26,slow=39
comp=Z,2.8nm,0.3s
KECS Kecovo 76.39 319 *e*P **P** 16 11 53.2 +0.3
MTSE Matsula 76.44 329 *e*P **P** 16 11 53.7 +0.8
MEF Metsahovi 76.52 331 *e*P **P** 16 11 53.5 +0.1
NIE Niedzica 76.65 320 P **P** 16 11 56.1 +1.7
comp=Z,3.4nm,1.4s
PSZ Piszkesteto 76.70 318 P **P** 16 11 55.6 +0.8
KEF Keuruu 76.81 333 *e*P **P** 16 11 54.8 -0.1
PBUR Paburge 76.84 327 *e*P **P** 16 11 55.4 +0.2
OJC Ojcow 77.09 320 P **P** 16 11 57.1 +0.2
OJC IAmb IAmb 16 11 59.4
comp=Z,13nm,1.1s
OJC Ojcow 77.09 320 P **P** 16 11 58.0 +1.2
comp=Z,11nm,1.3s
LANS Liptovska Anna 77.15 319 *e*P **P** 16 11 57.7 +0.4
MORH Mrgy, Hungar 77.33 316 ⇑P **P** 16 11 58.6 +0.4
MORH Mrgy, Hungar 77.33 316 P **P** 16 11 59.5 +1.3
comp=Z,4.3nm,0.9s
VYHS Vyhne 77.48 319 *e*P **P** 16 12 00.2 +1.1
RAF Rauma 77.97 332 *e*P **P** 16 12 01.2 -0.2
VAF Ylistaro 78.02 334 *e*P **P** 16 12 02.2 +0.5
MPLH Magyarpolny 78.19 317 P **P** 16 12 04.3 +1.3
comp=Z,50nm,1.3s
JAVC Velka Javorina 78.29 319 *e*P **P** 16 12 04.7 +1.1
MORC Moravsky Berou 78.48 320 ⇑P **P** 16 12 05.3 +0.7
MORC Moravsky Berou 78.48 320 P **P** 16 12 04.7 +0.1
MORC Moravsky Berou 78.48 320 *e*P **P** 16 12 05.3 +0.7
ARCES ARCESS Array B 78.68 340 P **P** 16 12 05.7 +0.4
comp=Z,3.9nm,0.6s,baz=93,slow=5.6,SNR=59
ARCES LR LR 16 52 38.7
comp=Z,36nm,18.2s,baz=105,slow=40
comp=Z,3.9nm,0.6s
KRLC Kraliky 79.00 320 *e*P **P** 16 12 09.7 +2.2
KRUC Moravsky 79.15 319 *e*P **P** 16 12 08.7 +0.5
SUR Sutherland 79.21 236 LR LR 16 42 35.2
comp=Z,72nm,18.4s,baz=78,slow=32
CONA Conrad Observa 79.40 318 *i* P **P** 16 12 10.6 +0.8
comp=Z,2.7nm,0.8s
ARSA Arzberg 79.57 317 *i* P **P** 16 12 12.7 +2.0
comp=Z,3.6nm,0.8s
TSUM Tsumeb 79.71 250 LR LR 16 43 38.4
comp=Z,96nm,20.9s,baz=94,slow=33
SOKA Soboth 79.86 316 *i* P **P** 16 12 14.3 +2.0
comp=Z,12nm,1.1s
OBKA Obir 80.18 316 *i* P **P** 16 12 15.9 +1.8
comp=Z,15nm,1.7s
CKRC Cesky Krumlov 80.50 319 *e*P **P** 16 12 19.3 +3.7
MYKA Terra Mystica 80.81 316 *i* P **P** 16 12 18.2 +0.8
comp=Z,3.2nm,0.7s
PRED Cave del Predi 80.86 316 P **P** 16 12 17.0 -0.6
BIOA Bad Ischl, Aus 80.87 317 *i* P **P** 16 12 18.8 +1.2
comp=Z,3.5nm,0.6s
GEC2 GERESS Array S 80.90 319 P **P** 16 12 18.1 +0.3
GERES GERESS Array B 80.90 319 P **P** 16 12 17.7 -0.1
GERES GERESS Array B 80.90 319 P **P** 16 12 19.2 +1.4
comp=Z,2.3nm,0.6s,baz=128,slow=8.6,SNR=9.5
comp=Z,2.3nm,0.6s
KHC Kasperske Hory 81.00 319 *e*P **P** 16 12 21.1 +2.8
KBA Koelnbreinsper 81.04 317 *i* P **P** 16 12 19.1 +0.4
comp=Z,2.6nm,0.7s
CLL Collm 81.50 321 *e*P **P** 16 12 22.0 +1.2
LESA Schwarzleotal 81.51 317 *i* P **P** 16 12 21.0 0.0
comp=Z,3.7nm,0.4s
ABTA Abfaltersbach 81.59 316 *e*P **P** 16 12 19.9 -1.7
comp=Z,1.8nm,0.7s
HFS Hagfors 81.77 330 P **P** 16 12 22.6 +0.5
comp=Z,2.5nm,0.5s,baz=118,slow=5.4,SNR=20
HFS LR LR 16 52 57.2
comp=Z,35nm,18.4s,baz=100,slow=39
comp=Z,2.5nm,0.5s
WTTA Wattenberg 82.21 317 *i* P **P** 16 12 25.2 +0.3
comp=Z,5.7nm,0.6s
SQTA Sankt Quirin 82.50 317 *i* P **P** 16 12 26.7 +0.4
comp=Z,7.2nm,0.5s
MOTA Moosalm 82.58 317 *i* P **P** 16 12 27.4 +0.7
comp=Z,5.1nm,0.7s
RETA Reutte 82.81 317 *i* P **P** 16 12 28.5 +0.6
comp=Z,7.4nm,0.5s
FETA Feichten 82.83 317 *i* P **P** 16 12 28.1 0.0
comp=Z,2.5nm,0.6s
NOA NORSAR Array B 83.06 331 LR LR 16 53 46.6
comp=Z,17nm,18.6s,baz=80,slow=39

SPITS Spitsbergen Ar 83.26 348 P **P** 16 12 30.3 +0.8
comp=Z,3.9nm,0.5s,baz=114,slow=9.2,SNR=16
SPITS LR LR 16 55 16.5
comp=Z,59nm,21.8s,baz=50,slow=40
comp=Z,3.9nm,0.5s
DAVA Damuels 83.41 317 *i* P **P** 16 12 32.8 +1.8
comp=Z,4.3nm,1.0s
C18K Utukok River 90.78 21 P **P** 16 13 04.9 -1.3
EKA Eskdalemuir Ar 90.96 326 P **P** 16 13 07.3 +0.1
comp=Z,0.6nm,0.5s,baz=112,slow=3.8,SNR=4.3
comp=Z,0.6nm,0.5s
E18K Tukpahlearik C 91.30 22 P **P** 16 13 08.9 +0.3
E18K IAmb IAmb 16 13 11.3
comp=Z,6.0nm,0.9s
TORD Torodi Ar. Bea 92.24 283 P **P** 16 13 14.9 +0.8
comp=Z,0.4nm,0.8s,baz=94,slow=6.5,SNR=2.6
comp=Z,0.4nm,0.8s
J16K Anvik River 92.37 26 P **P** 16 13 14.0 +0.3
J16K IAmb IAmb 16 13 15.9
comp=Z,10nm,1.4s
F19K Shaleruckik Mo 92.53 22 P **P** 16 13 14.3 0.0
F19K IAmb IAmb 16 13 15.9
comp=Z,8.7nm,1.2s
E19K Redstone River 92.54 22 P **P** 16 13 13.9 -0.5
E19K IAmb IAmb 16 13 16.3
comp=Z,6.8nm,0.8s
G19K Purcell Mounta 93.00 23 P **P** 16 13 15.8 -0.8
G19K IAmb IAmb 16 13 18.4
comp=Z,5.1nm,0.8s
F20K Avaraart Lake 93.23 22 P **P** 16 13 17.5 0.0
E21K Killik River 93.37 20 P **P** 16 13 17.7 -0.5
E21K IAmb IAmb 16 13 20.4
comp=Z,5.2nm,0.8s
H19K Roundabout Mou 93.45 23 P **P** 16 13 18.8 +0.3
F21K Alatna River 93.99 21 P **P** 16 13 20.6 -0.5
F21K IAmb IAmb 16 13 50.1
comp=Z,4.8nm,1.2s
G21K Allakaket 94.24 22 P **P** 16 13 23.0 +0.8
QSPA South Pole Qui 94.47 180 LR LR 16 50 55.3
comp=Z,231nm,21.1s,baz=350,slow=32
J20K Nowinta River 94.83 24 P **P** 16 13 24.2 -0.8
J20K IAmb IAmb 16 13 27.2
comp=Z,3.9nm,0.8s
D25K Kavik River 95.49 18 P **P** 16 13 28.3 +0.4
D25K IAmb IAmb 16 13 31.2
comp=Z,3.9nm,1.0s
H23K Yukon River 95.99 22 P **P** 16 13 30.7 +0.5
BPAW Bear Paw Mtn. 96.15 24 P **P** 16 13 31.3 +0.3
BORG Borgarnes 96.83 337 LR LR 17 00 29.3
comp=Z,38nm,19.4s,baz=133,slow=38
KDAK Kodiak Island 97.86 30 LR LR 17 04 25.4
comp=Z,58nm,18.1s,baz=274,slow=40
DBIC Dimbokro 99.28 277 LR LR 16 55 07.7
comp=Z,53nm,21.8s,baz=101,slow=33
INK Inuvik 99.91 16 LR LR 17 04 43.8
comp=Z,72nm,19.5s,baz=354,slow=39
TBI Tubuai 115.17 114 *e*LR LR 16 52 37.3
comp=Z,1μm,35.0s
TBI *e*LR LR 16 52 41.5
comp=Z,1μm,33.0s
PPT2 Papeete2 115.54 107 *e*LR LR 16 52 37.5
comp=Z,132nm,23.2s
PPT2 *e*LR LR 16 52 45.1
comp=Z,133nm,22.2s
NVAR Mina Array Bea 127.25 33 PKP **PKiKP** 16 19 10.1 +1.1
comp=Z,0.4nm,0.6s,baz=333,slow=3.0,SNR=4.4
PDAR Pinedale Array 127.89 23 PKP **PKPdf** 16 19 09.7 +0.1
comp=Z,0.2nm,0.3s,baz=291,slow=2.5,SNR=4.5
TXAR Lajitas Array 141.82 27 PKiKP PKPpre 16 19 31.9
comp=Z,0.3nm,0.5s,baz=320,slow=1.7,SNR=4.6
CPUP Villa Florida 145.84 228 PKPbc **PKiKP** 16 19 45.3 -1.4
comp=Z,1.9nm,0.9s,baz=164,slow=5.7,SNR=3.9

*TRN **16** 16:01:38.8, 10°.88N×62°.01W, h27km, MD3.6, North of the Paria peninsula.*
*FUNV **16** 16:01:38.0, 10°.92N×62°.00W, h7km, MW3.6*
ISC 16 16:01:38.8±1.5, 10°.87N±0°.06×62°.03W±0°.06, h29km±19km, n29, σ0°892/45, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.65**	**110**	*e*P	**Pb**	**16 01 51.7**	**-0.1**
TRN				*e*S	**Sb**	**16 02 00.3**	**-0.3**
TPP	**Pointe-a-Pierr**	**0.79**	**134**	*e*P	**Pn**	**16 01 54.6**	**+0.5**
TBH	**Brigand Hill**	**1.02**	**112**	*e*P	**Pb**	**16 01 57.7**	**-0.2**
CRUV	**Carupano**	**1.20**	**261**	*e*P	**Pn**	**16 02 00.1**	**+0.4**
CRUV				*e*S	**Sn**	**16 02 16.0**	**+0.9**
CRUV	**Carupano**	**1.20**	**261**	*e*P	**Pn**	**16 02 00.1**	**+0.4**
CRUV				*e*S	**Sn**	**16 02 15.8**	**+0.7**
GRFF	**Grenada Fort F**	**1.21**	**14**	*e*P	**Pn**	**16 01 59.7**	**-0.2**
GRFF				*e*S	**Sn**	**16 02 14.7**	**-0.5**
GRGR	**Grenville**	**1.31**	**16**	*e*P	**Pn**	**16 02 00.8**	**-0.4**
GRGR				*e*S	**Sn**	**16 02 17.7**	**-0.1**
GRW	**Mount Saint Ca**	**1.33**	**16**	*e*P	**Pn**	**16 02 01.7**	**+0.1**
GRW				*e*S	**Sn**	**16 02 18.5**	**0.0**
GRHS	**Sauteurs**	**1.40**	**16**	*e*P	**Pn**	**16 02 02.5**	**+0.1**
GRHS				*e*S	**Sn**	**16 02 19.2**	**-0.8**
GRIC	**Isle de Caille**	**1.47**	**17**	*e*P	**Pn**	**16 02 04.2**	**+0.8**
GRIC				*e*S	**Sn**	**16 02 22.1**	**+0.3**
GRSS	**Sisters**	**1.48**	**16**	*e*P	**Pn**	**16 02 03.6**	**0.0**
GRSS				*e*S	**Sn**	**16 02 21.9**	**0.0**
GCMP	**Grenada, Carri**	**1.71**	**20**	*e*P	**Pn**	**16 02 06.4**	**-0.3**
GCMP				*e*S	**Sn**	**16 02 27.6**	**0.0**
SVOC	**Richmond Hill,**	**2.40**	**19**	*e*S	**Sn**	**16 02 45.1**	**+0.4**
SVT	**Saint Vincent**	**2.41**	**19**	x	**Sn**	**16 02 46.8**	**+1.8**
SVB	**Belmont**	**2.51**	**18**	*e*P	**Pn**	**16 02 18.4**	**+0.7**
SVB				*e*S	**Sn**	**16 02 47.5**	**+0.1**
PCRV	**Puerto La Cruz**	**2.65**	**255**	*e*P	**Pn**	**16 02 20.6**	**+0.8**
PCRV				*e*S	**Sn**	**16 02 51.1**	**0.0**
PCRV	**Puerto La Cruz**	**2.65**	**255**	*e*P	**Pn**	**16 02 21.2**	**+1.4**
PCRV				*e*S	**Sn**	**16 02 50.5**	**-0.6**
SLCP	**Castries, St.**	**3.28**	**18**	*e*P	**Pn**	**16 02 29.0**	**+0.7**
SLBI	**Saint Lucia, B**	**3.30**	**18**	*e*P	**Pn**	**16 02 29.2**	**+0.6**
SLBI				*e*S	**Sn**	**16 03 05.8**	**-1.1**
MPOM	**Morne Pois Mar**	**3.73**	**18**	*e*P	Pb	16 02 53.0	+8.9
BIM	**Bigot**	**3.74**	**14**	*e*P	**Pn**	**16 02 35.2**	**+0.5**
BIM				*e*S	**Sn**	**16 03 16.2**	**-1.7**
TACV	**Tcata**	**4.97**	**262**	*e*P	**Pn**	**16 02 52.5**	**+0.8**
TACV				*e*S	**Sn**	**16 03 46.8**	**-1.4**
CBE	**Ff, Capester**	**5.18**	**4**	*e*P	Pn	16 03 01.0	+6.5
CACV	**CAICARA DEL OR**	**5.53**	**234**	*e*P	Pn	16 02 53.6	-5.7
CACV				*e*S	Sn	16 03 50.3	-12
BENV	**Beln**	**5.55**	**261**	*e*P	**Pn**	**16 03 00.1**	**+0.4**
BENV				*e*S	**Sn**	**16 04 00.7**	**-1.9**
MBFL	**Flemmings, Mon**	**5.85**	**358**	*e*P	**Pn**	**16 03 04.5**	**+0.9**
ANBD	**Bethesda, Anti**	**6.15**	**2**	*e*P	**Pn**	**16 03 09.0**	**+1.2**
BAUV	**El Baul**	**6.22**	**253**	*e*P	**Pn**	**16 03 09.4**	**+0.5**
BAUV				*e*S	**Sn**	**16 04 16.5**	**-2.6**
BAUV	**El Baul**	**6.22**	**253**	*e*P	**Pn**	**16 03 10.0**	**+1.1**
BAUV				*e*S	**Sn**	**16 04 17.9**	**-1.2**

*NEIC **16** 16:22:14.3±2.1, 5°.57S±0°.04×145°.85E±0°.08, h52km±7km, mb4.5/48, Error ellipse: s-maj=12.6km s-min=4.6km az=112.0*
*IDC **16** 16:22:15.0±2.2, 5°.63S×146°.03E, h70km±21km, mb3.9/17, mbtmp4.3/19, MS3.6/19, Error ellipse: s-maj=21.6km s-min=9.7km az=95.0*
*DJA **16** 16:22:15.1±0.6, 6°S±3°×14°6E±°, h37km±8km, M4.6/24, mB5.0/4, mb4.6/24, MLv4.6/4, Mw(mB)4.3/4*
ISC 16 16:22:15.9±0.3, 5°.64S±0°.05×145°.94E±0°.06, h69km, n339, σ1°906/321, mb4.5/45, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.84**	**22**	Pn	**Pn**	**16 23 10.1**	**-2.6**
PMG	**Port Moresby**	**3.93**	**162**	P	**Pn**	**16 23 13.1**	**-0.7**
	234nm,0.4s,baz=22,slow=5.9,SNR=257						
PMG				S	**Sn**	**16 23 57.9**	**-0.9**
	165nm,0.4s,baz=353,slow=12,SNR=4.0						
PMG				LR	LR	16 25 21.1	
	comp=Z,1μm,20.2s,baz=348,slow=48						
JAY	**Jayapura**	**6.08**	**301**	P	**Pn**	**16 23 44.1**	**+0.9**
	25nm,0.9s,0.1nm						
RABL	**Rabaul**	**6.36**	**77**	Pn	**Pn**	**16 23 45.0**	**-2.1**
GENI	**Genyem**	**6.51**	**297**	P	**Pn**	**16 23 51.0**	**+1.9**
	66nm,1.0s,0.5nm						
COEN	**Coen**	**8.70**	**198**	P	**Pn**	**16 24 18.3**	**-0.8**
COEN	**Coen**	**8.70**	**198**	Pn	**Pn**	**16 24 17.8**	**-1.4**
MTSU	**Mount Surprise**	**12.52**	**187**	P	**Pn**	**16 25 11.6**	**+0.3**
FAKI	**Fak Fak**	**13.92**	**281**	P	**Pn**	**16 25 32.7**	**+2.7**
	25nm,1.6s						

CTAO Charters Tower 14.37 179 P **Pn** 16 25 36.7 +0.8
CTAO Charters Tower 14.37 179 Pn **Pn** 16 25 37.5 +1.6
HNR Honiara 14.38 106 Pn **Pn** 16 25 37.5 +1.4
KDU Kakadu 15.02 241 P **Pn** 16 25 41.2 -3.2
SWI Sorong 15.40 287 P **P** 16 25 52.9 +0.4
38nm,0.8s
QIS Mount Isa 16.06 202 P **Pn** 16 25 56.7 -0.8
MTN Manton Dam 16.27 243 Pn **Pn** 16 25 56.1 -4.1
MTN IAmb IAmb 16 26 00.1
comp=Z,50nm,1.3s
WB0 Warramunga Arr 17.99 218 **P** 16 26 19.8 -1.2
WR0 Warramunga Arr 18.04 217 P **P** 16 26 20.2 -1.5
WB2 Warramunga Arr 18.14 217 P **P** 16 26 21.6 -1.2
WRA Warramunga Arr 18.15 217 P **P** 16 26 21.2 -1.6
WRA Warramunga Arr 18.15 217 P **P** 16 26 22.0 -0.9
comp=Z,5.7nm,0.7s,baz=44,slow=12,SNR=29
NLAI Namlea 18.94 276 P **Pn** 16 26 35.8 +3.0
comp=Z,248nm,0.6s
LBMI Labuha 19.07 284 P **Pn** 16 26 38.2 +3.8
comp=Z,29nm,0.8s,comp=Z,809nm
TNTI Ternate 19.61 288 P **Pn** 16 26 43.3 +2.5
comp=Z,7.0nm,1.2s
SANI Sanana 20.22 279 P **P** 16 26 45.0 -0.5
SANI Sanana 20.22 279 P Pn 16 26 48.6 +0.6
comp=Z,15nm,1.0s
EIDS Eidsvold 20.23 166 P **P** 16 26 45.6 +0.2
EIDS IAmb IAmb 16 26 47.3
comp=Z,31nm,1.1s
QLP Quilpie 20.89 184 P **P** 16 26 53.6 +1.0
AS31 Alice Springs 21.34 212 P **P** 16 26 56.1 -1.5
ASAR Alice Springs 21.35 212 P **P** 16 26 56.8 -0.8
ASAR Alice Springs 21.35 212 P **P** 16 26 56.4 -1.2
comp=Z,4.8nm,0.6s,baz=52,slow=7.9,SNR=85
ASAR S **S** 16 30 51.9 +0.8
comp=Z,1.7nm,0.9s,baz=29,slow=21,SNR=5.7
ASAR LR LR 16 36 08.8
comp=Z,339nm,20.4s,baz=37,slow=39
comp=Z,4.8nm,0.6s
SOEI Soe 21.86 258 P **P** 16 27 07.7 +4.4
comp=Z,60nm,1.3s
BATI Baumata 22.52 257 P **P** 16 27 10.8 +0.6
comp=Z,14nm,0.3s,baz=56,slow=4.5,SNR=1.7
BATI LR LR 16 37 52.0
comp=Z,436nm,21.9s,baz=126,slow=41
comp=Z,14nm,0.3s
BATI Baumata 22.52 257 P **P** 16 27 13.8 +3.5
comp=Z,57nm,1.1s
INKA Innaminka 22.53 192 P **P** 16 27 10.2 0.0
BBSI Bau Bau 23.26 269 P **P** 16 27 21.9 +4.2
comp=Z,35nm,1.1s
FITZ Fitzroy Crossi 23.38 236 P **P** 16 27 18.2 -0.5
MMRI Maumere 23.71 261 P **P** 16 27 18.2 -3.6
GTOI Gorontalo 23.73 285 P **P** 16 27 23.7 +1.7
DAV Davao City (W) 23.92 302 LR LR 16 37 33.4
comp=Z,58nm,19.6s,baz=100,slow=38
OOD Oodnadatta 24.09 203 P **P** 16 27 25.2 +0.1
ARMA Armidale 25.22 168 P **P** 16 27 36.8 +1.3
ARMA IAmb IAmb 16 27 51.0
comp=Z,38nm,1.5s
WRKA Warakurna 25.66 219 P **P** 16 27 39.2 -0.3
DZM Mont Dzumac 25.69 131 P **P** 16 27 42.3 +2.5
DZM IAmb IAmb 16 27 44.2
comp=Z,28nm,1.3s
LCRK Leigh Creek 25.73 196 P **P** 16 27 40.6 +0.7
TOLI2 Tolitoli 26.01 284 P **P** 16 27 43.3 +0.6
TOLI2 Tolitoli 26.01 284 P **P** 16 27 41.7 -1.0
TOLI2 IAmb IAmb 16 28 19.2
comp=Z,10nm,1.0s
KAPI Kappang 26.09 270 LR LR 16 39 21.9
comp=Z,130nm,20.3s,baz=92,slow=39
STKA Stephens Creek 26.42 188 P **P** 16 27 46.3 +0.1
STKA Stephens Creek 26.42 188 P **P** 16 27 45.8 -0.4
STKA Stephens Creek 26.42 188 P **P** 16 27 46.0 -0.2
comp=Z,16nm,0.8s,baz=347,slow=8.9,SNR=26
STKA LR LR 16 39 03.4
comp=Z,179nm,20.1s,baz=6.2,slow=38
comp=Z,16nm,0.8s
MULG Mulgathing 26.95 203 P **P** 16 27 50.9 -0.1
HTT Hallett 28.41 192 P **P** 16 28 05.3 +1.2
YNG Young 28.61 176 P **P** 16 28 08.0 +2.2
FORT Forrest 30.13 212 P **P** 16 28 19.6 +0.3
H11S3 WAKE ISLAND Hy 31.52 40 T T 17 01 37.8
baz=221,slow=70,SNR=11
H11S2 WAKE ISLAND Hy 31.53 40 T T 17 01 38.0
baz=221,slow=70,SNR=5.9
H11S1 WAKE ISLAND Hy 31.54 40 T T 17 01 39.2
baz=221,slow=70,SNR=6.3
TGY Tagaytay City 31.63 309 LR LR 16 43 29.2
comp=Z,58nm,18.0s,baz=162,slow=40
TOO Toolangi 31.79 181 P **P** 16 28 34.4 +0.6
TOO IAmb IAmb 16 28 55.0
comp=Z,13nm,1.1s
H11N1 WAKE ISLAND Hy 32.55 39 T T 17 03 03.4
baz=221
H11N3 WAKE ISLAND Hy 32.57 39 T T 17 02 56.6
baz=221
H11N2 WAKE ISLAND Hy 32.57 39 T T 17 02 59.8
baz=221
MEEK Meekatharra 33.40 228 P **P** 16 28 47.7 -0.4
JOW Kunigami 36.53 333 LR LR 16 43 37.3
comp=Z,48nm,18.8s,baz=148,slow=35
KLBR Kellerberrin 36.92 222 P **P** 16 29 18.2 -0.1
BLDU Ballidu 37.04 224 P **P** 16 29 19.1 -0.2
NWAO Narrogin (SRO) 38.10 221 LR LR 16 46 18.3
comp=Z,193nm,21.3s,baz=36,slow=38
LEM Lembang 38.11 266 LR LR 16 47 49.8
comp=Z,23nm,21.4s,baz=302,slow=40
OUZ Omahuta 38.94 143 P **P** 16 29 39.2 +4.0
JNU Nakatsue 41.12 341 P **P** 16 29 52.5 -0.7
JNU IAmb IAmb 16 29 55.6
comp=Z,11nm,1.0s
JNU Nakatsue 41.12 341 LR LR 16 43 14.7
comp=Z,100nm,20.5s,baz=170,slow=31
MJAR Matsushiro Arr 42.58 351 P **P** 16 30 04.1 -1.0
comp=Z,1.5nm,0.6s,baz=145,slow=6.7,SNR=6.3
comp=Z,1.5nm,0.6s
URZ Urewera 43.06 143 LR LR 16 49 25.3
comp=Z,122nm,18.2s,baz=31,slow=38
RTZ Ruatahuna 43.22 144 P **P** 16 30 10.6 +0.2
BKZ Black Stump Fm 43.31 145 P **P** 16 30 11.6 +0.5
TCW Tory Channel 43.53 149 P **P** 16 30 13.2 +0.4
MRZ Mangatainoka R 43.83 147 P **P** 16 30 15.3 +0.1
RPZ Rata Peaks 43.89 154 P **P** 16 30 18.7 +3.0
BFZ Birch Farm 44.21 147 P **P** 16 30 22.2 +4.0
BFZ Birch Farm 44.21 147 P **P** 16 30 18.1 -0.1
NJ2 Nanjing 45.50 327 *e*P **P** 16 30 28.9 +0.3
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
KSRS Korea Array 46.05 340 P **P** 16 30 31.9 -0.8
comp=Z,1.7nm,0.8s,baz=157,slow=8.6,SNR=5.7
KSRS LR LR 16 48 47.5
comp=Z,62nm,19.7s,baz=165,slow=35
comp=Z,1.7nm,0.8s
KULM Kulim 46.51 283 P **P** 16 30 36.9 +0.1
ASAJ Asahikawa 49.62 357 LR LR 16 50 43.0
comp=Z,25nm,21.4s,baz=210,slow=34
USA0B Ussuriysk Arra 51.18 347 P **P** 16 31 12.0 -0.1
USRK Ussuriysk Ar. 51.18 347 P **P** 16 31 11.7 -0.3
USRK Ussuriysk Ar. 51.18 347 P **P** 16 31 11.2 -0.9
comp=Z,4.9nm,0.7s,baz=178,slow=6.2,SNR=18
comp=Z,4.9nm,0.7s
MDJ Mudanjiang 52.14 345 P **P** 16 31 20.4 +1.2
MDJ pmax pmax
comp=Z,9.0nm,1.5s
MDJ pmax pmax
comp=Z,200nm,11.6s
CMAR Chiang Mai Arr 52.15 298 P **P** 16 31 19.4 -0.4
comp=Z,1.1nm,0.8s,baz=126,slow=6.5,SNR=3.5
CMAR LR LR 16 51 19.5
comp=Z,20nm,21.6s,baz=220,slow=33
comp=Z,1.1nm,0.8s
HHC Hu-ho-hao-te 55.98 329 *e*P **P** 16 31 50.9 +3.5
HHC pmax pmax
comp=Z,4.0nm,0.6s
HHC pmax pmax
comp=Z,73nm,5.1s
KLR Kul'dur 56.03 349 LR LR 16 52 52.4
comp=Z,39nm,21.5s,baz=137,slow=33
XLT XiLinHaoTe 56.19 334 *e*P P 16 31 55.1 +6.3
XLT pP pP 16 32 07.5 +0.9
XLT sP sP 16 32 13.0 -1.4
XLT pmax pmax
comp=Z,10.0nm,0.8s
XLT pmax pmax
comp=Z,64nm,4.9s
HEH HeiHe 57.93 346 *e*P **P** 16 32 02.9 +2.0

PEA0B **Petropavlovsk-** 59.37 8 P P 16 32 10.8 -0.1
PETK **Petropavlovsk-** 59.37 8 P P 16 32 10.5 -0.3
PETK **Petropavlovsk-** 59.37 8 P P 16 32 09.6 -1.2
comp=Z,2.3nm,0.8s,baz=155,slow=6.3,SNR=8.9
PETK LR LR 16 53 51.7
comp=Z,44nm,21.9s,baz=196,slow=32
comp=Z,2.3nm,0.8s
GTA **Gaotai** 61.80 321 eP P 16 32 27.1 -0.7
GTA pP pP 16 32 31.5 -14
GTA pmax pmax
comp=Z,1.0nm,1.0s
SONM **Songino Array** 63.58 331 P P 16 32 39.4 -0.2
comp=Z,0.6nm,0.6s,baz=163,slow=6.3,SNR=5.3
SONM LR LR 17 01 31.0
comp=Z,43nm,18.8s,baz=95,slow=37
comp=Z,0.6nm,0.6s
VNDA **Vanda** 72.33 176 P P 16 33 33.5 -0.3
VNDA **Vanda** 72.33 176 P P 16 33 32.8 -1.0
comp=Z,1.1nm,0.7s,baz=334,slow=7.3,SNR=11
comp=Z,1.1nm,0.7s
SBA **Scott Base** 73.00 175 P P 16 33 38.0 +0.3
M11K **Mekoryuk** 75.70 22 P P 16 33 54.3 +0.7
baz=230
MK31 **Makanchi Array** 76.55 321 P P 16 33 58.1 -0.7
MKAR **Makanchi Array** 76.55 321 P P 16 33 57.1 -1.7
MKAR **Makanchi Array** 76.55 321 P P 16 33 58.5 -0.3
comp=Z,0.7nm,0.5s,baz=103,slow=6.9,SNR=11
comp=Z,0.7nm,0.5s
MAKZ **Makanchi** 76.76 321 P P 16 33 58.9 -1.1
O14K **Tigyukauivet M** 76.97 25 P P 16 34 01.5 +0.6
O14K IAmb IAmb 16 34 10.1
comp=Z,11nm,1.2s
O14K **Tigyukauivet M** 76.97 25 P P 16 34 01.7 +0.9
baz=234
N14K **Kuskokwak Cree** 77.19 24 P P 16 34 03.3 +1.3
baz=234
K13K **Kusilvak Mount** 77.27 22 P P 16 34 03.4 +0.9
baz=231
O15K **Ungalikthiuk R** 77.53 25 P P 16 34 05.3 +1.2
baz=236
M14K **Bethel** 77.57 23 P P 16 34 04.9 +0.8
M14K **Bethel** 77.57 23 P P 16 34 05.2 +1.1
baz=234
L14K **Kuka Creek** 77.64 23 P P 16 34 05.5 +0.9
L14K IAmb IAmb 16 34 06.4
comp=Z,6.5nm,0.9s
L14K **Kuka Creek** 77.64 23 P P 16 34 05.7 +1.1
baz=233
R16K **Pilot Point** 77.65 27 P P 16 34 05.7 +1.0
baz=236
CHIR **Chirikof Islan** 77.68 29 P P 16 34 05.6 +0.8
baz=240
N15K **Kwethluk River** 77.98 24 P P 16 34 07.1 +0.6
baz=235
M15K **Kasigluk River** 78.04 24 P P 16 34 07.6 +0.8
baz=235
ZALV **Zalesovo Beam** 78.15 328 P P 16 34 04.9 -2.6
comp=Z,0.9nm,0.5s,baz=125,slow=7.3,SNR=4.8
ZALV LR LR 17 08 42.6
comp=Z,29nm,20.5s,baz=77,slow=36
comp=Z,0.9nm,0.5s
J14K **Nanvaranak Lak** 78.19 21 P P 16 34 09.3 +1.8
baz=232
L15K **Ungalak Mounta** 78.31 23 P P 16 34 08.4 +0.2
baz=234
O16K **Kokwok River B** 78.50 25 P P 16 34 09.9 +0.5
O16K IAmb IAmb 16 34 16.9
comp=Z,5.4nm,1.1s
O16K **Kokwok River B** 78.50 25 P P 16 34 10.0 +0.5
baz=237
K15K **Wolf Creek Mou** 78.66 22 P P 16 34 11.3 +1.2
K15K IAmb IAmb 16 34 12.0
comp=Z,6.5nm,0.9s
K15K **Wolf Creek Mou** 78.66 22 P P 16 34 11.4 +1.2
baz=234
N16K **Nishlik Lake** 78.70 25 P P 16 34 11.5 +1.0
baz=237
ANM **Nome** 78.71 19 P P 16 34 11.5 +1.1
baz=230
SII **Sitkinak Islan** 78.74 29 P P 16 34 11.7 +0.9
baz=241
Q17K **Contact Creek** 78.78 27 P P 16 34 11.5 +0.4
baz=240
M16K **Timber Creek** 78.93 24 P P 16 34 12.5 +0.8
baz=236
F14K **Arctic Creek** 79.00 18 P P 16 34 13.1 +1.1
baz=229
P17K **Kvichak River** 79.01 26 P P 16 34 12.9 +0.8
baz=239
O17K **Koliganek Bris** 79.03 26 P P 16 34 13.2 +1.0
baz=238
L16K **Owhat River** 79.11 23 P P 16 34 11.6 -1.0
L16K IAmb IAmb 16 34 27.6
comp=Z,8.0nm,1.4s
L16K **Owhat River** 79.11 23 P P 16 34 12.9 +0.3
baz=236
N17K **Nushagak Hills** 79.39 25 P P 16 34 14.7 +0.5
baz=238
G15K **Niukluk** 79.43 19 P P 16 34 14.7 +0.4
baz=231
OHAK **Old Harbor** 79.49 29 P P 16 34 15.1 +0.3
baz=242
J16K **Anvik River** 79.58 22 P P 16 34 16.1 +0.9
J16K **Anvik River** 79.58 22 P P 16 34 16.2 +0.9
baz=234
F15K **North Star Dit** 79.69 19 P P 16 34 16.6 +0.8
baz=230
M17K **Holitna River** 79.75 24 P P 16 34 17.6 +1.4
baz=238
L17K **Donlin** 79.81 23 P P 16 34 17.5 +1.0
baz=237
H16K **Elim** 79.81 20 P P 16 34 17.6 +1.2
baz=233
I17K **Unalakleet** 79.90 21 P P 16 34 17.7 +0.8
baz=234
K17K **Iditarod** 80.13 23 P P 16 34 19.1 +0.9
baz=237
J17K **VABM Dome** 80.21 22 P P 16 34 19.5 +0.9
J17K IAmb IAmb 16 34 20.6
comp=Z,5.5nm,0.8s
J17K **VABM Dome** 80.21 22 P P 16 34 19.0 +0.4
baz=236
G16K **Koyuk River** 80.23 19 P P 16 34 19.5 +0.8
baz=232
KURBB **Kurchatov Arra** 80.31 323 P P 16 34 18.2 -1.2
comp=Z,0.5nm,0.5s,baz=117,slow=4.3,SNR=6.4
comp=Z,0.5nm,0.5s
L18K **Granite Mounta** 80.49 24 P P 16 34 20.8 +0.7
baz=238
P19K **Oil Pt** 80.66 27 P P 16 34 21.2 0.0
baz=242
N19K **Bonanza Creek** 80.68 25 P P 16 34 21.5 +0.2
baz=240
H17K **Granite Mounta** 80.79 20 P P 16 34 21.4 -0.3
H17K IAmb IAmb 16 34 23.4
comp=Z,5.4nm,0.8s
H17K **Granite Mounta** 80.79 20 P P 16 34 22.5 +0.8
baz=235
G17K **Kiwalik Mounta** 80.87 20 P P 16 34 23.1 +1.0
baz=234,SNR=5.3
O20K **Slope Mountain** 81.14 26 P P 16 34 23.8 +0.1
baz=242
J18K **Innoko River** 81.14 23 P P 16 34 23.9 +0.3
baz=238
L19K **White Mountain** 81.21 24 P P 16 34 24.9 +0.9
baz=240
F17K **Baldwin Pennin** 81.23 19 P P 16 34 24.6 +0.7
F17K IAmb IAmb 16 35 07.9
comp=Z,15nm,1.4s
F17K **Baldwin Pennin** 81.23 19 P P 16 34 24.6 +0.7
baz=233
M19K **Big River Lodg** 81.26 24 P P 16 34 23.9 -0.4
baz=240
HOM **Homer** 81.38 27 P P 16 34 25.4 +0.5
baz=243
D17K **Noatak River** 81.43 17 P P 16 34 25.4 +0.4
baz=232
E17K **Hotham Inlet** 81.44 18 P P 16 34 25.5 +0.5
baz=233,SNR=5.3
H18K **Honhosa River** 81.46 21 P P 16 34 26.0 +0.7
baz=236
RDOG **Red Dog Mine** 81.71 17 P P 16 34 27.5 +1.0
baz=232
L20K **Farewell, AK** 81.75 24 P P 16 34 27.1 +0.2
baz=241
M20K **Styx River** 81.77 25 P P 16 34 27.3 +0.3
baz=242
G18K **Tagagawik** 81.77 20 P P 16 34 26.6 -0.3
G18K IAmb IAmb 16 34 27.5
comp=Z,3.5nm,0.6s
G18K **Tagagawik** 81.77 20 P P 16 34 27.2 +0.4
baz=236,SNR=5.8
J19K **Poorman** 81.83 22 P P 16 34 27.5 +0.3
baz=239
N20K **Mount Spurr** 81.84 26 P P 16 34 27.6 +0.2
baz=242
F18K **Selawik** 81.84 19 P P 16 34 27.6 +0.4
baz=235
C17K **DeLong Mountai** 81.89 17 P P 16 34 27.8 +0.3
baz=231
E18K **Tukpahlearik C** 82.02 18 P P 16 34 27.4 -0.7
E18K IAmb IAmb 16 34 29.2
comp=Z,3.3nm,0.8s
E18K **Tukpahlearik C** 82.02 18 P P 16 34 28.7 +0.6
baz=234
K20K **Telida** 82.11 23 P P 16 34 29.4 +0.7
baz=240
MAW **Mawson** 82.17 203 P P 16 34 28.6 -0.4
comp=Z,2.7nm,0.5s,baz=107,slow=5.2,SNR=5.9
comp=Z,2.7nm,0.5s
H19K **Roundabout Mou** 82.34 21 P P 16 34 30.5 +0.7
baz=238,SNR=6.1
G19K **Purcell Mounta** 82.45 20 P P 16 34 30.8 +0.4
baz=237,SNR=6.6
J20K **Nowinta River** 82.48 22 P P 16 34 30.9 +0.3
baz=240
SKT **Skwentna** 82.48 25 P P 16 34 31.8 +1.1
baz=243
SUA **Susitna One** 82.59 26 P P 16 34 31.7 +0.3
baz=244
F19K **Shaleruckik Mo** 82.59 19 P P 16 34 30.4 -0.7
F19K **Shaleruckik Mo** 82.59 19 P P 16 34 31.2 +0.1
baz=237
I20K **Naaghedeneel** 82.67 22 P P 16 34 31.6 +0.1
baz=240
H20K **Anotleneega Mo** 82.88 21 P P 16 34 32.9 +0.3
baz=240
CAST **Castle Rocks** 82.92 24 P P 16 34 33.2 +0.2
baz=242
M22K **Willow** 82.98 26 P P 16 34 33.4 +0.2
baz=244
CHUM **Lake Minchumin** 83.05 23 P P 16 34 34.2 +0.6
baz=242,SNR=6.7
E19K **Redstone River** 83.11 19 P P 16 34 33.8 0.0
baz=237
KKAR **Karatay Array** 83.29 314 P P 16 34 34.2 -1.1
C19K **Lookout Ridge** 83.32 17 P P 16 34 35.4 +0.5
C19K **Lookout Ridge** 83.32 17 P P 16 34 34.5 -0.4
baz=235
F20K **Avaraart Lake** 83.39 20 P P 16 34 35.2 0.0
F20K IAmb IAmb 16 34 36.3
comp=Z,2.3nm,0.7s
F20K **Avaraart Lake** 83.39 20 P P 16 34 35.8 +0.5
baz=239
D19K **Kuna River** 83.41 18 P P 16 34 35.6 +0.2
baz=236
KNK **Knik Glacier** 83.56 26 P P 16 34 36.4 +0.2
baz=246
TRF **Thorofare Moun** 83.66 24 P P 16 34 36.3 -0.6
baz=244
BPAW **Bear Paw Mtn.** 83.67 23 P P 16 34 36.3 -0.5
baz=243
H21K **Melozitna Rive** 83.71 21 P P 16 34 36.6 -0.3
baz=242
SML **Sawmill** 83.78 26 P P 16 34 37.3 -0.1
baz=246
I21K **Tanana** 83.79 22 P P 16 34 37.1 -0.2
baz=242
G21K **Allakaket** 83.88 21 P P 16 34 38.0 +0.2
baz=241
E20K **Nigu River** 83.88 19 P P 16 34 37.6 -0.2
baz=238
D20K **Etivluk River** 83.99 18 P P 16 34 37.7 -0.7
baz=238
M23K **Glacier View** 84.03 26 P P 16 34 38.8 +0.2
baz=246
WAT1 **Susitna Watana** 84.11 25 P P 16 34 38.3 -0.8
baz=246
MLY **Manley** 84.19 22 P P 16 34 38.9 -0.5
baz=243,SNR=6.9
RND **Reindeer** 84.22 24 P P 16 34 38.3 -1.4
RND IAmb IAmb 16 34 39.5
comp=Z,5.0nm,0.8s
SCM **Sheep Creek Mo** 84.22 26 P P 16 34 39.1 -0.6
baz=247
F21K **Alatna River** 84.23 20 P P 16 34 39.6 0.0
baz=241
MCK **McKinley** 84.33 24 P P 16 34 39.6 -0.5
baz=245
QSPA **South Pole Qui** 84.33 180 P P 16 34 39.8 -0.5
QSPA IAmb IAmb 16 34 51.1
comp=Z,4.5nm,0.8s
QSPA **South Pole Qui** 84.33 180 P P 16 34 39.1 -1.2
comp=Z,2.4nm,0.7s,baz=11,slow=0.7,SNR=20
comp=Z,2.4nm,0.7s
H22K **Ishtalitna Cre** 84.34 22 P P 16 34 39.7 -0.5
baz=243
WAT6 **Susitna Watana** 84.34 25 P P 16 34 40.2 -0.2
baz=246
B20K **Meade River** 84.53 17 P P 16 34 40.6 -0.4
B20K **Meade River** 84.53 17 P P 16 34 41.0 0.0
baz=237
NEA2 **Nenana** 84.64 23 P P 16 34 42.1 +0.4
baz=245
E21K **Killik River** 84.68 19 P P 16 34 41.7 -0.2
E21K IAmb IAmb 16 34 42.6
comp=Z,3.0nm,0.8s
E21K **Killik River** 84.68 19 P P 16 34 41.4 -0.5
baz=240
DHY **Denali Highway** 84.70 25 P P 16 34 41.5 -0.7
baz=247
KLU **Klutina** 84.71 27 P P 16 34 42.2 0.0
baz=248
I23K **Minto, Yukon-K** 84.76 23 P P 16 34 41.3 -0.9
I23K IAmb IAmb 16 34 44.2
comp=Z,4.7nm,1.1s
I23K **Minto, Yukon-K** 84.76 23 P P 16 34 42.5 +0.2
baz=245
G22K **Bettles** 84.77 21 P P 16 34 42.2 -0.1
baz=243
C21K **Knifeblade Rid** 84.79 18 P P 16 34 42.5 +0.1
baz=239
F22K **John River** 84.81 20 P P 16 34 43.0 +0.4
baz=242
M24K **Tolsona, Glenn** 84.83 26 P P 16 34 43.2 +0.4
baz=248
WRH **Wood River Hil** 84.97 23 P P 16 34 41.4 -1.9
WRH IAmb IAmb 16 34 42.6
comp=Z,3.0nm,0.8s
H23K **Yukon River** 84.99 22 P P 16 34 42.7 -0.7
H23K IAmb IAmb 16 34 44.3
comp=Z,2.3nm,0.8s
H23K **Yukon River** 84.99 22 P P 16 34 43.6 +0.2
baz=244
B21K **Ikpikpuk River** 85.08 18 P P 16 34 43.8 +0.1
baz=239
BMRM **Bremner River** 85.11 27 P P 16 34 43.9 -0.3
baz=249
G23K **Bananza Creek** 85.20 21 P P 16 34 45.1 +0.6
baz=244
E22K **Anaktuvuk Pass** 85.23 19 P P 16 34 45.2 +0.6
baz=242
D22K **Ayikyak River** 85.31 19 P P 16 34 45.6 +0.6
baz=241
N25K **Chitina, Valde** 85.34 27 P P 16 34 45.8 +0.5
baz=249
COLD **Coldfoot** 85.36 21 P P 16 34 45.9 +0.6
baz=244
PAX **Paxson** 85.46 25 P P 16 34 45.9 0.0
baz=248
POKR **Poker Plat Res** 85.49 23 P P 16 34 45.8 -0.2
baz=246
ILAR **Eielson Array** 85.57 23 P P 16 34 44.8 -1.5
comp=Z,3.7nm,0.7s,baz=254,slow=5.0,SNR=35
comp=Z,3.7nm,0.7s
H24K **Noodor Dome** 85.61 22 P P 16 34 46.2 -0.3
baz=246
K24K **Donnelly Dome** 85.64 24 P P 16 34 46.4 -0.3
baz=248
A22K **Sinclair Lake** 85.69 16 P P 16 34 47.0 +0.3
baz=239
B22K **Teshekpuk Lake** 85.80 17 P P 16 34 47.8 +0.5
baz=240
BVAR **Borovoye Array** 85.86 324 P P 16 34 46.4 -1.6
comp=Z,1.2nm,0.7s,baz=98,slow=4.5,SNR=7.6
comp=Z,1.2nm,0.7s
MCARA **McCarthy VSAT** 85.98 27 P P 16 34 48.6 +0.2
baz=251
D23K **Nanushuk River** 85.99 19 P P 16 34 48.6 +0.3
baz=243
MESA **MESA** 86.08 28 P P 16 34 48.8 -0.4
baz=252
J25K **Salcha River,** 86.11 24 P P 16 34 48.0 -1.1
baz=248,SNR=9.8
G24K **Hadweenzic Riv** 86.11 21 P P 16 34 48.7 -0.3
baz=246
TOLK **Toolik Lake Re** 86.20 19 P P 16 34 49.1 -0.3
baz=244
F24K **Squaw Lake** 86.30 21 P P 16 34 50.1 +0.1
baz=246,SNR=5.6
E24K **Your Creek** 86.32 20 P P 16 34 50.3 +0.2
baz=245
M26K **Nabesna, AK** 86.33 26 P P 16 34 50.1 -0.1
baz=251
PRP **Porcupine Dome** 86.39 23 P P 16 34 50.5 0.0
baz=248
C23K **Itkillik River** 86.40 18 P P 16 34 50.5 +0.2
baz=243
SCRK **Sand Creek** 86.44 25 P P 16 34 50.5 -0.3
baz=250
H25L **Birch Creek** 86.56 22 P P 16 34 51.4 +0.3
baz=248
CTG **Chitna Glacier** 86.62 28 P P 16 34 51.5 -0.2
baz=252
D24K **Happy Valley** 86.67 19 P P 16 34 52.3 +0.6
baz=245
J26L **Joseph Creek** 86.80 24 P P 16 34 52.6 +0.1
baz=250
M27K **Edge Creek, AK** 86.81 26 P P 16 34 52.7 0.0
baz=252
C24K **Franklin Bluff** 86.95 19 P P 16 34 53.3 +0.3
baz=245
L27K **Beaver Creek,** 87.05 26 P P 16 34 53.7 0.0
baz=252
O28M **Mount Upton** 87.09 28 P P 16 34 54.2 -0.1
baz=253
F25K **Christian Rive** 87.12 21 P P 16 34 54.7 +0.7
baz=248
PNL **Peninsula** 87.16 29 P P 16 34 54.9 +0.6
baz=254
I26K **Coal Creek Min** 87.24 23 P P 16 34 54.6 +0.1
baz=250
K27K **Chicken** 87.25 25 P P 16 34 54.9 +0.3
baz=251,SNR=6.5
YUK3 **Moose Creek** 87.26 27 P P 16 34 55.0 0.0
baz=253
E25K **Arctic Village** 87.35 20 P P 16 34 55.0 0.0
baz=248
YUK8 **Steele Glacier** 87.44 28 P P 16 34 55.6 -0.3
baz=254
D25K **Kavik River** 87.54 19 P P 16 34 56.0 +0.1
baz=247
G26K **Porcupine Rive** 87.56 22 P P 16 34 56.4 +0.4
baz=250
F26K **Sheenjek River** 87.69 21 P P 16 34 57.3 +0.7
baz=249
EGAK **Eagle** 87.87 24 P P 16 34 58.0 +0.5
baz=252
I27K **Kandik River** 87.94 23 P P 16 34 58.4 +0.5
baz=252
P29M **Windy Craggy** 87.96 30 P P 16 34 58.5 +0.4
baz=256
YUK4 **Talbot Arm** 87.98 28 P P 16 34 57.4 -1.0
baz=255
YUK6 **Outpost Mounta** 88.00 28 P P 16 34 58.5 0.0
baz=255
H27K **Steamboat Moun** 88.17 23 P P 16 34 59.0 0.0
baz=252
C26K **Camden Bay** 88.24 19 P P 16 34 58.8 -0.3
baz=249
G27K **Doyon Strip** 88.31 22 P P 16 34 59.6 0.0
baz=252
M29M **Somme Creek** 88.35 27 P P 16 34 59.7 -0.3
baz=255
HYT **Haines Junctio** 88.38 28 P P 16 34 58.8 -1.4
baz=256
DAWY **Dawson** 88.39 25 P P 16 34 59.3 -0.8
baz=254
P30M **Million Dollar** 88.47 29 P P 16 34 60.0 -0.5
baz=256
C27K **Jago River** 88.52 19 P P 16 35 00.4 -0.1
baz=250
I28M **Miner Creek** 88.56 24 P P 16 35 00.5 -0.4
baz=253
PLBC **Pleasant Camp** 88.60 30 P P 16 35 01.3 +0.2
baz=257
L29M **L29M** 88.68 26 P P 16 35 01.2 -0.3
baz=255
N30M **Aishikik Lake** 88.73 28 P P 16 35 01.8 0.0
baz=256
E27K **Coleen River** 88.77 21 P P 16 35 01.7 -0.1
baz=252
O30N **Mendenhall** 89.04 29 P P 16 35 03.1 -0.1
baz=257
S32K **Killisnoo** 89.08 32 P P 16 35 03.6 +0.2
baz=258
K29M **Barlow Dome** 89.13 26 P P 16 35 03.2 -0.5
baz=256,SNR=5.3
M30M **Minto, Yukon** 89.14 27 P P 16 35 04.2 +0.6
baz=256
F28M **Old Crow** 89.21 22 P P 16 35 03.8 -0.1
baz=253
H29M **Whitestone** 89.40 23 P P 16 35 04.2 -0.5
baz=255
CRAG **Craig** 89.48 34 P P 16 35 05.2 -0.1
baz=260
U33K **Whale Pass** 89.60 34 P P 16 35 05.6 -0.1
baz=260
E28M **Babbage River** 89.62 21 P P 16 35 05.6 -0.1
baz=254
G29M **Pine Creek** 89.71 23 P P 16 35 06.4 +0.2
baz=255
J30M **Hart River** 89.81 25 P P 16 35 06.9 +0.1
baz=257
I30M **Mount Dempster** 89.94 24 P P 16 35 07.7 +0.3
baz=257
EPYK **Eagle Plains** 90.08 23 P P 16 35 08.1 +0.2
baz=256
WRAK **Wrangell Islan** 90.08 33 P P 16 35 08.1 +0.1
baz=260
D28M **Stokes Point** 90.10 20 P P 16 35 08.9 +1.0
baz=254
E29M **Blow River** 90.14 21 P P 16 35 08.1 0.0
baz=255
V35K **Ketchikan** 90.30 35 P P 16 35 09.4 +0.4
baz=261
G30M **tAoh Zraii Nji** 90.42 23 P P 16 35 09.9 +0.4
baz=257
P33M **Teslin, Yukon** 90.51 30 P P 16 35 10.1 0.0
baz=260
N32M **Quiet Lake** 90.55 29 P P 16 35 10.0 -0.2
baz=260
F30M **Barrier River** 90.72 22 P P 16 35 10.8 -0.1
baz=257
H31M **Peel River** 90.90 24 P P 16 35 11.5 -0.3
baz=258
G31M **Satah River** 91.15 23 P P 16 35 12.5 -0.3
baz=258
GSC **Goldstone, Bar** 99.14 55 P Pdif 16 35 49.5 -0.6
baz=270
PFO **Pinyon Flats O** 99.42 57 P Pdif 16 35 50.5 -0.9
baz=270
TPFO **Pinon Flats** 99.42 57 P Pdif 16 35 50.7 -0.8
baz=270
MONP2 **Monument Peak** 99.44 58 P Pdif 16 35 50.7 -1.0
baz=270
IKP **In-Ko-Pah, Jac** 99.70 58 P Pdif 16 35 52.4 -0.3
baz=270
BELC **Belle Mtn. Jos** 99.80 57 P Pdif 16 35 52.7 -0.5
baz=270
BOZ **Bozeman (W)** 102.70 45 P Pdif 16 36 05.3 -0.5
baz=275
WMOK **Wichita Mounta** 113.91 55 P PKiKP 16 40 47.0 -0.5
baz=280
833A **Chaparral WMA,** 114.34 62 P PKPdf 16 40 48.3 -0.1
baz=277
TUL3 **Leonard** 116.08 53 P PKPdf 16 40 50.9 -0.7
baz=283
PLCA **Paso Flores** 122.99 147 PKP PKPdf 16 41 04.7 -0.2
comp=Z,1.2nm,0.8s,baz=256,slow=4.2,SNR=3.6
LBNH **Lisbon** 129.24 35 P PKPdf 16 41 16.0 -0.6
baz=308
L61B **Northampton** 129.88 37 P PKPdf 16 41 18.2 +0.3
baz=306

PAL	**Palisades**	**129.94**	**39**	P		**PKiKP**	**16 41 18.8**	**0.0**
	baz=304							
PKME	**Peaks-Kenny Pk**	**130.03**	**32**	P		**PKPdf**	**16 41 17.9**	**-0.1**
	baz=312							
TORD	**Torodi Ar. Bea**	**143.98**	**285**	PKP		PKPab	16 41 41.9	-0.1
	comp=Z,1.3nm,0.7s,baz=63,slow=5.5,SNR=6.8							
DBIC	**Dimbokro**	**150.95**	**274**	PKPbc		**PKPbc**	**16 42 00.9**	**-1.1**
	comp=Z,3.8nm,0.6s,baz=73,slow=1.9,SNR=4.6							

*SJA **16** 16:49:28.3±0.7, 27.55S×71.76W, h7km±3km, ML3.9, MW3.6*
*NEIC **16** 16:49:34.7±2.6, 27.65S±0.04×71.27W±0.09, h37km±9km, mb3.9/3, Error ellipse: s-maj=12.0km s-min=5.0km az=104.0*
*GUC **16** 16:49:36.3±0.6, 27.68S×71.16W, h15km±27km, ML3.7*

ISC 16 16:49:32.7±1.3, 27.65S±0.02×71.32W±0.06, h11km±9km, n69, σ1°92/91, 6C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AC04	**Llanos de Chal**	**0.59**	**159**			**Pg**		**16 49 45.7**	**+1.4**
AC04						**Sg**		**16 49 52.8**	**+0.7**
AC04	**Llanos de Chal**	**0.59**	**159**	*eP*		**Pg**		**16 49 45.6**	**+1.3**
AC04				*eS*		**Sg**		**16 49 54.2**	**+2.2**
AC04				IAML				16 49 56.8	
	comp=Z,1μm,0.5s								
AC04	**Llanos de Chal**	**0.59**	**159**	↑*iP*		**Pg**		**16 49 45.9**	**+1.6**
AC04				*i S*		**Sg**		**16 49 52.6**	**+0.5**
AC04				IAML				16 49 55.3	
	comp=E,5μm,0.2s								
AC06	**Mina Casimiro**	**0.90**	**71**	Pn		**Pg**		**16 49 49.7**	**-0.5**
AC06				Sn		**Sg**		**16 49 59.9**	**-2.0**
AC06	**Mina Casimiro**	**0.90**	**71**	↓*iP*		**Pg**		**16 49 50.2**	**0.0**
AC06				*i S*		**Sg**		**16 50 00.1**	**-1.8**
AC06				IAML				16 50 01.2	
	comp=E,2μm,0.4s								
LCO	**Las Campanas**	**1.46**	**158**	Pn		**Pn**		**16 50 00.1**	**+0.8**
LCO	**Las Campanas**	**1.46**	**158**	*eP*		**Pn**		**16 50 00.3**	**+1.1**
LCO				*eS*		**Sn**		**16 50 19.6**	**+1.1**
LCO				IAML				16 50 22.2	
	comp=Z,6μm,0.4s								
LCO	**Las Campanas**	**1.46**	**158**	↑*iP*		**Pn**		**16 50 00.0**	**+0.8**
LCO				*i S*		**Sn**		**16 50 18.6**	**+0.1**
AC05	**El Transito**	**1.50**	**142**	Pn		**Pn**		**16 50 00.4**	**+0.8**
AC05	**El Transito**	**1.50**	**142**	*eP*		**Pn**		**16 50 00.0**	**+0.4**
AC05				*eS*		**Sg**		**16 50 21.2**	**+0.3**
AC05				IAML				16 50 23.9	
	comp=Z,1μm,0.7s								
AC05	**El Transito**	**1.50**	**142**	↑*iP*		**Pn**		**16 50 00.4**	**+0.8**
AC05				*i S*		**Sn**		**16 50 18.6**	**-0.6**
AC05				IAML				16 50 24.0	
	comp=E,2μm,0.2s								
AC01	**Pan de Azucar**	**1.63**	**23**	Pn		**Pn**		**16 50 01.5**	**+0.2**
AC01	**Pan de Azucar**	**1.63**	**23**	*eP*		**Pn**		**16 50 01.1**	**-0.2**
AC01				*eS*		**Sn**		**16 50 25.0**	**+2.7**
AC01				IAML				16 50 27.7	
	comp=Z,452nm,0.5s								
AC01	**Pan de Azucar**	**1.63**	**23**	↑*iP*		**Pn**		**16 50 01.7**	**+0.4**
AC01				*i S*		**Sn**		**16 50 21.1**	**-1.2**
AC01				IAML				16 50 29.5	
	comp=E,978nm,0.3s								
CO05	**La Serena**	**2.26**	**178**	Pn		**Pn**		**16 50 11.7**	**+1.7**
CO05	**La Serena**	**2.26**	**178**	*eP*		**Pn**		**16 50 12.2**	**+2.2**
CO05				*i S*		**Sn**		**16 50 39.1**	**+1.2**
CO05				IAML				16 50 52.7	
	comp=E,871nm,0.0s								
GO04	**Tololo Observa**	**2.55**	**170**	Pn		**Pn**		**16 50 15.7**	**+1.4**
GO04	**Tololo Observa**	**2.55**	**170**	*eP*		**Pn**		**16 50 14.0**	**-0.2**
GO04				*eP*		Pb		16 50 15.6	-3.1
GO04				*eS*		**Sb**		**16 50 50.5**	**+0.4**
GO04				IAML				16 50 55.9	
	comp=Z,977nm,0.3s								
GO04	**Tololo Observa**	**2.55**	**170**	↑*iP*		**Pn**		**16 50 16.0**	**+1.7**
GO04				IAML				16 50 53.4	
	comp=E,2μm,0.3s								
CO01	**Juntas del Tor**	**2.55**	**155**	Pn		**Pn**		**16 50 16.1**	**+1.9**
GO02	**Mina Guanaco**	**2.92**	**32**	Pn		**Pn**		**16 50 20.3**	**+0.9**
GO02	**Mina Guanaco**	**2.92**	**32**	*eP*		**Pn**		**16 50 20.7**	**+1.3**
GO02				*eS*		**Sn**		**16 50 57.0**	**+2.4**
GO02				*eS*		**Sb**		**16 51 05.6**	**+4.7**
GO02				IAML				16 51 09.4	
	comp=Z,539nm,0.7s								
GO02	**Mina Guanaco**	**2.92**	**32**	↑*iP*		**Pn**		**16 50 20.6**	**+1.1**
GO02				IAML				16 51 06.0	
	comp=E,1μm,0.8s								
VCA	**Vinchina**	**2.95**	**112**	*eP*		**Pb**		**16 50 24.2**	**-1.2**
VCA				*eS*		**Sg**		**16 51 05.6**	**-2.0**
VCA				IAML				16 51 07.8	
	comp=Z,529nm,0.3s								
AROD	**Rodeo**	**2.98**	**148**	*eP*		**Pn**		**16 50 24.6**	**+4.4**
AROD				*eS*		**Sn**		**16 50 59.0**	**+2.9**
CO06	**Fray Jorge**	**3.02**	**185**	Pn		**Pn**		**16 50 20.5**	**0.0**
CO06	**Fray Jorge**	**3.02**	**185**	*i* P		**Pn**		**16 50 20.8**	**+0.2**
CO06				IAML				16 51 19.2	
	comp=E,254nm,0.3s								
AGUA	**GUANDACOL**	**3.08**	**127**	*eP*		**Pn**		**16 50 22.9**	**+1.5**
AGUA				*eS*		**Sb**		**16 51 08.2**	**+2.8**
AGUA				IAML				16 51 14.3	
	comp=Z,314nm,0.4s								
PB14	**IPOC Station P**	**3.12**	**15**	Pn		**Pn**		**16 50 21.6**	**-0.6**
PB14	**IPOC Station P**	**3.12**	**15**	*eP*		**Pn**		**16 50 21.9**	**-0.3**
PB14				*eS*		**Sn**		**16 51 03.2**	**+3.9**
PB14				*eS*		**Sb**		**16 51 11.2**	**+4.5**
PB14				IAML				16 51 14.2	
	comp=Z,151nm,0.5s								
PB14	**IPOC Station P**	**3.12**	**15**	*eP*		**Pn**		**16 50 21.9**	**-0.3**
PB14				IAML				16 51 12.5	
	comp=E,141nm,0.2s								
ACDV	**Cuesta del Vie**	**3.16**	**143**	*eP*		Pn		16 50 14.0	-8.6
ACDV				*eS*		**Sn**		**16 51 03.5**	**+3.1**
ACDV				*eS*		**Sb**		**16 51 11.2**	**+3.5**
ACDV				IAML				16 51 20.3	
	comp=Z,105nm,1.0s								
CO03	**El Pedregal**	**3.22**	**170**	Pn		**Pn**		**16 50 24.8**	**+1.4**
CO03	**El Pedregal**	**3.22**	**170**	*eP*		**Pn**		**16 50 25.0**	**+1.7**
CO03				*eS*		**Sb**		**16 51 09.0**	**-0.3**
CO03				IAML				16 51 18.9	
	comp=Z,248nm,0.8s								
CO03	**El Pedregal**	**3.22**	**170**	↓*iP*		**Pn**		**16 50 25.1**	**+1.7**
CO03				IAML				16 51 22.4	
	comp=E,515nm,0.2s								
ACCO	**Cerro Coronel**	**3.53**	**147**	*eP*		Pn		16 50 32.7	+4.9
ACCO				*eS*		**Sb**		**16 51 19.5**	**+1.2**
CO02	**Combarbal**	**3.55**	**176**	Pn		**Pn**		**16 50 28.5**	**+0.6**
CO02	**Combarbal**	**3.55**	**176**	*eP*		**Pn**		**16 50 28.5**	**+0.6**
DOCA	**Reserva Natura**	**3.82**	**150**	*eP*		**Pn**		**16 50 36.4**	**+4.6**
DOCA				*eS*		**Sb**		**16 51 24.7**	**-2.1**
DOCA				IAML				16 51 29.9	
	comp=Z,256nm,0.5s								
PB10	**IPOC Station P**	**4.18**	**10**	Pn		**Pn**		**16 50 35.2**	**-1.2**
PB10	**IPOC Station P**	**4.18**	**10**	*eP*		**Pn**		**16 50 35.4**	**-1.0**
PB10				*eS*		**Sn**		**16 51 26.5**	**+1.3**
PB10				*eS*		**Sb**		**16 51 42.0**	**+5.3**
PB10				IAML				16 51 56.5	
	comp=Z,57nm,0.7s								
RTLS	**Leoncito**	**4.49**	**157**	*eP*		Pn		16 50 46.0	+5.0
RTLS				*eS*		**Sb**		**16 51 42.0**	**-4.0**
RTLS				IAML				16 52 03.2	
	comp=Z,362nm,0.8s								
ZON	**Zonda**	**4.51**	**150**	Pn		**Pn**		**16 50 39.9**	**-1.2**
AVFE	**Valle Fertil**	**4.51**	**133**	*eP*		**Pn**		**16 50 44.1**	**+3.1**
AVFE				*eS*		**Sb**		**16 51 45.1**	**-1.4**
AVFE				IAML				16 51 51.3	
	comp=Z,85nm,1.1s								
PB15	**IPOC Station P**	**4.73**	**21**	Pn		**Pn**		**16 50 44.5**	**+0.3**
PB15	**IPOC Station P**	**4.73**	**21**	*eP*		**Pn**		**16 50 45.0**	**+0.8**
PB15				*eS*		**Sb**		**16 51 50.0**	**-2.8**
PB15				IAML				16 53 04.9	
	comp=Z,313nm,0.1s								
VA06	**Catapilco**	**4.89**	**180**	Pn		**Pn**		**16 50 46.5**	**+0.3**
CYA	**Choya**	**4.94**	**100**	*eP*		**Pn**		**16 50 49.4**	**+2.6**
CYA				IAML				16 52 22.9	
	comp=Z,18nm,0.7s								
VA03	**San Esteban**	**5.14**	**173**	Pn		**Pn**		**16 50 50.7**	**+1.0**
PB06	**IPOC Station P**	**5.17**	**18**	Pn		**Pn**		**16 50 49.3**	**-0.9**
PB06	**IPOC Station P**	**5.17**	**18**	*eP*		**Pn**		**16 50 49.8**	**-0.4**
PB06				*eS*		**Sb**		**16 52 08.0**	**+2.5**
PB06				IAML				16 52 20.4	
	comp=Z,90nm,0.5s								
VA01	**Torpederas**	**5.36**	**183**	Pn		**Pn**		**16 50 51.9**	**-0.7**
PB04	**IPOC Station P**	**5.40**	**12**	Pn		**Pn**		**16 50 52.0**	**-1.3**
LVC	**Limon Verde**	**5.47**	**24**	Pn		**Pn**		**16 50 53.5**	**-1.0**
MT08	**Bocatoma Ro**	**5.88**	**169**	Pn		**Pn**		**16 51 00.3**	**+0.3**
PB07	**IPOC Station P**	**6.04**	**13**	Pn		Pn		16 51 00.3	-1.9
PB09	**IPOC Station P**	**6.13**	**18**	Pn		**Pn**		**16 51 02.5**	**-0.9**
PB02	**IPOC Station P**	**6.43**	**12**	Pn		Pn		16 51 05.7	-1.8
PB01	**IPOC Station P**	**6.79**	**15**	Pn		Pn		16 51 10.4	-1.9
PATCX	**Punta Patache**	**6.88**	**9**	Pn		**Pn**		**16 51 12.3**	**-1.4**
HMBC	**Humberstone**	**7.46**	**10**	Pn		**Pn**		**16 51 20.2**	**-1.4**
PB11	**IPOC Station P**	**8.00**	**11**	Pn		Pn		16 51 26.4	-2.7
GO01	**Chusmiza**	**8.18**	**14**	Pn		**Pn**		**16 51 30.8**	**-1.0**
PB12	**IPOC Station P**	**9.04**	**6**	Pn		Pn		16 51 41.3	-2.0
LPAZ	**La Paz**	**11.69**	**15**	Pn		Pn		16 52 15.8	-4.2
TRQA	**Tornquist**	**13.00**	**145**	Pn		**Pn**		**16 52 37.0**	**-0.4**
PLTB	**Pedras Altas**	**15.93**	**109**	Pn		Pn		**16 53 15.7**	**-1.1**
PLTB						IAmb	IAmb	16 53 37.0	
	comp=Z,17nm,1.3s								
TRCB	**Terra Rica**	**17.58**	**78**				**Pn**	**16 53 37.2**	**-0.6**
TRCB						IAmb	IAmb	16 53 48.1	
	comp=Z,12nm,0.9s								
ETMB	**Extrema**	**18.38**	**16**	P		**P**	**P**	**16 53 45.0**	**-2.7**
ETMB						IAmb	IAmb	16 53 54.5	
	comp=Z,4.6nm,1.4s								

IDC 16 16:57:10.3±4.0, 3.59S×153.05E, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=165.0km s-min=51.7km az=116.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.44**	**227**	P		P	P	17 02 31.4	+0.3
	0.9nm,0.5s,baz=52,slow=9.9,SNR=9.5								
	0.9nm,0.5s								
ASAR	**Alice Springs**	**27.21**	**221**	P		P	P	17 02 56.4	+0.2
	0.4nm,0.9s,baz=55,slow=9.1,SNR=10								
	0.4nm,0.9s								
TORD	**Torodi Ar. Bea**	**150.15**	**290**	PKPbc		PKPbc	PKPbc	17 17 03.3	-1.0
	0.4nm,0.5s,baz=86,slow=2.8,SNR=4.6								

NEIC 16 17:01:03.5±0.6, 35.485N±0.010×97.26W±0.01, h5km±1km, mb_Lg2.1/4, ML1.9/40, Error ellipse: s-maj=2.3km s-min=1.8km az=136.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OKCSW	**OKLAHOMA CITY**	**0.17**	**242**			Pg	Pg	17 01 07.7	+0.9
OKCSW						Sg	Sg	17 01 10.4	+1.4
ADOK	**Arcadia Dam**	**0.19**	**331**			Pg	Pg	17 01 08.2	+0.9
ADOK						Sg	Sg	17 01 11.2	+1.4
FNO	**Franklin**	**0.26**	**207**			Pg	Pg	17 01 09.3	+0.9
FNO						Sg	Sg	17 01 13.2	+1.4
OK029	**Liberty Lake**	**0.35**	**333**			Pg	Pg	17 01 11.1	+0.8
OK029						Sg	Sg	17 01 16.3	+1.4
OK029						IAML		17 01 16.5	
	227nm,0.2s								
OK029						IAML		17 01 16.5	
	143nm,0.3s								
W35A	**Tecumseh**	**0.46**	**137**			Pg	Pg	17 01 12.9	+0.6
W35A						Sg	Sg	17 01 19.4	+1.2
OK031	**S. Brethren Rd**	**0.58**	**36**			Pg	Pg	17 01 15.0	+0.4
OK031						Sg	Sg	17 01 23.1	+1.0
OK031						IAML		17 01 23.9	
	58nm,0.1s								
OK052	**Battle Ridge R**	**0.63**	**36**			Pg	Pg	17 01 15.8	+0.2
OK052						Sg	Sg	17 01 24.7	+1.0
OK052						IAML		17 01 25.4	
	52nm,0.1s								
OK052						IAML		17 01 27.9	
	50nm,0.3s								
DEOK	**Depew**	**0.71**	**60**			Pg	Pg	17 01 17.3	+0.1
DEOK						Sg	Sg	17 01 27.3	+0.9
DEOK						IAML		17 01 27.6	
	comp=N,66nm,0.3s								
DEOK						IAML		17 01 27.8	
	comp=E,78nm,0.2s								
QUOK	**Quay**	**0.82**	**33**			Pg	Pg	17 01 19.0	-0.1
QUOK						Sg	Sg	17 01 30.5	+0.7
QUOK						IAML		17 01 38.4	
	comp=E,47nm,0.2s								
QUOK						IAML		17 01 39.2	
	comp=N,34nm,0.1s								
OK048	**Pawnee Station**	**0.96**	**15**			Pg	Pg	17 01 21.6	-0.3
OK048						IAML		17 01 37.4	
	comp=N,32nm,0.1s								
OK048						IAML		17 01 37.5	
	comp=N,25nm,0.2s								
OK051	**E0350 and S346**	**1.07**	**18**			Pg	Pg	17 01 23.4	-0.7
CROK	**Garrier**	**1.18**	**330**				Pg	17 01 25.9	-0.1
BLOK	**Blackwell**	**1.27**	**2**				Pg	17 01 27.5	-0.4
WMOK	**Wichita Mounta**	**1.46**	**240**				Pn	17 01 30.3	-0.1
T35A	**Sooner Cattle**	**1.55**	**23**				Pn	17 01 31.5	-0.2
OK038	**West end E0370**	**1.56**	**310**				Pn	17 01 32.3	+0.4
OK038						IAmb_Lg		17 01 54.2	
	comp=Z,4.0nm,0.9s								
U32A	**Winter Ranch,**	**1.67**	**303**				Pb	17 01 34.3	-0.5
RLO	**Rose Lookout**	**1.94**	**69**	Pn		Pn	Pn	17 01 37.5	+0.4
L34A	**Svendsen Farm,**	**6.51**	**6**	IAmb_Lg				17 04 36.7	
	comp=Z,6.3nm,0.8s								

*IDC **16** 17:04:52.4±2.5, 5.44S×147.17E, h175km±23km, mb3.6/14, mbtmp4.1/16, MS3.3/1, Error ellipse: s-maj=26.5km s-min=14.0km az=83.0*
*NEIC **16** 17:04:55.0±1.4, 5.50S±0.08×147.24E±0.07, h200km±9km, mb4.4/18, Error ellipse: s-maj=14.5km s-min=5.3km az=216.0*

ISC 16 17:04:54.3±0.5, 5.57S±0.06×147.15E±0.08, h195km, n56, σ1°53/58, mb4.0/20, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.51**	**4**				**Pn**	**17 05 49.7**	**-0.2**
PMG	**Port Moresby**	**3.81**	**180**	P			**Pn**	**17 05 52.1**	**-1.4**
	45nm,0.5s,baz=352,slow=11,SNR=51								
PMG				S			**Sn**	**17 06 34.7**	**-5.5**
	189nm,0.6s,baz=94,slow=23,SNR=5.9								
RABL	**Rabaul**	**5.18**	**75**				**Pn**	**17 06 10.3**	**-0.8**
COEN	**Coen**	**9.21**	**205**	P			**Pn**	**17 07 04.4**	**+1.0**
COEN	**Coen**	**9.21**	**205**				**Pn**	**17 07 04.2**	**+0.8**
MTSU	**Mount Surprise**	**12.79**	**192**	P			**Pn**	**17 07 51.9**	**+2.5**
HNR	**Honiara**	**13.26**	**108**	Pn			**Pn**	**17 07 54.7**	**-0.6**
TV1H	**Townsville Har**	**13.61**	**181**	P			**P**	**17 08 04.9**	**+2.7**
	47nm,0.7s								
KDU	**Kakadu**	**16.11**	**243**	P			**P**	**17 08 30.1**	**+0.2**
MTN	**Manton Dam**	**17.37**	**244**	P			**P**	**17 08 44.8**	**+1.0**
MTN	**Manton Dam**	**17.37**	**244**	P			**P**	**17 08 44.7**	**+1.0**
MTN						IAmb	IAmb	17 09 21.6	
	comp=Z,69nm,1.4s								
WB0	**Warramunga Arr**	**18.79**	**220**	P			**P**	**17 08 59.4**	**+0.2**
WB0						IAmb	IAmb	17 09 01.2	
	comp=Z,28nm,1.1s								
WR0	**Warramunga Arr**	**18.84**	**219**	P			**P**	**17 09 00.3**	**+0.6**
WRAB	**Tennant Creek**	**18.94**	**220**	P			**P**	**17 09 01.8**	**+1.0**
WRAB						IAmb	IAmb	17 09 02.7	
	comp=Z,53nm,1.2s								
WB2	**Warramunga Arr**	**18.95**	**220**	P			**P**	**17 09 01.8**	**+0.9**
WRA	**Warramunga Arr**	**18.95**	**220**	P			**P**	**17 09 00.4**	**-0.6**
WRA	**Warramunga Arr**	**18.95**	**220**	P			**P**	**17 09 02.0**	**+1.1**
	comp=Z,18nm,0.5s,baz=42,slow=11,SNR=155								
WRA				S			**S**	**17 12 21.1**	**-4.8**
	comp=Z,1.8nm,1.0s,baz=41,slow=20,SNR=2.9								
QLP	**Quilpie**	**21.08**	**187**	P			**P**	**17 09 25.7**	**+2.1**
AS31	**Alice Springs**	**22.05**	**214**				**P**	**17 09 34.7**	**+1.1**
AS31						IAmb	IAmb	17 09 39.3	
	comp=Z,8.2nm,0.7s								
ASAR	**Alice Springs**	**22.05**	**214**				**P**	**17 09 34.6**	**+1.0**
ASAR	**Alice Springs**	**22.05**	**214**	P			**P**	**17 09 34.9**	**+1.2**
	comp=Z,21nm,0.8s,baz=48,slow=8.4,SNR=480								
ASAR				S			**S**	**17 13 21.9**	**-0.8**
	comp=Z,2.0nm,1.0s,baz=25,slow=16,SNR=5.4								
ASAR				LR		LR		17 19 27.7	
	comp=Z,76nm,21.5s,baz=148,slow=40								
	comp=Z,21nm,0.8s								
INKA	**Innaminka**	**22.87**	**195**	P			**P**	**17 09 42.7**	**+1.7**
FITZ	**Fitzroy Crossi**	**24.42**	**238**	P			**P**	**17 09 57.0**	**+1.8**
OOD	**Oodnadatta**	**24.64**	**205**	P			**P**	**17 09 58.3**	**+1.2**
LCRK	**Leigh Creek**	**26.14**	**198**	P			**P**	**17 10 12.0**	**+1.5**
WRKA	**Warakurna**	**26.49**	**221**	P			**P**	**17 10 14.1**	**+0.3**
MULG	**Mulgathing**	**27.50**	**205**	P			**P**	**17 10 23.8**	**+1.1**
YULB	**Yu-li**	**38.29**	**320**	P			**P**	**17 11 55.7**	**-0.5**
YULB						IAmb	IAmb	17 11 58.0	
	comp=Z,8.0nm,0.7s								
TPUB	**Ta-pu**	**38.66**	**319**	P			**P**	**17 11 58.9**	**-0.3**
TPUB						IAmb	IAmb	17 12 10.3	
	comp=Z,22nm,1.3s								
SSLB	**Suanglung**	**38.79**	**320**	P			**P**	**17 11 59.2**	**-1.2**
SSLB						IAmb	IAmb	17 12 08.1	
	comp=Z,5.7nm,0.8s								
YHNB	**Yeheng**	**39.15**	**321**	P			**P**	**17 12 04.8**	**+1.4**
MJAR	**Matsushiro Arr**	**42.72**	**349**	P			**P**	**17 12 31.2**	**-1.1**
	comp=Z,2.0nm,1.0s,baz=169,slow=9.3,SNR=2.6								
	comp=Z,2.0nm,1.0s								
KSRS	**Korea Array**	**46.41**	**339**	P			**P**	**17 13 00.7**	**-0.7**
	comp=Z,1.8nm,0.9s,baz=146,slow=8.8,SNR=5.2								
	comp=Z,1.8nm,0.9s								
CMAR	**Chiang Mai Arr**	**53.18**	**298**	P			**P**	**17 13 53.1**	**+0.4**
	comp=Z,0.3nm,0.5s,baz=124,slow=6.2,SNR=2.8								
	comp=Z,0.3nm,0.5s								
SONM	**Songino Array**	**64.10**	**331**	P			**P**	**17 15 07.6**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=144,slow=9.0,SNR=9.5								
	comp=Z,1.5nm,0.6s								
VNDA	**Vanda**	**72.33**	**177**	P			**P**	**17 15 59.4**	**+1.2**
	comp=Z,0.9nm,0.7s,baz=327,slow=7.5,SNR=8.1								
	comp=Z,0.9nm,0.7s								
MK31	**Makanchi Array**	**77.26**	**320**	P			**P**	**17 16 25.0**	**-2.1**
MKAR	**Makanchi Array**	**77.26**	**320**	P			**P**	**17 16 27.3**	**+0.2**
MKAR	**Makanchi Array**	**77.26**	**320**	P			**P**	**17 16 26.6**	**-0.5**
	comp=Z,0.7nm,0.5s,baz=97,slow=8.0,SNR=10								
	comp=Z,0.7nm,0.5s								
MAKZ	**Makanchi**	**77.47**	**320**	P			**P**	**17 16 27.6**	**-0.6**
TIXI	**Tiksi**	**78.00**	**354**	P			**P**	**17 16 29.6**	**-1.0**
ZALV	**Zalesovo Beam**	**78.73**	**328**	P			**P**	**17 16 33.9**	**-1.0**
ZALV	**Zalesovo Beam**	**78.73**	**328**	P			**P**	**17 16 34.1**	**-0.8**
	comp=Z,1.9nm,0.5s,baz=102,slow=5.6,SNR=9.7								
	comp=Z,1.9nm,0.5s								
KURBB	**Kurchatov Arra**	**80.98**	**323**	P			**P**	**17 16 46.7**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=107,slow=4.8,SNR=5.0								
	comp=Z,0.5nm,0.8s								
E19K	**Redstone River**	**82.66**	**19**	P			**P**	**17 16 56.2**	**+0.6**
E19K						IAmb	IAmb	17 17 01.2	
	comp=Z,2.3nm,0.7s								
E21K	**Killik River**	**84.23**	**19**	P			**P**	**17 17 03.9**	**+0.3**
E21K						IAmb	IAmb	17 17 04.9	
	comp=Z,4.4nm,1.3s								
QSPA	**South Pole Qui**	**84.39**	**180**	P			**P**	**17 17 05.2**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=194,slow=2.1,SNR=20								
	comp=Z,0.9nm,0.5s								
G23K	**Bananza Creek**	**84.71**	**21**	P			**P**	**17 17 02.8**	**-3.2**
G23K						IAmb	IAmb	17 17 03.4	
	comp=Z,4.2nm,1.2s								
ILAR	**Eielson Array**	**85.03**	**23**	P			**P**	**17 17 06.4**	**-1.2**
	comp=Z,1.0nm,0.8s,baz=256,slow=5.4,SNR=9.5								
	comp=Z,1.0nm,0.8s								
BVAR	**Borovoye Array**	**86.51**	**324**	P			**P**	**17 17 14.4**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=113,slow=6.5,SNR=4.8								
	comp=Z,0.6nm,0.6s								
NVAR	**Mina Array Bea**	**96.99**	**52**	P			**P**	**17 18 05.9**	**+1.5**
	comp=Z,0.4nm,0.7s,baz=237,slow=5.0,SNR=3.2								
	comp=Z,0.4nm,0.7s								
YKA	**Yellowknife Ar**	**98.72**	**28**	P		Pdif		17 18 12.1	+0.9
	comp=Z,0.1nm,0.6s,baz=277,slow=4.9,SNR=2.0								
	comp=Z,0.1nm,0.6s								
GERES	**GERESS Array B**	**121.64**	**326**	PKP			**PKPdf**	**17 23 25.0**	**0.0**
	comp=Z,0.6nm,0.5s,baz=90,slow=0.1,SNR=2.2								
EKA	**Eskdalemuir Ar**	**124.97**	**340**	PKP			**PKPdf**	**17 23 31.1**	**0.0**
	comp=Z,0.6nm,0.6s,baz=19,slow=3.5,SNR=2.0								
SIV	**San Ignacio**	**144.80**	**128**	PKP			**PKPab**	**17 24 08.9**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=273,slow=3.5,SNR=9.4								
TORD	**Torodi Ar. Bea**	**145.12**	**285**	PKPbc			**PKPbc**	**17 24 08.9**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=59,slow=4.3,SNR=19								

IDC 16 17:15:12.9±2.0, 31.97S×179.48W, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=60.0km s-min=43.2km az=47.0, Kermadec Islands region

| Code | Station Name | Δ° | AZ

AC05	**El Transito**	**2.71**	**331**	*e*P		**Pn**	**17 16 21.4**	**+1.6**
AC05				*e*S		**Sn**	**17 16 55.4**	**+3.0**
AC05				IAML			17 16 58.4	
	comp=Z,193nm,0.7s							
LCO	**Las Campanas**	**2.77**	**322**	*e*P		**Pn**	**17 16 21.7**	**+1.0**
LCO				*e*S		**Sn**	**17 16 54.5**	**+0.6**
LCO				IAML			17 16 59.6	
	comp=Z,402nm,0.2s							
MRA	**San Martin**	**2.85**	**116**	*e*P		**Pn**	**17 16 24.2**	**+2.7**
MRA				IAML			17 17 31.6	
	comp=Z,99nm,0.8s							
MT02	**Curacav**	**2.87**	**224**	*e*P		**Pn**	**17 16 22.0**	**+0.4**
VA01	**Torpederas**	**3.04**	**233**	*e*P		**Pn**	**17 16 23.8**	**-0.1**
RFA	**San Rafael**	**3.55**	**176**	*e*P		**Pn**	**17 16 31.8**	**+1.0**
RFA				*e*S		**Sn**	**17 17 12.2**	**+0.1**
RFA				IAML			17 17 14.7	
	comp=Z,76nm,0.6s							
LVC	**Limon Verde**	**8.57**	**359**	P		**Pn**	**17 17 37.7**	**-1.4**
	comp=Z,1.8nm,0.3s,baz=162,slow=9.6,SNR=15							
LVC				S		**Sn**	**17 19 07.4**	**-6.9**
	comp=Z,1.7nm,0.3s,baz=349,slow=20,SNR=1.4							
CPUP	**Villa Florida**	**11.14**	**67**	P		**Pn**	**17 18 10.9**	**-2.5**
	comp=Z,0.5nm,0.3s,baz=241,slow=13,SNR=1.3							
CPUP				S		**Sn**	**17 20 10.4**	**-5.6**
	comp=Z,1.1nm,0.5s,baz=327,slow=18,SNR=1.8							
LPAZ	**La Paz**	**14.87**	**2**	P		**Pn**	**17 19 00.5**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=189,slow=9.2,SNR=1.8							
QSPA	**South Pole Qui**	**59.01**	**180**	P		**P**	**17 25 27.5**	**+2.1**
	comp=Z,0.7nm,0.5s,baz=181,slow=1.0,SNR=12							
	comp=Z,0.7nm,0.5s							
TXAR	**Lajitas Array**	**68.77**	**328**	pP		pP	17 26 56.5	-1.4
	comp=Z,0.1nm,0.6s,baz=141,slow=5.8,SNR=2.2							
TORD	**Torodi Ar. Bea**	**80.64**	**68**	P		**P**	**17 27 40.2**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=286,slow=4.8,SNR=3.7							
	comp=Z,0.8nm,0.7s							
ZALV	**Zalesovo Beam**	**150.40**	**32**	PKPbc		**PKiKP**	**17 35 16.8**	**+0.7**
	comp=Z,2.0nm,0.6s,baz=295,slow=3.7,SNR=7.9							
MKAR	**Makanchi Array**	**152.85**	**47**	PKPbc		**PKPbc**	**17 35 21.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=317,slow=2.0,SNR=4.1							

BJI **16** *17:22:10.8±0.0,34.˚12S×179.˚75W,h7km,mb5.4/49, mB5.9/57,Ms5.5/69,Ms7 5.4/65*

MOS **16** *17:22:12.2±1.0,33.˚69S×179.˚63W,h10km,mb5.8/31, MS5.5/50,Error ellipse: s-maj=10.6km s-min=8.0km az=101.0*

NEIC **16** *17:22:13.6,33.˚81S×179.˚41W,h46km*

NEIC **16** *17:22:13.6,34.˚01S×178.˚69W,h46km,Moment Tensor Solution. Duration:* 3^s*6 Moment tensor: Scale* 10^{17}*Nm; Mrr7.05; Mθθ0.04; Mϕϕ-7.10; Mrθ0.19; Mθϕ-2.38; Mϕr2.07; Fault plane solution: M*$_0$*7.72000×*10^{17} *NP1:*ϕ_s*13.30000°, δ52.75000°,λ,85.55000°. NP2:*ϕ_s*200.63000°,δ37.48000°, λ95.82000°. Principal axes: T 7.3528, Plg82.0000°, Azm261.0000°; N 0.7390, Plg4.0000°, Azm16.0000°; P -8.0918, Plg8.0000°, Azm106.0000°;*

IPGP **16** *17:22:13.0,33.˚92S×179.˚54W,h37km,Mw5.9,Fault plane solution: NP1:*ϕ_s*17.00000°,δ58.00000°,λ,84.00000°. NP2:*ϕ_s*208.00000°,δ32.00000°,λ,99.00000°.*

WEL **16** *17:22:14.3±0.6,34.˚5±4.˚×17.˚9W±.˚,h33km,M6.0/48, mB6.3/41,ML6.2/48,MLv6.0/48,Mw(mB)6.0/41,Error ellipse: s-maj=0.0km s-min=0.0km az=109.5,confirmed*

NEIC **16** *17:22:17.3±2.5,33.˚78S±0.˚06×179.˚5W±0.˚1,h34km±1km, mb5.6/247,Ms_20 5.6/492,Mww5.9/37,Error ellipse: s-maj=16.6km s-min=9.2km az=110.0*

NOU **16** *17:22:17.2,34.˚11S×178.˚79W,h60km,ML5.7/69,South of Kermadec Islands*

GCMT **16** *17:22:20.3±0.1,33.˚91S×179.˚18W,h41km,MW5.9/169, Moment Tensor Solution. s162,c350; s169,c518; Duration:* 2^s*1 Moment tensor: Scale* 10^{18}*Nm; Mrr0.73±.01; Mθθ0.00±.00; Mϕϕ-0.72±.00; Mrθ0.02±.01; Mθϕ-0.24±.00; Mϕr0.36±.01; Best double couple: M*$_0$*0.84600×*10^{18} *NP1:*ϕ_s*11.00000°,δ58.00000°, λ83.00000°. NP2:*ϕ_s*204.00000°,δ33.00000°,λ,101.00000°. Principal axes: T 0.8130, Plg76.0000°, Azm260.0000°; N 0.0670, Plg6.0000°, Azm15.0000°; P -0.8790, Plg12.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

IDC **16** *17:22:21.8±1.5,33.˚70S×179.˚60W,h74km±12km,mb4.8/23, mbtmp5.0/23,MS5.4/53 Error ellipse: s-maj=13.0km s-min=10.6km az=2.0*

ISC 16 17:22:18.2±0.4,**33.˚85S**±0.˚03×**179.˚33W**±0.˚04,**h49**km±2km, **h49**km:**pP-P,n1596,**σ1**s75**/1344,**mb5.6**/210,**MS5.6**/347, **111C-14D,South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res	
				Op	ISC	h	m	s	ISC
MXZ	**Matakaoa Point**	**4.18**	**207**	P	**Pn**	**17**	**23**	**18.3**	**-1.1**
MXZ	**Matakaoa Point**	**4.18**	**207**	Pn	**Pn**	**17**	**23**	**17.8**	**-1.6**
MXZ	**Matakaoa Point**	**4.18**	**207**	P	**Pn**	**17**	**23**	**18.5**	**-0.9**
MXZ				S	**Sn**	**17**	**24**	**08.1**	**+1.2**
WMGZ	**Waiomatatini S**	**4.37**	**204**	P	**Pn**	**17**	**23**	**21.2**	**-0.8**
WMGZ				S	**Sn**	**17**	**24**	**17.0**	**+5.4**
PKGZ	**Pakihiroa**	**4.55**	**207**	P	**Pn**	**17**	**23**	**23.3**	**-1.2**
PKGZ				S	**Sn**	**17**	**24**	**17.0**	**+0.8**
HAZ	**Te Kaha**	**4.55**	**210**	P	**Pn**	**17**	**23**	**24.3**	**-0.2**
HAZ				S	**Sn**	**17**	**24**	**19.9**	**+3.7**
WIZ	**White Island**	**4.64**	**217**	P	**Pn**	**17**	**23**	**26.8**	**+1.1**
WSRZ	**White Island S**	**4.64**	**217**	P	**Pn**	**17**	**23**	**29.1**	**+3.4**
PUZ	**Puketiti**	**4.65**	**204**	P	**Pn**	**17**	**23**	**24.4**	**-1.4**
PUZ				S	**Sn**	**17**	**24**	**20.0**	**+1.5**
GLKZ	**Green Lake**	**4.73**	**15**	P	**Pn**	**17**	**23**	**24.2**	**-2.8**
GLKZ				S	**Sn**	**17**	**24**	**18.5**	**-2.0**
RAO	**Raoul Island**	**4.74**	**15**	P	**Pn**	**17**	**23**	**28.2**	**+1.1**
RAO	**Raoul Island**	**4.74**	**15**			**17**	**23**	**23.8**	**-3.3**
RAO	**Raoul Island**	**4.74**	**15**	P	**Pn**	**17**	**23**	**23.5**	**-3.6**
	745nm,0.3s,baz=178,slow=22,SNR=10								
RAO				S	**Sn**	**17**	**24**	**17.6**	**-3.1**
	3μm,0.5s,baz=150,slow=24,SNR=4.1								
RAO	**Raoul Island**	**4.74**	**15**	P	**Pn**	**17**	**23**	**23.8**	**-3.3**
RIZ	**Raoul Island**	**4.74**	**15**	S	**Sn**	**17**	**24**	**21.7**	**+0.9**
RUGZ	**Raukumara Rang**	**4.77**	**210**	P	**Pn**	**17**	**23**	**26.6**	**-1.1**
RUGZ				S	**Sn**	**17**	**24**	**24.4**	**+2.6**
TWGZ	**Tauwhareparae**	**4.84**	**206**	P	**Pn**	**17**	**23**	**27.3**	**-1.3**
TWGZ				S	**Sn**	**17**	**24**	**25.4**	**+2.1**
KUZ	**Kuaotunu**	**4.98**	**233**	P	**Pn**	**17**	**23**	**32.7**	**+2.4**
CNGZ	**Carnagh Statio**	**5.04**	**203**	P	**Pn**	**17**	**23**	**29.8**	**-1.4**
CNGZ				S	**Sn**	**17**	**24**	**31.3**	**+2.9**
MWZ	**Matawai**	**5.15**	**209**	P	**Pn**	**17**	**23**	**31.0**	**-1.8**
MWZ				S	**Sn**	**17**	**24**	**31.6**	**+0.7**
OPRZ	**Ohinepanea**	**5.21**	**219**	P	**Pn**	**17**	**23**	**33.5**	**0.0**
MARZ	**Manawahe**	**5.25**	**217**	P	**Pn**	**17**	**23**	**35.9**	**+1.7**
URZ	**Urewera**	**5.26**	**212**	P	**Pn**	**17**	**23**	**34.1**	**-0.2**
URZ	**Urewera**	**5.26**	**212**	⇑P	**Pn**	**17**	**23**	**32.6**	**-1.7**
URZ	**Urewera**	**5.26**	**212**	P	**Pn**	**17**	**23**	**32.8**	**-1.5**
	575nm,0.3s,baz=52,slow=1.9,SNR=239								
URZ				S	**Sn**	**17**	**24**	**31.6**	**-2.0**
	919nm,0.6s,baz=94,slow=11,SNR=3.9								
URZ	**Urewera**	**5.26**	**212**	P	**Pn**	**17**	**23**	**32.8**	**-1.5**
URZ				S	**Sn**	**17**	**24**	**35.6**	**+2.0**
EDRZ	**Edgecumbe**	**5.31**	**216**	P	**Pn**	**17**	**23**	**36.1**	**+1.1**
RAGZ	**Rawiri**	**5.33**	**209**	P	**Pn**	**17**	**23**	**34.4**	**-1.0**
RAGZ				S	**Sn**	**17**	**24**	**38.2**	**+2.6**
RIGZ	**Rimuhau**	**5.39**	**205**	P	**Pn**	**17**	**23**	**33.9**	**-2.2**
WIAZ	**Waiheke Island**	**5.40**	**235**	P	**Pn**	**17**	**23**	**38.8**	**+2.6**
LIRZ	**Lichensteins R**	**5.41**	**219**	P	**Pn**	**17**	**23**	**38.6**	**+2.2**
MKRZ	**Makatiti**	**5.47**	**217**	P	**Pn**	**17**	**23**	**41.0**	**+3.7**
OMRZ	**Omania**	**5.50**	**218**	P	**Pn**	**17**	**23**	**37.9**	**+0.4**
KARZ	**Kaharoa**	**5.50**	**220**	P	**Pn**	**17**	**23**	**38.4**	**+0.9**
ABAZ	**Army Bay**	**5.51**	**238**	P	Pn	17	23	42.2	+4.5
TARZ	**Mount Tarawera**	**5.53**	**216**	P	**Pn**	**17**	**23**	**39.1**	**+1.1**
PRGZ	**Paritu Road**	**5.54**	**203**	P	**Pn**	**17**	**23**	**36.0**	**-2.2**
MKAZ	**Moumakai**	**5.55**	**233**	P	**Pn**	**17**	**23**	**40.1**	**+2.0**
MBAZ	**Motutapu North**	**5.55**	**237**	P	**Pn**	**17**	**23**	**40.7**	**+2.5**
MUGZ	**Murupara**	**5.59**	**213**	P	**Pn**	**17**	**23**	**36.9**	**-1.9**
WCZ	**Waipu Caves**	**5.60**	**246**	P	**Pn**	**17**	**23**	**42.1**	**+3.1**
RRRZ	**Republican Roa**	**5.61**	**216**	P	**Pn**	**17**	**23**	**39.3**	**+0.3**
SNGZ	**Shannon Statio**	**5.61**	**208**	P	**Pn**	**17**	**23**	**37.5**	**-1.6**
RTZ	**Ruatahuna**	**5.62**	**211**	Pn	**Pn**	**17**	**23**	**36.0**	**-3.2**
RTZ	**Ruatahuna**	**5.62**	**211**	P	**Pn**	**17**	**23**	**38.0**	**-1.2**
HLRZ	**Highlands Stat**	**5.62**	**217**	P	**Pn**	**17**	**23**	**40.2**	**+1.0**
ETAZ	**East Tamaki Re**	**5.62**	**235**	P	**Pn**	**17**	**23**	**40.6**	**+1.4**
UTU	**Utuhina**	**5.64**	**219**	P	**Pn**	**17**	**23**	**41.7**	**+2.2**
KNZ	**Kokohu**	**5.70**	**204**	P	**Pn**	**17**	**23**	**37.8**	**-2.5**
HBAZ	**Herne Bay Bore**	**5.71**	**237**	P	**Pn**	**17**	**23**	**42.8**	**+2.5**
EPAZ	**Eden Park BICE**	**5.71**	**236**	P	**Pn**	**17**	**23**	**43.1**	**+2.7**
TOZ	**Tahuroa Road**	**5.72**	**226**	Pn	**Pn**	**17**	**23**	**40.6**	**+0.1**
HSRZ	**Hossack Road**	**5.72**	**218**	P	**Pn**	**17**	**23**	**41.9**	**+1.4**
KBAZ	**Karaka Road Bo**	**5.72**	**234**	P	**Pn**	**17**	**23**	**44.2**	**+3.6**
MHGZ	**Mahia Peninsul**	**5.74**	**202**	P	**Pn**	**17**	**23**	**38.2**	**-2.7**
HRRZ	**Handcock Road**	**5.76**	**217**	P	**Pn**	**17**	**23**	**42.5**	**+1.3**
RVAZ	**Riverhead Bore**	**5.77**	**238**	P	**Pn**	**17**	**23**	**44.2**	**+2.9**
PRRZ	**Plateau Road**	**5.79**	**215**	P	**Pn**	**17**	**23**	**41.3**	**-0.2**
GRRZ	**Galatos Road**	**5.82**	**218**	P	**Pn**	**17**	**23**	**42.8**	**+0.9**
RAHZ	**Arahi**	**5.83**	**209**	P	**Pn**	**17**	**23**	**41.1**	**-1.0**
ALRZ	**Allen Road**	**5.86**	**215**	P	**Pn**	**17**	**23**	**42.9**	**+0.4**
MTHZ	**Maungataniwha**	**5.87**	**211**	P	**Pn**	**17**	**23**	**42.7**	**0.0**
WHHZ	**Waihua**	**5.91**	**207**	P	**Pn**	**17**	**23**	**42.3**	**-0.9**
WPRZ	**Whakapapatarin**	**5.92**	**217**	P	**Pn**	**17**	**23**	**44.0**	**+0.7**
OUZ	**Omahuta**	**6.00**	**255**	P	**Pn**	**17**	**23**	**46.6**	**+2.2**
OUZ	**Omahuta**	**6.00**	**255**	⇑P	**Pn**	**17**	**23**	**46.6**	**+2.2**
OUZ	**Omahuta**	**6.00**	**255**	P	**Pn**	**17**	**23**	**46.5**	**+2.2**
MRHZ	**Matea Rd**	**6.05**	**213**	P	**Pn**	**17**	**23**	**43.3**	**-1.8**
KUTZ	**Kaahu Road**	**6.07**	**219**	P	**Pn**	**17**	**23**	**46.0**	**+0.7**
NMHZ	**Naumai**	**6.09**	**210**	P	**Pn**	**17**	**23**	**44.0**	**-1.7**
WHTZ	**Whakaora**	**6.13**	**217**	P	**Pn**	**17**	**23**	**47.0**	**+0.7**
ARHZ	**Aropaoanui**	**6.16**	**208**	P	**Pn**	**17**	**23**	**44.0**	**-2.6**
BKZ	**Black Stump Fm**	**6.29**	**211**	P	**Pn**	**17**	**23**	**46.9**	**-1.5**
BKZ	**Black Stump Fm**	**6.29**	**211**	Pn	**Pn**	**17**	**23**	**45.3**	**-3.1**
BKZ	**Black Stump Fm**	**6.29**	**211**	P	**Pn**	**17**	**23**	**45.7**	**-2.7**
RATZ	**Rangitukua**	**6.38**	**217**	P	**Pn**	**17**	**23**	**49.2**	**-0.5**
MCHZ	**McNeill Hill**	**6.43**	**209**	P	**Pn**	**17**	**23**	**49.0**	**-1.4**
CKHZ	**Cape Kidnapper**	**6.48**	**205**	P	**Pn**	**17**	**23**	**47.7**	**-3.3**
HIZ	**Hauiti**	**6.62**	**224**	P	**Pn**	**17**	**23**	**53.6**	**+0.7**
HIZ	**Hauiti**	**6.62**	**224**	Pn	**Pn**	**17**	**23**	**50.7**	**-2.2**
KAHZ	**Kahuranaki**	**6.67**	**206**	P	**Pn**	**17**	**23**	**49.7**	**-3.9**
KAHZ				S	**Sn**	**17**	**25**	**04.9**	**-3.4**
KHEZ	**Kahui Hut**	**7.63**	**223**	P	**Pn**	**17**	**24**	**08.2**	**+1.4**
BFZ	**Birch Farm**	**7.68**	**206**	P	**Pn**	**17**	**24**	**03.8**	**-3.6**
BFZ	**Birch Farm**	**7.68**	**206**		Pn	17	24	08.1	-5.3
MRZ	**Mangatainoka R**	**7.92**	**209**	Pn	Pn	17	24	05.1	-5.6
PLWZ	**Palliser**	**8.82**	**208**	Pn	Pn	17	24	17.0	-6.1
SNZO	**South Karori**	**8.83**	**211**	Pn	Pn	17	24	17.2	-5.9
BHW	**Baring Head**	**8.84**	**210**		Pn	17	24	16.9	-6.3
TCW	**Tory Channel**	**8.93**	**213**	Pn	Pn	17	24	18.9	-5.7
TUWZ	**Tuamarina**	**9.26**	**213**		Pn	17	24	22.5	-6.5
NNZ	**Nelson**	**9.36**	**216**	Pn	**Pn**	**17**	**24**	**26.0**	**-4.4**
CMWZ	**Cape Campbell**	**9.40**	**211**	Pn	**Pn**	**17**	**24**	**27.6**	**-3.3**
TKNZ	**Takaka Hill**	**9.43**	**218**		Pn	17	24	25.4	-6.0
QRZ	**Quartz Range**	**9.51**	**221**	Pn	Pn	17	24	27.3	-5.2
BSWZ	**Blackbirch Sta**	**9.52**	**212**		Pn	17	24	27.5	-5.0
MRNZ	**Matariki Terra**	**9.81**	**217**		Pn	17	24	30.2	-6.3
THZ	**Tophouse**	**10.01**	**216**	Pn	Pn	17	24	32.4	-6.9
CTZ	**Chatham Island**	**10.10**	**169**	P	Pn	17	24	35.5	-5.0
CTZ	**Chatham Island**	**10.10**	**169**	Pn	Pn	17	24	35.3	-5.2
KHZ	**Kahutara**	**10.23**	**211**	Pn	Pn	17	24	35.9	-6.4
KHZ	**Kahutara**	**10.23**	**211**	⇓P	Pn	17	24	36.3	-6.0
DSZ	**Dennistoun Nort**	**10.55**	**219**	Pn	Pn	17	24	41.8	-4.9
GVZ	**Greta Valley S**	**10.89**	**211**	Pn	Pn	17	24	45.9	-5.5
LTZ	**Lake Taylor**	**11.09**	**214**	Pn	Pn	17	24	48.5	-5.6
AMCZ	**Amberley**	**11.23**	**212**	Pn	**Pn**	**17**	**24**	**52.2**	**-3.8**
INZ	**Inchbonnie**	**11.44**	**217**	Pn	**Pn**	**17**	**24**	**55.4**	**-3.5**
OXZ	**Oxford**	**11.62**	**213**		**Pn**	**17**	**24**	**56.6**	**-4.7**
MQZ	**McQueen's Vall**	**11.66**	**210**	Pn	Pn	17	24	56.0	-5.8
NFK	**Norfolk Island**	**11.88**	**290**	P	**Pn**	**17**	**25**	**03.7**	**-1.3**
	baz=12,SNR=4.5								
RPZ	**Rata Peaks**	**12.38**	**214**	Pn	Pn	17	25	03.2	-8.4
RPZ	**Rata Peaks**	**12.38**	**214**	P	Pn	17	25	04.6	-7.0
	35nm,0.5s,baz=300,slow=2.5,SNR=24								
RPZ				S	Sn	17	27	14.4	-14
	86nm,0.8s,baz=54,slow=7.3,SNR=2.2								
FOZ	**Fox Glacier**	**12.85**	**218**	Pn	**Pn**	**17**	**25**	**13.9**	**-4.2**
LBZ	**Lake Benmore**	**13.29**	**215**	Pn	Pn	17	25	16.0	-8.1
ODZ	**Otahua Downs**	**13.59**	**212**	Pn	Pn	17	25	18.9	-9.3
ODZ	**Otahua Downs**	**13.59**	**212**	⇑P	Pn	17	25	20.6	-7.6
WKZ	**Wanaka**	**14.18**	**216**		Pn	17	25	28.5	-7.7
MLZ	**Mavora Lakes**	**15.01**	**216**	Pn	Pn	17	25	40.5	-6.7
SYZ	**Scrubby Hill**	**15.41**	**211**	P	**Pn**	**17**	**25**	**50.6**	**-1.7**
WHZ	**Wether Hill Ro**	**15.47**	**215**	Pn	**Pn**	**17**	**25**	**47.1**	**-6.0**
DCZ	**Deep Cove**	**15.56**	**218**		Pn	17	25	47.0	-7.3
PINNC	**Pines Island,**	**16.14**	**310**		**Pn**	**17**	**25**	**57.8**	**-3.9**
MSVF	**Nonsavu**	**16.22**	**351**	P	**P**	**17**	**26**	**05.6**	**+0.3**
MSVF	**Nonsavu**	**16.22**	**351**		**Pn**	**17**	**26**	**03.7**	**+0.8**
MSVF	**Nonsavu**	**16.22**	**351**	⇓P	**P**	**17**	**26**	**04.6**	**-0.7**
MSVF	**Nonsavu**	**16.22**	**351**	*i* P	**Pn**	**17**	**26**	**02.9**	**0.0**
MSVF				pmax	pmax				
	comp=Z,18nm,0.4s								
OUENC	**Ouen Island, N**	**16.67**	**310**	P	**P**	**17**	**26**	**13.8**	**+3.6**
OUENC	**Ouen Island, N**	**16.67**	**310**	P	**P**	**17**	**26**	**10.4**	**+0.3**
NIUE	**Niue**	**16.93**	**32**	P	**Pn**	**17**	**26**	**10.1**	**-1.6**
NIUE	**Niue**	**16.93**	**32**	P	**Pn**	**17**	**26**	**12.7**	**+0.9**
ONTNC	**Ouen Toro**	**17.00**	**309**	P	**P**	**17**	**26**	**13.2**	**-0.6**
DZM	**Mont Dzumac**	**17.17**	**309**	P	**P**	**17**	**26**	**19.2**	**+3.4**
DZM	**Mont Dzumac**	**17.17**	**309**	P	**P**	**17**	**26**	**16.6**	**+0.7**
DZM	**Mont Dzumac**	**17.17**	**309**	⇑P	**P**	**17**	**26**	**18.9**	**+3.1**
DZM	**Mont Dzumac**	**17.17**	**309**	P	**P**	**17**	**26**	**16.5**	**+0.7**
	comp=Z,10.0nm,0.7s,baz=137,slow=13,SNR=4.1								
DZM				LR	LR	17	31	47.0	
	comp=Z,35μm,18.9s,baz=148,slow=33								
NOUC	**Port Laguerre**	**17.24**	**309**	P	**P**	**17**	**26**	**19.9**	**+3.4**
YSA	**Yasawairara**	**17.30**	**350**	P	**P**	**17**	**26**	**19.7**	**+2.5**
DVP	**Devils Point**	**19.57**	**322**	P	**Pn**	**17**	**26**	**45.5**	**+1.8**
KOUNC	**Koumac, New Ca**	**19.66**	**308**	P	**Pn**	**17**	**26**	**47.0**	**+2.2**
KOUNC	**Koumac, New Ca**	**19.66**	**308**		**P**	**17**	**26**	**41.8**	**-1.2**
KOUNC	**Koumac, New Ca**	**19.66**	**308**	⇓P	**Pn**	**17**	**26**	**50.0**	**+5.2**
AFI	**Afiamalu**	**21.00**	**21**	P	**P**	**17**	**26**	**55.7**	**-2.0**
AFI				IAmb	IAmb	17	27	11.8	
	comp=Z,280nm,1.1s								
AFI	**Afiamalu**	**21.00**	**21**	P	**P**	**17**	**26**	**55.7**	**-2.0**
AFI				pmax	pmax				
	comp=Z,279nm,1.1s								
AFI				MLR	MLR				
	comp=Z,4μm,19.0s								
RAR	**Rarotonga**	**21.38**	**59**	P	**P**	**17**	**26**	**58.8**	**-2.8**
RAR				IAmb	IAmb	17	27	16.7	
	comp=Z,225nm,1.2s								
RAR	**Rarotonga**	**21.38**	**59**	P	**P**	**17**	**27**	**04.3**	**+2.6**
	comp=Z,133nm,1.1s,baz=263,slow=8.0,SNR=3.6								
RAR				S	S	17	30	45.0	-11
	comp=Z,18nm,0.4s,baz=62,slow=16,SNR=2.4								
RAR				LR	LR	17	35	39.1	
	comp=Z,4μm,18.0s,baz=234,slow=37								
	comp=Z,133nm,1.1s								
RAR	**Rarotonga**	**21.38**	**59**	P	**P**	**17**	**26**	**58.8**	**-2.8**
RAR				pmax	pmax				
	comp=Z,225nm,1.2s								
MGCD	**Mangrove Creek**	**24.62**	**263**	P	**P**	**17**	**27**	**34.8**	**+0.8**
	baz=25,SNR=8.4								
MGCD	**Mangrove Creek**	**24.62**	**263**	P	**P**	**17**	**27**	**35.9**	**+1.9**
ARMA	**Armidale**	**24.80**	**270**	P	**P**	**17**	**27**	**36.3**	**+0.5**
	baz=25,SNR=9.7								
ARMA	**Armidale**	**24.80**	**270**	P	**P**	**17**	**27**	**37.5**	**+1.8**
ARMA	**Armidale**	**24.80**	**270**	P	**P**	**17**	**27**	**37.6**	**+1.8**
ARMA	**Armidale**	**24.80**	**270**	⇓P	**P**	**17**	**27**	**39.4**	**+3.6**
CNB	**Canberra Magne**	**25.77**	**258**	P	**P**	**17**	**27**	**45.1**	**+0.6**
	baz=26,SNR=11								
CNB	**Canberra Magne**	**25.77**	**258**	P	**P**	**17**	**27**	**47.5**	**+3.0**
MILA	**Mila**	**25.81**	**254**	P	**P**	**17**	**27**	**45.2**	**+0.4**
	baz=26,SNR=3.8								
MILA	**Mila**	**25.81**	**254**	P	**P**	**17**	**27**	**45.7**	**+0.8**
CAN	**Canberra**	**26.07**	**258**	P	**P**	**17**	**27**	**48.2**	**+1.0**
CAN	**Canberra**	**26.07**	**258**	P	**P**	**17**	**27**	**49.4**	**+2.2**
CAN				IAMs_20	IAMs_20	17	36	55.0	
	comp=Z,15μm,19.0s								
CAN	**Canberra**	**26.07**	**258**	P	**P**	**17**	**27**	**49.4**	**+2.2**
CAN				pmax	pmax				
	comp=Z,53nm,1.3s								
CAN				MLR	MLR				
	comp=Z,14μm,19.0s								
YNG	**Young**	**26.68**	**260**	P	**P**	**17**	**27**	**55.1**	**+2.4**
	baz=27,SNR=15								
YNG	**Young**	**26.68**	**260**	P	**P**	**17**	**27**	**54.0**	**+1.3**
GLAD	**Gladstone**	**26.79**	**245**	P	**P**	**17**	**27**	**56.1**	**+2.5**
EIDS	**Eidsvold**	**27.01**	**280**	P	**P**	**17**	**27**	**57.8**	**+2.2**
	baz=27,SNR=31								
EIDS	**Eidsvold**	**27.01**	**280**	P	**P**	**17**	**27**	**57.6**	**+1.9**
EIDS	**Eidsvold**	**27.01**	**280**	P	**P**	**17**	**27**	**55.5**	**-0.2**
EIDS	**Eidsvold**	**27.01**	**280**	⇑P	**P**	**17**	**27**	**56.8**	**+1.1**
CORO	**Coronation Par**	**27.48**	**244**	P	**P**	**17**	**28**	**01.7**	**+1.9**
TAU	**Tasmania Unive**	**27.52**	**241**	P	**P**	**17**	**28**	**00.9**	**+0.8**
TAU	**Tasmania Unive**	**27.52**	**241**	P	**P**	**17**	**28**	**00.3**	**+0.2**
TAU				IAmb	IAmb	17	28	04.1	
	comp=Z,76nm,0.8s								
TAU	**Tasmania Unive**	**27.52**	**241**	⇓P	**P**	**17**	**28**	**01.4**	**+1.3**
TAU	**Tasmania Unive**	**27.52**	**241**	P	**P**	**17**	**28**	**00.3**	**+0.2**
TAU				pmax	pmax				
	comp=Z,76nm,0.8s								
MOO	**Moorlands**	**27.55**	**242**	P	**P**	**17**	**28**	**00.9**	**+0.5**
	baz=28,SNR=17								
MOO	**Moorlands**	**27.55**	**242**	P	**P**	**17**	**28**	**00.7**	**+0.3**
RK1H	**Rockhampton Ha**	**28.38**	**284**	P	**P**	**17**	**28**	**10.4**	**+2.5**
TOO	**Toolangi**	**28.71**	**252**	P	**P**	**17**	**28**	**11.2**	**+0.5**
	baz=29,SNR=16								
TOO	**Toolangi**	**28.71**	**252**	P	**P**	**17**	**28**	**13.6**	**+2.8**
TOO	**Toolangi**	**28.71**	**252**	P	**P**	**17**	**28**	**13.7**	**+2.8**
TOO	**Toolangi**	**28.71**	**252**	⇓P	**P**	**17**	**28**	**13.4**	**+2.6**
TOO	**Toolangi**	**28.71**	**252**	P	**P**	**17**	**28**	**13.7**	**+2.9**
TOO				pmax	pmax				
	comp=Z,145nm,1.9s								
CMSA	**Cobar Meteorol**	**29.45**	**265**	P	**P**	**17**	**28**	**18.3**	**+0.9**
	baz=30,SNR=80								
CMSA	**Cobar Meteorol**	**29.45**	**265**	P	**P**	**17**	**28**	**19.4**	**+2.0**
BRAT	**Ballarat**	**29.94**	**252**	P	**P**	**17**	**28**	**24.5**	**+2.8**
HNR	**Honiara**	**30.88**	**317**	P	**P**	**17**	**28**	**31.8**	**+1.7**
HNR	**Honiara**	**30.88**	**317**	P	**P**	**17**	**28**	**29.8**	**-0.3**
HNR	**Honiara**	**30.88**	**317**	⇑P	**P**	**17**	**28**	**29.9**	**-0.3**
HNR	**Honiara**	**30.88**	**317**	P	**P**	**17**	**28**	**29.8**	**-0.3**
HNR				pmax	pmax				
	comp=Z,495nm,0.9s

PATS **Pohnpei** **45.68 328** P **P** **17 30 34.0 -0.3**
baz=46,SNR=3.6
PATS **Pohnpei** **45.68 328** P **P** **17 30 34.6 +0.3**
PATS IAmb IAmb 17 30 43.3
comp=Z,142nm,1.2s
WRKA **Warakurna** **46.04 267** P **P** **17 30 36.3 -0.9**
baz=46,SNR=46
WRKA **Warakurna** **46.04 267** P **P** **17 30 36.3 -0.9**
KDU **Kakadu** **48.52 284** P **P** **17 30 56.3 -0.2**
baz=49,SNR=12
KDU **Kakadu** **48.52 284** P **P** **17 30 56.2 -0.4**
KDU **Kakadu** **48.52 284** ⇑P **P** **17 30 55.4 -1.2**
JAY **Jayapura** **48.59 301** P **P** **17 30 57.4 +0.2**
comp=Z,115nm,1.5s,comp=Z,3μmcomp=Z,7μm
GENI **Genyem** **48.92 301** ⇑P **P** **17 30 59.3 -0.4**
GENI **Genyem** **48.92 301** P **P** **17 31 00.0 +0.3**
comp=Z,252nm,1.1s,comp=Z,3μmcomp=Z,7μm
KMBL **Kambalda** **49.00 256** P **P** **17 30 59.1 -1.0**
baz=49,SNR=10
KMBL **Kambalda** **49.00 256** P **P** **17 30 59.5 -0.6**
CCD **Concordia, Ant** **49.34 197** ⇑P **P** **17 31 04.0 +1.4**
MTN **Manton Dam** **49.52 283** P **P** **17 31 06.1 +1.9**
baz=50,SNR=4.4
MTN **Manton Dam** **49.52 283** P **P** **17 31 03.1 -1.2**
MTN IAmb IAmb 17 31 38.0
comp=Z,56nm,1.0s
DRS **Darwin Rock St** **49.94 283** P **P** **17 31 07.9 +0.5**
JOHN **Johnston Islan** **51.16 12** IAMs_20 IAMs_20 17 50 52.0
comp=Z,6μm,21.0s
FITZ **Fitzroy Crossi** **51.33 273** P **P** **17 31 17.8 -0.1**
baz=51,SNR=71
CASY **Casey** **51.58 209** P **P** **17 31 16.8 -2.3**
CASY IAmb IAmb 17 31 22.2
comp=Z,58nm,0.7s
CASY **Casey** **51.58 209** ⇓P **P** **17 31 19.0 -0.1**
CASY **Casey** **51.58 209** P **P** **17 31 18.9 -0.1**
CASY pP **pP** **17 31 29.2 -2.2**
NWAO **Narrogin (SRO)** **52.20 252** P **P** **17 31 22.6 -1.6**
baz=52,SNR=8.3
NWAO P **P** **17 31 22.6 -1.6**
baz=52,SNR=8.3
NWAO **Narrogin (SRO)** **52.20 252** P **P** **17 31 23.6 -0.6**
NWAO **Narrogin (SRO)** **52.20 252** P **P** **17 31 20.8 -3.4**
NWAO **Narrogin (SRO)** **52.20 252** IAMs_20 IAMs_20 17 52 08.4
comp=Z,5μm,20.0s
NWAO **Narrogin (SRO)** **52.20 252** LR LR 17 52 20.0
comp=Z,5μm,20.0s,baz=99,slow=35
NWAO **Narrogin (SRO)** **52.20 252** P **P** **17 31 20.8 -3.4**
NWAO pmax pmax
comp=Z,242nm,1.8s
NWAO MLR MLR
comp=Z,5μm,20.0s
NWAO **Narrogin (SRO)** **52.20 252** P **P** **17 31 22.4 -1.8**
KLBR **Kellerberrin** **52.24 254** P **P** **17 31 23.1 -1.4**
baz=52,SNR=23
KLBR **Kellerberrin** **52.24 254** P **P** **17 31 23.6 -1.0**
KMPI **Kaimana, Papua** **52.99 294** P **P** **17 31 31.5 +1.3**
comp=Z,276nm,0.8s,comp=Z,6μm
MUN **Mundaring** **53.34 253** P **P** **17 31 31.3 -1.3**
baz=53,SNR=9.1
MUN **Mundaring** **53.34 253** P **P** **17 31 31.5 -1.2**
MEEK **Meekatharra** **53.40 260** P **P** **17 31 31.8 -1.4**
baz=54,SNR=24
MEEK **Meekatharra** **53.40 260** P **P** **17 31 31.9 -1.3**
BLDU **Ballidu** **53.43 255** P **P** **17 31 33.4 +0.1**
baz=54,SNR=7.3
BLDU **Ballidu** **53.43 255** P **P** **17 31 33.6 +0.3**
H01W1 **Cape Leeuwin H** **53.96 249** P **P** **17 31 35.5 -1.4**
baz=157,slow=2.4,SNR=1.7
H01W2 **Cape Leeuwin H** **53.98 249** P **P** **17 31 35.6 -1.4**
baz=157,slow=2.4,SNR=2.1
H01W3 **Cape Leeuwin H** **53.98 249** P **P** **17 31 35.7 -1.4**
baz=157,slow=2.4,SNR=2.2
PSA00 **Pilbara Seismi** **54.53 266** P **P** **17 31 42.6 +1.1**
PSA00 **Pilbara Seismi** **54.53 266** P **P** **17 31 39.7 -1.8**
PSA00 IAmb IAmb 17 32 03.5
comp=Z,76nm,1.8s
PSA00 **Pilbara Seismi** **54.53 266** IAmb IAmb 17 31 45.2
comp=Z,242nm,2.0s
MORW **Morawa** **54.54 256** P **P** **17 31 40.1 -1.4**
baz=55,SNR=11
MORW **Morawa** **54.54 256** P **P** **17 31 40.5 -1.0**
MORW **Morawa** **54.54 256** IAmb IAmb 17 32 03.6
comp=Z,70nm,1.1s
MORW **Morawa** **54.54 256** ⇑P **P** **17 31 39.0 -2.5**
FAKI **Fak Fak** **54.58 294** P **P** **17 31 41.9 +0.1**
FAKI **Fak Fak** **54.58 294** P **P** **17 31 39.1 -2.7**
FAKI IAmb IAmb 17 31 42.9
comp=Z,93nm,0.9s
FAKI IAMs_20 IAMs_20 17 53 16.3
comp=Z,5μm,22.0s
FAKI **Fak Fak** **54.58 294** ⇑P **P** **17 31 41.1 -0.8**
FAKI **Fak Fak** **54.58 294** P **P** **17 31 41.6 -0.2**
comp=Z,113nm,0.8s,comp=Z,2μmcomp=Z,7μm
MBWA **Marble Bar** **54.81 267** P **P** **17 31 43.3 -0.2**
MBWA **Marble Bar** **54.81 267** IAMs_20 IAMs_20 17 53 19.1
comp=Z,5μm,21.0s
MBWA **Marble Bar** **54.81 267** P **P** **17 31 41.8 -1.7**
QSPA **South Pole Qui** **56.27 180** P **P** **17 31 56.0 +2.5**
QSPA **South Pole Qui** **56.27 180** P **P** **17 31 56.3 +2.8**
comp=Z,26nm,0.6s,baz=26,slow=1.3,SNR=404
QSPA LR LR 17 51 35.3
comp=Z,3μm,21.4s,baz=44,slow=31
comp=Z,26nm,0.6s
QSPA **South Pole Qui** **56.27 180** ⇑P **P** **17 31 56.3 +2.8**
QSPA sP **sP** **17 32 12.0 +0.9**
SWI **Sorong** **56.65 295** P **P** **17 31 57.0 +0.3**
comp=Z,145nm,2.1s,comp=Z,3μmcomp=Z,6μm
SOEI **Soe** **56.82 281** P **P** **17 31 59.7 +1.6**
SOEI **Soe** **56.82 281** IAMs_20 IAMs_20 17 58 13.7
comp=Z,6μm,19.0s
SOEI **Soe** **56.82 281** P **P** **17 31 57.6 -0.5**
SOEI **Soe** **56.82 281** ⇑P **P** **17 31 59.1 +1.0**
SOEI **Soe** **56.82 281** P **P** **17 32 00.7 +2.6**
comp=Z,205nm,1.2s,comp=Z,4μmcomp=Z,9μm
BATI **Baumata** **57.06 280** P **P** **17 31 59.6 -0.1**
comp=Z,92nm,0.7s,baz=161,slow=2.2,SNR=11
BATI LR LR 17 56 52.9
comp=Z,6μm,19.5s,baz=126,slow=36
comp=Z,92nm,0.7s
BATI **Baumata** **57.06 280** P **P** **17 32 00.7 +1.0**
comp=Z,125nm,0.8s,comp=Z,6μm
POHA **Pohakuloa** **57.93 27** IAMs_20 IAMs_20 17 51 20.2
comp=Z,5μm,22.0s
GUMO **Guam** **58.20 318** LR LR 17 53 28.1
comp=Z,1μm,21.2s,baz=149,slow=32
KEKH **Kekaha** **58.58 21** P **P** **17 32 10.5 +0.5**
KIP **Kipapa** **58.59 23** *i* P **P** **17 32 10.8 +0.7**
KIP pmax pmax
comp=Z,99nm,1.1s
GIRL **Giralia** **58.70 262** P **P** **17 32 11.3 +0.2**
baz=59,SNR=9.3
GIRL **Giralia** **58.70 262** P **P** **17 32 11.5 +0.5**
MMRI **Maumere** **59.10 281** P **P** **17 32 16.1 +2.1**
MMRI **Maumere** **59.10 281** P **P** **17 32 11.6 -2.4**
MMRI **Maumere** **59.10 281** ⇑P **P** **17 32 13.3 -0.7**
MMRI **Maumere** **59.10 281** P **P** **17 32 14.2 +0.2**
comp=Z,255nm,0.8s,comp=Z,3μmcomp=Z,6μm
EDFI **Ende, Flores** **59.49 280** P **P** **17 32 16.7 0.0**
comp=Z,90nm,2.2s,comp=Z,2μmcomp=Z,8μm
BASI **Baing, Sumba** **59.59 278** P **P** **17 32 17.7 +0.4**
comp=Z,438nm,1.3s
RPN **Rapa Nui** **59.65 104** LR LR 17 51 57.5
comp=Z,5μm,20.8s,baz=246,slow=30
LBMI **Labuha** **59.67 292** P **P** **17 32 18.7 +0.8**
comp=Z,120nm,1.4s,comp=Z,5μm
SANI **Sanana** **59.97 290** P **P** **17 32 21.3 +1.4**
SANI **Sanana** **59.97 290** P **P** **17 32 16.6 -3.2**
SANI **Sanana** **59.97 290** ⇑P **P** **17 32 19.0 -0.9**
SANI **Sanana** **59.97 290** P **P** **17 32 19.0 -0.9**
comp=Z,238nm,1.1s,comp=Z,3μmcomp=Z,5μm
BBSI **Bau Bau** **60.63 284** P **P** **17 32 25.3 +0.9**
comp=Z,113nm,1.1s,comp=Z,2μmcomp=Z,6μm
TNTI **Ternate** **60.67 293** P **P** **17 32 22.4 -2.3**
TNTI IAmb IAmb 17 32 30.4
comp=Z,56nm,1.1s
TNTI **Ternate** **60.67 293** P **P** **17 32 24.8 +0.1**
comp=Z,49nm,1.9s,comp=Z,2μmcomp=Z,3μm
PLAI **Plampang** **62.66 278** P **P** **17 32 38.8 +0.7**
PLAI **Plampang** **62.66 278** P **P** **17 32 38.3 +0.2**
comp=Z,148nm,0.8s,comp=Z,3μm
BKSI **Bulukumba** **62.71 283** P **P** **17 32 39.3 +0.9**
comp=Z,93nm,1.2s,comp=Z,2μmcomp=Z,5μm
LUWI **Luwuk** **63.12 288** P **P** **17 32 39.7 -1.4**
LUWI **Luwuk** **63.12 288** P **P** **17 32 39.4 -1.8**
LUWI **Luwuk** **63.12 288** P **P** **17 32 42.3 +1.2**
comp=Z,254nm,1.1s,comp=Z,3μm
KMSI **Cibinong** **63.16 291** P **P** **17 32 41.5 +0.1**
comp=Z,269nm,1.0s,comp=Z,4μmcomp=Z,5μm
KAPI **Kappang** **63.19 283** P **P** **17 32 39.0 -2.6**
KAPI IAmb IAmb 17 33 04.4
comp=Z,76nm,1.1s
KAPI **Kappang** **63.19 283** P **P** **17 32 40.9 -0.7**
comp=Z,20nm,0.7s,baz=164,slow=7.5,SNR=7.3
KAPI LR LR 18 00 51.5
comp=Z,3μm,20.1s,baz=118,slow=37
comp=Z,20nm,0.7s
KAPI **Kappang** **63.19 283** P **P** **17 32 39.0 -2.6**
KAPI pmax pmax
comp=Z,76nm,1.1s
TWSI **Taliwang, Sumb** **63.45 277** P **P** **17 32 42.9 -0.4**
comp=Z,136nm,0.9s,comp=Z,2μmcomp=Z,6μm
TTSI **Tana Toraja** **64.28 285** P **P** **17 32 48.8 0.0**
comp=Z,90nm,1.2s,comp=Z,1μmcomp=Z,4μm
DNP **Denpasar** **64.86 277** P **P** **17 32 53.5 +0.9**
comp=Z,462nm,1.6s
SRBI **Singaraja** **65.18 277** P **P** **17 32 54.7 0.0**
comp=Z,158nm,0.8s,comp=Z,3μmcomp=Z,5μm
JAGI **Jajag, Banyuwa** **65.85 276** P **P** **17 32 56.0 -3.0**
JAGI IAMs_20 IAMs_20 18 02 11.0
comp=Z,4μm,21.0s
JAGI **Jajag, Banyuwa** **65.85 276** ⇑P **P** **17 32 58.2 -0.8**
TOLI2 **Tolitoli** **66.00 289** P **P** **17 32 56.9 -3.1**
TOLI2 IAmb IAmb 17 33 22.3
comp=Z,34nm,0.8s
DAV **Davao City (W)** **66.12 297** P **P** **17 33 00.1 -0.5**
comp=Z,84nm,0.3s,baz=102,slow=3.5,SNR=8.4
DAV LR LR 17 57 56.4
comp=Z,1μm,21.6s,baz=138,slow=32
DAV **Davao City (W)** **66.12 297** ⇑*i* P **P** **17 32 59.0 -1.7**
ABJI **Asem Bagus** **66.15 277** P **P** **17 33 00.4 -0.5**
comp=Z,112nm,0.9s
MPSI **Mapaga** **66.23 288** P **P** **17 33 00.3 -1.1**
comp=Z,37nm,1.1s,comp=Z,2μmcomp=Z,5μm
BELA **Belgrano 2** **66.53 172** P **P** **17 33 02.3 -0.1**
BELA IAmb IAmb 17 33 18.5
comp=Z,85nm,1.1s
BLJI **Banyuglugur** **66.71 276** P **P** **17 33 04.0 -0.5**
comp=Z,139nm,0.7s
PWJI **Pagerwojo** **68.04 275** P **P** **17 33 12.2 -0.7**
comp=Z,93nm,1.2s
MAW **Mawson** **68.69 201** P **P** **17 33 16.9 +0.7**
comp=Z,10nm,0.5s,baz=131,slow=6.2,SNR=17
MAW LR LR 18 02 38.3
comp=Z,3μm,19.9s,baz=116,slow=35
comp=Z,10nm,0.5s
MTKI **Muara Teweh, K** **69.48 283** P **P** **17 33 22.5 +0.6**
PMSA **Palmer Station** **69.60 156** LR LR 17 57 47.6
comp=Z,3μm,21.2s,baz=242,slow=30
MYLDM **Lahad Datu** **70.29 291** P **P** **17 33 25.9 -0.9**
MYLDM IAmb IAmb 17 34 02.6
comp=Z,121nm,1.4s
JCJ **Chichijima** **70.76 324** P P 17 33 24.2 -5.1
comp=Z,50nm,0.6s,baz=320,slow=23,SNR=2.2
JCJ LR LR 18 00 00.8
comp=Z,1μm,21.9s,baz=146,slow=32
KPJI **Karang Pucung** **70.80 274** P **P** **17 33 29.0 -1.0**
comp=Z,53nm,0.8s
LEM **Lembang** **72.16 274** P **P** **17 33 37.4 -1.0**
comp=Z,77nm,0.8s,baz=72,slow=5.2,SNR=21
LEM LR LR 18 04 36.5
comp=Z,4μm,21.4s,baz=131,slow=35
comp=Z,77nm,0.8s
LEM **Lembang** **72.16 274** P **P** **17 33 38.1 -0.3**
comp=Z,112nm,0.8s,comp=Z,2μm
STKI **Sintang** **72.84 282** P **P** **17 33 42.7 +0.4**
comp=Z,115nm,1.1s
DBJI **Dramaga** **73.03 273** P **P** **17 33 42.8 -0.6**
comp=Z,118nm,0.9s,comp=Z,5μm
ELIB **Princess Elisa** **73.30 187** *d* P **P** **17 33 45.2 +1.0**
comp=Z,51nm,0.9s
MG03 **Isla Dawson** **73.31 144** P **P** **17 33 44.0 -0.4**
MG03 IAmb IAmb 17 34 06.7
comp=Z,43nm,0.8s
MG05 **Puerto Natales** **73.51 142** P **P** **17 33 45.8 +0.2**
MG05 IAmb IAmb 17 34 06.8
comp=Z,57nm,1.0s
SBUM **Sibu** **73.63 284** ⇑P **P** **17 33 46.0 -0.9**
USHA **Ushuaia** **73.71 146** LR LR 17 58 43.4
comp=Z,2μm,20.9s,baz=224,slow=30
TGY **Tagaytay City** **74.17 299** LR LR 18 05 05.6
comp=Z,973nm,21.7s,baz=135,slow=35
TROLL **Troll, Antarti** **74.43 181** ⇑P **P** **17 33 52.1 +1.3**
comp=Z,2μm,0.6s
KSM **Kuching** **74.61 282** ⇑P **P** **17 33 51.1 -1.5**
SNAA **Sanae** **74.75 179** P **P** **17 33 52.0 -0.5**
SNAA IAmb IAmb 17 34 13.3
comp=Z,116nm,1.1s
SNAA **Sanae** **74.75 179** ⇑P **P** **17 33 53.7 +1.1**
comp=Z,280nm,0.6s
SNAA **Sanae** **74.75 179** ⇑sP **P** **17 33 53.6 +1.1**
SNAA **Sanae** **74.75 179** P **P** **17 33 53.6 +1.1**
comp=Z,12nm,0.6s,baz=206,slow=9.4,SNR=38
SNAA LR LR 18 03 05.9
comp=Z,2μm,21.7s,baz=198,slow=33
comp=Z,12nm,0.6s
SNAA **Sanae** **74.75 179** *i* P **P** **17 33 52.7 +0.1**
SNAA pmax pmax
comp=Z,35nm,1.1s
VNA3 **Neumayer Olymp** **74.95 177** ⇑P **P** **17 33 54.9 +1.2**
comp=Z,39nm,0.6s
GO08 **Villa O'Higgin** **75.29 139** P **P** **17 33 56.8 +0.7**
VNA2 **Neumayer--Watz** **75.36 177** ⇑P **P** **17 33 57.5 +1.4**
comp=Z,43nm,0.6s,baz=175,slow=5.7
NVL **N'lazarevskaya** **75.38 184** *eP* **P** **17 33 54.9 -1.2**
NVL *eS* **S** **17 43 28.4 -3.4**
NVL pmax pmax
comp=Z,70nm,1.1s
NVL MLR MLR
comp=Z,1μm,19.0s
KASI **Kota Agung** **75.47 273** P **P** **17 33 57.9 +0.4**
comp=Z,53nm,1.1s,comp=Z,1μmcomp=Z,4μm
VNA1 **Neumayer--Stat** **75.60 177** ⇑P **P** **17 33 59.0 +1.6**
comp=Z,46nm,0.9s
AY03 **Cochrane** **75.96 138** IAmb IAmb 17 34 21.9
comp=Z,57nm,1.1s
PPBI **Pangkal Pinang** **75.97 277** P **P** **17 34 01.1 +0.7**
comp=Z,32nm,1.2s,comp=Z,1μm
LWLI **Liwa** **76.11 273** P **P** **17 34 00.9 -0.5**
comp=Z,130nm,1.0s,comp=Z,2μmcomp=Z,4μm
JHJ **Hachijo jima 2** **76.91 326** LR LR 18 03 35.0
comp=Z,1μm,21.6s,baz=120,slow=32
COYC **Coyhaique** **77.22 137** P **P** **17 34 07.0 0.0**
COYC IAmb IAmb 17 34 32.4
comp=Z,100nm,1.2s
COYC **Coyhaique** **77.22 137** IAMs_20 IAMs_20 17 59 34.6
comp=Z,4μm,21.0s
COYC **Coyhaique** **77.22 137** ⇑P **P** **17 34 10.1 +3.1**
MNAI **Manna** **77.38 273** IAMs_20 IAMs_20 18 08 04.7
comp=Z,4μm,22.0s
JOW **Kunjamni** **78.18 314** LR LR 18 04 50.1
comp=Z,2μm,20.9s,baz=132,slow=33
DSRI **Dabo** **78.19 277** P **P** **17 34 13.0 +0.1**
comp=Z,43nm,1.7s,comp=Z,1μmcomp=Z,5μm
LL02 **Futaleuf** **78.74 135** IAmb IAmb 17 34 36.7
comp=Z,37nm,0.8s
LL02 **Futaleuf** **78.74 135** ⇑P **P** **17 34 17.9 +2.4**
LL01 **San Ignacio de** **78.88 134** IAmb IAmb 17 34 36.0
comp=Z,64nm,1.4s
H03S2 **Juan Fernandez** **79.50 124** T T 19 02 38.9
baz=234,slow=74,SNR=104
H03S1 **Juan Fernandez** **79.51 124** T T 19 02 30.3
baz=234,slow=74,SNR=91
H03S3 **Juan Fernandez** **79.52 124** T T 19 02 43.0
baz=234,slow=74,SNR=92
H03N3 **Juan Fernandez** **79.71 123** T T 19 02 51.3
baz=239,slow=72,SNR=92
H03N2 **Juan Fernandez** **79.72 123** T T 19 02 52.5
baz=239,slow=72,SNR=109
H03N1 **Juan Fernandez** **79.73 123** T T 19 02 46.3
baz=239,slow=72,SNR=143
MYKOM **Kota Tinggi** **80.07 279** IAMs_20 IAMs_20 18 11 46.1
comp=Z,3μm,20.0s
JGF **Kuroka** **80.09 325** P **P** **17 34 21.4 -1.3**
JGF **Kuroka** **80.09 325** ⇓P **P** **17 34 21.8 -0.9**
LR05 **Currie** **80.39 132** IAmb IAmb 17 34 51.0
comp=Z,98nm,1.4s
JMM **Marumori** **80.41 329** IAMs_20 IAMs_20 18 08 01.8
comp=Z,3μm,20.0s
MJAR **Matsushiro Arr** **80.46 327** P **P** **17 34 23.5 -1.2**
comp=Z,7.0nm,0.9s,baz=160,slow=5.2,SNR=13
MJAR PP **PP** **17 37 28.4 -0.5**
comp=Z,0.3nm,0.5s,baz=163,slow=8.9,SNR=1.9
MJAR LR LR 18 07 25.9
comp=Z,767nm,20.1s,baz=140,slow=34
comp=Z,7.0nm,0.9s
MAJO **Matsushiro** **80.46 327** P **P** **17 34 22.8 -1.9**
MAJO **Matsushiro** **80.46 327** *i* P **P** **17 34 23.1 -1.6**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MJB9 **Matsu-Tunnel** **80.46 327** P **P** **17 34 23.0 -1.7**
EFI **East Falkland** **80.51 147** *i* P **P** **17 34 25.5 +0.6**
EFI pmax pmax
comp=Z,83nm,2.0s
SSLB **Suanglung** **80.67 307** IAMs_20 IAMs_20 18 05 15.4
comp=Z,2μm,21.0s
PLCA **Paso Flores** **80.98 133** IAmb IAmb 17 34 47.9
comp=Z,100nm,1.5s
PLCA **Paso Flores** **80.98 133** ⇑P **P** **17 34 30.2 +2.4**
PLCA **Paso Flores** **80.98 133** P **P** **17 34 29.9 +2.1**
comp=Z,12nm,1.0s,baz=245,slow=3.6,SNR=9.4
PLCA PKKPbc **PKKPbc** **17 53 03.6 -0.5**
comp=Z,1.5nm,0.7s,baz=89,slow=4.2,SNR=5.9
PLCA LR LR 18 03 55.6
comp=Z,1μm,19.9s,baz=248,slow=31
comp=Z,12nm,1.0s
GO06 **Currarehue** **81.10 132** ⇑P P 17 34 34.6 +6.1
PDSI **Padang** **81.36 275** P **P** **17 34 29.0 -1.1**
comp=Z,17nm,1.2s,comp=Z,3μm
JNU **Nakatsue** **81.41 320** LR LR 18 06 26.1
comp=Z,738nm,21.8s,baz=126,slow=33
BKNI **Bangkinang** **81.57 276** P **P** **17 34 26.4 -4.8**
DLV **T Lat** **82.23 290** P **P** **17 34 33.1 -1.7**
DLV IAmb IAmb 17 34 57.1
comp=Z,68nm,1.3s
DLV **T Lat** **82.23 290** ⇑P **P** **17 34 34.0 -0.8**
JTM **Tenmabayashi** **82.75 331** IAMs_20 IAMs_20 18 08 31.8
comp=Z,3μm,21.0s
ERM **Erimo** **82.98 333** *i* P **P** **17 34 37.9 +0.1**
ERM pmax pmax
comp=Z,39nm,1.1s
QZH **Quanzhou** **83.04 306** ⇑*i* P **P** **17 34 38.3 -0.2**
QZH PP **PP** **17 37 46.9 -3.3**
QZH S **S** **17 45 00.4 +6.1**
QZH pmax pmax
comp=Z,750nm,3.0s
QZH LR LR
comp=Z,650nm,22.0s
QZH LR LR
comp=Z,1μm,20.3s
QZH LR LR
comp=Z,2μm,28.2s
GO05 **Huala** **83.55 128** IAmb IAmb 17 34 50.2
comp=Z,56nm,1.1s
GO05 **Huala** **83.55 128** ⇑P **P** **17 34 43.0 +1.8**
IPM **Ipoh** **83.91 279** P **P** **17 34 39.5 -3.9**
IPM IAmb IAmb 17 35 05.0
comp=Z,55nm,1.2s
IPM IAMs_20 IAMs_20 18 14 07.8
comp=Z,3μm,20.0s
IPM **Ipoh** **83.91 279** ⇑P **P** **17 34 41.2 -2.1**
KUR **Kuril'sk** **84.15 337** P **P** **17 34 43.2 -0.5**
KUR S **S** **17 45 05.5 +1.0**
KUR MLR MLR
comp=Z,2μm,19.0s
BO02 **Sierra Bellavi** **84.43 128** IAmb IAmb 17 35 00.9
comp=Z,69nm,0.9s
BO02 **Sierra Bellavi** **84.43 128** ⇑P **P** **17 34 47.9 +2.0**
BO01 **Tunca** **84.47 128** IAmb IAmb 17 35 14.0
comp=Z,53nm,1.4s
RPSI **Rantau Prapat** **84.64 277** IAMs_20 IAMs_20 18 14 28.6
comp=Z,3μm,21.0s
KULM **Kulim** **84.67 280** IAmb IAmb 17 35 09.1
comp=Z,50nm,1.2s
KULM IAMs_20 IAMs_20 18 17 39.1
comp=Z,2μm,19.0s
MT09 **Talagante** **84.91 127** IAmb IAmb 17 35 13.9
comp=Z,52nm,0.9s
GSI **Gunungsitoli** **84.98 275** P **P** **17 34 46.1 -2.7**
GSI IAMs_20 IAMs_20 18 11 14.1
comp=Z,3μm,21.0s
GSI **Gunungsitoli** **84.98 275** ⇑P **P** **17 34 47.2 -1.5**
GSI **Gunungsitoli** **84.98 275** P **P** **17 34 48.2 -0.6**
comp=Z,113nm,1.1s,comp=Z,2μm
JKA **Kamikawa-asahi** **84.99 334** IAMs_20 IAMs_20 18 06 03.1
comp=Z,3μm,21.0s
ASAJ **Asahikawa** **84.99 334** LR LR 18 06 25.9
comp=Z,3μm,21.4s,baz=167,slow=31
MT02 **Curacav** **85.13 127** IAmb IAmb 17 35 11.0
comp=Z,70nm,1.3s
LMEL **Las Melosas** **85.39 128** IAmb IAmb 17 35 06.9
comp=Z,48nm,0.9s
MT13 **San Alfonso** **85.39 128** P **P** **17 34 51.8 +1.0**
MT13 IAmb IAmb 17 35 05.7
comp=Z,70nm,1.3s
GZH **Guangzhou** **85.46 302** P **P** **17 34 51.3 +0.5**
GZH sP **PcP** **17 34 56.4 +2.7**
GZH S **S** **17 45 19.9 +1.4**
GZH SS **SS** **17 50 55.1 -0.2**
GZH pmax pmax
comp=Z,49nm,0.8s
GZH LR LR
comp=Z,240nm,18.4s
GZH LR LR
comp=Z,200nm,17.0s
GZH LR LR
comp=Z,510nm,18.7s
QIZ **Qiongzhong** **85.48 296** P **P** **17 34 51.6 +0.6**
QIZ sP **PcP** **17 34 58.5 +4.5**
QIZ PP **PP** **17 38 09.6 -0.6**
QIZ S **S** **17 45 23.3 +4.3**
QIZ SS **SS** **17 50 59.9 +4.2**
QIZ pmax pmax
comp=Z,510nm,5.7s
QIZ LR LR
comp=Z,300nm,20.2s
QIZ LR LR
comp=Z,600nm,24.5s
QIZ LR LR
comp=Z,1μm,21.6s
PEL **Peldehue** **85.50 127** IAMs_20 IAMs_20 18 04 38.0
comp=Z,3μm,20.0s
SSE **Sheshan** **85.55 312** P **P** **17 34 52.3 +1.2**
SSE S **S** **17 45 25.0 +5.9**
SSE pmax pmax
comp=Z,9.0nm,1.5s
SSE pmax pmax
comp=Z,210nm,5.9s
SSE LR LR
comp=Z,170nm,20.8s
SSE LR LR
comp=Z,340nm,20.7s
MT08 **Bocatoma Ro** **85.75 128** IAmb IAmb 17 35 14.9
comp=Z,31nm,1.0s
TJN **Taejon** **85.76 320** IAMs_20 IAMs_20 18 08 45.4
comp=Z,4μm,22.0s
ATKA **Atka Island** **85.80 3** IAMs_20 IAMs_20 18 05 03.6
comp=Z,3μm,22.0s
KCSI **Kotacane, Aceh** **86.05 277** P **P** **17 34 53.4 -0.7**
comp=Z,24nm,1.4s
KSRS **Korea Array** **86.26 321** P **P** **17 34 53.7 -0.8**
comp=Z,3.6nm,0.7s,baz=143,slow=4.8,SNR=13
KSRS PP **PP** **17 38 16.6 +0.3**
comp=Z,1.1nm,0.8s,baz=144,slow=11,SNR=4.2
KSRS LR LR 18 11 16.8
comp=Z,634nm,19.5s,baz=150,slow=34
comp=Z,3.6nm,0.7s
KSAR **Wonju Array Be** **86.28 321** P **P** **17 34 53.2 -1.4**
KSAR **Wonju Array Be** **86.28 321** P **P** **17 34 53.2 -1.4**
SHEM **Shemya Is, Ala** **86.40 356** LR LR 18 07 18.8
comp=Z,6μm,21.9s,baz=138,slow=31
UBPT **Khong Chiam** **86.56 291** IAmb IAmb 17 35 19.6
comp=Z,41nm,1.2s
UBPT **Khong Chiam** **86.56 291** ⇑P **P** **17 34 56.2 -0.3**
CO03 **El Pedregal** **86.90 125** IAmb IAmb 17 35 21.4
comp=Z,43nm,0.8s
SKR **Severo-Kuril's** **86.92 345** *eP* **P** **17 34 56.2 -1.1**
SKR pmax pmax
comp=Z,700nm,4.9s
SKR MLR MLR
comp=Z,800nm,19.0s
SNCC **San Nicolas Is** **87.23 46** P **P** **17 35 00.7 +1.4**
baz=226
LPIG **La Paz** **87.30 59** LR LR 18 09 11.9
comp=Z,3μm,18.2s,baz=222,slow=32
YSS **Yuzh-Sakhalins** **87.37 335** IAMs_20 IAMs_20 18 10 09.1
comp=Z,3μm,21.0s
YSS **Yuzh-Sakhalins** **87.37 335** *eP* **P** **17 35 00.6 +1.0**

YSS *e* 17 38 23.1
YSS *eS* **S** **17 45 41.1 +5.0**
YSS *eSS* **SS** **17 51 26.3 +3.7**
YSS pmax pmax
comp=Z,500nm,2.5s
YSS pmax pmax
comp=Z,40nm,1.0s
SRIT **Nakonsritamara** **87.40 282** IAMs_20 IAMs_20 18 13 39.5
comp=Z,2µm,21.0s
MLSI **Meulaboh, Aceh** **87.60 277** P **P** **17 35 00.5 -1.1**
comp=Z,38nm,0.7s
SCI2 **San Clemente I** **87.64 47** P **P** **17 35 04.4 +3.0**
baz=227
NJ2 **Nanjing** **87.65 311** ⇑*i*P **P** **17 35 00.8 -0.6**
NJ2 PP **PP** **17 38 27.0 -0.6**
NJ2 SKS **S** **17 45 31.5 -8.0**
NJ2 S **ScS** **17 45 45.3 -0.8**
NJ2 SS **SS** **17 51 30.6 +3.3**
NJ2 pmax pmax
comp=Z,19nm,0.7s
NJ2 pmax pmax
comp=Z,490nm,5.1s
NJ2 LR LR
comp=Z,660nm,22.7s
NJ2 LR LR
comp=Z,560nm,20.8s
NJ2 LR LR
comp=Z,1µm,24.0s
LHMI **Lhok Sumawe** **87.69 278** IAMs_20 IAMs_20 18 20 06.1
comp=Z,2µm,19.0s
TRQA **Tornquist** **87.79 135** P **P** **17 35 02.9 +0.6**
TRQA IAmb IAmb 17 35 25.4
comp=Z,54nm,1.4s
TRQA **Tornquist** **87.79 135** P **P** **17 35 02.9 +0.6**
TRQA pmax pmax
comp=Z,54nm,1.4s
TRQA MLR MLR
comp=Z,2µm,22.0s
ZON **Zonda** **87.82 127** IAmb IAmb 17 35 17.4
comp=Z,37nm,1.0s
SBC **Santa Barbara** **87.95 46** P **P** **17 35 05.3 +2.5**
baz=226
CIS **Catalina Islan** **88.01 47** P **P** **17 35 05.1 +2.0**
baz=227
LCO **Las Campanas** **88.01 124** P **P** **17 35 04.7 +0.9**
LCO IAmb IAmb 17 35 25.4
comp=Z,38nm,1.1s
LCO **Las Campanas** **88.01 124** ⇓P P 17 35 11.8 +8.0
LCO **Las Campanas** **88.01 124** P **P** **17 35 04.7 +0.9**
LCO pmax pmax
comp=Z,38nm,1.1s
LCO MLR MLR
comp=Z,4µm,21.0s
UNV **Unalaska Valle** **88.04 8** P **P** **17 35 02.9 +0.3**
baz=191,SNR=6.7
PKM **Mcpherson Peak** **88.20 45** P **P** **17 35 07.3 +3.1**
baz=226,SNR=6.6
FMP **Fort Macarthur** **88.30 47** P **P** **17 35 07.6 +3.2**
baz=227
SMMC **Simmler** **88.39 45** P **P** **17 35 08.0 +3.2**
baz=226
109C **Camp Elliot, M** **88.47 48** IAMs_20 IAMs_20 18 11 18.9
comp=Z,2µm,18.0s
109C **Camp Elliot, M** **88.47 48** P **P** **17 35 07.0 +1.8**
baz=227
MSHR **Mys Shultsa** **88.55 326** *i*P **P** **17 35 05.6 +0.3**
MSHR pmax pmax
comp=Z,8.0nm,1.1s
MSHR MLR MLR
comp=Z,213nm,18.0s
SAO **San Andreas Ge** **88.57 43** P **P** **17 35 06.8 +1.2**
SAO IAmb IAmb 17 35 23.4
comp=Z,38nm,1.1s
SAO IAMs_20 IAMs_20 18 08 50.8
comp=Z,2µm,20.0s
SAO **San Andreas Ge** **88.57 43** P **P** **17 35 06.9 +1.2**
SAO pmax pmax
comp=Z,38nm,1.1s
SAO MLR MLR
comp=Z,2µm,20.0s
BAR **Barrett** **88.60 49** IAmb IAmb 17 35 28.2
comp=Z,50nm,1.3s
ESJX **Sierra Juarez** **88.60 49** IAmb IAmb 17 35 24.6
comp=Z,28nm,1.0s
PET **Petropavlovsk** **88.61 347** IAMs_20 IAMs_20 18 07 59.9
comp=Z,2µm,19.0s
PET **Petropavlovsk** **88.61 347** *e*P **P** **17 35 01.8 -3.5**
PET *e* 17 38 40.8
PET *eS* **S** **17 45 47.9 +0.3**
PET *e*PPS PPS 17 47 29.6
PET *eSS* **SS** **17 51 40.0 -0.5**
PET pmax pmax
comp=Z,1µm,17.7s
DECC **Green Verdugo** **88.64 46** P **P** **17 35 08.4 +2.3**
baz=227
OSI **Osito Audit: C** **88.66 46** P **P** **17 35 09.0 +2.9**
baz=226
PASC **Pasadena Art C** **88.68 47** IAMs_20 IAMs_20 18 08 17.3
comp=Z,2µm,20.0s
MCCM **Marconi Confer** **88.76 41** IAMs_20 IAMs_20 18 09 36.6
comp=Z,3µm,20.0s
PAYG **Puerto Ayora** **88.83 90** IAMs_20 IAMs_20 18 05 12.2
comp=Z,3µm,21.0s
PEA0B **Petropavlovsk-** **88.88 346** IAMs_20 IAMs_20 18 12 44.9
comp=Z,2µm,20.0s
PEA0B **Petropavlovsk-** **88.88 346** *i*P **P** **17 35 06.9 +0.3**
PETK **Petropavlovsk-** **88.88 346** P **P** **17 35 07.0 +0.4**
PETK **Petropavlovsk-** **88.88 346** P **P** **17 35 06.3 -0.4**
comp=Z,23nm,0.9s,baz=133,slow=6.7,SNR=15
PETK LR LR 18 13 15.6
comp=Z,1µm,18.7s,baz=165,slow=34
comp=Z,23nm,0.9s
PETK **Petropavlovsk-** **88.88 346** P **P** **17 35 07.0 +0.4**
MURC **Murrieta** **88.89 48** P **P** **17 35 10.3 +3.1**
baz=227
MONP2 **Monument Peak** **88.89 49** P **P** **17 35 10.8 +3.3**
baz=228,SNR=8.0
IKP **In-Ko-Pah, Jac** **88.93 49** P **P** **17 35 10.7 +3.2**
baz=228
ARVC **Arvin** **88.95 46** P **P** **17 35 09.8 +2.4**
baz=226
BFSC **Mount Baldy Ra** **89.04 47** P **P** **17 35 10.8 +2.7**
baz=227,SNR=11
YUH **Yuha Desert** **89.04 49** P **P** **17 35 09.7 +1.7**
YUH IAmb IAmb 17 35 30.5
comp=Z,45nm,1.2s
AC06 **Mina Casimiro** **89.27 123** IAmb IAmb 17 35 24.6
comp=Z,107nm,1.9s
EDW2 **Edwards Air Fo** **89.28 46** P **P** **17 35 12.1 +3.0**
baz=227,SNR=9.6
GDXM **Geysers** **89.28 41** IAmb IAmb 17 35 27.7
comp=Z,44nm,1.1s
VES **Vestal, Richgr** **89.29 45** P **P** **17 35 11.7 +2.7**
baz=226,SNR=6.1
SWSC **Sam W. Stewart** **89.32 49** P **P** **17 35 11.9 +2.6**
baz=228
TPFO **Pinon Flats** **89.35 48** P **P** **17 35 12.6 +3.0**
baz=228
PFO **Pinyon Flats O** **89.35 48** P **P** **17 35 11.5 +1.9**
PFO IAmb IAmb 17 35 27.7
comp=Z,71nm,1.2s
PFO **Pinyon Flats O** **89.35 48** P **P** **17 35 12.6 +3.0**
baz=228
PFO **Pinyon Flats O** **89.35 48** LR LR 18 11 31.3
comp=Z,2µm,18.0s,baz=236,slow=33
PFO **Pinyon Flats O** **89.35 48** *i*P **P** **17 35 10.5 +0.9**
PFO pmax pmax
comp=Z,23nm,1.1s
FALS **False Pass** **89.40 9** P **P** **17 35 09.5 +0.4**
baz=193
USRK **Ussuriysk Ar.** **89.42 327** P **P** **17 35 08.8 -0.6**
comp=Z,6.8nm,0.9s,baz=117,slow=6.8,SNR=8.7
USRK LR LR 18 12 49.3
comp=Z,940nm,19.4s,baz=140,slow=34
comp=Z,6.8nm,0.9s
USA0B **Ussuriysk Arra** **89.43 327** *i*P **P** **17 35 09.8 +0.4**
PMD **Palm Desert** **89.43 48** IAmb IAmb 17 35 32.2
comp=Z,72nm,1.4s
VOG **Valley Oaks Go** **89.44 44** P **P** **17 35 11.8 +2.1**
baz=226
KCPM **Cahto Peak** **89.49 40** IAmb IAmb 17 35 28.5
comp=Z,50nm,1.1s
BBRC **Big Bear Solar** **89.51 47** P **P** **17 35 13.5 +3.1**
baz=228
WHN **Wuhan** **89.54 308** ⇑P **P** **17 35 09.8 -0.5**
WHN PP **PP** **17 38 40.3 -2.5**
WHN S **S** **17 45 54.6 -2.8**
WHN pmax pmax
comp=Z,1µm,4.4s
WHN LR LR
comp=Z,2µm,17.3s
WHN LR LR
comp=Z,2µm,20.3s
WHN LR LR
comp=Z,5µm,24.0s
KMPM **Mount Pierce** **89.74 39** P **P** **17 35 13.0 +1.9**
KMRM **Mail Ridge** **89.81 39** IAmb IAmb 17 35 30.1
comp=Z,49nm,1.1s
LRMC **Laurel Mtn Rad** **89.87 46** P **P** **17 35 14.5 +2.5**
baz=227
RRX **Edison Barstow** **89.87 47** P **P** **17 35 14.3 +2.4**
baz=228
BELC **Belle Mtn. Jos** **89.90 48** P **P** **17 35 15.3 +3.2**
baz=228,SNR=14
PIX **Pinacate** **89.90 51** IAmb IAmb 17 35 34.2
comp=Z,47nm,1.3s
CNBA **Chernabura Isl** **89.93 11** IAMs_20 IAMs_20 18 10 34.7
comp=Z,3µm,21.0s
CHNA **Chernabura Isl** **89.94 11** P **P** **17 35 13.1 +1.6**
baz=196,SNR=6.3
GLA **Glamis** **90.00 49** P **P** **17 35 15.7 +3.2**
baz=229,SNR=7.5
BC3 **Big Chuckawall** **90.01 48** P **P** **17 35 15.9 +3.3**
baz=228,SNR=14
CMB **Columbia Colle** **90.06 43** P **P** **17 35 14.3 +1.6**
CMB IAmb IAmb 17 35 30.6
comp=Z,48nm,1.1s
CMB **Columbia Colle** **90.06 43** P **P** **17 35 14.3 +1.6**
CMB pmax pmax
comp=Z,48nm,1.1s
CMB MLR MLR
comp=Z,2µm,20.0s
JCC **Jacoby Creek,** **90.08 39** IAmb IAmb 17 35 34.7
comp=Z,31nm,1.1s
JCC IAMs_20 IAMs_20 18 15 14.4
comp=Z,3µm,18.0s
HEC **Hector,Ludlow** **90.25 47** P **P** **17 35 16.6 +3.0**
baz=228,SNR=12
KHMM **Horse Mountain** **90.28 39** IAmb IAmb 17 35 32.2
comp=Z,43nm,1.1s
GSC **Goldstone, Bar** **90.28 47** P **P** **17 35 16.3 +2.5**
baz=228,SNR=9.2
CWC **Cottonwood Cre** **90.29 45** P **P** **17 35 16.3 +2.4**
baz=227
SDPT **Sand Point** **90.30 11** P **P** **17 35 14.1 +0.9**
SDPT **Sand Point** **90.30 11** P **P** **17 35 14.7 +1.5**
baz=196,SNR=5.4
AFDM **Forest Hills D** **90.38 42** IAmb IAmb 17 35 31.9
comp=Z,36nm,1.1s
MPMC **Manual Prospec** **90.38 46** P **P** **17 35 17.1 +2.8**
baz=227,SNR=23
S12K **Black Hills** **90.41 10** IAMs_20 IAMs_20 18 10 34.9
comp=Z,2µm,20.0s
S12K **Black Hills** **90.41 10** P **P** **17 35 14.9 +1.2**
baz=194,SNR=9.1
P08K **Saint George I** **90.48 5** P **P** **17 35 15.5 +1.6**
baz=188
113A **Mohawk Valley,** **90.49 50** IAmb IAmb 17 35 33.8
comp=Z,66nm,1.3s
ORV **Oroville** **90.52 41** IAmb IAmb 17 35 36.3
comp=Z,52nm,1.4s
MDPB **Devils Postpil** **90.53 44** P **P** **17 35 16.7 +1.6**
MDPB IAmb IAmb 17 35 39.5
comp=Z,42nm,1.3s
IRM **Iron Mountain** **90.53 48** P **P** **17 35 18.4 +3.4**
baz=228,SNR=22
214A **Organ Pipe Nat** **90.58 51** P **P** **17 35 18.4 +3.2**
baz=230
TIN **Tinemaha, Big** **90.62 44** P **P** **17 35 17.2 +1.8**
baz=227
GMRC **Granite Mounta** **90.63 48** P **P** **17 35 18.6 +3.1**
baz=228,SNR=17
KRMB **Red Mountain** **90.66 38** IAmb IAmb 17 35 34.2
comp=Z,48nm,1.2s
MLAC **Mammoth, Mammo** **90.67 44** P **P** **17 35 18.1 +2.4**
baz=226
QSM **Queen of Sheba** **90.69 46** IAmb IAmb 17 35 34.0
comp=Z,57nm,1.2s
DL2 **Dalian** **90.73 318** P **P** **17 35 15.1 -0.6**
DL2 PP **PP** **17 38 47.8 -4.3**
DL2 pmax pmax
comp=Z,37nm,1.0s
DL2 pmax pmax
comp=Z,460nm,7.1s
DL2 LR LR
comp=Z,820nm,23.3s
DL2 LR LR
comp=Z,940nm,23.1s
DL2 LR LR
comp=Z,2µm,19.8s
TYV **Tymovskoe** **90.77 337** *e*P **P** **17 35 15.2 -0.3**
TYV *eS* **S** **17 46 11.7 +4.0**
TYV pmax pmax
comp=Z,9.0nm,1.5s
TYV pmax pmax
comp=Z,500nm,4.1s
TYV smax smax
comp=N,400nm,7.2s
TYV smax smax
comp=E,200nm,7.2s
MDJ **Mudanjiang** **90.84 326** P **P** **17 35 19.5 +3.5**
MDJ sP pP 17 35 24.3 -5.2
MDJ S **S** **17 46 10.4 +1.6**
MDJ SS **SS** **17 52 14.0 +0.8**
MDJ pmax pmax
comp=E,23nm,1.7s
MDJ pmax pmax
comp=E,530nm,11.1s
MDJ LR LR
comp=E,1µm,23.1s
MDJ LR LR
comp=E,1µm,24.7s
MDJ LR LR
comp=E,2µm,24.7s
KSXB **Camp Six Broad** **90.89 38** IAmb IAmb 17 35 39.0
comp=Z,46nm,1.1s
TUQ **Turquoise Moun** **90.90 47** P **P** **17 35 19.3 +2.5**
baz=228
PB14 **IPOC Station P** **90.91 121** P **P** **17 35 18.2 +0.7**
WAKR **Walker** **90.93 43** IAmb IAmb 17 35 35.2
comp=Z,42nm,1.1s
GWY **Greenwater Val** **90.95 46** P **P** **17 35 18.3 +1.3**
GWY IAmb IAmb 17 35 34.6
comp=Z,26nm,1.1s
SPIA **Saint Paul Isl** **91.00 5** P **P** **17 35 17.8 +1.4**
baz=188
SHOC **Shoshone, Teco** **91.00 46** P **P** **17 35 19.1 +2.1**
baz=228
FURC **Furnace Creek,** **91.03 46** P **P** **17 35 19.4 +2.3**
baz=228
GRAC **Grapevine Rang** **91.09 45** P **P** **17 35 20.0 +2.6**
baz=227
GO02 **Mina Guanaco** **91.16 121** P **P** **17 35 18.8 +0.2**
PNTR **Pine Nut** **91.24 42** IAmb IAmb 17 35 36.3
comp=Z,31nm,0.9s
PDMCI **Parker Dam,Lak** **91.25 49** P **P** **17 35 21.4 +3.2**
baz=229
NEE2 **Needles Airpor** **91.26 48** P **P** **17 35 21.1 +2.9**
baz=229
LHV **Little Huntoon** **91.28 43** IAmb IAmb 17 35 36.0
comp=Z,36nm,1.1s
S14K **Fog Glacier** **91.34 11** P **P** **17 35 19.3 +1.1**
baz=196,SNR=6.4
YERR **Yerington** **91.37 43** IAmb IAmb 17 35 30.4
comp=Z,20nm,1.0s
YBH **Yreka Blue Hor** **91.43 39** P **P** **17 35 20.7 +1.7**
YBH IAmb IAmb 17 35 37.2
comp=Z,36nm,1.1s
YBH IAMs_20 IAMs_20 18 06 46.1
comp=Z,2µm,22.0s
YBH **Yreka Blue Hor** **91.43 39** LR LR 18 11 14.9
comp=Z,1µm,19.3s,baz=234,slow=32
YBH **Yreka Blue Hor** **91.43 39** P **P** **17 35 20.7 +1.7**
YBH pmax pmax
comp=Z,36nm,1.2s
YBH MLR MLR
comp=Z,2µm,22.0s
TIA **Tai'an** **91.51 314** ⇑P **P** **17 35 19.3 -0.1**
TIA pmax pmax
comp=Z,10.0nm,1.5s
TIA LR LR
comp=Z,380nm,21.6s
TIA LR LR
comp=Z,310nm,20.1s
TIA LR LR
comp=Z,450nm,21.1s
NVAR **Mina Array Bea** **91.52 43** P **P** **17 35 21.3 +1.7**
NVAR **Mina Array Bea** **91.52 43** P **P** **17 35 21.9 +2.2**
comp=Z,6.1nm,0.8s,baz=223,slow=7.6,SNR=30
NVAR PP **PP** **17 39 02.2 +3.6**
comp=Z,0.1nm,0.2s,baz=229,slow=8.2,SNR=1.0
NVAR PKKP **PKKPdf** **17 52 37.4 -0.8**
comp=Z,0.7nm,0.7s,baz=96,slow=3.9,SNR=4.3
NVAR LR LR 18 08 41.6
comp=Z,2µm,21.7s,baz=230,slow=30
comp=Z,6.1nm,0.8s
RYN **Ryan** **91.53 43** IAmb IAmb 17 35 43.2
comp=Z,22nm,1.1s
CHGN **Chignik** **91.54 11** P **P** **17 35 20.6 +1.7**
baz=197
CHIR **Chirikof Islan** **91.58 13** P **P** **17 35 20.6 +1.4**
baz=200
NV11 **Mina Array Sit** **91.61 43** P **P** **17 35 20.9 +0.9**
NV11 IAmb IAmb 17 35 32.1
comp=Z,18nm,1.0s
Y14A **Wickenburg** **91.73 50** IAmb IAmb 17 35 39.4
comp=Z,27nm,1.0s
SNY **Shenyang** **91.75 321** ⇑P **P** **17 35 18.6 -1.7**
SNY pmax pmax
comp=Z,6.0nm,0.4s
SNY pmax pmax
comp=Z,290nm,6.0s
SNY LR LR
comp=Z,470nm,17.7s
SNY LR LR
comp=Z,800nm,19.6s
SNY LR LR
comp=Z,820nm,22.8s
V12A **Nelson** **91.75 47** IAmb IAmb 17 37 14.2
comp=Z,49nm,1.1s
PAHR **Pah Rah Range** **91.79 42** IAmb IAmb 17 35 43.2
comp=Z,50nm,1.6s
HUMO **Hull Mountain** **91.93 38** IAMs_20 IAMs_20 18 12 33.3
comp=Z,2µm,20.0s
W13A **Hualapai Mount** **91.93 48** IAmb IAmb 17 35 45.0
comp=Z,56nm,1.5s
L04D **Klamath Falls** **91.99 39** P **P** **17 35 23.1 +1.5**
KVN **Kaiserville** **92.06 43** IAmb IAmb 17 35 35.5
comp=Z,20nm,0.9s
TUC **Tucson** **92.13 52** P **P** **17 35 25.0 +2.5**
TUC IAmb IAmb 17 35 41.7
comp=Z,33nm,1.1s
TUC **Tucson** **92.13 52** P **P** **17 35 25.8 +3.4**
baz=231
TUC **Tucson** **92.13 52** P **P** **17 35 25.0 +2.5**
TUC pmax pmax
comp=Z,33nm,1.1s
TUC MLR MLR
comp=Z,1µm,20.0s
DBO **Dodson Butte** **92.15 37** IAmb IAmb 17 35 44.4
comp=Z,37nm,1.1s
CN2 **Changchun** **92.22 323** *e*P **P** **17 35 25.3 +2.9**
CN2 *es*P pP 17 35 32.0 -4.0
CN2 *eS* **S** **17 46 25.8 +4.5**
CN2 pmax pmax
comp=Z,20nm,0.8s
CN2 pmax pmax
comp=Z,200nm,5.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,200nm,21.0s
CN2 LR LR
comp=Z,600nm,22.0s
GYA **Guiyang** **92.30 300** P **P** **17 35 23.4 0.0**
GYA PP **PP** **17 39 05.9 +1.0**
GYA SKS **SKSac** **17 45 54.8 +1.9**
GYA S **ScS** **17 46 24.1 -1.2**
GYA pmax pmax
comp=Z,16nm,0.8s
GYA pmax pmax
comp=Z,340nm,4.8s
GYA LR LR
comp=Z,510nm,20.0s
GYA LR LR
comp=Z,570nm,20.0s
GYA LR LR
comp=Z,1µm,20.3s
319A **Douglas** **92.54 54** IAmb IAmb 17 35 46.9
comp=Z,34nm,1.1s
SII **Sitkinak Islan** **92.55 14** P **P** **17 35 27.0 +3.3**
baz=201
BNX **BinXian** **92.70 326** ⇑P **P** **17 35 25.1 +0.5**
BNX PP **PP** **17 39 04.8 -2.7**
BNX S **S** **17 46 32.3 +6.8**
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,280nm,8.2s
BNX LR LR
comp=Z,760nm,19.2s
BNX LR LR
comp=Z,1µm,19.5s
BNX LR LR
comp=Z,2µm,20.3s
PRN **Pahroc Range** **92.73 46** IAmb IAmb 17 35 58.0
comp=Z,32nm,1.1s
UNM **Universidad Na** **92.75 69** IAMs_20 IAMs_20 18 06 55.6
comp=Z,3µm,22.0s
GRNR **Gornyy** **92.85 334** *e*P **P** **17 35 23.7 -1.5**
R16K **Pilot Point** **92.89 12** P **P** **17 35 24.4 -0.7**
baz=198
X16A **Lo Mia Camp, P** **93.03 50** IAmb IAmb 17 35 46.0
comp=Z,37nm,1.3s
R11B **Troy Canyon, C** **93.04 45** IAMs_20 IAMs_20 18 11 27.7
comp=Z,2µm,20.0s
R11B **Troy Canyon, C** **93.04 45** P **P** **17 35 28.2 +1.6**
baz=228
I04A **Tendick Farm,** **93.06 37** IAmb IAmb 17 35 39.8
comp=Z,32nm,1.0s
COR **Corvallis** **93.18 36** IAMs_20 IAMs_20 18 13 29.3
comp=Z,3µm,20.0s
LVC **Limon Verde** **93.23 120** P **P** **17 35 29.2 +0.9**
LVC IAmb IAmb 17 35 51.1
comp=Z,43nm,1.1s
LVC **Limon Verde** **93.23 120** LR LR 18 08 40.7
comp=Z,3µm,21.0s,baz=214,slow=30
LVC **Limon Verde** **93.23 120** P **P** **17 35 29.2 +0.9**
LVC pmax pmax
comp=Z,43nm,1.2s
LVC MLR MLR
comp=Z,3µm,21.0s
J05D **Fort Rock, OR** **93.30 38** IAmb IAmb 17 35 45.6
comp=Z,28nm,1.0s
LYN **LuoYang** **93.32 310** ⇑P **P** **17 35 27.8 0.0**
LYN PP **PP** **17 39 09.4 -3.2**
LYN SKS **SKSac** **17 45 57.5 -0.4**
LYN S **ScS** **17 46 32.8 -0.3**
LYN pmax pmax
comp=Z,19nm,0.5s
LYN pmax pmax
comp=Z,480nm,4.0s
LYN LR LR
comp=Z,1µm,20.7s
LYN LR LR
comp=Z,1µm,20.0s
LYN LR LR
comp=Z,3µm,26.3s
OHAK **Old Harbor** **93.35 14** P **P** **17 35 28.6 +1.3**
baz=202
KLR **Kul'dur** **93.45 330** LR LR 18 15 21.2
comp=Z,2µm,19.6s,baz=150,slow=34
KLR **Kul'dur** **93.45 330** *i*P **P** **17 35 27.9 -0.1**
KLR pmax pmax
comp=Z,2.0nm,1.2s
CMAR **Chiang Mai Arr** **93.49 290** P **P** **17 35 27.4 -1.5**
CMAR **Chiang Mai Arr** **93.49 290** P **P** **17 35 28.8 -0.1**
comp=Z,2.1nm,0.8s,baz=148,slow=3.7,SNR=11
CMAR PP **PP** **17 39 14.4 +0.3**
comp=Z,2.6nm,0.9s,baz=142,slow=6.0,SNR=7.3
CMAR LR LR 18 20 57.9
comp=Z,471nm,18.8s,baz=125,slow=38
comp=Z,2.1nm,0.8s
CMAR **Chiang Mai Arr** **93.49 290** *i*P **P** **17 35 29.2 +0.3**
CMAR pmax pmax
comp=Z,2.0nm,0.8s
BMN **Battle Mountai** **93.49 43** IAmb IAmb 17 35 46.3
comp=Z,33nm,1.3s
PB09 **IPOC Station P** **93.50 119** P **P** **17 35 30.9 +1.6**
NNA **Nana** **93.53 107** LR LR 18 08 24.4
comp=Z,5µm,21.2s,baz=231,slow=30

CHTO	**Chiang Mai**	**93.69**	**290**	P	**P**	**17 35 29.0**	**-0.8**		
CHTO	**Chiang Mai**	**93.69**	**290**	P	**P**	**17 35 29.0**	**-0.8**		
CHTO				pmax	pmax				
	comp=Z,9.0nm,1.1s								
CHTO				MLR	MLR				
	comp=Z,1μm,20.0s								
HNS	**HongShan**	**93.75**	**313**	⇑P	**P**	**17 35 28.3**	**-1.3**		
HNS				PP	**PP**	**17 39 13.6**	**-2.3**		
HNS				SKS	**SKSac**	**17 46 01.8**	**+1.7**		
HNS				S	**S**	**17 46 35.6**	**+0.5**		
HNS				pmax	pmax				
	comp=Z,350nm,7.6s								
HNS				LR	LR				
	comp=Z,710nm,19.1s								
HNS				LR	LR				
	comp=Z,730nm,18.6s								
HNS				LR	LR				
	comp=Z,1μm,21.4s								
WUAZ	**Wupatki**	**93.77**	**49**	IAMs_20	IAMs_20	18 07 57.4			
	comp=Z,2μm,22.0s								
WUAZ	**Wupatki**	**93.77**	**49**	P	**P**	**17 35 32.6**	**+2.6**		
	baz=231								
U15A	**North Rim**	**93.78**	**48**	IAmb	IAmb	17 35 44.8			
	comp=Z,16nm,0.9s								
PB01	**IPOC Station P**	**93.78**	**118**	P	**P**	**17 35 31.9**	**+1.5**		
PB01				IAmb	IAmb	17 35 53.1			
	comp=Z,29nm,1.3s								
H04A	**Detroit Lake**	**93.81**	**37**	IAmb	IAmb	17 35 54.2			
	comp=Z,32nm,1.1s								
KNB	**Kanab**	**93.83**	**47**	IAmb	IAmb	17 35 48.2			
	comp=Z,59nm,1.7s								
Q17K	**Contact Creek**	**93.84**	**12**	P	**P**	**17 35 30.4**	**+0.7**		
	baz=200,SNR=10								
Q12A	**Willow Creek R**	**93.94**	**45**	IAmb	IAmb	17 35 48.1			
	comp=Z,26nm,1.0s								
O14K	**Tigyukauivet M**	**93.96**	**9**	IAmb	IAmb	17 35 34.2			
	comp=Z,35nm,1.4s								
O14K				IAMs_20	IAMs_20	18 12 55.8			
	comp=Z,2μm,21.0s								
O14K	**Tigyukauivet M**	**93.96**	**9**	P	**P**	**17 35 31.5**	**+1.4**		
	baz=195								
I05D	**Terrebonne, OR**	**93.99**	**38**	IAmb	IAmb	17 35 52.3			
	comp=Z,47nm,1.2s								
KDAK	**Kodiak Island**	**94.01**	**14**	P	**P**	**17 35 32.0**	**+1.6**		
	baz=202								
KDAK	**Kodiak Island**	**94.01**	**14**	LR	LR	18 13 24.8			
	comp=Z,2μm,19.2s,baz=233,slow=33								
KDAK	**Kodiak Island**	**94.01**	**14**	*i* P	**P**	**17 35 31.7**	**+1.4**		
KDAK				pmax	pmax				
	comp=Z,3.0nm,0.7s								
WVOR	**Wild Horse Val**	**94.08**	**40**	P	**P**	**17 35 32.8**	**+1.6**		
WVOR				IAmb	IAmb	17 35 48.4			
	comp=Z,24nm,1.1s								
WVOR				IAMs_20	IAMs_20	18 13 20.3			
	comp=Z,3μm,20.0s								
WVOR	**Wild Horse Val**	**94.08**	**40**	P	**P**	**17 35 32.8**	**+1.6**		
WVOR				pmax	pmax				
	comp=Z,24nm,1.2s								
WVOR				MLR	MLR				
	comp=Z,3μm,20.0s								
O15K	**Ungalikthiuk R**	**94.09**	**10**	P	**P**	**17 35 32.5**	**+1.8**		
	baz=196								
Q16K	**King Salmon**	**94.10**	**12**	P	**P**	**17 35 31.7**	**+1.0**		
	baz=199								
P16K	**Nushagak River**	**94.22**	**11**	P	**P**	**17 35 31.8**	**+0.5**		
	baz=198								
121A	**Cookes Peak, D**	**94.25**	**53**	P	**P**	**17 35 34.5**	**+2.2**		
	baz=232								
KMI	**Kunming**	**94.38**	**297**	⇑P	**P**	**17 35 32.8**	**-0.4**		
KMI				PP	**PP**	**17 39 15.5**	**-5.8**		
KMI				SS	SS	17 53 06.8	+1.8		
KMI				pmax	pmax				
	comp=Z,220nm,12.8s								
KMI				LR	LR				
	comp=Z,870nm,18.5s								
KMI				LR	LR				
	comp=Z,890nm,19.3s								
KMI				LR	LR				
	comp=Z,1μm,20.2s								
PKCU	**Pink Cliffs**	**94.42**	**47**	IAmb	IAmb	17 35 51.8			
	comp=Z,23nm,1.1s								
M11K	**Mekoryuk**	**94.51**	**6**	P	**P**	**17 35 34.1**	**+1.6**		
	baz=191								
N14K	**Kuskokwak Cree**	**94.56**	**9**	P	**P**	**17 35 32.7**	**-0.1**		
	baz=195								
W18A	**Petrified Fore**	**94.56**	**50**	P	**P**	**17 35 33.6**	**-0.1**		
	baz=232								
P17K	**Kvichak River**	**94.63**	**12**	P	**P**	**17 35 33.3**	**+0.1**		
	baz=199								
EPT	**El Paso**	**94.65**	**55**	IAMs_20	IAMs_20	18 15 24.2			
	comp=Z,2μm,19.0s								
O16K	**Kokwok River B**	**94.75**	**11**	P	**P**	**17 35 33.8**	**+0.1**		
	baz=198								
J08A	**Circle Bar Ran**	**94.80**	**40**	IAmb	IAmb	17 35 52.3			
	comp=Z,20nm,1.0s								
Q20K	**Shuyak Island**	**94.82**	**14**	P	**P**	**17 35 34.6**	**+0.6**		
	baz=202								
SYI	**Shuyak Island**	**94.82**	**14**	IAMs_20	IAMs_20	18 13 21.9			
	comp=Z,3μm,21.0s								
ELK	**Elko**	**94.83**	**43**	IAMs_20	IAMs_20	18 11 03.8			
	comp=Z,2μm,21.0s								
ELK	**Elko**	**94.83**	**43**	⇓P	**P**	**17 35 38.6**	**+3.8**		
ELK				⇑P	**pP**	**17 35 45.0**	**-3.2**		
ELK	**Elko**	**94.83**	**43**	PKKPbc	PKKPbc	17 52 31.4	-0.5		
	comp=Z,1.3nm,0.6s,baz=330,slow=3.7,SNR=8.3								
ELK				LR	LR	18 11 05.2			
	comp=Z,2μm,21.3s,baz=220,slow=31								
M13K	**Dall Lake**	**94.83**	**8**	IAMs_20	IAMs_20	18 17 35.7			
	comp=Z,2μm,19.0s								
M13K	**Dall Lake**	**94.83**	**8**	P	**P**	**17 35 34.7**	**+0.7**		
	baz=193								
CMIG	**Matias Romero**	**94.87**	**73**	LR	LR	18 08 28.3			
	comp=Z,2μm,21.8s,baz=186,slow=29								
MTPU	**Mount Pierson**	**94.87**	**47**	IAmb	IAmb	17 35 59.1			
	comp=Z,82nm,2.0s								
Q19K	**Cape Douglas,**	**94.88**	**13**	IAMs_20	IAMs_20	18 13 57.4			
	comp=Z,2μm,20.0s								
Q19K	**Cape Douglas,**	**94.88**	**13**	P	**P**	**17 35 35.0**	**+0.6**		
	baz=201								
N15K	**Kwethluk River**	**95.01**	**10**	IAMs_20	IAMs_20	18 13 39.4			
	comp=Z,2μm,20.0s								
N15K	**Kwethluk River**	**95.01**	**10**	P	**P**	**17 35 36.1**	**+1.2**		
	baz=196,SNR=27								
P18K	**Big Mountain,**	**95.02**	**12**	IAMs_20	IAMs_20	18 13 33.2			
	comp=Z,2μm,20.0s								
P18K	**Big Mountain,**	**95.02**	**12**	P	**P**	**17 35 35.7**	**+0.7**		
	baz=200								
ATAH	**Atahualpa**	**95.06**	**102**	LR	LR	18 09 13.1			
	comp=Z,2μm,20.8s,baz=249,slow=30								
O17K	**Koliganek Bris**	**95.07**	**11**	P	**P**	**17 35 35.9**	**+0.8**		
	baz=198								
TX31	**Lajitas Ar. Si**	**95.18**	**58**	IAmb	IAmb	17 35 58.6			
	comp=Z,38nm,1.4s								
TXAR	**Lajitas Array**	**95.18**	**58**	P	**P**	**17 35 37.3**	**+0.7**		
TXAR	**Lajitas Array**	**95.18**	**58**	P	**P**	**17 35 38.8**	**+2.2**		
	comp=Z,0.8nm,0.8s,baz=202,slow=6.5,SNR=10								
TXAR				PP	**PP**	**17 39 30.8**	**+3.5**		
	comp=Z,0.2nm,0.7s,baz=221,slow=6.8,SNR=1.4								
TXAR				PKKPbc	**PKKPbc**	**17 52 30.0**	**-0.3**		
	comp=Z,0.7nm,0.9s,baz=100,slow=3.7,SNR=5.6								
TXAR				LR	LR	18 13 50.9			
	comp=Z,2μm,18.1s,baz=226,slow=32								
	comp=Z,0.8nm,0.8s								
XAN	**Xi'an**	**95.31**	**308**	P	**P**	**17 35 35.3**	**-1.7**		
XAN				PP	**PP**	**17 39 25.3**	**-2.9**		
XAN				SKS	**SKSac**	**17 46 10.0**	**+1.2**		
XAN				SS	**SS**	**17 53 20.0**	**+2.3**		
XAN				pmax	pmax				
	comp=Z,510nm,7.0s								
XAN				LR	LR				
	comp=Z,760nm,20.9s								
XAN				LR	LR				
	comp=Z,960nm,20.6s								
XAN				LR	LR				
	comp=Z,2μm,22.9s								
M14K	**Bethel**	**95.33**	**8**	P	**P**	**17 35 37.3**	**+1.0**		
	baz=194								
TIY	**Taiyuan**	**95.34**	**312**	P	**P**	**17 35 36.4**	**-0.7**		
TIY				PP	**PP**	**17 39 33.3**	**+4.9**		
TIY				S	**S**	**17 46 45.3**	**-3.8**		
TIY				pmax	pmax				
	comp=Z,210nm,4.1s								
TIY				LR	LR				
	comp=Z,620nm,20.2s								
TIY				LR	LR				
	comp=Z,540nm,19.2s								
TIY				LR	LR				
	comp=Z,3μm,21.4s								
MNTX	**Cornudas Mount**	**95.38**	**55**	P	**P**	**17 35 39.3**	**+1.9**		
	baz=233								
M15K	**Kasigluk River**	**95.43**	**9**	P	**P**	**17 35 37.2**	**+0.4**		
	baz=196,SNR=9.7								
O18K	**Koktuh Hills**	**95.46**	**12**	IAmb	IAmb	17 35 39.8			
	comp=Z,27nm,0.8s								
O18K				IAMs_20	IAMs_20	18 13 45.8			
	comp=Z,2μm,21.0s								
O18K	**Koktuh Hills**	**95.46**	**12**	P	**P**	**17 35 37.7**	**+0.7**		
	baz=200,SNR=8.8								
N16K	**Nishlik Lake**	**95.49**	**10**	P	**P**	**17 35 37.8**	**+0.7**		
	baz=197,SNR=14								
P19K	**Oil Pt**	**95.63**	**13**	IAMs_20	IAMs_20	18 13 52.3			
	comp=Z,2μm,20.0s								
P19K	**Oil Pt**	**95.63**	**13**	P	**P**	**17 35 38.6**	**+0.8**		
	baz=202								
Y22D	**IRIS PASSCAL I**	**95.76**	**53**	IAMs_20	IAMs_20	18 16 50.3			
	comp=Z,2μm,18.0s								
Y22D	**IRIS PASSCAL I**	**95.76**	**53**	P	**P**	**17 35 39.3**	**+0.2**		
	baz=233								
Y22F	**Passcal Instru**	**95.76**	**53**	P	**P**	**17 35 39.5**	**+0.3**		
	baz=233								
N17K	**Nushagak Hills**	**95.78**	**11**	P	**P**	**17 35 38.8**	**+0.4**		
	baz=198								
ALPN	**Alpine**	**95.81**	**57**	IAmb	IAmb	17 36 01.0			
	comp=Z,49nm,1.6s								
L14K	**Kuka Creek**	**95.82**	**8**	IAMs_20	IAMs_20	18 17 55.7			
	comp=Z,2μm,19.0s								
L14K	**Kuka Creek**	**95.82**	**8**	P	**P**	**17 35 38.8**	**+0.3**		
	baz=194								
DUG	**Dugway, Tooele**	**95.87**	**45**	IAMs_20	IAMs_20	18 13 37.7			
	comp=Z,2μm,20.0s								
DUG	**Dugway, Tooele**	**95.87**	**45**	P	**P**	**17 35 40.8**	**+1.2**		
	baz=230								
PZH	**PanZhiHua**	**95.91**	**298**	P	P	17 35 33.9	-6.1		
PZH				PP	**PP**	**17 39 32.6**	**-0.4**		
PZH	**PanZhiHua**	**95.91**	**298**	S	**S**	**17 46 52.9**	**-1.8**		
O19K	**Port Alsworth**	**95.94**	**12**	IAMs_20	IAMs_20	18 13 51.4			
	comp=Z,2μm,20.0s								
O19K	**Port Alsworth**	**95.94**	**12**	P	**P**	**17 35 37.9**	**-1.2**		
	baz=201								
HOM	**Homer**	**95.94**	**14**	P	**P**	**17 35 40.0**	**+0.9**		
	baz=203								
M16K	**Timber Creek**	**95.99**	**10**	IAmb	IAmb	17 35 43.2			
	comp=Z,17nm,0.9s								
M16K				IAMs_20	IAMs_20	18 14 19.4			
	comp=Z,2μm,20.0s								
M16K	**Timber Creek**	**95.99**	**10**	P	**P**	**17 35 39.4**	**0.0**		
	baz=197,SNR=7.1								
HEH	**HeiHe**	**96.06**	**329**	*e*P	P	17 35 29.9	-10		
HEH				LR	LR				
	comp=N,640nm,20.2s								
HEH				LR	LR				
	comp=E,920nm,19.4s								
HEH				LR	LR				
	comp=Z,2μm,20.6s								
N18K	**Kilae Creek**	**96.13**	**11**	P	**P**	**17 35 39.7**	**-0.3**		
	baz=200								
O20K	**Slope Mountain**	**96.14**	**13**	P	**P**	**17 35 40.7**	**+0.5**		
	baz=202								
K13K	**Kusilvak Mount**	**96.18**	**7**	P	**P**	**17 35 41.2**	**+1.1**		
	baz=192								
BRSE	**Bradley Lake S**	**96.20**	**14**	P	**P**	**17 35 40.1**	**-0.2**		
	baz=204								
L15K	**Ungalak Mounta**	**96.28**	**8**	P	**P**	**17 35 42.6**	**+2.0**		
	baz=195,SNR=6.5								
MA2	**Magadan**	**96.32**	**345**	IAMs_20	IAMs_20	18 15 21.2			
	comp=Z,2μm,20.0s								
HAWA	**Hanford**	**96.33**	**37**	IAMs_20	IAMs_20	18 15 29.8			
	comp=Z,2μm,20.0s								
BMO	**Blue Mountains**	**96.43**	**39**	P	**P**	**17 35 42.0**	**+0.1**		
BMO	**Blue Mountains**	**96.43**	**39**	P	**P**	**17 35 42.0**	**+0.1**		
BMO				pmax	pmax				
	comp=Z,12nm,1.3s								
BMO				MLR	MLR				
	comp=Z,3μm,19.0s								
N19K	**Bonanza Creek**	**96.49**	**12**	IAmb	IAmb	17 35 43.2			
	comp=Z,48nm,2.0s								
N19K				IAMs_20	IAMs_20	18 14 27.9			
	comp=Z,2μm,21.0s								
N19K	**Bonanza Creek**	**96.49**	**12**	P	**P**	**17 35 41.8**	**0.0**		
	baz=201								
M17K	**Holitna River**	**96.57**	**10**	IAmb	IAmb	17 35 45.3			
	comp=Z,14nm,0.8s								
M17K				IAMs_20	IAMs_20	18 14 25.9			
	comp=Z,2μm,20.0s								
M17K	**Holitna River**	**96.57**	**10**	P	**P**	**17 35 45.2**	**+3.2**		
	baz=198,SNR=6.6								
L16K	**Owhat River**	**96.58**	**9**	IAMs_20	IAMs_20	18 14 47.9			
	comp=Z,2μm,20.0s								
L16K	**Owhat River**	**96.58**	**9**	P	**P**	**17 35 43.6**	**+1.7**		
	baz=197,SNR=6.7								
ANMO	**Albuquerque**	**96.59**	**52**	IAMs_20	IAMs_20	18 14 14.2			
	comp=Z,2μm,19.0s								
ANMO	**Albuquerque**	**96.59**	**52**	P	**P**	**17 35 44.3**	**+1.3**		
	baz=233								
ANMO	**Albuquerque**	**96.59**	**52**	LR	LR	18 14 33.9			
	comp=Z,2μm,18.6s,baz=319,slow=32								
ANMO	**Albuquerque**	**96.59**	**52**	*i* P	**P**	**17 35 43.7**	**+0.7**		
ANMO				pmax	pmax				
	comp=Z,5.0nm,1.0s								
MVCO	**Mesa Verde**	**96.64**	**49**	IAMs_20	IAMs_20	18 15 14.3			
	comp=Z,2μm,19.0s								
MVCO	**Mesa Verde**	**96.64**	**49**	P	**P**	**17 35 44.8**	**+1.6**		
	baz=232								
BBB	**Bella Bella**	**96.66**	**29**	LR	LR	18 14 28.6			
	comp=Z,1μm,19.0s,baz=221,slow=32								
SEW	**Seward**	**96.80**	**15**	P	**P**	**17 35 43.5**	**+0.5**		
	baz=205								
Q23K	**Middleton Isla**	**96.87**	**16**	IAMs_20	IAMs_20	18 18 13.5			
	comp=Z,2μm,18.0s								
Q23K	**Middleton Isla**	**96.87**	**16**	P	**P**	**17 35 44.5**	**+1.2**		
	baz=207								
K15K	**Wolf Creek Mou**	**96.88**	**8**	IAmb	IAmb	17 35 54.9			
	comp=Z,38nm,1.5s								
K15K	**Wolf Creek Mou**	**96.88**	**8**	P	**P**	**17 35 44.6**	**+1.3**		
	baz=195								
M18K	**Stony River**	**96.91**	**11**	P	**P**	**17 35 43.7**	**+0.2**		
	baz=200,SNR=6.4								
HVU	**Hansel Valley**	**96.91**	**44**	IAmb	IAmb	17 36 01.3			
	comp=Z,17nm,1.1s								
CD2	**Chengdu**	**96.97**	**302**	P	**P**	**17 35 43.0**	**-1.7**		
CD2				pP	PcP	17 35 51.3	+6.5		
CD2				PP	**PP**	**17 39 42.3**	**+1.2**		
CD2				SKS	**SKSac**	**17 46 18.9**	**+1.2**		
CD2				S	**S**	**17 47 03.0**	**-0.6**		
CD2				sS	pS	17 47 13.8	-7.4		
CD2				SS	**SS**	**17 53 39.8**	**-1.6**		
CD2				pmax	pmax				
	comp=Z,230nm,7.6s								
CD2				LR	LR				
	comp=Z,1μm,22.9s								
CD2				LR	LR				
	comp=Z,860nm,22.9s								
CD2				LR	LR				
	comp=Z,980nm,23.9s								
CAPN	**Captain Cook N**	**97.06**	**14**	P	**P**	**17 35 43.2**	**-0.9**		
	baz=203								
J14K	**Nanvaranak Lak**	**97.09**	**7**	IAMs_20	IAMs_20	18 18 04.4			
	comp=Z,2μm,20.0s								
J14K	**Nanvaranak Lak**	**97.09**	**7**	P	Pdif	17 35 44.4	+0.1		
	baz=193								
HLID	**Hailey**	**97.14**	**42**	IAMs_20	IAMs_20	18 16 04.4			
	comp=Z,2μm,20.0s								
HLID	**Hailey**	**97.14**	**42**	P	Pdif	17 35 47.0	+1.7		
	baz=229								
P23K	**Montague Islan**	**97.14**	**16**	P	**P**	**17 35 44.7**	**+0.1**		
	baz=206								
L17K	**Donlin**	**97.15**	**10**	P	Pdif	17 35 46.5	+1.8		
	baz=198								
XLT	**XiLinHaoTe**	**97.18**	**319**	*e*P	Pdif	17 35 48.4	+3.0		
XLT				pP	pP	17 35 53.1	-5.7		
XLT				sP	pwP	17 35 55.3	-7.1		
XLT				pmax	pmax				
	comp=Z,11nm,0.9s								
XLT				pmax	pmax				
	comp=Z,110nm,4.3s								
F10A	**Beach Ranch, E**	**97.22**	**38**	IAmb	IAmb	17 36 08.0			
	comp=Z,12nm,0.8s								
N20K	**Mount Spurr**	**97.26**	**13**	P	**P**	**17 35 44.7**	**-0.5**		
	baz=203								
PLID	**Pearl Lake**	**97.28**	**40**	IAmb	IAmb	17 36 03.3			
	comp=Z,15nm,1.1s								
APG	**El Apazote**	**97.28**	**77**	LR	LR	18 09 30.6			
	comp=Z,168nm,21.8s,baz=254,slow=29								
CRAG	**Craig**	**97.34**	**24**	P	Pdif	17 35 47.3	+1.7		
	baz=217								
L18K	**Granite Mounta**	**97.46**	**10**	IAmb	IAmb	17 35 57.5			
	comp=Z,12nm,0.9s								
L18K				IAMs_20	IAMs_20	18 15 04.5			
	comp=Z,2μm,20.0s								
L18K	**Granite Mounta**	**97.46**	**10**	P	Pdif	17 35 46.6	+0.6		
	baz=199								
TNCH	**TengChong**	**97.48**	**295**	⇑P	**P**	**17 35 46.8**	**-0.4**		
TNCH				sP	Pdif	17 35 53.4	+6.1		
TNCH				PP	**PP**	**17 39 44.5**	**-0.8**		
TNCH				SKS	**SKSac**	**17 46 19.6**	**-1.3**		
TNCH				S	**S**	**17 47 07.3**	**-1.1**		
TNCH				sS	ScS	17 47 15.5	+6.8		
TNCH				SS	**SS**	**17 53 42.5**	**-6.4**		
TNCH				pmax	pmax				
	comp=Z,8.0nm,1.4s								
TNCH				pmax	pmax				
	comp=Z,140nm,10.1s								
TNCH				LR	LR				
	comp=Z,290nm,24.1s								
TNCH				LR	LR				
	comp=Z,310nm,24.3s								
TNCH				LR	LR				
	comp=Z,760nm,23.9s								
HWUT	**Hardware Ranch**	**97.50**	**44**	IAMs_20	IAMs_20	18 11 59.7			
	comp=Z,2μm,21.0s								
M19K	**Big River Lodg**	**97.53**	**12**	IAmb	IAmb	17 35 56.9			
	comp=Z,22nm,1.7s								
M19K				IAMs_20	IAMs_20	18 12 12.4			
	comp=Z,2μm,22.0s								
M19K	**Big River Lodg**	**97.53**	**12**	P	**P**	**17 35 45.6**	**-0.7**		
	baz=201								
FIS	**Fire Island**	**97.59**	**14**	IAMs_20	IAMs_20	18 15 21.1			
	comp=Z,2μm,21.0s								
RC01	**Rabbit Creek A**	**97.64**	**14**	P	**P**	**17 35 46.7**	**0.0**		
	baz=205								
833A	**Chaparral WMA,**	**97.67**	**61**	P	**P**	**17 35 46.0**	**-1.8**		
	baz=236								
HIN	**Hinchinbrook I**	**97.70**	**16**	IAMs_20	IAMs_20	18 12 47.3			
	comp=Z,2μm,20.0s								
K17K	**Iditarod**	**97.70**	**10**	IAMs_20	IAMs_20	18 15 11.7			
	comp=Z,2μm,20.0s								
K17K	**Iditarod**	**97.70**	**10**	P	**P**	**17 35 46.9**	**-0.2**		
	baz=198								
L19K	**White Mountain**	**97.72**	**11**	IAmb	IAmb	17 35 50.5			
	comp=Z,16nm,0.9s								
L19K				IAMs_20	IAMs_20	18 13 02.2			
	comp=Z,2μm,22.0s								
L19K	**White Mountain**	**97.72**	**11**	P	Pdif	17 35 47.7	+0.5		
	baz=200,SNR=11								
LPAZ	**La Paz**	**97.73**	**115**	P	Pdif	17 35 50.9	+1.7		
	comp=Z,1.2nm,0.6s,baz=211,slow=6.9,SNR=6.7								
LPAZ				PP	**PP**	**17 39 51.7**	**+4.5**		
	comp=Z,0.8nm,0.7s,baz=206,slow=9.5,SNR=1.7								
LPAZ				LR	LR	18 10 05.0			
	comp=Z,1μm,21.8s,baz=202,slow=29								
	comp=Z,1.2nm,0.6s								
M20K	**Styx River**	**97.73**	**12**	IAMs_20	IAMs_20	18 15 18.6			
	comp=Z,3μm,21.0s								
M20K	**Styx River**	**97.73**	**12**	P	**P**	**17 35 46.0**	**-1.3**		
	baz=202								
V35K	**Ketchikan**	**97.75**	**25**	P	Pdif	17 35 48.0	+0.5		
	baz=218								
KAIM	**Kayak Island**	**97.77**	**17**	IAMs_20	IAMs_20	18 11 43.3			
	comp=Z,2μm,21.0s								
KAIM	**Kayak Island**	**97.77**	**17**	P	**P**	**17 35 47.4**	**-0.1**		
	baz=209								
SUA	**Susitna One**	**97.78**	**13**	IAmb	IAmb	17 35 52.4			
	comp=Z,15nm,0.8s								
SUA	**Susitna One**	**97.78**	**13**	P	**P**	**17 35 47.1**	**-0.5**		
	baz=204								
HHC	**Hu-ho-hao-te**	**97.82**	**314**	*e*P	**P**	**17 35 46.4**	**-1.9**		
HHC				SKS	**SKSac**	**17 46 22.9**	**+1.2**		
HHC				S	**ScS**	**17 47 12.8**	**+2.2**		
HHC				pmax	pmax				
	comp=Z,6.0nm,0.8s								
HHC				pmax	pmax				
	comp=Z,54nm,3.5s								
HHC				LR	LR				
	comp=Z,560nm,18.6s								
HHC				LR	LR				
	comp=Z,330nm,15.7s								
HHC				LR	LR				
	comp=Z,350nm,21.4s								
U33K	**Whale Pass**	**97.86**	**24**	IAMs_20	IAMs_20	18 16 46.3			
	comp=Z,2μm,19.0s								
U33K	**Whale Pass**	**97.86**	**24**	P	**P**	**17 35 47.6**	**-0.2**		
	baz=217								
SIT	**Sitka**	**97.89**	**23**	P	**P**	**17 35 47.1**	**-0.9**		
	baz=216								
J16K	**Anvik River**	**97.95**	**8**	P	**P**	**17 35 48.1**	**-0.1**		
	baz=196								
GLI	**Glacier Island**	**98.00**	**15**	IAMs_20	IAMs_20	18 15 30.2			
	comp=Z,2μm,20.0s								
GLI	**Glacier Island**	**98.00**	**15**	P	**P**	**17 35 47.9**	**-0.6**		
	baz=207								
EYAK	**Cordova Ski Ar**	**98.01**	**16**	P	**P**	**17 35 48.1**	**-0.4**		
	baz=208								
FID	**Port Fidalgo**	**98.02**	**16**	IAMs_20	IAMs_20	18 15 30.5			
	comp=Z,2μm,20.0s								
SUCK	**Suckling Hills**	**98.06**	**17**	IAMs_20	IAMs_20	18 15 55.8			
	comp=Z,2μm,20.0s								
SKT	**Skwentna**	**98.11**	**13**	P	**P**	**17 35 48.5**	**-0.4**		
	baz=203								
L20K	**Farewell, AK**	**98.16**	**12**	P	**P**	**17 35 48.7**	**-0.4**		
	baz=201								
M22K	**Willow**	**98.17**	**14**	IAMs_20	IAMs_20	18 15 51.4			
	comp=Z,3μm,20.0s								
M22K	**Willow**	**98.17**	**14**	P	Pdif	17 35 49.6	+0.4		
	baz=204								
HMT	**Hamilton**	**98.17**	**17**	IAMs_20	IAMs_20	18 13 08.8			
	comp=Z,3μm,20.0s								
KNK	**Knik Glacier**	**98.19**	**14**	P	**P**	**17 35 49.2**	**-0.1**		
	baz=206								
PMR	**Palmer**	**98.22

CUT	Chulitna	98.73	13	IAmb	IAmb	17 35 55.1			
	comp=Z,20nm,0.9s								
CUT	Chulitna	98.73	13	P	**P**	**17 35 51.1**	**-0.5**		
	baz=204								
U35K	Hyder	98.78	26	P	**P**	**17 35 51.7**	**-0.3**		
	baz=220								
SMCO	Snowmass	98.78	49	IAMs_20	IAMs_20	18 17 48.0			
	comp=Z,2µm,19.0s								
KLU	Klutina	98.81	16	IAMs_20	IAMs_20	18 15 46.5			
	comp=Z,2µm,20.0s								
KLU	Klutina	98.81	16	P	**P**	**17 35 52.1**	**-0.1**		
	baz=208								
SCM	Sheep Creek Mo	98.81	15	IAmb	IAmb	17 35 59.5			
	comp=Z,10nm,0.7s								
SCM				IAMs_20	IAMs_20	18 16 08.4			
	comp=Z,2µm,21.0s								
SCM	Sheep Creek Mo	98.81	15	P	Pdif	17 35 52.6	+0.4		
	baz=207								
NEW	Newport	98.81	37	IAMs_20	IAMs_20	18 14 45.2			
	comp=Z,2µm,20.0s								
NEW	Newport	98.81	37	P	**P**	**17 35 51.3**	**-1.1**		
	baz=228								
NEW	Newport	98.81	37	LR	LR	18 11 38.8			
	comp=Z,2µm,21.7s,baz=217,slow=30								
PPLA	Purkeypile	98.83	12	P	**P**	**17 35 51.7**	**-0.6**		
	baz=203								
SDCO	Great Sand Dun	98.87	50	IAMs_20	IAMs_20	18 16 37.4			
	comp=Z,2µm,19.0s								
SDCO	Great Sand Dun	98.87	50	P	**P**	**17 35 51.9**	**-1.4**		
	baz=234								
K20K	Telida	98.95	11	IAmb	IAmb	17 36 18.5			
	comp=Z,29nm,1.9s								
K20K	Telida	98.95	11	P	**P**	**17 35 52.4**	**-0.2**		
	baz=201								
BCPM	Bancas Point	99.02	19	IAMs_20	IAMs_20	18 12 55.6			
	comp=Z,2µm,21.0s								
TPAW	Teton Pass	99.03	43	IAMs_20	IAMs_20	18 14 11.0			
	comp=Z,2µm,20.0s								
H16K	Elim	99.08	7	P	**Pdif**	**17 35 52.6**	**-0.5**		
	baz=194								
SEY	Seymchan	99.08	347	PKKP		17 52 23.9			
	comp=Z,2.5nm,0.7s,baz=153,slow=6.3,SNR=6.1								
SEY				LR	LR	18 15 13.7			
	comp=Z,3µm,22.0s,baz=161,slow=32								
SEY	Seymchan	99.08	347	*i* P	**Pdif**	**17 35 54.1**	**+0.9**		
SEY				pmax	pmax				
	comp=Z,2.0nm,0.9s								
R32K	Eaglecrest	99.13	22	IAMs_20	IAMs_20	18 15 34.8			
	comp=Z,2µm,20.0s								
R32K	Eaglecrest	99.13	22	P	**Pdif**	**17 35 54.9**	**+1.3**		
	baz=216								
VRDI	Verde Repeater	99.14	17	IAMs_20	IAMs_20	18 16 13.6			
	comp=Z,2µm,20.0s								
JIS	Juneau Island	99.17	22	IAMs_20	IAMs_20	18 15 46.0			
	comp=Z,2µm,20.0s								
N25K	Chitina, Valde	99.21	16	IAMs_20	IAMs_20	18 13 25.2			
	comp=Z,2µm,21.0s								
N25K	Chitina, Valde	99.21	16	P	**Pdif**	**17 35 53.6**	**-0.4**		
	baz=209								
T25A	Trinidad	99.22	51	P	**Pdif**	**17 35 55.1**	**+0.3**		
	baz=234								
G15K	Niukluk	99.24	7	P	**Pdif**	**17 35 53.0**	**-0.9**		
	baz=193								
GLB	Gilahina Butte	99.25	16	IAmb	IAmb	17 36 19.2			
	comp=Z,25nm,1.8s								
GLB				IAMs_20	IAMs_20	18 19 31.2			
	comp=Z,1µm,18.0s								
JTS	Las Juntas de	99.26	84	LR	LR	18 10 24.6			
	comp=Z,2µm,21.9s,baz=247,slow=29								
P29M	Windy Craggy	99.28	20	P	**Pdif**	**17 35 56.2**	**+1.9**		
	baz=214								
DLMT	Dillon	99.29	41	IAMs_20	IAMs_20	18 11 52.3			
	comp=Z,2µm,22.0s								
IMW	Indian Meadow	99.29	43	IAMs_20	IAMs_20	18 13 04.5			
	comp=Z,2µm,22.0s								
M24K	Tolsona, Glenn	99.30	15	IAMs_20	IAMs_20	18 20 08.5			
	comp=Z,1µm,19.0s								
M24K	Tolsona, Glenn	99.30	15	P	**Pdif**	**17 35 55.0**	**+0.6**		
	baz=208								
J19K	Poorman	99.30	10	IAMs_20	IAMs_20	18 16 21.1			
	comp=Z,2µm,20.0s								
J19K	Poorman	99.30	10	P	**Pdif**	**17 35 55.3**	**+1.0**		
	baz=200								
MOOW	Moose Ponds	99.31	43	IAMs_20	IAMs_20	18 14 09.1			
	comp=Z,2µm,20.0s								
CAST	Castle Rocks	99.34	12	IAMs_20	IAMs_20	18 16 08.2			
	comp=Z,2µm,20.0s								
CAST	Castle Rocks	99.34	12	P	**Pdif**	**17 35 56.1**	**+1.7**		
	baz=203,SNR=5.4								
TGUH	Tegucigalpa,Un	99.37	79	IAMs_20	IAMs_20	18 10 25.4			
	comp=Z,2µm,22.0s								
MCARA	McCarthy VSAT	99.38	17	P	**Pdif**	**17 35 55.6**	**+1.0**		
	baz=210								
PDAR	Pinedale Array	99.39	44	P	**Pdif**	**17 35 57.1**	**+1.6**		
	comp=Z,0.7nm,0.8s,baz=194,slow=5.6,SNR=3.7								
PDAR				PP	**PP**	**17 40 01.9**	**+2.2**		
	comp=Z,0.5nm,0.8s,baz=213,slow=4.3,SNR=2.1								
PDAR				PKKPbc	**PKKPbc**	**17 52 18.4**	**-0.9**		
	comp=Z,1.1nm,0.7s,baz=93,slow=3.6,SNR=6.9								
PDAR				PKKP	**PKKPdf**	**17 52 24.4**	**+0.4**		
	comp=Z,0.8nm,0.7s,baz=57,slow=5.5,SNR=4.2								
PDAR				SKKPbc	SKKPbc	17 55 55.0	-3.3		
	comp=Z,0.6nm,0.7s,baz=14,slow=4.0,SNR=3.7								
PDAR				LR	LR	18 15 53.8			
	comp=Z,1µm,18.9s,baz=230,slow=32								
	comp=Z,0.7nm,0.8s								
WAT6	Susitna Watana	99.39	14	P	**Pdif**	**17 35 55.7**	**+0.8**		
	baz=206								
CTG	Chitna Glacier	99.44	18	P	**Pdif**	**17 35 57.8**	**+2.7**		
	baz=211								
BARN	Barnard Glacie	99.44	18	IAmb	IAmb	17 36 07.0			
	comp=Z,26nm,1.8s								
WAT1	Susitna Watana	99.45	14	P	**Pdif**	**17 35 55.6**	**+0.7**		
	baz=206								
TNA	Tin City	99.48	5	P	**Pdif**	**17 35 55.7**	**+0.7**		
	baz=190								
MSO	Missoula	99.50	39	P	**Pdif**	**17 35 56.5**	**+0.8**		
	baz=230								
F14K	Arctic Creek	99.52	5	P	**Pdif**	**17 35 55.8**	**+0.7**		
	baz=191								
T35M	Bob Quinn	99.52	25	IAMs_20	IAMs_20	18 17 58.5			
	comp=Z,2µm,19.0s								
PLBC	Pleasant Camp	99.53	21	P	**Pdif**	**17 35 57.0**	**+1.6**		
	baz=215								
FLWY	Flagg Ranch	99.54	43	IAMs_20	IAMs_20	18 16 00.2			
	comp=Z,2µm,20.0s								
O28M	Mount Upton	99.57	18	P	**Pdif**	**17 35 58.1**	**+2.2**		
	baz=212								
H17K	Granite Mounta	99.63	8	P	**Pdif**	**17 35 57.3**	**+1.7**		
	baz=196								
TRF	Thorofare Moun	99.69	13	P	**Pdif**	**17 35 57.2**	**+1.1**		
	baz=204,SNR=17								
J20K	Nowinta River	99.70	11	P	**Pdif**	**17 35 56.7**	**+0.7**		
	baz=201								
CHUM	Lake Minchumin	99.73	12	P	**Pdif**	**17 35 57.8**	**+1.7**		
	baz=203								
AMTX	Amarillo	99.74	55	IAMs_20	IAMs_20	18 18 45.0			
	comp=Z,2µm,18.0s								
AMTX	Amarillo	99.74	55	P	**Pdif**	**17 35 57.4**	**+0.4**		
	baz=236								
HARP	HAARP	99.78	15	P	**Pdif**	**17 35 57.7**	**+1.3**		
	baz=208								
HDC	Heredia	99.80	85	IAMs_20	IAMs_20	18 10 33.9			
	comp=Z,2µm,21.0s								
G16K	Koyuk River	99.80	7	IAMs_20	IAMs_20	18 13 28.9			
	comp=Z,2µm,22.0s								
G16K	Koyuk River	99.80	7	P	**Pdif**	**17 35 57.1**	**+0.7**		
	baz=194								
Q24A	Divide	99.81	50	P	**Pdif**	**17 35 60.0**	**+2.5**		
	baz=234								
GCSA	Galena City Sc	99.84	10	P	**Pdif**	**17 35 57.6**	**+1.1**		
	baz=199								
SKAG	Skagway	99.84	21	P	**Pdif**	**17 35 59.6**	**+2.9**		
	baz=216								
LZH	Lanzhou	99.88	307	eP	**Pdif**	**17 35 53.9**	**-3.8**		
LZH				S	**S**	**17 47 22.1**	**-6.1**		
LZH				pmax	pmax				
	comp=Z,22nm,1.5s								
LZH				pmax	pmax				
	comp=Z,100nm,4.5s								
LZH				LR	LR				
	comp=Z,360nm,17.2s								
LZH				LR	LR				
	comp=Z,550nm,16.5s								
LZH				LR	LR				
	comp=Z,640nm,15.5s								
F15K	North Star Dit	99.89	6	IAMs_20	IAMs_20	18 13 20.1			
	comp=Z,3µm,22.0s								
F15K	North Star Dit	99.89	6	P	**Pdif**	**17 35 59.0**	**+2.3**		
	baz=192								
ABTX	Abilene, Hawle	99.89	57	P	**Pdif**	**17 35 59.3**	**+1.6**		
	baz=236								
P30M	Million Dollar	99.91	20	P	**Pdif**	**17 35 57.7**	**+0.6**		
	baz=215								
DHY	Denali Highway	99.91	14	P	**Pdif**	**17 35 59.6**	**+2.4**		
	baz=207								
RND	Reindeer	99.92	13	IAmb	IAmb	17 36 07.4			
	comp=Z,14nm,1.0s								
RND				IAMs_20	IAMs_20	18 16 45.6			
	comp=Z,3µm,20.0s								
S34M	Telegraph Cree	99.94	24	P	**Pdif**	**17 36 01.0**	**+3.8**		
	baz=219								
BOZ	Bozeman (W)	99.96	41	P	**Pdif**	**17 35 57.9**	**+0.1**		
	baz=231								
ISCO	Idaho Springs	100.00	49	IAMs_20	IAMs_20	18 14 52.2			
	comp=Z,2µm,20.0s								
ISCO	Idaho Springs	100.00	49	P	**Pdif**	**17 35 59.3**	**+0.9**		
	baz=234								
LKWY	Lake	100.01	43	IAMs_20	IAMs_20	18 15 52.5			
	comp=Z,3µm,20.0s								
H18K	Honhosa River	100.03	9	P	**Pdif**	**17 35 57.8**	**+0.4**		
	baz=198								
G17K	Kiwalik Mounta	100.09	8	P	**Pdif**	**17 35 58.7**	**+1.0**		
	baz=196								
YUK8	Steele Glacier	100.11	18	P	**Pdif**	**17 35 58.9**	**+0.7**		
	baz=213								
RWWY	Rawlins	100.13	46	IAMs_20	IAMs_20	18 12 20.5			
	comp=Z,2µm,22.0s								
BPAW	Bear Paw Mtn.	100.16	12	P	**Pdif**	**17 35 58.4**	**+0.4**		
	baz=204								
MCK	McKinley	100.20	13	P	**Pdif**	**17 35 59.9**	**+1.6**		
	baz=205,SNR=7.3								
YUK5	Outpost Mounta	100.20	19	P	**Pdif**	**17 35 59.6**	**+1.0**		
	baz=214								
PAX	Paxson	100.22	15	P	**Pdif**	**17 35 58.7**	**+0.3**		
	baz=208								
I20K	Naaghedeneel	100.23	11	P	**Pdif**	**17 35 59.7**	**+1.4**		
	baz=201								
M26K	Nabesna, AK	100.27	16	IAMs_20	IAMs_20	18 13 18.4			
	comp=Z,2µm,21.0s								
M26K	Nabesna, AK	100.27	16	P	**Pdif**	**17 35 59.9**	**+1.3**		
	baz=210								
HYT	Haines Junctio	100.33	19	P	**Pdif**	**17 36 00.2**	**+1.1**		
	baz=214								
435B	Jarrell	100.34	60	IAMs_20	IAMs_20	18 14 16.1			
	comp=Z,2µm,21.0s								
435B	Jarrell	100.34	60	P	**Pdif**	**17 35 60.0**	**+0.3**		
	baz=237								
YUK3	Moose Creek	100.35	18	P	**Pdif**	**17 36 00.3**	**+1.0**		
	baz=212								
N23A	Red Feather La	100.44	48	P	**Pdif**	**17 35 59.6**	**-0.6**		
	baz=234								
P32M	Atlin	100.44	22	IAMs_20	IAMs_20	18 16 53.3			
	comp=Z,2µm,20.0s								
P32M	Atlin	100.44	22	P	**Pdif**	**17 36 00.3**	**+0.9**		
	baz=217								
YUK4	Talbot Arm	100.46	19	P	**Pdif**	**17 36 00.9**	**+1.2**		
	baz=214								
M27K	Edge Creek, AK	100.50	17	IAMs_20	IAMs_20	18 20 41.5			
	comp=Z,2µm,19.0s								
M27K	Edge Creek, AK	100.50	17	P	**Pdif**	**17 36 00.6**	**+0.8**		
	baz=211								
H19K	Roundabout Mou	100.64	9	IAMs_20	IAMs_20	18 17 04.3			
	comp=Z,2µm,20.0s								
H19K	Roundabout Mou	100.64	9	P	**Pdif**	**17 36 01.5**	**+1.4**		
	baz=199								
O30N	Mendenhall	100.69	20	IAMs_20	IAMs_20	18 15 53.7			
	comp=Z,2µm,20.0s								
O30N	Mendenhall	100.69	20	P	**Pdif**	**17 36 01.7**	**+1.2**		
	baz=216								
G18K	Tagagawik	100.70	8	P	**Pdif**	**17 36 01.4**	**+1.0**		
	baz=198								
DLBC	Dease Lake	100.72	24	P	**Pdif**	**17 36 01.9**	**+1.2**		
	baz=220								
L26K	Log Cabin Wild	100.74	16	IAMs_20	IAMs_20	18 17 08.6			
	comp=Z,2µm,20.0s								
H20K	Anotleneega Mo	100.83	10	P	**Pdif**	**17 36 01.7**	**+0.7**		
	baz=201								
K24K	Donnelly Dome	100.89	14	P	**Pdif**	**17 36 03.3**	**+1.9**		
	baz=208								
F17K	Baldwin Pennin	100.93	7	P	**Pdif**	**17 36 02.7**	**+1.4**		
	baz=195								
WHY	Whitehorse	100.95	21	P	**Pdif**	**17 36 02.9**	**+1.2**		
	baz=216								
NEA2	Nenana	100.95	13	P	**Pdif**	**17 36 01.3**	**-0.3**		
	baz=205								
N30M	Aishikik Lake	100.97	19	IAMs_20	IAMs_20	18 14 32.2			
	comp=Z,2µm,20.0s								
N30M	Aishikik Lake	100.97	19	P	**Pdif**	**17 36 03.6**	**+1.9**		
	baz=215								
I21K	Tanana	100.98	11	P	**Pdif**	**17 36 02.1**	**+0.4**		
	baz=203								
RLMT	Red Lodge	100.99	43	IAMs_20	IAMs_20	18 16 23.4			
	comp=Z,2µm,20.0s								
RLMT	Red Lodge	100.99	43	P	**Pdif**	**17 36 04.0**	**+1.5**		
	baz=233								
MLY	Manley	101.06	12	P	**Pdif**	**17 36 04.0**	**+1.9**		
	baz=204								
WHTX	Lake Whitney,	101.09	59	P	**Pdif**	**17 36 04.6**	**+1.6**		
	baz=237								
K22A	Casper	101.11	46	P	**Pdif**	**17 36 02.9**	**-0.1**		
	baz=234								
L27K	Beaver Creek,	101.12	16	IAMs_20	IAMs_20	18 14 36.7			
	comp=Z,2µm,20.0s								
L27K	Beaver Creek,	101.12	16	P	**Pdif**	**17 36 03.0**	**+0.6**		
	baz=211								
G19K	Purcell Mounta	101.14	9	IAMs_20	IAMs_20	18 26 14.5			
	comp=Z,1µm,19.0s								
G19K	Purcell Mounta	101.14	9	P	**Pdif**	**17 36 02.4**	**+0.1**		
	baz=199								
R33M	Jennings River	101.15	23	IAMs_20	IAMs_20	18 18 01.3			
	comp=Z,2µm,20.0s								
R33M	Jennings River	101.15	23	P	**Pdif**	**17 36 03.8**	**+1.1**		
	baz=219								
HKT	Hockley	101.16	62	IAMs_20	IAMs_20	18 25 48.1			
	comp=Z,2µm,18.0s								
HDA	Harding Lake	101.19	14	IAMs_20	IAMs_20	18 21 47.4			
	comp=Z,1µm,19.0s								
HDA	Harding Lake	101.19	14	P	**Pdif**	**17 36 03.3**	**+0.7**		
	baz=207								
P33M	Teslin, Yukon	101.21	22	IAMs_20	IAMs_20	18 15 58.7			
	comp=Z,2µm,20.0s								
P33M	Teslin, Yukon	101.21	22	P	**Pdif**	**17 36 03.1**	**+0.2**		
	baz=218								
F18K	Selawik	101.26	8	P	**Pdif**	**17 36 02.3**	**-0.5**		
	baz=197								
H21K	Melozitna Rive	101.30	11	IAMs_20	IAMs_20	18 18 03.8			
	comp=Z,2µm,20.0s								
H21K	Melozitna Rive	101.30	11	P	**Pdif**	**17 36 03.1**	**0.0**		
	baz=202								
N31M	Braeburn, Yuko	101.36	20	IAMs_20	IAMs_20	18 17 36.5			
	comp=Z,2µm,20.0s								
N31M	Braeburn, Yuko	101.36	20	P	**Pdif**	**17 36 04.1**	**+0.6**		
	baz=216								
I23K	Minto, Yukon-K	101.41	12	P	**Pdif**	**17 36 03.9**	**+0.4**		
	baz=205								
M29M	Somme Creek	101.42	18	P	**Pdif**	**17 36 04.0**	**+0.2**		
	baz=214								
SCRK	Sand Creek	101.42	15	IAMs_20	IAMs_20	18 17 49.6			
	comp=Z,2µm,20.0s								
SCRK	Sand Creek	101.42	15	P	**Pdif**	**17 36 05.6**	**+1.8**		
	baz=210								
COLA	College	101.44	13	P	**Pdif**	**17 36 04.4**	**+0.7**		
	baz=206								
COLA	College	101.44	13	*i* P	**Pdif**	**17 36 04.9**	**+1.3**		
COLA				pmax	pmax				
	comp=Z,8.0nm,0.9s								
KSCO	Kaye Shedlock'	101.44	51	P	**Pdif**	**17 36 04.7**	**+0.1**		
	baz=236								
E17K	Hotham Inlet	101.49	7	P	**Pdif**	**17 36 04.6**	**+0.7**		
	baz=195								
ILAR	Eielson Array	101.53	14	P	**Pdif**	**17 36 04.8**	**+0.7**		
	comp=Z,2.0nm,0.8s,baz=222,slow=5.9,SNR=9.6								
ILAR				PP	**PP**	**17 40 11.7**	**-3.4**		
	comp=Z,2.6nm,1.1s,baz=223,slow=6.9,SNR=4.6								
ILAR				PKiKP	**PKiKP**	**17 40 27.8**	**+0.1**		
	comp=Z,2.8nm,0.8s,baz=302,slow=2.7,SNR=15								
ILAR				PKKPbc	**PKKPbc**	**17 52 13.2**	**-0.5**		
	comp=Z,0.6nm,0.5s,baz=35,slow=3.3,SNR=9.8								
WMOK	Wichita Mounta	101.65	56	IAMs_20	IAMs_20	18 19 25.5			
	comp=Z,2µm,19.0s								
WMOK	Wichita Mounta	101.65	56	P	**Pdif**	**17 36 05.5**	**+0.1**		
	baz=237								
J25K	Salcha River,	101.69	14	P	**Pdif**	**17 36 05.8**	**+0.9**		
	baz=208								
F19K	Shaleruckik Mo	101.71	9	P	**Pdif**	**17 36 05.5**	**+0.7**		
	baz=198								
POKR	Poker Plat Res	101.73	13	P	**Pdif**	**17 36 04.1**	**-0.9**		
	baz=207								
H22K	Ishtalitna Cre	101.74	11	P	**Pdif**	**17 36 06.4**	**+1.3**		
	baz=204								
N32M	Quiet Lake	101.87	21	IAMs_20	IAMs_20	18 16 11.1			
	comp=Z,2µm,20.0s								
N32M	Quiet Lake	101.87	21	P	**Pdif**	**17 36 06.7**	**+0.9**		
	baz=218								
K27K	Chicken	101.89	16	IAMs_20	IAMs_20	18 17 56.2			
	comp=Z,2µm,20.0s								
K27K	Chicken	101.89	16	P	**Pdif**	**17 36 05.8**	**+0.1**		
	baz=211								
E18K	Tukpahlearik C	101.95	7	P	**Pdif**	**17 36 06.6**	**+0.7**		
	baz=196								
J26L	Joseph Creek	101.97	15	IAMs_20	IAMs_20	18 17 58.2			
	comp=Z,2µm,20.0s								
J26L	Joseph Creek	101.97	15	P	**Pdif**	**17 36 08.4**	**+2.2**		
	baz=210,SNR=9.8								
M30M	Minto, Yukon	101.97	19	P	**Pdif**	**17 36 08.1**	**+1.9**		
	baz=215								
D17K	Noatak River	101.97	6	P	**Pdif**	**17 36 06.7**	**+0.7**		
	baz=194								
G21K	Allakaket	101.99	10	IAMs_20	IAMs_20	18 17 55.1			
	comp=Z,2µm,21.0s								
G21K	Allakaket	101.99	10	P	**Pdif**	**17 36 07.4**	**+1.3**		
	baz=202								
H23K	Yukon River	101.99	12	IAMs_20	IAMs_20	18 18 16.3			
	comp=Z,2µm,21.0s								
H23K	Yukon River	101.99	12	P	**Pdif**	**17 36 06.2**	**0.0**		
	baz=205								
L29M	L29M	102.06	18	P	**Pdif**	**17 36 07.2**	**+0.6**		
	baz=214								
F20K	Avaraart Lake	102.17	9	IAMs_20	IAMs_20	18 18 01.9			
	comp=Z,2µm,21.0s								
F20K	Avaraart Lake	102.17	9	P	**Pdif**	**17 36 07.9**	**+1.1**		
	baz=200								
H24K	Noodor Dome	102.30	13	P	**Pdif**	**17 36 09.1**	**+1.6**		
	baz=206								
M31M	Drury Creek, Y	102.33	20	IAMs_20	IAMs_20	18 15 26.1			
	comp=Z,2µm,21.0s								
M31M	Drury Creek, Y	102.33	20	P	**Pdif**	**17 36 09.0**	**+1.3**		
	baz=217								
RDOG	Red Dog Mine	102.34	6	P	**Pdif**	**17 36 08.6**	**+1.0**		
	baz=194								
C16K	Lisburne Hills	102.35	5	IAMs_20	IAMs_20	18 14 34.2			
	comp=Z,2µm,22.0s								
C16K	Lisburne Hills	102.35	5	P	**Pdif**	**17 36 09.0**	**+1.4**		
	baz=192								
E19K	Redstone River	102.37	9	P	**Pdif**	**17 36 09.1**	**+1.3**		
	baz=199								
PRP	Porcupine Dome	102.46	14	IAMs_20	IAMs_20	18 22 41.9			
	comp=Z,1µm,19.0s								
PRP	Porcupine Dome	102.46	14	P	**Pdif**	**17 36 10.2**	**+1.8**		
	baz=208,SNR=6.9								
EGMT	Eagleton	102.47	40	P	**Pdif**	**17 36 09.3**	**+0.5**		
	baz=233								
DAWY	Dawson	102.55	17	P	**Pdif**	**17 36 10.3**	**+1.6**		
	baz=213								
F21K	Alatna River	102.65	10	IAMs_20	IAMs_20	18 18 16.5			
	comp=Z,2µm,21.0s								
F21K	Alatna River	102.65	10	P	**Pdif**	**17 36 10.4**	**+1.3**		
	baz=202								
G22K	Bettles	102.67	11	P	**Pdif**	**17 36 10.1**	**+1.0**		
	baz=204								
G23K	Bananza Creek	102.72	12	IAMs_20	IAMs_20	18 22 16.4			
	comp=Z,1µm,20.0s								
G23K	Bananza Creek	102.72	12	P	**Pdif**	**17 36 12.2**	**+2.9**		
	baz=205								
C17K	DeLong Mountai	102.72	6	P	**Pdif**	**17 36 10.3**	**+1.0**		
	baz=194								
EGAK	Eagle	102.74	16	IAMs_20	IAMs_20	18 18 21.6			
	comp=Z,2µm,20.0s								
EGAK	Eagle	102.74	16	P	**Pdif**	**17 36 11.1**	**+1.6**		
	baz=212								
I26K	Coal Creek Min	102.76	15	IAMs_20	IAMs_20	18 25 20.0			
	comp=Z,2µm,18.0s								
I26K	Coal Creek Min	102.76	15	P	**Pdif**	**17 36 10.9**	**+1.3**		
	baz=210								
K29M	Barlow Dome	102.83	18	IAMs_20	IAMs_20	18 19 48.1			
	comp=Z,2µm,20.0s								
K29M	Barlow Dome	102.83	18	P	**Pdif**	**17 36 10.9**	**+0.8**		
	baz=215								
OGNE	Ogallala	102.90	49	P	**Pdif**	**17 36 11.1**	**+0.2**		
	baz=236								
NATX	Nacogdoches	102.97	61	IAMs_20	IAMs_20	18 16 09.0			
	comp=Z,2µm,20.0s								
NATX	Nacogdoches	102.97	61	P	**Pdif**	**17 36 13.2**	**+1.9**		
	baz=238								
MALK	Mahakanadarawa	103.02	271	PP	**PKiKP**	**17 40 25.3**	**-6.6**		
H25L	Birch Creek	103.07	13	P	**Pdif**	**17 36 13.5**	**+2.6**		
	baz=206								
C18K	Utukok River	103.08	7	P	**Pdif**	**17 36 11.6**	**+0.6**		
	baz=196								
F22K	John River	103.11	10	P	**Pdif**	**17 36 13.0**	**+1.9**		
	baz=203								
OK029	Liberty Lake	103.13	56	IAMs_20	IAMs_20	18 24 18.7			
	comp=Z,2µm,18.0s								
G24K	Hadweenzic Riv	103.15	12	P	**Pdif**	**17 36 12.9**	**+1.6**		
	baz=207								
COLD	Coldfoot	103.16	11	P	**Pdif**	**17 36 12.6**	**+1.3**		
	baz=205								
J29N	Klondike Camp	103.16	17	IAMs_20	IAMs_20	18 15 08.8			

G26K Porcupine Rive 104.06 14 P **Pdif 17 36 16.9 +1.7**
baz=210
E24K Your Creek 104.21 11 IAMs_20 IAMs_20 18 19 28.9
comp=Z,2µm,21.0s
E24K Your Creek 104.21 11 P **Pdif 17 36 17.9 +1.9**
baz=206
I30M Mount Dempster 104.24 17 IAMs_20 IAMs_20 18 16 03.4
comp=Z,2µm,21.0s
I30M Mount Dempster 104.24 17 P **Pdif 17 36 18.1 +1.8**
baz=216
F25K Christian Rive 104.27 13 P **Pdif 17 36 15.6 -0.7**
baz=208
C21K Knifeblade Rid 104.28 9 P **Pdif 17 36 16.9 +0.7**
baz=201
D22K Ayikyak River 104.31 10 IAMs_20 IAMs_20 18 19 21.3
comp=Z,2µm,21.0s
D22K Ayikyak River 104.31 10 P **Pdif 17 36 17.0 +0.6**
baz=203
TUL3 Leonard 104.34 56 P **Pdif 17 36 16.8 -0.5**
baz=239
G27K Doyon Strip 104.37 14 IAMs_20 IAMs_20 18 19 15.5
comp=Z,2µm,20.0s
G27K Doyon Strip 104.37 14 P **Pdif 17 36 16.7 0.0**
baz=212
TOLK Toolik Lake Re 104.55 11 IAMs_20 IAMs_20 18 17 06.7
comp=Z,2µm,22.0s
TOLK Toolik Lake Re 104.55 11 P **Pdif 17 36 16.8 -0.7**
baz=205
H29M Whitestone 104.59 16 IAMs_20 IAMs_20 18 19 29.4
comp=Z,2µm,20.0s
H29M Whitestone 104.59 16 P **Pdif 17 36 19.0 +1.3**
baz=214
A19K Wainwright 104.59 6 P **Pdif 17 36 17.9 +0.4**
baz=196
F26K Sheenjek River 104.64 13 P **PKiKP 17 40 34.0 +0.7**
baz=216
D23K Nanushuk River 104.67 10 P **PKiKP 17 40 33.7 +0.5**
baz=204
B21K Ikpikpuk River 104.74 9 IAMs_20 IAMs_20 18 20 08.7
comp=Z,2µm,20.0s
B21K Ikpikpuk River 104.74 9 P **PKiKP 17 40 33.8 +0.5**
baz=201
E25K Arctic Village 104.75 12 P **PKiKP 17 40 32.6 -0.9**
baz=209
B20K Meade River 104.80 8 IAMs_20 IAMs_20 18 27 17.2
comp=Z,2µm,19.0s
B20K Meade River 104.80 8 P **PKiKP 17 40 32.7 -0.7**
baz=199
SONM Songino Array 104.94 318 Pdiff **Pdif 17 36 19.5 -0.4**
comp=Z,0.4nm,0.6s,baz=152,slow=5.4,SNR=1.9
SONM PP **PKiKP 17 40 37.0 +2.4**
comp=Z,1.9nm,1.0s,baz=116,slow=6.6,SNR=4.2
SONM PKKPbc **PKKPbc 17 52 03.0 0.0**
comp=Z,1.4nm,1.0s,baz=264,slow=2.9,SNR=3.2
EPYK Eagle Plains 105.10 16 IAMs_20 IAMs_20 18 15 47.9
comp=Z,2µm,21.0s
EPYK Eagle Plains 105.10 16 P **PKiKP 17 40 33.2 -0.9**
baz=216
D24K Happy Valley 105.13 11 IAMs_20 IAMs_20 18 17 37.1
comp=Z,2µm,21.0s
D24K Happy Valley 105.13 11 P **PKiKP 17 40 34.9 +0.8**
baz=206
M1AR Mount Ida 105.19 59 IAMs_20 IAMs_20 18 22 21.5
comp=Z,2µm,18.0s
M1AR Mount Ida 105.19 59 P **PKiKP 17 40 35.6 +0.3**
baz=239
H31M Peel River 105.22 18 IAMs_20 IAMs_20 18 16 44.3
comp=Z,3µm,22.0s
H31M Peel River 105.22 18 P **PKiKP 17 40 34.1 -0.3**
baz=218
G29M Pine Creek 105.24 16 IAMs_20 IAMs_20 18 20 08.6
comp=Z,2µm,21.0s
G29M Pine Creek 105.24 16 P **PKiKP 17 40 34.5 +0.1**
baz=215
F28M Old Crow 105.42 15 IAMs_20 IAMs_20 18 20 07.4
comp=Z,2µm,20.0s
F28M Old Crow 105.42 15 P **PKiKP 17 40 35.1 +0.4**
baz=213
KSU1 Kansas State U 105.44 53 IAMs_20 IAMs_20 18 19 35.5
comp=Z,2µm,20.0s
KSU1 Kansas State U 105.44 53 P **PKiKP 17 40 37.3 +1.8**
baz=239
C23K Itkillik River 105.48 10 P **PKiKP 17 40 36.8 +2.1**
baz=205
E27K Coleen River 105.56 14 P **PKiKP 17 40 35.0 +0.1**
baz=212
B22K Teshekpuk Lake 105.56 9 IAMs_20 IAMs_20 18 24 41.4
comp=Z,2µm,20.0s
B22K Teshekpuk Lake 105.56 9 P **PKiKP 17 40 34.7 -0.1**
baz=202
BGNE Belgrade 105.62 51 P **PKiKP 17 40 36.4 +0.5**
baz=239
C24K Franklin Bluff 105.66 11 P **PKiKP 17 40 35.8 +0.8**
baz=206
D25K Kavik River 105.68 12 P **PKiKP 17 40 36.8 +1.7**
baz=208
G30M tAoh Zraii Nji 105.71 16 IAMs_20 IAMs_20 18 17 41.1
comp=Z,2µm,20.0s
G30M tAoh Zraii Nji 105.71 16 P **PKiKP 17 40 36.6 +1.3**
baz=216
DGMT Dagmar 105.76 42 IAMs_20 IAMs_20 18 21 21.7
comp=Z,2µm,20.0s
DGMT Dagmar 105.76 42 P **PKiKP 17 40 35.8 -0.2**
baz=237
A22K Sinclair Lake 105.99 8 P **PKiKP 17 40 36.8 +1.2**
baz=201
GOMU GeErMu 106.10 303 PKP **PKiKP 17 40 34.3 -3.1**
GOMU LR LR
comp=Z,430nm,20.4s
GOMU LR LR
comp=Z,760nm,19.4s
GOMU LR LR
comp=Z,570nm,17.0s
A21K Barrow 106.11 7 P **PKiKP 17 40 37.3 +1.5**
baz=200
G31M Satah River 106.13 17 IAMs_20 IAMs_20 18 16 30.1
comp=Z,2µm,21.0s
G31M Satah River 106.13 17 P **PKiKP 17 40 37.0 +1.1**
baz=218
VBMS Vicksburg 106.23 62 P **PKiKP 17 40 38.1 +0.9**
baz=240
F30M Barrier River 106.32 16 P **PKiKP 17 40 36.4 +0.1**
baz=217
E28M Babbage River 106.33 14 IAMs_20 IAMs_20 18 24 33.1
comp=Z,2µm,19.0s
E28M Babbage River 106.33 14 P **PKiKP 17 40 36.8 +0.4**
baz=214
C27K Jago River 106.40 12 P **PKiKP 17 40 38.2 +1.7**
baz=210
WRGLY Wrigley 106.43 23 P **PKiKP 17 40 38.6 +2.0**
baz=226
C26K Camden Bay 106.45 12 P **PKiKP 17 40 37.0 +0.5**
baz=210
E29M Blow River 106.49 15 IAMs_20 IAMs_20 18 20 51.5
comp=Z,2µm,20.0s
E29M Blow River 106.49 15 P **PKiKP 17 40 38.7 +2.0**
baz=215
D27M Malcolm River 106.58 13 IAMs_20 IAMs_20 18 17 47.7
comp=Z,2µm,22.0s
D27M Malcolm River 106.58 13 P **PKiKP 17 40 37.9 +1.0**
baz=213
F31M Tsiigehtchic 106.66 17 IAMs_20 IAMs_20 18 16 56.3
comp=Z,2µm,22.0s
F31M Tsiigehtchic 106.66 17 P **PKiKP 17 40 37.4 +0.5**
baz=218
SUSD Miller 106.69 47 P **PKiKP 17 40 39.0 +1.3**
baz=239
SPB Sao Paulo 106.81 134 IAMs_20 IAMs_20 18 19 10.4
comp=Z,2µm,21.0s
D28M Stokes Point 107.09 14 P **PKiKP 17 40 39.5 +1.8**
baz=215
INK Inuvik 107.39 16 P **PKiKP 17 40 40.7 +2.4**
baz=219
ECSD EROS Data Cent 107.78 49 P **PKiKP 17 40 40.8 +0.9**
baz=240
MDND Maddock 108.05 44 P **PKiKP 17 40 40.3 +0.2**
baz=240
OXF Oxford 108.16 60 IAMs_20 IAMs_20 18 17 02.3
comp=Z,2µm,22.0s
OXF Oxford 108.16 60 P **PKiKP 17 40 42.7 +1.9**
baz=241
BRAL Brewton 108.29 64 P **PKiKP 17 40 41.3 +0.2**
baz=241
CCM Cathedral Cave 108.56 56 P **PKiKP 17 40 43.5 +2.0**
baz=241
YKA Yellowknife Ar 109.03 26 Pdiff **Pdif 17 36 38.2 +0.7**
comp=Z,0.2nm,0.8s,baz=234,slow=4.3,SNR=1.4
YKA PKiKP **PKiKP 17 40 42.2 +0.7**
comp=Z,1.3nm,0.6s,baz=282,slow=1.6,SNR=19
YKA PKKPbc **PKKPbc 17 51 49.2 -1.3**
comp=Z,2.0nm,0.7s,baz=34,slow=3.6,SNR=21
YKA PKKPab **PKKPab 17 51 58.7 0.0**
comp=Z,0.8nm,0.6s,baz=39,slow=3.8,SNR=7.6
YKA PKPPKP **P'P'df 18 00 17.3 +4.8**
comp=Z,0.2nm,0.8s,baz=16,slow=2.0,SNR=3.6
SCIA State Center 109.07 52 IAMs_20 IAMs_20 18 22 43.7
comp=Z,2µm,19.0s
SCIA State Center 109.07 52 P **PKiKP 17 40 44.4 +2.2**
baz=242
LRAL Lakeview Retre 109.22 63 P **PKiKP 17 40 43.4 +0.6**
baz=242
VOI Vohitsoka 109.27 225 IAMs_20 IAMs_20 18 19 13.6
comp=Z,2µm,20.0s
HYB Hyderabad 109.38 278 *e*PKiKP **PKiKP 17 40 43.3 -0.3**
WVT Waverly 110.06 59 IAMs_20 IAMs_20 18 21 36.6
comp=Z,2µm,20.0s
AGMN Agassiz Nation 110.45 45 IAMs_20 IAMs_20 18 21 54.4
comp=Z,2µm,20.0s
AGMN Agassiz Nation 110.45 45 P **PKiKP 17 40 48.3 +3.7**
baz=242
C36M Paulatuk 110.49 18 IAMs_20 IAMs_20 18 20 13.7
comp=Z,2µm,20.0s
TIGA Tifton 111.03 66 P **PKiKP 17 40 46.8 +0.5**
baz=242
HDIL Hopedale 111.06 55 IAMs_20 IAMs_20 18 29 13.7
comp=Z,1µm,18.0s
HDIL Hopedale 111.06 55 P **PKiKP 17 40 46.0 -0.1**
baz=243
TIXI Tiksi 111.28 345 *c i*PKiKP **PKiKP 17 40 45.1 -0.4**
TIXI pmax pmax
comp=Z,14nm,0.8s
TIXI MLR MLR
comp=Z,1µm,19.0s
ULM Lac du Bonnet 111.36 43 PKiKP **PKiKP 17 40 46.0 -0.3**
comp=Z,0.7nm,0.4s,baz=202,slow=3.3,SNR=1.5
ULM Lac du Bonnet 111.36 43 *i* PKiKP **PKiKP 17 40 46.0 -0.3**
JFWS Jewell Farm 111.49 52 IAMs_20 IAMs_20 18 24 17.6
comp=Z,2µm,20.0s
JFWS Jewell Farm 111.49 52 P **PKiKP 17 40 49.0 +2.2**
baz=243
GOGA Godfrey 112.02 64 P **PKiKP 17 40 49.0 +0.9**
baz=243
A36M Sachs Harbour 112.02 16 IAMs_20 IAMs_20 18 25 14.9
comp=Z,1µm,20.0s
A36M Sachs Harbour 112.02 16 P **PKiKP 17 40 49.7 +2.8**
baz=227
WCI Wyandotte Cave 112.11 58 P **PKiKP 17 40 48.9 +0.8**
baz=244
GTBY Guantanamo Bay 112.34 80 IAMs_20 IAMs_20 18 25 47.2
comp=Z,1µm,18.0s
BDFB Brasilia 112.38 128 PKiKP **PKiKP 17 40 50.2 +0.7**
SFIN Lafayette 112.49 56 P **PKiKP 17 40 49.9 +1.2**
baz=244
HQIL Hanson Quary C 112.59 54 IAMs_20 IAMs_20 18 28 13.0
comp=Z,1µm,18.0s
L44A Lake County Fo 112.72 54 IAMs_20 IAMs_20 18 26 39.2
comp=Z,2µm,18.0s
EYMN Ely 112.91 47 IAMs_20 IAMs_20 18 23 37.6
comp=Z,2µm,20.0s
EYMN Ely 112.91 47 P **PKiKP 17 40 50.4 +1.1**
baz=245
TZTN Tazewell 113.34 61 IAMs_20 IAMs_20 18 25 36.4
comp=Z,2µm,19.0s
TZTN Tazewell 113.34 61 P **PKiKP 17 40 52.2 +1.6**
baz=244
BOSA Boshof 113.66 204 PKiKP **PKiKP 17 40 52.2 +0.5**
comp=Z,2.3nm,0.5s,baz=165,slow=2.0,SNR=9.2
BOSA PKKPbc **PKKPbc 17 51 34.6 +0.2**
comp=Z,1.6nm,0.9s,baz=294,slow=18,SNR=1.7
BOSA PKKPab **PKKPab 17 51 45.7 +0.7**
comp=Z,3.8nm,0.8s,baz=313,slow=5.1,SNR=6.7
O48B Farmland 113.78 57 P **PKiKP 17 40 52.7 +1.5**
baz=245
P49A Miami Univ. Ec 113.78 57 P **PKiKP 17 40 52.4 +1.1**
baz=245
WMQ Urumqi 114.44 307 PKP **PKiKP 17 40 52.6 +0.1**
WMQ AMB AMB
comp=Z,170nm,3.8s
WMQ LR LR
comp=Z,610nm,19.7s
WMQ LR LR
comp=Z,590nm,24.2s
WMQ LR LR
comp=Z,800nm,24.0s
ACSO Alum Creek Sta 115.28 57 IAMs_20 IAMs_20 18 22 05.6
comp=Z,2µm,21.0s
P52A Corning 115.64 58 IAMs_20 IAMs_20 18 27 34.1
comp=Z,2µm,19.0s
P52A Corning 115.64 58 P **PKiKP 17 40 56.3 +1.4**
baz=246
AAM Ann Arbor 115.64 55 IAMs_20 IAMs_20 18 31 46.8
comp=Z,2µm,18.0s
BLA Blacksburg 115.89 61 IAMs_20 IAMs_20 18 27 17.1
comp=Z,2µm,19.0s
FCC Fort Churchill 115.92 35 **PKiKP 17 40 55.7 +1.0**
FCC Fort Churchill 115.92 35 PKiKP **PKiKP 17 40 55.7 +1.0**
O53A New Philadelph 116.53 58 P **PKiKP 17 40 58.3 +1.7**
baz=247
MCWV Mont Chateau 117.27 59 P **PKiKP 17 40 59.4 +1.4**
baz=248
M53A WI Miller and 117.36 57 P **PKiKP 17 40 59.9 +1.8**
baz=248
ZSN Zaisan 117.67 310 *e*PKP **PKPdf 17 40 57.4 -1.1**
baz=310
ZSN Zaisan 117.67 310 *e*PKIKP **PKPdf 17 40 57.4 -1.1**
SJG San Juan 118.87 87 IAMs_20 IAMs_20 18 21 32.3
comp=Z,1µm,22.0s
SSPA Standing Stone 119.03 59 P **PKPdf 17 41 01.5 +0.1**
baz=249
MK31 Makanchi Array 119.09 309 *c i*PKIKP **PKPdf 17 41 00.0 -1.3**
MKAR Makanchi Array 119.09 309 PKPdf **PKPdf 17 40 59.5 -1.7**
MKAR Makanchi Array 119.09 309 PKP **PKPdf 17 41 00.2 -1.1**
comp=Z,2.7nm,0.5s,baz=168,slow=0.8,SNR=46
MKAR PP **PP 17 42 18.6 -3.7**
comp=Z,3.2nm,0.9s,baz=115,slow=5.4,SNR=1.2
MKAR PKKPbc **PKKPab 17 51 16.9 +1.3**
comp=Z,1.0nm,0.7s,baz=298,slow=3.7,SNR=7.0
MKAR SKKP 17 55 13.8
comp=Z,0.8nm,1.0s,baz=266,slow=3.0,SNR=3.7
MAKZ Makanchi 119.30 309 PKPdf **PKPdf 17 40 59.7 -2.0**
MAKZ Makanchi 119.30 309 PKIKP **PKPdf 17 40 59.7 -2.0**
MAKZ MLR MLR
comp=Z,900nm,22.0s
SHLS Shalkode 119.75 304 *e*PKP **PKPdf 17 41 01.2 -1.6**
baz=304
SHLS Shalkode 119.75 304 *e*PKIKP **PKPdf 17 41 01.2 -1.6**
ZALV Zalesovo Beam 119.83 317 PKP **PKPdf 17 41 00.7 -1.7**
comp=Z,4.1nm,0.5s,baz=184,slow=1.5,SNR=16
UZB Uzynbulak 120.05 304 *e*PKP **PKPdf 17 41 02.3 -1.2**
baz=304
UZB Uzynbulak 120.05 304 *e*PKIKP **PKPdf 17 41 02.2 -1.2**
SATY Saty 120.45 304 *e*PKP **PKPdf 17 41 03.1 -1.0**
baz=304
SATY Saty 120.45 304 *e*PKIKP **PKPdf 17 41 03.1 -1.0**
ZHN Zhinishke 120.46 304 *e*PKP **PKPdf 17 41 02.9 -1.3**
baz=304
ZHN Zhinishke 120.46 304 *e*PKIKP **PKPdf 17 41 02.9 -1.3**
BINY Binghamton 120.91 57 P **PKPdf 17 41 05.0 +0.1**
baz=251
KSH Kashi 120.98 299 PKP **PKPdf 17 41 04.3 -1.0**
KSH AMB AMB
comp=Z,300nm,7.2s
KSH LR LR
comp=Z,790nm,19.8s
KSH LR LR
comp=Z,550nm,18.7s
KSH LR LR
comp=Z,2µm,19.9s
TDK Taldyqorghan 121.08 306 *e*PKP **PKPdf 17 41 04.1 -1.1**
baz=306
TDK *e*PP **PP 17 42 34.0 -1.9**
baz=306
TDK Taldyqorghan 121.08 306 *e*PKIKP **PKPdf 17 41 04.0 -1.1**
TDK *e* 17 42 34.0
SEUS St. Eustatius 121.20 89 IAMs_20 IAMs_20 18 22 42.2
comp=Z,2µm,22.0s
SMRT St. Maarten 121.40 88 IAMs_20 IAMs_20 18 23 39.3
comp=Z,1µm,19.0s
MDOK Medeo 121.42 304 *e*PKP **PKPdf 17 41 04.7 -1.3**
baz=304
MDOK *e*PP **PP 17 42 35.7 -2.8**
baz=304
MDOK Medeo 121.42 304 *e*PKIKP **PKPdf 17 41 04.7 -1.3**
MDOK *e* 17 42 35.7
TNSS Tian-Shan 121.45 303 *e*PKP **PKPdf 17 41 04.9 -1.6**
baz=303
TNSS Tian-Shan 121.45 303 *e*PKIKP **PKPdf 17 41 04.8 -1.6**
AAA Alma-Ata 121.53 304 *e*PKP **PKPdf 17 41 05.2 -0.9**
baz=304
AAA Alma-Ata 121.53 304 *e*PKIKP **PKPdf 17 41 05.2 -0.9**
ILAM Ilet Lapin Mar 121.61 93 IAMs_20 IAMs_20 18 31 22.8
comp=Z,1µm,20.0s
CHKK Chushkaly 121.68 304 *e*PKP **PKPdf 17 41 05.2 -1.1**
baz=304
CHKK Chushkaly 121.68 304 *e*PKIKP **PKPdf 17 41 05.2 -1.1**
VLDQ Val d'Or 121.75 50 **PKiKP 17 41 06.8 +0.4**
ABD La Joyeuse, An 121.95 91 IAMs_20 IAMs_20 18 24 55.9
comp=Z,1µm,20.0s
PAL Palisades 121.99 59 P **PKiKP 17 41 08.1 +0.9**
baz=251
KUU Kurty 122.14 304 *e*PKP **PKPdf 17 41 06.3 -0.9**
baz=304
KUU Kurty 122.14 304 *e*PKIKP **PKPdf 17 41 06.3 -0.9**
TKM2 Tokmak 2 122.36 303 P **PKPdf 17 41 07.2 -0.8**
SNR=23
WSPT Westport, CT 122.46 59 IAMs_20 IAMs_20 18 28 46.8
comp=Z,2µm,20.0s
KURK Kurchatov 122.58 312 PKPdf **PKPdf 17 41 06.2 -1.6**
KURK Kurchatov 122.58 312 *c i*PKIKP **PKPdf 17 41 06.2 -1.6**
KURK pmax pmax
comp=Z,16nm,0.7s
KURBB Kurchatov Arra 122.61 312 PKP **PKPdf 17 41 06.9 -1.0**
comp=Z,14nm,0.6s,baz=112,slow=1.7,SNR=84
KURBB PP **PP 17 42 43.2 -2.9**
comp=Z,1.4nm,0.2s,baz=106,slow=5.8,SNR=5.3
LONY Lake Ozonia 122.64 55 IAMs_20 IAMs_20 18 32 49.0
comp=Z,2µm,18.0s
LONY Lake Ozonia 122.64 55 P **PKPdf 17 41 08.3 +0.2**
baz=253
KBK Karagaybulak 122.73 302 P **PKPdf 17 41 08.2 -0.4**
SNR=12
YLE Yale 122.79 59 IAMs_20 IAMs_20 18 31 58.7
comp=Z,2µm,19.0s
UCH Uchtor 122.91 302 P **PKPdf 17 41 09.1 -0.2**
SNR=15
CHMS Chumysh 122.97 303 P **PKPdf 17 41 08.3 -0.6**
SNR=14
AAK Ala-Archa 123.04 302 P **PKPdf 17 41 08.6 -0.6**
SNR=8.8
AAK Ala-Archa 123.04 302 PKPdf **PKPdf 17 41 08.0 -1.2**
AAK Ala-Archa 123.04 302 PKP **PKPdf 17 41 08.4 -0.8**
comp=Z,6.0nm,0.6s,baz=141,slow=3.8,SNR=22
AAK Ala-Archa 123.04 302 *i* PKIKP **PKPdf 17 41 09.2 0.0**
SGDS Sogindy 123.19 303 *e*PKP **PKPdf 17 41 08.7 -0.7**
baz=303
SGDS *e*PP **PP 17 42 48.2 -2.2**
baz=303
SGDS Sogindy 123.19 303 *e*PKIKP **PKPdf 17 41 08.6 -0.7**
SGDS *e* 17 42 48.2
USP Ospenovka 123.23 303 P **PKPdf 17 41 08.3 -1.1**
SNR=20
L61B Northampton 123.32 58 P **PKPdf 17 41 09.6 +0.1**
baz=253
EKS2 Erkin-Say 123.56 302 P **PKPdf 17 41 09.9 -0.2**
SNR=11
BTLS Baital 124.04 305 *e*PKP **PKPdf 17 41 10.0 -0.9**
baz=305
BTLS *e*PP **PP 17 42 54.2 -1.8**
baz=305
BTLS Baital 124.04 305 *e*PKIKP **PKPdf 17 41 09.9 -0.9**
BTLS *e* 17 42 54.2
HRV Adam Dziewonsk 124.13 58 P **PKiKP 17 41 12.1 +0.8**
baz=253
LBNH Lisbon 124.36 56 P **PKiKP 17 41 12.9 +1.1**
baz=254
KBL Kabul 124.48 291 PKPdf **PKPdf 17 41 11.3 -1.0**
KBL Kabul 124.48 291 PKIKP **PKPdf 17 41 11.3 -1.0**
KBL MLR MLR
comp=Z,900nm,21.0s
M65A Busby, Falmout 124.50 60 P **PKiKP 17 41 13.8 +1.7**
baz=253
LSZ Lusaka 124.56 213 IAMs_20 IAMs_20 18 29 00.3
comp=Z,2µm,20.0s
TSUM Tsumeb 124.84 200 PKPdf **PKPdf 17 41 13.3 -0.1**
TSUM Tsumeb 124.84 200 IAMs_20 IAMs_20 18 28 59.0
comp=Z,1µm,22.0s
DZA Taraz 125.35 302 *e*PKP **PKPdf 17 41 12.4 -1.0**
baz=302
DZA Taraz 125.35 302 *e*PKIKP **PKPdf 17 41 12.4 -1.0**
SIMJ Simiganj 125.83 296 IAMs_20 IAMs_20 18 38 58.6
comp=Z,1µm,21.0s
IUG luzhnay 126.07 301 *e*PKP **PKPdf 17 41 14.4 -0.6**
baz=301
IUG *e*PP **PP 17 43 07.3 -2.5**
baz=301
IUG luzhnay 126.07 301 *e*PKIKP **PKPdf 17 41 14.3 -0.6**
IUG *e* 17 43 07.3
BRZS Berezniki 126.11 311 *e*PKP **PKPdf 17 41 13.9 -0.8**
baz=310
BRZS Berezniki 126.11 311 *e*PKIKP **PKPdf 17 41 13.8 -0.8**
CHM Chimkent 126.43 301 *e*PKP **PKPdf 17 41 14.5 -1.1**
baz=301
CHM Chimkent 126.43 301 *e*PKIKP **PKPdf 17 41 14.4 -1.1**
PKME Peaks-Kenny Pk 126.43 56 **PKiKP 17 41 16.1 +0.3**
PKME Peaks-Kenny Pk 126.43 56 P **PKiKP 17 41 17.1 +1.3**
baz=256
BRLS Borolday 126.44 302 *e*PKP **PKPdf 17 41 14.7 -0.9**
baz=301
BRLS Borolday 126.44 302 *e*PKIKP **PKPdf 17 41 14.6 -0.9**
PQI Presque Isle 127.61 54 IAMs_20 IAMs_20 18 36 50.4
comp=Z,1µm,19.0s
BVAR Borovoye Array 128.03 314 PKP **PKPdf 17 41 17.5 -0.7**
comp=Z,18nm,0.7s,baz=120,slow=1.4,SNR=50
BRVK Borovoye 128.10 314 PKPdf **PKPdf 17 41 16.9 -1.4**
BRVK Borovoye 128.10 314 IAMs_20 IAMs_20 18 42 32.8
comp=Z,1µm,22.0s
BRVK Borovoye 128.10 314 *c i*PKIKP **PKPdf 17 41 18.1 -0.2**
BRVK pmax pmax
comp=Z,17nm,1.3s
SCHQ Schefferville 129.52 44 PKP **PKPdf 17 41 20.3 -0.7**
comp=Z,7.6nm,1.1s,baz=221,slow=19,SNR=3.0
KIBK Kibwezi 129.67 232 PKPdf **PKPdf 17 41 22.7 0.0**
KIBK Kibwezi 129.67 232 PKP **PKPdf 17 41 20.6 -2.1**
HRA Herat 129.74 289 IAMs_20 IAMs_20 18 39 13.3
comp=Z,1µm,20.0s
NEEM North Greenlan 130.82 13 *i* P **PKPdf 17 41 23.4 +0.2**
UOSS Minazif 131.31 275 IAMs_20 IAMs_20 18 33 38.0
comp=Z,1µm,22.0s
UPNV Upernavik 131.68 19 *i* P **PKiKP 17 41 26.4 +0.9**
NOR Nord 131.70 3 *i* P **PKPdf 17 41 24.8 +0.4**
SVE Sverdlovsk 133.80 319 *i* PKIKP **PKiKP 17 41 31.1 +0.8**
SVE MLR MLR
comp=Z,1µm,24.0s
GEYT Alibeck 133.91 292 PKhKP PKPpre 17 41 18.3
comp=Z,1.5nm,0.6s,baz=236,slow=10,SNR=3.8
GEYT PKP **PKPdf 17 41 29.7 -0.1**
comp=Z,4.7nm,0.7s,baz=108,slow=3.8,SNR=11
GEYT SKPbc **SKPbc 17 44 51.6 -3.2**
comp=Z,3.5nm,0.8s,baz=251,slow=12,SNR=4.1
ILULI Ilulissat 134.56 23 IAMs_20 IAMs_20 18 37 18.4
comp=Z,1µm,20.0s
KBS Kingsbay 134.57 357 **PKPdf 17 41 29.3 -0.6**
KBS Kingsbay 134.57 357 IAMs_20 IAMs_20 18 36 21.1
comp=Z,2µm,22.0s
KBS Kingsbay 134.57 357 *eP* **PKiKP 17 41 30.8 -0.5**
KBS Kingsbay 134.57 357 *c i*PKIKP **PKPdf 17 41 30.0 +0.1**
KBS pmax pmax
comp=Z,30nm,1.0s
KBS Kingsbay 134.57 357 *i* P **PKPdf 17 41 28.4 -1.5**
ARU Arti 134.97 318 PKPdf **PKPdf 17 41 28.3 -2.8**
ARU IAMs_20 IAMs_20 18 49 11.2
comp=Z,1µm,20.0s
ARU Arti 134.97 318 PKP **PKPdf 17 41 29.7 -1.5**
comp=Z,19nm,0.7s,baz=156,slow=1.3,SNR=7.4
ARU SKPbc **SKPbc 17 44 54.9 -2.7**
comp=Z,7.0nm,0.7s,baz=207,slow=3.0,SNR=2.5
ARU Arti 134.97 318 *i* PKIKP **PKPdf 17 41 30.0 -1.2**
ARU Arti 134.97 318 PKP **PKiKP 17 41 32.5 -0.2**
SPA0 Spitsbergen Ar 135.05 355 *eP* **PKPdf 17 41 31.4 +0.5**
SPITS Spitsbergen Ar 135.05 355 PKhKP PKPpre 17 41 18.0
comp=Z,3.1nm,0.7s,baz=29,slow=1.9,SNR=1.5
SPITS PKP **PKPdf 17 41 30.7 -0.1**
comp=Z,72nm,0.7s,baz=94,slow=3.7,SNR=44
SPITS SKPbc **SKPbc 17 44 55.2 -2.1**
comp=Z,5.2nm,0.7s,baz=82,slow=6.0,SNR=8.1
AKTO Aktyubinsk 135.51 310 PKhKP PKPpre 17 41 21.8
comp=Z,1.1nm,0.6s,baz=302,slow=3.3,SNR=4.0
AKTO PKP **PKPdf 17 41 31.7 -0.7**
comp=Z,7.8nm,0.6s,baz=92,slow=2.3,SNR=21
MBAR Mbarara 135.60 226 *i* PKIKP **PKPdf 17 41 31.1 -2.9**
LODK Lodwar 135.72 234 IAMs_20 IAMs_20 18 42 30.8

comp=Z,918nm,20.0s
DAG Danmarks Havn 136.08 6 PKP **PKPdf 17 41 31.1 -1.6**
DAG Danmarks Havn 136.08 6 *i* P **PKPdf 17 41 31.9 -0.8**
NUUK Nuuk 136.12 30 *i* P **PKiKP 17 41 37.7 +3.0**
SUMG Summit 136.31 16 PKPdf **PKPdf 17 41 29.9 -3.9**
SUMG IAMs_20 IAMs_20 18 35 01.7
comp=Z,1μm,22.0s
SUMG Summit 136.31 16 PKP **PKPdf 17 41 33.7 -0.1**
SUMG Summit 136.31 16 PKiKP **PKPdf 17 41 29.9 -3.9**
SUMG MLR MLR
comp=Z,2μm,22.0s
DBG Daneborg 138.17 8 *i* P **PKiKP 17 41 38.4 -0.3**
KIRV Kirov 139.44 323 *i* PKiKP **PKPdf 17 41 39.0 -0.3**
RAYN Ar Rayn 139.62 267 PKPdf **PKPdf 17 41 38.2 -2.7**
RAYN Ar Rayn 139.62 267 PKiKP **PKPdf 17 41 38.2 -2.7**
RAYN MLR MLR
comp=Z,3μm,20.0s
VADS Vadso 140.42 345 *e*P **PKiKP 17 41 43.9 +0.6**
LVZ Lovozero 140.75 340 IAMs_20 IAMs_20 18 44 45.8
comp=Z,1μm,21.0s
LVZ Lovozero 140.75 340*c* *i*PKiKP **PKPdf 17 41 42.8 +1.2**
LVZ pmax pmax
comp=Z,56nm,1.7s
LVZ Lovozero 140.75 340 PKP **PKPdf 17 41 42.2 +0.6**
KEV Kevo 141.20 346 PKPdf **PKPdf 17 41 39.7 -2.5**
KEV Kevo 141.20 346 PKiKP **PKPdf 17 41 39.7 -2.5**
KEV MLR MLR
comp=Z,2μm,20.0s
SCO Scoresbysund 141.29 12 IAMs_20 IAMs_20 18 41 51.7
comp=Z,1μm,20.0s
SCO Scoresbysund 141.29 12 *i* P **PKPdf 17 41 38.0 -4.4**
APA Apatity 141.32 341 *i*PKiKP **PKPdf 17 41 38.8 -3.7**
APA *i* 17 41 44.0
APA pmax pmax
comp=Z,10.0nm,0.6s
APA pmax pmax
comp=Z,23nm,0.7s
ARA0 ARCESS Array S 141.69 346 *e*P **PKPdf 17 41 38.8 -4.3**
ARCES ARCESS Array B 141.69 346 PKhKP PKPpre 17 41 37.9
comp=Z,7.6nm,0.6s,baz=29,slow=2.0,SNR=25
BELG Belogornoye 141.84 314 *i* PKiKP **PKPdf 17 41 42.6 -1.3**
ADZR Andozero 142.06 334 *e*PKHKP PKPpre 17 41 38.9
ADZR pmax pmax
comp=Z,19nm,0.6s
MAK Makhachkala 142.60 298 *e*PKHKP PKPpre 17 41 40.7
MAK *e* 17 48 50.3
MAK *e* 17 57 21.9
MAK *e*SS SS 18 03 27.3 -0.3
MAK pmax pmax
comp=Z,33nm,0.3s
KLMR Klimovskoe 143.20 329 *e*PKiKP PKPbc 17 41 43.3 +0.1
KLMR pmax pmax
comp=Z,57nm,1.4s
KLMR MLR MLR
comp=Z,2μm,22.0s
GROC Groznyy 143.86 299 *e*PKiKP PKPab 17 41 45.2 +0.2
GROC pmax pmax
comp=Z,59nm,1.5s
GNI Garni 144.53 293 PKPdf **PKPab 17 41 47.3 -0.6**
GNI Garni 144.53 293 IAMs_20 IAMs_20 18 50 28.6
comp=Z,1μm,21.0s
GNI Garni 144.53 293*c* *i*PKiKP **PKPab 17 41 46.9 -0.9**
GNI pmax pmax
comp=Z,43nm,1.3s
STEI Steigen 144.85 350 *e*P **PKPdf 17 41 48.5 -0.2**
LOF Lofoten 144.88 352 *e*P PKPbc 17 41 48.3 +0.3
JOF Joensuu 145.15 336 *e*P **PKPdf 17 41 49.4 0.0**
FAUS Fauske 145.36 350 *e*P **PKPbc 17 41 49.3 -0.3**
ONI Oni 145.58 297 IAMs_20 IAMs_20 18 52 17.2
comp=Z,2μm,22.0s
VRH Novokhopyorsk 145.67 313 *e*PKP2 **PKPdf 17 41 49.3 -1.3**
VRH pmax pmax
comp=Z,140nm,0.7s
VRH MLR MLR
comp=Z,1μm,23.0s
GOF Gofitskoye 145.78 302*c* *i*PKiKP **PKPdf 17 41 50.3 -0.8**
KARS Kars 145.82 294 **PKPdf 17 41 50.3 -1.2**
KARS Kars 145.82 294 PKP2 **PKPdf 17 41 50.3 -1.2**
KBZ Khabaz 145.96 300 PKPbc **PKPdf 17 41 50.7 -0.7**
comp=Z,23nm,0.8s,baz=122,slow=3.4,SNR=32
KBZ Khabaz 145.96 300*c* *i*PKP2 **PKPdf 17 41 50.4 -1.0**
KIV Kislovodsk 146.10 300 ⇑P **PKPdf 17 41 50.1 -1.7**
KIV Kislovodsk 146.10 300 PKPdf **PKPdf 17 41 50.1 -1.7**
KIV IAMs_20 IAMs_20 18 54 20.9
comp=Z,1μm,20.0s
KIV Kislovodsk 146.10 300*c* *i*PKiKP **PKPdf 17 41 50.1 -1.7**
KIV *i* 17 48 52.1
KIV pmax pmax
comp=Z,23nm,1.1s
SHA1 Shidzhatmaz 146.13 300*c* *i*PKP2 **PKPbc 17 41 52.8 -0.3**
BORG Borgarnes 146.28 17 PKPbc **PKPbc 17 41 52.0 -0.5**
comp=Z,21nm,0.7s,baz=264,slow=1.9,SNR=5.7
MOS Moscow 146.45 322 *e*PKiKP **PKPdf 17 41 50.7 -1.1**
MOS pmax pmax
comp=Z,253nm,1.3s
MOS MLR MLR
comp=E,1μm,23.0s
MOS MLR MLR
comp=Z,2μm,23.0s
KONS Konsvik 146.49 351 *e*P **PKPab 17 41 53.8 -0.3**
GURO Guroymak-BITLI 146.50 290 IAMs_20 IAMs_20 18 55 19.9
comp=Z,836nm,20.0s
MOR8 Moi Rana 146.62 350 *e*P **PKPbc 17 41 53.4 -0.1**
STOK Stokkvaagen 146.66 351 *e*P **PKPab 17 41 54.3 -0.4**
LPSR Galich'ya Gora 146.92 316 *e*PKP2 **PKPdf 17 41 53.1 +0.4**
LPSR pmax pmax
comp=Z,100nm,0.9s
LPSR MLR MLR
comp=Z,1μm,18.0s
BCA Borcka 146.94 295 ⇑P **PKPdf 17 41 54.1 +0.9**
VORR Voronezh 147.05 314 *e*PKP2 **PKPbc 17 41 54.6 -0.5**
VORR pmax pmax
comp=Z,143nm,0.8s
VORD Divnogorie 147.21 313 *e*PKP2 **PKPbc 17 41 54.9 -0.7**
VORD pmax pmax
comp=Z,60nm,0.8s
VSR Storozhevoye 147.21 314 *e*PKP2 **PKPdf 17 41 54.2 +0.9**
VSR pmax pmax
comp=Z,100nm,0.9s
OBN Obninsk 147.26 321 ⇑P **PKPbc 17 41 54.7 -0.8**
OBN Obninsk 147.26 321 PKPdf **PKPdf 17 41 52.7 -0.5**
OBN Obninsk 147.26 321*c* *i*PKiKP **PKPdf 17 41 52.3 -0.9**
OBN *i* 17 42 00.8
OBN pmax pmax
comp=Z,57nm,0.8s
OBN Obninsk 147.26 321 PKP **PKPbc 17 41 54.8 -0.8**
LABN Labinsk 147.46 301 *i* PKP2 **PKPbc 17 41 56.1 -0.4**
LABN pmax pmax
comp=Z,27nm,0.6s
ERBR Yeremizino-Bor 147.51 303 *e*PKHKP PKPpre 17 41 51.6
ERBR *i* 17 41 56.4
ERBR *e* 17 48 59.6
ERBR pmax pmax
comp=Z,161nm,2.0s
PUL Pulkovo 147.58 332*c* *i*PKiKP **PKPdf 17 41 52.3 -1.3**
PUL pmax pmax
comp=Z,276nm,0.7s
VAF Vilstaro 147.69 341 *e*P **PKPbc 17 41 56.3 -0.2**
KEF Keuruu 147.76 339 *e*P **PKPbc 17 41 56.9 +0.2**
FINES FINESS Array B 147.93 337 PKPdf **PKPdf 17 41 53.4 -0.7**
FINES FINESS Array B 147.93 337 PKPbc **PKPbc 17 41 56.9 -0.3**
comp=Z,130nm,0.7s,baz=16,slow=5.6,SNR=253
FINES FINESS Array B 147.93 337 PKiKP **PKPdf 17 41 53.4 -0.7**
SOC Sochi 148.27 299*c* *i*PKHKP PKPpre 17 41 53.1
SOC *e* 17 45 22.9
SOC *e*SSS SSS 18 10 08.1
SOC pmax pmax
comp=Z,16nm,0.8s
NSS Namsos 148.52 351 *e*P **PKPdf 17 41 55.1 +0.1**
MEF Metsahovi 149.40 337 *e*P **PKiKP 17 42 01.7 -0.4**
ARPR Arapgir-MALATY 149.41 291 IAMs_20 IAMs_20 18 49 06.0
comp=Z,1μm,22.0s
ARBE Arbavere 149.43 335 *e*P **PKPbc 17 42 01.7 +0.6**
EKNA AfricaArray - 149.45 197 ⇑*e*P **PKPdf 17 42 00.1 +2.0**
RAF Rauma 149.58 340 *e*P **PKPbc 17 42 00.1 -1.3**
ANN Anapa 149.77 302*ce* PKiKP **PKPdf 17 41 56.0 -1.6**
ANN *i* 17 42 01.7
ANN *e* 17 45 32.5
ANN *e* 17 49 03.0
ANN pmax pmax
comp=Z,16nm,1.4s
ANN pmax pmax
comp=Z,36nm,0.6s
VSU Vasula 149.84 333*c* *i*PKiKP **PKPdf 17 41 56.5 -0.8**
VSU pmax pmax
comp=Z,158nm,0.6s
TBLU Trondheim 149.97 351 *e*P **PKPdf 17 41 58.1 +0.7**
GHAJ Ghor Haditha 150.57 275 **PKPbc 17 42 03.4 -1.4**
MTSE Matsula 150.73 335 *e*P **PKPbc 17 42 04.2 0.0**
AAL Aland 150.78 340 *e*P **PKPbc 17 42 04.1 -0.2**
HWQ Hawqa 150.86 281 *e*P **PKPdf 17 41 58.4 -1.5**
MOL Molde 150.93 353 *e*P **PKiKP 17 42 05.4 +0.2**
BHL Bhannes 151.04 280 *e*P **PKPdf 17 41 59.6 -0.5**
MMAI Mount Meron Ar 151.08 278 PKPbc **PKPbc 17 42 06.0 -0.1**
comp=Z,30nm,0.5s,baz=82,slow=6.8,SNR=71
DOMB Dombas 151.28 352 *e*P **PKiKP 17 42 06.1 0.0**
AKN Aaknes 151.37 354 *e*P **PKiKP 17 42 06.7 +0.5**
UPP Uppsala 151.69 342 *e*P **PKPbc 17 42 06.3 -0.1**
DIKM Dikmen 151.71 296 ⇑P **PKPbc 17 42 04.9 -2.2**
MNK Minsk 151.89 326 *i* PKiKP **PKPbc 17 42 06.5 -0.6**
MNK *i* 17 45 46.5
MNK *i* 17 49 06.6
MNK *i* PPP PPP 17 49 11.0
MNK *i* SS SS 18 05 14.3 +3.2
MNK *i* SSS SSS 18 10 59.4
MNK pmax pmax
comp=N,22nm,0.8s
MNK pmax pmax
comp=Z,119nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.9s
IDID Didziasalis 151.91 328 *e*P **PKiKP 17 42 08.8 +1.4**
NB2 NORSAR Subarra151.95 349 PKP **PKPbc 17 42 07.0 -0.1**
comp=Z,93nm,0.7s,baz=17,slow=4.1
NB2 NORSAR Subarra151.95 349 PKPab **PKPbc 17 42 07.0 -0.1**
baz=17,slow=4.1
NOA NORSAR Array B151.95 349 PKPbc **PKPbc 17 42 06.8 -0.3**
comp=Z,26nm,0.7s,baz=22,slow=4.6,SNR=163
LIC Lamto 152.01 168⇑ *e*PKiKP **PKiKP 17 42 09.5 +0.5**
comp=Z,97nm,0.6s
ISAL Salakas 152.02 329 *e*P **PKiKP 17 42 09.0 +1.4**
SIM Simferopol' 152.07 303*c* *i*PKiKP **PKPbc 17 42 07.4 -0.4**
SIM *e* 17 45 44.0
SIM pmax pmax
comp=Z,63nm,0.7s
SLIT Slitere, Latvi 152.08 335 *e*P **PKPbc 17 42 06.9 -0.5**
FOO Floro 152.09 356 *e*P **PKiKP 17 42 08.1 +0.5**
NC602 NORSAR Array S 152.18 349 *e*P **PKPbc 17 42 07.8 +0.2**
KIC Kosan Boka 152.19 168⇑ *e*PKiKP **PKiKP 17 42 09.7 +0.3**
comp=Z,52nm,0.7s
HFS Hagfors 152.35 346 PKP **PKPdf 17 42 00.4 -0.7**
comp=Z,5.9nm,0.7s,baz=163,slow=1.5,SNR=11
HFS PKPbc **PKPbc 17 42 07.9 -0.1**
comp=Z,126nm,0.7s,baz=126,slow=2.0,SNR=112
TIC Toumodi 152.42 168⇑ *e*PKiKP **PKiKP 17 42 10.3 +0.5**
comp=Z,27nm,0.7s
HYA Hoyanger 152.43 354 *e*P **PKiKP 17 42 08.9 +0.6**
DBIC Dimbokro 152.48 168 PKP **PKPdf 17 42 03.5 +0.8**
comp=Z,13nm,0.6s,baz=157,slow=3.8,SNR=7.0
DBIC PKPbc **PKiKP 17 42 10.3 +0.4**
comp=Z,39nm,0.9s,baz=147,slow=2.4,SNR=15
DBIC Dimbokro 152.48 168 ⇑PKiKP **PKPdf 17 42 04.8 +2.1**
SUE Sulen 152.65 356 *e*P **PKiKP 17 42 09.5 +0.7**
VSVD Vaisvydziai 152.66 331 *e*P **PKiKP 17 42 09.2 +0.3**
SKAR Skarslia 152.70 352 *e*P **PKiKP 17 42 09.8 +0.8**
PABE Paberze 152.98 330 *e*P **PKPbc 17 42 09.6 +0.1**
BRTR Keskin Array B 153.05 292 PKPdf **PKPdf 17 42 01.0 -2.1**
BRTR Keskin Array B 153.05 292 PKP **PKPdf 17 42 01.6 -1.4**
comp=Z,2.2nm,0.4s,baz=145,slow=4.5,SNR=5.9
BRTR PKPbc **PKPbc 17 42 08.9 -1.4**
comp=Z,10nm,0.6s,baz=150,slow=4.1,SNR=64
OSL Oslo 153.07 349 *e*P **PKiKP 17 42 10.4 +0.7**
VIKU Vikbolandet 153.10 341 *e*P **PKiKP 17 42 09.8 0.0**
ASK Askoy 153.19 355 *e*P **PKiKP 17 42 10.6 +0.7**
AKASG Malin Array Be 153.22 318 **PKPdf 17 42 01.6 -1.1**
AKASG Malin Array Be 153.22 318 PKP **PKPdf 17 42 01.8 -0.9**
comp=Z,3.6nm,0.8s,baz=44,slow=1.4,SNR=8.7
AKASG PKPbc **PKPbc 17 42 09.3 -0.8**
comp=Z,24nm,0.7s,baz=44,slow=2.8,SNR=32
KIEV Kiev 153.23 318 PKPdf **PKPdf 17 42 02.4 -0.3**
KIEV Kiev 153.23 318 IAMs_20 IAMs_20 18 48 48.9
comp=Z,1μm,22.0s
KIEV Kiev 153.23 318 PKiKP **PKPdf 17 42 02.4 -0.3**
KIEV MLR MLR
comp=Z,1μm,22.0s
BER Bergen 153.28 355 *e*P **PKiKP 17 42 10.7 +0.6**
PBUR Paburge 153.41 333 *e*P **PKPbc 17 42 09.2 -1.2**
KONO Kongsberg 153.52 350 **PKPbc 17 42 10.0 -0.6**
KONO Kongsberg 153.52 350 IAMs_20 IAMs_20 18 53 22.4
comp=Z,1μm,20.0s
KONO Kongsberg 153.52 350 *e*P **PKiKP 17 42 11.3 +0.7**
KONO Kongsberg 153.52 350 ⇑PKiKP **PKiKP 17 42 11.5 +0.9**
ODD1 Odda 153.63 353 *e*P **PKiKP 17 42 11.8 +0.9**
ANTO Ankara 153.70 293 ⇑P **PKPdf 17 42 03.9 0.0**
ANTO Ankara 153.70 293 **PKPdf 17 42 02.7 -1.2**
ANTO Ankara 153.70 293 IAMs_20 IAMs_20 18 55 13.3
comp=Z,1μm,21.0s
ANTO Ankara 153.70 293 PKiKP **PKPdf 17 42 02.7 -1.2**
ANTO MLR MLR
comp=Z,1μm,21.0s
BLS5 Blasjo 154.13 353 *e*P **PKiKP 17 42 12.9 +1.0**
SUW Suwalki 154.33 329 *e*PKPdf **PKPdf 17 42 03.4 -0.8**
SUW *e*PKPbc **PKPbc 17 42 12.3 -0.1**
SUW Suwalki 154.33 329 IAMs_20 IAMs_20 18 47 15.3
comp=Z,1μm,22.0s
SUW Suwalki 154.33 329 *e*P **PKPbc 17 42 12.3 -0.1**
KMY Karmoy 154.44 355 *e*P **PKiKP 17 42 13.5 +1.0**
RNPP9 Sopachiv 154.66 321 PKP **PKPdf 17 42 06.4 +1.7**
RNPP8 Varash 154.72 321 PKP **PKPdf 17 42 06.6 +1.8**
HOMB Homborsund 155.01 350 *e*P PKPdf 17 42 14.7 +10
KIS Kishinev 155.02 310 *e*PKP **PKPdf 17 42 06.0 +0.7**
comp=Z,30nm,0.4s
KIS LRM MLR 18 59 19.0
comp=Z,400nm,20.5s
KIS Kishinev 155.02 310 *e*PKiKP **PKPdf 17 42 06.0 +0.7**
KIS pmax pmax
comp=Z,30nm,0.4s
MILM Milestii Mici 155.06 310⇑ *i*PKP **PKPdf 17 42 04.0 -1.4**
comp=Z,420nm,8.8s
MILM Milestii Mici 155.06 310 *e*PP PP 17 45 54.0 -13
MILM *e*L L 18 44 20.0
MILM LQM 18 49 37.0
comp=Z,500nm,22.0s
MILM LRM MLR 18 59 10.0
comp=Z,800nm,20.5s
MILM Milestii Mici 155.06 310*c* *i*PKiKP **PKPdf 17 42 04.0 -1.4**
MILM *e* 17 46 01.0
MILM pmax pmax
comp=Z,420nm,8.8s
DEL Delary 155.62 342 *e*P **PKPdf 17 42 06.1 +0.3**
CFR Carcaliu 156.10 306 ⇑P **PKPdf 17 42 06.7 -0.1**
CFR Carcaliu 156.10 306 ⇑PKiKP **PKPdf 17 42 06.7 -0.1**
BSD Bornholm Skovb 156.52 339 *e*P **PKPdf 17 42 07.3 +0.3**
LVV L'vov 156.53 320 *e*PKiKP **PKPdf 17 42 06.9 -0.4**
LVV MLR MLR
comp=Z,900nm,22.0s
TESR Tescani 156.59 310 ⇑P **PKPdf 17 42 09.1 +1.6**
VRI Vrincioaia 156.78 309 ⇑P **PKPdf 17 42 10.0 +2.2**
VRI Vrincioaia 156.78 309 ⇑PKiKP **PKPdf 17 42 10.0 +2.2**
PLOR Plostina 156.84 309 ⇑P **PKPdf 17 42 09.8 +1.9**
PLOR Plostina 156.84 309 ⇑PKiKP **PKPdf 17 42 09.8 +1.9**
BURAR Bucovina Array 156.99 314 ⇑P **PKPdf 17 42 09.7 +1.6**
BURAR Bucovina Array 156.99 314 PKPdf **PKPdf 17 42 07.2 -0.9**
BURAR Bucovina Array 156.99 314 ⇑PKiKP **PKPdf 17 42 09.7 +1.6**
TURR Turia 157.17 310 ⇓P **PKPdf 17 42 10.2 +1.9**
KWP Kalwaria Pacla 157.34 321 *e*PKPdf **PKPdf 17 42 09.0 +0.6**
KWP Kalwaria Pacla 157.34 321 IAMs_20 IAMs_20 18 54 47.1
comp=Z,1μm,21.0s
MLR Muntele Rosu 157.44 309 ⇑P **PKPdf 17 42 09.9 +1.1**
MLR Muntele Rosu 157.44 309 ⇑PKiKP **PKPdf 17 42 09.9 +1.1**
JMB Yambol 157.98 301 *e*P **PKPdf 17 42 08.0 -1.3**
KOLS Kolonicke sedl 157.98 320 *e*PKP **PKPdf 17 42 12.1 +2.9**
KOLS Kolonicke sedl 157.98 320 *e*PKiKP **PKPdf 17 42 12.1 +2.9**
MTUR Matau 158.11 308 ⇑P **PKPdf 17 42 09.4 -0.1**
MTUR Matau 158.11 308 ⇑PKiKP **PKPdf 17 42 09.4 -0.1**
SZH Strazhitsa 158.16 303 *e*P **PKPdf 17 42 09.3 -0.2**
STHS Stebnicka Huta 158.23 322 *e*PKP **PKPdf 17 42 10.3 +0.8**
STHS *e* 17 42 44.9
STHS Stebnicka Huta 158.23 322 *e*PKiKP **PKPdf 17 42 10.3 +0.8**
ELND Elena 158.33 302 ⇑P **PKPdf 17 42 11.5 +1.7**
ARR Arges 158.33 309 ⇑P **PKPdf 17 42 11.9 +2.1**
EKA Eskdalemuir Ar 158.35 6 PKP **PKPdf 17 42 08.9 -0.4**
comp=Z,2.4nm,0.7s,baz=348,slow=1.4,SNR=9.6
EKA PKPab **PKPab 17 42 43.9 0.0**
comp=Z,10nm,0.7s,baz=342,slow=3.6,SNR=9.3
CRVS Cervenica-Dubn 158.43 320 *e*PKP **PKPab 17 42 45.7 +1.1**
CRVS Cervenica-Dubn 158.43 320 *e*PKP2 **PKPab 17 42 45.7 +1.1**
OJC Ojcow 158.43 325 *e*PKPdf **PKPdf 17 42 09.2 -0.4**
OJC *e*PKPab **PKPab 17 42 49.8 +5.3**
OJC Ojcow 158.43 325 PKPdf **PKPdf 17 42 08.1 -1.5**
OJC Ojcow 158.43 325 PKiKP **PKPdf 17 42 08.1 -1.5**
MARR Marisel-Cluj 158.70 314 ⇑P **PKPdf 17 42 09.9 -0.3**
NIE Niedzica 158.71 323 *e*PKPdf **PKPdf 17 42 10.0 -0.1**
LANS Liptovska Anna 159.30 323 *e*PKP **PKPdf 17 42 12.1 +1.3**
LANS *e* 17 42 47.8
LANS Liptovska Anna 159.30 323 *e*PKiKP **PKPdf 17 42 12.1 +1.3**
LANS *e* 17 42 47.8
TOA0 Torodi Ar. Sit 159.37 183 PKPdf **PKPdf 17 42 11.3 -0.5**
TORD Torodi Ar. Bea 159.37 183 **PKPdf 17 42 11.3 -0.5**
TORD Torodi Ar. Bea 159.37 183 PKP **PKPdf 17 42 12.2 +0.4**
comp=Z,3.9nm,1.1s,baz=322,slow=1.5,SNR=11
TORD PKPab **PKPab 17 42 49.5 +0.2**
comp=Z,16nm,0.7s,baz=154,slow=3.1,SNR=8.9
TORD PP **PP 17 46 30.9 +1.6**
comp=Z,2.2nm,1.0s,baz=218,slow=6.6,SNR=1.9
OKC Ostrava-Krasne 159.47 326 *e*PKPDF **PKPdf 17 42 11.1 +0.2**
OKC AMS AMS 18 57 00.0
comp=Z,1μm,22.0s
OKC Ostrava-Krasne 159.47 326 *e*PKiKP **PKPdf 17 42 11.1 +0.2**
OKC MLR MLR
comp=Z,1μm,22.0s
GZR Gura Zlata 159.51 311 ⇑P **PKPdf 17 42 10.2 -1.0**
GZR Gura Zlata 159.51 311 ⇑PKiKP **PKPdf 17 42 10.2 -1.0**
PGB Panagyurishte 159.65 302 *e*P **PKPdf 17 42 07.7 -3.7**
MPEP Malo Peshtene 159.68 305 *e*P **PKPdf 17 42 10.3 -1.0**
OSTC Ostas 159.79 330 *e*PKPDF **PKPdf 17 42 11.4 +0.2**
OSTC AMS AMS 18 56 20.0
comp=Z,1μm,22.6s
OSTC Ostas 159.79 330 *e*PKiKP **PKPdf 17 42 11.4 +0.2**
OSTC MLR MLR
comp=Z,1μm,22.6s
MORC Moravsky Berou 159.79 327 ⇑P **PKPdf 17 42 11.3 0.0**
MORC Moravsky Berou 159.79 327 *e*PKP **PKPdf 17 42 10.5 -0.8**
MORC Moravsky Berou 159.79 327 ⇑PKiKP **PKPdf 17 42 11.3 0.0**
CHVC Chvalec 159.83 331 *e*PKPDF **PKPdf 17 42 10.4 -0.9**
CHVC AMS AMS 18 56 30.0
comp=Z,1μm,21.8s
CHVC Chvalec 159.83 331 *e*PKiKP **PKPdf 17 42 10.4 -0.9**
CHVC MLR MLR
comp=Z,1μm,21.8s
DPC Dobruska-Polom 159.90 330 *e*PKPDF **PKPdf 17 42 11.1 -0.3**
DPC *e*PP **PP 17 46 26.0 -6.7**
DPC AMS AMS 18 53 20.0
comp=Z,1μm,23.1s
DPC Dobruska-Polom 159.90 330 *e*PKiKP **PKPdf 17 42 11.1 -0.3**
DPC MLR MLR
comp=Z,1μm,23.1s
UPC Upice 159.91 331 *e*PKPDF **PKPdf 17 42 10.7 -0.7**
UPC *e*PP **PP 17 46 29.0 -3.7**
UPC AMS AMS 18 55 00.0
comp=Z,1μm,21.6s
UPC Upice 159.91 331 *e*PKiKP **PKPdf 17 42 10.7 -0.7**
UPC *e* 17 46 29.0
UPC MLR MLR
comp=Z,1μm,21.6s
KRLC Kraliky 159.91 329 *e*PKPDF **PKPdf 17 42 12.2 +0.8**
KRLC AMS AMS 18 50 30.0
comp=Z,1μm,23.2s
KRLC Kraliky 159.91 329 *e*PKiKP **PKPdf 17 42 12.2 +0.8**
KRLC MLR MLR
comp=Z,1μm,23.2s
MAUC Maruska 159.95 326 *e*PKPDF **PKPdf 17 42 11.9 +0.4**
HERR Herculane 159.96 310 ⇑P **PKPdf 17 42 11.6 0.0**
IDI Anoyia 160.01 281 PKP **PKPdf 17 42 10.6 -1.5**
VYHS Vyhne 160.05 323 *e*PKP **PKPdf 17 42 13.3 +1.7**
VYHS *e* 17 42 51.0
VYHS Vyhne 160.05 323 *e*PKiKP **PKPdf 17 42 13.3 +1.7**
VYHS *e* 17 42 51.0
BZS Buzias 160.12 312 ⇑P **PKPdf 17 42 12.3 +0.6**
BZS Buzias 160.12 312 ⇑PKiKP **PKPdf 17 42 12.3 +0.6**
MMB Musomishta 160.22 300 *e*P **PKPdf 17 42 09.8 -2.3**
VTS Vitosha 160.28 303 *e*P **PKPdf 17 42 09.6 -2.6**
BLKB Belogradchik 160.31 306 ⇑P **PKPdf 17 42 11.9 -0.2**
JAVC Velka Javorina 160.38 325 *e*PKP **PKPdf 17 42 12.4 +0.4**
CLL Collm 160.38 336 *e*PKPdf **PKPdf 17 42 11.0 -0.8**
comp=Z,27nm,1.8s
CLL *e*PKPdif **pPKPdf 17 42 28.0 +2.2**
CLL *i* PKPab **PKPab 17 42 52.6 -0.3**
comp=Z,12nm,0.9s
CLL *i* x x 17 42 57.6
CLL *i* x x 17 43 00.3
CLL *i* x x 17 43 19.3
CLL *e*PP **PP 17 46 35.0 0.0**
CLL *ex* x 17 49 54.0
CLL *e*(PPPP) 17 52 26.0
CLL *e*(SKKSac) 17 53 42.0
CLL *e*PSKS 17 57 00.0
CLL *e*PPS PPS 18 00 00.0
CLL *ex* x 18 01 36.0
CLL *ex* x 18 03 09.0
CLL *e*SS SS 18 06 48.0 +6.1
CLL *e*PSPS 18 08 12.0
CLL *e*SSS SSS 18 12 54.0
CLL *ex* x 18 14 26.0
CLL *e*SSSS 18 16 54.0
CLL AMS AMS 19 06 00.0
comp=Z,1μm,20.6s
CLL Collm 160.38 336 *e*PKiKP **PKPdf 17 42 10.0 -1.8**
CLL *i* 17 42 52.6
CLL pmax pmax
comp=Z,27nm,1.8s
CLL MLR MLR
comp=Z,1μm,20.6s
BRG Berggiesshubel 160.41 334 *i* PKP **PKPdf 17 42 12.8 +0.9**
BRG Amp 17 42 18.0
comp=Z,38nm,1.5s
BRG Berggiesshubel 160.41 334 P PKPab 17 42 33.6 -19
BRG Amp 17 42 36.7
comp=Z,16nm,1.1s
BRG Berggiesshubel 160.41 334 P **PKPab 17 42 56.9 +3.9**
BRG Amp 17 43 00.8
comp=Z,9.4nm,0.9s
BRG Berggiesshubel 160.41 334 P PKPab 17 43 22.7 +30
BRG Amp 17 43 27.6
comp=Z,6.7nm,1.0s
BRG Berggiesshubel 160.41 334 PP PP 17 46 35.0 -0.3
MDVR Moldovita 160.46 310 ⇑P **PKPdf 17 42 13.7 +1.4**
PVCC Panska Ves 160.46 333 *e*PKPDF **PKPdf 17 42 11.1 -0.9**
PVCC Panska Ves 160.46 333 *e*PKiKP **PKPdf 17 42 11.1 -0.9**
KKB Krupnik 160.59 301 *e*P **PKPdf 17 42 09.8 -2.6**
HSKC Hora Svate Kat 160.82 335 *e*PKPDF **PKPdf 17 42 12.6 +0.2**
HSKC AMS AMS 19 05 00.0
comp=Z,2μm,22.2s
KRUC Moravsky 160.83 327 *e*PKP **PKPdf 17 42 11.7 -0.7**
GOPC GO Pecny, Ondr 160.87 331 *e*PKPDF **PKPdf 17 42 12.7 +0.2**
GOPC AMS AMS 19 08 00.0
comp=Z,2μm,18.8s
GOPC GO Pecny, Ondr 160.87 331 *e*PKiKP **PKPdf 17 42 12.7 +0.2**
GOPC MLR MLR
comp=Z,2μm,18.8s
PRA Prague 160.88 332 *e*PKPDF **PKPdf 17 42 12.5 +0.1**
PRA *e*PP **PP 17 46 35.5 -2.3**
PRA AMS AMS 18 53 30.0
comp=Z,2μm,23.6s
PRA Prague 160.88 332 *e*PKiKP **PKPdf 17 42 12.5 +0.1**
PRA *e* 17 46 35.5
PRA MLR MLR
comp=Z,2μm,23.6s
MODS Modra-Piesok 160.90 324 *e*PKP **PKPdf 17 42 12.8 +0.3**
MODS Modra-Piesok 160.90 324 *e*PKiKP **PKPdf 17 42 12.9 +0.4**
PRU Pruhonice 160.91 332 *e*PKPDF **PKPdf 17 42 12.3 -0.2**
PRU *e*PP **PP 17 46 33.6 -4.4**
PRU AMS AMS 18 53 50.0
comp=Z,2μm,24.7s
PRU Pruhonice 160.91 332 *e*PKiKP **PKPdf 17 42 12.3 -0.2**
PRU *e* 17 46 33.6
PRU MLR MLR
comp=Z,2μm,24.7s
BOVS Bovan 160.95 307 ⇑P **PKPdf 17 42 12.3 -0.5**
TREC Trest 161.05 329 *e*PKPDF **PKPdf 17 42 10.9 -1.8**
TREC AMS AMS 19 00 20.0
comp=Z,1μm,20.8s
TREC Trest 161.05 329 *e*PKiKP **PKPdf 17 42 10.9 -1.8**
TREC MLR MLR
comp=Z,1μm,20.8s
NKC Novy Kostel 161.48 336 *e*PKPDF **PKPdf 17 42 12.6 -0.5**
NKC AMS AMS 19 03 30.0
comp=Z,1μm,20.9s
NKC Novy Kostel 161.48 336 *e*PKiKP **PKPdf 17 42 12.6 -0.5**
NKC MLR MLR

comp=Z,1µm,20.9s
ZVC Zvikov 161.48 331 *e*PKPDF **PKPdf** **17 42 13.4 +0.3**
MORH Mrgy, Hungar 161.56 317 ⇑P **PKPdf** **17 42 13.5 +0.3**
RONA Rosalia, Austr 161.84 324 *i* PKP **PKPdf** **17 42 13.3 -0.3**
comp=Z,9.3nm,1.2s,SNR=6.7
CONA Conrad Observa 161.89 325 *i* PKP **PKPdf** **17 42 13.1 -0.6**
comp=Z,6.7nm,1.1s
CKRC Cesky Krumlov 161.92 330 *e*PKPDF **PKPdf** **17 42 13.0 -0.6**
CKRC *e*PKPAB **PKPab** **17 42 58.2 -1.5**
CKRC *e*PP **PP** **17 46 40.2 -3.3**
CKRC AMS AMS 18 57 30.0
comp=Z,2µm,21.5s
CKRC Cesky Krumlov 161.92 330 *e*PKIKP **PKPdf** **17 42 13.0 -0.6**
CKRC *e* 17 42 58.2
CKRC *e* 17 46 40.2
CKRC MLR MLR
comp=Z,2µm,21.5s
KHC Kasperske Hory 161.97 332 *e*PKPDF **PKPdf** **17 42 13.6 -0.1**
KHC *e*PP **PP** **17 46 38.3 -5.4**
KHC AMS AMS 18 56 50.0
comp=Z,2µm,21.8s
KHC Kasperske Hory 161.97 332 *e*PKIKP **PKPdf** **17 42 13.6 -0.1**
KHC *e* 17 46 38.3
KHC MLR MLR
comp=Z,2µm,21.8s
GERES GERESS Array B 162.15 331 **PKPdf** **17 42 12.1 -1.8**
GERES GERESS Array B 162.15 331 PKP **PKPdf** **17 42 13.6 -0.3**
comp=Z,3.7nm,0.8s,baz=48,slow=2.0,SNR=18
GERES PKPab **PKPab** **17 42 59.1 -1.7**
comp=Z,0.5nm,0.4s,baz=263,slow=34,SNR=2.5
GERES GERESS Array B 162.15 331 PKIKP **PKPdf** **17 42 12.1 -1.8**
ARSA Arzberg 162.53 324 *i* PKP **PKPdf** **17 42 14.9 +0.6**
comp=Z,4.2nm,0.9s
BIOA Bad Ischl, Aus 163.07 329 *i* PKP **PKPdf** **17 42 15.0 +0.2**
comp=Z,5.1nm,0.8s
GROS Grobnik 163.09 323 *e*PKPdf **PKPdf** **17 42 13.8 -1.1**
GROS *i* 17 42 34.0
SOKA Soboth 163.17 324 *i* PKP **PKPdf** **17 42 14.4 -0.6**
comp=Z,9.9nm,1.3s
OBKA Obir 163.53 324 *e*PKP **PKPdf** **17 42 15.3 -0.1**
comp=Z,5.0nm,1.0s
LEGS Legarje 163.53 322 *e*PKPdf **PKPdf** **17 42 14.6 -0.7**
KBA Koelnbreinsper 163.67 328 *i* PKP **PKPdf** **17 42 16.0 +0.4**
comp=Z,7.2nm,1.1s
WLF Walferdange 163.68 347 PKP **PKPdf** **17 42 14.3 -1.0**
LESA Schwarzleotal 163.69 330 *i* PKP **PKPdf** **17 42 14.6 -0.8**
comp=Z,17nm,1.0s
MYKA Terra Mystica 163.87 326 *i* PKP **PKPdf** **17 42 15.4 -0.2**
comp=Z,6.2nm,1.0s
CRNS Crni Vrh 163.97 324 *e*PKPdf **PKPdf** **17 42 14.7 -1.0**
WATA Walderalm 164.21 332 *i* PKP **PKPdf** **17 42 16.3 +0.3**
comp=Z,11nm,1.2s
ROBS Robic 164.22 325 *i* PKPdf **PKPdf** **17 42 14.7 -1.1**
WTTA Wattenberg 164.24 332 *i* PKP **PKPdf** **17 42 16.6 +0.6**
comp=Z,26nm,1.8s,SNR=10
ABTA Abfaltersbach 164.29 329 *i* PKP **PKPdf** **17 42 15.9 -0.1**
comp=Z,13nm,1.2s
MOTA Moosalm 164.38 333 *i* PKP **PKPdf** **17 42 15.7 -0.5**
comp=Z,13nm,0.9s,SNR=13
RETA Reutte 164.39 334 *i* PKP **PKPdf** **17 42 17.3 +1.2**
comp=Z,3.5nm,0.7s
SQTA Sankt Quirin 164.45 332 *i* PKP **PKPdf** **17 42 15.8 -0.4**
comp=Z,12nm,0.9s,SNR=8.4
FETA Feichten 164.79 333 *e*PKP **PKPdf** **17 42 17.4 +0.8**
comp=Z,25nm,2.0s,SNR=14
DAVA Damuels 164.88 335 *i* PKP **PKPdf** **17 42 16.3 -0.3**
comp=Z,6.1nm,1.0s
PMOZ Porto Moniz, M 165.02 89 *e*LQ LQ 18 31 55.9
PMOZ *e*LR LR 18 39 39.3
comp=Z,822nm,20.0s
DAVOX Davos/Dischmat 165.31 334 PKP **PKPdf** **17 42 16.6 -0.4**
comp=Z,8.8nm,0.9s,baz=306,slow=6.1,SNR=9.7
DAVOX PKPab **PKPab** **17 43 13.7 -1.2**
comp=Z,4.1nm,0.8s,baz=102,slow=22,SNR=1.6
TIP Timpagrande 166.02 297 ⇑P **PKPdf** **17 42 18.4 +0.7**
VLC Villacollemand 167.24 327 PKP **PKPdf** **17 42 16.0 -2.4**
PGAV Gavieira, Arco 169.25 38 *e*PKPdf **PKPdf** **17 42 21.2 +1.2**
PGAV Gavieira, Arco 169.25 38 *e*LQ LQ 18 33 29.7
PGAV *e*LR LR 18 40 29.3
comp=Z,1µm,20.0s
POLO Lamas de Olo 169.93 39 *e*PKPdf **PKPdf** **17 42 21.7 +1.3**
ECAL Calabor 170.03 34 PKP **PKPdf** **17 42 19.4 -1.0**
PVIS Viseu 170.33 42 *e*PKPdf **PKPdf** **17 42 21.4 +0.8**
PCAS Casmilo, Conde 170.40 47 *e*PKPdf **PKPdf** **17 42 21.8 +1.2**
MVO Moncorvo 170.48 38 *e*PKPdf **PKPdf** **17 42 22.5 +1.8**
MVO Moncorvo 170.48 38 *e*LQ LQ 18 31 15.2
MVO *e*LR LR 18 40 01.4
comp=Z,857nm,18.0s
PMAFR Mafra 170.50 55 *e*PKPdf **PKPdf** **17 42 23.6 +2.9**
PSBE So Bento 170.53 51 *e*PKPdf **PKPdf** **17 42 22.4 +1.7**
LIS Lisbon 170.70 56 *e*PKPdf **PKPdf** **17 42 21.2 +0.5**
LIS *e*PP **PP** **17 47 30.4 +0.9**
LIS IAMs_20 IAMs_20 19 03 27.0
comp=Z,3µm,21.4s
LIS Lisbon 170.70 56 *e*PKIKP **PKPdf** **17 42 21.2 +0.5**
LIS *e* 17 47 30.4
MTE Manteigas 170.74 43 *e*PKPdf **PKPdf** **17 42 22.1 +1.3**
MTE Manteigas 170.74 43 *e*LQ LQ 18 33 11.9
MTE *e*LR LR 18 42 16.1
comp=Z,2µm,20.0s
PACT Alcochete 170.89 55 *e*PKPdf **PKPdf** **17 42 22.8 +2.0**
PMTG Montargil 171.14 51 *e*PKPdf **PKPdf** **17 42 21.9 +0.9**
PNCL Nicolau / Gran 171.41 58 *e*PKPdf **PKPdf** **17 42 23.1 +2.0**
PNCL Nicolau / Gran 171.41 58 PKP **PKPdf** **17 42 20.8 -0.3**
PMRV Marv??o 171.46 47 *e*PKPdf **PKPdf** **17 42 22.7 +1.5**
PMRV Marv??o 171.46 47 *e*LQ LQ 18 33 36.4
PMRV *e*LR LR 18 41 57.8
comp=Z,1µm,20.0s
EVO Evora 171.57 54 PKP **PKPdf** **17 42 22.2 +1.0**
MORF Marmelete 171.66 63 *e*PKPdf **PKPdf** **17 42 21.6 +0.3**
MORF *e*PP **PP** **17 47 35.4 +0.8**
MORF IAMs_20 IAMs_20 18 58 12.5
comp=Z,2µm,32.1s
MORF Marmelete 171.66 63 *e*PKIKP **PKPdf** **17 42 21.6 +0.3**
MORF *e* 17 47 35.3
PESTR Estremoz 171.66 51 *e*PKPdf **PKPdf** **17 42 22.9 +1.6**
MESJ Messejana 171.75 59 *e*PKPdf **PKPdf** **17 42 21.7 +0.4**
MESJ *e*PP **PP** **17 47 35.8 +0.9**
MESJ IAMs_20 IAMs_20 18 57 02.1
comp=Z,2µm,27.4s
MESJ Messejana 171.75 59 *e*PKIKP **PKPdf** **17 42 21.7 +0.4**
MESJ *e* 17 47 35.8
EBAD Badajoz 172.10 50 PKP **PKPdf** **17 42 22.5 +1.1**
PVAQ Vaqueiros 172.30 60 *e*LQ LQ 18 34 02.2
PVAQ *e*LR LR 18 40 39.4
comp=Z,2µm,20.0s
PBAR Barrancos 172.41 53 PKP **PKPdf** **17 42 24.2 +2.6**
EGRO El Granado 172.41 59 PKP **PKPdf** **17 42 22.2 +0.6**
KEST Kesra 172.62 287 PKP **PKPdf** **17 42 21.5 -0.4**
comp=Z,7.3nm,0.9s,baz=154,slow=2.2,SNR=6.1
UCM Universidad Co 172.83 25 PKP **PKPdf** **17 42 23.1 +1.3**
PAB San Pablo 173.03 34 ⇑PKIKP PKPdf 17 42 09.3 -13
ESDC Sonseca Array 173.10 31 PKP **PKPdf** **17 42 22.2 +0.3**
comp=Z,4.9nm,1.0s,baz=341,slow=2.6,SNR=12
ESDC PKPab **PKPab** **17 43 50.0 +0.6**
comp=Z,3.3nm,0.8s,baz=307,slow=2.9,SNR=6.1
ESDC PP **PP** **17 47 41.6 +0.9**
comp=Z,0.6nm,0.5s,baz=332,slow=3.3,SNR=3.5

ROM 16 17:38:06.4±0.1, 42°804N±0°003×13°213E±0°005, h10km, ML1.6/34, 3C-1D, Error ellipse: s-maj=0.4km s-min=0.1km az=58.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.08**	**293**	P	Pg	17 38 09.3	+0.4
NRCA				S	Sg	17 38 11.3	+0.7
NRCA				AML	AML		
	comp=E,8675µm,0.2s						
NRCA				AML	AML		
	comp=N,6925µm,1.0s						
NRCA				AML	AML		
	comp=E,9280µm,0.2s						
NRCA				AML	AML		
	comp=N,6925µm,1.0s						
NRCA				AML	AML		
	comp=N,7495µm,1.2s						
NRCA				AML	AML		
	comp=E,8680µm,0.2s						
NRCA				AML	AML		
	comp=N,6925µm,1.0s						
NRCA				AML	AML		
	comp=N,7495µm,0.8s						
NRCA				AML	AML		
	comp=E,8677µm,0.1s						
NRCA				AML	AML		
	comp=N,6335µm,0.1s						
NRCA				AML	AML		
	comp=N,7049µm,0.1s						
NRCA				AML	AML		
	comp=E,9292µm,0.2s						
MC2	**Monte Cornacci**	**0.11**	**352**	⇓P	Pg	17 38 09.8	+0.4
MC2				S	Sg	17 38 12.3	+0.7
MMO1	**Montemonaco**	**0.13**	**41**	P	Pg	17 38 09.9	+0.3
MMO1				S	Sg	17 38 12.4	+0.6
MTRA	**Matera**	**0.14**	**109**	P	Pg	17 38 10.2	+0.5
MTRA				S	Sg	17 38 12.8	+0.7
MTRA				AML	AML		
	comp=E,1050µm,0.4s						
MTRA				AML	AML		
	comp=E,1088µm,0.4s						
MTRA				AML	AML		
	comp=N,627µm,0.4s						
MTRA				AML	AML		
	comp=E,1050µm,0.4s						
MTRA				AML	AML		
	comp=N,686µm,0.4s						
MTRA				AML	AML		
	comp=E,1088µm,1.6s						
MTRA				AML	AML		
	comp=E,1050µm,1.6s						
MTRA				AML	AML		
	comp=E,1048µm,0.1s						
MTRA				AML	AML		
	comp=N,544µm,0.2s						
MTRA				AML	AML		
	comp=E,1018µm,0.1s						
MTRA				AML	AML		
	comp=N,615µm,0.2s						
SMA1	**SAN MARTINO**	**0.20**	**152**	P	Pg	17 38 11.2	+0.6
SMA1				S	Sg	17 38 14.6	+1.1
SMA1				AML	AML		
	comp=E,148µm,0.6s						
SMA1				AML	AML		
	comp=N,156µm,0.9s						
SMA1				AML	AML		
	comp=N,156µm,1.1s						
SMA1				AML	AML		
	comp=E,148µm,1.4s						
SMA1				AML	AML		
	comp=E,136µm,0.1s						
SMA1				AML	AML		
	comp=N,146µm,0.2s						
FEMA	**Monte Fema**	**0.20**	**323**	P	Pg	17 38 11.2	+0.5
FEMA				S	Sg	17 38 14.6	+0.9
LNSS	**Leonessa**	**0.24**	**212**	P	Pg	17 38 11.9	+0.5
LNSS				S	Sg	17 38 16.1	+1.4
LNSS				AML	AML		
	comp=N,290µm,0.9s						
LNSS				AML	AML		
	comp=E,278µm,0.4s						
LNSS				AML	AML		
	comp=E,265µm,0.2s						
LNSS				AML	AML		
	comp=N,241µm,0.1s						
FDMO	**Fiordimonte**	**0.25**	**338**	P	Pg	17 38 12.0	+0.4
FDMO				S	Sg	17 38 15.9	+0.8
FDMO				AML	AML		
	comp=E,88µm,0.3s						
FDMO				AML	AML		
	comp=N,136µm,0.4s						
FDMO				AML	AML		
	comp=E,81µm,0.1s						
FDMO				AML	AML		
	comp=N,112µm,0.2s						
GAVE	**Gavelli**	**0.26**	**245**	P	Pg	17 38 12.2	+0.5
GAVE				S	Sb	17 38 17.1	-0.7
GAVE				AML	AML		
	comp=E,262µm,0.2s						
GAVE				AML	AML		
	comp=N,174µm,0.4s						
GAVE				AML	AML		
	comp=E,302µm,0.7s						
GAVE				AML	AML		
	comp=N,278µm,0.9s						
GAVE				AML	AML		
	comp=N,151µm,0.2s						
MF5	**Montefalcone A**	**0.26**	**44**	⇑P	Pg	17 38 12.5	+0.7
MF5				S	Sb	17 38 17.2	-0.6
MF5				AML	AML		
	comp=E,244µm,0.6s						
MF5				AML	AML		
	comp=N,167µm,0.6s						
MF5				AML	AML		
	comp=E,244µm,1.4s						
MF5				AML	AML		
	comp=N,167µm,1.4s						
MF5				AML	AML		
	comp=E,223µm,0.4s						
MF5				AML	AML		
	comp=N,138µm,0.3s						
GUMA	**Gualdo di Mace**	**0.27**	**19**	P	Pg	17 38 12.7	+0.7
GUMA				S	Sb	17 38 17.5	-0.7
GUMA				AML	AML		
	comp=E,772µm,0.3s						
GUMA				AML	AML		
	comp=N,784µm,0.4s						
GUMA				AML	AML		
	comp=E,772µm,0.3s						
GUMA				AML	AML		
	comp=N,853µm,0.3s						
GUMA				AML	AML		
	comp=N,782µm,0.4s						
T1221	**Campello sul C**	**0.28**	**282**	⇑P	Pg	17 38 12.4	+0.3
T1221				S	Sb	17 38 17.2	-1.1
CSP1	**Cessapalombo**	**0.29**	**359**	P	Pg	17 38 12.5	+0.2
CSP1				S	Sg	17 38 17.2	+0.9
CSP1				AML	AML		
	comp=E,62µm,1.4s						
CSP1				AML	AML		
	comp=E,62µm,0.6s						
CSP1				AML	AML		
	comp=N,28µm,0.4s						
CSP1				AML	AML		
	comp=N,22µm,0.2s						
CSP1				AML	AML		
	comp=E,58µm,0.2s						
RM33	**Pellescritta (**	**0.29**	**180**	P	Pg	17 38 12.9	+0.5
RM33				S	Sb	17 38 18.0	-0.7
RM33				AML	AML		
	comp=E,1018µm,1.6s						
RM33				AML	AML		
	comp=E,94µm,0.9s						
RM33				AML	AML		
	comp=N,90µm,0.8s						
RM33				AML	AML		
	comp=N,90µm,1.2s						
RM33				AML	AML		
	comp=E,1018µm,0.4s						
RM33				AML	AML		
	comp=N,760µm,0.5s						
RM33				AML	AML		
	comp=E,74µm,0.1s						
RM33				AML	AML		
	comp=N,71µm,0.1s						
T1219	**Muccia, Frazio**	**0.29**	**329**	P	Pg	17 38 12.6	+0.2
T1219				S	Sg	17 38 17.3	+0.9
CESI	**CESI - Serrava**	**0.30**	**312**	⇑P	Pg	17 38 12.8	+0.3
CESI				S	Sg	17 38 17.8	+1.1
CESI				AML	AML		
	comp=E,130µm,1.3s						
CESI				AML	AML		
	comp=N,248µm,0.6s						
CESI				AML	AML		
	comp=E,130µm,0.7s						
CESI				AML	AML		
	comp=E,124µm,0.2s						
CESI				AML	AML		
	comp=N,220µm,0.1s						
CAMP	**Campotosto**	**0.30**	**151**	P	Pg	17 38 12.8	+0.2
CAMP				S	Sb	17 38 18.0	-1.1
CAMP				AML	AML		
	comp=E,34µm,0.1s						
CAMP				AML	AML		
	comp=N,53µm,0.2s						
TERO	**Teramo**	**0.34**	**122**	P	Pg	17 38 13.4	+0.1
TERO				S	Sg	17 38 18.8	+1.0
TERO				AML	AML		
	comp=E,233µm,0.1s						
TERO				AML	AML		
	comp=N,198µm,1.5s						
TERO				AML	AML		
	comp=E,233µm,1.9s						
ARRO	**Arrone**	**0.40**	**236**	P	Pg	17 38 14.7	+0.4
ARRO				AML	AML		
	comp=E,66µm,0.2s						
ARRO				AML	AML		
	comp=N,63µm,0.7s						
GIGS	**Gran Sasso**	**0.44**	**143**	P	Pg	17 38 15.3	+0.2
ASSB	**Assisi San Ben**	**0.47**	**301**	P	Pg	17 38 16.2	+0.5
ASSB				S	Sb	17 38 23.3	-0.6
ASSB				AML	AML		
	comp=N,72µm,1.4s						
ASSB				AML	AML		
	comp=N,72µm,0.6s						
ASSB				AML	AML		
	comp=E,87µm,0.2s						
ASSB				AML	AML		
	comp=E,87µm,0.2s						
MOMA	**Monte Martano**	**0.47**	**270**	P	Pg	17 38 16.0	+0.3
MOMA				S	Sb	17 38 23.9	-0.1
MOMA				AML	AML		
	comp=E,130µm,0.2s						
MOMA				AML	AML		
	comp=N,56µm,0.2s						
MOMA				AML	AML		
	comp=E,130µm,0.2s						
EL6	**Elcito**	**0.53**	**351**	P	Pg	17 38 16.8	0.0
CING	**Cingoli**	**0.57**	**359**	P	Pb	17 38 18.3	-0.3
CING				S	Sb	17 38 27.1	+0.3
VCEL	**Villa Celiera**	**0.62**	**131**	P	Pg	17 38 18.5	+0.1
VCEL				S	Sb	17 38 28.2	+0.1
MURB	**Monte Urbino**	**0.68**	**313**	P	Pg	17 38 19.9	+0.2

ROM 16 17:39:00.1±0.1, 42°802N±0°003×13°215E±0°005, h10km, ML2.2/26, 5C, Error ellipse: s-maj=0.4km s-min=0.1km az=65.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.08**	**293**	⇑P	Pg	17 39 03.1	+0.5
NRCA				S	Sg	17 39 05.1	+0.7
NRCA				AML	AML		
	comp=N,36150µm,1.2s						
NRCA				AML	AML		
	comp=E,46250µm,0.2s						
NRCA				AML	AML		
	comp=E,48150µm,0.2s						
NRCA				AML	AML		
	comp=N,39950µm,1.2s						
MC2	**Monte Cornacci**	**0.11**	**351**	P	Pg	17 39 03.5	+0.3
MC2				S	Sg	17 39 05.9	+0.6
MMO1	**Montemonaco**	**0.13**	**40**	⇑P	Pg	17 39 03.6	+0.4
MMO1				S	Sg	17 39 06.2	+0.7
MTRA	**Matera**	**0.14**	**109**	P	Pg	17 39 03.9	+0.5
MTRA				S	Sg	17 39 06.6	+0.8
MTRA				AML	AML		
	comp=E,4790µm,0.1s						
MTRA				AML	AML		
	comp=N,3100µm,0.4s						
MTRA				AML	AML		
	comp=N,18000µm,1.6s						
MTRA				AML	AML		
	comp=N,3105µm,0.4s						
MTRA				AML	AML		
	comp=N,18000µm,0.4s						
MTRA				AML	AML		
	comp=E,25000µm,1.6s						
MTRA				AML	AML		
	comp=E,4795µm,0.1s						
SMA1	**SAN MARTINO**	**0.19**	**153**	P	Pg	17 39 04.8	+0.6
SMA1				S	Sg	17 39 08.3	+1.2
SMA1				AML	AML		
	comp=E,613µm,0.5s						
SMA1				AML	AML		
	comp=N,640µm,1.2s						
SMA1				AML	AML		
	comp=N,640µm,0.8s						
FEMA	**Monte Fema**	**0.20**	**323**	P	Pg	17 39 04.8	+0.4
FEMA				S	Sg	17 39 08.3	+0.8
LNSS	**Leonessa**	**0.24**	**213**	⇑P	Pg	17 39 05.6	+0.6
LNSS				S	Sg	17 39 09.8	+1.5
LNSS				AML	AML		
	comp=E,1395µm,0.1s						
LNSS				AML	AML		
	comp=N,1330µm,0.9s						
LNSS				AML	AML		
	comp=N,1330µm,1.1s						
FDMO	**Fiordimonte**	**0.25**	**338**	P	Pg	17 39 05.5	+0.2
FDMO				S	Sg	17 39 09.7	+0.9
FDMO				AML	AML		
	comp=E,403µm,0.1s						
FDMO				AML	AML		
	comp=N,582µm,0.4s						
GAVE	**Gavelli**	**0.26**	**245**	AML	AML		
	comp=E,1320µm,0.7s						
GAVE				AML	AML		
	comp=N,811µm,1.0s						
GAVE				AML	AML		
	comp=E,1318µm,0.7s						
GAVE				AML	AML		
	comp=N,299µm,1.0s						
GAVE				AML	AML		
	comp=N,811µm,1.0s						
MF5	**Montefalcone A**	**0.26**	**44**	P	Pg	17 39 06.1	+0.6
MF5				S	Sb	17 39 11.0	-0.6
MF5				AML	AML		
	comp=N,696µm,0.6s						
MF5				AML	AML		
	comp=N,695µm,0.6s						
MF5				AML	AML		
	comp=E,1150µm,0.6s						
GUMA	**Gualdo di Mace**	**0.28**	**19**	P	Pg	17 39 06.4	+0.6
GUMA				S	Sb	17 39 11.3	-0.7
GUMA				AML	AML		
	comp=E,3325µm,0.3s						
GUMA				AML	AML		
	comp=N,4845µm,0.3s						
GUMA				AML	AML		
	comp=N,4835µm,0.2s						
GUMA				AML	AML		
	comp=N,4100µm,0.4s						
T1221	**Campello sul C**	**0.28**	**282**	⇑P	Pg	17 39 06.1	+0.3
T1221				S	Sb	17 39 10.9	-1.1
T1221				AML	AML		
	comp=N,259µm,1.4s						
T1221				AML	AML		
	comp=E,320µm,0.3s						
T1221				AML	AML		
	comp=N,259µm,0.6s						
CSP1	**Cessapalombo**	**0.29**	**359**	P	Pg	17 39 06.2	+0.1
CSP1				S	Sg	17 39 10.9	+0.9
RM33	**Pellescritta (**	**0.29**	**180**	P	Pg	17 39 06.6	+0.5
RM33				S	Sb	17 39 11.7	-0.7
RM33				AML	AML		
	comp=E,426µm,1.5s						
RM33				AML	AML		
	comp=E,425µm,1.5s						
RM33				AML	AML		
	comp=N,428µm,0.8s						
T1219	**Muccia, Frazio**	**0.30**	**329**	P	Pg	17 39 06.4	+0.2
T1219				S	Sg	17 39 11.1	+0.9
CAMP	**Campotosto**	**0.30**	**152**	P	Pg	17 39 06.6	+0.3
CAMP				S	Sb	17 39 11.6	-1.2
CAMP				AML	AML		
	comp=E,185µm,1.3s						
CAMP				AML	AML		
	comp=E,185µm,0.7s						
CAMP				AML	AML		
	comp=N,227µm,0.2s						
CESI	**CESI - Serrava**	**0.30**	**312**	⇑P	Pg	17 39 06.6	+0.2
CESI				S	Sg	17 39 11.5	+1.0
CESI				AML	AML		
	comp=E,582µm,1.1s						
CESI				AML	AML		
	comp=N,1480µm,0.6s						
CESI				AML	AML		
	comp=N,1480µm,1.4s						
CESI				AML	AML		
	comp=E,582µm,0.9s						
TERO	**Teramo**	**0.34**	**122**	P	Pg	17 39 07.1	+0.2
TERO				S	Sb	17 39 12.8	-1.0
TERO				AML	AML		
	comp=E,512µm,1.3s						
TERO				AML	AML		
	comp=E,1036µm,0.1s						

TERO				AML	AML		
	comp=N,534µm,0.1s						
TERO				AML	AML		
	comp=N,1027µm,0.1s						
PF6	**Pievefavera**	**0.35**	**357**	P	Pg	17 39 07.0	-0.1
PF6				S	Sg	17 39 12.3	+0.6
MML1	**Montelago di S**	**0.36**	**330**	P	Pg	17 39 07.5	+0.2
T1247	**Pizzolo (AQ)**	**0.36**	**170**	P	Pg	17 39 08.1	+0.7
OFFI	**Offida**	**0.37**	**69**	P	Pb	17 39 08.5	-0.3
OFFI				AML	AML		
	comp=E,570µm,0.4s						
OFFI				AML	AML		
	comp=N,652µm,0.5s						
ARRO	**Arrone**	**0.40**	**236**	P	Pg	17 39 08.4	+0.4
ARRO				AML	AML		
	comp=N,277µm,0.7s						
ARRO				AML	AML		
	comp=E,323µm,0.8s						
GIGS	**Gran Sasso**	**0.44**	**143**	P	Pg	17 39 09.0	+0.2
GIGS				S	Sg	17 39 15.3	+0.8
GIGS				AML	AML		
	comp=E,64µm,0.5s						
GIGS				AML	AML		
	comp=E,64µm,0.5s						
GIGS				AML	AML		
	comp=N,73µm,1.0s						
ASSB	**Assisi San Ben**	**0.47**	**301**	AML	AML		
	comp=N,382µm,0.2s						
ASSB				AML	AML		
	comp=E,450µm,0.2s						
MOMA	**Monte Martano**	**0.47**	**270**	P	Pg	17 39 09.6	+0.2
MOMA				S	Sb	17 39 17.4	-0.3
MOMA				AML	AML		
	comp=N,304µm,0.2s						
MOMA				AML	AML		
	comp=N,304µm,1.8s						
MOMA				AML	AML		
	comp=E,616µm,0.2s						
SNTG	**Esanatoglia**	**0.50**	**336**	P	Pg	17 39 10.1	+0.3
SNTG				AML	AML		
	comp=E,79µm,0.3s						
SNTG				AML	AML		
	comp=N,82µm,0.8s						
SNTG				AML	AML		
	comp=N,82µm,0.8s						
CESX	**Cesi**	**0.51**	**248**	P	Pg	17 39 10.1	+0.1
CESX				AML	AML		
	comp=E,148µm,0.3s						
CESX				AML	AML		
	comp=N,170µm,0.2s						
TRTR	**Tortoreto Alta**	**0.51**	**89**	AML	AML		
	comp=N,850µm,0.4s						
TRTR				AML	AML		
	comp=E,863µm,0.4s						
EL6	**Elcito**	**0.53**	**351**	P	Pg	17 39 10.6	0.0
EL6				S	Sb	17 39 19.2	-0.3
EL6				AML	AML		
	comp=E,264µm,1.5s						
EL6				AML	AML		
	comp=N,232µm,1.5s						
FIAM	**Fiamignano**	**0.54**	**188**	P	Pg	17 39 10.7	0.0
FIAM				S	Sb	17 39 19.1	-0.5
FIAM				AML	AML		
	comp=E,160µm,1.5s						
FIAM				AML	AML		
	comp=E,160µm,0.5s						
FIAM				AML	AML		
	comp=N,118µm,0.4s						
ATCC	**AVT- Casa Cast**	**0.57**	**312**	P	Pg	17 39 11.4	+0.2
ATCC				S	Sb	17 39 20.3	-0.1
ATCC				AML	AML		
	comp=N,152µm,1.4s						
ATCC				AML	AML		
	comp=E,185µm,0.3s						
CING	**Cingoli**	**0.57**	**359**	P	Pb	17 39 11.8	-0.5
CING				S	Sb	17 39 20.6	0.0
CING				AML	AML		
	comp=N,122µm,0.4s						
CING				AML	AML		
	comp=N,122µm,1.6s						
CING				AML	AML		
	comp=E,103µm,0.2s						
FOSV	**Fossato di Vic**	**0.59**	**326**	P	Pg	17 39 11.9	+0.2
FOSV				S	Sb	17 39 21.1	0.0
FAGN	**Fagnano**	**0.60**	**153**	P	Pb	17 39 12.8	0.0
FAGN				AML	AML		
	comp=N,153µm,1.6s						
FAGN				AML	AML		
	comp=E,184µm,0.5s						
VCEL	**Villa Celiera**	**0.62**	**131**	P	Pg	17 39 12.2	+0.1
VCEL				AML	AML		
	comp=N,176µm,1.1s						
VCEL				AML	AML		
	comp=E,176µm,0.6s						
MURB	**Monte Urbino**	**0.69**	**313**	P	Pg	17 39 13.7	+0.2
MURB				AML	AML		
	comp=E,337µm,0.9s						
MURB				AML	AML		
	comp=N,320µm,1.0s						
MURB				AML	AML		
	comp=N,282µm,1.0s						
MURB				AML	AML		
	comp=E,338µm,0.8s						
MURB				AML	AML		
	comp=N,320µm,1.0s						
MURB				AML	AML		
	comp=E,332µm,1.4s						
MURB				AML	AML		
	comp=E,332µm,0.6s						
MURB				AML	AML		
	comp=N,320µm,1.0s						
SSFR	**Montelago di S**	**0.71**	**334**	P	Pg	17 39 14.1	+0.2
T0110	**Collepietro**	**0.71**	**144**	P	Pg	17 39 13.9	0.0
T0110				AML	AML		
	comp=N,160µm,0.5s						
T0110				AML	AML		
	comp=E,128µm,1.4s						
ARVD	**Arcevia**	**0.72**	**344**	P	Pg	17 39 14.1	0.0
ATFO	**Monte Foce - G**	**0.73**	**320**	P	Pg	17 39 14.4	0.0
ATFO				AML	AML		
	comp=E,65µm,1.3s						
ATFO				AML	AML		
	comp=N,53µm,0.4s						
ATFO				AML	AML		
	comp=E,65µm,0.7s						
ATTE	**AVT- Monte Tez**	**0.75**	**302**	P	Pg	17 39 14.7	+0.1
AOI	**Ancona**	**0.80**	**21**	P	Pg	17 39 15.7	+0.1
FRON	**Frontone**	**0.80**	**334**	P	Pg	17 39 15.3	-0.3
MGAB	**Montegabbione**	**0.82**	**278**	AML	AML		
	comp=N,138µm,0.5s						
MGAB				AML	AML		
	comp=E,105µm,1.2s						
MGAB				AML	AML		
	comp=E,105µm,0.8s						
ATVO	**AVT- Monte Val**	**0.83**	**315**	P	Pg	17 39 15.8	-0.3
ATBU	**Serra di Buran**	**0.83**	**324**	P	Pb	17 39 16.6	-0.2
ATVA	**AVT- Monte Val**	**0.83**	**305**	P	Pb	17 39 16.9	+0.2
ATPC	**Poggio Castell**	**0.88**	**321**	P	Pg	17 39 16.9	-0.2
PIEI	**Pieia**	**0.89**	**326**	AML	AML		
	comp=N,38µm,1.5s						
PIEI				AML	AML		
	comp=N,38µm,0.5s						
PIEI				AML	AML		
	comp=E,55µm,0.8s						
BADI	**Badiali**	**1.00**	**315**	P	Pg	17 39 19.0	-0.5
CAFI	**Castiglion Fio**	**1.06**	**300**	P	Pb	17 39 20.5	0.0
TOLF	**Tolfa**	**1.16**	**231**	P	Pb	17 39 21.8	-0.5

*NEIC **16** 17:41:13.2±1.6,33°.63S±0°.08×178°.7W±0°.2,h10km±2km, mb4.5/4,Error ellipse: s-maj=34.6km s-min=6.1km az=111.0*
*IDC **16** 17:41:15.5±2.1,33°.63S×179°.32W,h0km,mb3.6/3, mbtmp3.8/5,ML3.7/2,Error ellipse: s-maj=49.6km s-min=32.9km az=66.0*

ISC 16 17:41:16.9±1.3,33.7S±0°.1×179.0W±0°.2,h35km,n17, σ1§86/17,mb3.9/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.42**	**209**	Pn	**Pn**	**17 42 23.1**	**+1.7**
RAO	**Raoul Island**	**4.55**	**12**	Pn	**Pn**	**17 42 19.7**	**-3.6**
URZ	**Urewera**	**5.52**	**214**	Pn	**Pn**	**17 42 36.9**	**+0.3**
	2.2nm,0.3s,baz=302,slow=24,SNR=21						
URZ				Sn	**Sn**	**17 43 34.5**	**-4.3**
	0.9nm,0.3s,baz=187,slow=20,SNR=1.0						
	6.2nm,0.3s						
RTZ	**Ruatahuna**	**5.87**	**213**	Pn	**Pn**	**17 42 41.6**	**+0.1**
TOZ	**Tahuroa Road**	**6.00**	**227**	Pn	**Pn**	**17 42 43.8**	**+0.6**
BKZ	**Black Stump Fm**	**6.54**	**213**	Pn	**Pn**	**17 42 52.1**	**+1.5**
MRZ	**Mangatainoka R**	**8.17**	**210**	Pn	**Pn**	**17 43 13.8**	**+0.8**
TUWZ	**Tuamarina**	**9.52**	**214**	Pn	**Pn**	**17 43 31.3**	**-0.1**
DZM	**Mont Dzumac**	**17.31**	**308**	P	**Pn**	**17 45 15.9**	**-0.2**
	0.3nm,0.3s,baz=128,slow=17,SNR=2.1						
	6.3nm,0.9s						
ASAR	**Alice Springs**	**42.21**	**271**	P	**P**	**17 49 08.1**	**+1.4**
	0.3nm,0.7s,baz=112,slow=7.3,SNR=6.5						
	0.3nm,0.7s						
WB2	**Warramunga Arr**	**43.49**	**276**	P	**P**	**17 49 17.8**	**+0.7**
WB2				IAmb	IAmb	17 49 42.0	
	comp=Z,11nm,1.2s						
WRA	**Warramunga Arr**	**43.50**	**276**	P	**P**	**17 49 19.0**	**+1.8**
WRA	**Warramunga Arr**	**43.50**	**276**	P	**P**	**17 49 18.4**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=117,slow=7.9,SNR=5.4						
	comp=Z,0.3nm,0.3s						
WB0	**Warramunga Arr**	**43.54**	**276**	P	**P**	**17 49 18.8**	**+1.4**
WB0				IAmb	IAmb	17 49 34.3	
	comp=Z,13nm,1.4s						
QSPA	**South Pole Qui**	**56.40**	**180**	P	**P**	**17 50 55.7**	**+1.1**
QSPA	**South Pole Qui**	**56.40**	**180**	P	P	17 50 59.6	+5.0
	comp=Z,1.4nm,1.1s,baz=90,slow=2.0,SNR=2.5						
	comp=Z,1.4nm,1.1s						
FINES	**FINESS Array B**	**147.93**	**337**	PKPbc	**PKPab**	**18 01 00.1**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=64,slow=4.8,SNR=5.4						

*AEIC **16** 17:47:38.1±2.0,51°.8N±0°.1×179°.68W±0°.09,h118km±6km, Error ellipse: s-maj=21.4km s-min=7.8km az=178.0*
*NEIC **16** 17:47:39.4±2.4,52°.0N±0°.1×179°.70W±0°.09,h118km±8km, mb4.0/88,ML4.3(AEIC),Error ellipse: s-maj=21.7km s-min=8.0km az=178.0*
*IDC **16** 17:47:40.5±0.8,52°.14N×179°.93W,h134km±6km,mb3.6/20, mbtmp4.0/21,MS3.4/1,Error ellipse: s-maj=16.8km s-min=9.3km az=173.0*

ISC 16 17:47:37.5±0.5,51°.94N±0°.08×179°.66W±0°.04,h100km, n333,σ1§99/322,mb4.0/36,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEPE	**Semis' Perret**	**0.43**	**273**		**Pn**	**17 47 56.3**	**+3.5**
CERB	**Semis' Cerberu**	**0.44**	**269**		**Pn**	**17 47 56.5**	**+3.7**
CEAP	**Semis' Anvil P**	**0.47**	**278**		**Pn**	**17 47 56.7**	**+3.6**
CEAP					**Sn**	**17 48 10.8**	**+6.0**
CESW	**Semis' Southwe**	**0.48**	**265**		**Pn**	**17 47 56.3**	**+3.2**
AMKA	**Amchitka**	**0.86**	**229**	Pn	**Pn**	**17 47 58.9**	**+2.5**
AMKA	**Amchitka**	**0.86**	**229**		**Sn**	**17 48 13.8**	**+3.3**
LSPA	**Little Sitkin**	**1.09**	**271**		**Pn**	**17 48 01.7**	**+2.8**
LSPA					**Sn**	**17 48 19.3**	**+4.3**
LSSE	**Little Sitkin**	**1.10**	**270**		**Pn**	**17 48 01.7**	**+2.8**
LSNW	**Little Sitkin**	**1.13**	**272**		**Pn**	**17 48 01.7**	**+2.5**
ATKA	**Atka Island**	**3.38**	**83**	P	**Pn**	**17 48 30.7**	**+2.5**
ATKA	**Atka Island**	**3.38**	**83**	Pn	**Pn**	**17 48 29.8**	**+1.6**
ATKA	**Atka Island**	**3.38**	**83**		**Sn**	**17 49 10.4**	**+2.9**
KOKL	**Mount Kliuchef**	**3.39**	**81**		**Pn**	**17 48 31.0**	**+2.6**
KOFP	**Korovin Flat P**	**3.45**	**82**		**Pn**	**17 48 32.3**	**+3.1**
SHEM	**Shemya Is, Ala**	**3.91**	**284**	P	**Pn**	**17 48 35.6**	**+0.3**
	218nm,0.5s,baz=50,slow=4.8,SNR=34						
SHEM				S	**Sn**	**17 49 21.0**	**+0.9**
	36nm,0.3s,baz=266,slow=17,SNR=5.9						
OKCE	**Okmok Cone E**	**7.15**	**73**		**Pn**	**17 49 23.0**	**+3.8**
P08K	**Saint George I**	**7.54**	**48**		**Pn**	**17 49 28.9**	**+4.4**
P08K	**Saint George I** baz=236	**7.54**	**48**	P	**Pn**	**17 49 28.0**	**+3.5**
SPIA	**Saint Paul Isl**	**7.58**	**43**	P	**Pn**	**17 49 29.6**	**+4.6**
SPIA	**Saint Paul Isl**	**7.58**	**43**		**Pn**	**17 49 29.5**	**+4.5**
SPIA	**Saint Paul Isl** baz=230,SNR=10.0	**7.58**	**43**	P	**Pn**	**17 49 29.6**	**+4.6**
UNV	**Unalaska Valle**	**8.18**	**71**	P	**Pn**	**17 49 36.7**	**+3.4**
UNV	**Unalaska Valle**	**8.18**	**71**		**Pn**	**17 49 36.7**	**+3.4**
UNV	**Unalaska Valle** baz=262	**8.18**	**71**	P	**Pn**	**17 49 36.4**	**+3.2**
ZRO	**Akutan Zero**	**8.53**	**70**		**Pn**	**17 49 41.8**	**+3.8**
AKBBA	**Akutan Broad B**	**8.55**	**70**		**Pn**	**17 49 42.2**	**+3.9**
AKSA	**Akutan Strait**	**8.70**	**70**		**Pn**	**17 49 44.2**	**+3.9**
WECS	**Westdahl Cape**	**9.29**	**68**		**Pn**	**17 49 52.4**	**+4.0**
S12K	**Black Hills** baz=258	**11.06**	**63**	P	**Pn**	**17 50 15.8**	**+3.5**
M11K	**Mekoryuk** baz=228	**11.29**	**36**	P	**Pn**	**17 50 20.0**	**+4.7**
SDPT	**Sand Point**	**11.88**	**66**	P	**Pn**	**17 50 23.4**	**+0.1**
SDPT	**Sand Point**	**11.88**	**66**	Pn	**Pn**	**17 50 23.0**	**-0.3**
SDPT	**Sand Point** baz=261	**11.88**	**66**	P	**Pn**	**17 50 24.3**	**+1.1**
CNBA	**Chernabura Isl**	**12.32**	**69**	Pn	**Pn**	**17 50 28.8**	**-0.4**
CHNA	**Chernabura Isl** baz=265	**12.32**	**69**	P	**Pn**	**17 50 30.4**	**+1.3**
M13K	**Dall Lake** baz=234	**12.40**	**40**	P	**Pn**	**17 50 31.4**	**+1.2**
O14K	**Tigyukauivet M** baz=243	**12.69**	**48**	P	**Pn**	**17 50 37.3**	**+3.4**
N14K	**Kuskokwak Cree** baz=240	**12.83**	**44**	P	**Pn**	**17 50 38.0**	**+2.3**
K13K	**Kusilvak Mount**	**12.90**	**33**	Pn	**P**	**17 50 41.4**	**-2.2**
K13K	**Kusilvak Mount** baz=226	**12.90**	**33**	P	**Pn**	**17 50 39.0**	**+2.3**
M14K	**Bethel** baz=236	**13.16**	**41**	P	**Pn**	**17 50 41.9**	**+1.8**
CHGN	**Chignik** baz=260	**13.18**	**62**	P	**Pn**	**17 50 43.6**	**+3.1**
L14K	**Kuka Creek**	**13.22**	**38**		**Pn**	**17 50 44.7**	**+3.8**
L14K	**Kuka Creek** baz=232	**13.22**	**38**	P	**Pn**	**17 50 44.2**	**+3.3**
O15K	**Ungalikthiuk R** baz=246,SNR=6.9	**13.32**	**49**	P	**Pn**	**17 50 45.5**	**+3.2**
N15K	**Kwethluk River**	**13.64**	**45**		**Pn**	**17 50 49.3**	**+2.8**
N15K	**Kwethluk River** baz=242,SNR=5.4	**13.64**	**45**	P	**Pn**	**17 50 50.3**	**+3.8**
M15K	**Kasigluk River** baz=239	**13.65**	**43**	P	**P**	**17 50 51.1**	**-0.8**
J14K	**Nanvaranak Lak** baz=226	**13.84**	**32**	P	**Pn**	**17 50 51.5**	**+2.5**
L15K	**Ungalak Mounta** baz=234	**13.88**	**38**	P	**Pn**	**17 50 51.8**	**+2.3**
P16K	**Nushagak River** baz=249	**14.14**	**51**	P	**Pn**	**17 50 55.3**	**+2.4**
K15K	**Wolf Creek Mou** baz=232	**14.24**	**36**	P	**Pn**	**17 50 56.3**	**+2.1**
O16K	**Kokwok River B**	**14.30**	**49**	P	**P**	**17 51 00.1**	**+1.0**
O16K	**Kokwok River B** baz=247,SNR=7.8	**14.30**	**49**	P	**Pn**	**17 50 57.6**	**+2.6**
N16K	**Nishlik Lake** baz=243	**14.37**	**45**	P	**P**	**17 50 59.2**	**-0.8**
M16K	**Timber Creek** baz=241	**14.55**	**43**	P	**P**	**17 51 01.4**	**-0.5**
L16K	**Owhat River**	**14.69**	**40**	Pn	**Pn**	**17 51 01.9**	**+2.0**
L16K	**Owhat River** baz=238	**14.69**	**40**	P	**P**	**17 51 04.6**	**+1.2**
O17K	**Koliganek Bris** baz=248	**14.84**	**49**	P	**Pn**	**17 51 04.0**	**+2.2**
TNA	**Tin City** baz=209	**14.91**	**19**	P	**Pn**	**17 51 03.7**	**+1.0**
P17K	**Kvichak River** baz=251	**14.95**	**52**	P	**Pn**	**17 51 03.6**	**+0.3**
Q17K	**Contact Creek** baz=255	**14.96**	**56**	P	**Pn**	**17 51 05.6**	**+2.2**
N17K	**Nushagak Hills**	**15.10**	**47**	P	**P**	**17 51 08.4**	**+0.5**
N17K				IAmb	IAmb	17 51 10.7	
	comp=Z,6.4nm,0.7s						
N17K	**Nushagak Hills** baz=245	**15.10**	**47**	P	**P**	**17 51 08.0**	**0.0**
F14K	**Arctic Creek** baz=213	**15.18**	**22**	P	**Pn**	**17 51 08.3**	**+2.2**
J16K	**Anvik River** baz=230	**15.20**	**34**	P	**Pn**	**17 51 07.8**	**+1.4**
G15K	**Niukluk** baz=219	**15.36**	**26**	P	**Pn**	**17 51 08.8**	**+0.5**
M17K	**Holitna River**	**15.38**	**43**		**Pn**	**17 51 10.4**	**+1.8**
M17K				IAmb	IAmb	17 51 14.8	
	comp=Z,7.2nm,0.8s						
M17K	**Holitna River** baz=242	**15.38**	**43**	P	**P**	**17 51 12.9**	**+1.9**
L17K	**Donlin** baz=238	**15.39**	**40**	P	**Pn**	**17 51 10.9**	**+2.1**
SII	**Sitkinak Islan**	**15.55**	**63**	P	**Pn**	**17 51 10.3**	**-0.5**
SII	**Sitkinak Islan**	**15.55**	**63**	Pn	**Pn**	**17 51 11.5**	**+0.7**
SII	**Sitkinak Islan** baz=264	**15.55**	**63**	P	**Pn**	**17 51 12.9**	**+2.0**
I17K	**Unalakleet** baz=229	**15.56**	**32**	P	**P**	**17 51 13.9**	**+0.9**
H16K	**Elim**	**15.60**	**29**	P	**Pn**	**17 51 11.8**	**+0.4**
	baz=224						
P18K	**Big Mountain,** baz=252	**15.60**	**52**	P	**P**	**17 51 14.7**	**+1.1**
K17K	**Iditarod**	**15.70**	**38**		**P**	**17 51 14.9**	**+0.3**
K17K				IAmb	IAmb	17 51 28.8	
	comp=Z,7.7nm,1.2s						
K17K	**Iditarod** baz=236	**15.70**	**38**	P	**P**	**17 51 16.0**	**+1.3**
N18K	**Kilae Creek**	**15.74**	**47**		**Pn**	**17 51 14.6**	**+1.4**
N18K				IAmb	IAmb	17 51 29.5	
	comp=Z,14nm,1.5s						
N18K	**Kilae Creek** baz=247	**15.74**	**47**	P	**P**	**17 51 16.9**	**+1.8**
O18K	**Koktuh Hills**	**15.76**	**50**	P	**P**	**17 51 16.7**	**+1.3**
O18K	**Koktuh Hills** baz=251,SNR=6.1	**15.76**	**50**	P	**P**	**17 51 17.9**	**+2.6**
F15K	**North Star Dit** baz=216	**15.77**	**23**	P	**Pn**	**17 51 15.2**	**+1.7**
J17K	**VABM Dome**	**15.81**	**36**		**P**	**17 51 16.8**	**+1.0**
J17K				IAmb	IAmb	17 51 17.9	
	comp=Z,7.1nm,1.1s						
J17K	**VABM Dome** baz=233	**15.81**	**36**	P	**P**	**17 51 17.4**	**+1.6**
L18K	**Granite Mounta**	**16.08**	**41**		**Pn**	**17 51 19.2**	**+1.8**
L18K	**Granite Mounta** baz=241	**16.08**	**41**	P	**P**	**17 51 21.0**	**+2.1**
M18K	**Stony River** baz=244	**16.11**	**44**	P	**P**	**17 51 20.6**	**+1.4**
OHAK	**Old Harbor**	**16.12**	**61**	P	**Pn**	**17 51 18.0**	**+0.1**
G16K	**Koyuk River**	**16.12**	**27**		**Pn**	**17 51 19.2**	**+1.4**
G16K	**Koyuk River** baz=222	**16.12**	**27**	P	**P**	**17 51 20.6**	**+1.3**
Q19K	**Cape Douglas,**	**16.26**	**54**		**Pn**	**17 51 21.4**	**+1.7**
N19K	**Bonanza Creek**	**16.43**	**47**	P	**P**	**17 51 24.4**	**+1.5**
N19K	**Bonanza Creek** baz=249	**16.43**	**47**	P	**P**	**17 51 25.0**	**+2.2**
H17K	**Granite Mounta**	**16.52**	**30**		**Pn**	**17 51 22.9**	**+0.1**
H17K	**Granite Mounta** baz=227	**16.52**	**30**	P	**P**	**17 51 25.6**	**+2.0**
KDAK	**Kodiak Island**	**16.58**	**59**		**Pn**	**17 51 21.9**	**-1.7**
KDAK	**Kodiak Island**	**16.58**	**59**	P	**Pn**	**17 51 22.7**	**-0.8**
	comp=Z,9.5nm,0.4s,baz=288,slow=6.1,SNR=52						
KDAK				S	**Sn**	**17 54 18.6**	**-8.5**
	comp=Z,6.4nm,1.0s,baz=314,slow=17,SNR=1.4						
KDAK				LR	LR	17 58 29.7	
	comp=Z,126nm,19.6s,baz=345,slow=39						
G17K	**Kiwalik Mounta** baz=225	**16.69**	**28**	P	**P**	**17 51 27.6**	**+2.1**
J18K	**Innoko River**	**16.72**	**37**	P	**P**	**17 51 27.6**	**+1.7**
J18K				IAmb	IAmb	17 51 29.4	
	comp=Z,8.7nm,1.2s						
J18K	**Innoko River** baz=237	**16.72**	**37**	P	**P**	**17 51 28.7**	**+2.8**
Q20K	**Shuyak Island** baz=259	**16.82**	**56**	P	**P**	**17 51 29.2**	**+2.2**
L19K	**White Mountain**	**16.82**	**43**		**Pn**	**17 51 27.3**	**+0.7**
L19K	**White Mountain** baz=244	**16.82**	**43**	P	**P**	**17 51 29.3**	**+2.2**
SYI	**Shuyak Island**	**16.82**	**56**		**Pn**	**17 51 27.6**	**+1.0**
M19K	**Big River Lodg**	**16.90**	**44**		**P**	**17 51 29.3**	**+1.3**
M19K	**Big River Lodg** baz=245	**16.90**	**44**	P	**P**	**17 51 30.4**	**+2.4**
O20K	**Slope Mountain** baz=254	**17.07**	**51**	P	**P**	**17 51 32.7**	**+2.9**
H18K	**Honhosa River**	**17.15**	**31**	P	**P**	**17 51 32.3**	**+1.6**
H18K	**Honhosa River** baz=230	**17.15**	**31**	P	**P**	**17 51 33.4**	**+2.7**
F17K	**Baldwin Pennin**	**17.21**	**25**	P	**P**	**17 51 32.6**	**+1.4**
F17K				IAmb	IAmb	17 51 35.4	
	comp=Z,7.1nm,1.1s						
F17K	**Baldwin Pennin** baz=221	**17.21**	**25**	P	**P**	**17 51 32.8**	**+1.6**
J19K	**Poorman**	**17.41**	**37**	P	**Pn**	**17 51 34.8**	**+1.1**
J19K	**Poorman** baz=238	**17.41**	**37**	P	**Pn**	**17 51 35.8**	**+2.0**
M20K	**Styx River**	**17.44**	**45**	P	**P**	**17 51 33.8**	**-0.1**
M20K	**Styx River** baz=247	**17.44**	**45**	P	**Pn**	**17 51 37.6**	**+3.4**
BILL	**Bilibino**	**17.53**	**342**	P	**P**	**17 51 35.4**	**+0.6**
E17K	**Hotham Inlet** baz=219	**17.56**	**23**	P	**Pn**	**17 51 37.2**	**+1.8**
G18K	**Tagagawik**	**17.56**	**29**	P	**P**	**17 51 35.5**	**+0.4**
G18K	**Tagagawik** baz=227	**17.56**	**29**	P	**Pn**	**17 51 37.4**	**+1.9**
CNPM	**China Poot**	**17.60**	**53**	P	**P**	**17 51 35.4**	**-0.3**
N20K	**Mount Spurr** baz=251	**17.61**	**48**	P	**Pn**	**17 51 38.4**	**+2.2**
K20K	**Telida**	**17.69**	**40**	P	**P**	**17 51 37.1**	**+0.5**
K20K	**Telida** baz=242	**17.69**	**40**	P	**Pn**	**17 51 38.6**	**+1.5**
D17K	**Noatak River** baz=215	**17.76**	**21**	P	**P**	**17 51 38.1**	**+0.9**
F18K	**Selawik** baz=224	**17.76**	**27**	P	**P**	**17 51 37.9**	**+0.6**
C16K	**Lisburne Hills**	**17.78**	**18**	P	**P**	**17 51 38.5**	**+1.0**
C16K				IAmb	IAmb	17 51 46.2	
	comp=Z,5.5nm,0.8s						
C16K	**Lisburne Hills** baz=210	**17.78**	**18**	P	**Pn**	**17 51 39.3**	**+1.2**
BRLK	**Bradley Lake**	**17.83**	**53**	P	**P**	**17 51 37.4**	**-0.8**
BRSE	**Bradley Lake S** baz=257	**17.90**	**53**	P	**P**	**17 51 40.2**	**+1.3**
H19K	**Roundabout Mou** baz=232	**18.01**	**32**	P	**P**	**17 51 41.5**	**+1.4**
J20K	**Nowinta River**	**18.06**	**37**	P	**P**	**17 51 42.2**	**+1.5**
J20K				IAmb	IAmb	17 51 45.0	
	comp=Z,6.2nm,1.1s						
J20K	**Nowinta River** baz=239	**18.06**	**37**	P	**Pn**	**17 51 43.1**	**+1.5**
RDOG	**Red Dog Mine** baz=215	**18.09**	**20**	P	**P**	**17 51 41.6**	**+0.7**
E18K	**Tukpahlearik C** baz=221	**18.12**	**24**	P	**P**	**17 51 42.6**	**+1.3**
SKT	**Skwentna**	**18.18**	**46**	P	**Pn**	**17 51 43.7**	**+0.7**
SKT	**Skwentna** baz=249,SNR=12	**18.18**	**46**	P	**Pn**	**17 51 44.8**	**+1.8**
G19K	**Purcell Mounta**	**18.20**	**30**	P	**P**	**17 51 43.2**	**+1.1**
G19K	**Purcell Mounta** baz=230,SNR=5.4	**18.20**	**30**	P	**Pn**	**17 51 45.6**	**+2.4**
PPLA	**Purkeypile** baz=246	**18.25**	**42**	P	**Pn**	**17 51 46.3**	**+2.3**
SUA	**Susitna One**	**18.36**	**47**	P	**P**	**17 51 45.0**	**+0.9**
SUA	**Susitna One** baz=252	**18.36**	**47**	P	**Pn**	**17 51 46.0**	**+0.8**
C17K	**DeLong Mountai** baz=214	**18.38**	**19**	P	**P**	**17 51 45.7**	**+1.6**
F19K	**Shaleruckik Mo**	**18.46**	**28**	P	**P**	**17 51 46.3**	**+1.4**
F19K				IAmb	IAmb	17 52 14.5	
	comp=Z,5.8nm,1.1s						
F19K	**Shaleruckik Mo** baz=227	**18.46**	**28**	P	**P**	**17 51 46.3**	**+1.4**
SEY	**Seymchan**	**18.47**	**317**	P	**Pn**	**17 51 46.8**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=142,slow=18,SNR=4.4						
CAST	**Castle Rocks**	**18.51**	**41**	P	**Pn**	**17 51 47.7**	**+0.7**
CAST				IAmb	IAmb	17 52 26.8	
	comp=Z,4.7nm,0.8s						
CAST	**Castle Rocks** baz=245	**18.51**	**41**	P	**Pn**	**17 51 48.8**	**+1.9**
H20K	**Anotleneega Mo** baz=235	**18.52**	**33**	P	**P**	**17 51 47.0**	**+1.4**
O22K	**Cooper Landing** baz=256	**18.57**	**51**	P	**Pn**	**17 51 49.5**	**+2.0**
SEW	**Seward** baz=258	**18.61**	**52**	P	**Pn**	**17 51 49.7**	**+1.6**
C18K	**Utukok River**	**18.94**	**21**		**P**	**17 51 51.6**	**+1.3**
C18K				IAmb	IAmb	17 52 12.7	
	comp=Z,12nm,1.4s						
KTH	**Kantishna Hill**	**19.04**	**41**	P	**P**	**17 51 53.0**	**+1.6**
E19K	**Redstone River**	**19.04**	**27**	P	**P**	**17 51 53.0**	**+1.7**
F20K	**Avaraart Lake**	**19.20**	**29**	P	**P**	**17 51 54.8**	**+1.7**
F20K	**Avaraart Lake** baz=

baz=238,SNR=6.3
I21K **Tanana** 19.37 36 P P 17 51 56.7 +1.8
I21K IAmb IAmb 17 52 00.9
comp=Z,4.4nm,0.8s
I21K **Tanana** 19.37 36 P Pn 17 51 57.2 +0.1
baz=240
KNK **Knik Glacier** 19.40 49 P P 17 51 54.5 -0.8
KNK IAmb IAmb 17 51 59.3
comp=Z,6.0nm,0.9s
KNK **Knik Glacier** 19.40 49 P P 17 51 56.4 +1.1
baz=255
D19K **Kuna River** 19.55 24 P P 17 51 58.2 +1.3
D19K IAmb IAmb 17 52 28.3
comp=Z,14nm,1.5s
D19K **Kuna River** 19.55 24 P P 17 51 57.5 +0.6
baz=223
SML **Sawmill** 19.56 48 P P 17 51 56.5 -0.7
SML IAmb IAmb 17 52 00.5
comp=Z,10nm,1.0s
SML **Sawmill** 19.56 48 P P 17 51 58.7 +1.6
baz=254
G21K **Allakaket** 19.57 32 P P 17 51 56.4 -0.7
G21K IAmb IAmb 17 52 28.2
comp=Z,9.3nm,1.4s
G21K **Allakaket** 19.57 32 P P 17 51 59.3 +2.2
baz=235
C19K **Lookout Ridge** 19.66 21 P P 17 51 58.7 +0.6
C19K IAmb IAmb 17 52 31.2
comp=Z,9.5nm,1.2s
C19K **Lookout Ridge** 19.66 21 P P 17 51 59.2 +1.1
baz=219
MLY **Manley** 19.76 37 P P 17 51 59.3 +0.1
MLY **Manley** 19.76 37 P P 17 52 00.1 +0.8
baz=242
WAT1 **Susitna Watana** 19.77 45 P P 17 51 59.9 +0.5
baz=251
M23K **Glacier View** 19.84 48 P P 17 52 01.1 +1.1
baz=255
RND **Reindeer** 19.84 43 P P 17 51 59.1 -1.0
RND IAmb IAmb 17 52 34.4
comp=Z,4.5nm,0.8s
E20K **Nigu River** 19.88 26 P P 17 52 01.2 +0.7
baz=226
GLI **Glacier Island** 19.92 51 P P 17 52 00.3 -0.5
GLI IAmb IAmb 17 52 03.3
comp=Z,7.2nm,0.7s
GLI **Glacier Island** 19.92 51 P P 17 52 01.9 +1.1
baz=258
MCK **McKinley** 19.93 42 P P 17 52 02.5 +1.5
baz=248
H22K **Ishtalitna Cre** 19.95 35 P Pn 17 52 04.3 +0.5
baz=239
F21K **Alatna River** 20.00 30 P P 17 52 02.0 +0.3
F21K **Alatna River** 20.00 30 P Pn 17 52 05.0 +0.7
baz=233
SCM **Sheep Creek Mo** 20.03 48 P P 17 52 02.3 +0.1
SCM **Sheep Creek Mo** 20.03 48 P P 17 52 02.9 +0.7
baz=255
WAT6 **Susitna Watana** 20.05 46 P P 17 52 03.1 +0.6
baz=253,SNR=6.9
D20K **Etivluk River** 20.09 25 P P 17 52 03.0 +0.3
baz=225
HIN **Hinchinbrook I** 20.11 52 P P 17 52 02.3 -0.7
FID **Port Fidalgo** 20.19 51 P P 17 52 03.0 -0.7
NEA2 **Nenana** 20.21 39 P P 17 52 04.7 +0.6
NEA2 IAmb IAmb 17 52 06.1
comp=Z,7.2nm,0.8s
NEA2 **Nenana** 20.21 39 P P 17 52 05.0 +0.9
baz=246,SNR=6.4
I23K **Minto, Yukon-K** 20.34 38 P P 17 52 05.9 +0.5
I23K **Minto, Yukon-K** 20.34 38 P P 17 52 07.0 +1.6
baz=244
DHY **Denali Highway** 20.36 44 P P 17 52 05.4 -0.4
DHY IAmb IAmb 17 52 40.0
comp=Z,6.2nm,0.8s
DHY **Denali Highway** 20.36 44 P P 17 52 07.4 +1.6
baz=252
G22K **Bettles** 20.46 32 P P 17 52 09.0 +2.4
baz=237
WRH **Wood River Hil** 20.55 40 P P 17 52 06.7 -1.0
F22K **John River** 20.57 30 P P 17 52 09.9 +2.0
baz=234
H23K **Yukon River** 20.58 36 P Pn 17 52 11.3 +0.1
baz=242
KLU **Klutina** 20.60 49 P Pn 17 52 11.8 +0.3
baz=258
E21K **Killik River** 20.62 27 IAmb IAmb 17 52 42.2
comp=Z,5.7nm,1.1s
E21K **Killik River** 20.62 27 P P 17 52 10.4 +2.0
baz=230
M24K **Tolsona, Glenn** 20.62 47 P P 17 52 10.0 +1.4
baz=256
MDM **Murphy Dome** 20.69 39 P P 17 52 09.3 +0.1
MDM IAmb IAmb 17 52 38.5
comp=Z,6.8nm,1.0s
G23K **Bananza Creek** 20.84 34 P P 17 52 11.7 +0.8
G23K IAmb IAmb 17 52 40.8
comp=Z,5.0nm,0.9s
G23K **Bananza Creek** 20.84 34 P P 17 52 12.1 +1.3
baz=239,SNR=5.1
C21K **Knifeblade Rid** 20.88 25 P P 17 52 11.4 +0.3
baz=227
B20K **Meade River** 20.91 22 P P 17 52 11.8 +0.4
HDA **Harding Lake** 20.99 41 P P 17 52 13.7 +1.3
baz=249
COLD **Coldfoot** 21.05 32 P P 17 52 15.3 +2.3
baz=238
POKR **Poker Plat Res** 21.07 39 P P 17 52 14.2 +1.0
baz=247
KAIM **Kayak Island** 21.07 54 P P 17 52 15.7 +2.4
baz=264
BMRM **Bremner River** 21.13 51 P P 17 52 16.0 +2.1
baz=261
ILAR **Eielson Array** 21.15 40 ScP ScP 17 59 36.5 -6.5
comp=Z,0.2nm,0.5s,baz=277,slow=3.3,SNR=4.1
HARP **HAARP** 21.16 47 P P 17 52 16.6 +2.4
baz=256
PAX **Paxson** 21.16 45 P P 17 52 15.9 +1.5
baz=254,SNR=5.4
H24K **Noodor Dome** 21.20 37 IAmb IAmb 17 52 18.3
comp=Z,4.9nm,0.8s
H24K **Noodor Dome** 21.20 37 P P 17 52 16.3 +1.6
baz=244,SNR=7.8
B21K **Ikpikpuk River** 21.24 24 P P 17 52 16.7 +1.7
baz=226
N25K **Chitina, Valde** 21.25 49 IAmb IAmb 17 52 44.9
comp=Z,6.0nm,0.7s
N25K **Chitina, Valde** 21.25 49 P P 17 52 16.5 +1.3
baz=259
D22K **Ayikyak River** 21.26 27 P P 17 52 16.8 +1.5
D22K IAmb IAmb 17 52 18.9
comp=Z,4.1nm,0.7s
D22K **Ayikyak River** 21.26 27 P P 17 52 17.4 +2.1
baz=231
K24K **Donnelly Dome** 21.27 43 P P 17 52 17.2 +1.8
baz=252
GLB **Gilahina Butte** 21.59 50 IAmb IAmb 17 52 51.7
comp=Z,8.1nm,0.9s
J25K **Salcha River,** 21.70 41 P P 17 52 20.4 +0.4
baz=251
G24K **Hadweenzic Riv** 21.73 35 IAmb IAmb 17 52 53.4
comp=Z,13nm,1.2s
G24K **Hadweenzic Riv** 21.73 35 P P 17 52 21.7 +1.5
baz=243,SNR=6.7
D23K **Nanushuk River** 21.89 28 P P 17 52 23.1 +1.2
baz=234,SNR=8.7
MCARA **McCarthy VSAT** 21.95 50 P P 17 52 23.3 +0.7
baz=261
PRP **Porcupine Dome** 21.96 39 P P 17 52 23.5 +0.7
baz=248
F24K **Squaw Lake** 21.97 33 P P 17 52 24.8 +1.9
baz=241,SNR=5.5
TOLK **Toolik Lake Re** 22.03 29 P P 17 52 24.2 +0.8
baz=236
B22K **Teshekpuk Lake** 22.04 24 P P 17 52 23.1 -0.3
baz=227
E24K **Your Creek** 22.06 31 P P 17 52 25.4 +1.6
baz=239
SCRK **Sand Creek** 22.08 43 IAmb IAmb 17 52 56.4
comp=Z,5.6nm,0.8s
SCRK **Sand Creek** 22.08 43 P P 17 52 23.1 -1.0
baz=254,SNR=5.8
H25L **Birch Creek** 22.14 37 P P 17 52 25.1 +0.5
baz=246
A22K **Sinclair Lake** 22.14 21 P P 17 52 25.7 +1.2
baz=223
M26K **Nabesna, AK** 22.14 48 P P 17 52 25.6 +0.9
baz=259
G25K **Bearman Lake** 22.25 35 P P 17 52 26.8 +1.1
baz=245
J26L **Joseph Creek** 22.41 42 P P 17 52 26.1 -1.4
J26L IAmb IAmb 17 52 27.5
comp=Z,5.7nm,0.8s
J26L **Joseph Creek** 22.41 42 P P 17 52 26.4 -1.1
baz=253,SNR=11
C23K **Itkillik River** 22.44 26 P P 17 52 27.2 -0.4
baz=232
D24K **Happy Valley** 22.54 29 P P 17 52 28.3 -0.4
baz=236
M27K **Edge Creek, AK** 22.65 48 P P 17 52 30.0 -0.1
M27K IAmb IAmb 17 53 07.0
comp=Z,10nm,1.1s
M27K **Edge Creek, AK** 22.65 48 P P 17 52 29.9 -0.1
baz=260
CTG **Chitna Glacier** 22.70 52 P P 17 52 31.5 +0.8
baz=264
F25K **Christian Rive** 22.77 34 P P 17 52 30.4 -0.7
baz=244
L27K **Beaver Creek,** 22.80 46 IAmb IAmb 17 53 05.1
comp=Z,5.7nm,1.1s
L27K **Beaver Creek,** 22.80 46 P P 17 52 31.0 -0.4
baz=258
I26K **Coal Creek Min** 22.82 40 P P 17 52 30.8 -0.7
baz=252
C24K **Franklin Bluff** 22.90 27 P P 17 52 31.3 -1.0
baz=235
K27K **Chicken** 22.91 44 P P 17 52 33.0 +0.6
baz=256
E25K **Arctic Village** 23.04 32 IAmb IAmb 17 53 03.0
comp=Z,9.3nm,1.2s
E25K **Arctic Village** 23.04 32 P P 17 52 33.0 -0.7
baz=242
G26K **Porcupine Rive** 23.16 36 P P 17 52 34.8 0.0
baz=247,SNR=6.0
YUK3 **Moose Creek** 23.22 50 P P 17 52 35.1 -0.6
baz=263,SNR=8.8
O28M **Mount Upton** 23.25 52 P P 17 52 35.6 -0.4
baz=266
F26K **Sheenjek River** 23.33 34 P P 17 52 36.3 -0.2
baz=245
D25K **Kavik River** 23.37 29 P P 17 52 36.4 -0.4
baz=239
EGAK **Eagle** 23.48 42 P P 17 52 37.8 0.0
EGAK **Eagle** 23.48 42 P P 17 52 37.6 -0.1
baz=255
YUK8 **Steele Glacier** 23.50 51 P P 17 52 38.9 +0.6
baz=265
I27K **Kandik River** 23.52 40 P P 17 52 38.7 +0.5
baz=253
PNL **Peninsula** 23.59 55 P P 17 52 40.2 +1.3
baz=269
H27K **Steamboat Moun** 23.75 38 P P 17 52 40.7 +0.5
baz=252
G27K **Doyon Strip** 23.89 37 P P 17 52 43.3 +1.8
baz=250
YUK4 **Talbot Arm** 24.04 51 P P 17 52 44.8 +1.7
baz=266
DAWY **Dawson** 24.07 44 P P 17 52 44.8 +1.7
baz=259
C26K **Camden Bay** 24.11 29 P P 17 52 44.1 +0.7
baz=240
I28M **Miner Creek** 24.15 41 P P 17 52 43.1 -0.8
I28M IAmb IAmb 17 53 15.0
comp=Z,6.2nm,0.9s
I28M **Miner Creek** 24.15 41 P P 17 52 42.9 -1.0
baz=255
YUK6 **Outpost Mounta** 24.15 52 P P 17 52 44.3 +0.2
baz=267
M29M **Somme Creek** 24.23 48 P P 17 52 44.2 -0.5
baz=264,SNR=5.4
E27K **Coleen River** 24.41 34 P P 17 52 45.2 -0.9
baz=248
P29M **Windy Craggy** 24.43 55 P P 17 52 46.2 -0.2
baz=270
L29M **L29M** 24.47 47 P P 17 52 46.6 -0.1
baz=262
I29M **Ogilvie Camp,** 24.79 41 P P 17 52 50.0 +0.3
baz=257
N30M **Aishikik Lake** 24.80 51 P P 17 52 49.1 -0.7
baz=267
F28M **Old Crow** 24.81 36 P P 17 52 50.0 +0.2
baz=251
P30M **Million Dollar** 24.82 54 P P 17 52 49.3 -0.8
baz=270
K29M **Barlow Dome** 24.84 45 IAmb IAmb 17 52 55.4
comp=Z,4.6nm,0.9s
K29M **Barlow Dome** 24.84 45 P P 17 52 52.0 +1.7
baz=261,SNR=5.0
M30M **Minto, Yukon** 25.02 48 P P 17 52 53.6 +1.9
baz=265
D27M **Malcolm River** 25.04 32 P P 17 52 52.5 +0.6
D27M IAmb IAmb 17 52 53.2
comp=Z,3.6nm,0.7s
D27M **Malcolm River** 25.04 32 P P 17 52 52.6 +0.6
baz=246
E28M **Babbage River** 25.27 34 P P 17 52 54.2 +0.2
EPYK **Eagle Plains** 25.66 39 P P 17 52 57.9 +0.4
baz=257
E29M **Blow River** 25.77 35 P P 17 53 00.8 +2.4
baz=252
D28M **Stokes Point** 25.80 32 P P 17 53 01.5 +2.8
baz=249
F30M **Barrier River** 26.31 37 P P 17 53 01.6 -1.7
baz=256
P32M **Atlin** 26.48 55 P P 17 53 05.6 +0.6
baz=274
G31M **Satah River** 26.73 39 P P 17 53 08.2 +1.2
baz=258
KLR **Kul'dur** 30.51 284 P P 17 53 38.3 -2.6
comp=Z,0.9nm,0.5s,baz=63,slow=6.2,SNR=6.0
comp=Z,0.9nm,0.5s
MJAR **Matsushiro Arr** 33.35 259 P P 17 54 04.7 -1.1
comp=Z,1.3nm,0.6s,baz=51,slow=7.6,SNR=5.5
comp=Z,1.3nm,0.6s
H11N2 **WAKE ISLAND Hy** 33.83 203 T T 18 30 57.8
baz=18,slow=76,SNR=42
H11N3 **WAKE ISLAND Hy** 33.84 203 T T 18 30 58.0
baz=18,slow=76,SNR=63
H11N1 **WAKE ISLAND Hy** 33.85 203 T T 18 30 58.7
baz=18,slow=76,SNR=51
H11S1 **WAKE ISLAND Hy** 35.05 203 T T 18 32 29.2
baz=17,slow=76,SNR=46
H11S2 **WAKE ISLAND Hy** 35.07 203 T T 18 32 30.6
baz=17,slow=76,SNR=30
H11S3 **WAKE ISLAND Hy** 35.07 203 T T 18 32 31.1
baz=17,slow=76,SNR=24
YKA **Yellowknife Ar** 35.23 47 P P 17 54 21.3 -0.4
comp=Z,0.6nm,0.7s,baz=285,slow=8.9,SNR=5.9
YKA pP pwP 17 54 51.5 +3.6
comp=Z,2.7nm,0.8s,baz=285,slow=8.9,SNR=17
comp=Z,0.6nm,0.7s
KSRS **Korea Array** 39.10 269 P P 17 54 54.5 -0.3
comp=Z,1.0nm,0.6s,baz=53,slow=8.9,SNR=5.2
comp=Z,1.0nm,0.6s
YBH **Yreka Blue Hor** 39.33 82 P P 17 54 57.7 +1.0
YBH IAmb IAmb 17 55 00.3
comp=Z,3.3nm,1.1s
YBH **Yreka Blue Hor** 39.33 82 P P 17 54 58.2 +1.5
comp=Z,2.1nm,0.7s,baz=343,slow=5.5,SNR=9.9
comp=Z,2.1nm,0.7s
NVAR **Mina Array Bea** 44.01 83 P P 17 55 35.8 +0.7
NVAR **Mina Array Bea** 44.01 83 P P 17 55 36.2 +1.1
comp=Z,2.2nm,0.7s,baz=293,slow=7.5,SNR=12
comp=Z,2.2nm,0.7s
R11B **Troy Canyon, C** 45.73 81 P P 17 55 48.9 +0.2
R11B IAmb IAmb 17 55 49.7
comp=Z,2.2nm,0.8s
SONM **Songino Array** 45.92 296 P P 17 55 49.1 -0.8
comp=Z,0.4nm,0.5s,baz=46,slow=6.6,SNR=2.6
SONM pP pP 17 56 18.8 +5.4
comp=Z,0.3nm,0.3s,baz=24,slow=44,SNR=2.3
comp=Z,0.4nm,0.5s
PDAR **Pinedale Array** 46.65 72 pP pP 17 56 26.7 +8.2
comp=Z,0.7nm,0.7s,baz=306,slow=5.1,SNR=3.2
PSUT **Pine Spring** 46.67 80 P P 17 55 56.1 0.0
PSUT IAmb IAmb 17 55 57.4
comp=Z,2.7nm,0.7s
U15A **North Rim** 48.97 81 P 17 56 14.3 +0.4
SPITS **Spitsbergen Ar** 49.77 356 P P 17 56 17.8 -1.3
comp=Z,7.3nm,0.8s,baz=51,slow=6.9,SNR=10
SPITS pP pP 17 56 46.5 +3.6
comp=Z,13nm,1.1s,baz=67,slow=3.0,SNR=2.2
comp=Z,7.3nm,0.8s
SPB2 **Spitsbergen Ar** 49.77 356 P P 17 56 18.0 -1.1
ARCES **ARCESS Array B** 57.44 350 P P 17 57 12.0 -3.2
comp=Z,1.3nm,0.8s,baz=13,slow=8.3,SNR=1.3
comp=Z,1.3nm,0.8s
TXAR **Lajitas Array** 59.10 81 P P 17 57 26.9 -0.4
comp=Z,0.7nm,0.5s,baz=308,slow=4.4,SNR=4.8
comp=Z,0.7nm,0.5s
MKAR **Makanchi Array** 59.26 308 P P 17 57 25.1 -3.0
comp=Z,0.2nm,0.3s,baz=48,slow=6.4,SNR=8.4
comp=Z,0.2nm,0.3s
BVAR **Borovoye Array** 60.11 319 P P 17 57 31.1 -2.8
comp=Z,0.5nm,0.7s,baz=61,slow=8.9,SNR=2.7
BVAR pP pP 17 58 03.4 +4.9
comp=Z,1.2nm,0.7s,baz=44,slow=6.8,SNR=6.2
comp=Z,0.5nm,0.7s
FINES **FINESS Array B** 65.11 347 P P 17 58 03.8 -3.1
comp=Z,1.8nm,0.9s,baz=17,slow=8.0,SNR=4.3
comp=Z,1.8nm,0.9s
HFS **Hagfors** 67.76 353 P P 17 58 21.5 -2.3
comp=Z,1.2nm,0.7s,baz=1.4,slow=12,SNR=2.0
comp=Z,1.2nm,0.7s
CMAR **Chiang Mai Arr** 70.42 275 P P 17 58 39.2 -1.7
comp=Z,1.2nm,0.8s,baz=25,slow=7.3,SNR=9.7
comp=Z,1.2nm,0.8s
EKA **Eskdalemuir Ar** 73.05 2 P P 17 58 55.1 -0.9
comp=Z,0.5nm,0.5s,baz=358,slow=4.4,SNR=3.8
comp=Z,0.5nm,0.5s
AKASG **Malin Array Be** 74.84 341 P P 17 59 03.9 -2.6
comp=Z,0.8nm,0.4s,baz=19,slow=6.4,SNR=4.7
AKASG pP pP 17 59 35.6 +3.6
comp=Z,1.1nm,0.6s,baz=18,slow=6.4,SNR=3.6
comp=Z,0.8nm,0.4s
WRA **Warramunga Arr** 82.05 223 P P 17 59 45.0 -1.6
comp=Z,2.0nm,0.5s,baz=31,slow=5.9,SNR=22
comp=Z,2.0nm,0.5s
ASAR **Alice Springs** 85.55 222 P P 18 00 03.5 -0.8
comp=Z,1.3nm,0.6s,baz=26,slow=5.3,SNR=35
comp=Z,1.3nm,0.6s
STKA **Stephens Creek** 90.11 212 P P 18 00 24.6 -1.2
comp=Z,4.3nm,0.8s,baz=318,slow=5.3,SNR=5.8
comp=Z,4.3nm,0.8s
QSPA **South Pole Qui** 141.70 180 PKhKP PKPpre 18 06 49.1
comp=Z,0.8nm,0.5s,baz=184,slow=1.7,SNR=8.7
MAW **Mawson** 146.60 218 PKPbc **PKPdf** 18 07 04.8 +0.7
comp=Z,2.0nm,0.5s,baz=73,slow=2.9,SNR=4.2
BOSA **Boshof** 150.20 312 PKPbc **PKPdf** 18 07 14.8 +3.5
comp=Z,1.5nm,0.6s,baz=50,slow=3.5,SNR=8.5

RSNC ***16*** *17:54:38.0±0.0,8˚N±2˚×7˚3W±˚, h134km±3km, M2.9, mB4.8, ML2.9, Mw(mB)4.0*
IDC ***16*** *17:54:46.9±7.4, 7˚23N×73˚84W, h226km±58km, mbtmp3.6/1, Error ellipse: s-maj=217.3km s-min=109.9km az=110.0*
ISC 16 17:54:34.3±1.1, 8˚26N±0˚03×73˚17W±0˚05, h154km±8km, n25, σ1s60/45, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OCAC	**Ocana**	**0.15**	**264**	P	**Pn**	**17 54 55.7**	**+0.5**
OCAC				S	**Sn**	**17 55 10.2**	**-0.7**
PAMC	**Pamplona, Colo**	**1.02**	**153**	P	**Pn**	**17 55 01.0**	**+0.8**
PAMC				S	**Sn**	**17 55 19.1**	**-0.9**
BARC	**Barichara**	**1.65**	**180**	P	**Pn**	**17 55 06.8**	**+0.7**
BARC				S	**Sn**	**17 55 30.2**	**-0.3**
ZARC	**Zaragoza, Cauc**	**1.84**	**246**	P	**Pn**	**17 55 08.9**	**+1.0**
ZARC				S	**Sn**	**17 55 33.7**	**+0.1**
ARGC	**Ariguani, Magd**	**1.92**	**326**	P	**Pn**	**17 55 11.4**	**+2.7**
ARGC				S	**Sn**	**17 55 36.7**	**+1.5**
PTBC	**PUERTO BERRIO,**	**2.13**	**217**	P	**Pn**	**17 55 11.8**	**+0.5**
PTBC				S	**Sn**	**17 55 39.0**	**-0.7**
TAMC	**Tame, Arauca**	**2.27**	**143**	P	**Pn**	**17 55 13.9**	**+1.0**
TAMC				S	**Sn**	**17 55 40.2**	**-2.4**
RUSC	**La Rusia**	**2.35**	**178**	P	**Pn**	**17 55 14.2**	**-0.1**
RUSC				S	**Sn**	**17 55 42.5**	**-2.6**
UREC	**San Jos de Ur**	**2.39**	**258**	P	**Pn**	**17 55 14.3**	**-0.1**
UREC				S	**Sn**	**17 55 43.2**	**-2.0**
SJCC	**San Jacinto, C**	**2.57**	**310**	P	**Pn**	**17 55 17.6**	**+1.0**
SJCC				S	**Sn**	**17 55 48.4**	**-0.8**
SPBC	**San Pablo de B**	**2.74**	**199**	P	**Pn**	**17 55 19.9**	**+1.2**
SPBC				S	**Sn**	**17 55 53.5**	**+0.5**
CRJC	**Cerrejon, Guaj**	**2.76**	**6**	P	**Pn**	**17 55 19.3**	**+0.3**
CRJC				S	**Sn**	**17 55 52.5**	**-1.0**
SMRC	**Santa Marta, M**	**3.07**	**340**	P	**Pn**	**17 55 23.6**	**+0.8**
SMRC				S	**Sn**	**17 55 59.1**	**-1.2**
NORC	**Norcasia**	**3.16**	**212**	P	**Pn**	**17 55 25.9**	**+1.9**
NORC				S	**Sn**	**17 56 00.2**	**-2.3**
APAC	**Apartado, Choc**	**3.40**	**264**	P	**Pn**	**17 55 26.0**	**-0.9**
APAC				S	**Sn**	**17 56 07.9**	**+0.2**
ROSC	**El Rosal**	**3.58**	**199**	P	**Pn**	**17 55 32.2**	**+2.5**
	22nm,0.3s,baz=36,slow=19,SNR=7.5						
ROSC				S	**Sn**	**17 56 08.0**	**-4.6**
	53nm,0.8s,baz=11,slow=6.8,SNR=8.3						
URIC	**Uribia, Colomb**	**3.62**	**19**	P	**Pn**	**17 55 29.7**	**0.0**
URIC				S	**Sn**	**17 56 11.3**	**-1.5**
CHIC	**Chingaza**	**3.65**	**189**	P	**Pn**	**17 55 32.0**	**+1.5**
CHIC				S	**Sn**	**17 56 15.5**	**+1.4**
VILC	**Villavicencio,**	**4.15**	**187**	P	**Pn**	**17 55 38.9**	**+2.1**
PTGC	**Puerto Gaitan,**	**4.16**	**166**	P	Pn	17 55 31.0	-5.8
PLMC	**San Jos del P**	**4.54**	**223**	P	**Pn**	**17 55 38.4**	**-3.5**
PLMC				S	**Sn**	**17 56 34.5**	**-0.1**
PRAC	**Prado**	**4.82**	**201**	P	**Pn**	**17 55 47.0**	**+1.4**
PRAC				S	**Sn**	**17 56 41.6**	**+0.4**
URMC	**La Uribe, Meta**	**5.12**	**194**	P	**Pn**	**17 55 51.5**	**+2.0**
URMC				S	**Sn**	**17 56 49.0**	**+0.7**
ASAR	**Alice Springs**	**149.88**	**236**	PKPbc	**PKiKP**	**18 14 08.0**	**-0.2**
	0.3nm,1.0s,baz=101,slow=3.9,SNR=1.6						
WRA	**Warramunga Arr**	**150.96**	**244**	PKPbc	**PKiKP**	**18 14 10.8**	**+0.4**
	0.7nm,0.9s,baz=101,slow=3.2,SNR=4.8						

IDC 16 18:04:38.6±2.9, 5˚50N×127˚46E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=229.7km s-min=27.4km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**26.18**	**165**	P	P	18 10 15.1	+0.1
	0.1nm,0.4s,baz=345,slow=9.9,SNR=1.5						
	0.1nm,0.4s						
ASAR	**Alice Springs**	**29.67**	**168**	P	P	18 10 46.2	-0.1
	0.3nm,0.8s,baz=354,slow=7.3,SNR=1.5						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**56.54**	**324**	P	P	18 14 22.8	-0.1
	0.3nm,0.4s,baz=122,slow=7.4,SNR=8.1						
	0.3nm,0.4s						

KRNET ***16*** *18:07:33.6±0.1, 41˚38N×77˚72E, h16km, mb3.0*
NNC ***16*** *18:07:34.1±0.9, 41˚40N×77˚81E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=5.9km s-min=3.8km az=175.0*
SOME ***16*** *18:07:34.9, 41˚57N×77˚77E, h5km*
ISC 16 18:07:32.3±1.8, 41˚28N±0˚07×77˚67E±0˚03, h7km±11km, n61, σ1s30/94, 10C-16D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDJ	**Kajisay**	**0.93**	**337**	⇓*e*P	**Pg**	**18 07 49.8**	**-0.3**
	baz=32						
KDJ				⇓*e*S	**Sg**	**18 08 01.6**	**-0.6**
	baz=32						
PRZ	**Przheval'sk**	**1.32**	**24**	⇓*e*P	**Pb**	**18 07 57.0**	**-0.7**
	baz=24						
PRZ				⇓*i*S	**Sb**	**18 08 13.9**	**-1.1**
	baz=24						
ULHL	**Ulahol**	**1.44**	**313**	⇑*e*P	**Pg**	**18 08 00.1**	**+0.2**
	baz=9.0						
ULHL				⇑*e*S	**Sg**	**18 08 19.3**	**+0.7**
	baz=9.0						
ANVS	**Anan'yevo**	**1.50**	**0**	⇑*e*P	**Pb**	**18 07 59.9**	**-0.9**
	baz=58						
ANVS				⇑*e*S	**Sn**	**18 08 19.4**	**-0.6**
	baz=58						
BOOM	**Boomskoye usch**	**1.77**	**314**	⇓*e*P	**Pg**	**18 08 05.9**	**-0.4**
	baz=11						
BOOM				⇓*e*S	**Sg**	**18 08 29.1**	**-0.1**
	baz=11						
TNSS	**Tian-Shan**	**1.84**	**343**	S	**Sb**	**18 08 29.8**	**-0.2**
	19nm,0.3s						
TNSS	**Tian-Shan**	**1.84**	**343**	*e*P	**Pb**	**18 08 06.2**	**-0.4**
	23nm,0.2s						
TNSS				*e*S	**Sb**	**18 08 30.0**	**+0.1**
	19nm,0.3s						
TNSS	**Tian-Shan**	**1.84**	**343**	*e*P	**Pb**	**18 08 06.2**	**-0.4**
	baz=41						
TNSS				*e*S	**Sb**	**18 08 30.1**	**+0.1**
	baz=41						

SATY	**Saty** 8.5nm,0.2s	**1.86**	**17**	*e*P	**Pb**	**18 08 06.0**	**-0.8**
SATY	42nm,0.2s			*e*S	**Sb**	**18 08 29.9**	**-0.5**
SATY	**Saty** baz=17	**1.86**	**17**	*e*P	**Pb**	**18 08 06.0**	**-0.8**
SATY	baz=17			*e*S	**Sb**	**18 08 29.9**	**-0.5**
IZV	**Izvestkoviy** 4.9nm,0.4s	**1.92**	**336**	Pg	**Pb**	**18 08 07.9**	**0.0**
IZV	44nm,0.2s			Lg	Lg	18 08 33.4	
IZV	**Izvestkoviy** 3.6nm,0.1s	**1.92**	**336**	*e*P	**Pb**	**18 08 08.1**	**+0.2**
IZV	73nm,0.2s			*e*S	**Sb**	**18 08 33.4**	**+1.2**
MDOK	**Medeo** 5.5nm,0.3s	**1.94**	**347**	Pg	**Pb**	**18 08 07.8**	**-0.3**
MDOK	6.9nm,0.5s			Pn	**Pb**	**18 08 08.0**	**-0.2**
MDOK	17nm,0.4s			Sn	**Sb**	**18 08 32.7**	**0.0**
MDOK	24nm,0.5s			Lg	Lg	18 08 33.0	
MDOK	**Medeo** 5.5nm,0.3s	**1.94**	**347**	*e*P	**Pb**	**18 08 07.9**	**-0.2**
MDOK	46nm,0.3s			*e*S	**Sb**	**18 08 33.0**	**+0.4**
MDOK	**Medeo** baz=45	**1.94**	**347**	*e*P	**Pb**	**18 08 07.9**	**-0.2**
MDOK	baz=45			*e*S	**Sb**	**18 08 33.0**	**+0.4**
ZHN	**Zhinishke** 3.3nm,0.1s	**1.97**	**17**	*e*P	**Pn**	**18 08 06.7**	**+0.4**
ZHN	82nm,0.1s			*e*S	**Sn**	**18 08 30.7**	**-0.7**
KOTS	**Kotyrbulak** 4.9nm,0.3s	**2.00**	**348**	Pg	**Pb**	**18 08 09.3**	**+0.2**
KOTS	110nm,0.3s			Lg	Lg	18 08 36.0	
KOTS	**Kotyrbulak** 4.9nm,0.3s	**2.00**	**348**	*e*P	**Pb**	**18 08 09.6**	**+0.5**
KOTS	110nm,0.3s			*e*S	**Sb**	**18 08 36.0**	**+1.7**
AAA	**Alma-Ata** 19nm,0.3s	**2.01**	**344**	Pg	**Pb**	**18 08 09.9**	**+0.7**
AAA	78nm,0.5s			Lg	Lg	18 08 36.0	
AAA	**Alma-Ata** 19nm,0.3s	**2.01**	**344**	*e*P	**Pb**	**18 08 09.7**	**+0.4**
AAA	78nm,0.5s			*e*S	**Sb**	**18 08 36.0**	**+1.5**
UZB	**Uzynbulak** 3.0nm,0.3s	**2.12**	**28**	Pg	**Pb**	**18 08 09.5**	**-1.7**
UZB	41nm,0.8s			Lg	Lg	18 08 35.7	
UZB	**Uzynbulak** 3.0nm,0.3s	**2.12**	**28**	*e*P	**Pb**	**18 08 09.5**	**-1.7**
UZB	30nm,0.3s			*e*S	**Sn**	**18 08 35.7**	**+0.5**
KST	**Kastek** 18nm,0.4s	**2.17**	**325**	Pg	**Pg**	**18 08 13.0**	**-1.0**
KST	68nm,0.5s			Lg	Lg	18 08 42.5	
KST	**Kastek** 18nm,0.4s	**2.17**	**325**	*e*P	**Pg**	**18 08 13.3**	**-0.6**
KST	72nm,0.3s			*e*S	**Sg**	**18 08 42.5**	**+0.3**
KURS	**Kuram** 7.5nm,0.5s	**2.24**	**9**	Pg	**Pb**	**18 08 12.6**	**-0.6**
KURS	14nm,0.5s			Lg	Lg	18 08 41.1	
KURS	**Kuram** 7.5nm,0.5s	**2.24**	**9**	*e*P	**Pb**	**18 08 12.6**	**-0.6**
KURS	14nm,0.5s			*e*S	**Sb**	**18 08 41.1**	**-0.1**
KURS	**Kuram** baz=9.0	**2.24**	**9**	*e*P	**Pb**	**18 08 12.6**	**-0.6**
KURS	baz=9.0			*e*S	**Sb**	**18 08 41.1**	**-0.1**
TKM2	**Tokmak 2** 9.8nm,0.4s	**2.25**	**318**	⇓Pn	**Pg**	**18 08 14.8**	**-0.7**
TKM2	34nm,0.4s			⇓Sn	**Sg**	**18 08 45.1**	**+0.4**
TKM2	**Tokmak 2** baz=15	**2.25**	**318**	⇑*e*P	**Pb**	**18 08 13.3**	**-0.2**
TKM2	baz=15			⇑*e*S	**Sb**	**18 08 42.1**	**+0.4**
SHLS	**Shalkode** 8.8nm,0.2s	**2.30**	**35**	*e*P	**Pg**	**18 08 18.8**	**+2.3**
SHLS	113nm,0.6s			*e*S	**Sg**	**18 08 52.1**	**+5.7**
DGS	**Degeres** 14nm,0.6s	**2.41**	**325**	Pg	**Pg**	**18 08 17.3**	**-1.3**
DGS	104nm,0.4s			Lg	Lg	18 08 49.4	
DGS	**Degeres** 13nm,0.3s	**2.41**	**325**	*e*P	**Pg**	**18 08 17.3**	**-1.3**
DGS	104nm,0.4s			*e*S	**Sg**	**18 08 49.4**	**-0.5**
KBK	**Karagaybulak** baz=3.0	**2.45**	**305**	⇑*e*P	**Pb**	**18 08 16.3**	**-0.6**
KBK	baz=3.0			⇑*e*S	**Sb**	**18 08 47.4**	**0.0**
PDGK	**Podgornoye** 2.5nm,0.3s	**2.46**	**33**	Pg	**Pb**	**18 08 16.3**	**-0.7**
PDGK	17nm,0.5s			Lg	Lg	18 08 47.9	
PDGK	**Podgornoye** 5.2nm,0.6s	**2.46**	**33**	⇓Pn	**Pb**	**18 08 16.3**	**-0.7**
PDGK	28nm,0.6s			⇓Sn	**Sb**	**18 08 47.9**	**+0.5**
KTBS	**Karatobe** 5.8nm,0.3s	**2.54**	**344**	Pg	**Pb**	**18 08 19.0**	**+0.7**
KTBS	59nm,0.3s			Lg	Lg	18 08 51.7	
KTBS	**Karatobe** 5.8nm,0.3s	**2.54**	**344**	*e*P	**Pb**	**18 08 18.6**	**+0.3**
KTBS	59nm,0.3s			*e*S	**Sb**	**18 08 51.7**	**+2.0**
UCH	**Uchtor** baz=91	**2.54**	**293**	⇓*e*P	**Pb**	**18 08 18.1**	**-0.5**
UCH	baz=91			⇓*e*S	**Sb**	**18 08 50.5**	**+0.2**
CHKK	**Chushkaly** 55nm,0.3s	**2.62**	**349**	Lg	Lg	18 08 53.7	
CHKK	**Chushkaly** 3.7nm,0.3s	**2.62**	**349**	*e*P	**Pb**	**18 08 19.6**	**-0.1**
CHKK	55nm,0.3s			*e*S	**Sb**	**18 08 53.7**	**+1.5**
AAK	**Ala-Archa** 9.9nm,1.1s	**2.73**	**301**	⇓Pn	**Pg**	**18 08 24.5**	**-0.1**
AAK	14nm,0.5s			⇓Sn	**Sg**	**18 09 01.8**	**+1.9**
AAK	**Ala-Archa** baz=99	**2.73**	**301**	⇑*e*P	**Pb**	**18 08 20.3**	**-1.3**
AAK	baz=99			⇑*e*S	**Sb**	**18 08 54.2**	**-1.1**
CHMS	**Chumysh** baz=7.0	**2.77**	**309**	⇓*e*P	**Pb**	**18 08 20.5**	**-1.7**
CHMS	baz=7.0			⇓*e*S	**Sb**	**18 08 54.5**	**-1.8**
KUU	**Kurty** 28nm,0.3s	**2.79**	**340**	Lg	Lg	18 08 59.6	
KUU	**Kurty** 4.1nm,0.0s	**2.79**	**340**	*e*P	**Pb**	**18 08 23.1**	**+0.5**
KUU	54nm,0.2s			*e*S	**Sb**	**18 08 59.6**	**+2.6**
KRBS	**Karabastau** 56nm,0.5s	**2.83**	**329**	Lg	Lg	18 09 01.2	
KRBS	**Karabastau** 4.4nm,0.3s	**2.83**	**329**	*e*P	**Pb**	**18 08 24.1**	**+0.8**
KRBS	56nm,0.5s			*e*S	**Sb**	**18 09 01.2**	**+3.1**
BLB	**Baldybastay** 48nm,0.3s	**2.88**	**12**	Lg	Lg	18 09 00.4	
ARXS	**Arharly** 74nm,0.5s	**2.94**	**2**	Lg	Lg	18 09 02.9	
ARXS	**Arharly** 3.6nm,0.4s	**2.94**	**2**	*e*P	**Pb**	**18 08 25.0**	**-0.1**
ARXS	74nm,0.2s			*e*S	**Sb**	**18 09 02.9**	**+1.7**
KTMS	**Ketmen** 0.5nm,0.2s	**2.94**	**42**	Pg	**Pb**	**18 08 24.3**	**-0.9**
KTMS	5.9nm,0.3s			Lg	Lg	18 09 02.3	
KTMS	**Ketmen** 0.8nm,0.1s	**2.94**	**42**	*e*P	**Pb**	**18 08 24.7**	**-0.5**
KTMS	14nm,0.3s			*e*S	**Sb**	**18 09 02.3**	**+0.8**
SGDS	**Sogindy** 21nm,0.7s	**3.13**	**315**	Lg	Lg	18 09 10.9	
DJR	**Jarkent** 5.4nm,0.3s	**3.43**	**26**	Lg	Lg	18 09 15.9	
DJR	**Jarkent** 1.2nm,0.2s	**3.43**	**26**	*e*P	**Pb**	**18 08 32.6**	**-0.9**
DJR	14nm,0.2s			*e*S	**Sb**	**18 09 15.9**	**+0.5**
MRKS	**Merke** 0.7nm,0.1s	**3.62**	**295**	Pg	**Pg**	**18 08 41.2**	**-0.5**
MRKS	**Merke** 0.7nm,0.1s	**3.62**	**295**	*e*P	**Pg**	**18 08 41.2**	**-0.5**
MRKS	13nm,0.4s			*e*S	**Sg**	**18 09 31.2**	**+2.7**
KAPS	**Kapalarasan** 1.0nm,0.2s	**4.19**	**17**	Pg	**Pg**	**18 08 49.8**	**-2.8**
KAPS	**Kapalarasan** 1.0nm,0.2s	**4.19**	**17**	*e*P	**Pg**	**18 08 49.6**	**-3.0**
KAPS	4.0nm,0.5s			*e*S	**Sg**	**18 09 45.8**	**-1.1**
BTLS	**Baital** 2.9nm,0.7s	**4.60**	**326**	Lg	Lg	18 09 56.7	
BTLS	**Baital** 1.4nm,0.6s	**4.60**	**326**	*e*P	**Pb**	**18 08 55.8**	**+2.5**
BTLS	8.3nm,0.4s			*e*S	**Sg**	**18 09 56.7**	**-3.3**

NEIC ***16*** *18:08:47.0±1.4, 40°.62N±0°.02×121°.81W±0°.03, h16km±6km, Error ellipse: s-maj=3.8km s-min=1.0km az=102.0*

NCEDC 16 18:08:47.3±1.3, 40°.62N±0°.02×121°.81W±0°.03, h16km±4km, Md3.0/62, ML2.4/54(NEIC)**, Error ellipse: s-maj=3.6km s-min=2.1km az=76.0, Northern California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LDBM	**Digger Butte**	**0.18**	**174**		Pg	18 08 51.8	-0.1
LMEM	**Manzanita Entr**	**0.20**	**113**		Pg	18 08 52.1	-0.1
LSHM	**Sage Hen Hill**	**0.25**	**316**		Pg	18 08 52.4	-0.4
O03E	**Paynes Creek**	**0.32**	**179**		Pg	18 08 53.7	-0.4
O03E					Sg	18 08 59.1	+0.5
HATC	**Hat Creek Radi**	**0.33**	**53**		Pg	18 08 54.2	-0.1
HATC					Sb	18 08 59.9	-0.2
LBCM	**Butte Creek Ri**	**0.41**	**58**		Pg	18 08 55.5	-0.3
LTCM	**Tuscan Springs**	**0.47**	**211**		Pg	18 08 56.8	0.0
LCMM	**Colby Mountain**	**0.52**	**155**		Pg	18 08 57.5	-0.2
LTIM	**Timbered Crate**	**0.61**	**23**		Pg	18 08 59.1	-0.3
M03C	**McCloud**	**0.70**	**340**		Pg	18 09 00.3	-0.7
LBFM	**Black Fox Moun**	**0.73**	**355**		Pg	18 09 01.1	-0.5
N02D	**Trinity Center**	**0.77**	**298**		Pg	18 09 00.9	-1.4
LBKM	**Bonanza King**	**0.80**	**306**		Pg	18 09 01.4	-1.5
LGPM	**Granite Peak**	**0.83**	**291**		Pb	18 09 01.6	-1.8
O02D	**Mt. Diablo Mer**	**0.87**	**240**		Pb	18 09 03.0	-1.0
LBPM	**Beegum Peak**	**0.87**	**250**		Pb	18 09 02.7	-1.3
LMPM	**Military Pass**	**0.91**	**343**		Pb	18 09 04.1	-0.7
LCSM	**College of the**	**0.91**	**331**		Pb	18 09 03.8	-1.0
LMHM	**Little Mount H**	**0.97**	**7**		Pb	18 09 05.0	-0.9
OGOM	**Van Goodin Ran**	**0.97**	**171**		Pb	18 09 04.5	-1.2
LGMM	**Garner Mountai**	**0.98**	**359**		Pb	18 09 05.5	-0.6
LASM	**Arnica Sink**	**1.00**	**10**		Pb	18 09 05.2	-1.1
OBHM	**Bloomer Hill**	**1.00**	**164**		Pb	18 09 05.3	-1.0
LHEM	**Herd Peak**	**1.06**	**343**		Pb	18 09 07.5	+0.1
KHBM	**Hayfork Bally**	**1.07**	**273**		Pb	18 09 06.1	-1.5
ORV	**Oroville**	**1.09**	**167**		Pb	18 09 06.8	-0.9
ORV	**Oroville**	**1.09**	**167**		Pb	18 09 06.0	-1.7
ORV	**Oroville** comp=E,68nm,0.7s	**1.09**	**167**	IAML		18 09 23.6	
M04C	**Macdoel**	**1.17**	**359**		Pn	18 09 08.7	-0.4
LAMM	**Antelope Mount**	**1.17**	**328**		Pn	18 09 07.4	-1.7
PAM	**Palermo**	**1.19**	**169**		Pn	18 09 08.8	-0.4
OWYM	**Wyandotte**	**1.19**	**168**		Pn	18 09 08.4	-0.9
KPPM	**Pickett Peak**	**1.21**	**258**		Pn	18 09 08.6	-1.1
OSTM	**Stimpson Lane**	**1.26**	**172**		Pn	18 09 09.8	-0.4
BMRR	**Black Mountain**	**1.27**	**113**		Pn	18 09 10.2	-0.3
KBNM	**Bluenose Ridge**	**1.28**	**236**		Pn	18 09 10.1	-0.6
B040	**Montague**	**1.30**	**339**		Pn	18 09 10.2	-0.7
YBH	**Yreka Blue Hor**	**1.31**	**329**	Pn	Pn	18 09 09.5	-1.5
YBH					Pb	18 09 09.7	-1.8
YBH	comp=N,63nm,0.3s			IAML		18 09 28.8	
YBH	comp=E,74nm,0.4s			IAML		18 09 29.1	
BEKR	**Beckworth**	**1.34**	**124**		Pn	18 09 11.8	+0.3
OSUM	**Sutter Buttes**	**1.34**	**181**		Pn	18 09 10.6	-0.8
SUTB	**Sutter Butte**	**1.39**	**179**		Pn	18 09 10.9	-1.1
KOMM	**Orleans Mounta**	**1.41**	**299**		Pn	18 09 11.4	-1.0
KHMM	**Horse Mountain**	**1.48**	**281**		Pn	18 09 13.9	+0.5
KHMM	**Horse Mountain** comp=N,60nm,0.6s	**1.48**	**281**	IAML		18 09 39.7	
KHMM	comp=E,65nm,0.7s			IAML		18 09 42.5	
KMRM	**Mail Ridge**	**1.50**	**255**		Pn	18 09 13.6	0.0
KIPM	**Iron Peak**	**1.51**	**238**		Pb	18 09 14.8	-0.3
KCRM	**Chalk Rock**	**1.54**	**264**		Pn	18 09 14.7	+0.5
HOG	**Hogback Mounta**	**1.63**	**3**		Pb	18 09 16.7	-0.4
L04D	**Klamath Falls**	**1.64**	**347**		Pn	18 09 15.0	-0.6
L04D	comp=E,66nm,0.7s			IAML		18 09 48.5	
L04D	comp=N,44nm,0.8s			IAML		18 09 51.0	
KCPM	**Cahto Peak**	**1.65**	**236**		Pn	18 09 15.9	+0.3
KCPM	comp=N,56nm,0.6s			IAML		18 09 50.1	
BABR	**Babbit Peak**	**1.65**	**127**		Pb	18 09 17.9	+0.4
JCC	**Jacoby Creek,**	**1.70**	**278**		Pn	18 09 16.9	+0.7
JCC	**Jacoby Creek,**	**1.70**	**278**	Pn	Pn	18 09 16.1	-0.1
DONR	**Donner Summit**	**1.70**	**137**		Pb	18 09 18.4	0.0
KRPM	**Rodgers**	**1.76**	**289**		Pn	18 09 17.1	-0.1
KRPM	comp=N,37nm,0.7s			IAML		18 09 49.3	
KRPM	comp=E,49nm,0.8s			IAML		18 09 51.6	
KMPM	**Mount Pierce**	**1.77**	**264**		Pn	18 09 17.1	-0.2
KMPM	comp=E,44nm,0.6s			IAML		18 09 50.0	
KMPM	comp=N,38nm,0.8s			IAML		18 09 50.4	
AFDM	**Forest Hills D**	**1.79**	**159**		Pn	18 09 18.5	+1.0
AFDM	**Forest Hills D** comp=N,42nm,0.6s	**1.79**	**159**	IAML		18 09 43.5	
AFDM	comp=E,49nm,0.3s			IAML		18 09 44.2	
GTC	**Three Chop Rid**	**1.81**	**228**		Pn	18 09 18.2	+0.4
KRMB	**Red Mountain**	**1.83**	**300**		Pb	18 09 19.4	-1.0
KRMB	comp=N,39nm,0.8s			IAML		18 09 53.9	
KRMB	comp=E,28nm,0.9s			IAML		18 09 55.9	
KSMM	**Slide Mountain**	**1.86**	**257**		Pn	18 09 19.0	+0.5
HOPS	**Hopland Field**	**1.89**	**211**	Pn	Pn	18 09 18.8	-0.1
MPK	**Martis Peak**	**1.90**	**133**		Pb	18 09 22.1	+0.4
KSXB	**Camp Six Broad**	**1.98**	**309**	Pg	Pb	18 09 22.4	-0.5
L02F	**Cave Junction**	**2.00**	**319**		Pb	18 09 23.5	+0.2
L02F	comp=E,43nm,0.9s			IAML		18 09 55.9	
L02F	comp=N,32nm,0.8s			IAML		18 10 00.2	
PAHR	**Pah Rah Range**	**2.07**	**115**		Pb	18 09 24.7	+0.1
EMB	**Emerald Bay**	**2.10**	**141**		Pb	18 09 25.2	0.0
HUMO	**Hull Mountain**	**2.17**	**337**		Pn	18 09 22.8	+0.1
PNTR	**Pine Nut**	**2.29**	**131**		Pb	18 09 29.1	+0.9
J05D	**Fort Rock, OR**	**2.70**	**9**		Pn	18 09 30.1	-0.1
J05D	comp=N,11nm,4.8s			IAML		18 10 51.1	
DBO	**Dodson Butte**	**2.72**	**337**		Pn	18 09 30.2	-0.2
DBO	comp=N,14nm,3.5s			IAML		18 10 21.9	
DBO	comp=E,13nm,4.6s			IAML		18 10 59.2	
WAKR	**Walker**	**2.79**	**138**		Pn	18 09 31.2	-0.3
WAKR	comp=E,21nm,0.8s			IAML		18 10 18.9	
WAKR	comp=N,10nm,0.9s			IAML		18 10 21.0	
WVOR	**Wild Horse Val**	**3.00**	**52**		Pn	18 09 33.5	-0.8
WVOR	comp=N,10.0nm,1.5s			IAML		18 10 29.6	
WVOR	comp=N,8.5nm,0.8s			IAML		18 10 32.0	
KVN	**Kaiserville**	**3.26**	**117**	Pn	Pn	18 09 39.3	+1.4
KVN				IAML		18 10 35.4	
CADM	**Anderson Res.** comp=N,6.7nm,1.6s	**3.45**	**178**		Pn	18 09 43.1	+2.7

SJA ***16*** *18:15:40.8±0.7, 24°.03S×67°.29W, h198km±6km, ML3.9, MW3.8*
VAO ***16*** *18:15:41.1±0.7, 24°.24S×67°.40W, h183km±6km, mb4.2*
NEIC ***16*** *18:15:41.2±2.1, 24°.12S±0°.07×67°.4W±0°.1, h201km±15km, mb4.5/4, Error ellipse: s-maj=18.1km s-min=9.6km az=109.0*
IDC ***16*** *18:15:42.4±1.8, 23°.95S×67°.16W, h169km±22km, mb3.8/2, mbtmp4.4/7, Error ellipse: s-maj=29.8km s-min=16.4km az=125.0*
GUC ***16*** *18:15:43.8±0.7, 24°.03S×67°.57W, h201km±9km, ML4.3*

ISC 16 18:15:41.7±0.6, 24°.06S±0°.04×67°.36W±0°.04, h184km±7km, n99, σ1°.30/125, 7C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.33**	**325**		**Pn**	**18 16 13.9**	**+1.0**
AF01	**San Pedro de A** comp=E,1μm,0.5s	**1.33**	**325**	IAML		18 16 40.2	
SLA	**San Lorenzo**	**1.81**	**112**	*e*P	**Pn**	**18 16 17.8**	**+0.5**
SLA				*e*S	**Sn**	**18 16 45.2**	**+0.3**
HJA	**Humahuaca**	**1.98**	**65**	*e*P	**Pn**	**18 16 19.6**	**+0.4**
LVC	**Limon Verde**	**2.03**	**315**		**Pn**	**18 16 20.6**	**+0.8**
LVC	**Limon Verde**	**2.03**	**315**	*e*P	**Pn**	**18 16 20.8**	**+1.1**
LVC				*e*S	Sn	18 16 38.2	-11
LVC	comp=Z,258nm,0.2s			IAML		18 16 54.5	
LVC	**Limon Verde** comp=Z,53nm,0.3s,baz=127,slow=7.2,SNR=313	**2.03**	**315**	P	**Pn**	**18 16 21.1**	**+1.4**
LVC				S	**Sn**	**18 16 49.2**	**-0.1**
LVC	**Limon Verde** comp=Z,356nm,0.4s,baz=142,slow=5.8,SNR=22	**2.03**	**315**	⇑*e*P	**Pn**	**18 16 20.9**	**+1.1**
LVC				*e*S	**Sn**	**18 16 49.5**	**+0.2**
LVC				IAML		18 16 51.5	
LVC	**Limon Verde** comp=Z,2μm,0.3s	**2.03**	**315**	*e*P	**Pn**	**18 16 21.2**	**+1.4**
LVC				*e*S	**Sn**	**18 16 49.4**	**+0.2**
AZAP	**Zapla**	**2.10**	**95**	*e*P	**Pn**	**18 16 20.2**	**-0.2**
PB15	**IPOC Station P**	**2.11**	**293**		**Pn**	**18 16 21.8**	**+1.2**
PB15	**IPOC Station P**	**2.11**	**293**	*e*P	**Pn**	**18 16 22.0**	**+1.5**
PB15				*e*S	**Sn**	**18 16 51.1**	**+0.4**
PB15	**IPOC Station P** comp=Z,715nm,0.2s	**2.11**	**293**	⇑*i*P	**Pn**	**18 16 22.1**	**+1.5**
PB15				*e*S	**Sn**	**18 16 50.6**	**0.0**
GO02	**Mina Guanaco**	**2.31**	**241**		**Pn**	**18 16 23.9**	**+1.2**
GO02				Sn	**Sn**	**18 16 53.7**	**-1.0**
GO02	**Mina Guanaco**	**2.31**	**241**	*e*P	**Pn**	**18 16 24.0**	**+1.2**
GO02				*e*S	**Sn**	**18 16 56.2**	**+1.5**
GO02	**Mina Guanaco**	**2.31**	**241**	⇑*i*P	**Pn**	**18 16 24.2**	**+1.4**
GO02				*e*S	**Sn**	**18 16 55.6**	**+0.9**
GO02	comp=E,1μm,0.1s			IAML		18 16 57.5	
FSA	**Cafayete**	**2.40**	**149**	*e*P	Pn	18 16 18.5	-5.1
PB06	**IPOC Station P**	**2.44**	**303**		**Pn**	**18 16 25.5**	**+1.4**
PB06	**IPOC Station P**	**2.44**	**303**	*e*P	**Pn**	**18 16 25.4**	**+1.4**
PB06	comp=Z,715nm,0.2s			IAML		18 17 00.9	
PB06	**IPOC Station P**	**2.44**	**303**	⇑*i*P	**Pn**	**18 16 25.6**	**+1.4**
PB06				*e*S	**Sn**	**18 16 56.9**	**-0.2**
YJA	**Yavi**	**2.53**	**43**	*e*P	**Pn**	**18 16 25.7**	**+0.3**
YJA	**Yavi**	**2.53**	**43**	*e*P	**Pn**	**18 16 25.4**	**-0.1**
PB14	**IPOC Station P**	**2.83**	**258**		**Pn**	**18 16 29.5**	**+0.6**
PB14	**IPOC Station P**	**2.83**	**258**	*e*P	**Pn**	**18 16 29.9**	**+1.0**
PB14				*e*S	**Sn**	**18 17 05.4**	**-0.2**
PB14	comp=Z,130nm,0.3s			IAML		18 17 07.4	
PB14	**IPOC Station P**	**2.83**	**258**	⇑*i*P	**Pn**	**18 16 29.8**	**+1.0**
PB14				*e*S	**Sn**	**18 17 05.2**	**-0.4**
PB09	**IPOC Station P**	**2.84**	**322**		**Pn**	**18 16 30.3**	**+1.4**
PB09				Sn	**Sn**	**18 17 06.3**	**+0.7**
PB09	**IPOC Station P** comp=Z,276nm,0.2s	**2.84**	**322**	*e*P	**Pn**	**18 16 30.5**	**+1.6**
PB09				IAML		18 17 11.7	
PB09	**IPOC Station P**	**2.84**	**322**	⇓*i*P	**Pn**	**18 16 30.6**	**+1.6**
PB09				*e*S	**Sn**	**18 17 06.0**	**+0.4**
PB09	comp=N,618nm,0.4s			IAML		18 17 08.6	
PB10	**IPOC Station P**	**2.98**	**280**		**Pn**	**18 16 31.6**	**+1.3**
PB10	**IPOC Station P**	**2.98**	**280**	*e*P	**Pn**	**18 16 31.6**	**+1.3**
PB10				IAML		18 17 12.3	
PB10	**IPOC Station P** comp=Z,227nm,0.3s	**2.98**	**280**	⇑*i*P	**Pn**	**18 16 31.6**	**+1.3**
PB10				*e*S	**Sn**	**18 17 06.6**	**-1.5**
PB10	comp=E,401nm,0.4s			IAML		18 17 12.5	
PB04	**IPOC Station P**	**3.09**	**303**		**Pn**	**18 16 33.0**	**+1.2**
PB04	**IPOC Station P**	**3.09**	**303**	*e*P	**Pn**	**18 16 33.2**	**+1.3**
PB04				*e*S	**Sn**	**18 17 10.2**	**-0.7**
PB04	comp=Z,737nm,0.2s			IAML		18 17 14.1	
PB04	**IPOC Station P**	**3.09**	**303**	*e*P	**Pn**	**18 16 33.1**	**+1.3**
PB04				*e*S	**Sn**	**18 17 09.8**	**-1.1**
ALOL	**LOMAS DE OLMED**	**3.10**	**86**	*e*P	**Pn**	**18 16 31.4**	**-0.4**
AHML	**Horco Molle**	**3.27**	**146**	*e*P	**Pn**	**18 16 34.4**	**+0.5**
PB07	**IPOC Station P**	**3.29**	**314**		**Pn**	**18 16 34.8**	**+0.5**
PB07				Sn	**Sn**	**18 17 13.7**	**-1.6**
PB07	**IPOC Station P**	**3.29**	**314**	*e*P	**Pn**	**18 16 35.0**	**+0.8**
PB07				*e*S	**Sn**	**18 17 08.7**	**-6.6**
PB07	comp=Z,737nm,0.2s			IAML		18 17 19.3	
PB07	**IPOC Station P**	**3.29**	**314**	⇓*i*P	**Pn**	**18 16 35.1**	**+0.8**
PB07				*e*S	**Sn**	**18 17 14.2**	**-1.1**
PB01	**IPOC Station P**	**3.59**	**326**	Pn	**Pn**	**18 16 38.1**	**+0.2**
PB01	**IPOC Station P**	**3.59**	**326**	*e*P	**Pn**	**18 16 38.2**	**+0.3**
PB01	comp=Z,274nm,0.2s			IAML		18 17 25.2	
PB01	**IPOC Station P**	**3.59**	**326**	⇓*i*P	**Pn**	**18 16 38.2**	**+0.3**
PB01				*e*S	**Sn**	**18 17 20.5**	**-1.4**
PB02	**IPOC Station P**	**3.59**	**319**		**Pn**	**18 16 38.0**	**0.0**
PB02	**IPOC Station P**	**3.59**	**319**	*e*P	**Pn**	**18 16 38.4**	**+0.4**
PB02	**IPOC Station P**	**3.59**	**319**	⇓*i*P	**Pn**	**18 16 38.4**	**+0.4**
PB02				*e*S	**Sn**	**18 17 19.9**	**-2.1**
AC01	**Pan de Azucar**	**3.60**	**234**	Pn	**Pn**	**18 16 37.9**	**0.0**
AC01	**Pan de Azucar**	**3.60**	**234**	*e*P	**Pn**	**18 16 37.8**	**-0.1**
AC01				*e*S	**Sn**	**18 17 20.3**	**-1.6**
AC01	comp=Z,116nm,0.1s			IAML		18 17 23.6	
AC01	**Pan de Azucar**	**3.60**	**234**	⇑*i*P	**Pn**	**18 16 37.9**	**0.0**
PATCX	**Punta Patache**	**4.13**	**321**	Pn	**Pn**	**18 16 44.9**	**+0.1**
PATCX	**Punta Patache**	**4.13**	**321**	*e*P	**Pn**	**18 16 44.9**	**+0.1**
PATCX				*e*S	**Sn**	**18 17 32.8**	**-1.3**
PATCX	comp=Z,134nm,0.3s			IAML		18 17 35.6	
PB08	**IPOC Station P**	**4.24**	**337**		**Pn**	**18 16 46.8**	**+0.4**
PB08	**IPOC Station P**	**4.24**	**337**	*e*P	**Pn**	**18 16 47.3**	**+0.9**
PB08	comp=Z,57nm,0.4s			IAML		18 17 39.2	
AC06	**Mina Casimiro**	**4.25**	**219**	Pn	**Pn**	**18 16 45.1**	**-1.1**
TA01	**Diego Aracena**	**4.35**	**323**		**Pn**	**18 16 47.1**	**-0.3**
TA01	**Diego Aracena**	**4.35**	**323**	*e*P	**Pn**	**18 16 47.5**	**+0.1**
TA01				*e*S	**Sn**	**18 17 38.6**	**-0.3**
TA01	comp=Z,76nm,1.0s			IAML		18 17 40.9	
HMBC	**Humberstone**	**4.43**	**328**		**Pn**	**18 16 47.9**	**-0.8**
TA02	**Huaiquique**	**4.56**	**325**	Pn	**Pn**	**18 16 50.1**	**-0.1**
CYA	**Choya**	**4.58**	**163**	*e*P	**Pn**	**18 16 51.0**	**+0.6**
CYA				*e*S	Sn	18 17 56.9	+12
GO01	**Chusmiza**	**4.69**	**338**	Pn	**Pn**	**18 16 52.4**	**+0.1**
GO01	**Chusmiza**	**4.69**	**338**	*e*P	**Pn**	**18 16 52.6**	**+0.4**
GO01				*e*S	**Sn**	**18 17 49.5**	**+2.0**
**

comp=Z,2.1nm,0.7s,baz=317,slow=11,SNR=1.5
LPAZ La Paz 7.76 354 *e*P **Pn 18 17 33.4 +0.8**
CO02 Combarbal 7.82 204 Pn **Pn 18 17 30.9 -1.7**
BBSD Serra de San D 9.31 44 *e*P **Pn 18 17 53.3 +1.1**
SIV San Ignacio 9.96 37 P **Pn 18 17 59.8 -1.0**
comp=Z,5.9nm,0.3s,baz=235,slow=8.4,SNR=14
SIV S Sn 18 19 34.4 -18
comp=Z,0.8nm,0.4s,baz=199,slow=15,SNR=1.2
ITQB Itaqui 11.09 123 *e*P **Pn 18 18 14.2 -1.1**
PTLB Pontes e Lacer 11.54 44 *e*P **Pn 18 18 24.1 +2.9**
VILB Vilhena 12.96 33 *e*P **Pn 18 18 41.1 +1.8**
CHAP Chapeco 13.27 107 *e*P **Pn 18 18 42.2 -1.0**
TRCB Terra Rica 13.58 88 *e*P **Pn 18 18 46.9 -0.2**
ETMB Extrema 14.20 5 *e*P **P 18 18 57.1 +0.2**
TRQA Tornquist 14.69 163 Pn **Pn 18 18 58.1 -2.7**
GO06 Curarrehue 15.87 192 P **P 18 19 14.3 -0.9**
ARAG Araguaiana, MT 16.80 63 *e*P **Pn 18 19 27.3 +0.7**
PLCA Paso Flores 16.84 188 P **Pn 18 19 28.8 +1.8**
comp=Z,3.5nm,0.9s,baz=16,slow=10,SNR=6.4
LL04 Puerto Octay 17.33 193 P **P 18 19 29.6 -1.6**
LL04 IAmb IAmb 18 19 35.3
comp=Z,6.6nm,0.6s
VAO Valinhos 18.73 91 P **P 18 19 45.6 -1.1**
VAO Valinhos 18.73 91 *e*P **P 18 19 46.4 -0.3**
IPMB Ipameri, GO 18.86 75 *e*P **P 18 19 48.2 +0.1**
SNDB Serra Nova Dou 19.41 55 *e*P **P 18 19 53.8 -0.3**
SNDB *e*pP **pP 18 20 25.0 -1.1**
BDFB Brasilia 20.01 69 P **P 18 20 00.2 -0.4**
BDFB IAmb IAmb 18 20 01.6
comp=Z,21nm,0.8s
BDFB Brasilia 20.01 69 P **P 18 20 00.4 -0.2**
comp=Z,20nm,0.6s,baz=241,slow=12,SNR=26
JANB Januaria 23.46 72 *e*P **P 18 20 35.6 +0.7**
SDBA SAO DESIDERIO 24.23 65 *e*P **P 18 20 40.9 -1.0**
QSPA South Pole Qui 66.15 180 P **P 18 26 12.2 +3.0**
comp=Z,1.1nm,0.4s,baz=322,slow=1.2,SNR=26
comp=Z,1.1nm,0.4s
TORD Torodi Ar. Bea 76.89 69 P **P 18 27 14.4 +0.4**
comp=Z,1.6nm,0.5s,baz=261,slow=5.2,SNR=15
comp=Z,1.6nm,0.5s
ZALV Zalesovo Beam 143.60 28 PKP **PKPdf 18 34 54.7 +0.5**
comp=Z,0.5nm,0.4s,baz=324,slow=7.7,SNR=2.3
MKAR Makanchi Array 146.78 39 PKPbc **PKiKP 18 35 04.6 +0.1**
comp=Z,0.8nm,0.6s,baz=290,slow=3.8,SNR=12

IDC ***16*** *18:20:18.6±2.2,36°.14N×33°.63E,h0km,mb3.6/3, mbtmp3.4/5,ML3.1/2,MS4.2/2,Error ellipse: s-maj=63.0km s-min=23.1km az=75.0*
ISK ***16*** *18:20:20.1,36°.14N×33°.68E,h4km,ML3.1/15*
NIC ***16*** *18:20:21.0,36°.01N×33°.62E,h15km±1km,Ml2.5/9*
AFAD ***16*** *18:20:20.4±0.0,36°.15N×33°.67E,h4km±1km,ML2.8*
GII ***16*** *18:20:22.1±0.4,36°.10N±0°.03×33°.997E±0°.010,h4km, Mws2.8,confirmed*
ISC 16 18:20:19.8±0.9,36°.09N±0°.01×33°.67E±0°.02,h4km±6km, n102,σ1$42/137,mb3.4/3,5D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
TISA	**Tisan-Mersin**	**0.07**	**3**	Pg	**Pg**	**18 20 21.2**	**-0.1**
TISA				Sg	**Sg**	**18 20 21.8**	**-0.6**
YESI	**Yesilovacik-Me**	**0.10**	**346**	Pg	**Pg**	**18 20 21.6**	**-0.4**
YESI				Sg	**Sg**	**18 20 22.8**	**-0.6**
AKK2	**Akkuyu-Mersin**	**0.11**	**293**	Pg	**Pg**	**18 20 22.9**	**+0.8**
AKK2				Sg	**Sg**	**18 20 25.0**	**+1.4**
KARG	**Kargicak-Mersi**	**0.11**	**15**	Pg	**Pg**	**18 20 25.5**	**+0.4**
KARG				Sg	**Sg**	**18 20 23.7**	**0.0**
AKK1	**Akkuyu-Mersin**	**0.12**	**295**	Pg	**Pg**	**18 20 22.8**	**+0.6**
AKK1				Sg	**Sg**	**18 20 24.5**	**+0.7**
AKKU	**Akkuyu-Mersin**	**0.12**	**303**	Pg	**Pg**	**18 20 23.1**	**+0.9**
AKKU				Sg	**Sg**	**18 20 25.1**	**+1.3**
GULN	**MERSIN_Gulnar**	**0.14**	**311**	P	**Pg**	**18 20 23.3**	**+0.7**
GULN				*i* AML	AML	18 20 25.0	
	comp=E,4μm,0.2s						
GULN				S	**Sg**	**18 20 25.4**	**+0.9**
GULN				*i* AML	AML	18 20 26.0	
	comp=N,5μm,0.3s						
IKL	**Isikli**	**0.14**	**4**	Pg	**Pg**	**18 20 22.6**	**-0.1**
IKL				Sg	**Sg**	**18 20 23.2**	**-1.5**
TEPK	**Tepekoy-MERSIN**	**0.17**	**321**	Pg	**Pg**	**18 20 23.4**	**+0.3**
TEPK				Sg	**Sg**	**18 20 25.9**	**+0.5**
OREN	**Orenkoy-Mersin**	**0.21**	**303**	Pg	**Pg**	**18 20 24.1**	**+0.2**
OREN				Sg	**Sg**	**18 20 27.2**	**+0.6**
YORU	**Yoruktepe-Mers**	**0.23**	**286**	Pg	**Pg**	**18 20 25.3**	**+1.1**
SILI	**Silifke-Mersin**	**0.34**	**36**	Pg	**Pg**	**18 20 26.5**	**+0.1**
SILI				Sg	**Sg**	**18 20 31.4**	**+0.5**
KEBE	**Keben-Mersin**	**0.35**	**5**	Pg	**Pg**	**18 20 26.7**	**0.0**
KEBE				Sg	**Sg**	**18 20 31.8**	**+0.4**
BERE	**Bereket-Mersin**	**0.44**	**305**	Pg	**Pg**	**18 20 29.3**	**+0.9**
TEKE	**Tekeli-Mersin**	**0.46**	**276**	Pg	**Pg**	**18 20 29.8**	**+1.2**
TEKE				Sg	**Sb**	**18 20 36.7**	**-0.8**
EREN	**Erenkoy**	**0.69**	**144**	Pg	**Pg**	**18 20 34.4**	**+1.3**
LFK	**Lefkose**	**0.82**	**188**	Pg	**Pg**	**18 20 36.7**	**+1.2**
ATHAL	**Athalassa**	**0.98**	**193**	*i*P	**Pg**	**18 20 39.3**	**+0.8**
ATHAL				S	**Sg**	**18 20 51.2**	**0.0**
ATHAL				AML	AML	18 21 05.0	
	1.7nm,0.5s						
ATHAL				AML	AML	18 21 09.3	
	1.2nm,0.6s						
MVOU	**Mavrovouni**	**1.08**	**182**	⇓*i*P	**Pg**	**18 20 39.7**	**-0.7**
MVOU				S	**Sg**	**18 20 53.7**	**-0.6**
MVOU				AML	AML	18 20 59.5	
	0.5nm,0.3s						
MVOU				AML	AML	18 20 59.8	
	0.7nm,0.2s						
PAR1C	**Paralimni Civi**	**1.09**	**167**	S	**Sg**	**18 20 55.4**	**+0.7**
GAZI	**Gazipasa**	**1.11**	**278**	P	**Pg**	**18 20 41.5**	**+0.5**
GAZI				S	**Sn**	**18 20 59.0**	**+1.2**
GAZI				*i* AML	AML	18 21 01.0	
	comp=N,257nm,0.4s						
GAZI				*i* AML	AML	18 21 04.0	
	comp=E,213nm,0.3s						
KRMN	**Karaman**	**1.13**	**343**	Pn	**Pb**	**18 20 41.8**	**-0.1**
PARAL	**Paralimni**	**1.14**	**165**	⇓*i*P	**Pg**	**18 20 40.9**	**-0.7**
PARAL				S	**Sg**	**18 20 56.8**	**+0.5**
PARAL				AML	AML	18 21 03.3	
	0.3nm,0.5s						
PARAL				AML	AML	18 21 03.5	
	0.4nm,0.5s						
CSS	**Mathiatis**	**1.16**	**194**	⇓*i*P	**Pg**	**18 20 41.1**	**-1.0**
CSS				S	**Sg**	**18 20 56.6**	**-0.6**
CSS				AML	AML	18 20 58.4	
	0.4nm,0.4s						
CSS				AML	AML	18 21 01.9	
	0.3nm,0.3s						
LEF	**Lefka**	**1.16**	**214**	P	**Pg**	**18 20 41.9**	**-0.2**
LEF				S	**Sg**	**18 20 58.0**	**+0.8**
DED	**Mersin**	**1.25**	**46**	P	**Pg**	**18 20 41.9**	**-1.9**
DED				S	**Sb**	**18 21 00.7**	**+0.2**
KKBE	**Karaman, Kazim**	**1.27**	**333**	P	**Pg**	**18 20 43.8**	**-0.3**
KKBE				S	**Sn**	**18 21 01.9**	**-0.1**
KKBE				*i* AML	AML	18 21 03.0	
	comp=E,124nm,0.6s						
KKBE				*i* AML	AML	18 21 06.0	
	comp=N,102nm,0.6s						
ALFC	**Alefka**	**1.28**	**223**	⇓*i*P	**Pn**	**18 20 42.6**	**-1.9**
ALFC				S	**Sg**	**18 20 59.2**	**-1.8**
ALFC				AML	AML	18 21 00.3	
	1.0nm,0.3s						
ALFC				AML	AML	18 21 01.3	
	0.9nm,0.3s						
HDMB	**Hadim**	**1.29**	**313**	Pn	**Pn**	**18 20 45.1**	**+0.3**
TROD	**Troodos**	**1.32**	**210**	P	**Pn**	**18 20 43.1**	**-2.1**
TROD				S	**Sg**	**18 21 01.0**	**-1.2**
TROD				AML	AML	18 21 02.0	
	0.3nm,0.5s						
TROD				AML	AML	18 21 05.3	
	0.4nm,0.3s						
ASGA	**Asgata**	**1.35**	**195**	P	**Pn**	**18 20 43.5**	**-1.9**
ASGA				S	**Sb**	**18 21 01.4**	**-1.8**
ASGA				AML	AML	18 21 14.2	
	0.4nm,0.4s						
ASGA				AML	AML	18 21 14.9	
	0.4nm,0.3s						
KERG	**Konya-Eregli**	**1.37**	**15**	P	**Pn**	**18 20 44.7**	**-1.1**
KERG				S	**Sn**	**18 21 04.1**	**-0.4**
KERG				*i* AML	AML	18 21 07.0	
	comp=N,353nm,0.4s						
KERG				*i* AML	AML	18 21 07.0	
	comp=E,241nm,0.4s						
GULE	**Gulek**	**1.48**	**36**	P	**Pn**	**18 20 46.1**	**-1.3**
GULE				S	**Sn**	**18 21 08.8**	**+1.5**
AKMS	**Akamas**	**1.53**	**226**	P	**Pn**	**18 20 46.5**	**-1.4**
AKMS				AML	AML	18 21 08.9	
	0.3nm,0.3s						
AKMS				AML	AML	18 21 15.3	
	0.3nm,0.3s						
NATA	**Nata**	**1.59**	**215**	P	**Pn**	**18 20 47.5**	**-1.3**
NATA				AML	AML	18 21 20.6	
	1.0nm,0.5s						
NATA				AML	AML	18 21 26.1	
	1.1nm,0.8s						
YURE	**YUREGIR**	**1.74**	**65**	P	**Pn**	**18 20 51.3**	**+0.5**
YURE				S	**Sg**	**18 21 23.4**	**+7.7**
KEPZ	**Antalya-Kepez**	**1.85**	**296**	P	**Pb**	**18 20 54.9**	**+0.7**
KEPZ				S	**Sg**	**18 21 24.2**	**+4.9**
KEPZ				*i* AML	AML	18 21 27.0	
	comp=N,90nm,0.5s						
KEPZ				*i* AML	AML	18 21 34.0	
	comp=E,108nm,0.6s						
CMRD	**Camardi-Nigde**	**1.89**	**34**	Pn	**Pn**	**18 20 53.0**	**+0.1**
CEYT	**Ceyhan**	**1.90**	**61**	Pn	**Pn**	**18 20 53.8**	**+0.8**
AKO	**Adana**	**1.97**	**46**	P	**Pn**	**18 20 55.1**	**+1.1**
AKO				S	**Sg**	**18 21 25.2**	**+2.1**
KMER	**Konya-Meram**	**1.97**	**328**	S	**Sg**	**18 21 24.2**	**+1.0**
SEYD	**Seydisehir-KON**	**1.97**	**312**	Pn	**Pb**	**18 20 55.9**	**-0.4**
TAHT	**Tahtakopru-Hat**	**2.05**	**81**	Pn	**Pn**	**18 20 55.9**	**+0.9**
SEDI	**Konya, Seydise**	**2.05**	**312**	P	**Pb**	**18 20 57.7**	**0.0**
SEDI				S	**Sg**	**18 21 27.3**	**+1.6**
SEDI				*i* AML	AML	18 21 33.0	
	comp=N,77nm,0.9s						
SEDI				*i* AML	AML	18 21 33.0	
	comp=E,110nm,0.7s						
NIDE	**Nigde/Merkez-G**	**2.10**	**25**	P	**Pb**	**18 20 58.1**	**-0.4**
NIDE				*i* AML	AML	18 21 29.0	
	comp=N,156nm,0.8s						
NIDE				*i* AML	AML	18 21 31.0	
	comp=E,254nm,0.3s						
SULT	**Sultanhani-AKS**	**2.10**	**357**	Pn	**Pb**	**18 20 57.9**	**-0.7**
KONT	**Konya--Tatoy**	**2.13**	**331**	Pn	**Pb**	**18 20 57.7**	**-1.2**
KONT	**Konya--Tatoy**	**2.13**	**331**	P	**Pb**	**18 20 58.8**	**-0.1**
KONT				S	**Sg**	**18 21 28.2**	**+0.1**
KONT				*i* AML	AML	18 21 34.0	
	comp=E,84nm,0.7s						
KONT				*i* AML	AML	18 21 35.0	
	comp=N,42nm,0.5s						
BSIR	**Belisirma, Guz**	**2.23**	**13**	P	**Pb**	**18 21 00.3**	**-0.4**
BSIR				S	**Sg**	**18 21 32.7**	**+1.3**
BSIR				*i* AML	AML	18 21 41.0	
	comp=N,68nm,1.1s						
BSIR				*i* AML	AML	18 21 54.0	
	comp=E,64nm,1.3s						
LADK	**Ladik-KONYA**	**2.35**	**334**	Pn	**Pn**	**18 21 00.9**	**+1.6**
HASA	**Hatay-Hassa-Ha**	**2.36**	**73**	P	**Pn**	**18 20 59.9**	**+0.5**
HASA				S	**Sn**	**18 21 30.1**	**+1.3**
YAHY	**KAYSERI_Yahyal**	**2.41**	**34**	P	**Pb**	**18 21 03.1**	**-0.8**
YAHY				S	**Sg**	**18 21 35.8**	**-1.5**
YAHY				*i* AML	AML	18 21 41.0	
	comp=E,39nm,0.8s						
YAHY				*i* AML	AML	18 21 48.0	
	comp=N,44nm,0.6s						
DOGA	**KONYA_Doganhis**	**2.57**	**322**	P	**Pb**	**18 21 05.3**	**-1.3**
DOGA				S	**Sg**	**18 21 42.4**	**0.0**
DOGA				*i* AML	AML	18 21 49.0	
	comp=N,48nm,0.5s						
DOGA				*i* AML	AML	18 22 02.0	
	comp=E,39nm,0.6s						
BEIL	**Beino**	**2.57**	**126**	*e*P	**Pn**	**18 21 02.2**	**0.0**
HWQ	**Hawqa**	**2.60**	**134**	*e*P	**Pn**	**18 21 02.7**	**0.0**
BHL	**Bhannes**	**2.72**	**143**	*e*P	**Pn**	**18 21 04.3**	**-0.1**
RCY	**Rachaya**	**3.14**	**145**	*e*P	**Pn**	**18 21 10.2**	**0.0**
SHBL	**Chebaa**	**3.23**	**148**	*e*P	**Pn**	**18 21 11.3**	**0.0**
NATI	**Neve Ativ**	**3.30**	**148**	P	**Pn**	**18 21 12.8**	**+0.7**
NATI	**Neve Ativ**	**3.30**	**148**	S	**Sn**	**18 21 51.8**	**0.0**
GEM	**Giv'at Ha'Em**	**3.31**	**150**	S	**Sn**	**18 21 52.0**	**-0.2**
GEM	**Giv'at Ha'Em**	**3.31**	**150**	P	**Pn**	**18 21 13.0**	**+0.6**
MMC7	**Mount Meron ar**	**3.38**	**155**	P	**Pn**	**18 21 13.3**	**0.0**
MMA0B	**Mount Meron ar**	**3.39**	**155**	S	**Sn**	**18 21 53.2**	**-1.0**
MMA0B	**Mount Meron ar**	**3.39**	**155**	P	**Pn**	**18 21 13.5**	**0.0**
MMAI	**Mount Meron Ar**	**3.39**	**155**	Pn	**Pn**	**18 21 13.6**	**+0.1**
	4.4nm,0.3s,baz=340,slow=13,SNR=19						
MMAI				Sn	**Sn**	**18 21 52.8**	**-1.3**
	7.0nm,0.3s,baz=342,slow=33,SNR=8.4						
	2.3nm,0.2s						
KSHT	**Keshet**	**3.57**	**150**	S	**Sn**	**18 21 58.7**	**0.0**
KSHT	**Keshet**	**3.57**	**150**	P	**Pn**	**18 21 17.2**	**+1.2**
BRTR	**Keskin Array B**	**3.63**	**360**	Pn	**Pn**	**18 21 18.4**	**+1.6**
	0.7nm,0.3s,baz=182,slow=16,SNR=19						
BRTR				Sn	**Sn**	**18 21 58.0**	**-2.1**
	0.3nm,0.3s,baz=204,slow=15,SNR=3.9						
	1.9nm,0.4s						
OFRI	**`Ofer**	**3.63**	**162**	S	**Sn**	**18 22 01.1**	**+1.0**
OFRI	**`Ofer**	**3.63**	**162**	P	**Pn**	**18 21 18.5**	**+1.7**
MMLI	**Mount Malkishu**	**3.92**	**158**	P	**Pn**	**18 21 22.4**	**+1.6**
MMLI	**Mount Malkishu**	**3.92**	**158**	S	**Sn**	**18 22 07.8**	**+0.5**
HMDT	**Nahal Hemdat**	**4.13**	**158**	S	**Sn**	**18 22 12.9**	**+0.6**
HMDT	**Nahal Hemdat**	**4.13**	**158**	P	**Pn**	**18 21 25.4**	**+1.8**
DSI	**Dead Sea**	**4.73**	**162**	S	**Sn**	**18 22 27.7**	**+0.5**
DSI	**Dead Sea**	**4.73**	**162**	P	**Pn**	**18 21 33.3**	**+1.4**
YTIR	**Yattir**	**4.87**	**165**	P	**Pn**	**18 21 35.9**	**+2.1**
YTIR	**Yattir**	**4.87**	**165**	S	**Sn**	**18 22 32.5**	**+1.8**
MSBI	**Mazada**	**4.97**	**163**	S	**Sn**	**18 22 34.1**	**+1.1**
MSBI	**Mazada**	**4.97**	**163**	P	**Pn**	**18 21 36.9**	**+1.8**
GHAJ	**Ghor Haditha**	**5.03**	**161**	P	**Pn**	**18 21 37.7**	**+1.7**
GHAJ	**Ghor Haditha**	**5.03**	**161**	S	**Sn**	**18 22 35.6**	**+1.1**
KZIT	**Kziot**	**5.21**	**173**	P	**Pn**	**18 21 40.8**	**+2.3**
KZIT	**Kziot**	**5.21**	**173**	S	**Sn**	**18 22 41.4**	**+2.4**
ZFRI	**Zfri**	**5.67**	**167**	P	**Pn**	**18 21 46.7**	**+2.0**
ZFRI	**Zfri**	**5.67**	**167**	S	**Sn**	**18 22 51.7**	**+1.5**
PRNI	**Paran**	**5.83**	**169**	S	**Sn**	**18 22 56.1**	**+1.6**
PRNI	**Paran**	**5.83**	**169**	P	**Pn**	**18 21 49.2**	**+2.1**
KRMI	**Paran Flat**	**6.03**	**171**	P	**Pn**	**18 21 52.1**	**+2.4**
KRMI	**Paran Flat**	**6.03**	**171**	S	**Sn**	**18 23 01.4**	**+2.3**
HRFI	**Mount Harif**	**6.15**	**169**	S	**Sn**	**18 23 03.5**	**+1.3**
HRFI	**Mount Harif**	**6.15**	**169**	P	**Pn**	**18 21 53.1**	**+1.7**
MBRI	**Mt Berech**	**6.37**	**170**	P	**Pn**	**18 21 57.0**	**+2.5**
MBRI	**Mt Berech**	**6.37**	**170**	S	**Sn**	**18 23 09.9**	**+2.2**
EIL	**Elat**	**6.50**	**170**	S	**Sn**	**18 23 12.6**	**+1.9**
EIL	**Elat**	**6.50**	**170**	P	**Pn**	**18 21 58.5**	**+2.3**
VAE	**Valguarnera**	**15.50**	**281**	LR	LR	18 29 32.5	
	comp=Z,562nm,20.9s,baz=88,slow=36						
FINES	**FINESS Array B**	**25.82**	**352**	P	**P**	**18 25 50.5**	**-1.3**
	0.3nm,0.3s,baz=157,slow=12,SNR=5.9						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**33.80**	**355**	P	**P**	**18 27 01.0**	**-1.4**
	1.2nm,0.8s,baz=169,slow=9.8,SNR=4.6						
	1.2nm,0.8s						
TORD	**Torodi Ar. Bea**	**36.70**	**240**	LR	LR	18 45 02.3	
	comp=Z,512nm,21.0s,baz=194,slow=40						
ZALV	**Zalesovo Beam**	**39.34**	**47**	P	**P**	**18 27 49.0**	**-0.9**
	0.5nm,0.5s,baz=275,slow=8.8,SNR=2.5						
	0.5nm,0.5s						

HVO ***16*** *18:30:45.9±1.3,19°.4N±0°.2×155°.3W±0°.2,h0km±5km, ML4.4/23,mb4.5/23(NEIC),ML3.6/27(NEIC),Error ellipse: s-maj=23.9km s-min=21.5km az=54.0*
NEIC ***16*** *18:30:46.1±1.5,19°.4N±0°.2×155°.3W±0°.2,h6km±5km,Error ellipse: s-maj=24.7km s-min=22.8km az=83.0*
IDC ***16*** *18:30:46.6±2.4,19°.52N×155°.25W,h0km,mb3.8/7, mbtmp3.8/7,MS4.2/2,Error ellipse: s-maj=66.4km s-min=8.9km az=177.0*
ISC 16 18:30:45.9±1.0,19°.42N±0°.03×155°.29W±0°.02,h1km±5km, n240,σ1$02/230,mb4.5/23,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res
OBL	**Observatory Le**	**0.00**	**132**		**Pg**	**18 30 46.4**	**0.0**
UWE	**Uwekahuna**	**0.01**	**276**		**Pg**	**18 30 46.6**	**+0.3**
NPH	**North Pit**	**0.01**	**144**		**Pg**	**18 30 46.3**	**-0.1**
UWB	**Uwekahuna B**	**0.01**	**65**	Pg	**Pg**	**18 30 46.5**	**+0.1**
WRMHI	**West Rim**	**0.02**	**220**		**Pg**	**18 30 46.8**	**+0.3**
SBLHI	**Steaming Bluff**	**0.02**	**71**		**Pg**	**18 30 46.7**	**+0.3**
HATHI	**Halema'uma'u T**	**0.03**	**84**		**Pg**	**18 30 46.8**	**+0.3**
BYL	**Byron's Ledge**	**0.03**	**108**		**Pg**	**18 30 46.8**	**+0.3**
RIM	**Rim**	**0.03**	**153**		**Pg**	**18 30 46.9**	**+0.4**
KKO	**Keanakako`i**	**0.03**	**138**		**Pg**	**18 30 46.8**	**+0.3**
SDHHI	**Sand Hill**	**0.03**	**191**		**Pg**	**18 30 46.9**	**+0.4**
RSD	**Rainshed**	**0.04**	**12**		**Pg**	**18 30 47.6**	**+0.7**
PUH	**Pauahi**	**0.08**	**124**		**Pg**	**18 30 48.3**	**+0.7**
MLH	**Mauna Loa**	**0.12**	**308**		**Pg**	**18 30 49.6**	**+1.3**
MLH					IAML	18 30 51.5	
	comp=N,15μm,0.8s						
MLH					IAML	18 30 52.0	
	comp=E,31μm,1.2s						
KNHH	**Kane Nui o Ham**	**0.12**	**110**		**Pg**	**18 30 49.0**	**+0.7**
HLP	**Hilina Pali**	**0.12**	**189**		**Pg**	**18 30 49.2**	**+0.9**
HLP					IAML	18 30 51.6	
	comp=N,17μm,1.4s						
STCH	**Steam Cracks**	**0.16**	**103**		**Pg**	**18 30 49.5**	**+0.5**
STCH					IAML	18 30 53.0	
	comp=E,25μm,1.1s						
STCH					IAML	18 30 53.5	
	comp=N,20μm,1.0s						
NPOC	**North of Pu'u**	**0.17**	**99**		**Pg**	**18 30 49.8**	**+0.6**
JCUZ	**Jacuzzi**	**0.18**	**102**		**Pg**	**18 30 49.8**	**+0.4**
HMH	**Humu'ula Sheep**	**0.26**	**315**		**Pg**	**18 30 52.0**	**+1.0**
HMH					IAML	18 30 58.8	
	comp=N,11μm,1.1s						
HMH					IAML	18 30 59.5	
	comp=E,12μm,1.5s						
JOKA	**Jonika Flow**	**0.27**	**87**		**Pg**	**18 30 51.5**	**+0.4**
JOKA					IAML	18 30 59.2	
	comp=E,8μm,0.8s						
JOKA					IAML	18 30 59.3	
	comp=N,8μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.29**	**293**		**Pg**	**18 30 52.6**	**+0.9**
MWH	**Moku'aweowe**	**0.30**	**282**		**Pg**	**18 30 52.6**	**+0.9**
KHU	**Kahuku**	**0.35**	**241**		**Pg**	**18 30 53.1**	**+0.4**
KHU					IAML	18 31 01.1	
	comp=E,8μm,2.1s						
KHU					IAML	18 31 04.7	
	comp=N,9μm,0.9s						
POHA	**Pohakuloa**	**0.41**	**325**		**Pg**	**18 30 54.0**	**+0.3**
HUH	**Hualalai**	**0.58**	**297**		**Pg**	**18 30 57.6**	**+0.6**
I59US	**HAWAII INFRASO**	**0.60**	**287**	Pg	**Pg**	**18 30 57.5**	**+0.1**
	baz=151,slow=4.9						
I59US				Lg	Lg	18 31 07.7	
CPH	**Captain Cook**	**0.60**	**277**		**Pg**	**18 30 57.2**	**-0.2**
HPAH	**Hawaii Prepara**	**0.72**	**328**		**Pg**	**18 30 58.9**	**-0.8**
MHA	**Mahukona**	**0.96**	**323**		**Pg**	**18 31 02.7**	**-1.6**
HLK	**Haleakala**	**1.61**	**326**	IAML		18 32 09.2	
	comp=E,2μm,1.3s						
HLK					IAML	18 32 12.5	
	comp=N,1μm,1.2s						
KEKH	**Kekaha**	**4.86**	**302**	Pn	**Pn**	**18 31 58.5**	**-1.7**
H11N3	**WAKE ISLAND Hy**	**35.57**	**277**	T	T	19 14 51.0	
	baz=84,slow=74,SNR=9.6						
H11N2	**WAKE ISLAND Hy**	**35.58**	**277**	T	T	19 14 53.5	
	baz=84,slow=74,SNR=8.4						
H11N1	**WAKE ISLAND Hy**	**35.59**	**277**	T	T	19 14 52.6	
	baz=84,slow=74,SNR=4.5						
H11S2	**WAKE ISLAND Hy**	**35.91**	**275**	T	T	19 15 14.1	
	baz=82						
H11S1	**WAKE ISLAND Hy**	**35.91**	**275**	T	T	19 15 14.2	
	baz=82						
H11S3	**WAKE ISLAND Hy**	**35.93**	**275**	T	T	19 15 14.4	
	baz=82						
NVAR	**Mina Array Bea**	**37.18**	**51**	P	**P**	**18 37 59.3**	**+0.3**
	comp=N,0.4nm,0.6s,baz=243,slow=9.7,SNR=2.9						
	comp=N,0.4nm,0.6s						
PFO	**Pinyon Flats O**	**37.28**	**60**	P	**P**	**18 37 58.6**	**-1.1**
	baz=258						
H02S1	**DAWSON INLET T**	**38.06**	**22**	T	T	19 18 02.3	
	SNR=19						
N14K	**Kuskokwak Cree**	**40.72**	**355**	P	**P**	**18 38 29.5**	**+1.6**
	baz=171						
N16K	**Nishlik Lake**	**41.08**	**357**	P	**P**	**18 38 31.5**	**+0.5**
	baz=175						
KAIM	**Kayak Island**	**41.21**	**8**	P	**P**	**18 38 33.1**	**+1.1**
	baz=196						
N18K	**Kilae Creek**	**41.22**	**360**	P	**P**	**18 38 32.8**	**+0.7**
	baz=179						
N19K	**Bonanza Creek**	**41.35**	**1**	P	**P**	**18 38 34.4**	**+1.1**
	baz=181						
M15K	**Kasigluk River**	**41.41**	**356**	P	**P**	**18 38 34.2**	**+0.6**
	baz=172						
M14K	**Bethel**	**41.56**	**355**	P	**P**	**18 38 35.9**	**+1.1**
	baz=170						
EYAK	**Cordova Ski Ar**	**41.64**	**7**	P	**P**	**18 38 37.2**	**+1.6**
	baz=194						
M11K	**Mekoryuk**	**41.66**	**352**	P	**P**	**18 38 36.1**	**+0.5**
	baz=164						
GLI	**Glacier Island**	**41.82**	**6**	P	**P**	**18 38 38.3**	**+1.3**
	baz=192						
T35M	**Bob Quinn**	**41.86**	**20**	P	**P**	**18 38 38.1**	**+0.7**
	baz=217						
M17K	**Holitna River**	**41.97**	**358**	P	**P**	**18 38 39.4**	**+1.2**
	baz=177						
M18K	**Stony River**	**42.03**	**360**	P	**P**	**18 38 39.4**	**+0.7**
	baz=179						
P29M	**Windy Craggy**	**42.11**	**13**	P	**P**	**18 38 40.6**	**+1.2**
	baz=205						
NEW	**Newport**	**42.12**	**38**	LR	LR	18 51 06.5	
	comp=N,262nm,21.8s,baz=12,slow=29						
SUA	**Susitna One**	**42.12**	**3**	P	**P**	**18 38 40.2**	**+0.6**
	baz=186						
BMRM	**Bremner River**	**42.19**	**8**	P	**P**	**18 38 41.4**	**+1.3**
	baz=195						
L14K	**Kuka Creek**	**42.20**	**355**	P	**P**	**18 38 40.8**	**+0.7**
	baz=170						
KNK	**Knik Glacier**	**42

DHY	**Denali Highway**	**43.96**	**5**	P	**P**	**18 38 54.0**	**-0.5**
DHY				IAmb	IAmb	18 39 01.4		
	comp=Z,11nm,1.4s							
DHY	**Denali Highway**	**43.96**	**5**	P	**P**	**18 38 55.4**	**+0.9**
	baz=191							
J16K	**Anvik River**	**43.98**	**357**	P	**P**	**18 38 55.6**	**+1.1**
	baz=173							
CAST	**Castle Rocks**	**44.02**	**2**	P	**P**	**18 38 55.5**	**+0.6**
	baz=184							
J17K	**VABM Dome**	**44.02**	**358**	P	**P**	**18 38 55.9**	**+1.1**
	baz=175							
J18K	**Innoko River**	**44.02**	**359**	P	**P**	**18 38 56.2**	**+1.4**
	baz=178							
PAX	**Paxson**	**44.04**	**6**	P	**P**	**18 38 56.2**	**+1.1**
	baz=193,SNR=8.2							
TRF	**Thorofare Moun**	**44.13**	**3**	P	**P**	**18 38 57.1**	**+1.2**
	baz=187							
RND	**Reindeer**	**44.17**	**4**	P	**P**	**18 38 55.3**	**-0.8**
RND				IAmb	IAmb	18 39 12.7		
	comp=Z,9.3nm,1.4s							
KTH	**Kantishna Hill**	**44.20**	**3**	P	**P**	**18 38 55.8**	**-0.6**
N31M	**Braeburn, Yuko**	**44.20**	**13**	P	**P**	**18 38 57.2**	**+0.9**
	baz=207							
MCK	**McKinley**	**44.49**	**4**	P	**P**	**18 38 59.6**	**+1.0**
	baz=188							
N32M	**Quiet Lake**	**44.53**	**15**	P	**P**	**18 39 01.0**	**+2.0**
	baz=210							
J19K	**Poorman**	**44.54**	**360**	P	**P**	**18 39 00.1**	**+1.1**
	baz=180							
M29M	**Somme Creek**	**44.54**	**11**	P	**P**	**18 39 00.7**	**+1.5**
	baz=203,SNR=6.7							
L27K	**Beaver Creek,**	**44.58**	**9**	P	**P**	**18 38 58.8**	**-0.6**
L27K	**Beaver Creek,**	**44.58**	**9**	P	**P**	**18 39 00.7**	**+1.4**
	baz=198							
BCAR	**Beaver Creek A**	**44.59**	**9**	P	**P**	**18 38 59.6**	**+0.1**
BPAW	**Bear Paw Mtn.**	**44.74**	**3**	P	**P**	**18 39 00.8**	**+0.2**
	baz=186							
K24K	**Donnelly Dome**	**44.82**	**6**	P	**P**	**18 39 02.2**	**+0.9**
	baz=193							
PDAR	**Pinedale Array**	**44.87**	**48**	P	**P**	**18 39 02.1**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=240,slow=6.6,SNR=5.9							
	comp=Z,0.8nm,0.9s							
M30M	**Minto, Yukon**	**44.98**	**12**	P	**P**	**18 39 03.5**	**+1.0**
	baz=205							
SCRK	**Sand Creek**	**45.18**	**7**	P	**P**	**18 39 05.2**	**+0.9**
	baz=195							
L29M	**L29M**	**45.22**	**11**	P	**P**	**18 39 05.0**	**+0.6**
	baz=203							
WRH	**Wood River Hil**	**45.28**	**4**	P	**P**	**18 39 05.1**	**+0.2**
WRH				IAmb	IAmb	18 39 06.5		
	comp=Z,9.6nm,1.2s							
NEA2	**Nenana**	**45.34**	**4**	P	**P**	**18 39 06.3**	**+1.0**
	baz=188							
I20K	**Naaghedeneel**	**45.35**	**0**	P	**P**	**18 39 06.5**	**+1.1**
	baz=181							
H16K	**Elim**	**45.43**	**356**	P	**P**	**18 39 07.4**	**+1.4**
	baz=171							
K27K	**Chicken**	**45.47**	**8**	P	**P**	**18 39 07.7**	**+1.3**
	baz=198							
H17K	**Granite Mounta**	**45.59**	**357**	P	**P**	**18 39 09.0**	**+1.7**
	baz=174							
J25K	**Salcha River,**	**45.65**	**6**	P	**P**	**18 39 07.4**	**-0.5**
J25K				IAmb	IAmb	18 39 09.6		
	comp=Z,6.5nm,1.1s							
J25K	**Salcha River,**	**45.65**	**6**	P	**P**	**18 39 08.7**	**+0.8**
	baz=193,SNR=6.0							
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**18 39 07.8**	**-0.2**
	comp=Z,1.6nm,0.9s,baz=199,slow=6.6,SNR=9.2							
	comp=Z,1.6nm,0.9s							
MLY	**Manley**	**45.68**	**3**	P	**P**	**18 39 07.1**	**-1.0**
MLY				IAmb	IAmb	18 39 10.4		
	comp=Z,5.3nm,1.2s							
MLY	**Manley**	**45.68**	**3**	P	**P**	**18 39 08.2**	**+0.1**
	baz=186							
J26L	**Joseph Creek**	**45.74**	**7**	P	**P**	**18 39 09.8**	**+1.2**
	baz=196							
H18K	**Honhosa River**	**45.75**	**358**	P	**P**	**18 39 09.7**	**+1.1**
	baz=176							
MDM	**Murphy Dome**	**45.76**	**4**	P	**P**	**18 39 08.5**	**-0.2**
I23K	**Minto, Yukon-K**	**45.87**	**3**	P	**P**	**18 39 09.7**	**+0.2**
	baz=188							
K29M	**Barlow Dome**	**46.00**	**11**	P	**P**	**18 39 11.5**	**+0.8**
	baz=204							
H20K	**Anotleneega Mo**	**46.05**	**0**	P	**P**	**18 39 11.7**	**+0.8**
	baz=180							
H19K	**Roundabout Mou**	**46.09**	**359**	P	**P**	**18 39 11.8**	**+0.6**
	baz=178							
TGTN	**Hyland Airport**	**46.13**	**18**	P	**P**	**18 39 14.2**	**+2.5**
	baz=216							
G16K	**Koyuk River**	**46.19**	**356**	P	**P**	**18 39 13.5**	**+1.5**
	baz=171							
G17K	**Kiwalik Mounta**	**46.19**	**357**	P	**P**	**18 39 12.9**	**+0.9**
	baz=173							
MMPY	**Sheldon Lake,**	**46.24**	**15**	P	**P**	**18 39 13.4**	**+0.8**
	baz=212							
MNTX	**Cornudas Mount**	**46.29**	**64**	P	**P**	**18 39 14.4**	**+0.9**
	baz=267							
H22K	**Ishtalitna Cre**	**46.52**	**2**	P	**P**	**18 39 13.8**	**-0.9**
	baz=185							
PRP	**Porcupine Dome**	**46.52**	**6**	P	**P**	**18 39 16.2**	**+1.4**
	baz=193							
H23K	**Yukon River**	**46.53**	**3**	P	**P**	**18 39 15.2**	**+0.4**
	baz=188							
I26K	**Coal Creek Min**	**46.56**	**7**	P	**P**	**18 39 16.2**	**+1.2**
	baz=196							
H24K	**Noodor Dome**	**46.65**	**4**	P	**P**	**18 39 14.7**	**-1.0**
H24K				IAmb	IAmb	18 39 17.2		
	comp=Z,5.3nm,1.2s							
H24K	**Noodor Dome**	**46.65**	**4**	P	**P**	**18 39 16.5**	**+0.8**
	baz=190							
F15K	**North Star Dit**	**46.67**	**355**	P	**P**	**18 39 17.6**	**+1.7**
	baz=168							
G19K	**Purcell Mounta**	**46.72**	**359**	P	**P**	**18 39 15.7**	**-0.5**
G19K				IAmb	IAmb	18 39 18.9		
	comp=Z,3.6nm,1.1s							
G19K	**Purcell Mounta**	**46.72**	**359**	P	**P**	**18 39 17.8**	**+1.7**
	baz=178							
SDCO	**Great Sand Dun**	**46.80**	**56**	P	**P**	**18 39 19.1**	**+1.4**
	baz=261							
J30M	**Hart River**	**46.89**	**11**	P	**P**	**18 39 16.7**	**-1.0**
J30M	**Hart River**	**46.89**	**11**	P	**P**	**18 39 19.7**	**+2.1**
	baz=205							
N23A	**Red Feather La**	**47.02**	**52**	P	**P**	**18 39 20.1**	**+0.8**
	baz=258							
I27K	**Kandik River**	**47.03**	**8**	P	**P**	**18 39 19.9**	**+1.2**
	baz=198							
G21K	**Allakaket**	**47.09**	**1**	P	**P**	**18 39 19.9**	**+0.8**
	baz=182							
I28M	**Miner Creek**	**47.11**	**9**	P	**P**	**18 39 20.1**	**+0.7**
	baz=200							
F17K	**Baldwin Pennin**	**47.16**	**357**	P	**P**	**18 39 21.0**	**+1.4**
	baz=172							
H25L	**Birch Creek**	**47.23**	**5**	P	**P**	**18 39 21.7**	**+1.6**
	baz=192							
F18K	**Selawik**	**47.24**	**358**	P	**P**	**18 39 21.8**	**+1.6**
	baz=174							
I29M	**Ogilvie Camp,**	**47.27**	**10**	P	**P**	**18 39 21.5**	**+0.9**
	baz=202							
G23K	**Bananza Creek**	**47.39**	**3**	P	**P**	**18 39 22.1**	**+0.6**
	baz=187							
F19K	**Shaleruckik Mo**	**47.42**	**359**	P	**P**	**18 39 23.0**	**+1.3**
	baz=177							
I30M	**Mount Dempster**	**47.47**	**11**	P	**P**	**18 39 21.2**	**-1.0**
I30M				IAmb	IAmb	18 39 24.1		
	comp=Z,6.1nm,1.2s							
I30M	**Mount Dempster**	**47.47**	**11**	P	**P**	**18 39 23.3**	**+1.1**
	baz=204,SNR=7.4							
G24K	**Hadweenzic Riv**	**47.53**	**4**	P	**P**	**18 39 23.3**	**+0.8**
	baz=190							
G22K	**Bettles**	**47.55**	**2**	P	**P**	**18 39 23.6**	**+1.0**
	baz=185							
T25A	**Trinidad**	**47.58**	**57**	P	**P**	**18 39 23.2**	**-0.4**
	baz=263							
F20K	**Avaraart Lake**	**47.61**	**360**	P	**P**	**18 39 23.7**	**+0.6**
	baz=179							
H27K	**Steamboat Moun**	**47.65**	**7**	P	**P**	**18 39 24.8**	**+1.3**
	baz=198,SNR=9.2							
G25K	**Bearman Lake**	**47.70**	**5**	P	**P**	**18 39 24.1**	**+0.4**
	baz=192							
TXAR	**Lajitas Array**	**47.72**	**68**	P	**P**	**18 39 25.5**	**+0.8**
	comp=Z,2.8nm,0.9s,baz=262,slow=6.3,SNR=25							
	comp=Z,2.8nm,0.9s							
F21K	**Alatna River**	**47.80**	**1**	P	**P**	**18 39 24.1**	**-0.5**
F21K				IAmb	IAmb	18 39 27.0		
	comp=Z,5.1nm,1.1s							
F21K	**Alatna River**	**47.80**	**1**	P	**P**	**18 39 25.5**	**+0.9**
	baz=182							
E17K	**Hotham Inlet**	**47.83**	**357**	P	**P**	**18 39 25.2**	**+0.3**
	baz=172							
COLD	**Coldfoot**	**47.90**	**3**	P	**P**	**18 39 26.0**	**+0.6**
	baz=186							
E19K	**Redstone River**	**48.04**	**359**	P	**P**	**18 39 27.6**	**+1.1**
	baz=178							
H29M	**Whitestone**	**48.07**	**9**	P	**P**	**18 39 26.9**	**+0.2**
H29M	**Whitestone**	**48.07**	**9**	P	**P**	**18 39 28.4**	**+1.7**
	baz=202							
G26K	**Porcupine Rive**	**48.09**	**6**	P	**P**	**18 39 28.3**	**+1.5**
	baz=195,SNR=5.9							
E18K	**Tukpahlearik C**	**48.10**	**357**	P	**P**	**18 39 27.6**	**+0.7**
	baz=173							
F22K	**John River**	**48.11**	**2**	P	**P**	**18 39 28.1**	**+1.0**
	baz=184							
G27K	**Doyon Strip**	**48.18**	**7**	P	**P**	**18 39 28.6**	**+1.0**
	baz=197							
H31M	**Peel River**	**48.36**	**11**	P	**P**	**18 39 29.7**	**+0.7**
	baz=207							
EPYK	**Eagle Plains**	**48.46**	**10**	P	**P**	**18 39 30.5**	**+0.7**
	baz=204							
F25K	**Christian Rive**	**48.55**	**5**	P	**P**	**18 39 31.4**	**+0.9**
	baz=192							
MSTX	**Muleshoe**	**48.61**	**62**	P	**P**	**18 39 32.4**	**+0.8**
	baz=267							
E22K	**Anaktuvuk Pass**	**48.75**	**2**	P	**P**	**18 39 33.2**	**+1.2**
	baz=184							
G29M	**Pine Creek**	**48.76**	**9**	P	**P**	**18 39 31.9**	**-0.1**
G29M				IAmb	IAmb	18 39 34.2		
	comp=Z,5.0nm,1.0s							
G29M	**Pine Creek**	**48.76**	**9**	P	**P**	**18 39 33.3**	**+1.2**
	baz=202							
F26K	**Sheenjek River**	**48.78**	**6**	P	**P**	**18 39 33.4**	**+1.2**
	baz=194							
E20K	**Nigu River**	**48.83**	**360**	P	**P**	**18 39 34.0**	**+1.4**
	baz=179							
E24K	**Your Creek**	**48.83**	**3**	P	**P**	**18 39 33.8**	**+1.2**
	baz=188							
E21K	**Killik River**	**49.02**	**1**	P	**P**	**18 39 35.0**	**+0.9**
	baz=182							
E25K	**Arctic Village**	**49.07**	**5**	P	**P**	**18 39 35.1**	**+0.6**
	baz=192							
D19K	**Kuna River**	**49.09**	**359**	P	**P**	**18 39 35.1**	**+0.5**
	baz=176							
G30M	**tAoh Zraii Nji**	**49.10**	**10**	P	**P**	**18 39 35.2**	**+0.4**
	baz=204							
F28M	**Old Crow**	**49.17**	**8**	P	**P**	**18 39 35.6**	**+0.4**
	baz=199							
KSCO	**Kaye Shedlock'**	**49.22**	**55**	P	**P**	**18 39 37.3**	**+1.1**
	baz=262							
C16K	**Lisburne Hills**	**49.25**	**355**	P	**P**	**18 39 36.2**	**+0.5**
	baz=167							
D20K	**Etivluk River**	**49.29**	**359**	P	**P**	**18 39 36.8**	**+0.7**
	baz=178							
TOLK	**Toolik Lake Re**	**49.34**	**3**	P	**P**	**18 39 36.3**	**-0.3**
	baz=187							
C18K	**Utukok River**	**49.36**	**357**	P	**P**	**18 39 36.6**	**-0.1**
	baz=173							
G31M	**Satah River**	**49.38**	**11**	P	**P**	**18 39 36.5**	**-0.2**
G31M				IAmb	IAmb	18 39 38.0		
	comp=Z,10.0nm,1.2s							
G31M	**Satah River**	**49.38**	**11**	P	**P**	**18 39 37.5**	**+0.8**
	baz=206							
D22K	**Ayikyak River**	**49.48**	**1**	P	**P**	**18 39 38.6**	**+1.1**
	baz=183							
E27K	**Coleen River**	**49.51**	**7**	P	**P**	**18 39 38.5**	**+0.7**
	baz=197							
D23K	**Nanushuk River**	**49.62**	**2**	P	**P**	**18 39 39.1**	**+0.5**
	baz=186							
C21K	**Knifeblade Rid**	**49.73**	**0**	P	**P**	**18 39 40.2**	**+0.8**
	baz=181							
F30M	**Barrier River**	**49.75**	**10**	P	**P**	**18 39 40.2**	**+0.6**
	baz=204							
B18K	**Kokolik River**	**50.10**	**357**	P	**P**	**18 39 43.4**	**+1.3**
	baz=172							
E28M	**Babbage River**	**50.15**	**7**	P	**P**	**18 39 42.8**	**+0.1**
E28M	**Babbage River**	**50.15**	**7**	P	**P**	**18 39 43.6**	**+1.0**
	baz=200							
E29M	**Blow River**	**50.16**	**8**	P	**P**	**18 39 42.3**	**-0.4**
E29M	**Blow River**	**50.16**	**8**	P	**P**	**18 39 43.7**	**+1.0**
	baz=202							
B21K	**Ikpikpuk River**	**50.20**	**0**	P	**P**	**18 39 43.5**	**+0.6**
	baz=181							
D25K	**Kavik River**	**50.20**	**4**	P	**P**	**18 39 44.0**	**+0.9**
	baz=191							
C24K	**Franklin Bluff**	**50.46**	**3**	P	**P**	**18 39 46.6**	**+1.8**
	baz=188							
C23K	**Itkillik River**	**50.49**	**2**	P	**P**	**18 39 46.4**	**+1.3**
	baz=186							
D27M	**Malcolm River**	**50.59**	**7**	P	**P**	**18 39 46.2**	**+0.2**
	baz=198							
B20K	**Meade River**	**50.60**	**359**	P	**P**	**18 39 47.1**	**+1.1**
	baz=178							
C27K	**Jago River**	**50.70**	**5**	P	**P**	**18 39 47.2**	**+0.5**
	baz=194							
INK	**Inuvik**	**50.75**	**10**	P	**P**	**18 39 46.1**	**-1.0**
INK				IAmb	IAmb	18 39 48.2		
	comp=Z,7.0nm,1.2s							
INK	**Inuvik**	**50.75**	**10**	P	**P**	**18 39 48.0**	**+0.9**
	baz=207,SNR=5.8							
C26K	**Camden Bay**	**50.89**	**5**	P	**P**	**18 39 49.2**	**+1.1**
	baz=193							
B22K	**Teshekpuk Lake**	**50.93**	**1**	P	**P**	**18 39 49.5**	**+1.0**
	baz=182							
YKA	**Yellowknife Ar**	**51.31**	**23**	P	**P**	**18 39 51.3**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=236,slow=7.6,SNR=12							
	comp=Z,1.0nm,0.9s							
A22K	**Sinclair Lake**	**51.59**	**0**	P	**P**	**18 39 54.6**	**+1.3**
	baz=180							
C36M	**Paulatuk**	**53.46**	**13**	P	**P**	**18 40 06.7**	**-0.6**
	baz=218							
A36M	**Sachs Harbour**	**55.37**	**11**	P	**P**	**18 40 21.7**	**+0.6**
	baz=215,SNR=5.6							
E46A	**Sault Ste Mari**	**63.16**	**47**	P	**P**	**18 41 14.4**	**-1.2**
MRZ	**Mangatainoka R**	**65.63**	**204**	P	**P**	**18 41 29.9**	**-1.7**
XLT	**XiLinHaoTe**	**75.84**	**312**	*eP*	**P**	**18 42 33.3**	**-0.8**
XLT				pmax	pmax			
	comp=Z,12nm,0.8s							
XLT				pmax	pmax			
	comp=Z,130nm,5.3s							
HHC	**Hu-ho-hao-te**	**79.86**	**310**	*eP*	**P**	**18 42 56.8**	**+0.2**
HHC				pmax	pmax			
	comp=Z,3.0nm,0.6s							
SONM	**Songino Array**	**81.24**	**318**	P	**P**	**18 43 04.2**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=90,slow=5.8,SNR=4.2							
	comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**90.66**	**329**	P	**P**	**18 43 51.6**	**+1.4**
	comp=Z,0.3nm,0.4s,baz=60,slow=3.5,SNR=2.2							
	comp=Z,0.3nm,0.4s							
PZH	**PanZhiHua**	**92.47**	**299**	P	**P**	**18 43 58.6**	**-0.8**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,100nm,4.3s							
KURBB	**Kurchatov Arra**	**95.75**	**329**	LR	LR	19 25 33.1		
	comp=Z,177nm,21.2s,baz=278,slow=34							
TORD	**Torodi Ar. Bea**	**140.49**	**37**	PKP	**PKPdf**	**18 50 17.4**	**-0.6**
	comp=Z,0.5nm,0.9s,baz=343,slow=4.5,SNR=2.3							

*NEIC **16** 18:31:57.6±1.2, 19°.41N±0°.01×155°.265W±0°.005, h1km±4km, Error ellipse: s-maj=2.1km s-min=0.6km az=184.0*

HVO 16 18:31:57.4±1.2, 19°.416N±0°.010×155°.275W±0°.006, h1km±4km, ML3.9/7, ML3.0/46(NEIC), Error ellipse: s-maj=1.4km s-min=0.7km az=177.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**236**		Pg	18 31 58.3	+0.5
OBL	**Observatory Le**	**0.01**	**281**		Pg	18 31 58.1	+0.3
UWB	**Uwekahuna B**	**0.01**	**342**		Pg	18 31 58.5	+0.7
SBLHI	**Steaming Bluff**	**0.01**	**31**		Pg	18 31 57.4	-0.4
SBLHI				IAML		18 31 57.9	
	comp=N,27μm,0.5s						
BYL	**Byron's Ledge**	**0.01**	**105**		Pg	18 31 58.3	+0.4
HATHI	**Halema'uma'u T**	**0.01**	**62**		Pg	18 31 58.9	+1.0
UWE	**Uwekahuna**	**0.02**	**287**		Pg	18 31 59.0	+1.1
KKO	**Keanakako`i**	**0.02**	**155**	IAML		18 31 58.0	
	comp=E,22μm,0.4s						
KKO	**Keanakako`i**	**0.02**	**155**		Pg	18 31 58.5	+0.6
RIM	**Rim**	**0.02**	**177**	Pg	Pg	18 31 56.7	-1.2
RIM				IAML		18 31 58.3	
	comp=N,34μm,0.6s						
RIM				IAML		18 31 58.3	
	comp=E,25μm,0.5s						
WRMHI	**West Rim**	**0.03**	**249**		Pg	18 31 57.4	-0.6
WRMHI				IAML		18 31 58.0	
	comp=N,39μm,1.3s						
SDHHI	**Sand Hill**	**0.03**	**214**		Pg	18 31 56.8	-1.3
SDHHI				IAML		18 31 58.1	
	comp=N,28μm,0.7s						
SDHHI				IAML		18 31 58.8	
	comp=E,28μm,0.4s						
RSD	**Rainshed**	**0.05**	**357**	IAML		18 31 59.0	
	comp=E,9μm,1.3s						
RSD				IAML		18 31 59.0	
	comp=N,17μm,2.0s						
RSD	**Rainshed**	**0.05**	**357**		Pg	18 31 59.0	+0.7
PUH	**Pauahi**	**0.07**	**127**	Pg	Pg	18 31 58.6	-0.2
PUH				IAML		18 32 00.6	
	comp=E,10μm,0.8s						
PUH				IAML		18 32 00.0	
	comp=N,8μm,1.9s						
KNHH	**Kane Nui o Ham**	**0.11**	**110**	Pg	Pg	18 31 59.4	0.0
HLP	**Hilina Pali**	**0.12**	**195**	Pg	Pg	18 31 59.8	+0.1
MLH	**Mauna Loa**	**0.13**	**307**		Pg	18 32 01.0	+1.1
MLH	**Mauna Loa**	**0.13**	**307**	IAML		18 32 01.2	
	comp=E,16μm,1.2s						
MLH				IAML		18 32 02.2	
	comp=N,20μm,1.4s						
STCH	**Steam Cracks**	**0.14**	**102**	Pg	Pg	18 32 00.3	+0.1
STCH				IAML		18 32 01.1	
	comp=E,4μm,1.0s						
STCH				IAML		18 32 01.3	
	comp=N,8μm,1.3s						
NPOC	**North of Pu'u**	**0.16**	**98**	Pg	Pg	18 31 59.9	-0.5
NPOC				IAML		18 32 03.9	
	comp=N,8μm,1.6s						
NPOC				IAML		18 32 04.2	
	comp=E,8μm,1.8s						
JCUZ	**Jacuzzi**	**0.17**	**101**	Pg	Pg	18 31 59.9	-0.7
JCUZ				IAML		18 32 03.1	
	comp=E,9μm,1.2s						
JCUZ				IAML		18 32 04.8	
	comp=N,9μm,1.8s						
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	18 32 02.4	+0.1
HMH	**Humu'ula Sheep**	**0.27**	**313**	Pg	Pg	18 32 01.9	-0.7
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	18 32 04.3	+1.0
HUH	**Hualalai**	**0.59**	**297**	Pg	Pb	18 32 10.2	-0.6

*IDC **16** 18:33:26.0±9.5, 36°.26N×142°.74E, h0km, mb3.3/3, mbtmp3.3/4, ML2.2/1, Error ellipse: s-maj=170.0km s-min=77.3km az=145.0*

*JMA **16** 18:33:29.0±0.2, 36°.2N±0°.6×14°3E±°, h76km, MV2.8/23, FAR E OFF KANTO*

ISC 16 18:33:32.3±2.1, 36°.22N±0°.09×142°.5E±0°.1, h35km, n20, σ0s86/23, mb3.3/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**1.52**	**275**	*eP*	**Pn**	**18 33 55.9**	**-1.1**
JHYU				*eS*	**Sn**	**18 34 15.9**	**+0.3**
JHO	**Hitachi**	**1.58**	**285**	P	**Pn**	**18 33 56.5**	**-1.3**
JHO				*eS*	**Sn**	**18 34 17.0**	**0.0**
ONAJ	**Iwakimizuishiy**	**1.60**	**304**	*eP*	**Pn**	**18 33 57.0**	**-1.2**
ONAJ				*eS*	**Sn**	**18 34 18.1**	**+0.4**
JFK	**Kawauchi**	**1.71**	**312**	*eP*	**Pn**	**18 33 58.3**	**-1.4**
JFK				*eS*	**Sn**	**18 34 20.6**	**+0.2**
JOTO	**OTAMA OYAMA**	**2.17**	**309**	*eP*	**Pn**	**18 34 05.8**	**-0.1**
JOTO				*eS*	**Sn**	**18 34 33.3**	**+1.7**
JAG	**Ashikaga**	**2.44**	**276**	P	**Pn**	**18 34 08.7**	**-0.9**
JAG				*eS*	**Sn**	**18 34 38.2**	**0.0**
JRY	**Ryogami san**	**2.89**	**267**	*eP*	**Pn**	**18 34 14.9**	**-1.0**
JRY				*eS*	**Sn**	**18 34 49.4**	**0.0**
JMK	**Ichinoseki**	**2.90**	**340**	*eP*	**Pn**	**18 34 14.9**	**-1.0**
JMK				*eS*	**Sn**	**18 34 50.2**	**+0.6**
JOD2	**Odawara 2**	**2.91**	**252**	*eP*	**Pn**	**18 34 16.3**	**+0.2**
JYK	**Kaneyama**	**3.17**	**329**	*eP*	**Pn**	**18 34 19.2**	**-0.5**
MJAR	**Matsushiro Arr**	**3.45**	**277**	Pn	**Pn**	**18 34 23.4**	**-0.2**
	0.2nm,0.3s,baz=91,slow=16,SNR=14						
MJAR				Sn	**Sn**	**18 35 03.7**	**+0.6**
	0.1nm,0.3s,baz=124,slow=48,SNR=1.4						
	2.2nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**27.00**	**121**	T	T	19 07 20.1	
	baz=312,slow=75,SNR=10						
H11N1	**WAKE ISLAND Hy**	**27.01**	**121**	T	T	19 07 19.4	
	baz=312,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.02**	**121**	T	T	19 07 20.1	
	baz=312,slow=75,SNR=8.5						
H11S1	**WAKE ISLAND Hy**	**27.71**	**123**	T	T	19 08 12.2	
	baz=314,slow=74						
H11S3	**WAKE ISLAND Hy**	**27.71**	**123**	T	T	19 08 06.6	
	baz=314,slow=74						
H11S2	**WAKE ISLAND Hy**	**27.72**	**123**	T	T	19 08 17.7	
	baz=314						
SONM	**Songino Array**	**28.94**	**305**	P	**P**	**18 39 29.4**	**+1.1**
	0.4nm,0.7s,baz=108,slow=9.3,SNR=2.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**45.27**	**303**	P	**P**	**18 41 46.0**	**-0.4**
	0.3nm,0.7s,baz=91,slow=9.5,SNR=3.5						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**47.17**	**309**	P	**P**	**18 42 00.8**	**-0.3**
	0.3nm,0.6s,baz=81,slow=7.5,SNR=4.6						
	0.3nm,0.6s						

*NEIC **16** 18:33:56.9±1.0, 20°.23N±0°.01×155°.34W±0°.09, h5km±2km, Error ellipse: s-maj=14.8km s-min=3.0km az=88.0*

HVO 16 18:34:11.7±1.2, 19°.4N±0°.2×155°.27W±0°.02, h0km±9km, ML3.0/9, ML2.2/29(NEIC), Error ellipse: s-maj=24.5km s-min=1.1km az=186.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**204**		Pg	18 34 12.2	+0.3
KKO	**Keanakako`i**	**0.01**	**112**		Pg	18 34 12.9	+1.0
NPH	**North Pit**	**0.01**	**324**		Pg	18 34 12.5	+0.4
BYL	**Byron's Ledge**	**0.02**	**43**		Pg	18 34 13.2	+1.0
OBL	**Observatory Le**	**0.02**	**327**		Pg	18 34 12.2	0.0
OBL				IAML		18 34 12.4	
	comp=E,5μm,0.6s						
OBL				IAML		18 34 12.4	
	comp=N,6μm,0.7s						
SDHHI	**Sand Hill**	**0.02**	**244**	IAML		18 34 12.7	
	comp=E,6μm,0.4s						
SDHHI	**Sand Hill**	**0.02**	**244**		Pg	18 34 12.7	+0.5
HATHI	**Halema'uma'u

az=144.0

HVO 16 18:35:47.6±0.9, 19°40N±0.01'×155°27.2W±0.007, h0km±4km, ML3.5/19, ML2.6/47(NEIC), Error ellipse: s-maj=1.5km s-min=1.0km az=184.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	Rim	0.00	208		Pg	18 35 48.3	+0.5
KKO	Keanakako`i	0.01	104		Pg	18 35 48.5	+0.7
NPH	North Pit	0.01	326	IAML		18 35 48.4	
	comp=E,29µm,1.4s						
NPH				IAML		18 35 48.4	
	comp=N,33µm,0.7s						
NPH	North Pit	0.01	326		Pg	18 35 48.8	+0.7
BYL	Byron's Ledge	0.02	41		Pg	18 35 49.0	+1.0
OBL	Observatory Le	0.02	328	IAML		18 35 48.5	
	comp=N,8µm,0.6s						
OBL				IAML		18 35 48.6	
	comp=E,9µm,0.6s						
OBL	Observatory Le	0.02	328		Pg	18 35 48.7	+0.6
SDHHI	Sand Hill	0.02	245	IAML		18 35 48.6	
	comp=N,18µm,0.7s						
SDHHI	Sand Hill	0.02	245		Pg	18 35 48.6	+0.5
HATHI	Halema'uma'u T	0.03	23		Pg	18 35 49.5	+1.4
UWB	Uwekahuna B	0.03	347	IAML		18 35 48.7	
	comp=E,9µm,0.8s						
UWB	Uwekahuna B	0.03	347		Pg	18 35 49.5	+1.3
SBLHI	Steaming Bluff	0.03	7	IAML		18 35 48.8	
	comp=N,19µm,0.8s						
SBLHI				IAML		18 35 49.3	
	comp=E,17µm,0.6s						
SBLHI	Steaming Bluff	0.03	7		Pg	18 35 48.8	+0.6
WRMHI	West Rim	0.03	285		Pg	18 35 49.8	+1.6
UWE	Uwekahuna	0.03	317	IAML		18 35 48.7	
	comp=E,7µm,0.8s						
UWE				IAML		18 35 48.8	
	comp=N,8µm,0.8s						
UWE	Uwekahuna	0.03	317		Pg	18 35 49.0	+0.8
PUH	Pauahi	0.06	115		Pg	18 35 49.8	+1.0
PUH	Pauahi	0.06	115	IAML		18 35 50.1	
	comp=N,5µm,0.2s						
PUH				IAML		18 35 50.4	
	comp=E,5µm,0.2s						
RSD	Rainshed	0.06	355	IAML		18 35 50.4	
	comp=N,3µm,0.5s						
RSD	Rainshed	0.06	355		Pg	18 35 49.8	+0.9
KNHH	Kane Nui o Ham	0.10	101		Pg	18 35 50.6	+1.1
HLP	Hilina Pali	0.11	198	Pg	Pg	18 35 50.1	+0.4
HLP				IAML		18 35 52.3	
	comp=N,2µm,1.0s						
HLP				IAML		18 35 52.4	
	comp=E,2µm,0.6s						
STCH	Steam Cracks	0.14	96		Pg	18 35 51.2	+0.9
STCH	Steam Cracks	0.14	96	IAML		18 35 54.0	
	comp=E,3µm,0.5s						
STCH				IAML		18 35 54.3	
	comp=N,3µm,0.4s						
MLH	Mauna Loa	0.14	311		Pg	18 35 51.9	+1.4
MLH	Mauna Loa	0.14	311	IAML		18 35 55.4	
	comp=N,4µm,0.9s						
MLH				IAML		18 35 55.6	
	comp=E,5µm,0.6s						
NPOC	North of Pu'u	0.15	92	IAML		18 35 54.0	
	comp=E,3µm,0.8s						
JCUZ	Jacuzzi	0.16	95	IAML		18 35 55.8	
	comp=N,2µm,0.5s						
HTC	Hot Caves	0.20	216		Pg	18 35 53.1	+1.6
JOKA	Jonika Flow	0.26	82		Pg	18 35 53.0	+0.5
JOKA	Jonika Flow	0.26	82	IAML		18 35 59.5	
	comp=E,1µm,0.6s						
JOKA				IAML		18 36 00.6	
	comp=N,2µm,0.9s						
MLOA	Mauna Loa Obse	0.32	295		Pg	18 35 52.9	-0.8
MLOA				IAML		18 36 01.9	
	comp=E,1µm,1.5s						
MLOA				IAML		18 36 02.4	
	comp=N,965nm,0.7s						
MWH	Moku'aweowe	0.32	286		Pg	18 35 52.7	-1.1
KHU	Kahuku	0.36	245		Pg	18 35 55.7	+1.2
KHU	Kahuku	0.36	245	IAML		18 36 01.4	
	comp=N,1µm,1.7s						
KHU				IAML		18 36 05.4	
	comp=E,1µm,0.4s						
POHA	Pohakuloa	0.43	325	Pg	Pg	18 35 56.4	+0.4
HUH	Hualalai	0.60	298		Pg	18 35 59.8	+0.6
HPAH	Hawaii Prepara	0.74	328	Pg	Pg	18 36 01.7	-0.3
MHA	Mahukona	0.98	323	Pg	Pg	18 36 04.7	-1.8

*NEIC **16** 18:45:27.8±1.2, 19°.37N±0°.01×155°.266W±0°.007, h3km±2km, Error ellipse: s-maj=1.6km s-min=0.9km az=189.0*

HVO 16 18:45:27.7±1.0, 19°.396N±0°.008×155°.268W±0°.005, h0km±3km, ML3.7/16, ML2.4/46(NEIC), Error ellipse: s-maj=1.2km s-min=0.6km az=166.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	Keanakako`i	0.00	47		Pg	18 45 28.4	+0.7
RIM	Rim	0.01	261		Pg	18 45 28.2	+0.4
BYL	Byron's Ledge	0.02	25		Pg	18 45 29.2	+1.2
NPH	North Pit	0.02	321		Pg	18 45 28.6	+0.5
NPH	North Pit	0.02	321	IAML		18 45 28.8	
	comp=E,12µm,0.8s						
NPH				IAML		18 45 29.0	
	comp=N,21µm,1.0s						
OBL	Observatory Le	0.03	324		Pg	18 45 28.9	+0.7
OBL	Observatory Le	0.03	324	IAML		18 45 29.1	
	comp=N,25µm,0.6s						
OBL				IAML		18 45 29.2	
	comp=E,22µm,0.6s						
SDHHI	Sand Hill	0.03	255		Pg	18 45 28.6	+0.4
SDHHI				IAML		18 45 28.8	
	comp=N,6µm,0.8s						
SDHHI				IAML		18 45 29.1	
	comp=E,13µm,0.3s						
HATHI	Halema'uma'u T	0.03	13	IAML		18 45 28.4	
	comp=E,7µm,1.0s						
HATHI				IAML		18 45 28.4	
	comp=N,9µm,0.8s						
HATHI	Halema'uma'u T	0.03	13		Pg	18 45 28.9	+0.7
UWB	Uwekahuna B	0.03	341		Pg	18 45 28.5	+0.3
SBLHI	Steaming Bluff	0.03	359		Pg	18 45 28.7	+0.4
WRMHI	West Rim	0.03	288		Pg	18 45 28.7	+0.4
WRMHI				IAML		18 45 29.0	
	comp=E,9µm,0.9s						
UWE	Uwekahuna	0.03	316		Pg	18 45 28.6	+0.3
UWE				IAML		18 45 28.7	
	comp=N,9µm,0.8s						
PUH	Pauahi	0.05	114		Pg	18 45 29.7	+1.0
RSD	Rainshed	0.07	352		Pg	18 45 29.8	+0.8
RSD				IAML		18 45 31.1	
	comp=N,2µm,0.4s						
RSD				IAML		18 45 31.3	
	comp=E,2µm,0.3s						
HLP	Hilina Pali	0.11	201		Pg	18 45 29.8	+0.1
HLP				IAML		18 45 32.5	
	comp=N,2µm,1.1s						
HLP				IAML		18 45 33.3	
	comp=E,2µm,0.3s						
STCH	Steam Cracks	0.14	95		Pg	18 45 30.6	+0.3
STCH				IAML		18 45 35.1	
	comp=E,2µm,0.3s						
MLH	Mauna Loa	0.15	311	Pg	Pg	18 45 30.7	+0.2
MLH				IAML		18 45 32.6	
	comp=N,1µm,1.6s						
MLH				IAML		18 45 35.5	
	comp=E,1µm,0.6s						
NPOC	North of Pu'u	0.15	91		Pg	18 45 31.1	+0.6
NPOC				IAML		18 45 35.2	
	comp=E,1µm,0.4s						
JCUZ	Jacuzzi	0.16	94		Pg	18 45 31.3	+0.6
JCUZ				IAML		18 45 34.9	
	comp=N,1µm,0.6s						
JCUZ				IAML		18 45 35.9	
	comp=E,2µm,0.5s						
JOKA	Jonika Flow	0.25	81	Pg	Pg	18 45 32.4	-0.1
JOKA				IAML		18 45 37.5	
	comp=E,840nm,0.8s						
HMH	Humu'ula Sheep	0.29	315	Pg	Pg	18 45 33.1	-0.1
HMH				IAML		18 45 34.8	
	comp=N,568nm,1.6s						
HMH				IAML		18 45 36.5	
	comp=E,434nm,1.5s						
MLOA	Mauna Loa Obse	0.32	296	Pg	Pg	18 45 34.7	+0.8
MLOA				IAML		18 45 42.3	
	comp=E,662nm,1.1s						
MWH	Moku'aweowe	0.32	286		Pg	18 45 33.5	-0.4
KHU	Kahuku	0.36	246		Pb	18 45 35.9	-1.2
KHU	Kahuku	0.36	246	IAML		18 45 36.7	
	comp=E,489nm,1.5s						
KHU				IAML		18 45 45.8	
	comp=N,575nm,1.4s						
HUH	Hualalai	0.61	298	Pg	Pg	18 45 38.6	-0.7
HPAH	Hawaii Prepara	0.75	327	Pg	Pg	18 45 41.3	-0.7

*IDC **16** 18:48:48.0±4.0, 21°.45S×171°.50E, h0km, mb3.9/4, mbtmp4.1/6, ML3.9/2, MS3.7/3, Error ellipse: s-maj=87.7km s-min=29.4km az=27.0*

*NEIC **16** 18:48:48.9±1.2, 21°.0S±0°.2×171°.7E±0°.1, h35km±2km, mb4.4/6, Error ellipse: s-maj=27.7km s-min=21.0km az=2.0*

*NOU **16** 18:49:27.0, 21°.92S×168°.63E, h0km, MLv2.7/6, Loyalty Islands*

ISC 16 18:48:50.7±1.8, 21°.2S±0°.2×171°.6E±0°.1, h35km, n33, σ1s09/26, mb4.0/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	Mare, Loyalty	3.35	264	P	Pn	18 49 40.6	0.0
LIFNC	LIFOU	4.11	275	Pn	Pn	18 49 50.3	-0.7
PINNC	Pines Island,	4.12	249	P	Pn	18 49 50.9	-0.3
PINNC	Pines Island,	4.12	249		Pn	18 49 50.4	-0.8
OUENC	Ouen Island, N	4.60	254	P	Pn	18 49 58.0	+0.2
OUENC	Ouen Island, N	4.60	254		Pn	18 49 57.4	-0.4
DZM	Mont Dzumac	4.89	259	P	Pn	18 50 02.6	+0.8
DZM	Mont Dzumac	4.89	259		Pn	18 50 01.6	-0.2
DZM	Mont Dzumac	4.89	259	Pn	Pn	18 50 02.3	+0.5
DZM	7.2nm,0.3s,baz=80,slow=18,SNR=66			Sn	Sn	18 50 57.4	+0.1
	baz=239,slow=17 77nm,0.7s						
ONTNC	Ouen Toro	4.92	256	P	Pn	18 50 02.8	+0.6
ONTNC	Ouen Toro	4.92	256		Pn	18 50 02.1	-0.1
NOUC	Port Laguerre	5.02	259	P	Pn	18 50 04.2	+0.6
KOUNC	Koumac, New Ca	6.88	274	Pn	Pn	18 50 30.7	+1.6
URZ	Urewera	17.67	166	P	P	18 52 54.6	0.0
URZ	0.3nm,0.3s,baz=67,slow=8.3,SNR=5.0			LR	LR	18 58 02.3	
	comp=Z,368nm,18.2s,baz=30,slow=32 25nm,1.0s						
LTZ	Lake Taylor	21.54	179	P	P	18 53 37.4	+0.5
LTZ				IAmb	IAmb	18 53 54.9	
	comp=Z,43nm,1.2s						
STKA	Stephens Creek	28.80	242	P	P	18 54 46.6	+1.1
	comp=Z,0.9nm,0.5s,baz=78,slow=9.3,SNR=2.0 comp=Z,0.9nm,0.5s						
WB0	Warramunga Arr	34.85	266	P	P	18 55 38.7	0.0
WB0				IAmb	IAmb	18 55 47.4	
	comp=Z,5.5nm,0.8s						
WRA	Warramunga Arr	34.87	265	P	P	18 55 36.6	-2.4
WRA	Warramunga Arr	34.87	265	P	P	18 55 39.3	+0.3
	comp=Z,1.4nm,0.8s,baz=104,slow=8.0,SNR=7.4 comp=Z,1.4nm,0.8s						
AS31	Alice Springs	34.88	259	P	P	18 55 37.1	-1.9
AS31				IAmb	IAmb	18 55 41.5	
	comp=Z,0.9nm,0.9s						
ASAR	Alice Springs	34.88	259	P	P	18 55 37.5	-1.6
ASAR	Alice Springs	34.88	259	P	P	18 55 39.8	+0.7
	comp=Z,0.7nm,0.5s,baz=86,slow=8.6,SNR=8.4 comp=Z,0.7nm,0.5s						
H11S2	WAKE ISLAND Hy	39.72	353	T	T	19 38 52.1	
	baz=166						
H11S3	WAKE ISLAND Hy	39.73	353	T	T	19 38 52.9	
	baz=166						
H11S1	WAKE ISLAND Hy	39.74	353	T	T	19 38 50.6	
	baz=166						
H11N1	WAKE ISLAND Hy	40.91	353	T	T	19 40 12.7	
	baz=172						
H11N3	WAKE ISLAND Hy	40.91	353	T	T	19 40 18.5	
	baz=172						
H11N2	WAKE ISLAND Hy	40.92	353	T	T	19 40 14.5	
	baz=172						
FITZ	Fitzroy Crossi	43.30	266	P	P	18 56 46.7	-2.6
GUMO	Guam	43.41	320	LR	LR	19 12 52.1	
	comp=Z,80nm,21.1s,baz=72,slow=33						
JCJ	Chichijima	55.82	328	LR	LR	19 19 55.2	
	comp=Z,56nm,21.6s,baz=71,slow=33						
QSPA	South Pole Qui	68.88	180	P	P	18 59 51.2	-0.5
QSPA				IAmb	IAmb	19 00 32.8	
	comp=Z,8.7nm,1.5s						
QSPA	South Pole Qui	68.88	180	P	P	18 59 52.5	+0.8
	comp=Z,1.4nm,0.9s,baz=100,slow=5.6,SNR=3.4 comp=Z,1.4nm,0.9s						

IDC 16 18:51:57.7±8.7, 27°.05N×44°.44W, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=238.6km s-min=45.1km az=180.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N2	ASCENSION HYDR	45.22	136	T	T	19 48 05.2	
	baz=320,slow=75,SNR=43						
H10N3	ASCENSION HYDR	45.22	136	T	T	19 48 05.3	
	baz=320,slow=75,SNR=49						
H10N1	ASCENSION HYDR	45.24	136	T	T	19 48 06.6	
	baz=320,slow=75,SNR=49						
H10S3	ASCENSION HYDR	45.99	137	T	T	19 49 02.0	
	baz=320,slow=74,SNR=41						
H10S2	ASCENSION HYDR	46.00	137	T	T	19 49 03.3	
	baz=260,slow=74,SNR=18						
PDAR	Pinedale Array	54.38	305	P	P	19 01 26.7	+0.1
	0.6nm,0.8s,baz=91,slow=9.5,SNR=4.9 0.6nm,0.8s						
YKA	Yellowknife Ar	57.24	329	P	P	19 01 47.0	+0.5
	0.5nm,0.9s,baz=90,slow=7.6,SNR=6.1 0.5nm,0.9s						
AKASG	Malin Array Be	59.43	45	P	P	19 02 02.2	+0.2
	0.1nm,0.3s,baz=282,slow=5.7,SNR=2.0 0.1nm,0.3s						
ILAR	Eielson Array	70.95	334	P	P	19 03 15.8	-0.8
	0.7nm,0.8s,baz=71,slow=4.0,SNR=5.7 0.7nm,0.8s						

*NOU **16** 18:59:03.5, 45°.31S×166°.81E, h0km, MLv3.8/6, Off W. Coast of S. Island, N.Z.*

*WEL **16** 18:59:03.4±0.9, 45°S±4'×16°7E±', h5km, M3.5/8, ML3.7/9, MLv3.5/8, Error ellipse: s-maj=0.0km s-min=0.0km az=105.4, confirmed*

ISC 16 18:59:03.1±1.7, 45°.28S±0°.04×166°.71E±0°.06, h3km±11km, n38, σ0s81/50, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.36	122	P	Pb	18 59 12.3	+0.1
DCZ				S	Sb	18 59 17.7	-0.6
TAFS	Te Anau Fire S	0.72	102	P	Pg	18 59 16.5	-0.5
TAFS				S	Sg	18 59 27.4	+1.1
PYZ	Puysegur Point	0.89	181	P	Pg	18 59 20.0	-0.3
PYZ	Puysegur Point	0.89	181	P	Pg	18 59 19.9	-0.3
MLZ	Mavora Lakes	1.00	96	P	Pg	18 59 22.4	+0.2
MLZ				S	Sb	18 59 36.5	0.0
MSZ	Milford Sound	1.05	56	P	Pg	18 59 22.2	-1.1
MSZ				S	Sg	18 59 36.4	-0.4
WHZ	Wether Hill Ro	1.06	126	P	Pg	18 59 23.4	-0.2
WHZ				S	Sg	18 59 37.9	+0.6
MOSS	Mossburn Schoo	1.14	111	P	Pg	18 59 24.9	-0.1
MOSS				S	Sb	18 59 40.7	0.0
WKZ	Wanaka	1.69	75	P	Pn	18 59 34.0	+0.4
WKZ				S	Sb	18 59 56.7	+0.1
APZ	The Paps	1.79	151	P	Pn	18 59 35.3	+0.4
APZ				S	Sn	18 59 58.2	0.0
EAZ	Earnscleugh	1.83	90	P	Pn	18 59 36.0	+0.5
EAZ				S	Sn	18 59 59.4	+0.3
JCZ	Jackson Bay	1.91	52	P	Pn	18 59 37.3	+0.8
JCZ	Jackson Bay	1.91	52	P	Pn	18 59 36.8	+0.3
JCZ				S	Sb	19 00 03.2	+0.4
SYZ	Scrubby Hill	2.11	128	P	Pn	18 59 39.1	-0.2
SYZ	Scrubby Hill	2.11	128	P	Pn	18 59 39.0	-0.3
SYZ				S	Sn	19 00 05.9	-0.1
TUZ	Tuapeka	2.16	109	P	Pn	18 59 40.5	+0.6
TUZ				S	Sn	19 00 06.4	-0.7
LBZ	Lake Benmore	2.62	71	P	Pn	18 59 45.7	-0.7
ODZ	Otahua Downs	2.79	87	P	Pn	18 59 48.3	-0.3
ODZ	Otahua Downs	2.79	87	P	Pn	18 59 47.8	-0.8
FOZ	Fox Glacier	2.83	53	P	Pn	18 59 48.1	-1.0
TMZ	Timaru	3.18	75	P	Pn	18 59 52.7	-1.3
GCSZ	Gaunt Creek Bo	3.25	54	P	Pn	18 59 54.5	-0.5
ARCZ	Arundel	3.45	69	P	Pn	18 59 56.3	-1.5
RPZ	Rata Peaks	3.48	65	P	Pn	18 59 57.2	-0.9
RPZ	Rata Peaks	3.48	65	P	Pn	18 59 57.4	-0.7
WVZ	Waitaha Valley	3.64	54	P	Pn	19 00 00.8	+0.6
MHCZ	Mount Hutt	3.89	65	P	Pn	19 00 03.3	-0.5
INZ	Inchbonnie	4.26	55	P	Pn	19 00 09.0	+0.2
OXZ	Oxford	4.29	65	P	Pn	19 00 09.5	+0.2
LTZ	Lake Taylor	4.72	60	P	Pn	19 00 15.4	+0.2
DSZ	Denniston Nort	5.11	48	P	Pn	19 00 20.1	-0.5
THZ	Tophouse	5.71	54	P	Pn	19 00 29.8	+1.0
MRNZ	Matariki Terra	5.87	51	P	Pn	19 00 31.4	+0.5
QRZ	Quartz Range	6.16	46	P	Pn	19 00 34.9	0.0
QRZ	Quartz Range	6.16	46	P	Pn	19 00 33.5	-1.3
TKNZ	Takaka Hill	6.23	49	P	Pn	19 00 36.6	+0.6
PUZ	Puketiti	11.23	54	P	Pn	19 01 47.5	+3.0
PKGZ	Pakihiroa	11.26	53	P	Pn	19 01 46.6	+1.8

*NEIC **16** 19:01:51.7±1.2, 19°.42N±0°.01×155°.280W±0°.009, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=22.0*

HVO 16 19:01:51.5±1.6, 19°.395N±0°.009×155°.268W±0°.009, h0km±3km, ML3.1/18, ML2.3/34(NEIC), Error ellipse: s-maj=1.3km s-min=1.3km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	Keanakako`i	0.00	30		Pg	19 01 52.4	+0.6
RIM	Rim	0.01	273		Pg	19 01 52.1	+0.3
BYL	Byron's Ledge	0.02	23	IAML		19 01 52.5	
	comp=N,6µm,0.9s						
BYL	Byron's Ledge	0.02	23		Pg	19 01 53.1	+1.2
NPH	North Pit	0.02	323		Pg	19 01 52.4	+0.4
SDHHI	Sand Hill	0.03	258		Pg	19 01 52.1	+0.1
OBL	Observatory Le	0.03	325		Pg	19 01 52.9	+0.8
HATHI	Halema'uma'u T	0.03	13	IAML		19 01 52.2	
	comp=N,6µm,0.7s						
HATHI				IAML		19 01 52.2	
	comp=E,6µm,0.8s						
HATHI					Pg	19 01 52.8	+0.8
UWB	Uwekahuna B	0.03	342		Pg	19 01 52.2	+0.1
SBLHI	Steaming Bluff	0.03	359		Pg	19 01 52.3	+0.2
WRMHI	West Rim	0.03	291		Pg	19 01 52.7	+0.5
UWE	Uwekahuna	0.04	317		Pg	19 01 51.9	-0.3
UWE				IAML		19 01 52.7	
	comp=N,4µm,0.4s						
PUH	Pauahi	0.05	113		Pg	19 01 52.5	0.0
PUH				IAML		19 01 53.8	
	comp=N,2µm,0.2s						
RSD	Rainshed	0.07	352		Pg	19 01 53.0	+0.1
KNHH	Kane Nui o Ham	0.09	99		Pg	19 01 54.5	+1.2
HLP	Hilina Pali	0.11	201		Pg	19 01 54.4	+0.9
HLP	Hilina Pali	0.11	201	IAML		19 01 55.9	
	comp=E,2µm,0.9s						
HLP				IAML		19 01 55.9	
	comp=N,2µm,1.3s						
STCH	Steam Cracks	0.14	94		Pg	19 01 55.0	+0.9
STCH	Steam Cracks	0.14	94		Sg	19 01 58.0	+2.2
STCH	Steam Cracks	0.14	94	IAML		19 01 57.7	
	comp=E,993nm,0.2s						
STCH				IAML		19 01 57.9	
	comp=N,2µm,0.7s						
MLH	Mauna Loa	0.15	311	IAML		19 01 57.1	
	comp=N,1µm,1.1s						
MLH				IAML		19 01 59.4	
	comp=E,737nm,1.0s						
NPOC	North of Pu'u	0.15	91		Pg	19 01 55.3	+0.9
NPOC					Sg	19 01 58.5	+2.1
JCUZ	Jacuzzi	0.16	94		Pg	19 01 55.4	+0.9
JOKA	Jonika Flow	0.25	81	Pg	Pg	19 01 56.2	-0.1
JOKA				IAML		19 02 01.4	
	comp=E,547nm,1.3s						
HMH	Humu'ula Sheep	0.29	316	Pg	Pg	19 01 56.7	-0.4
HMH				IAML		19 02 00.7	
	comp=E,446nm,1.2s						
HMH				IAML		19 02 00.8	
	comp=N,546nm,1.8s						
MLOA	Mauna Loa Obse	0.32	296	Pg	Pg	19 01 57.1	-0.6
MLOA				IAML		19 02 06.6	
	comp=E,430nm,1.3s						
MWH	Moku'aweowe	0.32	286	Pg	Pg	19 01 57.5	-0.3
KHU	Kahuku	0.36	246	IAML		19 02 01.6	
	comp=N,381nm,1.4s						
ALEP	Alea Permanent	0.38	292		Pg	19 01 59.9	+1.1
HUH	Hualalai	0.61	298	Pg	Pg	19 02 03.8	+0.7

*IDC **16** 19:08:43.3±2.7, 23°.81S×179°.89W, h494km±25km, mb3.4/5, mbtmp4.3/6, Error ellipse: s-maj=29.5km s-min=20.9km az=23.0*

*NEIC **16** 19:08:43.9±2.3, 24°.0S±0°.2×179°.9W±0°.1, h490km±11km, mb4.5/28, Error ellipse: s-maj=24.7km s-min=13.5km az=188.0*

ISC 16 19:08:44.6±0.7, 23°.90S±0°.08×179°.9W±0°.1, h518km, n50, σ1s30/52, mb4.6/19, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	6.43	342	P	P	19 10 25.5	-0.6
PINNC	Pines Island,	11.72	274	P	P	19 11 22.8	+2.5
DZM	Mont Dzumac	12.73	276	P	P	19 11 35.8	+4.8
	8.6nm,1.0s,baz=81,slow=19,SNR=2.2						
URZ	Urewera	14.55	189	P	P	19 11 50.9	+1.3
	6.5nm,0.8s,baz=318,slow=11,SNR=1.4			S	S	19 14 21.0	-1.2
URZ	4.1nm,0.8s,baz=110,slow=19,SNR=1.0						
BFZ	Birch Farm	17.05	190	P	P	19 12 13.3	-1.8
MRZ	Mangatainoka R	17.15	192	P	P	19 12 12.1	-3.9
QRZ	Quartz Range	18.04	199	P	P	19 12 23.6	-0.7
TUWZ	Tuamarina	18.23	195	P	P	19 12 24.6	-1.4
LTZ	Lake Taylor	19.93	197	P	P	19 12 38.2	-3.3
ARMA	Armidale	26.13	249	P	P	19 13 37.9	+0.6
ARMA				IAmb	IAmb	19 13 50.7	
	comp=Z,26nm,1.4s						
EIDS	Eidsvold	26.42	261	P	P	19 13 40.8	+1.1
EIDS				IAmb	IAmb	19 13 55.5	
	comp=Z,24nm,1.3s						
CAN	Canberra	29.24	240	P	P	19 14 05.2	+0.9
CAN				IAmb	IAmb	19 14 26.5	
	comp=Z,48nm,1.5s						
CTAO	Charters Tower	31.59	270	P	P	19 14 25.7	+1.0
CTAO				IAmb	IAmb	19 14 47.9	
	comp=Z,36nm,1.4s						
TOO	Toolangi	32.54	237	P	P	19 14 34.3	+1.6
TOO				IAmb	IAmb	19 14 56.8	
	comp=Z,32nm,1.4s						
RABL	Rabaul	33.33	302	P	P	19 14 39.5	-0.1
RABL				IAmb	IAmb	19 14 40.5	
	comp=Z,11nm,0.5s						
STKA	Stephens Creek	34.83	248	P	P	19 14 52.0	0.0
STKA	Stephens Creek	34.83	248	P	P	19 14 52.6	+0.6
	comp=Z,1.2nm,0.5s,baz=87,slow=8.3,SNR=5.1 comp=Z,1.2nm,0.5s						
COEN	Coen	36.23	279	P	P	19 15 04.5	+0.7
COEN				IAmb	IAmb	19 15 46.1	
	comp=Z,11nm,1.1s						
MANU	Manus Island	38.42	300	P	P	19 15 20.4	-1.4
BBOO	Buckleboo	39.55	247	P	P	19 15 29.1	-1.6
BBOO				IAmb	IAmb	19 16 11.7	
	comp=Z,28nm,1.5s						
AS31	Alice Springs	42.15	261	P	P	19 15 51.7	+0.1
ASAR	Alice Springs	42.15	261	P	P	19 15 51.6	0.0
ASAR	Alice Springs	42.15	261	P	P	19 15 51.9	+0.3
	comp=Z,5.1nm,0.7s,baz=96,slow=7.3

comp=Z,6.9nm,0.5s
FORT Forrest 46.42 250 P **P** 19 16 24.0 -0.5
FORT IAmb IAmb 19 16 24.8
comp=Z,19nm,0.7s
MTN Manton Dam 47.57 274 P **P** 19 16 32.9 -0.5
FAKI Fak Fak 50.69 287 P **P** 19 16 55.1 -1.4
FAKI IAmb IAmb 19 17 21.2
comp=Z,25nm,1.1s
FITZ Fitzroy Crossi 50.94 266 P **P** 19 16 58.5 +0.2
PSA00 Pilbara Seismi 55.27 260 P **P** 19 17 29.2 +0.1
MORW Morawa 56.98 250 P **P** 19 17 40.5 -0.4
MORW IAmb IAmb 19 18 10.5
comp=Z,25nm,1.4s
TOLI2 Tolitoli 62.69 285 P **P** 19 18 18.2 -0.8
TOLI2 IAmb IAmb 19 18 32.9
comp=Z,5.0nm,0.8s
QSPA South Pole Qui 66.19 180 P **P** 19 18 41.6 +1.1
QSPA South Pole Qui 66.19 180 P **P** 19 18 41.6 +1.1
comp=Z,3.3nm,0.7s,baz=30,slow=0.6,SNR=25
comp=Z,3.3nm,0.7s
BELA Belgrano 2 76.42 173 P **P** 19 19 40.0 -0.1
TXAR Lajitas Array 90.33 58 P **P** 19 20 51.7 +1.1
comp=Z,0.5nm,0.8s,baz=216,slow=4.5,SNR=5.3
comp=Z,0.5nm,0.8s
HFS Hagfors 142.57 349 PKhKP PKPpre 19 27 14.5
comp=Z,0.7nm,0.4s,baz=46,slow=8.5,SNR=4.7
ARPR Arapgir-MALATY 144.35 304 PKPab 19 27 22.8 +0.7
AKASG Malin Array Be 145.03 327 PKP **PKPdf** 19 27 22.1 -0.4
comp=Z,0.5nm,0.3s,baz=42,slow=4.2,SNR=5.9
AKBB Malin Array Si 145.03 327 PKPdf **PKPbc** 19 27 22.8 -0.4
KIEV Kiev 145.04 327 PKPdf **PKPbc** 19 27 23.0 -0.2
SUW Suwalki 145.31 336 PKPdf **PKPab** 19 27 24.7 -0.3
GAZ Gaziantep 145.65 301 PKPdf **PKPab** 19 27 26.5 -0.6
BNN Bunyan 146.29 305 PKPdf **PKPbc** 19 27 26.1 -1.4
BRTR Keskin Array B 147.67 307 PKPbc **PKPbc** 19 27 30.9 -0.1
comp=Z,0.7nm,0.8s,baz=128,slow=4.4,SNR=2.6
MMAI Mount Meron Ar 147.80 294 PKPbc **PKiKP** 19 27 32.6 -0.4
comp=Z,1.2nm,0.5s,baz=93,slow=7.2,SNR=2.8
TORD Torodi Ar. Bea 169.20 188 PKPab **PKPab** 19 29 08.8 +0.3
comp=Z,0.5nm,0.7s,baz=204,slow=3.2,SNR=2.8

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*NEIC **16** 19:19:24.5±1.1, 19°.40N±0°.03×155°.28W±0°.01, h5km±2km, Error ellipse: s-maj=5.2km s-min=2.6km az=199.0*
HVO 16 19:19:24.4±1.3, 19°.41N±0°.03×155°.29W±0°.01, h1km±6km, ML2.7/7, ML2.2/20(NEIC), Error ellipse: s-maj=4.5km s-min=0.9km az=201.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRMHI	**West Rim**	**0.01**	**274**		Pg	19 19 25.9	+1.0
NPH	**North Pit**	**0.01**	**55**		Pg	19 19 26.0	+1.1
OBL	**Observatory Le**	**0.01**	**27**		Pg	19 19 26.3	+1.4
UWE	**Uwekahuna**	**0.01**	**350**	IAML		19 19 25.0	
	comp=N,7µm,0.7s						
UWE					Pg	19 19 25.0	+0.1
UWE				IAML		19 19 25.0	
	comp=E,12µm,0.7s						
SDHHI	**Sand Hill**	**0.02**	**192**		Pg	19 19 25.3	+0.3
RIM	**Rim**	**0.02**	**124**		Pg	19 19 24.9	-0.1
UWB	**Uwekahuna B**	**0.02**	**31**		Pg	19 19 25.3	+0.3
KKO	**Keanakako`i**	**0.02**	**109**		Pg	19 19 25.6	+0.6
BYL	**Byron's Ledge**	**0.03**	**78**		Pg	19 19 25.0	0.0
BYL				IAML		19 19 25.4	
	comp=E,5µm,0.7s						
SBLHI	**Steaming Bluff**	**0.03**	**45**		Pg	19 19 25.4	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**58**		Pg	19 19 25.8	+0.7
RSD	**Rainshed**	**0.06**	**11**		Pg	19 19 26.3	+0.7
PUH	**Pauahi**	**0.08**	**114**	Pg	Pg	19 19 26.0	+0.1
PUH				IAML		19 19 28.0	
	comp=N,3µm,1.4s						
HLP	**Hilina Pali**	**0.11**	**189**	Pg	Pg	19 19 27.3	+0.7
HLP				IAML		19 19 28.0	
	comp=N,1µm,0.8s						
MLH	**Mauna Loa**	**0.13**	**314**		Pg	19 19 27.9	+1.0
MLH	**Mauna Loa**	**0.13**	**314**	IAML		19 19 29.6	
	comp=E,943nm,0.8s						
MLH				IAML		19 19 30.9	
	comp=N,2µm,1.1s						
STCH	**Steam Cracks**	**0.16**	**97**	Pg	Pg	19 19 27.3	-0.2
STCH				IAML		19 19 30.4	
	comp=E,681nm,1.5s						
STCH				IAML		19 19 31.8	
	comp=N,830nm,0.9s						
JCUZ	**Jacuzzi**	**0.18**	**97**	Pg	Pg	19 19 27.7	-0.2
HUH	**Hualalai**	**0.58**	**298**	Pg	Pb	19 19 36.9	-0.7

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*CATAC **16** 19:21:32.1±0.9, 13°.27N×90°.18W, h20km±7km, ML3.2*
*GCG **16** 19:21:41.3±0.4, 13°.81N×90°.47W, h30km, MD3.5*
ISC 16 19:21:31.1±2.2, 13°.2N±0°.1×90°.25W±0°.05, h24km±15km, n11, σ0§52/20, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.81**	**34**	*i* P	**Pb**	**19 21 46.5**	**-0.2**
NUBE				*i* S	**Sb**	**19 21 57.2**	**-0.2**
NUBE				IAML		19 21 58.8	
	comp=Z,570nm,1.0s						
CEVE	**Cerro Verde**	**0.85**	**45**	*i* P	**Pb**	**19 21 47.8**	**+0.4**
CEVE				*i* S	**Sb**	**19 21 58.7**	**+0.1**
CEVE				IAML		19 22 05.7	
	comp=Z,1µm,1.0s						
JAYA	**Jayaque - finc**	**0.89**	**61**	*i* P	**Pn**	**19 21 47.7**	**-0.5**
JAYA				IAML		19 22 00.2	
	comp=Z,1µm,1.0s						
LOAL	**Lomas de Alarc**	**0.89**	**30**	*i* P	**Pn**	**19 21 48.2**	**0.0**
LOAL				*i* S	**Sn**	**19 22 00.2**	**-0.2**
LOAL				IAML		19 22 01.7	
	comp=Z,2µm,1.0s						
PMON	**Piamonte**	**1.03**	**62**	*i* P	**Pn**	**19 21 50.2**	**+0.1**
PMON				*i* S	**Sn**	**19 22 03.2**	**-0.7**
PMON				IAML		19 22 08.6	
	comp=Z,610nm,1.0s						
LOMA	**Loma Larga**	**1.13**	**68**	*i* P	**Pn**	**19 21 51.7**	**+0.2**
LOMA				*i* S	**Sn**	**19 22 05.9**	**-0.4**
LOMA				IAML		19 22 11.2	
	comp=Z,350nm,1.0s						
FUG	**Fuego 3**	**1.35**	**335**	*eP*	**Pn**	**19 21 55.5**	**+0.9**
FUG				*eP*	**Pb**	**19 21 55.7**	**-0.1**
FUG				*eS*	**Sb**	**19 22 12.4**	**-0.3**
NBG	**Las Nubes**	**1.36**	**356**	*eP*	**Pb**	**19 21 56.9**	**+0.8**
MTO3	**Montecristo**	**1.45**	**36**	*i* P	**Pn**	**19 21 56.0**	**0.0**
MTO3				*i* S	**Sn**	**19 22 14.3**	**-0.1**
MTO3				IAML		19 22 16.6	
	comp=Z,160nm,1.0s						
STG3	**Santiaguito 3,**	**1.96**	**319**	*eP*	**Pb**	**19 22 05.4**	**-0.8**
CNCH	**Conchagua**	**2.35**	**88**	*i* P	**Pn**	**19 22 08.4**	**+0.1**
CNCH				*i* S	**Sn**	**19 22 37.4**	**+0.9**
CNCH				IAML		19 22 46.9	
	comp=Z,230nm,1.0s						

IDC 16 19:21:47.4±3.1, 25°.54S×70°.08E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=90.5km s-min=42.7km az=38.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**17.94**	**8**	T	T	19 44 12.1	
	baz=188,slow=76,SNR=11						
H08S2	**Diego Garcia H**	**17.95**	**8**	T	T	19 44 09.0	
	baz=188,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**17.96**	**8**	T	T	19 44 09.5	
	baz=188,slow=76,SNR=14						
H04N2	**CROZET ISLANDS**	**25.25**	**211**	T	T	19 53 48.3	
	baz=41,slow=74,SNR=126						
H04N1	**CROZET ISLANDS**	**25.25**	**211**	T	T	19 53 49.2	
	baz=41,slow=74,SNR=112						
H04N3	**CROZET ISLANDS**	**25.26**	**211**	T	T	19 53 47.8	
	baz=41,slow=74,SNR=83						
H01W2	**Cape Leeuwin H**	**38.93**	**115**	T	T	20 10 55.9	
	baz=271						
H01W3	**Cape Leeuwin H**	**38.93**	**115**	T	T	20 10 57.3	
	baz=271						
H01W1	**Cape Leeuwin H**	**38.95**	**115**	T	T	20 11 00.1	
	baz=271						
CMAR	**Chiang Mai Arr**	**51.97**	**36**	P	P	19 30 58.9	+0.3
	1.0nm,0.3s,baz=226,slow=7.5,SNR=4.9						
	1.0nm,0.3s						
ASAR	**Alice Springs**	**57.55**	**103**	P	P	19 31 39.1	-0.1
	0.3nm,0.8s,baz=253,slow=6.5,SNR=2.6						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**72.84**	**9**	P	P	19 33 17.0	-0.7
	0.3nm,0.8s,baz=193,slow=5.9,SNR=3.4						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**73.29**	**331**	P	P	19 33 21.2	+0.4
	0.5nm,0.9s,baz=198,slow=4.2,SNR=2.3						
	0.5nm,0.9s						

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*IDC **16** 19:32:45.0±1.1, 12°.91S×45°.41E, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=44.6km s-min=26.9km az=112.0*
*NEIC **16** 19:32:45.0±2.5, 12°.80S±0°.09×45°.5E±0°.2, h10km±1km, mb4.3/7, Error ellipse: s-maj=26.5km s-min=15.1km az=259.0*
ISC 16 19:32:45.3±0.6, 12°.82S±0°.08×45°.5E±0°.1, h10km, n22, σ1§46/21, mb4.3/10, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.39**	**165**	Pn	**Pn**	**19 34 19.3**	**-0.4**
ABPO				Sn	Sn	19 35 23.1	-10
VOI	**Vohitsoka**	**9.12**	**172**	Pn	**Pn**	**19 34 56.2**	**-0.9**
FOMA	**Nahampoana Res**	**12.17**	**173**		**Pn**	**19 35 37.6**	**-1.3**
KIBK	**Kibwezi**	**12.74**	**324**	Pn	**Pn**	**19 35 45.4**	**-1.3**
RER	**Riviere de l'E**	**12.86**	**131**	Pn	**Pn**	**19 35 46.6**	**-1.7**
LSZ	**Lusaka**	**16.93**	**260**		**P**	**19 36 43.9**	**-0.7**
LSZ				IAmb	IAmb	19 36 48.8	
	comp=Z,8.5nm,0.7s						
LODK	**Lodwar**	**19.00**	**327**	P	**P**	**19 37 07.2**	**-0.1**
BOSA	**Boshof**	**24.51**	**227**	P	**P**	**19 38 05.2**	**+0.1**
BOSA				IAmb	IAmb	19 38 09.7	
	comp=Z,16nm,1.5s						
BOSA	**Boshof**	**24.51**	**227**	P	**P**	**19 38 05.7**	**+0.6**
	comp=Z,2.0nm,0.5s,baz=56,slow=10,SNR=10						
	comp=Z,2.0nm,0.5s						
SUR	**Sutherland**	**29.81**	**225**	P	**P**	**19 38 53.4**	**+0.6**
BRTR	**Keskin Array B**	**53.42**	**349**	P	**P**	**19 42 05.7**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=183,slow=9.3,SNR=2.1						
	comp=Z,0.3nm,0.7s						
GAR	**Garm**	**56.54**	**23**	P	**P**	**19 42 29.7**	**+1.6**
GAR				IAmb	IAmb	19 42 36.0	
	comp=Z,5.4nm,0.9s						
KK31	**Karatay Array**	**60.20**	**21**	P	**P**	**19 42 51.4**	**-2.0**
KK31				IAmb	IAmb	19 43 03.3	
	comp=Z,1.5nm,0.9s						
KKAR	**Karatay Array**	**60.20**	**21**	P	**P**	**19 42 52.1**	**-1.3**
ABKAR	**Akbulak array**	**63.12**	**11**	P	**P**	**19 43 12.9**	**-0.1**
PZH	**PanZhiHua**	**67.22**	**54**	P	**P**	**19 43 40.3**	**0.0**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
MKAR	**Makanchi Array**	**67.91**	**26**	P	**P**	**19 43 47.7**	**+3.6**
	comp=Z,0.5nm,0.9s,baz=221,slow=5.7,SNR=4.4						
	comp=Z,0.5nm,0.9s						
QSPA	**South Pole Qui**	**77.27**	**180**	P	**P**	**19 44 40.9**	**+1.2**
QSPA				IAmb	IAmb	19 44 43.1	
	comp=Z,6.4nm,1.4s						
QSPA	**South Pole Qui**	**77.27**	**180**	P	**P**	**19 44 41.3**	**+1.5**
	comp=Z,2.3nm,1.1s,baz=268,slow=2.2,SNR=5.7						
	comp=Z,2.3nm,1.1s						
HHC	**Hu-ho-hao-te**	**81.03**	**45**	*eP*	**P**	**19 44 58.6**	**-2.1**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.6s						
ASAR	**Alice Springs**	**83.56**	**113**	P	**P**	**19 45 14.6**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=271,slow=5.4,SNR=6.4						
	comp=Z,0.4nm,0.6s						
XLT	**XiLinHaoTe**	**85.33**	**43**	*eP*	P	19 45 15.8	-7.0
XLT				pP	pP	19 45 19.4	-6.1
XLT				sP	PcP	19 45 25.1	-0.8
XLT				pmax	pmax		
	comp=Z,10.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,120nm,5.4s						

IDC 16 19:35:20.3±1.9, 1°.77N×126°.73E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=187.4km s-min=22.5km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.83**	**161**	P	P	19 40 24.7	-0.5
	1.4nm,1.2s,baz=340,slow=11,SNR=6.6						
	1.4nm,1.2s						
ASAR	**Alice Springs**	**26.23**	**165**	P	P	19 40 57.9	+0.7
	0.2nm,0.7s,baz=344,slow=11,SNR=1.0						
	0.2nm,0.7s						
MKAR	**Makanchi Array**	**59.16**	**326**	P	P	19 45 23.1	+0.1
	0.4nm,0.5s,baz=117,slow=8.7,SNR=6.1						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.38**	**328**	P	P	19 45 51.3	-0.2
	0.4nm,0.5s,baz=128,slow=6.1,SNR=7.2						
	0.4nm,0.5s						

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*IDC **16** 19:35:36.6±2.7, 30°.54N×57°.45E, h0km, mb3.4/4, mbtmp3.3/5, ML2.6/1, Error ellipse: s-maj=83.9km s-min=28.1km az=145.0*
*TEH **16** 19:35:37.4, 30°.78N×57°.32E, h8km±46km, ML3.4*
ISC 16 19:35:38.8±1.3, 30°.65N±0°.04×57°.33E±0°.05, h15km±10km, n21, σ0§95/21, mb3.5/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRM1	**Kerman Provinc**	**0.16**	**200**	Pg	**Pg**	**19 35 43.5**	**+0.5**
ZRDN	**Zarand Kerman**	**0.76**	**295**	Pg	**Pg**	**19 35 51.6**	**-2.0**
KHGB	**Koh Gabri**	**0.79**	**250**	Pg	**Pg**	**19 35 53.1**	**-1.1**
CHMN	**Cheshme madani**	**0.81**	**167**	Pg	**Pn**	**19 35 55.3**	**-0.7**
TVBK	**TV Kerman**	**0.83**	**217**	Pg	**Pn**	**19 35 56.0**	**-0.4**
NGRK	**Negar Kerman**	**1.13**	**208**	Pg	**Pn**	**19 36 01.2**	**+0.7**
IBAF	**Bafgh**	**1.78**	**302**	Pg	**Pn**	**19 36 09.5**	**+0.3**
KBAM	**BAM**	**1.80**	**147**	Pn	**Pg**	**19 36 12.0**	**-1.4**
IKOO	**Kooshah**	**2.27**	**39**	Pn	**Pn**	**19 36 16.2**	**+0.1**
TPRV	**Parvadeh(Tabas**	**2.43**	**347**	Pn	**Pn**	**19 36 18.0**	**-0.2**
IMEH	**Mehriz**	**2.45**	**288**	Pn	**Pn**	**19 36 19.8**	**+1.3**
ITEG	**Tejag**	**2.54**	**28**	Pn	**Pn**	**19 36 20.1**	**+0.4**
BAGH	**Bagheran - Bir**	**2.65**	**36**	Pn	**Pn**	**19 36 21.8**	**+0.4**
TKDS	**Koohdasht(Taba**	**2.96**	**357**	Pn	**Pn**	**19 36 24.7**	**-0.7**
IDAH	**Dahanechah**	**3.00**	**45**	Pn	**Pn**	**19 36 26.3**	**+0.2**
AFRZ	**Afriz**	**3.11**	**27**	Pn	**Pn**	**19 36 27.7**	**+0.1**
GEYT	**Alibeck**	**7.29**	**5**	Pn	**Pn**	**19 37 26.2**	**+1.4**
	0.1nm,0.3s,baz=186,slow=13,SNR=1.5						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**25.12**	**43**	P	**P**	**19 41 03.3**	**+0.2**
	0.1nm,0.4s,baz=257,slow=5.9,SNR=2.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**25.46**	**32**	P	**P**	**19 41 07.1**	**+1.0**
	0.4nm,0.7s,baz=231,slow=8.7,SNR=5.5						
	0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**30.56**	**32**	P	**P**	**19 41 51.3**	**-0.4**
	0.8nm,0.6s,baz=233,slow=7.2,SNR=4.0						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**53.95**	**264**	P	**P**	**19 45 03.2**	**+0.8**
	0.6nm,0.8s,baz=50,slow=8.7,SNR=4.3						
	0.6nm,0.8s						

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*NORS **16** 19:38:51.7, 41°.50N×44°.03E, h2km, MPVA3.6*
*MOS **16** 19:38:52.7, 41°.45N×44°.03E, h10km, MPVA3.7*
*AFAD **16** 19:38:53.5±0.0, 41°.43N×44°.02E, h7km±2km, ML2.2*
*DRS **16** 19:38:58.9, 41°.50N×43°.47E, h28km*
ISC 16 19:38:53.3±1.1, 41°.43N±0°.03×44°.06E±0°.02, h8km±10km, n33, σ1§07/65, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.82**	**205**	P	**Pg**	**19 39 08.4**	**-0.7**
EAK				S	**Sg**	**19 39 19.8**	**0.0**
EAK				*i* AML	AML	19 39 20.0	
	comp=E,97nm,0.4s						
EAK				*i* AML	AML	19 39 38.0	
	comp=N,78nm,0.5s						
EPOS	**Posof**	**1.00**	**274**	P	**Pb**	**19 39 12.5**	**-0.5**
EPOS				*i* AML	AML	19 39 30.0	
	comp=E,32nm,0.4s						
EPOS				*i* AML	AML	19 39 31.0	
	comp=N,40nm,0.4s						
GUDG	**Gudauri**	**1.08**	**17**	*eP*	**Pn**	**19 39 14.0**	**-0.9**
GUDG				*eSg*	**Sn**	**19 39 30.1**	**-0.1**
AHAN	**Ardahan-Merkez**	**1.11**	**256**	P	**Pb**	**19 39 14.9**	**0.0**
AHAN				S	**Sn**	**19 39 30.4**	**-0.6**
AHAN				*i* AML	AML	19 39 34.0	
	comp=E,74nm,0.4s						
AHAN				*i* AML	AML	19 39 35.0	
	comp=N,52nm,0.3s						
BOZK	**Kars-Merkez-Bo**	**1.17**	**224**	P	**Pb**	**19 39 15.8**	**-0.1**
BOZK				S	**Sb**	**19 39 31.6**	**+0.3**
BOZK				*i* AML	AML	19 39 34.0	
	comp=N,38nm,0.2s						
BOZK				*i* AML	AML	19 39 34.0	
	comp=E,37nm,0.2s						
ONI	**Oni**	**1.24**	**339**	*eP*	**Pn**	**19 39 16.7**	**-0.3**
ONI				*eSg*	**Sn**	**19 39 34.0**	**+0.1**
GOLE	**Ardahan-G¶le**	**1.25**	**242**	P	**Pn**	**19 39 16.9**	**-0.4**
GOLE				S	**Sn**	**19 39 34.7**	**+0.2**
GOLE				*i* AML	AML	19 39 35.0	
	comp=N,122nm,0.2s						
GOLE				*i* AML	AML	19 39 35.0	
	comp=E,126nm,0.4s						
LACR	**Lac**	**1.40**	**7**	*eP*	**Pg**	**19 39 19.9**	**-0.3**
LACR				*eSg*	**Sg**	**19 39 39.1**	**+0.7**
DIGR	**Digorskoe uzhe**	**1.51**	**347**	*eP*	**Pg**	**19 39 22.4**	**+0.2**
DIGR				*eSg*	**Sg**	**19 39 43.2**	**+1.5**
KORR	**Kora**	**1.65**	**0**	*eP*	**Pg**	**19 39 25.1**	**+0.1**
KORR				*eSg*	**Sg**	**19 39 48.7**	**+2.3**
DAGI	**Agillar**	**1.65**	**258**	P	**Pb**	**19 39 24.3**	**+0.2**
DAGI				*i* AML	AML	19 39 47.0	
	comp=N,41nm,0.9s						
DAGI				*i* AML	AML	19 39 47.0	
	comp=E,26nm,0.4s						
DAGI				S	**Sg**	**19 39 47.1**	**+0.6**
VLKR	**Vladikavkaz**	**1.68**	**16**	*eP*	**Pg**	**19 39 25.8**	**+0.3**
VLKR				*eSg*	**Sg**	**19 39 49.5**	**+2.3**
KMGR	**Komgaron**	**1.73**	**20**	*eP*	**Pg**	**19 39 25.7**	**-0.8**
KMGR				*eSg*	**Sg**	**19 39 48.8**	**-0.1**
ARNR	**Ardon**	**1.75**	**5**	*eP*	**Pg**	**19 39 27.7**	**+0.8**
ARNR				*eSg*	**Sg**	**19 39 51.9**	**+2.2**
DDEM	**Demirkent**	**1.82**	**254**	P	**Pb**	**19 39 27.4**	**+0.4**
DDEM				S	**Sb**	**19 39 50.9**	**+1.0**
DDEM				*i* AML	AML	19 39 54.0	
	comp=N,105nm,0.4s						
DDEM				*i* AML	AML	19 39 56.0	
	comp=E,47nm,0.3s						
DBAD	**Bademkaya**	**1.83**	**258**	P	**Pb**	**19 39 27.2**	**+0.1**
DBAD				S	**Sg**	**19 39 51.8**	**-0.3**
DBAD				*i* AML	AML	19 39 53.0	
	comp=E,29nm,0.4s						
DBAD				*i* AML	AML	19 39 54.0	
	comp=N,57nm,0.5s						
LSNR	**Lesken**	**1.85**	**355**	*eP*	**Pg**	**19 39 27.9**	**-0.9**
LSNR				*eSg*	**Sg**	**19 39 53.7**	**+0.9**
STDR	**Stavd-Durt**	**1.93**	**0**	*eP*	**Pg**	**19 39 30.9**	**+0.5**
STDR				*eSg*	**Sg**	**19 39 57.0**	**+1.5**
BTKR	**Batakoyurt**	**1.97**	**10**	*eP*	**Pg**	**19 39 31.1**	**0.0**
BTKR				*eSg*	**Sg**	**19 39 55.6**	**-1.0**
BTLR	**Botlikh**	**2.03**	**52**	*eP*	**Pg**	**19 39 30.9**	**+0.4**
BTLR				*eSg*	**Sg**	**19 39 57.0**	**-1.4**
DVE	**Vedeno**	**2.16**	**45**	*eP*	**Pb**	**19 39 33.0**	**+0.3**
DVE				*eSg*	**Sg**	**19 40 02.1**	**-0.7**
XNZR	**Khunzakh**	**2.26**	**60**	*ePn*	**Pb**	**19 39 34.6**	**+0.1**
XNZR				*eSn*	**Sb**	**19 40 03.9**	**+1.2**
GNBR	**Gunib**	**2.37**	**65**	*ePn*	**Pb**	**19 39 36.0**	**-0.2**
GNBR				*eSn*	**Sb**	**19 40 06.8**	**+1.1**
KMKR	**Kumukh**	**2.38**	**72**	*ePn*	**Pb**	**19 39 36.5**	**0.0**
KMKR				*eSn*	**Sb**	**19 40 07.3**	**+1.2**
UNCR	**Uncukul**	**2.41**	**57**	*ePn*	**Pb**	**19 39 36.4**	**-0.5**
UNCR				*eSn*	**Sb**	**19 40 06.9**	**+0.2**
KBZ	**Khabaz**	**2.45**	**340**	*ePn*	**Pn**	**19 39 33.8**	**+0.3**
KBZ				*eSn*	**Sg**	**19 40 08.2**	**-3.7**
ARKR	**Arakani**	**2.48**	**61**	*ePn*	**Pb**	**19 39 36.0**	**-2.1**
ARKR				*eSn*	**Sb**	**19 40 10.4**	**+1.6**
DLMR	**Dylym**	**2.52**	**49**	*ePn*	**Pb**	**19 39 37.3**	**-1.4**
DLMR				*eSn*	**Sb**	**19 40 08.6**	**-1.2**
SHA1	**Shidzhatmaz**	**2.52**	**336**	*ePn*	**Pb**	**19 39 38.1**	**-0.9**
SHA1				*eSn*	**Sb**	**19 40 10.1**	**-0.2**
KRNR	**Karanay**	**2.54**	**56**	*ePn*	**Pb**	**19 39 39.6**	**+0.4**
KRNR				*eSn*	**Sb**	**19 40 11.4**	**+0.9**
DBC	**Dubki**	**2.60**	**51**	*ePn*	**Pb**	**19 39 38.7**	**-1.5**
DBC				*eSn*	**Sb**	**19 40 11.2**	**-1.1**
BUJR	**Buynaksk**	**2.66**	**57**	*ePn*	**Pb**	**19 39 39.9**	**-1.3**
BUJR				*eSn*	**Sb**	**19 40 13.5**	**-0.5**
AKT	**Akhty**	**2.76**	**88**	*ePn*	**Pn**	**19 39 39.5**	**+1.5**
AKT				*eSn*	**Sb**	**19 40 16.6**	**-0.4**

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*NEIC **16** 19:42:35.7±1.9, 5°.87S±0°.08×130°.0E±0°.1, h192km±12km, mb4.5/6, Error ellipse: s-maj=21.5km s-min=10.3km az=108.0*
*IDC **16** 19:42:42.6±5.1, 6°.13S×129°.59E, h220km±44km, mb3.0/5, mbtmp3.8/7, Error ellipse: s-maj=51.3km s-min=13.2km az=69.0*
ISC 16 19:42:39.9±0.9, 6°.24S±0°.09×129°.89E±0°.08, h200km, n33, σ1§89/34, mb3.3/5, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**2.23**	**141**	P	**Pn**	**19 43 20.7**	**-0.1**
SAUI	**Saumlaki**	**2.23**	**141**	Pn	**Pn**	**19 43 19.7**	**-1.1**
FAKI	**Fak Fak**	**4.05**	**36**	P	Pn	19 43 33.2	-9.1
FAKI	**Fak Fak**	**4.05**	**36**		Pn	19 43 33.3	-9.1
DRS	**Darwin Rock St**	**6.24**	**171**	P	**Pn**	**19 44 10.9**	**+0.7**
SOEI	**Soe**	**6.57**	**238**	Pn	**Pn**	**19 44 14.0**	**-0.7**
MTN	**Manton Dam**	**6.68**	**169**	P	**Pn**	**19 44 17.1**	**+1.1**
MTN	**Manton Dam**	**6.68**	**169**		**Pn**	**19 44 16.2**	**+0.2**
KDU	**Kakadu**	**6.90**	**158**	P	**Pn**	**19 44 19.1**	**+0.3**
BATI	**Baumata**	**7.31**	**237**	P	**Pn**	**19 44 23.9**	**-0.4**
	19nm,0.4s,baz=103,slow=4.2,SNR=1.1						
BATI				S	**Sn**	**19 45 46.6**	**-0.6**
	21nm,0.7s,baz=116,slow=23,SNR=1.4						
FITZ	**Fitzroy Crossi**	**12.50**	**199**	Pn	**Pn**	**19 45 31.2**	**+0.1**
WB0	**Warramunga Arr**	**14.14**	**162**		**Pn**	**19 45 51.2**	**-0.5**
WRA	**Warramunga Arr**	**14.29**	**163**		**Pn**	**19 45 53.2**	**-0.3**
WRA	**Warramunga Arr**	**14.29**	**163**	P	**Pn**	**19 45 53.4**	**-0.1**
	1.3nm,0.3s,baz=343,slow=13,SNR=28						
WRA				S	**S**	**19 48 26.4**	**-6.2**
	2.5nm,0.6s,baz=337,slow=22,SNR

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**2.22**	**29**		**Pn**	**19 43 36.3**	**-0.2**
RABL				Sn	**Sn**	**19 44 05.6**	**+2.9**
PMG	**Port Moresby**	**5.07**	**230**	P	**Pn**	**19 44 19.0**	**+3.5**
	4.3nm,0.3s,baz=62,slow=8.7,SNR=13						
PMG				S	**Sn**	**19 45 10.9**	**-1.9**
	20nm,0.5s,baz=62,slow=22,SNR=2.0						
	11nm,0.4s						
MANU	**Manus Island**	**5.52**	**318**	Pn	**Pn**	**19 44 21.5**	**-0.3**
WB0	**Warramunga Arr**	**21.14**	**229**	P	**P**	**19 47 43.8**	**+0.2**
WB0				IAmb	IAmb	19 48 22.5	
	comp=Z,12nm,1.0s						
WR0	**Warramunga Arr**	**21.14**	**228**	P	**P**	**19 47 43.8**	**+0.2**
WR0				IAmb	IAmb	19 47 45.2	
	comp=Z,14nm,0.9s						
WB2	**Warramunga Arr**	**21.27**	**228**	P	**P**	**19 47 44.2**	**-0.8**
WRA	**Warramunga Arr**	**21.28**	**228**	P	**P**	**19 47 44.2**	**-1.0**
WRA	**Warramunga Arr**	**21.28**	**228**	P	**P**	**19 47 45.2**	**+0.1**
	comp=Z,9.5nm,0.5s,baz=53,slow=10,SNR=26						
	comp=Z,9.5nm,0.5s						
DZM	**Mont Dzumac**	**21.69**	**138**	LR	LR	19 54 34.3	
	comp=Z,153nm,18.2s,baz=215,slow=32						
AS31	**Alice Springs**	**24.02**	**222**	P	**P**	**19 48 12.7**	**-0.5**
AS31				IAmb	IAmb	19 48 14.6	
	comp=Z,4.8nm,0.7s						
ASAR	**Alice Springs**	**24.02**	**222**	P	**P**	**19 48 13.2**	**+0.1**
ASAR	**Alice Springs**	**24.02**	**222**	P	**P**	**19 48 13.6**	**+0.4**
	comp=Z,13nm,0.7s,baz=54,slow=9.4,SNR=77						
	comp=Z,13nm,0.7s						
STKA	**Stephens Creek**	**27.09**	**198**	P	**P**	**19 48 39.5**	**-1.4**
	comp=Z,2.0nm,0.7s,baz=15,slow=7.9,SNR=4.4						
	comp=Z,2.0nm,0.7s						
JNU	**Nakatsue**	**43.52**	**335**	P	**P**	**19 51 04.5**	**+2.9**
	comp=Z,8.4nm,0.8s,baz=110,slow=3.0,SNR=5.9						
	comp=Z,8.4nm,0.8s						
KSRS	**Korea Array**	**48.47**	**335**	P	**P**	**19 51 40.0**	**-0.5**
	comp=Z,0.7nm,0.8s,baz=158,slow=9.1,SNR=2.2						
	comp=Z,0.7nm,0.8s						
VNDA	**Vanda**	**71.56**	**178**	P	**P**	**19 54 17.2**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=14,slow=4.2,SNR=3.5						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**80.23**	**319**	P	**P**	**19 55 08.0**	**-0.3**
	comp=Z,0.2nm,0.6s,baz=99,slow=7.8,SNR=2.4						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**84.04**	**22**	P	**P**	**19 55 25.9**	**-1.9**
	comp=Z,0.6nm,0.6s,baz=247,slow=4.7,SNR=8.1						
	comp=Z,0.6nm,0.6s						
YKA	**Yellowknife Ar**	**97.40**	**28**	P	**P**	**19 56 30.7**	**-0.1**
	comp=Z,0.1nm,0.7s,baz=272,slow=6.1,SNR=1.9						
	comp=Z,0.1nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.06**	**285**		**PKPdf**	**20 02 45.0**	**+2.4**
TORD	**Torodi Ar. Bea**	**149.06**	**285**	PKPbc	**PKPbc**	**20 02 45.8**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=71,slow=3.4,SNR=9.0						

*IDC **16** 19:48:51.1±2.0,33˚58S×179˚32W,h0km,mb3.5/3, mbtmp3.6/4,ML3.9/1,Error ellipse: s-maj=50.3km s-min=37.7km az=76.0*
*WEL **16** 19:48:54.9±0.8,34˚S±6˚×17˚9W±1˚5,h33km,M4.3/9, mB4.8/3,ML4.5/12,MLv4.3/9,Mw(mB)4.1/3,Error ellipse: s-maj=0.0km s-min=0.0km az=111.0,confirmed*
ISC 16 19:48:54.7±1.3,33˚92S±0˚07×178˚9W±0˚1,h50km,n25, σ1§35/35,mb3.2/3,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.29**	**211**	P	**Pn**	**19 49 58.1**	**+0.6**
MXZ				S	**Sn**	**19 50 46.8**	**+0.6**
PKGZ	**Pakihiroa**	**4.66**	**211**	P	**Pn**	**19 50 03.5**	**+0.9**
PKGZ				S	**Sn**	**19 50 56.0**	**+0.5**
HAZ	**Te Kaha**	**4.69**	**214**	P	**Pn**	**19 50 03.9**	**+1.0**
HAZ				S	**Sn**	**19 50 55.8**	**-0.1**
GLKZ	**Green Lake**	**4.72**	**10**	P	**Pn**	**19 50 02.4**	**-0.9**
GLKZ				S	**Sn**	**19 50 56.3**	**-0.4**
PUZ	**Puketiti**	**4.74**	**208**	P	**Pn**	**19 50 02.6**	**-1.1**
PUZ				S	**Sn**	**19 50 57.0**	**-0.4**
RUGZ	**Raukumara Rang**	**4.90**	**214**	P	**Pn**	**19 50 05.9**	**-0.1**
RUGZ				S	**Sn**	**19 51 01.8**	**+0.4**
TWGZ	**Tauwhareparae**	**4.95**	**210**	P	**Pn**	**19 50 08.6**	**+2.2**
TWGZ				S	**Sn**	**19 51 03.1**	**+0.7**
CNGZ	**Carnagh Statio**	**5.12**	**206**	P	**Pn**	**19 50 09.4**	**+0.6**
CNGZ				S	**Sn**	**19 51 05.1**	**-1.5**
MWZ	**Matawai**	**5.27**	**212**	P	**Pn**	**19 50 12.1**	**+1.1**
MWZ				S	**Sn**	**19 51 08.7**	**-1.7**
URZ	**Urewera**	**5.41**	**216**	Pn	**Pn**	**19 50 13.4**	**+0.7**
	3.5nm,0.3s,baz=353,slow=3.6,SNR=24						
URZ				Sn	**Sn**	**19 51 09.7**	**-3.9**
	0.5nm,0.3s,baz=350,slow=21,SNR=1.3						
	10.0nm,0.4s						
URZ	**Urewera**	**5.41**	**216**	P	**Pn**	**19 50 11.9**	**-0.8**
URZ				S	**Sn**	**19 51 12.1**	**-1.5**
RAGZ	**Rawiri**	**5.46**	**212**	P	**Pn**	**19 50 14.9**	**+1.4**
RAGZ				S	**Sn**	**19 51 14.1**	**-0.8**
SNGZ	**Shannon Statio**	**5.73**	**211**	P	**Pn**	**19 50 18.7**	**+1.6**
SNGZ				S	**Sn**	**19 51 21.1**	**-0.4**
MUGZ	**Murupara**	**5.74**	**216**	P	**Pn**	**19 50 18.3**	**+0.9**
WCZ	**Waipu Caves**	**5.91**	**248**	P	**Pn**	**19 50 21.0**	**+1.3**
TOZ	**Tahuroa Road**	**5.93**	**229**	P	**Pn**	**19 50 22.6**	**+2.6**
NMHZ	**Naumai**	**6.22**	**213**	P	**Pn**	**19 50 25.3**	**+1.3**
NMHZ				S	**Sn**	**19 51 31.4**	**-2.4**
OUZ	**Omahuta**	**6.33**	**256**	P	**Pn**	**19 50 25.5**	**0.0**
ASAR	**Alice Springs**	**42.30**	**271**	P	**P**	**19 56 44.0**	**+0.3**
	0.3nm,0.7s,baz=111,slow=7.8,SNR=1.8						
	0.3nm,0.7s						
WRA	**Warramunga Arr**	**43.61**	**276**	P	**P**	**19 56 54.1**	**-0.2**
	0.3nm,0.6s,baz=113,slow=8.2,SNR=1.3						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**56.20**	**180**	P	P	19 58 35.3	+5.9
	1.0nm,1.0s,baz=112,slow=8.4,SNR=1.6						
	1.0nm,1.0s						
H03N3	**Juan Fernandez**	**79.37**	**123**	T	T	21 29 34.8	
	baz=240						
H03N2	**Juan Fernandez**	**79.37**	**123**	T	T	21 29 34.4	
	baz=240						
H03N1	**Juan Fernandez**	**79.38**	**123**	T	T	21 29 33.2	
	baz=240						
FINES	**FINESS Array B**	**148.14**	**337**	PKPbc	**PKiKP**	**20 08 36.0**	**+0.2**
	0.9nm,0.6s,baz=64,slow=4.4,SNR=8.2						

*IDC **16** 19:54:13.1±0.8,6˚11S×142˚83E,h0km,mb4.0/10, mbtmp4.1/12,ML1.5/1,Error ellipse: s-maj=33.7km s-min=18.2km az=71.0*
ISC 16 19:54:18.2±0.7,6˚2S±0˚1×142˚7E±0˚1,h35km,n13, σ1§05/14,mb3.9/10,New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.44**	**126**	Pn	**Pn**	**19 55 37.0**	**+0.2**
	1.1nm,0.3s,baz=351,slow=22,SNR=1.7						
PMG				Sn	**Sn**	**19 56 38.0**	**-0.2**
	4.2nm,0.3s,baz=246,slow=22,SNR=12						
	6.9nm,0.5s						
WRA	**Warramunga Arr**	**15.90**	**210**	Pn	**Pn**	**19 57 57.2**	**-2.3**
	0.8nm,0.3s,baz=30,slow=14,SNR=20						
WRA				Sn	Sn	20 00 44.8	-10
	0.4nm,0.3s,baz=22,slow=22,SNR=1.1						
WRA				Lg	Lg	20 02 39.2	
	0.3nm,0.3s,baz=32,slow=26,SNR=4.7						
ASAR	**Alice Springs**	**19.33**	**205**	P	**P**	**19 58 42.4**	**+1.8**
	42nm,1.3s,baz=32,slow=10,SNR=41						
ASAR				S	S	20 02 09.4	-8.2
	1.7nm,0.7s,baz=16,slow=27,SNR=1.5						
ASAR				Lg	Lg	20 04 26.1	
	0.1nm,0.3s,baz=24,slow=25,SNR=3.1						
STKA	**Stephens Creek**	**25.57**	**182**	P	**P**	**19 59 43.7**	**-0.3**
	1.9nm,0.9s,baz=103,slow=24,SNR=2.3						
	1.9nm,0.9s						
KSRS	**Korea Array**	**45.57**	**343**	P	**P**	**20 02 34.1**	**-0.6**
	0.9nm,0.7s,baz=161,slow=7.5,SNR=2.6						
	0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**49.63**	**300**	P	**P**	**20 03 06.9**	**+0.3**
	0.8nm,0.7s,baz=114,slow=6.0,SNR=6.1						
	0.8nm,0.7s						
USRK	**Ussuriysk Ar.**	**51.09**	**350**	P	**P**	**20 03 17.2**	**0.0**
	1.7nm,0.7s,baz=167,slow=8.6,SNR=3.8						
	1.7nm,0.7s						
MKAR	**Makanchi Array**	**74.97**	**322**	P	**P**	**20 05 56.5**	**+0.6**
	1.1nm,0.8s,baz=107,slow=7.3,SNR=11						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**76.94**	**329**	P	**P**	**20 06 06.3**	**-0.6**
	0.3nm,0.3s,baz=107,slow=9.8,SNR=2.3						
	0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**78.86**	**324**	P	**P**	**20 06 18.3**	**+0.6**
	0.9nm,0.8s,baz=117,slow=4.6,SNR=6.9						
	0.9nm,0.8s						
QSPA	**South Pole Qui**	**83.77**	**180**	P	**P**	**20 06 44.4**	**+0.7**
	1.8nm,1.1s,baz=58,slow=12,SNR=2.2						
	1.8nm,1.1s						
BVAR	**Borovoye Array**	**84.44**	**325**	P	**P**	**20 06 48.1**	**+1.0**
	4.2nm,0.8s,baz=106,slow=6.1,SNR=23						
	4.2nm,0.8s						
ILAR	**Eielson Array**	**87.36**	**24**	P	**P**	**20 07 00.5**	**-0.8**
	1.2nm,0.7s,baz=258,slow=4.9,SNR=10.0						
	1.2nm,0.7s						

*IDC **16** 20:06:54.5±1.1,3˚09N×129˚04E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=53.9km s-min=21.5km az=73.0*
ISC 16 20:07:00.4±1.0,3˚1N±0˚2×129˚2E±0˚4,h44km,n6,σ0§12/6, mb3.8/6,North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.43**	**168**	P	**P**	**20 12 06.0**	**+0.1**
	0.4nm,0.5s,baz=346,slow=10,SNR=1.8						
	0.4nm,0.5s						
STKA	**Stephens Creek**	**36.71**	**162**	P	**P**	**20 14 03.3**	**-0.1**
	0.6nm,0.4s,baz=343,slow=11,SNR=3.0						
	0.6nm,0.4s						
SONM	**Songino Array**	**48.73**	**340**	P	**P**	**20 15 40.8**	**0.0**
	0.4nm,0.9s,baz=156,slow=7.3,SNR=2.5						
	0.4nm,0.9s						
PETK	**Petropavlovsk-**	**55.16**	**21**	P	**P**	**20 16 28.5**	**0.0**
	1.5nm,0.6s,baz=220,slow=7.2,SNR=12						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**59.49**	**324**	P	**P**	**20 16 59.2**	**+0.1**
	0.3nm,0.4s,baz=118,slow=8.0,SNR=7.2						
	0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.61**	**327**	P	**P**	**20 17 26.7**	**-0.1**
	0.5nm,0.5s,baz=128,slow=6.2,SNR=8.9						
	0.5nm,0.5s						

*BER **16** 20:58:39.0±2.4, 75˚46N×6˚50E,h10km,mb(Pn)3.6, Confirmed Earthquake*
*DNK **16** 20:58:42.9±0.6, 75˚80N×5˚67E,h12km±12km,ML2.0*
ISC 16 20:58:35.5±1.5,75˚5N±0˚1×6˚45E±0˚06,h10km,n12, σ2§76/15,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.67**	**50**	*e*P	**Pn**	**20 59 20.5**	**+2.0**
BRBA	**Barentsburg A**	**3.17**	**31**	*e*P	**Pn**	**20 59 27.9**	**+2.5**
BRBB	**Barentsburg B**	**3.20**	**30**	*e*P	**Pn**	**20 59 27.6**	**+1.9**
BJO1	**Bjornoya**	**3.40**	**100**	*e*S	**Sn**	**21 00 07.2**	**-1.6**
BJO1				IAML		21 00 13.4	
	comp=Z,13nm,0.7s						
SPA0	**Spitsbergen Ar**	**3.56**	**35**	*e*P	**Pn**	**20 59 33.3**	**+2.6**
SPA0				*e*S	**Sn**	**21 00 10.8**	**-1.9**
SPA0				IAML		21 00 13.4	
	comp=Z,3.1nm,0.8s						
KBS	**Kingsbay**	**3.70**	**17**	*e*P	**Pn**	**20 59 34.6**	**+2.0**
KBS	**Kingsbay**	**3.70**	**17**	*i*P	**Pn**	**20 59 35.3**	**+2.7**
HOPEN	**Hopen**	**4.63**	**68**	*e*P	**Pn**	**20 59 48.0**	**+2.7**
HOPEN				*e*S	**Sn**	**21 00 35.3**	**-3.6**
HOPEN				IAML		21 00 37.1	
	comp=Z,5.3nm,0.7s						
DAG	**Danmarks Havn**	**6.16**	**294**	*e*P	**Pn**	**21 00 08.6**	**+2.3**
DAG				*e*S	Sn	21 01 11.2	-5.4
DAG	**Danmarks Havn**	**6.16**	**294**	*i*P	**Pn**	**21 00 08.0**	**+1.7**
DAG				*i*S	Sn	21 01 11.2	-5.4
DAG				IAML		21 01 14.8	
	comp=Z,2.4nm,0.3s						
DBG	**Daneborg**	**7.03**	**274**	*i*P	**Pn**	**21 00 21.4**	**+3.1**
DBG				*i*S	**Sn**	**21 01 34.3**	**-3.8**
DBG				IAML		21 02 05.3	
	comp=Z,7.6nm,2.8s						
NOR	**Nord**	**7.61**	**334**	*i*P	**Pn**	**21 00 26.8**	**+0.6**
NOR				IAML		21 01 12.9	
	comp=Z,6.2nm,2.6s						

*DNK **16** 21:05:32.7±1.3, 75˚87N×6˚07E,h24km±28km,ML1.4*
*BER **16** 21:05:33.5±1.1, 75˚67N×7˚50E,h10km,mb(Pn)3.4, Confirmed Earthquake*
ISC 16 21:05:31.4±3.8,75˚7N±0˚2×7˚6E±0˚2,h10km,n10, σ1§62/10,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.28**	**52**	*e*P	**Pn**	**21 06 09.9**	**+0.9**
HSPB				IAML		21 06 10.1	
	comp=Z,4.8nm,0.2s						
BRBA	**Barentsburg A**	**2.79**	**30**	*e*P	**Pn**	**21 06 17.5**	**+1.5**
BRBB	**Barentsburg B**	**2.82**	**29**	*e*P	**Pn**	**21 06 17.3**	**+0.9**
SPA0	**Spitsbergen Ar**	**3.17**	**35**	*e*P	**Pn**	**21 06 22.7**	**+1.5**
SPA0				*e*S	**Sn**	**21 06 58.8**	**-0.2**
SPA0				IAML		21 07 11.2	
	comp=Z,3.3nm,0.7s						
BJO1	**Bjornoya**	**3.19**	**107**	*e*S	**Sn**	**21 06 57.6**	**-1.7**
KBS	**Kingsbay**	**3.36**	**14**	*e*P	**Pn**	**21 06 24.0**	**+0.2**
KBS	**Kingsbay**	**3.36**	**14**	*i*P	**Pn**	**21 06 22.7**	**-1.1**
HOPEN	**Hopen**	**4.26**	**71**	*e*P	**Pn**	**21 06 37.9**	**+1.7**
HOPEN				IAML		21 06 39.3	
	comp=Z,7.6nm,0.5s						
HOPEN				*e*S	**Sn**	**21 07 23.6**	**-2.3**
DAG	**Danmarks Havn**	**6.32**	**292**	*i*P	Pn	21 06 57.0	-7.3
DAG				*i*S	Sn	21 08 01.1	-15
DAG				IAML		21 08 04.4	
	comp=Z,1.3nm,0.3s						
DBG	**Daneborg**	**7.30**	**273**	*i*P	Pn	21 07 11.9	-6.0
DBG				*i*S	Sn	21 08 23.6	-17

*IDC **16** 21:18:24.3±1.2,56˚23N×149˚37W,h0km,mb3.7/9, mbtmp3.7/14,ML3.5/5,MS3.4/20,Error ellipse: s-maj=26.2km s-min=19.0km az=28.0*
*NEIC **16** 21:18:26.2±1.4,56˚25N±0˚07×149˚4W±0˚1,h18km±6km, mb4.0/11,ML3.8/52,ML3.7(AEIC),Error ellipse: s-maj=11.0km s-min=7.8km az=158.0*
*AEIC **16** 21:18:29.4±1.9,56˚21N±0˚07×149˚29W±0˚06,h11km±5km, Error ellipse: s-maj=9.9km s-min=4.3km az=196.0*
ISC 16 21:18:26.3±4.1,56˚29N±0˚07×149˚47W±0˚05, h13km±27km,n279,σ0§91/267,mb4.0/14,MS3.3/15,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.27**	**313**		**Pn**	**21 19 03.5**	**+0.2**
KDAK				Sn	**Sn**	**21 19 29.4**	**-1.8**
KDAK	**Kodiak Island**	**2.27**	**313**	Pn	**Pn**	**21 19 03.1**	**-0.3**
	5.7nm,0.3s,baz=122,slow=7.1,SNR=95						
KDAK				Sn	**Sn**	**21 19 29.8**	**-1.3**
	12nm,0.3s,baz=174,slow=22,SNR=14						
KDAK				LR	LR	21 20 14.4	
	comp=Z,297nm,18.6s,baz=158,slow=47						
	13nm,0.3s						
OHAK	**Old Harbor**	**2.30**	**295**	P	**Pn**	**21 19 02.8**	**-1.1**
OHAK	**Old Harbor**	**2.30**	**295**		**Pn**	**21 19 03.2**	**-0.6**
OHAK				Sn	**Sn**	**21 19 29.9**	**-2.1**
OHAK	**Old Harbor**	**2.30**	**295**	P	**Pn**	**21 19 03.2**	**-0.6**
	baz=113						
OHAK				S	**Sn**	**21 19 30.1**	**-1.9**
	baz=113						
SII	**Sitkinak Islan**	**2.63**	**278**	P	**Pn**	**21 19 08.3**	**-0.2**
SII	**Sitkinak Islan**	**2.63**	**278**	Pn	**Pn**	**21 19 08.2**	**-0.2**
SII				Sn	**Sn**	**21 19 39.8**	**-0.5**
SII	**Sitkinak Islan**	**2.63**	**278**	P	**Pn**	**21 19 08.9**	**+0.4**
	baz=95						
SII				S	**Sn**	**21 19 39.1**	**-1.2**
	baz=95						
SYI	**Shuyak Island**	**2.81**	**327**	Pn	**Pn**	**21 19 10.7**	**-0.1**
SYI	**Shuyak Island**	**2.81**	**327**		**Sn**	**21 19 44.2**	**-0.3**
Q20K	**Shuyak Island**	**2.81**	**327**	P	**Pn**	**21 19 10.9**	**+0.1**
	baz=144						
Q20K				S	**Sn**	**21 19 44.8**	**+0.2**
	baz=144						
CNPM	**China Poot**	**3.38**	**344**	Pn	**Pn**	**21 19 18.1**	**-0.5**
CNPM	**China Poot**	**3.38**	**344**		**Sn**	**21 19 58.1**	**-0.5**
Q19K	**Cape Douglas,**	**3.47**	**321**		**Pn**	**21 19 21.1**	**+1.1**
Q19K				IAML		21 20 15.5	
	comp=N,457nm,0.8s						
Q19K	**Cape Douglas,**	**3.47**	**321**		**Sn**	**21 20 01.6**	**+0.8**
Q19K	**Cape Douglas,**	**3.47**	**321**	P	**Pn**	**21 19 21.0**	**+1.1**
	baz=138						
Q19K				S	**Sn**	**21 20 01.6**	**+0.8**
	baz=138						
CHIR	**Chirikof Islan**	**3.48**	**265**	Pn	**Pn**	**21 19 18.6**	**-1.5**
CHIR				IAML		21 20 06.6	
	comp=E,111nm,1.0s						
CHIR				IAML		21 20 20.1	
	comp=N,133nm,1.7s						
CHIR	**Chirikof Islan**	**3.48**	**265**		**Sn**	**21 19 58.6**	**-2.6**
CHIR	**Chirikof Islan**	**3.48**	**265**	P	**Pn**	**21 19 19.4**	**-0.7**
	baz=80						
CHIR				S	**Sn**	**21 19 58.6**	**-2.6**
	baz=80						
BRSE	**Bradley Lake S**	**3.52**	**349**		**Pn**	**21 19 20.0**	**-0.7**
BRSE	**Bradley Lake S**	**3.52**	**349**	P	**Pn**	**21 19 20.0**	**-0.7**
	baz=168						
Q23K	**Middleton Isla**	**3.56**	**27**	Pn	**Pn**	**21 19 19.8**	**-1.3**
Q23K				IAML		21 20 16.8	
	comp=N,122nm,1.0s						
Q23K				IAML		21 20 30.1	
	comp=E,124nm,1.0s						
Q23K	**Middleton Isla**	**3.56**	**27**	P	**Pn**	**21 19 19.9**	**-1.3**
	baz=208						
ACHA	**Angle Creek He**	**3.72**	**304**		**Pn**	**21 19 24.5**	**+1.1**
AUCH	**Augustine Cone**	**3.74**	**327**		**Pn**	**21 19 24.9**	**+1.2**
KVTA	**Katmai Vly 10**	**3.79**	**306**		**Pn**	**21 19 25.7**	**+1.3**
ANCK	**Angle Creek**	**3.79**	**303**		**Pn**	**21 19 26.1**	**+1.6**
KAHC	**Katmai Hardscr**	**3.81**	**311**	P	**Pn**	**21 19 26.3**	**+1.6**
	baz=126						
SEW	**Seward**	**3.82**	**0**	P	**Pn**	**21 19 23.7**	**-1.0**
	baz=180						
P23K	**Montague Islan**	**3.87**	**16**	P	**Pn**	**21 19 24.6**	**-0.9**
	baz=197						
P19K	**Oil Pt**	**3.92**	**331**	Pn	**Pn**	**21 19 26.4**	**+0.3**
P19K				IAML		21 20 18.5	
	comp=N,212nm,0.5s						
P19K				IAML		21 20 18.8	
	comp=E,175nm,0.5s						
P19K	**Oil Pt**	**3.92**	**331**	P	**Pn**	**21 19 26.5**	**+0.3**
	baz=148						
Q17K	**Contact Creek**	**4.00**	**302**	P	**Pn**	**21 19 28.8**	**+1.4**
	baz=117						
KELA	**Mount Kelaz**	**4.02**	**305**		**Pn**	**21 19 28.8**	**+1.2**
O20K	**Slope Mountain**	**4.15**	**338**		**Pn**	**21 19 29.5**	**+0.2**
O20K	**Slope Mountain**	**4.15**	**338**	P	**Pn**	**21 19 29.5**	**+0.2**
	baz=155						
IVE	**Iliamna Volcan**	**4.18**	**335**		**Pn**	**21 19 29.3**	**-0.5**
O22K	**Cooper Landing**	**4.20**	**358**		**Pn**	**21 19 29.8**	**-0.2**
P18K	**Big Mountain,**	**4.37**	**318**	Pn	**Pn**	**21 19 32.6**	**+0.2**
P18K	**Big Mountain,**	**4.37**	**318**	P	**Pn**	**21 19 32.8**	**+0.4**
	baz=133						
HIN	**Hinchinbrook I**	**4.40**	**20**	Pn	**Pn**	**21 19 32.0**	**-0.7**
HIN				IAML		21 20 28.9	
	comp=E,144nm,1.1s						
HIN				IAML		21 20 30.8	
	comp=N,195nm,0.7s						
RDSO	**Redoubt South**	**4.51**	**339**		**Pn**	**21 19 33.9**	**-0.5**
KAIM	**Kayak Island**	**4.52**	**34**	Pn	**Pn**	**21 19 33.0**	**-1.3**
KAIM	**Kayak Island**	**4.52**	**34**	P	**Pn**	**21 19 33.7**	**-0.7**
	baz=218						
RDWB	**Redoubt West**	**4.56**	**339**		**Pn**	**21 19 34.7**	**-0.5**
CAPN	**Captain Cook N**	**4.57**	**350**	Pn	**Pn**	**21 19 34.6**	**-0.4**
DFR	**Drift River**	**4.63**	**340**		**Pn**	**21 19 35.6**	**-0.4**
NCT	**North Crescent**	**4.65**	**338**		**Pn**	**21 19 35.6**	**-0.6**
O19K	**Port Alsworth**	**4.68**	**329**		**Pn**	**21 19 36.5**	**0.0**
O19K				IAML		21 20 35.6	
	comp=E,170nm,0.5s						
O19K				IAML		21 20 36.2	
	comp=N,153nm,0.5s						
EYAK	**Cordova Ski Ar**	**4.69**	**23**	P	**Pn**	**21 19 36.3**	**-0.4**
EYAK	**Cordova Ski Ar**	**4.69**	**23**		**Pn**	**21 19 36.1**	**-0.6**
EYAK	**Cordova Ski Ar**	**4.69**	**23**	P	**Pn**	**21 19 36.5**	**-0.2**
	baz=206						
O18K	**Koktuh Hills**	**4.69**	**322**		**Pn**	**21 19 36.8**	**+0.1**
O18K				IAML		21 20 35.9	
	comp=N,71nm,0.9s						
O18K				IAML		21 20 52.3	
	comp=E,46nm,0.8s						
O18K	**Koktuh Hills**	**4.69**	**322**	P	**Pn**	**21 19 36.8**	**+0.1**
	baz=137						
P17K	**Kvichak River**	**4.73**	**311**		**Pn**	**21 19 38.6**	**+1.3**
P17K	**Kvichak River**	**4.73**	**311**	P	**Pn**	**21 19 38.6**	**+1.3**
	baz=125						
FID	**Port Fidalgo**	**4.74**	**18**	Pn	**Pn**	**21 19 36.4**	**-1.0**
FID				IAML		21 20 33.9	
	comp=N,62nm,0.6s						
FID				IAML		21 20 39.4	
	comp=E,78nm,0.8s						
GLI	**Glacier Island**	**4.76**	**14**	Pn	**Pn**	**21 19 37.0**	**-0.7**
GLI				IAML		21 20 42.0	
	comp=N,50nm,0.6s						
GLI				IAML		21 20 48.6	
	comp=E,94nm,1.1s						
GLI	**Glacier Island**	**4.76**	**14**	P	**Pn**	**21 19 37.0**	**-0.7**
	baz=196						
ANNE	**Aniakchak Nort**	**4.79**	**281**		**Pn**	**21 19 38.9**	**+0.8**
RC01	**Rabbit Creek A**	**4.81**	**358**	Pn	**Pn**	**21 19 37.5**	**-0.9**
RC01				IAML		21 20 34.5	
	comp=N,53nm,0.4s						
RC01				IAML		21 20 40.0	
	comp=E,69nm,0.5s						
RAGM	**Ragged Mountai**	**4.82**	**30**		**Pn**	**21 19 37.9**	**-0.6**
SUCK	**Suckling Hills**	**4.84**	**36**		**Pn**	**21 19 38.1**	**-0.6**
HMT	**Hamilton**	**4.89**	**32**		**Pn**	**21 19 39.1**	**-0.4**
GOAT	**Goat Mountain**	**4.97**	**28**		**Pn**	**21 19 40.3**	**-0.3**
CHGN	**Chignik**	**4.99**	**274**	Pn	**Pn**	**21 19 41.1**	**+0.4**
CH

N25K	Chitina, Valde	5.89	23			Pn		21 19 53.0	-0.3	
N25K	Chitina, Valde	5.89	23	P		Pn		21 19 52.9	-0.3	
	baz=207									
M20K	Styx River	5.91	343			Pn		21 19 53.1	-0.5	
CNBA	Chernabura Isl	5.93	260	Pn		Pn		21 19 52.8	-0.9	
GLB	Gilahina Butte	5.94	27	Pn		Pn		21 19 53.2	-0.6	
SAMH	Samovar Hills	5.99	46			Pn		21 19 53.8	-0.8	
M24K	Tolsona, Glenn	6.07	15			Pn		21 19 55.6	-0.1	
M24K	Tolsona, Glenn	6.07	15	P		Pn		21 19 55.3	-0.4	
	baz=197									
MCARA	McCarthy VSAT	6.10	31			Pn		21 19 56.0	-0.1	
MCARA	McCarthy VSAT	6.10	31	P		Pn		21 19 56.2	+0.2	
	baz=216									
PTPK	Patty Peak	6.11	34			Pn		21 19 55.8	-0.5	
M18K	Stony River	6.16	330	P		Pn		21 19 56.1	-0.8	
	baz=145									
M19K	Big River Lodg	6.17	338	P		Pn		21 19 56.7	-0.3	
	baz=153									
O15K	Ungalikthiuk R	6.25	302	P		Pn		21 19 59.4	+1.2	
	baz=113									
WASW	Wrangell South	6.27	24			Pn		21 19 59.1	+0.5	
BARN	Barnard Glacie	6.28	37			Pn		21 19 58.1	-0.5	
SDPT	Sand Point	6.28	266	P		Pn		21 19 59.0	+0.5	
SDPT	Sand Point	6.28	266	Pn		Pn		21 19 58.1	-0.3	
CTG	Chitna Glacier	6.32	39	P		Pn		21 19 58.7	-0.5	
	baz=225									
CTGM	Chitina Glacie	6.32	39			Pn		21 19 58.4	-0.8	
PNL	Peninsula	6.33	54	P		Pn		21 19 59.5	+0.2	
PNL	Peninsula	6.33	54			Pn		21 19 58.9	-0.4	
PNL	Peninsula	6.33	54	P		Pn		21 19 58.9	-0.4	
	baz=242									
LOGN	Logan Glacier	6.34	41			Pn		21 19 58.6	-0.9	
WAT6	Susitna Watana	6.37	7	P		Pn		21 19 59.6	-0.2	
	baz=188									
BCPM	Bancas Point	6.37	51			Pn		21 19 59.2	-0.5	
N16K	Nishlik Lake	6.44	314			Pn		21 20 02.1	+1.4	
N16K	Nishlik Lake	6.44	314	P		Pn		21 20 02.1	+1.4	
	baz=127									
HARP	HAARP	6.51	18			Pn		21 20 01.6	0.0	
HARP	HAARP	6.51	18	P		Pn		21 20 01.6	0.0	
	baz=201									
L19K	White Mountain	6.52	337	Pn		Pn		21 20 01.1	-0.7	
L19K	White Mountain	6.52	337	P		Pn		21 20 01.4	-0.4	
	baz=152									
WAT7	Susitna Watana	6.57	2			Pn		21 20 02.9	+0.4	
WAT1	Susitna Watana	6.57	4	P		Pn		21 20 03.0	+0.5	
	baz=184									
M17K	Holitna River	6.58	324	Pn		Pn		21 20 02.5	-0.1	
M17K	Holitna River	6.58	324	P		Pn		21 20 02.8	+0.2	
	baz=138									
O28M	Mount Upton	6.61	43			Pn		21 20 02.5	-0.8	
O28M	Mount Upton	6.61	43	P		Pn		21 20 02.5	-0.8	
	baz=231									
PPLA	Purkeypile	6.76	349			Pn		21 20 06.0	+0.7	
PPLA	Purkeypile	6.76	349	P		Pn		21 20 06.1	+0.7	
	baz=167									
N15K	Kwethluk River	6.82	309	Pn		Pn		21 20 07.5	+1.6	
M16K	Timber Creek	6.85	318			Pn		21 20 07.0	+0.7	
M16K	Timber Creek	6.85	318	P		Pn		21 20 07.4	+1.0	
	baz=130									
DHY	Denali Highway	6.88	8	Pn		Pn		21 20 07.0	+0.1	
M26K	Nabesna, AK	6.96	26	Pn		Pn		21 20 07.7	-0.2	
O14K	Tigyukauivet M	6.97	300	Pn		Pn		21 20 08.7	+0.7	
PAX	Paxson	7.00	15			Pn		21 20 08.3	0.0	
PAX	Paxson	7.00	15	P		Pn		21 20 08.6	+0.2	
	baz=198									
L18K	Granite Mounta	7.00	331	Pn		Pn		21 20 07.2	-1.1	
L18K	Granite Mounta	7.00	331	P		Pn		21 20 08.2	-0.1	
	baz=145									
P29M	Windy Craggy	7.08	57	Pn		Pn		21 20 08.5	-1.0	
P29M	Windy Craggy	7.08	57	P		Pn		21 20 09.1	-0.3	
	baz=246									
HAG	Hague Volcano	7.08	267			Pn		21 20 09.2	-0.3	
S12K	Black Hills	7.09	270	Pn		Pn		21 20 09.8	+0.1	
RND	Reindeer	7.14	2	Pn		Pn		21 20 10.7	+0.3	
TRF	Thorofare Moun	7.19	357			Pn		21 20 11.2	+0.1	
M27K	Edge Creek, AK	7.21	29	Pn		Pn		21 20 11.5	+0.1	
CAST	Castle Rocks	7.27	351	Pn		Pn		21 20 12.1	0.0	
CAST	Castle Rocks	7.27	351	P		Pn		21 20 12.4	+0.3	
	baz=168									
KTH	Kantishna Hill	7.32	355			Pn		21 20 13.1	+0.3	
M15K	Kasigluk River	7.35	312			Pn		21 20 14.4	+1.3	
M15K	Kasigluk River	7.35	312	P		Pn		21 20 14.4	+1.3	
	baz=122									
S31K	Pelican	7.39	71	Pn		Pn		21 20 10.8	-2.9	
S31K	Pelican	7.39	71	P		Pn		21 20 11.1	-2.7	
	baz=262									
N14K	Kuskokwak Cree	7.42	304			Pn		21 20 15.5	+1.4	
N14K	Kuskokwak Cree	7.42	304	P		Pn		21 20 15.5	+1.4	
	baz=114									
K20K	Telida	7.45	344	Pn		Pn		21 20 13.8	-0.8	
L16K	Owhat River	7.49	321	Pn		Pn		21 20 14.8	-0.2	
L16K	Owhat River	7.49	321	P		Pn		21 20 15.2	+0.1	
	baz=132									
HYT	Haines Junctio	7.72	49	Pn		Pn		21 20 17.7	-0.7	
BCAR	Beaver Creek A	7.82	27	Pn		Pn		21 20 19.9	+0.3	
SIT	Sitka	7.83	79	P		Pn		21 20 22.7	+3.0	
K17K	Iditarod	7.85	329	Pn		Pn		21 20 19.2	-0.7	
K17K	Iditarod	7.85	329	P		Pn		21 20 19.6	-0.4	
	baz=141									
BPAW	Bear Paw Mtn.	7.87	355	Pn		Pn		21 20 19.6	-0.7	
BPAW	Bear Paw Mtn.	7.87	355	P		Pn		21 20 19.1	-1.2	
	baz=174									
M14K	Bethel	7.92	310	Pn		Pn		21 20 21.8	+0.9	
J18K	Innoko River	8.06	336	Pn		Pn		21 20 22.2	-0.7	
SCRK	Sand Creek	8.17	17	Pn		Pn		21 20 24.6	0.0	
WRH	Wood River Hil	8.23	4			Pn		21 20 24.8	-0.5	
HDA	Harding Lake	8.24	8			Pn		21 20 26.1	+0.8	
ISLZ	Isanotski Laza	8.24	265			Pn		21 20 25.2	-0.2	
J20K	Nowinta River	8.24	346	Pn		Pn		21 20 25.4	0.0	
J20K	Nowinta River	8.24	346	P		Pn		21 20 26.0	+0.6	
	baz=161									
S32K	Killisnoo	8.24	76	Pn		Pn		21 20 22.5	-2.8	
ISNN	Isanotski Nort	8.25	266			Pn		21 20 25.9	+0.4	
O30N	Mendenhall	8.31	52			Pn		21 20 26.1	-0.2	
J19K	Poorman	8.31	341			Pn		21 20 24.8	-1.5	
NEA2	Nenana	8.33	1			Pn		21 20 24.7	-1.9	
M29M	Somme Creek	8.33	38			Pn		21 20 26.9	+0.1	
R32K	Eaglecrest	8.34	70	Pn		Pn		21 20 25.8	-1.0	
CCB	Clear Creek Bu	8.42	5			Pn		21 20 28.2	+0.4	
J25K	Salcha River,	8.59	12	P		Pn		21 20 30.3	+0.2	
	baz=195									
IL31		8.60	7			Pn		21 20 30.8	+0.6	
ILAR	Eielson Array	8.60	7	Pn		Pn		21 20 30.0	-0.3	
ILAR	Eielson Array	8.60	7	Pn		Pn		21 20 28.9	-1.4	
	comp=N,0.5nm,0.3s,baz=187,slow=14,SNR=17									
ILAR					Sn	Sn		21 22 02.7	-4.4	
	comp=N,0.5nm,0.3s,baz=207,slow=24,SNR=5.3									
ILAR					LR	LR		21 24 09.5		
	comp=N,215nm,18.2s,baz=150,slow=40									
	comp=N,0.8nm,0.3s									
K15K	Wolf Creek Mou	8.61	319	Pn		Pn		21 20 30.5	+0.1	
COLA	College	8.64	5	P		Pn		21 20 31.6	+0.7	
MDM	Murphy Dome	8.71	3	Pn		Pn		21 20 31.7	-0.2	
J26L	Joseph Creek	8.73	17			Pn		21 20 32.4	+0.2	
J26L	Joseph Creek	8.73	17	P		Pn		21 20 32.4	+0.2	
	baz=202									
MLY	Manley	8.79	356	Pn		Pn		21 20 32.8	-0.1	
WHY	Whitehorse	8.80	54			Pn		21 20 32.7	-0.4	
I23K	Minto, Yukon-K	8.88	0			Pn		21 20 34.6	+0.5	
WECS	Westdahl Cape	8.89	265			Pn		21 20 34.2	-0.1	
P32M	Atlin	9.00	62			Pn		21 20 34.8	-1.0	
P32M	Atlin	9.00	62	P		Pn		21 20 34.9	-1.0	
	baz=255									
H21K	Melozitna Rive	9.53	352			Pn		21 20 43.2	+0.2	
H21K	Melozitna Rive	9.53	352	P		Pn		21 20 43.2	+0.2	
	baz=168									
I26K	Coal Creek Min	9.55	16			Pn		21 20 43.2	-0.1	
P33M	Teslin, Yukon	9.61	59			Pn		21 20 43.0	-1.2	
N32M	Quiet Lake	9.80	53	Pn		Pn		21 20 46.0	-0.8	
H18K	Honhosa River	9.88	338	Pn		Pn		21 20 47.1	-0.8	
H17K	Granite Mounta	10.06	334	Pn		Pn		21 20 48.6	-1.6	
R33M	Jennings River	10.33	65			Pn		21 20 52.3	-1.8	
G21K	Allakaket	10.44	351	Pn		Pn		21 20 54.8	-0.7	
G23K	Bananza Creek	10.46	359	Pn		Pn		21 20 55.3	-0.5	
DLBC	Dease Lake	10.71	70	Pn		Pn		21 20 57.8	-1.4	
DLBC	Dease Lake	10.71	70	Pn		Pn		21 20 58.2	-1.0	
	comp=N,0.5nm,0.3s,baz=246,slow=12,SNR=3.0									
	comp=N,1.1nm,0.3s									
F21K	Alatna River	11.13	352	Pn		Pn		21 21 04.8	-0.1	
F20K	Avaraart Lake	11.19	347	Pn		Pn		21 21 05.7	0.0	
F24K	Squaw Lake	11.29	3	Pn		Pn		21 21 08.1	+1.0	
BMAR	Burnt Mountain	11.40	10	Pn		Pn		21 21 09.2	+0.5	

E19K	Redstone River	11.77	345			Pn		21 21 13.5	-0.2	
E25K	Arctic Village	12.01	7			Pn		21 21 17.3	+0.5	
E21K	Killik River	12.37	352			Pn		21 21 21.2	-0.6	
G31M	Satah River	12.83	28			Pn		21 21 28.6	+0.6	
BBB	Bella Bella	13.13	99	LR		LR		21 25 23.4		
	comp=N,163nm,19.0s,baz=328,slow=32									
C23K	Itkillik River	13.60	358	Pn		Pn		21 21 39.5	+0.9	
INK	Inuvik	14.08	25	Pn		Pn		21 21 45.5	+0.4	
INK	Inuvik	14.08	25	Pn		Pn		21 21 45.2	+0.1	
	comp=N,0.4nm,0.3s,baz=203,slow=12,SNR=4.4									
INK					LR	LR		21 26 33.9		
	comp=N,64nm,20.7s,baz=180,slow=35									
	comp=N,2.2nm,0.5s									
B22K	Teshekpuk Lake	14.21	355	Pn		Pn		21 21 46.2	-0.6	
ATKA	Atka Island	14.99	265	Pn		Pn		21 21 57.2	-0.4	
C36M	Paulatuk	17.28	31	Pn		Pn		21 22 25.7	-1.2	
YKA	Yellowknife Ar	18.62	56	P		Pn		21 22 43.3	-0.1	
	baz=268,slow=11,SNR=16									
YKA					LR	LR		21 29 47.8		
	comp=N,122nm,18.0s,baz=2.5,slow=37									
	comp=N,1.3nm,0.9s									
A36M	Sachs Harbour	18.71	23	P		P		21 22 43.4	-0.6	
A36M				IAmb		IAmb		21 22 56.1		
	comp=Z,11nm,0.8s									
LTY	Liberty	19.85	105	P		P		21 22 56.2	-0.6	
LTY				IAmb		IAmb		21 23 00.6		
	comp=Z,8.5nm,1.1s									
NEW	Newport	21.19	99	LR		LR		21 29 57.0		
	comp=Z,132nm,21.2s,baz=328,slow=33									
SHEM	Shemya Is, Ala	21.29	276	LR		LR		21 32 29.2		
	comp=Z,55nm,18.6s,baz=112,slow=40									
I05D	Terrebonne, OR	21.41	112	P		P		21 23 13.1	-0.5	
I05D				IAmb		IAmb		21 23 18.7		
	comp=Z,12nm,1.3s									
HUMO	Hull Mountain	21.83	118	P		P		21 23 18.7	+0.5	
HUMO				IAmb		IAmb		21 23 21.7		
	comp=Z,9.6nm,1.3s									
J05D	Fort Rock, OR	22.20	114	P		P		21 23 21.4	-0.9	
J05D				IAmb		IAmb		21 23 24.8		
	comp=Z,8.9nm,1.2s									
YBH	Yreka Blue Hor	22.61	119	P		P		21 23 27.2	+0.6	
YBH	Yreka Blue Hor	22.61	119	LR		LR		21 30 27.5		
	comp=Z,106nm,18.5s,baz=326,slow=32									
K05A	Summer Lake	22.78	114	P		P		21 23 29.1	+0.6	
ELK	Elko	27.13	110	LR		LR		21 33 00.0		
	comp=Z,71nm,20.4s,baz=234,slow=32									
NVAR	Mina Array Bea	27.31	118	P		P		21 24 11.8	+1.1	
	comp=Z,0.2nm,0.4s,baz=306,slow=13,SNR=4.3									
	comp=Z,0.2nm,0.4s									
PETK	Petropavlovsk-	30.07	287	LR		LR		21 36 58.5		
	comp=Z,36nm,20.5s,baz=52,slow=37									
MA2	Magadan	30.96	301	LR		LR		21 37 13.3		
	comp=Z,67nm,18.1s,baz=106,slow=36									
ULM	Lac du Bonnet	31.90	78	LR		LR		21 37 28.9		
	comp=Z,130nm,18.3s,baz=254,slow=36									
YAK	Yakutsk	39.29	313	LR		LR		21 44 33.4		
	comp=Z,33nm,19.7s,baz=306,slow=40									
TXAR	Lajitas Array	41.92	110	LR		LR		21 41 55.9		
	comp=Z,34nm,20.2s,baz=255,slow=34									
ASAJ	Asahikawa	43.39	284	LR		LR		21 46 12.3		
	comp=Z,36nm,18.4s,baz=131,slow=38									
KLR	Kul'dur	45.73	296	LR		LR		21 48 40.3		
	comp=Z,46nm,18.4s,baz=90,slow=40									
TKL	Tuckaleechee C	48.03	87	LR		LR		21 47 17.9		
	comp=Z,157nm,18.0s,baz=308,slow=36									
H11N2	WAKE ISLAND Hy	48.80	240	T		T		22 20 31.5		
	baz=29,slow=76,SNR=6.4									
H11N3	WAKE ISLAND Hy	48.80	240	T		T		22 20 37.6		
	baz=29,slow=76,SNR=8.1									
H11N1	WAKE ISLAND Hy	48.82	240	T		T		22 20 36.2		
	baz=29,slow=76,SNR=2.8									
H11S1	WAKE ISLAND Hy	49.94	239	T		T		22 22 02.3		
	baz=31,slow=74									
H11S2	WAKE ISLAND Hy	49.95	239	T		T		22 21 55.2		
	baz=31									
H11S3	WAKE ISLAND Hy	49.96	239	T		T		22 21 55.3		
	baz=31,slow=74									
MJAR	Matsushiro Arr	51.06	279	LR		LR		21 49 44.4		
	comp=Z,16nm,20.3s,baz=72,slow=37									
ARCES	ARCESS Array B	54.42	2	P		P		21 27 53.5	+1.1	
	comp=Z,4.5nm,0.9s,baz=353,slow=7.0,SNR=2.6									
	comp=Z,4.5nm,0.9s									
SONM	Songino Array	58.55	310	P		P		21 28 23.3	+1.0	
	comp=Z,0.7nm,0.9s,baz=77,slow=7.0,SNR=3.9									
	comp=Z,0.7nm,0.9s									
ZALV	Zalesovo Beam	61.49	327	P		P		21 28 43.6	+1.4	
	comp=Z,2.2nm,0.3s,baz=19,slow=9.3,SNR=1.5									
	comp=Z,2.2nm,0.3s									
FINES	FINESS Array B	62.55	2	P		P		21 28 49.5	+0.4	
FINES	FINESS Array B	62.55	2	P		P		21 28 48.8	-0.4	
	comp=Z,1.3nm,0.7s,baz=8.0,slow=10,SNR=7.4									
	comp=Z,1.3nm,0.7s									
ARU	Arti	65.36	343	LR		LR		22 00 25.9		
	comp=Z,22nm,18.9s,baz=322,slow=38									
BVAR	Borovoye Array	66.23	335	P		P		21 29 14.9	+1.5	
	comp=Z,0.3nm,0.6s,baz=54,slow=7.3,SNR=2.0									
	comp=Z,0.3nm,0.6s									
MK31	Makanchi Array	68.53	325	P		P		21 29 28.9	+0.9	
MK31				IAmb		IAmb		21 29 54.8		
	comp=Z,1.1nm,1.1s									
MKAR	Makanchi Array	68.53	325	P		P		21 29 29.0	+0.9	
MKAR	Makanchi Array	68.53	325	P		P		21 29 28.5	+0.4	
	comp=Z,0.3nm,0.6s,baz=35,slow=7.4,SNR=4.4									
	comp=Z,0.3nm,0.6s									
MAKZ	Makanchi	68.61	325	P		P		21 29 29.9	+1.3	
MAKZ				IAmb		IAmb		21 29 40.5		
	comp=Z,1.0nm,0.8s									
ABKAR	Akbulak array	72.00	340	P		P		21 29 50.8	+1.5	
AKASG	Malin Array Be	73.37	1	P		P		21 29 57.4	0.0	
	comp=Z,0.8nm,0.6s,baz=359,slow=6.2,SNR=5.0									
	comp=Z,0.8nm,0.6s									
PPT	Papeete	73.57	180	LR		LR		21 56 22.3		
	comp=Z,128nm,19.3s,baz=23,slow=31									
ESDC	Sonseca Array	80.02	26	P		P		21 30 33.8	-1.4	
	comp=Z,0.4nm,1.0s,baz=340,slow=6.1,SNR=2.3									
	comp=Z,0.4nm,1.0s									
BOSA	Boshof	152.08	10	PKPbc		PKPbc		21 38 20.2	-0.8	
	comp=Z,1.4nm,0.8s,baz=92,slow=5.1,SNR=4.1									

IGIL ***16*** *21:18:38.9, 36.79N× 13.79W, h31km, ML2.9*
MDD ***16*** *21:18:38.6± 0.9, 36.83N× 13.68W, h28km± 22km, Mb4.3/10, M_mb3.7/10, Error ellipse: s-maj=19.0km s-min=5.4km az=79.0*
CNRM ***16*** *21:18:39.4, 36.51N× 13.35W, h11km, ML3.5*
INMG ***16*** *21:18:39.9± 1.8, 36.77N× 13.84W, h10km± 15km, ML3.0, Error ellipse: s-maj=6.2km s-min=3.6km az=128.0*

ISC 16 21:18:37.1±1.8, 36.85N±0.05× 13.37W±0.09, h10km, n102, σ 2.32/151, 10C-1D, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
PFVI	Vila Bisbo	3.65	84	*e*Pn	Pn	21 19 35.9	+2.4
PFVI				*e*Sn	Sn	21 20 16.9	+0.2
PFVI				A	A	21 20 20.8	
	22nm,0.1s						
PFVI	Vila Bisbo	3.65	84	P	Pn	21 19 36.0	+2.4
PFVI	Vila Bisbo	3.65	84	S	Sn	21 20 19.9	+3.3
PTEO	Sao Teotonio	3.77	78	⇓*i*Pn	Pn	21 19 37.8	+2.5
PTEO				*e*Sn	Sn	21 20 20.3	+0.6
PTEO				A	A	21 20 24.0	
	21nm,0.4s						
MORF	Marmelete	3.80	82	*e*Pn	Pn	21 19 38.1	+2.4
MORF				*e*Sn	Sn	21 20 20.9	+0.4
MORF				A	A	21 20 26.6	
	33nm,0.3s						
MORF	Marmelete	3.80	82	*e*P	Pn	21 19 38.0	+2.3
MORF				*e*S	Sn	21 20 20.8	+0.4
MORF				IAML		21 20 24.2	
	comp=N,59nm,0.2s						
LIS	Lisbon	3.83	60	*e*Sn	Sn	21 20 21.2	+0.2
PMAFR	Mafra	3.85	56	*e*Pn	Pn	21 19 38.5	+2.1
PMAFR				*e*Sn	Sn	21 20 22.2	+0.4
PMAFR				A	A	21 20 25.7	
	comp=N,56nm,0.2s						
PMAFR	Mafra	3.85	56	Pn	Pn	21 19 38.5	+2.1
PNCL	Nicolau / Gran	4.05	70	*e*Pn	Pn	21 19 41.1	+2.0
PNCL				*e*Sn	Sn	21 20 26.9	+0.3
PNCL				A	A	21 20 27.2	
	comp=N,17nm,0.2s						
PNCL	Nicolau / Gran	4.05	70	Pn	Pn	21 19 40.9	+1.8
PNCL				S	Sn	21 20 26.6	0.0
PACT	Alcochete	4.07	61	*e*Pn	Pn	21 19 41.8	+2.4
PACT				*e*Sn	Sn	21 20 28.5	+1.5
PACT				A	A	21 20 33.6	
	comp=N,25nm,0.7s						

MESJ	Messejana	4.22	75	*e*Pn		Pn		21 19 43.6	+2.1	
MESJ				*e*Sn		Sn		21 20 30.8	0.0	
MESJ				A		A		21 20 36.1		
	comp=N,11nm,0.2s									
MESJ	Messejana	4.22	75	*e*P		Pn		21 19 43.5	+2.1	
MESJ				*e*S		Sn		21 20 30.5	-0.3	
MESJ				IAML				21 20 34.3		
	comp=E,11nm,0.2s									
PCVE	Castro Verde	4.32	78	*e*Pn		Pn		21 19 45.2	+2.3	
PCVE				*e*Sn		Sn		21 20 33.5	+0.1	
PCVE				A		A		21 20 38.0		
	comp=E,7.1nm,0.1s									
PCVE	Castro Verde	4.32	78	Pn		Pn		21 19 45.0	+2.2	
PCVE				Sn		Sn		21 20 32.9	-0.4	
PBDV	Barranco-do-Ve	4.37	83	*e*Pn		Pn		21 19 46.3	+2.8	
PBDV				*e*Sn		Sn		21 20 34.3	-0.2	
PBDV				A		A		21 20 43.7		
	comp=E,11nm,0.2s									
PBDV	Barranco-do-Ve	4.37	83	Pn		Pn		21 19 46.3	+2.8	
PBDV				Sn		Sn		21 20 35.0	+0.5	
PSBE	So Bento	4.48	52	*e*Pn		Pn		21 19 47.7	+2.7	
PSBE				*e*Sn		Sn		21 20 38.0	+0.8	
PSBE				A		A		21 20 42.1		
	comp=E,15nm,0.5s									
PMPST	Porto Santo, M	4.48	214	*e*Pn		Pn		21 19 36.2	-8.9	
PMPST				*e*Sn		Sn		21 20 19.4	-18	
PMPST				A		A		21 20 25.9		
	comp=E,48nm,0.6s									
PMPS	Porto Santo	4.50	214	*e*Pn		Pn		21 19 38.1	-7.2	
PMPS				*e*Sn		Sn		21 20 21.9	-16	
PMPS				A		A		21 20 22.5		
	comp=E,18nm,0.5s									
PBEJ	Beja	4.53	73	*e*Sn		Sn		21 20 38.6	+0.1	
PBEJ				A		A		21 20 41.6		
	comp=E,14nm,0.2s									
PVAQ	Vaqueiros	4.55	81	*e*Pn		Pn		21 19 48.7	+2.7	
PVAQ				*e*Sn		Sn		21 20 38.8	-0.1	
PVAQ				A		A		21 20 43.9		
	comp=E,18nm,0.3s									
PVAQ	Vaqueiros	4.55	81	Pn		Pn		21 19 48.7	+2.7	
PVAQ				Sn		Sn		21 20 38.9	0.0	
PVAQ	Vaqueiros	4.55	81	P		Pn		21 19 48.7	+2.7	
PVAQ	Vaqueiros	4.55	81	S		Sn		21 20 43.9	+4.9	
EVO	Evora	4.57	67	*e*Pn		Pn		21 19 48.3	+2.1	
EVO				*e*Sn		Sn		21 20 38.6	-0.7	
EVO				A		A		21 20 41.0		
	comp=E,17nm,0.1s									
EVO	Evora	4.57	67	Pn		Pn		21 19 48.2	+2.1	
EVO				Sn		Sn		21 20 38.4	-0.9	
PMTG	Montargil	4.63	60	*e*Pn		Pn		21 19 49.1	+2.0	
PMTG				*e*Sn		Sn		21 20 40.6	-0.2	
PMTG				A		A		21 20 42.2		
	comp=E,9.7nm,0.5s									
EGRO	El Granado	4.75	80	Pn		Pn		21 19 50.7	+2.0	
EGRO				Sn		Sn		21 20 43.2	-0.6	
EGRO	El Granado	4.75	80	Pn		Pn		21 19 51.1	+2.4	
EGRO				⇑*i*Vmb_V				21 19 56.0		
	comp=E,191nm,SNR=1.4									
EGRO					Sn	Sn		21 20 43.0	-0.8	
PCAS	Casmilo, Conde	4.98	49	*e*Pn		Pn		21 19 53.3	+1.4	
PCAS				*e*Sn		Sn		21 20 48.4	-1.2	
PCAS				A		A		21 21 00.1		
	comp=E,4.9nm,0.5s									
PESTR	Estremoz	5.00	65	*e*Pn		Pn		21 19 53.8	+1.7	
PEST

PBRG				*e*Sn	**Sn**	**21 21 39.5**	**-3.0**
PBRG				A	A	21 21 52.6	
	comp=E,2.4nm,0.6s						
EAGO	**Agolada(Pontev**	**7.20**	**33**	Pn	**Pn**	**21 20 23.3**	**+0.9**
EAGO				↑↑*i*Vmb_V		21 20 29.9	
	comp=E,215nm,SNR=1.5						
EAGO				Sn	**Sn**	**21 21 36.7**	**-7.5**
ECAL	**Calabor**	**7.22**	**43**	Pn	**Pn**	**21 20 23.5**	**+0.8**
ECAL	**Calabor**	**7.22**	**43**	Pn	**Pn**	**21 20 24.1**	**+1.3**
ECAL				↑↑*i*Vmb_V		21 20 33.6	
	comp=E,114nm,SNR=1.3						
ECAL				Sn	**Sn**	**21 21 42.8**	**-2.1**
EGOR	**Sierra Gorda,**	**7.42**	**85**	Sn	**Sn**	**21 21 50.3**	**+0.6**
TTIG	**Tnine Tigouga,**	**7.51**	**145**	P	**Pn**	**21 20 23.2**	**-3.5**
TTIG	**Tnine Tigouga,**	**7.51**	**145**	S	**Sn**	**21 21 47.5**	**-4.5**
IFR	**Ifrane**	**7.52**	**114**	Sn	**Sn**	**21 21 47.4**	**-5.0**
PAB	**San Pablo**	**7.59**	**67**	Pn	**Pn**	**21 20 30.3**	**+2.4**
PAB				Sn	**Sn**	**21 21 49.7**	**-4.3**
TISM	**Timmit**	**7.68**	**130**	P	**Pn**	**21 20 27.3**	**-1.7**
TISM	**Timmit**	**7.68**	**130**	S	**Sn**	**21 21 54.3**	**-1.8**
TIO	**Tiouine**	**7.79**	**138**	Pn	**Pn**	**21 20 31.4**	**+0.7**
TIO				Sn	**Sn**	**21 21 53.8**	**-5.1**
TIO	**Tiouine**	**7.79**	**138**	P	**Pn**	**21 20 31.3**	**+0.7**
TIO	**Tiouine**	**7.79**	**138**	S	**Sn**	**21 21 56.6**	**-2.4**
CZD	**Col de Zad**	**7.83**	**117**	P	**Pn**	**21 20 31.5**	**+0.3**
CZD	**Col de Zad**	**7.83**	**117**	S	**Sn**	**21 21 59.1**	**-1.0**
PSIM	**Granatula de C**	**7.86**	**73**	Pn	**Pn**	**21 20 33.7**	**+2.2**
PSIM				Sn	**Sn**	**21 21 58.8**	**-1.7**
EPON	**Pontenova**	**8.03**	**34**	Pn	**Pn**	**21 20 33.9**	**+0.1**
EPON				Sn	**Sn**	**21 21 57.5**	**-7.2**
AKLM	**AKL**	**8.08**	**104**	P	**Pn**	**21 20 33.8**	**-0.7**
AKLM	**AKL**	**8.08**	**104**	S	**Sn**	**21 22 04.3**	**-1.7**
OUZM	**OUZ**	**8.08**	**135**	P	**Pn**	**21 20 33.3**	**-1.3**
OUZM	**OUZ**	**8.08**	**135**	S	**Sn**	**21 22 03.2**	**-2.9**
MD31	**MD31**	**8.12**	**117**	P	**Pn**	**21 20 35.8**	**+0.7**
MD31	**MD31**	**8.12**	**117**	S	**Sn**	**21 22 06.1**	**-0.8**
GUD	**Guadarrama**	**8.13**	**59**	Pn	**Pn**	**21 20 37.0**	**+1.7**
GUD				↑↑*i*Vmb_V		21 20 41.1	
	comp=E,54nm,SNR=1.4						
GUD				Sn	**Sn**	**21 22 04.7**	**-2.7**
EQES	**Quesada**	**8.26**	**80**	Sn	**Sn**	**21 22 09.3**	**-1.1**
UCM	**Universidad Co**	**8.65**	**63**	Pn	**Pn**	**21 20 44.8**	**+2.5**
UCM				Sn	**Sn**	**21 22 15.6**	**-4.2**

MDD 16 21:19:41.9±0.5, 37°85′N×3°25′W, h0km, mb_Lg1.5/3,
Error ellipse: s-maj=5.4km s-min=3.3km az=30.0, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EQES	**Quesada**	**0.15**	**109**	Pg	Pg	21 19 44.5	-0.2
EQES				Sg	Sg	21 19 46.8	+0.2
PSIM	**Granatula de C**	**1.05**	**338**	Pg	Pg	21 20 01.4	-0.5
PSIM				Sg	Sg	21 20 15.0	-0.5
EADA	**Adamuz**	**1.10**	**287**	Pg	Pg	21 20 02.1	-0.8
EADA				Sg	Sg	21 20 16.8	-0.4
EADA	**Adamuz**	**1.10**	**287**	Pn	Sg	21 20 17.1	0.0

*TEH **16** 21:21:09.8, 35°.18N×45°.68E, h10km±83km, ML2.9*
*ISN **16** 21:21:09.4±0.7, 35°.28N×45°.48E, h21km±209km, ML2.7*
ISC 16 21:21:08.6±1.0, **35°.20N**±0°.05×**45°.54E**±0°.04, **h10**km, **n14,**
σ1§**53**/18, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.69**	**177**	Pg	**Pb**	**21 21 23.3**	**+0.5**
IDHR	**Dehrash**	**0.85**	**126**	Pg	**Pg**	**21 21 23.3**	**-1.8**
IKRK	**Kirkuk**	**1.00**	**282**	*e*Pg	**Pg**	**21 21 27.0**	**-0.9**
IKRK				*e*Sg	**Sg**	**21 21 39.1**	**-1.9**
IKRK				AML	AML	21 21 45.0	
	comp=N,190nm,0.5s						
IKRK				AML	AML	21 21 46.6	
	comp=E,264nm,0.8s						
GLG1	**Gilan-e-Gharb**	**1.12**	**164**	Pg	**Pb**	**21 21 28.2**	**-2.0**
ILIN	**Lien**	**1.20**	**103**	Pg	**Pb**	**21 21 30.4**	**-1.2**
IGHG	**Ghaleghazi**	**1.21**	**136**	Pg	**Pn**	**21 21 31.9**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.54**	**126**	Pg	**Pn**	**21 21 36.9**	**+0.6**
MAHB	**Mahabad**	**1.57**	**5**	Pg	**Pg**	**21 21 39.2**	**+0.4**
SNQR	**Sonqor, Kerman**	**1.75**	**101**	Pg	**Pb**	**21 21 41.0**	**+0.1**
IBZA	**Bozab**	**2.04**	**110**	Pn	**Pb**	**21 21 44.8**	**-1.2**
IBDR	**Badra**	**2.11**	**171**	*e*Pn	**Pb**	**21 21 46.5**	**-0.4**
IBDR				*e*Sn	**Sb**	**21 22 13.5**	**+0.3**
BHD	**Baghdad**	**2.15**	**207**	*e*Pn	**Pb**	**21 21 46.5**	**-1.2**
BHD				*e*Sn	**Sb**	**21 22 14.0**	**-0.4**
IKFM	**Kafar-mosalman**	**2.54**	**131**	Pn	**Pn**	**21 21 50.9**	**+1.1**
RAFI	**Al-Rafai**	**3.50**	**172**	*e*Pn	**Pn**	**21 22 06.0**	**+2.9**
RAFI				*e*Sn	**Sn**	**21 22 47.5**	**+2.9**

*HVO **16** 21:31:06.9±0.7, 19°.426N±0°.009×155°.253W±0°.008,*
h0km±2km, ML3.3/48, ML3.0/50(NEIC), Error ellipse:
s-maj=1.3km s-min=0.9km az=200.0
*NEIC **16** 21:31:07.4±1.2, 19°.38N±0°.01×155°.256W±0°.008,*
h5km±1km, Error ellipse: s-maj=2.2km s-min=1.6km
az=345.0
*IDC **16** 21:31:10.5±19.0, 19°.85N×155°.25W, h0km, mb3.3/4,*
mbtmp3.3/4, Error ellipse: s-maj=396.3km s-min=58.4km
az=37.0
ISC 16 21:31:07.8±0.8, **19°.42N**±0°.04×**155°.30W**±0°.04, **h10**km, **n33,**
σ1§**63**/32, **mb3.4/4, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.00**	**125**	IAML		21 31 08.0	
	comp=E,10μm,0.8s						
UWE					**Pg**	**21 31 08.3**	**-1.5**
OBL	**Observatory Le**	**0.01**	**116**	IAML		21 31 08.1	
	comp=N,15μm,0.5s						
OBL				IAML		21 31 08.2	
	comp=E,20μm,0.6s						
OBL					**Pg**	**21 31 08.2**	**-1.6**
UWB	**Uwekahuna B**	**0.02**	**85**		**Pg**	**21 31 07.7**	**-2.1**
WRMHI	**West Rim**	**0.02**	**192**		**Pg**	**21 31 08.4**	**-1.4**
WRMHI				IAML		21 31 08.9	
	comp=N,13μm,0.9s						
WRMHI				IAML		21 31 09.1	
	comp=E,13μm,0.7s						
NPH	**North Pit**	**0.02**	**128**		**Pg**	**21 31 08.0**	**-1.8**
SBLHI	**Steaming Bluff**	**0.03**	**82**		**Pg**	**21 31 07.5**	**-2.3**
HATHI	**Halema'uma'u T**	**0.03**	**90**		**Pg**	**21 31 07.4**	**-2.4**
SDHHI	**Sand Hill**	**0.03**	**177**		**Pg**	**21 31 08.6**	**-1.3**
RIM	**Rim**	**0.04**	**143**		**Pg**	**21 31 08.5**	**-1.4**
BYL	**Byron's Ledge**	**0.04**	**108**		**Pg**	**21 31 07.7**	**-2.2**
KKO	**Keanakako'i**	**0.04**	**132**		**Pg**	**21 31 08.2**	**-1.7**
RSD	**Rainshed**	**0.04**	**23**		**Pg**	**21 31 08.6**	**-1.4**
RSD				IAML		21 31 09.4	
	comp=N,16μm,0.3s						
PUH	**Pauahi**	**0.09**	**123**		**Pg**	**21 31 08.7**	**-1.7**
PUH				IAML		21 31 10.3	
	comp=E,11μm,0.4s						
PUH				IAML		21 31 10.3	
	comp=N,16μm,0.3s						
MLH	**Mauna Loa**	**0.11**	**310**		**Pg**	**21 31 10.9**	**+0.1**
MLH				IAML		21 31 14.1	
	comp=E,8μm,1.3s						
HLP	**Hilina Pali**	**0.13**	**185**		**Pg**	**21 31 10.7**	**-0.2**
HLP				IAML		21 31 14.1	
	comp=E,8μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.13**	**110**		**Pg**	**21 31 09.3**	**-1.6**
STCH	**Steam Cracks**	**0.17**	**103**		**Pg**	**21 31 10.3**	**-1.2**
STCH				IAML		21 31 13.2	
	comp=N,8μm,0.6s						
STCH				IAML		21 31 13.8	
	comp=E,10μm,0.3s						
NPOC	**North of Pu'u**	**0.18**	**100**	Pg	**Pg**	**21 31 10.4**	**-1.4**
NPOC				IAML		21 31 13.6	
	comp=E,9μm,1.0s						
JCUZ	**Jacuzzi**	**0.19**	**102**	Pg	**Pg**	**21 31 10.8**	**-1.1**
JCUZ				IAML		21 31 14.4	
	comp=E,6μm,0.4s						
JCUZ				IAML		21 31 15.0	
	comp=N,5μm,0.5s						
HMH	**Humu'ula Sheep**	**0.25**	**315**		**Pb**	**21 31 13.5**	**-1.1**
HMH				IAML		21 31 20.6	
	comp=E,3μm,1.2s						
HMH				IAML		21 31 22.2	
	comp=N,3μm,0.6s						
JOKA	**Jonika Flow**	**0.28**	**88**		**Pg**	**21 31 12.2**	**-1.3**
JOKA	**Jonika Flow**	**0.28**	**88**	IAML		21 31 18.4	
	comp=N,5μm,0.9s						
JOKA				IAML		21 31 19.3	
	comp=E,6μm,1.8s						
MLOA	**Mauna Loa Obse**	**0.29**	**293**		**Pb**	**21 31 14.2**	**-1.1**
MLOA				IAML		21 31 21.8	
	comp=E,2μm,1.0s						
MWH	**Moku'aweowe**	**0.29**	**282**		**Pb**	**21 31 14.3**	**-1.2**
KHU	**Kahuku**	**0.35**	**240**		**Pb**	**21 31 15.0**	**-1.3**
KHU				IAML		21 31 25.5	
	comp=N,2μm,1.2s						
POHA	**Pohakuloa**	**0.40**	**326**		**Pb**	**21 31 16.4**	**-0.7**
HUH	**Hualalai**	**0.57**	**297**		**Pn**	**21 31 20.1**	**-2.2**
HPAH	**Hawaii Prepara**	**0.71**	**328**		**Pg**	**21 31 20.4**	**-1.2**
MHA	**Mahukona**	**0.95**	**323**		**Pg**	**21 31 24.6**	**-1.5**
PDAR	**Pinedale Array**	**44.87**	**48**	P	**P**	**21 39 23.9**	**+1.1**
	comp=N,0.1nm,0.3s,baz=260,slow=8.0,SNR=1.7						
	comp=N,0.1nm,0.3s						
ILAR	**Eielson Array**	**45.67**	**5**	P	**P**	**21 39 28.9**	**+0.4**
	comp=N,0.4nm,0.7s,baz=191,slow=8.0,SNR=3.5						
	comp=N,0.4nm,0.7s						
TXAR	**Lajitas Array**	**47.73**	**68**	P	**P**	**21 39 47.9**	**+2.6**
	comp=N,0.7nm,0.8s,baz=257,slow=8.2,SNR=6.9						
	comp=N,0.7nm,0.8s						
YKA	**Yellowknife Ar**	**51.32**	**23**	P	**P**	**21 40 13.8**	**+1.8**
	comp=N,0.2nm,0.6s,baz=243,slow=6.9,SNR=3.6						
	comp=N,0.2nm,0.6s						

*NEIC **16** 21:32:11.8±1.2, 37°.27N±0°.02×121°.66W±0°.02, h12km±2km,*
Error ellipse: s-maj=3.2km s-min=2.0km az=212.0
NCEDC 16 21:32:11.9±0.9, **37°.26N**±0°.02×**121°.63W**±0°.02, **h5**km±5km,
ML3.2/52, **ML3.0**/56(NEIC), **Error ellipse: s-maj=3.9km**
s-min=1.5km az=219.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOB	**Coe Ranch Numb**	**0.03**	**274**		Pg	21 32 14.7	+1.7
MHC	**Mount Hamilton**	**0.09**	**355**		Pg	21 32 14.0	+0.2
CADM	**Anderson Res.**	**0.09**	**176**		Pg	21 32 14.4	+0.6
C072	**Blauer Lane Sa**	**0.10**	**287**		Pg	21 32 14.7	+0.7
ARN	**Arnold Ranch**	**0.12**	**41**		Pg	21 32 14.6	+0.2
JLAB	**Laurel Hill**	**0.13**	**218**		Pg	21 32 15.0	+0.5
C059	**Quail Canyon R**	**0.14**	**308**		Pg	21 32 15.2	+0.5
C054	**Valleyhaven Wa**	**0.15**	**275**		Pg	21 32 15.5	+0.6
SCSB	**Santa Clara Co**	**0.19**	**279**		Pg	21 32 16.1	+0.6
C041	**El Camino Drive**	**0.19**	**308**		Pg	21 32 16.6	+0.8
HLPM	**Lions Peak**	**0.21**	**180**		Pg	21 32 16.7	+0.6
C046	**N 16th Street**	**0.22**	**296**		Pg	21 32 17.0	+0.8
CMLM	**Mount Lewis**	**0.22**	**357**		Pg	21 32 16.7	+0.5
CMLM					Sg	21 32 20.8	+1.6
GHS	**Gilroy Hot Spr**	**0.22**	**137**		Pg	21 32 16.6	+0.4
CMMM	**Mount Mocho**	**0.23**	**29**		Pg	21 32 16.8	+0.5
CMMM					Sg	21 32 20.7	+1.3
CALM	**Calaveras Res.**	**0.23**	**326**		Pg	21 32 16.8	+0.4
CDC	**Canada Road**	**0.26**	**153**		Pg	21 32 17.5	+0.6
HCAM	**Canada Road**	**0.26**	**153**		Pg	21 32 17.5	+0.6
CMPM	**Mikes Peak**	**0.27**	**68**		Pg	21 32 17.6	+0.4
JJOM	**Saint Joseph's**	**0.28**	**260**		Pg	21 32 17.7	+0.4
JTGM	**Trout Gulch Ro**	**0.30**	**221**		Pg	21 32 17.7	+0.1
COSM	**Mount Oso**	**0.33**	**39**		Pg	21 32 14.6	-3.6
HCBM	**Chamberlain**	**0.33**	**184**		Pg	21 32 18.9	+0.7
HFEM	**San Felipe**	**0.33**	**146**		Pg	21 32 18.7	+0.4
C017	**S Grimmer Bl F**	**0.34**	**317**		Pg	21 32 19.3	+0.8
HPCM	**Pacheco Lake**	**0.35**	**124**		Pg	21 32 19.0	+0.4
MTOS	**Mt Oso, Westle**	**0.35**	**44**		Pg	21 32 19.0	+0.4
C050	**Festivo Court**	**0.35**	**319**		Pg	21 32 19.4	+0.7
C001	**Firth Court Fr**	**0.36**	**318**		Pg	21 32 19.5	+0.8
JELB	**Ellicott, Sant**	**0.36**	**205**		Pg	21 32 19.7	+0.8
JSJM	**St Joseph**	**0.37**	**282**		Pg	21 32 19.9	+0.8
ANZ	**Anzar Road**	**0.37**	**175**		Pg	21 32 19.9	+0.9
PACP	**Pacheco Peak**	**0.37**	**132**		Pg	21 32 19.5	+0.4
HCOM	**Corn Cob Canyo**	**0.37**	**189**		Pg	21 32 19.9	+0.8
SLD	**San Luis Dam**	**0.38**	**119**		Pg	21 32 19.5	+0.4
WENL	**Wente Vineyard**	**0.38**	**345**		Pg	21 32 19.9	+0.7
WENL					Sb	21 32 25.8	-1.4
CSTL	**Corral Hollow**	**0.40**	**16**		Pg	21 32 20.4	+0.9
HBTM	**San Juan Bauti**	**0.41**	**171**		Pb	21 32 20.9	-0.7
C015	**Bright Common**	**0.42**	**317**		Pg	21 32 20.4	+0.5
JBMM	**Black Mountain**	**0.42**	**279**		Pg	21 32 20.4	+0.4
CSAM	**Sandia**	**0.42**	**352**		Pg	21 32 20.7	+0.7
HTUM	**Tustin Road**	**0.43**	**181**		Pg	21 32 20.7	+0.6
C002	**Farnham Drive**	**0.44**	**313**		Pg	21 32 20.6	+0.2
CNIC	**Niles Canyon**	**0.44**	**323**		Pg	21 32 20.8	+0.4
CBZL	**Buffer Zone**	**0.44**	**351**		Pb	21 32 21.3	-0.8
CBZL	**Buffer Zone**	**0.44**	**351**		Pb	21 32 21.3	-0.8
JFP	**Foothills Park**	**0.46**	**283**		Pg	21 32 21.0	+0.3
JSFB	**Stanford Teles**	**0.46**	**289**		Pg	21 32 21.1	+0.4
HSFM	**Saint Francis**	**0.46**	**166**		Pb	21 32 21.9	-0.5
C062	**Calle Reynoso**	**0.46**	**332**		Pb	21 32 22.0	-0.4
HERM	**Elkhorn Road**	**0.46**	**188**		Pg	21 32 21.6	+0.8
C006	**Lk Pillsbury D**	**0.47**	**315**		Pg	21 32 21.4	+0.4
CYD1	**Coyote D'meter**	**0.48**	**310**		Pg	21 32 21.1	0.0
CDOM	**Doolan Road**	**0.50**	**341**		Pb	21 32 22.7	-0.4
JRSC	**Jasper Ridge**	**0.50**	**287**		Pb	21 32 21.6	0.0
SAO	**San Andreas Ge**	**0.51**	**163**	Pg	Pb	21 32 22.8	-0.6
FRP	**Fremont Peak**	**0.52**	**167**		Pg	21 32 22.5	+0.7
BSLM	**Silva Ranch**	**0.53**	**155**		Pb	21 32 23.1	-0.5
C056	**Diablo Avenue**	**0.55**	**314**		Pg	21 32 22.8	+0.5
C055	**Colewood Ave**	**0.55**	**317**		Pg	21 32 22.8	+0.3
C045	**Hawkins Drive**	**0.56**	**332**		Pb	21 32 23.8	-0.3
CBSNC	**Byron Hot Spri**	**0.56**	**359**		Pb	21 32 23.7	-0.4
BGH	**Bear Gulch**	**0.57**	**279**		Pg	21 32 23.2	+0.4
CMOB	**Morgan Territo**	**0.57**	**346**		Pb	21 32 24.1	-0.2
JPSM		**0.57**	**264**		Pg	21 32 23.1	+0.2
CLCB	**Lake Chabot**	**0.59**	**325**		Pg	21 32 23.9	+0.6
BSRM	**Salinas Radio**	**0.60**	**171**		Pg	21 32 23.7	+0.4
CSLM	**San Leandro Hi**	**0.60**	**321**		Pg	21 32 23.8	+0.3
JCPM	**Coyote Point**	**0.64**	**301**		Pg	21 32 24.0	-0.1
BGC	**Bolinger Road**	**0.65**	**329**		Pb	21 32 25.3	-0.4
BJOM	**Mount Johnson**	**0.68**	**158**		Pb	21 32 25.6	-0.5
CMCM	**Mills College**	**0.68**	**321**		Pg	21 32 25.4	+0.5
BPCNC	**Pine Canyon**	**0.68**	**180**		Pg	21 32 25.4	+0.5
SCZ	**Santa Cruz**	**0.68**	**164**		Pg	21 32 25.2	+0.2
C058	**Eastshore Driv**	**0.69**	**317**		Pg	21 32 25.2	+0.2
CRPB	**Russellman Par**	**0.69**	**342**		Pb	21 32 25.9	-0.5
HMQM	**Monterey**	**0.69**	**199**		Pg	21 32 25.2	0.0
SMCB	**Saint Mary's C**	**0.69**	**327**		Pb	21 32 25.8	-0.6
C064	**Brunell Drive**	**0.70**	**322**		Pg	21 32 25.9	+0.6
SAC	**San Andreas**	**0.70**	**298**		Pg	21 32 25.1	-0.2
C049	**Pacific Avenue**	**0.73**	**316**		Pg	21 32 25.9	+0.1
C005	**Mandana Bl Oak**	**0.73**	**319**		Pg	21 32 26.1	+0.2
BJCM	**Johnson Can.**	**0.73**	**165**		Pg	21 32 26.1	+0.1
JSBM	**San Bruno Moun**	**0.74**	**305**		Pg	21 32 25.6	-0.5
C028	**Eucalyptus Rd**	**0.77**	**321**		Pg	21 32 26.9	+0.3
BVL	**Bear Valley**	**0.77**	**152**		Pb	21 32 27.2	-0.5
JMGM	**Milagra Ridge**	**0.77**	**300**		Pg	21 32 26.2	-0.5
BKS	**Berkeley--Byer**	**0.78**	**322**		Pg	21 32 27.2	+0.3
CVPM	**Vollmer Peak**	**0.78**	**323**		Pb	21 32 27.4	-0.5
C033	**Glashaus Lp Em**	**0.79**	**319**		Pg	21 32 27.3	+0.3
BL67	**Building 67, L**	**0.79**	**322**		Pg	21 32 27.2	+0.2
VAK	**Adit at Lawren**	**0.79**	**322**		Pg	21 32 27.2	+0.2
BL88	**Building 88, L**	**0.79**	**322**		Pg	21 32 27.5	+0.5
BRK	**Berkeley--Havi**	**0.79**	**321**		Pg	21 32 27.1	+0.1
CYBM	**Yerba Buena Is**	**0.80**	**314**		Pg	21 32 27.0	-0.2
C008	**Spokane Avenue**	**0.82**	**321**		Pg	21 32 27.9	+0.2
CTAM	**Taylor**	**0.83**	**339**		Pb	21 32 28.3	-0.4
BBGB	**Big Mountain B**	**0.83**	**145**		Pg	21 32 28.0	+0.3
BPIM	**Pinnacles**	**0.85**	**154**		Pg	21 32 28.2	0.0
BPRM	**Ponciano Ridge**	**0.85**	**185**		Pg	21 32 28.2	0.0
JPRM	**Presidio of Sa**	**0.86**	**309**		Pg	21 32 28.0	-0.3
RFSB	**Richmond Field**	**0.86**	**320**		Pg	21 32 28.3	-0.1
CPIM	**Pinole Ridge**	**0.86**	**328**		Pb	21 32 28.9	-0.4
HAST	**Hastings Reser**	**0.87**	**176**		Pg	21 32 28.4	-0.1
CSPM	**San Pablo Ridg**	**0.88**	**323**		Pg	21 32 29.1	+0.3
BSMM	**Soledad Missio**	**0.89**	**169**		Pg	21 32 29.0	+0.1
HERB	**Hercules**	**0.90**	**327**		Pg	21 32 29.6	+0.4
CPMM	**Point Molate**	**0.93**	**319**		Pg	21 32 29.3	-0.3
BCWM	**Chews Ridge**	**0.95**	**177**		Pg	21 32 30.1	0.0
LRV	**Little Rabbit**	**0.97**	**149**		Pg	21 32 30.8	+0.3
MYLM	**Yosemite Lake**	**0.98**	**82**		Pg	21 32 30.2	-0.4
BPOM	**Post Ranch**	**1.03**	**186**		Pg	21 32 31.0	-0.7
MCUB	**Copperopolis B**	**1.08**	**48**		Pg	21 32 31.8	-0.7
SNT	**Sears Point**	**1.13**	**325**		Pg	21 32 32.8	-0.7
FARB	**Farallon Islan**	**1.17**	**292**		Pg	21 32 32.3	-2.0
PCCM	**Crazy Canyon**	**1.23**	**162**		Pg	21 32 34.3	-1.1
NADM	**Allendale**	**1.23**	**348**		Pg	21 32 34.8	-0.7
PMPB	**Monarch Peak**	**1.24**	**147**		Pg	21 32 34.9	-0.6
PMPB				IAML		21 33 02.2	
	comp=E,387nm,0.7s						
CMB	**Columbia Colle**	**1.26**	**52**		Pg	21 32 35.1	-0.9
CMB				IAML		21 32 53.2	
	comp=N,286nm,0.9s						
CMB				IAML		21 32 55.8	
	comp=E,207nm,0.9s						
CVS	**Carmenet Viney**	**1.27**	**329**		Pg	21 32 34.5	-1.7
NAPC	**Atlas Peak**	**1.28**	**338**		Pg	21 32 34.5	-1.8
MCCM	**Marconi Confer**	**1.33**	**312**	Pg	Pn	21 32 35.1	-1.9
MCCM				IAML		21 32 58.2	
	comp=E,276nm,0.4s						
MCCM				IAML		21 32 59.3	
	comp=N,289nm,0.7s						
PAPM	**Alder Peak**	**1.36**	**171**		Pn	21 32 36.1	-1.4
PPTM	**Peach Tree Val**	**1.36**	**147**		Pn	21 32 36.4	-1.1
PSMM	**Smith Mountain**	**1.45**	**144**		Pn	21 32 38.3	-0.5
NBPM	**Berryessa Peak**	**1.48**	**343**		Pn	21 32 38.1	-1.0
PKD	**Bear Valley Ra**	**1.58**	**146**		Pn	21 32 39.2	-1.3
PANM	**San Antonio Re**	**1.59**	**158**		Pn	21 32 38.7	-1.9
NHSM	**Mount Saint He**	**1.60**	**331**		Pn	21 32 39.6	-1.3
PSTM	**Stockdale Moun**	**1.61**	**145**		Pn	21 32 39.8	-1.1
NMTM	**Middletown**	**1.67**	**338**		Pn	21 32 41.2	-0.6
PWKM	**Work Ranch**	**1.70**	**148**		Pn	21 32 41.2	-0.9
RAMR	**Ramage Ranch**	**1.73**	**159**		Pn	21 32 40.9	-1.7
GCRM	**Castle Rock Sp**	**1.74**	**331**		Pn	21 32 41.3	-1.5
MNRC	**McLaughlin Min**	**1.74**	**339**		Pn	21 32 42.3	-0.4
GBGM	**Boggs Mountain**	**1.76**	**332**		Pn	21 32 41.6	-1.5
AFDM	**Forest Hills D**	**1.77**	**17**	Pn	Pn	21 32 42.2	-0.9
GGPM	**Geyser Peak**	**1.78**	**328**		Pn	21 32 41.5	-1.9
GDXM	**Geysers**	**1.80**	**330**		Pn	21 32 42.0	-1.6
GSGM	**Seigler Mounta**	**1.82**	**332**		Pn	21 32 42.3	-1.4
GHCM	**House Creek**	**1.83**	**318**		Pn	21 32 41.9	-2.0
KCC	**Kaiser Creek**	**1.85**	**87**		Pn	21 32 44.9	+0.7
MDPB	**Devils Postpil**	**2.07**	**79**		Pn	21 32 48.1	+0.6
MDPB				IAML		21 33 17.3	
	comp=N,174nm,0.8s						
MDPB				IAML		21 33 19.1	
	comp=E,114nm,0.7s						
HOPS	**Hopland Field**	**2.07**	**327**		Pn	21 32 45.7	-1.6
GHLM	**Highland Sprin**	**2.09**	**329**		Pn	21 32 46.2	-1.4
PBPM	**Bitterwater Pu**	**2.09**	**143**		Pn	21 32 46.9	-0.7
EMB	**Emerald Bay**	**2.10**	**35**		Pn	21 32 49.0	+1.2
RUBR	**Rubicon Trail**	**2.14**	**33**		Pn	21 32 49.0	+0.6
WAKR	**Walker**	**2.14**	**54**		Pn	21 32 49.5	+1.1
WAKR				IAML		21 33 22.9	
	comp=N,150nm,0.9s						
GGUM	**Gualala**	**2.17**	**318**		Pn	21 32 46.9	-1.8
MLCM	**Laurel Creek C**	**2.19**	**80**		Pb	21 32 50.8	-1.4
ORV	**Oroville**	**2.30**	**3**		Pn	21 32 50.0	-0.4
MPK	**Martis Peak**	**2.40**	**31**		Pn	21 32 52.7	+0.7
PNTR	**Pine Nut**	**2.43**	**41**	Pn	Pb	21 32 54.5	-1.7
BHPR	**Bishop**	**2.51**	**88**		Pn	21 32 55.4	+1.8
HCK	**Huntoon Valley**	**2.55**	**70**		Pb	21 32 56.5	-1.5
YERR	**Yerington**	**2.56**	**47**		Pn	21 32 56.2	+2.1
YERR				IAML		21 33 40.0	
	comp=N,80nm,0.7s						
GTC	**Three Chop Rid**	**2.62**	**325**		Pn	21 32 53.2	-1.6
LOY	**Loyalton**	**2.64**	**24**		Pn	21 32 56.5	+1.3
LHV	**Little Huntoon**	**2.67**	**67**		Pn	21 32 55.8	+0.3
LHV				IAML		21 33 51.9	
	comp=N,74nm,0.9s						
LHV				IAML		21 33 55

ROOI					IAML			21 45 37.3	
	comp=Z,5.7nm,0.3s								
GRHM	**Grahamstown, E**	**6.38**	**183**	*eP*		**Pn**		**21 43 53.9**	**+1.0**
GRHM				*eS*		**Sn**		**21 45 03.9**	**-1.8**
GRHM					IAML			21 45 05.7	
	comp=Z,3.0nm,1.0s								
MATP	**Matopo**	**6.63**	**15**	*i P*		**Pn**		**21 43 58.0**	**+1.6**
MATP				*i S*		**Sn**		**21 45 11.5**	**-0.7**
MATP	**Matopo**	**6.63**	**15**	*i P*		**Pn**		**21 43 58.0**	**+1.6**
MATP				*i S*		**Sn**		**21 45 11.5**	**-0.7**
GRAN	**Grantham**	**6.69**	**215**	*eP*		**Pn**		**21 43 59.1**	**+2.0**
GRAN				*eS*		**Sn**		**21 45 11.1**	**-2.4**
GRAN					IAML			21 45 47.3	
	comp=Z,7.7nm,0.4s								
FRAZ	**Fraserburg**	**6.83**	**221**	*eP*		**Pn**		**21 44 00.5**	**+1.4**
FRAZ				*eS*		**Sn**		**21 45 15.0**	**-2.0**
FRAZ					IAML			21 45 53.5	
	comp=Z,4.6nm,0.6s								
MERW	**Merweville**	**7.32**	**217**	*eP*		**Pn**		**21 44 07.8**	**+1.9**
MERW				*eS*		**Sn**		**21 45 26.6**	**-2.4**
MERW					IAML			21 45 57.2	
	comp=Z,3.5nm,0.6s								
SUR	**Sutherland**	**7.51**	**222**	*eP*		**Pn**		**21 44 09.9**	**+1.5**
SUR				*eS*		**Sn**		**21 45 30.9**	**-2.9**
SUR					IAML			21 46 23.1	
	comp=Z,5.0nm,0.6s								
KRI	**Karoi**	**10.36**	**16**	*i P*		Pn		21 44 42.1	-5.5
KRI	**Karoi**	**10.36**	**16**	*i P*		Pn		21 44 42.1	-5.5

IDC ***16*** *21:54:44.5±4.8, 14°.66N×94°.16E, h0km, mb3.6/5, mbtmp3.5/6, ML3.2/1, Error ellipse: s-maj=95.2km s-min=29.9km az=3.0*

ISC 16 21:54:50.7±4.6, 14°.9N±0°.6×94°.2E±0°.2, h35km, n7, σ1°39/7, mb3.5/6, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**5.77**	**51**	Pn		**Pn**	**21 56 13.5**	**-0.5**
	0.2nm,0.3s,baz=219,slow=15,SNR=12							
	1.3nm,0.6s							
MKAR	**Makanchi Array**	**33.35**	**345**	P		**P**	**22 01 27.7**	**+2.2**
	0.4nm,0.8s,baz=182,slow=6.1,SNR=4.6							
	0.4nm,0.8s							
SONM	**Songino Array**	**34.39**	**15**	P		**P**	**22 01 33.6**	**-1.0**
	0.2nm,0.4s,baz=284,slow=29,SNR=2.9							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**37.85**	**344**	P		**P**	**22 02 04.3**	**+0.2**
	0.6nm,0.8s,baz=164,slow=8.4,SNR=4.8							
	0.6nm,0.8s							
GEYT	**Alibeck**	**39.29**	**313**	P		**P**	**22 02 15.5**	**-0.9**
	1.5nm,0.5s,baz=107,slow=13,SNR=7.2							
	1.5nm,0.5s							
ZALV	**Zalesovo Beam**	**39.68**	**351**	P		**P**	**22 02 20.0**	**+0.6**
	0.4nm,0.5s,baz=160,slow=4.6,SNR=2.0							
	0.4nm,0.5s							
MJAR	**Matsushiro Arr**	**44.66**	**53**	P		**P**	**22 03 01.0**	**+0.8**
	13nm,0.7s,baz=220,slow=9.1,SNR=36							

BJI ***16*** *22:00:00.9±0.0, 27°.91N×128°.70E, h130km, mb4.5/43, mB4.5/17*

MOS ***16*** *22:00:06.0±1.1, 28°.23N×128°.27E, h143km, mb4.2/22, Error ellipse: s-maj=10.1km s-min=5.7km az=94.2*

NEIC ***16*** *22:00:07.9±1.6, 28°.34N±0°.07×128°.19E±0°.09, h135km±7km, mb4.6/77, Error ellipse: s-maj=12.2km s-min=9.5km az=103.0*

IDC ***16*** *22:00:07.8±0.5, 28°.31N×128°.20E, h149km±4km, mb3.9/20, mbtmp4.3/24, MS4.6/2, Error ellipse: s-maj=14.2km s-min=9.2km az=82.0*

JMA ***16*** *22:00:08.3±0.2, 28°.3N±0°.9×12°8E±°, h125km±3km, MD4.2/27, MV4.4/27, NW OFF AMAMI-OSHIMA IS*

JMA Felt I J1 at NW OFF AMAMI-OSHIMA IS .

NIED ***16*** *22:00:08.3, 28°.33N×128°.16E, h125km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr=1.48; Mθθ=1.21; Mφφ2.70; Mrθ=-2.62; Mθφ1.05; Mφr=-1.67; Fault plane solution: M0=4.03000×10^15 NP1:φs=49.00000°, δ77.00000°, λ=-58.00000°. NP2:φs=159.00000°, δ34.00000°, λ=-157.00000°.*

ISC 16 22:00:07.9±0.4, 28°.29N±0°.03×128°.23E±0°.04, h142km±3km, h144km:pP-P, n503, σ0s89/535, mb4.4/85, 10C, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTK	**Tokunoshima**	**0.81**	**128**	P		**Pn**	**22 00 29.9**	**-0.5**
JTK				S		**Sn**	**22 00 46.4**	**-1.0**
JTK	**Tokunoshima**	**0.81**	**128**	A		A	22 00 29.9	
	comp=E,21nm,0.5s,comp=N,17nm,0.6s							
JAMN	**Amaminishikomi**	**0.83**	**93**	*i* P		**Pn**	**22 00 30.0**	**-0.6**
JAMN				S		**Sn**	**22 00 46.5**	**-1.3**
JAMN	**Amaminishikomi**	**0.83**	**93**	A		A	22 00 30.0	
	comp=E,15nm,0.2s,comp=N,15nm,0.3s							
JOKE	**Okinoerabujima**	**0.97**	**162**	*i* P		**Pn**	**22 00 31.4**	**-0.3**
JOKE				S		**Sn**	**22 00 48.6**	**-1.2**
JOKE	**Okinoerabujima**	**0.97**	**162**	A		A	22 00 31.4	
	comp=E,6.0nm,0.2s,comp=N,5.0nm,2.3s							
JTAJ	**Takarajima**	**1.22**	**44**	P		**Pn**	**22 00 33.5**	**-0.4**
JAM	**Amami Oshima**	**1.22**	**84**	P		**Pn**	**22 00 33.5**	**-0.4**
JAM				S		**Sn**	**22 00 52.4**	**-1.4**
JAM	**Amami Oshima**	**1.22**	**84**	A		A	22 00 33.5	
	comp=E,5.0nm,1.3s,comp=N,5.0nm,0.4s							
JIH	**Iheya**	**1.27**	**191**	P		**Pn**	**22 00 34.5**	**0.0**
JIH				S		**Sn**	**22 00 53.9**	**-0.8**
JIH	**Iheya**	**1.27**	**191**	A		A	22 00 34.5	
	comp=E,5.0nm,0.5s,comp=N,5.0nm,1.1s							
JYRO	**Yoronjima**	**1.27**	**171**	*i* P		**Pn**	**22 00 34.2**	**-0.3**
JYRO				*eS*		**Sn**	**22 00 54.1**	**-0.7**
JOW	**Kunigami**	**1.45**	**178**	P		**Pn**	**22 00 36.2**	**-0.2**
JOW	**Kunigami**	**1.45**	**178**			**Pn**	**22 00 36.3**	**-0.2**
JOW					Sn	**Sn**	**22 00 56.7**	**-1.4**
JOW	**Kunigami**	**1.45**	**178**	P		**Pn**	**22 00 35.8**	**-0.6**
	comp=N,2μm,0.3s,baz=342,slow=9.6,SNR=4259							
JOW				S		**Sn**	**22 00 56.9**	**-1.2**
	comp=N,4μm,0.3s,baz=210,slow=20,SNR=61							
JOW				LR		LR	22 01 14.8	
	comp=N,288nm,20.5s,baz=351,slow=46							
JOW	**Kunigami**	**1.45**	**178**	P		**Pn**	**22 00 36.2**	**-0.2**
JOW				S		**Sn**	**22 00 56.7**	**-1.4**
JOW	**Kunigami**	**1.45**	**178**	A		A	22 00 36.2	
	comp=E,13nm,0.4s,comp=N,16nm,0.3s							
JZK	**Kikaishima**	**1.54**	**89**	P		**Pn**	**22 00 38.4**	**+1.1**
JZK				S		**Sn**	**22 01 00.5**	**+0.8**
JNTH	**Nagotoyohara**	**1.77**	**186**	*i* P		**Pn**	**22 00 39.9**	**0.0**
JNTH				S		**Sn**	**22 01 03.8**	**-0.6**
JAGN	**Aguni-jima**	**1.91**	**208**	P		**Pn**	**22 00 41.3**	**-0.1**
JAGN				S		**Sn**	**22 01 06.3**	**-0.9**
JNN	**Nakanoshima**	**2.12**	**42**	P		**Pn**	**22 00 43.8**	**-0.1**
JJT3	**Tamagusuku3**	**2.17**	**191**	P		**Pn**	**22 00 45.2**	**+0.5**
JJT3				*eS*		**Sn**	**22 01 13.1**	**+0.2**
JKE	**Kume jima 2**	**2.34**	**214**	P		**Pn**	**22 00 46.5**	**-0.1**
JKE				*eS*		**Sn**	**22 01 13.8**	**-2.7**
JKC	**Kuchinoerabu**	**2.77**	**38**	P		**Pn**	**22 00 52.4**	**+0.5**
JYAK	**Yakushimahirau**	**2.78**	**45**	*eP*		**Pn**	**22 00 52.0**	**-0.2**
JYAK				*eS*		**Sn**	**22 01 23.9**	**-2.5**
JMTN	**Minamitane**	**3.14**	**47**	P		**Pn**	**22 00 57.5**	**+0.7**
JMTN				*eS*		**Sn**	**22 01 32.8**	**-1.7**
JTN	**Tanegashima 3**	**3.36**	**45**	*eP*		**Pn**	**22 00 59.8**	**+0.2**
JTN				*eS*		**Sn**	**22 01 37.9**	**-1.9**
JKDJ	**Kitadaitoujima**	**3.59**	**130**	P		**Pn**	**22 01 03.0**	**+0.4**
JKDJ				S		**Sn**	**22 01 42.8**	**-2.1**
JKDJ	**Kitadaitoujima**	**3.59**	**130**	A		A	22 01 03.0	
	comp=E,14nm,0.5s,comp=N,10.0nm,0.6s							
JMZ	**Minamidaito 2**	**3.63**	**132**	P		**Pn**	**22 01 03.5**	**+0.4**
JMZ	**Minamidaito 2**	**3.63**	**132**			**Pn**	**22 01 03.2**	**+0.1**
JMZ	**Minamidaito 2**	**3.63**	**132**	P		**Pn**	**22 01 03.4**	**+0.3**
JMZ				S		**Sn**	**22 01 43.0**	**-2.9**
JMZ	**Minamidaito 2**	**3.63**	**132**	A		A	22 01 03.4	
	comp=E,5.0nm,3.6s,comp=N,6.0nm,3.3s							
JMJ	**Miyako jima 2**	**4.34**	**218**	P		**Pn**	**22 01 11.2**	**-1.3**
JNU	**Nakatsue**	**5.33**	**25**	P		**Pn**	**22 01 27.2**	**+1.6**
JNU	**Nakatsue**	**5.33**	**25**	Pn		**Pn**	**22 01 27.2**	**+1.6**
JNU	**Nakatsue**	**5.33**	**25**	P		**Pn**	**22 01 25.4**	**-0.2**
	comp=N,45nm,0.4s,baz=216,slow=6.4,SNR=71							
JNU				S		**Sn**	**22 02 26.2**	**0.0**
	comp=N,9.7nm,0.4s,baz=217,slow=12,SNR=1.5							
YOJ	**Yonaguni jima**	**6.03**	**232**	P		**Pn**	**22 01 34.4**	**-0.6**
YOJ	**Yonaguni jima**	**6.03**	**232**	Pn		**Pn**	**22 01 33.9**	**-1.1**
YOJ	**Yonaguni jima**	**6.03**	**232**	P		**Pn**	**22 01 33.9**	**-1.1**
JTU	**Tsushima**	**6.30**	**9**	Pn		**Pn**	**22 01 39.4**	**+0.9**
TATO	**Taipei**	**6.88**	**243**	Pn		**Pn**	**22 01 48.6**	**+2.3**
YHNB	**Yeheng**	**7.12**	**241**			**Pn**	**22 01 50.9**	**+1.2**
NACB	**Ninganchiao**	**7.23**	**237**	P		**Pn**	**22 01 49.0**	**-2.0**
NACB	**Ninganchiao**	**7.23**	**237**	Pn		**Pn**	**22 01 48.7**	**-2.3**
JMN	**Monobe**	**7.27**	**40**			**Pn**	**22 01 50.0**	**-1.6**
SSLB	**Suanglung**	**7.93**	**237**	P		**Pn**	**22 01 58.6**	**-1.9**
SSLB	**Suanglung**	**7.93**	**237**	Pn		**Pn**	**22 01 58.5**	**-2.0**
TWGBT	**Beinan**	**8.44**	**231**	P		**Pn**	**22 02 04.3**	**-3.0**
NJ2	**Nanjing**	**8.94**	**297**	*eP*		**Pn**	**22 02 15.3**	**+1.4**
NJ2					pmax	pmax		
	comp=N,11nm,0.6s							
NJ2					pmax	pmax		
	comp=N,160nm,4.5s							
KSAR	**Wonju Array Be**	**9.14**	**358**	Pn		**Pn**	**22 02 15.2**	**-1.2**
KSAR	**Wonju Array Be**	**9.14**	**358**	P		**Pn**	**22 02 15.2**	**-1.2**
KSRS	**Korea Array**	**9.15**	**358**	P		**Pn**	**22 02 17.6**	**+1.1**
	comp=N,21nm,0.8s,baz=176,slow=14,SNR=50							
KS19	**Wonju Array Si**	**9.20**	**358**			**Pn**	**22 02 16.1**	**-1.2**
INU	**Inuyama**	**10.27**	**44**	Pn		**Pn**	**22 02 31.9**	**+0.4**
JGF	**Kuroka**	**10.64**	**44**	Pn		**Pn**	**22 02 36.3**	**-0.2**
MAJO	**Matsushiro**	**11.78**	**43**	*i* P		**P**	**22 02 59.0**	**+0.2**
MAJO					pmax	pmax		
	comp=Z,9.0nm,0.9s							
MJAR	**Matsushiro Arr**	**11.78**	**43**	P		**Pn**	**22 02 50.9**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=236,slow=14,SNR=5.0							
JMM	**Marumori**	**14.21**	**45**			**P**	**22 03 24.7**	**-1.1**
MSHR	**Mys Shultsa**	**14.46**	**9**	*i* P		**Pn**	**22 03 26.3**	**+0.5**
MSHR					pmax	pmax		
	comp=Z,20nm,1.0s							
HNS	**HongShan**	**14.54**	**312**	⇑P		**P**	**22 03 28.5**	**-0.9**
HNS				S		**Sn**	**22 06 04.4**	**-3.5**
HNS					pmax	pmax		
	comp=Z,14nm,1.2s							
LYN	**LuoYang**	**14.83**	**299**	⇑P		**P**	**22 03 34.8**	**+2.1**
LYN					pmax	pmax		
	comp=Z,17nm,0.8s							
BJT	**Baijiatuau**	**15.37**	**323**	P		**P**	**22 03 39.3**	**+0.7**
BJT	**Baijiatuau**	**15.37**	**323**	P		**P**	**22 03 39.3**	**+0.7**
BJT					pmax	pmax		
	comp=Z,47nm,0.6s							
BJI	**Beijing**	**15.38**	**323**	P		**P**	**22 03 40.4**	**+1.7**
BJI					pmax	pmax		
	comp=Z,30nm,0.7s							
USA0B	**Ussuriysk Arra**	**16.16**	**10**	*i* P		**P**	**22 03 47.3**	**-0.1**
USRK	**Ussuriysk Ar.**	**16.16**	**10**	P		**Pn**	**22 03 45.6**	**-1.3**
	comp=Z,2.0nm,0.6s,baz=185,slow=9.4,SNR=6.1							
TIY	**Taiyuan**	**16.23**	**309**	P		**P**	**22 03 52.3**	**+4.0**
XAN	**Xi'an**	**17.48**	**294**	⇑P		**Pn**	**22 04 03.8**	**+0.8**
XAN					pmax	pmax		
	comp=Z,110nm,0.6s							
ERM	**Erimo**	**18.31**	**38**	P		**P**	**22 04 10.2**	**-0.7**
ERM					lAmb	lAmb	22 04 31.9	
	comp=Z,42nm,1.4s							
ERM	**Erimo**	**18.31**	**38**	P		**P**	**22 04 10.2**	**-0.7**
ERM					pmax	pmax		
	comp=Z,42nm,1.4s							
XLT	**XiLinHaoTe**	**18.38**	**331**	*eP*		**P**	**22 04 12.6**	**+0.7**
XLT				S		**S**	**22 07 35.6**	**+1.1**
XLT					pmax	pmax		
	comp=Z,29nm,1.0s							
XLT					pmax	pmax		
	comp=Z,88nm,3.8s							
HHC	**Hu-ho-hao-te**	**18.55**	**317**	*eP*		**P**	**22 04 13.3**	**-0.4**
HHC					pmax	pmax		
	comp=Z,5.0nm,0.5s							
HHC					pmax	pmax		
	comp=Z,75nm,4.8s							
BTO	**Baotou**	**19.36**	**314**	*eP*		**Pn**	**22 04 25.0**	**-0.1**
BTO				pP		**pP**	**22 04 47.4**	**-0.2**
BTO				sP		**sP**	**22 05 03.9**	**-1.7**
BTO				S		**S**	**22 07 54.4**	**+0.5**
BTO					pmax	pmax		
	comp=Z,21nm,0.6s							
BTO					LR	LR		
	comp=Z,88nm,6.2s							
BTO					LR	LR		
	comp=Z,130nm,7.9s							
BTO					LR	LR		
	comp=Z,150nm,6.5s							
ASAJ	**Asahikawa**	**19.55**	**32**	P		**P**	**22 04 23.7**	**-0.7**
ASAJ					pmax	pmax		
	comp=Z,36nm,1.4s							
JKA	**Kamikawa-asahi**	**19.55**	**32**	P		**P**	**22 04 23.7**	**-0.7**
JKA					lAmb	lAmb	22 04 43.4	
	comp=Z,36nm,1.4s							
KLR	**Kul'dur**	**21.09**	**6**	P		**P**	**22 04 39.4**	**-1.5**
	comp=Z,1.3nm,0.8s,baz=196,slow=15,SNR=2.4							
KLR					PcP	**PcP**	**22 08 41.9**	**+0.6**
	comp=Z,0.8nm,0.5s,baz=105,slow=10,SNR=2.6							
	comp=Z,1.3nm,0.8s							
KLR	**Kul'dur**	**21.09**	**6**	*i* P		**P**	**22 04 42.2**	**+1.3**
CD2	**Chengdu**	**21.43**	**283**	P		**P**	**22 04 43.6**	**-1.2**
CD2					pmax	pmax		
	comp=Z,20nm,0.9s							
LZH	**Lanzhou**	**22.02**	**297**	⇑P		**P**	**22 04 51.5**	**+0.4**
LZH					pmax	pmax		
	comp=Z,18nm,1.4s							
PZH	**PanZhiHua**	**23.57**	**272**	P		**P**	**22 05 05.3**	**-0.5**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.9s							
PZH					pmax	pmax		
	comp=Z,100nm,4.7s							
ULN	**Ulaanbaatar**	**25.54**	**326**	P		**P**	**22 05 23.9**	**+0.4**
ULN					lAmb	lAmb	22 05 26.3	
	comp=Z,22nm,1.5s							
ULN	**Ulaanbaatar**	**25.54**	**326**	*i* P		**P**	**22 05 24.1**	**+0.6**
ULN					pmax	pmax		
	comp=Z,16nm,1.4s							
SONM	**Songino Array**	**25.85**	**325**	P		**P**	**22 05 26.6**	**+0.4**
SONM					lAmb	lAmb	22 05 29.9	
	comp=Z,9.5nm,1.1s							
SONM	**Songino Array**	**25.85**	**325**	P		**P**	**22 05 26.0**	**-0.2**
	comp=Z,3.7nm,0.5s,baz=137,slow=11,SNR=32							
SONM					pP	**pP**	**22 05 56.6**	**+0.8**
	comp=Z,1.9nm,0.8s,baz=141,slow=9.6,SNR=2.4							
SONM					PcP	**PcP**	**22 08 52.6**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=145,slow=3.1,SNR=7.5							
SONM					ScP	**ScP**	**22 12 15.4**	**-2.5**
	comp=Z,0.2nm,0.3s,baz=135,slow=2.6,SNR=3.7							
	comp=Z,3.7nm,0.5s							
SONM	**Songino Array**	**25.85**	**325**	P		**P**	**22 05 26.6**	**+0.4**
SONM					pmax	pmax		
	comp=Z,9.0nm,1.1s							
GTA	**Gaotai**	**25.98**	**303**	P		**P**	**22 05 26.9**	**-0.5**
GTA					pmax	pmax		
	comp=Z,10.0nm,1.0s							
GOMU	**GeErMu**	**29.24**	**294**	P		**P**	**22 05 57.0**	**+0.2**
GOMU					pmax	pmax		
	comp=Z,8.0nm,0.7s							
FAKI	**Fak Fak**	**31.27**	**172**	P		**P**	**22 06 14.9**	**+0.5**
SHL	**Shillong**	**32.45**	**274**	P		**P**	**22 06 24.9**	**+0.1**
SHL					lAmb	lAmb	22 06 26.6	
	comp=Z,6.5nm,0.5s							
SHL	**Shillong**	**32.45**	**274**	P		**P**	**22 06 25.0**	**+0.1**
SHL					pmax	pmax		
	comp=Z,7.0nm,0.5s							
PETK	**Petropavlovsk-**	**32.97**	**33**	P		**P**	**22 06 28.3**	**-0.6**
PETK	**Petropavlovsk-**	**32.97**	**33**	P		**P**	**22 06 28.3**	**-0.6**
YAK	**Yakutsk**	**33.76**	**1**	*i* P		**P**	**22 06 37.5**	**+1.9**
YAK					pmax	pmax		
	comp=Z,4.0nm,0.6s							
WMQ	**Urumqi**	**35.86**	**307**	*eP*		**P**	**22 06 56.6**	**+2.5**
WMQ					pmax	pmax		
	comp=Z,9.0nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**36.21**	**95**	T		T	22 45 07.1	
	baz=290,slow=75,SNR=5.2							
H11N1	**WAKE ISLAND Hy**	**36.21**	**95**	T		T	22 45 08.9	
	baz=290,slow=75,SNR=3.8							
H11N3	**WAKE ISLAND Hy**	**36.23**	**95**	T		T	22 45 05.5	
	baz=290,slow=75,SNR=6.1							
GSI	**Gunungsitoli**	**39.72**	**233**	P		**P**	**22 07 27.4**	**+0.7**
GSI					lAmb	lAmb	22 07 37.8	
	comp=Z,15nm,1.3s							
MK31	**Makanchi Array**	**40.19**	**310**	P		**P**	**22 07 30.1**	**-0.2**
MK31	**Makanchi Array**	**40.19**	**310**	*ceP*		**P**	**22 07 31.4**	**+1.2**
MKAR	**Makanchi Array**	**40.19**	**310**	P		**P**	**22 07 30.2**	**0.0**
MKAR	**Makanchi Array**	**40.19**	**310**	P		**P**	**22 07 29.2**	**-1.0**
	comp=Z,0.8nm,0.3s,baz=93,slow=9.4,SNR=30							
MKAR					pP	**pP**	**22 08 02.7**	**+1.4**
	comp=Z,2.6nm,0.8s,baz=100,slow=10,SNR=7.0							
MKAR					PcP	**PcP**	**22 09 30.6**	**-0.9**
	comp=Z,2.1nm,0.7s,baz=75,slow=3.6,SNR=13							
	comp=Z,0.8nm,0.3s							
MKAR	**Makanchi Array**	**40.19**	**310**	*i* P		**P**	**22 07 30.7**	**+0.5**
MKAR					pmax	pmax		
	comp=Z,1.0nm,0.3s							
MAKZ	**Makanchi**	**40.41**	**310**	P		**P**	**22 07 31.0**	**-1.0**
MAKZ	**Makanchi**	**40.41**	**310**	P		**P**	**22 07 31.0**	**-1.0**
MAKZ					pmax	pmax		
	comp=Z,1.0nm,0.5s							
ZAA0	**Zalesovo Array**	**40.63**	**321**	P		**P**	**22 07 31.9**	**-1.8**
ZALV	**Zalesovo Beam**	**40.63**	**321**	P		**P**	**22 07 32.4**	**-1.3**
ZALV	**Zalesovo Beam**	**40.63**	**321**	P		**P**	**22 07 31.6**	**-2.0**
	comp=Z,2.4nm,0.5s,baz=100,slow=8.6,SNR=11							
ZALV					pP	**pP**	**22 08 06.5**	**+1.7**
	comp=Z,4.5nm,0.9s,baz=111,slow=8.1,SNR=5.7							
ZALV					PcP	**PcP**	**22 09 31.9**	**-0.9**
	comp=Z,1.7nm,0.4s,baz=108,slow=3.3,SNR=7.3							
ZALV					ScP	**ScP**	**22 13 08.9**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=131,slow=4.5,SNR=3.5							
	comp=Z,2.4nm,0.5s							
ZALV	**Zalesovo Beam**	**40.63**	**321**	*i* P		**P**	**22 07 32.5**	**-1.2**
ZALV					pmax	pmax		
	comp=Z,2.0nm,0.4s							
MTN	**Manton Dam**	**40.98**	**176**	P		**P**	**22 07 37.2**	**+0.3**
KURK	**Kurchatov**	**43.35**	**315**	P		**P**	**22 07 55.1**	**-0.7**
KURK	**Kurchatov**	**43.35**	**315**	*ceP*		**P**	**22 07 56.7**	**+0.9**
KURK					pmax	pmax		
	comp=Z,5.0nm,1.7s							
KURBB	**Kurchatov Arra**	**43.39**	**315**	P		**P**	**22 07 54.4**	**-1.6**
	comp=Z,1.8nm,0.4s,baz=102,slow=8.7,SNR=11							
KURBB					pP	**pP**	**22 08 28.1**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=104,slow=8.8,SNR=3.2							
KURBB					PcP	**PP**	**22 09 40.6**	**+0.9**
	comp=Z,2.5nm,0.8s,baz=107,slow=3.7,SNR=9.6							
	comp=Z,1.8nm,0.4s							
TIXI	**Tiksi**	**43.41**	**0**	P		**P**	**22 07 54.6**	**-1.3**
TIXI	**Tiksi**	**43.41**	**0**	P		**P**	**22 07 54.6**	**-1.3**
TIXI					pmax	pmax		
	comp=Z,3.0nm,1.4s							
BILL	**Bilibino**	**45.73**	**19**	*i* P		**P**	**22 08 16.2**	**+1.8**
FITZ	**Fitzroy Crossi**	**46.18**	**183**	P		**P**	**22 08 19.4**	**+1.0**
WB0	**Warramunga Arr**	**48.14**	**172**	P		**P**	**22 08 34.5**	**+0.9**
WB0					lAmb	lAmb	22 08 55.8	
	comp=Z,7.5nm,1.1s							
KK31	**Karatay Array**	**48.25**	**304**	P		**P**	**22 08 34.1**	**-0.2**
KK31					PcP	**PcP**	**22 09 59.4**	**+0.1**
KKAR	**Karatay Array**	**48.25**	**304**	P		**P**	**22 08 34.3**	**0.0**
KKAR					PcP	**PcP**	**22 09 59.3**	**+0.1**
KKAR	**Karatay Array**	**48.25**	**304**	P		**P**	**22 08 34.3**	**0.0**
WRA	**Warramunga Arr**	**48.31**	**172**	P		**P**	**22 08 35.3**	**+0.4**
WRA	**Warramunga Arr**	**48.31**	**172**	P		**P**	**22 08 34.2**	**-0.7**
	comp=Z,3.4nm,0.7s,baz=353,slow=8.3,SNR=20							
WRA					pP	**pP**	**22 09 07.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=353,slow=8.5,SNR=4.9							
	comp=Z,3.4nm,0.7s							
WRA	**Warramunga Arr**	**48.31**	**172**	*i* P		**P**	**22 08 35.7**	**+0.8**
WRA					pmax	pmax		
	comp=Z,4.0nm,0.6s							
BVAR	**Borovoye Array**	**48.76**	**317**	P		**P**	**22 08 36.8**	**-1.3**
	comp=Z,2.6nm,0.6s,baz=91,slow=8.6,SNR=15							
BVAR					pP	**pP**	**22 09 12.0**	**+1.8**
	comp=Z,3.2nm,0.7s,baz=93,slow=9.5,SNR=6.2							
BVAR					PcP	**PcP**	**22 10 00.5**	**-0.3**
	comp=Z,4.9nm,0.5s,baz=107,slow=3.0,SNR=18							
	comp=Z,2.6nm,0.6s							
BRVK	**Borovoye**	**48.83**	**317**	P		**P**	**22 08 38.0**	**-0.6**
BRVK					PcP	**PcP**	**22 10 01.1**	**0.0**
BRVK	**Borovoye**	**48.83**	**317**	*ceP*		**P**	**22 08 40.0**	**+1.4**
BRVK					pmax	pmax		
	comp=Z,4.0nm,1.0s							
KBL	**Kabul**	**50.28**	**293**	P		**P**	**22 08 50.2**	**0.0**
KBL	**Kabul**	**50.28**	**293**	P		**P**	**22 08 50.2**	**0.0**
KBL					pmax	pmax		
	comp=Z,4.0nm,0.9s							
SPIA	**Saint Paul Isl**	**51.36**	**38**	P		**P**	**22 08 57.0**	**-0.6**
	baz=263							
ASAR	**Alice Springs**	**51.94**	**173**	P		**P**	**22 09 01.6**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=0.5,slow=14,SNR=9.6							
ASAR					pP	**pP**	**22 09 35.9**	**+1.1**
	comp=Z,0.9nm,0.6s,baz=4.9,slow=13,SNR=4.4							
	comp=Z,1.1nm,0.8s							
UNV	**Unalaska Valle**	**53.24**	**42**	P		**P**	**22 09 11.0**	**-0.5**
	baz=269							
TNA	**Tin City**	**53.81**	**28**	P		**P**	**22 09 15.2**	**-0.3**

A19K	**Wainwright**	57.15	23	P		P		22 09 39.6	+0.4
	baz=262								
S14K	**Fog Glacier**	57.21	39	P		P		22 09 39.2	-0.9
	baz=273								
CHNA	**Chernabura Isl**	57.27	41	P		P		22 09 39.2	-1.1
	baz=274								
F18K	**Selawik**	57.29	27	P		P		22 09 39.1	-1.2
	baz=266,SNR=5.3								
J17K	**VABM Dome**	57.38	31	P		P		22 09 41.0	0.0
	baz=269,SNR=15								
M16K	**Timber Creek**	57.41	34	P		P		22 09 41.4	+0.1
	baz=270								
N16K	**Nishlik Lake**	57.51	34	P		P		22 09 42.1	+0.1
	baz=271								
C19K	**Lookout Ridge**	57.53	24	P		P		22 09 42.0	-0.1
	baz=264								
G18K	**Tagagawik**	57.66	28	P		P		22 09 42.3	-0.6
	baz=267,SNR=10								
K17K	**Iditarod**	57.72	32	P		P		22 09 44.5	+1.1
K17K				lAmb		lAmb		22 09 45.0	
	comp=Z,8.4nm,0.7s								
K17K	**Iditarod**	57.72	32	P		P		22 09 43.4	-0.1
	baz=270,SNR=5.8								
L17K	**Donlin**	57.72	32	P		P		22 09 43.0	-0.4
	baz=270,SNR=5.9								
H18K	**Honhosa River**	57.75	29	P		P		22 09 43.3	-0.3
	baz=268,SNR=5.3								
CHGN	**Chignik**	57.85	39	P		P		22 09 43.0	-1.3
	baz=274								
O16K	**Kokwok River B**	57.86	35	P		P		22 09 44.2	-0.2
	baz=272								
P16K	**Nushagak River**	57.94	36	P		P		22 09 44.3	-0.6
	baz=272								
D19K	**Kuna River**	58.02	25	P		P		22 09 45.2	-0.2
D19K				lAmb		lAmb		22 09 50.8	
	comp=Z,11nm,1.4s								
D19K	**Kuna River**	58.02	25	P		P		22 09 44.7	-0.7
	baz=266								
F19K	**Shaleruckik Mo**	58.05	27	P		P		22 09 44.3	-1.4
	baz=268								
M17K	**Holitna River**	58.14	33	P		P		22 09 45.8	-0.5
	baz=271								
R16K	**Pilot Point**	58.23	38	P		P		22 09 46.2	-0.8
	baz=274								
N17K	**Nushagak Hills**	58.29	34	P		P		22 09 46.4	-1.0
	baz=272								
E19K	**Redstone River**	58.29	26	P		P		22 09 47.2	-0.2
	baz=268,SNR=6.2								
G19K	**Purcell Mounta**	58.30	27	P		P		22 09 46.9	-0.5
	baz=269								
O17K	**Koliganek Bris**	58.36	35	P		P		22 09 46.7	-1.2
	baz=273								
GCSA	**Galena City Sc**	58.37	29	P		P		22 09 47.5	-0.3
	baz=270								
J18K	**Innoko River**	58.44	31	P		P		22 09 48.0	-0.4
	baz=271								
B20K	**Meade River**	58.46	23	P		P		22 09 47.3	-1.1
	baz=266								
L18K	**Granite Mounta**	58.48	32	P		P		22 09 49.8	+1.1
L18K				lAmb		lAmb		22 09 50.7	
	comp=Z,7.3nm,0.7s								
L18K	**Granite Mounta**	58.48	32	P		P		22 09 47.8	-0.9
	baz=271,SNR=6.2								
H19K	**Roundabout Mou**	58.56	28	P		P		22 09 49.8	+0.7
H19K	**Roundabout Mou**	58.56	28	P		P		22 09 49.1	0.0
	baz=270,SNR=18								
D20K	**Etivluk River**	58.58	24	P		P		22 09 49.3	-0.1
	baz=268								
Q16K	**King Salmon**	58.65	36	P		P		22 09 49.8	-0.1
	baz=274								
E20K	**Nigu River**	58.72	25	P		P		22 09 50.4	+0.1
	baz=268,SNR=10								
F20K	**Avaraart Lake**	58.87	26	P		P		22 09 51.1	-0.1
	baz=269								
M18K	**Stony River**	58.91	33	P		P		22 09 51.5	-0.2
	baz=273								
N18K	**Kilae Creek**	58.92	34	P		P		22 09 51.7	-0.1
	baz=273								
J19K	**Poorman**	58.92	30	P		P		22 09 51.0	-0.8
	baz=271,SNR=16								
Q17K	**Contact Creek**	59.08	37	P		P		22 09 52.4	-0.6
	baz=274								
H20K	**Anotleneega Mo**	59.21	28	P		P		22 09 53.5	-0.2
	baz=271,SNR=8.6								
A22K	**Sinclair Lake**	59.24	22	P		P		22 09 52.9	-0.9
	baz=268								
C21K	**Knifeblade Rid**	59.25	24	P		P		22 09 53.0	-0.9
	baz=269								
O18K	**Koktuh Hills**	59.31	35	P		P		22 09 54.0	-0.5
	baz=274								
B21K	**Ikpikpuk River**	59.32	23	P		P		22 09 53.8	-0.5
	baz=269								
P18K	**Big Mountain,**	59.33	35	P		P		22 09 54.5	-0.2
	baz=274								
L19K	**White Mountain**	59.34	32	P		P		22 09 54.6	0.0
	baz=273,SNR=8.0								
I20K	**Naaghedeneel**	59.40	29	P		P		22 09 55.0	+0.1
	baz=272								
CHIR	**Chirikof Islan**	59.45	40	P		P		22 09 55.5	+0.1
E21K	**Killik River**	59.54	25	P		P		22 09 56.1	+0.2
	baz=270,SNR=11								
J20K	**Nowinta River**	59.56	30	P		P		22 09 56.5	+0.4
	baz=272,SNR=14								
M19K	**Big River Lodg**	59.57	32	P		P		22 09 56.6	+0.3
	baz=274								
N19K	**Bonanza Creek**	59.60	34	P		P		22 09 56.6	0.0
	baz=274								
K20K	**Telida**	59.64	31	P		P		22 09 57.0	+0.3
	baz=273,SNR=15								
O19K	**Port Alsworth**	59.73	34	P		P		22 09 58.1	+0.8
	baz=275								
F21K	**Alatna River**	59.74	26	P		P		22 09 57.0	-0.3
	baz=271,SNR=10								
B22K	**Teshekpuk Lake**	59.74	23	P		P		22 09 57.4	+0.1
	baz=270								
G21K	**Allakaket**	59.75	27	P		P		22 09 57.7	+0.3
	baz=272,SNR=14								
L20K	**Farewell, AK**	59.77	32	P		P		22 09 57.4	-0.3
	baz=274,SNR=5.9								
D22K	**Ayikyak River**	60.01	24	P		P		22 09 59.0	-0.2
	baz=271,SNR=8.1								
H21K	**Melozitna Rive**	60.07	28	P		P		22 09 59.5	-0.1
	baz=273,SNR=15								
SII	**Sitkinak Islan**	60.16	39	P		P		22 10 00.7	+0.3
SII	**Sitkinak Islan**	60.16	39	P		P		22 10 00.1	-0.3
	baz=277								
M20K	**Styx River**	60.17	32	P		P		22 10 00.5	+0.1
	baz=275								
Q19K	**Cape Douglas,**	60.19	36	P		P		22 10 00.2	-0.3
	baz=276								
F22K	**John River**	60.24	26	P		P		22 10 01.1	+0.4
	baz=272,SNR=20								
CHUM	**Lake Minchumin**	60.39	30	P		P		22 10 02.0	+0.3
	baz=274,SNR=14								
I21K	**Tanana**	60.44	29	P		P		22 10 01.9	-0.2
	baz=274								
PPLA	**Purkeypile**	60.52	31	P		P		22 10 02.9	+0.1
	baz=275,SNR=8.8								
CAST	**Castle Rocks**	60.52	31	P		P		22 10 03.5	+0.8
CAST	**Castle Rocks**	60.52	31	P		P		22 10 03.1	+0.3
	baz=275,SNR=18								
G22K	**Bettles**	60.53	27	P		P		22 10 02.4	-0.3
	baz=273								
OHAK	**Old Harbor**	60.57	38	P		P		22 10 03.4	+0.4
	baz=277								
O20K	**Slope Mountain**	60.58	34	P		P		22 10 03.9	+0.7
	baz=276								
H22K	**Ishtalitna Cre**	60.64	28	P		P		22 10 04.4	+0.9
	baz=274,SNR=21								
C23K	**Itkillik River**	60.71	23	P		P		22 10 04.0	+0.1
	baz=272								
D23K	**Nanushuk River**	60.73	24	P		P		22 10 04.2	+0.2
	baz=273,SNR=5.5								
Q20K	**Shuyak Island**	60.87	36	P		P		22 10 04.6	-0.5
	baz=277								
KDAK	**Kodiak Island**	60.88	37	P		P		22 10 05.3	+0.2
KDAK	**Kodiak Island**	60.88	37	P		P		22 10 05.1	0.0
	baz=278								
KDAK	**Kodiak Island**	60.88	37	P		P		22 10 05.3	+0.2
KDAK				pmax		pmax			
	comp=Z,41nm,1.2s								
SKT	**Skwentna**	60.91	32	P		P		22 10 05.3	0.0
SKT				lAmb		lAmb		22 10 06.2	
	comp=Z,5.6nm,0.8s								
SKT	**Skwentna**	60.91	32	P		P		22 10 05.2	-0.1
	baz=276								
BPAW	**Bear Paw Mtn.**	60.95	30	P		P		22 10 06.2	+0.6
BPAW				lAmb		lAmb		22 10 07.2	
	comp=Z,7.1nm,0.7s								
BPAW	**Bear Paw Mtn.**	60.95	30	P		P		22 10 05.8	+0.2
	baz=275,SNR=12								
MLY	**Manley**	60.98	29	P		P		22 10 06.4	+0.6
MLY	**Manley**	60.98	29	P		P		22 10 06.3	+0.5
	baz=275,SNR=6.8								
COLD	**Coldfoot**	61.02	26	P		P		22 10 06.3	+0.4
	baz=274								
KTH	**Kantishna Hill**	61.03	30	P		P		22 10 06.8	+0.6
KTH				lAmb		lAmb		22 10 07.8	
	comp=Z,12nm,1.2s								
HOM	**Homer**	61.12	35	P		P		22 10 06.5	-0.2
	baz=277								
G23K	**Bananza Creek**	61.13	27	P		P		22 10 06.9	+0.1
	baz=275,SNR=6.2								
TOLK	**Toolik Lake Re**	61.15	24	P		P		22 10 07.0	+0.1
	baz=274,SNR=5.6								
CAPN	**Captain Cook N**	61.23	34	P		P		22 10 07.5	0.0
	baz=277								
TRF	**Thorofare Moun**	61.33	30	P		P		22 10 08.5	+0.1
	baz=276								
D24K	**Happy Valley**	61.38	24	P		P		22 10 08.6	+0.2
	baz=274,SNR=7.4								
C24K	**Franklin Bluff**	61.38	23	P		P		22 10 08.9	+0.6
	baz=274								
H23K	**Yukon River**	61.40	28	P		P		22 10 09.1	+0.5
	baz=276,SNR=25								
CUT	**Chulitna**	61.45	32	P		P		22 10 09.2	+0.3
	baz=277								
I23K	**Minto, Yukon-K**	61.55	28	P		P		22 10 09.8	+0.3
	baz=276,SNR=6.7								
BRSE	**Bradley Lake S**	61.57	35	P		P		22 10 09.9	+0.1
	baz=278								
E24K	**Your Creek**	61.60	25	P		P		22 10 10.6	+0.6
E24K				lAmb		lAmb		22 10 11.6	
	comp=Z,6.2nm,0.7s								
E24K	**Your Creek**	61.60	25	P		P		22 10 10.3	+0.3
	baz=275,SNR=13								
M22K	**Willow**	61.60	32	P		P		22 10 10.3	+0.4
	baz=277								
NEA2	**Nenana**	61.73	29	P		P		22 10 10.9	+0.1
	baz=277,SNR=19								
RC01	**Rabbit Creek A**	61.88	33	P		P		22 10 11.5	-0.4
	baz=278								
F24K	**Squaw Lake**	61.88	26	P		P		22 10 11.8	0.0
	baz=276,SNR=15								
MCK	**McKinley**	61.89	30	P		P		22 10 11.9	0.0
	baz=277,SNR=7.5								
MDM	**Murphy Dome**	62.04	29	P		P		22 10 13.7	+0.8
H24K	**Noodor Dome**	62.08	28	P		P		22 10 13.8	+0.6
	baz=277,SNR=10								
G24K	**Hadweenzic Riv**	62.14	27	P		P		22 10 14.2	+0.7
	baz=277,SNR=9.6								
SEW	**Seward**	62.16	34	P		P		22 10 13.9	+0.3
	baz=279								
WAT1	**Susitna Watana**	62.19	31	P		P		22 10 13.6	-0.3
	baz=278								
COLA	**College**	62.21	29	P		P		22 10 14.4	+0.4
	baz=278								
D25K	**Kavik River**	62.24	24	P		P		22 10 14.1	-0.1
	baz=277,SNR=6.9								
CCB	**Clear Creek Bu**	62.26	29	P		P		22 10 14.5	+0.2
CCB				lAmb		lAmb		22 10 15.3	
	comp=Z,6.7nm,0.7s								
POKR	**Poker Plat Res**	62.36	28	P		P		22 10 15.6	+0.6
	baz=278								
KNK	**Knik Glacier**	62.44	33	P		P		22 10 15.6	-0.1
	baz=279								
SML	**Sawmill**	62.44	32	P		P		22 10 16.0	+0.4
	baz=279								
WAT6	**Susitna Watana**	62.59	31	P		P		22 10 16.5	-0.3
	baz=279,SNR=8.1								
ILAR	**Eielson Array**	62.64	29	P		P		22 10 16.3	-0.5
ILAR	**Eielson Array**	62.64	29	P		P		22 10 15.1	-1.7
	comp=Z,8.8nm,0.7s,baz=260,slow=4.8,SNR=30								
	comp=Z,2.8nm,0.7s								
ILAR	**Eielson Array**	62.64	29	P		P		22 10 16.3	-0.5
HDA	**Harding Lake**	62.66	29	P		P		22 10 15.9	-1.1
	baz=279,SNR=16								
G25K	**Bearman Lake**	62.67	26	P		P		22 10 17.0	+0.1
	baz=278,SNR=7.8								
C26K	**Camden Bay**	62.67	23	P		P		22 10 17.4	+0.4
	baz=278								
DHY	**Dalton Highway**	62.68	31	P		P		22 10 16.7	-0.7
	baz=279,SNR=6.4								
E25K	**Arctic Village**	62.68	25	P		P		22 10 16.8	-0.3
	baz=278								
F25K	**Christian Rive**	62.73	25	P		P		22 10 18.3	+0.9
	baz=278,SNR=12								
H25L	**Birch Creek**	62.85	27	P		P		22 10 19.2	+1.0
	baz=279,SNR=9.0								
SCM	**Sheep Creek Mo**	62.90	32	P		P		22 10 18.9	+0.2
SCM	**Sheep Creek Mo**	62.90	32	P		P		22 10 19.2	+0.4
	baz=280,SNR=5.9								
SCM	**Sheep Creek Mo**	62.90	32	P		P		22 10 19.0	+0.2
SCM				pmax		pmax			
	comp=Z,34nm,1.4s								
PRP	**Porcupine Dome**	63.09	28	P		P		22 10 20.4	+0.4
	baz=279,SNR=6.7								
C27K	**Jago River**	63.13	23	P		P		22 10 20.4	+0.4
	baz=279,SNR=5.8								
BMAR	**Burnt Mountain**	63.16	26	P		P		22 10 21.4	+1.1
GLI	**Glacier Island**	63.18	33	P		P		22 10 20.3	-0.1
	baz=280								
P23K	**Montague Islan**	63.19	34	P		P		22 10 20.5	0.0
	baz=281								
K24K	**Donnelly Dome**	63.27	30	P		P		22 10 21.1	+0.1
	baz=280								
F26K	**Sheenjek River**	63.28	25	P		P		22 10 21.7	+0.7
	baz=280,SNR=16								
J25K	**Salcha River,**	63.31	29	P		P		22 10 21.5	+0.1
	baz=280								
M24K	**Tolsona, Glenn**	63.39	32	P		P		22 10 22.3	+0.4
	baz=280								
G26K	**Porcupine Rive**	63.54	26	P		P		22 10 22.9	+0.2
	baz=280,SNR=7.2								
PAX	**Paxson**	63.56	31	P		P		22 10 23.0	0.0
	baz=281,SNR=7.9								
KLU	**Klutina**	63.62	32	P		P		22 10 23.6	+0.1
	baz=281								
HARP	**HAARP**	63.81	31	P		P		22 10 25.1	+0.5
	baz=281								
Q23K	**Middleton Isla**	63.82	35	P		P		22 10 24.4	-0.3
	baz=282								
EYAK	**Cordova Ski Ar**	63.89	33	P		P		22 10 24.7	-0.5
	baz=282								
SCRK	**Sand Creek**	64.02	29	P		P		22 10 26.1	0.0
	baz=281,SNR=15								
J26L	**Joseph Creek**	64.09	29	P		P		22 10 26.2	-0.3
	baz=282,SNR=20								
I26K	**Coal Creek Min**	64.10	28	P		P		22 10 25.9	-0.6
	baz=282								
E27K	**Coleen River**	64.14	25	P		P		22 10 27.0	+0.3
	baz=282,SNR=6.6								
D27M	**Malcolm River**	64.15	23	P		P		22 10 27.3	+0.5
	baz=282								
N25K	**Chitina, Valde**	64.22	32	P		P		22 10 27.5	+0.1
	baz=282								
BMRM	**Bremner River**	64.36	33	P		P		22 10 28.4	+0.1
	baz=282,SNR=9.7								
G27K	**Doyon Strip**	64.39	26	P		P		22 10 29.1	+0.8
	baz=282,SNR=6.7								
L26K	**Log Cabin Wild**	64.49	30	P		P		22 10 29.7	+0.6
	baz=282								
H27K	**Steamboat Moun**	64.57	27	P		P		22 10 30.1	+0.5
	baz=282,SNR=7.6								
I27K	**Kandik River**	64.67	27	P		P		22 10 30.1	-0.1
	baz=283,SNR=16								
KAIM	**Kayak Island**	64.67	34	P		P		22 10 30.3	+0.1
	baz=283								
M26K	**Nabesna, AK**	64.79	31	P		P		22 10 31.4	+0.3
	baz=283,SNR=24								
E28M	**Babbage River**	64.79	24	P		P		22 10 31.4	+0.5
	baz=283,SNR=5.1								
K27K	**Chicken**	64.83	29	P		P		22 10 31.5	+0.3
	baz=283								
VRDI	**Verde Repeater**	64.84	32	P		P		22 10 31.9	+0.3
F28M	**Old Crow**	64.90	25	P		P		22 10 32.5	+0.9
	baz=283,SNR=7.7								
D28M	**Stokes Point**	64.91	23	P		P		22 10 31.5	0.0
	baz=284								
MCARA	**McCarthy VSAT**	65.01	32	P		P		22 10 33.1	+0.7
MCARA	**McCarthy VSAT**	65.01	32	P		P		22 10 32.7	+0.3
	baz=284,SNR=9.4								
L27K	**Beaver Creek,**	65.16	30	P		P		22 10 33.8	+0.4
	baz=284,SNR=12								
BCAR	**Beaver Creek A**	65.18	30	P		P		22 10 34.4	+0.8
M27K	**Edge Creek, AK**	65.31	31	P		P		22 10 34.6	+0.1
	baz=284,SNR=13								
I28M	**Miner Creek**	65.39	27	P		P		22 10 35.5	+0.5
	baz=284,SNR=11								
E29M	**Blow River**	65.43	24	P		P		22 10 35.8	+0.8
E29M	**Blow River**	65.43	24	P		P		22 10 35.8	+0.8
	baz=285								
ISLE	**Juniper Island**	65.52	33	P		P		22 10 36.2	+0.3
G29M	**Pine Creek**	65.77	26	P		P		22 10 38.2	+1.0
	baz=285,SNR=9.2								
H29M	**Whitestone**	65.81	26	P		P		22 10 38.2	+0.7
	baz=285,SNR=5.9								
CTG	**Chitna Glacier**	65.90	32	P		P		22 10 37.7	-0.7
	baz=285,SNR=9.8								
CTGM	**Chitina Glacie**	65.91	32	P		P		22 10 38.8	+0.4
CTGM				lAmb		lAmb		22 10 40.4	
	comp=Z,9.1nm,0.7s								
DAWY	**Dawson**	65.97	29	P		P		22 10 38.9	+0.4
	baz=285								
I29M	**Ogilvie Camp,**	66.07	27	P		P		22 10 39.7	+0.5
	baz=286								
YUK3	**Moose Creek**	66.10	31	P		P		22 10 39.7	0.0
	baz=285,SNR=8.5								
J29N	**Klondike Camp**	66.35	28	P		P		22 10 41.5	+0.4
	baz=286								
F30M	**Barrier River**	66.41	25	P		P		22 10 41.8	+0.6
	baz=287,SNR=9.7								
EPYK	**Eagle Plains**	66.42	26	P		P		22 10 41.8	+0.4
EPYK	**Eagle Plains**	66.42	26	P		P		22 10 41.0	-0.4
	baz=287,SNR=18								
G30M	**tAoh Zraii Nji**	66.43	25	P		P		22 10 41.1	-0.4
	baz=287,SNR=12								
O28M	**Mount Upton**	66.50	32	P		P		22 10 42.4	0.0
	baz=286,SNR=6.8								
YUK8	**Steele Glacier**	66.55	32	P		P		22 10 42.8	+0.2
	baz=286								
L29M	**L29M**	66.77	30	P		P		22 10 43.3	-0.5
	baz=287,SNR=14								
M29M	**Somme Creek**	66.82	30	P		P		22 10 44.5	+0.4
	baz=287,SNR=12								
K29M	**Barlow Dome**	66.82	29	P		P		22 10 44.6	+0.5
	baz=287,SNR=10								
SPITS	**Spitsbergen Ar**	66.82	348	P		P		22 10 41.7	-2.1
	comp=Z,3.8nm,0.7s,baz=84,slow=9.3,SNR=5.8								
	comp=Z,3.8nm,0.7s								
I30M	**Mount Dempster**	66.89	27	P		P		22 10 44.7	+0.1
	baz=287,SNR=16								
INK	**Inuvik**	67.01	24	P		P		22 10 45.2	+0.2
	baz=289								
YUK4	**Talbot Arm**	67.05	32	P		P		22 10 46.2	+0.5
	baz=287,SNR=10								
J30M	**Hart River**	67.10	28	P		P		22 10 45.9	0.0
	baz=288,SNR=10								
G31M	**Satah River**	67.18	25	P		P		22 10 46.1	0.0
	baz=288								
PNL	**Peninsula**	67.19	33	P		P		22 10 46.9	+0.5
	baz=287								
F31M	**Tsiigehtchic**	67.21	24	P		P		22 10 46.9	+0.6
	baz=289								
YUK6	**Outpost Mounta**	67.31	32	P		P		22 10 47.9	+0.5
	baz=288,SNR=9.3								
H31M	**Peel River**	67.51	26	P		P		22 10 48.3	0.0
	baz=289,SNR=14								
M30M	**Minto, Yukon**	67.52	30	P		P		22 10 48.8	+0.3
	baz=288								
N30M	**Aishikik Lake**	67.73	31	P		P		22 10 50.1	+0.3
	baz=288								
HYT	**Haines Junctio**	67.74	32	P		P		22 10 51.1	+1.2
HYT				lAmb		lAmb		22 10 52.0	
	comp=Z,7.5nm,0.7s								
HYT	**Haines Junctio**	67.74	32	P		P		22 10 51.0	+1.0
	baz=288,SNR=7.9								
KBZ	**Khabaz**	67.87	309	LR		LR		22 43 03.0	
	comp=Z,550nm,21.6s,baz=254,slow=38								
KBZ	**Khabaz**	67.87	309	*i* P				22 10 51.0	+0.1
KBZ				pmax		pmax			
	comp=Z,1.0nm,0.8s								
KIV	**Kislovodsk**	67.94	309	*i* P		P		22 10 50.3	-1.2
KIV				*i*				22 11 18.9	
KIV				*i*				22 11 26.6	
KIV				pmax		pmax			
	comp=Z,15nm,3.7s								
P29M	**Windy Craggy**	68.01	33	P		P		22 10 52.8	+1.2
	baz=288,SNR=6.0								
SHA1	**Shidzhatmaz**	68.03	309	*i* P		P		22 10 52.5	+0.3
ARCES	**ARCESS Array B**	68.10	338	P		P		22 10 51.0	-0.9
	comp=Z,2.5nm,0.8s,baz=35,slow=4.4,SNR=3.8								
	comp=Z,2.5nm,0.8s								
ARCES	**ARCESS Array B**	68.10	338	P		P		22 10 51.0	-0.9
OBN	**Obninsk**	68.21	322	*i* P		P		22 10 49.4	-3.4
OBN				*i*				22 11 15.6	
OBN				pmax		pmax			
	comp=Z,4.0nm,0.9s								
P30M	**Million Dollar**	68.22	32	P		P		22 10 52.6	-0.3
	baz=289								
A36M	**Sachs Harbour**	68.29	19	P		P		22 10 53.2	+0.2
A36M				lAmb		lAmb		22 10 54.0	
	comp=Z,5.9nm,0.7s								
A36M	**Sachs Harbour**	68.29	19	P		P		22 10 53.5	+0.5
	baz=295,SNR=6.0								
N31M	**Braeburn, Yuko**	68.32	31	P		P		22 10 53.9	+0.4
	baz=289								
O30N	**Mendenhall**	68.42	32	P		P		22 10 54.2	+0.1
	baz=289								
M31M	**Drury Creek, Y**	68.70	30	P		P		22 10 55.9	+0.1
	baz=290,SNR=13								
PLBC	**Pleasant Camp**	68.72	33	P		P		22 10 56.3	+0.4
	baz=290								
WHY	**Whitehorse**	69.01	32	P		P		22 10 58.9	+1.0
WHY				lAmb		lAmb		22 10 59.8	
	comp=Z,7.0nm,0.6s								
WHY	**Whitehorse**	69.01	32	P		P		22 10 58.4	+0.6
	baz=290,SNR=10								
FARO	**Faro, Yukon**	69.14	30	P		P		22 10 58.8	+0.2
	baz=291,SNR=6.8								
SKAG	**Skagway**	69.22	33	P		P		22 10 59.5	+0.5
	baz=290								
S31K	**Pelican**	69.30	35	P		P		22 11 00.2	+0.8
	baz=290								
N32M	**Quiet Lake**	69.66	31	P		P		22 11 02.4	+0.6
	baz=292								

AKASG					pP		**pP**		**22 12 03.1**	**+0.9**
	comp=Z,1.4nm,0.8s,baz=51,slow=7.0,SNR=2.3									
	comp=Z,0.7nm,0.3s									
AKASG	**Malin Array Be**	**73.98**	**319**	*ce*	P		**P**		**22 11 27.2**	**-0.4**
AKASG					pmax		pmax			
	comp=Z,1.0nm,0.4s									
KIEV	**Kiev**	**73.99**	**319**		P		**P**		**22 11 27.2**	**-0.5**
KIEV	**Kiev**	**73.99**	**319**		P		**P**		**22 11 27.2**	**-0.5**
KIEV					pmax		pmax			
	comp=Z,4.0nm,1.2s									
KOTAN	**Kotaneelee Air**	**74.11**	**30**		P		**P**		**22 11 28.2**	**0.0**
	baz=299									
TOAD	**Toad River Com**	**74.20**	**31**		P		**P**		**22 11 29.3**	**+0.5**
	baz=299									
BRTR	**Keskin Array B**	**75.78**	**308**		P		**P**		**22 11 39.0**	**+0.5**
BRTR	**Keskin Array B**	**75.78**	**308**		P		**P**		**22 11 37.5**	**-1.0**
	comp=Z,0.7nm,0.6s,baz=115,slow=3.2,SNR=6.9									
BRTR					pP		**pP**		**22 12 13.2**	**0.0**
	comp=Z,0.5nm,0.6s,baz=91,slow=4.7,SNR=2.6									
	comp=Z,0.7nm,0.6s									
YKA	**Yellowknife Ar**	**76.67**	**25**		P		**P**		**22 11 42.5**	**-0.2**
	comp=Z,4.8nm,0.6s,baz=301,slow=5.9,SNR=79									
	comp=Z,4.8nm,0.6s									
HFS	**Hagfors**	**77.01**	**332**		P		**P**		**22 11 43.1**	**-1.6**
	comp=Z,0.8nm,0.5s,baz=70,slow=4.9,SNR=7.1									
	comp=Z,0.8nm,0.5s									
NC405	**NORSAR Array S**	**77.24**	**334**		P		**P**		**22 11 45.1**	**-0.9**
NC405					lAmb		lAmb		22 11 47.3	
	comp=Z,16nm,1.4s									
BUR08	**Bucovina Ar. S**	**77.71**	**318**		P		**P**		**22 11 48.4**	**-0.6**
BURAR	**Bucovina Array**	**77.72**	**318**		P		**P**		**22 11 48.3**	**-0.8**
CSS	**Mathiatis**	**78.05**	**303**		P		**P**		**22 11 50.5**	**-0.6**
SUMG	**Summit**	**78.99**	**356**		P		**P**		**22 11 55.5**	**-0.5**
SUMG	**Summit**	**78.99**	**356**		P		**P**		**22 11 55.5**	**-0.5**
SUMG					pmax		pmax			
	comp=Z,3.0nm,1.0s									
ELL	**Elmali**	**79.73**	**306**		P		**P**		**22 12 00.1**	**-0.2**
ELL					lAmb		lAmb		22 12 03.8	
	comp=Z,12nm,0.7s									
ELL	**Elmali**	**79.73**	**306**		P		**P**		**22 12 00.1**	**-0.2**
ELL					pmax		pmax			
	comp=Z,12nm,0.7s									
VYHS	**Vyhne**	**80.96**	**321**	*eP*			**P**		**22 12 08.2**	**+1.7**
VYHS	**Vyhne**	**80.96**	**321**	*eP*			**P**		**22 12 08.2**	**+1.7**
VYHS					pmax		pmax			
	comp=Z,5.0nm,1.4s									
MODS	**Modra-Piesok**	**81.89**	**321**	*eP*			**P**		**22 12 13.2**	**+1.8**
MODS	**Modra-Piesok**	**81.89**	**321**	*eP*			**P**		**22 12 13.2**	**+1.8**
MODS					pmax		pmax			
	comp=Z,6.0nm,0.8s									
CLL	**Collm**	**82.47**	**325**	*eP*			**P**		**22 12 15.0**	**+0.7**
DBO	**Dodson Butte**	**83.35**	**44**		P		**P**		**22 12 20.5**	**+1.3**
DBO					lAmb		lAmb		22 12 21.6	
	comp=Z,3.9nm,0.7s									
KHC	**Kasperske Hory**	**83.46**	**323**	*ce*	P		**P**		**22 12 18.7**	**-0.9**
KHC					pmax		pmax			
	comp=Z,13nm,2.5s									
GERES	**GERESS Array B**	**83.57**	**323**		P		**P**		**22 12 19.6**	**-0.6**
	comp=Z,0.6nm,0.6s,baz=35,slow=12,SNR=4.3									
	comp=Z,0.6nm,0.6s									
HUMO	**Hull Mountain**	**83.80**	**45**		P		**P**		**22 12 22.5**	**+1.1**
HUMO					lAmb		lAmb		22 12 24.4	
	comp=Z,3.0nm,0.7s									
NEW	**Newport**	**83.97**	**38**		P		**P**		**22 12 22.8**	**+0.6**
	baz=306									
L04D	**Klamath Falls**	**84.42**	**45**		P		**P**		**22 12 26.1**	**+1.4**
L04D					lAmb		lAmb		22 12 27.2	
	comp=Z,22nm,1.4s									
KBA	**Koelnbreinsper**	**84.81**	**321**	*i*	P		**P**		**22 12 27.4**	**+0.8**
	comp=Z,1.2nm,0.5s									
LESA	**Schwarzleotal**	**84.97**	**322**	*e*	PcP		**P**		**22 12 28.6**	**+1.3**
	comp=Z,4.8nm,1.0s									
K05A	**Summer Lake**	**85.00**	**44**		P		**P**		**22 12 29.0**	**+1.3**
K05A					lAmb		lAmb		22 12 30.0	
	comp=Z,4.8nm,0.8s									
ABTA	**Abfaltersbach**	**85.46**	**322**	*eP*			**P**		**22 12 28.1**	**-1.6**
	comp=Z,3.3nm,0.8s									
WTTA	**Wattenberg**	**85.63**	**322**	*e*	PcP		**P**		**22 12 31.8**	**+1.2**
	comp=Z,1.7nm,0.4s									
MOTA	**Moosalm**	**85.86**	**323**	*eP*			**P**		**22 12 32.3**	**+0.5**
	comp=Z,1.2nm,0.6s									
FCC	**Fort Churchill**	**86.42**	**21**		P		**P**		**22 12 33.6**	**-0.4**
FCC					lAmb		lAmb		22 12 34.6	
	comp=Z,8.3nm,0.7s									
FCC	**Fort Churchill**	**86.42**	**21**		P		**P**		**22 12 33.6**	**-0.4**
FCC					pmax		pmax			
	comp=Z,8.0nm,0.7s									
DAVA	**Damuels**	**86.55**	**323**	*eP*			**P**		**22 12 34.3**	**-0.8**
	comp=Z,1.2nm,0.6s									
MSO	**Missoula**	**86.56**	**37**		P		**P**		**22 12 36.0**	**+0.8**
	baz=309									
FFC	**Flin Flon**	**86.76**	**27**		P		**P**		**22 12 36.0**	**+0.2**
FFC	**Flin Flon**	**86.76**	**27**		P		**P**		**22 12 36.0**	**+0.2**
FFC					pmax		pmax			
	comp=Z,9.0nm,0.7s									
EKA	**Eskdalemuir Ar**	**86.92**	**335**		P		**P**		**22 12 34.4**	**-2.2**
	comp=Z,6.3nm,1.2s,baz=40,slow=4.1,SNR=6.5									
	comp=Z,6.3nm,1.2s									
MFID	**Camas Ranch**	**87.61**	**41**		P		**P**		**22 12 40.5**	**+0.2**
MFID					lAmb		lAmb		22 12 43.4	
	comp=Z,11nm,1.3s									
EGMT	**Eagleton**	**87.96**	**35**		P		**P**		**22 12 42.5**	**+0.7**
	baz=312									
HLID	**Hailey**	**88.33**	**40**		P		**P**		**22 12 44.9**	**+1.1**
HLID					lAmb		lAmb		22 12 46.6	
	comp=Z,7.2nm,1.0s									
HLID	**Hailey**	**88.33**	**40**		P		**P**		**22 12 44.1**	**+0.3**
	baz=309									
BOZ	**Bozeman (W)**	**88.58**	**37**		P		**P**		**22 12 45.7**	**+0.8**
	baz=310									
H17A	**Grant Village**	**89.93**	**38**		P		**P**		**22 12 52.4**	**+1.0**
	baz=311									
RLMT	**Red Lodge**	**90.15**	**37**		P		**P**		**22 12 53.0**	**+0.7**
	baz=312									
DGMT	**Dagmar**	**90.35**	**32**		P		**P**		**22 12 54.3**	**+1.4**
	baz=316									
CWC	**Cottonwood Cre**	**90.40**	**48**		P		**P**		**22 12 54.7**	**+1.2**
	baz=306									
LAO	**LASA Array**	**90.63**	**34**		P		**P**		**22 12 55.4**	**+1.1**
	baz=314									
R11B	**Troy Canyon, C**	**90.84**	**45**		P		**P**		**22 12 56.5**	**+0.9**
	baz=308									
MPMC	**Manual Prospec**	**91.01**	**48**		P		**P**		**22 12 58.1**	**+1.7**
	baz=307									
SNCC	**San Nicolas Is**	**91.29**	**51**		P		**P**		**22 12 59.0**	**+1.4**
	baz=306									
EDW2	**Edwards Air Fo**	**91.37**	**49**		P		**P**		**22 12 59.4**	**+1.4**
	baz=306									
DUG	**Dugway, Tooele**	**91.38**	**42**		P		**P**		**22 12 59.3**	**+1.2**
	baz=310									
BW06	**Boulder Array**	**91.56**	**39**		P		**P**		**22 12 59.4**	**+0.4**
	baz=312									
PD31	**Pinedale Array**	**91.56**	**39**		P		**P**		**22 12 59.7**	**+0.8**
PD31					lAmb		lAmb		22 13 00.6	
	comp=Z,1.9nm,0.7s									
PDAR	**Pinedale Array**	**91.56**	**39**		P		**P**		**22 12 59.8**	**+0.8**
PDAR	**Pinedale Array**	**91.56**	**39**		P		**P**		**22 12 59.1**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=117,slow=1.1,SNR=20									
	comp=Z,2.1nm,0.6s									
GSC	**Goldstone, Bar**	**91.91**	**48**		P		**P**		**22 13 01.8**	**+1.3**
	baz=307									
CIS	**Catalina Islan**	**91.96**	**50**		P		**P**		**22 13 01.9**	**+1.2**
	baz=306									
NLU	**North Lily Min**	**91.97**	**42**		P		**P**		**22 13 01.8**	**+1.0**
NLU					lAmb		lAmb		22 13 03.6	
	comp=Z,5.4nm,0.9s									
HEC	**Hector,Ludlow**	**92.50**	**48**		P		**P**		**22 13 04.9**	**+1.7**
	baz=307									
ULM	**Lac du Bonnet**	**92.59**	**27**		P		**P**		**22 13 03.0**	**-0.1**
	comp=Z,5.7nm,0.6s,baz=338,slow=6.4,SNR=10									
	comp=Z,5.7nm,0.6s									
GMRC	**Granite Mounta**	**92.97**	**48**		P		**P**		**22 13 06.6**	**+1.1**
	baz=308									
PFO	**Pinyon Flats O**	**93.15**	**49**		P		**P**		**22 13 07.6**	**+1.3**
	baz=307									
TPFO	**Pinon Flats**	**93.15**	**49**		P		**P**		**22 13 07.7**	**+1.4**
	baz=307									
BELC	**Belle Mtn. Jos**	**93.22**	**49**		P		**P**		**22 13 08.3**	**+1.7**
	baz=308									
K22A	**Casper**	**93.28**	**37**		P		**P**		**22 13 08.5**	**+1.7**
	baz=314									
RSSD	**Black Hills**	**93.54**	**35**		P		**P**		**22 13 08.4**	**+0.4**
RSSD					lAmb		lAmb		22 13 09.3	
	comp=Z,3.2nm,0.9s									
RSSD	**Black Hills**	**93.54**	**35**		P		**P**		**22 13 08.8**	**+0.8**
	baz=316									
RSSD	**Black Hills**	**93.54**	**35**		P		**P**		**22 13 08.4**	**+0.4**
RSSD					pmax		pmax			
	comp=Z,3.0nm,0.9s									
MONP2	**Monument Peak**	**93.60**	**50**		P		**P**		**22 13 09.5**	**+0.9**
	baz=307									
IRM	**Iron Mountain**	**93.69**	**48**		P		**P**		**22 13 09.9**	**+1.3**
	baz=308									
BC3	**Big Chuckawall**	**93.79**	**49**		P		**P**		**22 13 10.4**	**+1.2**
	baz=308									
IKP	**In-Ko-Pah, Jac**	**93.96**	**50**		P		**P**		**22 13 09.9**	**0.0**
	baz=307									
MBAR	**Mbarara**	**96.89**	**273**		LR		LR		22 58 38.6	
	comp=Z,203nm,18.6s,baz=338,slow=36									
TXAR	**Lajitas Array**	**104.21**	**45**		Pdiff		**Pdif**		**22 13 57.4**	**+1.4**
	comp=Z,0.1nm,0.5s,baz=317,slow=6.6,SNR=4.3									
BLA	**Blacksburg**	**109.51**	**24**		P		**PKiKP**		**22 18 22.3**	**+0.4**
	baz=334									
TORD	**Torodi Ar. Bea**	**113.89**	**301**		PKiKP		**PKiKP**		**22 18 30.5**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=56,slow=2.8,SNR=8.2									

*IDC **16** 22:07:08.2±6.5, 12.50N×88.17W, h0km, mb3.5/3, mbtmp3.6/3, MS2.9/2, Error ellipse: s-maj=235.8km s-min=25.0km az=39.0*
*CATAC **16** 22:07:20.5±0.7, 12.93N×88.96W, h23km±6km, ML4.2*
*SNET **16** 22:07:20.6±1.0, 12.92N×88.94W, h32km, ML4.1*
*GCG **16** 22:07:25.5±0.7, 12.81N×89.66W, h0km±34km, MD4.1*
ISC 16 22:07:20.5±1.6, 12.90N±0.07×88.92W±0.03, h25km±12km, n70, σ0°64/91, mb3.8/3, 2D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TECO	**Alcaldia de Te**	**0.64**	**12**	*eP*		**Pb**		**22 07 33.6**	**+0.4**
TECO				*eS*		**Sn**		**22 07 43.5**	**0.0**
TECO	**Alcaldia de Te**	**0.64**	**12**	*i*	P	**Pb**		**22 07 33.6**	**+0.4**
TECO				*i*	S	**Sn**		**22 07 43.3**	**-0.2**
TECO					IAML			22 07 44.5	
	comp=Z,9μm,1.0s								
LALI	**Alcalda de L**	**0.70**	**326**	*i*	P	**Pb**		**22 07 34.1**	**0.0**
LALI				*i*	S	**Sb**		**22 07 43.7**	**+0.4**
LALI					IAML			22 07 44.2	
	comp=Z,4μm,1.0s								
COEB	**Comit de Eme**	**0.70**	**33**	*eP*		**Pn**		**22 07 34.9**	**-0.1**
COEB				*eS*		**Sn**		**22 07 45.4**	**+0.3**
SNVI	**San Vicente**	**0.71**	**7**	*eP*		**Pb**		**22 07 34.7**	**+0.4**
COEG	**Centro de Oper**	**0.71**	**3**	*eS*		**Sb**		**22 07 44.3**	**+0.5**
COEG	**Centro de Oper**	**0.71**	**3**	*i*	P	**Pb**		**22 07 34.2**	**-0.2**
COEG					IAML			22 07 48.7	
	comp=Z,8μm,1.0s								
TECA	**Tecapa**	**0.71**	**35**	*eP*		**Pn**		**22 07 35.1**	**-0.1**
UESV	**Universidad de**	**0.74**	**10**	*i*	P	**Pb**		**22 07 35.0**	**+0.2**
UESV				*i*	S	**Sn**		**22 07 45.7**	**-0.2**
UESV					IAML			22 07 46.6	
	comp=Z,11μm,1.0s								
PANCS	**Alcalda de**	**0.75**	**340**	*i*	P	**Pb**		**22 07 34.6**	**-0.3**
PANCS					IAML			22 07 46.4	
	comp=Z,7μm,1.0s								
LOMA	**Loma Larga**	**0.78**	**342**	*i*	P	**Pb**		**22 07 35.4**	**-0.1**
LOMA				*i*	S	**Sb**		**22 07 45.7**	**+0.1**
LOMA					IAML			22 07 52.1	
	comp=Z,6μm,1.0s								
PQSS	**Presa 15 de Se**	**0.80**	**26**	*eP*		**Pb**		**22 07 36.1**	**+0.3**
PQSS	**Presa 15 de Se**	**0.80**	**26**	*i*	P	**Pn**		**22 07 36.2**	**0.0**
PQSS					IAML			22 07 49.4	
	comp=Z,17μm,1.0s								
LCY	**Lacayo**	**0.80**	**50**	*eP*		**Pb**		**22 07 36.0**	**+0.1**
PAVA	**Las Pavas**	**0.80**	**359**	*i|*	P	**Pb**		**22 07 36.0**	**+0.1**
PAVA				*eS*		**Sn**		**22 07 47.2**	**-0.4**
PAVA	**Las Pavas**	**0.80**	**359**	*i*	P	**Pb**		**22 07 36.0**	**+0.1**
PAVA				*i*	S	**Sn**		**22 07 47.3**	**-0.3**
PAVA					IAML			22 07 48.3	
	comp=Z,27μm,1.0s								
AEIL	**Aeropuerto Ilo**	**0.81**	**347**	*eP*		**Pb**		**22 07 36.1**	**+0.1**
PACA	**Pacayal**	**0.81**	**46**	*eP*		**Pn**		**22 07 36.6**	**+0.1**
PACA				*eS*		**Sn**		**22 07 48.2**	**+0.5**
PACA	**Pacayal**	**0.81**	**46**	*i*	P	**Pn**		**22 07 36.5**	**+0.1**
PACA				*i*	S	**Sn**		**22 07 48.4**	**+0.6**
PACA					IAML			22 07 50.8	
	comp=Z,68μm,1.0s								
RANC	**El Ranchito**	**0.81**	**49**	*eP*		**Pb**		**22 07 36.2**	**+0.1**
RANC	**El Ranchito**	**0.81**	**49**	*i*	P	**Pb**		**22 07 36.2**	**+0.1**
RANC					IAML			22 07 53.1	
	comp=Z,8μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.81**	**13**	*eP*		**Pb**		**22 07 36.3**	**+0.2**
SCLA				*eS*		**Sn**		**22 07 47.8**	**0.0**
SCLA	**Alcaldia de Sa**	**0.81**	**13**	*i*	P	**Pn**		**22 07 36.4**	**-0.1**
SCLA				*i*	S	**Sn**		**22 07 47.8**	**0.0**
SCLA					IAML			22 07 49.2	
	comp=Z,3μm,1.0s								
VSM	**San Miguel**	**0.82**	**50**	*i|*	P	**Pb**		**22 07 36.6**	**+0.3**
SNET	**Serv Nac Est T**	**0.83**	**339**	*eP*		**Pb**		**22 07 36.1**	**-0.3**
SNET	**Serv Nac Est T**	**0.83**	**339**	*i*	P	**Pb**		**22 07 36.1**	**-0.3**
SNET				*i*	S	**Sb**		**22 07 47.1**	**-0.2**
SNET					IAML			22 07 50.0	
	comp=Z,9μm,1.0s								
UDBS	**Universidad Do**	**0.84**	**344**	*eP*		**Pb**		**22 07 36.3**	**-0.2**
UDBS	**Universidad Do**	**0.84**	**344**	*i*	P	**Pb**		**22 07 36.2**	**-0.3**
UDBS					IAML			22 07 50.7	
	comp=Z,5μm,1.0s								
UTEC	**Universidad Te**	**0.84**	**341**	*i*	P	**Pb**		**22 07 36.0**	**-0.5**
UTEC					IAML			22 07 53.8	
	comp=Z,3μm,1.0s								
IGN	**Direccin Gen**	**0.84**	**343**	*eP*		**Pb**		**22 07 36.4**	**-0.1**
IGN	**Direccin Gen**	**0.84**	**343**	*i*	P	**Pb**		**22 07 36.6**	**+0.1**
IGN				*i*	S	**Sb**		**22 07 47.7**	**+0.2**
IGN					IAML			22 07 53.8	
	comp=Z,14μm,1.0s								
MAGS	**Ministerio de**	**0.85**	**335**	*eP*		**Pb**		**22 07 36.5**	**-0.3**
BLLM	**Bellamira**	**0.85**	**51**	*i*	P	**Pb**		**22 07 36.7**	**-0.1**
LFU	**La Fuente**	**0.86**	**348**	*eP*		**Pb**		**22 07 36.7**	**-0.2**
UEES	**Universidad Ev**	**0.86**	**339**	*eP*		**Pb**		**22 07 36.6**	**-0.4**
UEES	**Universidad Ev**	**0.86**	**339**	*i*	P	**Pb**		**22 07 36.3**	**-0.7**
UEES				*i*	S	**Sb**		**22 07 48.1**	**-0.1**
UEES					IAML			22 07 51.0	
	comp=Z,3μm,1.0s								
PMON	**Piamonte**	**0.89**	**335**	*eP*		**Pb**		**22 07 36.8**	**-0.6**
PMON				*eS*		**Sb**		**22 07 48.9**	**0.0**
PMON	**Piamonte**	**0.89**	**335**	*i*	P	**Pb**		**22 07 36.8**	**-0.6**
PMON					IAML			22 07 50.5	
	comp=Z,6μm,1.0s								
BOQS	**Boqueron**	**0.90**	**337**	*eP*		**Pb**		**22 07 37.3**	**-0.3**
PIC2	**El Picacho**	**0.90**	**339**	*eP*		**Pb**		**22 07 37.3**	**-0.3**
JAYA	**Jayaque - finc**	**0.91**	**326**	*eP*		**Pb**		**22 07 37.1**	**-0.5**
JAYA				*eS*		**Sn**		**22 07 49.8**	**-0.4**
JAYA	**Jayaque - finc**	**0.91**	**326**	*i*	P	**Pb**		**22 07 37.0**	**-0.7**
JAYA				*i*	S	**Sb**		**22 07 49.2**	**-0.2**
JAYA					IAML			22 07 51.9	
	comp=Z,17μm,1.0s								
CNRM	**Centro Naciona**	**0.93**	**52**	*eP*		**Pb**		**22 07 37.9**	**0.0**
CNRM				*eS*		**Sn**		**22 07 51.2**	**+0.8**
QUEZ	**Alcaldia de Qu**	**0.99**	**340**	*i*	P	**Pb**		**22 07 38.6**	**-0.4**
QUEZ					IAML			22 08 03.6	
	comp=Z,7μm,1.0s								
CEDA	**San Andres**	**1.00**	**333**	*eP*		**Pb**		**22 07 38.5**	**-0.8**
CEDA	**San Andres**	**1.00**	**333**	*i*	P	**Pb**		**22 07 38.5**	**-0.8**
CEDA				*i*	S	**Sb**		**22 07 51.6**	**-0.5**
CEDA					IAML			22 07 57.4	
	comp=Z,9μm,1.0s								
LCND	**La Caada**	**1.08**	**68**	*eP*		**Pn**		**22 07 39.9**	**-0.1**
LCND				*eS*		**Sb**		**22 07 54.4**	**0.0**
LCND	**La Caada**	**1.08**	**68**	*i*	P	**Pn**		**22 07 40.0**	**-0.1**
CNCH	**Conchagua**	**1.12**	**71**	*eS*		**Sb**		**22 07 55.3**	**-0.3**
CNCH	**Conchagua**	**1.12**	**71**	*i*	P	**Pn**		**22 07 40.1**	**-0.7**
CNCH					IAML			22 07 58.8	
	comp=Z,12μm,1.0s								
CEVE	**Cerro Verde**	**1.14**	**323**	*eP*		**Pn**		**22 07 41.0**	**-0.2**
CEVE				*eS*		**Sn**		**22 07 56.7**	**+0.6**
CEVE	**Cerro Verde**	**1.14**	**323**	*i*	P	**Pn**		**22 07 40.8**	**-0.4**
CEVE					IAML			22 08 06.3	
	comp=Z,4μm,1.0s								
SBLS	**San Blas**	**1.15**	**324**	*eP*		**Pn**		**22 07 41.1**	**-0.2**
SNJE	**San Jose**	**1.17**	**325**	*eP*		**Pn**		**22 07 41.0**	**-0.4**
SNJE				*eP*		**Pn**		**22 07 41.1**	**-0.4**
RTR	**El Retiro**	**1.21**	**325**	*eP*		**Pn**		**22 07 42.0**	**-0.1**
NUBE	**Las Nubes**	**1.30**	**320**	*eS*		**Sn**		**22 07 58.9**	**-0.9**
NUBE	**Las Nubes**	**1.30**	**320**	*i*	P	**Pn**		**22 07 42.5**	**-0.7**
NUBE					IAML			22 08 00.3	
	comp=Z,4μm,1.0s								
LOAL	**Lomas de Alarc**	**1.37**	**323**	*i*	P	**Pn**		**22 07 44.1**	**0.0**
LOAL					IAML			22 08 07.6	
	comp=Z,4μm,1.0s								
MTO3	**Montecristo**	**1.55**	**344**	*eP*		**Pn**		**22 07 46.2**	**-0.5**
CRIN	**San Cristobal**	**1.84**	**96**	*eP*		**Pn**		**22 07 50.7**	**+0.1**
TGUH	**Tegucigalpa,Un**	**1.97**	**54**	*eP*		**Pn**		**22 07 52.0**	**-0.4**
NBG	**Las Nubes**	**2.17**	**321**	*eP*		**Pb**		**22 07 59.3**	**0.0**
MRL	**Marmol**	**2.29**	**341**	*eP*		**Pb**		**22 08 04.9**	**+3.6**
FUG	**Fuego 3**	**2.42**	**310**	*eP*		**Pn**		**22 08 00.6**	**+2.0**
FUG				*eS*		**Sn**		**22 08 28.6**	**+1.1**
STG3	**Santiaguito 3,**	**3.14**	**305**	*eP*		**Pn**		**22 08 10.5**	**+2.0**
STG3				*eS*		**Sn**		**22 08 44.5**	**-0.8**
TXAR	**Lajitas Array**	**21.33**	**322**	P		**P**		**22 12 04.5**	**-1.4**
	comp=Z,0.5nm,0.7s,baz=140,slow=12,SNR=7.6								
TXAR				S		Sn		22 16 11.9	+2.3
	comp=Z,0.1nm,0.5s,baz=219,slow=27,SNR=2.5								
	comp=Z,0.5nm,0.7s								
TKL	**Tuckaleechee C**	**23.13**	**11**	LR		LR		22 21 53.9	
	comp=Z,37nm,19.6s,baz=232,slow=38								
ANMO	**Albuquerque**	**27.09**	**327**	LR		LR		22 24 16.6	
	comp=Z,18nm,21.7s,baz=208,slow=37								
YKA	**Yellowknife Ar**	**52.80**	**345**	P		P		22 16 28.6	-4.8
	comp=Z,1.1nm,0.8s,baz=140,slow=6.8,SNR=17								
	comp=Z,1.1nm,0.8s								
TORD	**Torodi Ar. Bea**	**87.71**	**77**	P		P		22 19 57.6	-10
	comp=Z,0.5nm,0.9s,baz=286,slow=5.3,SNR=2.2								
	comp=Z,0.5nm,0.9s								

*NEIC **16** 22:11:48.0±0.4, 36.069N±0.007×97.56W±0.01, h7km±4km, Error ellipse: s-maj=1.5km s-min=0.9km az=58.0*
TUL 16 22:11:48.1±0.5, 36.073N±0.009×97.56W±0.01, h7km±4km, ML2.5, mb_Lg2.4/8(NEIC), ML2.5/70(NEIC), Error ellipse: s-maj=1.3km s-min=1.1km az=152.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK029	**Liberty Lake**	**0.29**	**163**			Pg	Pg	22 11 54.1	+0.3
OK029						Sg	Sg	22 11 58.3	+0.7
OK029						IAML		22 11 58.5	
	508nm,0.3s								
OK029						IAML		22 11 58.5	
	862nm,0.3s								
ADOK	**Arcadia Dam**	**0.45**	**160**			Pg	Pg	22 11 56.5	-0.2
ADOK						Sg	Sg	22 12 03.3	+0.7
OK033	**Mehan**	**0.50**	**93**				Pg	22 11 57.6	-0.2
OK033						IAML		22 12 05.4	
	463nm,0.3s								
OK033						IAML		22 12 06.0	
	287nm,0.1s								
CROK	**Carrier**	**0.55**	**321**			Pg	Pg	22 11 58.8	0.0
CROK						Sg	Sg	22 12 06.4	+0.4
CROK						IAML		22 12 06.7	
	comp=E,313nm,0.2s								
CROK						IAML		22 12 13.7	
	comp=N,327nm,0.3s								
OK031	**S. Brethren Rd**	**0.59**	**101**				Pg	22 11 59.7	+0.2
OK031						Sg	Sg	22 12 07.8	+0.5
OK048	**Pawnee Station**	**0.60**	**55**			Pg	Pg	22 11 59.8	+0.1
OK052	**Battle Ridge R**	**0.62**	**97**				Pg	22 12 00.1	+0.1
OK052						IAML		22 12 08.8	
	comp=N,238nm,0.2s								
QUOK	**Quay**	**0.69**	**82**			Pg	Pg	22 12 01.6	+0.2
QUOK						IAML		22 12 13.0	
	comp=E,232nm,0.2s								
OK051	**E0350 and S346**	**0.72**	**53**			Pg	Pg	22 12 01.6	-0.5
OK051						IAML		22 12 14.1	
	comp=E,191nm,0.2s								
OK051						IAML		22 12 14.4	
	comp=E,187nm,0.2s								
BLOK	**Blackwell**	**0.74**	**22**			Pg	Pg	22 12 02.1	-0.2
BLOK						IAML		22 12 06.8	
	comp=N,180nm,1.3s								
BLOK						IAML		22 12 18.8	
	comp=E,150nm,0

comp=E,26μm,1.4s
GAVE AML AML
comp=E,26μm,0.6s
GAVE AML AML
comp=N,25μm,0.4s
EL6 Elcito 0.36 9 P Pg 22 30 00.0 +0.2
MATE Matera 3.60 129 AML AML
comp=N,276μm,0.7s
MATE AML AML
comp=E,310μm,0.5s
MATE AML AML
comp=N,276μm,1.3s

IDC **16** *22:29:59.9±0.4,36˚.53N×23˚.04E,h0km,mb4.6/31, mbtmp4.5/42,ML3.8/8,MS4.2/65,Error ellipse: s-maj=10.7km s-min=9.8km az=18.0*
BJI **16** *22:30:00.7±0.0,36˚.61N×23˚.02E,h6km,mb4.8/49, mB5.0/26,Ms4.6/25,Ms7 4.2/28*
NAO **16** *22:30:00.2,35˚.79N×22˚.49E,h33km,mb5.0*
MOS **16** *22:30:01.0±1.2,36˚.45N×22˚.93E,h11km,mb5.0/51, MS4.4/21,Error ellipse: s-maj=4.6km s-min=2.9km az=77.9*
ISK **16** *22:30:02.7,36˚.61N×23˚.02E,h6km,ML4.5/40*
MCSM **16** *22:30:03.7±0.2,36˚.N±2˚×2˚3E±˚,h10km,mb4.9,mB5.1, MLv5.1,Mw(mB)4.4*
TIR **16** *22:30:04.0,36˚.90N×23˚.15E,h20km,MI4.9*
MED_RC **16** *22:30:03.0±0.1,36˚.35N×22˚.90E,h18km,MW5.0/52, Moment Tensor Solution. Body waves: s3,c3;Mantle waves: s52,c109; Duration: 1ŝ3 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.86±.17; $M_{\theta\theta}$-1.52±.10; $M_{\phi\phi}$5.38±.11; $M_{r\theta}$-0.16±.23; $M_{\theta\phi}$-0.31±.07; $M_{\phi r}$-0.89±.16; Best double couple: M○4.72000×10^{16} NP1:ϕ_s2.00000°,δ51.00000°, λ-84.00000°. NP2:ϕ_s173.00000°,δ40.00000°, λ-97.00000°. Principal axes: T 5.4800, Plg5.0000°, Azm88.0000°; N -1.5200, Plg5.0000°, Azm178.0000°; P -3.9600, Plg83.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
NEIC **16** *22:30:03.1±1.7,36˚.51N±0˚.06×22˚.93E±0˚.05,h10km±3km, mb5.0/154 Error ellipse: s-maj=8.7km s-min=6.4km az=186.0*
GII **16** *22:30:03.6±0.4,36˚.15N±0˚.03×23˚.254E±0˚.008,h1km, Mws5.0,confirmed*
THE **16** *22:30:03.4,36˚.52N×22˚.92E,h5km±1km,ML4.6/15,Error ellipse: s-maj=1.3km s-min=0.7km az=231.0*
GCMT **16** *22:30:04.1±0.2,36˚.48N±0˚.02×22˚.91E±0˚.01,h21km, MW5.1/113,Moment Tensor Solution. s56,c82; s113,c201; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.70±.16; $M_{\theta\theta}$-1.45±.12; $M_{\phi\phi}$5.15±.10; $M_{r\theta}$3.70±.29; $M_{\theta\phi}$-0.02±.08; $M_{\phi r}$-2.63±.18; Best double couple: M_o6.42600×10^{16} NP1:ϕ_s327.00000°,δ69.00000°, λ-122.00000°. NP2:ϕ_s208.00000°,δ37.00000°, λ-35.00000°. Principal axes: T 6.0330, Plg18.0000°, Azm80.0000°; N 0.7880, Plg30.0000°, Azm340.0000°; P -6.8200, Plg54.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ATH **16** *22:30:04.3,36˚.55N×22˚.92E,h13km±1km,ML4.6/22 Error ellipse: s-maj=2.2km s-min=1.1km az=23.0*
ISC 16 22:30:03.2±0.7,**36˚.51N**±0˚.02×**22˚.96E**±0˚.02,**h13**km±3km, **n1274**,σ1ᵗ**68**/1343,**mb4.9**/160,**MS4.3**/68,**54C-22D, Southern Greece**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNVA	**Monemvasia**	**0.18**	**20**	P	**Pb**	**22 30 08.7**	**+0.3**
MNVA				S	**Sb**	**22 30 11.4**	**-0.6**
MNVA				AML	AML	22 30 13.6	
MNVA				AML	AML	22 30 14.5	
VLI	**Veliai**	**0.21**	**355**	P	**Pg**	**22 30 08.0**	**+0.2**
VLI				S	**Sg**	**22 30 10.9**	**0.0**
	411μm,0.4s						
VLI	**Veliai**	**0.21**	**355**	P	**Pg**	**22 30 08.0**	**+0.2**
VLI				S	**Sg**	**22 30 10.9**	**0.0**
VLI				AML	AML	22 30 12.5	
VLI				AML	AML	22 30 13.5	
KRND	**KRANIDI**	**0.88**	**10**	P	**Pg**	**22 30 19.9**	**-0.4**
KRND				S	**Sn**	**22 30 33.1**	**-0.8**
	45μm,0.4s						
KRND	**KRANIDI**	**0.88**	**10**	P	**Pg**	**22 30 20.0**	**-0.2**
KRND				S	**Sg**	**22 30 31.6**	**-0.2**
KRND				AML	AML	22 30 36.1	
	comp=E,85853μm,0.6s						
KRND				AML	AML	22 30 36.1	
	comp=N,93064μm,0.3s						
KLMT	**Kalamata**	**0.91**	**307**	P	**Pb**	**22 30 19.9**	**-0.8**
KLMT				S	**Sg**	**22 30 31.6**	**-1.0**
	comp=N,27μm,0.5s						
YDRA	**Hydra**	**0.93**	**26**	P	**Pb**	**22 30 20.9**	**-0.2**
YDRA				S	**Sg**	**22 30 34.0**	**+0.7**
YDRA				AML	AML	22 30 37.5	
	comp=N,84128μm,0.3s						
YDRA				AML	AML	22 30 39.7	
	comp=E,78804μm,0.6s						
PYL	**PYLOS**	**1.05**	**292**	P	**Pb**	**22 30 22.1**	**-1.1**
PYL	**PYLOS**	**1.05**	**292**	P	**Pb**	**22 30 22.3**	**-0.9**
PYL				S	**Sb**	**22 30 36.4**	**-0.5**
PYL				AML	AML	22 30 45.5	
	comp=E,80642μm,0.6s						
PYL				AML	AML	22 30 46.4	
	comp=N,46711μm,0.4s						
ITM	**Ithomi**	**1.06**	**309**	Pg	**Pb**	**22 30 22.5**	**-0.9**
ITM	**Ithomi**	**1.06**	**309**	P	**Pb**	**22 30 22.4**	**-0.9**
ITM				S	**Sb**	**22 30 36.7**	**-0.5**
	comp=N,22μm,0.5s						
ITM	**Ithomi**	**1.06**	**309**		**Pb**	**22 30 22.5**	**-0.9**
ITM	**Ithomi**	**1.06**	**309**	P	**Pb**	**22 30 22.6**	**-0.9**
ITM				S	**Sb**	**22 30 36.4**	**-0.9**
ITM				AML	AML	22 30 42.1	
	comp=N,46631μm,0.5s						
ITM				AML	AML	22 30 47.0	
	comp=E,39882μm,0.5s						
RODP	**Rodopos**	**1.15**	**146**	Pn	**Pg**	**22 30 26.2**	**+0.9**
RODP	**Rodopos**	**1.15**	**146**	P	**Pg**	**22 30 25.7**	**+0.4**
RODP				S	**Sn**	**22 30 41.8**	**+1.3**
	comp=E,8μm,0.5s						
MHLO	**Agia Marina, M**	**1.17**	**81**	P	**Pb**	**22 30 25.5**	**+0.2**
MHLO				S	**Sg**	**22 30 44.0**	**+2.9**
	comp=E,100μm,0.7s						
MHLO	**Agia Marina, M**	**1.17**	**81**	P	**Pb**	**22 30 25.6**	**+0.3**
MHLO				AML	AML	22 30 50.7	
MHLO				AML	AML	22 30 52.4	
CHAN	**Chania**	**1.32**	**138**	P	**Pb**	**22 30 28.0**	**+0.2**
CHAN				AML	AML	22 30 53.8	
	comp=E,66825μm,0.6s						
CHAN				AML	AML	22 30 58.2	
	comp=N,64415μm,0.5s						
IMMV	**Iera Moni Meta**	**1.34**	**141**	Pn	**Pg**	**22 30 29.4**	**+0.5**
IMMV				Sn	**Sg**	**22 30 47.4**	**+1.1**
IMMV	**Iera Moni Meta**	**1.34**	**141**	P	**Pb**	**22 30 28.1**	**0.0**
IMMV	**Iera Moni Meta**	**1.34**	**141**	P	**Pb**	**22 30 28.4**	**+0.4**
IMMV				AML	AML	22 31 01.2	
	comp=E,48454μm,0.8s						
IMMV				AML	AML	22 31 07.5	
	comp=N,49812μm,0.7s						
KNDR	**Palaiochora Ch**	**1.41**	**155**	Pn	**Pg**	**22 30 30.4**	**+0.2**
KNDR				Sn	**Sg**	**22 30 50.7**	**+2.2**
KNDR	**Palaiochora Ch**	**1.41**	**155**	P	**Pg**	**22 30 30.1**	**-0.1**
KNDR				AML	AML	22 30 59.5	
	comp=E,81615μm,0.6s						
KNDR				AML	AML	22 31 00.8	
	comp=N,87150μm,0.6s						
LOUT	**Loutraki**	**1.47**	**0**	P	**Pn**	**22 30 29.5**	**+0.1**
LOUT				S	**Sb**	**22 30 49.9**	**+0.9**
	comp=N,25μm,0.8s						
LOUT	**Loutraki**	**1.47**	**0**	P	**Pn**	**22 30 29.5**	**+0.1**
VLY	**Voula,Athens**	**1.49**	**26**	P	**Pn**	**22 30 29.0**	**-0.7**
VLY				S	**Sb**	**22 30 49.7**	**+0.1**
	comp=N,22μm,0.5s						
VLY	**Voula,Athens**	**1.49**	**26**	P	**Pn**	**22 30 29.2**	**-0.5**
GUR	**Goura**	**1.50**	**341**	P	**Pn**	**22 30 30.0**	**+0.1**
GUR				S	**Sg**	**22 30 51.0**	**-0.7**
	comp=N,42μm,0.5s						
GUR	**Goura**	**1.50**	**341**	P	**Pn**	**22 30 30.3**	**+0.4**
GUR				AML	AML	22 30 54.3	
	comp=E,68534μm,0.3s						
GUR				AML	AML	22 30 57.6	
	comp=N,91511μm,0.7s						
LTK	**Loutraki**	**1.51**	**0**	P	**Pn**	**22 30 30.1**	**+0.2**
LTK				AML	AML	22 30 58.7	
	comp=N,30776μm,0.5s						
LTK				AML	AML	22 30 59.9	
	comp=E,25968μm,0.4s						
THAL	**Thalero**	**1.54**	**351**	P	**Pn**	**22 30 30.3**	**0.0**
THAL				S	**Sb**	**22 30 51.3**	**+0.3**
	comp=E,55μm,0.7s						
ATH	**Athens Observa**	**1.58**	**22**	P	**Pn**	**22 30 30.6**	**-0.2**
ATH				S	**Sb**	**22 30 52.1**	**+0.1**
	comp=E,13μm,0.4s						
ATH	**Athens Observa**	**1.58**	**22**	P	**Pn**	**22 30 30.7**	**-0.2**
ATH				AML	AML	22 30 59.3	
	comp=E,25395μm,0.5s						
ATH				AML	AML	22 31 02.3	
	comp=N,21480μm,0.5s						
ATHU	**Athens Univers**	**1.59**	**24**	P	**Pn**	**22 30 30.6**	**-0.4**
ATHU	**Athens Univers**	**1.59**	**24**	P	**Pn**	**22 30 30.6**	**-0.4**
ATHU				AML	AML	22 31 00.6	
	comp=E,9140μm,0.5s						
ATHU				AML	AML	22 31 03.2	
	comp=N,10459μm,0.5s						
KLV	**Kalavryta, Ach**	**1.66**	**337**	P	**Pn**	**22 30 32.6**	**+0.6**
KLV				S	**Sb**	**22 30 55.5**	**+1.0**
	comp=N,11μm,0.8s						
KLV	**Kalavryta, Ach**	**1.66**	**337**	P	**Pn**	**22 30 32.8**	**+0.8**
KLV				AML	AML	22 30 59.6	
	comp=N,22493μm,0.7s						
KLV				AML	AML	22 31 06.8	
	comp=E,19633μm,1.0s						
VILL	**Villia**	**1.67**	**10**	P	**Pn**	**22 30 31.9**	**-0.3**
PTL	**Penteli**	**1.69**	**25**	P	**Pn**	**22 30 33.1**	**+0.6**
PTL				S	**Sb**	**22 30 55.1**	**-0.4**
	comp=E,11μm,0.7s						
PTL	**Penteli**	**1.69**	**25**	P	**Pn**	**22 30 33.1**	**+0.6**
PTL				AML	AML	22 31 05.8	
	comp=E,22467μm,0.8s						
PTL				AML	AML	22 31 06.7	
	comp=N,20360μm,0.5s						
PRNS	**Prines Rethymn**	**1.70**	**132**	P	**Pn**	**22 30 32.6**	**+0.2**
PRNS				S	**Sb**	**22 30 55.5**	**+0.1**
	comp=N,5μm,0.7s						
VIL2	**Platees**	**1.71**	**8**	P	**Pn**	**22 30 31.9**	**-0.9**
DION	**Dionisos Attik**	**1.75**	**26**	P	**Pn**	**22 30 34.0**	**+0.8**
DION				S	**Sn**	**22 30 56.2**	**+0.9**
	comp=N,27μm,0.9s						
DION	**Dionisos Attik**	**1.75**	**26**	P	**Pn**	**22 30 33.9**	**+0.8**
DION				AML	AML	22 31 09.7	
	comp=N,20078μm,0.9s						
DION				AML	AML	22 31 10.3	
	comp=E,42504μm,0.9s						
DRO	**Drossia**	**1.75**	**326**	P	**Pb**	**22 30 34.4**	**-0.7**
DRO	**Drossia**	**1.75**	**326**	P	**Pb**	**22 30 34.7**	**-0.5**
DRO				AML	AML	22 31 10.8	
	comp=N,56022μm,0.5s						
DRO				AML	AML	22 31 17.5	
	comp=E,77189μm,0.5s						
ALIK	**Aliki, Aigiali**	**1.87**	**339**	P	**Pn**	**22 30 35.9**	**+1.1**
GVDS	**Gavdos**	**1.90**	**151**	Pn	**Pb**	**22 30 37.9**	**+0.2**
GVD	**Gavdhos**	**1.91**	**151**	Pn	**Pb**	**22 30 37.7**	**-0.1**
THR9	**Santorini-Faro**	**1.94**	**94**	P	**Pn**	**22 30 36.5**	**+0.7**
RLS	**Riolos of Patr**	**1.95**	**323**	P	**Pb**	**22 30 37.7**	**-0.8**
RLS				AML	AML	22 31 21.6	
	comp=E,15466μm,0.7s						
RLS				AML	AML	22 31 22.9	
	comp=N,17674μm,0.6s						
CMBO	**Columbo, Santo**	**1.97**	**90**	P	**Pn**	**22 30 37.0**	**+0.8**
TRIZ	**Trizonia**	**1.98**	**339**	P	**Pn**	**22 30 37.6**	**+1.3**
IDI	**Anoyia**	**1.99**	**127**	Pn	**Pn**	**22 30 37.9**	**+1.4**
IDI				Sn	**Sb**	**22 31 04.4**	**+0.5**
IDI	**Anoyia**	**1.99**	**127**	P	**Pn**	**22 30 36.5**	**0.0**
IDI	**Anoyia**	**1.99**	**127**	Pn	**Pn**	**22 30 36.2**	**-0.3**
IDI	**Anoyia**	**1.99**	**127**	P	**Pn**	**22 30 36.5**	**0.0**
IDI	**Anoyia**	**1.99**	**127**	Pn	**Pn**	**22 30 35.4**	**-1.1**
	comp=N,25nm,0.3s,baz=266,slow=5.3,SNR=174						
IDI				Sn	**Sn**	**22 31 00.6**	**-0.7**
	comp=N,238nm,0.3s,baz=311,slow=21,SNR=6.4						
DLFA	**Delphi**	**2.00**	**349**	P	**Pn**	**22 30 37.7**	**+1.1**
DLFA				AML	AML	22 31 09.0	
	comp=E,14569μm,0.5s						
DLFA				AML	AML	22 31 13.6	
	comp=N,15090μm,0.6s						
THR8	**Santorini-Mono**	**2.03**	**92**	P	**Pn**	**22 30 37.7**	**+0.6**
TNSA	**Tinos**	**2.04**	**59**	P	**Pn**	**22 30 36.8**	**-0.4**
LTHK	**Lithakia**	**2.08**	**306**	P	**Pn**	**22 30 39.2**	**-1.5**
LTHK	**Lithakia**	**2.08**	**306**	P	**Pn**	**22 30 38.6**	**+0.9**
EFP	**Efpalio**	**2.09**	**337**	P	**Pb**	**22 30 39.4**	**-1.5**
EFP	**Efpalio**	**2.09**	**337**	P	**Pb**	**22 30 39.4**	**-1.5**
EFP				AML	AML	22 31 18.0	
	comp=N,16876μm,1.0s						
EFP				AML	AML	22 31 22.5	
	comp=E,20322μm,0.9s						
KSTL	**Kastelli Herak**	**2.10**	**125**	P	**Pg**	**22 30 42.4**	**-1.0**
APE	**Apeiranthos**	**2.14**	**74**	⇑P	**Pn**	**22 30 38.6**	**0.0**
APE				⇓S	**Sb**	**22 31 07.7**	**-0.5**
APE	**Apeiranthos**	**2.14**	**74**	Pn	**Pn**	**22 30 38.7**	**+0.1**
APE	**Apeiranthos**	**2.14**	**74**	P	**Pn**	**22 30 38.5**	**0.0**
APE	**Apeiranthos**	**2.14**	**74**	*i* P	**Pn**	**22 30 38.4**	**-0.2**
APE	**Apeiranthos**	**2.14**	**74**	P	**Pn**	**22 30 38.4**	**-0.2**
APE				AML	AML	22 31 16.9	
	comp=N,9549μm,0.7s						
APE				AML	AML	22 31 19.6	
	comp=E,6754μm,0.6s						
ANX	**Ano Chora**	**2.23**	**339**	P	**Pn**	**22 30 40.9**	**+0.9**
ANX	**Ano Chora**	**2.23**	**339**	P	**Pn**	**22 30 40.6**	**+0.7**
AXAR	**Agios Charalam**	**2.26**	**354**	P	**Pn**	**22 30 40.4**	**+0.1**
AGG	**Agios Georgios**	**2.56**	**349**	Pn	**Pn**	**22 30 45.3**	**+1.0**
AGG	**Agios Georgios**	**2.56**	**349**	P	**Pn**	**22 30 45.1**	**+0.8**
AGG	**Agios Georgios**	**2.56**	**349**	Pn	**Pn**	**22 30 44.7**	**+0.4**
AGG	**Agios Georgios**	**2.56**	**349**	P	**Pn**	**22 30 44.7**	**+0.4**
MAKR	**Makrakomi, Fth**	**2.58**	**346**	P	**Pn**	**22 30 45.9**	**+1.2**
MAKR	**Makrakomi, Fth**	**2.58**	**346**	P	**Pn**	**22 30 45.7**	**+1.0**
FRMA	**Ierapetra Chan**	**2.71**	**123**	P	**Pb**	**22 30 49.5**	**-1.9**
NEO	**Neokhori**	**2.80**	**4**	P	**Pn**	**22 30 47.8**	**+0.2**
CHOS	**Chios island**	**3.09**	**52**	Pn	**Pn**	**22 30 51.7**	**0.0**
PAIG	**Paliouri**	**3.46**	**9**	Pn	**Pn**	**22 30 57.8**	**+1.2**
GMLD	**Gumuldur**	**3.52**	**62**	Pn	**Pn**	**22 30 58.2**	**+0.7**
BODT	**Bodrum**	**3.54**	**80**	Pn	**Pn**	**22 30 59.1**	**+1.3**
SIGR	**SIGRI**	**3.54**	**40**	Pn	**Pn**	**22 30 58.4**	**+0.7**
KARP	**Karpathos**	**3.54**	**105**	Pn	**Pn**	**22 30 58.9**	**+1.1**
KARP	**Karpathos**	**3.54**	**105**	P	**Pn**	**22 30 59.1**	**+1.3**
KARP	**Karpathos**	**3.54**	**105**	Pn	**Pn**	**22 30 58.9**	**+1.1**
FOCM	**Foa**	**3.71**	**53**	Pn	**Pn**	**22 31 01.2**	**+1.0**
BLCB	**Balcova**	**3.75**	**59**	Pn	**Pn**	**22 31 01.7**	**+1.0**
OUR	**Ouranopolis**	**3.90**	**12**	Pn	**Pn**	**22 31 02.2**	**-0.5**
DKL	**Dikili**	**4.04**	**50**	Pn	**Pn**	**22 31 05.6**	**+1.0**
LSK	**Leskovik**	**4.08**	**334**	P	**Pn**	**22 31 08.1**	**+2.8**
	baz=330						
LSK				S	**Sn**	**22 31 54.9**	**+2.0**
	baz=330						
LSK				AMP			
	comp=E,10.0nm,1.1s,baz=330						
HORT	**Hortiatis**	**4.08**	**1**	Pn	**Pn**	**22 31 06.6**	**+1.3**
SRN	**Sarande**	**4.09**	**326**	P	**Pn**	**22 31 08.0**	**+2.6**
	baz=322						
SRN				S	**Sn**	**22 31 55.4**	**+2.4**
	baz=322						
SRN				AMP			
	comp=E,2.5nm,1.8s,baz=322						
ARG	**Arkhangelos**	**4.18**	**93**	Pn	**Pn**	**22 31 07.9**	**+1.3**
ARG	**Arkhangelos**	**4.18**	**93**	P	**Pn**	**22 31 07.9**	**+1.3**
AYDB	**Zeytinkoy-Aydi**	**4.19**	**69**	Pn	**Pn**	**22 31 08.3**	**+1.5**
EZNE	**Ezine-Canakkal**	**4.21**	**39**	Pn	**Pn**	**22 31 07.9**	**+1.0**
EZN	**Ezine**	**4.24**	**38**	Pn	**Pn**	**22 31 08.5**	**+1.1**
EZN	**Ezine**	**4.24**	**38**	Pn	**Pn**	**22 31 07.1**	**-0.3**
GADA	**Gvkgeada**	**4.34**	**31**	Pn	**Pn**	**22 31 09.5**	**+0.7**
FNA	**Florina**	**4.44**	**344**	P	**Pn**	**22 31 12.3**	**+2.0**
	baz=341						
FNA				S	**Sn**	**22 32 01.6**	**-0.2**
	baz=341						
FNA				AMP			
	comp=N,0.8nm,0.6s,baz=341						
FNA	**Florina**	**4.44**	**344**	Pn	**Pn**	**22 31 12.4**	**+2.1**
FNA	**Florina**	**4.44**	**344**		**Pn**	**22 31 11.6**	**+1.3**
FNA	**Florina**	**4.44**	**344**	P	**Pn**	**22 31 11.6**	**+1.3**
GRG	**Griva**	**4.46**	**355**	Pn	**Pn**	**22 31 11.6**	**+1.1**
SOMA	**Soma-Manisa**	**4.48**	**53**	Pn	**Pn**	**22 31 12.3**	**+1.6**
COMU	**Canakkale**	**4.52**	**37**	Pn	**Pn**	**22 31 12.9**	**+1.6**
KNT	**Kendrikon**	**4.64**	**359**	Pn	**Pn**	**22 31 14.3**	**+1.3**
CANM	**Can-anakkale**	**4.75**	**41**	Pn	**Pn**	**22 31 14.9**	**+0.5**
GELI	**Tayfur-Gelibol**	**4.76**	**34**	Pn	**Pn**	**22 31 15.8**	**+1.2**
VLO	**Vlora**	**4.79**	**327**	P	**Pn**	**22 31 17.6**	**+2.6**
	baz=323						
VLO				S	**Sn**	**22 32 13.6**	**+3.2**
	baz=323						
VLO				AMP			
	comp=N,6.5nm,0.8s,baz=323						
VLO	**Vlora**	**4.79**	**327**		**Pn**	**22 31 16.4**	**+1.4**
VLO	**Vlora**	**4.79**	**327**	P	**Pn**	**22 31 16.4**	**+1.4**
VAY	**Valandovo**	**4.81**	**356**	*i* Pn	**Pn**	**22 31 17.3**	**+2.0**
LPK	**Lapseki**	**4.87**	**37**	Pn	**Pn**	**22 31 17.4**	**+1.3**
OHR	**Ohrid**	**4.89**	**340**	*i* Pn	**Pn**	22 31 21.6	+5.1
ENEZ	**Enez**	**4.90**	**30**	Pn	**Pn**	**22 31 17.6**	**+1.1**
BALB	**Balikesir**	**4.98**	**50**	Pn	**Pn**	**22 31 18.9**	**+1.3**
BALB	**Balikesir**	**4.98**	**50**	Pn	**Pn**	**22 31 18.0**	**+0.4**
ERIK	**Erikli-Kesan**	**5.00**	**33**	Pn	**Pn**	**22 31 19.5**	**+1.7**
SCTE	**Santa Cesarea**	**5.01**	**317**	Pn	**Pn**	**22 31 18.6**	**+0.6**
RDO	**Rodhopi**	**5.04**	**23**	Pn	**Pn**	**22 31 19.7**	**+1.2**
RDO	**Rodhopi**	**5.04**	**23**	Pn	**Pn**	**22 31 17.8**	**-0.7**
MMB	**Musomishta**	**5.07**	**7**	*e*P	**Pn**	**22 31 22.2**	**+3.4**
GONE	**Gonen-Balikesi**	**5.13**	**45**	Pn	**Pn**	**22 31 21.7**	**+2.1**
KRBG	**Karabiga-Canak**	**5.16**	**40**	Pn	**Pn**	**22 31 21.5**	**+1.5**
RKY	**Sarkoy-Tekirda**	**5.32**	**37**	Pn	**Pn**	**22 31 23.8**	**+1.5**
KKB	**Krupnik**	**5.32**	**1**	*e*P	**Pn**	**22 31 24.8**	**+2.5**
RZN	**Rozhen**	**5.36**	**14**	*e*P	**Pn**	**22 31 23.9**	**+1.0**
TIR	**Tirane**	**5.40**	**334**	⇑P	**Pn**	**22 31 25.5**	**+2.1**
TIR	**Tirane**	**5.40**	**334**	P	**Pn**	**22 31 25.7**	**+2.4**
	baz=332						
TIR				S	**Sn**	**22 32 27.1**	**+1.8**
	baz=332						
TIR				AMP			
	comp=E,1.5nm,0.8s,baz=332						
TIR	**Tirane**	**5.40**	**334**	Pn	**Pn**	**22 31 23.4**	**+0.1**
TIR	**Tirane**	**5.40**	**334**	P	**Pn**	**22 31 23.4**	**+0.1**
TIR	**Tirane**	**5.40**	**334**	Pn	**Pn**	**22 31 25.4**	**+2.1**
	comp=E,332nm,0.8s,comp=E,4μmcomp=E,2.4nm						
UKOP	**Uzunkopru-Edir**	**5.43**	**31**	Pn	**Pn**	**22 31 25.4**	**+1.7**
EDC	**Edincik**	**5.43**	**44**	Pn	**Pn**	**22 31 25.5**	**+1.7**
KDZ	**Kurdzhali**	**5.43**	**19**	Pn	**Pn**	**22 31 25.5**	**+1.6**
KDZ	**Kurdzhali**	**5.43**	**19**	*e*P	**Pn**	**22 31 23.5**	**-0.4**
TIP	**Timpagrande**	**5.58**	**300**		**Pn**	**22 31 25.7**	**-0.2**
ELL	**Elmali**	**5.59**	**86**		**Pn**	**22 29.7**	**+3.6**
ELL	**Elmali**	**5.59**	**86**	P	**Pn**	**22 31 29.7**	**+3.6**
PLD	**Plovdiv**	**5.79**	**13**	Pn	**Pn**	**22 31 29.8**	**+1.0**
PLD	**Plovdiv**	**5.79**	**13**	*e*P	**Pn**	**22 31 31.4**	**+2.6**
CEL	**Celeste**	**5.89**	**289**		**Pn**	**22 31 30.0**	**-0.2**
CEL	**Celeste**	**5.89**	**289**	Pn	**Pn**	**22 31 30.6**	**+0.4**
	comp=E,489nm,0.6s,comp=E,6μmcomp=E,1.7nm						
PUK	**Puka**	**6.01**	**338**	P	**Pn**	**22 31 33.9**	**+2.0**
	baz=335						
PUK				S	**Sn**	**22 32 43.1**	**+2.6**
	baz=335						
PUK				AMP			
	comp=N,1.3nm,0.5s,baz=335						
PUK	**Puka**	**6.01**	**338**		**Pn**	**22 31 33.5**	**+1.6**
EDRB	**Edirne**	**6.08**	**28**	Pn	**Pn**	**22 31 34.4**	**+1.7**
VTS	**Vitosha**	**6.10**	**2**	*e*P	**Pn**	**22 31 35.3**	**+2.2**
ISP	**Isparta**	**6.18**	**76**		**Pn**	**22 31 36.8**	**+2.6**
ISP	**Isparta**	**6.18**	**76**	*ce*P	**Pn**	**22 31 38.7**	**+4.5**
ISP				pmax	pmax		
	comp=Z,258nm,1.3s						
BCI	**Bajram Curri**	**6.26**	**340**	P	**Pn**	**22 31 38.4**	**+3.2**
	baz=338						
BCI				S	**Sn**	**22 32 51.8**	**+5.2**
	baz=338						
BCI				AMP			
	comp=E,2.7nm,1.0s,baz=338						
DRME	**Dracevica, Mon**	**6.38**	**334**	*e*Pn	**Pn**	**22 31 37.3**	**+0.5**
MATE	**Matera**	**6.41**	**312**	⇑P	**Pn**	**22 31 38.1**	**+0.9**
CTYL	**Yalikoy Yolu**	**6.46**	**38**	Pn	**Pn**	**22 31 39.3**	**+1.4**
	comp=E,74nm,0.5s,comp=E,3μmcomp=E,0.3nm						
PDG	**Podgorica**	**6.57**	**335**	⇑P	**Pn**	**22 31 41.6**	**+2.2**
PDG	**Podgorica**	**6.57**	**335**		**Pn**	**22 31 40.7**	**+1.3**
PDG	**Podgorica**	**6.57**	**335**	*e*Pn	**Pn**	**22 31 40.7**	**+1.3**
CUC	**Castrocucco**	**6.61**	**304**	Pn	**Pn**	**22 31 41.7**	**+1.7**
KLYT	**Kilyos**	**6.70**	**43**	Pn	**Pn**	**22 31 42.4**	**+1.2**
	comp=E,127nm,0.5s,comp=E,3μmcomp=E,0.7nm						
ELND	**Elena**	**6.79**	**18**	⇑P	**Pn**	**22 31 43.7**	**+1.2**
WDD	**Wied Dalam**	**6.86**	**267**		**Pn**	**22 31 42.9**	**-0.5**
MPEP	**Malo Peshtene**	**6.86**	**5**	*e*P	**Pn**	**22 31 46.0**	**+2.6**
VAE	**Valguarnera**	**6.91**	**281**	Pn	**Pn**	**22 31 44.5**	**+0.3**
	comp=E,57nm,0.8s,baz=128,slow=11,SNR=29						
VAE				Sn	**Sn**	**22 33 01.8**	**-0.9**
	comp=E,29nm,0.3s,baz=144,slow=19,SNR=7.1						
VAE				LR	LR	22 34 25.0	
	comp=E,2μm,21.3s,baz=223,slow=38						
RAFF	**Raffo Rosso**	**6.93**	**278**	Pn	**Pn**	**22 31 44.0**	**-0.4**
BLKB	**Belogradchik**	**7.11**	**358**	⇑P	**Pn**	**22 31 48.7**	**+1.9**
SJES	**Sjenica**	**7.12**	**342**	*e*Pn	**Pn**	**22 31 49.3**	**+2.2**
TREB	**Trebinje**	**7.14**	**332**	*e*Pn	**Pn**	**22 31 46.7**	**-0.6**
VALD	**Valchedram**	**7.18**	**3**	*e*P	**Pn**	**22 31 52.0**	**+4.2**
BOVS	**Bovan**	**7.18**	**353**	⇑P	**Pn**	**22 31 50.3**	**+2.5**
DBRK	**Dubrovnik**	**7.18**	**330**	*e*Pn	**Pn**	**22 31 47.6**	**-0.3**
BRY	**Bratogost**	**7.23**	**333**	*e*Pn	**Pn**	**22 31 49.7

MLR	**Muntele Rosu**	9.25	13	Pn		**Pn**	22 32 14.7	-1.6		
	comp=Z,3.4nm,0.8s,baz=235,slow=16,SNR=3.4									
MLR				Sn		**Sn**	22 33 59.8	-0.4		
	comp=Z,0.4nm,0.3s,baz=269,slow=13,SNR=1.1									
MLR				LR		LR	22 35 58.8			
	comp=Z,500nm,21.0s,baz=191,slow=39									
MLR	**Muntele Rosu**	9.25	13	P		**Pn**	22 32 17.6	+1.3		
MLR	**Muntele Rosu**	9.25	15	Pn		**Pn**	22 32 17.9	+1.6		
	comp=Z,57nm,1.0s,comp=Z,783nm									
NEHR	**Nehoiu**	9.26	15	⇓P		**Pn**	22 32 19.0	+2.7		
TPGR	**Topolog**	9.31	25	⇑P		**Pn**	22 32 19.9	+2.9		
BLY	**Banja Luka**	9.32	334	*e*Pn		**Pn**	22 32 16.3	-0.9		
A050A	**Klekovaca**	9.34	330	*e*Pn		**Pn**	22 32 18.8	+1.3		
DEV	**Deva**	9.36	360	⇓P		**Pn**	22 32 20.5	+2.7		
DEV	**Deva**	9.36	360	P		**Pn**	22 32 20.4	+2.7		
GRER		9.36	18	⇑P		**Pn**	22 32 20.5	+2.8		
BISRR	**Bisoca**	9.46	16	⇓P		**Pn**	22 32 21.9	+2.8		
CFR	**Carcaliu**	9.50	23	⇑P		**Pn**	22 32 22.2	+2.6		
CFR	**Carcaliu**	9.50	23	P		**Pn**	22 32 22.2	+2.6		
CAMP	**Campotosto**	9.52	312			**Pn**	22 32 21.8	+1.9		
A052A	**Srbac**	9.52	336	*e*Pn		**Pn**	22 32 18.6	-1.3		
DUGI	**Dugi Otok**	9.60	323	*e*Pn		**Pn**	22 32 21.4	+0.4		
DUGI				Sn		**Sn**	22 34 03.8	-5.0		
DOPR	**Dopca**	9.62	10	⇑P		**Pn**	22 32 23.9	+2.7		
COVR	**Voineasa-Covas**	9.64	14	⇑P		**Pn**	22 32 25.0	+3.4		
A051A	**Mrakovica**	9.65	333	*e*Pn		**Pn**	22 32 21.7	0.0		
PRIJ	**Prijedor**	9.69	333	*e*Pn		**Pn**	22 32 20.7	-1.5		
UDBI	**Udbina**	9.70	328	*e*Pn		**Pn**	22 32 23.1	+0.8		
PLOR5	**Plostina Array**	9.73	15	Pn		**Pn**	22 32 25.6	+2.8		
	comp=Z,62nm,0.8s									
PLOR3	**Plostina Array**	9.74	15	Pn		**Pn**	22 32 26.0	+3.1		
	comp=Z,69nm,1.0s									
VRI	**Vrincioaia**	9.77	16	⇓P		**Pn**	22 32 26.0	+2.8		
VRI	**Vrincioaia**	9.77	16	P		**Pn**	22 32 26.0	+2.8		
VRI	**Vrincioaia**	9.77	16	Pn		**Pn**	22 32 25.6	+2.3		
	comp=Z,56nm,0.9s									
BOSR	**Bodos**	9.77	11	⇑P		**Pn**	22 32 26.1	+2.8		
TURR	**Turia**	9.81	13	⇑P		**Pn**	22 32 26.4	+2.6		
VIRC	**Vir**	9.83	325	*i* Pn		**Pn**	22 32 25.3	+1.2		
NRCA	**Norcia**	9.87	313			**Pn**	22 32 26.9	+2.2		
GUMA	**Gualdo di Mace**	9.88	314			**Pn**	22 32 26.7	+1.9		
FDMO	**Fiordimonte**	10.01	314			**Pn**	22 32 28.8	+2.2		
PLIT	**Plitvice**	10.04	329	*e*Pn		**Pn**	22 32 27.4	+0.4		
CESX	**Cesi**	10.06	310	Pn		**Pn**	22 32 29.3	+2.0		
VARL	**Varlezi**	10.07	20	⇑P		**Pn**	22 32 29.4	+2.0		
VLDR	**Vladesti**	10.09	21	⇓P		**Pn**	22 32 29.9	+2.3		
NVLJ	**Novalja**	10.12	325	*e*Pn		**Pn**	22 32 29.0	+0.9		
MARR	**Marisel-Cluj**	10.16	1	⇑P		**Pn**	22 32 31.6	+2.9		
MORH	**Mrgy, Hungar**	10.22	343	Pn		**Pn**	22 32 31.3	+1.9		
	comp=Z,17nm,1.0s									
RABC	**Rab**	10.31	325	*e*Pn		**Pn**	22 32 31.6	+1.0		
RABC				Sn		**Sn**	22 34 21.4	-4.5		
TESR	**Tescani**	10.37	14	⇑P		**Pn**	22 32 34.2	+2.8		
TESR	**Tescani**	10.37	14	Pn		**Pn**	22 32 32.8	+1.3		
	comp=Z,18nm,0.6s									
BNN	**Bunyan**	10.48	73	Pn		**Pn**	22 32 36.2	+3.0		
HNTI	**Hanita**	10.61	105	P		Pn	22 32 24.1	-11		
HNTI	**Hanita**	10.61	105	S		**Sn**	22 34 29.3	-4.3		
HNTI	**Hanita**	10.61	105	P		**Pn**	22 32 33.0	-1.9		
OFRI	**`Ofer**	10.65	108	S		**Sn**	22 34 30.4	-4.1		
OFRI	**`Ofer**	10.65	108	P		**Pn**	22 32 33.0	-2.4		
BOJS	**Bojanci**	10.70	329	*e*Pn		**Pn**	22 32 35.4	-0.6		
OZLJ	**Ozalj**	10.70	330	*e*Pn		**Pn**	22 32 36.6	+0.5		
BLGI	**Bet Lehem HaGe**	10.76	107	S		**Sn**	22 34 32.4	-4.8		
BLGI	**Bet Lehem HaGe**	10.76	107	P		**Pn**	22 32 34.1	-2.8		
KALN	**Kalnik**	10.78	335	*e*Pn		**Pn**	22 32 36.8	-0.3		
MMC7	**Mount Meron ar**	10.80	105	P		**Pn**	22 32 35.7	-1.9		
MMA0	**Mount Meron ar**	10.81	105	P		**Pn**	22 32 37.9	+0.2		
MMA0B	**Mount Meron ar**	10.81	105	S		**Sn**	22 34 34.6	-4.0		
MMA0B	**Mount Meron ar**	10.81	105	P		**Pn**	22 32 35.4	-2.3		
MMAI	**Mount Meron Ar**	10.81	105	Pn		**Pn**	22 32 35.9	-1.9		
	comp=Z,4.9nm,0.3s,baz=305,slow=12,SNR=44									
MMAI				Sn		**Sn**	22 34 32.5	-6.2		
	comp=Z,4.3nm,0.3s,baz=297,slow=13,SNR=2.6									
MMAI				LR		LR	22 37 27.6			
	comp=Z,266nm,18.1s,baz=224,slow=42									
SLTI	**Sal'it**	10.85	110	P		**Pn**	22 32 38.4	+0.2		
SLTI	**Sal'it**	10.85	110	P		**Pn**	22 32 35.3	-2.9		
SLTI	**Sal'it**	10.85	110	S		**Sn**	22 34 34.6	-4.8		
CRES	**Cresnjev**	10.88	331	*e*Pn		**Pn**	22 32 38.4	-0.2		
CRES	**Cresnjev**	10.88	331	*e*Pn		**Pn**	22 32 37.5	-1.0		
RIY	**Rijeka**	10.88	327	*e*Pn		**Pn**	22 32 38.9	+0.3		
GBRS	**Gornja Briga**	10.90	328	*e*Pn		**Pn**	22 32 38.7	-0.2		
BRJN	**Brijuni**	10.91	323	*e*Pn		**Pn**	22 32 40.1	+1.2		
LOBO	**Lobor**	10.93	334	*e*Pn		**Pn**	22 32 40.0	+0.8		
GEM	**Giv'at Ha'Em**	10.94	104	P		**Pn**	22 32 38.7	-0.7		
GEM	**Giv'at Ha'Em**	10.94	104	S		**Sn**	22 34 38.0	-3.7		
GEM	**Giv'at Ha'Em**	10.94	104	P		**Pn**	22 32 37.2	-2.2		
TATN	**Tataouine**	10.97	253	Pn		**Pn**	22 32 37.6	-2.3		
NATI	**Neve Ativ**	10.98	103	P		**Pn**	22 32 38.1	-1.8		
NATI	**Neve Ativ**	10.98	103	S		**Sn**	22 34 38.9	-3.7		
KEST	**Kesra**	11.04	270	Pn		**Pn**	22 32 41.0	+0.2		
KEST	**Kesra**	11.04	270	Pn		**Pn**	22 32 41.2	+0.4		
	comp=Z,0.5nm,0.3s,baz=175,slow=5.2,SNR=10									
KEST				Sn		**Sn**	22 34 40.2	-4.0		
	comp=Z,0.4nm,0.3s,baz=174,slow=19,SNR=1.4									
KEST				LR		LR	22 37 47.1			
	comp=Z,426nm,18.5s,baz=18,slow=42									
	comp=Z,11nm,0.9s									
KZIT	**Kziot**	11.04	117	P		**Pn**	22 32 39.9	-0.9		
KZIT	**Kziot**	11.04	117	S		**Sn**	22 34 38.9	-5.2		
KZIT	**Kziot**	11.04	117	P		**Pn**	22 32 37.8	-3.0		
MMLI	**Mount Malkishu**	11.06	108	S		**Sn**	22 34 40.2	-4.3		
MMLI	**Mount Malkishu**	11.06	108	P		**Pn**	22 32 38.4	-2.7		
AMAZ	**Amatzia**	11.09	113	P		**Pn**	22 32 41.2	-0.3		
AMAZ	**Amatzia**	11.09	113	S		**Sn**	22 34 40.2	-5.1		
AMAZ	**Amatzia**	11.09	113	P		**Pn**	22 32 38.6	-2.9		
VSL	**Villasalto**	11.12	290	Pn		**Pn**	22 32 40.0	-1.1		
KSHT	**Keshet**	11.14	105	P		**Pn**	22 32 39.9	-2.3		
KSHT	**Keshet**	11.14	105	S		**Sn**	22 34 42.7	-4.0		
HMDT	**Nahal Hemdat**	11.22	109	P		**Pn**	22 32 42.9	-0.3		
HMDT	**Nahal Hemdat**	11.22	109	S		**Sn**	22 34 43.6	-4.8		
HMDT	**Nahal Hemdat**	11.22	109	P		**Pn**	22 32 40.3	-2.9		
QRNJ	**Al-Qirein**	11.22	108	P		**Pn**	22 32 42.5	-0.7		
BURAR	**Bucovina Array**	11.22	8	Pn		**Pn**	22 32 45.4	+2.1		
CEY	**Cerknica**	11.23	328	*e*Pn		**Pn**	22 32 42.3	-1.1		
BUR08	**Bucovina Ar. S**	11.25	8	Pn		**Pn**	22 32 44.9	+1.3		
MILM	**Milestii Mici**	11.28	21	⇓P		**Pn**	22 32 45.5	+1.6		
MILM	**Milestii Mici**	11.28	21	⇑*i*P		**Pn**	22 32 46.5	+2.6		
	comp=Z,45nm,1.2s									
MILM				*e*L		L	22 34 32.0			
MILM				*e*S		**Sn**	22 34 51.5	+1.8		
MILM				LQM			22 36 36.0			
	comp=Z,2µm,16.0s									
MILM				LRM		MLR	22 37 17.0			
	comp=Z,1µm,13.0s									
MILM	**Milestii Mici**	11.28	21	*c i*P		**Pn**	22 32 46.5	+2.6		
MILM				*e*S		**Sn**	22 34 51.5	+1.8		
MILM				pmax		pmax				
	comp=Z,45nm,1.2s									
MILM				MLR		MLR				
	comp=Z,1µm,13.0s									
MILM				MLR		MLR				
	comp=N,1µm,10.0s									
UJAP	**Al Uja**	11.30	110	P		**Pn**	22 32 44.2	-0.1		
YTIR	**Yattir**	11.32	113	P		**Pn**	22 32 44.4	-0.3		
YTIR	**Yattir**	11.32	113	S		**Sn**	22 34 44.9	-6.2		
YTIR	**Yattir**	11.32	113	P		**Pn**	22 32 41.8	-2.9		
BALJ	**Balqa**	11.38	109	Pn		**Pn**	22 32 44.0	-1.3		
BALJ	**Balqa**	11.38	109	P		**Pn**	22 32 46.3	+0.9		
OSSC	**Osservatorio P**	11.38	312			**Pn**	22 32 46.3	+0.9		
MPLH	**Magyarpolny**	11.39	341	Pn		**Pn**	22 32 46.0	+0.6		
	comp=N,96nm,1.0s									
DSI	**Dead Sea**	11.42	112	P		**Pn**	22 32 44.5	-1.4		
DSI	**Dead Sea**	11.42	112	S		**Sn**	22 34 48.1	-5.3		
DSI	**Dead Sea**	11.42	112	P		**Pn**	22 32 43.6	-2.3		
GAZ	**Gaziantep**	11.44	82	Pn		**Pn**	22 32 47.5	+1.2		
MDBI	**Mazsada**	11.53	113	P		**Pn**	22 32 48.2	+0.8		
MSBI	**Mazada**	11.53	113	P		**Pn**	22 32 47.5	+0.1		
MSBI	**Mazada**	11.53	113	P		**Pn**	22 32 45.1	-2.3		
MSBI	**Mazada**	11.53	113	S		**Sn**	22 34 49.9	-6.1		
CRNS	**Crni Vrh**	11.57	328	*e*Pn		**Pn**	22 32 48.3	+0.2		
CRNS				*e*Sn		**Sn**	22 34 53.3	-3.8		
PSZ	**Piszkesteto**	11.62	350	Pn		**Pn**	22 32 49.9	+1.2		
PSZ	**Piszkesteto**	11.62	350	P		**Pn**	22 32 49.9	+1.2		
LISJ	**El Lisan**	11.66	113	P		**Pn**	22 32 49.7	+0.6		
GHAJ	**Ghor Haditha**	11.69	113	Pn		**Pn**	22 32 48.9	-0.7		
GHAJ	**Ghor Haditha**	11.69	113	P		**Pn**	22 32 50.1	+0.5		
GHAJ	**Ghor Haditha**	11.69	113	P		**Pn**	22 32 47.5	-2.1		
GHAJ	**Ghor Haditha**	11.69	113	S		**Sn**	22 34 55.0	-4.9		
KRMI	**Paran Flat**	11.72	120	S		**Sn**	22 34 54.4	-6.5		
KRMI	**Paran Flat**	11.72	120	P		**Pn**	22 32 47.1	-3.0		

SOKA	**Soboth**	11.76	332	*i* Pn		**Pn**	22 32 50.6	+0.1		
	comp=N,3.2nm,0.5s									
SOKA				*e*Sn		**Sn**	22 34 59.0	-2.6		
	comp=N,8.3nm,0.7s									
PRNI	**Paran**	11.78	118	P		**Pn**	22 32 50.7	-0.3		
PRNI	**Paran**	11.78	118	P		**Pn**	22 32 49.1	-1.9		
PRNI	**Paran**	11.78	118	S		**Sn**	22 34 56.6	-5.8		
SABO	**M.te Sabotino**	11.78	326	Pn		**Pn**	22 32 49.8	-1.1		
ZFRI	**Zfri**	11.80	117	P		**Pn**	22 32 50.7	-0.4		
ZFRI	**Zfri**	11.80	117	S		**Sn**	22 34 56.4	-6.2		
ZFRI	**Zfri**	11.80	117	P		**Pn**	22 32 48.7	-2.4		
OBKA	**Obir**	11.80	330	*e*Pn		**Pn**	22 32 51.2	+0.1		
	comp=N,3.9nm,0.4s									
OBKA				*e*Sn		**Sn**	22 35 04.1	+1.3		
	comp=N,32nm,0.7s									
OBKA	**Obir**	11.80	330	*e*Pn		**Pn**	22 32 51.3	+0.1		
SRO	**Srobarova**	11.80	345	*e*PN		**Pn**	22 32 51.2	+0.1		
SRO	**Srobarova**	11.80	345	*e*P		**Pn**	22 32 51.1	+0.1		
BRIU	**Brid**	11.82	0	Pn		**Pn**	22 32 54.8	+3.5		
KARJ	**KARJ**	11.84	113	P		Pn	22 32 45.2	-6.5		
SIM	**Simferopol'**	11.93	42	*e*P		**Pn**	22 32 55.2	+2.3		
SIM				*e*S		**Sn**	22 35 10.0	+4.2		
SIM				pmax		pmax				
	comp=Z,52nm,0.9s									
SIM				smax		smax				
	comp=E,27nm,1.1s									
SIM				smax		smax				
	comp=N,18nm,0.9s									
MUKU	**Mukachevo**	11.94	359	Pn		**Pn**	22 32 54.7	+1.8		
HRFI	**Mount Harif**	11.99	119	P		**Pn**	22 32 53.0	-0.8		
HRFI	**Mount Harif**	11.99	119	S		**Sn**	22 35 01.7	-5.6		
HRFI	**Mount Harif**	11.99	119	P		**Pn**	22 32 50.7	-3.1		
MBRI	**Mt Berech**	12.04	120	P		**Pn**	22 32 54.1	-0.5		
MBRI	**Mt Berech**	12.04	120	P		**Pn**	22 32 51.6	-3.0		
MBRI	**Mt Berech**	12.04	120	S		**Sn**	22 35 03.3	-5.5		
ARSA	**Arzberg**	12.07	335	*e*Pn		**Pn**	22 32 57.0	+2.2		
	comp=N,1.2nm,0.4s									
ARSA				*e*Sn		**Sn**	22 35 11.5	+2.3		
	comp=N,4.3nm,0.5s									
KECS	**Kecovo**	12.10	352	*e*PN		Pn	22 33 00.5	+5.3		
KECS				*e*PG		Pg	22 33 54.8			
KECS	**Kecovo**	12.10	352	*e*P		Pn	22 33 00.5	+5.3		
EIL	**Elat**	12.15	121	Pn		**Pn**	22 32 53.5	-2.4		
	comp=N,1.8nm,0.3s,baz=278,slow=1.5,SNR=21									
EIL				Sn		**Sn**	22 35 04.2	-7.0		
	comp=N,1.4nm,0.3s,baz=310,slow=15,SNR=3.5									
	comp=N,8.8nm,0.5s									
EIL	**Elat**	12.15	121	P		**Pn**	22 32 55.1	-0.8		
EIL	**Elat**	12.15	121	P		**Pn**	22 32 52.8	-3.1		
EIL	**Elat**	12.15	121	S		**Sn**	22 35 05.1	-6.1		
PRED	**Cave del Predi**	12.16	328	Pn		**Pn**	22 32 56.1	+0.1		
AQBJ	**Aqaba**	12.18	120	P		**Pn**	22 32 56.0	-0.3		
RONA	**Rosalia, Austr**	12.22	338	*i* Pn		**Pn**	22 32 57.7	+0.8		
	comp=N,1.2nm,0.3s									
RONA				Sn		**Sn**	22 35 12.5	-0.3		
	comp=N,2.6nm,0.5s									
MYKA	**Terra Mystica**	12.27	328	*e*Pn		**Pn**	22 33 00.9	+3.3		
	comp=N,1.8nm,0.4s									
MYKA				*e*Sn		**Sn**	22 35 14.9	+0.6		
	comp=N,5.6nm,0.5s									
TEOL	**Teolo**	12.28	320			**Pn**	22 32 58.0	+0.4		
VYHS	**Vyhne**	12.35	347	*e*PN		**Pn**	22 33 03.2	+4.6		
VYHS	**Vyhne**	12.35	347	*e*P		**Pn**	22 33 03.2	+4.6		
STAL	**STALIGIAL**	12.40	325			**Pn**	22 32 59.6	+0.2		
KOLS	**Kolonicke sedl**	12.42	358	*e*PN		Pn	22 33 05.5	+5.9		
KOLS	**Kolonicke sedl**	12.42	358	*e*P		Pn	22 33 05.5	+5.9		
CRVS	**Cervenica-Dubn**	12.43	355	*e*PN		**P**	22 33 08.3	-3.4		
CRVS	**Cervenica-Dubn**	12.43	355	*e*P		**P**	22 33 08.3	-3.4		
ARPR	**Arapgir-MALATY**	12.43	73	Pn		**Pn**	22 33 02.1	+2.2		
ZST	**Bratislava**	12.45	342	*e*PN		**P**	22 33 13.3	+1.5		
ZST				*e*PG		Pg	22 34 01.4			
ZST	**Bratislava**	12.45	342	*e*P		**P**	22 33 13.3	+1.5		
CONA	**Conrad Observa**	12.55	338	*i* Pn		**Pn**	22 33 05.7	+4.2		
	comp=N,4.2nm,1.0s									
CONA				*e*Sn		**Sn**	22 35 20.3	-0.8		
	comp=N,8.2nm,1.1s									
MODS	**Modra-Piesok**	12.57	342	*e*PN		**P**	22 33 08.6	-4.6		
MODS	**Modra-Piesok**	12.57	342	*e*P		**P**	22 33 08.6	-4.6		
KBA	**Koelnbreinsper**	12.75	329	*e*Pn		**Pn**	22 33 07.2	+2.9		
	comp=N,14nm,1.4s									
KBA				*e*Sn		**Sn**	22 35 24.1	-2.0		
	comp=N,3.0nm,0.4s									
CTI	**Castel Tesino**	12.76	322	Pn		**Pn**	22 33 04.7	+0.4		
CTI	**Castel Tesino**	12.76	322	P		**Pn**	22 33 04.7	+0.4		
ABTA	**Abfaltersbach**	12.86	326	*i* Pn		**Pn**	22 33 06.7	+1.1		
	comp=N,2.7nm,0.4s									
ABTA				*e*Sn		**Sn**	22 35 25.3	-3.3		
	comp=N,6.6nm,0.5s									
LANS	**Liptovska Anna**	12.89	350	*e*PN		**P**	22 33 14.6	-2.1		
LANS	**Liptovska Anna**	12.89	350	*e*P		**P**	22 33 14.6	-2.1		
STHS	**Stebnicka Huta**	12.96	355	*e*PN		**P**	22 33 21.5	+4.0		
STHS	**Stebnicka Huta**	12.96	355	*e*P		**P**	22 33 21.5	+4.0		
MOA	**Molln**	13.02	333	*i* Pn		**Pn**	22 33 08.9	+1.1		
	comp=N,5.2nm,1.2s									
MOA				*e*Sn		**Sn**	22 35 31.4	-1.1		
	comp=N,4.8nm,0.6s									
NIE	**Niedzica**	13.04	352	*e*P		**P**	22 33 14.9	-3.6		
KWP	**Kalwaria Pacla**	13.11	359	*e*P		**P**	22 33 16.2	-3.0		
KWP	**Kalwaria Pacla**	13.11	359			**Pn**	22 33 10.5	+1.5		
KWP	**Kalwaria Pacla**	13.11	359	P		**Pn**	22 33 10.5	+1.5		
BIOA	**Bad Ischl, Aus**	13.13	331	*i* Pn		**Pn**	22 33 10.6	+1.3		
	comp=N,1.8nm,0.3s									
BIOA				*e*Sn		**Sn**	22 35 33.9	-1.2		
	comp=N,15nm,0.9s									
LESA	**Schwarzleotal**	13.30	328	*i* Pn		**Pn**	22 33 13.8	+2.1		
	comp=N,4.4nm,0.8s									
LESA				*i* Sn		**Sn**	22 35 37.2	-2.3		
	comp=N,4.8nm,0.5s									
LVV	**L'vov**	13.32	3	*e*P		**P**	22 33 24.0	+2.5		
LVV				MLR		MLR				
	comp=Z,1µm,14.0s									
MAUC	**Maruska**	13.38	345	*e*P		**P**	22 33 26.4	+4.2		
KRUC	**Moravsky**	13.43	341	*e*PN		**Pn**	22 33 16.0	+2.7		
KRUC				*e*			22 33 25.0			
WTTA	**Wattenberg**	13.64	325	*i* Pn		**Pn**	22 33 17.4	+1.0		
	comp=Z,1.3nm,0.3s,SNR=7.8									
WTTA				*e*Sn		**Sn**	22 35 44.0	-3.9		
	comp=Z,18nm,0.7s									
WATA	**Walderalm**	13.72	326	*i* Pn		**Pn**	22 33 20.1	+2.6		
	comp=Z,7.6nm,0.4s,SNR=14									
WATA				*i* Sn		**Sn**	22 35 48.5	-1.3		
	comp=Z,32nm,1.0s									
ANN	**Anapa**	13.74	49	*e*P		**P**	22 33 22.0	-4.2		
ANN				*e*S		**Sn**	22 35 51.9	+1.9		
ANN				pmax		pmax				
	comp=Z,32nm,0.9s									
OKC	**Ostrava-Krasne**	13.77	347	AMS		AMS	22 41 10.0			
	comp=Z,2µm,12.5s									
SQTA	**Sankt Quirin**	13.81	324	*i* Pn		**Pn**	22 33 19.9	+1.3		
	comp=Z,2.5nm,0.3s									
SQTA				*e*Sn		**Sn**	22 35 49.6	-2.2		
	comp=Z,7.5nm,0.5s									
MORC	**Moravsky Berou**	13.83	345	Pn		**Pn**	22 33 21.8	+3.0		
MORC	**Moravsky Berou**	13.83	345	P		**Pn**	22 33 21.8	+3.0		
CKRC	**Cesky Krumlov**	13.84	335	*e*P		**P**	22 33 23.7	-3.6		
CKRC				AMS		AMS	22 39 50.0			
	comp=Z,5µm,12.4s									
CKRC	**Cesky Krumlov**	13.84	335	*e*P		**P**	22 33 23.7	-3.6		
CKRC				MLR		MLR				
	comp=Z,5µm,12.4s									
LUBAR	**Lubar, Ukraine**	13.85	13	Pn		**Pn**	22 33 19.4	+0.4		
FUORN	**Ofenpass-Fuorn**	13.85	321	Pn		**Pn**	22 33 20.8	+1.4		
TREC	**Trest**	13.89	339	*e*P		**P**	22 33 29.3	+1.4		
TREC				AMS		AMS	22 40 00.0			
	comp=Z,4µm,16.4s									
TREC	**Trest**	13.89	339	*e*P		**P**	22 33 29.3	+1.4		
TREC				MLR		MLR				
	comp=Z,4µm,16.4s									
OJC	**Ojcow**	13.89	352	*e*P		**P**	22 33 30.4	+2.6		
FETA	**Feichten**	13.89	323	*i* Pn		**P**	22 33 24.1	-4.0		
	comp=Z,0.7nm,0.4s									
FETA				*i* Sn		**Sn**	22 35 52.5	-1.4		
	comp=Z,6.0nm,0.7s									
MOTA	**Moosalm**	13.95	325	*i* Pn		**Pn**	22 33 20.7	+0.2		
	comp=Z,7.1nm,0.9s,SNR=10									
MOTA				*e*Sn		**Sn**	22 35 50.6	-4.6		
	comp=Z,8.7nm,0.7s									
GEC2	**GERESS Array S**	14.07	334	Pn		**Pn**	22 33 23.3	+1.2		
GERES	**GERESS Array B**	14.07	334			**Pn**	22 33 23.3	+1.2		
GERES	**GERESS Array B**	14.07	334	Pn		**Pn**	22 33 22.7	+0.5		
	comp=Z,0.5nm,0.3s,baz=156,slow=13,SNR=9.2									
GERES				Sn		**Sn**	22 35 55.9	-2.2		
	comp=Z,0.3nm,0.3s,baz=156,slow=22,SNR=2.0									
GERES				LR		LR	22 40 29.7			

	comp=Z,2µm,19.9s,baz=150,slow=45									
GERES				ScP		**ScP**	22 42 14.4	-0.7		
	comp=Z,0.8nm,0.7s,baz=72,slow=4.3,SNR=3.9									
	comp=Z,3.0nm,0.8s									
DAVOX	**Davos/Dischmat**	14.15	320	Pn		**Pn**	22 33 23.4	0.0		
	comp=Z,0.1nm,0.3s,baz=133,slow=20,SNR=3.4									
DAVOX				Sn		**Sn**	22 35 54.6	-5.7

CLL es P P 22 33 57.0 +1.2
comp=Z,113nm,1.1s
CLL eP max 22 34 01.0
CLL eP P PnPn 22 34 03.0 +0.9
CLL i SPP 22 34 05.7
CLL i x x 22 34 07.9
CLL eS Sn 22 36 59.0 +4.0
CLL AMS AMS 22 41 00.0
CLL Collm 16.41 337 P Pn 22 33 54.0 +0.9
CLL pmax pmax
comp=Z,86nm,1.0s
SSB Saint Sauveur 16.42 308 Pn Pn 22 33 52.9 -0.4
SSB Saint Sauveur 16.42 308 P Pn 22 33 52.9 -0.4
SSB pmax pmax
comp=Z,18nm,1.3s
ECH Echery 16.49 320 Pn Pn 22 33 54.8 +0.7
ECH Echery 16.49 320 P Pn 22 33 54.8 +0.7
ECH pmax pmax
comp=Z,36nm,1.6s
SHA1 Shidzhatmaz 16.68 58 ce P P 22 34 00.0 +0.9
KIV Kislovodsk 16.77 58 Pn Pn 22 33 58.0 +0.2
KIV Kislovodsk 16.77 58 i P P 22 34 02.6 +2.6
SNR=16
KIV Kislovodsk 16.77 58 i P P 22 33 59.9 -0.1
KIV i SS S 22 37 09.7 -5.1
KIV pmax pmax
comp=Z,28nm,1.0s
KIV MLR MLR
comp=Z,437nm,16.0s
KVAR Kislovodsk Arr 16.78 58 Pn Pn 22 33 56.4 -1.5
baz=246,slow=20
comp=Z,0.4nm,0.4s
KBZ Khabaz 16.84 59 Pn Pn 22 33 57.5 -1.1
comp=Z,0.1nm,0.3s,baz=233,slow=6.2,SNR=2.1
KBZ ScP ScP 22 42 21.8 +1.6
comp=Z,0.8nm,0.5s,baz=158,slow=4.0,SNR=2.3
comp=Z,2.2nm,0.6s
KBZ Khabaz 16.84 59 ce P P 22 34 01.7 +1.1
KBZ pmax pmax
comp=Z,48nm,0.9s
ONI Oni 16.91 63 Pn Pn 22 33 59.1 -0.4
ONI Oni 16.91 63 P Pn 22 33 59.2 -0.4
ONI pmax pmax
comp=Z,32nm,1.5s
GKP Gorka Klasztor 17.23 348 eP P 22 34 06.4 +1.5
GKP Gorka Klasztor 17.23 348 eP P 22 34 06.3 +1.5
RUE Ruedersdorf 17.23 341 eP P 22 34 09.2 +4.4
NCK Nalchik 17.26 60 i P P 22 34 06.5 +1.2
NCK pmax pmax
comp=Z,36nm,1.3s
GOF Gofitskoye 17.41 54 c i P P 22 34 12.7 +5.8
GNI Garni 17.46 71 Pn 22 34 06.3 -0.3
GNI Garni 17.46 71 P P 22 34 12.2 +4.5
GNI Garni 17.46 71 P Pn 22 34 05.2 -1.4
comp=Z,0.3nm,0.3s,baz=308,slow=13,SNR=2.1
GNI ScP ScP 22 42 23.5 +1.7
comp=Z,2.8nm,0.7s,baz=256,slow=2.7,SNR=3.0
comp=Z,1.7nm,0.5s
GNI Garni 17.46 71 i P P 22 34 08.8 +1.1
GNI pmax pmax
comp=Z,15nm,0.9s
SUW Suwalki 17.50 0 eP P 22 34 09.9 +2.1
SUW Suwalki 17.50 0 Pn 22 34 06.3 -0.4
SUW IAmb IAmb 22 34 13.3
comp=Z,107nm,1.1s
SUW Suwalki 17.50 0 eP P 22 34 09.9 +2.1
SUW Suwalki 17.50 0 P Pn 22 34 06.3 -0.4
SUW pmax pmax
comp=Z,107nm,1.1s
CEST Esterri de Car 17.79 297 Pn 22 34 09.5 -1.0
CEST IAmb IAmb 22 34 14.8
comp=Z,26nm,1.1s
WLF Walferdange 17.93 322 P Pn 22 34 12.3 +0.2
WLF Walferdange 17.93 322 dP P 22 34 17.4 +4.8
WLF Walferdange 17.93 322 P P 22 34 14.2 +1.6
WLF Walferdange 17.93 322 P Pn 22 34 12.3 +0.2
WLF pmax pmax
comp=Z,33nm,1.1s
NAX Nakhchivan 17.99 75 P P 22 34 14.2 +0.7
MNK Minsk 18.31 9 i P Pn 22 34 15.6 -1.1
comp=E,7.0nm,1.1s,baz=193
MNK i P Pn 22 34 15.6 -1.1
comp=N,45nm,1.1s,baz=193
MNK i P Pn 22 34 15.6 -1.1
comp=Z,35nm,0.9s,baz=193
MNK i PP PnPn 22 34 27.2 -0.9
baz=193
MNK i S Sn 22 37 41.5 +0.7
baz=193
MNK i SS SnSn 22 37 56.6 +2.0
baz=193
MNK i LQ LQ 22 39 43.8
baz=193
MNK i LR LR 22 41 07.5
baz=193
MNK i LRM MLR 22 42 34.5
comp=Z,1μm,15.5s,baz=193
MNK i LRM MLR 22 42 36.2
comp=N,984nm,15.4s,baz=193
MNK i LRM MLR 22 43 24.6
comp=E,300nm,15.9s,baz=193
MNK Minsk 18.31 9 i P Pn 22 34 15.6 -1.1
MNK i S Sn 22 37 41.5 +0.7
MNK pmax pmax
comp=Z,35nm,0.9s
MNK pmax pmax
comp=N,45nm,1.0s
MNK pmax pmax
comp=E,7.0nm,1.1s
MNK MLR MLR
comp=Z,1μm,16.0s
MNK MLR MLR
comp=N,984nm,15.0s
MNK MLR MLR
comp=E,300nm,16.0s
BHOU Houvegnez 18.46 324 dP Pn 22 34 23.1 +4.5
BTNL Ternell 18.56 325 dP Pn 22 34 23.7 +3.9
NACGM Naroch 18.58 7 eP Pn 22 34 20.7 +0.7
VORD Divnogorie 18.59 34 eP Pn 22 34 20.8 +0.7
VORD eS Sn 22 37 44.8 -2.9
VORD pmax pmax
comp=Z,30nm,1.3s
VORD smax smax
comp=N,740nm,12.1s
MEM Membach 18.63 324 dP Pn 22 34 22.0 +1.4
RCHB Rochefort 18.70 322 dP Pn 22 34 24.6 +3.1
GANJ Ganja 18.71 70 P Pn 22 34 22.5 +0.8
VSR Storozhevoye 18.71 33 eP P 22 34 19.3 -1.9
VSR eS Sn 22 37 44.8 -5.8
VSR pmax pmax
comp=Z,70nm,2.8s
VSR smax smax
comp=N,510nm,20.4s
VSR MLR MLR
comp=Z,2μm,11.0s
GROC Groznyy 18.73 62 eP Pn 22 34 23.0 +1.1
GROC eS S 22 37 53.1 -1.3
GROC pmax pmax
comp=Z,25nm,1.0s
BSTI Sart Tilman 18.82 324 dP Pn 22 34 25.4 +2.5
BGES Gesves 18.92 323 dP Pn 22 34 28.8 +4.7
DOU Dourbes 18.98 321 dP Pn 22 34 25.9 +1.0
comp=Z,14nm,0.8s
IDID Didziasalis 18.98 7 eP Pn 22 34 25.8 +1.0
PABE Paberze 19.01 2 P P 22 34 24.7 +0.3
PABE IAmb IAmb 22 34 31.1
comp=Z,67nm,0.7s
PABE Paberze 19.01 2 eP Pn 22 34 25.7 +0.5
BMRD Maredsous 19.02 322 dP Pn 22 34 28.2 +2.8
ZKTA Zakatala 19.05 67 P Pn 22 34 26.2 +0.4
VORR Voronezh 19.06 32 eP P 22 34 24.3 -0.7
VORR pmax pmax
comp=Z,13nm,0.8s
ECHE Chera 19.08 287 P Pn 22 34 27.9 +1.7
CART Cartagena 19.15 280 P Pn 22 34 29.3 +2.4
ISAL Salakas 19.18 5 eP Pn 22 34 28.8 +1.5
RGN Rugen 19.23 343 P Pn 22 34 27.5 -0.2
RGN IAmb IAmb 22 34 41.0
comp=Z,104nm,1.0s
BSD Bornholm Skovb 19.41 346 eP P 22 34 28.7 0.0
SEKA Sheki 19.43 69 P Pn 22 34 31.1 +0.7
VSVD Vaisvydziai 19.48 2 eP Pn 22 34 30.8 0.0
LPSR Galich'ya Gora 19.63 30 eP P 22 34 31.0 -0.2
LPSR eS Sn 22 38 13.3 +0.6
LPSR pmax pmax
comp=Z,70nm,2.0s
LPSR smax smax
comp=E,220nm,7.2s
LPSR MLR MLR
comp=Z,730nm,11.0s
VRH Novokhopyorsk 19.88 37 eP P 22 34 33.7 -0.3
VRH eS Sn 22 38 19.0 +0.2
VRH pmax pmax
comp=Z,20nm,0.6s
VRH smax smax
comp=E,240nm,7.2s
VRH MLR MLR
comp=Z,420nm,13.0s
MAK Makhachkala 19.91 64 eP P 22 34 31.3 -3.0
MAK eS S 22 38 15.0 -3.0
MAK pmax pmax
comp=Z,134nm,1.2s
MAK MLR MLR
comp=Z,360nm,16.0s
TAM Tamanrasset 20.36 233 P P 22 34 40.3 +0.7
TAM Tamanrasset 20.36 233 P P 22 34 40.3 +0.7
TAM pmax pmax
comp=Z,27nm,1.4s
LKRN Lenkeran, Azer 20.55 76 P P 22 34 42.5 +1.1
OBN Obninsk 20.81 22 P P 22 34 42.5 -1.5
OBN IAmb IAmb 22 34 57.4
comp=Z,57nm,0.7s
OBN Obninsk 20.81 22 P P 22 34 42.4 -1.6
comp=Z,18nm,0.7s,baz=252,slow=9.1,SNR=5.6
OBN LR LR 22 43 00.4
comp=Z,678nm,21.0s,baz=196,slow=38
comp=Z,18nm,0.7s
OBN Obninsk 20.81 22 i P P 22 34 43.2 -0.8
OBN i 22 35 19.5
OBN i S S 22 38 24.8 -11
OBN pmax pmax
comp=Z,38nm,0.8s
OBN MLR MLR
comp=Z,661nm,17.0s
OBN Obninsk 20.81 22 P P 22 34 44.3 +0.3
comp=Z,80nm,1.1s,comp=Z,1μm
DEL Delary 20.89 346 eP P 22 34 44.1 -0.7
SLIT Slitere, Latvi 21.13 359 eP P 22 34 48.6 +1.2
ESBB Sonseca Array 21.39 287 P P 22 34 50.3 -0.2
ESDC Sonseca Array 21.39 287 P P 22 34 50.4 -0.2
ESDC Sonseca Array 21.39 287 P P 22 34 50.4 -0.2
comp=Z,23nm,1.1s,baz=81,slow=11,SNR=47
comp=Z,23nm,1.1s
MOS Moscow 21.66 23 eP P 22 34 52.2 -1.0
MOS eS S 22 38 46.9 -5.7
MOS e 22 38 58.4
MOS e 22 46 13.1
MOS pmax pmax
comp=Z,44nm,0.6s
MOS MLR MLR
comp=Z,800nm,12.0s
MOS MLR MLR
comp=N,600nm,11.0s
MOS MLR MLR
comp=E,500nm,11.0s
PAB San Pablo 21.69 286 P P 22 34 54.4 +0.6
PAB San Pablo 21.69 286 P P 22 34 54.4 +0.6
PAB pmax pmax
comp=Z,27nm,0.7s
VSU Vasula 22.10 5 ce P P 22 34 59.5 +1.6
VSU pmax pmax
comp=Z,33nm,0.9s
MTSE Matsula 22.22 1 eP P 22 35 00.9 +1.7
VIKU Vikbolandet 22.38 351 eP P 22 35 00.9 0.0
ARBE Arbavere 23.02 4 eP P 22 35 12.2 +4.6
RAYN Ar Rayn 23.35 117 P P 22 35 12.3 +0.9
RAYN Ar Rayn 23.35 117 i P P 22 35 14.1 +2.7
SNR=13
RAYN Ar Rayn 23.35 117 P P 22 35 12.3 +0.9
RAYN pmax pmax
comp=Z,17nm,1.0s
BELG Belogornoye 23.54 40 LR LR 22 45 01.6
comp=Z,208nm,20.3s,baz=237,slow=38
BELG Belogornoye 23.54 40 i P P 22 35 13.1 +0.2
BELG pmax pmax
comp=Z,9.0nm,1.5s
PBRG Braganca 23.56 292 eP P 22 35 13.8 +0.5
comp=Z,46nm,1.1s
UPP Uppsala 23.61 353 eP P 22 35 15.0 +1.4
MEF Metsahovi 23.74 2 eP P 22 35 17.0 +2.2
MVO Moncorvo 23.75 290 eP P 22 35 16.2 +1.0
comp=Z,61nm,1.5s
MVO eS S 22 39 33.2 +3.0
MVO eLR LR 22 44 58.6
PUL Pulkovo 23.76 9 ce P P 22 35 18.1 +3.1
PUL pmax pmax
comp=Z,111nm,0.4s
AAL Aland 23.76 356 eP P 22 35 16.7 +1.8
HOMB Homborsund 23.77 341 eP P 22 35 16.8 +1.8
PBAR Barrancos 23.86 283 eP P 22 35 16.9 +0.7
comp=Z,56nm,1.5s
PMRV Marv??o 24.05 286 eP P 22 35 19.0 +1.0
comp=Z,48nm,1.1s
PMRV eS S 22 39 37.1 +2.2
PMRV eLR LR 22 46 11.2
PCBR Castelo Branco 24.10 287 eP P 22 35 19.8 +1.4
comp=Z,38nm,1.0s
MTE Manteigas 24.14 289 eP P 22 35 20.0 +1.1
comp=Z,45nm,2.1s
MTE eS S 22 39 38.4 +2.0
MTE eLR LR 22 45 15.9
MTE Manteigas 24.14 289 P P 22 35 18.2 -0.7
SNART Snartemo 24.18 340 eP P 22 35 21.8 +2.8
PESTR Estremoz 24.24 285 eP P 22 35 20.8 +1.1
comp=Z,49nm,1.1s
PESTR Estremoz 24.24 285 P P 22 35 19.2 -0.5
PESTR IAmb IAmb 22 35 23.8
comp=Z,33nm,0.8s
PVRL Vila Real 24.27 291 eP P 22 35 21.7 +1.6
comp=Z,38nm,1.5s
POLO Lamas de Olo 24.34 291 eP P 22 35 21.7 +1.0
comp=Z,22nm,1.3s
HFS Hagfors 24.38 349 P P 22 35 18.0 -2.8
comp=Z,9.4nm,0.4s,baz=160,slow=11,SNR=43
HFS LR LR 22 47 23.1
comp=Z,1μm,18.6s,baz=171,slow=43
comp=Z,9.4nm,0.4s
HFS Hagfors 24.38 349 P P 22 35 18.0 -2.8
PVIS Viseu 24.40 289 eP P 22 35 22.6 +1.3
PVAQ Vaqueiros 24.48 281 eP P 22 35 23.9 +2.0
comp=Z,88nm,1.1s
PVAQ eS S 22 39 45.1 +3.3
PVAQ eLR LR 22 46 50.7
PVAQ Vaqueiros 24.48 281 P P 22 35 22.5 +0.6
PVAQ IAmb IAmb 22 35 31.0
comp=Z,70nm,1.2s
PBEJ Beja 24.53 283 eP P 22 35 23.6 +1.2
comp=Z,57nm,1.4s
RAF Rauma 24.54 359 eP P 22 35 24.3 +2.1
EVO Evora 24.59 284 eP P 22 35 24.2 +1.3
PBDV Barranco-do-Ve 24.67 281 eP P 22 35 26.1 +2.4
PCVE Castro Verde 24.71 282 eP P 22 35 25.8 +1.8
PGAV Gavieira, Arco 24.71 292 eP P 22 35 27.0 +2.9
PGAV eS S 22 39 48.2 +2.6
PGAV eLR LR 22 46 20.1
KONO Kongsberg 24.72 344 P P 22 35 24.0 +0.2
KONO Kongsberg 24.72 344 eP P 22 35 24.0 +0.2
KONO Kongsberg 24.72 344 ce P P 22 35 23.6 -0.2
KONO pmax pmax
comp=Z,21nm,1.1s
PMTG Montargil 24.72 285 eP P 22 35 25.3 +1.2
comp=Z,38nm,1.1s
OSL Oslo 24.73 345 eP P 22 35 24.7 +0.7
MESJ Messejana 24.82 282 eP P 22 35 26.8 +1.8
comp=Z,64nm,2.4s
MESJ Messejana 24.82 282 P P 22 35 25.4 +0.4
MESJ Messejana 24.82 282 eP P 22 35 26.5 +1.4
MESJ IAmb IAmb 22 35 29.6
comp=Z,49nm,0.8s
MESJ eS S 22 39 50.3 +2.9
MESJ Messejana 24.82 282 P P 22 35 25.4 +0.4
MESJ pmax pmax
comp=Z,52nm,0.9s
PTO Porto 24.94 290 eP P 22 35 27.6 +1.6
comp=Z,96nm,1.3s
FINES FINESS Array B 25.03 4 P P 22 35 26.5 -0.1
FINES FINESS Array B 25.03 4 P P 22 35 24.3 -2.3
comp=Z,5.4nm,0.6s,baz=167,slow=9.6,SNR=33
FINES PcP PcP 22 39 01.0 0.0
comp=Z,2.4nm,0.6s,baz=151,slow=2.2,SNR=5.3
FINES ScP ScP 22 42 40.2 +0.5
comp=Z,3.8nm,1.0s,baz=108,slow=3.1,SNR=5.1
FINES LR LR 22 47 33.1
comp=Z,398nm,18.2s,baz=186,slow=42
comp=Z,5.4nm,0.6s
FINES FINESS Array B 25.03 4 ce P P 22 35 26.8 +0.2
FINES pmax pmax
comp=Z,8.0nm,0.6s
FIA1 FINESS Array S 25.03 4 P P 22 35 26.4 -0.3
FIA1 IAmb IAmb 22 35 43.3
comp=Z,56nm,1.1s
PNCL Nicolau / Gran 25.04 283 eP P 22 35 29.4 +2.5
comp=Z,85nm,2.0s
MORF Marmelete 25.23 281 eS S 22 39 56.7 +2.8
PTEO Sao Teotonio 25.26 282 eP P 22 35 31.2 +2.3
BLS5 Blasjo 25.30 340 eP P 22 35 31.9 +2.7
NC602 NORSAR Array S 25.31 347 eP P 22 35 28.8 -0.4
VALR Valaam 25.37 9 i P P 22 35 31.5 +1.8
VALR pmax pmax
comp=Z,26nm,0.8s
LIS Lisbon 25.46 285 eS S 22 40 00.4 +2.9
NB2 NORSAR Subarra 25.66 347 P P 22 35 31.9 -0.5
comp=Z,46nm,1.4s,baz=159,slow=9.3
NB2 NORSAR Subarra 25.66 347 P P 22 35 31.9 -0.5
baz=159,slow=9.3
NOA NORSAR Array B 25.66 347 P P 22 35 29.9 -2.5
comp=Z,7.8nm,0.6s,baz=146,slow=18,SNR=33
NOA PcP PcP 22 39 03.7 +1.1
comp=Z,0.4nm,0.8s,baz=104,slow=7.8,SNR=2.6
comp=Z,7.8nm,0.6s
KEF Keuruu 25.71 2 eP P 22 35 34.6 +1.8
NC303 NORSAR Array S 25.80 347 P P 22 35 34.0 +0.3
NC303 IAmb IAmb 22 36 01.4
comp=Z,70nm,1.5s
EKA Eskdalemuir Ar 25.91 325 P P 22 35 33.1 -1.5
comp=Z,12nm,0.4s,baz=126,slow=8.9,SNR=66
EKA PcP PcP 22 39 03.4 +0.3
comp=Z,1.0nm,0.7s,baz=98,slow=2.5,SNR=2.0
comp=Z,12nm,0.4s
EKB Eskdalemuir 25.92 325 P P 22 35 35.8 +1.0
SKAR Skarslia 25.93 343 eP P 22 35 37.6 +2.7
DSB Dublin 26.42 319 P P 22 35 40.0 +0.7
DSB IAmb IAmb 22 35 47.9
comp=Z,29nm,0.9s
BER Bergen 26.42 340 eP P 22 35 43.6 +4.3
KLMR Klimovskoe 26.54 18 eP P 22 35 41.3 +1.0
KLMR S S 22 40 22.7 +8.6
KLMR pmax pmax
comp=Z,51nm,1.2s
KLMR MLR MLR
comp=Z,570nm,11.0s
VAF Ylistaro 26.56 360 eP P 22 35 40.7 +0.2
HYA Hoyanger 26.86 342 eP P 22 35 43.6 +0.4
JOF Joensuu 26.93 8 eP P 22 35 45.1 +1.3
DOMB Dombas 26.99 346 eP P 22 35 46.4 +2.0
GEYT Alibeck 27.93 76 P P 22 35 52.9 -0.3
GEYT Alibeck 27.93 76 P P 22 35 51.5 -1.7
comp=Z,7.6nm,0.6s,baz=266,slow=8.9,SNR=23
comp=Z,7.6nm,0.6s
GEYT Alibeck 27.93 76 P P 22 35 52.9 -0.3
GEYT pmax pmax
comp=Z,81nm,1.8s
GYA0B ALIBECK ARRAY 27.93 76 P P 22 35 52.9 -0.3
GYA0B IAmb IAmb 22 36 17.4
comp=Z,15nm,0.9s
KIRV Kirov 28.06 30 LR LR 22 47 44.8
comp=Z,631nm,19.8s,baz=233,slow=38
AKTO Aktyubinsk 28.70 50 LR LR 22 51 08.8
comp=Z,283nm,18.4s,baz=165,slow=44
NSS Namsos 28.82 350 eP P 22 36 01.0 +0.3
MZR Muzera 29.58 109 P P 22 36 08.3 +0.4
ABKAR Akbulak array 29.64 53 P P 22 36 08.0 -0.1
ABKAR Akbulak array 29.64 53 P P 22 36 07.9 -0.1
ABKAR IAmb IAmb 22 37 06.0
comp=Z,4.2nm,0.8s
SHME Shamm 30.08 101 P P 22 36 13.9 +1.6
TOA0 Torodi Ar. Sit 30.09 225 P P 22 36 12.1 -0.3
TORD Torodi Ar. Bea 30.09 225 P P 22 36 12.3 -0.1
TORD Torodi Ar. Bea 30.09 225 P P 22 36 09.8 -2.6
comp=Z,8.0nm,0.9s,baz=35,slow=9.0,SNR=36
TORD PcP PcP 22 39 11.8 -2.2
comp=Z,1.7nm,1.1s,baz=58,slow=3.9,SNR=2.3
TORD LR LR 22 50 32.4
comp=Z,507nm,19.4s,baz=27,slow=41
comp=Z,8.0nm,0.9s
ASUD Al Ashush, Dub 30.14 104 P P 22 36 14.4 +1.6
MSFE Esma-Masafi 30.43 102 P P 22 36 15.5 +0.1
KONS Konsvik 30.57 352 eP P 22 36 16.9 +0.8
MDH Madha 30.57 102 P P 22 36 17.8 +1.2
UOSS Minazif 30.67 103 P P 22 36 17.5 0.0
UOSS Minazif 30.67 103 P P 22 36 18.5 +1.0
HATD Hatta, Dubai 30.67 103 P P 22 36 18.6 +1.1
ASHO Ashiyiah 30.69 103 P P 22 36 19.1 +1.4
ALNE Al Ain 30.77 105 i P P 22 36 19.6 +1.3
SNR=18
FURI Furi 30.98 149 P P 22 36 20.3 -0.4
FURI IAmb IAmb 22 36 42.2
comp=Z,27nm,1.1s
ARU Arti 31.07 39 P P 22 36 20.3 -0.4
ARU Arti 31.07 39 LR LR 22 51 02.4
comp=Z,197nm,18.8s,baz=244,slow=41
ARU Arti 31.07 39 c i P P 22 36 22.5 +1.8
ARU 22 37 21.7
ARU S S 22 41 29.7 +4.2
ARU SS SnSn 22 43 07.0 +0.5
ARU pmax pmax
comp=Z,17nm,1.6s
ARU MLR MLR
comp=Z,430nm,13.0s
ARU Arti 31.07 39 P P 22 36 21.7 +1.0
comp=Z,14nm,1.7s
SOHO SOHO 31.34 104 i P P 22 36 24.4 +1.1
SNR=10
APA Apatity 31.67 8 ‖ i P P 22 36 27.6 +1.8
APA pmax pmax
comp=Z,6.0nm,0.9s
APA MLR MLR
comp=Z,1μm,13.0s
HRA Herat 31.92 82 P P 22 36 28.1 -0.6
LVZ Lovozero 32.12 8 P P 22 36 30.8 +0.9
LVZ IAmb IAmb 22 37 32.3
comp=Z,18nm,1.2s
LVZ Lovozero 32.12 8 P P 22 36 30.8 +0.9
LVZ pmax pmax
comp=Z,18nm,1.2s
SVE Sverdlovsk 32.28 39 eP P 22 36 30.6 -0.8
SVE pmax pmax
comp=Z,17nm,1.0s
SVE MLR MLR
comp=Z,551nm,12.0s
ARA0 ARCESS Array S 33.11 2 eP P 22 36 38.8 +0.4
ARCES ARCESS Array B 33.11 2 P P 22 36 38.5 0.0
ARCES IAmb IAmb 22 37 05.2
comp=Z,45nm,1.5s
ARCES ARCESS Array B 33.11 2 P P 22 36 35.8 -2.7
comp=Z,1.2nm,0.4s,baz=183,slow=10,SNR=22
ARCES PcP PcP 22 39 20.8 -0.5
comp=Z,4.7nm,1.0s,baz=174,slow=1.8,SNR=4.3
comp=Z,1.2nm,0.4s
ARCES ARCESS Array B 33.11 2 P P 22 36 38.5 0.0
ARCES pmax pmax
comp=Z,45nm,1.5s
WSAR Wadi Sarin 33.44 103 LR LR 22 54 40.7
comp=Z,187nm,19.6s,baz=318,slow=44
LODK Lodwar 34.86 158 P P 22 36 54.6 +0.3
SIMJ Simiganj 36.26 72 P P 22 37 06.0 -0.3
SIMJ IAmb IAmb 22 37 08.4
comp=Z,19nm,1.1s
CHGR Chuyangaron 36.38 72 P P 22 37 06.8 -0.4
CHGR Chuyangaron 36.38 72 P P 22 37 06.8 -0.4
CHGR pmax pmax
comp=Z,42nm,0.8s
BRVK Borovoye 36.68 48 P P 22 37 09.6 +0.1
BRVK Borovoye 36.68 48 i P P 22 37 10.5 +1.0
BRVK pmax pmax
comp=Z,10.0nm,1.0s
KK31 Karatay Array 36.72 65 P P 22 37 09.5 -0.4
KK31 Karatay Array 36.72 65 P P 22 37 09.5 -0.4
KK31 pmax pmax
comp=Z,8.0nm,0.6s
KKAR Karatay Array 36.72 65 P P 22 37 09.0 -0.9
KKAR Karatay Array 36.72 65 P P 22 37 09.0 -0.9
BVAR Borovoye Array 36.74 48 P P 22 37 08.2 -1.8
comp=Z,3.0nm,0.5s,baz=268,slow=6.1,SNR=24
BVAR LR LR 22 54 23.3

comp=Z,202nm,19.8s,baz=277,slow=40
comp=Z,3.0nm,0.5s
GAR Garm 37.20 71 P **P** **22 37 13.9 -0.3**
KBL Kabul 37.28 79 P **P** **22 37 14.4 -0.7**
KBL Kabul 37.28 79 P **P** **22 37 14.4 -0.7**
KBL pmax pmax
comp=Z,7.0nm,0.8s
BTK Batken 37.38 70 P **P** **22 37 14.8 -0.9**
BTK IAmb IAmb 22 37 32.1
comp=Z,30nm,1.4s
BTK Batken 37.38 70 P **P** **22 37 14.8 -0.9**
BTK pmax pmax
comp=Z,30nm,1.5s
MBAR Mbarara 37.63 167 P **P** **22 37 17.5 -0.5**
MBAR Mbarara 37.63 167 P **P** **22 37 17.5 -0.5**
MBAR pmax pmax
comp=Z,11nm,1.1s
DRK Karamyk 38.23 70 P **P** **22 37 22.9 -0.2**
DRK Karamyk 38.23 70 P **P** **22 37 22.9 -0.2**
DRK pmax pmax
comp=Z,18nm,1.2s
JMIC Jan Mayen 38.29 344 LR LR 22 55 11.2
comp=Z,204nm,18.9s,baz=108,slow=40
BORG Borgarnes 38.51 331 P **P** **22 37 25.9 +1.2**
BORG Borgarnes 38.51 331 LR LR 22 56 15.7
comp=Z,732nm,18.4s,baz=127,slow=41
BORG Borgarnes 38.51 331 P **P** **22 37 25.9 +1.2**
BORG pmax pmax
comp=Z,225nm,1.9s
ARSB Arslanbob 38.78 67 P **P** **22 37 27.0 -0.5**
ARSB Arslanbob 38.78 67 P **P** **22 37 27.0 -0.5**
ARSB pmax pmax
comp=Z,18nm,1.8s
DBIC Dimbokro 39.09 227 P **P** **22 37 29.8 -0.4**
DBIC IAmb IAmb 22 37 38.5
comp=Z,42nm,1.4s
DBIC Dimbokro 39.09 227 P **P** **22 37 29.2 -0.9**
comp=Z,16nm,0.9s,baz=25,slow=10,SNR=10
DBIC LR LR 22 55 25.9
comp=Z,321nm,19.3s,baz=32,slow=39
comp=Z,16nm,0.9s
DBIC Dimbokro 39.09 227 P **P** **22 37 29.8 -0.4**
DBIC pmax pmax
comp=Z,42nm,1.4s
TIC Toumodi 39.21 227⇑ *eP* **P** **22 37 32.6 +1.4**
comp=Z,26nm,1.0s
KIC Kosan Boka 39.27 227⇑ *eP* **P** **22 37 33.1 +1.4**
comp=Z,37nm,0.9s
LIC Lamto 39.55 227⇑ *eP* **P** **22 37 35.7 +1.7**
comp=Z,43nm,0.8s
AAK Ala-Archa 39.68 65 P **P** **22 37 35.0 -0.1**
AAK Ala-Archa 39.68 65 P **P** **22 37 36.7 +1.6**
AAK Ala-Archa 39.68 65 *ce*P **P** **22 37 36.3 +1.2**
AAK pmax pmax
comp=Z,9.0nm,1.0s
BOOM Boomskoye usch 40.76 65 P **P** **22 37 44.4 +0.3**
BOOM Boomskoye usch 40.76 65 P **P** **22 37 44.4 +0.3**
BOOM pmax pmax
comp=Z,8.0nm,0.6s
NIL Nilore 40.88 79 P **P** **22 37 44.3 -0.6**
NIL IAmb IAmb 22 37 48.2
comp=Z,38nm,1.1s
NIL Nilore 40.88 79 P **P** **22 37 44.3 -0.6**
NIL pmax pmax
comp=Z,38nm,1.1s
KSH Kashi 41.38 69 P **P** **22 37 49.1 0.0**
KSH pP pP 22 37 52.3 -1.0
KSH ScP **ScP** **22 43 38.8 +2.0**
KSH pmax pmax
comp=Z,9.0nm,0.8s
SCO Scoresbysund 41.43 339 P **P** **22 37 49.3 +0.4**
SCO Scoresbysund 41.43 339 P **P** **22 37 49.3 +0.4**
SCO pmax pmax
comp=Z,100nm,1.9s
SCO Scoresbysund 41.43 339 *i* P **P** **22 37 49.4 +0.4**
SCO IAmb IAmb 22 37 54.2
comp=Z,6.7nm,0.7s
KURBB Kurchatov Arra 41.68 52 P **P** **22 37 49.0 -2.3**
comp=Z,12nm,0.5s,baz=278,slow=8.7,SNR=70
KURBB PcP **PcP** **22 39 45.3 -2.5**
comp=Z,1.4nm,0.7s,baz=275,slow=4.4,SNR=2.4
KURBB LR LR 22 58 26.5
comp=Z,243nm,18.6s,baz=206,slow=41
comp=Z,12nm,0.5s
KURK Kurchatov 41.74 52 P **P** **22 37 49.9 -1.8**
KURK Kurchatov 41.74 52 *ce*P **P** **22 37 50.4 -1.3**
KURK pmax pmax
comp=Z,20nm,1.3s
SPB2 Spitsbergen Ar 41.86 358 P **P** **22 37 53.2 +0.8**
SPITS Spitsbergen Ar 41.87 358 P **P** **22 37 52.7 +0.2**
comp=Z,2.4nm,0.4s,baz=166,slow=14,SNR=9.3
SPITS LR LR 22 57 23.9
comp=Z,615nm,21.3s,baz=150,slow=39
comp=Z,2.4nm,0.4s
SPITS Spitsbergen Ar 41.87 358 P **P** **22 37 53.1 +0.6**
SPITS pmax pmax
comp=Z,89nm,1.7s
KBS Kingsbay 42.77 357 P **P** **22 38 00.1 +0.3**
KBS Kingsbay 42.77 357 P **P** **22 38 00.1 +0.3**
KBS pmax pmax
comp=Z,144nm,1.9s
SOEG Soedalen 43.53 334 *i* P **P** **22 38 08.0 +2.0**
SOEG IAmb IAmb 22 38 13.0
comp=Z,10nm,0.6s
MAKZ Makanchi 44.32 57 P **P** **22 38 11.4 -1.4**
MAKZ IAmb IAmb 22 38 13.8
comp=Z,9.5nm,0.6s
MAKZ Makanchi 44.32 57 P **P** **22 38 11.4 -1.4**
MAKZ pmax pmax
comp=Z,10.0nm,0.6s
DAG Danmarks Havn 44.34 347 *i* P **P** **22 38 12.0 -0.4**
DAG IAmb IAmb 22 38 18.2
comp=Z,9.2nm,0.7s
MK31 Makanchi Array 44.54 57 P **P** **22 38 13.2 -1.3**
MK31 Makanchi Array 44.54 57 *ce*P **P** **22 38 13.0 -1.5**
MKAR Makanchi Array 44.54 57 P **P** **22 38 13.2 -1.4**
MKAR Makanchi Array 44.54 57 P **P** **22 38 12.5 -2.0**
comp=Z,21nm,0.5s,baz=270,slow=7.3,SNR=150
MKAR PcP **PcP** **22 39 57.6 +0.1**
comp=Z,4.1nm,0.7s,baz=276,slow=4.8,SNR=2.8
MKAR ScP **ScP** **22 43 48.9 -0.5**
comp=Z,0.9nm,0.9s,baz=305,slow=4.3,SNR=3.8
MKAR S **S** **22 44 45.6 -3.9**
comp=Z,0.2nm,0.6s,baz=23,slow=16,SNR=1.1
MKAR LR LR 22 59 37.7
comp=Z,156nm,19.4s,baz=292,slow=40
comp=Z,21nm,0.5s
MKAR Makanchi Array 44.54 57 *ce*P **P** **22 38 13.1 -1.4**
MKAR pmax pmax
comp=Z,21nm,0.4s
ZAA0 Zalesovo Array 45.38 47 P **P** **22 38 19.2 -1.8**
ZALV Zalesovo Beam 45.38 47 P **P** **22 38 18.9 -2.1**
comp=Z,17nm,0.5s,baz=269,slow=9.7,SNR=52
ZALV ScP **ScP** **22 43 51.8 -0.8**
comp=Z,0.3nm,0.3s,baz=204,slow=1.2,SNR=1.8
ZALV LR LR 23 02 13.4
comp=Z,142nm,18.5s,baz=272,slow=43
comp=Z,17nm,0.5s
ISOG Isortoq, Green 45.86 329 *i* P **P** **22 38 27.3 +2.7**
ISOG IAmb IAmb 22 38 28.8
comp=Z,31nm,0.7s
ICESG Greenland Ices 46.69 334 *i* P **P** **22 38 32.8 +1.3**
ICESG IAmb IAmb 22 38 39.7
comp=Z,11nm,0.7s
SUMG Summit 47.08 339 P **P** **22 38 34.5 -0.1**
SUMG Summit 47.08 339 P **P** **22 38 34.5 -0.1**
SUMG pmax pmax
comp=Z,24nm,1.1s
SUMG Summit 47.08 339 *i* P **P** **22 38 35.5 +0.8**
SUMG IAmb IAmb 22 38 41.6
comp=Z,8.0nm,0.8s
NOR Nord 47.38 353 *i* P **P** **22 38 37.7 +1.4**
NOR IAmb IAmb 22 38 40.7
comp=Z,6.3nm,0.8s
DGZ Jazzator, Alta 47.47 53 *i* P **P** **22 38 37.8 +0.1**
DGZ pmax pmax
comp=Z,3.0nm,0.8s
WMQ Urumqi 48.88 60 *eP* **P** **22 38 52.9 +4.3**
WMQ LR LR
comp=Z,310nm,21.5s
WMQ LR LR
comp=Z,200nm,24.0s
DY2G Dye2 48.91 330 *i* P **P** **22 38 50.1 +1.5**
DY2G IAmb IAmb 22 38 55.1
comp=Z,19nm,0.7s
SFJD Kangerlussuaq 50.64 331 LR LR 23 02 48.7

comp=Z,194nm,19.1s,baz=86,slow=39
LSZ Lusaka 51.74 174 P **P** **22 39 10.8 +0.3**
LSZ Lusaka 51.74 174 P **P** **22 39 10.8 +0.3**
LSZ pmax pmax
comp=Z,5.0nm,0.7s
TSUM Tsumeb 55.64 186 P **P** **22 39 38.5 -0.5**
TSUM IAmb IAmb 22 39 47.0
comp=Z,6.9nm,0.7s
TSUM Tsumeb 55.64 186 LR LR 23 06 40.1
comp=Z,516nm,18.7s,baz=359,slow=40
LSA Lhasa 56.47 76 P **P** **22 39 45.8 +0.4**
LSA pmax pmax
comp=Z,7.0nm,0.6s
LSA Lhasa 56.47 76 P **P** **22 39 45.0 -0.4**
LSA IAmb IAmb 22 40 10.0
comp=Z,13nm,0.8s
LSA Lhasa 56.47 76 P **P** **22 39 46.3 +0.9**
LSA Lhasa 56.47 76 P **P** **22 39 45.0 -0.4**
LSA pmax pmax
comp=Z,13nm,0.8s
GOMU GeErMu 56.55 67 P **P** **22 39 47.6 +1.8**
GOMU pP sP 22 39 51.0 -0.6
GOMU sP pP 22 39 53.0 +2.9
GOMU pmax pmax
comp=Z,10.0nm,0.7s
IRK Irkutsk 57.18 46 *eP* **P** **22 39 51.2 +1.6**
IRK pmax pmax
comp=Z,31nm,2.6s
ZAK Zakamensk 57.19 49 *eP* **P** **22 39 49.4 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.4s
EUNU Eureka 57.52 349 P **P** **22 39 52.4 +0.7**
FRB Frobisher Bay 58.59 329 LR LR 23 07 01.7
comp=Z,352nm,18.6s,baz=40,slow=38
GTA Gaotai 58.90 62 *eP* **P** **22 40 01.5 -0.5**
GTA pP sP 22 40 07.9 0.0
GTA S **S** **22 48 04.0 -3.7**
GTA SS **SS** **22 52 05.1 +4.3**
GTA pmax pmax
comp=Z,11nm,1.0s
GTA LR LR
comp=Z,140nm,16.7s
GTA LR LR
comp=Z,110nm,16.7s
GTA LR LR
comp=Z,170nm,22.7s
SHL Shillong 58.94 80 P **P** **22 40 01.5 -1.0**
SHL Shillong 58.94 80 P **P** **22 40 01.5 -1.0**
WIN Windhoek 59.02 186 P **P** **22 40 03.5 +0.6**
WIN IAmb IAmb 22 40 07.2
comp=Z,22nm,1.4s
WIN Windhoek 59.02 186 P **P** **22 40 03.5 +0.6**
WIN pmax pmax
comp=Z,22nm,1.4s
OPO Ambohidratompo 59.38 153 LR LR 23 05 23.5
comp=Z,130nm,21.9s,baz=162,slow=36
PALK Pallekele 59.93 104 LR LR 23 09 25.1
comp=Z,138nm,20.1s,baz=59,slow=40
SONM Songino Array 60.01 51 P **P** **22 40 09.0 -0.5**
SONM Songino Array 60.01 51 P **P** **22 40 07.9 -1.6**
comp=Z,1.7nm,0.6s,baz=288,slow=8.6,SNR=10
SONM PcP **PcP** **22 40 51.8 -3.7**
comp=Z,0.6nm,0.4s,baz=260,slow=8.6,SNR=1.5
SONM ScP **ScP** **22 44 57.5 +1.3**
comp=Z,0.3nm,0.4s,baz=289,slow=4.4,SNR=2.1
SONM LR LR 23 11 04.6
comp=Z,159nm,19.1s,baz=306,slow=41
comp=Z,1.7nm,0.6s
ULN Ulaanbaatar 60.41 50 P **P** **22 40 12.0 -0.3**
ULN Ulaanbaatar 60.41 50 *ce*P **P** **22 40 13.0 +0.7**
ULN pmax pmax
comp=Z,4.0nm,1.0s
BOD Bodaibo 60.49 38 *eP* **P** **22 40 11.8 -0.7**
BOD pmax pmax
comp=Z,9.0nm,1.3s
TIXI Tiksi 60.53 20 P **P** **22 40 13.1 +0.6**
TIXI Tiksi 60.53 20 LR LR 23 09 53.3
comp=Z,467nm,18.0s,baz=340,slow=40
TIXI Tiksi 60.53 20 *ce*P **P** **22 40 15.0 +2.5**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
SCHQ Schefferville 60.99 319 P **P** **22 40 16.0 0.0**
SCHQ Schefferville 60.99 319 P **P** **22 40 15.8 -0.2**
comp=Z,9.2nm,0.5s,baz=49,slow=4.7,SNR=21
SCHQ LR LR 23 06 30.3
comp=Z,333nm,19.2s,baz=352,slow=36
comp=Z,9.2nm,0.5s
GBN Guysborough 61.63 307 P **P** **22 40 20.9 +0.5**
RES Resolute Bay 61.90 345 P **P** **22 40 21.8 +0.1**
RES IAmb IAmb 22 40 51.7
comp=Z,21nm,1.6s
RES Resolute Bay 61.90 345 LR LR 23 08 44.2
comp=Z,142nm,19.6s,baz=15,slow=38
RES Resolute Bay 61.90 345 P **P** **22 40 21.8 +0.1**
RES pmax pmax
comp=Z,21nm,1.7s
LZH Lanzhou 63.21 64⇑ P **P** **22 40 32.9 +1.6**
LZH sP sP 22 40 39.4 +2.2
LZH pmax pmax
comp=Z,19nm,1.4s
LZH LR LR
comp=Z,140nm,14.1s
LZH LR LR
comp=Z,150nm,14.4s
LZH LR LR
comp=Z,120nm,14.1s
BATG Bathurst New B 63.69 311 P **P** **22 40 34.9 +0.8**
TNCH TengChong 64.44 77 P **P** **22 40 42.3 +2.7**
TNCH pP sP 22 40 45.8 +0.3
TNCH sP pP 22 40 46.8 +2.8
TNCH S **S** **22 49 17.8 -0.5**
TNCH sS sS 22 49 26.6 +1.1
TNCH pmax pmax
comp=Z,31nm,0.8s
TNCH pmax pmax
comp=Z,61nm,2.8s
TNCH LR LR
comp=Z,110nm,10.1s
TNCH LR LR
comp=Z,88nm,8.3s
TNCH LR LR
comp=Z,65nm,8.2s
BOSA Boshof 64.82 178 P **P** **22 40 42.4 +0.7**
BOSA IAmb IAmb 22 40 44.9
comp=Z,18nm,1.2s
BOSA Boshof 64.82 178 P **P** **22 40 41.0 -0.7**
comp=Z,8.4nm,1.0s,baz=5.2,slow=6.9,SNR=12
BOSA LR LR 23 09 47.3
comp=Z,198nm,19.4s,baz=360,slow=37
comp=Z,8.4nm,1.0s
BOSA Boshof 64.82 178 P **P** **22 40 42.4 +0.7**
BOSA pmax pmax
comp=Z,18nm,1.2s
CD2 Chengdu 65.57 69 P **P** **22 40 47.1 +0.3**
CD2 sP pP 22 40 51.8 +0.7
CD2 PP **PP** **22 43 10.1 -0.7**
CD2 S **S** **22 49 32.5 +0.6**
CD2 sS pS 22 49 38.1 +0.9
CD2 SKS **SKSac** **22 50 41.3 -0.9**
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,100nm,5.4s
D62A Allapoint, All 65.59 311 P **P** **22 40 47.6 +1.0**
YAK Yakutsk 65.60 30 LR LR 23 12 00.9
comp=Z,202nm,18.3s,baz=304,slow=38
YAK Yakutsk 65.60 30 *i* P **P** **22 40 49.1 +2.8**
YAK pmax pmax
comp=Z,6.0nm,0.8s
PZH PanZhiHua 66.21 74 P **P** **22 40 51.3 +0.3**
PZH S **S** **22 49 41.4 +1.5**
PZH pmax pmax
comp=Z,20nm,1.0s
PZH pmax pmax
comp=Z,90nm,6.3s
PZH LR LR
comp=Z,110nm,19.4s
PZH LR LR
comp=Z,170nm,20.6s
PZH LR LR
comp=Z,150nm,16.1s
HHC Hu-ho-hao-te 66.37 56 *eP* **P** **22 40 53.8 +2.0**
HHC pmax pmax
comp=Z,4.0nm,0.5s
PKME Peaks-Kenny Pk 66.60 310 P **P** **22 40 52.5 -0.6**
baz=61

KMI Kunming 67.68 75⇑ P **P** **22 41 03.3 +2.7**
KMI pmax pmax
comp=Z,19nm,1.1s
XLT XiLinHaoTe 67.81 51 *eP* P 22 40 53.9 -7.0
XLT pP pP 22 40 57.8 -7.4
XLT sP sP 22 41 01.3 -5.5
XLT pmax pmax
comp=Z,5.0nm,0.4s
XLT pmax pmax
comp=Z,110nm,5.5s
XAN Xi'an 67.84 63⇑ P **P** **22 41 02.8 +1.6**
XAN pP sP 22 41 09.5 +2.4
XAN pmax pmax
comp=Z,10.0nm,1.3s
XAN LR LR
comp=Z,200nm,18.4s
XAN LR LR
comp=Z,200nm,18.1s
XAN LR LR
comp=Z,370nm,16.8s
XAN Xi'an 67.84 63 P **P** **22 41 01.0 -0.2**
XAN IAmb IAmb 22 41 10.8
comp=Z,9.7nm,0.6s
XAN Xi'an 67.84 63 P **P** **22 41 01.0 -0.2**
XAN pmax pmax
comp=Z,10.0nm,0.6s
CHTO Chiang Mai 67.99 82 P **P** **22 41 01.8 -0.5**
CHTO IAmb IAmb 22 41 22.6
comp=Z,8.2nm,1.1s
CHTO Chiang Mai 67.99 82 P **P** **22 41 01.8 -0.5**
CHTO pmax pmax
comp=Z,8.0nm,1.1s
CM31 Chiang Mai Arr 68.18 83 P **P** **22 41 02.9 -0.6**
CM31 IAmb IAmb 22 41 29.6
comp=Z,8.5nm,0.8s
CMAR Chiang Mai Arr 68.18 83 P **P** **22 41 03.0 -0.5**
CMAR Chiang Mai Arr 68.18 83 P **P** **22 41 02.2 -1.3**
comp=Z,5.1nm,0.9s,baz=303,slow=7.8,SNR=19
comp=Z,5.1nm,0.9s
CMAR Chiang Mai Arr 68.18 83 P **P** **22 41 03.0 -0.5**
CRAI Chiangrai 68.38 80 P **P** **22 41 03.9 -0.8**
CRAI IAmb IAmb 22 41 13.1
comp=Z,11nm,0.7s
SUR Sutherland 68.56 182 LR LR 23 13 41.8
comp=Z,518nm,18.4s,baz=356,slow=38
LBNH Lisbon 68.74 310 P **P** **22 41 06.6 -0.1**
baz=59
PHRA Phrae 69.19 82 P **P** **22 41 09.4 -0.3**
TRQ Mont Tremblant 69.32 313 P **P** **22 41 10.9 +0.7**
TRQ IAmb IAmb 22 41 17.0
comp=Z,7.6nm,0.7s
A36M Sachs Harbour 69.51 350 P **P** **22 41 11.1 +0.2**
A36M Sachs Harbour 69.51 350 P **P** **22 41 11.1 +0.2**
baz=27
VLDQ Val d'Or 69.99 315 P **P** **22 41 15.4 +1.1**
VLDQ IAmb IAmb 22 41 21.9
comp=Z,9.5nm,0.7s
L61B Northampton 70.14 308 P **P** **22 41 16.1 +0.9**
baz=58
LONY Lake Ozonia 70.17 311 P **P** **22 41 15.7 +0.3**
baz=58
SLVN Son La 70.58 77 P **P** **22 41 18.6 +0.3**
SLVN IAmb IAmb 22 41 27.1
comp=Z,8.2nm,0.7s
HEH HeiHe 71.02 41 *eP* **P** **22 41 21.4 +0.9**
HEH LR LR
comp=Z,450nm,16.7s
HEH LR LR
comp=Z,340nm,14.9s
HEH LR LR
comp=Z,160nm,15.1s
PAL Paliasades 71.68 308 P **P** **22 41 24.7 +0.1**
baz=57
C36M Paulatuk 71.69 348 P **P** **22 41 24.3 +0.1**
C36M IAmb IAmb 22 41 34.8
comp=Z,12nm,1.1s
C36M Paulatuk 71.69 348 P **P** **22 41 23.5 -0.7**
baz=28,SNR=5.9
BILL Bilibino 72.19 14 P **P** **22 41 27.6 +0.4**
BILL IAmb IAmb 22 41 31.3
comp=Z,33nm,1.7s
BILL Bilibino 72.19 14 *i* P **P** **22 41 27.6 +0.4**
BINY Binghamton 72.34 310 P **P** **22 41 29.3 +0.7**
baz=57
A21K Barrow 72.47 360 P **P** **22 41 29.0 +0.2**
baz=0.4
A22K Sinclair Lake 72.78 359 P **P** **22 41 31.0 +0.3**
baz=1.8
SADO Sadowa 72.81 313 LR LR 23 14 25.9
comp=Z,127nm,19.0s,baz=78,slow=37
SEY Seymchan 72.98 22 LR LR 23 16 47.4
comp=Z,245nm,20.1s,baz=310,slow=38
SEY Seymchan 72.98 22 *i* P **P** **22 41 34.0 +2.0**
SEY pmax pmax
comp=Z,2.0nm,1.1s
L56A Greenwood 73.35 310 P **P** **22 41 35.2 +0.6**
L56A IAmb IAmb 22 41 41.4
comp=Z,18nm,1.1s
B22K Teshekpuk Lake 73.42 359 P **P** **22 41 35.2 +0.8**
baz=3.1
C26K Camden Bay 73.51 356 P **P** **22 41 36.2 +1.2**
baz=10
A19K Wainwright 73.55 1 P **P** **22 41 36.0 +0.8**
baz=357
D28M Stokes Point 73.61 353 P **P** **22 41 36.5 +1.0**
baz=15
C27K Jago River 73.72 355 P **P** **22 41 36.2 -0.1**
baz=11,SNR=8.6
B20K Meade River 73.79 0 P **P** **22 41 37.1 +0.4**
B20K IAmb IAmb 22 42 03.2
comp=Z,27nm,1.2s
B20K Meade River 73.79 0 P **P** **22 41 36.9 +0.3**
baz=360
C23K Itkillik River 73.86 358 P **P** **22 41 37.8 +0.8**
C23K IAmb IAmb 22 41 42.2
comp=Z,17nm,0.9s
C23K Itkillik River 73.86 358 P **P** **22 41 37.4 +0.4**
baz=5.4,SNR=18
D27M Malcolm River 73.89 354 P **P** **22 41 37.8 +0.5**
baz=13,SNR=8.9
C24K Franklin Bluff 73.90 357 P **P** **22 41 37.2 -0.1**
baz=7.0
KLR Kul'dur 73.90 40 LR LR 23 16 04.5
comp=Z,178nm,18.4s,baz=312,slow=37
KLR Kul'dur 73.90 40 *eP* **P** **22 41 36.0 -1.7**
KLR pmax pmax
comp=Z,3.0nm,0.7s
INK Inuvik 74.02 351 P **P** **22 41 37.3 -0.8**
baz=20
INK Inuvik 74.02 351 P **P** **22 41 37.1 -0.9**
comp=Z,2.7nm,0.4s,baz=12,slow=7.8,SNR=4.7
INK LR LR 23 19 14.9
comp=Z,92nm,18.2s,baz=3.0,slow=40
comp=Z,2.7nm,0.4s
B21K Ikpikpuk River 74.16 359 P **P** **22 41 39.0 +0.2**
baz=2.1,SNR=6.3
D25K Kavik River 74.18 356 P **P** **22 41 39.7 +0.7**
baz=8.9,SNR=11
B18K Kokolik River 74.38 2 P **P** **22 41 40.3 +0.2**
baz=356
E28M Babbage River 74.39 353 P **P** **22 41 40.5 +0.3**
E28M IAmb IAmb 22 41 48.9
comp=Z,13nm,1.1s
E28M Babbage River 74.39 353 P **P** **22 41 40.2 0.0**
baz=15,SNR=8.3
SSPA Standing Stone 74.40 309 P **P** **22 41 40.8 +0.1**
baz=55
E29M Blow River 74.44 353 P **P** **22 41 41.0 +0.5**
baz=16,SNR=47
M55A Ridgway 74.47 310 P **P** **22 41 41.3 +0.1**
D24K Happy Valley 74.47 357 P **P** **22 41 41.5 +0.8**
baz=6.9
C21K Knifeblade Rid 74.63 359 P **P** **22 41 41.8 +0.2**
baz=1.9,SNR=9.7
C19K Lookout Ridge 74.68 1 P **P** **22 41 42.4 +0.4**
C19K IAmb IAmb 22 41 55.3
comp=Z,30nm,1.4s
C19K Lookout Ridge 74.68 1 P **P** **22 41 42.7 +0.7**
baz=358
D23K Nanushuk River 74.73 358 P **P** **22 41 43.0 +0.8**
baz=5.3,SNR=8.9
ERPA Erie 74.84 311 P **P** **22 41 43.0 -0.3**
ERPA IAmb IAmb 22 41 50.0
comp=Z,18nm,0.8s
ERPA Erie 74.84 311 P **P** **22 41 44.0 +0.7**
baz=54
F31M Tsiigehtchic 74.87 351 P **P** **22 41 43.1 +0.1**

baz=19
D22K **Ayikyak River** 74.87 358 P P 22 41 43.4 +0.3
baz=3.7,SNR=6.0
F30M **Barrier River** 74.95 352 P P 22 41 44.0 +0.5
baz=18
E27K **Coleen River** 74.97 354 P P 22 41 44.0 +0.4
E27K IAmb IAmb 22 41 52.2
comp=Z,11nm,1.1s
E27K **Coleen River** 74.97 354 P P 22 41 43.1 -0.5
baz=13,SNR=8.9
MA2 **Magadan** 75.01 25 LR LR 23 18 44.4
comp=Z,227nm,18.6s,baz=307,slow=39
TOLK **Toolik Lake Re** 75.01 357 P P 22 41 43.1 -0.8
baz=6.3
D20K **Etivluk River** 75.09 360 P P 22 41 44.6 +0.3
baz=0.4,SNR=7.9
C18K **Utukok River** 75.11 2 P P 22 41 44.9 +0.4
C18K IAmb IAmb 22 41 57.8
comp=Z,20nm,0.9s
C18K **Utukok River** 75.11 2 P P 22 41 44.3 -0.2
baz=357,SNR=6.5
UBPT **Khong Chiam** 75.14 82 P P 22 41 45.1 -0.3
UBPT IAmb IAmb 22 41 49.3
comp=Z,27nm,1.6s
C17K **DeLong Mountai** 75.23 2 P P 22 41 45.0 -0.1
baz=355,SNR=8.4
D19K **Kuna River** 75.31 0 P P 22 41 45.7 +0.2
baz=359,SNR=11
E25K **Arctic Village** 75.33 356 P P 22 41 45.4 -0.3
baz=9.6
E21K **Killik River** 75.34 359 P P 22 41 45.9 +0.2
baz=2.6,SNR=7.5
C16K **Lisburne Hills** 75.34 3 P P 22 41 46.1 +0.5
C16K IAmb IAmb 22 41 49.7
comp=Z,17nm,1.0s
C16K **Lisburne Hills** 75.34 3 P P 22 41 45.4 -0.3
baz=353
F28M **Old Crow** 75.38 353 P P 22 41 45.1 -0.9
baz=14,SNR=10
MDP **Montagnes des** 75.41 266 LR LR 23 15 36.2
comp=Z,140nm,18.1s,baz=50,slow=36
G31M **Satah River** 75.43 351 P P 22 41 45.7 -0.4
baz=19,SNR=7.7
CBN **Corbin Frederi** 75.46 307 P P 22 41 47.2 +0.2
baz=55
E24K **Your Creek** 75.53 357 P P 22 41 46.8 -0.1
baz=7.1,SNR=6.6
E20K **Nigu River** 75.55 360 P P 22 41 46.7 -0.3
baz=0.8,SNR=8.9
YKA **Yellowknife Ar** 75.60 341 P P 22 41 46.4 -0.9
comp=Z,2.2nm,0.7s,baz=28,slow=6.1,SNR=14
YKA LR LR 23 15 12.7
comp=Z,196nm,21.9s,baz=356,slow=36
comp=Z,2.2nm,0.7s
G30M **tAoh Zrail Nji** 75.61 352 P P 22 41 47.2 -0.1
baz=17
M53A **WI Miller and** 75.65 311 P P 22 41 48.3 +0.3
baz=54
F26K **Sheenjek River** 75.65 355 P P 22 41 47.3 -0.3
baz=11,SNR=9.4
RDOG **Red Dog Mine** 75.66 2 P P 22 41 47.5 -0.1
RDOG IAmb IAmb 22 41 51.6
comp=Z,14nm,0.8s
RDOG **Red Dog Mine** 75.66 2 P P 22 41 47.2 -0.3
baz=355
F25K **Christian Rive** 75.85 356 P P 22 41 49.3 +0.6
baz=9.5,SNR=8.0
G29M **Pine Creek** 75.88 352 P P 22 41 49.1 +0.3
baz=16,SNR=15
GLMI **Grayling** 75.93 316 P P 22 41 50.0 +0.5
baz=52
BMAR **Burnt Mountain** 75.95 355 P P 22 41 49.6 +0.4
NJ2 **Nanjing** 75.96 61 eP P 22 41 51.8 +1.9
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,96nm,4.3s
D17K **Noatak River** 76.01 2 P P 22 41 49.7 +0.1
baz=355,SNR=16
F24K **Squaw Lake** 76.06 356 P P 22 41 49.9 0.0
baz=7.6,SNR=8.3
MCWV **Mont Chateau** 76.19 309 P P 22 41 52.0 +0.9
baz=54
F22K **John River** 76.23 358 P P 22 41 51.3 +0.4
baz=4.1,SNR=8.8
EPYK **Eagle Plains** 76.25 352 P P 22 41 50.5 -0.5
EPYK IAmb IAmb 22 41 54.7
comp=Z,9.5nm,0.7s
EPYK **Eagle Plains** 76.25 352 P P 22 41 51.2 +0.2
baz=17,SNR=7.0
G27K **Doyon Strip** 76.33 354 P P 22 41 51.5 0.0
baz=13,SNR=6.7
E18K **Tukpahlearik C** 76.35 1 P P 22 41 51.7 +0.2
E18K **Tukpahlearik C** 76.35 1 P P 22 41 52.0 +0.5
baz=357,SNR=16
E19K **Redstone River** 76.35 0 P P 22 41 52.0 +0.5
baz=360,SNR=47
G26K **Porcupine Rive** 76.36 355 P P 22 41 52.2 +0.7
baz=11,SNR=11
COLD **Coldfoot** 76.45 357 P P 22 41 52.2 +0.1
baz=5.7
H31M **Peel River** 76.50 351 P P 22 41 51.9 -0.6
baz=19
F21K **Alatna River** 76.55 359 P P 22 41 52.3 -0.4
baz=3.0,SNR=10.0
H29M **Whitestone** 76.58 352 P P 22 41 52.8 -0.1
H29M IAmb IAmb 22 42 04.5
comp=Z,13nm,0.8s
H29M **Whitestone** 76.58 352 P P 22 41 53.0 +0.1
baz=15,SNR=15
E17K **Hotham Inlet** 76.66 2 P P 22 41 53.2 -0.1
baz=356
O53A **New Philadelph** 76.69 310 P P 22 41 53.3 -0.6
baz=53
G25K **Bearman Lake** 76.70 356 P P 22 41 53.4 -0.1
baz=9.1
F20K **Avaraart Lake** 76.76 359 P P 22 41 53.6 -0.1
F20K IAmb IAmb 22 42 06.0
comp=Z,14nm,1.1s
F20K **Avaraart Lake** 76.76 359 P P 22 41 53.7 -0.1
baz=1.1,SNR=9.9
G22K **Bettles** 76.80 358 P P 22 41 53.8 -0.2
baz=4.6
G24K **Hadweenzic Riv** 76.85 356 P P 22 41 53.8 -0.5
baz=7.9
H27K **Steamboat Moun** 76.88 354 P P 22 41 53.3 -1.3
baz=13,SNR=14
G23K **Bananza Creek** 76.96 357 P P 22 41 53.6 -1.4
baz=5.8,SNR=7.7
F19K **Shaleruckik Mo** 76.98 0 P P 22 41 54.8 -0.2
baz=359
KULM **Kulim** 76.98 93 P P 22 41 55.7 -0.2
KULM IAmb IAmb 22 42 04.3
comp=Z,13nm,0.7s
WRGLY **Wrigley** 77.04 345 P P 22 41 54.6 -0.8
baz=27
PSI **Prapat** 77.06 96 P P 22 41 55.9 -0.6
PSI pmax pmax
comp=Z,10.0nm,0.7s
RPSI **Rantau Prapat** 77.12 96 P P 22 41 55.9 -0.8
RPSI IAmb IAmb 22 42 05.4
comp=Z,10nm,0.7s
USRK **Ussuriysk Ar.** 77.14 44 P P 22 41 55.9 -0.5
USRK **Ussuriysk Ar.** 77.14 44 P P 22 41 55.0 -1.4
comp=Z,2.3nm,0.6s,baz=287,slow=4.5,SNR=8.3
comp=Z,2.3nm,0.6s
USRK **Ussuriysk Ar.** 77.14 44 P P 22 41 55.9 -0.5
H25L **Birch Creek** 77.18 355 P P 22 41 55.1 -1.1
baz=9.3,SNR=6.3
F18K **Selawik** 77.19 1 P P 22 41 55.4 -0.8
baz=358,SNR=15
G21K **Allakaket** 77.26 359 P P 22 41 56.8 +0.1
G21K IAmb IAmb 22 42 01.9
comp=Z,14nm,1.1s
G21K **Allakaket** 77.26 359 P P 22 41 55.9 -0.8
baz=3.0,SNR=9.6
I30M **Mount Dempster** 77.32 351 P P 22 41 56.3 -0.8
baz=17,SNR=21
F17K **Baldwin Pennin** 77.32 2 P P 22 41 56.1 -0.8
baz=357
I29M **Ogilvie Camp,** 77.41 352 P P 22 41 57.1 -0.4
baz=15
I28M **Miner Creek** 77.50 353 P P 22 41 57.5 -0.6
baz=14
I27K **Kandik River** 77.51 354 P P 22 41 57.4 -0.8
baz=13,SNR=6.7
FFC **Flin Flon** 77.59 331 P P 22 41 58.2 -0.5
FFC **Flin Flon** 77.59 331 P P 22 41 58.2 -0.5
FFC pmax pmax
comp=Z,39nm,1.8s
P52A **Corning** 77.62 310 P P 22 41 58.8 -0.4
baz=53
EYMN **Ely** 77.62 321 P P 22 41 58.4 -0.7
baz=49
G19K **Purcell Mounta** 77.67 0 P P 22 41 58.4 -0.5
baz=0.0,SNR=10.0
H24K **Noodor Dome** 77.73 356 P P 22 41 58.4 -1.0
baz=7.6
ACSO **Alum Creek Sta** 77.78 311 P P 22 41 59.5 -0.5
baz=52
H23K **Yukon River** 77.82 357 P P 22 41 59.7 -0.2
baz=6.2
H22K **Ishtalitna Cre** 77.83 358 P P 22 41 59.5 -0.3
baz=4.7,SNR=9.5
TNA **Tin City** 77.90 5 P P 22 41 59.4 -0.8
baz=351
PRP **Porcupine Dome** 77.90 355 P P 22 41 59.9 -0.6
baz=9.5
G18K **Tagagawik** 77.91 1 P P 22 42 00.0 -0.3
baz=359,SNR=20
I26K **Coal Creek Min** 77.93 354 P P 22 42 00.6 +0.2
baz=11
J30M **Hart River** 77.93 351 P P 22 42 00.2 -0.4
baz=17,SNR=26
F15K **North Star Dit** 77.94 3 P P 22 42 00.8 +0.3
baz=354,SNR=5.6
BLA **Blacksburg** 78.00 307 P P 22 42 01.5 +0.1
baz=53
F14K **Arctic Creek** 78.08 4 P P 22 42 00.8 -0.5
baz=352
H21K **Melozitna Rive** 78.11 358 P P 22 42 02.0 +0.6
H21K IAmb IAmb 22 42 06.6
comp=Z,13nm,0.9s
H21K **Melozitna Rive** 78.11 358 P P 22 42 01.1 -0.3
baz=3.5,SNR=10
ULM **Lac du Bonnet** 78.18 325 P P 22 42 01.8 -0.3
ULM IAmb IAmb 22 42 11.7
comp=Z,11nm,0.7s
ULM **Lac du Bonnet** 78.18 325 P P 22 42 01.6 -0.5
comp=Z,7.2nm,0.8s,baz=50,slow=6.8,SNR=8.0
comp=Z,7.2nm,0.8s
ULM **Lac du Bonnet** 78.18 325 P P 22 42 01.8 -0.3
ULM pmax pmax
comp=Z,11nm,0.7s
MCPB **Macapa, AP** 78.19 261 eP P 22 42 04.5 +1.8
EGAK **Eagle** 78.27 353 P P 22 42 02.2 -0.1
baz=13
G17K **Kiwalik Mounta** 78.28 2 P P 22 42 01.7 -0.6
baz=357,SNR=9.5
J29N **Klondike Camp** 78.28 352 P P 22 42 02.3 -0.2
baz=15
H19K **Roundabout Mou** 78.29 360 P P 22 42 02.3 0.0
baz=0.5,SNR=18
H20K **Anotlenegga Mo** 78.31 359 P P 22 42 02.0 -0.6
baz=1.8,SNR=7.1
POKR **Poker Plat Res** 78.42 356 P P 22 42 03.1 -0.1
baz=7.9
I23K **Minto, Yukon-K** 78.49 357 P P 22 42 02.9 -0.6
baz=6.3
I21K **Tanana** 78.56 358 P P 22 42 04.3 +0.4
baz=4.2
MDM **Murphy Dome** 78.62 356 P P 22 42 04.0 -0.3
MDM IAmb IAmb 22 42 08.6
comp=Z,8.1nm,0.7s
H18K **Honhosa River** 78.66 1 P P 22 42 05.3 +0.8
baz=359,SNR=8.3
MLY **Manley** 78.67 357 P P 22 42 04.7 +0.1
baz=5.2
G15K **Niukluk** 78.68 3 P P 22 42 04.3 -0.3
baz=354
ILAR **Eielson Array** 78.73 356 P P 22 42 04.7 -0.1
ILAR **Eielson Array** 78.73 356 P P 22 42 04.2 -0.6
comp=Z,1.5nm,0.7s,baz=356,slow=4.2,SNR=13
ILAR LR LR 23 18 36.2
comp=Z,117nm,21.1s,baz=353,slow=37
comp=Z,1.5nm,0.7s
J26L **Joseph Creek** 78.76 354 P P 22 42 05.5 +0.4
baz=11,SNR=7.6
K29M **Barlow Dome** 78.78 351 P P 22 42 05.4 +0.1
baz=16,SNR=6.2
DAWY **Dawson** 78.78 352 P P 22 42 05.7 +0.4
DAWY IAmb IAmb 22 42 17.5
comp=Z,11nm,0.6s
DAWY **Dawson** 78.78 352 P P 22 42 05.8 +0.6
baz=14
J25K **Salcha River,** 78.79 355 P P 22 42 05.2 0.0
baz=9.6
KSAR **Wonju Array Be** 78.84 52 P P 22 42 05.7 -0.3
KSAR **Wonju Array Be** 78.84 52 P P 22 42 05.7 -0.3
H17K **Granite Mounta** 78.86 1 P P 22 42 05.7 +0.2
baz=358
KSRS **Korea Array** 78.86 52 P P 22 42 04.7 -1.4
comp=Z,3.3nm,0.5s,baz=318,slow=4.6,SNR=11
KSRS LR LR 23 21 32.2
comp=Z,106nm,19.2s,baz=290,slow=39
comp=Z,3.3nm,0.5s
I20K **Naaghedeneel** 79.00 359 P P 22 42 06.2 -0.1
baz=2.1
NEA2 **Nenana** 79.03 357 P P 22 42 05.9 -0.6
baz=6.6
ANM **None** 79.04 4 P P 22 42 06.3 -0.3
baz=353
MMPY **Sheldon Lake,** 79.05 348 P P 22 42 06.3 -0.4
baz=21,SNR=7.6
O48B **Farmland** 79.07 312 P P 22 42 06.7 -0.4
baz=51
GCSA **Galena City Sc** 79.07 360 P P 22 42 06.4 -0.2
baz=0.2
K27K **Chicken** 79.09 353 P P 22 42 06.3 -0.6
baz=12
HDA **Harding Lake** 79.10 356 P P 22 42 06.5 -0.4
HDA IAmb IAmb 22 42 17.4
comp=Z,13nm,0.8s
HDA **Harding Lake** 79.10 356 P P 22 42 06.7 -0.2
baz=8.3,SNR=8.3
H16K **Elim** 79.10 2 P P 22 42 06.1 -0.8
baz=356,SNR=7.3
P49A **Miami Univ. Ec** 79.26 311 P P 22 42 06.8 -1.4
baz=51
SCRK **Sand Creek** 79.31 354 P P 22 42 07.3 -0.9
baz=11,SNR=9.2
L44A **Lake County Fo** 79.46 315 P P 22 42 08.9 -0.3
baz=50
TGTN **Hyland Airport** 79.54 346 P P 22 42 09.2 -0.2
baz=23
L29M **L29M** 79.57 351 P P 22 42 09.5 -0.1
baz=15,SNR=5.9
BPAW **Bear Paw Mtn.** 79.61 357 P P 22 42 09.1 -0.6
baz=5.0,SNR=8.9
J20K **Nowinta River** 79.62 359 P P 22 42 09.4 -0.3
baz=2.4,SNR=11
K24K **Donnelly Dome** 79.62 355 P P 22 42 09.5 -0.3
baz=9.2
FARO **Faro, Yukon** 79.75 349 P P 22 42 10.2 -0.3
baz=19,SNR=6.1
J19K **Poorman** 79.82 359 P P 22 42 10.6 -0.2
baz=1.2,SNR=14
CHUM **Lake Minchumin** 79.87 358 P P 22 42 10.4 -0.7
baz=3.9,SNR=8.3
MCK **McKinley** 79.88 356 P P 22 42 11.0 -0.2
baz=6.7
I17K **Unalakleet** 79.89 2 P P 22 42 11.3 +0.1
baz=357
M30M **Minto, Yukon** 79.91 351 P P 22 42 11.4 -0.1
baz=16
M31M **Drury Creek, Y** 79.94 349 P P 22 42 11.4 -0.2
baz=18,SNR=7.1
KOTAN **Kotaneelee Air** 79.94 344 P P 22 42 10.9 -0.6
baz=26
BCAR **Beaver Creek A** 80.01 353 P P 22 42 11.8 -0.2
L27K **Beaver Creek,** 80.02 353 P P 22 42 11.4 -0.5
baz=12,SNR=9.8
SPMN **Marine on St.** 80.11 320 P P 22 42 12.7 -0.1
baz=47
SFIN **Lafayette** 80.14 313 P P 22 42 11.7 -1.3
baz=50
TRF **Thorofare Moun** 80.23 357 P P 22 42 12.0 -1.3
baz=5.5
M29M **Somme Creek** 80.25 351 P P 22 42 13.1 -0.3
baz=15,SNR=32
JFWS **Jewell Farm** 80.29 317 P P 22 42 12.1 -1.7
baz=49
CAST **Castle Rocks** 80.33 358 P P 22 42 13.3 -0.3
CAST IAmb IAmb 22 42 25.7
comp=Z,8.9nm,0.7s
CAST **Castle Rocks** 80.33 358 P P 22 42 12.7 -0.9
baz=4.1,SNR=7.5
J18K **Innoko River** 80.36 360 P P 22 42 12.9 -0.8
baz=0.3,SNR=8.4
TZTN **Tazewell** 80.39 308 P P 22 42 13.4 -1.0
baz=52
J17K **VABM Dome** 80.42 1 P P 22 42 13.0 -1.1
baz=358,SNR=7.0
PAX **Paxson** 80.42 355 P P 22 42 12.6 -1.6
baz=9.5
K20K **Telida** 80.44 359 P P 22 42 13.1 -1.1
baz=2.5
DHY **Denali Highway** 80.45 356 P P 22 42 13.9 -0.5
DHY IAmb IAmb 22 42 26.3
comp=Z,18nm,0.8s
DHY **Denali Highway** 80.45 356 P P 22 42 12.8 -1.7
baz=7.9,SNR=11
J16K **Anvik River** 80.50 2 P P 22 42 13.9 -0.6
baz=357,SNR=6.7
PDSI **Padang** 80.50 98 P P 22 42 14.5 -0.8
M27K **Edge Creek, AK** 80.71 353 P P 22 42 15.5 -0.3
baz=12,SNR=8.3
N32M **Quiet Lake** 80.73 348 P P 22 42 15.0 -0.8
baz=19
WAT1 **Susitna Watana** 80.76 356 P P 22 42 15.2 -0.8
baz=7.0
M26K **Nabesna, AK** 80.78 353 P P 22 42 15.9 -0.2
baz=11,SNR=6.9
N31M **Braeburn, Yuko** 80.82 350 P P 22 42 16.0 -0.3
baz=17
PPLA **Purkeypile** 80.86 358 P P 22 42 15.4 -1.1
baz=4.0,SNR=7.6
J14K **Nanvaranak Lak** 80.94 3 P P 22 42 16.0 -0.8
baz=355
WTLY **Watson Lake, Y** 80.95 346 P P 22 42 16.2 -0.8
baz=23
WAT6 **Susitna Watana** 80.96 356 P P 22 42 15.6 -1.6
baz=7.6
HARP **HAARP** 80.97 354 P P 22 42 15.9 -1.1
baz=9.7
N30M **Aishikik Lake** 81.03 350 P P 22 42 16.4 -1.1
baz=16
WCI **Wyandotte Cave** 81.03 311 P P 22 42 16.5 -1.3
baz=50
TKL **Tuckaleechee C** 81.09 308 P P 22 42 19.2 +1.0
TKL IAmb IAmb 22 43 01.5
comp=Z,20nm,1.5s
TKL **Tuckaleechee C** 81.09 308 LR LR 23 17 14.0
comp=Z,107nm,21.7s,baz=62,slow=35
TKL **Tuckaleechee C** 81.09 308 P P 22 42 19.2 +1.0
TKL pmax pmax
comp=Z,20nm,1.5s
K17K **Iditarod** 81.11 1 P P 22 42 16.2 -1.6
baz=359,SNR=7.7
YUK3 **Moose Creek** 81.13 352 P P 22 42 17.0 -1.1
baz=14,SNR=26
HDIL **Hopedale** 81.30 314 P P 22 42 17.7 -1.5
baz=49
L20K **Farewell, AK** 81.32 359 P P 22 42 17.8 -1.1
baz=2.6,SNR=5.5
M24K **Tolsona, Glenn** 81.33 355 P P 22 42 18.1 -0.9
baz=8.9
YUK4 **Talbot Arm** 81.34 351 P P 22 42 17.6 -1.7
baz=15,SNR=8.2
TOAD **Toad River Com** 81.36 344 P P 22 42 17.8 -1.4
baz=25,SNR=9.0
K15K **Wolf Creek Mou** 81.47 2 P P 22 42 18.2 -1.4
baz=356
WHY **Whitehorse** 81.48 349 P P 22 42 18.4 -1.5
baz=18
YUK8 **Steele Glacier** 81.53 352 P P 22 42 18.9 -1.5
baz=14
O30N **Mendenhall** 81.55 350 P P 22 42 18.8 -1.4
baz=17
P33M **Teslin, Yukon** 81.58 348 P P 22 42 20.5 +0.1
baz=20
L18K **Granite Mounta** 81.61 360 P P 22 42 20.8 +0.4
baz=0.3,SNR=6.5
MDND **Maddock** 81.62 325 P P 22 42 20.8 0.0
baz=43
L19K **White Mountain** 81.63 359 P P 22 42 20.8 +0.2
baz=1.8,SNR=7.3
SCM **Sheep Creek Mo** 81.68 355 P P 22 42 21.5 +0.6
baz=7.9
L17K **Donlin** 81.69 1 P P 22 42 21.5 +0.6
baz=359
YUK6 **Outpost Mounta** 81.69 351 P P 22 42 21.1 -0.1
baz=15,SNR=7.5
HYT **Haines Junctio** 81.70 350 P P 22 42 21.7 +0.6
HYT IAmb IAmb 22 42 26.4
comp=Z,13nm,1.1s
HYT **Haines Junctio** 81.70 350 P P 22 42 21.4 +0.3
baz=16,SNR=7.6
N25K **Chitina, Valde** 81.70 354 P P 22 42 22.0 +1.0
baz=10
K13K **Kusilvak Mount** 81.70 4 P P 22 42 21.9 +1.0
baz=354
M23K **Glacier View** 81.75 356 P P 22 42 22.3 +1.1
baz=7.6
SKT **Skwentna** 81.75 357 P P 22 42 20.9 -0.3
SKT **Skwentna** 81.75 357 P P 22 42 21.0 -0.2
baz=4.5,SNR=7.1
SML **Sawmill** 81.77 356 P P 22 42 22.1 +0.8
baz=7.1
MCARA **McCarthy VSAT** 81.78 353 P P 22 42 21.3 -0.1
MCARA IAmb IAmb 22 42 30.7
comp=Z,10nm,1.0s
MCARA **McCarthy VSAT** 81.78 353 P P 22 42 22.2 +0.8
baz=11
M20K **Styx River** 81.90 358 P P 22 42 22.6 +0.5
baz=3.2,SNR=9.2
M19K **Big River Lodg** 81.90 359 P P 22 42 21.9 -0.1
baz=2.2
M22K **Willow** 81.92 357 P P 22 42 22.4 +0.4
baz=5.7
KLU **Klutina** 81.92 355 P P 22 42 21.6 -0.6
baz=9.1
CTGM **Chitina Glacie** 82.02 352 P P 22 42 23.2 +0.4
CTGM IAmb IAmb 22 42 27.2
comp=Z,16nm,1.4s
CTG **Chitna Glacier** 82.02 352 P P 22 42 23.5 +0.7
baz=13
R33M **Jennings River** 82.03 347 P P 22 42 22.9 0.0
baz=21,SNR=14
PMR **Palmer** 82.03 356 P P 22 42 22.6 0.0
baz=6.5
O28M **Mount Upton** 82.08 352 P P 22 42 23.0 -0.3
baz=14
L15K **Ungalak Mounta** 82.09 2 P P 22 42 23.6 +0.7
baz=356,SNR=6.7
L16K **Owhat River** 82.10 1 P P 22 42 23.4 +0.4
baz=358
LOGN **Logan Glacier** 82.12 352 P P 22 42 23.5 +0.1
KNK **Knik Glacier** 82.17 356 P P 22 42 23.1 -0.3
baz=7.0
GOGA **Godfrey** 82.29 306 P P 22 42 25.0 +0.5
baz=51
P30M **Million Dollar** 82.30 350 P P 22 42 23.7 -0.5
baz=16
P32M **Atlin** 82.32 348 P P 22 42 24.4 +0.1
baz=19
BMRM **Bremner River** 82.33 354 P P 22 42 24.6 +0.3
baz=10
M18K **Stony River** 82.34 359 P P 22 42 24.1 -0.1
baz=1.0
L14K **Kuka Creek** 82.38 3 P P 22 42 25.3 +0.8
baz=356
M17K **Holitna River** 82.43 0 P P 22 42 25.5 +0.7
baz=360
PETK **Petropavlovsk-** 82.49 26 LR LR 23 22 48.5
comp=Z,27nm,18.2s,baz=328,slow=38
RC01 **Rabbit Creek A** 82.56 356 P P 22 42 26.2 +0.7
baz=6.0
GLI **Glacier Island** 82.61 355 P P 22 42 25.9 +0.2
baz=8.1
SKAG **Skagway** 82.70 349 P P 22 42 26.1 0.0
baz=18
DLBC **Dease Lake** 82.74 346 P P 22 42 26.9 +0.3
baz=22
DLBC **Dease Lake** 82.74 346 P P 22 42 25.2 -1.3
comp=Z,1.2nm,0.6s,baz=60,slow=8.3,SNR=1.5
comp=Z,1.2nm,0.6s
M16K **Timber Creek** 82.80 1 P P 22 42 26.9 +0.2
baz=358
EYAK **Cordova Ski Ar** 82.84 354 P P 22 42 26.8 -0.1
baz=9.2
PLBC **Pleasant Camp** 82.86 350 P P 22 42 26.8 -0.1
baz=17
MESA **MESA** 82.86 352 P P 22 42 27.1 -0.2

baz=12
ASAJ Asahikawa 82.88 39 LR LR 23 23 37.9
comp=Z,193nm,18.6s,baz=24,slow=39
P29M Windy Craggy 82.88 350 P P 22 42 27.5 +0.3
baz=16
CAPN Captain Cook N 82.95 357 P P 22 42 28.4 +1.0
baz=4.8
M14K Bethel 83.00 2 P P 22 42 27.8 +0.2
baz=356
N19K Bonanza Creek 83.00 359 P P 22 42 28.2 +0.4
baz=2.1
BGLC Bering Glacier 83.05 353 P P 22 42 28.3 +0.4
baz=11
PNL Peninsula 83.06 351 P P 22 42 27.5 -0.5
baz=14
M15K Kasigluk River 83.09 2 P P 22 42 27.8 -0.3
baz=357
ECSD EROS Data Cent 83.11 321 P P 22 42 28.4 -0.3
ECSD EROS Data Cent 83.11 321 P P 22 42 28.1 -0.6
baz=45
SIUC Southern Illin 83.12 312 P P 22 42 28.4 -0.3
SIUC IAmb IAmb 22 42 34.8
comp=Z,14nm,0.9s
N18K Kilae Creek 83.15 359 P P 22 42 28.6 +0.1
baz=1.0
M11K Mekoryuk 83.16 5 P P 22 42 28.4 -0.1
baz=353
O22K Cooper Landing 83.17 356 P P 22 42 27.7 -0.8
baz=6.0
DGMT Dagmar 83.20 328 P P 22 42 28.7 -0.4
baz=40
N17K Nushagak Hills 83.31 0 P P 22 42 29.4 +0.1
baz=360
WVT Waverly 83.32 310 P P 22 42 29.8 0.0
baz=49
KAIM Kayak Island 83.35 354 P P 22 42 29.5 0.0
baz=10
N16K Nishlik Lake 83.35 1 P P 22 42 29.5 0.0
baz=359
JNU Nakatsue 83.44 53 LR LR 23 26 26.0
comp=Z,115nm,18.2s,baz=320,slow=41
S34M Telegraph Cree 83.44 346 P P 22 42 29.3 -0.8
baz=21
P23K Montague Islan 83.51 355 P P 22 42 29.8 -0.5
baz=7.8
ITTB Itaituba 83.53 260 eP P 22 42 32.4 +1.2
SEW Seward 83.53 356 P P 22 42 29.8 -0.6
baz=6.2
N15K Kwethluk River 83.64 2 P P 22 42 31.1 +0.1
baz=358
O20K Slope Mountain 83.69 358 P P 22 42 30.0 -1.3
baz=3.6
R31K City Hall, Gus 83.76 349 P P 22 42 31.9 +0.3
baz=17
SUSD Miller 83.78 322 P P 22 42 32.0 -0.1
baz=43
N14K Kuskokwak Cree 83.84 2 P P 22 42 31.8 -0.2
baz=356
BRSE Bradley Lake S 83.96 357 P P 22 42 32.5 -0.2
baz=5.1
O18K Koktuh Hills 83.97 359 P P 22 42 32.6 -0.2
baz=1.5
Q23K Middleton Isla 84.00 355 P P 22 42 32.6 -0.2
baz=8.7
O17K Koliganek Bris 84.07 0 P P 22 42 33.2 0.0
baz=360
HOM Homer 84.08 357 P P 22 42 33.4 +0.1
baz=4.4
CCM Cathedral Cave 84.09 314 P P 22 42 34.7 +0.9
baz=48
CCM Cathedral Cave 84.09 314 P P 22 42 33.5 -0.3
CCM pmax pmax
comp=Z,7.0nm,0.7s
P19K Oil Pt 84.14 358 P P 22 42 33.5 -0.1
baz=3.1
T35M Bob Quinn 84.14 346 P P 22 42 33.8 +0.1
baz=21
DWPF Disney Wildern 84.22 301 P P 22 42 34.0 -0.5
baz=52
O16K Kokwok River B 84.24 1 P P 22 42 32.5 -1.6
baz=359
S31K Pelican 84.27 349 P P 22 42 32.8 -1.5
baz=17
P18K Big Mountain, 84.44 359 P P 22 42 34.1 -1.1
baz=1.5
S32K Killisnoo 84.48 348 P P 22 42 34.7 -0.6
baz=18
O14K Tigyukauivet M 84.52 2 P P 22 42 34.8 -0.7
baz=357
BDFB Brasilia 84.59 246 P P 22 42 37.7 +1.1
BDFB IAmb IAmb 22 42 46.7
comp=Z,7.4nm,0.8s
BDFB Brasilia 84.59 246 P P 22 42 34.4 -2.2
comp=Z,2.7nm,0.6s,baz=346,slow=10,SNR=2.4
BDFB LR LR 23 20 04.1
comp=Z,454nm,20.2s,baz=49,slow=36
comp=Z,2.7nm,0.6s
BDFB Brasilia 84.59 246 P P 22 42 37.7 +1.1
BDFB pmax pmax
comp=Z,7.0nm,0.8s
O15K Ungalikthiuk R 84.64 1 P P 22 42 35.6 -0.5
baz=358
P17K Kvichak River 84.64 360 P P 22 42 36.2 +0.1
baz=0.5
P16K Nushagak River 84.81 0 P P 22 42 36.8 -0.1
baz=359
LRAL Lakeview Retre 84.81 308 P P 22 42 37.4 -0.1
LRAL Lakeview Retre 84.81 308 P P 22 42 38.7 +1.2
baz=49
NPGB Novo Progresso 84.85 257 eP P 22 42 38.7 +0.8
Q19K Cape Douglas, 84.87 358 P P 22 42 38.4 +1.0
baz=2.8
SIT Sitka 85.00 348 P P 22 42 38.6 +0.7
baz=17
WRAK Wrangell Islan 85.08 347 P P 22 42 38.9 +0.6
baz=20
Q20K Shuyak Island 85.15 358 P P 22 42 39.5 +0.8
baz=3.8
LAO LASA Array 85.45 328 P P 22 42 41.0 +0.4
LAO LASA Array 85.45 328 P P 22 42 40.5 -0.1
baz=39
U33K Whale Pass 85.51 347 P P 22 42 40.3 -0.1
baz=19
BAUV El Baul 85.55 278 P P 22 42 40.4 -1.1
BGNE Belgrade 85.57 320 P P 22 42 40.9 -0.3
baz=44
Q17K Contact Creek 85.58 359 P P 22 42 41.2 +0.2
baz=1.0
JOW Kunigami 85.65 60 LR LR 23 26 03.2
comp=Z,67nm,18.1s,baz=99,slow=39
MJAR Matsushiro Arr 85.73 47 P P 22 42 41.1 -0.9
comp=Z,6.4nm,1.1s,baz=316,slow=4.7,SNR=8.1
comp=Z,6.4nm,1.1s
EGMT Eagleton 85.86 330 P P 22 42 41.4 -1.1
EGMT Eagleton 85.86 330 P P 22 42 42.8 +0.2
baz=36
V35K Ketchikan 85.97 346 P P 22 42 42.5 -0.3
baz=20
KDAK Kodiak Island 85.99 358 P P 22 42 42.7 -0.1
baz=3.6
KDAK Kodiak Island 85.99 358 LR LR 23 25 41.7
comp=Z,73nm,19.2s,baz=36,slow=39
SPIA Saint Paul Isl 86.00 7 P P 22 42 42.3 -0.6
baz=349
CRAG Craig 86.12 347 P P 22 42 44.1 +0.6
baz=19
R16K Pilot Point 86.28 0 P P 22 42 43.8 -0.5
baz=360
KSU1 Kansas State U 86.40 317 P P 22 42 45.6 +0.3
baz=44
RSSD Black Hills 86.45 325 P P 22 42 45.5 -0.3
baz=40
OHAK Old Harbor 86.57 358 P P 22 42 45.5 -0.3
baz=3.1
P08K Saint George I 86.64 7 P P 22 42 46.5 +0.4
baz=350
HHAR Hobbs 86.87 314 P P 22 42 47.5 -0.2
SII Sitkinak Islan 87.26 358 P P 22 42 49.7 +0.5
baz=2.3
ARAG Araguaiana, MT 87.45 248 eP P 22 42 52.1 +1.5
CHGN Chignik 87.54 1 P P 22 42 51.1 +0.6
baz=359
S14K Fog Glacier 87.54 1 P P 22 42 51.1 +0.4
baz=358
SHEM Shemya Is, Ala 87.64 17 LR LR 23 26 04.4
comp=Z,184nm,20.5s,baz=22,slow=38
MIAR Mount Ida 87.86 312 P P 22 42 53.3 +0.8
baz=46
OGNE Ogallala 87.89 322 P P 22 42 53.0 +0.4
baz=41
SBUM Sibu 87.96 88 P P 22 42 53.2 -0.1
SBUM IAmb IAmb 22 42 58.6
comp=Z,5.2nm,0.7s
RLMT Red Lodge 87.99 328 P P 22 42 53.6 +0.4
baz=37
TGY Tagaytay City 88.00 74 LR LR 23 26 38.4
comp=Z,309nm,20.6s,baz=216,slow=39
CHIR Chirikof Islan 88.02 359 P P 22 42 53.1 +0.3
baz=1.2
S12K Black Hills 88.05 3 P P 22 42 53.0 +0.1
baz=356
BBB Bella Bella 88.13 343 LR LR 23 26 22.1
comp=Z,147nm,19.4s,baz=14,slow=38
TUL3 Leonard 88.20 315 P P 22 42 54.7 +0.6
baz=45
CBKS Cedar Bluff 88.29 319 P P 22 42 55.3 +0.8
baz=43
NEW Newport 88.40 335 P P 22 42 54.9 +0.1
NEW IAmb IAmb 22 43 01.0
comp=Z,8.3nm,0.8s
NEW Newport 88.40 335 P P 22 42 55.5 +0.6
baz=31
NEW Newport 88.40 335 P P 22 42 53.5 -1.3
comp=Z,5.9nm,0.7s,baz=64,slow=2.3,SNR=6.4
NEW LR LR 23 25 14.4
comp=Z,175nm,18.6s,baz=2.5,slow=38
comp=Z,5.9nm,0.7s
NEW Newport 88.40 335 P P 22 42 54.9 +0.1
NEW pmax pmax
comp=Z,8.0nm,0.9s
SDPT Sand Point 88.45 2 P P 22 42 55.7 +0.8
baz=357
MSO Missoula 88.46 332 P P 22 42 55.6 +0.3
baz=33
BOZ Bozeman (W) 88.58 330 P P 22 42 56.0 +0.1
BOZ IAmb IAmb 22 42 59.6
comp=Z,9.9nm,1.4s
BOZ Bozeman (W) 88.58 330 P P 22 42 56.1 +0.3
baz=35
BOZ Bozeman (W) 88.58 330 P P 22 42 56.0 +0.1
BOZ pmax pmax
comp=Z,10.0nm,1.4s
BPMT Black Pine Rid 88.60 332 P P 22 42 56.2 +0.1
PDRB Porto dos Gac 88.69 255 eP P 22 42 56.6 0.0
K22A Casper 88.74 325 P P 22 42 55.9 -0.8
K22A Casper 88.74 325 P P 22 42 57.1 +0.4
baz=38
YHH Holmes Hill 88.92 329 P P 22 42 57.2 -0.4
CHNA Chernabura Isl 89.00 1 P P 22 42 57.5 +0.1
baz=358
PHWY Pilot Hill 89.29 324 P P 22 42 59.0 -0.5
PHWY IAmb IAmb 22 43 02.7
comp=Z,14nm,1.1s
UNV Unalaska Valle 89.64 6 P P 22 43 01.1 +0.7
baz=352
KSCO Kaye Shedlock' 89.65 321 P P 22 43 01.8 +0.8
baz=41
N23A Red Feather La 89.84 324 P P 22 43 02.4 +0.3
baz=39
BW06 Boulder Array 90.01 327 P P 22 43 03.2 +0.5
baz=36
PD31 Pinedale Array 90.01 327 P P 22 43 01.4 -1.3
PD31 IAmb IAmb 22 43 08.1
comp=Z,17nm,1.8s
PDAR Pinedale Array 90.01 327 P P 22 43 01.6 -1.2
PDAR Pinedale Array 90.01 327 P P 22 43 01.9 -0.9
comp=Z,1.5nm,0.7s,baz=29,slow=3.4,SNR=12
PDAR LR LR 23 25 39.9
comp=Z,292nm,18.4s,baz=38,slow=37
comp=Z,1.5nm,0.7s
NATX Nacogdoches 90.45 311 P P 22 43 05.3 +0.7
baz=45
ISCO Idaho Springs 90.53 323 P P 22 43 04.7 -0.6
ISCO Idaho Springs 90.53 323 P P 22 43 05.6 +0.3
baz=39
ISCO Idaho Springs 90.53 323 P P 22 43 04.7 -0.6
ISCO pmax pmax
comp=Z,6.0nm,1.2s
WMOK Wichita Mounta 90.75 316 P P 22 43 06.6 +0.6
baz=43
Q24A Divide 90.95 322 P P 22 43 06.7 -0.6
baz=39
HLID Hailey 91.38 330 P P 22 43 09.8 +0.8
baz=33
BMO Blue Mountains 91.39 333 P P 22 43 08.3 -0.7
BMO Blue Mountains 91.39 333 P P 22 43 08.3 -0.7
BMO pmax pmax
comp=Z,6.0nm,1.3s
O20A White River Ci 91.52 325 P P 22 43 09.9 +0.2
baz=37
RDMU Red Mountain 91.78 326 P P 22 43 11.0 +0.1
HWUT Hardware Ranch 91.82 328 P P 22 43 10.5 -0.6
HWUT IAmb IAmb 22 43 24.6
comp=Z,5.8nm,0.8s
T25A Trinidad 91.98 321 P P 22 43 11.4 -0.6
baz=40
SDCO Great Sand Dun 92.07 322 P P 22 43 11.9 -0.6
baz=39
SAML Samuel 92.18 261 eP P 22 43 14.6 +1.7
ROSC El Rosal 92.98 278 LR LR 23 24 59.8
comp=Z,84nm,18.1s,baz=113,slow=36
ELK Elko 94.08 329 LR LR 23 27 40.4
comp=Z,241nm,18.0s,baz=36,slow=37
SIV San Ignacio 94.68 254 LR LR 23 26 10.4
comp=Z,244nm,19.9s,baz=120,slow=36
YBH Yreka Blue Hor 96.03 335 LR LR 23 30 20.7
comp=Z,225nm,18.0s,baz=22,slow=38
W18A Petrified Fore 96.23 323 P P 22 43 31.3 -0.2
baz=36
R11B Troy Canyon, C 96.24 328 P P 22 43 30.6 -0.8
baz=32
MNTX Cornudas Mount 96.67 318 P P 22 43 33.4 +0.1
baz=39
WUAZ Wupatki 96.70 324 P P 22 43 33.4 -0.2
baz=35
NVAR Mina Array Bea 97.29 330 LR LR 23 30 20.2
comp=Z,315nm,18.8s,baz=252,slow=37
TXAR Lajitas Array 97.52 315 P P 22 43 35.6 -1.8
comp=Z,0.5nm,1.0s,baz=26,slow=4.4,SNR=1.8
TXAR LR LR 23 29 12.5
comp=Z,100nm,19.6s,baz=6.0,slow=36
comp=Z,0.5nm,1.0s
CPUP Villa Florida 98.01 243 LR LR 23 29 34.6
comp=Z,292nm,18.6s,baz=46,slow=36
PFO Pinyon Flats O 100.61 326 P Pdif 22 43 50.7 -0.4
baz=32
TPFO Pinon Flats 100.62 326 P Pdif 22 43 51.2 +0.1
baz=32
PKM Mcpherson Peak 100.95 330 P Pdif 22 43 52.9 +0.2
baz=30
IKP In-Ko-Pah, Jac 101.27 326 P Pdif 22 43 54.1 +0.1
baz=32
WRA Warramunga Arr 118.50 95 PKP PKPdf 22 48 50.0 -0.9
comp=Z,1.2nm,0.7s,baz=320,slow=1.6,SNR=6.8
BELA Belgrano 2 119.19 192 PKPdf 22 48 50.3 -0.3
ASAR Alice Springs 120.03 98 PKP PKPdf 22 48 51.6 -2.2
comp=Z,1.6nm,0.6s,baz=312,slow=1.7,SNR=5.5
QSPA South Pole Qui 126.37 180 PKP PKPdf 22 49 03.8 -0.9
comp=Z,3.5nm,1.0s,baz=304,slow=0.7,SNR=9.8
VNDA Vanda 135.26 168 PKP PKPdf 22 49 19.4 -1.8
comp=Z,0.5nm,0.9s,baz=217,slow=5.1,SNR=2.4
DZM Mont Dzumac 145.28 76 eLR LR 23 37 08.6
comp=Z,209nm,31.6s
DZM Mont Dzumac 145.28 76 PKPbc PKPbc 22 49 38.5 -2.3
comp=Z,9.4nm,0.6s,baz=271,slow=8.9,SNR=3.3
PPT2 Papeete2 160.03 339 eLR LR 23 44 08.8
comp=Z,125nm,25.5s

IDC 16 22:40:55.7±1.2, 15°.84S×179°.99E, h0km, mb4.0/4, mbtmp4.0/4, MS3.4/2, Error ellipse: s-maj=54.2km s-min=33.1km az=135.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	Mont Dzumac	14.23	242	LR	LR	22 48 53.7	
	comp=Z,168nm,19.4s,baz=66,slow=34						
ASAR	Alice Springs	43.91	252	P	P	22 49 04.7	0.0
	2.9nm,0.7s,baz=84,slow=8.4,SNR=8.5						
	2.9nm,0.7s						
KAPI	Kappang	60.03	273	LR	LR	23 17 02.6	
	comp=Z,26nm,18.4s,baz=288,slow=36						
QSPA	South Pole Qui	74.20	180	P	P	22 52 34.2	-0.1
	2.7nm,1.0s,baz=58,slow=4.0,SNR=4.2						
	2.7nm,1.0s						
ILAR	Eielson Array	84.24	14	P	P	22 53 28.5	-0.3
	1.7nm,1.1s,baz=227,slow=5.6,SNR=6.8						
	1.7nm,1.1s						
TXAR	Lajitas Array	86.21	58	P	P	22 53 40.1	+0.5
	0.3nm,0.8s,baz=213,slow=4.3,SNR=2.2						
	0.3nm,0.8s						

IDC **16** *22:41:04.6±0.9, 36°.61N×23°.10E, h0km, mb3.7/10, mbtmp3.6/15, ML3.7/3, Error ellipse: s-maj=19.9km s-min=14.7km az=26.0*
ISK **16** *22:41:06.5, 36°.62N×23°.00E, h10km, ML3.4/20*
NEIC **16** *22:41:07.8±2.2, 36°.47N±0°.02×22°.86E±0°.04, h10km±1km, mb4.3/7, Error ellipse: s-maj=6.4km s-min=3.0km az=291.0*
ATH **16** *22:41:07.4, 36°.53N×22°.91E, h16km±2km, ML3.7/10, Manual Solution by M.Papanikolaou This location: 2020/06/28 21:39:01 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
THE **16** *22:41:07.9, 36°.55N×22°.95E, h12km±1km, ML3.5/16, Error ellipse: s-maj=1.4km s-min=0.8km az=297.0*
GII **16** *22:41:14.1±0.3, 35°.812N±0°.001×23°.834E±0°.002, h0km, confirmed*

ISC 16 22:41:06.6±0.5, 36°.52N±0°.02×22°.98E±0°.02, h15km, n130, σ1§81/162, mb3.9/13, 2C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNVA	Monemvasia	0.18	14	P	Pb	22 41 12.9	+1.3
MNVA				S	Sb	22 41 15.1	+0.2
VLI	Veliai	0.20	350	P	Pg	22 41 12.0	+0.7
VLI				S	Sg	22 41 14.6	+0.1
	38μm,0.4s						
VLI	Veliai	0.20	350	P	Pg	22 41 12.1	+0.7
VLI				S	Sg	22 41 14.9	+0.4
KRND	KRANIDI	0.88	9	P	Pb	22 41 24.0	+0.5
KRND				S	Sg	22 41 36.1	+1.0
	4μm,0.2s						
KRND	KRANIDI	0.88	9	P	Pb	22 41 24.1	+0.5
KRND				S	Sg	22 41 36.1	+1.0
YDRA	Hydra	0.92	25	P	Pg	22 41 25.0	+0.6
YDRA				S	Sn	22 41 38.0	+0.1
KLMT	Kalamata	0.92	307	P	Pb	22 41 23.8	-0.4
KLMT				S	Sb	22 41 36.1	-0.2
	2μm,0.4s						
PYL	PYLOS	1.07	291	P	Pb	22 41 26.4	-0.4
PYL				S	Sn	22 41 42.5	+0.9
	2μm,0.8s						
PYL	PYLOS	1.07	291	P	Pb	22 41 26.3	-0.4
PYL				S	Sb	22 41 40.0	-0.6
ITM	Ithomi	1.07	308	Pg	Pb	22 41 26.5	-0.4
ITM				Sg	Sb	22 41 41.3	+0.5
ITM	Ithomi	1.07	308	P	Pb	22 41 26.4	-0.4
ITM				S	Sn	22 41 42.1	+0.3
	1μm,0.6s						
ITM	Ithomi	1.07	308	Pg	Pb	22 41 26.5	-0.4
ITM				Sg	Sb	22 41 38.8	-2.0
ITM	Ithomi	1.07	308	P	Pb	22 41 26.5	-0.4
RODP	Rodopos	1.14	146	Pn	Pg	22 41 29.9	+1.3
RODP	Rodopos	1.14	146	P	Pg	22 41 29.8	+1.2
RODP				S	Sg	22 41 45.6	+2.1
	1μm,0.4s						
MHLO	Agia Marina, M	1.15	81	P	Pg	22 41 29.5	+0.6
MHLO				S	Sg	22 41 45.2	+1.3
	8μm,0.6s						
MHLO	Agia Marina, M	1.15	81	P	Pg	22 41 29.5	+0.6
CHAN	Chania	1.31	139	P	Pb	22 41 31.8	+0.9
CHAN				S	Sn	22 41 48.2	+0.6
IMMV	Iera Moni Meta	1.33	142	Pn	Pb	22 41 31.9	+0.7
IMMV	Iera Moni Meta	1.33	142	P	Pb	22 41 32.3	+1.1
IMMV				S	Sg	22 41 49.7	+0.2
	2μm,0.4s						
IMMV	Iera Moni Meta	1.33	142	P	Pb	22 41 32.3	+1.1
KNDR	Palaiochora Ch	1.40	156	Pn	Pg	22 41 34.1	+0.6
KNDR				Sn	Sg	22 41 53.4	+1.6
KNDR	Palaiochora Ch	1.40	156	P	Pb	22 41 33.2	+0.8
VLY	Voula,Athens	1.48	26	P	Pn	22 41 33.1	+0.4
VLY				S	Sn	22 41 52.5	+0.7
	2μm,0.4s						
VLY	Voula,Athens	1.48	26	P	Pn	22 41 33.2	+0.5
LTK	Loutraki	1.50	360	P	Pb	22 41 34.5	+0.3
GUR	Goura	1.51	340	P	Pb	22 41 34.3	0.0
GUR				S	Sn	22 41 52.9	+0.3
	4μm,0.5s						
GUR	Goura	1.51	340	P	Pb	22 41 34.3	0.0
THAL	Thalero	1.54	351	P	Pb	22 41 34.8	0.0
THAL				S	Sn	22 41 53.7	+0.5
	4μm,0.4s						
ATH	Athens Observa	1.57	22	P	Pn	22 41 34.7	+0.9
ATHU	Athens Univers	1.58	24	P	Pn	22 41 34.7	+0.6
ATHU				S	Sn	22 41 54.6	+0.3
	292nm,0.5s						
KLV	Kalavryta, Ach	1.66	337	P	Pb	22 41 36.9	-0.1
KLV				S	Sn	22 41 57.2	+0.8
	712nm,0.6s						
KLV	Kalavryta, Ach	1.66	337	P	Pb	22 41 36.8	-0.2
VILL	Villia	1.67	9	P	Pn	22 41 36.0	+0.7
VILL				S	Sn	22 41 56.8	+0.4
	1μm,0.5s						
PTL	Penteli	1.68	24	P	Pb	22 41 37.4	+0.1
PTL				S	Sn	22 41 57.6	+0.8
	985nm,0.5s						
PTL	Penteli	1.68	24	P	Pb	22 41 37.2	-0.1
DION	Dionisos Attik	1.73	26	P	Pb	22 41 38.2	0.0
DION				S	Sn	22 41 59.2	+1.1
	2μm,0.3s						
DION	Dionisos Attik	1.73	26	P	Pb	22 41 38.1	0.0
GVDS	Gavdos	1.90	151	Pn	Pb	22 41 41.0	+0.1
GVD	Gavdhos	1.90	151	Pn	Pb	22 41 41.5	+0.5
IDI	Anoyia	1.98	128	Pn	Pb	22 41 42.2	-0.1
IDI	Anoyia	1.98	128	P	Pn	22 41 41.4	+1.8
IDI	Anoyia	1.98	128		Pn	22 41 41.0	+1.4
IDI	Anoyia	1.98	128	Pn	Pn	22 41 40.1	+0.6
	10.0nm,0.3s,baz=329,slow=17,SNR=16						
IDI					Sn	Sn	22 42 04.0	0.0
	42nm,0.3s,baz=267,slow=20,SNR=9.3						
APE	Apeiranthos	2.12	74	⇑P	Pn	22 41 42.5	+1.0
APE	Apeiranthos	2.12	74	Pn	Pn	22 41 42.2	+0.7
APE	Apeiranthos	2.12	74	P	Pn	22 41 42.4	+0.9
AGG	Agios Georgios	2.55	349	Pn	Pn	22 41 47.9	+0.4
AGG	Agios Georgios	2.55	349		Pn	22 41 49.2	+1.7
ZKR	Zakros	2.98	117	Pn	Pn	22 41 55.8	+2.5
CHOS	Chios island	3.08	52	Pn	Pn	22 41 55.8	+1.1
PAIG	Paliouri	3.45	9	Pn	Pn	22 42 00.7	+0.9
BODT	Bodrum	3.52	80	Pn	Pn	22 42 02.6	+1.9
SIGR	SIGRI	3.52	39	Pn	Pn	22 42 01.7	+1.0
KARP	Karpathos	3.52	105		Pn	22 42 03.2	+2.4
BLCB	Balcova	3.73	59	Pn	Pn	22 42 04.9	+1.3
OUR	Ouranopolis	3.89	11	Pn	Pn	22 42 06.6	+0.8
HORT	Hortiatis	4.08	1	Pn	Pn	22 42 09.6	+1.1
ARG	Arkhangelos	4.16	93	Pn	Pn	22 42 12.4	+2.9
GADA	Gvkgeada	4.33	31	Pn	Pn	22 42 13.3	+1.5
FNA	Florina	4.44	344	Pn	Pn	22 42 14.3	+0.8
FNA	Florina	4.44	344		Pn	22 42 16.2	+2.7
GRG	Griva	4.46	354	Pn	Pn	22 42 15.0	+1.4
KNT	Kendrikon	4.64	359	Pn	Pn	22 42 17.5	+1.4
SCTE	Santa Cesarea	5.02	316	Pn	Pn	22 42 23.1	+1.7
RDO	Rodhopi	5.03	23	Pn	Pn	22 42 24.4	+2.9
ELL	Elmali	5.57	86		Pn	22 42 32.9	+3.8
TIP	Timpagrande	5.60	300		Pn	22 42 30.4	+1.1
CEL	Celeste	5.91	289		Pn	22 42 34.7	+1.1
PUK	Puka	6.02	337	Pn	Pn	22 42 37.5	+2.4
MATE	Matera	6.42	312	⇑P	Pn	22 42 44.4	+3.9
PDG	Podgorica	6.57	335	Pn	Pn	22 42 44.6	+1.9
CUC	Castrocucco	6.62	304	Pn	Pn	22 42 45.1	+1.7
ELND	Elena	6.78	18	⇓P	Pn	22 42 49.1	+3.6
VAE	Valguarnera	6.93	281	Pn	Pn	22 42 49.6	+2.0
	8.8nm,0.9s,baz=207,slow=18,SNR=2.7						
VAE					Sn	Sn	22 44 06.7	+0.5
	1.8nm,0.3s,baz=359,slow=23,SNR=2.3						
RAFF	Raffo Rosso	6.95	278	Pn	Pn	22 42 47.4	-0.4
DBRK	Dubrovnik	7.19	330	ePn	Pn	22 42 52.6	+1.5
DBRK					Sn	Sn	22 44 09.5	-3.0
STON	Ston	7.54	329	ePn	Pn	22 42 56.8	+0.9
STON					Sn	Sn	22 44 19.2	-1.8
SGRT	San Giovanni R	7.68	315	Pn	Pn	22 42 59.1	+1.1
LSTV	Lastovo	7.81	325	ePn	Pn	22 42 59.5	-0.1
CLTB	Caltabellotta	7.88	281	Pn	Pn	22 43 02.4	+1.7
MAKA	Makarska	8.17	328	ePn	Pn	22 43 06.7	+2.2
HVAR	Hvar	8.34	325	ePn	Pn	22 43 07.2	+0.4
CSS	Mathiatis	8.55	97	Pn	Pn	22 43 13.9	+4.0

INTR	**Introdacqua**	**8.92**	**311**	Pn		**Pn**	**22 43 16.7**	**+1.7**
BRTR	**Keskin Array B**	**8.99**	**66**	Pn		**Pn**	**22 43 14.2**	**-1.7**
	0.2nm,0.4s,baz=252,slow=14,SNR=1.3							
KIJV	**Kijevo**	**9.01**	**328**	*e*Pn		**Pn**	**22 43 16.8**	**+0.7**
MORI	**Morici**	**9.21**	**325**	*e*Pn		**Pn**	**22 43 19.8**	**+0.9**
DUGI	**Dugi Otok**	**9.61**	**323**	*e*Pn		**Pn**	**22 43 25.5**	**+1.2**
VIRC	**Vir**	**9.84**	**325**	*e*Pn		**Pn**	**22 43 29.5**	**+2.1**
NRCA	**Norcia**	**9.88**	**313**	Pn		**Pn**	**22 43 30.6**	**+2.5**
FDMO	**Fiordimonte**	**10.02**	**314**	Pn		**Pn**	**22 43 32.1**	**+2.2**
MMC7	**Mount Meron ar**	**10.79**	**105**	P		**Pn**	**22 43 40.5**	**0.0**
MMAI	**Mount Meron Ar**	**10.79**	**105**	Pn		**Pn**	**22 43 38.4**	**-2.3**
	0.7nm,0.3s,baz=302,slow=13,SNR=6.1							
MMAI				Sn		**Sn**	**22 45 35.4**	**-5.9**
	0.9nm,0.3s,baz=329,slow=32,SNR=3.1							
	0.5nm,0.3s							
KZIT	**Kziot**	**11.03**	**117**	P		**Pn**	**22 43 42.9**	**-0.9**
KZIT	**Kziot**	**11.03**	**117**	S		**Sn**	**22 45 39.9**	**-6.9**
AMAZ	**Amatzia**	**11.08**	**113**	P		**Pn**	**22 43 44.5**	**+0.1**
YTIR	**Yattir**	**11.31**	**114**	P		**Pn**	**22 43 47.3**	**-0.5**
YTIR	**Yattir**	**11.31**	**114**	S		**Sn**	**22 45 47.7**	**-6.1**
DSI	**Dead Sea**	**11.40**	**112**	P		**Pn**	**22 43 48.8**	**-0.1**
DSI	**Dead Sea**	**11.40**	**112**	S		**Sn**	**22 45 50.1**	**-6.0**
MSBI	**Mazada**	**11.51**	**113**	P		**Pn**	**22 43 50.4**	**0.0**
GHAJ	**Ghor Haditha**	**11.67**	**113**	Pn		**Pn**	**22 43 54.7**	**+2.1**
GHAJ	**Ghor Haditha**	**11.67**	**113**	P		**Pn**	**22 43 52.8**	**+0.2**
KRMI	**Paran Flat**	**11.71**	**120**	P		**Pn**	**22 43 52.4**	**-0.8**
KRMI	**Paran Flat**	**11.71**	**120**	S		**Sn**	**22 45 55.9**	**-7.7**
PRNI	**Paran**	**11.77**	**118**	P		**Pn**	**22 43 54.0**	**0.0**
PRNI	**Paran**	**11.77**	**118**	S		**Sn**	**22 45 58.4**	**-6.7**
MBRI	**Mt Berech**	**12.03**	**120**	P		**Pn**	**22 43 56.7**	**-0.9**
EIL	**Elat**	**12.13**	**121**	P		**Pn**	**22 43 58.8**	**-0.1**
CTI	**Castel Tesino**	**12.77**	**322**	Pn		**Pn**	**22 44 09.1**	**+1.5**
GERES	**GERESS Array B**	**14.07**	**334**	Pn		**Pn**	**22 44 24.8**	**-0.6**
	0.2nm,0.3s,baz=114,slow=18,SNR=1.6							
	0.2nm,0.3s							
KBZ	**Khabaz**	**16.83**	**59**	Pn		**Pn**	**22 45 02.8**	**+1.2**
	0.1nm,0.3s,baz=293,slow=6.7,SNR=1.6							
	1.2nm,0.9s							
ESDC	**Sonseca Array**	**21.41**	**287**	P		**P**	**22 45 55.5**	**+1.6**
	0.7nm,0.9s,baz=74,slow=9.9,SNR=4.8							
	0.7nm,0.9s							
HFS	**Hagfors**	**24.38**	**349**	P		**P**	**22 46 23.2**	**-0.7**
	2.2nm,0.7s,baz=155,slow=11,SNR=8.4							
	2.2nm,0.7s							
FINES	**FINESS Array B**	**25.02**	**4**	P		**P**	**22 46 29.2**	**-0.5**
	1.2nm,0.8s,baz=146,slow=14,SNR=2.3							
FINES				PcP		**PcP**	**22 50 04.8**	**+0.7**
	0.3nm,0.5s,baz=165,slow=7.9,SNR=1.1							
	1.2nm,0.8s							
NB201	**NORSAR Array S**	**25.65**	**347**	P		**P**	**22 46 37.4**	**+1.9**
NB201				IAmb		IAmb	22 46 57.9	
	comp=Z,17nm,1.3s							
NOA	**NORSAR Array B**	**25.66**	**347**	P		**P**	**22 46 35.2**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=153,slow=9.9,SNR=4.8							
	comp=Z,0.5nm,0.7s							
EKA	**Eskdalemuir Ar**	**25.91**	**325**	P		**P**	**22 46 37.0**	**-0.8**
	comp=Z,2.6nm,0.7s,baz=123,slow=12,SNR=4.9							
	comp=Z,2.6nm,0.7s							
EKB	**Eskdalemuir**	**25.93**	**325**	P		**P**	**22 46 39.0**	**+0.9**
EKB				IAmb		IAmb	22 47 06.7	
	comp=Z,26nm,1.4s							
TOA0	**Torodi Ar. Sit**	**30.11**	**225**	P		**P**	**22 47 15.2**	**-0.5**
TOA0				IAmb		IAmb	22 47 27.5	
	comp=Z,3.8nm,1.4s							
TORD	**Torodi Ar. Bea**	**30.11**	**225**	P		**P**	**22 47 14.3**	**-1.4**
TORD				IAmb		IAmb	22 47 26.5	
	comp=Z,3.4nm,1.5s							
TORD	**Torodi Ar. Bea**	**30.11**	**225**	P		**P**	**22 47 16.5**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=32,slow=9.2,SNR=4.6							
	comp=Z,0.5nm,0.7s							
ARCES	**ARCESS Array B**	**33.10**	**2**	P		**P**	**22 47 41.9**	**+0.4**
	comp=Z,2.5nm,0.9s,baz=193,slow=12,SNR=2.0							
	comp=Z,2.5nm,0.9s							
KURBB	**Kurchatov Arra**	**41.67**	**52**	P		**P**	**22 48 53.6**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=276,slow=8.6,SNR=8.4							
	comp=Z,0.5nm,0.4s							
MAKZ	**Makanchi**	**44.30**	**57**	P		**P**	**22 49 15.3**	**-0.5**
MKAR	**Makanchi Array**	**44.52**	**57**	P		**P**	**22 49 17.0**	**-0.5**
MKAR	**Makanchi Array**	**44.52**	**57**	P		**P**	**22 49 16.8**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=268,slow=7.9,SNR=24							
MKAR				PcP		**PcP**	**22 51 00.3**	**-0.3**
	comp=Z,0.3nm,0.5s,baz=267,slow=4.2,SNR=3.4							
	comp=Z,0.9nm,0.4s							
ZALV	**Zalesovo Beam**	**45.36**	**47**	P		**P**	**22 49 23.1**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=276,slow=7.8,SNR=3.7							
	comp=Z,0.7nm,0.4s							
BOSA	**Boshof**	**64.82**	**178**	P		**P**	**22 51 46.2**	**+1.3**

NEIC ***16*** *22:48:48.6± 1.4, 10.72S± 0.07× 115.05E± 0.02, h10km± 1km, mb4.7/66, Error ellipse: s-maj=12.0km s-min=3.1km az=187.0*

DJA ***16*** *22:48:49.5± 0.8, 11.5S± 2.2× 11.5E± , h26km± 7km, M4.9/55, mB5.3/12, mb4.9/55, MLv5.0/18, Mw(mB)4.8/12*

IDC ***16*** *22:48:53.7± 2.2, 10.55S× 115.28E, h49km± 21km, mb4.1/21, mbtmp4.4/23, ML4.7/3, MS3.5/5, Error ellipse: s-maj=17.4km s-min=10.2km az=73.0*

ISC 16 22:48:51.8± 0.3, 10.80S± 0.04× 115.11E± 0.04, h42km, n183, σ1s62/188, mb4.7/56, MS3.5/4, 1C, South of Bali

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**2.11**	**3**	P	**Pn**	**22 49 24.6**	**-0.1**
DNP				S	**Sn**	**22 49 50.1**	**+0.4**
JAGI	**Jajag, Banyuwa**	**2.50**	**338**	P	**Pn**	**22 49 28.8**	**-1.3**
JAGI	**Jajag, Banyuwa**	**2.50**	**338**		**Pn**	**22 49 28.6**	**-1.5**
JAGI				Sn	**Sn**	**22 49 56.4**	**-2.9**
JAGI	**Jajag, Banyuwa**	**2.50**	**338**	P	**Pn**	**22 49 29.0**	**-1.1**
JAGI				S	**Sn**	**22 49 57.4**	**-2.0**
SRBI	**Singaraja**	**2.70**	**2**	P	**Pn**	**22 49 33.3**	**+0.5**
SRBI				S	**Sn**	**22 50 04.5**	**+0.3**
ABJI	**Asem Bagus**	**3.11**	**344**	P	**Pn**	**22 49 38.1**	**-0.3**
ABJI				S	**Sn**	**22 50 16.9**	**+2.6**
PLAI	**Plampang**	**3.28**	**53**	P	**Pn**	**22 49 40.8**	**+0.1**
PLAI	**Plampang**	**3.28**	**53**	P	**Pn**	**22 49 40.3**	**-0.4**
PLAI				S	**Sn**	**22 50 16.4**	**-2.1**
BLJI	**Banyuglugur**	**3.38**	**334**	P	**Pn**	**22 49 42.2**	**0.0**
PWJI	**Pagerwojo**	**4.28**	**310**	P	**Pn**	**22 49 52.7**	**-1.7**
PWJI				S	**Sn**	**22 50 38.1**	**-5.0**
WBSI	**Waikabubak, Su**	**4.37**	**75**	P	**Pn**	**22 49 53.7**	**-2.0**
GRJI	**Gresik**	**4.66**	**326**	P	**Pn**	**22 50 00.3**	**+0.6**
NGJI	**Ngawi**	**4.96**	**313**	P	**Pn**	**22 50 03.3**	**-0.6**
	104nm,1.1s,0.9nm						
UGM	**Wanagama**	**5.36**	**302**	P	**Pn**	**22 50 08.6**	**-0.8**
UGM	**Wanagama**	**5.36**	**302**		**Pn**	**22 50 07.4**	**-2.0**
UGM	**Wanagama**	**5.36**	**302**	P	**Pn**	**22 50 09.2**	**-0.2**
	256nm,0.5s,1.3nm						
BASI	**Baing, Sumba**	**5.41**	**84**	P	**Pn**	**22 50 07.5**	**-2.5**
	337nm,1.3s,1.7nm						
BWJI	**Bawean**	**5.48**	**334**	P	**Pn**	**22 50 10.4**	**-0.7**
	504nm,1.2s,2.1nm						
YOGI	**Yogyakarta**	**5.60**	**302**	P	**Pn**	**22 50 14.2**	**+1.5**
	137nm,0.7s,0.6nm						
SMRI	**Semarang**	**5.93**	**309**	Pn	**Pn**	**22 50 14.9**	**-2.3**
SMRI	**Semarang**	**5.93**	**309**	P	**Pn**	**22 50 16.2**	**-1.0**
	109nm,0.8s,0.6nm						
EDFI	**Ende, Flores**	**6.79**	**73**	P	**Pn**	**22 50 26.6**	**-2.6**
	96nm,0.6s,2μm0.4nm						
CMJI	**Cimerak**	**7.23**	**294**	P	**Pn**	**22 50 32.6**	**-2.4**
	125nm,0.9s,0.6nm						
MMRI	**Maumere**	**7.34**	**74**	P	**Pn**	**22 50 37.9**	**+1.3**
MMRI	**Maumere**	**7.34**	**74**		**Pn**	**22 50 36.5**	**-0.1**
MMRI	**Maumere**	**7.34**	**74**	P	**Pn**	**22 50 37.1**	**+0.5**
	296nm,0.8s,0.9nm						
KAPI	**Kappang**	**7.36**	**39**		**Pn**	**22 50 37.4**	**+0.6**
KAPI	**Kappang**	**7.36**	**39**	P	**Pn**	**22 50 36.0**	**-0.8**
	21nm,0.3s,baz=188,slow=8.2,SNR=34						
KAPI				S	**Sn**	**22 51 55.7**	**-3.4**
	23nm,0.3s,baz=211,slow=19,SNR=6.9						
KAPI				LR	LR	22 54 16.2	
	comp=Z,225nm,18.6s,baz=208,slow=46						
	64nm,0.4s						
BBJI	**Bungbulang**	**8.08**	**294**	P	**Pn**	**22 50 44.7**	**-2.1**
LEM	**Lembang**	**8.39**	**297**	P	**Pn**	**22 50 53.2**	**+2.1**
	4.0nm,0.3s,baz=156,slow=19,SNR=1.8						
LEM				LR	LR	22 54 37.0	
	comp=Z,290nm,18.3s,baz=124,slow=41						
	14nm,0.6s						
LEM	**Lembang**	**8.39**	**297**	P	**Pn**	**22 50 50.8**	**-0.4**
	60nm,1.2s						
BATI	**Baumata**	**8.43**	**87**	P	**Pn**	**22 50 50.7**	**-0.9**
	19nm,0.3s,baz=298,slow=6.5,SNR=13						
BATI				S	**Sn**	**22 52 21.9**	**-3.6**
	68nm,0.4s,baz=182,slow=24,SNR=9.4						
BATI	**Baumata**	**8.43**	**87**	P	**Pn**	**22 50 49.5**	**-2.0**
	93nm,0.6s						
CNJI	**Cibinong**	**8.61**	**293**	P	**Pn**	**22 50 52.4**	**-1.6**
	58nm,1.0s						
TTSI	**Tana Toraja**	**9.01**	**32**	P	**Pn**	**22 51 02.0**	**+2.6**
	56nm,0.8s,900nm						
SOEI	**Soe**	**9.07**	**84**		**Pn**	**22 50 59.7**	**-0.7**
SOEI	**Soe**	**9.07**	**84**	P	**Pn**	**22 50 59.9**	**-0.5**
	114nm,0.7s						
BBSI	**Bau Bau**	**9.07**	**55**	P	**Pn**	**22 51 02.1**	**+1.8**
	63nm,1.0s						
CBJI	**Citeko**	**9.26**	**297**	P	**Pn**	**22 50 59.2**	**-3.6**
	238nm,0.7s						
SKJI	**Sukabumi**	**9.26**	**293**	P	**Pn**	**22 51 00.4**	**-2.4**
	203nm,0.9s,3μm						
DBJI	**Dramaga**	**9.28**	**296**	P	**Pn**	**22 51 02.0**	**-1.2**
	74nm,1.1s,7μm						
MBWA	**Marble Bar**	**11.21**	**157**	P	Pn	22 51 25.4	-4.2
MBWA	**Marble Bar**	**11.21**	**157**		Pn	22 51 24.8	-4.9
STKI	**Sintang**	**11.38**	**341**	P	**Pn**	**22 51 32.7**	**+0.7**
PSA00	**Pilbara Seismi**	**11.63**	**158**	P	Pn	22 51 31.1	-4.3
KASI	**Kota Agung**	**11.74**	**296**	P	**Pn**	**22 51 36.1**	**-0.8**
	41nm,1.0s						
GIRL	**Giralia**	**11.81**	**184**	P	**Pn**	**22 51 34.4**	**-3.3**
GIRL	**Giralia**	**11.81**	**184**	Pn	Pn	22 51 33.9	-3.9
MPSI	**Mapaga**	**12.04**	**24**	P	**Pn**	**22 51 43.0**	**+2.0**
	16nm,1.5s,459nm						
LWLI	**Liwa**	**12.36**	**297**	P	**Pn**	**22 51 43.6**	**-1.9**
	76nm,0.7s						
FITZ	**Fitzroy Crossi**	**12.51**	**127**		**Pn**	**22 51 44.4**	**-3.0**
TOLI2	**Tolitoli**	**13.11**	**26**	Pn	**Pn**	**22 51 55.8**	**+0.2**
MNAI	**Manna**	**13.64**	**297**	Pn	**Pn**	**22 51 59.9**	**-2.9**
SANI	**Sanana**	**13.86**	**52**	P	**Pn**	**22 52 06.6**	**+0.8**
	26nm,1.1s,525nm						
MTN	**Manton Dam**	**15.81**	**99**	P	**Pn**	**22 52 32.4**	**+0.7**
MTN	**Manton Dam**	**15.81**	**99**	Pn	**Pn**	**22 52 30.5**	**-1.1**
MTN				IAmb	IAmb	22 52 33.5	
	comp=Z,77nm,1.4s						
LBMI	**Labuha**	**15.92**	**51**	P	**Pn**	**22 52 34.4**	**+1.3**
	comp=Z,46nm,0.9s,comp=Z,966nm						
BNDI	**Bandanaira**	**15.93**	**68**	P	**Pn**	**22 52 35.8**	**+2.7**
	comp=Z,368nm,1.7s						
MEEK	**Meekatharra**	**16.10**	**169**	P	**Pn**	**22 52 32.3**	**-3.0**
MYKOM	**Kota Tinggi**	**16.79**	**317**	Pn	**Pn**	**22 52 42.9**	**-1.2**
PDSI	**Padang**	**17.56**	**303**	P	**Pn**	**22 52 53.1**	**-0.6**
	comp=Z,31nm,0.7s						
SGSI	**Sangihe**	**17.74**	**36**	P	**Pn**	**22 52 56.6**	**+0.8**
	comp=Z,221nm,0.4s						
BKNI	**Bangkinang**	**17.83**	**307**		**Pn**	**22 52 55.3**	**-1.7**
BKNI	**Bangkinang**	**17.83**	**307**	P	**Pn**	**22 52 56.0**	**-1.0**
	comp=Z,32nm,1.3s						
COCO	**West Island**	**17.97**	**264**	P	**Pn**	**22 52 57.5**	**-1.1**
MORW	**Morawa**	**18.20**	**177**	P	**P**	**22 52 58.7**	**-2.5**
MORW	**Morawa**	**18.20**	**177**	Pn	**P**	**22 52 57.8**	**-3.4**
SISI	**Saibi**	**18.49**	**300**	P	**Pn**	**22 53 04.7**	**-0.3**
	comp=Z,41nm,0.8s						
FAKI	**Fak Fak**	**18.72**	**66**	P	**P**	**22 53 04.7**	**-2.4**
FAKI	**Fak Fak**	**18.72**	**66**	P	**P**	**22 53 06.1**	**-1.0**
	comp=Z,126nm,0.7s,comp=Z,1μm						
SWI	**Sorong**	**18.84**	**59**	P	**P**	**22 53 07.8**	**-0.6**
	comp=Z,68nm,0.9s						
WRKA	**Warakurna**	**18.89**	**140**	P	**P**	**22 53 08.5**	**-0.5**
KMPI	**Kaimana, Papua**	**19.75**	**70**	P	**P**	**22 53 17.8**	**-0.6**
	comp=Z,205nm,0.9s						
DAV	**Davao City (W)**	**20.58**	**31**	S	S	22 57 03.7	-12
	comp=Z,87nm,0.3s,baz=263,slow=22,SNR=4.3						
DAV				LR	LR	23 02 36.6	
	comp=Z,96nm,21.0s,baz=162,slow=41						
WB0	**Warramunga Arr**	**20.61**	**118**	P	**P**	**22 53 27.7**	**0.0**
WB0				IAmb	IAmb	22 53 30.2	
	comp=Z,39nm,0.8s						
WRA	**Warramunga Arr**	**20.63**	**118**	P	**P**	**22 53 28.1**	**+0.2**
WRA	**Warramunga Arr**	**20.63**	**118**	P	**P**	**22 53 29.2**	**+1.3**
	comp=Z,27nm,0.7s,baz=298,slow=11,SNR=78						
WRA				S	S	22 57 06.8	-10
	comp=Z,5.0nm,0.8s,baz=291,slow=23,SNR=7.4						
	comp=Z,27nm,0.7s						
IPM	**Ipoh**	**20.67**	**317**	P	**P**	**22 53 26.4**	**-1.9**
IPM				IAmb	IAmb	22 53 40.8	
	comp=Z,26nm,0.8s						
WR0	**Warramunga Arr**	**20.81**	**118**	P	**P**	**22 53 30.6**	**+0.8**
RPSI	**Rantau Prapat**	**20.96**	**309**	P	**P**	**22 53 30.3**	**-1.2**
GSI	**Gunungsitoli**	**21.19**	**304**	P	**P**	**22 53 32.4**	**-1.5**
GSI	**Gunungsitoli**	**21.19**	**304**	P	**P**	**22 53 34.8**	**+0.8**
	comp=Z,18nm,0.8s						
KULM	**Kulim**	**21.51**	**317**	P	**P**	**22 53 36.2**	**-1.2**
AS31	**Alice Springs**	**22.01**	**128**	P	**P**	**22 53 43.1**	**+0.4**
ASAR	**Alice Springs**	**22.01**	**128**	P	**P**	**22 53 43.5**	**+0.7**
ASAR	**Alice Springs**	**22.01**	**128**	P	**P**	**22 53 44.5**	**+1.7**
	comp=Z,12nm,0.8s,baz=305,slow=9.7,SNR=54						
ASAR				S	**S**	**22 57 37.7**	**-5.7**
	comp=Z,0.9nm,0.7s,baz=300,slow=23,SNR=2.3						
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**22.11**	**175**	P	**P**	**22 53 45.5**	**+1.8**
NWAO				IAmb	IAmb	22 54 01.2	
	comp=Z,16nm,0.8s						
NWAO	**Narrogin (SRO)**	**22.11**	**175**	P	**P**	**22 53 46.7**	**+3.0**
	comp=Z,2.8nm,0.5s,baz=350,slow=7.2,SNR=2.7						
NWAO				S	S	22 57 35.0	-10
	comp=Z,11nm,0.7s,baz=324,slow=4.0,SNR=3.3						
NWAO				LR	LR	23 01 48.2	
	comp=Z,110nm,21.3s,baz=18,slow=35						
	comp=Z,2.8nm,0.5s						
SNSI	**Sinabang, Aceh**	**22.84**	**304**	P	**P**	**22 53 51.4**	**-0.2**
	comp=Z,152nm,0.4s						
FORT	**Forrest**	**23.23**	**151**	P	**P**	**22 53 56.5**	**+1.0**
DLV	**T Lat**	**23.53**	**344**	P	**P**	**22 53 56.6**	**-2.1**
LHMI	**Lhok Sumawe**	**24.10**	**310**	P	**P**	**22 54 04.0**	**+0.3**
	comp=Z,30nm,0.8s						
SRIT	**Nakonsritamara**	**24.69**	**321**	P	**P**	**22 54 08.2**	**-0.9**
SRIT				IAmb	IAmb	22 54 22.6	
	comp=Z,58nm,1.4s						
BBOO	**Buckleboo**	**29.18**	**142**	P	**P**	**22 54 49.4**	**0.0**
BBOO				IAmb	IAmb	22 54 54.1	
	comp=Z,29nm,1.4s						
CTAO	**Charters Tower**	**31.36**	**111**	P	**P**	**22 55 09.8**	**+1.0**
STKA	**Stephens Creek**	**32.22**	**135**	P	**P**	**22 55 17.4**	**+1.2**
STKA	**Stephens Creek**	**32.22**	**135**	P	**P**	**22 55 18.4**	**+2.2**
	comp=Z,13nm,0.8s,baz=307,slow=9.3,SNR=19						
	comp=Z,13nm,0.8s						
PHRA	**Phrae**	**32.61**	**333**	P	**P**	**22 55 19.6**	**-0.1**
CM31	**Chiang Mai Arr**	**33.16**	**331**	P	**P**	**22 55 24.5**	**-0.1**
CM31				IAmb	IAmb	22 55 38.6	
	comp=Z,6.2nm,0.6s						
CMAR	**Chiang Mai Arr**	**33.16**	**331**	P	**P**	**22 55 24.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**33.16**	**331**	P	**P**	**22 55 25.2**	**+0.7**
	comp=Z,1.6nm,0.3s,baz=159,slow=8.1,SNR=11						
	comp=Z,1.6nm,0.3s						
MANU	**Manus Island**	**33.18**	**77**	P	**P**	**22 55 25.7**	**+0.9**
CHTO	**Chiang Mai**	**33.47**	**331**	P	**P**	**22 55 27.1**	**-0.2**
CRAI	**Chiangrai**	**34.08**	**335**	P	**P**	**22 55 32.4**	**-0.1**
CRAI				IAmb	IAmb	22 55 45.9	
	comp=Z,13nm,1.0s						
TOO	**Toolangi**	**38.14**	**139**	P	**P**	**22 56 08.4**	**+1.3**
TOO				IAmb	IAmb	22 56 52.0	
	comp=Z,26nm,1.3s						
TNCH	**TengChong**	**39.12**	**336**	*e*P	**P**	**22 56 16.9**	**+1.3**
TNCH				pP	sP	22 56 30.9	-0.1
TNCH				sP	pwP	22 56 36.9	+6.8
TNCH				S	**S**	**23 02 10.1**	**-2.6**
TNCH				sS	sS	23 02 38.3	+8.0
TNCH				pmax	pmax		
	comp=Z,10.0nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,50nm,4.4s						
TNCH				LR	LR		
	comp=N,92nm,3.4s						
TNCH				LR	LR		
	comp=E,110nm,4.7s						
TNCH				LR	LR		
	comp=Z,130nm,13.9s						
ENH	**Enshi**	**41.19**	**353**	P	**P**	**22 56 31.6**	**-0.9**
ENH				IAmb	IAmb	22 56 46.4	
	comp=Z,9.2nm,0.8s						
H08S2	**Diego Garcia H**	**42.16**	**271**	T	T	23 41 36.6	
	baz=97,slow=75,SNR=8.9						
H08S3	**Diego Garcia H**	**42.17**	**271**	T	T	23 41 45.9	
	baz=97,slow=75,SNR=7.5						
H08S1	**Diego Garcia H**	**42.18**	**271**	T	T	23 41 38.7	
	baz=97,slow=75,SNR=8.6						
SHL	**Shillong**	**42.64**	**328**	P	**P**	**22 56 44.3**	**-0.3**
NJ2	**Nanjing**	**42.76**	**5**	*e*P	**P**	**22 56 44.8**	**-0.4**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,83nm,3.8s						
CD2	**Chengdu**	**42.88**	**346**	P	**P**	**22 56 46.8**	**+0.5**
CD2				pP	pP	22 56 50.1	-7.1
CD2				sP	pwP	22 56 51.5	-9.5
CD2				PP	**PP**	**22 58 25.1**	**-1.5**
CD2				S	**S**	**23 03 10.6**	**+2.3**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CD2				pmax	pmax		
	comp=Z,60nm,5.5s						
LSA	**Lhasa**	**46.42**	**331**	P	**P**	**22 57 14.8**	**-0.3**
LSA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
LSA	**Lhasa**	**46.42**	**331**	P	**P**	**22 57 13.9**	**-1.2**
LSA				IAmb	IAmb	22 57 23.0	
	comp=Z,7.1nm,0.8s						
LZH	**Lanzhou**	**47.83**	**348**	⇑P	**P**	**22 57 29.3**	**+3.7**
LZH				pmax	pmax		
	comp=Z,15nm,1.5s						
KSAR	**Wonju Array Be**	**49.46**	**13**	P	**P**	**22 57 37.8**	**-0.1**
KSRS	**Korea Array**	**49.48**	**13**	P	**P**	**22 57 37.0**	**-1.0**
	comp=Z,3.8nm,0.9s,baz=190,slow=6.6,SNR=10.0						
	comp=Z,3.8nm,0.9s						
JGF	**Kuroka**	**50.71**	**23**	P	**P**	**22 57 46.5**	**-1.0**
HHC	**Hu-ho-hao-te**	**51.49**	**357**	*e*P	**P**	**22 57 56.8**	**+3.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,78nm,7.2s						
MAJO	**Matsushiro**	**51.87**	**24**	P	**P**	**22 57 54.7**	**-1.4**
MAJO				IAmb	IAmb	22 58 12.5	
	comp=Z,7.8nm,0.9s						
MJAR	**Matsushiro Arr**	**51.87**	**24**	P	**P**	**22 57 53.7**	**-2.4**
	comp=Z,6.7nm,0.9s,baz=193,slow=7.6,SNR=17						
	comp=Z,6.7nm,0.9s						
GTA	**Gaotai**	**51.94**	**345**	*e*P	**P**	**22 58 00.1**	**+3.3**
GTA				pP	pP	22 58 05.3	-2.5
GTA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
XLT	**XiLinHaoTe**	**54.44**	**1**	*e*P	**P**	**22 58 14.3**	**-0.7**
XLT				pP	pP	22 58 17.3	-8.8
XLT				sP	pwP	22 58 20.8	-9.4
XLT				pmax	pmax		
	comp=Z,4.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,62nm,3.7s						
MDJ	**Mudanjiang**	**56.69**	**12**	P	**P**	**22 58 33.3**	**+2.2**
MDJ				pmax	pmax		
	comp=Z,11nm,1.0s						
MDJ				pmax	pmax		
	comp=Z,150nm,4.1s						
USA0B	**Ussuriysk Arra**	**56.84**	**14**	P	**P**	**22 58 31.4**	**-0.8**
USA0B				IAmb	IAmb	22 58 41.9	
	comp=Z,11nm,1.1s						
USRK	**Ussuriysk Ar.**	**56.84**	**14**	P	**P**	**22 58 31.3**	**-0.8**
USRK	**Ussuriysk Ar.**	**56.84**	**14**	P	**P**	**22 58 30.6**	**-1.5**
	comp=Z,5.1nm,0.6s,baz=188,slow=6.8,SNR=13						
	comp=Z,5.1nm,0.6s						
ULN	**Ulaanbaatar**	**58.84**	**354**	P	**P**	**22 58 45.7**	**-0.6**
ULN				IAmb	IAmb	22 59 01.9	
	comp=Z,5.2nm,1.0s						
SONM	**Songino Array**	**58.88**	**353**	P	**P**	**22 58 46.2**	**-0.3**
SONM				IAmb	IAmb	22 58 51.3	
	comp=Z,4.3nm,0.9s						
SONM	**Songino Array**	**58.88**	**353**	P	**P**	**22 58 46.7**	**+0.1**
	comp=Z,2.6nm,0.4s,baz=172,slow=7.6,SNR=17						
SONM				PcP	**PcP**	**22 59 36.3**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=197,slow=4.6,SNR=2.3						
	comp=Z,2.6nm,0.4s						
NIL	**Nilore**	**59.49**	**320**	P	**P**	**22 58 50.1**	**-0.8**
NIL				IAmb	IAmb	22 59 02.8	
	comp=Z,9.6nm,1.1s						
HEH	**HeiHe**	**61.74**	**9**	*e*P	**P**	**22 59 02.4**	**-3.4**
**KSH

comp=Z,40nm,21.0s,baz=261,slow=34
comp=Z,5.2nm,0.7s

BELA	**Belgrano 2**	**89.85**	**186**	P	**P**	**23 01 47.9**	**+2.1**
BELA				IAmb	IAmb	23 01 49.1	

comp=Z,5.2nm,0.9s

BRTR	**Keskin Array B**	**90.35**	**310**	P	**P**	**23 01 50.4**	**+1.4**

comp=Z,0.4nm,0.7s,baz=157,slow=4.1,SNR=3.8
comp=Z,0.4nm,0.7s

TORD	**Torodi Ar. Bea**	**114.99**	**280**	PKP	PKPdf	23 07 29.6	+0.3

comp=Z,0.3nm,0.6s,baz=65,slow=3.2,SNR=1.8

YKA	**Yellowknife Ar**	**117.38**	**24**	PKP	**PKiKP**	**23 07 33.4**	**+0.9**

comp=Z,0.9nm,0.7s,baz=324,slow=2.6,SNR=14

NVAR	**Mina Array Bea**	**125.11**	**50**	PKP	**PKPdf**	**23 07 48.9**	**+0.5**

comp=Z,0.5nm,0.3s,baz=216,slow=6.4,SNR=3.8

TXAR	**Lajitas Array**	**139.42**	**57**	PKhKP	PKPpre	23 08 08.9	

comp=Z,0.4nm,0.7s,baz=207,slow=4.2,SNR=4.0

TXAR				PKP	**PKPdf**	**23 08 14.6**	**-0.9**

comp=Z,0.2nm,0.6s,baz=316,slow=5.0,SNR=3.4

BDFB	**Brasilia**	**148.87**	**213**	PKPbc	**PKiKP**	**23 08 38.1**	**+0.6**

comp=Z,6.3nm,0.7s,baz=149,slow=0.4,SNR=11

LPAZ	**La Paz**	**152.90**	**173**	PKPbc	**PKiKP**	**23 08 49.2**	**+2.8**

comp=Z,2.1nm,0.9s,baz=147,slow=2.0,SNR=6.3

*IDC **16** 22:57:17.7±0.8,5.°96S×142.°80E, h0km, mb4.3/11, mbtmp4.3/13, ML2.3/1, MS3.6/6, Error ellipse: s-maj=32.3km s-min=18.8km az=84.0*
*NEIC **16** 22:57:20.7±1.5,6.°10S±0.°06×142.°55E±0.°06, h10km±1km, mb4.6/38, Error ellipse: s-maj=14.2km s-min=3.4km az=43.0*

ISC 16 22:57:22.1±0.5,**6.°24S**±0.°06×**142.°59E**±0.°07,**h28**km,**n78,** σ1s**71**/79,**mb4.6**/37,**MS3.6**/3,**1D**,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.51**	**125**	Pn	**Pn**	**22 58 42.1**	**-0.2**

5.5nm,0.3s,baz=286,slow=6.2,SNR=5.8

PMG				Sn	**Sn**	**22 59 41.9**	**-2.9**

21nm,0.3s,baz=239,slow=22,SNR=25

PMG				LR	LR	23 00 57.4	

comp=Z,128nm,21.4s,baz=188,slow=40
23nm,0.6s

MANU	**Manus Island**	**6.33**	**49**		**Pn**	**22 58 53.0**	**-0.6**
COEN	**Coen**	**7.69**	**176**	Pn	**Pn**	**22 59 14.8**	**+2.5**
FAKI	**Fak Fak**	**10.82**	**287**	Pn	**Pn**	**22 59 54.4**	**-1.0**
MTN	**Manton Dam**	**13.06**	**239**	Pn	**Pn**	**23 00 25.8**	**-0.1**
WB0	**Warramunga Arr**	**15.63**	**210**		**Pn**	**23 01 01.2**	**+0.6**
WRA	**Warramunga Arr**	**15.81**	**210**		**Pn**	**23 01 01.9**	**-1.0**
WRA	**Warramunga Arr**	**15.81**	**210**	Pn	**Pn**	**23 01 02.1**	**-0.8**

1.3nm,0.3s,baz=20,slow=13,SNR=12

WRA				Sn	**Sn**	**23 03 53.2**	**-4.1**

0.8nm,0.3s,baz=23,slow=22,SNR=5.0

WRA				Lg	Lg	23 05 39.8	

0.2nm,0.3s,baz=87,slow=32,SNR=2.6

WRA				LR	LR	23 07 58.0	

comp=Z,503nm,19.3s,baz=8.5,slow=40

AS31	**Alice Springs**	**19.24**	**205**	P	**Pn**	**23 01 46.5**	**+1.1**
ASAR	**Alice Springs**	**19.24**	**205**	P	**Pn**	**23 01 46.6**	**+1.1**
ASAR	**Alice Springs**	**19.24**	**205**	P	**Pn**	**23 01 47.0**	**+1.6**

29nm,1.1s,baz=32,slow=11,SNR=26

ASAR				S	**Sn**	**23 05 14.3**	**-6.1**

1.4nm,0.7s,baz=18,slow=26,SNR=2.4

ASAR				Lg	Lg	23 07 38.1	

0.2nm,0.3s,baz=15,slow=30,SNR=4.3

ASAR				LR	LR	23 09 58.0	

comp=Z,609nm,19.8s,baz=20,slow=39

FITZ	**Fitzroy Crossi**	**20.31**	**233**	P	**P**	**23 01 58.0**	**+2.0**
EIDS	**Eidsvold**	**20.68**	**158**	P	**P**	**23 02 03.0**	**+3.0**
EIDS				IAmb	IAmb	23 02 12.6	

comp=Z,21nm,1.1s

TOLI2	**Tolitoli**	**22.97**	**288**	P	**P**	**23 02 20.9**	**-3.7**
STKA	**Stephens Creek**	**25.52**	**182**	LR	LR	23 14 20.6	

comp=Z,222nm,21.5s,baz=307,slow=40

MYLDM	**Lahad Datu**	**26.59**	**295**	P	**P**	**23 02 57.5**	**-0.7**
MYLDM				IAmb	IAmb	23 03 33.4	

comp=Z,19nm,1.2s

JHJ	**Hachijo jima 2**	**39.23**	**356**	LR	LR	23 21 42.6	

comp=Z,49nm,18.0s,baz=38,slow=38

MJAR	**Matsushiro Arr**	**42.75**	**355**	P	**P**	**23 05 15.4**	**-1.7**

comp=Z,1.7nm,0.7s,baz=176,slow=9.7,SNR=5.4
comp=Z,1.7nm,0.7s

NJ2	**Nanjing**	**44.30**	**331**	*e*P	**P**	**23 05 30.8**	**+1.2**
NJ2				pmax	pmax		

comp=Z,7.0nm,0.7s

NJ2				pmax	pmax		

comp=Z,350nm,6.1s

RPSI	**Rantau Prapat**	**44.50**	**280**	P	**P**	**23 05 31.3**	**-0.2**
RPSI				IAmb	IAmb	23 05 39.1	

comp=Z,9.6nm,1.1s

KSAR	**Wonju Array Be**	**45.57**	**344**	P	**P**	**23 05 39.5**	**-0.2**
KSRS	**Korea Array**	**45.57**	**344**	P	**P**	**23 05 40.2**	**+0.6**

comp=Z,1.5nm,0.7s,baz=158,slow=7.4,SNR=6.8

JTM	**Tenmabayashi**	**46.81**	**358**	P	**P**	**23 05 48.3**	**-1.0**
PHRA	**Phrae**	**48.47**	**301**	P	**P**	**23 06 02.9**	**+0.2**
CRAI	**Chiangrai**	**49.13**	**303**	P	**P**	**23 06 07.5**	**-0.3**
CRAI				IAmb	IAmb	23 06 14.4	

comp=Z,4.9nm,1.2s

CMAR	**Chiang Mai Arr**	**49.55**	**301**	P	**P**	**23 06 10.9**	**0.0**
CMAR	**Chiang Mai Arr**	**49.55**	**301**	P	**P**	**23 06 11.4**	**+0.5**

comp=Z,1.8nm,0.4s,baz=129,slow=6.1,SNR=2.5
comp=Z,1.8nm,0.4s

LYN	**LuoYang**	**49.55**	**327**	*e*P	**P**	**23 06 12.3**	**+1.7**
LYN				pmax	pmax		

comp=Z,16nm,0.6s

CHTO	**Chiang Mai**	**49.70**	**301**	P	**P**	**23 06 11.9**	**-0.1**
USRK	**Ussuriysk Ar.**	**51.11**	**350**	P	**P**	**23 06 18.9**	**-3.3**

comp=Z,3.5nm,0.8s,baz=173,slow=6.7,SNR=2.9
comp=Z,3.5nm,0.8s

XAN	**Xi'an**	**51.18**	**324**	P	**P**	**23 06 24.5**	**+1.4**
XAN				pmax	pmax		

comp=Z,8.0nm,1.1s

PZH	**PanZhiHua**	**51.25**	**311**	P	**P**	**23 06 26.3**	**+2.5**
PZH				pmax	pmax		

comp=Z,8.0nm,1.0s

PZH				pmax	pmax		

comp=Z,100nm,4.7s

CD2	**Chengdu**	**52.38**	**317**	P	**P**	**23 06 33.3**	**+1.2**
BNX	**BinXian**	**53.50**	**347**	||P	**P**	**23 06 44.1**	**+4.1**
BNX				pmax	pmax		

comp=Z,24nm,1.0s

BNX				pmax	pmax		

comp=Z,91nm,4.8s

HHC	**Hu-ho-hao-te**	**54.84**	**331**	*e*P	**P**	**23 06 53.5**	**+3.5**
HHC				pmax	pmax		

comp=Z,4.0nm,0.7s

HHC				pmax	pmax		

comp=Z,170nm,4.5s

XLT	**XiLinHaoTe**	**55.36**	**337**	*e*P	**P**	**23 06 54.5**	**+0.9**
XLT				pP	pP	23 06 58.6	-3.9
XLT				sP	sP	23 07 00.8	-5.0
XLT				pmax	pmax		

comp=Z,2.0nm,0.7s

XLT				pmax	pmax		

comp=Z,47nm,5.8s

LZH	**Lanzhou**	**55.62**	**322**	*e*P	**P**	**23 06 55.3**	**-0.5**
LZH				pP	pP	23 07 00.9	-3.8
LZH				pmax	pmax		

comp=Z,7.0nm,1.5s

PETK	**Petropavlovsk-**	**60.49**	**10**	P	**P**	**23 07 27.2**	**-2.2**

comp=Z,1.5nm,0.6s,baz=160,slow=10,SNR=2.2
comp=Z,1.5nm,0.6s

ULN	**Ulaanbaatar**	**62.30**	**334**	P	**P**	**23 07 41.9**	**0.0**
ULN				IAmb	IAmb	23 07 46.3	

comp=Z,2.8nm,0.6s

SONM	**Songino Array**	**62.56**	**333**	P	**P**	**23 07 42.4**	**-1.3**

comp=Z,0.9nm,0.6s,baz=160,slow=7.1,SNR=5.1
comp=Z,0.9nm,0.6s

WMQ	**Urumqi**	**70.17**	**321**	*e*P	**P**	**23 08 34.8**	**+2.4**
WMQ				PcP	**PcP**	**23 08 57.8**	**+3.6**
MK31	**Makanchi Array**	**74.93**	**322**	P	**P**	**23 09 00.9**	**+0.3**
MKAR	**Makanchi Array**	**74.93**	**322**	P	**P**	**23 09 00.8**	**+0.2**

comp=Z,2.2nm,0.9s,baz=108,slow=7.8,SNR=17
comp=Z,2.2nm,0.9s

MAKZ	**Makanchi**	**75.13**	**322**	P	**P**	**23 09 02.1**	**+0.3**
MAKZ				IAmb	IAmb	23 09 03.9	

comp=Z,6.2nm,1.1s

KSH	**Kashi**	**76.31**	**313**	P	**P**	**23 09 11.6**	**+2.8**
KSH				pP	pP	23 09 15.3	-2.6
KSH				pmax	pmax		

comp=Z,4.0nm,1.1s

NIL	**Nilore**	**76.53**	**307**	P	**P**	**23 09 10.4**	**+0.3**
ZAA0	**Zalesovo Array**	**76.92**	**329**	P	**P**	**23 09 11.3**	**-0.5**
ZALV	**Zalesovo Beam**	**76.92**	**329**	P	**P**	**23 09 11.4**	**-0.3**
ZALV	**Zalesovo Beam**	**76.92**	**329**	P	**P**	**23 09 10.8**	**-1.0**

comp=Z,1.1nm,0.7s,baz=95,slow=8.0,SNR=5.2
comp=Z,1.1nm,0.7s

BOOM	**Boomskoye usch**	**77.36**	**316**	P	**P**	**23 09 15.5**	**+0.8**
BOOM				IAmb	IAmb	23 09 28.9	

comp=Z,4.7nm,1.1s

KURK	**Kurchatov**	**78.81**	**324**	P	**P**	**23 09 22.2**	**-0.1**
KURK				IAmb	IAmb	23 09 24.2	

comp=Z,6.5nm,1.1s

KURBB	**Kurchatov Arra**	**78.83**	**324**	P	**P**	**23 09 22.3**	**-0.1**

comp=Z,1.9nm,1.0s,baz=118,slow=5.0,SNR=12
comp=Z,1.9nm,1.0s

ARSB	**Arslanbob**	**79.06**	**314**	P	**P**	**23 09 24.5**	**+0.3**
L14K	**Kuka Creek**	**79.50**	**24**	P	**P**	**23 09 26.0**	**+0.1**
L14K				IAmb	IAmb	23 09 27.5	

comp=Z,6.5nm,0.9s

GAR	**Garm**	**80.32**	**311**	P	**P**	**23 09 31.2**	**+0.2**
GAR				IAmb	IAmb	23 09 33.2	

comp=Z,7.3nm,1.1s

K15K	**Wolf Creek Mou**	**80.49**	**23**	P	**P**	**23 09 31.4**	**+0.1**
K15K				IAmb	IAmb	23 09 33.6	

comp=Z,5.0nm,1.1s

L16K	**Owhat River**	**80.99**	**24**	P	**P**	**23 09 34.1**	**+0.2**
L16K				IAmb	IAmb	23 09 36.3	

comp=Z,10.0nm,1.5s

KK31	**Karatay Array**	**81.34**	**315**	P	**P**	**23 09 36.8**	**+0.5**
KKAR	**Karatay Array**	**81.34**	**315**	P	**P**	**23 09 36.5**	**+0.2**
J17K	**VABM Dome**	**82.03**	**23**	P	**P**	**23 09 39.8**	**+0.4**
J17K				IAmb	IAmb	23 09 40.6	

comp=Z,8.7nm,1.4s

QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**23 09 50.3**	**+1.9**
QSPA				IAmb	IAmb	23 09 54.6	

comp=Z,8.7nm,1.5s

QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**23 09 50.1**	**+1.7**

comp=Z,1.2nm,0.5s,baz=332,slow=1.8,SNR=17
comp=Z,1.2nm,0.5s

H19K	**Roundabout Mou**	**84.09**	**21**	P	**P**	**23 09 50.2**	**+0.2**
H19K				IAmb	IAmb	23 09 52.0	

comp=Z,5.7nm,1.1s

BVAR	**Borovoye Array**	**84.41**	**325**	P	**P**	**23 09 51.3**	**-0.6**

comp=Z,6.9nm,0.7s,baz=112,slow=6.6,SNR=39
comp=Z,6.9nm,0.7s

BRVK	**Borovoye**	**84.48**	**325**	P	**P**	**23 09 53.0**	**+0.7**
CAST	**Castle Rocks**	**84.82**	**24**	P	**P**	**23 09 53.0**	**-0.7**
CAST				IAmb	IAmb	23 10 10.8	

comp=Z,6.1nm,1.4s

D19K	**Kuna River**	**85.02**	**19**	P	**P**	**23 09 54.5**	**-0.2**
SML	**Sawmill**	**85.78**	**26**	P	**P**	**23 09 57.6**	**-1.0**
RND	**Reindeer**	**86.15**	**25**	P	**P**	**23 09 58.7**	**-1.8**
RND				IAmb	IAmb	23 10 00.8	

comp=Z,5.6nm,0.9s

CCB	**Clear Creek Bu**	**87.03**	**24**	P	**P**	**23 10 03.3**	**-1.4**
CCB				IAmb	IAmb	23 10 04.8	

comp=Z,4.5nm,0.8s

IL31		**87.45**	**24**	P	**P**	**23 10 05.0**	**-1.6**
ILAR	**Eielson Array**	**87.45**	**24**	P	**P**	**23 10 04.7**	**-2.0**

comp=Z,2.5nm,0.8s,baz=260,slow=4.5,SNR=26
comp=Z,2.5nm,0.8s

BCAR	**Beaver Creek A**	**89.07**	**26**	P	**P**	**23 10 14.6**	**+0.1**
BMAR	**Burnt Mountain**	**89.21**	**22**	P	**P**	**23 10 15.7**	**+0.6**
ABKAR	**Akbulak array**	**89.90**	**319**	P	**P**	**23 10 18.7**	**+0.1**
INK	**Inuvik**	**93.49**	**22**	LR	LR	23 55 52.1	

comp=Z,19nm,18.8s,baz=186,slow=38

TORD	**Torodi Ar. Bea**	**140.89**	**283**	PKP	**PKPdf**	**23 16 50.2**	**-0.4**

comp=Z,0.5nm,0.8s,baz=111,slow=3.3,SNR=2.8

DBIC	**Dimbokro**	**147.66**	**273**	PKPbc	**PKPbc**	**23 17 05.0**	**-0.1**

comp=Z,7.0nm,1.1s,baz=179,slow=9.7,SNR=3.2

*NEIC **16** 23:13:15.1±0.8, 19.°403N±0.°008×155.°290W±0.°007, h5km±1km, Error ellipse: s-maj=1.7km s-min=1.4km az=351.0*

HVO 16 23:13:14.8±0.5,**19.°407N**±0.°009×**155.°291W**±0.°009, **h1**km±1km,**ML2.9**/4,**ML2.3**/33(NEIC),**Error ellipse: s-maj=1.3km s-min=1.1km az=145.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRMHI	**West Rim**	**0.01**	**269**		Pg	23 13 15.6	+0.3
NPH	**North Pit**	**0.01**	**61**		Pg	23 13 15.6	+0.3
OBL	**Observatory Le**	**0.01**	**32**		Pg	23 13 15.7	+0.4
UWE	**Uwekahuna**	**0.01**	**353**		Pg	23 13 15.7	+0.4
SDHHI	**Sand Hill**	**0.02**	**189**		Pg	23 13 15.8	+0.4
RIM	**Rim**	**0.02**	**125**	IAML		23 13 15.5	

comp=E,5μm,1.1s

RIM				IAML		23 13 15.6	

comp=N,10μm,0.8s

RIM				Pg	Pg	23 13 15.8	+0.4
UWB	**Uwekahuna B**	**0.02**	**35**	Pg	Pg	23 13 15.8	+0.4
KKO	**Keanakako'i**	**0.03**	**110**		Pg	23 13 15.8	+0.5
BYL	**Byron's Ledge**	**0.03**	**80**	Pg	Pg	23 13 16.3	+0.9
SBLHI	**Steaming Bluff**	**0.03**	**47**	IAML		23 13 16.0	

comp=N,6μm,0.7s

SBLHI				Pg	Pg	23 13 16.1	+0.6
SBLHI				IAML		23 13 16.1	

comp=E,5μm,0.5s

HATHI	**Halema'uma'u T**	**0.03**	**60**	Pg	Pg	23 13 16.2	+0.7
RSD	**Rainshed**	**0.06**	**13**		Pg	23 13 16.7	+0.7
RSD				IAML		23 13 16.8	

comp=E,2μm,0.7s

RSD				IAML		23 13 17.4	

comp=N,3μm,1.0s

PUH	**Pauahi**	**0.08**	**115**	IAML		23 13 16.7	

comp=E,1μm,1.1s

PUH					Pg	23 13 17.1	+0.7
PUH				IAML		23 13 17.4	

comp=N,2μm,1.1s

PUH					Sg	23 13 19.1	+1.7
HLP	**Hilina Pali**	**0.11**	**188**	Pg	Pg	23 13 17.8	+0.8
HLP				IAML		23 13 18.3	

comp=E,2μm,1.4s

HLP				IAML		23 13 19.5	

comp=N,2μm,0.9s

MLH	**Mauna Loa**	**0.12**	**314**	Pg	Pg	23 13 18.0	+0.7
MLH				IAML		23 13 18.7	

comp=N,2μm,1.2s

MLH				IAML		23 13 20.8	

comp=E,1μm,0.9s

HMH	**Humu'ula Sheep**	**0.27**	**317**	Pg	Pg	23 13 20.6	+0.7
HMH				IAML		23 13 22.4	

comp=N,619nm,1.5s

HMH				IAML		23 13 23.7	

comp=E,463nm,1.0s

MWH	**Moku'aweowe**	**0.30**	**285**	Pg	Pg	23 13 21.2	+0.6
KHU	**Kahuku**	**0.34**	**242**	Pg	Pg	23 13 22.1	+0.6
KHU				IAML		23 13 23.5	

comp=N,467nm,1.5s

*NEIC **16** 23:14:15.6±0.9, 19.°40N±0.°02×154.°98W±0.°04, h5km±1km, Error ellipse: s-maj=6.9km s-min=2.8km az=301.0*

HVO 16 23:14:15.3±1.1,**19.°40N**±0.°02×**154.°97W**±0.°03,**h2**km±4km, **Md2.0**/5,**ML2.7**/29(NEIC),**Error ellipse: s-maj=5.1km s-min=2.2km az=122.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.04**	**316**		Pg	23 14 17.0	+0.7
JOKA				Sg	Sg	23 14 18.5	+1.5
JCUZ	**Jacuzzi**	**0.12**	**262**	Pg	Pg	23 14 18.2	+0.4
JCUZ					Sg	23 14 20.1	+0.7
NPOC	**North of Pu'u**	**0.13**	**267**		Pg	23 14 18.2	+0.3
NPOC				IAML		23 14 19.5	

comp=E,757nm,1.2s

NPOC					Sg	23 14 20.4	+0.7
STCH	**Steam Cracks**	**0.15**	**264**		Pg	23 14 18.5	+0.3
STCH				IAML		23 14 20.8	

comp=E,1μm,0.9s

STCH					Sg	23 14 20.9	+0.8
STCH				IAML		23 14 21.5	

comp=N,666nm,0.7s

KNHH	**Kane Nui o Ham**	**0.19**	**264**	Pg	Pg	23 14 19.1	+0.1
PUH	**Pauahi**	**0.23**	**263**		Pg	23 14 19.8	0.0
PUH				IAML		23 14 20.8	

comp=E,2μm,0.8s

RSD	**Rainshed**	**0.30**	**282**	Pg	Pg	23 14 21.5	+0.5
RSD				IAML		23 14 30.2	

comp=E,2μm,0.8s

HLP	**Hilina Pali**	**0.34**	**252**		Pg	23 14 22.2	+0.4
HLP				Sg	Sg	23 14 27.5	+1.3
MLH	**Mauna Loa**	**0.40**	**283**	Pg	Pg	23 14 23.3	+0.2
MLH				IAML		23 14 24.7	

comp=E,992nm,1.1s

MLH				IAML		23 14 29.9	

comp=N,1μm,1.1s

HTC	**Hot Caves**	**0.43**	**248**		Pg	23 14 23.9	+0.2
HMH	**Humu'ula Sheep**	**0.52**	**293**		Pg	23 14 25.5	0.0
HMH				IAML		23 14 33.9	

comp=N,741nm,0.6s

HMH				IAML		23 14 43.6	

comp=E,662nm,0.8s

MWH	**Moku'aweowe**	**0.60**	**278**	Pg	Pg	23 14 25.9	-0.9
KHU	**Kahuku**	**0.63**	**256**		Pg	23 14 26.8	-0.6
KHU				IAML		23 14 30.2	

comp=N,780nm,1.2s

KHU				IAML		23 14 43.4	

comp=E,716nm,0.9s

HUH	**Hualalai**	**0.86**	**289**	Pg	Pg	23 14 31.1	-0.8
HUH				IAML		23 14 48.0	

comp=E,412nm,1.2s

HUH				IAML		23 14 52.1	

comp=N,333nm,1.2s

*NEIC **16** 23:20:59.5±1.5, 19.°35N±0.°02×154.°87W±0.°03, h5km±2km, Error ellipse: s-maj=5.6km s-min=3.0km az=307.0*

HVO 16 23:21:00.2±1.5,**19.°44N**±0.°03×**154.°90W**±0.°03,**h2**km±6km, **Md2.8**/4,**ML2.8**/27(NEIC),**Error ellipse: s-maj=4.8km s-min=1.8km az=134.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.05**	**11**		Pg	23 21 02.7	+1.6
PHO	**Puu Honuaula**	**0.05**	**11**		Pg	23 21 03.0	+1.9
JOKA	**Jonika Flow**	**0.10**	**269**		Pg	23 21 02.5	+0.3
JOKA				Sg	Sg	23 21 04.6	+1.2
NPOC	**North of Pu'u**	**0.20**	**258**	Pg	Pg	23 21 04.2	+0.1
NPOC				IAML		23 21 07.7	

comp=E,1μm,1.1s

NPOC				IAML		23 21 10.6	

comp=N,1μm,0.9s

STCH	**Steam Cracks**	**0.22**	**257**	Pg	Pg	23 21 04.2	-0.2
STCH				IAML		23 21 08.4	

comp=E,764nm,1.0s

STCH				IAML		23 21 09.9	

comp=N,711nm,0.8s

KNHH	**Kane Nui o Ham**	**0.26**	**258**	Pg	Pg	23 21 05.7	+0.5
PUH	**Pauahi**	**0.30**	**259**		Pg	23 21 06.3	+0.3
PUH				IAML		23 21 07.6	

comp=N,3μm,1.0s

PUH				IAML		23 21 07.8	

comp=E,2μm,0.9s

PUH					Sg	23 21 11.2	+1.1
RSD	**Rainshed**	**0.36**	**275**	Pg	Pg	23 21 07.5	+0.4
HLP	**Hilina Pali**	**0.41**	**250**	Pg	Pg	23 21 08.2	+0.2
HLP					Sg	23 21 14.2	+0.9
HLP				IAML		23 21 19.2	

comp=E,2μm,0.7s

MLH	**Mauna Loa**	**0.46**	**277**	Pg	Pg	23 21 09.2	+0.1
MLH				IAML		23 21 10.9	

comp=N,1μm,1.1s

MLH				Sg	Sg	23 21 15.8	+0.6
MLH				IAML		23 21 22.3	

comp=E,1μm,1.0s

HMH	**Humu'ula Sheep**	**0.57**	**287**	Pg	Pg	23 21 11.1	-0.1
HMH					Sg	23 21 19.1	+0.4
HMH				IAML		23 21 25.1	

comp=E,1μm,0.7s

HMH				IAML		23 21 25.6	

comp=N,927nm,0.5s

MWH

QRD	**Qoradiz**	**0.87**	**243**	Pg	**Pb**	**23 29 54.2**	**-1.2**
QRD	**Qoradiz**	**0.87**	**243**	P	**Pb**	**23 29 54.2**	**-1.2**
QRD				S	**Sb**	**23 30 06.7**	**0.0**
IML	**Ismayilli**	**0.94**	**353**	Pg	**Pn**	**23 29 54.8**	**-1.8**
IML	**Ismayilli**	**0.94**	**353**	P	**Pn**	**23 29 54.9**	**-1.8**
IML				S	**Sb**	**23 30 07.9**	**-0.8**
YRD	**Yardimli**	**0.95**	**184**	P	**Pb**	**23 29 56.0**	**-0.8**
YRD				S	**Sn**	**23 30 09.6**	**-0.1**
PQL	**Pirkuli**	**0.95**	**12**	P	**Pb**	**23 29 55.3**	**-1.5**
PQL				S	**Sb**	**23 30 09.1**	**+0.1**
AGDM	**Agdam**	**0.97**	**285**	P	**Pn**	**23 29 55.8**	**-1.2**
AGDM				S	**Sn**	**23 30 10.4**	**+0.3**
BRDA	**Brd**	**0.97**	**295**	P	**Pn**	**23 29 56.6**	**-0.4**
BRDA				S	**Sn**	**23 30 10.6**	**+0.7**
ATGJ	**Altiaghaj**	**1.10**	**25**	P	**Pn**	**23 29 58.9**	**-0.1**
ATGJ				S	**Sb**	**23 30 16.4**	**+3.0**
QBL	**Gabala**	**1.15**	**341**	P	**Pn**	**23 29 58.1**	**-1.4**
QBL				S	**Sn**	**23 30 14.0**	**-0.5**
LKRN	**Lenkeran, Azer**	**1.20**	**163**	P	**Pn**	**23 29 59.6**	**-0.6**
LKRN				S	**Sb**	**23 30 15.9**	**-0.2**
LRK	**Lerik**	**1.22**	**180**	P	**Pn**	**23 30 00.1**	**-0.5**
LRK				S	**Sb**	**23 30 16.9**	**+0.1**
SIZA	**Siyzn**	**1.29**	**20**	P	**Pn**	**23 30 01.9**	**+0.3**
SIZA				S	**Sb**	**23 30 20.6**	**+1.8**
MNGR	**Mingechevir, A**	**1.31**	**314**	Pn	**Pn**	**23 30 01.4**	**-0.4**
MNGR				Sn	**Sb**	**23 30 19.8**	**+0.4**
XNQ	**Khinaliq**	**1.32**	**354**	Pn	**Pn**	**23 30 00.7**	**-1.4**
XNQ				Sn	**Sn**	**23 30 17.3**	**-1.6**
ASTR	**Astara**	**1.35**	**164**	Pn	**Pn**	**23 30 01.6**	**-0.6**
ASTR				Sn	**Sb**	**23 30 20.4**	**0.0**
QUBA	**Quba, Azerbaij**	**1.50**	**5**	Pn	**Pn**	**23 30 05.0**	**+0.7**
QUBA				Sn	**Sb**	**23 30 25.1**	**+0.4**
SEKA	**Sheki**	**1.60**	**328**	Pn	**Pn**	**23 30 04.6**	**-1.2**
SEKA				Sn	**Sn**	**23 30 25.9**	**+0.2**
QSAR	**Qusar**	**1.65**	**358**	Pn	**Pn**	**23 30 06.5**	**0.0**
QSAR				Sn	**Sb**	**23 30 29.2**	**0.0**
GANJ	**Ganja**	**1.72**	**298**	Pn	**Pn**	**23 30 07.0**	**-0.5**
GANJ				Sn	**Sn**	**23 30 28.5**	**-0.2**
IHRS	**Heris**	**1.84**	**213**	Pn	**Pn**	**23 30 09.6**	**+0.4**
ORD	**Ordubad**	**2.03**	**243**	Pn	**Pn**	**23 30 12.7**	**+0.9**
ORD				Sn	**Sb**	**23 30 38.7**	**-1.5**
ISRB	**Sarab**	**2.10**	**194**	Pn	**Pn**	**23 30 13.4**	**+0.6**
GDB	**GEDABAY**	**2.15**	**294**	Pn	**Pn**	**23 30 12.9**	**-0.5**
GDB				Sn	**Sn**	**23 30 41.2**	**+1.9**
DRN	**Derbent** 18nm,0.1s	**2.17**	**0**	*e*Pn	**Pb**	**23 30 16.4**	**-1.0**
DRN				*e*Sn	**Sb**	**23 30 42.0**	**-1.8**
	46nm,0.4s						
SBZ	**Shahbuz**	**2.19**	**259**	Pg	**Pn**	**23 30 15.8**	**+1.9**
SBZ				Sn	**Sb**	**23 30 43.2**	**-1.6**
ZKTA	**Zakatala**	**2.20**	**324**	Pn	**Pn**	**23 30 13.4**	**-0.5**
ZKTA				Sn	**Sn**	**23 30 41.6**	**+1.2**
NAX	**Nakhchivan**	**2.29**	**253**	Pg	**Pb**	**23 30 18.8**	**-0.9**
NAX				Sg	**Sb**	**23 30 48.9**	**+1.2**
IMRD	**Marand**	**2.34**	**241**	Pn	**Pn**	**23 30 17.1**	**+1.1**
ITBZ	**Tabriz**	**2.35**	**227**	Pn	**Pn**	**23 30 17.0**	**+0.8**
URKR	**Urkarakh** 8.0nm,0.3s	**2.36**	**347**	*e*Pn	**Pb**	**23 30 19.6**	**-1.2**
URKR				*e*Sn	**Sb**	**23 30 48.3**	**-1.3**
	39nm,0.3s						
KMKR	**Kumukh** 28nm,0.4s	**2.45**	**338**	*e*Pn	**Pb**	**23 30 21.5**	**-1.0**
KMKR				*e*Sn	**Sb**	**23 30 51.9**	**-0.3**
	35nm,0.5s						
QZX	**Qazax, Azerbai**	**2.55**	**299**	Pn	**Pn**	**23 30 19.5**	**+0.6**
QZX				Sn	**Sb**	**23 30 54.0**	**-1.0**
ISHB	**Shabestar**	**2.63**	**234**	Pn	**Pn**	**23 30 21.2**	**+1.1**
SGKR	**Sergokala** 9.0nm,0.3s	**2.64**	**349**	*e*Pn	**Pb**	**23 30 23.1**	**-2.5**
SGKR				*e*Sn	**Sn**	**23 30 54.5**	**+3.0**
	19nm,0.4s						
HYR	**Heyderabad**	**2.68**	**268**	Pg	**Pb**	**23 30 26.5**	**+0.2**
HYR				Sg	**Sb**	**23 31 01.1**	**+2.3**
IHSH	**Hashtrud**	**2.69**	**198**	Pn	**Pn**	**23 30 21.2**	**+0.3**
GNBR	**Gunib** 12nm,0.6s	**2.73**	**338**	*e*Pn	**Pb**	**23 30 25.3**	**-1.8**
GNBR				*e*Sn	**Sb**	**23 30 58.8**	**-1.3**
	50nm,0.6s						
IAZR	**Azarshahr**	**2.85**	**221**	Pn	**Pn**	**23 30 23.8**	**+0.6**
XNZR	**Khunzakh** 8.0nm,0.4s	**2.94**	**336**	*e*Pn	**Pb**	**23 30 28.9**	**-1.9**
XNZR				*e*Sn	**Sb**	**23 31 05.0**	**-1.5**
	9.0nm,0.8s						
LHJ2	**Lahijan - Gila**	**3.02**	**153**	Pn	**Pn**	**23 30 23.4**	**-1.8**
BUJR	**Buynaksk** 6.0nm,0.4s	**3.10**	**343**	*e*Pn	**Pn**	**23 30 28.8**	**+2.4**
BUJR				*e*Sn	**Sn**	**23 31 05.0**	**+2.3**
	43nm,0.6s						
KRNR	**Karanay** 4.0nm,0.5s	**3.15**	**341**	*e*Pn	**Pn**	**23 30 30.6**	**+3.5**
KRNR				*e*Sn	**Sn**	**23 31 07.2**	**+3.2**
	16nm,0.6s						
DBC	**Dubki** 6.0nm,0.6s	**3.35**	**341**	*e*Pn	**Pn**	**23 30 32.5**	**+2.7**
DBC				*e*Sn	**Sn**	**23 31 11.8**	**+2.9**
	7.0nm,0.4s						
MZPU	**Pul - Mazandar**	**4.27**	**142**	Pn	**Pn**	**23 30 41.4**	**-1.2**
IPRN	**Peran**	**4.80**	**138**	Pn	**Pn**	**23 30 48.8**	**-1.1**
IALA	**Alasht**	**5.17**	**135**	Pn	**Pn**	**23 30 54.5**	**-0.7**
IGLO	**Ghaloghah**	**5.48**	**126**	Pn	**Pn**	**23 30 58.3**	**-0.9**

IDC 16 23:44:00.8±3.3, 3°71'S×151°15'E, h0km, mb3.7/2, mbtmp3.8/2, Error ellipse: s-maj=134.9km s-min=44.5km az=118.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 2.1nm,0.3s,baz=50,slow=10,SNR=18	**23.01**	**224**	P	P	23 49 08.2	+0.7
ASAR	**Alice Springs** 0.3nm,0.4s,baz=52,slow=8.8,SNR=4.2	**25.91**	**218**	P	P	23 49 34.4	-0.5
	0.3nm,0.4s						
TORD	**Torodi Ar. Bea** 0.6nm,0.7s,baz=89,slow=2.7,SNR=6.1	**148.40**	**289**	PKPbc	PKPbc	00 03 49.7	-0.8

IDC 16 23:46:56.1±19.0, 41°62N×143°61E, h0km, mb3.7/5, mbtmp3.7/5, Error ellipse: s-maj=457.0km s-min=66.4km az=162.0
JMA 16 23:47:19.3±0.2, 42°6N±0°8×142°5E±1°0, h122km±1km, MV3.1/36, HIDAKA REGION
SKHL 16 23:47:20.5±0.3, 42°70N×142°70E, h109km±8km, mb4.9/2, msha5.5/2

ISC 16 23:47:18.9±0.9, 42°49N±0°06×142°47E±0°04, h127km±6km, n30, σ1°08/41, mb3.5/5, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSHD	**Hidakashinhida**	**0.08**	**183**	P	**Pn**	**23 47 36.2**	**+0.1**
JSHD				*e*S	**Sn**	**23 47 49.0**	**-0.1**
JNBK	**Urakawa-nobuka**	**0.30**	**135**	*i* P	**Pn**	**23 47 37.0**	**+0.4**
JNBK				S	**Sn**	**23 47 51.0**	**+1.0**
JBT2	**Biratori 2**	**0.30**	**345**	*i* P	**Pn**	**23 47 36.3**	**-0.3**
JBT2				S	**Sn**	**23 47 48.8**	**-1.3**
JIAM	**Iburiatsuma**	**0.43**	**288**	*i* P	**Pn**	**23 47 37.5**	**+0.3**
JIAM				S	**Sn**	**23 47 51.6**	**+0.7**
JCH	**Churui**	**0.67**	**79**	*i* P	**Pn**	**23 47 38.6**	**0.0**
JCH				S	**Sn**	**23 47 52.7**	**-0.9**
JEM	**Erimo**	**0.70**	**133**	*i* P	**Pn**	**23 47 39.3**	**+0.5**
JEW	**Eniwo**	**0.83**	**295**	P	**Pn**	**23 47 38.9**	**-1.0**
JEW				S	**Sn**	**23 47 54.5**	**-1.4**
JAB	**Ashibetsu**	**1.03**	**350**	P	**Pn**	**23 47 41.7**	**-0.1**
JAB				*e*S	**Sn**	**23 47 57.9**	**-1.2**
JOB	**Onbets**	**1.09**	**67**	*i* P	**Pn**	**23 47 42.8**	**+0.5**
JOB				S	**Sn**	**23 48 00.0**	**0.0**
JISS	**Ishikarishitsu**	**1.10**	**316**	P	**Pn**	**23 47 41.9**	**-0.6**
JISS				S	**Sn**	**23 47 59.2**	**-1.2**
JAR	**Ashorobuto**	**1.25**	**49**	*i* P	**Pn**	**23 47 44.0**	**0.0**
JAR				S	**Sn**	**23 48 01.7**	**-1.3**
JKK2	**Kamakawa 2**	**1.40**	**8**	P	**Pn**	**23 47 45.6**	**+0.1**
JKK2				S	**Sn**	**23 48 05.5**	**-0.5**
JOT	**Ohata**	**1.54**	**224**	*i* P	**Pn**	**23 47 46.2**	**-1.0**
JOT				S	**Sn**	**23 48 06.2**	**-2.4**
JAK	**Akkeshi**	**1.71**	**72**	P	**Pn**	**23 47 49.1**	**-0.1**
JAK				S	**Sn**	**23 48 11.1**	**-1.2**
JTKR	**Abashiri--Toko**	**1.81**	**35**	P	**Pn**	**23 47 50.8**	**+0.4**
AKK	**Akkeshi**	**1.82**	**72**	*e*P	**Pn**	**23 47 50.4**	**-0.1**
AKK				*e*S	**Sn**	**23 48 12.9**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.55**	**69**	*e*P	**Pn**	**23 47 59.1**	**-0.4**
NMR				*e*S	**Sn**	**23 48 27.7**	**-3.0**
YUK	**Yuzh-Kuril'sk**	**2.92**	**57**	*e*P	**Pn**	**23 48 05.0**	**+0.8**
YUK				AMB	AMB	23 48 06.7	
	200nm,0.3s						
YUK				*e*S	**Sn**	**23 48 38.0**	**-1.2**
YUK				A	A	23 48 43.8	
	310nm,0.6s						
YUK				A	A	23 48 43.8	
	460nm,0.6s						
SHO	**Shikotan**	**3.47**	**65**	*e*P	**Pn**	**23 48 11.4**	**-0.1**
SHO				AMB	AMB	23 48 11.6	
	40nm,0.3s						
SHO				*e*S	**Sn**	**23 48 50.1**	**-2.1**
SHO				A	A	23 48 50.6	
	210nm,0.3s						
SHO				A	A	23 48 50.6	
	200nm,0.3s						
SONM	**Songino Array** 0.4nm,0.4s,baz=99,slow=8.9,SNR=2.8	**25.83**	**294**	P	**P**	**23 52 39.6**	**+1.2**
	0.4nm,0.4s						
H11N2	**WAKE ISLAND Hy** baz=327,slow=75,SNR=13	**30.66**	**130**	T	T	00 25 10.6	
H11N1	**WAKE ISLAND Hy** baz=327,slow=75,SNR=9.3	**30.67**	**130**	T	T	00 25 11.5	
H11N3	**WAKE ISLAND Hy** baz=327,slow=75,SNR=13	**30.67**	**130**	T	T	00 25 11.9	
H11S1	**WAKE ISLAND Hy** baz=321,slow=79,SNR=17	**31.53**	**132**	T	T	00 26 20.8	
H11S3	**WAKE ISLAND Hy** baz=321,slow=79,SNR=11	**31.53**	**132**	T	T	00 26 21.1	
H11S2	**WAKE ISLAND Hy** baz=321,slow=79,SNR=9.7	**31.55**	**132**	T	T	00 26 21.2	
ZALV	**Zalesovo Beam** 0.9nm,0.6s,baz=88,slow=8.7,SNR=4.2	**39.03**	**308**	P	**P**	**23 54 33.9**	**+1.0**
	0.9nm,0.6s						
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=78,slow=10.0,SNR=4.4	**42.12**	**297**	P	**P**	**23 54 59.3**	**+0.9**
	0.4nm,0.6s						
FINES	**FINESS Array B** 0.8nm,0.5s,baz=54,slow=9.7,SNR=11	**64.39**	**331**	P	**P**	**23 57 41.0**	**+0.2**
	0.8nm,0.5s						
NOA	**NORSAR Array B** 0.6nm,0.7s,baz=50,slow=5.5,SNR=1.6	**69.48**	**337**	P	**P**	**23 58 12.9**	**-0.3**
	0.6nm,0.7s						

NOU 16 23:56:57.9, 44°52S×168°36E, h2km, MLv4.4/9, South Island, New Zealand
WEL 16 23:56:57.5±0.4, 45°S±3°×16°8E±°, h5km, M4.0/18, ML4.2/18, MLv4.0/18, Error ellipse: s-maj=0.0km s-min=0.0km az=134.6, confirmed

ISC 16 23:56:57.5±1.1, 44°58S±0°03×168°31E±0°03, h8km±10km, n52, σ1°07/62, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.29**	**252**	P	**Pg**	**23 57 03.9**	**+0.7**
MSZ				S	**Sg**	**23 57 08.3**	**+1.2**
WKZ	**Wanaka**	**0.56**	**116**	P	**Pg**	**23 57 08.2**	**-0.1**
WKZ				S	**Sg**	**23 57 15.7**	**+0.1**
JCZ	**Jackson Bay**	**0.61**	**34**	P	**Pg**	**23 57 08.5**	**-0.8**
JCZ	**Jackson Bay**	**0.61**	**34**	P	**Pg**	**23 57 08.5**	**-0.8**
JCZ				S	**Sg**	**23 57 17.3**	**0.0**
MLZ	**Mavora Lakes**	**0.80**	**190**	P	**Pg**	**23 57 12.6**	**-0.2**
MLZ				S	**Sg**	**23 57 23.6**	**+0.4**
TAFS	**Te Anau Fire S**	**0.94**	**207**	P	**Pg**	**23 57 14.4**	**-1.1**
EAZ	**Earnscleugh**	**0.96**	**133**	P	**Pg**	**23 57 15.2**	**-0.7**
DCZ	**Deep Cove**	**1.21**	**223**	P	**Pg**	**23 57 19.5**	**-1.1**
DCZ				S	**Sg**	**23 57 35.8**	**-0.4**
WHZ	**Wether Hill Ro**	**1.34**	**191**	P	**Pn**	**23 57 22.1**	**-0.4**
WHZ				S	**Sg**	**23 57 39.9**	**-0.5**
LBZ	**Lake Benmore**	**1.35**	**82**	P	**Pn**	**23 57 22.7**	**0.0**
LBZ				S	**Sb**	**23 57 40.5**	**0.0**
FOZ	**Fox Glacier**	**1.51**	**46**	P	**Pn**	**23 57 24.1**	**-0.6**
FOZ				S	**Sg**	**23 57 45.8**	**-0.1**
TUZ	**Tuapeka**	**1.66**	**146**	P	**Pn**	**23 57 27.8**	**+0.9**
TUZ				S	**Sn**	**23 57 48.7**	**+0.4**
ODZ	**Otahua Downs**	**1.72**	**106**	P	**Pn**	**23 57 28.6**	**+0.9**
ODZ	**Otahua Downs**	**1.72**	**106**	P	**Pn**	**23 57 28.1**	**+0.4**
GCSZ	**Gaunt Creek Bo**	**1.93**	**50**	P	**Pn**	**23 57 30.6**	**0.0**
TMZ	**Timaru**	**1.94**	**85**	P	**Pn**	**23 57 31.0**	**+0.2**
TMZ				S	**Sb**	**23 57 57.3**	**-0.1**
PYZ	**Puysegur Point**	**1.96**	**215**	P	**Pb**	**23 57 33.2**	**-0.2**
PYZ	**Puysegur Point**	**1.96**	**215**	P	**Pb**	**23 57 32.9**	**-0.4**
SYZ	**Scrubby Hill**	**2.04**	**164**	P	**Pn**	**23 57 33.5**	**+1.4**
SYZ	**Scrubby Hill**	**2.04**	**164**	P	**Pn**	**23 57 32.6**	**+0.6**
HHSZ	**Highcliff Hill**	**2.07**	**130**	P	**Pn**	**23 57 33.8**	**+1.3**
ARCZ	**Arundel**	**2.15**	**74**	P	**Pn**	**23 57 33.6**	**-0.1**
RPZ	**Rata Peaks**	**2.15**	**67**	P	**Pn**	**23 57 33.8**	**+0.1**
RPZ	**Rata Peaks**	**2.15**	**67**	P	**Pn**	**23 57 33.7**	**0.0**
APZ	**The Paps**	**2.26**	**186**	P	**Pn**	**23 57 36.1**	**+0.9**
APZ				S	**Sb**	**23 58 05.8**	**-0.9**
WVZ	**Waitaha Valley**	**2.31**	**50**	P	**Pn**	**23 57 36.9**	**+1.1**
MHCZ	**Mount Hutt**	**2.57**	**67**	P	**Pn**	**23 57 39.0**	**-0.4**
WACZ	**Wakanui South**	**2.61**	**77**	P	**Pn**	**23 57 39.6**	**-0.4**
RACZ	**Rakaia**	**2.88**	**74**	P	**Pn**	**23 57 45.6**	**+2.0**
INZ	**Inchbonnie**	**2.94**	**52**	P	**Pn**	**23 57 44.7**	**+0.3**
OXZ	**Oxford**	**2.97**	**66**	P	**Pn**	**23 57 43.8**	**-1.1**
LTZ	**Lake Taylor**	**3.39**	**59**	P	**Pn**	**23 57 49.6**	**-1.1**
GVZ	**Greta Valley S**	**3.78**	**66**	P	**Pn**	**23 57 54.9**	**-1.1**
DSZ	**Denniston Nort**	**3.82**	**43**	P	**Pn**	**23 57 56.4**	**-0.1**
THZ	**Tophouse**	**4.38**	**52**	P	**Pn**	**23 58 04.5**	**+0.2**
MRNZ	**Matariki Terra**	**4.55**	**47**	P	**Pn**	**23 58 07.0**	**+0.3**
QRZ	**Quartz Range**	**4.87**	**41**	P	**Pn**	**23 58 11.2**	**+0.2**
QRZ	**Quartz Range**	**4.87**	**41**	P	**Pn**	**23 58 11.3**	**+0.2**
TKNZ	**Takaka Hill**	**4.93**	**46**	P	**Pn**	**23 58 12.5**	**+0.7**
NNZ	**Nelson**	**5.01**	**50**	P	**Pn**	**23 58 14.0**	**+1.1**
TUWZ	**Tuamarina**	**5.19**	**55**	P	**Pn**	**23 58 18.6**	**+3.1**
TCW	**Tory Channel**	**5.53**	**54**	P	**Pn**	**23 58 22.8**	**+2.8**
DUWZ	**D'Urville Isla**	**5.60**	**50**	P	**Pn**	**23 58 22.2**	**+1.2**
KIW	**Kapiti Island**	**6.12**	**55**	P	**Pn**	**23 58 30.9**	**+2.7**
OGWZ	**Otaki Gorge**	**6.30**	**56**	P	**Pn**	**23 58 34.0**	**+3.4**
MRZ	**Mangatainoka R**	**6.64**	**56**	P	Pn	23 58 40.8	+5.5
KHEZ	**Kahui Hut**	**6.78**	**41**	P	**Pn**	**23 58 37.4**	**+0.1**
KHEZ	**Kahui Hut**	**6.78**	**41**	P	**Pn**	**23 58 38.1**	**+0.8**
NEZ	**North Egmont**	**6.84**	**41**	P	**Pn**	**23 58 38.7**	**+0.6**
PKE	**Pukeiti**	**6.85**	**40**	P	**Pn**	**23 58 39.0**	**+0.8**
HIZ	**Hauiti**	**7.80**	**41**	P	**Pn**	**23 58 51.4**	**+0.2**
OUZ	**Omahuta**	**10.19**	**25**	P	**Pn**	**23 59 24.0**	**0.0**

IDC 16 23:58:04.2±0.8, 6°03S×142°92E, h0km, mb4.1/10, mbtmp4.1/12, ML2.1/1, MS3.7/2, Error ellipse: s-maj=31.4km s-min=17.0km az=73.0
NEIC 16 23:58:07.1±1.3, 6°015S±0°09×142°7E±0°1, h10km±1km, mb4.3/11, Error ellipse: s-maj=18.7km s-min=14.0km az=105.0

ISC 16 23:58:09.6±0.6, 6°25S±0°06×142°66E±0°08, h35km, n34, σ2°43/36, mb4.3/16, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 3.7nm,0.3s,baz=299,slow=13,SNR=2.1	**5.45**	**125**	Pn	**Pn**	**23 59 27.6**	**-0.8**
PMG				Sn	**Sn**	**00 00 28.5**	**-1.4**
	7.8nm,0.3s,baz=226,slow=23,SNR=13						
	12nm,0.4s						
MANU	**Manus Island**	**6.29**	**48**	Pn	**Pn**	**23 59 36.6**	**-3.3**
COEN	**Coen**	**7.67**	**176**	Pn	**Pn**	**00 00 02.2**	**+3.2**
FAKI	**Fak Fak**	**10.89**	**287**	Pn	**Pn**	**00 00 41.5**	**-1.6**
MTN	**Manton Dam**	**13.11**	**239**	Pn	**Pn**	**00 01 13.8**	**+0.3**
WB0	**Warramunga Arr**	**15.65**	**210**		**Pn**	**00 01 47.4**	**-0.3**
WB0				IAmb	IAmb	00 02 00.0	
	comp=Z,15nm,0.8s						
WRA	**Warramunga Arr**	**15.83**	**210**		**Pn**	**00 01 48.1**	**-1.8**
WRA	**Warramunga Arr** comp=Z,0.5nm,0.3s,baz=29,slow=14,SNR=9.6	**15.83**	**210**	Pn	**Pn**	**00 01 48.4**	**-1.6**
WRA				Sn	**Sn**	**00 04 36.1**	**-8.3**
	comp=Z,0.3nm,0.3s,baz=22,slow=22,SNR=1.6						
WRA				Lg	Lg	00 06 32.5	
	comp=Z,0.3nm,0.3s,baz=35,slow=27,SNR=5.0						
AS31	**Alice Springs**	**19.25**	**205**	P	**Pn**	**00 02 33.6**	**+1.2**
AS31				IAmb	IAmb	00 02 42.8	
	comp=Z,6.7nm,0.8s						
ASAR	**Alice Springs**	**19.25**	**205**	P	**Pn**	**00 02 33.6**	**+1.2**
ASAR	**Alice Springs** comp=Z,9.2nm,0.8s,baz=33,slow=9.9,SNR=28	**19.25**	**205**	P	**Pn**	**00 02 34.1**	**+1.7**
ASAR				S	**S**	**00 06 01.0**	**-6.5**
	comp=Z,1.8nm,0.8s,baz=16,slow=27,SNR=2.8						
ASAR				Lg	Lg	00 08 23.0	
	comp=Z,0.1nm,0.3s,baz=17,slow=30,SNR=5.5						
ASAR				LR	LR	00 10 44.8	
	comp=Z,123nm,20.9s,baz=76,slow=39						
FITZ	**Fitzroy Crossi**	**20.36**	**233**	P	**P**	**00 02 44.0**	**+0.7**
STKA	**Stephens Creek** comp=Z,1.6nm,0.6s,baz=339,slow=15,SNR=2.9	**25.51**	**182**	P	**P**	**00 03 35.4**	**+0.5**
	comp=Z,1.6nm,0.6s						
BBOO	**Buckleboo**	**27.13**	**192**	P	**P**	**00 03 52.2**	**+2.7**
BBOO				IAmb	IAmb	00 04 00.7	
	comp=Z,14nm,1.4s						
RPZ	**Rata Peaks** comp=Z,141nm,18.9s,baz=118,slow=35	**44.88**	**151**	LR	LR	00 24 24.5	
KSRS	**Korea Array** comp=Z,1.2nm,0.6s,baz=154,slow=8.8,SNR=3.1	**45.61**	**344**	P	**P**	**00 06 24.0**	**-2.5**
	comp=Z,1.2nm,0.6s						
CMAR	**Chiang Mai Arr** comp=Z,1.9nm,0.4s,baz=134,slow=9.1,SNR=21	**49.61**	**301**	P	**P**	**00 06 59.4**	**+1.4**
	comp=Z,1.9nm,0.4s						
PZH	**PanZhiHua**	**51.31**	**311**	P	**P**	**00 07 13.9**	**+3.1**
PZH				pmax	pmax		
	comp=Z,20nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,4.5s						
HHC	**Hu-ho-hao-te**	**54.88**	**331**	*e*P	**P**	**00 07 37.3**	**+0.4**
HHC				pmax	pmax		
	comp=Z,5.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,38nm,6.1s						
SONM	**Songino Array** comp=Z,0.3nm,0.3s,baz=143,slow=5.0,SNR=2.5	**62.61**	**333**	P	**P**	**00 08 29.6**	**-0.9**
	comp=Z,0.3nm,0.3s						
VNDA	**Vanda**	**71.95**	**176**	P	**P**	**00 09 32.2**	**+3.2**
MK31	**Makanchi Array**	**74.99**	**322**	P	**P**	**00 09 47.5**	**0.0**
MK31				IAmb	IAmb	00 09 58.5	
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**74.99**	**322**	P	**P**	**00 09 47.9**	**+0.4**
MKAR	**Makanchi Array** comp=Z,1.3nm,0.8s,baz=100,slow=7.4,SNR=10	**74.99**	**322**	P	**P**	**00 09 46.9**	**-0.5**
	comp=Z,1.3nm,0.8s						
MAKZ	**Makanchi**	**75.19**	**322**	P	**P**	**00 09 48.6**	**0.0**
MAKZ				IAmb	IAmb	00 09 50.3	
	comp=Z,4.0nm,1.2s						
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.6s,baz=113,slow=6.9,SNR=3.5	**76.97**	**329**	P	**P**	**00 09 58.1**	**-0.5**
	comp=Z,0.8nm,0.6s						
KURBB	**Kurchatov Arra** comp=Z,0.3nm,0.3s,baz=116,slow=4.8,SNR=6.2	**78.88**	**324**	P	**P**	**00 10 09.3**	**+0.1**
	comp=Z,0.3nm,0.3s						
J19K	**Poorman**	**83.66**	**23**	P	**P**	**00 10 34.6**	**+0.3**
J19K				IAmb	IAmb	00 10 44.3	
	comp=Z,3.7nm,1.1s						
QSPA	**South Pole Qui**	**83.72**	**180**	P	**P**	**00 10 36.4**	**+1.6**
QSPA				IAmb	IAmb	00 10 41.9	
	comp=Z,3.5nm,1.2s						
QSPA	**South Pole Qui** comp=Z,0.8nm,0.5s,baz=12,SNR=13	**83.72**	**180**	P	**P**	**00 10 36.3**	**+1.4**
	comp=Z,0.8nm,0.5s						
C18K	**Utukok River**	**84.14**	**18**	P	**P**	**00 10 36.5**	**-0.3**
BVAR	**Borovoye Array** comp=Z,4.9nm,0.7s,baz=114,slow=6.6,SNR=21	**84.46**	**325**	P	**P**	**00 10 39.1**	**+0.4**
	comp=Z,4.9nm,0.7s						
ILAR	**Eielson Array** comp=Z,1.8nm,0.8s,baz=261,slow=4.6,SNR=13	**87.43**	**24**	P	**P**	**00 10 51.7**	**-1.4**
	comp=Z,1.8nm,0.8s						
BMAR	**Burnt Mountain**	**89.20**	**22**	P	**P**	**00 11 02.6**	**+1.1**

IDC 17 00:03:43.4±1.0, 32°50N×48°13E, h0km, mb3.8/13, mbtmp3.8/18, ML3.5/5, MS2.9/1, Error ellipse: s-maj=21.2km s-min=16.3km az=161.0
TEH 17 00:03:45.4, 32°52N×48°11E, h8km±30km, ML3.7
ISN 17 00:03:45.3±0.9, 32°49N×48°00E, h0km±31km, ML3.5
DSN 17 00:03:53.5±2.1, 32°04N×48°35E, h52km, mb3.4/1, Error ellipse: s-maj=26.0km s-min=12.5km az=3.0
OMAN 17 00:03:53.9±0.2, 32°09N×48°72E, h10km, mb3.8/6, Error ellipse: s-maj=7.3km s-min=4.1km az=19.0

ISC 17 00:03:45.4±0.5, 32°40N±0°05×48°14E±0°04, h15km, n101, σ2°26/120, mb3.8/13, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IKFM	**Kafar-mosalman**	**1.15**	**348**	Pg	**Pn**	**00 04 04.6**	**-2.4**
AHWZ	**Ahwaz**	**1.15**	**158**	Pg	**Pg**	**00 04 10.1**	**+2.5**
IDOB	**Doab**	**1.38**	**1**	Pg	**Pn**	**00 04 10.2**	**-0.2**
HSAM	**Samen**	**1.85**	**12**	Pg	**Pn**	**00 04 17.8**	**+1.0**
RAFI	**Al-Rafai**	**1.85**	**249**	*e*Pn	**Pb**	**00 04 19.0**	**+0.1**
RAFI				*e*Sn	**Sg**	**00 04 44.0**	**-1.0**
IBDR	**Badra**	**2.00**	**291**	*e*Pn	**Pb**	**00 04 20.0**	**-1.4**
IBDR				*e*Sn	**Sb**	**00 04 45.0**	**-1.0**
IBDR				AML	AML	00 04 51.9	
	comp=N,534nm,0.5

HATD	**Hatta, Dubai**	**10.30 135**	P	**Pn**	**00 06 14.6**	**+1.8**
HATD			S	**Sn**	**00 08 05.9**	**-2.1**
ASHO	**Ashiyiah**	**10.37 136**	P	**Pn**	**00 06 14.0**	**+0.4**
ASHO			S	**Sn**	**00 08 05.5**	**-4.1**
ASHO	**Ashiyiah** SNR=7.1	**10.37 136**	P	**Pn**	**00 06 14.8**	**+1.2**
ASHO			S	**Sn**	**00 08 06.9**	**-2.7**
MZR	**Muzera**	**10.48 152**	P	**Pn**	**00 06 17.2**	**+1.9**
ALNE	**Al Ain**	**10.68 139**	P	**Pn**	**00 06 18.5**	**+0.7**
ALNE	**Al Ain** SNR=7.2	**10.68 139**	P	**Pn**	**00 06 19.4**	**+1.5**
ALNE			S	**Sn**	**00 08 14.8**	**-2.4**
SOHO	**SOHO**	**11.06 136**	P	**Pn**	**00 06 23.6**	**+0.4**
SOHO	**SOHO**	**11.06 136**	P	**Pn**	**00 06 23.8**	**+0.7**
SOHO			S	**Sn**	**00 08 22.0**	**-4.6**
UMZA	**Um Al Zommool**	**11.48 145**	P	**Pn**	**00 06 29.9**	**+1.1**
UMZA			S	**Sn**	**00 08 33.3**	**-3.5**
EIL	**Elat** comp=E,0.5nm,0.3s,baz=79,slow=4.5,SNR=6.0 comp=E,1.9nm,0.5s	**11.64 260**	Pn	**Pn**	**00 06 30.0**	**-1.0**
ARQ	**Araqi** SNR=6.3	**11.68 139**	P	**Pn**	**00 06 33.0**	**+1.4**
ARQ			S	**Sn**	**00 08 35.7**	**-6.0**
HOQ	**Hoqain**	**11.94 135**	P	**Pn**	**00 06 36.3**	**+1.1**
HOQ			S	**Sn**	**00 08 42.5**	**-5.8**
BSY	**Bisya** SNR=6.4	**12.52 138**	P	**Pn**	**00 06 43.6**	**+0.5**
BSY			S	**Sn**	**00 08 58.2**	**-4.2**
SMDO	**Samad**	**12.78 134**	P	**Pn**	**00 06 47.7**	**+0.9**
SMDO			S	**Sn**	**00 09 05.6**	**-3.2**
WSAR	**Wadi Sarin** comp=E,0.8nm,0.3s,baz=303,slow=10,SNR=12 comp=E,2.8nm,0.5s	**13.01 132**	Pn	**Pn**	**00 06 49.5**	**-0.2**
JMDO	**Jabal Madar**	**13.34 136**	P	**Pn**	**00 06 54.1**	**-0.2**
WBK	**Wadi Bani Khal**	**13.68 133**	P	**Pn**	**00 06 59.6**	**+0.6**
BRTR	**Keskin Array B** baz=104,slow=13,SNR=1.6 comp=E,0.2nm,0.6s	**13.81 306**	Pn	**Pn**	**00 07 02.6**	**+1.9**
AKTO	**Aktyubinsk** comp=E,0.3nm,0.3s,baz=225,slow=9.5,SNR=5.8 comp=E,1.5nm,0.5s	**19.45 19**	P	**P**	**00 08 10.7**	**-0.6**
IDI	**Anoyia** comp=E,0.1nm,0.7s,baz=88,slow=14,SNR=7.5	**19.52 285**	P	**Pn**	**00 08 13.3**	**-0.3**
MLR	**Muntele Rosu** comp=E,0.7nm,0.5s,baz=350,slow=10,SNR=4.4 comp=E,0.7nm,0.5s	**21.57 314**	P	**P**	**00 08 34.8**	**+0.4**
AKASG	**Malin Array Be** comp=E,0.2nm,0.2s,baz=142,slow=9.6,SNR=4.8 comp=E,0.2nm,0.2s	**23.01 328**	P	**P**	**00 08 47.7**	**-1.9**
BVAR	**Borovoye Array** comp=E,2.0nm,0.9s,baz=236,slow=9.7,SNR=6.8	**26.11 31**	P	**P**	**00 09 18.0**	**-0.6**
BVAR			LR	LR	00 21 00.5	
KURBB	**Kurchatov Arra** comp=E,28nm,19.9s,baz=328,slow=40 comp=E,2.0nm,0.9s	**28.85 42**	P	**P**	**00 09 43.0**	**-0.1**
MKAR	**Makanchi Array** comp=E,0.5nm,0.3s,baz=244,slow=9.3,SNR=5.4 comp=E,0.5nm,0.3s	**29.72 51**	P	**P**	**00 09 51.1**	**+0.2**
FINES	**FINESS Array B** comp=E,1.2nm,0.7s,baz=242,slow=9.2,SNR=8.4 comp=E,1.2nm,0.7s	**32.40 340**	P	**P**	**00 10 12.4**	**-1.9**
ZALV	**Zalesovo Beam** comp=E,0.7nm,0.5s,baz=149,slow=9.6,SNR=11 comp=E,0.7nm,0.5s	**33.78 39**	P	**P**	**00 10 25.3**	**-1.1**
HFS	**Hagfors** comp=E,1.2nm,0.4s,baz=139,slow=7.0,SNR=13 comp=E,1.2nm,0.4s	**35.82 331**	P	**P**	**00 10 42.8**	**-1.2**
ARCES	**ARCESS Array B** comp=E,2.2nm,0.9s,baz=145,slow=6.5,SNR=7.0 comp=E,2.2nm,0.9s	**39.30 348**	P	**P**	**00 11 13.0**	**-0.3**
EKA	**Eskdalemuir Ar** comp=E,0.5nm,0.5s,baz=97,slow=8.7,SNR=3.8 comp=E,0.5nm,0.5s	**42.28 318**	P	**P**	**00 11 38.6**	**+0.5**
TORD	**Torodi Ar. Bea** comp=E,0.2nm,0.5s,baz=59,slow=9.5,SNR=2.2 comp=E,0.2nm,0.5s	**46.50 257**	P	**P**	**00 12 12.7**	**+0.3**
SPITS	**Spitsbergen Ar** comp=E,13nm,1.1s,baz=140,slow=9.2,SNR=1.6 comp=E,13nm,1.1s	**47.92 352**	P	**P**	**00 12 22.9**	**+0.2**
BOSA	**Boshof** comp=E,2.0nm,1.0s,baz=28,slow=9.6,SNR=3.6 comp=E,2.0nm,1.0s	**64.46 202**	P	**P**	**00 14 22.5**	**+1.1**

NOU ***17*** *00:10:27.7, 30.64S×173.69W, h0km, mb4.7/6, Kermadec Islands Region*
IDC ***17*** *00:11:39.7±1.2, 33.59S×179.32W, h0km, mb3.7/3, mbtmp3.8/4, ML4.2/1, MS3.6/3, Error ellipse: s-maj=38.0km s-min=31.2km az=94.0*
ISC 17 00:11:44.8±1.2, 33.9S±0.1×179.0W±0.2, h35km, n23, σ1s95/16, mb3.7/3, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MXZ	**Matakaoa Point**	**4.25**	**211**	P	**Pn**	**00 12 45.6**	**-1.4**
KUZ	**Kuaotunu**	**5.17**	**236**	P	**Pn**	**00 13 02.6**	**+2.9**
URZ	**Urewera**	**5.36**	**215**	P	**Pn**	**00 13 02.7**	**+0.4**
URZ	**Urewera** 7.2nm,0.3s,baz=342,slow=3.4,SNR=20	**5.36**	**215**	Pn	**Pn**	**00 13 02.0**	**-0.3**
URZ				Sn	**Sn**	**00 14 03.4**	**+0.6**
URZ	7.4nm,0.3s,baz=229,slow=22,SNR=6.2 comp=Z,229nm,19.1s,baz=202,slow=40 17nm,0.3s			LR	LR	00 15 18.0	
OUZ	**Omahuta** 43nm,1.8s	**6.26**	**256**	P	**Pn**	**00 13 14.5**	**-0.2**
BKZ	**Black Stump Fm**	**6.38**	**214**	P	**Pn**	**00 13 16.4**	**+0.1**
BFZ	**Birch Farm** 88nm,2.0s	**7.74**	**208**	P	**Pn**	**00 13 32.6**	**-2.4**
DZM	**Mont Dzumac** comp=Z,133nm,18.3s,baz=87,slow=34	**17.45**	**309**	LR	LR	00 21 22.2	
ASAR	**Alice Springs** 0.4nm,0.6s,baz=112,slow=7.7,SNR=6.3 0.4nm,0.6s	**42.23**	**271**	P	**P**	**00 19 32.0**	**-2.7**
WRA	**Warramunga Arr** 0.8nm,0.6s,baz=117,slow=7.6,SNR=4.9 0.8nm,0.6s	**43.54**	**276**	P	**P**	**00 19 42.7**	**-2.6**
QSPA	**South Pole Qui** 1.2nm,0.8s,baz=46,slow=12,SNR=7.9 1.2nm,0.8s	**56.19**	**180**	P	**P**	**00 21 23.7**	**+2.6**
H03S2	**Juan Fernandez** baz=234,slow=74,SNR=4.3	**79.21**	**123**	T	T	01 52 20.7	
H03S1	**Juan Fernandez** baz=234,slow=74,SNR=4.4	**79.22**	**123**	T	T	01 52 06.5	
H03S3	**Juan Fernandez** baz=234,slow=74,SNR=4.2	**79.23**	**123**	T	T	01 52 05.7	
H03N3	**Juan Fernandez** baz=239,slow=72,SNR=5.9	**79.42**	**123**	T	T	01 52 18.3	
H03N2	**Juan Fernandez** baz=239,slow=72,SNR=3.8	**79.43**	**123**	T	T	01 52 21.1	
H03N1	**Juan Fernandez** baz=239,slow=72,SNR=6.0	**79.44**	**123**	T	T	01 52 16.2	
JTS	**Las Juntas de** comp=Z,96nm,19.3s,baz=328,slow=30	**98.97**	**84**	LR	LR	01 01 55.8	
ARCES	**ARCESS Array B** 6.9nm,1.1s,baz=29,slow=2.1,SNR=4.1	**141.83**	**346**	PKP	**PKPdf**	**00 31 13.3**	**+1.5**
FINES	**FINESS Array B** 1.6nm,0.4s,baz=23,slow=3.9,SNR=22	**148.12**	**337**	PKPbc	**PKPdf**	**00 31 25.3**	**+2.5**
NB2	**NORSAR Subarra** comp=Z,0.9nm,0.6s,baz=15,slow=2.5	**152.08**	**349**	PKP	**PKPbc**	**00 31 35.1**	**-0.6**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.7s,baz=14,slow=4.1,SNR=4.7	**152.08**	**349**	PKPbc	**PKPbc**	**00 31 34.9**	**-0.9**
HFS	**Hagfors** comp=Z,3.0nm,0.9s,baz=72,slow=4.7,SNR=5.5	**152.50**	**346**	PKPbc	**PKPbc**	**00 31 35.5**	**-1.1**

NEIC ***17*** *00:12:10.6±0.7, 19.346N±0.010×155.27W±0.01, h1km±7km, Error ellipse: s-maj=1.9km s-min=0.9km az=130.0*
HVO 17 00:12:09.8±0.7, 19.354N±0.008×155.266W±0.008, h0km±7km, ML3.1/14, ML2.5/48(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.04**	**349**	Pg	Pg	00 12 11.4	+0.7
RIM				IAML		00 12 11.5	
	comp=E,6μm,1.1s						
RIM				IAML		00 12 11.9	
	comp=N,5μm,1.2s						
RIM				Sg	Sg	00 12 12.6	+1.4
KKO	**Keanakako`i** comp=N,5μm,1.1s	**0.04**	**360**	IAML		00 12 11.1	
KKO					Pg	00 12 11.6	+0.9
KKO				Sg	Sg	00 12 12.8	+1.6
SDHHI	**Sand Hill** comp=E,9μm,1.3s	**0.04**	**323**	IAML		00 12 10.9	
SDHHI					Pg	00 12 11.5	+0.8
SDHHI					Sg	00 12 12.8	+1.5
PUH	**Pauahi**	**0.05**	**67**		Pg	00 12 11.7	+0.9
PUH					Sg	00 12 13.1	+1.6
BYL	**Byron's Ledge**	**0.06**	**5**		Pg	00 12 11.8	+0.9
BYL				IAML		00 12 12.3	
	comp=E,7μm,0.9s						
BYL				IAML		00 12 12.8	
	comp=N,5μm,0.9s						
NPH	**North Pit**	**0.06**	**346**	Pg	Pg	00 12 11.7	+0.7
NPH					Sg	00 12 13.3	+1.5
WRMHI	**West Rim**	**0.06**	**328**	Pg	Pg	00 12 11.9	+0.9
OBL	**Observatory Le**	**0.07**	**345**	Pg	Pg	00 12 11.7	+0.6
HATHI	**Halema'uma'u T**	**0.07**	**4**	Pg	Pg	00 12 12.2	+1.1
HATHI				IAML		00 12 13.4	
	comp=E,4μm,0.6s						
HLP	**Hilina Pali**	**0.07**	**215**		Pg	00 12 12.3	+1.1
HLP				IAML		00 12 13.5	
	comp=N,3μm,0.1s						
UWB	**Uwekahuna B**	**0.07**	**351**	Pg	Pg	00 12 11.8	+0.6
UWB				IAML		00 12 12.3	
	comp=N,4μm,1.3s						
SBLHI	**Steaming Bluff**	**0.07**	**358**	Pg	Pg	00 12 12.2	+0.9
SBLHI				IAML		00 12 12.9	
	comp=N,5μm,1.1s						
KNHH	**Kane Nui o Ham**	**0.09**	**75**		Pg	00 12 12.7	+1.1
RSD	**Rainshed**	**0.11**	**354**	Pg	Pg	00 12 12.8	+0.9
RSD				IAML		00 12 14.2	
	comp=E,2μm,1.6s						
RSD				IAML		00 12 15.7	
	comp=N,3μm,1.2s						
STCH	**Steam Cracks**	**0.14**	**77**	Pg	Pg	00 12 13.3	+0.9
STCH				IAML		00 12 16.5	
	comp=N,2μm,1.4s						
STCH				IAML		00 12 16.6	
	comp=E,1μm,0.8s						
JCUZ	**Jacuzzi**	**0.16**	**79**	Pg	Pg	00 12 13.7	+0.9
JCUZ				IAML		00 12 17.5	
	comp=N,1μm,0.9s						
HTC	**Hot Caves**	**0.17**	**227**		Pg	00 12 14.2	+1.1
MLH	**Mauna Loa**	**0.18**	**321**	Pg	Pg	00 12 14.4	+1.1
MLH				IAML		00 12 18.4	
	comp=N,2μm,0.8s						
MLH				IAML		00 12 19.2	
	comp=E,1μm,0.7s						
HMH	**Humu'ula Sheep**	**0.32**	**320**	Pg	Pg	00 12 16.9	+0.9
HMH				IAML		00 12 23.0	
	comp=N,616nm,1.3s						
HMH				IAML		00 12 27.3	
	comp=E,532nm,1.3s						
MWH	**Moku'aweowe**	**0.34**	**293**	Pg	Pg	00 12 17.1	+0.8
KHU	**Kahuku**	**0.35**	**252**		Pg	00 12 17.1	+0.6
KHU				IAML		00 12 23.0	
	comp=E,679nm,1.7s						
KHU				IAML		00 12 27.3	
	comp=N,651nm,1.1s						
ALEP	**Alea Permanent**	**0.40**	**298**		Pg	00 12 18.8	+1.2
HUH	**Hualalai**	**0.63**	**302**	Pg	Pg	00 12 22.6	+0.7

NEIC ***17*** *00:23:13.5±0.7, 19.35N±0.01×155.25W±0.01, h4km±2km, Error ellipse: s-maj=2.1km s-min=1.3km az=214.0*
HVO 17 00:23:13.1±0.6, 19.36N±0.02×155.26W±0.03, h0km±7km, ML2.9/5, ML2.4/39(NEIC), Error ellipse: s-maj=4.9km s-min=1.3km az=66.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.04**	**66**	Pg	Pg	00 23 14.7	+0.8
PUH					Sg	00 23 15.9	+1.4
KKO	**Keanakako`i** comp=E,5μm,1.1s	**0.04**	**347**	IAML		00 23 14.6	
KKO				Pg	Pg	00 23 14.8	+0.9
KKO					Sg	00 23 15.8	+1.3
RIM	**Rim**	**0.04**	**336**	Pg	Pg	00 23 14.3	+0.4
RIM				IAML		00 23 14.6	
	comp=N,5μm,1.3s						
RIM					Sg	00 23 15.8	+1.3
SDHHI	**Sand Hill** comp=E,4μm,0.5s	**0.05**	**312**	IAML		00 23 14.4	
SDHHI					Pg	00 23 14.6	+0.6
SDHHI				IAML		00 23 15.4	
	comp=N,6μm,0.6s						
BYL	**Byron's Ledge**	**0.06**	**356**	Pg	Pg	00 23 14.9	+0.7
NPH	**North Pit** comp=E,3μm,0.8s	**0.06**	**337**	IAML		00 23 14.5	
NPH				Pg	Pg	00 23 14.7	+0.4
NPH				IAML		00 23 15.7	
	comp=N,4μm,0.8s						
NPH					Sg	00 23 16.3	+1.2
WRMHI	**West Rim**	**0.07**	**320**		Pg	00 23 15.3	+0.9
HATHI	**Halema'uma'u T**	**0.07**	**356**		Pg	00 23 15.4	+1.0
HLP	**Hilina Pali** comp=N,2μm,1.2s	**0.08**	**219**	IAML		00 23 15.1	
HLP					Pg	00 23 15.7	+1.1
HLP				IAML		00 23 16.6	
	comp=E,2μm,1.3s						
KNHH	**Kane Nui o Ham**	**0.09**	**75**		Pg	00 23 15.6	+0.8
STCH	**Steam Cracks**	**0.13**	**77**		Pg	00 23 16.3	+0.7
STCH				IAML		00 23 19.3	
	comp=E,941nm,1.0s						
NPOC	**North of Pu'u**	**0.14**	**75**	Pg	Pg	00 23 16.5	+0.6
NPOC				IAML		00 23 18.4	
	comp=N,900nm,1.7s						
NPOC				IAML		00 23 20.6	
	comp=E,849nm,0.8s						
JCUZ	**Jacuzzi**	**0.15**	**79**	Pg	Pg	00 23 16.5	+0.6
JCUZ				IAML		00 23 19.0	
	comp=N,919nm,1.6s						
HTC	**Hot Caves**	**0.18**	**228**		Pg	00 23 17.6	+1.1
MLH	**Mauna Loa**	**0.18**	**318**	Pg	Pg	00 23 17.3	+0.6
MLH				IAML		00 23 18.9	
	comp=E,1μm,0.9s						
HMH	**Humu'ula Sheep**	**0.33**	**319**	Pg	Pg	00 23 20.1	+0.8
HMH				IAML		00 23 29.2	
	comp=N,610nm,0.8s						
HMH				IAML		00 23 29.4	
	comp=E,455nm,1.0s						
MLOA	**Mauna Loa Obse**	**0.35**	**301**	Pg	Pg	00 23 20.4	+0.6
MLOA				IAML		00 23 24.7	
	comp=E,378nm,0.9s						
MLOA				IAML		00 23 24.7	
	comp=N,568nm,1.1s						
KHU	**Kahuku**	**0.36**	**252**		Pg	00 23 20.2	+0.3
KHU				IAML		00 23 22.9	
	comp=N,565nm,1.8s						
HUH	**Hualalai**	**0.64**	**301**	Pg	Pg	00 23 25.6	+0.3

NOU ***17*** *01:02:52.8, 21.70S×169.59E, h0km, mb4.5/9, Southeast of Loyalty Islands*
IDC ***17*** *01:02:59.2±1.0, 21.84S×169.04E, h0km, mb3.8/4, mbtmp3.8/5, ML3.5/1, MS2.7/1, Error ellipse: s-maj=38.7km s-min=20.5km az=178.0*
ISC 17 01:03:00.6±0.9, 21.7S±0.1×169.08E±0.08, h10km, n23, σ0s73/24, mb4.1/5, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.00**	**284**	P	**Pg**	**01 03 19.4**	**-0.5**
PINNC	**Pines Island,**	**1.75**	**239**	P	**Pn**	**01 03 30.1**	**-0.9**
LIFNC	**LIFOU**	**1.96**	**299**	P	**Pn**	**01 03 32.4**	**-1.4**
LIFNC	**LIFOU**	**1.96**	**299**	P	**Pb**	**01 03 37.7**	**+1.4**
YATNC	**Mamie plateau,**	**2.06**	**260**	P	**Pn**	**01 03 34.8**	**-0.4**
YATNC	**Mamie plateau,**	**2.06**	**260**	P	**Pn**	**01 03 35.2**	**0.0**
OUENC	**Ouen Island, N**	**2.18**	**251**	P	**Pn**	**01 03 37.0**	**0.0**
OUENC	**Ouen Island, N**	**2.18**	**251**	P	**Pn**	**01 03 37.5**	**+0.5**
DZM	**Mont Dzumac**	**2.47**	**262**	P	**Pn**	**01 03 40.5**	**-0.5**
DZM	**Mont Dzumac**	**2.47**	**262**	P	**Pn**	**01 03 41.4**	**+0.4**
DZM	**Mont Dzumac** 11nm,0.3s,baz=123,slow=14,SNR=153	**2.47**	**262**	Pn	**Pn**	**01 03 40.7**	**-0.3**
DZM				Sn	**Sn**	**01 04 10.9**	**-0.4**
	38nm,0.3s,baz=316,slow=21,SNR=15						
DZM				LR	LR	01 04 38.4	
	comp=Z,164nm,21.9s,baz=82,slow=41 32nm,0.3s						
ONTNC	**Ouen Toro**	**2.50**	**256**	P	**Pn**	**01 03 41.2**	**-0.1**
ONTNC	**Ouen Toro**	**2.50**	**256**	P	**Pn**	**01 03 42.4**	**+1.1**
NOUC	**Port Laguerre**	**2.60**	**261**	P	**Pn**	**01 03 42.4**	**-0.3**
NOUC	**Port Laguerre**	**2.60**	**261**	P	**Pn**	**01 03 42.5**	**-0.3**
KOUNC	**Koumac, New Ca**	**4.62**	**284**	P	**Pn**	**01 04 11.0**	**+0.5**
ASAR	**Alice Springs**	**32.46**	**260**	P	**P**	**01 09 30.8**	**-0.6**
	0.7nm,0.6s,baz=99,slow=10.0,SNR=8.2 0.7nm,0.6s						
WRA	**Warramunga Arr** 0.3nm,0.4s,baz=100,slow=8.5,SNR=1.8 0.3nm,0.4s	**32.47**	**267**	P	**P**	**01 09 30.4**	**-1.2**
PPT	**Papeete** 46nm,0.6s,baz=253,slow=19,SNR=5.0	**39.08**	**91**	P	**P**	**01 10 28.2**	**0.0**
QSPA	**South Pole Qui** 1.9nm,0.9s,baz=341,slow=3.0,SNR=6.6 1.9nm,0.9s	**68.34**	**180**	P	**P**	**01 14 02.0**	**0.0**
SONM	**Songino Array** 0.7nm,0.7s,baz=131,slow=4.4,SNR=4.4 0.7nm,0.7s	**89.11**	**323**	P	**P**	**01 15 56.8**	**+0.5**
EKA	**Eskdalemuir Ar** 1.1nm,0.7s,baz=347,slow=2.9,SNR=2.4	**145.94**	**352**	PKPbc	**PKPdf**	**01 22 38.8**	**-0.6**
GERES	**GERESS Array B** 1.1nm,0.7s,baz=64,slow=4.5,SNR=6.2	**146.58**	**330**	PKPbc	**PKPbc**	**01 22 43.5**	**+1.1**

NOU 17 01:13:01.0, 21.71S×169.65E, h0km, mb4.6/9, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**1.52**	**278**	P	Pn	01 13 28.4	-1.1
PINNC	**Pines Island,**	**2.23**	**246**	P	Pn	01 13 38.8	-0.4
LIFNC	**LIFOU**	**2.43**	**292**	P	Pn	01 13 41.1	-0.9
YATNC	**Mamie plateau,**	**2.59**	**262**	P	Pn	01 13 43.5	-0.6
OUENC	**Ouen Island, N**	**2.70**	**254**	P	Pn	01 13 45.9	+0.2
DZM	**Mont Dzumac**	**3.00**	**263**	P	Pn	01 13 49.8	-0.1
ONTNC	**Ouen Toro**	**3.02**	**258**	P	Pn	01 13 50.0	-0.2
NOUC	**Port Laguerre**	**3.13**	**262**	P	Pn	01 13 51.3	-0.3
KOUNC	**Koumac, New Ca**	**5.14**	**282**	P	Pn	01 14 20.2	+1.0

MDD ***17*** *01:39:10.5±0.2, 37.91N×3.22W, h2km±4km, mb_Lg2.2/18, Error ellipse: s-maj=2.1km s-min=1.9km az=72.0*
SFS ***17*** *01:39:11.0, 37.93N×3.25W, h0km, ML2.0/11, ML2.4/6, MLv1.9/11*
ISC 17 01:39:09.9±0.9, 37.91N±0.02×3.25W±0.02, h11km±7km, n35, σ0s61/60, 2D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E0802	**Ubeda,Jaen**	**0.15**	**319**	↓Pg	**Pb**	**01 39 14.5**	**-0.4**
E0802				Sg	**Sg**	**01 39 17.7**	**+1.6**
EQES	**Quesada**	**0.17**	**127**	↓Pg	**Pg**	**01 39 13.2**	**-0.7**
EQES				Sg	**Sg**	**01 39 15.6**	**-1.0**
EQES				*i* Vmb_Lg		01 39 16.0	
PSIM	**Granatula de C**	**0.99**	**336**	Pg	**Pn**	**01 39 30.1**	**+0.2**
PSIM				Sg	**Sn**	**01 39 43.5**	**-0.4**
EBER	**Berja**	**1.05**	**164**	Pg	**Pn**	**01 39 31.3**	**+0.6**
EBER	**Berja**	**1.05**	**164**	Pg	**Pb**	**01 39 30.0**	**-0.1**
EBER				Sg	**Sg**	**01 39 43.4**	**-0.3**
EBER				*i* Vmb_Lg		01 39 46.2	
EGOR	**Sierra Gorda,**	**1.05**	**221**	P	**Pg**	**01 39 30.3**	**+0.2**
EGOR	**Sierra Gorda,**	**1.05**	**221**	Pg	**Pb**	**01 39 30.1**	**-0.1**
EGOR				Sg	**Sn**	**01 39 45.0**	**-0.4**
EGOR	**Sierra Gorda,**	**1.05**	**221**	Pg	**Pb**	**01 39 30.1**	**-0.1**
EGOR				Sg	**Sn**	**01 39 45.4**	**-0.1**
EGOR				*i* Vmb_Lg		01 39 48.1	
EADA	**Adamuz**	**1.08**	**284**	P	**Pb**	**01 39 30.7**	**+0.1**
EADA	**Adamuz**	**1.08**	**284**	Pg	**Pb**	**01 39 30.8**	**+0.1**
EADA				Sg	**Sg**	**01 39 45.4**	**+0.6**
EADA	**Adamuz**	**1.08**	**284**	Pg	**Pb**	**01 39 30.9**	**+0.2**
EADA				Sg	**Sg**	**01 39 45.4**	**+0.6**
EADA				*i* Vmb_Lg		01 39 47.7	
ELGU	**Los Guajares,**	**1.08**	**196**	P	**Pb**	**01 39 30.1**	**-0.6**
ELGU	**Los Guajares,**	**1.08**	**196**	Pg	**Pb**	**01 39 30.0**	**-0.6**
ELGU				Sg	**Sn**	**01 39 46.2**	**+0.2**
ELGU	**Los Guajares,**	**1.08**	**196**	Pg	**Pb**	**01 39 30.1**	**-0.6**
ELGU				Sg	**Sg**	**01 39 44.7**	**-0.1**
ELGU				*i* Vmb_Lg		01 39 51.2	
ENIJ	**Nijar**	**1.25**	**138**	P	**Sg**	**01 39 50.8**	**+0.7**
ENIJ	**Nijar**	**1.25**	**138**	Sg	**Sg**	**01 39 50.7**	**+0.5**
ENIJ	**Nijar**	**1.25**	**138**	Pg	**Pb**	**01 39 33.5**	**0.0**
ENIJ				Sg	**Sb**	**01 39 48.7**	**-0.8**
ENIJ				*i* Vmb_Lg		01 39 51.3	
TLOR	**Lorca, Murcia**	**1.26**	**101**	Sg	**Sg**	**01 39 52.4**	**+1.9**
E1002	**Yechar (Murcia**	**1.44**	**83**	Pg	**Pn**	**01 39 35.9**	**0.0**
E1002				Sg	**Sg**	**01 39 55.7**	**-0.5**
EMAL	**Malaga-Limoner**	**1.48**	**220**	Pn	**Pb**	**01 39 37.7**	**+0.3**
EMAL				Sn	**Sg**	**01 39 58.3**	**+0.7**
ETOB	**Tobarra**	**1.53**	**61**	Pn	**Pn**	**01 39 37.2**	**+0.1**
ETOB				Sn	**Sb**	**01 39 58.4**	**+0.8**
ETOB	**Tobarra**	**1.53**	**61**	Pn	**Pn**	**01 39 37.3**	**+0.1**
ETOB				Sg	**Sb**	**01 39 58.2**	**+0.6**
ETOB				*i* Vmb_Lg		01 40 01.1	
EMUR	**La Murta**	**1.59**	**92**	P	**Sb**	**01 40 00.1**	**+0.7**
EMUR	**La Murta**	**1.59**	**92**	Pn	**Pb**	**01 39 39.3**	**0.0**
EMUR				Sn	**Sb**	**01 39 59.6**	**+0.3**
EMUR	**La Murta**	**1.59**	**92**	Pn	**Pn**	**01 39 38.3**	**+0.3**
EMUR				Sg	**Sb**	**01 39 59.7**	**+0.3**
EMUR				*i* Vmb_Lg		01 40 02.5	
ECAB	**El Cabril**	**1.72**	**276**	Pn	**Pn**	**01 39 39.6**	**-0.3**
ECAB				Sn	**Sb**	**01 40 04.2**	**+1.0**
ECAB	**El Cabril**	**1.72**	**276**	Pn	**Pn**	**01 39 39.4**	**-0.4**
ECAB				Pg	**Pb**	**01 39 41.9**	**+0.3**
ECAB				Sg	**Sg**	**01 40 04.8**	**-0.6**
ECAB				*i* Vmb_Lg		01 40 05.7	
PAB	**San Pablo**	**1.85**	**333**	Pn	**Pg**	**01 39 45.3**	**0.0**
PAB				Sn	**Sn**	**01 40 04.3**	**-0.7**
PAB				Sg	**Sg**	**01 40 08.5**	**-0.9**
PAB				*i* Vmb_Lg		01 40 10.7	
ESDC	**Sonseca Array**	**1.85**	**343**	Sn	**Sn**	**01 40 04.5**	**-0.6**
ESDC				Sg	**Sg**	**01 40 09.1**	**-0.3**
ESDC				*i* Vmb_Lg		01 40 11.4	
UCM	**Universidad Co**	**2.40**	**0**	Sg	**Sg**	**01 40 26.3**	**-0.6**
PBAR	**Barrancos**	**3.01**	**276**	*e*Sn	**Sn**	**01 40 32.9**	**-0.5**
PBAR				*e*Sg	**Sg**	**01 40 46.0**	**-0.4**
PBAR				A	A	01 40 51.7	
	2.6nm,0.6s						
PESTR	**Estremoz**	**3.54**	**287**	*e*Sg	**Sg**	**01 41 03.8**	**+0.1**
PESTR				A	A	01 41 06.5	
	2.2nm,1.1s						
PMRV	**Marv??o**	**3.58**	**296**	*e*Sg	**Sg**	**01 41 05.0**	**+0.1**
PVAQ	**Vaqueiros**	**3.58**	**263**	*e*Sn	**Sn**	**01 40 47.8**	**+0.1**
PVAQ				*e*Sg	**Sg**	**01 41 03.8**	**-1.2**
PMTG	**Montargil

RUSC S Sn 01 48 54.7 +1.3
PRAC Prado 9.49 205 P Pn 01 48 12.1 +0.1

NIED ***17*** *01:47:08.5, 38°.21N × 142°.57E, h35km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10^14 Nm; Mrr=0.08; Mθθ=0.54; Mφφ=-0.46; Mrθ=0.60; Mθφ=-0.39; Mφr=1.59; Fault plane solution: M0 1.81000×10^14 NP1: φs=157.00000°, δ=89.00000°, λ=-70.00000°. NP2: φs=249.00000°, δ=20.00000°, λ=-178.00000°.*

JMA 17 01:47:08.5±0.2, 38°.2N±0°.5 × 142°.6E±0°.8, h35km±2km, MV3.8/31, E OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.88**	**277**	*i* P	Pn	01 47 24.5	+0.1
JIKH				*eS*	Sn	01 47 36.1	+0.2
JIO	**Ouri**	**0.99**	**285**	*i* P	Pn	01 47 26.4	+0.4
JIO				*eS*	Sn	01 47 39.3	+0.5
JKMT	**Kesennumamotoy**	**1.05**	**305**	*i* P	Pn	01 47 27.2	+0.5
JKMT				S	Sn	01 47 40.5	+0.3
OFUJ	**Ofunato**	**1.12**	**321**	*i* P	Pn	01 47 28.3	+0.6
OFUJ				S	Sn	01 47 42.4	+0.4
JMK	**Ichinoseki**	**1.30**	**306**	P	Pn	01 47 30.9	+0.8
JMM	**Marumori**	**1.44**	**257**	*i* P	Pn	01 47 32.4	+0.3
JOU	**Okura**	**1.51**	**277**	*i* P	Pn	01 47 34.5	+1.4
JOU				*eS*	Sb	01 47 53.4	-1.5
JFK	**Kawauchi**	**1.58**	**239**	P	Pn	01 47 34.0	-0.1
JOM	**Ohasama**	**1.61**	**322**	*eP*	Pn	01 47 35.8	+1.3
JYK	**Kaneyama**	**1.88**	**293**	P	Pn	01 47 39.9	+1.8
JOTO	**OTAMA OYAMA**	**1.88**	**251**	P	Pn	01 47 39.8	+1.6
JOTO				*eS*	Sn	01 48 02.7	+1.9

IDC ***17*** *02:00:39.7±1.4, 5°.46S × 147°.06E, h174km±14km, mb3.7/13, mbtmp4.2/15, Error ellipse: s-maj=23.0km s-min=8.9km az=107.0*

NEIC ***17*** *02:00:43.1±1.4, 5°.37S±0°.08 × 147°.0E±0°.1, h201km±8km, mb4.4/39, Error ellipse: s-maj=18.5km s-min=12.0km az=101.0*

ISC 17 02:00:41.9±0.5, 5°.45S±0°.05 × 147°.08E±0°.09, h195km, n62, σ1§16/64, mb4.2/27, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**3.40**	**5**	Pn	**Pn**	**02 01 36.4**	**+0.3**
PMG	**Port Moresby**	**3.93**	**179**	P	**Pn**	**02 01 40.6**	**-2.0**
	189nm,0.4s,baz=270,slow=23,SNR=80						
PMG				S	**Sn**	**02 02 25.6**	**-4.8**
	263nm,0.5s,baz=16,slow=10,SNR=9.3						
COEN	**Coen**	**9.29**	**204**		**Pn**	**02 02 53.5**	**+1.5**
CTAO	**Charters Tower**	**14.57**	**183**		**P**	**02 04 00.7**	**+0.2**
PATS	**Pohnpei**	**16.57**	**43**	P	**P**	**02 04 20.8**	**-1.7**
MTN	**Manton Dam**	**17.36**	**244**	P	**P**	**02 04 32.0**	**+0.8**
MTN				IAmb	IAmb	02 04 41.7	
	comp=Z,48nm,1.3s						
WB0	**Warramunga Arr**	**18.84**	**220**	P	**P**	**02 04 47.9**	**+0.6**
WB0				IAmb	IAmb	02 04 49.5	
	comp=Z,20nm,1.1s						
WR0	**Warramunga Arr**	**18.89**	**219**	P	**P**	**02 04 48.8**	**+1.0**
WR0				IAmb	IAmb	02 04 49.4	
	comp=Z,17nm,0.9s						
WB2	**Warramunga Arr**	**19.00**	**220**	P	**P**	**02 04 49.8**	**+0.9**
WRA	**Warramunga Arr**	**19.00**	**220**	P	**P**	**02 04 48.4**	**-0.7**
WRA	**Warramunga Arr**	**19.00**	**220**	P	**P**	**02 04 49.6**	**+0.6**
	comp=Z,12nm,0.6s,baz=44,slow=11,SNR=39						
WRA				S	**S**	**02 08 12.7**	**-1.8**
	comp=Z,11nm,1.1s,baz=41,slow=19,SNR=9.2						
EIDS	**Eidsvold**	**20.17**	**169**	P	**P**	**02 05 02.6**	**+1.1**
EIDS				IAmb	IAmb	02 05 28.2	
	comp=Z,30nm,1.3s						
AS31	**Alice Springs**	**22.11**	**214**	P	**P**	**02 05 22.4**	**+0.6**
ASAR	**Alice Springs**	**22.11**	**214**	P	**P**	**02 05 22.1**	**+0.3**
ASAR	**Alice Springs**	**22.11**	**214**	P	**P**	**02 05 22.7**	**+1.0**
	comp=Z,12nm,0.8s,baz=50,slow=8.1,SNR=102						
ASAR				S	**S**	**02 09 14.1**	**+2.9**
	comp=Z,9.8nm,0.8s,baz=29,slow=22,SNR=21						
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**24.43**	**237**	P	**P**	**02 05 43.2**	**+0.4**
DZM	**Mont Dzumac**	**24.98**	**133**	P	**P**	**02 05 48.9**	**+1.1**
DZM				IAmb	IAmb	02 05 56.6	
	comp=Z,26nm,1.1s						
ARMA	**Armidale**	**25.20**	**171**	P	**P**	**02 05 50.6**	**+0.8**
ARMA				IAmb	IAmb	02 05 53.3	
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**26.79**	**190**	P	**P**	**02 06 04.6**	**+0.7**
STKA	**Stephens Creek**	**26.79**	**190**	P	**P**	**02 06 04.6**	**+0.7**
	comp=Z,2.5nm,0.7s,baz=337,slow=7.4,SNR=3.6						
	comp=Z,2.5nm,0.7s						
BBOO	**Buckleboo**	**29.10**	**199**	P	**P**	**02 06 24.8**	**+0.4**
BBOO				IAmb	IAmb	02 06 49.4	
	comp=Z,16nm,1.3s						
PSA00	**Pilbara Seismi**	**30.86**	**236**	P	**P**	**02 06 40.2**	**+0.1**
FORT	**Forrest**	**30.90**	**213**	P	**P**	**02 06 40.9**	**+0.6**
FORT				IAmb	IAmb	02 06 48.9	
	comp=Z,9.1nm,0.8s						
FUNA	**Funafuti**	**32.02**	**97**	P	**P**	**02 06 51.4**	**+1.1**
YULB	**Yu-li**	**38.15**	**320**	P	**P**	**02 07 40.4**	**-2.2**
YULB				IAmb	IAmb	02 07 46.0	
	comp=Z,12nm,1.1s						
MJAR	**Matsushiro Arr**	**42.59**	**349**	P	**P**	**02 08 16.9**	**-1.9**
	comp=Z,1.0nm,0.3s,baz=134,slow=3.5,SNR=2.2						
	comp=Z,1.0nm,0.3s						
RTZ	**Ruatahuna**	**42.71**	**145**	P	**P**	**02 08 20.0**	**+0.2**
TUWZ	**Tuamarina**	**43.11**	**150**	P	**P**	**02 08 23.5**	**+0.6**
TCW	**Tory Channel**	**43.11**	**150**	P	**P**	**02 08 23.4**	**+0.5**
MRZ	**Mangatainoka R**	**43.38**	**148**	P	**P**	**02 08 25.4**	**+0.3**
BFZ	**Birch Farm**	**43.75**	**148**	P	**P**	**02 08 28.3**	**+0.3**
BFZ				IAmb	IAmb	02 09 06.7	
	comp=Z,28nm,1.2s						
MLZ	**Mavora Lakes**	**43.78**	**159**	P	**P**	**02 08 29.0**	**+0.7**
GVZ	**Greta Valley S**	**43.85**	**152**	P	**P**	**02 08 29.3**	**+0.5**
CMAR	**Chiang Mai Arr**	**53.06**	**298**	P	**P**	**02 09 39.1**	**-0.4**
	comp=Z,1.4nm,0.3s,baz=235,slow=30,SNR=1.3						
	comp=Z,1.4nm,0.3s						
PETK	**Petropavlovsk-**	**59.03**	**7**	P	**P**	**02 10 21.9**	**+0.8**
	comp=Z,3.3nm,0.8s,baz=144,slow=2.9,SNR=5.6						
	comp=Z,3.3nm,0.8s						
SONM	**Songino Array**	**63.97**	**331**	P	**P**	**02 10 55.4**	**+1.0**
	comp=Z,0.9nm,0.6s,baz=156,slow=4.6,SNR=2.1						
	comp=Z,0.9nm,0.6s						
CASY	**Casey**	**65.80**	**195**	P	**P**	**02 11 05.8**	**+0.1**
CASY				IAmb	IAmb	02 11 47.4	
	comp=Z,7.4nm,0.9s						
VNDA	**Vanda**	**72.45**	**177**	P	**P**	**02 11 47.3**	**+0.8**
VNDA				IAmb	IAmb	02 11 47.9	
	comp=Z,2.8nm,0.7s						
VNDA	**Vanda**	**72.45**	**177**	P	**P**	**02 11 46.9**	**+0.4**
	comp=Z,2.8nm,0.6s,baz=332,slow=6.9,SNR=27						
	comp=Z,2.8nm,0.6s						
L14K	**Kuka Creek**	**77.04**	**22**	P	**P**	**02 12 14.5**	**+1.5**
L14K				IAmb	IAmb	02 12 16.7	
	comp=Z,8.0nm,1.1s						
MKAR	**Makanchi Array**	**77.13**	**320**	P	**P**	**02 12 14.1**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=115,slow=7.4,SNR=4.1						
	comp=Z,0.2nm,0.4s						
K15K	**Wolf Creek Mou**	**78.06**	**22**	P	**P**	**02 12 19.9**	**+1.3**
K15K				IAmb	IAmb	02 12 24.5	
	comp=Z,7.3nm,1.2s						
M16K	**Timber Creek**	**78.30**	**24**	P	**P**	**02 12 20.4**	**+0.4**
M16K				IAmb	IAmb	02 12 22.6	
	comp=Z,9.5nm,1.2s						
ZALV	**Zalesovo Beam**	**78.59**	**328**	P	**P**	**02 12 21.0**	**-0.8**
ZALV	**Zalesovo Beam**	**78.59**	**328**	P	**P**	**02 12 21.1**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=126,slow=4.3,SNR=4.4						
	comp=Z,0.9nm,0.4s						
J17K	**VABM Dome**	**79.62**	**22**	P	**P**	**02 12 28.4**	**+1.2**
J17K				IAmb	IAmb	02 12 46.5	
	comp=Z,7.8nm,1.5s						
L19K	**White Mountain**	**80.58**	**24**	P	**P**	**02 12 32.7**	**+0.3**
L19K				IAmb	IAmb	02 12 37.4	
	comp=Z,7.8nm,1.4s						
G18K	**Tagagawik**	**81.21**	**20**	P	**P**	**02 12 36.4**	**+0.8**
E19K	**Redstone River**	**82.57**	**19**	P	**P**	**02 12 43.5**	**+0.8**
D19K	**Kuna River**	**82.89**	**18**	P	**P**	**02 12 45.1**	**+0.8**
D19K				IAmb	IAmb	02 13 24.0	
	comp=Z,6.4nm,1.4s						
QSPA	**South Pole Qui**	**84.51**	**180**	P	**P**	**02 12 52.5**	**-0.3**
QSPA				IAmb	IAmb	02 12 53.3	
	comp=Z,5.1nm,1.0s						
QSPA	**South Pole Qui**	**84.51**	**180**	P	**P**	**02 12 52.4**	**-0.3**
	comp=Z,3.4nm,0.8s,baz=268,slow=1.0,SNR=12						
	comp=Z,3.4nm,0.8s						
ILAR	**Eielson Array**	**84.95**	**23**	P	**P**	**02 12 54.1**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=254,slow=5.0,SNR=10						
	comp=Z,1.1nm,0.7s						
J25K	**Salcha River,**	**85.48**	**24**	P	**P**	**02 12 57.5**	**0.0**
C23K	**Itkillik River**	**85.88**	**18**	P	**P**	**02 12 59.3**	**+0.1**
C23K				IAmb	IAmb	02 13 00.5	
	comp=Z,7.2nm,1.4s						
M27K	**Edge Creek, AK**	**86.14**	**26**	P	**P**	**02 13 02.1**	**+1.2**
BVAR	**Borovoye Array**	**86.38**	**324**	P	**P**	**02 13 01.5**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=128,slow=2.4,SNR=2.4						
	comp=Z,0.3nm,0.4s						
K27K	**Chicken**	**86.61**	**25**	P	**P**	**02 13 04.8**	**+1.8**
EGAK	**Eagle**	**87.23**	**24**	P	**P**	**02 13 05.8**	**-0.2**
EGAK				IAmb	IAmb	02 13 22.0	
	comp=Z,3.6nm,1.3s						
HYT	**Haines Junctio**	**87.68**	**28**	P	**P**	**02 13 08.1**	**-0.2**
YKA	**Yellowknife Ar**	**98.65**	**28**	P	Pdif	02 13 58.8	+0.3
	comp=Z,0.4nm,1.0s,baz=279,slow=9.8,SNR=3.7						
	comp=Z,0.4nm,1.0s						
TORD	**Torodi Ar. Bea**	**145.03**	**285**	PKPbc	**PKPab**	**02 19 57.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=74,slow=6.2,SNR=4.0						

SJA 17 02:21:13.1±0.5, 28°.88S × 62°.65W, h680km±8km, ML3.3, MW3.5, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUSE	**Guasayan**	**2.17**	**296**	*eP*	P	02 22 39.0	+3.7
GUSE				*eS*	S	02 23 42.2	0.0
CYA	**Choya**	**2.81**	**278**	*eP*	P	02 22 41.7	+3.7
CYA				IAML		02 24 00.8	
	comp=Z,6.7nm,4.4s						
ACHE	**Chepes**	**4.16**	**236**	*eP*	P	02 22 50.8	+5.3
ACHE				*eS*	S	02 24 04.4	+3.5
AVFE	**Valle Fertil**	**4.54**	**246**	*eP*	P	02 22 54.0	+6.1
AVFE				*eS*	S	02 24 08.7	+3.4
VCA	**Vinchina**	**4.88**	**270**	*eP*	P	02 22 56.4	+6.1
VCA				*eS*	S	02 24 12.8	+3.2
AGUA	**GUANDACOL**	**5.15**	**262**	*eP*	P	02 22 58.5	+6.4
AGUA				*eS*	S	02 24 21.0	+8.0
AGUA				IAML		02 24 22.4	
	comp=Z,2.7nm,0.4s						

NNC ***17*** *03:04:28.7±13.0, 34°.76N × 69°.66E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=120.7km s-min=94.9km az=35.0*

IDC ***17*** *03:04:36.1±4.2, 34°.62N × 70°.82E, h89km±34km, mb3.3/5, mbtmp3.6/11, MS3.3/1, Error ellipse: s-maj=34.5km s-min=27.8km az=15.0*

ISC 17 03:04:32.3±1.3, 34°.6N±0°.1 × 71°.0E±0°.1, h50km, n15, σ1§66/15, mb3.6/5, 5D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**8.51**	**18**	P	**Pn**	**03 06 35.2**	**+2.3**
	1.9nm,0.5s,baz=57,slow=22,SNR=2.4						
KK31	**Karatay Array**	**8.52**	**358**	⇓P	**Pn**	**03 06 32.4**	**-0.6**
	2.3nm,0.6s,baz=192,slow=14						
KK31				⇓S	**Sn**	**03 08 08.0**	**+0.3**
	6.0nm,0.6s,baz=185,slow=23						
TKM2	**Tokmak 2**	**9.08**	**22**	⇓P	**Pn**	**03 06 42.3**	**+1.4**
	3.8nm,1.0s						
GEYT	**Alibeck**	**10.89**	**292**	P	**Pn**	**03 07 08.2**	**+2.7**
	1.0nm,0.5s,baz=128,slow=51,SNR=1.8						
MKAR	**Makanchi Array**	**14.90**	**32**	P	**P**	**03 08 03.8**	**-0.7**
	0.4nm,0.6s,baz=206,slow=11,SNR=5.8						
AB31	**Akbulak array**	**16.77**	**334**	⇓P	**Pn**	**03 08 20.3**	**-3.2**
	0.8nm,0.5s						
AB31				⇓S	Sn	03 11 15.5	-13
	1.4nm,0.9s						
KURBB	**Kurchatov Arra**	**16.96**	**17**	P	**P**	**03 08 28.2**	**+1.0**
	0.2nm,0.4s,baz=208,slow=11,SNR=3.2						
BVAR	**Borovoye Array**	**18.44**	**359**	P	**P**	**03 08 43.8**	**+0.2**
	0.8nm,0.4s,baz=150,slow=9.6,SNR=4.3						
AKTO	**Aktyubinsk**	**18.45**	**333**	P	**P**	**03 08 44.5**	**+0.9**
	0.7nm,0.2s,baz=134,slow=4.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**21.68**	**23**	P	**P**	**03 09 19.4**	**+0.7**
	1.2nm,0.4s,baz=201,slow=9.4,SNR=4.7						
	1.2nm,0.4s						
AKASG	**Malin Array Be**	**34.15**	**311**	LR	LR	03 27 40.7	
	comp=Z,45nm,20.5s,baz=234,slow=41						
HFS	**Hagfors**	**44.56**	**323**	P	**P**	**03 12 37.2**	**-1.8**
	2.2nm,1.0s,baz=64,slow=9.8,SNR=1.5						
	2.2nm,1.0s						
NOA	**NORSAR Array B**	**45.90**	**324**	P	**P**	**03 12 48.1**	**-1.5**
	0.6nm,0.7s,baz=97,slow=7.9,SNR=1.9						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**83.16**	**3**	P	**P**	**03 16 52.4**	**-0.3**
	0.2nm,0.5s,baz=349,slow=5.7,SNR=7.2						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**83.19**	**125**	P	**P**	**03 16 53.2**	**-0.1**
	0.3nm,0.4s,baz=305,slow=4.8,SNR=6.8						
	0.3nm,0.4s						

BJI ***17*** *03:12:28.7±0.0, 35°.62N × 140°.77E, h47km, mb5.0/88, mB5.0/73, Ms5.0/90, Ms7 4.9/85*

MOS ***17*** *03:12:29.4±1.0, 35°.73N × 140°.73E, h33km, mb5.3/74, MS4.9/22, Error ellipse: s-maj=6.1km s-min=3.6km az=114.9*

NIED ***17*** *03:12:31.7, 35°.72N × 140°.73E, h52km, MW5.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^17 Nm; Mrr=0.95; Mθθ=0.24; Mφφ=-0.72; Mrθ=0.19; Mθφ=-0.22; Mφr=1.12; Fault plane solution: M0 1.43000×10^17 NP1: φs=12.00000°, δ=71.00000°, λ=86.00000°. NP2: φs=206.00000°, δ=19.00000°, λ=102.00000°.*

JMA ***17*** *03:12:31.7±0.2, 35°.7N±0°.6 × 140°.7E±0°.9, h52km±1km, MD5.3/38, MW5.4/38, NEAR CHOSHI CITY*

JMA Felt IV J1 at NEAR CHOSHI CITY .

NEIC ***17*** *03:12:31.4, 35°.61N × 140°.94E, h53km*

NEIC ***17*** *03:12:32, 35°.67N × 140°.77E, h46km*

NEIC ***17*** *03:12:32, 35°.27N × 141°.14E, h46km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17 Nm; Mrr=0.99; Mθθ=0.00; Mφφ=-0.99; Mrθ=-0.01; Mθφ=-0.16; Mφr=0.79; Fault plane solution: M0 1.27000×10^17 NP1: φs=2.91000°, δ=64.12000°, λ=84.61000°. NP2: φs=195.10000°, δ=26.39000°, λ=100.95000°. Principal axes: T 1.2657, Plg 70.0000°, Azm 261.0000°; N 0.0155, Plg 5.0000°, Azm 5.0000°; P -1.2812, Plg 19.0000°, Azm 97.0000°;*

NEIC ***17*** *03:12:32.7±2.7, 35°.66N±0°.05 × 140°.72E±0°.08, h42km±4km, mb5.1/363, Mwr5.4/21, Mww5.3/26 Error ellipse: s-maj=10.0km s-min=7.3km az=103.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr=0.97; Mθθ=-0.17; Mφφ=-0.80; Mrθ=-0.13; Mθφ=-0.38; Mφr=0.97; Fault plane solution: M0 1.38000×10^17 NP1: φs=221.69000°, δ=26.95000°, λ=124.71000°. NP2: φs=3.85000°, δ=68.13000°, λ=73.86000°. Principal axes: T 1.4424, Plg 63.0000°, Azm 248.0000°; N -0.1322, Plg 15.0000°, Azm 10.0000°; P -1.3102, Plg 22.0000°, Azm 106.0000°;*

IDC ***17*** *03:12:34.7±1.4, 35°.68N × 140°.62E, h63km±12km, mb4.5/30, mbtmp4.8/36, MS4.6/84 Error ellipse: s-maj=12.1km s-min=7.2km az=70.0*

GCMT ***17*** *03:12:34.7±0.1, 35°.65N±0°.01 × 140°.76E±0°.01, h43km, MW5.4/150, Moment Tensor Solution. s134, c258; s150, c304; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=1.34±.02; Mθθ=-0.01±.01; Mφφ=-1.33±.01; Mrθ=0.19±.02; Mθφ=-0.46±.01; Mφr=0.93±.02; Best double couple: M0 1.69400×10^17 NP1: φs=14.00000°, δ=62.00000°, λ=86.00000°. NP2: φs=201.00000°, δ=28.00000°, λ=97.00000°. Principal axes: T 1.6310, Plg 73.0000°, Azm 275.0000°; N 0.1310, Plg 3.0000°, Azm 15.0000°; P -1.7570, Plg 17.0000°, Azm 106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 17 03:12:32.2±0.3, 35°.65N±0°.03 × 140°.72E±0°.03, h46km±2km, h46km:pP-P, n1212, σ1§56/1017, mb5.1/333, MS4.7/128, 53C-31D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JSMT	**Sammumatsuo**	**0.22**	**268**	⇓*i*P	**Pn**	**03 12 40.8**	**+0.5**
JSMT				⇓S	**Sn**	**03 12 48.3**	**+2.4**
JSMT	**Sammumatsuo**	**0.22**	**268**	A	A	03 12 40.8	
	comp=E,4μm,1.5s,comp=N,1μm,0.8s						
JIHU	**Itakohorinouch**	**0.35**	**334**	⇓*i*P	**Pn**	**03 12 41.6**	**+0.2**
JIHU				⇓S	**Sn**	**03 12 49.2**	**+1.2**
JIHU	**Itakohorinouch**	**0.35**	**334**	A	A	03 12 41.6	
	comp=E,1μm,2.0s,comp=N,815nm,2.7s						
JCN	**Nagara**	**0.48**	**241**	⇓*i*P	**Pn**	**03 12 44.1**	**+1.1**
JCN				⇓*e*S	**Sn**	**03 12 53.4**	**+2.9**
JCN	**Nagara**	**0.48**	**241**	A	A	03 12 44.1	
	comp=E,693nm,3.2s,comp=N,544nm,4.4s						
JKUC	**kamogawauchiur**	**0.65**	**221**	A	A	03 12 45.6	
	comp=E,209nm,0.7s,comp=N,228nm,0.9s						
JHYU	**Hitachinakayam**	**0.70**	**351**	A	A	03 12 44.7	
	comp=E,350nm,4.0s,comp=N,197nm,0.8s						
JYT	**Yasato**	**0.71**	**324**	⇓*i*P	**Pn**	**03 12 45.1**	**-0.8**
JYT				⇓S	**Sn**	**03 12 54.9**	**-1.1**
JYT	**Yasato**	**0.71**	**324**	A	A	03 12 45.1	
	comp=E,361nm,0.4s,comp=N,243nm,0.3s						
BSO4	**Boso 4**	**0.73**	**205**	*i* P	**Pn**	**03 12 47.2**	**+1.1**
TOK	**Tokyo**	**0.78**	**273**	A	A	03 12 46.8	
	comp=E,471nm,1.7s,comp=N,286nm,0.6s						
BSO3	**Boso 3**	**0.86**	**191**	*i* P	**Pn**	**03 12 48.7**	**+0.9**
TATJ	**Tateyama 2**	**0.92**	**228**	A	A	03 12 49.2	
	comp=E,256nm,4.5s,comp=N,347nm,2.1s						
JYO	**Yokosk**	**0.96**	**244**	A	A	03 12 49.7	
	comp=E,209nm,2.6s,comp=N,279nm,1.3s						
JHO	**Hitachi**	**0.96**	**353**	⇓*i*P	**Pn**	**03 12 48.8**	**-0.6**
JHO	**Hitachi**	**0.96**	**353**	A	A	03 12 48.8	
	comp=E,81nm,4.2s,comp=N,69nm,2.1s						
BSO1	**Boso 1**	**1.02**	**168**	*i* P	**Pn**	**03 12 50.7**	**+1.1**
JHU	**Hanno**	**1.18**	**280**	A	A	03 12 52.3	
	comp=E,134nm,2.2s,comp=N,98nm,3.4s						
JSGW	**Sagamiharawaka**	**1.23**	**268**	A	A	03 12 53.1	
	comp=E,84nm,1.1s,comp=N,90nm,3.0s						
JAG	**Ashikaga**	**1.28**	**307**	⇓*i*P	**Pn**	**03 12 52.8**	**-0.9**
JAG	**Ashikaga**	**1.28**	**307**	A	A	03 12 52.8	
	comp=E,72nm,1.9s,comp=N,54nm,1.8s						
JOD2	**Odawara 2**	**1.38**	**254**	A	A	03 12 55.6	
	comp=E,84nm,3.1s,comp=N,101nm,3.0s						
JIM2	**Oshima 3**	**1.41**	**229**	A	A	03 12 56.2	
	comp=E,127nm,1.2s,comp=N,126nm,1.5s						
JFFD	**Fukushimafurud**	**1.44**	**355**	A	A	03 12 55.0	
	comp=E,64nm,3.0s,comp=N,38nm,2.6s						
ONAJ	**Iwakimizuishiy**	**1.45**	**3**	A	A	03 12 55.1	
	comp=E,67nm,2.3s,comp=N,29nm,1.7s						
JSB	**Shiboa**	**1.46**	**334**	A	A	03 12 55.5	
	comp=E,104nm,4.3s,comp=N,92nm,1.3s						
JRY	**Ryogami san**	**1.52**	**284**	A	A	03 12 57.0	
	comp=E,54nm,2.6s,comp=N,61nm,2.2s						
JHTM	**Izuhatsuma**	**1.56**	**244**	A	A	03 12 58.2	
	comp=E,194nm,1.1s,comp=N,172nm,2.0s						
JTHY	**Toshimahigashi**	**1.62**	**227**	A	A	03 12 59.3	
	comp=E,95nm,3.0s,comp=N,85nm,2.8s						
JKT	**Katashina**	**1.63**	**314**	A	A	03 12 58.1	
	comp=E,90nm,0.4s,comp=N,72nm,1.1s						
JFK	**Kawauchi**	**1.72**	**4**	A	A	03 12 58.9	
	comp=E,20nm,4.4s,comp=N,14nm,1.2s						
JFNN	**Fujinakano**	**1.72**	**255**	A	A	03 13 00.3	
	comp=E,95nm,6.3s,comp=N,150nm,5.1s						
JNIO	**Niijimaoohara**	**1.75**	**223**	A	A	03 13 01.2	
	comp=E,91nm,1.1s,comp=N,99nm,1.7s						
JIZS	**Izushimoda**	**1.77**	**239**	A	A	03 13 01.3	
	comp=E,40nm,1.7s,comp=N,45nm,4.4s						
JYN	**Shimoh**	**1.78**	**266**	A	A	03 13 01.0	
	comp=E,61nm,2.6s,comp=N,69nm,5.5s						
JSKK	**Shikinejimakit**	**1.80**	**224**	A	A	03 13 01.9	
	comp=E,56nm,4.8s,comp=N,44nm,1.6s						
JMYK	**Miyake Tsubota**	**1.85**	**211**	A	A	03 13 02.7	
	comp=E,67nm,3.0s,comp=N,61nm,2.4s						
JGK	**Kuni**	**1.91**	**299**	A	A	03 13 02.4	
	comp=E,41nm,1.5s,comp=N,44nm,3.0s						
JOTO	**OTAMA OYAMA**	**1.93**	**351**	A	A	03 13 02.0	
	comp=E,98nm,4.7s,comp=N,116nm,3.2s						
JFY	**Yanaizu**	**1.93**	**335**	A	A	03 13 02.2	
	comp=E,48nm,2.8s,comp=N,37nm,5.5s						
JKO	**Kozu shima**	**1.95**	**222**	A	A	03 13 04.0	
	comp=E,114nm,4.0s,comp=N,83nm,3.7s						
JMKN	**Mikurajimanish**	**1.98**	**208**	A	A	03 13 04.6	
	comp=E,37nm,3.4s,comp=N,26nm,1.2s						
JUON	**Uonuma**	**2.05**	**320**	A	A	03 13 04.0	
	comp=E,25nm,3.6s,comp=N,30nm,1.5s						
JMST	**Minamisoumatoc**	**2.07**	**4**	A	A	03 13 04.0	
	comp=E,23nm,1.0s,comp=N,26nm,4.6s						
JNT	**Takato**	**2.11**	**277**	A	A	03 13 05.6	
	comp=E,36nm,4.0s,comp=N,39nm,2.6s						
SHZ3	**Shizuoka 3**	**2.13**	**255**	A	A	03 13 06.2	
	comp=E,66nm,1.0s,comp=N,60nm,1.2s						
JMM	**Marumori**	**2.21**	**2**	P	**Pn**	**03 13 07.7**	**+1.3**
JMM	**Marumori**	**2.21**	**2**		**Pn**	**03 13 07.1**	**+0.7**
JMM	**Marumori**	**2.21**	**2**	A	A	03 13 06.0	
	comp=E,34nm,2.4s,comp=N,26nm,0.5s						
MJAR	**Matsushiro Arr**	**2.21**	**294**	P	**Pn**	**03 13 06.9**	**+0.3**
	comp=N,631nm,0.6s,baz=101,slow=7.8,SNR=572						
MJAR				S	**Sn**	**03 13 34.4**	**+1.7**
	comp=N,647nm,0.6s,baz=228,slow=48,SNR=3.4						
MJAR				LR	LR	03 14 09.9	
	comp=N,29μm,21.1s,baz=168,slow=44						
MAJO	**Matsushiro**	**2.22**	**294**	P	**Pn**	**03 13 08.3**	**+1.8**
**

JYK Kaneyama 3.27 355 A A 03 13 21.0
comp=E,24nm,3.1s,comp=N,19nm,2.7s
JAOM Aogashimamukai 3.28 194 A A 03 13 22.9
comp=E,48nm,3.1s,comp=N,49nm,2.2s
JMK Ichinoseki 3.32 7 A A 03 13 21.7
comp=E,16nm,4.6s,comp=N,8.0nm,3.2s
JYYZ Yamagatayuza 3.42 350 A A 03 13 23.1
comp=E,86nm,2.2s,comp=N,143nm,3.1s
JJH Hakui 3.42 293 A A 03 13 23.9
comp=E,13nm,5.5s,comp=N,15nm,6.1s
OFUJ Ofunato 3.51 12 A A 03 13 24.3
comp=E,15nm,3.6s,comp=N,8.0nm,3.2s
JIE Ise 3.52 250 A A 03 13 25.9
comp=E,12nm,3.6s,comp=N,16nm,4.3s
JEG Eigenji 3.57 263 A A 03 13 26.4
comp=E,8.0nm,4.1s,comp=N,16nm,4.8s
TTO2 TONANKAI O.B.S 3.59 239 A A 03 13 27.0
comp=E,78nm,8.1s,comp=N,49nm,3.6s
JKG Kaga 3.61 281 A A 03 13 26.7
comp=E,16nm,3.5s,comp=N,18nm,4.9s
TSUJ Tsu 2 3.64 256 A A 03 13 27.5
comp=E,11nm,5.7s,comp=N,17nm,6.6s
JTB Tobi-shima 3.66 346 A A 03 13 26.5
comp=E,18nm,5.4s,comp=N,17nm,5.0s
JRG Rokugo 3.74 359 A A 03 13 27.6
comp=E,27nm,5.2s,comp=N,18nm,4.8s
JHG Hegura jima 3.75 307 A A 03 13 28.3
comp=E,10.0nm,2.6s,comp=N,12nm,4.4s
JOM Ohasama 3.84 7 A A 03 13 29.0
comp=E,14nm,4.4s,comp=N,8.0nm,3.5s
JFM Mihama 3.86 270 A A 03 13 30.4
comp=E,16nm,8.5s,comp=N,16nm,3.5s
JYW Yuwa 3.90 354 A A 03 13 29.9
comp=E,43nm,3.7s,comp=N,34nm,2.0s
JKN2 Miekihoku 3.91 250 A A 03 13 31.4
comp=E,7.0nm,4.7s,comp=N,11nm,4.4s
JSZI Iwateshizukuis 4.09 3 A A 03 13 32.4
comp=E,38nm,4.3s,comp=N,31nm,3.7s
JOG3 Oga3 4.45 344 A A 03 13 35.8
comp=E,18nm,2.6s,comp=N,17nm,8.7s
JKY Yasaka 4.57 271 A A 03 13 40.3
comp=E,10.0nm,7.6s,comp=N,29nm,4.2s
JNTW Noshirotokiwa 4.63 355 A A 03 13 40.1
comp=E,62nm,3.5s,comp=N,39nm,3.4s
JMIK Miki 4.71 261 A A 03 13 42.4
comp=E,16nm,1.9s,comp=N,14nm,1.9s
JKSM Kasumi 4.93 271 A A 03 13 45.4
comp=E,11nm,7.1s,comp=N,11nm,4.1s
JTM Tenmabayashi 5.13 3 P **Pn** **03 13 46.9 +0.4**
JTM Tenmabayashi 5.13 3 Pn **Pn** **03 13 45.8 -0.8**
JKR Kurayoshi 5.63 269 A A 03 13 55.2
comp=E,8.0nm,5.2s,comp=N,14nm,3.3s
JMN Monobe 5.95 253 P **Pn** **03 14 00.5 +2.7**
JMN Monobe 5.95 253 **Pn** **03 13 59.5 +1.7**
ERM Erimo 6.63 16 P **Pn** **03 14 05.7 -1.4**
ERM Erimo 6.63 16 Pn **Pn** **03 14 05.4 -1.7**
ERM Erimo 6.63 16 *d* P **Pn** **03 14 05.9 -1.2**
JEM Erimo 6.63 16 P **Pn** **03 14 05.9 -1.2**
JNU Nakatsue 8.51 256 P **Pn** **03 14 36.3 +3.4**
JNU Nakatsue 8.51 256 **Pn** **03 14 34.4 +1.4**
JNU Nakatsue 8.51 256 P **Pn** **03 14 35.3 +2.3**
comp=N,65nm,0.9s,baz=60,slow=4.2,SNR=21
JNU S **Sn** **03 16 10.4 +2.7**
comp=N,24nm,1.1s,baz=80,slow=15,SNR=0.3
JNU LR LR 03 18 13.0
comp=N,17μm,18.9s,baz=70,slow=40
ASAJ Asahikawa 8.58 9 P **Pn** **03 14 31.4 -2.4**
comp=N,127nm,0.7s,baz=215,slow=12,SNR=27
ASAJ S **Sn** **03 16 05.5 -3.5**
comp=N,118nm,0.9s,baz=179,slow=30,SNR=2.2
ASAJ LR LR 03 18 40.4
comp=N,2μm,21.7s,baz=197,slow=43
ASAJ Asahikawa 8.58 9 P **Pn** **03 14 31.9 -1.8**
JKA Kamikawa-asahi 8.58 9 **Pn** **03 14 31.9 -1.8**
JCJ Chichijima 8.62 171 P **Pn** **03 14 32.3 -2.1**
JCJ Chichijima 8.62 171 Pn **Pn** **03 14 32.4 -2.1**
JCJ Chichijima 8.62 171 P Pn 03 14 27.9 -6.6
comp=N,156nm,0.5s,baz=236,slow=23,SNR=6.6
JCJ S **Sn** **03 16 02.9 -7.5**
comp=N,494nm,0.4s,baz=270,slow=22,SNR=6.1
NMR Nemuro--Hokkai 8.62 25 *e*P **Pn** **03 14 30.7 -3.7**
NMR *e*S Sn 03 16 00.3 -10
RUSJ Misakicho 9.13 21 *e*P **Pn** **03 14 39.4 -1.9**
RUSJ *e*S **Sn** **03 16 15.5 -7.1**
YUK Yuzh-Kuril'sk 9.26 24 P **Pn** **03 14 40.8 -2.2**
YUK *e*S Sn 03 16 16.1 -10
YUK pmax pmax
comp=Z,496nm,0.5s
YUK pmax pmax
comp=N,170nm,0.2s
YUK pmax pmax
comp=E,379nm,0.4s
SHO Shikotan 9.46 28 *e*P **Pn** **03 14 43.3 -2.5**
SHO pmax pmax
comp=Z,96nm,0.6s
SHO pmax pmax
comp=E,18nm,0.2s
SHO pmax pmax
comp=N,30nm,0.4s
MSHR Mys Shultsa 10.14 316 *i* P **Pn** **03 14 55.4 +0.2**
PSTR Posyet 10.39 315 *i* P **Pn** **03 14 59.0 +0.5**
KSRS Korea Array 10.45 284 P **Pn** **03 15 02.2 +2.9**
comp=N,18nm,0.8s,baz=100,slow=13,SNR=51
KSRS LR LR 03 19 05.5
comp=N,7μm,20.4s,baz=95,slow=38
KSAR Wonju Array Be 10.48 284 **Pn** **03 15 02.1 +2.4**
KSAR Wonju Array Be 10.48 284 P **Pn** **03 15 02.1 +2.4**
KS19 Wonju Array Si 10.50 284 **Pn** **03 15 02.4 +2.3**
TJN Taejon 10.84 278 **Pn** **03 15 05.8 +1.1**
TJN Taejon 10.84 278 *i* P **Pn** **03 15 05.4 +0.7**
USA0B Ussuriysk Arra 10.85 325 **Pn** **03 15 06.4 +1.6**
USA0B Ussuriysk Arra 10.85 325 *i* P **Pn** **03 15 06.0 +1.2**
USRK Ussuriysk Ar. 10.85 325 P **Pn** **03 15 06.8 +2.1**
comp=N,15nm,0.7s,baz=135,slow=13,SNR=16
USRK LR LR 03 19 07.3
comp=N,5μm,18.1s,baz=142,slow=36
USRK Ussuriysk Ar. 10.85 325 P **Pn** **03 15 06.7 +1.9**
KUR Kuril'sk 11.01 27 P **Pn** **03 15 07.1 +0.1**
KUR S **Sn** **03 16 59.8 -8.8**
KUR pmax pmax
comp=Z,159nm,0.9s
KUR pmax pmax
comp=E,84nm,0.5s
KUR pmax pmax
comp=N,75nm,0.8s
KUR smax smax
comp=N,98nm,0.6s
KUR smax smax
comp=E,389nm,0.6s
YSS Yuzh-Sakhalins 11.40 7 **Pn** **03 15 09.0 -3.3**
YSS Yuzh-Sakhalins 11.40 7 *e*P **Pn** **03 15 10.5 -1.8**
YSS *e*S **Sn** **03 17 12.4 -5.7**
YSS pmax pmax
comp=Z,140nm,0.7s
YSS MLR MLR
comp=E,3μm,15.0s
MDJ Mudanjiang 12.34 320 P **Pn** **03 15 29.3 +4.1**
MDJ pP P 03 15 36.0 -0.2
MDJ sP 03 15 42.4
MDJ sS S 03 18 00.0 -7.4
MDJ ScP **ScP** **03 24 33.8 +0.7**
MDJ PcS **PcS** **03 24 39.8 +1.8**
MDJ pmax pmax
comp=E,49nm,2.0s
MDJ pmax pmax
comp=E,520nm,4.9s
MDJ LR LR
comp=E,3μm,20.9s
MDJ LR LR
comp=E,3μm,17.6s
MDJ LR LR
comp=E,5μm,19.4s
JMZ Minamidaito 2 12.74 222 P **Pn** **03 15 31.5 +0.7**
JMZ Minamidaito 2 12.74 222 **Pn** **03 15 31.2 +0.4**
UGL Uglegorsk 13.46 4 *e*P **Pn** **03 15 37.1 -3.2**
UGL MLR MLR
comp=N,3μm,12.0s
UGL MLR MLR
comp=E,4μm,12.0s
JOW Kunigami 13.79 234 Pn **Pn** **03 15 46.8 +1.7**
JOW Kunigami 13.79 234 P **Pn** **03 15 45.5 +0.3**
comp=E,22nm,0.8s,baz=81,slow=9.9,SNR=3.1
JOW LR LR 03 20 52.1
comp=E,4μm,21.9s,baz=68,slow=36
BNX BinXian 14.25 319 ⇑P **Pn** **03 15 49.4 -1.7**
BNX pP **P** **03 15 58.0 +0.6**
BNX sP 03 16 04.3
BNX S **Sn** **03 18 27.3 -0.3**
BNX sS **S** **03 18 41.0 -5.4**
BNX pmax pmax
comp=E,50nm,1.7s
BNX pmax pmax
comp=E,760nm,5.7s
BNX LR LR
comp=E,3μm,19.5s
BNX LR LR
comp=E,2μm,16.8s
BNX LR LR
comp=E,4μm,22.8s
CN2 Changchun 14.28 309 *e*P **Pn** **03 15 51.8 +0.3**
CN2 *e*PP **PnPn** **03 16 03.9 +4.3**
CN2 *e*S **Sn** **03 18 28.8 +0.4**
CN2 *e*sS S 03 18 42.0 -5.0
CN2 pmax pmax
comp=E,20nm,1.3s
CN2 LR LR
comp=E,820nm,14.0s
CN2 LR LR
comp=E,1μm,14.0s
CN2 LR LR
comp=E,1μm,15.0s
SNY Shenyang 14.72 300 ⇑P **Pn** **03 15 58.1 +0.7**
SNY pmax pmax
comp=E,15nm,1.0s
SNY LR LR
comp=E,2μm,12.6s
SNY LR LR
comp=E,2μm,18.0s
SNY LR LR
comp=E,4μm,22.0s
KLR Kul'dur 15.08 337 P **Pn** **03 15 59.6 -2.5**
comp=E,6.3nm,0.6s,baz=133,slow=10,SNR=8.2
KLR S **Sn** **03 18 49.7 +1.8**
comp=E,1.9nm,0.7s,baz=222,slow=13,SNR=0.9
KLR LR LR 03 21 32.5
comp=E,3μm,20.6s,baz=152,slow=36
KLR Kul'dur 15.08 337 *ce*P **Pn** **03 16 02.4 +0.3**
KLR pmax pmax
comp=E,6.0nm,0.7s
TYV Tymovskoe 15.27 5 *e*P **Pn** **03 16 04.8 +0.2**
TYV *e*S **Sn** **03 18 56.4 +4.0**
TYV pmax pmax
comp=E,25nm,0.8s
TYV pmax pmax
comp=Z,300nm,2.6s
TYV smax smax
comp=N,300nm,5.6s
TYV smax smax
comp=E,500nm,5.6s
TYV MLR MLR
comp=N,1μm,14.0s
TYV MLR MLR
comp=Z,2μm,13.0s
GRNR Gornyy 15.43 350 ⇓ *i* P **P** **03 16 13.5 +3.0**
GRNR pmax pmax
comp=Z,20nm,1.1s
DL2 Dalian 15.54 288 P **P** **03 16 13.4 +1.7**
DL2 S **S** **03 19 10.9 -2.0**
DL2 pmax pmax
comp=Z,160nm,1.3s
DL2 pmax pmax
comp=Z,1μm,5.5s
DL2 LR LR
comp=N,2μm,16.6s
DL2 LR LR
comp=E,5μm,24.2s
DL2 LR LR
comp=Z,7μm,23.2s
SSE Sheshan 16.93 260 P **Pn** **03 16 25.0 -0.8**
SSE S **Sn** **03 19 31.6 -1.3**
SSE pmax pmax
comp=Z,24nm,0.9s
SSE pmax pmax
comp=Z,550nm,5.7s
SSE LR LR
comp=Z,1μm,19.8s
SSE LR LR
comp=Z,930nm,20.1s
HEH HeiHe 17.50 331 *e*P **Pn** **03 16 29.0 -3.8**
HEH pP **P** **03 16 38.8 +5.4**
HEH S **Sn** **03 19 43.8 -2.8**
HEH pmax pmax
comp=Z,11nm,0.9s
HEH pmax pmax
comp=Z,230nm,5.4s
HEH LR LR
comp=Z,3μm,17.7s
HEH LR LR
comp=Z,2μm,17.1s
HEH LR LR
comp=Z,4μm,20.0s
NJ2 Nanjing 18.50 265 *e*P **P** **03 16 43.8 -0.8**
NJ2 pP **pP** **03 16 55.0 -0.4**
NJ2 sP **sP** **03 17 03.3 +2.1**
NJ2 pmax pmax
comp=Z,16nm,0.6s
NJ2 pmax pmax
comp=Z,540nm,6.7s
NJ2 LR LR
comp=Z,2μm,19.9s
NJ2 LR LR
comp=Z,4μm,18.0s
NJ2 LR LR
comp=Z,4μm,20.9s
SKR Severo-Kuril's 18.70 32 *i* P **P** **03 16 46.0 -0.6**
YOJ Yonaguni jima 18.92 239 P **P** **03 16 46.9 -2.3**
YOJ Yonaguni jima 18.92 239 P **P** **03 16 46.9 -2.3**
YOJ **P** **03 16 47.7 -1.5**
YOJ IAmb IAmb 03 16 51.0
comp=Z,91nm,0.8s
YOJ Yonaguni jima 18.92 239 P **P** **03 16 47.7 -1.5**
YOJ pmax pmax
comp=Z,91nm,0.8s
TIA Tai'an 19.11 279 P **P** **03 16 49.0 -2.2**
TIA pmax pmax
comp=Z,83nm,1.4s
TIA LR LR
comp=Z,1μm,18.7s
TIA LR LR
comp=Z,2μm,22.3s
TIA LR LR
comp=Z,3μm,18.7s
BJI Beijing 19.85 290 P **P** **03 16 57.0 -2.2**
BJI S **S** **03 20 39.9 -0.3**
BJI SS **SnSn** **03 21 01.6 +3.7**
BJI pmax pmax
comp=Z,30nm,0.8s
BJI pmax pmax
comp=Z,360nm,8.3s
BJI LR LR
comp=Z,570nm,19.1s
BJI LR LR
comp=Z,730nm,22.1s
BJI LR LR
comp=Z,2μm,27.9s
YHNB Yeheng 19.95 242 P **P** **03 16 59.8 -0.7**
YHNB Yeheng 19.95 242 P **P** **03 16 59.7 -0.8**
NACB Ninganchiao 20.10 241 P **P** **03 16 59.7 -2.4**
NACB Ninganchiao 20.10 241 P **P** **03 16 59.6 -2.4**
ZEA Zeya 20.40 337 *e*P **P** **03 17 03.0 -2.1**
ZEA *e* 03 17 26.5
ZEA *e* 03 21 12.5
ZEA pmax pmax
comp=Z,200nm,3.9s
ZEA pmax pmax
comp=N,50nm,0.6s
ZEA pmax pmax
comp=Z,70nm,0.7s
ZEA pmax pmax
comp=N,200nm,3.8s
ZEA pmax pmax
comp=Z,300nm,3.8s
XLT XiLinHaoTe 20.59 301 *e*P **P** **03 17 04.4 -3.0**
XLT pP Pn 03 17 14.1 +4.1
XLT pmax pmax
comp=Z,20nm,0.9s
XLT pmax pmax
comp=Z,190nm,3.7s
XLT LR LR
comp=Z,3μm,19.6s
XLT LR LR
comp=Z,3μm,19.1s
SSLB Suanglung 20.80 241 P **P** **03 17 08.2 -1.5**
SSLB Suanglung 20.80 241 P **P** **03 17 07.7 -2.0**
YULB Yu-li 20.80 239 P **P** **03 17 10.3 +0.5**
YULB Yu-li 20.80 239 P **P** **03 17 07.2 -2.6**
HNS HongShan 20.96 282 ⇑P **P** **03 17 08.3 -3.0**
HNS PP **PnPn** **03 17 30.4 -0.8**
HNS S **S** **03 20 56.0 -6.2**
HNS SS **SnSn** **03 21 27.1 +2.0**
HNS pmax pmax
comp=Z,50nm,1.3s
HNS LR LR
comp=Z,3μm,17.5s
HNS LR LR
comp=Z,2μm,21.1s
HNS LR LR
comp=Z,3μm,24.7s
PEA0B Petropavlovsk- 21.16 29 P **P** **03 17 11.2 -2.2**
PEA0B IAmb IAmb 03 17 30.3
comp=Z,74nm,1.1s
PEA0B Petropavlovsk- 21.16 29 *i* P **P** **03 17 12.9 -0.5**
PETK Petropavlovsk- 21.16 29 P **P** **03 17 13.8 +0.4**
comp=Z,16nm,0.8s,baz=207,slow=10,SNR=17
PETK LR LR 03 26 23.3
comp=Z,367nm,20.2s,baz=216,slow=39
comp=Z,16nm,0.8s
TPUB Ta-pu 21.33 240 P **P** **03 17 13.0 -2.4**
TPUB IAmb IAmb 03 17 15.0
comp=Z,57nm,0.7s
TWG Pinlang 21.33 238 P **P** **03 17 13.2 -2.2**
TWG IAmb IAmb 03 17 19.3
comp=Z,118nm,1.2s
PET Petropavlovsk 21.49 31 P **P** **03 17 15.3 -1.5**
PET IAmb IAmb 03 17 24.9
comp=Z,120nm,1.3s
PET Petropavlovsk 21.49 31 *e*P **P** **03 17 23.8 +7.0**
PET *e*S **S** **03 21 10.9 -1.6**
PET pmax pmax
comp=Z,80nm,1.2s
PET MLR MLR
comp=Z,800nm,16.0s
PET MLR MLR
comp=Z,800nm,14.0s
QZH Quanzhou 21.83 247 ⇑ *i* P **P** **03 17 17.1 -3.6**
QZH *e*S **S** **03 21 10.4 -9.2**
QZH pmax pmax
comp=Z,92nm,0.8s
QZH LR LR
comp=Z,2μm,18.2s
QZH LR LR
comp=Z,2μm,19.6s
QZH LR LR
comp=Z,4μm,18.9s
GUMO Guam 22.28 169 P **P** **03 17 22.7 -2.9**
GUMO Guam 22.28 169 P **P** **03 17 27.4 +1.8**
comp=Z,87nm,0.9s,baz=165,slow=7.2,SNR=6.5
comp=Z,87nm,0.9s
GUMO Guam 22.28 169 P **P** **03 17 22.7 -2.9**
GUMO pmax pmax
comp=Z,553nm,1.2s
WHN Wuhan 22.64 265 P **P** **03 17 27.6 -1.7**
WHN pP **pP** **03 17 38.8 -1.5**
WHN sP **sP** **03 17 45.6 -0.4**
WHN S **S** **03 21 31.1 -3.0**
WHN pmax pmax
comp=Z,180nm,0.6s
WHN pmax pmax
comp=Z,1μm,5.9s
WHN LR LR
comp=Z,4μm,13.9s
WHN LR LR
comp=Z,12μm,18.8s
WHN LR LR
comp=Z,10μm,14.9s
TIY Taiyuan 22.74 284 P **P** **03 17 32.3 +1.8**
TIY S **S** **03 21 32.8 -3.2**
TIY SS **SnSn** **03 22 12.8 +3.8**
TIY pmax pmax
comp=Z,250nm,4.8s
TIY LR LR
comp=Z,1μm,14.3s
TIY LR LR
comp=Z,2μm,20.0s
TIY LR LR
comp=Z,3μm,21.4s
LYN LuoYang 23.11 276 *e*P **P** **03 17 30.0 -4.2**
LYN pP pP 03 17 40.4 -4.9
LYN sP sP 03 17 46.0 -5.0
LYN S **S** **03 21 34.4 -7.6**
LYN SS **SnSn** **03 22 24.3 +6.4**
LYN pmax pmax
comp=Z,78nm,0.9s
LYN pmax pmax
comp=Z,410nm,5.8s
LYN LR LR
comp=Z,4μm,17.0s
LYN LR LR
comp=Z,4μm,19.0s
LYN LR LR
comp=Z,6μm,24.5s
HHC Hu-ho-hao-te 23.41 292 *e*P **P** **03 17 36.1 -1.1**
HHC sP sP 03 17 54.0 -0.3
HHC S **S** **03 21 45.6 -1.6**
HHC SS **SnSn** **03 22 30.9 +5.4**
HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,78nm,6.4s
HHC LR LR
comp=Z,740nm,14.5s
HHC LR LR
comp=Z,780nm,14.5s
HHC LR LR
comp=Z,310nm,14.9s
BTO Baotou 24.58 291 *e*P **P** **03 17 49.1 +1.1**
BTO pP **pP** **03 18 00.6 +0.6**
BTO sP **sP** **03 18 08.0 +2.5**
BTO PP **PnPn** **03 18 22.5 +1.7**
BTO pmax pmax
comp=Z,44nm,0.5s
BTO pmax pmax
comp=Z,580nm,5.7s
BTO LR LR
comp=Z,3μm,17.9s
BTO LR LR
comp=Z,1μm,14.1s
BTO LR LR
comp=Z,2μm,16.5s
CNSH ChangSha 24.68 260 ⇑P **P** **03 17 47.6 -1.2**
CNSH S **S** **03 22 00.1 -7.3**
CNSH LR LR
comp=Z,1μm,12.5s
CNSH LR LR
comp=Z,2μm,16.7s
CNSH LR LR
comp=Z,3μm,15.9s
MA2 Magadan 24.82 12 P **P** **03 17 49.9 +0.1**
MA2 IAmb IAmb 03 18 05.3
comp=Z,74nm,0.8s
MA2 Magadan 24.82 12 LR LR 03 29 11.1
comp=Z,935nm,18.3s,baz=197,slow=40
MA2 Magadan 24.82 12 *ce*P **P** **03 17 50.7 +0.8**
MA2 pmax pmax
comp=Z,39nm,0.6s
MA2 Magadan 24.82 12 P **P** **03 17 51.4 +1.5**
comp=Z,126nm,1.0s,comp=Z,1μm
CIT Chita 25.31 319 *e*P **P** **03 17 53.0 -1.5**
CIT *e* 03 18 00.2
CIT *e* 03 18 25.6
CIT *e* 03 18 45.6
CIT *e* 03 22 07.6
CIT pmax pmax
comp=Z,96nm,2.9s
XAN Xi'an 26.09 276 ⇑P **P** **03 17 59.6 -2.1**
XAN pP pP 03 18 12.9 -0.8
XAN S **S** **03 22 27.8 -2.0**
XAN pmax pmax
comp=Z,69nm,1.5s
XAN pmax pmax
comp=Z,710nm,6.4s
XAN LR LR
comp=Z,3μm,19.4s
XAN LR LR
comp=Z,3μm,20.9s
XAN LR LR
comp=Z,5μm,21.6s
GZH Guangzhou 26.84 250 P P 03 18 01.5 -7.0

GZH				S	S	03 22 31.4	-10		
GZH				pmax	pmax				
	comp=Z,24nm,0.7s								
GZH				LR	LR				
	comp=Z,870nm,14.5s								
GZH				LR	LR				
	comp=Z,820nm,16.6s								
YAK	**Yakutsk**	**27.30**	**349**	P	**P**	**03 18 10.7**	**-1.5**		
YAK	**Yakutsk**	**27.30**	**349**	LR	LR	03 28 55.0			
	comp=Z,2µm,21.8s,baz=156,slow=36								
YAK	**Yakutsk**	**27.30**	**349** *c*	*i*P	**P**	**03 18 11.2**	**-1.0**		
YAK				*e**PP	**pP**	**03 18 25.9**	**+1.7**		
YAK				*e*		03 18 57.5			
YAK				*e*S	**S**	**03 22 49.3**	**+1.0**		
YAK				pmax	pmax				
	comp=Z,45nm,1.6s								
YAK				pmax	pmax				
	comp=E,15nm,2.3s								
YAK				pmax	pmax				
	comp=N,41nm,1.9s								
YAK				pmax	pmax				
	comp=Z,162nm,3.0s								
YAK				pmax	pmax				
	comp=N,75nm,1.4s								
YAK				pmax	pmax				
	comp=E,68nm,3.3s								
YAK				smax	smax				
	comp=E,598nm,7.7s								
ULN	**Ulaanbaatar**	**27.69**	**307**	P	**P**	**03 18 14.6**	**-1.5**		
ULN	**Ulaanbaatar**	**27.69**	**307** *ce*	P	**P**	**03 18 15.6**	**-0.5**		
ULN				pmax	pmax				
	comp=Z,33nm,1.7s								
TGY	**Tagaytay City**	**27.86**	**225**	LR	LR	03 30 05.3			
	comp=Z,253nm,18.4s,baz=46,slow=38								
H11N2	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	03 47 21.4			
	baz=310,slow=75,SNR=98								
H11N1	**WAKE ISLAND Hy**	**27.97**	**118**	T	T	03 47 42.5			
	baz=310,slow=75,SNR=147								
H11N3	**WAKE ISLAND Hy**	**27.98**	**118**	T	T	03 47 23.8			
	baz=310,slow=75,SNR=113								
SEY	**Seymchan**	**28.25**	**11**	LR	LR	03 31 12.0			
	comp=Z,2µm,18.4s,baz=204,slow=40								
SEY	**Seymchan**	**28.25**	**11** *ce*	P	**P**	**03 18 21.2**	**+0.5**		
SEY				pmax	pmax				
	comp=Z,27nm,1.7s								
BOD	**Bodaibo**	**28.42**	**330**	*e*P	**P**	**03 18 20.9**	**-1.3**		
BOD				pmax	pmax				
	comp=Z,54nm,1.8s								
H11S3	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	03 48 21.9			
	baz=312,slow=75,SNR=193								
H11S1	**WAKE ISLAND Hy**	**28.62**	**120**	T	T	03 48 19.1			
	baz=312,slow=75,SNR=238								
H11S2	**WAKE ISLAND Hy**	**28.64**	**120**	T	T	03 48 17.1			
	baz=312,slow=75,SNR=240								
SHEM	**Shemya Is, Ala**	**29.05**	**44**	LR	LR	03 28 22.8			
	comp=Z,653nm,19.8s,baz=144,slow=33								
LZH	**Lanzhou**	**29.77**	**282**	⇓P	**P**	**03 18 33.9**	**-0.8**		
LZH				pP	pP	03 18 43.9	-2.9		
LZH				PP	**PnPn**	**03 19 27.9**	**-3.7**		
LZH				S	**S**	**03 23 28.0**	**0.0**		
LZH				pmax	pmax				
	comp=Z,46nm,1.3s								
LZH				pmax	pmax				
	comp=Z,340nm,5.6s								
LZH				LR	LR				
	comp=Z,2µm,21.6s								
LZH				LR	LR				
	comp=Z,2µm,19.2s								
LZH				LR	LR				
	comp=Z,4µm,22.0s								
GYA	**Guiyang**	**30.45**	**262**	⇓P	**P**	**03 18 39.1**	**-1.6**		
GYA				pP	pP	03 18 50.8	-2.1		
GYA				sP	sP	03 18 56.8	-1.5		
GYA				S	**S**	**03 23 36.9**	**-1.9**		
GYA				sS	sS	03 23 57.1	-2.0		
GYA				pmax	pmax				
	comp=Z,110nm,1.2s								
GYA				pmax	pmax				
	comp=Z,230nm,5.4s								
GYA				LR	LR				
	comp=Z,1µm,22.2s								
GYA				LR	LR				
	comp=Z,1µm,14.2s								
GYA				LR	LR				
	comp=Z,2µm,15.4s								
ZAK	**Zakamensk**	**30.71**	**310**	*e*P	**P**	**03 18 41.5**	**-1.2**		
ZAK				pmax	pmax				
	comp=Z,9.0nm,1.1s								
CD2	**Chengdu**	**31.13**	**272**	P	**P**	**03 18 44.5**	**-2.1**		
CD2				pP	pP	03 18 57.6	-1.2		
CD2				sP	sP	03 19 02.8	-1.4		
CD2				S	**S**	**03 23 50.3**	**+1.0**		
CD2				pmax	pmax				
	comp=Z,50nm,0.6s								
CD2				pmax	pmax				
	comp=Z,170nm,5.9s								
CD2				LR	LR				
	comp=Z,1µm,14.0s								
CD2				LR	LR				
	comp=Z,4µm,19.4s								
CD2				LR	LR				
	comp=Z,5µm,19.8s								
DAV	**Davao City (W)**	**31.66**	**210**	LR	LR	03 29 47.8			
	comp=Z,812nm,21.4s,baz=54,slow=33								
QIZ	**Qiongzhong**	**31.86**	**247**	P	**P**	**03 18 53.3**	**+0.3**		
QIZ				S	**S**	**03 24 00.1**	**-0.5**		
QIZ				pmax	pmax				
	comp=Z,130nm,5.1s								
QIZ				LR	LR				
	comp=Z,650nm,15.7s								
QIZ				LR	LR				
	comp=Z,1µm,19.4s								
QIZ				LR	LR				
	comp=Z,2µm,21.2s								
MOY	**Mondy**	**32.42**	**312**	*e*P	**P**	**03 18 58.8**	**+1.0**		
MOY				pmax	pmax				
	comp=Z,24nm,2.8s								
GTA	**Gaotai**	**32.45**	**289**	*e*P	**P**	**03 18 58.1**	**-0.2**		
GTA				sP	pP	03 19 12.4	+2.0		
GTA				PP	**PnPn**	**03 20 04.5**	**-1.9**		
GTA				S	**S**	**03 24 10.0**	**+0.1**		
GTA				pmax	pmax				
	comp=Z,16nm,1.4s								
GTA				LR	LR				
	comp=Z,1µm,20.7s								
GTA				LR	LR				
	comp=Z,1µm,22.7s								
GTA				LR	LR				
	comp=Z,2µm,22.9s								
KMI	**Kunming**	**34.21**	**263**	⇓P	**P**	**03 19 12.8**	**-1.0**		
KMI				sP	pP	03 19 27.5	+1.5		
KMI				PP	**PP**	**03 20 32.1**	**+0.3**		
KMI				S	**S**	**03 24 33.3**	**-4.3**		
KMI				pmax	pmax				
	comp=Z,55nm,1.4s								
KMI				LR	LR				
	comp=Z,1µm,24.2s								
KMI				LR	LR				
	comp=Z,780nm,23.9s								
KMI				LR	LR				
	comp=Z,2µm,24.5s								
PZH	**PanZhiHua**	**34.42**	**266**	P	**P**	**03 19 13.8**	**-1.7**		
PZH				pP	**pP**	**03 19 26.3**	**-1.4**		
PZH				PP	**PP**	**03 20 33.8**	**-0.2**		
PZH				pmax	pmax				
	comp=Z,80nm,0.8s								
PZH				pmax	pmax				
	comp=Z,250nm,5.9s								
PZH				LR	LR				
	comp=Z,2µm,20.2s								
PZH				LR	LR				
	comp=Z,2µm,20.4s								
PZH				LR	LR				
	comp=Z,3µm,20.0s								
SGSI	**Sangihe**	**34.77**	**207**	P	**P**	**03 19 17.8**	**-0.6**		
	comp=Z,127nm,0.5s,comp=Z,11µm								
BILL	**Bilibino**	**35.51**	**16**	P	**P**	**03 19 24.2**	**-0.1**		
BILL				IAmb	IAmb	03 19 32.1			
	comp=Z,17nm,0.9s								
BILL	**Bilibino**	**35.51**	**16**	*e*P	**P**	**03 19 24.4**	**+0.2**		
BILL	**Bilibino**	**35.51**	**16**	P	**P**	**03 19 24.4**	**+0.2**		
BILL				pP	**pP**	**03 19 36.2**	**-0.3**		
MYLDM	**Lahad Datu**	**36.59**	**219**	P	**P**	**03 19 34.1**	**+0.1**		
MYLDM				IAmb	IAmb	03 19 34.8			
	comp=Z,32nm,1.0s								
TIXI	**Tiksi**	**36.60**	**354**	P	**P**	**03 19 32.9**	**-0.5**		
TIXI				IAmb	IAmb	03 19 48.7			
	comp=Z,16nm,0.8s								
TIXI	**Tiksi**	**36.60**	**354**	LR	LR	03 36 28.6			
	comp=Z,1µm,18.2s,baz=164,slow=39								
TIXI	**Tiksi**	**36.60**	**354** *ce*	P	**P**	**03 19 32.9**	**-0.5**		
TIXI				pmax	pmax				
	comp=Z,27nm,1.7s								
TIXI	**Tiksi**	**36.60**	**354**	P	**P**	**03 19 33.1**	**-0.4**		
TIXI				pP	**pP**	**03 19 45.1**	**-0.6**		
TNTI	**Ternate**	**36.86**	**203**	P	**P**	**03 19 35.1**	**-1.2**		
	comp=Z,39nm,1.1s								
GOMU	**GeErMu**	**36.91**	**285**	P	**P**	**03 19 36.4**	**-0.6**		
GOMU				PP	**PP**	**03 20 59.8**	**-1.7**		
GOMU				pmax	pmax				
	comp=Z,43nm,1.3s								
GOMU				pmax	pmax				
	comp=Z,360nm,4.2s								
GOMU				LR	LR				
	comp=Z,2µm,18.6s								
GOMU				LR	LR				
	comp=Z,2µm,20.3s								
GOMU				LR	LR				
	comp=Z,3µm,20.2s								
SWI	**Sorong**	**37.38**	**196**	P	**P**	**03 19 40.1**	**-0.6**		
	comp=Z,99nm,0.7s,comp=Z,805nm								
SWI	**Sorong**	**37.38**	**196**	P	**P**	**03 19 40.2**	**-0.5**		
UBPT	**Khong Chiam**	**37.45**	**246**	P	**P**	**03 19 41.0**	**-0.4**		
UBPT				IAmb	IAmb	03 19 59.3			
	comp=Z,18nm,0.7s								
DLV	**T Lat**	**37.48**	**239**	P	**P**	**03 19 41.9**	**0.0**		
DLV				IAmb	IAmb	03 19 42.9			
	comp=Z,32nm,0.8s								
TNCH	**TengChong**	**37.67**	**266**	⇑P	**P**	**03 19 42.8**	**-0.6**		
TNCH				pP	pP	03 19 57.6	+1.9		
TNCH				PP	**PnPn**	**03 21 11.6**	**+0.3**		
TNCH				pmax	pmax				
	comp=Z,400nm,3.6s								
JAY	**Jayapura**	**37.97**	**180**	P	**P**	**03 19 45.1**	**-0.6**		
	comp=Z,49nm,1.0s								
GENI	**Genyem**	**38.05**	**181**	P	**P**	**03 19 47.7**	**+1.4**		
	comp=Z,117nm,1.0s								
LBMI	**Labuha**	**38.15**	**202**	P	**P**	**03 19 48.8**	**+1.6**		
	comp=Z,64nm,1.1s								
CRAI	**Chiangrai**	**38.52**	**257**	P	**P**	**03 19 50.3**	**-0.1**		
GTOI	**Gorontalo**	**38.54**	**209**	P	**P**	**03 19 48.2**	**-2.2**		
	comp=Z,20nm,1.0s,comp=Z,236nm								
TOLI2	**Tolitoli**	**39.04**	**213**	P	**P**	**03 19 52.8**	**-1.9**		
FAKI	**Fak Fak**	**39.18**	**193**	P	**P**	**03 19 55.2**	**-0.6**		
FAKI	**Fak Fak**	**39.18**	**193**	P	**P**	**03 19 55.1**	**-0.7**		
	comp=Z,87nm,0.9s,comp=Z,871nm								
PHRA	**Phrae**	**39.57**	**255**	P	**P**	**03 19 58.8**	**-0.3**		
SANI	**Sanana**	**39.95**	**203**	P	**P**	**03 20 00.5**	**-1.8**		
	comp=Z,69nm,0.6s,comp=Z,938nm								
CHTO	**Chiang Mai**	**40.41**	**257**	P	**P**	**03 20 05.6**	**-0.6**		
CHTO	**Chiang Mai**	**40.41**	**257**	P	**P**	**03 20 05.6**	**-0.6**		
CHTO				pmax	pmax				
	comp=Z,26nm,1.3s								
CMAR	**Chiang Mai Arr**	**40.61**	**256**	P	**P**	**03 20 06.7**	**-1.1**		
CMAR	**Chiang Mai Arr**	**40.61**	**256**	P	**P**	**03 20 07.8**	**0.0**		
	comp=Z,3.5nm,0.4s,baz=47,slow=7.9,SNR=13								
CMAR				PcP	**PcP**	**03 22 10.6**	**+1.4**		
	comp=Z,0.7nm,0.3s,baz=18,slow=2.7,SNR=4.8								
CMAR				LR	LR	03 38 37.3			
	comp=Z,1µm,18.4s,baz=60,slow=38								
	comp=Z,3.5nm,0.4s								
DGZ	**Jazzator, Alta**	**40.76**	**307** *i*	P	**P**	**03 20 09.6**	**+0.8**		
DGZ				pmax	pmax				
	comp=Z,49nm,1.0s								
WMQ	**Urumqi**	**40.98**	**298**	⇑P	**P**	**03 20 11.4**	**+0.8**		
WMQ				sP	sP	03 20 28.8	+0.4		
WMQ				pmax	pmax				
	comp=Z,63nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,570nm,4.5s								
WMQ				LR	LR				
	comp=Z,790nm,12.9s								
WMQ				LR	LR				
	comp=Z,830nm,18.9s								
WMQ				LR	LR				
	comp=Z,1µm,20.3s								
WMQ	**Urumqi**	**40.98**	**298**	P	**P**	**03 20 13.4**	**+2.8**		
LSA	**Lhasa**	**41.79**	**276**	P	**P**	**03 20 19.1**	**+1.2**		
LSA				pmax	pmax				
	comp=Z,48nm,1.2s								
LSA	**Lhasa**	**41.79**	**276**	P	**P**	**03 20 19.2**	**+1.3**		
LSA				sP	**sP**	**03 20 35.1**	**-0.6**		
TNA	**Tin City**	**42.33**	**29**	P	**P**	**03 20 19.8**	**-1.4**		
	baz=251								
ZAA0	**Zalesovo Array**	**42.44**	**314**	P	**P**	**03 20 21.9**	**-0.4**		
ZAA0				IAmb	IAmb	03 20 35.9			
	comp=Z,32nm,0.7s								
ZALV	**Zalesovo Beam**	**42.44**	**314**	P	**P**	**03 20 21.7**	**-0.7**		
ZALV	**Zalesovo Beam**	**42.44**	**314**	P	**P**	**03 20 21.9**	**-0.4**		
	comp=Z,12nm,0.5s,baz=93,slow=6.8,SNR=39								
ZALV				PcP	**PcP**	**03 22 15.6**	**+1.0**		
	comp=Z,1.8nm,0.5s,baz=96,slow=1.7,SNR=1.2								
ZALV				LR	LR	03 38 50.9			
	comp=Z,539nm,18.2s,baz=88,slow=37								
	comp=Z,12nm,0.5s								
ZSN	**Zaisan**	**42.57**	**304**	*e*P	**P**	**03 20 24.0**	**+0.5**		
	comp=Z,26nm,0.8s,baz=304								
ZSN	**Zaisan**	**42.57**	**304**	*e*P	**P**	**03 20 24.0**	**+0.5**		
ZSN				pmax	pmax				
	comp=Z,26nm,0.8s								
K13K	**Kusilvak Mount**	**42.76**	**35**	P	**P**	**03 20 27.0**	**+2.3**		
K13K	**Kusilvak Mount**	**42.76**	**35**	P	**P**	**03 20 23.8**	**-1.0**		
	baz=258,SNR=6.5								
F14K	**Arctic Creek**	**42.94**	**29**	P	**P**	**03 20 25.3**	**-0.9**		
	baz=252								
ANM	**Nome**	**43.07**	**31**	P	**P**	**03 20 24.8**	**-2.4**		
	baz=254								
M13K	**Dall Lake**	**43.10**	**37**	P	**P**	**03 20 26.5**	**-1.1**		
	baz=261								
S12K	**Black Hills**	**43.29**	**44**	P	**P**	**03 20 26.7**	**-2.5**		
	baz=267								
J14K	**Nanvaranak Lak**	**43.43**	**34**	P	**P**	**03 20 30.1**	**-0.1**		
	baz=258								
L14K	**Kuka Creek**	**43.57**	**36**	P	**P**	**03 20 34.0**	**+2.7**		
L14K				IAmb	IAmb	03 20 56.5			
	comp=Z,91nm,1.9s								
L14K	**Kuka Creek**	**43.57**	**36**	P	**P**	**03 20 29.1**	**-2.2**		
	baz=260								
F15K	**North Star Dit**	**43.67**	**29**	P	**P**	**03 20 31.8**	**-0.3**		
	baz=254								
G15K	**Niukluk**	**43.73**	**30**	P	**P**	**03 20 32.6**	**0.0**		
	baz=255								
M14K	**Bethel**	**43.83**	**37**	P	**P**	**03 20 33.5**	**+0.1**		
	baz=262,SNR=10.0								
O14K	**Tigyukauivet M**	**43.99**	**39**	P	**P**	**03 20 34.8**	**0.0**		
	baz=264								
C16K	**Lisburne Hills**	**44.19**	**26**	IAmb	IAmb	03 20 49.3			
	comp=Z,31nm,0.8s								
C16K	**Lisburne Hills**	**44.19**	**26**	P	**P**	**03 20 35.4**	**-0.8**		
	baz=251,SNR=12								
L15K	**Ungalak Mounta**	**44.19**	**35**	P	**P**	**03 20 36.8**	**+0.4**		
	baz=261								
KSM	**Kuching**	**44.19**	**227**	P	**P**	**03 20 36.5**	**-0.4**		
KSM				IAmb	IAmb	03 20 38.4			
	comp=Z,23nm,0.7s								
K15K	**Wolf Creek Mou**	**44.27**	**34**	P	**P**	**03 20 35.0**	**-2.0**		
	baz=260								
MK31	**Makanchi Array**	**44.39**	**303**	IAmb	IAmb	03 20 57.7			
	comp=Z,26nm,0.8s								
MK31	**Makanchi Array**	**44.39**	**303** *ce*	P	**P**	**03 20 38.1**	**-0.1**		
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**03 20 38.0**	**-0.2**		
MKAR	**Makanchi Array**	**44.39**	**303**	P	**P**	**03 20 38.1**	**-0.1**		
	comp=Z,13nm,0.6s,baz=87,slow=9.7,SNR=97								
MKAR				LR	LR	03 39 44.0			
	comp=Z,2µm,19.2s,baz=95,slow=37								
	comp=Z,13nm,0.6s								
MKAR	**Makanchi Array**	**44.39**	**303** *i*	P	**P**	**03 20 38.0**	**-0.2**		
MKAR				pmax	pmax				
	comp=Z,18nm,0.8s								
H16K	**Elim**	**44.40**	**31**	P	**P**	**03 20 38.2**	**+0.2**		
	baz=257								
M15K	**Kasigluk River**	**44.44**	**37**	P	**P**	**03 20 38.4**	**+0.1**		
	baz=263,SNR=9.8								
G16K	**Koyuk River**	**44.52**	**30**	P	**P**	**03 20 40.4**	**+1.5**		
	baz=257								
MAKZ	**Makanchi**	**44.60**	**303**	P	**P**	**03 20 39.9**	**0.0**		
MAKZ				IAmb	IAmb	03 20 59.0			
	comp=Z,38nm,0.9s								
MAKZ	**Makanchi**	**44.60**	**303**	P	**P**	**03 20 39.9**	**0.0**		
MAKZ				pmax	pmax				
	comp=Z,38nm,0.9s								
MAKZ	**Makanchi**	**44.60**	**303**	P	**P**	**03 20 39.9**	**0.0**		
MAKZ				pP	**pP**	**03 20 51.4**	**-1.0**		
N15K	**Kwethluk River**	**44.68**	**38**	P	**P**	**03 20 42.6**	**+2.4**		
N15K				IAmb	IAmb	03 20 56.9			
	comp=Z,21nm,0.8s								
N15K	**Kwethluk River**	**44.68**	**38**	P	**P**	**03 20 37.6**	**-2.7**		
	baz=264,SNR=8.6								
CHNA	**Chernabura Isl**	**44.68**	**45**	P	**P**	**03 20 37.5**	**-2.8**		
	baz=270								
S14K	**Fog Glacier**	**44.72**	**43**	P	**P**	**03 20 39.9**	**-0.8**		
	baz=268								
O15K	**Ungalikthiuk R**	**44.72**	**39**	P	**P**	**03 20 39.4**	**-1.2**		
	baz=265								
D17K	**Noatak River**	**44.83**	**27**	P	**P**	**03 20 40.5**	**-0.8**		
	baz=254,SNR=13								
J16K	**Anvik River**	**44.85**	**33**	P	**P**	**03 20 40.5**	**-1.0**		
	baz=260								
I17K	**Unalakleet**	**44.91**	**32**	IAmb	IAmb	03 20 59.5			
	comp=Z,20nm,0.9s								
I17K	**Unalakleet**	**44.91**	**32**	P	**P**	**03 20 42.2**	**+0.2**		
	baz=260,SNR=8.5								
KAPI	**Kappang**	**44.99**	**210**	P	**P**	**03 20 43.0**	**-0.1**		
KAPI	**Kappang**	**44.99**	**210**	LR	LR	03 38 56.1			
	comp=Z,155nm,20.6s,baz=16,slow=35								
KAPI	**Kappang**	**44.99**	**210**	P	**P**	**03 20 43.0**	**-0.1**		
KAPI				pmax	pmax				
	comp=Z,71nm,1.3s								
RDOG	**Red Dog Mine**	**44.99**	**26**	IAmb	IAmb	03 21 00.1			
	comp=Z,31nm,1.0s								
RDOG	**Red Dog Mine**	**44.99**	**26**	P	**P**	**03 20 42.1**	**-0.6**		
	baz=253,SNR=8.2								
C17K	**DeLong Mountai**	**45.02**	**26**	P	**P**	**03 20 42.3**	**-0.6**		
	baz=253,SNR=5.6								
E17K	**Hotham Inlet**	**45.13**	**28**	P	**P**	**03 20 43.5**	**-0.3**		
	baz=256,SNR=13								
L16K	**Owhat River**	**45.15**	**36**	P	**P**	**03 20 45.6**	**+1.7**		
L16K	**Owhat River**	**45.15**	**36**	P	**P**	**03 20 41.9**	**-2.0**		
	baz=263								
F17K	**Baldwin Pennin**	**45.20**	**29**	P	**P**	**03 20 43.7**	**-0.6**		
	baz=251								
PMG	**Port Moresby**	**45.23**	**171**	LR	LR	03 39 21.6			
	comp=Z,157nm,20.3s,baz=8.5,slow=36								
G17K	**Kiwalik Mounta**	**45.24**	**30**	P	**P**	**03 20 44.8**	**+0.2**		
	baz=258,SNR=9.4								
M16K	**Timber Creek**	**45.32**	**37**	IAmb	IAmb	03 21 07.2			
	comp=Z,62nm,1.8s								
M16K	**Timber Creek**	**45.32**	**37**	P	**P**	**03 20 44.5**	**-0.9**		
	baz=264,SNR=7.2								
SEM	**Semipalatinsk**	**45.35**	**309**	*e*P	**P**	**03 20 46.2**	**+0.2**		
	comp=Z,17nm,0.9s,baz=308								
SEM	**Semipalatinsk**	**45.35**	**309**	*e*P	**P**	**03 20 46.2**	**+0.2**		
SEM				pmax	pmax				
	comp=Z,17nm,0.9s								
N16K	**Nishlik Lake**	**45.36**	**37**	P	**P**	**03 20 48.7**	**+3.0**		
	baz=265,SNR=8.4								
H17K	**Granite Mounta**	**45.43**	**31**	P	**P**	**03 20 48.0**	**+1.8**		
H17K	**Granite Mounta**	**45.43**	**31**	P	**P**	**03 20 48.1**	**+2.0**		
	baz=260,SNR=6.9								
J17K	**VABM Dome**	**45.55**	**33**	IAmb	IAmb	03 21 04.7			
	comp=Z,41nm,1.2s								
J17K	**VABM Dome**	**45.55**	**33**	P	**P**	**03 20 48.1**	**+1.0**		
	baz=262,SNR=9.6								
O16K	**Kokwok River B**	**45.64**	**39**	P	**P**	**03 20 48.4**	**+0.6**		
	baz=266								
P16K	**Nushagak River**	**45.66**	**39**	P	**P**	**03 20 46.5**	**-1.5**		
	baz=267								
E18K	**Tukpahlearik C**	**45.67**	**27**	IAmb	IAmb	03 21 07.1			
	comp=Z,18nm,0.8s								
E18K	**Tukpahlearik C**	**45.67**	**27**	P	**P**	**03 20 48.9**	**+0.9**		
	baz=256,SNR=16								
L17K	**Donlin**	**45.75**	**35**	P	**P**	**03 20 49.4**	**+0.7**		
	baz=264,SNR=9.3								
B18K	**Kokolik River**	**45.75**	**25**	P	**P**	**03 20 46.9**	**-1.7**		
	baz=253								
C18K	**Utukok River**	**45.77**	**26**	IAmb	IAmb	03 21 02.2			
	comp=Z,27nm,0.8s								
C18K	**Utukok River**	**45.77**	**26**	P	**P**	**03 20 49.7**	**+0.8**		
	baz=255,SNR=9.7								
K17K	**Iditarod**	**45.81**	**34**	IAmb	IAmb	03 21 04.0			
	comp=Z,26nm,0.8s								
K17K	**Iditarod**	**45.81**	**34**	P	**P**	**03 20 50.2**	**+1.0**		
	baz=263,SNR=23								
F18K	**Selawik**	**45.86**	**29**	P	**P**	**03 20 51.0**	**+1.5**		
	baz=258								
M17K	**Holitna River**	**46.09**	**36**	IAmb	IAmb	03 21 03.1			
	comp=Z,19nm,0.8s								
M17K	**Holitna River**	**46.09**	**36**	P	**P**	**03 20 52.0**	**+0.6**		
	baz=265,SNR=7.1								
H18K	**Honhosa River**	**46.12**	**31**	IAmb	IAmb	03 21 16.1			
	comp=Z,50nm,1.4s								
H18K	**Honhosa River**	**46.12**	**31**	P	**P**	**03 20 51.5**	**-0.1**		
	baz=261,SNR=10.0								
G18K	**Tagagawik**	**46.12**	**30**	IAmb	IAmb	03 21 08.4			
	comp=Z,22nm,0.8s								
G18K	**Tagagawik**	**46.12**	**30**	P	**P**	**03 20 51.5**	**-0.1**		
	baz=260,SNR=26								
N17K	**Nushagak Hills**	**46.15**	**37**	P	**P**	**03 20 54.5**	**+2.7**		
N17K	**Nushagak Hills**	**46.15**	**37**	P	**P**	**03 20 52.2**	**+0.3**		
	baz=266								
A19K	**Wainwright**	**46.23**	**24**	P	**P**	**03 20 52.5**	**+0.1**		
	baz=253								
KURK	**Kurchatov**	**46.35**	**309**	P	**P**	**03 20 53.3**	**-0.3**		
KURK	**Kurchatov**	**46.35**	**309** *ce*	P	**P**	**03 20 53.1**	**-0.5**		
KURK				pmax	pmax				
	comp=Z,72nm,1.3s								
KURK	**Kurchatov**	**46.35**	**309**	P	**P**	**03 20 53.1**	**-0.5**		
KURBB	**Kurchatov Arra**	**46.42**	**309**	P	**P**	**03 20 53.7**	**-0.4**		
	comp=Z,12nm,0.4s,baz=85,slow=8.1,SNR=99								
KURBB				LR	LR	03 40 53.9			
	comp=Z,1µm,20.2s,baz=81,slow=37								
	comp=Z,12nm,0.4s								
KURBB	**Kurchatov Arra**	**46.42**	**309**	P	**P**	**03 20 53.4**	**-0.7**		
C19K	**Lookout Ridge**	**46.44**	**25**	IAmb	IAmb	03 21 11.4			
	comp=Z,42nm,1.1s								
C19K	**Lookout Ridge**	**46.44**	**25**	P	**P**	**03 20 54.4**	**+0.3**		
	baz=256,SNR=8.5								
L18K	**Granite Mounta**	**46.51**	**35**	IAmb	IAmb	03 21 17.8			
	comp=Z,16nm,0.9s								
L18K	**Granite Mounta**	**46.51**	**35**	P	**P**	**03 20 55.6**	**+1.0**		
	baz=265								
J18K	**Innoko

TDK	**Taldyqorghan**	47.35	301	*e*P		P		03 21 01.8	+0.2
TDK				pmax		pmax			
	comp=Z,11nm,0.5s								
L19K	**White Mountain**	47.36	35	IAmb		IAmb	03 21 23.5		
	comp=Z,17nm,1.1s								
L19K	**White Mountain**	47.36	35	P		P		03 21 00.5	-0.9
	baz=267								
D20K	**Etivluk River**	47.41	26	P		P		03 21 00.7	-1.0
	baz=259,SNR=13								
F20K	**Avaraart Lake**	47.47	28	P		P		03 21 03.8	+1.7
	baz=262,SNR=11								
B20K	**Meade River**	47.48	24	P		P		03 21 02.8	+0.7
	baz=257,SNR=8.1								
E20K	**Nigu River**	47.48	27	P		P		03 21 02.5	+0.2
	baz=260,SNR=14								
N19K	**Bonanza Creek**	47.49	37	P		P		03 20 59.9	-2.5
	baz=268								
M19K	**Big River Lodg**	47.57	36	P		P		03 21 04.2	+1.2
	baz=268								
H20K	**Anotleneega Mo**	47.61	31	P		P		03 21 03.4	+0.1
	baz=264,SNR=10								
WUS	**Wushi**	47.62	296	P		P		03 21 05.2	+1.4
EDFI	**Ende, Flores**	47.67	206	P		P		03 21 04.1	-0.2
	comp=Z,36nm,0.6s								
I20K	**Naaghedeneel**	47.72	32	IAmb		IAmb	03 21 21.5		
	comp=Z,30nm,1.1s								
I20K	**Naaghedeneel**	47.72	32	P		P		03 21 05.1	+1.1
	baz=265								
SOEI	**Soe**	47.76	202	P		P		03 21 04.3	-0.8
SOEI	**Soe**	47.76	202	P		P		03 21 03.8	-1.2
	comp=Z,223nm,0.8s,comp=Z,2µm								
SATY	**Saty**	47.77	299	*e*P		P		03 21 05.0	+0.1
	baz=299								
SATY	**Saty**	47.77	299	*e*P		P		03 21 05.0	+0.1
K20K	**Telida**	47.79	34	IAmb		IAmb	03 21 18.9		
	comp=Z,17nm,0.8s								
K20K	**Telida**	47.79	34	P		P		03 21 05.6	+0.9
	baz=266,SNR=15								
J20K	**Nowinta River**	47.81	32	IAmb		IAmb	03 21 22.2		
	comp=Z,30nm,1.3s								
J20K	**Nowinta River**	47.81	32	P		P		03 21 04.9	+0.1
	baz=266,SNR=17								
L20K	**Farewell, AK**	47.83	35	P		P		03 21 04.4	-0.6
	baz=268								
Q19K	**Cape Douglas,**	47.91	40	P		P		03 21 04.9	-0.7
	baz=271								
IPM	**Ipoh**	47.95	239	IAmb		IAmb	03 21 21.5		
	comp=Z,26nm,1.0s								
C21K	**Knifeblade Rid**	48.14	26	P		P		03 21 07.6	+0.3
	baz=261,SNR=10								
OHAK	**Old Harbor**	48.16	42	P		P		03 21 05.6	-1.9
	baz=273								
B21K	**Ikpikpuk River**	48.28	25	P		P		03 21 08.9	+0.6
	baz=260,SNR=16								
G21K	**Allakaket**	48.28	29	IAmb		IAmb	03 21 27.4		
	comp=Z,18nm,0.8s								
G21K	**Allakaket**	48.28	29	P		P		03 21 09.1	+0.8
	baz=264,SNR=18								
E21K	**Killik River**	48.33	27	P		P		03 21 09.3	+0.5
	baz=262								
F21K	**Alatna River**	48.36	28	IAmb		IAmb	03 21 27.6		
	comp=Z,13nm,0.8s								
F21K	**Alatna River**	48.36	28	P		P		03 21 08.0	-1.0
	baz=264,SNR=13								
BATI	**Baumata**	48.37	203	LR		LR	03 40 46.0		
	comp=Z,463nm,21.9s,baz=83,slow=35								
BATI	**Baumata**	48.37	203	P		P		03 21 09.2	-0.4
	comp=Z,231nm,0.7s								
A22K	**Sinclair Lake**	48.40	23	P		P		03 21 08.1	-1.1
	baz=259								
O20K	**Slope Mountain**	48.41	38	P		P		03 21 07.6	-1.9
	baz=271								
H21K	**Melozitna Rive**	48.49	31	P		P		03 21 10.4	+0.4
	baz=266,SNR=6.8								
KDAK	**Kodiak Island**	48.51	41	P		P		03 21 08.6	-1.6
	baz=273								
KDAK	**Kodiak Island**	48.51	41	LR		LR	03 41 15.9		
	comp=Z,640nm,22.0s,baz=266,slow=36								
KDAK	**Kodiak Island**	48.51	41	P		P		03 21 11.1	+0.8
KDAK				pP		pP		03 21 22.7	-0.1
CHKK	**Chushkaly**	48.59	300	*e*P		P		03 21 10.9	-0.3
	baz=300								
CHKK	**Chushkaly**	48.59	300	*e*P		P		03 21 10.8	-0.4
CHUM	**Lake Minchumin**	48.60	33	P		P		03 21 11.5	+0.7
	baz=268,SNR=7.6								
PPLA	**Purkeypile**	48.62	34	P		P		03 21 10.2	-1.0
	baz=269								
CAST	**Castle Rocks**	48.68	34	IAmb		IAmb	03 21 33.8		
	comp=Z,26nm,1.4s								
CAST	**Castle Rocks**	48.68	34	P		P		03 21 09.2	-2.4
	baz=268,SNR=7.3								
MDOK	**Medeo**	48.71	299	*e*P		P		03 21 12.6	+0.3
	baz=299								
MDOK	**Medeo**	48.71	299	*e*P		P		03 21 12.5	+0.3
AAA	**Alma-Ata**	48.79	299	*e*P		P		03 21 13.2	+0.4
	baz=299								
AAA	**Alma-Ata**	48.79	299	*e*P		P		03 21 13.2	+0.4
B22K	**Teshekpuk Lake**	48.80	24	P		P		03 21 11.7	-0.6
	baz=261,SNR=9.4								
I21K	**Tanana**	48.80	31	P		P		03 21 09.5	-2.9
	baz=267								
TNSS	**Tian-Shan**	48.81	299	*e*P		P		03 21 13.3	0.0
	baz=299								
TNSS	**Tian-Shan**	48.81	299	*e*P		P		03 21 13.3	0.0
D22K	**Ayikyak River**	48.85	26	P		P		03 21 12.4	-0.4
	baz=263,SNR=24								
F22K	**John River**	48.89	28	P		P		03 21 12.4	-0.7
	baz=265								
SKT	**Skwentna**	48.92	35	P		P		03 21 14.0	+0.6
	baz=270								
KUU	**Kurty**	49.04	300	*e*P		P		03 21 14.8	+0.1
	comp=Z,26nm,1.0s,baz=300								
KUU	**Kurty**	49.04	300	*e*P		P		03 21 14.7	+0.1
KUU				pmax		pmax			
	comp=Z,26nm,1.0s								
MTN	**Manton Dam**	49.08	192	P		P		03 21 15.6	+0.6
H22K	**Ishtalitna Cre**	49.09	30	P		P		03 21 15.4	+0.7
	baz=267								
G22K	**Bettles**	49.10	29	P		P		03 21 14.3	-0.4
	baz=266,SNR=13								
BPAW	**Bear Paw Mtn.**	49.19	33	P		P		03 21 15.8	+0.3
	baz=269								
KTH	**Kantishna Hill**	49.21	33	IAmb		IAmb	03 21 29.8		
	comp=Z,17nm,0.9s								
PLAI	**Plampang**	49.25	211	P		P		03 21 14.2	-2.2
	comp=Z,66nm,1.6s								
MLY	**Manley**	49.32	31	IAmb		IAmb	03 21 36.1		
	comp=Z,13nm,0.8s								
MLY	**Manley**	49.32	31	P		P		03 21 15.9	-0.6
	baz=268,SNR=11								
COEN	**Coen**	49.39	177	P		P		03 21 19.2	+1.8
BASI	**Baing, Sumba**	49.43	206	P		P		03 21 17.7	0.0
	comp=Z,285nm,0.9s								
TRF	**Thorofare Moun**	49.49	33	P		P		03 21 16.3	-1.7
	baz=270								
D23K	**Nanushuk River**	49.58	26	P		P		03 21 16.7	-1.6
	baz=265								
M22K	**Willow**	49.59	36	P		P		03 21 19.1	+0.6
	baz=272								
COLD	**Coldfoot**	49.63	29	P		P		03 21 18.3	-0.4
	baz=267								
G23K	**Bananza Creek**	49.68	29	IAmb		IAmb	03 21 38.0		
	comp=Z,12nm,0.9s								
G23K	**Bananza Creek**	49.68	29	P		P		03 21 19.2	+0.1
	baz=267,SNR=7.5								
C23K	**Itkillik River**	49.69	25	P		P		03 21 19.4	+0.3
	baz=264,SNR=15								
SRBI	**Singaraja**	49.70	214	P		P		03 21 19.4	-0.4
	comp=Z,66nm,0.7s								
RC01	**Rabbit Creek A**	49.80	37	P		P		03 21 19.5	-0.6
	baz=272								
H23K	**Yukon River**	49.84	30	IAmb		IAmb	03 21 45.0		
	comp=Z,31nm,1.0s								
H23K	**Yukon River**	49.84	30	P		P		03 21 21.1	+0.7
	baz=268,SNR=20								
I23K	**Minto, Yukon-K**	49.91	31	IAmb		IAmb	03 21 45.7		
	comp=Z,35nm,1.4s								
I23K	**Minto, Yukon-K**	49.91	31	P		P		03 21 21.8	+1.0
	baz=269,SNR=9.3								
TOLK	**Toolik Lake Re**	49.96	27	IAmb		IAmb	03 21 51.2		
	comp=Z,17nm,0.8s								
TOLK	**Toolik Lake Re**	49.96	27	P		P		03 21 21.4	+0.1
	baz=266,SNR=11								
GRJI	**Gresik**	49.99	218	P		P		03 21 22.0	0.0
	comp=Z,259nm,1.0s								
SEW	**Seward**	49.99	38	P		P		03 21 21.5	0.0
	baz=273								
NEA2	**Nenana**	50.03	32	P		P		03 21 21.8	+0.1
	baz=270,SNR=11								
MCK	**McKinley**	50.09	33	P		P		03 21 20.8	-1.5
	baz=271								
RND	**Reindeer**	50.14	34	IAmb		IAmb	03 21 49.5		
	comp=Z,22nm,1.0s								
GHO	**Glory Hole Cre**	50.16	36	IAmb		IAmb	03 21 47.9		
	comp=Z,21nm,0.8s								
BRZS	**Berezniki**	50.22	309	*e*P		P		03 21 23.0	-0.5
	comp=Z,11nm,0.8s,baz=309								
BRZS	**Berezniki**	50.22	309	*e*P		P		03 21 23.0	-0.5
BRZS				pmax		pmax			
	comp=Z,11nm,0.8s								
D24K	**Happy Valley**	50.26	26	P		P		03 21 22.8	-0.7
	baz=266,SNR=19								
WAT1	**Susitna Watana**	50.29	34	P		P		03 21 22.9	-0.9
	baz=272								
E24K	**Your Creek**	50.33	27	IAmb		IAmb	03 22 01.6		
	comp=Z,20nm,0.9s								
E24K	**Your Creek**	50.33	27	P		P		03 21 23.3	-0.8
	baz=268,SNR=16								
C24K	**Franklin Bluff**	50.34	25	P		P		03 21 23.1	-0.9
	baz=266								
SGDS	**Sogindy**	50.35	300	*e*P		P		03 21 24.7	0.0
	baz=300								
SGDS	**Sogindy**	50.35	300	*e*P		P		03 21 24.6	0.0
BTLS	**Baital**	50.36	302	*e*P		P		03 21 24.5	-0.2
	comp=Z,16nm,0.8s,baz=302								
BTLS	**Baital**	50.36	302	*e*P		P		03 21 24.4	-0.2
BTLS				pmax		pmax			
	comp=Z,16nm,0.8s								
KNK	**Knik Glacier**	50.40	36	IAmb		IAmb	03 21 45.9		
	comp=Z,18nm,0.8s								
KNK	**Knik Glacier**	50.40	36	P		P		03 21 23.4	-1.3
	baz=273								
SML	**Sawmill**	50.44	36	IAmb		IAmb	03 21 39.1		
	comp=Z,26nm,0.8s								
SML	**Sawmill**	50.44	36	P		P		03 21 25.2	+0.2
	baz=273								
KSH	**Kashi**	50.46	295	P		P		03 21 29.3	+3.7
KSH				pP		sP	03 21 42.1	-1.5	
KSH				pmax		pmax			
	comp=Z,13nm,1.6s								
KSH				pmax		pmax			
	comp=Z,330nm,7.0s								
KSH				LR		LR			
	comp=Z,930nm,20.3s								
KSH				LR		LR			
	comp=Z,930nm,20.6s								
KSH				LR		LR			
	comp=Z,1µm,22.5s								
H24K	**Noodor Dome**	50.53	30	IAmb		IAmb	03 21 50.0		
	comp=Z,26nm,1.0s								
H24K	**Noodor Dome**	50.53	30	P		P		03 21 25.3	-0.3
	baz=270,SNR=17								
F24K	**Squaw Lake**	50.54	28	P		P		03 21 25.8	+0.1
	baz=269								
COLA	**College**	50.55	32	P		P		03 21 27.5	+1.8
COLA	**College**	50.55	32	P		P		03 21 25.7	+0.1
	baz=271								
COLA	**College**	50.55	32	*i* P		P		03 21 25.7	+0.1
COLA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
COLA	**College**	50.55	32	P		P		03 21 27.1	+1.4
COLA				sP		sP		03 21 43.6	0.0
AAK	**Ala-Archa**	50.66	299	P		P		03 21 28.4	+1.3
AAK				IAmb		IAmb	03 21 54.5		
	comp=Z,32nm,1.1s								
AAK	**Ala-Archa**	50.66	299	LR		LR	03 44 04.1		
	comp=Z,2µm,20.5s,baz=82,slow=37								
AAK	**Ala-Archa**	50.66	299	*ce*P		P		03 21 27.2	+0.1
AAK				pmax		pmax			
	comp=Z,13nm,0.8s								
AAK	**Ala-Archa**	50.66	299	P		P		03 21 28.1	+1.1
AAK				pP		pP		03 21 40.0	+0.2
WAT6	**Susitna Watana**	50.68	35	P		P		03 21 26.1	-0.8
	baz=273								
G24K	**Hadweenzic Riv**	50.69	29	IAmb		IAmb	03 21 42.7		
	comp=Z,31nm,1.2s								
G24K	**Hadweenzic Riv**	50.69	29	P		P		03 21 26.9	+0.1
	baz=270,SNR=14								
POKR	**Poker Flat Res**	50.72	31	P		P		03 21 28.3	+1.3
	baz=271,SNR=8.7								
M23K	**Glacier View**	50.73	36	P		P		03 21 27.4	+0.2
	baz=274								
DHY	**Denali Highway**	50.82	34	IAmb		IAmb	03 22 09.4		
	comp=Z,20nm,1.3s								
DHY	**Denali Highway**	50.82	34	P		P		03 21 28.1	+0.1
	baz=273								
SCM	**Sheep Creek Mo**	50.91	36	IAmb		IAmb	03 21 50.8		
	comp=Z,29nm,1.1s								
SCM	**Sheep Creek Mo**	50.91	36	P		P		03 21 29.1	+0.5
	baz=274								
BKNI	**Bangkinang**	50.94	235	P		P		03 21 30.3	+1.0
	comp=Z,123nm,0.4s,comp=Z,5µm								
HDA	**Harding Lake**	50.95	32	IAmb		IAmb	03 21 52.2		
	comp=Z,27nm,1.0s								
HDA	**Harding Lake**	50.95	32	P		P		03 21 30.2	+1.5
	baz=272,SNR=12								
IL31		50.96	32	IAmb		IAmb	03 21 47.3		
	comp=Z,29nm,0.9s								
ILAR	**Eielson Array**	50.96	32	P		P		03 21 28.7	-0.2
ILAR	**Eielson Array**	50.96	32	P		P		03 21 29.4	+0.6
	comp=Z,11nm,0.8s,baz=267,slow=5.8,SNR=111								
ILAR				PcP		PcP		03 22 45.4	+0.9
	comp=Z,3.0nm,0.7s,baz=254,slow=3.0,SNR=0.8								
ILAR				LR		LR	03 44 08.2		
	comp=Z,188nm,21.5s,baz=255,slow=37								
	comp=Z,11nm,0.8s								
P23K	**Montague Islan**	51.03	38	P		P		03 21 31.4	+2.0
	baz=275								
BVA0	**Borovoye Array**	51.09	313	*i* P		P		03 21 29.1	-0.9
BVAR	**Borovoye Array**	51.09	313	P		P		03 21 29.7	-0.3
	comp=Z,7.3nm,0.5s,baz=81,slow=8.3,SNR=35								
BVAR				LR		LR	03 44 11.5		
	comp=Z,692nm,19.3s,baz=76,slow=37								
	comp=Z,7.3nm,0.5s								
GLI	**Glacier Island**	51.10	37	IAmb		IAmb	03 21 54.9		
	comp=Z,15nm,0.9s								
GLI	**Glacier Island**	51.10	37	P		P		03 21 29.5	-0.4
	baz=275								
D25K	**Kavik River**	51.14	26	IAmb		IAmb	03 21 45.7		
	comp=Z,18nm,0.7s								
D25K	**Kavik River**	51.14	26	P		P		03 21 30.9	+0.7
	baz=269,SNR=30								
BRVK	**Borovoye**	51.15	313	P		P		03 21 30.4	0.0
BRVK				IAmb		IAmb	03 21 50.5		
	comp=Z,21nm,0.8s								
BRVK	**Borovoye**	51.15	313	*ce*P		P		03 21 30.6	+0.2
BRVK				pmax		pmax			
	comp=Z,41nm,1.7s								
BRVK	**Borovoye**	51.15	313	P		P		03 21 30.3	0.0
G25K	**Bearman Lake**	51.23	29	P		P		03 21 32.2	+1.4
	baz=271,SNR=8.0								
PWJI	**Pagerwoji**	51.27	218	P		P		03 21 29.8	-1.9
	comp=Z,172nm,0.7s								
H25L	**Birch Creek**	51.36	30	P		P		03 21 33.1	+1.3
	baz=272,SNR=12								
F25K	**Christian Rive**	51.40	28	P		P		03 21 33.4	+1.3
	baz=271,SNR=18								
E25K	**Arctic Village**	51.42	27	IAmb		IAmb	03 22 03.5		
	comp=Z,23nm,0.9s								
E25K	**Arctic Village**	51.42	27	P		P		03 21 33.6	+1.3
	baz=270,SNR=16								
M24K	**Tolsona, Glenn**	51.44	35	P		P		03 21 33.0	+0.5
	baz=275								
K24K	**Donnelly Dome**	51.49	33	P		P		03 21 32.8	0.0
	baz=274								
PRP	**Porcupine Dome**	51.51	31	IAmb		IAmb	03 21 51.9		
	comp=Z,15nm,0.8s								
PRP	**Porcupine Dome**	51.51	31	P		P		03 21 33.6	+0.5
	baz=272,SNR=9.4								
KLU	**Klutina**	51.61	36	IAmb		IAmb	03 21 60.0		
	comp=Z,13nm,0.8s								
KLU	**Klutina**	51.61	36	P		P		03 21 34.9	+1.0
	baz=275,SNR=9.4								
Q23K	**Middleton Isla**	51.62	39	P		P		03 21 31.9	-1.8
	baz=277								
J25K	**Salcha River,**	51.62	32	P		P		03 21 33.5	-0.3
	baz=273								
C26K	**Camden Bay**	51.66	25	P		P		03 21 33.9	0.0
	baz=269								
PAX	**Paxson**	51.69	34	P		P		03 21 34.3	-0.1
	baz=274								
EYAK	**Cordova Ski Ar**	51.79	37	P		P		03 21 35.3	+0.3
	baz=276								
BMAR	**Burnt Mountain**	51.81	28	P		P		03 21 37.5	+2.3
HARP	**HAARP**	51.89	35	P		P		03 21 36.3	+0.5
	baz=275								
F26K	**Sheenjek River**	51.97	28	P		P		03 21 37.4	+1.0
	baz=272,SNR=30								
C27K	**Jago River**	52.08	25	P		P		03 21 37.6	+0.5
	baz=271,SNR=14								
ARSB	**Arslanbob**	52.11	298	IAmb		IAmb	03 22 08.4		
	comp=Z,27nm,1.2s								
G26K	**Porcupine Rive**	52.14	29	P		P		03 21 38.0	+0.4
	baz=273,SNR=12								
N25K	**Chitina, Valde**	52.23	36	P		P		03 21 39.2	+0.7
	baz=276,SNR=5.7								
SCRK	**Sand Creek**	52.27	33	P		P		03 21 39.9	+1.1
SCRK				IAmb		IAmb	03 22 02.7		
	comp=Z,32nm,1.2s								
SCRK	**Sand Creek**	52.27	33	P		P		03 21 40.5	+1.7
	baz=275,SNR=14								
BMRM	**Bremner River**	52.30	36	P		P		03 21 40.0	+1.0
	baz=277,SNR=8.4								
LEM	**Lembang**	52.48	223	LR		LR	03 45 20.7		
	comp=Z,265nm,20.1s,baz=12,slow=38								
MENT	**Mentasta**	52.49	34	IAmb		IAmb	03 22 04.8		
	comp=Z,24nm,1.1s								
OHH	**Osh**	52.49	297	P		P		03 21 40.6	-0.1
KAIM	**Kayak Island**	52.53	38	IAmb		IAmb	03 21 44.7		
	comp=Z,24nm,0.7s								
KAIM	**Kayak Island**	52.53	38	P		P		03 21 40.7	+0.2
	baz=278								
GSI	**Gunungsitoli**	52.61	239	P		P		03 21 40.6	-1.1
L26K	**Log Cabin Wild**	52.65	34	IAmb		IAmb	03 22 08.2		
	comp=Z,19nm,0.8s								
L26K	**Log Cabin Wild**	52.65	34	P		P		03 21 42.0	+0.5
	baz=276,SNR=9.0								
DZA	**Taraz**	52.82	300	*e*P		P		03 21 43.2	+0.1
	comp=Z,11nm,0.5s,baz=300								
DZA	**Taraz**	52.82	300	*e*P		P		03 21 43.1	+0.1
DZA				pmax		pmax			
	comp=Z,11nm,0.5s								
M26K	**Nabesna, AK**	52.89	35	IAmb		IAmb	03 22 08.3		
	comp=Z,36nm,1.4s								
M26K	**Nabesna, AK**	52.89	35	P		P		03 21 43.7	+0.5
	baz=277								
E27K	**Coleen River**	52.91	27	IAmb		IAmb	03 22 07.8		
	comp=Z,33nm,1.2s								
E27K	**Coleen River**	52.91	27	P		P		03 21 43.1	-0.2
	baz=274,SNR=16								
MCARA	**McCarthy VSAT**	53.01	36	IAmb		IAmb	03 22 22.9		
	comp=Z,22nm,0.8s								
MCARA	**McCarthy VSAT**	53.01	36	P		P		03 21 44.3	+0.2
	baz=278,SNR=6.8								
D27M	**Malcolm River**	53.06	26	IAmb		IAmb	03 22 02.8		
	comp=Z,16nm,0.8s								
D27M	**Malcolm River**	53.06	26	P		P		03 21 44.3	-0.2
	baz=274								
H27K	**Steamboat Moun**	53.10	30	P		P		03 21 45.3	+0.6
	baz=275,SNR=14								
K27K	**Chicken**	53.10	32	P		P		03 21 45.0	+0.3
	baz=277								
I27K	**Kandik River**	53.12	30	P		P		03 21 44.9	0.0
	baz=276,SNR=9.6								
WAX	**Waxell Ridge**	53.23	37	IAmb		IAmb	03 21 49.6		
	comp=Z,17nm,0.6s								
L27K	**Beaver Creek,**	53.34	34	IAmb		IAmb	03 22 12.3		
	comp=Z,15nm,0.9s								
L27K	**Beaver Creek,**	53.34	34	P		P		03 21 47.3	+0.8
	baz=278,SNR=13								
KK31	**Karatay Array**	53.34	301	IAmb		IAmb	03 21 57.2		
	comp=Z,31nm,1.2s								
KK31	**Karatay Array**	53.34	301	P		P		03 21 47.2	+0.4
KKAR	**Karatay Array**	53.34	301	P		P		03 21 46.5	-0.3
KKAR	**Karatay Array**	53.34	301	IAmb		IAmb	03 21 57.2		
	comp=Z,40nm,1.2s								
KKAR	**Karatay Array**	53.34	301	P		P		03 21 46.5	-0.3
BCAR	**Beaver Creek A**	53.35	34	P		P		03 21 48.4	+1.8
EGAK	**Eagle**	53.41	31	IAmb		IAmb	03 22 33.4		
	comp=Z,19nm,1.1s								
EGAK	**Eagle**	53.41	31	P		P		03 21 49.1	+2.1
	baz=277								
M27K	**Edge Creek, AK**	53.41	35	IAmb		IAmb	03 22 06.7		
	comp=Z,14nm,0.8s								
M27K	**Edge Creek, AK**	53.41	35	P		P		03 21 47.9	+0.7
	baz=278,SNR=7.6								
ISLE	**Juniper Island**	53.45	37	IAmb		IAmb	03 22 07.0		
	comp=Z,13nm,0.8s								
F28M	**Old Crow**	53.61	28	IAmb		IAmb	03 22 06.7		
	comp=Z,17nm,0.9s								
F28M	**Old Crow**	53.61	28	P		P		03 21 49.4	+1.0
	baz=276,SNR=18								
E28M	**Babbage River**	53.63	27	IAmb		IAmb	03 22 19.1		
	comp=Z,13nm,0.8s								
E28M	**Babbage River**	53.63	27	P		P		03 21 50.8	+2.2
	baz=275,SNR=14								
BRLS	**Borolday**	53.83	301	*e*P		P		03 21 51.8	+1.4
	baz=301								
BRLS	**Borolday**	53.83	301	*e*P		P		03 21 51.8	+1.4
I28M	**Miner Creek**	53.84	31	P		P		03 21 51.0	+0.8
	baz=278,SNR=14								
D28M	**Stokes Point**	53.85	26	P		P		03 21 50.3	+0.2
	baz=276								
CTG	**Chitna Glacier**	53.88	36	P		P		03 21 51.6	+0.9
	baz=280,SNR=6.6								
IUG	**Iuzhnay**	53.97	300	*e*P		P		03 21 51.9	+0.3
	comp=Z,19nm,1.0s,baz=300								
IUG	**Iuzhnay**	53.97	300	*e*P		P		03 21 51.8	+0.3
IUG				pmax		pmax			
	comp=Z,19nm,1.0s								
BTK	**Batken**	54.07	297	IAmb		IAmb	03 22 16.1		
	comp=Z,30nm,1.1s								
YUK3	**Moose Creek**	54.16	35	P		P		03 21 54.3	+1.6
	baz=280,SNR=11								
CHM	**Chimkent**	54.21	300	*e*P		P		03 21 53.5	+0.2
	comp=Z,

HYT	**Haines Junctio**	**55.74**	**36**	P		**P**		**03 22 06.6**	**+2.4**
	baz=283,SNR=8.1									
N30M	**Aishikik Lake**	**55.80**	**35**	P		**P**		**03 22 07.0**	**+2.5**
	baz=283									
SVE	**Sverdlovsk**	**55.81**	**319**	*de*P		**P**		**03 22 04.8**	**+0.3**
SVE				*e*S		**S**		**03 29 48.2**	**+0.1**
SVE				pmax	pmax					
	comp=Z,52nm,1.5s									
SVE				MLR	MLR					
	comp=Z,1µm,17.0s									
G31M	**Satah River**	**55.86**	**28**	IAmb	IAmb		03 22 23.2			
	comp=Z,20nm,1.0s									
G31M	**Satah River**	**55.86**	**28**	P		**P**		**03 22 05.4**	**+0.7**
	baz=281,SNR=11									
SIMJ	**Simiganj**	**55.87**	**296**	P		**P**		**03 22 05.2**	**-0.2**
SIMJ	**Simiganj**	**55.87**	**296**	P		**P**		**03 22 05.1**	**-0.3**
INK	**Inuvik**	**55.87**	**27**	IAmb	IAmb		03 22 29.9			
	comp=Z,18nm,0.9s									
INK	**Inuvik**	**55.87**	**27**	P		**P**		**03 22 06.1**	**+1.4**
	baz=281,SNR=12									
INK	**Inuvik**	**55.87**	**27**	LR	LR		03 48 10.9			
	comp=Z,160nm,20.6s,baz=190,slow=38									
P29M	**Windy Craggy**	**55.90**	**37**	P		**P**		**03 22 06.5**	**+1.3**
	baz=283,SNR=8.9									
F31M	**Tsiigehtchic**	**55.96**	**28**	IAmb	IAmb		03 22 30.1			
	comp=Z,37nm,1.2s									
H31M	**Peel River**	**56.06**	**30**	P		**P**		**03 22 08.1**	**+1.9**
	baz=282,SNR=15									
P30M	**Million Dollar**	**56.17**	**37**	P		**P**		**03 22 07.5**	**+0.4**
	baz=284									
N31M	**Braeburn, Yuko**	**56.41**	**35**	IAmb	IAmb		03 23 01.8			
	comp=Z,20nm,1.1s									
N31M	**Braeburn, Yuko**	**56.41**	**35**	P		**P**		**03 22 08.0**	**-0.7**
	baz=284,SNR=6.2									
O30N	**Mendenhall**	**56.43**	**36**	P		**P**		**03 22 10.3**	**+1.3**
	baz=284									
PLBC	**Pleasant Camp**	**56.62**	**37**	P		**P**		**03 22 11.6**	**+1.4**
	baz=284,SNR=7.4									
M31M	**Drury Creek, Y**	**56.87**	**34**	IAmb	IAmb		03 22 29.6			
	comp=Z,15nm,1.1s									
M31M	**Drury Creek, Y**	**56.87**	**34**	P		**P**		**03 22 12.8**	**+0.8**
	baz=284									
ARU	**Arti**	**57.03**	**319**	P		**P**		**03 22 12.7**	**-0.5**
ARU	**Arti**	**57.03**	**319**	LR	LR		03 48 59.6			
	comp=Z,805nm,18.7s,baz=70,slow=38									
ARU	**Arti**	**57.03**	**319**	*c i*P		**P**		**03 22 13.0**	**-0.2**
ARU								03 23 02.9		
ARU								03 24 18.5		
ARU				S		**S**		**03 30 08.2**	**+4.0**
ARU				SS		**SS**		**03 33 51.6**	**-1.1**
ARU				pmax	pmax					
	comp=Z,103nm,1.9s									
ARU				MLR	MLR					
	comp=Z,941nm,16.0s									
ARU	**Arti**	**57.03**	**319**	P		**P**		**03 22 12.9**	**-0.2**
ARU	**Arti**	**57.03**	**319**	P		**P**		**03 22 12.6**	**-0.5**
	comp=Z,72nm,1.4s,comp=Z,948nm									
WHY	**Whitehorse**	**57.03**	**36**	IAmb	IAmb		03 22 38.0			
	comp=Z,31nm,1.5s									
WHY	**Whitehorse**	**57.03**	**36**	P		**P**		**03 22 14.2**	**+0.9**
	baz=285,SNR=14									
FARO	**Faro, Yukon**	**57.34**	**34**	IAmb	IAmb		03 22 39.4			
	comp=Z,12nm,0.9s									
FARO	**Faro, Yukon**	**57.34**	**34**	P		**P**		**03 22 17.5**	**+2.2**
	baz=285,SNR=8.3									
KBL	**Kabul**	**57.39**	**292**	P		**P**		**03 22 16.8**	**+0.5**
KBL				IAmb	IAmb		03 22 35.7			
	comp=Z,24nm,1.0s									
KBL	**Kabul**	**57.39**	**292**	P		**P**		**03 22 16.8**	**+0.5**
KBL				pmax	pmax					
	comp=Z,24nm,1.0s									
HYB	**Hyderabad**	**57.61**	**269**	*e*P		**P**		**03 22 17.7**	**-0.2**
HYB				IVmB_BB			03 22 35.2			
	comp=Z,563nm,1.8s									
HYB				IVMs_BB	IVMs_BB		03 49 51.6			
	comp=Z,332nm,20.8s									
A36M	**Sachs Harbour**	**57.75**	**22**	P		**P**		**03 22 20.0**	**+2.0**
	baz=286,SNR=30									
N32M	**Quiet Lake**	**57.75**	**35**	P		**P**		**03 22 19.0**	**+0.7**
	baz=286									
R32K	**Eaglecrest**	**57.87**	**38**	P		**P**		**03 22 19.2**	**+0.1**
	baz=287									
P32M	**Atlin**	**57.89**	**37**	IAmb	IAmb		03 22 44.5			
	comp=Z,18nm,1.2s									
P32M	**Atlin**	**57.89**	**37**	P		**P**		**03 22 20.2**	**+1.0**
	baz=286									
P33M	**Teslin, Yukon**	**58.14**	**36**	IAmb	IAmb		03 22 45.7			
	comp=Z,29nm,1.3s									
P33M	**Teslin, Yukon**	**58.14**	**36**	P		**P**		**03 22 20.8**	**-0.2**
	baz=287,SNR=7.6									
MMPY	**Sheldon Lake,**	**58.16**	**33**	P		**P**		**03 22 21.6**	**+0.4**
	baz=286,SNR=11									
ABKAR	**Akbulak array**	**58.40**	**311**	P		**P**		**03 22 22.6**	**-0.3**
ABKAR	**Akbulak array**	**58.40**	**311**	IAmb	IAmb		03 22 24.1			
	comp=Z,58nm,1.4s									
C36M	**Paulatuk**	**58.92**	**24**	IAmb	IAmb		03 22 41.5			
	comp=Z,19nm,0.8s									
C36M	**Paulatuk**	**58.92**	**24**	P		**P**		**03 22 27.2**	**+1.1**
	baz=289,SNR=26									
AKTO	**Aktyubinsk**	**59.18**	**312**	LR	LR		03 49 09.7			
	comp=Z,898nm,19.0s,baz=100,slow=37									
R33M	**Jennings River**	**59.28**	**37**	IAmb	IAmb		03 22 54.8			
	comp=Z,16nm,1.2s									
R33M	**Jennings River**	**59.28**	**37**	P		**P**		**03 22 28.4**	**-0.6**
	baz=289									
AS31	**Alice Springs**	**59.34**	**187**	IAmb	IAmb		03 22 41.3			
	comp=Z,7.1nm,0.5s									
ASAR	**Alice Springs**	**59.35**	**187**	P		**P**		**03 22 29.3**	**-0.4**
ASAR	**Alice Springs**	**59.35**	**187**	P		**P**		**03 22 30.2**	**+0.5**
	comp=Z,8.5nm,0.5s,baz=16,slow=11,SNR=56									
ASAR				LR	LR		03 45 36.2			
	comp=Z,238nm,21.0s,baz=14,slow=33									
ASAR				PKP2bc			03 52 11.9			
	comp=Z,1.2nm,1.0s,baz=180,slow=3.3,SNR=5.1									
	comp=Z,8.5nm,0.5s									
S34M	**Telegraph Cree**	**59.69**	**38**	IAmb	IAmb		03 23 14.3			
	comp=Z,32nm,1.6s									
S34M	**Telegraph Cree**	**59.69**	**38**	P		**P**		**03 22 33.3**	**+1.6**
	baz=289									
TGTN	**Hyland Airport**	**59.84**	**34**	P		**P**		**03 22 34.1**	**+1.3**
	baz=290,SNR=9.3									
DLBC	**Dease Lake**	**60.06**	**37**	P		**P**		**03 22 37.0**	**+2.7**
DLBC				IAmb	IAmb		03 22 58.7			
	comp=Z,18nm,1.3s									
DLBC	**Dease Lake**	**60.06**	**37**	P		**P**		**03 22 35.9**	**+1.5**
	baz=290									
DLBC	**Dease Lake**	**60.06**	**37**	LR	LR		03 49 00.8			
	comp=Z,85nm,21.1s,baz=294,slow=36									
WTLY	**Watson Lake, Y**	**60.08**	**35**	P		**P**		**03 22 36.8**	**+2.4**
PSA00	**Pilbara Seismi**	**60.25**	**202**	P		**P**		**03 22 36.2**	**+0.3**
T35M	**Bob Quinn**	**60.46**	**39**	IAmb	IAmb		03 23 20.6			
	comp=Z,13nm,0.9s									
T35M	**Bob Quinn**	**60.46**	**39**	P		**P**		**03 22 38.3**	**+1.2**
	baz=290									
KIRV	**Kirov**	**61.01**	**323**	LR	LR		03 51 05.7			
	comp=Z,1µm,19.5s,baz=68,slow=38									
KIRV	**Kirov**	**61.01**	**323**	*ce*P		**P**		**03 22 40.7**	**0.0**
WRGLY	**Wrigley**	**61.32**	**31**	P		**P**		**03 22 45.0**	**+2.3**
ALE	**Alert**	**61.52**	**3**	P		**P**		**03 22 44.4**	**+0.6**
PALK	**Pallekele**	**61.52**	**258**	LR	LR		03 50 12.3			
	comp=Z,596nm,21.9s,baz=151,slow=37									
EUNU	**Eureka**	**61.63**	**8**	P		**P**		**03 22 45.3**	**+0.6**
SPITS	**Spitsbergen Ar**	**61.77**	**349**	P		**P**		**03 22 45.0**	**-0.6**
	comp=Z,9.9nm,0.9s,baz=132,slow=5.7,SNR=1.9									
SPITS				LR	LR		03 52 48.9			
	comp=Z,257nm,18.7s,baz=12,slow=39									
	comp=Z,9.9nm,0.9s									
SPITS	**Spitsbergen Ar**	**61.77**	**349**	P		**P**		**03 22 45.0**	**-0.6**
DZM	**Mont Dzumac**	**62.37**	**153**	P		**P**		**03 22 54.4**	**+4.1**
DZM	**Mont Dzumac**	**62.37**	**153**	LR	LR		03 50 10.8			
	comp=Z,390nm,19.7s,baz=338,slow=36									
NOR	**Nord**	**62.39**	**356**	*i* P		**P**		**03 22 50.8**	**+1.1**
NOR				IAmb	IAmb		03 22 59.6			
	comp=Z,2.1nm,0.7s									
HRA	**Herat**	**62.56**	**294**	P		**P**		**03 22 53.6**	**+1.8**
HRA				IAmb	IAmb		03 23 11.3			
	comp=Z,16nm,1.0s									
LVZ	**Lovozero**	**63.14**	**336**	P		**P**		**03 22 54.8**	**-0.1**
VADS	**Vadso**	**63.65**	**339**	*e*P		**P**		**03 22 58.7**	**+0.5**
APA	**Apatity**	**63.72**	**336**	⇓ *i*P		**P**		**03 22 56.9**	**-1.7**
APA				pmax	pmax					
	comp=Z,9.0nm,0.8s									
GEYT	**Alibeck**	**64.01**	**299**	P		**P**		**03 23 01.8**	**+0.6**
GEYT				IAmb	IAmb		03 23 21.9			
	comp=Z,20nm,1.1s									
GEYT	**Alibeck**	**64.01**	**299**	P		**P**		**03 23 01.4**	**+0.3**
	comp=Z,5.9nm,1.0s,baz=83,slow=14,SNR=8.2									
GEYT				LR			03 52 44.3			
	comp=Z,731nm,19.5s,baz=81,slow=38									
	comp=Z,5.9nm,1.0s									
GEYT	**Alibeck**	**64.01**	**299**	P		**P**		**03 23 01.8**	**+0.6**
GEYT				pmax	pmax					
	comp=Z,20nm,1.1s									
RES	**Resolute Bay**	**64.08**	**14**	P		**P**		**03 23 01.4**	**+0.5**
RES				lAmb	lAmb		03 23 20.8			
	comp=Z,15nm,0.9s									
RES	**Resolute Bay**	**64.08**	**14**	LR	LR		03 53 06.0			
	comp=Z,378nm,20.6s,baz=328,slow=38									
RES	**Resolute Bay**	**64.08**	**14**	P		**P**		**03 23 01.4**	**+0.5**
RES				pmax	pmax					
	comp=Z,15nm,0.9s									
BELG	**Belogornoye**	**64.43**	**317**	LR	LR		03 53 28.5			
	comp=Z,848nm,18.8s,baz=62,slow=38									
BELG	**Belogornoye**	**64.43**	**317**	*c i*P		**P**		**03 23 02.9**	**-0.6**
BELG				pmax	pmax					
	comp=Z,13nm,1.1s									
KLMR	**Klimovskoe**	**64.62**	**328**	*e*P		**P**		**03 23 03.5**	**-1.2**
KLMR				*e**SP		**pP**		**03 23 15.9**	**-1.9**
KLMR				pmax	pmax					
	comp=Z,56nm,1.8s									
KLMR				MLR	MLR					
	comp=Z,539nm,15.0s									
ARA0	**ARCESS Array S**	**65.09**	**339**	*e*P		**P**		**03 23 08.1**	**+0.5**
ARCES	**ARCESS Array B**	**65.09**	**339**	P		**P**		**03 23 07.8**	**+0.2**
ARCES	**ARCESS Array B**	**65.09**	**339**	P		**P**		**03 23 08.1**	**+0.5**
	comp=Z,6.9nm,0.8s,baz=52,slow=7.9,SNR=15									
ARCES				LR	LR		03 54 33.4			
	comp=Z,940nm,21.4s,baz=62,slow=39									
	comp=Z,6.9nm,0.8s									
ARCES	**ARCESS Array B**	**65.09**	**339**	P		**P**		**03 23 07.8**	**+0.2**
ARCES				pmax	pmax					
	comp=Z,103nm,2.0s									
YKA	**Yellowknife Ar**	**65.28**	**30**	P		**P**		**03 23 09.4**	**+0.5**
	comp=Z,2.5nm,0.8s,baz=306,slow=7.3,SNR=49									
YKA				PKP2ab			03 51 54.9			
	comp=Z,0.8nm,1.0s,baz=117,slow=2.0,SNR=4.6									
YKA				LR	LR		03 52 22.6			
	comp=Z,151nm,21.3s,baz=298,slow=36									
	comp=Z,2.5nm,0.8s									
YKA	**Yellowknife Ar**	**65.28**	**30**	*i* P		**P**		**03 23 09.3**	**+0.4**
YKA				pmax	pmax					
	comp=Z,3.0nm,0.8s									
JOF	**Joensuu**	**66.92**	**332**	*e*P		**P**		**03 23 19.4**	**+0.1**
NEEM	**North Greenlan**	**66.93**	**3**	*i* P		**P**		**03 23 19.4**	**-0.3**
NEEM				lAmb	lAmb		03 23 23.0			
	comp=Z,13nm,0.8s									
DAG	**Danmarks Havn**	**67.10**	**355**	*i* P		**P**		**03 23 20.0**	**-0.4**
DAG				IAmb	IAmb		03 23 27.1			
	comp=Z,3.3nm,0.6s									
FORT	**Forrest**	**67.14**	**192**	P		**P**		**03 23 21.6**	**+0.4**
STKA	**Stephens Creek**	**67.18**	**179**	P		**P**		**03 23 22.6**	**+1.3**
STKA	**Stephens Creek**	**67.18**	**179**	P		**P**		**03 23 22.4**	**+1.1**
	comp=Z,9.9nm,0.9s,baz=353,slow=7.0,SNR=12									
STKA				LR	LR		03 53 13.2			
	comp=Z,300nm,20.6s,baz=8.2,slow=36									
	comp=Z,9.9nm,0.9s									
STKA	**Stephens Creek**	**67.18**	**179**	P		**P**		**03 23 22.6**	**+1.3**
STKA				pmax	pmax					
	comp=Z,5.0nm,1.2s									
VALR	**Valaam**	**67.95**	**331**	*c i*P		**P**		**03 23 25.4**	**-0.6**
VALR				pmax	pmax					
	comp=Z,28nm,0.9s									
MOS	**Moscow**	**68.02**	**324**	*e*P		**P**		**03 23 25.8**	**-0.7**
MOS				*e*				03 23 38.5		
MOS				*e*				03 23 50.0		
MOS				*e*				03 25 58.4		
MOS				pmax	pmax					
	comp=Z,55nm,1.3s									
MOS				MLR	MLR					
	comp=N,500nm,16.0s									
MOS				MLR	MLR					
	comp=E,400nm,16.0s									
MOS				MLR	MLR					
	comp=Z,700nm,16.0s									
VRH	**Novokhopyorsk**	**68.23**	**318**	*e*P		**P**		**03 23 27.2**	**-0.7**
VRH				pmax	pmax					
	comp=Z,18nm,0.6s									
MORW	**Morawa**	**68.44**	**203**	P		**P**		**03 23 29.5**	**+0.1**
OBN	**Obninsk**	**68.86**	**323**	LR	LR		03 56 01.3			
	comp=Z,572nm,18.8s,baz=36,slow=38									
OBN	**Obninsk**	**68.86**	**323**	*ce*P		**P**		**03 23 31.2**	**-0.5**
OBN				*e*				03 23 57.4		
OBN				*i* S		S		03 32 51.9	+20	
OBN				pmax	pmax					
	comp=Z,53nm,1.7s									
OBN				MLR	MLR					
	comp=Z,745nm,15.0s									
MAK	**Makhachkala**	**68.87**	**308**	*e*P		**P**		**03 23 32.7**	**+0.7**
MAK				*e*				03 26 04.0		
MAK				*e*PPP		PPP		03 27 45.4		
MAK				*e*S		**S**		**03 32 36.5**	**+3.9**
MAK				*e*SS		**SS**		**03 37 05.4**	**+7.6**
MAK				pmax	pmax					
	comp=Z,13nm,0.3s									
MAK				MLR	MLR					
	comp=Z,646nm,15.0s									
STEI	**Steigen**	**68.98**	**341**	*e*P		**P**		**03 23 33.0**	**+0.7**
LPSR	**Galich'ya Gora**	**69.00**	**320**	*e*P		**P**		**03 23 31.6**	**-1.1**
LPSR				pmax	pmax					
	comp=Z,30nm,0.8s									
VORR	**Voronezh**	**69.34**	**319**	*e*P		**P**		**03 23 34.5**	**-0.3**
VORR				pmax	pmax					
	comp=Z,70nm,0.5s									
FAUS	**Fauske**	**69.36**	**340**	*e*P		**P**		**03 23 35.3**	**+0.6**
VSR	**Storozhevoye**	**69.60**	**319**	*e*P		**P**		**03 23 35.8**	**-0.6**
VSR				pmax	pmax					
	comp=Z,20nm,0.9s									
VORD	**Divnogorie**	**69.66**	**319**	*e*P		**P**		**03 23 33.0**	**-3.8**
VORD				pmax	pmax					
	comp=Z,10.0nm,1.0s									
FINES	**FINESS Array B**	**69.77**	**332**	P		**P**		**03 23 37.0**	**-0.2**
	comp=Z,4.8nm,0.5s,baz=75,slow=5.8,SNR=48									
FINES				LR	LR		03 56 24.3			
	comp=Z,528nm,18.1s,baz=50,slow=38									
	comp=Z,4.8nm,0.5s									
KEF	**Keuruu**	**69.77**	**333**	*e*P		**P**		**03 23 37.0**	**-0.2**
GROC	**Groznyy**	**69.83**	**309**	*e*P		**P**		**03 23 36.4**	**-1.6**
GROC				*e*				03 23 59.0		
GROC				*e*				03 26 11.2		
GROC				pmax	pmax					
	comp=Z,47nm,1.7s									
SEKA	**Sheki**	**69.93**	**307**	P		**P**		**03 23 36.7**	**-2.0**
VAF	**Ylistaro**	**70.00**	**335**	*e*P		**P**		**03 23 39.0**	**+0.4**
ZKTA	**Zakatala**	**70.09**	**307**	P		**P**		**03 23 38.1**	**-1.6**
LKRN	**Lenkeran, Azer**	**70.13**	**304**	P		**P**		**03 23 38.4**	**-1.5**
I03D	**Drain, OR**	**70.22**	**50**	lAmb	lAmb		03 23 58.0			
	comp=Z,10nm,0.7s									
MNGR	**Mingechevir, A**	**70.22**	**306**	P		**P**		**03 23 38.9**	**-1.5**
KBO	**Bosley Butte**	**70.42**	**52**	lAmb	lAmb		03 24 06.4			
	comp=Z,42nm,1.5s									
H04A	**Detroit Lake**	**70.44**	**49**	lAmb	lAmb		03 24 01.9			
	comp=Z,23nm,1.2s									
MOR8	**Moi Rana**	**70.46**	**340**	*e*P		**P**		**03 23 40.7**	**-0.8**
GOF	**Gofitskoye**	**70.59**	**312**	*ce*P		**P**		**03 23 42.6**	**0.0**
WSAR	**Wadi Sarin**	**70.68**	**285**	LR	LR		03 57 21.8			
	comp=Z,350nm,21.6s,baz=80,slow=38									
I04A	**Tendick Farm,**	**70.76**	**50**	lAmb	lAmb		03 24 04.0			
	comp=Z,27nm,1.4s									
EDM	**Edmonton**	**70.78**	**38**	lAmb	lAmb		03 24 00.5			
	comp=Z,21nm,1.2s									
ARBE	**Arbavere**	**71.06**	**331**	*e*P		**P**		**03 23 45.4**	**+0.3**
NCK	**Nalchik**	**71.06**	**310**	*i* P		**P**		**03 23 45.8**	**+0.3**
NCK				pmax	pmax					
	comp=Z,10.0nm,0.9s									
MEF	**Metsahovi**	**71.19**	**332**	*e*P		**P**		**03 23 46.5**	**+0.6**
VSU	**Vasula**	**71.36**	**330**	*ce*P		**P**		**03 23 47.8**	**+0.8**
VSU				pmax	pmax					
	comp=Z,36nm,1.7s									
KBZ	**Khabaz**	**71.37**	**311**	P		**P**		**03 23 47.7**	**+0.4**
	comp=Z,14nm,0.9s,baz=63,slow=5.1,SNR=34									
KBZ				LR	LR		03 58 43.4			
	comp=Z,473nm,19.7s,baz=56,slow=39									
	comp=Z,14nm,0.9s									
KVAR	**Kislovodsk Arr**	**71.38**	**311**	LR	LR		03 58 37.4			
	comp=Z,406nm,19.0s,baz=274,slow=39									
KIV	**Kislovodsk**	**71.39**	**311**	⇑P		**P**		**03 23 47.8**	**+0.3**
KIV	**Kislovodsk**	**71.39**	**311**	P		**P**		**03 23 47.3**	**-0.3**
KIV	**Kislovodsk**	**71.39**	**311**	*c i*P		**P**		**03 23 47.7**	**+0.1**
KIV				*e*				03 24 05.5		
KIV				*e*				03 26 28.5		
KIV				*i* S		**S**		**03 33 02.2**	**-0.1**
KIV				pmax	pmax					
	comp=Z,92nm,1.7s									
KIV				MLR	MLR					
	comp=Z,552nm,20.0s									
KIV	**Kislovodsk**	**71.39**	**311**	P		**P**		**03 23 48.4**	**+0.8**
KIV				pP		**pP**		**03 24 01.4**	**+0.5**
KIV	**Kislovodsk**	**71.39**	**311**	P		**P**		**03 23 48.2**	**+0.6**
	comp=Z,55nm,1.2s,comp=Z,583nm									
KHMM	**Horse Mountain**	**71.43**	**53**	P		**P**		**03 23 50.7**	**+2.7**
KHMM				lAmb	lAmb		03 23 59.5			
	comp=Z,16nm,1.1s									
NEW	**Newport**	**71.52**	**44**	P		**P**		**03 23 49.9**	**+1.7**
NEW	**Newport**	**71.52**	**44**	P		**P**		**03 23 49.3**	**+1.1**
	baz=303									
NEW	**Newport**	**71.52**	**44**	LR	LR		03 53 09.0			
	comp=Z,127nm,21.3s,baz=302,slow=34									
NEW	**Newport**	**71.52**	**44**	P		**P**		**03 23 49.9**	**+1.7**
NEW				pmax	pmax					
	comp=Z,8.0nm,0.9s									
SHA1	**Shidzhatmaz**	**71.52**	**311**	*ce*P		**P**		**03 23 49.1**	**+0.6**
ONI	**Oni**	**71.62**	**309**	lAmb	lAmb		03 24 08.0			
	comp=Z,21nm,1.0s									
YBH	**Yreka Blue Hor**	**71.64**	**52**	P		**P**		**03 23 51.5**	**+2.4**
YBH	**Yreka Blue Hor**	**71.64**	**52**	LR	LR		03 47 43.4			
	comp=Z,89nm,20.3s,baz=290,slow=29									
YBH	**Yreka Blue Hor**	**71.64**	**52**	P		**P**		**03 23 51.5**	**+2.4**
YBH				pmax	pmax					
	comp=Z,10.0nm,1.1s									
L04D	**Klamath Falls**	**71.64**	**51**	lAmb	lAmb		03 24 09.5			
	comp=Z,29nm,1.0s									
PINE	**Pine Mountain**	**71.67**	**49**	lAmb	lAmb		03 24 00.5			
	comp=Z,18nm,0.8s									
NWAO	**Narrogin (SRO)**	**71.68**	**201**	P		**P**		**03 23 49.6**	**+0.5**
NWAO				lAmb	lAmb		03 23 57.7			
	comp=Z,44nm,1.2s									
NWAO	**Narrogin (SRO)**	**71.68**	**201**	LR	LR		03 54 31.4			
	comp=Z,136nm,20.6s,baz=53,slow=35									
NWAO	**Narrogin (SRO)**	**71.68**	**201**	P		**P**		**03 23 49.6**	**+0.5**
NWAO				pmax	pmax					
	comp=Z,44nm,1.2s									
NWAO	**Narrogin (SRO)**	**71.68**	**201**	P		**P**		**03 23 49.4**	**+0.3**
NWAO				pP		**pP**		**03 24 02.0**	**-0.4**
NWAO				PcP		**sP**		**03 24 08.8**	**+1.2**
J05D	**Fort Rock, OR**	**71.75**	**50**	lAmb	lAmb		03 24 10.6			
	comp=Z,24nm,1.3s									
ERBR	**Yeremizino-Bor**	**71.78**	**313**	*e*P		**P**		**03 23 50.1**	**+0.3**
ERBR				*e*				03 24 04.1		
ERBR				*e*S		**S**		**03 33 08.1**	**+1.5**
ERBR				pmax	pmax					
	comp=Z,67nm,1.4s									
SUMG	**Summit**	**72.06**	**360**	P		**P**		**03 23 52.6**	**+1.1**
SUMG				lAmb	lAmb		03 24 09.0			
	comp=Z,28nm,1.0s									
SUMG	**Summit**	**72.06**	**360**	P		**P**		**03 23 52.6**	**+1.1**
SUMG				pmax	pmax					
	comp=Z,28nm,1.0s									
SUMG	**Summit**	**72.06**	**360**	*i* P		**P**		**03 23 52.0**	**+0.5**
SUMG				lAmb	lAmb		03 23 56.2			
	comp=Z,7.3nm,0.8s									
GNI	**Garni**	**72.08**	**307**	P		**P**		**03 23 53.3**	**+1.4**
GNI	**Garni**	**72.08**	**307**	LR	LR		03 58 07.9			
	comp=Z,857nm,19.7s,baz=60,slow=38									
GNI	**Garni**	**72.08**	**307**	*ce*P		**P**		**03 23 51.8**	**-0.1**
GNI				pmax	pmax					
	comp=Z,58nm,1.7s									
GNI	**Garni**	**72.08**	**307**	P		**P**		**03 23 53.3**	**+1.4**
	comp=Z,55nm,1.4s,comp=Z,506nm									
LABN	**Labinsk**	**72.21**	**312**	*e*P		**P**		**03 23 52.7**	**+0.3**
LABN				MLR	MLR					
	comp=E,1µm,17.0s									
LABN				MLR	MLR					
	comp=Z,758nm,17.0s									
LABN				MLR	MLR					
	comp=N,828nm,15.0s									
K05A	**Summer Lake**	**72.26**	**50**	lAmb	lAmb		03 24 13.7			
	comp=Z,28nm,1.1s									
NSS	**Namsos**	**72.37**	**339**	*e*P		**P**		**03 23 54.7**	**+1.7**
MTSE	**Matsula**	**72.38**	**331**	*e*P		**P**		**03 23 54.1**	**+1.0**
BMO	**Blue Mountains**	**73.28**	**47**	P		**P**		**03 24 00.7**	**+1.8**
BMO	**Blue Mountains**	**73.28**	**47**	P		**P**		**03 24 00.7**	**+1.8**
BMO				pmax	pmax					
	comp=Z,25n

NB2 NORSAR Subarra 75.24 337 P **P** **03 24 09.6 -0.3**
comp=Z,142nm,2.5s,baz=41,slow=5.9
NB2 NORSAR Subarra 75.24 337 P **P** **03 24 09.6 -0.3**
baz=41,slow=5.9
NOA NORSAR Array B 75.24 337 P **P** **03 24 09.9 0.0**
comp=Z,4.7nm,0.6s,baz=39,slow=5.8,SNR=32
NOA LR LR 03 59 55.6
comp=Z,813nm,20.4s,baz=45,slow=38
comp=Z,4.7nm,0.6s
VIKU Vikbolandet 75.25 333 *e*P **P** **03 24 09.7 -0.2**
NC602 NORSAR Array S 75.37 337 *e*P **P** **03 24 10.4 -0.1**
RAO Raoul Island 75.40 143 LR LR 03 52 38.3
comp=Z,218nm,19.2s,baz=206,slow=32
FCC Fort Churchill 75.49 26 IAmb IAmb 03 24 14.0
comp=Z,14nm,0.8s
MI30 MI30,Zelenitsa 75.53 323 P **P** **03 24 11.1 -0.6**
ICESG Greenland Ices 75.57 0 *i* P **P** **03 24 13.4 +1.4**
ICESG IAmb IAmb 03 24 16.2
comp=Z,7.2nm,0.6s
MI28 MI28,Pidlybu 75.67 323 P **P** **03 24 12.3 -0.1**
EGMT Eagleton 75.68 41 IAmb IAmb 03 24 22.9
comp=Z,26nm,0.8s
EGMT Eagleton 75.68 41 P **P** **03 24 12.0 -0.7**
baz=308
DLMT Dillon 75.72 44 IAmb IAmb 03 24 28.6
comp=Z,26nm,1.0s
HLID Hailey 75.73 46 P **P** **03 24 12.9 -0.3**
baz=306
SUW Suwalki 75.75 327 *e*P **P** **03 24 12.7 -0.2**
SUW *e*L L 03 58 37.1
comp=Z,496nm,24.9s
SUW Suwalki 75.75 327 *e*P **P** **03 24 13.2 +0.4**
BMN Battle Mountai 75.82 50 IAmb IAmb 03 24 25.6
comp=Z,20nm,1.2s
MI29 MI29, Kamyanyy 75.90 323 P **P** **03 24 13.3 -0.5**
SIM Simferopol' 75.92 315 *e*P **P** **03 24 14.0 0.0**
SIM *e*S **S** **03 33 51.9 -1.3**
SIM pmax pmax
comp=Z,21nm,0.7s
SIM smax smax
comp=N,90nm,15.9s
BOZ Bozeman (W) 76.13 44 P **P** **03 24 15.8 +0.4**
baz=307
RNPP9 Sopachiv 76.22 324 P **P** **03 24 15.4 -0.2**
LHV Little Huntoon 76.24 53 IAmb IAmb 03 24 32.4
comp=Z,21nm,1.1s
LUBAR Lubar, Ukraine 76.27 322 P **P** **03 24 15.2 -0.7**
NVAR Mina Array Bea 76.27 53 P **P** **03 24 18.1 +1.7**
comp=Z,5.2nm,0.6s,baz=300,slow=5.5,SNR=37
NVAR LR LR 03 54 39.9
comp=Z,166nm,18.6s,baz=279,slow=33
comp=Z,5.2nm,0.6s
RNPP8 Varash 76.28 324 P **P** **03 24 15.7 -0.2**
SOEG Soedalen 76.29 357 *i* P **P** **03 24 16.5 +0.8**
SOEG IAmb IAmb 03 24 18.0
comp=Z,7.5nm,0.6s
ELK Elko 76.87 49 LR LR 03 54 44.3
comp=Z,86nm,19.1s,baz=309,slow=33
SORM Soroca 77.10 321 ⇑P **P** **03 24 20.2 -0.5**
SORM Soroca 77.10 321 P **P** **03 24 20.1 -0.5**
SORM Soroca 77.10 321 P **P** **03 24 19.8 -0.8**
comp=Z,26nm,1.4s
VES Vestal, Richgr 77.23 55 P **P** **03 24 23.1 +1.5**
baz=305
PKM Mcpherson Peak 77.28 56 P **P** **03 24 23.7 +1.5**
baz=305
SFJD Kangerlussuaq 77.31 5 LR LR 03 59 34.3
comp=Z,269nm,21.9s,baz=348,slow=36
HORU Horodok 77.38 322 P **P** **03 24 22.3 +0.1**
H17A Grant Village 77.45 44 P **P** **03 24 25.4 +2.4**
baz=308
IMW Indian Meadow 77.55 45 IAmb IAmb 03 24 36.4
comp=Z,13nm,0.8s
KIS Kishinev 77.58 319 *e*P **P** **03 24 21.0 -2.3**
comp=Z,100nm,2.6s
KIS *e*L L 03 58 43.0
KIS LRM MLR 04 01 30.0
comp=Z,400nm,16.0s
KIS Kishinev 77.58 319 *e*P **P** **03 24 21.0 -2.3**
KIS *e* 03 24 40.0
KIS pmax pmax
comp=Z,100nm,2.6s
MILM Milestii Mici 77.63 319 *e*P **P** **03 24 20.0 -3.6**
comp=Z,140nm,7.3s
MILM *e*L L 03 52 49.0
MILM LRM MLR 04 01 21.0
comp=Z,1μm,18.0s
MILM Milestii Mici 77.63 319 *e*P **P** **03 24 20.0 -3.6**
MILM *e* 03 24 39.0
MILM pmax pmax
comp=Z,140nm,7.3s
MILM MLR MLR
comp=N,700nm,14.5s
RLMT Red Lodge 77.73 43 P **P** **03 24 26.4 +1.8**
baz=308
KMPD K-Podol'skiy 77.79 322 P PcP 03 24 23.7 -11
KMPD P **P** **03 24 23.3 -1.2**
ARVC Arvin 77.81 56 P **P** **03 24 26.0 +1.2**
baz=305
SNOW Snow King Moun 77.92 45 **PcP** **03 24 36.5 +1.2**
DY2G Dye2 78.06 3 *i* P **P** **03 24 26.4 +0.4**
DY2G IAmb IAmb 03 24 29.3
comp=Z,10nm,0.5s
R11B Troy Canyon, C 78.06 51 P **P** **03 24 27.4 +0.9**
baz=306
LVV L'vov 78.16 324 *e*P **P** **03 24 26.5 0.0**
LVV *e* 03 24 39.6
LVV *e*S **S** **03 34 17.0 -0.4**
LVV *e*SS **SS** **03 39 15.3 -3.6**
LVV MLR MLR
comp=Z,800nm,17.0s
MPMC Manual Prospec 78.16 54 P **P** **03 24 28.3 +1.2**
baz=306
FRB Frobisher Bay 78.24 13 LR LR 04 01 34.4
comp=Z,284nm,20.7s,baz=347,slow=38
BEL Belsk 78.29 327 *e*P **P** **03 24 28.0 +0.8**
BEL *e*L L 03 58 59.9
comp=Z,506nm,25.7s
LAO LASA Array 78.39 40 IAmb IAmb 03 24 39.9
comp=Z,28nm,1.1s
LAO LASA Array 78.39 40 P **P** **03 24 29.4 +1.4**
baz=310
BSD Bornholm Skovb 78.39 332 *e*P **P** **03 24 27.7 0.0**
BSD Bornholm Skovb 78.39 332 *i* P **P** **03 24 27.4 -0.3**
BSD IAML 03 24 28.3
comp=Z,42nm,0.7s
EDW2 Edwards Air Fo 78.51 55 P **P** **03 24 29.6 +0.8**
baz=305
HWUT Hardware Ranch 78.58 47 IAmb IAmb 03 24 41.6
comp=Z,22nm,1.2s
GAZ Gaziantep 78.63 308 IAmb IAmb 03 24 53.8
comp=Z,27nm,0.9s
QSM Queen of Sheba 78.63 54 IAmb IAmb 03 24 49.4
comp=Z,13nm,0.8s
GWY Greenwater Val 78.63 54 IAmb IAmb 03 24 45.0
comp=Z,31nm,1.5s
KSV Kosov 78.65 322 P **P** **03 24 29.3 0.0**
STNU Starunia 78.67 323 P **P** **03 24 29.7 +0.3**
MORS Morshin 78.69 323 P **P** **03 24 30.1 +0.7**
DUG Dugway, Tooele 78.69 49 P **P** **03 24 30.2 +0.4**
baz=307
VARL Varlezi 78.79 319 ⇓P **P** **03 24 31.0 +0.9**
SCTR Scanteiesti 78.86 319 ⇑P **P** **03 24 31.0 +0.5**
COP Copenhagen 78.90 333 *i* P **P** **03 24 30.2 -0.3**
COP IAmb IAmb 03 24 31.8
comp=Z,69nm,0.5s
KWP Kalwaria Pacla 78.92 324 *e*P **P** **03 24 32.2 +1.5**
KWP *e*pP **pP** **03 24 45.5 +1.3**
KWP *e*PP **PP** **03 27 30.3 +1.1**
KWP *e*L L 03 58 32.6
comp=Z,454nm,26.5s
KWP Kalwaria Pacla 78.92 324 P **P** **03 24 32.2 +1.5**
comp=Z,62nm,0.9s
BORG Borgarnes 78.94 352 LR LR 04 00 50.2
comp=Z,98nm,20.0s,baz=16,slow=37
FMP Fort Macarthur 78.98 56 P **P** **03 24 33.4 +2.1**
baz=306
BUR08 Bucovina Ar. S 79.03 322 IAmb IAmb 03 24 47.0
comp=Z,15nm,0.9s
TESR Tescani 79.03 320 ⇓P **P** **03 24 31.7 +0.3**
PDAR Pinedale Array 79.04 45 P **P** **03 24 32.5 +0.7**
PDAR Pinedale Array 79.04 45 P **P** **03 24 33.0 +1.2**
comp=Z,4.8nm,0.6s,baz=263,slow=2.1,SNR=33
PDAR LR LR 03 54 46.7
comp=Z,153nm,21.8s,baz=318,slow=32
comp=Z,4.8nm,0.6s

BURAR Bucovina Array 79.04 322 ⇓P **P** **03 24 32.1 +0.6**
BURAR Bucovina Array 79.04 322 P **P** **03 24 31.7 +0.1**
BURAR IAmb IAmb 03 24 47.3
comp=Z,13nm,0.7s
BURAR Bucovina Array 79.04 322 P **P** **03 24 32.1 +0.6**
CFR Carcaliu 79.10 318 ⇑P **P** **03 24 31.5 -0.2**
CFR Carcaliu 79.10 318 P **P** **03 24 31.5 -0.2**
BR131 Keskin Array S 79.34 311 *i* P **P** **03 24 33.3 -0.1**
BRTR Keskin Array B 79.34 311 P **P** **03 24 33.3 -0.1**
BRTR Keskin Array B 79.34 311 P **P** **03 24 33.5 0.0**
comp=Z,6.7nm,0.8s,baz=93,slow=3.3,SNR=20
BRTR LR LR 04 04 04.0
comp=Z,294nm,19.8s,baz=64,slow=39
comp=Z,6.7nm,0.8s
BRTR Keskin Array B 79.34 311 P **P** **03 24 33.3 -0.1**
BR106 Keskin Array S 79.35 311 P **P** **03 24 34.1 +0.7**
comp=Z,11nm,0.9s,comp=Z,112nm
BR104 Keskin Array S 79.35 311 P **P** **03 24 33.9 +0.5**
comp=Z,11nm,0.8s,comp=Z,111nm
BR105 Keskin Array S 79.36 311 P **P** **03 24 34.5 +1.0**
comp=Z,15nm,1.0s,comp=Z,109nm
VRI Vrincioaia 79.41 319 ⇑P **P** **03 24 33.0 -0.5**
VRI Vrincioaia 79.41 319 P **P** **03 24 33.0 -0.5**
VRI Vrincioaia 79.41 319 P **P** **03 24 34.7 +1.2**
comp=Z,29nm,1.6s,comp=Z,501nm
PLOR3 Plostina Array 79.46 320 P **P** **03 24 35.7 +1.9**
comp=Z,13nm,1.0s
TLBR Topalu 79.56 318 ⇑P **P** **03 24 34.5 +0.2**
KOLS Kolonicke sedl 79.61 324 *e*P **P** **03 24 35.2 +0.7**
KOLS Kolonicke sedl 79.61 324 *e*P **P** **03 24 35.2 +0.7**
KOLS pmax pmax
comp=Z,5.0nm,1.1s
BISRR Bisoca 79.63 319 P **P** **03 24 35.2 +0.5**
BRIU Brid 79.65 323 P **P** **03 24 35.5 +0.8**
TURR Turia 79.66 320 ⇑P **P** **03 24 35.9 +1.1**
COVR Voineasa-Covas 79.70 320 ⇑P **P** **03 24 36.1 +1.0**
ANTO Ankara 79.77 312 ⇑P **P** **03 24 36.2 +0.5**
ANTO Ankara 79.77 312 P **P** **03 24 36.1 +0.5**
ANTO Ankara 79.77 312 P **P** **03 24 35.9 +0.3**
comp=Z,8.2nm,0.7s,comp=Z,198nm
MURC Murrieta 79.79 56 P **P** **03 24 34.8 -1.0**
baz=306
RAR Rarotonga 79.82 125 LR LR 03 54 19.5
comp=Z,454nm,20.4s,baz=297,slow=31
HOLU Holmets 79.83 324 P **P** **03 24 36.8 +1.1**
OJC Ojcow 79.87 326 *e*P **P** **03 24 36.2 +0.3**
OJC *e*PP **PP** **03 27 39.4 +2.3**
OJC *e*L L 04 00 12.0
comp=Z,474nm,29.0s
OJC Ojcow 79.87 326 P **P** **03 24 36.5 +0.6**
comp=Z,32nm,1.3s
BERU Beregovo 79.90 323 P **P** **03 24 37.5 +1.4**
ISR Istrita 80.00 319 P **P** **03 24 37.9 +1.2**
comp=Z,24nm,1.1s
NUUK Nuuk 80.02 5 *i* P **P** **03 24 36.6 +0.2**
NUUK IAmb IAmb 03 24 38.7
comp=Z,10nm,0.7s
MLR Muntele Rosu 80.07 320 ⇑P **P** **03 24 38.3 +1.1**
MLR Muntele Rosu 80.07 320 IAmb IAmb 03 24 52.6
comp=Z,49nm,1.9s
MLR Muntele Rosu 80.07 320 LR LR 04 03 07.9
comp=Z,996nm,18.4s,baz=50,slow=38
MLR Muntele Rosu 80.07 320 P **P** **03 24 38.3 +1.1**
MLR Muntele Rosu 80.07 320 P **P** **03 24 38.5 +1.3**
comp=Z,11nm,1.9s
V12A Nelson 80.09 53 IAmb IAmb 03 24 53.3
comp=Z,28nm,1.5s
GMRC Granite Mounta 80.12 54 P **P** **03 24 36.9 -0.8**
baz=307
NIE Niedzica 80.20 325 *e*P **P** **03 24 38.5 +0.8**
NIE *e*L L 04 03 03.7
comp=Z,379nm,18.8s
NIE Niedzica 80.20 325 P **P** **03 24 38.8 +1.1**
comp=Z,9.5nm,0.9s
PFO Pinyon Flats O 80.28 56 P **P** **03 24 41.7 +3.1**
PFO IAmb IAmb 03 24 53.8
comp=Z,38nm,1.5s
PFO Pinyon Flats O 80.28 56 P **P** **03 24 38.4 -0.2**
baz=306
PFO Pinyon Flats O 80.28 56 LR LR 03 53 20.4
comp=Z,583nm,21.5s,baz=266,slow=30
PFO Pinyon Flats O 80.28 56 P **P** **03 24 41.7 +3.1**
PFO pmax pmax
comp=Z,38nm,1.5s
TPFO Pinon Flats 80.29 56 P **P** **03 24 39.0 +0.4**
baz=306
PMD Palm Desert 80.31 56 IAmb IAmb 03 24 57.7
comp=Z,15nm,0.9s
BELC Belle Mtn. Jos 80.36 55 P **P** **03 24 37.6 -1.4**
baz=306
VOIR 80.58 320 ⇑P **P** **03 24 41.2 +1.3**
VOIR 80.58 320 P **P** **03 24 41.2 +1.3**
RAYN Ar Rayn 80.66 292 P **P** **03 24 40.6 0.0**
RAYN IAmb IAmb 03 24 42.2
comp=Z,38nm,1.1s
RAYN Ar Rayn 80.66 292 P **P** **03 24 40.6 0.0**
RAYN pmax pmax
comp=Z,38nm,1.1s
BAR Barrett 80.69 57 **PcP** **03 24 49.2 +1.9**
BAR IAmb IAmb 03 25 10.8
comp=Z,16nm,0.9s
MONP2 Monument Peak 80.73 56 P **P** **03 24 41.1 0.0**
baz=306
MARR Marisel-Cluj 80.73 322 ⇑P **P** **03 24 40.9 +0.2**
SRU San Rafael Swe 80.75 48 IAmb IAmb 03 25 04.7
comp=Z,19nm,0.7s
LANS Liptovska Anna 80.78 325 *e*P **P** **03 24 41.3 +0.5**
LANS *e*PP **PP** **03 27 43.9 -0.8**
LANS Liptovska Anna 80.78 325 *e*P **P** **03 24 41.3 +0.5**
LANS pmax pmax
comp=Z,5.0nm,1.3s
IRM Iron Mountain 80.83 55 P **P** **03 24 42.2 +0.8**
baz=307
K22A Casper 80.84 44 P **P** **03 24 40.9 -0.5**
baz=310
ARR Arges 80.84 320 ⇓P **P** **03 24 42.3 +1.0**
OKC Ostrava-Krasne 80.89 326 AMS AMS 04 04 10.0
comp=Z,300nm,14.0s
URZ Urewera 80.89 152 LR LR 03 56 07.7
comp=Z,290nm,22.0s,baz=31,slow=32
CBX Cerro Bola 80.91 57 IAmb IAmb 03 24 46.1
comp=Z,20nm,0.8s
BC3 Big Chuckawall 80.93 55 P **P** **03 24 41.5 -0.5**
baz=307
ULM Lac du Bonnet 80.97 33 P **P** **03 24 42.2 +0.4**
comp=Z,5.3nm,0.7s,baz=294,slow=5.2,SNR=11
ULM LR LR 04 02 52.5
comp=Z,104nm,20.2s,baz=328,slow=37
comp=Z,5.3nm,0.7s
IKP In-Ko-Pah, Jac 81.09 56 P **P** **03 24 44.2 +1.4**
baz=307
SWSC Sam W. Stewart 81.12 56 P **P** **03 24 44.4 +1.5**
baz=307
MORC Moravsky Berou 81.20 327 ⇑P **P** **03 24 43.5 +0.3**
MORC Moravsky Berou 81.20 327 IAmb IAmb 03 24 58.9
comp=Z,21nm,1.2s
MORC Moravsky Berou 81.20 327 *e*P **P** **03 24 43.2 +0.1**
MORC Moravsky Berou 81.20 327 P **P** **03 24 43.4 +0.3**
YUH Yuha Desert 81.21 56 **PcP** **03 24 52.0 +2.4**
OSTC Ostas 81.22 328 AMS AMS 04 05 10.0
comp=Z,700nm,13.2s
RSSD Black Hills 81.24 41 P **P** **03 24 44.5 +0.9**
RSSD Black Hills 81.24 41 P **P** **03 24 43.6 0.0**
baz=312
RSSD Black Hills 81.24 41 P **P** **03 24 44.5 +0.9**
RSSD pmax pmax
comp=Z,6.0nm,0.7s
CHVC Chvalec 81.27 328 *e*P **P** **03 24 43.6 +0.2**
CHVC AMS AMS 04 05 10.0
comp=Z,600nm,14.4s
CHVC Chvalec 81.27 328 *e*P **P** **03 24 43.6 +0.2**
CHVC MLR MLR
comp=Z,600nm,14.4s
DPC Dobruska-Polom 81.32 328 *e*P **P** **03 24 44.8 +1.1**
DPC *e*pP **pP** **03 24 57.3 +0.1**
DPC AMS AMS 04 04 40.0
comp=Z,500nm,15.8s
DPC Dobruska-Polom 81.32 328 *e*P **P** **03 24 44.8 +1.1**
DPC *e* 03 24 57.3
DPC MLR MLR
comp=Z,500nm,15.8s
DPC Dobruska-Polom 81.32 328 P **P** **03 24 44.3 +0.6**
comp=Z,21nm,1.4s
UPC Upice 81.34 328 AMS AMS 04 05 10.0
comp=Z,800nm,14.7s
HMU Henry Mountain 81.35 49 IAmb IAmb 03 24 56.4

comp=Z,15nm,0.8s
PDMCI Parker Dam,Lak 81.41 54 P **P** **03 24 46.5 +2.1**
baz=307
PSZ Piszkesteto 81.45 324 IAmb IAmb 03 25 00.4
comp=Z,24nm,1.1s
O20A White River Ci 81.47 46 P **P** **03 24 45.8 +0.9**
baz=310
VYHS Vyhne 81.54 325 *e*P **P** **03 24 44.5 -0.3**
VYHS Vyhne 81.54 325 *e*P **P** **03 24 44.5 -0.3**
VYHS pmax pmax
comp=Z,19nm,1.6s
GLA Glamis 81.71 55 P **P** **03 24 47.2 +1.1**
baz=307
ELND Elena 81.81 318 ⇑P **P** **03 24 47.5 +1.1**
JAVC Velka Javorina 81.81 326 *e*P **P** **03 24 47.4 +1.1**
PVCC Panska Ves 81.95 329 *e*P **P** **03 24 47.7 +0.8**
PVCC Panska Ves 81.95 329 *e*P **P** **03 24 47.7 +0.8**
BRG Berggiesshubel 81.95 329 *i* P **P** **03 24 47.1 +0.1**
BRG Amp 03 24 47.9
comp=Z,7.6nm,0.9s
BRG Berggiesshubel 81.95 329 P P 03 24 55.6 +8.7
BRG Amp 03 24 57.7
comp=Z,6.3nm,0.9s
BRG Berggiesshubel 81.95 329 S S 03 35 08.0 +11
BRG Amp 04 04 38.0
comp=E,0.1nm,13.0s
BRG Amp 04 04 56.0
comp=Z,0.6nm,16.0s
BRG Amp 04 05 00.0
comp=N,0.6nm,17.1s
CLL Collm 82.01 330 IAmb IAmb 03 25 02.4
comp=Z,23nm,0.9s
CLL Collm 82.01 330 *i* P **P** **03 24 47.2 0.0**
CLL *i* *PP **pP** **03 25 00.3 -0.4**
CLL pmax pmax
comp=Z,11nm,0.8s
CLL MLR MLR
comp=Z,600nm,19.2s
CLL Collm 82.01 330 P **P** **03 24 47.3 0.0**
comp=Z,29nm,0.9s
SRE Strehaia 82.06 320 ⇓P **P** **03 24 46.3 -1.4**
SRE Strehaia 82.06 320 P **P** **03 24 46.3 -1.4**
BZS Buzias 82.22 322 ⇓P **P** **03 24 48.7 +0.3**
BZS Buzias 82.22 322 P **P** **03 24 48.7 +0.3**
KRUC Moravsky 82.24 327 *e*P **P** **03 24 48.7 +0.2**
MMAI Mount Meron Ar 82.30 305 P **P** **03 24 49.3 +0.1**
comp=Z,2.2nm,0.4s,baz=13,slow=7.7,SNR=9.6
MMAI LR LR 04 05 08.3
comp=Z,693nm,19.3s,baz=5.0,slow=38
comp=Z,2.2nm,0.4s
N23A Red Feather La 82.31 45 P **P** **03 24 50.8 +1.4**
baz=311
GOPC GO Pecny, Ondr 82.31 328 *e*PCP **PcP** **03 24 56.1 +2.0**
GOPC AMS AMS 04 06 00.0
comp=Z,600nm,14.1s
GOPC GO Pecny, Ondr 82.31 328 *e*P P 03 24 56.1 +7.2
GOPC MLR MLR
comp=Z,600nm,14.1s
HERR Herculane 82.32 321 ⇑P **P** **03 24 50.3 +1.3**
MODS Modra-Piesok 82.34 326 *e*P **P** **03 24 49.3 +0.2**
MODS Modra-Piesok 82.34 326 *e*P **P** **03 24 49.3 +0.2**
MODS pmax pmax
comp=Z,143nm,2.4s
PRA Prague 82.35 328 AMS AMS 04 05 50.0
comp=Z,800nm,14.1s
PRU Pruhonice 82.36 328 AMS AMS 04 05 50.0
comp=Z,700nm,12.0s
HSKC Hora Svate Kat 82.36 329 *e*P **P** **03 24 49.6 +0.4**
HSKC AMS AMS 04 04 50.0
comp=Z,700nm,16.2s
WUAZ Wupatki 82.46 52 P **P** **03 24 50.8 +0.7**
baz=309
CSS Mathiatis 82.46 308 IAmb IAmb 03 25 14.2
comp=Z,20nm,0.9s
CSS Mathiatis 82.46 308 P **P** **03 24 51.1 +1.1**
comp=Z,24nm,0.8s,comp=Z,583nm
MPEP Malo Peshtene 82.67 319 *e*P **P** **03 24 51.7 +0.8**
MDVR Moldovita 82.75 321 ⇑P **P** **03 24 51.2 -0.1**
KDZ Kurdzhali 82.97 317 *e*P **P** **03 24 53.0 +0.5**
PGB Panagyurishte 83.01 318 *e*P **P** **03 24 52.2 -0.5**
BLKB Belogradchik 83.06 320 ⇓P **P** **03 24 53.1 +0.2**
NKC Novy Kostel 83.06 329 AMS AMS 04 05 20.0
comp=Z,700nm,17.0s
MPLH Magyarpolny 83.10 325 P **P** **03 24 54.3 +1.3**
comp=Z,44nm,1.7s
RDO Rodhopi 83.18 317 IAmb IAmb 03 25 09.3
comp=Z,47nm,1.6s
MVCO Mesa Verde 83.19 49 P **P** **03 24 55.2 +1.2**
baz=310
ISCO Idaho Springs 83.22 45 IAmb IAmb 03 25 10.0
comp=Z,29nm,1.8s
ISCO Idaho Springs 83.22 45 P **P** **03 24 55.0 +0.8**
baz=311
RZN Rozhen 83.26 317 *e*P **P** **03 24 54.5 +0.3**
MORH Mrgy, Hungar 83.26 324 ⇓P **P** **03 24 53.6 -0.3**
RONA Rosalia, Austr 83.29 326 *e*P **P** **03 24 54.8 +0.8**
comp=Z,27nm,1.8s,SNR=11
CONA Conrad Observa 83.31 326 *e*P **P** **03 24 54.4 +0.2**
comp=Z,27nm,1.8s,SNR=8.7
CKRC Cesky Krumlov 83.34 328 *e*P **P** **03 24 54.3 +0.1**
CKRC *e*S **S** **03 35 09.5 -2.1**
CKRC AMS AMS 04 05 50.0
comp=Z,500nm,15.7s
CKRC Cesky Krumlov 83.34 328 *e*P **P** **03 24 54.3 +0.1**
CKRC *e*S **S** **03 35 09.5 -2.1**
CKRC MLR MLR
comp=Z,500nm,15.7s
KHC Kasperske Hory 83.42 328 IAmb IAmb 03 25 10.3
comp=Z,14nm,1.0s
KHC Kasperske Hory 83.42 328 *e*P **P** **03 24 55.1 +0.4**
KHC *e*S **S** **03 35 17.5 +5.1**
KHC AMS AMS 04 06 10.0
comp=Z,700nm,15.9s
KHC Kasperske Hory 83.42 328 *ce*P **P** **03 24 55.3 +0.6**
KHC pmax pmax
comp=Z,25nm,1.3s
KHC Kasperske Hory 83.42 328 P **P** **03 24 54.9 +0.2**
comp=Z,15nm,1.1s
FRGS Fruska Gora 83.45 322 ⇓P **P** **03 24 55.4 +0.6**
FRGS Fruska Gora 83.45 322 *e*P **P** **03 24 54.8 -0.1**
FRGS Fruska Gora 83.45 322 P **P** **03 24 55.5 +0.6**
comp=Z,31nm,1.6s,comp=Z,499nm
VTS Vitosha 83.45 319 *e*P **P** **03 24 56.1 +1.0**
PIX Pinacate 83.53 56 IAmb IAmb 03 25 07.3
comp=Z,13nm,1.0s
BOVS Bovan 83.56 320 ⇓P **P** **03 24 55.0 -0.4**
GEC2 GERESS Array S 83.58 328 IAmb IAmb 03 25 10.9
comp=Z,16nm,1.3s
GERES GERESS Array B 83.58 328 P **P** **03 24 55.2 -0.4**
comp=Z,0.9nm,0.5s,baz=11,slow=15,SNR=5.7
GERES LR LR 04 06 26.1
comp=Z,626nm,18.3s,baz=50,slow=39
comp=Z,0.9nm,0.5s
RPZ Rata Peaks 83.68 158 LR LR 03 58 11.2
comp=Z,205nm,19.9s,baz=317,slow=33
214A Organ Pipe Nat 83.72 55 P **P** **03 24 57.1 +0.5**
baz=308
MMB Musomishta 83.90 318 *e*P **P** **03 24 57.3 0.0**
ARSA Arzberg 83.97 326 *e*P **P** **03 24 57.4 -0.1**
comp=Z,10nm,1.1s,SNR=7.4
GRFO Grafenberg 83.98 330 P **P** **03 24 58.4 +0.9**
GRFO Grafenberg 83.98 330 P **P** **03 24 58.4 +0.9**
GRFO pmax pmax
comp=Z,33nm,1.1s
KKB Krupnik 84.04 318 *e*P **P** **03 24 58.6 +0.6**
Q24A Divide 84.04 46 P **P** **03 24 59.8 +1.4**
baz=312
MOA Molln 84.09 327 *e*P **P** **03 24 59.1 +1.0**
comp=Z,15nm,1.3s,SNR=6.6
EKA Eskdalemuir Ar 84.24 340 P **P** **03 24 59.2 +0.5**
comp=Z,1.4nm,0.6s,baz=32,slow=4.3,SNR=9.7
comp=Z,1.4nm,0.6s
OGNE Ogallala 84.47 43 P **P** **03 25 01.0 +0.8**
baz=313
BIOA Bad Ischl, Aus 84.49 327 *e*P **P** **03 25 00.8 +0.7**
comp=Z,23nm,1.7s,SNR=6.7
PPT Papeete 84.53 116 LR LR 03 55 14.9
comp=Z,583nm,21.4s,baz=304,slow=30
GROS Grobnik 84.57 325 *i* P **P** **03 25 00.3 -0.3**
GROS *i* 03 25 05.9
GROS *e* 03 25 14.5
EYMN Ely 84.60 32 P **P** **03 25 00.7 0.0**
baz=320
SOKA Soboth 84.62 326 *e*P **P** **03 25 00.8 -0.1**
comp=Z,25nm,1.3s,SNR=13
SDCO Great Sand Dun 84.64 47 P **P** **03 25 01.7 +0.2**

baz=312
EIL Elat 84.65 303 LR LR 04 06 58.8
comp=Z,270nm,18.9s,baz=66,slow=39
VAY Valandovo 84.70 318 *i* Pg **P** **03 25 01.6 +0.3**
SJES Sjenica 84.71 321 *eP* **P** **03 25 01.8 +0.3**
RUDO Rudo 84.77 321 *eP* **P** **03 25 01.1 -0.5**
TUC Tucson 84.85 54 P **P** **03 25 04.0 +1.7**
TUC Tucson 84.85 54 P **P** **03 25 02.2 -0.1**
baz=309
TUC Tucson 84.85 54 P **P** **03 25 04.0 +1.7**
TUC pmax pmax
comp=Z,9.0nm,1.1s
SKO Skopje 84.86 319 *i* Pg **P** **03 25 02.9 +0.9**
OBKA Obir 84.97 326 *eP* **P** **03 25 01.8 -0.8**
comp=Z,4.7nm,0.9s
OBKA Obir 84.97 326 *eP* **P** **03 25 02.1 -0.6**
A051A Mrakovica 84.97 324 *eP* **P** **03 25 02.3 -0.4**
BLY Banja Luka 85.03 323 *eP* **P** **03 25 02.7 -0.2**
CRES Cresnjev 85.06 325 *eP* **P** **03 25 03.3 +0.3**
KBA Koelnbreinsper 85.08 327 *eP* **P** **03 25 01.8 -1.5**
comp=Z,5.1nm,0.9s
PDKS Podkum 85.10 325 *i* P **P** **03 25 02.9 -0.4**
LESA Schwarzleotal 85.11 328 *eP* **P** **03 25 03.5 +0.1**
comp=Z,22nm,1.7s
MYKA Terra Mystica 85.29 327 *eP* **P** **03 25 03.6 -0.7**
comp=Z,4.8nm,0.6s
UPM Unac-Piva 85.30 321 *eP* **P** **03 25 03.2 -1.3**
MGRS Mrkonjic Grad 85.33 323 *eP* **P** **03 25 04.8 +0.4**
LJU Ljubljana 85.33 326 *eP* **P** **03 25 04.2 -0.2**
ECSD EROS Data Cent 85.35 38 IAmb IAmb 03 25 07.7
comp=Z,8.5nm,0.8s
ECSD EROS Data Cent 85.35 38 P **P** **03 25 03.9 -0.6**
baz=316
BOJS Bojanci 85.40 325 *eP* **P** **03 25 04.3 -0.4**
KSCO Kaye Shedlock' 85.46 44 P **P** **03 25 04.5 -0.8**
baz=313
PRED Cave del Predi 85.47 326 IAmb IAmb 03 25 25.4
comp=Z,9.4nm,0.8s
CEY Cerknica 85.61 326 *eP* **P** **03 25 05.1 -0.7**
PDG Podgorica 85.68 321 ⇑P **P** **03 25 05.9 -0.2**
PDG Podgorica 85.68 321 *eP* **P** **03 25 06.0 -0.2**
T25A Trinidad 85.69 47 P **P** **03 25 06.0 -0.6**
baz=312
ABTA Abfaltersbach 85.70 327 *eP* **P** **03 25 04.4 -1.9**
comp=Z,4.0nm,1.1s
BRY Bratogost 85.70 321 *eP* **P** **03 25 04.1 -2.4**
OHR Ohrid 85.80 319 *i* Pg **P** **03 25 07.5 +0.6**
MOTA Moosalm 85.85 328 *eP* **P** **03 25 06.5 -0.6**
comp=Z,12nm,1.4s
RETA Reutte 85.89 329 *eP* **P** **03 25 05.5 -1.7**
comp=Z,23nm,1.6s,SNR=7.9
DRME Dracevica, Mon 85.89 321 *eP* **P** **03 25 06.7 -0.5**
ANMO Albuquerque 85.91 49 P **P** **03 25 09.6 +1.9**
ANMO IAmb IAmb 03 25 19.9
comp=Z,9.9nm,1.1s
ANMO Albuquerque 85.91 49 P **P** **03 25 07.7 0.0**
baz=311
ANMO Albuquerque 85.91 49 LR LR 04 00 29.0
comp=Z,116nm,20.2s,baz=42,slow=33
ANMO Albuquerque 85.91 49 *ce* **P** **03 25 06.1 -1.6**
ANMO pmax pmax
comp=Z,3.0nm,0.8s
KARP Karpathos 85.96 311 P **P** **03 25 08.5 +0.8**
comp=Z,43nm,2.2s,comp=Z,772nm
SPMN Marine Sn St. 86.08 35 P **P** **03 25 09.0 +0.9**
baz=319
Y22D IRIS PASSCAL I 86.19 50 P **P** **03 25 08.9 -0.2**
baz=311
Y22F Passcal Instru 86.19 50 P **P** **03 25 10.0 +1.0**
baz=311
BFO Black Forest 86.23 330 P **P** **03 25 08.7 -0.1**
BFO IAmb IAmb 03 25 24.1
comp=Z,16nm,0.9s
BFO Black Forest 86.23 330 P **P** **03 25 08.7 -0.1**
BFO pmax pmax
comp=Z,16nm,0.9s
BGNE Belgrade 86.24 40 P **P** **03 25 08.4 -0.6**
baz=316
FETA Feichten 86.27 328 *eP* **P** **03 25 08.2 -1.0**
comp=Z,5.5nm,0.9s
DAVA Damuels 86.42 329 *eP* **P** **03 25 09.1 -0.8**
comp=Z,23nm,1.4s
121A Cookes Peak, D 86.65 52 P **P** **03 25 10.8 -0.6**
baz=311
FUORN Ofenpass-Fuorn 86.78 328 IAmb IAmb 03 25 32.7
comp=Z,14nm,0.9s
ECH Echery 86.79 331 IAmb IAmb 03 25 40.6
comp=Z,10.0nm,1.0s
DAVOX Davos/Dischmat 86.82 329 LR LR 04 07 33.9
comp=Z,630nm,19.2s,baz=19,slow=38
SCHQ Schefferville 86.82 16 P **P** **03 25 12.4 +0.9**
comp=Z,4.8nm,0.7s,baz=348,slow=6.6,SNR=8.2
SCHQ LR LR 04 05 44.7
comp=Z,278nm,21.1s,baz=322,slow=37
comp=Z,4.8nm,0.7s
RTBA Rita Blanca 87.16 46 IAmb IAmb 03 25 23.9
comp=Z,16nm,1.1s
CBKS Cedar Bluff 87.22 43 P **P** **03 25 14.4 +0.5**
baz=315
TUE Stuetta 87.28 329 IAmb IAmb 03 25 48.9
comp=Z,8.2nm,0.8s
TUE Stuetta 87.28 329 P **P** **03 25 15.3 +1.1**
comp=Z,31nm,0.8s
ZCCA Zocca 88.24 326 IAmb IAmb 03 25 44.5
comp=Z,14nm,0.8s
MNTX Cornudas Mount 88.73 51 P **P** **03 25 22.0 +0.9**
baz=312
JFWS Jewell Farm 89.03 35 P **P** **03 25 23.8 +1.5**
baz=321
ATD Arta Tunnel 89.66 284 LR LR 04 08 08.2
comp=Z,10nm,21.7s,baz=42,slow=37
CROK Carrier 89.84 44 IAmb IAmb 03 25 36.3
comp=Z,12nm,0.8s
P38A Dawn 89.94 39 IAmb IAmb 03 25 29.7
comp=Z,6.4nm,0.7s
GLMI Grayling 89.99 30 P **P** **03 25 27.1 +0.3**
baz=325
T35A Sooner Cattle 90.36 42 IAmb IAmb 03 25 40.3
comp=Z,11nm,0.9s
LPIG La Paz 90.37 60 LR LR 04 06 43.6
comp=Z,82nm,18.2s,baz=294,slow=36
CEL Celeste 90.47 320 P **P** **03 25 29.3 +0.1**
comp=Z,13nm,1.2s
OK048 Pawnee Station 90.48 43 IAmb IAmb 03 25 40.8
comp=Z,12nm,0.9s
WMOK Wichita Mounta 90.65 45 IAmb IAmb 03 25 40.1
comp=Z,8.5nm,1.0s
WMOK Wichita Mounta 90.65 45 P **P** **03 25 30.6 +0.5**
baz=316
L44A Lake County Fo 90.69 34 P **P** **03 25 30.6 +0.6**
baz=322
HDIL Hopedale 91.32 36 P **P** **03 25 33.0 0.0**
baz=321
TX31 Lajitas Ar. Si 91.41 52 IAmb IAmb 03 25 44.7
comp=Z,7.4nm,0.9s
TXAR Lajitas Array 91.41 52 P **P** **03 25 30.8 -3.0**
TXAR Lajitas Array 91.41 52 P **P** **03 25 35.3 +1.5**
comp=Z,4.1nm,0.7s,baz=305,slow=2.8,SNR=33
TXAR LR LR 04 02 11.0
comp=Z,144nm,19.8s,baz=304,slow=32
comp=Z,4.1nm,0.7s
TUL3 Leonard 91.49 43 IAmb IAmb 03 25 47.0
comp=Z,13nm,1.0s
TUL3 Leonard 91.49 43 P **P** **03 25 34.2 +0.3**
baz=317
ABTX Abilene, Hawle 91.64 47 P **P** **03 25 36.1 +1.4**
baz=315
VAE Valguarnera 91.83 320 LR LR 04 10 20.8
comp=Z,754nm,19.5s,baz=32,slow=38
U38A Gravette 91.87 41 IAmb IAmb 03 25 45.2
comp=Z,9.0nm,0.9s
SADO Sadowa 92.18 27 LR LR 04 11 13.8
comp=Z,152nm,19.3s,baz=327,slow=38
CCM Cathedral Cave 92.29 38 P **P** **03 25 40.2 +2.7**
CCM IAmb IAmb 03 25 48.8
comp=Z,9.4nm,0.9s
CCM Cathedral Cave 92.29 38 P **P** **03 25 39.3 +1.8**
baz=320
CCM Cathedral Cave 92.29 38 P **P** **03 25 40.2 +2.7**
CCM pmax pmax
comp=Z,9.0nm,0.9s
SFIN Lafayette 92.49 35 P **P** **03 25 38.7 +0.3**
baz=323
JCT Junction City 93.05 49 P **P** **03 25 41.7 +0.5**
baz=315
DRIO Del Rio 93.28 50 IAmb IAmb 03 25 56.3
comp=Z,12nm,1.1s

WHTX Lake Whitney, 93.39 46 P **P** **03 25 43.3 +0.5**
baz=316
MIAR Mount Ida 93.72 42 P **P** **03 25 44.4 +0.2**
baz=318
LONY Lake Ozonia 93.93 24 P **P** **03 25 44.7 -0.4**
baz=332
M53A WI Miller and 94.41 30 P **P** **03 25 46.6 -0.7**
baz=327
WVT Waverly 95.50 38 P **P** **03 25 52.2 -0.1**
baz=322
KEST Kesra 95.77 322 LR LR 04 12 43.2
comp=Z,471nm,20.1s,baz=330,slow=38
TKL Tuckaleechee C 97.84 35 LR LR 04 14 15.4
comp=Z,110nm,18.7s,baz=334,slow=38
ESDC Sonseca Array 98.27 333 P **P** **03 26 05.1 +0.2**
comp=Z,1.5nm,1.2s,baz=69,slow=7.0,SNR=4.0
ESDC LR LR 04 16 01.0
comp=Z,351nm,19.5s,baz=23,slow=39
comp=Z,1.5nm,1.2s
VNDA Vanda 113.65 175 PKiKP **PKiKP** **03 31 04.8 +0.6**
comp=Z,0.6nm,0.6s,baz=336,slow=4.6,SNR=5.8
TORD Torodi Ar. Bea 117.89 314 PKP **PKPdf** **03 31 14.0 -0.3**
comp=Z,1.4nm,0.8s,baz=23,slow=3.2,SNR=7.0
TORD PP **PP** **03 32 25.1 -2.6**
comp=Z,1.8nm,0.9s,baz=19,slow=9.4,SNR=5.9
MAW Mawson 118.05 205 PKP **PKiKP** **03 31 13.5 +0.5**
comp=Z,2.5nm,0.9s,baz=69,slow=6.6,SNR=4.8
QSPA South Pole Qui 125.40 180 PKP **PKPdf** **03 31 27.5 +0.3**
comp=Z,9.5nm,0.9s,baz=292,slow=0.7,SNR=36
BOSA Boshof 125.75 258 PKP **PKPdf** **03 31 29.4 +0.2**
comp=Z,2.2nm,0.9s,baz=23,slow=5.6,SNR=4.8
DBIC Dimbokro 126.89 315 PKP **PKPdf** **03 31 31.3 -0.3**
comp=Z,6.2nm,1.1s,baz=304,slow=3.1,SNR=4.1
ELIB Princess Elisa 131.92 202 *d*PKPdf **PKPdf** **03 31 40.3 +0.8**
TROLL Troll, Antarti 137.75 198 ⇑P PKPdf 03 31 39.7 -11
comp=Z,20nm,0.2s
SNAA Sanae 139.26 197 ⇑P PKPdf 03 31 43.2 -10
comp=Z,11nm,0.5s
SNAA Sanae 139.26 197 PKP **PKPdf** **03 31 53.4 +0.3**
comp=Z,2.2nm,0.9s,baz=119,slow=18,SNR=10
VNA2 Neumayer--Watz 140.84 196 ⇑P **PKPdf** **03 31 50.9 -5.0**
comp=Z,6.0nm,0.6s,baz=109,slow=2.1
VNA3 Neumayer Olymp 141.09 195 ⇑P **PKPdf** **03 31 51.2 -5.2**
comp=Z,0.9nm,0.4s
VNA1 Neumayer--Stat 141.24 196 P **PKPdf** **03 31 54.0 -2.6**
ITTB Itaituba 145.36 30 *eP* **PKPbc** **03 32 03.7 -1.9**
SAML Samuel 145.62 45 PKPdf **PKPbc** **03 32 06.5 +0.2**
SAML Samuel 145.62 45 PKP2 **PKPbc** **03 32 06.5 +0.2**
ROSB Rosrio 147.10 9 *eP* **PKPdf** **03 32 09.7 +1.1**
H03N2 Juan Fernandez 147.42 98 T T 06 16 53.7
baz=290,slow=76,SNR=100
H03N3 Juan Fernandez 147.43 98 T T 06 16 54.8
baz=290,slow=76,SNR=85
H03N1 Juan Fernandez 147.44 98 T T 06 16 52.1
baz=290,slow=76,SNR=109
LPAZ La Paz 147.87 61 **PKPbc** **03 32 13.4 -0.1**
LPAZ La Paz 147.87 61 PKPbc **PKPbc** **03 32 13.2 -0.3**
comp=Z,8.6nm,0.8s,baz=349,slow=5.4,SNR=31
LPAZ La Paz 147.87 61 *eP* **PKPdf** **03 32 10.1 -0.4**
NPGB Novo Progresso 147.94 31 *eP* **PKPdf** **03 32 11.0 +1.0**
PRPB Parauapebas 149.10 21 *eP* **PKPdf** **03 32 12.8 +0.8**
NBPB Pedra_Branca-C 150.04 1 *eP* **PKPdf** **03 32 14.1 +0.7**
RCBR Riachuelo 150.16 353 **PKPbc** **03 32 19.2 +0.5**
RCBR Riachuelo 150.16 353 PKIKP **PKPbc** **03 32 19.2 +0.5**
VILB Vilhena 150.56 45 *eP* **PKPdf** **03 32 13.6 -0.5**
LVC Limon Verde 151.16 71 **PKiKP** **03 32 23.5 +1.7**
LVC Limon Verde 151.16 71 PKPbc **PKiKP** **03 32 23.1 +1.3**
comp=Z,9.5nm,0.8s,baz=332,slow=4.5,SNR=8.2
LVC Limon Verde 151.16 71 PKIKP **PKiKP** **03 32 23.5 +1.7**
GO09 Cerro Castillo 151.68 134 **PKiKP** **03 32 22.8 +1.3**
SMTB Santa Maria do 152.28 18 *eP* **PKPdf** **03 32 17.6 +0.8**
SIV San Ignacio 152.40 50 PKP **PKPdf** **03 32 17.2 +0.3**
comp=Z,2.2nm,0.9s,baz=177,slow=1.3,SNR=9.1
SIV PKPbc **PKiKP** **03 32 24.5 +0.4**
comp=Z,4.9nm,0.6s,baz=270,slow=3.2,SNR=19
LCO Las Campanas 152.72 85 **PKPbc** **03 32 22.3 -2.2**
LCO Las Campanas 152.72 85 PKIKP **PKPbc** **03 32 22.3 -2.2**
AC05 El Transito 153.00 84 **PKiKP** **03 32 26.4 +1.3**
PTLB Pontes e Lacer 153.16 47 *eP* **PKPdf** **03 32 18.5 +0.5**
BBSD Serra de San D 153.59 51 *eP* **PKPdf** **03 32 18.9 +0.3**
SNDB Serra Nova Dou 154.04 28 *eP* **PKPdf** **03 32 19.3 0.0**
PLCA Paso Flores 154.99 111 PKPab **PKPab** **03 32 45.3 +0.8**
comp=Z,27nm,0.9s,baz=237,slow=6.4,SNR=3.4
ARAG Araguaiana, MT 157.20 33 *eP* **PKPdf** **03 32 22.4 -1.1**
BDFB Brasilia 158.60 24 PKPab **PKPab** **03 33 00.2 -0.2**
comp=Z,2.3nm,0.6s,baz=299,slow=4.2,SNR=6.6

*IDC **17** 03:24:10.6±2.6, 35°.89N×141°.40E, h0km, mb3.5/3, mbtmp3.5/4, ML2.7/1, Error ellipse: s-maj=63.1km s-min=29.8km az=50.0*
*JMA **17** 03:24:18.5±0.2, 35°.7N±0°.6×140°.7E±0°.8, h50km±1km, MV2.9/37, NEAR CHOSHI CITY*
ISC 17 03:24:17.3±1.3, 35.74N±0°.05×140°.97E±0°.09, h33km, n12, σ0s 82/16, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIHU	**Itakohorinouch**	**0.42**	**302**	*i* P	**Pn**	**03 24 27.9**	**+0.8**
JIHU				*e*S	**Sn**	**03 24 35.1**	**+1.4**
JSMT	**Sammumatsuo**	**0.44**	**257**	*i* P	**Pb**	**03 24 27.2**	**+0.3**
JSMT				S	**Sn**	**03 24 33.8**	**-0.2**
JCN	**Nagara**	**0.70**	**243**	P	**Pn**	**03 24 30.5**	**-0.5**
JCN				S	**Sb**	**03 24 39.8**	**-0.9**
JYT	**Yasato**	**0.79**	**308**	*i* P	**Pn**	**03 24 31.4**	**-0.8**
BSO4	**Boso 4**	**0.91**	**215**	P	**Pn**	**03 24 34.0**	**+0.3**
JHO	**Hitachi**	**0.92**	**340**	*i* P	**Pb**	**03 24 35.1**	**+0.2**
BSO3	**Boso 3**	**1.01**	**202**	P	**Pn**	**03 24 35.6**	**+0.6**
JAG	**Ashikaga**	**1.40**	**299**	P	**Pn**	**03 24 39.4**	**-1.2**
MJAR	**Matsushiro Arr**	**2.37**	**290**	Pn	**Pn**	**03 24 53.9**	**0.0**
	1.3nm,0.3s,baz=103,slow=21,SNR=47						
MJAR				Sn	**Sb**	**03 25 29.1**	**+0.9**
	0.9nm,0.3s,baz=89,slow=23,SNR=7.3						
	22nm,0.5s						
SONM	**Songino Array**	**28.23**	**306**	P	**P**	**03 30 07.9**	**+0.7**
	0.2nm,0.3s,baz=94,slow=8.7,SNR=2.1						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**44.51**	**303**	P	**P**	**03 32 24.6**	**-1.0**
	0.5nm,0.6s,baz=86,slow=10,SNR=4.7						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**55.74**	**188**	P	**P**	**03 33 50.5**	**-0.3**
	0.4nm,0.7s,baz=1.5,slow=7.3,SNR=1.6						
	0.4nm,0.7s						

ROM 17 03:39:24.3±0.1, 42°.834N±0°.004×13°.092E±0°.006, h10km, ML0.4/5, 1C-1D, Error ellipse: s-maj=0.5km s-min=0.4km az=128.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRCA	**Norcia**	**0.02**	**91**	P	Pg	03 39 26.4	+0.2
NRCA				S	Sg	03 39 27.7	+0.1
NRCA				AML	AML		
	comp=N,848μm,0.1s						
NRCA				AML	AML		
	comp=N,793μm,0.1s						
NRCA				AML	AML		
	comp=E,566μm,0.1s						
NRCA				AML	AML		
	comp=E,649μm,0.1s						
MC2	**Monte Cornacci**	**0.11**	**43**	P	Pg	03 39 27.7	+0.5
MC2				S	Sg	03 39 30.0	+0.7
T1221	**Campello sul C**	**0.18**	**279**	P	Pg	03 39 28.9	+0.6
T1221				S	Sg	03 39 32.0	+1.1
T1221				AML	AML		
	comp=E,19μm,0.1s						
MMO1	**Montemonaco**	**0.18**	**69**	P	Pg	03 39 28.7	+0.4
MMO1				S	Sg	03 39 31.9	+0.8
FDMO	**Fiordimonte**	**0.20**	**359**	P	Pb	03 39 29.4	-0.7
FDMO				S	Sg	03 39 32.6	+1.1
FDMO				AML	AML		
	comp=E,10μm,0.1s						
FDMO				AML	AML		
	comp=N,8μm,0.2s						
GAVE	**Gavelli**	**0.20**	**226**	P	Pb	03 39 29.9	-0.3
GAVE				S	Sg	03 39 32.8	+1.2
CESI	**CESI - Serrava**	**0.22**	**321**	⇓P	Pg	03 39 29.5	+0.6
CESI				S	Sg	03 39 33.3	+1.2
CESI				AML	AML		
	comp=N,23μm,0.2s						
CESI				AML	AML		
	comp=E,26μm,0.1s						
LNSS	**Leonessa**	**0.23**	**189**	P	Pb	03 39 30.1	-0.6
LNSS				S	Sg	03 39 33.4	+1.0
MF5	**Montefalcone A**	**0.31**	**60**	⇑P	Pb	03 39 31.5	-0.5

ROM 17 03:40:23.3±0.0, 43°.080N±0°.002×13°.027E±0°.004, h9km, ML2.1/86, 2C-2D, Error ellipse: s-maj=0.3km s-min=0.1km az=67.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
T1219	**Muccia, Frazio**	**0.03**	**210**	P	Pg	03 40 25.2	+0.2
T1219				S	Sg	03 40 26.2	0.0
MML1	**Montelago di S**	**0.05**	**310**	P	Pg	03 40 25.6	+0.3
MML1				S	Sg	03 40 26.8	+0.2
FDMO	**Fiordimonte**	**0.06**	**134**	P	Pg	03 40 25.6	+0.3
FDMO				S	Sg	03 40 26.9	+0.2
FDMO				AML	AML		
	comp=E,2695μm,0.1s						
FDMO				AML	AML		
	comp=N,2780μm,0.1s						
SEF1	**Sefro**	**0.09**	**319**	P	Pg	03 40 26.1	+0.4
SEF1				S	Sg	03 40 27.8	+0.5
SEF1				AML	AML		
	comp=E,4790μm,1.0s						
SEF1				AML	AML		
	comp=N,3830μm,0.2s						
SEF1				AML	AML		
	comp=E,4785μm,1.0s						
SEF1				AML	AML		
	comp=N,3835μm,0.2s						
PIO1	**Pioraco**	**0.10**	**342**	P	Pg	03 40 26.3	+0.4
PIO1				S	Sg	03 40 28.4	+0.7
CESI	**CESI - Serrava**	**0.12**	**230**	⇑P	Pg	03 40 26.8	+0.7
CESI				S	Sg	03 40 29.1	+1.1
CESI				AML	AML		
	comp=N,1990μm,0.2s						
CESI				AML	AML		
	comp=E,1730μm,0.3s						
FEMA	**Monte Fema**	**0.12**	**172**	P	Pg	03 40 26.8	+0.6
FEMA				S	Sg	03 40 29.1	+0.9
FEMA				AML	AML		
	comp=N,4860μm,1.4s						
FEMA				AML	AML		
	comp=E,7375μm,0.3s						
FEMA				AML	AML		
	comp=N,4860μm,1.5s						
FEMA				AML	AML		
	comp=N,4860μm,0.5s						
FEMA				AML	AML		
	comp=E,7375μm,1.7s						
FIU1	**Fiuminata**	**0.13**	**327**	P	Pg	03 40 26.7	+0.4
FIU1				S	Sg	03 40 29.1	+0.9
CSP1	**Cessapalombo**	**0.13**	**85**	P	Pg	03 40 26.9	+0.6
CSP1				S	Sg	03 40 29.1	+0.7
CSP1				AML	AML		
	comp=E,1995μm,0.6s						
CSP1				AML	AML		
	comp=N,1995μm,1.6s						
PF6	**Pievefavera**	**0.14**	**61**	P	Pg	03 40 26.9	+0.4
PF6				S	Sg	03 40 29.3	+0.7
MDAR	**Monte D'Aria**	**0.14**	**37**	P	Pg	03 40 26.9	+0.5
MDAR				S	Sg	03 40 29.4	+0.8
MDAR				AML	AML		
	comp=N,946μm,1.3s						
MDAR				AML	AML		
	comp=N,945μm,1.3s						
MDAR				AML	AML		
	comp=N,945μm,0.7s						
MDAR				AML	AML		
	comp=E,732μm,0.8s						
SNTG	**Esanatoglia**	**0.19**	**340**	⇓P	Pg	03 40 27.7	+0.5
SNTG				S	Sg	03 40 31.0	+1.1
SNTG				AML	AML		
	comp=E,756μm,0.2s						
SNTG				AML	AML		
	comp=E,767μm,0.2s						
SNTG				AML	AML		
	comp=N,884μm,1.1s						
SNTG				AML	AML		
	comp=N,798μm,1.1s						
MC2	**Monte Cornacci**	**0.21**	**144**	P	Pg	03 40 28.2	+0.6
MC2				S	Sg	03 40 32.0	+1.5
GUMA	**Gualdo di Mace**	**0.23**	**94**	P	Pg	03 40 28.9	+1.0
GUMA				S	Sg	03 40 33.1	+2.1
GUMA				AML	AML		
	comp=E,4780μm,0.5s						
GUMA				AML	AML		
	comp=N,5125μm,0.2s						
GUMA				AML	AML		
	comp=N,3255μm,0.3s						
GUMA				AML	AML		
	comp=E,4865μm,0.5s						
EL6	**Elcito**	**0.26**	**12**	P	Pg	03 40 29.1	+0.6
EL6				S	Sg	03 40 33.3	+1.3
EL6				AML	AML		
	comp=E,2720μm,1.3s						
EL6				AML	AML		
	comp=N,2335μm,1.2s						
EL6				AML	AML		
	comp=N,2335μm,0.8s						
EL6				AML	AML		
	comp=E,2720μm,0.7s						
NRCA	**Norcia**	**0.26**	**165**	P	Pg	03 40 29.0	+0.6
NRCA				S	Sb	03 40 33.5	-1.2
NRCA				AML	AML		
	comp=E,2315μm,0.5s						
NRCA				AML	AML		
	comp=N,3245μm,0.2s						
NRCA				AML	AML		
	comp=N,3435μm,0.2s						
NRCA				AML	AML		
	comp=E,2315μm,0.5s						
NRCA				AML	AML		
	comp=N,3245μm,0.2s						
NRCA				AML	AML		
	comp=E,2510μm,0.5s						
T1221	**Campello sul C**	**0.26**	**211**	⇑P	Pg	03 40 29.3	+0.8
T1221				S	Sb	03 40 33.6	-1.2
T1221				AML	AML		
	comp=E,337μm,1.2s						
T1221				AML	AML		
	comp=N,298μm,0.4s						
T1221				AML	AML		
	comp=E,337μm,1.2s						
ASSB	**Assisi San Ben**	**0.27**	**262**	AML	AML		
	comp=E,1590μm,0.5s						
ASSB				AML	AML		
	comp=N,2940μm,0.2s						
MMO1	**Montemonaco**	**0.28**	**129**	⇓P	Pg	03 40 29.5	+0.5
MMO1				S	Sb	03 40 34.4	-1.3
ATCC	**AVT- Casa Cast**	**0.30**	**290**	P	Pg	03 40 30.1	+0.7
ATCC				S	Sb	03 40 35.3	-0.8
ATCC				AML	AML		
	comp=N,1960μm,0.2s						
ATCC				AML	AML		
	comp=E,2485μm,0.1s						
CING	**Cingoli**	**0.32**	**23**	P	Pg	03 40 30.2	+0.5
CING				S	Sb	03 40 35.7	-1.0
CING				AML	AML		
	comp=E,2135μm,0.1s						
CING				AML	AML		
	comp=N,1155μm,1.1s						
MF5	**Montefalcone A**	**0.33**	**106**	P	Pb	03 40 30.9	-0.6
MF5				S	Sb	03 40 37.0	0.0
MF5				AML	AML		
	comp=N,564μm,1.2s						
MF5				AML	AML		
	comp=E,902μm,0.3s						
MF5				AML	AML		
	comp=N,564μm,1.2s						
SSFR	**Montelago di S**	**0.40**	**333**	P	Pg	03 40 31.6	+0.4
SSFR				S	Sb	03 40 38.6	-0.3
SSFR				AML	AML		
	comp=E,1095μm,0.8s						
SSFR				AML	AML		
	comp=N,763μm,1.3s						
SSFR				AML	AML		
	comp=E,791μm,0.7s						
SSFR				AML	AML		
	comp=N,763μm,0.7s						
SSFR				AML	AML		
	comp=N,1130μm,0.1s						
GAVE	**Gavelli**	**0.40**	**194**	AML	AML		
	comp=E,506μm,1.1s						
GAVE				AML	AML		
	comp=N,410μm,0.4s						
MURB	**Monte Urbino**	**0.41**	**297**	P	Pg	03 40 32.0	+0.6

MURB			S	Sb	03 40 39.1	-0.2	
MURB			AML	AML			
	comp=E,734μm,0.2s						
MURB			AML	AML			
	comp=N,730μm,1.4s						
MURB			AML	AML			
	comp=E,764μm,0.2s						
MURB			AML	AML			
	comp=N,665μm,1.0s						
MURB			AML	AML			
	comp=N,730μm,0.6s						
ARVD	**Arcevia**	**0.42 352**	P	Pg	03 40 32.0	+0.4	
ARVD			S	Sb	03 40 39.1	-0.5	
ARVD			AML	AML			
	comp=E,739μm,0.1s						
ARVD			AML	AML			
	comp=N,482μm,0.2s						
MTRA	**Matera**	**0.42 140**	P	Pg	03 40 31.9	+0.4	
MOMA	**Monte Martano**	**0.43 231**	P	Pg	03 40 32.2	+0.4	
MOMA			S	Sb	03 40 39.7	-0.2	
MOMA			AML	AML			
	comp=N,186μm,0.2s						
MOMA			AML	AML			
	comp=E,257μm,1.0s						
ATFO	**Monte Foce - G**	**0.44 311**	P	Pg	03 40 32.4	+0.5	
ATFO			AML	AML			
	comp=N,100μm,0.4s						
ATFO			AML	AML			
	comp=E,129μm,1.2s						
FRON	**Frontone**	**0.49 333**	P	Pg	03 40 33.1	+0.3	
FRON			S	Sb	03 40 41.2	-0.3	
FRON			AML	AML			
	comp=N,314μm,1.0s						
FRON			AML	AML			
	comp=E,202μm,0.1s						
FRON			AML	AML			
	comp=N,314μm,1.0s						
SMA1	**SAN MARTINO**	**0.50 153**	P	Pg	03 40 33.3	+0.2	
SMA1			AML	AML			
	comp=E,182μm,0.5s						
SMA1			AML	AML			
	comp=N,164μm,0.4s						
OFFI	**Offida**	**0.51 106**	P	Pb	03 40 34.6	+0.2	
OFFI			AML	AML			
	comp=E,384μm,0.6s						
OFFI			AML	AML			
	comp=N,480μm,0.7s						
ATTE	**AVT- Monte Tez**	**0.51 284**	P	Pg	03 40 33.5	+0.3	
ATTE			AML	AML			
	comp=E,91μm,0.4s						
ATTE			AML	AML			
	comp=N,77μm,0.4s						
ATTE			AML	AML			
	comp=E,91μm,1.6s						
ARRO	**Arrone**	**0.54 201**	P	Pg	03 40 34.0	+0.3	
ARRO			AML	AML			
	comp=E,106μm,0.8s						
ARRO			AML	AML			
	comp=E,106μm,1.2s						
ARRO			AML	AML			
	comp=N,106μm,0.6s						
ATVO	**AVT- Monte Val**	**0.54 304**	P	Pg	03 40 34.2	+0.3	
ATVO			AML	AML			
	comp=E,79μm,0.2s						
ATVO			AML	AML			
	comp=N,65μm,1.0s						
COR1	**Corinaldo**	**0.55 358**	P	Pb	03 40 35.3	+0.1	
COR1			AML	AML			
	comp=E,204μm,0.2s						
COR1			AML	AML			
	comp=N,377μm,0.2s						
CESX	**Cesi**	**0.57 215**	P	Pg	03 40 34.5	+0.1	
CESX			AML	AML			
	comp=E,108μm,0.4s						
CESX			AML	AML			
	comp=N,132μm,0.8s						
PIEI	**Pieia**	**0.58 322**	P	Pg	03 40 34.6	0.0	
PIEI			AML	AML			
	comp=E,156μm,0.1s						
PIEI			AML	AML			
	comp=N,89μm,0.2s						
RM33	**Pellescritta (**	**0.59 166**	P	Pg	03 40 34.6	-0.1	
RM33			AML	AML			
	comp=E,99μm,0.7s						
RM33			AML	AML			
	comp=N,84μm,0.8s						
RM33			AML	AML			
	comp=E,99μm,1.3s						
ATPI	**Pietralunga -**	**0.59 309**	P	Pg	03 40 35.0	+0.3	
ATPI			AML	AML			
	comp=E,91μm,0.8s						
ATPI			AML	AML			
	comp=E,91μm,0.8s						
ATPI			AML	AML			
	comp=N,70μm,0.7s						
ATMI	**Monte Miggiano**	**0.61 295**	P	Pb	03 40 35.8	-0.5	
ATMI			AML	AML			
	comp=E,122μm,0.5s						
ATMI			AML	AML			
	comp=N,118μm,1.0s						
TERO	**Teramo**	**0.62 137**	P	Pg	03 40 35.4	0.0	
TERO			AML	AML			
	comp=E,107μm,0.6s						
TERO			AML	AML			
	comp=N,110μm,0.3s						
BADI	**Badiali**	**0.71 307**	P	Pg	03 40 37.4	+0.3	
BADI			AML	AML			
	comp=N,43μm,1.5s						
BADI			AML	AML			
	comp=E,57μm,0.2s						
BADI			AML	AML			
	comp=N,43μm,0.5s						
PE3	**Peglio**	**0.73 328**	P	Pg	03 40 37.7	+0.4	
PE3			AML	AML			
	comp=N,283μm,0.3s						
PE3			AML	AML			
	comp=E,276μm,0.5s						
PARC	**Parchiule**	**0.81 315**	P	Pg	03 40 39.1	+0.2	
PARC			AML	AML			
	comp=N,36μm,0.7s						
PARC			AML	AML			
	comp=E,38μm,1.0s						
CAFI	**Castiglion Fio**	**0.81 288**	P	Pg	03 40 39.2	+0.2	
CAFI			AML	AML			
	comp=E,66μm,0.3s						
CAFI			AML	AML			
	comp=N,52μm,0.5s						
CPGN	**Carpegna, Ital**	**0.89 325**	P	Pb	03 40 41.2	+0.3	
VCEL	**Villa Celiera**	**0.91 139**	P	Pg	03 40 40.7	-0.1	
FAGN	**Fagnano**	**0.91 153**	P	Pg	03 40 40.6	-0.3	
FAGN			AML	AML			
	comp=N,62μm,0.4s						
FAGN			AML	AML			
	comp=N,62μm,1.6s						
FAGN			AML	AML			
	comp=E,101μm,0.4s						
T0110	**Collepietro**	**1.02 147**	P	Pg	03 40 42.5	-0.4	
T0110			AML	AML			
	comp=E,68μm,1.3s						
T0110			AML	AML			
	comp=E,68μm,0.7s						
T0110			AML	AML			
	comp=N,55μm,0.6s						

*IDC **17** 04:01:08.0±1.8,39°.50N×76°.03E, h0km, mb3.6/4, mbtmp3.5/8, ML2.8/3, Error ellipse: s-maj=31.7km s-min=17.1km az=117.0*
*KRNET **17** 04:01:12.6±0.1,39°.68N×75°.75E, mb3.5*
*SOME **17** 04:01:13.8,39°.77N×75°.62E, h20km*
*NNC **17** 04:01:16.6±1.1,39°.86N×75°.66E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=8.5km s-min=6.2km az=166.0*

ISC 17 04:01:12.5±1.5, 39.76N±0°.05×75.69E±0°.03, h5km±9km, n76, σ2s27/117, mb3.6/4, 29C-23D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.70**	**279**	⇓*e*P	**Pb**	**04 01 45.2**	**+0.8**
	baz=82						
SFK				⇓*e*S	**Sg**	**04 02 09.0**	**+1.8**
	baz=82						
ARLS	**Aral**	**2.34**	**334**	⇑*e*P	**Pn**	**04 01 54.5**	**+2.7**
	baz=34						
ARLS				⇑*e*S	**Sb**	**04 02 25.2**	**+0.6**
	baz=34						
OHH	**Osh**	**2.35**	**290**	⇓*e*P	**Pb**	**04 01 54.4**	**-1.1**
	baz=91						
OHH				⇓*e*S	**Sb**	**04 02 25.2**	**+0.3**
	baz=91						
ULHL	**Ulahol**	**2.52**	**9**	⇑*e*P	**Pn**	**04 01 56.7**	**+2.4**
	baz=8.0						
ULHL				⇑*e*S	**Sb**	**04 02 28.9**	**-0.9**
	baz=8.0						
ARSB	**Arslanbob**	**2.59**	**308**	⇓*e*P	**Pn**	**04 01 57.9**	**+2.7**
	baz=9.0						
ARSB				⇓*e*S	**Sb**	**04 02 31.4**	**-0.3**
	baz=9.0						
UCH	**Uchtor**	**2.62**	**341**	P	**Pb**	**04 02 00.0**	**-0.3**
	SNR=151						
UCH	**Uchtor**	**2.62**	**341**	⇑*e*P	**Pn**	**04 01 58.7**	**+2.8**
	baz=40						
UCH				⇑*e*S	**Sb**	**04 02 32.5**	**-0.4**
	baz=40						
KDJ	**Kajisay**	**2.62**	**25**	⇑*e*P	**Pb**	**04 01 58.4**	**-1.7**
	baz=24						
KDJ				⇑*e*S	**Sb**	**04 02 31.9**	**-0.8**
	baz=24						
BOOM	**Boomskoye usch**	**2.73**	**4**	⇓*e*P	**Pn**	**04 01 59.8**	**+2.6**
	baz=3.0						
BOOM				⇓*e*S	**Sn**	**04 02 34.3**	**+3.5**
	baz=3.0						
KBK	**Karagaybulak**	**2.95**	**349**	P	**Pb**	**04 02 05.1**	**-0.6**
	SNR=18						
KBK	**Karagaybulak**	**2.95**	**349**	⇑*e*P	**Pn**	**04 02 03.1**	**+2.9**
	baz=49						
KBK				⇑*e*S	**Sn**	**04 02 39.9**	**+3.8**
	baz=49						
AAK	**Ala-Archa**	**3.01**	**343**	P	**Pb**	**04 02 06.0**	**-0.8**
	SNR=25						
AAK	**Ala-Archa**	**3.01**	**343**	⇑Pn	**Pb**	**04 02 05.6**	**-1.2**
	54nm,0.4s						
AAK				⇑Lg	Lg	04 02 45.6	
	221nm,0.8s						
AAK	**Ala-Archa**	**3.01**	**343**	Pn	**Pb**	**04 02 05.9**	**-0.8**
	104nm,0.4s,baz=52,slow=22,SNR=77						
AAK				Sn	**Sb**	**04 02 45.8**	**+1.9**
	17nm,0.3s,baz=341,slow=20,SNR=20						
AAK	**Ala-Archa**	**3.01**	**343**	⇓*e*P	**Pn**	**04 02 03.9**	**+2.8**
	baz=43						
AAK				⇓*e*S	**Sn**	**04 02 41.5**	**+3.9**
	baz=43						
DRK	**Karamyk**	**3.02**	**266**	⇑*e*P	**Pn**	**04 02 03.2**	**+2.0**
	baz=68						
DRK				⇑*e*S	**Sn**	**04 02 40.5**	**+2.6**
	baz=68						
FRU1	**Bishkek**	**3.15**	**346**	⇓*e*P	**Pn**	**04 02 06.3**	**+3.4**
	baz=45						
FRU1				⇓*e*S	**Sn**	**04 02 45.1**	**+4.2**
	baz=45						
TKM2	**Tokmak 2**	**3.16**	**359**	P	**Pb**	**04 02 07.6**	**-1.6**
	SNR=12						
TKM2	**Tokmak 2**	**3.16**	**359**	⇑Pn	**Pb**	**04 02 07.5**	**-1.8**
	17nm,0.5s						
TKM2				⇑Lg	Lg	04 02 54.7	
	54nm,0.4s						
TKM2	**Tokmak 2**	**3.16**	**359**	⇑*e*P	**Pn**	**04 02 05.8**	**+2.7**
	baz=58						
TKM2				⇑*i*S	**Sn**	**04 02 44.7**	**+3.4**
	baz=58						
EKS2	**Erkin-Say**	**3.24**	**334**	P	**Pb**	**04 02 10.0**	**-0.6**
	SNR=6.5						
EKS2	**Erkin-Say**	**3.24**	**334**	⇓*e*P	**Pn**	**04 02 07.1**	**+3.0**
	baz=34						
EKS2				⇓*e*S	**Sn**	**04 02 46.9**	**+3.8**
	baz=34						
KST	**Kastek**	**3.29**	**3**	Pg	**Pg**	**04 02 14.8**	**-0.8**
	11nm,0.5s						
KST				Lg	Lg	04 02 58.2	
	52nm,0.3s						
KST	**Kastek**	**3.29**	**3**	*e*P	**Pg**	**04 02 15.7**	**+0.2**
	11nm,0.5s						
KST				*e*S	**Sg**	**04 02 59.5**	**+1.3**
	52nm,0.3s						
CHMS	**Chumysh**	**3.31**	**348**	P	**Pb**	**04 02 09.7**	**-2.1**
	SNR=19						
CHMS	**Chumysh**	**3.31**	**348**	⇑Pn	**Pn**	**04 02 09.1**	**+4.1**
	36nm,0.7s						
CHMS				⇑Lg	Lg	04 02 59.1	
	114nm,1.1s						
IZV	**Izvestkoviy**	**3.35**	**12**	Pg	**Pg**	**04 02 15.9**	**-0.8**
	8.5nm,0.5s						
IZV				Lg	Lg	04 03 00.8	
	51nm,0.5s						
IZV	**Izvestkoviy**	**3.35**	**12**	*e*P	**Pg**	**04 02 15.9**	**-0.8**
	8.5nm,0.4s						
IZV				*e*S	**Sg**	**04 02 59.6**	**-0.4**
	51nm,0.5s						
ANVS	**Anan'yevo**	**3.37**	**26**	⇓*e*P	**Pn**	**04 02 08.6**	**+2.6**
	baz=24						
ANVS				⇓*e*S	**Sn**	**04 02 49.6**	**+3.2**
	baz=24						
PRZ	**Przheval'sk**	**3.41**	**36**	⇑*e*P	**Pn**	**04 02 08.9**	**+2.4**
	baz=35						
PRZ				⇑*e*S	**Sn**	**04 02 50.0**	**+2.7**
	baz=35						
TNSS	**Tian-Shan**	**3.41**	**16**	Pg	**Pg**	**04 02 18.6**	**+0.7**
	24nm,0.6s						
TNSS				Lg	Lg	04 03 03.1	
	40nm,0.8s						
TNSS	**Tian-Shan**	**3.41**	**16**	*e*P	**Pg**	**04 02 17.0**	**-0.9**
	24nm,0.6s						
TNSS				*e*S	**Sg**	**04 03 01.7**	**-0.3**
	42nm,0.5s						
DGS	**Degeres**	**3.48**	**1**	Pg	**Pg**	**04 02 19.1**	**-0.1**
	14nm,0.6s						
DGS				Lg	Lg	04 03 05.0	
	50nm,0.8s						
DGS	**Degeres**	**3.48**	**1**	*e*P	**Pg**	**04 02 19.1**	**-0.1**
	14nm,0.6s						
DGS				*e*S	**Sg**	**04 03 05.0**	**+0.7**
	50nm,0.8s						
ARK	**Arkit**	**3.49**	**307**	⇑*e*P	**Pn**	**04 02 10.8**	**+3.3**
	baz=8.0						
ARK				⇑*e*S	**Sn**	**04 02 53.0**	**+3.8**
	baz=8.0						
MRKS	**Merke**	**3.51**	**329**	Pg	**Pg**	**04 02 19.9**	**0.0**
	31nm,0.4s						
MRKS				Lg	Lg	04 03 06.2	
	82nm,0.7s						
MRKS	**Merke**	**3.51**	**329**	*e*P	**Pg**	**04 02 19.4**	**-0.5**
	31nm,0.4s						
MRKS				*e*S	**Sg**	**04 03 05.8**	**+0.4**
	82nm,0.7s						
MDOK	**Medeo**	**3.55**	**16**	Pg	**Pb**	**04 02 19.0**	**+3.1**
	20nm,0.6s						
MDOK				Pg	**Pg**	**04 02 20.1**	**-0.5**
	16nm,0.5s						
MDOK				Lg	Lg	04 03 05.8	
	68nm,0.8s						
MDOK				Lg	Lg	04 03 06.8	
	60nm,0.8s						
MDOK	**Medeo**	**3.55**	**16**	*e*P	**Pg**	**04 02 20.1**	**-0.5**
	16nm,0.5s						
MDOK				*e*S	**Sg**	**04 03 06.8**	**+0.2**
	60nm,0.8s						
USP	**Ospenovka**	**3.62**	**346**	P	**Pn**	**04 02 13.2**	**+4.0**
	SNR=17						
KOTS	**Kotyrbulak**	**3.63**	**17**	Pg	**Pg**	**04 02 22.4**	**+0.3**
	12nm,0.6s						
KOTS				Lg	Lg	04 03 10.3	
	136nm,0.6s						
KOTS	**Kotyrbulak**	**3.63**	**17**	*e*P	**Pg**	**04 02 22.4**	**+0.3**
	12nm,0.6s						
KOTS				*e*S	**Sg**	**04 03 10.7**	**+1.5**
	136nm,0.6s						
MNAS	**Manas**	**3.64**	**320**	⇑*e*P	**Pn**	**04 02 12.7**	**+3.1**
	baz=20						
MNAS				⇑*e*S	**Sn**	**04 02 56.8**	**+3.8**
	baz=20						
BTK	**Batken**	**3.76**	**276**	⇓*e*P	**Pn**	**04 02 14.2**	**+3.0**
	baz=77						
BTK				⇓*e*S	**Sn**	**04 02 58.7**	**+2.8**
	baz=77						
SGDS	**Sogindy**	**3.77**	**348**	Pg	**Pg**	**04 02 24.4**	**-0.5**
	8.9nm,0.4s						
SGDS				Lg	Lg	04 03 14.1	
	51nm,0.5s						
SATY	**Saty**	**3.88**	**31**	Pg	**Pg**	**04 02 25.1**	**-1.8**
	17nm,0.9s						
SATY				Lg	Lg	04 03 16.3	
	30nm,1.1s						
SATY	**Saty**	**3.88**	**31**	*e*P	**Pg**	**04 02 25.5**	**-1.3**
	17nm,0.9s						
SATY				*e*S	**Sg**	**04 03 16.3**	**-0.8**
	30nm,1.1s						
TRKS	**Terek-Say**	**3.89**	**299**	⇓*e*P	**Pn**	**04 02 15.0**	**+1.9**
	baz=99						
TRKS				⇓*e*S	**Sn**	**04 03 01.3**	**+2.1**
	baz=99						
KRBS	**Karabastau**	**3.93**	**360**	Pg	**Pb**	**04 02 26.3**	**+4.0**
	6.3nm,0.6s						
KRBS				Lg	Lg	04 03 16.6	
	38nm,0.8s						
KRBS	**Karabastau**	**3.93**	**360**	*e*P	**Pg**	**04 02 26.8**	**-1.1**
	6.3nm,0.6s						
KRBS				*e*S	**Sg**	**04 03 18.4**	**-0.4**
	38nm,0.8s						
KTBS	**Karatobe**	**4.02**	**10**	Pg	**Pg**	**04 02 28.1**	**-1.4**
	8.0nm,0.7s						
KTBS				Lg	Lg	04 03 21.1	
	59nm,0.7s						
KTBS	**Karatobe**	**4.02**	**10**	*e*P	**Pg**	**04 02 28.5**	**-1.0**
	8.0nm,0.7s						
KTBS				*e*S	**Sg**	**04 03 21.1**	**-0.5**
	59nm,0.7s						
KUU	**Kurty**	**4.16**	**6**	Pg	**Pg**	**04 02 31.1**	**-1.1**
	11nm,0.6s						
KUU				Lg	Lg	04 03 25.8	
	44nm,0.6s						
KUU	**Kurty**	**4.16**	**6**	*e*P	**Pg**	**04 02 31.1**	**-1.1**
	11nm,0.6s						
KUU				*e*S	**Sg**	**04 03 25.8**	**-0.3**
	44nm,0.6s						
KURS	**Kuram**	**4.16**	**26**	Pg	**Pb**	**04 02 29.8**	**+3.6**
	11nm,1.0s						
KURS				Lg	Lg	04 03 24.1	
	23nm,0.8s						
KURS	**Kuram**	**4.16**	**26**	*e*P	**Pb**	**04 02 29.9**	**+3.6**
	11nm,0.5s						
KURS				*e*S	**Sg**	**04 03 23.8**	**-2.4**
	23nm,0.8s						
SHLS	**Shalkode**	**4.42**	**39**	Pg	**Pg**	**04 02 40.8**	**+3.5**
	19nm,0.6s						
SHLS				Lg	Lg	04 03 41.7	
	32nm,0.6s						
SHLS	**Shalkode**	**4.42**	**39**	*e*P	**Pg**	**04 02 40.6**	**+3.4**
	19nm,0.6s						
SHLS				*e*S	**Sg**	**04 03 41.7**	**+7.2**
	32nm,0.6s						
PDGK	**Podgornoye**	**4.57**	**37**	Pg	**Pg**	**04 02 38.5**	**-1.5**
	4.4nm,0.6s						
PDGK				Lg	Lg	04 03 38.1	
	10nm,0.7s						
PDGK	**Podgornoye**	**4.57**	**37**	Pn	**Pn**	**04 02 24.2**	**+1.8**
	2.2nm,0.6s						
PDGK				Pg	**Pg**	**04 02 38.0**	**-2.0**
	9.8nm,0.8s						
PDGK				Lg	Lg	04 03 37.5	
	32nm,0.8s						
ARXS	**Arharly**	**4.73**	**19**	Pg	**Pg**	**04 02 41.4**	**-1.6**
	6.6nm,0.7s						
ARXS				Lg	Lg	04 03 42.6	
	16nm,0.7s						
ARXS	**Arharly**	**4.73**	**19**	*e*P	**Pg**	**04 02 41.5**	**-1.6**
	6.6nm,0.7s						
ARXS				*e*S	**Sg**	**04 03 42.6**	**-1.7**
	16nm,0.7s						
KK31	**Karatay Array**	**5.13**	**312**	⇓Pn	**Pn**	**04 02 31.3**	**+1.3**
	0.4nm,0.3s,baz=125,slow=13,SNR=13						
KK31				⇑Pg	**Pg**	**04 02 49.3**	**-1.4**
	5.7nm,0.7s,baz=131,slow=12,SNR=4.6						
KK31				⇓Sn	**Sn**	**04 03 31.5**	**+1.9**
	8.7nm,0.7s						
KK31				⇓Lg	Lg	04 03 55.9	
	9.8nm,0.7s,baz=124,slow=30,SNR=4.1						
KNOS	**Konyrlen**	**5.28**	**28**	Pg	**Pg**	**04 02 51.6**	**-2.1**
	10nm,0.3s						
KNOS				Lg	Lg	04 04 00.3	
	9.6nm,1.1s						
BTLS	**Baital**	**5.42**	**348**	Pg	**Pg**	**04 02 54.3**	**-1.9**
	4.1nm,0.6s						
BTLS				Lg	Lg	04 04 05.0	
	23nm,0.7s						
BTLS	**Baital**	**5.42**	**348**	*e*P	**Pg**	**04 02 54.3**	**-1.9**
	4.1nm,0.6s						
BTLS				*e*S	**Sg**	**04 04 05.7**	**-0.7**
	23nm,0.7s						
BRLS	**Boroldaу**	**5.48**	**308**	*e*P	**Pg**	**04 02 56.7**	**-0.9**
	3.7nm,0.4s						
BRLS				*e*S	**Sg**	**04 04 10.0**	**+1.4**
	12nm,0.6s						
MK31	**Makanchi Array**	**8.52**	**32**	⇑Pn	**Pn**	**04 03 17.4**	**+0.9**
	0.8nm,0.6s,baz=217,slow=10.0,SNR=3.5						
MK31				⇑Lg	Lg	04 05 44.4	
	3.5nm,1.1s						
MKAR	**Makanchi Array**	**8.52**	**32**	Pn	**Pn**	**04 03 16.7**	**+0.2**
	0.1nm,0.3s,baz=203,slow=13,SNR=4.4						
MKAR				Lg	Lg	04 05 39.7	
	0.1nm,0.3s,baz=214,slow=26,SNR=2.4						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**11.05**	**9**	Pn	**Pn**	**04 03 47.8**	**-3.3**
	0.1nm,0.3s,baz=45,slow=20,SNR=2.8						
KURBB				Sn	**Sn**	**04 05 51.3**	**-3.6**
	baz=314,slow=45						
KURBB				Lg	Lg	04 07 05.4	
	baz=181,slow=31,SNR=4.7						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**13.76**	**346**	Lg	Lg	04 08 31.3	
	0.1nm,0.3s,baz=160,slow=27,SNR=3.7						
ZALV	**Zalesovo Beam**	**15.49**	**21**	Pn	**Pn**	**04 04 48.3**	**-3.2**
	0.2nm,0.3s,baz=199,slow=21,SNR=2.0						
	0.3nm,0.3s						
BRTR	**Keskin Array B**	**32.12**	**284**	P	**P**	**04 07 39.9**	**-1.0**
	0.5nm,0.7s,baz=83,slow=10,SNR=3.7						
	0.5nm,0.7s						
GERES	**GERESS Array B**	**44.16**	**303**	P	**P**	**04 09 21.2**	**-0.9**
	0.8nm,0.6s,baz=66,slow=7.5,SNR=3.5						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.45**	**270**	P	**P**	**04 12 19.3**	**-2.7**
	0.7nm,0.6s,baz=41,slow=6.1,SNR=4.7						
	0.7nm,0.6s						
YKA	**Yellowknife Ar**	**77.76**	**5**	P	**P**	**04 13 07.9**	**-2.2**
	0.2nm,0.8s,baz=316,slow=7.9,SNR=4.2						
	0.2nm,0.8s						

*HVO **17** 04:15:30.4±0.0, 19°.41N×155°.28W, h0km±31km, ML2.6/1, ML2.4/43(NEIC), Mww5.0/7(NEIC), Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **17** 04:15:35.1, 19°.30N×155°.33W, h12km*
*NEIC **17** 04:15:35.1, 19°.30N×154°.90W, h12km, Moment Tensor Solution. Duration: 1s6 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.78; $M_{\theta\phi}$2.27; $M_{\theta\theta}$ 1.51; $M_{r\theta}$-1.56; $M_{\theta\theta}$0.84; M_{rr}-0.73; Fault plane solution: $M_0$3.72000×10^{16} NP1:ϕ_s60.29000°, δ58.80000°, λ-87.51000° NP2:ϕ_s235.49000°, δ31.29000°, λ-94.10000°. Principal axes: T 3.2319, Plg14.0000°, Azm148.0000°; N 0.9761, Plg2.0000°, Azm239.0000°; P -4.2080, Plg76.0000°, Azm338.0000°;*
*GCMT **17** 04:15:52.8±0.2, 19°.36N±0°.02×155°.29W±0°.02, h12km, MW4.9/127, Moment Tensor Solution. s36,c38; s127,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.04±.06; $M_{\theta\phi}$1.57±.07; $M_{\phi\phi}$1.47±.06; $M_{r\theta}$0.88±.28; $M_{\theta\theta}$1.24±.05; $M_{\phi\phi}$0.67±.24; Best double couple: M_o3.10400×10^{16} NP1:ϕ_s228.00000°, δ55.00000°, λ-88.00000°. NP2:ϕ_s44.00000°, δ35.00000°, λ-93.00000°. Principal axes: T 2.9620, Plg10.0000°, Azm317.0000°; N 0.2830, Plg2.0000°, Azm47.0000°; P -3.2450, Plg79.0000°, Azm147.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NEIC 17 04:15:15.5±1.6, 19.40N±0°.01×155°.310W±0°.008, h5km±1km Error ellipse: s-maj=2.5km s-min=1.4km az=197.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRMHI	**West Rim**	**0.01**	**53**	Pg	Pg	04 15 15.6	-1.1
SDHHI	**Sand Hill**	**0.02**	**125**	Pg	Pg	04 15 15.9	-0.7
UWE	**Uwekahuna**	**0.03**	**36**	Pg	Pg	04 15 16.2	-0.6
NPH	**North Pit**	**0.03**	**66**	Pg	Pg	04 15 16.8	+0.1
OBL	**Observatory Le**	**0.03**	**54**	Pg	Pg	04 15 16.6	-0.1
RIM	**Rim**	**0.03**	**97**	Pg	Pg	04 15 16.6	-0.1
UWB	**Uwekahuna B**	**0.04**	**50**		Pg	04 15 16.3	-0.5
KKO	**Keanakako`i**	**0.04**	**93**		Pg	04 15 17.5	+0.7
BYL	**Byron's Ledge**	**0.05**	**75**		Pg	04 15 17.5	+0.6
BYL					IAML	04 15 30.9	
	comp=N,10μm,0.3s						
SBLHI	**Steaming Bluff**	**0.05**	**55**		Pg	04 15 16.6	-0.3
HATHI	**Halema`uma`u T**	**0.05**	**63**		Pg	04 15 17.6	+0.6

HATHI				IAML		04 15 31.1	
	comp=E,8μm,0.6s						
HATHI				IAML		04 15 31.3	
	comp=N,10μm,0.9s						
RSD	**Rainshed**	**0.07**	**25**		Pg	04 15 17.7	+0.4
PUH	**Pauahi**	**0.09**	**106**		Pg	04 15 18.6	+1.1
PUH				IAML		04 15 33.4	
	comp=N,4μm,1.4s						
HLP	**Hilina Pali**	**0.10**	**179**		Pg	04 15 18.4	+0.7
HLP				IAML		04 15 34.4	
	comp=N,2μm,1.3s						
MLH	**Mauna Loa**	**0.12**	**322**	Pg	Pg	04 15 17.9	-0.2
MLH				IAML		04 15 34.0	
	comp=N,2μm,1.2s						
MLH				IAML		04 15 36.7	
	comp=E,1μm,1.1s						
KNHH	**Kane Nui o Ham**	**0.13**	**99**		Pg	04 15 19.9	+1.7
STCH	**Steam Cracks**	**0.17**	**95**		Pg	04 15 19.7	+0.7
STCH				IAML		04 15 35.5	
	comp=N,1μm,1.5s						
NPOC	**North of Pu'u**	**0.19**	**92**		Pg	04 15 20.0	+0.7
JCUZ	**Jacuzzi**	**0.20**	**94**		Pg	04 15 19.5	+0.1
HMH	**Humu'ula Sheep**	**0.26**	**321**	Pg	Pg	04 15 20.1	-0.6
HMH				IAML		04 15 39.6	
	comp=N,753nm,0.8s						
HMH				IAML		04 15 42.0	
	comp=E,498nm,1.5s						
MWH	**Moku'aweowe**	**0.28**	**287**		Pb	04 15 23.0	-0.4
MLOA	**Mauna Loa Obse**	**0.29**	**298**		Pg	04 15 21.7	+0.5
MLOA				IAML		04 15 39.2	
	comp=N,541nm,1.2s						
MLOA				IAML		04 15 43.4	
	comp=E,734nm,1.1s						
JOKA	**Jonika Flow**	**0.29**	**83**		Pg	04 15 20.1	-1.1
JOKA				IAML		04 15 40.5	
	comp=E,724nm,1.8s						
KHU	**Kahuku**	**0.33**	**242**	Pg	Pb	04 15 24.8	+0.8
KHU				IAML		04 15 43.9	
	comp=N,624nm,1.4s						
POHA	**Pohakuloa**	**0.41**	**329**	Pg	Pg	04 15 23.5	-0.1
POHA				IAML		04 15 46.8	
	comp=N,444nm,1.2s						
HUH	**Hualalai**	**0.57**	**300**	Pg	Pg	04 15 26.9	+0.3
HPAH	**Hawaii Prepara**	**0.73**	**330**	Pg	Pg	04 15 29.4	-0.1
HPAH				IAML		04 16 02.4	
	comp=N,146nm,2.6s						
HPAH				IAML		04 16 05.0	
	comp=E,193nm,0.9s						
PPT2	**Papeete2**	**37.19**	**171**	*e*LR	LR	04 32 40.1	
	comp=E,594nm,30.2s						
PPT2				*e*LR	LR	04 32 42.4	
	comp=E,367nm,34.0s						
TBI	**Tubuai**	**42.87**	**172**	*e*LR	LR	04 35 18.5	
	comp=E,2μm,32.0s						
DZM	**Mont Dzumac**	**55.65**	**224**	*e*LR	LR	04 41 18.4	
	comp=E,98nm,24.4s						

*IDC **17** 04:18:53.5±2.7,7.°93S×147.°97E, h65^{km}±22^{km}, mb3.8/14, mbtmp4.1/15, MS3.4/4, Error ellipse: s-maj=33.8km s-min=14.1km az=90.0*

ISC 17 04:18:50.0±0.7, 7.°82S±0.°10×148.°0E±0.°2, h35^{km}, n29, σ1§04/29, mb4.0/13, MS3.4/4, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**1.79**	**208**	P	**Pn**	**04 19 19.7**	**+1.4**
	392nm,0.3s,baz=12,slow=11,SNR=79						
PMG				S	**Sn**	**04 19 41.5**	**+1.7**
	2μm,0.4s,baz=357,slow=20,SNR=24						
PMG				LR	LR	04 19 56.9	
	comp=Z,204nm,18.2s,baz=44,slow=38						
COEN	**Coen**	**7.73**	**218**	P	**Pn**	**04 20 39.0**	**-1.1**
QIS	**Mount Isa**	**15.05**	**212**	P	**Pn**	**04 22 21.1**	**+0.9**
WRA	**Warramunga Arr**	**17.91**	**226**	P	**Pn**	**04 22 55.4**	**-1.1**
	3.5nm,0.7s,baz=53,slow=11,SNR=16						
AS01	**Alice Springs**	**20.74**	**219**	P	**P**	**04 23 27.2**	**-0.5**
ASAR	**Alice Springs**	**20.77**	**219**	P	**P**	**04 23 27.5**	**-0.6**
	2.0nm,0.4s,baz=53,slow=9.9,SNR=17						
ASAR				LR	LR	04 31 24.0	
	comp=Z,71nm,20.0s,baz=168,slow=36						
	2.0nm,0.4s						
LCRK	**Leigh Creek**	**24.31**	**201**	P	**P**	**04 24 05.8**	**+1.5**
STKA	**Stephens Creek**	**24.67**	**193**	P	**P**	**04 24 07.3**	**-0.3**
	1.0nm,0.4s,baz=347,slow=7.2,SNR=5.4						
	1.0nm,0.4s						
WRKA	**Warakurna**	**25.45**	**225**	P	**P**	**04 24 13.0**	**-1.8**
MULG	**Mulgathing**	**25.89**	**209**	P	**P**	**04 24 17.8**	**-0.9**
FORT	**Forrest**	**29.50**	**217**	P	**P**	**04 24 51.3**	**+0.3**
MJAR	**Matsushiro Arr**	**45.08**	**349**	P	**P**	**04 27 03.7**	**+1.0**
	1.0nm,0.4s,baz=219,slow=22,SNR=2.1						
	1.0nm,0.4s						
KSRS	**Korea Array**	**48.80**	**339**	P	**P**	**04 27 33.4**	**+1.6**
	3.6nm,0.7s,baz=156,slow=8.6,SNR=13						
	3.6nm,0.7s						
USRK	**Ussuriysk Ar.**	**53.77**	**346**	LR	LR	04 48 18.7	
	comp=Z,35nm,21.9s,baz=69,slow=33						
PETK	**Petropavlovsk-**	**61.25**	**7**	P	**P**	**04 29 03.3**	**+1.9**
	2.5nm,0.6s,baz=153,slow=5.4,SNR=7.2						
	2.5nm,0.6s						
VNDA	**Vanda**	**70.05**	**177**	P	**P**	**04 29 58.2**	**+0.4**
	2.4nm,0.6s,baz=335,slow=6.8,SNR=36						
	2.4nm,0.6s						
MKAR	**Makanchi Array**	**79.54**	**320**	P	**P**	**04 30 54.0**	**+0.7**
	1.7nm,0.7s,baz=101,slow=6.4,SNR=14						
	1.7nm,0.7s						
MAW	**Mawson**	**80.97**	**203**	P	**P**	**04 30 59.9**	**-0.7**
	1.0nm,0.7s,baz=281,slow=11,SNR=2.4						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**81.08**	**328**	P	**P**	**04 31 01.1**	**-0.3**
	0.6nm,0.4s,baz=120,slow=8.8,SNR=3.8						
ZALV				LR	LR	05 05 36.7	
	comp=Z,23nm,21.5s,baz=70,slow=34						
	0.6nm,0.4s						
QSPA	**South Pole Qui**	**82.16**	**180**	P	**P**	**04 31 06.6**	**-0.5**
	2.9nm,0.5s,baz=183,slow=1.0,SNR=37						
	2.9nm,0.5s						
KURBB	**Kurchatov Arra**	**83.28**	**323**	P	**P**	**04 31 12.7**	**-0.3**
	0.4nm,0.5s,baz=114,slow=4.5,SNR=4.9						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**86.75**	**23**	P	**P**	**04 31 30.1**	**0.0**
	0.7nm,0.7s,baz=252,slow=4.9,SNR=10						
	0.7nm,0.7s						
BVAR	**Borovoye Array**	**88.83**	**324**	P	**P**	**04 31 39.6**	**-0.7**
	0.4nm,0.4s,baz=213,slow=43,SNR=2.3						
BVAR				LR	LR	05 12 23.3	
	comp=Z,24nm,21.9s,baz=26,slow=36						
	0.4nm,0.4s						
NVAR	**Mina Array Bea**	**97.68**	**52**	P	**P**	**04 32 20.6**	**-1.2**
	0.1nm,0.3s,baz=125,slow=7.9,SNR=1.9						
	0.1nm,0.3s						
NOA	**NORSAR Array B**	**118.01**	**338**	PKP	**PKPdf**	**04 37 32.2**	**-0.7**
	0.7nm,0.9s,baz=335,slow=13,SNR=2.1						
GERES	**GERESS Array B**	**123.97**	**325**	PKP	**PKiKP**	**04 37 45.1**	**+0.1**
	0.5nm,0.5s,baz=96,slow=4.9,SNR=1.8						
TORD	**Torodi Ar. Bea**	**146.48**	**282**	PKPbc	**PKPbc**	**04 38 28.1**	**-0.5**
	4.3nm,0.7s,baz=66,slow=3.9,SNR=25						
BDFB	**Brasilia**	**151.79**	**146**	PKPbc	**PKPbc**	**04 38 41.2**	**-1.0**
	3.1nm,0.5s,baz=141,slow=2.1,SNR=8.2						
DBIC	**Dimbokro**	**153.06**	**269**	PKPbc	**PKPbc**	**04 38 44.1**	**-0.8**
	2.6nm,0.8s,baz=76,slow=4.0,SNR=3.6						

*SOME **17** 04:36:22.7, 39.°73N×75.°72E, h5^{km}*
*KRNET **17** 04:36:23.4±0.1, 39.°59N×75.°79E, mb3.5*
*NNC **17** 04:36:28.7±1.8, 39.°88N×75.°55E, h0^{km}, mb3.9, mpv3.5, Error ellipse: s-maj=14.2km s-min=12.0km az=139.0*

ISC 17 04:36:25.1±1.2, 39.°72N±0.°05×75.°65E±0.°03, h10^{km}, n61, σ2§23/97, 30C-17D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.68**	**281**	⇓*i*P	**Pb**	**04 36 55.9**	**-0.4**
	baz=85						
SFK				⇓*i*S	**Sg**	**04 37 19.4**	**+0.2**
	baz=85						
OHH	**Osh**	**2.34**	**291**	⇑*e*P	**Pn**	**04 37 05.2**	**+1.5**
	baz=93						
OHH				⇑*e*S	**Sb**	**04 37 35.4**	**-1.1**
	baz=93						
ARLS	**Aral**	**2.37**	**335**	⇑*e*P	**Pn**	**04 37 05.4**	**+1.2**
	baz=34						
ARLS				⇑*i*S	**Sb**	**04 37 36.6**	**-0.6**
	baz=34						
ARSB	**Arslanbob**	**2.59**	**309**	⇑*e*P	**Pn**	**04 37 08.7**	**+1.5**
	baz=10.0						
ARSB				⇑*e*S	**Sb**	**04 37 42.0**	**-1.7**
	baz=10.0						
UCH	**Uchtor**	**2.65**	**341**	P	**Pn**	**04 37 10.3**	**+2.0**
	SNR=45						
UCH	**Uchtor**	**2.65**	**341**	⇓*i*P	**Pn**	**04 37 09.8**	**+1.5**
	baz=40						
UCH				⇓*i*S	**Sb**	**04 37 43.7**	**-2.0**
	baz=40						
KDJ	**Kajisay**	**2.67**	**25**	⇑*i*P	**Pn**	**04 37 08.8**	**+0.4**
	baz=22						
KDJ				⇑*i*S	**Sn**	**04 37 41.9**	**+1.0**
	baz=22						
BOOM	**Boomskoye usch**	**2.78**	**4**	⇓*i*P	**Pn**	**04 37 10.9**	**+1.1**
	baz=2.0						
BOOM				⇓*i*S	**Sn**	**04 37 45.5**	**+2.0**
	baz=2.0						
KBK	**Karagaybulak**	**2.98**	**350**	P	**Pn**	**04 37 15.1**	**+2.4**
	SNR=15						
KBK	**Karagaybulak**	**2.98**	**350**	⇑*i*P	**Pn**	**04 37 14.2**	**+1.6**
	baz=49						
KBK				⇑*i*S	**Sn**	**04 37 51.3**	**+2.8**
	baz=49						
DRK	**Karamyk**	**2.99**	**267**	⇓*i*P	**Pn**	**04 37 13.5**	**+0.7**
	baz=69						
DRK				⇓*i*S	**Sn**	**04 37 50.2**	**+1.4**
	baz=69						
AAK	**Ala-Archa**	**3.04**	**344**	P	**Pn**	**04 37 16.1**	**+2.7**
	SNR=50						
AAK	**Ala-Archa**	**3.04**	**344**	Pn	**Pn**	**04 37 15.7**	**+2.3**
	49nm,0.5s						
AAK				⇓Lg	Lg	04 37 55.3	
	101nm,0.8s						
AAK	**Ala-Archa**	**3.04**	**344**	⇑*i*P	**Pn**	**04 37 15.2**	**+1.7**
	baz=43						
AAK				⇑*i*S	**Sn**	**04 37 52.7**	**+2.7**
	baz=43						
FRU1	**Bishkek**	**3.18**	**346**	⇑*i*P	**Pn**	**04 37 17.4**	**+2.1**
	baz=45						
FRU1				⇑*i*S	**Sn**	**04 37 56.6**	**+3.3**
	baz=45						
TKM2	**Tokmak 2**	**3.20**	**359**	P	**Pn**	**04 37 17.8**	**+2.2**
	SNR=15						
TKM2	**Tokmak 2**	**3.20**	**359**	⇑Pn	**Pn**	**04 37 17.8**	**+2.2**
	11nm,0.5s						
TKM2				⇓Lg	Lg	04 38 05.0	
	39nm,0.3s						
TKM2	**Tokmak 2**	**3.20**	**359**	⇑*i*P	**Pn**	**04 37 17.1**	**+1.5**
	baz=58						
TKM2				⇑*i*S	**Sn**	**04 37 56.0**	**+2.1**
	baz=58						
EKS2	**Erkin-Say**	**3.26**	**335**	P	**Pn**	**04 37 19.0**	**+2.6**
	SNR=7.6						
KST	**Kastek**	**3.33**	**4**	Pg	**Pg**	**04 37 28.5**	**-0.4**
	12nm,0.3s						
KST				Lg	Lg	04 38 10.0	
	38nm,0.8s						
KST	**Kastek**	**3.33**	**4**	*e*P	**Pb**	**04 37 24.6**	**+0.3**
	15nm,0.5s						
KST				*e*S	**Sg**	**04 38 08.6**	**-3.4**
	38nm,0.8s						
CHMS	**Chumysh**	**3.35**	**349**	P	**Pn**	**04 37 20.2**	**+2.7**
	SNR=8.9						
CHMS	**Chumysh**	**3.35**	**349**	⇓Pn	**Pn**	**04 37 19.9**	**+2.4**
	28nm,0.7s						
CHMS				⇑Lg	Lg	04 38 10.1	
	32nm,0.6s						
CHMS	**Chumysh**	**3.35**	**349**	⇑*i*P	**Pn**	**04 37 18.9**	**+1.4**
	baz=47						
CHMS				⇑*i*S	**Sn**	**04 37 59.7**	**+2.4**
	baz=47						
IZV	**Izvestkoviy**	**3.39**	**12**	Pg	**Pg**	**04 37 29.0**	**-1.1**
	6.7nm,0.4s						
IZV				Lg	Lg	04 38 11.1	
	38nm,0.5s						
IZV	**Izvestkoviy**	**3.39**	**12**	*e*P	**Pg**	**04 37 27.6**	**-2.5**
	6.7nm,0.4s						
IZV				*e*S	**Sg**	**04 38 14.1**	**+0.1**
	38nm,0.5s						
ANVS	**Anan'yevo**	**3.42**	**26**	⇓*e*P	**Pn**	**04 37 19.0**	**+0.4**
	baz=23						
ANVS				⇓*e*S	**Sn**	**04 38 00.2**	**+0.9**
	baz=23						
TNSS	**Tian-Shan**	**3.46**	**16**	Pg	**Pg**	**04 37 29.8**	**-1.5**
	1.5nm,0.1s						
TNSS				Lg	Lg	04 38 12.9	
	29nm,0.6s						
TNSS	**Tian-Shan**	**3.46**	**16**	*e*P	**Pb**	**04 37 25.9**	**-0.7**
	1.5nm,0.1s						
TNSS				*e*S	**Sb**	**04 38 11.4**	**+2.6**
	29nm,0.6s						
DGS	**Degeres**	**3.52**	**1**	Pg	**Pg**	**04 37 32.3**	**-0.2**
	3.9nm,0.2s						
DGS				Lg	Lg	04 38 15.5	
	23nm,0.4s						
DGS	**Degeres**	**3.52**	**1**	*e*P	**Pb**	**04 37 28.4**	**+0.9**
	8.8nm,0.5s						
DGS				*e*S	**Sg**	**04 38 15.5**	**-2.6**
	23nm,0.4s						
MRKS	**Merke**	**3.53**	**330**	Pg	**Pg**	**04 37 32.6**	**-0.2**
	3.0nm,0.2s						
MRKS				Lg	Lg	04 38 16.7	
	42nm,0.7s						
MRKS	**Merke**	**3.53**	**330**	*e*P	**Pb**	**04 37 29.1**	**+1.4**
	8.9nm,0.5s						
MRKS				*e*S	**Sg**	**04 38 16.4**	**-2.2**
	42nm,0.7s						
MDOK	**Medeo**	**3.60**	**16**	⇑Pn	**Pb**	**04 37 25.5**	**-3.4**
	18nm,0.7s						
MDOK				Lg	Lg	04 38 16.1	
	40nm,0.8s						
MNAS	**Manas**	**3.65**	**320**	⇑*i*P	**Pn**	**04 37 23.5**	**+1.7**
	baz=21						
MNAS				⇑*i*S	**Sn**	**04 38 07.7**	**+2.8**
	baz=21						
USP	**Ospenovka**	**3.65**	**347**	P	**Pn**	**04 37 23.9**	**+2.2**
	SNR=13						
USP	**Ospenovka**	**3.65**	**347**	⇑*i*P	**Pn**	**04 37 23.3**	**+1.6**
	baz=46						
USP				⇑*i*S	**Sn**	**04 38 07.0**	**+2.2**
	baz=46						
KOTS	**Kotyrbulak**	**3.68**	**17**	Pg	**Pg**	**04 37 33.4**	**-2.2**
	4.1nm,0.2s						
KOTS				Lg	Lg	04 38 20.0	
	99nm,0.6s						
KOTS	**Kotyrbulak**	**3.68**	**17**	*e*P	**Pb**	**04 37 31.4**	**+1.1**
	6.1nm,0.3s						
KOTS				*e*S	**Sg**	**04 38 20.7**	**-2.5**
	99nm,0.6s						
BTK	**Batken**	**3.73**	**277**	⇑*i*P	**Pn**	**04 37 24.2**	**+1.3**
	baz=79						
BTK				⇑*i*S	**Sn**	**04 38 08.1**	**+1.1**
	baz=79						
SGDS	**Sogindy**	**3.81**	**349**	Pg	**Pg**	**04 37 37.2**	**-0.9**
	7.2nm,0.3s						
SGDS				Lg	Lg	04 38 24.1	
	37nm,0.6s						
TRKS	**Terek-Say**	**3.88**	**299**	⇑*i*P	**Pn**	**04 37 25.8**	**+0.8**
	baz=0.0						
TRKS				⇑*i*S	**Sn**	**04 38 11.7**	**+1.0**
	baz=0.0						
SATY	**Saty**	**3.93**	**31**	Pg	**Pg**	**04 37 39.4**	**-0.9**
	3.8nm,0.2s						
SATY				Lg	Lg	04 38 27.8	
	25nm,0.6s						
SATY	**Saty**	**3.93**	**31**	*e*P	**Pb**	**04 37 35.3**	**+0.8**
	6.3nm,0.3s						
SATY				*e*S	**Sg**	**04 38 27.1**	**-4.1**
	25nm,0.6s						
KRBS	**Karabastau**	**3.97**	**0**	Pg	**Pg**	**04 37 39.2**	**-2.0**
	2.2nm,0.3s						
KRBS				Lg	Lg	04 38 28.2	
	18nm,0.4s						
KRBS	**Karabastau**	**3.97**	**0**	*e*P	**Pb**	**04 37 36.4**	**+1.2**
	6.0nm,0.5s						
KRBS				*e*S	**Sg**	**04 38 28.6**	**-4.1**
	18nm,0.4s						
KTBS	**Karatobe**	**4.06**	**11**	Pg	**Pg**	**04 37 41.5**	**-1.4**
	5.1nm,0.3s						
KTBS				Lg	Lg	04 38 31.7	
	23nm,0.5s						
KTBS	**Karatobe**	**4.06**	**11**	*e*P	**Pb**	**04 37 38.1**	**+1.3**
	5.7nm,0.3s						
KTBS				*e*S	**Sg**	**04 38 32.2**	**-3.4**
	23nm,0.5s						
KUU	**Kurty**	**4.20**	**7**	Pg	**Pg**	**04 37 43.4**	**-2.1**
	8.9nm,0.4s						
KUU				Lg	Lg	04 38 35.5	
	31nm,0.6s						
KUU	**Kurty**	**4.20**	**7**	*e*P	**Pb**	**04 37 40.8**	**+1.7**
	8.9nm,0.4s						
KUU				*e*S	**Sg**	**04 38 36.1**	**-3.9**
	31nm,0.6s						
KURS	**Kuram**	**4.21**	**26**	*e*P	**Pb**	**04 37 39.9**	**+0.6**
	6.8nm,0.7s						
KURS				*e*S	**Sb**	**04 38 35.0**	**+4.8**
	14nm,0.6s						
UZB	**Uzynbulak**	**4.26**	**35**	*e*P	**Pb**	**04 37 41.2**	**+1.0**
	4.9nm,0.3s						
UZB				*e*S	**Sg**	**04 38 37.0**	**-4.9**
	8.5nm,0.2s						
SHLS	**Shalkode**	**4.47**	**39**	*e*P	**Pg**	**04 37 49.0**	**-1.7**
	4.8nm,0.3s						
SHLS				*e*S	**Sg**	**04 38 50.2**	**+1.5**
PDGK	**Podgornoye**	**4.62**	**37**	⇑Pn	**Pn**	**04 37 34.9**	**-0.1**
	3.5nm,0.5s						
PDGK				⇓Lg	Lg	04 38 54.8	
	21nm,0.8s						
ARXS	**Arharly**	**4.77**	**19**	Pg	**Pg**	**04 37 54.0**	**-2.5**
	1.1nm,0.2s						
ARXS				Lg	Lg	04 38 52.4	
	19nm,0.6s						
ARXS	**Arharly**	**4.77**	**19**	*e*P	**Pb**	**04 37 50.5**	**+1.6**
	1.4nm,0.2s						
ARXS				*e*S	**Sg**	**04 38 53.4**	**-5.0**
	19nm,0.6s						
KTMS	**Ketmen**	**5.13**	**42**	*e*P	**Pb**	**04 37 57.7**	**+2.8**
	0.6nm,0.2s						
KTMS				*e*S	**Sg**	**04 39 05.7**	**-4.0**
	3.1nm,0.2s						
KK31	**Karatay Array**	**5.13**	**313**	⇓Pn	**Pn**	**04 37 40.3**	**-1.7**
	0.9nm,0.5s,baz=128,slow=12,SNR=8.2						
KK31				⇓Pg	**Pb**	**04 37 57.0**	**+2.0**
	4.0nm,0.8s,baz=126,slow=13,SNR=3.6						
KK31				⇓Lg	Lg	04 39 08.3	
	5.3nm,0.7s,baz=124,slow=29,SNR=5.2						
BTLS	**Baital**	**5.45**	**348**	Pg	**Pg**	**04 38 07.3**	**-2.2**
	0.9nm,0.3s						
BTLS				Lg	Lg	04 39 15.5	
	14nm,0.8s						
BTLS	**Baital**	**5.45**	**348**	*e*P	**Pb**	**04 38 03.7**	**+3.3**
	1.9nm,0.4s						
BTLS				*e*S	**Sg**	**04 39 15.7**	**-4.3**
	14nm,0.8s						
BRLS	**Borolday**	**5.49**	**309**	*e*P	**Pg**	**04 38 06.3**	**-3.9**
	1.0nm,0.3s						
BRLS				*e*S	**Sg**	**04 39 20.3**	**-0.9**
	5.8nm,0.5s						

*NEIC **17** 04:51:38.1±0.8, 19.°41N±0.°03×154.°92W±0.°02, h5^{km}±1^{km}, Error ellipse: s-maj=5.2km s-min=2.8km az=142.0*

HVO 17 04:51:38.2±1.6, 19.°46N±0.°03×154.°93W±0.°02, h2^{km}±.6^{km}, ML3.4/20, ML2.2/26(NEIC), Error ellipse: s-maj=4.6km s-min=1.6km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PAH	**Pahoa**	**0.04**	**333**		Pg	04 51 39.7	+0.7
PHO	**Puu Honuaula**	**0.04**	**58**		Pg	04 51 39.9	+0.8
PHO	**Puu Honuaula**	**0.04**	**58**		Pg	04 51 39.8	+0.7
JOKA	**Jonika Flow**	**0.08**	**251**		Pg	04 51 40.0	+0.2
JOKA	**Jonika Flow**	**0.08**	**251**	IAML		04 51 41.9	
	comp=N,2μm,0.7s						
JOKA				IAML		04 51 42.0	
	comp=E,811nm,0.6s						
JCUZ	**Jacuzzi**	**0.18**	**246**		Pg	04 51 41.7	0.0
STCH	**Steam Cracks**	**0.20**	**248**		Pg	04 51 42.0	-0.1
KNHH	**Kane Nui o Ham**	**0.24**	**251**		Pg	04 51 42.9	0.0
RSD	**Rainshed**	**0.33**	**271**	Pg	Pg	04 51 45.2	+0.6
RSD				IAML		04 51 51.1	
	comp=E,269nm,0.4s						
RSD				IAML		04 51 51.3	
	comp=N,278nm,1.5s						
HLP	**Hilina Pali**	**0.39**	**246**		Pg	04 51 45.6	-0.2
MLH	**Mauna Loa**	**0.43**	**275**		Pg	04 51 46.9	+0.3
MLH	**Mauna Loa**	**0.43**	**275**	IAML		04 52 00.6	
	comp=E,213nm,2.6s						
MLH				IAML		04 52 01.7	
	comp=N,189nm,1.3s						
HTC	**Hot Caves**	**0.50**	**244**		Pg	04 51 47.7	0.0
HMH	**Humu'ula Sheep**	**0.54**	**285**		Sb	04 51 58.0	-1.0
HMH	**Humu'ula Sheep**	**0.54**	**285**		Pg	04 51 48.6	0.0
HMH	**Humu'ula Sheep**	**0.54**	**285**	IAML		04 52 02.7	
	comp=E,163nm,0.7s						
HMH				IAML		04 52 02.8	
	comp=N,223nm,0.7s						
ALEP	**Alea Permanent**	**0.68**	**277**		Pg	04 51 50.5	-0.8
KHU	**Kahuku**	**0.68**	**252**		Pg	04 51 49.9	-1.4
KHU				IAML		04 52 12.6	
	comp=N,148nm,3.3s						

IDC 17 04:59:20.1±2.8, 54.°12N×86.°51E, h0^{km}, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.8km s-min=13.6km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**261**	I	I	05 06 10.0	
	baz=80,slow=329,SNR=3.0						
ZALV	**Zalesovo Beam**	**1.01**	**261**	Pg	Pg	04 59 37.6	-1.8
	0.7nm,0.3s,baz=82,slow=18,SNR=7.0						
ZALV				Lg	Lg	04 59 54.4	
	2.0nm,0.3s,baz=80,slow=32,SNR=12						
KURBB	**Kurchatov Arra**	**6.01**	**238**	Pn	Pn	05 00 51.2	+1.0
	0.1nm,0.3s,baz=54,slow=13,SNR=3.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**7.81**	**202**	Pn	Pn	05 01 16.2	+1.3
	0.2nm,0.3s,baz=25,slow=14,SNR=5.9						
	0.2nm,0.3s						

IDC 17 05:00:18.2±3.1, 53.°59N×87.°82E, h0^{km}, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=25.3km s-min=15.7km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.81**	**282**	I	I	05 12 20.0	
	baz=98,slow=328,SNR=5.6						
ZALV	**Zalesovo Beam**	**1.81**	**282**	Pg	Pn	05 00 51.0	+0.3
	1.1nm,0.3s,baz=104,slow=16,SNR=7.7						
ZALV				Lg	Lg	05 01 15.1	
	2.0nm,0.3s,baz=104,slow=22,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.45**	**246**	Pn	Pn	05 01 54.6	+0.2
	0.1nm,0.3s,baz=63,slow=14,SNR=5.1						
KURBB				Sn	Sn	05 03 09.2	+0.6
	baz=50,slow=20						
KURBB				Lg	Lg	05 03 41.8	
	baz=65,slow=32,SNR=7.2						
	0.8nm,0.5s						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	05 02 12.8	+1.6
	0.1nm,0.3s,baz=30,slow=14,SNR=4.5						
MKAR

ELOB				Sg		**Sb**	**05 14 02.6**	**+1.5**
ELOB				*i* Vmb_Lg			05 14 03.2	
POLO	**Lamas de Olo**	**1.20**	**153**	*e*P		**Pb**	**05 14 01.3**	**+0.2**
POLO				*e*S		**Sn**	**05 14 17.9**	**+1.1**
POLO				A		A	05 14 19.0	
	40nm,0.4s							
PVRL	**Vila Real**	**1.31**	**153**	*e*Pg		**Pg**	**05 14 05.7**	**+1.5**
PVRL				*e*Sg		**Sn**	**05 14 21.7**	**+2.2**
PVRL				A		A	05 14 29.8	
	61nm,0.6s							
EPON	**Pontenova**	**1.33**	**48**	Pg		**Pg**	**05 14 03.5**	**-1.0**
EPON				Sg		**Sn**	**05 14 22.4**	**+2.4**
EPON				*i* Vmb_Lg			05 14 30.8	
ECAL	**Calabor**	**1.41**	**110**	Pn		**Pb**	**05 14 04.5**	**-0.2**
ECAL				Sn		**Sg**	**05 14 25.8**	**+1.4**
ECAL	**Calabor**	**1.41**	**110**	Pg		**Pg**	**05 14 04.9**	**-1.1**
ECAL				Sg		**Sg**	**05 14 25.6**	**+1.2**
ECAL				*i* Vmb_Lg			05 14 33.7	
PBRG	**Braganca**	**1.46**	**115**	*e*Pn		**Pb**	**05 14 05.4**	**-0.2**
PBRG	**Braganca**	**1.46**	**115**	*e*Pg		Pg	05 14 11.4	+4.4
PBRG				*e*Sg		**Sg**	**05 14 27.7**	**+1.7**
PBRG				A		A	05 14 34.0	
	51nm,0.9s							
MVO	**Moncorvo**	**1.69**	**139**	*e*Pn		**Pn**	**05 14 08.7**	**+1.0**
MVO	**Moncorvo**	**1.69**	**139**	*e*Pg		**Pg**	**05 14 14.4**	**+3.0**
MVO				*e*Sg		**Sg**	**05 14 34.1**	**+0.7**
MVO				A		A	05 14 43.1	
	67nm,0.6s							
PVIS	**Viseu**	**1.79**	**165**	*e*Pg		**Pg**	**05 14 15.1**	**+1.8**
PVIS				*e*Sg		**Sg**	**05 14 36.1**	**-0.5**
PVIS				A		A	05 14 41.5	
	62nm,0.4s							
MTE	**Manteigas**	**2.17**	**160**	*e*Pg		**Pg**	**05 14 20.4**	**-0.1**
MTE				*e*Sg		**Sg**	**05 14 48.1**	**-0.6**
MTE				A		A	05 14 52.2	
	71nm,0.5s							
EJUZ	**Juzbado, Salam**	**2.38**	**124**	Sn		**Sn**	**05 14 46.1**	**+0.2**
EJUZ				Sg		**Sg**	**05 14 54.3**	**-1.2**
PCAS	**Casmilo, Conde**	**2.39**	**180**	*e*Pg		**Pg**	**05 14 23.9**	**-0.9**
PCAS				*e*Sg		**Sg**	**05 14 55.5**	**-0.3**
PCAS				A		A	05 15 04.8	
	28nm,0.6s							
EARI	**Arriondas**	**2.57**	**69**	Pn		**Pn**	**05 14 21.7**	**+1.9**
EARI				Sg		**Sg**	**05 15 00.7**	**-0.7**
EARI				*i* Vmb_Lg			05 15 09.4	
PCBR	**Castelo Branco**	**2.72**	**163**	*e*Sg		**Sg**	**05 15 03.4**	**-2.8**
PCBR				A		A	05 15 07.5	
	19nm,0.4s							
PSBE	**So Bento**	**2.94**	**184**	*e*Pn		**Pn**	**05 14 26.1**	**+1.3**
PSBE				*e*Sg		**Sg**	**05 15 12.2**	**-1.1**
PSBE				A		A	05 15 18.1	
	23nm,0.5s							
EPLA	**Plasencia**	**3.00**	**142**	Pn		**Pn**	**05 14 26.9**	**+1.2**
EPLA				Sn		**Sn**	**05 15 00.9**	**-0.3**
EPLA				Sg		**Sg**	**05 15 14.4**	**-0.9**
EPLA				*i* Vmb_Lg			05 15 22.6	
PMRV	**Marv??o**	**3.13**	**164**	*e*Pn		**Pn**	**05 14 29.1**	**+1.7**
PMRV				*e*Sg		**Sg**	**05 15 18.5**	**-1.0**
PMRV				A		A	05 15 26.3	
	22nm,0.5s							
PMTG	**Montargil**	**3.38**	**176**	*e*Pn		**Pn**	**05 14 31.5**	**+0.6**
PMTG				*e*Sg		**Sg**	**05 15 25.4**	**-2.1**
PMTG				A		A	05 15 32.1	
	9.0nm,0.5s							
PMAFR	**Mafra**	**3.54**	**190**	*e*Pn		**Pn**	**05 14 33.7**	**+0.7**
PMAFR				*e*Sg		**Sg**	**05 15 31.9**	**-0.6**
PMAFR				A		A	05 15 46.4	
	23nm,0.8s							
PMAFR	**Mafra**	**3.54**	**190**	Pn		**Pn**	**05 14 33.2**	**+0.2**
PESTR	**Estremoz**	**3.64**	**169**	*e*Sg		**Sg**	**05 15 33.5**	**-2.4**
PESTR				A		A	05 15 38.3	
	14nm,0.5s							
PESTR	**Estremoz**	**3.64**	**169**	Pn		**Pn**	**05 14 35.5**	**+1.0**
PESTR				Sg		**Sg**	**05 15 32.8**	**-3.1**
GUD	**Guadarrama**	**3.73**	**117**	Pn		**Pn**	**05 14 37.2**	**+1.5**
GUD				Sn		**Sn**	**05 15 18.9**	**-0.4**
GUD				Sg		**Sg**	**05 15 34.8**	**-3.9**
GUD				*i* Vmb_Lg			05 15 44.4	
ELAN	**Lanestosa**	**3.81**	**76**	Pn		**Pn**	**05 14 39.5**	**+2.7**
ELAN				Sn		**Sn**	**05 15 22.5**	**+1.3**
ELAN				Sg		**Sg**	**05 15 36.7**	**-4.5**
ELAN				*i* Vmb_Lg			05 15 49.7	
EBAD	**Badajoz**	**3.86**	**162**	Pn		**Pn**	**05 14 38.9**	**+1.4**
EBAD				Sg		**Sg**	**05 15 39.6**	**-3.2**
EBAD	**Badajoz**	**3.86**	**162**	Pn		**Pn**	**05 14 38.1**	**+0.7**
EBAD				Sg		**Sg**	**05 15 40.6**	**-2.2**
EBAD				*i* Vmb_Lg			05 15 48.7	
EVO	**Evora**	**3.93**	**174**	*e*Pn		**Pn**	**05 14 38.9**	**+0.5**
EVO				*e*Sg		**Sg**	**05 15 42.5**	**-2.5**
EVO				A		A	05 15 46.1	
	12nm,0.4s							
EVO	**Evora**	**3.93**	**174**	Pn		**Pn**	**05 14 38.8**	**+0.5**
EVO				Sg		**Sg**	**05 15 42.0**	**-3.0**
PAB	**San Pablo**	**4.28**	**131**	Pn		**Pn**	**05 14 44.7**	**+1.5**
PAB				Sg		**Sg**	**05 15 52.7**	**-3.5**
PAB				*i* Vmb_Lg			05 16 02.2	
PNCL	**Nicolau / Gran**	**4.33**	**180**	Pn		**Pn**	**05 14 43.1**	**-0.8**
PBAR	**Barrancos**	**4.41**	**165**	*e*Pn		**Pn**	**05 14 45.8**	**+0.8**
PBAR				*e*Sg		**Sg**	**05 15 57.8**	**-2.7**
PBAR				A		A	05 16 09.2	
	11nm,0.5s							
PBAR	**Barrancos**	**4.41**	**165**	Pn		**Pn**	**05 14 45.6**	**+0.6**
PBAR				Sg		**Sg**	**05 15 58.2**	**-2.3**
EGRO	**El Granado**	**4.97**	**171**	Sg		**Sg**	**05 16 15.2**	**-3.2**
EGRO				*i* Vmb_Lg			05 16 26.6	
PVAQ	**Vaqueiros**	**5.07**	**173**	Pn		**Pn**	**05 14 53.9**	**-0.2**
SJPF	**Ste Jean**	**5.40**	**80**	*e*Pn		**Pn**	**05 14 59.3**	**+0.7**
SJPF	**Ste Jean**	**5.40**	**80**	*e*P		Pn	05 15 03.9	+5.3
SJPF				*e*Sn		**Sn**	**05 15 57.7**	**-2.6**
	1.8nm,0.4s							
ETSF	**Etsaut**	**5.87**	**83**	*e*Pn		**Pn**	**05 15 05.4**	**+0.2**
ETSF	**Etsaut**	**5.87**	**83**	*e*P		Pn	05 15 10.7	+5.5
ETSF				*e*Sn		**Sn**	**05 16 09.1**	**-3.0**
	1.4nm,0.3s							
EPF	**Esparros**	**6.54**	**82**	*e*Pn		**Pn**	**05 15 14.9**	**+0.6**
EPF	**Esparros**	**6.54**	**82**	*e*P		Pn	05 15 19.7	+5.4
EPF				*e*Sn		**Sn**	**05 16 24.8**	**-3.6**
	0.7nm,0.2s							
QUIF	**Quistinic**	**6.64**	**33**	*e*Pn		**Pn**	**05 15 15.9**	**+0.3**
ROSF	**Rostrenen**	**6.94**	**30**	*e*Pn		**Pn**	**05 15 20.2**	**+0.4**
LFF	**La Frestale**	**7.15**	**66**	*e*Pn		**Pn**	**05 15 23.3**	**+0.7**
LFF	**La Frestale**	**7.15**	**66**	*e*P		Pn	05 15 28.2	+5.6
SGMF	**Saint Gilles**	**7.16**	**34**	*e*Pn		**Pn**	**05 15 23.5**	**+0.8**
MFF	**Saint Martin d**	**7.27**	**52**	*e*Pn		**Pn**	**05 15 24.7**	**+0.4**
MTLF	**Montolieu**	**7.92**	**80**	*e*Pn		**Pn**	**05 15 33.1**	**-0.1**
MTLF	**Montolieu**	**7.92**	**80**	*e*P		Pn	05 15 38.5	+5.3
MTLF				*e*Sn		**Sn**	**05 16 57.5**	**-5.0**
	1.2nm,0.3s							
FLN	**La Foliniere**	**8.45**	**39**	*e*Pn		**Pn**	**05 15 40.8**	**+0.3**
BGF	**Bois d'Agland**	**9.09**	**59**	*e*Pn		**Pn**	**05 15 49.6**	**+0.4**

*NEIC **17** 05:36:54.4±1.0, 19°.44N±0°.02×154°.96W±0°.02, h5km±1km, Error ellipse: s-maj=3.5km s-min=2.7km az=139.0*

HVO 17 05:36:53.6±1.1,**19°.46N**±0°.01×**154°.91W**±0°.03,**h8**km±2km, **ML2.5**/6,**ML2.5**/46(NEIC), **Error ellipse: s-maj=4.3km s-min=2.0km az=102.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**41**		Pg	05 36 55.8	+0.6
PHO	**Puu Honuaula**	**0.04**	**41**		Pg	05 36 55.7	+0.5
PAH	**Pahoa**	**0.05**	**322**		Pg	05 36 55.9	+0.5
JOKA	**Jonika Flow**	**0.09**	**256**		Pg	05 36 56.2	+0.3
JOKA				IAML		05 36 58.3	
	comp=E,3μm,0.5s						
JOKA				IAML		05 36 58.7	
	comp=N,2μm,0.4s						
JCUZ	**Jacuzzi**	**0.19**	**248**		Pg	05 36 57.7	+0.2
NPOC	**North of Pu'u**	**0.20**	**251**		Pg	05 36 57.8	+0.2
STCH	**Steam Cracks**	**0.21**	**251**		Pg	05 36 58.0	+0.1
KNHH	**Kane Nui o Ham**	**0.25**	**253**		Pg	05 36 58.7	0.0
PUH	**Pauahi**	**0.30**	**254**		Pg	05 36 59.4	-0.2
PUH					Sg	05 37 03.9	+0.3
PUH				IAML		05 37 04.3	
	comp=N,552nm,1.0s						
BYL	**Byron's Ledge**	**0.33**	**263**	Pg	Pg	05 36 59.5	-0.7
BYL				IAML		05 37 11.9	
	comp=N,692nm,0.2s						
BYL				IAML		05 37 12.3	
	comp=E,927nm,0.2s						
HATHI	**Halema'uma'u T**	**0.33**	**264**		Pg	05 37 00.0	-0.2
HATHI				IAML		05 37 05.4	
	comp=E,773nm,1.0s						
HATHI				IAML		05 37 12.1	
	comp=N,833nm,0.6s						
SBLHI	**Steaming Bluff**	**0.34**	**265**	Pg	Pg	05 36 59.5	-0.8
KKO	**Keanakako`i**	**0.34**	**260**	Pg	Pg	05 36 59.9	-0.4
RSD	**Rainshed**	**0.34**	**271**		Pg	05 37 00.6	+0.1
RSD				IAML		05 37 06.0	
	comp=E,864nm,0.2s						
SDHHI	**Sand Hill**	**0.36**	**260**	Pg	Pg	05 37 00.6	-0.2
WRMHI	**West Rim**	**0.37**	**262**	Pg	Pg	05 37 00.4	-0.5
HLP	**Hilina Pali**	**0.40**	**247**	Pg	Pg	05 37 01.2	-0.3
HLP				IAML		05 37 10.1	
	comp=E,510nm,1.2s						
HLP				IAML		05 37 14.9	
	comp=N,566nm,0.9s						
MLH	**Mauna Loa**	**0.45**	**275**		Pg	05 37 02.0	-0.4
MLH					Sg	05 37 08.2	-0.1
MLH				IAML		05 37 10.6	
	comp=E,384nm,0.3s						
MLH				IAML		05 37 11.2	
	comp=N,391nm,0.2s						
HTC	**Hot Caves**	**0.51**	**245**		Pg	05 37 02.8	-0.6
HMH	**Humu'ula Sheep**	**0.56**	**285**		Pg	05 37 04.2	-0.3
HMH				IAML		05 37 17.5	
	comp=E,238nm,0.2s						
HMH				IAML		05 37 17.6	
	comp=N,485nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.63**	**277**	Pg	Pg	05 37 05.3	-0.6
MLOA				IAML		05 37 09.1	
	comp=N,196nm,3.5s						
MLOA				IAML		05 37 27.5	
	comp=E,210nm,2.9s						
MWH	**Moku'aweowe**	**0.65**	**273**		Pg	05 37 04.9	-1.3
MWH				IAML		05 37 20.6	
	comp=N,253nm,1.0s						
MWH				IAML		05 37 27.1	
	comp=E,258nm,1.1s						

IDC 17 05:59:23.5±2.5,**54°.17N**×**86°.50E,h0**km,**mbtmp3.3**/2, **ML3.2**/2,**Error ellipse: s-maj=20.3km s-min=13.5km az=49.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.01**	**258**	I	I	06 06 24.1	
	baz=79,slow=333,SNR=1.5						
ZALV	**Zalesovo Beam**	**1.01**	**258**	Pg	Pg	05 59 41.6	-1.3
	2.6nm,0.3s,baz=79,slow=16,SNR=16						
ZALV				Lg	Lg	05 59 57.4	
	3.4nm,0.3s,baz=73,slow=30,SNR=9.7						
KURBB	**Kurchatov Arra**	**6.03**	**237**	Pn	Pn	06 00 54.8	+1.0
	0.2nm,0.3s,baz=54,slow=13,SNR=13						
KURBB				Sn	Sn	06 02 03.1	-0.4
	baz=45,slow=38						
KURBB				Lg	Lg	06 02 35.1	
	baz=53,slow=30,SNR=4.6 0.9nm,0.3s						
MKAR	**Makanchi Array**	**7.86**	**202**	Pn	Pn	06 01 19.9	+0.9
	0.8nm,0.3s,baz=22,slow=13,SNR=26						
MKAR				Lg	Lg	06 03 25.9	
	0.1nm,0.3s,baz=35,slow=33,SNR=2.4 1.0nm,0.3s						

IDC 17 06:06:56.1±7.6,**15°.13S**×**173°.71W,h0**km,**mb4.1**/2, **mbtmp4.1**/2,**Error ellipse: s-maj=317.0km s-min=66.7km az=139.0,Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S2	**WAKE ISLAND Hy**	**38.58**	**329**	T	T	06 55 57.2	
	baz=149,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**38.59**	**329**	T	T	06 56 01.2	
	baz=149,slow=76,SNR=7.8						
H11S1	**WAKE ISLAND Hy**	**38.59**	**329**	T	T	06 55 56.4	
	baz=149,slow=76,SNR=8.9						
H11N3	**WAKE ISLAND Hy**	**39.53**	**331**	T	T	06 57 11.4	
	baz=142						
H11N1	**WAKE ISLAND Hy**	**39.53**	**331**	T	T	06 57 08.5	
	baz=142						
H11N2	**WAKE ISLAND Hy**	**39.55**	**331**	T	T	06 57 25.9	
	baz=142						
WRA	**Warramunga Arr**	**49.62**	**257**	P	P	06 15 49.8	+0.1
	0.9nm,0.5s,baz=91,slow=6.7,SNR=14 0.9nm,0.5s						
ASAR	**Alice Springs**	**49.92**	**252**	P	P	06 15 51.6	-0.4
	1.9nm,0.6s,baz=88,slow=8.5,SNR=23 1.9nm,0.6s						
BRTR	**Keskin Array B**	**145.76**	**321**	PKPbc	PKPdf	06 26 36.8	-0.4
	0.7nm,0.9s,baz=64,slow=3.4,SNR=2.2						

*MEX **17** 06:11:48.2±0.9, 13°.57N×92°.19W, h15km, MD4.0*
*GCG **17** 06:11:56.5±0.3, 14°.23N×91°.22W, h50km±16km, MD3.6*

ISC 17 06:11:48.0±3.0,**13°.8N**±0°.1×**92°.15W**±0°.08,**h1**km±12km,**n14, s1**§**28/21,Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.73**	**51**	*e*P	**Pn**	**06 12 05.9**	**+0.5**
RTAL	**Retalhuleu**	**0.81**	**33**	*e*P	**Pb**	**06 12 05.8**	**+0.9**
RTAL				*i* S	**Sb**	**06 12 17.5**	**+1.1**
STG3	**Santiaguito 3,**	**1.03**	**33**	*e*P	**Pb**	**06 12 09.4**	**+0.7**
THIG		**1.07**	**354**	*e*P	**Pg**	**06 12 07.9**	**-0.6**
THIG				*e*S	**Sb**	**06 12 24.9**	**+1.2**
CHUJ	**Union Juarez**	**1.25**	**2**	*e*P	**Pg**	**06 12 11.0**	**-0.9**
CHUJ				*e*S	**Sb**	**06 12 30.2**	**+1.1**
PATR	**El Naranjo**	**1.27**	**356**	*e*P	**Pg**	**06 12 11.2**	**-1.3**
PATR				*e*S	**Sb**	**06 12 30.3**	**+0.5**
PAVE	**Pavencul**	**1.34**	**359**	*e*P	**Pg**	**06 12 12.2**	**-1.6**
PAVE				*e*S	**Sg**	**06 12 32.0**	**+0.7**
FUG	**Fuego 3**	**1.40**	**64**	*e*P	Pg	06 12 07.5	-7.5
PCG	**Pacaya**	**1.59**	**70**	*e*P	Pn	06 12 10.0	-7.6
HUEH	**Huehuetenango**	**1.60**	**23**	*e*P	**Pn**	**06 12 16.7**	**-0.9**
HUEH				*i* S	**Sn**	**06 12 36.9**	**-2.1**
PCIG		**2.12**	**331**	*e*S	**Sn**	**06 12 50.0**	**-1.6**
CCIG	**Comitan**	**2.43**	**0**	*e*P	**Pn**	**06 12 31.3**	**+2.4**
CCIG				*e*S	**Sb**	**06 13 03.1**	**0.0**
TGIG		**3.07**	**342**	*e*P	**Pn**	**06 12 38.4**	**+0.7**
TGIG				*e*S	**Sn**	**06 13 13.8**	**-1.3**
UXUV	**UXUV**	**3.96**	**331**	*e*P	**Pn**	**06 12 50.2**	**+0.3**
UXUV				*e*S	**Sn**	**06 13 36.2**	**-0.7**

*TRN **17** 06:21:43.9, 10°.77N×62°.43W, h75km, MD3.1, North of the Paria peninsula.*
*FUNV **17** 06:21:43.4, 10°.66N×62°.38W, h95km, MW3.2*

ISC 17 06:21:40.2±1.5,**10°.67N**±0°.06×**62°.40W**±0°.04, **h113**km±12km,**n13,**σ**1§83/24,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.82**	**271**	*e*P	**Pn**	**06 22 01.2**	**+1.3**
CRUV				*e*S	**Sn**	**06 22 13.8**	**-1.1**
CRUV	**Carupano**	**0.82**	**271**	*e*P	**Pn**	**06 22 01.4**	**+1.4**
CRUV				*e*S	**Sn**	**06 22 12.1**	**-2.8**
TRN	**Trinidad (W)**	**0.98**	**91**	*e*P	**Pn**	**06 22 03.2**	**+1.8**
TRN				*e*S	**Sn**	**06 22 16.8**	**-0.8**
GRFF	**Grenada Fort F**	**1.52**	**25**	*e*P	**Pn**	**06 22 08.5**	**+1.0**
GRFF				*e*S	**Sn**	**06 22 27.0**	**-1.2**
GRGR	**Grenville**	**1.63**	**27**	*e*P	**Pn**	**06 22 10.2**	**+1.3**
GRGR				*e*S	**Sn**	**06 22 29.1**	**-1.5**
GRHS	**Sauteurs**	**1.72**	**26**	*e*P	**Pn**	**06 22 11.3**	**+1.4**
GRHS				*e*S	**Sn**	**06 22 30.1**	**-2.4**
PCRV	**Puerto La Cruz**	**2.25**	**258**	*e*P	**Pn**	**06 22 18.2**	**+1.6**
PCRV				*e*S	**Sn**	**06 22 43.8**	**-0.7**
PCRV	**Puerto La Cruz**	**2.25**	**258**	*e*P	**Pn**	**06 22 18.9**	**+2.2**
PCRV				*e*S	**Sn**	**06 22 45.1**	**+0.5**
TACV	**Tcata**	**4.58**	**264**	*e*P	**Pn**	**06 22 49.6**	**+2.1**
TACV				*e*S	**Sn**	**06 23 38.6**	**-1.3**
LUEV	**Luepa**	**4.88**	**169**	*e*P	**Pn**	**06 22 52.6**	**+0.9**
LUEV				*e*S	**Sn**	**06 23 45.5**	**-1.8**
CACV	**CAICARA DEL OR**	**5.12**	**233**	*e*P	Pn	06 22 51.1	-3.6
CACV				*e*S	Sn	06 23 42.0	-11
BENV	**Beln**	**5.17**	**263**	*e*P	**Pn**	**06 22 57.4**	**+1.9**
BENV				*e*S	**Sn**	**06 23 52.0**	**-1.9**
BAUV	**El Baul**	**5.82**	**253**	*e*P	**Pn**	**06 23 04.6**	**+0.4**
BAUV				*e*S	**Sn**	**06 24 06.4**	**-3.3**

*IDC **17** 06:47:42.1±3.5, 37°.27N×71°.79E, h172km±25km, mb3.3/8, mbtmp3.9/15, Error ellipse: s-maj=37.0km s-min=15.5km az=160.0*

*NNC **17** 06:47:46.3±7.5, 37°.82N×71°.90E, h0km, mb4.0, mpv3.5, Error ellipse: s-maj=58.1km s-min=43.3km az=169.0*

ISC 17 06:47:39.6±1.2,**37°.2N**±0°.1×**71°.88E**±0°.08,**h150**km,**n19,** σ**1§99/25,mb3.5/8,3C-2D,Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**5.80**	**19**	⇓P	**Pn**	**06 49 06.5**	**+2.7**
	4.0nm,0.4s						
AAK				⇑S	**Sn**	**06 50 09.7**	**+0.1**
	49nm,0.7s						
AAK	**Ala-Archa**	**5.80**	**19**	P	**Pn**	**06 49 06.8**	**+3.0**
	8.0nm,0.4s,baz=243,slow=6.8,SNR=17						
AAK				S	**Sn**	**06 50 10.2**	**+0.7**
	24nm,0.5s,baz=149,slow=23,SNR=6.4						
KK31	**Karatay Array**	**6.00**	**350**	⇑P	**Pn**	**06 49 08.8**	**+2.5**
	1.7nm,0.2s,baz=154,slow=10.0,SNR=29						
KK31				S	**Sn**	**06 50 12.4**	**-1.7**
	15nm,0.3s,baz=168,slow=16,SNR=19						
TKM2	**Tokmak 2**	**6.39**	**25**	⇓P	**Pn**	**06 49 14.1**	**+2.4**
	2.0nm,0.5s						
TKM2				⇑S	**Sn**	**06 50 19.4**	**-4.4**
	5.0nm,0.5s						
GEYT	**Alibeck**	**10.96**	**278**	P	**Pn**	**06 50 14.1**	**+1.9**
	2.1nm,0.3s,baz=105,slow=9.7,SNR=4.1						
GEYT				S	**Sn**	**06 52 11.2**	**-2.2**
	4.2nm,0.5s,baz=101,slow=15,SNR=4.6						
MKAR	**Makanchi Array**	**12.32**	**36**	P	**P**	**06 50 33.0**	**-2.9**
	0.5nm,0.5s,baz=212,slow=10,SNR=4.9						
KURBB	**Kurchatov Arra**	**14.25**	**17**	P	**P**	**06 50 56.1**	**-1.1**
	2.1nm,0.3s,baz=201,slow=11,SNR=4.0						
AB31	**Akbulak array**	**14.85**	**328**	P	**P**	**06 51 07.1**	**+3.2**
	1.9nm,0.6s,baz=135,slow=13,SNR=31						
AB31				S	**Sn**	**06 53 46.3**	**-0.5**
	3.7nm,0.5s,baz=150,slow=22,SNR=11						
BVAR	**Borovoye Array**	**15.87**	**357**	P	**P**	**06 51 15.2**	**0.0**
	1.2nm,0.5s,baz=167,slow=8.9,SNR=6.4						
AKTO	**Aktyubinsk**	**16.56**	**327**	P	**Pn**	**06 51 22.6**	**-0.4**
	9.3nm,0.4s,baz=136,slow=8.3,SNR=11						
ZALV	**Zalesovo Beam**	**19.00**	**24**	P	**P**	**06 51 49.2**	**-0.3**
	1.1nm,0.3s,baz=211,slow=10,SNR=7.7						
SONM	**Songino Array**	**27.36**	**56**	P	**P**	**06 53 11.1**	**+0.4**
	0.9nm,0.7s,baz=262,slow=10,SNR=4.8 0.9nm,0.7s						
BRTR	**Keskin Array B**	**29.91**	**287**	P	**P**	**06 53 34.2**	**+0.8**
	0.5nm,0.4s,baz=80,slow=9.1,SNR=2.8 0.5nm,0.4s						
AKASG	**Malin Array Be**	**33.08**	**308**	P	**P**	**06 54 00.1**	**-0.7**
	0.2nm,0.3s,baz=100,slow=10,SNR=1.9 0.2nm,0.3s						
FINES	**FINESS Array B**	**37.31**	**325**	P	**P**	**06 54 36.6**	**-0.3**
	0.4nm,0.3s,baz=111,slow=9.5,SNR=2.4 0.4nm,0.3s						
ARCES	**ARCESS Array B**	**40.78**	**337**	P	**P**	**06 55 05.0**	**-0.6**
	0.5nm,0.4s,baz=114,slow=8.5,SNR=5.8 0.5nm,0.4s						
HFS	**Hagfors**	**42.97**	**321**	P	**P**	**06 55 23.0**	**-0.5**
	3.5nm,0.5s,baz=97,slow=12,SNR=10 3.5nm,0.5s						
NOA	**NORSAR Array B**	**44.26**	**323**	P	**P**	**06 55 32.9**	**-0.9**
	0.5nm,0.5s,baz=104,slow=7.0,SNR=1.1 0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.44**	**269**	P	**P**	**06 58 11.1**	**-2.0**
	0.2nm,0.4s,baz=42,slow=7.3,SNR=1.9 0.2nm,0.4s						

*IDC **17** 06:49:10.7±2.7, 55°.52N×149°.43W, h0km, mb3.0/2, mbtmp3.3/7, ML3.0/5, MS3.1/5, Error ellipse: s-maj=46.3km s-min=23.2km az=55.0*
*NEIC **17** 06:49:18.5±1.4, 56°.23N±0°.08×149°.3W±0°.1, h21km±8km, mb3.7/3, MS3.4/48, ML3.3(AEIC), Error ellipse: s-maj=11.9km s-min=8.4km az=165.0*
*AEIC **17** 06:49:20.9±1.4, 56°.28N±0°.08×149°.34W±0°.09, h1km±6km, Error ellipse: s-maj=11.9km s-min=7.3km az=177.0*

ISC 17 06:49:16.7±1.1,**56°.27N**±0°.08×**149°.32W**±0°.06,**h10**km, **n193,**σ**1§23/186,mb3.2/3,MS3.0/3,Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.34**	**312**	Pn	**Pn**	**06 49 55.8**	**+0.6**
KDAK	**Kodiak Island**	**2.34**	**312**		**Sn**	**06 50 22.1**	**-1.9**
KDAK	**Kodiak Island**	**2.34**	**312**	Pn	**Pn**	**06 49 56.0**	**+0.8**
	1.2nm,0.3s,baz=116,slow=6.1,SNR=38						
KDAK				Sn	**Sn**	**06 50 22.3**	**-1.7**
	3.6nm,0.3s,baz=60,slow=23,SNR=14 15nm,0.9s						
OHAK	**Old Harbor**	**2.38**	**295**	P	**Pn**	**06 49 55.5**	**-0.3**
OHAK	**Old Harbor**	**2.38**	**295**	Pn	**Pn**	**06 49 55.9**	**0.0**
OHAK	**Old Harbor**	**2.38**	**295**		**Sn**	**06 50 22.9**	**-2.1**
OHAK	**Old Harbor**	**2.38**	**295**	P	**Pn**	**06 49 55.8**	**0.0**
	baz=113						
OHAK				S	**Sn**	**06 50 22.9**	**-2.1**
	baz=113						
SII	**Sitkinak Islan**	**2.72**	**278**	Pn	**Pn**	**06 50 02.3**	**+1.9**
SII				IAML		06 50 34.1	
	comp=E,96nm,0.9s						
SII				IAML		06 50 47.9	
	comp=N,105nm,1.0s						
SYI	**Shuyak Island**	**2.87**	**326**	Pn	**Pn**	**06 50 03.2**	**+0.7**
SYI	**Shuyak Island**	**2.87**	**

EYAK	Cordova Ski Ar	4.68	22			Pn	06 50 27.6 +0.2
EYAK	Cordova Ski Ar	4.68	22	P		Pn	06 50 27.6 +0.2
	baz=205						
FID	Port Fidalgo	4.73	17			Pn	06 50 28.9 +0.8
FID					IAML		06 51 22.3
	comp=N,24nm,0.6s						
FID					IAML		06 51 27.5
	comp=E,38nm,0.8s						
O18K	Koktuh Hills	4.76	321	Pn		Pn	06 50 29.4 +1.0
O18K					IAML		06 51 37.4
	comp=N,18nm,0.8s						
O18K					IAML		06 51 58.3
	comp=E,17nm,0.9s						
GLI	Glacier Island	4.77	13			Pn	06 50 28.8 +0.3
GLI					IAML		06 51 29.1
	comp=E,33nm,1.0s						
GLI					IAML		06 51 30.4
	comp=N,26nm,1.1s						
GLI	Glacier Island	4.77	13	P		Pn	06 50 28.8 +0.3
	baz=195						
RAGM	Ragged Mountai	4.80	29			Pn	06 50 30.8 +1.7
P17K	Kvichak River	4.81	311			Pn	06 50 29.8 +0.7
P17K	Kvichak River	4.81	311	P		Pn	06 50 29.8 +0.7
	baz=125						
SUCK	Suckling Hills	4.81	35			Pn	06 50 30.4 +1.3
SUCK					IAML		06 51 31.6
	comp=E,44nm,1.0s						
RC01	Rabbit Creek A	4.84	358	Pn		Pn	06 50 29.9 +0.4
RC01					IAML		06 51 31.2
	comp=E,20nm,0.6s						
RC01					IAML		06 51 31.5
	comp=N,30nm,1.0s						
ANNE	Aniakchak Nort	4.87	281			Pn	06 50 31.3 +1.3
HMT	Hamilton	4.87	31			Pn	06 50 30.9 +0.9
NICHA	Nichawak Mount	4.88	33			Pn	06 50 31.1 +1.0
GOAT	Goat Mountain	4.95	27			Pn	06 50 31.9 +0.8
BGLC	Bering Glacier	5.01	37			Pn	06 50 32.6 +0.8
BGLC	Bering Glacier	5.01	37	P		Pn	06 50 32.6 +0.8
	baz=222						
GRIN	Grindle Hills	5.12	36			Pn	06 50 33.9 +0.5
KNK	Knik Glacier	5.18	5			Pn	06 50 35.0 +0.8
KNK	Knik Glacier	5.18	5	IAML			06 52 57.3
	comp=N,20nm,0.2s						
KNK					IAML		06 52 57.6
	comp=E,30nm,1.0s						
KNK	Knik Glacier	5.18	5	P		Pn	06 50 35.0 +0.8
	baz=185						
SNH	Sunshine Point	5.21	38	Pn		Pn	06 50 35.2 +0.6
SNH					IAML		06 51 49.0
	comp=E,34nm,1.1s						
SNH					IAML		06 51 53.1
	comp=N,27nm,1.0s						
DIV	Divide	5.21	19			Pn	06 50 35.5 +0.7
KHIT	Khitrov Hills	5.26	35			Pn	06 50 35.9 +0.4
N19K	Bonanza Creek	5.30	331	Pn		Pn	06 50 36.3 +0.4
N19K	Bonanza Creek	5.30	331	P		Pn	06 50 36.2 +0.4
	baz=147						
BMRM	Bremner River	5.32	26			Pn	06 50 37.0 +0.8
BMRM	Bremner River	5.32	26	P		Pn	06 50 37.0 +0.8
	baz=209						
WAX	Waxell Ridge	5.40	36			Pn	06 50 37.9 +0.6
STLK	Strandline Lak	5.40	347			Pn	06 50 37.8 +0.4
SPNN	North Nagishla	5.40	342			Pn	06 50 38.1 +0.7
BARK	Barkley Ridge	5.49	38			Pn	06 50 39.0 +0.5
GHO	Glory Hole Cre	5.52	2			Pn	06 50 40.3 +1.3
MESA	MESA	5.52	42			Pn	06 50 40.2 +1.0
MESA	MESA	5.52	42	P		Pn	06 50 40.2 +1.0
	baz=228						
KLU	Klutina	5.53	17			Pn	06 50 40.2 +1.2
KLU	Klutina	5.53	17	P		Pn	06 50 39.8 +0.7
	baz=200						
SML	Sawmill	5.58	5			Pn	06 50 41.3 +1.6
SML	Sawmill	5.58	5	P		Pn	06 50 40.9 +1.2
	baz=185						
N18K	Kilae Creek	5.60	325	Pn		Pn	06 50 40.6 +0.5
N18K	Kilae Creek	5.60	325	P		Pn	06 50 40.4 +0.3
	baz=139						
SCM	Sheep Creek Mo	5.67	10			Pn	06 50 42.6 +1.5
ISLE	Juniper Island	5.68	37			Pn	06 50 41.8 +0.6
O16K	Kokwok River B	5.74	309	Pn		Pn	06 50 43.8 +2.0
VRDI	Verde Repeater	5.83	29			Pn	06 50 44.2 +0.8
SKT	Skwentna	5.84	350	Pn		Pn	06 50 44.8 +1.6
SKT	Skwentna	5.84	350	P		Pn	06 50 44.1 +0.9
	baz=168						
N25K	Chitina, Valde	5.88	23			Pn	06 50 45.1 +1.1
N25K	Chitina, Valde	5.88	23	P		Pn	06 50 45.0 +1.1
	baz=206						
KIAG	Kiagna River	5.92	35			Pn	06 50 45.2 +0.7
GLB	Gilahina Butte	5.92	27			Pn	06 50 45.5 +1.0
N17K	Nushagak Hills	5.94	319	Pn		Pn	06 50 45.8 +1.1
N17K	Nushagak Hills	5.94	319	P		Pn	06 50 45.6 +0.9
	baz=133						
SAMH	Samovar Hills	5.95	46			Pn	06 50 46.2 +1.4
M24K	Tolsona, Glenn	6.07	14			Pn	06 50 48.2 +1.7
M24K	Tolsona, Glenn	6.07	14	P		Pn	06 50 47.8 +1.3
	baz=196						
MCARA	McCarthy VSAT	6.08	30			Pn	06 50 48.9 +2.3
MCARA	McCarthy VSAT	6.08	30	P		Pn	06 50 47.9 +1.3
	baz=215						
PTPK	Patty Peak	6.09	33			Pn	06 50 47.5 +0.7
M18K	Stony River	6.22	330			Pn	06 50 48.8 +0.3
M18K	Stony River	6.22	330	P		Pn	06 50 48.8 +0.3
	baz=144						
BARN	Barnard Glacie	6.25	37			Pn	06 50 49.8 +0.8
PNL	Peninsula	6.28	53	P		Pn	06 50 50.1 +0.7
PNL	Peninsula	6.28	53			Pn	06 50 49.9 +0.5
PNL	Peninsula	6.28	53	P		Pn	06 50 49.9 +0.5
	baz=241						
CTG	Chitna Glacier	6.29	38	P		Pn	06 50 50.1 +0.6
	baz=225						
CTGM	Chitina Glacie	6.29	38			Pn	06 50 50.3 +0.8
LOGN	Logan Glacier	6.31	40			Pn	06 50 50.3 +0.4
BCPM	Bancas Point	6.32	50			Pn	06 50 50.8 +0.9
O15K	Ungalikthiuk R	6.33	302			Pn	06 50 51.2 +1.2
O15K	Ungalikthiuk R	6.33	302	P		Pn	06 50 51.2 +1.2
	baz=113						
WAT6	Susitna Watana	6.38	7			Pn	06 50 51.8 +0.9
WAT6	Susitna Watana	6.38	7	P		Pn	06 50 51.7 +0.9
	baz=188						
HARP	HAARP	6.50	17			Pn	06 50 54.0 +1.6
HARP	HAARP	6.50	17	P		Pn	06 50 54.0 +1.6
	baz=201						
L19K	White Mountain	6.57	337	Pn		Pn	06 50 53.5 +0.2
L19K	White Mountain	6.57	337	P		Pn	06 50 54.7 +1.4
	baz=152						
O28M	Mount Upton	6.57	43			Pn	06 50 54.4 +0.8
O28M	Mount Upton	6.57	43	P		Pn	06 50 54.4 +0.8
	baz=230						
WAT7	Susitna Watana	6.59	2			Pn	06 50 55.0 +1.4
M17K	Holitna River	6.64	324	Pn		Pn	06 50 55.7 +1.4
M17K	Holitna River	6.64	324	P		Pn	06 50 54.9 +0.6
	baz=137						
DHY	Denali Highway	6.90	7	Pn		Pn	06 50 59.5 +1.6
DHY	Denali Highway	6.90	7	P		Pn	06 50 59.0 +1.1
	baz=189						
N15K	Kwethluk River	6.90	309	Pn		Pn	06 51 00.8 +3.1
M16K	Timber Creek	6.92	317	Pn		Pn	06 50 59.7 +1.6
P29M	Windy Craggy	7.02	57			Pn	06 51 00.3 +0.8
P29M	Windy Craggy	7.02	57	P		Pn	06 50 59.6 0.0
	baz=246						
L18K	Granite Mounta	7.06	331	Pn		Pn	06 50 59.7 -0.2
HAG	Hague Volcano	7.16	268			Pn	06 51 01.8 +0.4
RND	Reindeer	7.16	2			Pn	06 51 03.5 +2.1
YUK3	Moose Creek	7.17	36			Pn	06 51 03.2 +1.5
YUK3	Moose Creek	7.17	36	P		Pn	06 51 03.2 +1.5
	baz=223						
S12K	Black Hills	7.17	271			Pn	06 51 02.1 +0.6
S12K	Black Hills	7.17	271	P		Pn	06 51 02.1 +0.6
	baz=80						
M27K	Edge Creek, AK	7.19	29	Pn		Pn	06 51 03.4 +1.4
TRF	Thorofare Moun	7.22	357	Pn		Pn	06 51 03.1 +0.8
CAST	Castle Rocks	7.30	350			Pn	06 51 05.7 +2.3
CAST	Castle Rocks	7.30	350	P		Pn	06 51 04.6 +1.3
	baz=168						
S31K	Pelican	7.33	71	Pn		Pn	06 51 01.8 -1.8
KTH	Kantishna Hill	7.35	354			Pn	06 51 05.3 +1.3
YUK6	Outpost Mounta	7.39	46			Pn	06 51 06.1 +1.3
YUK6	Outpost Mounta	7.39	46	P		Pn	06 51 06.1 +1.3
	baz=235						
K20K	Telida	7.50	343			Pn	06 51 07.2 +1.2
YUK4	Talbot Arm	7.52	43	P		Pn	06 51 10.1 +3.6
	baz=232						
L16K	Owhat River	7.56	320	Pn		Pn	06 51 07.7 +0.8
HYT	Haines Junctio	7.68	49	Pn		Pn	06 51 09.0 +0.4
SIT	Sitka	7.76	78	P		Pn	06 51 07.2 -2.3
BPAW	Bear Paw Mtn.	7.90	355	Pn		Pn	06 51 13.5 +2.0
K17K	Iditarod	7.91	328	Pn		Pn	06 51 12.2 +0.6
SKAG	Skagway	8.12	61	P		Pn	06 51 16.4 +2.0
SCRK	Sand Creek	8.17	17	Pn		Pn	06 51 16.9 +1.5
N30M	Aishikik Lake	8.19	46	Pn		Pn	06 51 16.3 +0.7
R32K	Eaglecrest	8.27	70	Pn		Pn	06 51 16.1 -0.5
J20K	Nowinta River	8.29	345	Pn		Pn	06 51 17.4 +0.7
JIS	Juneau Island	8.34	70	P		Pn	06 51 17.6 +0.1
JIS	Juneau Island	8.34	70	Pn		Pn	06 51 17.2 -0.3
J19K	Poorman	8.36	341	Pn		Pn	06 51 18.0 +0.3
CCB	Clear Creek Bu	8.44	4	Pn		Pn	06 51 18.6 -0.2
ILAR	Eielson Array	8.61	7	Pn		Pn	06 51 23.3 +2.0
	comp=N,0.2nm,0.3s,baz=188,slow=14,SNR=8.4						
ILAR					Sn	Sn	06 52 54.8 -3.6
	comp=N,0.1nm,0.3s,baz=192,slow=22,SNR=3.0						
ILAR					LR	LR	06 54 51.9
	comp=N,45nm,20.0s,baz=128,slow=36						
	comp=N,0.5nm,0.4s						
J26L	Joseph Creek	8.73	17	Pn		Pn	06 51 23.8 +0.8
L29M	L29M	8.88	35	Pn		Pn	06 51 26.7 +1.7
L29M	L29M	8.88	35	P		Pn	06 51 27.1 +2.1
	baz=224						
I23K	Minto, Yukon-K	8.91	360			Pn	06 51 26.6 +1.3
P32M	Atlin	8.94	62	Pn		Pn	06 51 26.2 +0.4
U33K	Whale Pass	9.04	84	Pn		Pn	06 51 25.2 -1.9
P33M	Teslin, Yukon	9.55	59			Pn	06 51 33.9 -0.2
H21K	Melozitna Rive	9.57	351	Pn		Pn	06 51 34.8 +0.5
H23K	Yukon River	9.59	359	Pn		Pn	06 51 36.1 +1.4
G23K	Bananza Creek	10.48	358	Pn		Pn	06 51 48.5 +1.5
DLBC	Dease Lake	10.64	70	Pn		Pn	06 51 49.5 +0.3
	comp=N,0.2nm,0.3s,baz=242,slow=15,SNR=1.6						
DLBC					LR	LR	06 55 38.7
	comp=N,124nm,20.6s,baz=218,slow=35						
	comp=N,0.4nm,0.3s						
F21K	Alatna River	11.16	352			Pn	06 51 57.2 +1.0
E21K	Killik River	12.40	352			Pn	06 52 14.2 +1.1
INK	Inuvik	14.07	25			Pn	06 52 38.5 +2.8
INK	Inuvik	14.07	25	Pn		Pn	06 52 40.3 +4.6
	baz=219,slow=10,SNR=3.3						
	comp=N,1.5nm,1.1s						
B20K	Meade River	14.22	349	Pn		Pn	06 52 37.0 -0.8
B22K	Teshekpuk Lake	14.24	354	Pn		Pn	06 52 37.9 -0.1
C36M	Paulatuk	17.26	31	P		Pn	06 53 17.6 +0.1
C36M					IAmb	IAmb	06 53 44.4
	comp=Z,2.2nm,1.1s						
YKA	Yellowknife Ar	18.57	56	P		Pn	06 53 35.2 +1.6
	baz=265,slow=10,SNR=7.6						
	comp=Z,1.0nm,1.1s						
A36M	Sachs Harbour	18.70	23	P		P	06 53 35.7 +0.9
A36M					IAmb	IAmb	06 53 48.3
	comp=Z,6.9nm,0.8s						
NEW	Newport	21.11	99	LR		LR	07 01 24.8
	comp=Z,42nm,18.8s,baz=238,slow=35						
HUMO	Hull Mountain	21.75	118	P		P	06 54 07.5 -0.6
HUMO					IAmb	IAmb	06 54 19.3
	comp=Z,3.2nm,0.9s						
YBH	Yreka Blue Hor	22.53	119	P		P	06 54 09.5 -7.1
	comp=Z,0.2nm,0.4s,baz=114,slow=22,SNR=1.7						
	comp=Z,0.2nm,0.4s						
NVAR	Mina Array Bea	27.23	118	P		P	06 54 52.6 -8.3
	comp=Z,0.3nm,0.6s,baz=327,slow=6.5,SNR=1.9						
	comp=Z,0.3nm,0.6s						
SEY	Seymchan	29.29	307	LR		LR	07 07 05.2
	comp=Z,38nm,20.3s,baz=250,slow=36						
ULM	Lac du Bonnet	31.83	78	LR		LR	07 07 23.4
	comp=Z,59nm,20.0s,baz=292,slow=34						
H11N2	WAKE ISLAND Hy	48.86	240	T		T	07 51 16.1
	baz=30						
H11N3	WAKE ISLAND Hy	48.86	240	T		T	07 51 26.6
	baz=30						
H11N1	WAKE ISLAND Hy	48.88	240	T		T	07 51 16.6
	baz=30						
H11S1	WAKE ISLAND Hy	50.00	239	T		T	07 52 55.5
	baz=29						
H11S2	WAKE ISLAND Hy	50.01	239	T		T	07 52 53.6
	baz=29						
H11S3	WAKE ISLAND Hy	50.02	239	T		T	07 52 52.5
	baz=29						

*SNET **17** 06:53:48.7±0.8, 13°.80N×91°.42W, h7km±15km, ML2.9*
*CATAC **17** 06:53:49.7±0.9, 13°.69N×91°.48W, h27km±14km, ML3.1*
*GCG **17** 06:53:57.9±0.3, 14°.27N×91°.32W, h38km±17km, MD3.2*

ISC 17 06:53:50.6±2.0, 13.72N±0°.09×91.47W±0°.07, h29km±16km, n36, σ0s85/43, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SULM	Suchitepequez,	0.59	351	eP		Pb	06 54 05.2	+2.7
RTAL	Retalhuleu	0.83	345	i P		Pb	06 54 06.0	-0.6
RTAL				i S		Sb	06 54 17.5	0.0
RTAL					IAML		06 54 37.0	
	comp=Z,220nm,1.0s							
FUG	Fuego 3	0.95	40	eP		Pb	06 54 09.0	+0.4
STG3	Santiaguito 3,	0.99	354	eP		Pb	06 54 09.1	-0.3
PCG	Pacaya	1.07	51	eP		Pb	06 54 10.9	+0.2
SMSP	San Marcos	1.29	346	i P		Pn	06 54 12.2	-0.7
SMSP				i S		Sb	06 54 29.2	-1.5
SMSP					IAML		06 54 30.4	
	comp=Z,1μm,1.0s							
NBG	Las Nubes	1.39	51	eP		Pb	06 54 16.2	+0.1
GUNB	GUNB	1.39	51	i P		Pn	06 54 14.4	0.0
GUNB				i S		Sb	06 54 32.8	-1.0
GUNB					IAML		06 54 34.6	
	comp=Z,380nm,1.0s							
NUBE	Las Nubes	1.65	83	eP		Pn	06 54 16.7	-1.1
NUBE					IAML		06 54 38.6	
	comp=Z,77nm,0.3s							
NUBE	Las Nubes	1.65	83	i P		Pn	06 54 16.5	-1.3
NUBE				i S		Sn	06 54 37.6	-0.5
NUBE					IAML		06 54 38.4	
	comp=Z,240nm,1.0s							
SLOZ	Alcaldia de Sa	1.66	79	eP		Pn	06 54 17.6	-0.3
CEVE	Cerro Verde	1.79	86	i P		Pn	06 54 19.0	-0.8
CEVE					IAML		06 54 20.0	
	comp=Z,180nm,1.0s							
UNIC	Universidad Ca	1.88	82	i P		Pn	06 54 20.8	-0.1
UNIC					IAML		06 54 47.2	
	comp=Z,160nm,1.0s							
JAYA	Jayaque - finc	1.96	92	eP		Pn	06 54 21.2	-0.9
JAYA					IAML		06 54 46.1	
	comp=Z,128nm,0.2s							
JAYA				eS		Sn	06 54 46.8	+1.0
JAYA	Jayaque - finc	1.96	92	i P		Pn	06 54 21.1	-1.0
JAYA					IAML		06 54 48.3	
	comp=Z,360nm,1.0s							
PMON	Piamonte	2.09	90	eP		Pn	06 54 23.6	-0.2
PMON	Piamonte	2.09	90	i P		Pn	06 54 23.6	-0.2
PMON					IAML		06 54 24.4	
	comp=Z,180nm,1.0s							
MTO3	Montecristo	2.15	71	eP		Pn	06 54 24.0	-0.7
MTO3				eS		Sn	06 54 51.9	+1.3
MTO3	Montecristo	2.15	71	i P		Pn	06 54 24.1	-0.7
MTO3					IAML		06 54 53.7	
	comp=Z,42nm,1.0s							
UEES	Universidad Ev	2.16	90	eP		Pn	06 54 24.9	+0.1
UEES	Universidad Ev	2.16	90	i P		Pn	06 54 24.8	0.0
UEES					IAML		06 54 25.2	
	comp=Z,100nm,1.0s							
ESQI	Esquipulas	2.23	68	eP		Pn	06 54 25.2	-0.5
ESQI				eS		Sn	06 54 53.8	+1.5
ESQI	Esquipulas	2.23	68	i P		Pn	06 54 24.8	-0.9
ESQI					IAML		06 54 56.6	
	comp=Z,46nm,1.0s							
LOMA	Loma Larga	2.23	92	eP		Pn	06 54 25.5	-0.2
LOMA	Loma Larga	2.23	92	i P		Pn	06 54 24.9	-0.9
LOMA					IAML		06 54 26.7	
	comp=Z,140nm,1.0s							
PAVA	Las Pavas	2.46	90	eP		Pn	06 54 28.5	-0.4
COEG	Centro de Oper	2.52	92	eP		Pn	06 54 29.6	-0.1
COEG					IAML		06 54 31.3	
	comp=Z,82nm,0.6s							
COEG	Centro de Oper	2.52	92	i P		Pn	06 54 29.4	-0.2
COEG					IAML		06 54 30.8	
	comp=Z,72nm,1.0s							
UESV	Universidad de	2.60	91	i P		Pn	06 54 30.7	-0.1
TECO	Alcaldia de Te	2.62	94	i P		Pn	06 54 29.4	-1.6
TECO					IAML		06 55 07.4	
	comp=Z,28nm,1.0s							
SCLA	Alcaldia de Sa	2.66	90	i P		Pn	06 54 31.6	0.0
SCLA					IAML		06 54 36.3	
	comp=Z,20nm,1.0s							
COEB	Comit de Eme	2.86	94	eP		Pn	06 54 34.1	-0.3
COEB	Comit de Eme	2.86	94	i P		Pn	06 54 34.3	-0.1
CRIN	San Cristobal	4.42	103	i P		Pn	06 54 55.8	0.0
COPN	Copaltepe	4.99	107	i P		Pn	06 55 03.8	+0.2
COVE	Coope Vega, Sa	7.52	113	i P		Pn	06 55 37.7	-0.7

IDC 17 07:00:18.2±3.0, 54°.22N×86°.37E, h0km, mbtmp2.5/2, ML2.3/2, Error ellipse: s-maj=22.4km s-min=12.5km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	0.95	254	I		I	07 07 00.0	
	baz=74,slow=330,SNR=1.6							
ZALV	Zalesovo Beam	0.95	254	Pg		Pg	07 00 35.0	-1.4
	0.7nm,0.3s,baz=70,slow=17,SNR=8.7							
ZALV				Lg		Lg	07 00 50.2	
	3.8nm,0.3s,baz=72,slow=33,SNR=24							
KURBB	Kurchatov Arra	6.00	236	Pn		Pn	07 01 49.5	+1.4
	0.1nm,0.3s,baz=52,slow=13,SNR=2.6							
	0.3nm,0.4s							
MKAR	Makanchi Array	7.88	201	Pn		Pn	07 02 15.0	+0.9
	0.1nm,0.3s,baz=21,slow=9.8,SNR=1.8							
	0.1nm,0.3s							

*DJA **17** 07:03:46.2±1.7, 7°.S±8°×12°.8E±°, h244km±36km, M4.6/7, mb4.6/2, mB5.4/1, MLv4.6/7, Mw(mB)4.8/1*
*IDC **17** 07:03:48.0±5.1, 7°.39S×127°.92E, h76km±54km, mb3.7/6, mbtmp4.2/9, ML4.6/3, Error ellipse: s-maj=40.9km s-min=25.9km az=20.0*

ISC 17 07:03:54.2±0.8, 7.7S±0°.1×127.80E±0°.07, h150km, n13, σ1s82/14, mb3.8/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SAUI	Saumlaki	3.48	95	P		Pn	07 04 47.3	-0.4
SOEI	Soe	4.05	239	P		Pn	07 04 56.2	+1.0
BATI	Baumata	4.79	238	P		Pn	07 05 01.8	-3.1
	7.7nm,0.3s,baz=125,slow=19,SNR=6.5							
BATI					S	Sn	07 05 58.1	-1.8
	86nm,0.3s,baz=55,slow=21,SNR=12							
	79nm,0.4s							
BATI	Baumata	4.79	238	P		Pn	07 05 06.2	+1.4
	105nm,0.5s,0.6nm							
WRA	Warramunga Arr	13.73	153	P		Pn	07 07 02.5	-0.3
	3.6nm,0.3s,baz=324,slow=14,SNR=81							
WRA					S	Sn	07 09 25.9	-9.0
	13nm,0.6s,baz=331,slow=24,SNR=11							
	4.4nm,0.5s							
ASAR	Alice Springs	16.93	160	P		Pn	07 07 44.9	+2.5
	4.0nm,0.3s,baz=338,slow=11,SNR=215							
ASAR					S	S	07 10 39.8	-11
	1.1nm,0.8s,baz=316,slow=20,SNR=2.9							
	16nm,0.4s							
CMAR	Chiang Mai Arr	38.54	313	P		P	07 11 03.5	+1.0
	0.9nm,0.3s,baz=152,slow=5.9,SNR=1.6							
	0.9nm,0.3s							
SONM	Songino Array	58.43	343	P		P	07 13 32.3	-1.9
	0.5nm,0.4s,baz=146,slow=8.0,SNR=2.0							
	0.5nm,0.4s							
PETK	Petropavlovsk-	65.67	19	P		P	07 14 20.9	-1.4
	1.1nm,0.8s,baz=205,slow=4.4,SNR=1.3							
	1.1nm,0.8s							
MKAR	Makanchi Array	67.63	328	P		P	07 14 36.4	+1.6
	0.8nm,0.6s,baz=132,slow=7.8,SNR=11							
	0.8nm,0.6s							
ZALV	Zalesovo Beam	71.25	335	P		P	07 14 58.3	+1.4
	1.0nm,0.5s,baz=122,slow=5.4,SNR=5.2							
	1.0nm,0.5s							
KURBB	Kurchatov Arra	71.97	329	P		P	07 15 02.7	+1.4
	0.8nm,0.6s,baz=135,slow=5.2,SNR=17							
	0.8nm,0.6s							
TORD	Torodi Ar. Bea	126.79	281	PKP		PKiKP	07 22 42.4	+0.8
	0.4nm,0.7s,baz=52,slow=3.0,SNR=2.5							

IDC 17 07:17:21.0±3.4, 54°.50N×87°.38E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.6km s-min=20.4km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
I46RU	ZALESOVO INFRA	1.60	251	I		I	07 26 16.7	
	baz=70,slow=328,SNR=8.7							
ZALV	Zalesovo Beam	1.60	251	Pg		Pn	07 17 48.6	-1.9
	0.9nm,0.3s,baz=72,slow=17,SNR=9.6							
ZALV				Lg		Lg	07 18 11.7	
	1.4nm,0.3s,baz=66,slow=30,SNR=4.6							
KURBB	Kurchatov Arra	6.65	238	Pn		Pn	07 19 00.8	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=7.5							
KURBB					Lg	Lg	07 20 54.6	
	baz=62,slow=30,SNR=2.7							
	0.7nm,0.6s							
MKAR	Makanchi Array	8.37	205	Pn		Pn	07 19 24.2	+0.7
	0.1nm,0.3s,baz=20,slow=14,SNR=1.5							
MKAR					Lg	Lg	07 21 47.0	
	baz=23,slow=41,SNR=2.1							
	0.1nm,0.3s							

KRSZO 17 07:37:43.6±1.1, 48°.73N×18°.64E, h17km±7km, M1.8/4, Error ellipse: s-maj=8.6km s-min=4.7km az=65.0, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
A332A	Rudnianska	0.14	301	Pg		Pg	07 37 47.1	-0.4
A332A				Lg		Lg	07 37 51.0	
VYHS	Vyhne	0.27	152	Lg		Lg	07 37 55.5	
VYHS	Vyhne	0.27	152	ePG		Pg	07 37 46.7	-2.9
VYHS				eSG		Sg	07 37 50.9	-2.8
A335A	Lovce	0.35	215	Lg		Lg	07 37 58.2	
A331A	Zubak	0.50	327	Lg		Lg	07 38 02.1	
JAVC	Velka Javorina	0.65	281	ePG		Pg	07 37 54.3	-2.2
JAVC				eSG		Sg	07 38 03

comp=N,12µm,0.5s
BAYC CANAKKALE_Bayr 0.36 56 P **Pg** **07 37 56.3 -0.5**
BAYC S **Sg** **07 38 00.5 -1.0**
BAYC *i* AML AML 07 38 01.0
comp=N,3µm,0.5s
BAYC *i* AML AML 07 38 01.0
comp=N,2µm,0.4s
SIGR SIGRI 0.40 216 Pg **Pg** **07 37 57.2 -0.2**
SIGR Sg **Sg** **07 38 03.3 +0.6**
SIGR SIGRI 0.40 216 P **Pg** **07 37 57.5 +0.1**
SIGR S **Sg** **07 38 03.7 +1.0**
comp=N,4µm,0.4s
SIGR SIGRI 0.40 216 P **Pg** **07 37 57.5 +0.1**
SIGR S **Sb** **07 38 04.4 -0.7**
SIGR AML AML 07 38 09.4
comp=E,6534µm,0.4s
SIGR AML AML 07 38 09.4
comp=N,8523µm,0.3s
ECEA Canakkale, Ece 0.51 2 P **Pg** **07 37 59.5 +0.1**
ECEA S **Sg** **07 38 07.0 +1.0**
ECEA *i* AML AML 07 38 07.0
comp=N,3µm,0.6s
ECEA *i* AML AML 07 38 07.0
comp=N,3µm,0.6s
EAG3 Mitilini, Lesv 0.56 145 P **Pg** **07 38 00.6 +0.3**
EAG3 S **Sb** **07 38 09.3 -0.3**
EAG3 AML AML 07 38 10.9
comp=N,13586µm,0.3s
EAG3 AML AML 07 38 12.1
comp=E,18922µm,0.7s
CNKL anakkale-Mer 0.56 19 P **Pg** **07 38 00.1 -0.2**
CNKL S **Sg** **07 38 08.2 +0.6**
CNKL *i* AML AML 07 38 09.0
comp=E,2µm,0.3s
CNKL *i* AML AML 07 38 09.0
comp=E,2µm,0.4s
COMU Canakkale 0.61 24 Pg **Pg** **07 38 01.2 -0.2**
COMU Sg **Sg** **07 38 10.2 +0.8**
GOAD anakkale-G¶ 0.65 343 P **Pg** **07 38 02.1 0.0**
GOAD S **Sg** **07 38 11.4 +0.8**
GADA Gvkgeada 0.68 343 Pg **Pg** **07 38 02.6 -0.1**
GADA Sg **Sg** **07 38 11.7 +0.1**
BUHA Balikesir, Bur 0.71 93 P **Pg** **07 38 03.1 -0.2**
BUHA S **Sg** **07 38 12.8 +0.1**
BUHA *i* AML AML 07 38 14.0
comp=E,1µm,0.4s
BUHA *i* AML AML 07 38 15.0
comp=E,1µm,0.6s
DKL Dikili 0.75 129 Pg **Pg** **07 38 03.6 -0.3**
DKL Sg **Sg** **07 38 14.1 +0.5**
IZMD zmir-Dikili- 0.82 132 P **Pb** **07 38 05.9 -0.1**
IZMD P **Pb** **07 38 05.9 -0.1**
IZMD S **Sb** **07 38 17.1 -0.1**
IZMD *i* AML AML 07 38 20.0
comp=E,362nm,0.8s
IZMD *i* AML AML 07 38 20.0
comp=E,545nm,0.9s
IZMD *i* AML AML 07 38 20.0
comp=E,530nm,0.4s
IZMD *i* AML AML 07 38 27.0
comp=E,353nm,0.6s
LIA Limnos Island 0.83 296 P **Pg** **07 38 05.7 +0.1**
LIA S **Sb** **07 38 17.9 +0.3**
comp=E,2µm,0.5s
LIA Limnos Island 0.83 296 P **Pg** **07 38 05.8 +0.2**
LIA S **Sb** **07 38 17.4 -0.1**
LIA AML AML 07 38 22.3
comp=E,4322µm,0.4s
LIA AML AML 07 38 23.2
comp=N,4410µm,0.7s
CANM Can-anakkale 0.84 55 Pg **Pg** **07 38 02.4 -3.3**
GELI Tayfur-Gelibol 0.89 16 Pg **Pg** **07 38 06.3 -0.4**
GELI Sg **Sb** **07 38 18.9 -0.4**
KARB zmir-Karabur 0.90 167 P **Pg** **07 38 06.9 +0.1**
KARB S **Sb** **07 38 19.8 +0.4**
KARB *i* AML AML 07 38 21.0
comp=N,1µm,0.5s
KARB *i* AML AML 07 38 22.0
comp=N,2µm,0.3s
EFSA Agios Efstrati 0.90 270 P **Pg** **07 38 07.1 +0.2**
EFSA S **Sb** **07 38 19.8 +0.3**
EFSA AML AML 07 38 22.0
comp=E,3606µm,0.2s
EFSA AML AML 07 38 23.0
comp=N,6883µm,0.6s
ZEDA zmir-Bergama 0.92 128 P **Pg** **07 38 07.2 +0.1**
ZEDA S **Sb** **07 38 19.8 -0.1**
ZEDA *i* AML AML 07 38 22.0
comp=N,746nm,0.4s
ZEDA *i* AML AML 07 38 23.0
comp=N,780nm,0.2s
YENI Yenice-Canakka 0.93 64 Pg **Pg** **07 38 06.8 -0.6**
LPK Lapseki 0.95 29 Pg **Pg** **07 38 07.4 -0.5**
LPK Sg **Sg** **07 38 20.6 +0.3**
SMTH Samothraki Isl 1.05 333 P **Pg** **07 38 09.3 -0.4**
SMTH S **Sb** **07 38 23.7 -0.1**
comp=N,592nm,0.1s
SMTH Samothraki Isl 1.05 333 P **Pg** **07 38 09.2 -0.4**
SMTH S **Sb** **07 38 23.8 0.0**
SMTH AML AML 07 38 26.3
comp=N,1365µm,0.2s
SMTH AML AML 07 38 29.5
comp=E,989µm,0.2s
PSRA Psara 1.10 205 P **Pg** **07 38 10.2 -0.4**
PSRA S **Sn** **07 38 26.2 -0.3**
PSRA AML AML 07 38 28.5
comp=N,4209µm,0.4s
PSRA AML AML 07 38 28.7
comp=E,7572µm,0.6s
SOMA Soma-Manisa 1.14 109 Pn **Pg** **07 38 10.8 -0.5**
CAVK Edirne/Enez-Ca 1.15 0 P **Pn** **07 38 11.9 0.0**
CAVK S **Sg** **07 38 26.4 -0.2**
CAVK *i* AML AML 07 38 29.0
comp=E,2µm,0.5s
CAVK *i* AML AML 07 38 29.0
comp=E,1µm,0.8s
CHOS Chios island 1.15 184 Pn **Pg** **07 38 11.1 -0.6**
CHOS Chios island 1.15 184 P **Pg** **07 38 11.2 -0.5**
CHOS S **Sg** **07 38 26.4 -0.3**
comp=E,3µm,0.4s
CHOS Chios island 1.15 184 P **Pg** **07 38 11.1 -0.6**
CHOS S **Sg** **07 38 26.3 -0.3**
CHOS AML AML 07 38 29.6
comp=N,3669µm,0.4s
CHOS AML AML 07 38 32.2
comp=E,6664µm,0.4s
ERIK Erikli-Kesan 1.16 14 Pn **Pg** **07 38 10.9 -1.0**
ENEZ Enez 1.20 360 Pn **Pb** **07 38 11.7 -0.8**
ENEZ Enez 1.20 360 P **Pb** **07 38 12.0 -0.5**
ENEZ S **Sn** **07 38 28.8 -0.2**
STEP BALIKESIR_Sava 1.22 97 P **Pb** **07 38 12.9 0.0**
STEP S **Sn** **07 38 29.4 -0.2**
STEP *i* AML AML 07 38 34.0
comp=E,1µm,0.8s
STEP *i* AML AML 07 38 36.0
comp=E,990nm,0.6s
KRBG Karabiga-Canak 1.22 45 Pn **Pb** **07 38 12.5 -0.4**
KNL Balıkesir 1.28 55 P **Pn** **07 38 13.6 -0.2**
KNL *i* AML AML 07 38 34.0
comp=E,2µm,1.2s
ZEYE Izmir, Urla-Ze 1.33 168 P **Pn** **07 38 13.7 -0.7**
ZEYE S **Sn** **07 38 32.5 +0.3**
ZEYE *i* AML AML 07 38 34.0
comp=E,799nm,0.4s
ZEYE *i* AML AML 07 38 35.0
comp=E,1µm,0.4s
BALB Balikesir 1.34 85 Pn **Pn** **07 38 13.9 -0.6**
BLCB Balcova 1.34 149 Pn **Pn** **07 38 13.4 -1.2**
BKES Balkesir-Mer 1.38 81 P **Pn** **07 38 15.0 -0.1**
BKES S **Sg** **07 38 33.9 -0.1**
BKES *i* AML AML 07 38 36.0
comp=E,973nm,0.8s
BKES *i* AML AML 07 38 39.0
comp=E,655nm,1.0s
RKY Sarkoy-Tekirda 1.39 34 Pn **Pn** **07 38 14.8 -0.5**
SKY Skiros Island 1.41 243 P **Pn** **07 38 14.7 -0.8**
SKY Skiros Island 1.41 243 P **Pn** **07 38 14.8 -0.8**
SKY AML AML 07 38 39.4
comp=E,1882µm,0.7s
SKY AML AML 07 38 39.6
comp=N,1996µm,0.4s
BLKS Balkesir-Sus 1.44 76 P **Pb** **07 38 16.5 -0.1**
BLKS *i* AML AML 07 38 40.0
comp=N,358nm,0.6s
BLKS *i* AML AML 07 38 41.0
comp=N,467nm,0.7s
MRMT Marmara Adasi 1.53 46 Pn **Pn** **07 38 17.0 -0.3**
THAS Thassos island 1.53 315 P **Pn** **07 38 16.4 -0.8**
THAS S **Sn** **07 38 36.0 -1.3**
comp=N,132nm,0.4s
THAS Thassos island 1.53 315 P **Pn** **07 38 16.3 -0.9**
THAS S **Sn** **07 38 36.1 -1.2**
THAS AML AML 07 38 40.9
comp=N,257µm,0.4s
THAS AML AML 07 38 41.0
comp=E,221µm,0.2s
EDC Edincik 1.54 58 Pn **Pn** **07 38 17.0 -0.3**
SUSR Susurluk-Balik 1.54 73 Pn **Pn** **07 38 17.0 -0.4**
DGB zmir 1.59 159 P **Pn** **07 38 17.6 -0.3**
DGB S **Sb** **07 38 39.7 +0.3**
DGB *i* AML AML 07 38 46.0
comp=E,168nm,0.9s
DGB *i* AML AML 07 38 49.0
comp=E,195nm,0.6s
UKOP Uzunkopru-Edir 1.63 13 Pn **Pn** **07 38 18.3 -0.2**
RDO Rodhopi 1.67 344 Pn **Pn** **07 38 19.1 0.0**
RDO Rodhopi 1.67 344 P **Pn** **07 38 18.9 -0.2**
RDO S **Sn** **07 38 40.8 0.0**
comp=E,208nm,0.5s
RDO Rodhopi 1.67 344 P **Pn** **07 38 19.0 -0.2**
RDO AML AML 07 38 44.0
comp=N,376µm,0.8s
RDO AML AML 07 38 45.6
comp=E,438µm,0.5s
GORD Gordes-Manisa 1.69 111 Pn **Pn** **07 38 19.0 -0.4**
BAND Balkesir-Ban 1.70 61 P **Pn** **07 38 20.2 +0.7**
BAND S **Sn** **07 38 41.3 -0.2**
BAND *i* AML AML 07 38 46.0
comp=E,211nm,0.3s
BAND *i* AML AML 07 38 47.0
comp=E,330nm,0.3s
KCTX Karacabey (Bur 1.84 66 Pn **Pn** **07 38 20.8 -0.7**
OUR Ouranopolis 1.85 296 Pn **Pn** **07 38 21.5 0.0**
SMG Samos 1.90 164 P **Pn** **07 38 21.5 -0.8**
SMG Samos 1.90 164 P **Pn** **07 38 21.5 -0.8**
SMG AML AML 07 38 55.9
comp=E,1887µm,0.4s
SMG AML AML 07 38 59.0
comp=N,1816µm,0.6s
KAVA Kavala 1.92 320 P **Pn** **07 38 22.7 +0.1**
PAIG Paliouri 1.95 282 Pn **Pn** **07 38 22.9 0.0**
ODEM Odemis-Izmir 1.96 130 Pn **Pn** **07 38 22.6 -0.5**
IZMR zmir-demi 1.98 134 P **Pn** **07 38 22.3 -1.1**
IZMR *i* AML AML 07 38 56.0
comp=N,97nm,0.6s
KOKK Kokkinochori, 2.09 308 P **Pn** **07 38 24.2 -0.6**
AYDB Zeytinkoy-Aydi 2.09 139 Pn **Pn** **07 38 24.8 -0.2**
MANT Manisa 2.14 118 P **Pn** **07 38 25.9 +0.1**
MANT S **Sb** **07 38 56.2 +0.6**
MANT *i* AML AML 07 38 58.0
comp=N,140nm,0.5s
MANT *i* AML AML 07 39 00.0
comp=N,110nm,0.7s
KDZ Kurdzhali 2.18 344 Pn **Pn** **07 38 26.3 +0.2**
KDZ Kurdzhali 2.18 344 *i* P **Pn** **07 38 27.2 +1.1**
KDZ S **Sn** **07 38 48.6 -4.7**
KULA Kula-Manisa 2.20 117 Pn **Pn** **07 38 26.4 -0.1**
SLVT Silivri 2.31 42 Pn **Pn** **07 38 28.0 +0.2**
ARMT Armutlu 2.32 63 Pn **Pn** **07 38 28.1 +0.1**
PHSR Pinarhisar 2.33 26 Pn **Pn** **07 38 28.4 +0.2**
EDRB Edirne 2.35 11 Pn **Pn** **07 38 28.4 0.0**
KIRK Kırklareli 2.35 17 P **Pn** **07 38 29.1 +0.6**
KIRK S **Sb** **07 39 02.2 +0.8**
KIRK *i* AML AML 07 39 03.0
comp=N,110nm,0.6s
KIRK *i* AML AML 07 39 03.0
comp=N,189nm,0.6s
RZN Rozhen 2.41 334 *i* P **Pn** **07 38 30.1 +0.7**
RZN S **Sn** **07 38 57.8 -1.4**
ESEN Aydn-Nazilli 2.44 135 P **Pn** **07 38 28.9 -0.8**
ESEN S **Sg** **07 39 09.6 +1.6**
EMET Ktahya-Emet 2.46 93 P **Pn** **07 38 30.2 +0.2**
EMET S **Sg** **07 39 08.1 -0.3**
EMET *i* AML AML 07 39 09.0
comp=N,219nm,0.7s
EMET *i* AML AML 07 39 15.0
comp=N,241nm,0.7s
CTKS Kestanelik-??a 2.47 46 Pn **Pn** **07 38 30.3 +0.2**
APE Apeiranthos 2.52 191 ⇑P **Pn** **07 38 30.2 -0.6**
APE Apeiranthos 2.52 191 Pn **Pn** **07 38 29.7 -1.0**
APE Apeiranthos 2.52 191 P **Pn** **07 38 29.8 -1.0**
APE Apeiranthos 2.52 191 P **Pn** **07 38 29.5 -1.3**
CTYL Yalikoy Yolu 2.53 39 Pn **Pn** **07 38 31.1 +0.2**
HORT Hortiatis 2.57 295 Pn **Pn** **07 38 31.8 +0.2**
BGKT Bogazkoy 2.59 50 Pn **Pn** **07 38 31.9 +0.2**
BODT Bodrum 2.63 159 Pn **Pn** **07 38 32.1 -0.3**
BODT Bodrum 2.63 159 P **Pn** **07 38 32.2 -0.2**
ISK Istanbul-Kandi 2.69 55 Pn **Pn** **07 38 33.5 +0.4**
MMB Musomishta 2.72 318 *i* P **Pb** **07 38 37.6 -0.8**
KLYT Kilyos 2.79 51 Pn **Pn** **07 38 34.9 +0.4**
PLD Plovdiv 2.82 338 Pn **Pn** **07 38 34.6 -0.2**
ADVT Abdulvahap 2.89 71 Pn **Pn** **07 38 36.3 +0.4**
CAVI Cavuskoy 2.91 76 Pn **Pn** **07 38 36.4 +0.2**
KNT Kendrikon 2.97 304 Pn **Pn** **07 38 37.6 +0.6**
HRT Hereke 2.98 63 Pn **Pn** **07 38 37.2 +0.1**
AGG Agios Georgios 3.01 261 Pn **Pn** **07 38 37.9 +0.3**
DAT Datca 3.02 158 Pn **Pn** **07 38 37.9 +0.1**
KKB Krupnik 3.25 316 *e*P **Pb** **07 38 48.3 +0.7**
ELND Elena 3.39 357 ⇑P **Pn** **07 38 44.1 +1.3**
ELND ⇓S **Sn** **07 39 26.9 +3.7**
SZH Strazhitsa 3.73 358 *e*P **Pn** **07 38 48.7 +1.3**
VTS Vitosha 3.79 325 *i* P **Pn** **07 38 50.5 +2.2**
NEF NEVSHA 3.82 12 *i* P **Pn** **07 38 48.9 +0.3**
COPA Copaceanca 4.64 352 ⇑P **Pn** **07 39 00.8 +0.8**
BOVS Bovan 5.28 322 ⇑P **Pn** **07 39 05.9 -2.8**
HARR Harsova 5.31 14 ⇑P **Pn** **07 39 11.9 +2.8**
TPGR Topolog 5.57 17 ⇑P **Pn** **07 39 16.9 +4.2**
MLR Muntele Rosu 5.95 359 ⇑P **Pn** **07 39 19.8 +1.7**
VOIR 5.95 352 ⇓P **Pn** **07 39 19.4 +1.4**
LOT Lotru 6.16 344 ⇑P **Pn** **07 39 21.5 +0.6**
SPBR Spulber 6.22 4 ⇓P **Pn** **07 39 23.7 +2.0**
COVR Voineasa-Covas 6.30 0 ⇑P **Pn** **07 39 25.1 +2.3**
PLOR Plostina 6.32 3 ⇑P **Pn** **07 39 25.6 +2.6**
VRI Vrincioaia 6.34 4 ⇑P **Pn** **07 39 25.0 +1.7**
GZR Gura Zlata 6.36 338 ⇓P **Pn** **07 39 22.7 -0.9**
DOPR Dopca 6.45 355 ⇑P **Pn** **07 39 26.9 +2.1**
TURR Turia 6.51 359 ⇓P **Pn** **07 39 27.4 +1.8**
BZS Buzias 6.94 333 ⇑P **Pn** **07 39 30.3 -1.1**
TESR Tescani 6.98 3 ⇑P **Pn** **07 39 34.0 +2.0**
BURAR Bucovina Array 8.10 355 ⇓P **Pn** **07 39 49.7 +2.2**

MOS ***17*** *07:42:01.6±0.9, 44°.60N×147°.73E, h101km, mb4.4/13, Error ellipse: s-maj=10.1km s-min=8.0km az=76.1*
SKHL ***17*** *07:42:02.4±0.0, 44°.30N×147°.90E, h109km±8km, mb5.1/3, msha6.0/3*
IDC ***17*** *07:42:02.1±2.4, 44°.43N×147°.77E, h100km±21km, mb3.7/21, mbtmp4.0/25, Error ellipse: s-maj=18.5km s-min=14.3km az=160.0*
NEIC ***17*** *07:42:03.3±1.1, 44°.9N±0°.2×147°.3E±0°.2, h80km±13km, mb4.3/46, Error ellipse: s-maj=27.8km s-min=13.5km az=146.0*
JMA ***17*** *07:42:03.5±0.3, 44°N±2°×14°8E±°, h97km, MV3.9/28, SE OFF ETOROFU*

ISC 17 07:42:01.9±0.8, 44°.33N±0°.05×147°.86E±0°.06, h104km±6km, n160, σ1.952/168, mb4.2/54, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.87**	**239**	*e*P		**Pn**	**07 42 21.3**		**+0.1**
SHO						AMB	AMB	07 42 22.1	
	320nm,0.4s								
SHO				*e*S		**Sn**	**07 42 34.9**		**-0.9**
SHO				A		A	07 42 35.1		
	4µm,0.5s								
SHO				A		A	07 42 35.1		
	3µm,0.5s								
SHO	**Shikotan**	**0.87**	**239**	*e*PN		**Pn**	**07 42 21.3**		**+0.1**
SHO				*e*S		**Sn**	**07 42 34.5**		**-1.3**
SHO				pmax		pmax			
	comp=Z,317nm,0.4s								
SHO				pmax		pmax			
	comp=N,123nm,0.2s								
SHO				pmax		pmax			
	comp=E,152nm,0.2s								
SHO				smax		smax			
	comp=N,4µm,0.3s								
SHO				smax		smax			
	comp=E,461nm,0.3s								
KUR	**Kuril'sk**	**0.91**	**0**	*i* P		**Pn**	**07 42 22.4**		**+0.8**
KUR				AMB		AMB	07 42 23.0		
	comp=E,3µm,0.3s								
KUR				*e*S		**Sn**	**07 42 37.4**		**+0.9**
KUR				A		A	07 42 37.9		
	comp=E,6µm,0.3s								
KUR				A		A	07 42 37.9		
	comp=E,3µm,0.3s								
KUR	**Kuril'sk**	**0.91**	**0**	*d* PN		**Pn**	**07 42 22.7**		**+1.1**
KUR				*e*S		**Sn**	**07 42 37.4**		**+0.9**
KUR				pmax		pmax			
	comp=Z,3µm,0.2s								
KUR				pmax		pmax			
	comp=N,599nm,0.3s								
KUR				pmax		pmax			
	comp=E,741nm,0.3s								
KUR				smax		smax			
	comp=N,5µm,0.3s								
KUR				smax		smax			
	comp=E,5µm,0.3s								
YUK	**Yuzh-Kuril'sk**	**1.47**	**259**	*i* P		**Pn**	**07 42 28.4**		**+0.5**
YUK				AMB		AMB	07 42 29.5		
	comp=E,410nm,0.4s								
YUK				*e*S		**Sn**	**07 42 47.9**		**+0.3**
YUK				A		A	07 42 51.5		
	comp=E,2µm,0.4s								
YUK				A		A	07 42 51.5		
	comp=E,910nm,0.4s								
YUK	**Yuzh-Kuril'sk**	**1.47**	**259**	*i* PN		**Pn**	**07 42 28.6**		**+0.7**
NEM2	**Nemuro 2**	**1.81**	**239**	P		**Pn**	**07 42 32.3**		**+0.2**
NEM2				S		**Sn**	**07 42 54.0**		**-1.2**
NMR	**Nemuro--Hokkai**	**1.81**	**239**	*e*P		**Pn**	**07 42 32.3**		**+0.1**
NMR				*e*S		**Sn**	**07 42 54.1**		**-1.2**
NMR	**Nemuro--Hokkai**	**1.81**	**239**	*e*PN		**Pn**	**07 42 31.7**		**-0.5**
NMR				*e*S		**Sn**	**07 42 51.7**		**-3.6**
RUSJ	**Misakicho**	**1.89**	**264**	*e*PN		**Pn**	**07 42 34.6**		**+1.4**
RUSJ				*e*S		**Sn**	**07 42 58.1**		**+1.1**
JRA	**Rausu**	**2.01**	**260**	*e*S		**Sn**	**07 43 02.1**		**+2.4**
JNSB	**Nemuroshibetsu**	**2.13**	**256**	P		**Pn**	**07 42 38.0**		**+1.7**
JNSB				S		**Sn**	**07 43 04.3**		**+1.8**
JKHN	**Kushirohamanak**	**2.32**	**239**	P		**Pn**	**07 42 39.4**		**+0.7**
JKHN				S		**Sn**	**07 43 06.2**		**-0.7**
JNK	**Nakash**	**2.38**	**253**	P		**Pn**	**07 42 41.0**		**+1.4**
JNK				S		**Sn**	**07 43 09.6**		**+1.1**
AKK	**Akkeshi**	**2.55**	**240**	*e*P		**Pn**	**07 42 42.4**		**+0.7**
JAK	**Akkeshi**	**2.65**	**241**	P		**Pn**	**07 42 43.6**		**+0.6**
JAK				S		**Sn**	**07 43 13.8**		**-1.0**
JTKR	**Abashiri--Toko**	**2.87**	**264**	P		**Pn**	**07 42 47.5**		**+1.6**
JTKR				*e*S		**Sn**	**07 43 21.5**		**+1.8**
JAR	**Ashorobuto**	**3.13**	**252**	P		**Pn**	**07 42 51.3**		**+1.8**
JAR				S		**Sn**	**07 43 28.4**		**+2.2**
JOB	**Onbets**	**3.25**	**245**	P		**Pn**	**07 42 52.3**		**+1.3**
JOB				S		**Sn**	**07 43 29.4**		**+0.5**
JCH	**Churui**	**3.69**	**244**	P		**Pn**	**07 42 57.9**		**+1.0**
JCH				*e*S		**Sn**	**07 43 38.8**		**-0.8**
JKA	**Kamikawa-asahi**	**3.79**	**269**	Pn		Pn	07 42 52.4		-5.9
JKA	**Kamikawa-asahi**	**3.79**	**269**	*e*P		**Pn**	**07 42 58.1**		**-0.1**
ASAJ	**Asahikawa**	**3.79**	**269**	P		**Pn**	**07 42 58.0**		**-0.2**
	comp=E,3.0nm,0.3s,baz=53,slow=20,SNR=1.8								
ERM	**Erimo**	**4.14**	**238**	Pn		**Pn**	**07 43 06.0**		**+3.0**
ERM	**Erimo**	**4.14**	**238**	*e*PN		**Pn**	**07 43 05.2**		**+2.2**
YSS	**Yuzh-Sakhalins**	**4.44**	**308**	*e*P		**Pn**	**07 43 09.1**		**+2.1**
YSS				*e*S		**Sn**	**07 43 58.2**		**+0.6**
YSS	**Yuzh-Sakhalins**	**4.44**	**308**	*e*PN		**Pn**	**07 43 08.8**		**+1.8**
JOT	**Ohata**	**5.80**	**242**	P		**Pn**	**07 43 25.9**		**+0.4**
JANG	**Nango**	**6.14**	**232**	*e*P		**Pn**	**07 43 29.0**		**-1.0**
JANG				*e*S		**Sn**	**07 44 33.1**		**-5.8**
SKR	**Severo-Kuril's**	**8.46**	**38**	*i* PN		Pn	07 44 07.2		+5.7
MAJO	**Matsushiro**	**10.70**	**227**	Pn		**Pn**	**07 44 35.5**		**+3.5**
MAJO	**Matsushiro**	**10.70**	**227**	PN		**Pn**	**07 44 35.5**		**+3.5**
MJB9	**Matsu-Tunnel**	**10.70**	**227**	Pn		**Pn**	**07 44 36.3**		**+4.3**
PEA0B	**Petropavlovsk-**	**10.92**	**33**	Pn		**Pn**	**07 44 32.7**		**-2.2**
PEA0B	**Petropavlovsk-**	**10.92**	**33**	PN		**Pn**	**07 44 32.7**		**-2.2**
PETK	**Petropavlovsk-**	**10.92**	**33**	Pn		**Pn**	**07 44 33.1**		**-1.8**
PETK	**Petropavlovsk-**	**10.92**	**33**	P		**Pn**	**07 44 34.4**		**-0.6**
	comp=E,1.1nm,0.6s,baz=195,slow=11,SNR=5.3								
USRK	**Ussuriysk Ar.**	**11.38**	**275**	P		**Pn**	**07 44 41.0**		**-0.2**
	comp=E,1.4nm,0.5s,baz=85,slow=16,SNR=2.8								
USRK	**Ussuriysk Ar.**	**11.38**	**275**	PN		**Pn**	**07 44 41.0**		**-0.2**
KLR	**Kul'dur**	**12.08**	**300**	P		**Pn**	**07 44 49.5**		**-0.8**
	comp=E,0.3nm,0.4s,baz=147,slow=10,SNR=4.1								
KLR	**Kul'dur**	**12.08**	**300**	*i* PN		Pn	07 44 42.7		-7.7
SEY	**Seymchan**	**18.83**	**6**	P		**P**	**07 46 12.5**		**-0.7**
	comp=E,1.8nm,0.6s,baz=197,slow=19,SNR=5.4								
YAK	**Yakutsk**	**20.68**	**335**	P		**P**	**07 46 30.9**		**-2.3**
	comp=E,31nm,0.4s,baz=151,slow=4.0,SNR=6.0								
	comp=E,31nm,0.4s								
YAK	**Yakutsk**	**20.68**	**335**	*e*P		**P**	**07 46 29.2**		**-4.0**
YAK				*e*S		**S**	**07 50 09.8**		**-8.3**
YAK				*e**SS		Sn	07 50 34.2		+4.5
YAK				pmax		pmax			
	comp=Z,28nm,0.8s								
YAK				pmax		pmax			
	comp=N,4.0nm,0.9s								
YAK				pmax		pmax			
	comp=E,3.0nm,0.7s								
YAK				smax		smax			
	comp=E,72nm,4.0s								
YAK				smax		smax			
	comp=N,58nm,4.1s								
HHC	**Hu-ho-hao-te**	**26.81**	**275**	*e*P		**P**	**07 47 33.1**		**+0.8**
HHC				pmax		pmax			
	comp=Z,5.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,150nm,5.2s								
ULN	**Ulaanbaatar**	**28.28**	**292**	*e*P		**P**	**07 47 45.0**		**-0.5**
ULN	**Ulaanbaatar**	**28.28**	**292**	*i* P		**P**	**07 47 45.0**		**-0.5**
ULN				pmax		pmax			
	comp=Z,2.0nm,0.6s								
SONM	**Songino Array**	**28.73**	**292**	P		**P**	**07 47 49.0**		**-0.3**
	comp=Z,1.2nm,0.5s,baz=81,slow=10,SNR=7.7								
	comp=Z,1.2nm,0.5s								
H11N2	**WAKE ISLAND Hy**	**29.21**	**141**	T		T	08 18 57.5		
	baz=332,slow=76,SNR=128								
H11N1	**WAKE ISLAND Hy**	**29.23**	**141**	T		T	08 18 55.4		
	baz=332,slow=76,SNR=142								
H11N3	**WAKE ISLAND Hy**	**29.23**	**141**	T		T	08 18 59.7		
	baz=332,slow=76,SNR=158								
H11S1	**WAKE ISLAND Hy**	**30.20**	**142**	T		T	08 20 08.9		
	baz=332,slow=76,SNR=225								
H11S3	**WAKE ISLAND Hy**	**30.21**	**142**	T		T	08 20 08.1		
	baz=332,slow=76,SNR=147								
H11S2	**WAKE ISLAND Hy**	**30.22**	**142**	T		T	08 20 10.2		
	baz=332,slow=76,SNR=169								
C16K	**Lisburne Hills**	**33.98**	**29**	P		**P**	**07 48 35.2**		**+0.1**
C16K				IAmb		IAmb	07 49 10.5		
	comp=Z,7.3nm,1.4s								
L16K	**Owhat River**	**34.96**	**41**	P		**P**	**07 48 43.6**		**+0.1**
L16K				IAmb		IAmb	07 48 57.0		
	comp=Z,5.5nm,1.2s								
M16K	**Timber Creek**	**35.15**	**43**	P		**P**	**07 48 46.6**		**+1.4**
M16K				IAmb		IAmb	07 49 01.8		
	comp=Z,6.8nm,1.2s								
J17K	**VABM Dome**	**35.32**	**38**	P		**P**	**07 48 47.8**		**+1.2**
J17K				IAmb		IAmb	07 49 16.3		
	comp=Z,5.1nm,1.4s								
E18K	**Tukpahlearik C**	**35.44**	**31**	P		**P**	**07 48 48.5**		**+0.9**
E18K				IAmb		IAmb	07 49 15.8		
	comp=Z,4.8nm,1.4s								
C18K	**Utukok River**	**35.56**	**29**	P		**P**	**07 48 48.4**		**-0.2**
C18K				IAmb		IAmb	07 48 49.6		
	comp=Z,3.2nm,0.6s								
H18K	**Honhosa River**	**35.87**	**36**	P		**P**	**07 48 52.5**		**+1.2**
G18K	**Tagagawik**	**35.88**	**34**	P		**P**	**07 48 52.1**		**+0.7**
G18K				IAmb		IAmb	07 48 53.9		
	comp=Z,6.0nm,1.4s								
C19K	**Lookout Ridge**	**36.24**	**29**	P		**P**	**07 48 54.8**		**+0.3**
L18K	**Granite Mounta**	**36.31**	**41**	P		**P**	**07 48 56.3**		**+1.2**
L18K				IAmb		IAmb	07 48 57.9		
	comp=Z,2.7nm,1.0s								
J18K	**Innoko River**	**36.38**	**39**	P		**P**	**07 48 55.6**		**-0.1**
F19K	**Shaleruckik Mo**	**36.40**	**33**	P		**P**	**07 48 56.4**		**+0.7**
F19K				IAmb		IAmb	07 49 00.6		
	comp=Z,3.8nm,1.1s								
D19K	**Kuna River**	**36.61**	**30**	P		**P**	**07 48 57.6**		**0.0**
E19K	**Redstone River**	**36.72**	**32**	P		**P**	**07 49 00.1**		**+1.6**
E19K				IAmb		IAmb	07 49 02.8		
	comp=Z,3.9nm,0.9s								
H19K	**Roundabout Mou**	**36.72**	**35**	P		**P**	**07 48 59.5**		**+1.0**
H19K				IAmb		IAmb	07 49 00.8		

comp=Z,2.8nm,0.7s
J19K Poorman 36.91 38 P **P 07 49 00.7 +0.5**
J19K IAmb IAmb 07 49 02.3
comp=Z,3.7nm,1.1s
G21K Allakaket 38.03 34 P **P 07 49 10.8 +1.2**
F21K Alatna River 38.12 33 P **P 07 49 11.2 +0.9**
H21K Melozitna Rive 38.24 35 P **P 07 49 11.6 +0.3**
H21K IAmb IAmb 07 49 30.0
comp=Z,3.9nm,1.4s
D22K Ayikyak River 38.63 30 P **P 07 49 14.9 +0.3**
D22K IAmb IAmb 07 49 16.4
comp=Z,2.1nm,0.6s
KTH Kantishna Hill 38.98 39 P **P 07 49 19.2 +1.5**
KTH IAmb IAmb 07 49 20.4
comp=Z,5.2nm,1.0s
G23K Bananza Creek 39.43 34 P **P 07 49 22.5 +1.1**
TOLK Toolik Lake Re 39.73 31 P **P 07 49 24.5 +0.7**
D24K Happy Valley 40.04 30 P **P 07 49 27.4 +1.1**
H24K Noodor Dome 40.28 35 P **P 07 49 29.8 +1.5**
ILAR Eielson Array 40.72 37 P **P 07 49 32.4 +0.4**
comp=Z,0.8nm,0.7s,baz=272,slow=8.8,SNR=8.9
comp=Z,0.8nm,0.7s
PZH PanZhiHua 40.98 260 P **P 07 49 37.8 +3.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,8.6s
ZALV Zalesovo Beam 41.06 307 P **P 07 49 34.7 -0.1**
comp=Z,0.6nm,0.4s,baz=59,slow=5.6,SNR=2.1
comp=Z,0.6nm,0.4s
E25K Arctic Village 41.19 31 P **P 07 49 37.9 +2.0**
PRP Porcupine Dome 41.26 35 P **P 07 49 37.6 +1.0**
FYU Fort Yukon 41.34 34 P **P 07 49 38.0 +1.1**
FYU IAmb IAmb 07 49 51.4
comp=Z,11nm,1.4s
L27K Beaver Creek, 43.11 39 P **P 07 49 53.3 +1.9**
L27K IAmb IAmb 07 49 54.4
comp=Z,2.8nm,0.8s
E28M Babbage River 43.41 31 P **P 07 49 55.4 +1.7**
E28M IAmb IAmb 07 49 56.4
comp=Z,1.7nm,0.5s
I28M Miner Creek 43.59 35 P **P 07 49 56.9 +1.5**
E29M Blow River 44.03 31 P **P 07 50 00.2 +1.5**
E29M IAmb IAmb 07 50 02.1
comp=Z,2.1nm,0.5s
H29M Whitestone 44.12 34 P **P 07 50 02.3 +2.8**
H29M IAmb IAmb 07 50 04.7
comp=Z,7.0nm,1.5s
L29M L29M 44.76 38 P **P 07 50 06.4 +1.8**
MK31 Makanchi Array 44.77 297 P **P 07 50 05.0 +0.1**
MK31 IAmb IAmb 07 50 06.3
comp=Z,4.7nm,0.8s
MK31 Makanchi Array 44.77 297 *i* P **P 07 50 05.6 +0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.4s
MKAR Makanchi Array 44.77 297 P **P 07 50 05.5 +0.6**
MKAR Makanchi Array 44.77 297 P **P 07 50 05.2 +0.3**
comp=Z,3.4nm,0.5s,baz=78,slow=8.3,SNR=34
comp=Z,3.4nm,0.5s
MKAR Makanchi Array 44.77 297 *eP* **P 07 50 05.6 +0.6**
MKAR Makanchi Array 44.77 297 *ceP* **P 07 50 05.6 +0.6**
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MAKZ Makanchi 44.97 297 P **P 07 50 07.0 +0.5**
MAKZ Makanchi 44.97 297 P **P 07 50 07.0 +0.5**
MAKZ pmax pmax
comp=Z,6.0nm,0.7s
I30M Mount Dempster 45.10 35 P **P 07 50 09.1 +1.7**
I30M IAmb IAmb 07 50 10.9
comp=Z,2.8nm,0.8s
G31M Satah River 45.62 33 P **P 07 50 12.6 +1.3**
G31M IAmb IAmb 07 50 15.7
comp=Z,6.2nm,1.2s
KURK Kurchatov 45.63 304 *eP* **P 07 50 11.0 -0.6**
KURK Kurchatov 45.63 304 *ceP* **P 07 50 11.0 -0.6**
KURK pmax pmax
comp=Z,2.0nm,1.3s
INK Inuvik 45.65 31 P **P 07 50 12.5 +1.0**
INK Inuvik 45.65 31 P **P 07 50 12.5 +1.0**
INK pmax pmax
comp=Z,3.0nm,0.4s
KURBB Kurchatov Arra 45.72 304 P **P 07 50 11.8 -0.5**
comp=Z,1.6nm,0.5s,baz=74,slow=8.3,SNR=8.2
comp=Z,1.6nm,0.5s
A36M Sachs Harbour 47.63 25 P **P 07 50 27.2 +0.3**
A36M IAmb IAmb 07 50 28.8
comp=Z,2.6nm,0.7s
C36M Paulatuk 48.73 28 P **P 07 50 36.1 +0.7**
BVAR Borovoye Array 49.53 309 P **P 07 50 42.0 +0.2**
comp=Z,0.8nm,0.4s,baz=56,slow=5.6,SNR=4.1
comp=Z,0.8nm,0.4s
BVAR Borovoye Array 49.53 309 P **P 07 50 42.0 +0.2**
KK31 Karatay Array 53.90 298 *i* P **P 07 51 14.4 +0.1**
ARU Arti 54.28 317 P **P 07 51 15.9 -0.9**
comp=Z,6.3nm,0.6s
YKA Yellowknife Ar 55.04 34 P **P 07 51 23.1 +0.9**
comp=Z,0.4nm,0.8s,baz=301,slow=7.3,SNR=7.7
comp=Z,0.4nm,0.8s
AB31 Akbulak array 57.10 309 *eP* **P 07 51 37.4 +0.2**
ABKAR Akbulak array 57.10 309 P **P 07 51 37.0 -0.2**
KEV Kevo 58.35 339 P **P 07 51 44.4 -1.2**
KEV Kevo 58.35 339 P **P 07 51 44.4 -1.2**
KEV pmax pmax
comp=Z,27nm,1.2s
ARCES ARCESS Array B 58.88 340 P **P 07 51 48.4 -0.9**
ARCES ARCESS Array B 58.88 340 P **P 07 51 47.7 -1.6**
comp=Z,2.7nm,0.9s,baz=46,slow=7.6,SNR=12
comp=Z,2.7nm,0.9s
ARCES ARCESS Array B 58.88 340 P **P 07 51 48.4 -0.9**
ARCES pmax pmax
comp=Z,11nm,1.3s
BELG Belogornoye 61.83 317 *i* P **P 07 52 10.4 +0.9**
BELG pmax pmax
comp=Z,1.0nm,0.6s
SUMG Summit 63.32 2 P **P 07 52 19.2 -0.4**
SUMG Summit 63.32 2 P **P 07 52 19.2 -0.4**
SUMG pmax pmax
comp=Z,5.0nm,1.0s
FIA1 FINESS Array S 64.59 333 P **P 07 52 26.2 -1.4**
FINES FINESS Array B 64.59 333 P **P 07 52 26.5 -1.2**
FINES FINESS Array B 64.59 333 P **P 07 52 26.9 -0.8**
comp=Z,4.7nm,0.6s,baz=40,slow=7.4,SNR=26
comp=Z,4.7nm,0.6s
FINES FINESS Array B 64.59 333 *i* P **P 07 52 27.2 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.6s
GEYT Alibeck 64.61 299 P **P 07 52 28.1 -0.1**
comp=Z,1.2nm,0.3s,baz=66,slow=4.9,SNR=2.0
comp=Z,1.2nm,0.3s
WRA Warramunga Arr 65.14 194 P **P 07 52 31.7 0.0**
comp=Z,0.9nm,0.9s,baz=10,slow=6.7,SNR=2.4
comp=Z,0.9nm,0.9s
NVAR Mina Array Bea 66.84 58 P **P 07 52 44.2 +1.5**
comp=Z,0.5nm,0.8s,baz=306,slow=7.7,SNR=3.5
comp=Z,0.5nm,0.8s
ASAR Alice Springs 68.86 194 P **P 07 52 56.1 +1.0**
comp=Z,0.4nm,0.7s,baz=13,slow=4.5,SNR=4.6
comp=Z,0.4nm,0.7s
NB201 NORSAR Array S 69.22 339 P **P 07 52 57.1 +0.1**
NB2 NORSAR Subarra 69.25 339 P **P 07 52 57.4 +0.2**
comp=Z,0.7nm,0.5s,baz=30,slow=6.5
NOA NORSAR Array B 69.25 339 P **P 07 52 56.5 -0.7**
comp=Z,1.0nm,0.6s,baz=29,slow=6.6,SNR=6.9
comp=Z,1.0nm,0.6s
HFS Hagfors 69.36 337 P **P 07 52 57.6 -0.2**
comp=Z,2.1nm,0.5s,baz=55,slow=5.5,SNR=13
comp=Z,2.1nm,0.5s
KIV Kislovodsk 69.76 312 *eP* **P 07 53 02.3 +1.6**
KIV Kislovodsk 69.76 312 *ieP* **P 07 53 02.3 +1.6**
KIV *e* 07 53 26.9
KIV *e* 07 55 36.5
KIV pmax pmax
comp=Z,5.0nm,0.6s
KBZ Khabaz 69.80 312 P **P 07 53 02.2 +1.4**
comp=Z,3.1nm,0.7s,baz=26,slow=4.2,SNR=8.4
comp=Z,3.1nm,0.7s
KBZ Khabaz 69.80 312 *eP* **P 07 53 01.9 +1.1**
KBZ Khabaz 69.80 312 *ceP* **P 07 53 01.9 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,0.7s
AK03 Malin Array Si 71.40 324 P **P 07 53 10.9 +0.5**
AKASG Malin Array Be 71.42 324 P **P 07 53 10.4 -0.1**
comp=Z,1.4nm,0.6s,baz=37,slow=6.4,SNR=9.4
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 71.42 324 *i* P **P 07 53 10.6 +0.1**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 71.42 324 *i* P **P 07 53 10.6 +0.1**
AKBB pmax pmax
comp=Z,7.0nm,1.1s
AK04 Malin Array Si 71.42 324 P **P 07 53 10.3 -0.3**
KIEV Kiev 71.43 324 P **P 07 53 10.3 -0.3**
AK22 Malin Array Si 71.44 324 P **P 07 53 09.6 -1.0**
AK02 Malin Array Si 71.46 324 P **P 07 53 10.0 -0.8**
AK11 Malin Array Si 71.46 324 P **P 07 53 09.8 -1.0**
LUBAR Lubar, Ukraine 72.62 324 P **P 07 53 16.5 -1.3**
NE56 Odesa 73.59 320 P **P 07 53 21.7 -2.3**
LVV L'vov 74.23 326 P **P 07 53 25.7 -1.5**
CLL Collm 77.04 333 *eP* **P 07 53 43.0 -0.1**
CLL Collm 77.04 333 *eP* **P 07 53 43.0 -0.1**
BRTR Keskin Array B 77.52 314 P **P 07 53 46.8 +0.6**
comp=Z,0.5nm,0.7s,baz=36,slow=2.7,SNR=2.1
comp=Z,0.5nm,0.7s
EKA Eskdalemuir Ar 77.72 344 P **P 07 53 47.1 +0.2**
comp=Z,0.4nm,0.5s,baz=26,slow=6.6,SNR=4.2
comp=Z,0.4nm,0.5s
TXAR Lajitas Array 81.91 57 P **P 07 54 10.5 +0.4**
comp=Z,0.3nm,0.5s,baz=300,slow=3.6,SNR=9.2
comp=Z,0.3nm,0.5s
H03N2 Juan Fernandez 142.45 90 T T 10 40 34.3
baz=304,slow=77,SNR=3.4
H03N3 Juan Fernandez 142.46 90 T T 10 40 38.1
baz=304,slow=77,SNR=3.1
H03N1 Juan Fernandez 142.47 90 T T 10 40 38.6
baz=304,slow=77,SNR=3.2

NNC ***17*** *08:18:27.1±3.0, 53.78N×90.70E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=22.1km s-min=15.8km az=49.0, Suspected Mining explosion.*
IDC ***17*** *08:18:29.4±3.5, 53.61N×90.70E, h0km, mbtmp3.2/3, ML2.6/3, Error ellipse: s-maj=33.2km s-min=23.8km az=33.0*
ISC 17 08:18:30.1±4.0, 53.7N±0.1×90.5E±0.2, h0km, n9, σ1s21/10, 7C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.41**	**277**	I	I	08 41 20.0	
	0.1nm,1.0s,baz=91,slow=334,SNR=16						
ZAA0	**Zalesovo Array**	**3.41**	**277**	⇓Pg	**Pb**	**08 19 30.0**	**-1.3**
ZAA0	1.1nm,0.6s			⇑Lg	Lg	08 20 20.5	
	7.5nm,0.9s						
ZALV	**Zalesovo Beam**	**3.41**	**277**	Pn	**Pn**	**08 19 26.0**	**+1.6**
ZALV	0.3nm,0.3s,baz=91,slow=14,SNR=2.9			Lg	Lg	08 20 21.1	
	3.5nm,0.3s,baz=95,slow=27,SNR=9.2						
	2.0nm,0.4s						
KURK	**Kurchatov**	**7.89**	**253**	⇑Sn	**Sn**	**08 21 57.3**	**+1.4**
KURK	6.8nm,1.0s			⇓Lg	Lg	08 22 43.5	
	17nm,1.0s						
KURBB	**Kurchatov Arra**	**7.99**	**253**	⇓Pn	**Pn**	**08 20 26.8**	**-0.5**
KURBB	2.5nm,0.6s			⇑Sn	**Sn**	**08 21 58.9**	**+0.7**
	30nm,1.0s						
KURBB				⇑Lg	Lg	08 22 44.5	
	57nm,1.4s						
KURBB	**Kurchatov Arra**	**7.99**	**253**	Pn	**Pn**	**08 20 27.5**	**+0.3**
	0.1nm,0.3s,baz=63,slow=14,SNR=8.0						
KURBB				Sn	**Sn**	**08 21 57.0**	**-1.3**
	baz=67,slow=26,SNR=3.6						
KURBB				Lg	Lg	08 22 48.0	
	0.1nm,0.3s,baz=59,slow=27,SNR=1.3						
	0.7nm,0.3s						
MK31	**Makanchi Array**	**8.66**	**221**	⇑Pn	**Pn**	**08 20 36.4**	**-0.2**
	0.6nm,0.6s,baz=37,slow=13,SNR=10						
MK31				⇑Sn	**Sn**	**08 22 16.1**	**+1.2**
	5.7nm,1.3s,baz=46,slow=28,SNR=3.6						
MK31				⇑Lg	Lg	08 23 10.3	
	7.0nm,1.1s,baz=33,slow=30						
MKAR	**Makanchi Array**	**8.66**	**221**	Pn	**Pn**	**08 20 37.0**	**+0.4**
	0.4nm,0.3s,baz=35,slow=12,SNR=12						
MKAR				Sn	Sn	08 22 09.3	-5.6
	baz=42,slow=28						
MKAR				Lg	Lg	08 23 05.3	
	baz=34,slow=22,SNR=1.2						
	0.6nm,0.4s						
SONM	**Songino Array**	**11.60**	**114**	Lg	Lg	08 24 25.1	
	0.1nm,0.3s,baz=300,slow=29,SNR=4.4						

IDC 17 08:30:12.7±3.6, 53.62N×87.88E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=35.9km s-min=19.5km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**281**	I	I	08 42 24.4	
	0.2nm,0.8s,baz=98,slow=336,SNR=4.9						
ZALV	**Zalesovo Beam**	**1.85**	**281**	Pn	Pn	08 30 45.8	+0.2
	1.3nm,0.3s,baz=99,slow=13,SNR=12						
ZALV				Lg	Lg	08 31 10.8	
	1.8nm,0.3s,baz=102,slow=28,SNR=10.0						
KURBB	**Kurchatov Arra**	**6.49**	**246**	Pn	Pn	08 31 50.2	+0.8
	0.1nm,0.3s,baz=61,slow=14,SNR=4.1						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.72**	**210**	Pn	Pn	08 32 07.0	+0.8
	0.1nm,0.3s,baz=24,slow=13,SNR=2.5						
	0.1nm,0.3s						

IDC ***17*** *08:42:38.6±0.9, 13.99N×56.85E, h0km, mb3.8/9, mbtmp3.8/10, ML2.7/1, Error ellipse: s-maj=29.5km s-min=23.0km az=100.0*
ISC 17 08:42:40.9±0.9, 14.0N±0.1×56.8E±0.2, h15km, n14, σ0s42/11, mb3.8/9, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**9.33**	**10**	Pn	**Pn**	**08 44 55.0**	**0.0**
	0.1nm,0.3s,baz=198,slow=13,SNR=1.9						
	4.4nm,0.8s						
MKAR	**Makanchi Array**	**39.01**	**28**	P	**P**	**08 50 07.4**	**+0.5**
	0.4nm,0.6s,baz=214,slow=7.3,SNR=3.9						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**40.53**	**21**	P	**P**	**08 50 20.2**	**+0.8**
	1.1nm,0.2s,baz=210,slow=21,SNR=1.1						
	1.1nm,0.2s						
AKASG	**Malin Array Be**	**42.89**	**334**	P	**P**	**08 50 38.3**	**-0.4**
	0.1nm,0.2s,baz=135,slow=6.8,SNR=2.0						
	0.1nm,0.2s						
ZALV	**Zalesovo Beam**	**45.51**	**23**	P	**P**	**08 50 59.4**	**-0.3**
	0.5nm,0.3s,baz=211,slow=8.2,SNR=1.9						
	0.5nm,0.3s						
BOSA	**Boshof**	**52.24**	**216**	P	**P**	**08 51 52.0**	**+0.1**
	3.3nm,0.9s,baz=45,slow=5.7,SNR=3.1						
	3.3nm,0.9s						
FINES	**FINESS Array B**	**52.28**	**342**	P	**P**	**08 51 51.3**	**-0.2**
	2.2nm,0.7s,baz=128,slow=12,SNR=7.4						
	2.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**53.51**	**276**	P	**P**	**08 52 01.6**	**+0.3**
	0.5nm,0.6s,baz=85,slow=7.8,SNR=2.0						
	0.5nm,0.6s						
H01W3	**Cape Leeuwin H**	**72.90**	**134**	T	T	10 13 39.2	
	baz=302,slow=75,SNR=10						
H01W2	**Cape Leeuwin H**	**72.90**	**134**	T	T	10 13 39.8	
	baz=302,slow=75,SNR=8.6						
H01W1	**Cape Leeuwin H**	**72.92**	**134**	T	T	10 13 40.4	
	baz=302,slow=75,SNR=11						
WRA	**Warramunga Arr**	**83.34**	**112**	P	**P**	**08 55 07.9**	**-0.1**
	0.6nm,0.8s,baz=295,slow=4.3,SNR=3.6						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**84.08**	**116**	P	**P**	**08 55 11.4**	**-0.3**
	0.5nm,0.7s,baz=297,slow=5.3,SNR=6.1						
	0.5nm,0.7s						
NVAR	**Mina Array Bea**	**127.63**	**355**	PKP	**PKiKP**	**09 01 46.7**	**-0.2**
	0.2nm,0.5s,baz=339,slow=4.3,SNR=2.7						

TEH ***17*** *08:46:52.8, 30.14N×50.85E, h12km±26km, ML3.8*
SGS ***17*** *08:46:55.4, 30.47N×50.86E, h15km, Ml4.0*
IDC ***17*** *08:46:56.6±4.0, 30.09N×50.85E, h38km±34km, mb3.7/15, mbtmp3.9/18, ML3.5/3, Error ellipse: s-maj=22.8km s-min=18.4km az=31.0*
DSN ***17*** *08:46:59.9±1.3, 29.82N×51.15E, h15km, ML3.4/10, Error ellipse: s-maj=15.1km s-min=10.8km az=13.0*
OMAN ***17*** *08:46:59.1±0.1, 29.90N×51.25E, h10km, mb4.5/21, Error ellipse: s-maj=1.3km s-min=1.1km az=350.0*
ISC 17 08:46:52.9±0.5, 30.15N±0.03×50.92E±0.03, h10km, n112, σ2s19/135, mb3.8/15, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABEH	**Behbahan**	**0.73**	**308**	Pg	**Pg**	**08 47 06.5**	**-0.6**
ABEH				Sg	**Sn**	**08 47 19.0**	**-1.6**
KLNJ	**Kolanjah**	**1.04**	**34**	Pg	**Pg**	**08 47 13.1**	**+0.2**
SHI	**Shiraz**	**1.47**	**110**	Pg	**Pg**	**08 47 23.1**	**+1.9**
IBRJ	**Brojen**	**1.78**	**9**	Pn	**Pg**	**08 47 27.1**	**-0.1**
DSBU	**Dashti - Bushe**	**1.80**	**170**	Pn	**Pg**	**08 47 27.4**	**-0.1**
ZNGN	**Zangian**	**1.97**	**358**	Pn	**Pb**	**08 47 29.3**	**+0.3**
IRAM	**Ramesheh**	**2.08**	**37**	Pn	**Pb**	**08 47 31.3**	**+0.4**
JHBN	**Jahan bin**	**2.09**	**354**	Pn	**Pb**	**08 47 31.5**	**+0.3**
AHWZ	**Ahwaz**	**2.29**	**302**	Pn	**Pg**	**08 47 35.5**	**-1.3**
IGAR	**Gharneh**	**2.45**	**23**	Pn	**Pb**	**08 47 36.3**	**-0.9**
QIR1	**Qir**	**2.49**	**131**	Pn	**Pb**	**08 47 37.2**	**-0.6**
IPIR	**Pirpir**	**2.53**	**359**	Pn	**Pb**	**08 47 37.0**	**-1.6**
KFJS2	**Khafji**	**2.84**	**232**	P	**Pb**	**08 47 41.5**	**-2.3**
ISAD	**Sadrabad**	**2.96**	**53**	Pn	**Pn**	**08 47 43.3**	**+3.1**
IZEF	**Zefreh**	**3.00**	**23**	Pn	**Pn**	**08 47 43.7**	**+3.0**
IKLH	**Kolahrood**	**3.21**	**10**	Pn	**Pn**	**08 47 46.1**	**+2.4**
IMEH	**Mehriz**	**3.41**	**68**	Pn	**Pn**	**08 47 50.1**	**+3.7**
QAMS	**Qamsar**	**3.60**	**6**	Pn	**Pn**	**08 47 51.8**	**+2.7**
ANAR	**Anarak**	**3.87**	**38**	Pn	**Pn**	**08 47 55.6**	**+3.1**
KRSH	**Karshahi**	**3.95**	**15**	Pn	**Pn**	**08 47 56.4**	**+2.6**
SAKB	**Bahrain**	**4.17**	**185**	P	**Pn**	**08 47 59.5**	**+2.9**
SAKB				S	**Sn**	**08 48 49.2**	**+3.9**
IBAF	**Bafgh**	**4.25**	**69**	Pn	**Pn**	**08 48 00.4**	**+2.6**
SHMA	**Al-Shehemyia**	**4.27**	**179**	P	**Pn**	**08 48 01.7**	**+3.6**
	SNR=18						
SHMA				S	**Sn**	**08 48 51.1**	**+3.2**
ISFB	**Sefidab**	**4.34**	**15**	Pn	**Pn**	**08 48 01.5**	**+2.4**
BOQSS		**4.47**	**198**	S	**Sn**	**08 48 57.2**	**+4.2**
BOQSS		**4.47**	**198**	P	**Pn**	**08 48 04.9**	**+4.1**
HSAM	**Samen**	**4.51**	**335**	Pn	**Pn**	**08 48 03.5**	**+2.0**
IQOM	**Qom**	**4.69**	**2**	Pn	**Pn**	**08 48 06.1**	**+2.1**
SMAN	**Sihmah**	**4.69**	**213**	P	**Pn**	**08 48 06.9**	**+3.1**
KHGB	**Koh Gabri**	**4.81**	**86**	Pn	**Pn**	**08 48 09.0**	**+3.3**
IVRN	**Varamin**	**4.88**	**8**	Pn	**Pn**	**08 48 08.5**	**+2.0**
HAGD	**Aghdareh**	**4.90**	**343**	Pn	**Pn**	**08 48 08.9**	**+2.0**
ZRDN	**Zarand Kerman**	**4.91**	**79**	Pn	**Pn**	**08 48 10.0**	**+3.0**
IBZA	**Bozab**	**5.03**	**330**	Pn	**Pn**	**08 48 10.1**	**+1.4**
NGRK	**Negar Kerman**	**5.07**	**94**	Pn	**Pn**	**08 48 11.9**	**+2.5**
RQBS	**RQBS**	**5.17**	**239**	P	**Pn**	**08 48 12.5**	**+2.0**
TRNA	**Turayna**	**5.39**	**177**	P	**Pn**	**08 48 17.0**	**+3.5**
	SNR=22						
JRN	**Qarnain Island**	**5.46**	**161**	P	**Pn**	**08 48 17.1**	**+2.8**
SNQR	**Sonqor, Kerman**	**5.46**	**330**	Pn	**Pn**	**08 48 16.5**	**+1.9**
ILAS	**Lasjerd**	**5.50**	**18**	Pn	**Pn**	**08 48 17.7**	**+2.6**
NHRD	**Haradh**	**5.66**	**198**	P	**Pn**	**08 48 20.9**	**+3.7**
GLG1	**Gilan-e-Gharb**	**5.81**	**314**	Pn	**Pn**	**08 48 20.3**	**+1.1**
ILIN	**Lien**	**5.82**	**326**	Pn	**Pn**	**08 48 20.8**	**+1.3**
IDHR	**Dehrash**	**5.94**	**321**	Pn	**Pn**	**08 48 22.7**	**+1.5**
RMAH	**Rumah**	**5.97**	**218**	P	**Pn**	**08 48 23.9**	**+2.4**
SLWR	**Sila**	**6.09**	**173**	P	**Pn**	**08 48 26.0**	**+3.0**
SLWR				S	**Sn**	**08 49 32.4**	**-0.3**
SHME	**Shamm**	**6.16**	**130**	P	**Pn**	**08 48 25.3**	**+1.4**
SHME	**Shamm**	**6.16**	**130**	P	**Pn**	**08 48 24.8**	**+0.8**
	SNR=5.5						
UMQ	**Umm Al-Quwin**	**6.23**	**136**	P	**Pn**	**08 48 26.9**	**+2.0**
TKDS	**Koohdasht(Taba**	**6.31**	**55**	Pn	**Pn**	**08 48 29.1**	**+3.0**
BANOM	**Banah**	**6.35**	**130**	P	**Pn**	**08 48 28.7**	**+2.1**
GHWR	**Ruwais**	**6.40**	**164**	P	**Pn**	**08 48 30.1**	**+2.8**
AJN	**Ajban**	**6.63**	**146**	*i* P	**Pn**	**08 48 31.4**	**+0.9**
	SNR=5.9						
AJN	**Ajban**	**6.63**	**146**	P	**Pn**	**08 48 32.3**	**+1.8**
	SNR=5.9						
NAZ	**Nazwa, Dubai**	**6.64**	**140**	P	**Pn**	**08 48 32.1**	**+1.5**
MASF	**Masafi**	**6.64**	**134**	P	**Pn**	**08 48 32.6**	**+1.9**
MASF				S	**Sn**	**08 49 46.5**	**-0.1**
MSFE	**Esma-Masafi**	**6.65**	**135**	P	**Pn**	**08 48 31.2**	**+0.4**
ASUD	**Al Ashush, Dub**	**6.75**	**143**	*i* P	**Pn**	**08 48 34.4**	**+2.3**
	SNR=17						
ASUD	**Al Ashush, Dub**	**6.75**	**143**	P	**Pn**	**08 48 35.0**	**+2.9**
	SNR=17						
ASUD				S	**Sn**	**08 49 49.6**	**+0.5**
MDH	**Madha**	**6.78**	**134**	P	**Pn**	**08 48 33.7**	**+1.1**
MDH				S	**Sn**	**08 49 49.1**	**-0.8**
IGLO	**Ghaloghah**	**6.79**	**20**	Pn	**Pn**	**08 48 36.1**	**+3.2**
FAQ	**Al Faqa, Dubai**	**6.79**	**141**	P	**Pn**	**08 48 34.8**	**+2.1**
FAQ	**Al Faqa, Dubai**	**6.79**	**141**	P	**Pn**	**08 48 34.3**	**+1.6**
MZWR	**Madinat Zayed**	**6.88**	**157**	P	**Pn**	**08 48 36.7**	**+2.7**
UOSS	**Minazif**	**6.99**	**137**	P	**Pn**	**08 48 36.0**	**+0.7**
UOSS	**Minazif**	**6.99**	**137**	P	**Pn**	**08 48 36.6**	**+1.2**
UOSS				S	**Sn**	**08 49 52.9**	**-2.0**
HATD	**Hatta, Dubai**	**7.04**	**138**	P	**Pn**	**08 48 37.4**	**+1.4**
HATD				S	**Sn**	**08 49 54.6**	**-1.5**
ASHO	**Ashiyiah**	**7.10**	**139**	*i* P	**Pn**	**08 48 38.5**	**+1.5**
	SNR=9.6						
ASHO				S	**Sn**	**08 49 55.9**	**-1.9**
ASHO	**Ashiyiah**	**7.10**	**139**	P	**Pn**	**08 48 38.5**	**+1.5**
	SNR=9.8						
ASHO				S	**Sn**	**08 49 56.3**	**-1.5**
ALNE	**Al Ain**	**7.44**	**143**	*i* P	**Pn**	**08 48 43.8**	**+2.2**
	SNR=6.9						
ALNE	**Al Ain**	**7.44**	**143**	P	**Pn**	**08 48 44.1**	**+2.6**
	SNR=6.8						
ALNE				S	**Sn**	**08 50 04.8**	**-1.2**
JASK	**Jask - Hormozg**	**7.47**	**123**	P	**Pn**	**08 48 42.0**	**0.0**
JASK				S	**Sn**	**08 50 00.2**	**-6.6**
MZR	**Muzera**	**7.47**	**162**	*i* P	**Pn**	**08 48 44.8**	**+2.8**
	SNR=7.4						
MZR	**Muzera**	**7.47**	**162**	P	**Pn**	**08 48 45.1**	**+3.1**
	SNR=7.4						
MZR				S	**Sn**	**08 50 05.8**	**-1.1**
SOHO	**SOHO**	**7.80**	**139**	P	**Pn**	**08 48 48.0**	**+1.5**
SOHO				S	**Sn**	**08 50 14.8**	**-0.1**
UMZA	**Um Al Zommool**	**8.32**	**152**	P	**Pn**	**08 48 55.4**	**+1.8**
UMZA				S	**Sn**	**08 50 24.7**	**-3.0**
ARQ	**Araqi**	**8.43**	**142**	P	**Pn**	**08 48 57.0**	**+1.8**
	SNR=7.9						
ARQ				S	**Sn**	**08 50 27.7**	**-2.7**
HOQ	**Hoqain**	**8.67**	**137**	P	**Pn**	**08 48 59.7**	**+1.2**
HOQ				S	**Sn**	**08 50 34.5**	**-2.0**
BIDD	**Bidbid**	**9.21**	**134**	P	**Pn**	**08 49 06.4**	**+0.5**
BSY	**Bisya**	**9.27**	**141**	P	**Pn**	**08 49 08.6**	**+1.8**
BSY				S	**Sn**	**08 50 47.3**	**-3.8**
SMDO	**Samad**	**9.51**	**136**	P	**Pn**	**08 49 11.0**	**+1.0**
SMDO				S	**Sn**	**08 50 51.9**	**-5.2**
SMDO				S		08 50 55.0	
WSAR	**Wadi Sarin**	**9.73**	**133**	Pn	**Pn**	**08 49 13.7**	**+0.6**
	0.8nm,0.3s,baz=346,slow=7.8,SNR=12						
WSAR				Sn	**Sn**	**08 50 58.1**	**-4.5**
	0.5nm,0.3s,baz=230,slow=21,SNR=1.8						
	3.9nm,0.5s						
GEYT	**Alibeck**	**9.79**	**36**	Pn	**Pn**	**08 49 16.5**	**+2.7**
	0.5nm,0.3s,baz=246,slow=17,SNR=2.3						
	1.5nm,0.5s						
JMDO	**Jabal Madar**	**10.07**	**139**	P	**Pn**	**08 49 19.1**	**+1.4**
JMDO				S	**Sn**	**08 51 06.4**	**-4.4**
WBK	**Wadi Bani Khal**	**10.41**	**134**	P	**Pn**	**08 49 22.7**	**+0.4**
JLN	**Jalan Bani Buh**	**11.02**	**134**	P	**Pn**	**08 49 30.5**	**-0.2**
MHTO	**MHTO**	**11.12**	**144**	P	**Pn**	**08 49 33.0**	**+1.0**
	SNR=21						
MHTO				S

	0.7nm,0.5s							
FINES	**FINESS Array B**	**35.32**	**340**	P	**P**	**08 53 47.3**	**-0.7**
	2.9nm,1.1s,baz=145,slow=5.1,SNR=2.2							
	2.9nm,1.1s							
HFS	**Hagfors**	**38.94**	**331**	P	**P**	**08 54 18.5**	**-0.3**
	1.3nm,0.5s,baz=125,slow=9.3,SNR=5.8							
	1.3nm,0.5s							
ARCES	**ARCESS Array B**	**42.02**	**347**	P	**P**	**08 54 44.4**	**+0.3**
	2.0nm,0.8s,baz=138,slow=9.6,SNR=1.5							
	2.0nm,0.8s							
EKA	**Eskdalemuir Ar**	**45.54**	**320**	P	**P**	**08 55 10.7**	**-1.9**
	0.3nm,0.4s,baz=100,slow=8.1,SNR=2.0							
	0.3nm,0.4s							
TORD	**Torodi Ar. Bea**	**48.39**	**261**	P	**P**	**08 55 35.1**	**-0.3**
	1.4nm,0.8s,baz=54,slow=9.9,SNR=7.8							
	1.4nm,0.8s							
SPITS	**Spitsbergen Ar**	**50.50**	**351**	P	**P**	**08 55 51.0**	**+0.3**
	11nm,0.9s,baz=125,slow=14,SNR=6.9							
	11nm,0.9s							
ILAR	**Eielson Array**	**84.38**	**8**	P	**P**	**08 59 25.1**	**0.0**
	0.3nm,0.8s,baz=328,slow=3.2,SNR=2.7							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	**86.95**	**353**	P	**P**	**08 59 37.7**	**-0.2**
	0.4nm,0.8s,baz=5.7,slow=6.0,SNR=6.3							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**94.36**	**110**	P	**P**	**09 00 12.7**	**-0.6**
	0.4nm,0.9s,baz=317,slow=4.1,SNR=1.8							
	0.4nm,0.9s							
ASAR	**Alice Springs**	**95.88**	**114**	P	**P**	**09 00 18.7**	**-1.5**
	0.4nm,1.0s,baz=308,slow=4.6,SNR=1.8							
	0.4nm,1.0s							
QSPA	**South Pole Qui**	**119.98**	**180**	PKP	**PKPdf**	**09 05 42.2**	**-0.7**
	3.1nm,1.3s,baz=265,slow=1.0,SNR=9.7							

IDC 17 09:13:54.4±3.8, 54°21N×87°62E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=34.2km s-min=20.4km az=39.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**262**	I	I	09 23 23.8	
	baz=80,slow=330,SNR=5.2						
ZALV	**Zalesovo Beam**	**1.67**	**262**	Pg	Pn	09 14 25.0	+0.1
	1.6nm,0.3s,baz=80,slow=12,SNR=15						
ZALV				Lg	Lg	09 14 47.4	
	1.1nm,0.3s,baz=78,slow=24,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.62**	**241**	Pn	Pn	09 15 33.0	+0.2
	0.1nm,0.3s,baz=54,slow=13,SNR=1.8						
	0.7nm,0.3s						
MKAR	**Makanchi Array**	**8.16**	**207**	Pn	Pn	09 15 55.3	+1.2
	baz=25,slow=13,SNR=1.6						
	0.1nm,0.3s						

TRN 17 09:46:49.3, 14°99N×60°66W, h52km, MD3.7, North-east of Martinique., Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MVM	**Montagne Vaucl**	**0.49**	**208**	*e*P	Pn	09 47 01.6	+1.0
BAMF	**Morne Balai**	**0.51**	**250**	*e*P	Pn	09 47 02.6	+1.8
LPMF	**Morne Lapointe**	**0.51**	**216**	*e*P	Pn	09 47 01.6	+0.7
SVN	**Savane Anatole**	**0.52**	**253**	*e*P	Pn	09 47 00.3	-0.6
SVN	**Savane Anatole**	**0.52**	**253**	*e*P	Pn	09 47 02.9	+2.0
SVN				*e*S	Sn	09 47 11.2	+1.9
CXM	**Morne La Croix**	**0.53**	**250**	*e*P	Pn	09 47 03.2	+2.1
GBMF	**Grand Be**	**0.53**	**249**	*e*P	Pn	09 47 02.9	+1.8
FDF	**Fort de France**	**0.54**	**242**	*e*P	Pn	09 47 02.8	+1.6
ZAM	**Aeronautique**	**0.55**	**221**	*e*P	Pn	09 47 02.2	+1.0
PCM	**Pelee Case Pet**	**0.56**	**252**	*e*P	Pn	09 47 02.6	+1.2
PCM	**Pelee Case Pet**	**0.56**	**252**	*e*P	Pn	09 47 03.5	+2.0
TRMF	**Trois Ilets**	**0.59**	**220**	*e*P	Pn	09 47 02.7	+0.9
BIM	**Bigot**	**0.62**	**220**	*e*P	Pn	09 47 04.0	+1.9
BIM				*e*S	Sn	09 47 13.4	+2.0
SLBI	**Saint Lucia, B**	**1.01**	**198**	*e*P	Pn	09 47 08.8	+1.6
SLBI				*e*S	Sn	09 47 22.3	+1.9
MAGL	**Barre de l'ile**	**1.13**	**328**	*e*P	Pn	09 47 10.5	+1.7
TDBA	**Terre de Bas,**	**1.27**	**312**	*e*P	Pn	09 47 15.1	+4.3
TDBA				*e*S	Sn	09 47 33.0	+6.3
TBG	**Guadaloupe-3**	**1.28**	**312**	*e*P	Pn	09 47 11.8	+1.0
CBE	**Ff, Capester**	**1.41**	**320**	*e*P	Pn	09 47 18.9	+6.2
CBE				*e*S	Sn	09 47 39.0	+8.9
ABD	**La Joyeuse, An**	**1.68**	**332**	*e*P	Pn	09 47 02.4	-14
ABD				*e*S	Sn	09 47 10.8	-26
ABD	**La Joyeuse, An**	**1.68**	**332**	*e*P	Pn	09 47 18.7	+2.5
ANBD	**Bethesda, Anti**	**2.31**	**333**	*e*P	Pn	09 47 26.1	+1.2
ANBD				*e*S	Sn	09 47 53.3	+1.3

IDC 17 09:51:00.3±2.9, 53°57N×87°87E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=23.4km s-min=15.9km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.85**	**283**	I	I	10 03 25.0	
	0.1nm,1.0s,baz=98,slow=334,SNR=22						
ZALV	**Zalesovo Beam**	**1.85**	**283**	Pn	Pn	09 51 33.3	0.0
	1.1nm,0.3s,baz=96,slow=12,SNR=14						
ZALV				Lg	Lg	09 51 59.7	
	4.6nm,0.3s,baz=104,slow=27,SNR=28						
KURBB	**Kurchatov Arra**	**6.47**	**247**	Pn	Pn	09 52 37.2	+0.6
	0.1nm,0.3s,baz=62,slow=14,SNR=9.1						
KURBB				Sn	Sn	09 53 49.2	-1.9
	0.1nm,0.3s,baz=64,slow=11,SNR=4.8						
KURBB				Lg	Lg	09 54 25.6	
	0.1nm,0.3s,baz=58,slow=32,SNR=6.2						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.67**	**210**	Pn	Pn	09 52 54.2	+1.0
	0.1nm,0.3s,baz=24,slow=14,SNR=1.7						
MKAR				Sn	Sn	09 54 20.9	+0.3
	baz=27,slow=14,SNR=1.3						
MKAR				Lg	Lg	09 55 04.2	
	0.1nm,0.3s,baz=25,slow=27,SNR=3.3						
	0.1nm,0.3s						

IDC 17 10:02:12.3±3.2, 54°20N×87°25E, h0km, mbtmp2.7/2, ML2.3/1, Error ellipse: s-maj=27.2km s-min=16.9km az=68.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.45**	**261**	I	I	10 11 27.0	
	baz=76,slow=328,SNR=8.8						
ZALV	**Zalesovo Beam**	**1.45**	**261**	Pg	Pn	10 02 39.0	-0.8
	1.1nm,0.3s,baz=79,slow=19,SNR=11						
ZALV				Lg	Lg	10 02 57.6	
	1.1nm,0.3s,baz=82,slow=22,SNR=2.2						
KURBB	**Kurchatov Arra**	**6.42**	**240**	Pn	Pn	10 03 49.6	+1.6
	0.1nm,0.3s,baz=54,slow=14,SNR=4.4						
KURBB				Lg	Lg	10 05 36.7	
	baz=54,slow=32,SNR=2.0						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	10 04 10.8	+0.3
	0.1nm,0.2s,baz=25,slow=14,SNR=1.2						
MKAR				Sn	Sn	10 05 41.9	-0.4
	0.1nm,0.3s,baz=26,slow=26,SNR=2.4						
MKAR				Lg	Lg	10 06 26.8	
	0.1nm,0.3s,baz=28,slow=31,SNR=1.8						

*SOME **17** 10:18:50.2, 43°68N×69°65E*
*NNC **17** 10:18:51.3±0.9, 43°67N×69°78E, h0km, mb3.8, mpv3.1, Error ellipse: s-maj=7.0km s-min=4.8km az=56.0*
*KRNET **17** 10:18:52.4±0.1, 43°66N×69°85E, mb3.1*
ISC 17 10:18:55.0±2.9, 43°64N±0°09×69°9E±0°1, h0km, n11, σ0s96/20, 17C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**0.69**	**141**	P	**Pg**	**10 19 06.4**	**-1.7**
	2.1nm,0.2s,baz=318,slow=14,SNR=163						
KK31				⇑*i*S	**Sg**	**10 19 17.4**	**+0.3**
	45nm,0.5s,baz=291,slow=29,SNR=15						
KKAR	**Karatay Array**	**0.69**	**141**	⇑*i*P	**Pg**	**10 19 06.6**	**-1.5**
	baz=39						
KKAR				⇑*i*S	**Sg**	**10 19 17.1**	**+0.1**
	baz=39						
MNAS	**Manas**	**2.21**	**121**	⇑*i*P	**Pn**	**10 19 33.3**	**+0.2**
	baz=20						
MNAS				⇑*i*S	**Sb**	**10 20 03.1**	**-0.9**
	baz=20						
TRKS	**Terek-Say**	**2.29**	**157**	⇑*i*P	**Pn**	**10 19 35.1**	**+0.9**
	baz=56						
TRKS				⇑*i*S	**Sb**	**10 20 06.3**	**0.0**
	baz=56						
ARK	**Arkit**	**2.38**	**140**	⇓*e*P	**Pn**	**10 19 35.8**	**+0.5**
	baz=39						
ARK				⇓*e*S	**Sn**	**10 20 06.7**	**+1.5**
	baz=39						
EKS2	**Erkin-Say**	**2.98**	**108**	⇑*i*P	**Pn**	**10 19 44.1**	**+0.4**
	baz=8.0						
EKS2				⇑*i*S	**Sn**	**10 20 21.6**	**+1.4**
	baz=8.0						
USP	**Ospenovka**	**3.35**	**95**	⇑*i*P	**Pn**	**10 19 48.9**	**+0.3**
	baz=95						
USP				⇑*i*S	**Sn**	**10 20 30.1**	**+0.9**
	baz=95						
AAK	**Ala-Archa**	**3.49**	**105**	⇓Pg	**Pb**	**10 19 57.3**	**-0.4**
	6.8nm,0.5s						
AAK				⇑Lg	Lg	10 20 47.7	
	9.8nm,0.5s						
UCH	**Uchtor**	**3.65**	**111**	⇑*i*P	**Pn**	**10 19 53.5**	**+0.3**
	baz=11						
UCH				⇑*i*S	**Sn**	**10 20 38.3**	**+1.1**
	baz=11						
ARLS	**Aral**	**3.70**	**117**	⇑*e*P	**Pn**	**10 19 53.7**	**+0.2**
	baz=17						
ARLS				⇑*e*S	**Sn**	**10 20 39.1**	**+1.3**
	baz=17						
TKM2	**Tokmak 2**	**4.20**	**98**	⇑Pg	**Pb**	**10 20 10.2**	**+0.3**
	4.8nm,0.7s						
TKM2				⇓Lg	Lg	10 21 09.3	
	7.7nm,0.6s						

IDC 17 10:31:38.1±2.3, 4°28S×128°58E, h0km, mb3.6/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=170.1km s-min=29.4km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**16.55**	**161**	Pn	Pn	10 35 31.6	-0.2
	0.2nm,0.3s,baz=343,slow=13,SNR=16						
WRA				Sn	Sn	10 38 18.8	-18
	0.1nm,0.3s,baz=338,slow=22,SNR=2.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**19.95**	**166**	P	P	10 36 12.1	+0.1
	0.5nm,0.3s,baz=347,slow=11,SNR=37						
	1.5nm,0.4s						
MKAR	**Makanchi Array**	**65.19**	**327**	P	P	10 42 21.3	0.0
	0.2nm,0.3s,baz=114,slow=6.8,SNR=4.4						
	0.2nm,0.3s						

TRN 17 10:47:02.4, 16°81N×61°16W, h16km, MD3.7, South-east of Antigua., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANBD	**Bethesda, Anti**	**0.62**	**293**	*e*P	Pn	10 47 17.4	+0.8
ANBD				*e*S	Sn	10 47 27.6	+1.4
ANDO	**Antigua, Disas**	**0.71**	**296**	*e*P	Pn	10 47 18.6	+0.9
ANDO				*e*S	Sn	10 47 29.7	+1.4
CBE	**Ff, Capester**	**0.85**	**210**	*e*P	Pb	10 47 15.1	-3.6
CBE				*e*S	Sb	10 47 24.2	-5.7
MBFL	**Flemmings, Mon**	**1.01**	**267**	*e*P	Pn	10 47 23.9	+2.1
MBFL				*e*S	Sn	10 47 39.8	+4.1
TDBA	**Terre de Bas,**	**1.05**	**206**	*e*P	Pb	10 47 21.7	-0.6
TDBA				*e*S	Sn	10 47 37.0	+0.1
TBG	**Guadaloupe-3**	**1.05**	**206**	*e*P	Pg	10 47 24.6	+1.8
TBG				*e*S	Sn	10 47 39.5	+2.6
BIM	**Bigot**	**2.28**	**178**	*e*P	Pn	10 47 39.8	+0.4
BIM				*e*S	Sb	10 48 10.7	-0.5
SLBI	**Saint Lucia, B**	**2.77**	**176**	*e*P	Pn	10 47 48.4	+2.3
SLBI				*e*S	Sn	10 48 21.7	+2.4

*SJA **17** 10:56:37.1±0.7, 24°16S×66°90W, h215km±5km, ML3.5, MW3.5*
*GUC **17** 10:56:39.5±0.6, 24°16S×67°18W, h226km±13km, ML3.8*
ISC 17 10:56:37.9±1.9, 24°12S±0°05×66°95W±0°04, h212km±16km, n32, σ1s17/53, 3C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.45**	**115**	*e*S	**S**	**10 57 37.4**	**-1.7**
HJA	**Humahuaca**	**1.68**	**58**	*e*P	**Pn**	**10 57 14.6**	**-0.2**
AZAP	**Zapla**	**1.73**	**94**	*e*P	**Pn**	**10 57 14.0**	**-1.0**
AZAP				*e*S	S	10 57 35.7	-7.7
FSA	**Cafayete**	**2.17**	**156**	*e*P	Pn	10 57 13.0	-6.2
LVC	**Limon Verde**	**2.35**	**310**	*e*P	**Pn**	**10 57 22.2**	**+0.9**
LVC				*e*S	**S**	**10 57 55.3**	**+0.5**
LVC				IAML		10 57 58.7	
	comp=Z,63nm,0.3s						
LVC	**Limon Verde**	**2.35**	**310**	*e*P	**Pn**	**10 57 22.3**	**+0.9**
LVC				IAML		10 57 57.0	
	comp=Z,412nm,0.4s						
YJA	**Yavi**	**2.35**	**35**	*e*P	**Pn**	**10 57 22.0**	**+0.6**
YJA				*e*S	**S**	**10 57 55.2**	**+0.2**
PB15	**IPOC Station P**	**2.48**	**291**	*e*P	**Pn**	**10 57 23.5**	**+0.9**
PB15	**IPOC Station P**	**2.48**	**291**	*e*P	**Pn**	**10 57 23.5**	**+0.9**
PB15				*i*S	**S**	**10 57 56.6**	**-0.4**
GO02	**Mina Guanaco**	**2.61**	**246**	*e*P	**Pn**	**10 57 24.6**	**+0.5**
GO02				*e*S	**S**	**10 57 59.0**	**-0.8**
GO02	**Mina Guanaco**	**2.61**	**246**	*e*P	**Pn**	**10 57 24.5**	**+0.4**
GO02				*e*S	**S**	**10 57 59.4**	**-0.5**
GO02				IAML		10 58 01.6	
	comp=N,229nm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.73**	**84**	*e*P	**Pn**	**10 57 24.6**	**-0.6**
ALOL				*e*P		10 57 24.6	
PB06	**IPOC Station P**	**2.79**	**300**	*e*P	**Pn**	**10 57 26.7**	**+0.7**
PB06				*e*S	**S**	**10 58 03.5**	**+0.4**
PB06				IAML		10 58 06.1	
	comp=Z,174nm,0.3s						
PB06	**IPOC Station P**	**2.79**	**300**	⇑*i*P	**Pn**	**10 57 26.9**	**+0.9**
PB06				*i*S	**S**	**10 58 02.4**	**-0.7**
PB06				IAML		10 58 06.3	
	comp=N,320nm,0.1s						
AHML	**Horco Molle**	**3.03**	**151**	*e*P	**Pn**	**10 57 27.9**	**-0.6**
AHML				*e*S	**S**	**10 58 12.1**	**+4.2**
PB09	**IPOC Station P**	**3.13**	**317**	*e*P	**Pn**	**10 57 31.3**	**+1.4**
PB09				*e*S	**S**	**10 58 11.4**	**+1.1**
PB09				IAML		10 58 13.8	
	comp=Z,73nm,0.6s						
PB09	**IPOC Station P**	**3.13**	**317**	⇑*e*P	**Pn**	**10 57 31.4**	**+1.4**
PB09				*i*S	**S**	**10 58 11.0**	**+0.7**
PB09				IAML		10 58 14.4	
	comp=N,103nm,0.2s						
PB14	**IPOC Station P**	**3.19**	**260**	*e*P	**Pn**	**10 57 30.9**	**+0.2**
PB14				*e*S	**S**	**10 58 10.6**	**-1.0**
PB14				IAML		10 58 17.6	
	comp=Z,38nm,0.3s						
PB14	**IPOC Station P**	**3.19**	**260**	*e*P	**Pn**	**10 57 31.1**	**+0.4**
PB14				*e*S	**S**	**10 58 09.6**	**-2.0**
PB14				IAML		10 58 11.7	
	comp=E,58nm,0.5s						
PB10	**IPOC Station P**	**3.35**	**280**	*e*P	**Pn**	**10 57 33.0**	**+0.7**
PB10				*e*S	**S**	**10 58 15.0**	**+0.4**
PB10				IAML		10 58 16.8	
	comp=Z,47nm,0.3s						
PB10	**IPOC Station P**	**3.35**	**280**	⇑*i*P	**Pn**	**10 57 33.0**	**+0.7**
PB10				*i*S	**S**	**10 58 13.3**	**-1.3**
PB04	**IPOC Station P**	**3.44**	**301**	*e*P	**Pn**	**10 57 34.5**	**+0.9**
PB04				*e*S	**S**	**10 58 16.2**	**-0.5**
PB04				IAML		10 58 18.4	
	comp=Z,93nm,0.2s						
PB04	**IPOC Station P**	**3.44**	**301**	*e*P	**Pn**	**10 57 34.1**	**+0.5**
PB07	**IPOC Station P**	**3.61**	**311**	*e*P	**Pn**	**10 57 35.8**	**+0.2**
PB07				*e*S	**S**	**10 58 19.9**	**-0.6**
PB07				IAML		10 58 22.1	
	comp=Z,94nm,0.2s						
PB07	**IPOC Station P**	**3.61**	**311**	*e*P	**Pn**	**10 57 36.0**	**+0.5**
PB02	**IPOC Station P**	**3.90**	**315**	*e*P	**Pn**	**10 57 39.4**	**+0.3**
PB02				*e*S	**S**	**10 58 25.6**	**-1.1**
PB02				IAML		10 58 30.0	
	comp=Z,155nm,0.2s						
PB02	**IPOC Station P**	**3.90**	**315**	*e*P	**Pn**	**10 57 39.1**	**+0.1**
PATCX	**Punta Patache**	**4.42**	**317**	*e*P	**Pn**	**10 57 45.6**	**+0.1**
PATCX				*e*S	**S**	**10 58 35.3**	**-3.2**
PATCX				IAML		10 58 47.0	
	comp=Z,24nm,0.4s						
PB08	**IPOC Station P**	**4.46**	**332**	*e*P	**Pn**	**10 57 47.6**	**+1.3**
PB08				*e*S	**S**	**10 58 40.1**	**+0.4**
PB08				IAML		10 58 43.2	
	comp=Z,29nm,0.2s						
TA01	**Diego Aracena**	**4.63**	**319**	*e*P	**Pn**	**10 57 48.3**	**+0.3**
TA01				*e*S	**S**	**10 58 41.3**	**-1.8**
TA01				IAML		10 59 03.5	
	comp=Z,15nm,0.8s						
GO01	**Chusmiza**	**4.90**	**334**	*e*P	**Pn**	**10 57 52.9**	**+1.0**
GO01				*e*S	**S**	**10 58 51.2**	**+1.3**
PB11	**IPOC Station P**	**5.01**	**329**	*e*P	**Pn**	**10 57 52.7**	**-0.3**
PB11				*e*S	**S**	**10 58 50.1**	**-2.0**
PB11				IAML		10 58 54.7	
	comp=Z,24nm,0.2s						

*VAO **17** 11:07:05.9±0.4, 12°74S×76°84W, h10km, mb5.2*
*BJI **17** 11:07:11.5±0.0, 12°00S×76°51W, h39km, mB5.0/5, Ms5.5/7, Ms7 5.1/9*
*MOS **17** 11:07:11.8±1.1, 12°68S×76°63W, h56km, mb5.2/11, Error ellipse: s-maj=13.1km s-min=7.0km az=114.1*
*IDC **17** 11:07:12.9±0.8, 12°61S×76°57W, h52km±6km, mb4.5/20, mbtmp4.7/23, MS4.2/48, Error ellipse: s-maj=18.0km s-min=9.5km az=63.0*
*NEIC **17** 11:07:14.2±2.3, 12°67S±0°07×76°57W±0°08, h56km±4km, mb5.2/484, Error ellipse: s-maj=12.9km s-min=8.0km az=59.0*
*GCMT **17** 11:07:15.2±0.2, 12°57S±0°01×76°54W±0°01, h81km±1km, MW5.2/122, Moment Tensor Solution. s103,c158; s122,c193; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}3.40±.14; $M_{\theta\theta}$-0.72±.14; $M_{\phi\phi}$-2.67±.18; $M_{r\theta}$-3.27±.08; $M_{r\phi}$ 1.39±.13; $M_{\theta\phi}$6.10±.10; Best double couple: $M_0$7.71000×10^{16} NP1:χ_ϕ332.00000°,δ77.00000°, λ90.00000°. NP2:χ_ϕ153.00000°,δ13.00000°,λ91.00000°. Principal axes: T 7.7130, Plg58.0000°, Azm242.0000°; N -0.0010, Plg0.0000°, Azm332.0000°; P -7.7070, Plg32.0000°, Azm62.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 17 11:07:13.3±0.4, 12°69S±0°04×76°62W±0°05, h60km±3km, h60km:pP-P, n823, σ1s11/594, mb5.2/267, MS4.4/50, 7C-4D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**0.73**	**342**	P	**Pn**	**11 07 27.6**	**-0.5**
	15μm,0.5s,baz=169,slow=12,SNR=3223						
NNA				S	**Sn**	**11 07 37.8**	**-1.0**
	38μm,0.6s,baz=162,slow=20,SNR=29						
NNA	**Nana**	**0.73**	**342**	*d*P	**Pn**	**11 07 27.2**	**-0.9**
ATAH	**Atahualpa**	**5.79**	**342**	P	**Pn**	**11 08 39.0**	**+1.9**
	124nm,0.5s,baz=164,slow=4.5,SNR=113						
ATAH				S	**Sn**	**11 09 40.9**	**-1.5**
	428nm,0.7s,baz=131,slow=9.3,SNR=2.0						
ATAH				LR	LR	11 10 32.6	
	comp=Z,973nm,18.1s,baz=169,slow=35						
CZSB	**Cruzeiro do Su**	**6.25**	**38**	Pn	**Pn**	**11 08 43.7**	**+0.6**
CZSB	**Cruzeiro do Su**	**6.25**	**38**	*e*P	**Pn**	**11 08 41.2**	**-1.9**
CZSB				*e*S	**Sn**	**11 09 55.2**	**+2.0**
PB18	**Visviri**	**8.44**	**126**		**Pn**	**11 09 16.0**	**+2.6**
PB12	**IPOC Station P**	**8.45**	**135**	Pn	**Pn**	**11 09 12.5**	**-0.7**
LPAZ	**La Paz**	**8.96**	**115**	Pn	**Pn**	**11 09 23.5**	**+2.8**
LPAZ	**La Paz**	**8.96**	**115**	P	**Pn**	**11 09 23.8**	**+3.1**
	48nm,0.7s,baz=312,slow=10,SNR=73						
LPAZ				S	**Sn**	**11 11 00.2**	**-0.3**
	31nm,0.7s,baz=281,slow=16,SNR=1.0						
LPAZ				LR	LR	11 13 26.9	
	comp=Z,2μm,21.0s,baz=296,slow=42						
LPAZ	**La Paz**	**8.96**	**115**	*e*P	**Pn**	**11 09 24.1**	**+3.4**
LPAZ	**La Paz**	**8.96**	**115**	P	**Pn**	**11 09 23.5**	**+2.8**
LPAZ	**La Paz**	**8.96**	**115**	*e*P	**Pn**	**11 09 18.8**	**-1.9**
LPAZ				*e*S	**Sn**	**11 11 02.3**	**+1.8**
PB11	**IPOC Station P**	**9.70**	**137**		**Pn**	**11 09 29.8**	**-0.5**
TA02	**Huaiquique**	**9.77**	**141**		**Pn**	**11 09 31.4**	**+0.3**
GO01	**Chusmiza**	**9.95**	**135**	Pn	**Pn**	**11 09 33.7**	**-0.3**
TA01	**Diego Aracena**	**9.97**	**143**		**Pn**	**11 09 33.7**	**-0.2**
PATCX	**Punta Patache**	**10.18**	**143**		**Pn**	**11 09 36.4**	**-0.4**
PB08	**IPOC Station P**	**10.30**	**137**		**Pn**	**11 09 38.0**	**-0.8**
ETMB	**Extrema**	**10.60**	**75**	Pn	**Pn**	**11 09 42.6**	**+0.1**
ETMB	**Extrema**	**10.60**	**75**	*e*P	**Pn**	**11 09 41.9**	**-0.6**
ETMB				*e*S	**Sn**	**11 11 43.7**	**+4.0**
PB02	**IPOC Station P**	**10.72**	**144**		**Pn**	**11 09 43.7**	**-0.6**
PB07	**IPOC Station P**	**11.05**	**145**		**Pn**	**11 09 48.2**	**-0.6**
CHSH	**Refugio Sur-Vo**	**11.35**	**348**		**Pn**	**11 09 55.1**	**+1.8**
SLOR	**San Lorenzo -**	**12.03**	**351**	Pn	**Pn**	**11 10 04.3**	**+1.8**
PB10	**IPOC Station P**	**12.21**	**153**		**Pn**	**11 10 03.6**	**-0.8**
LVC	**Limon Verde**	**12.29**	**144**	Pn	**Pn**	**11 10 05.1**	**-0.9**
LVC	**Limon Verde**	**12.29**	**144**	P	**Pn**	**11 10 06.0**	**0.0**
	4.7nm,0.3s,baz=296,slow=9.1,SNR=7.3						
LVC				S	**Sn**	**11 12 22.9**	**+1.2**
	43nm,0.7s,baz=231,slow=22,SNR=5.8						
LVC	**Limon Verde**	**12.29**	**144**	*e*P	**Pn**	**11 10 02.3**	**-3.7**
LVC				*e*S	**Sn**	**11 12 21.6**	**-0.1**
TULM	**Tulcn-Chalpat**	**13.37**	**355**		**Pn**	**11 10 21.3**	**+0.5**
SAML	**Samuel**	**13.71**	**76**	Pn	**Pn**	**11 10 23.6**	**-1.4**
SAML	**Samuel**	**13.71**	**76**	P	**Pn**	**11 10 23.6**	**-1.4**
SAML	**Samuel**	**13.71**	**76**	*e*P	**Pn**	**11 10 22.8**	**-2.2**
GO02	**Mina Guanaco**	**14.07**	**153**		**Pn**	**11 10 30.2**	**+0.2**
TEFE	**Tefe**	**14.96**	**53**	*e*P	**Pn**	**11 10 38.1**	**-3.3**
SIV	**San Ignacio**	**15.41**	**104**	P	**Pn**	**11 10 46.7**	**-0.6**
	6.3nm,0.8s,baz=273,slow=12,SNR=18						
SIV				S	**Sn**	**11 13 37.0**	**-0.2**
	8.0nm,0.5s,baz=351,slow=13,SNR=1.6						
SIV				LR	LR	11 17 31.6	
	comp=Z,3μm,21.0s,baz=301,slow=40						
AC06	**Mina Casimiro**	**15.73**	**159**	Pn	**P**	**11 10 52.8**	**-1.4**
VILB	**Vilhena**	**16.01**	**93**		**Pn**	**11 10 55.7**	**+0.8**
VILB	**Vilhena**	**16.01**	**93**	*e*P	**P

comp=Z,202nm,1.6s
BO01 Tunca 22.18 168 P **P** **11 12 04.2 -0.3**
BO01 IAmb IAmb 11 12 09.0
comp=Z,275nm,1.9s
SDV Santo Domingo 22.25 16 P **P** **11 12 04.6 -0.9**
SDV IAmb IAmb 11 12 26.4
comp=Z,74nm,0.8s
SDV Santo Domingo 22.25 16 LR LR 11 21 53.0
comp=Z,1µm,18.6s,baz=198,slow=40
SDV Santo Domingo 22.25 16 *eP* **P** **11 12 05.7 +0.2**
GO05 Huala 22.62 170 IAmb IAmb 11 12 12.7
comp=Z,108nm,1.1s
CPUP Villa Florida 22.64 130 P **P** **11 12 09.1 -0.5**
CPUP Villa Florida 22.64 130 P **P** **11 12 09.9 +0.4**
comp=Z,9.5nm,0.8s,baz=317,slow=9.7,SNR=14
CPUP S **S** **11 16 11.2 -2.2**
comp=Z,0.6nm,0.3s,baz=24,slow=18,SNR=1.2
CPUP LR LR 11 22 60.0
comp=Z,322nm,18.4s,baz=310,slow=42
comp=Z,9.5nm,0.8s
CPUP Villa Florida 22.64 130 P **P** **11 12 09.1 -0.5**
CPUP pmax pmax
comp=Z,42nm,1.3s
SRBA San Rafael, Bu 22.79 343 P **P** **11 12 13.0 +1.8**
AMBA Amambai (Brazi 22.94 119 *eP* **P** **11 12 12.8 +0.1**
BAUV El Baul 23.12 22 P **P** **11 12 13.8 -0.6**
RIMA Rio Macho 23.44 342 IAmb IAmb 11 12 22.0
comp=Z,127nm,1.7s
JTS Las Juntas de 24.29 340 P **P** **11 12 26.1 +0.8**
JTS Las Juntas de 24.29 340 P **P** **11 12 26.1 +0.8**
JTS pmax pmax
comp=Z,103nm,1.9s
COVE Coope Vega, Sa 24.51 341 IAmb IAmb 11 12 47.6
comp=Z,62nm,0.7s
TRCB Terra Rica 24.92 117 P **P** **11 12 32.0 +0.9**
ITQB Itaqui 25.09 135 P **P** **11 12 32.2 -0.3**
ITQB IAmb IAmb 11 12 35.6
comp=Z,79nm,1.0s
PCRV Puerto La Cruz 25.64 28 LR LR 11 23 46.1
comp=Z,3µm,18.5s,slow=39
CRSM Crissiumal (Br 25.75 128 *eP* **P** **11 12 38.8 +0.3**
UNIS Unistalda (Bra 25.82 132 *eP* **P** **11 12 38.5 -0.7**
RODS Rosario do Sul 26.48 135 *eP* **P** **11 12 44.8 -0.3**
ITAB Concordia 27.11 126 P **P** **11 12 50.7 -0.1**
ALGR Alto Alegre (B 27.18 130 *eP* **P** **11 12 49.4 -2.1**
LR05 Currie 27.73 172 P **P** **11 12 56.5 +0.3**
LR05 IAmb IAmb 11 12 57.7
comp=Z,143nm,1.4s
BDFB Brasilia 27.88 99 P **P** **11 12 58.2 +0.3**
comp=Z,5.2nm,1.0s,baz=246,slow=15,SNR=5.0
BDFB LR LR 11 25 08.5
comp=Z,2µm,19.8s,baz=298,slow=39
comp=Z,5.2nm,1.0s
TRQA Tornquist 28.43 155 P **P** **11 13 01.7 -0.8**
TRQA Tornquist 28.43 155 P **P** **11 13 01.7 -0.8**
TRQA pmax pmax
comp=Z,23nm,1.2s
PLCA Paso Flores 28.44 170 P **P** **11 13 03.1 +0.5**
PLCA IAmb IAmb 11 13 04.3
comp=Z,51nm,1.0s
PLCA Paso Flores 28.44 170 P **P** **11 13 03.1 +0.5**
comp=Z,32nm,1.0s,baz=118,slow=5.1,SNR=3.0
PLCA LR LR 11 22 12.7
comp=Z,283nm,21.5s,baz=340,slow=32
comp=Z,32nm,1.0s
PLCA Paso Flores 28.44 170 *eP* **P** **11 13 00.5 -2.1**
MDP Montagnes des 29.67 55 LR LR 11 25 37.0
comp=Z,2µm,19.7s,baz=242,slow=37
CELP Cerrillos 32.13 18 P **P** **11 13 36.4 +1.1**
CELP IAmb IAmb 11 13 37.0
comp=Z,70nm,1.2s
COYC Coyhaique 33.00 174 IAmb IAmb 11 13 44.1
comp=Z,70nm,1.0s
COYC Coyhaique 33.00 174 P **P** **11 13 42.9 +0.3**
COYC sP **sP** **11 14 04.2 -0.3**
RPN Rapa Nui 33.82 240 LR LR 11 24 16.7
comp=Z,460nm,20.9s,baz=76,slow=30
DUB01 Friburgo-RJ 33.92 111 *eP* **P** **11 13 51.4 +0.4**
AY03 Cochrane 34.62 175 IAmb IAmb 11 13 59.1
comp=Z,96nm,1.9s
TEIG Tepich 34.66 341 P **P** **11 13 58.3 +1.1**
TEIG Tepich 34.66 341 P **P** **11 13 58.5 +1.2**
RIB01 Linhares ES 35.39 105 *eP* **P** **11 14 03.5 -0.2**
GUA01 Guaratinga, BA 35.79 101 *eP* **P** **11 14 06.8 -0.4**
GO08 Vila O'Higgin 35.83 175 IAmb IAmb 11 14 31.2
comp=Z,80nm,1.9s
GDU01 Guandu, BA 36.05 96 *eP* **P** **11 14 09.8 +0.3**
CMC01 Camacan, BA 36.06 99 *eP* **P** **11 14 09.2 -0.3**
GO09 Cerro Castillo 38.63 176 IAmb IAmb 11 14 33.6
comp=Z,64nm,1.4s
MG04 Isla Riesco 40.27 175 P **P** **11 14 46.8 +2.5**
RCBR Riachuelo 40.72 84 LR LR 11 32 27.7
comp=Z,1µm,18.4s,baz=160,slow=37
DWPF Disney Wildern 40.83 353 P **P** **11 14 49.8 +0.6**
baz=173
TIGA Tifton 44.38 351 P **P** **11 15 18.4 +0.4**
baz=170
HKT Hockley 46.26 337 *i* P **P** **11 15 33.2 +0.4**
HKT pmax pmax
comp=Z,34nm,1.5s
GOGA Godfrey 46.31 352 P **P** **11 15 33.3 +0.1**
baz=171
833A Chaparral WMA, 46.35 332 P **P** **11 15 34.1 +0.4**
baz=149
LRAL Lakeview Retre 46.54 348 IAmb IAmb 11 16 07.2
comp=Z,70nm,1.9s
LRAL Lakeview Retre 46.54 348 P **P** **11 15 34.9 -0.1**
baz=166
NATX Nacogdoches 47.46 339 IAmb IAmb 11 15 46.4
comp=Z,28nm,0.8s
NATX Nacogdoches 47.46 339 P **P** **11 15 42.6 +0.4**
baz=156
435B Jarrell 47.69 335 P **P** **11 15 43.8 -0.3**
baz=152
KMSC Kings Mountain 47.78 355 P **P** **11 15 44.6 0.0**
baz=174
DRIO Del Rio 47.85 331 IAmb IAmb 11 15 46.7
comp=Z,20nm,0.9s
JCT Junction City 48.37 333 P **P** **11 15 49.1 -0.3**
JCT Junction City 48.37 333 P **P** **11 15 48.6 -0.8**
baz=149
JCT Junction City 48.37 333 P **P** **11 15 49.1 -0.3**
JCT pmax pmax
comp=Z,12nm,1.0s
OXF Oxford 48.49 346 P **P** **11 15 49.4 -0.7**
baz=163
SLBS Sierra La Lagu 48.67 318 P **P** **11 15 53.3 +1.4**
WHTX Lake Whitney, 48.71 336 IAmb IAmb 11 15 53.5
comp=Z,27nm,0.9s
WHTX Lake Whitney, 48.71 336 P **P** **11 15 51.7 -0.2**
baz=152,SNR=6.5
V52A Sevierville 48.72 352 IAmb IAmb 11 16 24.4
comp=Z,31nm,0.8s
BRDY Brady 48.72 334 P **P** **11 15 51.6 -0.4**
U56A King 48.90 356 IAmb IAmb 11 16 23.9
comp=Z,19nm,0.8s
Z38A Mt. Pleasant 48.94 340 IAmb IAmb 11 15 55.5
comp=Z,39nm,0.9s
FW13 Cleburne 49.02 337 IAmb IAmb 11 15 55.7
comp=Z,41nm,1.0s
V48A Smith Brothers 49.12 349 IAmb IAmb 11 16 30.0
comp=Z,18nm,0.8s
LPIG La Paz 49.20 318 LR LR 11 33 17.7
comp=Z,117nm,18.1s,baz=114,slow=32
TXAR Lajitas Array 49.27 328 P **P** **11 15 56.7 +0.3**
TXAR Lajitas Array 49.27 328 P **P** **11 15 56.9 +0.5**
comp=Z,5.7nm,0.7s,baz=150,slow=9.0,SNR=85
TXAR PcP **PcP** **11 17 19.2 +0.6**
comp=Z,0.9nm,0.4s,baz=146,slow=6.7,SNR=3.8
TXAR LR LR 11 34 07.1
comp=Z,80nm,21.5s,baz=152,slow=33
comp=Z,5.7nm,0.7s
TX31 Lajitas Ar. Si 49.27 328 IAmb IAmb 11 15 58.0
comp=Z,50nm,1.9s
OZNA Ozona 49.35 332 IAmb IAmb 11 15 58.2
comp=Z,30nm,1.2s
T59A Double "B" Far 49.40 359 IAmb IAmb 11 15 58.0
comp=Z,23nm,0.8s
TZTN Tazewell 49.40 353 P **P** **11 15 57.7 +0.5**
baz=171
T57A Hurt 49.48 357 IAmb IAmb 11 15 58.4
comp=Z,34nm,0.8s
UALR University of 49.51 343 P **P** **11 15 58.1 +0.2**
UALR IAmb IAmb 11 16 26.3
comp=Z,22nm,0.9s
FW06 Azle 49.62 337 IAmb IAmb 11 16 00.4
comp=Z,23nm,0.9s
MIAR Mount Ida 49.66 342 IAmb IAmb 11 16 34.7
comp=Z,15nm,0.8s
MIAR Mount Ida 49.66 342 P **P** **11 15 59.1 0.0**
baz=158,SNR=12
WVT Waverly 49.70 348 P **P** **11 15 58.1 -1.3**
baz=166
BLA Blacksburg 49.76 356 P **P** **11 15 59.2 -0.7**
baz=175
PLPT Palo Pinto 49.77 336 IAmb IAmb 11 16 01.5
comp=Z,21nm,0.8s
FW03 Perrin-Whitt E 49.87 336 IAmb IAmb 11 16 02.2
comp=Z,79nm,2.0s
ALPN Alpine 50.10 329 IAmb IAmb 11 16 04.5
comp=Z,41nm,1.5s
ABTX Abilene, Hawle 50.15 335 P **P** **11 16 02.7 -0.2**
baz=150,SNR=18
SGCY Sterling City 50.19 333 IAmb IAmb 11 16 04.6
comp=Z,16nm,0.8s
S57A Dark Hollow, R 50.23 358 IAmb IAmb 11 16 32.5
comp=Z,25nm,0.9s
LOOK Love County 50.38 338 P **P** **11 16 05.2 +0.6**
LOOK IAmb IAmb 11 16 06.4
comp=Z,39nm,0.9s
T47A Sharon Grove 50.39 349 IAmb IAmb 11 17 22.6
comp=Z,28nm,0.8s
R58B Mineral 50.40 359 IAmb IAmb 11 16 05.9
comp=Z,24nm,0.9s
MNHN Monahans 50.46 331 IAmb IAmb 11 16 07.0
comp=Z,34nm,1.0s
CBN Corbin Frederi 50.63 359 P **P** **11 16 06.2 -0.2**
baz=179
WTFS Witchita Falls 50.67 336 IAmb IAmb 11 16 08.2
comp=Z,34nm,0.9s
SN05 Snyder 5 50.90 334 IAmb IAmb 11 16 09.9
comp=Z,25nm,1.2s
PECS Pecos 51.02 330 IAmb IAmb 11 16 11.3
comp=Z,48nm,1.5s
SN07 Snyder 07 51.08 334 IAmb IAmb 11 16 11.1
comp=Z,37nm,1.4s
VHRN Van Horn 51.11 328 IAmb IAmb 11 16 11.9
comp=Z,20nm,0.8s
R50A Paris 51.22 352 IAmb IAmb 11 16 43.3
comp=Z,21nm,0.7s
WCI Wyandotte Cave 51.46 350 P **P** **11 16 13.3 +0.7**
WCI IAmb IAmb 11 16 47.7
comp=Z,22nm,0.8s
WCI Wyandotte Cave 51.46 350 P **P** **11 16 11.8 -0.8**
baz=168
WCI Wyandotte Cave 51.46 350 P **P** **11 16 13.3 +0.7**
WCI pmax pmax
comp=Z,22nm,0.8s
DKNS Dickens 51.59 334 IAmb IAmb 11 16 15.1
comp=Z,33nm,0.8s
RLO Rose Lookout 51.61 341 IAmb IAmb 11 16 14.3
comp=Z,13nm,0.6s
TUL3 Leonard 51.62 340 P **P** **11 16 13.0 -0.9**
baz=156,SNR=13
WMOK Wichita Mounta 51.65 337 P **P** **11 16 13.3 -0.8**
baz=152,SNR=11
OK052 Battle Ridge R 52.04 339 IAmb IAmb 11 17 29.8
comp=Z,22nm,1.0s
MNTX Cornudas Mount 52.04 329 P **P** **11 16 16.5 -0.6**
baz=144,SNR=19
HOPE Hope Point 52.10 151 P **P** **11 16 18.3 +1.2**
HOPE PcP **PcP** **11 17 29.4 +0.9**
MCWV Mont Chateau 52.16 357 P **P** **11 16 17.1 -0.8**
baz=176
QUOK Quay 52.17 339 IAmb IAmb 11 17 30.3
comp=Z,22nm,1.0s
P52A Corning 52.31 355 P **P** **11 16 17.4 -1.4**
baz=173
MVL Millersville 52.42 0 IAmb IAmb 11 16 21.9
comp=Z,53nm,1.4s
OK048 Pawnee Station 52.47 339 IAmb IAmb 11 16 20.9
comp=Z,22nm,0.8s
P49A Miami Univ. Ec 52.50 352 IAmb IAmb 11 16 52.7
comp=Z,31nm,1.0s
P49A Miami Univ. Ec 52.50 352 P **P** **11 16 19.1 -1.2**
baz=170
S39A Bolivar 52.51 343 IAmb IAmb 11 16 20.9
comp=Z,15nm,0.8s
MSTX Muleshoe 52.66 333 IAmb IAmb 11 16 22.7
comp=Z,21nm,1.1s
MSTX Muleshoe 52.66 333 P **P** **11 16 21.1 -0.6**
baz=147,SNR=5.8
PMSA Palmer Station 52.74 173 P **P** **11 16 23.1 +1.4**
PMSA sP **sP** **11 16 45.8 +1.4**
T35A Sooner Cattle 52.78 340 IAmb IAmb 11 16 23.6
comp=Z,39nm,1.2s
O53A New Philadelph 52.84 356 P **P** **11 16 22.3 -0.5**
baz=174
BLOK Blackwell 52.88 339 IAmb IAmb 11 16 24.0
comp=Z,22nm,0.8s
AMTX Amarillo 52.95 334 IAmb IAmb 11 17 32.9
comp=Z,28nm,1.4s
AMTX Amarillo 52.95 334 P **P** **11 16 23.3 -0.6**
baz=149
ACSO Alum Creek Sta 52.98 354 IAmb IAmb 11 16 23.7
comp=Z,23nm,1.1s
ACSO Alum Creek Sta 52.98 354 P **P** **11 16 23.3 -0.5**
baz=172
ELIS Ellis County 53.06 337 IAmb IAmb 11 16 25.9
comp=Z,27nm,0.9s
SSPA Standing Stone 53.07 359 P **P** **11 16 24.2 -0.2**
SSPA IAmb IAmb 11 16 49.7
comp=Z,59nm,1.6s
SSPA Standing Stone 53.07 359 P **P** **11 16 23.6 -0.9**
baz=178
SSPA Standing Stone 53.07 359 P **P** **11 16 24.3 -0.2**
SSPA pP **pP** **11 16 39.9 -0.7**
SSPA sP **sP** **11 16 46.4 -1.0**
O49A Covington 53.09 353 IAmb IAmb 11 16 56.6
comp=Z,27nm,0.8s
N58A Sunbury 53.26 360 IAmb IAmb 11 16 27.0
comp=Z,17nm,0.8s
O48B Farmland 53.27 352 P **P** **11 16 25.1 -0.9**
baz=170,SNR=6.4
KAN09 Caldwell North 53.35 339 IAmb IAmb 11 16 28.3
comp=Z,15nm,0.7s
PAL Palisades 53.48 3 P **P** **11 16 26.4 -1.1**
baz=183
TRNY Table Rock, Ra 53.61 2 IAmb IAmb 11 16 29.6
comp=Z,16nm,0.8s
SFIN Lafayette 53.69 350 IAmb IAmb 11 17 08.4
comp=Z,29nm,1.2s
SFIN Lafayette 53.69 350 P **P** **11 16 28.1 -1.0**
baz=167
M57A Sunshine Farm, 53.76 360 IAmb IAmb 11 16 30.8
comp=Z,23nm,0.9s
N49A Columbus Grove 53.80 353 IAmb IAmb 11 17 01.8
comp=Z,27nm,0.7s
319A Douglas 53.87 325 IAmb IAmb 11 16 33.0
comp=Z,27nm,1.0s
P40A Paris 53.90 345 IAmb IAmb 11 17 22.4
comp=Z,16nm,0.9s
M55A Ridgway 53.92 358 IAmb IAmb 11 17 00.4
comp=Z,19nm,0.8s
121A Cookes Peak, D 53.95 327 P **P** **11 16 31.7 +0.4**
baz=141,SNR=19
N47A Urbana 53.96 351 IAmb IAmb 11 17 03.1
comp=Z,26nm,0.7s
L56A Greenwood 54.56 359 IAmb IAmb 11 16 53.8
comp=Z,24nm,1.1s
BINY Binghamton 54.62 1 IAmb IAmb 11 17 14.6
comp=Z,22nm,0.9s
BINY Binghamton 54.62 1 P **P** **11 16 35.8 0.0**
baz=181
ERPA Erie 54.62 357 P **P** **11 16 35.8 -0.1**
baz=176
L59A Walton 54.63 1 P **P** **11 16 35.6 -0.3**
L59A IAmb IAmb 11 17 01.4
comp=Z,37nm,1.0s
KSU1 Kansas State U 54.80 341 P **P** **11 16 37.0 -0.2**
baz=156
R32A Long Quarter, 54.89 339 IAmb IAmb 11 16 38.8
comp=Z,35nm,0.8s
L61B Northampton 54.98 4 P **P** **11 16 38.1 -0.3**
baz=185
HRV Adam Dziewonsk 55.12 5 P **P** **11 16 39.2 -0.2**
baz=186
HRV Adam Dziewonsk 55.12 5 P **P** **11 16 40.4 +1.1**
ANMO Albuquerque 55.19 330 P **P** **11 16 40.5 +0.2**
ANMO IAmb IAmb 11 16 42.0
comp=Z,20nm,1.1s
ANMO Albuquerque 55.19 330 P **P** **11 16 40.6 +0.4**
baz=144
ANMO Albuquerque 55.19 330 *c i* P **P** **11 16 40.9 +0.6**
ANMO pmax pmax
comp=Z,23nm,1.2s
ANMO Albuquerque 55.19 330 P **P** **11 16 40.8 +0.6**
ANMO pP **pP** **11 16 56.7 +0.5**
K62A Royalston 55.23 4 IAmb IAmb 11 16 41.6
comp=Z,35nm,1.2s
N38A Joes South For 55.39 345 IAmb IAmb 11 17 08.0
comp=Z,32nm,0.8s
TUC Tucson 55.41 325 P **P** **11 16 42.0 +0.2**
TUC Tucson 55.41 325 P **P** **11 16 42.1 +0.2**
baz=138
TUC Tucson 55.41 325 P **P** **11 16 42.1 +0.2**
TUC pmax pmax
comp=Z,23nm,1.4s
TUC Tucson 55.41 325 P **P** **11 16 42.6 +0.7**
TUC pP **pP** **11 16 59.2 +1.5**
CBKS Cedar Bluff 55.60 338 IAmb IAmb 11 16 44.0
comp=Z,25nm,0.8s
CBKS Cedar Bluff 55.60 338 P **P** **11 16 43.1 +0.1**
baz=152
J55A Hilton 55.69 359 IAmb IAmb 11 17 20.9
comp=Z,20nm,1.0s
J56A Wolcott 55.69 360 IAmb IAmb 11 16 43.9
comp=Z,31nm,1.0s
SMAI San Martin Ant 55.74 176 P **P** **11 16 44.5 +1.0**
SMAI IAmb IAmb 11 16 47.6
comp=Z,19nm,1.0s
ACCN Adirondack Com 55.87 3 IAmb IAmb 11 16 46.4
comp=Z,24nm,0.9s
T25A Trinidad 56.04 333 P **P** **11 16 46.8 +0.4**
baz=147,SNR=8.4
N35A Tabor 56.12 343 IAmb IAmb 11 17 44.6
comp=Z,20nm,0.8s
HNH Hanover 56.26 4 IAmb IAmb 11 17 21.4
comp=Z,44nm,1.3s
214A Organ Pipe Nat 56.32 323 IAmb IAmb 11 16 50.6
comp=Z,34nm,1.2s
214A Organ Pipe Nat 56.32 323 P **P** **11 16 48.7 +0.3**
baz=136,SNR=9.8
NCB Newcomb 56.43 2 IAmb IAmb 11 16 51.5
comp=Z,19nm,0.9s
LBNH Lisbon 56.82 4 P **P** **11 16 51.8 +0.3**
baz=185
VT1 Waterbury 56.86 3 IAmb IAmb 11 16 52.6
comp=Z,15nm,0.5s
KSCO Kaye Shedlock' 56.88 336 IAmb IAmb 11 16 53.3
comp=Z,22nm,1.0s
KSCO Kaye Shedlock' 56.88 336 P **P** **11 16 52.6 +0.4**
baz=149
DELO Deloro Mine 56.94 359 IAmb IAmb 11 17 23.8
comp=Z,48nm,1.6s
W18A Petrified Fore 56.97 328 IAmb IAmb 11 16 55.2
comp=Z,38nm,1.1s
W18A Petrified Fore 56.97 328 P **P** **11 16 54.2 +1.1**
baz=141,SNR=5.8
SDCO Great Sand Dun 57.02 333 P **P** **11 16 54.0 +0.6**
baz=146,SNR=24
LONY Lake Ozonia 57.06 2 IAmb IAmb 11 16 55.0
comp=Z,19nm,1.1s
LONY Lake Ozonia 57.06 2 P **P** **11 16 53.5 +0.3**
baz=182
SADO Sadowa 57.23 358 LR LR 11 44 49.6
comp=Z,102nm,18.4s,baz=182,slow=40
BGNE Belgrade 57.38 341 P **P** **11 16 54.8 -0.8**
baz=155
I42A Draeger Farm, 57.41 349 IAmb IAmb 11 16 55.6
comp=Z,17nm,0.7s
Q24A Divide 57.88 334 IAmb IAmb 11 17 00.9
comp=Z,19nm,1.2s
Q24A Divide 57.88 334 P **P** **11 16 59.3 -0.2**
baz=147,SNR=8.7
MVCO Mesa Verde 57.98 330 IAmb IAmb 11 17 34.0
comp=Z,15nm,1.0s
MVCO Mesa Verde 57.98 330 P **P** **11 17 00.3 +0.1**
baz=143,SNR=9.8
PKME Peaks-Kenny Pk 58.06 6 P **P** **11 17 01.1 +0.8**
baz=188
WUAZ Wupatki 58.14 327 IAmb IAmb 11 17 03.6
comp=Z,33nm,1.1s
WUAZ Wupatki 58.14 327 P **P** **11 17 02.6 +1.4**
baz=139,SNR=21
GLA Glamis 58.30 322 P **P** **11 17 02.8 +0.6**
baz=135
OGNE Ogallala 58.32 338 P **P** **11 17 02.6 +0.4**
baz=150
TRQ Mont Tremblant 58.67 2 P **P** **11 17 04.5 0.0**
TRQ IAmb IAmb 11 17 32.9
comp=Z,14nm,0.9s
ISCO Idaho Springs 58.77 334 P **P** **11 17 06.1 +0.4**
baz=146,SNR=8.2
IKP In-Ko-Pah, Jac 58.79 321 P **P** **11 17 06.1 +0.4**
baz=134
SWSC Sam W. Stewart 58.81 322 P **P** **11 17 06.1 +0.4**
baz=134
SMCO Snowmass 58.86 333 IAmb IAmb 11 17 08.3
comp=Z,21nm,1.4s
ECSD EROS Data Cent 59.04 343 IAmb IAmb 11 17 07.3
comp=Z,15nm,1.0s
ECSD EROS Data Cent 59.04 343 P **P** **11 17 06.3 -0.9**
baz=157,SNR=11
BC3 Big Chuckawall 59.09 322 P **P** **11 17 08.8 +0.9**
baz=135,SNR=9.5
MONP2 Monument Peak 59.15 321 P **P** **11 17 08.2 -0.1**
baz=133
W13A Hualapai Mount 59.21 325 IAmb IAmb 11 17 11.3
comp=Z,21nm,1.2s
IRM Iron Mountain 59.26 323 P **P** **11 17 10.2 +1.3**
baz=135
U15A North Rim 59.32 327 IAmb IAmb 11 17 11.9
comp=Z,16nm,1.1s
SPMN Marine on St. 59.48 347 IAmb IAmb 11 17 10.1
comp=Z,17nm,1.0s
SPMN Marine on St. 59.48 347 P **P** **11 17 08.8 -1.3**
baz=162
109C Camp Elliot, M 59.57 321 P **P** **11 17 11.8 +0.8**
baz=133
PMD Palm Desert 59.64 322 IAmb IAmb 11 17 13.9
comp=Z,32nm,1.6s
BELC Belle Mtn. Jos 59.66 322 P **P** **11 17 13.0 +1.2**
baz=134,SNR=7.5
TPFO Pinon Flats 59.66 322 P **P** **11 17 12.9 +1.1**
baz=134
HMU Henry Mountain 59.66 329 IAmb IAmb 11 17 15.0
comp=Z,15nm,1.0s
PFO Pinyon Flats O 59.67 322 P **P** **11 17 13.0 +1.2**
baz=134
PFO Pinyon Flats O 59.67 322 LR LR 11 39 23.9
comp=Z,117nm,19.7s,baz=165,slow=32
PFO Pinyon Flats O 59.67 322 *i* P **P** **11 17 11.9 +0.1**
PFO pmax pmax
comp=Z,31nm,1.3s
PFO Pinyon Flats O 59.67 322 P **P** **11 17 12.9 +1.1**
PFO sP **sP** **11 17 35.6 +1.0**
PFO PcP **PcP** **11 17 58.7 +0.4**
N23A Red Feather La 59.83 335 P **P** **11 17 12.9 0.0**
baz=146
D62A Allapoint, All 59.88 6 P **P** **11 17 12.6 -0.2**
D62A IAmb IAmb 11 17 43.9
comp=Z,18nm,0.9s
PHWY Pilot Hill 59.96 335 IAmb IAmb 11 17 15.4
comp=Z,34nm,1.8s
GMRC Granite Mounta 60.01 323 P **P** **11 17 15.1 +0.9**
baz=135
KNB Kanab 60.04 327 IAmb IAmb 11 18 01.5
comp=Z,24nm,1.0s
MURC Murrieta 60.11 321 P **P** **11 17 16.0 +1.3**
baz=133
O20A White River Ci 60.20 332 pP 11 17 31.6 0.0
O20A White River Ci 60.20 332 P **P** **11 17 16.5 +1.1**
baz=144,SNR=5.7
V12A Nelson 60.21 325 IAmb IAmb 11 17 17.7
comp=Z,32nm,1.5s
F36A Milaca 60.24 346 IAmb IAmb 11 17 15.5
comp=Z,19nm,0.9s
LCMT Little Creek M 60.26 327 IAmb IAmb 11 17 18.1
comp=Z,27nm,1.6s
SUSD Miller 60.38 342 P **P** **11 17 15.6 -0.7**
baz=155
BBRC Big Bear Solar 60.39 322 P **P** **11 17 18.1 +1.2**
baz=134
HEC Hector Ludlow 60.43 323 P **P** **11 17 18.3 +1.3**
baz=134,SNR=5.1
SRU San Rafael Swe 60.46 330 IAmb IAmb 11 17 18.8
comp=Z,14nm,1.0s
LDAQ Lac Daran 60.57 4 P **P** **11 17 17.6 0.0**
LDAQ IAmb IAmb 11 17 51.0
comp=Z,28nm,1.0s
SZCU Shurtz Canyon 60.61 327 **pP** **11 17 36.1 +1.7**

SZCU IAmb IAmb 11 18 04.8
comp=Z,36nm,1.8s
TUQ Turquoise Moun 60.62 324 P P 11 17 19.2 +0.9
baz=135
CIS Catalina Islan 60.73 320 P P 11 17 19.6 +0.6
baz=132
P18A Preston Nutter 60.73 331 IAmb IAmb 11 18 04.3
comp=Z,22nm,1.4s
BFSC Mount Baldy Ra 60.82 321 P P 11 17 20.6 +0.9
baz=133,SNR=6.2
P17A Butcher Ranch, 60.85 330 IAmb IAmb 11 17 21.4
comp=Z,20nm,1.0s
FMP Fort Macarthur 60.86 321 P P 11 17 20.7 +0.9
baz=132
RRX Edison Barstow 60.86 322 P P 11 17 20.8 +1.1
baz=134
F33A 5 Mile Ranch, 60.90 344 IAmb IAmb 11 17 20.0
comp=Z,20nm,1.1s
TMUT Trail Mountain 60.94 330 IAmb IAmb 11 18 04.6
comp=Z,25nm,1.7s
RWWY Rawlins 61.02 334 IAmb IAmb 11 17 23.5
comp=Z,49nm,1.6s
GSC Goldstone, Bar 61.04 323 IAmb IAmb 11 17 24.6
comp=Z,36nm,1.8s
GSC Goldstone, Bar 61.04 323 P P 11 17 21.9 +0.8
baz=134
SHOC Shoshone, Teco 61.15 324 P P 11 17 22.7 +1.0
baz=135
RDMU Red Mountain 61.16 332 IAmb IAmb 11 17 23.3
comp=Z,21nm,1.1s
DECC Green Verdugo 61.24 321 P P 11 17 23.9 +1.5
baz=132
EDW2 Edwards Air Fo 61.46 322 P P 11 17 24.9 +1.0
baz=133,SNR=6.1
K22A Casper 61.53 335 IAmb IAmb 11 17 25.6
comp=Z,18nm,1.1s
K22A pP 11 17 41.0 +0.4
K22A Casper 61.53 335 P P 11 17 24.3 0.0
baz=146,SNR=8.9
PRN Pahroc Range 61.53 326 IAmb IAmb 11 18 07.9
comp=Z,24nm,1.1s
LRMC Laurel Mtn Rad 61.68 322 P P 11 17 25.9 +0.5
baz=133
BSUT Blindstream Ca 61.69 331 IAmb IAmb 11 17 27.6
comp=Z,16nm,1.0s
EYMN Ely 61.80 349 P P 11 17 25.9 +0.1
baz=164
RSSD Black Hills 61.81 338 P P 11 17 26.0 -0.2
RSSD Black Hills 61.81 338 P P 11 17 26.2 0.0
baz=149
RSSD Black Hills 61.81 338 P P 11 17 26.0 -0.2
RSSD pmax pmax
comp=Z,8.0nm,0.8s
RSSD Black Hills 61.81 338 P P 11 17 26.4 +0.2
RSSD PcP PcP 11 18 06.7 -0.2
NLU North Lily Min 61.88 330 P P 11 17 27.3 +0.5
FURC Furnace Creek, 61.88 324 P P 11 17 27.6 +1.0
baz=134,SNR=9.8
MPMC Manual Prospec 61.96 323 P P 11 17 28.2 +0.8
baz=134,SNR=9.2
WCT Wildcat Mounta 61.98 324 IAmb IAmb 11 17 29.9
comp=Z,18nm,1.0s
S11A Rachel 62.09 325 IAmb IAmb 11 18 00.9
comp=Z,27nm,1.1s
ARVC Arvin 62.13 321 P P 11 17 29.4 +1.1
baz=132
SPR3 Spring Creek 3 62.31 327 IAmb IAmb 11 17 31.6
comp=Z,16nm,1.0s
DUG Dugway, Tooele 62.42 329 IAmb IAmb 11 17 32.6
comp=Z,21nm,1.0s
DUG Dugway, Tooele 62.42 329 P P 11 17 31.6 +1.2
baz=140,SNR=17
R11B Troy Canyon, C 62.50 326 IAmb IAmb 11 17 33.5
comp=Z,33nm,1.7s
R11B Troy Canyon, C 62.50 326 P P 11 17 32.0 +1.0
baz=136,SNR=21
GRAC Grapevine Rang 62.54 324 P P 11 17 32.5 +1.4
baz=134
CWC Cottonwood Cre 62.57 323 P P 11 17 32.5 +1.0
baz=133
PKM Mcpherson Peak 62.58 321 P P 11 17 32.5 +0.9
baz=131
Q12A Willow Creek R 62.60 327 IAmb IAmb 11 17 33.8
comp=Z,13nm,0.9s
B35A Bob, Littlefor 62.65 347 IAmb IAmb 11 18 09.4
comp=Z,46nm,1.6s
GMN Gold Mountain 62.69 324 pP 11 17 50.2 +1.7
VES Vestal, Richgr 62.76 322 P P 11 17 33.6 +1.1
baz=132,SNR=5.6
LCH Last Change Ra 62.87 324 IAmb IAmb 11 17 35.6
comp=Z,42nm,1.9s
HWUT Hardware Ranch 62.90 331 IAmb IAmb 11 17 60.0
comp=Z,19nm,0.8s
BW06 Boulder Array 62.91 333 P P 11 17 33.4 -0.3
baz=143,SNR=5.8
PDAR Pinedale Array 62.91 333 P P 11 17 32.9 -0.8
PDAR Pinedale Array 62.91 333 P P 11 17 33.6 -0.1
comp=Z,2.5nm,0.9s,baz=152,slow=6.7,SNR=17
comp=Z,2.5nm,0.9s
SMMC Simmler 62.97 321 P P 11 17 35.1 +1.1
baz=131,SNR=5.8
AGMN Agassiz Nation 63.08 346 IAmb IAmb 11 17 35.0
comp=Z,20nm,0.9s
AGMN Agassiz Nation 63.08 346 P P 11 17 34.2 -0.2
baz=159
AHID Auburn Hatcher 63.59 332 pP 11 17 54.5 0.0
MDND Maddock 63.65 343 P P 11 17 38.3 +0.1
baz=155
DRLN Deer Lake 63.94 14 P P 11 17 40.6 +0.6
DRLN IAmb IAmb 11 17 41.0
comp=Z,35nm,0.9s
NVAR Mina Array Bea 64.07 324 P P 11 17 42.5 +1.0
comp=Z,5.3nm,0.7s,baz=139,slow=6.5,SNR=52
NVAR LR LR 11 43 16.6
comp=Z,107nm,19.4s,baz=151,slow=34
comp=Z,5.3nm,0.7s
FLWY Flagg Ranch 64.46 333 IAmb IAmb 11 17 45.7
comp=Z,24nm,1.0s
H17A Grant Village 64.65 334 P P 11 17 45.9 +0.8
baz=143
RLMT Red Lodge 64.69 335 IAmb IAmb 11 17 46.7
comp=Z,36nm,1.8s
RLMT Red Lodge 64.69 335 P P 11 17 45.6 +0.4
baz=144,SNR=7.4
LAO LASA Array 64.80 338 IAmb IAmb 11 17 46.9
comp=Z,79nm,2.0s
LAO LASA Array 64.80 338 P P 11 17 46.1 +0.3
baz=148
ULM Lac du Bonnet 64.91 346 IAmb IAmb 11 17 46.7
comp=Z,28nm,1.0s
ULM Lac du Bonnet 64.91 346 P P 11 17 45.6 -0.7
comp=Z,15nm,0.9s,baz=164,slow=6.4,SNR=24
ULM LR LR 11 47 55.0
comp=Z,129nm,21.9s,baz=124,slow=38
comp=Z,15nm,0.9s
ULM Lac du Bonnet 64.91 346 *i* P P 11 17 43.8 -2.5
PAHR Pah Rah Range 65.56 325 IAmb IAmb 11 17 53.5
comp=Z,22nm,1.0s
DGMT Dagmar 65.62 340 IAmb IAmb 11 18 23.4
comp=Z,45nm,1.2s
DGMT Dagmar 65.62 340 P P 11 17 51.5 +0.5
baz=150
HLID Hailey 65.75 331 IAmb IAmb 11 17 54.2
comp=Z,38nm,1.9s
HLID Hailey 65.75 331 P P 11 17 52.7 +0.5
baz=139,SNR=12
BOZ Bozeman (W) 66.06 334 P P 11 17 54.3 +0.2
baz=142,SNR=14
MFID Camas Ranch 66.33 330 IAmb IAmb 11 17 58.0
comp=Z,17nm,0.9s
ORV Oroville 66.66 324 IAmb IAmb 11 18 00.5
comp=Z,31nm,0.9s
EGMT Eagleton 67.25 337 P P 11 18 01.4 -0.1
baz=145,SNR=7.0
SCHQ Schefferville 67.77 6 P P 11 18 03.9 -0.6
comp=Z,7.3nm,0.8s,baz=186,slow=2.9,SNR=5.1
SCHQ LR LR 11 50 13.4
comp=Z,109nm,19.1s,baz=240,slow=38
comp=Z,7.3nm,0.8s
MSO Missoula 68.03 333 IAmb IAmb 11 18 08.6
comp=Z,35nm,1.3s
MSO Missoula 68.03 333 P P 11 18 06.7 +0.2
baz=140
KMRM Mail Ridge 68.39 323 IAmb IAmb 11 18 11.4
comp=Z,30nm,1.2s
K05A Summer Lake 68.45 326 IAmb IAmb 11 18 12.1
comp=Z,36nm,1.3s
L04D Klamath Falls 68.88 325 IAmb IAmb 11 18 13.4
comp=Z,65nm,1.9s
F10A Beach Ranch, E 68.89 331 IAmb IAmb 11 18 20.3
comp=Z,50nm,1.7s
KRPM Rodgers 69.17 324 IAmb IAmb 11 18 16.3
comp=Z,37nm,1.2s
KRMB Red Mountain 69.34 324 IAmb IAmb 11 18 17.1
comp=Z,32nm,1.4s
KSXB Camp Six Broad 69.52 324 IAmb IAmb 11 18 18.3
comp=Z,50nm,1.5s
K02D Willamette Mer 69.96 325 IAmb IAmb 11 18 20.8
comp=Z,48nm,1.5s
PPT Papeete 70.23 256 LR LR 11 42 39.7
comp=Z,110nm,19.6s,baz=114,slow=30
H04A Detroit Lake 70.47 327 IAmb IAmb 11 18 22.9
comp=Z,44nm,1.8s
FFC Flin Flon 70.50 345 P P 11 18 20.9 -0.6
FFC Flin Flon 70.50 345 P P 11 18 20.9 -0.6
FFC pmax pmax
comp=Z,16nm,1.4s
FFC Flin Flon 70.50 345 P P 11 18 21.1 -0.3
FFC pP pP 11 18 36.8 -1.1
NEW Newport 70.53 333 P P 11 18 22.2 +0.4
baz=138
BUCK Buck Mountain 70.57 326 IAmb IAmb 11 18 23.9
comp=Z,80nm,1.8s
VNA3 Neumayer Olymp 70.72 162 ⇑P P 11 18 23.6 +0.9
comp=Z,14nm,1.2s
VNA1 Neumayer--Stat 70.99 161 ⇑P P 11 18 24.7 +0.4
comp=Z,21nm,1.0s
COR Corvallis 70.99 327 P P 11 18 25.1 +0.5
COR Corvallis 70.99 327 P P 11 18 25.1 +0.5
COR pmax pmax
comp=Z,135nm,2.0s
COR Corvallis 70.99 327 P P 11 18 26.1 +1.5
COR PcP PcP 11 18 45.4 +0.7
VNA2 Neumayer--Watz 71.34 161 ⇑P P 11 18 26.9 +0.5
comp=Z,5.4nm,0.6s,baz=295,slow=6.1
PMAR Madeira 72.69 50 *e*P P 11 18 31.9 -3.5
comp=Z,152nm,1.5s
SNAA Sanae 72.94 161 P P 11 18 36.3 +0.2
SNAA IAmb IAmb 11 18 38.1
comp=Z,57nm,1.4s
SNAA Sanae 72.94 161 ⇑P P 11 18 36.6 +0.5
comp=Z,158nm,0.6s
SNAA Sanae 72.94 161 P P 11 18 36.8 +0.7
comp=Z,22nm,1.1s,baz=252,slow=6.0,SNR=20
SNAA LR LR 11 47 16.6
comp=Z,59nm,21.8s,baz=240,slow=33
comp=Z,22nm,1.1s
SNAA Sanae 72.94 161 *i* P P 11 18 35.1 -1.0
SNAA pmax pmax
comp=Z,47nm,1.4s
DBIC Dimbokro 73.85 79 P P 11 18 42.7 +0.4
DBIC Dimbokro 73.85 79 P P 11 18 42.5 +0.2
comp=Z,6.0nm,0.6s,baz=234,slow=4.9,SNR=9.8
DBIC LR LR 11 49 24.2
comp=Z,311nm,21.1s,baz=248,slow=34
comp=Z,6.0nm,0.6s
DBIC Dimbokro 73.85 79 P P 11 18 42.7 +0.4
DBIC pmax pmax
comp=Z,29nm,1.4s
TROLL Troll, Antarti 74.66 162 ⇑P P 11 18 47.0 +0.8
comp=Z,519nm,0.8s
FRB Frobisher Bay 76.45 4 LR LR 11 53 13.4
comp=Z,229nm,21.7s,baz=196,slow=36
QSPA South Pole Qui 77.45 180 P P 11 19 03.4 +1.3
QSPA South Pole Qui 77.45 180 P P 11 19 03.2 +1.1
comp=Z,7.6nm,0.8s,baz=156,slow=1.8,SNR=65
QSPA LR LR 11 49 11.8
comp=Z,118nm,20.7s,baz=118,slow=32
comp=Z,7.6nm,0.8s
NVL N'lazarevskaya 77.60 160 *e*P P 11 19 02.8 +0.1
NVL *e*S S 11 28 42.7 -6.7
NVL pmax pmax
comp=Z,11nm,1.0s
BBB Bella Bella 78.34 331 LR LR 11 57 38.5
comp=Z,66nm,18.2s,baz=106,slow=39
RAR Rarotonga 79.22 251 LR LR 11 46 57.9
comp=Z,125nm,18.1s,baz=92,slow=30
YKA Yellowknife Ar 80.57 343 P P 11 19 18.9 0.0
YKA Yellowknife Ar 80.57 343 P P 11 19 18.6 -0.4
comp=Z,6.9nm,0.9s,baz=138,slow=5.4,SNR=81
YKA LR LR 11 57 43.4
comp=Z,118nm,19.0s,baz=10,slow=38
comp=Z,6.9nm,0.9s
YKA Yellowknife Ar 80.57 343 P P 11 19 18.9 0.0
PFVI Vila Bisbo 80.58 49 *e*P P 11 19 22.7 +3.1
PTEO Sao Teotonio 80.82 48 *e*P P 11 19 23.2 +2.3
comp=Z,108nm,1.8s
PMAFR Mafra 80.99 47 *e*P P 11 19 25.8 +4.0
comp=Z,143nm,1.5s
ELIB Princess Elisa 81.10 162 *d*P P 11 19 21.2 -0.8
comp=Z,5.6nm,1.2s
PNCL Nicolau / Gran 81.19 48 *e*P P 11 19 25.1 +2.3
comp=Z,57nm,1.9s
PCVE Castro Verde 81.36 48 *e*P P 11 19 26.1 +2.4
comp=Z,78nm,1.7s
TOAD Toad River Com 81.44 337 P P 11 19 23.8 +0.1
baz=132,SNR=10
PVAQ Vaqueiros 81.50 49 *e*S SKSac 11 29 38.9 -0.3
PVAQ Vaqueiros 81.50 49 *e*LR LR 11 45 57.2
comp=Z,194nm,22.0s
PBEJ Beja 81.64 48 *e*P P 11 19 27.4 +2.2
SFJD Kangerlussuaq 81.72 10 LR LR 11 56 43.9
comp=Z,97nm,19.5s,baz=196,slow=36
EVO Evora 81.73 48 *e*P P 11 19 27.8 +2.1
comp=Z,46nm,2.2s
TOA0 Torodi Ar. Sit 81.76 75 P P 11 19 26.8 +0.5
TOA0 IAmb IAmb 11 19 29.1
comp=Z,40nm,1.2s
TORD Torodi Ar. Bea 81.76 75 P P 11 19 26.3 0.0
comp=Z,13nm,0.9s,baz=289,slow=3.0,SNR=39
TORD LR LR 11 55 46.1
comp=Z,199nm,19.9s,baz=256,slow=36
comp=Z,13nm,0.9s
PMTG Montargil 81.79 47 *e*P P 11 19 27.9 +1.9
comp=Z,69nm,1.6s
KOTAN Kotaneelee Air 81.87 338 P P 11 19 26.3 +0.4
baz=133,SNR=6.3
PCAS Casmilo, Conde 82.00 46 *e*P P 11 19 28.4 +1.4
comp=Z,75nm,1.7s
COI Coimbra 82.12 46 *e*P P 11 19 29.8 +2.2
comp=Z,108nm,1.6s
PESTR Estremoz 82.17 47 *e*P P 11 19 29.6 +1.6
comp=Z,58nm,1.7s
MDT Mitt 82.18 54 LR LR 11 52 13.1
comp=Z,156nm,21.8s,baz=279,slow=33
T35M Bob Quinn 82.29 334 IAmb IAmb 11 19 30.5
comp=Z,26nm,0.9s
T35M Bob Quinn 82.29 334 P P 11 19 29.2 +1.0
baz=128,SNR=10
PBAR Barrancos 82.30 48 *e*P P 11 19 30.7 +2.1
comp=Z,32nm,1.7s
PTO Porto 82.36 45 *e*P P 11 19 30.5 +1.6
comp=Z,62nm,1.8s
PMRV Marv??o 82.53 47 *e*LR LR 11 46 13.1
comp=Z,219nm,24.0s
PCBR Castelo Branco 82.63 47 *e*P P 11 19 31.7 +1.4
comp=Z,29nm,2.0s
PVIS Viseu 82.68 46 *e*P P 11 19 31.9 +1.2
MTE Manteigas 82.80 46 *e*LR LR 11 46 23.5
comp=Z,223nm,22.0s
WRAK Wrangell Islan 82.88 332 P P 11 19 31.3 0.0
baz=126
PGAV Gavieira, Arco 82.93 44 *e*LR LR 11 45 44.3
comp=Z,142nm,24.0s
POLO Lamas de Olo 83.02 45 *e*P P 11 19 33.6 +1.2
U33K Whale Pass 83.06 332 P P 11 19 32.6 +0.5
baz=125
SBA Scott Base 83.07 191 P P 11 19 33.8 +1.8
SBA IAmb IAmb 11 19 35.2
comp=Z,29nm,1.4s
SBA Scott Base 83.07 191 P P 11 19 33.8 +1.8
SBA pmax pmax
comp=Z,29nm,1.5s
DLBC Dease Lake 83.09 335 IAmb IAmb 11 19 34.5
comp=Z,24nm,1.1s
DLBC Dease Lake 83.09 335 P P 11 19 32.9 +0.5
baz=128,SNR=16
S34M Telegraph Cree 83.23 334 P P 11 19 33.9 +0.8
baz=127,SNR=8.6
MVO Moncorvo 83.46 45 *e*P P 11 19 36.1 +1.4
comp=Z,50nm,1.4s
MVO Moncorvo 83.46 45 *e*S SKSac 11 29 53.2 +1.0
MVO Moncorvo 83.46 45 *e*LR LR 11 46 46.2
comp=Z,163nm,22.0s
WTLY Watson Lake, Y 83.64 337 P P 11 19 35.6 +0.5
baz=129,SNR=5.8
WRGLY Wrigley 83.82 341 IAmb IAmb 11 20 26.2
comp=Z,16nm,0.4s
WRGLY Wrigley 83.82 341 P P 11 19 36.2 +0.3
baz=134
PBRG Braganca 83.91 45 *e*P P 11 19 38.3 +1.3
comp=Z,34nm,1.5s
R33M Jennings River 84.06 335 IAmb IAmb 11 19 39.4
comp=Z,22nm,1.0s
R33M Jennings River 84.06 335 P P 11 19 38.1 +0.6
baz=127,SNR=16
VNDA Vanda 84.14 191 IAmb IAmb 11 19 41.3
comp=Z,42nm,2.0s
VNDA Vanda 84.14 191 P P 11 19 38.5 +1.0
comp=Z,5.4nm,1.0s,baz=121,slow=3.8,SNR=15
VNDA LR LR 11 49 41.2
comp=Z,158nm,21.2s,baz=130,slow=30
comp=Z,5.4nm,1.0s
TGTN Hyland Airport 84.34 338 P P 11 19 39.6 +0.9
baz=130,SNR=17
S32K Killisnoo 84.49 333 P P 11 19 40.3 +0.9
baz=124
SIT Sitka 84.60 332 P P 11 19 40.6 +0.7
baz=123
R32K Eaglecrest 84.91 333 P P 11 19 42.3 +0.7
baz=124
ESDC Sonseca Array 85.08 48 P P 11 19 44.0 +1.1
ESDC IAmb IAmb 11 20 39.0
comp=Z,23nm,1.6s
ESDC Sonseca Array 85.08 48 P P 11 19 43.3 +0.4
comp=Z,1.8nm,0.7s,baz=259,slow=5.1,SNR=9.9
ESDC LR LR 11 54 12.9
comp=Z,226nm,21.2s,baz=223,slow=33
comp=Z,1.8nm,0.7s
P33M Teslin, Yukon 85.30 335 IAmb IAmb 11 19 45.3
comp=Z,17nm,0.9s
P33M Teslin, Yukon 85.30 335 P P 11 19 44.2 +0.7
baz=126,SNR=20
P32M Atlin 85.31 335 P P 11 19 44.4 +0.8
baz=125,SNR=7.9
S31K Pelican 85.50 333 P P 11 19 44.9 +0.4
baz=122
SKAG Skagway 85.92 334 P P 11 19 47.5 +1.0
baz=123
N32M Quiet Lake 85.95 336 P P 11 19 47.5 +0.7
baz=125
PLBC Pleasant Camp 86.36 334 P P 11 19 49.6 +0.8
baz=122,SNR=7.2
WHY Whitehorse 86.40 335 P P 11 19 49.3 +0.2
baz=124,SNR=5.2
FARO Faro, Yukon 86.68 337 IAmb IAmb 11 19 52.1
comp=Z,22nm,0.9s
FARO Faro, Yukon 86.68 337 P P 11 19 50.9 +0.6
baz=125,SNR=29
O30N Mendenhall 86.95 335 IAmb IAmb 11 19 53.7
comp=Z,22nm,1.1s
O30N Mendenhall 86.95 335 P P 11 19 52.5 +0.8
baz=123,SNR=14
P30M Million Dollar 86.97 334 P P 11 19 52.7 +1.0
baz=122
P29M Windy Craggy 87.05 334 IAmb IAmb 11 19 53.9
comp=Z,16nm,0.9s
P29M Windy Craggy 87.05 334 P P 11 19 52.4 +0.3
baz=121,SNR=9.2
M31M Drury Creek, Y 87.07 337 P P 11 19 53.0 +0.8
baz=124,SNR=14
N31M Braeburn, Yuko 87.22 336 P P 11 19 53.8 +0.9
baz=123,SNR=16
HYT Haines Junctio 87.57 335 IAmb IAmb 11 19 57.0
comp=Z,27nm,1.4s
HYT Haines Junctio 87.57 335 P P 11 19 56.0 +1.3
baz=121,SNR=10
BORG Borgarnes 87.64 21 LR LR 11 58 14.9
comp=Z,62nm,20.0s,baz=189,slow=35
N30M Aishikik Lake 87.73 335 P P 11 19 56.7 +1.3
baz=122,SNR=30
TAM Tamanrasset 87.76 66 IAmb IAmb 11 19 59.7
comp=Z,38nm,1.7s
PNL Peninsula 87.80 333 P P 11 19 56.3 +0.6
baz=120
RES Resolute Bay 87.95 355 LR LR 12 02 19.1
comp=Z,68nm,20.6s,baz=170,slow=38
YUK6 Outpost Mounta 87.99 335 P P 11 19 57.8 +0.9
baz=121,SNR=22
M30M Minto, Yukon 88.21 336 IAmb IAmb 11 19 59.1
comp=Z,24nm,1.0s
M30M Minto, Yukon 88.21 336 P P 11 19 58.1 +0.4
baz=122,SNR=34
YUK4 Talbot Arm 88.32 335 P P 11 19 59.5 +1.2
baz=120,SNR=50
MAYO Mayo, Yukon 88.41 337 P P 11 19 59.3 +0.8
baz=123,SNR=7.2
SUMG Summit 88.68 11 P P 11 20 00.7 +0.6
SUMG Summit 88.68 11 P P 11 20 00.7 +0.6
SUMG pmax pmax
comp=Z,33nm,1.0s
O28M Mount Upton 88.68 334 P P 11 20 01.0 +0.8
baz=119,SNR=12
YUK8 Steele Glacier 88.75 334 P P 11 20 01.1 +0.6
baz=119,SNR=27
M29M Somme Creek 88.80 336 P P 11 20 01.6 +1.0
baz=121,SNR=83
L29M L29M 89.01 336 P P 11 20 02.3 +0.9
baz=121,SNR=99
H31M Peel River 89.09 340 P P 11 20 02.1 +0.4
baz=124,SNR=18
J30M Hart River 89.11 338 P P 11 20 02.7 +0.7
baz=122,SNR=40
K29M Barlow Dome 89.16 337 P P 11 20 02.8 +0.6
baz=122,SNR=64
CTG Chitna Glacier 89.27 334 P P 11 20 03.3 +0.5
baz=118,SNR=16
YUK3 Moose Creek 89.28 335 P P 11 20 03.6 +0.6
baz=119,SNR=41
SUR Sutherland 89.45 123 LR LR 11 56 26.6
comp=Z,203nm,21.7s,baz=272,slow=33
I30M Mount Dempster 89.47 339 P P 11 20 04.2 +0.6
baz=122,SNR=37
G31M Satah River 89.70 341 IAmb IAmb 11 20 05.6
comp=Z,18nm,0.9s
G31M Satah River 89.70 341 P P 11 20 04.7 +0.2
baz=124,SNR=14
J29N Klondike Camp 89.74 338 P P 11 20 05.5 +0.7
baz=121
TSUM Tsumeb 89.78 110 LR LR 11 57 43.0
comp=Z,199nm,19.6s,baz=320,slow=34
F31M Tsiigehtchic 89.83 341 IAmb IAmb 11 20 06.2
comp=Z,18nm,1.0s
F31M Tsiigehtchic 89.83 341 P P 11 20 05.2 +0.1
baz=125,SNR=6.9
DAWY Dawson 89.98 337 P P 11 20 06.2 +0.3
baz=120,SNR=36
M27K Edge Creek, AK 90.15 335 P P 11 20 07.5 +0.6
baz=118,SNR=31
KAIM Kayak Island 90.17 332 P P 11 20 07.6 +0.8
baz=115
MCARA McCarthy VSAT 90.19 334 P P 11 20 07.7 +0.8
baz=117,SNR=23
EPYK Eagle Plains 90.21 340 IAmb IAmb 11 20 08.2
comp=Z,24nm,1.1s
EPYK Eagle Plains 90.21 340 P P 11 20 07.2 +0.3
baz=122,SNR=11
I29M Ogilvie Camp, 90.24 338 P P 11 20 06.9 -0.2
baz=121,SNR=41
INK Inuvik 90.26 342 P P 11 20 07.2 +0.2
baz=125,SNR=40
INK Inuvik 90.26 342 LR LR 12 03 20.2
comp=Z,150nm,21.8s,baz=173,slow=37
G30M tAoh Zraii Nji 90.37 340 IAmb IAmb 11 20 10.5
comp=Z,16nm,1.6s
A36M Sachs Harbour 90.39 346 P P 11 20 07.2 -0.4
baz=133,SNR=30
BCAR Beaver Creek A 90.44 336 P P 11 20 08.7 +0.6
L27K Beaver Creek, 90.46 336 P P 11 20 08.8 +0.7
baz=118,SNR=41
F30M Barrier River 90.57 341 P P 11 20 08.8 +0.2
baz=123,SNR=16
M26K Nabesna, AK 90.63 335 IAmb IAmb 11 20 10.1
comp=Z,16nm,1.2s
M26K Nabesna, AK 90.63 335 P P 11 20 09.1 +0.1
baz=117,SNR=12
BMRM Bremner River 90.69 333 P P 11 20 09.2 -0.1
baz=115
H29M Whitestone 90.70 339 P P 11 20 09.4 +0.2
baz=121,SNR=20
I28M Miner Creek 90.87 338 IAmb IAmb 11 20 15.1
comp=Z,14nm,1.0s
I28M Miner Creek 90.87 338 P P 11 20 10.3 +0.2

baz=119,SNR=19
G29M Pine Creek 90.94 340 P **P** 11 20 10.4 +0.1
baz=121,SNR=15
N25K Chitina, Valde 90.97 334 IAmb IAmb 11 20 11.9
comp=Z,7.5nm,1.0s
N25K Chitina, Valde 90.97 334 P **P** 11 20 10.9 +0.3
baz=115
EGAK Eagle 91.00 337 P **P** 11 20 10.8 +0.3
baz=118,SNR=24
K27K Chicken 91.00 336 P **P** 11 20 11.5 +0.8
baz=117
EYAK Cordova Ski Ar 91.03 332 P **P** 11 20 11.6 +0.8
baz=114
L26K Log Cabin Wild 91.06 335 IAmb IAmb 11 20 12.0
comp=Z,17nm,1.1s
L26K Log Cabin Wild 91.06 335 P **P** 11 20 10.7 -0.3
baz=116,SNR=12
EKA Eskdalemuir Ar 91.17 33 P **P** 11 20 10.2 -1.4
comp=Z,2.7nm,0.9s,baz=246,slow=6.0,SNR=4.2
comp=Z,2.7nm,0.9s
MENT Mentasta 91.17 335 IAmb IAmb 11 20 13.2
comp=Z,7.4nm,0.7s
FID Port Fidalgo 91.44 333 IAmb IAmb 11 20 13.4
comp=Z,14nm,0.9s
KLU Klutina 91.49 333 P **P** 11 20 12.9 -0.1
baz=114,SNR=17
HARP HAARP 91.54 334 P **P** 11 20 13.1 0.0
baz=115
I27K Kandik River 91.56 338 P **P** 11 20 13.2 -0.1
baz=118,SNR=18
P23K Montague Islan 91.56 332 P **P** 11 20 13.0 -0.3
baz=113
E29M Blow River 91.66 341 P **P** 11 20 13.4 -0.2
baz=121,SNR=30
SCRK Sand Creek 91.73 336 IAmb IAmb 11 20 15.1
comp=Z,12nm,0.9s
SCRK Sand Creek 91.73 336 P **P** 11 20 14.3 +0.1
baz=116,SNR=15
GLI Glacier Island 91.77 333 IAmb IAmb 11 20 14.6
comp=Z,12nm,0.9s
J26L Joseph Creek 91.80 337 P **P** 11 20 14.4 0.0
baz=116,SNR=26
H27K Steamboat Moun 91.82 338 P **P** 11 20 14.3 -0.1
baz=118,SNR=18
M24K Tolsona, Glenn 91.85 334 P **P** 11 20 14.9 +0.2
baz=114,SNR=11
PAX Paxson 91.91 335 P **P** 11 20 14.8 -0.2
baz=114,SNR=13
F28M Old Crow 91.91 340 IAmb IAmb 11 20 15.6
comp=Z,5.6nm,0.8s
F28M Old Crow 91.91 340 P **P** 11 20 14.6 -0.3
baz=119,SNR=9.4
I26K Coal Creek Min 92.00 337 P **P** 11 20 14.9 -0.3
baz=116
G27K Doyon Strip 92.14 339 IAmb IAmb 11 20 16.7
comp=Z,7.7nm,0.9s
G27K Doyon Strip 92.14 339 P **P** 11 20 15.5 -0.4
baz=118,SNR=11
SCM Sheep Creek Mo 92.25 333 P **P** 11 20 16.5 0.0
baz=113
E28M Babbage River 92.29 341 P **P** 11 20 15.9 -0.6
baz=120
K24K Donnelly Dome 92.38 335 P **P** 11 20 16.4 -0.6
baz=114
M23K Glacier View 92.40 333 P **P** 11 20 17.1 -0.1
baz=112,SNR=6.5
D28M Stokes Point 92.41 342 P **P** 11 20 16.9 -0.1
baz=120
J25K Salcha River, 92.55 336 P **P** 11 20 18.1 +0.2
baz=114,SNR=18
SML Sawmill 92.68 333 P **P** 11 20 18.3 -0.2
baz=112,SNR=9.6
WAT6 Susitna Watana 92.71 334 P **P** 11 20 18.5 -0.3
baz=112,SNR=10
DHY Denali Highway 92.75 335 IAmb IAmb 11 20 19.7
comp=Z,16nm,1.2s
DHY Denali Highway 92.75 335 P **P** 11 20 18.6 -0.4
baz=113,SNR=6.9
E27K Coleen River 92.76 340 P **P** 11 20 18.5 -0.2
baz=118,SNR=6.1
G26K Porcupine Rive 92.95 339 P **P** 11 20 19.5 -0.1
baz=116,SNR=6.8
PRP Porcupine Dome 92.98 337 IAmb IAmb 11 20 21.1
comp=Z,13nm,1.0s
PRP Porcupine Dome 92.98 337 P **P** 11 20 20.1 +0.2
baz=114,SNR=14
BRSE Bradley Lake S 93.04 331 P **P** 11 20 20.9 +0.7
baz=110
RC01 Rabbit Creek A 93.04 332 IAmb IAmb 11 20 25.4
comp=Z,17nm,1.1s
RC01 Rabbit Creek A 93.04 332 P **P** 11 20 20.0 -0.1
baz=111
D27M Malcolm River 93.06 341 P **P** 11 20 20.4 +0.3
baz=118
HDA Harding Lake 93.09 336 IAmb IAmb 11 20 20.9
comp=Z,6.7nm,0.8s
HDA Harding Lake 93.09 336 P **P** 11 20 19.9 -0.4
baz=113,SNR=5.7
WAT1 Susitna Watana 93.15 334 P **P** 11 20 20.5 -0.1
baz=112
IL31 93.21 336 IAmb IAmb 11 20 21.4
comp=Z,6.4nm,0.8s
ILAR Eielson Array 93.21 336 P **P** 11 20 19.9 -0.9
ILAR Eielson Array 93.21 336 P **P** 11 20 20.1 -0.7
comp=Z,3.5nm,0.8s,baz=152,slow=3.3,SNR=55
ILAR PP **PP** 11 24 01.8 -3.4
comp=Z,0.3nm,0.8s,baz=110,slow=7.8,SNR=4.2
ILAR LR LR 12 08 52.3
comp=Z,53nm,18.4s,baz=96,slow=40
comp=Z,3.5nm,0.8s
H25L Birch Creek 93.40 338 P **P** 11 20 22.6 +0.9
baz=114,SNR=21
F26K Sheenjek River 93.40 339 P **P** 11 20 22.0 +0.3
baz=115,SNR=9.9
RAO Raoul Island 93.50 239 LR LR 11 52 10.6
comp=Z,160nm,21.8s,baz=119,slow=29
POKR Poker Plat Res 93.56 336 P **P** 11 20 22.6 +0.2
baz=112,SNR=12
COLA College 93.63 336 P **P** 11 20 22.6 -0.2
COLA College 93.63 336 P **P** 11 20 22.5 -0.2
baz=112
COLA College 93.63 336 P **P** 11 20 21.6 -1.1
COLA pmax pmax
comp=Z,24nm,0.9s
MCK McKinley 93.65 335 P **P** 11 20 22.9 0.0
baz=111,SNR=7.0
G25K Bearman Lake 93.71 338 P **P** 11 20 23.5 +0.5
baz=114,SNR=24
CUT Chulitna 93.74 333 P **P** 11 20 23.2 -0.1
baz=110
F25K Christian Rive 93.88 339 P **P** 11 20 24.2 +0.2
baz=114,SNR=9.0
H24K Noodor Dome 94.01 337 IAmb IAmb 11 20 25.6
comp=Z,13nm,0.9s
H24K Noodor Dome 94.01 337 P **P** 11 20 24.5 0.0
baz=112,SNR=14
NEA2 Nenana 94.01 336 P **P** 11 20 24.1 -0.4
baz=111,SNR=23
O20K Slope Mountain 94.05 331 P **P** 11 20 25.7 +0.9
baz=108
E25K Arctic Village 94.07 339 IAmb IAmb 11 20 26.4
comp=Z,21nm,1.4s
E25K Arctic Village 94.07 339 P **P** 11 20 25.4 +0.6
baz=114,SNR=15
KEST Kesra 94.07 54 LR LR 12 02 43.3
comp=Z,112nm,19.7s,baz=224,slow=35
C27K Jago River 94.10 341 P **P** 11 20 25.1 +0.3
baz=116,SNR=14
TRF Thorofare Moun 94.11 334 P **P** 11 20 25.1 -0.1
baz=110,SNR=11
SKT Skwentna 94.16 333 P **P** 11 20 24.7 -0.5
baz=109,SNR=6.9
BOSA Boshof 94.16 120 P **P** 11 20 26.4 +0.1
comp=Z,4.3nm,0.9s,baz=228,slow=2.8,SNR=5.1
BOSA LR LR 12 01 13.0
comp=Z,172nm,18.4s,baz=246,slow=34
comp=Z,4.3nm,0.9s
G24K Hadweenzic Riv 94.19 338 IAmb IAmb 11 20 26.8
comp=Z,13nm,0.8s
G24K Hadweenzic Riv 94.19 338 P **P** 11 20 25.7 +0.4
baz=112,SNR=13
I23K Minto, Yukon-K 94.33 336 IAmb IAmb 11 20 26.6
comp=Z,7.5nm,0.6s
I23K Minto, Yukon-K 94.33 336 P **P** 11 20 25.8 -0.1
baz=111,SNR=12
KTH Kantishna Hill 94.41 334 IAmb IAmb 11 20 27.0
comp=Z,14nm,1.0s
C26K Camden Bay 94.60 341 P **P** 11 20 27.2 +0.1
baz=114
BPAW Bear Paw Mtn. 94.62 335 P **P** 11 20 26.6 -0.7
baz=109,SNR=18
URZ Urewera 94.63 229 LR LR 11 53 34.6
comp=Z,313nm,21.7s,baz=212,slow=29
H23K Yukon River 94.64 337 P **P** 11 20 27.4 0.0
baz=111
F24K Squaw Lake 94.64 339 IAmb IAmb 11 20 29.1
comp=Z,7.4nm,0.8s
F24K Squaw Lake 94.64 339 P **P** 11 20 27.9 +0.4
baz=112,SNR=11
PPLA Purkeypile 94.74 334 P **P** 11 20 27.6 -0.5
baz=108,SNR=6.0
MAW Mawson 94.74 166 P **P** 11 20 28.3 +0.4
comp=Z,5.0nm,0.8s,baz=204,slow=3.2,SNR=9.9
MAW LR LR 11 59 57.6
comp=Z,148nm,21.8s,baz=230,slow=33
comp=Z,5.0nm,0.8s
D25K Kavik River 94.83 340 IAmb IAmb 11 20 29.2
comp=Z,9.0nm,0.8s
D25K Kavik River 94.83 340 P **P** 11 20 28.3 +0.1
baz=113
MLY Manley 94.84 336 IAmb IAmb 11 20 28.8
comp=Z,6.2nm,0.7s
MLY Manley 94.84 336 P **P** 11 20 27.8 -0.5
baz=116,SNR=15
M20K Styx River 94.84 332 IAmb IAmb 11 20 29.7
comp=Z,6.2nm,0.8s
M20K Styx River 94.84 332 P **P** 11 20 27.7 -0.8
baz=108
CAST Castle Rocks 94.86 334 P **P** 11 20 27.7 -0.8
baz=108,SNR=18
O19K Port Alsworth 94.89 331 P **P** 11 20 28.3 -0.3
baz=107
JMIC Jan Mayen 94.99 18 LR LR 11 58 04.3
comp=Z,58nm,21.8s,baz=252,slow=32
E24K Your Creek 95.06 339 IAmb IAmb 11 20 30.7
comp=Z,6.1nm,0.8s
E24K Your Creek 95.06 339 P **P** 11 20 29.4 +0.1
baz=111
CHUM Lake Minchumin 95.11 334 P **P** 11 20 29.1 -0.5
baz=108,SNR=6.3
Q17K Contact Creek 95.12 329 P **P** 11 20 29.2 -0.6
baz=106
G23K Bananza Creek 95.13 338 IAmb IAmb 11 20 30.7
comp=Z,7.5nm,0.8s
G23K Bananza Creek 95.13 338 P **P** 11 20 29.9 +0.2
baz=110,SNR=11
N19K Bonanza Creek 95.15 331 P **P** 11 20 29.4 -0.6
baz=107
O18K Koktuh Hills 95.22 330 P **P** 11 20 29.5 -0.7
baz=106
L20K Farewell, AK 95.36 333 P **P** 11 20 29.8 -0.9
baz=107
H22K Ishlitna Cre 95.37 337 P **P** 11 20 30.9 +0.2
baz=109
COLD Coldfoot 95.38 338 P **P** 11 20 31.5 +0.8
baz=110,SNR=9.6
I21K Tanana 95.38 336 IAmb IAmb 11 20 57.5
comp=Z,11nm,1.4s
I21K Tanana 95.38 336 P **P** 11 20 30.4 -0.3
baz=108
M19K Big River Lodg 95.42 332 IAmb IAmb 11 20 31.1
comp=Z,6.6nm,1.0s
M19K Big River Lodg 95.42 332 P **P** 11 20 30.5 -0.6
baz=107
D24K Happy Valley 95.57 340 P **P** 11 20 31.4 -0.2
baz=111
Q16K King Salmon 95.62 329 P **P** 11 20 31.9 0.0
baz=105
TOLK Toolik Lake Re 95.64 339 P **P** 11 20 32.0 +0.1
baz=110
K20K Telida 95.70 334 IAmb IAmb 11 20 32.6
comp=Z,6.9nm,0.8s
K20K Telida 95.70 334 P **P** 11 20 31.7 -0.5
baz=107,SNR=5.4
L19K White Mountain 95.71 333 IAmb IAmb 11 21 01.0
comp=Z,23nm,1.6s
L19K White Mountain 95.71 333 P **P** 11 20 31.4 -0.9
baz=106
C24K Franklin Bluff 95.73 341 P **P** 11 20 32.5 +0.3
baz=111
G22K Bettles 95.76 338 P **P** 11 20 32.1 -0.3
baz=109
N18K Kilae Creek 95.77 331 P **P** 11 20 31.9 -0.7
baz=105
H21K Melozitna Rive 95.86 336 P **P** 11 20 32.4 -0.5
baz=108
J20K Nowinta River 95.97 335 IAmb IAmb 11 20 33.7
comp=Z,22nm,1.7s
J20K Nowinta River 95.97 335 P **P** 11 20 32.9 -0.5
baz=107
O17K Koliganek Bris 96.12 330 P **P** 11 20 33.5 -0.7
baz=104
D23K Nanushuk River 96.13 340 P **P** 11 20 34.5 +0.3
baz=109,SNR=5.2
F22K John River 96.19 338 P **P** 11 20 34.5 +0.1
baz=108
E22K Anaktuvuk Pass 96.26 339 IAmb IAmb 11 20 35.6
comp=Z,6.6nm,0.8s
E22K Anaktuvuk Pass 96.26 339 P **P** 11 20 34.7 -0.1
baz=108
N17K Nushagak Hills 96.35 331 P **P** 11 20 35.0 -0.3
baz=104
G21K Allakaket 96.39 337 IAmb IAmb 11 20 36.4
comp=Z,6.2nm,0.8s
G21K Allakaket 96.39 337 P **P** 11 20 35.8 +0.4
baz=107,SNR=8.4
C23K Itkillik River 96.40 340 P **P** 11 20 35.5 +0.2
baz=105,SNR=15
J19K Poorman 96.54 334 P **P** 11 20 36.2 +0.1
baz=105
L18K Granite Mounta 96.55 332 P **P** 11 20 35.9 -0.3
baz=105
F21K Alatna River 96.59 338 P **P** 11 20 36.1 -0.1
baz=107
H20K Anotleneega Mo 96.64 336 P **P** 11 20 36.5 0.0
baz=106,SNR=7.7
M17K Holitna River 96.69 331 P **P** 11 20 36.7 -0.1
baz=104
DAVOX Davos/Dischmat 96.75 44 LR LR 12 01 36.7
comp=Z,130nm,20.3s,baz=263,slow=34
D22K Ayikyak River 96.79 339 P **P** 11 20 36.9 -0.2
baz=107
SDPT Sand Point 96.87 325 P **P** 11 20 37.5 -0.2
baz=102
J18K Innoko River 96.87 334 IAmb IAmb 11 20 39.1
comp=Z,21nm,1.8s
J18K Innoko River 96.87 334 P **P** 11 20 37.8 +0.2
baz=104
E21K Killik River 97.11 339 IAmb IAmb 11 20 39.4
comp=Z,6.1nm,0.8s
E21K Killik River 97.11 339 P **P** 11 20 38.7 +0.1
baz=106
L17K Donlin 97.26 332 P **P** 11 20 39.3 -0.1
baz=103
H19K Roundabout Mou 97.28 336 IAmb IAmb 11 21 16.8
comp=Z,6.1nm,0.8s
H19K Roundabout Mou 97.28 336 P Pdif 11 20 39.8 +0.4
baz=104,SNR=5.2
M16K Timber Creek 97.31 331 P Pdif 11 20 40.3 +0.6
baz=103
F20K Avaraart Lake 97.38 337 P **P** 11 20 39.7 -0.1
baz=105
K17K Iditarod 97.39 333 P **P** 11 20 40.1 +0.1
baz=103
B22K Teshekpuk Lake 97.47 341 P **P** 11 20 39.7 -0.4
baz=107,SNR=9.6
C21K Knifeblade Rid 97.60 339 P Pdif 11 20 41.2 +0.4
baz=106
B21K Ikpikpuk River 97.66 340 IAmb IAmb 11 20 41.9
comp=Z,6.8nm,0.8s
B21K Ikpikpuk River 97.66 340 P **P** 11 20 40.8 -0.2
baz=106
G19K Purcell Mounta 97.68 336 P Pdif 11 20 41.5 +0.2
baz=104
L16K Owhat River 97.71 332 P Pdif 11 20 41.6 +0.2
baz=102
E20K Nigu River 97.86 338 P Pdif 11 20 42.3 +0.3
baz=104,SNR=7.0
J17K VABM Dome 97.89 333 P **P** 11 20 42.2 0.0
baz=102
H18K Honhosa River 97.97 335 P Pdif 11 20 43.0 +0.4
baz=103,SNR=6.9
E19K Redstone River 98.05 337 IAmb IAmb 11 20 43.4
comp=Z,4.4nm,0.8s
E19K Redstone River 98.05 337 P **P** 11 20 42.5 -0.3
baz=103,SNR=6.2
F19K Shaleruckik Mo 98.11 337 P **P** 11 20 43.0 -0.1
baz=103,SNR=6.7
D20K Etivluk River 98.12 339 P Pdif 11 20 43.4 +0.2
baz=104
A22K Sinclair Lake 98.15 341 P **P** 11 20 43.2 +0.1
baz=105
G18K Tagagawik 98.25 336 IAmb IAmb 11 20 45.2
comp=Z,5.2nm,0.8s
G18K Tagagawik 98.25 336 P Pdif 11 20 44.2 +0.4
baz=102,SNR=7.8
VAE Valguarnera 98.41 54 LR LR 12 05 07.9
comp=Z,245nm,19.2s,baz=304,slow=35
N14K Kuskokwak Cree 98.41 330 P Pdif 11 20 44.7 +0.2
baz=101
J16K Anvik River 98.54 333 P Pdif 11 20 45.5 +0.4
baz=101
H17K Granite Mounta 98.57 335 IAmb IAmb 11 20 50.1
comp=Z,11nm,1.6s
D19K Kuna River 98.61 338 IAmb IAmb 11 20 46.5
comp=Z,7.6nm,0.9s
D19K Kuna River 98.61 338 P Pdif 11 20 45.6 +0.2
baz=102,SNR=5.6
L15K Ungalak Mounta 98.64 331 P Pdif 11 20 46.1 +0.5
baz=100
I17K Unalakleet 98.69 334 P Pdif 11 20 46.3 +0.6
baz=101
M14K Bethel 98.70 330 P Pdif 11 20 46.4 +0.6
baz=100
K15K Wolf Creek Mou 98.77 332 P Pdif 11 20 46.5 +0.4
baz=100
F18K Selawik 98.79 336 P Pdif 11 20 46.5 +0.4
baz=101
G17K Kiwalik Mounta 98.98 335 P **P** 11 20 47.1 +0.1
baz=101
L14K Kuka Creek 99.15 331 P **Pdif** 11 20 48.4 +0.6
baz=100
E18K Tukpahlearik C 99.31 337 IAmb IAmb 11 20 49.5
comp=Z,7.2nm,1.1s
E18K Tukpahlearik C 99.31 337 P **Pdif** 11 20 48.9 +0.5
baz=100,SNR=6.3
F17K Baldwin Pennin 99.39 336 P **Pdif** 11 20 49.3 +0.5
baz=100
H16K Elim 99.49 334 P **Pdif** 11 20 49.4 +0.1
baz=99
CLL Collm 99.55 40 *e*PP PKiKP 11 25 00.0 -19
CLL *e*PS **PS** **11 33 54.0 +1.0**
CLL *e*PPS PPS 11 34 36.0
GERES GERESS Array B 99.64 42 LR LR 12 02 26.1
comp=Z,59nm,20.1s,baz=258,slow=33
E17K Hotham Inlet 99.72 337 P **Pdif** 11 20 50.7 +0.4
baz=99,SNR=8.1
C18K Utukok River 99.75 338 P **Pdif** 11 20 50.9 +0.5
baz=100
J14K Nanvaranak Lak 99.78 332 P **Pdif** 11 20 51.0 +0.4
baz=98
NOA NORSAR Array B 99.95 30 P **Pdif** 11 20 51.5 0.0
comp=Z,0.9nm,0.8s,baz=258,slow=4.9,SNR=3.4
NOA LR LR 12 03 10.4
comp=Z,159nm,20.6s,baz=270,slow=34
comp=Z,0.9nm,0.8s
K13K Kusilvak Mount 100.17 331 P **Pdif** 11 20 52.6 +0.2
baz=98
D17K Noatak River 100.30 337 P **Pdif** 11 20 53.5 +0.7
baz=98,SNR=5.6
G15K Niukluk 100.31 334 P **Pdif** 11 20 53.9 +1.0
baz=98
C17K DeLong Mountai 100.44 338 P **Pdif** 11 20 53.7 +0.2
baz=98
F15K North Star Dit 100.65 335 P **Pdif** 11 20 55.1 +0.6
baz=97
M11K Mekoryuk 100.72 330 P **Pdif** 11 20 54.7 -0.1
baz=97
NACGM Naroch 107.99 36 *e*Pdif **Pdif** **11 21 24.2 -3.1**
comp=Z,29nm,0.7s,baz=274
MNK Minsk 108.65 37 *i* P **Pdif** **11 21 28.5 -1.8**
MNK comp=E,3.0nm,0.8s *i* P **Pdif** **11 21 28.5 -1.8**
comp=N,14nm,0.7s,baz=274
MNK *i* Pf 11 21 28.5
comp=Z,7.0nm,0.8s
MNK *i* pP **pPdif** **11 21 42.4 -5.2**
MNK *i* sP **sPdif** **11 21 47.1 -7.1**
MNK *i* PP PP 11 24 52.8 -69
MNK *i* PPP PPP 11 28 05.6
MNK *i* SKS SKSdf 11 32 16.7 -25
MNK *i* S SKKSac 11 33 33.0 +33
MNK *i* sS 11 33 50.1
MNK *i* SP SP 11 34 45.2 -35
MNK *i* PS SP 11 34 45.2 -35
MNK *i* SSS SSS 11 41 35.2
MNK *i* LQ LQ 11 57 58.9
MNK *i* LR LR 12 02 30.2
MNK *i* LRM MLR 12 06 24.2
comp=E,123nm,17.0s
MNK *i* LRM MLR 12 07 25.7
comp=N,266nm,18.9s
MNK *i* LRM MLR 12 07 34.8
comp=Z,91nm,18.0s
MNK Minsk 108.65 37 *i* P **Pdif** **11 21 28.4 -1.8**
MNK *i* 11 32 46.6
MNK *i* SSS SSS 11 41 35.1
MNK pmax pmax
comp=Z,7.0nm,0.8s
MNK pmax pmax
comp=E,3.0nm,0.8s
MNK pmax pmax
comp=N,14nm,0.7s
BRTR Keskin Array B 113.55 52 PKiKP **PKiKP** **11 25 45.1 -0.1**
comp=N,0.7nm,0.6s,baz=257,slow=4.9,SNR=4.0
H11N3 WAKE ISLAND Hyl 18.88 286 T T 13 36 19.8
baz=95,slow=75,SNR=3.2
H11N2 WAKE ISLAND Hyl 18.90 286 T T 13 36 15.4
baz=95,slow=75,SNR=3.0
H11N1 WAKE ISLAND Hyl 18.90 286 T T 13 36 15.9
baz=95,slow=75,SNR=3.9
H11S2 WAKE ISLAND Hyl 18.99 284 T T 13 36 23.9
baz=94
H11S1 WAKE ISLAND Hyl 18.99 284 T T 13 36 19.5
baz=94
H11S3 WAKE ISLAND Hyl 19.00 284 T T 13 36 21.2
baz=94
SHA1 Shidzhatmaz 119.75 47 *c i* PKiKP **PKPdf** **11 25 56.6 -0.6**
KBZ Khabaz 119.93 47 PKP **PKiKP** **11 25 57.5 +0.2**
comp=N,6.0nm,0.8s,baz=253,slow=1.4,SNR=13
KBZ Khabaz 119.93 47 *i* PKiKP **PKPdf** **11 25 55.3 -1.9**
GNI Garni 121.97 50 *i* PKiKP **PKPdf** **11 26 00.8 -0.7**
STKA Stephens Creek 122.52 219 PKP **PKiKP** **11 26 03.0 +0.1**
comp=N,4.5nm,0.8s,baz=180,slow=6.1,SNR=7.0
STKA Stephens Creek 122.52 219 *i* PKiKP **PKPdf** **11 25 59.8 -2.9**
ARU Arti 124.47 28 PKP **PKPdf** **11 26 05.6 +0.1**
comp=N,4.4nm,0.2s,baz=344,slow=2.0,SNR=6.5
ARU Arti 124.47 28 *i* PKiKP **PKPdf** **11 26 04.2 -1.4**
YAK Yakutsk 127.23 345 *i* PKiKP **PKPdf** **11 26 10.2 -0.4**
AKTO Aktyubinsk 127.32 35 PKP **PKiKP** **11 26 11.8 +0.1**
comp=N,6.1nm,0.8s,baz=310,slow=2.3,SNR=18
ABKAR Akbulak array 128.99 35 PKPdf **PKiKP** **11 26 15.3 +0.2**
BRVK Borovoye 131.87 26 PKPdf **PKiKP** **11 26 20.5 -0.3**
BRVK Borovoye 131.87 26 *i* PKiKP **PKPdf** **11 26 18.6 -1.2**
BVAR Borovoye Array 131.94 26 PKP **PKiKP** **11 26 20.9 -0.1**
comp=N,5.3nm,0.9s,baz=318,slow=2.0,SNR=18
GEYT Alibeck 132.59 50 PKP **PKPdf** **11 26 21.6 -0.1**
comp=N,1.2nm,0.4s,baz=262,slow=5.2,SNR=3.7
ASAR Alice Springs 133.13 220 PKPdf **PKPdf** **11 26 22.7 -0.5**
ASAR Alice Springs 133.13 220 PKhKP PKPpre 11 26 09.3
comp=N,0.2nm,0.5s,baz=134,slow=1.9,SNR=4.8
ASAR PKP **PKPdf** **11 26 23.2 0.0**
comp=N,4.6nm,0.7s,baz=142,slow=1.5,SNR=5.0
ASAR Alice Springs 133.13 220 PKiKP **PKPdf** **11 26 22.7 -0.5**
WRAB Tennant Creek 135.50 224 **PKPdf** **11 26 27.3 -0.3**
WRAB Tennant Creek 135.50 224 *i* PKiKP **PKPdf** **11 26 27.1 -0.5**
WRA Warramunga Arr 135.50 224 PKPdf **PKPdf** **11 26 27.3 -0.4**
WRA Warramunga Arr 135.50 224 PKhKP PKPpre 11 26 11.8
comp=N,0.3nm,0.5s,baz=124,slow=1.7,SNR=6.0
WRA PKP **PKPdf** **11 26 28.0 +0.3**
comp=N,13nm,0.8s,baz=134,slow=2.0,SNR=52
WRA Warramunga Arr 135.50 224 PKiKP **PKPdf** **11 26 27.3 -0.4**
ZALV Zalesovo Beam 136.29 16 **PKPdf** **11 26 28.2 +0.2**
ZALV Zalesovo Beam 136.29 16 PKhKP PKPpre 11 26 21.0
comp=N,0.8nm,0.6s,baz=194,slow=21,SNR=3.7
ZALV PKP **PKPdf** **11 26 27.9 -0.1**
comp=N,9.9nm,0.8s,baz=318,slow=1.7,SNR=15
ZALV Zalesovo Beam 136.29 16 PKiKP **PKPdf** **11 26 28.0 -0.1**
KLR Kul'dur 136.70 333 *i* PKiKP **PKPdf** **11 26 26.6 -2.3**
KURK Kurchatov 137.04 23 PKPdf **PKPdf** **11 26 30.3 +0.8**
KURK Kurchatov 137.04 23 *i* PKiKP **PKPdf** **11 26 27.1 -2.4**
KURBB Kurchatov Arra 137.08 23 PKP **PKPdf** **11 26 30.3 +0.7**
comp=N,6.4nm,0.8s,baz=315,slow=2.5,SNR=41
HEH HeiHe 137.69 337 *e*PKP **PKPdf** **11 26 30.3 -0.4**

USRK	**Ussuriysk Ar.**	**140.16**	**327**	PKhKP	PKPpre	11 26 27.8				
	comp=N,2.4nm,0.6s,baz=144,slow=36,SNR=4.2									
USRK				PKP	**PKPdf**	**11 26 36.2**	**+0.8**			
	comp=N,3.9nm,0.9s,baz=41,slow=2.2,SNR=5.6									
MJAR	**Matsushiro Arr**	**140.76**	**313**	PKhKP	PKPpre	11 26 29.1				
	comp=N,4.4nm,0.7s,baz=82,slow=1.9,SNR=13									
MJAR				PKP	**PKPdf**	**11 26 36.4**	**-0.4**			
	comp=N,2.0nm,0.8s,baz=76,slow=1.2,SNR=3.3									
MJB9	**Matsu-Tunnel**	**140.77**	**313**		PKPpre	11 26 31.0				
AAK	**Ala-Archa**	**141.06**	**35**	*i* PKIKP	**PKPdf**	**11 26 36.9**	**-0.5**			
MK31	**Makanchi Array**	**141.64**	**23**	PKPdf	**PKPdf**	**11 26 37.5**	**-0.6**			
MK31	**Makanchi Array**	**141.64**	**23**	*i* PKIKP	**PKPdf**	**11 26 36.7**	**-1.4**			
MKAR	**Makanchi Array**	**141.64**	**23**	PKhKP	PKPpre	11 26 31.6				
	comp=N,0.2nm,0.3s,baz=227,slow=46,SNR=5.6									
MKAR				PKP	**PKPdf**	**11 26 37.9**	**-0.2**			
	comp=N,2.0nm,0.7s,baz=340,slow=1.1,SNR=13									
ULN	**Ulaanbaatar**	**144.80**	**356**		**PKPdf**	**11 26 43.8**	**0.0**			
ULN	**Ulaanbaatar**	**144.80**	**356**	*i* PKIKP	**PKPab**	**11 26 42.5**	**-0.3**			
SONM	**Songino Array**	**144.87**	**356**	PKPdf	**PKPdf**	**11 26 44.0**	**+0.1**			
SONM	**Songino Array**	**144.87**	**356**	PKP	PKPbc	11 26 43.6	+0.5			
	comp=N,44nm,0.7s,baz=332,slow=2.4,SNR=217									
NIL	**Nilore**	**145.53**	**48**		**PKPbc**	**11 26 45.7**	**+0.2**			
NIL	**Nilore**	**145.53**	**48**	PKP2	**PKPbc**	**11 26 45.7**	**+0.2**			
KSRS	**Korea Array**	**147.00**	**323**	PKPbc	**PKPdf**	**11 26 48.5**	**+0.9**			
	comp=N,4.0nm,0.6s,baz=64,slow=2.7,SNR=15									
KSAR	**Wonju Array Be**	**147.03**	**323**	PKPdf	**PKPdf**	**11 26 47.6**	**-0.1**			
KSAR	**Wonju Array Be**	**147.03**	**323**	PKIKP	**PKPdf**	**11 26 47.6**	**-0.1**			
XLT	**XiLinHaoTe**	**147.04**	**343**	*e*PKPbc	**PKPbc**	**11 26 49.6**	**-0.1**			
FAKI	**Fak Fak**	**147.41**	**244**		**PKPdf**	**11 26 49.6**	**+0.6**			
JNU	**Nakatsue**	**147.69**	**314**		**PKPbc**	**11 26 50.6**	**-1.2**			
TJN	**Taejon**	**148.05**	**322**	*i* PKHKP	PKPpre	11 26 47.2				
BJI	**Beijing**	**150.51**	**340**	PKPbc	**PKPbc**	**11 26 58.3**	**-0.3**			
BJI				LR	LR					
	comp=N,44nm,10.9s									
BJI				LR	LR					
	comp=N,88nm,10.7s									
BJI				LR	LR					
	comp=N,120nm,12.6s									
HHC	**Hu-ho-hao-te**	**151.04**	**347**	*e*PKPbc	**PKPbc**	**11 26 57.3**	**-2.7**			
HHC				LR	LR					
	comp=N,220nm,16.8s									
HHC				LR	LR					
	comp=N,180nm,16.8s									
HHC				LR	LR					
	comp=N,370nm,18.3s									
BTO	**Baotou**	**151.59**	**349**	*e*PKPbc	**PKPdf**	**11 26 56.4**	**+1.4**			
BTO				pPKP	**PKPab**	**11 27 06.0**	**-3.9**			
BTO				sPKP		11 27 11.0				
BTO				PKPab	**pPKPdf**	**11 27 13.4**	**+0.6**			
BTO				LR	LR					
	comp=N,520nm,9.6s									
BTO				LR	LR					
	comp=N,460nm,15.5s									
BTO				LR	LR					
	comp=N,470nm,16.1s									
GTA	**Gaotai**	**153.20**	**6**	PKPbc	**PKPdf**	**11 26 58.6**	**+1.1**			
GTA				pPKP	PKiKP	11 27 05.5	+0.4			
HNS	**HongShan**	**153.39**	**340**	⇓PKPbc	**PKiKP**	**11 27 06.0**	**+0.6**			
HNS				pPKP	**PKPab**	**11 27 17.6**	**+0.2**			
HNS				LR	LR					
	comp=N,130nm,21.5s									
HNS				LR	LR					
	comp=Z,190nm,24.5s									
TIA	**Tai'an**	**153.51**	**334**	⇓PKPbc	**PKPdf**	**11 26 58.5**	**+0.6**			
HYB	**Hyderabad**	**155.58**	**76**	*e*PKPdf	**PKPdf**	**11 27 00.0**	**-1.3**			
NJ2	**Nanjing**	**156.06**	**326**	*e*PKP	**PKPdf**	**11 27 02.1**	**+0.6**			
LZH	**Lanzhou**	**156.70**	**359**	*e*PKP	**PKPdf**	**11 27 02.3**	**-0.1**			
LYN	**LuoYang**	**156.72**	**341**	*e*PKP	**PKPab**	**11 27 31.3**	**-0.4**			
LYN				LR	LR					
	comp=N,210nm,9.7s									
LYN				LR	LR					
	comp=E,300nm,17.3s									
LYN				LR	LR					
	comp=Z,380nm,17.9s									
PZH	**PanZhiHua**	**166.17**	**6**	PKP	**PKPdf**	**11 27 12.8**	**+0.2**			
CHTO	**Chiang Mai**	**172.56**	**34**		**PKPdf**	**11 27 16.6**	**+0.1**			
CHTO	**Chiang Mai**	**172.56**	**34**	PKIKP	**PKPdf**	**11 27 16.6**	**+0.1**			
CMAR	**Chiang Mai Arr**	**172.85**	**36**		**PKPdf**	**11 27 16.5**	**-0.1**			
CMAR	**Chiang Mai Arr**	**172.85**	**36**	PKP	**PKPdf**	**11 27 16.9**	**+0.3**			
	comp=Z,2.7nm,0.7s,baz=284,slow=1.7,SNR=21									
CMAR				PKPab	**PKPab**	**11 28 43.9**	**+1.0**			
	comp=Z,1.8nm,0.7s,baz=320,slow=5.9,SNR=8.1									
CMAR	**Chiang Mai Arr**	**172.85**	**36**	PKIKP	**PKPdf**	**11 27 16.5**	**-0.1**			
PHRA	**Phrae**	**173.47**	**27**	PKPdf	**PKPdf**	**11 27 17.5**	**+0.6**			

*BER **17** 11:18:22.8±0.8, 64.70N×31.57E, h0km, Suspected explosion*
*HEL **17** 11:18:24.0±0.2, 64.80N×30.64E, h0km, ML2.0, Suspected explosion*
*IDC **17** 11:18:25.8±2.5, 64.77N×30.43E, h0km, mbtmp3.2/3, ML2.2/3, Error ellipse: s-maj=40.5km s-min=8.8km az=101.0*

ISC 17 11:18:24.2±1.0, 64.83N±0.02×30.47E±0.05, h0km, n40, σ1=53/67, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.66**	**201**	PG	**Pg**	**11 18 36.0**	**-0.9**
	baz=26						
RMF				MSG		11 18 44.8	
	comp=Z,28nm,0.2s						
RMF				SG	**Sg**	**11 18 45.6**	**+0.3**
KU6	**Riekki**	**1.22**	**349**	PG	**Pg**	**11 18 46.8**	**-0.9**
	baz=162						
KU6				MSG		11 19 02.6	
	comp=Z,14nm,0.2s						
KU6				SB	**Sg**	**11 19 04.4**	**+1.0**
MSF	**Maaselka**	**1.24**	**332**	PG	**Pg**	**11 18 47.5**	**-0.4**
	baz=152						
MSF				SB	**Sb**	**11 19 05.1**	**+0.2**
OLKF	**Oulanka, Finla**	**1.56**	**344**	PG	**Pn**	**11 18 52.9**	**-0.3**
OLKF				MSG		11 19 12.5	
	comp=Z,11nm,0.2s						
OLKF				SN	**Sg**	**11 19 15.3**	**+1.0**
NIF	**Nilsia**	**1.86**	**220**	PG	**Pn**	**11 18 57.6**	**+0.3**
	baz=42						
NIF				SG	**Sb**	**11 19 22.8**	**0.0**
RANF	**Ranua**	**1.94**	**309**	PG	**Pb**	**11 19 00.2**	**-0.3**
	baz=123						
RANF				SG	**Sg**	**11 19 26.0**	**-0.6**
JOF	**Joensuu**	**1.96**	**169**	SG	**Sn**	**11 19 23.7**	**-0.1**
OUL	**Oulu**	**1.96**	**279**	PG	**Pb**	**11 19 00.6**	**-0.1**
OUL				SG	**Sg**	**11 19 26.5**	**-0.7**
OBF4	**Vikkela, Lumij**	**2.29**	**272**	PB	**Pn**	**11 19 04.7**	**+1.5**
	baz=87						
OBF4				MSG		11 19 34.0	
	comp=Z,12nm,0.2s						
OBF4				SG	**Sg**	**11 19 37.4**	**-0.4**
OUF	**Merijarvi**	**2.52**	**262**	PB	**Pn**	**11 19 08.0**	**+1.7**
OUF				MSG		11 19 40.2	
	comp=Z,12nm,0.2s						
OUF				SG	**Sb**	**11 19 42.9**	**+1.2**
RNF	**Rovaniemi**	**2.56**	**316**	PN	**Pn**	**11 19 08.0**	**+1.0**
RNF				SG	**Sb**	**11 19 44.0**	**+1.0**
OBF0	**Syolatti, Pyha**	**2.70**	**266**	PB	**Pn**	**11 19 10.8**	**+2.0**
OBF0				MSG		11 19 45.6	
	comp=Z,7.1nm,0.2s						
OBF0				SG	**Sg**	**11 19 50.3**	**-0.5**
TOF	**Tornio**	**2.85**	**299**	PB	**Pn**	**11 19 13.0**	**+2.1**
TOF				MSG		11 19 50.3	
	comp=Z,3.6nm,0.2s						
TOF				SG	**Sb**	**11 19 52.0**	**+0.6**
SUF	**Sumiainen**	**2.86**	**224**	PB	**Pn**	**11 19 13.1**	**+2.0**
	baz=44						
SUF				MSG		11 19 49.0	
	comp=Z,4.2nm,0.2s						
VRF	**Varrio**	**2.95**	**354**	PN	**Pn**	**11 19 13.0**	**+0.7**
VRF				MSG		11 19 52.1	
	comp=Z,3.9nm,0.2s						
VRF				SG	**Sb**	**11 19 55.4**	**+1.3**
SGF	**Sodankyl**	**3.07**	**330**	PN	**Pn**	**11 19 14.5**	**+0.6**
	baz=142						
SGF				SB	**Sb**	**11 19 57.8**	**+0.2**
KALU	**Kalix**	**3.15**	**292**	PB	**Pn**	**11 19 17.2**	**+2.1**
KALU				SG	**Sb**	**11 20 01.5**	**+1.5**
KAF	**Kangasniemi**	**3.31**	**216**	PB	**Pn**	**11 19 19.1**	**+1.9**
KAF				SG	**Sb**	**11 20 03.5**	**-1.0**
RUF	**Ruokolahti**	**3.49**	**192**	PN	**Pn**	**11 19 19.4**	**-0.3**
LVZ	**Lovozero**	**3.51**	**27**	PN	**Pn**	**11 19 19.8**	**-0.2**
KLF	**Kolari**	**3.59**	**315**	PN	**Pn**	**11 19 21.6**	**+0.6**
KLF				SG	**Sg**	**11 20 18.4**	**-0.8**
KEF	**Keuruu**	**3.67**	**226**	PN	**Pn**	**11 19 24.1**	**+2.0**
KEF				SG	**Sg**	**11 20 20.0**	**-1.9**
PAJU	**Pajala**	**3.73**	**309**	PN	**Pn**	**11 19 23.7**	**+0.7**
PAJU				SG	**Sg**	**11 20 20.6**	**-3.3**
RAJF	**Raja-Jooseppi**	**3.76**	**348**	PN	**Pn**	**11 19 23.9**	**+0.6**
VAF	**Ylistaro**	**3.88**	**246**	PN	**Pn**	**11 19 26.9**	**+1.9**
	baz=63						
VAF				SG	**Sg**	**11 20 26.8**	**-2.0**
BURU	**Burvik**	**3.91**	**270**	PN	**Pn**	**11 19 26.1**	**+0.6**
BURU				SG	**Sg**	**11 20 28.1**	**-1.6**
FIA0	**FINESS Array S**	**3.94**	**212**	PN	**Pn**	**11 19 25.8**	**-0.1**
FIA0				SB	**Sb**	**11 20 21.4**	**-1.3**
FINES	**FINESS Array B**	**3.94**	**212**	Pn	**Pn**	**11 19 26.1**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=31,slow=13,SNR=8.4						
FINES				Sn	**Sn**	**11 20 12.8**	**0.0**
	comp=Z,0.4nm,0.3s,baz=34,slow=21,SNR=2.2						
FINES				Lg	Lg	11 20 26.4	
	comp=Z,0.5nm,0.3s,baz=28,slow=27,SNR=5.9						
FINES				Rg	Rg	11 20 46.1	
	comp=Z,19nm,1.1s,baz=29,slow=20,SNR=14						
	comp=Z,0.5nm,0.3s						
UMAU	**Umeaa**	**4.36**	**262**	PN	**Pn**	**11 19 31.3**	**-0.3**
	baz=76						
UMAU				SG	**Sg**	**11 20 41.7**	**-2.4**
HEF	**Hetta**	**4.50**	**326**	*e*P	**Pn**	**11 19 35.4**	**+1.9**
HEF				*e*S	**Sn**	**11 20 28.4**	**+1.9**
HEF	**Hetta**	**4.50**	**326**	PN	**Pn**	**11 19 33.9**	**+0.3**
HEF				SG	**Sg**	**11 20 44.2**	**-4.3**
VJF	**Virojoki**	**4.51**	**199**	SG	**Sb**	**11 20 43.1**	**+4.0**
LANU	**Lannavaara**	**4.69**	**317**	PN	**Pn**	**11 19 36.7**	**+0.5**
ARA0	**ARCESS Array S**	**5.10**	**340**	*e*P	**Pn**	**11 19 42.2**	**+0.4**
ARCES	**ARCESS Array B**	**5.10**	**340**	Pn	**Pn**	**11 19 42.3**	**+0.5**
	comp=Z,0.5nm,0.3s,baz=155,slow=13,SNR=81						
ARCES				Sn	**Sn**	**11 20 38.3**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=155,slow=26,SNR=5.2						
ARCES				Lg	Lg	11 21 02.5	
	comp=Z,0.6nm,0.3s,baz=155,slow=32,SNR=11						
	comp=Z,1.1nm,0.2s						
KEV	**Kevo**	**5.12**	**346**	*e*P	**Pn**	**11 19 42.0**	**0.0**
SALU	**Saltoluokta**	**5.49**	**303**	*e*P	**Pn**	**11 19 49.2**	**+2.0**
SALU				*e*S	**Sn**	**11 20 54.6**	**+3.7**
I37NO	**I37NO**	**6.30**	**318**	I	I	11 56 00.0	
	baz=125,slow=325,SNR=2.6						
HAMF	**Hammerfest**	**6.38**	**339**	*e*P	**Pn**	**11 19 59.4**	**+0.2**
HFS	**Hagfors**	**9.07**	**246**	Pn	**Pn**	**11 20 34.8**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=31,slow=5.9,SNR=2.9						
	comp=Z,3.0nm,0.9s						

*IDC **17** 11:59:50.7±1.9, 59.79N×24.70E, h0km, mbtmp3.0/3, ML2.3/3, Error ellipse: s-maj=20.1km s-min=6.8km az=143.0*
*EST **17** 11:59:51.5, 59.79N×24.47E, h0km, ML2.0(HEL), Explosion*
*HEL **17** 11:59:51.5±0.0, 59.79N×24.46E, h0km, ML2.0, Explosion*

ISC 17 11:59:49.4±0.7, 59.82N±0.02×24.48E±0.02, h0km, n37, σ1=28/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**0.40**	**354**	*e*P	**Pb**	**11 59 59.1**	**-0.3**
MEF	**Metsahovi**	**0.40**	**354**	*e*P	**Pb**	**11 59 59.0**	**-0.4**
MEF				*e*S	**Sb**	**12 00 04.7**	**-1.4**
HEL1	**Helsinki**	**0.41**	**30**	*e*P	**Pb**	**11 59 59.2**	**-0.4**
HEL1				*e*S	**Sb**	**12 00 05.0**	**-1.4**
EE02	**Kiisa, Saku**	**0.64**	**170**	*e*P	**Pg**	**12 00 02.4**	**+0.7**
EE02				*e*S	**Sg**	**12 00 09.7**	**-0.3**
NUR	**Nurmijrvi**	**0.69**	**7**	*e*P	**Pb**	**12 00 04.5**	**0.0**
NUR				*e*S	**Sg**	**12 00 13.0**	**+1.2**
NUR				MSG		12 00 13.7	
	comp=Z,8.1nm,0.2s						
EE01	**Perakula, Nova**	**0.76**	**216**	*e*P	**Pg**	**12 00 04.1**	**+0.3**
EE01				*e*S	**Sg**	**12 00 13.1**	**-0.6**
ARBE	**Arbavere**	**0.86**	**116**	*e*P	**Pn**	**12 00 09.3**	**+0.6**
ARBE	**Arbavere**	**0.86**	**116**	*e*S	**Sg**	**12 00 17.4**	**+0.5**
PVF	**Pernaja**	**1.00**	**43**	*e*P	**Pb**	**12 00 10.0**	**+0.3**
PVF				MSG		12 00 22.2	
	comp=Z,12nm,0.2s						
PVF				*e*S	**Sb**	**12 00 23.6**	**+0.3**
MTSE	**Matsula**	**1.16**	**197**	*e*P	**Pg**	**12 00 11.4**	**-0.2**
MTSE	**Matsula**	**1.16**	**197**	*e*P	**Pg**	**12 00 11.5**	**-0.2**
MTSE				*e*S	**Sg**	**12 00 26.5**	**-0.1**
MTSE				*e*S	**Sg**	**12 00 26.5**	**-0.1**
EE08	**Sarghaua, Vand**	**1.23**	**161**	*e*P	**Pg**	**12 00 12.8**	**-0.2**
EE08				*e*S	**Sg**	**12 00 28.6**	**-0.3**
EE03	**Tooma soojaam,**	**1.32**	**135**	*e*P	**Pb**	**12 00 14.9**	**-0.2**
EE03				*e*S	**Sg**	**12 00 31.9**	**0.0**
VJF	**Virojoki**	**1.70**	**64**	*e*P	**Pg**	**12 00 21.8**	**-0.1**
VJF				MSG		12 00 42.2	
	comp=Z,16nm,0.2s						
VJF				*e*SN	**Sg**	**12 00 45.7**	**+1.8**
VSU	**Vasula**	**1.79**	**139**	*e*P	**Pb**	**12 00 23.2**	**+0.1**
VSU				*e*S	**Sn**	**12 00 44.4**	**-0.6**
RAF	**Rauma**	**1.81**	**313**	*e*P	**Pn**	**12 00 21.2**	**-0.5**
RAF	**Rauma**	**1.81**	**313**	*e*P	**Pb**	**12 00 23.6**	**+0.3**
RAF				MSG		12 00 46.1	
	comp=Z,14nm,0.2s						
RAF				*e*S	**Sg**	**12 00 47.5**	**+0.1**
FIA0	**FINESS Array S**	**1.81**	**25**	*e*P	**Pg**	**12 00 24.0**	**-0.1**
FIA0				MSG		12 00 45.5	
	comp=Z,12nm,0.2s						
FIA0				*e*S	**Sg**	**12 00 47.6**	**+0.1**
FINES	**FINESS Array B**	**1.81**	**25**	Pn	**Pg**	**12 00 24.4**	**+0.3**
	comp=Z,2.9nm,0.3s,baz=199,slow=15,SNR=217						
FINES				Lg	Lg	12 00 48.0	
	comp=Z,2.8nm,0.3s,baz=201,slow=29,SNR=33						
AAL	**Aland**	**2.28**	**281**	*e*P	**Pn**	**12 00 27.9**	**-0.4**
AAL	**Aland**	**2.28**	**281**	*e*P	**Pb**	**12 00 30.4**	**-1.0**
AAL				*e*SB	**Sb**	**12 01 00.3**	**+0.2**
KPF	**Kankaanpaa**	**2.34**	**331**	*e*PG	**Pb**	**12 00 33.3**	**+0.9**
KPF				*e*SG	**Sg**	**12 01 04.0**	**-0.4**
KEF	**Keuruu**	**2.36**	**4**	*e*P	**Pn**	**12 00 29.9**	**+0.5**
KEF	**Keuruu**	**2.36**	**4**	*e*PB	**Pb**	**12 00 33.4**	**+0.6**
KEF				MSG		12 01 01.6	
	comp=Z,8.8nm,0.2s						
KEF				*e*SG	**Sg**	**12 01 05.0**	**-0.3**
KAF	**Kangasniemi**	**2.47**	**20**	*e*PB	**Pb**	**12 00 34.8**	**+0.2**
KAF				MSG		12 01 04.5	
	comp=Z,10nm,0.2s						
KAF				*e*SG	**Sg**	**12 01 07.5**	**-1.1**
SLIT	**Slitere, Latvi**	**2.48**	**208**	*e*P	**Pn**	**12 00 32.4**	**+1.5**
SLIT	**Slitere, Latvi**	**2.48**	**208**	*e*PB	**Pb**	**12 00 33.7**	**-1.1**
SLIT				*e*SG	**Sb**	**12 01 06.5**	**+0.8**
RUF	**Ruokolahti**	**2.73**	**52**	*e*PB	**Pb**	**12 00 39.0**	**0.0**
RUF				MSG		12 01 11.7	
	comp=Z,4.7nm,0.2s						
SUF	**Sumiainen**	**3.02**	**15**	*e*P	**Pb**	**12 00 42.3**	**-1.7**
SUF				MSG		12 01 20.3	
	comp=Z,2.1nm,0.2s						
VAF	**Ylistaro**	**3.35**	**346**	*e*P	**Pn**	**12 00 42.9**	**0.0**
VAF	**Ylistaro**	**3.35**	**346**	*e*P	**Pb**	**12 00 47.4**	**-2.1**
HEMU	**Hemsoen**	**4.23**	**315**	*e*P	**Pn**	**12 00 58.0**	**+3.0**
HEMU				*e*S	**Sn**	**12 01 48.8**	**+3.8**
HUSU	**Husum**	**4.33**	**327**	*e*P	**Pn**	**12 00 59.6**	**+3.1**
HUSU				*e*S	**Sn**	**12 01 50.5**	**+2.9**
JOF	**Joensuu**	**4.52**	**44**	*e*P	**Pn**	**12 01 00.8**	**+1.7**
HFS	**Hagfors**	**5.42**	**278**	Pn	**Pn**	**12 01 12.5**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=89,slow=15,SNR=20						
HFS				Sn	**Sn**	**12 02 14.9**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=96,slow=26,SNR=1.5						
HFS				Lg	Lg	12 02 41.6	
	comp=Z,0.4nm,0.3s,baz=90,slow=33,SNR=5.4						
	comp=Z,0.9nm,0.2s						
NOA	**NORSAR Array B**	**6.68**	**286**	Pn	**Pn**	**12 01 29.3**	**+0.6**
	baz=96,slow=16,SNR=9.7						
NOA				Sn	**Sn**	**12 02 45.0**	**-0.4**
	baz=74,slow=18,SNR=1.2						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**9.76**	**2**	Pn	**Pn**	**12 02 11.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=182,slow=12,SNR=12						
ARCES				Sn	**Sn**	**12 03 56.4**	**-4.7**
	baz=184,slow=25,SNR=1.5						
	comp=Z,0.4nm,0.3s						

*IDC **17** 12:15:07.0±0.9, 33.82N×89.35E, h0km, mb3.7/8, mbtmp3.6/13, ML3.5/4, MS3.6/12, Error ellipse: s-maj=29.7km s-min=17.6km az=50.0*
*BJI **17** 12:15:08.8±0.0, 34.08N×89.42E, h10km, mb4.1/10, mB4.8/6, Ms4.0/10, Ms7 3.7/11*

ISC 17 12:15:10.8±0.7, 34.07N±0.07×89.21E±0.06, h17km, n27, σ2=04/25, mb3.7/7, MS3.6/12, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**4.66**	**159**	Pn	**Pn**	**12 16 21.9**	**+1.1**
LSA				LR	LR		
	comp=N,1μm,9.3s						
LSA				LR	LR		
	comp=E,1μm,10.8s						
LSA				LR	LR		
	comp=Z,2μm,10.8s						
GOMU	**GeErMu**	**5.07**	**64**	P	**Pg**	**12 16 47.5**	**-0.3**
GOMU				pP	Pb	12 16 51.8	+13
GOMU				sP	Pn	12 16 54.1	+28
GOMU				S	**Sn**	**12 17 24.6**	**0.0**
GOMU				LR	LR		
	comp=N,1μm,4.8s						
GOMU				LR	LR		
	comp=E,770nm,5.3s						
GOMU				LR	LR		
	comp=Z,800nm,5.5s						
TNCH	**TengChong**	**12.11**	**136**	P	**Pn**	**12 18 03.5**	**+0.7**
TNCH				pP	P	12 18 05.9	-10
TNCH				sP		12 18 09.0	
TNCH				S	**Sn**	**12 20 20.6**	**+3.0**
TNCH				sS		12 20 24.1	
TNCH				SS	**SnSn**	**12 20 34.4**	**+4.7**
TNCH				pmax	pmax		
	comp=E,81nm,4.5s						
TNCH				LR	LR		
	comp=Z,350nm,9.0s						
TNCH				LR	LR		
	comp=Z,270nm,4.5s						
TNCH				LR	LR		
	comp=Z,380nm,11.9s						
MKAR	**Makanchi Array**	**13.75**	**340**	Pn	**Pn**	**12 18 25.1**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=156,slow=14,SNR=0.9						
AAK	**Ala-Archa**	**14.35**	**311**	Pn	**Pn**	**12 18 34.2**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=180,slow=16,SNR=1.4						
	comp=Z,1.2nm,0.6s						
BTO	**Baotou**	**17.77**	**62**	*e*P	**Pn**	**12 19 16.0**	**-1.5**
BTO				pP	**P**	**12 19 19.3**	**+1.1**
BTO				sP	**pP**	**12 19 23.6**	**-0.9**
BTO				PP	**PnPn**	**12 19 28.8**	**+0.7**
BTO				S	**Sn**	**12 22 34.1**	**-1.1**
BTO				SS	**SnSn**	**12 22 52.1**	**+3.4**
BTO				pmax	pmax		
	comp=Z,16nm,0.5s						
BTO				pmax	pmax		
	comp=Z,230nm,4.5s						
BTO				LR	LR		
	comp=Z,450nm,9.2s						
BTO				LR	LR		
	comp=Z,380nm,12.2s						
BTO				LR	LR		
	comp=Z,480nm,11.8s						
CMAR	**Chiang Mai Arr**	**17.81**	**148**	P	**Pn**	**12 19 13.8**	**-4.2**
	comp=Z,0.1nm,0.3s,baz=324,slow=13,SNR=5.7						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**18.30**	**338**	P	**Pn**	**12 19 23.4**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=20						
KURBB				LR	LR	12 27 00.2	
	comp=Z,190nm,20.9s,baz=161,slow=38						
	comp=Z,0.9nm,0.7s						
SONM	**Songino Array**	**18.86**	**38**	P	**P**	**12 19 30.9**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=219,slow=8.4,SNR=12						
	comp=Z,3.3nm,1.1s						
ZALV	**Zalesovo Beam**	**20.12**	**352**	P	Pn	12 19 44.8	-0.7
	comp=Z,3.9nm,0.9s,baz=170,slow=12,SNR=9.2						
	comp=Z,3.9nm,0.9s						
HNS	**HongShan**	**20.95**	**74**	*e*P	**P**	**12 19 52.3**	**-0.5**
HNS				LR	LR		
	comp=Z,130nm,9.2s						
HNS				LR	LR		
	comp=Z,190nm,11.9s						
HNS				LR	LR		
	comp=Z,210nm,15.1s						
BVAR	**Borovoye Array**	**23.22**	**330**	P	**P**	**12 20 18.4**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=120,slow=8.8,SNR=2.1						
	comp=Z,0.5nm,0.5s						
GEYT	**Alibeck**	**25.38**	**288**	P	**P**	**12 20 38.7**	**+1.4**
	comp=Z,1.0nm,0.3s,baz=91,slow=5.8,SNR=5.5						
GEYT				LR	LR	12 31 57.3	
	comp=Z,93nm,18.2s,baz=272,slow=40						
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**28.02**	**315**	LR	LR	12 33 38.2	
	comp=Z,205nm,18.7s,baz=98,slow=39						
JOW	**Kunigami**	**34.29**	**91**	LR	LR	12 36 52.0	
	comp=Z,80nm,20.2s,baz=229,slow=38						
YAK	**Yakutsk**	**37.87**	**30**	LR	LR	12 38 17.4	
	comp=Z,39nm,18.4s,baz=279,slow=37						
BRTR	**Keskin Array B**	**44.20**	**294**	P	**P**	**12 23 18.7**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=92,slow=9.4,SNR=3.7						
	comp=Z,0.3nm,0.3s						
MMAI	**Mount Meron Ar**	**44.42**	**284**	LR	LR	12 45 29.8	
	comp=Z,36nm,18.8s,baz=116,slow=41						
AKASG	**Malin Array Be**	**46.02**	**310**	LR	LR	12 46 50.3	
	comp=Z,49nm,18.1s,baz=50,slow=41						
FINES	**FINESS Array B**	**47.99**	**325**	LR	LR	12 45 41.4	
	comp=Z,82

baz=158
SRN AMP
comp=N,4.2nm,0.4s,baz=158
SRN Sarande 0.46 154 P **Pg** 12 38 26.0 -0.7
SRN S **Sb** 12 38 34.3 -0.8
comp=N,988nm,0.5s
LSK Leskovik 0.67 102 P **Pg** 12 38 29.1 -1.6
baz=101
LSK S **Sg** 12 38 39.2 -0.4
baz=101
LSK AMP
comp=N,6.5nm,0.6s,baz=101
LSK Leskovik 0.67 102 P **Pg** 12 38 29.2 -1.6
LSK S **Sg** 12 38 39.2 -0.4
comp=N,2µm,0.7s
IGT Igoumenitsa 0.89 149 P **Pg** 12 38 34.0 -0.8
baz=151
IGT S **Sb** 12 38 47.5 +0.1
baz=151
IGT Igoumenitsa 0.89 149 P **Pg** 12 38 34.0 -0.8
IGT S **Sb** 12 38 47.5 +0.1
comp=N,400nm,0.4s
IGT Igoumenitsa 0.89 149 P **Pg** 12 38 34.2 -0.6
IGT S **Sb** 12 38 48.6 +1.2
IGT AML AML 12 38 57.5
comp=N,692µm,0.3s
IGT AML AML 12 39 07.1
comp=E,911µm,0.4s
SCTE Santa Cesarea 1.00 258 P **Pb** 12 38 37.2 -0.3
baz=260
SCTE S **Sn** 12 38 53.0 +0.5
baz=260
SCTE Santa Cesarea 1.00 258 P **Pn** 12 38 37.6 -0.6
SCTE S **Sb** 12 38 50.5 -0.3
SCTE AML AML 12 38 55.9
comp=E,1383µm,0.5s
SCTE AML AML 12 38 57.3
comp=N,1053µm,0.3s
NEST Nestorio 1.01 83 P **Pg** 12 38 36.2 -0.9
NEST S **Sg** 12 38 49.6 -0.6
comp=N,495nm,0.7s
NEST Nestorio 1.01 83 P **Pb** 12 38 37.3 -0.3
NEST S **Sn** 12 38 52.5 -0.3
NEST AML AML 12 38 59.3
comp=N,1128µm,0.6s
NEST AML AML 12 39 00.3
comp=E,1366µm,0.5s
TIR Tirane 1.06 5 P **Pn** 12 38 38.6 -0.4
baz=2.0
TIR S **Sn** 12 38 53.8 -0.1
baz=2.0
TIR AMP
comp=N,1.8nm,0.5s,baz=2.0
TIR Tirane 1.06 5 P **Pb** 12 38 38.0 -0.4
TIR S **Sn** 12 38 54.2 +0.2
comp=N,410nm,0.5s
TIR Tirane 1.06 5 *e*Pg **Pn** 12 38 39.0 0.0
TIR *e*Sg **Sn** 12 38 59.5 +5.5
JAN Janina 1.06 126 P **Pn** 12 38 39.8 +0.7
JAN Janina 1.06 126 P **Pn** 12 38 40.1 +1.0
JAN S **Sn** 12 38 54.3 +0.2
JAN AML AML 12 39 01.8
comp=N,1582µm,0.4s
JAN AML AML 12 39 05.7
comp=E,1431µm,0.6s
PENT Pentalofos 1.07 95 P **Pg** 12 38 37.6 -0.8
PENT Pentalofos 1.07 95 P **Pg** 12 38 38.2 -0.2
PENT S **Sb** 12 38 53.9 +0.9
OHR Ohrid 1.15 44 *e*Pg **Pb** 12 38 39.7 -0.3
OHR *e*Sg **Sn** 12 39 01.8 +5.6
OHR Ohrid 1.15 44 *i* Pn **Pg** 12 38 38.9 -1.0
KPRO Kipourio 1.29 105 P **Pg** 12 38 41.6 -0.9
KPRO S **Sb** 12 38 59.7 +0.6
comp=E,992nm,0.6s
KPRO Kipourio 1.29 105 P **Pn** 12 38 42.3 +0.1
KPRO S **Sb** 12 38 59.6 +0.6
KPRO AML AML 12 39 09.0
comp=E,2220µm,0.7s
KPRO AML AML 12 39 10.1
comp=N,1749µm,0.6s
FNA Florina 1.34 68 P **Pn** 12 38 42.3 -0.5
baz=66
FNA Florina 1.34 68 P **Pn** 12 38 42.0 -0.9
FNA S **Sb** 12 39 01.0 +0.4
comp=N,1µm,0.7s
FNA Florina 1.34 68 *e*Pg **Pn** 12 38 42.4 -0.5
FNA *e*Sg **Sn** 12 39 03.5 +2.5
FNA Florina 1.34 68 P **Pn** 12 38 42.7 -0.2
FNA S **Sg** 12 39 00.6 -0.2
FNA AML AML 12 39 07.0
comp=N,3343µm,0.8s
FNA AML AML 12 39 08.1
comp=E,1319µm,0.6s
TSLK Tsoukalades, L 1.63 154 P **Pn** 12 38 47.3 +0.5
TSLK S **Sn** 12 39 08.8 +0.8
TSLK AML AML 12 39 17.6
comp=E,523µm,0.5s
TSLK AML AML 12 39 20.6
comp=N,654µm,0.6s
LKD2 Lefkada island 1.66 154 P **Pn** 12 38 47.6 +0.3
baz=155
LKD2 Lefkada island 1.66 154 P **Pn** 12 38 47.5 +0.2
LKD2 S **Sg** 12 39 10.9 -0.3
comp=N,290nm,0.7s
LKD2 Lefkada island 1.66 154 P **Pn** 12 38 47.7 +0.3
LKD2 AML AML 12 39 15.9
comp=E,640µm,0.7s
LKD2 AML AML 12 39 22.0
comp=N,509µm,0.4s
ULC Ulcinj 1.71 347 ⇓*i* Pn **Pn** 12 38 47.1 -0.9
ULC *i* Sn **Sg** 12 39 11.6 -1.2
NYDR Nydri-Lefkada 1.74 155 P **Pn** 12 38 48.5 +0.1
PUK Puka 1.75 4 P **Pb** 12 38 49.7 -0.6
baz=2.0
PUK S **Sg** 12 39 16.1 +2.0
baz=2.0
EVGI Lefkada island 1.81 157 P **Pb** 12 38 50.5 -0.8
THL Klokotos Trika 1.89 112 P **Pb** 12 38 52.5 -0.1
THL Klokotos Trika 1.89 112 P **Pb** 12 38 52.1 -0.6
THL AML AML 12 39 26.7
comp=E,418µm,0.6s
THL AML AML 12 39 27.5
comp=N,541µm,0.9s
DRME Dracevica, Mon 1.94 348 ⇑*i* Pn **Pn** 12 38 51.0 -0.1
DRME *i* Sn **Sb** 12 39 16.6 -1.2
TYRN Tyrnavos 2.00 106 P **Pn** 12 38 52.0 +0.1
BCI Bajram Curri 2.09 7 P **Pb** 12 38 54.8 -1.2
baz=5.0
BUM Brajici-Budva 2.10 343 ⇑*i* Pn **Pn** 12 38 52.5 -1.0
BUM *i* Sn **Sb** 12 39 20.9 -1.8
EVR Evrytania 2.11 130 P **Pn** 12 38 54.3 +0.8
EVR AML AML 12 39 32.7
comp=N,318µm,0.7s
EVR AML AML 12 39 36.2
comp=E,347µm,0.6s
SKO Skopje 2.11 37 *e*Pn **Pn** 12 38 53.3 -0.2
SKO Skopje 2.11 37 *i* Pn **Pb** 12 38 55.4 -1.0
GRG Griva 2.13 71 P **Pn** 12 38 54.2 +0.4
PDG Podgorica 2.17 350 ⇑*i* Pn **Pn** 12 38 53.7 -0.5
PDG *i* Sn **Sn** 12 39 22.4 +1.1
VLS Valsamata 2.21 162 P **Pn** 12 38 54.7 -0.2
VLS AML AML 12 39 35.0
comp=N,231µm,0.3s
VLS AML AML 12 39 43.5
comp=E,296µm,0.4s
PSDA Pessada-Kefalo 2.27 163 P **Pn** 12 38 55.6 -0.1
PVY Plav 2.31 4 ⇑*i* Pn **Pn** 12 38 55.5 -0.8
PVY *i* Sn **Sn** 12 39 26.3 +1.4
CEME Cevo 2.33 345 ⇓*i* Pn **Pn** 12 38 56.2 -0.4
CEME *i* Sn **Sn** 12 39 26.2 +0.6
AGG Agios Georgios 2.37 122 P **Pn** 12 38 58.5 +1.5
VAY Valandovo 2.38 64 *e*Pn **Pn** 12 38 56.2 -1.0
VAY Valandovo 2.38 64 *i* Pn **Pn** 12 38 58.7 +1.6
NKME Niksic 2.54 347 ⇑*i* Pn **Pn** 12 38 58.2 -1.3
NKME *i* Sn **Sn** 12 39 31.8 +1.2
KNT Kendrikon 2.55 69 P **Pn** 12 38 59.9 +0.4
KOME Kolasin 2.56 356 ⇑*i* Pn **Pn** 12 38 58.9 -0.9
KOME *i* Sn **Sn** 12 39 32.0 +0.8
IVA Berane 2.58 2 ⇑*i* Pn **Pn** 12 39 00.1 +0.1
IVA *i* Sn **Sn** 12 39 32.4 +0.8
HORT Hortiatis 2.58 82 P **Pn** 12 39 00.5 +0.5
HORT AML AML 12 39 36.1
comp=E,65µm,0.5s
HORT AML AML 12 39 45.7
comp=N,62µm,0.4s

RLS Riolos of Patr 2.60 148 P **Pn** 12 39 01.5 +1.3
BRY Bratogost 2.76 341 ⇓*i* Pn **Pn** 12 39 00.9 -1.6
BRY *i* Sn **Sn** 12 39 36.1 0.0
SOH Sokhos 2.80 78 P **Pn** 12 39 04.0 +1.0
SOH AML AML 12 39 45.9
comp=E,216µm,0.5s
SOH AML AML 12 39 47.7
comp=N,162µm,0.6s
XOR Xorichti 2.81 108 P **Pn** 12 39 04.6 +1.5
PRVS Prvonek 2.82 38 *e*Pn **Pn** 12 39 03.0 -0.3
PLG Polygyros 2.83 87 P **Pn** 12 39 04.6 +1.1
NEO Neokhori 2.86 109 P **Pn** 12 39 04.3 +0.6
KLV Kalavryta, Ach 2.92 139 P **Pn** 12 39 05.8 +1.1
BARS Barje 2.96 31 *e*Pn **Pn** 12 39 06.4 +1.2
BARS *e*Sn **Sb** 12 39 44.5 -2.8
SJES Sjenica 2.97 3 *e*Pn **Pn** 12 39 04.4 -1.0
STON Ston 3.00 330 *e*Pn **Pn** 12 39 04.1 -1.5
BOSS Bosilegrad 3.01 42 *e*Pn **Pn** 12 39 05.4 -0.5
CUC Castrocucco 3.02 266 P **Pn** 12 39 06.6 +0.5
SRS Serrai 3.04 73 P **Pn** 12 39 07.4 +1.1
PLE Pljevlja 3.05 355 ⇓*i* Pn **Pn** 12 39 06.1 -0.4
PLE *i* Sn **Sn** 12 39 44.2 +1.0
SELS Selova 3.10 19 *e*Pn **Pn** 12 39 08.1 +1.0
SELS *e*Sn **Sn** 12 39 47.1 +2.7
LSTV Lastovo 3.27 320 *e*Pn **Pn** 12 39 08.4 -1.0
IVAS Ivanjica 3.29 5 *e*Pn **Pn** 12 39 09.7 -0.1
BBLS Lazi&#263i 3.58 356 *e*Pn **Pn** 12 39 14.3 +0.6
MAKA Makarska 3.62 327 *e*Pn **Pn** 12 39 13.6 -0.6
BOVS Bovan 3.65 23 *e*Pn **Pn** 12 39 14.9 +0.3
GRUS Gruza 3.67 11 *e*Pn **Pn** 12 39 14.1 -0.7
HVAR Hvar 3.79 321 *e*Pn **Pn** 12 39 16.1 -0.5
DIVS Divibare 3.81 3 *e*Pn **Pn** 12 39 15.8 -1.1
TRUS Trudelj 3.96 7 *e*Pn **Pn** 12 39 18.9 0.0
ZAGS Zajecar 3.98 27 *e*Pn **Pn** 12 39 19.6 +0.5
KUBS Kucevo 4.36 19 *e*Pn **Pn** 12 39 24.2 -0.2
KIJV Kijevo 4.46 327 *e*Pn **Pn** 12 39 25.4 -0.4
ZIRJ Zirje 4.54 319 *e*Pn **Pn** 12 39 26.8 0.0
ZIRJ Sn **Sn** 12 40 17.6 -2.2
MORI Morici 4.67 321 *e*Pn **Pn** 12 39 28.8 +0.2
DUGI Dugi Otok 5.08 318 *e*Pn **Pn** 12 39 34.1 -0.2
VIRC Vir 5.30 321 *e*Pn **Pn** 12 39 37.1 -0.1
SMRN Sveta Marina 6.28 321 *e*Pn **Pn** 12 39 52.4 +1.7
BRJN Brijuni 6.39 318 *e*Pn **Pn** 12 39 51.8 -0.4

*CRAAG **17** 13:00:03.3, 36°.53N×0°.96E, Ml2.9, Algerie 15km N El-Marsa*
*MDD **17** 13:00:06.6±0.7, 36°.48N×1°.04E, h21km±12km, Mb3.7/9, M_mb3.0/7, Error ellipse: s-maj=10.8km s-min=3.8km az=160.0*
ISC 17 13:00:05.3±1.5, **36°.55N**±0°.05×**0°.98E**±0°.03, **h20**km±7km, **n21**, σ1§65/33, **8C**, **Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKMS	**Oued Kramis**	**0.36**	**229**	P	**Pg**	**13 00 12.7**	**-0.3**
EBNH	**Beni Haoua**	**0.47**	**93**	P	**Pg**	**13 00 14.4**	**-0.4**
EBNR	**Beni Rached**	**0.51**	**120**	P	**Pg**	**13 00 15.2**	**-0.5**
EHRZ	**Djelida**	**0.98**	**111**	P	**Pb**	**13 00 23.2**	**-0.3**
EDDR	**Deurdeur**	**1.14**	**118**	P	**Pn**	**13 00 27.1**	**+1.0**
OFRG	**Douar Fergoug**	**1.28**	**217**	P	**Pn**	**13 00 29.3**	**+1.2**
CART	**Cartagena**	**1.89**	**304**	Pn	**Pn**	**13 00 36.5**	**0.0**
CART				Sn	**Sn**	**13 00 56.2**	**-3.5**
EMUR	**La Murta**	**2.19**	**307**	P	**Pn**	**13 00 41.7**	**+1.0**
EMUR				⇑*i*Vmb_V		13 00 42.8	
	104nm,SNR=0.7						
EMUR				S	**Sn**	**13 01 08.6**	**+1.4**
EIBI	**Ibiza**	**2.49**	**7**	Pn	**Pn**	**13 00 46.2**	**+1.5**
EIBI				Sn	**Sn**	**13 01 14.0**	**-0.5**
EIBI	**Ibiza**	**2.49**	**7**	P	**Pn**	**13 00 46.2**	**+1.5**
EIBI				⇑*i*Vmb_V		13 00 48.2	
	263nm,SNR=1.2						
EIBI				S	**Sn**	**13 01 13.8**	**-0.7**
ETOB	**Tobarra**	**2.90**	**317**	Pn	**Pn**	**13 00 51.2**	**+0.9**
ETOB	**Tobarra**	**2.90**	**317**	P	**Pn**	**13 00 51.5**	**+1.1**
ETOB				⇑*i*Vmb_V		13 00 54.0	
	80nm,SNR=0.7						
ETOB				S	**Sn**	**13 01 25.1**	**+0.4**
EBER	**Berja**	**3.13**	**278**	Pn	**Pn**	**13 00 54.4**	**+0.8**
EBER	**Berja**	**3.13**	**278**	P	**Pn**	**13 00 53.9**	**+0.2**
EBER				⇑*i*Vmb_V		13 00 57.1	
	219nm,SNR=1.0						
EBER				S	**Sn**	**13 01 29.0**	**-1.5**
EVIV	**Cofrentes, Val**	**3.18**	**329**	P	**Pn**	**13 00 55.6**	**+1.4**
EVIV				⇑*i*Vmb_V		13 01 00.9	
	123nm,SNR=1.0						
EVIV				S	**Sn**	**13 01 31.7**	**+0.2**
ECOL	**Islas Columbre**	**3.35**	**356**	P	**Pn**	**13 00 57.1**	**+0.6**
ECOL				S	**Sn**	**13 01 36.1**	**+0.4**
ECHE	**Chera**	**3.40**	**334**	Sn	**Sn**	**13 01 31.0**	**-6.1**
EQES	**Quesada**	**3.47**	**292**	P	**Pn**	**13 01 00.8**	**+2.5**
EQES				⇑*i*Vmb_V		13 01 04.3	
	136nm,SNR=1.6						
EQES				S	**Sn**	**13 01 39.5**	**+0.7**
ETOS	**Mallorca**	**3.52**	**24**	Pn	**Pn**	**13 00 59.6**	**+0.7**
ETOS				Sn	**Sn**	**13 01 39.8**	**-0.2**
ETOS	**Mallorca**	**3.52**	**24**	P	**Pn**	**13 00 59.1**	**+0.2**
ETOS				⇑*i*Vmb_V		13 01 02.4	
	104nm,SNR=0.7						
ETOS				S	**Sn**	**13 01 40.0**	**0.0**
EMOS	**Mosqueruela**	**3.97**	**344**	P	**Pn**	**13 01 06.8**	**+1.6**
EMOS				⇑*i*Vmb_V		13 01 09.9	
	90nm,SNR=1.1						
EMOS				S	**Sn**	**13 01 51.6**	**+0.3**

*VIE **17** 13:13:10.9, 52°.02N×16°.07E, h0km, ML2.5/1, Suspected Mining induced.*
*PRU **17** 13:13:17.7, 51°.49N×16°.08E, h0km*
ISC 17 13:13:15.2±1.3, **51°.59N**±0°.06×**16°.10E**±0°.03, **h0**km, **n21**, σ0§73/41, **Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**1.00**	**182**	*e*PG	**Pg**	**13 13 34.6**	**+0.3**
CHVC				*e*SG	**Sg**	**13 13 46.9**	**-0.3**
OSTC	**Ostas**	**1.03**	**176**	*e*PG	**Pg**	**13 13 34.9**	**+0.1**
OSTC				*e*SG	**Sg**	**13 13 48.1**	**-0.2**
UPC	**Upice**	**1.08**	**183**	*e*PG	**Pg**	**13 13 36.0**	**+0.1**
UPC				*e*SG	**Sg**	**13 13 49.3**	**-0.6**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*PG	**Pg**	**13 13 38.5**	**-0.5**
DPC				*e*SG	**Sg**	**13 13 53.7**	**-1.4**
	comp=Z,25nm,0.6s						
PVCC	**Panska Ves**	**1.43**	**223**	*e*PG	**Pb**	**13 13 42.8**	**+0.1**
PVCC				*e*SG	**Sg**	**13 14 01.0**	**-0.1**
	comp=Z,96nm,0.2s						
BRG	**Berggiesshubel**	**1.53**	**243**	Pg	**Pg**	**13 13 44.8**	**+0.2**
BRG				Sg	**Sn**	**13 14 04.6**	**+0.2**
BRG				Amp		13 14 07.0	
	comp=Z,24nm,0.4s						
KRLC	**Kraliky**	**1.57**	**164**	*e*PG	**Pn**	**13 13 44.5**	**+0.1**
KRLC				*e*SG	**Sn**	**13 14 04.7**	**-0.8**
	comp=Z,36nm,0.5s						
PRU	**Pruhonice**	**1.88**	**212**	*e*PG	**Pb**	**13 13 50.4**	**0.0**
PRU				*e*SG	**Sb**	**13 14 14.1**	**-0.3**
	comp=Z,22nm,0.7s						
HSKC	**Hora Svate Kat**	**1.94**	**241**	*e*PG	**Pb**	**13 13 51.8**	**+0.3**
HSKC				*e*SG	**Sg**	**13 14 17.1**	**-0.5**
	comp=Z,39nm,0.8s						
CLL	**Collm**	**1.96**	**263**	*e*Pn	**Pn**	**13 13 49.0**	**-0.6**
CLL				*i* Pg	**Pb**	**13 13 51.5**	**-0.2**
CLL				*i* x	x	13 13 55.7	
CLL				*i* Sg	**Sg**	**13 14 18.1**	**+0.1**
	comp=Z,13nm,0.5s						
MORC	**Moravsky Berou**	**2.03**	**153**	*e*PN	**Pn**	**13 13 51.3**	**+0.6**
MORC				*e*SG	**Sb**	**13 14 18.8**	**0.0**
OKC	**Ostrava-Krasne**	**2.18**	**143**	*e*PG	**Pg**	**13 13 56.5**	**-0.5**
OKC				*e*SG	**Sg**	**13 14 24.8**	**-0.4**
	comp=Z,35nm,0.7s						
TREC	**Trest**	**2.33**	**190**	*e*SG	**Sb**	**13 14 28.2**	**+0.9**
ZVC	**Zvikov**	**2.47**	**210**	*e*SG	**Sg**	**13 14 33.4**	**-1.1**
MAUC	**Maruska**	**2.48**	**153**	*e*SG	**Sg**	**13 14 34.5**	**-0.4**
KRUC	**Moravsky**	**2.53**	**176**	*e*PN	**Pn**	**13 13 58.3**	**+0.7**
KRUC				*e*SG	**Sg**	**13 14 35.1**	**-1.4**
OJC	**Ojcow**	**2.71**	**119**	*e*Pg	**Sg**	**13 14 07.0**	**-0.1**
OJC				*e*SG	**Sg**	**13 14 42.4**	**0.0**
JAVC	**Velka Javorina**	**2.91**	**159**	*e*PN	**Pn**	**13 14 03.0**	**+0.2**
KHC	**Kasperske Hory**	**2.94**	**214**	*e*PN	**Pn**	**13 14 02.5**	**-0.7**
KHC				*e*PG	**Pb**	**13 14 09.0**	**+0.5**
KHC				*e*SN	**Sn**	**13 14 38.2**	**-1.0**
KHC				*e*SG	**Sg**	**13 14 48.7**	**-0.9**

comp=Z,6.2nm,0.3s
CKRC Cesky Krumlov 3.00 203 *e*PN **Pn** 13 14 04.3 +0.3
CKRC *e*SG **Sb** 13 14 48.6 +2.0
CONA Conrad Observa 3.66 182 *e*Pn **Pn** 13 14 13.6 +0.4
comp=Z,0.9nm,0.3s
CONA *e*Sn **Sb** 13 15 07.7 +1.9
comp=Z,3.2nm,0.3s

ISC 17 13:17:48.1±1.2, **45°.17N**±0°.03×**14°.92E**±0°.04, **h11**km±15km, **n10**, σ0§45/17, **1D**, **Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIY	**Rijeka**	**0.35**	**297**	*e*Pg	**Pg**	**13 17 54.5**	**-0.5**
RIY				Sg	**Sg**	**13 17 59.8**	**+0.1**
GBRS	**Gornja Briga**	**0.37**	**348**	⇓*i* Pg	**Pg**	**13 17 55.2**	**-0.2**
GBRS				*e*Sg	**Sg**	**13 18 00.9**	**+0.5**
GBRS				IAML		13 18 01.5	
	comp=Z,4.4nm,0.1s						
BOJS	**Bojanci**	**0.41**	**35**	*e*Pg	**Pg**	**13 17 56.1**	**-0.1**
BOJS				*e*Sg	**Sg**	**13 18 02.0**	**+0.5**
BOJS				IAML		13 18 04.1	
	comp=Z,3.1nm,0.1s						
RABC	**Rab**	**0.43**	**193**	*e*Pg	**Pg**	**13 17 55.9**	**-0.7**
RABC				Sg	**Sb**	**13 18 03.9**	**-0.2**
KNDS	**Knezji Dol**	**0.52**	**313**	*e*Pg	**Pg**	**13 17 57.6**	**-0.7**
KNDS				*i* Sg	**Sg**	**13 18 05.7**	**+0.4**
KNDS				IAML		13 18 06.7	
	comp=Z,5.3nm,0.2s						
SMRN	**Sveta Marina**	**0.56**	**256**	*e*Pg	**Pg**	**13 17 59.0**	**0.0**
SMRN				Sg	**Sg**	**13 18 06.7**	**+0.4**
OZLJ	**Ozalj**	**0.59**	**41**	Sg	**Sg**	**13 18 07.5**	**+0.3**
NVLJ	**Novalja**	**0.61**	**183**	Sg	**Sb**	**13 18 09.5**	**+0.3**
VISS	**Visnje**	**0.64**	**355**	*e*Pg	**Pg**	**13 17 59.9**	**-0.5**
VISS				*e*Sg	**Sb**	**13 18 10.0**	**-0.1**
VISS				IAML		13 18 11.2	
	comp=Z,2.0nm,0.1s						
BRJN	**Brijuni**	**0.87**	**253**	*e*Pg	**Pg**	**13 18 05.2**	**+0.3**

*IDC **17** 13:21:42.7±1.1, 21°.49S×11°.23W, h0km, mb3.9/6, mbtmp3.9/6, Error ellipse: s-maj=45.7km s-min=26.0km az=118.0*
ISC 17 13:21:44.3±1.1, **21°.5S**±0°.2×**11°.2W**±0°.2, **h10**km, **n6**, σ0§72/6, **mb4.0**/6, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDFB	**Brasilia**	**35.28**	**273**	P	**P**	**13 28 39.7**	**0.0**
	2.4nm,0.4s,baz=180,slow=6.1,SNR=3.7						
	2.4nm,0.4s						
TORD	**Torodi Ar. Bea**	**36.68**	**21**	P	**P**	**13 28 52.2**	**+0.7**
	1.5nm,0.6s,baz=203,slow=8.0,SNR=13						
	1.5nm,0.6s						
QSPA	**South Pole Qui**	**68.72**	**180**	P	**P**	**13 32 48.2**	**+0.2**
	1.4nm,1.2s,baz=253,slow=11,SNR=5.9						
	1.4nm,1.2s						
GERES	**GERESS Array B**	**73.47**	**17**	P	**P**	**13 33 16.3**	**-0.5**
	0.4nm,0.2s,baz=219,slow=6.1,SNR=1.6						
	0.4nm,0.2s						
BRTR	**Keskin Array B**	**73.90**	**35**	P	**P**	**13 33 19.0**	**-0.7**
	0.2nm,0.3s,baz=224,slow=8.8,SNR=1.8						
	0.2nm,0.3s						
AKASG	**Malin Array Be**	**80.23**	**25**	P	**P**	**13 33 55.2**	**+0.4**
	0.1nm,0.3s,baz=226,slow=6.5,SNR=1.9						
	0.1nm,0.3s						

*IDC **17** 13:22:05.9±0.8, 21°.08S×11°.58W, h0km, mb4.2/11, mbtmp4.2/11, Error ellipse: s-maj=27.8km s-min=19.1km az=135.0*
*NEIC **17** 13:22:08.4±2.1, 21°.13S±0°.09×11°.4W±0°.1, h10km±1km, mb4.7/16, Error ellipse: s-maj=21.2km s-min=6.1km az=45.0*
ISC 17 13:22:08.5±0.6, **21°.1S**±0°.1×**11°.5W**±0°.1, **h16**km, **n28**, σ1§35/28, **mb4.5**/16, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DBIC	**Dimbokro**	**28.34**	**14**	P	**P**	**13 28 01.2**	**-0.6**
DBIC				IAmb	IAmb	13 28 29.5	
	comp=Z,20nm,1.3s						
DBIC	**Dimbokro**	**28.34**	**14**	P	**P**	**13 28 02.7**	**+0.9**
	comp=Z,4.2nm,0.8s,baz=158,slow=11,SNR=3.4						
	comp=Z,4.2nm,0.8s						
BOSA	**Boshof**	**34.08**	**110**	P	**P**	**13 28 52.1**	**-0.5**
BOSA				IAmb	IAmb	13 29 19.7	
	comp=Z,11nm,1.3s						
BOSA	**Boshof**	**34.08**	**110**	P	**P**	**13 28 51.9**	**-0.7**
	comp=Z,2.0nm,0.7s,baz=284,slow=6.3,SNR=4.0						
	comp=Z,2.0nm,0.7s						
BDFB	**Brasilia**	**35.03**	**273**	P	**P**	**13 28 59.3**	**-1.6**
	comp=Z,3.0nm,0.6s,baz=74,slow=7.4,SNR=3.5						
	comp=Z,3.0nm,0.6s						
TOA0	**Torodi Ar. Sit**	**36.40**	**22**	P	**P**	**13 29 13.2**	**+0.8**
TOA0				IAmb	IAmb	13 29 21.8	
	comp=Z,16nm,1.4s						
TORD	**Torodi Ar. Bea**	**36.40**	**22**	P	**P**	**13 29 12.3**	**-0.1**
TORD				IAmb	IAmb	13 29 21.8	
	comp=Z,10nm,1.2s						
TORD	**Torodi Ar. Bea**	**36.40**	**22**	P	**P**	**13 29 13.8**	**+1.4**
	comp=Z,2.8nm,0.6s,baz=200,slow=8.1,SNR=8.6						
	comp=Z,2.8nm,0.6s						
CPUP	**Villa Florida**	**42.13**	**254**	P	**P**	**13 30 02.5**	**+2.2**
CPUP	**Villa Florida**	**42.13**	**254**	P	**P**	**13 29 58.4**	**-1.9**
	comp=Z,1.8nm,0.8s,baz=109,slow=7.0,SNR=4.5						
	comp=Z,1.8nm,0.8s						
PTLB	**Pontes e Lacer**	**45.46**	**269**	P	**P**	**13 30 28.0**	**+0.8**
SAML	**Samuel**	**51.15**	**276**	P	**P**	**13 31 13.3**	**+2.1**
AC05	**El Transito**	**53.40**	**249**	P	**P**	**13 31 27.2**	**-0.7**
AC05				IAmb	IAmb	13 31 37.3	
	comp=Z,15nm,1.1s						
LPAZ	**La Paz**	**53.64**	**265**	P	**P**	**13 31 30.8**	**+0.4**
LPAZ	**La Paz**	**53.64**	**265**	P	**P**	**13 31 30.3**	**-0.1**
	comp=Z,0.6nm,0.3s,baz=122,slow=8.3,SNR=1.1						
	comp=Z,0.6nm,0.3s						
ETMB	**Extrema**	**53.69**	**273**	P	**P**	**13 31 32.5**	**+2.5**
ETMB				IAmb	IAmb	13 31 38.8	
	comp=Z,9.4nm,1.3s						
PB08	**IPOC Station P**	**53.72**	**260**	P	**P**	**13 31 31.8**	**+1.2**
PB08				IAmb	IAmb	13 31 39.0	
	comp=Z,10nm,1.1s						
LCO	**Las Campanas**	**53.75**	**249**	P	**P**	**13 31 27.9**	**-2.8**
CO02	**Combarbal**	**53.81**	**246**	P	**P**	**13 31 31.5**	**+0.6**
CO02				IAmb	IAmb	13 31 40.2	
	comp=Z,12nm,1.1s						
CO06	**Fray Jorge**	**54.40**	**247**	P	**P**	**13 31 34.3**	**-0.8**
BELA	**Belgrano 2**	**57.93**	**186**	P	**P**	**13 31 59.7**	**+0.2**
KEST	**Kesra**	**59.85**	**20**	P	**P**	**13 32 15.0**	**+1.6**
	comp=Z,2.1nm,0.5s,baz=144,slow=5.7,SNR=4.1						
	comp=Z,2.1nm,0.5s						
QSPA	**South Pole Qui**	**69.12**	**180**	P	**P**	**13 33 14.5**	**+0.7**
QSPA	**South Pole Qui**	**69.12**	**180**	P	**P**	**13 33 15.4**	**+1.6**
	comp=Z,3.9nm,0.9s,baz=223,slow=5.7,SNR=5.6						
	comp=Z,3.9nm,0.9s						
GERES	**GERESS Array B**	**73.15**	**17**	P	**P**	**13 33 37.3**	**-1.0**
	comp=Z,0.4nm,0.2s,baz=197,slow=8.2,SNR=1.7						
	comp=Z,0.4nm,0.2s						
BRTR	**Keskin Array B**	**73.71**	**35**	P	**P**	**13 33 41.1**	**-0.7**
BRTR	**Keskin Array B**	**73.71**	**35**	P	**P**	**13 33 41.3**	**-0.6**
	comp=Z,0.9nm,0.8s,baz=208,slow=4.9,SNR=4.5						
	comp=Z,0.9nm,0.8s						
AKASG	**Malin Array Be**	**79.97**	**25**	P	**P**	**13 34 15.6**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=226,slow=6.4,SNR=5.7						
	comp=Z,0.5nm,0.4s						

*IDC **17** 13:28:51.0±1.2, 21°.63S×11°.27W, h0km, mb4.1/8, mbtmp4.1/8, MS3.8/13, Error ellipse: s-maj=40.0km s-min=23.9km az=154.0*
*NEIC **17** 13:28:54.6±2.4, 21°.2S±0°.1×11°.2W±0°.1, h10km±1km, mb4.6/8, Error ellipse: s-maj=23.6km s-min=19.2km az=115.0*
ISC 17 13:28:53.4±0.7, **21°.3S**±0°.2×**11°.3W**±0°.1, **h10**km, **n26**, σ1§64/17, **mb4.2**/10, **MS3.7**/13, **Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSUM	**Tsumeb**	**27.13**	**91**	P	**P**	**13 34 34.7**	**-2.4**
TSUM				IAmb	IAmb	13 35 03.3	
	comp=Z,18nm,1.5s		

RCBR	**Riachuelo**	**28.41**	**299**	P	**P**	**13 34 45.7**	**-2.7**
RCBR	**Riachuelo**	**28.41**	**299**	LR	LR	13 43 46.0	
	comp=Z,150nm,21.4s,baz=342,slow=31						
SUR	**Sutherland**	**30.55**	**118**	LR	LR	13 45 33.9	
	comp=Z,120nm,18.7s,baz=280,slow=33						
BOSA	**Boshof**	**33.79**	**110**	P	**P**	**13 35 34.1**	**-1.7**
	comp=Z,1.4nm,0.6s,baz=297,slow=9.0,SNR=2.1						
BOSA				LR	LR	13 47 18.6	
	comp=Z,120nm,19.9s,baz=280,slow=33						
	comp=Z,1.4nm,0.6s						
BDFB	**Brasilia**	**35.25**	**273**	P	**P**	**13 35 47.9**	**-0.7**
BDFB				IAmb	IAmb	13 35 55.8	
	comp=Z,10nm,1.1s						
BDFB	**Brasilia**	**35.25**	**273**	P	**P**	**13 35 47.2**	**-1.4**
	comp=Z,1.6nm,0.4s,baz=90,slow=7.1,SNR=1.5						
BDFB				LR	LR	13 47 32.5	
	comp=Z,134nm,19.3s,baz=136,slow=32						
	comp=Z,1.6nm,0.4s						
TOA0	**Torodi Ar. Sit**	**36.56**	**22**	P	**P**	**13 35 58.7**	**-0.9**
TORD	**Torodi Ar. Bea**	**36.56**	**22**	P	**P**	**13 35 58.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**36.56**	**22**	P	**P**	**13 36 00.7**	**+1.1**
	comp=Z,3.9nm,1.0s,baz=194,slow=7.4,SNR=13						
	comp=Z,3.9nm,1.0s						
CPUP	**Villa Florida**	**42.26**	**254**	P	**P**	**13 36 48.8**	**+1.6**
CPUP				IAmb	IAmb	13 36 49.6	
	comp=Z,14nm,1.4s						
CPUP	**Villa Florida**	**42.26**	**254**	P	**P**	**13 36 46.0**	**-1.1**
	comp=Z,3.2nm,1.0s,baz=107,slow=8.3,SNR=4.9						
CPUP				LR	LR	13 52 04.2	
	comp=Z,142nm,18.3s,baz=84,slow=33						
	comp=Z,3.2nm,1.0s						
MDP	**Montagnes des**	**48.33**	**298**	LR	LR	13 57 08.7	
	comp=Z,70nm,18.5s,baz=114,slow=35						
SAML	**Samuel**	**51.39**	**276**	P	**P**	**13 37 60.0**	**+1.2**
SAML				IAmb	IAmb	13 38 01.2	
	comp=Z,9.6nm,1.2s						
LVC	**Limon Verde**	**53.17**	**257**	LR	LR	14 00 38.4	
	comp=Z,53nm,18.4s,baz=120,slow=36						
PLCA	**Paso Flores**	**53.34**	**235**	LR	LR	13 59 03.5	
	comp=Z,65nm,18.9s,baz=84,slow=34						
LPAZ	**La Paz**	**53.82**	**265**	LR	LR	14 00 38.7	
	comp=Z,147nm,18.3s,baz=92,slow=36						
MDT	**Midelt**	**54.23**	**7**	LR	LR	13 59 07.4	
	comp=Z,64nm,20.4s,baz=174,slow=33						
KEST	**Kesra**	**60.03**	**19**	P	**P**	**13 39 02.6**	**+2.1**
	comp=Z,3.9nm,0.7s,baz=242,slow=4.6,SNR=4.6						
	comp=Z,3.9nm,0.7s						
ATAH	**Atahualpa**	**66.16**	**272**	LR	LR	14 06 41.8	
	comp=Z,217nm,20.1s,baz=130,slow=34						
QSPA	**South Pole Qui**	**68.85**	**180**	P	**P**	**13 40 00.2**	**+2.2**
BRTR	**Keskin Array B**	**73.81**	**35**	P	**P**	**13 40 29.3**	**+1.1**
BRTR	**Keskin Array B**	**73.81**	**35**	P	**P**	**13 40 28.5**	**+0.3**
	comp=Z,0.8nm,0.8s,baz=205,slow=6.4,SNR=1.6						
	comp=Z,0.8nm,0.8s						
AKASG	**Malin Array Be**	**80.12**	**25**	P	**P**	**13 41 03.9**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=217,slow=6.2,SNR=4.8						
	comp=Z,0.2nm,0.3s						
NOA	**NORSAR Array B**	**84.08**	**11**	P	**P**	**13 41 24.7**	**+0.7**
	comp=Z,0.7nm,0.8s,baz=194,slow=6.0,SNR=2.0						
NOA				LR	LR	14 17 45.7	
	comp=Z,14nm,19.4s,baz=80,slow=35						
	comp=Z,0.7nm,0.8s						

*NEIC **17** 13:33:50.2±2.0,21°.1S±0°.1×11°.64W±0°.09,h10km±1km, mb4.5/9, Error ellipse: s-maj=24.3km s-min=14.1km az=165.0*

*IDC **17** 13:33:50.5±1.3,20°.98S×11°.56W,h0km,mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=47.5km s-min=29.4km az=124.0*

ISC 17 13:33:49.9±0.8, 21°.1S±0°.2×11°.6W±0°.1, h10km, n14, σ1§84/14, mb4.4/7, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEL	**Horse Pasture**	**7.55**	**49**	Pn	**Pn**	**13 35 38.1**	**-2.1**
BDFB	**Brasilia**	**34.90**	**273**	P	**P**	**13 40 44.7**	**+2.6**
	2.0nm,0.5s,baz=100,slow=10,SNR=4.0						
	2.0nm,0.5s						
TOA0	**Torodi Ar. Sit**	**36.43**	**22**	P	**P**	**13 40 55.9**	**+0.8**
TORD	**Torodi Ar. Bea**	**36.43**	**22**	P	**P**	**13 40 55.0**	**0.0**
TORD				IAmb	IAmb	13 41 03.8	
	comp=Z,5.8nm,1.4s						
TORD	**Torodi Ar. Bea**	**36.43**	**22**	P	**P**	**13 40 56.1**	**+1.1**
	comp=Z,1.6nm,0.7s,baz=203,slow=8.8,SNR=8.4						
	comp=Z,1.6nm,0.7s						
ITAB	**Concordia**	**37.34**	**252**	P	**P**	**13 41 02.4**	**-0.4**
HOPE	**Hope Point**	**38.15**	**204**	P	**P**	**13 41 08.1**	**-1.2**
PLTB	**Pedras Altas**	**38.86**	**245**	P	**P**	**13 41 14.6**	**-1.0**
PLTB				IAmb	IAmb	13 41 26.1	
	comp=Z,11nm,1.1s						
SAML	**Samuel**	**51.02**	**276**	P	**P**	**13 42 52.0**	**-0.6**
SAML				IAmb	IAmb	13 43 03.7	
	comp=Z,12nm,1.4s						
LMEL	**Las Melosas**	**52.88**	**243**	P	**P**	**13 43 04.5**	**-2.0**
GO02	**Mina Guanaco**	**53.12**	**254**	P	**P**	**13 43 06.3**	**-2.2**
GO02				IAmb	IAmb	13 43 18.6	
	comp=Z,15nm,1.4s						
QSPA	**South Pole Qui**	**69.13**	**180**	P	**P**	**13 44 57.9**	**+1.6**
QSPA				IAmb	IAmb	13 44 59.8	
	comp=Z,5.2nm,1.2s						
QSPA	**South Pole Qui**	**69.13**	**180**	P	**P**	**13 44 59.0**	**+2.7**
	comp=Z,1.7nm,0.9s,baz=224,slow=6.0,SNR=3.7						
	comp=Z,1.7nm,0.9s						
BRTR	**Keskin Array B**	**73.77**	**35**	P	**P**	**13 45 26.3**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=211,slow=8.2,SNR=1.3						
	comp=Z,0.2nm,0.4s						

*BJI **17** 13:36:31.7±0.0,33°.98N×89°.17E,h5km,mb4.2/18, mB4.5/7,Ms4.3/19,Ms7 4.0/17*

*IDC **17** 13:36:36.2±3.4,33°.87N×89°.29E,h47km±34km,mb3.6/12, mbtmp3.8/17,ML3.0/3,MS3.6/30,Error ellipse: s-maj=27.0km s-min=17.2km az=30.0*

ISC 17 13:36:32.4±0.6, 34°.06N±0°.06×89°.34E±0°.05, h10km, n47, σ1§99/36, mb3.9/11, MS3.6/27, 2D, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSA	**Lhasa**	**4.61**	**160**	Pn	**Pn**	**13 37 44.0**	**+1.4**
LSA				Sn	**Sn**	**13 38 38.8**	**+2.3**
LSA				LR	LR		
	comp=N,2μm,9.7s						
LSA				LR	LR		
	comp=E,2μm,11.5s						
LSA				LR	LR		
	comp=Z,3μm,10.4s						
GOMU	**GeErMu**	**4.97**	**63**	P	Pn	13 37 55.3	+7.8
GOMU				pP	Pb	13 38 00.3	+0.5
GOMU				sP	Pg	13 38 02.6	-5.1
GOMU				S	**Sb**	**13 39 00.8**	**+1.0**
GOMU				pmax	pmax		
	comp=Z,7.0nm,0.7s						
GOMU				LR	LR		
	comp=N,3μm,4.8s						
GOMU				LR	LR		
	comp=E,930nm,5.3s						
GOMU				LR	LR		
	comp=Z,1μm,5.6s						
WMQ	**Urumqi**	**9.83**	**353**	*e*P	Pn	13 39 05.3	+11
WMQ				LR	LR		
	comp=N,1μm,11.1s						
WMQ				LR	LR		
	comp=E,690nm,11.9s						
WMQ				LR	LR		
	comp=Z,430nm,13.5s						
GTA	**Gaotai**	**9.96**	**55**	*e*P	Pn	13 39 07.3	+12
GTA				pP		13 39 10.8	
GTA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
GTA				LR	LR		
	comp=N,1μm,16.7s						
GTA				LR	LR		
	comp=E,520nm,16.7s						
GTA				LR	LR		
	comp=Z,320nm,10.8s						
TNCH	**TengChong**	**12.03**	**136**	*e*P	**Pn**	**13 39 23.6**	**-0.6**
TNCH				PP	**PnPn**	**13 39 31.8**	**-0.2**
TNCH				S	**Sn**	**13 41 39.6**	**+1.1**
TNCH				SS	**SnSn**	**13 41 54.6**	**+4.0**
TNCH				pmax	pmax		
	comp=Z,23nm,0.4s						
TNCH				pmax	pmax		
	comp=Z,76nm,3.0s						
TNCH				LR	LR		
	comp=Z,520nm,11.8s						
TNCH				LR	LR		
	comp=Z,390nm,7.7s						
TNCH				LR	LR		
	comp=Z,710nm,13.2s						
LZH	**Lanzhou**	**12.06**	**76**	*e*P	**Pn**	**13 39 26.4**	**+1.9**
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
MKAR	**Makanchi Array**	**13.80**	**339**	P	**Pn**	**13 39 50.5**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=5.4						
MKAR				LR	LR	13 45 37.3	
	comp=Z,144nm,18.5s,baz=240,slow=39						
	comp=Z,0.8nm,0.9s						
AAK	**Ala-Archa**	**14.44**	**311**	P	**Pn**	**13 39 58.6**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=127,slow=18,SNR=1.8						
AAK				LR	LR	13 46 47.2	
	comp=Z,266nm,21.7s,baz=122,slow=42						
KMI	**Kunming**	**14.66**	**124**	⇓P	**Pn**	**13 39 58.8**	**-1.4**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.9s						
KMI				LR	LR		
	comp=Z,550nm,11.1s						
KMI				LR	LR		
	comp=Z,700nm,11.2s						
KMI				LR	LR		
	comp=Z,890nm,11.1s						
GYA	**Guiyang**	**16.77**	**112**	*e*P	**P**	**13 40 29.6**	**-0.2**
GYA				S	**S**	**13 43 42.3**	**-2.6**
GYA				pmax	pmax		
	comp=Z,35nm,1.2s						
GYA				pmax	pmax		
	comp=Z,88nm,5.6s						
GYA				LR	LR		
	comp=Z,400nm,8.8s						
GYA				LR	LR		
	comp=Z,490nm,8.2s						
GYA				LR	LR		
	comp=Z,680nm,8.4s						
BTO	**Baotou**	**17.68**	**62**	*e*P	**Pn**	**13 40 35.8**	**-3.1**
BTO				pP	**P**	**13 40 39.8**	**0.0**
BTO				sP	**pP**	**13 40 43.8**	**-0.3**
BTO				PP	**PnPn**	**13 40 51.0**	**+1.7**
BTO				S	**Sn**	**13 43 50.5**	**-5.4**
BTO				SS	**SnSn**	**13 44 13.0**	**+3.7**
BTO				pmax	pmax		
	comp=Z,16nm,0.5s						
BTO				pmax	pmax		
	comp=Z,290nm,5.3s						
BTO				LR	LR		
	comp=N,490nm,10.8s						
BTO				LR	LR		
	comp=E,610nm,11.1s						
BTO				LR	LR		
	comp=Z,780nm,10.6s						
CMAR	**Chiang Mai Arr**	**17.75**	**149**	P	**Pn**	**13 40 37.4**	**-2.3**
	comp=Z,1.4nm,0.3s,baz=326,slow=13,SNR=11						
CMAR				LR	LR	13 47 32.1	
	comp=Z,108nm,18.0s,baz=335,slow=37						
KURBB	**Kurchatov Arra**	**18.34**	**338**	P	**P**	**13 40 46.9**	**0.0**
	baz=151,slow=11,SNR=30						
KURBB				LR	LR	13 48 22.1	
	comp=Z,150nm,18.3s,baz=170,slow=38						
	comp=Z,2.1nm,1.0s						
SONM	**Songino Array**	**18.80**	**38**	P	**P**	**13 40 53.9**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=228,slow=12,SNR=15						
SONM				LR	LR	13 49 04.0	
	comp=Z,96nm,20.0s,baz=230,slow=39						
	comp=Z,4.4nm,1.1s						
ZALV	**Zalesovo Beam**	**20.14**	**352**	P	**P**	**13 41 08.3**	**+1.8**
	comp=Z,4.9nm,0.9s,baz=171,slow=10,SNR=11						
ZALV				LR	LR	13 49 45.9	
	comp=Z,186nm,19.8s,baz=184,slow=39						
	comp=Z,4.9nm,0.9s						
HNS	**HongShan**	**20.85**	**74**	⇓P	Pn	13 41 18.8	+2.0
HNS				pmax	pmax		
	comp=Z,11nm,1.5s						
HNS				LR	LR		
	comp=Z,210nm,9.2s						
HNS				LR	LR		
	comp=Z,320nm,7.6s						
HNS				LR	LR		
	comp=Z,330nm,13.9s						
BVAR	**Borovoye Array**	**23.28**	**330**	P	**P**	**13 41 41.5**	**+1.4**
	comp=Z,2.5nm,0.9s,baz=140,slow=9.7,SNR=12						
BVAR				LR	LR	13 52 14.6	
	comp=Z,238nm,18.7s,baz=138,slow=40						
	comp=Z,2.5nm,0.9s						
QIZ	**Qiongzhong**	**23.61**	**124**	P	**P**	**13 41 42.6**	**-1.1**
QIZ				S	**S**	**13 45 59.1**	**+0.9**
QIZ				pmax	pmax		
	comp=Z,97nm,5.2s						
QIZ				LR	LR		
	comp=Z,340nm,15.3s						
QIZ				LR	LR		
	comp=Z,510nm,10.1s						
QIZ				LR	LR		
	comp=Z,840nm,10.1s						
GEYT	**Alibeck**	**25.49**	**288**	P	**P**	**13 42 01.6**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=104,slow=11,SNR=2.5						
GEYT				LR	LR	13 54 08.3	
	comp=Z,321nm,18.9s,baz=120,slow=41						
	comp=Z,1.9nm,0.8s						
PALK	**Pallekele**	**27.82**	**199**	LR	LR	13 53 55.3	
	comp=Z,49nm,18.6s,baz=158,slow=38						
AKTO	**Aktyubinsk**	**28.10**	**315**	LR	LR	13 54 52.8	
	comp=Z,207nm,18.4s,baz=356,slow=39						
KSRS	**Korea Array**	**31.35**	**73**	P	**P**	**13 42 54.4**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=282,slow=8.4,SNR=1.6						
KSRS				LR	LR	13 56 36.7	
	comp=Z,82nm,20.6s,baz=280,slow=38						
	comp=Z,0.7nm,0.6s						
JOW	**Kunigami**	**34.18**	**92**	LR	LR	13 58 15.9	
	comp=Z,198nm,18.6s,baz=5.5,slow=38						
JNU	**Nakatsue**	**34.45**	**80**	LR	LR	13 58 15.6	
	comp=Z,73nm,19.6s,baz=296,slow=38						
GNI	**Garni**	**35.79**	**293**	LR	LR	14 00 57.6	
	comp=Z,55nm,21.9s,baz=84,slow=41						
KBZ	**Khabaz**	**36.99**	**299**	LR	LR	14 01 52.5	
	comp=Z,76nm,18.6s,baz=118,slow=41						
YAK	**Yakutsk**	**37.82**	**30**	LR	LR	14 00 12.3	
	comp=Z,100nm,19.8s,slow=37						
OBN	**Obninsk**	**41.85**	**317**	LR	LR	14 03 22.6	
	comp=Z,192nm,18.0s,baz=132,slow=38						
ASAJ	**Asahikawa**	**41.89**	**60**	LR	LR	14 01 38.2	
	comp=Z,52nm,18.4s,baz=165,slow=36						
DAV	**Davao City (W)**	**42.89**	**120**	LR	LR	14 03 08.4	
	comp=Z,103nm,18.4s,baz=356,slow=37						
TIXI	**Tiksi**	**42.98**	**17**	LR	LR	14 03 08.0	
	comp=Z,68nm,18.3s,baz=272,slow=37						
LEM	**Lembang**	**44.20**	**153**	LR	LR	14 05 09.5	
	comp=Z,126nm,18.3s,baz=353,slow=39						
BRTR	**Keskin Array B**	**44.30**	**294**	P	**P**	**13 44 41.1**	**-1.5**
	comp=Z,0.3nm,0.3s,baz=76,slow=6.1,SNR=4.3						
	comp=Z,0.3nm,0.3s						
JCJ	**Chichijima**	**45.61**	**84**	LR	LR	14 05 54.9	
	comp=Z,29nm,18.5s,baz=99,slow=38						
AKASG	**Malin Array Be**	**46.11**	**310**	P	**P**	**13 44 56.1**	**-0.5**
	comp=Z,0.2nm,0.2s,baz=72,slow=6.1,SNR=7.2						
	comp=Z,0.2nm,0.2s						
MA2	**Magadan**	**47.01**	**38**	LR	LR	14 07 22.1	
	comp=Z,32nm,20.6s,baz=207,slow=39						
FINES	**FINESS Array B**	**48.06**	**325**	LR	LR	14 05 07.4	
	comp=Z,62nm,19.6s,baz=106,slow=36						
SEY	**Seymchan**	**48.10**	**33**	LR	LR	14 07 33.4	
	comp=Z,36nm,20.1s,baz=74,slow=38						
MLR	**Muntele Rosu**	**48.87**	**303**	LR	LR	14 09 43.7	
	comp=Z,55nm,18.5s,baz=54,slow=41						
HFS	**Hagfors**	**54.15**	**323**	P	**P**	**13 45 56.6**	**-0.9**
	comp=Z,3.4nm,1.0s,baz=107,slow=9.5,SNR=3.8						
	comp=Z,3.4nm,1.0s						
NOA	**NORSAR Array B**	**55.24**	**325**	P	**P**	**13 46 04.9**	**-0.5**
	comp=Z,1.3nm,0.9s,baz=82,slow=6.8,SNR=3.3						
NOA				LR	LR	14 09 10.1	
	comp=Z,46nm,18.4s,baz=85,slow=35						
	comp=Z,1.3nm,0.9s						
GERES	**GERESS Array B**	**56.32**	**310**	P	**P**	**13 46 13.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=72,slow=8.6,SNR=5.4						
GERES				LR	LR	14 12 39.9	
	comp=Z,117nm,19.1s,baz=53,slow=38						
	comp=Z,1.5nm,0.7s						
DAVOX	**Davos/Dischmat**	**59.38**	**308**	LR	LR	14 15 34.7	
	comp=Z,103nm,18.4s,baz=72,slow=39						
EKA	**Eskdalemuir Ar**	**64.10**	**321**	P	**P**	**13 47 06.0**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=57,slow=8.0,SNR=3.5						
	comp=Z,1.3nm,0.7s						
WRA	**Warramunga Arr**	**68.70**	**134**	P	**P**	**13 47 34.1**	**-2.3**
	comp=Z,0.5nm,0.7s,baz=328,slow=6.7,SNR=3.2						
	comp=Z,0.5nm,0.7s						
ILAR	**Eielson Array**	**72.19**	**22**	P	**P**	**13 47 55.9**	**-1.2**
	comp=Z,1.5nm,1.1s,baz=321,slow=4.3,SNR=8.4						
	comp=Z,1.5nm,1.1s						
DBIC	**Dimbokro**	**89.77**	**278**	LR	LR	14 32 53.8	
	comp=Z,44nm,18.1s,baz=50,slow=38						

*IDC **17** 13:37:01.5±2.4,6°.00S×130°.54E,h0km,mb3.7/1, mbtmp3.9/3,ML4.0/2,Error ellipse: s-maj=143.3km s-min=30.9km az=71.0*

*DJA **17** 13:37:13.8±0.5,6°.5S±3°×13°.1E±°,h145km±15km,M4.2/9, mb4.1/5,mB5.0/2,MLv4.3/9,Mw(mB)4.4/2*

ISC 17 13:37:13.9±1.0, 6°.30S±0°.06×130°.68E±0°.10, h150km, n9, σ2§71/11, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.79**	**160**	P	**Pn**	**13 37 46.9**	**+0.3**
BNDI	**Bandanaira**	**1.92**	**336**	P	**Pn**	**13 37 46.6**	**-1.6**
FAKI	**Fak Fak**	**3.70**	**25**	P	**Pn**	**13 38 09.4**	**-0.9**
KMPI	**Kaimana, Papua**	**3.99**	**49**	P	**Pn**	**13 38 14.8**	**+0.8**
KMPI				S	**Sn**	**13 38 59.7**	**-1.1**
SWI	**Sorong**	**5.43**	**6**	P	**Pn**	**13 38 31.4**	**-1.6**
	27nm,0.8s,1μm0.3nm						
SOEI	**Soe**	**7.22**	**241**	P	**Pn**	**13 38 56.9**	**-0.2**
WRA	**Warramunga Arr**	**14.02**	**166**	Pn	**Pn**	**13 40 25.0**	**-1.3**
	0.6nm,0.3s,baz=348,slow=13,SNR=9.5						
WRA				Sn	Sn	13 42 52.0	-10
	0.6nm,0.3s,baz=332,slow=22,SNR=6.9						
	2.8nm,0.7s						
ASAR	**Alice Springs**	**17.55**	**170**	P	**Pn**	**13 41 12.2**	**+2.8**
	0.6nm,0.3s,baz=348,slow=11,SNR=37						
ASAR				S	**S**	**13 44 18.1**	**-5.3**
	0.6nm,0.7s,baz=352,slow=26,SNR=4.3						
	2.3nm,0.6s						
MKAR	**Makanchi Array**	**68.01**	**326**	P	**P**	**13 48 00.7**	**+3.7**
	0.4nm,0.4s,baz=112,slow=7.5,SNR=7.4						
	0.4nm,0.4s						

NNC 17 13:46:41.4±7.5, 38°.20N×71°.08E, h0km, mb3.6, mpv3.2, 2C-3D, Error ellipse: s-maj=57.1km s-min=46.5km az=5.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**4.92**	**355**	Pn	Pn	13 47 53.6	-2.9
	0.7nm,0.3s,baz=175,slow=11,SNR=16						
KK31				⇓Sn	Sn	13 48 56.6	+2.5
	12nm,0.8s,baz=180,slow=27,SNR=7.9						
AAK	**Ala-Archa**	**5.14**	**29**	⇓Pn	Pn	13 48 01.3	+1.5
	1.5nm,0.4s						
AAK				⇑Sn	Sn	13 48 59.7	-0.2
	5.5nm,0.7s						
TKM2	**Tokmak 2**	**5.83**	**35**	⇓Pn	Pn	13 48 11.2	+1.9
	1.9nm,0.4s						
TKM2				⇑Sn	Sn	13 49 17.9	+0.9
	3.9nm,0.7s						

*IDC **17** 13:56:21.3±1.8,27°.26N×91°.37E,h0km,mb3.5/6, mbtmp3.6/7,Error ellipse: s-maj=80.1km s-min=19.1km az=65.0*

ISC 17 13:56:26.3±2.0, 27°.3N±0°.2×91°.4E±0°.5, h35km, n7, σ0§77/7, mb3.5/5, Bhutan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**11.22**	**140**	Pn	**Pn**	**13 59 04.1**	**-0.1**
	0.7nm,0.3s,baz=318,slow=13,SNR=1.6						
MKAR	**Makanchi Array**	**20.75**	**342**	P	**P**	**14 01 03.6**	**-0.4**
	3.0nm,1.0s,baz=144,slow=12,SNR=14						
	3.0nm,1.0s						
SONM	**Songino Array**	**23.65**	**26**	P	**P**	**14 01 34.1**	**-0.4**
	0.4nm,0.3s,baz=224,slow=6.0,SNR=1.7						
	0.4nm,0.3s						
KURBB	**Kurchatov Arra**	**25.28**	**341**	P	**P**	**14 01 48.9**	**-0.4**
	0.7nm,0.7s,baz=155,slow=9.3,SNR=4.8						
	0.7nm,0.7s						
ZALV	**Zalesovo Beam**	**27.08**	**351**	P	**P**	**14 02 06.8**	**+1.4**
	0.6nm,0.5s,baz=178,slow=11,SNR=4.9						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**62.74**	**134**	P	**P**	**14 06 48.2**	**0.0**
	0.4nm,0.7s,baz=326,slow=6.9,SNR=5.8						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**65.21**	**137**	P	**P**	**14 07 04.5**	**+0.2**
	0.4nm,0.7s,baz=306,slow=5.8,SNR=4.1						
	0.4nm,0.7s						

*NEIC **17** 14:04:10.1±1.9, 19°.37N±0°.03×155°.24W±0°.01, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.3km az=165.0*

*NEIC **17** 14:04:10.8, 19°.98N×154°.21W, h12km, Moment Tensor Solution. Duration: 1§6 Moment tensor: Scale 10¹⁶Nm; Mrr-2.86; Mθθ0.98; Mϕϕ 1.88; Mrθ-3.35; Mθϕ 1.24; Mϕr-1.24; Fault plane solution: M₀4.51000×10¹⁶ NP1:ϕ₁60.1600°, δ71.74000°, λ-75.25000°. NP2:ϕ₂200.13000°, δ23.31000°, λ-127.65000°. Principal axes: T 4.1826, Plg25.0000°, Azm139.0000°; N 0.6509, Plg14.0000°, Azm235.0000°; P -4.8335, Plg61.0000°, Azm352.0000°;*

*NEIC **17** 14:04:10.8, 19°.38N×155°.27W, h12km*

*GCMT **17** 14:04:28.7±0.2, 19°.29N±0°.02×155°.29W±0°.02, h12km, MW4.9/121, Moment Tensor Solution. s42,c47; s121,c163; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.84±.06; Mθθ1.51±.06; Mϕϕ 1.33±.05; Mrθ0.14±.23; Mθϕ 1.02±.05; Mϕr0.20±.23; Best double couple: M₀2.65300×10¹⁶ NP1:ϕ₁227.00000°, δ48.00000°, λ-91.00000°. NP2:ϕ₂48.00000°, δ42.00000°, λ-89.00000°. Principal axes: T 2.4540, Plg3.0000°, Azm317.0000°; N 0.3970, Plg1.0000°, Azm227.0000°; P -2.8510, Plg87.0000°, Azm117.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

HVO 17 14:04:10.7±0.9, 19°.41N±0°.01×155°.281W±0°.007, h0km±2km, ML1.9/1, ML1.7/29(NEIC), Mww5.0/8(NEIC) Error ellipse: s-maj=3.4km s-min=2.0km az=184.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPH	**North Pit**	**0.01**	**0**	Pg	Pg	14 04 11.1	+0.2
RIM	**Rim**	**0.01**	**146**		Pg	14 04 11.1	+0.2
OBL	**Observatory Le**	**0.01**	**347**		Pg	14 04 10.9	-0.1
KKO	**Keanakako'i**	**0.02**	**117**		Pg	14 04 11.3	+0.2
WRMHI	**West Rim**	**0.02**	**275**		Pg	14 04 10.8	-0.3
SDHHI	**Sand Hill**	**0.02**	**219**		Pg	14 04 11.0	-0.1
UWB	**Uwekahuna B**	**0.02**	**8**		Pg	14 04 10.8	-0.3
UWE	**Uwekahuna**	**0.02**	**325**		Pg	14 04 11.4	+0.3
BYL	**Byron's Ledge**	**0.02**	**71**		Pg	14 04 11.0	-0.2
SBLHI	**Steaming Bluff**	**0.03**	**29**		Pg	14 04 11.3	+0.1
HATHI	**Halema'uma'u T**	**0.03**	**47**		Pg	14 04 11.0	-0.2
HATHI				IAML		14 04 11.5	
	comp=N,1μm,1.0s						
HATHI				IAML		14 04 11.6	
	comp=E,1μm,0

comp=N,133nm,1.9s
MWH Moku'aweowe 0.31 285 Pg Pg 14 04 17.1 +0.5
KHU Kahuku 0.35 243 Pg Pg 14 04 18.6 +1.1
POHA Pohakuloa 0.42 326 Pg Pg 14 04 18.9 +0.1
POHA IAML 14 04 30.5
comp=N,124nm,1.0s
HUH Hualalai 0.59 298 Pg Pb 14 04 23.7 -0.5
HPAH Hawaii Prepara 0.73 328 Pg Pb 14 04 26.0 -0.5

*IDC **17** 15:06:47.3±4.4,38.°78N×98.°29E, h35km±36km, mb3.3/8, mbtmp3.6/12, ML3.3/4, MS2.9/7, Error ellipse: s-maj=26.7km s-min=17.3km az=60.0*
ISC 17 15:06:47.0±1.1,38.°7N±0.°2×98.°0E±0.°1, h35km, n16, σ1°06/11, mb3.5/7, MS2.8/4, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SONM	**Songino Array**	**10.98**	**31**	Pn	**Pn**	**15 09 21.6**	**0.0**
	1.2nm,0.3s,baz=216,slow=15,SNR=23						
SONM				Lg	Lg	15 12 27.3	
	0.9nm,0.3s,baz=217,slow=29,SNR=8.6						
SONM				LR	LR	15 13 51.5	
	comp=Z,93nm,19.4s,baz=226,slow=39 6.5nm,0.7s						
MKAR	**Makanchi Array**	**14.06**	**310**	Pn	**Pn**	**15 10 02.0**	**-1.5**
	0.1nm,0.3s,baz=114,slow=14,SNR=5.1						
MKAR				Lg	Lg	15 14 19.3	
	baz=124,slow=30,SNR=1.8 0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**17.70**	**334**	Pn	**Pn**	**15 10 49.6**	**-0.8**
	0.2nm,0.3s,baz=147,slow=11,SNR=11						
ZALV				LR	LR	15 17 50.9	
	comp=Z,45nm,19.5s,baz=54,slow=37 2.6nm,0.6s						
KURBB	**Kurchatov Arra**	**18.19**	**317**	Pn	**P**	**15 10 57.4**	**+0.8**
	baz=120,slow=11,SNR=12						
KURBB				Lg	Lg	15 16 30.1	
	baz=122,slow=33 1.4nm,0.7s						
AAK	**Ala-Archa**	**18.23**	**290**	LR	LR	15 17 41.5	
	comp=Z,36nm,20.6s,baz=74,slow=36						
CMAR	**Chiang Mai Arr**	**20.20**	**177**	P	Pn	15 11 20.1	-0.7
	1.8nm,0.9s,baz=354,slow=9.4,SNR=8.7						
CMAR				LR	LR	15 20 09.7	
	comp=Z,6.2nm,21.8s,baz=120,slow=40 1.8nm,0.9s						
KSRS	**Korea Array**	**23.56**	**84**	LR	LR	15 21 48.6	
	comp=Z,22nm,18.3s,baz=115,slow=39						
BVAR	**Borovoye Array**	**23.77**	**316**	P	**P**	**15 11 57.5**	**+1.5**
	0.3nm,0.4s,baz=123,slow=10,SNR=3.2 0.3nm,0.4s						
JNU	**Nakatsue**	**27.13**	**92**	LR	LR	15 24 24.5	
	comp=Z,38nm,19.9s,baz=360,slow=39						
YAK	**Yakutsk**	**30.33**	**29**	LR	LR	15 25 44.8	
	comp=Z,74nm,18.2s,baz=190,slow=38						
FINES	**FINESS Array B**	**48.47**	**322**	P	**P**	**15 15 26.1**	**+0.3**
	1.1nm,0.6s,baz=92,slow=9.5,SNR=4.8 1.1nm,0.6s						
ILAR	**Eielson Array**	**65.14**	**25**	P	**P**	**15 17 22.9**	**-1.0**
	0.4nm,0.9s,baz=310,slow=5.6,SNR=2.9 0.4nm,0.9s						
WRA	**Warramunga Arr**	**67.57**	**143**	P	**P**	**15 17 39.2**	**-0.8**
	0.8nm,0.8s,baz=335,slow=6.1,SNR=3.6 0.8nm,0.8s						
ASAR	**Alice Springs**	**70.59**	**145**	P	**P**	**15 17 58.9**	**+0.1**
	0.3nm,0.8s,baz=329,slow=6.0,SNR=4.1 0.3nm,0.8s						
ESDC	**Sonseca Array**	**74.27**	**308**	P	**P**	**15 18 21.2**	**+0.6**
	0.9nm,0.8s,baz=54,slow=6.5,SNR=4.4 0.9nm,0.8s						
YKA	**Yellowknife Ar**	**75.78**	**15**	P	**P**	**15 18 29.8**	**+0.9**
	0.1nm,0.6s,baz=338,slow=6.3,SNR=1.8 0.1nm,0.6s						

*IDC **17** 15:15:25.2±2.8, 13.°45N×92.°68W, h0km, mb3.8/5, mbtmp3.8/6, ML3.1/2, MS3.4/2, Error ellipse: s-maj=60.4km s-min=27.5km az=179.0*
*MEX **17** 15:15:30.1±0.6, 13.°74N×92.°87W, h16km±234km, MD4.0*
*NEIC **17** 15:15:32.9±2.5, 13.°98N±0.°05×92.°75W±0.°06, h27km±7km, mb4.3/22, Md4.0/22(MEX), Error ellipse: s-maj=8.3km s-min=7.5km az=78.0*
*GCG **17** 15:15:42.1±0.3, 14.°45N×92.°18W, h50km, MD3.8*
ISC 17 15:15:31.9±2.0,13.°98N±0.°07×92.°80W±0.°06, h24km±13km, n62, σ1°90/71, mb4.3/13, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**1.05**	**29**		**Pn**	**15 15 48.0**	**-3.1**
THIG					**Sb**	**15 16 05.5**	**+0.7**
THIG		**1.05**	**29**	*eP*	**Pn**	**15 15 48.0**	**-3.1**
THIG				*eS*	**Sb**	**15 16 05.5**	**+0.7**
RTAL	**Retalhuleu**	**1.20**	**63**		**Pn**	**15 15 52.3**	**-0.7**
SULM	**Suchitepequez,**	**1.24**	**75**	*eP*	**Pb**	**15 15 54.6**	**+0.1**
PATR	**El Naranjo**	**1.25**	**26**	*i P*	**Pn**	**15 15 52.8**	**-1.2**
PATR				*eS*	**Sb**	**15 16 10.6**	**-0.2**
CHUJ	**Union Juarez**	**1.29**	**31**	*i P*	**Pn**	**15 15 53.4**	**-1.2**
CHUJ				*eS*	**Sn**	**15 16 10.7**	**-0.5**
PAVE	**Pavencul**	**1.34**	**26**	*i P*	**Pn**	**15 15 54.2**	**-1.1**
PAVE				*eS*	**Sb**	**15 16 13.6**	**+0.1**
STG3	**Santiaguito 3,**	**1.39**	**58**	*eP*	**Pn**	**15 15 55.8**	**-0.2**
PCIG		**1.76**	**347**		**Pn**	**15 15 59.1**	**-1.8**
PCIG					**Sn**	**15 16 16.1**	**-6.4**
PCIG		**1.76**	**347**	*eP*	**Pn**	**15 15 59.1**	**-1.8**
PCIG				*eS*	**Sn**	**15 16 16.1**	**-6.4**
HUEH	**Huehuetenango**	**1.82**	**43**		**Pn**	**15 16 02.5**	**+0.5**
FUG	**Fuego 3**	**1.95**	**76**	*eP*	**Pn**	**15 16 03.3**	**-0.3**
CCIG	**Comitan**	**2.37**	**15**		**Pn**	**15 16 11.0**	**+1.6**
CCIG	**Comitan**	**2.37**	**15**	*eP*	**Pn**	**15 16 11.2**	**+1.8**
CCIG				*eS*	**Sb**	**15 16 41.2**	**-1.8**
NBG	**Las Nubes**	**2.45**	**75**	*eP*	**Pn**	**15 16 11.5**	**+0.9**
APG	**El Apazote**	**2.48**	**65**		**Pn**	**15 16 11.6**	**+0.7**
	0.5nm,0.3s,baz=204,slow=13,SNR=72						
APG					**Sb**	**15 16 44.6**	**-1.4**
	1.0nm,0.3s,baz=237,slow=22,SNR=2.2						
CARR	**Arriaga**	**2.50**	**335**	*i P*	Pn	15 16 07.3	-3.7
TGIG		**2.80**	**354**		**Pn**	**15 16 15.9**	**+0.7**
TGIG					**Sn**	**15 16 49.6**	**+1.4**
TGIG		**2.80**	**354**	*eP*	**Pn**	**15 16 15.9**	**+0.7**
TGIG				*eS*	**Sn**	**15 16 49.6**	**+1.4**
MTO3	**Montecristo**	**3.36**	**82**		**Pn**	**15 16 20.8**	**-2.2**
ESQI	**Esquipulas**	**3.40**	**80**		**Pn**	**15 16 21.2**	**-2.2**
CMIG	**Matias Romero**	**3.69**	**327**		**Pn**	**15 16 25.9**	**-1.5**
CMIG					**Sn**	**15 17 06.0**	**-4.1**
CMIG	**Matias Romero**	**3.69**	**327**	Pn	**Pn**	**15 16 26.9**	**-0.5**
	3.3nm,0.3s,baz=138,slow=12,SNR=11						
CMIG				Sn	**Sb**	**15 17 21.4**	**+0.7**
	4.5nm,0.3s,baz=135,slow=16,SNR=5.8						
CMIG	**Matias Romero**	**3.69**	**327**	*eP*	**Pn**	**15 16 25.9**	**-1.5**
CMIG				*eS*	**Sn**	**15 17 06.0**	**-4.1**
PETF	**Flores**	**4.06**	**44**		**Pn**	**15 16 31.0**	**-1.5**
PEIG	**Puerto Escondi**	**4.66**	**296**	*i P*	Pn	15 16 29.2	-11
NEUV	**Arroyo Zacate**	**4.70**	**322**	*eP*	**Pn**	**15 16 40.9**	**-0.4**
SCIG	**Sabancuy**	**5.19**	**17**	*eP*	Pn	15 16 39.0	-9.0
TGUH	**Tegucigalpa,Un**	**5.36**	**89**	Pn	**Pn**	**15 16 48.5**	**-2.0**
JAUV	**Jalcomulco**	**6.59**	**325**	*eP*	Pn	15 17 04.1	-3.2
JAUV				*eS*	**Sn**	**15 18 20.0**	**-1.7**
TEIG	**Tepich**	**7.56**	**34**		**Pn**	**15 17 20.3**	**-0.3**
ACON	**Acoyapa**	**7.69**	**104**	Pn	**Pn**	**15 17 21.9**	**-0.5**
ORTG	**Ortega, Santa**	**8.02**	**116**	Pn	**Pn**	**15 17 24.6**	**-2.4**
KVTX	**Kingsville**	**14.31**	**341**		**P**	**15 18 59.1**	**-0.8**
EF01	**Eagle Ford 01**	**15.94**	**342**		**P**	**15 19 17.9**	**-0.1**
TXAR	**Lajitas Array**	**18.30**	**328**	P	**Pn**	**15 19 46.3**	**+2.0**
TXAR	**Lajitas Array**	**18.30**	**328**	P	**Pn**	**15 19 47.1**	**+2.9**
	0.1nm,0.3s,baz=155,slow=13,SNR=8.6 0.8nm,0.8s						
TX31	**Lajitas Ar. Si**	**18.30**	**328**	P	**Pn**	**15 19 46.0**	**+1.8**
VHRN	**Van Horn**	**20.14**	**328**	P	**P**	**15 20 05.5**	**+1.1**
APMT	**Aspermont**	**20.38**	**342**	P	**P**	**15 20 07.9**	**+1.0**
APMT				IAmb	IAmb	15 20 09.0	
	comp=Z,7.5nm,0.7s						
MIAR	**Mount Ida**	**20.49**	**358**	P	**P**	**15 20 08.5**	**+0.5**
WMOK	**Wichita Mounta**	**21.36**	**346**	P	**P**	**15 20 18.6**	**+1.1**
FNO	**Franklin**	**21.59**	**350**	P	**P**	**15 20 20.0**	**+0.2**
HHAR	**Hobbs**	**22.23**	**358**	P	**P**	**15 20 26.7**	**-0.1**
AMTX	**Amarillo**	**22.30**	**340**	P	**P**	**15 20 28.6**	**+0.9**
AMTX				IAmb	IAmb	15 20 30.7	
	comp=Z,11nm,0.8s						
U38A	**Gravette**	**22.41**	**357**	P	**P**	**15 20 27.9**	**-0.8**
U38A				IAmb	IAmb	15 20 30.8	
	comp=Z,9.4nm,1.4s						
OK051	**E0350 and S346**	**22.72**	**352**	P	**P**	**15 20 32.1**	**+0.1**
OK051				IAmb	IAmb	15 20 33.1	

comp=Z,17nm,0.9s
TKL Tuckaleechee C 23.06 19 LR LR 15 30 14.9
comp=Z,50nm,20.4s,baz=187,slow=38
S39A Bolivar 23.62 359 P **P** **15 20 39.3 -1.7**
S39A IAmb IAmb 15 20 40.9
comp=Z,5.4nm,0.6s
RTBA Rita Blanca 24.07 340 P **P** **15 20 45.7 +0.2**
PDAR Pinedale Array 32.12 336 P **P** **15 21 58.6 +1.1**
comp=Z,0.2nm,0.4s,baz=153,slow=10,SNR=2.0
comp=Z,0.2nm,0.4s
NVAR Mina Array Bea 33.20 322 P **P** **15 22 09.5 +2.3**
comp=Z,1.0nm,0.7s,baz=133,slow=9.0,SNR=8.1
comp=Z,1.0nm,0.7s
SCHQ Schefferville 45.51 21 LR LR 15 44 53.1
comp=Z,83nm,18.2s,baz=280,slow=38
YKA Yellowknife Ar 50.87 347 P **P** **15 24 31.1 +0.6**
comp=Z,2.7nm,0.8s,baz=147,slow=6.9,SNR=51
comp=Z,2.7nm,0.8s
M29M Somme Creek 58.13 337 P **P** **15 25 25.0 +1.6**
M29M IAmb IAmb 15 25 27.9
comp=Z,3.2nm,0.8s
F28M Old Crow 61.64 341 P **P** **15 25 48.1 +0.8**
ILAR Eielson Array 62.55 337 P **P** **15 25 53.8 +0.3**
comp=Z,0.6nm,0.7s,baz=109,slow=7.0,SNR=7.3
comp=Z,0.6nm,0.7s
MLY Manley 64.14 336 P **P** **15 26 05.4 +1.4**
MLY IAmb IAmb 15 26 07.5
comp=Z,1.7nm,0.6s
D25K Kavik River 64.59 342 P **P** **15 26 08.0 +1.1**
D25K IAmb IAmb 15 26 10.5
comp=Z,2.0nm,0.8s
F21K Alatna River 66.03 338 P **P** **15 26 18.0 +1.7**
F21K IAmb IAmb 15 26 20.6
comp=Z,3.0nm,0.7s
EKA Eskdalemuir Ar 78.43 36 P **P** **15 27 28.1 -2.4**
comp=Z,1.4nm,0.7s,baz=271,slow=6.7,SNR=6.2
comp=Z,1.4nm,0.7s
CMAR Chiang Mai Arr 145.75 340 PKPbc **PKPdf** **15 35 09.8 +0.5**
comp=Z,1.0nm,0.6s,baz=342,slow=4.2,SNR=10

*IDC **17** 15:22:14.1±5.8, 37.°10N×71.°61E, h132km±48km, mbtmp3.9/6, Error ellipse: s-maj=71.7km s-min=24.8km az=148.0*
*NNC **17** 15:22:16.1±5.2, 37.°58N×71.°42E, h0km, mb4.5, mpv4.3, Error ellipse: s-maj=40.6km s-min=30.9km az=170.0*
ISC 17 15:22:14.1±1.9,37.°2N±0.°1×71.°39E±0.°08, h100km, n17, σ1°72/24, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**5.57**	**25**	P	**Pn**	**15 23 36.0**	**+1.0**
	SNR=62						
EKS2	**Erkin-Say**	**5.76**	**18**	P	**Pn**	**15 23 39.0**	**+1.8**
	SNR=19						
AAK	**Ala-Archa**	**5.94**	**23**	P	**Pn**	**15 23 41.2**	**+1.6**
	SNR=30						
AAK	**Ala-Archa**	**5.94**	**23**	⇑P	**Pn**	**15 23 40.8**	**+1.2**
	18nm,0.4s						
AAK				⇑S	**Sn**	**15 24 47.2**	**+1.0**
	14nm,0.6s						
AAK	**Ala-Archa**	**5.94**	**23**	P	**Pn**	**15 23 41.1**	**+1.6**
	29nm,0.3s,baz=178,slow=6.3,SNR=69						
AAK				S	**Sn**	**15 24 47.5**	**+1.2**
	9.2nm,0.5s,baz=344,slow=19,SNR=6.0						
KK31	**Karatay Array**	**5.94**	**354**	⇑P	**Pn**	**15 23 42.1**	**+2.6**
	10nm,0.3s,baz=174,slow=12,SNR=265						
KK31				⇑S	**Sn**	**15 24 46.4**	**+0.3**
	8.7nm,0.3s,baz=171,slow=15,SNR=13						
KBK	**Karagaybulak**	**6.10**	**25**	P	**Pn**	**15 23 43.4**	**+1.5**
	SNR=8.9						
CHMS	**Chumysh**	**6.34**	**23**	P	**Pn**	**15 23 46.3**	**+1.3**
	SNR=12						
USP	**Ospenovka**	**6.51**	**20**	P	**Pn**	**15 23 48.1**	**+0.8**
	SNR=14						
TKM2	**Tokmak 2**	**6.56**	**28**	P	**Pn**	**15 23 48.5**	**+0.3**
	SNR=29						
TKM2	**Tokmak 2**	**6.56**	**28**	⇓P	**Pn**	**15 23 48.6**	**+0.5**
	11nm,0.5s						
TKM2				⇑S	**Sn**	**15 25 00.9**	**-0.8**
	5.7nm,0.8s						
GEYT	**Alibeck**	**10.57**	**278**	P	**Pn**	**15 24 43.4**	**+0.9**
	1.0nm,0.3s,baz=83,slow=12,SNR=6.3						
GEYT				S	**Sn**	**15 26 37.1**	**-1.7**
	2.8nm,0.5s,baz=93,slow=15,SNR=4.9						
MKAR	**Makanchi Array**	**12.55**	**37**	P	**Pn**	**15 25 07.5**	**-1.4**
	0.5nm,0.8s,baz=221,slow=15,SNR=4.7						
AB31	**Akbulak array**	**14.64**	**329**	⇓P	**Pn**	**15 25 36.8**	**+0.7**
	0.9nm,0.5s,baz=137,slow=12,SNR=31						
AB31				⇑S	**Sn**	**15 28 17.3**	**0.0**
	1.0nm,0.5s,baz=154,slow=24,SNR=13						
BVAR	**Borovoye Array**	**15.85**	**358**	P	**Pn**	**15 25 50.7**	**-0.5**
	1.0nm,0.5s,baz=171,slow=14,SNR=7.3						
AKTO	**Aktyubinsk**	**16.35**	**328**	P	**P**	**15 25 59.6**	**+1.1**
	2.1nm,0.4s,baz=138,slow=7.8,SNR=6.8						
AKTO				S	**Sn**	**15 28 53.7**	**-4.7**
	1.0nm,0.4s,baz=229,slow=15,SNR=2.8						
ZALV	**Zalesovo Beam**	**19.15**	**25**	P	**P**	**15 26 26.8**	**-2.5**
	1.9nm,0.4s,baz=223,slow=9.8,SNR=10						

*IDC **17** 15:32:07.0±4.1, 21.°09N×121.°85E, h0km, mb3.5/3, mbtmp3.5/3, MS3.3/2, Error ellipse: s-maj=313.1km s-min=26.4km az=61.0*
*JMA **17** 15:32:13.5±0.7, 21.°1N±3.°×12.°1E±.°, h0km, TAIWAN REGION*
ISC 17 15:32:15.6±1.3,20.°8N±0.°1×121.°3E±0.°2, h60km, n9, σ0°73/8, mb3.5/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IRIF	**Iriomote-Funau**	**4.18**	**32**	*eP*	**Pn**	**15 33 17.3**	**+0.5**
JIJ	**Ishigaki jima**	**4.42**	**36**	*eS*	**Sn**	**15 34 09.7**	**-0.6**
JISG	**Ishigakijimahi**	**4.69**	**36**	*eP*	**Pn**	**15 33 23.8**	**0.0**
JISG				*eS*	**Sn**	**15 34 16.5**	**-0.4**
JTJ	**Tarama**	**4.95**	**39**	*eS*	**Sn**	**15 34 23.7**	**+0.4**
TGY	**Tagaytay City**	**6.66**	**183**	LR	LR	15 36 56.2	
	comp=Z,93nm,18.2s,baz=174,slow=41						
MKAR	**Makanchi Array**	**40.89**	**319**	P	**P**	**15 39 51.8**	**-0.1**
	0.4nm,0.5s,baz=113,slow=9.9,SNR=6.3 0.4nm,0.5s						
WRA	**Warramunga Arr**	**42.45**	**162**	P	**P**	**15 40 03.8**	**-1.0**
	0.5nm,0.6s,baz=343,slow=9.1,SNR=6.9 0.5nm,0.6s						
ASAR	**Alice Springs**	**45.87**	**164**	P	**P**	**15 40 33.0**	**+0.9**
	0.3nm,0.4s,baz=351,slow=6.8,SNR=16 0.3nm,0.4s						
OBN	**Obninsk**	**70.23**	**323**	LR	LR	16 13 07.1	
	comp=Z,41nm,19.1s,baz=148,slow=35						

*GII **17** 15:41:25.2±0.5, 33.°835N±0.°004×35.°973E±0.°002, h0km, confirmed*
*GRAL **17** 15:41:28.4±0.3, 33.°78N×35.°77E, h0km±27km, MD2.7*
ISC 17 15:41:27.7±0.9,33.°79N±0.°03×35.°78E±0.°05, h0km, n24, σ0°80/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZAHL	**Zahle**	**0.11**	**51**	*eP*	**Pg**	**15 41 30.7**	**+0.8**
BHL	**Bhannes**	**0.16**	**317**	*eP*	**Pg**	**15 41 31.1**	**+0.3**
DQRL	**Deir Qamar**	**0.20**	**245**	*eP*	**Pg**	**15 41 31.8**	**+0.3**
RCY	**Rachaya**	**0.29**	**171**	*eP*	**Pg**	**15 41 33.6**	**+0.2**
HWQ	**Hawqa**	**0.51**	**16**	*eP*	**Pg**	**15 41 37.6**	**+0.2**
HWQ				*eS*	**Sg**	**15 41 44.5**	**+0.4**
NATI	**Neve Ativ**	**0.53**	**184**	P	**Pg**	**15 41 37.7**	**-0.1**
NATI	**Neve Ativ**	**0.53**	**184**	S	**Sb**	**15 41 47.0**	**-1.0**
GEM	**Giv'at Ha'Em**	**0.58**	**190**	P	**Pg**	**15 41 38.8**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.58**	**190**	S	**Sb**	**15 41 49.8**	**+0.1**
KSHT	**Keshet**	**0.81**	**178**	P	**Pg**	**15 41 43.1**	**-0.1**
KSHT	**Keshet**	**0.81**	**178**	S	**Sb**	**15 41 55.8**	**-0.3**
BEIL	**Beino**	**0.82**	**24**	*eP*	**Pg**	**15 41 43.4**	**-0.1**
BEIL				*eS*	**Sg**	**15 41 54.3**	**+0.2**
MMA0B	**Mount Meron ar**	**0.83**	**202**	P	**Pg**	**15 41 44.3**	**+0.6**
MMA0B	**Mount Meron ar**	**0.83**	**202**	S	**Sn**	**15 41 59.3**	**-0.5**
HNTI	**Hanita**	**0.87**	**216**	P	**Pg**	**15 41 44.8**	**+0.5**
HNTI	**Hanita**	**0.87**	**216**	S	**Sn**	**15 42 00.9**	**+0.2**
OFRI	**`Ofer**	**1.34**	**210**	P	**Pg**	**15 41 52.7**	**-0.7**
OFRI	**`Ofer**	**1.34**	**210**	S	**Sn**	**15 42 13.3**	**+0.9**
MMLI	**Mount Malkishu**	**1.38**	**193**	P	**Pn**	**15 41 53.0**	**-1.3**
MMLI	**Mount Malkishu**	**1.38**	**193**	S	**Sn**	**15 42 14.7**	**+1.4**
HMDT	**Nahal Hemdat**	**1.55**	**188**	P	**Pn**	**15 41 55.8**	**-0.8**
HMDT	**Nahal Hemdat**	**1.55**	**188**	S	**Sg**	**15 42 18.4**	**+0.9**
SLTI	**Sal'it**	**1.67**	**202**	P	**Pn**	**15 41 57.2**	**-1.0**
SLTI	**Sal'it**	**1.67**	**202**	S	**Sg**	**15 42 23.2**	**+2.0**

*IDC **17** 15:51:30.8±55.0, 17.°13S×179.°68W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=996.2km s-min=156.4km az=77.0*
*NEIC **17** 15:52:12.9±2.4, 20.°0S±0.°2×178.°0W±0.°2, h537km±22km, mb4.2/7, Error ellipse: s-maj=39.8km s-min=10.4km az=209.0*
ISC 17 15:52:13.9±1.8,19.°9S±0.°2×178.°2W±0.°3, h550km, n13, σ1°22/12, mb4.1/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.17**	**300**	P	**P**	**15 53 36.6**	**-0.6**
FUNA	**Funafuti**	**11.55**	**347**	P	**P**	**15 54 48.3**	**+0.5**
CTAO	**Charters Tower**	**33.41**	**263**	P	**P**	**15 58 07.0**	**-0.6**
STKA	**Stephens Creek**	**37.94**	**243**	P	P	15 58 50.8	+5.8
	1.1nm,0.4s,baz=96,slow=10,SNR=3.5 1.1nm,0.4s						
BBOO	**Buckleboo**	**42.71**	**243**	P	**P**	**15 59 24.0**	**+1.0**
BBOO				IAmb	IAmb	15 59 38.6	
	comp=Z,25nm,1.5s						
WB0	**Warramunga Arr**	**44.52**	**262**	P	**P**	**15 59 36.3**	**-0.9**
WB0				IAmb	IAmb	15 59 51.6	
	comp=Z,16nm,1.4s						
AS31	**Alice Springs**	**44.53**	**256**	P	**P**	**15 59 38.7**	**+1.4**
AS31				IAmb	IAmb	15 59 39.5	
	comp=Z,2.0nm,0.5s						
ASAR	**Alice Springs**	**44.53**	**256**	P	**P**	**15 59 38.0**	**+0.8**
ASAR	**Alice Springs**	**44.53**	**256**	P	**P**	**15 59 38.7**	**+1.4**
	comp=Z,6.7nm,0.6s,baz=88,slow=8.2,SNR=233 comp=Z,6.7nm,0.6s						
WRA	**Warramunga Arr**	**44.55**	**261**	P	**P**	**15 59 36.5**	**-1.0**
WRA	**Warramunga Arr**	**44.55**	**261**	P	**P**	**15 59 36.8**	**-0.7**
	comp=Z,0.7nm,0.4s,baz=95,slow=7.8,SNR=15 comp=Z,0.7nm,0.4s						
FORT	**Forrest**	**49.42**	**246**	P	**P**	**16 00 16.0**	**+2.1**
FORT				IAmb	IAmb	16 00 46.9	
	comp=Z,9.6nm,0.9s						
QSPA	**South Pole Qui**	**70.21**	**180**	P	**P**	**16 02 31.1**	**-0.5**
QSPA				IAmb	IAmb	16 03 10.3	
	comp=Z,2.2nm,1.2s						

*REY **17** 16:00:23.9, 64.°62N×17.°41W, h0km*
*IDC **17** 16:00:26.5±0.6, 64.°62N×17.°63W, h0km, mb3.7/15, mbtmp3.7/17, ML3.4/2, MS3.2/15, Error ellipse: s-maj=22.0km s-min=9.4km az=13.0*
*NEIC **17** 16:00:26.5±1.2, 64.°6N±0.°1×17.°7W±0.°1, h10km±1km, mb4.3/22, Error ellipse: s-maj=22.2km s-min=6.5km az=196.0*
ISC 17 16:00:26.3±0.4,64.°62N±0.°02×17.°46W±0.°02, h10km, n105, σ2°19/113, mb4.0/27, MS3.3/11, Iceland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IKIS	**Kista**	**0.07**	**323**	P	**Pg**	**16 00 26.5**	**-2.2**
	baz=312						
IVON	**Vonarskard**	**0.14**	**294**	P	**Pg**	**16 00 27.9**	**-1.6**
	baz=292						
IGRF	**Grimsfjall**	**0.23**	**158**	P	**Pg**	**16 00 29.1**	**-2.0**
	baz=164						
IURH	**Urdarhals**	**0.24**	**33**	P	**Pg**	**16 00 29.3**	**-2.0**
	baz=28						
IHUS	**Husbondi**	**0.33**	**195**	P	**Pg**	**16 00 31.1**	**-1.9**
	baz=199						
IHUS				S	**Sb**	**16 00 36.9**	**-3.0**
	baz=199						
ISKR	**Skrokkalda**	**0.40**	**262**	P	**Pg**	**16 00 32.4**	**-1.8**
	baz=263						
IJOK	**Jokulheimar**	**0.45**	**228**	P	**Pg**	**16 00 33.1**	**-2.0**
	baz=230						
IJOK				S	**Sg**	**16 00 39.9**	**-1.1**
	baz=230						
THOR	**Thorvaldshraun**	**0.46**	**46**	P	**Pg**	**16 00 33.0**	**-2.4**
	baz=44						
IKRE	**Kreppuhraun**	**0.49**	**70**	P	**Pg**	**16 00 33.4**	**-2.5**
	baz=68						
IKRE				S	**Sg**	**16 00 41.1**	**-1.4**
	baz=68						
IASK	**Askja**	**0.56**	**38**	P	**Pg**	**16 00 34.5**	**-2.7**
	baz=36						
IIEY	**Innrieyrar**	**0.60**	**209**	P	**Pg**	**16 00 35.5**	**-2.4**
	baz=211						
IIEY				S	**Sg**	**16 00 44.5**	**-1.3**
	baz=211						
IMKO	**Mokollar**	**0.60**	**53**	P	**Pg**	**16 00 35.3**	**-2.7**
	baz=51						
IMKO				S	**Sg**	**16 00 44.6**	**-1.3**
	baz=51						
IKSK	**Karasker**	**0.63**	**136**	P	**Pg**	**16 00 35.2**	**-3.2**
	baz=138						
IKSK				S	**Sg**	**16 00 44.2**	**-2.5**
	baz=138						
IKAL	**Kalfafell**	**0.68**	**188**	P	**Pg**	**16 00 36.8**	**-2.6**
	baz=190						
IKAL				S	**Sg**	**16 00 47.0**	**-1.2**
	baz=190						
IFAL	**Falljokull**	**0.72**	**157**	P	**Pg**	**16 00 37.4**	**-2.8**
	baz=159						
IFAL				S	**Sg**	**16 00 47.5**	**-2.1**
	baz=159						
ISVA	**Svartarkot**	**0.73**	**7**	P	**Pg**	**16 00 37.3**	**-3.0**
	baz=5.0						
ISVA				S	**Sg**	**16 00 48.8**	**-1.1**
	baz=5.0						
IVSH	**V-Sauoahnukur**	**0.77**	**75**	P	**Pg**	**16 00 38.1**	**-3.1**
	baz=74						
IVSH				S	**Sg**	**16 00 49.4**	**-1.8**
	baz=74						
IHOX	**Haoxl**	**0.80**	**152**	P	**Pg**	**16 00 39.2**	**-2.5**
	baz=154						
IFAG	**Fagurholsmyri**	**0.82**	**154**	P	**Pg**	**16 00 39.1**	**-3.1**
	baz=156						
IFAG				S	**Sg**	**16 00 51.1**	**-1.8**
	baz=156						
IADA	**Aoalbol**	**0.90**	**63**	P	**Pg**	**16 00 40.2**	**-3.5**
	baz=62						
IADA				S	**Sg**	**16 00 52.9**	**-2.5**
	baz=62						

baz=8.2
IHED Heoinshofoi 1.47 2 P **Pn** **16 00 49.8 -3.1**
baz=1.5
IBRE Brettingsstaoi 1.52 353 P **Pn** **16 00 50.7 -2.9**
baz=352
ISIG Siglufjorour 1.64 339 P **Pn** **16 00 52.4 -2.8**
baz=338
BORG Borgarnes 1.67 276 Pg **Pn** **16 00 53.4 -2.1**
38nm,0.3s,baz=92,slow=11,SNR=26
BORG Lg Lg 16 01 18.0
23nm,0.3s,baz=38,slow=19,SNR=12
ISOL Solvholt 1.67 247 P **Pn** **16 00 53.4 -2.1**
baz=248
IBJA Bjarnastaoir 1.81 250 S **Sn** **16 01 19.0 -1.4**
baz=250
ILEI Leirhofn 1.84 12 P **Pn** **16 00 55.9 -2.1**
baz=12
IHRN Hraun 1.87 325 P **Pn** **16 00 55.7 -2.5**
baz=324
IGRI Grimsey 1.95 354 P **Pn** **16 00 57.3 -2.0**
baz=353
SCO Scoresbysund 6.14 346 **Pn** **16 01 55.5 -1.4**
JMIC Jan Mayen 7.23 24 LR LR 16 04 30.1
comp=Z,223nm,18.7s,baz=232,slow=34
EKA Eskdalemuir Ar 11.71 136 Pn **Pn** **16 03 13.6 +0.3**
baz=324,slow=13
1.0nm,0.4s
NOA NORSAR Array B 13.52 92 LR LR 16 09 03.2
comp=Z,29nm,19.8s,baz=295,slow=38
ARCES ARCESS Array B 17.13 54 LR LR 16 09 57.9
comp=Z,35nm,20.8s,baz=294,slow=33
FINES FINESS Array B 19.70 79 P **Pn** **16 04 57.4 +0.7**
0.1nm,0.3s,baz=308,slow=16,SNR=2.7
FINES LR LR 16 11 44.5
comp=Z,66nm,19.6s,baz=294,slow=34
2.0nm,0.8s
CLL Collm 20.67 116 *i* P Pn 16 05 09.5 +1.2
comp=Z,13nm,1.3s
CLL *e*PP **PnPn** **16 05 25.0 +1.5**
BRG Berggiesshubel 21.38 115 *e*P **P** **16 05 14.8 +1.2**
BRG Amp 16 05 18.7
comp=Z,3.1nm,0.8s
BFO Black Forest 21.41 127 P **P** **16 05 14.4 +0.4**
BFO IAmb IAmb 16 05 27.3
comp=Z,22nm,1.5s
PABE Paberze 22.19 95 P **P** **16 05 23.2 +1.0**
GEC2 GERESS Array S 22.92 119 P **P** **16 05 29.1 -1.0**
GERES GERESS Array B 22.92 119 P **P** **16 05 29.2 -0.9**
GERES GERESS Array B 22.92 119 P **P** **16 05 31.3 +1.2**
comp=Z,1.2nm,0.8s,baz=337,slow=9.7,SNR=2.3
GERES LR LR 16 15 15.0
comp=Z,56nm,19.1s,baz=330,slow=39
comp=Z,1.2nm,0.8s
DAVOX Davos/Dischmat 23.28 127 P **P** **16 05 36.0 +2.1**
comp=Z,0.7nm,0.3s,baz=318,slow=17,SNR=1.3
DAVOX LR LR 16 15 31.5
comp=Z,75nm,18.3s,baz=263,slow=39
comp=Z,0.7nm,0.3s
EUNU Eureka 23.72 336 P **P** **16 05 38.8 +0.8**
SCHQ Schefferville 26.06 272 P **P** **16 05 58.4 -1.0**
SCHQ Schefferville 26.06 272 P **P** **16 06 00.3 +0.9**
comp=Z,3.0nm,0.7s,baz=60,slow=8.1,SNR=4.0
comp=Z,3.0nm,0.7s
ESDC Sonseca Array 26.20 156 P **P** **16 06 03.5 +2.5**
comp=Z,1.1nm,1.0s,baz=344,slow=8.8,SNR=2.0
ESDC LR LR 16 15 30.8
comp=Z,54nm,21.3s,baz=316,slow=34
comp=Z,1.1nm,1.0s
AKASG Malin Array Be 27.82 98 P **P** **16 06 16.9 +1.6**
comp=Z,0.3nm,0.5s,baz=327,slow=10.0,SNR=4.0
comp=Z,0.3nm,0.5s
KIRV Kirov 30.98 69 LR LR 16 18 37.1
comp=Z,23nm,20.1s,baz=324,slow=35
ARU Arti 36.09 66 LR LR 16 21 28.5
comp=Z,48nm,19.8s,baz=312,slow=35
BR131 Keskin Array S 38.45 105 P **P** **16 07 48.2 +0.1**
BRTR Keskin Array B 38.45 105 P **P** **16 07 48.6 +0.6**
BRTR Keskin Array B 38.45 105 P **P** **16 07 51.1 +3.0**
comp=Z,0.9nm,0.7s,baz=321,slow=5.8,SNR=6.2
comp=Z,0.9nm,0.7s
YKA Yellowknife Ar 39.26 313 P **P** **16 07 55.0 +0.6**
comp=Z,0.2nm,0.4s,baz=38,slow=8.7,SNR=6.3
YKA PcP **PcP** **16 10 06.6 +3.7**
comp=Z,0.7nm,1.0s,baz=37,slow=3.3,SNR=5.6
comp=Z,0.2nm,0.4s
G31M Satah River 41.18 328 P **P** **16 08 09.7 -0.5**
D25K Kavik River 41.64 335 P **P** **16 08 14.9 +0.8**
D25K IAmb IAmb 16 08 21.1
comp=Z,6.6nm,0.9s
B22K Teshekpuk Lake 41.91 339 P **P** **16 08 17.5 +1.3**
C23K Itkillik River 41.91 338 P **P** **16 08 18.1 +1.9**
C23K IAmb IAmb 16 08 23.0
comp=Z,7.9nm,1.2s
TIXI Tiksi 42.08 15 P **P** **16 08 19.3 +1.8**
TIXI IAmb IAmb 16 08 24.3
comp=Z,7.5nm,1.1s
D24K Happy Valley 42.22 336 P **P** **16 08 19.8 +1.0**
D24K IAmb IAmb 16 08 26.9
comp=Z,6.1nm,1.1s
TOLK Toolik Lake Re 42.80 336 P **P** **16 08 23.6 +0.1**
TOLK IAmb IAmb 16 08 30.3
comp=Z,10nm,1.2s
BMAR Burnt Mountain 42.95 333 P **P** **16 08 25.2 +0.4**
BVAR Borovoye Array 43.21 62 P **P** **16 08 28.9 +1.9**
comp=Z,1.3nm,0.9s,baz=340,slow=8.1,SNR=5.6
comp=Z,1.3nm,0.9s
G24K Hadweenzic Riv 44.14 334 P **P** **16 08 33.8 -0.6**
G24K IAmb IAmb 16 08 42.2
comp=Z,4.9nm,1.1s
F21K Alatna River 44.73 337 P **P** **16 08 39.1 0.0**
F21K IAmb IAmb 16 08 45.9
comp=Z,4.8nm,1.2s
F20K Avaraart Lake 45.26 338 P **P** **16 08 43.5 +0.3**
F20K IAmb IAmb 16 08 50.0
comp=Z,3.7nm,1.1s
ILAR Eielson Array 45.74 332 P **P** **16 08 49.0 +2.0**
comp=Z,1.5nm,1.1s,baz=27,slow=4.2,SNR=5.9
ILAR PcP **PcP** **16 10 26.6 +2.1**
comp=Z,0.5nm,0.7s,baz=18,slow=3.2,SNR=5.1
comp=Z,1.5nm,1.1s
H21K Melozitna Rive 46.05 336 P **P** **16 08 50.3 +0.9**
H21K IAmb IAmb 16 08 57.3
comp=Z,4.3nm,1.0s
G19K Purcell Mounta 46.31 339 P **P** **16 08 53.0 +1.5**
G19K IAmb IAmb 16 08 58.4
comp=Z,4.1nm,1.2s
G18K Tagagawik 46.78 339 P **P** **16 08 57.1 +1.9**
BILL Bilibino 47.60 358 P **P** **16 09 02.5 +0.9**
EIL Elat 47.69 111 LR LR 16 31 33.5
comp=Z,22nm,18.2s,baz=248,slow=39
F15K North Star Dit 47.80 342 P **P** **16 09 04.5 +1.3**
KURBB Kurchatov Array 48.17 58 P **P** **16 09 06.7 +0.5**
comp=Z,1.2nm,0.9s,baz=323,slow=7.6,SNR=6.0
comp=Z,1.2nm,0.9s
TKL Tuckaleechee C 48.34 267 LR LR 16 29 19.4
comp=Z,52nm,18.5s,baz=351,slow=36
BOZ Bozeman (W) 51.64 297 P **P** **16 09 32.5 -0.4**
BOZ IAmb IAmb 16 09 41.3
comp=Z,5.6nm,1.3s
MKAR Makanchi Array 52.74 58 P P 16 09 44.5 +3.7
comp=Z,0.7nm,1.0s,baz=349,slow=4.4,SNR=0.1
comp=Z,0.7nm,1.0s
TORD Torodi Ar. Bea 53.09 156 P **P** **16 09 45.7 +2.1**
comp=Z,1.4nm,1.0s,baz=353,slow=9.3,SNR=4.9
comp=Z,1.4nm,1.0s
PD31 Pinedale Array 53.21 293 P **P** **16 09 44.2 -0.4**
PDAR Pinedale Array 53.21 293 P **P** **16 09 44.0 -0.6**
PDAR Pinedale Array 53.21 293 P **P** **16 09 45.0 +0.4**
comp=Z,1.6nm,0.8s,baz=41,slow=7.2,SNR=9.2
comp=Z,1.6nm,0.8s
AAK Ala-Archa 53.26 67 LR LR 16 32 01.5
comp=Z,37nm,18.8s,baz=321,slow=36
MA2 Magadan 55.81 7 LR LR 16 32 34.4
comp=Z,22nm,18.4s,baz=115,slow=34
NVAR Mina Array Bea 60.34 297 P **P** **16 10 35.1 -0.1**
comp=Z,0.1nm,0.3s,baz=57,slow=6.6,SNR=2.1
comp=Z,0.1nm,0.3s
TXAR Lajitas Array 62.31 280 P **P** **16 10 50.8 +2.3**
comp=Z,0.1nm,0.3s,baz=30,slow=5.5,SNR=4.2
comp=Z,0.1nm,0.3s
KLR Kul'dur 63.98 22 LR LR 16 38 47.0
comp=Z,36nm,18.1s,baz=6.0,slow=36
BOSA Boshof 98.71 143 LR LR 17 01 51.5
comp=Z,39nm,18.8s,baz=24,slow=37

IDC 17 16:14:18.6±2.5,5°.94S×130°.64E,h0km,mb3.6/1,

mbtmp3.3/3,ML3.0/2,MS3.1/2,Error ellipse:
s-maj=142.8km s-min=32.6km az=71.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**8.11**	**238**	LR	LR	16 18 55.9	
	comp=Z,75nm,19.8s,baz=154,slow=34						
WRA	**Warramunga Arr**	**14.38**	**166**	Pn	Pn	16 17 42.7	-0.9
	0.1nm,0.3s,baz=349,slow=13,SNR=1.8						
WRA				Sn	Sn	16 20 11.2	-13
	0.3nm,0.3s,baz=357,slow=23,SNR=7.4						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**17.91**	**170**	P	P	16 18 29.9	-0.1
	baz=352,slow=12,SNR=1.9						
ASAR				Sn	Sn	16 21 36.1	-14
	baz=313,slow=30,SNR=2.5						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**67.69**	**326**	P	P	16 25 17.8	0.0
	0.3nm,0.4s,baz=118,slow=5.8,SNR=6.0						
	0.3nm,0.4s						
KVAR	**Kislovodsk Arr**	**92.59**	**314**	LR	LR	17 13 44.2	
	comp=Z,13nm,19.4s,baz=10.0,slow=38						

NEIC ***17*** *16:29:56.3±2.5,2°.92S×0°.04×119°.36E±0°.07,h10km±1km, mb4.4/5,Error ellipse: s-maj=11.8km s-min=5.1km az=253.0*

IDC ***17*** *16:29:57.6±1.5,2°.78S×119°.68E,h0km,mb3.6/3, mbtmp3.7/4,ML3.9/1,Error ellipse: s-maj=64.3km s-min=21.2km az=70.0*

DJA ***17*** *16:30:00.7±0.3,3°.5S×12°.0E±°,h10km,M3.8/7,MLv3.8/7*

ISC 17 16:29:56.3±0.7,2°.82S±0°.04×119°.39E±0°.05,h10km,n19, σ2s46/25,mb4.1/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TTSI	**Tana Toraja**	**0.49**	**118**	P	**Pg**	**16 30 05.1**	**-0.7**
TTSI				S	**Sg**	**16 30 11.1**	**-1.1**
KAPI	**Kappang**	**2.21**	**171**		**Pn**	**16 30 33.0**	**-0.1**
KAPI				Sn	**Sn**	**16 30 57.0**	**-3.5**
KAPI	**Kappang**	**2.21**	**171**	Pn	**Pn**	**16 30 34.4**	**+1.3**
	35nm,0.3s,baz=346,slow=10,SNR=65						
KAPI				Sn	**Sn**	**16 31 03.9**	**+3.4**
	43nm,0.3s,baz=95,slow=11,SNR=14						
	130nm,0.5s						
BKSI	**Bulukumba**	**2.59**	**164**	P	**Pn**	**16 30 41.2**	**+2.9**
BKSI				S	**Sn**	**16 31 14.1**	**+4.2**
BKB	**Balikpapan**	**2.93**	**302**	Pn	**Pn**	**16 30 44.0**	**+1.0**
LUWI	**Luwuk**	**3.81**	**63**	Pn	**Pn**	**16 30 56.2**	**+1.0**
LUWI				Sn	**Sn**	**16 31 36.7**	**-3.4**
TOLI2	**Tolitoli**	**4.14**	**20**		**Pn**	**16 31 01.6**	**+1.9**
TOLI2				Sn	**Sn**	**16 31 48.7**	**+0.4**
GTOI	**Gorontalo**	**4.99**	**47**	P	**Pn**	**16 31 15.0**	**+3.7**
SBUM	**Sibu**	**8.87**	**306**	Pn	**Pn**	**16 32 05.6**	**+1.0**
UGM	**Wanagama**	**10.17**	**240**	Pn	**Pn**	**16 32 21.2**	**-1.4**
IPM	**Ipoh**	**19.73**	**291**	P	**P**	**16 34 22.9**	**-3.5**
WB0	**Warramunga Arr**	**22.33**	**140**	P	**P**	**16 34 51.9**	**-2.6**
WB0				IAmb	IAmb	16 35 26.7	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**22.42**	**140**	P	**P**	**16 34 55.7**	**+0.2**
	comp=Z,2.5nm,1.1s,baz=327,slow=10,SNR=6.2						
	comp=Z,2.5nm,1.1s						
WB2	**Warramunga Arr**	**22.43**	**140**	P	**P**	**16 34 53.2**	**-2.4**
WB2				IAmb	IAmb	16 35 02.9	
	comp=Z,20nm,1.4s						
ASAR	**Alice Springs**	**25.04**	**147**	P	**P**	**16 35 24.1**	**+3.2**
	comp=Z,1.3nm,0.9s,baz=321,slow=8.6,SNR=8.4						
	comp=Z,1.3nm,0.9s						
MKAR	**Makanchi Array**	**59.21**	**331**	P	**P**	**16 39 57.5**	**-0.3**
MKAR	**Makanchi Array**	**59.21**	**331**	P	**P**	**16 40 01.3**	**+3.5**
	comp=Z,0.7nm,0.7s,baz=133,slow=7.4,SNR=7.3						
	comp=Z,0.7nm,0.7s						
BOOM	**Boomskoye usch**	**59.77**	**324**	P	**P**	**16 40 01.8**	**-0.1**
BOOM				IAmb	IAmb	16 40 25.3	
	comp=Z,6.2nm,1.3s						
JOHN	**Johnston Islan**	**72.77**	**72**	P	**P**	**16 41 26.1**	**+0.6**

NEIC ***17*** *16:49:46.1±0.9,36°.07N±0°.01×97°.57W±0°.01,h10km±7km, Error ellipse: s-maj=1.7km s-min=1.6km az=61.0*

TUL 17 16:49:46±0.7,36°.069N±0°.008×97°.57W±0°.01,h8km±5km, ML2.6,mb_Lg2.3/22(NEIC),ML2.6/63(NEIC),Error ellipse: s-maj=1.4km s-min=1.1km az=78.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.29**	**161**		Pg	16 49 51.8	+0.1
OK029				Sg	Sg	16 49 56.0	+0.5
OK029				IAML		16 49 56.2	
	1μm,0.3s						
OK029				IAML		16 49 56.2	
	726nm,0.1s						
ADOK	**Arcadia Dam**	**0.45**	**159**		Pg	16 49 54.8	+0.1
ADOK				Sg	Sg	16 50 01.1	+0.6
OK033	**Mehan**	**0.51**	**93**		Pg	16 49 55.9	0.0
OK033				IAML		16 50 02.3	
	329nm,0.1s						
OK033				Sg	Sg	16 50 03.1	+0.5
OK033				IAML		16 50 03.6	
	451nm,0.2s						
CROK	**Carrier**	**0.55**	**323**	Pg	Pg	16 49 56.6	0.0
CROK				Sg	Sg	16 50 04.3	+0.5
CROK				IAML		16 50 04.5	
	comp=E,426nm,0.4s						
CROK				IAML		16 50 11.6	
	comp=N,532nm,0.3s						
OK031	**S. Brethren Rd**	**0.60**	**101**		Pg	16 49 57.8	+0.1
OK031				Sg	Sg	16 50 05.9	+0.3
OK031				IAML		16 50 06.5	
	comp=N,228nm,0.1s						
OK048	**Pawnee Station**	**0.61**	**55**		Pg	16 49 57.8	0.0
OK048				Sg	Sg	16 50 06.0	+0.1
OK052	**Battle Ridge R**	**0.63**	**97**		Pg	16 49 58.1	+0.1
OK052				Sg	Sg	16 50 06.7	+0.4
OK052				IAML		16 50 06.9	
	comp=N,223nm,0.3s						
QUOK	**Quay**	**0.70**	**81**		Pg	16 49 59.5	-0.1
QUOK				Sg	Sg	16 50 08.8	0.0
QUOK				IAML		16 50 10.2	
	comp=N,306nm,0.2s						
QUOK				IAML		16 50 12.7	
	comp=E,246nm,0.2s						
OK051	**E0350 and S346**	**0.73**	**53**		Pg	16 49 59.8	-0.3
OK051				Sg	Sg	16 50 09.8	+0.1
BLOK	**Blackwell**	**0.75**	**22**		Pg	16 50 00.2	-0.2
BLOK				Sg	Sg	16 50 10.4	+0.3
BLOK				IAML		16 50 17.4	
	comp=E,249nm,0.2s						
GC02	**Grant County #**	**0.81**	**343**		Pg	16 50 01.3	-0.4
GC02				Sg	Sg	16 50 12.4	+0.1
FNO	**Franklin**	**0.82**	**170**	Pg	Pg	16 50 01.4	-0.4
FNO				Sg	Sg	16 50 12.8	+0.3
FNO				IAML		16 50 15.4	
	comp=E,152nm,0.3s						
OK032	**Salt Plains WL**	**0.90**	**325**		Pg	16 50 02.8	-0.4
OK032				Sg	Sg	16 50 13.7	-1.3
DEOK	**Depew**	**0.90**	**104**		Pg	16 50 02.6	-0.6
DEOK				Sg	Sg	16 50 15.1	+0.2
KAN14	**Manchester OK**	**0.94**	**340**	Pg	Pg	16 50 03.5	-0.6
KAN14				Sg	Sg	16 50 16.2	-0.1
KAN14				IAML		16 50 17.5	
	comp=N,213nm,0.1s						
KAN13	**South Haven SW**	**0.94**	**4**		Pg	16 50 03.8	-0.4
KAN13				Sg	Sg	16 50 16.6	+0.2
KAN13				IAML		16 50 21.7	
	comp=N,205nm,0.2s						
KAN13				IAML		16 50 21.8	
	comp=E,227nm,0.2s						
CSTR	**Hydro, Custer**	**1.00**	**245**		Pg	16 50 05.0	-0.2
CSTR				Sg	Sg	16 50 18.6	+0.3
OK038	**West end E0370**	**1.03**	**294**		Pg	16 50 04.8	-1.0
KAN09	**Caldwell North**	**1.07**	**358**		Pg	16 50 05.7	-0.8
KAN09				Sg	Sg	16 50 20.2	-0.1
KAN01	**Argonia South**	**1.09**	**352**		Pg	16 50 06.5	-0.5
KAN01				Sg	Sg	16 50 21.0	-0.2
KAN01				IAML		16 50 23.1	
	comp=E,172nm,0.1s						
KAN01				IAML		16 50 23.1	
	comp=N,186nm,0.2s						
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	16 50 06.7	-0.8
OK035				Sg	Sg	16 50 21.8	-0.3
KAN10	**Anthony SW Sta**	**1.13**	**338**	Pg	Pg	16 50 07.1	-0.7
KAN10				IAML		16 50 26.5	
	comp=N,91nm,0.1s						
KAN10				IAML		16 50 26.6	
	comp=E,140nm,0.1s						
KAN06	**Argonia West S**	**1.20**	**349**	Pg	Pb	16 50 08.3	-0.7
KAN06				Sg	Sg	16 50 24.4	-0.3
U32A	**Winter Ranch,**	**1.20**	**285**	Pg	Pb	16 50 07.8	-1.2
U32A				Sg	Sb	16 50 25.1	+0.5
U32A				IAML		16 50 26.7	
	comp=E,98nm,0.1s						
U32A				IAML		16 50 26.9	
	comp=N,133nm,0.1s						
KAN08	**Anthony NE Sta**	**1.20**	**344**		Pb	16 50 07.9	-1.1
KAN08				Sg	Sg	16 50 24.1	-0.5
KAN08				IAML		16 50 28.4	
	comp=N,172nm,0.1s						
T35A	**Sooner Cattle**	**1.20**	**45**		Pb	16 50 08.3	-0.7
T35A				Sg	Sg	16 50 23.9	-0.7
T35A				IAML		16 50 25.1	
	comp=N,154nm,0.4s						
T35A				IAML		16 50 31.5	
	comp=E,138nm,0.5s						
KAN12	**Harper NE Stat**	**1.27**	**344**	Pg	Pn	16 50 09.5	-0.7
TUL3	**Leonard**	**1.45**	**96**		Pn	16 50 12.0	-0.5
WMOK	**Wichita Mounta**	**1.66**	**217**		Pn	16 50 15.6	+0.2
RLO	**Rose Lookout**	**2.06**	**87**		Pn	16 50 21.3	+0.4
LOOK	**Love County**	**2.10**	**171**	Pn	Pn	16 50 21.4	0.0
X37A	**Clayton**	**2.33**	**129**		Pn	16 50 25.4	+0.9
SMWD	**Samnorwood**	**2.38**	**247**	Pn	Pn	16 50 25.4	0.0
WTFS	**Witchita Falls**	**2.41**	**198**	Pn	Pn	16 50 26.2	+0.4
WTFS				IAmb_Lg		16 51 02.6	
	comp=Z,8.5nm,0.9s						
R32A	**Long Quarter,**	**2.52**	**339**	Pn	Pn	16 50 27.5	+0.2
U38A	**Gravette**	**2.60**	**81**	Pn	Pn	16 50 28.3	-0.1
HHAR	**Hobbs**	**2.94**	**85**	Pn	Pn	16 50 33.9	+0.8
KSU1	**Kansas State U**	**3.12**	**14**		Pn	16 50 35.3	-0.2
CBKS	**Cedar Bluff**	**3.24**	**328**	Pn	Pn	16 50 35.9	-1.3
CBKS				IAmb_Lg		16 51 36.2	
	comp=Z,14nm,0.9s						
PLPT	**Palo Pinto**	**3.31**	**191**	Pn	Pn	16 50 38.0	-0.1
APMT	**Aspermont**	**3.45**	**218**	Pn	Pn	16 50 39.7	-0.4
AMTX	**Amarillo**	**3.56**	**252**		Pn	16 50 39.7	-1.9
AMTX				IAmb_Lg		16 51 39.4	
	comp=Z,8.4nm,0.7s						
MIAR	**Mount Ida**	**3.60**	**114**	Pn	Pn	16 50 41.6	-0.5
MIAR				IAmb_Lg		16 51 50.1	
	comp=Z,4.8nm,0.9s						
DKNS	**Dickens**	**3.65**	**230**		Pn	16 50 40.8	-2.1
DKNS				IAmb_Lg		16 51 41.9	
	comp=Z,5.5nm,0.9s						
S39A	**Bolivar**	**3.77**	**63**	IAmb_Lg		16 51 48.3	
	comp=Z,6.9nm,0.7s						
RTBA	**Rita Blanca**	**4.19**	**277**	Pn	Pn	16 50 48.8	-1.6
RTBA				IAmb_Lg		16 52 10.6	
	comp=Z,3.8nm,0.8s						
MGMO	**Mountain Grove**	**4.40**	**74**	Pn	Pn	16 50 51.6	-1.5
MGMO				IAmb_Lg		16 52 09.2	
	comp=Z,7.4nm,0.8s						
FCAR	**Ozark Folk Cen**	**4.42**	**91**		Pn	16 50 51.3	-2.0
P38A	**Dawn**	**4.78**	**41**	Pn	Pn	16 50 56.0	-2.3
R40A	**Maddies Statio**	**4.78**	**61**	Pn	Pn	16 50 55.8	-2.5
T42A	**Van Buren**	**5.30**	**78**	Pn	Pn	16 51 03.2	-2.3
T42A				IAmb_Lg		16 52 38.9	
	comp=Z,5.4nm,0.8s						
CCM	**Cathedral Cave**	**5.43**	**67**	Pn	Pn	16 51 05.6	-1.7
CCM				IAmb_Lg		16 52 45.4	
	comp=Z,6.4nm,0.9s						
P40A	**Paris**	**5.57**	**50**	Pn	Pn	16 51 06.0	-3.2
P40A				IAmb_Lg		16 52 45.1	
	comp=Z,6.9nm,0.7s						
PBMO	**Poplar Bluff**	**5.80**	**81**	Pn	Pn	16 51 10.3	-2.0
JCT	**Junction City**	**5.88**	**199**	IAmb_Lg		16 52 59.5	
	comp=Z,4.9nm,0.9s						
FVM	**French Village**	**6.03**	**69**	Pn	Pn	16 51 14.0	-1.5

IDC ***17*** *17:48:34.2±2.7,72°.54N×4°.00E,h0km,mb3.1/1, mbtmp3.5/6,ML2.9/5,MS2.9/4,Error ellipse: s-maj=35.0km s-min=23.9km az=90.0*

BER ***17*** *17:48:34.5±2.1,72°.65N×3°.52E,h15km±999km,mb(Pn)4.1*

ISC 17 17:48:33.8±1.1,72°.7N±0°.1×3°.83E±0°.09,h10km,n22, σ1s67/23,Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TRO	**Tromso**	**5.76**	**115**	*e*P	**Pn**	**17 49 59.9**	**+0.7**
STEI	**Steigen**	**6.12**	**135**	*e*	**Pn**	**17 50 00.3**	**-3.9**
STEI				*e*P	**Pn**	**17 50 05.5**	**+1.3**
JETT	**Jettan, Norway**	**6.22**	**112**	*e*P	**Pn**	**17 50 06.7**	**+1.2**
JETT				IAML		17 50 06.9	
	comp=Z,16nm,0.4s						
SPA0	**Spitsbergen Ar**	**6.35**	**24**	*e*P	**Pn**	**17 50 10.8**	**+3.5**
SPITS	**Spitsbergen Ar**	**6.35**	**24**	Pn	**Pn**	**17 50 08.0**	**+0.7**
	baz=216,slow=14						
	comp=Z,9.0nm,1.0s						
HAMF	**Hammerfest**	**6.58**	**98**	*e*P	**Pn**	**17 50 10.8**	**+0.4**
HAMF				IAML		17 50 12.3	
	comp=Z,4.9nm,0.5s						
FAUS	**Fauske**	**6.60**	**138**	*e*P	**Pn**	**17 50 11.4**	**+0.7**
KONS	**Konsvik**	**7.00**	**148**	*e*P	**Pn**	**17 50 16.2**	**0.0**
KONS				IAML		17 50 17.9	
	comp=Z,9.9nm,0.5s						
DBG	**Daneborg**	**7.01**	**295**	*e*P	**Pn**	**17 50 14.7**	**-1.7**
STOK	**Stokkvaagen**	**7.13**	**149**	*e*P	**Pn**	**17 50 19.0**	**+0.9**
SALU	**Saltoluokta**	**7.30**	**129**	*e*P	**Pn**	**17 50 21.5**	**+1.1**
MOR8	**Moi Rana**	**7.51**	**145**	*e*P	**Pn**	**17 50 24.2**	**+0.9**
ARA0	**ARCESS Array S**	**7.68**	**104**	*e*P	**Pn**	**17 50 26.9**	**+1.4**
ARA0				IAML		17 50 31.5	
	comp=Z,1.5nm,0.6s						
ARCES	**ARCESS Array B**	**7.68**	**104**	Pn	**Pn**	**17 50 25.8**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=308,slow=12,SNR=22						
ARCES				Sn	**Sn**	**17 51 49.4**	**-3.1**
	comp=Z,0.1nm,0.3s,baz=306,slow=21,SNR=1.4						
	comp=Z,0.9nm,0.4s						
HEF	**Hetta**	**7.86**	**113**	*e*P	**Pn**	**17 50 29.0**	**+1.0**
KEV	**Kevo**	**8.00**	**100**	*e*P	**Pn**	**17 50 30.0**	**+0.1**
NSS	**Namsos**	**8.70**	**156**	*e*P	**Pn**	**17 50 40.4**	**+0.9**
NOA	**NORSAR Array B**	**12.03**	**163**	Pn	**Pn**	**17 51 25.2**	**+0.1**
	baz=348,slow=13,SNR=2.2						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**13.17**	**158**	Pn	**Pn**	**17 51 41.0**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=344,slow=15,SNR=9.4						
HFS				LR	LR	17 55 26.4	
	comp=Z,34nm,21.0s,baz=340,slow=32						
	comp=Z,1.9nm,0.6s						
FINES	**FINESS Array B**	**14.08**	**132**	Pn	**Pn**	**17 51 52.4**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=333,slow=11,SNR=9.6						
FINES				LR	LR	17 56 54.9	
	comp=Z,44nm,18.7s,baz=306,slow=36						
	comp=Z,2.1nm,0.7s						
AKASG	**Malin Array Be**	**24.71**	**139**	P	**P**	**17 53 56.6**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=346,slow=10,SNR=2.0						
AKASG				LR	LR	18 02 12.5	
	comp=Z,20nm,19.7s,baz=348,slow=33						
	comp=Z,0.1nm,0.3s						
GNI	**Garni**	**38.16**	**126**	LR	LR	18 11 19.8	
	comp=Z,27nm,19.4s,baz=303,slow=36						

CATAC ***17*** *17:52:49.6±0.2,13°.25N×88°.05W,h7km±1km,ML3.7*

ISC 17 17:52:50.0±0.8,13°.25N±0°.04×88°.05W±0°.02,h12km±5km, n44,σ0s48/70,El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
INTP	**Intipuca**	**0.06**	**183**	*e*P	**Pg**	**17 52 51.7**	**-0.7**
LCND	**La Caada**	**0.17**	**70**	*e*P	**Pg**	**17 52 54.0**	**+0.1**
LCND				*e*P		17 52 54.0	
LCND				*e*S	**Sg**	**17 52 56.8**	**+0.2**
LCND	**La Caada**	**0.17**	**70**	*i* P	**Pg**	**17 52 54.0**	**+0.1**
LCND				*i* P		17 52 54.1	

CNRM	**Centro Naciona**	**0.25 332**	*e*P		**Pb**	**17 52 55.6**	**-0.8**
CNRM	**Centro Naciona**	**0.25 332**	*i* P		**Pg**	**17 52 55.4**	**+0.1**
CNRM			*i* S		**Sg**	**17 52 58.9**	**+0.1**
CNRM			IAML			17 53 07.7	
	comp=Z,72μm,1.0s						
BLLM	**Bellamira**	**0.26 316**	*i* P		**Pg**	**17 52 55.7**	**+0.2**
LCY	**Lacayo**	**0.29 306**	*e*P		**Pg**	**17 52 56.3**	**+0.2**
RANC	**El Ranchito**	**0.29 308**	*i* P		**Pg**	**17 52 56.4**	**+0.3**
RANC	**El Ranchito**	**0.29 308**	*i* P		**Pg**	**17 52 56.2**	**+0.1**
RANC			*i* S		**Sb**	**17 53 01.5**	**-0.6**
RANC			IAML			17 53 06.6	
	comp=Z,6μm,1.0s						
PACA	**Pacayal**	**0.34 309**	*e*P		**Pg**	**17 52 57.1**	**+0.2**
PACA	**Pacayal**	**0.34 309**	*i* P		**Pb**	**17 52 57.4**	**-0.7**
PACA			*i* S		**Sb**	**17 53 02.9**	**-0.6**
PACA			IAML			17 53 09.8	
	comp=Z,27μm,1.0s						
TECA	**Tecapa**	**0.50 299**	*i* P		**Pg**	**17 52 59.9**	**0.0**
COEB	**Comit de Eme**	**0.53 298**	*e*P		**Pg**	**17 53 00.6**	**+0.2**
COEB	**Comit de Eme**	**0.53 298**	*i* P		**Pg**	**17 53 00.5**	**+0.2**
COEB			*i* S		**Sg**	**17 53 07.9**	**+0.5**
COEB			IAML			17 53 09.6	
	comp=Z,2μm,1.0s						
TECO	**Alcaldia de Te**	**0.76 292**	*i* P		**Pb**	**17 53 05.1**	**-0.1**
TECO			*i* S		**Sb**	**17 53 15.6**	**0.0**
TECO			IAML			17 53 19.3	
	comp=Z,1μm,1.0s						
SCLA	**Alcaldia de Sa**	**0.80 304**	*i* P		**Pb**	**17 53 05.5**	**-0.3**
SCLA			IAML			17 53 08.9	
	comp=Z,700nm,1.0s						
SCLA			*i* S		**Sg**	**17 53 15.6**	**-0.3**
UESV	**Universidad de**	**0.81 298**	*i* P		**Pg**	**17 53 05.4**	**-0.3**
UESV			IAML			17 53 06.3	
	comp=Z,1μm,1.0s						
UESV			*i* S		**Sb**	**17 53 16.7**	**-0.2**
COEG	**Centro de Oper**	**0.89 294**	*e*P		**Pg**	**17 53 06.6**	**-0.5**
COEG	**Centro de Oper**	**0.89 294**	*i* P		**Pg**	**17 53 06.7**	**-0.5**
COEG			*i* S		**Sb**	**17 53 19.0**	**-0.1**
COEG			IAML			17 53 21.9	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**0.98 298**	*e*P		**Pg**	**17 53 08.3**	**-0.6**
PAVA	**Las Pavas**	**0.98 298**	*i* P		**Pg**	**17 53 08.2**	**-0.6**
PAVA			*i* S		**Sg**	**17 53 21.5**	**-0.1**
PAVA			IAML			17 53 25.7	
	comp=Z,4μm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.10 43**	*e*P		**Pg**	**17 53 10.2**	**-1.0**
TGUH	**Tegucigalpa,Un**	**1.10 43**	*i* P		**Pg**	**17 53 10.3**	**-1.0**
TGUH			*i* S		**Sb**	**17 53 25.6**	**+0.2**
TGUH			IAML			17 53 31.3	
	comp=Z,3μm,1.0s						
LOMA	**Loma Larga**	**1.16 290**	*i* P		**Pg**	**17 53 11.8**	**-0.5**
LOMA			*i* S		**Sb**	**17 53 27.3**	**+0.3**
LOMA			IAML			17 53 31.7	
	comp=Z,1μm,1.0s						
PMON	**Piamonte**	**1.31 291**	*e*P		**Pn**	**17 53 13.9**	**-0.2**
PMON	**Piamonte**	**1.31 291**	*i* P		**Pn**	**17 53 14.2**	**0.0**
PMON			*i* S		**Sb**	**17 53 31.4**	**0.0**
PMON			IAML			17 53 34.4	
	comp=Z,2μm,1.0s						
JAYA	**Jayaque - finc**	**1.42 287**	*e*P		**Pn**	**17 53 15.4**	**-0.3**
JAYA	**Jayaque - finc**	**1.42 287**	*i* P		**Pn**	**17 53 15.7**	**0.0**
JAYA			*i* S		**Sb**	**17 53 34.4**	**-0.1**
JAYA			IAML			17 53 37.4	
	comp=Z,3μm,1.0s						
MACN	**El Madrono**	**1.55 120**	*i* P		**Pn**	**17 53 17.2**	**-0.3**
MACN			IAML			17 53 21.3	
	comp=Z,210nm,1.0s						
CEVE	**Cerro Verde**	**1.63 291**	*e*P		**Pn**	**17 53 19.6**	**+0.9**
CEVE	**Cerro Verde**	**1.63 291**	*i* P		**Pn**	**17 53 18.7**	**0.0**
CEVE			*i* S		**Sn**	**17 53 40.8**	**+1.0**
CEVE			IAML			17 53 45.9	
	comp=Z,2μm,1.0s						
SBLS	**San Blas**	**1.64 291**	*e*P		**Pb**	**17 53 19.7**	**-0.5**
MOMN	**Momotombo**	**1.70 119**	*i* P		**Pn**	**17 53 19.1**	**-0.3**
MOMN			*i* S		**Sn**	**17 53 41.7**	**+0.6**
MOMN			IAML			17 53 50.1	
	comp=Z,21nm,1.0s						
MTO3	**Montecristo**	**1.71 312**	*e*P		**Pn**	**17 53 20.0**	**+0.2**
MTO3	**Montecristo**	**1.71 312**	*i* P		**Pn**	**17 53 19.9**	**+0.2**
MTO3			IAML			17 53 21.3	
	comp=Z,520nm,1.0s						
MTO3			*i* S		**Sn**	**17 53 42.2**	**+0.6**
MOM2	**El Cardon**	**1.73 118**	*i* P		**Pn**	**17 53 19.7**	**-0.1**
MOM2			*i* S		**Sn**	**17 53 42.6**	**+0.8**
MOM2			IAML			17 53 54.9	
	comp=Z,340nm,1.0s						
COPN	**Copaltepe**	**1.78 127**	*i* P		**Pn**	**17 53 20.3**	**-0.2**
COPN			IAML			17 53 46.1	
	comp=Z,280nm,1.0s						
NUBE	**Las Nubes**	**1.80 291**	*i* P		**Pn**	**17 53 21.6**	**+0.6**
NUBE			*i* S		**Sn**	**17 53 45.1**	**+1.3**
NUBE			IAML			17 53 52.3	
	comp=Z,640nm,1.0s						
ESQI	**Esquipulas**	**1.81 316**	*i* P		**Pn**	**17 53 20.5**	**-0.5**
ESQI			*i* S		**Sn**	**17 53 44.8**	**+0.9**
ESQI			IAML			17 53 54.5	
	comp=Z,530nm,1.0s						
APYN	**Apoyeque**	**1.94 121**	*i* P		**Pn**	**17 53 23.7**	**+0.9**
APYN			IAML			17 53 24.4	
	comp=Z,590nm,1.0s						
APYN			*i* S		**Sn**	**17 53 47.5**	**+0.3**

NEIC ***17*** *17:56:25.6±0.7, 19.39N±0.02×154.857W±0.008, h5km±2km, Error ellipse: s-maj=3.5km s-min=3.0km az=193.0*

HVO 17 17:56:26.4±0.6, 19°45N±0.02×154°89W±0.03, h2km±4km, ML2.3/4, ML2.4/42(NEIC), Error ellipse: s-maj=4.0km s-min=2.6km az=120.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.03 360**		Pg	Pg	17 56 27.6	+0.5
JOKA	**Jonika Flow**	**0.11 260**		Pg	Pg	17 56 28.4	-0.1
JOKA				IAML		17 56 31.7	
	comp=N,990nm,0.3s						
JCUZ	**Jacuzzi**	**0.21 251**		Pg	Pg	17 56 29.9	-0.6
NPOC	**North of Pu'u**	**0.22 254**		Pg	Pg	17 56 30.1	-0.5
STCH	**Steam Cracks**	**0.23 253**		Pg	Pg	17 56 30.8	-0.1
PUH	**Pauahi**	**0.32 256**		Pg	Pg	17 56 32.2	-0.3
PUH				IAML		17 56 41.9	
	comp=E,263nm,1.0s						
PUH				IAML		17 56 42.9	
	comp=N,306nm,0.8s						
HATHI	**Halema'uma'u T**	**0.35 265**		Pg	Pg	17 56 32.9	-0.3
SBLHI	**Steaming Bluff**	**0.36 266**		Pg	Pg	17 56 33.0	-0.3
SBLHI				IAML		17 56 36.8	
	comp=E,669nm,0.8s						
RSD	**Rainshed**	**0.37 272**		Pg	Pg	17 56 33.4	-0.1
RSD				IAML		17 56 38.2	
	comp=E,394nm,1.0s						
RSD				IAML		17 56 42.0	
	comp=N,495nm,0.6s						
HLP	**Hilina Pali**	**0.42 248**		Pg	Pg	17 56 34.6	0.0
HLP				IAML		17 56 47.5	
	comp=N,544nm,1.0s						
MLH	**Mauna Loa**	**0.47 275**		Pg	Pg	17 56 35.4	0.0
MLH				IAML		17 56 43.4	
	comp=N,452nm,1.3s						
MLH				IAML		17 56 48.0	
	comp=E,246nm,0.3s						
HMH	**Humu'ula Sheep**	**0.58 285**			Pg	17 56 37.1	-0.4
MLOA	**Mauna Loa Obse**	**0.65 277**		Pg	Pg	17 56 38.0	-1.0
MLOA				IAML		17 56 54.3	
	comp=E,182nm,1.5s						
MLOA				IAML		17 56 54.8	
	comp=N,188nm,3.0s						
MWH	**Moku'aweowe**	**0.67 273**		Pg	Pg	17 56 38.3	-0.9
MWH				IAML		17 56 51.6	
	comp=N,318nm,1.3s						
KHU	**Kahuku**	**0.71 253**		Pg	Pg	17 56 39.1	-1.0
KHU				IAML		17 56 57.7	
	comp=E,251nm,3.3s						
KHU				IAML		17 57 04.9	
	comp=N,176nm,2.7s						
HUH	**Hualalai**	**0.92 285**		Pg	Pg	17 56 44.0	-0.1
MHA	**Mahukona**	**1.20 308**		Pg	Pg	17 56 49.0	-0.4

NEIC ***17*** *18:02:52.2±0.4, 32.70S±0.09×178.6W±0.2, h35km±2km, mb4.5/6, Error ellipse: s-maj=33.2km s-min=13.7km az=103.0*

IDC ***17*** *18:03:00.3±2.4, 33.39S×178.46W, h138km±18km, mb3.8/2, mbtmp4.3/4, Error ellipse: s-maj=33.1km s-min=19.2km az=121.0*

ISC 17 18:03:00.8±1.1, 33.4S±0.1×178.4W±0.2, h150km, n23, σ2.3 32/25, mb4.4/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.19**	**5**	P	**Pn**	**18 04 03.3**	**-0.3**
	215nm,0.4s,baz=75,slow=23,SNR=1.9						
MXZ	**Matakaoa Point**	**4.94**	**213**	Pn	**Pn**	**18 04 10.8**	**-2.6**
URZ	**Urewera**	**6.06**	**216**	P	**Pn**	**18 04 25.7**	**-2.6**
	6.1nm,0.6s,baz=115,slow=19,SNR=9.3						
URZ				S	**Sn**	**18 05 36.6**	**-0.1**
	10nm,0.6s,baz=61,slow=20,SNR=1.6						
RTZ	**Ruatahuna**	**6.40**	**215**	Pn	**Pn**	**18 04 31.1**	**-1.9**
BKZ	**Black Stump Fm**	**7.07**	**215**	Pn	**Pn**	**18 04 39.9**	**-1.9**
BKZ				Sn	**Sn**	**18 06 08.7**	**+7.7**
SNZO	**South Karori**	**9.60**	**213**	Pn	Pn	18 05 09.5	-6.0
OXZ	**Oxford**	**12.41**	**215**	Pn	**Pn**	**18 05 47.9**	**-4.5**
OXZ				Sn	**Sn**	**18 08 08.0**	**-1.5**
AS31	**Alice Springs**	**42.73**	**270**	P	**P**	**18 10 43.9**	**+0.5**
ASAR	**Alice Springs**	**42.74**	**270**	P	**P**	**18 10 43.4**	**0.0**
ASAR	**Alice Springs**	**42.74**	**270**	P	**P**	**18 10 43.9**	**+0.5**
	2.0nm,0.6s,baz=106,slow=7.6,SNR=25						
ASAR				PcP	**PcP**	**18 12 33.1**	**+0.8**
	0.3nm,0.7s,baz=106,slow=3.8,SNR=1.3 2.0nm,0.6s						
WR0	**Warramunga Arr**	**43.82**	**276**	P	**P**	**18 10 51.9**	**-0.3**
WR0				IAmb	IAmb	18 10 59.3	
	comp=Z,12nm,1.2s						
WB2	**Warramunga Arr**	**43.99**	**275**	P	**P**	**18 10 53.1**	**-0.4**
WB2				IAmb	IAmb	18 11 25.8	
	comp=Z,17nm,1.4s						
WRA	**Warramunga Arr**	**44.00**	**275**	P	**P**	**18 10 53.0**	**-0.5**
	comp=Z,2.0nm,0.5s,baz=113,slow=8.0,SNR=32 comp=Z,2.0nm,0.5s						
WB0	**Warramunga Arr**	**44.03**	**276**	P	**P**	**18 10 53.7**	**-0.2**
WB0				IAmb	IAmb	18 10 58.8	
	comp=Z,7.9nm,0.9s						
FORT	**Forrest**	**45.05**	**258**	P	**P**	**18 11 03.6**	**+1.9**
QSPA	**South Pole Qui**	**56.68**	**180**	P	P	18 12 37.2	+8.8
QSPA				IAmb	IAmb	18 13 18.6	
	comp=Z,6.6nm,1.1s						
BVAR	**Borovoye Array**	**128.33**	**314**	PKP	**PKiKP**	**18 21 50.0**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=95,slow=6.4,SNR=4.1						
SCHQ	**Schefferville**	**128.67**	**44**	PKP	**PKiKP**	**18 21 50.7**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=192,slow=6.7,SNR=2.2						
FINES	**FINESS Array B**	**147.86**	**338**	PKPbc	**PKPbc**	**18 22 25.8**	**-1.6**
	comp=Z,3.8nm,0.8s,baz=55,slow=4.2,SNR=13						
MMAI	**Mount Meron Ar**	**151.83**	**279**	PKPbc	**PKiKP**	**18 22 40.4**	**+2.0**
	comp=Z,2.3nm,0.6s,baz=72,slow=5.4,SNR=3.9						
HFS	**Hagfors**	**152.14**	**347**	PKPbc	**PKiKP**	**18 22 38.3**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=306,slow=5.2,SNR=2.4						
BRTR	**Keskin Array B**	**153.64**	**293**	PKPbc	**PKPbc**	**18 22 41.0**	**-0.9**
	comp=Z,0.5nm,0.8s,baz=97,slow=3.1,SNR=4.5						
TORD	**Torodi Ar. Bea**	**159.81**	**180**	PKPab	**PKPab**	**18 23 23.7**	**+1.7**
	comp=Z,0.2nm,0.6s,baz=168,slow=2.9,SNR=1.3						

IDC ***17*** *18:17:31.6±0.7, 17.68S×167.60E, h0km, mb4.2/13, mbtmp4.2/14, ML3.8/1, MS4.5/3, Error ellipse: s-maj=24.0km s-min=17.3km az=97.0*

NEIC ***17*** *18:17:35.1±1.9, 17.89S±0.08×167.21E±0.07, h10km±1km, mb4.7/14, Error ellipse: s-maj=16.7km s-min=5.7km az=323.0*

NOU ***17*** *18:17:36.3, 18.05S×167.90E, h0km, MLv4.4/12, Vanuatu Islands*

ISC 17 18:17:33.2±0.5, 17°80S±0.06×167°37E±0.07, h10km, n54, σ1°61/55, mb4.5/21, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.78**	**85**	P	**Pg**	**18 17 46.0**	**-2.3**
LIFNC	**LIFOU**	**2.97**	**182**	P	**Pn**	**18 18 22.7**	**+2.3**
LIFNC	**LIFOU**	**2.97**	**182**	Pn	**Pn**	**18 18 18.6**	**-1.8**
LIFNC					**Sn**	**18 18 51.9**	**-4.2**
MARNC	**Mare, Loyalty**	**3.72**	**170**	P	**Pn**	**18 18 31.2**	**+0.5**
YATNC	**Mamie plateau,**	**4.27**	**186**	P	**Pn**	**18 18 40.2**	**+1.9**
DZM	**Mont Dzumac**	**4.34**	**191**	P	**Pn**	**18 18 40.4**	**+1.0**
DZM	**Mont Dzumac**	**4.34**	**191**		**Pn**	**18 18 39.4**	**0.0**
DZM	**Mont Dzumac**	**4.34**	**191**	Pn	**Pn**	**18 18 40.3**	**+1.0**
	4.2nm,0.3s,baz=347,slow=12,SNR=32						
DZM				Sn	**Sn**	**18 19 29.0**	**-1.1**
	13nm,0.3s,baz=100,slow=20,SNR=8.9						
DZM				LR	LR	18 20 18.3	
	comp=Z,390nm,18.3s,baz=25,slow=37 18nm,0.5s						
NOUC	**Port Laguerre**	**4.40**	**193**	P	**Pn**	**18 18 42.8**	**+2.7**
ONTNC	**Ouen Toro**	**4.57**	**191**	P	**Pn**	**18 18 43.5**	**+1.0**
ONTNC	**Ouen Toro**	**4.57**	**191**		**Pn**	**18 18 43.1**	**+0.7**
ONTNC				Sn	**Sn**	**18 19 34.8**	**-0.9**
OUENC	**Ouen Island, N**	**4.63**	**186**	P	**Pn**	**18 18 46.0**	**+2.8**
OUENC	**Ouen Island, N**	**4.63**	**186**		**Pn**	**18 18 43.9**	**+0.6**
PINNC	**Pines Island,**	**4.79**	**179**	P	**Pn**	**18 18 47.2**	**+1.7**
PINNC	**Pines Island,**	**4.79**	**179**	Pn	**Pn**	**18 18 47.1**	**+1.6**
MSVF	**Nonsavu**	**10.18**	**91**		**Pn**	**18 20 02.9**	**+3.3**
HNR	**Honiara**	**11.00**	**318**	LR	LR	18 23 15.1	
	comp=Z,2μm,19.2s,baz=204,slow=31						
ARMA	**Armidale**	**19.06**	**226**	P	**P**	**18 21 52.6**	**-3.3**
ARMA				IAmb	IAmb	18 22 26.7	
	comp=Z,28nm,1.4s						
URZ	**Urewera**	**22.10**	**159**	P	**P**	**18 22 30.3**	**+1.7**
	comp=Z,11nm,0.7s,baz=272,slow=14,SNR=3.7						
URZ				LR	LR	18 30 23.6	
	comp=Z,301nm,19.2s,baz=104,slow=35 comp=Z,11nm,0.7s						
MRZ	**Mangatainoka R**	**23.86**	**164**	P	**P**	**18 22 47.5**	**+0.8**
STKA	**Stephens Creek**	**27.18**	**234**	P	**P**	**18 23 16.1**	**-1.0**
STKA	**Stephens Creek**	**27.18**	**234**	P	**P**	**18 23 19.9**	**+2.8**
	comp=Z,7.3nm,0.8s,baz=56,slow=7.1,SNR=11 comp=Z,7.3nm,0.8s						
WB0	**Warramunga Arr**	**31.26**	**261**	P	**P**	**18 23 53.0**	**-0.4**
WB0				IAmb	IAmb	18 24 13.4	
	comp=Z,22nm,1.5s						
WB2	**Warramunga Arr**	**31.29**	**261**		**P**	**18 23 54.4**	**+0.6**
WB2				IAmb	IAmb	18 24 28.8	
	comp=Z,23nm,1.5s						
WRA	**Warramunga Arr**	**31.30**	**261**	P	**P**	**18 23 53.4**	**-0.4**
WRA	**Warramunga Arr**	**31.30**	**261**	P	**P**	**18 23 54.6**	**+0.7**
	comp=Z,2.4nm,0.9s,baz=91,slow=9.1,SNR=9.7 comp=Z,2.4nm,0.9s						
AS31	**Alice Springs**	**31.79**	**254**	P	**P**	**18 23 57.9**	**-0.3**
ASAR	**Alice Springs**	**31.79**	**254**	P	**P**	**18 23 58.4**	**+0.3**
ASAR	**Alice Springs**	**31.79**	**254**	P	**P**	**18 23 59.5**	**+1.3**
	comp=Z,5.5nm,0.8s,baz=80,slow=8.6,SNR=81 comp=Z,6.5nm,0.8s						
BBOO	**Buckleboo**	**31.87**	**236**	P	**P**	**18 23 57.5**	**-1.2**
BBOO				IAmb	IAmb	18 24 04.5	
	comp=Z,14nm,0.9s						
VNDA	**Vanda**	**59.82**	**181**	P	**P**	**18 27 38.8**	**+0.5**
	comp=Z,0.7nm,0.9s,baz=299,slow=7.7,SNR=3.5 comp=Z,0.7nm,0.9s						
SBA	**Scott Base**	**60.09**	**180**	P	**P**	**18 27 42.8**	**+2.6**
SBA				IAmb	IAmb	18 27 55.6	
	comp=Z,6.5nm,1.1s						
USRK	**Ussuriysk Ar.**	**69.66**	**334**	P	**P**	**18 28 43.1**	**+0.3**
	comp=Z,1.3nm,0.9s,baz=91,slow=8.6,SNR=2.3 comp=Z,1.3nm,0.9s						
RPSI	**Rantau Prapat**	**70.40**	**280**	P	**P**	**18 28 47.9**	**-0.2**
RPSI				IAmb	IAmb	18 28 51.9	
	comp=Z,8.6nm,1.3s						
SHEM	**Shemya Is, Ala**	**70.47**	**4**	LR	LR	18 56 27.2	
	comp=Z,1μm,19.1s,baz=268,slow=33						
PETK	**Petropavlovsk-**	**71.10**	**354**	P	**P**	**18 28 51.1**	**-0.4**
	comp=Z,4.3nm,0.8s,baz=153,slow=4.9,SNR=7.3 comp=Z,4.3nm,0.8s						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**18 28 59.8**	**+1.3**
QSPA				IAmb	IAmb	18 29 15.1	
	comp=Z,7.6nm,0.9s						
QSPA	**South Pole Qui**	**72.25**	**180**	P	**P**	**18 28 59.4**	**+0.8**
	comp=Z,4.5nm,0.8s,baz=339,slow=0.9,SNR=22 comp=Z,4.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**76.30**	**295**	P	**P**	**18 29 24.5**	**+1.7**
CMAR	**Chiang Mai Arr**	**76.30**	**295**	P	**P**	**18 29 25.3**	**+2.5**
	comp=Z,1.1nm,0.7s,baz=132,slow=4.3,SNR=6.6 comp=Z,1.1nm,0.7s						
CHTO	**Chiang Mai**	**76.44**	**295**	P	**P**	**18 29 23.9**	**+0.3**
CHTO				IAmb	IAmb	18 29 49.2	
	comp=Z,2.7nm,1.1s						
BELA	**Belgrano 2**	**83.68**	**175**	P	**P**	**18 30 01.8**	**0.0**
SONM	**Songino Array**	**85.01**	**324**	P	**P**	**18 30 09.6**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=123,slow=5.3,SNR=2.0 comp=Z,0.3nm,0.5s						
BILL	**Bilibino**	**85.59**	**360**	P	**P**	**18 30 10.9**	**-0.4**
NVAR	**Mina Array Bea**	**89.19**	**49**	P	**P**	**18 30 28.4**	**-1.3**
	comp=Z,0.6nm,0.8s,baz=224,slow=7.4,SNR=4.3 comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**89.40**	**18**	P	**P**	**18 30 27.0**	**-2.7**
	comp=Z,0.6nm,0.8s,baz=244,slow=5.6,SNR=5.8 comp=Z,0.6nm,0.8s						
TROLL	**Troll, Antarti**	**89.83**	**185**	⇑P	**P**	**18 30 31.5**	**-0.6**
	comp=Z,161nm,0.9s						
SNAA	**Sanae**	**90.51**	**183**	⇑P	**P**	**18 30 35.0**	**-0.1**
	comp=Z,34nm,0.7s						
SNAA	**Sanae**	**90.51**	**183**	P	**P**	**18 30 35.0**	**-0.1**
	comp=Z,1.8nm,0.8s,baz=243,slow=2.6,SNR=3.9 comp=Z,1.8nm,0.8s						
VNA3	**Neumayer Olymp**	**91.17**	**181**	⇑P	**P**	**18 30 36.1**	**-2.0**
	comp=Z,3.0nm,0.7s						
VNA2	**Neumayer--Watz**	**91.44**	**182**	⇑P	**P**	**18 30 39.3**	**0.0**
	comp=Z,2.3nm,0.7s,baz=164,slow=2.8						
YKA	**Yellowknife Ar**	**100.21**	**27**	P	**Pdif**	**18 31 17.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=267,slow=4.6,SNR=5.1						
ARCES	**ARCESS Array B**	**123.22**	**345**	PKP	**PKPdf**	**18 36 30.3**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=105,slow=1.4,SNR=5.5						
TORD	**Torodi Ar. Bea**	**165.44**	**254**	PKP	**PKPdf**	**18 37 39.1**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=40,slow=2.5,SNR=3.4						

IDC ***17*** *18:24:45.7±0.4, 31.60S×178.56W, h0km, mb4.6/16, mbtmp4.6/19, ML3.4/2, MS4.6/11, Error ellipse: s-maj=17.6km s-min=14.7km az=91.0*

WEL ***17*** *18:24:45.4±0.8, 32°S±4″×17°8W±1°4, h10km, M5.3/28, mB5.7/24, ML5.7/28, MLv5.7/28, Mw(mB)5.2/24, Error ellipse: s-maj=0.0km s-min=0.0km az=103.7, confirmed*

BJI ***17*** *18:24:45.6±0.0, 31.92S×178.42W, h8km, mb5.1/18, mB5.5/11*

MOS ***17*** *18:24:46.5±1.1, 31.81S×178.70W, h10km, mb5.2/14, Error ellipse: s-maj=13.3km s-min=9.7km az=94.5*

NEIC ***17*** *18:24:52.0±1.7, 31.83S±0.07×178.6W±0.1, h35km±1km, mb5.1/84, Error ellipse: s-maj=18.5km s-min=11.0km az=108.0*

GCMT ***17*** *18:24:54.0±0.2, 31.87S±0.02×178.40W±0.02, h53km±1km, MW5.2/86, Moment Tensor Solution. s68,c91; s86,c116; Duration: 1!0 Moment tensor: Scale 10¹⁷Nm; Mrr0.81±.03; Mθθ0.06±.03; Mϕϕ-0.87±.02; Mrθ0.10±.02; Mθϕ-0.33±.02; Mϕr0.17±.02; Best double couple: Mo0.91500×10¹⁷ NP1,ϕs21.00000°, δ51.00000°, λ95.00000°. NP2,ϕs193.00000°, δ39.00000°, λ84.00000°. Principal axes: T 0.8350, Plg83.0000°, Azm321.0000°; N 0.1600, Plg4.0000°, Azm198.0000°; P -0.9950, Plg6.0000°, Azm108.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

NOU ***17*** *18:25:07.0, 33.27S×178.56W, h147km, mb4.7/25, South of Kermadec Islands*

ISC 17 18:24:51.1±0.3, 31°88S±0.04×178°38W±0.07, h35km, n457, σ1°95/423, mb5.1/73, MS4.6/10, 14C-3D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.64**	**9**	P	**Pn**	**18 25 30.9**	**-0.2**
GLKZ				S	**Sn**	**18 25 59.2**	**-2.7**
RAO	**Raoul Island**	**2.65**	**9**		**Pn**	**18 25 31.5**	**+0.2**
RAO	**Raoul Island**	**2.65**	**9**	Pn	**Pn**	**18 25 30.6**	**-0.7**
	376nm,0.3s,baz=110,slow=10,SNR=13						
RAO				Sn	**Sn**	**18 25 59.0**	**-3.1**
	1μm,0.3s,baz=99,slow=21,SNR=6.3						
RAO	**Raoul Island**	**2.65**	**9**	P	**Pn**	**18 25 31.5**	**+0.2**
RIZ	**Raoul Island**	**2.65**	**8**	P	**Pn**	**18 25 32.0**	**+0.7**
MXZ	**Matakaoa Point**	**6.29**	**205**	P	**Pn**	**18 26 20.5**	**-0.9**
MXZ	**Matakaoa Point**	**6.29**	**205**	Pn	**Pn**	**18 26 20.0**	**-1.3**
MXZ	**Matakaoa Point**	**6.29**	**205**	P	**Pn**	**18 26 20.1**	**-1.3**
MXZ				S	**Sn**	**18 27 32.9**	**+0.9**
MXZ				T	T	18 31 59.4	
WMGZ	**Waiomatatini S**	**6.49**	**203**	P	**Pn**	**18 26 23.2**	**-0.8**
WMGZ				S	**Sn**	**18 27 37.9**	**+1.1**
HAZ	**Te Kaha**	**6.66**	**207**	P	**Pn**	**18 26 25.8**	**-0.6**
HAZ				S	**Sn**	**18 27 44.8**	**+3.8**
PKGZ	**Pakihiroa**	**6.67**	**205**	P	**Pn**	**18 26 24.9**	**-1.6**
PKGZ				S	**Sn**	**18 27 42.2**	**+0.9**
PUZ	**Puketiti**	**6.77**	**203**	P	**Pn**	**18 26 26.7**	**-1.2**
PUZ				S	**Sn**	**18 27 42.8**	**-1.0**
RUGZ	**Raukumara Rang**	**6.88**	**207**	P	**Pn**	**18 26 28.2**	**-1.3**
KUZ	**Kuaotunu**	**6.88**	**224**	P	**Pn**	**18 26 32.5**	**+3.0**
TWGZ	**Tauwhareparae**	**6.96**	**204**	P	**Pn**	**18 26 29.1**	**-1.4**
TWGZ				S	**Sn**	**18 27 49.0**	**+0.5**
WHRZ	**Whale Island**	**7.08**	**211**	P	**Pn**	**18 26 35.4**	**+3.2**
CNGZ	**Carnagh Statio**	**7.16**	**202**	P	**Pn**	**18 26 31.5**	**-1.7**
MWZ	**Matawai**	**7.26**	**206**	P	**Pn**	**18 26 32.4**	**-2.3**
MWZ				S	**Sn**	**18 27 56.0**	**+0.1**
WIAZ	**Waiheke Island**	**7.27**	**226**	P	**Pn**	**18 26 38.8**	**+4.1**
WCZ	**Waipu Caves**	**7.28**	**234**	P	**Pn**	**18 26 39.1**	**+4.2**
ABAZ	**Army Bay**	**7.33**	**228**	P	Pn	18 26 42.9

WPHZ Waipukurau 9.18 206 P **Pn** **18 26 58.3 -2.7**
PRHZ Porangahau 9.29 204 P **Pn** **18 27 00.1 -2.4**
TSZ Takapari Road 9.36 208 P **Pn** **18 26 59.2 -4.3**
WAZ Wanganui 9.53 213 P **Pn** **18 27 05.2 -0.5**
LREZ Lake Rotokare 9.57 216 P **Pn** **18 27 08.6 +2.2**
NEZ North Egmont 9.59 218 P **Pn** **18 27 11.0 +4.4**
KHEZ Kahui Hut 9.65 218 P **Pn** **18 27 07.2 -0.2**
KHEZ Kahui Hut 9.65 218 P **Pn** **18 27 09.8 +2.3**
POWZ Post Office Ro 9.72 207 P **Pn** **18 27 07.5 -0.9**
PRWZ Pori Road 9.79 206 P **Pn** **18 27 06.2 -3.1**
BFZ Birch Farm 9.80 205 **Pn** **18 27 05.5 -3.8**
BFZ Birch Farm 9.80 205 P **Pn** **18 27 05.6 -3.8**
MRZ Mangatainoka R 10.03 207 Pn **Pn** **18 27 08.4 -4.1**
TMWZ Te Maipa 10.30 205 P **Pn** **18 27 11.5 -4.8**
TRWZ Traveller 10.63 205 P **Pn** **18 27 16.1 -4.7**
PAWZ Paruwai Farm 10.71 206 P **Pn** **18 27 18.1 -3.8**
SNZO South Karori 10.93 209 P **Pn** **18 27 20.8 -4.1**
SNZO South Karori 10.93 209 Pn **Pn** **18 27 20.7 -4.2**
BHW Baring Head 10.94 208 Pn **Pn** **18 27 20.4 -4.7**
TCW Tory Channel 11.02 210 Pn Pn 18 27 21.2 -5.0
TUWZ Tuamarina 11.35 211 **Pn** **18 27 26.0 -4.7**
NNZ Nelson 11.43 213 Pn Pn 18 27 25.9 -5.9
TKNZ Takaka Hill 11.49 215 Pn 18 27 26.8 -5.8
CMWZ Cape Campbell 11.50 209 Pn **Pn** **18 27 28.1 -4.6**
QRZ Quartz Range 11.55 217 P **Pn** **18 27 30.6 -2.8**
BSWZ Blackbirch Sta 11.61 210 Pn **Pn** **18 27 29.8 -4.5**
MRNZ Matariki Terra 11.87 214 Pn Pn 18 27 32.6 -5.1
CTZ Chatham Island 11.92 174 P **Pn** **18 27 34.4 -4.0**
CTZ Chatham Island 11.92 174 Pn **Pn** **18 27 35.9 -2.5**
THZ Tophouse 12.08 213 Pn **Pn** **18 27 36.8 -3.9**
KHZ Kahutara 12.33 209 P **Pn** **18 27 39.5 -4.5**
KHZ Kahutara 12.33 209 Pn Pn 18 27 38.8 -5.2
GVZ Greta Valley S 12.99 209 Pn Pn 18 27 47.5 -5.7
LTZ Lake Taylor 13.17 212 Pn Pn 18 27 50.0 -5.6
OXZ Oxford 13.71 211 Pn 18 27 56.2 -6.7
MQZ McQueen's Vall 13.76 208 Pn Pn 18 27 56.8 -6.8
MSVF Nonsavu 14.45 346 Pn **Pn** **18 28 13.7 +0.5**
MSVF Nonsavu 14.45 346 *i* P **Pn** **18 28 13.8 +0.6**
RPZ Rata Peaks 14.46 212 P **Pn** **18 28 08.8 -4.3**
RPZ Rata Peaks 14.46 212 Pn Pn 18 28 06.5 -6.6
1.8nm,0.3s,baz=5.2,slow=21,SNR=1.7
RPZ Sn Sn 18 30 38.5 -14
5.9nm,0.3s,baz=17,slow=20,SNR=10
PINNC Pines Island, 15.61 303 P P 18 28 46.6 +14
ODZ Otahua Downs 15.69 210 P **Pn** **18 28 23.4 -5.9**
ODZ Otahua Downs 15.69 210 Pn **Pn** **18 28 26.6 -2.7**
ODZ IAmb IAmb 18 28 28.6
comp=Z,210nm,1.9s
JCZ Jackson Bay 15.81 216 P **Pn** **18 28 26.7 -4.3**
OUENC Ouen Island, N 16.17 302 P P 18 28 52.3 +14
DZM Mont Dzumac 16.67 302 P P 18 28 59.6 +15
DZM Mont Dzumac 16.67 302 Pn **Pn** **18 28 36.2 -5.9**
comp=Z,0.2nm,0.3s,baz=91,slow=18,SNR=1.7
DZM LR LR 18 33 58.8
comp=Z,3µm,18.4s,baz=142,slow=34
comp=Z,7.0nm,1.0s
NOUC Port Laguerre 16.75 302 P P 18 28 59.9 +15
RAR Rarotonga 19.71 62 P **P** **18 29 17.8 +0.2**
comp=Z,1.2nm,0.3s,baz=294,slow=18,SNR=2.7
RAR LR LR 18 36 37.8
comp=Z,256nm,18.6s,baz=262,slow=36
comp=Z,22nm,0.9s
GC1S Gold Coast 1 S 24.59 271 P **P** **18 30 14.1 +6.2**
ARMA Armidale 25.68 265 P **P** **18 30 19.7 +1.8**
baz=27,SNR=8.1
ARMA Armidale 25.68 265 P **P** **18 30 20.9 +3.0**
ARMA Armidale 25.68 265 P **P** **18 30 18.9 +0.9**
MGCD Mangrove Creek 25.72 259 P **P** **18 30 18.9 +0.8**
baz=27,SNR=14
MGCD Mangrove Creek 25.72 259 P **P** **18 30 19.8 +1.7**
CNB Canberra Magne 27.02 254 P **P** **18 30 30.7 +0.7**
baz=28,SNR=11
CNB Canberra Magne 27.02 254 P **P** **18 30 30.4 +0.4**
MILA Mila 27.18 250 P **P** **18 30 31.5 +0.1**
baz=28,SNR=3.7
CAN Canberra 27.32 254 P **P** **18 30 34.3 +1.6**
CAN Canberra 27.32 254 P **P** **18 30 30.9 -1.8**
CAN Canberra 27.32 254 P **P** **18 30 30.9 -1.8**
CAN pmax pmax
comp=Z,20nm,1.1s
EIDS Eidsvold 27.52 276 P **P** **18 30 36.4 +1.9**
baz=29,SNR=4.7
EIDS Eidsvold 27.52 276 P **P** **18 30 39.9 +5.4**
EIDS Eidsvold 27.52 276 P **P** **18 30 34.7 +0.2**
YNG Young 27.88 256 P **P** **18 30 38.3 +0.7**
baz=29,SNR=7.6
YNG Young 27.88 256 P **P** **18 30 38.6 +1.0**
TAU Tasmania Unive 29.21 238 P **P** **18 30 47.8 -1.5**
TAU Tasmania Unive 29.21 238 P **P** **18 30 47.8 -1.5**
TAU pmax pmax
comp=Z,174nm,1.8s
PPT Papeete 29.68 68 LR LR 18 39 36.3
comp=Z,381nm,20.2s,baz=248,slow=30
HNR Honiara 30.05 313 LR LR 18 41 23.9
comp=Z,6µm,19.8s,baz=162,slow=34
TOO Toolangi 30.11 249 P **P** **18 30 57.8 +0.4**
baz=31,SNR=4.5
CMSA Cobar Meteorol 30.49 261 P **P** **18 31 01.9 +1.1**
baz=32,SNR=52
QLP Quilpie 32.94 270 P **P** **18 31 22.9 +0.5**
baz=34,SNR=8.9
ARPS Mount Arapiles 33.05 250 P **P** **18 31 22.9 -0.4**
baz=34,SNR=8.9
CTAO Charters Tower 33.75 282 P **P** **18 31 30.1 +0.6**
CTAO Charters Tower 33.75 282 P **P** **18 31 30.1 +0.6**
CTAO pmax pmax
comp=Z,66nm,0.8s
CTAO Charters Tower 33.75 282 P **P** **18 31 30.4 +0.9**
STKA Stephens Creek 33.86 259 P **P** **18 31 31.1 +0.8**
baz=35,SNR=9.6
STKA Stephens Creek 33.86 259 P **P** **18 31 30.1 -0.2**
STKA Stephens Creek 33.86 259 P **P** **18 31 29.8 -0.5**
comp=Z,13nm,0.8s,baz=96,slow=9.8,SNR=14
STKA LR LR 18 43 56.8
comp=Z,871nm,19.2s,baz=72,slow=34
comp=Z,13nm,0.8s
STKA Stephens Creek 33.86 259 *i* P **P** **18 31 27.5 -2.8**
HTT Hallett 35.80 256 P **P** **18 31 46.8 -0.4**
baz=37,SNR=38
MTSU Mount Surprise 36.28 283 P **P** **18 31 53.0 +1.6**
baz=38,SNR=32
BBOO Buckleboo 38.28 256 P **P** **18 32 06.9 -1.3**
baz=39,SNR=82
BBOO Buckleboo 38.28 256 P **P** **18 32 07.0 -1.1**
PMG Port Moresby 38.97 297 P **P** **18 32 12.8 -1.2**
comp=Z,18nm,0.9s,baz=120,slow=6.7,SNR=3.2
comp=Z,18nm,0.9s
RABL Rabaul 39.02 309 **P** **18 32 13.2 -1.2**
QIS Mount Isa 39.13 276 P **P** **18 32 15.6 +0.2**
baz=40,SNR=12
COEN Coen 39.39 288 P **P** **18 32 17.9 +0.3**
baz=41,SNR=38
COEN Coen 39.39 288 P **P** **18 32 17.3 -0.3**
COEN IAmb IAmb 18 32 20.9
comp=Z,42nm,0.8s
DRV Dumont d'Urvil 42.66 203 P **P** **18 32 44.5 +0.6**
DRV ScP **ScP** **18 38 21.4 -2.0**
AS31 Alice Springs 42.73 269 P **P** **18 32 43.6 -1.5**
ASAR Alice Springs 42.73 269 P **P** **18 32 43.8 -1.3**
comp=Z,23nm,0.6s,baz=106,slow=7.3,SNR=338
ASAR LR LR 18 50 19.8
comp=Z,533nm,19.1s,baz=164,slow=36
comp=Z,23nm,0.6s
WR0 Warramunga Arr 43.67 274 IAmb IAmb 18 32 53.6
comp=Z,70nm,1.0s
MANU Manus Island 43.83 306 P **P** **18 32 53.0 -1.0**
MANU IAmb IAmb 18 32 54.0
comp=Z,14nm,0.8s
WRA Warramunga Arr 43.85 274 P **P** **18 32 52.0 -2.2**
WRA Warramunga Arr 43.85 274 P **P** **18 32 52.6 -1.5**
comp=Z,36nm,0.4s,baz=112,slow=8.0,SNR=417
WRA LR LR 18 50 19.8
comp=Z,947nm,18.7s,baz=82,slow=35
WRA Warramunga Ar 43.85 274 P **P** **18 32 52.0 -2.2**
WRA pmax pmax
comp=Z,6.0nm,1.0s
PATS Pohnpei 44.46 326 P **P** **18 32 59.9 +0.9**
baz=46,SNR=3.4
FORT Forrest 45.37 257 P **P** **18 33 04.5 -1.6**
baz=46,SNR=16
FORT Forrest 45.37 257 P **P** **18 33 04.2 -2.0**
SBA Scott Base 46.54 184 P **P** **18 33 16.9 +2.2**
SBA IAmb IAmb 18 33 42.7
comp=Z,67nm,2.0s

SBA Scott Base 46.54 184 P **P** **18 33 16.9 +2.2**
SBA pmax pmax
comp=Z,67nm,2.0s
VNDA Vanda 46.60 186 P **P** **18 33 17.6 +2.5**
VNDA Vanda 46.60 186 P **P** **18 33 18.1 +3.0**
comp=Z,1.5nm,0.8s,baz=353,slow=8.2,SNR=23
comp=Z,1.5nm,0.8s
VNDA Vanda 46.60 186 P **P** **18 33 17.6 +2.5**
VNDA pmax pmax
comp=Z,14nm,1.5s
VNDA Vanda 46.60 186 P **P** **18 33 18.4 +3.3**
VNDA ScP **ScP** **18 38 39.3 -0.2**
WRKA Warakurna 46.99 264 P **P** **18 33 16.4 -2.6**
baz=48,SNR=90
KDU Kakadu 48.87 281 P **P** **18 33 32.5 -1.1**
baz=50,SNR=22
MTN Manton Dam 49.91 280 P **P** **18 33 40.2 -1.3**
baz=51,SNR=37
MTN Manton Dam 49.91 280 P **P** **18 33 40.0 -1.5**
KMBL Kambalda 50.29 254 P **P** **18 33 42.7 -1.6**
baz=51,SNR=5.1
CCD Concordia, Ant 51.45 196 P **P** **18 33 53.5 +0.7**
CCD ScP **ScP** **18 38 58.4 -2.3**
FITZ Fitzroy Crossi 52.05 271 P **P** **18 33 56.1 -1.4**
baz=53,SNR=18
KLBR Kellerberrin 53.58 252 P **P** **18 34 06.2 -2.6**
baz=54,SNR=21
NWAO Narrogin (SRO) 53.59 250 LR LR 18 54 39.9
comp=Z,303nm,20.8s,baz=30,slow=34
CASY Casey 53.69 208 P **P** **18 34 08.2 -0.8**
CASY Casey 53.69 208 P **P** **18 34 08.6 -0.4**
MEEK Meekatharra 54.55 258 P **P** **18 34 14.4 -1.6**
baz=56,SNR=7.0
FAKI Fak Fak 54.56 292 P **P** **18 34 14.6 -1.5**
MUN Mundaring 54.70 251 P **P** **18 34 14.4 -2.5**
baz=56,SNR=3.7
MORW Morawa 55.81 255 P **P** **18 34 22.8 -2.2**
baz=57,SNR=6.0
MORW Morawa 55.81 255 IAmb IAmb 18 34 24.5
comp=Z,27nm,1.2s
MHA Mahukona 56.07 26 P **P** **18 34 28.2 +1.5**
MHA Mahukona 56.07 26 P **P** **18 34 28.2 +1.5**
SWI Sorong 56.60 293 P **P** **18 34 27.8 -2.9**
QSPA South Pole Qui 58.24 180 P **P** **18 34 44.5 +2.7**
comp=Z,21nm,0.9s,baz=50,slow=0.9,SNR=50
comp=Z,21nm,0.9s
QSPA South Pole Qui 58.24 180 P **P** **18 34 43.9 +2.2**
BELA Belgrano 2 68.37 172 P **P** **18 35 49.2 +0.8**
BELA IAmb IAmb 18 36 09.1
comp=Z,24nm,1.1s
MAW Mawson 70.81 201 P **P** **18 36 04.5 +0.9**
comp=Z,4.5nm,0.3s,baz=98,slow=5.3,SNR=6.4
MAW LR LR 19 05 18.7
comp=Z,393nm,21.4s,baz=126,slow=34
comp=Z,4.5nm,0.3s
PMSA Palmer Station 71.06 156 LR LR 19 01 39.2
comp=Z,182nm,19.3s,baz=279,slow=31
ELIB Princess Elisa 75.35 187 *d*P **P** **18 36 31.2 +0.6**
comp=Z,13nm,1.2s
TROLL Troll, Antarti 76.40 180 ⇑P **P** **18 36 38.2 +1.7**
comp=Z,311nm,0.3s
SNAA Sanae 76.69 179 P **P** **18 36 38.5 +0.4**
SNAA IAmb IAmb 18 36 45.8
comp=Z,30nm,1.2s
SNAA Sanae 76.69 179 ⇑P **P** **18 36 41.0 +2.8**
comp=Z,123nm,0.3s
SNAA Sanae 76.69 179 P **P** **18 36 39.2 +1.1**
comp=Z,4.8nm,0.3s,baz=180,slow=7.5,SNR=76
comp=Z,4.8nm,0.3s
SNAA Sanae 76.69 179 *ce*P **P** **18 36 38.9 +0.8**
SNAA pmax pmax
comp=Z,39nm,1.7s
VNA3 Neumayer Olymp 76.86 176 ⇑P **P** **18 36 39.7 +0.7**
comp=Z,26nm,0.6s
VNA2 Neumayer--Watz 77.29 177 ⇑P **P** **18 36 42.4 +1.0**
comp=Z,28nm,0.7s,baz=184,slow=6.0
NVL N'lazarevskaya 77.39 183 *e*P P 18 36 36.5 -5.4
NVL *e*S **S** **18 46 24.7 -4.8**
NVL pmax pmax
comp=Z,6.0nm,0.6s
VNA1 Neumayer--Stat 77.52 177 ⇑P **P** **18 36 44.4 +1.7**
comp=Z,32nm,0.9s
JGF Kuroka 78.94 325 P **P** **18 36 49.9 -1.0**
MJAR Matsushiro Arr 79.27 326 P **P** **18 36 51.0 -1.7**
comp=Z,4.4nm,0.9s,baz=166,slow=5.0,SNR=10
comp=Z,4.4nm,0.9s
MAJO Matsushiro 79.28 326 P **P** **18 36 52.6 -0.2**
MAJO IAmb IAmb 18 36 53.1
comp=Z,12nm,1.1s
MAJO Matsushiro 79.28 326 *i* P **P** **18 36 51.4 -1.4**
MAJO pmax pmax
comp=Z,14nm,1.2s
MJB9 Matsu-Tunnel 79.28 326 P **P** **18 36 53.2 +0.4**
H03S2 Juan Fernandez 79.92 123 T T 20 05 33.7
baz=236,slow=74,SNR=399
H03S1 Juan Fernandez 79.93 124 T T 20 05 43.5
baz=236,slow=74,SNR=324
H03S3 Juan Fernandez 79.94 123 T T 20 05 43.2
baz=236,slow=74,SNR=384
TPUB Ta-pu 80.06 305 P **P** **18 36 55.3 -2.1**
TPUB IAmb IAmb 18 36 56.7
comp=Z,25nm,1.0s
H03N3 Juan Fernandez 80.12 123 T T 20 05 48.7
baz=241,slow=72,SNR=326
H03N2 Juan Fernandez 80.12 123 T T 20 05 57.2
baz=241,slow=72,SNR=315
H03N1 Juan Fernandez 80.14 123 T T 20 05 47.1
baz=241,slow=72,SNR=774
JNU Nakatsue 80.45 319 P **P** **18 36 58.9 -0.3**
JNU IAmb IAmb 18 37 00.1
comp=Z,25nm,1.0s
PLCA Paso Flores 81.74 133 P **P** **18 37 07.0 +0.7**
comp=Z,2.3nm,1.0s,baz=226,slow=6.3,SNR=3.3
comp=Z,2.3nm,1.0s
DLV T Lat 82.33 289 P **P** **18 37 08.9 -0.9**
DLV IAmb IAmb 18 37 10.1
comp=Z,35nm,1.6s
ASAJ Asahikawa 83.60 333 LR LR 19 08 53.9
comp=Z,2µm,20.2s,baz=176,slow=32
IPM Ipoh 84.39 279 P **P** **18 37 18.8 -1.4**
TJN Taejon 84.80 319 *ce*P **P** **18 37 21.2 -0.5**
BO02 Sierra Bellavi 85.02 128 P **P** **18 37 24.4 +1.2**
BO02 IAmb IAmb 18 37 45.3
comp=Z,28nm,1.2s
MT01 Popeta 85.24 127 P **P** **18 37 25.9 +1.6**
MT01 IAmb IAmb 18 37 39.7
comp=Z,17nm,0.9s
KSRS Korea Array 85.26 320 P **P** **18 37 23.2 -0.8**
comp=Z,3.8nm,0.9s,baz=145,slow=6.0,SNR=4.2
comp=Z,3.8nm,0.9s
QIZ Qiongzhong 85.34 296 P **P** **18 37 25.8 +1.0**
QIZ S **S** **18 47 56.8 +3.5**
QIZ pmax pmax
comp=Z,100nm,14.5s
GSI Gunungsitoli 85.62 274 P **P** **18 37 25.6 -0.9**
GSI Gunungsitoli 85.62 274 P **P** **18 37 25.7 -0.8**
YSS Yuzh-Sakhalins 85.94 334 *e*P **P** **18 37 27.3 +0.2**
YSS pmax pmax
comp=Z,20nm,1.2s
UBPT Khong Chiam 86.62 290 IAmb IAmb 18 37 33.8
comp=Z,8.4nm,1.3s
NJ2 Nanjing 86.96 311 *e*P **P** **18 37 34.0 +1.5**
NJ2 pP **PcP** **18 37 38.5 +3.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 pmax pmax
comp=Z,77nm,4.4s
PETK Petropavlovsk- 87.16 346 P **P** **18 37 31.7 -1.3**
comp=Z,6.5nm,0.8s,baz=103,slow=6.4,SNR=9.8
comp=Z,6.5nm,0.8s
EDW2 Edwards Air Fo 87.34 46 P **P** **18 37 37.1 +2.7**
baz=226
LRMC Laurel Mtn Rad 87.93 45 P **P** **18 37 40.2 +2.9**
baz=228
CMB Columbia Colle 88.07 42 **P** **18 37 39.1 +1.3**
CMB IAmb IAmb 18 37 40.9
comp=Z,5.7nm,0.9s
CMB Columbia Colle 88.07 42 P **P** **18 37 39.2 +1.3**
CMB pmax pmax
comp=Z,6.0nm,1.0s
BC3 Big Chuckawall 88.10 48 P **P** **18 37 42.5 +4.4**
baz=229
USA0B Ussuriysk Arra 88.21 327 *i* P **P** **18 37 38.8 +0.6**
USRK Ussuriysk Ar. 88.21 327 P **P** **18 37 38.3 +0.1**
USRK Ussuriysk Ar. 88.21 327 P **P** **18 37 37.2 -1.0**
comp=Z,6.4nm,1.0s,baz=151,slow=4.4,SNR=9.7
comp=Z,6.4nm,1.0s

GSC Goldstone, Bar 88.34 46 IAmb IAmb 18 37 47.5
comp=Z,12nm,1.3s
AFDM Forest Hills D 88.38 41 **P** **18 37 40.0 +0.8**
MPMC Manual Prospec 88.43 45 P **P** **18 37 43.5 +3.7**
baz=228
IRM Iron Mountain 88.62 48 P **P** **18 37 44.2 +3.6**
baz=229
QSM Queen of Sheba 88.74 45 IAmb IAmb 18 37 45.1
comp=Z,13nm,1.4s
WAKR Walker 88.94 42 IAmb IAmb 18 37 45.5
comp=Z,8.6nm,1.1s
TUQ Turquoise Moun 88.97 46 P **P** **18 37 45.0 +2.7**
baz=229
GWY Greenwater Val 89.01 45 **P** **18 37 44.0 +1.6**
DSP Deep Springs 89.02 44 IAmb IAmb 18 37 46.5
comp=Z,6.9nm,1.3s
GRAC Grapevine Rang 89.13 44 IAmb IAmb 18 41 10.6
comp=Z,9.5nm,0.7s
GRAC Grapevine Rang 89.13 44 P **P** **18 37 45.7 +2.8**
baz=228
LHV Little Huntoon 89.30 43 IAmb IAmb 18 37 51.1
comp=Z,8.9nm,1.2s
PDMCI Parker Dam,Lak 89.35 48 P **P** **18 37 47.0 +3.2**
baz=230
NVAR Mina Array Bea 89.54 43 **P** **18 37 46.1 +1.2**
NVAR Mina Array Bea 89.54 43 P **P** **18 37 45.9 +0.9**
comp=Z,2.6nm,0.9s,baz=222,slow=8.7,SNR=16
comp=Z,2.6nm,0.9s
NV11 Mina Array Sit 89.63 43 IAmb IAmb 18 37 48.4
comp=Z,12nm,1.5s
Y14A Wickenburg 89.85 49 IAmb IAmb 18 38 37.4
comp=Z,6.8nm,0.7s
HUMO Hull Mountain 89.89 37 IAmb IAmb 18 37 50.7
comp=Z,15nm,1.6s
W13A Hualapai Mount 90.02 48 IAmb IAmb 18 38 03.0
comp=Z,6.4nm,1.1s
DBO Dodson Butte 90.11 37 IAmb IAmb 18 38 33.1
comp=Z,8.8nm,1.2s
I03D Drain, OR 90.47 36 IAmb IAmb 18 37 52.9
comp=Z,31nm,1.6s
TIA Tai'an 90.74 313 P **P** **18 37 51.4 +1.1**
TIA pmax pmax
comp=Z,6.0nm,1.0s
PRN Pahroc Range 90.79 45 IAmb IAmb 18 38 16.8
comp=Z,4.3nm,0.9s
I04A Tendick Farm, 91.01 37 IAmb IAmb 18 37 56.9
comp=Z,5.8nm,0.7s
K05A Summer Lake 91.05 38 IAmb IAmb 18 38 11.1
comp=Z,16nm,1.5s
CN2 Changchun 91.12 323 *e*P **P** **18 37 52.6 +0.7**
CN2 *es*P pP 18 37 59.5 -2.5
J05D Fort Rock, OR 91.26 38 P **P** **18 37 53.6 +0.8**
J05D IAmb IAmb 18 37 56.5
comp=Z,15nm,1.6s
Q17K Contact Creek 91.76 12 P **P** **18 37 55.1 +0.5**
baz=199
PINE Pine Mountain 91.77 38 IAmb IAmb 18 37 58.5
comp=Z,10.0nm,0.9s
U15A North Rim 91.87 48 IAmb IAmb 18 37 59.8
comp=Z,5.5nm,1.0s
GYA Guiyang 92.00 300 *e*P **P** **18 37 56.5 -0.1**
GYA pmax pmax
comp=Z,8.0nm,0.9s
GYA pmax pmax
comp=Z,110nm,7.1s
WVOR Wild Horse Val 92.06 40 IAmb IAmb 18 38 00.1
comp=Z,13nm,1.6s
KLR Kul'dur 92.15 330 *ce*P **P** **18 37 55.3 -1.2**
KLR pmax pmax
comp=Z,5.0nm,1.0s
LYN LuoYang 92.68 309 *e*P **P** **18 38 00.4 +1.0**
LYN pmax pmax
comp=Z,24nm,0.8s
LYN pmax pmax
comp=Z,120nm,3.7s
I07A Izee 92.72 38 IAmb IAmb 18 38 02.4
comp=Z,4.0nm,0.9s
J08A Circle Bar Ran 92.77 39 IAmb IAmb 18 38 03.3
comp=Z,7.1nm,1.3s
N15K Kwethluk River 92.94 9 P **P** **18 38 00.7 +0.8**
N15K Kwethluk River 92.94 9 P **P** **18 38 01.3 +1.4**
baz=196
HNS HongShan 92.99 313 ⇑P **P** **18 38 01.8 +1.1**
HNS pmax pmax
comp=Z,12nm,1.2s
M15K Kasigluk River 93.37 9 P **P** **18 38 02.6 +0.7**
baz=195
O18K Koktuh Hills 93.38 11 P **P** **18 38 03.1 +1.1**
baz=200
N16K Nishlik Lake 93.42 10 P **P** **18 38 03.6 +1.5**
baz=197
TXAR Lajitas Array 93.45 58 P **P** **18 38 04.0 +0.8**
comp=Z,0.4nm,0.8s,baz=216,slow=5.6,SNR=2.7
comp=Z,0.4nm,0.8s
TXAR Lajitas Array 93.45 58 P **P** **18 38 04.0 +0.8**
CMAR Chiang Mai Arr 93.58 289 P **P** **18 38 03.5 -0.4**
comp=Z,0.3nm,0.3s,baz=142,slow=4.5,SNR=3.1
comp=Z,0.3nm,0.3s
M16K Timber Creek 93.92 9 P **P** **18 38 06.4 +2.0**
baz=197
M17K Holitna River 94.50 10 P **P** **18 38 08.9 +1.9**
M17K Holitna River 94.50 10 P **P** **18 38 09.1 +2.1**
baz=198
L16K Owhat River 94.51 9 P **P** **18 38 08.2 +1.1**
L16K IAmb IAmb 18 38 09.9
comp=Z,18nm,1.4s
L16K Owhat River 94.51 9 P **P** **18 38 09.0 +1.9**
baz=196
K15K Wolf Creek Mou 94.82 8 P **P** **18 38 09.9 +1.4**
baz=194
HVU Hansel Valley 94.93 43 P **P** **18 38 10.2 +0.5**
HVU IAmb IAmb 18 38 18.9
comp=Z,4.6nm,1.1s
HVU Hansel Valley 94.93 43 P **P** **18 38 10.2 +0.5**
HVU pmax pmax
comp=Z,5.0nm,1.1s
PLID Pearl Lake 95.25 39 P **P** **18 38 13.0 +1.8**
L19K White Mountain 95.63 11 P **P** **18 38 14.6 +2.3**
baz=200
PZH PanZhiHua 95.70 298 P **P** **18 38 15.3 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.2s
J16K Anvik River 95.89 8 P **P** **18 38 14.2 +0.9**
J16K IAmb IAmb 18 38 15.5
comp=Z,6.7nm,0.9s
J16K Anvik River 95.89 8 P **P** **18 38 14.7 +1.4**
baz=195
CD2 Chengdu 96.60 302 P **P** **18 38 18.1 +0.6**
HHC Hu-ho-hao-te 97.03 314 *e*P Pdif 18 38 21.3 +2.0
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,130nm,4.7s
F14K Arctic Creek 97.49 5 P Pdif 18 38 21.8 +1.2
baz=190
M27K Edge Creek, AK 98.39 16 IAmb IAmb 18 41 37.3
comp=Z,8.3nm,1.0s
M27K Edge Creek, AK 98.39 16 P Pdif 18 38 27.9 +3.0
baz=211
COLA College 99.34 13 *i* P **Pdif** **18 38 28.3 -0.5**
COLA pmax pmax
comp=Z,4.0nm,0.8s
ILAR Eielson Array 99.43 13 P **Pdif** **18 38 29.1 -0.2**
comp=Z,1.3nm,0.9s,baz=223,slow=5.0,SNR=4.8
comp=Z,1.3nm,0.9s
E17K Hotham Inlet 99.45 6 P **Pdif** **18 38 29.9 +0.6**
baz=194
F19K Shaleruckik Mo 99.65 8 P **Pdif** **18 38 30.8 +0.6**
baz=198
J26L Joseph Creek 99.87 15 P **Pdif** **18 38 32.8 +1.4**
baz=210
E18K Tukpahlearik C 99.90 7 P **Pdif** **18 38 32.2 +0.9**
baz=195
EGAK Eagle 100.64 15 P **Pdif** **18 38 36.7 +2.0**
baz=212
WMQ Urumqi 113.88 308 *e*PKP **PKiKP** **18 43 26.4 +0.4**
BOSA Boshof 115.78 203 PKP **PKPdf** **18 43 31.4 +1.0**
comp=Z,1.3nm,0.5s,baz=190,slow=2.9,SNR=5.1
MK31 Makanchi Array 118.47 310 *c i* PKIKP **PKPdf** **18 43 32.1 -2.6**
MKAR Makanchi Array 118.47 310 PKPdf **PKPdf** **18 43 33.3 -1.4**
MKAR Makanchi Array 118.47 310 PKP **PKPdf** **18 43 33.2 -1.5**
comp=Z,1.0nm,0.5s,baz=143,slow=0.6,SNR=10
MKAR Makanchi Array 118.47 310 PKIKP **PKPdf** **18 43 33.3 -1.4**
MAKZ Makanchi 118.68 309 PKPdf **PKPdf** **18 43 33.7 -1.4**
MAKZ Makanchi 118.68 309 PKIKP **PKPdf** **18 43 33.7 -1.4**

ZALV	**Zalesovo Beam**	**118.91**	**318**	PKP	**PKPdf**	**18 43 32.8**	**-2.5**
	comp=Z,0.8nm,0.6s,baz=178,slow=4.3,SNR=6.0						
KURK	**Kurchatov**	**121.83**	**313**	PKPdf	**PKPdf**	**18 43 39.7**	**-1.3**
KURK	**Kurchatov**	**121.83**	**313**⇑	*e*PKIKP	**PKPdf**	**18 43 40.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**121.86**	**313**	PKP	**PKPdf**	**18 43 39.0**	**-2.1**
	comp=Z,3.5nm,0.8s,baz=107,slow=1.8,SNR=32						
AAK	**Ala-Archa**	**122.66**	**303**		**PKPdf**	**18 43 41.9**	**-1.2**
AAK	**Ala-Archa**	**122.66**	**303**⇑	*e*PKIKP	**PKPdf**	**18 43 40.2**	**-2.9**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KKAR	**Karatay Array**	**125.61**	**303**	PKPdf	**PKPdf**	**18 43 47.0**	**-1.5**
KKAR	**Karatay Array**	**125.61**	**303**	PKIKP	**PKPdf**	**18 43 47.0**	**-1.5**
SIMJ	**Simiganj**	**125.67**	**297**	PKPdf	**PKPdf**	**18 43 48.6**	**-0.4**
LSZ	**Lusaka**	**126.64**	**213**		**PKPdf**	**18 43 51.3**	**-0.2**
LSZ	**Lusaka**	**126.64**	**213**	PKIKP	**PKPdf**	**18 43 51.3**	**-0.2**
BVAR	**Borovoye Array**	**127.23**	**315**	PKP	**PKPdf**	**18 43 49.9**	**-1.4**
	comp=Z,2.0nm,0.4s,baz=104,slow=1.8,SNR=25						
BRVK	**Borovoye**	**127.29**	**315**	PKPdf	**PKPdf**	**18 43 50.5**	**-0.9**
BRVK	**Borovoye**	**127.29**	**315**⇑	*e*PKIKP	**PKPdf**	**18 43 51.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SPITS	**Spitsbergen Ar**	**133.15**	**356**	PKP	**PKiKP**	**18 44 02.8**	**-0.3**
	comp=Z,10nm,0.9s,baz=79,slow=5.2,SNR=7.2						
GEYT	**Alibeck**	**133.87**	**294**	PKP	**PKPdf**	**18 44 05.0**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=153,slow=4.2,SNR=2.1						
ARU	**Arti**	**134.01**	**320**		**PKPdf**	**18 44 03.4**	**-0.6**
ARU	**Arti**	**134.01**	**320**	*i* PKIKP	**PKPdf**	**18 44 03.1**	**-0.9**
ARU				SS	SS	19 04 27.6	+6.8
ARU	**Arti**	**134.01**	**320**	PKP	**PKPdf**	**18 44 03.8**	**-0.2**
ARU				PKP	**PKiKP**	**18 44 06.1**	**+0.8**
ARCES	**ARCESS Array B**	**139.96**	**347**	PKhKP	PKPpre	18 44 06.1	
	comp=Z,1.3nm,0.4s,baz=42,slow=1.9,SNR=11						
KLMR	**Klimovskoe**	**141.90**	**331**	*e*PKHKP	PKPpre	18 44 13.5	
KLMR				pmax	pmax		
	comp=Z,15nm,1.3s						
GROC	**Groznyy**	**143.58**	**301**	*e*PKIKP	**PKPdf**	**18 44 22.0**	**+0.1**
GROC				pmax	pmax		
	comp=Z,17nm,0.7s						
JOF	**Joensuu**	**143.66**	**338**	*e*P	**PKPdf**	**18 44 21.7**	**+0.3**
STOK	**Stokkvaagen**	**144.84**	**352**	*e*P	**PKPab**	**18 44 21.6**	**-0.8**
VRH	**Novokhopyorsk**	**144.88**	**315**	*e*PKIKP	**PKPab**	**18 44 21.3**	**-1.8**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NCK	**Nalchik**	**145.16**	**302**	*i* PKIKP	**PKPbc**	**18 44 23.5**	**-0.8**
MOS	**Moscow**	**145.35**	**324**	*i* PKP2	**PKPbc**	**18 44 21.8**	**-2.7**
MOS				pmax	pmax		
	comp=Z,39nm,0.9s						
GOF	**Gofitskoye**	**145.38**	**304**	*ce*PKIKP	**PKPbc**	**18 44 23.8**	**-1.1**
KBZ	**Khabaz**	**145.64**	**302**	PKPbc	**PKPdf**	**18 44 25.2**	**-0.2**
	comp=Z,12nm,1.1s,baz=110,slow=3.1,SNR=13						
KBZ	**Khabaz**	**145.64**	**302**	*i* PKP2	**PKPdf**	**18 44 23.8**	**-1.6**
KIV	**Kislovodsk**	**145.77**	**303**		**PKPdf**	**18 44 24.5**	**-1.3**
KIV	**Kislovodsk**	**145.77**	**303**⇓	*e*PKIKP	**PKPdf**	**18 44 25.5**	**-0.3**
KIV				*e*		18 47 51.8	
KIV				*e*PPP	PPP	18 51 02.9	
KIV				pmax	pmax		
	comp=Z,10.0nm,0.7s						
KIV	**Kislovodsk**	**145.77**	**303**	PKP	**PKPdf**	**18 44 25.1**	**-0.7**
SHA1	**Shidzhatmaz**	**145.81**	**302**	*i* PKP2	**PKPdf**	**18 44 24.6**	**-1.5**
LPSR	**Galich'ya Gora**	**146.02**	**319**	*e*PKP2	**PKPdf**	**18 44 25.4**	**-0.4**
LPSR				pmax	pmax		
	comp=Z,60nm,1.2s						
VAF	**Ylistaro**	**146.06**	**343**	*e*P	**PKPdf**	**18 44 25.5**	**0.0**
OBN	**Obninsk**	**146.18**	**324**	PKPdf	**PKPdf**	**18 44 26.1**	**+0.1**
OBN	**Obninsk**	**146.18**	**324**⇓	*i* PKP2	**PKPdf**	**18 44 26.1**	**+0.1**
OBN				*e*		18 47 52.8	
OBN				*e*PPP	PPP	18 51 03.8	
OBN				pmax	pmax		
	comp=Z,59nm,1.2s						
OBN				MLR	MLR		
	comp=Z,930nm,17.0s						
OBN	**Obninsk**	**146.18**	**324**	PKP	**PKPdf**	**18 44 26.3**	**+0.3**
OBN				PKP	**PKPab**	**18 44 27.6**	**-0.2**
KEF	**Keuruu**	**146.20**	**341**	*e*P	**PKPdf**	**18 44 26.2**	**+0.4**
VORR	**Voronezh**	**146.21**	**317**	*e*PKP2	**PKPdf**	**18 44 25.9**	**-0.3**
VORR				pmax	pmax		
	comp=Z,30nm,0.5s						
VSR	**Storozhevoye**	**146.39**	**316**	*e*PKIKP	**PKPdf**	**18 44 26.1**	**-0.4**
VSR				pmax	pmax		
	comp=Z,40nm,1.4s						
VORD	**Divnogorie**	**146.41**	**316**	*e*PKIKP	**PKPdf**	**18 44 25.5**	**-1.0**
VORD				pmax	pmax		
	comp=Z,20nm,0.9s						
FINES	**FINESS Array B**	**146.41**	**339**	PKPdf	**PKPdf**	**18 44 25.9**	**-0.2**
FINES	**FINESS Array B**	**146.41**	**339**	PKPbc	**PKPdf**	**18 44 26.2**	**0.0**
	comp=Z,14nm,0.4s,baz=46,slow=3.6,SNR=103						
FINES	**FINESS Array B**	**146.41**	**339**	PKIKP	**PKPdf**	**18 44 26.0**	**-0.2**
NSS	**Namsos**	**146.70**	**352**	*e*P	**PKPbc**	**18 44 27.6**	**-0.7**
ERBR	**Yeremizino-Bor**	**147.05**	**306**	*e*PKP2	**PKPdf**	**18 44 28.8**	**+1.0**
ERBR				pmax	pmax		
	comp=Z,34nm,1.1s						
LABN	**Labinsk**	**147.07**	**304**	*e*PKP2	**PKiKP**	**18 44 32.2**	**-0.3**
LABN				pmax	pmax		
	comp=Z,25nm,0.6s						
VSLR	**Vesyoloye**	**147.74**	**302**	*i* PKP2	**PKPdf**	**18 44 30.0**	**+1.0**
MEF	**Metsahovi**	**147.89**	**339**	*e*P	**PKPbc**	**18 44 31.0**	**-0.7**
SOC	**Sochi**	**147.95**	**302**	*e*PKIKP	**PKPdf**	**18 44 28.3**	**-1.1**
SOC				*e*		18 48 03.2	
SOC				*e*PPP	PPP	18 51 14.0	
ARBE	**Arbavere**	**147.97**	**337**	*e*P	**PKPbc**	**18 44 32.0**	**0.0**
RAF	**Rauma**	**147.99**	**342**	*e*P	**PKPbc**	**18 44 30.5**	**-1.5**
VSU	**Vasula**	**148.43**	**335**	*i* PKIKP	**PKPdf**	**18 44 28.5**	**-1.1**
AAL	**Aland**	**149.18**	**342**	*e*P	**PKPbc**	**18 44 35.1**	**0.0**
MTSE	**Matsula**	**149.25**	**337**	*e*P	**PKPbc**	**18 44 34.5**	**-0.8**
ANN	**Anapa**	**149.34**	**305**	*e*PKIKP	**PKPdf**	**18 44 33.4**	**+1.8**
ANN				pmax	pmax		
	comp=Z,31nm,1.1s						
DOMB	**Dombas**	**149.44**	**353**	*e*P	**PKPbc**	**18 44 35.9**	**+0.2**
AKN	**Aaknes**	**149.49**	**355**	*e*P	**PKPbc**	**18 44 36.2**	**+0.4**
NB2	**NORSAR Subarra**	**150.16**	**351**	PKP	**PKPbc**	**18 44 36.3**	**-1.2**
	comp=Z,77nm,2.0s,baz=15,slow=2.6						
NB2	**NORSAR Subarra**	**150.16**	**351**	PKPab	**PKPbc**	**18 44 36.3**	**-1.2**
	baz=15,slow=2.6						
NOA	**NORSAR Array B**	**150.16**	**351**	PKPbc	**PKPbc**	**18 44 36.4**	**-1.1**
	comp=Z,6.2nm,0.8s,baz=16,slow=4.1,SNR=17						
FOO	**Floro**	**150.19**	**357**	*e*P	**PKPbc**	**18 44 37.6**	**+0.1**
NC602	**NORSAR Array S**	**150.40**	**350**	*e*P	**PKPbc**	**18 44 36.7**	**-1.3**
HFS	**Hagfors**	**150.62**	**348**	PKPbc	**PKPbc**	**18 44 36.9**	**-1.7**
	comp=Z,11nm,0.6s,baz=84,slow=5.9,SNR=32						
IDID	**Didziasalis**	**150.64**	**330**	*e*P	**PKiKP**	**18 44 40.3**	**+0.9**
MNK	**Minsk**	**150.68**	**328**	*i* PKIKP	**PKPbc**	**18 44 38.5**	**-0.4**
MNK				*i* SS	SS	19 07 35.3	+2.1
MNK				pmax	pmax		
	comp=E,5.0nm,0.9s						
MNK				pmax	pmax		
	comp=Z,31nm,0.9s						
MNK				pmax	pmax		
	comp=N,12nm,1.1s						
SKAR	**Skarslia**	**150.85**	**353**	*e*P	**PKiKP**	**18 44 39.7**	**-0.1**
ASK	**Askoy**	**151.29**	**356**	*e*P	**PKPbc**	**18 44 39.7**	**-0.4**
VIKU	**Vikbolandet**	**151.47**	**343**	*e*P	**PKPbc**	**18 44 40.3**	**-0.3**
MMAI	**Mount Meron Ar**	**151.54**	**281**	PKPbc	**PKPbc**	**18 44 41.2**	**-0.5**
	comp=N,11nm,0.8s,baz=88,slow=7.6,SNR=13						
SIM	**Simferopol'**	**151.59**	**307**	*i* PKIKP	**PKiKP**	**18 44 44.2**	**+2.4**
SIM				pmax	pmax		
	comp=Z,39nm,1.2s						
SIM				pmax	pmax		
	comp=Z,33nm,0.9s						
PABE	**Paberze**	**151.63**	**333**	*e*P	**PKPbc**	**18 44 40.6**	**-0.5**
KONO	**Kongsberg**	**151.72**	**351**		**PKPbc**	**18 44 40.3**	**-0.8**
KONO	**Kongsberg**	**151.72**	**351**	*e*P	**PKPbc**	**18 44 40.7**	**-0.4**
KONO	**Kongsberg**	**151.72**	**351**	PKIKP	**PKPbc**	**18 44 40.3**	**-0.8**
AKASG	**Malin Array Be**	**152.26**	**321**		**PKPbc**	**18 44 34.5**	**-1.4**
AKASG	**Malin Array Be**	**152.26**	**321**	PKPbc	**PKPbc**	**18 44 40.9**	**-1.7**
	comp=Z,3.1nm,0.6s,baz=53,slow=2.4,SNR=19						
AKASG	**Malin Array Be**	**152.26**	**321**	PKIKP	**PKPdf**	**18 44 34.5**	**-1.4**
BLS5	**Blasjo**	**152.26**	**355**	*e*P	**PKPbc**	**18 44 41.4**	**-1.1**
KIEV	**Kiev**	**152.27**	**321**	PKPdf	**PKPdf**	**18 44 35.9**	**0.0**
KIEV	**Kiev**	**152.27**	**321**	PKIKP	**PKPdf**	**18 44 35.9**	**0.0**
KIEV	**Kiev**	**152.27**	**321**	PKP	**PKPbc**	**18 44 41.2**	**-1.5**
KMY	**Karmoy**	**152.55**	**356**	*e*P	**PKiKP**	**18 44 48.4**	**+5.1**
BRTR	**Keskin Array B**	**152.98**	**296**	PKPdf	**PKPdf**	**18 44 36.4**	**-1.1**
BRTR	**Keskin Array B**	**152.98**	**296**	PKPbc	**PKPbc**	**18 44 43.3**	**-1.6**
	comp=Z,2.1nm,0.5s,baz=136,slow=3.5,SNR=16						
BRTR	**Keskin Array B**	**152.98**	**296**	PKIKP	**PKPdf**	**18 44 36.4**	**-1.1**
HOMB	**Homborsund**	**153.19**	**352**	*e*P	**PKPbc**	**18 44 44.1**	**-0.3**
SNART	**Snartemo**	**153.27**	**353**	*e*P	**PKiKP**	**18 44 45.6**	**+0.8**
ANTO	**Ankara**	**153.61**	**296**	PKPdf	**PKPdf**	**18 44 36.4**	**-1.9**
ANTO					**PKPbc**	**18 44 45.6**	**-0.5**
ANTO	**Ankara**	**153.61**	**296**	PKIKP	**PKPbc**	**18 44 45.6**	**-0.5**
EKA	**Eskdalemuir Ar**	**156.31**	**7**	PKP	**PKPdf**	**18 44 42.8**	**+1.4**
	comp=Z,0.3nm,0.5s,baz=347,slow=2.9,SNR=1.6						
EKA				PKPab	**PKPab**	**18 45 08.2**	**-1.5**
	comp=Z,3.1nm,0.7s,baz=342,slow=3.2,SNR=9.1						
KOLS	**Kolonicke sedl**	**156.94**	**324**	*e*PKP	**PKPab**	**18 45 15.0**	**+2.4**
KOLS	**Kolonicke sedl**	**156.94**	**324**	*e*PKP2	**PKPab**	**18 45 15.1**	**+2.4**
STHS	**Stebnicka Huta**	**157.12**	**326**	*e*PKP	**PKPdf**	**18 44 45.5**	**+2.8**
STHS	**Stebnicka Huta**	**157.12**	**326**	*e*PKIKP	**PKPdf**	**18 44 45.5**	**+2.8**
CRVS	**Cervenica-Dubn**	**157.36**	**324**	*e*PKP	**PKPdf**	**18 44 45.3**	**+2.3**
CRVS				*e*		18 45 14.8	
CRVS	**Cervenica-Dubn**	**157.36**	**324**	*e*PKIKP	**PKPdf**	**18 44 45.4**	**+2.4**
NIE	**Niedzica**	**157.57**	**327**	PKP	**PKPdf**	**18 44 45.0**	**+1.7**
DPC	**Dobruska-Polom**	**158.55**	**334**	*e*PKPAB	**PKPab**	**18 45 20.1**	**+0.5**
DPC	**Dobruska-Polom**	**158.55**	**334**	*e*PKP2	**PKPab**	**18 45 20.1**	**+0.5**
CLL	**Collm**	**158.85**	**340**	*i* PKPab	**PKPab**	**18 45 22.7**	**+2.0**
	comp=Z,6.0nm,0.8s						
CLL	**Collm**	**158.85**	**340**	*i* PKP2	**PKPab**	**18 45 22.7**	**+2.0**
CLL				pmax	pmax		
	comp=Z,6.0nm,0.8s						
VYHS	**Vyhne**	**158.91**	**327**	*e*PKP	**PKPab**	**18 45 20.6**	**-0.5**
VYHS	**Vyhne**	**158.91**	**327**	*e*PKP2	**PKPab**	**18 45 20.6**	**-0.5**
MODS	**Modra-Piesok**	**159.70**	**329**	*e*PKP	**PKPdf**	**18 44 46.2**	**+0.4**
MODS				*e*		18 45 24.6	
MODS	**Modra-Piesok**	**159.70**	**329**	*e*PKIKP	**PKPdf**	**18 44 46.2**	**+0.4**
MODS				*e*		18 45 24.7	
CKRC	**Cesky Krumlov**	**160.56**	**334**	*e*PKPAB	**PKPab**	**18 45 28.5**	**+0.2**
CKRC	**Cesky Krumlov**	**160.56**	**334**	*e*PKP2	**PKPab**	**18 45 28.5**	**+0.2**
KHC	**Kasperske Hory**	**160.56**	**336**	*e*PKPAB	**PKPab**	**18 45 28.8**	**+0.5**
KHC	**Kasperske Hory**	**160.56**	**336**	*e*PKP2	**PKPab**	**18 45 28.8**	**+0.5**
MORH	**Mrgy, Hungar**	**160.57**	**322**	PKP	**PKPdf**	**18 44 46.9**	**+0.1**
GERES	**GERESS Array B**	**160.76**	**335**	PKP	**PKPdf**	**18 44 48.4**	**+1.3**
	comp=Z,0.3nm,0.4s,baz=113,slow=2.2,SNR=2.4						
GERES				PKPab	**PKPab**	**18 45 27.9**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=336,slow=2.2,SNR=3.6						
TORD	**Torodi Ar. Bea**	**161.36**	**180**	PKP	**PKPdf**	**18 44 49.4**	**+0.7**
	comp=Z,1.6nm,1.0s,baz=272,slow=2.5,SNR=6.7						
TORD				PKPab	**PKPab**	**18 45 32.5**	**0.0**
	comp=Z,5.6nm,0.8s,baz=178,slow=3.3,SNR=12						
TUE	**Stuetta**	**164.26**	**340**	PKP	**PKPdf**	**18 44 55.8**	**+5.0**
ESDC	**Sonseca Array**	**171.00**	**29**	PKP	**PKPdf**	**18 44 57.1**	**+1.5**
	comp=Z,2.1nm,1.2s,baz=347,slow=5.3,SNR=6.3						
ESDC				PKPab	**PKPab**	**18 46 15.0**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=324,slow=3.5,SNR=5.1						

JMA 17 18:26:07.2±0.2, 31.5N±0.7×141.0E±0.8, h92km, MV3.6/36, NEAR TORISHIMA IS, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAOM	**Aogashimamukai**	**1.39**	**312**	*e*S	Sn	18 26 50.6	+0.5
JHCJ	**Hachijojimakas**	**1.83**	**327**	S	Sn	18 27 00.8	+0.6
JHJ2	**Mitsune**	**1.86**	**328**	P	Pn	18 26 38.4	+0.8
JHJ2				*e*S	Sn	18 27 01.6	+0.9
JMYK	**Miyake Tsubota**	**2.79**	**335**	S	Sn	18 27 24.7	+1.9
BSO1	**Boso 1**	**3.11**	**360**	P	Pn	18 26 55.1	+1.5
BSO1				*e*S	Sn	18 27 31.8	+2.1
BSO3	**Boso 3**	**3.28**	**353**	P	Pn	18 26 57.3	+1.0
BSO3				*e*S	Sn	18 27 35.7	+1.5
JOD2	**Odawara 2**	**4.04**	**337**	*e*P	Pn	18 27 08.0	+1.2
JOD2				*e*S	Sn	18 27 54.1	+1.1
JHU	**Hanno**	**4.53**	**342**	*e*S	Sn	18 28 05.8	+0.9
CBIJ	**Chichi jima**	**4.55**	**166**	P	Pn	18 27 08.2	-5.4
CBIJ				*e*S	Sn	18 27 53.8	-12
JRY	**Ryogami san**	**4.79**	**339**	P	Pn	18 27 19.2	+2.2
JAG	**Ashikaga**	**5.04**	**346**	P	Pn	18 27 21.2	+0.8
JAG				S	Sn	18 28 17.2	-0.1
JHO	**Hitachi**	**5.08**	**356**	P	Pn	18 27 21.3	+0.5
JHO				S	Sn	18 28 17.0	-1.1
JFK	**Kawauchi**	**5.82**	**359**	S	Sn	18 28 32.5	-3.8
JMK	**Ichinoseki**	**7.40**	**1**	P	Pn	18 27 53.0	+0.6
JMK				*e*S	Sn	18 29 11.4	-3.4

*IDC **17** 18:40:28.3±0.7, 27.41N×103.90E, h0km, mb3.8/14, mbtmp3.8/15, ML3.7/1, Error ellipse: s-maj=26.2km s-min=14.4km az=63.0*
*BJI **17** 18:40:29.3±0.0, 27.48N×103.99E, h5km, mb3.9/14, mB4.7/7, ML3.9/16, Ms3.7/5, Ms7 3.4/2*
*NEIC **17** 18:40:32.6±1.4, 27.62N±0.09×103.9E±0.1, h10km±2km, mb4.2/13, Error ellipse: s-maj=16.6km s-min=13.1km az=132.0*

ISC 17 18:40:31.6±0.5, 27.50N±0.04×104.03E±0.05, h10km, n43, σ29 04/45, mb4.1/19, 2C, Yunnan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PZH	**PanZhiHua**	**2.27**	**245**	Pg	**Pn**	**18 41 09.0**	**-0.3**
PZH				Sg	**Sn**	**18 41 36.5**	**-0.9**
PZH				smax	smax		
	comp=N,810nm,1.0s						
PZH				smax	smax		
	comp=E,500nm,0.7s						
KMI	**Kunming**	**2.63**	**206**	⇑Pn	**Pn**	**18 41 14.3**	**-0.1**
CD2	**Chengdu**	**3.41**	**356**	Pn	**Pn**	**18 41 26.0**	**+1.1**
CD2				Sn	**Sn**	**18 42 06.6**	**+1.2**
CD2				Sg	**Sb**	**18 42 20.4**	**+6.8**
CD2				smax	smax		
	comp=N,370nm,0.5s						
CD2				smax	smax		
	comp=E,630nm,0.8s						
CD2				LR	LR		
	comp=N,410nm,10.1s						
CD2				LR	LR		
	comp=E,1μm,9.2s						
CD2				LR	LR		
	comp=Z,470nm,7.7s						
ENH	**Enshi**	**5.52**	**59**		**Pn**	**18 41 55.5**	**+1.6**
ENH				Sn	**Sn**	**18 42 56.6**	**-0.9**
TNCH	**TengChong**	**5.53**	**245**	Pn	Pn	18 41 48.1	-6.0
TNCH				Pg	**Pb**	**18 42 09.4**	**+1.1**
TNCH				Sg	**Sb**	**18 43 19.5**	**+4.8**
TNCH				smax	smax		
	comp=N,130nm,1.2s						
TNCH				smax	smax		
	comp=E,100nm,1.0s						
TNCH				LR	LR		
	comp=N,450nm,6.6s						
TNCH				LR	LR		
	comp=E,290nm,4.5s						
TNCH				LR	LR		
	comp=Z,230nm,8.0s						
SLVN	**Son La**	**6.14**	**181**	Pn	**Pn**	**18 42 02.8**	**+0.4**
SLVN				Pg	**Pg**	**18 42 30.7**	**+1.5**
CNSH	**ChangSha**	**7.91**	**83**	⇑P	**Pn**	**18 42 26.8**	**+0.2**
CNSH				smax	smax		
	comp=N,52nm,1.3s						
CNSH				smax	smax		
	comp=E,47nm,1.5s						
CHTO	**Chiang Mai**	**9.83**	**209**	Pn	**Pn**	**18 42 53.7**	**+0.6**
LYN	**LuoYang**	**10.09**	**44**	*e*P	**Pn**	**18 42 58.9**	**+2.4**
LYN				pmax	pmax		
	comp=Z,120nm,4.7s						
CM31	**Chiang Mai Arr**	**10.14**	**209**	Pn	**Pn**	**18 42 59.0**	**+1.6**
CMAR	**Chiang Mai Arr**	**10.14**	**209**	Pn	Pn	18 42 55.0	-2.4
	0.2nm,0.3s,baz=17,slow=12,SNR=13						
CMAR				Lg	Lg	18 45 47.4	
	0.1nm,0.3s,baz=26,slow=27,SNR=4.5 1.1nm,0.9s						
UBPT	**Khong Chiam**	**12.23**	**173**	Pn	**Pn**	**18 43 28.6**	**+2.7**
HHC	**Hu-ho-hao-te**	**14.70**	**23**	*e*P	**Pn**	**18 43 59.4**	**-0.2**
SONM	**Songino Array**	**20.39**	**5**	P	**P**	**18 45 08.6**	**0.0**
SONM	**Songino Array**	**20.39**	**5**	P	**P**	**18 45 08.0**	**-0.6**
	0.8nm,0.5s,baz=183,slow=12,SNR=9.3 0.8nm,0.5s						
ULN	**Ulaanbaatar**	**20.47**	**6**	P	**P**	**18 45 08.5**	**-1.0**
WMQ	**Urumqi**	**20.95**	**325**	*e*P	**P**	**18 45 16.5**	**+1.8**
WMQ				pmax	pmax		
	comp=Z,12nm,0.7s						
JOW	**Kunigami**	**21.57**	**86**	P	**P**	**18 45 22.0**	**+0.5**
	6.1nm,0.5s,baz=260,slow=19,SNR=5.4 6.1nm,0.5s						
MK31	**Makanchi Array**	**25.76**	**324**	P	**P**	**18 46 02.9**	**+0.4**
MK31				IAmb	IAmb	18 46 06.9	
	comp=Z,4.0nm,0.8s						
MKAR	**Makanchi Array**	**25.76**	**324**	P	**P**	**18 46 02.3**	**-0.2**
MKAR	**Makanchi Array**	**25.76**	**324**	P	**P**	**18 46 00.7**	**-1.8**
	comp=Z,1.4nm,0.8s,baz=128,slow=11,SNR=16 comp=Z,1.4nm,0.8s						
MAKZ	**Makanchi**	**25.93**	**324**	P	**P**	**18 46 03.6**	**-0.4**
MAKZ				IAmb	IAmb	18 46 15.4	
	comp=Z,4.6nm,1.1s						
MYLDM	**Lahad Datu**	**26.12**	**146**	P	**P**	**18 46 08.1**	**+2.2**
KSH	**Kashi**	**26.18**	**304**	P	**P**	**18 46 11.5**	**+5.1**
NIL	**Nilore**	**27.14**	**291**	P	**P**	**18 46 12.8**	**-2.2**
ZAA0	**Zalesovo Array**	**29.97**	**337**	P	**P**	**18 46 39.2**	**-0.8**
ZAA0				IAmb	IAmb	18 46 42.4	
	comp=Z,4.4nm,1.1s						
ZALV	**Zalesovo Beam**	**29.97**	**337**	P	**P**	**18 46 38.6**	**-1.4**
ZALV	**Zalesovo Beam**	**29.97**	**337**	P	**P**	**18 46 38.2**	**-1.8**
	comp=Z,3.0nm,0.8s,baz=156,slow=7.8,SNR=10 comp=Z,3.0nm,0.8s						
KURBB	**Kurchatov Arra**	**30.15**	**327**	P	**P**	**18 46 40.5**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=130,slow=9.9,SNR=8.4 comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**30.16**	**327**	P	**P**	**18 46 40.8**	**-0.9**
GAR	**Garm**	**30.28**	**301**	P	**P**	**18 46 41.9**	**-1.1**
GAR				IAmb	IAmb	18 46 45.0	
	comp=Z,3.1nm,0.6s						
BVAR	**Borovoye Array**	**35.64**	**325**	P	P	18 47 26.8	-2.7
	comp=Z,0.8nm,0.6s,baz=186,slow=1.3,SNR=3.5 comp=Z,0.8nm,0.6s						
KIV	**Kislovodsk**	**51.30**	**306**	P	**P**	**18 49 34.7**	**-1.3**
KIV				IAmb	IAmb	18 49 39.6	
	comp=Z,6.9nm,1.1s						
WRA	**Warramunga Arr**	**55.55**	**145**	P	P	18 50 04.9	-2.4
	comp=Z,0.8nm,0.7s,baz=333,slow=8.5,SNR=8.3 comp=Z,0.8nm,0.7s						
ASAR	**Alice Springs**	**58.47**	**148**	P	**P**	**18 50 26.2**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=327,slow=6.7,SNR=13 comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**58.52**	**302**	P	**P**	**18 50 26.5**	**-1.9**
	comp=Z,0.3nm,0.7s,baz=113,slow=3.8,SNR=1.9 comp=Z,0.3nm,0.7s						
AKASG	**Malin Array Be**	**59.84**	**315**	P	P	18 50 34.7	-2.4
	comp=Z,0.3nm,0.4s,baz=71,slow=6.9,SNR=2.2 comp=Z,0.3nm,0.4s						
ARCES	**ARCESS Array B**	**60.52**	**337**	P	**P**	**18 50 40.2**	**-1.4**
	comp=Z,0.8nm,0.8s,baz=80,slow=6.5,SNR=0.7 comp=Z,0.8nm,0.8s						
FINES	**FINESS Array B**	**60.54**	**327**	P	**P**	**18 50 40.1**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=112,slow=11,SNR=2.1 comp=Z,1.0nm,0.7s						
HFS	**Hagfors**	**66.73**	**327**	P	**P**	**18 51 22.3**	**-0.4**
	comp=Z,2.0nm,0.8s,baz=96,slow=10,SNR=1.8 comp=Z,2.0nm,0.8s						
NOA	**NORSAR Array B**	**67.67**	**328**	P	P	**18 51 26.7**	**-2.0**
	comp=Z,0.6nm,0.7s,baz=94,slow=6.4,SNR=1.7 comp=Z,0.6nm,0.7s						
CLL	**Collm**	**69.67**	**318**	*e*P	**P**	**18 51 40.0**	**-1.3**
	comp=Z,3.0nm,0.6s						
QSPA	**South Pole Qui**	**117.29**	**180**	PKP	**PKPdf**	**18 59 13.7**	**-2.8**
	comp=Z,1.4nm,1.0s,baz=120,slow=7.1,SNR=3.7						

*BJI **17** 18:42:08.2±0.0, 42.83N×145.46E, h7km, mb5.6/95, mB6.0/61, Ms5.6/99, Ms7 5.5/96*
*IDC **17** 18:42:08.8±0.4, 42.73N×145.45E, h0km, mb5.4/33, mbtmp5.3/39, ML4.6/6, MS5.5/64, Error ellipse: s-maj=12.3km s-min=9.7km az=117.0*
*NEIC **17** 18:42:10.3, 42.71N×145.58E, h24km*
*IPGP **17** 18:42:10.0, 42.68N×145.60E, h27km, Mw5.8, Fault plane solution: NP1:φ≈36.00000°, δ70.00000°, λ65.00000°. NP2:φ≈270.00000°, δ32.00000°, λ139.00000°.*
*NEIC **17** 18:42:10.3, 42.61N×145.44E, h24km, Moment Tensor Solution. Duration: 3≡9 Moment tensor: Scale 10¹⁷Nm; Mrr2.35; Mθθ

	comp=Z,18μm,0.5s							
YUK					pmax	pmax		
	comp=N,5μm,0.4s							
YUK					pmax	pmax		
	comp=E,5μm,0.2s							
YUK					smax	smax		
	comp=N,105μm,0.7s							
YUK					smax	smax		
	comp=E,211μm,0.8s							
YUK					smax	smax		
	comp=N,259μm,0.8s							
YUK					smax	smax		
	comp=E,510μm,1.3s							
JAR	**Ashorobuto**	**1.32 294**	⇓	*i*P	**Pn**		**18 42 36.7**	**+0.5**
JAR	**Ashorobuto**	**1.32 294**		A	A		18 42 36.7	
	comp=E,282nm,3.2s,comp=N,183nm,2.1s							
RUSJ	**Misakicho**	**1.33 354**	⇓	*i*PN	**Pb**		**18 42 37.7**	**-0.7**
RUSJ				eS	**Sb**		**18 42 54.3**	**-0.7**
SHO	**Shikotan**	**1.49 43**		*e*P	**Pn**		**18 42 38.4**	**-0.2**
SHO				AMB	AMB		18 42 43.9	
	comp=N,1μm,0.5s							
SHO				*e*S	**Sn**		**18 42 56.0**	**-0.9**
SHO				A	A		18 42 59.0	
	comp=N,42μm,4.0s							
SHO				A	A		18 42 59.0	
	comp=N,28μm,4.0s							
SHO				A	A		18 43 00.2	
	comp=N,16μm,0.4s							
SHO				A	A		18 43 00.2	
	comp=N,15μm,0.4s							
SHO	**Shikotan**	**1.49 43**		*e*PN	**Pn**		**18 42 38.4**	**-0.2**
SHO				eS	**Sn**		**18 42 55.5**	**-1.4**
SHO				pmax	pmax			
	comp=E,1μm,0.5s							
SHO				pmax	pmax			
	comp=Z,1μm,0.5s							
SHO				pmax	pmax			
	comp=N,942nm,0.4s							
SHO				smax	smax			
	comp=N,42μm,2.4s							
SHO				smax	smax			
	comp=E,28μm,1.3s							
SHO				smax	smax			
	comp=N,16μm,0.4s							
SHO				smax	smax			
	comp=E,15μm,0.3s							
JCH	**Churui**	**1.53 264**	⇓	*i*P	**Pn**		**18 42 39.1**	**0.0**
JCH	**Churui**	**1.53 264**		A	A		18 42 39.1	
	comp=E,388nm,2.1s,comp=N,439nm,1.2s							
JTKR	**Abashiri--Toko**	**1.63 317**	⇓	*i*P	**Pn**		**18 42 41.8**	**+1.4**
JTKR	**Abashiri--Toko**	**1.63 317**		A	A		18 42 41.8	
	comp=E,102nm,3.2s,comp=N,118nm,3.4s							
JTHR	**Tokachihiroo**	**1.65 253**		A	A		18 42 41.1	
	comp=E,525nm,2.6s,comp=N,294nm,2.3s							
JEM	**Erimo**	**1.85 246**		P	**Pn**		**18 42 44.7**	**+1.2**
JEM	**Erimo**	**1.85 246**		A	A		18 42 43.9	
	comp=E,345nm,2.9s,comp=N,377nm,3.6s							
ERM	**Erimo**	**1.85 246**		P	**Pn**		**18 42 44.8**	**+1.3**
ERM	**Erimo**	**1.85 246**			**Pn**		**18 42 44.4**	**+0.9**
ERM				Sn	**Sb**		**18 43 08.2**	**-1.6**
ERM	**Erimo**	**1.85 246**	*c*	*i*PN	**Pn**		**18 42 44.8**	**+1.3**
ERM				pmax	pmax			
	comp=Z,5μm,1.3s							
JMP	**Maruseppu**	**1.94 310**		A	A		18 42 46.0	
	comp=E,103nm,3.5s,comp=N,131nm,2.2s							
JNBK	**Urakawa-nobuka**	**2.04 257**		A	A		18 42 46.8	
	comp=E,250nm,0.8s,comp=N,257nm,1.5s							
JFR	**Furan**	**2.12 281**		A	A		18 42 48.2	
	comp=E,152nm,2.7s,comp=N,143nm,1.3s							
JSHD	**Hidakashinhida**	**2.22 261**		A	A		18 42 49.4	
	comp=E,386nm,1.5s,comp=N,359nm,2.4s							
JKK2	**Kamakawa 2**	**2.24 300**		A	A		18 42 50.2	
	comp=E,69nm,6.6s,comp=N,88nm,3.5s							
JBT2	**Biratori 2**	**2.26 271**		A	A		18 42 50.1	
	comp=E,129nm,2.4s,comp=N,99nm,2.6s							
JKA	**Kamikawa-asahi**	**2.46 304**			**Pn**		**18 42 53.9**	**+2.1**
JKA	**Kamikawa-asahi**	**2.46 304**		*e*P	**Pn**		**18 42 53.9**	**+2.1**
JAB	**Ashibetsu**	**2.46 288**		A	A		18 42 53.1	
	comp=E,180nm,5.8s,comp=N,159nm,4.0s							
ASAJ	**Asahikawa**	**2.46 304**		PN	**Pn**		**18 42 54.3**	**+2.5**
	comp=N,447nm,0.3s,baz=149,slow=12,SNR=801							
ASAJ				Sn	**Sb**		**18 43 26.0**	**-1.3**
	comp=N,474nm,0.3s,baz=24,slow=32,SNR=15							
ASAJ				LR	LR		18 44 11.8	
	comp=N,155μm,18.1s,baz=161,slow=49							
ASAJ	**Asahikawa**	**2.46 304**		A	A		18 42 53.3	
	comp=E,58nm,2.8s,comp=N,103nm,3.6s							
ASAJ	**Asahikawa**	**2.46 304**		PN	**Pn**		**18 42 53.9**	**+2.0**
JIAM	**Iburiatsuma**	**2.59 268**		A	A		18 42 54.8	
	comp=E,355nm,3.4s,comp=N,346nm,1.4s							
JHR	**Hokuryu**	**2.87 291**		A	A		18 42 59.1	
	comp=E,152nm,3.5s,comp=N,198nm,4.7s							
JEW	**Eniwo**	**2.93 273**		A	A		18 42 59.7	
	comp=E,163nm,6.0s,comp=N,164nm,3.6s							
JISS	**Ishikarishitsu**	**2.98 281**		A	A		18 43 00.5	
	comp=E,209nm,1.6s,comp=N,208nm,6.2s							
JSE	**Soyaes**	**3.00 318**		A	A		18 43 01.0	
	comp=E,86nm,2.8s,comp=N,75nm,3.8s							
KUR	**Kuril'sk**	**3.02 35**		*i*P	**Pn**		**18 43 01.4**	**+1.9**
KUR				AMB	AMB		18 43 12.7	
	comp=N,4μm,0.9s							
KUR				AMB	AMB		18 43 24.5	
	comp=N,33μm,3.0s							
KUR				*e*S	**Sn**		**18 43 34.3**	**-0.2**
KUR				A	A		18 43 48.8	
	comp=N,12μm,0.8s							
KUR				A	A		18 43 48.8	
	comp=N,14μm,0.8s							
KUR				A	A		18 43 59.4	
	comp=N,129μm,3.0s							
KUR				A	A		18 43 59.4	
	comp=N,21μm,3.0s							
KUR				AMS	AMS		18 44 14.0	
	comp=N,115μm,10.0s							
KUR				AMS	AMS		18 44 14.0	
	comp=N,73μm,10.0s							
KUR				AMS	AMS		18 44 14.0	
	comp=N,69μm,10.0s							
KUR	**Kuril'sk**	**3.02 35**	*d*	*i*PN	**Pn**		**18 43 01.4**	**+1.9**
KUR				*e*S	**Sn**		**18 43 38.3**	**+3.8**
KUR				pmax	pmax			
	comp=Z,4μm,0.9s							
KUR				pmax	pmax			
	comp=E,701nm,0.6s							
KUR				pmax	pmax			
	comp=Z,33μm,2.8s							
KUR				smax	smax			
	comp=E,14μm,0.5s							
KUR				smax	smax			
	comp=N,12μm,0.8s							
KUR				smax	smax			
	comp=N,129μm,3.0s							
KUR				smax	smax			
	comp=E,21μm,1.5s							
JSS	**Shosan**	**3.06 303**		A	A		18 43 01.9	
	comp=E,241nm,4.1s,comp=N,161nm,5.9s							
JNB	**Noboribetsu**	**3.26 266**		A	A		18 43 04.2	
	comp=E,66nm,2.7s,comp=N,49nm,1.4s							
JYG	**Yagishiri**	**3.34 301**		A	A		18 43 05.8	
	comp=E,58nm,5.1s,comp=N,94nm,5.7s							
JKB	**Kayabe**	**3.38 256**		A	A		18 43 05.8	
	comp=E,101nm,2.3s,comp=N,96nm,4.0s							
JAHD	**Aomorihigashid**	**3.41 245**		A	A		18 43 05.9	
	comp=E,117nm,1.0s,comp=N,99nm,1.0s							
JARK	**Aomorirokkasho**	**3.51 241**		A	A		18 43 07.4	
	comp=E,40nm,4.5s,comp=N,64nm,3.6s							
JOT	**Ohata**	**3.55 248**		A	A		18 43 08.0	
	comp=E,53nm,3.6s,comp=N,56nm,4.2s							
JWK2	**Keihoku**	**3.59 316**		A	A		18 43 09.4	
	comp=E,82nm,2.9s,comp=N,81nm,3.0s							
JSK	**Shakotan**	**3.68 281**		A	A		18 43 10.3	
	comp=E,46nm,7.1s,comp=N,53nm,3.0s							
JRR	**Rishiri**	**3.79 310**		A	A		18 43 12.2	
	comp=E,302nm,6.2s,comp=N,297nm,4.0s							
JANG	**Nango**	**3.80 232**		A	A		18 43 11.2	
	comp=E,24nm,3.9s,comp=N,23nm,3.3s							
JKEN	**Kujiedanarisaw**	**3.80 229**		A	A		18 43 11.2	
	comp=E,29nm,3.9s,comp=N,32nm,3.6s							
JYM2	**Yakumo 2**	**3.80 262**		A	A		18 43 11.8	
	comp=E,34nm,4.0s,comp=N,51nm,4.9s							
JTM	**Tenmabayashi**	**3.82 240**		P	**Pn**		**18 43 11.4**	**+0.8**
JTM	**Tenmabayashi**	**3.82 240**		Pn	**Pn**		**18 43 09.4**	**-1.2**
JTM	**Tenmabayashi**	**3.82 240**		A	A		18 43 11.7	
	comp=E,66nm,3.1s,comp=N,65nm,2.0s							
JTH	**Tanohata**	**3.91 225**		A	A		18 43 12.7	
	comp=E,23nm,2.5s,comp=N,17nm,4.2s							
JSR	**Shiriuchi**	**3.93 253**		A	A		18 43 13.5	
	comp=E,36nm,4.6s,comp=N,53nm,6.2s							
JSH	**Shimam**	**3.97 270**		A	A		18 43 14.3	
	comp=E,49nm,2.3s,comp=N,22nm,6.6s							
JRBN	**Rebuntou**	**4.11 312**		A	A		18 43 16.6	
	comp=E,35nm,5.4s,comp=N,31nm,6.1s							
JHST	**Hiyamasetana**	**4.12 267**		A	A		18 43 16.3	
	comp=E,88nm,2.6s,comp=N,69nm,3.0s							
JSI2	**Shiura 2**	**4.12 247**		A	A		18 43 16.1	
	comp=E,85nm,2.5s,comp=N,55nm,4.7s							
JKZ	**Kuzumaki**	**4.16 229**		A	A		18 43 16.3	
	comp=E,35nm,3.9s,comp=N,24nm,4.2s							
MIYJ	**Miyakonagasawa**	**4.20 222**		A	A		18 43 16.8	
	comp=E,27nm,2.9s,comp=N,14nm,6.3s							
JOMM	**Oshimamatsumae**	**4.22 255**		A	A		18 43 17.6	
	comp=E,22nm,2.8s,comp=N,28nm,3.6s							
JHHS	**Hirosakihyakuz**	**4.35 242**		A	A		18 43 19.2	
	comp=E,135nm,2.5s,comp=N,148nm,4.7s							
JAH	**Hinai**	**4.44 236**		A	A		18 43 20.3	
	comp=E,35nm,2.8s,comp=N,46nm,3.2s							
JOSM	**Okushiri--Mats**	**4.46 263**		A	A		18 43 21.1	
	comp=E,26nm,2.1s,comp=N,21nm,4.5s							
JSZI	**Iwateshizukuis**	**4.54 230**		A	A		18 43 21.6	
	comp=E,85nm,3.5s,comp=N,65nm,4.1s							
JOM	**Ohasama**	**4.55 225**		A	A		18 43 21.7	
	comp=E,27nm,2.2s,comp=N,34nm,1.8s							
YSS	**Yuzh-Sakhalins**	**4.59 336**		P	**Pn**		**18 43 23.7**	**+2.6**
YSS	**Yuzh-Sakhalins**	**4.59 336**		Pn	**Pn**		**18 43 22.2**	**+1.2**
YSS	**Yuzh-Sakhalins**	**4.59 336**	*i*	P	**Pn**		**18 43 22.9**	**+1.8**
YSS				AMB	AMB		18 43 29.8	
	comp=N,3μm,3.1s							
YSS				*e*S	**Sn**		**18 44 15.0**	**+1.8**
YSS				A	A		18 44 17.4	
	comp=N,13μm,6.0s							
YSS				A	A		18 44 17.4	
	comp=N,5μm,6.0s							
YSS				AMS	AMS		18 45 26.0	
	comp=N,56μm,16.0s							
YSS				AMS	AMS		18 45 26.0	
	comp=N,64μm,16.0s							
YSS				AMS	AMS		18 45 26.0	
	comp=N,89μm,16.0s							
YSS	**Yuzh-Sakhalins**	**4.59 336**	*к*	*i*PN	**Pn**		**18 43 22.9**	**+1.8**
YSS				*e*S	**Sn**		**18 44 15.0**	**+1.8**
YSS				pmax	pmax			
	comp=Z,440nm,1.2s							
YSS				pmax	pmax			
	comp=Z,3μm,3.1s							
YSS				pmax	pmax			
	comp=N,4μm,3.2s							
YSS				pmax	pmax			
	comp=E,2μm,5.4s							
YSS				smax	smax			
	comp=N,13μm,8.7s							
YSS				smax	smax			
	comp=E,5μm,7.9s							
YSS				smax	smax			
	comp=N,550nm,0.8s							
YSS				smax	smax			
	comp=E,1μm,0.9s							
YSS				MLR	MLR			
	comp=N,56μm,13.0s							
JIW	**Iwasaki**	**4.61 244**		A	A		18 43 22.9	
	comp=E,28nm,4.4s,comp=N,30nm,4.6s							
OFUJ	**Ofunato**	**4.67 219**		A	A		18 43 23.3	
	comp=E,17nm,2.4s,comp=N,26nm,2.3s							
JNTW	**Noshirotokiwa**	**4.68 239**		A	A		18 43 23.8	
	comp=E,142nm,3.7s,comp=N,151nm,4.1s							
JRG	**Rokugo**	**4.96 229**		A	A		18 43 27.5	
	comp=E,40nm,4.2s,comp=N,26nm,3.6s							
JKMT	**Kesennumamotoy**	**4.97 218**		A	A		18 43 27.6	
	comp=E,17nm,2.7s,comp=N,14nm,2.5s							
JMK	**Ichinoseki**	**4.98 221**		A	A		18 43 27.7	
	comp=E,21nm,2.7s,comp=N,19nm,4.9s							
JYW	**Yuwa**	**5.10 232**		A	A		18 43 29.5	
	comp=E,59nm,2.8s,comp=N,56nm,2.5s							
JIO	**Ouri**	**5.32 217**		A	A		18 43 32.4	
	comp=E,13nm,1.9s,comp=N,11nm,2.4s							
JIKH	**Ishinomakikobu**	**5.39 215**		A	A		18 43 33.3	
	comp=E,13nm,2.8s,comp=N,18nm,2.1s							
JOFO	**Osakifurukawao**	**5.41 221**		A	A		18 43 33.6	
	comp=E,103nm,2.7s,comp=N,105nm,2.5s							
JYK	**Kaneyama**	**5.45 227**		A	A		18 43 34.3	
	comp=E,23nm,2.6s,comp=N,18nm,6.3s							
JOG3	**Oga3**	**5.57 241**		A	A		18 43 29.7	
	comp=E,40nm,2.8s,comp=N,45nm,6.8s							
JYYZ	**Yamagatayuza**	**5.61 230**		A	A		18 43 36.7	
	comp=E,59nm,4.6s,comp=N,66nm,3.7s							
JTB	**Tobi-shima**	**5.71 233**		A	A		18 43 38.0	
	comp=E,23nm,3.3s,comp=N,32nm,3.9s							
JOU	**Okura**	**5.71 221**		A	A		18 43 37.9	
	comp=E,23nm,2.3s,comp=N,26nm,4.7s							
JYA	**Atsumi**	**6.03 228**		A	A		18 43 42.5	
	comp=E,19nm,2.6s,comp=N,19nm,1.8s							
JMM	**Marumori**	**6.05 217**		P	**Pn**		**18 43 39.0**	**-2.3**
JMM	**Marumori**	**6.05 217**		Pn	**Pn**		**18 43 38.0**	**-3.3**
JMM	**Marumori**	**6.05 217**		A	A		18 43 42.6	
	comp=E,11nm,7.1s,comp=N,10.0nm,2.5s							
JYS	**Shirataka**	**6.12 224**		A	A		18 43 43.7	
	comp=E,35nm,2.1s,comp=N,54nm,2.3s							
JMST	**Minamisoumatoc**	**6.13 216**		A	A		18 43 43.7	
	comp=E,11nm,8.6s,comp=N,12nm,5.0s							
JYAR	**Yonezawaarcadi**	**6.32 221**		A	A		18 43 46.4	
	comp=E,24nm,1.3s,comp=N,22nm,4.8s							
JAW	**Awa shima**	**6.38 229**		A	A		18 43 47.4	
	comp=E,17nm,3.7s,comp=N,19nm,3.8s							
JFK	**Kawauchi**	**6.44 214**		A	A		18 43 47.9	
	comp=E,9.0nm,2.8s,comp=N,10.0nm,3.7s							
JOTO	**OTAMA OYAMA**	**6.51 218**		A	A		18 43 49.1	
	comp=E,15nm,2.2s,comp=N,23nm,5.2s							
ONAJ	**Iwakimizuishiy**	**6.70 214**		A	A		18 43 51.5	
	comp=E,8.0nm,2.9s,comp=N,9.0nm,1.6s							
UGL	**Uglegorsk**	**6.72 341**		*e*P	**Pn**		**18 43 53.2**	**+2.8**
UGL				AMB	AMB		18 43 56.0	
	comp=N,4μm,3.0s							
UGL				AMB	AMB		18 43 57.6	
	comp=N,840nm,0.7s							
UGL				*e*S	**Sn**		**18 45 08.0**	**+2.3**
UGL				A	A		18 45 20.9	
	comp=N,14μm,4.9s							
UGL				A	A		18 45 20.9	
	comp=N,11μm,4.9s							
UGL				AMS	AMS		18 46 49.0	
	comp=N,47μm,18.0s							
UGL				AMS	AMS		18 46 49.0	
	comp=N,22μm,18.0s							
UGL				AMS	AMS		18 46 49.0	
	comp=N,47μm,18.0s							
UGL	**Uglegorsk**	**6.72 341**		*e*PN	**Pn**		**18 43 53.2**	**+2.8**
UGL				*e*S	**Sn**		**18 45 12.7**	**+7.0**
UGL				pmax	pmax			
	comp=Z,4μm,3.0s							
UGL				pmax	pmax			
	comp=Z,838nm,1.0s							
UGL				smax	smax			
	comp=E,10μm,4.2s							
UGL				smax	smax			
	comp=N,14μm,4.9s							
JNS	**Sasagawa**	**6.81 225**		A	A		18 43 53.3	
	comp=E,8.0nm,4.0s,comp=N,11nm,4.4s							
JFY	**Yanaizu**	**6.93 221**		A	A		18 43 55.0	
	comp=E,8.0nm,4.9s,comp=N,13nm,2.9s							
JSB	**Shiboa**	**7.19 218**		A	A		18 43 58.4	
	comp=E,22nm,3.2s,comp=N,19nm,2.8s							
JSD	**Sado**	**7.24 231**		P	**Pn**		**18 43 56.9**	**-0.6**
JSD	**Sado**	**7.24 231**		Pn	**Pn**		**18 43 55.6**	**-1.9**
JIZZ	**Izumozaki**	**7.34 227**		A	A		18 44 00.8	
	comp=E,29nm,3.1s,comp=N,45nm,4.4s							
JYT	**Yasato**	**7.69 213**		A	A		18 44 05.4	
	comp=E,9.0nm,2.8s,comp=N,7.0nm,2.7s							
JIHU	**Itakohorinouch**	**7.79 211**		A	A		18 44 06.7	
	comp=E,45nm,3.2s,comp=N,31nm,4.7s							
JAG	**Ashikaga**	**7.84 218**		A	A		18 44 07.6	
	comp=E,6.0nm,5.6s,comp=N,7.0nm,2.7s							
JJN	**Nakama**	**7.96 227**		A	A		18 44 09.2	
	comp=E,13nm,3.3s,comp=N,8.0nm,4.2s							
JGK	**Kuni**	**8.12 222**		A	A		18 44 11.4	
	comp=E,11nm,4.9s,comp=N,11nm,4.2s							
TYV	**Tymovskoe**	**8.31 348**		*e*P	**Pn**		**18 44 14.7**	**+2.6**
TYV				AMB	AMB		18 44 16.9	
	comp=N,800nm,2.6s							
TYV				*e*S	**Sn**		**18 45 44.8**	**+0.1**
TYV				A	A		18 46 17.9	
	comp=N,3μm,5.7s							
TYV				A	A		18 46 17.9	
	comp=N,2μm,5.7s							
TYV				AMS	AMS		18 47 44.3	
	comp=N,17μm,14.0s							
TYV				AMS	AMS		18 47 44.3	
	comp=N,19μm,14.0s							
TYV				AMS	AMS		18 47 44.3	
	comp=N,15μm,14.0s							
TYV	**Tymovskoe**	**8.31 348**		*e*PN	**Pn**		**18 44 16.3**	**+4.2**
TYV				*e*S	Sn		18 45 57.9	+13
TYV				pmax	pmax			
	comp=Z,800nm,2.6s							
TYV				smax	smax			
	comp=N,59nm,1.4s							
TYV				smax	smax			
	comp=E,73nm,1.4s							
TYV				smax	smax			
	comp=N,3μm,5.1s							
TYV				smax	smax			
	comp=E,2μm,5.1s							
TYV				MLR	MLR			
	comp=Z,14μm,13.0s							
TYV				MLR	MLR			
	comp=N,13μm,13.0s							
TOK	**Tokyo**	**8.34 214**		A	A		18 44 14.3	
	comp=E,37nm,3.9s,comp=N,32nm,4.6s							
MJAR	**Matsushiro Arr**	**8.35 224**		Pn	**Pn**		**18 44 11.8**	**-1.1**
	comp=N,5.8nm,0.3s,baz=29,slow=15,SNR=267							
MJAR				Sn	**Sn**		**18 45 54.0**	**+7.9**
	comp=N,1.2nm,0.3s,baz=318,slow=17,SNR=1.9							
MJAR				LR	LR		18 47 53.5	
	comp=N,19μm,21.2s,baz=42,slow=41							
	comp=N,56nm,0.5s							
MJB9	**Matsu-Tunnel**	**8.35 224**			**Pn**		**18 44 12.1**	**-0.8**
MAJO	**Matsushiro**	**8.36 224**		P	**Pn**		**18 44 12.1**	**-0.8**
MAJO	**Matsushiro**	**8.36 224**			**Pn**		**18 44 11.2**	**-1.7**
MAJO	**Matsushiro**	**8.36 224**	*c*	*i*PN	**Pn**		**18 44 11.7**	**-1.2**
JCN	**Nagara**	**8.40 211**		A	A		18 44 15.1	
	comp=E,33nm,4.1s,comp=N,34nm,3.8s							
JHU	**Hanno**	**8.40 217**		A	A		18 44 15.2	
	comp=E,6.0nm,2.8s,comp=N,9.0nm,4.6s							
JRY	**Ryogami san**	**8.43 219**		A	A		18 44 15.7	
	comp=E,6.0nm,5.2s,comp=N,6.0nm,6.7s							
JNG	**Nsakai**	**8.51 224**		A	A		18 44 16.9	
	comp=E,5.0nm,4.0s,comp=N,5.0nm,3.1s							
JTT	**Ttatey**	**8.77 228**		A	A		18 44 20.5	
	comp=E,8.0nm,4.1s,comp=N,7.0nm,4.1s							
JYO	**Yokosk**	**8.78 213**		A	A		18 44 20.3	
	comp=E,26nm,4.1s,comp=N,18nm,4.8s							
TATJ	**Tateyama 2**	**8.86 211**		A	A		18 44 21.4	
	comp=E,24nm,4.1s,comp=N,27nm,3.7s							
JGF	**Kuroka**	**9.52 224**		P	**Pn**		**18 44 28.4**	**-0.5**
JGF	**Kuroka**	**9.52 224**			**Pn**		**18 44 26.0**	**-2.9**
JSG	**Sagara**	**9.87 217**		P	**Pn**		**18 44 34.7**	**+1.1**
JSG	**Sagara**	**9.87 217**			**Pn**		**18 44 31.3**	**-2.4**
USA0B	**Ussuriysk Arra**	**9.87 283**			**Pn**		**18 44 34.8**	**+1.2**
USA0B	**Ussuriysk Arra**	**9.87 283**		PN	**Pn**		**18 44 34.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.87 283**		Pn	**Pn**		**18 44 34.8**	**+1.2**
USRK	**Ussuriysk Ar.**	**9.87 283**		Pn	**Pn**		**18 44 36.2**	**+2.6**
	comp=N,4.4nm,0.3s,baz=88,slow=14,SNR=70							
USRK				Sn	**Sn**		**18 46 31.1**	**+7.8**
	baz=92,slow=20							
USRK				LR	LR		18 48 18.8	
	comp=N,22μm,21.1s,baz=99,slow=37							
USRK	**Ussuriysk Ar.**	**9.87 283**		PN	**Pn**		**18 44 34.8**	**+1.2**
I45RU	**USSURIYSK INFR**	**9.88 283**		I	I		19 38 10.0	
	baz=85,slow=331,SNR=2.6							
INU	**Inuyama**	**9.89 224**		P	**Pn**		**18 44 34.0**	**+0.1**
INU	**Inuyama**	**9.89 224**		Pn	**Pn**		**18 44 31.3**	**-2.5**
GRNR	**Gornyy**	**10.09 325**		*e*P	**Pn**		**18 44 40.4**	**+3.8**
GRNR	**Gornyy**	**10.09 325**	⇑	*i*PN	**Pn**		**18 44 40.4**	**+3.8**
GRNR				*e*S	Sn		18 46 40.7	+12
GRNR				pmax	pmax			
	comp=N,100nm,0.8s							
GRNR				pmax	pmax			
	comp=E,90nm,0.8s							
GRNR				pmax	pmax			
	comp=Z,120nm,0.8s							
GRNR				smax	smax			
	comp=N,20nm,0.8s							
GRNR				MLR	MLR			
	comp=N,11μm,15.0s							
GRNR				MLR	MLR			
	comp=Z,19μm,15.0s							
MSHR	**Mys Shultsa**	**10.52 274**	*c*	*i*PN	**Pn**		**18 44 43.2**	**+0.8**
JHJ2	**Mitsune**	**10.62 206**		P	**Pn**		**18 44 43.2**	**-0.7**
JHJ2	**Mitsune**	**10.62 206**			**Pn**		**18 44 39.5**	**-4.3**
JHJ	**Hachijo jima 2**	**10.62 207**		Pn	**Pn**		**18 44 40.5**	**-3.4**
	comp=Z,45nm,0.3s,baz=332,slow=19,SNR=22							
JHJ				Sn	Sn		18 46 29.8	-12
	comp=Z,193nm,0.3s,baz=73,slow=19,SNR=13							
	comp=Z,146nm,0.4s							
PSTR	**Posyet**	**10.77 274**	*e*	*i*P	**Pn**		**18 44 47.6**	**+1.7**
PSTR	**Posyet**	**10.77 274**	*c*	*i*PN	**Pn**		**18 44 47.6**	**+1.7**
SKR	**Severo-Kuril's**	**10.77 39**	*e*	*i*P	**Pn**		**18 44 46.0**	**+0.1**
SKR				AMB	AMB		18 44 48.1	
	comp=Z,340nm,0.8s							
SKR				*e*S	**Sn**		**18 46 40.5**	**-4.7**
SKR				A	A		18 46 55.1	
	comp=Z,640nm,0.9s							
SKR				A	A		18 46 55.1	
	comp=Z,710nm,0.9s							
SKR				AMS	AMS		18 48 35.2	
	comp=Z,12μm,15.0s							
SKR				AMS	AMS		18 48 35.2	
	comp=Z,17μm,15.0s							
SKR				AMS	AMS		18 48 35.2	
	comp=Z,21μm,15.0s							
SKR	**Severo-Kuril's**	**10.77 39**	*e*	*i*PN	**Pn**		**18 44 46.0**	**+0.1**
SKR				pmax	pmax			
	comp=Z,345nm,0.8s							
SKR				MLR	MLR			
	comp=Z,14μm,15.0s							
OKH	**Okha**	**10.90 352**	*e*	*i*P	**Pn**		**18 44 49.1**	**+1.4**
OKH				AMB	AMB		18 44 52.1	
	comp=Z,600nm,5.0s							
OKH				*e*S	**Sn**		**18 46 48.6**	**+0.2**
OKH				AMS	AMS		18 51 21.1	
	comp=Z,13μm,14.0s							
OKH				AMS	AMS		18 51 21.1	
	comp=Z,6μm,14.0s							
O

BNX S **Sn** 18 47 50.4 +4.4
BNX sS S 18 47 54.5 -15
BNX pmax pmax
comp=Z,250nm,1.4s
BNX pmax pmax
comp=Z,5μm,6.8s
BNX LR LR
comp=Z,12μm,16.3s
BNX LR LR
comp=Z,19μm,15.7s
BNX LR LR
comp=Z,24μm,16.3s
PET Petropavlovsk 13.53 36 P **Pn** 18 45 25.8 +2.3
PET Petropavlovsk 13.53 36 Pn **Pn** 18 45 20.0 -3.6
PET Petropavlovsk 13.53 36 *e*P **Pn** 18 45 22.6 -0.9
PET Petropavlovsk 13.53 36 *e*P **P** 18 45 31.9 -0.3
PET *e*S **Sn** 18 47 58.7 +6.1
PET pmax pmax
comp=Z,2μm,8.8s
PET pmax pmax
comp=Z,1μm,7.3s
PET pmax pmax
comp=Z,134nm,0.8s
PET MLR MLR
comp=Z,8μm,16.0s
PET MLR MLR
comp=Z,8μm,14.0s
KSRS Korea Array 14.41 254 Pn **Pn** 18 45 34.5 -1.1
comp=Z,0.5nm,0.3s,baz=67,slow=10,SNR=6.3
KSRS Sn **Sn** 18 48 14.9 +0.8
comp=Z,0.9nm,0.3s,baz=69,slow=24,SNR=3.0
KSRS LR LR 18 51 04.8
comp=Z,30μm,20.1s,baz=60,slow=37
comp=Z,56nm,1.2s
KS19 Wonju Array Si 14.43 254 **Pn** 18 45 34.7 -1.2
KSAR Wonju Array Be 14.44 254 P **Pn** 18 45 33.9 -2.2
KSAR Wonju Array Be 14.44 254 P **Pn** 18 45 33.9 -2.2
HEH HeiHe 14.46 307 *e*P **Pn** 18 45 34.6 -1.6
HEH pP **P** 18 45 38.3 -4.3
HEH S **Sn** 18 48 17.1 +1.8
HEH ScS **ScS** 18 57 57.6 -0.9
HEH pmax pmax
comp=Z,22nm,2.2s
HEH pmax pmax
comp=Z,6μm,8.7s
HEH LR LR
comp=Z,22μm,13.5s
HEH LR LR
comp=Z,45μm,15.3s
HEH LR LR
comp=Z,64μm,15.5s
CN2 Changchun 14.59 281 *e*P **Pn** 18 45 36.6 -1.5
CN2 *e*PP **PnPn** 18 45 48.5 +2.6
CN2 *e*S **Sn** 18 48 19.3 +0.7
CN2 *es*S S 18 48 24.8 -12
CN2 pmax pmax
comp=Z,130nm,1.1s
CN2 pmax pmax
comp=Z,3μm,3.0s
CN2 LR LR
comp=Z,4μm,13.0s
CN2 LR LR
comp=Z,9μm,13.0s
CN2 LR LR
comp=Z,9μm,14.0s
JNU Nakatsue 14.97 235 P **Pn** 18 45 40.7 -2.6
JNU Nakatsue 14.97 235 **Pn** 18 45 40.2 -3.1
JNU Nakatsue 14.97 235 Pn **Pn** 18 45 40.0 -3.3
comp=Z,1.0nm,0.3s,baz=48,slow=9.6,SNR=13
comp=Z,49nm,1.1s
INCN Inchon 15.31 256 P **Pn** 18 45 47.0 -0.8
INCN Inchon 15.31 256 **Pn** 18 45 46.2 -1.5
INCN Inchon 15.31 256 P **Pn** 18 45 46.2 -1.5
INCN pmax pmax
comp=Z,128nm,1.5s
TJN Taejon 15.32 251 P **Pn** 18 45 47.3 -0.5
TJN Taejon 15.32 251 P **Pn** 18 45 45.8 -2.0
TJN Taejon 15.32 251 *ce*P **Pn** 18 45 47.6 -0.2
JCJ Chichijima 15.87 191 P **Pn** 18 45 51.9 -3.1
JCJ Chichijima 15.87 191 P **Pn** 18 45 49.6 -5.4
JCJ Chichijima 15.87 191 Pn Pn 18 45 47.0 -8.0
comp=Z,7.9nm,0.3s,baz=84,slow=23,SNR=14
JCJ Sn Sn 18 48 28.4 -22
comp=Z,27nm,0.3s,baz=51,slow=22,SNR=7.4
SNY Shenyang 16.19 274 ⇑P **Pn** 18 45 58.0 -1.0
SNY S **Sn** 18 48 59.8 +2.2
SNY pmax pmax
comp=Z,57nm,1.3s
SNY LR LR
comp=Z,7μm,14.2s
SNY LR LR
comp=Z,5μm,19.2s
SNY LR LR
comp=Z,9μm,17.3s
ZEA Zeya 16.28 319 *e*P **Pn** 18 45 58.5 -1.6
ZEA Zeya 16.28 319 *ce*P **Pn** 18 45 59.5 -0.6
ZEA *e*S **Sn** 18 48 52.9 -6.6
ZEA pmax pmax
comp=E,2μm,3.4s
ZEA pmax pmax
comp=N,1μm,3.3s
ZEA pmax pmax
comp=Z,2μm,3.7s
ZEA pmax pmax
comp=N,120nm,1.3s
ZEA pmax pmax
comp=E,140nm,1.3s
ZEA pmax pmax
comp=Z,210nm,1.3s
ZEA smax smax
comp=E,800nm,11.1s
ZEA MLR MLR
comp=E,11μm,13.0s
ZEA MLR MLR
comp=N,11μm,12.0s
ZEA MLR MLR
comp=Z,16μm,13.0s
MA2 Magadan 17.14 9 P **Pn** 18 46 10.9 +0.1
MA2 Magadan 17.14 9 **Pn** 18 46 08.0 -2.9
MA2 Magadan 17.14 9 P **Pn** 18 46 10.1 -0.8
comp=Z,1.1nm,0.3s,baz=192,slow=11,SNR=7.9
MA2 S **Sn** 18 49 18.5 -1.7
comp=Z,16nm,1.1s,baz=188,slow=18,SNR=1.2
MA2 LR LR 18 53 32.4
comp=Z,8μm,18.1s,baz=198,slow=40
comp=Z,28nm,0.9s
MA2 Magadan 17.14 9 *e*P **Pn** 18 46 09.4 -1.4
MA2 Magadan 17.14 9 *ce*P **Pn** 18 46 09.4 -1.4
MA2 pmax pmax
comp=Z,156nm,2.5s
MA2 Magadan 17.14 9 P **Pn** 18 46 10.0 -0.8
DL2 Dalian 18.40 266 ⇓*i*P **P** 18 46 25.8 -0.5
DL2 S **Sn** 18 49 52.4 +1.3
DL2 pmax pmax
comp=Z,410nm,1.8s
DL2 pmax pmax
comp=Z,4μm,7.3s
DL2 LR LR
comp=Z,5μm,12.3s
DL2 LR LR
comp=Z,11μm,19.0s
DL2 LR LR
comp=Z,14μm,20.2s
HIA Hailar 18.93 299 P **P** 18 46 31.2 -0.9
HIA Hailar 18.93 299 P **P** 18 46 29.3 -2.8
HIA Hailar 18.93 299 *c i*P **P** 18 46 29.2 -2.8
HIA pmax pmax
comp=Z,190nm,1.2s
HIA MLR MLR
comp=Z,25μm,17.0s
JMZ Minamidaito 2 20.54 219 P **P** 18 46 50.5 +0.7
JMZ Minamidaito 2 20.54 219 P **P** 18 46 49.6 -0.2
JMZ IAmb IAmb 18 47 02.2
comp=Z,892nm,1.6s
SEY Seymchan 20.59 9 P **P** 18 46 47.7 -2.4
comp=Z,11nm,0.4s,baz=193,slow=9.8,SNR=29
SEY S **S** 18 50 36.9 -1.4
comp=Z,14nm,1.0s,baz=180,slow=20,SNR=2.5
SEY LR LR 18 54 22.1
comp=Z,6μm,21.7s,baz=187,slow=36
comp=Z,11nm,0.4s
SEY Seymchan 20.59 9 *ce*P **P** 18 46 47.9 -2.2
SEY MLR MLR
comp=Z,6μm,17.0s
JOW Kunigami 21.19 227 P **P** 18 46 56.8 +0.1
JOW Kunigami 21.19 227 P **P** 18 46 55.3 -1.4
JOW IAmb IAmb 18 46 58.5
comp=Z,823nm,1.5s
JOW Kunigami 21.19 227 P **P** 18 46 55.9 -0.8
comp=Z,166nm,1.1s,baz=26,slow=11,SNR=35
JOW S **S** 18 50 49.2 -1.4
comp=Z,9.6nm,0.9s,baz=36,slow=22,SNR=1.8
comp=Z,166nm,1.1s
XLT XiLinHaoTe 21.33 283 *e*P **P** 18 46 57.5 -0.8
XLT pP pP 18 47 01.3 -5.5
XLT S **S** 18 50 54.1 +0.7
XLT PcP **PcP** 18 51 00.3 -1.3
XLT ScP **ScP** 18 54 39.1 +3.1
XLT pmax pmax
comp=Z,210nm,1.4s
XLT pmax pmax
comp=Z,940nm,3.8s
XLT LR LR
comp=Z,12μm,18.7s
XLT LR LR
comp=Z,15μm,18.7s
YAK Yakutsk 21.43 339 P **P** 18 46 55.8 -3.2
YAK IAmb IAmb 18 47 12.9
comp=Z,412nm,1.2s
YAK Yakutsk 21.43 339 P **P** 18 46 56.4 -2.6
comp=Z,50nm,0.7s,baz=134,slow=5.0,SNR=19
YAK S **S** 18 50 49.1 -5.7
comp=Z,200nm,1.0s,baz=189,slow=24,SNR=11
YAK LR LR 18 55 50.2
comp=Z,10μm,19.6s,baz=148,slow=38
YAK Yakutsk 21.43 339 *e*P **P** 18 46 55.5 -3.5
YAK *e* 18 47 11.0
YAK *e*S **S** 18 50 52.9 -1.9
YAK *e**SS **pS** 18 51 05.7 -1.1
YAK *e* 18 58 18.5
YAK pmax pmax
comp=Z,20nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,8.0nm,1.0s
YAK smax smax
comp=E,2μm,3.5s
YAK smax smax
comp=N,1μm,1.8s
YAK MLR MLR
comp=Z,7μm,20.0s
YAK MLR MLR
comp=N,7μm,20.0s
YAK MLR MLR
comp=E,3μm,16.0s
SHEM Shemya Is, Ala 21.56 53 P **P** 18 47 02.1 +1.6
comp=E,120nm,0.6s,baz=280,slow=6.6,SNR=7.3
SHEM S **S** 18 50 58.8 +1.3
comp=E,42nm,0.9s,baz=331,slow=22,SNR=1.4
BJI Beijing 22.06 273 P **P** 18 47 04.5 -1.5
BJI pmax pmax
comp=E,190nm,1.4s
BJI pmax pmax
comp=E,2μm,4.1s
BJI LR LR
comp=E,2μm,13.8s
BJI LR LR
comp=E,5μm,19.3s
BJI LR LR
comp=E,7μm,21.7s
BJT Baijiatuau 22.08 273 P **P** 18 47 05.2 -1.0
BJT Baijiatuau 22.08 273 IAmb IAmb 18 47 06.7
comp=Z,770nm,1.4s
SSE Sheshan 22.53 247 P **P** 18 47 10.0 -1.1
SSE S **S** 18 51 17.4 +1.2
SSE pmax pmax
comp=Z,130nm,1.6s
SSE pmax pmax
comp=Z,2μm,5.7s
SSE LR LR
comp=Z,5μm,18.2s
SSE LR LR
comp=Z,6μm,18.3s
TIA Tai'an 22.74 263 P **P** 18 47 11.4 -2.0
TIA S **S** 18 51 16.4 -3.5
TIA pmax pmax
comp=Z,36nm,0.8s
TIA pmax pmax
comp=Z,760nm,3.1s
TIA LR LR
comp=Z,4μm,18.0s
TIA LR LR
comp=Z,2μm,22.3s
TIA LR LR
comp=Z,5μm,19.4s
CIT Chita 23.31 304 *e*P **P** 18 47 14.5 -4.5
CIT *e* 18 47 33.9
CIT *e* 18 47 47.8
CIT *e* 18 48 01.8
CIT *e* 18 51 33.3
CIT pmax pmax
comp=Z,624nm,2.7s
NJ2 Nanjing 23.58 252 ⇑*i*P **P** 18 47 20.6 -1.1
NJ2 pP **pP** 18 47 24.1 -6.2
NJ2 S **S** 18 51 36.1 +2.3
NJ2 pmax pmax
comp=Z,120nm,1.6s
NJ2 LR LR
comp=Z,10μm,16.6s
NJ2 LR LR
comp=Z,31μm,18.0s
NJ2 LR LR
comp=Z,38μm,17.6s
HNS HongShan 24.03 267 ⇑P **P** 18 47 24.4 -1.6
HNS S **S** 18 51 37.9 -3.1
HNS pmax pmax
comp=Z,440nm,1.6s
HNS pmax pmax
comp=Z,4μm,5.1s
HNS LR LR
comp=Z,6μm,15.1s
HNS LR LR
comp=Z,6μm,14.7s
HNS LR LR
comp=Z,7μm,15.1s
JMJ Miyako jima 2 24.41 229 P **P** 18 47 30.8 +1.2
BOD Bodaibo 24.79 318 *e*P **P** 18 47 29.1 -3.6
BOD pmax pmax
comp=Z,130nm,2.3s
HHC Hu-ho-hao-te 25.22 277 *e*P **P** 18 47 36.6 -0.3
HHC pP pP 18 47 40.8 -5.1
HHC S **S** 18 51 59.3 -1.0
HHC sS pS 18 52 05.8 -4.4
HHC LR LR
comp=Z,3μm,13.0s
HHC LR LR
comp=Z,5μm,13.0s
TIY Taiyuan 25.59 270 P **P** 18 47 41.4 +1.2
TIY S **S** 18 52 02.8 -3.3
TIY pmax pmax
comp=Z,190nm,2.1s
TIY pmax pmax
comp=Z,5μm,4.8s
TIY LR LR
comp=Z,2μm,19.2s
TIY LR LR
comp=Z,4μm,20.6s
TIY LR LR
comp=Z,6μm,22.0s
BTO Baotou 26.41 277 ⇑*i*P **P** 18 47 48.9 +1.2
BTO sP **pP** 18 47 56.3 -0.5
BTO PP **PnPn** 18 48 29.0 +1.0
BTO PcP **PcP** 18 51 13.8 +1.3
BTO pmax pmax
comp=Z,880nm,1.3s
BTO LR LR
comp=Z,7μm,11.3s
BTO LR LR
comp=Z,10μm,15.7s
BTO LR LR
comp=Z,13μm,12.9s
TATO Taipei 26.51 236 P **P** 18 47 49.1 +0.5
TATO Taipei 26.51 236 P **P** 18 47 48.8 +0.2
YHNB Yeheng 26.81 235 P **P** 18 47 51.8 +0.5
YHNB Yeheng 26.81 235 IAmb IAmb 18 48 09.4
comp=Z,272nm,1.6s
LYN LuoYang 26.89 263 ⇑P **P** 18 47 53.0 +1.1
LYN sP pP 18 48 01.3 +0.3
LYN PP **PnPn** 18 48 39.0 +4.6
LYN S **S** 18 52 29.8 +3.3
LYN SS **SnSn** 18 53 44.5 +12
LYN pmax pmax
comp=Z,640nm,1.4s
LYN LR LR
comp=Z,5μm,12.3s
LYN LR LR
comp=Z,8μm,16.3s
LYN LR LR
comp=Z,12μm,22.5s
ULN Ulaanbaatar 27.26 294 P **P** 18 47 55.3 0.0
ULN IAmb IAmb 18 47 57.1
comp=Z,332nm,1.2s
ULN Ulaanbaatar 27.26 294 P **P** 18 47 55.9 +0.5
ULN S **S** 18 52 32.6 +0.1
ULN Ulaanbaatar 27.26 294 *e*P **P** 18 47 55.4 +0.1
ULN Ulaanbaatar 27.26 294 *ce*P **P** 18 47 55.4 +0.1
ULN pmax pmax
comp=Z,465nm,1.7s
ULN MLR MLR
comp=Z,17μm,16.0s
WHN Wuhan 27.60 254 ⇑*i*P **P** 18 47 59.0 +0.7
WHN sP **sP** 18 48 11.3 0.0
WHN PP **PnPn** 18 48 42.6 -1.6
WHN S **S** 18 52 39.0 +1.2
WHN pmax pmax
comp=Z,930nm,1.3s
BILL Bilibino 27.64 17 P **P** 18 47 54.7 -3.7
BILL Bilibino 27.64 17 *i*P **P** 18 47 55.3 -3.1
SONM Songino Array 27.70 294 P **P** 18 47 59.4 +0.1
SONM Songino Array 27.70 294 P **P** 18 47 59.7 +0.4
comp=Z,231nm,0.9s,baz=87,slow=8.3,SNR=657
SONM PcP **PcP** 18 51 16.0 +0.6
comp=Z,4.3nm,0.7s,baz=84,slow=4.5,SNR=1.6
SONM LR LR 19 00 01.1
comp=Z,14μm,21.0s,baz=90,slow=39
comp=Z,231nm,0.9s
SONM Songino Array 27.70 294 P **P** 18 47 59.4 +0.1
SONM pmax pmax
comp=Z,366nm,1.0s
SSLB Suanglung 27.72 235 P **P** 18 47 59.7 +0.2
SSLB Suanglung 27.72 235 P **P** 18 47 59.0 -0.5
YULB Yu-li 27.81 234 P **P** 18 48 00.8 +0.5
YULB Yu-li 27.81 234 P **P** 18 47 59.0 -1.3
TPUB Ta-pu 28.28 234 P **P** 18 48 05.4 +0.9
QZH Quanzhou 28.34 240 ⇑*i*P **P** 18 48 06.0 +1.1
QZH S **S** 18 52 52.9 +3.5
QZH pmax pmax
comp=Z,170nm,1.4s
QZH LR LR
comp=Z,6μm,17.2s
QZH LR LR
comp=Z,7μm,18.2s
QZH LR LR
comp=Z,9μm,17.9s
ATKA Atka Island 28.53 57 P **P** 18 48 06.8 +0.4
ATKA Atka Island 28.53 57 P **P** 18 48 06.4 0.0
ATKA IAmb IAmb 18 48 20.3
comp=Z,366nm,1.4s
KNMB Chin-men Tao 28.81 239 P **P** 18 48 08.1 -1.1
KNMB IAmb IAmb 18 49 01.1
comp=Z,207nm,1.1s
IRK Irkutsk 29.01 303 *e*P **P** 18 48 08.4 -2.4
IRK pmax pmax
comp=Z,245nm,3.6s
GUMO Guam 29.09 181 LR LR 18 57 27.6
comp=Z,5μm,22.0s,baz=22,slow=32
H11N2 WAKE ISLAND Hy 29.25 135 T T 19 19 07.8
baz=328,slow=75,SNR=2172
H11N1 WAKE ISLAND Hy 29.26 135 T T 19 19 08.7
baz=328,slow=75,SNR=2381
H11N3 WAKE ISLAND Hy 29.26 135 T T 19 19 07.8
baz=328,slow=75,SNR=1990
ZAK Zakamensk 29.62 300 *e*P **P** 18 48 16.3 0.0
ZAK pmax pmax
comp=Z,185nm,1.4s
XAN Xi'an 29.72 265 ⇑P **P** 18 48 17.4 +0.1
XAN pmax pmax
comp=Z,200nm,1.3s
XAN LR LR
comp=Z,6μm,18.7s
XAN LR LR
comp=Z,7μm,17.8s
XAN LR LR
comp=Z,9μm,15.9s
CNSH ChangSha 29.99 252 ⇑P **P** 18 48 20.3 +0.7
CNSH S **S** 18 53 14.6 -0.9
CNSH pmax pmax
comp=Z,100nm,2.1s
CNSH LR LR
comp=Z,12μm,16.9s
CNSH LR LR
comp=Z,14μm,18.1s
CNSH LR LR
comp=Z,21μm,18.2s
TIXI Tiksi 30.07 350 LR LR 19 02 09.8
comp=Z,7μm,19.1s,baz=160,slow=40
TIXI Tiksi 30.07 350 *i* P **P** 18 48 15.3 -4.6
TIXI MLR MLR
comp=Z,9μm,17.0s
H11S1 WAKE ISLAND Hy 30.17 137 T T 19 20 21.3
baz=329,slow=76,SNR=6078
H11S3 WAKE ISLAND Hy 30.17 137 T T 19 20 21.5
baz=329,slow=76,SNR=4744
H11S2 WAKE ISLAND Hy 30.18 137 T T 19 20 22.7
baz=329,slow=76,SNR=4572
MOY Mondy 31.04 302 *e*P **P** 18 48 28.0 -0.8
MOY pmax pmax
comp=Z,356nm,1.8s
ENH Enshi 31.23 258 P **P** 18 48 30.6 0.0
ENH Enshi 31.23 258 IAmb IAmb 18 48 53.1
comp=Z,90nm,0.9s
ENH Enshi 31.23 258 P **P** 18 48 30.6 0.0
ENH PcP **PcP** 18 51 25.6 +1.0
LZH Lanzhou 32.55 272 ⇑P **P** 18 48 43.3 +1.0
LZH sP sP 18 48 54.1 -1.1
LZH S **S** 18 53 55.6 -0.1
LZH pmax pmax
comp=Z,270nm,1.5s
LZH pmax pmax
comp=Z,2μm,5.9s
LZH LR LR
comp=Z,5μm,15.1s
LZH LR LR
comp=Z,5μm,17.2s
LZH LR LR
comp=Z,10μm,21.3s
GZH Guangzhou 33.04 244 P P 18 48 41.4 -5.1
GZH PP **PnPn** 18 49 55.0 -1.4
GZH S **S** 18 53 57.8 -5.3
GZH pmax pmax
comp=Z,62nm,1.9s
GZH pmax pmax
comp=Z,2μm,2.7s
GZH LR LR
comp=Z,4μm,18.2s
GZH LR LR
comp=Z,4μm,16.3s
HKPS Hong Kong Po S 33.09 242 P **P** 18 48 48.4 +1.5
HKPS Hong Kong Po S 33.09 242 P **P** 18 48 48.4 +1.5
UNV Unalaska Valle 33.21 54 P **P** 18 48 47.2 -0.4
baz=270
MIDW Midway 33.30 104 P **P** 18 48 50.1 +1.4
M11K Mekoryuk 33.87 42 P **P** 18 48 52.8 -0.5
baz=260
M11K S **S** 18 54 18.1 +2.9
baz=260
GTA Gaotai 34.22 280 ⇑P **P** 18 48 57.0 +0.2
GTA sP pP 18 49 07.3 +1.3
GTA PP **PnPn** 18 50 10.6 -0.6
GTA PcP **PcP** 18 51 34.3 +1.4
GTA S **S** 18 54 21.3 -0.2
GTA sS sS 18 54 36.8 +0.1
GTA ScP **ScP** 18 55 15.6 +0.2
GTA PcS **PcS** 18 55 20.3 +1.0
GTA ScS **ScS** 18 59 16.8 -1.1
GTA pmax pmax
comp=Z,43nm,1.6s
GTA pmax pmax
comp=Z,1μm,9.6s
GTA LR LR
comp=Z,4μm,15.1s
GTA LR LR
comp=Z,5μm,16.7s
GTA LR LR
comp=Z,7μm,17.1s
TNA Tin City 34.34 32 P **P** 18 48 58.2 +0.9
baz=251,SNR=22

TNA S S 18 54 21.9 -0.6
baz=251
K13K Kusilvak Mount 34.87 39 IAmb IAmb 18 49 04.7
comp=Z,362nm,1.9s
K13K Kusilvak Mount 34.87 39 P P 18 49 02.6 +0.7
baz=260,SNR=19
K13K S S 18 54 32.0 +1.4
baz=260
F14K Arctic Creek 34.95 33 P P 18 49 04.0 +1.3
baz=253,SNR=49
F14K S S 18 54 32.4 +0.5
baz=253
FALS False Pass 35.00 52 P P 18 49 02.6 -0.6
baz=271
CD2 Chengdu 35.06 264 P P 18 49 04.0 0.0
CD2 pP pP 18 49 06.5 -6.8
CD2 sP sP 18 49 08.8 -8.2
CD2 S S 18 54 36.3 +2.0
CD2 sS pS 18 54 41.4 -3.3
CD2 pmax pmax
comp=Z,210nm,1.0s
CD2 pmax pmax
comp=Z,2μm,5.1s
CD2 LR LR
comp=Z,4μm,17.0s
CD2 LR LR
comp=Z,4μm,16.8s
CD2 LR LR
comp=Z,6μm,16.5s
ANM Nome 35.10 35 IAmb IAmb 18 49 06.6
comp=Z,307nm,1.6s
ANM Nome 35.10 35 P P 18 49 05.0 +1.1
baz=255,SNR=42
ANM S S 18 54 36.2 +2.0
baz=255
M13K Dall Lake 35.28 42 P P 18 49 06.4 +0.9
baz=263
M13K S S 18 54 40.5 +3.5
baz=263
GYA Guiyang 35.46 255⇑/P P 18 49 07.8 +0.2
GYA pP pP 18 49 11.1 -5.5
GYA sP sP 18 49 12.5 -8.2
GYA PP PP 18 50 29.1 +0.8
GYA S S 18 54 44.0 +3.2
GYA pmax pmax
comp=Z,120nm,1.4s
GYA pmax pmax
comp=Z,1μm,7.7s
GYA LR LR
comp=Z,7μm,15.7s
GYA LR LR
comp=Z,12μm,17.7s
GYA LR LR
comp=Z,18μm,17.3s
J14K Nanvaranak Lak 35.51 38 IAmb IAmb 18 49 10.1
comp=Z,241nm,1.7s
J14K Nanvaranak Lak 35.51 38 P P 18 49 08.2 +0.7
baz=260,SNR=16
J14K S S 18 54 42.0 +1.5
baz=260
TGY Tagaytay City 35.52 224 P P 18 49 07.6 -0.5
comp=Z,186nm,0.3s,baz=345,slow=3.2,SNR=13
F15K North Star Dit 35.69 33 P P 18 49 08.2 -0.8
F15K IAmb IAmb 18 49 38.4
comp=Z,126nm,1.4s
F15K North Star Dit 35.69 33 P P 18 49 10.2 +1.2
baz=255,SNR=22
F15K S S 18 54 44.5 +1.3
baz=255
L14K Kuka Creek 35.71 41 P P 18 49 09.0 -0.2
L14K IAmb IAmb 18 49 32.3
comp=Z,122nm,1.1s
L14K Kuka Creek 35.71 41 P P 18 49 10.6 +1.5
baz=263,SNR=18
L14K S S 18 54 46.3 +2.7
baz=263
G15K Niukluk 35.76 34 P P 18 49 10.3 +0.7
baz=256
G15K S S 18 54 46.9 +2.6
baz=256
M14K Bethel 36.00 42 P P 18 49 11.1 -0.5
M14K IAmb IAmb 18 49 34.5
comp=Z,174nm,1.2s
M14K Bethel 36.00 42 P P 18 49 12.5 +0.9
baz=264,SNR=12
M14K S S 18 54 49.8 +1.9
baz=264
N14K Kuskokwak Cree 36.06 43 P P 18 49 13.1 +1.0
baz=266
N14K S S 18 54 51.2 +2.3
baz=266
C16K Lisburne Hills 36.19 29 P P 18 49 12.8 -0.4
baz=250,SNR=43
C16K S S 18 54 48.6 -2.1
baz=250
O14K Tigyukauivet M 36.23 44 P P 18 49 14.7 +1.0
baz=267
O14K S S 18 54 53.0 +1.3
baz=267
L15K Ungalak Mounta 36.32 40 P P 18 49 15.3 +1.0
baz=263,SNR=7.8
L15K S S 18 54 54.4 +1.5
baz=263
K15K Wolf Creek Mou 36.37 39 P P 18 49 13.3 -1.5
K15K IAmb IAmb 18 49 38.0
comp=Z,248nm,1.5s
K15K Wolf Creek Mou 36.37 39 P P 18 49 16.2 +1.4
baz=262,SNR=14
K15K S S 18 54 55.2 +1.4
baz=262
H16K Elim 36.44 35 P P 18 49 16.2 +0.9
baz=258,SNR=91
H16K S S 18 54 57.0 +2.4
baz=258
G16K Koyuk River 36.54 34 P P 18 49 16.7 +0.5
baz=257,SNR=50
G16K S S 18 54 58.2 +2.0
baz=257
M15K Kasigluk River 36.61 42 P P 18 49 17.7 +0.8
baz=265,SNR=16
M15K S S 18 54 58.6 +1.2
baz=265
SDPT Sand Point 36.67 51 P P 18 49 16.6 -0.8
baz=273
D17K Noatak River 36.82 30 P P 18 49 18.9 +0.3
baz=254,SNR=75
D17K S S 18 54 59.9 -0.6
baz=254
N15K Kwethluk River 36.88 43 P P 18 49 19.4 +0.2
N15K IAmb IAmb 18 49 45.7
comp=Z,119nm,0.9s
N15K Kwethluk River 36.88 43 P P 18 49 20.0 +0.8
baz=267,SNR=9.9
N15K S S 18 55 02.5 +1.1
baz=267
J16K Anvik River 36.93 37 IAmb IAmb 18 49 42.5
comp=Z,215nm,1.8s
J16K Anvik River 36.93 37 P P 18 49 20.8 +1.3
baz=262,SNR=11
J16K S S 18 55 04.9 +2.8
baz=262
O15K Ungalikthiuk R 36.97 44 P P 18 49 20.5 +0.5
baz=268,SNR=7.1
O15K S S 18 55 03.0 +0.1
baz=268
I17K Unalakleet 36.97 36 P P 18 49 21.1 +1.2
baz=261,SNR=27
I17K S S 18 55 04.4 +1.7
baz=261
RDOG Red Dog Mine 36.99 29 P P 18 49 19.8 -0.2
baz=253,SNR=12
RDOG S S 18 55 02.1 -0.9
baz=253
C17K DeLong Mountai 37.01 29 P P 18 49 20.4 +0.1
baz=253,SNR=31
C17K S S 18 55 01.5 -1.9
baz=253
E17K Hotham Inlet 37.13 31 P P 18 49 21.5 +0.3
baz=256,SNR=66
E17K S S 18 55 03.9 -1.3
baz=256
S14K Fog Glacier 37.14 49 P P 18 49 20.1 -1.5
baz=272
F17K Baldwin Pennin 37.21 32 P P 18 49 22.2 +0.3
baz=257
F17K S S 18 55 06.3 0.0
baz=257
CHNA Chernabura Isl 37.21 52 P P 18 49 20.7 -1.3
baz=274
CNBA Chernabura Isl 37.21 52 P P 18 49 17.9 -4.2
G17K Kiwalik Mounta 37.26 34 P P 18 49 23.2 +0.9
baz=259,SNR=205
G17K S S 18 55 09.0 +1.8
baz=259
L16K Owhat River 37.28 40 P P 18 49 23.3 +0.8
baz=265,SNR=25
L16K S S 18 55 09.6 +2.1
baz=265
H17K Granite Mounta 37.47 35 IAmb IAmb 18 49 26.9
comp=Z,286nm,1.5s
H17K Granite Mounta 37.47 35 P P 18 49 25.2 +1.1
baz=260,SNR=94
H17K S S 18 55 13.4 +3.0
baz=260
M16K Timber Creek 37.48 41 P P 18 49 25.1 +0.8
baz=266,SNR=12
M16K S S 18 55 12.1 +1.5
baz=266
N16K Nishlik Lake 37.55 42 P P 18 49 25.6 +0.8
baz=267,SNR=20
N16K S S 18 55 14.1 +2.4
baz=267
J17K VABM Dome 37.62 37 IAmb IAmb 18 49 46.3
comp=Z,322nm,1.4s
J17K VABM Dome 37.62 37 P P 18 49 26.9 +1.4
baz=263,SNR=37
J17K S S 18 55 15.8 +3.0
baz=263
E18K Tukpahlearik C 37.68 31 P P 18 49 26.4 +0.5
baz=257
E18K S S 18 55 12.3 -1.1
baz=257
B18K Kokolik River 37.75 27 P P 18 49 26.8 +0.4
baz=253,SNR=23
B18K S S 18 55 12.1 -2.4
baz=253
C18K Utukok River 37.76 29 IAmb IAmb 18 49 27.7
comp=Z,108nm,1.0s
C18K Utukok River 37.76 29 P P 18 49 26.4 -0.2
baz=254,SNR=67
C18K S S 18 55 12.2 -2.6
baz=254
O16K Kokwok River B 37.86 44 P P 18 49 28.2 +0.6
baz=269,SNR=9.1
O16K S S 18 55 17.3 +0.9
baz=269
L17K Donlin 37.87 40 P P 18 49 28.9 +1.4
baz=266,SNR=18
L17K S S 18 55 18.9 +2.5
baz=266
F18K Selawik 37.87 32 P P 18 49 28.4 +0.9
baz=259,SNR=102
F18K S S 18 55 17.1 +0.8
baz=259
K17K Iditarod 37.91 39 IAmb IAmb 18 49 45.4
comp=Z,100nm,0.9s
K17K Iditarod 37.91 39 P P 18 49 29.4 +1.5
baz=265,SNR=22
K17K S S 18 55 20.5 +3.4
baz=265
P16K Nushagak River 37.91 45 P P 18 49 28.9 +1.0
baz=270
P16K S S 18 55 18.3 +1.1
baz=270
G18K Tagagawik 38.14 33 IAmb IAmb 18 49 31.9
comp=Z,196nm,1.1s
G18K Tagagawik 38.14 33 P P 18 49 30.6 +0.7
baz=260,SNR=139
G18K S S 18 55 21.1 +0.6
baz=260
H18K Honhosa River 38.15 35 IAmb IAmb 18 49 32.4
comp=Z,294nm,1.2s
H18K Honhosa River 38.15 35 P P 18 49 30.7 +0.8
baz=262
H18K S S 18 55 22.6 +1.9
baz=262
R16K Pilot Point 38.17 47 P P 18 49 31.4 +1.3
baz=272
QIZ Qiongzhong 38.21 243 P P 18 49 32.1 +1.2
QIZ Qiongzhong 38.21 243 P P 18 49 32.1 +1.2
QIZ S S 18 55 25.0 +2.5
QIZ pmax pmax
comp=Z,61nm,1.5s
QIZ pmax pmax
comp=Z,1μm,4.3s
QIZ LR LR
comp=Z,4μm,17.6s
QIZ LR LR
comp=Z,5μm,15.7s
QIZ LR LR
comp=Z,8μm,16.5s
QIZ Qiongzhong 38.21 243 IAmb IAmb 18 49 34.4
comp=Z,184nm,1.6s
M17K Holitna River 38.23 41 P P 18 49 30.2 -0.5
M17K IAmb IAmb 18 49 53.9
comp=Z,148nm,1.1s
M17K Holitna River 38.23 41 P P 18 49 31.9 +1.3
baz=267,SNR=23
M17K S S 18 55 24.0 +2.0
baz=267
A19K Wainwright 38.24 26 P P 18 49 30.8 +0.3
baz=253
A19K S S 18 55 18.6 -3.2
baz=253
N17K Nushagak Hills 38.33 42 P P 18 49 30.9 -0.5
N17K Nushagak Hills 38.33 42 P P 18 49 32.5 +1.0
baz=269,SNR=11
N17K S S 18 55 26.6 +3.1
baz=269
O17K Koliganek Bris 38.37 43 P P 18 49 33.1 +1.3
baz=270,SNR=13
O17K S S 18 55 26.0 +1.9
baz=270
C19K Lookout Ridge 38.44 28 IAmb IAmb 18 49 33.9
comp=Z,164nm,1.1s
C19K Lookout Ridge 38.44 28 P P 18 49 32.5 +0.2
baz=256
C19K S S 18 55 22.3 -2.8
baz=256
Q16K King Salmon 38.62 45 P P 18 49 34.5 +0.7
baz=272
Q16K S S 18 55 29.7 +2.0
baz=272
L18K Granite Mounta 38.62 39 P P 18 49 35.1 +1.2
baz=267,SNR=16
L18K S S 18 55 30.0 +2.1
baz=267
F19K Shaleruckik Mo 38.65 32 P P 18 49 32.6 -1.4
F19K IAmb IAmb 18 49 35.7
comp=Z,137nm,1.2s
F19K Shaleruckik Mo 38.65 32 P P 18 49 34.3 +0.3
baz=260,SNR=115
F19K S S 18 55 27.1 -0.9
baz=260
J18K Innoko River 38.69 37 P P 18 49 35.4 +0.9
baz=266,SNR=38
J18K S S 18 55 30.0 +1.1
baz=266
P17K Kvichak River 38.71 44 P P 18 49 35.4 +0.7
baz=271
P17K S S 18 55 31.2 +1.9
baz=271
GCSA Galena City Sc 38.73 35 P P 18 49 34.7 0.0
baz=264,SNR=6.4
GCSA S S 18 55 29.5 +0.2
baz=264
G19K Purcell Mounta 38.81 33 P P 18 49 35.6 +0.1
baz=262,SNR=112
G19K S S 18 55 29.7 -1.0
baz=262
D19K Kuna River 38.83 29 P P 18 49 35.6 0.0
baz=258
D19K S S 18 55 29.6 -1.3
baz=258
E19K Redstone River 38.96 31 P P 18 49 37.1 +0.5
baz=260
E19K S S 18 55 32.4 -0.4
baz=260
N18K Kilae Creek 38.97 42 IAmb IAmb 18 50 01.0
comp=Z,134nm,1.1s
N18K Kilae Creek 38.97 42 P P 18 49 38.2 +1.3
baz=270,SNR=13
N18K S S 18 55 36.9 +3.7
baz=270
PZH PanZhiHua 38.97 260 P P 18 49 37.6 +0.2
PZH PP PnPn 18 51 08.9 -0.6
PZH S S 18 55 35.5 +1.3
PZH pmax pmax
comp=Z,180nm,1.6s
PZH pmax pmax
comp=Z,2μm,4.1s
PZH LR LR
comp=Z,3μm,17.3s
PZH LR LR
comp=Z,3μm,18.4s
PZH LR LR
comp=Z,5μm,17.9s
H19K Roundabout Mou 38.99 34 P P 18 49 38.0 +1.0
baz=263,SNR=263
H19K S S 18 55 33.5 +0.2
baz=263
M18K Stony River 39.01 41 P P 18 49 39.0 +1.9
baz=269,SNR=7.8
M18K S S 18 55 35.8 +2.1
baz=269
Q17K Contact Creek 39.04 46 P P 18 49 37.7 +0.2
baz=273
Q17K S S 18 55 33.0 -1.4
baz=273
KMI Kunming 39.08 257 ⇑P P 18 49 38.8 +0.4
KMI PP PP 18 51 07.4 -0.8
KMI S S 18 55 34.4 -1.5
KMI SS SS 18 58 23.4 -5.4
KMI pmax pmax
comp=Z,180nm,1.5s
KMI LR LR
comp=Z,7μm,17.5s
KMI LR LR
comp=Z,8μm,17.8s
KMI LR LR
comp=Z,12μm,17.8s
KMI Kunming 39.08 257 P P 18 49 39.0 +0.5
SVW2 Sparrevohn 39.12 41 P P 18 49 40.7 +2.6
GOMU GeErMu 39.12 278 P P 18 49 39.0 +0.1
GOMU pP pP 18 49 44.9 -3.2
GOMU sP sP 18 49 46.8 -5.0
GOMU S S 18 55 41.6 +4.9
GOMU SS SS 18 58 25.6 -4.1
GOMU pmax pmax
comp=Z,220nm,2.0s
GOMU LR LR
comp=Z,10μm,20.4s
GOMU LR LR
comp=Z,10μm,19.0s
GOMU LR LR
comp=Z,18μm,20.2s
J19K Poorman 39.21 37 IAmb IAmb 18 49 51.0
comp=Z,132nm,1.1s
J19K Poorman 39.21 37 P P 18 49 39.5 +0.8
baz=266,SNR=54
J19K S S 18 55 38.2 +1.5
baz=266
O18K Koktuh Hills 39.32 43 IAmb IAmb 18 50 01.6
comp=Z,345nm,1.6s
O18K Koktuh Hills 39.32 43 P P 18 49 40.8 +1.0
baz=271,SNR=9.8
O18K S S 18 55 40.4 +1.9
baz=271
P18K Big Mountain, 39.33 44 IAmb IAmb 18 50 01.2
comp=Z,121nm,1.0s
P18K Big Mountain, 39.33 44 P P 18 49 41.2 +1.3
baz=272
P18K S S 18 55 40.1 +1.5
baz=272
CHIR Chirikof Islan 39.38 50 P P 18 49 40.5 +0.3
baz=276
D20K Etivluk River 39.41 29 P P 18 49 40.6 +0.2
baz=259
D20K S S 18 55 37.1 -2.5
baz=259
F20K Avaraart Lake 39.48 32 P P 18 49 41.4 +0.5
baz=262,SNR=56
F20K S S 18 55 38.5 -2.1
baz=262
B20K Meade River 39.48 27 IAmb IAmb 18 49 42.2
comp=Z,256nm,1.1s
B20K Meade River 39.48 27 P P 18 49 40.9 0.0
baz=257,SNR=54
B20K S S 18 55 36.9 -3.7
baz=257
L19K White Mountain 39.48 40 P P 18 49 42.1 +1.0
baz=269,SNR=16
L19K S S 18 55 40.9 +0.1
baz=269
E20K Nigu River 39.48 30 P P 18 49 41.2 +0.1
baz=260
E20K S S 18 55 38.6 -2.2
baz=260
H20K Anotleneega Mo 39.64 34 P P 18 49 43.2 +0.8
baz=265,SNR=164
H20K S S 18 55 44.8 +1.6
baz=265
DAV Davao City (W) 39.64 212 P P 18 49 41.6 -1.3
comp=Z,138nm,0.4s,baz=80,slow=2.2,SNR=4.5
DAV LR LR 19 04 49.3
comp=Z,4μm,21.2s,baz=52,slow=34
comp=Z,138nm,0.4s
DAV Davao City (W) 39.64 212⇑eP P 18 49 42.0 -0.9
N19K Bonanza Creek 39.66 42 P P 18 49 43.7 +1.0
baz=271,SNR=6.2
N19K S S 18 55 45.6 +1.9
baz=271
M19K Big River Lodg 39.70 40 P P 18 49 43.9 +1.0
baz=270
M19K S S 18 55 46.2 +2.2
baz=270
O19K Port Alsworth 39.76 43 P P 18 49 43.9 +0.5
baz=272
O19K S S 18 55 47.5 +2.6
baz=272
I20K Naaghedeneel 39.76 35 IAmb IAmb 18 50 01.6
comp=Z,304nm,1.4s
I20K Naaghedeneel 39.76 35 P P 18 49 44.8 +1.5
baz=266,SNR=32
I20K S S 18 55 47.5 +2.6
baz=266
J20K Nowinta River 39.87 36 IAmb IAmb 18 49 56.4
comp=Z,121nm,0.9s
J20K Nowinta River 39.87 36 P P 18 49 45.4 +1.1
baz=267,SNR=94
J20K S S 18 55 48.3 +1.8
baz=267
K20K Telida 39.87 38 P P 18 49 45.4 +1.1
baz=268,SNR=26
K20K S S 18 55 48.9 +2.3
baz=268
L20K Farewell, AK 39.94 39 P P 18 49 45.8 +0.9
baz=269,SNR=21
L20K S S 18 55 48.6 +0.8
baz=269
A21K Barrow 39.96 25 P P 18 49 44.4 -0.4
baz=256,SNR=12
A21K S S 18 55 44.4 -3.2
baz=256
SII Sitkinak Islan 40.09 48 P P 18 49 48.9 +2.6
SII Sitkinak Islan 40.09 48 P P 18 49 46.3 0.0
baz=276
C21K Knifeblade Rid 40.14 29 P P 18 49 46.7 +0.3
baz=260,SNR=88
C21K S S 18 55 48.4 -2.0
baz=260
Q19K Cape Douglas, 40.17 45 P P 18 49 46.2 -0.7
Q19K IAmb IAmb 18 50 06.1
comp=Z,147nm,1.0s
Q19K Cape Douglas, 40.17 45 P P 18 49 46.5 -0.3
baz=274
B21K Ikpikpuk River 40.27 28 IAmb IAmb 18 49 49.2
comp=Z,271nm,1.1s
B21K Ikpikpuk River 40.27 28 P P 18 49 47.9 +0.4
baz=260,SNR=162
B21K S S 18 55 49.6 -2.8
baz=260
G21K Allakaket 40.29 33 IAmb IAmb 18 49 50.1
comp=Z,266nm,1.1s
G21K Allakaket 40.29 33 P P 18 49 48.6 +0.8
baz=265
G21K S S 18 55 54.0 +1.2
baz=265
M20K Styx River 40.29 40 P P 18 49 49.5 +1.5
baz=271,SNR=14
M20K S S 18 55 55.6 +2.4
baz=271
E21K Killik River 40.32 30 P P 18 49 47.8 -0.2
baz=262,SNR=48

E21K					S	**S**	**18 55 49.9**	**-3.4**	
	baz=262								
P19K	**Oil Pt**	**40.33**	**44**		P	**P**	**18 49 48.9**	**+0.7**	
	baz=273								
P19K					S	**S**	**18 55 53.1**	**-0.5**	
	baz=273								
F21K	**Alatna River**	**40.37**	**32**		P	**P**	**18 49 48.8**	**+0.4**	
	baz=264,SNR=71								
F21K					S	**S**	**18 55 53.5**	**-0.5**	
	baz=264								
A22K	**Sinclair Lake**	**40.41**	**26**		P	**P**	**18 49 48.4**	**-0.2**	
	baz=258								
A22K					S	**S**	**18 55 51.9**	**-2.5**	
	baz=258								
OHAK	**Old Harbor**	**40.51**	**47**		P	**P**	**18 49 49.6**	**0.0**	
OHAK	**Old Harbor**	**40.51**	**47**		IAmb	IAmb	18 50 06.3		
	comp=Z,459nm,2.0s								
OHAK	**Old Harbor**	**40.51**	**47**		P	**P**	**18 49 49.2**	**-0.4**	
	baz=276								
OHAK					S	**S**	**18 55 54.8**	**-1.4**	
	baz=276								
H21K	**Melozitna Rive**	**40.52**	**34**		IAmb	IAmb	18 49 52.0		
	comp=Z,247nm,1.3s								
H21K	**Melozitna Rive**	**40.52**	**34**		P	**P**	**18 49 50.5**	**+0.9**	
	baz=266,SNR=146								
H21K					S	**S**	**18 55 58.1**	**+1.9**	
	baz=266								
ZAA0	**Zalesovo Array**	**40.59**	**308**		P	**P**	**18 49 49.3**	**-1.0**	
ZALV	**Zalesovo Beam**	**40.59**	**308**		P	**P**	**18 49 49.3**	**-1.0**	
ZALV	**Zalesovo Beam**	**40.59**	**308**		P	**P**	**18 49 50.0**	**-0.4**	
	comp=Z,50nm,0.8s,baz=85,slow=7.9,SNR=162								
ZALV					PcP	**PcP**	**18 51 52.3**	**+0.4**	
	comp=Z,35nm,0.8s,baz=81,slow=3.3,SNR=10								
ZALV					ScP	**ScP**	**18 55 38.6**	**-0.2**	
	comp=Z,4.8nm,0.9s,baz=73,slow=5.1,SNR=4.0								
ZALV					LR	LR	19 07 51.2		
	comp=Z,13μm,19.4s,baz=80,slow=38								
	comp=Z,50nm,0.8s								
O20K	**Slope Mountain**	**40.61**	**43**		P	**P**	**18 49 50.9**	**+0.4**	
	baz=273								
O20K					S	**S**	**18 55 59.3**	**+1.4**	
	baz=273								
SLVN	**Son La**	**40.66**	**252**		P	**P**	**18 49 51.4**	**0.0**	
CHUM	**Lake Minchumin**	**40.66**	**37**		P	**P**	**18 49 52.5**	**+1.7**	
	baz=269,SNR=30								
CHUM					S	**S**	**18 56 00.8**	**+2.4**	
	baz=269								
PPLA	**Purkeypile**	**40.72**	**38**		P	**P**	**18 49 53.0**	**+1.5**	
	baz=270,SNR=28								
PPLA					S	**S**	**18 56 02.0**	**+2.5**	
	baz=270								
N20K	**Mount Spurr**	**40.76**	**41**		P	**P**	**18 49 52.7**	**+1.0**	
	baz=272								
N20K					S	**S**	**18 56 02.9**	**+2.8**	
	baz=272								
CAST	**Castle Rocks**	**40.77**	**38**		P	**P**	**18 49 53.1**	**+1.4**	
	baz=270,SNR=60								
CAST					S	**S**	**18 56 02.7**	**+2.7**	
	baz=270								
B22K	**Teshekpuk Lake**	**40.80**	**27**		IAmb	IAmb	18 49 53.1		
	comp=Z,394nm,1.6s								
B22K	**Teshekpuk Lake**	**40.80**	**27**		P	**P**	**18 49 51.5**	**-0.3**	
	baz=260,SNR=102								
B22K					S	**S**	**18 55 57.7**	**-2.5**	
	baz=260								
KDAK	**Kodiak Island**	**40.83**	**46**		P	**P**	**18 49 51.8**	**-0.5**	
KDAK					IAmb	IAmb	18 50 09.4		
	comp=Z,157nm,0.9s								
KDAK	**Kodiak Island**	**40.83**	**46**		P	**P**	**18 49 51.9**	**-0.3**	
	baz=276								
KDAK	**Kodiak Island**	**40.83**	**46**	*i*	P	**P**	**18 49 51.9**	**-0.3**	
KDAK					pmax	pmax			
	comp=Z,239nm,0.9s								
KDAK	**Kodiak Island**	**40.83**	**46**		P	**P**	**18 49 52.2**	**0.0**	
KDAK					sP	**sP**	**18 50 06.3**	**+1.0**	
I21K	**Tanana**	**40.84**	**35**		P	**P**	**18 49 53.3**	**+1.1**	
	baz=268								
I21K					S	**S**	**18 56 04.0**	**+3.0**	
	baz=268								
Q20K	**Shuyak Island**	**40.84**	**45**		P	**P**	**18 49 52.0**	**-0.4**	
	baz=275								
Q20K					S	**S**	**18 55 59.4**	**-1.8**	
	baz=275								
SYI	**Shuyak Island**	**40.84**	**45**		P	**P**	**18 49 52.0**	**-0.4**	
SYI					IAmb	IAmb	18 50 11.0		
	comp=Z,178nm,1.1s								
D22K	**Ayikyak River**	**40.85**	**29**		IAmb	IAmb	18 49 54.2		
	comp=Z,269nm,1.6s								
D22K	**Ayikyak River**	**40.85**	**29**		P	**P**	**18 49 52.9**	**+0.6**	
	baz=263,SNR=79								
D22K					S	**S**	**18 55 58.7**	**-2.4**	
	baz=263								
F22K	**John River**	**40.89**	**31**		P	**P**	**18 49 53.7**	**+1.0**	
	baz=265,SNR=104								
F22K					S	**S**	**18 56 01.3**	**-0.5**	
	baz=265								
SKT	**Skwentna**	**41.05**	**40**		P	**P**	**18 49 54.6**	**+0.5**	
	baz=272,SNR=6.1								
SKT					S	**S**	**18 56 04.7**	**+0.5**	
	baz=272								
E22K	**Anaktuvuk Pass**	**41.09**	**30**		IAmb	IAmb	18 49 56.3		
	comp=Z,393nm,1.8s								
E22K	**Anaktuvuk Pass**	**41.09**	**30**		P	**P**	**18 49 55.0**	**+0.6**	
	baz=265								
E22K					S	**S**	**18 56 02.1**	**-2.7**	
	baz=265								
G22K	**Bettles**	**41.11**	**32**		P	**P**	**18 49 54.9**	**+0.4**	
	baz=266								
G22K					S	**S**	**18 56 05.4**	**+0.5**	
	baz=266								
H22K	**Ishtalitna Cre**	**41.12**	**34**		P	**P**	**18 49 55.9**	**+1.3**	
	baz=268,SNR=105								
H22K					S	**S**	**18 56 06.6**	**+1.5**	
	baz=268								
HOM	**Homer**	**41.14**	**43**		P	**P**	**18 49 55.0**	**+0.2**	
	baz=274								
BPAW	**Bear Paw Mtn.**	**41.25**	**37**		P	**P**	**18 49 56.7**	**+1.0**	
	baz=270,SNR=24								
BPAW					S	**S**	**18 56 09.1**	**+1.9**	
	baz=270								
KTH	**Kantishna Hill**	**41.28**	**37**		IAmb	IAmb	18 50 18.9		
	comp=Z,366nm,1.4s								
WMQ	**Urumqi**	**41.29**	**292**	⇑	P	**P**	**18 49 57.0**	**+0.6**	
WMQ					sP	pP	18 50 06.0	+0.3	
WMQ					S	**S**	**18 56 05.5**	**-2.8**	
WMQ					pmax	pmax			
	comp=Z,130nm,1.3s								
WMQ					LR	LR			
	comp=Z,7μm,13.9s								
WMQ					LR	LR			
	comp=Z,11μm,12.7s								
WMQ					LR	LR			
	comp=Z,8μm,16.3s								
WMQ	**Urumqi**	**41.29**	**292**		P	**P**	**18 49 56.9**	**+0.6**	
WMQ					pP	**pP**	**18 50 06.5**	**+0.8**	
CNPM	**China Poot**	**41.35**	**44**		P	**P**	**18 49 57.0**	**+0.3**	
MLY	**Manley**	**41.36**	**35**		P	**P**	**18 49 56.9**	**+0.2**	
MLY	**Manley**	**41.36**	**35**		P	**P**	**18 49 57.7**	**+1.1**	
	baz=269,SNR=96								
MLY					S	**S**	**18 56 11.2**	**+2.3**	
	baz=269								
SUA	**Susitna One**	**41.45**	**41**		P	**P**	**18 49 57.6**	**+0.1**	
	baz=273								
SUA					S	**S**	**18 56 10.6**	**+0.2**	
	baz=273								
TRF	**Thorofare Moun**	**41.57**	**38**		P	**P**	**18 49 59.2**	**+0.6**	
	baz=271,SNR=24								
TRF					S	**S**	**18 56 11.4**	**-0.9**	
	baz=271								
D23K	**Nanushuk River**	**41.58**	**29**		P	**P**	**18 49 59.0**	**+0.7**	
	baz=265,SNR=68								
D23K					S	**S**	**18 56 10.8**	**-1.1**	
	baz=265								
BRSE	**Bradley Lake S**	**41.58**	**43**		P	**P**	**18 49 58.1**	**-0.4**	
	baz=275,SNR=5.1								
CUT	**Chulitna**	**41.62**	**39**		IAmb	IAmb	18 50 24.4		
	comp=Z,188nm,1.3s								
CUT	**Chulitna**	**41.62**	**39**		P	**P**	**18 49 58.9**	**+0.2**	
	baz=272								
CUT					S	**S**	**18 56 12.1**	**-0.5**	
	baz=272								
COLD	**Coldfoot**	**41.64**	**32**		P	**P**	**18 49 59.5**	**+0.7**	
	baz=267,SNR=74								
COLD					S	**S**	**18 56 11.8**	**-1.0**	
	baz=267								
C23K	**Itkillik River**	**41.68**	**28**		IAmb	IAmb	18 50 00.8		
	comp=Z,279nm,1.2s								
C23K	**Itkillik River**	**41.68**	**28**		P	**P**	**18 49 58.9**	**-0.3**	
	baz=264,SNR=143								
C23K					S	**S**	**18 56 11.4**	**-2.0**	
	baz=264								
G23K	**Bananza Creek**	**41.69**	**33**		IAmb	IAmb	18 50 01.3		
	comp=Z,129nm,1.0s								
G23K	**Bananza Creek**	**41.69**	**33**		P	**P**	**18 49 59.7**	**+0.4**	
	baz=268,SNR=173								
G23K					S	**S**	**18 56 13.7**	**0.0**	
	baz=268								
M22K	**Willow**	**41.73**	**40**		P	**P**	**18 49 59.0**	**-0.6**	
	baz=273								
M22K					S	**S**	**18 56 13.8**	**-0.4**	
	baz=273								
H23K	**Yukon River**	**41.87**	**34**		IAmb	IAmb	18 50 03.6		
	comp=Z,213nm,1.1s								
H23K	**Yukon River**	**41.87**	**34**		P	**P**	**18 50 02.2**	**+1.5**	
	baz=269,SNR=229								
H23K					S	**S**	**18 56 18.6**	**+2.3**	
	baz=269								
E23K	**Chandalar**	**41.90**	**31**		P	**P**	**18 50 01.6**	**+0.5**	
	baz=267								
E23K					S	**S**	**18 56 15.2**	**-1.7**	
	baz=267								
I23K	**Minto, Yukon-K**	**41.94**	**35**		IAmb	IAmb	18 50 04.1		
	comp=Z,198nm,1.3s								
I23K	**Minto, Yukon-K**	**41.94**	**35**		P	**P**	**18 50 02.5**	**+1.1**	
	baz=270,SNR=83								
I23K					S	**S**	**18 56 18.9**	**+1.6**	
	baz=270								
TOLK	**Toolik Lake Re**	**41.95**	**30**		IAmb	IAmb	18 50 03.4		
	comp=Z,193nm,1.6s								
TOLK	**Toolik Lake Re**	**41.95**	**30**		P	**P**	**18 50 01.9**	**+0.4**	
	baz=266,SNR=51								
TOLK					S	**S**	**18 56 15.9**	**-1.7**	
	baz=266								
RC01	**Rabbit Creek A**	**41.96**	**41**		P	**P**	**18 50 01.7**	**+0.1**	
	baz=274,SNR=5.8								
RC01					S	**S**	**18 56 15.1**	**-2.7**	
	baz=274								
O22K	**Cooper Landing**	**42.02**	**42**		IAmb	IAmb	18 50 49.4		
	comp=Z,302nm,1.2s								
O22K	**Cooper Landing**	**42.02**	**42**		P	**P**	**18 50 01.7**	**-0.3**	
	baz=275								
ZSN	**Zaisan**	**42.05**	**298**	*e*	P	**P**	**18 50 03.0**	**+0.5**	
	baz=298								
ZSN					*e*	**S**	**18 56 22.5**	**+3.1**	
	baz=298								
ZSN	**Zaisan**	**42.05**	**298**	*e*	P	**P**	**18 50 02.9**	**+0.5**	
ZSN					*e*	**S**	**18 56 22.5**	**+3.1**	
NEA2	**Nenana**	**42.08**	**36**		IAmb	IAmb	18 50 16.6		
	comp=Z,110nm,0.8s								
NEA2	**Nenana**	**42.08**	**36**		P	**P**	**18 50 03.3**	**+0.9**	
	baz=271,SNR=97								
NEA2					S	**S**	**18 56 21.1**	**+1.8**	
	baz=271								
MCK	**McKinley**	**42.17**	**37**		P	**P**	**18 50 03.4**	**+0.2**	
	baz=272,SNR=23								
MCK					S	**S**	**18 56 19.5**	**-1.3**	
	baz=272								
TNCH	**TengChong**	**42.18**	**261**	⇑	P	**P**	**18 50 04.9**	**+0.9**	
TNCH					pP	pP	18 50 07.3	-6.1	
TNCH					sP	sP	18 50 08.8	-8.3	
TNCH					S	**S**	**18 56 21.1**	**-1.1**	
TNCH					sS	pS	18 56 33.8	+0.8	
TNCH					SS	**SS**	**18 59 26.0**	**-4.6**	
TNCH					ScS	**ScS**	**19 00 00.9**	**-3.1**	
TNCH					pmax	pmax			
	comp=Z,240nm,1.3s								
TNCH					pmax	pmax			
	comp=Z,2μm,4.1s								
TNCH					LR	LR			
	comp=Z,1μm,18.4s								
TNCH					LR	LR			
	comp=Z,2μm,20.1s								
TNCH					LR	LR			
	comp=Z,4μm,22.9s								
SEW	**Seward**	**42.19**	**43**		P	**P**	**18 50 03.2**	**-0.2**	
	baz=276								
SEW					S	**S**	**18 56 18.1**	**-3.0**	
	baz=276								
PMR	**Palmer**	**42.21**	**40**		P	**P**	**18 50 03.9**	**+0.4**	
PMR	**Palmer**	**42.21**	**40**		P	**P**	**18 50 03.7**	**+0.1**	
	baz=274,SNR=6.9								
PMR					S	**S**	**18 56 20.0**	**-1.3**	
	baz=274								
RND	**Reindeer**	**42.22**	**38**		IAmb	IAmb	18 50 25.3		
	comp=Z,459nm,1.9s								
D24K	**Happy Valley**	**42.26**	**29**		IAmb	IAmb	18 50 05.5		
	comp=Z,227nm,1.3s								
D24K	**Happy Valley**	**42.26**	**29**		P	**P**	**18 50 04.1**	**+0.3**	
	baz=266,SNR=72								
D24K					S	**S**	**18 56 20.1**	**-1.7**	
	baz=266								
E24K	**Your Creek**	**42.33**	**31**		IAmb	IAmb	18 50 06.8		
	comp=Z,222nm,1.2s								
E24K	**Your Creek**	**42.33**	**31**		P	**P**	**18 50 05.3**	**+0.8**	
	baz=268,SNR=201								
E24K					S	**S**	**18 56 22.7**	**-0.4**	
	baz=268								
C24K	**Franklin Bluff**	**42.34**	**28**		P	**P**	**18 50 04.3**	**-0.2**	
	baz=266,SNR=120								
C24K					S	**S**	**18 56 21.4**	**-1.6**	
	baz=266								
WAT1	**Susitna Watana**	**42.39**	**38**		P	**P**	**18 50 05.0**	**-0.1**	
	baz=274								
WAT1					S	**S**	**18 56 22.1**	**-2.0**	
	baz=274								
MDM	**Murphy Dome**	**42.43**	**35**		IAmb	IAmb	18 50 07.9		
	comp=Z,506nm,1.9s								
F24K	**Squaw Lake**	**42.54**	**31**		P	**P**	**18 50 06.7**	**+0.4**	
	baz=269,SNR=47								
F24K					S	**S**	**18 56 25.9**	**-0.3**	
	baz=269								
KNK	**Knik Glacier**	**42.55**	**41**		IAmb	IAmb	18 50 48.2		
	comp=Z,163nm,1.2s								
KNK	**Knik Glacier**	**42.55**	**41**		P	**P**	**18 50 06.6**	**+0.2**	
	baz=275,SNR=14								
KNK					S	**S**	**18 56 25.1**	**-1.3**	
	baz=275								
H24K	**Noodor Dome**	**42.55**	**34**		P	**P**	**18 50 07.1**	**+0.8**	
H24K					IAmb	IAmb	18 50 09.3		
	comp=Z,398nm,1.5s								
H24K	**Noodor Dome**	**42.55**	**34**		P	**P**	**18 50 07.8**	**+1.4**	
	baz=271,SNR=158								
H24K					S	**S**	**18 56 29.4**	**+3.0**	
	baz=271								
SML	**Sawmill**	**42.57**	**40**		IAmb	IAmb	18 50 26.4		
	comp=Z,129nm,0.9s								
SML	**Sawmill**	**42.57**	**40**		P	**P**	**18 50 06.7**	**+0.1**	
	baz=275,SNR=32								
SML					S	**S**	**18 56 26.2**	**-0.6**	
	baz=275								
COLA	**College**	**42.59**	**35**		P	**P**	**18 50 07.5**	**+0.9**	
COLA	**College**	**42.59**	**35**		P	**P**	**18 50 07.1**	**+0.5**	
COLA					IAmb	IAmb	18 50 18.6		
	comp=Z,151nm,0.9s								
COLA	**College**	**42.59**	**35**		P	**P**	**18 50 07.4**	**+0.8**	
	baz=272								
COLA					S	**S**	**18 56 27.9**	**+1.1**	
	baz=272								
COLA	**College**	**42.59**	**35**	*c*	*i* P	**P**	**18 50 06.3**	**-0.3**	
COLA					pmax	pmax			
	comp=Z,256nm,2.3s								
COLA					MLR	MLR			
	comp=Z,4μm,18.0s								
COLA	**College**	**42.59**	**35**		P	**P**	**18 50 07.5**	**+0.9**	
COLA					pP	**pP**	**18 50 17.5**	**+1.8**	
G24K	**Hadweenzic Riv**	**42.70**	**33**		IAmb	IAmb	18 50 10.3		
	comp=Z,302nm,1.2s								
G24K	**Hadweenzic Riv**	**42.70**	**33**		P	**P**	**18 50 08.8**	**+1.3**	
	baz=270,SNR=195								
G24K					S	**S**	**18 56 29.5**	**+1.0**	
	baz=270								
POKR	**Poker Plat Res**	**42.76**	**35**		P	**P**	**18 50 09.4**	**+1.4**	
	baz=272,SNR=31								
POKR					S	**S**	**18 56 30.8**	**+1.4**	
	baz=272								
WAT6	**Susitna Watana**	**42.78**	**39**		P	**P**	**18 50 08.5**	**+0.1**	
	baz=274,SNR=19								
WAT6					S	**S**	**18 56 29.1**	**-1.0**	
	baz=274								
LKP	**Lekhapani**	**42.80**	**265**	*e*	P	**P**	**18 50 09.6**	**+0.8**	
M23K	**Glacier View**	**42.86**	**40**		P	**P**	**18 50 09.2**	**+0.4**	
	baz=275,SNR=11								
M23K					S	**S**	**18 56 31.5**	**+0.5**	
	baz=275								
DHY	**Denali Highway**	**42.91**	**38**		P	**P**	**18 50 09.5**	**+0.1**	
	baz=274,SNR=38								
DHY					S	**S**	**18 56 30.4**	**-1.5**	
	baz=274								
HDA	**Harding Lake**	**43.00**	**36**		P	**P**	**18 50 09.8**	**-0.2**	
	baz=273,SNR=49								
HDA					S	**S**	**18 56 31.0**	**-2.0**	
	baz=273								
HDA					S	**S**	**18 56 31.0**	**-2.0**	
	baz=273								
ILAR	**Eielson Array**	**43.01**	**36**		P	**P**	**18 50 09.4**	**-0.6**	
ILAR	**Eielson Array**	**43.01**	**36**		P	**P**	**18 50 10.0**	**0.0**	
	comp=Z,24nm,0.6s,baz=258,slow=6.3,SNR=154								
	comp=Z,24nm,0.6s								
ILAR	**Eielson Array**	**43.01**	**36**		P	**P**	**18 50 09.4**	**-0.6**	
SCM	**Sheep Creek Mo**	**43.04**	**40**		IAmb	IAmb	18 50 53.3		
	comp=Z,166nm,1.3s								
SCM	**Sheep Creek Mo**	**43.04**	**40**		P	**P**	**18 50 10.9**	**+0.5**	
	baz=276,SNR=12								
SCM					S	**S**	**18 56 34.4**	**+0.6**	
	baz=276								
D25K	**Kavik River**	**43.13**	**29**		P	**P**	**18 50 11.1**	**0.0**	
	baz=268,SNR=88								
D25K					S	**S**	**18 56 31.6**	**-3.3**	
	baz=268								
P23K	**Montague Islan**	**43.23**	**43**		P	**P**	**18 50 11.9**	**+0.1**	
	baz=278								
P23K					S	**S**	**18 56 37.3**	**+1.0**	
	baz=278								
G25K	**Bearman Lake**	**43.25**	**33**		P	**P**	**18 50 13.2**	**+1.4**	
	baz=271,SNR=63								
G25K					S	**S**	**18 56 38.9**	**+2.5**	
	baz=271								
GLI	**Glacier Island**	**43.26**	**41**		P	**P**	**18 50 11.9**	**-0.2**	
	baz=277,SNR=10								
GLI					S	**S**	**18 56 37.6**	**+0.8**	
	baz=277								
H25L	**Birch Creek**	**43.38**	**33**		P	**P**	**18 50 14.5**	**+1.6**	
	baz=272								
H25L					S	**S**	**18 56 42.0**	**+3.6**	
	baz=272								
F25K	**Christian Rive**	**43.41**	**31**		P	**P**	**18 50 14.6**	**+1.4**	
	baz=271,SNR=98								
F25K					S	**S**	**18 56 40.5**	**+1.6**	
	baz=271								
E25K	**Arctic Village**	**43.42**	**31**		P	**P**	**18 50 14.4**	**+1.0**	
	baz=270,SNR=100								
E25K					S	**S**	**18 56 39.2**	**+0.1**	
	baz=270								
PRP	**Porcupine Dome**	**43.54**	**34**		P	**P**	**18 50 14.5**	**+0.1**	
PRP					IAmb	IAmb	18 50 27.0		
	comp=Z,132nm,0.9s								
PRP	**Porcupine Dome**	**43.54**	**34**		P	**P**	**18 50 15.1**	**+0.7**	
	baz=273,SNR=92								
PRP					S	**S**	**18 56 42.7**	**+1.6**	
	baz=273								
M24K	**Tolsona, Glenn**	**43.55**	**39**		IAmb	IAmb	18 50 50.8		
	comp=Z,363nm,1.6s								
M24K	**Tolsona, Glenn**	**43.55**	**39**		P	**P**	**18 50 15.1**	**+0.5**	
	baz=276,SNR=19								
M24K					S	**S**	**18 56 43.8**	**+2.6**	
	baz=276								
K24K	**Donnelly Dome**	**43.56**	**37**		P	**P**	**18 50 14.3**	**-0.2**	
	baz=275,SNR=37								
K24K					S	**S**	**18 56 39.8**	**-1.4**	
	baz=275								
C26K	**Camden Bay**	**43.66**	**28**		P	**P**	**18 50 16.1**	**+1.0**	
	baz=269,SNR=89								
C26K					S	**S**	**18 56 41.1**	**-1.2**	
	baz=269								
J25K	**Salcha River,**	**43.67**	**36**		P	**P**	**18 50 14.7**	**-0.7**	
	baz=274,SNR=25								
J25K					S	**S**	**18 56 41.6**	**-1.2**	
	baz=274								
KLU	**Klutina**	**43.75**	**40**		P	**P**	**18 50 16.6**	**+0.5**	
	baz=277,SNR=27								
PAX	**Paxson**	**43.78**	**38**		P	**P**	**18 50 16.6**	**+0.2**	
	baz=276,SNR=18								
PAX					S	**S**	**18 56 45.1**	**+0.5**	
	baz=276								
UBPT	**Khong Chiam**	**43.79**	**244**		P	**P**	**18 50 17.7**	**+0.9**	
UBPT	**Khong Chiam**	**43.79**	**244**		P	**P**	**18 50 16.5**	**-0.3**	
UBPT					IAmb	IAmb	18 50 19.4		
	comp=Z,185nm,1.4s								
BMAR	**Burnt Mountain**	**43.82**	**32**		P	**P**	**18 50 17.2**	**+0.6**	
Q23K	**Middleton Isla**	**43.84**	**43**		P	**P**	**18 50 17.3**	**+0.6**	
	baz=279								
Q23K					S	**S**	**18 56 47.8**	**+2.6**	
	baz=279								
MK31	**Makanchi Array**	**43.92**	**298**		IAmb	IAmb	18 50 19.1		
	comp=Z,166nm,0.8s								
MK31	**Makanchi Array**	**43.92**	**298**	*i*	P	**P**	**18 50 17.9**	**+0.2**	
MK31					pmax	pmax			
	comp=Z,176nm,0.7s								
MKAR	**Makanchi Array**	**43.92**	**298**		P	**P**	**18 50 17.8**	**+0.1**	
	comp=Z,123nm,0.8s,baz=82,slow=9.3,SNR=619								
MKAR					PcP	**PcP**	**18 52 03.2**	**0.0**	
	comp=Z,12nm,0.9s,baz=65,slow=4.5,SNR=1.3								
MKAR					LR	LR	19 09 45.0		
	comp=Z,7μm,20.6s,baz=78,slow=38								
	comp=Z,123nm,0.8s								
EYAK	**Cordova Ski Ar**	**43.96**	**42**		P	**P**	**18 50 19.0**	**+1.3**	
EYAK	**Cordova Ski Ar**	**43.96**	**42**		P	**P**	**18 50 18.3**	**+0.6**	
	baz=278,SNR=6.2								
EYAK					S	**S**	**18 56 49.4**	**+2.4**	
	baz=278								
F26K	**Sheenjek River**	**43.97**	**31**		P	**P**	**18 50 19.0**	**+1.2**	
	baz=272,SNR=166								
F26K					S	**S**	**18 56 48.6**	**+1.4**	
	baz=272								
HARP	**HAARP**	**43.99**	**39**		P	**P**	**18 50 18.7**	**+0.7**	
	baz=277,SNR=6.5								
HARP					S	**S**	**18 56 50.0**	**+2.5**	
	baz=277								
C27K	**Jago River**	**44.08**	**28**		P	**P**	**18 50 19.0**	**+0.4**	
	baz=271,SNR=150								
C27K					S	**S**	**18 56 46.2**	**-2.3**	
	baz=271								
MAKZ	**Makanchi**	**44.12**	**298**		P	**P**	**18 50 19.8**	**+0.6**	
MAKZ	**Makanchi**	**44.12**	**298**		P	**P**	**18 50 19.4**	**+0.2**	
MAKZ					pP	**pP**	**18 50 29.2**	**+0.5**	
SEM	**Semipalatinsk**	**44.13**	**303**	*e*	P	**P**	**18 50 19.8**	**+0.3**	
	comp=Z,296nm,1.6s,baz=304								
SEM					LR	LR	19 09 05.9		
	comp=Z,3μm,14.3s,baz=304								
SEM	**Semipalatinsk**	**44.13**	**303**	*e*	P	**P**	**18 50 19.8**	**+0.3**	
SEM					pmax	pmax			
	comp=Z,296nm,1.6s								
SEM					MLR	MLR			
	comp=Z,3μm,14.0s								
G26K	**Porcupine Rive**	**44.15**	**32**		P	**P**	**18 50 20.6**	**+1.5**	
	baz=273,SNR=168								
G26K					S	**S**	**18 56 50.9**	**+1.2**	
	baz=273								
ZIRO	**ZIRO**	**44.16**	**267**	*e*	P	**P**	**18 50 20.3**	**+0.4**	
JORH	**JORHAT**	**44.31**	**266**	*e*	P	**P**	**18 50 21.7**	**+0.8**	
SCRK	**Sand Creek**	**44.33**	**37**		P	**P**	**18 50 20.8**	**0.0**	
	baz=276,SNR=61								
S

KAIM S **S** **18 57 01.9 +3.8**
baz=280
L26K Log Cabin Wild 44.74 38 IAmb IAmb 18 50 37.8
comp=Z,84nm,0.9s
L26K Log Cabin Wild 44.74 38 P **P** **18 50 25.1 +1.2**
baz=278,SNR=21
L26K S **S** **18 57 00.1 +1.7**
baz=278
TNTI Ternate 44.85 206 P **P** **18 50 25.1 -0.2**
TNTI Ternate 44.85 206 P **P** **18 50 24.3 -1.0**
TNTI IAmb IAmb 18 50 44.0
comp=Z,303nm,1.5s
TNTI Ternate 44.85 206 P **P** **18 50 25.1 -0.2**
comp=Z,136nm,1.7s,comp=Z,2µmcomp=Z,2µm
E27K Coleen River 44.91 30 IAmb IAmb 18 50 27.8
comp=Z,158nm,1.4s
E27K Coleen River 44.91 30 P **P** **18 50 26.2 +1.0**
baz=274,SNR=74
E27K S **S** **18 57 00.1 -0.6**
baz=274
LSA Lhasa 44.96 272 P **P** **18 50 27.6 +0.9**
LSA pmax pmax
comp=Z,53nm,1.3s
LSA LR LR
comp=Z,1µm,16.5s
LSA LR LR
comp=Z,4µm,20.1s
LSA LR LR
comp=Z,5µm,23.7s
LSA Lhasa 44.96 272 IAmb IAmb 18 50 35.8
comp=Z,204nm,1.3s
LSA Lhasa 44.96 272 *i* P **P** **18 50 27.6 +0.9**
SNR=11
LSA Lhasa 44.96 272 P **P** **18 50 27.6 +0.9**
LSA PcP **PcP** **18 52 07.4 -0.2**
VRDI Verde Repeater 44.97 40 P **P** **18 50 25.3 -0.7**
M26K Nabesna, AK 44.99 39 IAmb IAmb 18 50 53.8
comp=Z,89nm,0.9s
M26K Nabesna, AK 44.99 39 P **P** **18 50 27.5 +1.5**
baz=279,SNR=75
M26K S **S** **18 57 05.3 +3.2**
baz=279
KOHI KOHIMA 45.00 265 *e*P **P** **18 50 26.1 -0.5**
G27K Doyon Strip 45.00 32 IAmb IAmb 18 50 42.3
comp=Z,149nm,1.6s
G27K Doyon Strip 45.00 32 P **P** **18 50 27.4 +1.4**
baz=275,SNR=69
G27K S **S** **18 57 04.7 +2.5**
baz=275
KURK Kurchatov 45.03 304 P **P** **18 50 26.1 -0.3**
KURK Kurchatov 45.03 304 P **P** **18 50 26.8 +0.4**
KURK P **P** **18 50 26.8 +0.4**
KURK S **S** **18 57 00.1 -2.8**
KURK S **S** **18 57 00.1 -2.8**
KURK Kurchatov 45.03 304 *e*P **P** **18 50 26.3 -0.1**
KURK Kurchatov 45.03 304 *ce*P **P** **18 50 26.3 -0.1**
KURK pmax pmax
comp=Z,550nm,1.7s
KURK MLR MLR
comp=Z,8µm,17.0s
KURK Kurchatov 45.03 304 P **P** **18 50 26.5 +0.1**
KURK PcP **PcP** **18 52 06.7 -0.2**
D27M Malcolm River 45.06 29 P **P** **18 50 27.2 +0.8**
baz=274,SNR=20
D27M S **S** **18 56 59.9 -3.0**
baz=274
H27K Steamboat Moun 45.12 33 P **P** **18 50 28.6 +1.7**
baz=276,SNR=237
H27K S **S** **18 57 08.5 +4.7**
baz=276
KURBB Kurchatov Arra 45.12 304 P **P** **18 50 26.5 -0.5**
comp=Z,147nm,0.7s,baz=71,slow=8.8,SNR=285
KURBB LR LR 19 10 28.0
comp=Z,8µm,18.4s,baz=76,slow=38
comp=Z,147nm,0.7s
KURBB Kurchatov Arra 45.12 304 P **P** **18 50 26.9 -0.1**
MCARA McCarthy VSAT 45.14 40 P **P** **18 50 27.9 +0.8**
baz=280,SNR=6.0
MCARA S **S** **18 57 06.5 +2.3**
baz=280
I27K Kandik River 45.15 34 P **P** **18 50 27.8 +0.5**
baz=277,SNR=51
I27K S **S** **18 57 06.7 +2.3**
baz=277
K27K Chicken 45.16 36 P **P** **18 50 27.9 +0.7**
baz=278
K27K S **S** **18 57 06.1 +1.7**
baz=278
BGLC Bering Glacier 45.24 42 P **P** **18 50 29.4 +1.5**
baz=281
BGLC S **S** **18 57 07.5 +1.9**
baz=281
SWI Sorong 45.28 200 P **P** **18 50 28.3 -0.4**
JAY Jayapura 45.29 187 P **P** **18 50 28.8 0.0**
comp=Z,92nm,1.1s,comp=Z,1µm
WAX Waxell Ridge 45.39 41 IAmb IAmb 18 50 53.0
comp=Z,144nm,1.0s
GENI Genyem 45.41 187 P **P** **18 50 29.9 +0.2**
GENI Genyem 45.41 187 P **P** **18 50 30.0 +0.2**
comp=Z,145nm,1.0s,comp=Z,3µm
L27K Beaver Creek, 45.42 38 IAmb IAmb 18 50 43.4
comp=Z,99nm,0.8s
L27K Beaver Creek, 45.42 38 P **P** **18 50 30.6 +1.3**
baz=279,SNR=102
L27K S **S** **18 57 10.7 +2.5**
baz=279
BCAR Beaver Creek A 45.44 38 P **P** **18 50 30.5 +1.0**
EGAK Eagle 45.45 35 IAmb IAmb 18 50 47.1
comp=Z,260nm,1.4s
EGAK Eagle 45.45 35 P **P** **18 50 30.0 +0.5**
baz=278,SNR=66
EGAK S **S** **18 57 09.0 +0.5**
baz=278
M27K Edge Creek, AK 45.51 39 P **P** **18 50 31.1 +0.9**
baz=280,SNR=58
M27K S **S** **18 57 12.0 +2.3**
baz=280
F28M Old Crow 45.61 31 IAmb IAmb 18 50 33.6
comp=Z,170nm,1.1s
F28M Old Crow 45.61 31 P **P** **18 50 31.9 +1.1**
baz=276,SNR=131
F28M S **S** **18 57 11.8 +1.0**
baz=276
E28M Babbage River 45.63 30 IAmb IAmb 18 50 33.4
comp=Z,110nm,1.2s
E28M Babbage River 45.63 30 P **P** **18 50 31.9 +1.0**
baz=276,SNR=57
E28M S **S** **18 57 10.9 -0.2**
baz=276
IMP Imphal 45.64 264 *e*P **P** **18 50 30.4 -1.2**
CHTO Chiang Mai 45.81 253 P **P** **18 50 32.8 -0.1**
CHTO Chiang Mai 45.81 253 P **P** **18 50 32.8 -0.1**
CHTO pmax pmax
comp=Z,72nm,1.2s
D28M Stokes Point 45.84 29 P **P** **18 50 33.0 +0.4**
baz=276,SNR=6.7
D28M S **S** **18 57 13.7 -0.3**
baz=276
BARN Barnard Glacie 45.85 40 IAmb IAmb 18 50 50.6
comp=Z,150nm,1.4s
I28M Miner Creek 45.87 34 IAmb IAmb 18 50 45.3
comp=Z,159nm,0.9s
I28M Miner Creek 45.87 34 P **P** **18 50 33.9 +1.0**
baz=278,SNR=225
I28M S **S** **18 57 18.2 +3.4**
baz=278
MESA MESA 45.89 42 IAmb IAmb 18 50 58.8
comp=Z,87nm,1.0s
MESA MESA 45.89 42 P **P** **18 50 33.5 +0.2**
baz=282,SNR=17
MESA S **S** **18 57 17.9 +2.5**
baz=282
BVCY Beaver Creek 45.97 38 S **S** **18 57 17.7 +1.6**
baz=280
CTG Chitna Glacier 46.02 40 P **P** **18 50 35.1 +0.8**
baz=281,SNR=25
CTG S **S** **18 57 19.5 +2.4**
baz=281
CM31 Chiang Mai Arr 46.04 253 P **P** **18 50 35.8 +1.0**
SNR=33
CM31 P **P** **18 50 35.8 +1.0**
SNR=33
CMAR Chiang Mai Arr 46.04 253 P **P** **18 50 34.0 -0.8**
CMAR Chiang Mai Arr 46.04 253 P **P** **18 50 34.6 -0.1**
comp=Z,8.4nm,1.0s,baz=41,slow=7.6,SNR=66
CMAR PcP **PcP** **18 52 10.6 -0.3**
comp=Z,12nm,1.1s,baz=26,slow=3.9,SNR=4.9
CMAR LR LR 19 11 50.5
comp=Z,11µm,18.4s,baz=55,slow=39
comp=Z,8.4nm,1.0s
CMAR Chiang Mai Arr 46.04 253 *ce*P **P** **18 50 35.5 +0.7**
LBMI Labuha 46.14 205 P **P** **18 50 35.3 -0.1**
comp=Z,160nm,2.1s,comp=Z,3µm
JOHN Johnston Islan 46.20 110 P **P** **18 50 36.8 +0.8**
KMSI Cibinong 46.22 210 P **P** **18 50 35.9 -0.2**
comp=Z,492nm,1.3s,comp=Z,6µmcomp=Z,3µm
E29M Blow River 46.26 30 P **P** **18 50 36.7 +0.9**
baz=277,SNR=184
E29M S **S** **18 57 20.2 +0.1**
baz=277
YUK3 Moose Creek 46.27 39 P **P** **18 50 36.7 +0.3**
baz=281,SNR=9.2
YUK3 S **S** **18 57 23.3 +2.4**
baz=281
DAWY Dawson 46.32 36 P **P** **18 50 36.9 +0.5**
baz=280,SNR=12
DAWY S **S** **18 57 22.0 +0.8**
baz=280
H29M Whitestone 46.38 33 IAmb IAmb 18 50 55.9
comp=Z,126nm,1.0s
H29M Whitestone 46.38 33 P **P** **18 50 38.1 +1.2**
baz=279,SNR=60
H29M S **S** **18 57 25.2 +3.2**
baz=279
G29M Pine Creek 46.41 32 P **P** **18 50 38.9 +1.7**
baz=278,SNR=168
G29M S **S** **18 57 25.5 +3.1**
baz=278
I29M Ogilvie Camp, 46.55 34 IAmb IAmb 18 50 50.5
comp=Z,94nm,0.8s
I29M Ogilvie Camp, 46.55 34 P **P** **18 50 38.8 +0.6**
baz=280,SNR=92
I29M S **S** **18 57 26.5 +2.1**
baz=280
O28M Mount Upton 46.61 41 P **P** **18 50 39.5 +0.4**
baz=282,SNR=10
O28M S **S** **18 57 26.8 +0.9**
baz=282
YUK8 Steele Glacier 46.70 40 P **P** **18 50 40.3 +0.6**
baz=282,SNR=14
YUK8 S **S** **18 57 29.0 +1.9**
baz=282
SHL Shillong 46.72 266 IAmb IAmb 18 50 41.4
comp=Z,201nm,1.5s
SHL Shillong 46.72 266 *e*P **P** **18 50 39.3 -1.0**
SHL Shillong 46.72 266 P **P** **18 50 40.7 +0.5**
SNR=26
J29N Klondike Camp 46.76 35 P **P** **18 50 40.8 +0.9**
baz=281
J29N S **S** **18 57 29.2 +1.8**
baz=281
TOLI2 Tolitoli 47.00 215 P **P** **18 50 41.6 -0.6**
TOLI2 Tolitoli 47.00 215 P **P** **18 50 40.9 -1.3**
TOLI2 IAmb IAmb 18 50 58.4
comp=Z,85nm,1.1s
EPYK Eagle Plains 47.02 33 P **P** **18 50 43.1 +1.2**
baz=280,SNR=108
EPYK S **S** **18 57 33.1 +2.0**
baz=280
PDGK Podgornoye 47.02 294 P **P** **18 50 41.7 -0.6**
M29M Somme Creek 47.05 38 IAmb IAmb 18 51 05.7
comp=Z,153nm,1.9s
M29M Somme Creek 47.05 38 P **P** **18 50 43.7 +1.4**
baz=282,SNR=9.8
M29M S **S** **18 57 34.4 +2.6**
baz=282
L29M L29M 47.06 37 IAmb IAmb 18 50 56.8
comp=Z,92nm,0.9s
L29M L29M 47.06 37 P **P** **18 50 44.0 +1.7**
baz=282,SNR=56
L29M S **S** **18 57 36.3 +4.5**
baz=282
TDK Taldyqorghan 47.09 297⇑ *i*P **P** **18 50 43.3 +0.5**
comp=Z,138nm,0.8s,baz=297
TDK LR LR 19 11 30.1
comp=Z,4µm,13.8s,baz=297
TDK Taldyqorghan 47.09 297 *c i*P **P** **18 50 43.2 +0.5**
TDK pmax pmax
comp=Z,138nm,0.8s
TDK MLR MLR
comp=Z,4µm,14.0s
G30M tAoh Zraii Nji 47.10 32 P **P** **18 50 43.6 +1.0**
baz=280,SNR=146
G30M S **S** **18 57 33.8 +1.5**
baz=280
SHLS Shalkode 47.11 294⇑ *i*P **P** **18 50 40.7 -2.4**
comp=Z,173nm,1.8s,baz=294
SHLS *e*S **S** **18 57 31.2 -2.0**
baz=294
SHLS Shalkode 47.11 294 *c i*P **P** **18 50 40.6 -2.4**
SHLS *e*S **S** **18 57 31.1 -2.0**
SHLS pmax pmax
comp=Z,173nm,1.8s
RABL Rabaul 47.15 171 P **P** **18 50 43.7 +0.3**
RABL Rabaul 47.15 171 P **P** **18 50 43.0 -0.4**
F30M Barrier River 47.16 31 P **P** **18 50 44.5 +1.5**
baz=280,SNR=224
F30M S **S** **18 57 33.9 +1.0**
baz=280
K29M Barlow Dome 47.17 36 IAmb IAmb 18 51 07.1
comp=Z,89nm,1.1s
K29M Barlow Dome 47.17 36 P **P** **18 50 44.5 +1.2**
baz=282,SNR=101
K29M S **S** **18 57 35.7 +2.2**
baz=282
YUK4 Talbot Arm 47.22 40 P **P** **18 50 44.8 +1.1**
baz=283,SNR=10
YUK4 S **S** **18 57 36.7 +2.4**
baz=283
KRVT Keravat (AS076 47.25 171 LR LR 19 06 13.6
comp=Z,346nm,22.0s,baz=282,slow=31
PNL Peninsula 47.26 42 P **P** **18 50 44.4 +0.6**
baz=284
I30M Mount Dempster 47.38 34 P **P** **18 50 45.8 +1.0**
baz=281,SNR=163
I30M S **S** **18 57 39.1 +2.7**
baz=281
UZB Uzynbulak 47.41 294⇑ *i*P **P** **18 50 45.2 -0.2**
comp=Z,115nm,1.5s,baz=294
UZB *e*S **S** **18 57 39.5 +2.0**
baz=294
UZB Uzynbulak 47.41 294 *c i*P **P** **18 50 45.1 -0.2**
UZB *e*S **S** **18 57 39.4 +2.0**
UZB pmax pmax
comp=Z,115nm,1.5s
YUK6 Outpost Mounta 47.44 40 P **P** **18 50 46.7 +1.2**
baz=284,SNR=9.5
YUK6 S **S** **18 57 39.5 +1.8**
baz=284
J30M Hart River 47.53 35 P **P** **18 50 47.1 +1.2**
baz=282,SNR=74
J30M S **S** **18 57 41.1 +2.5**
baz=282
M30M Minto, Yukon 47.78 38 P **P** **18 50 49.6 +1.8**
baz=283
M30M S **S** **18 57 45.0 +3.0**
baz=283
ARXS Arharly 47.78 296 *e*P **P** **18 50 47.7 -0.5**
ZHN Zhinishke 47.79 295⇑ *i*P **P** **18 50 48.5 +0.1**
comp=Z,129nm,1.7s,baz=295
ZHN Zhinishke 47.79 295 *c i*P **P** **18 50 48.4 +0.1**
ZHN pmax pmax
comp=Z,129nm,1.7s
SATY Saty 47.85 294⇑ *i*P **P** **18 50 49.1 +0.3**
comp=Z,163nm,1.7s,baz=294
SATY Saty 47.85 294 *c i*P **P** **18 50 49.1 +0.3**
SATY pmax pmax
comp=Z,163nm,1.7s
G31M Satah River 47.87 32 IAmb IAmb 18 50 49.9
comp=Z,124nm,0.9s
G31M Satah River 47.87 32 P **P** **18 50 49.1 +0.8**
baz=282,SNR=108
G31M S **S** **18 57 42.3 -0.6**
baz=282
INK Inuvik 47.87 30 P **P** **18 50 49.0 +0.7**
baz=281,SNR=72
INK S **S** **18 57 42.7 -0.3**
baz=281
INK Inuvik 47.87 30 LR LR 19 12 03.6
comp=Z,3µm,20.6s,baz=274,slow=38
HYT Haines Junctio 47.88 40 P **P** **18 50 50.8 +2.0**
baz=284,SNR=111
HYT S **S** **18 57 48.1 +4.5**
baz=284
N30M Aishikik Lake 47.92 39 P **P** **18 50 50.4 +1.5**
baz=284,SNR=11
N30M S **S** **18 57 46.7 +2.6**
baz=284
MAYO Mayo, Yukon 47.94 36 IAmb IAmb 18 51 03.1
comp=Z,124nm,0.9s
MAYO Mayo, Yukon 47.94 36 P **P** **18 50 50.6 +1.5**
baz=283
MAYO S **S** **18 57 48.1 +3.9**
baz=283
SANI Sanana 47.95 207 P **P** **18 50 48.8 -0.8**
SANI Sanana 47.95 207 P **P** **18 50 45.8 -3.8**
SANI Sanana 47.95 207 P **P** **18 50 49.2 -0.4**
comp=Z,169nm,1.1s,comp=Z,3µmcomp=Z,4µm
F31M Tsiigehtchic 47.96 31 P **P** **18 50 49.8 +0.7**
baz=282,SNR=103
F31M S **S** **18 57 45.1 +0.8**
baz=282
TABU Tabubil 47.98 186 P **P** **18 50 50.7 +0.9**
WUS Wushi 48.08 292 P **P** **18 50 51.1 +0.5**
WUS pP **pP** **18 51 00.8 +1.0**
H31M Peel River 48.08 33 P **P** **18 50 51.1 +0.9**
baz=283
H31M S **S** **18 57 47.5 +1.3**
baz=283
P29M Windy Craggy 48.08 42 P **P** **18 50 51.9 +1.7**
baz=285,SNR=72
P29M S **S** **18 57 49.0 +2.7**
baz=285
GTK Tadong 48.14 271 *e*P **P** **18 50 52.0 +0.7**
LUWI Luwuk 48.16 211 P **P** **18 50 45.8 -5.4**
AGT Agartala 48.17 265 *e*P **P** **18 50 52.3 +1.0**
P30M Million Dollar 48.33 41 P **P** **18 50 53.8 +1.7**
baz=286
P30M S **S** **18 57 53.9 +4.1**
baz=286
BELO BELONIA 48.41 264 *e*P **P** **18 50 54.8 +1.7**
CHKK Chushkaly 48.48 296 *e*P **P** **18 50 53.4 -0.2**
baz=296
CHKK Chushkaly 48.48 296 *e*P **P** **18 50 53.3 -0.2**
N31M Braeburn, Yuko 48.52 39 IAmb IAmb 18 50 58.4
comp=Z,82nm,1.0s
N31M Braeburn, Yuko 48.52 39 P **P** **18 50 55.1 +1.5**
baz=285,SNR=23
N31M S **S** **18 57 57.4 +5.0**
baz=285
O30N Mendenhall 48.56 40 P **P** **18 50 55.5 +1.6**
baz=286,SNR=16
O30N S **S** **18 57 56.3 +3.2**
baz=286
MDOK Medeo 48.72 295 *i* P **P** **18 50 55.9 +0.3**
baz=295
MDOK LR LR 19 12 31.1
comp=Z,3µm,14.2s,baz=295
MDOK Medeo 48.72 295 *i* P **P** **18 50 55.8 +0.3**
MDOK MLR MLR
comp=Z,3µm,14.0s
SRDT SRDT 48.73 249 P **P** **18 50 56.8 +1.1**
AAA Alma-Ata 48.79 295 *e*P **P** **18 50 56.2 +0.2**
comp=Z,153nm,1.3s,baz=295
AAA Alma-Ata 48.79 295 *e*P **P** **18 50 56.1 +0.2**
AAA pmax pmax
comp=Z,153nm,1.3s
PLBC Pleasant Camp 48.80 42 P **P** **18 50 57.4 +1.7**
baz=286,SNR=18
PLBC S **S** **18 58 01.3 +5.0**
baz=286
TNSS Tian-Shan 48.84 295 *e*P **P** **18 50 56.6 -0.2**
baz=295
TNSS Tian-Shan 48.84 295 *e*P **P** **18 50 56.5 -0.2**
BRZS Berezniki 48.87 305⇑ *i*P **P** **18 50 56.6 +0.2**
comp=Z,157nm,1.2s,baz=305
BRZS Berezniki 48.87 305 *c i*P **P** **18 50 56.6 +0.2**
BRZS pmax pmax
comp=Z,157nm,1.2s
KUU Kurty 48.89 296 *e*P **P** **18 50 56.3 -0.4**
comp=Z,136nm,1.1s,baz=296
KUU LR LR 19 12 29.6
comp=Z,4µm,14.0s,baz=296
KUU Kurty 48.89 296 *e*P **P** **18 50 56.3 -0.4**
KUU pmax pmax
comp=Z,136nm,1.1s
KUU MLR MLR
comp=Z,4µm,14.0s
M31M Drury Creek, Y 48.96 38 P **P** **18 50 58.3 +1.4**
baz=286,SNR=35
M31M S **S** **18 58 03.2 +4.6**
baz=286
BVA0 Borovoye Array 49.15 310 *i* P **P** **18 50 57.8 -0.7**
BVAR Borovoye Array 49.15 310 P **P** **18 50 58.6 +0.1**
comp=Z,47nm,0.4s,baz=79,slow=8.8,SNR=312
BVAR LR LR 19 13 26.9
comp=Z,14µm,18.8s,baz=79,slow=38
comp=Z,47nm,0.4s
WHY Whitehorse 49.17 40 IAmb IAmb 18 51 22.1
comp=Z,142nm,1.5s
WHY Whitehorse 49.17 40 P **P** **18 51 00.1 +1.5**
baz=287,SNR=21
WHY S **S** **18 58 06.8 +5.1**
baz=287
BRVK Borovoye 49.20 310 P **P** **18 50 58.6 -0.2**
BRVK Borovoye 49.20 310 P **P** **18 50 59.0 +0.1**
BRVK P **P** **18 50 59.0 +0.1**
BRVK S **S** **18 58 00.4 -1.7**
BRVK S **S** **18 58 00.4 -1.7**
BRVK Borovoye 49.20 310 *e*P **P** **18 50 58.9 +0.1**
BRVK Borovoye 49.20 310 *ce*P **P** **18 50 58.9 +0.1**
BRVK pmax pmax
comp=Z,327nm,1.7s
BRVK MLR MLR
comp=Z,13µm,18.0s
BRVK Borovoye 49.20 310 P **P** **18 50 59.1 +0.3**
SKAG Skagway 49.30 41 P **P** **18 51 01.6 +2.1**
SKAG Skagway 49.30 41 P **P** **18 51 01.1 +1.5**
baz=287,SNR=7.3
SKAG S **S** **18 58 08.4 +5.0**
baz=287
S31K Pelican 49.31 44 IAmb IAmb 18 51 18.5
comp=Z,107nm,1.1s
S31K Pelican 49.31 44 P **P** **18 51 01.1 +1.5**
baz=288
S31K S **S** **18 58 08.2 +4.6**
baz=288
FARO Faro, Yukon 49.42 38 P **P** **18 51 02.1 +1.7**
baz=286,SNR=24
FARO S **S** **18 58 09.4 +4.3**
baz=286
R31K City Hall, Gus 49.42 43 P **P** **18 51 02.3 +1.9**
baz=288
R31K S **S** **18 58 10.2 +5.1**
baz=288
ULHL Ulahol 49.65 294 P **P** **18 51 03.8 +1.1**
SNR=7.4
OTUK Ortayu 49.73 303 P **P** **18 51 03.5 +0.5**
A36M Sachs Harbour 49.77 24 IAmb IAmb 18 51 04.8
comp=Z,120nm,1.1s
A36M Sachs Harbour 49.77 24 P **P** **18 51 03.5 +0.6**
baz=285,SNR=97
A36M S **S** **18 58 09.4 -0.2**
baz=285
TKM2 Tokmak 2 49.79 295 P **P** **18 51 04.3 +0.6**
SNR=191
N32M Quiet Lake 49.86 39 P **P** **18 51 05.0 +1.2**
baz=288
N32M S **S** **18 58 14.2 +2.9**
baz=288
BTLS Baital 49.92 299⇑ *i*P **P** **18 51 04.2 -0.3**
baz=299
BTLS Baital 49.92 299 *c i*P **P** **18 51 04.1 -0.3**
P32M Atlin 50.05 41 IAmb IAmb 18 51 28.7
comp=Z,97nm,1.4s
P32M Atlin 50.05 41 P **P** **18 51 06.9 +1.6**
baz=288,SNR=7.3
P32M S **S** **18 58 19.4 +5.4**
baz=288
SIT Sitka 50.07 44 P **P** **18 51 07.6 +2.2**
SIT Sitka 50.07 44 IAmb IAmb 18 51 29.2
comp=Z,194nm,1.5s
SIT Sitka 50.07 44 P **P** **18 51 07.0 +1.7**
baz=289,SNR=5.2
SIT S **S** **18 58 20.0 +5.9**
baz=289
R32K Eaglecrest 50.08 43 IAmb IAmb 18 51 29.1
comp=Z,81nm,1.0s
R32K Eaglecrest 50.08 43 P **P** **18 51 06.9 +1.5**
baz=289,SNR=10
JIS Juneau Island 50.14 43 P **P** **18 51 08.0 +2.1**
JIS Juneau Island 50.14 43 IAmb IAmb 18 51 27.0

comp=Z,110nm,1.1s
SGDS Sogindy 50.20 296⇑ *i*P **P 18 51 07.0 +0.2**
comp=Z,178nm,1.7s,baz=296
SGDS Sogindy 50.20 296*c i*P **P 18 51 06.9 +0.2**
SGDS pmax pmax
comp=Z,177nm,1.7s
MMPY Sheldon Lake, 50.23 37 IAmb IAmb 18 51 30.2
comp=Z,110nm,1.3s
MMPY Sheldon Lake, 50.23 37 P **P 18 51 08.3 +1.7**
baz=288,SNR=40
MMPY S **S 18 58 22.0 +5.6**
baz=288
P33M Teslin, Yukon 50.28 40 IAmb IAmb 18 51 30.5
comp=Z,140nm,1.2s
P33M Teslin, Yukon 50.28 40 P **P 18 51 08.6 +1.6**
baz=288,SNR=39
P33M S **S 18 58 22.0 +4.8**
baz=288
CHMS Chumysh 50.31 296 P **P 18 51 07.8 +0.2**
SNR=18
S32K Killisnoo 50.31 44 P **P 18 51 08.8 +1.6**
baz=289
S32K S **S 18 58 22.5 +5.0**
baz=289
KBK Karagaybulak 50.33 295 P **P 18 51 08.4 +0.5**
SNR=166
USP Ospenovka 50.37 296 P **P 18 51 08.3 +0.4**
SNR=102
FRU1 Bishkek 50.48 296 IAmb IAmb 18 51 10.1
comp=Z,88nm,0.9s
AAK Ala-Archa 50.64 296 P **P 18 51 10.6 +0.5**
SNR=7.5
AAK Ala-Archa 50.64 296 P **P 18 51 09.8 -0.4**
AAK IAmb IAmb 18 51 12.0
comp=Z,95nm,1.1s
AAK Ala-Archa 50.64 296 *i*P **P 18 51 10.3 +0.1**
SNR=70
AAK Ala-Archa 50.64 296 LR LR 19 14 27.6
comp=Z,6µm,19.3s,baz=69,slow=38
AAK Ala-Archa 50.64 296 P **P 18 51 10.7 +0.5**
AAK P **P 18 51 10.7 +0.5**
AAK S **S 18 58 23.9 +1.0**
AAK S **S 18 58 23.9 +1.0**
AAK Ala-Archa 50.64 296 *e*P **P 18 51 10.2 +0.1**
AAK Ala-Archa 50.64 296*ce*P **P 18 51 10.2 +0.1**
AAK pmax pmax
comp=Z,154nm,1.7s
AAK MLR MLR
comp=Z,6µm,19.0s
AAK Ala-Archa 50.64 296 P **P 18 51 10.3 +0.1**
UCH Uchtor 50.81 295 P **P 18 51 12.2 +0.4**
SNR=34
BKB Balikpapan 50.81 218 P **P 18 51 11.3 -0.2**
BKB Balikpapan 50.81 218 P **P 18 51 12.5 +1.0**
comp=Z,341nm,1.5s,comp=Z,5µmcomp=Z,4µm
C36M Paulatuk 50.92 27 P **P 18 51 11.8 +0.2**
baz=288,SNR=92
C36M S **S 18 58 23.6 -2.0**
baz=288
KSH Kashi 51.04 291 P **P 18 51 17.1 +3.9**
KSH sP sP 18 51 26.4 +0.1
KSH PP **PP 18 53 17.1 +7.4**
KSH S **S 18 58 34.0 +5.5**
KSH SS **SS 19 02 14.1 +11**
KSH pmax pmax
comp=Z,85nm,1.4s
KSH pmax pmax
comp=Z,1µm,6.9s
KSH LR LR
comp=Z,7µm,18.4s
KSH LR LR
comp=Z,4µm,17.9s
KSH LR LR
comp=Z,9µm,17.5s
EKS2 Erkin-Say 51.11 296 P **P 18 51 13.9 +0.2**
SNR=54
KIP Kipapa 51.41 96 P **P 18 51 17.4 +1.5**
KIP Kipapa 51.41 96 P **P 18 51 17.3 +1.4**
R33M Jennings River 51.43 41 P **P 18 51 17.8 +1.9**
baz=290,SNR=21
R33M S **S 18 58 37.7 +4.4**
baz=290
MTKI Muara Teweh, K 51.47 220 P **P 18 51 16.7 +0.3**
comp=Z,303nm,1.1s,comp=Z,9µm
U33K Whale Pass 51.54 45 IAmb IAmb 18 51 41.2
comp=Z,118nm,1.1s
U33K Whale Pass 51.54 45 P **P 18 51 17.9 +1.4**
baz=291,SNR=6.0
U33K S **S 18 58 38.7 +4.2**
baz=291
KSM Kuching 51.74 227 P **P 18 51 19.2 +0.8**
KSM Kuching 51.74 227 IAmb IAmb 18 51 33.8
comp=Z,139nm,1.4s
CRAG Craig 51.78 46 P **P 18 51 20.4 +2.1**
CRAG Craig 51.78 46 P **P 18 51 19.1 +0.8**
baz=292
CRAG S **S 18 58 42.9 +5.0**
baz=292
WRAK Wrangell Islan 51.83 44 IAmb IAmb 18 51 42.3
comp=Z,236nm,1.9s
WRAK Wrangell Islan 51.83 44 P **P 18 51 20.3 +1.7**
baz=292,SNR=5.0
WRAK S **S 18 58 43.0 +4.4**
baz=292
S34M Telegraph Cree 51.89 42 P **P 18 51 20.9 +1.8**
baz=291,SNR=11
S34M S **S 18 58 44.3 +5.0**
baz=291
TGTN Hyland Airport 51.92 37 P **P 18 51 20.6 +1.3**
baz=291,SNR=5.7
TGTN S **S 18 58 44.3 +4.5**
baz=291
PMG Port Moresby 51.96 178 LR LR 19 10 03.6
comp=Z,950nm,21.8s,baz=348,slow=32
BOK Bokaro 52.17 269 *e*P **P 18 51 21.7 0.0**
BOK IAmb IAmb 18 51 23.1
comp=Z,300nm,1.8s
WTLY Watson Lake, Y 52.20 39 P **P 18 51 22.8 +1.4**
baz=292,SNR=21
WTLY S **S 18 58 47.0 +3.3**
baz=292
ARSB Arslanbob 52.24 295 IAmb IAmb 18 51 24.3
comp=Z,104nm,1.1s
DLBC Dease Lake 52.24 41 IAmb IAmb 18 51 45.7
comp=Z,92nm,1.2s
DLBC Dease Lake 52.24 41 P **P 18 51 23.5 +1.7**
baz=292,SNR=16
DLBC S **S 18 58 48.1 +3.8**
baz=292
STKI Sintang 52.30 225 P **P 18 51 23.6 +1.0**
comp=Z,88nm,2.0s,comp=Z,3µmcomp=Z,3µm
SRIT Nakonsritamara 52.57 243 P **P 18 51 26.0 +1.4**
DZA Taraz 52.62 297 *e*P **P 18 51 25.3 +0.5**
comp=Z,114nm,1.2s,baz=297
DZA Taraz 52.62 297 *e*P **P 18 51 25.2 +0.5**
DZA pmax pmax
comp=Z,113nm,1.2s
V35K Ketchikan 52.63 46 P **P 18 51 25.9 +1.3**
baz=293
V35K S **S 18 58 52.1 +2.6**
baz=293
T35M Bob Quinn 52.69 43 IAmb IAmb 18 51 44.9
comp=Z,75nm,1.0s
T35M Bob Quinn 52.69 43 P **P 18 51 27.6 +2.5**
baz=293,SNR=26
OHH Osh 52.74 294 P **P 18 51 25.9 +0.1**
KAPI Kappang 52.97 213 P **P 18 51 27.0 -0.5**
KAPI IAmb IAmb 18 52 52.0
comp=Z,111nm,1.2s
KAPI Kappang 52.97 213 LR LR 19 13 12.5
comp=Z,954nm,22.0s,baz=25,slow=35
KAPI Kappang 52.97 213 S **S 18 58 54.9 0.0**
KAPI Kappang 52.97 213*c i*P **P 18 51 26.2 -1.3**
KAPI pmax pmax
comp=Z,122nm,1.7s
SVE Sverdlovsk 52.98 317*d i*P **P 18 51 27.3 +0.1**
SVE *e*S **S 18 58 52.7 -1.6**
SVE pmax pmax
comp=Z,303nm,1.4s
SVE MLR MLR
comp=Z,7µm,15.0s
KK31 Karatay Array 53.05 298 *i*P **P 18 51 27.8 -0.2**
KKAR Karatay Array 53.05 298 P **P 18 51 27.4 -0.6**
KKAR Karatay Array 53.05 298 IAmb IAmb 18 51 29.4
comp=Z,318nm,1.6s
KKAR Karatay Array 53.05 298 P **P 18 51 27.4 -0.6**
U35K Hyder 53.22 44 P **P 18 51 30.4 +1.4**
baz=294
U35K S **S 18 59 02.4 +4.8**
baz=294
WRGLY Wrigley 53.35 34 IAmb IAmb 18 51 44.1
comp=Z,118nm,1.2s
WRGLY Wrigley 53.35 34 P **P 18 51 31.1 +1.4**
baz=293
WRGLY S **S 18 59 02.3 +3.2**
baz=293
BRLS Borolday 53.53 298⇑ *i*P **P 18 51 32.9 +1.4**
baz=298
BRLS Borolday 53.53 298*c i*P **P 18 51 32.8 +1.4**
HNR Honiara 53.63 162 LR LR 19 13 13.3
comp=Z,65µm,19.7s,baz=325,slow=35
LIRD Liard River Hi 53.73 39 P **P 18 51 34.6 +2.0**
baz=294
LIRD S **S 18 59 08.5 +4.1**
baz=294
IUG luzhnay 53.81 297⇑ *i*P **P 18 51 34.0 +0.3**
comp=Z,110nm,1.2s,baz=297
IUG luzhnay 53.81 297*c i*P **P 18 51 33.9 +0.3**
IUG pmax pmax
comp=Z,110nm,1.2s
ALE Alert 54.17 4 P **P 18 51 35.2 -0.4**
ALE pP **pP 18 51 45.7 +0.7**
ARU Arti 54.20 317 P **P 18 51 35.3 -0.8**
ARU Arti 54.20 317 LR LR 19 17 42.0
comp=Z,7µm,18.4s,baz=65,slow=39
ARU Arti 54.20 317 *e*P **P 18 51 35.6 -0.5**
ARU Arti 54.20 317*ce*P **P 18 51 35.6 -0.5**
ARU pmax pmax
comp=Z,463nm,1.7s
ARU MLR MLR
comp=Z,6µm,17.0s
ARU Arti 54.20 317 P **P 18 51 35.7 -0.4**
ARU pP **pP 18 51 46.0 +0.3**
ARU Arti 54.20 317 P **P 18 51 35.5 -0.5**
DDI Dehra Dun 54.21 280 *e*P **P 18 51 37.3 +0.7**
DDI IAmb IAmb 18 51 38.2
comp=Z,719nm,1.4s
POHA Pohakuloa 54.26 96 P **P 18 51 38.8 +1.5**
KOTAN Kotaneelee Air 54.37 38 P **P 18 51 38.4 +1.1**
baz=295
KOTAN S **S 18 59 16.4 +3.4**
baz=295
SMLA Simla 54.41 282 *e*P **P 18 51 37.8 -0.2**
SMLA IAmb IAmb 18 51 39.1
comp=Z,439nm,0.8s
DHRM DHARAMSHALA 54.44 283 *e*P **P 18 51 37.6 -0.9**
DHRM IAmb IAmb 18 51 53.8
comp=Z,478nm,1.3s
IPM Ipoh 54.77 239 P **P 18 51 41.0 +0.2**
IPM Ipoh 54.77 239 IAmb IAmb 18 51 42.6
comp=Z,181nm,1.6s
PBA Port Blair 55.04 252 *e*P **P 18 51 42.5 -0.2**
PBA IAmb IAmb 18 51 44.5
comp=Z,958nm,2.3s
PBA Port Blair 55.04 252 P **P 18 51 44.0 +1.4**
SNR=17
MYKOM Kota Tinggi 55.15 234 IAmb IAmb 18 51 46.1
comp=Z,211nm,1.9s
MMRI Maumere 55.38 208 P **P 18 51 44.6 -0.4**
MMRI Maumere 55.38 208 P **P 18 51 45.2 +0.2**
comp=Z,177nm,1.9s,comp=Z,4µm
TPRI Tanjung Pinang 55.45 233 P **P 18 51 46.6 +1.0**
comp=Z,30nm,1.6s,comp=Z,2µmcomp=Z,4µm
SPA0 Spitsbergen Ar 55.49 349 *e*P **P 18 51 45.2 0.0**
SPITS Spitsbergen Ar 55.49 349 P **P 18 51 44.5 -0.7**
comp=Z,6.0nm,0.4s,baz=74,slow=8.8,SNR=31
SPITS LR LR 19 19 11.4
comp=Z,3µm,18.2s,baz=11,slow=40
comp=Z,6.0nm,0.4s
NOR Nord 55.50 357 *i*P **P 18 51 42.4 -2.7**
NOR IAmb IAmb 18 51 45.7
comp=Z,19nm,0.8s
NOR Nord 55.50 357 *i*P **P 18 51 42.5 -2.7**
NOR Nord 55.50 357 *i*P **P 18 51 43.4 -1.8**
NOR IAmb IAmb 18 51 45.7
comp=Z,19nm,0.8s
KBS Kingsbay 55.53 350 P **P 18 51 45.5 +0.1**
KBS IAmb IAmb 18 51 46.7
comp=Z,144nm,1.1s
KBS Kingsbay 55.53 350 *e*P **P 18 51 45.9 +0.5**
KBS Kingsbay 55.53 350*ce*P **P 18 51 46.3 +0.9**
KBS pmax pmax
comp=Z,76nm,1.3s
KBS MLR MLR
comp=Z,2µm,18.0s
KBS Kingsbay 55.53 350 P **P 18 51 45.9 +0.5**
KBS pP **pP 18 51 55.9 +0.9**
KBS sP **sP 18 52 00.4 +1.6**
KBS Kingsbay 55.53 350 *i*P **P 18 51 44.9 -0.6**
KBS Kingsbay 55.53 350 *i*P **P 18 51 43.5 -1.9**
EDFI Ende, Flores 55.67 209 P **P 18 51 45.7 -1.6**
comp=Z,97nm,1.2s,comp=Z,2µm
SOEI Soe 55.75 206 P **P 18 51 48.7 +0.9**
SOEI Soe 55.75 206 P **P 18 51 43.4 -4.4**
NIL Nilore 55.86 286 P **P 18 51 48.7 +0.2**
NIL Nilore 55.86 286 P **P 18 51 48.7 +0.2**
NIL pmax pmax
comp=Z,613nm,1.5s
NIL Nilore 55.86 286 P **P 18 51 49.2 +0.7**
NIL pP **pP 18 51 59.5 +1.6**
SIMJ Simiganj 56.20 294 P **P 18 51 50.1 -0.8**
SIMJ Simiganj 56.20 294 P **P 18 51 50.7 -0.3**
SIMJ pP **pP 18 52 00.7 +0.3**
RES Resolute Bay 56.25 16 LR LR 19 17 08.5
comp=Z,2µm,21.4s,baz=310,slow=37
KDU Kakadu 56.46 195 P **P 18 51 52.2 -0.5**
HSPB Hornsund (broa 56.48 348 *e*P **P 18 51 52.3 +0.1**
HSPB *e*L L 19 19 03.2
comp=Z,3µm,20.7s
COEN Coen 56.49 183 P **P 18 51 53.2 +0.2**
COEN Coen 56.49 183 P **P 18 51 52.2 -0.8**
COEN IAmb IAmb 18 52 07.6
comp=Z,108nm,1.1s
DRS Darwin Rock St 56.53 197 P **P 18 51 53.0 -0.3**
DSRI Dabo 56.55 232 P **P 18 51 54.8 +1.3**
comp=Z,54nm,1.9s,comp=Z,2µmcomp=Z,3µm
HOLB Hoberg 56.57 50 IAmb IAmb 18 52 05.3
comp=Z,100nm,1.1s
AB31 Akbulak array 56.69 309 *i*P **P 18 51 54.4 +0.3**
ABKAR Akbulak array 56.69 309 P **P 18 51 54.0 -0.1**
ABKAR Akbulak array 56.69 309 IAmb IAmb 18 51 55.9
comp=Z,463nm,1.4s
LHMI Lhok Sumawe 56.82 243 P **P 18 51 56.0 +0.5**
LHMI Lhok Sumawe 56.82 243 P **P 18 51 58.6 +3.1**
comp=Z,98nm,1.2s,comp=Z,3µmcomp=Z,4µm
MTN Manton Dam 56.88 197 P **P 18 51 55.2 -0.6**
MTN Manton Dam 56.88 197 P **P 18 51 54.7 -1.1**
PPBI Pangkal Pinang 57.04 229 P **P 18 51 57.8 +0.8**
comp=Z,103nm,1.2s,comp=Z,2µmcomp=Z,4µm
AKTO Aktyubinsk 57.21 311 LR LR 19 19 12.5
comp=Z,12µm,18.3s,baz=66,slow=39
YKA Yellowknife Ar 57.30 33 P **P 18 51 57.8 -0.5**
YKA Yellowknife Ar 57.30 33 P **P 18 51 58.4 +0.2**
comp=Z,19nm,0.8s,baz=305,slow=7.3,SNR=133
YKA PKPPKP P'P'df 19 21 41.8 -11
comp=Z,0.4nm,0.9s,baz=141,slow=2.0,SNR=4.6
comp=Z,19nm,0.8s
YKA Yellowknife Ar 57.30 33 P **P 18 51 57.8 -0.5**
KCSI Kotacane, Aceh 57.57 241 P **P 18 52 00.5 -0.3**
comp=Z,31nm,1.3s
KIRV Kirov 57.58 322 LR LR 19 19 14.6
comp=Z,8µm,19.2s,baz=61,slow=39
KIRV Kirov 57.58 322*ce*P **P 18 52 00.0 -0.2**
SRBI Singaraja 57.63 216 P **P 18 52 02.2 +1.1**
comp=Z,205nm,1.5s,comp=Z,4µmcomp=Z,3µm
MLSI Meulaboh, Aceh 57.90 243 P **P 18 52 02.7 -0.4**
comp=Z,44nm,1.4s
BKNI Bangkinang 58.00 236 P **P 18 52 04.1 +0.3**
BKNI Bangkinang 58.00 236 P **P 18 52 01.7 -2.0**
BKNI Bangkinang 58.00 236 P **P 18 52 05.4 +1.6**
comp=Z,159nm,0.9s,comp=Z,3µmcomp=Z,3µm
LVZ Lovozero 58.16 335 P **P 18 52 02.9 -1.3**
LVZ Lovozero 58.16 335*ce*P **P 18 52 03.9 -0.3**
LVZ pmax pmax
comp=Z,162nm,0.8s
LVZ Lovozero 58.16 335 P **P 18 52 03.8 -0.5**
LVZ pP **pP 18 52 14.7 +0.8**
LVZ Lovozero 58.16 335 P **P 18 52 03.1 -1.1**
VADS Vadso 58.32 339⇑ *i*P **P 18 52 05.3 0.0**
KBL Kabul 58.33 289 P **P 18 52 04.6 -1.6**
KBL Kabul 58.33 289 P **P 18 52 05.4 -0.8**
SNR=80
KBL P **P 18 52 05.4 -0.8**
SNR=80
KBL S **S 19 00 02.6 -4.1**
KBL S **S 19 00 02.6 -4.1**
KBL Kabul 58.33 289 P **P 18 52 04.6 -1.6**
KBL pmax pmax
comp=Z,184nm,1.2s
BHPL Bhopal 58.73 274 *e*P **P 18 52 08.1 -0.8**
BHPL IAmb IAmb 18 52 09.4
comp=Z,655nm,1.8s
APA Apatity 58.74 335⇓ *i*P **P 18 52 06.6 -1.6**
APA *i* PPP PPP 18 55 53.0
APA *i* S **S 19 00 11.0 +0.4**
APA *i* PS **PnS 19 00 21.0 -3.9**
APA *i* 19 01 48.0
APA pmax pmax
comp=Z,104nm,0.9s
APA MLR MLR
comp=Z,3µm,15.0s
SMRI Semarang 58.92 222 P **P 18 52 10.6 +0.4**
SMRI Semarang 58.92 222 P **P 18 52 10.8 +0.6**
comp=Z,200nm,1.8s
PWJI Pagerwojo 59.12 220 P **P 18 52 10.8 -0.7**
comp=Z,143nm,1.3s
KEV Kevo 59.17 339 P **P 18 52 10.2 -1.0**
KEV Kevo 59.17 339 P **P 18 52 10.2 -1.0**
KEV pmax pmax
comp=Z,164nm,0.9s
KEV Kevo 59.17 339 P **P 18 52 11.0 -0.2**
KEV pP **pP 18 52 21.4 +0.6**
ADZR Andozero 59.26 331⇑ *i*P **P 18 52 11.1 -0.7**
ADZR pmax pmax
comp=Z,292nm,1.6s
PDSI Padang 59.33 235 P **P 18 52 13.4 +0.4**
comp=Z,35nm,1.7s,comp=Z,3µm
SNSI Sinabang, Aceh 59.35 241 P **P 18 52 14.2 +1.1**
comp=Z,216nm,1.7s,comp=Z,4µm
GSI Gunungsitoli 59.39 239 P **P 18 52 13.5 +0.1**
GSI Gunungsitoli 59.39 239 P **P 18 52 13.6 +0.1**
comp=Z,179nm,2.2s,comp=Z,6µmcomp=Z,4µm
HAMF Hammerfest 59.41 341 *e*P **P 18 52 12.4 -0.5**
NEEM North Greenlan 59.61 4 *i*P **P 18 52 12.8 -1.7**
NEEM IAmb IAmb 18 52 15.7
comp=Z,103nm,0.9s
NEEM North Greenlan 59.61 4 *i*P **P 18 52 12.8 -1.7**
ARA0 ARCESS Array S 59.71 339 *e*P **P 18 52 15.3 +0.3**
ARCES ARCESS Array B 59.71 339 P **P 18 52 14.8 -0.2**
ARCES ARCESS Array B 59.71 339 P **P 18 52 14.9 0.0**
comp=Z,74nm,0.9s,baz=38,slow=7.1,SNR=124
comp=Z,74nm,0.9s
ARCES ARCESS Array B 59.71 339 P **P 18 52 14.8 -0.2**
KPJI Karang Pucung 59.92 223 P **P 18 52 16.6 -0.4**
comp=Z,107nm,1.5s
PBSI Pulau Batu 60.00 238 P **P 18 52 18.4 +0.8**
comp=Z,120nm,2.0s,comp=Z,3µm
LEM Lembang 60.16 225 LR LR 19 18 15.4
comp=Z,792nm,21.4s,baz=23,slow=36
DAG Danmarks Havn 60.30 356 P **P 18 52 15.6 -3.2**
DAG Danmarks Havn 60.30 356 *i*P **P 18 52 16.3 -2.5**
DAG IAmb IAmb 18 52 19.9
comp=Z,61nm,1.1s
DAG Danmarks Havn 60.30 356 *i*P **P 18 52 18.0 -0.8**
DAG IAmb IAmb 18 52 19.9
comp=Z,61nm,1.1s
BRLDA Berland Lookou 60.48 42 IAmb IAmb 18 52 43.2
comp=Z,106nm,1.0s
SISI Saibi 60.49 236 P **P 18 52 20.7 -0.3**
comp=Z,65nm,1.4s,comp=Z,2µm
LWLI Liwa 60.55 229 P **P 18 52 20.4 -1.1**
comp=Z,107nm,1.0s,comp=Z,1µmcomp=Z,3µm
KLMR Klimovskoe 60.58 327*c i*P **P 18 52 20.5 -0.4**
KLMR *e* 18 52 36.1
KLMR S **S 19 00 27.2 -7.2**
KLMR pmax pmax
comp=Z,356nm,1.5s
KLMR MLR MLR
comp=Z,9µm,17.0s
MTSU Mount Surprise 60.62 181 P **P 18 52 21.9 +0.2**
KASI Kota Agung 60.73 228 P **P 18 52 20.8 -1.8**
comp=Z,57nm,1.0s,comp=Z,927nm
WISH Wishkah 60.84 51 IAmb IAmb 18 52 45.6
comp=Z,66nm,1.0s
JETT Jettan, Norway 60.98 341⇑ *i*P **P 18 52 23.5 -0.1**
PPSI Pulau Pagai 61.07 234 P **P 18 52 25.9 +1.0**
comp=Z,199nm,1.7s,comp=Z,4µm
RADR Rader Ridge 61.20 52 IAmb IAmb 18 52 46.1
comp=Z,122nm,1.2s
TRO Tromso 61.28 341⇑ *i*P **P 18 52 25.6 0.0**
HYB Hyderabad 61.49 268⇑ *e*P **P 18 52 27.4 -0.4**
HYB IVmB_BB 18 52 28.0
comp=Z,2µm,3.1s
HYB *e*PcP **PcP 18 53 08.3 -1.3**
HYB *e*PP **PP 18 54 42.7 -0.6**
HYB *e*S **S 19 00 47.5 +0.2**
HYB IVMs_BB IVMs_BB 19 24 44.3
comp=Z,538nm,18.5s
BELG Belogornoye 61.74 316 LR LR 19 22 08.4
comp=Z,10µm,19.6s,baz=56,slow=39
BELG Belogornoye 61.74 316*c i*P **P 18 52 28.7 -0.2**
BELG pmax pmax
comp=Z,115nm,1.0s
BELG MLR MLR
comp=Z,3µm,16.0s
TV1H Townsville Har 61.74 179 P **P 18 52 29.8 +0.6**
D05A Enumclaw 61.82 51 IAmb IAmb 18 53 40.0
comp=Z,178nm,1.5s
G03D McMinnville, O 62.17 53 IAmb IAmb 18 53 04.3
comp=Z,73nm,1.1s
F04A Amboy 62.27 52 IAmb IAmb 18 52 51.0
comp=Z,120nm,1.0s
JOF Joensuu 62.35 332 *e*P **P 18 52 32.1 -0.9**
COR Corvallis 62.50 54 P **P 18 52 33.5 -0.7**
COR IAmb IAmb 18 52 53.3
comp=Z,96nm,1.0s
COR Corvallis 62.50 54 P **P 18 52 33.5 -0.7**
COR pmax pmax
comp=Z,96nm,1.0s
CTAO Charters Tower 62.56 179 P **P 18 52 34.5 -0.2**
DBG Daneborg 62.80 356 *i*P **P 18 52 32.9 -2.8**
DBG IAmb IAmb 18 52 36.7
comp=Z,25nm,1.0s
DBG Daneborg 62.80 356 *i*P **P 18 52 33.4 -2.4**
DBG IAmb IAmb 18 52 36.7
comp=Z,25nm,1.0s
BUCK Buck Mountain 62.90 54 IAmb IAmb 18 52 56.2
comp=Z,86nm,1.0s
J01E Myrtle Point 62.92 55 IAmb IAmb 18 52 55.9
comp=Z,62nm,0.9s
EDM Edmonton 62.96 41 IAmb IAmb 18 52 53.0
comp=Z,105nm,1.0s
I03D Drain, OR 62.97 54 IAmb IAmb 18 52 56.3
comp=Z,66nm,0.9s
HOOD Mount Hood Mea 63.05 52 IAmb IAmb 18 53 01.7
comp=Z,111nm,0.9s
MDRS Chennai 63.05 263 *e*P **P 18 52 39.3 +1.1**
MDRS IAmb IAmb 18 52 40.2
comp=Z,76nm,0.8s
WB0 Warramunga Arr 63.06 192 P **P 18 52 36.3 -1.8**
WB0 IAmb IAmb 18 52 51.1
comp=Z,61nm,0.9s
HRA Herat 63.08 293 P **P 18 52 39.0 +0.4**
H04A Detroit Lake 63.10 53 IAmb IAmb 18 52 56.6
comp=Z,97nm,1.1s
WR0 Warramunga Arr 63.23 191 P **P 18 52 37.8 -1.4**
WR0 IAmb IAmb 18 52 52.2
comp=Z,52nm,0.9s
WB2 Warramunga Arr 63.24 192 P **P 18 52 37.6 -1.6**
WB2 IAmb IAmb 18 52 52.3
comp=Z,76nm,1.0s
WRA Warramunga Arr 63.24 192 P **P 18 52 37.3 -2.0**
WRA Warramunga Arr 63.24 192 P **P 18 52 37.6 -1.7**
comp=Z,13nm,0.8s,baz=8.8,slow=6.9,SNR=48
WRA PKP2bc 19 21 43.6
comp=Z,3.0nm,0.9s,baz=203,slow=2.6,SNR=9.6
comp=Z,13nm,0.8s
WRA Warramunga Arr 63.24 192 *i*P **P 18 52 38.4 -0.9**
WRA pmax pmax
comp=Z,13nm,0.8s
QIS Mount Isa 63.25 186 P **P 18 52 38.4 -0.9**
FITZ Fitzroy Crossi 63.26 201 P **P 18 52 39.6 +0.2**
FITZ Fitzroy Crossi 63.26 201 P **P 18 52 38.0 -1.4**
KBO Bosley Butte 63.27 56 P **P 18 52 39.2 -0.3**
G05A Wamic 63.29 52 IAmb IAmb 18 53 02.9
comp=Z,74nm,1.0s
DBO Dodson Butte 63.36 55 IAmb IAmb 18 52 52.4

	comp=Z,130nm,1.7s									
STEI	**Steigen**	**63.45**	**341**		*e*P		**P**	**18 52 39.8**	**-0.3**
I04A	**Tendick Farm,**	**63.47**	**54**		IAmb		IAmb	18 52 59.2	
	comp=Z,70nm,0.9s									
VALR	**Valaam**	**63.53**	**331**	*c*	*i*P		**P**	**18 52 40.2**	**-0.6**
VALR					pmax		pmax			
	comp=Z,264nm,1.0s									
VALR					MLR		MLR			
	comp=Z,7µm,17.0s									
D08A	**Wollman Farm,**	**63.62**	**49**		IAmb		IAmb	18 52 53.9		
	comp=Z,242nm,2.0s									
HAWA	**Hanford**	**63.66**	**50**		IAmb		IAmb	18 53 02.1		
	comp=Z,190nm,1.9s									
LOF	**Lofoten**	**63.69**	**342**		*e*P		**P**	**18 52 41.9**	**+0.2**
G06A	**Carlson Farm,**	**63.69**	**52**		IAmb		IAmb	18 53 02.6		
	comp=Z,214nm,1.8s									
KSXB	**Camp Six Broad**	**63.70**	**56**		P		**P**	**18 52 41.5**	**-1.0**
KSXB					IAmb		IAmb	18 52 54.6		
	comp=Z,134nm,1.5s									
F07A	**Phinny Hill Vi**	**63.72**	**51**		IAmb		IAmb	18 53 00.9		
	comp=Z,90nm,0.9s									
UPNV	**Upernavik**	**63.76**	**7**	*i*	P		**P**	**18 52 40.7**	**-1.4**
UPNV					IAmb		IAmb	18 52 43.6		
	comp=Z,51nm,1.0s									
I05D	**Terrebonne, OR**	**63.80**	**53**		IAmb		IAmb	18 52 54.9		
	comp=Z,210nm,1.9s									
GEYT	**Alibeck**	**63.80**	**298**		P		**P**	**18 52 42.9**	**-0.1**
GEYT	**Alibeck**	**63.80**	**298**		P		**P**	**18 52 42.8**	**-0.3**
	comp=Z,54nm,0.7s,baz=29,slow=3.4,SNR=142									
GEYT					LR		LR	19 22 45.0		
	comp=Z,14µm,18.7s,baz=70,slow=38									
	comp=Z,54nm,0.7s									
GEYT	**Alibeck**	**63.80**	**298**		P		**P**	**18 52 42.9**	**-0.1**
GEYT					pmax		pmax			
	comp=Z,238nm,1.3s									
HUMO	**Hull Mountain**	**63.82**	**55**		P		**P**	**18 52 43.8**	**+0.7**
HUMO					IAmb		IAmb	18 53 02.0		
	comp=Z,86nm,1.6s									
KRMB	**Red Mountain**	**63.86**	**57**		IAmb		IAmb	18 52 55.7		
	comp=Z,247nm,1.9s									
FAUS	**Fauske**	**63.87**	**341**		*e*P		**P**	**18 52 42.9**	**+0.1**
E08A	**Dider Farm, El**	**63.87**	**50**		IAmb		IAmb	18 53 01.5		
	comp=Z,48nm,0.8s									
NEW	**Newport**	**63.91**	**48**		IAmb		IAmb	18 53 11.6		
	comp=Z,63nm,1.1s									
NEW	**Newport**	**63.91**	**48**		P		**P**	**18 52 44.2**	**+0.6**
	baz=306,SNR=11									
NEW					S		**S**	**19 01 18.2**	**+1.2**
	baz=306									
POO	**Poona**	**64.25**	**272**		*e*P		**P**	**18 52 46.2**	**0.0**
KHMM	**Horse Mountain**	**64.34**	**57**		IAmb		IAmb	18 53 06.3		
	comp=Z,120nm,1.2s									
PINE	**Pine Mountain**	**64.34**	**53**		IAmb		IAmb	18 53 05.6		
	comp=Z,114nm,0.9s									
KMPM	**Mount Pierce**	**64.36**	**58**		IAmb		IAmb	18 52 59.0		
	comp=Z,111nm,1.2s									
E09A	**Wood Farm, Sta**	**64.37**	**50**		IAmb		IAmb	18 53 04.9		
	comp=Z,78nm,1.0s									
BHUJ	**Bhuj**	**64.40**	**279**		*e*P		**P**	**18 52 47.9**	**+0.8**
BHUJ					IAmb		IAmb	18 52 49.0		
	comp=Z,33nm,0.7s									
L04D	**Klamath Falls**	**64.44**	**55**		P		**P**	**18 52 47.8**	**+0.5**
J05D	**Fort Rock, OR**	**64.47**	**54**		IAmb		IAmb	18 53 06.3		
	comp=Z,86nm,1.0s									
YBH	**Yreka Blue Hor**	**64.47**	**56**		IAmb		IAmb	18 53 06.3		
	comp=Z,58nm,0.9s									
YBH	**Yreka Blue Hor**	**64.47**	**56**		LR		LR	19 17 12.1		
	comp=Z,843nm,21.6s,baz=309,slow=33									
MOS	**Moscow**	**64.48**	**323**		*e*P		**P**	**18 52 44.2**	**-2.9**
MOS					*e*			18 53 15.9		
MOS					*e*			18 55 06.0		
MOS					*e*S		**S**	**19 01 20.8**	**-2.8**
MOS					pmax		pmax			
	comp=N,400nm,1.6s									
MOS					pmax		pmax			
	comp=Z,1µm,2.2s									
MOS					pmax		pmax			
	comp=Z,354nm,1.2s									
MOS					pmax		pmax			
	comp=E,300nm,1.6s									
MOS					pmax		pmax			
	comp=N,184nm,1.3s									
MOS					pmax		pmax			
	comp=E,105nm,1.2s									
MOS					smax		smax			
	comp=N,800nm,3.4s									
MOS					smax		smax			
	comp=E,800nm,3.6s									
MOS					MLR		MLR			
	comp=Z,4µm,17.0s									
K04D	**Chiloquin, OR**	**64.54**	**55**		IAmb		IAmb	18 53 06.5		
	comp=Z,91nm,0.9s									
KMRM	**Mail Ridge**	**64.73**	**58**		IAmb		IAmb	18 53 01.4		
	comp=Z,183nm,1.6s									
PUL	**Pulkovo**	**64.81**	**330**		*e*P		**P**	**18 52 49.6**	**+0.4**
PUL	**Pulkovo**	**64.81**	**330**	*ce*	P		**P**	**18 52 49.6**	**+0.4**
PUL					pmax		pmax			
	comp=Z,393nm,1.0s									
PUL					MLR		MLR			
	comp=Z,11µm,18.0s									
SUMG	**Summit**	**64.91**	**1**		P		**P**	**18 52 50.0**	**-0.2**
SUMG	**Summit**	**64.91**	**1**		P		**P**	**18 52 48.1**	**-2.0**
SUMG	**Summit**	**64.91**	**1**		P		**P**	**18 52 50.0**	**-0.2**
SUMG					pmax		pmax			
	comp=Z,456nm,1.2s									
SUMG	**Summit**	**64.91**	**1**	*i*	P		**P**	**18 52 49.7**	**-0.5**
SUMG					IAmb		IAmb	18 52 53.0		
	comp=Z,139nm,1.0s									
SUMG	**Summit**	**64.91**	**1**	*i*	P		**P**	**18 52 50.3**	**+0.1**
SUMG					IAmb		IAmb	18 52 53.0		
	comp=Z,139nm,1.0s									
XMAS	**Kiritimati**	**64.95**	**112**		P		**P**	**18 52 52.2**	**+1.5**
MOR8	**Moi Rana**	**65.03**	**340**	⇑	*i*P		**P**	**18 52 49.2**	**-1.4**
KEF	**Keuruu**	**65.05**	**334**		*e*P		**P**	**18 52 49.8**	**-0.9**
KONS	**Konsvik**	**65.09**	**341**		*e*P		**P**	**18 52 51.1**	**+0.2**
VAF	**Ylistaro**	**65.11**	**335**		*e*P		**P**	**18 52 50.8**	**-0.3**
KCPM	**Cahto Peak**	**65.12**	**58**		IAmb		IAmb	18 53 11.0		
	comp=Z,67nm,1.0s									
FINES	**FINESS Array B**	**65.16**	**333**		P		**P**	**18 52 51.0**	**-0.5**
FINES	**FINESS Array B**	**65.16**	**333**		P		**P**	**18 52 51.1**	**-0.3**
	comp=Z,165nm,0.8s,baz=45,slow=7.4,SNR=375									
FINES					LR		LR	19 24 06.6		
	comp=Z,6µm,18.2s,baz=49,slow=39									
	comp=Z,165nm,0.8s									
F10A	**Beach Ranch, E**	**65.20**	**50**		IAmb		IAmb	18 53 14.0		
	comp=Z,92nm,1.4s									
NUUG	**Nuugaatsiaq**	**65.22**	**6**	*i*	P		**P**	**18 52 50.7**	**-0.9**
NUUG					IAmb		IAmb	18 52 54.4		
	comp=Z,20nm,1.0s									
NUUG	**Nuugaatsiaq**	**65.22**	**6**	*i*	P		**P**	**18 52 51.3**	**-0.3**
NUUG					IAmb		IAmb	18 52 57.0		
	comp=Z,19nm,0.9s									
STOK	**Stokkvaagen**	**65.25**	**341**		*e*P		**P**	**18 52 52.0**	**+0.1**
OBN	**Obninsk**	**65.35**	**323**	⇑	P		**P**	**18 52 52.5**	**-0.2**
OBN	**Obninsk**	**65.35**	**323**		P		**P**	**18 52 52.1**	**-0.6**
OBN	**Obninsk**	**65.35**	**323**		LR		LR	19 23 58.1		
	comp=Z,5µm,18.9s,baz=40,slow=38									
OBN	**Obninsk**	**65.35**	**323**		*e*P		**P**	**18 52 52.3**	**-0.4**
OBN	**Obninsk**	**65.35**	**323**	*c*	*i*P		**P**	**18 52 52.3**	**-0.4**
OBN					*e*			18 53 25.8		
OBN					*e*			18 55 13.7		
OBN					*i*S		**S**	**19 01 37.3**	**+3.1**
OBN					*e*SS		**SS**	**19 05 43.7**	**-3.0**
OBN					pmax		pmax			
	comp=Z,647nm,1.7s									
OBN					MLR		MLR			
	comp=Z,4µm,17.0s									
OBN	**Obninsk**	**65.35**	**323**		P		**P**	**18 52 52.4**	**-0.4**
OBN	**Obninsk**	**65.35**	**323**		P		**P**	**18 52 52.2**	**-0.4**
VRH	**Novokhopyorsk**	**65.40**	**318**		*e*P		**P**	**18 52 51.5**	**-1.7**
VRH					pmax		pmax			
	comp=Z,480nm,1.4s									
HOPS	**Hopland Field**	**65.85**	**59**		IAmb		IAmb	18 53 15.3		
	comp=Z,121nm,1.4s									
LPSR	**Galich'ya Gora**	**65.88**	**320**		*e*P		**P**	**18 52 55.5**	**-0.7**
LPSR					pmax		pmax			
	comp=Z,370nm,0.9s									
MALK	**Mahakanadarawa**	**65.96**	**259**		P		**P**	**18 52 55.1**	**-2.2**
RK1H	**Rockhampton Ha**	**66.00**	**175**		P		**P**	**18 52 57.8**	**+0.6**
J08A	**Circle Bar Ran**	**66.05**	**53**		IAmb		IAmb	18 53 16.2		
	comp=Z,70nm,1.1s									
GDXM	**Geysers**	**66.14**	**59**		IAmb		IAmb	18 53 15.4		
	comp=Z,70nm,1.3s									
UMMG	**Uummannaq**	**66.14**	**6**	*i*	P		**P**	**18 52 56.2**	**-1.4**
UMMG					IAmb		IAmb	18 52 58.8		
	comp=Z,16nm,0.9s									
VORR	**Voronezh**	**66.33**	**319**		*e*P		**P**	**18 52 57.5**	**-1.7**
VORR					pmax		pmax			
	comp=Z,380nm,1.2s									
PLID	**Pearl Lake**	**66.43**	**50**		IAmb		IAmb	18 53 18.1		
	comp=Z,74nm,1.0s									
MSO	**Missoula**	**66.50**	**47**		IAmb		IAmb	18 53 12.7		
	comp=Z,157nm,1.6s									
MSO	**Missoula**	**66.50**	**47**		P		**P**	**18 53 01.1**	**+0.6**
	baz=308,SNR=25									
MSO					S		**S**	**19 01 50.3**	**+1.4**
	baz=308									
ORV	**Oroville**	**66.50**	**57**		IAmb		IAmb	18 53 11.3		
	comp=Z,248nm,1.9s									
WVOR	**Wild Horse Val**	**66.51**	**53**		IAmb		IAmb	18 53 13.2		
	comp=Z,223nm,1.9s									
PALK	**Pallekele**	**66.61**	**258**		P		**P**	**18 53 00.6**	**-0.9**
PALK	**Pallekele**	**66.61**	**258**		P		**P**	**18 53 02.0**	**+0.4**
PALK					P		**P**	**18 53 02.0**	**+0.4**
PALK	**Pallekele**	**66.61**	**258**	*i*	P		**P**	**18 53 00.6**	**-0.9**
PALK					pmax		pmax			
	comp=Z,157nm,1.8s									
PALK					MLR		MLR			
	comp=Z,5µm,21.0s									
PALK	**Pallekele**	**66.61**	**258**		P		**P**	**18 53 01.4**	**-0.2**
PALK					sP		**sP**	**18 53 15.6**	**+0.8**
PALK					PcP		**PcP**	**18 53 31.0**	**+0.4**
MEF	**Metsahovi**	**66.62**	**332**		*e*P		**P**	**18 52 59.9**	**-0.9**
ARBE	**Arbavere**	**66.63**	**331**		*e*P		**P**	**18 53 00.9**	**+0.1**
VSR	**Storozhevoye**	**66.64**	**319**		*e*P		**P**	**18 52 59.1**	**-2.1**
VSR					pmax		pmax			
	comp=Z,490nm,1.4s									
SCO	**Scoresbysund**	**66.68**	**355**		P		**P**	**18 53 01.1**	**+0.1**
SCO	**Scoresbysund**	**66.68**	**355**		P		**P**	**18 53 01.1**	**+0.1**
SCO					pmax		pmax			
	comp=Z,204nm,1.3s									
SCO	**Scoresbysund**	**66.68**	**355**	*i*	P		**P**	**18 52 59.9**	**-1.2**
SCO					IAmb		IAmb	18 53 03.7		
	comp=Z,43nm,1.1s									
SCO	**Scoresbysund**	**66.68**	**355**	*i*	P		**P**	**18 53 00.4**	**-0.6**
SCO					IAmb		IAmb	18 53 03.7		
	comp=Z,43nm,1.1s									
SCO	**Scoresbysund**	**66.68**	**355**	*i*	P		**P**	**18 53 01.0**	**0.0**
VORD	**Divnogorie**	**66.74**	**319**	*e*	P		**P**	**18 52 59.3**	**-2.5**
VORD					pmax		pmax			
	comp=Z,320nm,1.2s									
RAF	**Rauma**	**66.90**	**334**		*e*P		**P**	**18 53 01.9**	**-0.6**
AS01	**Alice Springs**	**66.96**	**191**		P		**P**	**18 53 03.3**	**-0.1**
ASAR	**Alice Springs**	**66.96**	**191**		P		**P**	**18 53 02.3**	**-1.1**
ASAR	**Alice Springs**	**66.96**	**191**		P		**P**	**18 53 02.7**	**-0.7**
	comp=Z,10nm,1.0s,baz=5.8,slow=6.9,SNR=74									
ASAR					PKP2bc			19 21 34.4		
	comp=Z,2.0nm,0.9s,baz=179,slow=2.5,SNR=11									
	comp=Z,10nm,1.0s									
ASAR	**Alice Springs**	**66.96**	**191**		P		**P**	**18 53 02.3**	**-1.1**
NSS	**Namsos**	**66.97**	**340**	⇑	*i*P		**P**	**18 53 02.7**	**-0.3**
VSU	**Vasula**	**67.05**	**330**	*ce*	P		**P**	**18 53 03.6**	**0.0**
VSU					pmax		pmax			
	comp=Z,418nm,1.0s									
VSU					MLR		MLR			
	comp=Z,12µm,18.0s									
AFDM	**Forest Hills D**	**67.19**	**58**		IAmb		IAmb	18 53 23.6		
	comp=Z,73nm,1.3s									
FFC	**Flin Flon**	**67.22**	**36**		P		**P**	**18 53 05.0**	**+0.2**
FFC					IAmb		IAmb	18 53 19.4		
	comp=Z,82nm,1.2s									
FFC	**Flin Flon**	**67.22**	**36**		P		**P**	**18 53 05.0**	**+0.2**
FFC					pmax		pmax			
	comp=Z,82nm,1.3s									
FFC	**Flin Flon**	**67.22**	**36**		P		**P**	**18 53 05.0**	**+0.2**
FFC					PcP		**PcP**	**18 53 32.0**	**-0.5**
MSVF	**Nonsavu**	**67.29**	**146**		P		**P**	**18 53 08.1**	**+2.5**
MAK	**Makhachkala**	**67.36**	**308**		*e*P		**P**	**18 53 02.8**	**-3.0**
MAK					*e*			18 55 29.3		
MAK					*e*PPP		PPP	18 57 12.1		
MAK					*e*S		**S**	**19 01 57.1**	**-1.9**
MAK					*e*SS		**SS**	**19 06 22.0**	**+3.6**
MAK					pmax		pmax			
	comp=Z,267nm,1.4s									
MAK					MLR		MLR			
	comp=Z,3µm,17.0s									
NOUC	**Port Laguerre**	**67.37**	**159**		P		**P**	**18 53 08.3**	**+2.4**
DZM	**Mont Dzumac**	**67.38**	**159**		P		**P**	**18 53 06.7**	**+0.6**
DZM	**Mont Dzumac**	**67.38**	**159**		LR		LR	19 18 05.1		
	comp=Z,2µm,21.9s,baz=1.0,slow=32									
FCC	**Fort Churchill**	**67.48**	**29**		IAmb		IAmb	18 53 29.1		
	comp=Z,79nm,0.9s									
ILULI	**Ilulissat**	**67.66**	**6**		P		**P**	**18 53 06.7**	**-0.5**
ILULI	**Ilulissat**	**67.66**	**6**		P		**P**	**18 53 06.7**	**-0.5**
ILULI					pmax		pmax			
	comp=Z,180nm,1.3s									
ILULI	**Ilulissat**	**67.66**	**6**	*i*	P		**P**	**18 53 05.6**	**-1.7**
ILULI					IAmb		IAmb	18 53 08.1		
	comp=Z,32nm,0.9s									
ILULI	**Ilulissat**	**67.66**	**6**	*i*	P		**P**	**18 53 05.9**	**-1.3**
PAHR	**Pah Rah Range**	**67.71**	**56**		IAmb		IAmb	18 53 26.5		
	comp=Z,116nm,1.1s									
EMB	**Emerald Bay**	**67.71**	**57**		IAmb		IAmb	18 53 19.9		
	comp=Z,128nm,1.3s									
MBWA	**Marble Bar**	**67.89**	**206**		P		**P**	**18 53 09.1**	**-0.2**
MBWA	**Marble Bar**	**67.89**	**206**		P		**P**	**18 53 08.9**	**-0.3**
MTSE	**Matsula**	**67.92**	**331**		*e*P		**P**	**18 53 08.8**	**-0.3**
PNTR	**Pine Nut**	**67.95**	**57**		IAmb		IAmb	18 53 44.3		
	comp=Z,116nm,1.1s									
EGMT	**Eagleton**	**67.96**	**44**		IAmb		IAmb	18 53 27.8		
	comp=Z,92nm,1.0s									
EGMT	**Eagleton**	**67.96**	**44**		P		**P**	**18 53 10.0**	**+0.3**
	baz=310,SNR=9.1									
EGMT					S		**S**	**19 02 07.2**	**+0.8**
	baz=310									
EIDS	**Eidsvold**	**68.01**	**174**		P		**P**	**18 53 10.6**	**+0.7**
CMB	**Columbia Colle**	**68.11**	**58**		IAmb		IAmb	18 53 26.8		
	comp=Z,150nm,1.6s									
AAL	**Aland**	**68.11**	**334**		*e*P		**P**	**18 53 09.0**	**-1.2**
DLMT	**Dillon**	**68.14**	**48**		IAmb		IAmb	18 53 28.2		
	comp=Z,71nm,0.9s									
GROC	**Groznyy**	**68.19**	**309**		*e*P		**P**	**18 53 08.1**	**-3.0**
GROC					*e*			18 53 34.9		
GROC					*e*			18 55 39.5		
GROC					pmax		pmax			
	comp=Z,244nm,2.0s									
YERR	**Yerington**	**68.24**	**57**		IAmb		IAmb	18 53 30.2		
	comp=Z,133nm,1.2s									
PSA00	**Pilbara Seismi**	**68.24**	**206**		P		**P**	**18 53 11.6**	**+0.1**
HLID	**Hailey**	**68.26**	**50**		P		**P**	**18 53 12.8**	**+1.0**
	baz=309,SNR=31									
HLID					S		**S**	**19 02 11.4**	**+1.1**
	baz=309									
ICESG	**Greenland Ices**	**68.39**	**2**	*i*	P		**P**	**18 53 11.6**	**-0.7**
ICESG	**Greenland Ices**	**68.39**	**2**	*i*	P		**P**	**18 53 11.4**	**-0.9**
ICESG					IAmb		IAmb	18 53 17.5		
	comp=Z,78nm,1.1s									
WAKR	**Walker**	**68.41**	**57**		IAmb		IAmb	18 53 31.5		
	comp=Z,132nm,1.4s									
TBLU	**Trondheim**	**68.45**	**340**	⇑	*i*P		**P**	**18 53 11.3**	**-1.1**
TRD	**Trivandrum**	**68.49**	**262**		*e*P		**P**	**18 53 13.3**	**0.0**
TRD					IAmb		IAmb	18 53 14.6		
	comp=Z,316nm,1.4s									
BOZ	**Bozeman (W)**	**68.52**	**47**		IAmb		IAmb	18 53 31.6		
	comp=Z,57nm,0.9s									
BOZ	**Bozeman (W)**	**68.52**	**47**		P		**P**	**18 53 14.2**	**+0.9**
	baz=309,SNR=62									
BOZ					S		**S**	**19 02 14.5**	**+1.3**
	baz=309									
GOF	**Gofitskoye**	**68.56**	**312**	*c*	*i*P		**P**	**18 53 13.9**	**+0.5**
GOF					*e*S		**S**	**19 02 14.3**	**+0.9**
BMN	**Battle Mountai**	**68.57**	**54**		IAmb		IAmb	18 53 32.3		
	comp=Z,61nm,1.0s									
SEKA	**Sheki**	**68.62**	**307**		P		**P**	**18 53 11.8**	**-2.1**
ZKTA	**Zakatala**	**68.69**	**307**		P		**P**	**18 53 12.6**	**-1.7**
KVN	**Kaiserville**	**68.90**	**56**		IAmb		IAmb	18 53 34.3		
	comp=Z,98nm,1.0s									
RYN	**Ryan**	**68.90**	**57**		IAmb		IAmb	18 53 34.2		
	comp=Z,68nm,1.0s									
MNGR	**Mingechevir, A**	**68.96**	**306**		P		**P**	**18 53 14.4**	**-1.5**
PMPB	**Monarch Peak**	**68.96**	**60**		IAmb		IAmb	18 53 48.5		
	comp=Z,67nm,1.1s									
QLP	**Quilpie**	**69.03**	**181**		P		**P**	**18 53 16.4**	**+0.1**
UPP	**Uppsala**	**69.12**	**335**		*e*P		**P**	**18 53 16.1**	**-0.4**
NVAR	**Mina Array Bea**	**69.16**	**57**		P		**P**	**18 53 17.8**	**+0.2**
NVAR	**Mina Array Bea**	**69.16**	**57**		P		**P**	**18 53 18.6**	**+1.1**
	comp=Z,29nm,0.8s,baz=325,slow=5.1,SNR=21									
NVAR					PKP2bc			19 21 26.2		
	comp=Z,0.8nm,0.9s,baz=150,slow=3.3,SNR=3.8									
NVAR					LR		LR	19 23 13.5		
	comp=Z,618nm,19.3s,baz=298,slow=36									
	comp=Z,29nm,0.8s									
LKRN	**Lenkeran, Azer**	**69.22**	**304**		P		**P**	**18 53 16.0**	**-1.6**
NCK	**Nalchik**	**69.25**	**310**	*c*	*i*P		**P**	**18 53 18.4**	**+0.7**
NCK					pmax		pmax			
	comp=Z,186nm,1.4s									
SLIT	**Slitere, Latvi**	**69.27**	**331**		*e*P		**P**	**18 53 16.6**	**-0.9**
WRKA	**Warakurna**	**69.31**	**197**		P		**P**	**18 53 18.3**	**+0.2**
IDID	**Didziasalis**	**69.32**	**328**		*e*P		**P**	**18 53 18.9**	**+1.1**
MLAC	**Mammoth, Mammo**	**69.33**	**58**		P		**P**	**18 53 19.9**	**+1.3**
	baz=308									
MLAC					S		**S**	**19 02 26.0**	**+2.8**
	baz=308									
ISAL	**Salakas**	**69.37**	**328**		*e*P		**P**	**18 53 19.2**	**+1.0**
MNK	**Minsk**	**69.44**	**326**	*i*	P		**P**	**18 53 19.4**	**+0.7**
MNK				*i*				18 53 41.9		
MNK				*i*	S		**S**	**19 02 28.9**	**+5.4**
MNK				*i*	PS		**PnS**	**19 02 47.9**	**-3.5**
MNK				*i*	SS		**SS**	**19 06 58.1**	**+8.0**
MNK				*i*	SSS		SSS	19 10 01.9		
MNK					pmax		pmax			
	comp=E,64nm,1.0s									
MNK					pmax		pmax			
	comp=N,153nm,1.0s									
MNK					pmax		pmax			
	comp=Z,362nm,0.9s									
MNK					MLR		MLR			
	comp=E,2µm,17.0s									
MNK					MLR		MLR			
	comp=Z,7µm,17.0s									
MNK					MLR		MLR			
	comp=N,3µm,16.0s									
KVAR	**Kislovodsk Arr**	**69.46**	**311**		LR		LR	19 29 07.0		
	comp=N,5µm,18.5s,baz=271,slow=40									
KIV	**Kislovodsk**	**69.47**	**311**	⇓	P		**P**	**18 53 20.5**	**+1.3**
KIV	**Kislovodsk**	**69.47**	**311**		P		**P**	**18 53 19.2**	**+0.1**
KIV	**Kislovodsk**	**69.47**	**311**	*i*	P		**P**	**18 53 19.8**	**+0.7**
	SNR=68									
KIV	**Kislovodsk**	**69.47**	**311**		P		**P**	**18 53 19.7**	**+0.5**
KIV					P		**P**	**18 53 19.7**	**+0.5**
KIV					S		**S**	**19 02 24.5**	**+0.1**
KIV					S		**S**	**19 02 24.5**	**+0.1**
KIV	**Kislovodsk**	**69.47**	**311**	*c*	*i*P		**P**	**18 53 19.8**	**+0.7**
KIV					*e*			18 53 42.6		
KIV					*e*			18 55 51.5		
KIV					*i*S		**S**	**19 02 30.0**	**+5.7**
KIV					pmax		pmax			
	comp=Z,513nm,1.3s									
KIV	**Kislovodsk**	**69.47**	**311**		P		**P**	**18 53 20.2**	**+1.1**
KIV	**Kislovodsk**	**69.47**	**311**		P		**P**	**18 53 20.6**	**+1.5**
GANJ	**Ganja**	**69.49**	**307**		P		**P**	**18 53 17.6**	**-1.7**
KBZ	**Khabaz**	**69.49**	**311**		P		**P**	**18 53 19.9**	**+0.8**
	comp=Z,95nm,0.9s,baz=51,slow=5.9,SNR=190									
KBZ					LR		LR	19 27 19.8		
	comp=Z,6µm,19.4s,baz=34,slow=39									
	comp=Z,95nm,0.9s									
KBZ	**Khabaz**	**69.49**	**311**	*e*	P		**P**	**18 53 19.8**	**+0.7**
KBZ	**Khabaz**	**69.49**	**311**	*ce*	P		**P**	**18 53 19.8**	**+0.7**
KBZ					pmax		pmax			
	comp=Z,204nm,1.1s									
KBZ					MLR		MLR			
	comp=Z,6µm,19.0s									
ERBR	**Yeremizino-Bor**	**69.52**	**314**	*e*	P		**P**	**18 53 19.2**	**-0.1**
ERBR				*e*				18 53 42.0		
ERBR				*e*	S		**S**	**19 02 25.9**	**+1.1**
ERBR					pmax		pmax			
	comp=Z,484nm,1.5s									
ERBR					pmax		pmax			
	comp=E,51nm,1.6s									
ERBR					pmax		pmax			
	comp=N,81nm,1.0s									
ERBR					MLR		MLR			
	comp=N,13µm,15.0s									
ERBR					MLR		MLR			
	comp=Z,11µm,17.0s									
ERBR					MLR		MLR			
	comp=E,11µm,17.0s									
NACGM	**Naroch**	**69.60**	**327**		LRM		MLR	19 26 26.6		
	comp=E,282µm,17.8s									
NACGM	**Naroch**	**69.60**	**327**	*e*	P		**P**	**18 53 19.7**	**+0.1**
	comp=N,14µm,1.0s									
NACGM	**Naroch**	**69.60**	**327**	⇑	*i*P		**P**	**18 53 19.7**	**+0.1**
	comp=Z,556nm,1.1s,baz=44									
NACGM	**Naroch**	**69.60**	**327**	*e*	P		**P**	**18 53 19.7**	**+0.1**
	comp=E,8µm,1.2s			

LABN MLR MLR
comp=Z,11µm,19.0s
LABN MLR MLR
comp=E,10µm,18.0s
RLMT Red Lodge 70.10 47 IAmb IAmb 18 53 35.9
comp=Z,130nm,1.5s
RLMT Red Lodge 70.10 47 P **P** **18 53 24.2 +1.0**
baz=311,SNR=17
RLMT S **S** **19 02 31.9 -0.1**
baz=311
FXWY Fox Creek 70.11 49 IAmb IAmb 18 53 49.5
comp=Z,64nm,1.1s
AKN Aaknes 70.17 341 *eP* **P** **18 53 23.7 +0.6**
MOOW Moose Ponds 70.19 48 IAmb IAmb 18 53 42.8
comp=Z,62nm,0.9s
NC602 NORSAR Array S 70.21 338 IAmb IAmb 18 53 24.4
comp=Z,111nm,1.2s
NC602 NORSAR Array S 70.21 338⇑ *iP* **P** **18 53 22.7 -0.6**
TPAW Teton Pass 70.25 49 IAmb IAmb 18 53 51.1
comp=Z,91nm,0.9s
PABE Paberze 70.25 329 *eP* **P** **18 53 23.2 -0.4**
VES Vestal, Richgr 70.29 59 P **P** **18 53 24.6 +0.4**
baz=309
INKA Innaminka 70.30 184 P **P** **18 53 24.5 +0.4**
LOHW Long Hollow 70.36 48 IAmb IAmb 18 53 37.9
comp=Z,183nm,1.6s
SNOW Snow King Moun 70.38 49 IAmb IAmb 18 53 44.0
comp=Z,47nm,0.8s
PKM Mcpherson Peak 70.42 60 P **P** **18 53 26.1 +0.8**
baz=309,SNR=6.6
PKM S **S** **19 02 37.8 +1.8**
baz=309
FRB Frobisher Bay 70.45 15 LR LR 19 28 07.8
comp=Z,2µm,19.3s,baz=335,slow=39
DGMT Dagmar 70.46 41 IAmb IAmb 18 53 41.0
comp=Z,75nm,0.8s
DGMT Dagmar 70.46 41 P **P** **18 53 25.2 +0.2**
baz=313,SNR=5.9
DGMT S **S** **19 02 36.5 +0.8**
baz=313
COCO West Island 70.48 231 P **P** **18 53 26.9 +1.4**
COCO P **P** **18 53 26.9 +1.4**
VIKU Vikbolandet 70.48 334 *eP* **P** **18 53 24.7 -0.2**
GMN Gold Mountain 70.51 57 IAmb IAmb 18 53 37.6
comp=Z,145nm,1.8s
CWC Cottonwood Cre 70.54 58 P **P** **18 53 26.7 +0.7**
baz=309
PBUR Paburgy 70.62 330 *eP* **P** **18 53 25.8 -0.1**
GRAC Grapevine Rang 70.64 57 IAmb IAmb 18 53 38.2
comp=Z,178nm,1.4s
GRAC Grapevine Rang 70.64 57 P **P** **18 53 27.3 +1.0**
baz=309,SNR=34
GRAC S **S** **19 02 40.5 +2.4**
baz=309
AKH Akhalkalaki 70.65 309 P **P** **18 53 27.8 +1.3**
LAO LASA Array 70.65 44 IAmb IAmb 18 53 39.0
comp=Z,119nm,1.2s
LAO LASA Array 70.65 44 P **P** **18 53 26.9 +0.5**
baz=312,SNR=11
LAO S **S** **19 02 40.0 +1.9**
baz=312
DY2G Dye2 70.71 5 *i* P **P** **18 53 25.9 -0.7**
DY2G IAmb IAmb 18 53 27.7
comp=Z,33nm,0.9s
DY2G Dye2 70.71 5 *i* P **P** **18 53 26.2 -0.3**
GNI Garni 70.73 307 P **P** **18 53 28.1 +1.0**
GNI Garni 70.73 307 P **P** **18 53 28.7 +1.6**
GNI Garni 70.73 307 LR LR 19 27 45.9
comp=Z,5µm,18.3s,baz=53,slow=39
GNI Garni 70.73 307 P **P** **18 53 27.2 +0.1**
GNI P **P** **18 53 27.2 +0.1**
GNI S **S** **19 02 43.2 +3.7**
GNI S **S** **19 02 43.2 +3.7**
GNI Garni 70.73 307 *ceP* **P** **18 53 28.7 +1.6**
GNI pmax pmax
comp=Z,286nm,1.7s
GNI MLR MLR
comp=Z,4µm,17.0s
GNI Garni 70.73 307 P **P** **18 53 28.6 +1.6**
GNI sP **sP** **18 53 41.6 +1.4**
GNI PcP **PcP** **18 53 48.6 +0.8**
GNI Garni 70.73 307 P **P** **18 53 28.1 +1.0**
SBC Santa Barbara 70.76 61 P **P** **18 53 28.3 +1.2**
baz=309
OOD Oodnadatta 70.80 189 P **P** **18 53 27.4 +0.3**
SPUT South Promonto 70.82 51 IAmb IAmb 18 53 47.0
comp=Z,243nm,2.0s
R11B Troy Canyon, C 70.87 55 P **P** **18 53 28.7 +0.7**
baz=310,SNR=58
R11B S **S** **19 02 41.6 +0.5**
baz=310
Q12A Willow Creek R 70.88 54 IAmb IAmb 18 53 40.6
comp=Z,116nm,1.3s
ARVC Arvin 70.90 60 P **P** **18 53 28.2 +0.3**
baz=309
ARVC S **S** **19 02 42.7 +1.6**
baz=309
NAX Nakhchivan 70.91 306 P **P** **18 53 26.4 -1.7**
OSL Oslo 71.10 338⇑ *iP* **P** **18 53 29.0 +0.3**
SKAR Skarslia 71.12 339⇑ *iP* **P** **18 53 29.6 +0.6**
HWUT Hardware Ranch 71.13 51 IAmb IAmb 18 53 41.3
comp=Z,140nm,1.4s
TASB TASBURUN-IGDIR 71.14 307 P **P** **18 53 30.9 +1.5**
FOO Floro 71.14 341 *eP* **P** **18 53 29.0 +0.1**
MPMC Manual Prospec 71.15 58 P **P** **18 53 30.5 +0.8**
baz=309,SNR=32
MPMC S **S** **19 02 44.3 -0.2**
baz=309
JASK Jask - Hormozg 71.23 288 P **P** **18 53 31.7 +1.7**
SNR=22
HYA Hoyanger 71.24 340⇑ *iP* **P** **18 53 29.9 +0.4**
VSLR Vesyoloye 71.25 312 *ciP* **P** **18 53 30.3 +0.4**
VSLR pmax pmax
comp=Z,240nm,1.2s
FURC Furnace Creek, 71.28 58 P **P** **18 53 31.4 +1.2**
baz=310,SNR=21
OSI Osito Audit: C 71.29 60 P **P** **18 53 30.9 +0.5**
baz=309
OSI S **S** **19 02 47.5 +1.6**
baz=309
DUG Dugway, Tooele 71.33 52 IAmb IAmb 18 53 49.2
comp=Z,93nm,1.1s
DUG Dugway, Tooele 71.33 52 P **P** **18 53 31.7 +1.1**
baz=310,SNR=36
DUG S **S** **19 02 49.1 +2.8**
baz=310
SOC Sochi 71.34 312 *eP* **P** **18 53 26.9 -3.5**
SOC *e* 18 56 06.7
SOC *e*PPP PPP 18 57 49.4
SOC *e*S **S** **19 02 44.0 -2.0**
SOC *e*SS **SS** **19 07 22.7 +3.0**
SOC pmax pmax
comp=Z,104nm,1.3s
SOC MLR MLR
comp=Z,7µm,19.0s
KARS Kars 71.39 308 P **P** **18 53 32.5 +1.5**
LRMC Laurel Mtn Rad 71.40 59 P **P** **18 53 31.5 +0.3**
baz=310,SNR=7.2
LRMC S **S** **19 02 48.1 +0.9**
baz=310
BW06 Boulder Array 71.49 49 P **P** **18 53 32.0 +0.3**
baz=311,SNR=24
BW06 S **S** **19 02 49.5 +1.2**
baz=311
PD31 Pinedale Array 71.49 49 IAmb IAmb 18 53 42.9
comp=Z,234nm,2.0s
PDAR Pinedale Array 71.49 49 P **P** **18 53 31.8 +0.1**
comp=Z,20nm,0.8s,baz=274,slow=2.5,SNR=114
comp=Z,20nm,0.8s
MNCY Minicoy 71.52 264 *eP* **P** **18 53 30.2 -1.7**
MNCY IAmb IAmb 18 53 35.0
comp=Z,363nm,1.5s
BATM Batumi 71.55 310 P **P** **18 53 32.3 +0.5**
EDW2 Edwards Air Fo 71.58 59 P **P** **18 53 32.6 +0.4**
baz=310,SNR=24
EDW2 S **S** **19 02 50.7 +1.5**
baz=310
GWY Greenwater Val 71.58 58 IAmb IAmb 18 53 43.5
comp=Z,229nm,1.6s
QSM Queen of Sheba 71.60 58 IAmb IAmb 18 53 43.6
comp=Z,224nm,1.5s
AKASG Malin Array Be 71.61 323 P **P** **18 53 31.4 -0.5**
AKASG Malin Array Be 71.61 323 P **P** **18 53 31.7 -0.3**
comp=Z,58nm,0.7s,baz=40,slow=6.3,SNR=324
AKASG LR LR 19 29 25.6
comp=Z,3µm,18.4s,baz=52,slow=40
comp=Z,58nm,0.7s
AKASG Malin Array Be 71.61 323 P **P** **18 53 31.4 -0.5**
AKASG pmax pmax
comp=Z,459nm,1.5s
AKBB Malin Array Si 71.61 323 *ceP* **P** **18 53 31.5 -0.4**
AKBB pmax pmax
comp=Z,394nm,1.5s
AKBB MLR MLR
comp=Z,5µm,17.0s
KIEV Kiev 71.62 323 ⇑P **P** **18 53 32.0 0.0**
KIEV Kiev 71.62 323 P **P** **18 53 31.1 -0.9**
KIEV Kiev 71.62 323 *i* P **P** **18 53 31.7 -0.3**
SNR=95
KIEV Kiev 71.62 323 P **P** **18 53 31.1 -0.9**
KIEV pmax pmax
comp=Z,443nm,1.5s
KIEV Kiev 71.62 323 P **P** **18 53 31.6 -0.3**
KIEV PcP **PcP** **18 53 50.0 -1.1**
KIEV Kiev 71.62 323 P **P** **18 53 31.3 -0.7**
comp=Z,924nm,1.7s,comp=Z,14µm
SNCC San Nicolas Is 71.64 62 P **P** **18 53 33.0 +0.6**
baz=309
KONO Kongsberg 71.65 338 P **P** **18 53 31.5 -0.5**
KONO Kongsberg 71.65 338 *eP* **P** **18 53 29.4 -2.6**
KONO Kongsberg 71.65 338 P **P** **18 53 31.5 -0.5**
KONO pmax pmax
comp=Z,68nm,1.2s
KONO Kongsberg 71.65 338 P **P** **18 53 32.4 +0.3**
SUW Suwalki 71.67 328 *eP* **P** **18 53 32.0 -0.2**
SUW *eS* **S** **19 02 46.6 -2.8**
SUW *eL* L 19 27 34.4
comp=Z,11µm,19.1s
SUW Suwalki 71.67 328 *eP* **P** **18 53 32.1 -0.2**
SUE Sulen 71.68 341⇑ *iP* **P** **18 53 32.8 +0.6**
BCA Borcka 71.69 310⇑P **P** **18 53 33.4 +0.8**
BCA Borcka 71.69 310 P **P** **18 53 32.9 +0.2**
ANN Anapa 71.74 315 *eP* **P** **18 53 32.5 -0.3**
ANN Anapa 71.74 315 *eP* **P** **18 53 31.9 -0.9**
ANN *e* 18 53 42.3
ANN *e* 18 56 15.3
ANN *e*PPP PPP 18 57 49.4
ANN *e*S **S** **19 02 49.4 -1.2**
ANN pmax pmax
comp=Z,265nm,1.6s
ANN pmax pmax
comp=N,27nm,0.9s
ANN pmax pmax
comp=E,53nm,1.4s
ANN MLR MLR
comp=N,7µm,18.0s
ANN MLR MLR
comp=Z,5µm,15.0s
ANN MLR MLR
comp=E,6µm,16.0s
DECC Green Verdugo 71.77 60 P **P** **18 53 33.7 +0.5**
baz=310
DECC S **S** **19 02 53.0 +1.7**
baz=310
SENK Senkaya-Erzuru 71.86 309 P **P** **18 53 35.2 +1.3**
CLDR Caldiran 71.87 307 P **P** **18 53 35.5 +1.5**
AULRC Lightning Ridg 71.89 178 P **P** **18 53 35.0 +1.3**
PASC Pasadena Art C 71.91 60 P **P** **18 53 31.3 -2.8**
PASC IAmb IAmb 18 53 44.4
comp=Z,122nm,1.6s
SHOC Shoshone, Teco 72.01 58 P **P** **18 53 35.3 +0.6**
baz=310,SNR=5.8
SHOC S **S** **19 02 53.6 -0.5**
baz=310
GSC Goldstone, Bar 72.06 58 P **P** **18 53 35.8 +0.7**
baz=310,SNR=10
GSC S **S** **19 02 56.2 +1.4**
baz=310
ASK Askoy 72.08 341 *eP* **P** **18 53 35.0 +0.5**
BER Bergen 72.13 340 *eP* **P** **18 53 35.5 +0.6**
FMP Fort Macarthur 72.14 61 P **P** **18 53 35.9 +0.5**
baz=310
BFSC Mount Baldy Ra 72.20 60 P **P** **18 53 36.2 +0.2**
baz=310,SNR=8.8
BFSC S **S** **19 02 56.2 -0.3**
baz=310
ODD1 Odda 72.22 340⇑ *iP* **P** **18 53 36.0 +0.5**
RRX Edison Barstow 72.22 59 P **P** **18 53 36.7 +0.8**
baz=310
RRX S **S** **19 02 58.6 +2.2**
baz=310
CIS Catalina Islan 72.25 61 P **P** **18 53 36.4 +0.2**
baz=310
CIS S **S** **19 02 57.1 +0.2**
baz=310
SHPR Sheep Range 72.31 57 IAmb IAmb 18 53 48.5
comp=Z,172nm,2.0s
SHME Shamm 72.31 289 *i* P **P** **18 53 36.3 -0.3**
SNR=11
SHME Shamm 72.31 289 P **P** **18 53 37.9 +1.3**
SNR=5.6
SHME P **P** **18 53 37.9 +1.3**
SNR=5.6
KLNR Kaliningrad 72.34 330 *ciP* **P** **18 53 35.9 -0.3**
KLNR pmax pmax
comp=Z,385nm,1.1s
KLNR MLR MLR
comp=Z,9µm,18.0s
WSAR Wadi Sarin 72.34 285 LR LR 19 29 48.7
comp=Z,1µm,19.3s,baz=67,slow=40
WSAR Wadi Sarin 72.34 285 P **P** **18 53 38.4 +1.5**
SNR=10
WSAR S **S** **19 02 58.7 +0.6**
CHOM Cayeli-Rize 72.41 310 P **P** **18 53 37.3 +0.3**
SCI2 San Clemente I 72.44 61 P **P** **18 53 37.6 +0.4**
baz=310
SCI2 S **S** **19 02 59.4 +0.4**
baz=310
JLN Jalan Bani Buh 72.48 284 P **P** **18 53 39.0 +1.3**
SNR=22
JLN P **P** **18 53 39.0 +1.3**
SNR=22
WBK Wadi Bani Khal 72.50 285 P **P** **18 53 40.0 +2.2**
SNR=14
WBK P **P** **18 53 40.0 +2.2**
SNR=14
KOPR Koprukoy-ERZUR 72.52 308 P **P** **18 53 39.1 +1.3**
BIDO Bidbid 72.52 286 P **P** **18 53 39.0 +1.2**
SNR=18
BIDO P **P** **18 53 39.0 +1.2**
SNR=18
NUUK Nuuk 72.52 8 *i* P **P** **18 53 36.8 -0.4**
NUUK IAmb IAmb 18 53 37.7
comp=Z,4.9nm,0.7s
TUQ Turquoise Moun 72.53 58 P **P** **18 53 38.9 +1.0**
baz=310,SNR=28
TUQ S **S** **19 03 01.4 +1.1**
baz=310
VANB Van 72.54 307 P **P** **18 53 39.4 +1.5**
BBRC Big Bear Solar 72.66 59 P **P** **18 53 39.4 +0.6**
baz=310
BBRC S **S** **19 03 03.0 +1.1**
baz=310
HEC Hector,Ludlow 72.66 59 P **P** **18 53 39.6 +1.0**
baz=310,SNR=9.3
HEC S **S** **19 03 03.6 +2.0**
baz=310
MLAZ Malazgirt-MUS 72.67 307 P **P** **18 53 40.2 +1.4**
MDH Madha 72.68 289 *i* P **P** **18 53 38.1 -0.7**
SNR=8.7
MDH Madha 72.68 289 P **P** **18 53 40.0 +1.2**
SNR=5.6
MDH P **P** **18 53 40.0 +1.2**
SNR=5.6
BLS5 Blasjo 72.68 339 *eP* **P** **18 53 39.1 +0.9**
ELS Elsinore Mount 72.73 60 IAmb IAmb 18 53 49.4
comp=Z,127nm,1.4s
MASF Masafi 72.73 289 P **P** **18 53 40.7 +1.6**
SNR=5.4
MASF P **P** **18 53 40.7 +1.6**
SNR=5.4
MSFE Esma-Masafi 72.74 289 *i* P **P** **18 53 39.2 0.0**
SNR=9.2
SMDO Samad 72.87 286 P **P** **18 53 41.0 +0.9**
SNR=18
SMDO P **P** **18 53 41.0 +0.9**
SNR=18
MURC Murrieta 72.91 60 P **P** **18 53 40.5 +0.5**
baz=310
MURC S **S** **19 03 04.8 +0.4**
baz=310
AKDM Akdamar-Van 72.96 307 P **P** **18 53 41.4 +0.9**
UOSS Minazif 72.97 288 P **P** **18 53 40.3 -0.3**
UOSS Minazif 72.97 288 *i* P **P** **18 53 40.2 -0.3**
SNR=17
V12A Nelson 73.00 57 IAmb IAmb 18 53 52.5
comp=Z,172nm,1.6s
ULM Lac du Bonnet 73.03 36 P **P** **18 53 39.8 -0.6**
comp=Z,6.9nm,0.7s,baz=328,slow=7.1,SNR=11
ULM LR LR 19 28 44.8
comp=Z,2µm,19.4s,baz=322,slow=38
comp=Z,6.9nm,0.7s
DEL Delary 73.03 334 *eP* **P** **18 53 38.7 -1.6**
HOQ Hoqain 73.06 287 P **P** **18 53 42.0 +0.9**
SNR=22
HOQ P **P** **18 53 42.0 +0.9**
SNR=22
ARMA Armidale 73.06 174 P **P** **18 53 42.0 +1.2**
MDND Maddock 73.09 40 IAmb IAmb 18 53 51.6
comp=Z,121nm,1.0s
MDND Maddock 73.09 40 P **P** **18 53 41.2 +0.3**
baz=316
MDND S **S** **19 03 05.9 -0.1**
baz=316
HATD Hatta, Dubai 73.10 288 *i* P **P** **18 53 41.5 +0.2**
SNR=36
HATD Hatta, Dubai 73.10 288 P **P** **18 53 42.0 +0.7**
SNR=22
HATD P **P** **18 53 42.0 +0.7**
SNR=22
GMRC Granite Mounta 73.11 58 P **P** **18 53 42.0 +0.6**
baz=310,SNR=17
GMRC S **S** **19 03 07.5 +0.6**
baz=310
Q16A Castle Valley 73.12 52 IAmb IAmb 18 53 53.3
comp=Z,265nm,1.9s
HOMB Homborsund 73.12 338 *eP* **P** **18 53 40.8 0.0**
LCMT Little Creek M 73.15 55 IAmb IAmb 18 54 00.2
comp=Z,70nm,1.1s
LCRK Leigh Creek 73.17 187 P **P** **18 53 41.9 +0.6**
KMY Karmoy 73.18 340⇑ *iP* **P** **18 53 41.8 +0.7**
K22A Casper 73.23 47 IAmb IAmb 18 54 01.8
comp=Z,122nm,1.2s
K22A Casper 73.23 47 P **P** **18 53 42.2 +0.3**
baz=313,SNR=18
K22A S **S** **19 03 07.2 -0.8**
baz=313
ASHO Ashiyiah 73.24 288 *i* P **P** **18 53 42.2 +0.1**
SNR=30
ASHO Ashiyiah 73.24 288 P **P** **18 53 43.0 +0.8**
SNR=24
ASHO P **P** **18 53 43.0 +0.8**
SNR=24
SOHO SOHO 73.26 287 *i* P **P** **18 53 41.7 -0.5**
SNR=26
JMDO Jabal Madar 73.27 285 P **P** **18 53 43.0 +0.7**
SNR=19
JMDO P **P** **18 53 43.0 +0.7**
SNR=19
VRTB Varto-Mus 73.30 308 P **P** **18 53 43.9 +1.5**
NAZ Nazwa, Dubai 73.32 289 *i* P **P** **18 53 42.5 -0.1**
SNR=8.3
NAZ Nazwa, Dubai 73.32 289 P **P** **18 53 44.0 +1.4**
SNR=7.2
NAZ P **P** **18 53 44.0 +1.4**
SNR=7.2
SIM Simferopol' 73.35 316 *eP* **P** **18 53 41.9 -0.6**
SIM *eS* **SKiKP** **19 03 10.4 -0.5**
SIM pmax pmax
comp=Z,282nm,1.2s
MEEK Meekatharra 73.36 205 P **P** **18 53 42.3 -0.3**
GURO Guroymak-BITLI 73.37 307 P **P** **18 53 44.2 +1.4**
PFO Pinyon Flats O 73.37 60 P **P** **18 53 42.4 -0.6**
PFO Pinyon Flats O 73.37 60 P **P** **18 53 43.5 +0.6**
baz=310
PFO S **S** **19 03 09.6 -0.2**
baz=310
PFO Pinyon Flats O 73.37 60 LR LR 19 21 45.7
comp=Z,2µm,20.1s,baz=285,slow=32
PFO Pinyon Flats O 73.37 60 *i* P **P** **18 53 43.2 +0.3**
PFO pmax pmax
comp=Z,72nm,1.7s
SRU San Rafael Swe 73.37 52 IAmb IAmb 18 54 01.1
comp=Z,91nm,1.1s
TPFO Pinon Flats 73.38 60 P **P** **18 53 43.5 +0.6**
baz=310,SNR=9.2
TPFO S **S** **19 03 10.2 +0.3**
baz=310
KNB Kanab 73.40 55 IAmb IAmb 18 54 02.0
comp=Z,68nm,1.0s
BELC Belle Mtn. Jos 73.41 59 P **P** **18 53 43.5 +0.3**
baz=310,SNR=11
BELC S **S** **19 03 09.0 -1.3**
baz=310
SNART Snartemo 73.42 338 *eP* **P** **18 53 43.2 +0.6**
PKCU Pink Cliffs 73.42 54 IAmb IAmb 18 54 08.7
comp=Z,301nm,1.9s
109C Camp Elliot, M 73.42 61 P **P** **18 53 43.6 +0.5**
baz=310
MULG Mulgathing 73.45 190 P **P** **18 53 43.0 0.0**
FAQ Al Faqa, Dubai 73.53 289 *i* P **P** **18 53 43.6 -0.2**
SNR=8.7
FAQ Al Faqa, Dubai 73.53 289 P **P** **18 53 44.0 +0.2**
SNR=9.5
FAQ P **P** **18 53 44.0 +0.2**
SNR=9.5
RSSD Black Hills 73.53 45 P **P** **18 53 42.9 -0.9**
RSSD IAmb IAmb 18 53 54.9
comp=Z,278nm,2.0s
RSSD Black Hills 73.53 45 P **P** **18 53 44.2 +0.4**
baz=314
RSSD S **SKiKP** **19 03 10.8 -0.7**
baz=314
RSSD Black Hills 73.53 45 P **P** **18 53 42.9 -0.9**
RSSD pmax pmax
comp=Z,278nm,2.0s
ESPY Espiye-Giresun 73.67 311 P **P** **18 53 44.1 -0.3**
BSY Bisya 73.67 286 P **P** **18 53 46.0 +1.2**
SNR=33
BSY P **P** **18 53 46.0 +1.2**
SNR=33
AUPHS Peel High Scho 73.69 175 P **P** **18 53 45.4 +1.0**
ARQ Araqi 73.77 287 P **P** **18 53 46.0 +0.7**
SNR=30
ARQ P **P** **18 53 46.0 +0.7**
SNR=30
NEE2 Needles Airpor 73.77 58 P **P** **18 53 45.6 +0.5**
baz=311
NEE2 S **S** **19 03 15.5 +1.4**
baz=311
ASUD Al Ashush, Dub 73.78 289 *i* P **P** **18 53 45.6 +0.3**
SNR=17
ASUD Al Ashush, Dub 73.78 289 P **P** **18 53 47.0 +1.7**
SNR=7.4
ASUD P **P** **18 53 47.0 +1.7**
SNR=7.4
BSD Bornholm Skovb 73.79 333 *eP* **P** **18 53 44.2 -0.5**
BSD Bornholm Skovb 73.79 333 *i* P **P** **18 53 44.3 -0.5**
BSD IAmb IAmb 18 53 47.8
comp=Z,61nm,0.9s
BSD Bornholm Skovb 73.79 333 *i* P **P** **18 53 45.1 +0.3**
IRM Iron Mountain 73.84 58 P **P** **18 53 46.5 +0.9**
baz=311,SNR=19
IRM S **S** **19 03 15.6 +0.7**
baz=311
LRW Lerwick 73.84 343⇑ *eP* **P** **18 53 45.4 +0.4**
LRW IAmb IAmb 18 53 46.6
comp=Z,192nm,1.4s
ALNE Al Ain 73.86 288 *i* P **P** **18 53 45.8 +0.1**
SNR=40
ALNE Al Ain 73.86 288 P **P** **18 53 46.2 +0.4**
SNR=26
ALNE P **P** **18 53 46.2 +0.4**
SNR=26
BNGB Bingl 73.86 308 P **P** **18 53 46.9 +1.2**
MONP2 Monument Peak 73.86 60 P **P** **18 53 46.5 +0.6**
baz=311
MONP2 S **S** **19 03 15.7 +0.2**
baz=311
SORM Soroca 73.86 322⇑P **P** **18 53 45.1 -0.3**
SORM Soroca 73.86 322 P **P** **18 53 45.0 -0.3**
SORM Soroca 73.86 322 P **P** **18 53 45.0 -0.3**
comp=Z,223nm,1.3s,comp=Z,3µm
CMSA Cobar Meteorol 73.95 180 P **P** **18 53 46.7 +0.8**
BC3 Big Chuckawall 73.98 59 P **P** **18 53 46.9 +0.5**
baz=311,SNR=17
BC3 S **S** **19 03 17.0 +0.4**
baz=311
O20A White River Ci 73.99 50 P **P** **18 53 47.0 +0.5**

baz=313,SNR=7.4
O20A S **S** **19 03 15.0 -1.8**
baz=313
ERZN Erzincan **74.01 309** P **P** **18 53 48.1 +1.5**
HMU Henry Mountain **74.03 53** IAmb IAmb 18 54 03.7
comp=Z,81nm,0.7s
AJN Ajban **74.06 289** *i* P **P** **18 53 46.6 -0.4**
SNR=6.7
AJN Ajban **74.06 289** P **P** **18 53 46.7 -0.3**
SNR=7.5
AJN P **P** **18 53 46.7 -0.3**
SNR=7.5
COP Copenhagen **74.13 334** *i* P **P** **18 53 47.6 +0.9**
COP IAmb IAmb 18 53 49.4
comp=Z,78nm,0.8s
COP Copenhagen **74.13 334** *i* P **P** **18 53 46.1 -0.7**
COP IAmb IAmb 18 53 49.4
comp=Z,78nm,0.8s
IKP In-Ko-Pah, Jac **74.22 60** P **P** **18 53 48.6 +0.8**
baz=311
IKP S **S** **19 03 19.9 +0.6**
baz=311
SWSC Sam W. Stewart **74.22 60** P **P** **18 53 48.3 +0.6**
baz=311
MHTO MHTO **74.25 284** P **P** **18 53 49.0 +0.9**
SNR=51
MHTO P **P** **18 53 49.0 +0.9**
SNR=51
BEL Belsk **74.28 328** *e*P **P** **18 53 48.6 +0.9**
BEL *e*S **S** **19 03 18.8 -0.3**
BEL *e*L L 19 29 17.6
comp=Z,10µm,18.9s
YUH Yuha Desert **74.34 60** IAmb IAmb 18 53 59.6
comp=Z,145nm,1.8s
PDMCI Parker Dam,Lak **74.38 58** P **P** **18 53 49.3 +0.7**
baz=311,SNR=9.1
PDMCI S **S** **19 03 22.9 +2.0**
baz=311
STKA Stephens Creek **74.38 183** P **P** **18 53 48.6 +0.3**
STKA Stephens Creek **74.38 183** P **P** **18 53 48.0 -0.3**
comp=Z,9.2nm,0.8s,baz=338,slow=7.2,SNR=15
comp=Z,9.2nm,0.8s
STKA Stephens Creek **74.38 183** *i* P **P** **18 53 47.7 -0.6**
GKP Gorka Klasztor **74.48 331** *e*P **P** **18 53 49.1 +0.3**
GKP *e*S **S** **19 03 20.0 -1.3**
GKP *e*L L 19 29 35.3
comp=Z,13µm,19.4s
GKP Gorka Klasztor **74.48 331** *e*P **P** **18 53 48.8 0.0**
KIS Kishinev **74.48 321** ⇑ *i*P **P** **18 53 48.8 -0.2**
comp=Z,360nm,1.5s
KIS Kishinev **74.48 321** *e*PcP **PcP** **18 53 58.0 -5.4**
KIS *e*S **S** **19 03 18.6 -3.0**
KIS *e*L L 19 23 16.0
KIS LRM MLR 19 29 46.0
comp=Z,2µm,17.0s
KIS Kishinev **74.48 321** *c i*P **P** **18 53 48.8 -0.2**
KIS *e* 18 53 58.0
KIS *e*S **S** **19 03 18.6 -3.0**
KIS pmax pmax
comp=Z,360nm,1.5s
AGMN Agassiz Nation **74.48 37** P **P** **18 53 48.4 -0.6**
baz=318,SNR=7.0
AGMN S **S** **19 03 18.1 -3.4**
baz=318
MUD Monsted U'grnd **74.48 337** *i* P **P** **18 53 48.2 -0.5**
MUD IAmb IAmb 18 53 51.3
comp=Z,21nm,0.9s
MUD Monsted U'grnd **74.48 337** *i* P **P** **18 53 46.1 -2.7**
MUD IAmb IAmb 18 54 01.9
comp=Z,22nm,0.8s
LLD Lille Linde **74.50 334** *i* P **P** **18 53 48.1 -0.8**
LLD IAmb IAmb 18 53 50.2
comp=Z,35nm,1.0s
BLYC Blythe **74.50 58** IAmb IAmb 18 54 04.6
comp=Z,216nm,1.8s
LVV L'vov **74.51 325** *e*P **P** **18 53 49.4 +0.3**
LVV *e* 18 54 01.6
LVV *e*S **S** **19 03 21.0 -0.8**
LVV *e* 19 04 01.8
LVV MLR MLR
comp=Z,10µm,16.0s
MILM Milestii Mici **74.54 321** ⇑ P **P** **18 53 49.3 0.0**
MILM Milestii Mici **74.54 321** ⇑ *i*P **P** **18 53 48.6 -0.7**
comp=Z,730nm,2.3s
MILM Milestii Mici **74.54 321** *e*PcP **PcP** **18 53 58.0 -5.7**
MILM Milestii Mici **74.54 321** *c i*P **P** **18 53 48.6 -0.7**
MILM *e* 18 53 58.0
MILM *e* 18 56 36.0
MILM *i* S **S** **19 03 18.7 -3.5**
MILM *e*PS **PnS** **19 03 56.0 -2.8**
MILM pmax pmax
comp=N,400nm,2.6s
MILM pmax pmax
comp=E,240nm,2.4s
PTK Pertek **74.67 309** P **P** **18 53 51.8 +1.3**
AUDCS Dubbo College **74.70 177** P **P** **18 53 51.2 +1.0**
N23A Red Feather La **74.75 48** IAmb IAmb 18 54 02.9
comp=Z,289nm,1.8s
N23A Red Feather La **74.75 48** P **P** **18 53 51.9 +0.9**
baz=314,SNR=14
N23A S **S** **19 03 25.9 +0.5**
baz=314
ILIC ilic-Erzincan **74.76 310** P **P** **18 53 52.2 +1.3**
GLA Glamis **74.77 59** IAmb IAmb 18 54 06.2
comp=Z,262nm,1.9s
GLA Glamis **74.77 59** P **P** **18 53 51.9 +0.9**
baz=311
GLA S **S** **19 03 25.7 +0.4**
baz=311
GLA S SKiKP 19 03 27.8 +14
baz=311
RGN Rugen **74.79 333** *e*P **P** **18 53 51.3 +0.7**
RSDY Resadiye-TOKAT **74.80 311** P **P** **18 53 51.9 +0.9**
IAS Iasi **74.92 321** ⇑ P **P** **18 53 52.1 +0.5**
IAS Iasi **74.92 321** P **P** **18 53 52.0 +0.5**
FORT Forrest **74.92 195** P **P** **18 53 51.9 +0.4**
FORT Forrest **74.92 195** IAmb IAmb 18 54 08.8
comp=Z,118nm,1.3s
MAZI Mazidag **75.03 307** P **P** **18 53 53.4 +0.9**
KVT Kavak **75.03 312** P **P** **18 53 53.5 +1.1**
DIKM Dikmen **75.06 313** ⇑ P **P** **18 53 53.8 +1.4**
DIKM Dikmen **75.06 313** P **P** **18 53 53.4 +0.9**
ARPR Arapgir-MALATY **75.13 310** P **P** **18 53 54.5 +1.4**
SSRD Sdr. Stenderup **75.17 336** *i* P **P** **18 53 52.1 -0.7**
SSRD IAmb IAmb 18 54 04.6
comp=Z,60nm,0.8s
KWP Kalwaria Pacla **75.20 326** *e*P **P** **18 53 54.6 +1.5**
KWP *e*S **S** **19 03 29.9 +0.2**
KWP *e*L L 19 30 35.0
comp=Z,11µm,16.5s
KWP Kalwaria Pacla **75.20 326** P **P** **18 53 54.7 +1.5**
comp=Z,419nm,2.0s,comp=Z,6µm
VASR Vaslui **75.22 321** ⇑ P **P** **18 53 53.9 +0.6**
DQM DQM **75.24 284** P **P** **18 53 55.0 +1.2**
SNR=7.7
DQM P **P** **18 53 55.0 +1.2**
SNR=7.7
WUAZ Wupatki **75.27 55** IAmb IAmb 18 54 05.9
comp=Z,144nm,1.4s
WUAZ Wupatki **75.27 55** P **P** **18 53 55.4 +1.4**
baz=312,SNR=21
WUAZ S **S** **19 03 33.3 +2.2**
baz=312
TOKT Tokat **75.29 312** P **P** **18 53 54.7 +0.8**
SVSK Karacayir **75.32 311** P **P** **18 53 55.1 +1.2**
Y14A Wickenburg **75.32 57** IAmb IAmb 18 54 05.0
comp=Z,128nm,1.6s
SMCO Snowmass **75.36 50** IAmb IAmb 18 54 10.8
comp=Z,150nm,1.8s
PRAR RASCA **75.40 322** ⇑ P **P** **18 53 54.2 -0.1**
BIR Birlad **75.57 321** ⇑ P **P** **18 53 56.8 +1.4**
BIR Birlad **75.57 321** P **P** **18 53 56.7 +1.4**
BUR08 Bucovina Ar. S **75.65 323** IAmb IAmb 18 53 57.2
comp=Z,73nm,0.9s
BURAR Bucovina Array **75.66 323** ⇑ P **P** **18 53 56.5 +0.6**
BURAR Bucovina Array **75.66 323** P **P** **18 53 56.0 0.0**
BURAR IAmb IAmb 18 53 57.6
comp=Z,61nm,0.8s
BURAR Bucovina Array **75.66 323** P **P** **18 53 56.5 +0.6**
VLDR Vladesti **75.67 320** ⇓ P **P** **18 53 57.2 +1.3**
ISCO Idaho Springs **75.69 49** IAmb IAmb 18 54 08.3
comp=Z,166nm,1.8s
ISCO Idaho Springs **75.69 49** P **P** **18 53 57.3 +0.8**
baz=314,SNR=5.5
ISCO S **S** **19 03 36.9 +0.9**
baz=314
BBOO Buckleboo **75.71 188** P **P** **18 53 55.9 -0.1**
BBOO Buckleboo **75.71 188** IAmb IAmb 18 54 13.3
comp=Z,69nm,1.1s
WHYH Whyalla **75.79 187** P **P** **18 53 57.2 +0.8**
MGCD Mangrove Creek **75.80 175** P **P** **18 53 57.9 +1.4**
TLCR **75.81 319** ⇑ P **P** **18 53 57.1 +0.5**
TLCR **75.81 319** P **P** **18 53 57.1 +0.5**
GHRR **75.83 321** ⇓ P **P** **18 53 58.4 +1.6**
MVCO Mesa Verde **75.83 52** P **P** **18 53 58.0 +0.8**
baz=313,SNR=19
MVCO S **S** **19 03 38.1 +0.6**
baz=313
SCTR Scanteiesti **75.84 320** ⇑ P **P** **18 53 57.7 +0.9**
TESR Tescani **75.84 321** ⇑ P **P** **18 53 57.1 +0.2**
TESR Tescani **75.84 321** P **P** **18 53 57.2 +0.3**
comp=Z,213nm,1.8s,comp=Z,4µm
BRIGG Briggsdale **75.85 47** IAmb IAmb 18 54 09.0
comp=Z,253nm,1.7s
SUSD Miller **75.86 42** P **P** **18 53 56.6 -0.5**
baz=317
SUSD S **S** **19 03 34.9 -2.2**
baz=317
TATR Tatarca **75.87 320** ⇑ P **P** **18 53 57.6 +0.6**
KOLS Kolonicke sedl **75.92 325** *e*P **P** **18 53 58.2 +0.9**
KOLS Kolonicke sedl **75.92 325** *e*P **P** **18 53 58.2 +0.9**
KOLS pmax pmax
comp=Z,65nm,1.0s
OJC Ojcow **75.93 327** *e*P **P** **18 53 58.0 +0.7**
OJC *e*PP **PP** **18 56 41.2 -5.9**
OJC *e*S **S** **19 03 35.5 -2.2**
OJC *e*L L 19 30 21.4
comp=Z,9µm,19.1s
OJC Ojcow **75.93 327** P **P** **18 53 57.5 +0.2**
comp=Z,274nm,1.4s,comp=Z,4µm
DARE Darende-Malaty **75.97 310** P **P** **18 53 59.6 +1.7**
STHS Stebnicka Huta **75.98 326** *e*P **P** **18 53 58.0 +0.4**
STHS Stebnicka Huta **75.98 326** *e*P **P** **18 53 58.0 +0.4**
STHS pmax pmax
comp=Z,65nm,1.1s
URFA Urfa **75.99 308** P **P** **18 53 59.1 +1.1**
NEGRR Negrea **75.99 320** ⇑ P **P** **18 53 58.4 +0.7**
SHMA Al-Shehemyia **76.00 292** P **P** **18 53 59.0 +0.9**
SNR=8.5
SLCR Slobozia Conac **76.00 320** ⇓ P **P** **18 53 59.1 +1.3**
SCHL Schela **76.04 320** ⇓ P **P** **18 53 59.2 +1.2**
SCHLR Schela **76.06 320** ⇑ P **P** **18 53 58.8 +0.7**
HTT Hallett **76.08 186** P **P** **18 53 58.3 +0.1**
JURR Jurilovca **76.08 319** ⇓ P **P** **18 53 58.9 +0.6**
PANC Panciu **76.09 321** ⇑ P **P** **18 53 59.8 +1.6**
MZR Muzera **76.12 288** *i* P **P** **18 53 58.6 -0.2**
SNR=18
MZR Muzera **76.12 288** P **P** **18 53 58.9 0.0**
SNR=20
MZR P **P** **18 53 58.9 0.0**
SNR=20
CFR Carcaliu **76.14 320** ⇑ P **P** **18 53 59.0 +0.5**
CFR Carcaliu **76.14 320** P **P** **18 53 59.0 +0.5**
ODBI Odobesti **76.21 321** ⇑ P **P** **18 54 00.7 +1.7**
ODBI Odobesti **76.21 321** P **P** **18 54 01.6 +2.6**
comp=Z,108nm,1.2s,comp=Z,947nm
TPGR Topolog **76.24 319** ⇑ P **P** **18 53 59.8 +0.6**
CRVS Cervenica-Dubn **76.29 326** *e*P **P** **18 53 59.9 +0.5**
CRVS Cervenica-Dubn **76.29 326** *e*P **P** **18 53 59.9 +0.5**
CRVS pmax pmax
comp=Z,383nm,1.6s
VRI Vrincioaia **76.29 321** ⇑ P **P** **18 54 00.2 +0.7**
VRI Vrincioaia **76.29 321** P **P** **18 54 00.0 +0.6**
VRI Vrincioaia **76.29 321** P **P** **18 54 00.1 +0.7**
VRI Vrincioaia **76.29 321** P **P** **18 54 00.9 +1.5**
comp=Z,120nm,1.8s,comp=Z,3µm
SYDH Sydney Hard Ro **76.33 175** P **P** **18 54 01.3 +1.8**
PLOR5 Plostina Array **76.33 321** P **P** **18 54 02.3 +2.6**
comp=Z,95nm,1.6s,comp=Z,2µm
PLOR Plostina **76.33 321** ⇑ P **P** **18 54 00.4 +0.6**
PLOR Plostina **76.33 321** P **P** **18 54 00.3 +0.6**
PLOR3 Plostina Array **76.33 321** P **P** **18 54 02.1 +2.4**
comp=Z,61nm,1.3s,comp=Z,2µm
RUE Ruedersdorf **76.34 332** *e*P **P** **18 53 59.7 +0.1**
NIE Niedzica **76.36 327** *e*P **P** **18 54 00.9 +1.1**
NIE *e*S **S** **19 03 41.3 -1.1**
NIE *e*L L 19 30 48.1
comp=Z,5µm,18.1s
NIE Niedzica **76.36 327** P **P** **18 54 01.0 +1.2**
SPBR Spulber **76.36 321** P **P** **18 54 01.3 +1.4**
BMR Baia Mare **76.37 324** ⇑ P **P** **18 54 00.7 +0.9**
BMR Baia Mare **76.37 324** P **P** **18 54 00.7 +0.9**
CORM Corum **76.43 313** P **P** **18 54 01.6 +1.1**
MORW Morawa **76.44 206** P **P** **18 54 00.6 +0.3**
MORW Morawa **76.44 206** IAmb IAmb 18 54 14.9
comp=Z,133nm,1.2s
ARCR ARCALIA **76.44 323** ⇑ P **P** **18 54 01.7 +1.4**
TURR Turia **76.47 321** ⇑ P **P** **18 54 01.9 +1.4**
LINV Loch Inver, As **76.50 344** ⇑ *e*P **P** **18 54 00.2 -0.1**
LINV IAmb IAmb 18 54 01.9
comp=Z,182nm,1.5s
W18A Petrified Fore **76.52 55** P **P** **18 54 02.5 +1.3**
baz=313
W18A S **S** **19 03 47.3 +2.2**
baz=313
Q24A Divide **76.53 49** P **P** **18 54 01.5 +0.2**
baz=314
Q24A S **S** **19 03 46.1 +0.8**
baz=314
BISRR Bisoca **76.53 321** ⇑ P **P** **18 54 02.4 +1.5**
COVR Voineasa-Covas **76.55 321** ⇑ P **P** **18 54 01.9 +1.0**
OZUR **76.55 322** ⇑ P **P** **18 54 02.5 +1.5**
TRNA Turayna **76.56 291** P **P** **18 54 02.0 +0.7**
SNR=5.2
HARR Harsova **76.59 319** ⇑ P **P** **18 54 01.8 +0.6**
HARR Harsova **76.59 319** P **P** **18 54 01.7 +0.6**
MCD Coleburn Disti **76.62 343** ⇑ *e*P **P** **18 54 00.9 -0.2**
MCD IAmb IAmb 18 54 02.6
comp=Z,214nm,1.4s
PIX Pinacate **76.62 59** IAmb IAmb 18 54 11.9
comp=Z,134nm,1.8s
BOSR Bodos **76.62 322** ⇑ P **P** **18 54 02.9 +1.6**
TLBR Topalu **76.65 319** ⇓ P **P** **18 54 02.5 +1.1**
EYMN Ely **76.65 35** P **P** **18 54 01.2 -0.2**
baz=320,SNR=6.3
EYMN S **S** **19 03 42.4 -3.3**
baz=320
SARI SarD1z-Kayseri **76.69 310** P **P** **18 54 03.1 +1.1**
BNN Bunyan **76.70 311** P **P** **18 54 02.7 +0.7**
EFOR EFORIE **76.71 319** ⇑ P **P** **18 54 02.7 +0.9**
MFTR Murfatlar **76.74 319** ⇑ P **P** **18 54 02.7 +0.8**
YNG Young **76.76 177** P **P** **18 54 02.9 +1.0**
214A Organ Pipe Nat **76.77 59** IAmb IAmb 18 54 13.1
comp=Z,104nm,1.6s
214A Organ Pipe Nat **76.77 59** P **P** **18 54 03.0 +0.5**
baz=312,SNR=9.5
214A S **S** **19 03 48.4 +0.9**
baz=312
NEHR Nehoiu **76.82 321** ⇑ P **P** **18 54 03.1 +0.6**
OGNE Ogallala **76.82 46** P **P** **18 54 02.9 +0.3**
baz=316,SNR=5.5
K30B Basset **76.82 43** IAmb IAmb 18 54 21.0
comp=Z,121nm,0.9s
SMRA Abu-Samra **76.82 291** P **P** **18 54 03.0 +0.2**
SNR=9.6
DOPR Dopca **76.83 322** ⇑ P **P** **18 54 03.8 +1.3**
OKC Ostrava-Krasne **76.88 328** *e*P **P** **18 54 03.3 +0.6**
OKC *e*S **S** **19 03 47.3 -0.7**
OKC AMS AMS 19 31 00.0
comp=Z,8µm,18.2s
OKC Ostrava-Krasne **76.88 328** *e*P **P** **18 54 03.3 +0.6**
OKC *e*S **S** **19 03 47.3 -0.7**
OKC MLR MLR
comp=Z,8µm,18.2s
PGOR Pogoanele **76.88 320** ⇓ P **P** **18 54 04.4 +1.6**
KMBL Kambalda **76.89 201** P **P** **18 54 02.5 -0.3**
LANS Liptovska Anna **76.91 327** *e*P **P** **18 54 04.3 +1.4**
LANS Liptovska Anna **76.91 327** *e*P **P** **18 54 04.3 +1.4**
LANS pmax pmax
comp=Z,77nm,1.2s
MLR Muntele Rosu **76.93 321** ⇓ P **P** **18 54 03.8 +0.6**
MLR Muntele Rosu **76.93 321** P **P** **18 54 03.6 +0.4**
MLR Muntele Rosu **76.93 321** IAmb IAmb 18 54 05.4
comp=Z,178nm,1.4s
MLR Muntele Rosu **76.93 321** LR LR 19 32 25.7
comp=Z,6µm,18.2s,baz=56,slow=39
MLR Muntele Rosu **76.93 321** P **P** **18 54 03.8 +0.6**
MLR Muntele Rosu **76.93 321** P **P** **18 54 04.2 +1.0**
ISR Istrita **76.93 320** ⇑ P **P** **18 54 04.4 +1.2**
ISR Istrita **76.93 320** P **P** **18 54 05.2 +2.1**
comp=Z,242nm,1.4s,comp=Z,5µm
AMRR Amara **76.94 320** ⇑ P **P** **18 54 04.4 +1.3**
AMRR Amara **76.94 320** P **P** **18 54 04.3 +1.3**
MESR Meseseni **77.01 324** ⇓ P **P** **18 54 05.1 +1.6**
KECS Kecovo **77.02 326** *e*P **P** **18 54 04.3 +0.8**
KECS Kecovo **77.02 326** *e*P **P** **18 54 04.3 +0.8**
OSTC Ostas **77.04 330** *e*P **P** **18 54 04.4 +0.8**
OSTC *e*S **S** **19 03 48.5 -1.3**
OSTC AMS AMS 19 30 50.0
comp=Z,9µm,18.4s
OSTC Ostas **77.04 330** *e*P **P** **18 54 04.4 +0.8**
OSTC *e*S **S** **19 03 48.5 -1.3**
OSTC MLR MLR
comp=Z,9µm,18.4s
KMRS Kahramanmaras **77.04 309** P **P** **18 54 04.9 +1.0**
CJR Cluj-Napoca **77.06 323** ⇓ P **P** **18 54 05.5 +1.6**
CJR Cluj-Napoca **77.06 323** P **P** **18 54 05.4 +1.6**
DRUM Mains of Drumt **77.07 343** ⇑ *e*P **P** **18 54 03.7 +0.1**
DRUM IAmb IAmb 18 54 05.0
comp=Z,285nm,1.5s
CHVC Chvalec **77.07 330** *e*P **P** **18 54 04.5 +0.7**
CHVC AMS AMS 19 31 00.0
comp=Z,10µm,18.9s
CHVC Chvalec **77.07 330** *e*P **P** **18 54 04.5 +0.7**
CHVC MLR MLR
comp=Z,10µm,18.9s
ICOR Ion Corvin **77.08 319** ⇑ P **P** **18 54 05.2 +1.3**
GAZ Gaziantep **77.10 309** P **P** **18 54 05.4 +1.2**
GAZ Gaziantep **77.10 309** IAmb IAmb 18 54 06.3
comp=Z,89nm,1.1s
UPC Upice **77.16 330** *e*P **P** **18 54 05.1 +0.9**
UPC AMS AMS 19 31 00.0
comp=Z,10µm,18.9s
UPC Upice **77.16 330** *e*P **P** **18 54 05.1 +0.9**
UPC MLR MLR
comp=Z,10µm,18.9s
MORC Moravsky Berou **77.17 328** ⇑ P **P** **18 54 05.1 +0.7**
MORC Moravsky Berou **77.17 328** ⇑ *i*P **P** **18 54 04.9 +0.5**
MORC *e*S **S** **19 03 50.5 -0.7**
MORC Moravsky Berou **77.17 328** P **P** **18 54 05.0 +0.7**
DPC Dobruska-Polom **77.17 329** *e*P **P** **18 54 05.3 +0.9**
DPC *e*S **S** **19 03 50.8 -0.4**
DPC AMS AMS 19 31 00.0
comp=Z,8µm,18.2s
DPC Dobruska-Polom **77.17 329** *e*P **P** **18 54 05.3 +0.9**
DPC *e*S **S** **19 03 50.8 -0.4**
DPC MLR MLR
comp=Z,8µm,18.2s
DPC Dobruska-Polom **77.17 329** P **P** **18 54 04.9 +0.5**
comp=Z,134nm,1.8s,comp=Z,3µm
SDCO Great Sand Dun **77.18 50** P **P** **18 54 05.9 +0.9**
baz=314
SDCO S **S** **19 03 53.6 +1.2**
baz=314
KRLC Kraliky **77.22 329** *e*P **P** **18 54 05.4 +0.8**
KRLC AMS AMS 19 31 30.0
comp=Z,8µm,17.8s
KRLC Kraliky **77.22 329** *e*P **P** **18 54 05.4 +0.8**
KRLC MLR MLR
comp=Z,8µm,17.8s
BR131 Keskin Array S **77.29 313** IAmb IAmb 18 54 07.5
comp=Z,253nm,1.9s
BR131 Keskin Array S **77.29 313** P **P** **18 54 05.9 +0.5**
SNR=54
BR131 P **P** **18 54 05.9 +0.5**
SNR=54
BR131 Keskin Array S **77.29 313** *c i*P **P** **18 54 05.0 -0.4**
BRTR Keskin Array B **77.29 313** P **P** **18 54 05.5 +0.1**
BRTR Keskin Array B **77.29 313** P **P** **18 54 05.7 +0.3**
comp=Z,15nm,0.7s,baz=82,slow=3.1,SNR=94
BRTR LR LR 19 34 33.0
comp=Z,5µm,18.2s,baz=51,slow=41
comp=Z,15nm,0.7s
BRTR Keskin Array B **77.29 313** *i* P **P** **18 54 05.6 +0.2**
BRTR pmax pmax
comp=Z,15nm,0.7s
BR106 Keskin Array S **77.30 313** P **P** **18 54 06.0 +0.6**
comp=Z,32nm,1.2s,comp=Z,335nm
MARR Marisel-Cluj **77.30 323** ⇑ P **P** **18 54 05.7 +0.4**
BR105 Keskin Array S **77.31 313** P **P** **18 54 06.2 +0.7**
comp=Z,37nm,1.2s,comp=Z,385nm
KPL Plockton **77.34 344** ⇑ *e*P **P** **18 54 05.4 +0.3**
KPL IAmb IAmb 18 54 06.6
comp=Z,337nm,1.7s
MAUC Maruska **77.39 328** *e*P **P** **18 54 06.5 +0.9**
VOIR **77.39 322** ⇑ P **P** **18 54 06.5 +0.7**
VOIR **77.39 322** P **P** **18 54 06.4 +0.7**
VOIR **77.39 322** P **P** **18 54 07.0 +1.3**
comp=Z,95nm,1.4s,comp=Z,2µm
DRGR **77.39 324** ⇑ P **P** **18 54 06.5 +0.8**
DRGR **77.39 324** P **P** **18 54 06.2 +0.5**
DRGR **77.39 324** P **P** **18 54 06.5 +0.8**
SULR **77.40 320** ⇑ P **P** **18 54 06.4 +0.7**
KAMT Kaman **77.50 312** P **P** **18 54 06.9 +0.4**
ECSD EROS Data Cent **77.53 41** P **P** **18 54 06.4 -0.1**
baz=318,SNR=15
ECSD S **S** **19 03 53.4 -1.9**
baz=318
BORR Bors **77.56 324** ⇓ P **P** **18 54 08.3 +1.7**
CLL Collm **77.58 332** ⇑ *i*P **P** **18 54 06.4 -0.1**
comp=Z,225nm,1.5s
CLL *e*Pmax 18 54 09.0
CLL *i* pP **pP** **18 54 16.0 -0.6**
CLL *i* x x 18 54 24.3
CLL *e*PP **PP** **18 57 01.0 0.0**
CLL *e*PPP PPP 18 58 48.0
CLL *e*S **S** **19 03 53.0 -2.6**
CLL *e*PPS PPS 19 04 54.0
CLL *e*SS **SS** **19 09 00.0 +6.0**
CLL *e*(SSS) 19 12 54.0
CLL AMS AMS 19 32 00.0
CLL Collm **77.58 332** ⇑ *i*P **P** **18 54 06.4 -0.1**
CLL *i* 18 54 16.0
CLL *e*S **S** **19 03 53.0 -2.6**
CLL pmax pmax
comp=Z,225nm,1.5s
CLL MLR MLR
comp=Z,8µm,17.7s
CLL Collm **77.58 332** P **P** **18 54 06.5 -0.1**
BRG Berggiesshubel **77.61 331** ⇑ *i*P **P** **18 54 06.9 +0.1**
BRG Amp 18 54 08.6
comp=Z,43nm,1.1s
BRG Berggiesshubel **77.61 331** Amp 18 54 18.7
comp=Z,44nm,1.2s
BRG Berggiesshubel **77.61 331** Amp 18 54 29.8
comp=Z,33nm,1.1s
BRG Berggiesshubel **77.61 331** S **S** **19 03 57.0 +1.1**
BRG Amp 19 31 56.0
comp=E,4.0nm,18.0s
BRG Amp 19 32 00.0
comp=Z,9.2nm,18.4s
BRG Amp 19 32 05.0
comp=N,4.8nm,18.9s
BRG Berggiesshubel **77.61 331** P P 18 54 16.3 +10
BRG Berggiesshubel **77.61 331** P P 18 54 29.4 +23
ARR Arges **77.63 322** ⇑ P **P** **18 54 08.8 +1.7**
ANTO Ankara **77.64 313** ⇑ P **P** **18 54 08.2 +1.0**
ANTO Ankara **77.64 313** P **P** **18 54 07.9 +0.6**
ANTO IAmb IAmb 18 54 08.8
comp=Z,119nm,1.0s
ANTO Ankara **77.64 313** P **P** **18 54 07.9 +0.6**
ANTO pmax pmax
comp=Z,119nm,1.0s
ANTO Ankara **77.64 313** P **P** **18 54 08.0 +0.8**
comp=Z,85nm,1.4s,comp=Z,1µm
BLDU Ballidu **77.66 205** P **P** **18 54 06.9 -0.2**
PVCC Panska Ves **77.67 330** *e*P **P** **18 54 08.1 +1.0**
PVCC AMS AMS 19 31 50.0
comp=Z,12µm,17.1s
PVCC Panska Ves **77.67 330** *e*P **P** **18 54 08.1 +1.0**
PVCC MLR MLR
comp=Z,12µm,17.1s
BR231 Keskin MP Arra **77.67 313** IAmb IAmb 18 54 09.0
comp=Z,99nm,0.9s
VYHS Vyhne **77.68 327** *e*P **P** **18 54 07.9 +0.7**
VYHS Vyhne **77.68 327** *e*P **P** **18 54 07.9 +0.7**
VYHS pmax pmax
comp=Z,205nm,1.5s
PSZ Piszkesteto **77.71 326** ⇑ P **P** **18 54 08.4 +0.9**
PSZ Piszkesteto **77.71 326** P **P** **18 54 08.4 +0.9**
YAYX Yaylak **77.76 312** P **P** **18 54 08.3 +0.4**
TUC Tucson **77.79 57** P **P** **18 54 07.0 -1.2**

TUC IAmb IAmb 18 54 19.9
comp=Z,168nm,1.9s
TUC Tucson 77.79 57 P **P** **18 54 09.0 +0.7**
baz=313
TUC S **S** **19 04 00.9 +2.2**
baz=313
TUC Tucson 77.79 57 P **P** **18 54 07.0 -1.2**
TUC pmax pmax
comp=Z,168nm,2.0s
AFSR Afar-Bala (An 77.80 313 P **P** **18 54 08.7 +0.6**
CAN Canberra 77.80 177 P **P** **18 54 09.0 +1.2**
CAN Canberra 77.80 177 IAmb IAmb 18 54 22.8
comp=Z,86nm,1.2s
CNB Canberra Magne 77.81 177 P **P** **18 54 09.5 +1.6**
RICC Richard 77.83 331 *eP* **P** **18 54 09.2 +1.2**
RICC AMS AMS 19 32 10.0
comp=Z,12µm,17.1s
SHAO Shalim 77.85 283 P **P** **18 54 08.7 +0.1**
JAVC Velka Javorina 77.85 328⇑*iP* **P** **18 54 09.8 +1.6**
JAVC *eS* **S** **19 04 01.8 +3.0**
INVG IAmb IAmb 18 54 08.7
comp=Z,32nm,1.0s
KSCO Kaye Shedlock' 77.88 48 P **P** **18 54 09.1 +0.4**
baz=316,SNR=6.8
KSCO S **S** **19 03 56.9 -2.6**
baz=316
SERE Sereflikochisa 77.89 312 P **P** **18 54 09.1 +0.4**
AUUHS Ulladulla High 77.90 176 P **P** **18 54 10.3 +2.0**
LOT Lotru 77.96 322⇓*iP* **P** **18 54 09.5 +0.5**
PRD Provadia 77.98 319⇑*iP* **P** **18 54 09.6 +0.6**
CMRD Camardi-Nigde 78.01 311 P **P** **18 54 10.3 +0.9**
HSKC Hora Svate Kat 78.01 331 *eP* **P** **18 54 09.7 +0.6**
HSKC *eS* **S** **19 03 58.6 -1.8**
HSKC AMS AMS 19 32 00.0
comp=Z,8µm,17.1s
ESY Stoneypath 78.02 342⇑*eP* **P** **18 54 09.1 +0.2**
BSZH Besenyszg 78.04 325⇓*iP* **P** **18 54 10.8 +1.6**
CEYT Ceyhan 78.05 310 P **P** **18 54 10.8 +1.4**
MDUB Mudurnu 78.05 315 P **P** **18 54 10.1 +0.5**
GOPC GO Pecny, Ondr 78.09 330 *eP* **P** **18 54 10.3 +0.8**
GOPC GO Pecny, Ondr 78.09 330 *eP* **P** **18 54 10.3 +0.8**
PRA Prague 78.10 330 *eP* **P** **18 54 10.3 +0.8**
PRA AMS AMS 19 32 00.0
comp=Z,12µm,17.7s
PRA Prague 78.10 330 *eP* **P** **18 54 10.3 +0.8**
PRA MLR MLR
comp=Z,12µm,17.7s
KULU Kulu 78.12 313 P **P** **18 54 10.8 +0.8**
PRU Pruhonice 78.12 330 *eP* **P** **18 54 10.4 +0.8**
PRU *eS* **S** **19 04 00.8 -0.7**
PRU AMS AMS 19 32 00.0
comp=Z,11µm,17.3s
PRU Pruhonice 78.12 330 *eP* **P** **18 54 10.4 +0.8**
PRU *eS* **S** **19 04 00.8 -0.7**
PRU MLR MLR
comp=Z,11µm,17.3s
SPMN Marine on St. 78.18 38 P **P** **18 54 09.9 -0.1**
baz=320
SPMN S **S** **19 03 59.7 -2.5**
baz=320
KRUC Moravsky 78.19 329⇑*iP* **P** **18 54 10.7 +0.7**
KRUC *eS* **S** **19 04 03.3 +1.1**
T25A Trinidad 78.22 50 P **P** **18 54 11.3 +0.6**
baz=315,SNR=15
T25A S **S** **19 04 02.9 -0.5**
baz=315
SMOL Smolenice 78.23 328 *eP* **P** **18 54 10.8 +0.6**
SMOL pmax pmax
comp=Z,55nm,1.1s
TAHT Tahtakopru-Hat 78.24 309 P **P** **18 54 11.5 +1.0**
KLBR Kellerberrin 78.25 204 P **P** **18 54 10.4 0.0**
LAWE Loch Awe, Argy 78.30 344⇑*eP* **P** **18 54 10.5 +0.1**
LAWE IAmb IAmb 18 54 11.9
comp=Z,262nm,1.6s
COPA Copaceanca 78.30 321⇑*iP* **P** **18 54 10.6 0.0**
SAUV Serdivan-Sakar 78.31 315 P **P** **18 54 10.9 +0.1**
TREC Trest 78.34 329 AMS AMS 19 31 40.0
comp=Z,9µm,18.5s
SILT Sile 78.36 316 P **P** **18 54 11.6 +0.5**
MODS Modra-Piesok 78.40 328 *eP* **P** **18 54 12.3 +1.1**
MODS Modra-Piesok 78.40 328 *eP* **P** **18 54 12.3 +1.1**
MODS pmax pmax
comp=Z,395nm,1.5s
SRO Srobarova 78.44 327 *eP* **P** **18 54 12.8 +1.4**
SRO Srobarova 78.44 327 *eP* **P** **18 54 12.8 +1.4**
SRO pmax pmax
comp=Z,278nm,1.5s
GULT Gulveren 78.44 315 P **P** **18 54 12.3 +0.6**
GZR Gura Zlata 78.45 323⇑P **P** **18 54 12.1 +0.5**
GZR Gura Zlata 78.45 323 P **P** **18 54 12.0 +0.5**
SULT Sultanhani-AKS 78.45 312 P **P** **18 54 12.3 +0.5**
BGNE Belgrade 78.49 43 IAmb IAmb 18 54 29.7
comp=Z,85nm,0.8s
BGNE Belgrade 78.49 43 P **P** **18 54 11.2 -0.7**
baz=318
BGNE S **S** **19 04 02.1 -3.8**
baz=318
CHBY Cihanbeyli 78.52 312 P **P** **18 54 12.2 +0.1**
PGBU Glenifferbraes 78.52 343⇑*eP* **P** **18 54 12.1 +0.4**
PGBU IAmb IAmb 18 54 13.4
comp=Z,844nm,1.8s
DOK Doka 78.53 285 P **P** **18 54 13.0 +0.6**
SNR=15
DOK P **P** **18 54 13.0 +0.6**
SNR=15
D41A Chassel 78.58 34 IAmb IAmb 18 54 13.6
comp=Z,87nm,1.2s
ANMO Albuquerque 78.59 53 P **P** **18 54 13.1 +0.3**
ANMO Albuquerque 78.59 53 P **P** **18 54 14.0 +1.3**
baz=314
ANMO S **S** **19 04 08.5 +1.1**
baz=314
ANMO Albuquerque 78.59 53*ceP* **P** **18 54 13.8 +1.1**
ANMO pmax pmax
comp=Z,65nm,1.7s
ANMO MLR MLR
comp=Z,1µm,20.0s
HRT Hereke 78.59 316 P **P** **18 54 12.8 +0.4**
ZIMR 78.59 320⇑P **P** **18 54 13.2 +0.8**
ZIMR 78.59 320 P **P** **18 54 13.1 +0.8**
KLYT Kilyos 78.59 316 P **P** **18 54 12.7 +0.4**
SZH Strazhitsa 78.60 320⇑*iP* **P** **18 54 12.2 -0.2**
ZST Bratislava 78.61 328 *eP* **P** **18 54 13.2 +0.9**
ZST Bratislava 78.61 328 *eP* **P** **18 54 13.2 +0.9**
ZST pmax pmax
comp=Z,644nm,1.7s
SVRH Sivrihisar-ESK 78.63 314 P **P** **18 54 12.7 0.0**
SRCK Saricakaya, Es 78.67 315 P **P** **18 54 12.9 +0.1**
NKC Novy Kostel 78.67 331 AMS AMS 19 32 30.0
comp=Z,7µm,16.3s
EKA Eskdalemuir Ar 78.68 342 P **P** **18 54 12.8 +0.3**
comp=Z,7.1nm,0.4s,baz=26,slow=4.7,SNR=90
comp=Z,7.1nm,0.4s
ZVC Zvikov 78.70 330 *eP* **P** **18 54 13.8 +0.9**
ZVC AMS AMS 19 32 10.0
comp=Z,6µm,17.8s
ISK Istanbul-Kandi 78.72 316 P **P** **18 54 13.2 +0.1**
KAVV Kandilli-Istan 78.72 316 P **P** **18 54 13.4 +0.3**
VLAD Vladila 78.78 321⇓P **P** **18 54 13.9 +0.6**
BGKT Bogazkoy 78.78 317 P **P** **18 54 13.7 +0.3**
BZS Buzias 78.78 324⇑P **P** **18 54 13.7 +0.4**
BZS Buzias 78.78 324 P **P** **18 54 13.4 0.0**
BZS Buzias 78.78 324 P **P** **18 54 13.7 +0.4**
CTYL Yalikoy Yolu 78.81 317 P **P** **18 54 13.9 +0.4**
SRE Strehaia 78.82 322⇑P **P** **18 54 14.2 +0.6**
SRE Strehaia 78.82 322 P **P** **18 54 14.2 +0.6**
I37A Lemond, Waseca 78.83 39 IAmb IAmb 18 54 24.3
comp=Z,128nm,0.9s
ADVT Abdulvahap 78.84 315 P **P** **18 54 14.2 +0.5**
EDMD Edmundbyers 78.86 341 *eP* **P** **18 54 13.4 -0.3**
CTKS Kestanelik-??a 78.88 317 P **P** **18 54 14.3 +0.4**
AUSMG Snowy Mountain 78.88 177 P **P** **18 54 15.2 +1.4**
ELND Elena 78.90 319⇑P **P** **18 54 14.7 +0.6**
Y22D IRIS PASSCAL I 78.92 54 P **P** **18 54 15.3 +0.8**
baz=314
Y22D S **S** **19 04 13.0 +2.1**
baz=314
Y22F Passcal Instru 78.92 54 P **P** **18 54 15.8 +1.2**
baz=314
Y22F S **S** **19 04 13.6 +2.7**
baz=314
CIFT Cifteler, Eski 78.93 314 P **P** **18 54 14.3 -0.1**

SCHQ Schefferville 78.94 18 P **P** **18 54 14.2 +0.1**
comp=Z,19nm,0.8s,baz=348,slow=6.0,SNR=22
SCHQ LR LR 19 30 49.2
comp=Z,3µm,21.9s,baz=324,slow=37
comp=Z,19nm,0.8s
CAVI Cavuskoy 78.96 315 P **P** **18 54 14.9 +0.5**
L34A Svendsen Farm, 78.96 42 IAmb IAmb 18 54 24.1
comp=Z,58nm,0.8s
HERR Herculane 79.00 323⇑P **P** **18 54 14.6 0.0**
SLVT Silivri 79.03 317 P **P** **18 54 15.6 +0.8**
PHSR Pinarhisar 79.07 318 P **P** **18 54 15.8 +0.8**
LADK Ladik-KONYA 79.08 312 P **P** **18 54 15.4 +0.2**
MUN Mundaring 79.08 205 P **P** **18 54 14.4 -0.5**
NEWG New Galloway 79.11 343⇑*eP* **P** **18 54 14.7 -0.2**
NEWG IAmb IAmb 18 54 16.4
comp=Z,188nm,1.6s
GEMT Gemlik 79.12 316 P **P** **18 54 15.7 +0.4**
CKRC Cesky Krumlov 79.17 330 *eP* **P** **18 54 16.0 +0.5**
CKRC *eS* **S** **19 04 13.3 +0.5**
CKRC AMS AMS 19 32 20.0
comp=Z,8µm,18.3s
CKRC Cesky Krumlov 79.17 330 *eP* **P** **18 54 16.0 +0.5**
CKRC *eS* **S** **19 04 13.3 +0.5**
CKRC MLR MLR
comp=Z,8µm,18.3s
KHC Kasperske Hory 79.19 330 *eP* **P** **18 54 16.0 +0.5**
KHC *epP* **pP** **18 54 26.9 +1.3**
KHC *eS* **S** **19 04 09.9 -3.1**
KHC AMS AMS 19 32 30.0
comp=Z,13µm,18.1s
KHC Kasperske Hory 79.19 330*ceP* **P** **18 54 16.1 +0.5**
KHC pmax pmax
comp=Z,286nm,1.3s
KHC MLR MLR
comp=Z,25µm,18.0s
KHC Kasperske Hory 79.19 330 P **P** **18 54 15.8 +0.2**
ARMT Armutlu 79.19 316 P **P** **18 54 15.8 +0.1**
RBK Rabkut 79.21 284 P **P** **18 54 17.0 +0.8**
SNR=6.9
RBK P **P** **18 54 17.0 +0.8**
SNR=6.9
RAO Raoul Island 79.21 148 LR LR 19 22 49.2
comp=Z,3µm,22.0s,baz=350,slow=31
ARPS Mount Arapiles 79.24 183 P **P** **18 54 15.9 +0.2**
WHFO Wadi Hawf 79.24 284 P **P** **18 54 17.0 +0.6**
SNR=8.4
WHFO P **P** **18 54 17.0 +0.6**
SNR=8.4
KONT Konya--Tatoy 79.26 312 P **P** **18 54 16.3 +0.1**
MPLH Magyarpolny 79.27 327 P **P** **18 54 16.3 +0.3**
comp=Z,349nm,1.3s,comp=Z,6µm
EDRB Edirne 79.30 318 P **P** **18 54 16.9 +0.7**
CONA Conrad Observa 79.31 328 *i* pP **P** **18 54 17.3 +1.0**
comp=Z,21nm,0.9s,SNR=64
MDNY Mudanya-Bursa 79.33 316 P **P** **18 54 16.8 +0.4**
RONA Rosalia, Austr 79.33 328 *i* pP **P** **18 54 17.5 +1.2**
comp=Z,38nm,1.1s,SNR=58
CRLT Corlu 79.34 317 P **P** **18 54 17.8 +1.3**
KESW Keswick, Cumbr 79.35 342⇑*eP* **P** **18 54 16.6 +0.4**
KESW IAmb IAmb 18 54 18.1
comp=Z,640nm,1.6s
319A Douglas 79.36 57 IAmb IAmb 18 54 37.8
comp=Z,126nm,0.9s
GERES GERESS Array B 79.38 330 P **P** **18 54 16.4 -0.3**
GERES GERESS Array B 79.38 330 P **P** **18 54 16.8 +0.1**
comp=Z,7.3nm,0.7s,baz=35,slow=4.9,SNR=34
GERES LR LR 19 32 59.3
comp=Z,11µm,19.0s,baz=36,slow=38
comp=Z,7.3nm,0.7s
GERES GERESS Array B 79.38 330 P **P** **18 54 16.4 -0.3**
MDVR Moldovita 79.40 323⇑P **P** **18 54 16.8 0.0**
GAL1 Galloway 79.45 343⇑*eP* **P** **18 54 17.0 +0.2**
GAL1 IAmb IAmb 18 54 18.1
comp=Z,332nm,1.7s
VALD Valchedram 79.47 321 *i* P **P** **18 54 17.7 +0.6**
121A Cookes Peak, D 79.48 55 IAmb IAmb 18 56 45.5
comp=Z,158nm,1.1s
121A Cookes Peak, D 79.48 55 P **P** **18 54 19.1 +1.5**
baz=314,SNR=40
121A S **S** **19 04 19.3 +2.4**
baz=314
MILA Mila 79.53 177 P **P** **18 54 18.8 +1.5**
SILI Silifke-Mersin 79.53 310 P **P** **18 54 17.7 +0.1**
CLGH Cloghs, Cushen 79.54 344 *eP* **P** **18 54 17.3 0.0**
CLGH IAmb IAmb 18 54 18.9
comp=Z,490nm,1.8s
GRFO Grafenberg 79.56 332 P **P** **18 54 18.1 +0.6**
GRFO Grafenberg 79.56 332 P **P** **18 54 18.1 +0.6**
GRFO pmax pmax
comp=Z,544nm,1.9s
CBKS Cedar Bluff 79.58 46 P **P** **18 54 17.4 -0.5**
baz=317,SNR=5.6
CBKS S **S** **19 04 13.6 -3.9**
baz=317
MORH Mrgy, Hungar 79.58 326⇑P **P** **18 54 17.5 -0.2**
MORH Mrgy, Hungar 79.58 326 P **P** **18 54 17.1 -0.6**
comp=Z,64nm,1.8s,comp=Z,1µm
MPEP Malo Peshtene 79.58 321⇑*iP* **P** **18 54 18.7 +0.9**
HPK Haverah Park 79.58 341 *eP* **P** **18 54 17.9 +0.4**
HPK IAmb IAmb 18 54 19.2
comp=Z,533nm,1.7s
KEBE Keben-Mersin 79.59 310 P **P** **18 54 18.3 +0.3**
NWAO Narrogin (SRO) 79.65 204 P **P** **18 54 18.3 +0.3**
NWAO Narrogin (SRO) 79.65 204 P **P** **18 54 17.5 -0.5**
NWAO IAmb IAmb 18 54 32.7
comp=Z,197nm,1.4s
NWAO Narrogin (SRO) 79.65 204 P **P** **18 54 17.5 -0.5**
NWAO pmax pmax
comp=Z,197nm,1.4s
KCTX Karacabey (Bur 79.67 316 P **P** **18 54 18.9 +0.6**
IKL Isikli 79.76 310 P **P** **18 54 18.9 +0.1**
SHUT Suhut-Afyon 79.80 314 P **P** **18 54 19.8 +0.6**
MRMT Marmara Adasi 79.81 317 P **P** **18 54 19.5 +0.4**
EDC Edincik 79.86 317 P **P** **18 54 19.9 +0.6**
BLKB Belogradchik 79.87 322⇑P **P** **18 54 19.2 -0.1**
AKKU Akkuyu-Mersin 79.89 310 P **P** **18 54 19.5 -0.1**
UKOP Uzunkopru-Edir 79.89 318 P **P** **18 54 20.5 +1.1**
HDMB Hadim 79.90 311 P **P** **18 54 19.6 -0.3**
FRGS Fruska Gora 79.93 324⇑P **P** **18 54 20.0 +0.4**
FRGS Fruska Gora 79.93 324⇑*iP* **P** **18 54 19.6 -0.1**
FRGS Fruska Gora 79.93 324 P **P** **18 54 19.5 -0.1**
comp=Z,143nm,1.4s,comp=Z,3µm
SEYD Seydisehir-KON 79.94 312 P **P** **18 54 20.2 +0.2**
BERE Bereket-Mersin 79.94 311 P **P** **18 54 20.5 +0.6**
RKY Sarkoy-Tekirda 79.95 317 P **P** **18 54 20.5 +0.6**
ABTO Aybut 79.95 284 P **P** **18 54 21.0 +0.7**
SNR=17
ABTO P **P** **18 54 21.0 +0.7**
SNR=17
BRAT Ballarat 79.97 181 P **P** **18 54 20.8 +1.3**
TOO Toolangi 79.97 180 P **P** **18 54 21.4 +1.7**
IOMK Kirk Michael 79.98 343⇑*eP* **P** **18 54 19.6 -0.1**
IOMK IAmb IAmb 18 54 21.1
comp=Z,823nm,1.8s
MOA Molln 79.99 329 *eP* **P** **18 54 20.4 +0.4**
comp=Z,12nm,0.7s,SNR=32
EREN Erenkoy 79.99 309 P **P** **18 54 20.2 +0.1**
ARSA Arzberg 80.00 328 *i* pP **P** **18 54 20.7 +0.7**
comp=Z,4.8nm,0.5s,SNR=38
PGB Panagyurishte 80.03 320⇑*iP* **P** **18 54 20.4 +0.2**
PLD Plovdiv 80.03 320 P **P** **18 54 20.9 +0.7**
SUSR Susurluk-Balik 80.04 316 P **P** **18 54 20.6 +0.3**
WIM Isle of Man 80.11 343⇑*eP* **P** **18 54 20.4 0.0**
KRBG Karabiga-Canak 80.11 317 P **P** **18 54 21.4 +0.7**
LBWR Ladybower, Pea 80.12 341⇑*eP* **P** **18 54 20.7 +0.2**
LBWR IAmb IAmb 18 54 22.1
comp=Z,809nm,1.7s
KDZ Kurdzhali 80.14 319 P **P** **18 54 21.7 +0.9**
N35A Tabor 80.16 42 IAmb IAmb 18 54 41.6
comp=Z,76nm,0.8s
BOVS Bovan 80.30 322⇑P **P** **18 54 21.2 -0.5**
ERIK Erikli-Kesan 80.30 318 P **P** **18 54 22.4 +0.8**
ISP Isparta 80.35 313 P **P** **18 54 22.6 +0.5**
ISP pmax pmax
comp=Z,85nm,2.0s
BIOA Bad Ischl, Aus 80.36 329 *i* pP **P** **18 54 22.8 +0.8**
comp=Z,16nm,0.6s,SNR=52
KOGS Kog 80.37 327 *i* P **P** **18 54 21.7 -0.3**
KOGS *i* pP **pP** **18 54 32.1 +0.1**
KOGS *eS* **S** **19 04 23.5 -2.0**
BALB Balikesir 80.38 316 P **P** **18 54 22.5 +0.4**
RZN Rozhen 80.39 319⇑*iP* **P** **18 54 23.4 +1.0**
VTS Vitosha 80.39 321⇑*iP* **P** **18 54 23.4 +1.1**
LPK Lapseki 80.40 317 P **P** **18 54 22.9 +0.7**

RDO Rodhopi 80.42 318 P **P** **18 54 23.1 +0.8**
BEBN Eben Emael 80.42 335 *dP* **P** **18 54 22.2 +0.1**
ENEZ Enez 80.43 318 P **P** **18 54 23.0 +0.7**
BTNL Ternell 80.47 335 *dP* **P** **18 54 22.3 -0.1**
MEM Membach 80.49 335 *dP* **P** **18 54 22.2 -0.3**
STNC Stoke 80.52 341⇑*eP* **P** **18 54 22.6 0.0**
STNC IAmb IAmb 18 54 24.4
comp=Z,217nm,1.6s
GELI Tayfur-Gelibol 80.52 317 P **P** **18 54 23.3 +0.4**
CANM Can-anakkale 80.52 317 P **P** **18 54 24.8 +1.9**
LFK Lefkose 80.53 310 P **P** **18 54 23.3 +0.2**
TEKS Tekeris 80.54 324⇑*iP* **P** **18 54 22.4 -0.5**
SCIA State Center 80.54 40 IAmb IAmb 18 54 33.4
comp=Z,77nm,0.9s
SCIA State Center 80.54 40 P **P** **18 54 23.3 +0.3**
baz=320
SCIA S **S** **19 04 25.3 -2.2**
baz=320
KALN Kalnik 80.55 327 *i* P **P** **18 54 22.7 -0.3**
BCK Bucak 80.58 313 P **P** **18 54 22.6 -0.7**
ELMS Elmsett, Ipswi 80.61 339 *eP* **P** **18 54 23.5 +0.3**
BSTI Sart Tilman 80.64 335 *dP* **P** **18 54 23.2 -0.2**
SOKA Soboth 80.66 328 *i* pP **P** **18 54 24.3 +0.6**
comp=Z,29nm,0.9s,SNR=101
LOBO Lobor 80.68 327 *i* P **P** **18 54 23.2 -0.4**
BHOU Houvegnez 80.71 335 *dP* **P** **18 54 23.6 -0.1**
WME Myndd Eilian 80.72 342⇑*eP* **P** **18 54 23.9 +0.2**
COMU Canakkale 80.75 317 P **P** **18 54 24.6 +0.5**
WPS Cemaes, Angles 80.77 342⇑*eP* **P** **18 54 23.7 -0.2**
WPS IAmb IAmb 18 54 25.3
comp=Z,579nm,2.7s
GORD Gordes-Manisa 80.78 315 P **P** **18 54 24.9 +0.5**
KULA Kula-Manisa 80.82 315 P **P** **18 54 24.7 +0.1**
WLF1 Llynfaes 80.85 342⇑*eP* **P** **18 54 24.3 0.0**
WLF1 IAmb IAmb 18 54 25.9
comp=Z,189nm,1.3s
BCLA Clavier 80.87 335 *dP* **P** **18 54 23.8 -0.8**
CSS Mathiatis 80.88 310 P **P** **18 54 25.1 +0.2**
CSS Mathiatis 80.88 310 IAmb IAmb 18 54 26.0
comp=Z,90nm,1.0s
CSS Mathiatis 80.88 310 P **P** **18 54 25.1 +0.2**
comp=Z,123nm,2.0s,comp=Z,2µm
YLL Llanberis 80.93 342⇑*eP* **P** **18 54 24.9 +0.1**
FOEL Foel Wylfa 80.94 341⇑*eP* **P** **18 54 25.3 +0.4**
FOEL IAmb IAmb 18 54 26.6
comp=Z,803nm,1.9s
LESA Schwarzleotal 80.94 330 *ep*P **P** **18 54 25.8 +0.7**
comp=Z,19nm,0.6s
BGES Gesves 80.97 336 *dP* **P** **18 54 24.2 -0.8**
GADA Gvkgeada 80.97 318 P **P** **18 54 25.2 0.0**
KBA Koelnbreinsper 80.98 329 *ep*P **P** **18 54 26.1 +0.6**
comp=Z,26nm,0.6s,SNR=49
OBKA Obir 80.99 328 *i* P **P** **18 54 25.5 +0.1**
comp=Z,12nm,0.6s,SNR=25
OBKA Obir 80.99 328⇑*iP* **P** **18 54 25.3 -0.1**
KSU1 Kansas State U 81.00 44 P **P** **18 54 24.8 -0.7**
baz=319
LEF Lefka 81.01 310 P **P** **18 54 25.3 -0.3**
EZN Ezine 81.03 317 P **P** **18 54 25.8 +0.2**
KKB Tepnik 81.04 320⇑*iP* **P** **18 54 26.4 +0.7**
STU Stuttgart 81.04 332 IAmb IAmb 18 54 27.3
comp=Z,311nm,1.9s
MMAI Mount Meron Ar 81.08 307 P **P** **18 54 27.1 +1.0**
comp=Z,55nm,0.7s,baz=46,slow=6.0,SNR=86
MMAI LR LR 19 34 37.4
comp=Z,3µm,18.9s,baz=342,slow=39
comp=Z,55nm,0.7s
LLW Llanuwchllyn 81.09 342 *eP* **P** **18 54 26.1 +0.5**
RCHB Techefort 81.12 335 *dP* **P** **18 54 25.6 -0.3**
comp=Z,21nm,1.5s
JFWS Jewell Farm 81.13 38 P **P** **18 54 25.5 -0.6**
baz=322
BBLS Lazi&#263i 81.13 324⇑*iP* **P** **18 54 26.5 +0.3**
BMRD Maredsous 81.14 336 *dP* **P** **18 54 25.5 -0.5**
HAPS Han Pijesak,Bl 81.16 324⇑*iP* **P** **18 54 26.9 +0.5**
CRES Cresnjev 81.20 327 *i* P **P** **18 54 26.3 -0.2**
CRES *eS* **S** **19 04 31.8 -2.3**
CRES Cresnjev 81.20 327⇑*iP* **P** **18 54 26.2 -0.2**
HLM1 Long Mynd 81.21 341⇑*eP* **P** **18 54 26.5 +0.2**
RAR Rarotonga 81.22 130 LR LR 19 24 16.9
comp=Z,2µm,20.8s,baz=318,slow=31
MYKA Terra Mystica 81.24 329 *i* P **P** **18 54 26.5 -0.2**
comp=Z,9.3nm,0.5s,SNR=25
APMY Acipayam-Deniz 81.26 314 P **P** **18 54 27.2 +0.2**
WLF Walferdange 81.27 335 IAmb IAmb 18 54 28.9
comp=Z,117nm,1.5s
WLF Walferdange 81.27 335 *dP* **P** **18 54 26.8 +0.1**
WLF Walferdange 81.27 335 P **P** **18 54 26.5 -0.2**
A051A Mrakovica 81.27 326⇑*iP* **P** **18 54 26.6 -0.3**
GIVF Givet 81.30 336 *eP* **P** **18 54 25.8 -1.0**
ODEM Odemis-Izmir 81.30 315 P **P** **18 54 27.5 +0.3**
DKL Dikili 81.31 316 P **P** **18 54 27.1 0.0**
DSB Dublin 81.32 343 P **P** **18 54 26.2 -0.7**
RUDO Rudo 81.35 324⇑*iP* **P** **18 54 27.1 -0.2**
SJES Sjenica 81.37 323⇑*iP* **P** **18 54 27.8 +0.3**
DOU Dourbes 81.37 336 *dP* **P** **18 54 26.3 -0.9**
BLY Banja Luka 81.37 326⇑*iP* **P** **18 54 26.8 -0.5**
AMTX Amarillo 81.38 50 P **P** **18 54 28.1 +0.4**
baz=317
LJU Ljubljana 81.38 328 *i* P **P** **18 54 27.1 -0.3**
N38A Joes South For 81.39 41 IAmb IAmb 18 54 44.0
comp=Z,59nm,0.8s
MSTX Muleshoe 81.42 51 P **P** **18 54 27.9 -0.1**
baz=316,SNR=7.8
WATA Walderalm 81.42 330 *i* pP **P** **18 54 28.2 +0.4**
comp=Z,22nm,0.6s,SNR=47
WTTA Wattenberg 81.46 330 *i* pP **P** **18 54 28.3 +0.3**
comp=Z,20nm,0.6s,SNR=39
ELL Elmali 81.47 313 P **P** **18 54 27.9 -0.3**
MMLI Mount Malkishu 81.48 307 P **P** **18 54 29.2 +1.0**
MNTX Cornudas Mount 81.51 54 P **P** **18 54 29.1 +0.8**
baz=315,SNR=52
BOJS Bojanci 81.54 327⇑*iP* **P** **18 54 28.1 -0.1**
PLE Pljevlja 81.57 323⇑*iP* **P** **18 54 29.4 +0.8**
ABTA Abfaltersbach 81.57 329 *i* P **P** **18 54 28.0 -0.5**
comp=Z,7.8nm,0.6s,SNR=17
MOTA Moosalm 81.59 331 *i* pP **P** **18 54 28.9 +0.3**
comp=Z,29nm,0.7s,SNR=48
RETA Reutte 81.59 331 *i* P **P** **18 54 28.9 +0.3**
comp=Z,13nm,0.8s,SNR=36
AYDB Zeytinkoy-Aydi 81.65 315 P **P** **18 54 29.4 +0.3**
CAME Cameli-Denizli 81.65 313 P **P** **18 54 28.5 -0.6**
SQTA Sankt Quirin 81.65 330 *i* pP **P** **18 54 29.4 +0.5**
comp=Z,23nm,0.7s,SNR=34
CEY Cerknica 81.68 328⇑*iP* **P** **18 54 28.5 -0.5**
MGRS Mrkonjic Grad 81.68 325⇑*iP* **P** **18 54 29.8 +0.8**
KAN08 Anthony NE Sta 81.69 46 IAmb IAmb 18 54 39.1
comp=Z,67nm,1.0s
VAY Valandovo 81.71 320 *i* P **P** **18 54 29.7 +0.5**
IVA Berane 81.71 323⇑*iP* **P** **18 54 29.5 +0.2**
BFO Black Forest 81.72 333 P **P** **18 54 28.8 -0.3**
BFO IAmb IAmb 18 54 30.9
comp=Z,165nm,1.6s
BFO Black Forest 81.72 333 P **P** **18 54 28.8 -0.3**
BFO pmax pmax
comp=Z,165nm,1.6s
MCH1 Michaelchurch 81.72 341⇑*eP* **P** **18 54 29.2 +0.2**
MCH1 IAmb IAmb 18 54 30.4
comp=Z,83nm,1.1s
SKO Skopje 81.72 321 *i* P **P** **18 54 30.1 +0.8**
BLCB Balcova 81.76 316 P **P** **18 54 29.5 0.0**
U32A Winter Ranch, 81.77 47 IAmb IAmb 18 54 40.1
comp=Z,78nm,0.8s
ELIS Ellis County 81.77 48 IAmb IAmb 18 54 58.5
comp=Z,62nm,0.9s
SABO M.te Sabotino 81.80 328 IAmb IAmb 18 54 30.3
comp=Z,121nm,1.5s
MONM Monmouth 81.81 341⇑*eP* **P** **18 54 29.6 +0.1**
MONM IAmb IAmb 18 54 31.2
comp=Z,1µm,2.5s
KAN05 Bluff City Nor 81.83 46 IAmb IAmb 18 54 40.7
comp=Z,179nm,1.5s
KAN01 Argonia South 81.86 46 IAmb IAmb 18 54 31.4
comp=Z,244nm,1.7s
A050A Klekovaca 81.86 326⇑*iP* **P** **18 54 30.0 0.0**
UPM Unac-Piva 81.88 324⇑*iP* **P** **18 54 29.8 -0.5**
UPM Unac-Piva 81.88 324⇑*iP* **P** **18 54 29.9 -0.4**
KAN14 Manchester OK 81.89 46 IAmb IAmb 18 54 31.6
comp=Z,217nm,1.9s
KOME Kolasin 81.90 323⇑*iP* **P** **18 54 30.3 0.0**
WOL Wolverton 81.90 340 *eP* **P** **18 54 29.8 -0.2**
VLDQ Val d'Or 81.91 27 IAmb IAmb 18 54 30.2
comp=Z,116nm,1.3s
SRKY Kupres RS 81.93 325⇑*iP* **P** **18 54 30.6 +0.2**

CIMO **Cimolais** 81.97 329 lAmb lAmb 18 54 56.2
comp=Z,26nm,1.0s
FETY **Fethiye** 82.00 313 P **P** 18 54 30.7 -0.1
FETA **Feichten** 82.00 331 *i* pP **P** 18 54 31.3 +0.5
comp=Z,10nm,0.8s,SNR=27
GLMI **Grayling** 82.01 33 P **P** 18 54 30.2 -0.6
baz=325
SMWD **Samnorwood** 82.02 49 lAmb lAmb 18 54 49.8
comp=Z,28nm,0.9s
DAVA **Damuels** 82.07 331 *i* P **P** 18 54 31.4 +0.2
comp=Z,17nm,0.7s,SNR=26
DALY **Dalyan (Mula)** 82.09 314 P **P** 18 54 31.7 +0.5
P38A **Dawn** 82.14 42 lAmb lAmb 18 54 41.8
comp=Z,77nm,0.9s
NEVS **Nevesinje** 82.15 324 *e*P **P** 18 54 31.4 -0.2
RSBS **Rosebush, Pemb** 82.17 342⇑ *e*P **P** 18 54 31.5 +0.1
RSBS lAmb lAmb 18 54 33.0
comp=Z,310nm,1.7s
MLSB **Milas** 82.19 315 P **P** 18 54 32.6 +0.7
ECH **Echery** 82.21 333 lAmb lAmb 18 54 33.2
comp=Z,215nm,1.9s
NKME **Niksic** 82.21 323⇑ *i*P **P** 18 54 31.6 -0.3
CROK **Carrier** 82.22 47 lAmb lAmb 18 54 42.3
comp=Z,91nm,0.9s
BRY **Bratogost** 82.28 324⇑ *i*P **P** 18 54 31.8 -0.6
BRY **Bratogost** 82.28 324⇑ *i*P **P** 18 54 31.7 -0.6
KIJV **Kijevo** 82.30 326 *i* P **P** 18 54 32.1 -0.2
PDG **Podgorica** 82.35 323 ⇓P **P** 18 54 32.5 0.0
PDG **Podgorica** 82.35 323 ⇓P **P** 18 54 32.5 0.0
PDG **Podgorica** 82.35 323⇑ *i*P **P** 18 54 32.3 -0.2
PDG **Podgorica** 82.35 323⇑ *i*P **P** 18 54 32.5 0.0
SMRN **Sveta Marina** 82.37 327 *i* P **P** 18 54 31.3 -1.2
CEME **Cevo** 82.40 323⇑ *i*P **P** 18 54 32.4 -0.5
BLOK **Blackwell** 82.44 46 lAmb lAmb 18 54 43.4
comp=Z,59nm,1.0s
FUORN **Ofenpass-Fuorn** 82.51 331 lAmb lAmb 18 54 37.3
comp=Z,258nm,1.9s
DAVOX **Davos/Dischmat** 82.51 331 LR LR 19 35 15.9
comp=Z,7µm,18.2s,baz=25,slow=39
TREB **Trebinje** 82.52 324 *e*P **P** 18 54 31.9 -1.5
DRME **Dracevica, Mon** 82.57 323⇑ *i*P **P** 18 54 33.7 0.0
DRME **Dracevica, Mon** 82.57 323⇑ *i*P **P** 18 54 33.8 0.0
N41A **Harden Midland** 82.59 40 lAmb lAmb 18 54 35.1
comp=Z,205nm,1.6s
BUM **Brajici-Budva** 82.61 323⇑ *i*P **P** 18 54 33.7 -0.3
BODT **Bodrum** 82.61 315 P **P** 18 54 34.1 +0.1
MAKA **Makarska** 82.63 325 *i* P **P** 18 54 32.8 -1.1
DBRK **Dubrovnik** 82.64 324 *i* P **P** 18 54 32.7 -1.4
STON **Ston** 82.67 324 *i* P **P** 18 54 32.9 -1.3
STON **Ston** 82.67 324⇑ *i*P **P** 18 54 32.6 -1.6
DKNS **Dickens** 82.69 50 lAmb lAmb 18 54 53.1
comp=Z,52nm,0.8s
OHR **Ohrid** 82.70 321 *i* P **P** 18 54 34.9 +0.5
DGAR **Diego Garcia** 82.70 253 *ce*P **P** 18 54 35.9 +1.2
DGAR pmax pmax
comp=Z,182nm,1.7s
MORI **Morici** 82.70 326 *i* P **P** 18 54 33.6 -0.7
ULC **Ulcinj** 82.72 323⇑ *i*P **P** 18 54 34.4 -0.1
DAT **Datca** 82.73 314 P **P** 18 54 34.2 -0.5
L44A **Lake County Fo** 82.76 37 P **P** 18 54 33.8 -0.9
baz=323
POST **Post** 82.80 51 lAmb lAmb 18 54 45.8
comp=Z,68nm,0.9s
ARG **Arkhangelos** 82.82 314 P **P** 18 54 35.3 +0.2
OK048 **Pawnee Station** 82.84 46 lAmb lAmb 18 54 53.6
comp=Z,68nm,0.9s
DUGI **Dugi Otok** 82.87 326 *i* P **P** 18 54 34.3 -0.9
ODSA **Odessa** 82.89 52 lAmb lAmb 18 54 51.1
comp=Z,96nm,0.9s
TIR **Tirane** 82.94 322 ⇑P **P** 18 54 35.8 +0.2
TIR **Tirane** 82.94 322 P **P** 18 54 35.8 +0.2
TIR **Tirane** 82.94 322 P **P** 18 54 35.8 +0.2
TIR **Tirane** 82.94 322 P **P** 18 54 35.9 +0.2
comp=Z,197nm,1.7s,comp=Z,4µm
P40A **Paris** 82.94 41 lAmb lAmb 18 54 46.0
comp=Z,101nm,1.1s
HVAR **Hvar** 82.96 325 *i* P **P** 18 54 34.6 -1.1
TUE **Stuetta** 82.96 331 lAmb lAmb 18 54 39.3
comp=Z,230nm,1.9s
TUE **Stuetta** 82.96 331 P **P** 18 54 36.0 +0.1
comp=Z,203nm,1.9s,comp=Z,6µm
HTL **Hartland** 83.00 341⇑ *e*P **P** 18 54 36.2 +0.5
HTL lAmb lAmb 18 54 37.6
comp=Z,235nm,1.4s
OK029 **Liberty Lake** 83.03 47 lAmb lAmb 18 54 46.8
comp=Z,87nm,0.9s
LSTV **Lastovo** 83.10 325 *i* P **P** 18 54 34.6 -1.8
WMOK **Wichita Mounta** 83.10 48 P **P** 18 54 36.9 +0.3
baz=318,SNR=24
OK033 **Mehan** 83.12 46 lAmb lAmb 18 54 51.9
comp=Z,72nm,0.9s
QUOK **Quay** 83.15 46 lAmb lAmb 18 54 52.0
comp=Z,58nm,0.9s
J47A **Sunmer** 83.23 34 lAmb lAmb 18 54 47.7
comp=Z,125nm,1.1s
OK052 **Battle Ridge R** 83.23 46 lAmb lAmb 18 54 55.6
comp=Z,65nm,0.9s
OK031 **S. Brethren Rd** 83.25 46 lAmb lAmb 18 54 55.7
comp=Z,71nm,1.0s
MNHN **Monahans** 83.33 53 lAmb lAmb 18 54 53.3
comp=Z,60nm,0.9s
VAL **Valentia** 83.33 345 P **P** 18 54 36.9 -0.5
M44A **Midewin, Midew** 83.34 38 lAmb lAmb 18 54 47.7
comp=Z,96nm,0.9s
APMT **Aspermont** 83.40 50 lAmb lAmb 18 54 49.4
comp=Z,114nm,1.4s
HRFI **Mount Harif** 83.42 305 P **P** 18 54 38.9 +0.6
HDIL **Hopedale** 83.43 39 P **P** 18 54 37.8 -0.4
baz=323,SNR=9.1
SBD **Saint Breward** 83.44 341⇑ *e*P **P** 18 54 38.0 0.0
DEOK **Depew** 83.51 46 lAmb lAmb 18 54 49.1
comp=Z,71nm,0.9s
APE **Apeiranthos** 83.53 316 P **P** 18 54 37.4 -1.4
APE **Apeiranthos** 83.53 316 *c*P **P** 18 54 37.2 -1.6
APE pmax pmax
comp=Z,160nm,2.0s
L46A **Eue Claire** 83.60 36 lAmb lAmb 18 54 49.1
comp=Z,118nm,1.0s
EIL **Elat** 83.74 305 P **P** 18 54 40.6 +0.7
EIL **Elat** 83.74 305 LR LR 19 36 22.9
comp=Z,2µm,18.5s,baz=61,slow=39
LPIG **La Paz** 83.74 63 LR LR 19 26 47.8
comp=Z,659nm,20.0s,baz=298,slow=32
S39A **Bolivar** 83.74 43 lAmb lAmb 18 54 49.4
comp=Z,55nm,0.9s
R40A **Maddies Statio** 83.80 42 lAmb lAmb 18 54 50.1
comp=Z,65nm,1.0s
KUZ **Kuaotunu** 83.83 156 P **P** 18 54 42.1 +2.2
TUL3 **Leonard** 83.83 46 lAmb lAmb 18 54 50.7
comp=Z,80nm,0.8s
TUL3 **Leonard** 83.83 46 P **P** 18 54 40.5 +0.1
baz=320,SNR=12
KARP **Karpathos** 83.84 314 P **P** 18 54 40.0 -0.5
KARP **Karpathos** 83.84 314 P **P** 18 54 39.9 -0.5
comp=Z,277nm,1.4s,comp=Z,4µm
CCA1 **Carnmenellis** 83.92 342⇑ *e*P **P** 18 54 40.2 -0.3
CCA1 lAmb lAmb 18 54 41.9
comp=Z,476nm,1.8s
RLO **Rose Lookout** 84.04 45 lAmb lAmb 18 54 51.6
comp=Z,58nm,0.8s
U38A **Gravette** 84.16 44 lAmb lAmb 18 54 52.1
comp=Z,60nm,1.0s
SADO **Sadowa** 84.18 30 LR LR 19 33 53.3
comp=Z,662nm,19.1s,baz=344,slow=37
ABTX **Abilene, Hawle** 84.19 50 lAmb lAmb 18 54 44.2
comp=Z,112nm,1.4s
ABTX **Abilene, Hawle** 84.19 50 P **P** 18 54 42.3 +0.1
baz=318,SNR=9.8
TX31 **Lajitas Ar. Si** 84.23 55 lAmb lAmb 18 54 58.7
comp=Z,41nm,0.8s
TXAR **Lajitas Array** 84.23 55 P **P** 18 54 42.3 -0.3
TXAR **Lajitas Array** 84.23 55 P **P** 18 54 42.8 +0.2
comp=Z,18nm,0.8s,baz=300,slow=3.4,SNR=131
TXAR PKKPbc **PKKPbc** 19 12 53.5 0.0
comp=Z,0.5nm,0.8s,baz=108,slow=4.1,SNR=5.0
comp=Z,18nm,0.8s
TXAR **Lajitas Array** 84.23 55 P **P** 18 54 42.3 -0.3
GUMA **Gualdo di Mace** 84.34 327 lAmb lAmb 18 55 01.2
comp=Z,122nm,1.2s
L48A **N Adams** 84.46 35 lAmb lAmb 18 54 53.7
comp=Z,59nm,0.9s
CCM **Cathedral Cave** 84.48 42 P **P** 18 54 43.1 -0.5
CCM lAmb lAmb 18 54 53.8
comp=Z,71nm,0.9s
CCM **Cathedral Cave** 84.48 42 P **P** 18 54 43.3 -0.3
baz=322
CCM **Cathedral Cave** 84.48 42 P **P** 18 54 43.1 -0.5
CCM pmax pmax
comp=Z,71nm,0.9s
AAM **Ann Arbor** 84.49 34 P **P** 18 54 43.4 -0.1
baz=326
HHAR **Hobbs** 84.51 44 lAmb lAmb 18 54 53.7
comp=Z,52nm,1.0s
TRQ **Mont Tremblant** 84.53 27 lAmb lAmb 18 54 44.7
comp=Z,113nm,1.3s
LOOK **Love County** 84.54 48 lAmb lAmb 18 54 59.5
comp=Z,85nm,0.9s
VLC **Villacollemand** 84.56 329 P **P** 18 54 43.4 -0.5
SFIN **Lafayette** 84.58 38 lAmb lAmb 18 54 45.4
comp=Z,177nm,1.8s
SFIN **Lafayette** 84.58 38 P **P** 18 54 44.0 0.0
baz=324
OZNA **Ozona** 84.59 52 lAmb lAmb 18 54 59.8
comp=Z,52nm,0.8s
PPT **Papete** 84.61 120 LR LR 19 26 43.5
comp=Z,4µm,20.0s,baz=296,slow=32
LMQ **La Malbaie** 84.66 23 lAmb lAmb 18 54 45.4
comp=Z,111nm,1.4s
ZKR **Zakros** 84.67 314 P **P** 18 54 44.6 0.0
AVF **Avril sur Loir** 84.69 335 *e*P **P** 18 54 43.7 -0.7
LPL **La Plagne** 84.70 332 *e*P **P** 18 54 44.4 -0.4
SAND **Sanderson** 84.71 54 lAmb lAmb 18 55 00.8
comp=Z,46nm,0.9s
HPIG 84.72 58 lAmb lAmb 18 55 01.8
comp=Z,77nm,1.1s
FW03 **Perrin-Whitt E** 84.76 49 lAmb lAmb 18 55 00.7
comp=Z,60nm,0.8s
OSSC **Osservatorio P** 84.77 328 lAmb lAmb 18 55 09.4
comp=Z,127nm,1.3s
N47A **Urbana** 84.79 36 lAmb lAmb 18 54 55.0
comp=Z,56nm,0.9s
PLPT **Palo Pinto** 84.79 49 lAmb lAmb 18 55 03.2
comp=Z,40nm,0.9s
MOO **Moorlands** 84.85 179 P **P** 18 54 46.4 +1.4
MATE **Matera** 84.91 323 ⇑P **P** 18 54 45.7 +0.1
MATE **Matera** 84.91 323 P **P** 18 54 45.5 -0.2
DELO **Deloro Mine** 84.95 29 lAmb lAmb 18 54 46.7
comp=Z,68nm,1.4s
INTR **Introdacqua** 84.98 326 lAmb lAmb 18 55 01.8
comp=Z,68nm,1.1s
X37A **Clayton** 85.06 46 lAmb lAmb 18 55 21.7
comp=Z,51nm,1.0s
FW06 **Azle** 85.10 49 lAmb lAmb 18 54 57.1
comp=Z,57nm,0.7s
BNI **Bardonecchia** 85.12 332 lAmb lAmb 18 54 59.6
comp=Z,88nm,1.5s
IDI **Anoyia** 85.23 315 P **P** 18 54 46.2 -1.3
IDI **Anoyia** 85.23 315 P **P** 18 54 45.8 -1.7
IDI **Anoyia** 85.23 315 LR LR 19 37 56.4
comp=Z,26nm,19.3s,baz=35,slow=39
ITM **Ithomi** 85.26 318 P **P** 18 54 46.7 -0.8
N49A **Columbus Grove** 85.41 35 lAmb lAmb 18 54 58.4
comp=Z,39nm,0.9s
OLIL **Olney** 85.44 39 lAmb lAmb 18 54 58.9
comp=Z,70nm,1.1s
MNTQ **Montreal, Queb** 85.47 26 lAmb lAmb 18 54 48.7
comp=Z,59nm,1.1s
ORIF **Oris-en-Rattie** 85.52 332 *e*P **P** 18 54 48.4 -0.4
O48B **Farmland** 85.53 36 P **P** 18 54 48.4 -0.5
baz=325
IMMV **Iera Moni Meta** 85.57 316 P **P** 18 54 47.9 -1.2
RODP **Rodopos** 85.61 316 P **P** 18 54 48.7 -0.6
FW13 **Cleburne** 85.63 49 lAmb lAmb 18 55 05.3
comp=Z,68nm,0.9s
SSB **Saint Sauveur** 85.65 333 lAmb lAmb 18 54 50.5
comp=Z,107nm,1.5s
URZ **Urewera** 85.65 156 LR LR 19 27 18.8
comp=Z,2µm,21.5s,baz=36,slow=32
JCT **Junction City** 85.68 52 P **P** 18 54 49.6 -0.2
baz=318,SNR=9.3
FCAR **Ozark Folk Cen** 85.74 43 lAmb lAmb 18 54 59.8
comp=Z,62nm,0.8s
CUC **Castrocucco** 85.84 324 lAmb lAmb 18 54 50.7
comp=Z,57nm,1.3s
CGM3 **Cape Girardeau** 85.85 41 lAmb lAmb 18 54 51.9
comp=Z,126nm,1.6s
PBMO **Poplar Bluff** 85.89 42 lAmb lAmb 18 55 01.1
comp=Z,95nm,0.9s
WHTX **Lake Whitney,** 85.89 49 lAmb lAmb 18 55 06.6
comp=Z,72nm,0.8s
WHTX **Lake Whitney,** 85.89 49 P **P** 18 54 51.0 +0.3
baz=319,SNR=11
KNDR **Palaiochora Ch** 85.90 316 P **P** 18 54 50.1 -0.6
LONY **Lake Ozonia** 85.93 27 lAmb lAmb 18 54 51.5
comp=Z,76nm,1.8s
LONY **Lake Ozonia** 85.93 27 P **P** 18 54 50.1 -0.6
baz=332
J55A **Hilton** 85.96 30 lAmb lAmb 18 55 03.0
comp=Z,36nm,0.9s
DRIO **Del Rio** 85.98 53 lAmb lAmb 18 55 07.5
comp=Z,88nm,1.0s
GVD **Gavdhos** 86.00 315 P **P** 18 54 49.8 -1.4
MIAR **Mount Ida** 86.04 45 lAmb lAmb 18 55 07.3
comp=Z,61nm,0.8s
MIAR **Mount Ida** 86.04 45 P **P** 18 54 51.8 +0.3
baz=321,SNR=30
P48A **Milroy** 86.07 37 lAmb lAmb 18 54 52.8
comp=Z,141nm,1.7s
TIP **Timpagrande** 86.09 323 ⇑P **P** 18 54 51.7 0.0
TIP **Timpagrande** 86.09 323 P **P** 18 54 51.7 0.0
comp=Z,95nm,1.8s,comp=Z,2µm
LCAR **Lake Charles** 86.09 43 lAmb lAmb 18 54 53.1
comp=Z,166nm,1.8s
BATG **Bathurst New B** 86.09 21 lAmb lAmb 18 54 53.0
comp=Z,96nm,1.2s
ERPA **Erie** 86.12 32 P **P** 18 54 51.6 -0.1
baz=328
PQI **Presque Isle** 86.12 22 lAmb lAmb 18 54 52.7
comp=Z,135nm,1.7s
F62A **Pittston Farm,** 86.26 24 lAmb lAmb 18 54 53.8
comp=Z,92nm,1.2s
Z38A **Mt. Pleasant** 86.28 47 lAmb lAmb 18 55 03.1
comp=Z,87nm,0.9s
P49A **Miami Univ. Ec** 86.32 37 P **P** 18 54 52.5 -0.2
baz=325,SNR=8.8
WVNY **West Valley, N** 86.41 31 lAmb lAmb 18 54 56.0
comp=Z,54nm,1.2s
M53A **WI Miller and** 86.42 33 P **P** 18 54 53.4 +0.2
baz=328,SNR=10
X40A **Basin Creek Fa** 86.47 45 lAmb lAmb 18 54 55.3
comp=Z,101nm,1.5s
ACSO **Alum Creek Sta** 86.49 35 lAmb lAmb 18 56 06.3
comp=Z,64nm,0.9s
ACSO **Alum Creek Sta** 86.49 35 P **P** 18 54 53.3 -0.2
baz=326
UALR **University of** 86.50 44 lAmb lAmb 18 55 04.0
comp=Z,115nm,1.6s
NCB **Newcomb** 86.62 27 lAmb lAmb 18 54 55.4
comp=Z,57nm,1.4s
WCI **Wyandotte Cave** 86.68 38 P **P** 18 54 53.9 -0.6
WCI **Wyandotte Cave** 86.68 38 P **P** 18 54 54.6 +0.1
baz=324
WCI **Wyandotte Cave** 86.68 38 P **P** 18 54 53.9 -0.6
WCI pmax pmax
comp=Z,245nm,1.9s
G62A **West of Eustis** 86.70 25 lAmb lAmb 18 54 55.6
comp=Z,78nm,1.3s
435B **Jarrell** 86.72 50 P **P** 18 54 54.8 -0.1
baz=319
F64A **Sherman** 86.76 23 lAmb lAmb 18 54 56.1
comp=Z,114nm,1.6s
J58A **Remsen** 86.79 28 lAmb lAmb 18 54 56.0
comp=Z,61nm,1.4s
VT1 **Waterbury** 86.79 26 lAmb lAmb 18 54 56.5
comp=Z,54nm,1.2s
PKME **Peaks-Kenny Pk** 87.03 24 lAmb lAmb 18 54 57.7
comp=Z,79nm,1.4s
PKME **Peaks-Kenny Pk** 87.03 24 P **P** 18 54 55.9 -0.2
baz=335
P51A **Williamsport** 87.08 35 lAmb lAmb 18 54 57.5
comp=Z,92nm,1.4s
H62A **Milan** 87.09 25 lAmb lAmb 18 54 58.2
comp=Z,109nm,1.2s
LBNH **Lisbon** 87.14 26 P **P** 18 54 56.6 0.0
baz=333
O53A **New Philadelph** 87.21 34 P **P** 18 54 56.7 -0.3
baz=328,SNR=8.6
CEL **Celeste** 87.23 323 lAmb lAmb 18 54 58.0
comp=Z,107nm,1.4s
CEL **Celeste** 87.23 323 P **P** 18 54 57.4 +0.2
comp=Z,61nm,2.1s,comp=Z,1µm
T47A **Sharon Grove** 87.31 40 lAmb lAmb 18 55 08.2
comp=Z,75nm,0.8s
ACCN **Adirondack Com** 87.33 27 lAmb lAmb 18 54 58.9
comp=Z,97nm,1.5s
P52A **Corning** 87.35 35 P **P** 18 54 57.3 -0.4
baz=327
HNH **Hanover** 87.50 26 lAmb lAmb 18 56 14.7
comp=Z,121nm,2.0s
833A **Chaparral WMA,** 87.52 53 P **P** 18 54 58.9 +0.2
baz=318
R50A **Paris** 87.52 37 lAmb lAmb 18 55 00.3
comp=Z,115nm,1.5s
BINY **Binghamton** 87.56 29 lAmb lAmb 18 55 01.6
comp=Z,112nm,1.8s
BINY **Binghamton** 87.56 29 P **P** 18 54 58.1 -0.6
baz=331
WVL **Waterville** 87.56 24 lAmb lAmb 18 55 14.2
comp=Z,87nm,1.4s
G65A **Princeton** 87.59 23 lAmb lAmb 18 55 00.3
comp=Z,66nm,1.4s
NATX **Nacogdoches** 87.61 48 P **P** 18 54 59.7 +0.6
baz=320
WVT **Waverly** 87.67 40 P **P** 18 54 58.7 -0.6
WVT lAmb lAmb 18 55 09.8
comp=Z,36nm,0.8s
WVT **Waverly** 87.67 40 P **P** 18 54 59.0 -0.3
baz=324
WVT **Waverly** 87.67 40 P **P** 18 54 58.7 -0.6
WVT pmax pmax
comp=Z,37nm,0.9s
J61A **Chester** 87.73 27 lAmb lAmb 18 55 00.6
comp=Z,63nm,1.4s
Q52A **Bidwell** 87.85 35 lAmb lAmb 18 55 01.5
comp=Z,138nm,1.6s
GGN **Saint George** 87.87 22 lAmb lAmb 18 55 00.8
comp=Z,47nm,1.1s
OXF **Oxford** 88.19 42 P **P** 18 55 01.7 -0.1
baz=323,SNR=7.7
KSPA **Keystone Colle** 88.20 30 lAmb lAmb 18 55 03.2
comp=Z,140nm,1.7s
SSPA **Standing Stone** 88.20 31 P **P** 18 55 00.9 -0.9
SSPA **Standing Stone** 88.20 31 P **P** 18 55 02.1 +0.3
baz=330
MCWV **Mont Chateau** 88.27 33 P **P** 18 55 02.5 +0.4
baz=328,SNR=6.3
U49A **Red Boiling Sp** 88.32 39 lAmb lAmb 18 55 12.9
comp=Z,70nm,0.8s
HKT **Hockley** 88.34 50 P **P** 18 55 01.2 -1.4
HKT lAmb lAmb 18 55 14.2
comp=Z,69nm,1.7s
HKT **Hockley** 88.34 50 P **P** 18 55 01.2 -1.4
HKT pmax pmax
comp=Z,69nm,1.7s
S51A **Beattyville** 88.38 37 lAmb lAmb 18 55 13.0
comp=Z,34nm,0.8s
CLTN **Cedars of Leba** 88.41 40 lAmb lAmb 18 55 13.4
comp=Z,37nm,0.8s
PLAL **Pickwick Lake** 88.47 41 lAmb lAmb 18 55 04.5
comp=Z,130nm,1.8s
L61B **Northampton** 88.49 27 P **P** 18 55 03.3 +0.2
baz=333
VAE **Valguarnera** 88.53 323 LR LR 19 38 50.8
comp=Z,5µm,20.2s,baz=42,slow=38
EJON **La Jonquera** 88.71 333 P **P** 18 55 03.8 -0.4
HRV **Adam Dziewonsk** 88.81 26 P **P** 18 55 04.9 +0.3
HRV lAmb lAmb 18 55 06.6
comp=Z,97nm,1.5s
HRV **Adam Dziewonsk** 88.81 26 P **P** 18 55 05.1 +0.5
baz=334
HRV **Adam Dziewonsk** 88.81 26 P **P** 18 55 04.9 +0.3
HRV pmax pmax
comp=Z,97nm,1.5s
HBVL **Hebbronville** 88.88 53 lAmb lAmb 18 55 22.0
comp=Z,41nm,0.9s
VSL **Villasalto** 88.94 328 lAmb lAmb 18 55 05.7
comp=Z,50nm,1.3s
JCZ **Jackson Bay** 88.96 163 P **P** 18 55 06.2 +1.2
GBN **Guysborough** 88.97 19 lAmb lAmb 18 55 07.5
comp=Z,88nm,1.3s
WES **Weston** 89.00 26 lAmb lAmb 18 55 06.4
comp=Z,80nm,1.2s
ODNJ **Ogdensburg** 89.03 29 lAmb lAmb 18 55 06.3
comp=Z,42nm,1.2s
Q56A **Snyder Ridge,** 89.06 33 lAmb lAmb 18 55 34.5
comp=Z,35nm,1.1s
BCX **Boston College** 89.09 26 lAmb lAmb 18 55 06.9
comp=Z,48nm,1.2s
TRNY **Table Rock, Ra** 89.11 29 lAmb lAmb 18 55 07.6
comp=Z,91nm,1.3s
RPZ **Rata Peaks** 89.12 162 LR LR 19 28 47.8
comp=Z,2µm,21.4s,baz=333,slow=31
P57A **Homestead Farm** 89.15 32 lAmb lAmb 18 55 07.1
comp=Z,57nm,1.4s
UCCT **U. Connecticut** 89.23 27 lAmb lAmb 18 55 08.3
comp=Z,61nm,1.2s
SWET **Sewanee** 89.31 40 lAmb lAmb 18 55 17.2
comp=Z,43nm,0.8s
TZTN **Tazewell** 89.31 37 lAmb lAmb 18 55 17.7
comp=Z,42nm,0.8s
TZTN **Tazewell** 89.31 37 P **P** 18 55 07.1 0.0
baz=326,SNR=7.8
PAL **Palisades** 89.35 29 P **P** 18 55 07.9 +0.7
baz=332,SNR=5.2
X48A **Hartselle** 89.40 41 lAmb lAmb 18 55 08.7
comp=Z,140nm,1.8s
BRNJ **Basking Ridge** 89.40 29 lAmb lAmb 18 55 20.5
comp=Z,77nm,0.9s
WSPT **Westport, CT** 89.41 28 lAmb lAmb 18 55 08.7
comp=Z,42nm,1.2s
VBMS **Vicksburg** 89.45 45 P **P** 18 55 08.7 +0.9
baz=322
CPNY **Central Park** 89.52 29 lAmb lAmb 18 55 09.0
comp=Z,63nm,1.2s
L64A **Middleborough** 89.56 26 lAmb lAmb 18 55 09.9
comp=Z,96nm,1.3s
W50A **Signal Mountai** 89.61 39 lAmb lAmb 18 55 18.8
comp=Z,41nm,0.9s
M63A **Gales Ferry** 89.64 27 lAmb lAmb 18 55 09.8
comp=Z,53nm,1.2s
CPCT **Cooper Cave** 89.77 39 lAmb lAmb 18 55 10.6
comp=Z,49nm,1.2s
V52A **Sevierville** 89.87 38 lAmb lAmb 18 55 11.4
comp=Z,127nm,1.4s
TKL **Tuckaleechee C** 89.94 38 lAmb lAmb 18 55 20.5
comp=Z,34nm,0.8s
TKL **Tuckaleechee C** 89.94 38 LR LR 19 37 51.5
comp=Z,1µm,19.9s,baz=335,slow=37
M65A **Busby, Falmout** 89.96 26 P **P** 18 55 10.3 +0.4
baz=334
FPAL **Fort Paine** 90.01 40 lAmb lAmb 18 55 11.8
comp=Z,98nm,1.7s
BLA **Blacksburg** 90.11 35 lAmb lAmb 18 55 21.4
comp=Z,47nm,1.1s
BLA **Blacksburg** 90.11 35 P **P** 18 55 10.8 -0.1
baz=328,SNR=5.7
Y49A **Blount Mountai** 90.19 41 lAmb lAmb 18 55 12.6
comp=Z,106nm,1.8s
W52A **Murphy** 90.34 38 lAmb lAmb 18 55 13.8
comp=Z,134nm,1.9s
V53A **Saluda** 90.36 37 lAmb lAmb 18 55 13.6
comp=Z,50nm,1.4s
CBN **Corbin Frederi** 90.50 32 P **P** 18 55 13.2 +0.6
baz=330
MAHO **Mahon** 90.51 331 P **P** 18 55 11.7 -0.9
LRAL **Lakeview Retre** 90.57 42 P **P** 18 55 12.9 -0.2
baz=324
BG3 **Lake Jocassee** 90.88 38 lAmb lAmb 18 55 16.2
comp=Z,67nm,1.2s
V55A **Taylorsville** 90.92 36 lAmb lAmb 18 58 48.7
comp=Z,56nm,0.8s
ETOS **Mallorca** 91.13 332 P **P** 18 55 15.3 -0.2
ATD **Arta Tunnel** 91.31 287 lAmb lAmb 18 55 19.7
comp=Z,84nm,1.4s
ATD **Arta Tunnel** 91.31 287 LR LR 19 42 13.6
comp=Z,137nm,19.2s,baz=44,slow=40
ATD **Arta Tunnel** 91.31 287 P **P** 18 55 18.4 +1.6
SNR=6.8
KMSC **Kings Mountain** 91.46 37 lAmb lAmb 18 55 18.4
comp=Z,51nm,1.3s
KMSC **Kings Mountain** 91.46 37 P **P** 18 55 16.7 -0.5
baz=328,SNR=5.2
T59A **Double "B" Far** 91.49 33 lAmb lAmb 18 55 19.0
comp=Z,86nm,1.6s
PAULI **Pauline** 91.52 37 lAmb lAmb 18 55 18.7
comp=Z,49nm,1.4s
HODGE **Hodges** 91.81 38 lAmb lAmb 18 55 20.4
comp=Z,56nm,1.4s
GOGA **Godfrey** 91.94 39 lAmb lAmb 18 55 21.1
comp=Z,56nm,1.6s
GOGA **Godfrey** 91.94 39 P **P** 18 55 19.3 -0.1

	baz=326							
ECAL	**Calabor**		**92.01**	**340**	P	**P**	**18 55 18.0**	**-1.6**
BRAL	**Brewton**		**92.05**	**43**	P	**P**	**18 55 20.3**	**+0.4**
	baz=324							
PBRG	**Braganca**		**92.14**	**340**	*e*P	**P**	**18 55 19.6**	**-0.6**
	comp=Z,49nm,1.9s							
PBRG	**Braganca**		**92.14**	**340**	*e*PP	**PP**	**18 59 00.8**	**+1.4**
KEST	**Kesra**		**92.18**	**326**	IAmb	IAmb	18 55 21.0	
	comp=Z,33nm,1.1s							
KEST	**Kesra**		**92.18**	**326**	P	**P**	**18 55 20.1**	**-0.4**
	comp=Z,18nm,0.9s,baz=327,slow=3.3,SNR=18							
	comp=Z,18nm,0.9s							
BIRD	**Birdtown, Kers**		**92.26**	**36**	IAmb	IAmb	18 55 22.3	
	comp=Z,44nm,1.3s							
EIBI	**Ibiza**		**92.30**	**333**	P	**P**	**18 55 19.9**	**-1.0**
PGAV	**Gavieira, Arco**		**92.37**	**341**	*e*PP	**PP**	**18 59 04.4**	**+3.1**
PGAV					*e*SKSac	S	19 06 09.2	-13
PGAV	**Gavieira, Arco**		**92.37**	**341**	*e*LQ	LQ	19 34 00.8	
PGAV					*e*LR	LR	19 35 59.0	
	comp=Z,1μm,18.0s							
ECHE	**Chera**		**92.54**	**335**	P	**P**	**18 55 20.6**	**-1.5**
UCM	**Universidad Co**		**92.57**	**337**	P	**P**	**18 55 21.7**	**-0.5**
POLO	**Lamas de Olo**		**92.81**	**340**	*e*P	**P**	**18 55 23.0**	**-0.4**
	comp=Z,32nm,1.6s							
MVO	**Moncorvo**		**92.82**	**340**	*e*P	**P**	**18 55 23.1**	**-0.3**
	comp=Z,50nm,1.6s							
MVO	**Moncorvo**		**92.82**	**340**	*e*PP	**PP**	**18 59 07.9**	**+3.2**
MVO					*e*SKSac	S	19 06 11.1	-15
MVO	**Moncorvo**		**92.82**	**340**	*e*LQ	LQ	19 31 38.3	
MVO					*e*LR	LR	19 37 52.1	
	comp=Z,2μm,18.0s							
CNNC	**Cliffs of the**		**92.85**	**34**	P	**P**	**18 55 23.8**	**+0.2**
	baz=330							
ESBB	**Sonseca Array**		**93.37**	**337**	IAmb	IAmb	18 55 28.4	
	comp=Z,94nm,2.0s							
ESDC	**Sonseca Array**		**93.37**	**337**	P	**P**	**18 55 25.2**	**-0.8**
ESDC	**Sonseca Array**		**93.37**	**337**	P	**P**	**18 55 25.1**	**-0.8**
	comp=Z,7.0nm,0.8s,baz=14,slow=3.9,SNR=38							
ESDC					LR	LR	19 42 42.1	
	comp=Z,885nm,18.2s,baz=22,slow=39							
	comp=Z,7.0nm,0.8s							
PVIS	**Viseu**		**93.46**	**340**	*e*P	**P**	**18 55 25.9**	**-0.4**
TIGA	**Tifton**		**93.52**	**40**	P	**P**	**18 55 27.2**	**+0.5**
	baz=326							
PAB	**San Pablo**		**93.60**	**337**	P	**P**	**18 55 26.7**	**-0.3**
PAB	**San Pablo**		**93.60**	**337**	P	**P**	**18 55 26.7**	**-0.3**
PAB					pmax	pmax		
	comp=Z,20nm,1.1s							
MTE	**Manteigas**		**93.67**	**340**	*e*PP	**PP**	**18 59 15.0**	**+3.6**
MTE					*e*SKSac	SKSac	19 06 15.2	+16
MTE	**Manteigas**		**93.67**	**340**	*e*LQ	LQ	19 32 26.3	
MTE					*e*LR	LR	19 35 20.3	
	comp=Z,3μm,16.0s							
TATN	**Tataouine**		**94.36**	**323**	IAmb	IAmb	18 55 54.4	
	comp=Z,48nm,1.4s							
PMRV	**Marv??o**		**94.54**	**339**⇑	*e*P	**P**	**18 55 31.5**	**+0.2**
	comp=Z,34nm,1.5s							
PMRV	**Marv??o**		**94.54**	**339**	*e*PP	**PP**	**18 59 21.3**	**+3.1**
PMRV					*e*SKSac	SKSac	19 06 19.1	+15
PMRV	**Marv??o**		**94.54**	**339**	*e*LR	LR	19 34 46.5	
	comp=Z,3μm,18.0s							
PESTR	**Estremoz**		**95.12**	**339**	*e*P	**P**	**18 55 33.2**	**-0.7**
	comp=Z,40nm,2.0s							
PESTR	**Estremoz**		**95.12**	**339**	IAmb	IAmb	18 55 34.5	
	comp=Z,60nm,1.6s							
PBAR	**Barrancos**		**95.62**	**339**	*e*P	**P**	**18 55 35.4**	**-0.8**
MESJ	**Messejana**		**96.25**	**339**	*e*P	**P**	**18 55 39.0**	**-0.1**
MESJ					*e*PP	**PP**	**18 59 32.8**	**+1.4**
MESJ					*e*SKSac	**SKSac**	**19 06 15.9**	**+2.5**
MESJ					IAMs_20	IAMs_20	19 45 53.9	
	comp=Z,3μm,25.4s							
PVAQ	**Vaqueiros**		**96.53**	**339**	*e*PP	**PP**	**18 59 38.1**	**+4.5**
PVAQ					*e*SKSac	**SKSac**	**19 06 20.2**	**+5.4**
PVAQ	**Vaqueiros**		**96.53**	**339**	*e*LR	LR	19 35 55.2	
	comp=Z,3μm,16.0s							
MORF	**Marmelete**		**96.87**	**339**	*e*P	**PP**	**18 59 37.5**	**+1.2**
MORF					IAMs_20	IAMs_20	19 46 39.4	
	comp=Z,3μm,28.3s							
DWPF	**Disney Wildern**		**97.32**	**41**	P	**P**	**18 55 43.3**	**-0.8**
	baz=327							
MDT	**Midelt**		**99.91**	**335**	LR	LR	19 46 03.1	
	comp=Z,1μm,18.9s,baz=31,slow=38							
PMOZ	**Porto Moniz, M**		**103.09**	**345**	*e*LR	LR	19 41 36.1	
	comp=Z,870nm,18.0s							
TORD	**Torodi Ar. Bea**		**115.17**	**320**	PKP	**PKiKP**	**19 00 51.9**	**-0.6**
	comp=Z,0.7nm,0.4s,baz=21,slow=2.4,SNR=11							
TORD					PKKPbc	**PKKPbc**	**19 11 25.1**	**-0.8**
	comp=Z,1.1nm,0.9s,baz=193,slow=1.8,SNR=7.3							
SDV	**Santo Domingo**		**118.96**	**42**		**PKPdf**	**19 00 58.3**	**-1.7**
VNDA	**Vanda**		**120.46**	**176**	PKP	**PKPdf**	**19 01 00.6**	**-0.1**
	comp=Z,1.0nm,0.6s,baz=328,slow=6.2,SNR=6.6							
VNDA					PKKPbc	**PKKPbc**	**19 11 06.8**	**-1.4**
	comp=Z,1.2nm,0.9s,baz=212,slow=4.1,SNR=5.7							
ROSC	**El Rosal**		**120.49**	**48**	PKP	**PKPdf**	**19 01 03.2**	**0.0**
	comp=Z,17nm,0.3s,baz=122,slow=11,SNR=3.9							
DBIC	**Dimbokro**		**123.85**	**324**	PKIKP	**PKPdf**	**19 01 09.0**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=19,slow=1.5,SNR=8.4							
DBIC	**Dimbokro**		**123.85**	**324**	*e*PKIKP	**PKPdf**	**19 01 08.4**	**-1.0**
TIC	**Toumodi**		**123.95**	**324**	*e*PKIKP	**PKPdf**	**19 01 09.1**	**-0.5**
	comp=Z,13nm,1.0s							
KIC	**Kosan Boka**		**124.08**	**323**⇓	*e*PKIKP	**PKPdf**	**19 01 09.1**	**-0.5**
	comp=Z,5.1nm,0.6s							
LIC	**Lamto**		**124.33**	**324**⇑	*e*PKIKP	**PKPdf**	**19 01 09.1**	**-1.0**
	comp=Z,27nm,1.0s							
MAW	**Mawson**		**126.05**	**208**	PKP	**PKPdf**	**19 01 11.4**	**-0.2**
	comp=Z,4.8nm,0.9s,baz=358,slow=1.8,SNR=4.5							
ATAH	**Atahualpa**		**127.63**	**60**	PKP	**PKPdf**	**19 01 16.7**	**-0.1**
	comp=Z,12nm,0.9s,baz=323,slow=6.4,SNR=7.5							
BOSA	**Boshof**		**130.37**	**266**		**PKPdf**	**19 01 19.8**	**-1.5**
BOSA	**Boshof**		**130.37**	**266**	PKP	**PKPdf**	**19 01 19.6**	**-1.7**
	comp=Z,3.6nm,0.8s,baz=125,slow=1.8,SNR=6.6							
CZSB	**Cruzeiro do Su**		**131.63**	**55**	*e*P	**PKPdf**	**19 01 23.9**	**-0.1**
NNA	**Nana**		**132.28**	**63**	PKP	**PKPdf**	**19 01 24.2**	**-1.0**
	comp=Z,10.0nm,0.8s,baz=262,slow=8.1,SNR=1.8							
QSPA	**South Pole Qui**		**132.52**	**180**	PKhKP	PKPpre	19 01 10.5	
	comp=Z,1.6nm,0.8s,baz=159,slow=2.3,SNR=7.2							
QSPA					PKP	**PKPdf**	**19 01 23.9**	**-0.1**
	comp=Z,3.4nm,0.6s,baz=268,slow=1.2,SNR=18							
ETMB	**Extrema**		**137.08**	**49**		**PKPdf**	**19 01 30.2**	**-3.9**
ELIB	**Princess Elisa**		**139.90**	**204**	*d*PKP	**PKPdf**	**19 01 33.4**	**-4.3**
LPAZ	**La Paz**		**141.06**	**58**	PKhKP	PKPpre	19 01 35.6	
	comp=Z,2.1nm,0.7s,baz=263,slow=1.7,SNR=5.5							
LPAZ					PKP	**PKPdf**	**19 01 42.0**	**-0.1**
	comp=Z,5.8nm,0.8s,baz=5.2,slow=5.3,SNR=14							
LPAZ	**La Paz**		**141.06**	**58**	PKIKP	**PKPdf**	**19 01 42.0**	**-0.1**
VILB	**Vilhena**		**142.92**	**44**		**PKPdf**	**19 01 41.5**	**-3.2**
NVL	**N'lazarevskaya**		**143.78**	**204**	*e*PKHKP	PKPpre	19 01 39.5	
NVL					pmax	pmax		
	comp=Z,63nm,1.4s							
PB07	**IPOC Station P**		**143.87**	**66**	PKP	PKPab	19 01 40.3	-3.2
H03N2	**Juan Fernandez**		**144.22**	**90**	T	T	21 42 48.8	
	baz=302,slow=77,SNR=48							
H03N3	**Juan Fernandez**		**144.24**	**90**	T	T	21 42 48.4	
	baz=302,slow=77,SNR=55							
H03N1	**Juan Fernandez**		**144.24**	**90**	T	T	21 42 45.4	
	baz=302,slow=77,SNR=38							
SIV	**San Ignacio**		**144.98**	**48**	PKPbc	**PKPab**	**19 01 47.2**	**-0.4**
	comp=Z,61nm,0.8s,baz=317,slow=2.6,SNR=93							
LVC	**Limon Verde**		**145.13**	**66**	PKPbc	**PKPbc**	**19 01 47.7**	**-0.6**
	comp=Z,78nm,1.2s,baz=308,slow=2.6,SNR=50							
PB14	**IPOC Station P**		**145.45**	**70**	PKP	**PKPdf**	**19 01 43.4**	**-5.8**
TROLL	**Troll, Antarti**		**145.66**	**199**	⇑PKPdf	**PKPbc**	**19 01 48.4**	**+0.1**
	comp=Z,4μm,0.6s							
SNAA	**Sanae**		**147.15**	**198**		**PKPdf**	**19 01 49.1**	**-1.3**
SNAA	**Sanae**		**147.15**	**198**	⇑PKPdf	**PKPbc**	**19 01 52.5**	**-0.1**
	comp=Z,441nm,0.5s							
SNAA	**Sanae**		**147.15**	**198**	PKPbc	**PKPbc**	**19 01 51.9**	**-0.7**
	comp=Z,26nm,0.7s,baz=113,slow=3.5,SNR=104							
SNAA	**Sanae**		**147.15**	**198**	PKIKP	**PKPdf**	**19 01 49.1**	**-1.3**
LCO	**Las Campanas**		**147.92**	**77**		**PKPdf**	**19 01 52.4**	**-0.8**
LCO	**Las Campanas**		**147.92**	**77**	PKIKP	**PKPdf**	**19 01 52.4**	**-0.8**
VNA2	**Neumayer--Watz**		**148.70**	**197**	⇑PKPdf	**PKPbc**	**19 01 56.6**	**0.0**
	comp=Z,43nm,0.7s,baz=129,slow=2.3							
VNA3	**Neumayer Olymp**		**148.91**	**195**	⇑PKPdf	**PKPbc**	**19 01 56.8**	**-0.4**
	comp=Z,18nm,0.6s							
VNA1	**Neumayer--Stat**		**149.09**	**197**	⇑PKPdf	**PKPbc**	**19 01 57.7**	**+0.1**
	comp=Z,53nm,1.1s							
BDFB	**Brasilia**		**150.60**	**27**	PKP	**PKPdf**	**19 01 57.2**	**-0.4**
	comp=Z,5.7nm,1.0s,baz=41,slow=4.5,SNR=3.5							
BDFB					PKPbc	**PKPbc**	**19 02 03.2**	**+0.2**
	comp=Z,28nm,0.9s,baz=21,slow=6.1,SNR=5.3							
MG05	**Puerto Natales**		**153.01**	**122**	PKPdf	**PKPdf**	**19 01 58.8**	**-1.2**
PLCA	**Paso Flores**		**153.20**	**98**		**PKPdf**	**19 01 58.1**	**-2.7**
PLCA	**Paso Flores**		**153.20**	**98**	PKP	**PKPdf**	**19 02 00.3**	**-0.5**
	comp=Z,4.0nm,1.0s,baz=206,slow=9.8,SNR=3.9							
PLCA	**Paso Flores**		**153.20**	**98**	PKIKP	**PKPdf**	**19 01 58.1**	**-2.7**
CPUP	**Villa Florida**		**155.21**	**56**	PKP	**PKPdf**	**19 02 03.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=304,slow=0.9,SNR=4.6							
CPUP					PKPab	sPKPbc	19 02 27.2	+0.8
	comp=Z,18nm,1.2s,baz=326,slow=4.1,SNR=10							

HVO ***17*** *18:43:12.2±1.3, 19°.44N±0°.02×154°.88W±0°.03, h-0km±9km, ML2.7/6, ML2.5/44(NEIC), Error ellipse: s-maj=4.5km s-min=1.6km az=120.0*

NEIC 17 18:43:11.7±1.0, 19°.37N±0°.02×154°.80W±0°.03, h5km±2km, Error ellipse: s-maj=5.0km s-min=3.1km az=287.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.14**	**323**			Pg	18 43 14.5	-0.1
PHO	**Puu Honuaula**	**0.14**	**323**			Pg	18 43 14.5	-0.1
JOKA	**Jonika Flow**	**0.21**	**289**			Pg	18 43 15.7	0.0
JOKA	**Jonika Flow**	**0.21**	**289**	IAML			18 43 17.9	
	comp=E,824nm,0.7s							
JOKA				IAML			18 43 18.6	
	comp=N,960nm,0.7s							
JCUZ	**Jacuzzi**	**0.29**	**274**	Pg		Pg	18 43 16.3	-0.9
NPOC	**North of Pu'u**	**0.29**	**275**	Pg		Pg	18 43 16.2	-1.2
STCH	**Steam Cracks**	**0.31**	**274**			Pg	18 43 17.9	+0.2
STCH	**Steam Cracks**	**0.31**	**274**	IAML			18 43 23.1	
	comp=N,315nm,0.3s							
STCH				IAML			18 43 24.5	
	comp=E,310nm,0.3s							
KNHH	**Kane Nui o Ham**	**0.35**	**272**			Pg	18 43 18.8	+0.3
PUH	**Pauahi**	**0.39**	**271**			Pg	18 43 19.4	+0.1
PUH						Sg	18 43 24.8	+0.3
PUH	**Pauahi**	**0.39**	**271**	IAML			18 43 25.0	
	comp=E,495nm,0.1s							
PUH				IAML			18 43 26.8	
	comp=N,586nm,0.8s							
HATHI	**Halema'uma'u T**	**0.44**	**278**	Pg		Pg	18 43 20.0	-0.2
RSD	**Rainshed**	**0.46**	**282**	IAML			18 43 28.6	
	comp=E,814nm,0.6s							
SDHHI	**Sand Hill**	**0.47**	**273**	Pg		Pg	18 43 20.5	-0.2
HLP	**Hilina Pali**	**0.49**	**262**	IAML			18 43 29.3	
	comp=N,533nm,0.3s							
MLH	**Mauna Loa**	**0.57**	**283**	IAML			18 43 31.5	
	comp=E,295nm,0.3s							
MLH				IAML			18 43 38.4	
	comp=N,464nm,1.3s							
HMH	**Humu'ula Sheep**	**0.69**	**290**			Pg	18 43 23.4	-1.5
MLOA	**Mauna Loa Obse**	**0.75**	**283**	Pg		Pg	18 43 24.5	-1.7
MLOA				IAML			18 43 36.3	
	comp=E,214nm,1.0s							
MLOA				IAML			18 43 47.0	
	comp=N,192nm,0.7s							
MWH	**Moku'aweowe**	**0.76**	**279**	IAML			18 43 35.3	
	comp=E,328nm,1.0s							
MWH				IAML			18 43 41.3	
	comp=N,300nm,1.2s							
KHU	**Kahuku**	**0.78**	**261**			Pg	18 43 25.0	-1.6
KHU				IAML			18 43 50.0	
	comp=E,190nm,1.2s							
KHU				IAML			18 43 51.3	
	comp=N,176nm,1.0s							
HUH	**Hualalai**	**1.03**	**288**			Pg	18 43 29.5	-1.9
MHA	**Mahukona**	**1.32**	**308**	Pg		Pn	18 43 34.9	-1.9
OPA	**Opana**	**3.79**	**308**	Pn		Pn	18 44 10.1	-0.7

PRU 17 18:44:57.1, 50°.26N×19°.00E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.51**	**94**	*e*Pg		Pg	18 45 05.9	-1.1
OJC				*e*Sg		Sg	18 45 12.7	-0.9
MORC	**Moravsky Berou**	**1.06**	**243**	*e*PG		Pg	18 45 17.0	-0.3
MORC				*e*SG		Sg	18 45 30.6	-0.4
LANS	**Liptovska Anna**	**1.15**	**165**	*e*SG		Sg	18 45 32.4	-1.6
LANS	**Liptovska Anna**	**1.15**	**165**	*e*PKP2		Pg	18 45 18.3	-0.8
LANS	**Liptovska Anna**	**1.15**	**165**	*e*PG		Pg	18 45 18.3	-0.8
NIE	**Niedzica**	**1.19**	**135**	*e*Pg		Pg	18 45 18.8	-1.1
NIE				*e*Sg		Sg	18 45 34.9	-0.4
KRLC	**Kraliky**	**1.44**	**263**	*e*SG		Sg	18 45 42.5	-0.8
	comp=Z,4.2nm,0.5s							
DPC	**Dobruska-Poan**	**1.72**	**274**	*e*SG		Sb	18 45 51.7	0.0
	comp=Z,2.3nm,0.3s							
VYHS	**Vyhne**	**1.77**	**184**	*e*PG		Pn	18 45 28.8	-0.2
VYHS	**Vyhne**	**1.77**	**184**	*e*SG		Sn	18 45 51.9	-0.3

CATAC ***17*** *18:46:31.1±0.8, 13°.82N×90°.23W, h27km±4km, ML2.8*
GCG ***17*** *18:46:31.3±0.3, 15°.11N×90°.93W, h50km, MD3.4*

ISC 17 18:46:30.8±6.4, 13°.77N±0°.10×90°.34W±0°.08, h36km±6km, n13, σ0°82/21, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.56**	**76**	*i* P		**Pn**	**18 46 42.2**	**-0.2**
NUBE				*i* S		**Sn**	**18 46 50.3**	**-0.1**
NUBE				IAML			18 46 54.4	
	comp=Z,240nm,1.0s							
LOAL	**Lomas de Alarc**	**0.58**	**67**	*i* P		**Pn**	**18 46 41.8**	**-0.9**
LOAL				*i* S		**Sn**	**18 46 49.6**	**-1.5**
LOAL				IAML			18 46 58.8	
	comp=Z,2μm,1.0s							
CEVE	**Cerro Verde**	**0.69**	**85**	*i* P		**Pn**	**18 46 43.7**	**-0.6**
CEVE				*i* S		**Sn**	**18 46 53.9**	**0.0**
CEVE				IAML			18 47 02.8	
	comp=Z,370nm,1.0s							
NBG	**Las Nubes**	**0.81**	**359**	*e*P		**Pn**	**18 46 46.8**	**+0.8**
FUG	**Fuego 3**	**0.83**	**324**	*e*P		**Pn**	**18 46 45.1**	**-1.0**
JAYA	**Jayaque - finc**	**0.87**	**98**	*i* P		**Pn**	**18 46 45.6**	**-1.0**
JAYA				*i* S		**Sn**	**18 46 57.9**	**-0.3**
JAYA				IAML			18 47 04.1	
	comp=Z,920nm,1.0s							
PMON	**Piamonte**	**0.99**	**93**	*i* P		**Pn**	**18 46 48.3**	**0.0**
PMON				*i* S		**Sn**	**18 47 00.4**	**-0.7**
PMON				IAML			18 47 11.5	
	comp=Z,300nm,1.0s							
LALI	**Alcalda de L**	**1.02**	**106**	*i* P		**Pn**	**18 46 48.3**	**-0.3**
LALI				*i* S		**Sn**	**18 47 00.9**	**-0.8**
LALI				IAML			18 47 20.3	
	comp=Z,100nm,1.0s							
QUEZ	**Alcaldia de Qu**	**1.03**	**86**	*i* P		**Pn**	**18 46 48.8**	**+0.1**
QUEZ				IAML			18 46 59.6	
	comp=Z,2μm,1.0s							
QUEZ				*i* S		**Sn**	**18 47 01.2**	**-0.8**
UEES	**Universidad Ev**	**1.07**	**93**	*i* P		**Pn**	**18 46 48.5**	**-0.7**
UEES				*i* S		**Sn**	**18 47 01.7**	**-1.2**
UEES				IAML			18 47 40.8	
	comp=Z,360nm,1.0s							
MTO3	**Montecristo**	**1.13**	**56**	*i* P		**Pn**	**18 46 49.7**	**-0.6**
MTO3				*i* S		**Sn**	**18 47 03.9**	**-0.8**
MTO3				IAML			18 47 08.1	
	comp=Z,51nm,1.0s							
STG3	**Santiaguito 3,**	**1.52**	**308**	*e*P		Pn	18 46 46.2	-9.4
RANC	**El Ranchito**	**2.02**	**99**	*i* P		**Pn**	**18 47 02.9**	**+0.5**
RANC				IAML			18 47 06.8	
	comp=Z,92nm,1.0s							

IDC ***17*** *18:47:02.9±0.5, 13°.05N×145°.49E, h0km, mb5.2/36, mbtmp5.2/37, MS5.1/13, Error ellipse: s-maj=14.9km s-min=11.0km az=69.0*

MOS ***17*** *18:47:02.8±0.9, 13°.09N×145°.38E, h12km, mb5.7/47, MS5.3/11, Error ellipse: s-maj=10.6km s-min=4.8km az=119.1*

BJI ***17*** *18:47:04.2±0.0, 12°.79N×145°.54E, h30km, mb5.0/47, mB5.5/21, Ms5.5/21, Ms7 5.2/21*

NEIC ***17*** *18:47:05.7±2.2, 12°.97N±0°.07×145°.42E±0°.09, h16km±3km, mb5.6/334, Mww5.4/13, Error ellipse: s-maj=13.4km s-min=9.6km az=72.0*

NEIC ***17*** *18:47:09.5, 12°.71N×145°.67E, h14km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10¹⁷Nm; Mrr1.00; Mθθ-0.16; Mϕϕ-0.83; Mrθ-0.55; Mθϕ-0.77; Mϕr0.33; Fault plane solution: M0 1.36000×10¹⁷ NP1: ϕ240.67000°, δ53.56000°, λ130.30000°. NP2: ϕ5.68000°, δ52.16000°, λ48.79000°. Principal axes: T 1.3877, Pl59.0000°, Azm212.0000°; N -0.0529, Pl31.0000°, Azm34.0000°; P -1.3349, Plg1.0000°, Azm303.0000°;*

NEIC ***17*** *18:47:09.5, 13°.01N×145°.36E, h14km*

GCMT ***17*** *18:47:10.7±0.2, 12°.83N±0°.01×145°.53E±0°.01, h20km, MW5.5/135, Moment Tensor Solution. s63,c90; s135,c270; Duration: 1s3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.48±.07; Mθθ-0.59±.04; Mϕϕ-0.88±.04; Mrθ-0.16±.06; Mθϕ-0.94±.02; Mϕr1.07±.07; Best double couple: M0 1.92600×10¹⁷ NP1: ϕ17.00000°, δ62.00000°, λ64.00000°. NP2: ϕ242.00000°, δ37.00000°, λ129.00000°. Principal axes: T 1.9920, Plg64.0000°, Azm243.0000°; N -0.1280, Plg23.0000°, Azm30.0000°; P -1.8610, Plg13.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

DJA ***17*** *18:47:11.0±0.9, 13°.N±4°×14°.5E±°, h39km±7km, M5.6/52, mB6.1/31, mb5.5/52, MLv5.1/1, Mw(mB)5.7/31, MwMwp5.5/1, Mwp5.6/1*

ISC 17 18:47:08.9±0.3, 12°.95N±0°.04×145°.45E±0°.05, h43km, h42km:pP-P, n886, σ1§47/787, mb5.5/272, MS5.2/33, 31C-14D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUMO	**Guam**		**0.85**	**319**	P	**Pn**	**18 47 23.2**	**-1.3**
GUMO	**Guam**		**0.85**	**319**	Pn	**Pn**	**18 47 23.6**	**-0.9**
	4μm,0.3s,baz=245,slow=0.4,SNR=1886							
GUMO					Sn	**Sn**	**18 47 34.1**	**-1.7**
	4μm,0.3s,baz=13,slow=14,SNR=9.6							
PATS	**Pohnpei**		**14.05**	**114**	Pn	Pn	18 50 17.7	-7.8
JCJ	**Chichijima**		**14.40**	**348**	Pn	**Pn**	**18 50 28.4**	**-1.7**
	61nm,0.7s,baz=88,slow=21,SNR=1.4							
MANU	**Manus Island**		**15.02**	**173**		**Pn**	**18 50 35.0**	**-3.5**
JMZ	**Minamidaito 2**		**18.52**	**316**	P	**Pn**	**18 51 24.1**	**+1.8**
SWI	**Sorong**		**19.66**	**227**	P	**Pn**	**18 51 37.1**	**+1.1**
	96nm,0.9s,3μm							
DAV	**Davao City (W)**		**20.41**	**255**	P	**P**	**18 51 41.9**	**-0.7**
	97nm,0.3s,baz=78,slow=2.2,SNR=5.1							
	97nm,0.3s							
FAKI	**Fak Fak**		**20.50**	**221**	P	**P**	**18 51 44.3**	**+0.7**
FAKI	**Fak Fak**		**20.50**	**221**	P	**P**	**18 51 42.8**	**-0.8**
FAKI	**Fak Fak**		**20.50**	**221**	P	Pn	18 51 44.9	-1.1
	381nm,1.4s,6μm							
JHJ	**Hachijo jima 2**		**20.73**	**346**	P	**P**	**18 51 44.8**	**-1.1**
	41nm,0.4s,baz=217,slow=15,SNR=2.0							
JHJ					LR	LR	18 57 40.7	
	comp=Z,2μm,20.3s,baz=252,slow=31							
	41nm,0.4s							
JOW	**Kunigami**		**21.21**	**313**	P	**P**	**18 51 51.8**	**+0.7**
JOW	**Kunigami**		**21.21**	**313**	P	**P**	**18 51 50.1**	**-1.0**
JOW					IAmb	IAmb	18 52 07.3	
	comp=Z,362nm,1.3s							
JOW	**Kunigami**		**21.21**	**313**	P	**P**	**18 51 50.2**	**-1.0**
	comp=Z,78nm,1.0s,baz=122,slow=20,SNR=13							
	comp=Z,78nm,1.0s							
TNTI	**Ternate**		**21.62**	**237**	P	**P**	**18 51 56.5**	**+0.9**
TNTI	**Ternate**		**21.62**	**237**	P	**P**	**18 51 52.7**	**-2.9**
TNTI					IAmb	IAmb	18 52 11.7	
	comp=Z,202nm,1.2s							
TNTI	**Ternate**		**21.62**	**237**	P	**P**	**18 51 59.6**	**+4.0**
	comp=Z,159nm,1.4s,comp=Z,3μm							
H11N1	**WAKE ISLAND Hy**		**21.64**	**69**	T	T	19 15 06.5	
	baz=258,slow=74,SNR=22							
H11N2	**WAKE ISLAND Hy**		**21.65**	**69**	T	T	19 15 05.2	
	baz=258,slow=74,SNR=15							
H11N3	**WAKE ISLAND Hy**		**21.66**	**69**	T	T	19 15 05.9	
	baz=258,slow=74,SNR=15							
SGSI	**Sangihe**		**21.73**	**247**	P	**P**	**18 52 01.9**	**+5.1**
	comp=Z,348nm,1.2s,comp=Z,8μm							
LBMI	**Labuha**		**22.34**	**234**	P	**P**	**18 52 05.2**	**+1.8**
	comp=Z,288nm,1.8s							
JMN	**Monobe**		**23.21**	**335**	P	**P**	**18 52 15.2**	**+2.9**
JMN	**Monobe**		**23.21**	**335**	P	**P**	**18 52 10.6**	**-1.7**
INU	**Inuyama**		**23.57**	**343**	P	**P**	**18 52 15.9**	**+0.3**
JGF	**Kuroka**		**23.70**	**343**	P	**P**	**18 52 17.0**	**0.0**
JGF	**Kuroka**		**23.70**	**343**	P	**P**	**18 52 15.5**	**-1.5**
TGY	**Tagaytay City**		**23.86**	**276**	P	**P**	**18 52 17.6**	**-1.0**
	comp=Z,186nm,0.3s,baz=82,slow=3.4,SNR=8.6							
TGY					LR	LR	19 01 18.1	
	comp=Z,3μm,20.5s,baz=54,slow=36							
	comp=Z,186nm,0.3s							
JNU	**Nakatsue**		**24.09**	**329**	P	**P**	**18 52 23.3**	**+2.7**
JNU	**Nakatsue**		**24.09**	**329**	P	**P**	**18 52 19.3**	**-1.2**
JNU					IAmb	IAmb	18 52 38.9	
	comp=Z,231nm,1.2s							
JNU	**Nakatsue**		**24.09**	**329**	P	**P**	**18 52

MDJ pmax pmax
comp=Z,5µm,11.6s
WRAB Tennant Creek 34.45 199 P P 18 53 50.4 -2.4
WRAB IAmb IAmb 18 53 54.6
comp=Z,124nm,1.4s
WRAB Tennant Creek 34.45 199 i P P 18 53 49.5 -3.3
WRAB pmax pmax
comp=Z,108nm,1.4s
WRA Warramunga Arr 34.47 199 P P 18 53 53.2 +0.3
comp=Z,66nm,1.2s,baz=22,slow=9.9,SNR=8.4
comp=Z,66nm,1.2s
SBUM Sibu 34.49 255 P P 18 53 53.2 0.0
SBUM IAmb IAmb 18 53 55.8
comp=Z,145nm,1.4s
QIZ Qiongzhong 34.71 285 P P 18 53 55.0 -0.1
QIZ S S 18 59 21.8 -0.6
QIZ pmax pmax
comp=Z,29nm,1.1s
QIZ pmax pmax
comp=Z,370nm,3.0s
QIZ LR LR
comp=Z,6µm,16.7s
QIZ LR LR
comp=Z,2µm,16.2s
QIZ LR LR
comp=Z,4µm,16.7s
STKI Sintang 36.02 252 P P 18 54 07.7 +1.3
comp=Z,197nm,1.5s,comp=Z,4µm
DLV T Lat 36.09 273 P P 18 54 07.7 +0.5
DLV T Lat 36.09 273 P P 18 54 06.8 -0.4
DLV IAmb IAmb 18 54 08.8
comp=Z,108nm,1.2s
BNX BinXian 36.09 338 ⇑P P 18 54 07.1 +0.6
BNX pmax pmax
comp=Z,44nm,1.0s
BNX pmax pmax
comp=Z,1µm,7.6s
KSM Kuching 36.61 255 P P 18 54 12.0 +0.5
HNS HongShan 36.68 317 ⇑P P 18 54 11.3 -0.4
HNS sP sP 18 54 29.4 +2.2
HNS PcP PcP 18 56 35.4 +1.5
HNS pmax pmax
comp=Z,60nm,1.2s
HNS LR LR
comp=Z,3µm,17.5s
HNS LR LR
comp=Z,4µm,18.3s
HNS LR LR
comp=Z,6µm,18.3s
LYN LuoYang 36.80 311 eP P 18 54 12.3 -0.5
LYN pmax pmax
comp=Z,62nm,0.9s
ABJI Asem Bagus 37.23 238 P P 18 54 32.0 +15
BJT Baijiatuau 37.28 322 P pwP 18 54 25.5 -6.4
BJI Beijing 37.29 322 P P 18 54 17.9 +1.0
BJI pmax pmax
comp=Z,13nm,1.4s
JAGI Jajag, Banyuwa 37.67 237 P P 18 54 21.9 +1.5
JAGI Jajag, Banyuwa 37.67 237 P P 18 54 18.0 -2.4
JAGI IAmb IAmb 18 54 33.3
comp=Z,235nm,1.5s
JAGI Jajag, Banyuwa 37.67 237 P P 18 54 33.3 +13
BLJI Banyuglugur 37.74 239 P P 18 54 23.0 +2.1
comp=Z,201nm,1.5s,comp=Z,4µm
TYV Tymovskoe 37.88 357 eP P 18 54 20.3 -1.3
TYV eS S 19 00 10.5 +0.5
TYV pmax pmax
comp=Z,18nm,1.1s
TYV pmax pmax
comp=Z,600nm,4.0s
TYV smax smax
comp=N,300nm,5.7s
TYV smax smax
comp=E,1µm,5.7s
KLR Kul'dur 37.90 345 LR LR 19 08 48.9
comp=E,2µm,20.6s,baz=154,slow=34
KLR Kul'dur 37.90 345 i P P 18 54 19.9 -2.0
KLR pmax pmax
comp=Z,21nm,1.3s
ASAR Alice Springs 38.10 197 P P 18 54 24.9 +1.0
comp=Z,14nm,0.9s,baz=28,slow=6.5,SNR=7.6
comp=Z,14nm,0.9s
GYA Guiyang 38.74 296 ⇑P P 18 54 29.8 +0.3
GYA pmax pmax
comp=Z,33nm,1.3s
GYA pmax pmax
comp=Z,820nm,11.4s
UBPT Khong Chiam 38.80 278 P P 18 54 30.3 +0.4
XAN Xi'an 39.23 309 P P 18 54 38.1 +4.7
XAN PcP PcP 18 56 43.4 +1.5
XAN pmax pmax
comp=Z,20nm,0.8s
QLP Quilpie 39.31 182 P P 18 54 33.9 -0.1
NGJI Ngawi 39.34 241 P P 18 54 49.0 +15
PWJI Pagerwojo 39.38 240 P P 18 54 35.4 +0.6
comp=Z,308nm,0.9s,comp=Z,3µm
HEH HeiHe 40.02 342 eP P 18 54 39.0 -0.6
HEH PcP PcP 18 56 45.0 +1.0
HEH ScP ScP 19 00 30.3 +0.5
HEH ScS ScS 19 04 43.8 +1.0
HEH pmax pmax
comp=Z,56nm,1.2s
UGM Wanagama 40.41 241 P P 18 54 43.9 +0.5
HHC Hu-ho-hao-te 40.62 319 eP P 18 54 45.0 +0.1
HHC pmax pmax
comp=Z,120nm,4.5s
INKA Innaminka 40.71 186 P P 18 54 46.5 +1.0
PETK Petropavlovsk- 41.23 11 P P 18 54 48.9 -0.7
comp=Z,12nm,1.0s,baz=191,slow=2.3,SNR=4.7
comp=Z,12nm,1.0s
WRKA Warakurna 41.30 204 P P 18 54 51.7 +1.2
BTO Baotou 41.48 318 eP P 18 54 52.8 +0.9
BTO pP pwP 18 55 06.1 -1.0
BTO PP PP 18 56 30.3 +2.0
BTO S S 19 01 07.0 +2.5
BTO pmax pmax
comp=Z,59nm,1.6s
BTO LR LR
comp=Z,4µm,16.1s
BTO LR LR
comp=Z,2µm,12.4s
BTO LR LR
comp=Z,5µm,17.1s
KPJI Karang Pucung 41.50 243 P P 18 54 53.5 +1.2
comp=Z,151nm,1.8s
OOD Oodnadatta 41.59 193 P P 18 54 53.6 +0.8
JCJI Jatiwangi 41.68 245 P P 18 54 56.9 +3.1
comp=Z,521nm,1.4s,comp=Z,8µm
HIA Hailar 41.95 335 i P P 18 54 52.1 -3.5
HIA pmax pmax
comp=Z,83nm,2.5s
KMI Kunming 41.98 293 ⇑P P 18 54 53.8 -2.6
KMI pmax pmax
comp=Z,21nm,1.4s
KMI pmax pmax
comp=Z,600nm,10.8s
KMI LR LR
comp=Z,3µm,16.0s
KMI LR LR
comp=Z,1µm,15.6s
KMI LR LR
comp=Z,2µm,16.9s
AULRC Lightning Ridg 42.20 177 P P 18 54 58.7 +0.9
TPRI Tanjung Pinang 42.26 257 P P 18 54 59.6 +1.1
comp=Z,23nm,1.3s,comp=Z,1µm
CD2 Chengdu 42.30 302 P P 18 54 57.3 -1.5
PSA00 Pilbara Seismi 42.53 217 P P 18 55 02.7 +2.1
PSA00 Pilbara Seismi 42.53 217 P P 18 55 00.6 +0.1
PSA00 IAmb IAmb 18 55 03.1
comp=Z,161nm,1.4s
MYKOM Kota Tinggi 42.64 258 IAmb IAmb 18 55 03.7
comp=Z,150nm,1.2s
DSRI Dabo 42.66 255 P P 18 55 02.5 +0.7
comp=Z,129nm,1.7s,comp=Z,2µm
BBJI Bungbulang 42.68 244 P P 18 55 01.9 -0.1
TNG Tangerang 42.98 246 P pP 18 55 07.2 -7.4
comp=Z,631nm,1.5s,comp=Z,11µm
TNG P P 18 55 07.1 +2.8
comp=Z,926nm,1.5s,comp=Z,16µm
DBJI Dramaga 43.05 245 P P 18 55 06.1 +1.1
comp=Z,109nm,1.6s
CNJI Cibinong 43.06 244 P P 18 55 05.2 +0.2
comp=Z,80nm,1.4s,comp=Z,858nm
PZH PanZhiHua 43.08 295 P P 18 55 04.6 -0.6
PZH PcS PcS 19 00 46.3 -1.1
PZH S S 19 01 25.3 -3.3
PZH pmax pmax
comp=Z,20nm,1.2s
PZH LR LR
comp=Z,2µm,18.6s
PZH LR LR
comp=Z,3µm,17.2s
PZH LR LR
comp=Z,3µm,18.2s
ZEA Zeya 43.17 344 eP P 18 55 04.5 -0.9
ZEA pmax pmax
comp=N,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.2s
PMBI Palembang 43.35 251 P P 18 55 09.8 +2.4
SBJI Serang 43.41 246 P P 18 55 09.3 +1.4
comp=Z,252nm,1.4s,comp=Z,4µm
LCRK Leigh Creek 43.70 189 P P 18 55 11.0 +1.1
PHRA Phrae 43.79 283 P P 18 55 10.3 -0.6
LZH Lanzhou 43.85 309 eP P 18 55 13.3 +1.9
LZH pP pP 18 55 24.0 +1.6
LZH sP sP 18 55 29.5 +2.5
LZH PcP PcP 18 56 59.5 +2.3
LZH pmax pmax
comp=Z,42nm,1.2s
AUPHS Peel High Scho 44.11 173 P P 18 55 15.0 +1.8
CMSA Cobar Meteorol 44.23 180 P P 18 55 14.5 +0.4
MSVF Nonsavu 44.33 133 P P 18 55 16.2 +0.9
MSVF Nonsavu 44.33 133 i P P 18 55 15.7 +0.4
MSVF pmax pmax
comp=Z,45nm,1.4s
MULG Mulgathing 44.36 194 P P 18 55 15.3 +0.1
KASI Kota Agung 44.63 248 P P 18 55 17.3 -0.3
comp=Z,251nm,1.3s,comp=Z,3µm
IPM Ipoh 44.65 263 P P 18 55 18.4 +0.6
IPM Ipoh 44.65 263 P P 18 55 17.4 -0.4
STKA Stephens Creek 44.73 185 P P 18 55 19.9 +1.8
STKA Stephens Creek 44.73 185 P P 18 55 18.4 +0.3
comp=Z,19nm,0.9s,baz=12,slow=7.3,SNR=5.9
comp=Z,19nm,0.9s
STKA Stephens Creek 44.73 185 i P P 18 55 17.7 -0.4
LWLI Liwa 44.82 249 P P 18 55 19.3 0.0
comp=Z,304nm,1.5s,comp=Z,4µm
KULM Kulim 44.82 264 P P 18 55 18.8 -0.4
KULM IAmb IAmb 18 55 21.5
comp=Z,127nm,1.5s
SRDT SRDT 44.98 277 P P 18 55 21.5 +1.1
CHTO Chiang Mai 45.01 284 P P 18 55 19.3 -1.3
CHTO Chiang Mai 45.01 284 P P 18 55 19.3 -1.3
CHTO pmax pmax
comp=Z,51nm,1.3s
CM31 Chiang Mai Arr 45.01 283 IAmb IAmb 18 55 22.4
comp=Z,74nm,1.2s
CMAR Chiang Mai Arr 45.01 283 P P 18 55 19.9 -0.7
CMAR Chiang Mai Arr 45.01 283 P P 18 55 20.9 +0.3
comp=Z,13nm,0.7s,baz=82,slow=6.4,SNR=48
CMAR PcP PP 18 57 04.0 -2.4
comp=Z,18nm,1.0s,baz=74,slow=2.2,SNR=9.7
CMAR ScP ScP 19 00 56.0 +5.5
comp=Z,0.3nm,0.5s,baz=190,slow=0.5,SNR=4.0
comp=Z,13nm,0.7s
CMAR Chiang Mai Arr 45.01 283 i P P 18 55 20.8 +0.2
CMAR pmax pmax
comp=Z,12nm,0.6s
SRIT Nakonsritamara 45.20 269 P P 18 55 23.7 +1.5
MNAI Manna 45.57 251 P P 18 55 25.5 +0.3
MNAI Manna 45.57 251 P P 18 55 23.1 -2.1
MNAI Manna 45.57 251 P P 18 55 24.8 -0.3
comp=Z,971nm,1.3s,comp=Z,11µm
TNCH TengChong 45.76 292 ⇑ i P P 18 55 26.4 -0.3
TNCH pP sP 18 55 40.1 -1.9
TNCH ScP ScP 19 00 52.4 -1.3
TNCH PcS PcS 19 00 58.6 0.0
TNCH pmax pmax
comp=Z,62nm,1.3s
TNCH pmax pmax
comp=Z,400nm,4.8s
TNCH LR LR
comp=Z,1µm,17.7s
TNCH LR LR
comp=Z,2µm,16.3s
TNCH LR LR
comp=Z,4µm,17.2s
SHEM Shemya Is, Ala 45.81 24 LR LR 19 12 08.3
comp=Z,2µm,21.5s,baz=262,slow=33
BBOO Buckleboo 46.38 191 P P 18 55 31.5 +0.4
BBOO Buckleboo 46.38 191 P P 18 55 30.3 -0.8
BBOO IAmb IAmb 18 55 33.8
comp=Z,74nm,1.2s
HTT Hallett 46.54 188 P P 18 55 33.8 +1.3
PDSI Padang 46.69 256 P P 18 55 33.9 -0.1
comp=Z,19nm,0.7s,comp=Z,983nm
MA2 Magadan 46.71 4 P P 18 55 36.1 +2.7
MA2 Magadan 46.71 4 P P 18 55 32.6 -0.8
comp=Z,5.0nm,0.6s,baz=165,slow=11,SNR=3.6
MA2 LR LR 19 11 59.2
comp=Z,2µm,20.1s,baz=191,slow=32
comp=Z,5.0nm,0.6s
MA2 Magadan 46.71 4 i P P 18 55 29.5 -3.9
MA2 pmax pmax
comp=Z,37nm,0.8s
ULN Ulaanbaatar 47.22 325 P P 18 55 37.9 0.0
ULN IAmb IAmb 18 57 11.4
comp=Z,81nm,1.5s
ULN Ulaanbaatar 47.22 325 i P P 18 55 37.1 -0.7
ULN pmax pmax
comp=Z,31nm,1.2s
SONM Songino Array 47.57 325 P P 18 55 39.7 -0.9
comp=Z,10nm,0.9s,baz=134,slow=7.0,SNR=9.9
SONM PcP PcP 18 57 11.4 +1.5
comp=Z,15nm,1.0s,baz=148,slow=4.9,SNR=6.0
SONM ScP ScP 19 01 04.1 +3.3
comp=Z,4.9nm,1.0s,baz=153,slow=4.7,SNR=5.7
SONM LR LR 19 15 47.0
comp=Z,3µm,19.1s,baz=126,slow=36
comp=Z,10nm,0.9s
KCSI Kotacane, Aceh 48.02 263 P P 18 55 44.5 +0.1
comp=Z,84nm,1.5s
SISI Saibi 48.12 256 P P 18 55 44.2 -0.9
comp=Z,97nm,0.9s
GSI Gunungsitoli 48.79 260 IAmb IAmb 18 55 50.5
comp=Z,37nm,0.9s
ARPS Mount Arapiles 49.57 184 P P 18 55 58.8 +3.1
SEY Seymchan 50.15 4 P P 18 55 58.7 -1.2
comp=Z,9.1nm,1.1s,baz=175,slow=11,SNR=4.1
comp=Z,9.1nm,1.1s
SEY Seymchan 50.15 4 i P P 18 55 56.6 -3.3
SEY pmax pmax
comp=Z,17nm,1.4s
BRAT Ballarat 50.25 182 P P 18 56 01.7 +0.8
TOO Toolangi 50.25 180 P P 18 56 03.8 +2.8
TOO Toolangi 50.25 180 P P 18 56 02.3 +1.3
TOO IAmb IAmb 18 56 05.2
comp=Z,81nm,1.4s
TOO Toolangi 50.25 180 P P 18 56 02.3 +1.3
TOO pmax pmax
comp=Z,81nm,1.4s
YAK Yakutsk 50.30 350 P P 18 55 59.2 -1.8
YAK Yakutsk 50.30 350 P P 18 55 59.8 -1.2
comp=Z,94nm,1.0s,baz=172,slow=4.2,SNR=16
YAK LR LR 19 15 20.8
comp=Z,1µm,21.9s,baz=132,slow=34
comp=Z,94nm,1.0s
YAK Yakutsk 50.30 350 eP P 18 56 00.5 -0.5
YAK e 18 57 19.6
YAK e 18 58 02.3
YAK eS S 19 03 10.3 -0.2
YAK e*SS sS 19 03 29.8 +2.4
YAK e 19 05 47.9
YAK eSSS SSS 19 08 04.9
YAK pmax pmax
comp=Z,233nm,1.7s
YAK pmax pmax
comp=N,63nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK pmax pmax
comp=Z,2µm,12.9s
YAK pmax pmax
comp=N,3µm,12.2s
YAK pmax pmax
comp=E,4µm,11.5s
YAK smax smax
comp=N,1µm,9.1s
YAK smax smax
comp=E,902nm,11.9s
ZAK Zakamensk 50.68 326 eP P 18 56 03.7 -0.5
ZAK pmax pmax
comp=Z,32nm,1.4s
ATKA Atka Island 50.75 31 P P 18 56 08.3 +3.8
ATKA Atka Island 50.75 31 P P 18 56 03.0 -1.5
ATKA IAmb IAmb 18 56 24.3
comp=Z,60nm,0.8s
P08K Saint George I 55.48 28 P P 18 56 40.7 +1.4
baz=237
SPIA Saint Paul Isl 55.48 27 P P 18 56 40.7 +1.4
baz=236
UNV Unalaska Valle 55.56 32 P P 18 56 43.9 +4.0
UNV Unalaska Valle 55.56 32 P P 18 56 41.2 +1.3
baz=242
BILL Bilibino 56.70 9 P P 18 56 46.7 -1.1
BILL IAmb IAmb 18 56 49.3
comp=Z,49nm,1.2s
WMQ Urumqi 57.98 314 eP P 18 56 59.1 +1.7
WMQ PcP PcP 18 57 51.3 +2.2
WMQ pmax pmax
comp=Z,47nm,1.1s
WMQ LR LR
comp=Z,1µm,15.7s
WMQ LR LR
comp=Z,2µm,13.5s
WMQ LR LR
comp=Z,2µm,19.3s
S12K Black Hills 58.70 32 P P 18 57 03.4 +1.3
baz=245
M11K Mekoryuk 59.00 26 P P 18 57 05.3 +1.3
baz=238
RTZ Ruatahuna 59.17 152 P P 18 57 05.0 -0.6
SDPT Sand Point 59.37 33 P P 18 57 10.6 +3.9
SDPT Sand Point 59.37 33 P P 18 57 08.0 +1.3
baz=247
TIXI Tiksi 59.52 354 i P P 18 57 05.7 -1.8
TIXI pmax pmax
comp=Z,18nm,1.1s
CHNA Chernabura Isl 59.64 33 P P 18 57 09.9 +1.3
baz=248
S14K Fog Glacier 60.22 32 P P 18 57 14.3 +1.6
baz=247
M13K Dall Lake 60.23 26 P P 18 57 14.2 +1.7
baz=241
K13K Kusilvak Mount 60.45 25 P P 18 57 15.5 +1.5
baz=239,SNR=41
O14K Tigyukauivet M 60.63 28 P P 18 57 16.5 +1.2
baz=244
N14K Kuskokwak Cree 60.74 27 P P 18 57 17.1 +1.2
baz=243
ZSN Zaisan 60.75 317 eP P 18 57 15.2 -1.2
baz=317
ZSN Zaisan 60.75 317 eP P 18 57 15.2 -1.2
L14K Kuka Creek 60.97 26 P P 18 57 18.9 +1.4
baz=241,SNR=30
M14K Bethel 61.00 26 P P 18 57 19.2 +1.4
baz=242,SNR=16
TNA Tin City 61.25 20 P P 18 57 19.8 +0.4
baz=234,SNR=8.9
O15K Ungalikthiuk R 61.26 29 P P 18 57 20.5 +0.9
baz=245
J14K Nanvaranak Lak 61.31 24 P P 18 57 21.3 +1.5
baz=240,SNR=20
M15K Kasigluk River 61.53 27 P P 18 57 22.4 +1.0
baz=244,SNR=8.2
N15K Kwethluk River 61.56 28 IAmb IAmb 18 57 35.4
comp=Z,51nm,0.9s
N15K Kwethluk River 61.56 28 P P 18 57 23.1 +1.5
baz=244,SNR=7.2
ANM Nome 61.57 22 IAmb IAmb 18 57 23.7
comp=Z,80nm,1.1s
ANM Nome 61.57 22 P P 18 57 22.4 +0.8
baz=237,SNR=31
L15K Ungalak Mounta 61.63 26 P P 18 57 22.9 +0.8
baz=242,SNR=15
R16K Pilot Point 61.71 31 P P 18 57 23.0 +0.4
baz=248
F14K Arctic Creek 61.74 21 P P 18 57 23.7 +1.0
baz=236,SNR=36
K15K Wolf Creek Mou 61.90 25 P P 18 57 25.0 +1.2
baz=242,SNR=26
P16K Nushagak River 62.07 29 P P 18 57 26.3 +1.3
baz=247
CHIR Chirikof Islan 62.11 33 P P 18 57 26.6 +1.2
baz=251
O16K Kokwok River B 62.24 29 P P 18 57 27.3 +1.1
baz=247
G15K Niukluk 62.28 22 P P 18 57 27.1 +0.7
baz=238
N16K Nishlik Lake 62.29 28 P P 18 57 28.0 +1.4
baz=246,SNR=8.1
MK31 Makanchi Array 62.34 316 i P P 18 57 27.2 +0.1
MKAR Makanchi Array 62.34 316 P P 18 57 27.2 +0.1
comp=Z,9.0nm,0.8s,baz=89,slow=8.7,SNR=27
MKAR PKP2bc 19 26 41.1
comp=Z,1.3nm,1.0s,baz=275,slow=5.4,SNR=4.5
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 62.34 316 i P P 18 57 27.7 +0.6
MKAR pmax pmax
comp=Z,9.0nm,0.8s
M16K Timber Creek 62.44 27 IAmb IAmb 18 57 29.9
comp=Z,63nm,1.3s
M16K Timber Creek 62.44 27 P P 18 57 28.6 +1.1
baz=245,SNR=6.8
F15K North Star Dit 62.45 21 IAmb IAmb 18 57 29.5
comp=Z,77nm,1.2s
F15K North Star Dit 62.45 21 P P 18 57 28.1 +0.6
baz=237,SNR=36
ZALV Zalesovo Beam 62.47 324 P P 18 57 26.0 -1.7
ZALV Zalesovo Beam 62.47 324 P P 18 57 26.2 -1.5
comp=Z,14nm,1.0s,baz=107,slow=5.1,SNR=9.5
ZALV PcP PcP 18 58 06.6 -0.2
comp=Z,33nm,1.1s,baz=124,slow=3.9,SNR=11
ZALV LR LR 19 23 48.1
comp=Z,1µm,20.9s,baz=95,slow=35
ZALV PKP2bc 19 26 39.3
comp=Z,0.6nm,0.5s,baz=289,slow=4.5,SNR=5.4
comp=Z,14nm,1.0s
L16K Owhat River 62.51 26 IAmb IAmb 18 57 30.1
comp=Z,66nm,1.3s
L16K Owhat River 62.51 26 P P 18 57 28.5 +0.6
baz=244,SNR=13
J16K Anvik River 62.74 24 P P 18 57 31.0 +1.5
baz=243,SNR=31
H16K Elim 62.76 23 P P 18 57 30.1 +0.5
baz=240,SNR=19
O17K Koliganek Bris 62.78 29 P P 18 57 30.9 +1.1
baz=248
Q17K Contact Creek 62.81 31 P P 18 57 31.1 +0.9
baz=250
I17K Unalakleet 62.99 24 P P 18 57 32.6 +1.5
baz=242,SNR=22
N17K Nushagak Hills 63.03 28 IAmb IAmb 18 57 45.2
comp=Z,32nm,0.8s
N17K Nushagak Hills 63.03 28 P P 18 57 33.0 +1.6
baz=247,SNR=6.4
G16K Koyuk River 63.10 22 P P 18 57 32.3 +0.5
baz=240,SNR=7.4
SII Sitkinak Islan 63.11 33 P P 18 57 33.9 +1.8
baz=252
L17K Donlin 63.19 26 P P 18 57 33.8 +1.3
baz=245,SNR=14
M17K Holitna River 63.26 27 IAmb IAmb 18 57 36.0
comp=Z,92nm,1.2s
M17K Holitna River 63.26 27 P P 18 57 34.5 +1.6
baz=246,SNR=11
J17K VABM Dome 63.41 25 P P 18 57 35.4 +1.5
baz=244,SNR=45
K17K Iditarod 63.44 25 P P 18 57 35.6 +1.5
baz=245
C16K Lisburne Hills 63.65 18 IAmb IAmb 18 57 37.0
comp=Z,84nm,1.2s
C16K Lisburne Hills 63.65 18 P P 18 57 35.7 +0.3
baz=236,SNR=28
N18K Kilae Creek 63.68 28 IAmb IAmb 18 57 53.0
comp=Z,55nm,1.3s
N18K Kilae Creek 63.68 28 P P 18 57 37.1 +1.4
baz=248
O18K Koktuh Hills 63.70 29 IAmb IAmb 18 58 10.2
comp=Z,69nm,1.4s
O18K Koktuh Hills 63.70 29 P P 18 57 37.4 +1.5
baz=249
SHLS Shalkode 63.76 312 eP P 18 57 33.5 -3.3
baz=312
SHLS Shalkode 63.76 312 eP P 18 57 33.4 -3.3
G17K Kiwalik Mounta 63.77 22 P P 18 57 37.2 +0.9
baz=242,SNR=33
OHAK Old Harbor 63.78 32 P P 18 57 39.7 +3.3
OHAK Old Harbor 63.78 32 P P 18 57 38.1 +1.7

OHAK IAmb IAmb 18 58 14.4
comp=Z,37nm,1.0s
OHAK Old Harbor 63.78 32 P P 18 57 37.7 +1.3
baz=252
H17K Granite Mounta 63.78 23 IAmb IAmb 18 57 38.7
comp=Z,86nm,1.2s
H17K Granite Mounta 63.78 23 P P 18 57 37.4 +1.1
baz=242,SNR=33
PALK Pallekele 63.85 272 P P 18 57 37.8 +0.1
PALK IAmb IAmb 18 57 39.4
comp=Z,78nm,1.4s
PALK Pallekele 63.85 272 P P 18 57 37.8 +0.1
PALK pmax pmax
comp=Z,78nm,1.4s
L18K Granite Mounta 63.91 26 IAmb IAmb 18 57 41.0
comp=Z,90nm,1.2s
L18K Granite Mounta 63.91 26 P P 18 57 38.8 +1.6
baz=247,SNR=34
M18K Stony River 64.01 27 P P 18 57 39.5 +1.6
baz=248,SNR=12
F17K Baldwin Pennin 64.02 21 P P 18 57 38.7 +0.9
baz=240
D17K Noatak River 64.05 19 P P 18 57 38.9 +0.9
baz=238,SNR=42
UZB Uzynbulak 64.08 312 *e*P **P 18 57 38.2 -0.7**
baz=312
UZB Uzynbulak 64.08 312 *e*P **P 18 57 38.2 -0.7**
E17K Hotham Inlet 64.14 20 P P 18 57 39.5 +0.8
baz=240,SNR=61
RDOG Red Dog Mine 64.29 19 IAmb IAmb 18 57 41.6
comp=Z,73nm,1.1s
RDOG Red Dog Mine 64.29 19 P P 18 57 40.4 +0.8
baz=238,SNR=14
KDAK Kodiak Island 64.31 32 P P 18 57 40.9 +1.0
baz=253
KDAK Kodiak Island 64.31 32 *i* P **P 18 57 38.3 -1.6**
KDAK pmax pmax
comp=Z,87nm,1.7s
SEM Semipalatinsk 64.35 320 *e*P **P 18 57 40.0 -0.6**
baz=320
SEM LR LR 19 26 08.2
comp=Z,1μm,16.0s,baz=320
SEM Semipalatinsk 64.35 320 *e*P **P 18 57 40.0 -0.6**
SEM MLR MLR
comp=Z,1μm,16.0s
N19K Bonanza Creek 64.37 28 IAmb IAmb 18 57 43.4
comp=Z,118nm,1.6s
N19K Bonanza Creek 64.37 28 P P 18 57 41.4 +1.0
baz=250,SNR=5.7
J18K Innoko River 64.40 25 IAmb IAmb 18 57 42.6
comp=Z,54nm,1.4s
J18K Innoko River 64.40 25 P P 18 57 41.2 +0.7
baz=246,SNR=16
C17K DeLong Mountai 64.43 19 P P 18 57 41.3 +0.8
baz=238,SNR=16
HYB Hyderabad 64.44 283‖ *e*P **P 18 57 41.2 -0.2**
HYB IVmB_BB 18 57 41.8
comp=Z,903nm,1.3s
PRZ Przheval'sk 64.46 311 IAmb IAmb 18 58 17.9
comp=Z,76nm,1.4s
H18K Honhosa River 64.47 23 P P 18 57 41.5 +0.6
baz=244
ZHN Zhinishke 64.51 312 *e*P **P 18 57 40.8 -0.9**
baz=312
ZHN Zhinishke 64.51 312 *e*P **P 18 57 40.7 -0.9**
SATY Saty 64.52 312 *e*P **P 18 57 40.9 -0.8**
baz=312
SATY Saty 64.52 312 *e*P **P 18 57 40.9 -0.8**
P19K Oil Pt 64.57 30 P P 18 57 41.6 -0.1
baz=251
Q20K Shuyak Island 64.66 31 P P 18 57 42.6 +0.4
baz=253
F18K Selawik 64.66 21 P P 18 57 42.5 +0.5
baz=242,SNR=12
G18K Tagagawik 64.69 22 P P 18 57 43.0 +0.7
baz=243,SNR=60
L19K White Mountain 64.70 27 IAmb IAmb 18 57 45.7
comp=Z,81nm,1.1s
L19K White Mountain 64.70 27 P P 18 57 43.6 +1.2
baz=249,SNR=32
E18K Tukpahlearik C 64.72 20 P P 18 57 43.4 +1.0
baz=241
TDK Taldyqorghan 64.74 314 *e*P **P 18 57 42.2 -0.9**
comp=Z,34nm,1.0s,baz=314
TDK LR LR 19 26 58.5
comp=Z,859nm,15.6s,baz=314
TDK Taldyqorghan 64.74 314 *e*P **P 18 57 42.1 -0.9**
TDK pmax pmax
comp=Z,34nm,1.0s
TDK MLR MLR
comp=Z,859nm,16.0s
M19K Big River Lodg 64.80 27 IAmb IAmb 18 57 46.7
comp=Z,58nm,1.3s
M19K Big River Lodg 64.80 27 P P 18 57 44.6 +1.5
baz=249
GCSA Galena City Sc 64.86 24 P P 18 57 44.0 +0.6
baz=246
O20K Slope Mountain 65.00 29 P P 18 57 45.2 +0.8
baz=252
J19K Poorman 65.06 25 P P 18 57 45.7 +1.0
baz=247,SNR=41
C18K Utukok River 65.15 19 IAmb IAmb 18 57 47.5
comp=Z,75nm,1.4s
C18K Utukok River 65.15 19 P P 18 57 45.4 +0.2
baz=240,SNR=13
L20K Farewell, AK 65.23 26 P P 18 57 47.0 +1.1
baz=250,SNR=15
B18K Kokolik River 65.33 18 P P 18 57 46.6 +0.3
baz=239,SNR=11
HOM Homer 65.34 30 P P 18 57 47.1 +0.6
baz=253
M20K Styx River 65.35 27 IAmb IAmb 18 57 53.4
comp=Z,52nm,1.1s
M20K Styx River 65.35 27 P P 18 57 48.3 +1.5
baz=250,SNR=20
H19K Roundabout Mou 65.35 23 P P 18 57 47.7 +1.2
baz=246,SNR=38
G19K Purcell Mounta 65.38 22 P P 18 57 47.4 +0.7
baz=245,SNR=65
F19K Shaleruckik Mo 65.43 21 P P 18 57 47.2 +0.2
baz=244,SNR=12
KURK Kurchatov 65.43 320 P P 18 57 47.0 -0.3
KURK IAmb IAmb 18 57 48.4
comp=Z,86nm,1.2s
KURK Kurchatov 65.43 320 *i* P **P 18 57 46.7 -0.6**
KURK pmax pmax
comp=Z,96nm,1.3s
K20K Telida 65.46 26 P P 18 57 48.3 +0.9
baz=249,SNR=28
KURBB Kurchatov Arra 65.47 320 P P 18 57 47.1 -0.5
comp=Z,30nm,1.0s,baz=101,slow=6.6,SNR=23
KURBB PKP2bc 19 26 31.8
comp=Z,1.2nm,1.0s,baz=269,slow=3.6,SNR=5.0
KURBB LR LR 19 27 44.2
comp=Z,3μm,19.0s,baz=114,slow=37
comp=Z,30nm,1.0s
CNPM China Poot 65.50 30 IAmb IAmb 18 58 04.5
comp=Z,48nm,0.8s
MDOK Medeo 65.52 312 *e*P **P 18 57 47.4 -0.9**
baz=312
MDOK LR LR 19 27 33.2
comp=Z,584nm,13.2s,baz=312
MDOK Medeo 65.52 312 *e*P **P 18 57 47.3 -0.9**
MDOK MLR MLR
comp=Z,584nm,13.0s
N20K Mount Spurr 65.55 28 P P 18 57 48.2 +0.2
baz=252
CHKK Chushkaly 65.62 312 *e*P **P 18 57 48.4 -0.4**
baz=312
CHKK Chushkaly 65.62 312 *e*P **P 18 57 48.4 -0.4**
J20K Nowinta River 65.73 25 P P 18 57 50.2 +1.1
baz=248,SNR=58
BRLK Bradley Lake 65.74 30 IAmb IAmb 18 58 23.4
comp=Z,43nm,0.7s
BRSE Bradley Lake S 65.80 30 P P 18 57 49.7 +0.1
baz=254
I20K Naaghedeneel 65.83 24 P P 18 57 51.0 +1.4
baz=248,SNR=32
C19K Lookout Ridge 65.88 19 P P 18 57 50.9 +0.9
baz=241
E19K Redstone River 65.89 21 P P 18 57 51.1 +1.0
baz=244
CAPN Captain Cook N 65.90 29 P P 18 57 50.5 +0.4
baz=253
H20K Anotleneega Mo 65.94 23 P P 18 57 51.6 +1.2
baz=247,SNR=45
A19K Wainwright 65.98 17 P P 18 57 51.5 +1.0
baz=239
D19K Kuna River 66.06 20 P P 18 57 51.9 +0.8
baz=243
KSH Kashi 66.07 308 P P 18 57 55.6 +3.7
KSH PcS 19 02 29.1
KSH S **S 19 06 45.3 +8.0**
KSH pmax pmax
comp=Z,9.0nm,1.6s
KSH pmax pmax
comp=Z,350nm,7.4s
KSH LR LR
comp=Z,2μm,14.3s
KSH LR LR
comp=Z,2μm,15.8s
KSH LR LR
comp=Z,2μm,17.7s
KUU Kurty 66.09 312 *e*P **P 18 57 51.4 -0.4**
comp=Z,26nm,1.0s,baz=312
KUU LR LR 19 27 46.4
comp=Z,2μm,17.8s,baz=312
KUU Kurty 66.09 312 *e*P **P 18 57 51.4 -0.4**
KUU pmax pmax
comp=Z,26nm,1.0s
KUU MLR MLR
comp=Z,2μm,18.0s
SKT Skwentna 66.10 27 IAmb IAmb 18 57 53.6
comp=Z,73nm,1.4s
SKT Skwentna 66.10 27 P P 18 57 51.6 +0.1
baz=252,SNR=13
PPLA Purkeypile 66.10 26 P P 18 57 52.7 +1.1
baz=251,SNR=15
F20K Avaraart Lake 66.25 22 IAmb IAmb 18 57 54.7
comp=Z,71nm,1.2s
F20K Avaraart Lake 66.25 22 P P 18 57 53.6 +1.3
baz=246,SNR=23
SUA Susitna One 66.30 28 P P 18 57 53.0 +0.1
baz=253
CAST Castle Rocks 66.32 26 P P 18 57 53.9 +1.0
baz=251,SNR=57
CHUM Lake Minchumin 66.38 25 P P 18 57 54.2 +1.1
baz=250,SNR=38
O22K Cooper Landing 66.50 29 P P 18 57 54.3 +0.3
baz=254
SEW Seward 66.53 30 P P 18 57 54.6 +0.4
baz=255
E20K Nigu River 66.60 20 P P 18 57 55.5 +0.8
baz=245
D20K Etkluk River 66.65 20 P P 18 57 55.2 +0.2
baz=244
RC01 Rabbit Creek A 66.66 29 P P 18 57 55.3 +0.3
baz=254
M22K Willow 66.67 28 P P 18 57 55.1 0.0
baz=253
CUT Chulitna 66.79 27 P P 18 57 55.7 -0.1
baz=253,SNR=5.0
H21K Melozitna Rive 66.80 23 P P 18 57 56.5 +0.6
baz=248,SNR=42
G21K Allakaket 66.85 22 IAmb IAmb 18 57 58.5
comp=Z,83nm,1.3s
G21K Allakaket 66.85 22 P P 18 57 57.1 +0.9
baz=248
I21K Tanana 66.96 24 P P 18 57 57.9 +1.1
baz=250
BPAW Bear Paw Mtn. 67.00 25 P P 18 57 57.8 +0.6
baz=252,SNR=52
B20K Meade River 67.06 18 P P 18 57 58.2 +0.8
baz=243,SNR=22
PMR Palmer 67.08 28 P P 18 57 59.1 +1.4
PMR Palmer 67.08 28 IAmb IAmb 18 57 59.2
comp=Z,64nm,1.3s
PMR Palmer 67.08 28 P P 18 57 57.7 0.0
baz=254
TRF Thorofare Moun 67.10 26 P P 18 57 57.8 -0.2
baz=252,SNR=16
F21K Alatna River 67.12 22 IAmb IAmb 18 58 01.1
comp=Z,27nm,1.1s
F21K Alatna River 67.12 22 P P 18 57 58.2 +0.3
baz=248,SNR=18
GHO Glory Hole Cre 67.22 28 IAmb IAmb 18 58 32.3
comp=Z,53nm,1.1s
KNK Knik Glacier 67.34 28 IAmb IAmb 18 58 12.4
comp=Z,65nm,1.0s
KNK Knik Glacier 67.34 28 P P 18 58 00.1 +0.7
baz=255,SNR=12
MLY Matey 67.40 24 P P 18 58 00.8 +1.1
baz=252,SNR=63
E21K Killik River 67.42 20 IAmb IAmb 18 58 53.3
comp=Z,39nm,1.2s
E21K Killik River 67.42 20 P P 18 58 00.1 +0.3
baz=247,SNR=8.7
H22K Ishtalitna Cre 67.44 23 P P 18 58 00.9 +1.0
baz=250,SNR=19
C21K Knifeblade Rid 67.44 20 P P 18 58 00.8 +0.9
baz=246,SNR=20
P23K Montague Islan 67.49 30 P P 18 58 01.8 +1.4
baz=257
SML Sawmill 67.50 28 P P 18 58 00.8 +0.3
baz=255,SNR=15
WAT1 Susitna Watana 67.67 27 P P 18 58 01.5 0.0
baz=254
B21K Ikpikpuk River 67.69 19 IAmb IAmb 18 58 05.2
comp=Z,57nm,1.1s
B21K Ikpikpuk River 67.69 19 P P 18 58 02.0 +0.7
baz=246,SNR=20
F22K John River 67.70 22 P P 18 58 02.9 +1.3
baz=249,SNR=70
RND Reindeer 67.70 26 IAmb IAmb 18 58 03.6
comp=Z,71nm,1.2s
G22K Bettles 67.74 22 P P 18 58 02.3 +0.5
baz=250
MCK McKinley 67.76 26 P P 18 58 01.9 -0.1
baz=254,SNR=9.0
M23K Glacier View 67.78 28 P P 18 58 02.8 +0.7
baz=256,SNR=9.8
A21K Barrow 67.82 17 P P 18 58 02.9 +0.8
baz=243
BTLS Baital 67.82 313 *e*P **P 18 58 02.2 -0.5**
baz=314
BTLS Baital 67.82 313 *e*P **P 18 58 02.2 -0.5**
GLI Glacier Island 67.85 29 IAmb IAmb 18 58 31.6
comp=Z,30nm,0.9s
GLI Glacier Island 67.85 29 P P 18 58 03.0 +0.4
baz=257
Q23K Middleton Isla 67.89 31 P P 18 58 04.1 +1.3
baz=258
NEA2 Nenana 67.95 25 IAmb IAmb 18 58 19.4
comp=Z,47nm,1.4s
NEA2 Nenana 67.95 25 P P 18 58 03.6 +0.5
baz=253,SNR=7.7
SCM Sheep Creek Mo 67.97 28 P P 18 58 04.3 +0.9
baz=256,SNR=22
WAT6 Susitna Watana 67.97 27 P P 18 58 03.8 +0.3
baz=255,SNR=30
I23K Minto, Yukon-K 68.00 24 P P 18 58 04.5 +1.1
baz=253,SNR=66
D22K Ayikyak River 68.03 20 P P 18 58 04.8 +1.2
baz=248,SNR=22
E22K Anaktuvuk Pass 68.05 21 P P 18 58 04.7 +0.9
baz=249
H23K Yukon River 68.13 24 P P 18 58 05.2 +0.9
baz=252,SNR=34
A22K Sinclair Lake 68.16 18 P P 18 58 05.0 +0.7
baz=245
NIL Nilore 68.19 301 P P 18 58 05.0 -0.3
NIL IAmb IAmb 18 58 06.7
comp=Z,64nm,1.1s
NIL Nilore 68.19 301 P P 18 58 05.0 -0.3
NIL pmax pmax
comp=Z,64nm,1.2s
G23K Bananza Creek 68.22 23 P P 18 58 05.9 +1.0
baz=252,SNR=47
DHY Denali Highway 68.26 27 IAmb IAmb 18 58 08.0
comp=Z,64nm,1.2s
DHY Denali Highway 68.26 27 P P 18 58 05.5 +0.2
baz=255,SNR=24
COLD Coldfoot 68.32 22 P P 18 58 06.7 +1.3
baz=251,SNR=44
B22K Teshekpuk Lake 68.36 19 P P 18 58 06.0 +0.5
baz=247,SNR=26
MDM Murphy Dome 68.40 25 IAmb IAmb 18 58 09.4
comp=Z,68nm,1.1s
EYAK Cordova Ski Ar 68.42 30 P P 18 58 10.6 +4.5
EYAK Cordova Ski Ar 68.42 30 P P 18 58 06.9 +0.7
baz=258
COLA College 68.53 25 P P 18 58 07.7 +1.0
COLA College 68.53 25 P P 18 58 06.9 +0.2
COLA IAmb IAmb 18 58 10.4
comp=Z,78nm,1.2s
COLA College 68.53 25 P P 18 58 06.5 -0.2
baz=254
COLA College 68.53 25 *i* P **P 18 58 06.4 -0.3**
COLA pmax pmax
comp=Z,68nm,1.2s
KLU Klutina 68.54 29 IAmb IAmb 18 58 22.5
comp=Z,30nm,0.9s
KLU Klutina 68.54 29 P P 18 58 07.9 +0.9
baz=257,SNR=8.6
M24K Tolsona, Glenn 68.56 28 IAmb IAmb 18 58 35.7
comp=Z,66nm,0.9s
M24K Tolsona, Glenn 68.56 28 P P 18 58 08.4 +1.3
baz=257,SNR=6.1
D23K Nanushuk River 68.74 20 P P 18 58 09.4 +1.4
baz=250,SNR=59
POKR Poker Plat Res 68.77 25 IAmb IAmb 18 58 10.1
comp=Z,75nm,1.2s
POKR Poker Plat Res 68.77 25 P P 18 58 07.9 -0.4
baz=255,SNR=12
HDA Harding Lake 68.78 26 IAmb IAmb 18 58 09.2
comp=Z,72nm,1.2s
HDA Harding Lake 68.78 26 P P 18 58 07.8 -0.6
baz=255,SNR=20
H24K Noodor Dome 68.79 24 P P 18 58 09.3 +0.9
baz=254,SNR=74
E23K Chandalar 68.80 21 P P 18 58 10.1 +1.6
baz=251
ILAR Eielson Array 68.90 25 P P 18 58 08.0 -1.1
ILAR Eielson Array 68.90 25 P P 18 58 08.3 -0.8
comp=Z,61nm,1.1s,baz=258,slow=4.4,SNR=71
ILAR PKP2bc 19 26 21.9
comp=Z,0.7nm,1.1s,baz=61,slow=3.7,SNR=4.9
comp=Z,61nm,1.1s
ILAR Eielson Array 68.90 25 P P 18 58 08.0 -1.1
KAIM Kayak Island 68.95 30 P P 18 58 10.9 +1.5
baz=259
TOLK Toolik Lake Re 69.01 21 P P 18 58 10.9 +1.1
baz=251,SNR=36
BMRM Bremner River 69.06 29 P P 18 58 11.1 +0.9
baz=259
C23K Itkillik River 69.06 19 P P 18 58 10.8 +0.8
baz=250,SNR=33
PAX Paxson 69.08 27 P P 18 58 10.8 +0.5
baz=257,SNR=23
HARP HAARP 69.09 28 P P 18 58 11.5 +1.1
baz=258,SNR=10.0
BRZS Berezniki 69.11 319 *e*P **P 18 58 10.1 -0.7**
baz=319
BRZS *e*S **S 19 07 13.4 +0.3**
baz=319
BRZS Berezniki 69.11 319 *e*P **P 18 58 10.0 -0.7**
BRZS *e*S **S 19 07 13.4 +0.3**
K24K Donnelly Dome 69.13 26 P P 18 58 10.9 +0.3
baz=257,SNR=15
G24K Hadweenzic Riv 69.19 23 P P 18 58 11.7 +0.9
baz=254,SNR=38
N25K Chitina, Valde 69.19 29 IAmb IAmb 18 58 28.1
comp=Z,33nm,1.1s
N25K Chitina, Valde 69.19 29 P P 18 58 12.3 +1.3
baz=259,SNR=6.8
E24K Your Creek 69.21 22 P P 18 58 12.2 +1.2
baz=252,SNR=34
F24K Squaw Lake 69.26 22 P P 18 58 12.7 +1.4
baz=253,SNR=43
D24K Happy Valley 69.43 20 P P 18 58 13.7 +1.4
baz=252,SNR=68
J25K Salcha River, 69.50 25 IAmb IAmb 18 58 14.5
comp=Z,66nm,1.2s
J25K Salcha River, 69.50 25 P P 18 58 12.5 -0.3
baz=257,SNR=27
GLB Gilahina Butte 69.53 29 IAmb IAmb 18 58 48.1
comp=Z,53nm,1.1s
BGLC Bering Glacier 69.54 30 P P 18 58 15.1 +2.0
baz=260
PRP Porcupine Dome 69.64 25 P P 18 58 12.4 -1.5
baz=256,SNR=7.8
C24K Franklin Bluff 69.65 20 P P 18 58 14.3 +0.7
baz=252,SNR=38
VRDI Verde Repeater 69.66 29 IAmb IAmb 18 58 39.9
comp=Z,68nm,1.4s
DZA Taraz 69.69 311 *e*P **P 18 58 14.1 -0.4**
baz=311
DZA Taraz 69.69 311 *e*P **P 18 58 14.0 -0.4**
H25L Birch Creek 69.71 24 P P 18 58 13.8 -0.3
baz=256
G25K Bearman Lake 69.73 23 P P 18 58 14.9 +0.8
baz=255,SNR=16
SNH Sunshine Point 69.77 30 P 18 58 18.2 +3.5
MENT Mentasta 69.85 27 P P 18 58 17.9 +2.8
MENT Mentasta 69.85 27 IAmb IAmb 18 58 24.9
comp=Z,29nm,0.9s
MCARA McCarthy VSAT 69.89 29 IAmb IAmb 18 58 41.2
comp=Z,43nm,0.8s
MCARA McCarthy VSAT 69.89 29 P P 18 58 16.4 +1.1
baz=260
SCRK Sand Creek 69.94 26 IAmb IAmb 18 58 18.3
comp=Z,83nm,1.2s
SCRK Sand Creek 69.94 26 P P 18 58 16.6 +0.9
baz=258,SNR=25
L26K Log Cabin Wild 70.04 27 IAmb IAmb 18 58 19.8
comp=Z,38nm,1.0s
L26K Log Cabin Wild 70.04 27 P P 18 58 17.8 +1.6
baz=259,SNR=8.6
M26K Nabesna, AK 70.08 28 P P 18 58 17.5 +1.0
baz=260
ISLE Juniper Island 70.08 30 IAmb IAmb 18 58 36.9
comp=Z,83nm,1.4s
F25K Christian Rive 70.11 22 P P 18 58 18.2 +1.6
baz=255,SNR=59
MESA MESA 70.21 30 IAmb IAmb 18 58 34.0
comp=Z,63nm,0.9s
MESA MESA 70.21 30 P P 18 58 18.8 +1.3
baz=262,SNR=5.7
J26L Joseph Creek 70.23 26 IAmb IAmb 18 58 20.0
comp=Z,94nm,1.1s
J26L Joseph Creek 70.23 26 P P 18 58 17.9 +0.5
baz=258,SNR=40
E25K Arctic Village 70.28 22 P P 18 58 19.2 +1.6
baz=255,SNR=26
KKAR Karatay Array 70.29 311 P P 18 58 17.6 -0.5
KKAR Karatay Array 70.29 311 P P 18 58 17.6 -0.5
D25K Kavik River 70.31 21 P P 18 58 18.9 +1.1
baz=254,SNR=76
BMAR Burnt Mountain 70.47 23 P P 18 58 20.0 +1.2
I26K Coal Creek Min 70.57 25 IAmb IAmb 18 58 20.9
comp=Z,48nm,1.2s
I26K Coal Creek Min 70.57 25 P P 18 58 18.8 -0.5
baz=259,SNR=16
M27K Edge Creek, AK 70.59 28 IAmb IAmb 18 58 22.9
comp=Z,63nm,1.4s
M27K Edge Creek, AK 70.59 28 P P 18 58 20.7 +1.0
baz=261,SNR=9.3
CTG Chitna Glacier 70.62 30 P P 18 58 21.2 +1.3
baz=262,SNR=6.5
CTGM Chitina Glacie 70.63 30 IAmb IAmb 18 58 39.5
comp=Z,44nm,0.8s
G26K Porcupine Rive 70.66 23 P P 18 58 21.5 +1.7
baz=257,SNR=58
F26K Sheenjek River 70.69 22 P P 18 58 21.9 +1.8
baz=257,SNR=65
L27K Beaver Creek, 70.72 27 IAmb IAmb 18 58 23.5
comp=Z,40nm,1.2s
L27K Beaver Creek, 70.72 27 P P 18 58 21.3 +0.9
baz=261,SNR=11
BCAR Beaver Creek A 70.75 27 P P 18 58 21.0 +0.4
LOGN Logan Glacier 70.77 30 IAmb IAmb 18 58 49.9
comp=Z,68nm,1.1s
BVAR Borovoye Array 70.77 322 P P 18 58 20.9 0.0
comp=Z,11nm,0.5s,baz=99,slow=8.4,SNR=38
comp=Z,11nm,0.5s
K27K Chicken 70.78 26 P P 18 58 22.0 +1.4
baz=260
BRLS Boroldoy 70.79 311 *e*P **P 18 58 21.4 +0.2**
baz=311
BRLS Boroldoy 70.79 311 *e*P **P 18 58 21.3 +0.2**
BRVK Borovoye 70.84 322 *i* P **P 18 58 20.7 -0.5**
BRVK pmax pmax
comp=Z,79nm,1.3s
C26K Camden Bay 70.97 20 P P 18 58 23.6 +2.0
baz=255,SNR=91
O28M Mount Upton 71.16 30 P P 18 58 25.0 +1.7
baz=263,SNR=7.5
YUK3 Moose Creek 71.16 29 P P 18 58 24.7 +1.4
baz=262,SNR=5.8
I27K Kandik River 71.25 25 P P 18 58 24.1 +0.5
baz=260,SNR=17
C27K Jago River 71.30 20 P P 18 58 24.8 +1.1
baz=257,SNR=41
EGAK Eagle 71.30 26 IAmb IAmb 18 58 26.7

comp=Z,106nm,1.2s
EGAK Eagle 71.30 26 P P 18 58 24.7 +0.9
baz=261,SNR=26
CHGR Chuyangaron 71.37 307 IAmb IAmb 18 58 57.3
comp=Z,54nm,1.0s
H27K Steamboat Moun 71.40 24 P P 18 58 25.8 +1.4
baz=260,SNR=90
PNL Peninsula 71.42 31 P P 18 58 28.9 +4.3
PNL Peninsula 71.42 31 P P 18 58 25.7 +1.0
baz=264
YUK8 Steele Glacier 71.43 29 P P 18 58 26.0 +1.1
baz=263,SNR=6.7
G27K Doyon Strip 71.46 24 IAmb IAmb 18 58 27.9
comp=Z,43nm,1.2s
G27K Doyon Strip 71.46 24 P P 18 58 25.8 +1.1
baz=260,SNR=23
SIMJ Simiganj 71.49 307 P P 18 58 24.8 -0.8
KBL Kabul 71.64 302 P P 18 58 26.0 -0.7
KBL Kabul 71.64 302 P P 18 58 26.0 -0.7
KBL pmax pmax
comp=Z,34nm,1.2s
E27K Coleen River 71.74 22 IAmb IAmb 18 58 29.7
comp=Z,81nm,1.1s
E27K Coleen River 71.74 22 P P 18 58 27.9 +1.4
baz=259,SNR=39
I28M Miner Creek 71.92 25 IAmb IAmb 18 58 30.0
comp=Z,71nm,1.2s
I28M Miner Creek 71.92 25 P P 18 58 28.6 +0.9
baz=262,SNR=30
DAWY Dawson 71.95 27 IAmb IAmb 18 58 31.2
comp=Z,86nm,1.1s
DAWY Dawson 71.95 27 P P 18 58 28.9 +1.1
baz=262,SNR=35
YUK4 Talbot Arm 71.97 29 P P 18 58 30.2 +2.1
baz=264
YUK6 Outpost Mounta 72.06 30 P P 18 58 30.4 +1.6
baz=264
D27M Malcolm River 72.17 21 IAmb IAmb 18 58 31.8
comp=Z,98nm,1.1s
D27M Malcolm River 72.17 21 P P 18 58 30.6 +1.6
baz=259,SNR=33
M29M Somme Creek 72.17 28 P P 18 58 30.8 +1.6
baz=264,SNR=16
P29M Windy Craggy 72.25 31 IAmb IAmb 18 58 44.1
comp=Z,41nm,0.9s
P29M Windy Craggy 72.25 31 P P 18 58 31.5 +1.9
baz=265,SNR=8.0
F28M Old Crow 72.28 23 IAmb IAmb 18 58 32.9
comp=Z,104nm,1.1s
F28M Old Crow 72.28 23 P P 18 58 31.2 +1.5
baz=261,SNR=46
L29M L29M 72.40 28 IAmb IAmb 18 58 34.4
comp=Z,64nm,1.1s
L29M L29M 72.40 28 P P 18 58 32.4 +1.9
baz=264,SNR=19
HYT Haines Junctio 72.47 30 P P 18 58 32.9 +1.8
baz=265,SNR=7.9
J29N Klondike Camp 72.51 26 P P 18 58 32.7 +1.5
baz=263
E28M Babbage River 72.56 22 P P 18 58 32.9 +1.6
baz=261,SNR=43
I29M Ogilvie Camp, 72.58 25 P P 18 58 32.6 +1.1
baz=263,SNR=36
H29M Whitestone 72.67 24 IAmb IAmb 18 58 42.6
comp=Z,91nm,1.1s
H29M Whitestone 72.67 24 P P 18 58 33.4 +1.4
baz=263,SNR=19
P30M Million Dollar 72.68 31 P P 18 58 33.9 +1.6
baz=266
N30M Aishihik Lake 72.73 29 P P 18 58 34.0 +1.5
baz=265
K29M Barlow Dome 72.75 27 IAmb IAmb 18 58 36.3
comp=Z,93nm,1.1s
K29M Barlow Dome 72.75 27 P P 18 58 33.9 +1.2
baz=264,SNR=41
G29M Pine Creek 72.89 24 P P 18 58 34.7 +1.4
baz=263,SNR=40
S31K Pelican 72.93 33 P P 18 58 34.9 +1.3
baz=267
PLBC Pleasant Camp 72.94 32 P P 18 58 35.2 +1.6
baz=267,SNR=9.3
M30M Minto, Yukon 72.96 28 P P 18 58 35.2 +1.4
baz=265
D28M Stokes Point 72.96 21 P P 18 58 34.8 +1.2
baz=261,SNR=14
E29M Blow River 73.13 22 IAmb IAmb 18 58 53.4
comp=Z,63nm,1.1s
E29M Blow River 73.13 22 P P 18 58 35.8 +1.2
baz=262,SNR=19
O30N Mendenhall 73.16 30 P P 18 58 36.5 +1.5
baz=266
R31K City Hall, Gus 73.21 33 P P 18 58 36.7 +1.5
baz=268
J30M Hart River 73.33 26 IAmb IAmb 18 58 39.6
comp=Z,83nm,1.2s
J30M Hart River 73.33 26 P P 18 58 37.6 +1.5
baz=265,SNR=32
EPYK Eagle Plains 73.34 24 P P 18 58 37.0 +1.0
baz=264,SNR=20
N31M Braeburn, Yuko 73.35 29 IAmb IAmb 18 59 01.1
comp=Z,46nm,1.1s
N31M Braeburn, Yuko 73.35 29 P P 18 58 37.7 +1.5
baz=266,SNR=5.6
I30M Mount Dempster 73.37 25 IAmb IAmb 18 58 38.6
comp=Z,50nm,1.2s
I30M Mount Dempster 73.37 25 P P 18 58 37.1 +0.8
baz=265,SNR=13
SIT Sitka 73.38 34 P P 18 58 37.8 +1.5
baz=268
MAYO Mayo, Yukon 73.45 27 P P 18 58 38.2 +1.5
baz=266
SKAG Skagway 73.47 32 IAmb IAmb 18 58 46.6
comp=Z,45nm,1.1s
SKAG Skagway 73.47 32 P P 18 58 38.4 +1.6
baz=268
G30M tAoh Zraii Nji 73.60 24 P P 18 58 38.4 +0.8
baz=264,SNR=60
WHY Whitehorse 73.75 30 P P 18 58 40.4 +1.8
baz=268,SNR=10
S32K Killisnoo 73.80 34 P P 18 58 39.0 +0.3
baz=269
F30M Barrier River 73.83 23 P P 18 58 40.1 +1.3
baz=265,SNR=42
R32K Eaglecrest 73.85 33 P P 18 58 40.2 +1.2
baz=269
JIS Juneau Island 73.92 33 P P 18 58 43.8 +4.4
JIS Juneau Island 73.92 33 IAmb IAmb 18 58 48.0
comp=Z,50nm,1.2s
M31M Drury Creek, Y 74.05 29 P P 18 58 41.3 +1.1
baz=268,SNR=7.0
H31M Peel River 74.26 25 P P 18 58 42.1 +0.7
baz=267
P32M Atlin 74.30 31 P P 18 58 43.2 +1.4
baz=269,SNR=13
G31M Satah River 74.36 24 P P 18 58 42.9 +1.0
baz=266,SNR=61
FARO Faro, Yukon 74.54 29 P P 18 58 44.2 +1.1
baz=268
F31M Tsiigehtchic 74.60 23 IAmb IAmb 18 58 45.6
comp=Z,110nm,1.2s
F31M Tsiigehtchic 74.60 23 P P 18 58 44.0 +0.7
baz=267,SNR=27
N32M Quiet Lake 74.64 30 P P 18 58 45.0 +1.3
baz=269
INK Inuvik 74.74 22 P P 18 58 44.6 +0.6
baz=267,SNR=51
P33M Teslin, Yukon 74.76 31 P P 18 58 45.7 +1.3
baz=270
WRAK Wrangell Islan 75.01 35 IAmb IAmb 18 58 54.6
comp=Z,64nm,1.3s
MMPY Sheldon Lake, 75.52 28 IAmb IAmb 18 58 51.9
comp=Z,58nm,1.4s
MMPY Sheldon Lake, 75.52 28 P P 18 58 50.4 +1.7
baz=270,SNR=13
S34M Telegraph Cree 75.64 33 IAmb IAmb 18 59 04.7
comp=Z,48nm,1.1s
S34M Telegraph Cree 75.64 33 P P 18 58 51.0 +1.6
baz=272,SNR=19
R33M Jennings River 75.70 32 IAmb IAmb 18 59 04.5
comp=Z,46nm,1.1s
R33M Jennings River 75.70 32 P P 18 58 51.5 +1.6
baz=271,SNR=22
DLBC Dease Lake 76.21 33 IAmb IAmb 18 59 08.0
comp=Z,82nm,1.2s
DLBC Dease Lake 76.21 33 P P 18 58 54.3 +1.5
baz=272,SNR=30
RUBB Prince Rupert 76.28 37 IAmb IAmb 18 59 11.6
comp=Z,52nm,1.3s

SVE Sverdlovsk 76.44 326 ceP P 18 58 55.0 +1.0
SVE pmax pmax
comp=Z,113nm,1.4s
WTLY Watson Lake, Y 76.77 31 IAmb IAmb 18 59 10.3
comp=Z,55nm,0.9s
WTLY Watson Lake, Y 76.77 31 P P 18 58 57.5 +1.6
baz=273,SNR=18
TGTN Hyland Airport 76.95 29 P P 18 58 58.5 +1.6
baz=273
ABKAR Akbulak array 77.39 318 P P 18 58 58.9 -0.6
ABKAR Akbulak array 77.39 318 IAmb IAmb 18 59 01.4
comp=Z,47nm,1.2s
A36M Sachs Harbour 77.57 19 IAmb IAmb 18 59 01.8
comp=Z,86nm,1.1s
A36M Sachs Harbour 77.57 19 P P 18 59 00.8 +0.7
baz=274,SNR=38
ARU Arti 77.61 325 P P 18 58 59.8 -0.7
ARU IAmb IAmb 18 59 02.4
comp=Z,78nm,1.2s
ARU Arti 77.61 325 iP P 18 58 59.6 -1.0
ARU pmax pmax
comp=Z,77nm,1.2s
ARU Arti 77.61 325 P P 18 59 01.0 +0.4
comp=Z,59nm,1.3s,comp=Z,891nm
BBB Bella Bella 77.72 39 LR LR 19 26 56.3
comp=Z,1μm,21.7s,baz=292,slow=31
C36M Paulatuk 78.15 21 IAmb IAmb 18 59 04.9
comp=Z,95nm,1.1s
C36M Paulatuk 78.15 21 P P 18 59 04.0 +0.6
baz=275,SNR=23
WRGLY Wrigley 79.04 27 IAmb IAmb 18 59 12.0
comp=Z,41nm,0.9s
WRGLY Wrigley 79.04 27 P P 18 59 10.0 +1.6
baz=277
KOTAN Kotaneelee Air 79.13 31 P P 18 59 10.0 +1.1
baz=277,SNR=9.9
GEYT Alibeck 80.08 307 P P 18 59 14.6 0.0
GEYT IAmb IAmb 18 59 19.0
comp=Z,94nm,1.8s
GEYT Alibeck 80.08 307 P P 18 59 14.5 -0.1
comp=Z,2.3nm,0.7s,baz=72,slow=4.8,SNR=7.8
comp=Z,2.3nm,0.7s
GEYT Alibeck 80.08 307 P P 18 59 14.6 0.0
GEYT pmax pmax
comp=Z,94nm,1.8s
GYA0B ALIBECK ARRAY 80.08 307 P 18 59 17.7 +3.1
CLRS Cowichan Lake 80.66 42 P P 18 59 18.0 +0.6
GNW Green Mountain 81.72 43 IAmb IAmb 18 59 29.4
comp=Z,55nm,1.4s
KSXB Camp Six Broad 81.99 49 P 18 59 28.2 +3.4
I03D Drain, OR 82.04 47 P 18 59 28.2 +3.3
KIRV Kirov 82.18 328 iP P 18 59 24.5 -0.7
BUCK Buck Mountain 82.21 47 IAmb IAmb 18 59 51.5
comp=Z,122nm,1.4s
I04A Tendick Farm, 82.69 47 IAmb IAmb 19 00 05.4
comp=Z,72nm,1.6s
YBH Yreka Blue Hor 82.86 49 IAmb IAmb 18 59 54.9
comp=Z,58nm,1.4s
YBH Yreka Blue Hor 82.86 49 LR LR 19 28 51.1
comp=Z,1μm,21.4s,baz=314,slow=30
L04D Klamath Falls 83.07 48 IAmb IAmb 19 00 16.6
comp=Z,41nm,1.2s
CASY Casey 83.12 193 P P 18 59 29.7 -0.1
CASY IAmb IAmb 18 59 33.1
comp=Z,49nm,1.3s
YKA Yellowknife Ar 83.16 27 P P 18 59 30.7 +0.4
YKA Yellowknife Ar 83.16 27 P P 18 59 30.8 +0.5
comp=Z,27nm,1.1s,baz=293,slow=5.6,SNR=45
comp=Z,27nm,1.1s
YKA Yellowknife Ar 83.16 27 iP P 18 59 31.2 +0.9
YKA pmax pmax
comp=Z,28nm,1.0s
J05D Fort Rock, OR 83.63 47 IAmb IAmb 18 59 58.7
comp=Z,72nm,1.4s
PINE Pine Mountain 83.74 47 IAmb IAmb 18 59 59.8
comp=Z,43nm,0.9s
BRLDA Berland Lookou 83.77 36 IAmb IAmb 18 59 49.8
comp=Z,43nm,0.9s
K05A Summer Lake 83.99 48 IAmb IAmb 19 00 28.3
comp=Z,58nm,1.3s
BELG Belogornoye 84.57 322 iP P 18 59 36.8 -0.8
BELG pmax pmax
comp=Z,67nm,1.3s
SPITS Spitsbergen Ar 84.77 351 P P 18 59 38.7 +0.5
comp=Z,46nm,1.2s,baz=64,slow=9.8,SNR=6.4
comp=Z,46nm,1.2s
RES Resolute Bay 85.04 13 IAmb IAmb 18 59 41.6
comp=Z,74nm,1.2s
NOR Nord 85.19 357 iP P 18 59 38.5 -1.8
NOR IAmb IAmb 18 59 43.2
comp=Z,8.5nm,1.0s
NEW Newport 85.33 42 IAmb IAmb 19 00 00.7
comp=Z,24nm,0.9s
NEW Newport 85.33 42 P P 18 59 42.9 +1.3
baz=284
MPK Martis Peak 85.37 51 IAmb IAmb 18 59 48.1
comp=Z,38nm,1.2s
LVZ Lovozero 85.69 339 P P 18 59 42.2 -0.8
LVZ Lovozero 85.69 339 eP P 18 59 42.1 -0.9
LVZ pmax pmax
comp=Z,122nm,1.1s
LVZ Lovozero 85.69 339 P P 18 59 42.9 -0.1
ADZR Andozero 85.83 335 eP P 18 59 41.5 -2.2
ADZR pmax pmax
comp=Z,96nm,1.2s
APA Apatity 86.26 339⇓iP P 18 59 43.1 -2.7
APA pmax pmax
comp=Z,73nm,1.1s
APA MLR MLR
comp=Z,2μm,15.0s
SMMC Simmler 86.28 55 P P 18 59 46.8 +0.2
baz=283
EDM Edmonton 86.33 36 IAmb IAmb 19 00 13.8
comp=Z,72nm,1.1s
KLMR Klimovskoe 86.38 332 ciP P 18 59 45.5 -1.0
KLMR pmax pmax
comp=Z,132nm,1.3s
VADS Vadso 86.41 342 eP P 18 59 46.8 +0.3
PKM Mcpherson Peak 86.53 55 P P 18 59 47.8 -0.3
baz=283
VOG Valley Oaks Go 86.54 54 P P 18 59 48.5 +0.7
baz=284
NVAR Mina Array Bea 86.88 51 P P 18 59 50.3 +0.6
comp=Z,14nm,1.1s,baz=264,slow=5.9,SNR=18
comp=Z,14nm,1.1s
VES Vestal, Richgr 86.89 54 P P 18 59 49.6 0.0
baz=284
MAK Makhachkala 87.00 313 eP P 18 59 47.4 -2.5
MAK e 19 03 11.7
MAK ePPP PPP 19 05 04.4
MAK e 19 10 11.3
MAK eSS SS 19 16 07.6 -1.1
MAK eSSS SSS 19 19 40.0
MAK pmax pmax
comp=Z,132nm,1.0s
MAK MLR MLR
comp=Z,1μm,18.0s
SNCC San Nicolas Is 87.14 57 P P 18 59 50.8 0.0
baz=284
BMN Battle Mountai 87.20 49 IAmb IAmb 19 00 17.2
comp=Z,39nm,1.5s
KEV Kevo 87.30 342 P P 18 59 50.1 -0.7
KEV Kevo 87.30 342 P P 18 59 50.1 -0.7
KEV pmax pmax
comp=Z,124nm,1.1s
DSP Deep Springs 87.39 52 IAmb IAmb 18 59 59.0
comp=Z,73nm,1.9s
MFID Camas Ranch 87.44 46 IAmb IAmb 19 00 17.3
comp=Z,47nm,1.1s
CWC Cottonwood Cre 87.53 53 P P 18 59 54.1 +1.2
baz=284
HAMF Hammerfest 87.77 344 eP P 18 59 53.4 +0.3
MSO Missoula 87.79 42 P P 18 59 55.4 +1.6
baz=287
ARA0 ARCESS Array S 87.86 342 eP P 18 59 53.9 +0.4
ARCES ARCESS Array B 87.86 342 P P 18 59 53.5 -0.1
ARCES ARCESS Array B 87.86 342 P P 18 59 53.5 -0.1
comp=Z,105nm,1.0s,baz=57,slow=4.5,SNR=57
comp=Z,105nm,1.0s
GRAC Grapevine Rang 87.95 53 P P 18 59 55.4 +0.7
baz=285
EDW2 Edwards Air Fo 87.98 55 P P 18 59 55.6 +0.7
baz=284
SCI2 San Clemente I 88.00 57 P P 18 59 56.1 +1.2
baz=284
FMP Fort Macarthur 88.03 56 P P 18 59 56.4 +1.3
baz=284

LRMC Laurel Mtn Rad 88.08 54 P P 18 59 56.6 +1.1
baz=285
MPMC Manual Prospec 88.09 54 P P 18 59 56.5 +0.9
baz=285
GROC Groznyy 88.14 314 eP P 18 59 54.6 -0.8
GROC e 19 03 21.1
GROC eS SKSac 19 10 22.2 +1.4
GROC pmax pmax
comp=Z,69nm,1.5s
HLID Hailey 88.39 46 P P 18 59 58.4 +1.6
baz=286
BFSC Mount Baldy Ra 88.41 55 P P 18 59 57.9 +0.8
baz=285
VRH Novokhopyorsk 88.42 322 eP P 18 59 52.7 -3.8
VRH pmax pmax
comp=Z,80nm,1.0s
ELK Elko 88.57 49 IAmb IAmb 19 00 23.7
comp=Z,24nm,0.9s
WCT Wildcat Mounta 88.58 53 IAmb IAmb 19 00 03.5
comp=Z,36nm,1.3s
GWY Greenwater Val 88.70 53 IAmb IAmb 19 00 15.1
comp=Z,26nm,1.1s
GSC Goldstone, Bar 88.82 54 P P 18 59 59.8 +0.9
baz=285
R11B Troy Canyon, C 88.96 51 P P 19 00 00.3 +0.6
baz=286
SHOC Shoshone, Teco 89.08 53 P P 19 00 00.8 +0.7
baz=285
JOF Joensuu 89.11 335 eP P 18 59 59.4 -0.2
MOS Moscow 89.14 327 eP P 18 59 58.5 -1.3
MOS e 19 03 26.3
MOS eS SKSac 19 10 24.5 -1.7
MOS pmax pmax
comp=Z,200nm,1.1s
MOS pmax pmax
comp=Z,141nm,1.2s
MOS pmax pmax
comp=N,47nm,0.7s
MOS pmax pmax
comp=E,50nm,0.9s
NEEM North Greenlan 89.27 4 iP P 18 59 58.4 -2.0
NEEM IAmb IAmb 19 00 02.6
comp=Z,22nm,1.1s
JETT Jettan, Norway 89.32 343 eP P 19 00 00.8 +0.3
Q12A Willow Creek R 89.34 50 IAmb IAmb 19 00 45.5
comp=Z,55nm,1.2s
TUQ Turquoise Moun 89.48 54 P P 19 00 02.6 +0.6
baz=286
GOF Gofitskoye 89.50 316 ceP P 19 00 00.9 -0.9
PFO Pinyon Flats O 89.53 56 P P 19 00 01.3 -1.0
PFO Pinyon Flats O 89.53 56 P P 19 00 02.1 -0.2
baz=285
PFO Pinyon Flats O 89.53 56 iP P 19 00 02.6 +0.2
PFO pmax pmax
comp=Z,49nm,1.4s
TPFO Pinon Flats 89.54 56 P P 19 00 01.8 -0.6
baz=285
LPSR Galich'ya Gora 89.57 324 eP P 18 59 58.4 -3.5
LPSR pmax pmax
comp=Z,200nm,1.2s
PMD Palm Desert 89.59 56 IAmb IAmb 19 00 11.9
comp=Z,37nm,1.4s
NCK Nalchik 89.60 315 iP P 19 00 01.8 -0.5
NCK pmax pmax
comp=Z,60nm,1.4s
TRO Tromso 89.69 344 eP P 19 00 02.1 0.0
BOZ Bozeman (W) 89.69 43 P P 19 00 02.1 -0.8
baz=288
SPR3 Spring Creek 3 89.73 50 IAmb IAmb 19 00 40.7
comp=Z,32nm,1.3s
VORR Voronezh 89.74 323 eP P 19 00 00.5 -2.2
VORR pmax pmax
comp=Z,200nm,1.4s
MONP2 Monument Peak 89.75 56 P P 19 00 03.3 -0.2
baz=285
GNI Garni 89.76 311 P P 19 00 02.6 -0.7
GNI IAmb IAmb 19 00 20.6
comp=Z,63nm,1.6s
GNI Garni 89.76 311 iP P 19 00 02.9 -0.4
GNI pmax pmax
comp=Z,42nm,1.7s
BELC Belle Mtn. Jos 89.80 55 P P 19 00 03.9 +0.3
baz=286
GMRC Granite Mounta 89.86 54 P P 19 00 04.6 +0.7
baz=286,SNR=14
VSR Storozhevoye 89.93 323 eP P 19 00 01.2 -2.4
VSR pmax pmax
comp=Z,120nm,1.3s
OBN Obninsk 89.94 327 ⇓P P 19 00 03.5 -0.1
OBN Obninsk 89.94 327 P P 19 00 02.3 -1.3
OBN Obninsk 89.94 327 ciP P 19 00 02.5 -1.1
OBN e 19 03 36.5
OBN eS SKSac 19 10 32.7 +1.8
OBN pmax pmax
comp=Z,189nm,1.3s
OBN MLR MLR
comp=Z,1μm,19.0s
OBN Obninsk 89.94 327 P P 19 00 02.4 -1.1
VORD Divnogorie 89.94 323 eP P 19 00 00.7 -3.0
VORD pmax pmax
comp=Z,70nm,1.3s
DAG Danmarks Havn 89.95 356 iP P 19 00 02.0 -1.3
DAG IAmb IAmb 19 00 05.5
comp=Z,14nm,1.0s
ONI Oni 89.97 314 IAmb IAmb 19 00 12.3
comp=Z,38nm,1.2s
VALR Valaam 90.00 334 iP P 19 00 02.2 -1.5
VALR pmax pmax
comp=Z,119nm,1.0s
KBZ Khabaz 90.01 315 P P 19 00 03.5 -0.7
comp=Z,9.9nm,1.1s,baz=69,slow=3.0,SNR=10.0
comp=Z,9.9nm,1.1s
KBZ Khabaz 90.01 315 iP P 19 00 02.5 -1.6
KBZ pmax pmax
comp=Z,37nm,1.5s
IKP In-Ko-Pah, Jac 90.07 57 P P 19 00 05.5 +0.7
baz=286
KIV Kislovodsk 90.08 315 ⇑P P 19 00 04.4 -0.3
KIV Kislovodsk 90.08 315 P P 19 00 02.8 -1.9
KIV IAmb IAmb 19 00 05.3
comp=Z,41nm,1.3s
KIV Kislovodsk 90.08 315 deP P 19 00 02.1 -2.6
KIV e 19 03 43.9
KIV eS SKSac 19 10 36.4 +3.9
KIV pmax pmax
comp=Z,38nm,1.3s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 90.08 315 P P 19 00 03.6 -1.1
EGMT Eagleton 90.12 40 P P 19 00 05.8 +1.1
baz=290
SHA1 Shidzhatmaz 90.17 315 iP P 19 00 04.0 -1.3
V12A Nelson 90.24 53 IAmb IAmb 19 00 14.9
comp=Z,43nm,1.3s
BC3 Big Chuckawall 90.33 55 P P 19 00 07.0 +0.9
baz=286
IRM Iron Mountain 90.44 55 P P 19 00 06.3 -0.1
baz=286
DUG Dugway, Tooele 90.50 49 P P 19 00 07.0 +0.2
baz=288
NEE2 Needles Airpor 90.69 54 P P 19 00 08.2 +0.6
baz=286
H17A Grant Village 90.78 44 P P 19 00 08.2 0.0
baz=289
VNDA Vanda 90.80 176 P P 19 00 07.9 +0.9
VNDA Vanda 90.80 176 P P 19 00 07.6 +0.6
comp=Z,4.1nm,1.2s,baz=324,slow=7.4,SNR=7.6
comp=Z,4.1nm,1.2s
VNDA Vanda 90.80 176 P P 19 00 07.9 +0.9
VNDA pmax pmax
comp=Z,7.0nm,1.0s
TPAW Teton Pass 90.81 45 P P 19 00 07.5 -0.8
YMP Mirror Lake Pl 90.95 44 IAmb IAmb 19 00 38.2
comp=Z,86nm,1.6s
HWUT Hardware Ranch 90.97 47 IAmb IAmb 19 03 22.9
comp=Z,32nm,1.1s
ERBR Yeremizino-Bor 91.00 317 eP P 19 00 08.2 -0.6
ERBR pmax pmax
comp=Z,184nm,1.2s
GLA Glamis 91.00 56 P P 19 00 09.2 +0.1
baz=286
LABN Labinsk 91.20 316 eP P 19 00 09.6 -0.1
LABN pmax pmax
comp=Z,76nm,1.7s
PDMCI Parker Dam,Lak 91.20 55 P P 19 00 10.3 +0.4
baz=287

RLMT	**Red Lodge**	**91.42**	**43**	P		**P**	**19 00 10.9**	**-0.1**
	baz=290								
KNB	**Kanab**	**91.44**	**52**	IAmb		IAmb	19 00 30.7		
	comp=Z,32nm,1.2s								
SBA	**Scott Base**	**91.45**	**176**	P		**P**	**19 00 11.1**	**+1.1**
SBA				IAmb		IAmb	19 00 37.7		
	comp=Z,67nm,1.8s								
SBA	**Scott Base**	**91.45**	**176**	P		**P**	**19 00 11.1**	**+1.1**
SBA				pmax		pmax			
	comp=Z,67nm,1.8s								
BCA	**Borcka**	**91.62**	**313**	⇓P		**P**	**19 00 11.4**	**-0.4**
STEI	**Steigen**	**91.81**	**343**	*e*P		**P**	**19 00 12.2**	**+0.2**
FINES	**FINESS Array B**	**91.97**	**335**	P		**P**	**19 00 11.5**	**-1.4**
FINES	**FINESS Array B**	**91.97**	**335**	P		**P**	**19 00 12.1**	**-0.8**
	comp=Z,29nm,0.9s,baz=71,slow=5.0,SNR=30								
	comp=Z,29nm,0.9s								
FINES	**FINESS Array B**	**91.97**	**335**	P		**P**	**19 00 11.5**	**-1.4**
BW06	**Boulder Array**	**92.01**	**45**	P		**P**	**19 00 13.2**	**-0.6**
	baz=290								
PDAR	**Pinedale Array**	**92.01**	**45**	P		**P**	**19 00 13.5**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=190,slow=7.5,SNR=3.2								
FFC	**Flin Flon**	**92.05**	**32**	P		**P**	**19 00 14.1**	**+0.7**
FFC				IAmb		IAmb	19 00 28.2		
	comp=Z,47nm,1.6s								
FFC	**Flin Flon**	**92.05**	**32**	P		**P**	**19 00 14.1**	**+0.7**
FFC				pmax		pmax			
	comp=Z,47nm,1.6s								
VSLR	**Vesyoloye**	**92.06**	**315**	*i* P		**P**	**19 00 10.6**	**-3.2**
VSLR				pmax		pmax			
	comp=Z,77nm,1.2s								
KEF	**Keuruu**	**92.07**	**336**	*e*P		**P**	**19 00 12.6**	**-0.7**
FAUS	**Fauske**	**92.17**	**343**	*e*P		**P**	**19 00 14.0**	**+0.3**
SOC	**Sochi**	**92.24**	**316**	*e*P		**P**	**19 00 11.6**	**-2.9**
SOC				*e*S		**SKSac**	**19 10 41.9**	**-2.7**
SOC				*e*SSS		SSS	19 20 57.0		
SOC				pmax		pmax			
	comp=Z,10.0nm,1.0s								
SOC				MLR		MLR			
	comp=Z,755nm,18.0s								
GURO	**Guroymak-BITLI**	**92.24**	**310**	IAmb		IAmb	19 00 16.6		
	comp=Z,43nm,1.3s								
VAF	**Ylistaro**	**92.42**	**337**	*e*P		**P**	**19 00 14.8**	**-0.1**
DBG	**Daneborg**	**92.45**	**356**	*i* P		**P**	**19 00 11.4**	**-3.5**
DBG				IAmb		IAmb	19 00 16.4		
	comp=Z,4.8nm,1.0s								
LAO	**LASA Array**	**92.84**	**41**	IAmb		IAmb	19 00 36.3		
	comp=Z,30nm,1.1s								
LAO	**LASA Array**	**92.84**	**41**	P		**P**	**19 00 17.4**	**0.0**
	baz=292								
214A	**Organ Pipe Nat**	**92.94**	**56**	P		**P**	**19 00 18.4**	**+0.3**
	baz=287								
WUAZ	**Wupatki**	**93.01**	**53**	P		**P**	**19 00 18.6**	**+0.1**
	baz=288								
ARBE	**Arbavere**	**93.07**	**334**	*e*P		**P**	**19 00 17.7**	**-0.3**
MOR8	**Moi Rana**	**93.23**	**342**	*e*P		**P**	**19 00 17.3**	**-1.4**
VSU	**Vasula**	**93.25**	**333**	*i* P		**P**	**19 00 17.9**	**-0.9**
VSU				pmax		pmax			
	comp=Z,90nm,1.2s								
MEF	**Metsahovi**	**93.33**	**335**	*e*P		**P**	**19 00 19.0**	**-0.2**
ANN	**Anapa**	**93.34**	**317**	*e*P		**P**	**19 00 17.7**	**-1.9**
ANN				*e*S		**SKSac**	**19 10 48.9**	**-1.7**
ANN				pmax		pmax			
	comp=Z,58nm,1.4s								
ANN				pmax		pmax			
	comp=N,26nm,1.7s								
ANN				pmax		pmax			
	comp=E,22nm,1.6s								
ANN				MLR		MLR			
	comp=Z,919nm,17.0s								
ANN				MLR		MLR			
	comp=E,637nm,18.0s								
ANN				MLR		MLR			
	comp=N,1μm,18.0s								
O20A	**White River Ci**	**93.84**	**48**	P		**P**	**19 00 22.1**	**-0.2**
	baz=290								
RAF	**Rauma**	**93.94**	**336**	*e*P		**P**	**19 00 21.6**	**-0.4**
K22A	**Casper**	**94.14**	**45**	P		**P**	**19 00 23.6**	**0.0**
	baz=292								
MTSE	**Matsula**	**94.41**	**334**	*e*P		**P**	**19 00 23.9**	**-0.2**
W18A	**Petrified Fore**	**94.41**	**53**	P		**P**	**19 00 26.1**	**+1.1**
	baz=289								
TUC	**Tucson**	**94.47**	**56**	P		**P**	**19 00 24.9**	**-0.3**
TUC	**Tucson**	**94.47**	**56**	P		**P**	**19 00 25.1**	**-0.1**
	baz=288								
TUC	**Tucson**	**94.47**	**56**	P		**P**	**19 00 24.9**	**-0.3**
TUC				pmax		pmax			
	comp=Z,17nm,1.7s								
SUMG	**Summit**	**94.63**	**1**	IAmb		IAmb	19 01 42.3		
	comp=Z,62nm,1.7s								
SUMG	**Summit**	**94.63**	**1**	*i* P		**P**	**19 00 24.3**	**-1.1**
SUMG				IAmb		IAmb	19 00 27.5		
	comp=Z,8.3nm,1.3s								
MVCO	**Mesa Verde**	**94.66**	**50**	P		**P**	**19 00 27.0**	**+0.9**
	baz=290								
ARPR	**Arapgir-MALATY**	**94.78**	**312**	IAmb		IAmb	19 00 27.6		
	comp=Z,32nm,1.2s								
NACGM	**Naroch**	**95.06**	**329**	*e*P		**P**	**19 00 25.7**	**-1.5**
	comp=Z,23nm,1.1s,baz=59								
NSS	**Namsos**	**95.12**	**342**	*e*P		**P**	**19 00 27.2**	**-0.1**
N23A	**Red Feather La**	**95.20**	**46**	P		**P**	**19 00 27.6**	**-1.0**
N23A				IAmb		IAmb	19 00 59.1		
	comp=Z,33nm,1.4s								
RSSD	**Black Hills**	**95.26**	**43**	P		**P**	**19 00 29.3**	**+0.6**
	baz=294								
SIM	**Simferopol'**	**95.45**	**318**	*e*P		**P**	**19 00 27.2**	**-2.1**
SIM				*e*S		**S**	**19 11 37.3**	**-5.3**
SIM				pmax		pmax			
	comp=Z,17nm,0.8s								
AK03	**Malin Array Si**	**95.85**	**325**	P		**P**	**19 00 29.5**	**-1.4**
AKASG	**Malin Array Be**	**95.86**	**325**	P		**P**	**19 00 29.3**	**-1.7**
AKASG				IAmb		IAmb	19 00 31.1		
	comp=Z,32nm,1.4s								
AKASG	**Malin Array Be**	**95.86**	**325**	P		**P**	**19 00 29.6**	**-1.4**
	comp=Z,8.3nm,1.0s,baz=48,slow=4.6,SNR=17								
	comp=Z,8.3nm,1.0s								
AKASG	**Malin Array Be**	**95.86**	**325**	*i* P		**P**	**19 00 29.5**	**-1.4**
AKASG				pmax		pmax			
	comp=Z,9.0nm,1.0s								
AKBB	**Malin Array Si**	**95.86**	**325**	P		**P**	**19 00 28.8**	**-2.2**
AKBB				IAmb		IAmb	19 00 30.8		
	comp=Z,31nm,1.2s								
AKBB	**Malin Array Si**	**95.86**	**325**	*i* P		**P**	**19 00 29.9**	**-1.1**
AKBB				pmax		pmax			
	comp=Z,35nm,1.3s								
KIEV	**Kiev**	**95.87**	**325**	⇓P		**P**	**19 00 29.7**	**-1.3**
KIEV	**Kiev**	**95.87**	**325**	P		**P**	**19 00 28.9**	**-2.1**
KIEV				IAmb		IAmb	19 00 30.8		
	comp=Z,28nm,1.2s								
KIEV	**Kiev**	**95.87**	**325**	P		**P**	**19 00 28.9**	**-2.1**
KIEV				pmax		pmax			
	comp=Z,28nm,1.2s								
KIEV	**Kiev**	**95.87**	**325**	P		**P**	**19 00 30.8**	**-0.2**
AK21	**Malin Array Si**	**95.92**	**325**	P		**P**	**19 00 29.5**	**-1.8**
PABE	**Paberze**	**96.11**	**331**	IAmb		IAmb	19 00 33.0		
	comp=Z,36nm,1.1s								
SCO	**Scoresbysund**	**96.31**	**356**	IAmb		IAmb	19 00 34.2		
	comp=Z,18nm,1.2s								
SCO	**Scoresbysund**	**96.31**	**356**	*i* P		**P**	**19 00 29.3**	**-3.3**
SCO				IAmb		IAmb	19 00 35.0		
	comp=Z,5.4nm,1.0s								
MI28	**Mi28,Pidlybu**	**96.61**	**326**	P		**P**	**19 00 32.2**	**-2.2**
LUBAR	**Lubar, Ukraine**	**97.06**	**325**	P		**P**	**19 00 34.5**	**-2.0**
RNPP9	**Sopachiv**	**97.33**	**327**	P		**P**	**19 00 36.0**	**-1.6**
SORM	**Soroca**	**97.59**	**323**	⇑P		**P**	**19 00 38.3**	**-0.6**
SORM	**Soroca**	**97.59**	**323**	⇑P		**P**	**19 00 38.3**	**-0.6**
HFS	**Hagfors**	**97.59**	**338**	P		**P**	**19 00 37.5**	**-1.1**
	comp=Z,14nm,1.0s,baz=34,slow=5.6,SNR=9.0								
	comp=Z,14nm,1.0s								
NB201	**NORSAR Array S**	**97.81**	**339**	IAmb		IAmb	19 00 39.8		
	comp=Z,28nm,1.1s								
DOMB	**Dombas**	**97.83**	**341**	*e*P		Pdif	19 00 39.6	-0.1	
NB2	**NORSAR Subarra**	**97.84**	**339**	P		**P**	**19 00 38.6**	**-1.2**
	comp=Z,36nm,1.2s,baz=45,slow=5.1								
NB2	**NORSAR Subarra**	**97.84**	**339**	P		**P**	**19 00 38.6**	**-1.2**
	baz=45,slow=5.1								
NOA	**NORSAR Array B**	**97.84**	**339**	P		**P**	**19 00 39.1**	**-0.7**
	comp=Z,15nm,1.0s,baz=48,slow=4.7,SNR=27								
	comp=Z,15nm,1.0s								
BR131	**Keskin Array S**	**97.91**	**314**	IAmb		IAmb	19 00 40.8		
	comp=Z,18nm,1.3s								
BR131	**Keskin Array S**	**97.91**	**314**	*i* P		**P**	**19 00 39.9**	**-0.8**
BRTR	**Keskin Array B**	**97.91**	**314**	P		**P**	**19 00 39.0**	**-1.7**
BRTR	**Keskin Array B**	**97.91**	**314**	P		**P**	**19 00 40.1**	**-0.6**
	comp=Z,6.7nm,1.0s,baz=95,slow=3.0,SNR=12								
	comp=Z,6.7nm,1.0s								
BRTR	**Keskin Array B**	**97.91**	**314**	*i* P		**P**	**19 00 39.7**	**-1.0**
BRTR				pmax		pmax			
	comp=Z,7.0nm,1.0s								
MOL	**Molde**	**97.91**	**342**	*e*P		Pdif	19 00 40.5	+0.5	
BR104	**Keskin Array S**	**97.91**	**314**	P		**P**	**19 00 39.2**	**-1.5**
BR106	**Keskin Array S**	**97.92**	**314**	P		**P**	**19 00 39.4**	**-1.4**
NDNU	**Novodnistrovsk**	**97.94**	**324**	P		**P**	**19 00 39.2**	**-1.2**
HORU	**Horodok**	**98.16**	**325**	P		**P**	**19 00 40.5**	**-1.0**
KMPD	**K-Podol'skiy**	**98.47**	**324**	P		**P**	**19 00 41.3**	**-1.5**
OSL	**Oslo**	**98.80**	**339**	*e*P		Pdif	19 00 44.2	+0.2	
MNTX	**Cornudas Mount**	**99.00**	**55**	P		**Pdif**	**19 00 44.8**	**-0.9**
	baz=291								
MAW	**Mawson**	**99.06**	**203**	P		**Pdif**	**19 00 45.8**	**+0.9**
	comp=Z,6.7nm,1.1s,baz=51,slow=5.7,SNR=5.1								
	comp=Z,6.7nm,1.1s								
SKAR	**Skarslia**	**99.08**	**340**	*e*P		**Pdif**	**19 00 47.0**	**+1.6**
TPGR	**Topolog**	**99.12**	**320**	⇑P		**Pdif**	**19 00 44.6**	**-1.3**
LVV	**L'vov**	**99.18**	**326**	*e*P		**Pdif**	**19 00 44.8**	**-1.2**
LVV				*e*S		**S**	**19 12 10.1**	**-4.1**
LVV				MLR		MLR			
	comp=Z,2μm,19.0s								
MMAI	**Mount Meron Ar**	**99.20**	**307**	P		**Pdif**	**19 00 46.7**	**+0.1**
	comp=Z,14nm,1.1s,baz=66,slow=8.1,SNR=5.9								
	comp=Z,14nm,1.1s								
KSV	**Kosov**	**99.40**	**324**	P		**Pdif**	**19 00 46.0**	**-1.0**
TESR	**Tescani**	**99.40**	**322**	⇑P		**Pdif**	**19 00 47.0**	**0.0**
TESR	**Tescani**	**99.40**	**322**	P		**Pdif**	**19 00 46.2**	**-0.9**
VRI	**Vrincioaia**	**99.67**	**322**	⇑P		**Pdif**	**19 00 48.8**	**+0.5**
VRI	**Vrincioaia**	**99.67**	**322**	⇑P		**Pdif**	**19 00 48.8**	**+0.5**
BURAR	**Bucovina Array**	**99.68**	**324**	⇑P		**Pdif**	**19 00 48.6**	**+0.2**
BURAR	**Bucovina Array**	**99.68**	**324**	⇑P		**Pdif**	**19 00 48.6**	**+0.2**
PLOR	**Plostina**	**99.73**	**322**	⇑P		**Pdif**	**19 00 47.0**	**-1.6**
PLOR	**Plostina**	**99.73**	**322**	⇑P		**Pdif**	**19 00 47.0**	**-1.6**
SHIU	**Shidnytsya**	**99.86**	**326**	P		**Pdif**	**19 00 48.8**	**-0.3**
KWP	**Kalwaria Pacla**	**100.00**	**326**	P		**Pdif**	**19 00 48.8**	**-0.9**
TURR	**Turia**	**100.01**	**322**	⇑P		**Pdif**	**19 00 50.7**	**+0.9**
RAKU	**Rahkiv**	**100.06**	**324**	P		**Pdif**	**19 00 47.9**	**-2.1**
OZUR		**100.12**	**322**	⇑P		**Pdif**	**19 00 51.2**	**+0.9**
ECSD	**EROS Data Cent**	**100.24**	**41**	P		**Pdif**	**19 00 49.9**	**-0.9**
	baz=299								
KOLS	**Kolonicke sedl**	**100.62**	**326**	*e*P		**Pdif**	**19 00 52.9**	**+0.4**
KOLS	**Kolonicke sedl**	**100.62**	**326**	*e*PDIFF		**Pdif**	**19 00 52.9**	**+0.4**
BMR	**Baia Mare**	**100.63**	**324**	⇓P		**Pdif**	**19 00 53.1**	**+0.6**
BMR	**Baia Mare**	**100.63**	**324**	⇓P		**Pdif**	**19 00 53.1**	**+0.6**
STHS	**Stebnicka Huta**	**100.91**	**327**	*e*P		**Pdif**	**19 00 54.2**	**+0.5**
STHS	**Stebnicka Huta**	**100.91**	**327**	*e*PDIFF		**Pdif**	**19 00 54.2**	**+0.5**
CRVS	**Cervenica-Dubn**	**101.08**	**326**	*e*P		**Pdif**	**19 00 55.2**	**+0.7**
CRVS	**Cervenica-Dubn**	**101.08**	**326**	*e*PDIFF		**Pdif**	**19 00 55.2**	**+0.7**
ARR	**Arges**	**101.19**	**322**	⇑P		**Pdif**	**19 00 56.0**	**+0.9**
MARR	**Marisel-Cluj**	**101.39**	**324**	⇑P		**Pdif**	**19 00 55.9**	**-0.1**
KECS	**Kecovo**	**101.85**	**326**	*e*P		**Pdif**	**19 01 00.2**	**+2.3**
KECS	**Kecovo**	**101.85**	**326**	*e*PDIFF		**Pdif**	**19 01 00.2**	**+2.3**
GZR	**Gura Zlata**	**102.28**	**323**	⇓P		**Pdif**	**19 01 00.8**	**+0.8**
GZR	**Gura Zlata**	**102.28**	**323**	⇓P		**Pdif**	**19 01 00.8**	**+0.8**
PSZ	**Piszkesteto**	**102.50**	**326**	⇑P		**Pdif**	**19 01 01.6**	**+0.6**
PSZ	**Piszkesteto**	**102.50**	**326**	⇑P		**Pdif**	**19 01 01.6**	**+0.6**
VYHS	**Vyhne**	**102.73**	**327**	*e*PDIFF		**Pdif**	**19 01 02.4**	**+0.5**
VYHS	**Vyhne**	**102.73**	**327**	*e*P		**Pdif**	**19 01 02.4**	**+0.5**
QSPA	**South Pole Qui**	**102.80**	**180**			pPdif	19 01 25.1	+13	
BZS	**Buzias**	**102.84**	**323**	⇓P		**Pdif**	**19 01 01.6**	**-0.8**
BZS	**Buzias**	**102.84**	**323**	⇓P		**Pdif**	**19 01 01.6**	**-0.8**
MDVR	**Moldovita**	**103.25**	**323**	⇓P		**Pdif**	**19 01 04.1**	**-0.2**
BLKB	**Belogradchik**	**103.30**	**321**	⇓P		**Pdif**	**19 01 04.4**	**-0.1**
MODS	**Modra-Piesok**	**103.63**	**327**	*e*P		**Pdif**	**19 01 07.0**	**+1.1**
MODS	**Modra-Piesok**	**103.63**	**327**	*e*PDIFF		**Pdif**	**19 01 07.0**	**+1.1**
BRG	**Berggiesshubel**	**103.71**	**331**	*e*P		**Pdif**	**19 01 06.7**	**+0.6**
BRG				Amp			19 01 07.5		
	comp=Z,5.7nm,0.9s								
CLL	**Collm**	**103.86**	**332**	*e*Pdif		**Pdif**	**19 01 06.0**	**-0.8**
	comp=Z,10.0nm,1.3s								
CLL				*e*PP		**PP**	**19 05 23.0**	**-0.4**
CLL	**Collm**	**103.86**	**332**	*e*P		**Pdif**	**19 01 06.0**	**-0.8**
CLL				pmax		pmax			
	comp=Z,10.0nm,1.3s								
FRGS	**Fruska Gora**	**104.15**	**324**	⇓P		**Pdif**	**19 01 08.7**	**+0.4**
MORH	**Mrgy, Hungar**	**104.20**	**325**	⇑P		**Pdif**	**19 01 08.0**	**-0.3**
JFWS	**Jewell Farm**	**104.63**	**39**	P		**Pdif**	**19 01 12.2**	**+1.7**
	baz=304								
WHTX	**Lake Whitney,**	**105.07**	**52**	P		**Pdif**	**19 01 13.2**	**+0.7**
	baz=296								
833A	**Chaparral WMA,**	**105.09**	**56**	P		**PKiKP**	**19 05 28.1**	**+0.8**
	baz=294								
EKA	**Eskdalemuir Ar**	**107.02**	**342**	Pdiff		**Pdif**	**19 01 20.8**	**+0.1**
	comp=Z,5.6nm,1.1s,baz=29,slow=3.8,SNR=8.3								
ESDC	**Sonseca Array**	**120.40**	**333**			**PKPdf**	**19 05 55.8**	**-0.4**
ESDC	**Sonseca Array**	**120.40**	**333**	PKP		**PKiKP**	**19 05 57.1**	**+0.9**
	comp=Z,1.1nm,0.9s,baz=16,slow=1.9,SNR=4.2								
MTE	**Manteigas**	**121.30**	**336**	*e*PKPdf		**PKiKP**	**19 05 58.8**	**+0.8**
PCBR	**Castelo Branco**	**121.75**	**336**	*e*PKPdf		**PKiKP**	**19 06 00.1**	**+1.3**
PSBE	**So Bento**	**122.55**	**336**	*e*PKPdf		**PKiKP**	**19 06 01.2**	**+0.8**
PBAR	**Barrancos**	**122.98**	**334**	*e*PKPdf		**PKiKP**	**19 06 01.2**	**-0.1**
PBEJ	**Beja**	**123.45**	**335**	*e*PKPdf		**PKiKP**	**19 06 03.9**	**+1.7**
PNCL	**Nicolau / Gran**	**123.65**	**335**	*e*PKPdf		**PKiKP**	**19 06 05.7**	**+3.1**
PCVE	**Castro Verde**	**123.86**	**335**	*e*PKPdf		**PKiKP**	**19 06 03.9**	**+0.9**
TORD	**Torodi Ar. Bea**	**135.69**	**304**	PKP		**PKiKP**	**19 06 26.5**	**-0.8**
TORD				SKPbc		**SKPab**	**19 09 59.2**	**+0.5**
	comp=Z,10.0nm,1.1s,baz=23,slow=3.4,SNR=9.8								
	comp=Z,1.8nm,0.8s,baz=40,slow=4.0,SNR=4.2								
ATAH	**Atahualpa**	**136.49**	**87**	SKPbc		**SKiKP**	**19 10 01.6**	**-0.7**
	comp=Z,4.6nm,0.9s,baz=316,slow=7.4,SNR=5.4								
PLCA	**Paso Flores**	**138.09**	**138**	PKP		**PKPdf**	**19 06 29.8**	**+0.2**
	comp=Z,3.4nm,1.1s,baz=186,slow=5.9,SNR=2.1								
BAUV	**El Baul**	**140.26**	**58**			**PKPdf**	**19 06 34.4**	**+0.2**
ZON	**Zonda**	**143.61**	**126**			**PKPdf**	**19 06 38.9**	**-0.9**
ZON	**Zonda**	**143.61**	**126**	PKiKP		**PKPdf**	**19 06 38.9**	**-0.9**
PB14	**IPOC Station P**	**144.24**	**114**			**PKPdf**	**19 06 41.3**	**-0.1**
DBIC	**Dimbokro**	**144.63**	**302**			**PKPdf**	**19 06 41.4**	**-0.6**
DBIC	**Dimbokro**	**144.63**	**302**	PKP		**PKPdf**	**19 06 41.7**	**-0.3**
	comp=Z,194nm,1.1s,baz=50,slow=3.7,SNR=62								
KIC	**Kosan Boka**	**144.71**	**301**	⇑*e*PKP1		**PKPdf**	**19 06 41.6**	**-0.5**
	comp=Z,359nm,1.1s								
TIC	**Toumodi**	**144.78**	**302**	⇑*e*PKP1		**PKPdf**	**19 06 41.8**	**-0.5**
	comp=Z,364nm,1.1s								
LIC	**Lamto**	**145.02**	**301**	⇑*e*PKP1		**PKPdf**	**19 06 42.6**	**-0.1**
	comp=Z,642nm,1.1s								
TRQA	**Tornquist**	**145.06**	**141**			**PKPbc**	**19 06 37.8**	**-3.8**
TRQA	**Tornquist**	**145.06**	**141**	PKHKP		PKPpre	19 06 37.8		
LVC	**Limon Verde**	**145.98**	**111**	PKPbc		**PKPab**	**19 06 45.9**	**+0.1**
	comp=Z,26nm,1.1s,baz=228,slow=3.3,SNR=5.3								
LPAZ	**La Paz**	**147.36**	**100**			**PKPdf**	**19 06 47.7**	**+0.4**
LPAZ	**La Paz**	**147.36**	**100**	PKPbc		**PKPbc**	**19 06 48.5**	**-1.2**
	comp=Z,9.6nm,1.1s,baz=350,slow=7.4,SNR=4.8								
ETMB	**Extrema**	**148.82**	**88**			**PKPdf**	**19 06 47.0**	**-2.0**
BOAV	**Boa Vista**	**150.05**	**61**			**PKPdf**	**19 06 50.0**	**-1.0**
SACV	**Santiago Islan**	**150.22**	**338**			**PKPbc**	**19 06 55.3**	**-1.0**
SAML	**Samuel**	**151.62**	**85**			**PKPdf**	**19 06 50.2**	**-3.1**
SAML	**Samuel**	**151.62**	**85**	PKiKP		**PKPdf**	**19 06 50.3**	**-3.1**
SIV	**San Ignacio**	**154.15**	**100**	PKPbc		**PKiKP**	**19 07 05.5**	**+0.2**
	comp=Z,3.6nm,0.8s,baz=278,slow=2.4,SNR=2.3								

PRU 17 18:51:39.2, 51°54N × 15°96E, h0km, Poland

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CHVC	**Chvalec**	**0.95**	**176**	*e*PG		Pg	18 51 56.4	-1.1
CHVC				*e*SG		Sg	18 52 09.8	0.0
OSTC	**Ostas**	**1.00**	**171**	*e*PG		Pg	18 51 57.4	-0.9
OSTC				*e*SG		Sg	18 52 11.4	+0.2
UPC	**Upice**	**1.03**	**178**	*e*PG		Pg	18 51 57.7	-1.3
UPC				*e*SG		Sg	18 52 12.4	0.0
	comp=Z,4.4nm,0.4s							
DPC	**Dobruska-Polom**	**1.21**	**169**	*e*PG		Pg	18 52 01.1	-1.3
DPC				*e*SG		Sg	18 52 17.2	-0.9
PVCC	**Panska Ves**	**1.34**	**221**	*e*PG		Pg	18 52 03.6	-1.3
PVCC				*e*SG		Sb	18 52 22.7	-0.2
	comp=Z,8.9nm,0.2s							
BRG	**Berggiesshubel**	**1.43**	**243**	Pg		Pn	18 52 04.9	-1.5
BRG				Sg		Sg	18 52 24.8	-0.4
BRG				Amp			18 52 27.4	
	comp=Z,3.7nm,0.4s							
KRLC	**Kraliky**	**1.56**	**160**	*e*PG		Pn	18 52 06.9	-1.3
KRLC				*e*SG		Sn	18 52 28.3	-0.8
	comp=Z,3.5nm,0.3s							
HSKC	**Hora Svate Kat**	**1.85**	**241**	*e*SG		Sb	18 52 37.2	-0.3
KHC	**Kasperske Hory**	**2.85**	**213**	*e*SG		Sg	18 53 09.4	-1.4

ROM 17 18:52:20.7±0.1, 43°065N±0°004 × 13°029E±0°004, h5km, ML1.2/20, 1C, Error ellipse: s-maj=0.4km s-min=0.1km az=180.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
T1219	**Muccia, Frazio**	**0.02**	**241**	P		Pg	18 52 21.7	0.0
T1219				S		Sg	18 52 22.3	-0.1
FDMO	**Fiordimonte**	**0.05**	**124**	P		Pg	18 52 22.2	+0.1
FDMO				S		Sg	18 52 23.3	+0.3
FDMO				AML		AML		
	comp=N,967μm,0.2s							
FDMO				AML		AML		
	comp=E,597μm,0.4s							
MML1	**Montelago di S**	**0.06**	**319**	P		Pg	18 52 22.4	+0.2
FEMA	**Monte Fema**	**0.10**	**172**	P		Pg	18 52 23.3	+0.4
CESI	**CESI - Serrava**	**0.11**	**237**	⇑P		Pg	18 52 23.4	+0.4
CESI				S		Sg	18 52 25.8	+1.2
CESI				AML		AML		
	comp=E,234μm,0.7s							
CESI				AML		AML		
	comp=E,234μm,0.7s							
CESI				AML		AML		
	comp=N,231μm,0.2s							
CESI				AML		AML		
	comp=E,234μm,1.3s							
CSP1	**Cessapalombo**	**0.13**	**78**	P		Pg	18 52 23.7	+0.3
CSP1				S		Sg	18 52 26.2	+1.0
CSP1				AML		AML		
	comp=E,88μm,1.6s							
CSP1				AML		AML		
	comp=N,33μm,0.2s							
CSP1				AML		AML		
	comp=E,88μm,1.6s							
CSP1				AML		AML		
	comp=N,33μm,0.2s							
CSP1				AML		AML		
	comp=E,88μm,0.4s							
PF6	**Pievefavera**	**0.15**	**55**	P		Pg	18 52 23.8	+0.2
MC2	**Monte Cornacci**	**0.19**	**142**	P		Pg	18 52 25.1	+0.6
MC2				S		Sg	18 52 28.7	+1.6
SNTG	**Esanatoglia**	**0.20**	**341**	P		Pg	18 52 25.3	+0.6
SNTG				S		Sg	18 52 28.5	+1.2
SNTG				AML		AML		
	comp=E,47μm,0.9s							
SNTG				AML		AML		
	comp=N,50μm,1.0s							
SNTG				AML		AML		
	comp=E,47μm,1.1s							
SNTG				AML		AML		
	comp=N,50μm,1.0s							
GUMA	**Gualdo di Mace**	**0.22**	**90**	P		Pg	18 52 25.8	+0.7
GUMA				S		Sg	18 52 30.1	+2.0
GUMA				AML		AML		
	comp=E,320μm,0.9s							
GUMA				AML		AML		
	comp=N,148μm,0.8s							
NRCA	**Norcia**	**0.24**	**165**	P		Pg	18 52 25.8	+0.4
NRCA				S		Sg	18 52 30.0	+1.5
NRCA				AML		AML		
	comp=N,232μm,0.2s							
NRCA				AML		AML		
	comp=E,208μm,0.7s							
T1221	**Campello sul C**	**0.24**	**213**	P		Pg	18 52 26.0	+0.5
T1221				S		Sg	18 52 30.4	+1.8
MMO1	**Montemonaco**	**0.27**	**127**	P		Pg	18 52 26.4	+0.4
MMO1				S		Sg	18

	comp=N,494nm,0.4s								
YUH2	**Yuha Desert**	**0.47**	**223**⇓	*e*P		**Pg**	**19 23 15.4**	**+0.1**
EMSC	**East Mesa**	**0.53**	**118**	*e*P		**Pg**	**19 23 16.6**	**+0.2**
IKP	**In-Ko-Pah, Jac**	**0.59**	**235**	P		**Pg**	**19 23 18.0**	**+0.5**
	baz=56,SNR=8.2								
IKP				S		**Sg**	**19 23 25.5**	**+0.1**
	baz=56								
IKP	**In-Ko-Pah, Jac**	**0.59**	**235**	*e*P		**Pg**	**19 23 17.7**	**+0.2**
IKP				*e*S		**Sg**	**19 23 25.6**	**+0.2**
CPBX	**Cerro Prieto**	**0.60**	**161**	IAML			19 23 29.9	
	comp=N,760nm,0.2s								
CPBX			⇑	*e*			19 23 29.9		
CPBX				IAML			19 23 31.2		
	comp=E,651nm,0.2s								
CPBX			⇓	*e*			19 23 31.2		
GLA	**Glamis**	**0.60**	**84**	P		**Pg**	**19 23 17.6**	**-0.2**
	baz=263,SNR=18								
GLA				S		**Sg**	**19 23 25.5**	**-0.4**
	baz=263								
GLA	**Glamis**	**0.60**	**84**⇑	*i*P		**Pg**	**19 23 17.6**	**-0.2**
GLA				*e*S		**Sg**	**19 23 25.8**	**-0.1**
SLH	**Sleepy Hollow**	**0.63**	**289**	*e*P		**Pg**	**19 23 18.5**	**+0.2**
BC3	**Big Chuckawall**	**0.67**	**6**	P		**Pg**	**19 23 19.3**	**+0.3**
	baz=185,SNR=95								
BC3				S		**Sg**	**19 23 28.9**	**+0.9**
	baz=185								
MONP2	**Monument Peak**	**0.75**	**263**	P		**Pg**	**19 23 20.7**	**+0.2**
	baz=83,SNR=16								
MONP2				S		**Sg**	**19 23 30.6**	**+0.1**
	baz=83								
MONP2	**Monument Peak**	**0.75**	**263**	*e*P		**Pg**	**19 23 20.5**	**0.0**
MONP2				*e*S		**Sg**	**19 23 30.4**	**-0.1**
TPFO	**Pinon Flats**	**0.98**	**309**	S		**Sb**	**19 23 37.2**	**+0.3**
	baz=129								
ALAMX	**Rancho Alamar**	**0.99**	**188**	*e*P		**Pb**	**19 23 23.8**	**-0.6**
ALAMX				*e*S		**Sb**	**19 23 37.6**	**+0.6**
ALAMX			⇑	*e*			19 23 38.1		
ALAMX				IAML			19 23 38.1		
	comp=N,95nm,0.3s								
PFO	**Pinyon Flats O**	**0.99**	**309**	P		**Pb**	**19 23 23.9**	**-0.5**
	baz=129								
PFO				S		**Sb**	**19 23 37.3**	**+0.1**
	baz=129								
BELC	**Belle Mtn. Jos**	**1.08**	**339**	P		**Pb**	**19 23 25.4**	**-0.6**
	baz=159,SNR=6.7								
IRM	**Iron Mountain**	**1.21**	**16**	P		**Pn**	**19 23 27.3**	**-0.5**
	baz=195								
PDMCI	**Parker Dam,Lak**	**1.75**	**41**	Sb		**Sb**	**19 24 00.6**	**+1.6**
	baz=222								
NEE2	**Needles Airpor**	**1.93**	**23**	P		**Pn**	**19 23 37.8**	**+0.1**
	baz=203								

IDC **17** *19:28:10.5±0.6,36°.38N×0°.14E,h0km,mb3.9/17, mbtmp3.9/21,ML4.2/4,Error ellipse: s-maj=17.9km s-min=13.0km az=132.0*
CRAAG **17** *19:28:12.0,36°.35N×0°.19E,Ml4.0,Algerie 34km NW Sidi-Ali*
IGIL **17** *19:28:13.3,36°.27N×0°.15E,h7km,ML3.0*
LDG **17** *19:28:14.7±0.2,36°.31N×0°.09E,h15km,Ml3.8/34,Error ellipse: s-maj=3.9km s-min=2.4km az=157.0*
MDD **17** *19:28:14.4±0.3,36°.27N×0°.15E,h29km±4km,mb_Lg4.1/97, Error ellipse: s-maj=2.8km s-min=1.4km az=150.0*
INMG **17** *19:28:15.1±1.4,36°.43N×0°.04E,h24km±8km,ML3.5,Error ellipse: s-maj=6.6km s-min=2.4km az=124.0*

ISC 17 19:28:13.5±0.9,36°.44N±0°.03×0°.15E±0°.03,h24km±8km, n207,σ2ᵠ35/334,mb3.9/17,4C-1D,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
EKMS	**Oued Kramis**	**0.42**	**107**	P		**Pb**	**19 28 21.5**	**-0.8**
USTO	**Oran**	**0.90**	**219**	P		**Pb**	**19 28 30.0**	**-0.4**
EANR	**'Ain N'Sour**	**0.91**	**122**	P		**Pn**	**19 28 29.0**	**-1.8**
OFRG	**Douar Fergoug**	**0.92**	**185**	P		**Pb**	**19 28 28.8**	**-1.9**
ECHA	**Ech Chlef**	**1.03**	**106**	P		**Pn**	**19 28 29.1**	**-3.2**
ODJA	**Bouhanifia**	**1.13**	**192**	P		**Pb**	**19 28 33.0**	**-1.4**
OTSS	**Djebel Tessala**	**1.38**	**214**	P		**Pb**	**19 28 39.9**	**+1.2**
CART	**Cartagena**	**1.47**	**322**	Sn		**Sn**	**19 28 55.2**	**-1.7**
CART				Pn		**Pn**	**19 28 37.9**	**-0.5**
EARB	**Arib**	**1.51**	**95**	P		**Pn**	**19 28 37.5**	**-1.5**
ETRV	**Los Montesinos**	**1.74**	**336**	P		**Pn**	**19 28 42.5**	**+0.4**
ETRV				S		**Sn**	**19 29 02.5**	**-1.0**
ETRV				*i* Vmb_Lg			19 29 06.3	
EMUR	**La Murta**	**1.79**	**322**	Sn		**Sn**	**19 29 03.2**	**-1.6**
EMUR				Pn		**Pn**	**19 28 42.6**	**-0.3**
EMUR	**La Murta**	**1.79**	**322**	P		**Pn**	**19 28 42.4**	**-0.4**
EMUR				S		**Sn**	**19 29 03.4**	**-1.5**
EMUR				*i* Vmb_Lg			19 29 10.4	
TLOR	**Lorca, Murcia**	**1.91**	**310**	Pn		**Pn**	**19 28 44.8**	**+0.3**
TLOR				Sn		**Sn**	**19 29 06.1**	**-1.6**
TLOR	**Lorca, Murcia**	**1.91**	**310**	P		**Pn**	**19 28 44.7**	**+0.3**
TLOR				S		**Sn**	**19 29 07.3**	**-0.5**
ELOR	**Lorca, Murcia**	**1.93**	**309**	P		**Pn**	**19 28 45.0**	**+0.2**
ELOR				S		**Sn**	**19 29 06.5**	**-1.9**
ELOR				*i* Vmb_Lg			19 29 10.2	
ENIJ	**Nijar**	**1.97**	**286**	Pn		**Pn**	**19 28 44.3**	**-1.0**
ENIJ				Sn		**Sn**	**19 29 06.7**	**-2.5**
ENIJ	**Nijar**	**1.97**	**286**	P		**Pn**	**19 28 44.5**	**-0.8**
ENIJ				S		**Sn**	**19 29 06.7**	**-2.5**
ENIJ				*i* Vmb_Lg			19 29 11.1	
E001A	**Albudeite (Mur**	**2.00**	**323**	P		**Pn**	**19 28 46.4**	**+0.6**
E001A				S		**Sn**	**19 29 09.5**	**-0.5**
EZAR	**Zarzadilla de**	**2.06**	**315**	P		**Pn**	**19 28 47.0**	**+0.4**
EZAR				S		**Sn**	**19 29 10.5**	**-1.0**
EZAR				*i* Vmb_Lg			19 29 13.8	
E1002	**Yechar (Murcia**	**2.06**	**323**	P		**Pn**	**19 28 47.4**	**+0.7**
E1002				S		**Sn**	**19 29 11.4**	**-0.2**
OBHAM	**Bir El Hammam**	**2.08**	**194**	P		**Pn**	**19 28 46.4**	**-0.5**
OBBL	**Beni Bahdel**	**2.19**	**218**	P		**Pb**	**19 28 52.2**	**-0.2**
EBEN2	**Beniarda presa**	**2.25**	**353**	P		**Pn**	**19 28 49.7**	**+0.5**
EBEN2				S		**Sn**	**19 29 15.1**	**-1.1**
EBEN2				*i* Vmb_Lg			19 29 17.9	
AFON	**Font Roja**	**2.29**	**346**	P		**Pn**	**19 28 50.6**	**+0.7**
AFON				S		**Sn**	**19 29 15.8**	**-1.6**
AFON				*i* Vmb_Lg			19 29 20.0	
EZEK	**Zmalet El Emir**	**2.35**	**131**	P		**Pn**	**19 28 51.6**	**+0.9**
CHAS	**Isla Isabel II**	**2.44**	**240**	Sn		**Sn**	**19 29 18.0**	**-2.9**
CHAS				Pn		**Pn**	**19 28 50.0**	**-1.8**
EBER	**Berja**	**2.48**	**282**	Pn		**Pn**	**19 28 51.5**	**-1.1**
EBER				Sn		**Sn**	**19 29 19.2**	**-3.0**
EBER	**Berja**	**2.48**	**282**	P		**Pn**	**19 28 52.0**	**-0.6**
EBER				S		**Sn**	**19 29 20.2**	**-2.0**
EBER				*i* Vmb_Lg			19 29 24.5	
ETOB	**Tobarra**	**2.58**	**329**	Pn		**Pn**	**19 28 55.1**	**+1.3**
ETOB				Sn		**Sn**	**19 29 24.2**	**-0.3**
ETOB	**Tobarra**	**2.58**	**329**	P		**Pn**	**19 28 55.3**	**+1.5**
ETOB				S		**Sn**	**19 29 25.1**	**+0.6**
ETOB				*i* Vmb_Lg			19 29 27.6	
EIBI	**Ibiza**	**2.75**	**20**	Sn		**Sn**	**19 29 26.1**	**-2.5**
EIBI				Pn		**Pn**	**19 28 56.3**	**+0.3**
EIBI	**Ibiza**	**2.75**	**20**	P		**Pn**	**19 28 56.9**	**+0.8**
EIBI				S		**Sn**	**19 29 27.0**	**-1.6**
EIBI				*i* Vmb_Lg			19 29 31.1	
WMELI	**Melilla**	**2.75**	**247**	Sn		**Sn**	**19 29 26.3**	**-2.3**
EMLI	**Melilla**	**2.76**	**247**	Pn		**Pn**	**19 28 54.8**	**-1.4**
EMLI				Sn		**Sn**	**19 29 26.4**	**-2.3**
EMEL	**Melilla**	**2.77**	**247**	P		**Pn**	**19 28 54.5**	**-1.7**
EMEL				S		**Sn**	**19 29 26.3**	**-2.5**
EMEL				*i* Vmb_Lg			19 29 30.2	
EQES	**Quesada**	**2.91**	**299**	P		**Pn**	**19 28 59.9**	**+1.5**
EQES				S		**Sn**	**19 29 33.3**	**+0.7**
EQES				*i* Vmb_Lg			19 29 38.1	
EQUE	**Quentar**	**2.98**	**286**	P		**Pn**	**19 28 59.9**	**+0.6**
EQUE				S		**Sn**	**19 29 32.0**	**-2.3**
EQUE				*i* Vmb_Lg			19 29 42.4	
EQTA	**Presa de Quent**	**2.98**	**286**	Pn		**Pn**	**19 29 00.0**	**+0.7**
EVIV	**Cofrentes, Val**	**3.00**	**341**	P		**Pn**	**19 29 00.4**	**+0.9**
EVIV				S		**Sn**	**19 29 34.1**	**-0.6**
EVIV				*i* Vmb_Lg			19 29 37.2	
ELGU	**Los Guajares,**	**3.06**	**279**	Pn		**Pn**	**19 28 59.7**	**-0.7**
ELGU				Sn		**Sn**	**19 29 35.0**	**-1.3**
ELGU	**Los Guajares,**	**3.06**	**279**	P		**Pn**	**19 28 59.9**	**-0.6**
ELGU				S		**Sn**	**19 29 33.7**	**-2.7**
ELGU				*i* Vmb_Lg			19 29 40.6	
E0802	**Ubeda,Jaen**	**3.23**	**300**	P		**Pn**	**19 29 04.3**	**+1.6**
E0802				S		**Sn**	**19 29 41.5**	**+1.1**
ECHE	**Chera**	**3.27**	**345**	Sn		**Sn**	**19 29 41.0**	**-0.4**
ECHE				Pn		**Pn**	**19 29 04.5**	**+1.3**
ECHE	**Chera**	**3.27**	**345**	P		**Pn**	**19 29 04.7**	**+1.5**
ECHE				S		**Sn**	**19 29 40.4**	**-0.9**
ECHE				*i* Vmb_Lg			19 29 44.1	
ECOL	**Islas Columbre**	**3.48**	**7**	P		**Pn**	**19 29 06.7**	**+0.7**
ECOL				S		**Sn**	**19 29 46.8**	**+0.3**
EGOR	**Sierra Gorda,**	**3.48**	**282**	Pn		**Pn**	**19 29 07.1**	**+0.8**
EGOR	**Sierra Gorda,**	**3.48**	**282**	P		**Pn**	**19 29 07.6**	**+1.4**
EGOR				S		**Sn**	**19 29 44.1**	**-2.7**
EGOR				*i* Vmb_Lg			19 29 55.3	
EMAL	**Malaga-Limoner**	**3.70**	**276**	Pn		**Pn**	**19 29 08.7**	**-0.3**
EMAL				Sn		**Sn**	**19 29 47.9**	**-4.0**
PSIM	**Granatula de C**	**3.91**	**309**	P		**Pn**	**19 29 13.0**	**+1.0**
PSIM				S		**Sn**	**19 29 55.3**	**-1.8**
ETOS	**Mallorca**	**3.93**	**32**	Pn		**Pn**	**19 29 11.6**	**-0.8**
ETOS	**Mallorca**	**3.93**	**32**	P		**Pn**	**19 29 11.6**	**-0.8**
ETOS				S		**Sn**	**19 29 56.5**	**-1.3**
ETOS				*i* Vmb_Lg			19 29 57.7	
EMOS	**Mosqueruela**	**3.95**	**353**	P		**Pn**	**19 29 14.2**	**+1.5**
EMOS				S		**Sn**	**19 29 57.1**	**-1.3**
EMOS				*i* Vmb_Lg			19 30 00.8	
EADA	**Adamuz**	**4.14**	**296**	Pn		**Pn**	**19 29 15.5**	**+0.3**
EADA	**Adamuz**	**4.14**	**296**	P		**Pn**	**19 29 15.6**	**+0.4**
EADA				S		**Sn**	**19 30 01.6**	**-1.4**
EADA				*i* Vmb_Lg			19 30 16.4	
E0901	**Celadas (Terue**	**4.16**	**346**	P		**Pn**	**19 29 17.4**	**+1.9**
E0901				S		**Sn**	**19 30 04.2**	**+0.8**
E0901				*i* Vmb_Lg			19 30 10.0	
SET	**Setif**	**4.25**	**92**	P		**Pn**	**19 29 20.0**	**+3.3**
CEU	**Ceuta**	**4.50**	**265**	Sn		**Sn**	**19 30 06.8**	**-4.8**
ECEU	**Ceuta**	**4.50**	**265**	Sn		**Sn**	**19 30 06.4**	**-5.3**
ECEU				Pn		**Pn**	**19 29 19.0**	**-1.2**
ECEU	**Ceuta**	**4.50**	**265**	P		**Pn**	**19 29 18.9**	**-1.2**
ECEU				S		**Sn**	**19 30 06.9**	**-4.8**
ECEU				*i* Vmb_Lg			19 30 10.7	
ERTA	**Horta de San J**	**4.51**	**2**	P		**Pn**	**19 29 21.6**	**+1.3**
ERTA				S		**Sn**	**19 30 10.9**	**-1.2**
ERTA				*i* Vmb_Lg			19 30 14.8	
EJIF	**Jimena Fronter**	**4.53**	**272**	P		**Pn**	**19 29 20.3**	**-0.1**
EJIF				S		**Sn**	**19 30 10.0**	**-2.4**
ESDC	**Sonseca Array**	**4.58**	**316**	P		**Pn**	**19 29 22.0**	**+0.8**
ESDC				S		**Sn**	**19 30 10.6**	**-3.1**
ESDC				*i* Vmb_Lg			19 30 28.3	
ESDC	**Sonseca Array**	**4.58**	**316**	Pn		**Pn**	**19 29 21.8**	**+0.6**
	20nm,0.3s,baz=133,slow=13,SNR=258							
ESDC				Sn		**Sn**	**19 30 10.7**	**-3.0**
	6.3nm,0.3s,baz=132,slow=24,SNR=5.9							
ESDC				Lg		Lg	19 30 24.6	
	16nm,0.3s,baz=136,slow=29,SNR=8.4							
UCM	**Universidad Co**	**4.69**	**326**	Pn		**Pn**	**19 29 24.2**	**+1.4**
UCM				Sn		**Sn**	**19 30 14.2**	**-2.3**
ETOR	**Torete**	**4.70**	**339**	P		**Pn**	**19 29 25.6**	**+2.6**
ETOR				S		**Sn**	**19 30 16.7**	**-0.1**
ETOR				*i* Vmb_Lg			19 30 36.7	
PAB	**San Pablo**	**4.71**	**313**	P		**Pn**	**19 29 23.7**	**+0.5**
PAB				S		**Sn**	**19 30 14.0**	**-3.1**
PAB				*i* Vmb_Lg			19 30 33.0	
ECAB	**El Cabril**	**4.73**	**292**	Sn		**Sn**	**19 30 15.5**	**-1.9**
ECAB				Pn		**Pn**	**19 29 23.3**	**0.0**
ECAB	**El Cabril**	**4.73**	**292**	P		**Pn**	**19 29 23.3**	**0.0**
ECAB				S		**Sn**	**19 30 15.1**	**-2.4**
ECAB				*i* Vmb_Lg			19 30 37.5	
MAHO	**Mahon**	**4.74**	**42**	Sn		**Sn**	**19 30 15.1**	**-2.5**
ESPR	**Espera**	**4.85**	**277**	Pn		**Pn**	**19 29 25.8**	**+1.0**
ESPR	**Espera**	**4.85**	**277**	P		**Pn**	**19 29 25.8**	**+1.0**
ESPR				S		**Sn**	**19 30 16.3**	**-3.9**
ESPR				*i* Vmb_Lg			19 30 30.3	
EPOB	**Poblet**	**4.96**	**8**	P		**Pn**	**19 29 27.6**	**+1.1**
EPOB				S		**Sn**	**19 30 20.8**	**-2.4**
EPOB				*i* Vmb_Lg			19 30 23.3	
IFR	**Ifrane**	**5.22**	**238**	Pn		**Pn**	**19 29 30.3**	**+0.2**
IFR				Sn		**Sn**	**19 30 25.5**	**-4.1**
ESAC	**San Caprasio**	**5.30**	**355**	P		**Pn**	**19 29 32.6**	**+1.4**
ESAC				S		**Sn**	**19 30 29.4**	**-2.0**
ESAC				*i* Vmb_Lg			19 30 37.0	
MDT	**Midelt**	**5.33**	**229**	Pn		**Pn**	**19 29 30.9**	**-0.7**
	1.8nm,0.3s,baz=66,slow=12,SNR=14							
MDT				Sn		**Sn**	**19 30 32.3**	**0.0**
	0.9nm,0.3s,baz=60,slow=20,SNR=1.5							
MDT				Lg		Lg	19 30 59.0	
	1.7nm,0.3s,baz=183,slow=17,SNR=1.7							
	4.7nm,0.3s							
GUD	**Guadarrama**	**5.38**	**323**	P		**Pn**	**19 29 33.2**	**+0.8**
GUD				S		**Sn**	**19 30 32.5**	**-1.2**
GUD				*i* Vmb_Lg			19 31 01.4	
CAEH	**'Ain El Ouahch**	**5.40**	**84**	P		**Pn**	**19 29 31.3**	**-1.2**
EMIR	**Miracle**	**5.57**	**11**	P		**Pn**	**19 29 36.8**	**+1.9**
EMIR				S		**Sn**	**19 30 37.7**	**-0.5**
EMIR				*i* Vmb_Lg			19 30 44.3	
EMIN	**Mina Concepcio**	**5.61**	**286**	Sn		**Sn**	**19 30 34.9**	**-4.2**
EMIN				Pn		**Pn**	**19 29 35.3**	**-0.1**
EMIN	**Mina Concepcio**	**5.61**	**286**	P		**Pn**	**19 29 35.3**	**-0.4**
EMIN				S		**Sn**	**19 30 35.7**	**-3.4**
EMIN				*i* Vmb_Lg			19 30 38.9	
CMAH	**Djebel Manchou**	**5.86**	**86**	P		**Pn**	**19 29 37.0**	**-1.8**
PBAR	**Barrancos**	**5.99**	**289**	*e*P		**Pn**	**19 29 40.2**	**-0.3**
PBAR				S		**Sn**	**19 30 44.8**	**-3.5**
PBAR				A		A	19 30 49.6	
	25nm,0.4s							
PBAR	**Barrancos**	**5.99**	**289**	Sn		**Sn**	**19 30 43.7**	**-4.5**
PBAR				Pn		**Pn**	**19 29 40.1**	**-0.3**
EPLA	**Plasencia**	**6.09**	**308**	P		**Pn**	**19 29 42.4**	**+0.3**
EPLA				S		**Sn**	**19 30 46.6**	**-4.4**
EPLA				*i* Vmb_Lg			19 31 20.6	
EBAD	**Badajoz**	**6.14**	**294**	Pn		**Pn**	**19 29 42.3**	**-0.3**
EBAD				Sn		**Sn**	**19 30 48.3**	**-3.7**
EBAD	**Badajoz**	**6.14**	**294**	P		**Pn**	**19 29 42.2**	**-0.3**
EBAD				S		**Sn**	**19 30 48.1**	**-3.9**
EBAD				*i* Vmb_Lg			19 30 52.5	
EGRO	**El Granado**	**6.21**	**282**	Sn		**Sn**	**19 30 49.5**	**-4.2**
EGRO				Pn		**Pn**	**19 29 43.4**	**-0.1**
EGRO	**El Granado**	**6.21**	**282**	P		**Pn**	**19 29 43.0**	**-0.5**
EGRO				S		**Sn**	**19 30 49.5**	**-4.2**
EGRO				*i* Vmb_Lg			19 30 54.8	
ECHI	**Chisagues Biel**	**6.22**	**0**	P		**Pn**	**19 29 45.9**	**+2.1**
ECHI				*i* Vmb_Lg			19 30 50.3	
ECHI				S		**Sn**	**19 30 52.7**	**-1.5**
EJON	**La Jonquera**	**6.37**	**19**	Sn		**Sn**	**19 30 54.0**	**-3.7**
EJON				Pn		**Pn**	**19 29 47.3**	**+1.5**
EJON	**La Jonquera**	**6.37**	**19**	P		**Pn**	**19 29 47.1**	**+1.3**
EJON				S		**Sn**	**19 30 54.0**	**-3.7**
EJON				*i* Vmb_Lg			19 31 01.5	
PVAQ	**Vaqueiros**	**6.37**	**281**	*e*P		**Pn**	**19 29 45.4**	**-0.5**
PVAQ				*e*S		**Sn**	**19 30 54.1**	**-3.8**
PVAQ				A		A	19 31 01.8	
	22nm,0.3s							
PVAQ	**Vaqueiros**	**6.37**	**281**	Pn		**Pn**	**19 29 45.4**	**-0.5**
PVAQ				Sn		**Sn**	**19 30 53.8**	**-4.0**
EARA	**Aranguren**	**6.47**	**349**	P		**Pn**	**19 29 49.2**	**+2.1**
EARA				S		**Sn**	**19 30 59.7**	**-0.4**
EARA				*i* Vmb_Lg			19 31 05.2	
ETSF	**Etsaut**	**6.48**	**355**	*e*Pn		**Pn**	**19 29 49.7**	**+2.4**
ETSF				*e*Sn		**Sn**	**19 30 59.9**	**-0.5**
	34nm,0.4s							
PBDV	**Barranco-do-Ve**	**6.53**	**279**	*e*P		**Pn**	**19 29 47.8**	**-0.2**
PBDV				*e*S		**Sn**	**19 30 57.4**	**-4.3**
PBDV				A		A	19 31 05.2	
	15nm,0.6s							
PBDV	**Barranco-do-Ve**	**6.53**	**279**	Pn		**Pn**	**19 29 47.3**	**-0.7**
PBDV				Sn		**Sn**	**19 30 57.0**	**-4.7**
EORO	**Oroz-Betelu**	**6.54**	**351**	P		**Pn**	**19 29 50.9**	**+2.6**
EORO				S		**Sn**	**19 31 01.4**	**-0.7**
EORO				*i* Vmb_Lg			19 31 07.2	
EPF	**Esparros**	**6.59**	**1**	*e*Pn		**Pn**	**19 29 50.7**	**+1.9**
EPF				*e*Sn		**Sn**	**19 31 01.7**	**-1.4**
	13nm,0.2s							
PBEJ	**Beja**	**6.59**	**286**	*e*P		**Pn**	**19 29 48.7**	**-0.1**
PBEJ				*e*S		**Sn**	**19 30 59.2**	**-3.9**
PBEJ				A		A	19 31 02.2	
	37nm,0.6s							
PESTR	**Estremoz**	**6.60**	**294**	*e*P		**Pn**	**19 29 48.6**	**-0.4**
PESTR				*e*S		**Sn**	**19 31 00.3**	**-3.1**
PESTR				A		A	19 31 34.1	
	28nm,0.4s							
PESTR	**Estremoz**	**6.60**	**294**	Sn		**Sn**	**19 30 59.2**	**-4.3**
PESTR				Pn		**Pn**	**19 29 48.6**	**-0.4**
EJUZ	**Juzbado, Salam**	**6.62**	**316**	P		**Pn**	**19 29 51.1**	**+1.9**
EJUZ				S		**Sn**	**19 30 59.9**	**-4.0**
PCVE	**Castro Verde**	**6.66**	**283**⇓	*e*P		**Pn**	**19 29 49.5**	**-0.2**
PCVE				*e*S		**Sn**	**19 31 01.1**	**-3.7**
PCVE				A		A	19 31 03.8	
	15nm,0.3s							
PCVE	**Castro Verde**	**6.66**	**283**	Pn		**Pn**	**19 29 49.3**	**-0.4**
PCVE				Sn		**Sn**	**19 31 00.8**	**-4.0**
PMRV	**Marv??o**	**6.66**	**299**	*e*P		**Pn**	**19 29 50.1**	**+0.3**
PMRV				S		**Sn**	**19 31 01.4**	**-3.6**
PMRV				A		A	19 31 37.5	
	24nm,0.7s							
SJPF	**Ste Jean**	**6.75**	**351**	*e*Pn		**Pn**	**19 29 53.9**	**+2.9**
SJPF				*e*Sn		**Sn**	**19 31 05.3**	**-1.8**
	24nm,0.3s							
EVO	**Evora**	**6.82**	**290**	*e*P		**Pn**	**19 29 52.2**	**+0.3**
EVO				S		**Sn**	**19 31 04.9**	**-3.9**
EVO				A		A	19 31 06.4	
	23nm,0.3s							
EVO	**Evora**	**6.82**	**290**	Pn		**Pn**	**19 29 52.2**	**+0.3**
EVO				Sn		**Sn**	**19 31 04.6**	**-4.2**
MESJ	**Messejana**	**6.83**	**284**⇑	*e*P		**Pn**	**19 29 52.0**	**-0.1**
MESJ				*e*S		**Sn**	**19 31 04.8**	**-4.3**
MESJ				A		A	19 31 06.9	
	19nm,0.5s							
MESJ	**Messejana**	**6.83**	**284**	*e*P		**Pn**	**19 29 51.7**	**-0.4**
MESJ				*e*S		**Sn**	**19 31 03.6**	**-5.5**
MESJ				IAML			19 31 09.9	
	comp=N,13nm,0.3s							
PCBR	**Castelo Branco**	**6.90**	**302**	*e*P		**Pn**	**19 29 53.6**	**+0.5**
PCBR				*e*S		**Sn**	**19 31 07.9**	**-2.9**
PCBR				A		A	19 31 12.4	
	comp=N,28nm,0.9s							
MTLF	**Montolieu**	**7.08**	**12**	*e*Pn		**Pn**	**19 29 57.4**	**+1.9**
MTLF				*e*Sn		**Sn**	**19 31 14.4**	**-0.7**
	comp=N,13nm,0.3s							
MORF	**Marmelete**	**7.11**	**280**	*e*P		**Pn**	**19 29 55.8**	**-0.2**
MORF				*e*S		**Sn**	**19 31 11.9**	**-4.1**
MORF				A		A	19 31 18.6	
	comp=N,13nm,0.3s							
MORF	**Marmelete**	**7.11**	**280**	*e*P		**Pn**	**19 29 55.3**	**-0.7**
PNCL	**Nicolau / Gran**	**7.12**	**286**⇑	*e*P		**Pn**	**19 29 55.9**	**-0.1**
PNCL				*e*S		**Sn**	**19 31 11.8**	**-4.3**
PNCL				A		A	19 31 15.3	
	comp=N,14nm,0.7s							
PNCL	**Nicolau / Gran**	**7.12**	**286**	Sn		**Sn**	**19 31 11.9**	**-4.3**
PNCL				Pn		**Pn**	**19 29 55.9**	**-0.1**
PMTG	**Montargil**	**7.13**	**294**	*e*P		**Pn**	**19 29 56.2**	**-0.1**
PMTG				*e*S		**Sn**	**19 31 12.6**	**-3.9**
PMTG				A		A	19 32 04.0	
	comp=N,19nm,0.6s							
PTEO	**Sao Teotonio**	**7.19**	**281**	*e*P		**Pn**	**19 29 56.9**	**-0.1**
PTEO				*e*S		**Sn**	**19 31 13.0**	**-4.8**
PTEO				A		A	19 31 17.1	
	comp=N,20nm,0.3s							
MTE	**Manteigas**	**7.22**	**306**	*e*P		**Pn**	**19 29 59.1**	**+1.6**
MTE				*e*S		**Sn**	**19 31 16.1**	**-2.6**
MTE				A		A	19 32 06.1	
	comp=N,28nm,0.6s							
PFVI	**Vila Bisbo**	**7.24**	**278**	*e*P		**Pn**	**19 29 57.5**	**-0.1**
PFVI				*e*S		**Sn**	**19 31 14.2**	**-4.8**
PFVI				A		A	19 31 20.7	
	comp=N,18nm,0.8s							
PFVI	**Vila Bisbo**	**7.24**	**278**	Sn		**Sn**	**19 31 14.1**	**-5.0**
PFVI				Pn		**Pn**	**19 29 57.5**	**-0.1**
ELAN	**Lanestosa**	**7.32**	**339**	P		**Pn**	**19 30 01.4**	**+2.5**
ELAN				S		**Sn**	**19 31 17.7**	**-3.6**
ELAN				*i* Vmb_Lg			19 31 28.2	
MVO	**Moncorvo**	**7.33**	**312**	*e*P		**Pn**	**19 29 59.5**	**+0.5**
MVO				*e*S		**Sn**	**19 31 16.2**	**-5.1**
MVO				A		A	19 31 54.0	
	comp=N,21nm,0.6s							
KEST	**Kesra**	**7.48**	**93**	Pn		**Pn**	**19 30 01.2**	**+0.1**
	comp=N,2.4nm,0.3s,baz=241,slow=4.2,SNR=34							
KEST				Sn		**Sn**	**19 31 23.6**	**-1.7**
	comp=N,1.0nm,0.3s

TCF	Toulx Ste Croi	9.96	8	ePn		Pn	19 30 35.3	+0.2		
TCF				eSn		Sn	19 32 20.9	-5.2		
	comp=N,4.1nm,0.5s									
MFF	Saint Martin d	10.16	359	ePn		Pn	19 30 40.6	+2.9		
MFF				eSn		Sn	19 32 26.6	-4.2		
	comp=N,2.9nm,0.4s									
BGF	Bois d'Agland	10.31	10	ePn		Pn	19 30 42.1	+2.3		
BGF				eSn		Sn	19 32 30.9	-3.7		
	comp=N,14nm,0.5s									
LPG	La Plagne	10.33	27	ePn		Pn	19 30 43.7	+3.3		
LPG				eSn		Sn	19 32 31.6	-3.9		
	comp=N,2.6nm,0.7s									
LPL	La Plagne	10.34	27	eP		Pn	19 30 47.6	+7.2		
LPL				eSn		Sn	19 32 32.8	-2.8		
	comp=N,3.2nm,0.5s									
SMF	Signal de Mont	10.57	14	ePn		Pn	19 30 45.9	+2.6		
SMF				eSn		Sn	19 32 38.0	-2.8		
	comp=N,3.6nm,0.7s									
AVF	Avril sur Loir	10.62	12	ePn		Pn	19 30 45.7	+1.7		
AVF				eSn		Sn	19 32 39.3	-2.8		
	comp=N,0.9nm,0.3s									
SSF	Saint Saulge	10.91	12	ePn		Pn	19 30 49.3	+1.4		
CABF	La Chapelle	11.09	22	ePn		Pn	19 30 52.2	+1.6		
CABF	La Chapelle	11.09	22	eP		Pn	19 30 57.4	+6.8		
LOR	Lormes	11.17	13	ePn		Pn	19 30 54.0	+2.4		
	baz=195									
QUIF	Quistinic	11.73	349	ePn		Pn	19 31 01.0	+1.8		
QUIF				eSn		Sn	19 33 05.4	-3.9		
	comp=N,4.5nm,0.5s									
GRR	Gorron	11.97	357	ePn		Pn	19 31 03.3	+0.9		
GRR				eSn		Sn	19 33 11.2	-3.9		
	comp=N,4.5nm,0.4s									
SGMF	Saint Gilles	11.98	351	ePn		Pn	19 31 04.7	+2.1		
LDF	La Druitiere	12.15	359	ePn		Pn	19 31 06.3	+1.4		
LDF				eSn		Sn	19 33 15.6	-4.0		
	comp=N,1.7nm,0.4s									
ROSF	Rostrenen	12.15	349	ePn		Pn	19 31 06.5	+1.5		
ROSF				eSn		Sn	19 33 14.5	-5.2		
	comp=N,6.1nm,0.5s									
FLN	La Foliniere	12.33	358	ePn		Pn	19 31 09.2	+1.9		
	baz=178									
FLN				eSn		Sn	19 33 18.5	-5.4		
	comp=N,1.7nm,0.3s									
HINF	Hinteralfeld	12.40	21	ePn		Pn	19 31 09.9	+1.4		
DAVOX	Davos/Dischmat	12.63	32	Pn		Pn	19 31 13.6	+1.9		
	comp=N,0.4nm,0.3s,baz=235,slow=3.9,SNR=2.1									
DAVA	Damuels	13.03	31	ePn		Pn	19 31 22.4	+5.2		
	comp=N,5.0nm,1.1s									
FETA	Feichten	13.19	33	ePn		Pn	19 31 25.1	+5.8		
	comp=N,2.5nm,1.1s									
MOTA	Moosalm	13.60	33	ePn		Pn	19 31 29.4	+4.5		
	comp=N,2.4nm,0.8s									
WTTA	Wattenberg	13.78	35	ePn		Pn	19 31 33.2	+5.8		
	comp=N,2.9nm,1.1s									
ABTA	Abfaltersbach	13.83	38	ePn		Pn	19 31 32.3	+4.4		
	comp=N,2.4nm,0.9s									
KBA	Koelnbreinsper	14.47	39	ePn		Pn	19 31 36.5	-0.4		
	comp=N,0.8nm,0.5s									
OBKA	Obir	14.73	42	ePn		P	19 31 48.8	+2.6		
	comp=N,2.3nm,0.7s									
GERES	GERESS Array B	15.88	34	Pn		Pn	19 31 59.1	+3.7		
	comp=N,0.2nm,0.3s,baz=224,slow=13,SNR=12									
EKA	Eskdalemuir Ar	19.03	354	P		P	19 32 36.0	+2.4		
	baz=160,slow=10									
	comp=N,0.3nm,0.4s									
IDI	Anoyia	20.08	86	P		Pn	19 32 46.9	-0.1		
	comp=N,0.1nm,0.7s,baz=309,slow=9.3,SNR=4.1									
MLR	Muntele Rosu	21.40	57	P		P	19 33 01.2	+1.7		
	comp=N,4.2nm,0.8s,baz=275,slow=10,SNR=9.3									
	comp=N,4.2nm,0.8s									
TORD	Torodi Ar. Bea	23.23	176	P		P	19 33 17.8	-1.2		
	comp=N,2.1nm,0.7s,baz=348,slow=11,SNR=11									
	comp=N,2.1nm,0.7s									
AKASG	Malin Array Be	25.23	46	P		P	19 33 37.2	-0.1		
	comp=N,2.2nm,0.6s,baz=244,slow=9.9,SNR=4.4									
	comp=N,2.2nm,0.6s									
HFS	Hagfors	25.27	16	P		P	19 33 37.6	+0.1		
	comp=N,1.7nm,0.8s,baz=210,slow=14,SNR=1.7									
	comp=N,1.7nm,0.8s									
FINES	FINESS Array B	29.88	25	P		P	19 34 19.5	+0.7		
	comp=N,1.4nm,0.5s,baz=227,slow=8.1,SNR=14									
	comp=N,1.4nm,0.5s									
ARCES	ARCESS Array B	35.92	15	P		P	19 35 10.8	-0.6		
	comp=N,1.8nm,0.9s,baz=211,slow=8.1,SNR=1.5									
	comp=N,1.8nm,0.9s									
BVAR	Borovoye Array	50.51	47	P		P	19 37 11.4	+2.0		
	comp=N,0.5nm,0.5s,baz=255,slow=8.7,SNR=2.3									
	comp=N,0.5nm,0.5s									
KURBB	Kurchatov Arra	55.99	49	P		P	19 37 50.9	+1.2		
	comp=N,2.7nm,0.7s,baz=291,slow=8.0,SNR=23									
	comp=N,2.7nm,0.7s									
ZALV	Zalesovo Beam	58.58	44	P		P	19 38 09.1	+1.1		
	comp=N,2.6nm,0.7s,baz=292,slow=7.8,SNR=10									
	comp=N,2.6nm,0.7s									
MKAR	Makanchi Array	59.64	52	P		P	19 38 16.5	+1.0		
	comp=N,1.0nm,0.6s,baz=294,slow=5.6,SNR=12									
	comp=N,1.0nm,0.6s									
YKA	Yellowknife Ar	68.47	333	P		P	19 39 13.9	+0.7		
	comp=N,0.4nm,0.8s,baz=50,slow=6.1,SNR=5.9									
	comp=N,0.4nm,0.8s									
BOSA	Boshof	68.88	156	P		P	19 39 16.9	+0.7		
	comp=N,2.2nm,0.9s,baz=301,slow=5.0,SNR=3.4									
	comp=N,2.2nm,0.9s									
SONM	Songino Array	73.44	42	P		P	19 39 44.7	+0.9		
	comp=N,0.5nm,0.4s,baz=265,slow=5.4,SNR=5.4									
	comp=N,0.5nm,0.4s									
PDAR	Pinedale Array	78.47	315	P		P	19 40 13.9	+1.2		
	comp=N,1.0nm,0.7s,baz=61,slow=7.0,SNR=8.0									
	comp=N,1.0nm,0.7s									
TXAR	Lajitas Array	83.10	301	P		P	19 40 39.8	+2.2		
	comp=N,0.3nm,0.6s,baz=65,slow=4.4,SNR=4.4									
	comp=N,0.3nm,0.6s									
KLR	Kul'dur	84.52	30	P		P	19 40 45.8	+1.5		
	comp=N,0.3nm,0.4s,baz=302,slow=9.9,SNR=2.1									
	comp=N,0.3nm,0.4s									
CMAR	Chiang Mai Arr	86.04	70	P		P	19 40 52.9	+0.5		
	comp=N,0.3nm,0.6s,baz=297,slow=6.0,SNR=1.6									
	comp=N,0.3nm,0.6s									
QSPA	South Pole Qui	126.31	180	PKP		PKiKP	19 47 14.7	+1.2		
	comp=N,2.2nm,0.6s,baz=282,slow=1.8,SNR=22									
STKA	Stephens Creek	147.92	93	PKPbc		PKPbc	19 47 56.8	+0.1		
	comp=N,2.7nm,1.0s,baz=301,slow=6.8,SNR=4.3									

*MOS **17** 19:33:03.8±0.9,50°.20N×157°.26E,h82km,mb4.0/2, Error ellipse: s-maj=21.4km s-min=4.0km az=79.4*

*KRSC **17** 19:33:05.1±1.4,50°.36N×157°.40E,h80km±20km, Ml4.6, Felt [II] at lighthouse Chibuiny, Podgornay.*

*IDC **17** 19:33:06.8±1.8,50°.61N×156°.77E,h91km±15km,mb3.5/15, mbtmp3.8/20, Error ellipse: s-maj=18.1km s-min=12.9km az=136.0*

*NEIC **17** 19:33:07.9±1.0,50°.64N±0°.05×156°.5E±0°.3,h104km±12km, mb4.1/38, Error ellipse: s-maj=29.2km s-min=3.5km az=104.0*

ISC 17 19:33:07.3±0.9,50°.48N±0°.07×156°.95E±0°.07,h100km±6km, n278,σ0=0.95/293,mb4.0/36,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m	s	ISC
SKR	Severo-Kuril's	0.57	291	eP		Pn	19	33	23.5	-0.1
SKR				eS		Sn	19	33	35.7	-0.2
SKR	Severo-Kuril's	0.57	291	PN		Pn	19	33	23.5	-0.1
SKR				S		Sn	19	33	35.7	-0.2
PAU	Pauzhetka	0.99	355	eP		Pn	19	33	29.0	+1.3
PAU				eS		Sn	19	33	44.6	+1.6
PAU	Pauzhetka	0.99	355	PN		Pn	19	33	29.0	+1.3
PAU				S		Sn	19	33	44.6	+1.6
KDTR	Khodutka, Kamc	1.51	28	eP		Pn	19	33	32.6	-1.0
KDTR				eS		Sn	19	33	51.5	-2.1
KDTR	Khodutka, Kamc	1.51	28	PN		Pn	19	33	32.6	-1.0
KDTR				S		Sn	19	33	51.5	-2.1
ASAK	Asacha	2.00	17	eP		Pn	19	33	39.9	0.0
ASAK				eS		Sn	19	34	05.1	+0.3
ASAK	Asacha	2.00	17	PN		Pn	19	33	39.9	0.0
ASAK				S		Sn	19	34	05.1	+0.3
MTVR	Mutnovka	2.15	20	eP		Pn	19	33	41.9	-0.1
MTVR				eS		Sn	19	34	08.0	-0.4
MTVR	Mutnovka	2.15	20	PN		Pn	19	33	41.9	-0.1
MTVR				S		Sn	19	34	08.0	-0.4
RUS	Russkaya	2.19	26	eP		Pn	19	33	41.3	-1.0
RUS				eS		Sn	19	34	07.1	-1.9
RUS	Russkaya	2.19	26	PN		Pn	19	33	41.3	-1.0
RUS				S		Sn	19	34	07.1	-1.9
GRL	Gorelyy	2.19	18	eP		Pn	19	33	42.9	+0.4
GRL				eS		Sn	19	34	09.9	+0.6
GRL	Gorelyy	2.19	18	PN		Pn	19	33	42.9	+0.4
GRL				S		Sn	19	34	09.9	+0.6
APC	Apacha	2.45	3	eP		Pn	19	33	46.4	+0.6
APC	Apacha	2.45	3	PN		Pn	19	33	46.4	+0.6
KRMR	Karymshinskiy	2.47	17	eP		Pn	19	33	46.2	+0.3
KRMR				eS		Sn	19	34	14.8	-0.7
KRMR	Karymshinskiy	2.47	17	PN		Pn	19	33	46.2	+0.3
KRMR				S		Sn	19	34	14.8	-0.7
PEA0B	Petropavlovsk-	2.67	10			Pn	19	33	49.0	+0.3
PEA0B	Petropavlovsk-	2.67	10	PN		Pn	19	33	49.0	+0.3
PETK	Petropavlovsk-	2.67	10			Pn	19	33	48.2	-0.5
PETK	Petropavlovsk-	2.67	10	P		Pn	19	33	48.4	-0.3
	34nm,0.4s,baz=171,slow=14,SNR=112									
PETK				S		Sn	19	34	17.0	-3.5
	9.9nm,0.3s,baz=155,slow=15,SNR=6.1									
PET	Petropavlovsk	2.76	22			Pn	19	33	49.5	-0.3
PET				Sn		Sn	19	34	20.8	-1.6
PET	Petropavlovsk	2.76	22	eP		Pn	19	33	49.7	0.0
PET				eS		Sn	19	34	22.1	-0.4
PET	Petropavlovsk	2.76	22	ePN		Pn	19	33	49.6	-0.2
PET				eS		Sn	19	34	22.2	-0.3
PET				pmax		pmax				
	comp=Z,160nm,0.4s									
PET				smax		smax				
	comp=N,325nm,0.9s									
PET				smax		smax				
	comp=E,200nm,0.4s									
DALK	Dalny	2.79	23	eP		Pn	19	33	50.2	0.0
DALK				eS		Sn	19	34	22.6	-0.6
DALK	Dalny	2.79	23	PN		Pn	19	33	50.2	0.0
DALK				S		Sn	19	34	22.6	-0.6
UGLR	Uglovaya	2.97	22	eP		Pn	19	33	53.3	+0.6
UGLR	Uglovaya	2.97	22	PN		Pn	19	33	53.3	+0.6
AVH	Avacha	3.00	21	eP		Pn	19	33	54.2	+1.1
AVH	Avacha	3.00	21	PN		Pn	19	33	54.2	+1.1
KOK	Koryaka	3.00	20	eP		Pn	19	33	54.4	+1.2
KOK	Koryaka	3.00	20	PN		Pn	19	33	54.4	+1.2
SMAR	Somma	3.01	22	eP		Pn	19	33	53.8	+0.4
SMAR	Somma	3.01	22	PN		Pn	19	33	53.8	+0.4
KRER	Koryakskii	3.04	21	eP		Pn	19	33	54.6	+0.9
KRER	Koryakskii	3.04	21	PN		Pn	19	33	54.6	+0.9
KRX	Arik	3.07	19	eP		Pn	19	33	55.0	+0.9
KRX	Arik	3.07	19	PN		Pn	19	33	55.0	+0.9
NLC	Nalytchevo	3.08	28	eP		Pn	19	33	52.4	-1.6
NLC	Nalytchevo	3.08	28	PN		Pn	19	33	52.4	-1.6
SPN	Mys Shipunski	3.24	35	eP		Pn	19	33	55.4	-0.8
SPN				eS		Sn	19	34	32.1	-1.9
SPN	Mys Shipunski	3.24	35	PN		Pn	19	33	55.4	-0.8
SPN				S		Sn	19	34	32.1	-1.9
GNL	Ganaly	3.28	10	eP		Pn	19	33	57.8	+0.9
GNL	Ganaly	3.28	10	PN		Pn	19	33	57.8	+0.9
TUMD	Tumrok D	5.17	22	eP		Pn	19	34	23.4	+1.1
TUMR	Tumrok	5.19	21	eP		Pn	19	34	23.6	+1.0
TUMR	Tumrok	5.19	21	PN		Pn	19	34	23.4	+0.8
ESO	Esso	5.56	10	eP		Pn	19	34	28.3	+0.8
ESO	Esso	5.56	10	PN		Pn	19	34	28.3	+0.8
KMNR	Kamenistaya	5.64	19	eP		Pn	19	34	29.6	+0.8
KMNR	Kamenistaya	5.64	19	PN		Pn	19	34	29.6	+0.8
BZMR	Bezymyannaya	5.86	20	eP		Pn	19	34	32.5	+0.7
BZMR	Bezymyannaya	5.86	20	PN		Pn	19	34	32.5	+0.7
SRDR	Sredinnyy	6.08	15	eP		Pn	19	34	36.0	+1.4
SRDR	Sredinnyy	6.08	15	PN		Pn	19	34	36.0	+1.4
KBTR	Krutoberegovo	6.73	29	eP		Pn	19	34	42.3	-1.1
KBTR	Krutoberegovo	6.73	29	PN		Pn	19	34	42.3	-1.1
KBG	Krutoberegovo	6.73	29	eP		Pn	19	34	45.0	+1.6
KBG	Krutoberegovo	6.73	29	PN		Pn	19	34	45.0	+1.6
BKI	Bering	7.22	46	eP		Pn	19	34	48.5	-1.6
BKI	Bering	7.22	46	PN		Pn	19	34	48.5	-1.6
SHEM	Shemya Is, Ala	10.90	71	P		Pn	19	35	39.8	-0.2
	comp=E,37nm,0.4s,baz=0.0,slow=20,SNR=2.1									
ASAJ	Asahikawa	11.63	242	P		Pn	19	35	48.4	-1.6
	comp=E,5.7nm,0.9s,baz=354,slow=19,SNR=1.1									
SEY	Seychan	12.73	350	P		Pn	19	36	01.8	-2.6
	comp=E,1.2nm,0.8s,baz=86,slow=22,SNR=2.0									
BILL	Bilibino	18.21	11	P		P	19	37	12.7	+0.6
YAK	Yakutsk	18.89	318	P		P	19	37	18.7	-0.8
	comp=E,9.6nm,0.8s,baz=151,slow=10,SNR=6.7									
MJAR	Matsushiro Arr	19.39	231	P		Pn	19	37	26.4	-1.0
	comp=E,1.0nm,0.6s,baz=26,slow=10,SNR=4.3									
M11K	Mekoryuk	22.83	50	P		P	19	38	02.4	+0.9
	baz=262									
TNA	Tin City	23.51	37	P		P	19	38	08.1	+0.2
	baz=248									
K13K	Kusilvak Mount	23.84	47	P		P	19	38	12.4	+1.5
	baz=260									
F14K	Arctic Creek	24.10	38	P		P	19	38	13.5	+0.3
	baz=250,SNR=6.1									
ANM	Nome	24.18	40	P		P	19	38	14.8	+0.8
ANM				IAmb		IAmb	19	38	16.6	
	comp=Z,6.5nm,0.9s									
ANM	Nome	24.18	40	P		P	19	38	15.0	+1.1
	baz=253,SNR=5.1									
ANM	Nome	24.18	40	P		P	19	38	14.8	+0.8
ANM				pmax		pmax				
	comp=Z,7.0nm,0.9s									
L14K	Kuka Creek	24.68	48	P		P	19	38	20.3	+1.8
	baz=263									
TIXI	Tiksi	24.74	339	P		P	19	38	16.2	-2.7
TIXI	Tiksi	24.74	339	P		P	19	38	16.2	-2.7
TIXI				pmax		pmax				
	comp=Z,4.0nm,0.9s									
F15K	North Star Dit	24.84	38	P		P	19	38	21.0	+1.1
F15K	North Star Dit	24.84	38	P		P	19	38	21.1	+1.3
	baz=252									
G15K	Niukluk	24.86	40	P		P	19	38	21.5	+1.5
	baz=254									
S12K	Black Hills	24.88	62	P		P	19	38	24.8	+4.4
	baz=276									
M14K	Bethel	24.96	50	P		P	19	38	22.3	+1.4
	baz=265									
L15K	Ungalak Mounta	25.29	48	P		P	19	38	25.6	+1.6
	baz=264									
K15K	Wolf Creek Mou	25.35	46	P		P	19	38	25.3	+0.8
	baz=262									
H16K	Elim	25.50	41	P		P	19	38	26.3	+0.4
	baz=257									
C16K	Lisburne Hills	25.55	32	P		P	19	38	26.2	0.0
C16K	Lisburne Hills	25.55	32	P		P	19	38	26.3	0.0
	baz=246									
M15K	Kasigluk River	25.57	50	P		P	19	38	28.6	+2.0
	baz=266									
G16K	Koyuk River	25.65	39	P		P	19	38	28.4	+1.2
G16K	Koyuk River	25.65	39	P		P	19	38	27.8	+0.6
	baz=255									
J16K	Anvik River	25.93	44	P		P	19	38	30.6	+0.9
	baz=261									
D17K	Noatak River	26.11	34	P		P	19	38	31.9	+0.6
	baz=250,SNR=5.9									
S14K	Fog Glacier	26.23	60	P		P	19	38	36.2	+3.5
	baz=276									
L16K	Owhat River	26.25	48	P		P	19	38	33.8	+1.2
	baz=265									
E17K	Hotham Inlet	26.36	36	P		P	19	38	34.2	+0.7
	baz=252,SNR=14									
G17K	Kiwalik Mounta	26.37	39	P		P	19	38	34.3	+0.6
	baz=257									
F17K	Baldwin Pennin	26.38	37	P		P	19	38	34.0	+0.2
F17K				IAmb		IAmb	19	38	35.3	
	comp=Z,5.5nm,0.8s									
F17K	Baldwin Pennin	26.38	37	P		P	19	38	34.4	+0.6
	baz=254									
M16K	Timber Creek	26.44	50	P		P	19	38	35.8	+1.4
	baz=267									
H17K	Granite Mounta	26.54	41	P		P	19	38	36.1	+0.8
	baz=258									
E18K	Tukpahlearik C	26.91	35	P		P	19	38	39.2	+0.6
E18K	Tukpahlearik C	26.91	35	P		P	19	38	39.0	+0.4
	baz=253									
F18K	Selawik	27.04	37	P		P	19	38	39.3	-0.4
	baz=256,SNR=5.2									
C18K	Utukok River	27.11	32	P		P	19	38	40.0	-0.4
C18K				IAmb		IAmb	19	38	41.3	
	comp=Z,5.2nm,0.9s									
C18K	Utukok River	27.11	32	P		P	19	38	40.2	-0.2
	baz=250									
B18K	Kokolik River	27.17	31	P		P	19	38	40.8	0.0
	baz=248									
H18K	Honhosa River	27.23	40	P		P	19	38	40.5	-0.9
	baz=260									
G18K	Tagagawik	27.26	39	P		P	19	38	42.1	+0.4
G18K	Tagagawik	27.26	39	P		P	19	38	40.9	-0.8
	baz=258									
L18K	Granite Mounta	27.60	47	P		P	19	38	44.7	0.0
	baz=267									
J18K	Innoko River	27.69	44	P		P	19	38	44.9	-0.7
	baz=265									
C19K	Lookout Ridge	27.82	32	P		P	19	38	45.9	-0.8
	baz=251									
F19K	Shaleruckik Mo	27.82	37	P		P	19	38	46.0	-0.6
	baz=257									
N18K	Kilae Creek	27.93	50	P		P	19	38	48.5	+0.7
	baz=271									
G19K	Purcell Mounta	27.94	39	P		P	19	38	47.2	-0.6
	baz=259									
Q17K	Contact Creek	28.04	56	P		P	19	38	49.9	+1.1
	baz=275									
H19K	Roundabout Mou	28.09	40	P		P	19	38	49.1	+0.1
H19K				IAmb		IAmb	19	38	50.2	
	comp=Z,4.4nm,0.9s									
H19K	Roundabout Mou	28.09	40	P		P	19	38	48.4	-0.7
	baz=261									
D19K	Kuna River	28.13	34	P		P	19	38	49.3	-0.1
D19K				IAmb		IAmb	19	38	51.0	
	comp=Z,5.4nm,1.1s									
D19K	Kuna River	28.13	34	P		P	19	38	48.8	-0.7
	baz=254									
E19K	Redstone River	28.18	36	P		P	19	38	50.0	+0.1
E19K	Redstone River	28.18	36	P		P	19	38	48.0	-1.9
	baz=257									
J19K	Poorman	28.23	43	P		P	19	38	49.4	-1.0
	baz=265									
D20K	Etivluk River	28.72	33	P		P	19	38	55.1	+0.4
	baz=255									
H20K	Anotleneega Mo	28.73	40	P		P	19	38	54.3	-0.5
	baz=263									
E20K	Nigu River	28.76	34	P		P	19	38	55.4	+0.4
	baz=256									
J20K	Nowinta River	28.89	43	P		P	19	38	55.9	-0.3
	baz=266									
M20K	Styx River	29.26	48	P		P	19	38	59.5	-0.1
	baz=271									
G21K	Allakaket	29.43	38	P		P	19	39	01.0	+0.1
	baz=262									
C21K	Knifeblade Rid	29.48	33	P		P	19	39	01.0	-0.4
	baz=256									
F21K	Alatna River	29.55	37	P		P	19	39	02.1	+0.1
	baz=261									
E21K	Killik River	29.60	34	P		P	19	39	02.8	+0.3
E21K				IAmb		IAmb	19	39	03.4	
	comp=Z,3.8nm,1.1s									
E21K	Killik River	29.60	34	P		P	19	39	02.2	-0.3
	baz=258									
H21K	Melozitna Rive	29.60	40	P		P	19	39	02.7	+0.2
	baz=264									
B21K	Ikpikpuk River	29.65	32	P		P	19	39	03.2	+0.4
B21K				IAmb		IAmb	19	39	04.3	
	comp=Z,5.1nm,0.8s									
B21K	Ikpikpuk River	29.65	32	P		P	19	39	02.9	+0.1
	baz=256,SNR=5.8									
PPLA	Purkeypile	29.71	46	P		P	19	39	03.8	+0.2
	baz=270									
Q20K	Shuyak Island	29.83	54	P		P	19	39	06.6	+2.1
	baz=277									
A22K	Sinclair Lake	29.93	29	P		P	19	39	05.4	+0.1
	baz=253									
F22K	John River	30.09	37	P		P	19	39	06.9	0.0
	baz=262									
D22K	Ayikyak River	30.15	34	P		P	19	39	07.7	+0.4
	baz=259									
H22K	Ishtalita Cre	30.21	40	P		P	19	39	07.9	0.0
	baz=265									
B22K	Teshekpuk Lake	30.24	31	P		P	19	39	08.1	+0.1
	baz=256									
BPAW	Bear Paw Mtn.	30.27	43	P		P	19	39	08.7	+0.3
	baz=269									
G22K	Bettles	30.27	38	P		P	19	39	08.1	-0.2
	baz=264									
E22K	Anaktuvuk Pass	30.33	35	P		P	19	39	08.8	-0.1
E22K				IAmb		IAmb	19	39	12.0	
	comp=Z,2.3nm,0.8s									
E22K	Anaktuv

baz=276
H11S1 WAKE ISLAND Hy 32.83 163 T T 20 14 37.1
baz=348,slow=76,SNR=51
H11S3 WAKE ISLAND Hy 32.84 163 T T 20 14 35.4
baz=348,slow=76,SNR=79
H11S2 WAKE ISLAND Hy 32.85 163 T T 20 14 37.3
baz=348,slow=76,SNR=36
EYAK Cordova Ski Ar 32.93 50 P **P** **19 39 34.1 +2.4**
baz=279
C26K Camden Bay 33.02 33 P **P** **19 39 32.9 +0.4**
baz=265
F26K Sheenjek River 33.17 37 P **P** **19 39 34.3 +0.4**
baz=269
G26K Porcupine Rive 33.31 38 P **P** **19 39 35.2 +0.2**
baz=271
N25K Chitina, Valde 33.33 48 P **P** **19 39 36.0 +0.6**
baz=278
SCRK Sand Creek 33.35 43 P **P** **19 39 35.6 +0.1**
baz=275
C27K Jago River 33.42 33 P **P** **19 39 35.7 -0.2**
baz=267
M26K Nabesna, AK 33.97 46 P **P** **19 39 41.4 +0.6**
baz=278
E27K Coleen River 34.14 36 P **P** **19 39 41.8 -0.4**
baz=271
G27K Doyon Strip 34.15 38 P **P** **19 39 42.3 -0.1**
baz=273
K27K Chicken 34.19 43 P **P** **19 39 42.9 +0.3**
K27K IAmb IAmb 19 40 26.0
comp=Z,4.5nm,1.4s
K27K Chicken 34.19 43 P **P** **19 39 42.3 -0.3**
baz=277
H27K Steamboat Moun 34.23 39 P **P** **19 39 43.0 -0.1**
baz=274
D27M Malcolm River 34.37 34 P **P** **19 39 44.4 +0.1**
D27M IAmb IAmb 19 39 45.8
comp=Z,3.4nm,0.8s
D27M Malcolm River 34.37 34 P **P** **19 39 44.0 -0.2**
baz=270
L27K Beaver Creek, 34.41 45 P **P** **19 39 45.5 +0.9**
L27K Beaver Creek, 34.41 45 P **P** **19 39 44.9 +0.2**
baz=278,SNR=6.7
BCAR Beaver Creek A 34.43 45 P **P** **19 39 45.8 +1.0**
M27K Edge Creek, AK 34.49 46 P **P** **19 39 45.4 0.0**
baz=279
EGAK Eagle 34.50 42 P **P** **19 39 45.3 0.0**
EGAK IAmb IAmb 19 39 45.8
comp=Z,3.0nm,0.7s
EGAK Eagle 34.50 42 P **P** **19 39 45.0 -0.4**
baz=276
F28M Old Crow 34.81 37 P **P** **19 39 47.3 -0.7**
baz=273,SNR=5.3
BARN Barnard Glacie 34.82 48 P **P** **19 39 49.5 +1.2**
BARN IAmb IAmb 19 39 57.2
comp=Z,3.4nm,1.1s
MESA MESA 34.85 50 P **P** **19 39 49.3 +0.7**
baz=282
E28M Babbage River 34.90 35 P **P** **19 39 48.3 -0.4**
baz=272
I28M Miner Creek 34.95 41 P **P** **19 39 49.4 +0.2**
baz=276
CTG Chitna Glacier 34.99 49 P **P** **19 39 49.4 -0.3**
baz=282
YUK3 Moose Creek 35.25 47 P **P** **19 39 51.5 -0.5**
baz=281
DAWY Dawson 35.35 43 P **P** **19 39 52.8 +0.1**
baz=279
E29M Blow River 35.51 35 P **P** **19 39 54.0 +0.1**
baz=274,SNR=5.2
H29M Whitestone 35.51 39 P **P** **19 39 54.9 +0.9**
baz=277
G29M Pine Creek 35.58 38 P **P** **19 39 54.9 +0.3**
baz=276,SNR=5.1
O28M Mount Upton 35.58 49 P **P** **19 39 55.2 +0.2**
baz=283
M29M Somme Creek 36.05 46 P **P** **19 39 59.6 +0.9**
M29M IAmb IAmb 19 40 00.8
comp=Z,2.2nm,0.7s
M29M Somme Creek 36.05 46 P **P** **19 39 59.0 +0.3**
baz=282
L29M L29M 36.07 44 P **P** **19 40 00.3 +1.5**
L29M L29M 36.07 44 P **P** **19 39 59.5 +0.7**
baz=281
EPYK Eagle Plains 36.16 39 P **P** **19 39 59.4 -0.1**
baz=278
YUK4 Talbot Arm 36.19 47 P **P** **19 40 00.8 +0.8**
baz=283
K29M Barlow Dome 36.20 43 P **P** **19 40 00.7 +0.6**
baz=281
PNL Peninsula 36.22 50 P **P** **19 40 01.6 +1.5**
baz=285
G30M tAoh Zraii Nji 36.27 38 P **P** **19 40 00.5 -0.1**
baz=278
F30M Barrier River 36.37 37 P **P** **19 40 01.6 +0.3**
baz=277
I30M Mount Dempster 36.46 41 P **P** **19 40 02.8 +0.6**
I30M IAmb IAmb 19 40 03.6
comp=Z,2.0nm,0.8s
I30M Mount Dempster 36.46 41 P **P** **19 40 02.2 0.0**
baz=280
J30M Hart River 36.59 42 P **P** **19 40 03.1 -0.3**
baz=281
HYT Haines Junctio 36.85 48 P **P** **19 40 05.9 +0.4**
baz=285
P29M Windy Craggy 37.04 50 P **P** **19 40 08.0 +0.9**
baz=286
G31M Satah River 37.04 38 P **P** **19 40 06.5 -0.5**
baz=279
INK Inuvik 37.13 35 P **P** **19 40 07.7 +0.1**
baz=278
F31M Tsiigehtchic 37.17 37 P **P** **19 40 08.5 +0.5**
baz=279
H31M Peel River 37.20 39 P **P** **19 40 08.1 -0.3**
baz=281
P30M Million Dollar 37.29 49 P **P** **19 40 09.8 +0.6**
baz=286
N31M Braeburn, Yuko 37.49 47 P **P** **19 40 11.8 +0.9**
baz=285
O30N Mendenhall 37.53 48 P **P** **19 40 11.2 0.0**
baz=286
PLBC Pleasant Camp 37.76 50 P **P** **19 40 13.9 +0.7**
baz=287
M31M Drury Creek, Y 37.95 45 P **P** **19 40 14.2 -0.5**
baz=285
WHY Whitehorse 38.14 48 P **P** **19 40 16.2 -0.2**
baz=287
A36M Sachs Harbour 39.37 29 P **P** **19 40 27.0 +0.6**
baz=281
C36M Paulatuk 40.31 33 P **P** **19 40 34.4 +0.3**
C36M Paulatuk 40.31 33 P **P** **19 40 34.1 0.0**
baz=285,SNR=6.3
R33M Jennings River 40.40 49 P **P** **19 40 35.6 +0.3**
baz=291
DLBC Dease Lake 41.20 50 P **P** **19 40 43.3 +1.6**
comp=Z,0.9nm,0.5s,baz=300,slow=15,SNR=3.1
comp=Z,0.9nm,0.5s
T35M Bob Quinn 41.65 52 P **P** **19 40 46.3 +0.9**
baz=294
YKA Yellowknife Ar 46.42 40 P **P** **19 41 24.1 +0.8**
comp=Z,2.5nm,0.9s,baz=300,slow=8.1,SNR=16
comp=Z,2.5nm,0.9s
KURK Kurchatov 47.47 302 P **P** **19 41 31.2 -0.5**
MKAR Makanchi Array 47.54 296 P **P** **19 41 31.6 -0.8**
comp=Z,0.1nm,0.4s,baz=45,slow=5.5,SNR=1.9
comp=Z,0.1nm,0.4s
KURBB Kurchatov Arra 47.57 302 P **P** **19 41 31.2 -1.2**
comp=Z,0.3nm,0.7s,baz=62,slow=7.2,SNR=2.5
comp=Z,0.3nm,0.7s
DAG Dannarks Havn 52.99 359 *i* P **P** **19 42 12.0 -0.9**
MSO Missoula 55.52 56 P **P** **19 42 34.7 +2.9**
baz=310
EGMT Eagleton 56.94 53 P **P** **19 42 43.8 +1.9**
baz=311
PDAR Pinedale Array 60.54 58 P **P** **19 43 07.9 +0.8**
comp=Z,1.3nm,0.8s,baz=337,slow=3.4,SNR=8.6
comp=Z,1.3nm,0.8s
NOA NORSAR Array B 65.48 342 P **P** **19 43 38.1 -1.1**
comp=Z,1.0nm,0.7s,baz=58,slow=5.9,SNR=3.7
comp=Z,1.0nm,0.7s
HFS Hagfors 65.81 341 P **P** **19 43 39.9 -1.4**
comp=Z,2.0nm,0.8s,baz=34,slow=8.7,SNR=2.0
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 72.90 202 P **P** **19 44 25.3 -0.1**
comp=Z,0.6nm,1.0s,baz=19,slow=6.1,SNR=1.9
comp=Z,0.6nm,1.0s
EKA Eskdalemuir Ar 73.26 348 P **P** **19 44 26.6 -0.6**
comp=Z,1.7nm,0.8s,baz=16,slow=4.9,SNR=5.8
comp=Z,1.7nm,0.8s

TXAR Lajitas Array 73.50 64 P **P** **19 44 29.7 +0.6**
comp=Z,1.1nm,0.8s,baz=289,slow=4.1,SNR=11
comp=Z,1.1nm,0.8s
GERES GERESS Array B 76.15 336 P **P** **19 44 43.8 -0.3**
comp=Z,0.4nm,0.6s,baz=32,slow=5.8,SNR=2.5
comp=Z,0.4nm,0.6s
ASAR Alice Springs 76.59 202 P **P** **19 44 47.4 +0.8**
comp=Z,0.6nm,0.8s,baz=13,slow=4.7,SNR=9.1
comp=Z,0.6nm,0.8s
BRTR Keskin Array B 77.34 319 P **P** **19 44 51.1 +0.1**
comp=Z,0.5nm,0.6s,baz=64,slow=8.4,SNR=4.0
comp=Z,0.5nm,0.6s
DAVOX Davos/Dischmat 79.03 338 P **P** **19 44 59.8 -0.4**
comp=Z,1.6nm,0.7s,baz=349,slow=12,SNR=4.2
comp=Z,1.6nm,0.7s
H03N2 Juan Fernandez 136.18 89 T T 22 23 25.8
baz=314,slow=77,SNR=13
H03N1 Juan Fernandez 136.20 89 T T 22 23 20.0
baz=314,slow=77,SNR=8.4
H03N3 Juan Fernandez 136.20 89 T T 22 23 24.2
baz=314,slow=77,SNR=9.7

IDC ***17*** *19:41:05.5±0.6,52°.98N×167°.64W,h0km,mb4.5/39, mbtmp4.5/41,ML4.0/2,MS3.9/5,Error ellipse: s-maj=17.1km s-min=10.5km az=169.0*
AEIC ***17*** *19:41:09.9±2.6,52°.86N±0°.07×167°.43W±0°.05,h26km±5km, Error ellipse: s-maj=9.5km s-min=4.5km az=177.0*
NEIC ***17*** *19:41:11.6±2.2,52°.95N±0°.06×167°.53W±0°.06,h47km±3km, mb4.4/129,ML4.3/8,ML4.4(AEIC),Error ellipse: s-maj=9.1km s-min=5.2km az=181.0*
ISC 17 19:41:11.1±1.2,52°.88N±0°.08×167°.44W±0°.04, h44km±10km,n319,σ1s23/272,mb4.6/95,MS3.9/3,20C-17D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OKFG	**Magazine Ridge**	**0.60**	**332**		**Pn**	**Pn**	**19 41 22.3**	**-1.1**
OKFG						**Sn**	**19 41 32.0**	**-0.1**
OKSP	**Okmok Steeple**	**0.63**	**307**		**Pn**	**Pn**	**19 41 22.1**	**-1.7**
OKCE	**Okmok Cone E**	**0.70**	**322**		**Pn**	**Pn**	**19 41 23.8**	**-0.9**
OKCE						**Sn**	**19 41 35.8**	**+1.3**
OKNC	**Okmok New Cone**	**0.71**	**325**		**Pn**	**Pn**	**19 41 23.9**	**-0.9**
OKWE	**Okmok W'ng Wal**	**0.76**	**321**		**Pn**	**Pn**	**19 41 24.7**	**-0.9**
MAPS	**Pakushin South**	**0.98**	**18**		**Pn**	**Pn**	**19 41 27.5**	**-1.0**
MAPS						**Sn**	**19 41 40.4**	**-0.8**
MNAT	**Makushin Natee**	**1.11**	**24**		**Pn**	**Pn**	**19 41 29.5**	**-0.7**
MNAT						**Sn**	**19 41 43.6**	**-0.6**
MSW	**Makushin Switc**	**1.11**	**21**		**Pn**	**Pn**	**19 41 29.7**	**-0.6**
MSW						**Sn**	**19 41 44.8**	**+0.4**
UNV	**Unalaska Valle**	**1.12**	**30**	P	**Pn**	**Pn**	**19 41 29.2**	**-1.2**
UNV	**Unalaska Valle**	**1.12**	**30**		**Pn**	**Pn**	**19 41 29.6**	**-0.7**
UNV						**Sn**	**19 41 44.3**	**-0.3**
MTBL	**Makushin Table**	**1.19**	**22**		**Pn**	**Pn**	**19 41 30.7**	**-0.7**
MTBL						**Sn**	**19 41 47.5**	**+1.2**
ZRO	**Akutan Zero**	**1.50**	**35**		**Pn**	**Pn**	**19 41 35.2**	**-0.4**
AKRB	**Akutan Reef Bi**	**1.50**	**33**		**Pn**	**Pn**	**19 41 35.4**	**-0.1**
AKRB						**Sn**	**19 41 54.9**	**+1.0**
AKBBA	**Akutan Broad B**	**1.52**	**36**		**Pn**	**Pn**	**19 41 35.3**	**-0.6**
LVA	**Lava Point**	**1.54**	**33**		**Pn**	**Pn**	**19 41 36.0**	**-0.1**
LVA						**Sn**	**19 41 55.4**	**+0.6**
AHB	**Akutan Harbor**	**1.58**	**37**		**Pn**	**Pn**	**19 41 36.1**	**-0.5**
AKSA	**Akutan Strait**	**1.64**	**39**		**Pn**	**Pn**	**19 41 36.7**	**-0.7**
WECS	**Westdahl Cape**	**2.29**	**43**		**Pn**	**Pn**	**19 41 47.5**	**+1.0**
WESE	**West Dahl East**	**2.33**	**46**		**Pn**	**Pn**	**19 41 47.3**	**+0.2**
WEBT	**Westdahl Beart**	**2.34**	**42**		**Pn**	**Pn**	**19 41 47.5**	**+0.3**
SSLN	**Shishaldin Nor**	**2.81**	**45**		**Pn**	**Pn**	**19 41 54.4**	**+0.8**
ISLZ	**Isanotski Laza**	**2.89**	**49**		**Pn**	**Pn**	**19 41 55.1**	**+0.5**
ISNN	**Isanotski Nort**	**2.92**	**46**		**Pn**	**Pn**	**19 41 56.0**	**+0.9**
KOSE	**Korovin Southe**	**4.06**	**265**		**Pn**	**Pn**	**19 42 12.2**	**+1.5**
HAG	**Hague Volcano**	**4.08**	**51**		**Pn**	**Pn**	**19 42 12.6**	**+1.7**
KOFP	**Korovin Flat P**	**4.10**	**264**		**Pn**	**Pn**	**19 42 12.6**	**+1.3**
ATKA	**Atka Island**	**4.18**	**263**	P	**Pn**	**Pn**	**19 42 13.9**	**+1.6**
ATKA	**Atka Island**	**4.18**	**263**	Pn	**Pn**	**Pn**	**19 42 13.7**	**+1.4**
ATKA				IAML			19 43 25.5	
	comp=E,297nm,0.9s							
PS1A	**Pavlof South-1**	**4.21**	**50**		**Pn**	**Pn**	**19 42 14.5**	**+1.8**
S12K	**Black Hills**	**4.24**	**46**		**Pn**	**Pn**	**19 42 14.6**	**+1.5**
S12K	**Black Hills**	**4.24**	**46**	IAML			19 43 27.7	
	comp=N,436nm,0.8s							
S12K				IAML			19 43 35.4	
	comp=E,491nm,1.1s							
SPIA	**Saint Paul Isl**	**4.60**	**341**	P	**Pn**	**Pn**	**19 42 21.1**	**+3.1**
SPIA	**Saint Paul Isl**	**4.60**	**341**		**Pn**	**Pn**	**19 42 18.6**	**+0.6**
SDPT	**Sand Point**	**4.79**	**56**	P	**Pn**	**Pn**	**19 42 22.6**	**+2.0**
SDPT	**Sand Point**	**4.79**	**56**	Pn	**Pn**	**Pn**	**19 42 22.4**	**+1.7**
CNBA	**Chernabura Isl**	**5.04**	**64**		**Pn**	**Pn**	**19 42 24.1**	**0.0**
CNBA	**Chernabura Isl**	**5.04**	**64**	IAML			19 43 53.2	
	comp=N,180nm,1.0s							
VNFG	**Fog Glacier, M**	**5.72**	**50**		**Pn**	**Pn**	**19 42 36.8**	**+3.3**
O14K	**Tigyukauivet M**	**7.26**	**26**	Pn	**Pn**	**Pn**	**19 42 55.9**	**+1.4**
R16K	**Pilot Point**	**7.34**	**46**		**Pn**	**Pn**	**19 42 57.6**	**+2.0**
O15K	**Ungalikthiuk R**	**7.62**	**31**		**Pn**	**Pn**	**19 43 01.7**	**+2.3**
N14K	**Kuskokwak Cree**	**7.75**	**22**		**Pn**	**Pn**	**19 43 04.2**	**+3.1**
M13K	**Dall Lake**	**7.88**	**15**	Pn	**Pn**	**Pn**	**19 43 04.0**	**+1.0**
CEPE	**Semis' Perret**	**7.95**	**269**		**Pn**	**Pn**	**19 43 05.4**	**+1.4**
CESW	**Semis' Southwe**	**8.01**	**268**		**Pn**	**Pn**	**19 43 06.8**	**+2.0**
AMKA	**Amchitka**	**8.29**	**265**	Pn	**Pn**	**Pn**	**19 43 08.0**	**-0.7**
N15K	**Kwethluk River**	**8.36**	**26**	Pn	**Pn**	**Pn**	**19 43 10.9**	**+1.3**
M14K	**Bethel**	**8.44**	**19**	Pn	**Pn**	**Pn**	**19 43 12.0**	**+1.3**
CNTC	**Contact Creek**	**8.48**	**46**		**Pn**	**Pn**	**19 43 13.8**	**+2.5**
O16K	**Kokwok River B**	**8.50**	**34**	Pn	**Pn**	**Pn**	**19 43 12.8**	**+1.3**
SII	**Sitkinak Islan**	**8.51**	**59**	P	**Pn**	**Pn**	**19 43 12.5**	**+0.8**
SII	**Sitkinak Islan**	**8.51**	**59**		**Pn**	**Pn**	**19 43 12.3**	**+0.6**
ANCK	**Angle Creek**	**8.62**	**47**		**Pn**	**Pn**	**19 43 14.8**	**+1.6**
M15K	**Kasigluk River**	**8.66**	**23**		**Pn**	**Pn**	**19 43 15.9**	**+2.2**
L14K	**Kuka Creek**	**8.87**	**15**	Pn	**Pn**	**Pn**	**19 43 17.2**	**+0.7**
N16K	**Nishlik Lake**	**8.98**	**29**		**Pn**	**Pn**	**19 43 20.8**	**+2.7**
O17K	**Koliganek Bris**	**8.98**	**36**		**Pn**	**Pn**	**19 43 20.2**	**+2.1**
K13K	**Kusilvak Mount**	**9.20**	**8**	Pn	**Pn**	**Pn**	**19 43 23.2**	**+2.1**
OHAK	**Old Harbor**	**9.21**	**56**	P	**Pn**	**Pn**	**19 43 20.4**	**-0.8**
OHAK	**Old Harbor**	**9.21**	**56**	Pn	**Pn**	**Pn**	**19 43 22.4**	**+1.2**
M16K	**Timber Creek**	**9.38**	**26**		**Pn**	**Pn**	**19 43 25.6**	**+2.1**
L15K	**Ingalak Mounta**	**9.39**	**18**		**Pn**	**Pn**	**19 43 26.0**	**+2.4**
P18K	**Big Mountain**	**9.43**	**41**	Pn	**Pn**	**Pn**	**19 43 26.3**	**+2.1**
N17K	**Nushagak Hills**	**9.51**	**32**	Pn	**Pn**	**Pn**	**19 43 26.9**	**+1.6**
KDAK	**Kodiak Island**	**9.78**	**54**	Pn	**Pn**	**Pn**	**19 43 27.7**	**-1.4**
KDAK	**Kodiak Island**	**9.78**	**54**	Pn	**Pn**	**Pn**	**19 43 27.8**	**-1.2**
	comp=N,1.6nm,0.3s,baz=248,slow=8.2,SNR=13							
KDAK						**Sn**	**19 45 12.1**	**-5.2**
	baz=330,slow=20							
L16K	**Owhat River**	**9.84**	**23**		**Pn**	**Pn**	**19 43 32.5**	**+2.7**
N18K	**Kilae Creek**	**10.05**	**34**	Pn	**Pn**	**Pn**	**19 43 31.9**	**-0.9**
M17K	**Holitna River**	**10.11**	**28**		**Pn**	**Pn**	**19 43 36.2**	**+2.6**
SYI	**Shuyak Island**	**10.23**	**50**	Pn	**Pn**	**Pn**	**19 43 35.9**	**+0.7**
N19K	**Bonanza Creek**	**10.64**	**37**	Pn	**Pn**	**Pn**	**19 43 42.5**	**+1.6**
SHEM	**Shemya Is, Ala**	**11.18**	**277**	Pn	**Pn**	**Pn**	**19 43 46.6**	**-1.5**
	comp=N,2.3nm,0.3s,baz=83,slow=17,SNR=1.4							
SHEM				LR		LR	19 48 45.2	
	comp=N,267nm,18.2s,baz=181,slow=42							
	comp=N,30nm,0.6s							
CNPM	**China Poot**	**11.20**	**47**	Pn	**Pn**	**Pn**	**19 43 47.1**	**-1.3**
J17K	**VABM Dome**	**11.42**	**19**	Pn	**Pn**	**Pn**	**19 43 52.9**	**+1.5**
M19K	**Big River Lodg**	**11.44**	**33**		**Pn**	**Pn**	**19 43 53.3**	**+1.6**
L19K	**White Mountain**	**11.50**	**31**	Pn	**Pn**	**Pn**	**19 43 54.9**	**+2.4**
ANM	**Nome**	**11.77**	**4**	Pn	**Pn**	**Pn**	**19 43 57.1**	**+0.9**
KAIM	**Kayak Island**	**14.51**	**52**		**Pn**	**Pn**	**19 44 33.3**	**-0.2**
N25K	**Chitina, Valde**	**15.07**	**46**	IAmb	IAmb	IAmb	19 45 11.1	
	comp=Z,16nm,0.9s							
G21K	**Allakaket**	**15.32**	**21**	IAmb	IAmb	IAmb	19 45 02.2	
	comp=Z,16nm,0.8s							
I23K	**Minto, Yukon-K**	**15.34**	**30**	IAmb	IAmb	IAmb	19 45 02.6	
	comp=Z,22nm,0.9s							
GLB	**Gilahina Butte**	**15.34**	**47**	IAmb	IAmb	IAmb	19 45 00.6	
	comp=Z,32nm,1.2s							
RDOG	**Red Dog Mine**	**15.38**	**6**	IAmb	IAmb	IAmb	19 44 56.8	
	comp=Z,16nm,1.0s							
VRDI	**Verde Repeater**	**15.42**	**48**	IAmb	IAmb	IAmb	19 44 49.7	
	comp=Z,14nm,0.8s							
C16K	**Lisburne Hills**	**15.48**	**3**	IAmb	IAmb	IAmb	19 44 58.4	
	comp=Z,15nm,0.8s							
COLA	**College**	**15.62**	**32**		**Pn**	**Pn**	**19 44 47.1**	**-0.8**
COLA				IAmb	IAmb	IAmb	19 45 04.6	
	comp=Z,20nm,0.9s							
ISLE	**Juniper Island**	**15.71**	**51**	IAmb	IAmb	IAmb	19 45 05.7	
	comp=Z,26nm,0.8s							
MESA	**MESA**	**15.77**	**52**	IAmb	IAmb	IAmb	19 45 02.4	
	comp=Z,27nm,0.7s							
ILAR	**Eielson Array**	**15.88**	**33**	Pn	**Pn**	**Pn**	**19 44 48.8**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=220,slow=10,SNR=18							
ILAR				LR		LR	19 51 27.7	
	comp=Z,406nm,18.8s,baz=196,slow=39							
	comp=Z,0.5nm,0.5s							

M26K Nabesna, AK 16.09 44 IAmb IAmb 19 44 59.0
comp=Z,14nm,0.5s
BARN Barnard Glacie 16.18 49 IAmb IAmb 19 45 12.9
comp=Z,28nm,1.1s
G23K Bananza Creek 16.31 25 IAmb IAmb 19 45 11.0
comp=Z,24nm,1.1s
LOGN Logan Glacier 16.41 51 IAmb IAmb 19 45 04.0
comp=Z,31nm,0.9s
BCAR Beaver Creek A 16.88 43 Pn **Pn** **19 45 03.2 -0.7**
J26L Joseph Creek 16.88 37 IAmb IAmb 19 45 07.1
comp=Z,12nm,0.7s
G24K Hadweenzic Riv 16.99 28 IAmb IAmb 19 45 12.2
comp=Z,16nm,0.8s
E22K Anaktuvuk Pass 17.04 20 IAmb IAmb 19 45 17.4
comp=Z,18nm,0.8s
P29M Windy Craggy 17.72 56 IAmb IAmb 19 45 36.8
comp=Z,31nm,0.9s
B21K Ikpikpuk River 17.82 15 IAmb IAmb 19 45 22.4
comp=Z,21nm,0.8s
M29M Somme Creek 18.06 47 IAmb IAmb 19 45 27.8
comp=Z,19nm,0.7s
HYT Haines Junctio 18.06 52 IAmb IAmb 19 45 25.2
comp=Z,36nm,0.8s
S31K Pelican 18.33 61 IAmb IAmb 19 45 39.8
comp=Z,18nm,0.8s
L29M L29M 18.43 45 IAmb IAmb 19 45 29.8
comp=Z,23nm,1.1s
D24K Happy Valley 18.51 21 IAmb IAmb 19 45 34.3
comp=Z,19nm,0.9s
B22K Teshekpuk Lake 18.65 15 IAmb IAmb 19 45 30.6
comp=Z,28nm,1.1s
I28M Miner Creek 18.69 37 IAmb IAmb 19 45 36.5
comp=Z,11nm,0.6s
C23K Itkillik River 18.70 18 IAmb IAmb 19 45 32.5
comp=Z,28nm,1.1s
O30N Mendenhall 18.73 53 IAmb IAmb 19 45 32.0
comp=Z,21nm,0.8s
SIT Sitka 18.80 64 IAmb IAmb 19 45 31.3
comp=Z,23nm,1.0s
SKAG Skagway 18.91 57 IAmb IAmb 19 45 33.2
comp=Z,36nm,1.0s
K29M Barlow Dome 18.95 43 IAmb IAmb 19 45 35.9
comp=Z,14nm,0.8s
D25K Kavik River 19.19 23 IAmb IAmb 19 45 38.0
comp=Z,22nm,0.8s
S32K Killisnoo 19.20 63 IAmb IAmb 19 45 36.7
comp=Z,23nm,0.9s
WHY Whitehorse 19.30 53 IAmb IAmb 19 45 47.8
comp=Z,19nm,0.8s
JIS Juneau Island 19.32 61 IAmb IAmb 19 45 37.1
comp=Z,29nm,0.9s
H29M Whitestone 19.63 36 IAmb IAmb 19 45 43.2
comp=Z,23nm,0.7s
BILL Bilibino 19.71 330 **P** **19 45 35.1 -1.4**
BILL IAmb IAmb 19 45 50.2
comp=Z,23nm,1.1s
P32M Atlin 19.74 57 IAmb IAmb 19 45 45.6
comp=Z,26nm,0.8s
F28M Old Crow 19.86 31 IAmb IAmb 19 45 45.5
comp=Z,8.3nm,0.6s
I30M Mount Dempster 19.93 40 IAmb IAmb 19 45 48.0
comp=Z,10nm,0.7s
G29M Pine Creek 20.09 34 P **P** **19 45 39.6 -1.1**
G29M IAmb IAmb 19 45 43.3
comp=Z,26nm,0.9s
CRAG Craig 20.14 69 IAmb IAmb 19 45 46.4
comp=Z,20nm,0.9s
P33M Teslin, Yukon 20.25 55 IAmb IAmb 19 45 55.8
comp=Z,24nm,0.9s
EPYK Eagle Plains 20.29 36 P **P** **19 45 41.6 -1.3**
D27M Malcolm River 20.52 27 IAmb IAmb 19 45 53.8
comp=Z,12nm,0.9s
E28M Babbage River 20.54 29 P **P** **19 45 45.4 0.0**
G30M tAoh Zraii Nji 20.75 35 IAmb IAmb 19 45 51.3
comp=Z,21nm,1.1s
PETK Petropavlovsk- 20.86 285 P **P** **19 45 48.0 -1.0**
comp=Z,10nm,0.5s,baz=83,slow=15,SNR=8.1
comp=Z,10nm,0.5s
H02S1 DAWSON INLET T 20.91 75 T T 20 07 11.7
SNR=14
E29M Blow River 20.91 31 P **P** **19 45 48.2 -1.2**
E29M IAmb IAmb 19 45 54.6
comp=Z,25nm,1.2s
H31M Peel River 20.94 39 IAmb IAmb 19 46 06.4
comp=Z,18nm,0.9s
V35K Ketchikan 21.01 69 P **P** **19 45 49.8 -0.8**
V35K IAmb IAmb 19 46 14.1
comp=Z,28nm,1.4s
S34M Telegraph Cree 21.05 62 P **P** **19 45 51.2 +0.2**
S34M IAmb IAmb 19 46 05.2
comp=Z,16nm,0.9s
R33M Jennings River 21.13 58 IAmb IAmb 19 46 02.3
comp=Z,17nm,0.8s
MMPY Sheldon Lake, 21.34 49 IAmb IAmb 19 45 57.5
comp=Z,24nm,0.8s
G31M Satah River 21.41 36 IAmb IAmb 19 46 09.4
comp=Z,26nm,0.9s
T35M Bob Quinn 21.58 64 P **P** **19 45 56.0 -0.7**
DLBC Dease Lake 21.62 60 P **P** **19 45 57.8 +0.6**
DLBC IAmb IAmb 19 46 12.2
comp=Z,15nm,1.1s
DLBC Dease Lake 21.62 60 P **P** **19 45 58.9 +1.7**
comp=Z,4.4nm,0.8s,baz=258,slow=12,SNR=8.2
comp=Z,4.4nm,0.8s
F31M Tsiigehtchic 21.82 35 IAmb IAmb 19 46 02.2
comp=Z,17nm,0.8s
INK Inuvik 22.28 33 LR LR 19 55 22.1
comp=Z,408nm,18.0s,baz=184,slow=38
MA2 Magadan 23.84 303 P **P** **19 46 18.5 -1.4**
MA2 Magadan 23.84 303 P **P** **19 46 20.7 +0.8**
comp=Z,49nm,0.8s
C36M Paulatuk 25.85 34 IAmb IAmb 19 46 39.2
comp=Z,11nm,0.8s
YKA Yellowknife Ar 29.02 50 P **P** **19 47 07.2 +0.8**
YKA Yellowknife Ar 29.02 50 P **P** **19 47 08.0 +1.6**
comp=Z,3.9nm,0.7s,baz=277,slow=9.9,SNR=41
YKA PcP **PcP** **19 50 14.6 +0.9**
comp=Z,1.8nm,0.6s,baz=294,slow=2.6,SNR=13
comp=Z,3.9nm,0.7s
I04A Tendick Farm, 30.83 89 P **P** **19 47 23.4 +0.6**
I04A IAmb IAmb 19 47 40.3
comp=Z,6.7nm,0.9s
K05A Summer Lake 32.34 89 P **P** **19 47 39.0 +2.7**
K05A IAmb IAmb 19 48 16.6
comp=Z,12nm,1.2s
TIXI Tiksi 32.91 328 P **P** **19 47 40.6 +0.1**
TIXI IAmb IAmb 19 47 41.2
comp=Z,3.1nm,0.8s
TIXI **PcP** **19 50 23.6 -0.2**
TIXI Tiksi 32.91 328 LR LR 20 00 23.4
comp=Z,502nm,21.4s,baz=334,slow=35
YAK Yakutsk 33.72 311 P **P** **19 47 46.2 -1.5**
comp=Z,4.5nm,0.3s,baz=94,slow=5.0,SNR=4.5
comp=Z,4.5nm,0.3s
BPMT Black Pine Rid 34.82 78 **P** **19 47 58.6 +0.8**
BOZ Bozeman (W) 36.34 79 IAmb IAmb 19 48 29.9
comp=Z,6.9nm,1.3s
NVAR Mina Array Bea 36.51 93 P **P** **19 48 14.4 +2.1**
comp=Z,1.2nm,0.7s,baz=296,slow=8.1,SNR=8.8
NVAR PcP **PcP** **19 50 36.2 +1.0**
comp=Z,0.6nm,0.5s,baz=281,slow=2.8,SNR=3.5
comp=Z,1.2nm,0.7s
YHH Holmes Hill 37.24 79 P **P** **19 48 19.4 +0.8**
KLR Kul'dur 37.40 290 P **P** **19 48 17.8 -1.7**
comp=Z,1.4nm,0.7s,baz=78,slow=6.4,SNR=7.3
comp=Z,1.4nm,0.7s
H11N2 WAKE ISLAND Hy 38.59 221 T T 20 30 06.0
baz=25,slow=76,SNR=836
H11N3 WAKE ISLAND Hy 38.60 221 T T 20 30 06.5
baz=25,slow=76,SNR=1128
H11N1 WAKE ISLAND Hy 38.61 221 T T 20 30 07.4
baz=25,slow=76,SNR=549
PDAR Pinedale Array 39.16 81 P **P** **19 48 34.9 +0.3**
comp=Z,1.1nm,0.6s,baz=307,slow=5.4,SNR=4.0
comp=Z,1.1nm,0.6s
H11S1 WAKE ISLAND Hy 39.78 220 T T 20 31 34.2
baz=24,slow=76,SNR=1266
H11S2 WAKE ISLAND Hy 39.79 220 T T 20 31 27.9
baz=24,slow=76,SNR=897
H11S3 WAKE ISLAND Hy 39.80 220 T T 20 31 33.0
baz=24,slow=76,SNR=724
USRK Ussuriysk Ar. 39.93 283 P **P** **19 48 41.2 +0.4**
comp=Z,0.9nm,0.7s,baz=46,slow=11,SNR=2.2
USRK PcP **PcP** **19 50 45.3 -0.1**
comp=Z,1.4nm,0.7s,baz=17,slow=2.6,SNR=4.8
comp=Z,0.9nm,0.7s
SRU San Rafael Swe 40.79 86 P **P** **19 48 48.1 -0.1**
SRU IAmb IAmb 19 49 03.7

comp=Z,6.7nm,0.7s
MJAR Matsushiro Arr 40.88 269 P **P** 19 48 49.1 +0.4
comp=Z,6.1nm,0.8s,baz=41,slow=6.8,SNR=20
comp=Z,6.1nm,0.8s
MAJO Matsushiro 40.88 269 P **P** 19 48 48.8 0.0
HMU Henry Mountain 41.41 88 lAmb lAmb 19 48 58.2
comp=Z,5.8nm,0.8s
JGF Kuroka 42.02 268 P **P** 19 48 56.4 -1.7
KSRS Korea Array 46.51 278 P **P** 19 49 34.1 +0.3
comp=Z,2.3nm,0.7s,baz=57,slow=7.5,SNR=7.0
comp=Z,2.3nm,0.7s
JNU Nakatsue 47.63 271 P **P** 19 49 42.7 0.0
JNU Nakatsue 47.63 271 P **P** 19 49 42.5 -0.2
comp=Z,19nm,0.9s,baz=84,slow=19,SNR=8.2
comp=Z,19nm,0.9s
SPITS Spitsbergen Ar 49.19 359 P **P** 19 49 53.7 -0.4
comp=Z,12nm,0.9s,baz=17,slow=4.4,SNR=6.8
SPITS PcP **PcP** 19 51 16.8 +0.2
comp=Z,25nm,1.1s,baz=79,slow=6.2,SNR=1.7
comp=Z,12nm,0.9s
VHRN Van Horn 49.74 91 P **P** 19 49 59.4 +0.3
SUMG Summit 49.94 18 P **P** 19 50 00.7 +0.3
SUMG Summit 49.94 18 *i* P **P** 19 49 59.4 -1.0
WMOK Wichita Mounta 50.74 82 P **P** 19 50 06.4 -0.1
WMOK lAmb lAmb 19 50 07.9
comp=Z,3.5nm,0.8s
TX31 Lajitas Ar. Si 51.57 91 P **P** 19 50 13.4 +0.6
TX31 lAmb lAmb 19 50 20.5
comp=Z,4.6nm,1.1s
TXAR Lajitas Array 51.57 91 P **P** 19 50 12.5 -0.4
TXAR Lajitas Array 51.57 91 P **P** 19 50 14.2 +1.3
comp=Z,2.5nm,0.6s,baz=301,slow=5.5,SNR=32
comp=Z,2.5nm,0.6s
ULN Ulaanbaatar 51.68 301 P **P** 19 50 12.7 -0.8
SONM Songino Array 52.04 302 P **P** 19 50 15.3 -0.9
comp=Z,1.8nm,0.8s,baz=50,slow=7.4,SNR=6.6
SONM PcP **PcP** 19 51 28.0 +0.2
comp=Z,2.0nm,0.6s,baz=85,slow=1.8,SNR=7.3
comp=Z,1.8nm,0.8s
R40A Maddies Statio 52.20 74 P **P** 19 50 15.4 -1.9
TIA Tai'an 53.76 284 P **P** 19 50 28.1 -0.7
TIA pmax pmax
comp=Z,4.0nm,0.6s
HHC Hu-ho-hao-te 53.83 292 *eP* **P** 19 50 28.6 -0.8
HHC pmax pmax
comp=Z,7.0nm,0.6s
HHC pmax pmax
comp=Z,91nm,5.1s
FCAR Ozark Folk Cen 53.92 76 P **P** 19 50 28.5 -1.5
FCAR lAmb lAmb 19 50 29.7
comp=Z,4.7nm,0.8s
SCHQ Schefferville 54.25 44 P **P** 19 50 33.0 +0.8
SCHQ Schefferville 54.25 44 P **P** 19 50 32.4 +0.2
comp=Z,10nm,0.9s,baz=332,slow=8.6,SNR=7.8
comp=Z,10nm,0.9s
HNS HongShan 54.36 287 ⇑P **P** 19 50 32.6 -0.6
HNS pmax pmax
comp=Z,17nm,1.0s
ARCES ARCESS Array B 57.53 355 P **P** 19 50 54.9 -0.5
comp=Z,3.8nm,0.9s,baz=9.3,slow=6.8,SNR=9.8
ARCES PcP **PcP** 19 51 48.3 0.0
comp=Z,3.3nm,0.7s,baz=20,slow=3.9,SNR=9.3
comp=Z,3.8nm,0.9s
LYN LuoYang 57.65 286 *eP* **P** 19 50 57.1 +0.4
LYN pmax pmax
comp=Z,33nm,0.8s
ZAA0 Zalesovo Array 57.83 318 P **P** 19 50 56.2 -1.5
ZAA0 lAmb lAmb 19 50 58.3
comp=Z,3.3nm,0.7s
ZALV Zalesovo Beam 57.83 318 P **P** 19 50 57.0 -0.7
comp=Z,3.7nm,0.6s,baz=39,slow=6.8,SNR=18
ZALV PcP **PcP** 19 51 50.1 +0.3
comp=Z,5.9nm,0.9s,baz=44,slow=4.7,SNR=9.0
comp=Z,3.7nm,0.6s
J58A Remsen 58.16 59 P **P** 19 50 59.3 -0.9
WHN Wuhan 59.40 281 P **P** 19 51 09.0 +0.1
WHN pmax pmax
comp=Z,36nm,0.7s
SSLB Suanglung 60.38 271 P **P** 19 51 15.2 -0.6
KURK Kurchatov 62.76 319 P **P** 19 51 30.2 -1.2
KURBB Kurchatov Arra 62.87 319 P **P** 19 51 31.5 -0.6
comp=Z,3.8nm,0.7s,baz=27,slow=6.7,SNR=48
comp=Z,3.8nm,0.7s
BVAR Borovoye Array 63.96 325 P **P** 19 51 39.4 0.0
comp=Z,7.1nm,0.6s,baz=51,slow=7.6,SNR=41
comp=Z,7.1nm,0.6s
BRVK Borovoye 63.97 325 P **P** 19 51 38.9 -0.5
MK31 Makanchi Array 64.30 314 P **P** 19 51 40.3 -1.4
MKAR Makanchi Array 64.30 314 P **P** 19 51 39.9 -1.8
MKAR Makanchi Array 64.30 314 P **P** 19 51 40.6 -1.1
comp=Z,4.0nm,0.7s,baz=47,slow=6.8,SNR=36
comp=Z,4.0nm,0.7s
ARU Arti 64.69 334 P **P** 19 51 43.4 -0.6
ARU Arti 64.69 334 P **P** 19 51 44.3 +0.3
comp=Z,9.6nm,0.9s
FINES FINESS Array B 65.52 353 P **P** 19 51 48.7 -0.6
comp=Z,4.9nm,0.8s,baz=16,slow=7.1,SNR=23
comp=Z,4.9nm,0.8s
GOMU GeErMu 66.32 299 P **P** 19 51 54.3 -1.0
GOMU pP pP 19 52 00.1 -7.7
GOMU sP sP 19 52 02.3 -10
GOMU pmax pmax
comp=Z,9.0nm,0.8s
NB2 NORSAR Subarra 66.43 1 P **P** 19 51 55.3 +0.1
comp=Z,0.7nm,0.6s,baz=358,slow=6.2
NOA NORSAR Array B 66.43 1 P **P** 19 51 55.0 -0.2
comp=Z,1.7nm,0.7s,baz=359,slow=6.4,SNR=5.0
comp=Z,1.7nm,0.7s
HFS Hagfors 67.34 359 P **P** 19 52 00.7 -0.3
comp=Z,3.5nm,0.4s,baz=28,slow=3.5,SNR=24
comp=Z,3.5nm,0.4s
PZH PanZhiHua 69.80 287 P **P** 19 52 17.5 +0.5
PZH pmax pmax
comp=Z,50nm,1.0s
AKTO Aktyubinsk 70.14 331 P **P** 19 52 18.2 -0.4
comp=Z,3.4nm,0.8s,baz=52,slow=4.8,SNR=4.1
comp=Z,3.4nm,0.8s
KMI Kunming 70.27 286 ⇑P **P** 19 52 20.8 +0.8
KMI pmax pmax
comp=Z,23nm,0.7s
OBN Obninsk 70.55 346 P **P** 19 52 19.9 -1.1
comp=Z,15nm,0.6s,baz=91,slow=8.7,SNR=4.5
comp=Z,15nm,0.6s
DAV Davao City (W) 70.58 256 LR LR 20 17 38.6
comp=Z,66nm,20.9s,baz=347,slow=31
AAK Ala-Archa 70.95 316 P **P** 19 52 23.9 0.0
comp=Z,3.6nm,0.5s,baz=121,slow=3.9,SNR=8.1
comp=Z,3.6nm,0.5s
EKA Eskdalemuir Ar 71.37 9 P **P** 19 52 26.2 +0.3
comp=Z,4.0nm,0.7s,baz=352,slow=4.9,SNR=15
comp=Z,4.0nm,0.7s
KSH Kashi 72.89 314 P **P** 19 52 39.0 +3.5
KSH pmax pmax
comp=Z,11nm,1.1s
AKASG Malin Array Be 75.84 349 P **P** 19 52 51.3 -0.9
comp=Z,12nm,0.6s,baz=13,slow=5.8,SNR=15
comp=Z,12nm,0.6s
KIEV Kiev 75.85 349 ⇓P **P** 19 52 51.4 -0.8
KIEV Kiev 75.85 349 P **P** 19 52 51.2 -1.1
comp=Z,90nm,0.7s
CLL Collm 76.19 360 *i* P **P** 19 52 54.5 +0.3
comp=Z,4.0nm,0.8s
BSTI Sart Tilman 76.74 5 *d*P **P** 19 52 58.2 +0.8
BCLA Clavier 76.89 5 *d*P **P** 19 52 57.2 -1.0
BGES Gesves 76.92 5 *d*P **P** 19 52 57.5 -0.9
BMRD Maredsous 76.98 5 *d*P **P** 19 52 59.0 +0.3
OJC Ojcow 77.09 355 P **P** 19 53 01.7 +2.3
comp=Z,7.6nm,1.0s
DPC Dobruska-Polom 77.10 358 P **P** 19 53 00.4 +1.0
comp=Z,10nm,1.3s
RCHB Rochefort 77.15 5 *d*P **P** 19 52 60.0 +0.3
DOU Dourbes 77.18 5 *d*P **P** 19 52 59.9 +0.1
KRLC Kraliky 77.36 357 *eP* **P** 19 53 01.6 +0.7
KWP Kalwaria Pacla 77.50 353 P **P** 19 53 02.9 +1.2
comp=Z,47nm,0.8s
MORC Moravsky Berou 77.63 357 ⇑P **P** 19 53 03.1 +0.7
MORC Moravsky Berou 77.63 357 *eP* **P** 19 53 02.7 +0.2
CMAR Chiang Mai Arr 77.64 284 P **P** 19 53 03.4 +0.4
comp=Z,5.7nm,0.8s,baz=23,slow=6.1,SNR=37
comp=Z,5.7nm,0.8s
STHS Stebnicka Huta 77.81 354 *eP* **P** 19 53 04.0 +0.6
NIE Niedzica 77.87 355 P **P** 19 53 05.3 +1.5
comp=Z,3.5nm,1.1s
ZVC Zvikov 78.05 359 *eP* **P** 19 53 04.3 -0.4
LANS Liptovska Anna 78.18 355 *eP* **P** 19 53 07.0 +1.5
KOLS Kolonicke sedl 78.23 353 *eP* **P** 19 53 06.5 +0.8
CRVS Cervenica-Dubn 78.31 354 *eP* **P** 19 53 07.0 +0.8

KHC Kasperske Hory 78.36 359 *eP* **P** 19 53 07.2 +0.7
KHC Kasperske Hory 78.36 359 P **P** 19 53 08.5 +2.0
comp=Z,5.5nm,1.5s
KRUC Moravsky 78.38 357 *eP* **P** 19 53 06.8 +0.2
SORM Soroca 78.47 349 ⇓P **P** 19 53 06.6 -0.4
SORM Soroca 78.47 349 P **P** 19 53 06.6 -0.4
comp=Z,16nm,0.9s
JAVC Velka Javorina 78.55 357 *eP* **P** 19 53 09.2 +1.7
GERES GERESS Array B 78.65 359 P **P** 19 53 08.8 +0.6
comp=Z,1.9nm,0.7s,baz=20,slow=4.3,SNR=8.6
comp=Z,1.9nm,0.7s
CKRC Cesky Krumlov 78.67 359 *eP* **P** 19 53 09.2 +1.0
KECS Kecovo 78.79 355 *eP* **P** 19 53 08.3 -0.5
VYHS Vyhne 78.86 356 *eP* **P** 19 53 10.1 +0.9
MODS Modra-Piesok 79.05 357 *eP* **P** 19 53 11.6 +1.4
ZST Bratislava 79.23 357 *eP* **P** 19 53 12.8 +1.6
BURAR Bucovina Array 79.30 351 ⇓P **P** 19 53 11.6 -0.1
PSZ Piszkesteto 79.39 355 ⇑P **P** 19 53 12.6 +0.4
CONA Conrad Observa 79.53 358 *eP* **P** 19 53 14.0 +1.0
comp=Z,7.7nm,0.9s
RONA Rosalia, Austr 79.75 357 P **P** 19 53 15.6 +1.4
comp=Z,2.6nm,0.8s
BIOA Bad Ischl, Aus 79.80 359 *eP* **P** 19 53 14.7 +0.3
comp=Z,1.6nm,0.4s
RETA Reutte 80.00 1 *eP* **P** 19 53 16.2 +0.7
comp=Z,3.5nm,0.8s
LESA Schwarzleotal 80.08 360 *eP* **P** 19 53 16.7 +0.8
comp=Z,2.4nm,0.6s
KIV Kislovodsk 80.12 338 ⇓P **P** 19 53 17.4 +1.1
KIV Kislovodsk 80.12 338 P **P** 19 53 18.0 +1.7
comp=Z,11nm,1.1s
MOTA Moosalm 80.15 1 *i* P **P** 19 53 17.1 +0.7
comp=Z,6.3nm,0.7s,SNR=5.3
WATA Walderalm 80.16 1 *eP* **P** 19 53 17.2 +0.7
comp=Z,3.6nm,0.6s
DAVA Damuels 80.19 2 *eP* **P** 19 53 17.4 +0.7
comp=Z,3.8nm,0.6s
ARSA Arzberg 80.22 358 *eP* **P** 19 53 17.8 +1.1
comp=Z,5.2nm,0.7s
WTTA Wattenberg 80.23 1 *eP* **P** 19 53 18.0 +1.1
comp=Z,6.9nm,0.6s
MPLH Magyarpolny 80.24 357 P **P** 19 53 18.1 +1.4
comp=Z,30nm,1.0s
TESR Tescani 80.26 350 ⇓P **P** 19 53 16.5 -0.3
SQTA Sankt Quirin 80.27 1 *i* P **P** 19 53 18.0 +0.9
comp=Z,8.9nm,0.7s,SNR=6.7
KBZ Khabaz 80.29 338 P **P** 19 53 17.5 +0.5
comp=Z,4.5nm,0.9s,baz=315,slow=2.9,SNR=6.6
comp=Z,4.5nm,0.9s
MARR Marisel-Cluj 80.41 353 ⇑P **P** 19 53 17.8 0.0
KBA Konreinsper 80.42 359 *i* P **P** 19 53 19.2 +1.3
comp=Z,18nm,0.8s,SNR=11
FETA Feichten 80.47 1 *i* P **P** 19 53 19.0 +0.8
comp=Z,14nm,1.4s,SNR=6.8
DAVOX Davos/Dischmat 80.69 2 P **P** 19 53 20.7 +1.3
comp=Z,7.3nm,0.6s,baz=352,slow=3.4,SNR=22
comp=Z,7.3nm,0.6s
ABTA Abfaltersbach 80.75 0 *eP* **P** 19 53 21.2 +1.6
comp=Z,4.9nm,0.7s
OZUR 80.75 351 ⇑P **P** 19 53 20.6 +1.0
TURR Turia 80.77 351 ⇑P **P** 19 53 20.9 +1.3
BOSR Bodos 80.79 351 ⇑P **P** 19 53 21.1 +1.4
SOKA Soboth 80.80 358 *i* P **P** 19 53 20.8 +0.9
comp=Z,14nm,1.1s,SNR=9.4
PERS Pernice 80.84 358 *i* P **P** 19 53 21.1 +1.0
MYKA Terra Mystica 80.86 359 *eP* **P** 19 53 21.7 +1.5
comp=Z,3.5nm,0.6s
PLOR Plostina 80.91 350 ⇑P **P** 19 53 20.8 +0.4
DOPR Dopca 80.92 351 ⇑P **P** 19 53 21.8 +1.4
COVR Voineasa-Covas 80.96 350 ⇑P **P** 19 53 21.9 +1.3
OBKA Obir 80.98 359 *i* P **P** 19 53 21.3 +0.5
comp=Z,11nm,0.7s,SNR=9.0
TUE Stuetta 80.99 2 P **P** 19 53 22.8 +1.8
comp=Z,32nm,1.3s
SPBR Spulber 81.00 350 ⇓P **P** 19 53 21.1 +0.2
MORH Mrgy, Hungar 81.15 356 ⇑P **P** 19 53 21.8 +0.3
CADS Cadrg 81.27 359 *i* P **P** 19 53 22.2 -0.1
GEYT Alibeck 81.30 325 P **P** 19 53 23.2 +0.6
comp=Z,6.5nm,0.7s,baz=3.8,slow=4.5,SNR=5.2
comp=Z,6.5nm,0.7s
MLR Muntele Rosu 81.34 351 ⇑P **P** 19 53 24.0 +1.3
CFR Carcaliu 81.41 349 ⇑P **P** 19 53 22.6 -0.3
VOIR 81.48 351 ⇑P **P** 19 53 24.4 +0.9
BZS Buzias 81.58 354 ⇓P **P** 19 53 24.1 +0.2
GZR Gura Zlata 81.71 353 ⇓P **P** 19 53 25.0 +0.3
JURR Jurilovca 81.73 348 ⇑P **P** 19 53 25.3 +0.7
HERR Herculane 82.25 353 ⇑P **P** 19 53 27.8 +0.4
MDVR Moldovita 82.40 353 ⇓P **P** 19 53 28.5 +0.2
GNI Garni 83.24 336 P **P** 19 53 34.2 +1.3
comp=Z,3.2nm,0.6s,baz=3.5,slow=19,SNR=2.3
comp=Z,3.2nm,0.6s
BLKB Belogradchik 83.48 353 ⇓P **P** 19 53 33.8 -0.1
BOVS Bovan 83.54 353 ⇓P **P** 19 53 33.8 -0.3
DIKM Dikmen 83.82 343 ⇑P **P** 19 53 38.3 +2.7
ELND Elena 83.88 350 ⇑P **P** 19 53 34.9 -1.0
PDG Podgorica 84.89 355 ⇑P **P** 19 53 41.2 +0.2
BR106 Keskin Array S 85.91 344 P **P** 19 53 47.8 +1.2
comp=Z,12nm,1.0s,comp=Z,87nm
BRTR Keskin Array B 85.98 344 P **P** 19 53 47.8 +1.1
comp=Z,9.8nm,0.7s,baz=26,slow=2.5,SNR=40
comp=Z,9.8nm,0.7s
BR105 Keskin Array S 85.99 344 P **P** 19 53 48.1 +1.4
ESDC Sonseca Array 86.72 13 P **P** 19 53 50.4 +0.2
comp=Z,1.4nm,0.7s,baz=345,slow=4.8,SNR=16
comp=Z,1.4nm,0.7s
WRA Warramunga Arr 88.24 233 P **P** 19 53 57.1 -0.4
comp=Z,2.3nm,0.8s,baz=33,slow=5.8,SNR=9.8
comp=Z,2.3nm,0.8s
ASAR Alice Springs 91.63 232 P **P** 19 54 13.1 -0.2
comp=Z,1.9nm,0.7s,baz=29,slow=4.6,SNR=17
comp=Z,1.9nm,0.7s
WSAR Wadi Sarin 94.28 318 P **P** 19 54 25.9 +0.1
comp=Z,3.6nm,0.7s,baz=55,slow=5.6,SNR=4.2
comp=Z,3.6nm,0.7s
TORD Torodi Ar. Bea 113.58 12 PKiKP **PKiKP** 19 59 44.4 -0.2
comp=Z,0.3nm,0.5s,baz=4.4,slow=3.3,SNR=5.6
H03N2 Juan Fernandez 115.03 113 T T 22 05 10.0
baz=322,slow=77,SNR=60
H03N1 Juan Fernandez 115.04 113 T T 22 05 20.2
baz=322,slow=77,SNR=45
H03N3 Juan Fernandez 115.05 113 T T 22 05 10.2
baz=322,slow=77,SNR=52
QSPA South Pole Qui 142.64 180 PKhKP PKPpre 20 00 33.5
comp=Z,2.5nm,0.9s,baz=86,slow=0.7,SNR=8.5
MAW Mawson 152.00 219 PKPbc **PKiKP** 20 01 00.2 +0.1
comp=Z,5.1nm,0.6s,baz=112,slow=1.1,SNR=6.9
BOSA Boshof 154.00 334 PKPbc **PKiKP** 20 01 08.2 +2.5
comp=Z,3.0nm,0.9s,baz=354,slow=3.4,SNR=4.4
BOSA PKPab **PKPab** 20 01 19.5 +0.4
comp=Z,4.3nm,0.7s,baz=16,slow=4.0,SNR=8.0

*IDC **17** 19:46:46.4±0.7, 32°.02N×59°.02E, h0km, mb3.9/24, mbtmp3.9/32, ML3.5/6, MS3.9/1, Error ellipse: s-maj=15.2km s-min=12.0km az=2.0*
*TEH **17** 19:46:46.1, 32°.17N×58°.89E, h8km±20km, ML4.3*
*NEIC **17** 19:46:51.2±1.2, 32°.4N±0°.1×58°.96E±0°.09, h10km±2km, mb4.4/27, Error ellipse: s-maj=20.1km s-min=12.9km az=188.0*

ISC 17 19:46:48.8±0.4, **32°.13N**±0°.04×**58°.99E**±0°.05, **h10km, n139, σ1°05/124, mb4.1/37, Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSRN	**Basiran**	**0.20**	**145**	Pg	**Pg**	**19 46 52.0**	**-1.1**
IKOO	**Kooshah**	**0.29**	**3**	Pg	Pg	19 46 51.9	-3.0
BAGH	**Bagheran - Bir**	**0.68**	**16**	Pg	Pg	19 46 58.4	-3.6
ITEG	**Tejag**	**0.79**	**345**	Pg	Pg	19 47 00.6	-3.5
IDAH	**Dahanechah**	**0.96**	**51**	Pg	Pg	19 47 05.6	-1.8
AFRZ	**Afriz**	**1.29**	**1**	Pg	Pn	19 47 10.0	-3.1
TPRV	**Parvadeh(Tabas**	**2.14**	**295**	Pn	Pn	19 47 22.9	-1.8
TKDS	**Koohdasht(Taba**	**2.16**	**314**	Pn	**Pn**	**19 47 23.8**	**-1.1**
KRM1	**Kerman Provinc**	**2.19**	**223**	Pn	**Pn**	**19 47 24.4**	**-1.1**
ZRDN	**Zarand Kerman**	**2.39**	**242**	Pn	**Pn**	**19 47 27.8**	**-0.6**
CHMN	**Cheshme madani**	**2.58**	**209**	Pn	**Pn**	**19 47 30.1**	**-0.9**
TNSJ	**Nastanj**	**2.71**	**313**	Pn	**Pn**	**19 47 31.6**	**-1.0**
KHGB	**Koh Gabri**	**2.77**	**232**	Pn	**Pn**	**19 47 33.2**	**-0.3**
TVBK	**TV Kerman**	**2.87**	**222**	Pn	**Pn**	**19 47 34.9**	**0.0**
IBAF	**Bafgh**	**2.96**	**260**	Pn	**Pn**	**19 47 35.4**	**-0.6**
KBAM	**BAM**	**3.02**	**189**	Pn	**Pn**	**19 47 36.3**	**-0.6**
ZHDN	**Zahedan**	**3.14**	**150**	Pn	**Pn**	**19 47 39.3**	**+0.8**
NGRK	**Negar Kerman**	**3.15**	**219**	Pn	**Pn**	**19 47 38.9**	**0.0**
TBHD	**Torbat heydari**	**3.28**	**4**	Pn	**Pn**	**19 47 39.9**	**-0.6**
TBJM	**Torbat-e-JAM**	**3.32**	**19**	Pn	**Pn**	**19 47 41.0**	**-0.1**
HRA	**Herat**	**3.54**	**50**	Pn	**Pn**	**19 47 44.5**	**+0.5**

IMEH Mehriz 3.80 260 Pn **Pn** 19 47 46.7 -0.9
ICHK Chekchek 3.89 273 Pn **Pn** 19 47 47.7 -1.1
IMOG Moghan 3.98 4 Pn **Pn** 19 47 49.7 -0.5
IMYA Miami 4.30 12 Pn **Pn** 19 47 53.0 -1.5
IPAY Payeh 4.31 0 Pn **Pn** 19 47 55.0 +0.3
KHNJ Kahnooj 4.31 195 Pn **Pn** 19 47 54.9 +0.3
SBZV Sabzevar 4.40 345 Pn **Pn** 19 47 55.4 -0.5
IAKL Akhelmad 4.46 358 Pn **Pn** 19 47 56.4 -0.4
ISAD Sadrabad 4.51 269 Pn **Pn** 19 47 56.2 -1.3
ANAR Anarak 4.56 285 Pn **Pn** 19 47 56.8 -1.3
IKRD Kardeh 4.66 5 Pn **Pn** 19 47 59.8 +0.4
IEMG Emamgholi 5.28 357 Pn **Pn** 19 48 07.8 -0.2
GENO Geno 5.31 208 Pn **Pn** 19 48 09.4 +1.0
IANJ Anjilo 5.38 310 Pn **Pn** 19 48 08.8 -0.5
SRVN Saravan 5.56 147 Pn **Pn** 19 48 13.1 +1.3
IRAM Ramesheh 5.62 268 Pn **Pn** 19 48 11.6 -1.1
IZEF Zefreh 5.68 280 Pn **Pn** 19 48 12.9 -0.6
GEYT Alibeck 5.83 353 Pn **Pn** 19 48 14.5 -0.9
GEYT Alibeck 5.83 353 Pn **Pn** 19 48 15.1 -0.3
1.6nm,0.3s,baz=168,slow=15,SNR=28
GEYT Sn **Sn** 19 49 24.0 +1.7
1.0nm,0.3s,baz=202,slow=22,SNR=1.7
7.7nm,0.5s
GYA0B ALIBECK ARRAY 5.83 353 Pn **Pn** 19 48 14.3 -1.1
IGAR Gharneh 5.89 274 Pn **Pn** 19 48 16.0 -0.4
IMND Minoodasht 5.90 331 Pn **Pn** 19 48 15.0 -0.8
ILAS Lasjerd 5.98 304 Pn **Pn** 19 48 16.9 -0.7
ISFB Sefidab 6.07 293 Pn **Pn** 19 48 17.5 -1.3
IGLO Ghaloghah 6.10 317 Pn **Pn** 19 48 19.1 -0.1
IFIR Firoozkooh 6.26 306 Pn **Pn** 19 48 20.5 -1.0
JASK Jask - Hormozg 6.32 189 Pn **Pn** 19 48 22.5 +0.4
IKLH Kolahrood 6.36 283 Pn **Pn** 19 48 22.5 -0.3
KLNJ Kolanjah 6.41 262 Pn **Pn** 19 48 24.3 +0.6
IALA Alasht 6.46 309 Pn **Pn** 19 48 23.8 -0.5
IBRJ Brojen 6.57 270 Pn **Pn** 19 48 25.9 +0.1
IVRN Varamin 6.70 297 Pn **Pn** 19 48 26.4 -1.0
IDMV Damavand 6.73 303 Pn **Pn** 19 48 27.3 -0.7
IPRN Peran 6.87 308 Pn **Pn** 19 48 29.7 -0.1
IPIR Pirpir 6.87 277 Pn **Pn** 19 48 29.9 0.0
ZNGN Zangian 6.90 272 Pn **Pn** 19 48 30.4 +0.1
JHBN Jahan bin 7.06 273 Pn **Pn** 19 48 32.0 -0.5
IQOM Qom 7.15 294 Pn **Pn** 19 48 32.1 -1.6
IHSB Hasanabad 7.22 299 Pn **Pn** 19 48 34.0 -0.6
MZPU Pul - Mazandar 7.50 307 Pn **Pn** 19 48 37.8 -0.6
AMD1 Meshkindasht 7.58 301 Pn **Pn** 19 48 39.3 -0.2
KLST Kelardasht - M 7.88 306 Pn **Pn** 19 48 43.4 -0.4
IRAZ Razeghan 8.22 296 Pn **Pn** 19 48 47.2 -1.1
QABG Abgarm-Qazvin 8.59 297 Pn **Pn** 19 48 52.7 -0.8
KBL Kabul 8.75 71 Pn **Pn** 19 48 57.6 +2.0
WSAR Wadi Sarin 8.86 182 Pn Pn 19 48 55.5 -1.5
1.1nm,0.3s,baz=22,slow=2.8,SNR=15
WSAR Sn **Sn** 19 50 35.5 -1.5
0.1nm,0.3s,baz=299,slow=10,SNR=2.3
4.7nm,0.5s
HSAM Samen 8.95 286 Pn **Pn** 19 48 57.8 -0.7
SIMJ Simjanj 10.45 49 Pn **Pn** 19 49 17.9 +1.0
CHGR Chuyangaron 10.54 49 Pn **Pn** 19 49 20.0 -0.1
GAR Garm 11.49 50 Pn **Pn** 19 49 33.5 +0.5
NIL Nilore 12.09 79 Pn **Pn** 19 49 42.8 +1.6
BTK Batken 12.40 47 Pn **Pn** 19 49 45.7 +0.1
DRK Karamyk 12.72 51 Pn **Pn** 19 49 49.1 -0.9
GNI Garni 14.01 309 Pn **Pn** 19 50 08.7 +1.2
0.3nm,0.3s,baz=114,slow=7.2,SNR=3.7
GNI LR LR 19 56 23.7
comp=Z,499nm,19.1s,baz=348,slow=41
2.1nm,0.6s
KK31 Karatay Array 14.24 36 Pn Pn 19 50 08.5 -2.1
KKAR Karatay Array 14.24 36 Pn Pn 19 50 08.5 -2.1
KKAR Karatay Array 14.24 36 Pn Pn 19 50 07.7 -2.9
ARSB Arslanbob 14.48 47 Pn Pn 19 50 10.0 -4.0
GURO Guroymak-BITLI 15.24 300 Pn **Pn** 19 50 22.3 -1.9
KARS Kars 15.35 308 Pn **Pn** 19 50 24.7 -1.0
ONI Oni 16.15 315 Pn **Pn** 19 50 35.8 -0.1
AAK Ala-Archa 16.16 45 Pn **Pn** 19 50 34.5 -1.6
AAK lAmb lAmb 19 50 44.6
comp=Z,18nm,1.1s
AAK Ala-Archa 16.16 45 Pn **Pn** 19 50 34.9 -1.2
comp=Z,0.1nm,0.3s,baz=233,slow=14,SNR=8.0
comp=Z,3.1nm,0.8s
FRU1 Bishkek 16.34 45 Pn **Pn** 19 50 38.1 -0.3
FRU1 lAmb lAmb 19 50 50.1
comp=Z,13nm,0.9s
BOOM Boomskoye usch 16.96 48 **Pn** 19 50 44.2 -2.2
ABKAR Akbulak array 17.12 2 **Pn** 19 50 45.1 -3.0
KBZ Khabaz 17.15 317 P **Pn** 19 50 49.0 +0.5
comp=Z,0.1nm,0.3s,baz=128,slow=9.2,SNR=2.0
comp=Z,1.5nm,0.7s
KVAR Kislovodsk Arr 17.40 317 P **Pn** 19 50 52.8 +1.0
comp=Z,0.6nm,0.4s,baz=82,slow=22,SNR=1.3
KIV Kislovodsk 17.41 317 P **Pn** 19 50 52.1 +0.3
ARPR Arapgir-MALATY 18.15 298 **Pn** 19 51 02.5 +1.3
AKTO Aktyubinsk 18.30 358 P **Pn** 19 51 02.5 -0.2
comp=Z,0.1nm,0.3s,baz=181,slow=9.5,SNR=9.8
comp=Z,2.9nm,0.7s
MMAI Mount Meron Ar 19.89 279 P **P** 19 51 21.6 +1.1
comp=Z,3.6nm,0.8s,baz=79,slow=8.6,SNR=4.5
BNN Bunyan 19.97 296 P **P** 19 51 23.8 +2.3
BNN lAmb lAmb 19 51 25.8
comp=Z,29nm,1.2s
EIL Elat 20.76 270 P **P** 19 51 30.1 +0.2
comp=Z,13nm,0.9s,baz=45,slow=6.8,SNR=9.0
comp=Z,13nm,0.9s
BR131 Keskin Array S 21.84 297 lAmb lAmb 19 51 44.3
comp=Z,11nm,1.1s
BRTR Keskin Array B 21.84 297 P **P** 19 51 41.7 +0.1
BRTR Keskin Array B 21.84 297 P **P** 19 51 42.5 +1.0
comp=Z,5.0nm,1.0s,baz=113,slow=11,SNR=31
comp=Z,5.0nm,1.0s
BELG Belogornoye 21.88 341 P **P** 19 51 40.6 -1.1
comp=Z,17nm,0.7s,baz=197,slow=20,SNR=24
comp=Z,17nm,0.7s
BVAR Borovoye Array 22.45 18 P **P** 19 51 48.8 +0.9
comp=Z,3.8nm,0.6s,baz=196,slow=10,SNR=13
comp=Z,3.8nm,0.6s
BRVK Borovoye 22.45 18 P **P** 19 51 48.2 +0.3
BRVK lAmb lAmb 19 51 51.1
comp=Z,6.6nm,0.8s
MAKZ Makanchi 22.90 44 P **P** 19 51 52.9 +0.1
MAKZ lAmb lAmb 19 51 58.0
comp=Z,22nm,1.1s
MK31 Makanchi Array 23.08 44 P **P** 19 51 55.5 +1.0
MK31 lAmb lAmb 19 52 00.1
comp=Z,7.3nm,1.1s
MKAR Makanchi Array 23.08 44 P **P** 19 51 54.8 +0.2
MKAR Makanchi Array 23.08 44 P **P** 19 51 55.9 +1.3
comp=Z,1.0nm,0.6s,baz=210,slow=7.0,SNR=7.4
comp=Z,1.0nm,0.6s
KURBB Kurchatov Arra 23.46 32 P **P** 19 51 59.4 +1.1
comp=Z,4.8nm,1.2s,baz=230,slow=9.5,SNR=23
comp=Z,4.8nm,1.2s
KURK Kurchatov 23.57 32 P **P** 19 51 59.1 -0.3
KURK lAmb lAmb 19 52 04.7
comp=Z,21nm,1.5s
ISP Isparta 23.96 292 P **P** 19 52 05.2 +1.8
WMQ Urumqi 25.33 54 *eP* **P** 19 52 15.6 -0.2
WMQ pmax pmax
comp=Z,12nm,0.7s
ARG Arkhangelsos 25.80 288 lAmb lAmb 19 52 22.2
comp=Z,17nm,1.1s
LSA Lhasa 27.65 86 P **P** 19 52 39.1 +1.7
LSA lAmb lAmb 19 52 40.9
comp=Z,6.0nm,0.8s
ZAA0 Zalesovo Array 28.56 33 P **P** 19 52 44.2 -0.5
ZAA0 lAmb lAmb 19 52 48.1
comp=Z,4.1nm,0.8s
ZALV Zalesovo Beam 28.56 33 P **P** 19 52 44.9 +0.2
comp=Z,3.8nm,0.6s,baz=238,slow=8.2,SNR=12
comp=Z,3.8nm,0.6s
AKASG Malin Array Be 28.74 319 P **P** 19 52 46.8 +0.5
comp=Z,1.6nm,0.5s,baz=124,slow=8.0,SNR=4.0
comp=Z,1.6nm,0.5s
KIEV Kiev 28.74 319 P **P** 19 52 46.2 -0.1
MLR Muntele Rosu 28.78 307 P **P** 19 52 48.9 +2.0
MLR lAmb lAmb 19 52 50.9
comp=Z,10nm,1.2s
BUR08 Bucovina Ar. S 29.92 311 lAmb lAmb 19 53 12.6
comp=Z,5.5nm,0.7s
GTA Gaotai 33.69 66 *eP* **P** 19 53 31.8 +1.6
GTA pP sP 19 53 39.0 +3.9
GTA pmax pmax
comp=Z,5.0nm,1.0s
FINES FINESS Array B 36.25 334 P **P** 19 53 51.1 -0.7
comp=Z,1.0nm,0.8s,baz=63,slow=17,SNR=1.6
comp=Z,1.0nm,0.8s
PAOL Paolisi 36.43 297 lAmb lAmb 19 53 50.4

comp=Z,15nm,1.2s
PZH PanZhiHua 37.52 87 P **P** 19 54 06.8 +3.6
PZH pmax pmax
comp=Z,10.0nm,0.7s
GERES GERESS Array B 37.66 310 P **P** 19 54 04.7 +0.6
comp=Z,2.1nm,0.9s,baz=125,slow=12,SNR=6.4
comp=Z,2.1nm,0.9s
CMAR Chiang Mai Arr 38.38 101 P **P** 19 54 10.5 0.0
comp=Z,0.5nm,0.6s,baz=316,slow=5.0,SNR=1.4
CMAR PcP **PcP** 19 56 22.4 -1.6
comp=Z,0.4nm,0.6s,baz=284,slow=5.2,SNR=1.9
comp=Z,0.5nm,0.6s
CLL Collm 38.55 314 P **P** 19 54 12.5 +1.0
CLL IAmb IAmb 19 54 14.7
comp=Z,6.2nm,0.9s
CLL Collm 38.55 314 *i* P **P** 19 54 13.0 +1.5
comp=Z,9.0nm,1.2s
SONM Songino Array 38.92 52 P **P** 19 54 13.6 -1.2
comp=Z,0.7nm,0.8s,baz=297,slow=9.4,SNR=2.1
comp=Z,0.7nm,0.8s
HFS Hagfors 40.80 327 P **P** 19 54 29.5 -0.6
comp=Z,2.2nm,0.9s,baz=108,slow=9.4,SNR=1.9
comp=Z,2.2nm,0.9s
KEST Kesra 41.00 289 P **P** 19 54 33.0 +0.9
comp=Z,2.4nm,0.7s,baz=358,slow=11,SNR=4.1
comp=Z,2.4nm,0.7s
ARCES ARCESS Array B 41.90 343 P **P** 19 54 39.1 +0.1
comp=Z,1.3nm,0.8s,baz=116,slow=6.1,SNR=1.5
comp=Z,1.3nm,0.8s
HHC Hu-ho-hao-te 42.61 63 *e*P **P** 19 54 45.4 +0.1
HHC pmax pmax
comp=Z,99nm,5.2s
EKA Eskdalemuir Ar 48.63 318 P **P** 19 55 33.1 +0.5
comp=Z,0.5nm,0.6s,baz=100,slow=7.7,SNR=1.9
comp=Z,0.5nm,0.6s
ESDC Sonseca Array 50.63 297 P **P** 19 55 46.7 -1.5
comp=Z,0.5nm,0.9s,baz=64,slow=8.7,SNR=2.0
comp=Z,0.5nm,0.9s
TORD Torodi Ar. Bea 55.51 264 P P 19 56 21.8 -2.6
comp=Z,2.0nm,0.6s,baz=62,slow=6.6,SNR=17
comp=Z,2.0nm,0.6s
KLR Kul'dur 55.63 49 P P 19 56 22.4 -2.4
comp=Z,1.4nm,0.7s,baz=277,slow=9.0,SNR=5.1
comp=Z,1.4nm,0.7s
KSRS Korea Array 55.72 64 P **P** 19 56 24.9 -0.7
comp=Z,1.5nm,0.8s,baz=252,slow=20,SNR=3.1
comp=Z,1.5nm,0.8s
USRK Ussuriysk Ar. 56.90 55 P **P** 19 56 32.5 -1.5
comp=Z,0.5nm,0.5s,baz=224,slow=4.0,SNR=2.3
comp=Z,0.5nm,0.5s
YKA Yellowknife Ar 85.57 357 P **P** 19 59 25.9 -1.0
comp=Z,0.5nm,0.8s,baz=358,slow=5.3,SNR=8.1
comp=Z,0.5nm,0.8s
WRA Warramunga Arr 88.72 114 P P 19 59 41.3 -1.6
comp=Z,0.6nm,0.9s,baz=321,slow=4.6,SNR=1.9
comp=Z,0.6nm,0.9s
ASAR Alice Springs 90.50 118 P **P** 19 59 49.9 -1.4
comp=Z,0.4nm,0.8s,baz=317,slow=4.7,SNR=4.9
comp=Z,0.4nm,0.8s

IDC 17 19:46:59.3±8.4, 16°19S×177°16W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=214.7km s-min=50.5km az=26.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.51**	**240**	P	P	19 54 39.8	-0.4
	1.0nm,0.6s,baz=66,slow=7.4,SNR=4.4						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**46.13**	**258**	P	P	19 55 25.8	-0.1
	0.9nm,0.7s,baz=90,slow=8.0,SNR=5.2						
	0.9nm,0.7s						
ASAR	**Alice Springs**	**46.42**	**253**	P	P	19 55 28.2	+0.1
	2.6nm,0.6s,baz=88,slow=7.9,SNR=40						
	2.6nm,0.6s						
QSPA	**South Pole Qui**	**73.85**	**180**	P	P	19 58 35.9	+0.1
	0.7nm,1.0s,baz=88,slow=0.9,SNR=1.3						
	0.7nm,1.0s						

*NEIC **17** 20:01:12.9±1.5, 19°.45N±0°.01×154°.97W±0°.02, h5km±5km, Error ellipse: s-maj=2.8km s-min=1.1km az=120.0*
HVO 17 20:01:12.3±1.8, 19°.45N±0°.02×154°.91W±0°.02, h3km±4km, ML2.4/16, ML2.4/44(NEIC), Error ellipse: s-maj=4.4km s-min=1.3km az=134.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.03**	**31**		Pg	20 01 14.8	+1.7
PHO	**Puu Honuaula**	**0.03**	**31**	Pg	Pg	20 01 13.5	+0.3
JOKA	**Jonika Flow**	**0.09**	**257**		Pg	20 01 14.7	+0.5
JOKA	**Jonika Flow**	**0.09**	**257**	IAML		20 01 16.9	
	comp=E,264nm,0.5s						
JOKA				IAML		20 01 17.5	
	comp=N,516nm,0.3s						
JCUZ	**Jacuzzi**	**0.20**	**249**	Pg	Pg	20 01 16.1	0.0
NPOC	**North of Pu'u**	**0.20**	**252**	Pg	Pg	20 01 16.1	-0.2
STCH	**Steam Cracks**	**0.22**	**252**	Pg	Pg	20 01 16.4	-0.1
PUH	**Pauahi**	**0.30**	**255**	Pg	Pg	20 01 18.6	+0.4
PUH				IAML		20 01 26.9	
	comp=N,464nm,1.6s						
PUH				IAML		20 01 27.3	
	comp=E,298nm,1.2s						
HATHI	**Halema'uma'u T**	**0.34**	**265**	Pg	Pg	20 01 16.5	-2.3
BYL	**Byron's Ledge**	**0.34**	**263**	Pg	Pg	20 01 16.4	-2.4
SBLHI	**Steaming Bluff**	**0.34**	**265**	Pg	Pg	20 01 18.2	-0.7
KKO	**Keanakako`i**	**0.34**	**261**	Pg	Pg	20 01 18.0	-1.0
RSD	**Rainshed**	**0.35**	**271**	Pg	Pg	20 01 18.2	-0.9
RSD				IAML		20 01 20.6	
	comp=E,478nm,1.5s						
RSD				IAML		20 01 31.5	
	comp=N,442nm,0.8s						
OBL	**Observatory Le**	**0.36**	**264**		Pg	20 01 18.2	-1.0
HLP	**Hilina Pali**	**0.41**	**247**		Pg	20 01 21.0	+0.8
HLP	**Hilina Pali**	**0.41**	**247**	IAML		20 01 27.5	
	comp=N,363nm,0.8s						
HLP				IAML		20 01 31.8	
	comp=E,487nm,0.8s						
MLH	**Mauna Loa**	**0.45**	**275**		Pg	20 01 21.6	+0.5
MLH	**Mauna Loa**	**0.45**	**275**	IAML		20 01 25.9	
	comp=N,304nm,0.9s						
MLH				IAML		20 01 37.1	
	comp=E,171nm,0.8s						
HTC	**Hot Caves**	**0.51**	**245**		Pg	20 01 22.4	+0.3
HMH	**Humu'ula Sheep**	**0.56**	**285**	Pg	Pg	20 01 22.6	-0.5
HMH				IAML		20 01 40.7	
	comp=N,293nm,0.6s						
HMH				IAML		20 01 43.3	
	comp=E,196nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.64**	**277**	Pg	Pg	20 01 24.1	-0.5
MLOA				IAML		20 01 37.0	
	comp=N,154nm,1.9s						
MLOA				IAML		20 01 43.5	
	comp=E,129nm,2.8s						
MWH	**Moku'aweowe**	**0.65**	**273**		Pg	20 01 24.3	-0.6
MWH				IAML		20 01 31.6	
	comp=E,363nm,1.1s						
MWH				IAML		20 01 41.8	
	comp=N,264nm,1.8s						
KHU	**Kahuku**	**0.70**	**253**	Pg	Pg	20 01 24.8	-0.9
KHU				IAML		20 01 32.6	
	comp=N,252nm,3.3s						
KHU				IAML		20 01 35.3	
	comp=E,251nm,3.5s						

LDG 17 20:04:11.2±0.1, 43°.03N×0°.19W, h8km, Md1.1/2, Error ellipse: s-maj=3.9km s-min=1.2km az=175.0, Pyrenees

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETSF	**Etsaut**	**0.30**	**245**	*e*Pg	Pg	20 04 17.2	0.0
ETSF				*e*Sg	Sg	20 04 21.4	+0.2
	5.1nm,0.4s						
EPF	**Esparros**	**0.39**	**89**	*e*Pg	Pg	20 04 18.9	+0.1
EPF				*e*Sg	Sg	20 04 24.0	+0.1
	3.1nm,0.4s						
SJPF	**Ste Jean**	**0.76**	**277**	*e*Pg	Pg	20 04 25.4	-0.5
SJPF				*e*Sg	Sg	20 04 35.7	-0.1
	0.5nm,0.3s						

*MDD **17** 20:05:33.9±0.4, 36°.34N×0°.16E, h27km±5km, mb_Lg3.2/62, Error ellipse: s-maj=3.7km s-min=2.1km az=157.0*
*LDG **17** 20:05:33.8±0.3, 36°.38N×0°.14E, h15km, Ml2.9/6, Error ellipse: s-maj=6.2km s-min=3.4km az=165.0*

*CRAAG **17** 20:05:36.4, 36°.12N×0°.48E, Ml3.5, Algerie 05km NE Sidi-Ali*
ISC 17 20:05:32.8±1.5, 36°.45N±0°.05×0°.18E±0°.04, h30km±15km, n62, σ1s70/111, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EKMS	**Oued Kramis**	**0.40**	**110**	P	**Pb**	**20 05 41.0**	**-0.6**
OFRG	**Douar Fergoug**	**0.94**	**187**	P	**Pn**	**20 05 51.0**	**+1.1**
OJGS	**Djebel Guires**	**1.05**	**154**	P	**Pn**	**20 05 50.2**	**-1.3**
EBNR	**Beni Rached**	**1.10**	**98**	P	**Pn**	**20 05 54.0**	**+1.9**
CART	**Cartagena**	**1.48**	**320**	Sn	**Sn**	**20 06 13.7**	**-1.8**
CART	**Cartagena**	**1.48**	**320**	Pn	**Pn**	**20 05 57.1**	**-0.2**
EBGR	**Bougara**	**1.68**	**121**	P	**Pn**	**20 06 00.9**	**+0.8**
ETRV	**Los Montesinos**	**1.74**	**335**	P	**Pn**	**20 06 01.0**	**+0.1**
ETRV				S	**Sn**	**20 06 22.9**	**+0.9**
ETRV				*i* Vmb_Lg		20 06 25.3	
EMUR	**La Murta**	**1.79**	**321**	Pn	**Pn**	**20 06 01.8**	**+0.1**
EMUR				Sn	**Sn**	**20 06 21.8**	**-1.6**
EMUR	**La Murta**	**1.79**	**321**	P	**Pn**	**20 06 02.2**	**+0.5**
EMUR				S	**Sn**	**20 06 21.9**	**-1.6**
EMUR				*i* Vmb_Lg		20 06 26.5	
TLOR	**Lorca, Murcia**	**1.92**	**309**	Sn	**Sn**	**20 06 25.5**	**-1.0**
TLOR				Pn	**Pn**	**20 06 04.1**	**+0.8**
TLOR	**Lorca, Murcia**	**1.92**	**309**	P	**Pn**	**20 06 04.2**	**+0.8**
TLOR				S	**Sn**	**20 06 25.8**	**-0.7**
ELOR	**Lorca, Murcia**	**1.94**	**308**	P	**Pn**	**20 06 03.9**	**+0.2**
ELOR				S	**Sn**	**20 06 26.6**	**-0.5**
ELOR				*i* Vmb_Lg		20 06 28.3	
ENIJ	**Nijar**	**1.99**	**286**	Pn	**Pn**	**20 06 03.6**	**-0.7**
ENIJ				Sn	**Sn**	**20 06 26.1**	**-2.2**
ENIJ	**Nijar**	**1.99**	**286**	P	**Pn**	**20 06 03.4**	**-0.9**
ENIJ				S	**Sn**	**20 06 25.8**	**-2.4**
ENIJ				*i* Vmb_Lg		20 06 28.0	
E001A	**Albudeite (Mur**	**2.00**	**322**	P	**Pn**	**20 06 05.7**	**+1.1**
E001A				S	**Sn**	**20 06 29.4**	**+0.7**
EZAR	**Zarzadilla de**	**2.06**	**314**	P	**Pn**	**20 06 05.7**	**+0.2**
EZAR				S	**Sn**	**20 06 29.6**	**-0.6**
EZAR				*i* Vmb_Lg		20 06 34.0	
E1002	**Yechar (Murcia**	**2.07**	**322**	P	**Pn**	**20 06 06.1**	**+0.7**
E1002				S	**Sn**	**20 06 31.4**	**+1.2**
EBEN2	**Beniarda presa**	**2.24**	**353**	P	**Pn**	**20 06 08.7**	**+1.0**
EBEN2				S	**Sn**	**20 06 33.9**	**-0.5**
EBEN2				*i* Vmb_Lg		20 06 37.0	
AFON	**Font Roja**	**2.28**	**346**	P	**Pn**	**20 06 09.3**	**+0.8**
AFON				S	**Sn**	**20 06 35.5**	**-0.1**
AFON				*i* Vmb_Lg		20 06 40.7	
EBER	**Berja**	**2.51**	**281**	Pn	**Pn**	**20 06 10.8**	**-0.8**
EBER				Sn	**Sn**	**20 06 39.2**	**-2.1**
EBER	**Berja**	**2.51**	**281**	P	**Pn**	**20 06 11.8**	**+0.2**
EBER				S	**Sn**	**20 06 40.0**	**-1.3**
EBER				*i* Vmb_Lg		20 06 43.7	
ETOB	**Tobarra**	**2.58**	**328**	Pn	**Pn**	**20 06 14.2**	**+1.7**
ETOB	**Tobarra**	**2.58**	**328**	P	**Pn**	**20 06 13.8**	**+1.3**
ETOB				S	**Sn**	**20 06 43.9**	**+0.8**
ETOB				*i* Vmb_Lg		20 06 46.8	
EIBI	**Ibiza**	**2.73**	**19**	Pn	**Pn**	**20 06 15.6**	**+1.1**
EIBI				Sn	**Sn**	**20 06 45.6**	**-0.9**
EIBI	**Ibiza**	**2.73**	**19**	P	**Pn**	**20 06 15.1**	**+0.6**
EIBI				S	**Sn**	**20 06 46.8**	**+0.3**
EIBI				*i* Vmb_Lg		20 06 49.0	
EQES	**Quesada**	**2.93**	**298**	P	**Pn**	**20 06 19.4**	**+2.1**
EQES				S	**Sn**	**20 06 52.8**	**+1.2**
EQES				*i* Vmb_Lg		20 06 57.7	
EVIV	**Cofrentes, Val**	**2.99**	**340**	P	**Pn**	**20 06 19.9**	**+1.8**
EVIV				S	**Sn**	**20 06 53.0**	**0.0**
EVIV				*i* Vmb_Lg		20 06 57.6	
EQUE	**Quentar**	**3.00**	**286**	P	**Pn**	**20 06 19.4**	**+1.1**
EQUE				S	**Sn**	**20 06 52.8**	**-0.6**
EQUE				*i* Vmb_Lg		20 07 01.1	
ELGU	**Los Guajares,**	**3.09**	**279**	Sn	**Sn**	**20 06 53.5**	**-2.0**
ELGU	**Los Guajares,**	**3.09**	**279**	P	**Pn**	**20 06 19.2**	**-0.4**
ELGU				S	**Sn**	**20 06 52.5**	**-3.0**
ELGU				*i* Vmb_Lg		20 06 58.5	
ELGU	**Los Guajares,**	**3.09**	**279**	Pn	**Pn**	**20 06 19.5**	**-0.1**
E0802	**Ubeda,Jaen**	**3.24**	**300**	P	**Pn**	**20 06 22.0**	**+0.3**
E0802				S	**Sn**	**20 07 00.1**	**+0.9**
ECHE	**Chera**	**3.26**	**344**	Pn	**Pn**	**20 06 23.7**	**+1.9**
ECHE				Sn	**Sn**	**20 07 00.2**	**+0.5**
ECHE	**Chera**	**3.26**	**344**	P	**Pn**	**20 06 23.5**	**+1.6**
ECHE				S	**Sn**	**20 07 00.9**	**+1.2**
ECHE				*i* Vmb_Lg		20 07 05.1	
ECOL	**Islas Columbre**	**3.46**	**6**	P	**Pn**	**20 06 25.5**	**+1.0**
ECOL				S	**Sn**	**20 07 04.2**	**-0.3**
EGOR	**Sierra Gorda,**	**3.51**	**282**	P	**Pn**	**20 06 27.1**	**+1.7**
EGOR				S	**Sn**	**20 07 03.8**	**-2.1**
EGOR				*i* Vmb_Lg		20 07 14.1	
ETOS	**Mallorca**	**3.91**	**31**	Sn	**Sn**	**20 07 15.4**	**-0.1**
ETOS	**Mallorca**	**3.91**	**31**	P	**Pn**	**20 06 31.6**	**+0.9**
ETOS				S	**Sn**	**20 07 14.6**	**-0.9**
ETOS				*i* Vmb_Lg		20 07 17.2	
PSIM	**Granatula de C**	**3.92**	**308**	P	**Pn**	**20 06 31.1**	**+0.2**
PSIM				S	**Sn**	**20 07 1.4**	**-1.5**
EMOS	**Mosqueruela**	**3.94**	**353**	P	**Pn**	**20 06 33.4**	**+2.1**
EMOS				S	**Sn**	**20 07 16.9**	**+0.4**
EMOS				*i* Vmb_Lg		20 07 21.2	
E0901	**Celadas (Terue**	**4.15**	**346**	P	**Pn**	**20 06 36.5**	**+2.3**
E0901				S	**Sn**	**20 07 23.3**	**+1.6**
E0901				*i* Vmb_Lg		20 07 29.9	
EADA	**Adamuz**	**4.16**	**296**	Sn	**Sn**	**20 07 20.4**	**-1.5**
EADA	**Adamuz**	**4.16**	**296**	P	**Pn**	**20 06 35.0**	**+0.7**
EADA				S	**Sn**	**20 07 20.2**	**-1.6**
EADA				*i* Vmb_Lg		20 07 34.4	
ERTA	**Horta de San J**	**4.50**	**1**	P	**Pn**	**20 06 40.8**	**+1.9**
ERTA				S	**Sn**	**20 07 31.2**	**+1.0**
ERTA				*i* Vmb_Lg		20 07 33.3	
ESDC	**Sonseca Array**	**4.59**	**316**	P	**Pn**	**20 06 41.8**	**+1.7**
ESDC				S	**Sn**	**20 07 30.2**	**-2.2**
ETOR	**Torete**	**4.70**	**339**	P	**Pn**	**20 06 45.1**	**+3.5**
ETOR				S	**Sn**	**20 07 34.9**	**-0.2**
PAB	**San Pablo**	**4.73**	**312**	P	**Pn**	**20 06 43.1**	**+1.1**
PAB				S	**Sn**	**20 07 32.7**	**-3.1**
PAB				*i* Vmb_Lg		20 07 35.9	
ECAB	**El Cabril**	**4.75**	**292**	P	**Pn**	**20 06 42.6**	**+0.3**
ECAB				S	**Sn**	**20 07 33.7**	**-2.7**
ECAB				*i* Vmb_Lg		20 07 36.3	
EPOB	**Poblet**	**4.94**	**8**	P	**Pn**	**20 06 47.2**	**+2.2**
EPOB				S	**Sn**	**20 07 39.6**	**-1.6**
EPOB				*i* Vmb_Lg		20 07 44.5	
ESAC	**San Caprasio**	**5.29**	**355**	P	**Pn**	**20 06 51.2**	**+1.5**
ESAC				S	**Sn**	**20 07 49.2**	**-0.4**
ESAC				*i* Vmb_Lg		20 07 54.8	
GUD	**Guadarrama**	**5.39**	**322**	P	**Pn**	**20 06 53.5**	**+2.3**
GUD				S	**Sn**	**20 07 51.5**	**-0.7**
GUD				*i* Vmb_Lg		20 08 08.8	
EBAD	**Badajoz**	**6.16**	**294**	P	**Pn**	**20 07 01.9**	**+0.3**
EBAD				S	**Sn**	**20 08 07.6**	**-3.4**
EBAD				*i* Vmb_Lg		20 08 11.6	
ETSF	**Etsaut**	**6.46**	**355**	*e*Pn	**Pn**	**20 07 08.0**	**+2.1**
ETSF				*e*Sn	**Sn**	**20 08 17.0**	**-1.6**
	3.6nm,0.6s						
EPF	**Esparros**	**6.57**	**1**	*e*Pn	**Pn**	**20 07 08.8**	**+1.5**
EPF				*e*Sn	**Sn**	**20 08 21.5**	**+0.3**
	1.1nm,0.2s						
SJPF	**Ste Jean**	**6.74**	**351**	*e*Pn	**Pn**	**20 07 12.7**	**+3.1**
SJPF				*e*Sn	**Sn**	**20 08 25.4**	**+0.1**
	1.4nm,0.2s						
ELAN	**Lanestosa**	**7.32**	**339**	P	**Pn**	**20 07 20.2**	**+2.7**
ELAN				S	**Sn**	**20 08 35.0**	**-4.6**
ELAN				*i* Vmb_Lg		20 08 51.1	
VSL	**Villasalto**	**7.87**	**65**	P	**Pn**	**20 07 25.4**	**+0.3**
VSL				S	**Sn**	**20 08 49.5**	**-3.7**
EARI	**Arriondas**	**8.00**	**330**	P	**Pn**	**20 07 30.2**	**+3.3**
EARI				S	**Sn**	**20 08 52.6**	**-3.7**
EARI				*i* Vmb_Lg		20 09 22.2	
LMR	**La Mourre**	**8.42**	**33**	*e*Pn	**Pn**	**20 07 34.6**	**+2.0**
LMR				*e*Sn	**Sn**	**20 09 03.4**	**-3.1**
	0.7nm,0.3s						
RJF	**Les Rejaudoux**	**8.90**	**6**	*e*Sn	**Sn**	**20 09 15.6**	**-2.8**
	0.8nm,0.3s						
PGF	**Pioggiola**	**9.13**	**46**	*e*Pn	**Pn**	**20 07 42.9**	**+0.4**
PGF				*e*Sn	**Sn**	**20 09 20.3**	**-4.0**
	0.1nm,0.2s						

*IDC **17** 20:05:42.8±2.2, 36°.04N×97°.37W, h0km, mbtmp3.2/3, ML3.3/3, Error ellipse: s-maj=31.2km s-min=11.3km az=106.0*
*NEIC **17** 20:05:44.8±0.3, 36°.062N±0°.008×97°.58W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=234.0*

*TUL **17** 20:05:45±0.5, 36°.067N±0°.010×97°.57W±0°.01, h6km±4km, ML3.7, mb_Lg3.2/118(NEIC), ML3.6/72(NEIC), Error ellipse: s-maj=1.7km s-min=1.4km az=111.0*
ISC 17 20:05:44.9±0.8, 36°.06N±0°.03×97°.60W±0°.03, h10km, n92, σ0s69/38, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.29**	**155**		**Pg**	**20 05 50.9**	**+0.2**
OK029				Sg	**Sg**	**20 05 54.8**	**+0.2**
OK029				IAML		20 05 55.5	
	10μm,0.5s						
ADOK	**Arcadia Dam**	**0.45**	**155**	Pg	**Pg**	**20 05 53.9**	**+0.2**
OK033	**Mehan**	**0.54**	**91**		**Pg**	**20 05 55.3**	**-0.1**
OK033				IAML		20 06 03.0	
	5μm,0.2s						
CROK	**Carrier**	**0.54**	**325**		**Pg**	**20 05 55.8**	**+0.3**
CROK				IAML		20 06 03.9	
	comp=E,4μm,0.3s						
CROK				IAML		20 06 04.2	
	comp=N,5μm,0.3s						
OK031	**S. Brethren Rd**	**0.63**	**99**		**Pg**	**20 05 56.9**	**-0.2**
OK031				IAML		20 06 05.6	
	comp=N,3μm,0.3s						
OK048	**Pawnee Station**	**0.64**	**56**		**Pg**	**20 05 57.1**	**-0.2**
OK052	**Battle Ridge R**	**0.65**	**96**		**Pg**	**20 05 57.2**	**-0.3**
OKCSW	**OKLAHOMA CITY**	**0.67**	**168**	Pg	**Pg**	**20 05 57.6**	**-0.2**
OKCSW				IAML		20 06 09.9	
	comp=E,4μm,0.4s						
QUOK	**Quay**	**0.73**	**81**		**Pg**	**20 05 58.8**	**-0.3**
QUOK				IAML		20 06 08.8	
	comp=N,3μm,0.4s						
QUOK				IAML		20 06 12.1	
	comp=E,2μm,0.1s						
OK051	**E0350 and S346**	**0.76**	**54**		**Pg**	**20 05 59.3**	**-0.4**
OK051				IAML		20 06 15.1	
	comp=E,3μm,0.2s						
OK051				IAML		20 06 17.6	
	comp=E,3μm,0.2s						
BLOK	**Blackwell**	**0.77**	**24**		**Pg**	**20 05 59.5**	**-0.3**
BLOK				IAML		20 06 14.4	
	comp=E,3μm,0.2s						
BLOK				IAML		20 06 14.8	
	comp=N,3μm,0.2s						
FNO	**Franklin**	**0.82**	**168**	Pg	**Pg**	**20 06 00.5**	**-0.1**
FNO				IAML		20 06 17.3	
	comp=E,2μm,0.6s						
GC02	**Grant County #**	**0.82**	**345**	Pg	**Pg**	**20 06 00.5**	**-0.2**
OK032	**Salt Plains WL**	**0.89**	**327**		**Pg**	**20 06 01.9**	**-0.2**
DEOK	**Depew**	**0.92**	**103**	Pg	**Pg**	**20 06 01.9**	**-0.7**
DEOK				IAML		20 06 14.7	
	comp=N,1μm,0.3s						
KAN14	**Manchester OK**	**0.94**	**342**		**Pg**	**20 06 02.8**	**-0.3**
KAN13	**South Haven SW**	**0.96**	**6**		**Pg**	**20 06 03.0**	**-0.4**
KAN13				IAML		20 06 23.5	
	comp=N,2μm,0.3s						
CSTR	**Hydro, Custer**	**0.97**	**245**	Pg	**Pg**	**20 06 03.4**	**-0.3**
OK038	**West end E0370**	**1.01**	**295**		**Pg**	**20 06 04.1**	**-0.3**
KAN05	**Bluff City Nor**	**1.07**	**348**		**Pg**	**20 06 05.2**	**-0.4**
KAN09	**Caldwell North**	**1.07**	**359**	Pg	**Pg**	**20 06 05.1**	**-0.5**
KAN01	**Argonia South**	**1.10**	**353**		**Pb**	**20 06 05.6**	**-0.4**
KAN01				IAML		20 06 22.4	
	comp=N,1μm,0.2s						
KAN01				IAML		20 06 26.5	
	comp=E,2μm,0.1s						
OK035	**E0210 Rd and N**	**1.10**	**306**	Pg	**Pb**	**20 06 05.7**	**-0.5**
KAN10	**Anthony SW Sta**	**1.13**	**340**		**Pb**	**20 06 06.1**	**-0.5**
KAN10				IAML		20 06 27.2	
	comp=E,1μm,0.1s						
KAN10				IAML		20 06 28.2	
	comp=N,877nm,0.2s						
U32A	**Winter Ranch,**	**1.18**	**286**	Pg	**Pb**	**20 06 07.1**	**-0.2**
U32A				IAML		20 06 25.2	
	comp=N,1μm,0.1s						
U32A				IAML		20 06 30.6	
	comp=E,1μm,0.1s						
KAN08	**Anthony NE Sta**	**1.20**	**346**		**Pb**	**20 06 07.5**	**-0.4**
KAN08				IAML		20 06 27.5	
	comp=N,1μm,0.1s						
KAN06	**Argonia West S**	**1.21**	**350**		**Pb**	**20 06 07.5**	**-0.4**
T35A	**Sooner Cattle**	**1.23**	**45**		**Pb**	**20 06 07.7**	**-0.5**
T35A				IAML		20 06 27.5	
	comp=N,1μm,0.5s						
T35A				IAML		20 06 27.5	
	comp=E,2μm,0.3s						
KAN12	**Harper NE Stat**	**1.28**	**346**		**Pn**	**20 06 08.8**	**-0.1**
ELIS	**Ellis County**	**1.47**	**271**		**Pn**	**20 06 12.0**	**+0.5**
TUL3	**Leonard**	**1.48**	**95**		**Pn**	**20 06 11.2**	**-0.3**
WMOK	**Wichita Mounta**	**1.63**	**217**		**Pn**	**20 06 14.5**	**+0.7**
LOOK	**Love County**	**2.09**	**170**		**Pn**	**20 06 20.6**	**+0.6**
LOOK				IAmb_Lg		20 06 51.6	
	comp=Z,92nm,0.7s						
RLO	**Rose Lookout**	**2.09**	**86**		**Pn**	**20 06 20.8**	**+0.7**
X37A	**Clayton**	**2.34**	**128**	IAmb_Lg		20 07 03.9	
	comp=Z,104nm,1.1s						
Z38A	**Mt. Pleasant**	**3.53**	**142**	IAmb_Lg		20 07 42.0	
	comp=Z,94nm,0.7s						
AMTX	**Amarillo**	**3.53**	**252**	IAmb_Lg		20 07 40.9	
	comp=Z,100nm,0.9s						
TREL	**Terrell**	**3.55**	**159**	IAmb_Lg		20 07 39.4	
	comp=Z,56nm,0.8s						
FW16	**Waxahatchie**	**3.62**	**171**	IAmb_Lg		20 07 43.1	
	comp=Z,56nm,0.8s						
MIAR	**Mount Ida**	**3.62**	**113**	IAmb_Lg		20 07 47.1	
	comp=Z,43nm,0.7s						
FW14	**Alvarado**	**3.67**	**175**	IAmb_Lg		20 07 49.0	
	comp=Z,45nm,0.7s						
S39A	**Bolivar**	**3.80**	**63**	IAmb_Lg		20 07 49.7	
	comp=Z,89nm,0.8s						
ABTX	**Abilene, Hawle**	**3.82**	**207**	IAmb_Lg		20 07 52.9	
	comp=Z,47nm,0.8s						
SN07	**Snyder 07**	**4.02**	**223**	IAmb_Lg		20 08 00.4	
	comp=Z,64nm,0.9s						
SN05	**Snyder 5**	**4.17**	**221**	IAmb_Lg		20 08 09.6	
	comp=Z,69nm,0.9s						
X40A	**Basin Creek Fa**	**4.20**	**111**	IAmb_Lg		20 08 02.9	
	comp=Z,43nm,1.0s						
237A	**Washetta, Mont**	**4.31**	**159**	IAmb_Lg		20 08 12.4	
	comp=Z,46nm,0.8s						
**WLA

	comp=Z,32nm,0.9s							
BRIGG	**Briggsdale**	**6.95**	**313**	lAmb_Lg			20 09 33.6	
	comp=Z,47nm,1.0s							
PECS	**Pecos**	**7.01**	**230**	lAmb_Lg			20 09 35.1	
	comp=Z,21nm,0.7s							
DRIO	**Del Rio**	**7.09**	**202**	lAmb_Lg			20 09 33.5	
	comp=Z,21nm,0.7s							
SAND	**Sanderson**	**7.17**	**213**	lAmb_Lg			20 09 38.6	
	comp=Z,24nm,0.7s							
ALPN	**Alpine**	**7.60**	**223**	lAmb_Lg			20 09 52.6	
	comp=Z,27nm,1.1s							
ECSD	**EROS Data Cent**	**7.70**	**5**	lAmb_Lg			20 09 59.5	
	comp=Z,24nm,0.9s							
L40A	**Anamosa**	**7.78**	**38**	lAmb_Lg			20 09 53.7	
	comp=Z,29nm,0.7s							
PLAL	**Pickwick Lake**	**7.84**	**95**	lAmb_Lg			20 09 57.6	
	comp=Z,29nm,1.1s							
PHWY	**Pilot Hill**	**8.07**	**313**	lAmb_Lg			20 10 13.1	
	comp=Z,19nm,0.8s							
VHRN	**Van Horn**	**8.11**	**232**	lAmb_Lg			20 10 24.0	
	comp=Z,17nm,0.8s							
N23A	**Red Feather La**	**8.13**	**309**	lAmb_Lg			20 10 13.6	
	comp=Z,46nm,1.1s							
TXAR	**Lajitas Array**	**8.43**	**219**	Pn	**Pn**		**20 07 45.9**	**-1.3**
	comp=Z,0.1nm,0.3s,baz=46,slow=12,SNR=7.2							
TXAR				Sn	**Sn**		**20 09 20.1**	**-2.4**
	comp=Z,0.4nm,0.3s,baz=38,slow=18,SNR=1.8							
TXAR				Lg	Lg		20 10 08.8	
	comp=Z,1.4nm,0.3s,baz=42,slow=23,SNR=7.4							
	comp=Z,0.2nm,0.4s							
L42A	**Oliver, Polo**	**8.56**	**44**	lAmb_Lg			20 10 24.7	
	comp=Z,40nm,0.9s							
I37A	**Lemond, Waseca**	**8.57**	**21**	lAmb_Lg			20 10 36.2	
	comp=Z,24nm,0.7s							
JFWS	**Jewell Farm**	**8.89**	**37**	lAmb_Lg			20 10 41.8	
	comp=Z,30nm,0.7s							
RSSD	**Black Hills**	**9.44**	**331**	lAmb_Lg			20 10 51.5	
	comp=Z,18nm,0.7s							
I40A	**Norwalk**	**9.48**	**32**	lAmb_Lg			20 10 53.5	
	comp=Z,16nm,0.7s							
K22A	**Casper**	**9.54**	**316**	lAmb_Lg			20 11 10.5	
	comp=Z,34nm,1.1s							
F33A	**5 Mile Ranch,**	**9.82**	**5**	lAmb_Lg			20 11 04.3	
	comp=Z,14nm,1.0s							
PDAR	**Pinedale Array**	**11.41**	**310**	Pn	**Pn**		**20 08 30.2**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=122,slow=20,SNR=2.3							
PDAR				Pg			20 09 14.4	
	comp=Z,0.2nm,0.3s,baz=119,slow=14,SNR=2.5							
PDAR				Lg	Lg		20 11 42.5	
	comp=Z,0.3nm,0.3s,baz=115,slow=31,SNR=2.0							
	comp=Z,0.3nm,0.5s							
ULM	**Lac du Bonnet**	**14.24**	**5**	Pn	Pn		20 09 00.5	-6.0
	comp=Z,0.3nm,0.3s,baz=180,slow=20,SNR=2.0							
ULM				Sn	Sn		20 11 32.5	-12
	comp=Z,0.2nm,0.3s,baz=142,slow=12,SNR=1.2							
ULM				Lg	Lg		20 13 03.4	
	comp=Z,0.1nm,0.3s,baz=139,slow=20,SNR=1.0							
	comp=Z,0.7nm,0.3s							

AFAD ***17*** *20:14:03.3±0.0, 43.74N×38.72E, h5km±6km, ML2.9*

CFUSG 17 20:13:59.2, 44.23N×38.41E, h24km, mb1.5/1, Black Sea
Magtype MSH 2.7 from 1 stations, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SUDU	**Sudak**	**2.52**	**286**	*e*Sn	Sn	20 15 08.7	0.0
SUDU				Snm		20 15 10.0	
	comp=E,8.0nm,0.3s						
SUDU				Snm		20 15 12.8	
	comp=N,19nm,0.3s						
ALU	**Alushta**	**2.91**	**280**	*e*Sn	Sn	20 15 18.3	+0.3
ALU				Snm		20 15 19.8	
	comp=N,9.0nm,0.3s						
ALU				Snm		20 15 20.1	
	comp=E,5.0nm,0.2s						
YAL	**Yalta**	**3.06**	**276**	*e*Sn	Sn	20 15 21.8	-0.1
YAL				*e*Sn	Sn	20 15 21.8	-0.1
YAL				Snm		20 15 23.2	
	comp=N,4.0nm,0.2s						
YAL				Snm		20 15 23.2	
	comp=E,7.0nm,0.2s						
YAL				Snm		20 15 23.2	
	comp=N,4.0nm,0.2s						
YAL				Snm		20 15 23.2	
	comp=E,7.0nm,0.2s						
SEV	**Sevastopol'**	**3.41**	**277**	*e*Pn	Pn	20 14 51.5	+0.6
SEV				Pmn		20 14 55.2	
	comp=Z,1.0nm,0.3s						
SEV				*e*Sn	Sn	20 15 29.5	-1.1
SEV				Snm		20 15 33.0	
	comp=N,5.0nm,0.3s						
SEV				Snm		20 15 36.7	
	comp=E,4.0nm,0.2s						
MACK	**Trabzon**	**3.44**	**163**	P	Pn	20 14 53.4	+2.1
MACK				S	Sn	20 15 30.8	-0.4
MACK				*i* AML	AML	20 15 32.0	
	comp=E,79nm,0.2s						
MACK				*i* AML	AML	20 15 33.0	
	comp=E,243nm,0.2s						
MACK				*i* AML	AML	20 15 33.0	
	comp=E,205nm,0.2s						
IZDR	**Rize**	**3.79**	**154**	P	Pn	20 14 58.0	+1.9
IZDR				S	Sn	20 15 34.7	-5.3
ALUC	**Giresun/Alucra**	**3.89**	**176**	P	Pn	20 14 59.1	+1.5
ALUC				S	Sn	20 15 41.8	-0.9
ALUC				*i* AML	AML	20 15 43.0	
	comp=E,28nm,0.4s						
ALUC				*i* AML	AML	20 15 47.0	
	comp=E,22nm,0.3s						
ALUC				*i* AML	AML	20 15 47.0	
	comp=E,44nm,0.4s						
SUSE	**Susehri**	**4.02**	**182**	P	Pn	20 15 00.9	+1.5
SUSE				S	Sn	20 15 46.2	+0.3
KELT	**Kelkit**	**4.13**	**171**	P	Pn	20 15 03.2	+2.3
KELT				S	Sn	20 15 48.7	+0.2
KELT				*i* AML	AML	20 15 51.0	
	comp=E,21nm,0.3s						
KELT				*i* AML	AML	20 15 52.0	
	comp=E,24nm,0.3s						
KRIK	**Erzurum-spir**	**4.32**	**153**	P	Pn	20 15 07.3	+3.8
KRIK				S	Sn	20 15 54.3	+1.2

IDC 17 20:15:38.2±3.9, 5.65S×151.94E, h0km, mb3.5/2,
mbtmp3.6/2, Error ellipse: s-maj=144.6km
s-min=53.4km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.24**	**229**	P	P	20 20 37.1	+0.3
	1.1nm,0.5s,baz=52,slow=9.9,SNR=11						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**24.95**	**222**	P	P	20 21 03.2	-0.3
	0.9nm,0.6s,baz=60,slow=8.7,SNR=14						
	0.9nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.74**	**286**	PKPbc	PKPbc	20 35 30.8	-0.3
	0.3nm,0.9s,baz=149,slow=1.9,SNR=2.1						

IDC ***17*** *20:27:29.0±1.0, 6.51S×151.18E, h0km, mb3.9/5,*
mbtmp3.9/7, ML1.2/1, MS3.6/1, Error ellipse: s-maj=38.6km
s-min=23.3km az=64.0

ISC 17 20:27:34.1±0.9, 6.38S±0.1×142.90E±0.10, h35km, n8,
σ191/10, mb4.0/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.95**	**122**	Pn	**Pn**	**20 28 45.3**	**-0.6**
	0.6nm,0.3s,baz=229,slow=17,SNR=2.3						
PMG				Sn	**Sn**	**20 29 42.5**	**+0.5**
	1.1nm,0.3s,baz=238,slow=19,SNR=1.4						
	10.0nm,0.7s						
WRA	**Warramunga Arr**	**15.48**	**212**	Pn	**Pn**	**20 31 10.3**	**+0.4**
	0.1nm,0.3s,baz=31,slow=13,SNR=6.4						
WRA				Sn	**Sn**	**20 33 57.2**	**-3.2**
	0.1nm,0.3s,baz=29,slow=21,SNR=1.8						
WRA				Lg	Lg	20 35 52.1	
	0.1nm,0.3s,baz=69,slow=38,SNR=3.2						
WRA				LR	LR	20 37 39.7	
	comp=Z,228nm,20.2s,baz=330,slow=38						
ASAR	**Alice Springs**	**18.86**	**206**	P	**Pn**	**20 31 54.9**	**+2.7**
	3.1nm,0.9s,baz=33,slow=9.0,SNR=15						
ASAR				Lg	Lg	20 37 36.1	
	baz=16,slow=24,SNR=1.9						
MKAR	**Makanchi Array**	**75.56**	**322**	P	**P**	**20 39 16.1**	**+0.8**
	0.9nm,1.0s,baz=123,slow=4.5,SNR=5.3						
	0.9nm,1.0s						

KURBB	**Kurchatov Arra**	**79.46**	**324**	P	**P**		**20 39 37.0**	**+0.2**
	0.6nm,0.9s,baz=122,slow=5.2,SNR=6.0							
	0.6nm,0.9s							
QSPA	**South Pole Qui**	**83.17**	**180**	P	**P**		**20 39 57.7**	**+1.2**
	1.0nm,0.7s,baz=350,slow=1.6,SNR=5.7							
	1.0nm,0.7s							
BVAR	**Borovoye Array**	**85.04**	**325**	P	**P**		**20 40 06.5**	**+0.4**
	2.4nm,0.9s,baz=104,slow=6.3,SNR=14							
	2.4nm,0.9s							
ILAR	**Eielson Array**	**87.84**	**24**	P	**P**		**20 40 17.2**	**-2.2**
	0.7nm,0.8s,baz=256,slow=5.6,SNR=6.2							
	0.7nm,0.8s							

IDC 17 20:39:16.6±8.9, 48.56N×151.81E, h168km±55km, mb2.9/2,
mbtmp3.4/4, Error ellipse: s-maj=213.7km
s-min=27.3km az=146.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**5.89**	**37**	P	Pn	20 40 42.1	+0.2
	3.7nm,0.8s,baz=220,slow=11,SNR=6.7						
PETK				S	Sn	20 41 49.2	+0.3
	2.7nm,0.8s,baz=273,slow=32,SNR=2.0						
USRK	**Ussuriysk Ar.**	**14.35**	**260**	P	Pn	20 42 31.9	-0.1
	0.6nm,0.6s,baz=106,slow=15,SNR=2.0						
H11N2	**WAKE ISLAND Hy**	**31.23**	**152**	T	T	21 20 02.1	
	baz=340,slow=76,SNR=6.6						
H11N1	**WAKE ISLAND Hy**	**31.25**	**152**	T	T	21 20 05.0	
	baz=340,slow=76,SNR=6.8						
H11N3	**WAKE ISLAND Hy**	**31.25**	**152**	T	T	21 20 09.6	
	baz=340,slow=76,SNR=5.1						
H11S1	**WAKE ISLAND Hy**	**32.32**	**153**	T	T	21 21 31.5	
	baz=341,slow=76,SNR=5.6						
H11S3	**WAKE ISLAND Hy**	**32.33**	**153**	T	T	21 21 34.0	
	baz=341,slow=76,SNR=5.6						
H11S2	**WAKE ISLAND Hy**	**32.34**	**153**	T	T	21 21 29.0	
	baz=341,slow=76,SNR=4.9						
ILAR	**Eielson Array**	**35.71**	**40**	P	P	20 45 58.2	-0.4
	0.3nm,0.5s,baz=265,slow=6.2,SNR=5.0						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**50.01**	**37**	P	P	20 47 53.5	+0.2
	0.2nm,0.5s,baz=302,slow=7.5,SNR=2.7						
	0.2nm,0.5s						

DJA ***17*** *20:39:21.2±0.3, 7.3S×152.13E±0.5°, h223km±7km, M4.6/13,*
mb4.6/13, mB4.9/6, MLv4.9/12, Mw(mB)4.2/6
IDC ***17*** *20:39:22.4±2.5, 6.98S×129.41E, h193km±22km, mb3.7/14,*
mbtmp4.2/15, Error ellipse: s-maj=28.6km s-min=10.3km
az=71.0
NEIC ***17*** *20:39:23.2±1.9, 6.96S±0.08×129.43E±0.10, h199km±10km,*
mb4.2/25, Error ellipse: s-maj=14.4km s-min=11.4km
az=71.0

ISC 17 20:39:20.5±0.5, 7.02S±0.05×129.32E±0.05, h200km, n101,
σ252/69, mb4.0/23, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.18**	**116**	P	**Pn**	**20 40 00.7**	**-0.2**
SAUI	**Saumlaki**	**2.18**	**116**		**Pn**	**20 40 02.6**	**+1.7**
SAUI	**Saumlaki**	**2.18**	**116**	P	**Pn**	**20 40 03.0**	**+2.1**
SAUI				S	**Sn**	**20 40 34.3**	**+1.9**
FAKI	**Fak Fak**	**5.00**	**36**	P	**Pn**	**20 40 34.5**	**-0.4**
FAKI	**Fak Fak**	**5.00**	**36**	Pn	**Pn**	**20 40 35.0**	**0.0**
FAKI				Sn	**Sn**	**20 41 29.9**	**-3.8**
FAKI	**Fak Fak**	**5.00**	**36**	P	**Pn**	**20 40 34.6**	**-0.4**
	63nm,0.6s,3μm0.8nm						
FAKI				S	**Sn**	**20 41 30.0**	**-3.8**
	63nm,0.6s,3μm0.8nm						
KMPI	**Kaimana, Papua**	**5.49**	**53**	P	**Pn**	**20 40 42.5**	**+1.3**
	294nm,0.9s,5μm3.3nm						
KMPI				S	**Sn**	**20 41 41.8**	**-3.1**
	294nm,0.9s,5μm3.3nm						
DRS	**Darwin Rock St**	**5.60**	**164**	P	**Pn**	**20 40 43.8**	**+1.2**
SOEI	**Soe**	**5.70**	**241**	P	**Pn**	**20 40 43.7**	**-0.2**
SOEI	**Soe**	**5.70**	**241**	Pn	Pn	20 40 45.9	+1.9
SOEI	**Soe**	**5.70**	**241**	P	Pn	20 40 46.0	+2.1
	257nm,0.7s,0.9nm						
MTN	**Manton Dam**	**6.06**	**163**	P	**Pn**	**20 40 49.3**	**+0.8**
MTN	**Manton Dam**	**6.06**	**163**	Pn	**Pn**	**20 40 49.3**	**+0.8**
SWI	**Sorong**	**6.41**	**18**	P	**Pn**	**20 40 53.3**	**+0.2**
BATI	**Baumata**	**6.43**	**240**	P	Pn	20 40 55.6	+2.2
	182nm,0.6s,baz=159,slow=1.6,SNR=74						
BATI				S	**Sn**	**20 42 05.0**	**-2.0**
	177nm,0.8s,baz=28,slow=20,SNR=8.6						
BATI	**Baumata**	**6.43**	**240**	P	Pn	20 40 55.5	+2.1
	242nm,0.8s,0.9nm						
KDU	**Kakadu**	**6.43**	**151**	P	**Pn**	**20 40 54.0**	**+0.6**
LBMI	**Labuha**	**6.59**	**344**	P	Pn	20 40 59.6	+4.2
	116nm,0.9s,1μm0.4nm						
BBSI	**Bau Bau**	**6.88**	**282**	P	Pn	20 41 04.5	+5.3
	106nm,1.1s,0.3nm						
MMRI	**Maumere**	**7.20**	**257**	Pn	Pn	20 41 07.1	+3.7
EDFI	**Ende, Flores**	**7.75**	**257**	P	Pn	20 41 14.2	+3.5
	40nm,0.8s,0.1nm						
TNTI	**Ternate**	**7.98**	**346**	Pn	Pn	20 41 16.9	+3.4
BASI	**Baing, Sumba**	**9.21**	**249**	P	**Pn**	**20 41 30.7**	**+1.1**
	234nm,1.1s						
PLAI	**Plampang**	**11.58**	**260**	P	**P**	**20 42 01.0**	**-4.5**
PLAI	**Plampang**	**11.58**	**260**	P	P	20 41 59.6	-5.9
	44nm,0.8s,1μm						
FITZ	**Fitzroy Crossi**	**11.59**	**198**	P	**P**	**20 42 01.5**	**-4.0**
FITZ	**Fitzroy Crossi**	**11.59**	**198**		**Pn**	**20 41 58.4**	**-1.8**
FITZ					**Sn**	**20 44 05.8**	**-3.6**
GENI	**Genyem**	**11.66**	**68**	P	**P**	**20 42 04.5**	**-1.9**
WB0	**Warramunga Arr**	**13.60**	**159**	Pn	**P**	**20 42 24.2**	**-3.7**
WRAB	**Tennant Creek**	**13.74**	**160**		**Pn**	**20 42 24.1**	**-3.1**
WRA	**Warramunga Arr**	**13.74**	**160**		**P**	**20 42 25.6**	**-3.9**
WRA	**Warramunga Arr**	**13.74**	**160**	P	**P**	**20 42 26.2**	**-3.3**
	7.1nm,0.6s,baz=340,slow=12,SNR=21						
WRA				S	**S**	**20 44 53.0**	**-7.5**
	9.9nm,0.7s,baz=330,slow=22,SNR=8.5						
JAGI	**Jajag, Banyuwa**	**15.10**	**264**	P	**P**	**20 42 44.9**	**+0.3**
COEN	**Coen**	**15.26**	**118**	P	**P**	**20 42 48.2**	**+1.8**
MYLDM	**Lahad Datu**	**16.23**	**318**	P	**Pn**	**20 42 59.1**	**+1.4**
MYLDM				lAmb	lAmb	20 43 16.3	
	comp=Z,19nm,1.2s						
QIS	**Mount Isa**	**16.75**	**145**	P	**Pn**	**20 43 06.3**	**+2.4**
PSA00	**Pilbara Seismi**	**17.13**	**211**	P	**Pn**	**20 43 09.1**	**+0.8**
AS31	**Alice Springs**	**17.13**	**166**	P	**Pn**	**20 43 09.6**	**+1.2**
ASAR	**Alice Springs**	**17.13**	**166**	P	**Pn**	**20 43 09.8**	**+1.4**
ASAR	**Alice Springs**	**17.13**	**166**	P	**Pn**	**20 43 10.6**	**+2.2**
	comp=Z,113nm,0.6s,baz=339,slow=9.5,SNR=729						
ASAR				S	**S**	**20 46 14.8**	**-0.3**
	comp=Z,2.3nm,0.7s,baz=355,slow=26,SNR=5.3						
ASAR				ScP	**ScP**	**20 50 58.8**	**+2.1**
	comp=Z,1.5nm,0.6s,baz=338,slow=2.5,SNR=5.3						
AS01	**Alice Springs**	**17.14**	**165**	P	**Pn**	**20 43 10.9**	**+2.4**
PWJI	**Pagerwojo**	**17.40**	**266**	P	**Pn**	**20 43 12.0**	**+0.4**
WRKA	**Warakurna**	**17.95**	**183**	P	**Pn**	**20 43 19.2**	**+1.2**
MTSU	**Mount Surprise**	**18.32**	**128**	P	**Pn**	**20 43 23.9**	**+1.5**
SBUM	**Sibu**	**19.49**	**298**	P	**Pn**	**20 43 36.2**	**0.0**
SBUM				lAmb	lAmb	20 43 39.9	
	comp=Z,6.1nm,0.8s						
KSM	**Kuching**	**20.76**	**293**	P	Pn	20 43 50.3	-1.7
CTAO	**Charters Tower**	**20.94**	**130**	P	Pn	20 43 52.4	-1.8
BBJI	**Bungbulang**	**21.50**	**267**	P	**P**	**20 43 55.2**	**+1.2**
OOD	**Oodnadatta**	**21.53**	**164**	P	**P**	**20 43 56.7**	**+2.7**
MEEK	**Meekatharra**	**22.02**	**206**	P	**P**	**20 44 01.7**	**+2.8**
MULG	**Mulgathing**	**23.57**	**170**	P	**P**	**20 44 16.3**	**+3.3**
FORT	**Forrest**	**23.67**	**183**	P	**P**	**20 44 17.1**	**+3.2**
FORT	**Forrest**	**23.67**	**183**	P	**P**	**20 44 16.6**	**+2.7**
QLP	**Quilpie**	**24.09**	**146**	P	**P**	**20 44 21.1**	**+3.3**
LCRK	**Leigh Creek**	**24.76**	**161**	P	**P**	**20 44 27.0**	**+3.2**
KMBL	**Kambalda**	**25.21**	**195**	P	**P**	**20 44 29.7**	**+1.8**
BBOO	**Buckleboo**	**26.42**	**167**	P	**P**	**20 44 41.5**	**+2.7**
BBOO	**Buckleboo**	**26.42**	**167**	P	**P**	**20 44 41.4**	**+2.7**
STKA	**Stephens Creek**	**27.26**	**157**	P	**P**	**20 44 49.1**	**+2.8**
STKA	**Stephens Creek**	**27.26**	**157**	P	**P**	**20 44 49.0**	**+2.8**
STKA				lAmb	lAmb	20 44 49.9	
	comp=Z,2.0nm,0.7s						
STKA	**Stephens Creek**	**27.26**	**157**	P	**P**	**20 44 49.1**	**+2.8**
	comp=Z,9.9nm,0.7s,baz=331,slow=9.2,SNR=24						
	comp=Z,9.9nm,0.7s						
HTT	**Hallett**	**27.75**	**163**	P	**P**	**20 44 52.5**	**+1.8**
NWAO	**Narrogin (SRO)**	**28.12**	**202**	P	P	20 44 56.5	+2.6
	comp=Z,2.7nm,0.5s,baz=92,slow=7.0,SNR=1.6						
	comp=Z,2.7nm,0.5s						
CMSA	**Cobar Meteorol**	**28.80**	**150**	P	P	20 45 03.6	+3.7
ARPS	**Mount Arapiles**	**31.74**	**161**	P	P	20 45 30.0	+4.3
YNG	**Young**	**32.36**	**150**	P	P	20 45 35.4	+4.2
UBPT	**Khong Chiam**	**32.40**	**313**	P	P	20 45 34.6	+2.9
UBPT				lAmb	lAmb	20 45 35.2	

	comp=Z,5.6nm,0.7s							
CAN	**Canberra**	**33.47**	**150**	P	P		20 45 43.6	+2.7
TOO	**Toolangi**	**33.78**	**157**	P	P		20 45 47.4	+3.9
PHRA	**Phrae**	**38.29**	**312**	P	P		20 46 25.5	+3.6
CMAR	**Chiang Mai Arr**	**39.23**	**311**	P	P		20 46 32.6	+2.9
	comp=Z,1.5nm,0.8s,baz=143,slow=7.9,SNR=10							
	comp=Z,1.5nm,0.8s							
CRAI	**Chiangrai**	**39.29**	**314**	P	P		20 46 33.0	+2.8
CHTO	**Chiang Mai**	**39.44**	**311**	P	P		20 46 34.0	+2.5
CHTO				lAmb	lAmb		20 46 35.4	
	comp=Z,4.3nm,0.9s							
PZH	**PanZhiHua**	**42.73**	**322**	P	P		20 47 03.4	+5.1
PZH				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PZH				pmax	pmax			
	comp=Z,70nm,5.6s							
MJAR	**Matsushiro Arr**	**44.12**	**10**	P	**P**		**20 47 09.6**	**+0.5**
	comp=Z,0.8nm,0.7s,baz=201,slow=11,SNR=2.3							
	comp=Z,0.8nm,0.7s							
HHC	**Hu-ho-hao-te**	**50.35**	**343**	*e*P	P		20 48 02.6	+5.4
HHC				pmax	pmax			
	comp=Z,7.0nm,0.8s							
HHC				pmax	pmax			
	comp=Z,57nm,3.9s							
ULN	**Ulaanbaatar**	**58.07**	**343**	P	P		20 48 56.8	+3.9
SONM	**Songino Array**	**58.24**	**342**	P	P		20 48 57.2	+3.1
	comp=Z,0.7nm,0.7s,baz=165,slow=7.9,SNR=4.6							
	comp=Z,0.7nm,0.7s							
MK31	**Makanchi Array**	**67.87**	**327**	P	P		20 50 00.2	+3.0
MK31				lAmb	lAmb		20 50 01.4	
	comp=Z,4.2nm,1.2s							
MKAR	**Makanchi Array**	**67.87**	**327**	P	P		20 50 00.1	+2.8
MKAR	**Makanchi Array**	**67.87**	**327**	P	P		20 50 00.8	+3.5
	comp=Z,1.3nm,0.3s,baz=118,slow=7.8,SNR=42							
	comp=Z,1.3nm,0.3s							
MAKZ	**Makanchi**	**68.05**	**327**	P	P		20 50 01.7	+3.3
ARSB	**Arslanbob**	**70.45**	**318**	P	**P**		**20 50 14.6**	**+1.2**
ZAA0	**Zalesovo Array**	**71.30**	**334**	P	P		20 50 20.1	+2.1
ZAA0				lAmb	lAmb		20 50 21.8	
	comp=Z,3.9nm,1.1s							
ZALV	**Zalesovo Beam**	**71.30**	**334**	P	P		20 50 20.0	+1.9
ZALV	**Zalesovo Beam**	**71.30**	**334**	P	P		20 50 20.7	+2.7
	comp=Z,2.2nm,0.5s,baz=132,slow=5.5,SNR=11							
	comp=Z,2.2nm,0.5s							
KURBB	**Kurchatov Arra**	**72.17**	**329**	P	P		20 50 26.4	+3.1
	comp=Z,2.1nm,0.7s,baz=131,slow=5.0,SNR=31							
	comp=Z,2.1nm,0.7s							
KURK	**Kurchatov**	**72.18**	**329**	P	P		20 50 25.2	+1.9
KURK				lAmb	lAmb		20 50 27.3	
	comp=Z,3.1nm,0.8s							
VNDA	**Vanda**	**72.52**	**173**	P	P		20 50 27.9	+2.9
	comp=Z,0.7nm,0.6s,baz=324,slow=7.2,SNR=9.6							
	comp=Z,0.7nm,0.6s							
KK31	**Karatay Array**	**72.91**	**319**	P	**P**		**20 50 29.0**	**+1.2**
KKAR	**Karatay Array**	**72.91**	**319**	P	**P**		**20 50 29.2**	**+1.3**
KKAR	**Karatay Array**	**72.91**	**319**	P	**P**		**20 50 29.4**	**+1.5**
KKAR				lAmb	lAmb		20 50 32.0	
	comp=Z,1.0nm,0.8s							
MAW	**Mawson**	**74.69**	**201**	P	P		20 50 41.0	+3.3
	comp=Z,3.1nm,0.9s,baz=55,slow=12,SNR=2.6							
	comp=Z,3.1nm,0.9s							
BVAR	**Borovoye Array**	**77.72**	**328**	P	P		20 50 57.9	+2.8
	comp=Z,1.1nm,0.6s,baz=120,slow=8.8,SNR=9.7							
	comp=Z,1.1nm,0.6s							
BRVK	**Borovoye**	**77.79**	**328**	P	**P**		**20 50 56.8**	**+1.4**
BRVK				lAmb	lAmb		20 50 59.3	
	comp=Z,3.8nm,0.8s							
TIXI	**Tiksi**	**78.50**	**360**	P	**P**		**20 51 00.9**	**+2.0**
	comp=Z,0.5nm,0.3s,baz=155,slow=4.0,SNR=1.4							
	comp=Z,0.5nm,0.3s							
GEYT	**Alibeck**	**79.71**	**310**	P	**P**		**20 51 07.6**	**+1.3**
	comp=Z,0.4nm,0.4s,baz=68,slow=13,SNR=1.5							
	comp=Z,0.4nm,0.4s							
ABKAR	**Akbulak array**	**82.10**	**322**	P	P		20 51 21.0	+2.4
ABKAR				lAmb	lAmb		20 51 22.1	
	comp=Z,1.7nm,0.6s							
QSPA	**South Pole Qui**	**82.96**	**180**	P	P		20 51 25.1	+2.2
	comp=Z,1.7nm,0.6s,baz=258,slow=0.3,SNR=19							
	comp=Z,1.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**128.15**	**281**	PKP	**PKiKP**		**20 58 07.1**	**+2.6**
	comp=Z,0.3nm,0.7s,baz=126,slow=2.5,SNR=2.2							
LPAZ	**La Paz**	**151.11**	**143**	PKPbc	**PKPab**		**20 58 54.4**	**-5.6**
	comp=Z,0.5nm,0.4s,baz=204,slow=0.9,SNR=2.1							
LPAZ				PKPab	PKiKP		20 59 01.8	+10
	comp=Z,1.4nm,0.5s,baz=158,slow=1.8,SNR=5.7							

IDC ***17*** *21:29:29.4±2.2, 38.22N×141.79E, h60km±20km, mb3.2/4,*
mbtmp3.6/9, ML3.1/5, Error ellipse: s-maj=37.5km
s-min=12.4km az=97.0
JMA ***17*** *21:

0.5nm,0.7s,baz=4.3,slow=7.2,SNR=5.2
0.5nm,0.7s

BJI **17** *21:43:06.5±0.0,31˚.80S×179˚.33W,h236km,mb5.1/60, mB5.1/31*

IPGP **17** *21:43:10.0,32˚.08S×179˚.98W,h290km,Mw5.7,Fault plane solution: NP1:*ϕ_s*313.00000°,δ72.00000°, λ72.00000°. NP2:*ϕ_s*180.00000°,δ25.00000°,λ134.00000°.*

MOS **17** *21:43:11.1±0.9,31˚.95S×179˚.96W,h261km,mb5.6/22, Error ellipse: s-maj=9.7km s-min=8.0km az=82.4*

NOU **17** *21:43:12.5,32˚.19S×179˚.29W,h294km,mb5.5/146,South of Kermadec Islands*

NEIC **17** *21:43:15.3±2.1,31˚.98S±0˚.09×180˚.0W±0˚.1,h284km±3km, mb5.4/267,Mww5.7/32,Error ellipse: s-maj=13.7km s-min=12.4km az=112.0*

WEL **17** *21:43:15.0±1.0,32˚.5±5˚×17˚9W±1˚3,h238km±14km, mB6.1/19,ML6.5/7,MLv6.4/21,Mw(mB)5.8/19,Error ellipse: s-maj=0.0km s-min=0.0km az=106.9,confirmed*

IDC **17** *21:43:16.5±0.4,31˚.79S×179˚.98W,h301km±3km,mb4.8/17, mbtmp5.3/18,Error ellipse: s-maj=8.8km s-min=8.5km az=43.0*

NEIC **17** *21:43:16.1,31˚.98S×179˚.94W,h290km*

NEIC **17** *21:43:16.1,32˚.08S×179˚.58W,h290km,Moment Tensor Solution. Duration: 3s7 Moment tensor: Scale 10*^{17}*Nm; M_{rr}0.96; $M_{\theta\theta}$0.04; $M_{\phi\phi}$-1.00; $M_{r\theta}$-4.02; $M_{\theta\phi}$0.83; $M_{\phi r}$2.02; Fault plane solution: $M_0$4.68000×10*^{17} *NP1: ϕ_s298.08000°,δ84.20000°,λ78.88000°. NP2: ϕ_s180.85000°,δ12.52000°,λ152.21000°. Principal axes: T 4.7234, Plg50.0000°, Azm196.0000°; N -0.0857, Plg11.0000°, Azm299.0000°; P -4.6377, Plg38.0000°, Azm38.0000°;*

GCMT **17** *21:43:19.3±0.1,31˚.83S±0˚.01×179˚.88W±0˚.01, h297km,MW5.8/154,Moment Tensor Solution. s154,c282; Duration: 1s9 Moment tensor: Scale 10*^{17} *Nm; M_{rr}1.66±.05; $M_{\theta\theta}$0.27±.08; $M_{\phi\phi}$-1.93±.07; $M_{r\theta}$-4.38±.06; $M_{\theta\phi}$1.75±.07; $M_{\phi r}$2.11±.06; Best double couple: $M_0$5.47500×10*^{17} *NP1:*ϕ_s*299.00000°,δ80.00000°, λ70.00000°. NP2:*ϕ_s*185.00000°,δ22.00000°,λ154.00000°. Principal axes: T 5.4340, Plg51.0000°, Azm186.0000°; N 0.0830, Plg20.0000°, Azm302.0000°; P -5.5150, Plg32.0000°, Azm46.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 17 21:43:14.6±0.3,32˚.00S±0˚.03×179˚.82W±0˚.04, h289km±2km,h290km:pP-P,n1396,σ1s70/1422,mb5.4/194, 94C-61D,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.18**	**31**	P	**Pn**	**21 44 09.0**	**-2.4**
GLKZ				S	**S**	**21 44 53.6**	**-3.2**
RAO	**Raoul Island**	**3.19**	**31**	P	**Pn**	**21 44 09.2**	**-2.3**
RAO	**Raoul Island**	**3.19**	**31**	Pn	Pn	21 44 06.9	-4.7
RAO	**Raoul Island**	**3.19**	**31**	P	**Pn**	**21 44 09.0**	**-2.5**
	4μm,0.2s,baz=234,slow=14,SNR=40						
RAO				S	**S**	**21 44 55.1**	**-1.9**
	19μm,0.3s,baz=270,slow=20,SNR=5.2						
RAO	**Raoul Island**	**3.19**	**31**	P	Pn	21 44 06.9	-4.6
RIZ	**Raoul Island**	**3.19**	**31**	P	**Pn**	**21 44 09.4**	**-2.2**
RIZ				S	**S**	**21 44 54.8**	**-2.2**
MXZ	**Matakaoa Point**	**5.76**	**195**	P	**Pn**	**21 44 38.7**	**-1.9**
MXZ	**Matakaoa Point**	**5.76**	**195**		**Pn**	**21 44 38.4**	**-2.2**
MXZ	**Matakaoa Point**	**5.76**	**195**	P	**Pn**	**21 44 38.8**	**-1.8**
MXZ				S	**S**	**21 45 45.0**	**-4.8**
WMGZ	**Waiomatatini S**	**5.99**	**194**	P	**Pn**	**21 44 42.2**	**-1.1**
KUZ	**Kuaotunu**	**6.00**	**217**	P	**Pn**	**21 44 46.0**	**+2.5**
WIZ	**White Island**	**6.04**	**203**	P	**Pn**	**21 44 43.7**	**-0.3**
HAZ	**Te Kaha**	**6.07**	**198**	P	**Pn**	**21 44 42.2**	**-2.1**
PKGZ	**Pakihiroa**	**6.12**	**196**	P	**Pn**	**21 44 43.2**	**-1.8**
PKGZ				S	**S**	**21 45 55.4**	**-2.5**
WCZ	**Waipu Caves**	**6.24**	**229**	P	**Pn**	**21 44 50.3**	**+3.9**
PUZ	**Puketiti**	**6.26**	**194**	P	**Pn**	**21 44 44.6**	**-2.0**
RUGZ	**Raukumara Rang**	**6.30**	**198**	P	**Pn**	**21 44 44.7**	**-2.5**
OUZ	**Omahuta**	**6.37**	**238**	P	**Pn**	**21 44 50.9**	**+3.0**
OUZ	**Omahuta**	**6.37**	**238**	P	**Pn**	**21 44 51.1**	**+3.2**
ABAZ	**Army Bay**	**6.38**	**223**	P	**Pn**	**21 44 52.7**	**+4.7**
WHRZ	**Whale Island**	**6.41**	**203**	P	**Pn**	**21 44 47.8**	**-0.7**
WHRZ				S	**S**	**21 46 05.7**	**+1.6**
TWGZ	**Tauwhareparae**	**6.42**	**196**	P	**Pn**	**21 44 46.9**	**-1.8**
TWGZ				S	**S**	**21 46 03.6**	**-0.8**
MBAZ	**Motutapu North**	**6.46**	**221**	P	**Pn**	**21 44 53.0**	**+4.0**
TGRZ	**Tauranga**	**6.56**	**208**	P	**Pn**	**21 44 50.6**	**+0.3**
MKAZ	**Moumakai**	**6.56**	**218**	P	**Pn**	**21 44 53.6**	**+3.3**
ETAZ	**East Tamaki Re**	**6.58**	**220**	P	**Pn**	**21 44 55.2**	**+4.7**
HBAZ	**Herne Bay Bore**	**6.61**	**221**	P	**Pn**	**21 44 55.5**	**+4.6**
EPAZ	**Eden Park BICE**	**6.62**	**221**	P	**Pn**	**21 44 55.5**	**+4.5**
RVAZ	**Riverhead Bore**	**6.64**	**223**	P	**Pn**	**21 44 55.8**	**+4.5**
KBAZ	**Karaka Road Bo**	**6.70**	**219**	P	**Pn**	**21 44 56.4**	**+4.4**
URZ	**Urewera**	**6.73**	**201**	P	**Pn**	**21 44 49.7**	**-2.7**
URZ	**Urewera**	**6.73**	**201**	P	**Pn**	**21 44 49.5**	**-2.9**
	722nm,0.3s,baz=348,slow=3.3,SNR=211						
URZ				S	**S**	**21 46 08.4**	**-2.8**
	3μm,0.7s,baz=49,slow=19,SNR=12						
URZ	**Urewera**	**6.73**	**201**	P	**Pn**	**21 44 49.6**	**-2.7**
URZ				S	**S**	**21 46 07.9**	**-3.4**
LIRZ	**Lichensteins R**	**6.75**	**206**	P	**Pn**	**21 44 52.1**	**-0.5**
WTAZ	**Waiatarua**	**6.76**	**222**	P	**Pn**	**21 44 57.0**	**+4.3**
AWAZ	**Awhitu Peninsu**	**6.81**	**221**	P	**Pn**	**21 44 56.9**	**+3.5**
KARZ	**Kaharoa**	**6.82**	**207**	P	**Pn**	**21 44 53.3**	**-0.1**
MKRZ	**Makatiti**	**6.84**	**205**	P	**Pn**	**21 44 56.3**	**+2.5**
OMRZ	**Omania**	**6.85**	**206**	P	**Pn**	**21 44 53.4**	**-0.4**
RAGZ	**Rawiri**	**6.87**	**198**	P	**Pn**	**21 44 51.3**	**-2.8**
TOZ	**Tahuroa Road**	**6.89**	**213**	P	**Pn**	**21 44 55.8**	**+1.5**
TOZ	**Tahuroa Road**	**6.89**	**213**	P	**Pn**	**21 44 56.2**	**+1.9**
TARZ	**Mount Tarawera**	**6.91**	**205**	P	**Pn**	**21 44 54.8**	**+0.1**
TARZ				S	**S**	**21 46 13.6**	**-1.8**
RIGZ	**Rimuhau**	**6.98**	**196**	P	**Pn**	**21 44 52.8**	**-2.6**
RIGZ				S	**S**	**21 46 09.8**	**-7.0**
MUGZ	**Murupara**	**7.04**	**202**	P	**Pn**	**21 44 53.7**	**-2.5**
MUGZ				S	**S**	**21 46 15.3**	**-2.9**
RTZ	**Ruatahuna**	**7.10**	**201**		**Pn**	**21 44 53.9**	**-3.1**
RTZ	**Ruatahuna**	**7.10**	**201**	P	**Pn**	**21 44 54.1**	**-2.8**
RTZ				S	**S**	**21 46 14.8**	**-4.8**
HRRZ	**Handcock Road**	**7.13**	**206**	P	**Pn**	**21 44 56.3**	**-0.9**
PRGZ	**Paritu Road**	**7.16**	**195**	P	**Pn**	**21 44 54.7**	**-2.9**
PRGZ				S	**S**	**21 46 14.7**	**-6.1**
KNZ	**Kokohu**	**7.30**	**196**	P	**Pn**	**21 44 56.1**	**-3.2**
KNZ				S	**S**	**21 46 17.4**	**-6.5**
RAHZ	**Arahi**	**7.35**	**199**	P	**Pn**	**21 44 57.2**	**-2.7**
RAHZ				S	**S**	**21 46 21.6**	**-3.6**
MTHZ	**Maungataniwha**	**7.36**	**201**	P	**Pn**	**21 44 57.1**	**-3.0**
MTHZ				S	**S**	**21 46 22.0**	**-3.4**
BKZ	**Black Stump Fm**	**7.76**	**202**	P	**Pn**	**21 45 01.6**	**-3.4**
BKZ	**Black Stump Fm**	**7.76**	**202**		**Pn**	**21 45 02.0**	**-3.0**
HIZ	**Hauiti**	**7.82**	**212**	P	**Pn**	**21 45 06.8**	**+1.0**
HIZ	**Hauiti**	**7.82**	**212**		**Pn**	**21 45 04.7**	**-1.0**
HIZ	**Hauiti**	**7.82**	**212**	P	**Pn**	**21 45 06.8**	**+1.0**
KATZ	**Kakaramea**	**7.86**	**206**	P	**Pn**	**21 45 06.7**	**+0.3**
KWHZ	**Kaweka Forest**	**8.01**	**201**	P	**Pn**	**21 45 04.8**	**-3.4**
NNVZ	**North Ngauruho**	**8.03**	**206**	P	**Pn**	**21 45 06.3**	**-2.1**
COVZ	**Chateau Observ**	**8.12**	**206**	P	**Pn**	**21 45 06.1**	**-3.4**
TUVZ	**Tukino**	**8.13**	**206**	P	**Pn**	**21 45 07.0**	**-2.7**
FWVZ	**Far West T-bar**	**8.16**	**206**	P	**Pn**	**21 45 07.3**	**-2.8**
MAVZ	**Matarangi**	**8.17**	**206**	P	**Pn**	**21 45 07.5**	**-2.8**
TRVZ	**Turoa**	**8.20**	**206**	P	**Pn**	**21 45 07.6**	**-3.1**
WNVZ	**Wahianoa**	**8.21**	**206**	P	**Pn**	**21 45 07.4**	**-3.3**
MOVZ	**Moawhango**	**8.22**	**205**	P	**Pn**	**21 45 06.8**	**-4.0**
PKVZ	**Pokaka**	**8.27**	**207**	P	**Pn**	**21 45 08.6**	**-2.7**
MTVZ	**Mangateitei**	**8.30**	**206**	P	**Pn**	**21 45 09.6**	**-2.1**
VRZ	**Vera Road**	**8.37**	**210**	P	**Pn**	**21 45 11.9**	**-0.6**
PXZ	**Pawanui**	**8.45**	**198**	P	**Pn**	**21 45 09.3**	**-4.2**
MHEZ	**Mangahewa**	**8.52**	**212**	P	**P**	**21 45 18.5**	**-1.7**
PNHZ	**Pukenui**	**8.53**	**201**	P	Pn	21 45 09.8	-4.7
WPHZ	**Waipukurau**	**8.60**	**200**	P	**Pn**	**21 45 11.0**	**-4.3**
DREZ	**Durham Road**	**8.67**	**213**	P	**Pn**	**21 45 16.4**	**+0.2**
PRHZ	**Porangahau**	**8.73**	**198**	P	**Pn**	**21 45 12.7**	**-4.3**
TSZ	**Takapari Road**	**8.74**	**202**	P	**Pn**	**21 45 12.7**	**-4.4**
PKE	**Pukeiti**	**8.77**	**213**	P	**Pn**	**21 45 18.8**	**+1.3**
NEZ	**North Egmont**	**8.78**	**213**	P	**Pn**	**21 45 17.8**	**+0.1**
LREZ	**Lake Rotokare**	**8.80**	**211**	P	**Pn**	**21 45 16.6**	**-1.2**
WAZ	**Wanganui**	**8.81**	**207**	P	**Pn**	**21 45 15.3**	**-2.7**
PREZ	**Palmer Road**	**8.81**	**212**	P	**Pn**	**21 45 18.2**	**+0.2**
KHEZ	**Kahui Hut**	**8.84**	**213**	P	**Pn**	**21 45 18.0**	**-0.4**
KHEZ	**Kahui Hut**	**8.84**	**213**	P	**Pn**	**21 45 18.2**	**-0.2**
NBEZ	**Newall Road No**	**8.89**	**214**	P	**Pn**	**21 45 20.5**	**+1.6**
DVHZ	**Dannevirke**	**8.89**	**200**	P	Pn	21 45 14.2	-4.8
ANWZ	**Angora Road**	**8.96**	**198**	P	**Pn**	**21 45 15.5**	**-4.2**
NMEZ	**Namu Road**	**9.00**	**213**	P	**Pn**	**21 45 21.7**	**+1.5**
OHWZ	**Ohakea**	**9.09**	**204**	P	**Pn**	**21 45 18.1**	**-3.2**
POWZ	**Post Office Ro**	**9.10**	**202**	P	**Pn**	**21 45 17.0**	**-4.6**
PRWZ	**Pori Road**	**9.19**	**201**	P	**Pn**	**21 45 18.1**	**-4.6**
BFZ	**Birch Farm**	**9.23**	**199**	P	Pn	21 45 18.0	-5.1
BFZ	**Birch Farm**	**9.23**	**199**		Pn	21 45 18.2	-4.9
BFZ	**Birch Farm**	**9.23**	**199**	P	Pn	21 45 18.3	-4.8
MRZ	**Mangatainoka R**	**9.41**	**202**	Pn	Pn	21 45 20.0	-5.3
MRZ	**Mangatainoka R**	**9.41**	**202**	P	Pn	21 45 20.1	-5.2
TIWZ	**Tintock**	**9.42**	**200**	P	**Pn**	**21 45 20.8**	**-4.6**
CPWZ	**Castlepoint**	**9.45**	**199**	P	**Pn**	**21 45 21.9**	**-4.0**
HOWZ	**Holdsworth Sta**	**9.64**	**202**	P	Pn	21 45 22.7	-5.6
OGWZ	**Otaki Gorge**	**9.68**	**203**	P	Pn	21 45 23.3	-5.4
TMWZ	**Te Maipa**	**9.72**	**200**	P	Pn	21 45 24.0	-5.2
KIW	**Kapiti Island**	**9.81**	**204**	P	Pn	21 45 24.9	-5.4
MTW	**Mount Morrison**	**9.88**	**201**	P	Pn	21 45 25.4	-5.8
CAW	**Cannon Point**	**9.98**	**203**	P	Pn	21 45 26.6	-5.7
TRWZ	**Traveller**	**10.05**	**200**	P	Pn	21 45 28.0	-5.2
PAWZ	**Paruwai Farm**	**10.11**	**201**	P	Pn	21 45 28.5	-5.5
MSWZ	**Moikau Station**	**10.20**	**201**	Pn	Pn	21 45 29.4	-5.7
SNZO	**South Karori**	**10.28**	**204**	P	Pn	21 45 30.6	-5.4
SNZO	**South Karori**	**10.28**	**204**		Pn	21 45 30.5	-5.6
BHW	**Baring Head**	**10.31**	**203**		Pn	21 45 30.3	-6.2
PLWZ	**Palliser**	**10.33**	**201**		Pn	21 45 30.3	-6.5
TCW	**Tory Channel**	**10.34**	**206**		Pn	21 45 30.9	-5.9
TCW	**Tory Channel**	**10.34**	**206**	P	Pn	21 45 30.8	-6.0
TUWZ	**Tuamarina**	**10.66**	**206**		Pn	21 45 34.9	-5.8
NNZ	**Nelson**	**10.70**	**209**		Pn	21 45 36.1	-5.1
TKNZ	**Takaka Hill**	**10.72**	**211**		Pn	21 45 36.3	-5.3
QRZ	**Quartz Range**	**10.75**	**213**	P	**Pn**	**21 45 38.0**	**-3.8**
QRZ	**Quartz Range**	**10.75**	**213**	Pn	**Pn**	**21 45 37.7**	**-4.2**
CMWZ	**Cape Campbell**	**10.84**	**204**		Pn	21 45 37.8	-5.1
BSWZ	**Blackbirch Sta**	**10.93**	**206**		Pn	21 45 38.8	-5.3
NFK	**Norfolk Island**	**10.96**	**282**	P	**P**	**21 45 48.4**	**+0.8**
MRNZ	**Matariki Terra**	**11.11**	**210**		Pn	21 45 41.4	-4.9
THZ	**Tophouse**	**11.35**	**209**	Pn	Pn	21 45 44.0	-5.2
KHZ	**Kahutara**	**11.66**	**205**	P	Pn	21 45 48.2	-4.8
KHZ	**Kahutara**	**11.66**	**205**		Pn	21 45 47.4	-5.6
DSZ	**Denniston Nort**	**11.81**	**212**	Pn	Pn	21 45 49.9	-5.0
GVZ	**Greta Valley S**	**12.33**	**205**	Pn	Pn	21 45 56.1	-5.0
LTZ	**Lake Taylor**	**12.46**	**208**	Pn	Pn	21 45 57.8	-5.0
AMCZ	**Amberley**	**12.65**	**206**	Pn	Pn	21 45 60.0	-5.1
INZ	**Inchbonnie**	**12.76**	**210**	Pn	Pn	21 46 00.3	-6.0
OXZ	**Oxford**	**13.01**	**207**	Pn	Pn	21 46 03.5	-5.9
MQZ	**McQueen's Vall**	**13.11**	**205**	Pn	Pn	21 46 05.2	-5.3
RPZ	**Rata Peaks**	**13.73**	**209**	P	**P**	**21 46 15.5**	**-2.6**
RPZ	**Rata Peaks**	**13.73**	**209**	P	P	21 46 13.2	-4.8
	290nm,0.5s,baz=9.9,slow=1.2,SNR=91						
RPZ				S	S	21 48 36.1	-14
	1μm,0.7s,baz=11,slow=16,SNR=20						
FOZ	**Fox Glacier**	**14.12**	**212**		**P**	**21 46 18.0**	**-4.3**
MSVF	**Nonsavu**	**14.34**	**352**	P	**P**	**21 46 24.0**	**-1.1**
MSVF	**Nonsavu**	**14.34**	**352**		**P**	**21 46 21.5**	**-3.6**
MSVF	**Nonsavu**	**14.34**	**352**	*i* P	**P**	**21 46 24.1**	**-1.1**
LBZ	**Lake Benmore**	**14.64**	**210**		**P**	**21 46 24.5**	**-3.6**
PINNC	**Pines Island,**	**14.67**	**306**	P	**Pn**	**21 46 30.5**	**+1.0**
PINNC	**Pines Island,**	**14.67**	**306**		**P**	**21 46 24.8**	**-3.9**
ODZ	**Otahua Downs**	**15.00**	**207**	P	**P**	**21 46 28.9**	**-3.1**
ODZ	**Otahua Downs**	**15.00**	**207**	P	**P**	**21 46 29.1**	**-3.0**
JCZ	**Jackson Bay**	**15.01**	**213**	P	**P**	**21 46 29.6**	**-2.7**
MARNC	**Mare, Loyalty**	**15.07**	**311**	P	**Pn**	**21 46 37.8**	**+3.5**
OUENC	**Ouen Island, N**	**15.22**	**306**	P	**Pn**	**21 46 37.1**	**+1.1**
OUENC	**Ouen Island, N**	**15.22**	**306**		**P**	**21 46 30.9**	**-3.8**
TAVE	**Taveuni**	**15.22**	**360**	P	**P**	**21 46 34.5**	**-0.3**
YSA	**Yasawairara**	**15.42**	**351**	P	**P**	**21 46 36.0**	**-0.9**
YATNC	**Mamie plateau,**	**15.42**	**307**	P	**Pn**	**21 46 40.7**	**+2.3**
WKZ	**Wanaka**	**15.49**	**211**	P	**P**	**21 46 34.3**	**-3.2**
ONTNC	**Ouen Toro**	**15.56**	**305**	P	**Pn**	**21 46 41.3**	**+1.3**
ONTNC	**Ouen Toro**	**15.56**	**305**	P	**P**	**21 46 38.8**	**+0.4**
NIUE	**Niue**	**15.65**	**37**	P	**P**	**21 46 38.9**	**-0.5**
	baz=16,SNR=14						
NIUE				S	**S**	**21 49 24.3**	**-5.2**
	baz=16,SNR=14						
NIUE	**Niue**	**15.65**	**37**	P	**P**	**21 46 38.3**	**-1.1**
NIUE	**Niue**	**15.65**	**37**	P	**P**	**21 46 38.5**	**-0.9**
DZM	**Mont Dzumac**	**15.72**	**306**	P	**Pn**	**21 46 43.0**	**+1.0**
DZM	**Mont Dzumac**	**15.72**	**306**	P	**P**	**21 46 40.1**	**-0.2**
DZM	**Mont Dzumac**	**15.72**	**306**	P	**P**	**21 46 39.5**	**-0.8**
	34nm,0.7s,baz=128,slow=16,SNR=23						
DZM				S	**S**	**21 49 23.0**	**-8.2**
	25nm,1.0s,baz=144,slow=17,SNR=1.6						
DZM				PcP	**PcP**	**21 51 23.1**	**+1.2**
	12nm,0.7s,baz=138,slow=13,SNR=2.3						
DZM				ScP	**ScP**	**21 54 28.2**	**-0.1**
	12nm,0.5s,baz=141,slow=13,SNR=12						
NOUC	**Port Laguerre**	**15.80**	**305**	P	**Pn**	**21 46 43.2**	**+0.4**
LIFNC	**LIFOU**	**16.09**	**311**	P	**Pn**	**21 46 49.4**	**+1.1**
LIFUC	**LIFOU**	**16.09**	**311**	P	**P**	**21 46 44.2**	**0.0**
MLZ	**Mavora Lakes**	**16.31**	**212**	P	**P**	**21 46 43.3**	**-3.1**
WHZ	**Wether Hill Ro**	**16.80**	**211**	P	**P**	**21 46 49.4**	**-2.3**
SYZ	**Scrubby Hill**	**16.82**	**207**	P	**P**	**21 46 53.2**	**+1.3**
DCZ	**Deep Cove**	**16.82**	**213**	P	**P**	**21 46 48.5**	**-3.5**
DVP	**Devils Point**	**17.88**	**320**	P	**Pn**	**21 47 05.8**	**-1.4**
LHI	**Lord Howe Isla**	**17.97**	**266**	P	**Pn**	**21 47 07.9**	**-0.2**
AFI	**Afiamalu**	**19.45**	**24**	P	**P**	**21 47 20.0**	**-0.6**
AFI	**Afiamalu**	**19.45**	**24**	P	**P**	**21 47 18.3**	**-2.3**
AFI	**Afiamalu**	**19.45**	**24**	P	**P**	**21 47 18.3**	**-2.3**
RAR	**Rarotonga**	**20.86**	**64**	P	**P**	**21 47 30.1**	**-4.9**
RAR	**Rarotonga**	**20.86**	**64**		**P**	**21 47 35.1**	**+0.1**
RAR	**Rarotonga**	**20.86**	**64**	P	**P**	**21 47 35.6**	**+0.7**
	130nm,1.0s,baz=228,slow=11,SNR=9.1						
	130nm,1.0s						
RAR	**Rarotonga**	**20.86**	**64**	P	**P**	**21 47 35.1**	**+0.1**
GC1S	**Gold Coast 1 S**	**23.37**	**272**	P	**P**	**21 48 00.7**	**+2.7**
FUNA	**Funafuti**	**23.38**	**358**	P	**P**	**21 47 57.2**	**-0.9**
FUNA	**Funafuti**	**23.38**	**358**	P	**P**	**21 47 56.7**	**-1.3**
AUWSH	**Wavell State H**	**23.99**	**274**	P	**P**	**21 48 05.7**	**+2.1**
NTLH	**Newcastle Hard**	**24.02**	**260**	P	**P**	**21 48 05.1**	**+1.3**
RIV	**Riverview**	**24.40**	**258**	P	**P**	**21 48 07.8**	**+0.6**
	baz=24,SNR=4.6						
RIV	**Riverview**	**24.40**	**258**	P	**P**	**21 48 09.9**	**+2.7**
ARMA	**Armidale**	**24.45**	**266**	P	**P**	**21 48 08.4**	**+0.6**
	baz=24,SNR=66						
ARMA	**Armidale**	**24.45**	**266**	P	**P**	**21 48 11.0**	**+3.2**
ARMA	**Armidale**	**24.45**	**266**	P	**P**	**21 48 10.0**	**+2.2**
ARMA				IAmb	IAmb	21 48 12.5	
	comp=Z,87nm,0.8s						
MGCD	**Mangrove Creek**	**24.49**	**259**	P	**P**	**21 48 11.2**	**+3.1**
	baz=24,SNR=57						
MGCD				S	S	21 51 38.8	-28
	baz=24,SNR=5.6						
MGCD	**Mangrove Creek**	**24.49**	**259**	P	**P**	**21 48 11.3**	**+3.2**
WOLH	**Wollongong Har**	**24.61**	**256**	P	**P**	**21 48 11.8**	**+2.8**
SYDH	**Sydney Hard Ro**	**24.75**	**258**	P	**P**	**21 48 13.1**	**+2.7**
AUUHS	**Ulladulla High**	**24.91**	**254**	P	**P**	**21 48 13.6**	**+1.8**
AUPHS	**Peel High Scho**	**24.95**	**264**	P	**P**	**21 48 14.1**	**+1.9**
CNB	**Canberra Magne**	**25.82**	**254**	P	**P**	**21 48 22.8**	**+2.8**
	baz=26,SNR=27						
CNB	**Canberra Magne**	**25.82**	**254**	P	**P**	**21 48 23.0**	**+3.0**
MILA	**Mila**	**25.99**	**250**	P	**P**	**21 48 24.3**	**+2.8**
	baz=26,SNR=31						
MILA	**Mila**	**25.99**	**250**	P	**P**	**21 48 24.5**	**+3.0**
CAN	**Canberra**	**26.11**	**254**	P	**P**	**21 48 25.7**	**+3.1**
CAN	**Canberra**	**26.11**	**254**	P	**P**	**21 48 23.0**	**+0.4**
CAN	**Canberra**	**26.11**	**254**	P	**P**	**21 48 23.0**	**+0.4**
CAN				pmax	pmax		
	comp=Z,339nm,1.3s						
EIDS	**Eidsvold**	**26.32**	**277**	P	**P**	**21 48 25.6**	**+1.1**
	baz=26,SNR=50						
EIDS				S	**S**	**21 52 37.3**	**+1.6**
	baz=26,SNR=6.5						
EIDS	**Eidsvold**	**26.32**	**277**	P	**P**	**21 48 26.0**	**+1.5**
EIDS	**Eidsvold**	**26.32**	**277**	P	**P**	**21 48 25.7**	**+1.2**
EIDS				IAmb	IAmb	21 48 26.8	
	comp=Z,136nm,0.7s						
AUSMG	**Snowy Mountain**	**26.42**	**252**	P	**P**	**21 48 27.4**	**+2.1**
YNG	**Young**	**26.66**	**256**	P	**P**	**21 48 29.9**	**+2.5**
	baz=27,SNR=45						
YNG	**Young**	**26.66**	**256**	P	**P**	**21 48 30.1**	**+2.6**
AUDCS	**Dubbo College**	**26.68**	**261**	P	**P**	**21 48 28.8**	**+1.2**
GD1S	**Gladstone Soft**	**26.84**	**280**	P	**P**	**21 48 30.3**	**+1.2**
GLAD	**Gladstone**	**27.25**	**242**	P	**P**	**21 48 33.9**	**+1.3**
RK1H	**Rockhampton Ha**	**27.59**	**281**	P	**P**	**21 48 37.1**	**+1.4**
AULRC	**Lightning Ridg**	**27.75**	**267**	P	**P**	**21 48 39.3**	**+2.1**
RMQ	**Roma**	**27.91**	**273**	P	**P**	**21 48 38.0**	**-0.6**
	baz=28,SNR=5.6						
RMQ				S	**S**	**21 53 03.7**	**+3.1**
	baz=28,SNR=4.7						
RMQ	**Roma**	**27.91**	**273**	P	**P**	**21 48 41.1**	**+2.5**
CORO	**Coronation Par**	**27.97**	**241**	P	**P**	**21 48 41.7**	**+2.8**
TAU	**Tasmania Unive**	**28.11**	**238**	P	**P**	**21 48 39.9**	**-0.2**
TAU	**Tasmania Unive**	**28.11**	**238**	P	**P**	**21 48 38.7**	**-1.4**
TAU	**Tasmania Unive**	**28.11**	**238**	P	**P**	**21 48 38.7**	**-1.4**
TAU				pmax	pmax		
	comp=Z,277nm,1.4s						
MOO	**Moorlands**	**28.11**	**239**	P	**P**	**21 48 42.2**	**+2.1**
	baz=28,SNR=9.8						
MOO	**Moorlands**	**28.11**	**239**	P	**P**	**21 48 39.8**	**-0.4**
TOO	**Toolangi**	**28.92**	**249**	P	**P**	**21 48 49.7**	**+2.2**
	baz=29,SNR=55						
TOO	**Toolangi**	**28.92**	**249**	P	**P**	**21 48 47.8**	**+0.3**
TOO	**Toolangi**	**28.92**	**249**	P	**P**	**21 48 48.0**	**+0.5**
TOO	**Toolangi**	**28.92**	**249**	P	**P**	**21 48 48.0**	**+0.5**
TOO				pmax	pmax		
	comp=Z,302nm,1.2s						
CMSA	**Cobar Meteorol**	**29.26**	**262**	P	**P**	**21 48 52.3**	**+1.9**
	baz=29,SNR=544						
CMSA	**Cobar Meteorol**	**29.26**	**262**	P	**P**	**21 48 51.7**	**+1.3**
HNR	**Honiara**	**29.26**	**316**	P	**P**	**21 48 52.7**	**+2.1**
MLBS	**Spotswood, Mel**	**29.40**	**249**	P	**P**	**21 48 54.2**	**+2.6**
AUMAG	**Moama Anglican**	**29.54**	**252**	P	**P**	**21 48 54.4**	**+1.5**
GEXS	**Deakin Univers**	**29.88**	**248**	P	**P**	**21 48 58.6**	**+2.8**
BRAT	**Ballarat**	**30.16**	**249**	P	**P**	**21 49 00.7**	**+2.4**
PPTF	**Pamatai, Papee**	**30.86**	**70**	P	**P**	**21 48 59.2**	**-5.5**
PPTF	**Pamatai, Papee**	**30.86**	**70**	P	**P**	**21 49 06.6**	**+2.0**
PPT	**Papeete**	**30.86**	**69**	P	**P**	**21 49 06.4**	**+1.8**
	comp=Z,153nm,0.6s,baz=252,slow=20,SNR=13						
	comp=Z,153nm,0.6s						
QLP	**Quilpie**	**31.72**	**270**	P	**P**	**21 49 13.1**	**+1.1**
	baz=32,SNR=89						
QLP	**Quilpie**	**31.72**	**270**	P	**P**	**21 49 12.8**	**+0.8**
ARPS	**Mount Arapiles**	**31.86**	**251**	P	**P**	**21 49 14.8**	**+1.6**
	baz=32,SNR=28						
ARPS	**Mount Arapiles**	**31.86**	**251**	P	**P**	**21 49 14.7**	**+1.6**
AUAYR	**Ayr State High**	**31.87**	**285**	P	**P**	**21 49 14.7**	**+1.3**
TV1H	**Townsville Har**	**32.53**	**285**	P	**P**	**21 49 20.4**	**+1.3**
CTAO	**Charters Tower**	**32.58**	**283**	P	**P**	**21 49 21.1**	**+1.

VNDA **Vanda** 46.36 185 P **P** 21 51 13.2 +1.4
VNDA **Vanda** 46.36 185 P **P** 21 51 14.5 +2.7
comp=Z,21nm,0.5s,baz=2.8,slow=8.7,SNR=24
VNDA PcP **sP** 21 52 43.4 -0.1
comp=Z,55nm,1.0s,baz=0.5,slow=4.8,SNR=10
VNDA ScP **ScP** 21 56 06.4 -0.4
comp=Z,4.9nm,0.8s,baz=15,slow=4.2,SNR=5.4
comp=Z,21nm,0.5s
VNDA **Vanda** 46.36 185 P **P** 21 51 13.2 +1.4
VNDA pmax pmax
comp=Z,101nm,1.2s
VNDA **Vanda** 46.36 185 ⇑P **P** 21 51 14.5 +2.7
VNDA PcP **sP** 21 52 43.4 -0.1
VNDA ScP **ScP** 21 56 07.4 +0.6
JAY Jayapura 47.30 300 P **P** 21 51 19.5 -0.4
GENI Genyem 47.64 300 P **P** 21 51 22.5 0.0
GENI Genyem 47.64 300 P **P** 21 51 24.1 +1.6
KDU Kakadu 47.70 283 P **P** 21 51 22.0 -1.0
baz=48,SNR=7.4
KDU Kakadu 47.70 283 P **P** 21 51 22.0 -1.0
MTN Manton Dam 48.73 281 P **P** 21 51 30.1 -0.6
baz=49,SNR=22
MTN Manton Dam 48.73 281 P **P** 21 51 29.9 -0.9
MTN Manton Dam 48.73 281 P **P** 21 51 30.2 -0.6
MTN IAmb IAmb 21 51 31.2
comp=Z,137nm,0.8s
KMBL Kambalda 49.08 254 P **P** 21 51 32.5 -0.8
baz=49,SNR=87
KMBL Kambalda 49.08 254 P **P** 21 51 32.2 -1.1
JOHN Johnston Islan 49.45 13 P **P** 21 51 35.6 -0.4
JOHN Johnston Islan 49.45 13 P **P** 21 51 35.7 -0.3
JOHN Johnston Islan 49.45 13 P **P** 21 51 36.5 +0.5
FITZ Fitzroy Crossi 50.83 272 P **P** 21 51 46.2 -0.3
baz=51,SNR=111
CCD Concordia, Ant 50.99 196 P **P** 21 51 48.1 +0.8
CCD PcP **PcP** 21 52 59.2 +0.3
KLBR Kellerberrin 52.37 253 P **P** 21 51 56.7 -1.0
baz=52,SNR=219
KLBR Kellerberrin 52.37 253 P **P** 21 51 56.7 -1.0
NWAO Narrogin (SRO) 52.39 251 P **P** 21 51 56.8 -1.0
baz=52,SNR=9.4
NWAO P **P** 21 51 56.8 -1.0
baz=52,SNR=9.4
NWAO Narrogin (SRO) 52.39 251 P **P** 21 51 57.0 -0.8
NWAO Narrogin (SRO) 52.39 251 P **P** 21 51 56.0 -1.8
NWAO IAmb IAmb 21 51 58.3
comp=Z,267nm,1.6s
NWAO Narrogin (SRO) 52.39 251 P **P** 21 51 57.0 -0.8
NWAO P **P** 21 51 57.0 -0.8
NWAO Narrogin (SRO) 52.39 251 P **P** 21 51 56.0 -1.8
NWAO pmax pmax
comp=Z,267nm,1.7s
NWAO Narrogin (SRO) 52.39 251 P **P** 21 51 56.6 -1.2
NWAO PcP **pwP** 21 53 03.0 +0.7
CASY Casey 53.00 208 P **P** 21 52 00.3 -1.4
CASY Casey 53.00 208 P **P** 21 52 01.3 -0.4
CASY PcP **PcP** 21 53 06.2 +0.1
MEEK Meekatharra 53.33 259 P **P** 21 52 03.5 -1.3
baz=53,SNR=149
MEEK Meekatharra 53.33 259 P **P** 21 52 03.6 -1.2
FAKI Fak Fak 53.47 293 P **P** 21 52 06.9 +1.0
FAKI Fak Fak 53.47 293 P **P** 21 52 03.7 -2.2
FAKI IAmb IAmb 21 52 07.6
comp=Z,152nm,0.9s
FAKI Fak Fak 53.47 293 P **P** 21 52 06.8 +0.9
MUN Mundaring 53.51 252 P **P** 21 52 05.1 -0.8
baz=53,SNR=24
MUN Mundaring 53.51 252 P **P** 21 52 05.1 -0.8
BLDU Ballidu 53.53 254 P **P** 21 52 04.9 -1.3
baz=53,SNR=21
BLDU Ballidu 53.53 254 P **P** 21 52 04.7 -1.5
MTKN Mount Kenneth 53.87 252 P **P** 21 52 09.6 +1.1
PSA00 Pilbara Seismi 54.26 265 P **P** 21 52 10.4 -1.1
PSA00 Pilbara Seismi 54.26 265 P **P** 21 52 09.7 -1.8
PSA00 IAmb IAmb 21 52 11.6
comp=Z,234nm,1.6s
PSA00 Pilbara Seismi 54.26 265 P **P** 21 52 09.4 -2.0
PSA00 IAmb IAmb 21 52 11.6
comp=Z,88nm,1.6s
MBWA Marble Bar 54.53 266 P **P** 21 52 12.1 -1.3
MBWA Marble Bar 54.53 266 P **P** 21 52 12.2 -1.2
MBWA IAmb IAmb 21 52 13.4
comp=Z,183nm,1.4s
MBWA Marble Bar 54.53 266 P **P** 21 52 12.4 -1.0
MBWA Marble Bar 54.53 266 P **P** 21 52 12.0 -1.3
MBWA PcP **PcP** 21 53 11.1 -1.7
MORW Morawa 54.60 255 P **P** 21 52 12.5 -1.3
baz=54,SNR=35
MORW Morawa 54.60 255 P **P** 21 52 12.9 -0.9
MORW Morawa 54.60 255 P **P** 21 52 12.2 -1.6
MORW IAmb IAmb 21 52 14.4
comp=Z,303nm,1.9s
SWI Sorong 55.52 294 P **P** 21 52 19.7 -0.8
SOEI Soe 56.07 280 P **P** 21 52 25.6 +1.0
SOEI Soe 56.07 280 P **P** 21 52 23.9 -0.7
SOEI IAmb IAmb 21 52 29.7
comp=Z,171nm,1.1s
SOEI Soe 56.07 280 P **P** 21 52 25.9 +1.3
HUH Hualalai 56.30 27 P **P** 21 52 26.6 +0.5
BATI Baumata 56.34 279 P **P** 21 52 27.6 +1.2
HMH Humu'ula Sheep 56.36 28 P **P** 21 52 27.0 +0.4
POHA Pohakuloa 56.48 28 P **P** 21 52 25.9 -1.5
HPAH Hawaii Prepara 56.66 27 P **P** 21 52 28.9 +0.4
MHA Mahukona 56.72 27 P **P** 21 52 29.3 +0.5
MHA Mahukona 56.72 27 P **P** 21 52 29.3 +0.5
HON Honolulu 56.99 24 P **P** 21 52 31.8 +1.2
HON Honolulu 56.99 24 P **P** 21 52 31.8 +1.2
HON pmax pmax
comp=Z,246nm,0.8s
KEKH Kekaha 57.02 22 P **P** 21 52 31.3 +0.5
KEKH IAmb IAmb 21 52 32.0
comp=Z,139nm,0.8s
KIP Kipapa 57.08 24 P **P** 21 52 29.2 -2.0
KIP Kipapa 57.08 24 P **P** 21 52 29.1 -2.1
KIP Kipapa 57.08 24 *ce*P **P** 21 52 32.3 +1.1
KIP pmax pmax
comp=Z,215nm,1.7s
OPA Opana 57.32 24 P **P** 21 52 33.7 +0.8
OPA IAmb IAmb 21 52 34.7
comp=Z,119nm,0.9s
OPA Opana 57.32 24 P **P** 21 52 33.7 +0.8
OPA pmax pmax
comp=Z,119nm,0.9s
QSPA South Pole Qui 58.11 180 P **P** 21 52 39.9 +1.8
QSPA South Pole Qui 58.11 180 P **P** 21 52 41.1 +3.1
comp=Z,779nm,0.6s,baz=28,slow=0.9,SNR=2072
QSPA ScP **ScP** 21 56 58.0 -0.1
comp=Z,25nm,1.2s,baz=46,slow=2.9,SNR=3.8
QSPA S **S** 22 00 20.2 +4.5
comp=Z,5.4nm,0.8s,baz=187,slow=19,SNR=3.3
QSPA South Pole Qui 58.11 180 ⇑P **P** 21 52 41.2 +3.1
QSPA PcP **PcP** 21 53 27.9 +1.7
QSPA ScP **ScP** 21 56 58.3 +0.2
MMRI Maumere 58.36 280 P **P** 21 52 40.1 -0.3
MMRI Maumere 58.36 280 P **P** 21 52 37.6 -2.8
MMRI Maumere 58.36 280 P **P** 21 52 40.5 +0.1
GIRL Giralia 58.55 261 P **P** 21 52 41.8 +0.3
baz=58,SNR=23
LBMI Labuha 58.61 291 P **P** 21 52 43.0 +0.9
EDFI Ende, Flores 58.76 280 P **P** 21 52 42.6 -0.6
SANI Sanana 58.97 289 P **P** 21 52 45.2 +0.7
SANI Sanana 58.97 289 P **P** 21 52 45.4 +0.9
TNTI Ternate 59.58 293 P **P** 21 52 48.7 +0.1
TNTI Ternate 59.58 293 P **P** 21 52 47.2 -1.5
TNTI Ternate 59.58 293 P **P** 21 52 48.8 +0.1
MIDW Midway 59.93 2 P **P** 21 52 49.8 -0.8
MIDW Midway 59.93 2 P **P** 21 52 49.4 -1.2
MIDW IAmb IAmb 21 52 51.3
comp=Z,140nm,0.8s
MIDW Midway 59.93 2 P **P** 21 52 49.9 -0.7
PLAI Plampang 62.01 277 P **P** 21 53 04.6 -0.4
PLAI Plampang 62.01 277 P **P** 21 53 04.3 -0.7
KMSI Cibinong 62.14 290 P **P** 21 53 06.4 +0.6
KAPI Kappang 62.39 282 P **P** 21 53 08.4 +0.9
KAPI Kappang 62.39 282 P **P** 21 53 06.8 -0.7
KAPI IAmb IAmb 21 53 10.7
comp=Z,162nm,1.6s
KAPI Kappang 62.39 282 *i*P **P** 21 53 04.9 -2.6
KAPI pmax pmax
comp=Z,104nm,1.6s
TTSI Tana Toraja 63.42 284 P **P** 21 53 13.5 -0.8
SRBI Singaraja 64.56 276 P **P** 21 53 21.2 -0.4
DAV Davao City (W) 64.92 297 P **P** 21 53 24.5 +0.6

TOLI2 Tolitoli 65.02 288 P **P** 21 53 22.7 -1.9
TOLI2 Tolitoli 65.02 288 P **P** 21 53 23.0 -1.6
TOLI2 IAmb IAmb 21 53 26.3
comp=Z,50nm,0.7s
JAGI Jajag, Banyuwa 65.25 276 P **P** 21 53 24.9 -1.2
JAGI Jajag, Banyuwa 65.25 276 P **P** 21 53 23.8 -2.3
JAGI IAmb IAmb 21 53 25.8
comp=Z,86nm,0.9s
JAGI Jajag, Banyuwa 65.25 276 P **P** 21 53 25.1 -1.0
MPSI Mapaga 65.29 287 P **P** 21 53 24.6 -1.7
BLJI Banyuglugur 66.10 276 P **P** 21 53 31.5 0.0
PWJI Pagerwojo 67.47 275 P **P** 21 53 40.0 -0.1
BELA Belgrano 2 68.41 173 P **P** 21 53 45.6 +0.7
SMAI San Martin Ant 68.53 158 P **P** 21 53 46.7 +1.0
MTKI Muara Teweh, K 68.67 283 P **P** 21 53 47.2 -0.3
MYLDM Lahad Datu 69.26 290 P **P** 21 53 49.9 -1.2
MYLDM IAmb IAmb 21 54 16.7
comp=Z,138nm,1.9s
MAW Mawson 70.26 201 P **P** 21 53 56.4 +0.1
comp=Z,101nm,1.1s,baz=122,slow=8.7,SNR=71
MAW PcP **PcP** 21 54 16.4 +0.4
comp=Z,47nm,0.8s,baz=117,slow=4.5,SNR=7.7
comp=Z,101nm,1.1s
PMSA Palmer Station 71.45 156 P **P** 21 54 05.2 +1.8
PMSA Palmer Station 71.45 156 *e*P **P** 21 54 05.5 +2.1
PMSA Palmer Station 71.45 156 ⇑P **P** 21 54 06.0 +2.6
STKI Sintang 72.06 282 P **P** 21 54 07.6 -0.4
DBJI Dramaga 72.51 273 P **P** 21 54 09.8 -0.8
SBUM Sibu 72.78 284 P **P** 21 54 11.3 -0.8
KSM Kuching 73.81 282 P **P** 21 54 17.1 -1.1
KSM Kuching 73.81 282 P **P** 21 54 17.3 -0.9
KSM IAmb IAmb 21 54 20.4
comp=Z,40nm,0.7s
KASI Kota Agung 74.96 273 P **P** 21 54 22.6 -2.1
MG03 Isla Dawson 75.05 145 P **P** 21 54 25.7 +1.2
MG03 IAmb IAmb 21 54 27.4
comp=Z,87nm,0.8s
ELIB Princess Elisa 75.08 187 *d*P **P** 21 54 25.4 +0.8
comp=Z,192nm,0.7s
ELIB *d*PcP **PcP** 21 54 37.0 +0.2
ELIB *d*pP pP 21 55 20.1 -10
ELIB *d*S **S** 22 03 35.5 -2.6
PPBI Pangkal Pinang 75.34 277 P **P** 21 54 25.8 -1.1
LWLI Liwa 75.59 273 P **P** 21 54 27.4 -1.1
TROLL Troll, Antarti 76.27 181 ⇑P **P** 21 54 33.0 +1.7
comp=Z,777nm,0.2s
SNAA Sanae 76.60 179 P **P** 21 54 34.4 +1.3
SNAA Sanae 76.60 179 ⇑P **P** 21 54 34.7 +1.6
comp=Z,5μm,0.4s
SNAA ⇑S **S** 22 03 55.1 +0.5
comp=Z,52nm,0.8s
SNAA Sanae 76.60 179 P **P** 21 54 34.5 +1.4
comp=Z,563nm,1.0s,baz=177,slow=12,SNR=1472
SNAA S **S** 22 03 56.6 +2.0
comp=Z,4.4nm,1.1s,baz=114,slow=20,SNR=9.2
SNAA Sanae 76.60 179 *d*P **P** 21 54 32.6 -0.5
SNAA pmax pmax
comp=Z,747nm,1.2s
JOW Kunigami 76.61 314 P **P** 21 54 34.4 +0.7
JOW Kunigami 76.61 314 P **P** 21 54 33.9 +0.2
JOW IAmb IAmb 21 54 35.1
comp=Z,46nm,0.7s
VNA3 Neumayer Olymp 76.81 177 ⇑P **P** 21 54 35.8 +1.6
comp=Z,276nm,0.4s
VNA3 ⇑S **S** 22 03 57.1 +0.3
comp=Z,6.4nm,1.0s
GO08 Villa O'Higgin 76.95 139 P **P** 21 54 36.7 +1.3
GO08 IAmb IAmb 21 54 38.7
comp=Z,45nm,0.8s
NVL N'lazarevskaya 77.19 184 ⇑*i*P **P** 21 54 34.1 -2.2
NVL *e*S **S** 22 04 02.6 +1.9
NVL pmax pmax
comp=Z,300nm,0.7s
VNA2 Neumayer--Watz 77.22 177 ⇑P **P** 21 54 38.4 +1.8
comp=Z,318nm,0.4s,baz=193,slow=6.0
VNA2 ⇑S **S** 22 04 02.1 +0.9
comp=Z,5.0nm,0.8s,baz=157,slow=3.5
VNA1 Neumayer--Stat 77.46 177 ⇑P **P** 21 54 39.8 +2.0
comp=Z,902nm,1.2s
VNA1 ⇑S **S** 22 04 04.8 +1.1
comp=Z,26nm,1.1s
AY03 Cochrane 77.60 138 IAmb IAmb 21 54 42.6
comp=Z,88nm,0.8s
INU Inuyama 78.30 325 P **P** 21 54 42.4 -0.4
INU Inuyama 78.30 325 P **P** 21 54 43.3 +0.5
JGF Kuroka 78.33 326 P **P** 21 54 42.2 -0.9
MJAR Matsushiro Arr 78.69 327 P **P** 21 54 43.4 -1.6
comp=Z,16nm,1.1s,baz=149,slow=5.7,SNR=18
MJAR pP **pP** 21 55 52.5 +0.9
comp=Z,7.0nm,1.0s,baz=163,slow=5.4,SNR=2.7
comp=Z,16nm,1.1s
MAJO Matsushiro 78.69 327 P **P** 21 54 43.9 -1.1
MAJO Matsushiro 78.69 327 P **P** 21 54 44.1 -0.8
MAJO Matsushiro 78.69 327 *i*P **P** 21 54 42.3 -2.7
MAJO pmax pmax
comp=Z,26nm,1.0s
MJB9 Matsu-Tunnel 78.70 327 P **P** 21 54 45.0 +0.1
YULB Yu-li 78.74 307 P **P** 21 54 44.0 -1.5
NACB Ninganchiao 79.07 307 P **P** 21 54 47.2 0.0
TPUB Ta-pu 79.14 306 P **P** 21 54 45.4 -2.3
TPUB Ta-pu 79.14 306 IAmb IAmb 21 54 48.1
comp=Z,69nm,0.8s
SSLB Suanglung 79.24 307 P **P** 21 54 45.7 -2.5
SSLB Suanglung 79.24 307 IAmb IAmb 21 54 48.5
comp=Z,42nm,0.9s
MYKOM Kota Tinggi 79.38 279 pP pP 21 55 47.6 -7.8
YHNB Yeheng 79.55 308 IAmb IAmb 21 55 16.8
comp=Z,170nm,2.0s
JNU Nakatsue 79.74 320 P **P** 21 54 49.7 -1.0
JNU Nakatsue 79.74 320 IAmb IAmb 21 54 52.1
comp=Z,65nm,1.0s
JNU pP pP 21 56 04.0 +6.5
JSD Sado 79.89 328 IAmb IAmb 21 54 53.0
comp=Z,27nm,0.6s
LL01 San Ignacio de 80.45 134 IAmb IAmb 21 54 58.0
comp=Z,83nm,1.3s
PDSI Padang 80.80 275 P **P** 21 54 54.3 -2.5
H03S2 Juan Fernandez 80.87 124 T T 23 24 35.5
baz=236,slow=74,SNR=33
H03S1 Juan Fernandez 80.88 124 T T 23 24 36.7
baz=236,slow=74,SNR=38
H03S3 Juan Fernandez 80.89 124 T T 23 24 35.5
baz=236,slow=74,SNR=43
BKNI Bangkinang 80.97 276 P **P** 21 54 57.3 -0.3
BKNI Bangkinang 80.97 276 P **P** 21 54 59.4 +1.8
H03N3 Juan Fernandez 81.08 124 T T 23 24 54.0
baz=240,slow=72,SNR=35
H03N2 Juan Fernandez 81.08 124 T T 23 24 44.3
baz=240,slow=72,SNR=45
H03N1 Juan Fernandez 81.09 124 T T 23 24 53.0
baz=240,slow=72,SNR=60
ERM Erimo 81.15 333 P **P** 21 54 59.2 +1.4
ERM IAmb IAmb 21 55 03.6
comp=Z,44nm,0.8s
ERM Erimo 81.15 333 P **P** 21 54 59.3 +1.4
ERM pmax pmax
comp=Z,45nm,0.8s
DLV T Lat 81.22 290 P **P** 21 54 59.0 -0.1
DLV T Lat 81.22 290 IAmb IAmb 21 55 01.1
comp=Z,53nm,0.8s
QZH Quanzhou 81.62 306 ⇑*i*P **P** 21 55 00.8 +0.1
QZH S **S** 22 04 44.0 -4.4
QZH pmax pmax
comp=Z,81nm,0.8s
SISI Saibi 81.74 274 P **P** 21 55 03.2 +1.5
EFI East Falkland 82.29 148 P **P** 21 55 05.7 +1.8
EFI East Falkland 82.29 148 P **P** 21 55 05.7 +1.8
EFI pmax pmax
comp=Z,439nm,1.4s
PLCA Paso Flores 82.55 134 P **P** 21 55 08.3 +2.7
comp=Z,76nm,0.8s,baz=232,slow=6.9,SNR=151
PLCA PKKPbc **PKKPbc** 22 13 29.2 +0.8
comp=Z,1.0nm,0.7s,baz=90,slow=2.0,SNR=3.7
comp=Z,76nm,0.8s
PLCA Paso Flores 82.55 134 *e*P **P** 21 55 08.0 +2.4
GO06 Curarrehue 82.64 132 IAmb IAmb 21 55 09.8
comp=Z,91nm,1.1s
PBSI Pulau Batu 83.10 274 P **P** 21 55 08.9 +0.2
JKA Kamikawa-asahi 83.16 334 IAmb IAmb 21 55 12.0
comp=Z,39nm,0.8s
IPM Ipoh 83.20 280 IAmb IAmb 21 55 09.3
comp=Z,29nm,0.6s
KULM Kulim 83.95 280 P **P** 21 55 12.0 -1.0
KULM IAmb IAmb 21 55 13.7
comp=Z,102nm,1.6s

SSE Sheshan 84.01 312 P **P** 21 55 13.5 +0.7
SSE pmax pmax
comp=Z,17nm,0.9s
SSE pmax pmax
comp=Z,48nm,3.8s
SSE LR LR
comp=Z,110nm,27.7s
SSE LR LR
comp=Z,120nm,27.7s
TJN Taejon 84.09 320 P **P** 21 55 13.2 +0.1
TJN Taejon 84.09 320 *ce*P **P** 21 55 14.4 +1.3
QIZ Qiongzhong 84.29 296 P **P** 21 55 15.4 +0.9
QIZ pP pP 21 56 12.0 -10
QIZ sP pwP 21 56 33.8 +8.3
QIZ S **S** 22 05 14.4 -1.0
QIZ pmax pmax
comp=Z,250nm,9.2s
GSI Gunungsitoli 84.41 275 P **P** 21 55 15.1 -0.2
GSI Gunungsitoli 84.41 275 P **P** 21 55 15.2 -0.1
GSI Gunungsitoli 84.41 275 P **P** 21 55 14.9 -0.4
KSRS Korea Array 84.58 321 P **P** 21 55 15.7 +0.2
comp=Z,26nm,0.8s,baz=138,slow=5.6,SNR=26
KSRS pP **pwP** 21 56 26.2 +0.9
comp=Z,6.8nm,0.8s,baz=131,slow=5.5,SNR=1.4
comp=Z,26nm,0.8s
KSAR Wonju Array Be 84.59 321 P **P** 21 55 15.5 -0.1
KSAR Wonju Array Be 84.59 321 P **P** 21 55 15.5 -0.1
KS19 Wonju Array Si 84.64 321 IAmb IAmb 21 55 17.9
comp=Z,35nm,0.9s
GO05 Huala 85.01 128 IAmb IAmb 21 55 21.3
comp=Z,126nm,1.3s
KCSI Kotacane, Aceh 85.42 277 P **P** 21 55 19.4 -0.9
UBPT Khong Chiam 85.52 291 P **P** 21 55 20.8 +0.1
UBPT Khong Chiam 85.52 291 IAmb IAmb 21 55 22.8
comp=Z,32nm,0.9s
YSS Yuzh-Sakhalins 85.53 335 P **P** 21 55 21.7 +1.8
YSS Yuzh-Sakhalins 85.53 335 P **P** 21 55 20.2 +0.3
YSS Yuzh-Sakhalins 85.53 335 *d*P **P** 21 55 21.3 +1.4
YSS *e**PP **pP** 21 56 26.4 -1.4
YSS *e**SP **sP** 21 56 50.4 -7.0
YSS *e* 21 58 48.8
YSS *e* 22 05 14.0
YSS *e*S **S** 22 05 30.2 +3.9
YSS *e* 22 07 00.5
YSS pmax pmax
comp=Z,400nm,2.6s
YSS pmax pmax
comp=Z,130nm,0.6s
YSS smax smax
comp=E,700nm,8.9s
BO01 Tunca 85.94 128 IAmb IAmb 21 55 25.8
comp=Z,91nm,1.6s
VA05 Santo Domingo 86.01 127 IAmb IAmb 21 55 25.2
comp=Z,55nm,1.1s
NJ2 Nanjing 86.12 312 *e*P **P** 21 55 24.3 +1.1
NJ2 pP **pP** 21 56 24.1 -6.9
NJ2 SKS **SKSac** 22 05 24.8 +3.7
NJ2 S **ScS** 22 05 42.6 +2.4
NJ2 pmax pmax
comp=Z,49nm,0.8s
NJ2 pmax pmax
comp=Z,170nm,4.3s
UNV Unalaska Valle 86.27 8 P **P** 21 55 25.3 +2.0
baz=191
SNCC San Nicolas Is 86.27 47 P **P** 21 55 25.3 +1.4
baz=228
BO04 La Punta 86.49 128 IAmb IAmb 21 55 28.6
comp=Z,115nm,1.8s
MT02 Curacav 86.57 127 IAmb IAmb 21 55 30.9
comp=Z,71nm,1.3s
SRIT Nakonsritamara 86.61 282 P **P** 21 55 26.0 0.0
SRIT Nakonsritamara 86.61 282 IAmb IAmb 21 55 27.4
comp=Z,19nm,0.6s
SCI2 San Clemente I 86.70 48 P **P** 21 55 27.0 +1.0
baz=228
MSHR Mys Shultsa 86.79 326 *ce*P **P** 21 55 28.6 +2.4
MSHR pmax pmax
comp=Z,27nm,0.8s
LMEL Las Melosas 86.85 128 IAmb IAmb 21 55 33.4
comp=Z,65nm,1.1s
MT13 San Alfonso 86.85 128 IAmb IAmb 21 55 30.7
comp=Z,52nm,0.7s
SBC Santa Barbara 86.95 46 P **P** 21 55 28.3 +1.1
baz=228
MLSI Meulaboh, Aceh 86.97 277 P **P** 21 55 27.0 -0.8
PEA0B Petropavlovsk- 86.99 347 *ce*P **P** 21 55 28.5 +1.6
PETK Petropavlovsk- 86.99 347 P **P** 21 55 27.5 +0.6
PETK Petropavlovsk- 86.99 347 P **P** 21 55 25.9 -1.0
comp=Z,22nm,0.8s,baz=129,slow=7.1,SNR=38
PETK PKiKP **PKiKP** 22 00 29.6 -0.6
comp=Z,2.1nm,0.7s,baz=108,slow=2.9,SNR=7.9
comp=Z,22nm,0.8s
CIS Catalina Islan 87.06 47 P **P** 21 55 29.4 +1.6
baz=228
PKM Mcpherson Peak 87.19 45 P **P** 21 55 30.3 +1.7
baz=227,SNR=5.9
MT08 Bocatoma Ro 87.21 128 IAmb IAmb 21 55 33.0
comp=Z,30nm,0.8s
VA03 San Esteban 87.26 127 IAmb IAmb 21 55 31.8
comp=Z,29nm,0.9s
FMP Fort Macarthur 87.34 47 P **P** 21 55 30.9 +1.8
baz=228
SMMC Simmler 87.37 45 P **P** 21 55 31.3 +2.0
baz=227
BCW Bitter Crk WRg 87.47 46 IAmb IAmb 21 55 32.8
comp=Z,42nm,0.8s
109C Camp Elliot, M 87.55 48 P **P** 21 55 32.2 +2.1
baz=229
CNSH ChangSha 87.58 305 ⇓P **P** 21 55 29.9 -0.4
CNSH S **S** 22 05 41.8 -5.0
CNSH pmax pmax
comp=Z,18nm,1.2s
CNSH LR LR
comp=Z,290nm,15.8s
CNSH LR LR
comp=Z,280nm,12.1s
UGL Uglegorsk 87.58 336 *e*P P 21 55 23.4 -6.4
UGL *e*S **SKSac** 22 05 28.4 -0.8
UGL pmax pmax
comp=Z,260nm,1.5s
UGL pmax pmax
comp=Z,100nm,1.1s
UGL smax smax
comp=E,830nm,6.0s
UGL smax smax
comp=N,1μm,5.5s
FALS False Pass 87.65 9 P **P** 21 55 32.8 +2.9
baz=194
USA0B Ussuriysk Arra 87.65 328 IAmb IAmb 21 55 32.9
comp=Z,78nm,1.2s
USA0B Ussuriysk Arra 87.65 328 *i*P **P** 21 55 30.0 -0.2
USRK Ussuriysk Ar. 87.65 328 P **P** 21 55 31.4 +1.2
USRK Ussuriysk Ar. 87.65 328 P **P** 21 55 30.6 +0.3
comp=Z,29nm,0.9s,baz=148,slow=3.6,SNR=48
USRK pP **pP** 21 56 41.0 +2.5
comp=Z,6.5nm,0.8s,baz=149,slow=4.3,SNR=3.4
comp=Z,29nm,0.9s
DECC Green Verdugo 87.68 47 P **P** 21 55 32.6 +1.9
baz=228
OSI Osito Audit: C 87.68 46 P **P** 21 55 32.7 +2.0
baz=228
BAR Barrett 87.69 49 IAmb IAmb 21 55 34.4
comp=Z,97nm,1.6s
ESJX Sierra Juarez 87.72 50 IAmb IAmb 21 55 35.3
comp=Z,115nm,1.8s
ELS Elsinore Mount 87.84 48 IAmb IAmb 21 55 35.1
comp=Z,145nm,1.9s
ARVC Arvin 87.95 46 P **P** 21 55 33.8 +1.9
baz=228
MURC Murrieta 87.96 48 P **P** 21 55 34.2 +2.2
baz=229
MONP2 Monument Peak 87.99 49 P **P** 21 55 34.3 +1.9
baz=229,SNR=14
IKP In-Ko-Pah, Jac 88.03 49 P **P** 21 55 34.4 +2.0
baz=230,SNR=7.7
WHN Wuhan 88.08 308 ⇑P **P** 21 55 33.4 +0.8
WHN SKS **SKSac** 22 05 32.6 -0.5
WHN S **S** 22 05 48.6 -2.9
WHN pmax pmax
comp=Z,110nm,1.3s
BFSC Mount Baldy Ra 88.09 47 P **P** 21 55 34.3 +1.5
baz=229,SNR=9.3
YUH Yuha Desert 88.15 49 IAmb IAmb 21 55 36.7
comp=Z,113nm,1.8s
CHNA Chernabura Isl 88.22 12 P **P** 21 55 35.0 +2.4
baz=197

VES	Vestal, Richgr	88.28	45	P	P	21 55 34.8	+1.4		
	baz=228								
EDW2	Edwards Air Fo	88.30	46	P	P	21 55 35.3	+1.6		
	baz=228,SNR=8.5								
KCPM	Cahto Peak	88.34	40	IAmb	IAmb	21 55 36.2			
	comp=Z,33nm,1.1s								
HOPE	Hope Point	88.42	159	P	P	21 55 34.5	+0.6		
HOPE	Hope Point	88.42	159	P	P	21 55 34.5	+0.6		
HOPE				pmax	pmax				
	comp=Z,420nm,1.5s								
VOG	Valley Oaks Go	88.42	45	P	P	21 55 35.6	+1.6		
	baz=228								
SWSC	Sam W. Stewart	88.42	49	P	P	21 55 36.2	+2.1		
	baz=230								
TPFO	Pinon Flats	88.43	48	P	P	21 55 36.6	+2.3		
	baz=229,SNR=9.5								
PFO	Pinyon Flats O	88.43	48	P	P	21 55 35.8	+1.4		
PFO				IAmb	IAmb	21 55 38.1			
	comp=Z,128nm,1.9s								
PFO	Pinyon Flats O	88.43	48	P	P	21 55 36.2	+1.8		
	baz=229								
PFO	Pinyon Flats O	88.43	48	*i* P	P	21 55 34.5	+0.1		
PFO				pmax	pmax				
	comp=Z,89nm,1.9s								
PMD	Palm Desert	88.50	48	IAmb	IAmb	21 55 38.2			
	comp=Z,123nm,1.9s								
BBRC	Big Bear Solar	88.56	48	P	P	21 55 37.2	+2.1		
	baz=229								
KMPM	Mount Pierce	88.57	39	IAmb	IAmb	21 55 39.2			
	comp=Z,125nm,1.6s								
SDPT	Sand Point	88.57	11	P	P	21 55 34.7	+0.5		
	baz=196								
KMRM	Mail Ridge	88.65	39	IAmb	IAmb	21 55 38.8			
	comp=Z,142nm,1.8s								
S12K	Black Hills	88.66	10	P	P	21 55 35.5	+0.8		
	baz=195								
P08K	Saint George I	88.68	6	P	P	21 55 36.0	+1.3		
	baz=189								
LRMC	Laurel Mtn Rad	88.89	46	P	P	21 55 38.5	+2.0		
	baz=229,SNR=13								
RRX	Edison Barstow	88.92	47	P	P	21 55 38.7	+2.2		
	baz=229								
BELC	Belle Mtn. Jos	88.97	48	P	P	21 55 39.1	+2.1		
	baz=230,SNR=20								
CMB	Columbia Colle	88.99	43	IAmb	IAmb	21 55 39.4			
	comp=Z,86nm,1.8s								
MDJ	Mudanjiang	89.08	327	P	P	21 55 36.4	-0.5		
MDJ				S	S	22 05 59.3	-0.8		
MDJ				sS	sS	22 07 43.3	-16		
MDJ				pmax	pmax				
	comp=Z,13nm,0.9s								
MDJ				pmax	pmax				
	comp=Z,170nm,3.6s								
DL2	Dalian	89.08	318	P	P	21 55 38.6	+1.5		
DL2				S	S	22 06 04.8	+4.4		
DL2				sS	sS	22 07 43.4	-16		
DL2				pmax	pmax				
	comp=Z,75nm,0.8s								
DL2				pmax	pmax				
	comp=Z,200nm,6.8s								
BC3	Big Chuckawall	89.10	49	P	P	21 55 40.1	+2.6		
	baz=230,SNR=26								
KHMM	Horse Mountain	89.10	39	IAmb	IAmb	21 55 40.8			
	comp=Z,78nm,1.7s								
GLA	Glamis	89.11	50	P	P	21 55 40.4	+2.9		
	baz=230,SNR=17								
HSIG		89.21	55	IAmb	IAmb	21 55 41.4			
	comp=Z,45nm,1.2s								
CO01	Juntas del Tor	89.23	125	IAmb	IAmb	21 55 42.4			
	comp=Z,94nm,1.4s								
PAYG	Puerto Ayora	89.25	90	P	P	21 55 39.8	+1.2		
CWC	Cottonwood Cre	89.28	45	P	P	21 55 40.1	+1.8		
	baz=228								
HEC	Hector,Ludlow	89.30	47	P	P	21 55 40.0	+1.7		
	baz=229,SNR=7.4								
GSC	Goldstone, Bar	89.31	47	P	P	21 55 40.1	+1.7		
GSC				pP	pP	21 56 48.4	+1.4		
GSC				IAmb	IAmb	21 56 49.8			
	comp=Z,30nm,1.1s								
GSC	Goldstone, Bar	89.31	47	P	P	21 55 40.4	+2.0		
	baz=229,SNR=11								
GSC	Goldstone, Bar	89.31	47	P	P	21 55 40.1	+1.7		
GSC				pmax	pmax				
	comp=Z,30nm,1.1s								
LCO	Las Campanas	89.38	124	P	P	21 55 40.3	+1.0		
LCO	Las Campanas	89.38	124	P	P	21 55 40.3	+1.0		
LCO				pmax	pmax				
	comp=Z,128nm,1.2s								
MPMC	Manual Prospec	89.39	46	P	P	21 55 40.6	+1.8		
	baz=229,SNR=14								
TRQA	Tornquist	89.40	136	P	P	21 55 39.8	+0.9		
TRQA	Tornquist	89.40	136	P	P	21 55 39.8	+0.9		
TRQA				pmax	pmax				
	comp=Z,185nm,1.7s								
KRMB	Red Mountain	89.47	38	IAmb	IAmb	21 55 42.6			
	comp=Z,70nm,1.6s								
TIN	Tinemaha, Big	89.60	45	P	P	21 55 41.5	+1.7		
	baz=228								
AC04	Llanos de Chal	89.60	123	IAmb	IAmb	21 55 43.2			
	comp=Z,69nm,1.2s								
S14K	Fog Glacier	89.61	11	P	P	21 55 42.2	+2.9		
	baz=197								
IRM	Iron Mountain	89.62	49	P	P	21 55 42.5	+2.7		
	baz=230,SNR=30								
MLAC	Mammoth, Mammo	89.62	44	P	P	21 55 41.7	+1.7		
	baz=228								
113A	Mohawk Valley,	89.63	50	IAmb	IAmb	21 55 43.7			
	comp=Z,78nm,1.5s								
GMRC	Granite Mounta	89.69	48	P	P	21 55 42.3	+2.1		
	baz=230,SNR=12								
KSXB	Camp Six Broad	89.70	38	P	P	21 55 41.4	+1.3		
KSXB				IAmb	IAmb	21 55 43.5			
	comp=Z,59nm,1.6s								
214A	Organ Pipe Nat	89.75	51	IAmb	IAmb	21 55 44.6			
	comp=Z,82nm,1.5s								
214A				pP	pP	21 56 48.9	0.0		
214A	Organ Pipe Nat	89.75	51	P	P	21 55 43.1	+2.6		
	baz=231,SNR=12								
BLYC	Blythe	89.75	49	IAmb	IAmb	21 55 44.2			
	comp=Z,107nm,1.8s								
KBO	Bosley Butte	89.79	38	IAmb	IAmb	21 55 44.0			
	comp=Z,137nm,1.7s								
EMB	Emerald Bay	89.79	42	IAmb	IAmb	21 55 43.4			
	comp=Z,46nm,1.6s								
CHGN	Chignik	89.82	12	P	P	21 55 43.8	+3.8		
	baz=198								
WAKR	Walker	89.86	43	IAmb	IAmb	21 55 44.2			
	comp=Z,71nm,1.6s								
CHIR	Chirikof Islan	89.88	13	P	P	21 55 43.3	+2.9		
	baz=200								
TIA	Tai'an	89.94	314	P	P	21 55 39.5	-1.7		
TIA				pmax	pmax				
	comp=Z,39nm,0.7s								
TUQ	Turquoise Moun	89.95	47	P	P	21 55 43.5	+2.1		
	baz=230,SNR=8.3								
GWY	Greenwater Val	89.97	46	P	P	21 55 42.3	+0.7		
GWY				pP	pP	21 56 49.5	-0.8		
SHOC	Shoshone, Teco	90.03	47	P	P	21 55 43.5	+1.9		
	baz=230								
FURC	Furnace Creek,	90.04	46	P	P	21 55 43.8	+2.2		
	baz=229								
MPK	Martis Peak	90.05	42	IAmb	IAmb	21 55 44.9			
	comp=Z,63nm,1.5s								
SNY	Shenyang	90.05	321	⇓P	P	21 55 42.3	+0.8		
SNY				S	S	22 06 08.0	-1.1		
SNY				pmax	pmax				
	comp=Z,39nm,0.8s								
SNY				LR	LR				
	comp=Z,140nm,13.0s								
SNY				LR	LR				
	comp=Z,99nm,16.1s								
SNY				LR	LR				
	comp=Z,170nm,14.2s								
GRAC	Grapevine Rang	90.08	45	P	P	21 55 44.2	+2.4		
	baz=229								
SRDT	SRDT	90.11	287	P	P	21 55 42.7	+0.3		
PNTR	Pine Nut	90.16	42	IAmb	IAmb	21 55 45.1			
	comp=Z,107nm,1.8s								
LHV	Little Huntoon	90.23	44	IAmb	IAmb	21 55 45.5			
	comp=Z,58nm,1.7s								
YBH	Yreka Blue Hor	90.25	39	IAmb	IAmb	21 55 45.8			
	comp=Z,54nm,1.6s								
YERR	Yerington	90.29	43	IAmb	IAmb	21 55 45.7			
	comp=Z,60nm,1.7s								
NEE2	Needles Airpor	90.34	48	P	P	21 55 45.3	+2.2		
	baz=230								
PDMCI	Parker Dam,Lak	90.35	49	P	P	21 55 45.7	+2.6		
	baz=231,SNR=5.9								
WCT	Wildcat Mounta	90.39	46	P	P	21 55 44.9	+1.5		
WCT				pP	pP	21 56 54.3	+2.1		
NVAR	Mina Array Bea	90.47	44	P	P	21 55 45.2	+1.3		
NVAR	Mina Array Bea	90.47	44	P	P	21 55 45.0	+1.2		
	comp=Z,7.5nm,0.6s,baz=220,slow=7.1,SNR=48								
NVAR				pP	pwP	21 56 54.7	+0.1		
	comp=Z,8.2nm,1.0s,baz=219,slow=7.0,SNR=2.9								
NVAR				PKKPbc	PKKPbc	22 13 11.4	+0.2		
	comp=Z,0.4nm,0.4s,baz=55,slow=3.4,SNR=5.4								
NVAR				PKPPKP	P'P'df	22 21 16.9	-0.4		
	comp=Z,0.6nm,0.7s,baz=90,slow=2.7,SNR=4.3								
	comp=Z,7.5nm,0.6s								
RYN	Ryan	90.47	43	IAmb	IAmb	21 55 46.7			
	comp=Z,57nm,1.9s								
CN2	Changchun	90.49	324	*e*P	P	21 55 43.5	0.0		
CN2				SKS	SKSac	22 05 48.8	+2.3		
CN2				*e*SS	SS	22 12 27.8	+5.5		
CN2				pmax	pmax				
	comp=Z,80nm,0.9s								
NV11	Mina Array Sit	90.56	44	IAmb	IAmb	21 55 47.0			
	comp=Z,49nm,1.8s								
AC06	Mina Casimiro	90.61	123	IAmb	IAmb	21 55 48.3			
	comp=Z,116nm,1.6s								
HUMO	Hull Mountain	90.73	38	IAmb	IAmb	21 55 49.1			
	comp=Z,99nm,1.6s								
L04D	Klamath Falls	90.80	39	P	P	21 55 45.9	+0.7		
L04D				IAmb	IAmb	21 55 47.8			
	comp=Z,144nm,1.8s								
Y14A	Wickenburg	90.85	50	IAmb	IAmb	21 56 57.3			
	comp=Z,26nm,0.9s								
SII	Sitkinak Islan	90.86	14	P	P	21 55 49.0	+4.0		
	baz=202								
DBO	Dodson Butte	90.94	38	P	P	21 55 47.6	+1.8		
DBO				IAmb	IAmb	21 55 48.9			
	comp=Z,73nm,1.7s								
BNX	BinXian	90.95	326	⇑P	P	21 55 46.1	+0.5		
BNX				pP	pP	21 56 43.6	-10		
BNX				sP	pwP	21 57 07.9	+12		
BNX				S	S	22 06 26.4	+9.3		
BNX				sS	sS	22 08 06.8	-10		
BNX				pmax	pmax				
	comp=Z,42nm,0.9s								
BNX				pmax	pmax				
	comp=Z,140nm,4.6s								
GYA	Guiyang	91.01	301	⇑*i*P	P	21 55 47.3	+0.8		
GYA				sP	pwP	21 57 11.5	+14		
GYA				S	S	22 06 18.3	-0.6		
GYA				pmax	pmax				
	comp=Z,53nm,0.9s								
GYA				pmax	pmax				
	comp=Z,190nm,6.2s								
R16K	Pilot Point	91.17	12	P	P	21 55 49.5	+3.2		
	baz=199								
ENH	Enshi	91.23	305	IAmb	IAmb	21 55 49.2			
	comp=Z,71nm,0.9s								
I03D	Drain, OR	91.30	37	IAmb	IAmb	21 55 50.3			
	comp=Z,104nm,1.7s								
TUC	Tucson	91.32	52	P	P	21 55 50.1	+2.3		
TUC				pP	pP	21 56 57.4	+1.1		
TUC				IAmb	IAmb	21 57 00.0			
	comp=Z,30nm,1.1s								
TUC	Tucson	91.32	52	P	P	21 55 50.5	+2.7		
	baz=232								
TUC	Tucson	91.32	52	P	P	21 55 50.1	+2.3		
TUC				*PP	pP	21 56 57.4	+1.1		
TUC				pmax	pmax				
	comp=Z,30nm,1.1s								
KLR	Kul'dur	91.64	331	*ce*P	P	21 55 50.1	+1.4		
KLR				pmax	pmax				
	comp=Z,19nm,1.0s								
OHAK	Old Harbor	91.66	14	P	P	21 55 50.9	+2.4		
	baz=202								
PRN	Pahroc Range	91.75	46	P	P	21 55 51.6	+1.9		
PRN				IAmb	IAmb	21 55 53.3			
	comp=Z,61nm,1.7s								
PRN				pP	pP	21 57 01.3	+3.1		
LYN	LuoYang	91.82	310	*e*P	P	21 55 50.5	+0.6		
LYN				sP	pwP	21 57 07.9	+6.8		
LYN				S	S	22 06 25.3	-0.2		
LYN				pmax	pmax				
	comp=Z,110nm,0.8s								
LYN				pmax	pmax				
	comp=Z,82nm,6.7s								
BUCK	Buck Mountain	91.83	37	IAmb	IAmb	21 55 52.9			
	comp=Z,91nm,1.6s								
I04A	Tendick Farm,	91.85	38	IAmb	IAmb	21 55 53.0			
	comp=Z,18nm,0.7s								
R11B	Troy Canyon, C	92.03	45	P	P	21 55 52.9	+1.8		
	baz=230								
J05D	Fort Rock, OR	92.11	39	IAmb	IAmb	21 55 54.3			
	comp=Z,91nm,1.7s								
Q17K	Contact Creek	92.13	12	P	P	21 55 52.1	+1.2		
X16A	Lo Mia Camp, P	92.17	50	P	P	21 55 53.0	+1.2		
X16A				pP	pP	21 57 02.1	+1.7		
X16A				IAmb	IAmb	21 57 04.5			
	comp=Z,28nm,1.0s								
HNS	HongShan	92.18	314	⇓P	P	21 55 52.4	+0.9		
HNS				S	S	22 06 25.8	-2.7		
HNS				pmax	pmax				
	comp=Z,35nm,1.0s								
HNS				LR	LR				
	comp=Z,140nm,18.3s								
HNS				LR	LR				
	comp=Z,170nm,21.6s								
H04D	Lebanon	92.19	37	IAmb	IAmb	21 55 54.5			
	comp=Z,112nm,1.7s								
CMAR	Chiang Mai Arr	92.47	290	P	P	21 55 53.5	+0.2		
CMAR				PP	PP	21 59 36.0	-3.2		
CMAR	Chiang Mai Arr	92.47	290	P	P	21 55 53.0	-0.3		
	comp=Z,4.4nm,0.8s,baz=141,slow=3.6,SNR=24								
CMAR				pP	pwP	21 57 05.7	+0.6		
	comp=Z,0.6nm,0.4s,baz=132,slow=2.7,SNR=1.5								
CMAR				PKKPbc	PKKPbc	22 13 06.1	+1.5		
	comp=Z,1.8nm,0.6s,baz=288,slow=3.4,SNR=8.8								
	comp=Z,4.4nm,0.8s								
CMAR	Chiang Mai Arr	92.47	290	*i* P	P	21 55 54.4	+1.1		
CMAR				pmax	pmax				
	comp=Z,5.0nm,0.8s								
GO02	Mina Guanaco	92.47	122	IAmb	IAmb	21 55 57.0			
	comp=Z,31nm,0.8s								
H04A	Detroit Lake	92.58	37	IAmb	IAmb	21 55 55.7			
	comp=Z,81nm,1.7s								
PINE	Pine Mountain	92.61	38	IAmb	IAmb	21 55 58.4			
	comp=Z,38nm,0.7s								
CHTO	Chiang Mai	92.66	290	P	P	21 55 54.4	+0.2		
CHTO				pP	pwP	21 57 09.5	+3.6		
CHTO				PP	PP	21 59 37.3	-3.3		
CHTO	Chiang Mai	92.66	290	P	P	21 55 54.4	+0.2		
CHTO						21 59 37.3			
CHTO				pmax	pmax				
	comp=Z,7.0nm,0.9s								
I05D	Terrebonne, OR	92.78	38	IAmb	IAmb	21 55 59.2			
	comp=Z,24nm,0.7s								
WUAZ	Wupatki	92.88	49	P	P	21 55 57.3	+2.2		
WUAZ				IAmb	IAmb	21 57 06.8			
	comp=Z,19nm,1.0s								
WUAZ	Wupatki	92.88	49	P	P	21 55 57.1	+2.0		
	baz=232								
P17K	Kvichak River	92.91	12	P	P	21 55 57.2	+2.9		
	baz=200								
Q12A	Willow Creek R	92.92	45	IAmb	IAmb	21 55 57.8			
	comp=Z,74nm,1.9s								
WVOR	Wild Horse Val	92.94	41	IAmb	IAmb	21 55 57.8			
	comp=Z,36nm,1.6s								
BJI	Beijing	92.98	316	P	P	21 55 56.3	+1.2		
BJI				S	S	22 06 36.3	+0.9		
BJI				pmax	pmax				
	comp=Z,11nm,0.7s								
O16K	Kokwok River B	93.01	11	P	P	21 55 57.6	+2.9		
	baz=198								
Q20K	Shuyak Island	93.13	14	P	P	21 55 58.4	+3.1		
	baz=203								
KMI	Kunming	93.17	298	⇑P	P	21 55 57.0	+0.3		
KMI				S	S	22 06 40.3	+2.1		
KMI				pmax	pmax				
	comp=Z,19nm,0.9s								
KMI				pmax	pmax				
	comp=Z,120nm,5.6s								
PSUT	Pine Spring	93.19	46	P	P	21 55 56.9	+0.4		
X18A	Snowflake	93.22	51	IAmb	IAmb	21 57 08.5			
	comp=Z,26nm,1.4s								
N15K	Kwethluk River	93.26	10	IAmb	IAmb	21 55 59.0			
	comp=Z,32nm,0.7s								
N15K	Kwethluk River	93.26	10	P	P	21 55 57.2	+1.3		
	baz=197								
P18K	Big Mountain,	93.31	12	P	P	21 55 57.9	+1.7		
	baz=201								
F04A	Amboy	93.33	36	IAmb	IAmb	21 56 01.7			
	comp=Z,12nm,0.7s								
O17K	Koliganek Bris	93.34	11	P	P	21 55 58.1	+1.8		
	baz=199								
121A	Cookes Peak, D	93.49	54	P	P	21 55 58.7	+0.8		
	baz=234								
I07A	Izee	93.57	39	IAmb	IAmb	21 56 00.7			
	comp=Z,36nm,1.6s								
J08A	Circle Bar Ran	93.64	40	IAmb	IAmb	21 56 00.9			
	comp=Z,30nm,1.5s								
M15K	Kasigluk River	93.68	9	P	P	21 55 58.5	+0.7		
	baz=196								
W18A	Petrified Fore	93.71	51	P	P	21 56 00.1	+1.3		
	baz=233								
PB15	IPOC Station P	93.73	120	IAmb	IAmb	21 56 02.9			
	comp=Z,34nm,1.2s								
N16K	Nishlik Lake	93.75	10	P	P	21 55 58.8	+0.6		
	baz=198								
O18K	Koktuh Hills	93.75	12	IAmb	IAmb	21 55 59.8			
	comp=Z,20nm,0.8s								
O18K	Koktuh Hills	93.75	12	P	P	21 55 59.0	+0.8		
	baz=201								
XAN	Xi'an	93.85	308	P	P	21 56 00.1	+0.7		
XAN				S	S	22 06 42.8	-0.7		
XAN				pmax	pmax				
	comp=Z,18nm,1.0s								
PB06	IPOC Station P	93.96	120	IAmb	IAmb	21 56 03.0			
	comp=Z,25nm,1.1s								
N17K	Nushagak Hills	94.05	11	P	P	21 56 01.1	+1.6		
	baz=199								
L14K	Kuka Creek	94.05	8	P	P	21 56 01.1	+1.7		
	baz=195								
MSU	Marysvale	94.21	47	P	P	21 56 03.6	+2.4		
MSU				pP	pP	21 57 13.0	+3.5		
O19K	Port Alsworth	94.23	12	P	P	21 56 01.3	+1.0		
	baz=202								
M16K	Timber Creek	94.24	10	P	P	21 56 01.5	+1.1		
	baz=198								
HEH	HeiHe	94.27	329	*e*P	P	21 56 00.8	0.0		
HEH				S	S	22 06 45.4	-0.7		
HEH				sS	pS	22 08 29.3	+15		
HEH				pmax	pmax				
	comp=Z,11nm,1.0s								
HEH				pmax	pmax				
	comp=Z,73nm,4.8s								
K13K	Kusilvak Mount	94.40	7	P	P	21 56 01.6	+0.5		
	baz=193								
N18K	Kilae Creek	94.41	12	P	P	21 56 01.5	+0.3		
	baz=200								
MA2	Magadan	94.43	345	*ce*P	P	21 56 00.9	-0.4		
MA2				pmax	pmax				
	comp=Z,20nm,1.2s								
O20K	Slope Mountain	94.44	13	P	P	21 56 01.2	-0.3		
	baz=203								
LVC	Limon Verde	94.51	120	P	P	21 56 03.3	+0.1		
LVC				IAmb	IAmb	21 56 07.1			
	comp=Z,23nm,1.1s								
LVC	Limon Verde	94.51	120	P	P	21 56 03.3	+0.1		
LVC				pmax	pmax				
	comp=Z,23nm,1.1s								
LVC	Limon Verde	94.51	120	*e*P	P	21 56 04.8	+1.6		
BRSE	Bradley Lake S	94.51	14	P	P	21 56 02.5	+0.8		
	baz=205								
L15K	Ungalak Mounta	94.52	9	P	P	21 56 01.5	-0.1		
	baz=196								
TXAR	Lajitas Array	94.56	58	P	P	21 56 03.9	+1.2		
TXAR	Lajitas Array	94.56	58	P	P	21 56 04.1	+1.3		
	comp=Z,4.2nm,1.1s,baz=213,slow=4.3,SNR=22								
TXAR				pP	pP	21 57 13.2	+1.7		
	comp=Z,2.9nm,1.1s,baz=211,slow=6.2,SNR=3.9								
	comp=Z,4.2nm,1.1s								
MNTX	Cornudas Mount	94.67	55	P	P	21 56 03.0	-0.1		
	baz=235								
PZH	PanZhiHua	94.68	298	P	P	21 56 03.8	+0.4		
PZH				S	S	22 06 50.8	-0.3		
PZH				SS	SS	22 13 26.3	+3.4		
PZH				pmax	pmax				
	comp=Z,10.0nm,1.3s								
PZH				pmax	pmax				
	comp=Z,110nm,6.5s								
PB09	IPOC Station P	94.75	119	P	P	21 56 04.5	+0.4		
PB09				IAmb	IAmb	21 56 08.0			
	comp=Z,23nm,1.0s								
N19K	Bonanza Creek	94.78	12	P	P	21 56 02.3	-0.6		
	baz=202								
L16K	Owhat River	94.83	10	P	P	21 56 03.7	+0.7		
	baz=197								
M17K	Holitna River	94.83	11	P	P	21 56 03.1	0.0		
	baz=199								
PB01	IPOC Station P	95.02	118	IAmb	IAmb	21 56 08.3			
	comp=Z,14nm,1.0s								
K15K	Wolf Creek Mou	95.11	8	IAmb	IAmb	21 56 07.4			
	comp=Z,40nm,1.6s								
K15K	Wolf Creek Mou	95.11	8	P	P	21 56 04.7	+0.3		
	baz=196								
MFID	Camas Ranch	95.14	41	P	P	21 56 05.6	+0.4		
MFID					pP	21 57 16.0	+2.4		
ALPN	Alpine	95.16	57	P	P	21 56 06.3	+0.8		
HMBC	Humberstone	95.17	118	IAmb	IAmb	21 56 08.6			
	comp=Z,14nm,0.7s								
M18K	Stony River	95.18	11	P	P	21 56 05.0	+0.3		
	baz=200								
L17K	Donlin	95.40	10	P	P	21 56 06.4	+0.8		
	baz=198								
XLT	XiLinHaoTe	95.52	319	*e*P	P	21 56 07.0	+0.2		
XLT				S	S	22 06 55.8	-1.7		
XLT				sS	pS	22 08 39.9	+14		
XLT				pmax	pmax				
	comp=Z,20nm,1.0s								
XLT				pmax	pmax				
	comp=Z,83nm,4.3s								
N20K	Mount Spurr	95.56	13	P	P	21 56 06.9	+0.4		
	baz=203								
PB11	IPOC Station P	95.66	117	P	P	21 56 07.4	-0.8		
PB11				IAmb	IAmb	21 56 11.5			
	comp=Z,24nm,0.9s								
L18K	Granite Mounta	95.73	11	P	P	21 56 07.6	+0.4		
	baz=200								
ANMO	Albuquerque	95.79	52	P	P	21 56 08.2	-0.1		
ANMO				pP	pP	21 57 18.4	+1.3		
ANMO	Albuquerque	95.79	52	P	P	21 56 08.2	-0.1		
	baz=235								
ANMO	Albuquerque	95.79	52	*i* P	P	21 56 07.3	-1.1		
ANMO				pmax	pmax				
	comp=Z,7.0nm,1.6s								
M19K	Big River Lodg	95.81	12	P	P	21 56 07.6	+0.1		
	baz=202								
CRAG	Craig	95.83	25	P	P	21 56 08.2	+0.5		
	baz=218								
HVU	Hansel Valley	95.86	44	P	P	21 56 09.9	+1.4		
HVU				IAmb	IAmb	21 56 13.2			
	comp=Z,7.9nm,0.6s								
HVU	Hansel Valley	95.86	44	P	P	21 56 09.9	+1.4		
HVU				pmax	pmax				
	comp=Z,8.0nm,0.6s								
RC01	Rabbit Creek A	95.95	14	P	P

TNCH sP pwP 21 57 35.3 +13
TNCH SKS **SKSac** **22 06 17.5 -2.1**
TNCH S **ScS** **22 07 06.6 +0.8**
TNCH sS sS 22 08 52.3 -14
TNCH pmax pmax
comp=Z,11nm,1.5s
TNCH pmax pmax
comp=Z,32nm,3.1s
GLI Glacier Island 96.33 15 IAmb IAmb 21 56 13.0
comp=Z,9.5nm,0.6s
GLI Glacier Island 96.33 15 P **P** **21 56 12.4 +2.4**
baz=208
U33K Whale Pass 96.34 24 P **P** **21 56 10.9 +0.8**
baz=218
L20K Farewell, AK 96.44 12 P **P** **21 56 12.4 +2.0**
baz=202
J17K VABM Dome 96.50 9 P **P** **21 56 12.5 +1.9**
baz=198
KNK Knik Glacier 96.51 15 P **P** **21 56 12.6 +1.8**
baz=206
GHO Glory Hole Cre 96.73 14 IAmb IAmb 21 56 15.4
comp=Z,13nm,0.6s
ZEA Zeya 96.89 331 *eP* **P** **21 56 13.4 +0.8**
ZEA *i* 22 06 19.7
ZEA *eS* **S** **22 07 11.0 +2.4**
ZEA *e* 22 09 20.4
ZEA pmax pmax
comp=Z,10.0nm,1.9s
J18K Innoko River 96.90 10 IAmb IAmb 21 56 14.1
comp=Z,25nm,1.7s
J18K Innoko River 96.90 10 P **P** **21 56 12.8 +0.4**
baz=200
S32K Killisnoo 96.92 23 P **P** **21 56 12.6 0.0**
baz=218
MESA MESA 96.98 18 P **P** **21 56 14.4 +1.2**
baz=212
BMRM Bremner River 96.99 16 P **P** **21 56 13.7 +0.7**
baz=210
HBVL Hebbronville 97.01 63 IAmb IAmb 21 56 17.8
comp=Z,35nm,1.6s
BTO Baotou 97.03 314 *eP* Pdif 21 56 19.8 +6.0
BTO pP pP 21 57 13.4 -9.0
BTO sP pwP 21 57 21.8 -2.8
BTO PP PP 22 00 25.8 +12
SCM Sheep Creek Mo 97.13 15 IAmb IAmb 21 56 20.3
comp=Z,10nm,0.7s
SCM Sheep Creek Mo 97.13 15 P Pdif 21 56 14.3 +0.7
baz=208
SEY Seymchan 97.19 348 *ceP* **P** **21 56 12.6 -1.1**
SEY pmax pmax
comp=Z,12nm,1.5s
K20K Telida 97.22 11 P Pdif 21 56 14.2 +0.3
baz=202
H16K Elim 97.30 8 P Pdif 21 56 14.7 +0.5
baz=195
AHID Auburn Hatcher 97.45 44 IAmb IAmb 21 56 18.3
comp=Z,39nm,1.9s
G15K Niukluk 97.46 7 P **P** **21 56 14.3 -0.5**
baz=194
N25K Chitina, Valde 97.55 16 P **P** **21 56 14.9 -0.6**
baz=210
J19K Poorman 97.57 11 P **P** **21 56 15.2 -0.2**
baz=201
NEW Newport 97.58 37 P Pdif 21 56 16.6 +0.7
baz=230
R32K Eaglecrest 97.58 22 P **P** **21 56 14.2 -1.4**
baz=218
CAST Castle Rocks 97.62 12 P **P** **21 56 14.6 -1.1**
baz=204
WAT6 Susitna Watana 97.71 14 P Pdif 21 56 16.4 +0.1
baz=207
H17K Granite Mounta 97.86 8 P Pdif 21 56 17.6 +0.9
baz=197
O28M Mount Upton 97.95 18 P Pdif 21 56 19.6 +2.0
baz=213
J20K Nowinta River 97.97 11 P Pdif 21 56 19.0 +1.7
baz=202
TRF Thorofare Moun 97.98 13 IAmb IAmb 21 56 22.7
comp=Z,7.9nm,0.8s
TRF Thorofare Moun 97.98 13 P **P** **21 56 17.0 -0.5**
baz=205
CHUM Lake Minchumin 98.01 12 P Pdif 21 56 18.3 +0.9
baz=203
RND Reindeer 98.22 14 IAmb IAmb 21 56 22.0
comp=Z,34nm,1.8s
P30M Million Dollar 98.32 20 P Pdif 21 56 18.5 -0.4
baz=216
G17K Kiwalik Mounta 98.32 8 P **P** **21 56 19.6 +0.9**
baz=196
MSO Missoula 98.33 39 P Pdif 21 56 19.1 -0.3
baz=232
PDAR Pinedale Array 98.36 44 P **P** **21 56 20.5 +0.7**
PDAR Pinedale Array 98.36 44 P Pdif 21 56 19.7 -0.1
comp=Z,1.2nm,0.6s,baz=230,slow=4.2,SNR=9.9
PDAR PKPK **PKKPbc** **22 12 49.4 -1.0**
comp=Z,0.5nm,0.4s,baz=77,slow=2.0,SNR=6.4
PDAR PKPPKP **P'P'df** **22 21 05.8 +3.2**
comp=Z,0.2nm,0.4s,baz=56,slow=3.4,SNR=3.8
comp=Z,1.2nm,0.6s
LZH Lanzhou 98.44 307 *eP* **P** **21 56 22.8 +2.6**
LZH pP pP 21 57 13.4 -15
LZH S **S** **22 07 23.0 +0.1**
LZH SS **SS** **22 14 17.0 +1.4**
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=Z,370nm,22.0s
LZH LR LR
comp=Z,290nm,16.2s
LZH LR LR
comp=Z,200nm,16.1s
YUK8 Steele Glacier 98.49 18 P **P** **21 56 22.1 +2.1**
baz=214
MCK McKinley 98.50 13 P **P** **21 56 21.0 +1.4**
baz=206
PAX Paxson 98.55 15 P **P** **21 56 20.7 +0.7**
baz=209
YUK6 Outpost Mounta 98.59 19 P **P** **21 56 21.1 +0.8**
baz=215
M26K Nabesna, AK 98.62 16 P **P** **21 56 21.8 +1.6**
baz=211
YUK3 Moose Creek 98.72 18 P **P** **21 56 22.6 +1.6**
baz=213
YUK4 Talbot Arm 98.84 19 P **P** **21 56 22.2 +0.7**
baz=215
BOZ Bozeman (W) 98.85 41 P **P** **21 56 22.2 +0.4**
baz=233
M27K Edge Creek, AK 98.86 17 IAmb IAmb 22 00 25.9
comp=Z,34nm,2.0s
M27K Edge Creek, AK 98.86 17 P Pdif 21 56 21.2 -0.2
baz=212
P32M Atlin 98.88 22 P **P** **21 56 22.5 +1.1**
baz=218
H19K Roundabout Mou 98.89 10 P **P** **21 56 22.7 +1.4**
baz=200
LPAZ La Paz 98.89 115 P **P** **21 56 23.9 +0.6**
comp=Z,3.2nm,0.8s,baz=236,slow=4.3,SNR=12
comp=Z,3.2nm,0.8s
LPAZ La Paz 98.89 115 *eP* **P** **21 56 23.5 +0.2**
G18K Tagagawik 98.94 9 P **P** **21 56 22.4 +0.8**
baz=198
H20K Anotleneega Mo 99.09 10 P **Pdif** **21 56 23.9 +1.7**
baz=201
O30N Mendenhall 99.10 20 P **Pdif** **21 56 23.1 +0.7**
baz=217
F17K Baldwin Pennin 99.16 7 P **Pdif** **21 56 22.8 +0.4**
baz=196
K24K Donnelly Dome 99.21 15 P **Pdif** **21 56 25.6 +2.8**
baz=209
NEA2 Nenana 99.25 13 P **Pdif** **21 56 24.9 +2.0**
baz=206
I21K Tanana 99.26 12 P **Pdif** **21 56 24.4 +1.5**
baz=204
WRH Wood River Hil 99.33 13 IAmb IAmb 21 58 58.8
comp=Z,10.0nm,1.3s
MLY Manley 99.34 12 P **Pdif** **21 56 23.9 +0.5**
baz=205
WHY Whitehorse 99.37 21 P **Pdif** **21 56 24.9 +1.2**
baz=218
N30M Aishikik Lake 99.37 19 P **Pdif** **21 56 23.2 -0.4**
baz=216
G19K Purcell Mounta 99.38 9 P **Pdif** **21 56 24.3 +0.9**
baz=200
L27K Beaver Creek, 99.47 17 P **Pdif** **21 56 24.5 +0.5**
baz=212
F18K Selawik 99.49 8 P **Pdif** **21 56 24.2 +0.4**
baz=197

HDA Harding Lake 99.50 14 P **Pdif** **21 56 25.2 +1.1**
baz=208
H21K Melozitna Rive 99.56 11 P **Pdif** **21 56 26.0 +1.7**
baz=203
R33M Jennings River 99.61 23 P **Pdif** **21 56 25.4 +0.6**
baz=220
I23K Minto, Yukon-K 99.70 13 P **Pdif** **21 56 25.7 +0.9**
baz=206
E17K Hotham Inlet 99.72 7 P **Pdif** **21 56 26.6 +1.7**
baz=196
COLA College 99.74 13 P **Pdif** **21 56 26.3 +1.3**
baz=207
SCRK Sand Creek 99.75 15 IAmb IAmb 21 58 36.1
comp=Z,18nm,2.0s
SCRK Sand Creek 99.75 15 P **Pdif** **21 56 27.1 +1.8**
baz=210
ILAR Eielson Array 99.84 14 **Pdif** **21 56 26.5 +1.0**
ILAR Eielson Array 99.84 14 P **Pdif** **21 56 25.3 -0.2**
comp=Z,1.1nm,0.7s,baz=217,slow=5.7,SNR=13
ILAR PKiKP **PKiKP** **22 00 52.0 -0.1**
comp=Z,2.6nm,0.7s,baz=232,slow=4.4,SNR=7.1
ILAR PKKPbc **PKKPbc** **22 12 44.6 -2.4**
comp=Z,1.9nm,0.6s,baz=32,slow=2.7,SNR=16
ILAR PKPPKP **P'P'df** **22 21 03.1 +4.0**
comp=Z,0.3nm,0.7s,baz=5.7,slow=0.9,SNR=4.2
comp=Z,1.1nm,0.7s
RLMT Red Lodge 99.91 43 P **Pdif** **21 56 26.3 -0.3**
baz=234
F19K Shaleruckik Mo 99.95 9 P **Pdif** **21 56 26.0 0.0**
baz=199
J25K Salcha River, 100.01 14 P **Pdif** **21 56 28.0 +1.6**
baz=209
H22K Ishtalitna Cre 100.02 11 P **Pdif** **21 56 26.9 +0.5**
baz=204
K22A Casper 100.12 46 P **Pdif** **21 56 28.6 +1.0**
baz=236
E18K Tukpahlearik C 100.17 7 P **Pdif** **21 56 28.9 +2.0**
baz=197
D17K Noatak River 100.19 6 P **Pdif** **21 56 28.9 +2.0**
baz=194
G21K Allakaket 100.25 10 P **Pdif** **21 56 29.7 +2.4**
baz=203
J26L Joseph Creek 100.30 15 Pdif **Pdif** **21 56 28.8 +1.1**
J26L Joseph Creek 100.30 15 P **Pdif** **21 56 29.8 +2.1**
baz=211
M30M Minto, Yukon 100.36 19 P **Pdif** **21 56 29.1 +1.1**
baz=216
F20K Avaraart Lake 100.42 9 P **Pdif** **21 56 30.5 +2.4**
baz=201
L29M L29M 100.44 18 P **Pdif** **21 56 31.5 +3.2**
baz=215
H24K Noodor Dome 100.59 13 P **Pdif** **21 56 29.1 +0.2**
baz=207
E19K Redstone River 100.61 9 P **Pdif** **21 56 30.3 +1.4**
baz=200
PRP Porcupine Dome 100.77 14 P **Pdif** **21 56 30.5 +0.6**
baz=209
F21K Alatna River 100.91 10 P **Pdif** **21 56 31.9 +1.6**
baz=203
C17K DeLong Mountai 100.94 6 P **Pdif** **21 56 31.2 +0.8**
baz=194
G22K Bettles 100.94 11 P **Pdif** **21 56 31.8 +1.4**
baz=204
G23K Bananza Creek 100.99 12 P **Pdif** **21 56 31.7 +1.1**
baz=206
I26K Coal Creek Min 101.08 15 P **Pdif** **21 56 33.2 +2.1**
baz=211
H25L Birch Creek 101.37 13 P **Pdif** **21 56 35.3 +3.1**
baz=209
COLD Coldfoot 101.43 11 P **Pdif** **21 56 35.8 +3.3**
baz=206
D19K Kuna River 101.48 8 P **Pdif** **21 56 34.9 +2.1**
baz=199
E20K Nigu River 101.50 9 P **Pdif** **21 56 34.5 +1.6**
baz=200
G25K Bearman Lake 101.75 13 P **Pdif** **21 56 36.3 +2.4**
baz=209
D20K Etivluk River 101.88 8 P **Pdif** **21 56 36.6 +2.1**
baz=200
C19K Lookout Ridge 101.90 7 P **Pdif** **21 56 36.5 +1.8**
baz=198
I28M Miner Creek 101.93 16 P **Pdif** **21 56 36.9 +2.0**
baz=214
E21K Killik River 101.97 9 P **Pdif** **21 56 36.6 +1.6**
baz=202
E22K Anaktuvuk Pass 102.00 10 P **Pdif** **21 56 37.9 +2.7**
baz=204
F24K Squaw Lake 102.09 12 P **Pdif** **21 56 37.6 +2.1**
baz=207
E23K Chandalar 102.28 11 P **Pdif** **21 56 38.9 +2.5**
baz=206
RSSD Black Hills 102.45 46 P **Pdif** **21 56 40.3 +2.3**
baz=238
C21K Knifeblade Rid 102.53 9 P **Pdif** **21 56 40.4 +3.0**
baz=202
D22K Ayikyak River 102.56 10 P **Pdif** **21 56 40.3 +2.8**
baz=204
F25K Christian Rive 102.57 13 P **Pdif** **21 56 40.6 +2.9**
baz=209
I30M Mount Dempster 102.61 17 P **Pdif** **21 56 40.8 +2.8**
baz=217
GTA Gaotai 102.91 308 *eP* **Pdif** **21 56 41.3 +1.3**
GTA SS SS 22 15 18.0 +0.8
H29M Whitestone 102.93 16 P **Pdif** **21 56 41.8 +2.5**
baz=215
ULN Ulaanbaatar 102.94 319 Pdif **Pdif** **21 56 39.1 -0.8**
F26K Sheenjek River 102.94 13 P **Pdif** **21 56 41.8 +2.5**
baz=211
SONM Songino Array 103.29 318 Pdiff **Pdif** **21 56 40.9 -0.6**
comp=Z,2.0nm,0.8s,baz=134,slow=4.2,SNR=7.4
SONM PKiKP **PKiKP** **22 00 58.7 -0.4**
comp=Z,1.9nm,0.7s,baz=126,slow=1.5,SNR=6.4
SONM PKKPbc **PKKPbc** **22 12 36.7 +0.5**
comp=Z,1.9nm,0.7s,baz=268,slow=3.0,SNR=7.1
EPYK Eagle Plains 103.45 16 P **Pdif** **21 56 43.0 +1.4**
baz=217
G29M Pine Creek 103.58 16 P **Pdif** **21 56 44.9 +2.7**
baz=216
H31M Peel River 103.59 18 P **Pdif** **21 56 44.9 +2.7**
baz=219
C23K Itkillik River 103.74 10 P **Pdif** **21 56 46.2 +3.5**
baz=205
G31M Satah River 104.48 17 P **Pdif** **21 56 47.9 +1.8**
baz=219
MIAR Mount Ida 104.58 58 P **Pdif** **21 56 48.5 +1.2**
baz=241
E28M Babbage River 104.64 14 P **PKiKP** **22 01 01.7 +0.9**
baz=215
C27K Jago River 104.69 12 P **PKiKP** **22 01 01.6 +0.9**
baz=211
C26K Camden Bay 104.73 12 P **PKiKP** **22 01 03.0 +2.2**
baz=210
E29M Blow River 104.81 15 P **PKiKP** **22 01 01.7 +0.6**
baz=216
F31M Tsiigehtchic 105.02 17 P **PKiKP** **22 01 02.0 +0.6**
baz=219
ECSD EROS Data Cent 106.88 49 P **PKiKP** **22 01 08.4 +2.7**
baz=242
YKA Yellowknife Ar 107.56 26 PKiKP **PKiKP** **22 01 06.4 +0.1**
comp=Z,2.2nm,0.7s,baz=252,slow=1.7,SNR=14
YKA PKKPbc **PKKPbc** **22 12 20.7 -2.9**
comp=Z,3.2nm,0.6s,baz=103,slow=17,SNR=26
YKA PKKPab **PKKPdf** **22 12 35.4 -1.1**
comp=Z,3.9nm,1.0s,baz=42,slow=4.8,SNR=13
YKA PKPPKP **P'P'df** **22 20 46.7 +2.2**
comp=Z,0.9nm,0.8s,baz=40,slow=2.4,SNR=9.6
ULM Lac du Bonnet 110.29 43 PKKPab PKKPab 22 12 22.9 +0.1
comp=Z,4.8nm,0.8s,baz=59,slow=5.9,SNR=4.9
A36M Sachs Harbour 110.36 16 P **PKiKP** **22 01 10.4 -0.8**
baz=228,SNR=5.9
WMQ Urumqi 112.99 308 *eP*KP **PKiKP** **22 01 17.0 -0.2**
WMQ LR LR
comp=Z,140nm,22.7s
SUR Sutherland 113.06 199 PKiKP **PKiKP** **22 01 18.9 +0.8**
comp=Z,23nm,0.6s,baz=135,slow=2.9,SNR=54
SUR Sutherland 113.06 199 P **PKiKP** **22 01 18.7 +0.6**
O48B Farmland 113.10 56 P **PKiKP** **22 01 17.5 0.0**
baz=247
P49A Miami Univ. Ec 113.12 57 P **PKiKP** **22 01 17.5 0.0**
baz=247
BDFB Brasilia 113.85 128 PKP **PKiKP** **22 01 20.5 +0.7**
comp=Z,1.6nm,0.4s,baz=192,slow=9.3,SNR=4.6
BDFB PKKPbc **PKKPbc** **22 12 02.2 +0.5**
comp=Z,4.0nm,0.6s,baz=56,slow=3.6,SNR=7.4
BDFB PKKPab **PKKPab** **22 12 11.0 -1.3**
comp=Z,4.3nm,0.7s,baz=95,slow=4.0,SNR=7.0
P52A Corning 115.01 58 P **PKPdf** **22 01 20.8 -0.4**
baz=248

BOSA Boshof 115.18 204 PKP **PKPdf** **22 01 22.8 +0.7**
comp=Z,1nm,0.6s,baz=156,slow=3.7,SNR=46
BOSA PKKPbc **PKKPbc** **22 11 57.2 -0.5**
comp=Z,2.0nm,0.9s,baz=346,slow=4.0,SNR=3.7
BOSA PKKPab **PKKPab** **22 12 04.6 -2.8**
comp=Z,3.1nm,0.7s,baz=355,slow=4.5,SNR=12
O53A New Philadelph 115.89 57 P **PKiKP** **22 01 23.2 +0.3**
baz=249
ZSN Zaisan 116.15 311 *e*PKP **PKPdf** **22 01 22.4 -0.7**
baz=311
ZSN Zaisan 116.15 311 *e*PKiKP **PKPdf** **22 01 22.4 -0.7**
M53A WI Miller and 116.69 56 P **PKiKP** **22 01 24.8 +0.5**
baz=250
ERPA Erie 117.40 56 P **PKiKP** **22 01 26.2 +0.5**
baz=251
MK31 Makanchi Array 117.60 310 *i* PKiKP **PKPdf** **22 01 24.6 -1.4**
MKAR Makanchi Array 117.60 310 **PKPdf** **22 01 25.4 -0.5**
MKAR Makanchi Array 117.60 310 PKP **PKPdf** **22 01 24.9 -1.1**
comp=Z,21nm,0.7s,baz=95,slow=1.2,SNR=122
MKAR PKKPbc **PKKPbc** **22 11 50.1 +0.6**
comp=Z,2.7nm,0.7s,baz=278,slow=3.3,SNR=16
MKAR SKKPbc SKKPbc 22 15 05.8 -3.4
comp=Z,0.9nm,0.7s,baz=270,slow=3.7,SNR=4.0
MAKZ Makanchi 117.81 310 **PKPdf** **22 01 25.5 -0.9**
MAKZ Makanchi 117.81 310 PKiKP **PKPdf** **22 01 25.5 -0.9**
ZALV Zalesovo Beam 118.19 318 **PKPdf** **22 01 25.8 -1.0**
ZALV Zalesovo Beam 118.19 318 PKP **PKPdf** **22 01 25.5 -1.3**
comp=Z,24nm,0.6s,baz=138,slow=2.9,SNR=109
ZALV Zalesovo Beam 118.19 318 PKiKP **PKPdf** **22 01 25.8 -1.0**
SHLS Shalkode 118.36 305 *e*PKP **PKPdf** **22 01 26.4 -1.3**
baz=305
SHLS Shalkode 118.36 305 *e*PKiKP **PKPdf** **22 01 26.4 -1.3**
SSPA Standing Stone 118.41 58 P **PKiKP** **22 01 28.1 +0.4**
baz=251
UZB Uzunbulak 118.67 305 *e*PKP **PKPdf** **22 01 27.5 -0.8**
baz=305
UZB Uzunbulak 118.67 305 *e*PKiKP **PKPdf** **22 01 27.5 -0.8**
SATY Saty 119.07 305 *e*PKP **PKPdf** **22 01 28.4 -0.6**
baz=305
SATY Saty 119.07 305 *e*PKiKP **PKPdf** **22 01 28.4 -0.6**
ZHN Zhinishke 119.08 305 *e*PKP **PKPdf** **22 01 28.2 -0.8**
baz=305
ZHN Zhinishke 119.08 305 *e*PKiKP **PKPdf** **22 01 28.2 -0.8**
TDK Taldyqorghan 119.65 307 *e*PKP **PKPdf** **22 01 28.9 -1.1**
baz=307
TDK Taldyqorghan 119.65 307 *e*PKiKP **PKPdf** **22 01 28.8 -1.2**
KSH Kashi 119.71 300 PKP **PKiKP** **22 01 30.8 +0.3**
KSH sPKP 22 02 52.3
NIL Nilore 119.82 293 **PKPdf** **22 01 29.4 -1.3**
NIL Nilore 119.82 293 P **PKPdf** **22 01 29.7 -1.0**
NIL Nilore 119.82 293 PKiKP **PKPdf** **22 01 29.4 -1.3**
SEM Semipalatinsk 119.94 313 *e*PKP **PKPdf** **22 01 29.9 -0.8**
baz=313
SEM Semipalatinsk 119.94 313 *e*PKiKP **PKPdf** **22 01 29.8 -0.8**
MDOK Medeo 120.05 305 *e*PKP **PKPdf** **22 01 30.1 -0.9**
baz=305
MDOK Medeo 120.05 305 *e*PKiKP **PKPdf** **22 01 30.0 -0.9**
TNSS Tian-Shan 120.08 304 *e*PKP **PKPdf** **22 01 30.1 -1.3**
baz=304
TNSS Tian-Shan 120.08 304 *e*PKiKP **PKPdf** **22 01 30.1 -1.3**
AAA Alma-Ata 120.16 305 *e*PKP **PKPdf** **22 01 30.0 -1.1**
baz=305
AAA Alma-Ata 120.16 305 *e*PKiKP **PKPdf** **22 01 29.9 -1.1**
BINY Binghamton 120.25 57 P **PKiKP** **22 01 31.6 +0.3**
baz=253
CHKK Chushkaly 120.29 305 *e*PKP **PKPdf** **22 01 30.1 -1.2**
baz=305
CHKK Chushkaly 120.29 305 *e*PKiKP **PKPdf** **22 01 30.0 -1.2**
ULHL Ulahol 120.35 303 P **PKPdf** **22 01 31.6 0.0**
SNR=31
KUU Kurty 120.75 305 *e*PKP **PKPdf** **22 01 30.9 -1.2**
baz=305
KUU Kurty 120.75 305 *e*PKiKP **PKPdf** **22 01 30.8 -1.3**
TKM2 Tokmak 2 121.00 304 P **PKPdf** **22 01 32.2 -0.7**
SNR=52
KURK Kurchatov 121.02 313 **PKPdf** **22 01 31.7 -0.7**
KURK Kurchatov 121.02 313 P **PKPdf** **22 01 31.7 -0.7**
KURK Kurchatov 121.02 313 *ce*PKiKP **PKPdf** **22 01 31.4 -0.9**
KURK pmax pmax
comp=Z,132nm,1.0s
KURBB Kurchatov Arra 121.05 313 PKP **PKPdf** **22 01 31.5 -0.9**
comp=Z,61nm,0.7s,baz=106,slow=1.9,SNR=424
KURBB pPKP **pPKPdf** **22 02 47.5 +3.4**
comp=Z,2.3nm,0.8s,baz=112,slow=2.0,SNR=3.5
KURBB PKKPbc **PKKPbc** **22 11 37.8 +0.9**
comp=Z,3.4nm,0.7s,baz=284,slow=4.5,SNR=30
KURBB PKKP **PKKPdf** **22 12 10.2 -0.2**
comp=Z,1.0nm,0.7s,baz=295,slow=2.3,SNR=5.6
KURBB SKKPbc SKKPbc 22 14 57.5 -0.8
comp=Z,0.8nm,0.9s,baz=257,slow=4.7,SNR=5.0
KURBB SKKP 22 15 15.4
comp=Z,1.6nm,0.9s,baz=263,slow=4.0,SNR=5.3
MATP Matopo 121.24 211 PKP **PKiKP** **22 01 34.1 0.0**
comp=Z,1.9nm,0.7s,baz=162,slow=0.5,SNR=86
KBK Karagaybulak 121.38 304 P **PKPdf** **22 01 33.2 -0.4**
SNR=28
PAL Palisades 121.39 59 P **PKiKP** **22 01 33.9 +0.4**
baz=253
UCH Uchtor 121.57 303 P **PKPdf** **22 01 34.2 -0.1**
SNR=84
CHMS Chumysh 121.62 304 P **PKPdf** **22 01 33.5 -0.4**
SNR=7.6
AAK Ala-Archa 121.70 303 P **PKPdf** **22 01 33.9 -0.3**
SNR=19
AAK Ala-Archa 121.70 303 **PKPdf** **22 01 33.8 -0.3**
AAK Ala-Archa 121.70 303 *i* PKPdf **PKPdf** **22 01 33.6 -0.6**
SNR=21
AAK Ala-Archa 121.70 303 P **PKPdf** **22 01 34.0 -0.1**
AAK Ala-Archa 121.70 303 *ce*PKiKP **PKPdf** **22 01 33.9 -0.3**
AAK pmax pmax
comp=Z,56nm,1.3s
SGDS Sogindy 121.82 304 *e*PKP **PKPdf** **22 01 33.2 -1.1**
baz=304
SGDS Sogindy 121.82 304 *e*PKiKP **PKPdf** **22 01 33.1 -1.1**
USP Ospenovka 121.87 304 P **PKPdf** **22 01 33.7 -0.6**
SNR=50
LONY Lake Ozonia 121.91 54 P **PKiKP** **22 01 34.6 +0.2**
baz=255
EKS2 Erkin-Say 122.22 303 P **PKPdf** **22 01 34.8 -0.3**
SNR=61
BTLS Baital 122.64 306 *e*PKP **PKPdf** **22 01 34.9 -0.8**
baz=306
BTLS Baital 122.64 306 *e*PKiKP **PKPdf** **22 01 34.8 -0.9**
L61B Northampton 122.68 57 P **PKiKP** **22 01 36.4 +0.4**
baz=255
WIN Windhoek 123.38 199 **PKiKP** **22 01 38.7 +0.3**
WIN Windhoek 123.38 199 PKiKP **PKiKP** **22 01 38.7 +0.3**
KBL Kabul 123.41 293 **PKPdf** **22 01 37.6 -0.2**
KBL Kabul 123.41 293 P **PKPdf** **22 01 37.6 -0.2**
SNR=30
KBL Kabul 123.41 293 PKiKP **PKPdf** **22 01 37.6 -0.2**
HRV Adam Dziewonsk 123.49 57 P **PKiKP** **22 01 38.0 +0.4**
baz=255
LBNH Lisbon 123.66 55 P **PKiKP** **22 01 38.3 +0.4**
baz=256
DZA Taraz 124.02 303 *e*PKP **PKPdf** **22 01 37.6 -0.8**
baz=303
DZA Taraz 124.02 303 *e*PKiKP **PKPdf** **22 01 37.6 -0.8**
BRZS Berezniki 124.59 312 *e*PKP **PKPdf** **22 01 38.2 -1.1**
baz=312
BRZS Berezniki 124.59 312 *e*PKiKP **PKPdf** **22 01 38.2 -1.1**
SIMJ Simiganj 124.64 297 **PKPdf** **22 01 39.6 -0.3**
KKAR Karatay Array 124.65 303 **PKPdf** **22 01 39.5 -0.1**
KKAR Karatay Array 124.65 303 PKiKP **PKPdf** **22 01 39.5 -0.1**
IUG Iuzhnay 124.77 302 *e*PKP **PKPdf** **22 01 39.4 -0.7**
baz=302
IUG Iuzhnay 124.77 302 *e*PKiKP **PKPdf** **22 01 39.3 -0.7**
BRLS Boroldoy 125.11 303 *e*PKP **PKPdf** **22 01 39.5 -1.0**
baz=302
BRLS Boroldoy 125.11 303 *e*PKiKP **PKPdf** **22 01 39.5 -1.0**
CHM Chimkent 125.12 302 *e*PKP **PKPdf** **22 01 39.6 -0.9**
baz=302
CHM Chimkent 125.12 302 *e*PKiKP **PKPdf** **22 01 39.6 -0.9**
PKME Peaks-Kenny Pk 125.71 55 P **PKiKP** **22 01 41.8 -0.1**
baz=259,SNR=12
NBAN Anadia - AL 125.86 134 *eP* **PKiKP** **22 01 43.5 +0.3**
LSZ Lusaka 125.87 214 **PKiKP** **22 01 43.3 -0.1**
LSZ Lusaka 125.87 214 PKP **PKiKP** **22 01 43.5 +0.2**
comp=Z,29nm,0.7s,baz=168,slow=1.9,SNR=66
LSZ Lusaka 125.87 214 P **PKiKP** **22 01 43.9 +0.5**
LSZ Lusaka 125.87 214 PKiKP **PKiKP** **22 01 43.3 -0.1**
D62A Allapoint, All 126.22 52 **PKPdf** **22 01 42.4 0.0**
TSUM Tsumeb 126.43 201 **PKPdf** **22 01 44.1 +0.1**
TSUM Tsumeb 126.43 201 PKP **PKiKP** **22 01 44.2 -0.2**
comp=Z,28nm,1.0s,baz=166,slow=5.3,SNR=30
BVAR Borovoye Array 126.45 315 PKP **PKPdf** **22 01 42.5 -0.2**

comp=Z,119nm,0.8s,baz=94,slow=2.0,SNR=173
BVAR pPKP **pPKPdf 22 02 58.0 +3.6**
comp=Z,9.9nm,0.8s,baz=67,slow=2.2,SNR=2.8
BRVK Borovoye 126.52 315 PKPdf 22 01 42.4 -0.4
BRVK Borovoye 126.52 315 P PKPdf 22 01 42.5 -0.3
BRVK Borovoye 126.52 315 *ce*PKIKP **PKPdf 22 01 42.5 -0.3**
BRVK pmax pmax
comp=Z,106nm,1.0s
NBPB Pedra_Branca-C 126.83 127 *e*P **PKiKP 22 01 48.7 +3.4**
JLN Jalan Bani Buh 126.92 275 P PKPdf 22 01 43.9 -0.7
SNR=7.7
WBK Wadi Bani Khal 127.48 275 P PKPdf 22 01 45.5 -0.2
FRB Frobisher Bay 127.55 32 PKP **PKPdf 22 01 44.1 -0.3**
comp=Z,12nm,0.8s,baz=314,slow=3.0,SNR=8.3
DQM DQM 127.58 271 P PKPdf 22 01 45.9 +0.1
MHTO MHTO 127.67 273 P PKPdf 22 01 45.0 -0.9
SNR=8.8
WSAR Wadi Sarin 128.01 276 P PKPdf 22 01 44.3 -2.3
JMDO Jabal Madar 128.12 275 P PKPdf 22 01 45.9 -0.9
SNR=5.3
SHAO Shalim 128.37 268 P PKPdf 22 01 47.4 0.0
SMDO Samad 128.44 275 P PKPdf 22 01 47.1 -0.5
SNR=8.5
SCHQ Schefferville 128.47 43 PKP **PKPdf 22 01 46.1 -0.4**
comp=Z,4.7nm,0.7s,baz=265,slow=3.5,SNR=12
BIDO Bidbid 128.55 276 P PKPdf 22 01 47.1 -0.5
SNR=8.0
DMTO DMTO 128.81 268 P PKPdf 22 01 47.9 -0.3
BSY Bisya 129.03 275 P PKPdf 22 01 47.7 -0.9
SNR=6.2
HOQ Hoggain 129.26 276 P PKPdf 22 01 49.0 0.0
SNR=10
RBK Rabkut 129.34 267 P PKPdf 22 01 49.3 -0.1
SNR=5.3
JASK Jask - Hormozg 129.65 279 P PKPdf 22 01 49.5 -0.2
ARQ Araqi 129.84 275 P PKPdf 22 01 49.6 -0.5
SNR=6.8
WHFO Wadi Hawf 129.90 267 P PKPdf 22 01 49.7 -0.7
DOK Doka 129.91 268 P PKPdf 22 01 50.0 -0.3
ABTO Aybut 130.05 266 P PKPdf 22 01 50.7 0.0
SOHO SOHO 130.13 276 *i* PKPdf **PKPdf 22 01 49.8 -0.8**
SNR=13
SOHO SOHO 130.13 276 P PKPdf 22 01 50.0 -0.6
KIBK Kibwezi 130.46 234 P PKiKP 22 01 52.3 -0.3
UOSS Minazif 130.71 277 PKPdf 22 01 50.2 -1.5
UOSS Minazif 130.71 277 PKPdf PKPdf 22 01 50.0 -1.7
UOSS Minazif 130.71 277 P PKPdf 22 01 48.5 -3.2
HATD Hatta, Dubai 130.73 277 *i* PKPdf **PKPdf 22 01 50.6 -1.2**
SNR=6.6
HATD Hatta, Dubai 130.73 277 P PKPdf 22 01 50.9 -0.8
ASHO Ashiyiah 130.74 276 *i* PKPdf **PKPdf 22 01 50.5 -1.3**
SNR=7.5
ASHO Ashiyiah 130.74 276 P PKPdf 22 01 50.9 -0.9
SNR=5.6
UMZA Um Al Zommool 130.75 274 P PKPdf 22 01 50.8 -1.0
ALNE Al Ain 130.76 275 *i* PKPdf **PKPdf 22 01 50.6 -1.2**
SNR=11
ALNE Al Ain 130.76 275 P PKPdf 22 01 51.6 -0.2
SNR=6.6
MSFE Esma-Masafi 130.90 277 PKPdf **PKPdf 22 01 51.0 -1.1**
MASF Masafi 130.91 277 P PKPdf 22 01 50.7 -1.4
FAQ Al Faqa, Dubai 131.16 276 PKPdf **PKPdf 22 01 51.8 -0.8**
FAQ Al Faqa, Dubai 131.16 276 P PKPdf 22 01 50.5 -2.1
SHME Shamm 131.16 278 P PKPdf 22 01 51.2 -1.3
NAZ Nazwa, Dubai 131.19 277 PKPdf **PKPdf 22 01 50.4 -2.2**
NAZ Nazwa, Dubai 131.19 277 P PKPdf 22 01 51.6 -1.0
ASUD Al Ashush, Dub 131.33 276 P PKPdf 22 01 52.5 -0.4
SVE Sverdlovsk 132.13 320 *e*PKIKP **PKPdf 22 01 53.2 -0.2**
SVE pmax pmax
comp=Z,59nm,0.9s
MZWR Madinat Zayed 132.24 274 P PKPdf 22 01 55.0 +0.4
MZR Muzera 132.29 273 *i* PKPdf **PKPdf 22 01 54.3 -0.5**
SNR=10
MZR Muzera 132.29 273 P PKPdf 22 01 54.7 0.0
KBS Kingsbay 132.70 357 *e*PKPdf **PKiKP 22 01 55.8 +0.7**
GEYT Alibeck 132.81 294 PKP **PKPdf 22 01 55.5 +0.2**
comp=Z,15nm,0.7s,baz=117,slow=1.6,SNR=26
GEYT pPKP **pPKPdf 22 03 11.3 +4.4**
comp=Z,3.8nm,0.7s,baz=135,slow=0.8,SNR=3.3
GEYT SKPbc **SKPbc 22 04 52.5 -2.7**
comp=Z,36nm,0.9s,baz=118,slow=2.1,SNR=26
SPA0 Spitsbergen Ar 133.18 355 *e*PKPdf **PKiKP 22 01 55.8 -0.3**
SPITS Spitsbergen Ar 133.18 355 PKP **PKPdf 22 01 55.2 +0.4**
comp=Z,25nm,0.5s,baz=45,slow=2.2,SNR=42
SPITS SKPbc **SKPbc 22 04 54.1 -1.1**
comp=Z,42nm,0.7s,baz=86,slow=5.1,SNR=13
ARU Arti 133.31 319 *i* PKIKP **PKPdf 22 01 54.7 -0.9**
ARU Arti 133.31 319 PKP **PKPdf 22 01 55.1 -0.5**
JRN Qarnain Island 133.55 275 P PKPdf 22 01 53.4 -3.6
SFJD Kangerlussuaq 134.10 25 PKP **PiKiKP 22 01 57.8 -0.3**
comp=Z,9.7nm,0.5s,baz=295,slow=2.8,SNR=8.1
SLWR Sila 134.21 274 P PKPdf 22 01 57.5 -0.8
TRNA Turayna 134.86 274 P PKPdf 22 01 59.5 0.0
SHMA Al-Shehemyia 135.46 276 P PiKiKP 22 02 01.7 -0.5
SAKB Bahrain 135.87 276 P PKPdf 22 02 01.2 -0.1
LODK Lodwar 136.43 237 P PiKiKP 22 02 04.0 -0.6
MBAR Mbarara 136.56 228 P PKPdf 22 01 59.2 -4.1
MBAR Mbarara 136.56 228 *ce*PKIKP **PKPdf 22 01 59.5 -3.8**
MBAR pmax pmax
comp=Z,13nm,1.7s
KIRV Kirov 137.72 324 *i* PKIKP **PKPdf 22 02 01.9 -1.8**
LVZ Lovozero 138.87 341 *ce*PKIKP **PiKiKP 22 02 08.2 +0.3**
LVZ pmax pmax
comp=Z,13nm,0.7s
LVZ Lovozero 138.87 341 PKP **PiKiKP 22 02 07.8 -0.1**
HAMF Hammerfest 139.20 348 *e* **PKPdf 22 02 00.9 -5.2**
KEV Kevo 139.31 346 PiKiKP 22 02 08.4 -0.3
KEV Kevo 139.31 346 PKIKP **PiKiKP 22 02 08.4 -0.3**
APA Apatity 139.44 341 ⇓*i* PKIKP **PiKiKP 22 02 08.0 -1.0**
APA pmax pmax
comp=Z,23nm,0.7s
ARA0 ARCESS Array S 139.80 347 *e* **PKPdf 22 02 01.3 -6.0**
ARCES ARCESS Array B 139.80 347 PKhKP PKPpre 22 01 59.5
comp=Z,5.5nm,0.6s,baz=5.0,slow=2.1,SNR=37
ARCES PKP **PKPdf 22 02 08.4 +1.2**
comp=Z,22nm,0.6s,baz=59,slow=1.8,SNR=17
ARCES SKPbc **SKPbc 22 05 12.7 -2.5**
comp=Z,18nm,0.7s,baz=46,slow=2.6,SNR=11
ARCES SKPab **SKPab 22 05 23.5 -3.4**
comp=Z,6.9nm,0.7s,baz=35,slow=3.3,SNR=3.9
ARCES PKKP **PKKPdf 22 11 32.5 -1.8**
comp=Z,2.0nm,0.9s,baz=219,slow=2.3,SNR=5.3
ARCES SKKPbc **SKKPbc 22 13 48.0 -4.3**
comp=Z,14nm,1.2s,baz=214,slow=2.9,SNR=3.8
ADZR Andozero 140.22 335 *e*PKHKP PKPpre 22 01 59.3
ADZR pmax pmax
comp=Z,32nm,0.9s
JETT Jettan, Norway 140.70 349 *e*PKPdf **PiKiKP 22 02 11.3 -0.3**
KLMR Klimovskoe 141.40 330 *e*PKHKP PKPpre 22 02 03.8
KLMR *e* 22 05 15.0
KLMR pmax pmax
comp=Z,59nm,0.9s
STEI Steigen 142.97 351 *e*P **PKPdf 22 02 10.6 -2.3**
JOF Joensuu 143.30 337 *e*P PKPab 22 02 10.8 +0.4
GNI Garni 143.39 296 PKPab 22 02 11.4 -0.3
GNI Garni 143.39 296 PKPdf PKPab 22 02 12.3 +0.6
GNI Garni 143.39 296 P PKPbc 22 02 12.6 -0.3
GNI Garni 143.39 296 *i* PKIKP PKPab 22 02 12.0 +0.3
GNI Garni 143.39 296 PKP PKPbc 22 02 12.5 -0.4
FAUS Fauske 143.47 350 *e*P PKPbc 22 02 12.2 +0.2
VRH Novokhopyorsk 144.10 315 *e*PKIKP **PKPab 22 02 13.6 -0.3**
VRH pmax pmax
comp=Z,110nm,0.7s
NCK Nalchik 144.18 301 *i* PKHKP PKPpre 22 02 13.0
GOF Gofitskoye 144.43 304 *c i* PKIKP **PKPab 22 02 15.0 -0.4**
VALR Valaam 144.50 335 *i* PKIKP **PKPab 22 02 14.4 -0.7**
KONS Konsvik 144.60 351 *e*P PKPbc 22 02 15.2 -0.2
KBZ Khabaz 144.67 302 PKP PKPbc 22 02 16.0 -0.2
comp=Z,134nm,0.9s,baz=90,slow=3.2,SNR=163
KBZ Khabaz 144.67 302 *i* PKIKP PKPbc 22 02 15.2 -1.0
MOR8 Moi Rana 144.73 350 *e*P PKPbc 22 02 14.5 -1.3
MOS Moscow 144.73 323 *i* PKIKP PKPbc 22 02 14.8 -1.3
MOS pmax pmax
comp=Z,570nm,0.8s
MOS pmax pmax
comp=Z,600nm,0.8s
MOS pmax pmax
comp=N,223nm,1.3s
MOS pmax pmax
comp=E,120nm,1.1s
STOK Stokkvaagen 144.78 351 *e*P **PKPab 22 02 16.0 0.0**
KIV Kislovodsk 144.80 302 ⇑P PKPbc 22 02 16.1 -0.7
KIV Kislovodsk 144.80 302 PKPbc 22 02 16.8 0.0
KIV Kislovodsk 144.80 302 *i* PKPbc PKPbc 22 02 16.1 -0.7
SNR=35
KIV Kislovodsk 144.80 302 P PKPbc 22 02 16.7 -0.2
KIV Kislovodsk 144.80 302 ⇑*i* PKIKP PKPbc 22 02 15.7 -1.1
KIV pmax pmax
comp=Z,165nm,1.1s
KIV Kislovodsk 144.80 302 PKP PKPbc 22 02 16.0 -0.8
SHA1 Shidzhatmaz 144.84 302 *i* PKIKP PKPbc 22 02 16.2 -0.9
LPSR Galich'ya Gora 145.29 318 *e*PKIKP **PKPdf 22 02 16.9 -0.5**
LPSR pmax pmax
comp=Z,680nm,0.8s
VORR Voronezh 145.45 316 *e*PKP2 **PKPbc 22 02 18.5 +0.1**
VORR pmax pmax
comp=Z,590nm,0.8s
OBN Obninsk 145.55 323 ⇑P **PKPdf 22 02 17.4 -0.3**
OBN Obninsk 145.55 323 PKPdf 22 02 17.9 +0.2
OBN Obninsk 145.55 323 ⇑*i* PKIKP **PKPdf 22 02 17.1 -0.7**
OBN *e* 22 05 39.9
OBN *i* SS SS 22 24 05.3 -4.7
OBN pmax pmax
comp=Z,418nm,1.1s
OBN Obninsk 145.55 323 PKP **PKPdf 22 02 17.7 -0.1**
VSR Storozhevoye 145.63 316 *e*PKIKP **PKPdf 22 02 18.1 +0.1**
VSR pmax pmax
comp=Z,390nm,1.0s
VORD Divnogorie 145.63 315 *e*PKIKP **PKPdf 22 02 17.9 -0.1**
VORD pmax pmax
comp=Z,260nm,1.0s
BCA Borcka 145.75 298 ⇑P **PKPdf 22 02 17.9 -0.7**
PUL Pulkovo 145.75 333 *i* PKP2 **PKPbc 22 02 19.2 +0.2**
VAF Ylistaro 145.81 342 *e*P **PKPdf 22 02 18.4 +0.4**
KEF Keuruu 145.89 340 *e*P **PKPdf 22 02 18.4 +0.3**
FINES FINESS Array B 146.07 338 PKPbc 22 02 19.5 -0.4
FINES FINESS Array B 146.07 338 PKPbc **PKPbc 22 02 19.3 -0.7**
comp=Z,381nm,0.7s,baz=58,slow=3.6,SNR=786
FINES pPKPbc pPKPab 22 03 33.2 +2.6
comp=Z,101nm,0.8s,baz=32,slow=2.8,SNR=5.2
FINES SKKPbc SKKPbc 22 13 25.1 -1.3
comp=Z,6.7nm,1.0s,baz=188,slow=2.8,SNR=6.0
FINES FINESS Array B 146.07 338 PKP2 **PKPbc 22 02 19.5 -0.4**
LABN Labinsk 146.12 304 *e*PKP2 **PKPbc 22 02 20.7 0.0**
LABN pmax pmax
comp=Z,112nm,1.4s
ERBR Yeremizino-Bor 146.13 306 *e*PKP2 **PKiKP 22 02 24.5 +1.1**
ERBR pmax pmax
comp=N,380nm,0.9s
NSS Namsos 146.63 351 *e*PKPdf **PKPbc 22 02 21.1 -0.3**
VSLR Vesyoloye 146.77 302 *i* PKIKP **PKPdf 22 02 19.0 -1.3**
SOC Sochi 146.98 302 *e*PKIKP **PKPdf 22 02 19.3 -1.3**
SOC *i* 22 02 24.6
SOC *e*PPP PPP 22 09 10.2
SOC pmax pmax
comp=Z,98nm,0.8s
SOC pmax pmax
comp=Z,140nm,0.8s
KTUT Trabzon 147.17 297 ⇑P **PKPbc 22 02 24.3 +0.6**
MEF Metsahovi 147.54 338 *e*P **PKPbc 22 02 23.4 -0.6**
ARBE Arbavere 147.59 335 *e*P **PKPbc 22 02 24.2 0.0**
RAF Rauma 147.71 340 *e*P **PKPbc 22 02 23.7 -0.8**
TBLU Trondheim 148.08 351 *e*P **PKPbc 22 02 25.2 -0.2**
ANN Anapa 148.41 305 *i* PKIKP **PKPbc 22 02 26.1 -0.7**
ANN *e* 22 05 55.3
ANN pmax pmax
comp=Z,257nm,0.8s
ANN pmax pmax
comp=N,51nm,0.7s
ANN pmax pmax
comp=E,37nm,0.8s
MTSE Matsula 148.88 336 *e*P **PKPbc 22 02 27.3 -0.1**
AAL Aland 148.90 341 *e*P **PKPbc 22 02 26.6 -0.9**
MOL Molde 149.05 353 *e*P **PKPbc 22 02 27.9 +0.1**
DOMB Dombas 149.40 352 *e*P **PKPbc 22 02 28.8 +0.1**
AKN Aaknes 149.49 354 *e*P **PKiKP 22 02 29.4 -0.5**
UPP Uppsala 149.81 342 *e*P **PKPbc 22 02 28.7 -1.1**
NB2 NORSAR Subarra 150.06 349 PKP **PKPbc 22 02 30.2 -0.2**
comp=Z,398nm,1.7s,baz=15,slow=2.6
NB2 NORSAR Subarra 150.06 349 PKP **PKPbc 22 02 30.2 -0.2**
baz=15,slow=2.6
NOA NORSAR Array B 150.06 349 PKPbc **PKPbc 22 02 30.0 -0.4**
comp=Z,66nm,0.8s,baz=26,slow=3.7,SNR=92
NOA pPKPbc **pPKPab 22 03 44.5 -1.8**
comp=Z,19nm,0.8s,baz=16,slow=4.2,SNR=5.1
NOA NORSAR Array B 150.06 349 PKIKP **PKPbc 22 02 30.0 -0.4**
MNK Minsk 150.13 327 *i* PKIKP **PiKiKP 22 02 31.2 -0.2**
MNK *i* 22 03 32.3
MNK *i* 22 04 01.8
MNK *i* 22 06 12.0
MNK *i* SS SS 22 25 05.6 +4.6
MNK pmax pmax
comp=Z,360nm,0.9s
MNK pmax pmax
comp=E,30nm,1.0s
MNK pmax pmax
comp=N,74nm,0.9s
IDID Didziasalis 150.13 329 *e*P **PKiKP 22 02 31.8 +0.5**
FOO Floro 150.22 355 *e*P **PKiKP 22 02 31.0 -0.3**
ISAL Salakas 150.22 330 *e*P **PKiKP 22 02 31.6 0.0**
SLIT Slitere, Latvi 150.23 336 *e*P **PKPbc 22 02 30.0 -0.8**
NC602 NORSAR Array S 150.30 349 *e*P **PKPbc 22 02 30.6 -0.3**
MMAI Mount Meron Ar 150.36 282 PKP **PKPdf 22 02 26.6 0.0**
comp=N,7.5nm,0.9s,baz=98,slow=6.0,SNR=7.8
MMAI PKPbc **PKPbc 22 02 32.2 +0.2**
comp=N,25nm,0.3s,baz=96,slow=2.9,SNR=206
MMAI PKPab **PKPab 22 02 39.6 0.0**
comp=N,11nm,0.5s,baz=92,slow=4.3,SNR=5.5
HFS Hagfors 150.46 346 PKPbc **PKPbc 22 02 30.6 -0.7**
comp=N,84nm,0.6s,baz=70,slow=1.7,SNR=72
HFS PKPab **PKPab 22 02 38.5 -0.5**
comp=N,23nm,0.5s,baz=37,slow=3.6,SNR=14
HFS pPKPbc **pPKPbc 22 03 44.9 +2.5**
comp=N,23nm,0.7s,baz=62,slow=3.4,SNR=3.2
DIKM Dikmen 150.49 299 ⇑P **PKPbc 22 02 31.8 -0.2**
DIKM Dikmen 150.49 299 PKP **PKPbc 22 02 29.2 -2.8**
HYA Hoyanger 150.56 354 *e*P **PiKiKP 22 02 32.4 +0.4**
SIM Simferopol' 150.68 306 *i* PKIKP **PKPbc 22 02 31.1 -1.2**
SIM *e* 22 02 40.4
SIM pmax pmax
comp=Z,373nm,1.1s
SIM pmax pmax
comp=Z,282nm,0.8s
SUE Sulen 150.78 355 *e*P **PiKiKP 22 02 32.3 -0.1**
SKAR Skarslia 150.81 352 *e*P **PiKiKP 22 02 32.9 +0.2**
VSVD Vaisvydziai 150.84 332 *e*P **PiKiKP 22 02 32.9 +0.1**
EKNA AfricaArray - 151.08 199 ⇓*e*P **PiKiKP 22 02 36.0 +1.3**
PABE Paberze 151.17 332 *e*P **PKPbc 22 02 32.9 -0.2**
OSL Oslo 151.19 349 *e*P **PiKiKP 22 02 33.2 -0.2**
VIKU Vikbolandet 151.22 342 *e*P **PKPbc 22 02 31.8 -1.3**
ASK Askoy 151.32 355 *e*P **PKPbc 22 02 33.3 +0.1**
BER Bergen 151.40 355 *e*P **PiKiKP 22 02 34.3 +0.5**
AKASG Malin Array Be 151.57 320 PKP **PKPdf 22 02 26.7 -0.9**
comp=Z,11nm,0.9s,baz=63,slow=1.7,SNR=27
AKASG PKPbc **PKPbc 22 02 33.7 -0.5**
comp=Z,131nm,0.8s,baz=64,slow=2.2,SNR=116
AKASG PKPab **PKPab 22 02 43.7 -0.2**
comp=Z,24nm,0.7s,baz=48,slow=3.1,SNR=6.6
AKASG pPKPbc **pPKPbc 22 03 48.8 +3.3**
comp=Z,27nm,0.8s,baz=51,slow=1.9,SNR=4.0
KIEV Kiev 151.58 320 ⇓P **PKPdf 22 02 26.9 -0.8**
KIEV Kiev 151.58 320 PKPbc 22 02 32.4 -1.8
KIEV Kiev 151.58 320 *i* PKPdf **PKPdf 22 02 26.8 -0.8**
SNR=14
KIEV Kiev 151.58 320 ⇓PKIKP **PKPdf 22 02 26.9 -0.8**
KIEV Kiev 151.58 320 PKP **PKPdf 22 02 27.0 -0.7**
PBUR Paburge 151.58 334 *e*P **PKPbc 22 02 33.6 -0.3**
KONO Kongsberg 151.64 350 PiKiKP 22 02 34.5 +0.2
KONO Kongsberg 151.64 350 *e*P **PKPbc 22 02 33.9 -0.1**
KONO Kongsberg 151.64 350 ⇑PKIKP **PKPbc 22 02 33.9 -0.1**
ODD1 Odda 151.75 353 *e*P **PiKiKP 22 02 34.7 +0.1**
BR131 Keskin Array S 151.93 295 P **PKPdf 22 02 27.6 -1.2**
SNR=76
BRTR Keskin Array B 151.93 295 PKPbc **PKPbc 22 02 34.9 -0.7**
BRTR Keskin Array B 151.93 295 PKP **PKPdf 22 02 27.6 -1.1**
comp=Z,12nm,1.2s,baz=132,slow=2.1,SNR=35
BRTR PKPbc **PKPbc 22 02 35.2 -0.4**
comp=Z,38nm,0.8s,baz=126,slow=3.7,SNR=75
BRTR PKPab **PKPab 22 02 45.8 -0.3**
comp=Z,39nm,0.9s,baz=81,slow=3.9,SNR=23
BRTR pPKPbc **pPKPab 22 03 52.0 -3.2**
comp=Z,10.0nm,0.8s,baz=116,slow=3.0,SNR=3.5
BLS5 Blasjo 152.25 353 *e*P **PiKiKP 22 02 36.3 +0.6**
CSS Mathiatis 152.27 285 PKP **PKPdf 22 02 29.3 0.0**
SUW Suwalki 152.54 330 *e*PKPdf **PKPdf 22 02 28.2 -0.8**
SUW *e*PKPbc **PKPbc 22 02 36.1 -0.1**
SUW *e*PKPab **PKPab 22 02 47.5 -0.3**
SUW Suwalki 152.54 330 *e*P **PKPbc 22 02 36.3 +0.1**
ANTO Ankara 152.57 296 ⇑P **PKPdf 22 02 28.7 -1.0**
ANTO Ankara 152.57 296 PKPdf 22 02 30.0 +0.4
ANTO Ankara 152.57 296 P **PKPdf 22 02 28.6 -1.0**
ANTO Ankara 152.57 296 PKIKP **PKPdf 22 02 30.0 +0.4**
ANTO Ankara 152.57 296 PKP **PKPdf 22 02 29.4 -0.2**
KMY Karmoy 152.57 354 *e*P **PiKiKP 22 02 36.5 +0.3**
PURM Purcari 153.01 311 ⇑P **PKPdf 22 02 23.7 -6.2**
HOMB Homborsund 153.12 350 *e*P **PiKiKP 22 02 37.6 +0.2**
SNART Snartemo 153.23 352 *e*P **PiKiKP 22 02 38.0 +0.3**
SORM Soroca 153.29 315 ⇑P **PKPdf 22 02 29.2 -1.0**
SORM Soroca 153.29 315 ⇑PKIKP **PKPdf 22 02 29.2 -1.0**
KIS Kishinev 153.50 313 *e*PKHKP PKPpre 22 02 30.0
KIS Kishinev 153.50 313 *i* PKIKP **PKPbc 22 02 38.0 -0.5**
KIS Kishinev 153.50 313 PKPM 22 02 39.0
comp=Z,68nm,0.6s
KIS Kishinev 153.50 313 *e*PKIKP **PKPdf 22 02 30.0 -0.6**
MILM Milestii Mici 153.53 313 ⇑P **PKPdf 22 02 29.3 -1.3**
MILM Milestii Mici 153.53 313 *e*PKHKP PKPpre 22 02 29.0
MILM Milestii Mici 153.53 313 *i* PKIKP **PKPbc 22 02 38.0 -0.6**
MILM Milestii Mici 153.53 313 *e*PKIKP **PKPdf 22 02 29.0 -1.6**
MILM pmax pmax
comp=Z,230nm,0.8s
DEL Delary 153.74 343 *e*P **PKPbc 22 02 38.6 -0.1**
LEOM Leova 154.07 312 ⇑P **PiKiKP 22 02 40.3 +0.5**
TLCR 154.19 309 ⇓P **PKPdf 22 02 31.6 0.0**
TLCR 154.19 309 ⇓PKIKP **PKPdf 22 02 31.6 0.0**
DRBR Darabani 154.28 317 ⇓P **PKPbc 22 02 39.7 -0.4**
VASR Vaslui 154.28 313 ⇓P **PiKiKP 22 02 40.8 +0.6**
DBIC Dimbokro 154.36 168 PKP **PKPdf 22 02 32.5 -0.4**
comp=Z,29nm,0.8s,baz=180,slow=1.9,SNR=24
DBIC PKPbc **PiKiKP 22 02 42.5 +1.1**
comp=Z,17nm,0.5s,baz=190,slow=1.6,SNR=14
DBIC PKPab **PKPab 22 02 58.0 +1.4**
comp=Z,31nm,0.5s,baz=217,slow=3.8,SNR=9.9
DBIC PP **PP 22 06 37.7 +6.2**
comp=Z,21nm,1.2s,baz=150,slow=9.6,SNR=4.0
VLDR Vladesti 154.42 311 ⇑P **PiKiKP 22 02 40.7 +0.2**
SCTR Scanteiesti 154.54 310 ⇑P **PiKiKP 22 02 41.5 +0.7**
VARL Varlezi 154.55 311 ⇓P **PiKiKP 22 02 41.9 +1.1**
CFR Carcaliu 154.64 309 ⇓P **PKPdf 22 02 31.2 -1.0**
CFR Carcaliu 154.64 309 ⇓PKIKP **PKPdf 22 02 31.2 -1.0**
SLCR Slobozia Conac 154.72 310 ⇑P **PiKiKP 22 02 42.3 +1.1**
GHRR 154.77 312 ⇓P **PKPdf 22 02 32.6 +0.2**
MFTR Murfatlar 154.80 307 ⇓P **PKPdf 22 02 32.9 +0.4**
LVV L'vov 154.84 322 *e*PKIKP **PKPdf 22 02 31.1 -1.3**
LVV *e* 22 09 05.2
PRAR RASCA 154.92 315 ⇑P **PKPdf 22 02 32.2 -0.4**
TLBR Topalu 154.93 308 ⇑P **PKPdf 22 02 32.6 -0.1**
HARR Harsova 154.95 308 ⇑P **PKPdf 22 02 32.6 -0.1**
HARR Harsova 154.95 308 ⇑PKIKP **PKPdf 22 02 32.6 -0.1**
PANC Panciu 155.01 311 ⇓P **PKPdf 22 02 39.6 +6.9**
TESR Tescani 155.05 313 ⇑P **PKPdf 22 02 32.3 -0.5**
BEL Belsk 155.10 329 *e*PKPbc PKPdf 22 02 42.5 +10
BEL *e*PKPab **PKPab 22 02 58.7 -0.2**
ODBI Odobesti 155.11 311 ⇑P PKPdf 22 02 43.6 +11
ICOR Ion Corvin 155.24 307 ⇓P PKPdf 22 02 43.1 +10
VRI Vrincioaia 155.28 312 ⇑P PKPdf 22 02 42.8 +10
GRER 155.32 310 ⇑P **PKPdf 22 02 35.5 +2.3**
PLOR Plostina 155.34 312 ⇓P PKPdf 22 02 42.0 +8.7
BURAR Bucovina Array 155.39 317 ⇓P **PKPdf 22 02 33.6 +0.2**
BURAR Bucovina Array 155.39 317 PKPdf 22 02 33.8 +0.4
BISRR Bisoca 155.42 311 ⇓P **PKPdf 22 02 34.7 +1.3**
GKP Gorka Klasztor 155.44 335 *e*PKPdf **PKPdf 22 02 33.4 +0.3**
GKP *e*PKPbc PKPab 22 02 42.5 -18
GKP *e*PKPab **PKPab 22 02 59.6 -0.6**
COVR Voineasa-Covas 155.62 312 ⇑P **PKPdf 22 02 32.8 -0.8**
KWP Kalwaria Pacla 155.64 323 *e*PKPdf **PKPdf 22 02 33.2 -0.3**
KWP *e*PKPbc PKPab 22 02 43.8 -18
KWP *e*PKPab **PKPab 22 03 02.5 +1.2**
KWP Kalwaria Pacla 155.64 323 PKP **PKPdf 22 02 34.0 +0.5**
NEHR Nehoiu 155.74 311 ⇑P **PKPdf 22 02 33.2 -0.6**
OZUR 155.77 313 ⇑P **PKPdf 22 02 33.7 -0.1**
MLR Muntele Rosu 155.94 311 ⇑P **PKPdf 22 02 32.8 -1.4**
KOLS Kolonicke sedl 156.29 322 *e*PKP **PKPdf 22 02 34.8 +0.4**
KOLS *e* 22 03 04.9
KOLS Kolonicke sedl 156.29 322 *e*PKIKP **PKPdf 22 02 34.8 +0.4**
BMR Baia Mare 156.35 318 ⇓P **PKPdf 22 02 35.1 +0.6**
BMR Baia Mare 156.35 318 ⇓PKIKP **PKPdf 22 02 35.1 +0.6**
STHS Stebnicka Huta 156.52 324 *e*PKP **PKPdf 22 02 34.2 -0.5**
STHS *e* 22 03 05.3
STHS Stebnicka Huta 156.52 324 *e*PKIKP **PKPdf 22 02 34.2 -0.5**
VOIR 156.53 312 ⇓P **PKPdf 22 02 37.7 +2.8**
VOIR 156.53 312 ⇓PKIKP **PKPdf 22 02 37.7 +2.8**
EKA Eskdalemuir Ar 156.55 5 PKP **PKPdf 22 02 34.2 -0.3**
comp=Z,0.9nm,0.6s,baz=338,slow=0.8,SNR=6.3
EKA PKPab **PKPab 22 03 05.0 +0.1**
comp=Z,5.5nm,0.6s,baz=338,slow=2.8,SNR=8.7
OJC Ojcow 156.68 327 *e*PKPdf **PKPdf 22 02 33.7 -1.1**
OJC *e*PKPab **PKPab 22 03 05.3 -0.5**
OJC Ojcow 156.68 327 PKP **PKPdf 22 02 34.5 -0.3**
CRVS Cervenica-Dubn 156.73 323 *e*PKP **PKPdf 22 02 35.1 +0.1**
CRVS *e* 22 03 06.1
CRVS Cervenica-Dubn 156.73 323 *e*PKIKP **PKPdf 22 02 35.1 +0.1**
SZH Strazhitsa 156.78 306 P **PKPdf 22 02 33.9 -1.3**
CJR Cluj-Napoca 156.80 316 ⇓P **PKPdf 22 02 40.6 +5.5**
CJR Cluj-Napoca 156.80 316 ⇓PKIKP **PKPdf 22 02 40.6 +5.5**
ARR Arges 156.82 312 ⇓P **PKPdf 22 02 35.6 +0.3**
MESR Meseseni 156.95 318 ⇓P **PKPdf 22 02 36.2 +0.9**
ELND Elena 156.96 306 ⇓P **PKPdf 22 02 34.8 -0.6**
COPA Copaceanca 156.96 309 ⇑P PKPdf 22 02 45.8 +10
NIE Niedzica 156.98 325 *e*PKPdf **PKPdf 22 02 35.1 -0.2**
NIE *e*PKPab **PKPab 22 03 08.0 +0.9**
NIE Niedzica 156.98 325 PKP **PKPdf 22 02 35.3 0.0**
MARR Marisel-Cluj 157.10 316 ⇓P **PKPdf 22 02 35.2 -0.4**
DRGR 157.28 317 ⇑P **PKPdf 22 02 35.8 0.0**
DRGR 157.28 317 ⇑PKIKP **PKPdf 22 02 35.8 0.0**
KARP Karpathos 157.32 286 PKP **PKPdf 22 02 35.6 -0.6**
LOT Lotru 157.32 313 ⇓P **PKPdf 22 02 35.0 -0.9**
KECS Kecovo 157.50 323 *e*PKP **PKPdf 22 02 35.7 -0.2**
KECS *e* 22 03 10.7
KECS Kecovo 157.50 323 *e*PKIKP **PKPdf 22 02 35.7 -0.2**
LANS Liptovska Anna 157.57 325 *e*PKP **PKPdf 22 02 36.7 +0.7**
LANS *e* 22 03 11.0
LANS Liptovska Anna 157.57 325 *e*PKIKP **PKPdf 22 02 36.7 +0.7**
OKC Ostrava-Krasne 157.70 328 *e*PKPAB **PKPab 22 03 10.5 +0.3**
OKC Ostrava-Krasne 157.70 328 *e*PKP2 **PKPab 22 03 10.5 +0.3**
KDZ Kurdzhali 157.75 303 P **PKPdf 22 02 34.1 -2.4**
GZR Gura Zlata 157.96 314 ⇑P **PKPdf 22 02 36.1 -0.6**
GZR Gura Zlata 157.96 314 ⇑PKIKP **PKPdf 22 02 36.1 -0.6**
MORC Moravsky Berou 158.01 329 ⇑P **PKPdf 22 02 36.2 -0.4**
MORC Moravsky Berou 158.01 329 *e*PKP **PKPdf 22 02 35.7 -0.9**
MORC *e* 22 03 11.6
MORC *e* 22 03 13.5
MORC Moravsky Berou 158.01 329 ⇑PKIKP **PKPdf 22 02 36.2 -0.4**
CHVC Chvalec 158.01 332 *e*PKPDF **PKPdf 22 02 36.7 +0.2**
CHVC *e*PKPAB **PKPab 22 03 12.1 +0.6**
CHVC Chvalec 158.01 332 *e*PKIKP **PKPdf 22 02 36.7 +0.2**
CHVC *e* 22 03 12.1
DPC Dobruska-Polom 158.09 331 *e*PKPDF **PKPdf 22 02 37.6 +1.0**
DPC *e*PKPAB **PKPab 22 03 12.0 +0.1**
DPC Dobruska-Polom 158.09 331 *e*PKIKP **PKPdf 22 02 37.6 +1.0**
DPC *e* 22 03 12.0
DPC Dobruska-Polom 158.09 331 PKP **PKPdf 22 02 36.6 0.0**
KRLC Kraliky 158.11 330 *e*PKPDF **PKPdf 22 02 37.0 +0.3**
KRLC *e*PKPAB **PKPab 22 03 12.3 +0.3**
KRLC Kraliky 158.11 330 *e*PKIKP **PKPdf 22 02 37.0 +0.3**
KRLC *e* 22 03 12.3
RZN Rozhen 158.16 303 P **PKPdf 22 02 35.4 -1.8**
PSZ Piszkesteto 158.16 322 ⇑P **PKPdf 22 02 35.8 -1.1**
PSZ Piszkesteto 158.16 322 ⇑PKIKP **PKPdf 22 02 35.8 -1.1**
MAUC Maruska 158.18 328 *e*PKPDF **PKPdf 22 02 36.8 0.0**
MPEP Malo Peshtene 158.25 308 P **PKPdf 22 02 35.0 -2.0**
**VYHS Vyhne

PVCC	**Panska Ves**	**158.63**	**334**	*e*PKP2	**PKPab**	**22 03 15.0**	**+0.8**
AMBH	**Ambrzfalva**	**158.66**	**318**	⇑P	**PKPdf**	**22 02 37.9**	**+0.5**
BLKB	**Belogradchik**	**158.85**	**310**	⇑P	**PKPdf**	**22 02 36.6**	**-1.2**
VTS	**Vitosha**	**158.89**	**307**	*i* P	**PKPdf**	**22 02 35.0**	**-3.0**
MMB	**Musomishta**	**158.91**	**303**	P	**PKPdf**	**22 02 35.4**	**-2.5**
MDVR	**Moldovita**	**158.92**	**313**	⇓P	**PKPdf**	**22 02 36.3**	**-1.5**
KRUC	**Moravsky**	**159.04**	**329**	*e*PKP	**PKPdf**	**22 02 36.7**	**-1.0**
KRUC				*e*		22 03 16.1	
KRUC				*e*		22 04 28.7	
PRA	**Prague**	**159.05**	**334**	*e*PKPAB	**PKPab**	**22 03 16.6**	**+0.6**
PRA	**Prague**	**159.05**	**334**	*e*PKP2	**PKPab**	**22 03 16.6**	**+0.6**
PRU	**Pruhonice**	**159.08**	**333**	*e*PKPAB	**PKPab**	**22 03 16.6**	**+0.5**
PRU	**Pruhonice**	**159.08**	**333**	*e*PKP2	**PKPab**	**22 03 16.6**	**+0.5**
MODS	**Modra-Piesok**	**159.15**	**327**	*e*PKP	**PKPdf**	**22 02 38.0**	**+0.1**
MODS				*e*		22 03 17.5	
MODS	**Modra-Piesok**	**159.15**	**327**	*e*PKIKP	**PKPdf**	**22 02 38.0**	**+0.1**
TREC	**Trest**	**159.25**	**331**	*e*PKPAB	**PKPab**	**22 03 17.1**	**+0.1**
TREC	**Trest**	**159.25**	**331**	*e*PKP2	**PKPab**	**22 03 17.1**	**+0.1**
ZST	**Bratislava**	**159.36**	**326**	*e*PKP	**PKPdf**	**22 02 37.7**	**-0.4**
ZST				*e*		22 03 18.4	
ZST	**Bratislava**	**159.36**	**326**	*e*PKIKP	**PKPdf**	**22 02 37.7**	**-0.4**
BOVS	**Bovan**	**159.47**	**311**	⇑P	**PKPdf**	**22 02 36.6**	**-1.8**
NKC	**Novy Kostel**	**159.62**	**337**	*e*PKPAB	**PKPab**	**22 03 19.5**	**+1.0**
NKC	**Novy Kostel**	**159.62**	**337**	*e*PKP2	**PKPab**	**22 03 19.5**	**+1.0**
ZVC	**Zvikov**	**159.66**	**333**	*e*PKPDF	**PKPdf**	**22 02 39.1**	**+0.7**
ZVC				*e*PKPAB	**PKPab**	**22 03 18.9**	**+0.2**
MPLH	**Magyarpolny**	**159.86**	**324**	PKP	**PKPdf**	**22 02 37.8**	**-0.9**
FRGS	**Fruska Gora**	**159.87**	**316**	⇑*i*P	**PKPdf**	**22 02 37.1**	**-1.7**
FRGS	**Fruska Gora**	**159.87**	**316**	PKP	**PKPdf**	**22 02 38.5**	**-0.3**
MORH	**Mrgy, Hungar**	**159.90**	**320**	⇑P	**PKPdf**	**22 02 37.7**	**-1.1**
RONA	**Rosalia, Austr**	**160.09**	**327**	*i* PKP	**PKPdf**	**22 02 38.2**	**-0.8**
	comp=Z,22nm,1.4s,SNR=8.2						
RONA				*i* PKP	**PKPab**	**22 03 21.5**	**+0.8**
	comp=Z,13nm,0.7s,SNR=9.0						
CKRC	**Cesky Krumlov**	**160.11**	**332**	*e*PKPDF	**PKPdf**	**22 02 38.3**	**-0.7**
CKRC				*e*PKPAB	**PKPab**	**22 03 21.0**	**+0.3**
CKRC				*ex*	x	22 26 37.6	
CKRC	**Cesky Krumlov**	**160.11**	**332**	*e*PKIKP	**PKPdf**	**22 02 38.3**	**-0.7**
CKRC				*e*		22 03 21.0	
CONA	**Conrad Observa**	**160.12**	**328**	*i* PKP	**PKPdf**	**22 02 38.3**	**-0.8**
	comp=Z,14nm,1.3s,SNR=8.5						
CONA				*i* PKP	**PKPab**	**22 03 21.7**	**+0.8**
	comp=Z,18nm,0.9s,SNR=10						
KHC	**Kasperske Hory**	**160.14**	**333**	*e*PKPDF	**PKPdf**	**22 02 39.0**	**-0.1**
KHC				*ex*	x	22 02 53.2	
KHC				*e*PKPAB	**PKPab**	**22 03 21.3**	**+0.4**
KHC				*ex*	x	22 26 47.4	
KHC				AMS	AMS	23 09 00.0	
	comp=Z,200nm,19.7s						
KHC	**Kasperske Hory**	**160.14**	**333**	*e*PKIKP	**PKPdf**	**22 02 39.0**	**-0.1**
KHC				*e*		22 03 21.3	
KHC				*e*		22 26 47.4	
KHC				MLR	MLR		
	comp=Z,200nm,19.7s						
KHC	**Kasperske Hory**	**160.14**	**333**	PKP	**PKPdf**	**22 02 38.6**	**-0.5**
GERES	**GERESS Array B**	**160.33**	**333**		**PKPdf**	**22 02 39.2**	**-0.1**
GERES					**PKPab**	**22 03 22.2**	**+0.5**
GERES	**GERESS Array B**	**160.33**	**333**	PKP	**PKPdf**	**22 02 38.5**	**-0.9**
	comp=Z,6.0nm,0.9s,baz=48,slow=1.5,SNR=24						
GERES				PKPab	**PKPab**	**22 03 21.6**	**-0.1**
	comp=Z,12nm,0.9s,baz=31,slow=5.9,SNR=18						
TEKS	**Tekeris**	**160.37**	**315**	⇑*i*P	**PKPdf**	**22 02 38.0**	**-1.4**
GRFO	**Grafenberg**	**160.49**	**338**		**PKPab**	**22 03 23.3**	**+1.0**
GRFO	**Grafenberg**	**160.49**	**338**	PKP2	**PKPab**	**22 03 23.3**	**+1.0**
SJES	**Sjenica**	**160.76**	**311**	⇑*i*P	**PKPdf**	**22 02 39.0**	**-1.0**
ARSA	**Arzberg**	**160.78**	**327**	*i* PKP	**PKPdf**	**22 02 38.6**	**-1.2**
	comp=Z,16nm,1.6s,SNR=7.3						
ARSA				*e*PKP	**PKPab**	**22 03 24.0**	**+0.3**
	comp=Z,6.1nm,0.7s						
BBLS	**Lazi&#263i**	**160.81**	**314**	⇑*i*P	**PKPdf**	**22 02 38.8**	**-1.2**
MOA	**Molln**	**160.89**	**330**	*i* PKP	**PKPdf**	**22 02 38.9**	**-1.0**
	comp=Z,16nm,1.8s,SNR=5.3						
MOA				*i* PKP	**PKPab**	**22 03 24.0**	**-0.1**
	comp=Z,7.5nm,0.7s,SNR=5.7						
MEM	**Membach**	**160.91**	**349**	*d*PKPdf	**PKPdf**	**22 02 39.6**	**-0.2**
MEM				*d*PKP	**PKPab**	**22 03 24.0**	**0.0**
BTNL	**Ternell**	**160.91**	**348**	*d*PKPdf	**PKPdf**	**22 02 38.8**	**-1.0**
BTNL				*d*PKP	**PKPab**	**22 03 23.4**	**-0.7**
RUDO	**Rudo**	**160.96**	**313**	*e*P	**PKPdf**	**22 02 38.4**	**-1.7**
HAPS	**Han Pijesak,Bl**	**160.97**	**315**	⇑*i*P	**PKPdf**	**22 02 38.5**	**-1.7**
KOGS	**Kog**	**161.00**	**324**	*i* PKPab	**PKPab**	**22 03 24.3**	**-0.4**
BSTI	**Sart Tilman**	**161.01**	**349**	*d*PKPdf	**PKPdf**	**22 02 40.1**	**+0.2**
BHOU	**Houvegnez**	**161.16**	**348**	*d*PKPdf	**PKPdf**	**22 02 40.3**	**+0.2**
BHOU				*d*PKP	**PKPab**	**22 03 25.4**	**+0.2**
TOA0	**Torodi Ar. Sit**	**161.19**	**185**	P	**PKPdf**	**22 02 41.9**	**+0.7**
	SNR=8.8						
TORD	**Torodi Ar. Bea**	**161.19**	**185**	PKP	**PKPdf**	**22 02 41.2**	**+0.1**
	comp=Z,31nm,1.0s,baz=89,slow=0.3,SNR=49						
TORD				PKPab	**PKPab**	**22 03 26.7**	**+0.6**
	comp=Z,121nm,0.8s,baz=172,slow=3.2,SNR=25						
BCLA	**Clavier**	**161.21**	**350**	*d*PKP	**PKPab**	**22 03 25.7**	**+0.4**
BCLA				*d*PKIKP	pPKPdf	22 03 39.2	-13
A052A	**Srbac**	**161.21**	**319**	*e*P	**PKPdf**	**22 02 39.0**	**-1.3**
BGES	**Gesves**	**161.27**	**350**	*d*PKP	**PKPab**	**22 03 26.6**	**+0.9**
BIOA	**Bad Ischl, Aus**	**161.27**	**331**	*i* PKP	**PKPdf**	**22 02 39.3**	**-1.0**
	comp=Z,19nm,1.5s,SNR=8.4						
BIOA				*i* PKP	**PKPab**	**22 03 26.3**	**+0.4**
	comp=Z,7.7nm,0.7s,SNR=7.9						
BMRD	**Maredsous**	**161.40**	**351**	*d*PKPdf	**PKPdf**	**22 02 40.1**	**-0.2**
BMRD				*d*PKP	**PKPab**	**22 03 25.7**	**-0.4**
PERS	**Pernice**	**161.42**	**326**	*i* PKPdf	**PKPdf**	**22 02 39.1**	**-1.4**
SOKA	**Soboth**	**161.43**	**326**	*i* PKP	**PKPdf**	**22 02 39.4**	**-1.2**
	comp=Z,25nm,1.4s,SNR=14						
SOKA				*e*PKP	**PKPab**	**22 03 26.4**	**-0.2**
	comp=Z,3.7nm,0.6s						
UPM	**Unac-Piva**	**161.47**	**312**	*e*P	**PKPdf**	**22 02 39.8**	**-1.1**
RCHB	**Rochefort**	**161.47**	**350**	*d*PKPdf	**PKPdf**	**22 02 40.3**	**-0.1**
RCHB				*d*PKP	**PKPab**	**22 03 26.1**	**-0.4**
A051A	**Mrakovica**	**161.61**	**320**	⇑*i*P	**PKPdf**	**22 02 39.4**	**-1.4**
BLY	**Banja Luka**	**161.62**	**319**	⇑*i*P	**PKPdf**	**22 02 39.4**	**-1.3**
DOU	**Dourbes**	**161.62**	**351**	*d*PKPdf	**PKPdf**	**22 02 40.5**	**0.0**
DOU				*d*PKP	**PKPab**	**22 03 25.0**	**-2.2**
PDG	**Podgorica**	**161.62**	**310**	*e*P	**PKPdf**	**22 02 39.2**	**-1.6**
TIR	**Tirane**	**161.69**	**306**	PKP	**PKPdf**	**22 02 40.7**	**-0.2**
PRIJ	**Prijedor**	**161.73**	**320**	*e*P	PKPdf	22 02 31.3	-9.5
OBKA	**Obir**	**161.78**	**327**	*e*PKP	**PKPdf**	**22 02 40.1**	**-0.9**
	comp=Z,15nm,1.9s						
OBKA				*e*PKP	**PKPab**	**22 03 27.8**	**-0.4**
	comp=Z,5.1nm,0.7s						
OBKA	**Obir**	**161.78**	**327**	*e*P	**PKPdf**	**22 02 39.5**	**-1.4**
DRME	**Dracevica, Mon**	**161.78**	**309**	⇑*i*P	**PKPdf**	**22 02 39.7**	**-1.3**
WLF	**Walferdange**	**161.79**	**348**	*d*PKPdf	**PKPdf**	**22 02 41.4**	**+0.7**
WLF				*d*PKP	**PKPab**	**22 03 28.2**	**+0.2**
CRES	**Cresnjev**	**161.83**	**324**	⇑*i*P	**PKPdf**	**22 02 39.9**	**-1.0**
BRY	**Bratogost**	**161.85**	**312**	⇑*i*P	**PKPdf**	**22 02 39.4**	**-1.8**
KBA	**Koelnbreinsper**	**161.88**	**330**	*i* PKP	**PKPdf**	**22 02 39.9**	**-1.3**
	comp=Z,14nm,1.2s,SNR=11						
LESA	**Schwarzleotal**	**161.88**	**332**	*e*PKP	**PKPdf**	**22 02 40.1**	**-0.9**
	comp=Z,37nm,1.7s						
LESA				*e*PKP	**PKPab**	**22 03 29.0**	**+0.4**
	comp=Z,6.4nm,0.6s						
NEVS	**Nevesinje**	**161.91**	**314**	*e*P	**PKPdf**	**22 02 40.4**	**-0.8**
MYKA	**Terra Mystica**	**162.10**	**329**	*i* PKP	**PKPdf**	**22 02 40.2**	**-1.0**
	comp=Z,19nm,2.2s,SNR=5.7						
MYKA				*e*PKP	**PKPab**	**22 03 28.7**	**-0.8**
	comp=Z,8.0nm,0.7s						
LJU	**Ljubljana**	**162.13**	**326**	*i* PKPab	**PKPab**	**22 03 29.2**	**-0.5**
LJU				*e*		22 04 43.1	
A050A	**Klekovaca**	**162.15**	**319**	⇑*i*P	**PKPdf**	**22 02 39.9**	**-1.5**
BOJS	**Bojanci**	**162.16**	**323**	*i* PKPdf	**PKPdf**	**22 02 40.4**	**-0.8**
BOJS				*e*		22 04 44.1	
BOJS	**Bojanci**	**162.16**	**323**	⇑*i*P	**PKPdf**	**22 02 40.3**	**-0.9**
WATA	**Walderalm**	**162.38**	**334**	*i* PKP	**PKPdf**	**22 02 41.0**	**-0.6**
	comp=Z,22nm,1.3s,SNR=7.2						
WATA				*e*PKP	**PKPab**	**22 03 31.2**	**+0.3**
	comp=Z,5.1nm,0.5s						
STON	**Ston**	**162.39**	**313**	⇑*i*P	**PKPdf**	**22 02 39.8**	**-1.7**
CEY	**Cerknica**	**162.40**	**325**	⇑*i*P	**PKPdf**	**22 02 39.9**	**-1.6**
WTTA	**Wattenberg**	**162.42**	**333**	*i* PKP	**PKPdf**	**22 02 41.2**	**-0.5**
	comp=Z,30nm,1.3s,SNR=12						
WTTA				*e*PKP	**PKPab**	**22 03 31.4**	**+0.3**
	comp=Z,7.4nm,0.9s						
ABTA	**Abfaltersbach**	**162.49**	**331**	*i* PKP	**PKPdf**	**22 02 40.6**	**-1.1**
	comp=Z,16nm,1.0s,SNR=14						
ABTA				*i* PKP	**PKPab**	**22 03 30.6**	**-0.7**
	comp=Z,10nm,0.6s,SNR=7.5						
MOTA	**Moosalm**	**162.55**	**335**	*i* PKP	**PKPdf**	**22 02 40.9**	**-0.9**
	comp=Z,27nm,1.2s,SNR=11						
MOTA				*i* PKP	**PKPab**	**22 03 31.4**	**-0.2**
	comp=Z,19nm,0.7s,SNR=12						
RETA	**Reutte**	**162.55**	**335**	*e*PKP	**PKPdf**	**22 02 41.1**	**-0.6**
	comp=Z,9.5nm,1.2s						
RETA				*i* PKP	**PKPab**	**22 03 31.8**	**+0.3**
	comp=Z,19nm,0.7s,SNR=14						
BFO	**Black Forest**	**162.56**	**342**		**PKPdf**	**22 02 42.8**	**+1.3**
BFO					**PKPab**	**22 03 32.1**	**+0.7**
BFO	**Black Forest**	**162.56**	**342**	PKP2	**PKPab**	**22 03 32.1**	**+0.7**
BFO						23 02 42.8	
SQTA	**Sankt Quirin**	**162.62**	**334**	*i* PKP	**PKPdf**	**22 02 41.2**	**-0.6**
	comp=Z,22nm,1.1s,SNR=9.8						
SQTA				*i* PKP	**PKPab**	**22 03 32.1**	**+0.2**
	comp=Z,16nm,0.8s,SNR=6.2						
FETA	**Feichten**	**162.96**	**335**	*i* PKP	**PKPdf**	**22 02 41.8**	**-0.4**
	comp=Z,29nm,1.2s,SNR=15						
FETA				*i* PKP	**PKPab**	**22 03 33.4**	**0.0**
	comp=Z,13nm,0.8s,SNR=8.4						
DAVA	**Damuels**	**163.03**	**337**	*i* PKP	**PKPdf**	**22 02 41.7**	**-0.5**
	comp=Z,17nm,1.2s,SNR=6.2						
DAVA				*i* PKP	**PKPab**	**22 03 33.7**	**0.0**
	comp=Z,19nm,0.9s,SNR=11						
TUE	**Stuetta**	**163.92**	**337**	PKP	**PKPdf**	**22 02 42.7**	**-0.5**
MATE	**Matera**	**164.15**	**308**	⇓P	**PKPdf**	**22 02 42.1**	**-1.2**
TIP	**Timpagrande**	**164.74**	**303**	⇓P	**PKPdf**	**22 02 43.9**	**-0.1**
TIP	**Timpagrande**	**164.74**	**303**	PKPab	**PKPab**	**22 03 41.1**	**-0.4**
TIP	**Timpagrande**	**164.74**	**303**	PKP	**PKPdf**	**22 02 43.6**	**-0.3**
NRCA	**Norcia**	**165.10**	**320**		**PKPab**	**22 03 43.2**	**+0.3**
INTR	**Introdacqua**	**165.19**	**316**		**PKPab**	**22 03 44.0**	**+0.6**
CESX	**Cesi**	**165.54**	**321**		**PKPab**	**22 03 43.2**	**-1.5**
OSSC	**Osservatorio P**	**165.56**	**326**		**PKPab**	**22 03 44.4**	**-0.5**
BNI	**Bardonecchia**	**166.02**	**341**	PKPab	**PKPab**	**22 03 47.2**	**+0.3**
BNI	**Bardonecchia**	**166.02**	**341**	PKP2	**PKPab**	**22 03 47.2**	**+0.3**
PGAV	**Gavieira, Arco**	**167.98**	**32**	*e*PKPdf	**PKPdf**	**22 02 48.0**	**+1.6**
PCAB	**Cabril**	**168.29**	**32**	*e*PKPdf	**PKPdf**	**22 02 48.0**	**+1.5**
POLO	**Lamas de Olo**	**168.67**	**32**	*e*PKPdf	**PKPdf**	**22 02 48.0**	**+1.1**
PBRG	**Braganca**	**168.76**	**28**	*e*PKPdf	**PKPdf**	**22 02 47.4**	**+0.6**
PVRL	**Vila Real**	**168.78**	**32**	*e*PKPdf	**PKPdf**	**22 02 48.8**	**+1.9**
PVIS	**Viseu**	**169.14**	**35**	*e*PKPdf	**PKPdf**	**22 02 48.0**	**+0.9**
MVO	**Moncorvo**	**169.18**	**30**	*e*PKPdf	**PKPdf**	**22 02 49.0**	**+1.8**
TAM	**Tamanrasset**	**169.68**	**209**		**PKPdf**	**22 02 47.2**	**-0.9**
TAM	**Tamanrasset**	**169.68**	**209**	PKIKP	**PKPdf**	**22 02 47.2**	**-0.9**
PCBR	**Castelo Branco**	**170.01**	**36**	*e*PKPdf	**PKPdf**	**22 02 48.8**	**+1.2**
PNCL	**Nicolau / Gran**	**170.61**	**47**	*e*PKPdf	**PKPdf**	**22 02 49.8**	**+1.8**
EVO	**Evora**	**170.66**	**44**	*e*PKPdf	**PKPdf**	**22 02 49.5**	**+1.5**
PESTR	**Estremoz**	**170.67**	**41**	*e*PKPdf	**PKPdf**	**22 02 50.3**	**+2.3**
PTEO	**Sao Teotonio**	**170.82**	**50**	*e*PKPdf	**PKPdf**	**22 02 49.8**	**+1.7**
MESJ	**Messejana**	**170.97**	**48**	*e*PKPdf	**PKPdf**	**22 02 49.9**	**+1.7**
MESJ	**Messejana**	**170.97**	**48**	*e*PKPdf	**PKPdf**	**22 02 49.7**	**+1.5**
MORF	**Marmelete**	**171.00**	**52**	*e*PKPdf	**PKPdf**	**22 02 50.1**	**+1.8**
MORF	**Marmelete**	**171.00**	**52**	*e*PKPdf	**PKPdf**	**22 02 49.7**	**+1.4**
PBEJ	**Beja**	**171.07**	**45**	*e*PKPdf	**PKPdf**	**22 02 49.9**	**+1.7**
PCVE	**Castro Verde**	**171.21**	**48**	*e*PKPdf	**PKPdf**	**22 02 49.8**	**+1.5**
TATN	**Tataouine**	**171.22**	**277**		**PKPab**	**22 04 08.9**	**-1.5**
PBAR	**Barrancos**	**171.46**	**42**	*e*PKPdf	**PKPdf**	**22 02 49.9**	**+1.5**
PBDV	**Barranco-do-Ve**	**171.51**	**50**	*e*PKPdf	**PKPdf**	**22 02 50.4**	**+1.9**
KEST	**Kesra**	**171.52**	**299**	PKP	**PKPdf**	**22 02 49.1**	**+0.5**
	comp=Z,18nm,1.0s,baz=276,slow=2.0,SNR=14						
KEST				PKPab	**PKPab**	**22 04 11.4**	**-0.2**
	comp=Z,12nm,1.0s,baz=110,slow=3.4,SNR=5.0						
KEST	**Kesra**	**171.52**	**299**	P	**PKPdf**	**22 02 48.3**	**-0.4**
	SNR=6.3						
PAB	**San Pablo**	**171.62**	**25**		**PKPdf**	**22 02 49.0**	**+0.4**
PAB	**San Pablo**	**171.62**	**25**	PKIKP	**PKPdf**	**22 02 49.0**	**+0.4**
ESDC	**Sonseca Array**	**171.63**	**23**	PKP	**PKPdf**	**22 02 49.2**	**+0.7**
	comp=Z,11nm,1.2s,baz=337,slow=2.9,SNR=38						
ESDC				PKPab	**PKPab**	**22 04 12.0**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=340,slow=2.1,SNR=8.0						

IDC ***17*** *21:49:52.5±0.8,57°.24N×33°.50W,h0km,mb3.8/15, mbtmp3.8/17,ML2.9/2,MS3.6/7,Error ellipse: s-maj=28.1km s-min=13.9km az=6.0*
NEIC ***17*** *21:49:54.6±2.1,57°.4N±0°.2×33°.7W±0°.2,h10km±2km, mb4.5/18,Error ellipse: s-maj=33.1km s-min=20.3km az=177.0*

ISC 17 21:49:54.8±0.6,**57°.3N**±0°.2×**33°.55W**±0°.07,**h16**km,**n48, σ0s94/42,mb4.0/24,MS3.8/3,Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BORG	**Borgarnes**	**9.56**	**33**	LR	LR	21 54 55.2	
	comp=Z,315nm,18.4s,baz=183,slow=32						
SFJD	**Kangerlussuaq**	**12.56**	**328**	LR	LR	21 56 56.6	
	comp=Z,272nm,18.7s,baz=132,slow=34						
EKA	**Eskdalemuir Ar**	**16.91**	**84**	Pn	**Pn**	**21 53 50.5**	**0.0**
	baz=284,slow=15						
	1.1nm,0.9s						
FRB	**Frobisher Bay**	**18.23**	**305**	LR	LR	22 00 01.7	
	comp=Z,85nm,20.1s,baz=60,slow=33						
SCHQ	**Schefferville**	**18.64**	**277**		**P**	**21 54 09.4**	**-2.2**
SCHQ				IAmb	IAmb	21 54 20.2	
	comp=Z,30nm,1.4s						
SCHQ	**Schefferville**	**18.64**	**277**	P	**Pn**	**21 54 12.7**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=70,slow=15,SNR=2.7						
SCHQ				LR	LR	22 00 09.0	
	comp=Z,181nm,18.6s,baz=108,slow=33						
	comp=Z,4.4nm,0.9s						
GBN	**Guysborough**	**20.94**	**248**	P	**P**	**21 54 35.2**	**-1.5**
NOA	**NORSAR Array B**	**22.91**	**62**	P	**P**	**21 54 58.7**	**+1.1**
	comp=Z,0.9nm,0.9s,baz=280,slow=9.6,SNR=2.7						
	comp=Z,0.9nm,0.9s						
HFS	**Hagfors**	**24.30**	**63**	P	**P**	**21 55 11.8**	**+0.6**
	comp=Z,2.7nm,0.9s,baz=293,slow=7.4,SNR=2.7						
	comp=Z,2.7nm,0.9s						
F62A	**Pittston Farm,**	**25.01**	**259**	P	**P**	**21 55 18.7**	**+1.0**
ESDC	**Sonseca Array**	**26.03**	**120**	P	**P**	**21 55 26.8**	**-0.2**
	comp=Z,0.5nm,0.8s,baz=319,slow=7.6,SNR=2.7						
	comp=Z,0.5nm,0.8s						
AKASG	**Malin Array Be**	**36.30**	**73**	P	**P**	**21 56 56.3**	**-0.9**
	comp=Z,1.6nm,0.7s,baz=306,slow=8.8,SNR=6.2						
	comp=Z,1.6nm,0.7s						
ULM	**Lac du Bonnet**	**36.33**	**286**	P	**P**	**21 56 58.0**	**+0.5**
	comp=Z,3.5nm,0.8s,baz=57,slow=9.1,SNR=3.0						
	comp=Z,3.5nm,0.8s						
YKA	**Yellowknife Ar**	**38.49**	**313**	P	**P**	**21 57 16.0**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=55,slow=9.4,SNR=6.0						
	comp=Z,1.4nm,0.8s						
TKL	**Tuckaleechee C**	**39.62**	**259**	LR	LR	22 13 17.3	
	comp=Z,112nm,21.5s,baz=166,slow=35						
LAO	**LASA Array**	**43.92**	**289**	P	**P**	**21 58 01.8**	**+1.2**
E27K	**Coleen River**	**44.30**	**329**	P	**P**	**21 58 02.9**	**-0.4**
D25K	**Kavik River**	**44.78**	**332**	P	**P**	**21 58 07.8**	**+0.6**
C23K	**Itkillik River**	**45.45**	**334**	P	**P**	**21 58 11.1**	**-1.2**
C23K				IAmb	IAmb	21 58 18.7	
	comp=Z,11nm,1.2s						
B22K	**Teshekpuk Lake**	**45.71**	**336**	P	**P**	**21 58 14.8**	**+0.5**
B22K				IAmb	IAmb	21 58 20.6	
	comp=Z,9.0nm,1.1s						
MIAR	**Mount Ida**	**45.74**	**267**	P	**P**	**21 58 16.6**	**+1.6**
MIAR				IAmb	IAmb	21 58 25.4	
	comp=Z,11nm,1.3s						
BR131	**Keskin Array S**	**45.83**	**82**	P	**P**	**21 58 17.2**	**+1.3**
BRTR	**Keskin Array B**	**45.83**	**82**	P	**P**	**21 58 16.6**	**+0.7**
BRTR	**Keskin Array B**	**45.83**	**82**	P	**P**	**21 58 17.6**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=321,slow=4.1,SNR=6.9						
	comp=Z,0.8nm,0.7s						
KBZ	**Khabaz**	**47.89**	**72**	P	**P**	**21 58 32.5**	**+0.8**
	comp=Z,0.5nm,0.5s,baz=313,slow=17,SNR=3.0						
	comp=Z,0.5nm,0.5s						
ILAR	**Eielson Array**	**48.23**	**328**	P	**P**	**21 58 34.8**	**+0.6**
	comp=Z,1.4nm,0.9s,baz=31,slow=7.7,SNR=6.4						
	comp=Z,1.4nm,0.9s						
PDAR	**Pinedale Array**	**48.34**	**287**	P	**P**	**21 58 36.0**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=65,slow=4.3,SNR=5.4						
	comp=Z,1.6nm,0.6s						
SDCO	**Great Sand Dun**	**49.82**	**279**	P	**P**	**21 58 46.0**	**-1.0**
SDCO				IAmb	IAmb	21 58 49.4	
	comp=Z,3.7nm,0.8s						
HWUT	**Hardware Ranch**	**50.22**	**287**	P	**P**	**21 58 50.6**	**+0.7**
HWUT				IAmb	IAmb	21 58 55.8	
	comp=Z,5.7nm,0.8s						
MPU	**Maple Canyon**	**51.41**	**286**	P	**P**	**21 58 58.7**	**-0.2**
MPU				IAmb	IAmb	21 59 01.1	
	comp=Z,3.9nm,0.7s						
GNI	**Garni**	**51.42**	**74**	P	**P**	**21 58 59.4**	**+0.5**
GNI				IAmb	IAmb	21 59 05.1	
	comp=Z,4.0nm,0.9s						
BGU	**Big Grassy Mou**	**51.47**	**288**	P	**P**	**21 58 59.2**	**0.0**
SRU	**San Rafael Swe**	**51.49**	**284**	P	**P**	**21 58 59.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**51.53**	**134**	P	**P**	**21 58 59.3**	**-0.4**
	comp=Z,0.7nm,0.8s,baz=333,slow=6.2,SNR=3.1						
	comp=Z,0.7nm,0.8s						
NLU	**North Lily Min**	**51.68**	**286**	P	**P**	**21 58 59.8**	**-1.1**
J18K	**Innoko River**	**51.94**	**331**	P	**P**	**21 59 02.0**	**-0.3**
J18K				IAmb	IAmb	21 59 04.9	
	comp=Z,4.3nm,1.0s						
ABKAR	**Akbulak array**	**52.23**	**56**	P	**P**	**21 59 04.1**	**-0.5**
J08A	**Circle Bar Ran**	**52.46**	**294**	P	**P**	**21 59 04.9**	**-1.6**
J08A				IAmb	IAmb	21 59 12.4	
	comp=Z,4.8nm,0.8s						
HMU	**Henry Mountain**	**52.47**	**284**	P	**P**	**21 59 05.9**	**-1.0**
TCRU	**Three Creeks R**	**52.87**	**285**	P	**P**	**21 59 09.7**	**-0.1**
BVAR	**Borovoye Array**	**53.85**	**47**	P	**P**	**21 59 16.3**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=325,slow=7.0,SNR=5.1						
	comp=Z,0.9nm,0.7s						
NVAR	**Mina Array Bea**	**56.04**	**289**	P	**P**	**21 59 33.4**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=50,slow=4.0,SNR=3.0						
	comp=Z,1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**58.87**	**44**	P	**P**	**21 59 50.8**	**-1.5**
	comp=Z,0.8nm,0.7s,baz=322,slow=7.0,SNR=8.4						
	comp=Z,0.8nm,0.7s						
MKAR	**Makanchi Array**	**63.44**	**44**	P	**P**	**22 00 22.8**	**-0.6**
	comp=Z,0.6nm,0.8s,baz=345,slow=5.1,SNR=4.1						
	comp=Z,0.6nm,0.8s						
ATAH	**Atahualpa**	**73.81**	**227**	LR	LR	22 36 21.2	
	comp=Z,53nm,18.5s,baz=232,slow=38						
LPAZ	**La Paz**	**78.71**	**214**	LR	LR	22 33 53.8	
	comp=Z,46nm,21.9s,baz=221,slow=34						
ASAR	**Alice Springs**	**145.23**	**20**	PKPbc	**PKPbc**	**22 09 30.5**	**-0.5**
	comp=Z,1.6nm,0.8s,baz=346,slow=3.3,SNR=7.6						
QSPA	**South Pole Qui**	**147.15**	**180**	PKPbc	**PKPdf**	**22 09 34.0**	**+0.7**
	comp=Z,2.2nm,0.9s,baz=217,slow=2.0,SNR=4.3						

IDC ***17*** *22:01:11.1±2.6,15°.95N×98°.08W,h0km,mb3.6/4, mbtmp3.5/6,ML3.2/3,

CEGR	Campo Tres	6.37 300	*e*P		Pn	22 02 50.1	+2.4
R15V		6.37 298	*e*P		Pn	22 02 50.8	+3.1
GTIG	Gomez Farias	6.87 351	*e*P		Pn	22 03 02.6	+8.0
CIHU	Emiliano Zapat	7.05 296	*e*P		Pn	22 02 58.5	+1.4
APG	El Apazote	7.40 99	Pn		Pn	22 03 02.3	+0.2
	baz=233,slow=20,SNR=3.0						
APG			Sn		Sn	22 04 12.7	-13
	0.1nm,0.3s,baz=52,slow=19,SNR=2.2						
APG			Lg		Lg	22 05 07.2	
	baz=77,slow=18,SNR=2.6						
ESTA	Talpa de Allen	7.67 304	*e*P		Pn	22 03 08.3	+2.6
LPIG	La Paz	13.91 306	Lg		Lg	22 08 40.2	
	baz=238,slow=12						
TXAR	Lajitas Array	14.02 339	Pn		P	22 04 38.1	-2.3
	baz=159,slow=13,SNR=3.3						
TXAR			Lg		Lg	22 08 44.2	
	baz=170,slow=33,SNR=1.5						
	0.3nm,0.8s						
PDAR	Pinedale Array	28.21 342	P		P	22 07 09.8	+3.2
	0.8nm,0.8s,baz=161,slow=8.6,SNR=2.7						
	0.8nm,0.8s						
NVAR	Mina Array Bea	28.38 325	P		P	22 07 10.9	+2.8
	0.4nm,0.6s,baz=136,slow=12,SNR=2.4						
	0.4nm,0.6s						
YKA	Yellowknife Ar	47.65 350	P		P	22 09 49.1	-0.5
	0.6nm,0.9s,baz=162,slow=7.4,SNR=6.6						
	0.6nm,0.9s						
H03N2	Juan Fernandez	52.66 160	T		T	23 07 17.8	
	baz=338,slow=77						
H03N1	Juan Fernandez	52.67 160	T		T	23 07 19.7	
	baz=338,slow=77						
H03N3	Juan Fernandez	52.68 160	T		T	23 07 18.0	
	baz=338,slow=77						
ILAR	Eielson Array	58.53 338	P		P	22 11 09.7	-0.1
	0.4nm,0.7s,baz=134,slow=6.4,SNR=5.1						
	0.4nm,0.7s						

IDC ***17*** *22:17:57.4±1.0,57.°32N×33.°53W,h0km,mb3.4/10, mbtmp3.4/11,ML3.6/1,MS3.6/13,Error ellipse: s-maj=30.8km s-min=19.3km az=17.0*

ISC 17 22:17:59.7±0.9,**57.°3N**±0.°2×**33.°5W**±0.°1,**h16**km,**n21,** σ0**97**/13,**mb3.6**/10,**MS3.8**/9,**Reykjanes Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	Borgarnes	9.48	33	LR	LR	22 23 01.7	
	comp=Z,323nm,18.2s,baz=262,slow=32						
SFJD	Kangerlussuaq	12.49	328	LR	LR	22 25 03.8	
	comp=Z,265nm,19.7s,baz=160,slow=34						
EKA	Eskdalemuir Ar	16.89	84	Pn	Pn	22 21 55.8	+0.6
	baz=294,slow=14						
	0.7nm,0.8s						
FRB	Frobisher Bay	18.18	305	LR	LR	22 28 20.7	
	comp=Z,129nm,18.1s,baz=26,slow=34						
SCHQ	Schefferville	18.64	276	LR	LR	22 27 38.1	
	comp=Z,221nm,21.0s,baz=24,slow=31						
NOA	NORSAR Array B	22.87	62	P	P	22 23 00.3	-1.7
	0.2nm,0.6s,baz=282,slow=9.9,SNR=1.2						
NOA				LR	LR	22 30 31.2	
	comp=Z,22nm,21.1s,baz=40,slow=33						
	0.2nm,0.6s						
ESDC	Sonseca Array	26.07	120	P	P	22 23 32.7	+0.4
	0.6nm,1.0s,baz=320,slow=13,SNR=1.6						
ESDC				LR	LR	22 30 55.4	
	comp=Z,74nm,18.6s,baz=148,slow=30						
	0.6nm,1.0s						
DAVOX	Davos/Dischmat	28.23	93	LR	LR	22 34 34.4	
	comp=Z,203nm,18.6s,baz=264,slow=35						
AKASG	Malin Array Be	36.27	73	P	P	22 25 02.6	+0.8
	0.9nm,0.6s,baz=310,slow=8.3,SNR=4.9						
	0.9nm,0.6s						
MLR	Muntele Rosu	37.73	82	LR	LR	22 41 13.1	
	comp=Z,125nm,18.2s,baz=326,slow=37						
YKA	Yellowknife Ar	38.44	312	P	P	22 25 18.7	-1.3
	0.1nm,0.5s,baz=60,slow=10,SNR=1.7						
YKA				LR	LR	22 40 29.4	
	comp=Z,209nm,18.3s,baz=354,slow=35						
	0.1nm,0.5s						
BRTR	Keskin Array B	45.81	82	P	P	22 26 19.5	-1.1
	1.1nm,0.9s,baz=316,slow=5.2,SNR=5.6						
BRTR				LR	LR	22 47 23.8	
	comp=Z,74nm,18.2s,baz=236,slow=39						
	1.1nm,0.9s						
ILAR	Eielson Array	48.16	328	P	P	22 26 39.3	+0.8
	0.4nm,0.8s,baz=39,slow=5.2,SNR=1.9						
	0.4nm,0.8s						
PDAR	Pinedale Array	48.32	287	P	P	22 26 40.8	+0.5
	0.3nm,0.5s,baz=72,slow=7.1,SNR=2.8						
PDAR				LR	LR	22 47 58.4	
	comp=Z,49nm,18.1s,baz=342,slow=37						
	0.3nm,0.5s						
TORD	Torodi Ar. Bea	51.59	134	P	P	22 27 04.9	-0.1
	0.4nm,0.8s,baz=330,slow=8.5,SNR=2.2						
	0.4nm,0.8s						
ANMO	Albuquerque	52.41	278	LR	LR	22 46 27.1	
	comp=Z,82nm,19.0s,baz=86,slow=33						
NVAR	Mina Array Bea	56.02	289	LR	LR	22 50 08.7	
	comp=Z,118nm,18.6s,baz=332,slow=34						
KURBB	Kurchatov Arra	58.80	44	P	P	22 27 57.1	+0.4
	1.0nm,0.7s,baz=325,slow=6.8,SNR=9.3						
	1.0nm,0.7s						
MKAR	Makanchi Array	63.37	44	P	P	22 28 28.8	+1.0
	0.6nm,0.7s,baz=338,slow=5.2,SNR=5.6						
	0.6nm,0.7s						
ASAR	Alice Springs	145.15	20	PKPbc	PKPdf	22 37 36.5	+0.5
	1.6nm,0.9s,baz=353,slow=2.9,SNR=10						
QSPA	South Pole Qui	147.24	180	PKPbc	PKPbc	22 37 40.1	-0.5
	2.4nm,0.9s,baz=212,slow=5.6,SNR=5.4						

IDC ***17*** *22:30:33.8±1.2,28.°59N×105.°32E,h0km,mb3.7/6, mbtmp3.7/6,Error ellipse: s-maj=89.9km s-min=20.8km az=54.0*

ISC 17 22:30:38.8±1.3,**28.°6N**±0.°4×**105.°3E**±0.°4,**h35**km,**n6,** σ0**59**/6,**mb3.7**/6,**Sichuan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	25.56	321	P	P	22 36 05.0	+0.7
	1.6nm,0.7s,baz=128,slow=9.8,SNR=17						
	1.6nm,0.7s						
ZALV	Zalesovo Beam	29.41	335	P	P	22 36 38.4	-0.3
	0.4nm,0.3s,baz=134,slow=10,SNR=3.7						
	0.4nm,0.3s						
KURBB	Kurchatov Arra	29.86	325	P	P	22 36 43.2	+0.5
	1.1nm,0.8s,baz=132,slow=9.4,SNR=12						
	1.1nm,0.8s						
GEYT	Alibeck	40.19	296	P	P	22 38 11.5	-0.4
	1.3nm,0.7s,baz=93,slow=27,SNR=5.1						
	1.3nm,0.7s						
WRA	Warramunga Arr	55.83	147	P	P	22 40 13.0	+0.2
	0.5nm,0.7s,baz=336,slow=8.5,SNR=2.3						
	0.5nm,0.7s						
ASAR	Alice Springs	58.83	149	P	P	22 40 33.9	-0.1
	0.3nm,0.6s,baz=329,slow=6.8,SNR=1.5						
	0.3nm,0.6s						

IDC ***17*** *22:55:54.8±1.2,27.°58N×104.°26E,h0km,mb3.7/7, mbtmp3.7/7,MS2.9/2,Error ellipse: s-maj=83.9km s-min=20.0km az=61.0*

ISC 17 22:55:59.9±1.3,**27.°6N**±0.°2×**104.°3E**±0.°4,**h35**km,**n8,** σ0**26**/7,**mb3.8**/6,**Yunnan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMAR	Chiang Mai Arr	10.35	209	LR	LR	23 02 53.5	
	comp=Z,35nm,18.2s,baz=290,slow=41						
SONM	Songino Array	20.26	4	P	P	23 00 32.3	-0.1
	0.5nm,0.5s,baz=185,slow=12,SNR=1.7						
SONM				LR	LR	23 08 19.4	
	comp=Z,52nm,18.8s,baz=256,slow=37						
	0.5nm,0.5s						
MKAR	Makanchi Array	25.80	324	P	P	23 01 28.0	+0.3
	2.0nm,0.8s,baz=129,slow=11,SNR=15						
	2.0nm,0.8s						
ZALV	Zalesovo Beam	29.95	337	P	P	23 02 04.8	+0.2
	1.6nm,0.7s,baz=145,slow=11,SNR=7.5						
	1.6nm,0.7s						
KURBB	Kurchatov Arra	30.17	327	P	P	23 02 06.4	-0.3
	0.9nm,0.8s,baz=130,slow=9.8,SNR=11						
	0.9nm,0.8s						
WRA	Warramunga Arr	55.51	145	P	P	23 05 31.9	+0.2
	0.7nm,0.8s,baz=335,slow=8.3,SNR=3.7						
	0.7nm,0.8s						
ASAR	Alice Springs	58.45	148	P	P	23 05 52.3	-0.2
	0.3nm,0.4s,baz=325,slow=6.2,SNR=2.0						
	0.3nm,0.4s						

ARCES	ARCESS Array B	60.51	337	P	P	23 06 06.2	+0.1
	0.8nm,0.6s,baz=82,slow=6.5,SNR=1.1						
	0.8nm,0.6s						

TIR ***17*** *22:59:32.6,37.°45N×20.°40E,h50km±23km,Ml3.4*
THE ***17*** *22:59:33.6,37.°61N×21.°02E,h0km±2km,MLl3.1/17,Error ellipse: s-maj=2.4km s-min=0.6km az=208.0*
ATH ***17*** *22:59:33.1,37.°58N×20.°99E,h13km±1km,ML2.9/22,Error ellipse: s-maj=1.8km s-min=0.8km az=218.0*

ISC 17 22:59:32.9±1.0,**37.°58N**±0.°03×**20.°99E**±0.°02,**h13**km±7km, **n79,** σ0**86**/118,**Ionian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRI1	kERI	0.16	302	P	Pb	22 59 37.6	-0.2
KRI1				S	Sg	22 59 40.2	+0.9
	16μm,0.4s						
LTHK	Lithakia	0.18	317	P	Pb	22 59 37.7	-0.4
LTHK				S	Sb	22 59 41.2	-0.3
	40μm,0.3s						
LTHK	Lithakia	0.18	317	P	Pb	22 59 37.7	-0.4
LTHK				S	Sb	22 59 40.9	-0.6
LTHK				AML	AML	22 59 45.6	
LTHK				AML	AML	22 59 47.6	
	comp=E,49916μm,0.3s						
RLS	Riolos of Patr	0.61	38	P	Pg	22 59 44.2	-0.6
RLS				S	Sg	22 59 52.7	-0.2
	comp=E,2μm,0.4s						
RLS	Riolos of Patr	0.61	38	P	Pg	22 59 44.1	-0.7
RLS				S	Sg	22 59 52.5	-0.4
RLS				AML	AML	22 59 56.1	
	comp=N,2015μm,0.4s						
RLS				AML	AML	22 59 56.2	
	comp=E,4693μm,0.5s						
PSDA	Pessada-Kefalo	0.62	329	P	Pg	22 59 44.7	-0.3
PSDA				S	Sb	22 59 54.5	+0.2
	comp=E,5μm,0.3s						
PSDA	Pessada-Kefalo	0.62	329	P	Pg	22 59 44.7	-0.3
PSDA				S	Sg	22 59 53.5	+0.2
VLS	Valsamata	0.68	332	P	Pg	22 59 45.4	-0.7
VLS				S	Sb	22 59 55.9	0.0
	comp=E,1μm,0.5s						
VLS	Valsamata	0.68	332	P	Pg	22 59 45.4	-0.7
VLS				S	Sg	22 59 54.9	-0.1
VLS				AML	AML	22 59 56.4	
	comp=N,2599μm,0.5s						
VLS				AML	AML	22 59 58.2	
	comp=E,1931μm,0.3s						
DRO	Drossia	0.68	57	P	Pg	22 59 45.8	-0.4
DRO				S	Sg	22 59 55.4	+0.2
	comp=E,3μm,0.5s						
DRO	Drossia	0.68	57	P	Pg	22 59 45.3	-0.9
DRO				S	Sb	22 59 56.3	+0.2
DRO				AML	AML	23 00 04.4	
	comp=N,5845μm,0.6s						
DRO				AML	AML	23 00 08.7	
	comp=E,6106μm,0.5s						
SMHA	Samh	0.72	338	P	Pg	22 59 46.2	-0.8
KEF3	Kipouria, Keph	0.80	321	P	Pg	22 59 48.0	-0.4
KEF3				S	Sb	23 00 00.7	+1.2
KEF3	Kipouria, Keph	0.80	321	P	Pg	22 59 48.1	-0.4
KEF3				S	Sb	23 00 00.1	+0.6
DMLN	Damoulianata-K	0.82	324	P	Pg	22 59 48.3	-0.5
DMLN				S	Sb	23 00 01.1	+1.1
	comp=E,2μm,0.3s						
ITM	Ithomi	0.85	118	P	Pg	22 59 49.1	-0.2
ITM				S	Sn	23 00 02.3	-0.6
	comp=E,1μm,0.5s						
ITM	Ithomi	0.85	118	P	Pg	22 59 49.0	-0.3
ITM				S	Sb	23 00 00.9	+0.1
ITM				AML	AML	23 00 08.7	
	comp=N,2841μm,0.5s						
ITM				AML	AML	23 00 10.9	
	comp=E,1767μm,0.5s						
VSK1	VASILIKIADES	0.90	338	P	Pg	22 59 49.4	-0.8
VSK1				S	Sn	23 00 03.8	-0.3
	comp=E,1μm,0.6s						
PYL	PYLOS	0.91	138	P	Pg	22 59 49.9	-0.5
PYL				S	Sn	23 00 04.8	+0.4
	comp=E,632nm,0.6s						
PYL	PYLOS	0.91	138	P	Pg	22 59 49.5	-0.9
PYL				AML	AML	23 00 10.2	
	comp=N,919μm,0.5s						
PYL				AML	AML	23 00 10.5	
	comp=E,1507μm,0.6s						
FSK	Fiskardo	0.94	339	P	Pg	22 59 50.2	-0.9
FSK				S	Sn	23 00 05.1	-0.1
	comp=E,845nm,0.8s						
FSK	Fiskardo	0.94	339	P	Pg	22 59 50.3	-0.9
FSK				S	Sg	23 00 03.3	-0.1
FSK				AML	AML	23 00 11.2	
	comp=N,1269μm,0.7s						
FSK				AML	AML	23 00 12.5	
	comp=E,1882μm,0.5s						
UPR	University Cam	0.94	42	P	Pg	22 59 50.7	-0.4
UPR				S	Sb	23 00 04.2	+0.6
KLMT	Kalamata	1.00	121	P	Pg	22 59 52.5	+0.4
KLMT				S	Sn	23 00 08.0	+1.5
	comp=E,1μm,0.9s						
KLV	Kalavryta, Ach	1.03	63	P	Pb	22 59 51.6	-1.0
KLV				S	Sn	23 00 07.3	-0.2
	comp=E,292nm,0.7s						
KLV	Kalavryta, Ach	1.03	63	P	Pb	22 59 51.7	-1.0
KLV				S	Sg	23 00 06.5	+0.3
KLV				AML	AML	23 00 15.1	
	comp=N,700μm,0.6s						
KLV				AML	AML	23 00 17.7	
	comp=E,471μm,0.8s						
EVGI	Lefkada island	1.07	346	P	Pb	22 59 52.5	-0.9
EVGI				S	Sn	23 00 09.6	+1.1
EVGI	Lefkada island	1.07	346	P	Pb	22 59 52.3	-1.1
EFP	Efpalio	1.11	40	P	Pb	22 59 53.2	-0.8
EFP				S	Sn	23 00 10.2	+0.8
	comp=E,590nm,0.8s						
EFP	Efpalio	1.11	40	P	Pb	22 59 53.0	-1.0
EFP				AML	AML	23 00 12.7	
	comp=E,506μm,0.8s						
EFP				AML	AML	23 00 14.7	
	comp=N,1590μm,0.6s						
ALIK	Aliki, Aigiali	1.12	52	P	Pb	22 59 54.1	0.0
PVO	Paravola	1.12	22	P	Pb	22 59 53.5	-0.6
PVO				S	Sn	23 00 10.5	+0.9
	comp=N,2μm,0.6s						
PVO	Paravola	1.12	22	P	Pb	22 59 53.4	-0.8
GUR	Goura	1.13	71	P	Pb	22 59 53.3	-1.1
GUR				S	Sn	23 00 10.8	+0.8
	comp=N,652nm,0.4s						
GUR	Goura	1.13	71	P	Pb	22 59 53.2	-1.2
GUR				S	Sb	23 00 08.4	-0.6
GUR				AML	AML	23 00 15.8	
	comp=N,1165μm,0.4s						
GUR				AML	AML	23 00 18.9	
	comp=E,1354μm,0.4s						
DRAG	Dragano-Lefkad	1.15	344	P	Pb	22 59 53.5	-1.2
NYDR	Nydri-Lefkada	1.16	349	P	Pb	22 59 54.1	-0.6
NYDR				S	Sn	23 00 12.0	+1.5
	comp=E,520nm,0.5s						
LKD2	Lefkada island	1.24	348	P	Pg	22 59 57.3	+0.6
	baz=8.0						
LKD2				S	Sg	23 00 16.0	+3.2
	baz=8.0						
LKD2				AMP			
	comp=N,3.0nm,0.9s,baz=8.0						
LKD2	Lefkada island	1.24	348	P	Pn	22 59 55.0	-0.9
LKD2	Lefkada island	1.24	348	P	Pn	22 59 54.9	-1.1
LKD2				S	Sb	23 00 10.9	-1.2
LKD2				AML	AML	23 00 20.0	
	comp=N,1812μm,0.6s						
LKD2				AML	AML	23 00 23.0	
	comp=E,1438μm,0.4s						
ANX	Ano Chora	1.25	36	P	Pn	22 59 55.6	-0.6
ANX	Ano Chora	1.25	36	P	Pn	22 59 55.5	-0.6
ANX				S	Sb	23 00 11.8	-0.8
ANX				AML	AML	23 00 23.5	
	comp=E,1065μm,0.6s						
ANX				AML	AML	23 00 23.8	
	comp=N,1288μm,0.5s						
TSLK	Tsoukalades, L	1.27	348	P	Pn	22 59 55.8	-0.6
TSLK	Tsoukalades, L	1.27	348	P	Pn	22 59 55.7	-0.6
TSLK				S	Sb	23 00 12.6	-0.4
TSLK				AML	AML	23 00 20.1	
	comp=E,1572μm,0.4s						
TSLK				AML	AML	23 00 23.4	
	comp=N,2825μm,0.4s						
THAL	Thalero	1.40	70	P	Pb	22 59 58.9	0.0
EVR	Evrytania	1.48	26	P	Pb	23 00 00.4	0.0
EVR	Evrytania	1.48	26	P	Pn	22 59 59.3	-0.1
EVR				AML	AML	23 00 34.2	
	comp=E,556μm,0.8s						
EVR				AML	AML	23 00 38.0	
	comp=N,451μm,1.0s						
LOUT	Loutraki	1.62	75	P	Pg	23 00 03.9	-0.2
MAKR	Makrakomi, Fth	1.69	32	P	Pb	23 00 04.0	+0.1
MAKR	Makrakomi, Fth	1.69	32	P	Pn	23 00 02.6	+0.4
MAKR				AML	AML	23 00 32.9	
	comp=E,989μm,0.9s						
MAKR				AML	AML	23 00 35.3	
	comp=N,956μm,0.9s						
KRND	KRANIDI	1.73	96	P	Pb	23 00 04.2	-0.3
KRND	KRANIDI	1.73	96	P	Pn	23 00 02.8	+0.1
KRND				AML	AML	23 00 39.3	
	comp=N,332μm,0.6s						
KRND				AML	AML	23 00 41.4	
	comp=E,274μm,0.7s						
AXAR	Agios Charalam	1.77	47	P	Pb	23 00 06.1	+0.8
AXAR	Agios Charalam	1.77	47	P	Pn	23 00 03.1	-0.2
AXAR				AML	AML	23 00 38.8	
	comp=N,1380μm,2.1s						
AXAR				AML	AML	23 00 39.6	
	comp=E,1385μm,0.9s						
VLI	Veliai	1.78	118	P	Pb	23 00 05.5	+0.2
VLI	Veliai	1.78	118	P	Pn	23 00 03.2	-0.2
VLI				AML	AML	23 00 45.7	
	comp=N,362μm,1.1s						
VLI				AML	AML	23 00 50.0	
	comp=E,486μm,1.0s						
AGG	Agios Georgios	1.79	36	P	Pb	23 00 06.4	+0.9
AGG	Agios Georgios	1.79	36	P	Pn	23 00 03.1	-0.4
AGG				AML	AML	23 00 36.4	
	comp=E,616μm,1.1s						
AGG				AML	AML	23 00 43.7	
	comp=N,527μm,0.6s						
VIL2	Platees	1.91	70	P	Pn	23 00 06.0	+0.8
VIL2				AML	AML	23 00 49.4	
	comp=N,265μm,0.7s						
VIL2				AML	AML	23 00 54.3	
	comp=E,417μm,0.6s						
VILL	Villia	1.93	72	P	Pb	23 00 07.8	-0.2
IGT	Igoumenitsa	2.02	345	P	Pn	23 00 07.8	+1.1
	baz=359						
IGT				S	Sb	23 00 34.3	-0.2
	baz=359						
IGT				AMP			
	comp=E,0.4nm,0.5s,baz=359						
IGT	Igoumenitsa	2.02	345	P	Pn	23 00 07.7	+1.1
IGT	Igoumenitsa	2.02	345	P	Pn	23 00 06.9	+0.2
JAN	Janina	2.08	357	P	Pn	23 00 07.9	+0.4
JAN				AML	AML	23 00 54.7	
	comp=E,281μm,0.8s						
JAN				AML	AML	23 01 03.9	
	comp=N,217μm,0.8s						
THL	Klokotos Trika	2.14	22	P	Pb	23 00 11.0	-0.5
THL	Klokotos Trika	2.14	22	P	Pn	23 00 08.5	+0.2
THL				AML	AML	23 00 53.8	
	comp=E,179μm,1.1s						
THL				AML	AML	23 00 55.4	
	comp=N,139μm,0.8s						
VLY	Voula,Athens	2.24	82	P	Pb	23 00 11.8	-1.5
TYRN	Tyrnavos	2.34	24	P	Pn	23 00 12.3	+1.2
DION	Dionisos Attik	2.38	77	P	Pb	23 00 14.8	-0.9
SRN	Sarande	2.42	342	P	Pn	23 00 13.6	+1.3
	baz=353						
SRN				S	Sn	23 00 43.8	+2.1
	baz=353						
NEO	Neokhori	2.46	45	P	Pn	23 00 15.0	+2.2
LSK	Leskovik	2.59	353	P	Pn	23 00 16.8	+2.2
	baz=3.0						
LSK				S	Sb	23 00 50.4	-0.5
	baz=3.0						
SCTE	Santa Cesarea	3.17	322	P	Pn	23 00 22.6	+0.1
	baz=331						
SCTE				S	Sn	23 00 58.5	-1.7
	baz=331						
FNA	Florina	3.21	5	P	Pn	23 00 25.1	+2.0
	baz=12						
FNA				S	Sb	23 01 08.2	-0.8
	baz=12						
STON	Ston	5.86	336	*e*Pn	Pn	23 00 58.3	-1.0
HVAR	Hvar	6.58	330	*e*Pn	Pn	23 01 08.3	-1.0
KIJV	Kijevo	7.30	333	*e*Pn	Pn	23 01 19.2	0.0
MORI	Morici	7.45	329	*e*Pn	Pn	23 01 21.8	+0.5
DUGI	Dugi Otok	7.83	327	*e*Pn	Pn	23 01 26.3	-0.1

NSSP ***17*** *23:02:54.1,38.°50N×44.°38E,h10km,Ms3.6*
TEH ***17*** *23:02:55.8,38.°54N×44.°31E,h6km±64km,ML3.1*
AFAD ***17*** *23:02:55.3±0.0,38.°58N×44.°33E,h12km±2km,MW3.5*
ISK ***17*** *23:02:56.2,38.°63N×44.°16E,h5km,ML3.5/8*
AZER ***17*** *23:02:56.8,38.°55N×44.°24E,h5km,ml3.5*

ISC 17 23:02:55.8±1.1,**38.°56N**±0.°02×**44.°30E**±0.°02,**h7**km±9km, **n95,** σ2**48**/163,**2D,Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	Van, Ozalp-Mer	0.26	293	P	Pg	23 03 01.4	+0.3
OZAP				S	Sb	23 03 06.4	-1.4
OZAP				*i* AML	AML	23 03 09.0	
	comp=Z,7μm,0.7s						
CLDR	Caldiran	0.66	333	Pg	Pg	23 03 07.8	-0.7
CLDR				Sg	Sg	23 03 16.9	-0.1
CLDR	Caldiran	0.66	333	P	Pg	23 03 07.8	-0.7
CLDR				S	Sb	23 03 17.2	-1.9
CLDR				*i* AML	AML	23 03 24.0	
	comp=Z,787nm,0.6s						
CLDR	Caldiran	0.66	333	Pg	Pg	23 03 07.7	-0.7
TVAN	Van	0.70	268	P	Pg	23 03 09.2	-0.1
TVAN				S	Sg	23 03 19.1	+0.5
TVAN				*i* AML	AML	23 03 34.0	
	comp=Z,990nm,1.3s						
TVAN	Van	0.70	268	Pg	Pg	23 03 09.2	-0.1
VMUR	Van-Muradiye	0.71	307	P	Pb	23 03 09.9	-0.8
VMUR				S	Sn	23 03 21.7	-2.1
VMUR				*i* AML	AML	23 03 34.0	
	comp=Z,663nm,0.7s						
VMUR	Van-Muradiye	0.71	307	Pg	Pb	23 03 09.9	-0.8
VANB	Van	0.72	273	Pg	Pg	23 03 09.3	-0.3
VANB	Van	0.72	273	Pg	Pg	23 03 09.2	-0.3
YOVA	Hakkari_Yksek	0.97	181	P	Pb	23 03 14.8	-0.2
YOVA				S	Sb	23 03 28.3	+0.1
YOVA				*i* AML	AML	23 03 37.0	
	comp=Z,256nm,0.8s						
YOVA	Hakkari_Yksek	0.97	181	Pg	Pb	23 03 14.8	-0.2
GEVA	Gevas	1.01	256	P	Pg	23 03 13.6	-1.5
GEVA				S	Sg	23 03 27.4	-0.8
GEVA				*i* AML	AML	23 03 34.0	
	comp=Z,694nm,0.3s						
AKDM	Akdamar-Van	1.06	258	Pg	Pb	23 03 15.5	-1.1
AKDM				Sg	Sg	23 03 30.6	+0.6
AKDM	Akdamar-Van	1.06	258	Pg	Pb	23 03 15.4	-1.1
ISHB	Shabestar	1.07	105	Pg	Pg	23 03 15.5	-0.7
DYDN	Diyadin	1.09	334	P	Pb	23 03 15.2	-1.9
DYDN				S	Sb	23 03 30.4	-1.3
DYDN				*i* AML	AML	23 03 43.0	
	comp=Z,514nm,0.9s						
HAKT	HAKKARI	1.10	205	P	Pn	23 03 17.1	-0.8
HAKT				S	Sn	23 03 33.6	+0.1
HAKT				*i* AML	AML	23 03 36.0	
	comp=Z,553nm,0.8s						
HAKT	HAKKARI	1.10	205	Pg	Pn	23 03 17.1	-0.8
IMRD	Marand	1.11

TASB	**TASBURUN-IGDIR**	**1.42**	**358**	Pn	**Pg**	**23 03 23.6**	**+0.5**
TASB				Sn	**Sg**	**23 03 43.2**	**+1.7**
TASB	**TASBURUN-IGDIR**	**1.42**	**358**	**Pg**	**Pg**	**23 03 23.5**	**+0.5**
DORK	**Agr/Tutak/Do**	**1.45**	**305**	P	**Pb**	**23 03 22.5**	**-0.6**
DORK				S	**Sg**	**23 03 42.1**	**-0.2**
DORK				*i* AML	AML	23 03 54.0	
	comp=Z,195nm,0.7s						
NRKZ	**NAREK**	**1.47**	**11**	*e*P	**Pg**	**23 03 24.1**	**+0.3**
NRKZ				*e*S	**Sg**	**23 03 45.3**	**+2.4**
ITBZ	**Tabriz**	**1.48**	**102**	Pg	**Pb**	**23 03 22.8**	**-0.9**
MLAZ	**Malazgirt-MUS**	**1.49**	**294**	Pn	**Pb**	**23 03 23.3**	**-0.5**
MLAZ	**Malazgirt-MUS**	**1.49**	**294**	Pg	**Pg**	**23 03 24.0**	**-0.3**
PERV	**Siirt/Pervari-**	**1.52**	**247**	P	**Pg**	**23 03 26.8**	**+2.0**
PERV				S	**Sg**	**23 03 46.5**	**+2.1**
PERV				*i* AML	AML	23 03 53.0	
	comp=Z,530nm,0.5s						
VNNZ	**Vanand**	**1.59**	**347**	*e*P	**Pg**	**23 03 27.0**	**+0.8**
VNNZ				*e*S	**Sg**	**23 03 50.7**	**+4.0**
IAZR	**Azarshahr**	**1.59**	**123**	Pg	**Pb**	**23 03 25.0**	**-0.6**
METS	**Metsamor**	**1.60**	**354**	*e*P	**Pb**	**23 03 25.0**	**-0.7**
METS				*e*S	**Sg**	**23 03 48.8**	**+1.7**
GNI	**Garni**	**1.62**	**12**	⇓*i*P	**Pg**	**23 03 26.3**	**-0.6**
GNI				⇓*i*S	**Sg**	**23 03 49.8**	**+1.9**
BLIS	**Bitlis-Merkez**	**1.72**	**266**	P	**Pb**	**23 03 27.4**	**-0.5**
BLIS				S	**Sg**	**23 03 52.9**	**+1.7**
BLIS				*i* AML	AML	23 04 08.0	
	comp=Z,111nm,0.7s						
ARUZ	**Aruch**	**1.73**	**355**	*e*P	**Pg**	**23 03 28.9**	**0.0**
ARUZ				*e*S	**Sg**	**23 03 54.4**	**+3.0**
GURO	**Guroymak-BITLI**	**1.78**	**270**	Pn	**Pb**	**23 03 27.9**	**-0.9**
KAPZ	**Kaputan**	**1.79**	**10**	*e*P	**Pg**	**23 03 29.1**	**-1.0**
KAPZ				*e*S	**Sg**	**23 03 54.1**	**+0.9**
AMBZ	**Amberd**	**1.83**	**359**	*e*P	**Pg**	**23 03 30.3**	**-0.5**
AMBZ				*e*S	**Sg**	**23 03 56.6**	**+2.1**
SIRN	**Sırnak**	**1.83**	**235**	P	**Pg**	**23 03 30.6**	**-0.3**
SIRN				S	**Sg**	**23 03 55.7**	**+1.1**
SIRN				*i* AML	AML	23 04 06.0	
	comp=Z,322nm,0.9s						
EATA	**Eleskirt**	**1.92**	**313**	P	**Pb**	**23 03 31.2**	**0.0**
EATA				S	**Sg**	**23 03 58.3**	**+0.9**
EATA				*i* AML	AML	23 04 12.0	
	comp=Z,55nm,0.8s						
SRTM	**Siirt_Merkez**	**1.96**	**254**	P	**Pb**	**23 03 32.2**	**+0.4**
SRTM				S	**Sg**	**23 04 00.4**	**+1.8**
SRTM				*i* AML	AML	23 04 09.0	
	comp=Z,262nm,0.6s						
DIGO	**Kars**	**1.99**	**339**	P	**Pg**	**23 03 32.6**	**-1.3**
DIGO				S	**Sg**	**23 03 58.1**	**-1.5**
DIGO				*i* AML	AML	23 04 05.0	
	comp=Z,74nm,1.0s						
MAHB	**Mahabad**	**2.11**	**148**	Pn	**Pb**	**23 03 33.8**	**-0.5**
IHRS	**Heris**	**2.17**	**96**	Pn	**Pb**	**23 03 34.5**	**-0.9**
EAK	**Akyaka**	**2.19**	**346**	P	**Pg**	**23 03 37.4**	**-0.4**
EAK				S	**Sg**	**23 04 09.8**	**+3.6**
EAK				*i* AML	AML	23 04 26.0	
	comp=Z,97nm,0.8s						
MUSM	**Mu-Merkez**	**2.19**	**275**	P	**Pb**	**23 03 34.8**	**-1.0**
MUSM				S	**Sg**	**23 04 08.4**	**+2.2**
MUSM				*i* AML	AML	23 04 28.0	
	comp=Z,30nm,0.9s						
BOZK	**Kars-Merkez-Bo**	**2.27**	**334**	P	**Pg**	**23 03 37.8**	**-1.5**
BOZK				*i* AML	AML	23 04 12.0	
	comp=Z,26nm,0.7s						
BOZK				S	**Sg**	**23 04 12.8**	**+4.0**
VRTB	**Varto-Mus**	**2.30**	**286**	Pn	**Pb**	**23 03 35.2**	**+0.9**
VRTB	**Varto-Mus**	**2.30**	**286**	P	**Pg**	**23 03 37.2**	**-0.5**
VRTB				S	**Sg**	**23 04 11.6**	**+1.9**
VRTB				*i* AML	AML	23 04 21.0	
	comp=Z,154nm,1.2s						
HOMI	**Horasan**	**2.38**	**309**	P	**Pg**	**23 03 39.7**	**-1.6**
HOMI				S	**Sg**	**23 04 17.4**	**+5.2**
HOMI				*i* AML	AML	23 04 21.0	
	comp=Z,55nm,1.1s						
KOPR	**Koprukoy-ERZUR**	**2.38**	**308**	Pn	**Pb**	**23 03 36.3**	**-2.7**
GDB	**GEDABAY**	**2.43**	**27**	P	**Pb**	**23 03 37.9**	**-2.0**
GDB				S	**Sb**	**23 04 09.4**	**-0.8**
BTMN	**Batman**	**2.48**	**255**	P	**Pb**	**23 03 40.4**	**-0.3**
BTMN				S	**Sg**	**23 04 15.6**	**+0.2**
BTMN				*i* AML	AML	23 04 21.0	
	comp=Z,180nm,0.8s						
SENK	**Senkaya-Erzuru**	**2.50**	**324**	Pn	**Pn**	**23 03 37.9**	**+0.8**
QRD	**Qoradiz**	**2.52**	**68**	P	**Pb**	**23 03 39.0**	**-2.3**
QRD				S	**Sb**	**23 04 11.6**	**-0.9**
SDS1	**Sardasht. Az.**	**2.58**	**158**	Pn	**Pb**	**23 03 39.7**	**-2.8**
GANJ	**Ganja**	**2.60**	**36**	P	**Pb**	**23 03 40.3**	**-2.5**
GANJ				S	**Sb**	**23 04 13.8**	**-1.2**
QZX	**Qazax, Azerbai**	**2.63**	**18**	P	**Pb**	**23 03 40.3**	**-2.9**
QZX				S	**Sb**	**23 04 13.7**	**-2.0**
IHSH	**Hashtrud**	**2.66**	**117**	Pn	**Pb**	**23 03 41.0**	**-2.8**
AGDM	**Agdam**	**2.67**	**54**	P	**Pb**	**23 03 41.1**	**-2.7**
AGDM				S	**Sb**	**23 04 15.3**	**-1.5**
ISRB	**Sarab**	**2.75**	**104**	Pn	**Pb**	**23 03 42.7**	**-2.6**
BLQ	**Beylaqan**	**2.79**	**64**	P	**Pb**	**23 03 42.7**	**-3.1**
BLQ				S	**Sb**	**23 04 18.2**	**-2.0**
BRDA	**Brd**	**2.80**	**52**	P	**Pb**	**23 03 43.0**	**-3.2**
BRDA				S	**Sb**	**23 04 18.6**	**-2.1**
MNGR	**Mingechevir, A**	**3.08**	**43**	P	**Pb**	**23 03 46.8**	**-4.1**
MNGR				S	**Sb**	**23 04 25.4**	**-3.2**
YRD	**Yardimli**	**3.10**	**82**	P	**Pn**	**23 03 47.0**	**+1.7**
YRD				S	**Sb**	**23 04 25.9**	**-3.5**
ZRD	**Zardab**	**3.13**	**56**	P	**Pb**	**23 03 47.5**	**-4.2**
ZRD				S	**Sb**	**23 04 26.8**	**-3.3**
LRK	**Lerik**	**3.16**	**87**	P	**Pn**	**23 03 47.9**	**+1.7**
LRK				S	**Sb**	**23 04 27.5**	**-3.8**
GLBA	**Clilabad**	**3.26**	**77**	P	**Pn**	**23 03 49.2**	**+1.9**
GLBA				S	**Sb**	**23 04 30.0**	**-3.9**
SAAT	**Saatly**	**3.46**	**67**	P	**Pn**	**23 03 51.7**	**+1.7**
SAAT				S	**Sb**	**23 04 34.2**	**-5.2**
SEKA	**Sheki**	**3.46**	**39**	P	**Pb**	**23 03 52.6**	**-4.7**
SEKA				S	**Sb**	**23 04 36.0**	**-3.7**
KDMR	**Kurdemir**	**3.51**	**58**	P	**Pn**	**23 03 52.7**	**+2.0**
KDMR				S	**Sb**	**23 04 36.1**	**-4.9**
LKRN	**Lenkeran, Azer**	**3.51**	**86**	P	**Pn**	**23 03 52.6**	**+1.9**
LKRN				S	**Sb**	**23 04 36.0**	**-5.0**
ASTR	**Astara**	**3.52**	**89**	P	**Pn**	**23 03 52.7**	**+1.9**
ASTR				S	**Sb**	**23 04 36.2**	**-5.0**
ZKTA	**Zakatala**	**3.55**	**29**	P	**Pn**	**23 03 53.3**	**+1.9**
ZKTA				S	**Sb**	**23 04 37.0**	**-5.2**
QBL	**Gabala**	**3.62**	**48**	P	**Pn**	**23 03 54.2**	**+1.9**
QBL				S	**Sb**	**23 04 38.7**	**-5.5**
IML	**Ismayilli**	**3.73**	**52**	P	**Pn**	**23 03 55.7**	**+1.9**
IML				S	**Sb**	**23 04 41.5**	**-6.0**
ALIB	**&Aumlli-Bayram**	**3.91**	**68**	P	**Pn**	**23 03 58.1**	**+2.0**
ALIB				S	**Sb**	**23 04 45.9**	**-6.5**
XNQ	**Khinaliq**	**3.94**	**47**	P	**Pn**	**23 03 58.6**	**+1.8**
XNQ				S	**Sb**	**23 04 46.8**	**-6.8**
PQL	**Pirkuli**	**3.99**	**55**	P	**Pn**	**23 03 59.3**	**+1.8**
PQL				S	**Sb**	**23 04 47.9**	**-7.0**
GBS	**Qobustan**	**4.09**	**60**	P	**Pn**	**23 04 00.7**	**+1.9**
GBS				S	**Sn**	**23 04 50.5**	**+3.5**
IDHR	**Dehrash**	**4.20**	**156**	Pn	**Pn**	**23 04 01.9**	**+1.5**
QSAR	**Qusar**	**4.24**	**45**	P	**Pn**	**23 04 02.6**	**+1.9**
QSAR				S	**Sn**	**23 04 53.9**	**+3.4**
ATGJ	**Altiaghaj**	**4.25**	**56**	P	**Pn**	**23 04 02.8**	**+1.8**
ATGJ				S	**Sn**	**23 04 54.3**	**+3.4**
QUBA	**Quba, Azerbaij**	**4.26**	**48**	P	**Pn**	**23 04 03.0**	**+1.9**
QUBA				S	**Sn**	**23 04 54.6**	**+3.5**
SIZA	**Siyzn**	**4.34**	**53**	P	**Pn**	**23 04 04.1**	**+1.9**
SIZA				S	**Sn**	**23 04 56.6**	**+3.4**
GOBA	**Gobu**	**4.59**	**65**	P	**Pn**	**23 04 07.4**	**+1.9**
GOBA				S	**Sn**	**23 05 02.6**	**+3.6**
JIR1	**Jirandeh**	**4.74**	**111**	Pn	**Pn**	**23 04 10.1**	**+2.3**
NDR	**Nardaran**	**4.83**	**64**	P	**Pn**	**23 04 10.8**	**+1.9**
NDR				S	**Sn**	**23 05 08.7**	**+3.6**
GALA	**Gala**	**4.89**	**66**	P	**Pn**	**23 04 11.6**	**+1.9**
GALA				S	**Sn**	**23 05 10.2**	**+3.7**

NEIC ***17*** *23:19:21.2±1.0, 19°.41N±0°.02×154°.83W±0°.03, h5km±1km, Error ellipse: s-maj=5.7km s-min=2.8km az=293.0*

HVO 17 23:19:21.4±1.3,**19°.46N**±0°.02×**154°.86W**±0°.03,**h3**km±2km, **ML2.7**/16,**ML2.4**/24(NEIC),**Error ellipse: s-maj=5.0km s-min=1.6km az=118.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**299**		Pg	23 19 24.1	+1.8
PHO	**Puu Honuaula**	**0.04**	**299**		Pg	23 19 22.9	+0.7
JOKA	**Jonika Flow**	**0.14**	**258**	Pg	Pg	23 19 24.6	+0.4
JOKA					Sg	23 19 27.0	+0.9
STCH	**Steam Cracks**	**0.26**	**253**	Pg	Pg	23 19 27.0	+0.4
STCH					IAML	23 19 32.8	
	comp=E,293nm,0.8s						
STCH					IAML	23 19 33.6	
	comp=N,282nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.31**	**254**		Pg	23 19 27.8	+0.4
PUH	**Pauahi**	**0.35**	**255**		Pg	23 19 28.4	+0.2
PUH					Sg	23 19 33.8	+1.1
PUH					IAML	23 19 39.5	
	comp=N,476nm,1.4s						
PUH					IAML	23 19 40.3	
	comp=E,441nm,1.5s						
RSD	**Rainshed**	**0.40**	**270**		IAML	23 19 40.1	
	comp=E,640nm,0.7s						
RSD	**Rainshed**	**0.40**	**270**		Pg	23 19 29.5	+0.5
RSD					Sg	23 19 36.0	+1.7
HLP	**Hilina Pali**	**0.46**	**249**		Pg	23 19 30.2	0.0
MLH	**Mauna Loa**	**0.50**	**273**		Pg	23 19 30.9	-0.1
MLH					Sg	23 19 38.7	+1.1
MLH					IAML	23 19 41.1	
	comp=N,379nm,1.0s						
MLH					IAML	23 19 43.1	
	comp=E,362nm,1.0s						
HMH	**Humu'ula Sheep**	**0.61**	**283**	Pg	Pg	23 19 32.7	-0.4
ALEP	**Alea Permanent**	**0.75**	**276**		Pg	23 19 34.9	-0.8

UPP ***17*** *23:30:04.6±0.0, 67°.83N×20°.21E, h0km, ML2.1, Unknown IDC* ***17*** *23:30:07.8±1.5, 67°.85N×20°.91E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=20.8km s-min=8.3km az=113.0*

ISC 17 23:30:05.1±1.0,**67°.83N**±0°.04×**20°.23E**±0°.04,**h10**km,**n15,** σ1s**77**/17,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.13**	**18**	P	**Pg**	**23 30 07.4**	**-0.7**
KUA				S	**Sg**	**23 30 09.4**	**-0.9**
RATU	**Laukkuluspa**	**0.24**	**268**	P	**Pg**	**23 30 09.2**	**-0.9**
KOVU	**Salmi**	**0.39**	**356**	P	**Pg**	**23 30 12.2**	**-0.6**
LANU	**Lannavaara**	**0.70**	**71**	P	**Pg**	**23 30 17.9**	**-0.7**
DUNU	**Dundret**	**0.73**	**170**	P	**Pg**	**23 30 17.9**	**-1.2**
MASU	**Masugnsbyn**	**0.77**	**119**	P	**Pg**	**23 30 19.4**	**-0.6**
SALU	**Saltoluokta**	**0.80**	**236**	*e*P	**Pg**	**23 30 19.4**	**-1.2**
SALU	**Saltoluokta**	**0.80**	**236**	P	**Pg**	**23 30 19.4**	**-1.2**
PAJU	**Pajala**	**1.38**	**125**	P	**Pn**	**23 30 29.8**	**-0.6**
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pn**	**23 30 30.6**	**-0.2**
ERTU	**Ertsjaerv**	**1.50**	**148**	P	**Pn**	**23 30 31.8**	**-0.2**
HARU	**Harads**	**1.70**	**170**	P	**Pb**	**23 30 35.3**	**-1.2**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**23 30 48.9**	**+2.1**
	0.4nm,0.3s,baz=225,slow=15,SNR=9.4						
ARCES				Lg	Lg	23 31 22.4	
	0.9nm,0.3s,baz=226,slow=26,SNR=7.7 0.9nm,0.3s						
FINES	**FINESS Array B**	**6.89**	**156**	Pn	**Pn**	**23 31 50.3**	**+4.3**
	0.1nm,0.3s,baz=346,slow=16,SNR=1.3						
FINES				Sn	**Sn**	**23 33 04.1**	**-0.2**
	0.1nm,0.3s,baz=343,slow=23,SNR=1.4						
FINES				Lg	Lg	23 33 41.2	
	0.1nm,0.3s,baz=344,slow=26,SNR=2.0 0.7nm,0.7s						
NOA	**NORSAR Array B**	**7.85**	**214**	Pn	**Pn**	**23 32 02.5**	**+3.3**
	baz=12,slow=13,SNR=1.4						
NOA				Lg	Lg	23 34 12.2	
	baz=153,slow=20,SNR=1.2 0.5nm,0.8s						

NEIC ***17*** *23:45:25.7±0.4, 19°.32N±0°.02×155°.223W±0°.009, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.3km az=337.0*

HVO 17 23:45:25.3±0.3,**19°.31N**±0°.02×**155°.225W**±0°.009, **h7**km±1km,**ML3.0**/31,**ML3.2**/64(NEIC),**Error ellipse: s-maj=2.5km s-min=1.0km az=156.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**8**		Pg	23 45 27.3	+0.1
HLP	**Hilina Pali**	**0.08**	**259**		Pg	23 45 27.8	+0.4
HLP				Sg	Sg	23 45 29.6	+0.8
HLP				IAML		23 45 30.7	
	comp=E,12μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.09**	**38**		Pg	23 45 27.6	+0.1
KKO	**Keanakako'i**	**0.09**	**336**		Pg	23 45 27.8	+0.2
KKO				Sg	Sg	23 45 29.5	+0.3
KKO				IAML		23 45 30.1	
	comp=E,16μm,0.3s						
RIM	**Rim**	**0.10**	**331**		Pg	23 45 27.8	+0.2
SDHHI	**Sand Hill**	**0.10**	**320**		Pg	23 45 27.9	+0.1
SDHHI				IAML		23 45 30.3	
	comp=N,14μm,0.6s						
SDHHI				IAML		23 45 30.6	
	comp=E,13μm,0.6s						
BYL	**Byron's Ledge**	**0.10**	**342**		Pg	23 45 27.9	+0.1
BYL				Sg	Sg	23 45 30.0	+0.4
BYL				IAML		23 45 30.4	
	comp=E,8μm,0.4s						
NPH	**North Pit**	**0.11**	**332**		Pg	23 45 27.9	0.0
HATHI	**Halema'uma'u T**	**0.12**	**343**		Pg	23 45 28.1	+0.1
HATHI				IAML		23 45 30.4	
	comp=N,6μm,0.2s						
HATHI				IAML		23 45 30.8	
	comp=E,10μm,0.5s						
WRMHI	**West Rim**	**0.12**	**323**	Pg	Pg	23 45 28.1	+0.1
WRMHI				IAML		23 45 30.8	
	comp=N,7μm,0.6s						
WRMHI				IAML		23 45 32.3	
	comp=E,11μm,0.4s						
OBL	**Observatory Le**	**0.12**	**332**		Pg	23 45 28.1	+0.1
OBL				IAML		23 45 31.1	
	comp=E,11μm,0.6s						
OBL				IAML		23 45 31.1	
	comp=N,11μm,0.5s						
STCH	**Steam Cracks**	**0.12**	**52**		Pg	23 45 28.1	+0.1
STCH				Sg	Sg	23 45 30.2	+0.3
STCH				IAML		23 45 30.6	
	comp=N,9μm,0.3s						
STCH				IAML		23 45 30.6	
	comp=E,7μm,0.2s						
SBLHI	**Steaming Bluff**	**0.12**	**341**		Pg	23 45 28.1	+0.1
SBLHI				IAML		23 45 30.8	
	comp=E,9μm,0.5s						
SBLHI				IAML		23 45 30.8	
	comp=N,9μm,0.3s						
UWB	**Uwekahuna B**	**0.12**	**336**		Pg	23 45 28.3	+0.2
UWE	**Uwekahuna**	**0.13**	**330**	Pg	Pg	23 45 28.3	+0.1
UWE				IAML		23 45 31.3	
	comp=E,9μm,0.5s						
UWE				IAML		23 45 32.9	
	comp=N,7μm,0.5s						
NPOC	**North of Pu'u**	**0.14**	**53**		Pg	23 45 28.4	+0.1
NPOC				Sg	Sg	23 45 30.8	+0.5
NPOC				IAML		23 45 31.1	
	comp=N,8μm,0.5s						
JCUZ	**Jacuzzi**	**0.14**	**58**		Pg	23 45 28.4	+0.1
JCUZ				Sg	Sg	23 45 30.7	+0.4
RSD	**Rainshed**	**0.16**	**342**		Pg	23 45 28.7	0.0
HTC	**Hot Caves**	**0.18**	**246**		Pg	23 45 29.6	+0.6
MLH	**Mauna Loa**	**0.24**	**320**		Pg	23 45 30.2	+0.1
MLH				IAML		23 45 37.9	
	comp=N,3μm,0.4s						
JOKA	**Jonika Flow**	**0.24**	**60**	Pg	Pg	23 45 29.9	-0.3
KHU	**Kahuku**	**0.37**	**260**		Pg	23 45 32.5	-0.2
KHU				IAML		23 45 38.9	
	comp=E,2μm,0.6s						
KHU				IAML		23 45 39.0	
	comp=N,2μm,0.6s						
HMH	**Humu'ula Sheep**	**0.38**	**320**		Pg	23 45 32.6	-0.2
MWH	**Moku'aweowe**	**0.39**	**296**		Pg	23 45 32.9	-0.2
MWH					Sg	23 45 39.3	+0.9
MWH				IAML		23 45 42.6	
	comp=N,4μm,0.4s						
MWH				IAML		23 45 42.9	
	comp=E,3μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.40**	**304**		Pg	23 45 33.0	-0.3
POHA	**Pohakuloa**	**0.53**	**327**		Pg	23 45 35.0	-0.6
POHA	**Pohakuloa**	**0.53**	**327**		Sg	23 45 42.6	0.0
HUH	**Hualalai**	**0.69**	**303**		Pg	23 45 37.4	-1.2
HPAH	**Hawaii Prepara**	**0.84**	**328**	Pg	Pg	23 45 38.9	-2.6
MHA	**Mahukona**	**1.08**	**324**	Pg	Pg	23 45 42.7	-3.4
WMR	**Waimanalo Ridg**	**3.05**	**311**	Pn	Pn	23 46 09.0	-5.0

IDC ***17*** *23:59:38.3±8.7, 18°.50S×169°.98E, h206km±51km, mb3.9/3, mbtmp4.4/4, Error ellipse: s-maj=108.7km s-min=75.6km az=115.0*

NEIC ***17*** *23:59:51.6±2.7, 19°.2S±0°.1×168°.9E±0°.2, h228km±14km, mb4.3/15, Error ellipse: s-maj=27.5km s-min=15.1km az=126.0*

NOU ***18*** *00:00:10.6, 20°.27S×168°.31E, h0km, MLv3.3/7, Loyalty Islands*

ISC 17 23:59:48.8±2.1,**19°.1S**±0°.1×**168°.9E**±0°.3,**h200**km,**n33,** σ2s**68**/33,**mb4.2**/10,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.51**	**333**	P	**Sn**	**00 00 53.0**	**+4.2**
LIFNC	**LIFOU**	**2.30**	**222**	P	**Pn**	**00 00 33.5**	**+3.1**
LIFNC	**LIFOU**	**2.30**	**222**		**Pn**	**00 00 33.7**	**+3.3**
MARNC	**Mare, Loyalty**	**2.52**	**199**	P	**Pn**	**00 00 35.1**	**+2.2**
DZM	**Mont Dzumac**	**3.76**	**217**	P	**Pn**	**00 00 51.7**	**+4.0**
DZM	**Mont Dzumac**	**3.76**	**217**	P	**Pn**	**00 00 51.1**	**+3.4**
	14nm,0.5s,baz=50,slow=11,SNR=21						
DZM				S	Sn	00 01 49.0	+15
	5.8nm,0.5s,baz=310,slow=17,SNR=0.8						
PINNC	**Pines Island,**	**3.77**	**201**	Pn	**Pn**	**00 00 50.6**	**+2.9**
OUENC	**Ouen Island, N**	**3.84**	**210**	P	**Pn**	**00 00 52.3**	**+3.8**
OUENC	**Ouen Island, N**	**3.84**	**210**		**Pn**	**00 00 51.6**	**+3.1**
NOUC	**Port Laguerre**	**3.87**	**219**	P	**Pn**	**00 00 52.9**	**+4.0**
ONTNC	**Ouen Toro**	**3.94**	**215**	P	**Pn**	**00 00 53.8**	**+4.0**
ONTNC	**Ouen Toro**	**3.94**	**215**		**Pn**	**00 00 53.7**	**+3.9**
LHI	**Lord Howe Isla**	**15.24**	**214**	P	**Pn**	**00 03 13.0**	**-0.8**
LHI				IAmb	IAmb	00 03 14.5	
	comp=Z,39nm,1.1s						
EIDS	**Eidsvold**	**17.63**	**246**	Pn	**Pn**	**00 03 43.6**	**+1.0**
EIDS				IAmb	IAmb	00 03 59.1	
	comp=Z,12nm,1.1s						
CTAO	**Charters Tower**	**21.36**	**264**	P	**P**	**00 04 20.5**	**-0.1**
CTAO				IAmb	IAmb	00 04 31.1	
	comp=Z,7.2nm,1.1s						
COEN	**Coen**	**25.17**	**278**	P	**P**	**00 04 56.2**	**+0.2**
COEN				IAmb	IAmb	00 05 07.0	
	comp=Z,14nm,1.1s						
STKA	**Stephens Creek**	**27.66**	**237**	P	**P**	**00 05 15.4**	**-2.7**
STKA	**Stephens Creek**	**27.66**	**237**	P	**P**	**00 05 17.8**	**-0.3**
	comp=Z,1.5nm,0.6s,baz=51,slow=13,SNR=5.1 comp=Z,1.5nm,0.6s						
WR0	**Warramunga Arr**	**32.36**	**263**	P	**P**	**00 05 57.5**	**-2.1**
WR0				IAmb	IAmb	00 06 00.6	
	comp=Z,7.4nm,1.1s						
BBOO	**Buckleboo**	**32.39**	**238**	P	**P**	**00 05 59.1**	**-0.7**
BBOO				IAmb	IAmb	00 06 08.5	
	comp=Z,6.7nm,1.1s						
WB0	**Warramunga Arr**	**32.52**	**263**	P	**P**	**00 05 59.2**	**-1.8**
WB0				IAmb	IAmb	00 05 59.5	
	comp=Z,4.3nm,0.8s						
WB2	**Warramunga Arr**	**32.54**	**263**	P	**P**	**00 05 57.9**	**-3.4**
WRA	**Warramunga Arr**	**32.55**	**263**	P	**P**	**00 05 59.1**	**-2.3**
WRA	**Warramunga Arr**	**32.55**	**263**	P	**P**	**00 05 59.6**	**-1.8**
	comp=Z,2.3nm,0.6s,baz=96,slow=8.5,SNR=14 comp=Z,2.3nm,0.6s						
AS31	**Alice Springs**	**32.85**	**256**	P	**P**	**00 06 02.8**	**-1.2**
ASAR	**Alice Springs**	**32.85**	**256**	P	**P**	**00 06 02.5**	**-1.4**
ASAR	**Alice Springs**	**32.85**	**256**	P	**P**	**00 06 02.7**	**-1.2**
	comp=Z,13nm,0.5s,baz=82,slow=8.9,SNR=175 comp=Z,13nm,0.5s						
MTN	**Manton Dam**	**36.78**	**274**	P	**P**	**00 06 35.8**	**-1.8**
MTN				IAmb	IAmb	00 06 42.2	
	comp=Z,20nm,1.1s						
FITZ	**Fitzroy Crossi**	**40.94**	**264**	P	**P**	**00 07 10.8**	**-1.3**
PSA00	**Pilbara Seismi**	**45.92**	**258**	P	**P**	**00 07 48.2**	**-3.6**
MBWA	**Marble Bar**	**46.07**	**259**	P	**P**	**00 07 51.2**	**-1.8**
MBWA				IAmb	IAmb	00 08 09.1	
	comp=Z,23nm,1.1s						
KSAR	**Wonju Array Be**	**68.20**	**326**	P	**P**	**00 10 27.2**	**-0.5**
KS19	**Wonju Array Si**	**68.26**	**326**	P	**P**	**00 10 29.5**	**+1.5**

ISK ***18*** *00:20:41.8, 36°.95N×27°.58E, h11km, ML2.5/8*
AFAD ***18*** *00:20:41.7±0.0, 36°.95N×27°.57E, h11km±1km, ML2.3*
ATH ***18*** *00:20:42.9, 36°.94N×27°.53E, h16km±2km, ML2.0/7, Error ellipse: s-maj=3.6km s-min=1.3km az=232.0*

ISC 18 00:20:42.0±0.8,**36°.96N**±0°.02×**27°.56E**±0°.02,**h16**km±6km, **n31,** σ0s**74**/55,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.14**	**320**	P	**Pg**	**00 20 45.7**	**-0.2**
BDRM				S	**Sg**	**00 20 48.0**	**-0.5**
BDRM				*i* AML	AML	00 20 49.0	
	comp=Z,1μm,0.3s						
BDRM				*i* AML	AML	00 20 49.0	
	comp=E,1μm,0.6s						
BODT	**Bodrum**	**0.22**	**298**	Pg	**Pg**	**00 20 47.3**	**+0.2**
BODT				Sg	**Sg**	**00 20 51.3**	**+0.7**
DAT	**Datca**	**0.23**	**176**	Pg	**Pg**	**00 20 47.0**	**-0.2**
DAT				Sg	**Sg**	**00 20 50.5**	**-0.2**
DAT	**Datca**	**0.23**	**176**	P	**Pg**	**00 20 47.0**	**-0.2**
DAT				S	**Sg**	**00 20 51.0**	**+0.2**
DAT				*i* AML	AML	00 20 51.0	
	comp=E,431nm,0.2s						

FETY				S		**Sg**	**00 21 26.1**	**+3.2**
DNIZ	**Denizli-Tavas-**	**1.36**	**60**	P		**Pb**	**00 21 07.1**	**0.0**
DNIZ				S		**Sg**	**00 21 26.5**	**+0.7**
DNIZ				*i* AML		AML	00 21 31.0	
	comp=E,44nm,0.3s							
DNIZ				*i* AML		AML	00 21 32.0	
	comp=E,58nm,0.3s							
KIRA	**zmir-Kiraz**	**1.41**	**28**	P		**Pn**	**00 21 07.5**	**+0.4**
KIRA				S		**Sn**	**00 21 24.4**	**-1.0**
KARP	**Karpathos**	**1.44**	**193**	Pn		**Pb**	**00 21 08.3**	**-0.2**
KARP	**Karpathos**	**1.44**	**193**	P		**Pn**	**00 21 06.7**	**-0.7**
KARP				AML		AML	00 21 30.7	
	comp=E,53μm,0.2s							
KARP				AML		AML	00 21 34.9	
	comp=N,62μm,0.4s							
ZEYE	**Izmir, Urla-Ze**	**1.53**	**327**	P		**Pn**	**00 21 09.4**	**+0.8**
APE	**Apeiranthos**	**1.63**	**275**	P		**Pn**	**00 21 10.2**	**+0.2**
APE				S		**Sn**	**00 21 29.4**	**-1.3**
APE				AML		AML	00 21 42.5	
	comp=N,37μm,0.5s							
APE				AML		AML	00 21 43.6	
	comp=E,22μm,0.4s							
CHOS	**Chios island**	**1.86**	**321**	P		**Pn**	**00 21 13.8**	**+0.5**
CHOS				AML		AML	00 21 51.3	
	comp=E,42μm,0.6s							
CHOS				AML		AML	00 21 51.8	
	comp=N,33μm,0.5s							

NOU ***18*** *00:27:20.8,21˚.03S×168˚.96E,h0km,MLv4.9/8, Loyalty Islands*
IDC ***18*** *00:27:24.6±0.5,21˚.33S×168˚.69E,h0km,mb4.7/17, mbtmp4.6/19,ML4.1/2,MS3.9/34,Error ellipse: s-maj=17.0km s-min=14.3km az=108.0*
MOS ***18*** *00:27:25.3±1.1,21˚.24S×168˚.59E,h10km,mb5.3/35, MS4.2/4, Error ellipse: s-maj=10.7km s-min=9.9km az=35.9*
BJI ***18*** *00:27:25.4±0.0,20˚.71S×168˚.96E,h5km,mb5.0/42, mB5.2/22,Ms4.8/2*
NEIC ***18*** *00:27:27.7±1.9,21˚.31S±0˚.07×168˚.60E±0˚.07,h14km±3km, mb5.1/125,Error ellipse: s-maj=10.6km s-min=8.2km az=138.0*
GCMT ***18*** *00:27:30.7±0.2,21˚.34S±0˚.03×168˚.65E±0˚.02,h17km, MW4.9/95,Moment Tensor Solution. s35,c40; s95,c117; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.03±.15; Mθθ1.02±.10; Mϕϕ2.01±.10; Mrθ-1.50±.28; Mϕθ-0.98±.07; Mϕr-0.52±.23; Best double couple: M○3.13900×10¹⁶ NP1:ϕs127.00000°,δ53.00000°,λ-116.00000°. NP2: ϕs346.00000°,δ45.00000°,λ-60.00000°. Principal axes: T 2.6370, Plg4.0000°, Azm235.0000°; N 1.0046, Plg21.0000°, Azm144.0000°; P -3.6420, Plg69.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 00:27:28.7±0.5,21˚.27S±0˚.05×168˚.65E±0˚.05,h25km±3km, h25km:pP-P,n518,ₙ0ᵍ93/470,mb5.1/107,MS4.0/35, 39C-27D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**0.61**	**250**	P		**Pb**	**00 27 39.6**	**-1.2**
LIFNC	**LIFOU**	**1.41**	**290**	P		**Pn**	**00 27 50.2**	**-2.5**
LIFNC	**LIFOU**	**1.41**	**290**			**Pn**	**00 27 50.0**	**-2.6**
PINNC	**Pines Island,**	**1.74**	**220**	P		**Pn**	**00 27 57.3**	**0.0**
PINNC	**Pines Island,**	**1.74**	**220**			**Pn**	**00 27 56.1**	**-1.2**
PINNC					Sn	**Sn**	**00 28 18.3**	**-0.4**
YATNC	**Mamie plateau,**	**1.81**	**244**	P		**Pn**	**00 27 57.4**	**-0.9**
OUENC	**Ouen Island, N**	**2.03**	**236**	P		**Pn**	**00 28 01.8**	**+0.5**
OUENC	**Ouen Island, N**	**2.03**	**236**			**Pn**	**00 28 01.1**	**-0.2**
DZM	**Mont Dzumac**	**2.20**	**248**	P		**Pn**	**00 28 03.9**	**+0.2**
DZM	**Mont Dzumac**	**2.20**	**248**	*e*Pn		**Pn**	**00 28 03.4**	**-0.3**
	2μm,0.9s							
DZM				*e*Sn		**Sn**	**00 28 27.0**	**-3.2**
	9μm,0.9s							
DZM	**Mont Dzumac**	**2.20**	**248**			**Pn**	**00 28 03.0**	**-0.7**
DZM	**Mont Dzumac**	**2.20**	**248**	Pn		**Pn**	**00 28 03.1**	**-0.7**
	113nm,0.3s,baz=109,slow=11,SNR=571							
DZM					Sn	**Sn**	**00 28 30.9**	**+0.6**
	525nm,0.3s,baz=75,slow=21,SNR=16							
DZM				LR		LR	00 28 50.5	
	comp=Z,3μm,18.3s,baz=149,slow=39							
	224nm,0.3s							
ONTNC	**Ouen Toro**	**2.29**	**243**	P		**Pn**	**00 28 04.8**	**0.0**
ONTNC	**Ouen Toro**	**2.29**	**243**			**Pn**	**00 28 03.4**	**-1.4**
NOUC	**Port Laguerre**	**2.33**	**249**	P		**Pn**	**00 28 05.6**	**+0.1**
MSVF	**Nonsavu**	**9.54**	**70**	Pn		**Pn**	**00 29 46.5**	**+2.0**
MSVF	**Nonsavu**	**9.54**	**70**	*i* P		**Pn**	**00 29 46.5**	**+2.0**
HNR	**Honiara**	**14.45**	**323**	LR		LR	00 34 47.8	
	comp=Z,4μm,20.7s,baz=178,slow=30							
EIDS	**Eidsvold**	**16.64**	**252**	P		**Pn**	**00 31 19.7**	**-0.6**
	baz=17,SNR=4.5							
ARMA	**Armidale**	**17.81**	**236**	P		**P**	**00 31 36.0**	**+0.5**
	baz=18,SNR=5.1							
ARMA	**Armidale**	**17.81**	**236**	P		**P**	**00 31 38.9**	**+3.4**
URZ	**Urewera**	**18.44**	**159**	P		**Pn**	**00 31 41.1**	**-1.4**
	0.2nm,0.3s,baz=11,slow=20,SNR=2.3							
URZ				LR		LR	00 37 31.2	
	comp=Z,686nm,19.6s,baz=34,slow=33							
	4.7nm,0.7s							
AFI	**Afiamalu**	**20.03**	**72**	P		**P**	**00 31 56.9**	**-3.1**
AFI				IAmb		IAmb	00 32 15.5	
	comp=Z,48nm,0.7s							
AFI	**Afiamalu**	**20.03**	**72**	P		**P**	**00 31 56.9**	**-3.1**
AFI				pmax		pmax		
	comp=Z,48nm,0.7s							
MRZ	**Mangatainoka R**	**20.20**	**165**	P		Pn	00 32 01.9	-1.7
THZ	**Tophouse**	**20.74**	**171**	P		Pn	00 32 08.0	-1.9
CTAO	**Charters Tower**	**20.99**	**269**	P		**P**	**00 32 10.5**	**+0.2**
CTAO	**Charters Tower**	**20.99**	**269**	P		**P**	**00 32 10.5**	**+0.2**
CTAO				pmax		pmax		
	comp=Z,23nm,0.8s							
CNB	**Canberra Magne**	**21.95**	**226**	P		**P**	**00 32 22.1**	**+1.5**
	baz=22,SNR=5.3							
YNG	**Young**	**22.07**	**230**	P		**P**	**00 32 23.3**	**+1.5**
	baz=22,SNR=6.0							
QLP	**Quilpie**	**22.92**	**252**	P		**P**	**00 32 31.1**	**+0.2**
	baz=23,SNR=7.2							
CMSA	**Cobar Meteorol**	**22.92**	**239**	P		**P**	**00 32 32.3**	**+1.4**
	baz=23,SNR=21							
MTSU	**Mount Surprise**	**23.12**	**274**	P		**P**	**00 32 34.2**	**+1.2**
	baz=23,SNR=33							
PMG	**Port Moresby**	**23.81**	**296**	P		**P**	**00 32 39.9**	**+0.1**
	comp=Z,6.2nm,0.5s,baz=106,slow=12,SNR=5.1							
PMG				LR		LR	00 40 00.1	
	comp=Z,193nm,19.2s,baz=150,slow=32							
	comp=Z,6.2nm,0.5s							
COEN	**Coen**	**25.32**	**283**	P		**P**	**00 32 55.1**	**+1.5**
	baz=25,SNR=6.8							
STKA	**Stephens Creek**	**26.34**	**241**	P		**P**	**00 33 03.9**	**+1.2**
	baz=26,SNR=6.1							
STKA	**Stephens Creek**	**26.34**	**241**	P		**P**	**00 33 03.0**	**+0.3**
STKA	**Stephens Creek**	**26.34**	**241**	P		**P**	**00 33 02.6**	**0.0**
	comp=Z,9.7nm,0.9s,baz=68,slow=12,SNR=11							
STKA				LR		LR	00 42 50.2	
	comp=Z,107nm,22.0s,baz=66,slow=35							
	comp=Z,9.7nm,0.9s							
STKA	**Stephens Creek**	**26.34**	**241**	*i* P		**P**	**00 33 03.3**	**+0.6**
QIS	**Mount Isa**	**27.13**	**266**	P		**P**	**00 33 10.5**	**+0.6**
	baz=27,SNR=6.7							
HTT	**Hallett**	**28.95**	**239**	P		**P**	**00 33 27.0**	**+0.9**
	baz=29,SNR=4.4							
RAR	**Rarotonga**	**29.41**	**96**	LR		LR	00 42 38.9	
	comp=Z,174nm,21.4s,baz=248,slow=31							
BBOO	**Buckleboo**	**31.10**	**241**	P		**P**	**00 33 45.9**	**+0.8**
	baz=31,SNR=5.1							
WR0	**Warramunga Arr**	**31.92**	**266**	P		**P**	**00 33 51.1**	**-1.4**
WR0				IAmb		IAmb	00 33 52.8	
	comp=Z,23nm,0.8s							
WB0	**Warramunga Arr**	**32.09**	**266**	P		**P**	**00 33 52.9**	**-1.1**
WB0				IAmb		IAmb	00 33 54.2	
	comp=Z,25nm,0.8s							
WB2	**Warramunga Arr**	**32.10**	**266**	P		**P**	**00 33 53.4**	**-0.7**
WB2				IAmb		IAmb	00 33 56.9	
	comp=Z,15nm,0.7s							
WRA	**Warramunga Arr**	**32.11**	**266**	P		**P**	**00 33 52.7**	**-1.5**
WRA	**Warramunga Arr**	**32.11**	**266**	P		**P**	**00 33 53.3**	**-0.8**
	comp=Z,17nm,0.8s,baz=104,slow=7.7,SNR=42							
WRA				LR		LR	00 46 30.9	
	comp=Z,729nm,20.2s,baz=114,slow=36							
	comp=Z,17nm,0.8s							
WRA	**Warramunga Arr**	**32.11**	**266**	P		**P**	**00 33 52.7**	**-1.5**
WRA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
AS31	**Alice Springs**	**32.15**	**259**	P		**P**	**00 33 54.5**	**0.0**
AS31				IAmb		IAmb	00 33 55.7	
	comp=Z,16nm,0.8s							
ASAR	**Alice Springs**	**32.15**	**259**	P		**P**	**00 33 53.8**	**-0.8**
ASAR	**Alice Springs**	**32.15**	**259**	P		**P**	**00 33 54.5**	**-0.1**
	comp=Z,38nm,0.7s,baz=82,slow=9.2,SNR=285							
ASAR				PcP		**PcP**	**00 36 43.2**	**-0.1**
	comp=Z,2.7nm,0.9s,baz=130,slow=2.0,SNR=5.5							
ASAR				LR		LR	00 46 40.5	
	comp=Z,313nm,19.4s,baz=101,slow=36							
	comp=Z,38nm,0.7s							
JAY	**Jayapura**	**32.98**	**301**	P		**P**	**00 34 01.6**	**-0.2**
	comp=Z,39nm,1.0s,comp=Z,491nm							
MTN	**Manton Dam**	**36.76**	**277**	P		**P**	**00 34 35.4**	**+0.9**
	baz=37,SNR=5.9							
WRKA	**Warakurna**	**37.20**	**256**	P		**P**	**00 34 38.2**	**0.0**
	baz=37,SNR=11							
FORT	**Forrest**	**37.51**	**247**	P		**P**	**00 34 40.9**	**+0.3**
	baz=38,SNR=28							
FORT	**Forrest**	**37.51**	**247**	P		**P**	**00 34 40.8**	**+0.1**
TBI	**Tubuai**	**38.71**	**101**	*e*P		**P**	**00 34 52.8**	**+1.9**
	comp=Z,566nm,38.0s							
TBI					*e*LQ	LQ	00 43 37.9	
	comp=Z,2μm,31.8s							
TBI					*e*LR	LR	00 45 26.7	
	comp=Z,1μm,32.0s							
PPT2	**Papeete2**	**39.48**	**92**	*e*P		**P**	**00 34 58.6**	**+1.1**
	comp=Z,52nm,22.8s							
PPT2					*e*S	**S**	**00 40 54.2**	**-4.3**
	comp=Z,78nm,24.5s							
PPT2					*e*LQ	LQ	00 44 04.9	
	comp=Z,557nm,26.0s							
PPT2					*e*LR	LR	00 45 46.3	
	comp=Z,255nm,33.5s							
PPT2					*e*LR	LR	00 45 47.0	
	comp=Z,500nm,28.8s							
PPT	**Papeete**	**39.49**	**92**	LR		LR	00 50 37.0	
	comp=Z,256nm,18.1s,baz=288,slow=35							
FITZ	**Fitzroy Crossi**	**40.53**	**267**	P		**P**	**00 35 06.6**	**+0.5**
	baz=40,SNR=18							
KMBL	**Kambalda**	**42.84**	**246**	P		**P**	**00 35 24.6**	**-0.3**
	baz=43,SNR=11							
BATI	**Baumata**	**44.53**	**277**	LR		LR	00 55 41.8	
	comp=Z,247nm,18.2s,baz=135,slow=38							
LBMI	**Labuha**	**45.07**	**292**	P		**P**	**00 35 44.1**	**+1.1**
	comp=Z,43nm,1.6s,comp=Z,1μm							
PSA00	**Pilbara Seismi**	**45.28**	**260**	P		**P**	**00 35 44.0**	**-0.6**
MBWA	**Marble Bar**	**45.45**	**261**	P		**P**	**00 35 45.7**	**-0.3**
SANI	**Sanana**	**45.72**	**289**	P		**P**	**00 35 48.5**	**+0.4**
	comp=Z,72nm,1.2s,comp=Z,726nm							
MEEK	**Meekatharra**	**45.81**	**253**	P		**P**	**00 35 48.4**	**-0.4**
	baz=46,SNR=19							
KLBR	**Kellerberrin**	**46.37**	**246**	P		**P**	**00 35 52.9**	**-0.2**
	baz=46,SNR=7.0							
NWAO	**Narrogin (SRO)**	**46.82**	**244**	P		**P**	**00 35 56.7**	**+0.1**
	baz=47,SNR=4.5							
NWAO				P		**P**	**00 35 56.7**	**+0.1**
	baz=47,SNR=4.5							
NWAO	**Narrogin (SRO)**	**46.82**	**244**	P		**P**	**00 35 56.4**	**-0.1**
NWAO				IAmb		IAmb	00 35 57.4	
	comp=Z,22nm,0.8s							
NWAO	**Narrogin (SRO)**	**46.82**	**244**	LR		LR	00 55 40.4	
	comp=Z,222nm,19.4s,baz=358,slow=36							
NWAO	**Narrogin (SRO)**	**46.82**	**244**	P		**P**	**00 35 56.4**	**-0.1**
NWAO				pmax		pmax		
	comp=Z,22nm,0.9s							
MORW	**Morawa**	**47.92**	**250**	P		**P**	**00 36 05.2**	**-0.1**
MORW				IAmb		IAmb	00 36 06.2	
	comp=Z,26nm,1.1s							
KAPI	**Kappang**	**50.05**	**282**	P		**P**	**00 36 22.4**	**+0.7**
KAPI	**Kappang**	**50.05**	**282**	LR		LR	01 01 18.2	
	comp=Z,38nm,18.2s,baz=116,slow=41							
KAPI	**Kappang**	**50.05**	**282**	*i* P		**P**	**00 36 21.3**	**-0.4**
KAPI				pmax		pmax		
	comp=Z,55nm,1.1s							
PLAI	**Plampang**	**50.46**	**276**	P		**P**	**00 36 24.9**	**+0.1**
	comp=Z,50nm,1.0s							
TTSI	**Tana Toraja**	**50.79**	**284**	P		**P**	**00 36 27.7**	**+0.4**
	comp=Z,27nm,0.9s							
DAV	**Davao City (W)**	**50.80**	**299**	LR		LR	00 57 35.7	
	comp=Z,47nm,20.5s,baz=141,slow=36							
TOLI2	**Tolitoli**	**51.79**	**289**	P		**P**	**00 36 34.5**	**-0.3**
VNDA	**Vanda**	**56.39**	**182**	P		**P**	**00 37 07.6**	**+0.2**
VNDA				IAmb		IAmb	00 37 09.1	
	comp=Z,37nm,2.0s							
VNDA	**Vanda**	**56.39**	**182**	P		**P**	**00 37 07.8**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=3.7,slow=6.6,SNR=10							
VNDA				LR		LR	00 57 24.2	
	comp=Z,64nm,20.1s,baz=7.5,slow=32							
	comp=Z,2.5nm,0.9s							
VNDA	**Vanda**	**56.39**	**182**	P		**P**	**00 37 07.6**	**+0.2**
VNDA				pmax		pmax		
	comp=Z,37nm,2.0s							
SBA	**Scott Base**	**56.63**	**180**	P		**P**	**00 37 10.5**	**+1.4**
SBA				IAmb		IAmb	00 37 11.7	
	comp=Z,26nm,1.1s							
SBA	**Scott Base**	**56.63**	**180**	P		**P**	**00 37 10.5**	**+1.4**
SBA				pmax		pmax		
	comp=Z,26nm,1.1s							
CASY	**Casey**	**58.05**	**204**	P		**P**	**00 37 19.0**	**-0.3**
CASY				IAmb		IAmb	00 37 19.7	
	comp=Z,21nm,0.8s							
STKI	**Sintang**	**59.66**	**283**	P		**P**	**00 37 32.5**	**+1.2**
	comp=Z,75nm,1.0s							
SBUM	**Sibu**	**60.01**	**286**	P		**P**	**00 37 33.4**	**-0.3**
LEM	**Lembang**	**60.59**	**274**	LR		LR	01 04 53.5	
	comp=Z,134nm,18.7s,baz=155,slow=37							
DBJI	**Dramaga**	**61.49**	**274**	P		**P**	**00 37 43.6**	**-0.2**
	comp=Z,192nm,1.0s,comp=Z,8μm							
JOW	**Kunigami**	**61.77**	**319**	LR		LR	01 03 39.0	
	comp=Z,48nm,18.9s,baz=206,slow=35							
KASI	**Kota Agung**	**63.95**	**274**	P		**P**	**00 37 59.3**	**-0.9**
	comp=Z,82nm,0.8s							
MJAR	**Matsushiro Arr**	**64.30**	**333**	P		**P**	**00 38 01.6**	**-0.4**
	comp=Z,8.0nm,1.0s,baz=165,slow=6.6,SNR=14							
MJAR				PcP		**PcP**	**00 38 37.0**	**+0.5**
	comp=Z,4.1nm,0.9s,baz=165,slow=4.4,SNR=2.1							
MJAR				LR		LR	01 04 19.9	
	comp=Z,37nm,20.5s,baz=167,slow=34							
	comp=Z,8.0nm,1.0s							
MAJO	**Matsushiro**	**64.30**	**333**	P		**P**	**00 38 02.3**	**+0.3**
MAJO				IAmb		IAmb	00 38 02.9	
	comp=Z,20nm,1.1s							
MAJO	**Matsushiro**	**64.30**	**333**	*i* P		**P**	**00 38 01.9**	**-0.1**
MAJO				pmax		pmax		
	comp=Z,25nm,1.2s							
MJB9	**Matsu-Tunnel**	**64.30**	**333**	P		**P**	**00 38 03.3**	**+1.3**
MJB9				IAmb		IAmb	00 38 03.9	
	comp=Z,20nm,1.1s							
JNU	**Nakatsue**	**65.01**	**325**	LR		LR	01 06 53.9	
	comp=Z,22nm,18.1s,baz=154,slow=36							
JSD	**Sado**	**65.55**	**334**	P		**P**	**00 38 11.0**	**+1.0**
QSPA	**South Pole Qui**	**68.79**	**180**	P		**P**	**00 38 30.5**	**0.0**
QSPA	**South Pole Qui**	**68.79**	**180**	P		**P**	**00 38 30.5**	**0.0**
	comp=Z,22nm,1.0s,baz=20,slow=2.3,SNR=38							
QSPA				LR		LR	01 06 14.8	
	comp=Z,102nm,18.4s,baz=42,slow=34							
	comp=Z,22nm,1.0s							
NJ2	**Nanjing**	**71.29**	**317**	*e*P		**P**	**00 38 49.1**	**+3.0**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
KULM	**Kulim**	**71.65**	**283**	P		**P**	**00 38 48.0**	**-0.7**
KULM				IAmb		IAmb	00 38 49.7	
	comp=Z,23nm,1.2s							
KULM				pwP		**pP**	**00 38 56.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**71.82**	**342**	*e*P		**P**	**00 38 49.9**	**+0.9**
YSS				pmax		pmax		
	comp=Z,30nm,1.2s							
YSS				MLR		MLR		
	comp=Z,200nm,13.0s							
USA0B	**Ussuriysk Arra**	**73.29**	**333**	*i* P		**P**	**00 38 57.0**	**-0.8**
USRK	**Ussuriysk Ar.**	**73.29**	**333**	P		**P**	**00 38 58.6**	**+0.8**
USRK	**Ussuriysk Ar.**	**73.29**	**333**	P		**P**	**00 38 59.1**	**+1.3**
	comp=Z,22nm,0.9s,baz=141,slow=4.3,SNR=34							
	comp=Z,22nm,0.9s							
MDJ	**Mudanjiang**	**74.65**	**332**	P		**P**	**00 39 07.0**	**+1.3**
MDJ				pmax		pmax		
	comp=Z,28nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,150nm,3.9s							
MDJ	**Mudanjiang**	**74.65**	**332**	IAmb		IAmb	00 39 07.9	
	comp=Z,29nm,1.1s							
PETK	**Petropavlovsk-**	**74.68**	**353**	P		**P**	**00 39 06.3**	**+0.6**
PETK	**Petropavlovsk-**	**74.68**	**353**	P		**P**	**00 39 06.5**	**+0.7**
	comp=Z,13nm,1.1s,baz=116,slow=6.8,SNR=4.9							
PETK				LR		LR	01 06 24.6	
	comp=Z,59nm,19.9s,baz=143,slow=31							
	comp=Z,13nm,1.1s							
CN2	**Changchun**	**75.91**	**329**	*e*P		**P**	**00 39 13.8**	**+0.8**
CN2				pmax		pmax		
	comp=Z,20nm,0.9s							
MAW	**Mawson**	**76.35**	**202**	P		**P**	**00 39 14.5**	**-0.8**
	comp=Z,6.0nm,0.9s,baz=136,slow=6.5,SNR=8.6							
	comp=Z,6.0nm,0.9s							
BNX	**BinXian**	**76.49**	**332**	⇑P		**P**	**00 39 16.6**	**+0.3**
BNX				pmax		pmax		
	comp=Z,20nm,0.8s							
BNX				pmax		pmax		
	comp=Z,100nm,5.2s							
GYA	**Guiyang**	**76.54**	**306**	*e*P		**P**	**00 39 17.5**	**+0.3**
GYA				pmax		pmax		
	comp=Z,19nm,0.6s							
GYA				pmax		pmax		
	comp=Z,190nm,7.3s							
LYN	**LuoYang**	**77.01**	**315**	*e*P		**P**	**00 39 20.8**	**+1.3**
LYN				pmax		pmax		
	comp=Z,14nm,0.8s							
LYN				pmax		pmax		
	comp=Z,140nm,4.0s							
HNS	**HongShan**	**77.35**	**319**	⇓P		**P**	**00 39 22.4**	**+1.1**
HNS				PcP		**PcP**	**00 39 32.8**	**+1.1**
HNS				pmax		pmax		
	comp=Z,13nm,1.1s							
KLR	**Kul'dur**	**77.49**	**336**	*c*eP		**P**	**00 39 23.0**	**+1.2**
KLR				pmax		pmax		
	comp=Z,29nm,1.7s							
PHRA	**Phrae**	**77.78**	**295**	P		**P**	**00 39 25.3**	**+1.2**
BJI	**Beijing**	**78.17**	**322**	P		**P**	**00 39 26.6**	**+0.8**
BJI				sP		**pwP**	**00 39 37.3**	**-1.3**
BJI				pmax		pmax		
	comp=Z,4.0nm,1.5s							
CRAI	**Chiangrai**	**78.45**	**297**	P		**P**	**00 39 28.1**	**+0.2**
CRAI				IAmb		IAmb	00 39 40.8	
	comp=Z,28nm,1.2s							
CMAR	**Chiang Mai Arr**	**78.84**	**295**	P		**P**	**00 39 31.2**	**+1.1**
CMAR	**Chiang Mai Arr**	**78.84**	**295**	P		**P**	**00 39 31.9**	**+1.9**
	comp=Z,3.2nm,0.6s,baz=134,slow=4.6,SNR=22							
CMAR				LR		LR	01 18 01.1	
	comp=Z,16nm,18.2s,baz=155,slow=38							
	comp=Z,3.2nm,0.6s							
CMAR	**Chiang Mai Arr**	**78.84**	**295**	P		**P**	**00 39 31.2**	**+1.1**
CHTO	**Chiang Mai**	**79.00**	**295**	P		**P**	**00 39 31.1**	**+0.2**
CHTO	**Chiang Mai**	**79.00**	**295**	P		**P**	**00 39 31.1**	**+0.2**
CHTO				pmax		pmax		
	comp=Z,60nm,1.6s							
XAN	**Xi'an**	**79.08**	**313**	⇑P		**P**	**00 39 32.0**	**+0.9**
XAN				pmax		pmax		
	comp=Z,12nm,1.2s							
HEH	**HeiHe**	**80.00**	**335**	*e*P		**P**	**00 39 36.0**	**+0.4**
HEH				pmax		pmax		
	comp=Z,20nm,1.3s							
BELA	**Belgrano 2**	**80.13**	**175**	P		**P**	**00 39 35.4**	**-0.7**
BELA				IAmb		IAmb	00 39 35.9	
	comp=Z,13nm,0.7s							
PZH	**PanZhiHua**	**80.35**	**303**	P		**P**	**00 39 40.9**	**+2.7**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,90nm,7.3s							
XLT	**XiLinHaoTe**	**80.76**	**324**	*e*P		**P**	**00 39 39.6**	**-0.4**
XLT				pP		PcP	00 39 45.0	-1.6
XLT				pmax		pmax		
	comp=Z,10.0nm,0.8s							
XLT				pmax		pmax		
	comp=Z,88nm,3.7s							
HHC	**Hu-ho-hao-te**	**81.41**	**320**	*e*P		**P**	**00 39 46.1**	**+2.6**
HIA	**Hailar**	**82.59**	**330**	P		**P**	**00 39 50.0**	**+0.6**
HIA				IAmb		IAmb	00 40 01.5	
	comp=Z,11nm,0.9s							
HIA	**Hailar**	**82.59**	**330**	P		**P**	**00 39 50.0**	**+0.6**
HIA				pmax		pmax		
	comp=Z,11nm,0.9s							
ZEA	**Zeya**	**82.79**	**337**	*e*P		**P**	**00 39 51.3**	**+1.0**
ZEA				*e*S		**SKSac**	**00 50 11.0**	**+1.1**
ZEA				pmax		pmax		
	comp=Z,20nm,1.5s							
LZH	**Lanzhou**	**83.68**	**312**	*e*P		**P**	**00 39 56.8**	**+1.2**
LZH				sP		sP	00 40 06.5	+2.0
LZH				pmax		pmax		
	comp=Z,14nm,1.1s							
ELIB	**Princess Elisa**	**84.05**	**190**	*d*P		**P**	**00 39 56.2**	**-0.7**
	comp=Z,5.6nm,1.1s							
Q17K	**Contact Creek**	**84.53**	**18**	P		**P**	**00 39 58.7**	**-0.5**
	baz=213							
SEY	**Seymchan**	**84.90**	**353**	LR		LR	01 14 24.2	
	comp=Z,56nm,20.2s,baz=156,slow=33							
SEY	**Seymchan**	**84.90**	**353**	P		**P**	**00 39 59.2**	**-1.7**
SEY				pmax		pmax		
	comp=Z,9.0nm,1.4s							
KDAK	**Kodiak Island**	**85.12**	**20**	LR		LR	01 20 26.1	
	comp=Z,52nm,18.0s,baz=196,slow=37							
M15K	**Kasigluk River**	**85.37**	**15**	P		**P**	**00 40 03.5**	**+0.3**
	baz=208							
K13K	**Kusilvak Mount**	**85.62**	**12**	P		**P**	**00 40 05.0**	**+0.5**
	baz=205							
N16K	**Nishlik Lake**	**85.64**	**16**	P		**P**	**00 40 05.6**	**+0.9**
	baz=210							
M16K	**Timber Creek**	**86.07**	**15**	P		**P**	**00 40 07.5**	**+0.7**
M16K	**Timber Creek**	**86.07**	**15**	P		**P**	**00 40 08.0**	**+1.2**
	baz=210							
TROLL	**Troll, Ant

comp=Z,17nm,1.3s
PFO Pinyon Flats O 89.76 54 P **P 00 40 26.4 +1.1**
PFO IAmb IAmb 00 42 50.7
comp=Z,12nm,1.4s
PFO Pinyon Flats O 89.76 54 LR LR 01 14 32.9
comp=Z,32nm,18.1s,baz=296,slow=32
PFO Pinyon Flats O 89.76 54 P **P 00 40 26.4 +1.1**
PFO pmax pmax
comp=Z,12nm,1.4s
CWC Cottonwood Cre 89.82 51 P **P 00 40 25.7 +0.2**
baz=243
PNTR Pine Nut 89.95 48 P **P 00 40 25.1 -1.0**
PNTR IAmb IAmb 00 40 40.5
comp=Z,7.7nm,0.9s
MPMC Manual Prospec 90.07 51 P **P 00 40 26.9 +0.1**
baz=244
GSC Goldstone, Bar 90.24 52 P **P 00 40 27.5 +0.1**
GSC IAmb IAmb 00 40 29.1
comp=Z,16nm,1.7s
GSC Goldstone, Bar 90.24 52 P **P 00 40 27.5 +0.1**
GSC pmax pmax
comp=Z,16nm,1.7s
BELC Belle Mtn. Jos 90.28 53 P **P 00 40 27.9 +0.2**
baz=244
DSP Deep Springs 90.31 50 P **P 00 40 26.8 -0.8**
LHV Little Huntoon 90.33 49 IAmb IAmb 00 40 33.8
comp=Z,12nm,1.1s
PAHR Pah Rah Range 90.39 47 IAmb IAmb 00 40 33.8
comp=Z,16nm,1.5s
QSM Queen of Sheba 90.48 51 IAmb IAmb 00 40 42.3
comp=Z,7.1nm,1.0s
NVAR Mina Array Bea 90.55 49 P **P 00 40 28.7 -0.3**
NVAR Mina Array Bea 90.55 49 P **P 00 40 29.1 +0.1**
comp=Z,2.8nm,0.9s,baz=228,slow=8.2,SNR=13
NVAR LR LR 01 12 27.5
comp=Z,69nm,21.4s,baz=276,slow=30
comp=Z,2.8nm,0.9s
GRAC Grapevine Ran 90.58 50 P **P 00 40 29.0 +0.1**
NV11 Mina Array Sit 90.66 49 IAmb IAmb 00 40 43.9
comp=Z,12nm,1.3s
PALK Pallekele 90.70 277 LR LR 01 23 14.6
comp=Z,32nm,19.5s,baz=229,slow=37
FURC Furnace Creek, 90.71 51 P **P 00 40 29.6 +0.2**
baz=244
GWY Greenwater Val 90.73 51 IAmb IAmb 00 40 43.5
comp=Z,9.1nm,1.1s
LPIG La Paz 90.79 65 LR LR 01 11 28.3
comp=Z,96nm,21.7s,baz=238,slow=29
GMN Gold Mountain 90.79 50 IAmb IAmb 00 40 44.7
comp=Z,19nm,2.0s
K05A Summer Lake 90.80 44 IAmb IAmb 00 40 31.1
comp=Z,14nm,1.3s
E17K Hotham Inlet 90.81 11 P **P 00 40 29.1 0.0**
baz=207
BOD Bodaibo 90.91 334 *e*P **P 00 40 29.3 -0.5**
BOD pmax pmax
comp=Z,20nm,1.6s
KVN Kaiserville 90.97 48 P **P 00 40 30.4 -0.5**
KVN IAmb IAmb 00 40 45.2
comp=Z,7.8nm,1.2s
KVN Kaiserville 90.97 48 P **P 00 40 30.4 -0.5**
KVN pmax pmax
comp=Z,8.0nm,1.2s
IRM Iron Mountain 90.98 54 P **P 00 40 31.3 +0.5**
baz=245
E03A Lebam 91.01 40 P **P 00 40 30.8 +0.2**
WCT Wildcat Mounta 91.02 51 IAmb IAmb 00 40 45.6
comp=Z,6.0nm,0.9s
C03A Quillayute Air 91.14 38 P **P 00 40 32.8 +1.7**
BARN Barnard Glacie 91.24 22 IAmb IAmb 00 40 32.1
comp=Z,10nm,1.3s
PINE Pine Mountain 91.28 43 IAmb IAmb 00 40 33.3
comp=Z,7.9nm,1.0s
I05D Terrebonne, OR 91.28 42 P **P 00 40 31.4 -0.7**
I05D IAmb IAmb 00 40 37.0
comp=Z,8.5nm,1.2s
CTG Chitna Glacier 91.29 22 P **P 00 40 30.7 -1.0**
baz=226
CTGM Chitina Glacie 91.29 22 P **P 00 40 30.7 -1.1**
CTGM IAmb IAmb 00 40 31.6
comp=Z,7.9nm,1.1s
I21K Tanana 91.30 16 P **P 00 40 31.1 -0.4**
I21K Tanana 91.30 16 P **P 00 40 30.7 -0.8**
baz=216
E18K Tukpahlearik C 91.33 11 IAmb IAmb 00 40 42.8
comp=Z,17nm,1.9s
E18K Tukpahlearik C 91.33 11 P **P 00 40 31.7 +0.1**
baz=208
F19K Shaleruckik Mo 91.36 13 P **P 00 40 33.1 +1.4**
F19K Shaleruckik Mo 91.36 13 P **P 00 40 31.0 -0.8**
baz=211
F04A Amboy 91.39 41 P **P 00 40 31.9 -0.5**
F04A IAmb IAmb 00 40 44.5
comp=Z,7.9nm,0.8s
113A Mohawk Valley, 91.45 55 P **P 00 40 33.5 +0.5**
113A IAmb IAmb 00 41 59.0
comp=Z,5.2nm,0.7s
BBB Bella Bella 91.47 33 LR LR 01 11 38.1
comp=Z,52nm,20.3s,baz=270,slow=29
O28M Mount Upton 91.56 22 P **P 00 40 32.1 -1.1**
baz=227
ZAK Zakamensk 91.62 324 *e*P **P 00 40 33.8 +0.3**
ZAK pmax pmax
comp=Z,18nm,1.4s
P29M Windy Craggy 91.69 24 P **P 00 40 32.7 -0.8**
baz=229
GNW Green Mountain 91.96 39 P **P 00 40 35.2 +0.3**
SHPR Sheep Range 91.96 52 P **P 00 40 36.3 +0.8**
F20K Avaraart Lake 91.98 13 P **P 00 40 34.4 -0.2**
baz=213
E19K Redstone River 92.01 12 P **P 00 40 35.1 +0.3**
baz=212
G21K Allakaket 92.02 14 IAmb IAmb 00 40 40.3
comp=Z,10nm,1.5s
G21K Allakaket 92.02 14 P **P 00 40 34.5 -0.4**
baz=215
H22K Ishtalitna Cre 92.02 15 P **P 00 40 35.6 +0.7**
baz=217
HDA Harding Lake 92.03 18 P **P 00 40 34.4 -0.5**
baz=221
YUK8 Steele Glacier 92.06 22 P **P 00 40 34.9 -0.6**
baz=227
YUK3 Moose Creek 92.16 22 P **P 00 40 35.0 -0.8**
baz=226
LON Longmire 92.16 40 P **P 00 40 35.3 -0.7**
LON Longmire 92.16 40 P **P 00 40 35.3 -0.7**
C18K Utukok River 92.31 11 P **P 00 40 35.2 -1.0**
baz=208
W13A Hualapai Mount 92.32 53 IAmb IAmb 00 40 52.4
comp=Z,16nm,1.7s
ILAR Eielson Array 92.33 17 P **P 00 40 35.7 -0.6**
ILAR Eielson Array 92.33 17 P **P 00 40 35.5 -0.7**
comp=Z,0.9nm,0.7s,baz=236,slow=5.0,SNR=10
ILAR LR LR 01 24 06.9
comp=Z,54nm,18.1s,baz=174,slow=37
comp=Z,0.9nm,0.7s
ILAR Eielson Array 92.33 17 P **P 00 40 35.7 -0.6**
YUK6 Outpost Mounta 92.33 23 P **P 00 40 35.4 -1.3**
baz=228
PRN Pahroc Range 92.42 51 P **P 00 40 37.7 +0.1**
PRN IAmb IAmb 00 40 52.5
comp=Z,9.5nm,0.9s
R11B Troy Canyon, C 92.44 50 P **P 00 40 36.9 -0.8**
baz=245
YUK4 Talbot Arm 92.50 23 P **P 00 40 37.0 -0.5**
baz=228
HYT Haines Junctio 92.57 23 P **P 00 40 36.5 -1.2**
HYT IAmb IAmb 00 40 37.5
comp=Z,8.1nm,1.3s
SCRK Sand Creek 92.58 19 IAmb IAmb 00 40 37.5
comp=Z,13nm,1.7s
SCRK Sand Creek 92.58 19 P **P 00 40 37.4 -0.2**
baz=223
F21K Alatna River 92.61 14 IAmb IAmb 00 40 42.9
comp=Z,9.1nm,1.5s
F21K Alatna River 92.61 14 P **P 00 40 35.6 -1.9**
baz=215
D19K Kuna River 92.73 12 P **P 00 40 38.2 +0.1**
baz=211
G22K Bettles 92.82 15 P **P 00 40 38.4 -0.1**
baz=217
E20K Nigu River 92.90 12 P **P 00 40 39.2 +0.3**
baz=213
C19K Lookout Ridge 92.99 11 IAmb IAmb 00 40 45.0
comp=Z,6.7nm,1.1s
C19K Lookout Ridge 92.99 11 P **P 00 40 39.8 +0.4**
baz=210

O30N Mendenhall 93.06 24 P **P 00 40 39.9 +0.1**
baz=230
J26L Joseph Creek 93.09 19 P **P 00 40 40.0 +0.1**
J26L Joseph Creek 93.09 19 P **P 00 40 39.3 -0.6**
baz=224
F22K John River 93.14 14 P **P 00 40 40.0 0.0**
baz=216
D20K Etivluk River 93.20 12 P **P 00 40 40.6 +0.3**
baz=212
M29M Somme Creek 93.30 22 P **P 00 40 40.1 -0.8**
baz=228
S34M Telegraph Cree 93.31 28 P **P 00 40 42.1 +1.1**
S34M IAmb IAmb 00 40 46.0
comp=Z,8.0nm,1.1s
COLD Coldfoot 93.37 15 P **P 00 40 41.2 +0.2**
baz=218
E21K Killik River 93.51 13 P **P 00 40 41.7 -0.1**
baz=215
MOY Mondy 93.52 325 *e*P **P 00 40 41.8 -0.5**
MOY pmax pmax
comp=Z,23nm,2.5s
TUC Tucson 93.58 57 P **P 00 40 42.2 -0.8**
TUC Tucson 93.58 57 P **P 00 40 43.4 +0.5**
baz=247
TUC Tucson 93.58 57 P **P 00 40 42.2 -0.8**
TUC pmax pmax
comp=Z,4.0nm,1.0s
ELK Elko 93.69 48 LR LR 01 15 32.6
comp=Z,64nm,20.0s,baz=263,slow=31
E22K Anaktuvuk Pass 93.73 14 IAmb IAmb 00 40 49.8
comp=Z,9.3nm,1.2s
E22K Anaktuvuk Pass 93.73 14 P **P 00 40 42.6 -0.1**
baz=216
I26K Coal Creek Min 93.79 18 IAmb IAmb 00 41 08.8
comp=Z,21nm,1.8s
I26K Coal Creek Min 93.79 18 P **P 00 40 42.8 -0.2**
baz=224
L29M L29M 93.86 21 IAmb IAmb 00 40 43.6
comp=Z,12nm,1.4s
L29M L29M 93.86 21 P **P 00 40 43.2 -0.2**
baz=228
C21K Knifeblade Rid 93.94 12 P **P 00 40 44.4 +0.7**
baz=214
M30M Minto, Yukon 93.97 22 P **P 00 40 42.7 -1.3**
baz=230
EGAK Eagle 94.02 19 IAmb IAmb 00 40 54.4
comp=Z,9.6nm,1.4s
EGAK Eagle 94.02 19 P **P 00 40 43.3 -0.8**
baz=226
DLBC Dease Lake 94.09 28 P **P 00 40 44.4 -0.3**
baz=235
D22K Ayikyak River 94.14 13 IAmb IAmb 00 40 56.0
comp=Z,4.8nm,0.5s
D22K Ayikyak River 94.14 13 P **P 00 40 45.1 +0.5**
baz=216
F24K Squaw Lake 94.16 15 P **P 00 40 44.8 +0.1**
baz=220
E23K Chandalar 94.17 15 P **P 00 40 44.7 -0.1**
baz=218
B20K Meade River 94.21 11 P **P 00 40 44.9 +0.1**
baz=212
B21K Ikpikpuk River 94.36 12 P **P 00 40 45.9 +0.3**
baz=214
E24K Your Creek 94.45 15 P **P 00 40 45.7 -0.4**
baz=220
K29M Barlow Dome 94.55 21 P **P 00 40 45.8 -1.0**
baz=229
M31M Drury Creek, Y 94.60 23 P **P 00 40 45.1 -1.8**
baz=232
TOLK Toolik Lake Re 94.64 14 P **P 00 40 46.8 -0.1**
baz=219
D23K Nanushuk River 94.64 14 P **P 00 40 47.5 +0.6**
baz=218
F25K Christian Rive 94.79 16 P **P 00 40 47.5 -0.1**
baz=222
G26K Porcupine Rive 94.80 17 P **P 00 40 47.6 0.0**
baz=224
I28M Miner Creek 94.86 19 P **P 00 40 48.6 +0.6**
I28M IAmb IAmb 00 40 53.7
comp=Z,14nm,1.7s
BMAR Burnt Mountain 94.94 16 P **P 00 40 48.4 +0.1**
B22K Teshekpuk Lake 95.19 12 P **P 00 40 49.5 +0.2**
baz=215
E25K Arctic Village 95.20 16 IAmb IAmb 00 41 00.1
comp=Z,7.0nm,1.4s
C23K Itkillik River 95.35 13 IAmb IAmb 00 40 51.1
comp=Z,6.4nm,1.1s
C23K Itkillik River 95.35 13 P **P 00 40 50.5 +0.4**
baz=218
A22K Sinclair Lake 95.44 11 P **P 00 40 50.2 -0.2**
baz=214
NEW Newport 95.68 40 LR LR 01 17 25.4
comp=Z,33nm,19.4s,baz=274,slow=31
I30M Mount Dempster 95.83 20 P **P 00 40 50.9 -1.6**
baz=230
D25K Kavik River 95.90 15 P **P 00 40 51.9 -0.8**
baz=222
MMPY Sheldon Lake, 96.02 24 P **P 00 40 53.1 -0.3**
baz=234
C26K Camden Bay 96.69 15 P **P 00 40 56.7 +0.6**
baz=223
C27K Jago River 96.76 15 P **P 00 40 56.5 -0.1**
baz=224
G30M tAoh Zraii Nji 97.00 19 P **P 00 40 56.3 -1.4**
G30M tAoh Zraii Nji 97.00 19 P **P 00 40 56.9 -0.9**
baz=230
E28M Babbage River 97.12 17 P **P 00 40 57.9 -0.3**
baz=228
WMQ Urumqi 98.21 314 *e*P Pdif 00 41 05.5 +1.7
TXAR Lajitas Array 98.21 62 P Pdif 00 41 04.1 -0.1
comp=Z,0.2nm,0.6s,baz=268,slow=20,SNR=2.5
TXAR LR LR 01 18 22.9
comp=Z,36nm,18.8s,baz=266,slow=31
comp=Z,0.2nm,0.6s
PDAR Pinedale Array 98.39 47 P Pdif 00 41 05.3 +0.5
comp=Z,0.1nm,0.3s,baz=216,slow=4.5,SNR=1.7
comp=Z,0.1nm,0.3s
INK Inuvik 98.64 19 LR LR 01 22 46.1
comp=Z,42nm,19.3s,baz=32,slow=34
YKA Yellowknife Ar 102.72 28 P **Pdif 00 41 23.0 -0.2**
comp=Z,0.2nm,0.8s,baz=254,slow=3.8,SNR=4.0
MKAR Mananchi Array 102.79 315 PP **PP 00 45 35.5 -2.9**
comp=Z,1.5nm,1.2s,baz=79,slow=9.4,SNR=4.1
MKAR PKiKP **PKiKP 00 45 45.7 +1.2**
comp=Z,0.5nm,0.9s,baz=123,slow=3.8,SNR=4.4
MKAR PKKPbc **PKKPbc 00 57 21.9 -1.9**
comp=Z,0.3nm,0.6s,baz=233,slow=1.7,SNR=4.2
MKAR PKKP **PKKPdf 00 57 32.0 +0.1**
comp=Z,0.6nm,0.8s,baz=272,slow=5.7,SNR=4.3
ZALV Zalesovo Beam 103.40 323 Pdiff **Pdif 00 41 26.7 +0.2**
comp=Z,0.2nm,0.3s,baz=358,slow=12,SNR=1.7
KURBB Kurchatov Arra 106.22 318 PKiKP **PKiKP 00 45 50.0 -0.6**
comp=Z,0.2nm,0.5s,baz=116,slow=1.6,SNR=8.0
BVAR Borovoye Array 111.62 320 PKiKP **PKiKP 00 46 00.5 -0.3**
comp=Z,1.8nm,0.6s,baz=54,slow=2.6,SNR=10
BRVK Borovoye 111.69 320 *c i* PKiKP **PKiKP 00 46 01.1 +0.3**
BRVK pmax pmax
comp=Z,3.0nm,1.3s
ABKAR Akbulak array 117.94 315 PKPdf **PKPdf 00 46 12.8 -0.2**
ABKAR Akbulak array 117.94 315 PKPdf 00 46 12.3 -0.7
ARU Arti 118.55 324 PKPdf **PKPdf 00 46 13.5 -0.4**
ARU Arti 118.55 324 *i* PKIKP **PKPdf 00 46 13.3 -0.6**
ARU 00 47 30.8
ARU 00 53 24.1
ARU Arti 118.55 324 PKP **PKPdf 00 46 13.7 -0.2**
KIRV Kirov 123.08 327 *ce* PKIKP **PKiKP 00 46 23.0 +0.3**
BELG Belogornoye 125.42 320 *i* PKIKP **PKPdf 00 46 27.0 -0.2**
ARCES ARCESS Array B 126.88 345 PKP **PKPdf 00 46 29.5 0.0**
comp=Z,1.3nm,0.6s,baz=72,slow=1.5,SNR=12
KLMR Klimovskoe 127.06 332 *e*PKiKP **PKPdf 00 46 29.2 -0.9**
KLMR pmax pmax
comp=Z,23nm,1.3s
RAYN Ar Rayn 127.68 284 PKiKP 00 46 33.3 +0.2
RAYN Ar Rayn 127.68 284 PKiKP **PKiKP 00 46 33.3 +0.2**
BDFB Brasilia 128.62 133 PKP **PKiKP 00 46 34.8 -0.5**
comp=Z,3.7nm,1.1s,baz=217,slow=7.5,SNR=3.7
GNI Garni 129.09 305 *ce* PKiKP **PKiKP 00 46 35.8 +0.2**
GNI pmax pmax
comp=Z,7.0nm,1.3s
VRH Novokhopyorsk 129.27 319 *e*PKiKP **PKPdf 00 46 33.0 -1.6**
VRH pmax pmax
comp=Z,10.0nm,0.7s
NCK Nalchik 129.59 309 *i* PKiKP **PKPdf 00 46 35.3 -0.2**
KBZ Khabaz 130.06 310 PKP **PKPdf 00 46 35.8 -0.5**
comp=Z,1.9nm,1.0s,baz=98,slow=1.3,SNR=3.8
KBZ Khabaz 130.06 310 *ce* PKiKP **PKPdf 00 46 35.0 -1.3**
MOS Moscow 130.07 326 *e*PKiKP **PKPdf 00 46 33.7 -2.3**

KIV Kislovodsk 130.17 310 ⇓ *e*PKiKP **PKPdf 00 46 35.3 -1.4**
KIV *i* 00 46 37.0
KIV *e* 00 46 42.9
KIV SS SS 01 06 14.0 -0.9
KIV pmax pmax
comp=Z,2.0nm,0.6s
KIV MLR MLR
comp=Z,20nm,16.0s
SHA1 Shidzhatmaz 130.23 310 *ce* PKiKP **PKPdf 00 46 36.2 -0.8**
LPSR Galich'ya Gora 130.50 322 *e*PKiKP **PKPdf 00 46 34.9 -2.0**
LPSR pmax pmax
comp=Z,30nm,1.5s
VORR Voronezh 130.63 321 *e*PKiKP **PKiKP 00 46 38.6 +0.6**
VORR pmax pmax
comp=Z,34nm,1.5s
VSR Storozhevoye 130.80 320 *e*PKiKP **PKPdf 00 46 35.3 -2.2**
VSR pmax pmax
comp=Z,10.0nm,1.3s
VORD Divnogorie 130.80 320 *e*PKiKP **PKPdf 00 46 37.2 -0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s
OBN Obninsk 130.87 326 ⇓ *e*PKiKP **PKPdf 00 46 37.2 -0.3**
OBN *i* 00 46 40.3
OBN *e* 00 46 41.4
OBN SS SS 01 06 48.0 +26
OBN pmax pmax
comp=Z,22nm,2.1s
OBN pmax pmax
comp=Z,21nm,1.8s
OBN MLR MLR
comp=Z,31nm,16.0s
FINES FINESS Array B 132.24 337 PKP **PKPdf 00 46 39.7 -0.2**
comp=Z,3.4nm,0.9s,baz=56,slow=10,SNR=6.9
FINES FINESS Array B 132.24 337 *ce* PKiKP **PKiKP 00 46 40.7 -0.3**
FINES pmax pmax
comp=Z,3.0nm,0.9s
MNK Minsk 135.59 328 *i* PKiKP **PKPdf 00 46 44.3 -2.1**
MNK *i* 00 49 20.8
MNK *i* PPP PPP 00 52 29.9
MNK *i* 00 53 54.6
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,10.0nm,0.9s
MNK pmax pmax
comp=Z,12nm,1.0s
MNK MLR MLR
comp=Z,62nm,17.0s
MNK MLR MLR
comp=N,35nm,16.0s
MNK MLR MLR
comp=E,67nm,15.0s
AKASG Malin Array Be 136.79 323 PKP **PKPdf 00 46 48.6 -0.2**
comp=E,3.9nm,0.8s,baz=60,slow=1.8,SNR=12
AKBB Malin Array Si 136.79 323 PKPdf **PKPdf 00 46 48.6 -0.1**
AKBB Malin Array Si 136.79 323 *ce* PKiKP **PKPdf 00 46 48.9 +0.1**
KIEV Kiev 136.81 323 ⇑ P **PKPdf 00 46 48.6 -0.2**
KIEV Kiev 136.81 323 PKPdf **PKPdf 00 46 48.6 -0.2**
KIEV Kiev 136.81 323 PKiKP **PKPdf 00 46 48.6 -0.2**
KIEV Kiev 136.81 323 PKP **PKiKP 00 46 50.1 -0.5**
NOA NORSAR Array B 137.25 344 PKP **PKPdf 00 46 48.6 -0.7**
comp=E,1.6nm,1.1s,baz=48,slow=2.3,SNR=2.5
BRTR Keskin Array B 137.59 306 PKPdf **PKPdf 00 46 50.7 -0.1**
BRTR Keskin Array B 137.59 306 PKP **PKPdf 00 46 50.9 +0.1**
comp=E,1.0nm,0.9s,baz=147,slow=2.5,SNR=7.5
BRTR Keskin Array B 137.59 306 *ce* PKiKP **PKPdf 00 46 51.4 +0.6**
BRTR pmax pmax
comp=Z,1.0nm,0.9s
MILM Milestii Mici 138.70 318 ⇑ P Pb 00 46 54.1 +4.3
MILM Milestii Mici 138.70 318 ⇑ PKiKP **PKiKP 00 46 54.1 -0.5**
HARR Harsova 140.15 315 ⇑ P **PKiKP 00 46 57.9 +0.3**
HARR Harsova 140.15 315 ⇑ PKiKP **PKiKP 00 46 57.9 +0.3**
VRI Vrincioaia 140.45 317 ⇑ P Pg 00 46 57.8 +8.5
VRI Vrincioaia 140.45 317 ⇑ PKiKP **PKiKP 00 46 57.8 -0.4**
BURAR Bucovina Array 140.57 321 ⇑ P **PKiKP 00 46 59.9 +1.4**
BURAR Bucovina Array 140.57 321 PKPdf **PKiKP 00 46 57.4 -1.2**
BURAR Bucovina Array 140.57 321 ⇑ PKiKP **PKiKP 00 46 59.9 +1.4**
MLR Muntele Rosu 141.11 317 ⇑ P **PKPdf 00 46 57.3 +0.3**
MLR Muntele Rosu 141.11 317 PKPdf **PKPdf 00 46 57.7 +0.6**
MLR Muntele Rosu 141.11 317 ⇑ PKiKP **PKPdf 00 46 57.3 +0.3**
KOLS Kolonicke sedl 141.57 324 *e*PKP **PKPdf 00 46 56.9 -0.7**
KOLS Kolonicke sedl 141.57 324 *e*PKiKP **PKPdf 00 46 56.9 -0.7**
ARR Arges 141.99 318 ⇑ P **PKiKP 00 47 00.5 -1.0**
CRVS Cervenica-Dubn 142.03 324 *e*PKP **PKiKP 00 47 00.0 -1.4**
CRVS Cervenica-Dubn 142.03 324 *e*PKiKP **PKiKP 00 47 00.0 -1.4**
HUMR Humele 142.14 316 ⇓ P **PKPdf 00 46 59.1 +0.4**
ELND Elena 142.21 314 ⇑ P **PKPdf 00 46 59.4 +0.4**
NIE Niedzica 142.34 326 PKP **PKiKP 00 47 01.6 -0.4**
LANS Liptovska Anna 142.94 326 *e*PKP **PKiKP 00 47 03.4 +0.1**
LANS Liptovska Anna 142.94 326 *e*PKiKP **PKiKP 00 47 03.4 +0.1**
GZR Gura Zlata 143.13 319 ⇑ P **PKiKP 00 47 04.1 +0.3**
GZR Gura Zlata 143.13 319 ⇑ PKiKP **PKiKP 00 47 04.1 +0.3**
PSZ Piszkesteto 143.45 324 ⇑ P PKPbc 00 46 59.4 +1.1
PSZ Piszkesteto 143.45 324 ⇑ PKiKP PKPbc 00 46 59.4 +1.1
MORC Moravsky Berou 143.52 328 ⇑ P PKPbc 00 46 59.3 +0.9
MORC Moravsky Berou 143.52 328 *e*PKP PKPbc 00 46 59.7 +1.3
MORC Moravsky Berou 143.52 328 ⇑ PKiKP PKPbc 00 46 59.3 +0.9
OSTC Ostas 143.63 330 *e*PKP PKPbc 00 46 59.5 +0.8
OSTC Ostas 143.63 330 *e*PKiKP PKPbc 00 46 59.5 +0.8
VYHS Vyhne 143.67 326 *e*PKP PKPbc 00 46 59.6 +0.8
VYHS Vyhne 143.67 326 *e*PKiKP PKPbc 00 46 59.6 +0.8
CHVC Chvalec 143.68 330 *e*PKP PKPbc 00 46 58.9 +0.1
CHVC Chvalec 143.68 330 *e*PKiKP PKPbc 00 46 58.9 +0.1
DPC Dobruska-Polom 143.72 330 *e*PKP PKPbc 00 46 59.9 +0.9
DPC *ex* x 00 47 10.5
DPC Dobruska-Polom 143.72 330 *e*PKiKP PKPbc 00 46 59.9 +0.9
BZS Buzias 143.72 320 ⇑ P Pg 00 46 59.1 +1.5
BZS Buzias 143.72 320 ⇑ PKiKP PKPbc 00 46 59.1 +0.1
UPC Upice 143.76 330 *e*PKP PKPbc 00 46 59.9 +0.9
UPC Upice 143.76 330 *e*PKiKP PKPbc 00 46 59.9 +0.9
AMBH Ambrzfalva 143.86 321 ⇑ P Pb 00 47 00.9 +2.2
BLKB Belogradchik 144.03 316 ⇑ P PKPbc 00 47 01.0 +0.8
JAVC Velka Javorina 144.04 327 *e*PKP **PKPdf 00 47 01.8 -0.3**
MDVR Moldovita 144.09 319 ⇓ P PKPbc 00 47 00.4 +0.1
SRO Srobarova 144.36 325 *e*PKP **PKPdf 00 47 02.4 -0.1**
SRO Srobarova 144.36 325 *e*PKiKP **PKPdf 00 47 02.4 -0.1**
PVCC Panska Ves 144.40 331 *e*PKP PKPbc 00 47 01.8 +0.8
PVCC Panska Ves 144.40 331 *e*PKiKP PKPbc 00 47 01.8 +0.8
BRG Berggiesshubel 144.43 332 *i* PKP PKPbc 00 47 01.7 +0.6
BRG Amp 00 47 03.3
comp=Z,42nm,0.9s
BRG Berggiesshubel 144.43 332 P **PKiKP 00 47 12.4 +6.2**
BRG Amp 00 47 14.0
comp=Z,22nm,0.8s
CLL Collm 144.50 334 ⇓ *i* PKPbc PKPbc 00 47 01.5 +0.2
comp=Z,50nm,1.0s
CLL *i* pPKPbc sPKPdf 00 47 12.0 -0.4
comp=Z,28nm,0.8s
CLL Collm 144.50 334 ⇓ *i* PKiKP PKPbc 00 47 01.5 +0.2
CLL pmax pmax
comp=Z,50nm,1.0s
CLL Collm 144.50 334 PKP **PKPab 00 47 01.3 +0.3**
KRUC Moravsky 144.55 328 *e*PKP PKPbc 00 47 01.9 +0.4
MODS Modra-Piesok 144.56 327 *e*PKP **PKPdf 00 47 03.2 +0.3**
MODS Modra-Piesok 144.56 327 *e*PKiKP **PKPdf 00 47 03.2 +0.3**
RICC Richard 144.60 332 *e*PKP **PKPdf 00 47 02.5 -0.4**
BOVS Bovan 144.65 317 ⇓ P **PKPab 00 47 01.8 0.0**
GOPC GO Pecny, Ondr 144.74 330 *e*PKP PKPbc 00 47 02.7 +0.6
GOPC GO Pecny, Ondr 144.74 330 *e*PKiKP PKPbc 00 47 02.7 +0.6
ZST Bratislava 144.76 326 *e*PKP **PKPdf 00 47 03.4 +0.2**
ZST Bratislava 144.76 326 *e*PKiKP **PKPdf 00 47 03.4 +0.2**
PRU Pruhonice 144.79 331 *e*PKP **PKPdf 00 47 03.0 -0.2**
PRU Pruhonice 144.79 331 *e*PKiKP **PKPdf 00 47 03.0 -0.2**
TREC Trest 144.84 329 *e*PKP **PKPdf 00 47 03.2 -0.2**
TREC *ex* x 00 47 14.0
TREC Trest 144.84 329 *e*PKiKP **PKPdf 00 47 03.2 -0.2**
HSKC Hora Svate Kat 144.84 332 *e*PKP **PKPdf 00 47 03.1 -0.2**
FRGS Fruska Gora 145.04 320 ⇑ P Pg 00 47 03.8 +3.3
FRGS Fruska Gora 145.04 320 *e*P Pg 00 47 01.9 +5.2
FRGS Fruska Gora 145.04 320 PKP Pg 00 47 03.8 +3.3
VAY Valandovo 145.11 313 *i* P **PKPbc 00 47 03.0 -0.6**
MORH Mrgy, Hungar 145.13 323 ⇓ P **PKPdf 00 47 03.9 0.0**
MORH Mrgy, Hungar 145.13 323 PKP **PKPbc 00 47 03.6 +0.2**
MPLH Magyarpolny 145.17 325 PKP **PKPdf 00 47 04.0 0.0**
ZVC Zvikov 145.34 330 *e*PKP **PKPab 00 47 04.8 +0.6**
ZVC *ex* x 00 47 15.5
EKA Eskdalemuir Ar 145.44 352 PKPbc **PKPdf 00 47 03.3 -0.9**
comp=Z,4.2nm,0.6s,baz=353,slow=2.3,SNR=31
RONA Rosalia, Austr 145.49 326 *i* PKP **PKPab 00 47 05.7 +0.8**
comp=Z,86nm,1.2s,SNR=44
RONA *ep*PKiKP **pPKiKP 00 47 16.8 +0.9**
comp=Z,68nm,1.5s

TEKS	**Tekeris**	**145.54**	**320**	*e*P	Pg	00 47 04.3 +3.2
NKC	**Novy Kostel**	**145.54**	**333**	*e*PKP	**PKPab**	**00 47 05.6 +0.7**
NKC	**Novy Kostel**	**145.54**	**333**	*e*PKIKP	**PKPab**	**00 47 05.6 +0.7**
CONA	**Conrad Observa**	**145.57**	**327**	*i* PKP	**PKPab**	**00 47 06.0 +0.8**
	comp=Z,115nm,1.6s,SNR=48					
CONA				*e*pPKiKP	**pPKiKP**	**00 47 17.1 +1.1**
	comp=Z,51nm,1.0s					
SKO	**Skopje**	**145.59**	**314**	*i* P	**PKPab**	**00 47 05.6 +0.2**
CKRC	**Cesky Krumlov**	**145.72**	**329**	*e*PKP	**PKPab**	**00 47 05.7 0.0**
CKRC				*ex*	x	00 47 16.8
CKRC	**Cesky Krumlov**	**145.72**	**329**	*e*PKP2	**PKPab**	**00 47 05.7 0.0**
KHC	**Kasperske Hory**	**145.85**	**330**	*e*PKP	**PKPbc**	**00 47 06.1 +0.4**
KHC				*ex*	x	00 47 17.1
KHC	**Kasperske Hory**	**145.85**	**330**	*e*PKP2	**PKPbc**	**00 47 05.9 +0.2**
KHC				pmax	pmax	
	comp=Z,226nm,1.3s					
KHC	**Kasperske Hory**	**145.85**	**330**	PKP	**PKPbc**	**00 47 05.8 +0.1**
SJES	**Sjenica**	**145.93**	**317**	*e*P	**PKPdf**	**00 47 05.8 +0.2**
BBLS	**Lazi&#263i**	**145.98**	**319**	*e*P	**PKPdf**	**00 47 04.7 -0.9**
GERES	**GERESS Array B**	**145.99**	**330**		**PKPdf**	**00 47 05.1 -0.3**
GERES	**GERESS Array B**	**145.99**	**330**	PKPbc	**PKPdf**	**00 47 05.5 +0.1**
	comp=Z,31nm,0.8s,baz=35,slow=4.9,SNR=141					
GERES	**GERESS Array B**	**145.99**	**330**	PKP2	**PKPdf**	**00 47 05.1 -0.3**
RUDO	**Rudo**	**146.13**	**318**	*e*P	**PKPdf**	**00 47 05.4 -0.3**
HAPS	**Han Pijesak,BI**	**146.14**	**319**	*e*P	Pg	00 47 06.1 +5.2
ARSA	**Arzberg**	**146.18**	**326**	*i* PKP	**PKPab**	**00 47 07.6 +0.1**
	comp=Z,32nm,1.8s,SNR=14					
OHR	**Ohrid**	**146.40**	**313**	*i* P	**PKPbc**	**00 47 07.4 -0.3**
MOA	**Molln**	**146.42**	**328**	*i* PKP	**PKPbc**	**00 47 07.7 +0.2**
	comp=Z,28nm,1.3s,SNR=12					
A052A	**Srbac**	**146.42**	**322**	*e*P	**PKPdf**	**00 47 06.9 +0.7**
UPM	**Unac-Piva**	**146.63**	**318**	*e*P	**PKPbc**	**00 47 08.2 -0.2**
PDG	**Podgorica**	**146.80**	**316**	*e*P	**PKPbc**	**00 47 08.5 -0.2**
SOKA	**Soboth**	**146.81**	**326**	*i* PKP	**PKPdf**	**00 47 06.6 -0.3**
	comp=Z,35nm,1.4s,SNR=27					
SOKA				*e*pPKiKP	sPKPab	00 47 19.8 +0.7
	comp=Z,22nm,1.0s					
BLY	**Banja Luka**	**146.82**	**322**	*e*P	**PKPbc**	**00 47 08.9 +0.2**
A051A	**Mrakovica**	**146.82**	**322**	*e*P	**PKPbc**	**00 47 08.9 +0.1**
BIOA	**Bad Ischl, Aus**	**146.83**	**329**	*i* PKP	**PKPdf**	**00 47 06.5 -0.4**
	comp=Z,5.2nm,1.1s,SNR=7.3					
TIR	**Tirane**	**146.93**	**314**	⇓P	**PKPbc**	**00 47 09.4 +0.3**
TIR	**Tirane**	**146.93**	**314**	⇓PKP2	**PKPbc**	**00 47 09.4 +0.3**
TIR	**Tirane**	**146.93**	**314**	PKP	**PKPbc**	**00 47 09.3 +0.3**
PRIJ	**Prijedor**	**146.96**	**322**	*e*P	**PKPbc**	**00 47 08.3 -0.7**
DRME	**Dracevica, Mon**	**146.97**	**316**	*e*P	**PKPdf**	**00 47 08.0 +0.8**
BRY	**Bratogost**	**147.02**	**318**	*e*P	**PKPdf**	**00 47 07.5 +0.1**
NEVS	**Nevesinje**	**147.08**	**319**	*e*P	Pg	00 47 07.7 +6.3
ITM	**Ithomi**	**147.12**	**306**		**PKPbc**	**00 47 09.6 -0.2**
CRES	**Cresnjev**	**147.13**	**324**	*e*P	**PKPbc**	**00 47 09.3 -0.3**
OBKA	**Obir**	**147.18**	**326**	*i* PKP	**PKPdf**	**00 47 07.1 -0.4**
	comp=Z,16nm,1.2s,SNR=11					
OBKA	**Obir**	**147.18**	**326**	*e*P	**PKPdf**	**00 47 08.3 +0.8**
SRKY	**Kupres RS**	**147.22**	**321**	*e*P	**PKPbc**	**00 47 09.8 -0.2**
TREB	**Trebinje**	**147.23**	**318**	*e*P	**PKPbc**	**00 47 09.3 -0.6**
A050A	**Klekovaca**	**147.35**	**322**	*e*P	**PKPbc**	**00 47 09.9 -0.4**
KBA	**Koelnbreinsper**	**147.40**	**328**	*i* PKP	**PKPbc**	**00 47 10.1 -0.4**
	comp=Z,29nm,1.0s,SNR=14					
BOJS	**Bojanci**	**147.45**	**324**	*e*PKPdf	**PKPdf**	**00 47 07.9 0.0**
BOJS				*i* PKPbc	**PKPbc**	**00 47 11.2 +0.8**
BOJS				*e*		00 47 21.7
BOJS	**Bojanci**	**147.45**	**324**	*e*P	**PKPdf**	**00 47 07.2 -0.7**
VISS	**Visnje**	**147.48**	**325**	*e*PKPdf	**PKPdf**	**00 47 07.8 -0.1**
VISS				*i* PKPbc	**PKPbc**	**00 47 10.9 +0.4**
LESA	**Schwarzleotal**	**147.48**	**329**	*e*PKP	**PKPdf**	**00 47 07.6 -0.4**
	comp=Z,3.9nm,1.0s					
LESA				*e*PKP	**PKPbc**	**00 47 11.0 +0.4**
	comp=Z,29nm,0.7s					
LESA				*e*pPKiKP	**sPKPab**	**00 47 21.3 -0.4**
	comp=Z,22nm,0.7s					
LJU	**Ljubljana**	**147.49**	**326**	*e*PKPdf	**PKPdf**	**00 47 07.9 0.0**
LJU				*i* PKPbc	**PKPbc**	**00 47 10.8 +0.3**
STON	**Ston**	**147.56**	**318**	*e*P	Pg	00 47 08.8 +6.6
MYKA	**Terra Mystica**	**147.56**	**327**	*i* PKP	**PKPbc**	**00 47 10.5 -0.3**
	comp=Z,17nm,0.7s,SNR=9.6					
MYKA				*e*pPKiKP	**pPKPab**	**00 47 20.9 +1.3**
	comp=Z,12nm,0.7s					
BEBN	**Eben Emael**	**147.64**	**340**	*d*PKP	**PKPab**	**00 47 13.6 +0.7**
BTNL	**Ternell**	**147.67**	**339**	*d*PKP	**PKPbc**	**00 47 10.7 -0.2**
MEM	**Membach**	**147.69**	**339**	*d*PKP	**PKPbc**	**00 47 11.0 +0.1**
CEY	**Cerknica**	**147.74**	**325**	*e*P	**PKPbc**	**00 47 10.9 -0.4**
BSTI	**Sart Tilman**	**147.86**	**340**	*d*PKP	**PKPbc**	**00 47 11.2 -0.2**
BHOU	**Houvegnez**	**147.91**	**339**	*d*PKP	**PKPbc**	**00 47 12.1 +0.6**
ABTA	**Abfaltersbach**	**148.04**	**328**	*i* PKP	**PKPdf**	**00 47 08.2 -0.7**
	comp=Z,7.6nm,0.9s,SNR=23					
ABTA				*e*PKP	**PKPbc**	**00 47 12.0 -0.1**
	comp=Z,32nm,0.8s					
WATA	**Walderalm**	**148.07**	**330**	*e*PKP	**PKPdf**	**00 47 08.8 -0.2**
	comp=Z,7.2nm,1.2s,SNR=11					
WATA				*e*PKP	**PKPbc**	**00 47 12.5 +0.3**
	comp=Z,28nm,1.0s					
WATA				*e*pPKP	**pPKPab**	**00 47 23.1 +1.3**
	comp=Z,28nm,1.0s					
BCLA	**Clavier**	**148.09**	**340**	*d*PKP	**PKPbc**	**00 47 11.8 -0.2**
WTTA	**Wattenberg**	**148.09**	**330**	*i* PKP	**PKPdf**	**00 47 08.5 -0.7**
	comp=Z,8.8nm,1.0s,SNR=24					
WTTA				*e*PKP	**PKPbc**	**00 47 12.7 +0.4**
	comp=Z,55nm,1.1s					
BGES	**Gesves**	**148.19**	**340**	*d*PKP	**PKPbc**	**00 47 11.2 -1.1**
MOTA	**Moosalm**	**148.28**	**330**	*e*PKP	**PKPdf**	**00 47 09.3 -0.1**
	comp=Z,5.5nm,1.1s					
MOTA				*i* PKP	**PKPbc**	**00 47 12.9 +0.1**
	comp=Z,50nm,0.9s,SNR=21					
MOTA				*e*pPKP	**pPKPab**	**00 47 23.2 +0.6**
	comp=Z,37nm,0.9s					
SQTA	**Sankt Quirin**	**148.32**	**330**	*i* PKP	**PKPdf**	**00 47 09.7 +0.3**
	comp=Z,2.2nm,0.7s					
SQTA				*i* PKP	**PKPbc**	**00 47 13.3 +0.4**
	comp=Z,47nm,0.8s,SNR=21					
SQTA				*e*pPKP	**pPKPab**	**00 47 23.8 +1.1**
	comp=Z,44nm,0.8s					
RETA	**Reutte**	**148.33**	**331**	*i* PKP	**PKPdf**	**00 47 09.3 0.0**
	comp=Z,1.4nm,1.0s					
RETA				*i* PKP	**PKPbc**	**00 47 13.1 +0.3**
	comp=Z,26nm,1.1s,SNR=15					
RETA				*e*pPKP	**pPKPab**	**00 47 24.0 +1.3**
	comp=Z,19nm,1.1s					
RCHB	**Rochefort**	**148.34**	**340**	*d*PcP	**PKPbc**	**00 47 13.2 +0.6**
BMRD	**Maredsous**	**148.36**	**340**	*d*PKP	**PKPbc**	**00 47 12.6 -0.1**
WLF	**Walferdange**	**148.45**	**338**	*d*PKP	**PKPbc**	**00 47 13.7 +0.8**
DOU	**Dourbes**	**148.60**	**340**	*d*PKP	**PKPbc**	**00 47 13.5 +0.2**
FETA	**Feichten**	**148.69**	**330**	*e*PKP	**PKPdf**	**00 47 09.2 -0.9**
	comp=Z,5.3nm,1.1s,SNR=30					
FETA				*e*PKP	**PKPbc**	**00 47 14.5 +0.6**
	comp=Z,43nm,0.9s					
FETA				*e*pPKP	**pPKPab**	**00 47 25.0 +0.7**
	comp=Z,44nm,0.9s					
BFO	**Black Forest**	**148.73**	**334**		**PKPbc**	**00 47 13.8 +0.1**
BFO	**Black Forest**	**148.73**	**334**	PKP2	**PKPbc**	**00 47 13.8 +0.1**
DAVA	**Damuels**	**148.88**	**332**	*e*PKP	**PKPdf**	**00 47 10.5 +0.1**
	comp=Z,4.4nm,1.4s					
DAVA				*i* PKP	**PKPbc**	**00 47 14.8 +0.5**
	comp=Z,29nm,0.9s,SNR=13					
DAVA				*e*pPKP	**pPKPab**	**00 47 24.4 -0.6**
	comp=Z,24nm,0.8s					
CTI	**Castel Tesino**	**148.96**	**328**	PKPdf	**PKPdf**	**00 47 10.9 +0.4**
CTI	**Castel Tesino**	**148.96**	**328**	PKIKP	**PKPdf**	**00 47 10.9 +0.4**
DAVOX	**Davos/Dischmat**	**149.26**	**331**	PKPbc	**PKPbc**	**00 47 15.9 +0.6**
	comp=Z,39nm,0.7s,baz=347,slow=0.4,SNR=103					
MATE	**Matera**	**149.35**	**315**	⇑P	**PKPbc**	**00 47 15.8 +0.3**
TUE	**Stuetta**	**149.74**	**331**	PKP	**PKPdf**	**00 47 12.0 +0.1**
TIP	**Timpagrande**	**150.04**	**313**	⇑P	**PKiKP**	**00 47 18.0 -0.2**
TIP	**Timpagrande**	**150.04**	**313**	PKPdf	**PKPdf**	**00 47 13.0 +0.6**
VAE	**Valguarnera**	**152.47**	**312**	PKPbc	**PKPbc**	**00 47 21.3 -1.7**
	comp=Z,17nm,1.1s,baz=294,slow=21,SNR=2.8					
VAE				PKPab	**sPKPbc**	**00 47 31.2 -1.6**
	comp=Z,13nm,0.8s,baz=246,slow=14,SNR=4.4					
SSB	**Saint Sauveur**	**152.72**	**335**		**PKiKP**	**00 47 23.9 +0.3**
SSB	**Saint Sauveur**	**152.72**	**335**	PKIKP	**PKiKP**	**00 47 23.9 +0.3**
VSL	**Villasalto**	**154.62**	**320**		**PKPbc**	**00 47 27.1 -0.5**
ESDC	**Sonseca Array**	**160.60**	**343**	PKP	**PKPdf**	**00 47 28.0 +1.4**
	comp=Z,0.2nm,0.6s,baz=337,slow=29,SNR=2.0					
ESDC				PKPab	**PKPab**	**00 48 08.1 +0.1**
	comp=Z,1.5nm,1.0s,baz=14,slow=4.1,SNR=8.1					
TORD	**Torodi Ar. Bea**	**165.16**	**239**	PKP	**PKPdf**	**00 47 31.4 -0.3**
	comp=Z,2.3nm,0.9s,baz=153,slow=1.6,SNR=9.5					
TORD				PKPab	**PKPab**	**00 48 28.2 -0.5**
	comp=Z,1.0nm,0.7s,baz=81,slow=5.0,SNR=6.0					
MDT	**Midelt**	**167.04**	**334**	PKPab	**PKPab**	**00 48 36.9 +0.3**
	comp=Z,1.7nm,0.9s,baz=4.1,slow=5.0,SNR=4.1					

*ISK **18** 00:44:36.5,38°.94N×26°.26E,h12km,ML1.5/8*
*AFAD **18** 00:44:37.4±0.0,38°.89N×26°.25E,h7km±2km,ML1.4*

ATH 18 00:44:37.2,38°.97N×26°.28E,h12km±1km,ML1.0/3,Error ellipse: s-maj=1.7km s-min=1.0km az=66.0,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAG3	**Mitilini, Lesv**	**0.26**	**62**	P	Pg	00 44 42.5	-0.1
EAG3				S	Sg	00 44 46.2	+0.1
PRK	**Paraskevi**	**0.28**	**359**	P	Pg	00 44 42.6	-0.4
PRK				S	Sg	00 44 47.8	+0.9
PRK				AML	AML	00 44 50.2	
	comp=N,68μm,0.2s						
PRK				AML	AML	00 44 53.2	
	comp=E,85μm,0.2s						
KARB	**zmir-Karabur**	**0.32**	**161**	P	Pg	00 44 43.3	-0.4
KARB				S	Sg	00 44 47.5	-0.5
SIGR	**SIGRI**	**0.41**	**307**	Pg	Pg	00 44 45.3	-0.1
SIGR				Sg	Sg	00 44 51.3	+0.5
SIGR	**SIGRI**	**0.41**	**307**	P	Pg	00 44 45.3	0.0
SIGR				S	Sg	00 44 51.0	+0.1
SIGR				AML	AML	00 44 51.8	
	comp=E,60μm,0.3s						
SIGR				AML	AML	00 44 53.5	
	comp=N,48μm,0.2s						
EAG2	**Marmaro, Chios**	**0.44**	**198**	P	Pg	00 44 45.4	-0.6
EAG2				S	Sg	00 44 51.7	-0.1
AYVA	**Ayvalik**	**0.47**	**43**	P	Pg	00 44 46.5	0.0
AYVA				S	Sg	00 44 53.1	+0.4
DKL	**Dikili**	**0.50**	**78**	Pg	Pg	00 44 47.3	+0.3
DKL				Sg	Sb	00 44 54.7	-0.5
IZMD	**zmir-Dikili-**	**0.51**	**88**	P	Pb	00 44 48.1	0.0
IZMD				S	Sb	00 44 55.4	-0.1
CHOS	**Chios island**	**0.60**	**197**	Pg	Pg	00 44 48.1	-0.9
CHOS	**Chios island**	**0.60**	**197**	P	Pg	00 44 48.7	-0.3
CHOS				S	Sb	00 44 57.7	-0.5
CHOS				AML	AML	00 45 01.3	
	comp=E,63μm,0.3s						
CHOS				AML	AML	00 45 03.3	
	comp=N,32μm,0.2s						
URLA	**Izmir**	**0.65**	**158**	P	Pg	00 44 49.0	-0.9
URLA				S	Sg	00 44 58.0	-0.5
URLA				*i* AML	AML	00 45 02.0	
	comp=N,21nm,0.5s						
URLA				*i* AML	AML	00 45 02.0	
	comp=N,19nm,0.2s						
ZEYE	**Izmir, Urla-Ze**	**0.75**	**166**	P	Pg	00 44 50.9	-0.8
ZEYE				S	Sg	00 45 00.2	-1.3
ZEYE				*i* AML	AML	00 45 04.0	
	comp=N,35nm,0.6s						
ZEYE				*i* AML	AML	00 45 05.0	
	comp=N,20nm,0.2s						
ZEYE				*i* AML	AML	00 45 05.0	
	comp=N,22nm,0.4s						
EZN	**Ezine**	**0.86**	**2**	Pg	Pb	00 44 54.5	+0.4
EZN				Sg	Sn	00 45 07.1	-0.5
DGB	**zmir**	**1.03**	**152**	P	Pb	00 44 56.0	-0.9
DGB				S	Sg	00 45 10.4	0.0
COMU	**Canakkale**	**1.14**	**8**	Pn	Pn	00 44 59.1	+0.1
GADA	**Gvkgeada**	**1.26**	**347**	Pn	Pn	00 45 00.6	0.0
LIA	**Limnos Island**	**1.26**	**318**	P	Pn	00 45 00.5	-0.2
LIA				S	Sb	00 45 15.5	-1.5
SMG	**Samos**	**1.33**	**161**	P	Pn	00 45 00.9	-0.7
SMG				S	Sb	00 45 18.3	-0.8
GELI	**Tayfur-Gelibol**	**1.44**	**6**	Pn	Pn	00 45 03.2	+0.1
SMTH	**Samothraki Isl**	**1.61**	**339**	P	Pn	00 45 04.4	-1.1
SMTH				S	Sn	00 45 24.2	-2.0
KRBG	**Karabiga-Canak**	**1.63**	**29**	Pn	Pn	00 45 05.9	+0.2

*TAP **18** 00:48:41.6,25°.00N×122°.29E,h142km,ML4.4,C*
*JMA **18** 00:48:41.9±0.2,25°.N±1°×122°.3E±0°.5,h139km±2km, MV3.3/14,TAIWAN REGION*
*IDC **18** 00:48:45.9±3.7,25°.10N×122°.85E,h210km±40km,mb3.2/7, mbtmp3.8/8,Error ellipse: s-maj=40.0km s-min=20.5km az=53.0*

ISC 18 00:48:40.9±0.8,25°.00N±0°.04×122°.30E±0°.03,h146km±5km, n153,σ0°85/236,mb3.7/7,6D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.28**	**273**	*i* P	**Pn**	**00 49 01.1**	**+0.2**
	baz=271						
TWB1				*i* S	**Sn**	**00 49 15.3**	**-0.8**
	baz=271						
EGS		**0.37**	**246**	*i* P	**Pn**	**00 49 01.5**	**+0.3**
	baz=243						
SXI1	**Grass Mountain**	**0.40**	**284**	*i* P	**Pn**	**00 49 01.4**	**0.0**
	baz=284						
TIPB	**Shuangxi**	**0.43**	**267**	⇓*i*P	**Pn**	**00 49 01.7**	**+0.2**
	baz=266						
TIPB				S	**Sn**	**00 49 15.9**	**-1.3**
	baz=266						
NWF	**Wu-fen Shan**	**0.48**	**279**	*i* P	**Pn**	**00 49 02.1**	**+0.3**
	baz=278						
NWF				*i* S	**Sn**	**00 49 16.8**	**-0.8**
	baz=278						
WFSB	**Wu-fen Shan**	**0.48**	**279**	*i* P	**Pn**	**00 49 02.0**	**+0.3**
	baz=278						
WFSB				*i* S	**Sn**	**00 49 16.7**	**-0.8**
	baz=278						
TNOU	**National Taiwa**	**0.50**	**288**	P	**Pn**	**00 49 02.1**	**+0.3**
	baz=287						
ILA	**Ilan**	**0.55**	**246**	*e*P	**Pn**	**00 49 02.3**	**+0.2**
	baz=243						
ILA				*e*S	**Sn**	**00 49 17.6**	**-0.5**
	baz=243						
EOS2	**EOS2**	**0.58**	**186**	*i* P	**Pn**	**00 49 02.7**	**+0.6**
	baz=184						
EOS2				*e*S	**Sn**	**00 49 18.6**	**+0.4**
	baz=184						
ESAO	**Su ao**	**0.59**	**225**	*e*P	**Pn**	**00 49 02.3**	**0.0**
	baz=223						
ESAO				*e*S	**Sn**	**00 49 17.2**	**-1.4**
	baz=223						
TWE	**Neicheng**	**0.64**	**245**	P	**Pn**	**00 49 02.7**	**+0.1**
	baz=242						
NDS	**Dongshan**	**0.64**	**236**	*e*P	**Pn**	**00 49 03.1**	**+0.5**
	baz=234						
PCYT	**Pengchaiyu**	**0.66**	**342**	*e*P	**Pn**	**00 49 03.6**	**+0.9**
	baz=343						
YM08	**YM08**	**0.67**	**287**	*e*P	**Pn**	**00 49 03.0**	**+0.1**
	baz=286						
YM01	**YM01**	**0.68**	**283**	*i* P	**Pn**	**00 49 03.1**	**+0.2**
	baz=282						
YM01				*i* S	**Sn**	**00 49 18.8**	**-0.8**
	baz=282						
FUSB	**Fushanzhiwuyua**	**0.69**	**250**	⇓*i*P	**Pn**	**00 49 02.9**	**-0.1**
	baz=249						
FUSB				*e*S	**Sn**	**00 49 19.2**	**-0.6**
	baz=249						
TWY	**Chenhua**	**0.69**	**294**	P	**Pn**	**00 49 03.4**	**+0.5**
	baz=293						
TWY				*e*S	**Sn**	**00 49 19.2**	**-0.4**
	baz=293						
NHDH	**Xindian Distri**	**0.70**	**268**	*e*P	**Pn**	**00 49 03.0**	**0.0**
	baz=266						
NHDH				*e*S	**Sn**	**00 49 18.8**	**-1.0**
	baz=266						
EOS3	**EOS3**	**0.71**	**179**	*i* P	**Pn**	**00 49 03.8**	**+0.9**
	baz=177						
EOS3				*e*S	**Sn**	**00 49 20.1**	**+0.5**
	baz=177						
EWUT	**Wuta**	**0.72**	**221**	P	**Pn**	**00 49 03.6**	**+0.4**
	baz=219						
EWUT				*e*S	**Sn**	**00 49 19.5**	**-0.6**
	baz=219						
ANP	**Anpu**	**0.73**	**285**	*e*P	**Pn**	**00 49 03.5**	**+0.2**
	baz=284						
TATO	**Taipei**	**0.74**	**269**	P	**Pn**	**00 49 02.9**	**-0.3**
NWLT	**Wulai**	**0.76**	**253**	*e*P	**Pn**	**00 49 03.4**	**0.0**
	baz=252						
NWLT				*e*S	**Sn**	**00 49 19.1**	**-1.4**
	baz=252						
ENA	**Nanau**	**0.76**	**222**	*i* P	**Pn**	**00 49 03.9**	**+0.4**
	baz=220						
ENA				*e*S	**Sn**	**00 49 19.7**	**-0.8**
	baz=220						
JYNG	**Yonagunijimaku**	**0.80**	**133**	P	**Pn**	**00 49 04.0**	**+0.3**
JYNG				S	**Sn**	**00 49 20.5**	**-0.5**
TWS1	**Kuangyinshan**	**0.81**	**278**	*e*P	**Pn**	**00 49 04.1**	**+0.4**
	baz=277						
NDT	**Datong Townshi**	**0.81**	**241**	*i* P	**Pn**	**00 49 04.4**	**+0.6**
	baz=240						
NDT				S	**Sn**	**00 49 20.8**	**-0.4**
	baz=240						
EAHA	**Aohua**	**0.84**	**218**	P	**Pn**	**00 49 04.2**	**+0.2**
	baz=216						
EAHA				*e*S	**Sn**	**00 49 21.3**	**-0.3**
	baz=216						
YOJ	**Yonaguni jima**	**0.84**	**129**	P	**Pn**	**00 49 04.2**	**+0.2**
YOJ	**Yonaguni jima**	**0.84**	**129**	P	**Pn**	**00 49 04.2**	**+0.2**
YOJ				S	**Sn**	**00 49 20.9**	**-0.6**
YOJ	**Yonaguni jima**	**0.84**	**129**	⇓*i*P	**Pn**	**00 49 04.2**	**+0.2**
	baz=129						
YOJ				*i* S	**Sn**	**00 49 21.4**	**-0.1**
	baz=129						
LATG	**Datong**	**0.84**	**237**	*i* P	**Pn**	**00 49 04.8**	**+0.7**
	baz=236						
LATG				*e*S	**Sn**	**00 49 21.7**	**-0.1**
	baz=236						
EHP	**Heping Village**	**0.85**	**217**	*e*P	**Pn**	**00 49 04.5**	**+0.3**
	baz=215						
EOS4	**EOS4**	**0.87**	**179**	*i* P	**Pn**	**00 49 04.0**	**+0.2**
	baz=178						
YHNB	**Yeheng**	**0.90**	**249**	P	**Pn**	**00 49 04.6**	**+0.1**
YHNB	**Yeheng**	**0.90**	**249**	⇓*i*P	**Pn**	**00 49 04.7**	**+0.1**
	baz=248						
YHNB				S	**Sn**	**00 49 21.1**	**-1.5**
	baz=248						
NSK	**Sanguang**	**0.91**	**250**	*i* P	**Pn**	**00 49 04.8**	**+0.1**
	baz=248						
NSK				*e*S	**Sn**	**00 49 21.2**	**-1.5**
	baz=248						
NNSB	**Datong**	**1.01**	**236**	*i* P	**Pn**	**00 49 06.0**	**+0.5**
	baz=235						
NNSB				S	**Sn**	**00 49 23.5**	**-0.7**
	baz=235						
NNS	**Nan Shan**	**1.01**	**237**	*e*P	**Pn**	**00 49 06.1**	**+0.5**
	baz=235						
NNS				*e*S	**Sn**	**00 49 23.5**	**-0.8**
	baz=235						
NCUH	**Zhongli**	**1.01**	**269**	*e*P	**Pn**	**00 49 05.8**	**+0.4**
	baz=268						
NCUH				*e*S	**Sn**	**00 49 23.9**	**-0.2**
	baz=268						
ETL	**Fush Village**	**1.04**	**217**	*e*P	**Pn**	**00 49 05.7**	**0.0**
	baz=215						
ETL				*e*S	**Sn**	**00 49 23.6**	**-0.9**
	baz=215						
NACB	**Ninganchiao**	**1.04**	**218**	P	**Pn**	**00 49 05.5**	**-0.2**
NACB	**Ninganchiao**	**1.04**	**218**	⇓*i*P	**Pn**	**00 49 05.4**	**-0.2**
	baz=217						
NACB				*e*S	**Sn**	**00 49 23.2**	**-1.3**
	baz=217						
TWD	**Chiawan**	**1.11**	**215**	P	**Pn**	**00 49 06.2**	**-0.1**
	baz=214						
TWD				*e*S	**Sn**	**00 49 24.2**	**-1.5**
	baz=214						
NFF	**Wufeng Townshi**	**1.13**	**252**	P	**Pn**	**00 49 06.7**	**+0.1**
	baz=250						
NFF				*e*S	**Sn**	**00 49 24.6**	**-1.6**
	baz=250						
HWA	**Hwalien**	**1.20**	**212**	P	**Pn**	**00 49 07.7**	**+0.6**
	baz=210						
HWA				*e*S	**Sn**	**00 49 27.0**	**0.0**
	baz=210						
SBCB	**Hsinchu**	**1.21**	**261**	*e*S	**Sn**	**00 49 26.9**	**-0.4**
	baz=260						
FUSS	**Fushou**	**1.22**	**232**	P	**Pn**	**00 49 08.4**	**+0.9**
	baz=231						
FUSS				*e*S	**Sn**	**00 49 27.9**	**0.0**
	baz=231						
LIOB	**Emei**	**1.22**	**254**	*e*P	**Pn**	**00 49 07.7**	**+0.4**
	baz=253						
LIOB				*e*S	**Sn**	**00 49 26.6**	**-0.8**
	baz=253						
HSN	**Hsinchu**	**1.22**	**261**	*e*S	**Sn**	**00 49 26.4**	**-1.0**
	baz=261						
NSTT	**Nanjuang**	**1.23**	**253**	*i* P	**Pn**	**00 49 07.8**	**+0.3**
	baz=252						
NSTT				S	**Sn**	**00 49 26.4**	**-1.3**
	baz=252						
ETM	**Tongmen**	**1.26**	**216**	*e*P	**Pn**	**00 49 07.6**	**-0.2**
	baz=214						
ETM				*e*S	**Sn**	**00 49 26.8**	**-1.5**
	baz=214						
LXIB	**Xiulin Townshi**	**1.26**	**220**	⇓*i*P	**Pn**	**00 49 07.5**	**-0.4**
	baz=219						
LXIB				S	**Sn**	**00 49 27.2**	**-1.3**
	baz=219						
TWT	**Tachien**	**1.26**	**234**	P	**Pn**	**00 49 09.2**	**+1.2**
	baz=233						
TWT				*i* S	**Sn**	**00 49 28.3**	**-0.2**
	baz=233						
WHF	**Hehuan Shan**	**1.27**	**228**	*e*P	**Pn**	**00 49 08.8**	**+0.5**
	baz=227						
WHF				S	**Sn**	**00 49 28.2**	**-0.8**
	baz=227						
TDCB	**Techi**	**1.27**	**235**	P	**Pn**	**00 49 09.0**	**+1.0**
	baz=233						
TDCB				S	**Sn**	**00 49 28.3**	**-0.4**
	baz=233						
TEYL	**Yanliau Villag**	**1.29**	**210**	*e*P	**Pn**	**00 49 08.0**	**-0.1**
	baz=209						
TEYL				*e*S	**Sn**	**00 49 28.0**	**-0.8**

SSLB				S		Sn	00 49 36.9	0.0	
	baz=225								
EHYH	**Wanrong**	**1.73**	**210**	*eP*		**Pn**	**00 49 13.6**	**+0.9**	
	baz=209								
EHYH				*eS*		**Sn**	**00 49 35.1**	**-2.0**	
	baz=209								
JKRS	**Kuro-shima**	**1.73**	**116**	P		**Pn**	**00 49 13.7**	**+1.1**	
JKRS				*eS*		**Sn**	**00 49 37.5**	**+0.5**	
EHY	**Hungye**	**1.73**	**211**	*eP*		**Pn**	**00 49 12.4**	**-0.3**	
	baz=210								
JIJ	**Ishigaki jima**	**1.79**	**110**	P		**Pn**	**00 49 14.2**	**+0.9**	
JIJ				S		**Sn**	**00 49 37.1**	**-1.2**	
YULB	**Yu-li**	**1.84**	**210**	P		**Pn**	**00 49 13.7**	**-0.3**	
YULB	**Yu-li**	**1.84**	**210**	*eP*		**Pn**	**00 49 13.3**	**-0.6**	
	baz=209								
ECBN	**Changbin**	**1.84**	**205**	*eS*		**Sn**	**00 49 38.5**	**-0.8**	
	baz=204								
WNT	**Mingjian**	**1.84**	**233**	*eS*		**Sn**	**00 49 39.5**	**+0.2**	
	baz=232								
WHYT	**Xinyi Township**	**1.85**	**226**	*i* P		**Pn**	**00 49 15.1**	**+1.0**	
	baz=225								
WHYT				*i* S		**Sn**	**00 49 39.7**	**+0.2**	
	baz=225								
WJS	**Zhushan**	**1.85**	**231**	*eS*		**Sn**	**00 49 40.0**	**+0.5**	
	baz=230								
EYUL	**Yuli**	**1.87**	**209**	*eP*		**Pn**	**00 49 14.3**	**0.0**	
	baz=208								
JISG	**Ishigakijimahi**	**1.87**	**102**	P		**Pn**	**00 49 15.0**	**+0.7**	
JISG				S		**Sn**	**00 49 39.1**	**-0.8**	
TWF1	**Yuli**	**1.88**	**209**	*eP*		**Pn**	**00 49 14.0**	**-0.4**	
	baz=208								
CHKH	**Chenggong**	**1.98**	**205**	*eP*		**Pn**	**00 49 15.5**	**0.0**	
	baz=204								
FULB	**Fuli**	**2.01**	**207**	*eP*		**Pn**	**00 49 16.7**	**+0.7**	
	baz=206								
FULB				S		**Sn**	**00 49 42.6**	**-0.3**	
	baz=206								
ALS	**Alishan**	**2.01**	**223**	*i* P		**Pn**	**00 49 17.2**	**+0.9**	
	baz=222								
ALS				S		**Sn**	**00 49 43.9**	**+0.6**	
	baz=222								
WGK	**Gukeng**	**2.05**	**231**	*eP*		**Pn**	**00 49 17.2**	**+0.8**	
	baz=230								
WGK				*eS*		**Sn**	**00 49 44.0**	**+0.3**	
	baz=230								
WRL	**Guolierlin Hig**	**2.06**	**239**	P		**Pn**	**00 49 16.7**	**+0.2**	
	baz=237								
WRL				*i* S		**Sn**	**00 49 42.5**	**-1.4**	
	baz=237								
WDLH	**Douliu**	**2.07**	**231**	*eP*		**Pn**	**00 49 17.3**	**+0.7**	
	baz=230								
WDLH				*eS*		**Sn**	**00 49 43.6**	**-0.4**	
	baz=230								
CHKT	**Chengkung**	**2.07**	**205**	*eP*		**Pn**	**00 49 16.7**	**+0.1**	
	baz=203								
CHKT				S		**Sn**	**00 49 42.8**	**-1.3**	
	baz=203								
EHD	**Haiduan**	**2.09**	**209**	*eP*		**Pn**	**00 49 17.0**	**+0.1**	
	baz=208								
ELDTW	**Lidau**	**2.15**	**213**	*eP*		**Pn**	**00 49 18.4**	**+0.7**	
	baz=212								
ELDTW				*eS*		**Sn**	**00 49 44.4**	**-1.5**	
	baz=212								
WTCT	**Ta-ch'eng**	**2.16**	**239**	*eS*		**Sn**	**00 49 45.2**	**-0.7**	
	baz=238								
WTK	**Tuku**	**2.18**	**234**	P		**Pn**	**00 49 18.3**	**+0.4**	
	baz=232								
WTK				*i* S		**Sn**	**00 49 45.6**	**-0.6**	
	baz=232								
WCKO	**Fanlu**	**2.19**	**225**	*eP*		**Pn**	**00 49 18.7**	**+0.6**	
	baz=224								
WCKO				*eS*		**Sn**	**00 49 46.9**	**+0.2**	
	baz=224								
EDH	**Donghe**	**2.21**	**205**	*eP*		**Pn**	**00 49 18.9**	**+0.6**	
	baz=203								
EDH				*eS*		**Sn**	**00 49 46.2**	**-0.9**	
	baz=203								
JTJ	**Tarama**	**2.21**	**99**	P		**Pn**	**00 49 19.7**	**+1.4**	
JTJ				S		**Sn**	**00 49 46.8**	**-0.2**	
CHN2	**Minshiung**	**2.21**	**229**	*eS*		**Sn**	**00 49 47.8**	**+0.7**	
	baz=228								
CHN4	**Tsaushan**	**2.26**	**224**	*eP*		**Pn**	**00 49 19.6**	**+0.7**	
	baz=223								
TPUB	**Ta-pu**	**2.27**	**222**	P		**Pn**	**00 49 19.3**	**+0.2**	
TPUB	**Ta-pu**	**2.27**	**222**	*eP*		**Pn**	**00 49 19.6**	**+0.5**	
	baz=221								
TPUB				*eS*		**Sn**	**00 49 48.1**	**-0.4**	
	baz=221								
STYH	**Taoyuan**	**2.29**	**218**	*eS*		**Sn**	**00 49 48.8**	**+0.1**	
	baz=217								
WTP	**Ta-pu**	**2.33**	**222**	*eP*		**Pn**	**00 49 20.3**	**+0.5**	
	baz=220								
LONT	**Longtian**	**2.34**	**207**	*eP*		**Pn**	**00 49 20.4**	**+0.5**	
	baz=206								
TWK	**Hsinying**	**2.39**	**224**	*eP*		**Pn**	**00 49 20.9**	**+0.4**	
	baz=223								
TWK				*eS*		**Sn**	**00 49 50.7**	**-0.3**	
	baz=223								
WSL	**Shuilin Townsh**	**2.39**	**233**	*eS*		**Sn**	**00 49 50.9**	**-0.1**	
	baz=231								
SNST	**Tainan City**	**2.42**	**223**	*eP*		**Pn**	**00 49 21.4**	**+0.6**	
	baz=222								
SNST				*eS*		**Sn**	**00 49 51.0**	**-0.6**	
	baz=222								
MATB	**Ma-tsu**	**2.42**	**299**	*eP*		**Pn**	**00 49 20.8**	**0.0**	
	baz=298								
CHN1	**Nanshi**	**2.42**	**222**	*i* P		**Pn**	**00 49 21.7**	**+0.7**	
	baz=221								
CHN1				S		**Sn**	**00 49 51.2**	**-0.6**	
	baz=221								
LDUT	**Ludao**	**2.43**	**198**	*eP*		**Pn**	**00 49 20.7**	**-0.3**	
	baz=197								
LDUT				*eS*		**Sn**	**00 49 50.1**	**-1.8**	
	baz=197								
TWG	**Pinlang**	**2.44**	**208**	*eS*		**Sn**	**00 49 49.9**	**-2.2**	
	baz=206								
ICHU	**Yijhu**	**2.46**	**229**	*eS*		**Sn**	**00 49 51.8**	**-0.7**	
	baz=228								
SGST	**Jiashian**	**2.47**	**220**	*eP*		**Pn**	**00 49 21.4**	**0.0**	
	baz=219								
SLGT	**Liugui**	**2.50**	**218**	*eP*		**Pn**	**00 49 23.1**	**+1.2**	
	baz=216								
SLGT				*eS*		**Sn**	**00 49 53.8**	**+0.3**	
	baz=216								
VWUC	**VWUC**	**2.59**	**270**	*eP*		**Pn**	**00 49 22.8**	**-0.1**	
	baz=269								
SCLT	**Jiali**	**2.64**	**227**	*eS*		**Sn**	**00 49 56.8**	**+0.3**	
	baz=226								
SCST	**Cishan**	**2.67**	**219**	*eP*		**Pn**	**00 49 25.3**	**+1.3**	
	baz=217								
XPSS	**Dashiqiu**	**2.71**	**316**	*eP*		**Pn**	**00 49 25.1**	**+0.7**	
	baz=315								
SSD	**Sandimen**	**2.71**	**215**	*eP*		**Pn**	**00 49 25.7**	**+1.3**	
	baz=213								
TSMG	**Majia**	**2.74**	**214**	*eP*		**Pn**	**00 49 25.9**	**+1.1**	
	baz=213								
LYJJ	**Jianjiangzhen**	**2.76**	**305**	*eP*		**Pn**	**00 49 25.5**	**+0.4**	
	baz=304								
MASBT	**Mashibuluo**	**2.82**	**213**	*eP*		**Pn**	**00 49 27.0**	**+1.1**	
	baz=212								
MASBT				*eS*		**Sn**	**00 50 00.4**	**-0.2**	
	baz=212								
PNG	**Penghu**	**2.88**	**241**	*eP*		**Pn**	**00 49 26.3**	**-0.3**	
	baz=240								
PNG				*eS*		**Sn**	**00 49 59.4**	**-2.5**	
	baz=240								
PTMZ	**Houxiangcun**	**2.88**	**272**	*eP*		**Pn**	**00 49 26.7**	**+0.1**	
	baz=270								
PHUB	**P'eng-hu**	**2.89**	**240**	*eP*		**Pn**	**00 49 26.3**	**-0.5**	
	baz=239								
PHUB				*i* S		**Sn**	**00 49 59.5**	**-2.7**	
	baz=239								
WDGT	**Dungji**	**2.97**	**235**	*eP*		**Pn**	**00 49 27.6**	**-0.1**	
	baz=234								
WDGT				S		**Sn**	**00 50 02.1**	**-1.7**	
	baz=234								
LAY	**Lan-yu**	**3.02**	**193**	*eP*		**Pn**	**00 49 28.3**	**-0.1**	
	baz=192								
SCZT	**Fangliau**	**3.03**	**211**	*eP*		**Pn**	**00 49 29.2**	**+0.7**	
	baz=210								
SLIU	**Shizi**	**3.09**	**207**	*eP*		**Pn**	**00 49 30.2**	**+0.9**	
	baz=206								
MHZQ	**Yeshan**	**3.15**	**291**	*eP*		**Pn**	**00 49 30.4**	**+0.4**	
	baz=290								
VCHM	**Qimei**	**3.17**	**236**	P		**Pn**	**00 49 30.2**	**-0.1**	
	baz=235								
VCHM				*i* S		**Sn**	**00 50 06.6**	**-1.8**	
	baz=235								
TWKBT	**Hengchun**	**3.33**	**204**	*eP*		**Pn**	**00 49 33.2**	**+0.8**	
	baz=203								
TWK1	**Hengchun**	**3.33**	**205**	*eP*		**Pn**	**00 49 33.4**	**+1.0**	
	baz=203								
KNM	**Kinmen**	**3.56**	**261**	*eP*		**Pn**	**00 49 37.2**	**+1.9**	
	baz=260								
KNMB	**Chin-men Tao**	**3.59**	**262**	*eP*		**Pn**	**00 49 35.8**	**0.0**	
	baz=261								
ZPLA	**Ao Xicun**	**4.28**	**257**	*eP*		**Pn**	**00 49 45.3**	**+0.6**	
	baz=255								
DSXP	**Dongshan**	**4.63**	**255**	*eP*		**Pn**	**00 49 50.1**	**+0.8**	
	baz=253								
JOW	**Kunigami**	**5.68**	**70**	P		**Pn**	**00 50 02.9**	**-0.4**	
	13nm,0.2s,baz=200,slow=18,SNR=34								
JOW				S		**Sn**	**00 51 03.7**	**-4.0**	
	3.2nm,0.2s,baz=270,slow=19,SNR=1.1								
SONM	**Songino Array**	**26.04**	**335**	P		**P**	**00 54 01.8**	**+1.2**	
	2.2nm,0.6s,baz=150,slow=9.6,SNR=7.9								
	2.2nm,0.6s								
MKAR	**Makanchi Array**	**38.48**	**315**	P		**P**	**00 55 49.6**	**+0.9**	
	0.8nm,0.5s,baz=102,slow=10.0,SNR=14								
	0.8nm,0.5s								
ZALV	**Zalesovo Beam**	**40.13**	**326**	P		**P**	**00 56 02.2**	**0.0**	
	1.2nm,0.4s,baz=114,slow=9.1,SNR=10								
	1.2nm,0.4s								
KURBB	**Kurchatov Arra**	**42.15**	**319**	P		**P**	**00 56 19.4**	**+0.7**	
	0.5nm,0.4s,baz=119,slow=7.9,SNR=5.0								
	0.5nm,0.4s								
WRA	**Warramunga Arr**	**46.18**	**164**	P		**P**	**00 56 49.7**	**-1.4**	
	0.5nm,0.9s,baz=346,slow=8.6,SNR=1.4								
	0.5nm,0.9s								
BVAR	**Borovoye Array**	**47.70**	**320**	P		**P**	**00 57 03.0**	**+0.5**	
	0.8nm,0.5s,baz=101,slow=7.5,SNR=3.9								
	0.8nm,0.5s								
YKA	**Yellowknife Ar**	**81.83**	**23**	P		P	01 00 39.4	-3.9	
	0.2nm,0.7s,baz=310,slow=6.0,SNR=1.9								
	0.2nm,0.7s								

*IDC **18** 00:49:00.8±0.7, 12°.95N×145°.52E, h0km, mb4.1/13, mbtmp4.1/13, Error ellipse: s-maj=21.9km s-min=15.6km az=65.0*

*NEIC **18** 00:49:06.5±1.1, 12°.74N±0°.09×145°.3E±0°.1, h43km±8km, mb4.4/87, Error ellipse: s-maj=18.9km s-min=10.0km az=60.0*

ISC 18 00:49:06.5±0.6, 12°.81N±0°.09×145°.3E±0°.1, h43km, n288, σ0s64/284, mb4.4/58, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.87**	**333**		**Pn**	**00 49 22.1**	**-0.2**
GUMO				Sn	**Sn**	**00 49 33.9**	**0.0**
GUMO	**Guam**	**0.87**	**333**	Pn	**Pn**	**00 49 21.0**	**-1.3**
	151nm,0.3s,baz=154,slow=9.2,SNR=44						
GUMO				Sn	**Sn**	**00 49 35.8**	**+1.9**
	408nm,0.3s,baz=294,slow=14,SNR=8.1						
PATS	**Pohnpei**	**14.15**	**114**		Pn	00 52 17.6	-6.8
H11N1	**WAKE ISLAND Hy**	**21.85**	**69**	T	T	01 16 26.4	
	baz=255						
H11N2	**WAKE ISLAND Hy**	**21.86**	**69**	T	T	01 16 19.5	
	baz=255						
H11N3	**WAKE ISLAND Hy**	**21.87**	**69**	T	T	01 16 17.5	
	baz=255						
YOJ	**Yonaguni jima**	**24.03**	**302**	P	**P**	**00 54 14.3**	**-3.3**
KNMB	**Chin-men Tao**	**27.93**	**298**	P	**P**	**00 54 51.7**	**-1.2**
USRK	**Ussuriysk Ar.**	**33.30**	**342**	P	**P**	**00 55 37.3**	**-2.7**
WB0	**Warramunga Arr**	**34.09**	**198**	P	**P**	**00 55 45.2**	**-1.9**
WR0	**Warramunga Arr**	**34.23**	**198**	P	**P**	**00 55 45.9**	**-2.5**
WB2	**Warramunga Arr**	**34.27**	**198**	P	**P**	**00 55 46.9**	**-1.8**
WRA	**Warramunga Arr**	**34.27**	**198**	P	**P**	**00 55 50.6**	**+1.8**
	1.0nm,0.5s,baz=22,slow=9.8,SNR=12						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**37.91**	**197**	P	**P**	**00 56 21.7**	**+1.8**
	0.6nm,0.6s,baz=19,slow=11,SNR=10						
	0.6nm,0.6s						
KLR	**Kul'dur**	**38.00**	**346**	P	**P**	**00 56 19.9**	**-0.4**
	1.3nm,0.7s,baz=165,slow=9.1,SNR=4.4						
	1.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.87**	**283**	P	**P**	**00 57 19.0**	**+1.9**
	1.5nm,0.6s,baz=81,slow=6.9,SNR=5.2						
	1.5nm,0.6s						
M11K	**Mekoryuk**	**59.20**	**26**	P	**P**	**00 59 02.6**	**-0.4**
	baz=238						
M13K	**Dall Lake**	**60.44**	**26**	P	**P**	**00 59 10.6**	**-0.8**
	baz=241						
K13K	**Kusilvak Mount**	**60.65**	**25**	P	**P**	**00 59 12.4**	**-0.5**
	baz=239						
TNA	**Tin City**	**61.44**	**20**	P	**P**	**00 59 18.1**	**-0.1**
	baz=234						
ANM	**Nome**	**61.77**	**22**	P	**P**	**00 59 19.9**	**-0.6**
	baz=237						
F14K	**Arctic Creek**	**61.94**	**21**	P	**P**	**00 59 21.2**	**-0.4**
	baz=236						
K15K	**Wolf Creek Mou**	**62.11**	**25**	P	**P**	**00 59 22.4**	**-0.4**
	baz=242						
P16K	**Nushagak River**	**62.28**	**29**	P	**P**	**00 59 23.3**	**-0.6**
	baz=247						
MK31	**Makanchi Array**	**62.32**	**316**	P	**P**	**00 59 25.7**	**+1.2**
MKAR	**Makanchi Array**	**62.32**	**316**	P	**P**	**00 59 25.8**	**+1.2**
MKAR	**Makanchi Array**	**62.32**	**316**	P	**P**	**00 59 26.0**	**+1.4**
	0.5nm,0.5s,baz=86,slow=8.9,SNR=6.9						
	0.5nm,0.5s						
CHIR	**Chirikof Islan**	**62.33**	**33**	P	**P**	**00 59 23.8**	**-0.6**
	baz=251						
O16K	**Kokwok River B**	**62.45**	**29**	P	**P**	**00 59 25.0**	**-0.1**
	baz=247						
G15K	**Niukluk**	**62.48**	**22**	P	**P**	**00 59 25.4**	**+0.1**
	baz=238						
ZALV	**Zalesovo Beam**	**62.48**	**325**	P	**P**	**00 59 26.9**	**+1.5**
	0.5nm,0.5s,baz=110,slow=8.2,SNR=2.4						
ZALV				PcP	**PcP**	**01 00 04.7**	**+0.2**
	0.7nm,0.6s,baz=116,slow=3.4,SNR=4.2						
	0.5nm,0.5s						
M16K	**Timber Creek**	**62.64**	**27**	P	**P**	**00 59 25.8**	**-0.6**
	baz=245						
F15K	**North Star Dit**	**62.65**	**21**	P	**P**	**00 59 26.2**	**-0.1**
F15K	**North Star Dit**	**62.65**	**21**	P	**P**	**00 59 26.3**	**-0.1**
	baz=237						
J16K	**Anvik River**	**62.95**	**24**	P	**P**	**00 59 28.3**	**-0.1**
	baz=242						
H16K	**Elim**	**62.96**	**23**	P	**P**	**00 59 27.6**	**-0.8**
	baz=240						
Q17K	**Contact Creek**	**63.02**	**31**	P	**P**	**00 59 28.4**	**-0.6**
	baz=249						
I17K	**Unalakleet**	**63.19**	**24**	P	**P**	**00 59 29.7**	**-0.2**
	baz=242						
N17K	**Nushagak Hills**	**63.24**	**28**	P	**P**	**00 59 29.9**	**-0.4**
	baz=247						
SII	**Sitkinak Islan**	**63.32**	**33**	P	**P**	**00 59 30.9**	**-0.1**
	baz=252						
M17K	**Holitna River**	**63.47**	**27**	P	**P**	**00 59 31.6**	**-0.3**
	baz=246						
J17K	**VABM Dome**	**63.61**	**25**	P	**P**	**00 59 32.8**	**0.0**
	baz=244						
K17K	**Iditarod**	**63.64**	**25**	P	**P**	**00 59 32.2**	**-0.8**
K17K	**Iditarod**	**63.64**	**25**	P	**P**	**00 59 33.0**	**0.0**
	baz=245						
P18K	**Big Mountain,**	**63.73**	**29**	P	**P**	**00 59 33.4**	**-0.3**
	baz=250						
C16K	**Lisburne Hills**	**63.84**	**18**	P	**P**	**00 59 34.1**	**-0.1**
	baz=236						
O18K	**Koktuh Hills**	**63.91**	**29**	P	**P**	**00 59 34.2**	**-0.6**
	baz=249						
G17K	**Kwilik Mounta**	**63.97**	**22**	P	**P**	**00 59 34.9**	**-0.2**
	baz=242						
H17K	**Granite Mounta**	**63.98**	**23**	P	**P**	**00 59 35.2**	**0.0**
	baz=242						
L18K	**Granite Mounta**	**64.12**	**26**	P	**P**	**00 59 36.2**	**+0.1**
	baz=247						
F17K	**Baldwin Pennin**	**64.22**	**21**	P	**P**	**00 59 36.9**	**+0.2**
F17K	**Baldwin Pennin**	**64.22**	**21**	P	**P**	**00 59 37.0**	**+0.4**
	baz=240						
D17K	**Noatak River**	**64.24**	**19**	P	**P**	**00 59 37.3**	**+0.5**
	baz=238						
E17K	**Hotham Inlet**	**64.34**	**20**	P	**P**	**00 59 37.2**	**-0.3**
	baz=240						
KDAK	**Kodiak Island**	**64.53**	**32**	P	**P**	**00 59 39.1**	**+0.3**
J18K	**Innoko River**	**64.61**	**25**	P	**P**	**00 59 38.9**	**-0.4**
	baz=246						
C17K	**DeLong Mountai**	**64.63**	**19**	P	**P**	**00 59 39.2**	**-0.2**
	baz=238						
H18K	**Honhosa River**	**64.67**	**23**	P	**P**	**00 59 39.3**	**-0.3**
H18K				IAmb	IAmb	00 59 57.2	
	comp=Z,5.5nm,1.2s						
H18K	**Honhosa River**	**64.67**	**23**	P	**P**	**00 59 39.3**	**-0.3**
	baz=244						
F18K	**Selawik**	**64.85**	**21**	P	**P**	**00 59 40.7**	**-0.1**
	baz=242						
G18K	**Tagagawik**	**64.89**	**22**	P	**P**	**00 59 40.9**	**-0.3**
G18K				IAmb	IAmb	00 59 41.6	
	comp=Z,4.1nm,0.9s						
G18K	**Tagagawik**	**64.89**	**22**	P	**P**	**00 59 40.8**	**-0.3**
	baz=243						
L19K	**White Mountain**	**64.90**	**27**	P	**P**	**00 59 41.3**	**0.0**
L19K				IAmb	IAmb	00 59 53.6	
	comp=Z,7.1nm,1.2s						
E18K	**Tukpahlearik C**	**64.92**	**20**	P	**P**	**00 59 41.8**	**+0.4**
E18K				IAmb	IAmb	00 59 42.1	
	comp=Z,2.8nm,0.8s						
E18K	**Tukpahlearik C**	**64.92**	**20**	P	**P**	**00 59 41.7**	**+0.4**
	baz=241						
J19K	**Poorman**	**65.26**	**25**	P	**P**	**00 59 43.8**	**+0.2**
J19K				IAmb	IAmb	00 59 44.5	
	comp=Z,3.8nm,1.1s						
J19K	**Poorman**	**65.26**	**25**	P	**P**	**00 59 43.5**	**-0.1**
	baz=247						
C18K	**Utukok River**	**65.34**	**19**	P	**P**	**00 59 43.7**	**-0.3**
C18K				IAmb	IAmb	00 59 57.0	
	comp=Z,3.5nm,1.1s						
C18K	**Utukok River**	**65.34**	**19**	P	**P**	**00 59 44.0**	**-0.1**
	baz=240						
KURK	**Kurchatov**	**65.43**	**320**	P	**P**	**00 59 45.4**	**+0.5**
KURBB	**Kurchatov Arra**	**65.47**	**320**	P	**P**	**00 59 45.4**	**+0.3**
	comp=Z,1.3nm,0.6s,baz=101,slow=6.8,SNR=12						
	comp=Z,1.3nm,0.6s						
H19K	**Roundabout Mou**	**65.55**	**23**	P	**P**	**00 59 45.4**	**0.0**
H19K				IAmb	IAmb	00 59 46.4	
	comp=Z,3.1nm,0.9s						
H19K	**Roundabout Mou**	**65.55**	**23**	P	**P**	**00 59 44.9**	**-0.5**
	baz=246						
G19K	**Purcell Mounta**	**65.57**	**22**	P	**P**	**00 59 45.5**	**0.0**
G19K				IAmb	IAmb	00 59 46.6	
	comp=Z,4.2nm,0.9s						
G19K	**Purcell Mounta**	**65.57**	**22**	P	**P**	**00 59 45.7**	**+0.2**
	baz=245,SNR=5.2						
F19K	**Shaleruckik Mo**	**65.62**	**21**	P	**P**	**00 59 45.5**	**-0.3**
F19K	**Shaleruckik Mo**	**65.62**	**21**	P	**P**	**00 59 45.5**	**-0.3**
	baz=244						
K20K	**Telida**	**65.67**	**26**	P	**P**	**00 59 46.4**	**+0.2**
K20K				IAmb	IAmb	00 59 47.7	
	comp=Z,4.2nm,1.1s						
K20K	**Telida**	**65.67**	**26**	P	**P**	**00 59 45.9**	**-0.3**
	baz=249						
J20K	**Nowinta River**	**65.93**	**25**	P	**P**	**00 59 47.7**	**-0.2**
J20K				IAmb	IAmb	00 59 48.9	
	comp=Z,3.0nm,0.9s						
J20K	**Nowinta River**	**65.93**	**25**	P	**P**	**00 59 47.7**	**-0.2**
	baz=248						
I20K	**Naaghedeneel**	**66.03**	**24**	P	**P**	**00 59 48.8**	**+0.3**
	baz=248						
C19K	**Lookout Ridge**	**66.07**	**19**	P	**P**	**00 59 48.9**	**+0.1**
C19K	**Lookout Ridge**	**66.07**	**19**	P	**P**	**00 59 49.6**	**+0.8**
	baz=241						
E19K	**Redstone River**	**66.09**	**21**	P	**P**	**00 59 48.9**	**0.0**
E19K				IAmb	IAmb	00 59 49.7	
	comp=Z,2.6nm,0.8s						
E19K	**Redstone River**	**66.09**	**21**	P	**P**	**00 59 49.0**	**+0.2**
	baz=244,SNR=5.2						
CAPN	**Captain Cook N**	**66.11**	**29**	P	**P**	**00 59 49.6**	**+0.5**
	baz=253						
H20K	**Anotleneega Mo**	**66.14**	**23**	P	**P**	**00 59 48.9**	**-0.3**
	baz=247						
A19K	**Wainwright**	**66.17**	**17**	P	**P**	**00 59 49.7**	**+0.4**
	baz=239						
D19K	**Kuna River**	**66.26**	**20**	P	**P**	**00 59 49.7**	**-0.2**
D19K	**Kuna River**	**66.26**	**20**	P	**P**	**00 59 49.5**	**-0.4**
	baz=243						
SKT	**Skwentna**	**66.31**	**27**	P	**P**	**00 59 49.8**	**-0.6**
	baz=252						
PPLA	**Purkeypile**	**66.31**	**26**	P	**P**	**00 59 50.6**	**+0.1**
PPLA	**Purkeypile**	**66.31**	**26**	P	**P**	**00 59 50.0**	**-0.5**
	baz=251						
F20K	**Avaraart Lake**	**66.45**	**22**	P	**P**	**00 59 51.4**	**+0.3**
F20K				IAmb	IAmb	00 59 52.1	
	comp=Z,3.7nm,1.1s						
F20K	**Avaraart Lake**	**66.45**	**22**	P	**P**	**00 59 51.4**	**+0.3**
	baz=246						
CAST	**Castle Rocks**	**66.53**	**26**	P	**P**	**00 59 51.9**	**+0.1**
CAST				IAmb	IAmb	00 59 53.0	
	comp=Z,4.4nm,0.8s						
CAST	**Castle Rocks**	**66.53**	**26**	P	**P**	**00 59 51.0**	**-0.8**
	baz=251						
CHUM	**Lake Minchumin**	**66.58**	**25**	P	**P**	**00 59 51.8**	**-0.2**
	baz=250						
E20K	**Nigu River**	**66.79**	**20**	P	**P**	**00 59 53.7**	**+0.3**
	baz=245,SNR=5.1						
D20K	**Etivluk River**	**66.85**	**20**	P	**P**	**00 59 53.8**	**+0.1**
	baz=244,SNR=6.3						
M22K	**Willow**	**66.88**	**28**	P	**P**	**00 59 53.6**	**-0.3**
	baz=253						
H21K	**Melozitna Rive**	**67.00**	**23**	P	**P**	**00 59 54.9**	**+0.2**
H21K				IAmb	IAmb	00 59 55.8	
	comp=Z,3.2nm,0.9s						
H21K	**Melozitna Rive**	**67.00**	**23**	P	**P**	**00 59 54.5**	**-0.2**
	baz=249						
G21K	**Allakaket**	**67.05**	**22**	P	**P**	**00 59 55.0**	**0.0**
G21K				IAmb	IAmb	00 59 55.8	
	comp=Z,5.2nm,1.3s						
G21K	**Allakaket**	**67.05**	**22**	P	**P**	**00 59 54.5**	**-0.5**
	baz=248						
KTH	**Kantishna Hill**	**67.06**	**26**	P	**P**	**00 59 55.0**	**-0.2**
I21K	**Tanana**	**67.16**	**24**	P	**P**	**00 59 55.6**	**-0.1**
	baz=250						
BPAW	**Bear Paw Mtn.**	**67.21**	**25**	P	**P**	**00 59 56.1**	**+0.1**
BPAW				IAmb	IAmb	00 59 56.3	
	comp=Z,6.9nm,1.3s						
BPAW	**Bear Paw Mtn.**	**67.21**	**25**	P	**P**	**00 59 55.4**	**-0.6**
	baz=252						
B20K	**Meade River**	**67.25**	**18**	P	**P**	**00 59 56.0**	**-0.1**
	baz=243						
TRF	**Thorofare Moun**	**67.30**	**

FID	Port Fidalgo	68.32	29	P	P	01 00 03.7 +0.6
H23K	Yukon River	68.33	24	P	P	01 00 02.2 -0.8
H23K				IAmb	IAmb	01 00 04.1
	comp=Z,3.0nm,0.9s					
H23K	Yukon River	68.33	24	P	P	01 00 02.7 -0.4
	baz=252					
A22K	Sinclair Lake	68.35	18	P	P	01 00 03.2 +0.2
	baz=245					
G23K	Bananza Creek	68.42	23	P	P	01 00 03.9 +0.2
G23K	Bananza Creek	68.42	23	P	P	01 00 03.3 -0.4
	baz=252					
DHY	Denali Highway	68.47	27	P	P	01 00 03.5 -0.6
	baz=255					
COLD	Coldfoot	68.52	22	P	P	01 00 04.5 +0.3
	baz=251					
WRH	Wood River Hil	68.53	25	P	P	01 00 03.5 -0.7
WRH				IAmb	IAmb	01 00 04.5
	comp=Z,3.8nm,0.7s					
B22K	Teshekpuk Lake	68.55	19	P	P	01 00 04.3 0.0
B22K				IAmb	IAmb	01 00 05.3
	comp=Z,3.8nm,0.7s					
B22K	Teshekpuk Lake	68.55	19	P	P	01 00 04.2 -0.1
	baz=247					
MDM	Murphy Dome	68.60	25	P	P	01 00 04.6 -0.2
MDM				IAmb	IAmb	01 00 12.8
	comp=Z,5.8nm,1.1s					
COLA	College	68.73	25	P	P	01 00 05.6 +0.1
	baz=254					
M24K	Tolsona, Glenn	68.77	28	P	P	01 00 05.9 -0.1
	baz=257					
D23K	Nanushuk River	68.93	20	P	P	01 00 07.2 +0.4
	baz=250					
POKR	Poker Plat Res	68.97	25	P	P	01 00 07.4 +0.3
	baz=255					
HDA	Harding Lake	68.99	26	P	P	01 00 06.9 -0.3
	baz=255					
H24K	Noodor Dome	68.99	24	P	P	01 00 07.2 0.0
H24K				IAmb	IAmb	01 00 08.2
	comp=Z,5.0nm,1.1s					
H24K	Noodor Dome	68.99	24	P	P	01 00 07.3 0.0
	baz=254					
E23K	Chandalar	69.00	21	P	P	01 00 07.6 +0.2
	baz=251					
IL31		69.11	25	P	P	01 00 06.6 -1.2
IL31				IAmb	IAmb	01 00 07.2
	comp=Z,3.0nm,0.8s					
ILAR	Eielson Array	69.11	25	P	P	01 00 06.5 -1.4
	comp=Z,2.6nm,0.7s,baz=252,slow=5.8,SNR=29					
	comp=Z,2.6nm,0.7s					
KAIM	Kayak Island	69.16	30	P	P	01 00 08.3 0.0
TOLK	Toolik Lake Re	69.20	21	P	P	01 00 08.9 +0.4
TOLK				IAmb	IAmb	01 00 09.7
	comp=Z,3.3nm,0.8s					
TOLK	Toolik Lake Re	69.20	21	P	P	01 00 08.8 +0.4
	baz=251					
C23K	Itkillik River	69.25	19	P	P	01 00 09.1 +0.4
C23K				IAmb	IAmb	01 00 09.9
	comp=Z,4.0nm,0.8s					
C23K	Itkillik River	69.25	19	P	P	01 00 08.8 +0.1
	baz=250,SNR=5.2					
BMRM	Bremner River	69.27	29	P	P	01 00 08.1 -0.9
	baz=259					
PAX	Paxson	69.28	27	P	P	01 00 08.5 -0.6
	baz=257					
K24K	Donnelly Dome	69.34	26	P	P	01 00 09.5 +0.1
	baz=257					
G24K	Hadweenzic Riv	69.39	23	P	P	01 00 09.8 +0.2
G24K				IAmb	IAmb	01 00 14.3
	comp=Z,4.7nm,1.1s					
G24K	Hadweenzic Riv	69.39	23	P	P	01 00 09.1 -0.5
	baz=254					
N25K	Chitina, Valde	69.40	29	P	P	01 00 08.9 -1.0
	baz=258					
E24K	Your Creek	69.41	22	P	P	01 00 10.1 +0.3
E24K				IAmb	IAmb	01 00 10.9
	comp=Z,3.4nm,0.8s					
E24K	Your Creek	69.41	22	P	P	01 00 09.9 +0.1
	baz=252,SNR=5.4					
F24K	Squaw Lake	69.46	22	P	P	01 00 10.4 +0.3
F24K				IAmb	IAmb	01 00 11.6
	comp=Z,3.0nm,0.8s					
F24K	Squaw Lake	69.46	22	P	P	01 00 10.4 +0.3
	baz=253					
D24K	Happy Valley	69.62	20	P	P	01 00 11.7 +0.6
D24K	Happy Valley	69.62	20	P	P	01 00 11.3 +0.2
	baz=252,SNR=9.1					
J25K	Salcha River,	69.70	25	P	P	01 00 11.0 -0.7
J25K	Salcha River,	69.70	25	P	P	01 00 11.5 -0.1
	baz=257					
BGLC	Bering Glacier	69.75	30	P	P	01 00 12.3 +0.4
	baz=260					
C24K	Franklin Bluff	69.84	20	P	P	01 00 12.9 +0.6
	baz=252					
SCRK	Sand Creek	70.15	26	P	P	01 00 12.8 -1.7
SCRK	Sand Creek	70.15	26	P	P	01 00 14.1 -0.4
	baz=258					
F25K	Christian Rive	70.31	22	P	P	01 00 15.8 +0.4
	baz=255,SNR=5.5					
J26L	Joseph Creek	70.44	26	P	P	01 00 16.1 -0.1
J26L				IAmb	IAmb	01 00 17.9
	comp=Z,4.2nm,0.7s					
J26L	Joseph Creek	70.44	26	P	P	01 00 16.2 0.0
	baz=258					
E25K	Arctic Village	70.47	22	P	P	01 00 15.7 -0.6
E25K	Arctic Village	70.47	22	P	P	01 00 16.3 0.0
	baz=255					
D25K	Kavik River	70.51	21	P	P	01 00 16.5 0.0
D25K				IAmb	IAmb	01 00 17.5
	comp=Z,4.8nm,0.8s					
D25K	Kavik River	70.51	21	P	P	01 00 16.7 +0.2
	baz=254,SNR=8.6					
BMAR	Burnt Mountain	70.67	23	P	P	01 00 18.1 +0.6
I26K	Coal Creek Min	70.77	25	P	P	01 00 17.4 -0.7
I26K	Coal Creek Min	70.77	25	P	P	01 00 17.8 -0.3
	baz=258					
BVAR	Borovoye Array	70.78	322	P	P	01 00 19.1 +0.7
	comp=Z,1.6nm,0.5s,baz=106,slow=7.4,SNR=10					
	comp=Z,1.6nm,0.5s					
M27K	Edge Creek, AK	70.80	28	P	P	01 00 18.4 -0.1
	baz=261					
G26K	Porcupine Rive	70.86	23	P	P	01 00 18.8 +0.2
	baz=257					
F26K	Sheenjek River	70.89	22	P	P	01 00 19.0 +0.1
	baz=257,SNR=6.4					
L27K	Beaver Creek,	70.93	27	P	P	01 00 19.9 +0.7
L27K	Beaver Creek,	70.93	27	P	P	01 00 18.7 -0.5
	baz=260					
BCAR	Beaver Creek A	70.95	27	P	P	01 00 19.4 +0.1
K27K	Chicken	70.99	26	P	P	01 00 19.9 +0.5
	baz=260					
C26K	Camden Bay	71.16	20	P	P	01 00 21.0 +0.6
	baz=255,SNR=9.7					
O28M	Mount Upton	71.37	30	P	P	01 00 22.2 0.0
	baz=263					
YUK3	Moose Creek	71.37	29	P	P	01 00 21.8 -0.2
	baz=262					
I27K	Kandik River	71.46	25	P	P	01 00 21.5 -0.9
	baz=260					
C27K	Jago River	71.49	20	P	P	01 00 22.2 -0.3
	baz=257,SNR=5.1					
EGAK	Eagle	71.51	26	P	P	01 00 22.5 0.0
	baz=261					
H27K	Steamboat Moun	71.60	24	P	P	01 00 23.3 +0.1
	baz=260,SNR=9.1					
PNL	Peninsula	71.63	31	P	P	01 00 23.3 -0.2
	baz=264					
YUK8	Steele Glacier	71.64	29	P	P	01 00 22.7 -1.1
	baz=263					
G27K	Doyon Strip	71.66	24	P	P	01 00 24.1 +0.6
G27K	Doyon Strip	71.66	24	P	P	01 00 22.9 -0.6
	baz=259					
E27K	Coleen River	71.94	22	P	P	01 00 25.6 +0.5
E27K	Coleen River	71.94	22	P	P	01 00 24.7 -0.4
	baz=259					
I28M	Miner Creek	72.12	25	P	P	01 00 26.7 +0.3
I28M	Miner Creek	72.12	25	P	P	01 00 26.2 -0.2
	baz=262					
DAWY	Dawson	72.16	27	P	P	01 00 26.8 +0.3
	baz=262					
YUK4	Talbot Arm	72.18	29	P	P	01 00 27.1 +0.2
	baz=264					
YUK6	Outpost Mounta	72.28	30	P	P	01 00 27.1 -0.4
	baz=264					
D27M	Malcolm River	72.36	21	P	P	01 00 28.0 +0.2
	baz=259					
M29M	Somme Creek	72.38	28	P	P	01 00 28.5 +0.5
M29M	Somme Creek	72.38	28	P	P	01 00 27.9 -0.2
	baz=264					
P29M	Windy Craggy	72.47	31	P	P	01 00 28.9 +0.4
P29M				IAmb	IAmb	01 00 45.3
	comp=Z,8.8nm,1.4s					
P29M	Windy Craggy	72.47	31	P	P	01 00 28.9 +0.4
	baz=265					
F28M	Old Crow	72.48	23	P	P	01 00 29.1 +0.7
F28M				IAmb	IAmb	01 00 30.1
	comp=Z,5.4nm,0.8s					
F28M	Old Crow	72.48	23	P	P	01 00 28.7 +0.3
	baz=261,SNR=7.0					
L29M	L29M	72.61	28	P	P	01 00 29.7 +0.4
L29M	L29M	72.61	28	P	P	01 00 29.5 +0.3
	baz=264					
HYT	Haines Junctio	72.68	30	P	P	01 00 30.6 +0.7
HYT				IAmb	IAmb	01 00 38.8
	comp=Z,6.2nm,1.4s					
HYT	Haines Junctio	72.68	30	P	P	01 00 30.2 +0.3
	baz=265					
E28M	Babbage River	72.76	22	P	P	01 00 31.8 +1.8
E28M	Babbage River	72.76	22	P	P	01 00 30.0 -0.1
	baz=261					
H29M	Whitestone	72.87	24	P	P	01 00 31.1 +0.4
H29M				IAmb	IAmb	01 00 47.5
	comp=Z,7.5nm,1.4s					
H29M	Whitestone	72.87	24	P	P	01 00 31.0 +0.3
	baz=263					
P30M	Million Dollar	72.90	31	P	P	01 00 31.6 +0.6
	baz=266					
N30M	Aishikik Lake	72.94	29	P	P	01 00 31.7 +0.4
	baz=265					
K29M	Barlow Dome	72.95	27	P	P	01 00 31.7 +0.2
K29M	Barlow Dome	72.95	27	P	P	01 00 31.6 +0.2
	baz=264					
G29M	Pine Creek	73.09	24	P	P	01 00 32.5 +0.5
G29M				IAmb	IAmb	01 00 33.5
	comp=Z,4.6nm,0.8s					
G29M	Pine Creek	73.09	24	P	P	01 00 32.1 +0.1
	baz=263					
PLBC	Pleasant Camp	73.15	32	P	P	01 00 33.0 +0.5
	baz=267					
M30M	Minto, Yukon	73.17	28	P	P	01 00 33.0 +0.5
	baz=265					
E29M	Blow River	73.33	22	P	P	01 00 33.8 +0.4
	baz=262					
J30M	Hart River	73.54	26	P	P	01 00 35.8 +1.0
J30M	Hart River	73.54	26	P	P	01 00 35.1 +0.3
	baz=265					
EPYK	Eagle Plains	73.55	24	P	P	01 00 35.1 +0.3
EPYK				IAmb	IAmb	01 00 35.3
	comp=Z,6.2nm,1.1s					
EPYK	Eagle Plains	73.55	24	P	P	01 00 34.3 -0.5
	baz=264					
N31M	Braeburn, Yuko	73.56	29	P	P	01 00 34.8 -0.1
	baz=266					
I30M	Mount Dempster	73.58	25	P	P	01 00 35.2 +0.2
I30M	Mount Dempster	73.58	25	P	P	01 00 35.0 0.0
	baz=265					
G30M	tAoh Zraii Nji	73.80	24	P	P	01 00 35.9 -0.4
G30M				IAmb	IAmb	01 00 37.0
	comp=Z,5.4nm,1.1s					
G30M	tAoh Zraii Nji	73.80	24	P	P	01 00 35.9 -0.4
	baz=264					
WHY	Whitehorse	73.96	30	P	P	01 00 38.2 +0.9
WHY	Whitehorse	73.96	30	P	P	01 00 37.5 +0.2
	baz=268					
S32K	Killisnoo	74.01	34	P	P	01 00 37.9 +0.4
	baz=269					
F30M	Barrier River	74.03	23	P	P	01 00 38.0 +0.5
	baz=265,SNR=6.1					
H31M	Peel River	74.47	25	P	P	01 00 40.8 +0.7
H31M				IAmb	IAmb	01 00 41.2
	comp=Z,5.3nm,0.9s					
H31M	Peel River	74.47	25	P	P	01 00 40.8 +0.7
	baz=266					
P32M	Atlin	74.51	31	P	P	01 00 41.0 +0.5
	baz=269					
G31M	Satah River	74.56	24	P	P	01 00 40.7 +0.1
G31M	Satah River	74.56	24	P	P	01 00 40.5 -0.1
	baz=266,SNR=11					
N32M	Quiet Lake	74.85	30	P	P	01 00 42.8 +0.3
	baz=269					
INK	Inuvik	74.94	22	P	P	01 00 42.9 +0.2
INK				IAmb	IAmb	01 00 43.2
	comp=Z,5.4nm,0.8s					
INK	Inuvik	74.94	22	P	P	01 00 42.2 -0.4
	baz=267,SNR=9.4					
P33M	Teslin, Yukon	74.97	31	P	P	01 00 43.4 +0.2
	baz=269					
WRAK	Wrangell Islan	75.23	35	P	P	01 00 45.3 +0.7
	baz=271					
MMPY	Sheldon Lake,	75.72	28	P	P	01 00 47.8 +0.4
	baz=270					
S34M	Telegraph Cree	75.86	33	P	P	01 00 49.3 +1.0
	baz=272					
R33M	Jennings River	75.91	32	P	P	01 00 49.3 +0.6
R33M				IAmb	IAmb	01 00 50.5
	comp=Z,3.2nm,0.8s					
R33M	Jennings River	75.91	32	P	P	01 00 49.0 +0.3
	baz=271					
T35M	Bob Quinn	76.37	34	P	P	01 00 51.6 +0.4
	baz=272					
DLBC	Dease Lake	76.43	33	P	P	01 00 51.8 +0.3
	baz=272					
TGTN	Hyland Airport	77.16	29	P	P	01 00 55.6 0.0
	baz=273					
ABKAR	Akbulak array	77.38	318	P	P	01 00 57.2 +0.2
A36M	Sachs Harbour	77.76	19	P	P	01 00 58.4 -0.3
A36M				IAmb	IAmb	01 00 59.3
	comp=Z,3.3nm,0.7s					
A36M	Sachs Harbour	77.76	19	P	P	01 00 58.5 -0.1
	baz=274					
C36M	Paulatuk	78.35	21	P	P	01 01 01.7 -0.3
C36M	Paulatuk	78.35	21	P	P	01 01 01.5 -0.4
	baz=275					
YKA	Yellowknife Ar	83.37	27	P	P	01 01 28.7 -0.2
	comp=Z,1.1nm,0.5s,baz=290,slow=5.4,SNR=27					
	comp=Z,1.1nm,0.5s					
NVAR	Mina Array Bea	87.10	51	P	P	01 01 48.8 +0.4
	comp=Z,0.5nm,0.6s,baz=261,slow=6.0,SNR=5.1					
	comp=Z,0.5nm,0.6s					
SNCC	San Nicolas Is	87.36	57	P	P	01 01 55.2 +5.7
	baz=284					
ARCES	ARCESS Array B	87.94	342	P	P	01 01 52.5 +0.9
	comp=Z,5.7nm,1.0s,baz=54,slow=6.2,SNR=6.1					
	comp=Z,5.7nm,1.0s					
CIS	Catalina Islan	88.23	56	P	P	01 01 59.2 +5.6
	baz=284					
SWSC	Sam W. Stewart	90.47	56	P	P	01 02 08.9 +4.8
	baz=286					
FINES	FINESS Array B	92.03	335	P	P	01 02 10.2 -0.6
	comp=Z,1.7nm,0.5s,baz=71,slow=4.7,SNR=19					
	comp=Z,1.7nm,0.5s					
TORD	Torodi Ar. Bea	135.62	304	PKP	PKiKP	01 08 25.4 +0.6
	comp=Z,0.2nm,0.4s,baz=26,slow=2.9,SNR=8.6					
DBIC	Dimbokro	144.56	301	PKP	PKPdf	01 08 39.1 -0.3
	comp=Z,9.3nm,0.9s,baz=62,slow=3.6,SNR=7.9					
LPAZ	La Paz	147.51	100	PKPbc	PKPbc	01 08 47.4 -0.3
	comp=Z,0.7nm,0.6s,baz=222,slow=4.2,SNR=3.7					

*MEX **18** 00:51:36.9±0.5, 31°.29N×114°.22W, h10km, MD4.0*
*ECX **18** 00:51:37.7±0.2, 31°.24N×114°.30W, h20km±4km, ML3.5*
ISC 18 00:51:33.4±1.5, **31°.09N**±0°.06×**114°.20W**±0°.03,
h25km±15km, **n13**, **σ2s46**/24, **4C-1D, Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPXB	Puerto Peasco	0.54	63	eP	Pn	00 51 48.1	+2.6
PPXB				eS	Sn	00 51 56.2	+2.4
PPXB				⇑e		00 51 57.2	
PPXB				IAML		00 51 57.2	
	comp=E,3μm,0.4s						
SFX	San Felipe	0.56	265	eP	Pn	00 51 47.1	+1.3
SFX				eS	Sn	00 51 55.3	+0.9
SFX	San Felipe	0.56	265⇑	eP	Pn	00 51 47.2	+1.3
SFX				eS	Sn	00 51 54.7	+0.3
PIX	Pinacate	0.78	53	eP	Pn	00 51 51.4	+2.6
PIX				eS	Sn	00 52 02.3	+2.5
ECBX	El Chinero	0.82	298	eP	Pn	00 51 49.2	-0.2
ECBX				eS	Sb	00 51 58.7	-1.0
ECBX				⇓e		00 51 59.8	
ECBX				IAML		00 51 59.8	
	comp=E,1μm,0.7s						
EDOMX	El Doctor, EDO	0.98	332	eP	Pn	00 51 52.1	+0.5
EDOMX				eS	Sb	00 52 03.1	-1.1
EDOMX				IAML		00 52 22.9	
	comp=E,2μm,0.6s						
EDOMX				⇑e		00 52 22.9	
EDOMX				IAML		00 52 23.2	
	comp=N,1μm,0.7s						
EDOMX				⇑e		00 52 23.2	
SPIG	San Pedro Mart	1.09	268	eP	Pb	00 51 55.3	+1.5
SPIG				eS	Sn	00 52 08.7	+0.9
SPIG	San Pedro Mart	1.09	268	eP	Pb	00 51 55.5	+1.7
SPIG				eS	Sn	00 52 09.5	+1.7
AGSX	Ej. Aguas Cali	1.43	325	eP	Pb	00 51 58.9	-0.4
MBIG	Mexicali	1.56	327	eP	Pb	00 52 02.8	+1.1
LAPR	La Primavera	1.72	110	eP	Pn	00 52 00.9	-0.9
LAPR				eS	Sn	00 52 18.1	-4.8
TJIG	Tijuana	2.50	303	eP	Pn	00 52 11.7	-0.8
TJIG				eS	Sn	00 52 35.3	-6.8
TUC	Tucson	3.15	66	eP	Pb	00 52 26.7	-2.0
TUC				eS	Sn	00 52 59.8	+1.4

*NEIC **18** 01:11:49.0±1.0, 5°.8S±0°.1×152°.1E±0°.1, h38km±9km, mb4.8/110, Error ellipse: s-maj=19.1km s-min=14.9km az=114.0*
*IDC **18** 01:11:51.3±3.3, 5°.64S×151°.88E, h66km±27km, mb3.9/12, mbtmp4.2/13, ML2.3/1, MS3.4/7, Error ellipse: s-maj=27.7km s-min=14.6km az=118.0*
ISC 18 01:11:47.8±0.5, **5°.80S**±0°.07×**152°.21E**±0°.09, **h35**km, **n367, σ0s75**/363, **mb4.8**/72, **MS3.3**/5, **New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	Rabaul	1.60	358		Pn	01 12 12.6	-1.1
MANU	Manus Island	6.11	307	Pn	Pn	01 13 16.6	+0.9
PMG	Port Moresby	6.16	234	P	Pn	01 13 17.6	+1.3
	5.2nm,0.3s,baz=36,slow=8.1,SNR=16						
PMG				S	Sn	01 14 24.4	-1.1
	34nm,0.6s,baz=5.6,slow=21,SNR=1.5						
PMG				LR	LR	01 15 14.4	
	comp=Z,114nm,18.4s,baz=54,slow=34						
	58nm,0.7s						
HNR	Honiara	8.47	116	LR	LR	01 16 56.2	
	comp=Z,2μm,20.8s,baz=123,slow=34						
EIDS	Eidsvold	19.49	183	P	P	01 16 13.5	+1.6
GUMO	Guam	20.60	339	LR	LR	01 24 34.0	
	comp=Z,25nm,18.2s,baz=112,slow=38						
DZM	Mont Dzumac	21.24	141	eLR	LR	01 21 46.7	
	214nm,26.9s						
DZM	Mont Dzumac	21.24	141	LR	LR	01 23 50.9	
	comp=Z,158nm,20.0s,baz=280,slow=33						
MTN	Manton Dam	21.93	250	P	P	01 16 39.3	+0.8
WB0	Warramunga Arr	22.21	230	P	P	01 16 40.6	-0.8
WR0	Warramunga Arr	22.21	229	P	P	01 16 40.8	-0.6
WB2	Warramunga Arr	22.34	229	P	P	01 16 43.3	+0.4
WRA	Warramunga Arr	22.35	229	P	P	01 16 43.0	0.0
WRA	Warramunga Arr	22.35	229	P	P	01 16 42.2	-0.7
	4.3nm,0.7s,baz=54,slow=10,SNR=14						
WRA				S	S	01 20 43.1	-3.6
	0.3nm,0.5s,baz=40,slow=24,SNR=2.8						
	4.3nm,0.7s						
AS31	Alice Springs	25.02	223	P	P	01 17 09.2	+0.4
ASAR	Alice Springs	25.02	223	P	P	01 17 08.3	-0.5
ASAR	Alice Springs	25.02	223	P	P	01 17 09.5	+0.7
	10nm,0.8s,baz=55,slow=9.4,SNR=68						
	10nm,0.8s						
FITZ	Fitzroy Crossi	28.67	242	P	P	01 17 40.1	-1.5
DAV	Davao City (W)	29.49	295	P	P	01 17 48.7	-0.3
BBOO	Buckleboo	30.80	207	P	P	01 17 59.1	-1.3
FORT	Forrest	33.65	219	P	P	01 18 25.0	-0.4
FORT				IAmb	IAmb	01 18 41.2	
	comp=Z,17nm,1.1s						
JOW	Kunigami	39.87	326	LR	LR	01 33 42.1	
	comp=Z,39nm,19.4s,baz=261,slow=33						
NWAO	Narrogin (SRO)	42.27	226	LR	LR	01 37 54.4	
	comp=Z,96nm,18.7s,baz=92,slow=37						
MJAR	Matsushiro Arr	44.12	344	LR	LR	01 38 58.7	
	comp=Z,24nm,18.0s,baz=89,slow=37						
NJ2	Nanjing	49.26	322	eP	P	01 20 35.4	+2.2
NJ2				pP	pP	01 20 43.8	+1.8
NJ2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,120nm,3.5s						
GYA	Guiyang	54.54	308	eP	P	01 21 14.8	+1.9
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
CMAR	Chiang Mai Arr	57.78	296	P	P	01 21 34.7	-1.3
	comp=Z,0.7nm,0.3s,baz=103,slow=5.1,SNR=4.1						
	comp=Z,0.7nm,0.3s						
PZH	PanZhiHua	58.47	306	P	P	01 21 44.0	+3.1
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
HHC	Hu-ho-hao-te	59.52	325	eP	P	01 21 47.0	-0.8
HHC				pmax	pmax		
	comp=Z,11nm,0.8s						
HHC				pmax	pmax		
	comp=Z,140nm,5.1s						
SONM	Songino Array	66.86	328	P	P	01 22 34.7	-1.7
SONM	Songino Array	66.86	328	P	P	01 22 34.4	-2.0
	comp=Z,1.0nm,0.5s,baz=146,slow=6.9,SNR=5.8						
	comp=Z,1.0nm,0.5s						
SPIA	Saint Paul Isl	69.79	21	P	P	01 22 56.8	+2.5
	baz=220						
VNDA	Vanda	71.86	178	P	P	01 23 07.4	+0.8
	comp=Z,0.7nm,0.8s,baz=343,slow=5.5,SNR=3.9						
	comp=Z,0.7nm,0.8s						
S12K	Black Hills	71.92	25	P	P	01 23 08.6	+1.3
	baz=229						
SDPT	Sand Point	72.37	26	P	P	01 23 10.6	+0.6
	baz=230						
CHNA	Chernabura Isl	72.43	27	P	P	01 23 12.1	+1.7
	baz=231						
S14K	Fog Glacier	73.37	26	P	P	01 23 17.5	+1.5
	baz=231						
O14K	Tigyukauivet M	74.60	23	P	P	01 23 23.8	+0.8
M13K	Dall Lake	74.61	21	P	P	01 23 24.3	+1.2
	baz=226						
CHIR	Chirikof Islan	74.84	28	P	P	01 23 24.7	+0.2
	baz=234						
O15K	Unglaliktiuk R	75.11	23	P	P	01 23 25.8	-0.2
	baz=230						
M14K	Bethel	75.34	21	P	P	01 23 27.8	+0.5
	baz=228						
L14K	Kuka Creek	75.49	21	P	P	01 23 29.1	+1.0
L14K				IAmb	IAmb	01 23 30.1	
	comp=Z,11nm,0.9s						
L14K	Kuka Creek	75.49	21	P	P	01 23 28.9	+0.8
	baz=227						
N15K	Kwethluk River	75.65	22	P	P	01 23 29.8	+0.6
N15K	Kwethluk River	75.65	22	P	P	01 23 29.6	+0.5
	baz=230						
P16K	Nushagak River	75.75	24	P	P	01 23 30.2	+0.5
	baz=232						
M15K	Kasigluk River	75.77	22	P	P	01 23 29.8	+0.1
	baz=229						
O16K	Kokwok River B	76.06	24	P	P	01 23 31.7	+0.2
	baz=232						
Q17K	Contact Creek	76.16	25	P	P	01 23 32.4	+0.3
	baz=234						
J14K	Nanvaranak Lak	76.17	19	P	P	01 23 32.5	+0.5
	baz=226						
N16K	Nishlik Lake	76.35	23	P	P	01 23 33.7	+0.5
	baz=231						
K15K	Wolf Creek Mou	76.54	20	P	P	01 23 35.2	+1.1
K15K				IAmb	IAmb	01 23 35.7	
	comp=Z,9.2nm,0.7s						
K15K	Wolf Creek Mou	76.54	20	P	P	01 23 34.6	+0.5
	baz=228						
O17K	Koliganek Bris	76.57	24	P	P	01 23 34.6	+0.3
	baz=232						
M16K	Timber Creek	76.63	22	P	P	01 23 35.4	+0.7
M16K				IAmb	IAmb	01 23 36.8	
	comp=Z,14nm,0.9s						
M16K	Timber Creek	76.63	22	P	P	01 23 35.2	+0.5
	baz=230						
OHAK	Old Harbor	76.70	27	P	P	01 23 35.5	+0.3
OHAK	Old Harbor	76.70	27	P	P	01 23 35.3	+0.2
	baz=236						
L16K	Owhat River	76.88	21	P	P	01 23 36.6	+0.6
L16K	Owhat River	76.88	21	P	P	01 23 36.4

baz=234
F14K Arctic Creek 77.29 16 P P 01 23 38.6 +0.3
baz=222
KDAK Kodiak Island 77.33 27 P P 01 23 38.4 -0.2
baz=237
M17K Holitna River 77.44 22 P P 01 23 39.4 +0.2
baz=232
Q19K Cape Douglas, 77.50 26 P P 01 23 39.7 +0.1
Q19K Cape Douglas, 77.50 26 P P 01 23 39.8 +0.1
baz=236
J16K Anvik River 77.52 20 P P 01 23 40.4 +0.8
baz=228
L17K Donlin 77.58 21 P P 01 23 40.5 +0.5
baz=231
N18K Kilae Creek 77.60 23 P P 01 23 40.5 +0.4
baz=233
G15K Niukluk 77.61 18 P P 01 23 41.1 +1.1
baz=225
Q20K Shuyak Island 77.86 26 P P 01 23 42.0 +0.4
baz=237
I17K Unalakleet 77.89 19 P P 01 23 42.2 +0.5
baz=228
K17K Iditarod 77.95 21 P P 01 23 43.7 +1.7
K17K IAmb IAmb 01 23 43.9
comp=Z,9.0nm,1.0s
K17K Iditarod 77.95 21 P P 01 23 42.0 0.0
baz=231
P19K Oil Pt 78.08 25 P P 01 23 42.4 -0.5
baz=236
M18K Stony River 78.11 23 P P 01 23 43.3 +0.4
baz=233
J17K VABM Dome 78.11 20 P P 01 23 43.1 +0.2
baz=230
L18K Granite Mounta 78.23 22 P P 01 23 45.1 +1.5
L18K IAmb IAmb 01 23 45.7
comp=Z,5.8nm,0.8s
L18K Granite Mounta 78.23 22 P P 01 23 43.8 +0.2
baz=232
N19K Bonanza Creek 78.23 24 P P 01 23 44.4 +0.6
N19K Bonanza Creek 78.23 24 P P 01 23 43.6 -0.2
baz=235
H17K Granite Mounta 78.85 19 P P 01 23 47.9 +0.9
H17K Granite Mounta 78.85 19 P P 01 23 47.6 +0.6
baz=229
CNPM China Poot 78.86 26 P P 01 23 47.9 +0.7
L19K White Mountain 78.89 22 P P 01 23 48.3 +1.0
L19K IAmb IAmb 01 23 49.4
comp=Z,7.9nm,0.8s
L19K White Mountain 78.89 22 P P 01 23 47.5 +0.2
baz=234
M19K Big River Lodg 78.91 23 P P 01 23 47.7 +0.3
baz=234
J18K Innoko River 78.98 21 P P 01 23 48.4 +0.6
J18K Innoko River 78.98 21 P P 01 23 48.0 +0.2
baz=232
G17K Kiwalik Mounta 78.99 18 P P 01 23 48.3 +0.5
baz=228
BRSE Bradley Lake S 79.19 26 P P 01 23 49.5 +0.5
baz=238
M20K Styx River 79.38 23 P P 01 23 50.6 +0.6
M20K IAmb IAmb 01 25 00.9
comp=Z,13nm,1.4s
M20K Styx River 79.38 23 P P 01 23 50.3 +0.2
baz=236
L20K Farewell, AK 79.44 22 P P 01 23 50.8 +0.5
baz=235
F17K Baldwin Pennin 79.45 17 P P 01 23 50.6 +0.5
baz=227
H18K Honhosa River 79.49 19 P P 01 23 50.6 +0.2
baz=230
C16K Lisburne Hills 79.62 15 P P 01 23 51.4 +0.4
baz=223
J19K Poorman 79.69 21 P P 01 23 52.2 +0.6
J19K IAmb IAmb 01 24 50.0
comp=Z,14nm,1.6s
J19K Poorman 79.69 21 P P 01 23 51.8 +0.2
baz=233
E17K Hotham Inlet 79.72 17 P P 01 23 52.0 +0.3
baz=227
D17K Noatak River 79.80 16 P P 01 23 52.1 0.0
baz=225
G18K Tagagawik 79.87 18 P P 01 23 52.5 0.0
G18K Tagagawik 79.87 18 P P 01 23 52.5 0.0
baz=230
K20K Telida 79.87 22 P P 01 23 53.1 +0.5
K20K IAmb IAmb 01 25 26.1
comp=Z,23nm,1.9s
K20K Telida 79.87 22 P P 01 23 52.9 +0.3
baz=235
SEW Seward 79.94 26 P P 01 23 53.3 +0.4
baz=239
O22K Cooper Landing 80.01 25 P P 01 23 53.7 +0.3
baz=239
SKT Skwentna 80.07 23 P P 01 23 53.8 +0.1
baz=237
SUA Susitna One 80.10 24 P P 01 23 53.9 -0.1
SUA Susitna One 80.10 24 P P 01 23 54.0 -0.1
baz=238
E18K Tukpahlearik C 80.30 17 P P 01 23 55.4 +0.6
baz=228
RC01 Rabbit Creek A 80.32 25 P P 01 23 54.9 -0.2
baz=239
C17K DeLong Mountai 80.32 15 P P 01 23 55.7 +0.7
baz=225
J20K Nowinta River 80.32 21 P P 01 23 55.8 +0.8
J20K Nowinta River 80.32 21 P P 01 23 54.9 -0.1
baz=234
H19K Roundabout Mou 80.35 19 P P 01 23 55.9 +0.9
baz=232
M22K Willow 80.51 24 P P 01 23 55.9 -0.1
baz=238
G19K Purcell Mounta 80.53 19 P P 01 23 56.1 0.0
baz=231
CAST Castle Rocks 80.64 22 P P 01 23 56.5 -0.2
CAST Castle Rocks 80.64 22 P P 01 23 56.8 +0.1
baz=236
MKAR Makanchi Array 80.69 319 P P 01 23 56.1 -1.3
comp=Z,0.5nm,0.5s,baz=94,slow=6.3,SNR=6.3
comp=Z,0.5nm,0.5s
F19K Shaleruckik Mo 80.75 18 P P 01 23 57.6 +0.4
baz=231
CHUM Lake Minchumin 80.82 22 P P 01 23 57.9 +0.2
baz=236
PMR Palmer 80.83 24 P P 01 23 57.4 -0.4
baz=239
H20K Anotleneega Mo 80.85 20 P P 01 23 57.8 0.0
baz=234
C18K Utukok River 80.97 16 P P 01 23 58.2 -0.3
baz=227
Q23K Middleton Isla 80.98 27 P P 01 23 57.6 -0.9
baz=242
GHO Glory Hole Cre 81.01 24 P P 01 23 59.0 +0.2
GHO IAmb IAmb 01 24 45.3
comp=Z,22nm,1.4s
KNK Knik Glacier 81.02 25 P P 01 23 58.9 +0.1
baz=240
KTH Kantishna Hill 81.16 22 P P 01 23 59.0 -0.6
KTH IAmb IAmb 01 26 49.0
comp=Z,22nm,1.7s
SML Sawmill 81.27 24 P P 01 24 00.6 +0.4
SML IAmb IAmb 01 24 01.2
comp=Z,12nm,0.8s
SML Sawmill 81.27 24 P P 01 24 00.1 0.0
baz=240
B18K Kokolik River 81.30 15 P P 01 24 00.6 +0.5
baz=226
E19K Redstone River 81.31 18 P P 01 24 00.6 +0.4
E19K Redstone River 81.31 18 P P 01 24 00.3 +0.1
baz=231
GLI Glacier Island 81.33 26 P P 01 24 00.8 +0.3
GLI IAmb IAmb 01 24 01.6
comp=Z,9.3nm,0.7s
GLI Glacier Island 81.33 26 P P 01 24 00.2 -0.2
baz=241
TRF Thorofare Moun 81.34 23 P P 01 24 00.3 -0.4
baz=238
HIN Hinchinbrook I 81.36 26 P P 01 24 01.0 +0.4
BPAW Bear Paw Mtn. 81.43 22 P P 01 24 01.0 0.0
baz=237
M23K Glacier View 81.51 25 P P 01 24 01.4 0.0
baz=241
F20K Avaraart Lake 81.52 18 P P 01 24 02.0 +0.7
F20K IAmb IAmb 01 25 49.6
comp=Z,17nm,2.0s
F20K Avaraart Lake 81.52 18 P P 01 24 01.4 +0.2
baz=233
FID Port Fidalgo 81.54 26 P P 01 24 01.6 0.0
FID IAmb IAmb 01 24 02.2
comp=Z,9.5nm,0.9s
H21K Melozitna Rive 81.65 20 P P 01 24 02.0 0.0
H21K IAmb IAmb 01 26 50.9
comp=Z,15nm,1.9s
H21K Melozitna Rive 81.65 20 P P 01 24 02.3 +0.3
baz=236
ZALV Zalesovo Beam 81.66 327 P P 01 23 59.7 -2.6
comp=Z,0.9nm,0.5s,baz=118,slow=5.1,SNR=6.5
comp=Z,0.9nm,0.5s
I21K Tanana 81.66 21 P P 01 24 02.3 +0.2
baz=236
WAT1 Susitna Watana 81.70 23 P P 01 24 01.9 -0.5
baz=240
SCM Sheep Creek Mo 81.70 25 P P 01 24 03.1 +0.7
SCM Sheep Creek Mo 81.70 25 P P 01 24 02.0 -0.4
baz=241
C19K Lookout Ridge 81.71 16 P P 01 24 02.9 +0.5
C19K Lookout Ridge 81.71 16 P P 01 24 02.1 -0.3
baz=229
D19K Kuna River 81.72 17 P P 01 24 02.2 -0.1
D19K Kuna River 81.72 17 P P 01 24 02.7 +0.3
baz=230
EYAK Cordova Ski Ar 81.76 26 P P 01 24 02.8 +0.1
baz=243
RND Reindeer 81.87 23 P P 01 24 02.7 -0.6
RND IAmb IAmb 01 24 03.6
comp=Z,8.6nm,1.0s
WAT6 Susitna Watana 81.90 24 P P 01 24 02.7 -0.9
baz=241
G21K Allakaket 81.91 19 P P 01 24 03.1 -0.3
baz=235
MCK McKinley 82.00 23 P P 01 24 03.5 -0.5
baz=239
MLY Manley 82.02 21 P P 01 24 04.3 +0.2
MLY IAmb IAmb 01 24 04.8
comp=Z,3.5nm,0.5s
MLY Manley 82.02 21 P P 01 24 03.8 -0.2
baz=238
KAIM Kayak Island 82.08 27 P P 01 24 05.0 +0.6
KAIM Kayak Island 82.08 27 P P 01 24 04.6 +0.2
baz=244
E20K Nigu River 82.12 17 P P 01 24 04.3 -0.2
baz=232
KLU Klutina 82.13 25 P P 01 24 05.3 +0.6
KLU IAmb IAmb 01 24 06.8
comp=Z,13nm,1.1s
KLU Klutina 82.13 25 P P 01 24 05.1 +0.3
baz=242
H22K Ishtalitna Cre 82.27 20 P P 01 24 05.9 +0.6
baz=237
D20K Etivluk River 82.28 17 P P 01 24 05.6 +0.3
baz=232
DHY Denali Highway 82.28 24 P P 01 24 05.9 +0.3
baz=241
M24K Tolsona, Glenn 82.31 25 P P 01 24 06.5 +0.8
M24K Tolsona, Glenn 82.31 25 P P 01 24 05.9 +0.2
baz=242
HMT Hamilton 82.33 27 P P 01 24 06.7 +0.9
HMT IAmb IAmb 01 24 07.3
comp=Z,9.0nm,0.7s
NEA2 Nenana 82.40 22 P P 01 24 04.8 -1.2
NEA2 Nenana 82.40 22 P P 01 24 06.0 0.0
baz=239
BMRM Bremner River 82.45 26 P P 01 24 06.5 +0.1
baz=244
I23K Minto, Yukon-K 82.58 21 P P 01 24 06.9 0.0
I23K IAmb IAmb 01 26 10.7
comp=Z,19nm,1.9s
I23K Minto, Yukon-K 82.58 21 P P 01 24 07.0 0.0
baz=239
WRH Wood River Hil 82.70 22 P P 01 24 07.0 -0.5
WRH IAmb IAmb 01 24 07.7
comp=Z,7.1nm,1.1s
N25K Chitina, Valde 82.74 25 P P 01 24 08.4 +0.4
N25K IAmb IAmb 01 26 51.9
comp=Z,18nm,1.6s
N25K Chitina, Valde 82.74 25 P P 01 24 07.7 -0.3
baz=244
G22K Bettles 82.79 19 P P 01 24 08.2 +0.2
baz=237
HARP HAARP 82.86 25 P P 01 24 08.8 +0.3
baz=243
H23K Yukon River 82.87 21 P P 01 24 08.8 +0.3
baz=239
E21K Killik River 82.89 17 P P 01 24 08.5 0.0
baz=234
CCB Clear Creek Bu 82.89 22 P P 01 24 07.8 -0.7
CCB IAmb IAmb 01 24 08.3
comp=Z,6.3nm,1.1s
F22K John River 82.90 19 P P 01 24 09.2 +0.6
baz=236
B20K Meade River 82.95 16 P P 01 24 09.3 +0.6
baz=231
COLA College 82.99 22 P P 01 24 09.3 +0.3
baz=240
PAX Paxson 83.00 24 P P 01 24 09.9 +0.6
baz=243
GLB Gilahina Butte 83.01 26 P P 01 24 09.9 +0.6
GLB IAmb IAmb 01 24 10.8
comp=Z,7.4nm,1.0s
VRDI Verde Repeater 83.07 26 P P 01 24 10.4 +0.6
VRDI IAmb IAmb 01 24 11.7
comp=Z,8.1nm,1.0s
C21K Knifeblade Rid 83.08 17 P P 01 24 09.8 +0.4
baz=233
HDA Harding Lake 83.10 22 P P 01 24 09.2 -0.4
baz=241
G23K Bananza Creek 83.17 20 P P 01 24 10.6 +0.6
G23K IAmb IAmb 01 27 11.4
comp=Z,10nm,1.6s
G23K Bananza Creek 83.17 20 P P 01 24 09.8 -0.2
baz=238
K24K Donnelly Dome 83.26 23 P P 01 24 10.5 -0.1
baz=242
POKR Poker Plat Res 83.27 22 P P 01 24 10.1 -0.4
baz=241
IL31 83.30 22 P P 01 24 09.7 -0.9
ILAR Eielson Array 83.30 22 P P 01 24 09.7 -1.0
ILAR Eielson Array 83.30 22 P P 01 24 09.5 -1.2
comp=Z,2.8nm,0.8s,baz=249,slow=5.4,SNR=26
comp=Z,2.8nm,0.8s
E22K Anaktuvuk Pass 83.37 18 P P 01 24 10.4 -0.7
baz=236
COLD Coldfoot 83.39 19 P P 01 24 11.6 +0.5
baz=238
B21K Ikpikpuk River 83.41 16 P P 01 24 11.5 +0.4
baz=233
H24K Noodor Dome 83.46 21 P P 01 24 11.8 +0.2
H24K Noodor Dome 83.46 21 P P 01 24 11.7 +0.2
baz=240
D22K Ayikyak River 83.53 17 P P 01 24 12.5 +0.7
D22K Ayikyak River 83.53 17 P P 01 24 12.3 +0.5
baz=235
M26K Nabesna, AK 83.77 25 P P 01 24 13.5 +0.3
baz=245
BARN Barnard Glacie 83.79 27 P P 01 24 14.5 +1.0
BARN IAmb IAmb 01 24 15.3
comp=Z,8.1nm,0.7s
J25K Salcha River, 83.80 23 P P 01 24 13.3 0.0
J25K IAmb IAmb 01 24 13.9
comp=Z,9.0nm,1.0s
J25K Salcha River, 83.80 23 P P 01 24 12.5 -0.8
baz=243
L26K Log Cabin Wild 83.89 24 P P 01 24 14.1 +0.3
baz=245
E23K Chandalar 84.02 19 P P 01 24 14.4 0.0
baz=238
G24K Hadweenzic Riv 84.04 20 P P 01 24 14.5 +0.1
G24K IAmb IAmb 01 24 18.8
comp=Z,20nm,1.9s
G24K Hadweenzic Riv 84.04 20 P P 01 24 13.8 -0.6
baz=240
SCRK Sand Creek 84.05 23 P P 01 24 14.7 0.0
SCRK Sand Creek 84.05 23 P P 01 24 13.9 -0.8
baz=244
A22K Sinclair Lake 84.14 15 P P 01 24 14.7 -0.1
baz=233
PRP Porcupine Dome 84.16 22 P P 01 24 15.4 +0.1
baz=242
B22K Teshekpuk Lake 84.16 16 P P 01 24 14.6 -0.4
baz=234
QSPA South Pole Qui 84.17 180 P P 01 24 16.1 +0.8
comp=Z,0.6nm,0.3s,baz=301,slow=2.6,SNR=5.6
comp=Z,0.6nm,0.3s
D23K Nanushuk River 84.18 18 P P 01 24 15.6 +0.5
baz=237
KURBB Kurchatov Arra 84.22 322 P P 01 24 13.9 -1.7
comp=Z,1.8nm,1.0s,baz=108,slow=4.2,SNR=9.0
comp=Z,1.8nm,1.0s
M27K Edge Creek, AK 84.23 25 P P 01 24 16.7 +1.1
M27K IAmb IAmb 01 24 18.2
comp=Z,11nm,0.9s
M27K Edge Creek, AK 84.23 25 P P 01 24 15.8 +0.2
baz=246
PNL Peninsula 84.29 28 P P 01 24 16.2 +0.3
baz=248
F24K Squaw Lake 84.31 20 P P 01 24 16.8 +0.9
F24K Squaw Lake 84.31 20 P P 01 24 16.2 +0.4
baz=240,SNR=5.6
O28M Mount Upton 84.34 27 P P 01 24 16.1 -0.4
baz=248,SNR=5.5
TOLK Toolik Lake Re 84.34 18 P P 01 24 16.5 +0.5
TOLK Toolik Lake Re 84.34 18 P P 01 24 16.0 0.0
baz=238
E24K Your Creek 84.39 19 P P 01 24 16.8 +0.5
E24K Your Creek 84.39 19 P P 01 24 16.3 0.0
baz=239
H25L Birch Creek 84.41 21 P P 01 24 16.4 +0.1
baz=242
J26L Joseph Creek 84.45 23 P P 01 24 17.2 +0.5
J26L Joseph Creek 84.45 23 P P 01 24 16.9 +0.3
baz=244
L27K Beaver Creek, 84.54 25 P P 01 24 17.8 +0.7
L27K IAmb IAmb 01 24 18.8
comp=Z,5.3nm,1.1s
L27K Beaver Creek, 84.54 25 P P 01 24 17.5 +0.4
baz=246
G25K Bearman Lake 84.55 21 P P 01 24 17.9 +0.9
baz=242
BCAR Beaver Creek A 84.56 25 P P 01 24 17.5 +0.3
YUK3 Moose Creek 84.61 26 P P 01 24 17.8 +0.2
baz=247,SNR=5.8
C23K Itkillik River 84.67 17 P P 01 24 18.3 +0.7
C23K IAmb IAmb 01 24 20.7
comp=Z,5.1nm,1.1s
C23K Itkillik River 84.67 17 P P 01 24 18.3 +0.7
baz=237
YUK8 Steele Glacier 84.73 27 P P 01 24 18.7 +0.3
baz=248
K27K Chicken 84.83 24 P P 01 24 19.1 +0.6
baz=246
D24K Happy Valley 84.84 18 P P 01 24 18.0 -0.5
baz=239
I26K Coal Creek Min 84.95 22 P P 01 24 19.3 +0.3
baz=245
P29M Windy Craggy 85.06 29 P P 01 24 21.1 +1.3
P29M Windy Craggy 85.06 29 P P 01 24 20.1 +0.3
baz=250
F25K Christian Rive 85.09 20 P P 01 24 19.7 -0.1
baz=242
C24K Franklin Bluff 85.17 17 P P 01 24 20.1 0.0
baz=239
YUK6 Outpost Mounta 85.23 27 P P 01 24 20.7 -0.1
baz=249
S31K Pelican 85.25 30 P P 01 24 20.9 +0.3
baz=251
YUK4 Talbot Arm 85.25 27 P P 01 24 20.9 0.0
baz=249,SNR=7.2
E25K Arctic Village 85.37 19 P P 01 24 21.5 +0.4
baz=242
BMAR Burnt Mountain 85.38 20 P P 01 24 22.2 +0.9
G26K Porcupine Rive 85.44 21 P P 01 24 21.8 +0.3
baz=244,SNR=7.0
EGAK Eagle 85.50 23 P P 01 24 22.4 +0.6
EGAK IAmb IAmb 01 24 23.4
comp=Z,4.9nm,0.8s
EGAK Eagle 85.50 23 P P 01 24 22.3 +0.5
baz=246,SNR=5.9
HYT Haines Junctio 85.59 28 P P 01 24 22.7 +0.2
baz=250,SNR=7.8
P30M Million Dollar 85.60 28 P P 01 24 22.6 +0.1
baz=250
F26K Sheenjek River 85.65 20 P P 01 24 22.7 +0.1
baz=244
I27K Kandik River 85.66 22 P P 01 24 22.7 0.0
baz=246,SNR=7.4
PLBC Pleasant Camp 85.67 29 P P 01 24 22.8 0.0
baz=251
D25K Kavik River 85.68 18 P P 01 24 23.0 +0.3
D25K Kavik River 85.68 18 P P 01 24 22.8 +0.1
baz=241
M29M Somme Creek 85.73 26 P P 01 24 24.4 +1.2
M29M IAmb IAmb 01 24 25.6
comp=Z,6.7nm,0.8s
M29M Somme Creek 85.73 26 P P 01 24 23.2 0.0
baz=249,SNR=10
DAWY Dawson 85.93 24 P P 01 24 24.4 +0.4
DAWY IAmb IAmb 01 24 26.5
comp=Z,7.9nm,1.3s
DAWY Dawson 85.93 24 P P 01 24 24.1 0.0
baz=248
S32K Killisnoo 85.94 31 P P 01 24 25.5 +1.4
S32K IAmb IAmb 01 24 26.4
comp=Z,6.3nm,0.8s
S32K Killisnoo 85.94 31 P P 01 24 23.9 -0.2
baz=253
H27K Steamboat Moun 85.95 22 P P 01 24 24.0 -0.1
baz=246,SNR=13
N30M Aishikik Lake 85.99 27 P P 01 24 24.5 +0.1
baz=250
L29M L29M 86.11 25 P P 01 24 25.8 +0.9
L29M IAmb IAmb 01 24 27.6
comp=Z,8.9nm,0.8s
L29M L29M 86.11 25 P P 01 24 24.9 0.0
baz=249,SNR=11
CRAG Craig 86.14 33 P P 01 24 25.3 +0.2
baz=254
G27K Doyon Strip 86.14 21 P P 01 24 25.8 +0.8
G27K Doyon Strip 86.14 21 P P 01 24 25.3 +0.3
baz=246
R32K Eaglecrest 86.21 30 P P 01 24 25.5 0.0
baz=253
O30N Mendenhall 86.22 28 P P 01 24 26.6 +1.1
O30N IAmb IAmb 01 24 28.2
comp=Z,8.3nm,0.9s
O30N Mendenhall 86.22 28 P P 01 24 25.6 +0.1
baz=251,SNR=6.8
I28M Miner Creek 86.24 23 P P 01 24 26.0 +0.4
I28M Miner Creek 86.24 23 P P 01 24 25.5 -0.1
baz=248,SNR=5.6
U33K Whale Pass 86.32 33 P P 01 24 26.0 0.0
baz=254
C26K Camden Bay 86.42 18 P P 01 24 26.8 +0.5
baz=243,SNR=9.6
M30M Minto, Yukon 86.50 26 P P 01 24 26.8 0.0
baz=250
N31M Braeburn, Yuko 86.59 27 P P 01 24 29.1 +1.7
N31M Braeburn, Yuko 86.59 27 P P 01 24 27.7 +0.3
baz=252,SNR=5.5
K29M Barlow Dome 86.62 25 P P 01 24 28.4 +0.9
K29M Barlow Dome 86.62 25 P P 01 24 28.1 +0.6
baz=250,SNR=22
C27K Jago River 86.66 18 P P 01 24 27.8 +0.4
baz=244,SNR=5.3
E27K Coleen River 86.73 20 P P 01 24 28.9 +1.1
E27K IAmb IAmb 01 24 29.7
comp=Z,4.0nm,0.7s
E27K Coleen River 86.73 20 P P 01 24 28.5 +0.6
baz=246,SNR=6.6
WHY Whitehorse 86.75 28 P P 01 24 29.1 +0.9
WHY IAmb IAmb 01 24 30.7
comp=Z,6.6nm,0.9s
WHY Whitehorse 86.75 28 P P 01 24 28.4 +0.2
baz=252,SNR=7.1
WRAK Wrangell Islan 86.82 33 P P 01 24 28.9 +0.4
baz=255
I29M Ogilvie Camp, 86.84 23 P P 01 24 28.5 0.0
baz=249
V35K Ketchikan 86.93 34 P P 01 24 29.7 +0.6
baz=255
P32M Atlin 86.99 29 P P 01 24 30.4 +1.0
P32M IAmb IAmb 01 24 31.5
comp=Z,4.5nm,0.8s
P32M Atlin 86.99 29 P P 01 24 30.0 +0.7
baz=253
F28M Old Crow 87.10 21 P P 01 24 30.6 +0.9
F28M IAmb IAmb 01 24 31.3
comp=Z,3.5nm,0.8s
F28M Old Crow 87.10 21 P P 01 24 30.0 +0.3
baz=248,SNR=6.0
MAYO Mayo, Yukon 87.22 25 P P 01 24 31.5 +1.2
J30M Hart River 87.36 24 P P 01 24 32.1 +0.9
J30M Hart River 87.36 24 P P 01 24 32.0 +0.9

baz=251,SNR=19
D27M Malcolm River 87.38 19 P P 01 24 31.3 +0.2
baz=246
M31M Drury Creek, Y 87.44 27 P P 01 24 32.3 +0.8
M31M IAmb IAmb 01 24 33.0
comp=Z,6.3nm,0.8s
M31M Drury Creek, Y 87.44 27 P P 01 24 31.8 +0.4
baz=253,SNR=7.7
G29M Pine Creek 87.51 22 P P 01 24 32.4 +0.7
G29M IAmb IAmb 01 24 33.1
comp=Z,8.7nm,1.1s
G29M Pine Creek 87.51 22 P P 01 24 31.9 +0.3
baz=249,SNR=5.7
I30M Mount Dempster 87.56 24 P P 01 24 32.8 +0.7
I30M IAmb IAmb 01 24 33.5
comp=Z,5.2nm,0.9s
I30M Mount Dempster 87.56 24 P P 01 24 31.8 -0.2
baz=251,SNR=7.0
E28M Babbage River 87.60 20 P P 01 24 32.1 +0.1
baz=248
P33M Teslin, Yukon 87.60 29 P P 01 24 33.0 +0.6
P33M IAmb IAmb 01 27 18.8
comp=Z,18nm,1.9s
P33M Teslin, Yukon 87.60 29 P P 01 24 31.7 -0.6
baz=254
N32M Quiet Lake 87.74 28 P P 01 24 33.2 +0.3
baz=254
EPYK Eagle Plains 87.81 22 P P 01 24 33.6 +0.5
EPYK Eagle Plains 87.81 22 P P 01 24 33.8 +0.7
baz=250,SNR=8.7
S34M Telegraph Cree 87.84 31 P P 01 24 34.3 +0.9
S34M Telegraph Cree 87.84 31 P P 01 24 34.1 +0.7
baz=256
FARO Faro, Yukon 87.92 27 P P 01 24 34.2 +0.5
FARO Faro, Yukon 87.92 27 P P 01 24 34.8 +1.0
baz=254,SNR=11
T35M Bob Quinn 88.08 32 P P 01 24 36.0 +1.4
T35M Bob Quinn 88.08 32 P P 01 24 35.3 +0.7
baz=256
E29M Blow River 88.08 20 P P 01 24 35.1 +0.8
baz=249
G30M tAoh Zraii Nji 88.20 22 P P 01 24 35.3 +0.3
G30M IAmb IAmb 01 24 36.1
comp=Z,4.6nm,1.1s
G30M tAoh Zraii Nji 88.20 22 P P 01 24 35.9 +0.9
baz=251
R33M Jennings River 88.29 30 P P 01 24 36.5 +0.8
R33M IAmb IAmb 01 24 38.1
comp=Z,4.3nm,0.8s
R33M Jennings River 88.29 30 P P 01 24 36.1 +0.4
baz=256
DLBC Dease Lake 88.53 31 P P 01 24 37.3 +0.5
DLBC IAmb IAmb 01 24 40.0
comp=Z,8.0nm,1.2s
DLBC Dease Lake 88.53 31 P P 01 24 37.1 +0.3
baz=257
H31M Peel River 88.55 23 P P 01 24 37.2 +0.6
H31M IAmb IAmb 01 24 37.8
comp=Z,4.9nm,0.8s
H31M Peel River 88.55 23 P P 01 24 36.5 -0.2
baz=253,SNR=6.2
F30M Barrier River 88.56 21 P P 01 24 36.5 -0.1
baz=251
G31M Satah River 88.91 22 P P 01 24 38.6 +0.4
G31M Satah River 88.91 22 P P 01 24 38.6 +0.4
baz=253,SNR=7.5
MMPY Sheldon Lake, 88.96 27 P P 01 24 39.0 +0.3
MMPY IAmb IAmb 01 24 40.8
comp=Z,2.9nm,0.9s
MMPY Sheldon Lake, 88.96 27 P P 01 24 38.6 0.0
baz=256
WTLY Watson Lake, Y 89.53 29 P P 01 24 41.9 +0.6
WTLY IAmb IAmb 01 24 43.8
comp=Z,8.4nm,1.1s
WTLY Watson Lake, Y 89.53 29 P P 01 24 41.5 +0.2
baz=258
INK Inuvik 89.59 21 P P 01 24 42.0 +0.6
baz=253
BVAR Borovoye Array 89.69 323 P P 01 24 39.8 -2.4
comp=Z,1.2nm,0.6s,baz=102,slow=6.4,SNR=7.2
comp=Z,1.2nm,0.6s
TGTN Hyland Airport 90.08 28 P P 01 24 44.3 +0.4
baz=258
TOAD Toad River Com 91.07 31 P P 01 24 49.2 +0.7
baz=261
SCI2 San Clemente I 92.48 57 P P 01 24 55.1 -0.5
baz=265
A36M Sachs Harbour 93.17 18 P P 01 24 57.8 -0.2
A36M IAmb IAmb 01 24 59.3
comp=Z,2.7nm,0.8s
A36M Sachs Harbour 93.17 18 P P 01 24 58.1 +0.2
baz=261
C36M Paulatuk 93.17 21 P P 01 24 57.8 -0.1
C36M IAmb IAmb 01 24 58.3
comp=Z,4.1nm,0.8s
C36M Paulatuk 93.17 21 P P 01 24 58.1 +0.2
baz=262
MZP Montezuma Peak 93.83 53 P P 01 25 01.7 -0.4
YKA Yellowknife Ar 96.58 28 P P 01 25 13.8 +0.1
comp=Z,1.0nm,0.9s,baz=279,slow=5.1,SNR=16
comp=Z,1.0nm,0.9s
DUG Dugway, Tooele 97.50 50 P P 01 25 18.4 -0.2
baz=269
BOZ Bozeman (W) 98.42 45 P P 01 25 22.1 -0.5
baz=270
MNTX Cornudas Mount 103.57 59 P Pdif 01 25 44.6 -1.2
baz=272
RSSD Black Hills 103.89 46 P Pdif 01 25 46.3 -0.8
baz=276
BLA Blacksburg 122.86 49 P PKPdf 01 30 40.1 -0.6
baz=290
GERES GERESS Array B 124.59 328 PKP PKPdf 01 30 43.9 +0.1
comp=Z,0.5nm,0.6s,baz=338,slow=2.3,SNR=2.2
LBNH Lisbon 125.66 38 P PKPdf 01 30 44.4 -1.5
baz=302
PAL Palisades 125.98 42 P PKPdf 01 30 45.0 -1.5
baz=298
L61B Northampton 126.10 40 P PKPdf 01 30 44.7 -2.0
baz=300
HRV Adam Dziewonsk 126.79 40 P PKPdf 01 30 46.0 -2.0
baz=301
TORD Torodi Ar. Bea 150.04 286 PKPbc PKPbc 01 31 34.6 -1.2
comp=Z,2.0nm,0.7s,baz=58,slow=3.9,SNR=12

*NEIC **18** 01:30:10.1±0.9, 19°.47N±0°.02×155°.345W±0°.006, h5km±1km, Error ellipse: s-maj=3.7km s-min=2.5km az=179.0*

HVO 18 01:30:09.2±0.8**,19°.473N**±0°.010×**155°.343W**±0°.007**, h0**km±8km**, ML3.0**/48**, ML2.8**/46(NEIC)**, Error ellipse: s-maj=1.4km s-min=0.9km az=182.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLH	**Mauna Loa**	**0.05**	**297**		Pg	01 30 11.1	+1.0
RSD	**Rainshed**	**0.06**	**100**		Pg	01 30 11.5	+1.1
RSD				IAML		01 30 12.7	
	comp=E,8μm,0.4s						
SBLHI	**Steaming Bluff**	**0.08**	**123**		Pg	01 30 11.7	+0.9
SBLHI	**Steaming Bluff**	**0.08**	**123**		Sg	01 30 13.9	+2.0
HATHI	**Halema'uma'u T**	**0.09**	**123**		Pg	01 30 11.9	+0.9
HATHI	**Halema'uma'u T**	**0.09**	**123**		Sg	01 30 14.1	+2.0
HATHI	**Halema'uma'u T**	**0.09**	**123**	IAML		01 30 14.1	
	comp=N,4μm,0.2s						
SDHHI	**Sand Hill**	**0.10**	**151**		Pg	01 30 11.9	+0.9
SDHHI				IAML		01 30 14.0	
	comp=N,9μm,0.5s						
SDHHI				IAML		01 30 14.3	
	comp=E,7μm,0.2s						
RIM	**Rim**	**0.10**	**140**		Pg	01 30 12.3	+1.2
RIM	**Rim**	**0.10**	**140**		Sg	01 30 14.6	+2.1
KKO	**Keanakako`i**	**0.10**	**136**		Pg	01 30 12.3	+1.2
KKO	**Keanakako`i**	**0.10**	**136**	IAML		01 30 14.6	
	comp=N,5μm,0.8s						
KKO				IAML		01 30 14.6	
	comp=E,3μm,0.5s						
KKO	**Keanakako`i**	**0.10**	**136**		Sg	01 30 14.6	+2.0
PUH	**Pauahi**	**0.15**	**130**		Pg	01 30 13.0	+0.9
PUH					Sg	01 30 15.8	+1.7
PUH	**Pauahi**	**0.15**	**130**	IAML		01 30 16.2	
	comp=E,2μm,0.4s						
PUH				IAML		01 30 16.4	
	comp=N,3μm,0.7s						
HLP	**Hilina Pali**	**0.18**	**169**		Pg	01 30 13.6	+1.0
HLP					Sg	01 30 16.5	+1.5
HLP	**Hilina Pali**	**0.18**	**169**	IAML		01 30 18.0	
	comp=E,5μm,0.4s						
HLP				IAML		01 30 18.1	
	comp=N,4μm,0.3s						
HMH	**Humu'ula Sheep**	**0.18**	**314**		Pg	01 30 14.0	+1.2
HMH					Sg	01 30 17.4	+2.3
HMH	**Humu'ula Sheep**	**0.18**	**314**	IAML		01 30 17.9	
	comp=E,2μm,0.5s						
HMH				IAML		01 30 18.2	
	comp=N,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.19**	**120**		Pg	01 30 13.1	+0.3
STCH	**Steam Cracks**	**0.22**	**113**		Pg	01 30 14.2	+0.8
STCH				IAML		01 30 18.2	
	comp=E,1μm,0.7s						
STCH				IAML		01 30 20.4	
	comp=N,2μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.23**	**286**		Pg	01 30 14.4	+0.8
MLOA				IAML		01 30 21.3	
	comp=N,2μm,0.6s						
MLOA				IAML		01 30 21.6	
	comp=E,2μm,0.8s						
NPOC	**North of Pu'u**	**0.23**	**110**		Pg	01 30 14.4	+0.7
NPOC				IAML		01 30 18.7	
	comp=N,2μm,0.4s						
NPOC				IAML		01 30 21.4	
	comp=E,2μm,0.5s						
JCUZ	**Jacuzzi**	**0.24**	**111**		Pg	01 30 14.6	+0.8
JCUZ				IAML		01 30 21.7	
	comp=E,2μm,0.6s						
ALEP	**Alea Permanent**	**0.29**	**283**		Pg	01 30 15.4	+0.7
ALEP					Sg	01 30 20.1	+1.5
JOKA	**Jonika Flow**	**0.32**	**97**		Pg	01 30 15.9	+0.6
JOKA	**Jonika Flow**	**0.32**	**97**	IAML		01 30 24.6	
	comp=N,2μm,0.4s						
JOKA				IAML		01 30 25.6	
	comp=E,2μm,0.3s						
POHA	**Pohakuloa**	**0.34**	**328**		Pg	01 30 16.0	+0.4
POHA				IAML		01 30 26.0	
	comp=E,1μm,0.5s						
POHA				IAML		01 30 26.9	
	comp=E,2μm,0.8s						
HUH	**Hualalai**	**0.51**	**294**		Pb	01 30 20.1	-1.1

*NEIC **18** 01:33:15.1±1.3, 19°.38N±0°.03×154°.94W±0°.03, h5km±1km, Error ellipse: s-maj=6.4km s-min=2.9km az=323.0*

HVO 18 01:33:14.0±1.2**,19°.37N**±0°.02×**154°.867W**±0°.009**, h7**km±5km**, ML2.9**/10**, ML3.1**/38(NEIC)**, Error ellipse: s-maj=3.7km s-min=0.9km az=165.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.12**	**349**		Pg	01 33 16.9	+0.3
PHO					Sg	01 33 19.5	+1.2
PHO	**Puu Honuaula**	**0.12**	**349**	Pg	Pg	01 33 16.7	+0.2
JOKA	**Jonika Flow**	**0.15**	**297**		Pg	01 33 16.8	-0.3
JOKA	**Jonika Flow**	**0.15**	**297**	IAML		01 33 19.3	
	comp=N,9μm,0.6s						
JOKA				IAML		01 33 20.5	
	comp=E,5μm,0.4s						
PAH	**Pahoa**	**0.15**	**329**		Pg	01 33 17.1	0.0
JCUZ	**Jacuzzi**	**0.22**	**275**		Pg	01 33 18.1	-0.4
JCUZ				IAML		01 33 25.5	
	comp=N,4μm,0.5s						
JCUZ				IAML		01 33 26.2	
	comp=E,3μm,0.2s						
NPOC	**North of Pu'u**	**0.23**	**277**		Pg	01 33 18.4	-0.3
NPOC				IAML		01 33 25.2	
	comp=E,3μm,0.4s						
NPOC				IAML		01 33 26.3	
	comp=N,3μm,0.6s						
STCH	**Steam Cracks**	**0.24**	**274**		Pg	01 33 18.6	-0.3
STCH				IAML		01 33 24.0	
	comp=E,3μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.29**	**273**		Pg	01 33 19.6	-0.1
PUH	**Pauahi**	**0.33**	**271**	Pg	Pg	01 33 20.2	-0.3
PUH				IAML		01 33 29.5	
	comp=N,2μm,0.3s						
BYL	**Byron's Ledge**	**0.37**	**277**		Sg	01 33 26.0	-0.3
HATHI	**Halema'uma'u T**	**0.38**	**279**		Sg	01 33 26.1	-0.3
KKO	**Keanakako`i**	**0.38**	**275**		Pg	01 33 21.6	+0.1
KKO					Sg	01 33 26.8	+0.4
KKO	**Keanakako`i**	**0.38**	**275**	IAML		01 33 32.6	
	comp=E,3μm,1.1s						
SBLHI	**Steaming Bluff**	**0.38**	**279**		Sg	01 33 26.5	-0.1
RIM	**Rim**	**0.39**	**274**		Pg	01 33 21.5	-0.1
RIM	**Rim**	**0.39**	**274**	IAML		01 33 31.9	
	comp=E,3μm,1.1s						
RSD	**Rainshed**	**0.40**	**284**		Pg	01 33 21.9	0.0
RSD	**Rainshed**	**0.40**	**284**	IAML		01 33 27.9	
	comp=E,3μm,0.3s						
RSD				IAML		01 33 28.1	
	comp=N,4μm,0.3s						
UWE	**Uwekahuna**	**0.41**	**278**		Pg	01 33 21.8	-0.2
UWE					Sg	01 33 27.8	+0.5
UWE	**Uwekahuna**	**0.41**	**278**	IAML		01 33 28.1	
	comp=N,5μm,1.1s						
UWE				IAML		01 33 28.1	
	comp=E,4μm,0.6s						
HLP	**Hilina Pali**	**0.42**	**260**		Pg	01 33 21.9	-0.3
HLP	**Hilina Pali**	**0.42**	**260**	IAML		01 33 28.6	
	comp=N,2μm,0.4s						
HLP				IAML		01 33 34.8	
	comp=E,2μm,0.8s						
MLH	**Mauna Loa**	**0.51**	**285**		Pg	01 33 23.5	-0.3
MLH	**Mauna Loa**	**0.51**	**285**	IAML		01 33 32.0	
	comp=E,1μm,0.2s						
MLH				IAML		01 33 32.1	
	comp=N,2μm,0.1s						
HMH	**Humu'ula Sheep**	**0.63**	**292**		Pg	01 33 25.6	-0.5
MLOA	**Mauna Loa Obse**	**0.69**	**284**		Sg	01 33 35.0	-1.4
MWH	**Moku'aweowe**	**0.70**	**280**	Pg	Pg	01 33 26.7	-0.9
MWH				IAML		01 33 45.5	
	comp=E,1μm,1.3s						
MWH				IAML		01 33 45.7	
	comp=N,1μm,0.6s						
KHU	**Kahuku**	**0.72**	**260**		Pg	01 33 26.7	-1.2
KHU					Sg	01 33 37.1	-0.1
ALEP	**Alea Permanent**	**0.75**	**283**		Pg	01 33 26.7	-1.8
HUH	**Hualalai**	**0.97**	**289**		Pg	01 33 32.7	+0.1

*IDC **18** 01:33:56.0±1.2, 36°.84N×141°.34E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=26.3km s-min=18.2km az=172.0*

*JMA **18** 01:33:59.3±0.1, 36°.9N±0°.3×141°.4E±0°.6, h32km, MV3.7/32, E OFF FUKUSHIMA PREF*

JMA Felt I J1 at E OFF FUKUSHIMA PREF .

*NIED **18** 01:33:59.3, 36°.94N×141°.35E, h32km, MW3.5, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr-1.78; Mθθ 0.31; Mϕϕ 1.47; Mrθ 0.45; Mθϕ 1.12; Mϕr 0.70; Fault plane solution: M₀2.14000×10¹⁴ NP1: ϕs212.00000°, δ56.00000°, λ-89.00000°. NP2:ϕs31.00000°, δ34.00000°, λ-91.00000°.*

ISC 18 01:34:00.8±1.1**,36°.98N**±0°.06×**141°.25E**±0°.09**, h33**km**, n19, σ1s09/17, mb3.6/6, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.38**	**289**	*eP*	**Pb**	**01 34 08.9**	**-0.8**
ONAJ				*eS*	**Sb**	**01 34 16.0**	**+0.2**
JFK	**Kawauchi**	**0.49**	**322**	*eP*	**Pn**	**01 34 10.5**	**-1.1**
JFK				*eS*	**Sb**	**01 34 18.4**	**-0.1**
JFFD	**Fukushimafurud**	**0.56**	**282**	P	**Pn**	**01 34 11.7**	**-0.8**
JFFD				*eS*	**Sn**	**01 34 20.5**	**-0.2**
JHO	**Hitachi**	**0.66**	**236**	*eP*	**Pb**	**01 34 12.6**	**-1.3**
JHO				*eS*	**Sn**	**01 34 22.4**	**-0.7**
JOTO	**OTAMA OYAMA**	**0.93**	**309**	P	**Pb**	**01 34 18.3**	**-0.3**
JMM	**Marumori**	**0.96**	**338**	*eP*	**Pn**	**01 34 17.4**	**-0.6**
MJAR	**Matsushiro Arr**	**2.48**	**261**	Pg	**Pn**	**01 34 40.8**	**+1.8**
	0.6nm,0.3s,baz=88,slow=16,SNR=9.2			Lg	Lg	01 35 16.4	
MJAR							
	1.2nm,0.3s,baz=85,slow=11,SNR=6.0						
H11N2	**WAKE ISLAND Hy 28.23**	**120**		T	T	02 09 15.3	
	baz=313,slow=75,SNR=143						
H11N1	**WAKE ISLAND Hy 28.24**	**121**		T	T	02 09 16.0	
	baz=313,slow=75,SNR=156						
H11N3	**WAKE ISLAND Hy 28.25**	**120**		T	T	02 09 16.7	
	baz=313,slow=75,SNR=110						
H11S1	**WAKE ISLAND Hy 28.94**	**123**		T	T	02 10 09.5	
	baz=315,slow=75,SNR=88						
H11S3	**WAKE ISLAND Hy 28.94**	**123**		T	T	02 10 09.7	
	baz=315,slow=75,SNR=88						
H11S2	**WAKE ISLAND Hy 28.95**	**123**		T	T	02 10 09.2	
	baz=315,slow=75,SNR=52						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**01 41 47.8**	**+0.3**
	0.4nm,0.3s,baz=77,slow=9.0,SNR=1.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**44.04**	**302**	P	**P**	**01 42 06.3**	**+1.0**
	0.3nm,0.6s,baz=89,slow=11,SNR=3.4						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**45.93**	**308**	P	**P**	**01 42 22.1**	**+1.9**
	0.7nm,0.7s,baz=84,slow=8.4,SNR=5.9						
	0.7nm,0.7s						
ILAR	**Eielson Array**	**49.61**	**32**	P	**P**	**01 42 49.3**	**+0.8**
	0.4nm,0.8s,baz=277,slow=7.8,SNR=4.6						
	0.4nm,0.8s						
WRA	**Warramunga Arr**	**56.99**	**188**	P	**P**	**01 43 41.6**	**-1.6**
	0.4nm,0.6s,baz=4.2,slow=7.3,SNR=1.6						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**60.72**	**188**	P	**P**	**01 44 09.4**	**+0.3**
	0.2nm,0.4s,baz=16,slow=11,SNR=1.9						
	0.2nm,0.4s						

IDC 18 01:35:17.2±3.7**,16°.95S**×**169°.01E, h0km, mb4.0**/4**, mbtmp4.0**/5**, ML4.2**/1**, Error ellipse: s-maj=75.3km s-min=40.2km az=29.0, Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**5.64**	**205**	Pn	Pn	01 36 42.4	-0.1
	6.7nm,0.3s,baz=62,slow=18,SNR=31						
DZM				Sn	Sn	01 37 34.8	-13
	7.3nm,0.3s,baz=315,slow=23,SNR=19						
	17nm,0.4s						
STKA	**Stephens Creek**	**28.94**	**234**	P	P	01 41 18.8	+0.4
	0.6nm,0.3s,baz=82,slow=7.1,SNR=2.9						
	0.6nm,0.3s						
WRA	**Warramunga Arr**	**32.99**	**259**	P	P	01 41 54.0	-0.2
	0.7nm,0.9s,baz=91,slow=9.4,SNR=4.7						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**33.53**	**253**	P	P	01 41 58.7	-0.2
	1.3nm,0.6s,baz=80,slow=9.1,SNR=16						
	1.3nm,0.6s						
QSPA	**South Pole Qui**	**73.09**	**180**	P	P	01 46 49.3	0.0
	3.0nm,0.9s,baz=52,slow=4.8,SNR=8.7						
	3.0nm,0.9s						

*RSPR **18** 01:38:45.1, 18°.00N×68°.02W, h61km±4km, MD2.9/3*

NEIC 18 01:38:44.4±0.7**,18°.0N**±0°.3×**68°.03W**±0°.06**, h62**km±26km**, ML2.1**/8**, Md2.9**/3(RSPR)**, 1C-2D, Error ellipse: s-maj=47.7km s-min=3.8km az=188.0, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.62**	**327**	⇓*eP*	Pn	01 38 57.5	-0.4
PCDR	**Punta Cana, DR**	**0.62**	**327**	*eS*	Sn	01 39 07.8	+0.1
PCDR	**Punta Cana, DR**	**0.62**	**327**		Pn	01 38 57.5	-0.4
PCDR	**Punta Cana, DR**	**0.62**	**327**		Sn	01 39 07.8	+0.1
CRPR	**Cabo Rojo, PR**	**0.87**	**89**	⇑*eP*	Pn	01 39 01.1	+0.2
CRPR	**Cabo Rojo, PR**	**0.87**	**89**	*eS*	Sn	01 39 12.7	-0.4
CRPR	**Cabo Rojo, PR**	**0.87**	**89**		Pn	01 39 01.1	+0.2
CRPR					Sn	01 39 12.7	-0.4
CRPR	**Cabo Rojo, PR**	**0.87**	**89**	IAML		01 39 38.1	
	comp=E,44nm,2.7s						
AOPR	**Arecibo Observ**	**1.26**	**73**	Pn	Pn	01 39 06.1	+0.1
AOPR				IAML		01 39 28.6	
	comp=N,44nm,1.9s						
AOPR				IAML		01 39 51.7	
	comp=E,36nm,2.0s						
CELP	**Cerrillos**	**1.38**	**86**	⇓*eP*	Pn	01 39 07.3	-0.2
CELP	**Cerrillos**	**1.38**	**86**	*eS*	Sn	01 39 24.7	-0.2
CELP	**Cerrillos**	**1.38**	**86**		Pn	01 39 07.3	-0.2
CELP					Sn	01 39 24.7	-0.2
CELP	**Cerrillos**	**1.38**	**86**	IAML		01 39 35.9	
	comp=N,26nm,2.8s						

SDD 18 01:39:12.6±2.1**,17°.99N**×**66°.97W, h3**km±32km**, MD2.2, ML1.2, MW1.5, 9C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLPR	**Magueyes Islan**	**0.08**	**257**	⇑*eSg*	Sg	01 39 14.4	-0.8
MLPR				⇑*ePg*	Pg	01 39 15.4	+1.2
MLPR				IAML		01 39 24.7	
	comp=N,32nm,2.0s						
CRPR	**Cabo Rojo, PR**	**0.14**	**278**	⇑*ePg*	Pg	01 39 14.8	-0.6
CRPR				IAML		01 39 16.0	
	comp=E,49nm,2.3s						
CRPR				IAML		01 39 38.9	
	comp=N,52nm,2.5s						
CELP	**Cerrillos**	**0.38**	**77**	⇑*ePg*	Pg	01 39 18.1	-1.8
CELP				⇑*eSg*	Sg	01 39 25.4	+0.6
CELP				IAML		01 39 35.2	
	comp=N,25nm,2.7s						
AOPR	**Arecibo Observ**	**0.41**	**29**	⇑*ePg*	Pg	01 39 19.4	-1.1
AOPR				⇑*eSg*	Sg	01 39 25.7	-0.2
AOPR				IAML		01 39 27.8	
	comp=N,40nm,2.5s						
HIDR	**Higuey Centro**	**1.77**	**290**	⇑*ePg*	Pg	01 39 44.8	+0.7
HIDR				⇑*eSg*	Sn	01 40 07.7	+0.5
HIDR				IAML		01 40 31.3	
	comp=N,45nm,0.9s						

*IDC **18** 01:45:28.7±0.3, 34°.71S×178°.53W, h0km, mb5.6/19, mbtmp5.5/22, ML4.7/3, MS5.7/52, Error ellipse: s-maj=11.9km s-min=10.6km az=160.0*

*BJI **18** 01:45:29.5±0.0, 34°.55S×178°.45W, h10km, mb5.8/67, mB6.3/75, Ms5.9/86, Ms7 5.7/83*

*WEL **18** 01:45:29.6±0.7, 35°.S±4°×17°.8W±°, h10km, M5.9/28, mB6.2/19, ML6.3/27, MLv6.1/28, Mw(mB)5.8/19, Error ellipse: s-maj=0.0km s-min=0.0km az=114.9, confirmed*

*MOS **18** 01:45:29.7±1.4, 34°.63S×178°.49W, h10km, mb6.1/47, MS5.8/43, Error ellipse: s-maj=10.8km s-min=8.5km az=107.4*

*NEIC **18** 01:45:31.7, 34°.52S×178°.39W, h20km*

*IPGP **18** 01:45:31.0, 34°.55S×178°.42W, h13km, Mw6.1, Fault plane solution: NP1:ϕs164.00000°, δ50.00000°, λ-112.00000°. NP2:ϕs17.00000°, δ45.00000°, λ-65.00000°.*

*NEIC **18** 01:45:31.5±1.7, 34°.59S±0°.06×178°.41W±0°.10, h11km±1km, mb5.9/402, Ms_20 5.9/744, Mwb5.9/51, Mww6.1/58, Error ellipse: s-maj=14.3km s-min=10.1km az=113.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁷Nm; Mrr-6.92; Mθθ-1.45; Mϕϕ 8.37; Mrθ-2.99; Mθϕ 0.13; Mϕr 2.60; Fault plane solution: M₀8.70000×10¹⁷ NP1:ϕs22.43000°, δ40.11000°, λ-54.57000°. NP2:ϕs159.50000°, δ58.34000°, λ-116.03000°. Principal axes: T 8.8118, Plg10.0000°, Azm268.0000°; N -0.2231, Plg22.0000°, Azm174.0000°; P -8.5886, Plg66.0000°, Azm20.0000°;*

*NEIC **18** 01:45:31.3, 34°.59S×178°.41W, h10km*

*NEIC **18** 01:45:31.7, 34°.82S×177°.90W, h20km, Moment Tensor Solution. Duration: 6s3 Moment tensor: Scale 10¹⁸Nm; Mrr-1.85; Mθθ-0.07; Mϕϕ 1.93; Mrθ-0.14; Mθϕ 0.17; Mϕr-0.40; Fault plane solution: M₀1.94000×10¹⁸ NP1:ϕs8.23000°, δ51.27000°, λ-85.63000°. NP2:ϕs181.26000°, δ38.93000°, λ-95.43000°. Principal axes: T 1.9855, Plg6.0000°, Azm95.0000°; N -0.0819, Plg3.0000°, Azm185.0000°; P -1.9036, Plg83.0000°, Azm304.0000°;*

*NOU **18** 01:45:32.5, 34°.81S×178°.14W, h19km, ML6.1/175, South of Kermadec Islands*

*GCMT **18** 01:45:36.5±0.0, 34°.67S×178°.21W, h14km, MW6.1/170, Moment Tensor Solution. s169,c373; s170,c658; Duration: 2s6 Moment tensor: Scale 10¹⁸Nm; Mrr-1.37±.01; Mθθ-0.30±.01; Mϕϕ 1.67±.01; Mrθ-0.32±.02; Mθϕ 0.14±.01; Mϕr-0.14±.01; Best double couple: M₀1.57600×10¹⁸ NP1:ϕs19.00000°, δ50.00000°, λ-70.00000°. NP2:ϕs169.00000°, δ44.00000°, λ-112.00000°. Principal axes: T 1.6890, Plg3.0000°, Azm95.0000°; N -0.2240, Plg15.0000°, Azm185.0000°; P -1.4630, Plg75.0000°, Azm353.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s. Triangular moment-rate function*

ISC 18 01:45:33.0±0.3**,34°.65S**±0°.03×**178°.33W**±0°.03**, h23**km±1km**, h23**km**:pP-P, n2314,** σ1**961**/2077**, mb5.9**/309**, MS5.9**/445**, 77C-179D, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.98**	**222**	P	**Pn**	**01 46 31.4**	**-1.2**

MXZ	Matakaoa Point	3.98 222		Pn	01 46 30.5	-2.1		
MXZ	Matakaoa Point	3.98 222	P	Pn	01 46 30.2	-2.4		
MXZ			S	Sn	01 47 17.7	-0.9		
TDHS	Te Araroa Dist	4.00 221	P	Pn	01 46 31.5	-1.3		
WMGZ	Waiomatatini S	4.12 219	P	Pn	01 46 33.4	-1.0		
WMGZ			S	Sn	01 47 23.5	+1.6		
PKGZ	Pakihiroa	4.34 221	P	Pn	01 46 35.5	-2.2		
PKGZ			S	Sn	01 47 26.5	-1.1		
PUZ	Puketiti	4.39 218	P	Pn	01 46 35.6	-2.6		
PUZ			S	Sn	01 47 26.7	-1.9		
HAZ	Te Kaha	4.42 224	P	Pn	01 46 37.7	-0.8		
HAZ			S	Sn	01 47 30.2	+1.0		
TWGZ	Tauwhareparae	4.61 219	P	Pn	01 46 39.7	-1.6		
TWGZ			S	Sn	01 47 33.5	-0.6		
RUGZ	Raukumara Rang	4.62 223	P	Pn	01 46 42.3	+0.8		
RUGZ			S	Sn	01 47 35.0	+0.5		
WIZ	White Island	4.63 230	P	Pn	01 46 43.1	+1.7		
WIZ			S	Sn	01 47 31.7	-2.7		
CNGZ	Carnagh Statio	4.74 215	P	Pn	01 46 40.8	-2.1		
CNGZ			S	Sn	01 47 37.2	0.0		
WHRZ	Whale Island	4.96 228	P	Pn	01 46 46.9	+0.8		
WHRZ			S	Sn	01 47 43.2	+0.4		
MWZ	Matawai	4.97 221	P	Pn	01 46 44.8	-1.3		
MWZ			S	Sn	01 47 41.4	-1.5		
RIGZ	Rimuhau	5.12 217	P	Pn	01 46 46.2	-2.1		
RIGZ			S	Sn	01 47 44.6	-2.2		
RAGZ	Rawiri	5.14 220	P	Pn	01 46 47.3	-1.3		
URZ	Urewera	5.15 224	P	Pn	01 46 48.0	-0.6		
URZ	Urewera	5.15 224	⇓P	Pn	01 46 46.3	-2.2		
URZ	Urewera	5.15 224	Pn	Pn	01 46 46.2	-2.4		
	111nm,0.3s,baz=121,slow=4.3,SNR=146							
URZ			Sn	Sn	01 47 45.4	-1.9		
	687nm,0.3s,baz=249,slow=23,SNR=2.6							
	730nm,0.5s							
URZ	Urewera	5.15 224	P	Pn	01 46 46.5	-2.0		
URZ			S	Sn	01 47 45.5	-1.7		
OPRZ	Ohinepanea	5.22 231	P	Pn	01 46 48.8	-0.8		
OPRZ			S	Sn	01 47 46.3	-2.8		
MARZ	Manawahe	5.23 229	P	Pn	01 46 50.2	+0.5		
MARZ			S	Sn	01 47 48.3	-1.1		
PRGZ	Paritu Road	5.24 214	P	Pn	01 46 47.2	-2.7		
EDRZ	Edgecumbe	5.27 228	P	Pn	01 46 51.3	+1.0		
EDRZ			S	Sn	01 47 47.3	-3.1		
KUZ	Kuaotunu	5.27 245	P	Pn	01 46 50.9	+0.6		
TGRZ	Tauranga	5.35 233	P	Pn	01 46 51.0	-0.4		
GLKZ	Green Lake	5.38 4	P	Pn	01 46 47.4	-4.4		
GLKZ			S	Sn	01 47 45.2	-7.9		
RAO	Raoul Island	5.39 4	P	Pn	01 46 51.5	-0.5		
RAO	Raoul Island	5.39 4		Pn	01 46 47.7	-4.3		
RAO	Raoul Island	5.39 4	⇑P	Pn	01 46 48.4	-3.6		
RAO	Raoul Island	5.39 4	Pn	Pn	01 46 49.2	-2.8		
	344nm,0.3s,baz=235,slow=20,SNR=12							
RAO			Sn	Sn	01 47 49.3	-4.0		
	3µm,0.3s,baz=113,slow=23,SNR=9.0							
RAO			LR	LR	01 49 01.0			
	comp=Z,57µm,19.1s,baz=164,slow=39							
RAO	Raoul Island	5.39 4	P	Pn	01 46 47.7	-4.3		
SNGZ	Shannon Statio	5.40 219	P	Pn	01 46 52.5	+0.4		
SNGZ			S	Sn	01 47 52.9	-0.5		
RIZ	Raoul Island	5.40 4	P	Pn	01 46 47.8	-4.2		
RIZ			S	Sn	01 47 47.8	-5.7		
MHGZ	Mahia Peninsul	5.41 213	P	Pn	01 46 49.2	-3.1		
MHGZ			S	Sn	01 47 52.0	-1.8		
KNZ	Kokohu	5.42 215	P	Pn	01 46 49.4	-2.8		
KNZ			S	Sn	01 47 50.2	-3.7		
RTZ	Ruatahuna	5.47 222		Pn	01 46 50.9	-2.2		
RTZ	Ruatahuna	5.47 222	P	Pn	01 46 53.4	+0.3		
RTZ			S	Sn	01 47 54.5	-0.8		
TARZ	Mount Tarawera	5.49 228	P	Pn	01 46 54.5	+1.1		
MUGZ	Murupara	5.49 224	P	Pn	01 46 50.9	-2.4		
MUGZ			S	Sn	01 47 54.3	-1.4		
OMRZ	Omania	5.49 230	P	Pn	01 46 53.4	0.0		
KARZ	Kaharoa	5.52 231	P	Pn	01 46 53.8	0.0		
RRRZ	Republican Roa	5.55 227	P	Pn	01 46 54.4	+0.2		
HLRZ	Highlands Stat	5.59 228	P	Pn	01 46 56.3	+1.5		
NGRZ	Ngongotaha	5.61 230	P	Pn	01 46 57.6	+2.6		
KMRZ	Kaimai	5.62 234	P	Pn	01 46 55.5	+0.3		
RAHZ	Arahi	5.63 219	P	Pn	01 46 53.4	-1.8		
WHHZ	Waihua	5.67 218	P	Pn	01 46 54.5	-1.4		
HSRZ	Hossack Road	5.70 229	P	Pn	01 46 56.0	-0.2		
MTHZ	Maungataniwha	5.71 221	P	Pn	01 46 54.4	-2.0		
HRRZ	Handcock Road	5.72 228	P	Pn	01 46 56.2	-0.3		
PRRZ	Plateau Road	5.73 226	P	Pn	01 46 55.4	-1.2		
WIAZ	Waiheke Island	5.73 246	P	Pn	01 46 57.8	+1.1		
ALRZ	Allen Road	5.80 226	P	Pn	01 46 57.9	+0.4		
ALRZ			S	Sn	01 48 01.0	-2.3		
GRRZ	Galatos Road	5.80 229	P	Pn	01 46 58.9	+1.2		
MKAZ	Moumakai	5.83 243	P	Pn	01 46 58.2	+0.3		
WPRZ	Whakapapatarin	5.88 227	P	Pn	01 46 59.5	+0.8		
ABAZ	Army Bay	5.90 249	P	Pn	01 47 00.7	+1.8		
MBAZ	Motutapu North	5.90 247	P	Pn	01 47 01.3	+2.4		
NMAZ	Naumai	5.91 220	P	Pn	01 46 57.0	-2.1		
ARHZ	Aropaoanui	5.93 218	P	Pn	01 46 56.8	-2.6		
MRHZ	Matea Rd	5.94 224	P	Pn	01 46 58.3	-1.2		
ETAZ	East Tamaki Re	5.94 245	P	Pn	01 47 02.2	+2.7		
KBAZ	Karaka Road Bo	6.02 244	P	Pn	01 47 03.7	+3.1		
HBAZ	Herne Bay Bore	6.06 247	P	Pn	01 47 04.0	+2.9		
KUTZ	Kaahu Road	6.07 229	P	Pn	01 47 01.8	+0.6		
WHTZ	Whakaora	6.10 227	P	Pn	01 47 02.7	+1.0		
BKZ	Black Stump Fm	6.13 221	P	Pn	01 47 02.1	0.0		
BKZ	Black Stump Fm	6.13 221	Pn	Pn	01 47 00.1	-2.0		
BKZ	Black Stump Fm	6.13 221	P	Pn	01 46 59.8	-2.3		
BKZ			S	Sn	01 48 09.4	-2.0		
WCZ	Waipu Caves	6.13 256	P	Pn	01 47 02.5	+0.4		
RVAZ	Riverhead Bore	6.14 248	P	Pn	01 47 04.0	+1.7		
TLZ	Tolley Road	6.16 232	P	Pn	01 47 03.7	+1.2		
HATZ	Hinemaiaia	6.16 225	P	Pn	01 47 02.8	+0.2		
AWAZ	Awhitu Peninsu	6.20 245	P	Pn	01 47 05.2	+2.2		
CKHZ	Cape Kidnapper	6.20 215	P	Pn	01 46 59.4	-3.7		
WTAZ	Waiatarua	6.20 246	P	Pn	01 47 04.9	+1.8		
MCHZ	McNeill Hill	6.22 218	P	Pn	01 47 00.7	-2.6		
WATZ	Wairara	6.26 228	P	Pn	01 47 04.4	+0.5		
RATZ	Rangitukua	6.33 227	P	Pn	01 47 05.2	+0.2		
KWHZ	Kaweka Forest	6.35 220	P	Pn	01 47 04.0	-1.2		
KWHZ			S	Sn	01 48 14.9	-2.2		
RITZ	Rihia Road	6.36 225	P	Pn	01 47 06.1	+0.9		
RITZ			S	Sn	01 48 15.8	-1.3		
KAHZ	Kahuranaki	6.40 215	P	Pn	01 47 01.9	-3.9		
KAHZ			S	Sn	01 48 14.3	-4.0		
KATZ	Kakaramea	6.45 226	P	Pn	01 47 10.2	+3.6		
TMVZ	Te Maari	6.54 225	P	Pn	01 47 07.4	-0.4		
TMVZ			S	Sn	01 48 17.3	-4.4		
KRHZ	Kereru	6.54 219	P	Pn	01 47 04.4	-3.3		
KRHZ			S	Sn	01 48 18.2	-3.4		
NTVZ	North Tongarir	6.54 225	P	Pn	01 47 07.7	-0.1		
NTVZ			S	Sn	01 48 20.1	-1.8		
ETVZ	East Tongariro	6.55 225	P	Pn	01 47 05.6	-2.4		
ETVZ			S	Sn	01 48 18.7	-3.2		
KRVZ	Karewarewa	6.56 226	P	Pn	01 47 08.0	-0.1		
BHHZ	Black Hill Sta	6.59 221	P	Pn	01 47 06.0	-2.5		
BHHZ			S	Sn	01 48 17.1	-5.8		
PXZ	Pawanui	6.60 214	P	Pn	01 47 04.5	-4.0		
PXZ			S	Sn	01 48 18.9	-4.1		
NNVZ	North Ngauruho	6.60 226	P	Pn	01 47 07.6	-1.1		
WTVZ	West Tongariro	6.60 226	P	Pn	01 47 08.7	0.0		
WTVZ			S	Sn	01 48 22.2	-1.2		
SNVZ	South Ngauruho	6.62 225	P	Pn	01 47 08.9	-0.1		
SNVZ			S	Sn	01 48 20.6	-3.2		
NGZ	Ngauruhoe	6.64 225	P	Pn	01 47 08.7	-0.5		
OUZ	Omahuta	6.66 263	P	Pn	01 47 10.1	+0.7		
OUZ	Omahuta	6.66 263	⇑P	Pn	01 47 10.0	+0.7		
OUZ	Omahuta	6.66 263	P	Pn	01 47 09.6	+0.3		
TWVZ	Taurewa	6.67 227	P	Pn	01 47 08.5	-1.1		
TUVZ	Tuhino	6.67 224	P	Pn	01 47 08.1	-1.5		
COVZ	Chateau Observ	6.69 225	P	Pn	01 47 09.7	-0.2		
HIZ	Hauiti	6.70 233	P	Pn	01 47 10.0	0.0		
HIZ	Hauiti	6.70 233	P	Pn	01 47 11.1	+1.1		
MOVZ	Moawhango	6.70 223	P	Pn	01 47 07.7	-2.3		
WHVZ	Whangaehu Hut	6.71 225	P	Pn	01 47 09.9	-0.4		
FWVZ	Far West T-bar	6.72 225	P	Pn	01 47 09.8	-0.5		
MAVZ	Matarangi	6.72 225	P	Pn	01 47 09.6	-0.9		
WNVZ	Wahianoa	6.74 224	P	Pn	01 47 08.4	-2.2		
TRVZ	Turoa	6.75 225	P	Pn	01 47 09.2	-1.6		
WPHZ	Waipukurau	6.82 216	P	Pn	01 47 07.7	-3.9		
PNHZ	Pukenui	6.83 218	P	Pn	01 47 07.4	-4.3		
MTVZ	Mangateitei	6.85 225	P	Pn	01 47 11.9	-0.2		
PKVZ	Pokaka	6.86 226	P	Pn	01 47 11.8	-0.4		
PRHZ	Porangahau	6.89 214	P	Pn	01 47 09.1	-3.4		
TSZ	Takapari Road	7.06 218	P	Pn	01 47 12.4	-2.5		
VRZ	Vera Road	7.12 229	P	Pn	01 47 16.0	+0.4		
ANWZ	Angora Road	7.12 214	P	Pn	01 47 13.7	-2.0		
DVHZ	Dannevirke	7.14 216	P	Pn	01 47 14.3	-1.6		
WAZ	Wanganui	7.38 224	P	Pn	01 47 18.3	-0.9		
BFZ	Birch Farm	7.40 214	P	Pn	01 47 17.1	-2.4		
POWZ	Post Office Ro	7.41 218	P	Pn	01 47 16.7	-2.9		
PRWZ	Pori Road	7.43 216	P	Pn	01 47 17.0	-3.0		
CPWZ	Castlepoint	7.60 213	P	Pn	01 47 19.7	-2.6		
TIWZ	Tintock	7.64 215	P	Pn	01 47 21.3	-1.5		
KHEZ	Kahui Hut	7.68 231	P	Pn	01 47 24.9	+1.4		
MRZ	Mangatainoka R	7.70 217	P	Pn	01 47 20.0	-3.7		
SNZO	South Karori	8.63 218	P	Pn	01 47 34.8	-1.5		
SNZO	South Karori	8.63 218		Pn	01 47 33.3	-3.0		
CTZ	Chatham Island	9.17 172	P	Pn	01 47 42.1	-1.7		
QRZ	Quartz Range	9.51 227	P	Pn	01 47 47.2	-1.2		
KHZ	Kahutara	10.03 217	P	Pn	01 47 54.6	-1.0		
KHZ	Kahutara	10.03 217	⇓P	Pn	01 47 50.0	-5.5		
DSZ	Dennistone Nort	10.51 225	Pn	Pn	01 47 59.6	-2.5		
INZ	Inchbonnie	11.35 222	Pn	Pn	01 48 09.5	-4.1		
RPZ	Rata Peaks	12.23 219	P	Pn	01 48 24.3	-1.4		
RPZ	Rata Peaks	12.23 219	Pn	Pn	01 48 21.4	-4.3		
	10nm,0.3s,baz=40,slow=1.7,SNR=27							
RPZ			Sn	Sn	01 50 27.7	-14		
	93nm,0.3s,baz=116,slow=23,SNR=12							
	45nm,0.4s							
NFK	Norfolk Island	12.94 292	P	Pn	01 48 33.5	-1.9		
	baz=13,SNR=8.4							
NFK	Norfolk Island	12.94 292	P	Pn	01 48 38.4	+3.0		
NFK	Norfolk Island	12.94 292	⇓P	P	01 48 41.1	-4.7		
ODZ	Otahua Downs	13.38 216	P	Pn	01 48 40.7	-0.7		
JCZ	Jackson Bay	13.69 223	P	Pn	01 48 44.9	-0.9		
SYZ	Scrubby Hill	15.20 215	P	Pn	01 49 05.6	-0.4		
PYZ	Puysegur Point	16.18 220	P	Pn	01 49 18.0	-0.7		
MSVF	Nonsavu	17.15 348	P	Pn	01 49 30.7	-0.6		
MSVF	Nonsavu	17.15 348		Pn	01 49 27.8	-3.5		
MSVF	Nonsavu	17.15 348	⇓P	Pn	01 49 29.3	-2.0		
MSVF	Nonsavu	17.15 348	*i* P	Pn	01 49 29.2	-2.1		
NIUE	Niue	17.21 28	P	Pn	01 49 28.6	-3.3		
	baz=17,SNR=4.6							
NIUE			S	Sn	01 52 21.3	-21		
	baz=17							
NIUE	Niue	17.21 28	P	P	01 49 33.8	+0.4		
NIUE	Niue	17.21 28		Pn	01 49 28.1	-3.8		
PINNC	Pines Island,	17.29 310	P	P	01 49 37.3	+3.1		
PINNC	Pines Island,	17.29 310		Pn	01 49 31.0	-1.8		
PINNC			IAmb	IAmb	01 49 41.7			
	comp=Z,2µm,1.2s							
MARNC	Mare, Loyalty	17.78 314	P	P	01 49 42.7	+3.1		
OUENC	Ouen Island, N	17.81 309	P	P	01 49 43.3	+3.3		
OUENC	Ouen Island, N	17.81 309		Pn	01 49 38.0	-1.4		
OUENC			IAmb	IAmb	01 49 47.9			
	comp=Z,516nm,0.8s							
TAVE	Taveuni	17.92 355	P	P	01 49 44.2	+3.0		
YATNC	Mamie plateau,	18.04 310	P	P	01 49 46.2	+3.7		
ONTNC	Ouen Toro	18.14 309	P	P	01 49 46.3	+2.7		
ONTNC	Ouen Toro	18.14 309	Pn	Pn	01 49 40.3	-3.1		
ONTNC	Ouen Toro	18.14 309	⇓P	P	01 49 46.0	+2.4		
YSA	Yasawairara	18.25 347	P	P	01 49 45.4	+0.6		
DZM	Mont Dzumac	18.32 309	P	P	01 49 47.8	+2.1		
DZM	Mont Dzumac	18.32 309		Pn	01 49 44.3	-1.4		
DZM	Mont Dzumac	18.32 309	⇓P	P	01 49 48.0	+2.3		
DZM	Mont Dzumac	18.32 309	P	Pn	01 49 43.4	-2.2		
	comp=Z,0.2nm,0.3s,baz=133,slow=5.7,SNR=5.9							
DZM			S	S	01 53 12.2	-1.8		
	comp=Z,16nm,1.0s,baz=90,slow=9.1,SNR=1.0							
DZM			LR	LR	01 56 29.5			
	comp=Z,61µm,18.2s,baz=141,slow=36							
	comp=Z,24nm,1.0s							
NOUC	Port Laguerre	18.39 309	P	Pn	01 49 48.4	+2.0		
LIFNC	LIFOU	18.79 314	P	Pn	01 49 53.5	+2.2		
LIFNC	LIFOU	18.79 314		P	01 49 49.4	-1.3		
LHI	Lord Howe Isla	19.19 273	P	Pn	01 49 58.5	+2.4		
LHI	Lord Howe Isla	19.19 273	P	Pn	01 49 55.6	-0.6		
LHI			IAmb	IAmb	01 50 05.7			
	comp=Z,911nm,0.9s							
LHI	Lord Howe Isla	19.19 273	⇓P	Pn	01 49 58.5	+2.4		
DVP	Devils Point	20.71 321	P	Pn	01 50 13.8	-0.3		
RAR	Rarotonga	21.12 56	P	P	01 50 16.6	+0.5		
RAR	Rarotonga	21.12 56	P	P	01 50 16.3	+0.2		
RAR			IAmb	IAmb	01 50 32.7			
	comp=Z,618nm,1.1s							
RAR	Rarotonga	21.12 56	P	P	01 50 15.1	-0.9		
	comp=Z,293nm,1.1s,baz=222,slow=10.0,SNR=15							
RAR			S	S	01 53 53.9	-16		
	comp=Z,65nm,1.0s,baz=85,slow=18,SNR=3.5							
RAR			LR	LR	01 57 01.5			
	comp=Z,15µm,19.7s,baz=236,slow=32							
	comp=Z,293nm,1.1s							
RAR	Rarotonga	21.12 56	P	P	01 50 16.3	+0.2		
RAR			pmax	pmax				
	comp=Z,618nm,1.1s							
RAR			MLR	MLR				
	comp=Z,19µm,20.0s							
AFI	Afiamalu	21.48 18	P	P	01 50 21.0	+0.9		
AFI	Afiamalu	21.48 18	P	P	01 50 19.7	-0.4		
AFI			IAmb	IAmb	01 50 32.9			
	comp=Z,763nm,0.9s							
AFI	Afiamalu	21.48 18	P	P	01 50 19.7	-0.4		
AFI			pmax	pmax				
	comp=Z,763nm,0.9s							
GC1S	Gold Coast 1 S	24.84 277	P	P	01 50 56.8	+3.2		
NTLH	Newcastle Hard	24.93 265	P	P	01 50 57.4	+3.0		
RIV	Riverview	25.20 263	P	P	01 50 57.9	+1.1		
	baz=25,SNR=4.6							
RIV	Riverview	25.20 263	P	P	01 50 59.5	+2.7		
RIV	Riverview	25.20 263	⇑P	P	01 51 01.9	+5.1		
WOLH	Wollongong Har	25.33 262	P	P	01 51 00.5	+2.5		
MGCD	Mangrove Creek	25.36 265	P	P	01 51 01.2	+2.9		
	baz=25,SNR=91							
MGCD	Mangrove Creek	25.36 265	P	P	01 51 00.8	+2.5		
MCQ	Macquarie Isla	25.41 212	P	P	01 51 02.0	+3.5		
	baz=25,SNR=3.9							
MCQ	Macquarie Isla	25.41 212	P	P	01 50 59.3	+0.8		
SYDH	Sydney Hard Ro	25.55 263	P	P	01 51 03.0	+3.0		
ARMA	Armidale	25.63 271	P	P	01 51 04.0	+3.1		
	baz=26,SNR=33							
ARMA	Armidale	25.63 271	P	P	01 51 02.4	+1.5		
ARMA	Armidale	25.63 271	P	P	01 51 00.1	-0.8		
ARMA			IAmb	IAmb	01 51 23.2			
	comp=Z,222nm,1.0s							
ARMA	Armidale	25.63 271	⇓P	P	01 51 03.8	+2.9		
AUPHS	Peel High Scho	26.04 269	P	P	01 51 07.8	+3.2		
FUNA	Funafuti	26.10 354	P	P	01 51 05.6	+0.5		
FUNA	Funafuti	26.10 354	P	P	01 51 04.0	-1.1		
FUNA			IAmb	IAmb	01 51 22.5			
	comp=Z,237nm,1.0s							
MILA	Mila	26.40 255	P	P	01 51 10.5	+2.7		
	baz=26,SNR=8.7							
MILA	Mila	26.40 255	P	P	01 51 10.8	+3.0		
CNB	Canberra Magne	26.42 259	P	P	01 51 10.6	+2.6		
	baz=26,SNR=34							
CNB	Canberra Magne	26.42 259	P	P	01 51 11.2	+3.2		
CAN	Canberra	26.71 259	P	P	01 51 13.4	+2.8		
CAN	Canberra	26.71 259	P	P	01 51 10.5	-0.1		
CAN			IAmb	IAmb	01 51 23.5			
	comp=Z,602nm,1.9s							
CAN			IAMs_20	IAMs_20	02 01 32.1			
	comp=Z,27µm,18.0s							
CAN	Canberra	26.71 259	⇓P	P	01 51 12.8	+2.2		
CAN	Canberra	26.71 259	P	P	01 51 10.5	-0.1		
CAN			pmax	pmax				
	comp=Z,602nm,1.9s							
CAN			MLR	MLR				
	comp=Z,28µm,18.0s							
GLAD	Gladstone	27.22 247	P	P	01 51 17.4	+2.4		
YNG	Young	27.37 261	P	P	01 51 18.6	+2.1		
	baz=27,SNR=55							
YNG	Young	27.37 261	P	P	01 51 19.7	+3.2		
AUDCS	Dubbo College	27.61 266	P	P	01 51 21.5	+2.8		
TAU	Tasmania Unive	27.87 242	P	P	01 51 20.4	-0.4		
TAU	Tasmania Unive	27.87 242	P	P	01 51 19.1	-1.7		
TAU	Tasmania Unive	27.87 242	IAMs_20	IAMs_20	02 03 00.4			
	comp=Z,27µm,18.0s							
TAU	Tasmania Unive	27.87 242	⇓P	P	01 51 22.9	+2.1		
TAU	Tasmania Unive	27.87 242	P	P	01 51 19.1	-1.7		
TAU			pmax	pmax				
	comp=Z,148nm,1.2s							
TAU			MLR	MLR				
	comp=Z,27µm,18.0s							
CORO	Coronation Par	27.89 246	P	P	01 51 23.2	+2.2		
MOO	Moorlands	27.92 243	P	P	01 51 23.4	+2.0		
	baz=28,SNR=11							
MOO	Moorlands	27.92 243	P	P	01 51 23.9	+2.6		
EIDS	Eidsvold	27.97 281	P	P	01 51 23.6	+1.7		
	baz=28,SNR=32							
EIDS	Eidsvold	27.97 281	P	P	01 51 23.6	+1.7		
EIDS	Eidsvold	27.97 281	P	P	01 51 21.2	-0.7		
EIDS			IAmb	IAmb	01 51 29.2			
	comp=Z,177nm,1.0s							
EIDS			IAMs_20	IAMs_20	02 02 22.6			
	comp=Z,28µm,18.0s							
EIDS	Eidsvold	27.97 281	⇑P	P	01 51 22.8	+0.9		
GD1S	Gladstone Soft	28.61 284	P	P	01 51 30.1	+2.5		
AULRC	Lightning Ridg	28.95 271	P	P	01 51 32.2	+1.6		
TOO	Toolangi	29.26 254	P	P	01 51 35.8	+2.4		
	baz=29,SNR=10							
TOO	Toolangi	29.26 254	P	P	01 51 34.6	+1.2		
TOO	Toolangi	29.26 254	P	P	01 51 32.6	-0.8		
TOO			IAmb	IAmb	01 51 41.5			
	comp=Z,346nm,1.2s							
TOO	Toolangi	29.26 254	⇑P	P	01 51 35.8	+2.4		
TOO	Toolangi	29.26 254	P	P	01 51 32.6	-0.8		
TOO			pmax	pmax				
	comp=Z,346nm,1.2s							
TOO			MLR	MLR				
	comp=Z,40µm,18.0s							
RK1H	Rockhampton Ha	29.37 284	P	P	01 51 36.5	+2.2		
RMQ	Roma	29.38 277	P	P	01 51 36.9	+2.4		
	baz=29,SNR=11							
RMQ	Roma	29.38 277	P	P	01 51 36.3	+1.8		
MLBS	Spotswood, Mel	29.71 253	P	P	01 51 39.8	+2.6		
AUMAG	Moama Anglican	30.03 256	P	P	01 51 41.8	+1.7		
GEXS	Deakin Univers	30.15 252	P	P	01 51 43.9	+2.7		
CMSA	Cobar Meteorol	30.20 266	P	P	01 51 42.5	+0.8		
	baz=30,SNR=163							
CMSA	Cobar Meteorol	30.20 266	P	P	01 51 42.9	+1.2		
BRAT	Ballarat	30.50 253	P	P	01 51 45.0	+0.8		
PPTF	Pamatai, Papee	30.76 64	P	P	01 51 47.3	+0.5		
PPTF	Pamatai, Papee	30.76 64	P	P	01 51 46.0	-0.7		
PPTF			IAmb	IAmb	01 51 54.1			
	comp=Z,162nm,1.0s							
PPT	Papeete	30.76 64	P	P	01 51 46.4	-0.4		
	comp=Z,44nm,0.7s,baz=222,slow=11,SNR=3.3							
PPT			LR	LR	02 03 56.6			
	comp=Z,13µm,18.3s,baz=242,slow=36							
	comp=Z,44nm,0.7s							
AUHPC	Hawkesdale P12	31.71 252	P	P	01 51 55.7	+0.8		
HNR	Honiara	32.03 316	P	P	01 52 00.3	+2.5		
HNR	Honiara	32.03 316	P	P	01 51 55.7	-2.1		
HNR	Honiara	32.03 316	LR	LR	02 03 00.6			
	comp=Z,6µm,19.5s,baz=161,slow=33							
HNR	Honiara	32.03 316	P	P	01 51 55.7	-2.1		
HNR			pmax	pmax				
	comp=Z,1µm,1.2s							
HNR			MLR	MLR				
	comp=Z,8µm,20.0s							
ARPS	Mount Arapiles	32.26 255	P	P	01 52 01.7	+2.0		
	baz=32,SNR=37							
ARPS	Mount Arapiles	32.26 255	P	P	01 52 00.9	+1.2		
QLP	Quilpie	33.06 274	P	P	01 52 07.5	+0.6		
	baz=33,SNR=83							
QLP	Quilpie	33.06 274	P	P	01 52 08.2	+1.3		
QLP	Quilpie	33.06 274	⇑P	P	01 52 07.5	+0.6		
STKA	Stephens Creek	33.47 263	P	P	01 52 11.8	+1.3		
	baz=33,SNR=55							
STKA	Stephens Creek	33.47 263	P	P	01 52 12.3	+1.9		
STKA	Stephens Creek	33.47 263	P	P	01 52 09.7	-0.8		
STKA	Stephens Creek	33.47 263	P	P	01 52 08.6	-1.9		
	comp=Z,35nm,1.0s,baz=97,slow=9.4,SNR=30							
STKA			PcP	PcP	01 54 51.7	+0.5		
	comp=Z,28nm,0.8s,baz=17,slow=3.1,SNR=4.1							
STKA			S	S	01 57 29.8	-1.1		
	comp=Z,4.9nm,0.8s,baz=198,slow=8.8,SNR=1.4							
STKA			LR	LR	02 05 57.6			
	comp=Z,25µm,18.4s,baz=101,slow=37							
	comp=Z,35nm,1.0s							
STKA	Stephens Creek	33.47 263	*d i* P	P	01 52 11.5	+1.1		
AUAYR	Ayr State High	33.80 287	P	P	01 52 15.8	+2.5		
CTAO	Charters Tower	34.44 286	P

WRA S S 02 00 07.2 -4.6
comp=Z,22nm,1.0s,baz=122,slow=14,SNR=9.3
WRA LR LR 02 13 26.0
comp=Z,23µm,18.1s,baz=128,slow=38
WRA PKPPKP P'P'df 02 25 20.8 -6.2
comp=Z,3.6nm,1.2s,baz=309,slow=1.6,SNR=5.6
WRA P4KPbc 02 31 34.2
comp=Z,1.4nm,1.0s,baz=119,slow=4.2,SNR=5.6
comp=Z,202nm,0.9s
WRA Warramunga Arr 44.15 277 P P **01 53 38.8 -1.2**
WRA pmax pmax
comp=Z,91nm,0.9s
WRA MLR MLR
comp=Z,2µm,18.0s
FORT Forrest 44.84 259 P P **01 53 44.1 -1.3**
baz=45,SNR=94
FORT Forrest 44.84 259 P P **01 53 46.2 +0.8**
FORT Forrest 44.84 259 P P **01 53 44.4 -1.0**
FORT Forrest 44.84 259 ⇑P P **01 53 44.1 -1.3**
MANU Manus Island 45.52 308 P P **01 53 51.4 +0.5**
MANU Manus Island 45.52 308 P P **01 53 50.0 -0.9**
PATS Pohnpei 46.79 327 P P **01 53 59.3 -1.6**
baz=47,SNR=22
PATS Pohnpei 46.79 327 P P **01 54 01.9 +1.0**
PATS Pohnpei 46.79 327 P P **01 53 58.8 -2.0**
WRKA Warakurna 46.81 267 P P **01 53 59.3 -1.8**
baz=47,SNR=171
WRKA Warakurna 46.81 267 P P **01 54 00.7 -0.4**
WRKA Warakurna 46.81 267 ⇓P P **01 53 59.6 -1.5**
TABU Tabubil 47.44 299 P P **01 54 07.9 +1.8**
KDU Kakadu 49.52 284 P P **01 54 21.0 -0.9**
baz=49,SNR=9.4
KDU Kakadu 49.52 284 P P **01 54 23.2 +1.2**
KDU Kakadu 49.52 284 ⇓P P **01 54 20.4 -1.5**
KMBL Kambalda 49.61 256 P P **01 54 21.6 -1.0**
baz=50,SNR=22
KMBL Kambalda 49.61 256 P P **01 54 23.2 +0.6**
JAY Jayapura 49.71 301 P P **01 54 22.9 -0.7**
comp=Z,191nm,1.5s,comp=Z,3µmcomp=Z,6µm
GENI Genyem 50.04 300 P P **01 54 28.0 +2.0**
GENI Genyem 50.04 300 P P **01 54 27.8 +1.8**
comp=Z,410nm,1.0s,comp=Z,10µm
MTN Manton Dam 50.50 283 P P **01 54 28.8 -0.7**
baz=50,SNR=7.6
MTN Manton Dam 50.50 283 P P **01 54 30.2 +0.7**
MTN Manton Dam 50.50 283 P P **01 54 28.1 -1.4**
MTN Manton Dam 50.50 283 ⇓P P **01 54 28.6 -0.9**
CASY Casey 51.29 209 P P **01 54 34.4 -0.3**
CASY IAmb IAmb 01 54 48.7
comp=Z,226nm,0.9s
CASY Casey 51.29 209 ⇑P P **01 54 35.2 +0.4**
JOHN Johnston Islan 51.78 11 P P **01 54 40.6 +1.8**
JOHN Johnston Islan 51.78 11 P P **01 54 38.1 -0.7**
FITZ Fitzroy Crossi 52.20 273 P P **01 54 41.7 -0.5**
baz=52,SNR=90
FITZ Fitzroy Crossi 52.20 273 P P **01 54 43.0 +0.8**
FITZ Fitzroy Crossi 52.20 273 P P **01 54 41.1 -1.1**
NWAO Narrogin (SRO) 52.74 252 P P **01 54 45.0 -1.1**
baz=53,SNR=14
NWAO P P **01 54 45.0 -1.1**
baz=53,SNR=14
NWAO Narrogin (SRO) 52.74 252 P P **01 54 45.9 -0.2**
NWAO Narrogin (SRO) 52.74 252 P P **01 54 44.3 -1.8**
NWAO IAmb IAmb 01 54 56.2
comp=Z,198nm,1.2s
NWAO Narrogin (SRO) 52.74 252 P P **01 54 46.5 +0.4**
NWAO P P **01 54 46.5 +0.4**
NWAO Narrogin (SRO) 52.74 252 P P **01 54 44.3 -1.8**
NWAO pmax pmax
comp=Z,198nm,1.3s
KLBR Kellerberrin 52.82 254 P P **01 54 45.3 -1.4**
baz=53,SNR=42
KLBR Kellerberrin 52.82 254 P P **01 54 46.2 -0.5**
MUN Mundaring 53.90 253 P P **01 54 53.5 -1.0**
baz=54,SNR=22
MUN Mundaring 53.90 253 P P **01 54 55.4 +0.8**
BLDU Ballidu 54.01 255 P P **01 54 54.6 -0.9**
baz=54,SNR=20
BLDU Ballidu 54.01 255 P P **01 54 56.1 +0.6**
MEEK Meekatharra 54.07 260 P P **01 54 54.0 -2.0**
baz=54,SNR=38
MEEK Meekatharra 54.07 260 P P **01 54 54.9 -1.1**
MTKN Mount Kenneth 54.26 253 P P **01 54 58.9 +1.7**
H01W1 Cape Leeuwin H 54.45 249 P P **01 55 02.4 +4.1**
baz=169,slow=78,SNR=3.2
H01W2 Cape Leeuwin H 54.46 249 P P **01 55 01.0 +2.6**
baz=169,slow=78,SNR=2.3
H01W3 Cape Leeuwin H 54.46 249 P P **01 55 01.0 +2.6**
baz=169,slow=78,SNR=2.2
MORW Morawa 55.16 256 P P **01 55 03.6 -0.2**
baz=55,SNR=6.6
MORW Morawa 55.16 256 P P **01 55 03.9 +0.1**
MORW Morawa 55.16 256 P P **01 55 02.4 -1.4**
MORW IAmb IAmb 01 55 09.3
comp=Z,163nm,0.8s
MORW Morawa 55.16 256 ⇓P P **01 55 02.5 -1.3**
PSAB3 Pilbara Seismi 55.29 266 IAMs_20 IAMs_20 02 20 52.6
comp=Z,12µm,18.0s
PSAA3 Pilbara Seismi 55.29 266 IAMs_20 IAMs_20 02 20 52.7
comp=Z,11µm,18.0s
PSAB2 Pilbara Seismi 55.30 266 IAMs_20 IAMs_20 02 20 51.9
comp=Z,10µm,18.0s
PSA00 Pilbara Seismi 55.30 266 P P **01 55 04.1 -0.8**
PSA00 Pilbara Seismi 55.30 266 P P **01 55 03.8 -1.1**
PSA00 IAmb IAmb 01 55 10.0
comp=Z,174nm,1.0s
PSA00 IAMs_20 IAMs_20 02 20 52.0
comp=Z,11µm,18.0s
PSA00 Pilbara Seismi 55.30 266 P P **01 55 02.3 -2.6**
PSA00 IAmb IAmb 01 55 10.0
comp=Z,73nm,1.0s
PSAA2 Pilbara Seismi 55.31 266 IAMs_20 IAMs_20 02 21 01.1
comp=Z,9µm,18.0s
PSAA1 Pilbara Seismi 55.31 266 IAMs_20 IAMs_20 02 21 01.2
comp=Z,10µm,18.0s
PSAC1 Pilbara Seismi 55.35 266 IAMs_20 IAMs_20 02 17 36.3
comp=Z,8µm,21.0s
PSAD1 Pilbara Seismi 55.37 266 IAMs_20 IAMs_20 02 17 35.8
comp=Z,9µm,21.0s
QSPA South Pole Qui 55.47 180 P P **01 55 06.6 +0.9**
QSPA South Pole Qui 55.47 180 IAMs_20 IAMs_20 02 14 31.1
comp=Z,12µm,21.0s
QSPA South Pole Qui 55.47 180 P P **01 55 05.8 +0.1**
comp=Z,93nm,0.8s,baz=41,slow=2.5,SNR=134
QSPA LR LR 02 14 52.3
comp=Z,12µm,20.9s,baz=46,slow=32
QSPA PKP2bc 02 25 19.1
comp=Z,5.0nm,0.8s,baz=90,slow=4.1,SNR=3.3
comp=Z,93nm,0.8s
WAKE Wake Island 55.50 343 P P **01 55 08.3 +2.2**
WAKE Wake Island 55.50 343 P P **01 55 04.9 -1.3**
WAKE Wake Island 55.50 343 ⇓P P **01 55 05.7 -0.4**
MBWA Marble Bar 55.59 267 P P **01 55 07.1 +0.1**
MBWA Marble Bar 55.59 267 P P **01 55 05.4 -1.6**
MBWA IAmb IAmb 01 55 12.1
comp=Z,206nm,1.1s
MBWA Marble Bar 55.59 267 ⇑P P **01 55 05.5 -1.6**
MBWA Marble Bar 55.59 267 P P **01 55 06.3 -0.7**
MBWA P P **01 55 06.3 -0.7**
FAKI Fak Fak 55.65 293 P P **01 55 07.2 -0.3**
FAKI Fak Fak 55.65 293 P P **01 55 05.7 -1.7**
FAKI IAMs_20 IAMs_20 02 21 24.4
comp=Z,10µm,18.0s
FAKI Fak Fak 55.65 293 ⇓P P **01 55 05.8 -1.7**
FAKI Fak Fak 55.65 293 P P **01 55 06.9 -0.6**
comp=Z,324nm,1.2s,comp=Z,4µmcomp=Z,7µm
H11N1 WAKE ISLAND Hy 55.86 343 P P **01 55 11.6 +3.1**
baz=183,slow=11,SNR=3.5
H11N3 WAKE ISLAND Hy 55.86 343 P P **01 55 08.5 +0.1**
baz=183,slow=11,SNR=4.8
H11N2 WAKE ISLAND Hy 55.87 343 P P **01 55 12.0 +3.4**
baz=183,slow=11,SNR=3.0
SWI Sorong 57.74 294 P P **01 55 21.3 -1.0**
comp=Z,250nm,1.4s,comp=Z,4µmcomp=Z,8µm
SOEI Soe 57.79 281 P P **01 55 24.3 +1.5**
SOEI Soe 57.79 281 P P **01 55 22.3 -0.5**
SOEI Soe 57.79 281 P P **01 55 20.6 -2.2**
SOEI Soe 57.79 281 ⇓P P **01 55 22.6 -0.2**
SOEI Soe 57.79 281 P P **01 55 23.4 +0.6**
comp=Z,632nm,1.3s,comp=Z,7µmcomp=Z,10µm
BATI Baumata 58.02 280 LR LR 02 22 08.7
comp=Z,26µm,18.4s,baz=142,slow=38
BATI Baumata 58.02 280 P P **01 55 26.7 +2.4**
HMH Humu'ula Sheep 58.16 26 P P **01 55 24.2 -1.2**
HPAH Hawaii Prepara 58.48 25 P P **01 55 26.9 -0.4**

RPN Rapa Nui 58.66 103 IAMs_20 IAMs_20 02 15 55.0
comp=Z,8µm,21.0s
RPN Rapa Nui 58.66 103 LR LR 02 16 43.7
comp=Z,6µm,18.3s,baz=264,slow=32
KIP Kipapa 59.01 22 P P **01 55 33.1 +2.2**
KIP Kipapa 59.01 22 P P **01 55 30.1 -0.8**
KIP Kipapa 59.01 22 P P **01 55 30.1 -0.8**
KIP pmax pmax
comp=Z,528nm,1.3s
KEKH Kekaha 59.03 20 P P **01 55 31.0 -0.1**
GUMO Guam 59.35 317 P P **01 55 33.6 +0.2**
GUMO Guam 59.35 317 P P **01 55 32.5 -0.9**
GUMO Guam 59.35 317 LR LR 02 21 01.5
comp=Z,3µm,18.2s,baz=140,slow=36
GUMO Guam 59.35 317 P P **01 55 32.5 -0.9**
GUMO pmax pmax
comp=Z,745nm,1.6s
GIRL Giralia 59.41 262 P P **01 55 33.8 0.0**
baz=59,SNR=14
GIRL Giralia 59.41 262 P P **01 55 34.8 +0.9**
GIRL Giralia 59.41 262 P P **01 55 33.3 -0.6**
GIRL Giralia 59.41 262 ⇑P P **01 55 34.0 +0.1**
MMRI Maumere 60.07 281 P P **01 55 39.3 +0.8**
MMRI Maumere 60.07 281 P P **01 55 37.1 -1.4**
MMRI IAMs_20 IAMs_20 02 24 04.8
comp=Z,10µm,19.0s
MMRI Maumere 60.07 281 P P **01 55 38.2 -0.3**
comp=Z,581nm,1.5s,comp=Z,9µmcomp=Z,7µm
EDFI Ende, Flores 60.45 280 P P **01 55 40.7 -0.5**
comp=Z,98nm,1.0s,comp=Z,3µm
BASI Baing, Sumba 60.52 278 P P 01 55 48.5 +6.9
LBMI Labuha 60.73 292 P P **01 55 42.5 -0.6**
comp=Z,333nm,1.2s,comp=Z,5µm
SANI Sanana 61.01 289 P P **01 55 44.5 -0.4**
SANI Sanana 61.01 289 P P **01 55 41.6 -3.3**
SANI Sanana 61.01 289 ⇓P P **01 55 43.4 -1.6**
SANI Sanana 61.01 289 P P **01 55 43.3 -1.6**
comp=Z,447nm,1.0s,comp=Z,5µmcomp=Z,8µm
BBSI Bau Bau 61.62 284 P P **01 55 50.6 +1.5**
comp=Z,166nm,1.1s,comp=Z,3µmcomp=Z,6µm
TNTI Ternate 61.74 293 P P **01 55 49.3 -0.6**
TNTI Ternate 61.74 293 P P **01 55 48.4 -1.4**
TNTI Ternate 61.74 293 P P 01 55 55.1 +5.2
MIDW Midway 62.53 1 P P **01 55 56.3 +1.6**
MIDW Midway 62.53 1 P P **01 55 54.2 -0.5**
MIDW IAMs_20 IAMs_20 02 17 44.6
comp=Z,11µm,22.0s
MIDW Midway 62.53 1 ⇑P P **01 55 55.8 +1.0**
PLAI Plampang 63.59 278 P P **01 56 02.5 +0.3**
PLAI Plampang 63.59 278 P P **01 56 00.9 -1.3**
comp=Z,238nm,1.2s,comp=Z,3µmcomp=Z,6µm
BKSI Bulukumba 63.69 282 P P **01 56 02.6 -0.3**
comp=Z,93nm,0.9s,comp=Z,2µm
LUWI Luwuk 64.15 288 P P **01 56 08.7 +2.8**
LUWI Luwuk 64.15 288 P P **01 56 04.3 -1.6**
LUWI Luwuk 64.15 288 P P **01 56 03.8 -2.1**
LUWI Luwuk 64.15 288 ⇓P P **01 56 05.2 -0.7**
LUWI Luwuk 64.15 288 P P **01 56 03.9 -2.0**
comp=Z,382nm,1.0s,comp=Z,4µm
KAPI Kappang 64.17 282 P P **01 56 06.6 +0.6**
KAPI Kappang 64.17 282 P P **01 56 04.8 -1.2**
KAPI IAmb IAmb 01 56 25.4
comp=Z,179nm,1.4s
KAPI Kappang 64.17 282 LR LR 02 26 41.2
comp=Z,6µm,18.2s,baz=124,slow=39
KAPI Kappang 64.17 282 P P **01 56 05.1 -0.9**
KAPI P P **01 56 05.1 -0.9**
KAPI Kappang 64.17 282 *d* P **01 56 05.4 -0.6**
KAPI pmax pmax
comp=Z,151nm,2.3s
KAPI MLR MLR
comp=Z,8µm,18.0s
KMSI Cibinong 64.21 290 P P 01 56 12.5 +6.2
TWSI Taliwang, Sumb 64.37 277 P P **01 56 06.5 -0.8**
comp=Z,389nm,1.0s,comp=Z,4µmcomp=Z,7µm
GTOI Gorontalo 65.00 290 P P **01 56 10.6 -0.9**
comp=Z,68nm,1.2s,comp=Z,989nm
SGSI Sangihe 65.02 294 P P 01 56 16.8 +5.2
TTSI Tana Toraja 65.28 284 P P **01 56 13.4 +0.2**
comp=Z,75nm,0.9s,comp=Z,3µm
SMAI San Martin Ant 65.61 157 P P **01 56 15.0 +0.4**
SMAI IAmb IAmb 01 56 20.0
comp=Z,125nm,1.2s
BELA Belgrano 2 65.63 172 P P **01 56 14.0 -0.6**
DNP Denpasar 65.77 276 P P **01 56 17.7 +1.2**
comp=Z,399nm,0.8s
SRBI Singaraja 66.10 277 P P **01 56 19.0 +0.4**
comp=Z,377nm,0.8s,comp=Z,4µmcomp=Z,9µm
JAGI Jajag, Banyuwa 66.75 276 P P **01 56 24.3 +1.5**
JAGI Jajag, Banyuwa 66.75 276 P P **01 56 21.3 -1.5**
JAGI IAMs_20 IAMs_20 02 28 24.2
comp=Z,7µm,19.0s
JAGI Jajag, Banyuwa 66.75 276 ⇑P P **01 56 21.7 -1.1**
JAGI Jajag, Banyuwa 66.75 276 P P **01 56 23.3 +0.5**
comp=Z,325nm,1.0s,comp=Z,4µmcomp=Z,6µm
TOLI2 Tolitoli 67.04 288 P P **01 56 24.0 -0.6**
TOLI2 Tolitoli 67.04 288 P P **01 56 22.0 -2.6**
TOLI2 IAmb IAmb 01 56 53.5
comp=Z,62nm,0.9s
ABJI Asem Bagus 67.06 276 P P **01 56 26.1 +1.4**
comp=Z,248nm,1.3s,comp=Z,5µmcomp=Z,10µm
DAV Davao City (W) 67.21 297 P P **01 56 23.6 -2.0**
DAV Davao City (W) 67.21 297 LR LR 02 27 27.2
comp=Z,2µm,18.4s,baz=130,slow=38
DAV Davao City (W) 67.21 297 P P **01 56 25.0 -0.6**
MPSI Mapaga 67.25 287 P P **01 56 24.3 -1.6**
comp=Z,79nm,1.2s,comp=Z,2µm
BLJI Banyuglugur 67.61 276 P P **01 56 28.6 +0.4**
comp=Z,167nm,0.5s,comp=Z,4µm
MAW Mawson 68.25 201 P P **01 56 29.1 -2.2**
comp=Z,41nm,0.9s,baz=118,slow=7.7,SNR=48
MAW S S **02 05 29.4 -0.9**
comp=Z,1.0nm,0.8s,baz=71,slow=22,SNR=1.1
MAW PKP2bc 02 24 51.3
comp=Z,7.5nm,1.2s,baz=47,slow=2.3,SNR=3.7
MAW LR LR 02 26 33.5
comp=Z,6µm,18.1s,baz=116,slow=36
comp=Z,41nm,0.9s
PMSA Palmer Station 68.53 155 P P **01 56 33.5 +0.4**
PMSA Palmer Station 68.53 155 IAMs_20 IAMs_20 02 23 37.5
comp=Z,6µm,18.0s
PMSA Palmer Station 68.53 155 ⇓P P **01 56 34.7 +1.5**
PMSA Palmer Station 68.53 155 LR LR 02 22 55.4
comp=Z,6µm,18.1s,baz=240,slow=33
PMSA Palmer Station 68.53 155 *eP* P **01 56 35.6 +2.5**
PWJI Pagerwojo 68.93 275 P P **01 56 37.5 +1.0**
comp=Z,313nm,1.1s
GRJI Gresik 68.99 276 P P 01 56 42.4 +5.5
NGJI Ngawi 69.58 275 P P **01 56 41.9 +1.4**
comp=Z,245nm,1.4s
UGM Wanagama 70.04 274 P P **01 56 45.3 +1.9**
UGM Wanagama 70.04 274 P P **01 56 40.9 -2.5**
UGM Wanagama 70.04 274 P P **01 56 44.7 +1.3**
comp=Z,450nm,1.4s,comp=Z,7µm
YOGI Yogyakarta 70.28 274 P P **01 56 44.5 -0.4**
comp=Z,281nm,1.4s,comp=Z,4µm
MTKI Muara Teweh, K 70.47 283 P P **01 56 49.6 +3.6**
comp=Z,93nm,0.7s,comp=Z,13µmcomp=Z,7µm
UWJI Ujung Watu 70.53 276 P P **01 56 51.0 +4.7**
SMRI Semarang 70.59 275 P P **01 56 47.7 +1.0**
SMRI Semarang 70.59 275 P P **01 56 46.0 -0.7**
SMRI Semarang 70.59 275 P P **01 56 47.9 +1.2**
comp=Z,211nm,0.9s
MYLDM Lahad Datu 71.35 290 P P **01 56 50.5 -0.7**
KPJI Karang Pucung 71.67 274 P P **01 56 54.0 +0.7**
comp=Z,382nm,0.9s,comp=Z,4µm
CMJI Cimerak 71.82 273 P P **01 56 53.2 -1.0**
comp=Z,838nm,1.1s,comp=Z,8µmcomp=Z,5µm
CBIJ Chichi jima 71.89 323 P P **01 56 52.1 -2.1**
JCJ Chichijima 71.89 323 P P **01 56 55.7 +1.5**
JCJ Chichijima 71.89 323 P P **01 56 51.8 -2.4**
JCJ Chichijima 71.89 323 LR LR 02 24 26.2
comp=Z,2µm,21.8s,baz=143,slow=32
MG03 Isla Dawson 72.18 144 P P **01 56 55.8 +0.1**
MG05 Puerto Natales 72.37 141 P P **01 56 57.0 +0.1**
MG05 IAmb IAmb 01 57 01.5
comp=Z,140nm,1.3s
USHA Ushuaia 72.59 145 LR LR 02 22 18.9
comp=Z,6µm,19.9s,baz=230,slow=30
ELIB Princess Elisa 72.61 187 *d* P P **01 56 58.0 -0.1**
comp=Z,157nm,1.3s
ELIB *d* PcP PcP **01 57 14.1 -1.5**
XMIS Christmas Isla 72.65 269 P P **01 57 00.6 +1.5**
XMIS Christmas Isla 72.65 269 P P **01 56 58.0 -1.2**
BBJI Bungbulang 72.66 273 P P **01 56 58.8 -0.5**

GO09 Cerro Castillo 72.68 141 P P **01 56 59.4 +0.7**
GO09 IAmb IAmb 01 57 03.7
comp=Z,127nm,1.4s
GO09 IAMs_20 IAMs_20 02 24 51.6
comp=Z,8µm,18.0s
JCJI Jatiwangi 72.69 274 P P **01 57 00.2 +0.9**
comp=Z,705nm,0.9s,comp=Z,10µmcomp=Z,11µm
MG01 Puerto William 72.90 146 P P **01 57 00.4 +0.4**
MG01 IAmb IAmb 01 57 05.5
comp=Z,102nm,1.2s
LEM Lembang 73.04 273 LR LR 02 31 59.8
comp=Z,11µm,18.0s,baz=132,slow=38
LEM Lembang 73.04 273 P P **01 57 01.8 +0.2**
comp=Z,477nm,0.9s,comp=Z,6µm
CNJI Cibinong 73.17 273 P P **01 57 01.4 -0.8**
comp=Z,368nm,1.1s,comp=Z,3µmcomp=Z,2µm
MG02 Cerro Sombrero 73.40 143 P P **01 57 03.5 +0.6**
TROLL Troll, Antarti 73.64 180 ⇓P P **01 57 04.8 +0.6**
comp=Z,3µm,1.1s
TROLL ⇑PcP **pwP** **01 57 18.3 -0.7**
comp=Z,3µm,0.9s
TROLL ⇓SKSac **S** **02 06 34.4 +1.4**
comp=Z,2.0nm,0.1s
SKJI Sukabumi 73.81 273 P P **01 57 07.4 +1.4**
comp=Z,936nm,1.1s,comp=Z,7µmcomp=Z,6µm
STKI Sintang 73.82 282 P P **01 57 05.7 -0.3**
comp=Z,203nm,1.0s,comp=Z,6µm
DBJI Dramaga 73.90 273 P P **01 57 06.8 +0.3**
comp=Z,914nm,1.2s,comp=Z,13µm
SNAA Sanae 73.93 179 P P **01 57 05.9 +0.1**
SNAA IAmb IAmb 01 57 11.6
comp=Z,290nm,1.4s
SNAA IAMs_20 IAMs_20 02 25 25.7
comp=Z,9µm,21.0s
SNAA Sanae 73.93 179 ⇓P P **01 57 06.2 +0.4**
comp=Z,342nm,0.6s
SNAA ⇓PcP **PcP** **01 57 24.4 +3.2**
SNAA ⇓SKSac **S** **02 06 39.8 +3.7**
comp=Z,40nm,1.0s
SNAA Sanae 73.93 179 ⇑P P **01 57 05.4 -0.4**
SNAA Sanae 73.93 179 P P **01 57 04.5 -1.4**
comp=Z,34nm,0.9s,baz=195,slow=11,SNR=68
SNAA LR LR 02 25 48.3
comp=Z,8µm,21.5s,baz=190,slow=33
comp=Z,34nm,0.9s
SNAA Sanae 73.93 179 *d iP* P **01 57 06.2 +0.4**
SNAA pmax pmax
comp=Z,239nm,1.4s
VNA3 Neumayer Olymp 74.10 176 ⇓P P **01 57 06.8 +0.1**
comp=Z,103nm,0.7s
VNA3 ⇓PcP **PcP** **01 57 24.9 +3.1**
comp=Z,123nm,0.6s
VNA3 ⇑SKSac **S** **02 06 38.9 +0.9**
comp=Z,0.8nm,0.3s
GO08 Villa O'Higgin 74.14 138 P P **01 57 07.2 -0.2**
VNA2 Neumayer--Watz 74.53 177 ⇓P P **01 57 09.8 +0.6**
comp=Z,68nm,0.9s,baz=179,slow=5.1
VNA2 ⇑PcP **PcP** **01 57 28.4 +4.7**
comp=Z,64nm,0.7s,baz=197,slow=6.0
VNA2 ⇑SKSac **S** **02 06 43.1 +0.3**
comp=Z,1.2nm,0.7s,baz=46,slow=23
SBUM Sibu 74.63 284 P P **01 57 09.7 -1.0**
NVL N'lazarevskaya 74.63 183 *eP* P **01 57 08.1 -1.7**
NVL *e*PPP PPP 02 01 43.6
NVL *eS* S **02 06 39.7 -4.2**
NVL pmax pmax
comp=Z,264nm,1.4s
NVL MLR MLR
comp=Z,6µm,17.0s
SBJI Serang 74.65 273 P P **01 57 10.5 -0.4**
comp=Z,381nm,1.4s,comp=Z,6µm
VNA1 Neumayer--Stat 74.76 177 ⇓P P **01 57 11.3 +0.7**
comp=Z,67nm,0.9s
VNA1 ⇑PcP **PcP** **01 57 28.8 +4.2**
comp=Z,141nm,0.8s
AY03 Cochrane 74.81 137 P P **01 57 11.4 +0.1**
AY03 IAMs_20 IAMs_20 02 22 28.0
comp=Z,6µm,20.0s
TGY Tagaytay City 75.28 299 LR LR 02 32 00.2
comp=Z,1µm,18.8s,baz=136,slow=37
KSM Kuching 75.58 282 P P **01 57 17.7 +1.4**
KSM Kuching 75.58 282 P P **01 57 14.2 -2.0**
KSM IAmb IAmb 01 57 21.1
comp=Z,79nm,0.9s
KSM IAMs_20 IAMs_20 02 34 40.1
comp=Z,8µm,19.0s
COYC Coyhaique 76.07 136 P P **01 57 18.6 0.0**
COYC IAmb IAmb 01 57 35.4
comp=Z,82nm,0.9s
COYC Coyhaique 76.07 136 IAMs_20 IAMs_20 02 21 49.2
comp=Z,5µm,22.0s
COYC Coyhaique 76.07 136 ⇑P P **01 57 19.9 +1.3**
KASI Kota Agung 76.33 273 P P **01 57 18.6 -1.9**
comp=Z,260nm,1.4s,comp=Z,3µm
LL07 Hotel Espejo d 76.83 133 IAMs_20 IAMs_20 02 26 07.4
comp=Z,7µm,18.0s
PPBI Pangkal Pinang 76.88 277 P P **01 57 22.4 -1.2**
comp=Z,179nm,1.5s,comp=Z,9µmcomp=Z,4µm
LWLI Liwa 76.97 273 P P **01 57 23.6 -0.7**
comp=Z,440nm,1.3s,comp=Z,11µmcomp=Z,5µm
LL06 Loncomilla 77.09 133 IAMs_20 IAMs_20 02 25 57.4
comp=Z,7µm,18.0s
PMBI Palembang 77.56 275 P P **01 57 28.5 +1.0**
comp=Z,368nm,0.5s
LL02 Futaleuf 77.59 134 P P **01 57 27.2 -0.1**
LL05 Los Muermos 77.65 132 P P **01 57 26.3 -1.3**
LL05 IAmb IAmb 01 57 35.2
comp=Z,298nm,1.4s
LL01 San Ignacio de 77.73 133 P P **01 57 28.0 0.0**
LL01 IAMs_20 IAMs_20 02 26 36.4
comp=Z,5µm,18.0s
JHJ2 Mitsune 78.01 325 IAMs_20 IAMs_20 02 31 04.2
comp=Z,4µm,19.0s
JHJ Hachijo jima 2 78.03 325 LR LR 02 32 02.6
comp=Z,3µm,18.3s,baz=90,slow=36
MNAI Manna 78.25 273 IAMs_20 IAMs_20 02 34 00.9
comp=Z,6µm,20.0s
LL03 Petrohue 78.46 132 P P **01 57 32.1 0.0**
LL03 IAmb IAmb 01 57 50.6
comp=Z,127nm,0.9s
LL03 IAMs_20 IAMs_20 02 26 04.8
comp=Z,4µm,18.0s
VA04 Juan Fernndez 78.55 123 IAMs_20 IAMs_20 02 24 11.4
comp=Z,7µm,22.0s
LR04 Corral 78.56 131 IAMs_20 IAMs_20 02 23 37.6
comp=Z,5µm,20.0s
LL04 Puerto Octay 78.59 132 P P **01 57 33.2 +0.4**
COCO West Island 78.97 263 P P **01 57 36.6 +1.4**
DSRI Dabo 79.11 277 P P **01 57 35.9 -0.1**
comp=Z,60nm,1.2s,comp=Z,4µmcomp=Z,5µm
LR05 Currie 79.24 132 P P **01 57 36.4 0.0**
LR05 IAmb IAmb 01 57 42.5
comp=Z,101nm,1.1s
JOW Kunigami 79.33 313 P P **01 57 38.8 +2.0**
JOW Kunigami 79.33 313 P P **01 57 36.1 -0.8**
JOW Kunigami 79.33 313 LR LR 02 29 03.5
comp=Z,3µm,20.2s,baz=144,slow=33
JOW Kunigami 79.33 313 *eP* P **01 57 37.1 +0.3**
LR03 Panguipulli 79.38 131 P P **01 57 37.6 +0.4**
LR03 IAmb IAmb 01 57 42.7
comp=Z,128nm,1.3s
LR03 IAMs_20 IAMs_20 02 27 43.2
comp=Z,6µm,18.0s
EFI East Falkland 79.39 147 P P **01 57 37.2 +0.2**
EFI IAmb IAmb 01 57 42.2
comp=Z,283nm,1.4s
EFI East Falkland 79.39 147 *ceP* P **01 57 39.6 +2.7**
EFI pmax pmax
comp=Z,23nm,1.3s
EFI MLR MLR
comp=Z,2µm,17.0s
PLCA Paso Flores 79.83 133 P P **01 57 40.6 +0.9**
PLCA IAMs_20 IAMs_20 02 27 53.0
comp=Z,6µm,18.0s
PLCA Paso Flores 79.83 133 P P **01 57 39.5 -0.2**
comp=Z,22nm,0.8s,baz=220,slow=5.7,SNR=32
PLCA PKKPbc **PKKPbc** **02 16 24.8 0.0**
comp=Z,2.9nm,0.9s,baz=358,slow=0.8,SNR=3.6
PLCA PKPPKP P'P'df 02 24 25.4 -9.0
comp=Z,2.4nm,1.0s,baz=73,slow=5.0,SNR=2.8
PLCA LR LR 02 27 19.2
comp=Z,4µm,18.2s,baz=236,slow=31
comp=Z,22nm,0.8s
PLCA Paso Flores 79.83 133 P P **01 57 40.6 +0.9**
PLCA pmax pmax
comp=Z,110nm,1.4s
PLCA Paso Flores 79.83 133 *eP* P **01 57 40.4 +0.8**

GO06	**Curarrehue**	**79.95**	**131**	P	**P**	**01 57 40.1**	**-0.3**
GO06				IAMs_20	IAMs_20	02 28 02.3		
	comp=Z,5μm,18.0s							
JOD2	**Odawara 2**	**80.13**	**326**	*e*P	**P**	**01 57 39.6**	**-1.4**
BI05	**Punta Hualpn**	**80.55**	**128**	IAMs_20	IAMs_20	02 23 53.2		
	comp=Z,6μm,22.0s							
JRY	**Ryogami san**	**80.83**	**326**	P	**P**	**01 57 44.0**	**-0.8**
MYKOM	**Kota Tinggi**	**81.01**	**278**	P	**P**	**01 57 45.4**	**-0.9**
INU	**Inuyama**	**81.17**	**324**	P	**P**	**01 57 46.2**	**-0.4**
INU	**Inuyama**	**81.17**	**324**	P	**P**	**01 57 45.6**	**-1.0**
INU				IAmb	IAmb	01 57 47.7		
	comp=Z,143nm,1.3s							
JGF	**Kuroka**	**81.21**	**325**	P	**P**	**01 57 47.4**	**+0.6**
JGF	**Kuroka**	**81.21**	**325**	P	**P**	**01 57 45.7**	**-1.1**
JGF	**Kuroka**	**81.21**	**325**	*e*P	**P**	**01 57 46.2**	**-0.6**
YULB	**Yu-li**	**81.31**	**306**	P	**P**	**01 57 49.7**	**+2.1**
YULB	**Yu-li**	**81.31**	**306**	P	**P**	**01 57 45.1**	**-2.5**
JMN	**Monobe**	**81.44**	**321**	P	**P**	**01 57 50.0**	**+1.9**
JMN	**Monobe**	**81.44**	**321**	P	**P**	**01 57 47.6**	**-0.5**
JMN				IAmb	IAmb	01 57 50.9		
	comp=Z,274nm,1.5s							
JMN	**Monobe**	**81.44**	**321**	P	**P**	**01 57 48.3**	**+0.2**
JMM	**Marumori**	**81.52**	**328**	P	**P**	**01 57 50.2**	**+1.9**
JMM	**Marumori**	**81.52**	**328**	P	**P**	**01 57 47.6**	**-0.8**
JMM				IAmb	IAmb	01 57 49.6		
	comp=Z,155nm,1.2s							
JMM				IAMs_20	IAMs_20	02 31 45.1		
	comp=Z,5μm,20.0s							
PPSI	**Pulau Pagai**	**81.57**	**272**	P	**P**	**01 57 50.8**	**+1.5**
	comp=Z,538nm,1.4s,comp=Z,9μm							
MJAR	**Matsushiro Arr**	**81.58**	**326**	P	**P**	**01 57 47.4**	**-1.4**
	comp=Z,47nm,1.0s,baz=161,slow=5.2,SNR=70							
MJAR				PKPPKP	**P'P'df**	**02 24 27.1**	**+5.7**	
	comp=Z,1.2nm,0.6s,baz=296,slow=3.9,SNR=2.6							
MJAR				LR	LR	02 27 55.1		
	comp=Z,2μm,21.8s,baz=134,slow=31							
	comp=Z,47nm,1.0s							
MAJO	**Matsushiro**	**81.58**	**326**	P	**P**	**01 57 48.8**	**+0.1**
MAJO	**Matsushiro**	**81.58**	**326**	P	**P**	**01 57 47.9**	**-0.8**
MAJO				IAmb	IAmb	01 57 49.7		
	comp=Z,139nm,1.2s							
MAJO	**Matsushiro**	**81.58**	**326**	*i* P	**P**	**01 57 47.5**	**-1.2**
MAJO				pmax	pmax			
	comp=Z,132nm,1.2s							
MAJO				MLR	MLR			
	comp=Z,2μm,19.0s							
MAT	**Matsushiro**	**81.58**	**326**	*e*P	**P**	**01 57 48.0**	**-0.8**
MJB9	**Matsu-Tunnel**	**81.59**	**326**	P	**P**	**01 57 48.6**	**-0.2**
MJB9				IAmb	IAmb	01 57 50.7		
	comp=Z,129nm,1.2s							
NACB	**Ninganchiao**	**81.65**	**307**	P	**P**	**01 57 51.4**	**+2.0**
TPUB	**Ta-pu**	**81.70**	**306**	P	**P**	**01 57 50.0**	**+0.3**
TPUB	**Ta-pu**	**81.70**	**306**	P	**P**	**01 57 47.8**	**-1.8**
TPUB				IAmb	IAmb	01 57 49.5		
	comp=Z,68nm,0.9s							
JGN	**Niukaw**	**81.74**	**325**	*e*P	**P**	**01 57 49.2**	**-0.4**
SSLB	**Suanglung**	**81.81**	**306**	P	**P**	**01 57 49.5**	**-0.8**
SSLB	**Suanglung**	**81.81**	**306**	P	**P**	**01 57 48.2**	**-2.1**
SSLB				IAMs_20	IAMs_20	02 31 43.3		
	comp=Z,6μm,19.0s							
JWT	**Wachi**	**81.90**	**323**	P	**P**	**01 57 50.2**	**-0.2**
YHNB	**Yeheng**	**82.14**	**307**	P	**P**	**01 57 54.0**	**+2.0**
PDSI	**Padang**	**82.25**	**274**	P	**P**	**01 57 51.1**	**-1.8**
	comp=Z,93nm,1.2s,comp=Z,3μmcomp=Z,4μm							
JAD	**Aida**	**82.25**	**322**	*e*P	**P**	**01 57 52.2**	**-0.1**
TATO	**Taipei**	**82.28**	**307**	IAMs_20	IAMs_20	02 31 53.3		
	comp=Z,4μm,20.0s							
ML02	**Panimavida**	**82.28**	**128**	P	**P**	**01 57 52.6**	**-0.1**
ML02				IAmb	IAmb	01 57 58.3		
	comp=Z,202nm,1.4s							
ML02				IAMs_20	IAMs_20	02 24 45.2		
	comp=Z,5μm,22.0s							
GO05	**Huala**	**82.41**	**127**	P	**P**	**01 57 53.4**	**0.0**
GO05				IAMs_20	IAMs_20	02 30 08.4		
	comp=Z,4μm,18.0s							
BKNI	**Bangkinang**	**82.47**	**276**	P	**P**	**01 57 54.0**	**0.0**
BKNI	**Bangkinang**	**82.47**	**276**	P	P	01 57 48.9	-5.1	
BKNI				PP	**PP**	**02 01 01.0**	**-2.3**	
BKNI	**Bangkinang**	**82.47**	**276**	P	**P**	**01 57 53.6**	**-0.4**
	comp=Z,170nm,1.2s,comp=Z,5μmcomp=Z,5μm							
JNU	**Nakatsue**	**82.56**	**319**	P	**P**	**01 57 54.9**	**+0.9**
JNU	**Nakatsue**	**82.56**	**319**	P	**P**	**01 57 53.4**	**-0.5**
JNU	**Nakatsue**	**82.56**	**319**	LR	LR	02 28 20.8		
	comp=Z,1μm,21.9s,baz=130,slow=31							
JYA	**Atsumi**	**82.60**	**328**	*e*P	**P**	**01 57 54.5**	**+0.5**
JOM	**Ohasama**	**82.66**	**330**	*e*P	**P**	**01 57 54.6**	**+0.4**
JSD	**Sado**	**82.78**	**327**	P	**P**	**01 57 55.2**	**+0.2**
JSD	**Sado**	**82.78**	**327**	P	**P**	**01 57 54.9**	**0.0**
JSD	**Sado**	**82.78**	**327**	*e*P	**P**	**01 57 54.9**	**0.0**
JHS	**Saijyo**	**82.83**	**322**	P	**P**	**01 57 55.4**	**0.0**
SISI	**Saibi**	**83.14**	**273**	P	**P**	**01 57 58.8**	**+1.3**
	comp=Z,192nm,1.6s,comp=Z,5μm							
DLV	**T Lat**	**83.28**	**289**	P	**P**	**01 57 58.7**	**+0.4**
DLV	**T Lat**	**83.28**	**289**	P	**P**	**01 57 56.9**	**-1.5**
DLV				IAmb	IAmb	01 58 04.6		
	comp=Z,66nm,0.9s							
BO02	**Sierra Bellavi**	**83.29**	**128**	P	**P**	**01 57 57.7**	**-0.4**
BO02				IAMs_20	IAMs_20	02 31 00.7		
	comp=Z,4μm,18.0s							
BO01	**Tunca**	**83.33**	**127**	P	**P**	**01 57 57.7**	**-0.5**
BO01				IAmb	IAmb	01 58 03.6		
	comp=Z,152nm,1.5s							
BO01				IAMs_20	IAMs_20	02 28 53.9		
	comp=Z,5μm,18.0s							
VA05	**Santo Domingo**	**83.43**	**126**	P	**P**	**01 57 58.7**	**0.0**
VA05				IAmb	IAmb	01 58 04.0		
	comp=Z,152nm,1.3s							
VA05				IAMs_20	IAMs_20	02 28 56.5		
	comp=Z,4μm,19.0s							
MT01	**Popeta**	**83.55**	**127**	P	**P**	**01 57 59.6**	**+0.3**
MT01				IAMs_20	IAMs_20	02 26 49.6		
	comp=Z,5μm,20.0s							
MT09	**Talagante**	**83.77**	**127**	P	**P**	**01 58 00.7**	**+0.1**
MT09				IAMs_20	IAMs_20	02 27 16.6		
	comp=Z,5μm,20.0s							
VA01	**Torpederas**	**83.79**	**126**	P	**P**	**01 58 00.9**	**+0.3**
VA01				IAMs_20	IAMs_20	02 27 25.3		
	comp=Z,5μm,20.0s							
JTM	**Tenmabayashi**	**83.86**	**330**	P	**P**	**01 58 02.1**	**+1.7**
JTM	**Tenmabayashi**	**83.86**	**330**	P	**P**	**01 58 00.2**	**-0.2**
JTM				IAMs_20	IAMs_20	02 32 46.8		
	comp=Z,5μm,20.0s							
JTM	**Tenmabayashi**	**83.86**	**330**	*e*P	**P**	**01 58 01.1**	**+0.7**
BO04	**La Punta**	**83.89**	**127**	P	**P**	**01 58 01.6**	**+0.5**
BO04				IAmb	IAmb	01 58 15.0		
	comp=Z,91nm,1.4s							
BO04				IAMs_20	IAMs_20	02 28 43.7		
	comp=Z,5μm,18.0s							
MT02	**Curacav**	**83.99**	**126**	P	**P**	**01 58 02.1**	**+0.5**
MT02				IAmb	IAmb	01 58 07.3		
	comp=Z,216nm,1.6s							
MT02				IAMs_20	IAMs_20	02 27 04.3		
	comp=Z,5μm,20.0s							
ERM	**Erimo**	**84.07**	**332**	P	**P**	**01 58 02.8**	**+1.3**
ERM	**Erimo**	**84.07**	**332**	P	**P**	**01 58 01.9**	**+0.4**
ERM	**Erimo**	**84.07**	**332**	*ce*P	**P**	**01 58 04.0**	**+2.5**
ERM				pmax	pmax			
	comp=Z,561nm,1.7s							
JEM	**Erimo**	**84.07**	**332**	P	**P**	**01 58 03.5**	**+2.0**
JEM	**Erimo**	**84.07**	**332**	*e*P	**P**	**01 58 03.1**	**+1.6**
MT05	**Renca**	**84.17**	**127**	P	**P**	**01 58 03.3**	**+0.7**
QZH	**Quanzhou**	**84.17**	**306**	⇓ *i* P	**P**	**01 58 02.4**	**0.0**
QZH				PP	**PP**	**02 01 20.9**	**+3.6**	
QZH				SKS	**SKSac**	**02 08 24.9**	**+0.4**	
QZH				S	**SKKSac**	**02 08 31.4**	**+1.6**	
QZH				pmax	pmax			
	comp=Z,100nm,1.3s							
QZH				pmax	pmax			
	comp=Z,3μm,9.6s							
QZH				LR	LR			
	comp=Z,2μm,18.5s							
QZH				LR	LR			
	comp=Z,2μm,16.1s							
QZH				LR	LR			
	comp=Z,4μm,19.6s							
LMEL	**Las Melosas**	**84.24**	**127**	P	**P**	**01 58 03.3**	**+0.2**
LMEL				IAMs_20	IAMs_20	02 28 56.0		
	comp=Z,5μm,19.0s							
MT13	**San Alfonso**	**84.25**	**127**	P	**P**	**01 58 03.2**	**+0.1**
MT13				IAmb	IAmb	01 58 08.4		
	comp=Z,153nm,1.4s							
MT13				IAMs_20	IAMs_20	02 29 49.3		
	comp=Z,5μm,18.0s							
MT16	**CCHEN**	**84.29**	**127**	P	**P**	**01 58 02.6**	**-0.6**
MT16				IAmb	IAmb	01 58 08.8		
	comp=Z,134nm,1.1s							
MT16				IAMs_20	IAMs_20	02 29 23.3		
	comp=Z,5μm,18.0s							
PEL	**Peldehue**	**84.36**	**127**	P	**P**	**01 58 02.6**	**-0.9**
PEL				IAMs_20	IAMs_20	02 27 35.3		
	comp=Z,5μm,19.0s							
PEL	**Peldehue**	**84.36**	**127**	P	**P**	**01 58 02.6**	**-0.9**
PEL				pmax	pmax			
	comp=Z,362nm,1.4s							
PBSI	**Pulau Batu**	**84.52**	**274**	P	**P**	**01 58 05.2**	**+0.7**
	comp=Z,352nm,1.6s,comp=Z,8μm							
MT08	**Bocatoma Ro**	**84.61**	**127**	P	**P**	**01 58 04.8**	**-0.3**
MT08				IAmb	IAmb	01 58 11.3		
	comp=Z,78nm,1.1s							
MT08				IAMs_20	IAMs_20	02 30 10.8		
	comp=Z,5μm,18.0s							
VA03	**San Esteban**	**84.68**	**126**	P	**P**	**01 58 05.1**	**-0.1**
YUK	**Yuzh-Kuril'sk**	**84.82**	**335**	*e*P	**P**	**01 58 02.7**	**-2.5**
YUK				*e*S	**SKSac**	**02 08 19.8**	**-8.0**
YUK				pmax	pmax			
	comp=N,241nm,1.3s							
YUK				pmax	pmax			
	comp=Z,604nm,1.3s							
YUK				pmax	pmax			
	comp=E,404nm,1.1s							
IPM	**Ipoh**	**84.85**	**279**	P	**P**	**01 58 05.3**	**-0.9**
IPM	**Ipoh**	**84.85**	**279**	P	**P**	**01 58 04.9**	**-1.3**
IPM				IAMs_20	IAMs_20	02 41 10.8		
	comp=Z,6μm,18.0s							
KUR	**Kuril'sk**	**85.20**	**337**	*d* P	**P**	**01 58 08.2**	**+1.1**
KUR				*e*		01 58 10.9		
KUR				*e*S	**SKSac**	**02 08 32.6**	**+2.5**
KUR				pmax	pmax			
	comp=Z,679nm,1.6s							
KUR				pmax	pmax			
	comp=N,329nm,1.5s							
KUR				pmax	pmax			
	comp=E,322nm,1.8s							
KUR				pmax	pmax			
	comp=Z,4μm,5.1s							
KUR				MLR	MLR			
	comp=Z,4μm,18.0s							
KUR				MLR	MLR			
	comp=N,6μm,16.0s							
CO06	**Fray Jorge**	**85.23**	**124**	P	**P**	**01 58 06.8**	**-1.1**
CO06				IAmb	IAmb	01 58 13.0		
	comp=Z,96nm,1.3s							
CO06				IAMs_20	IAMs_20	02 26 26.2		
	comp=Z,5μm,20.0s							
CO02	**Combarbal**	**85.33**	**125**	P	**P**	**01 58 08.2**	**-0.4**
CO02				IAMs_20	IAMs_20	02 27 21.0		
	comp=Z,5μm,20.0s							
HKC	**Hong Kong Obse**	**85.49**	**301**	⇑P	**P**	**01 58 10.0**	**+0.9**
HKPS	**Hong Kong Po S**	**85.49**	**301**	P	**P**	**01 58 10.9**	**+1.7**
HKPS	**Hong Kong Po S**	**85.49**	**301**	P	**P**	**01 58 08.3**	**-0.8**
HKPS				IAmb	IAmb	01 58 11.5		
	comp=Z,84nm,1.1s							
HOPE	**Hope Point**	**85.51**	**159**	P	**P**	**01 58 09.7**	**+0.9**
HOPE	**Hope Point**	**85.51**	**159**	P	**P**	**01 58 09.7**	**+0.9**
HOPE				pmax	pmax			
	comp=Z,189nm,1.1s							
PSI	**Prapat**	**85.61**	**276**	P	**P**	**01 58 08.8**	**-1.4**
KULM	**Kulim**	**85.62**	**279**	P	**P**	**01 58 08.8**	**-1.3**
JMP	**Maruseppu**	**85.70**	**333**	*e*P	**P**	**01 58 11.2**	**+1.6**
CO03	**El Pedregal**	**85.77**	**125**	P	**P**	**01 58 10.2**	**-0.5**
CO03				IAMs_20	IAMs_20	02 26 42.5		
	comp=Z,4μm,20.0s							
JSH	**Shimam**	**85.83**	**331**	*e*P	**P**	**01 58 11.1**	**+0.8**
GSI	**Gunungsitoli**	**85.87**	**274**	P	**P**	**01 58 11.0**	**-0.3**
GSI	**Gunungsitoli**	**85.87**	**274**	P	**P**	**01 58 10.6**	**-0.7**
GSI	**Gunungsitoli**	**85.87**	**274**	P	**P**	**01 58 11.8**	**+0.5**
	comp=Z,609nm,1.1s,comp=Z,8μmcomp=Z,7μm							
CO05	**La Serena**	**85.96**	**124**	P	**P**	**01 58 09.8**	**-1.8**
CO05				IAmb	IAmb	01 58 16.1		
	comp=Z,130nm,1.2s							
CO05				IAMs_20	IAMs_20	02 26 47.6		
	comp=Z,5μm,22.0s							
JKA	**Kamikawa-asahi**	**86.08**	**333**	P	**P**	**01 58 12.5**	**+1.0**
JKA				IAMs_20	IAMs_20	02 32 15.5		
	comp=Z,4μm,20.0s							
ASAJ	**Asahikawa**	**86.08**	**333**	LR	LR	02 32 07.3		
	comp=Z,4μm,19.7s,baz=170,slow=32							
ASAJ	**Asahikawa**	**86.08**	**333**	P	**P**	**01 58 13.3**	**+1.8**
ASAJ	**Asahikawa**	**86.08**	**333**	P	**P**	**01 58 12.5**	**+1.0**
ASAJ				pmax	pmax			
	comp=Z,298nm,1.2s							
ATKA	**Atka Island**	**86.56**	**3**	P	**P**	**01 58 14.8**	**+1.2**
ATKA	**Atka Island**	**86.56**	**3**	P	**P**	**01 58 14.0**	**+0.4**
ATKA				IAMs_20	IAMs_20	02 30 04.6		
	comp=Z,7μm,21.0s							
QIZ	**Qiongzhong**	**86.57**	**296**	P	**P**	**01 58 14.4**	**-0.1**
QIZ				PP	**PP**	**02 01 41.5**	**+4.7**	
QIZ				S	**SKSac**	**02 08 44.5**	**+4.5**	
QIZ				SS	**SS**	**02 14 32.6**	**+1.0**	
QIZ				pmax	pmax			
	comp=Z,27nm,1.7s							
QIZ				pmax	pmax			
	comp=Z,2μm,8.7s							
QIZ				LR	LR			
	comp=Z,1μm,15.7s							
QIZ				LR	LR			
	comp=Z,870nm,16.5s							
QIZ				LR	LR			
	comp=Z,3μm,39.2s							
GZH	**Guangzhou**	**86.58**	**301**	P	**P**	**01 58 14.8**	**+0.3**
GZH				S	**S**	**02 08 47.0**	**-3.0**
GZH				pmax	pmax			
	comp=Z,100nm,1.1s							
GZH				LR	LR			
	comp=Z,320nm,17.5s							
GZH				LR	LR			
	comp=Z,290nm,17.8s							
GZH				LR	LR			
	comp=Z,680nm,19.7s							
TRQA	**Tornquist**	**86.64**	**135**	P	**P**	**01 58 15.1**	**+0.3**
TRQA				IAmb	IAmb	01 58 20.3		
	comp=Z,191nm,1.6s							
TRQA				IAMs_20	IAMs_20	02 32 49.2		
	comp=Z,4μm,18.0s							
TRQA	**Tornquist**	**86.64**	**135**	P	**P**	**01 58 15.1**	**+0.3**
TRQA				pmax	pmax			
	comp=Z,191nm,1.6s							
ZON	**Zonda**	**86.68**	**126**	IAmb	IAmb	01 58 21.2		
	comp=Z,101nm,1.3s							
ZON				IAMs_20	IAMs_20	02 29 02.5		
	comp=Z,5μm,20.0s							
SSE	**Sheshan**	**86.70**	**312**	P	**P**	**01 58 16.1**	**+1.2**
SSE				S	**S**	**02 08 54.4**	**+3.6**
SSE				pmax	pmax			
	comp=Z,17nm,0.8s							
SSE				pmax	pmax			
	comp=Z,1μm,7.8s							
SSE				LR	LR			
	comp=Z,660nm,16.2s							
SSE				LR	LR			
	comp=Z,1μm,16.0s							
CO01	**Juntas del Tor**	**86.70**	**124**	IAmb	IAmb	01 58 27.8		
	comp=Z,84nm,1.4s							
CO01				IAMs_20	IAMs_20	02 27 12.3		
	comp=Z,5μm,20.0s							
LCO	**Las Campanas**	**86.88**	**123**	P	**P**	**01 58 16.3**	**-0.2**
LCO				IAmb	IAmb	01 58 21.4		
	comp=Z,98nm,1.2s							
LCO	**Las Campanas**	**86.88**	**123**	IAMs_20	IAMs_20	02 27 15.1		
	comp=Z,5μm,21.0s							
LCO	**Las Campanas**	**86.88**	**123**	P	**P**	**01 58 16.3**	**-0.2**
LCO				pmax	pmax			
	comp=Z,98nm,1.3s							
TJN	**Taejon**	**86.91**	**319**	P	**P**	**01 58 16.4**	**+0.6**
TJN	**Taejon**	**86.91**	**319**	*ce*P	**P**	**01 58 16.7**	**+0.9**
KCSI	**Kotacane, Aceh**	**86.97**	**276**	P	**P**	**01 58 14.9**	**-1.8**
	comp=Z,70nm,1.1s,comp=Z,4μm							
SLBS	**Sierra La Lagu**	**87.00**	**59**	IAMs_20	IAMs_20	02 29 01.4		
	comp=Z,6μm,21.0s							
LPIG	**La Paz**	**87.01**	**58**	LR	LR	02 32 21.3		
	comp=Z,6μm,18.1s,baz=230,slow=32							
AC04	**Llanos de Chal**	**87.12**	**122**	IAMs_20	IAMs_20	02 30 32.4		
	comp=Z,7μm,19.0s							
SNCC	**San Nicolas Is**	**87.19**	**46**	P	**P**	**01 58 19.1**	**+1.9**
	baz=225							
SHEM	**Shemya Is, Ala**	**87.26**	**355**	LR	LR	02 30 59.8		
	comp=Z,5μm,21.5s,baz=140,slow=31							
AC05	**El Transito**	**87.28**	**123**	IAMs_20	IAMs_20	02 27 28.8		
	comp=Z,5μm,21.0s							
JWK2	**Keihoku**	**87.36**	**333**	*e*P	**P**	**01 58 19.6**	**+1.9**
KSRS	**Korea Array**	**87.41**	**320**	P	**P**	**01 58 18.5**	**+0.3**
	comp=Z,32nm,0.7s,baz=139,slow=5.4,SNR=42							
	comp=Z,32nm,0.7s							
KSAR	**Wonju Array Be**	**87.42**	**320**	P	**P**	**01 58 18.7**	**+0.5**
KSAR	**Wonju Array Be**	**87.42**	**320**	P	**P**	**01 58 18.7**	**+0.5**
KS19	**Wonju Array Si**	**87.47**	**320**	P	**P**	**01 58 18.8**	**+0.3**
KS19				IAmb	IAmb	01 58 22.5		
	comp=Z,72nm,0.9s							
SNSI	**Sinabang, Aceh**	**87.52**	**275**	P	**P**	**01 58 20.0**	**+0.6**
	comp=Z,248nm,1.5s,comp=Z,5μmcomp=Z,5μm							
SCI2	**San Clemente I**	**87.58**	**47**	P	**P**	**01 58 21.1**	**+2.0**
	baz=225							
UBPT	**Khong Chiam**	**87.62**	**290**	P	**P**	**01 58 21.3**	**+1.6**
UBPT	**Khong Chiam**	**87.62**	**290**	IAmb	IAmb	01 58 26.1		
	comp=Z,48nm,0.9s							
SRIG	**Santa Rosalia**	**87.77**	**54**	IAMs_20	IAMs_20	02 28 21.4		
	comp=Z,5μm,20.0s							
SKR	**Severo-Kuril's**	**87.91**	**344**	*e*P	**P**	**01 58 21.3**	**+1.1**
SKR				*e*S	**S**	**02 08 59.6**	**-1.9**
SKR				pmax	pmax			
	comp=Z,261nm,1.1s							
SKR				pmax	pmax			
	comp=Z,3μm,5.1s							
SKR				MLR	MLR			
	comp=Z,2μm,15.0s							
SBC	**Santa Barbara**	**87.92**	**45**	P	**P**	**01 58 22.9**	**+2.2**
	baz=225							
CIS	**Catalina Islan**	**87.96**	**46**	P	**P**	**01 58 22.6**	**+1.6**
	baz=226							
CCX	**Cicese**	**87.96**	**49**	IAmb	IAmb	01 58 27.2		
	comp=Z,46nm,0.9s							
PAYG	**Puerto Ayora**	**88.01**	**89**	IAMs_20	IAMs_20	02 36 17.4		
	comp=Z,4μm,19.0s							
INCN	**Inchon**	**88.11**	**319**	P	**P**	**01 58 21.7**	**+0.2**
INCN	**Inchon**	**88.11**	**319**	P	**P**	**01 58 21.8**	**+0.2**
INCN	**Inchon**	**88.11**	**319**	P	**P**	**01 58 21.1**	**-0.5**
INCN	**Inchon**	**88.11**	**319**	P	**P**	**01 58 21.8**	**+0.2**
INCN				pmax	pmax			
	comp=Z,507nm,1.9s							
AC06	**Mina Casimiro**	**88.14**	**122**	IAmb	IAmb	01 58 28.4		
	comp=Z,171nm,1.9s							
AC06				IAMs_20	IAMs_20	02 29 50.5		
	comp=Z,6μm,19.0s							
PKM	**Mcpherson Peak**	**88.18**	**45**	P	**P**	**01 58 24.8**	**+2.6**
	baz=225,SNR=20							
VTX	**Valle De La Tr**	**88.18**	**49**	IAmb	IAmb	01 58 25.9		
	comp=Z,73nm,1.2s							
FMP	**Fort Macarthur**	**88.25**	**46**	P	**P**	**01 58 24.4**	**+2.1**
	baz=226							
SRIT	**Nakonsritamara**	**88.37**	**282**	P	**P**	**01 58 23.3**	**0.0**
SRIT	**Nakonsritamara**	**88.37**	**282**	IAmb	IAmb	01 58 24.8		
	comp=Z,242nm,2.0s							
SRIT				IAMs_20	IAMs_20	02 42 56.9		
	comp=Z,5μm,19.0s							
SMMC	**Simmler**	**88.38**	**44**	P	**P**	**01 58 25.5**	**+2.5**
	baz=225							
109C	**Camp Elliot, M**	**88.39**	**48**	IAmb	IAmb	01 58 28.3		
	comp=Z,112nm,1.6s							
109C				IAMs_20	IAMs_20	02 35 05.7		
	comp=Z,5μm,18.0s							
109C	**Camp Elliot, M**	**88.39**	**48**	P	**P**	**01 58 25.1**	**+2.1**
	baz=226							
YSS	**Yuzh-Sakhalins**	**88.44**	**335**	P	**P**	**01 58 24.5**	**+1.6**
YSS	**Yuzh-Sakhalins**	**88.44**	**335**	P	**P**	**01 58 24.1**	**+1.3**
YSS				IAMs_20	IAMs_20	02 39 14.1		
	comp=Z,6μm,19.0s							
YSS	**Yuzh-Sakhalins**	**88.44**	**335**	*k*eP	**P**	**01 58 25.0**	**+2.1**
YSS				*e*		02 08 47.4		
YSS				*e*S	**S**	**02 09 08.2**	**+1.4**
YSS				*e*PPS	PPS	02 10 18.4		
YSS				pmax	pmax			
	comp=Z,350nm,1.2s							
YSS				pmax	pmax			
	comp=Z,3μm,4.6s							
YSS				pmax	pmax			
	comp=N,900nm,2.4s							
YSS				smax	smax			
	comp=E,1μm,15.7s							
BCW	**Bitter Crk WRg**	**88.45**	**45**	P	**P**	**01 58 24.8**	**+1.4**
TKX	**Tecate**	**88.48**	**48**	IAmb	IAmb	01 58 27.2		
	comp=Z,128nm,1.3s							
ESJX	**Sierra Juarez**	**88.50**	**49**	IAmb	IAmb	01 58 27.9		
	comp=Z,69nm,1.2s							
MLSI	**Meulaboh, Aceh**	**88.51**	**276**	P	**P**	**01 58 23.8**	**-0.2**
	comp=Z,158nm,0.8s							
BAR	**Barrett**	**88.51**	**48**	IAmb	IAmb	01 58 27.4		
	comp=Z,183nm,1.7s							
SFX	**San Felipe**	**88.53**	**50**	IAMs_20	IAMs_20	02 30 26.3		
	comp=Z,5μm,20.0s							
SAO	**San Andreas Ge**	**88.60**	**42**	IAmb	IAmb	01 58 30.7		
	comp=Z,104nm,1.1s							
DECC	**Green Verdugo**	**88.60**	**46**	P	**P**	**01 58 25.8**	**+1.8**
	baz=226							
OSI	**Osito Audit: C**	**88.62**	**45**	P	**P**	**01 58 26.1**	**+1.9**
	baz=225							
PASC	**Pasadena Art C**	**88.63**	**46**	IAmb	IAmb	01 58 27.6		
	comp=Z,129nm,1.4s							
PASC	**Pasadena Art C**	**88.63**	**46**	IAMs_20	IAMs_20	02 37 57.9		
	comp=Z,6μm,18.0s							
AC01	**Pan de Azucar**	**88.72**	**121**	IAMs_20	IAMs_20	02 30 52.8		
	comp=Z,5μm,18.0s							
ELS	**Elsinore Mount**	**88.72**	**47**	IAmb	IAmb	01 58 31.0		
	comp=Z,101nm,1.1s							
UNV	**Unalaska Valle**	**88.72**	**7**	P	**P**	**01 58 25.4**	**+1.4**
NJ2	**Nanjing**	**88.80**	**311**	⇓P	**P**	**01 58 25.4**	**+0.5

PET						MLR	MLR												
	comp=Z,4µm,20.0s																		
PET	**Petropavlovsk**	**89.58**	**346**			P	**P**	**01 58 29.5**	**+1.5**										
	comp=Z,152nm,0.7s,comp=Z,4µm																		
KCPM	**Cahto Peak**	**89.59**	**39**			IAmb	IAmb	01 58 32.3											
	comp=Z,142nm,1.2s																		
MSHR	**Mys Shultsa**	**89.67**	**325**	*ce*		P	**P**	**01 58 30.6**	**+1.9**										
MSHR						pmax	pmax												
	comp=Z,278nm,1.7s																		
HSIG		**89.74**	**54**			P	**P**	**01 58 30.7**	**+1.2**										
HSIG						IAmb	IAmb	01 58 33.0											
	comp=Z,167nm,1.2s																		
HSIG						IAMs_20	IAMs_20	02 35 24.5											
	comp=Z,4µm,18.0s																		
PIX	**Pinacate**	**89.76**	**51**			IAmb	IAmb	01 58 33.1											
	comp=Z,80nm,1.2s																		
PIX						IAMs_20	IAMs_20	02 30 46.1											
	comp=Z,4µm,20.0s																		
PB14	**IPOC Station P**	**89.80**	**120**			IAmb	IAmb	01 58 36.3											
	comp=Z,70nm,1.1s																		
RRX	**Edison Barstow**	**89.83**	**46**			P	**P**	**01 58 32.1**	**+2.4**										
	baz=226,SNR=8.8																		
BELC	**Belle Mtn. Jos**	**89.83**	**47**			P	**P**	**01 58 32.6**	**+2.7**										
	baz=227,SNR=69																		
LRMC	**Laurel Mtn Rad**	**89.84**	**45**			P	**P**	**01 58 32.4**	**+2.5**										
	baz=226,SNR=21																		
PETK	**Petropavlovsk-**	**89.85**	**346**			P	**P**	**01 58 29.6**	**+0.2**										
	baz=125,slow=6.9																		
PETK						LR	LR	02 35 55.1											
	comp=Z,3µm,19.1s,baz=163,slow=34																		
PSTR	**Posyet**	**89.89**	**325**	*i*		P	**P**	**01 58 30.5**	**+0.7**										
GLA	**Glamis**	**89.90**	**49**			P	**P**	**01 58 33.3**	**+3.2**										
	baz=228,SNR=20																		
KMRM	**Mail Ridge**	**89.92**	**39**			IAmb	IAmb	01 58 33.9											
	comp=Z,136nm,1.2s																		
BC3	**Big Chuckawall**	**89.92**	**48**			P	**P**	**01 58 33.4**	**+3.1**										
	baz=227,SNR=49																		
GO02	**Mina Guanaco**	**90.04**	**121**			IAmb	IAmb	01 58 37.6											
	comp=Z,58nm,0.9s																		
GO02						IAMs_20	IAMs_20	02 31 33.8											
	comp=Z,4µm,19.0s																		
FALS	**False Pass**	**90.06**	**9**			P	**P**	**01 58 31.9**	**+1.7**										
	baz=192																		
GULI	**GuiLin**	**90.07**	**301**	⇓		P	**P**	**01 58 30.6**	**-0.5**										
GULI						SKS	**SKSac**	**02 08 56.1**	**-4.6**										
GULI						S	**S**	**02 09 22.3**	**-0.8**										
GULI						pmax	pmax												
	comp=Z,90nm,1.8s																		
GULI						pmax	pmax												
	comp=Z,2µm,6.2s																		
GULI						LR	LR												
	comp=Z,970nm,20.6s																		
GULI						LR	LR												
	comp=Z,1µm,21.8s																		
GULI						LR	LR												
	comp=Z,2µm,20.0s																		
CMB	**Columbia Colle**	**90.10**	**42**			IAmb	IAmb	01 58 37.4											
	comp=Z,113nm,1.1s																		
CNSH	**ChangSha**	**90.11**	**305**	⇓		P	**P**	**01 58 30.6**	**-0.6**										
CNSH						PP	**PP**	**02 02 03.9**	**-1.2**										
CNSH						S	**S**	**02 09 24.6**	**+1.2**										
CNSH						pmax	pmax												
	comp=Z,42nm,1.3s																		
CNSH						LR	LR												
	comp=Z,950nm,29.6s																		
CNSH						LR	LR												
	comp=Z,1µm,21.0s																		
CNSH						LR	LR												
	comp=Z,3µm,35.8s																		
HEC	**Hector,Ludlow**	**90.19**	**47**			P	**P**	**01 58 34.0**	**+2.5**										
	baz=227,SNR=22																		
JCC	**Jacoby Creek,**	**90.19**	**38**			IAmb	IAmb	01 58 34.9											
	comp=Z,98nm,1.2s																		
GSC	**Goldstone, Bar**	**90.23**	**46**			IAmb	IAmb	01 58 38.1											
	comp=Z,121nm,1.1s																		
GSC	**Goldstone, Bar**	**90.23**	**46**			P	**P**	**01 58 34.2**	**+2.5**										
	baz=226,SNR=66																		
CWC	**Cottonwood Cre**	**90.28**	**44**			P	**P**	**01 58 33.9**	**+1.9**										
	baz=226																		
MPMC	**Manual Prospec**	**90.35**	**45**			P	**P**	**01 58 34.7**	**+2.4**										
	baz=226,SNR=70																		
113A	**Mohawk Valley,**	**90.37**	**50**			IAmb	IAmb	01 58 39.5											
	comp=Z,102nm,1.2s																		
PB10	**IPOC Station P**	**90.37**	**119**			IAMs_20	IAMs_20	02 30 11.7											
	comp=Z,5µm,19.0s																		
KHMM	**Horse Mountain**	**90.39**	**38**			IAmb	IAmb	01 58 39.4											
	comp=Z,111nm,1.2s																		
AFDM	**Forest Hills D**	**90.43**	**41**			IAmb	IAmb	01 58 38.8											
	comp=Z,87nm,1.1s																		
214A	**Organ Pipe Nat**	**90.44**	**51**			IAmb	IAmb	01 58 36.9											
	comp=Z,116nm,1.3s																		
214A						IAMs_20	IAMs_20	02 31 06.9											
	comp=Z,5µm,20.0s																		
214A	**Organ Pipe Nat**	**90.44**	**51**			P	**P**	**01 58 35.1**	**+2.4**										
	baz=229,SNR=92																		
IRM	**Iron Mountain**	**90.45**	**48**			P	**P**	**01 58 35.6**	**+2.9**										
	baz=227,SNR=162																		
UGL	**Uglegorsk**	**90.50**	**335**	*d*	*i*	P	**P**	**01 58 34.3**	**+1.9**										
UGL					*e*	S	**S**	**02 09 29.9**	**+4.0**										
UGL						pmax	pmax												
	comp=Z,330nm,1.2s																		
UGL						pmax	pmax												
	comp=N,5µm,8.0s																		
UGL						pmax	pmax												
	comp=E,3µm,6.0s																		
UGL						pmax	pmax												
	comp=Z,3µm,6.0s																		
MDPB	**Devils Postpil**	**90.54**	**43**			IAmb	IAmb	01 58 36.8											
	comp=Z,67nm,1.4s																		
USA0B	**Ussuriysk Arra**	**90.55**	**327**	*i*		P	**P**	**01 58 33.7**	**+0.9**										
USRK	**Ussuriysk Ar.**	**90.55**	**327**			P	**P**	**01 58 33.4**	**+0.6**										
USRK	**Ussuriysk Ar.**	**90.55**	**327**			P	**P**	**01 58 32.8**	**0.0**										
	comp=Z,71nm,0.9s,baz=141,slow=3.5,SNR=97																		
USRK						LR	LR	02 34 29.7											
	comp=Z,2µm,20.3s,baz=139,slow=32																		
	comp=Z,71nm,0.9s																		
CNBA	**Chernabura Isl**	**90.56**	**11**			P	**P**	**01 58 33.4**	**+0.8**										
CNBA						IAMs_20	IAMs_20	02 35 49.8											
	comp=Z,4µm,20.0s																		
BLYC	**Blythe**	**90.56**	**48**			IAmb	IAmb	01 58 37.4											
	comp=Z,132nm,1.2s																		
GMRC	**Granite Mounta**	**90.56**	**47**			P	**P**	**01 58 36.0**	**+2.6**										
	baz=227,SNR=47																		
CHNA	**Chernabura Isl**	**90.57**	**11**			P	**P**	**01 58 34.4**	**+1.8**										
	baz=195																		
ORV	**Oroville**	**90.59**	**40**			IAmb	IAmb	01 58 39.5											
	comp=Z,88nm,1.3s																		
ORV						IAMs_20	IAMs_20	02 44 58.2											
	comp=Z,5µm,18.0s																		
TIN	**Tinemaha, Big**	**90.62**	**44**			P	**P**	**01 58 35.9**	**+2.5**										
	baz=226																		
QSM	**Queen of Sheba**	**90.65**	**45**			IAmb	IAmb	01 58 37.2											
	comp=Z,127nm,1.2s																		
MLAC	**Mammoth, Mammo**	**90.68**	**43**			P	**P**	**01 58 36.2**	**+2.3**										
	baz=225																		
WHN	**Wuhan**	**90.68**	**307**	⇓	*i*	P	**P**	**01 58 34.0**	**+0.2**										
WHN						sP	**sP**	**01 58 40.6**	**0.0**										
WHN						PP	**PP**	**02 02 12.9**	**+3.3**										
WHN						SKS	**SKSac**	**02 09 04.8**	**+0.8**										
WHN						S	**S**	**02 09 24.8**	**-3.7**										
WHN						pmax	pmax												
	comp=Z,540nm,1.5s																		
WHN						pmax	pmax												
	comp=Z,3µm,5.5s																		
WHN						LR	LR												
	comp=Z,2µm,13.9s																		
WHN						LR	LR												
	comp=Z,3µm,17.1s																		
WHN						LR	LR												
	comp=Z,5µm,17.4s																		
KRMB	**Red Mountain**	**90.78**	**38**			IAmb	IAmb	01 58 38.1											
	comp=Z,144nm,1.4s																		
TUQ	**Turquoise Moun**	**90.85**	**46**			P	**P**	**01 58 37.3**	**+2.7**										
	baz=227,SNR=17																		
GWY	**Greenwater Val**	**90.92**	**45**			IAmb	IAmb	01 58 38.6											
	comp=Z,89nm,1.3s																		
EMB	**Emerald Bay**	**90.92**	**42**			IAmb	IAmb	01 58 38.2											
	comp=Z,74nm,1.2s																		
SDPT	**Sand Point**	**90.94**	**10**			P	**P**	**01 58 34.8**	**+0.5**										
SDPT	**Sand Point**	**90.94**	**10**			P	**P**	**01 58 36.0**	**+1.7**										
	baz=195																		
SHOC	**Shoshone, Teco**	**90.96**	**46**			P	**P**	**01 58 37.5**	**+2.5**										
	baz=227,SNR=41																		
WAKR	**Walker**	**90.96**	**42**			IAmb	IAmb	01 58 38.7											
	comp=Z,110nm,1.3s																		
FURC	**Furnace Creek,**	**91.00**	**45**			P	**P**	**01 58 37.4**	**+2.3**										
	baz=226,SNR=21																		
KSXB	**Camp Six Broad**	**91.02**	**37**			IAmb	IAmb	01 58 41.6											
	comp=Z,161nm,1.5s																		
S12K	**Black Hills**	**91.06**	**9**			P	**P**	**01 58 36.6**	**+1.7**										
	baz=193																		
GRAC	**Grapevine Rang**	**91.07**	**44**			IAmb	IAmb	01 58 39.4											
	comp=Z,90nm,1.1s																		
GRAC	**Grapevine Rang**	**91.07**	**44**			P	**P**	**01 58 38.2**	**+2.7**										
	baz=226,SNR=7.8																		
PDMCI	**Parker Dam,Lak**	**91.17**	**48**			P	**P**	**01 58 38.8**	**+2.8**										
	baz=228,SNR=43																		
NEE2	**Needles Airpor**	**91.18**	**48**			P	**P**	**01 58 38.9**	**+2.9**										
	baz=228																		
P08K	**Saint George I**	**91.20**	**5**			P	**P**	**01 58 38.3**	**+2.9**										
	baz=187																		
PNTR	**Pine Nut**	**91.28**	**42**			IAmb	IAmb	01 58 39.9											
	comp=Z,96nm,1.1s																		
LHV	**Little Huntoon**	**91.30**	**43**			IAmb	IAmb	01 58 40.1											
	comp=Z,59nm,1.2s																		
PB15	**IPOC Station P**	**91.34**	**119**			IAmb	IAmb	01 58 43.9											
	comp=Z,82nm,1.0s																		
PB15						IAMs_20	IAMs_20	02 31 02.4											
	comp=Z,3µm,20.0s																		
L02F	**Cave Junction**	**91.39**	**37**			IAmb	IAmb	01 58 40.7											
	comp=Z,136nm,1.5s																		
PB04	**IPOC Station P**	**91.39**	**118**			IAMs_20	IAMs_20	02 30 14.8											
	comp=Z,4µm,20.0s																		
YERR	**Yerington**	**91.41**	**42**			IAmb	IAmb	01 58 40.3											
	comp=Z,60nm,1.2s																		
NVAR	**Mina Array Bea**	**91.54**	**43**			P	**P**	**01 58 38.5**	**+0.6**										
NVAR	**Mina Array Bea**	**91.54**	**43**			P	**P**	**01 58 38.0**	**+0.2**										
	comp=Z,19nm,0.9s,baz=218,slow=7.6,SNR=84																		
NVAR						S	**SKSac**	**02 08 59.8**	**-9.3**										
	comp=Z,0.9nm,0.7s,baz=205,slow=6.6,SNR=3.9																		
NVAR						PKKPbc	**PKKPdf**	**02 15 56.0**	**-0.5**										
	comp=Z,0.7nm,0.6s,baz=104,slow=5.4,SNR=3.7																		
NVAR						PKPPKP	**P'P'df**	**02 24 08.9**	**+4.5**										
	comp=Z,2.5nm,1.0s,baz=65,slow=2.7,SNR=5.7																		
NVAR						LR	LR	02 37 03.9											
	comp=Z,5µm,18.0s,baz=230,slow=34																		
	comp=Z,19nm,0.9s																		
YBH	**Yreka Blue Hor**	**91.54**	**38**			IAmb	IAmb	01 58 41.1											
	comp=Z,89nm,1.4s																		
YBH						IAMs_20	IAMs_20	02 33 10.2											
	comp=Z,4µm,20.0s																		
YBH	**Yreka Blue Hor**	**91.54**	**38**			LR	LR	02 33 11.0											
	comp=Z,4µm,19.5s,baz=228,slow=31																		
RYN	**Ryan**	**91.55**	**43**			IAmb	IAmb	01 58 43.7											
	comp=Z,53nm,1.2s																		
PB06	**IPOC Station P**	**91.58**	**119**			P	**P**	**01 58 37.3**	**-1.2**										
PB06						IAmb	IAmb	01 58 44.7											
	comp=Z,86nm,1.1s																		
PB06						IAMs_20	IAMs_20	02 31 47.7											
	comp=Z,4µm,19.0s																		
Y14A	**Wickenburg**	**91.62**	**49**			IAmb	IAmb	01 58 45.2											
	comp=Z,93nm,1.0s																		
V12A	**Nelson**	**91.69**	**47**			IAmb	IAmb	01 58 45.2											
	comp=Z,92nm,1.3s																		
TLIG	**Tlapa**	**91.72**	**70**			IAmb	IAmb	01 58 46.6											
	comp=Z,115nm,1.2s																		
TLIG						IAMs_20	IAMs_20	02 34 07.0											
	comp=Z,3µm,19.0s																		
SPIA	**Saint Paul Isl**	**91.72**	**4**			P	**P**	**01 58 40.0**	**+2.1**										
	baz=187																		
ZAIG	**Zacatecas**	**91.76**	**64**			IAmb	IAmb	01 58 46.0											
	comp=Z,53nm,1.2s																		
K02D	**Willamette Mer**	**91.77**	**37**			IAmb	IAmb	01 58 42.3											
	comp=Z,123nm,1.4s																		
TYV	**Tymovskoe**	**91.83**	**336**		*e*	P	**P**	**01 58 40.7**	**+2.2**										
TYV					*e*	S	**S**	**02 09 44.0**	**+6.1**										
TYV						pmax	pmax												
	comp=Z,91nm,1.7s																		
TYV						pmax	pmax												
	comp=Z,1µm,3.6s																		
TYV						smax	smax												
	comp=N,1µm,9.1s																		
TYV						smax	smax												
	comp=E,1µm,9.1s																		
PAHR	**Pah Rah Range**	**91.84**	**41**			IAmb	IAmb	01 58 42.2											
	comp=Z,76nm,1.4s																		
W13A	**Hualapai Mount**	**91.85**	**48**			IAmb	IAmb	01 58 43.5											
	comp=Z,84nm,1.2s																		
DL2	**Dalian**	**91.88**	**317**			P	**P**	**01 58 39.3**	**+0.2**										
DL2						SKS	**SKSac**	**02 09 12.1**	**+1.7**										
DL2						S	**S**	**02 09 39.8**	**+0.8**										
DL2						pmax	pmax												
	comp=Z,140nm,0.8s																		
DL2						pmax	pmax												
	comp=Z,2µm,6.1s																		
DL2						LR	LR												
	comp=Z,1µm,16.6s																		
DL2						LR	LR												
	comp=Z,2µm,17.6s																		
DL2						LR	LR												
	comp=Z,3µm,19.3s																		
MDJ	**Mudanjiang**	**91.96**	**326**			P	**P**	**01 58 40.3**	**+0.9**										
MDJ						pP	pP	01 58 43.3	-1.2										
MDJ						sP	sP	01 58 44.9	-1.4										
MDJ						S	**S**	**02 09 40.5**	**+1.0**										
MDJ						SS	**SS**	**02 15 52.8**	**+3.5**										
MDJ						pmax	pmax												
	comp=Z,140nm,1.5s																		
MDJ						pmax	pmax												
	comp=Z,2µm,5.4s																		
MDJ						LR	LR												
	comp=Z,1µm,19.1s																		
MDJ						LR	LR												
	comp=Z,2µm,19.6s																		
MDJ						LR	LR												
	comp=Z,4µm,18.1s																		
MDJ	**Mudanjiang**	**91.96**	**326**			IAMs_20	IAMs_20	02 38 46.0											
	comp=Z,3µm,19.0s																		
TUC	**Tucson**	**91.97**	**52**			P	**P**	**01 58 41.5**	**+1.6**										
TUC						IAmb	IAmb	01 58 46.7											
	comp=Z,81nm,1.1s																		
TUC	**Tucson**	**91.97**	**52**			IAMs_20	IAMs_20	02 31 56.5											
	comp=Z,4µm,20.0s																		
TUC	**Tucson**	**91.97**	**52**			P	**P**	**01 58 42.7**	**+2.8**										
	baz=230																		
TUC	**Tucson**	**91.97**	**52**			P	**P**	**01 58 41.5**	**+1.6**										
TUC						pmax	pmax												
	comp=Z,81nm,1.1s																		
S14K	**Fog Glacier**	**91.98**	**10**			P	**P**	**01 58 41.4**	**+2.2**										
	baz=195																		
J01E	**Myrtle Point**	**91.98**	**37**			IAmb	IAmb	01 58 43.1											
	comp=Z,93nm,1.2s																		
SHPR	**Sheep Range**	**92.03**	**46**			IAmb	IAmb	01 58 46.1											
	comp=Z,62nm,1.7s																		
HPIG		**92.05**	**59**			IAmb	IAmb	01 58 46.2											
	comp=Z,34nm,0.9s																		
HPIG						IAMs_20	IAMs_20	02 31 21.0											
	comp=Z,6µm,20.0s																		
HUMO	**Hull Mountain**	**92.06**	**37**			IAMs_20	IAMs_20	02 33 23.9											
	comp=Z,4µm,20.0s																		
KVN	**Kaiserville**	**92.08**	**43**			IAmb	IAmb	01 58 46.5											
	comp=Z,43nm,1.2s																		
CMBY	**CAMPBELL BAY**	**92.09**	**277**		*ex*		x	02 04 21.3											
L04D	**Klamath Falls**	**92.10**	**38**			IAmb	IAmb	01 58 43.3											
	comp=Z,103nm,1.2s																		
LVC	**Limon Verde**	**92.12**	**119**			P	**P**	**01 58 42.6**	**+1.3**										
LVC	**Limon Verde**	**92.12**	**119**			IAMs_20	IAMs_20	02 31 06.9											
	comp=Z,4µm,20.0s																		
LVC	**Limon Verde**	**92.12**	**119**			LR	LR	02 31 58.3											
	comp=Z,3µm,19.4s,baz=222,slow=30																		
LVC	**Limon Verde**	**92.12**	**119**			P	**P**	**01 58 42.6**	**+1.3**										
LVC						pmax	pmax												
	comp=Z,122nm,1.2s																		
LVC	**Limon Verde**	**92.12**	**119**		*e*	P	**P**	**01 58 43.8**	**+2.5**										
CHGN	**Chignik**	**92.17**	**11**			P	**P**	**01 58 41.5**	**+1.6**										
	baz=196																		
CHIR	**Chirikof Islan**	**92.18**	**13**			IAMs_20	IAMs_20	02 32 41.5											
	comp=Z,4µm,21.0s																		
CHIR	**Chirikof Islan**	**92.18**	**13**			P	**P**	**01 58 41.1**	**+1.1**										
	baz=199																		
UNM	**Universidad Na**	**92.27**	**68**			IAMs_20	IAMs_20	02 34 56.7											
	comp=Z,4µm,19.0s																		
DBO	**Dodson Butte**	**92.29**	**37**			IAmb	IAmb	01 58 44.6											
	comp=Z,105nm,1.4s																		
319A	**Douglas**	**92.35**	**53**			IAmb	IAmb	01 58 45.7											
	comp=Z,79nm,1.1s																		
319A						IAMs_20	IAMs_20	02 37 07.8											
	comp=Z,4µm,18.0s																		
PB09	**IPOC Station P**	**92.39**	**118**			IAmb	IAmb	01 58 49.2											
	comp=Z,99nm,1.1s																		
PB09						IAMs_20	IAMs_20	02 31 36.1											
	comp=Z,4µm,21.0s																		
SLVN	**Son La**	**92.40**	**294**			IAmb	IAmb	01 58 45.3											
	comp=Z,66nm,1.6s																		
S11A	**Rachel**	**92.46**	**45**			IAmb	IAmb	01 58 47.6											
	comp=Z,68nm,1.3s																		
NNA	**Nana**	**92.51**	**106**			IAMs_20	IAMs_20	02 31 04.8											
	comp=Z,4µm,20.0s																		
NNA	**Nana**	**92.51**	**106**			LR	LR	02 33 27.4											
	comp=Z,4µm,18.1s,baz=222,slow=31																		
NNA	**Nana**	**92.51**	**106**	*ce*		P	**P**	**01 58 44.0**	**+1.2**										
NNA						pmax	pmax												
	comp=Z,123nm,1.5s																		
NNA						MLR	MLR												
	comp=Z,6µm,17.0s																		
TIA	**Tai'an**	**92.66**	**313**			P	**P**	**01 58 43.6**	**+0.8**										
TIA						PP	**PP**	**02 02 26.8**	**+1.7**										
TIA						pmax	pmax												
	comp=Z,65nm,1.2s																		
TIA						pmax	pmax	

Q17K	**Contact Creek**	**94.45**	**12**	P	**P**	**01 58 51.2**	**+0.5**
	baz=198								
LYN	**LuoYang**	**94.47**	**309**	⇓P	**P**	**01 58 52.0**	**+0.8**
LYN				PP	**PP**	**02 02 35.9**	**-3.5**
LYN				pmax	pmax		
	comp=Z,76nm,1.9s						
LYN				pmax	pmax		
	comp=Z,2µm,9.3s						
LYN				LR	LR		
	comp=Z,3µm,18.2s						
LYN				LR	LR		
	comp=Z,1µm,17.9s						
LYN				LR	LR		
	comp=Z,3µm,19.2s						
CM31	**Chiang Mai Arr**	**94.53**	**289**	P	**P**	**01 58 52.6**	**+0.7**
	SNR=17						
CM31				P	**P**	**01 58 52.6**	**+0.7**
	SNR=17						
CMAR	**Chiang Mai Arr**	**94.53**	**289**	P	**P**	**01 58 51.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**94.53**	**289**	P	**P**	**01 58 51.8**	**0.0**
	comp=Z,16nm,1.0s,baz=150,slow=3.4,SNR=54						
CMAR				PP	**PP**	**02 02 38.8**	**-1.3**
	comp=Z,6.5nm,0.8s,baz=136,slow=5.4,SNR=9.0						
CMAR				PKKPbc	**PKKPbc**	**02 15 49.9**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=301,slow=3.7,SNR=6.2						
CMAR				LR	LR	02 41 36.0	
	comp=Z,794nm,21.9s,baz=135,slow=36						
	comp=Z,16nm,1.0s						
CMAR	**Chiang Mai Arr**	**94.53**	**289**	*ce*P	**P**	**01 58 52.4**	**+0.5**
CMAR				pmax	pmax		
	comp=Z,19nm,1.0s						
KLR	**Kul'dur**	**94.56**	**330**	P	**P**	**01 58 50.9**	**-0.3**
	comp=Z,12nm,1.0s,baz=115,slow=3.8,SNR=36						
KLR				S	**SKSac**	**02 09 26.4**	**+1.7**
	comp=Z,1.2nm,0.9s,baz=143,slow=20,SNR=7.9						
KLR				LR	LR	02 39 15.3	
	comp=Z,4µm,19.3s,baz=148,slow=34						
	comp=Z,12nm,1.0s						
KLR	**Kul'dur**	**94.56**	**330**	*ce*P	**P**	**01 58 52.0**	**+0.8**
KLR				pmax	pmax		
	comp=Z,62nm,1.5s						
KLR				MLR	MLR		
	comp=Z,5µm,20.0s						
KDAK	**Kodiak Island**	**94.59**	**14**	P	**P**	**01 58 52.2**	**+1.1**
	baz=201						
KDAK	**Kodiak Island**	**94.59**	**14**	LR	LR	02 33 40.7	
	comp=Z,3µm,21.5s,baz=226,slow=30						
O14K	**Tigyukauivet M**	**94.62**	**9**	IAMs_20	IAMs_20	02 40 14.0	
	comp=Z,4µm,20.0s						
O14K	**Tigyukauivet M**	**94.62**	**9**	P	**P**	**01 58 52.3**	**+1.0**
	baz=194						
E03A	**Lebam**	**94.66**	**34**	IAmb	IAmb	01 58 55.2	
	comp=Z,146nm,1.6s						
HOOD	**Mount Hood Mea**	**94.68**	**36**	IAmb	IAmb	01 58 54.9	
	comp=Z,61nm,1.2s						
Q16K	**King Salmon**	**94.72**	**11**	P	**P**	**01 58 52.8**	**+1.1**
	baz=198						
CHTO	**Chiang Mai**	**94.73**	**289**	P	**P**	**01 58 52.5**	**-0.3**
CHTO	**Chiang Mai**	**94.73**	**289**	P	**P**	**01 58 52.5**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,36nm,1.1s						
O15K	**Ungalikthiuk R**	**94.74**	**9**	P	**P**	**01 58 52.0**	**+0.2**
	baz=195						
F04A	**Amboy**	**94.75**	**35**	IAmb	IAmb	01 58 55.1	
	comp=Z,67nm,1.1s						
MTPU	**Mount Pierson**	**94.82**	**46**	IAmb	IAmb	01 59 00.8	
	comp=Z,67nm,1.3s						
ELK	**Elko**	**94.84**	**43**	LR	LR	02 39 17.1	
	comp=Z,5µm,18.0s,baz=231,slow=34						
P16K	**Nushagak River**	**94.86**	**10**	P	**P**	**01 58 52.0**	**-0.3**
	baz=197						
I07A	**Izee**	**94.86**	**38**	IAmb	IAmb	01 58 56.1	
	comp=Z,48nm,1.3s						
VHRN	**Van Horn**	**94.87**	**56**	IAmb	IAmb	01 58 59.7	
	comp=Z,86nm,1.5s						
J08A	**Circle Bar Ran**	**94.89**	**39**	IAmb	IAmb	01 58 56.0	
	comp=Z,67nm,1.2s						
HNS	**HongShan**	**94.90**	**313**	⇓P	**P**	**01 58 53.9**	**+0.9**
HNS				SKS	**SKSac**	**02 09 27.5**	**+0.4**
HNS				S	**S**	**02 10 06.0**	**+0.3**
HNS				pmax	pmax		
	comp=Z,83nm,1.6s						
HNS				pmax	pmax		
	comp=Z,1µm,7.2s						
HNS				LR	LR		
	comp=Z,1µm,18.3s						
HNS				LR	LR		
	comp=Z,2µm,18.3s						
HNS				LR	LR		
	comp=Z,2µm,18.2s						
TX31	**Lajitas Ar. Si**	**94.90**	**58**	IAmb	IAmb	01 58 59.4	
	comp=Z,43nm,1.1s						
TXAR	**Lajitas Array**	**94.90**	**58**	P	**P**	**01 58 54.8**	**+1.4**
TXAR	**Lajitas Array**	**94.90**	**58**	P	**P**	**01 58 54.4**	**+0.9**
	comp=Z,13nm,0.9s,baz=201,slow=6.6,SNR=87						
TXAR				PKKPbc	**PKKPdf**	**02 15 49.8**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=87,slow=3.6,SNR=9.5						
TXAR				PKPPKP	**P'P'df**	**02 23 59.6**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=56,slow=5.5,SNR=4.0						
TXAR				LR	LR	02 37 19.0	
	comp=Z,3µm,18.0s,baz=228,slow=33						
	comp=Z,13nm,0.9s						
MVU	**Marysvale**	**95.11**	**46**	IAmb	IAmb	01 59 01.7	
	comp=Z,108nm,1.3s						
MNTX	**Cornudas Mount**	**95.16**	**55**	P	**P**	**01 58 56.2**	**+1.8**
	baz=232						
M11K	**Mekoryuk**	**95.21**	**6**	P	**P**	**01 58 54.7**	**+0.8**
	baz=190						
N14K	**Kuskokwak Cree**	**95.22**	**8**	P	**P**	**01 58 55.5**	**+1.6**
	baz=194						
P17K	**Kvichak River**	**95.25**	**11**	P	**P**	**01 58 55.2**	**+1.1**
	baz=198						
O16K	**Kokwok River B**	**95.38**	**10**	P	**P**	**01 58 55.6**	**+0.9**
	baz=197						
Q20K	**Shuyak Island**	**95.40**	**13**	P	**P**	**01 58 56.3**	**+1.5**
	baz=201						
SYI	**Shuyak Island**	**95.40**	**13**	IAMs_20	IAMs_20	02 44 12.8	
	comp=Z,4µm,18.0s						
Q19K	**Cape Douglas,**	**95.47**	**13**	IAMs_20	IAMs_20	02 40 33.6	
	comp=Z,3µm,19.0s						
Q19K	**Cape Douglas,**	**95.47**	**13**	P	**P**	**01 58 55.9**	**+0.7**
	baz=200						
KMI	**Kunming**	**95.48**	**297**	⇑P	**P**	**01 58 57.0**	**+0.7**
KMI				PP	**PP**	**02 02 47.8**	**+0.1**
KMI				SKS	**SKSac**	**02 09 31.5**	**+0.2**
KMI				S	**ScS**	**02 10 12.8**	**+0.2**
KMI				pmax	pmax		
	comp=Z,38nm,1.0s						
KMI				pmax	pmax		
	comp=Z,690nm,10.1s						
KMI				LR	LR		
	comp=Z,880nm,17.1s						
KMI				LR	LR		
	comp=Z,2µm,18.2s						
KMI				LR	LR		
	comp=Z,3µm,18.1s						
M13K	**Dall Lake**	**95.52**	**7**	P	**P**	**01 58 56.1**	**+0.8**
	baz=192						
ALPN	**Alpine**	**95.55**	**57**	IAmb	IAmb	01 59 02.5	
	comp=Z,58nm,1.1s						
Y22D	**IRIS PASSCAL I**	**95.59**	**52**	IAMs_20	IAMs_20	02 34 42.4	
	comp=Z,5µm,19.0s						
Y22D	**IRIS PASSCAL I**	**95.59**	**52**	P	**P**	**01 58 58.2**	**+1.7**
	baz=232						
Y22F	**Passcal Instru**	**95.59**	**52**	P	**P**	**01 58 58.4**	**+1.9**
	baz=232						
P18K	**Big Mountain,**	**95.64**	**12**	P	**P**	**01 58 56.4**	**+0.5**
	baz=199						
ITQB	**Itaqui**	**95.64**	**132**	IAmb	IAmb	01 59 01.8	
	comp=Z,101nm,1.3s						
PBA	**Port Blair**	**95.65**	**280**	*ex*	x	02 02 45.7	
PBA				IAmb	IAmb	02 03 07.1	
	comp=Z,72nm,1.8s						
PBA	**Port Blair**	**95.65**	**280**	P	**P**	**01 58 56.8**	**-0.2**
	SNR=12						
N15K	**Kwethluk River**	**95.66**	**9**	IAmb	IAmb	01 59 19.7	
	comp=Z,35nm,0.9s						
N15K				IAMs_20	IAMs_20	02 39 23.4	
	comp=Z,4µm,20.0s						
N15K	**Kwethluk River**	**95.66**	**9**	P	**P**	**01 58 56.5**	**+0.5**
	baz=195,SNR=6.8						
O17K	**Koliganek Bris**	**95.70**	**11**	P	**P**	**01 58 55.9**	**-0.3**
	baz=198						
BJI	**Beijing**	**95.75**	**315**	P	**P**	**01 58 57.5**	**+0.6**
BJI				sP	**sP**	**01 59 03.0**	**-0.8**
BJI				SKS	**SKSac**	**02 09 33.9**	**+2.4**
BJI				S	**ScS**	**02 10 15.8**	**+2.2**
BJI				pmax	pmax		
	comp=Z,15nm,1.0s						
BJI				pmax	pmax		
	comp=Z,450nm,8.4s						
BJI				LR	LR		
	comp=Z,400nm,18.9s						
BJI				LR	LR		
	comp=Z,790nm,18.9s						
BJI				LR	LR		
	comp=Z,1µm,18.5s						
DUG	**Dugway, Tooele**	**95.86**	**44**	P	**P**	**01 58 57.3**	**-0.3**
	baz=229						
HG4B	**Hotspring**	**95.86**	**27**	IAmb	IAmb	01 59 00.8	
	comp=Z,36nm,1.1s						
D05A	**Enumclaw**	**95.87**	**35**	IAmb	IAmb	01 59 01.7	
	comp=Z,64nm,1.1s						
PLTB	**Pedras Altas**	**95.94**	**135**	IAmb	IAmb	01 59 02.9	
	comp=Z,41nm,1.3s						
G08A	**Pilot Rock**	**95.99**	**38**	IAmb	IAmb	01 59 01.0	
	comp=Z,44nm,1.1s						
Q16A	**Castle Valley**	**95.99**	**46**	IAMs_20	IAMs_20	02 34 45.8	
	comp=Z,4µm,20.0s						
M14K	**Bethel**	**96.00**	**8**	IAmb	IAmb	01 59 13.1	
	comp=Z,53nm,1.4s						
M14K				IAMs_20	IAMs_20	02 40 48.3	
	comp=Z,3µm,20.0s						
M14K	**Bethel**	**96.00**	**8**	P	**P**	**01 58 58.9**	**+1.4**
	baz=194						
CCIG	**Comitan**	**96.03**	**74**	IAMs_20	IAMs_20	02 36 09.6	
	comp=Z,4µm,18.0s						
O18K	**Koktuh Hills**	**96.08**	**11**	IAmb	IAmb	01 59 01.1	
	comp=Z,75nm,1.4s						
O18K				IAMs_20	IAMs_20	02 39 00.6	
	comp=Z,3µm,20.0s						
O18K	**Koktuh Hills**	**96.08**	**11**	P	**P**	**01 58 56.7**	**-1.2**
	baz=199						
M15K	**Kasigluk River**	**96.10**	**9**	P	**P**	**01 58 59.3**	**+1.4**
	baz=195,SNR=7.0						
N16K	**Nishlik Lake**	**96.13**	**10**	P	**P**	**01 58 58.8**	**+0.6**
	baz=196						
P19K	**Oil Pt**	**96.23**	**13**	P	**P**	**01 58 59.6**	**+1.0**
	baz=201						
MFID	**Camas Ranch**	**96.33**	**41**	IAMs_20	IAMs_20	02 48 07.1	
	comp=Z,3µm,18.0s						
N17K	**Nushagak Hills**	**96.41**	**10**	P	**P**	**01 59 00.7**	**+1.3**
	baz=198						
ANMO	**Albuquerque**	**96.43**	**52**	P	**P**	**01 59 01.1**	**+0.7**
ANMO	**Albuquerque**	**96.43**	**52**	IAMs_20	IAMs_20	02 35 49.6	
	comp=Z,5µm,20.0s						
ANMO	**Albuquerque**	**96.43**	**52**	P	**P**	**01 59 02.4**	**+1.9**
	baz=232						
ANMO	**Albuquerque**	**96.43**	**52**	LR	LR	02 35 31.9	
	comp=Z,6µm,19.2s,baz=322,slow=31						
ANMO	**Albuquerque**	**96.43**	**52**	*ce*P	**P**	**01 59 02.0**	**+1.6**
ANMO				pmax	pmax		
	comp=Z,21nm,1.1s						
XAN	**Xi'an**	**96.45**	**307**	⇓P	**P**	**01 59 00.8**	**+0.5**
XAN				pP	pP	01 59 04.3	-1.1
XAN				sP	sP	01 59 07.0	-0.2
XAN				S	**S**	**02 10 15.1**	**-4.4**
XAN				SS	**SS**	**02 16 52.9**	**-0.9**
XAN				pmax	pmax		
	comp=Z,42nm,1.8s						
XAN				pmax	pmax		
	comp=Z,2µm,8.6s						
XAN				LR	LR		
	comp=Z,2µm,19.0s						
XAN				LR	LR		
	comp=Z,2µm,19.7s						
XAN				LR	LR		
	comp=Z,4µm,18.7s						
CNPM	**China Poot**	**96.48**	**14**	IAMs_20	IAMs_20	02 44 39.2	
	comp=Z,5µm,19.0s						
TIY	**Taiyuan**	**96.48**	**312**	⇓P	**P**	**01 59 01.0**	**+0.6**
TIY				PP	**PP**	**02 02 52.3**	**-2.8**
TIY				S	**S**	**02 10 19.3**	**-0.3**
TIY				SS	**SS**	**02 16 52.9**	**-1.4**
TIY				pmax	pmax		
	comp=Z,710nm,7.7s						
TIY				LR	LR		
	comp=Z,750nm,19.2s						
TIY				LR	LR		
	comp=Z,640nm,19.9s						
TIY				LR	LR		
	comp=Z,530nm,19.2s						
L14K	**Kuka Creek**	**96.50**	**8**	IAmb	IAmb	01 59 04.3	
	comp=Z,110nm,1.9s						
L14K				IAMs_20	IAMs_20	02 44 51.4	
	comp=Z,3µm,18.0s						
L14K	**Kuka Creek**	**96.50**	**8**	P	**P**	**01 59 02.6**	**+2.9**
	baz=193						
SRU	**San Rafael Swe**	**96.50**	**46**	IAmb	IAmb	01 59 07.5	
	comp=Z,26nm,1.0s						
HOM	**Homer**	**96.52**	**13**	IAMs_20	IAMs_20	02 44 41.4	
	comp=Z,4µm,19.0s						
HOM	**Homer**	**96.52**	**13**	P	**P**	**01 59 01.2**	**+1.3**
	baz=202						
MVCO	**Mesa Verde**	**96.54**	**49**	IAMs_20	IAMs_20	02 35 18.2	
	comp=Z,6µm,20.0s						
MVCO	**Mesa Verde**	**96.54**	**49**	P	**P**	**01 59 02.7**	**+1.8**
	baz=231						
O19K	**Port Alsworth**	**96.55**	**12**	IAMs_20	IAMs_20	02 44 58.0	
	comp=Z,3µm,18.0s						
O19K	**Port Alsworth**	**96.55**	**12**	P	**P**	**01 59 01.7**	**+1.7**
	baz=200						
M16K	**Timber Creek**	**96.64**	**9**	IAmb	IAmb	01 59 21.6	
	comp=Z,34nm,1.1s						
M16K				IAMs_20	IAMs_20	02 39 54.2	
	comp=Z,4µm,20.0s						
M16K	**Timber Creek**	**96.64**	**9**	P	**P**	**01 59 02.4**	**+2.0**
	baz=196,SNR=9.1						
LPAZ	**La Paz**	**96.64**	**115**	IAmb	IAmb	01 59 07.7	
	comp=Z,36nm,1.2s						
LPAZ	**La Paz**	**96.64**	**115**	P	**P**	**01 59 02.4**	**0.0**
	comp=Z,13nm,0.9s,baz=200,slow=5.2,SNR=30						
LPAZ				LR	LR	02 34 44.3	
	comp=Z,1µm,20.0s,baz=209,slow=30						
	comp=Z,13nm,0.9s						
LPAZ	**La Paz**	**96.64**	**115**	*e*P	**P**	**01 59 03.1**	**+0.7**
APG	**El Apazote**	**96.66**	**76**	LR	LR	02 35 48.4	
	comp=Z,126nm,18.1s,baz=244,slow=31						
O20K	**Slope Mountain**	**96.74**	**13**	P	**P**	**01 59 01.7**	**+0.7**
	baz=201						
N18K	**Killik Creek**	**96.75**	**11**	P	**P**	**01 59 01.3**	**+0.3**
	baz=198						
BRLK	**Bradley Lake**	**96.77**	**14**	IAMs_20	IAMs_20	02 45 14.5	
	comp=Z,5µm,19.0s						
BRSE	**Bradley Lake S**	**96.77**	**14**	P	**P**	**01 59 01.4**	**+0.3**
	baz=203						
K13K	**Kusilvak Mount**	**96.88**	**6**	P	**P**	**01 59 02.3**	**+0.8**
	baz=191						
SNET	**Serv Nac Est T**	**96.92**	**78**	IAMs_20	IAMs_20	02 38 47.2	
	comp=Z,5µm,18.0s						
L15K	**Ungalak Mounta**	**96.96**	**8**	P	**P**	**01 59 03.0**	**+1.2**
	baz=194						
BBB	**Bella Bella**	**96.96**	**28**	LR	LR	02 42 26.4	
	comp=Z,2µm,18.0s,baz=223,slow=35						
PZH	**PanZhiHua**	**97.01**	**297**	P	**P**	**01 59 00.3**	**-2.8**
PZH				SKS	**SKSac**	**02 09 40.6**	**+1.6**
PZH				S	**S**	**02 10 23.8**	**-1.0**
PZH				SS	**SS**	**02 17 01.3**	**-0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,560nm,7.4s						
PZH				LR	LR		
	comp=Z,1µm,18.4s						
PZH				LR	LR		
	comp=Z,2µm,18.4s						
PZH				LR	LR		
	comp=Z,1µm,18.2s						
N19K	**Bonanza Creek**	**97.11**	**12**	IAMs_20	IAMs_20	02 39 21.7	
	comp=Z,3µm,20.0s						
N19K	**Bonanza Creek**	**97.11**	**12**	P	Pdif	01 59 03.0	+0.2
	baz=200						
HEH	**HeiHe**	**97.17**	**328**	*e*P	**P**	**01 59 03.0**	**-0.1**
HEH				sP	**sP**	**01 59 09.3**	**-0.7**
HEH				SKS	**SKSac**	**02 09 36.8**	**-1.6**
HEH				S	**S**	**02 10 24.6**	**-0.1**
HEH				pmax	pmax		
	comp=Z,21nm,1.5s						
HEH				pmax	pmax		
	comp=Z,860nm,9.5s						
HEH				LR	LR		
	comp=Z,2µm,18.6s						
HEH				LR	LR		
	comp=Z,1µm,17.7s						
HEH				LR	LR		
	comp=Z,3µm,19.0s						
HLID	**Hailey**	**97.19**	**41**	IAMs_20	IAMs_20	02 48 50.9	
	comp=Z,4µm,18.0s						
HLID	**Hailey**	**97.19**	**41**	P	**P**	**01 59 03.3**	**-0.3**
	baz=228,SNR=16						
M17K	**Holitna River**	**97.21**	**10**	IAmb	IAmb	01 59 34.3	
	comp=Z,86nm,1.8s						
M17K				IAMs_20	IAMs_20	02 40 03.4	
	comp=Z,4µm,20.0s						
M17K	**Holitna River**	**97.21**	**10**	P	**P**	**01 59 02.8**	**-0.2**
	baz=197						
L16K	**Owhat River**	**97.23**	**9**	IAmb	IAmb	01 59 06.0	
	comp=Z,55nm,1.6s						
L16K				IAMs_20	IAMs_20	02 37 47.0	
	comp=Z,4µm,20.0s						
L16K	**Owhat River**	**97.23**	**9**	P	Pdif	01 59 04.2	+1.1
	baz=196,SNR=5.9						
D08A	**Wollman Farm,**	**97.25**	**36**	IAmb	IAmb	01 59 09.1	
	comp=Z,26nm,1.0s						
TCUT	**Toone Canyon**	**97.27**	**44**	IAmb	IAmb	01 59 11.6	
	comp=Z,31nm,1.3s						
MA2	**Magadan**	**97.31**	**345**	IAMs_20	IAMs_20	02 41 56.5	
	comp=Z,4µm,20.0s						
ODSA	**Odessa**	**97.33**	**56**	IAmb	IAmb	01 59 10.7	
	comp=Z,70nm,1.5s						
833A	**Chaparral WMA,**	**97.33**	**61**	IAmb	IAmb	01 59 09.2	
	comp=Z,59nm,1.5s						
833A				IAMs_20	IAMs_20	02 38 45.2	
	comp=Z,5µm,18.0s						
833A	**Chaparral WMA,**	**97.33**	**61**	P	Pdif	01 59 04.6	+0.1
	baz=235						
SEW	**Seward**	**97.36**	**14**	P	Pdif	01 59 04.2	+0.4
	baz=204						
PLID	**Pearl Lake**	**97.37**	**39**	IAmb	IAmb	01 59 07.0	
	comp=Z,43nm,1.2s						
Q23K	**Middleton Isla**	**97.41**	**16**	IAMs_20	IAMs_20	02 38 03.1	
	comp=Z,3µm,20.0s						
Q23K	**Middleton Isla**	**97.41**	**16**	P	Pdif	01 59 04.7	+0.7
	baz=206						
M18K	**Stony River**	**97.53**	**11**	P	**P**	**01 59 04.2**	**-0.2**
	baz=199,SNR=5.3						
CPUP	**Villa Florida**	**97.55**	**129**	IAMs_20	IAMs_20	02 34 37.3	
	comp=Z,5µm,22.0s						
CPUP	**Villa Florida**	**97.55**	**129**	P	**P**	**01 59 05.2**	**-0.4**
	comp=Z,8.4nm,1.0s,baz=220,slow=6.5,SNR=9.7						
CPUP				PKKPbc	**PKKPbc**	**02 15 41.8**	**+0.6**
	comp=Z,6.0nm,0.7s,baz=64,slow=2.0,SNR=12						
CPUP				LR	LR	02 35 00.1	
	comp=Z,5µm,22.0s,baz=230,slow=30						
	comp=Z,8.4nm,1.0s						
K15K	**Wolf Creek Mou**	**97.55**	**8**	IAmb	IAmb	01 59 30.3	
	comp=Z,35nm,1.2s						
K15K				IAMs_20	IAMs_20	02 41 56.4	
	comp=Z,3µm,20.0s						
K15K	**Wolf Creek Mou**	**97.55**	**8**	P	Pdif	01 59 05.5	+0.9
	baz=194						
CAPN	**Captain Cook N**	**97.65**	**13**	IAMs_20	IAMs_20	02 45 38.2	
	comp=Z,4µm,19.0s						
CAPN	**Captain Cook N**	**97.65**	**13**	P	Pdif	01 59 06.1	+1.1
	baz=202						
O22K	**Cooper Landing**	**97.66**	**14**	P	**P**	**01 59 04.4**	**-0.6**
	baz=204						
P23K	**Montague Islan**	**97.69**	**15**	P	Pdif	01 59 05.6	+0.4
	baz=205						
CRAG	**Craig**	**97.73**	**24**	P	Pdif	01 59 05.8	+0.3
	baz=216						
J14K	**Nanvaranak Lak**	**97.78**	**7**	IAMs_20	IAMs_20	02 47 12.5	
	comp=Z,4µm,19.0s						
J14K	**Nanvaranak Lak**	**97.78**	**7**	P	Pdif	01 59 05.7	+0.1
	baz=192						
L17K	**Donlin**	**97.80**	**9**	P	**P**	**01 59 05.6**	**-0.1**
	baz=197						
N20K	**Mount Spurr**	**97.86**	**12**	P	**P**	**01 59 05.8**	**-0.2**
	baz=202						
DUNO	**Dulce Nombre,**	**97.97**	**83**	IAMs_20	IAMs_20	02 38 02.1	
	comp=Z,3µm,18.0s						
CD2	**Chengdu**	**98.10**	**302**	P	Pdif	01 59 08.8	+0.9
CD2				PP	**PP**	**02 03 08.1**	**+0.5**
CD2				SKS	**SKSac**	**02 09 45.8**	**+1.5**
CD2				S	**ScS**	**02 10 36.8**	**+2.9**
CD2				SS	**SS**	**02 17 13.3**	**-3.9**
CD2				pmax	pmax		
	comp=Z,30nm,1.3s						
CD2				pmax	pmax		
	comp=Z,750nm,7.1s						
CD2				LR	LR		
	comp=Z,570nm,15.2s						
CD2				LR	LR		
	comp=Z,670nm,14.0s						
CD2				LR	LR		
	comp=Z,1µm,16.5s						
L18K	**Granite Mounta**	**98.10**	**10**	IAMs_20	IAMs_20	02 40 40.0	
	comp=Z,4µm,20.0s						
L18K	**Granite Mounta**	**98.10**	**10**	P	**P**	**01 59 06.6**	**-0.4**
	baz=198						
PULU	**Pululahua**	**98.10**	**96**	IAMs_20	IAMs_20	02 34 27.0	
	comp=Z,5µm,21.0s						
V35K	**Ketchikan**	**98.13**	**25**	IAMs_20	IAMs_20	02 43 30.6	
	comp=Z,3µm,18.0s						
V35K	**Ketchikan**	**98.13**	**25**	P	**P**	**01 59 06.9**	**-0.4**
	baz=217						
M19K	**Big River Lodg**	**98.15**	**11**	IAMs_20	IAMs_20	02 40 04.5	
	comp=Z,4µm,20.0s						
M19K	**Big River Lodg**	**98.15**	**11**	P	**P**	**01 59 05.6**	**-1.7**
	baz=200						
ORTG	**Ortega, Santa**	**98.15**	**83**	IAMs_20	IAMs_20	02 38 43.1	
	comp=Z,4µm,18.0s						
SGCY	**Sterling City**	**98.19**	**57**	IAmb	IAmb	01 59 10.6	
	comp=Z,37nm,1.3s						
RC01	**Rabbit Creek A**	**98.21**	**14**	IAMs_20	IAMs_20	02 45 42.1	
	comp=Z,4µm,19.0s						
RC01	**Rabbit Creek A**	**98.21**	**14**	P	**P**	**01 59 06.8**	**-0.7**
	baz=204						
HZTE	**Horizontes, Gu**	**98.23**	**83**	IAMs_20	IAMs_20	02 38 29.1	
	comp=Z,4µm,18.0s						
HIN	**Hinchinbrook I**	**98.25**	**15**	IAMs_20	IAMs_20	02 38 44.2	
	comp=Z,5µm,20.0s						
U33K	**Whale Pass**	**98.25**	**24**	IAMs_20	IAMs_20	02 40 03.7	
	comp=Z,4µm,19.0s						
U33K	**Whale Pass**	**98.25**	**24**	P	**P**	**01 59 06.6**	**-1.1**
	baz=216						
MSTX	**Muleshoe**	**98.27**	**54**	IAmb	IAmb	01 59 11.1	
	comp=Z,32nm,1.2s						
MSTX	**Muleshoe**	**98.27**	**54**	P	**P**	**01 59 07.6**	**-1.1**
	baz=234						
JCT	**Junction City**	**98.28**	**59**	IAmb	IAmb	01 59 15.4	
	comp=Z,28nm,1.4s						
JCT				IAMs_20	IAMs_20	02 40 02.1	
	comp=Z,5µm,18.0s						
JCT	**Junction City**	**98.28**	**59**	P	**P**	**01 59 06.8**	**-1.9**
	baz=235						
KAIM	**Kayak Island**	**98.30**	**16**	IAMs_20	IAMs_20	02 38 31.6	
	comp=Z,4µm,19.0s						
KAIM	**Kayak Island**	**98.30**	**16**	P	**P**	**01 59 06.5**	**-1.4**
	baz=208						
SIT	**Sitka**	**98.31**	**22**	P	**P**	**01 59 06.9**	**-1.1**
	baz=215						
XLT	**XiLinHaoTe**	**98.32**	**318**	*e*P	Pdif	01 59 09.0	+0.4
XLT				pP	sP	01 59 13.9	-1.6
XLT				sP	pP	01 59 16.3	+2.6
XLT				PP	**PP**	**02 03 12.3**	**+3.2**
XLT				SKS	**SKSac**	**02 09 46.9**	**+2.0**
XLT				pmax	pmax		
	comp=Z,23nm,1.3s						
XLT

baz=232
EF01 Eagle Ford 01 **98.52 61** IAMs_20 IAMs_20 02 39 49.7
comp=Z,4µm,18.0s
JTS Las Juntas de **98.53 83** P **P** **01 59 09.4 -0.7**
JTS IAmb IAmb 01 59 17.2
comp=Z,23nm,1.1s
JTS Las Juntas de **98.53 83** IAMs_20 IAMs_20 02 38 09.9
comp=Z,4µm,18.0s
JTS Las Juntas de **98.53 83** LR LR 02 36 29.1
comp=Z,3µm,18.1s,baz=246,slow=31
JTS Las Juntas de **98.53 83** *i* P Pdif 01 59 10.2 +0.1
JTS pmax pmax
comp=Z,31nm,1.3s
JTS MLR MLR
comp=Z,3µm,16.0s
EYAK Cordova Ski Ar **98.55 16** P **P** **01 59 07.6 -1.4**
baz=207
GLI Glacier Island **98.56 15** IAmb IAmb 01 59 30.2
comp=Z,34nm,1.2s
GLI IAMs_20 IAMs_20 02 39 06.3
comp=Z,3µm,20.0s
GLI Glacier Island **98.56 15** P **P** **01 59 08.3 -0.8**
baz=206
TNCH TengChong **98.56 294** ⇓P Pdif 01 59 10.3 0.0
TNCH pP pP 01 59 13.1 -2.2
TNCH PP **PP** **02 03 09.9 -1.5**
TNCH SKS **SKSac** **02 09 47.8 +0.6**
TNCH S **S** **02 10 31.8 -6.4**
TNCH pmax pmax
comp=Z,580nm,9.4s
TNCH LR LR
comp=Z,720nm,23.2s
TNCH LR LR
comp=Z,660nm,21.0s
TNCH LR LR
comp=Z,3µm,41.0s
FID Port Fidalgo **98.57 15** IAmb IAmb 01 59 28.2
comp=Z,26nm,1.2s
FID IAMs_20 IAMs_20 02 50 30.5
comp=Z,4µm,19.0s
SUCK Suckling Hills **98.58 17** IAMs_20 IAMs_20 02 38 41.0
comp=Z,4µm,19.0s
POST Post **98.60 56** IAmb IAmb 01 59 16.4
comp=Z,48nm,1.5s
J16K Anvik River **98.62 8** IAmb IAmb 01 59 44.8
comp=Z,24nm,1.1s
J16K IAMs_20 IAMs_20 02 40 36.6
comp=Z,3µm,20.0s
J16K Anvik River **98.62 8** P **P** **01 59 08.2 -1.1**
baz=195
SMCO Snowmass **98.70 48** IAMs_20 IAMs_20 02 49 56.4
comp=Z,4µm,18.0s
SKT Skwentna **98.70 12** P **P** **01 59 08.0 -1.7**
baz=202
TGUH Tegucigalpa,Un **98.70 79** IAMs_20 IAMs_20 02 38 42.5
comp=Z,3µm,18.0s
BGLC Bering Glacier **98.74 17** P **P** **01 59 09.1 -0.8**
baz=209
SDCO Great Sand Dun **98.75 50** IAMs_20 IAMs_20 02 36 10.8
comp=Z,3µm,20.0s
SDCO Great Sand Dun **98.75 50** P **P** **01 59 09.3 -1.6**
baz=233
M22K Willow **98.75 13** IAMs_20 IAMs_20 02 46 22.4
comp=Z,4µm,19.0s
M22K Willow **98.75 13** P **P** **01 59 08.0 -1.9**
baz=203
WRAK Wrangell Islan **98.75 24** IAMs_20 IAMs_20 02 40 11.0
comp=Z,4µm,18.0s
WRAK Wrangell Islan **98.75 24** P **P** **01 59 08.3 -1.7**
baz=217
KNK Knik Glacier **98.76 14** IAMs_20 IAMs_20 02 43 05.7
comp=Z,3µm,20.0s
KNK Knik Glacier **98.76 14** P **P** **01 59 09.5 -0.6**
baz=205
L20K Farewell, AK **98.78 11** P **P** **01 59 08.3 -1.7**
baz=200
S31K Pelican **98.79 21** IAMs_20 IAMs_20 02 49 46.8
comp=Z,4µm,18.0s
S31K Pelican **98.79 21** P **P** **01 59 09.0 -1.1**
baz=214
PMR Palmer **98.79 14** P **P** **01 59 09.6 -0.5**
baz=204
ARE1 Arenal 1 **98.81 83** IAMs_20 IAMs_20 02 38 37.5
comp=Z,3µm,18.0s
T33K Petersburg **98.87 23** P **P** **01 59 09.7 -0.8**
baz=216
S32K Killisnoo **98.89 22** P **P** **01 59 10.3 -0.3**
baz=215
SNH Sunshine Point **98.90 17** IAMs_20 IAMs_20 02 48 59.5
comp=Z,5µm,18.0s
J17K VABM Dome **98.91 9** IAmb IAmb 02 02 57.2
comp=Z,56nm,1.9s
J17K IAMs_20 IAMs_20 02 44 37.4
comp=Z,3µm,20.0s
J17K VABM Dome **98.91 9** P **P** **01 59 10.1 -0.5**
baz=196
NEW Newport **98.96 36** P **P** **01 59 10.3 -1.0**
baz=227
NEW Newport **98.96 36** LR LR 02 36 42.8
comp=Z,5µm,19.2s,baz=232,slow=31
HHC Hu-ho-hao-te **98.97 314** *eP* Pdif 01 59 12.6 +1.0
HHC sP sP 01 59 20.1 +1.6
HHC SKS **SKSac** **02 09 46.9 -1.4**
HHC S **S** **02 10 37.0 -3.8**
HHC pmax pmax
comp=Z,6.0nm,0.9s
HHC pmax pmax
comp=Z,100nm,6.0s
HHC LR LR
comp=Z,810nm,18.2s
HHC LR LR
comp=Z,1µm,19.9s
HHC LR LR
comp=Z,410nm,19.9s
LCR2 La Lucha 2 **99.00 84** IAMs_20 IAMs_20 02 35 50.5
comp=Z,3µm,18.0s
TPAW Teton Pass **99.05 43** IAMs_20 IAMs_20 02 50 06.3
comp=Z,5µm,18.0s
HDC Heredia **99.05 84** IAMs_20 IAMs_20 02 37 30.0
comp=Z,3µm,18.0s
PEZE Perez Zeledon, **99.07 85** IAMs_20 IAMs_20 02 36 10.4
comp=Z,3µm,19.0s
T25A Trinidad **99.08 51** P **Pdif** **01 59 11.3 -1.0**
baz=233
MESA MESA **99.11 17** IAMs_20 IAMs_20 02 39 26.2
comp=Z,5µm,20.0s
MESA MESA **99.11 17** P **Pdif** **01 59 10.4 -1.4**
baz=210
WAX Waxell Ridge **99.13 17** IAmb IAmb 01 59 22.4
comp=Z,21nm,1.0s
WAX IAMs_20 IAMs_20 02 38 39.6
comp=Z,4µm,20.0s
SML Sawmill **99.15 14** IAMs_20 IAMs_20 02 43 27.8
comp=Z,3µm,19.0s
SML Sawmill **99.15 14** P **Pdif** **01 59 10.6 -1.2**
baz=205
U35K Hyder **99.15 25** IAMs_20 IAMs_20 02 43 45.6
comp=Z,4µm,18.0s
U35K Hyder **99.15 25** P **Pdif** **01 59 10.3 -1.5**
baz=219
BMRM Bremner River **99.18 16** P **Pdif** **01 59 11.3 -0.6**
baz=208
I17K Unalakleet **99.20 8** P **Pdif** **01 59 11.0 -0.8**
baz=195
M23K Glacier View **99.25 14** P **Pdif** **01 59 10.6 -1.6**
baz=205
CDITO Canoas **99.29 86** IAMs_20 IAMs_20 02 39 43.2
comp=Z,4µm,18.0s
J18K Innoko River **99.29 10** IAMs_20 IAMs_20 02 41 36.3
comp=Z,5µm,20.0s
J18K Innoko River **99.29 10** P **Pdif** **01 59 10.6 -1.7**
baz=198
R31K City Hall, Gus **99.31 21** P **Pdif** **01 59 10.1 -2.3**
baz=214
IMW Indian Meadow **99.32 43** IAMs_20 IAMs_20 02 49 56.2
comp=Z,4µm,18.0s
CUT Chulitna **99.33 13** IAMs_20 IAMs_20 02 46 42.6
comp=Z,4µm,18.0s
CUT Chulitna **99.33 13** P **Pdif** **01 59 11.7 -0.8**
baz=203
PNL Peninsula **99.33 19** P **Pdif** **01 59 11.7 -0.9**
baz=212
DLMT Dillon **99.35 41** IAMs_20 IAMs_20 02 43 02.1
comp=Z,4µm,19.0s
KLU Klutina **99.36 15** IAMs_20 IAMs_20 02 39 31.5
comp=Z,4µm,20.0s
KLU Klutina **99.36 15** P **Pdif** **01 59 12.5 -0.2**
baz=207

SCM Sheep Creek Mo **99.37 14** P **Pdif** **01 59 13.3 +0.5**
baz=206
BW06 Boulder Array **99.39 44** P **Pdif** **01 59 12.2 -1.4**
baz=231
PDAR Pinedale Array **99.39 44** P **Pdif** **01 59 13.9 +0.4**
PDAR Pinedale Array **99.39 44** P **Pdif** **01 59 13.8 +0.2**
comp=Z,2.4nm,1.0s,baz=204,slow=3.3,SNR=12
PDAR PP **PP** **02 03 15.9 -1.5**
comp=Z,5.4nm,1.2s,baz=228,slow=5.8,SNR=7.7
PDAR PKKPbc **PKKPbc** **02 15 35.4 -2.2**
comp=Z,2.1nm,0.8s,baz=81,slow=4.7,SNR=9.6
PDAR LR LR 02 38 16.6
comp=Z,3µm,19.3s,baz=237,slow=32
comp=Z,2.4nm,1.0s
ISLE Juniper Island **99.39 17** IAmb IAmb 01 59 23.3
comp=Z,73nm,1.8s
ISLE IAMs_20 IAMs_20 02 49 43.4
comp=Z,4µm,19.0s
ANM Nome **99.41 6** IAMs_20 IAMs_20 02 36 18.4
comp=Z,4µm,22.0s
ANM Nome **99.41 6** P **Pdif** **01 59 12.9 +0.1**
baz=191
PPLA Purkeypile **99.44 12** P **Pdif** **01 59 12.6 -0.6**
baz=202
AMTX Amarillo **99.54 54** IAMs_20 IAMs_20 02 35 53.1
comp=Z,3µm,20.0s
AMTX Amarillo **99.54 54** P **Pdif** **01 59 12.8 -1.5**
baz=234
BRU2 Volcan **99.56 86** IAMs_20 IAMs_20 02 39 42.4
comp=Z,3µm,18.0s
R32K Eaglecrest **99.56 22** P **Pdif** **01 59 13.9 +0.2**
baz=215
FLWY Flagg Ranch **99.57 43** IAmb IAmb 01 59 19.5
comp=Z,39nm,1.5s
FLWY IAMs_20 IAMs_20 02 42 43.0
comp=Z,5µm,19.0s
K20K Telida **99.57 11** IAmb IAmb 02 03 07.5
comp=Z,39nm,1.6s
K20K Telida **99.57 11** P **Pdif** **01 59 13.6 0.0**
baz=200
MSO Missoula **99.60 39** P **Pdif** **01 59 14.3 0.0**
baz=229
ABTX Abilene, Hawle **99.62 57** P **Pdif** **01 59 14.6 -0.1**
baz=235
VRDI Verde Repeater **99.68 16** IAMs_20 IAMs_20 02 39 35.9
comp=Z,3µm,20.0s
Q24A Divide **99.70 49** P **Pdif** **01 59 14.1 -1.1**
baz=233
BTO Baotou **99.75 313** *eP* **Pdif** **01 59 18.3 +3.2**
BTO pP **sP** **01 59 21.6 -0.4**
BTO PP **PP** **02 03 24.3 +4.2**
BTO S **S** **02 10 43.0 -4.3**
BTO sS **sS** **02 11 00.1 +4.4**
BTO pmax pmax
comp=Z,13nm,0.7s
BTO pmax pmax
comp=Z,2µm,8.2s
BTO LR LR
comp=Z,2µm,18.4s
BTO LR LR
comp=Z,2µm,17.1s
BTO LR LR
comp=Z,3µm,19.0s
P29M Windy Craggy **99.75 20** P **Pdif** **01 59 13.3 -1.2**
baz=213
N25K Chitina, Valde **99.75 16** IAMs_20 IAMs_20 02 39 41.9
comp=Z,3µm,20.0s
N25K Chitina, Valde **99.75 16** P **Pdif** **01 59 13.8 -0.7**
baz=208
H16K Elim **99.76 7** P **Pdif** **01 59 14.4 +0.1**
baz=194
ZEA Zeya **99.81 331** *eP* **Pdif** **01 59 15.6 +0.8**
ZEA *e* 02 09 55.5
ZEA *eS* **S** **02 10 49.6 +2.7**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA pmax pmax
comp=E,100nm,6.4s
ZEA pmax pmax
comp=N,100nm,7.8s
ZEA pmax pmax
comp=Z,300nm,7.6s
ZEA smax smax
comp=E,400nm,15.0s
H17A Grant Village **99.84 42** P **Pdif** **01 59 15.1 -0.5**
baz=231
M24K Tolsona, Glenn **99.86 15** P **Pdif** **01 59 12.9 -2.1**
baz=206
T35M Bob Quinn **99.91 24** IAMs_20 IAMs_20 02 44 53.6
comp=Z,4µm,18.0s
T35M Bob Quinn **99.91 24** P **Pdif** **01 59 15.4 +0.2**
baz=219
ISCO Idaho Springs **99.91 48** IAMs_20 IAMs_20 02 47 23.5
comp=Z,5µm,18.0s
ISCO Idaho Springs **99.91 48** P **Pdif** **01 59 14.7 -1.3**
baz=233
G15K Niukluk **99.94 6** P **Pdif** **01 59 15.1 -0.1**
baz=192
J19K Poorman **99.94 10** IAMs_20 IAMs_20 02 41 46.7
comp=Z,3µm,20.0s
J19K Poorman **99.94 10** P **Pdif** **01 59 16.1 +0.9**
baz=199
CAST Castle Rocks **99.95 12** P **Pdif** **01 59 15.3 0.0**
baz=202,SNR=5.4
CTGM Chitina Glacie **99.95 17** IAMs_20 IAMs_20 02 49 41.3
comp=Z,4µm,19.0s
BARN Barnard Glacie **99.95 17** IAMs_20 IAMs_20 02 51 49.3
comp=Z,3µm,19.0s
WAT6 Susitna Watana **99.97 14** P **Pdif** **01 59 16.2 +0.7**
baz=205
PLBC Pleasant Camp **99.99 20** P **Pdif** **01 59 16.6 +1.1**
baz=214
BOZ Bozeman (W) **100.02 41** IAMs_20 IAMs_20 02 50 25.9
comp=Z,4µm,18.0s
BOZ Bozeman (W) **100.02 41** P **Pdif** **01 59 16.4 +0.2**
baz=230,SNR=19
435B Jarrell **100.03 60** P **Pdif** **01 59 16.9 +0.5**
baz=236
WAT1 Susitna Watana **100.04 13** P **Pdif** **01 59 16.6 +0.9**
baz=205
SEY Seymchan **100.04 347** *ceP* **Pdif** **01 59 16.7 +1.1**
SEY pmax pmax
comp=Z,10.0nm,0.8s
SEY MLR MLR
comp=Z,4µm,19.0s
O28M Mount Upton **100.07 18** P **Pdif** **01 59 15.8 -0.4**
baz=211
RWWY Rawlins **100.09 46** IAMs_20 IAMs_20 02 38 30.1
comp=Z,4µm,20.0s
TNA Tin City **100.21 4** P **Pdif** **01 59 16.1 -0.2**
baz=189
F14K Arctic Creek **100.23 5** P **Pdif** **01 59 16.2 -0.2**
baz=190
KTH Kantishna Hill **100.27 12** IAMs_20 IAMs_20 02 41 35.5
comp=Z,5µm,21.0s
TRF Thorofare Moun **100.29 12** P **Pdif** **01 59 16.8 -0.2**
baz=203,SNR=12
SKAG Skagway **100.29 21** P **Pdif** **01 59 16.8 0.0**
baz=215
H17K Granite Mounta **100.30 8** P **Pdif** **01 59 16.8 +0.1**
baz=195
J20K Nowinta River **100.33 11** P **Pdif** **01 59 17.8 +0.9**
baz=200
HARP HAARP **100.33 15** P **Pdif** **01 59 17.6 +0.6**
baz=207
CHUM Lake Minchumin **100.34 11** P **Pdif** **01 59 17.0 +0.1**
baz=202
S34M Telegraph Cree **100.34 23** IAMs_20 IAMs_20 02 41 55.1
comp=Z,5µm,19.0s
S34M Telegraph Cree **100.34 23** P **Pdif** **01 59 16.8 -0.3**
baz=218
N23A Red Feather La **100.37 47** P **Pdif** **01 59 16.8 -1.2**
baz=233
P30M Million Dollar **100.38 20** P **Pdif** **01 59 16.3 -1.0**
baz=214
DHY Denali Highway **100.49 14** P **Pdif** **01 59 15.9 -1.9**
baz=206
GCSA Galena City Sc **100.49 9** P **Pdif** **01 59 16.2 -1.3**
baz=198
G16K Koyuk River **100.49 7** IAMs_20 IAMs_20 02 47 18.1
comp=Z,4µm,19.0s
G16K Koyuk River **100.49 7** P **Pdif** **01 59 17.1 -0.5**
baz=193
RND Reindeer **100.51 13** IAMs_20 IAMs_20 02 46 57.7
comp=Z,4µm,19.0s
F15K North Star Dit **100.59 6** IAMs_20 IAMs_20 02 49 03.8
comp=Z,3µm,19.0s
F15K North Star Dit **100.59 6** P **Pdif** **01 59 17.2 -0.8**

baz=192
YUK8 Steele Glacier **100.62 18** P **Pdif** **01 59 16.8 -1.8**
baz=212
YUK6 Outpost Mounta **100.69 19** P **Pdif** **01 59 16.0 -2.9**
baz=213
H18K Honhosa River **100.69 8** P **Pdif** **01 59 17.4 -1.1**
baz=197
BPAW Bear Paw Mtn. **100.77 12** IAMs_20 IAMs_20 02 42 09.5
comp=Z,4µm,20.0s
BPAW Bear Paw Mtn. **100.77 12** P **Pdif** **01 59 17.7 -1.2**
baz=203
G17K Kiwalik Mounta **100.77 7** P **Pdif** **01 59 17.7 -1.1**
baz=195
PAX Paxson **100.78 15** P **Pdif** **01 59 17.2 -1.8**
baz=207
MCK McKinley **100.79 13** P **Pdif** **01 59 18.7 -0.3**
baz=204
WHTX Lake Whitney, **100.79 59** P **Pdif** **01 59 17.7 -2.1**
baz=236
M26K Nabesna, AK **100.81 16** P **Pdif** **01 59 18.8 -0.4**
baz=209
HYT Haines Junctio **100.82 19** P **Pdif** **01 59 18.6 -0.8**
baz=213
HKT Hockley **100.82 61** IAMs_20 IAMs_20 02 38 37.6
comp=Z,4µm,19.0s
YUK3 Moose Creek **100.87 17** P **Pdif** **01 59 17.9 -1.7**
baz=211
I20K Naaghedeneel **100.87 10** P **Pdif** **01 59 18.5 -0.7**
baz=200
P32M Atlin **100.88 21** IAMs_20 IAMs_20 02 51 19.0
comp=Z,3µm,18.0s
P32M Atlin **100.88 21** P **Pdif** **01 59 18.8 -0.7**
baz=216
PHWY Pilot Hill **100.91 47** IAMs_20 IAMs_20 02 48 31.7
comp=Z,3µm,18.0s
YUK4 Talbot Arm **100.95 18** P **Pdif** **01 59 19.3 -0.7**
baz=213
LZH Lanzhou **101.02 306** *eP* **Pdif** **01 59 22.8 +1.9**
LZH pP sPdif 01 59 28.3 +0.5
LZH PP **PP** **02 03 27.1 -2.8**
LZH SKS **SKSac** **02 09 58.3 -0.4**
LZH S SKKSac 02 10 55.6 +21
LZH pmax pmax
comp=Z,30nm,1.2s
LZH pmax pmax
comp=Z,770nm,9.0s
LZH LR LR
comp=Z,2µm,19.9s
LZH LR LR
comp=Z,2µm,19.7s
LZH LR LR
comp=Z,2µm,19.6s
RLMT Red Lodge **101.02 42** P **Pdif** **01 59 20.3 -0.5**
baz=232
M27K Edge Creek, AK **101.03 16** IAMs_20 IAMs_20 02 40 20.8
comp=Z,3µm,20.0s
M27K Edge Creek, AK **101.03 16** P **Pdif** **01 59 19.8 -0.5**
baz=210
K22A Casper **101.08 46** P **Pdif** **01 59 20.5 -0.5**
baz=233
DLBC Dease Lake **101.12 24** P **Pdif** **01 59 20.8 +0.1**
baz=219
O30N Mendenhall **101.16 20** IAMs_20 IAMs_20 02 44 47.3
comp=Z,3µm,19.0s
O30N Mendenhall **101.16 20** P **Pdif** **01 59 19.2 -1.6**
baz=214
BRIGG Briggsdale **101.17 48** IAMs_20 IAMs_20 02 44 40.9
comp=Z,4µm,18.0s
L26K Log Cabin Wild **101.28 15** IAMs_20 IAMs_20 02 40 32.4
comp=Z,4µm,20.0s
L26K Log Cabin Wild **101.28 15** P **Pdif** **01 59 20.9 -0.3**
baz=209
H19K Roundabout Mou **101.29 9** IAMs_20 IAMs_20 02 44 12.3
comp=Z,4µm,19.0s
H19K Roundabout Mou **101.29 9** P **Pdif** **01 59 20.3 -0.8**
baz=198
KSCO Kaye Shedlock' **101.31 50** P **Pdif** **01 59 21.5 -0.6**
baz=234
G18K Tagagawik **101.37 8** IAMs_20 IAMs_20 02 42 42.4
comp=Z,3µm,20.0s
G18K Tagagawik **101.37 8** P **Pdif** **01 59 21.0 -0.6**
baz=196
WHY Whitehorse **101.41 20** P **Pdif** **01 59 21.3 -0.7**
baz=215
WMOK Wichita Mounta **101.41 56** P **Pdif** **01 59 20.5 -2.0**
baz=236
N30M Aishikik Lake **101.46 19** IAMs_20 IAMs_20 02 51 26.3
comp=Z,3µm,19.0s
N30M Aishikik Lake **101.46 19** P **Pdif** **01 59 21.5 -0.6**
baz=214
K24K Donnelly Dome **101.46 14** P **Pdif** **01 59 21.7 -0.3**
baz=207
H20K Anotleneega Mo **101.47 10** P **Pdif** **01 59 21.5 -0.5**
baz=200
NEA2 Nenana **101.55 12** IAMs_20 IAMs_20 02 47 54.4
comp=Z,5µm,19.0s
NEA2 Nenana **101.55 12** P **Pdif** **01 59 22.3 0.0**
baz=204
R33M Jennings River **101.57 23** IAMs_20 IAMs_20 02 48 43.4
comp=Z,3µm,18.0s
R33M Jennings River **101.57 23** P **Pdif** **01 59 23.6 +0.9**
baz=218
I21K Tanana **101.61 11** P **Pdif** **01 59 22.5 -0.1**
baz=202
WRH Wood River Hil **101.62 13** IAMs_20 IAMs_20 02 41 05.1
comp=Z,3µm,20.0s
F17K Baldwin Pennin **101.62 7** P **Pdif** **01 59 22.4 -0.2**
baz=194
P33M Teslin, Yukon **101.65 21** P **Pdif** **01 59 23.1 +0.1**
baz=217
L27K Beaver Creek, **101.65 16** IAMs_20 IAMs_20 02 47 34.2
comp=Z,3µm,19.0s
L27K Beaver Creek, **101.65 16** P **Pdif** **01 59 22.7 -0.2**
baz=210
MLY Manley **101.67 12** P **Pdif** **01 59 21.3 -1.7**
baz=203
HDA Harding Lake **101.78 13** IAMs_20 IAMs_20 02 43 07.3
comp=Z,3µm,20.0s
HDA Harding Lake **101.78 13** P **Pdif** **01 59 21.9 -1.4**
baz=206
G19K Purcell Mounta **101.80 9** IAMs_20 IAMs_20 02 46 17.7
comp=Z,3µm,19.0s
G19K Purcell Mounta **101.80 9** P **Pdif** **01 59 22.3 -1.1**
baz=198
CCB Clear Creek Bu **101.83 13** IAMs_20 IAMs_20 02 41 10.7
comp=Z,4µm,20.0s
N31M Braeburn, Yuko **101.83 19** IAMs_20 IAMs_20 02 45 27.2
comp=Z,3µm,18.0s
N31M Braeburn, Yuko **101.83 19** P **Pdif** **01 59 22.5 -1.2**
baz=215
H21K Melozitna Rive **101.93 11** IAMs_20 IAMs_20 02 48 49.1
comp=Z,3µm,19.0s
H21K Melozitna Rive **101.93 11** P **Pdif** **01 59 23.1 -0.9**
baz=201
M29M Somme Creek **101.93 18** IAMs_20 IAMs_20 02 50 56.7
comp=Z,4µm,19.0s
M29M Somme Creek **101.93 18** P **Pdif** **01 59 23.5 -0.7**
baz=213
F18K Selawik **101.94 8** P **Pdif** **01 59 22.6 -1.3**
baz=196
SCRK Sand Creek **101.98 15** P **Pdif** **01 59 23.4 -1.0**
baz=208
I23K Minto, Yukon-K **102.01 12** P **Pdif** **01 59 24.1 -0.2**
baz=204
COLA College **102.03 13** P **Pdif** **01 59 26.0 +1.6**
COLA College **102.03 13** IAMs_20 IAMs_20 02 43 01.9
comp=Z,3µm,20.0s
COLA College **102.03 13** P **Pdif** **01 59 24.2 -0.2**
baz=205
MDM Murphy Dome **102.04 13** IAMs_20 IAMs_20 02 48 08.2
comp=Z,3µm,19.0s
BCIP Isla Barro Col **102.11 87** IAMs_20 IAMs_20 02 43 37.1
comp=Z,3µm,18.0s
ILAR Eielson Array **102.12 13** Pdiff **Pdif** **01 59 23.4 -1.5**
comp=Z,1.2nm,0.7s,baz=223,slow=5.7,SNR=10
ILAR PKIKP **PKiKP** **02 03 43.3 -3.7**
comp=Z,14nm,1.2s,baz=218,slow=6.7,SNR=7.2
ILAR PKKPbc **PKKPbc** **02 15 26.4 -3.6**
comp=Z,1.2nm,0.8s,baz=344,slow=1.8,SNR=5.5
ILAR PKPPKP **P'P'df** **02 23 49.1 +7.0**
comp=Z,0.6nm,0.9s,baz=298,slow=1.9,SNR=3.9
E17K Hotham Inlet **102.19 7** P **Pdif** **01 59 24.9 -0.2**
baz=194
J25K Salcha River, **102.27 14** IAMs_20 IAMs_20 02 48 35.3
comp=Z,3µm,19.0s
J25K Salcha River, **102.27 14** P **Pdif** **01 59 24.9 -0.7**
baz=207
KOHI KOHIMA **102.28 293** ⇑*eP* **Pdif** **01 59 25.3 -1.4**

MOKO	MOKOCHONG	102.29	293	*e*P		Pdif		01 59 26.4	-0.4	
N32M	Quiet Lake baz=217	102.32	21	P		Pdif		01 59 26.4	+0.5	
POKR	Poker Plat Res comp=Z,3µm,19.0s	102.33	13	IAMs_20	IAMs_20	02 43 10.8				
POKR	Poker Plat Res baz=206	102.33	13	P		Pdif		01 59 26.1	+0.3	
H22K	Ishtalitna Cre baz=203	102.37	11	P		Pdif		01 59 26.5	+0.6	
F19K	Shaleruckik Mo baz=197	102.38	8	P		Pdif		01 59 27.2	+1.2	
K27K	Chicken comp=Z,4µm,20.0s	102.44	15	IAMs_20	IAMs_20	02 41 28.0				
K27K	Chicken baz=210	102.44	15	P		Pdif		01 59 26.6	+0.3	
M30M	Minto, Yukon comp=Z,3µm,19.0s	102.47	18	IAMs_20	IAMs_20	02 44 47.0				
M30M	Minto, Yukon baz=214	102.47	18	P		Pdif		01 59 26.7	+0.2	
J26L	Joseph Creek baz=209,SNR=8.0	102.53	15	P		Pdif		01 59 27.0	+0.2	
EGMT	Eagleton baz=232	102.55	40	P		Pdif		01 59 27.1	-0.2	
OK035	E0210 Rd and N comp=Z,4µm,18.0s	102.56	54	IAMs_20	IAMs_20	02 48 44.0				
L29M	L29M comp=Z,4µm,20.0s	102.58	18	IAMs_20	IAMs_20	02 41 09.7				
L29M	L29M baz=213	102.58	18	P		Pdif		01 59 27.2	+0.2	
H23K	Yukon River comp=Z,4µm,19.0s	102.60	12	IAMs_20	IAMs_20	02 47 40.0				
H23K	Yukon River baz=204	102.60	12	P		Pdif		01 59 27.6	+0.6	
DIBR	DIBRUGARH	102.61	295	*e*P		Pdif		01 59 27.9	0.0	
G21K	Allakaket comp=Z,3µm,20.0s	102.63	10	IAMs_20	IAMs_20	02 43 29.7				
G21K	Allakaket baz=201	102.63	10	P		Pdif		01 59 27.7	+0.6	
E18K	Tukpahlearik C comp=Z,3µm,19.0s	102.64	7	IAMs_20	IAMs_20	02 48 34.8				
E18K	Tukpahlearik C baz=195	102.64	7	P		Pdif		01 59 27.4	+0.3	
NATX	Nacogdoches comp=Z,5µm,18.0s	102.65	60	IAMs_20	IAMs_20	02 42 42.0				
NATX	Nacogdoches baz=237	102.65	60	P		Pdif		01 59 28.2	+0.2	
D17K	Noatak River baz=193	102.68	6	P		Pdif		01 59 28.5	+1.2	
AQDB	Aquidauana comp=Z,3µm,18.0s	102.71	126	IAMs_20	IAMs_20	02 44 50.4				
SILR	SILCHAR	102.77	291	*e*P		Pdif		01 59 28.5	-0.3	
OGNE	Ogallala baz=235	102.80	49	P		Pdif		01 59 28.8	+0.2	
M31M	Drury Creek, Y comp=Z,3µm,19.0s	102.80	19	IAMs_20	IAMs_20	02 52 26.8				
M31M	Drury Creek, Y baz=216	102.80	19	P		Pdif		01 59 28.1	+0.1	
WTLY	Watson Lake, Y baz=220	102.82	23	P		Pdif		01 59 28.0	-0.2	
F20K	Avaraart Lake comp=Z,3µm,19.0s	102.83	9	IAMs_20	IAMs_20	02 45 30.0				
F20K	Avaraart Lake baz=199	102.83	9	P		Pdif		01 59 28.7	+0.7	
H24K	Noodor Dome comp=Z,5µm,19.0s	102.90	12	IAMs_20	IAMs_20	02 48 36.9				
H24K	Noodor Dome baz=205	102.90	12	P		Pdif		01 59 28.6	+0.2	
OK029	Liberty Lake comp=Z,5µm,18.0s	102.90	55	IAMs_20	IAMs_20	02 43 49.2				
OK032	Salt Plains WL comp=Z,3µm,18.0s	102.95	54	IAMs_20	IAMs_20	02 45 34.3				
E19K	Redstone River comp=Z,3µm,20.0s	103.04	8	IAMs_20	IAMs_20	02 45 10.4				
E19K	Redstone River baz=198	103.04	8	P		Pdif		01 59 29.5	+0.6	
PRP	Porcupine Dome comp=Z,3µm,18.0s	103.04	13	IAMs_20	IAMs_20	02 50 56.8				
PRP	Porcupine Dome baz=207	103.04	13	P		Pdif		01 59 29.0	-0.1	
RDOG	Red Dog Mine comp=Z,5µm,20.0s	103.04	6	IAMs_20	IAMs_20	02 42 42.4				
RDOG	Red Dog Mine baz=193	103.04	6	P		Pdif		01 59 29.6	+0.7	
CBKS	Cedar Bluff comp=Z,4µm,20.0s	103.06	52	IAMs_20	IAMs_20	02 39 31.0				
CBKS	Cedar Bluff baz=236	103.06	52	P		Pdif		01 59 29.7	0.0	
TOAD	Toad River Com baz=223	103.07	25	P		Pdif		01 59 28.5	-0.8	
C16K	Lisburne Hills comp=Z,5µm,20.0s	103.07	5	IAMs_20	IAMs_20	02 42 29.1				
C16K	Lisburne Hills baz=191	103.07	5	P		Pdif		01 59 29.1	+0.2	
DAWY	Dawson baz=212	103.08	16	P		Pdif		01 59 30.6	+1.4	
PALK	Pallekele comp=Z,13nm,1.1s,baz=149,slow=9.3,SNR=3.1	103.11	270	P		Pdif		01 59 28.6	-2.0	
PALK	comp=Z,33nm,1.1s,baz=198,slow=6.4,SNR=4.1			PKiKP		PP		02 03 47.1	+1.5	
FARO	Faro, Yukon baz=217	103.11	20	P		Pdif		01 59 29.4	0.0	
LIRD	Liard River Hi baz=222	103.18	25	P		Pdif		01 59 29.6	-0.1	
EGAK	Eagle comp=Z,3µm,20.0s	103.29	15	IAMs_20	IAMs_20	02 42 05.4				
EGAK	Eagle baz=211	103.29	15	P		Pdif		01 59 30.3	+0.3	
F21K	Alatna River comp=Z,3µm,20.0s	103.30	10	IAMs_20	IAMs_20	02 43 52.3				
F21K	Alatna River baz=201	103.30	10	P		Pdif		01 59 30.6	+0.6	
G22K	Bettles baz=202	103.30	11	P		Pdif		01 59 30.4	+0.3	
I26K	Coal Creek Min comp=Z,3µm,20.0s	103.33	14	IAMs_20	IAMs_20	02 41 59.3				
I26K	Coal Creek Min baz=209	103.33	14	P		Pdif		01 59 30.9	+0.7	
ITAN	ITANAGAR	103.33	294	*e*P		Pdif		01 59 29.9	-1.3	
G23K	Bananza Creek comp=Z,3µm,19.0s	103.34	11	IAMs_20	IAMs_20	02 52 30.4				
G23K	Bananza Creek baz=204	103.34	11	P		Pdif		01 59 30.6	+0.3	
K29M	Barlow Dome comp=Z,4µm,19.0s	103.34	17	IAMs_20	IAMs_20	02 53 47.9				
K29M	Barlow Dome baz=214	103.34	17	P		Pdif		01 59 30.3	-0.2	
OK033	Mehan comp=Z,4µm,20.0s	103.39	55	IAMs_20	IAMs_20	02 38 51.1				
OK031	S. Brethren Rd comp=Z,4µm,20.0s	103.41	56	IAMs_20	IAMs_20	02 39 01.5				
RSSD	Black Hills baz=235	103.41	45	P		Pdif		01 59 31.0	-0.4	
C17K	DeLong Mountai baz=193	103.43	6	P		Pdif		01 59 30.4	-0.3	
ZIRO	ZIRO	103.43	294	*e*P		Pdif		01 59 29.5	-2.4	
OK052	Battle Ridge R comp=Z,4µm,20.0s	103.45	56	IAMs_20	IAMs_20	02 39 02.8				
MAYO	Mayo, Yukon baz=215	103.54	18	P		Pdif		01 59 31.8	+0.5	
OK048	Pawnee Station comp=Z,5µm,19.0s	103.59	55	IAMs_20	IAMs_20	02 40 16.3				
H25L	Birch Creek baz=207	103.66	13	P		Pdif		01 59 30.8	-0.8	
LAO	LASA Array baz=234	103.66	42	P		Pdif		01 59 32.5	+0.3	
J29N	Klondike Camp baz=213	103.68	17	P		Pdif		01 59 31.5	-0.4	
F22K	John River baz=202	103.75	10	P		Pdif		01 59 32.5	+0.4	
G24K	Hadweenzic Riv baz=206	103.75	12	P		Pdif		01 59 31.8	-0.3	
C18K	Utukok River comp=Z,5µm,19.0s	103.78	6	IAMs_20	IAMs_20	02 47 48.8				
C18K	Utukok River baz=195	103.78	6	P		Pdif		01 59 32.5	+0.2	
COLD	Coldfoot baz=204	103.78	11	P		Pdif		01 59 32.8	+0.6	
MALK	Mahakanadarawa	103.86	271	PKP		PP		02 03 49.5	-1.7	
SHL	Shillong comp=Z,36nm,0.8s	103.89	291	*e*P IAmb		PP IAmb		02 03 48.0 02 03 55.4	-3.7	
I27K	Kandik River baz=211	103.91	15	P		Pdif		01 59 33.4	+0.5	
E20K	Nigu River baz=199	103.93	8	P		Pdif		01 59 32.6	-0.4	
D19K	Kuna River baz=197	103.93	8	P		Pdif		01 59 32.0	-0.9	
MMPY	Sheldon Lake, baz=218	104.02	20	P		Pdif		01 59 33.4	-0.1	
FYU	Fort Yukon comp=Z,3µm,19.0s	104.03	13	IAMs_20	IAMs_20	02 44 11.9				
G25K	Bearman Lake baz=207	104.05	13	P		Pdif		01 59 32.5	-0.8	
TGTN	Hyland Airport baz=221	104.07	22	P		Pdif		01 59 32.9	-0.7	
TUL3	Leonard baz=237	104.10	56	P		Pdif		01 59 33.2	-1.1	
I28M	Miner Creek comp=Z,3µm,20.0s	104.13	16	IAMs_20	IAMs_20	02 42 50.8				
I28M	Miner Creek baz=212	104.13	16	P		Pdif		01 59 33.2	-0.8	
J30M	Hart River comp=Z,5µm,20.0s	104.24	17	IAMs_20	IAMs_20	02 42 31.7				
J30M	Hart River baz=215	104.24	17	P		Pdif		01 59 33.9	-0.6	
D20K	Etivluk River baz=198	104.31	8	P		Pdif		01 59 34.5	0.0	
C19K	Lookout Ridge comp=Z,3µm,18.0s	104.37	7	IAMs_20	IAMs_20	02 55 39.5				
C19K	Lookout Ridge baz=196	104.37	7	P		Pdif		01 59 35.4	+0.5	
E21K	Killik River comp=Z,3µm,20.0s	104.38	9	IAMs_20	IAMs_20	02 42 11.8				
E22K	Anaktuvuk Pass comp=Z,3µm,20.0s	104.38	10	IAMs_20	IAMs_20	02 44 46.1				
E22K	Anaktuvuk Pass baz=202	104.38	10	P		Pdif		01 59 34.6	-0.3	
B18K	Kokolik River baz=194	104.42	6	P		Pdif		01 59 35.0	0.0	
KOTAN	Kotaneelee Air baz=224	104.42	25	P		Pdif		01 59 35.9	+0.8	
F24K	Squaw Lake comp=Z,4µm,19.0s	104.42	12	IAMs_20	IAMs_20	02 49 39.2				
F24K	Squaw Lake baz=206	104.42	12	P		Pdif		01 59 35.4	+0.3	
I29M	Ogilvie Camp, comp=Z,3µm,20.0s	104.43	16	IAMs_20	IAMs_20	02 42 29.5				
I29M	Ogilvie Camp, baz=213	104.43	16	P		Pdif		01 59 35.4	+0.2	
H27K	Steamboat Moun baz=211	104.47	15	P		Pdif		01 59 36.1	+0.8	
E23K	Chandalar baz=208	104.64	11	P		Pdif		01 59 36.2	+0.1	
G26K	Porcupine Rive baz=209	104.64	13	P		Pdif		01 59 36.7	+0.7	
I30M	Mount Dempster comp=Z,4µm,18.0s	104.77	17	IAMs_20	IAMs_20	02 54 43.5				
I30M	Mount Dempster baz=215	104.77	17	P		Pdif		01 59 36.9	+0.1	
E24K	Your Creek comp=Z,4µm,19.0s	104.83	11	IAMs_20	IAMs_20	02 50 22.9				
E24K	Your Creek baz=205	104.83	11	P		PKiKP		02 03 52.5	+0.6	
F25K	Christian Rive baz=208	104.87	12	P		PKiKP		02 03 52.4	+0.4	
MIAR	Mount Ida comp=Z,3µm,18.0s	104.91	58	IAMs_20	IAMs_20	02 49 09.4				
MIAR	Mount Ida baz=238	104.91	58	P		PKiKP		02 03 52.9	-0.1	
G27K	Doyon Strip baz=211	104.94	14	P		PKiKP		02 03 53.0	+0.9	
C21K	Knifeblade Rid baz=200	104.95	9	P		PKiKP		02 03 53.3	+1.3	
D22K	Ayikyak River comp=Z,4µm,20.0s	104.96	9	IAMs_20	IAMs_20	02 45 07.2				
D22K	Ayikyak River baz=202	104.96	9	P		PKiKP		02 03 53.0	+1.0	
SAML	Samuel comp=Z,4µm,18.0s	104.99	112	IAMs_20	IAMs_20	02 41 51.4				
PASG	PAGHAT	104.99	293	*e*P		Pdif		01 59 26.4	-12	
YAK	Yakutsk comp=Z,3µm,19.0s	105.06	337	IAMs_20	IAMs_20	02 49 30.3				
H29M	Whitestone comp=Z,3µm,19.0s	105.13	16	IAMs_20	IAMs_20	02 50 28.2				
H29M	Whitestone baz=213	105.13	16	P		PKiKP		02 03 53.4	+0.9	
TOLK	Toolik Lake Re comp=Z,3µm,20.0s	105.18	11	IAMs_20	IAMs_20	02 43 01.1				
TOLK	Toolik Lake Re baz=204	105.18	11	P		PKiKP		02 03 53.1	+0.6	
F26K	Sheenjek River baz=209	105.23	13	P		PKiKP		02 03 53.4	+0.7	
KSU1	Kansas State U comp=Z,4µm,18.0s	105.25	53	IAMs_20	IAMs_20	02 45 19.3				
KSU1	Kansas State U baz=238	105.25	53	P		PKiKP		02 03 53.7	+0.2	
A19K	Wainwright baz=195	105.30	6	P		PKiKP		02 03 53.7	+1.1	
D23K	Nanuluk River baz=203	105.31	10	P		PKiKP		02 03 54.0	+1.3	
E25K	Arctic Village comp=Z,4µm,19.0s	105.36	12	IAMs_20	IAMs_20	02 47 13.9				
E25K	Arctic Village baz=208	105.36	12	P		PKiKP		02 03 54.1	+1.2	
B21K	Ikpikpuk River comp=Z,4µm,19.0s	105.41	8	IAMs_20	IAMs_20	02 48 56.0				
B21K	Ikpikpuk River baz=200	105.41	8	P		PKiKP		02 03 54.5	+1.7	
B20K	Meade River comp=Z,3µm,20.0s	105.49	7	IAMs_20	IAMs_20	02 45 18.1				
B20K	Meade River baz=198	105.49	7	P		PKiKP		02 03 54.3	+1.3	
BGNE	Belgrade baz=237	105.49	50	P		PKiKP		02 03 54.8	+0.8	
EPYK	Eagle Plains comp=Z,3µm,18.0s	105.63	16	IAMs_20	IAMs_20	02 55 32.4				
EPYK	Eagle Plains baz=215	105.63	16	P		PKiKP		02 03 54.6	+1.2	
SPB	Sao Paulo	105.66	134	IAMs_20	IAMs_20	02 45 39.2				
H31M	Peel River comp=Z,3µm,20.0s	105.73	17	IAMs_20	IAMs_20	02 43 38.2				
H31M	Peel River baz=217	105.73	17	P		PKiKP		02 03 55.3	+1.7	
D24K	Happy Valley comp=Z,4µm,19.0s	105.76	11	IAMs_20	IAMs_20	02 49 31.4				
D24K	Happy Valley baz=205	105.76	11	P		PKiKP		02 03 55.4	+1.9	
G29M	Pine Creek comp=Z,3µm,19.0s	105.79	15	IAMs_20	IAMs_20	02 54 18.5				
G29M	Pine Creek baz=214	105.79	15	P		PKiKP		02 03 55.0	+1.3	
DGMT	Dagmar baz=236	105.81	42	P		PKiKP		02 03 55.6	+1.3	
VBMS	Vicksburg baz=239	105.88	62	P		PKiKP		02 03 56.4	+1.6	
F28M	Old Crow comp=Z,3µm,20.0s	105.99	14	IAMs_20	IAMs_20	02 47 11.8				
F28M	Old Crow baz=212	105.99	14	P		PKiKP		02 03 55.7	+1.7	
SONM	Songino Array comp=Z,1.9nm,0.7s,baz=142,slow=4.9,SNR=5.3	106.08	317	Pdiff		Pdif		01 59 42.2	-0.9	
C23K	Itkillik River comp=Z,4µm,20.0s	106.13	10	IAMs_20	IAMs_20	02 47 48.1				
C23K	Itkillik River baz=204	106.13	10	P		PKiKP		02 03 55.8	+1.6	
E27K	Coleen River baz=211	106.14	13	P		PKiKP		02 03 56.1	+1.8	
B22K	Teshekpuk Lake comp=Z,4µm,19.0s	106.23	9	IAMs_20	IAMs_20	02 49 12.7				
B22K	Teshekpuk Lake baz=201	106.23	9	P		PKiKP		02 03 56.4	+2.1	
G30M	tAoh Zrail Nji comp=Z,3µm,19.0s	106.25	16	IAMs_20	IAMs_20	02 50 33.7				
G30M	tAoh Zrail Nji baz=215	106.25	16	P		PKiKP		02 03 56.6	+2.0	
C24K	Franklin Bluff baz=205	106.29	10	P		PKiKP		02 03 56.1	+1.6	
D25K	Kavik River comp=Z,4µm,18.0s	106.30	11	IAMs_20	IAMs_20	02 51 17.6				
D25K	Kavik River baz=207	106.30	11	P		PKiKP		02 03 56.2	+1.7	
VAO	Valinhos comp=Z,4µm,20.0s	106.39	134	IAMs_20	IAMs_20	02 41 57.3				
VIS	Vishakhapatnam	106.57	280	↑*ex*		x		02 04 12.9		
LSA	Lhasa	106.59	295	P		PKiKP		02 03 47.4	-9.5	
SUSD	Miller baz=238	106.62	47	P		PKiKP		02 03 56.7	+0.8	
G31M	Satah River comp=Z,4µm,20.0s	106.65	17	IAMs_20	IAMs_20	02 43 49.4				
G31M	Satah River baz=217	106.65	17	P		PKiKP		02 03 57.0	+1.9	
A22K	Sinclair Lake baz=200	106.67	8	P		PKiKP		02 03 56.8	+1.7	
SOR	Soroa comp=Z,3µm,18.0s	106.77	74	IAMs_20	IAMs_20	02 44 23.9				
FOMA	Nahampoana Res comp=Z,3µm,20.0s	106.77	222	IAMs_20	IAMs_20	02 40 59.7				
A21K	Barrow baz=199	106.80	7	P		PKiKP		02 03 57.4	+2.0	
WRGLY	Wrigley baz=225	106.84	23	P		PKiKP		02 03 57.4	+1.8	
F30M	Barrier River baz=216	106.86	16	P		PKiKP		02 03 57.3	+1.7	
E28M	Babbage River comp=Z,3µm,19.0s	106.90	14	IAMs_20	IAMs_20	02 55 48.7				
E28M	Babbage River baz=213	106.90	14	P		PKiKP		02 03 57.0	+1.4	
C27K	Jago River baz=209	107.01	12	P		PKiKP		02 03 57.1	+1.3	
E29M	Blow River baz=214	107.05	15	P		PKiKP		02 03 56.6	+0.7	
C26K	Camden Bay baz=208	107.06	11	P		PKiKP		02 03 56.6	+0.7	
D27M	Malcolm River comp=Z,3µm,19.0s	107.17	13	IAMs_20	IAMs_20	02 53 28.8				
D27M	Malcolm River baz=212	107.17	13	P		PKiKP		02 03 56.3	0.0	
F31M	Tsiigehtchic comp=Z,4µm,20.0s	107.19	16	IAMs_20	IAMs_20	02 44 14.6				
F31M	Tsiigehtchic baz=217	107.19	16	P		PKiKP		02 03 56.2	0.0	
D28M	Stokes Point baz=214	107.67	14	P		PKiKP		02 03 57.3	+0.3	
ECSD	EROS Data Cent comp=Z,5µm,20.0s	107.68	49	IAMs_20	IAMs_20	02 42 18.3				
ECSD	EROS Data Cent baz=239	107.68	49	P		PKiKP		02 03 58.0	+0.1	
CBCY	The Bluff, Cay comp=Z,3µm,19.0s	107.80	78	IAMs_20	IAMs_20	02 45 58.5				
OXF	Oxford comp=Z,3µm,20.0s	107.84	60	IAMs_20	IAMs_20	02 41 31.4				
OXF	Oxford baz=240	107.84	60	P		PKiKP		02 03 57.6	-0.8	
BRAL	Brewton baz=240	107.89	64	P		PKiKP		02 03 57.6	-1.0	
INK	Inuvik baz=218	107.93	16	P		PKiKP		02 03 57.2	-0.4	
MDND	Maddock baz=238	108.04	44	P		PKiKP		02 03 58.5	+0.1	
CCM	Cathedral Cave comp=Z,4µm,20.0s	108.32	56	IAMs_20	IAMs_20	02 41 12.6				
CCM	Cathedral Cave baz=240	108.32	56	P		PKiKP		02 03 58.4	-0.8	
LRAL	Lakeview Retre comp=Z,3µm,19.0s	108.86	63	IAMs_20	IAMs_20	02 47 56.3				
LRAL	Lakeview Retre baz=240	108.86	63	P		PKiKP		02 03 59.7	-0.7	
SCIA	State Center baz=240	108.92	52	P		PKiKP		02 04 00.2	0.0	
PLAL	Pickwick Lake comp=Z,5µm,20.0s	109.03	60	IAMs_20	IAMs_20	02 42 36.8				
ZAK	Zakamensk comp=Z,5.0nm,1.5s	109.18	318	*e*P pmax		Pdif pmax		01 59 54.7	-2.0	
YKA	Yellowknife Ar comp=Z,0.7nm,0.9s,baz=241,slow=3.7,SNR=8.5	109.38	26	Pdiff		Pdif		01 59 56.9	-0.2	
YKA	comp=Z,2.2nm,0.7s,baz=280,slow=1.8,SNR=35			PKiKP		PKiKP		02 04 00.9	+0.5	
YKA	comp=Z,2.5nm,0.8s,baz=36,slow=3.7,SNR=22			PKPPcc		PKKPbc		02 15 04.8	-2.6	
YKA	comp=Z,0.1nm,0.5s,baz=57,slow=1.6,SNR=3.6			PKPPKP		P'P'df		02 23 36.1	+6.9	
SDV	Santo Domingo comp=Z,2µm,18.0s	109.54	93	IAMs_20	IAMs_20	02 45 13.1				
Y49A	Blount Mountai comp=Z,2µm,18.0s	109.68	62	IAMs_20	IAMs_20	02 52 18.1				
WVT	Waverly comp=Z,3µm,18.0s	109.76	59	IAMs_20	IAMs_20	02 48 17.1				
WVT	Waverly baz=241	109.76	59	P		PKiKP		02 04 01.2	-0.8	
HYB	Hyderabad	110.30	278	*e*Pdif		Pdif		02 00 01.4	-1.0	
HYB				*e*PKiKP		PKiKP		02 04 02.5	-1.1	
HYB				*e*PP		PP		02 04 37.1	-1.5	
HYB				*e*SKSac		SKSac		02 10 41.0	+0.1	
HYB				*e*				02 20 25.5		
HYB	comp=Z,885nm,18.5s			IVMs_BB	IVMs_BB	02 55 29.8				
AGMN	Agassiz Nation baz=241	110.43	45	P		PKiKP		02 04 02.4	-0.5	
TIGA	Tifton baz=241	110.61	66	P		PKiKP		02 04 03.6	-0.1	
SPMN	Marine on St. baz=242	110.79	49	P		PKiKP		02 04 03.6	0.0	
HDIL	Hopedale baz=242	110.85	55	P		PKiKP		02 04 02.9	-1.0	
SUR	Sutherland comp=Z,14nm,0.9s,baz=143,slow=10,SNR=9.2	110.94	197	PKiKP		PKiKP		02 04 05.3	+0.5	
C36M	Paulatuk comp=Z,3µm,19.0s	111.00	18	IAMs_20	IAMs_20	02 57 04.2				
C36M	Paulatuk baz=226	111.00	18	P		PKiKP		02 04 03.6	+0.4	
BDFB	Brasilia comp=Z,4.0nm,0.8s,baz=127,slow=11,SNR=3.7	111.24	128	PKiKP		PKiKP		02 04 05.6	0.0	
BDFB	comp=Z,1.3nm,0.4s,baz=43,slow=7.1,SNR=3.0			PKKPbc		PKKPbc		02 14 59.9	-0.3	
JFWS	Jewell Farm baz=242	111.33	52	P		PKiKP		02 04 03.5	-1.2	
ULM	Lac du Bonnet comp=Z,5.9nm,0.8s,baz=310,slow=2.8,SNR=8.7	111.37	43	PKiKP		PKiKP		02 04 04.3	-0.2	
ULM	comp=Z,2.8nm,0.7s,baz=46,slow=7.1,SNR=3.8			PKKP		PKKPab		02 15 13.3	+6.2	
GOGA	Godfrey comp=Z,2µm,19.0s	111.63	64	IAMs_20	IAMs_20	02 49 09.9				
GOGA	Godfrey baz=242	111.63	64	P		PKiKP		02 04 04.8	-0.8	
OPO	Ambohidratompo comp=Z,11nm,0.8s,baz=194,slow=8.3,SNR=8.4	111.64	227	PKiKP		PKiKP		02 04 07.0	+0.6	
WCI	Wyandotte Cave baz=243	111.83	58	P		PKiKP		02 04 05.1	-0.7	
SFIN	Lafayette baz=243	112.26	56	P		PKiKP		02 04 06.1	-0.5	
TIXI	Tiksi comp=Z,3µm,20.0s	112.27	344	IAMs_20	IAMs_20	02 51 06.4				
TIXI	Tiksi comp=Z,8.9nm,0.7s,baz=92,slow=2.6,SNR=12	112.27	344	PKiKP		PKiKP		02 04 05.4	-0.2	
TIXI	Tiksi comp=Z,36nm,1.7s	112.27	344	*c i* PKiKP pmax		PKiKP pmax		02 04 06.2	+0.6	
TIXI	comp=Z,3µm,19.0s			MLR		MLR				
HQIL	Hanson Quary C comp=Z,3µm,18.0s	112.39	54	IAMs_20	IAMs_20	03 00 06.3				
L44A	Lake County Fo comp=Z,3µm,18.0s	112.52	54	IAMs_20	IAMs_20	02 58 34.7				
L44A	Lake County Fo baz=243	112.52	54	P		PKiKP		02 04 06.6	-0.5	
A36M	Sachs Harbour baz=226	112.57	16	P		PKiKP		02 04 07.6	+1.4	
BG3	Lake Jocassee comp=Z,2µm,18.0s	112.75	62	IAMs_20	IAMs_20	02 55 35.5				
EYMN	Ely baz=243	112.85	47	P		PKiKP		02 04 08.7	+1.2	
TZTN	Tazewell comp=Z,4µm,20.0s	113.01	61	IAMs_20	IAMs_20	02 46 07.2				
TZTN	Tazewell baz=243	113.01	61	P		PKiKP		02 04 08.2	0.0	
BOSA	Boshof comp=Z,14nm,0.9s,baz=151,slow=1.7,SNR=14	113.25	203	PKiKP		PKiKP		02 04 09.6	+0.4	
BOSA	comp=Z,3.5nm,0.8s,baz=6.4,slow=4.5,SNR=5.2			PKKPbc		PKKPbc		02 14 55.2	+1.2	
PAULI	Pauline comp=Z,2µm,18.0s	113.50	63	IAMs_20	IAMs_20	02 54 41.1				
P49A	Miami Univ. Ec baz=244	113.52	57	P		PKiKP		02 04 09.4	+0.3	
O48B	Farmland baz=244	113.53	56	P		PKiKP		02 04 09.8	+0.8	
JSC	Jenkinsville

comp=Z,4µm,20.0s
Y58A Scranton 114.68 65 IAMs_20 IAMs_20 02 58 13.6
comp=Z,3µm,18.0s
POO Poona 114.72 276 *e*P **PKiKP 02 04 12.4 +0.4**
POO *ex* x 02 04 20.3
POO Poona 114.72 276 *e*P PKiKP 02 04 20.3 +8.3
W57A Gilead 114.98 63 IAMs_20 IAMs_20 02 58 44.6
comp=Z,2µm,18.0s
X58A Rowland 115.21 64 IAMs_20 IAMs_20 02 51 17.6
comp=Z,3µm,18.0s
P52A Corning 115.36 58 P **PKPdf 02 04 12.5 0.0**
baz=245
AAM Ann Arbor 115.42 55 P **PKiKP 02 04 12.8 +0.2**
baz=246
BLA Blacksburg 115.56 61 IAMs_20 IAMs_20 02 46 40.3
comp=Z,4µm,20.0s
BLA Blacksburg 115.56 61 P **PKiKP 02 04 13.1 +0.1**
baz=245
WMQ Urumqi 115.59 307 *e*PKP **PKiKP 02 04 13.3 +0.3**
WMQ PP **PP 02 05 20.3 +4.4**
WMQ SS SS 02 21 11.3 -3.2
WMQ AMB AMB
comp=Z,350nm,6.1s
WMQ LR LR
comp=Z,940nm,17.3s
WMQ LR LR
comp=Z,850nm,15.9s
WMQ LR LR
comp=Z,1µm,24.1s
GRTK Grand Turk 115.68 81 IAMs_20 IAMs_20 02 49 32.3
comp=Z,2µm,19.0s
GLMI Grayling 115.82 52 P **PKiKP 02 04 13.9 +0.6**
baz=246
V58A Windy Hill, Pi 115.91 63 IAMs_20 IAMs_20 02 52 40.9
comp=Z,4µm,19.0s
FCC Fort Churchill 116.10 35 **PKiKP 02 04 13.4 +0.1**
FCC Fort Churchill 116.10 35 PKIKP **PKiKP 02 04 13.4 +0.1**
O53A New Philadelph 116.26 58 IAMs_20 IAMs_20 02 46 01.9
comp=Z,4µm,20.0s
O53A New Philadelph 116.26 58 P **PKPdf 02 04 14.1 -0.1**
baz=246
PCDR Punta Cana, DR 116.46 85 IAMs_20 IAMs_20 02 51 21.2
comp=Z,2µm,19.0s
CNNC Cliffs of the 116.58 64 IAMs_20 IAMs_20 02 59 37.5
comp=Z,2µm,18.0s
CNNC Cliffs of the 116.58 64 P **PKiKP 02 04 15.2 +0.2**
baz=245
DDI Dehra Dun 116.88 290 *e*P **PKPdf 02 04 15.5 -0.3**
DDI IAmb IAmb 02 04 20.6
comp=Z,58nm,1.1s
MCWV Mont Chateau 116.98 59 P **PKiKP 02 04 15.7 +0.1**
baz=246
M53A WI Miller and 117.11 57 P **PKPdf 02 04 15.1 -0.7**
baz=247
AGPR Aguadilla, PR 117.48 86 IAMs_20 IAMs_20 02 57 01.2
comp=Z,2µm,18.0s
T59A Double "B" Far 117.54 63 IAMs_20 IAMs_20 02 47 17.2
comp=Z,4µm,20.0s
V61A Roper 117.78 64 IAMs_20 IAMs_20 02 59 01.6
comp=Z,3µm,18.0s
ERPA Erie 117.85 56 P **PKPdf 02 04 17.1 -0.2**
baz=247
SMLA Simla 117.92 290 *e*P **PKPdf 02 04 17.2 -0.5**
SMLA IAmb IAmb 02 04 22.1
comp=Z,38nm,0.6s
SMLA Simla 117.92 290 *e*P **PKPdf 02 04 16.9 -0.8**
SMLA IAmb IAmb 02 04 22.1
comp=Z,41nm,0.5s
IGPR InterUniversit 118.05 87 IAMs_20 IAMs_20 02 52 14.5
comp=Z,2µm,18.0s
CBN Corbin Frederi 118.17 61 IAMs_20 IAMs_20 02 53 06.8
comp=Z,4µm,18.0s
CBN Corbin Frederi 118.17 61 P **PKPdf 02 04 17.7 -0.3**
baz=247
SSPA Standing Stone 118.74 59 **PKPdf 02 04 18.8 -0.2**
SSPA Standing Stone 118.74 59 P **PKPdf 02 04 18.3 -0.7**
baz=248
ZSN Zaisan 118.81 310 *e*PKP **PKPdf 02 04 19.0 0.0**
baz=310
ZSN *e*PP **PP 02 05 37.0 -1.2**
baz=310
ZSN Zaisan 118.81 310 *e*PKIKP **PKPdf 02 04 19.0 0.0**
ZSN *e* 02 05 37.0
DHRM DHARAMSHALA 119.06 291 *ex* x 02 04 20.1
DHRM *eP* 02 04 20.1
DHRM IAmb IAmb 02 04 22.8
comp=Z,46nm,0.5s
DHRM DHARAMSHALA 119.06 291 *e*P **PKPdf 02 04 20.1 -0.2**
DHRM *i* Pg **PKPdf 02 04 20.1 -0.2**
DHRM IAmb IAmb 02 04 23.0
comp=Z,50nm,0.8s
MATP Matopo 119.58 209 PKP **PKPdf 02 04 19.6 -1.9**
comp=Z,8.6nm,0.9s,baz=168,slow=1.4,SNR=24
MK31 Makanchi Array 120.23 308*ce*PKIKP **PKPdf 02 04 21.4 -0.3**
MKAR Makanchi Array 120.23 308 **PKPdf 02 04 21.6 -0.1**
MKAR Makanchi Array 120.23 308 Pdiff **Pdif 02 00 52.0 +6.1**
comp=Z,0.6nm,0.7s,baz=97,slow=5.6,SNR=5.3
MKAR PKP **PKPdf 02 04 19.2 -2.5**
comp=Z,45nm,1.0s,baz=86,slow=1.7,SNR=97
MKAR PKKPbc **PKKPbc 02 14 30.0 +0.6**
comp=Z,5.6nm,1.0s,baz=291,slow=3.4,SNR=12
BHUJ Bhuj 120.43 279 *e*P **PKiKP 02 04 23.6 +0.8**
BHUJ IAmb IAmb 02 04 28.0
comp=Z,47nm,0.8s
BHUJ Bhuj 120.43 279 *e*P **PKiKP 02 04 23.9 +1.1**
BHUJ IAmb IAmb 02 04 28.0
comp=Z,57nm,0.9s
MAKZ Makanchi 120.44 308 **PKPdf 02 04 21.1 -1.1**
MAKZ Makanchi 120.44 308 PKIKP **PKPdf 02 04 21.1 -1.1**
MAKZ MLR MLR
comp=Z,1µm,20.0s
MPOM Morne Pois Mar 120.58 93 IAMs_20 IAMs_20 02 55 46.7
comp=Z,2µm,18.0s
SMRT St. Maarten 120.59 88 IAMs_20 IAMs_20 02 51 39.9
comp=Z,2µm,19.0s
BINY Binghamton 120.64 58 P **PKPdf 02 04 22.4 -0.2**
baz=249
ILAM Ilet Lapin Mar 120.74 93 IAMs_20 IAMs_20 02 55 15.1
comp=Z,2µm,18.0s
SHLS Shalkode 120.88 304 *e*PKP **PKPdf 02 04 22.4 -0.9**
baz=304
SHLS Shalkode 120.88 304 *e*PKIKP **PKPdf 02 04 22.3 -0.9**
ZALV Zalesovo Beam 120.97 317 Pdiff **Pdif 02 00 53.4 +4.4**
comp=Z,0.3nm,0.4s,baz=82,slow=7.0,SNR=1.9
ZALV PKP **PKPdf 02 04 21.1 -1.7**
comp=Z,18nm,0.8s,baz=173,slow=1.5,SNR=38
UZB Uzynbulak 121.18 303 *e*PKP **PKPdf 02 04 23.9 0.0**
baz=304
UZB *e*PP **PP 02 05 53.3 -1.6**
baz=304
UZB Uzynbulak 121.18 303 *e*PKIKP **PKPdf 02 04 23.8 0.0**
UZB *e* 02 05 53.2
RES Resolute Bay 121.37 18 IAMs_20 IAMs_20 02 53 09.0
comp=Z,3µm,20.0s
TRNY Table Rock, Ra 121.51 59 IAMs_20 IAMs_20 02 50 26.8
comp=Z,4µm,20.0s
SATY Saty 121.58 303 *e*PKP **PKPdf 02 04 24.5 -0.1**
baz=303
SATY Saty 121.58 303 *e*PKIKP **PKPdf 02 04 24.5 -0.1**
ZHN Zhinishke 121.59 303 *e*PKP **PKPdf 02 04 24.5 -0.1**
baz=303
ZHN Zhinishke 121.59 303 *e*PKIKP **PKPdf 02 04 24.5 -0.1**
PAL Palisades 121.69 59 P **PKPdf 02 04 24.7 +0.1**
baz=250
NIL Nilore 121.97 291 **PKPdf 02 04 25.1 -0.4**
NIL Nilore 121.97 291 IAMs_20 IAMs_20 03 04 15.3
comp=Z,2µm,19.0s
NIL Nilore 121.97 291 P **PKPdf 02 04 25.6 +0.1**
NIL Nilore 121.97 291 PKIKP **PKPdf 02 04 25.1 -0.4**
N62A Caumsett State 121.98 60 IAMs_20 IAMs_20 02 54 49.1
comp=Z,3µm,18.0s
KSH Kashi 122.09 298 PKP **PKiKP 02 04 26.8 +0.9**
KSH PP **PP 02 06 01.6 +0.5**
KSH SKS **SKSdf 02 11 36.3 0.0**
KSH SKKS **SKKSac 02 12 55.8 -2.7**
KSH SS **SS 02 22 42.3 +3.4**
KSH AMB AMB
comp=Z,610nm,8.3s
KSH LR LR
comp=Z,960nm,17.9s
KSH LR LR
comp=Z,1µm,18.7s
KSH LR LR
comp=Z,670nm,20.1s
TDK Taldyqorghan 122.21 305 *e*PKP **PKPdf 02 04 25.2 -0.4**
baz=305
TDK LR LR 02 59 27.0
comp=Z,899nm,16.2s,baz=305
TDK Taldyqorghan 122.21 305 *e*PKIKP **PKPdf 02 04 25.2 -0.4**
ARXS Arharly 122.35 304 *e*PKIKP **PKPdf 02 04 25.3 -0.7**
LONY Lake Ozonia 122.42 55 P **PKiKP 02 04 26.4 +0.2**
baz=252
MDOK Medeo 122.55 303 *e*PKP **PKPdf 02 04 26.3 -0.2**
baz=303
MDOK LR LR 02 59 38.5
comp=Z,470nm,18.7s,baz=303
MDOK Medeo 122.55 303 *e*PKIKP **PKPdf 02 04 26.2 -0.2**
TNSS Tian-Shan 122.58 303 *e*PKP **PKPdf 02 04 26.2 -0.7**
baz=303
TNSS Tian-Shan 122.58 303 *e*PKIKP **PKPdf 02 04 26.2 -0.7**
AAA Alma-Ata 122.66 303 *e*PKP **PKPdf 02 04 26.1 -0.5**
baz=303
AAA Alma-Ata 122.66 303 *e*PKIKP **PKPdf 02 04 26.1 -0.5**
CHKK Chushkaly 122.81 304 *e*PKP **PKPdf 02 04 26.1 -0.7**
baz=304
CHKK Chushkaly 122.81 304 *e*PKIKP **PKPdf 02 04 26.1 -0.7**
ULHL Ulahol 122.82 302 P **PKiKP 02 04 27.8 +0.5**
SNR=14
TRQ Mont Tremblant 122.93 53 IAMs_20 IAMs_20 03 03 50.8
comp=Z,3µm,18.0s
L61B Northampton 123.04 58 P **PKiKP 02 04 27.4 0.0**
baz=251
KUU Kurty 123.27 303 *e*PKP **PKPdf 02 04 27.4 -0.3**
baz=304
KUU LR LR 03 00 04.8
comp=Z,2µm,21.7s,baz=304
KUU Kurty 123.27 303 *e*PKIKP **PKPdf 02 04 27.3 -0.3**
TKM2 Tokmak 2 123.48 302 P **PKPdf 02 04 28.0 -0.3**
SNR=39
KURK Kurchatov 123.72 312 **PKPdf 02 04 27.5 -0.8**
KURK Kurchatov 123.72 312 P **PKiKP 02 04 28.8 +0.3**
KURK Kurchatov 123.72 312*ce*PKIKP **PKPdf 02 04 28.1 -0.2**
KURK pmax pmax
comp=Z,226nm,1.7s
KURK MLR MLR
comp=Z,2µm,20.0s
KURBB Kurchatov Arra 123.76 312 Pdiff **Pdif 02 01 06.0 +4.6**
comp=Z,0.1nm,0.3s,baz=74,slow=3.4,SNR=1.9
KURBB PKP **PKPdf 02 04 26.9 -1.5**
comp=Z,49nm,0.8s,baz=107,slow=2.1,SNR=166
KURBB PKKPbc **PKKPbc 02 14 15.6 -0.3**
comp=Z,2.3nm,0.2s,baz=285,slow=4.8,SNR=4.7
KURBB PKKP **PKKPdf 02 14 57.5 +1.7**
comp=Z,0.8nm,0.3s,baz=310,slow=3.5,SNR=5.0
HRV Adam Dziewonsk 123.84 58 **PKPdf 02 04 28.3 -0.4**
HRV Adam Dziewonsk 123.84 58 P **PKiKP 02 04 29.4 +0.4**
baz=252
HRV Adam Dziewonsk 123.84 58 PKIKP **PKPdf 02 04 28.3 -0.4**
HRV MLR MLR
comp=Z,4µm,19.0s
KBK Karagaybulak 123.86 302 P **PKiKP 02 04 29.4 +0.1**
SNR=25
UCH Uchtor 124.03 301 P **PKiKP 02 04 30.5 +0.5**
SNR=64
CHMS Chumysh 124.10 302 P **PKPdf 02 04 29.2 -0.1**
SNR=17
LBNH Lisbon 124.11 56 IAMs_20 IAMs_20 02 51 22.4
comp=Z,3µm,20.0s
LBNH Lisbon 124.11 56 P **PKiKP 02 04 29.6 +0.1**
baz=253
AAK Ala-Archa 124.17 302 P **PKiKP 02 04 29.8 -0.1**
SNR=19
AAK Ala-Archa 124.17 302 **PKiKP 02 04 30.0 +0.1**
AAK Ala-Archa 124.17 302 *i* PKPdf **PKPdf 02 04 29.7 +0.1**
SNR=23
AAK Ala-Archa 124.17 302 P **PKiKP 02 04 30.5 +0.6**
AAK Ala-Archa 124.17 302*ce*PKIKP **PKiKP 02 04 30.2 +0.3**
AAK pmax pmax
comp=Z,90nm,1.7s
M65A Busby, Falmout 124.19 60 IAMs_20 IAMs_20 02 52 16.8
comp=Z,3µm,20.0s
M65A Busby, Falmout 124.19 60 P **PKiKP 02 04 30.0 +0.2**
baz=252
LSZ Lusaka 124.32 211 **PKiKP 02 04 31.1 +0.1**
LSZ IAMs_20 IAMs_20 02 54 13.8
comp=Z,3µm,20.0s
LSZ Lusaka 124.32 211 PKP **PKPdf 02 04 29.8 -1.0**
comp=Z,24nm,0.9s,baz=153,slow=2.8,SNR=21
LSZ Lusaka 124.32 211 P **PKiKP 02 04 32.2 +1.2**
LSZ Lusaka 124.32 211 PKIKP **PKiKP 02 04 31.1 +0.1**
SGDS Sogindy 124.32 303 *e*PKP **PKPdf 02 04 29.7 -0.1**
baz=303
SGDS Sogindy 124.32 303 *e*PKIKP **PKPdf 02 04 29.7 -0.1**
TSUM Tsumeb 124.35 198 **PKiKP 02 04 31.2 +0.2**
TSUM Tsumeb 124.35 198 PKP **PKPdf 02 04 30.4 -0.4**
comp=Z,25nm,0.9s,baz=144,slow=3.7,SNR=22
TSUM PP **PP 02 06 10.9 -4.0**
comp=Z,2.1nm,0.4s,baz=167,slow=5.7,SNR=1.6
USP Ospenovka 124.35 302 P **PKPdf 02 04 29.9 +0.1**
SNR=23
EKS2 Erkin-Say 124.68 301 P **PKiKP 02 04 31.1 +0.2**
SNR=37
BTLS Baital 125.18 304 *e*PKP **PKPdf 02 04 31.4 +0.1**
baz=304
BTLS *e*PP **PP 02 06 20.4 -1.2**
baz=304
BTLS Baital 125.18 304 *e*PKIKP **PKPdf 02 04 31.3 +0.1**
BTLS *e* 02 06 20.4
KBL Kabul 125.54 291 **PKPdf 02 04 32.5 -0.1**
KBL Kabul 125.54 291 P **PKiKP 02 04 33.5 +0.5**
SNR=62
KBL Kabul 125.54 291 PKIKP **PKPdf 02 04 32.5 -0.1**
GAR Garm 126.06 296 IAMs_20 IAMs_20 03 08 13.7
comp=Z,3µm,20.0s
PKME Peaks-Kenny Pk 126.20 56 P **PKiKP 02 04 33.6 0.0**
baz=255
RCBR Richmond 126.37 131 IAMs_20 IAMs_20 02 54 22.5
comp=Z,3µm,20.0s
DZA Taraz 126.47 301 *e*PKP **PKPdf 02 04 34.0 +0.2**
baz=301
DZA Taraz 126.47 301 *e*PKIKP **PKPdf 02 04 34.0 +0.2**
SIMJ Simiganj 126.93 295 **PKPdf 02 04 35.1 +0.1**
SIMJ IAMs_20 IAMs_20 03 09 18.7
comp=Z,2µm,19.0s
KK31 Karatay Array 127.11 301 *i* PKIKP **PKPdf 02 04 35.1 +0.1**
KKAR Karatay Array 127.11 301 **PKiKP 02 04 35.5 -0.1**
KKAR Karatay Array 127.11 301 PKIKP **PKiKP 02 04 35.5 -0.1**
OTUK Ortayu 127.11 308 PKIKP **PKPdf 02 04 34.5 -0.4**
IUG luzhnay 127.19 300 *e*PKP **PKPdf 02 04 35.3 -0.1**
baz=300
IUG luzhnay 127.19 300 *e*PKIKP **PKPdf 02 04 35.2 -0.1**
BRZS Berezniki 127.26 310 *e*PKP **PKPdf 02 04 34.9 -0.3**
baz=310
BRZS Berezniki 127.26 310 *e*PKIKP **PKPdf 02 04 34.8 -0.3**
CHM Chimkent 127.54 300 *e*PKP **PKPdf 02 04 35.6 -0.4**
baz=300
CHM LR LR 03 02 39.0
baz=300
CHM Chimkent 127.54 300 *e*PKIKP **PKPdf 02 04 35.5 -0.4**
BRLS Borolday 127.56 301 *e*PKP **PKPdf 02 04 36.1 +0.1**
baz=301
BRLS Borolday 127.56 301 *e*PKIKP **PKPdf 02 04 36.0 +0.1**
JLN Jalan Bani Buh 128.32 272 P **PKiKP 02 04 38.8 +0.2**
SNR=12
DQM DQM 128.83 269 P **PKiKP 02 04 40.3 +0.6**
SNR=9.2
WBK Wadi Bani Khal 128.90 272 P **PKiKP 02 04 40.2 +0.5**
SNR=5.3
MHTO MHTO 128.98 270 P **PKiKP 02 04 40.0 +0.1**
SNR=23
BVA0 Borovoye Array 129.18 313 *i* PKIKP **PKPdf 02 04 38.0 -0.6**
BVAR Borovoye Array 129.18 313 PKP **PKPdf 02 04 38.0 -0.7**
comp=Z,56nm,0.9s,baz=122,slow=1.9,SNR=12
BVAR Borovoye Array 129.18 313 PKIKP **PKPdf 02 04 38.0 -0.7**
BRVK Borovoye 129.25 313 P **PKiKP 02 04 40.0 +0.5**
BRVK Borovoye 129.25 313*d i*PKIKP **PKPdf 02 04 38.6 -0.2**
WSAR Wadi Sarin 129.46 273 P **PKiKP 02 04 41.4 +0.5**
SNR=8.8
JMDO Jabal Madar 129.50 272 P **PKiKP 02 04 41.2 +0.2**
SNR=14
SCHQ Schefferville 129.52 44 PKP **PKPdf 02 04 39.5 +0.3**
comp=Z,32nm,1.0s,baz=277,slow=5.0,SNR=6.6
SCHQ SKP 02 08 16.3
comp=Z,5.8nm,1.0s,baz=245,slow=19,SNR=2.1
KIBK Kibwezi 129.81 230 PKP **PKPdf 02 04 38.0 -3.3**
KIBK Kibwezi 129.81 230 P **PKiKP 02 04 43.4 +1.4**
SNR=10
SMDO Samad 129.86 272 P **PKiKP 02 04 42.1 +0.3**
SNR=18
DMTO DMTO 129.87 265 P **PKiKP 02 04 42.3 +0.6**
BIDO Bidbid 130.00 273 P **PKiKP 02 04 42.3 +0.4**
SNR=13
RBK Rabkut 130.37 264 P **PKiKP 02 04 43.3 +0.4**
SNR=19
BSY Bisya 130.42 272 P **PKiKP 02 04 42.5 -0.3**
SNR=18
HOQ Hoqain 130.69 273 P **PKiKP 02 04 43.5 +0.2**
SNR=21
WHFO Wadi Hawf 130.94 264 P **PKiKP 02 04 44.2 +0.2**
SNR=9.3
DOK Doka 131.00 265 P **PKiKP 02 04 44.4 +0.3**
SNR=9.8
ABTO Aybut 131.04 263 P **PKiKP 02 04 44.9 +0.6**
SNR=12
JASK Jask - Hormozg 131.21 276 P **PKiKP 02 04 45.0 +0.7**
SNR=7.9
ARQ Araqi 131.24 272 P **PKiKP 02 04 44.3 -0.1**
SNR=15
NEEM North Greenlan 131.41 13 *i* P **PKPdf 02 04 43.0 +0.4**
SOHO SOHO 131.58 273 *i* PKPdf **PKPdf 02 04 43.4 -0.7**
SNR=32
SOHO SOHO 131.58 273 P **PKPdf 02 04 44.5 +0.5**
UPNV Upernavik 132.15 20 *e*P **PKPdf 02 04 42.4 -1.3**
ALNE Al Ain 132.19 272 *i* PKPdf **PKPdf 02 04 44.9 -0.4**
SNR=17
ALNE Al Ain 132.19 272 P **PKiKP 02 04 47.0 +0.7**
SNR=13
UOSS Minazif 132.19 274 **PKPdf 02 04 44.3 -0.9**
UOSS Minazif 132.19 274 *i* PKPdf **PKPdf 02 04 44.7 -0.5**
SNR=7.2
UOSS Minazif 132.19 274 P **PKiKP 02 04 45.8 -0.5**
HATD Hatta, Dubai 132.20 274 *i* PKPdf **PKPdf 02 04 44.9 -0.3**
SNR=14
HATD Hatta, Dubai 132.20 274 P **PKiKP 02 04 47.1 +0.7**
SNR=8.5
ASHO Ashiyiah 132.20 273 *i* PKPdf **PKPdf 02 04 44.7 -0.6**
SNR=18
ASHO Ashiyiah 132.20 273 P **PKiKP 02 04 47.1 +0.7**
SNR=7.0
MDH Madha 132.26 274 P **PKiKP 02 04 46.5 +0.1**
MSFE Esma-Masafi 132.40 274 *i* PKPdf **PKPdf 02 04 44.9 -0.8**
SNR=11
MASF Masafi 132.41 274 P **PKiKP 02 04 46.9 +0.1**
NOR Nord 132.44 4 *i* P **PKPdf 02 04 43.8 -0.3**
FAQ Al Faqa, Dubai 132.61 273 *i* PKPdf **PKPdf 02 04 46.3 +0.3**
SNR=10.0
NAZ Nazwa, Dubai 132.66 273 *i* PKPdf **PKPdf 02 04 46.0 -0.1**
SNR=12
NAZ Nazwa, Dubai 132.66 273 P **PKiKP 02 04 47.5 +0.3**
SNR=5.5
ASUD Al Ashush, Dub 132.78 273 *i* PKPdf **PKPdf 02 04 46.7 +0.3**
SNR=7.3
ASUD Al Ashush, Dub 132.78 273 P **PKiKP 02 04 47.7 +0.2**
MZR Muzera 133.60 270 *i* PKPdf **PKPdf 02 04 48.3 +0.3**
SNR=21
MZR Muzera 133.60 270 P **PKiKP 02 04 49.7 +0.5**
SNR=11
UMMG Uummannaq 134.09 22 *e*P **PKPdf 02 04 46.7 -0.7**
SVE Sverdlovsk 134.94 318*c i*PKIKP **PKPdf 02 04 50.1 +0.7**
SVE pmax pmax
comp=Z,56nm,1.4s
ILULI Ilulissat 134.97 24 IAMs_20 IAMs_20 02 59 04.8
comp=Z,3µm,21.0s
ILULI Ilulissat 134.97 24 *i* P **PKPdf 02 04 47.5 -1.5**
GEYT Alibeck 134.97 291 PKhKP PKPpre 02 04 37.7
comp=Z,2.5nm,0.7s,baz=113,slow=3.9,SNR=3.7
GEYT PKP **PKPdf 02 04 48.8 -1.4**
comp=Z,16nm,0.7s,baz=129,slow=2.0,SNR=12
GEYT SKP 02 08 23.9
comp=Z,7.9nm,0.8s,baz=112,slow=1.6,SNR=4.7
H10N3 ASCENSION HYDR 135.06 157 T T 04 35 59.6
baz=203
H10N1 ASCENSION HYDR 135.06 157 T T 04 35 59.6
baz=203
H10N2 ASCENSION HYDR 135.07 157 T T 04 35 57.5
baz=203,SNR=3.0
AB31 Akbulak array 135.37 308 *i* PKIKP **PKPdf 02 04 49.5 -0.9**
KBS Kingsbay 135.41 357 *e*pPKPdf **pPKPdf 02 04 53.2 -1.7**
KBS *e*PP **PP 02 07 28.6 +1.8**
KBS Kingsbay 135.41 357*ce*PKIKP **PKiKP 02 04 52.7 +1.5**
KBS pmax pmax
KBS comp=Z,89nm,1.0s MLR MLR
comp=Z,1µm,19.0s
KBS Kingsbay 135.41 357 *i* P **PKiKP 02 04 51.0 -0.3**
MBAR Mbarara 135.62 224 P **PKiKP 02 04 53.9 +0.1**
MBAR Mbarara 135.62 224*d i*PKIKP **PKPdf 02 04 52.9 +0.6**
SPA0 Spitsbergen Ar 135.91 356 *e*P **PKiKP 02 04 51.8 -0.6**
SPITS Spitsbergen Ar 135.91 356 PKhKP PKPpre 02 04 38.9
comp=Z,16nm,1.0s,baz=316,slow=2.3,SNR=1.9
SPITS PKP **PKPdf 02 04 48.9 -1.8**
comp=Z,105nm,1.0s,baz=0.0,slow=0.3,SNR=12
LODK Lodwar 135.91 233 IAMs_20 IAMs_20 02 57 02.2
comp=Z,3µm,20.0s
LODK Lodwar 135.91 233 P **PKiKP 02 04 54.5 +0.2**
SNR=9.3
LODK Lodwar 135.91 233 *e*P **PKPdf 02 04 52.0 -0.7**
ATD Arta Tunnel 136.10 249 P **PKiKP 02 04 54.9 +0.3**
ATD Arta Tunnel 136.10 249 *e*P **PKPdf 02 04 52.0 -1.0**
ARU Arti 136.12 318 *e*PKIKP **PKPdf 02 04 50.6 -1.0**
SMRA Abu-Samra 136.54 271 P **PKPdf 02 04 54.0 +0.6**
SNR=5.5
HOPEN Hopen 136.71 352 *e*PKPdf **PKiKP 02 04 54.2 +0.3**
DAG Danmarks Havn 136.78 7 *i* P **PKPdf 02 04 51.0 -1.3**
SUMG Summit 136.85 16 IAMs_20 IAMs_20 03 06 41.9
comp=Z,2µm,19.0s
SUMG Summit 136.85 16 *i* P **PKiKP 02 04 54.1 -0.7**
SHMA Al-Shehemyia 136.88 272 P **PKPdf 02 04 54.7 +0.8**
SAKB Bahrain 137.28 272 P **PKiKP 02 04 55.8 -0.8**
DY2G Dye2 137.74 26 *i* P **PKPdf 02 04 52.2 -2.4**
DESE Dese 138.28 245 *e*P PKPdf 02 04 49.2 -8.1
KIRV Kirov 140.58 322 *i* PKIKP **PKPdf 02 04 57.7 -2.0**
KBD Kabd 140.81 275 P **PKPdf 02 05 01.9 +0.8**
VADS Vadso 141.40 345 *e*PKPdf **PKPdf 02 04 59.0 -1.9**
VADS IVmB_BB 02 05 03.0
comp=Z,1µm,2.2s
VADS *e*PP **PP 02 08 04.0 0.0**
VADS *e*SS SS 02 26 35.0 +3.1
LVZ Lovozero 141.77 341 PKPpre 02 04 58.6
LVZ IAMs_20 IAMs_20 03 06 42.2
comp=Z,2µm,20.0s
LVZ Lovozero 141.77 341 *i* PKIKP **PKPdf 02 05 00.9 -0.8**
LVZ MLR MLR
comp=Z,2µm,21.0s
LVZ Lovozero 141.77 341 PKP **PKiKP 02 05 03.4 -1.1**
SCO Scoresbysund 141.90 13 **PKPdf 02 05 00.4 -1.3**
SCO IAMs_20 IAMs_20 03 06 05.9
comp=Z,3µm,20.0s
SCO Scoresbysund 141.90 13 PKIKP **PKPdf 02 05 00.4 -1.3**
SCO MLR MLR
comp=Z,2µm,20.0s
SCO Scoresbysund 141.90 13 *i* P **PKPdf 02 05 01.6 -0.1**
HAMF Hammerfest 142.04 348 *e*PKPdf **PKPdf 02 04 58.6 -3.4**
HAMF *e*PP **PP 02 08 08.8 +1.0**
KEV Kevo 142.18 346 IAMs_20 IAMs_20 03 14 04.7
comp=Z,3µm,20.0s
APA Apatity 142.34 341 *i* PKIKP **PKPdf 02 05 02.0 -0.6**
APA *i* 02 05 10.1
APA *i* 02 08 07.0
APA pmax pmax
comp=Z,19nm,0.8s
APA pmax pmax
comp=Z,24nm,0.9s
ARA0 ARCESS Array S 142.66 346 *e*P **PKPdf 02 05 00.5 -2.7**
ARA0 *e*PP **PP 02 08 12.6 +0.9**
ARA0 *e*SS SS 02 26 48.7 +2.2
ARCES ARCESS Array B 142.66 346 PKP **PKPdf 02 04 60.0 -3.2**
comp=Z,21nm,0.6s,baz=25,slow=3.0,SNR=29
ARCES ARCESS Array B 142.66 346 PKIKP **PKPdf 02 05 00.0 -3.2**
BELG Belogornoye 142.99 313*d i*PKIKP **PKPdf 02 05 00.4 -3.8**
ADZR Andozero 143.14 334 *i* PKIKP PKPbc 02 05 00.9 -0.2
ADZR pmax pmax
comp=Z,76nm,0.8s
JMI Jan Mayen 143.23 6 *e*PKPdf **PKPdf 02 05 04.2 +0.1**
JMI *e* 02 08 17.0
JMI *e*PP **PP 02 08 17.0 +2.1**
JETT Jettan, Norway 143.53 349 *e*PKPdf PKPbc 02 05 03.1 +1.0
TRO Tromso 143.69 350 *e*PKPdf PKPbc 02 05 02.1 -0.3
TRO IVmB_BB 02 05 12.6
comp=Z,1µm,2.8s
TRO *e*SS SS 02 27 02.2 +4.1
MAK Makhachkala 143.71 297*c i*PKIKP PKPab 02 05 02.3 -0.3
MAK *e* 02 08 14.8
MAK *e* 02 12 16.3
MAK *e*SS SS 02 26 58.2 -2.5
MAK pmax pmax
comp=Z,373nm,1.8s

KLMR	**Klimovskoe**	**144.31 329**	*d*	iPKIKP	**PKPab**	**02 05 04.2**	**-0.1**
KLMR				pmax	pmax			
	comp=Z,546nm,1.6s							
GNI	**Garni**	**145.60 292**			**PKPdf**	**02 05 09.5**	**+0.1**
GNI	**Garni**	**145.60 292**		PKPab	**PKPab**	**02 05 10.0**	**0.0**
GNI	**Garni**	**145.60 292**		PKPbc	**PKPdf**	**02 05 08.8**	**-0.6**
	comp=Z,90nm,0.9s,baz=167,slow=1.5,SNR=159							
GNI	**Garni**	**145.60 292**		P	**PKPab**	**02 05 10.0**	**0.0**
GNI	**Garni**	**145.60 292**		PKP	**PKPbc**	**02 05 09.7**	**0.0**
STEI	**Steigen**	**145.78 351**		ePKPbc	**PKPab**	**02 05 09.5**	**0.0**
STEI				IVmB_BB		02 05 11.2		
	comp=Z,11μm,1.5s							
STEI				*e*		02 27 15.2		
LOF	**Lofoten**	**145.79 352**		ePKPdf	**PKPab**	**02 05 09.4**	**-0.2**
LOF				IVmB_BB		02 05 10.9		
	comp=Z,7μm,1.4s							
LOF				*e*PP	**PP**	**02 08 31.1**	**+0.8**
LOF				*e*SS	SS	02 27 26.6	+4.4	
FAUS	**Fauske**	**146.29 351**		*e*PKPdf	**PKPbc**	**02 05 10.4**	**-0.3**
FAUS				*e*PP	**PP**	**02 08 33.9**	**+0.7**
FAUS				*e*SS	SS	02 27 32.2	+4.4	
NCK	**Nalchik**	**146.57 298**		*d*PKP2	**PKPdf**	**02 05 11.2**	**+0.4**
ONI	**Oni**	**146.68 296**		IAMs_20	IAMs_20	03 17 46.1		
	comp=Z,2μm,21.0s							
VRH	**Novokhopyorsk**	**146.82 312**		*e*PKP2	**PKPdf**	**02 05 11.3**	**+0.5**
VRH				pmax	pmax			
	comp=Z,610nm,0.7s							
GOF	**Gofitskoye**	**146.90 301**	*d*	iPKP2	**PKPdf**	**02 05 11.5**	**+0.3**
KBZ	**Khabaz**	**147.07 298**		PKPbc	**PKPdf**	**02 05 10.9**	**-0.6**
	comp=Z,112nm,1.0s,baz=152,slow=1.7,SNR=89							
KBZ	**Khabaz**	**147.07 298**		PKIKP	**PKPdf**	**02 05 11.0**	**-0.5**
KVAR	**Kislovodsk Arr**	**147.21 299**		PKPbc	**PKPdf**	**02 05 11.0**	**-1.0**
	comp=Z,25nm,1.1s,baz=62,slow=5.7,SNR=23							
KIV	**Kislovodsk**	**147.22 299**	⇑	P	**PKPdf**	**02 05 11.4**	**-0.5**
KIV	**Kislovodsk**	**147.22 299**			**PKPdf**	**02 05 11.2**	**-0.7**
KIV				IAMs_20	IAMs_20	03 18 42.0		
	comp=Z,3μm,18.0s							
KIV	**Kislovodsk**	**147.22 299**	*i*	PKPdf	**PKPdf**	**02 05 12.2**	**+0.3**
	SNR=42							
KIV	**Kislovodsk**	**147.22 299**		P	**PKPdf**	**02 05 12.9**	**+1.0**
KIV	**Kislovodsk**	**147.22 299**	*d*	iPKP2	**PKiKP**	**02 05 20.7**	**+4.2**
KIV			*i*			02 08 37.6		
KIV			*i*	PPP	PPP	02 11 54.6		
KIV				SS	SS	02 27 39.0	-1.9	
KIV				pmax	pmax			
	comp=Z,186nm,1.1s							
KIV				MLR	MLR			
	comp=Z,1μm,21.0s							
KIV	**Kislovodsk**	**147.22 299**		PKP	**PKPdf**	**02 05 12.9**	**+1.0**
SHA1	**Shidzhatmaz**	**147.24 299**	*i*	PKIKP	**PKPdf**	**02 05 10.4**	**-1.8**
KONS	**Konsvik**	**147.40 352**	*e*	P	**PKPbc**	**02 05 13.7**	**-0.1**
VALR	**Valaam**	**147.42 334**	*i*	PKIKP	**PKPdf**	**02 05 11.6**	**+0.1**
MOR8	**Moi Rana**	**147.54 350**		ePKPdf	**PKPdf**	**02 05 12.1**	**+0.5**
MOR8				*e*SS	SS	02 27 44.8	+2.6	
GURO	**Guroymak-BITLI**	**147.54 289**		IAMs_20	IAMs_20	03 17 40.8		
	comp=Z,2μm,19.0s							
STOK	**Stokkvaagen**	**147.57 351**		*e*PKPdf	**PKPbc**	**02 05 13.4**	**-0.9**
STOK				IVmB_BB		02 05 17.7		
	comp=Z,5μm,2.0s							
MOS	**Moscow**	**147.58 322**	*i*	PKIKP	**PKPdf**	**02 05 10.8**	**-1.2**
MOS			*e*			02 08 37.4		
MOS				pmax	pmax			
	comp=Z,829nm,1.3s							
MOS				pmax	pmax			
	comp=Z,1μm,1.7s							
MOS				pmax	pmax			
	comp=N,517nm,1.6s							
MOS				pmax	pmax			
	comp=E,347nm,1.6s							
MOS				pmax	pmax			
	comp=N,247nm,1.3s							
MOS				pmax	pmax			
	comp=E,169nm,1.2s							
BCA	**Borcka**	**148.03 294**	⇓	P	**PKPdf**	**02 05 13.5**	**+0.3**
LPSR	**Galich'ya Gora**	**148.07 316**		ePKIKP	**PKPdf**	**02 05 13.6**	**+0.7**
LPSR				pmax	pmax			
	comp=Z,790nm,1.1s							
VORR	**Voronezh**	**148.20 314**	⇑	*e*PKP2	**PKiKP**	**02 05 17.8**	**-0.4**
VORR				pmax	pmax			
	comp=Z,1μm,1.7s							
VORD	**Divnogorie**	**148.36 313**		ePKIKP	**PKPdf**	**02 05 13.4**	**0.0**
VORD				pmax	pmax			
	comp=Z,380nm,1.1s							
VSR	**Storozhevoye**	**148.36 313**		*e*PKP2	**PKPdf**	**02 05 15.1**	**+1.7**
VSR				pmax	pmax			
	comp=Z,580nm,1.2s							
OBN	**Obninsk**	**148.40 321**	⇓	P	**PKPdf**	**02 05 13.6**	**+0.2**
OBN	**Obninsk**	**148.40 321**			**PKPdf**	**02 05 13.5**	**+0.2**
OBN				IAMs_20	IAMs_20	03 18 25.9		
	comp=Z,2μm,19.0s							
OBN	**Obninsk**	**148.40 321**		PKP	**PKPdf**	**02 05 11.5**	**-1.8**
	comp=Z,70nm,0.4s,baz=38,slow=2.2,SNR=33							
OBN				PKPbc	**PKPbc**	**02 05 16.3**	**-0.5**
	comp=Z,110nm,0.6s,baz=65,slow=0.7,SNR=20							
OBN	**Obninsk**	**148.40 321**	*d*	iPKIKP	**PKPdf**	**02 05 13.4**	**+0.1**
OBN			*i*			02 05 16.9		
OBN			*i*			02 08 46.8		
OBN						02 12 10.0		
OBN				pmax	pmax			
	comp=Z,270nm,1.7s							
OBN				pmax	pmax			
	comp=Z,871nm,1.7s							
OBN				MLR	MLR			
	comp=Z,2μm,19.0s							
OBN	**Obninsk**	**148.40 321**		PKP	**PKPdf**	**02 05 13.9**	**+0.6**
LABN	**Labinsk**	**148.58 300**	*i*	PKIKP	**PKPdf**	**02 05 15.3**	**+1.3**
LABN				pmax	pmax			
	comp=Z,166nm,0.9s							
ERBR	**Yeremizino-Bor**	**148.64 302**	*i*	PKIKP	**PKPdf**	**02 05 15.5**	**+1.4**
ERBR			*e*			02 08 45.4		
ERBR				pmax	pmax			
	comp=Z,463nm,1.2s							
PUL	**Pulkovo**	**148.67 332**	*i*	PKIKP	**PKPdf**	**02 05 14.8**	**+1.2**
PUL				MLR	MLR			
	comp=Z,2μm,20.0s							
EKNA	**AfricaArray -**	**148.91 195**	⇓	*e*P	**PKiKP**	**02 05 21.6**	**+0.7**
FINES	**FINESS Array B**	**148.99 337**			**PKPdf**	**02 05 14.1**	**0.0**
FINES	**FINESS Array B**	**148.99 337**		PKP	**PKPdf**	**02 05 13.0**	**-1.1**
	comp=Z,327nm,1.0s,baz=93,slow=1.2,SNR=116							
FINES				PKPbc	**PKPbc**	**02 05 17.8**	**-0.4**
	comp=Z,316nm,0.8s,baz=26,slow=3.6,SNR=144							
VSLR	**Vesyoloye**	**149.16 298**		ePKIKP	**PKPdf**	**02 05 14.0**	**-1.0**
SOC	**Sochi**	**149.38 298**		ePKIKP	**PKPdf**	**02 05 14.6**	**-0.7**
SOC			*i*			02 05 19.6		
SOC			*e*			02 08 49.2		
SOC			*e*	SSS	SSS	02 33 40.4		
SOC				pmax	pmax			
	comp=Z,39nm,1.2s							
SOC				pmax	pmax			
	comp=Z,210nm,0.9s							
NSS	**Namsos**	**149.44 351**		*e*PKPdf	**PKPdf**	**02 05 15.1**	**+0.4**
NSS				IVmB_BB		02 05 21.1		
	comp=Z,4μm,1.6s							
SACV	**Santiago Islan**	**149.97 124**		IAMs_20	IAMs_20	03 13 56.2		
	comp=Z,2μm,19.0s							
ARPR	**Arapgir-MALATY**	**150.47 289**		IAMs_20	IAMs_20	03 20 46.0		
	comp=Z,2μm,18.0s							
TBLU	**Trondheim**	**150.88 352**		*e*PKPdf	**PKPdf**	**02 05 17.9**	**+0.9**
TBLU				IVmB_BB		02 05 24.3		
	comp=Z,2μm,1.2s							
TBLU				*e*SS	SS	02 28 24.5	+5.2	
ANN	**Anapa**	**150.89 301**	*i*	PKIKP	**PKPbc**	**02 05 22.8**	**-0.5**
ANN			*e*			02 05 27.3		
ANN			*e*			02 09 00.6		
ANN				pmax	pmax			
	comp=Z,327nm,0.8s							
LIC	**Lamto**	**151.05 166**	*e*	P	**PKPdf**	**02 05 19.3**	**+0.4**
	comp=Z,146nm,1.1s							
KIC	**Kosan Boka**	**151.23 167**	*e*	P	**PKPdf**	**02 05 20.7**	**+1.5**
	comp=Z,77nm,1.1s							
TIC	**Toumodi**	**151.46 166**	*e*	P	**PKPdf**	**02 05 21.1**	**+1.6**
	comp=Z,49nm,1.0s							
EIL	**Elat**	**151.47 269**		PKP	**PKPdf**	**02 05 17.2**	**-1.8**
	comp=Z,10nm,1.0s,baz=63,slow=0.2,SNR=8.9							
EIL				PKPbc	**sPKPdf**	**02 05 24.8**	**-1.3**
	comp=Z,255nm,0.7s,baz=22,slow=0.4,SNR=121							
DBIC	**Dimbokro**	**151.51 166**		PKP	**PKPdf**	**02 05 17.8**	**-1.8**
	comp=Z,95nm,1.1s,baz=142,slow=2.1,SNR=14							
DBIC				PKPbc	**sPKPdf**	**02 05 25.6**	**-0.9**
	comp=Z,235nm,0.9s,baz=152,slow=1.8,SNR=22							
BEIL	**Beino**	**151.67 280**	*e*	P	**PKPdf**	**02 05 19.5**	**+0.2**
RCY	**Rachaya**	**151.75 277**	*e*	P	**PKPdf**	**02 05 20.2**	**+0.7**
ZAHL	**Zahle**	**151.78 278**	*e*	P	**PKPdf**	**02 05 20.0**	**+0.4**
SHBL	**Chebaa**	**151.80 277**	*e*	P	**PKPdf**	**02 05 20.1**	**+0.5**
MOL	**Molde**	**151.81 354**	*e*	PKPdf	**PKPdf**	**02 05 19.3**	**+0.8**
MOL				IVmB_BB		02 05 27.2		
	comp=Z,2μm,1.3s							
HWQ	**Hawqa**	**151.81 279**	*e*	P	**PKPdf**	**02 05 19.6**	**0.0**
QRWL	**Qaraoun**	**151.89 278**	*e*	P	**PKPdf**	**02 05 20.2**	**+0.5**
BHL	**Bhannes**	**151.98 278**	*e*	P	**PKPdf**	**02 05 20.2**	**+0.4**
MMAI	**Mount Meron Ar**	**152.00 276**		PKP	**PKPdf**	**02 05 17.2**	**-2.7**
	comp=Z,15nm,1.2s,baz=60,slow=4.0,SNR=13							
MMAI				PKPbc	**PKiKP**	**02 05 27.1**	**+0.3**
	comp=Z,106nm,0.6s,baz=81,slow=6.8,SNR=157							
DQRL	**Deir Qamar**	**152.01 278**	*e*	P	**PKPdf**	**02 05 20.3**	**+0.4**
DOMB	**Dombas**	**152.19 353**		ePKPdf	**PKPdf**	**02 05 18.7**	**-0.4**
DOMB				*e*PP	**PP**	**02 09 06.0**	**-1.6**
AKN	**Aaknes**	**152.24 355**	*e*	P	**PKiKP**	**02 05 27.0**	**+0.7**
AKN				IVmB_BB		02 05 28.3		
	comp=Z,3μm,1.2s							
DIKM	**Dikmen**	**152.80 295**	⇓	P	**PKPdf**	**02 05 20.7**	**0.0**
NB2	**NORSAR Subarra**	**152.88 350**		PKP	**PKiKP**	**02 05 28.0**	**+0.3**
	comp=Z,260nm,1.4s,baz=17,slow=2.6							
NB2	**NORSAR Subarra**	**152.88 350**		PKP	**PKiKP**	**02 05 28.0**	**+0.3**
	baz=17,slow=2.6							
NOA	**NORSAR Array B**	**152.88 350**		PKP	**PKPdf**	**02 05 18.9**	**-1.3**
	comp=Z,3.8nm,1.0s,baz=289,slow=2.7,SNR=14							
NOA				PKPbc	**PKiKP**	**02 05 27.9**	**+0.3**
	comp=Z,42nm,0.7s,baz=14,slow=4.1,SNR=44							
FOO	**Floro**	**152.94 356**	*e*	P	**PKiKP**	**02 05 27.9**	**+0.2**
FOO				IVmB_BB		02 05 29.7		
	comp=Z,3μm,1.6s							
MNK	**Minsk**	**153.01 325**	*i*	PKIKP	**PKPdf**	**02 05 21.3**	**+0.8**
MNK			*i*			02 09 09.7		
MNK				pmax	pmax			
	comp=Z,196nm,1.0s							
MNK				pmax	pmax			
	comp=N,44nm,1.0s							
MNK				pmax	pmax			
	comp=E,45nm,1.5s							
NC602	**NORSAR Array S**	**153.13 349**	*e*	PKPdf	**PKPdf**	**02 05 21.1**	**+0.6**
NC602			*e*	PP	**PP**	**02 09 13.5**	**+0.7**
NC602			*e*	SS	SS	02 28 48.7	+4.5	
SIM	**Simferopol'**	**153.19 302**	*i*	PKIKP	**PKiKP**	**02 05 29.5**	**+0.8**
SIM				pmax	pmax			
	comp=Z,502nm,0.9s							
HYA	**Hoyanger**	**153.31 355**	*e*	PKPdf	**PKPdf**	**02 05 21.9**	**+1.2**
HYA			*e*	SS	SS	02 28 53.7	+7.7	
HFS	**Hagfors**	**153.32 347**		PKP	**PKPdf**	**02 05 20.2**	**-0.6**
	comp=Z,17nm,1.0s,baz=53,slow=8.1,SNR=9.9							
HFS				PKPbc	**PKiKP**	**02 05 28.6**	**+0.2**
	comp=Z,98nm,0.8s,baz=27,slow=0.3,SNR=46							
HFS				PKPab	**PKPab**	**02 05 39.8**	**-0.6**
	comp=Z,79nm,0.5s,baz=64,slow=4.1,SNR=11							
H07S1	**FLORES T-PHASE**	**153.41 70**		*e*PKP	**PKPbc**	**02 05 27.1**	**-2.2**
SUE	**Sulen**	**153.50 357**		*e*PKPdf	**PKPdf**	**02 05 22.2**	**+1.2**
SUE				IVmB_BB		02 05 32.9		
	comp=Z,2μm,2.4s							
SKAR	**Skarslia**	**153.60 353**		*e*PKPdf	**PKPdf**	**02 05 22.6**	**+1.3**
SKAR				IVmB_BB		02 05 31.2		
	comp=Z,1μm,1.1s							
SKAR				*e*PP	**PP**	**02 09 16.0**	**+0.5**
MBO	**M'Bour**	**153.75 136**			**PKPdf**	**02 05 22.3**	**-0.5**
OSL	**Oslo**	**154.01 350**		*e*PKPdf	**PKPdf**	**02 05 22.8**	**+1.0**
OSL				*e*PP	**PP**	**02 09 18.7**	**+1.0**
ASK	**Askoy**	**154.05 356**	*e*	P	**PKiKP**	**02 05 31.7**	**+1.7**
CSS	**Mathiatis**	**154.05 280**		PKP	**PKPdf**	**02 05 23.2**	**+0.5**
PABE	**Paberze**	**154.08 330**		IAMs_20	IAMs_20	03 20 02.4		
	comp=Z,2μm,19.0s							
BR131	**Keskin Array S**	**154.11 291**		P	**PKPdf**	**02 05 22.9**	**+0.1**
	SNR=84							
BRTR	**Keskin Array B**	**154.11 291**			**PKPdf**	**02 05 21.6**	**-1.2**
BRTR	**Keskin Array B**	**154.11 291**		PKP	**PKPdf**	**02 05 20.9**	**-1.9**
	comp=Z,8.7nm,1.1s,baz=151,slow=2.8,SNR=42							
BRTR				PKPbc	**PKPbc**	**02 05 30.5**	**-0.4**
	comp=Z,34nm,0.7s,baz=134,slow=3.1,SNR=43							
BRTR				PKPab	**PKPab**	**02 05 41.7**	**-3.0**
	comp=Z,92nm,0.8s,baz=156,slow=4.0,SNR=18							
BER	**Bergen**	**154.14 356**	*e*	P	**PKiKP**	**02 05 30.9**	**+0.8**
AKASG	**Malin Array Be**	**154.37 317**			**PKPdf**	**02 05 22.0**	**-0.6**
AKASG	**Malin Array Be**	**154.37 317**		PKP	**PKPdf**	**02 05 20.8**	**-1.8**
	comp=Z,12nm,1.0s,baz=43,slow=1.1,SNR=24							
AKASG				PKPbc	**PKiKP**	**02 05 32.5**	**+1.5**
	comp=Z,16nm,0.7s,baz=42,slow=2.4,SNR=18							
AKASG				PKPab	**sPKPbc**	**02 05 40.8**	**+2.9**
	comp=Z,42nm,0.7s,baz=45,slow=2.8,SNR=15							
KIEV	**Kiev**	**154.38 317**	⇑	P	**PKPdf**	**02 05 22.3**	**-0.3**
KIEV	**Kiev**	**154.38 317**			**PKPdf**	**02 05 22.0**	**-0.6**
KIEV	**Kiev**	**154.38 317**		IAMs_20	IAMs_20	03 19 09.2		
	comp=Z,3μm,20.0s							
KIEV	**Kiev**	**154.38 317**	*i*	PKPdf	**PKPdf**	**02 05 22.2**	**-0.4**
	SNR=8.0							
KIEV	**Kiev**	**154.38 317**		PKIKP	**PKPdf**	**02 05 22.0**	**-0.6**
KIEV	**Kiev**	**154.38 317**		PKP	**PKPdf**	**02 05 22.5**	**-0.1**
KONO	**Kongsberg**	**154.45 351**			**PKPdf**	**02 05 22.5**	**+0.1**
KONO	**Kongsberg**	**154.45 351**		IAMs_20	IAMs_20	03 21 40.3		
	comp=Z,2μm,20.0s							
KONO	**Kongsberg**	**154.45 351**		ePKPdf	**PKPdf**	**02 05 23.2**	**+0.8**
KONO				IVmB_BB		02 05 33.1		
	comp=Z,913nm,2.2s							
KONO				*e*PP	**PP**	**02 09 22.1**	**+1.8**
KONO				*e*SS	SS	02 29 03.4	+4.9	
KONO	**Kongsberg**	**154.45 351**		PKIKP	**PKPdf**	**02 05 22.5**	**+0.1**
ODD1	**Odda**	**154.52 354**		ePKPdf	**PKPdf**	**02 05 24.1**	**+1.5**
ODD1				IVmB_BB		02 05 25.5		
	comp=Z,982nm,3.4s							
ANTO	**Ankara**	**154.76 291**	⇓	P	**PKPdf**	**02 05 23.2**	**-0.4**
ANTO	**Ankara**	**154.76 291**			**PKPdf**	**02 05 23.6**	**0.0**
ANTO	**Ankara**	**154.76 291**		IAMs_20	IAMs_20	03 17 31.6		
	comp=Z,2μm,20.0s							
ANTO	**Ankara**	**154.76 291**		P	**PKPdf**	**02 05 23.9**	**+0.3**
ANTO	**Ankara**	**154.76 291**		PKIKP	**PKPdf**	**02 05 23.6**	**0.0**
ANTO	**Ankara**	**154.76 291**		PKP	**PKPdf**	**02 05 24.2**	**+0.6**
BLS5	**Blasjo**	**155.01 354**		ePKPdf	**PKPdf**	**02 05 24.1**	**+0.8**
BLS5				IVmB_BB		02 05 27.1		
	comp=Z,1μm,5.2s							
BLS5				*e*PP	**PP**	**02 09 24.9**	**+1.5**
KMY	**Karmoy**	**155.31 356**		ePKPdf	**PKPdf**	**02 05 24.3**	**+0.7**
KMY				IVmB_BB		02 05 35.1		
	comp=Z,860nm,2.0s							
CALA	**Caldeira**	**155.36 72**		*e*PKP	**PKPdf**	**02 05 29.4**	**+4.9**
PCED	**Cedros**	**155.36 72**		*e*PKP	**PKPdf**	**02 05 28.9**	**+4.5**
SUW	**Suwalki**	**155.44 329**		*e*PKP	**PKPdf**	**02 05 24.2**	**+0.2**
SUW	**Suwalki**	**155.44 329**		IAMs_20	IAMs_20	03 19 50.7		
	comp=Z,2μm,20.0s							
PCAN	**Candelaria**	**155.53 72**		*e*PKP	**PKPdf**	**02 05 26.2**	**+1.6**
PICO	**Pico**	**155.58 72**		*e*PKP	**PKPdf**	**02 05 27.2**	**+2.4**
PURM	**Purcari**	**155.65 308**	⇑	P	**PKPdf**	**02 05 24.2**	**-0.3**
SRBC	**Serra Branca**	**155.88 71**		*e*PKP	**PKPdf**	**02 05 25.6**	**+0.5**
HOMB	**Homborsund**	**155.93 351**		ePKPdf	**PKPdf**	**02 05 25.2**	**+0.8**
HOMB				*e*SS	SS	02 29 21.1	+6.5	
SNART	**Snartemo**	**156.01 353**		ePKPdf	**PKPdf**	**02 05 24.9**	**+0.4**
SNART				*e*PP	**PP**	**02 09 27.6**	**-1.3**
SORM	**Soroca**	**156.02 312**	⇑	P	**PKPdf**	**02 05 24.5**	**-0.4**
SORM	**Soroca**	**156.02 312**	⇑	PKIKP	**PKPdf**	**02 05 24.5**	**-0.4**
KIS	**Kishinev**	**156.17 309**	*i*	PKiKP	**PKPdf**	**02 05 23.3**	**-2.1**
KIS	**Kishinev**	**156.17 309**	⇑	*i*PKP	**PKPab**	**02 05 53.0**	**0.0**
	comp=Z,630nm,9.6s							
KIS				*e*L	L	03 07 44.0		
KIS				LRM	MLR	03 19 40.0		
	comp=Z,500nm,18.5s							
KIS	**Kishinev**	**156.17 309**	*d*	iPKIKP	**PKPdf**	**02 05 23.0**	**-2.1**
KIS			*e*			02 09 25.0		
KIS				pmax	pmax			
	comp=Z,470nm,9.2s							
KIS				pmax	pmax			
	comp=Z,630nm,9.6s							
MILM	**Milestii Mici**	**156.20 309**	⇑	P	**PKPdf**	**02 05 25.1**	**0.0**
MILM	**Milestii Mici**	**156.20 309**	*i*	PKiKP	**PKPdf**	**02 05 22.0**	**-3.2**
MILM	**Milestii Mici**	**156.20 309**	⇑	*i*PKP	**PKPab**	**02 05 53.0**	**-0.1**
	comp=Z,2μm,6.6s							
MILM				*e*L	L	03 07 53.0		
MILM				LRM	MLR	03 19 16.0		
	comp=Z,2μm,18.8s							
MILM	**Milestii Mici**	**156.20 309**	*d*	iPKIKP	**PKPdf**	**02 05 22.0**	**-3.2**
MILM				pmax	pmax			
	comp=Z,1μm,10.2s							
LEOM	**Leova**	**156.72 309**	⇓	P	**PKPdf**	**02 05 26.3**	**+0.5**
LEOM	**Leova**	**156.72 309**	⇓	PKIKP	**PKPdf**	**02 05 26.3**	**+0.5**
TLCR		**156.77 305**	⇓	P	**PKPdf**	**02 05 26.1**	**+0.1**
TLCR		**156.77 305**	⇓	PKIKP	**PKPdf**	**02 05 26.1**	**+0.1**
VASR	**Vaslui**	**156.96 309**	⇑	P	**PKPdf**	**02 05 25.6**	**-0.6**
VLDR	**Vladesti**	**157.05 307**	⇑	P	**PKPdf**	**02 05 26.9**	**+0.5**
TPGR	**Topolog**	**157.14 305**	⇑	P	**PKPdf**	**02 05 26.1**	**-0.4**
SCTR	**Scanteiesti**	**157.17 307**	⇑	P	**PKPdf**	**02 05 26.7**	**+0.3**
CFR	**Carcaliu**	**157.23 305**	⇓	P	**PKPdf**	**02 05 26.3**	**-0.3**
CFR	**Carcaliu**	**157.23 305**	⇓	PKIKP	**PKPdf**	**02 05 26.3**	**-0.3**
MANR	**Mangalia**	**157.31 302**	⇓	P	**PKPdf**	**02 05 26.7**	**0.0**
MFTR	**Murfatlar**	**157.33 303**	⇑	P	**PKPdf**	**02 05 27.2**	**+0.4**
SCHLR	**Schela**	**157.34 306**	⇓	P	**PKPdf**	**02 05 27.0**	**+0.3**
IZVR	**Izvoarele**	**157.36 307**	⇓	P	**PKPdf**	**02 05 26.9**	**+0.2**
GHRR		**157.42 308**	⇑	P	**PKPdf**	**02 05 27.5**	**+0.7**
DRUM	**Mains of Drumt**	**157.55 6**		*e*P	**PKPdf**	**02 05 26.6**	**0.0**
BSD	**Bornholm Skovb**	**157.56 340**		*e*P	PKPdf	02 05 18.3	-8.4	
MUD	**Monsted U'grnd**	**157.59 349**		*e*P	**PKPdf**	**02 05 20.3**	**-6.3**
PSN	**Preselentsi**	**157.67 302**	⇓	*i*P	**PKPdf**	**02 05 28.9**	**+1.7**
LVV	**L'vov**	**157.67 320**		*e*PKIKP	**PKPdf**	**02 05 26.8**	**-0.2**
LVV				*e*		02 09 45.5		
LVV				*e*SS	SS	02 30 29.7	+55	
COP	**Copenhagen**	**157.69 344**		*e*P	**PKPdf**	**02 05 19.3**	**-7.5**
TESR	**Tescani**	**157.73 310**	⇑	P	**PKPdf**	**02 05 26.3**	**-0.9**
ICOR	**Ion Corvin**	**157.78 303**	⇑	P	**PKPdf**	**02 05 27.6**	**+0.3**
LAWE	**Loch Awe, Argy**	**157.85 10**		*e*P	**PKPdf**	**02 05 27.8**	**+0.8**
VRI	**Vrincioaia**	**157.93 308**	⇓	P	**PKPdf**	**02 05 27.7**	**+0.2**
VRI	**Vrincioaia**	**157.93 308**	⇓	PKIKP	**PKPdf**	**02 05 27.7**	**+0.2**
AMRR	**Amara**	**157.95 305**	⇓	P	**PKPdf**	**02 05 27.5**	**0.0**
AMRR	**Amara**	**157.95 305**	⇓	PKIKP	**PKPdf**	**02 05 27.5**	**0.0**
PLOR	**Plostina**	**157.99 308**	⇓	P	**PKPdf**	**02 05 26.6**	**-1.0**
PLOR	**Plostina**	**157.99 308**	⇓	PKIKP	**PKPdf**	**02 05 26.6**	**-1.0**
BEL	**Belsk**	**158.00 327**		*e*PKP	**PKPdf**	**02 05 27.4**	**+0.1**
BURAR	**Bucovina Array**	**158.14 313**	⇓	P	**PKPdf**	**02 05 28.1**	**+0.3**
BURAR	**Bucovina Array**	**158.14 313**			**PKPdf**	**02 05 26.8**	**-1.0**
BURAR	**Bucovina Array**	**158.14 313**	⇓	PKIKP	**PKPdf**	**02 05 28.1**	**+0.3**
PSMA	**Santa Maria**	**158.17 76**		*e*PKP	**PKPdf**	**02 05 28.1**	**+0.1**
COVR	**Voineasa-Covas**	**158.28 308**	⇑	P	**PKPdf**	**02 05 28.0**	**+0.1**
TURR	**Turia**	**158.32 309**	⇓	P	**PKPdf**	**02 05 27.9**	**-0.1**
ISR	**Istrita**	**158.32 306**	⇓	P	**PKPdf**	**02 05 27.6**	**-0.4**
ISR	**Istrita**	**158.32 306**	⇓	PKIKP	**PKPdf**	**02 05 27.6**	**-0.4**
GKP	**Gorka Klasztor**	**158.36 334**		*e*PKP	**PKPdf**	**02 05 27.5**	**-0.2**
NEHR	**Nehoiu**	**158.37 307**	⇑	P	**PKPdf**	**02 05 27.9**	**-0.1**
ARG	**Arkhangelos**	**158.41 282**		IAMs_20	IAMs_20	03 24 05.0		
	comp=Z,2μm,20.0s							
OZUR		**158.45 309**	⇑	P	**PKPdf**	**02 05 27.9**	**-0.3**
SSRD	**Sdr. Stenderup**	**158.45 348**		*e*P	**PKPdf**	**02 05 20.3**	**-7.4**
KWP	**Kalwaria Pacla**	**158.48 320**		*e*PKP	**PKPdf**	**02 05 28.3**	**+0.3**
KWP	**Kalwaria Pacla**	**158.48 320**		IAMs_20	IAMs_20	03 21 04.8		
	comp=Z,3μm,21.0s							
KWP	**Kalwaria Pacla**	**158.48 320**		PKP	**PKPdf**	**02 05 28.8**	**+0.8**
ESY	**Stoneypath**	**158.53 7**		*e*P	**PKPdf**	**02 05 25.6**	**-2.2**
BOSR	**Bodos**	**158.53 309**	⇓	P	**PKPdf**	**02 05 28.3**	**0.0**
BALB	**Balikesir**	**158.56 291**		PKPab	**PKPab**	**02 06 01.9**	**

UPC				AMS	AMS	03 36 20.0			
	comp=Z,3µm,17.1s								
PUNG	**Punghina**	**161.02**	**307**	ǁP	**PKPdf**	**02 05 30.5**	**-0.5**		
MAUC	**Maruska**	**161.07**	**326**	*e*PKPDF	**PKPdf**	**02 05 33.6**	**+2.6**		
LBWR	**Ladybower, Pea**	**161.10**	**6**	*e*P	**PKPdf**	**02 05 30.8**	**-0.1**		
HERR	**Herculane**	**161.11**	**309**	ǁP	**PKPdf**	**02 05 30.6**	**-0.5**		
BSZH	**Besenyszg**	**161.17**	**318**	ǁP	**PKPdf**	**02 05 31.3**	**+0.3**		
VYHS	**Vyhne**	**161.18**	**323**	*e*PKP	**PKPdf**	**02 05 31.1**	**0.0**		
VYHS				*e*		02 06 15.5			
VYHS	**Vyhne**	**161.18**	**323**	*e*PKIKP	**PKPdf**	**02 05 31.1**	**0.0**		
VYHS				*e*		02 06 15.5			
BZS	**Buzias**	**161.27**	**312**	ǁP	**PKPdf**	**02 05 31.0**	**-0.3**		
BZS	**Buzias**	**161.27**	**312**	ǁPKIKP	**PKPdf**	**02 05 31.0**	**-0.3**		
IWEX	**Carrickbyrne,**	**161.28**	**16**	PKP	**PKPdf**	**02 05 29.9**	**-1.1**		
IWEX	**Carrickbyrne,**	**161.28**	**16**	*e*P	**PKPdf**	**02 05 28.6**	**-2.4**		
MMB	**Musomishta**	**161.33**	**298**	*i* P	**PKPdf**	**02 05 30.6**	**-0.9**		
VTS	**Vitosha**	**161.40**	**302**	ǁ*i*P	**PKPdf**	**02 05 31.5**	**-0.2**		
AMBH	**Ambrzfalva**	**161.44**	**315**	ǁP	**PKPdf**	**02 05 31.8**	**+0.5**		
FOEL	**Foel Wylfa**	**161.44**	**9**	*e*P	**PKPdf**	**02 05 30.9**	**-0.4**		
CLL	**Collm**	**161.44**	**337**	*e*PKIKP	**PKPdf**	**02 05 31.0**	**-0.2**		
CLL				*i*		02 06 15.6			
CLL				pmax	pmax				
	comp=Z,50nm,1.9s								
CLL				MLR	MLR				
	comp=Z,3µm,18.0s								
CLL	**Collm**	**161.44**	**337**	PKP	**PKPdf**	**02 05 31.8**	**+0.6**		
BLKB	**Belogradchik**	**161.44**	**305**	ǁP	**PKPdf**	**02 05 31.3**	**-0.3**		
BRG	**Berggiesshubel**	**161.49**	**335**	ǁ*e*PKPf		02 05 31.8			
BRG				Amp		02 05 34.6			
	comp=Z,63nm,1.6s								
BRG				PKPab	**PKPab**	**02 06 16.5**	**+0.6**		
BRG				Amp		02 06 18.5			
	comp=Z,133nm,1.4s								
BRG	**Berggiesshubel**	**161.49**	**335**	SKKS		02 20 25.0			
JAVC	**Velka Javorina**	**161.50**	**325**	*e*PKP	**PKPdf**	**02 05 32.2**	**+0.7**		
JAVC				*e*		02 06 17.0			
JAVC				*e*		02 06 17.5			
JAVC				*e*		02 09 56.1			
PVCC	**Panska Ves**	**161.55**	**333**	AMS	AMS	03 27 30.0			
	comp=Z,2µm,19.8s								
MDVR	**Moldovita**	**161.60**	**309**	ǁP	**PKPdf**	**02 05 31.0**	**-0.7**		
BANR	**Banloc**	**161.68**	**312**	ǁP	**PKPdf**	**02 05 31.9**	**+0.2**		
KKB	**Krupnik**	**161.71**	**299**	ǁ*i*P	**PKPdf**	**02 05 31.0**	**-0.9**		
RICC	**Richard**	**161.71**	**334**	*e*PKPAB	**PKPab**	**02 06 18.2**	**+1.3**		
RICC				AMS	AMS	03 31 50.0			
	comp=Z,2µm,17.6s								
HLM1	**Long Mynd**	**161.84**	**9**	*e*P	**PKPdf**	**02 05 32.0**	**+0.3**		
SMOL	**Smolenice**	**161.86**	**325**	*e*PKP2	**PKPab**	**02 06 18.8**	**+1.2**		
HSKC	**Hora Svate Kat**	**161.89**	**335**	*e*PKPAB	**PKPab**	**02 06 18.3**	**+0.6**		
SRO	**Srobarova**	**161.89**	**322**	*e*PKP	**PKPab**	**02 06 18.9**	**+1.1**		
SRO	**Srobarova**	**161.89**	**322**	*e*PKP2	**PKPab**	**02 06 18.9**	**+1.1**		
KRUC	**Moravsky**	**161.94**	**327**	*e*PKP	**PKPdf**	**02 05 31.2**	**-0.7**		
KRUC				*e*		02 09 57.4			
GOPC	**GO Pecny, Ondr**	**161.96**	**332**	*e*PKPAB	**PKPab**	**02 06 18.6**	**+0.6**		
GOPC				*ex*	x	02 30 20.5			
GOPC				AMS	AMS	03 30 20.0			
	comp=Z,3µm,17.6s								
GOPC	**GO Pecny, Ondr**	**161.96**	**332**	*e*PKP2	**PKPab**	**02 06 18.6**	**+0.6**		
GOPC				*e*		02 30 20.5			
GOPC				MLR	MLR				
	comp=Z,3µm,17.6s								
PRA	**Prague**	**161.97**	**333**	AMS	AMS	03 29 40.0			
	comp=Z,3µm,18.7s								
PRU	**Pruhonice**	**162.00**	**332**	*ex*	x	02 30 19.8			
PRU				AMS	AMS	03 24 00.0			
	comp=Z,2µm,20.3s								
MODS	**Modra-Piesok**	**162.03**	**324**	*e*PKP	**PKPdf**	**02 05 32.8**	**+0.8**		
MODS				*e*		02 06 19.3			
MODS	**Modra-Piesok**	**162.03**	**324**	*e*PKIKP	**PKPdf**	**02 05 32.8**	**+0.8**		
BOVS	**Bovan**	**162.09**	**306**	ǁP	**PKPdf**	**02 05 31.3**	**-0.9**		
TREC	**Trest**	**162.16**	**329**	*e*PKPAB	**PKPab**	**02 06 19.4**	**+0.5**		
TREC				*ex*	x	02 30 22.5			
TREC				AMS	AMS	03 25 20.0			
	comp=Z,3µm,19.4s								
TREC	**Trest**	**162.16**	**329**	*e*PKP2	**PKPab**	**02 06 19.4**	**+0.5**		
TREC				*e*		02 30 22.5			
TREC				MLR	MLR				
	comp=Z,3µm,19.4s								
ZST	**Bratislava**	**162.24**	**324**	*e*PKP	**PKPdf**	**02 05 33.3**	**+1.1**		
ZST				*e*		02 06 20.7			
ZST	**Bratislava**	**162.24**	**324**	*e*PKIKP	**PKPdf**	**02 05 33.3**	**+1.1**		
VAY	**Valandovo**	**162.25**	**298**	*i* P	**PKPdf**	**02 05 31.4**	**-1.0**		
NKC	**Novy Kostel**	**162.54**	**336**	*e*PKPAB	**PKPab**	**02 06 21.4**	**+0.9**		
NKC				AMS	AMS	03 26 10.0			
	comp=Z,3µm,18.3s								
NKC	**Novy Kostel**	**162.54**	**336**	*e*PKP2	**PKPab**	**02 06 21.4**	**+0.9**		
NKC				MLR	MLR				
	comp=Z,3µm,18.3s								
ZVC	**Zvikov**	**162.57**	**332**	*e*PKPDF	**PKPdf**	**02 05 34.2**	**+1.7**		
ZVC				*e*PKPAB	**PKPab**	**02 06 21.4**	**+0.7**		
FRGS	**Fruska Gora**	**162.61**	**313**	ǁP	**PKPdf**	**02 05 32.2**	**-0.5**		
FRGS	**Fruska Gora**	**162.61**	**313**	ǁ*i*P	**PKPdf**	**02 05 31.7**	**-1.0**		
MORH	**Mrgy, Hungar**	**162.71**	**317**	ǁP	**PKPdf**	**02 05 32.3**	**-0.4**		
SKO	**Skopje**	**162.87**	**301**	*i* P	**PKPdf**	**02 05 32.5**	**-0.5**		
RONA	**Rosalia, Austr**	**162.97**	**324**	*i* PKP	**PKPdf**	**02 05 32.8**	**-0.2**		
	comp=Z,22nm,1.6s,SNR=10								
RONA				*ep*PKP	**pPKPdf**	**02 05 38.1**	**-0.2**		
	comp=Z,22nm,1.3s								
RONA				*i* PKP	**PKPab**	**02 06 23.4**	**+0.8**		
	comp=Z,100nm,1.3s,SNR=15								
CONA	**Conrad Observa**	**163.01**	**326**	*i* PKP	**PKPdf**	**02 05 32.9**	**-0.2**		
	comp=Z,17nm,1.5s,SNR=7.1								
CONA				*ep*PKP	**pPKPdf**	**02 05 36.9**	**-1.4**		
	comp=Z,3.1nm,1.0s								
CONA				*i* PKP	**PKPab**	**02 06 23.7**	**+0.9**		
	comp=Z,129nm,1.4s,SNR=16								
CKRC	**Cesky Krumlov**	**163.02**	**330**	*e*PKPDF	**PKPdf**	**02 05 33.3**	**+0.3**		
CKRC				*ex*	x	02 30 31.8			
CKRC				AMS	AMS	03 28 10.0			
	comp=Z,2µm,18.7s								
CKRC	**Cesky Krumlov**	**163.02**	**330**	*e*PKIKP	**PKPdf**	**02 05 33.3**	**+0.3**		
CKRC				*e*		02 30 31.8			
CKRC				MLR	MLR				
	comp=Z,2µm,18.7s								
KHC	**Kasperske Hory**	**163.06**	**332**	*e*PKPDF	**PKPdf**	**02 05 33.7**	**+0.7**		
KHC				*e*PKPAB	**PKPab**	**02 06 23.1**	**+0.2**		
KHC				*ex*	x	02 30 32.2			
KHC				AMS	AMS	03 26 50.0			
	comp=Z,3µm,19.1s								
KHC	**Kasperske Hory**	**163.06**	**332**	*e*PKIKP	**PKPdf**	**02 05 33.7**	**+0.7**		
KHC				*e*		02 06 23.1			
KHC				*e*		02 30 32.2			
KHC				MLR	MLR				
	comp=Z,3µm,19.1s								
TEKS	**Tekeris**	**163.09**	**311**	ǁ*i*P	**PKPdf**	**02 05 32.2**	**-1.0**		
GERES	**GERESS Array B**	**163.24**	**331**		**PKPdf**	**02 05 32.5**	**-0.8**		
GERES	**GERESS Array B**	**163.24**	**331**	PKP	**PKPdf**	**02 05 29.8**	**-3.5**		
	comp=Z,4.7nm,0.9s,baz=22,slow=0.7,SNR=16								
GERES				PKPab	**PKPab**	**02 06 22.1**	**-1.7**		
	comp=Z,12nm,0.9s,baz=25,slow=6.6,SNR=12								
GERES				PKKP		02 13 46.0			
	comp=Z,1.5nm,0.9s,baz=213,slow=9.5,SNR=3.5								
SJES	**Sjenica**	**163.39**	**307**	ǁ*i*P	**PKPdf**	**02 05 33.3**	**-0.3**		
GRFO	**Grafenberg**	**163.41**	**338**		**PKPdf**	**02 05 33.2**	**-0.1**		
GRFO	**Grafenberg**	**163.41**	**338**	PKIKP	**PKPdf**	**02 05 33.2**	**-0.1**		
BBLS	**Lazi&#263i**	**163.49**	**309**	ǁ*i*P	**PKPdf**	**02 05 32.8**	**-0.9**		
OHR	**Ohrid**	**163.59**	**299**	*i* P	**PKPdf**	**02 05 33.5**	**-0.3**		
BEBN	**Eben Emael**	**163.60**	**351**	*d*PKPdf	**PKPdf**	**02 05 33.2**	**-0.2**		
BEBN				*d*PKP	**PKPab**	**02 06 25.2**	**+0.1**		
IVA	**Berane**	**163.61**	**305**	ǁ*i*PKP	**PKPdf**	**02 05 33.2**	**-0.6**		
RUDO	**Rudo**	**163.63**	**308**	*e*P	**PKPdf**	**02 05 34.2**	**+0.5**		
ARSA	**Arzberg**	**163.66**	**325**	*i* PKP	**PKPdf**	**02 05 33.3**	**-0.3**		
	comp=Z,19nm,1.7s,SNR=8.0								
ARSA				*i* PKP	**PKPab**	**02 06 26.2**	**+0.6**		
	comp=Z,80nm,1.6s,SNR=9.5								
CCA1	**Carnmenellis**	**163.67**	**16**	*e*P	**PKPdf**	**02 05 31.6**	**-1.9**		
HAPS	**Han Pijesak,BI**	**163.68**	**310**	ǁ*i*P	**PKPdf**	**02 05 33.1**	**-0.8**		
MEM	**Membach**	**163.74**	**350**	*d*PKPdf	**PKPdf**	**02 05 33.5**	**0.0**		
MEM				*d*PKP	**PKPab**	**02 06 25.9**	**+0.2**		
BTNL	**Ternell**	**163.74**	**350**	*d*PKPdf	**PKPdf**	**02 05 33.3**	**-0.3**		
BTNL				*d*PKP	**PKPab**	**02 06 25.6**	**-0.1**		
PLE	**Pljevlja**	**163.75**	**307**	ǁ*i*PKP	**PKPdf**	**02 05 33.6**	**-0.4**		
MOA	**Molln**	**163.79**	**328**	*i* PKP	**PKPdf**	**02 05 33.3**	**-0.5**		
	comp=Z,16nm,1.5s,SNR=5.9								
MOA				*i* PKP	**PKPab**	**02 06 26.8**	**+0.7**		
	comp=Z,72nm,1.3s,SNR=10								
BSTI	**Sart Tilman**	**163.82**	**351**	*d*PKPdf	**PKPdf**	**02 05 33.9**	**+0.3**		
BSTI				*d*PKP	**PKPab**	**02 06 26.5**	**+0.4**		
KOGS	**Kog**	**163.85**	**321**	*e*PKPdf	**PKPdf**	**02 05 32.9**	**-0.9**		
KOME	**Kolasin**	**163.87**	**306**	ǁ*i*PKP	**PKPdf**	**02 05 33.7**	**-0.4**		
KALN	**Kalnik**	**163.95**	**320**	*i* P	**PKPdf**	**02 05 32.5**	**-1.4**		
BHOU	**Houvegnez**	**163.99**	**350**	*d*PKPdf	**PKPdf**	**02 05 34.0**	**+0.2**		
BHOU				*d*PKP	**PKPab**	**02 06 26.5**	**-0.3**		
BCLA	**Clavier**	**164.02**	**352**	*d*PKPdf	**PKPdf**	**02 05 33.9**	**+0.1**		
BCLA				*d*PKP	**PKPab**	**02 06 26.2**	**-0.7**		
BGES	**Gesves**	**164.08**	**352**	*d*PKPdf	**PKPdf**	**02 05 33.3**	**-0.6**		
BGES				*d*PKP	**PKPab**	**02 06 26.7**	**-0.4**		
UPM	**Unac-Piva**	**164.12**	**308**	*e*P	**PKPdf**	**02 05 33.8**	**-0.6**		
UPM	**Unac-Piva**	**164.12**	**308**	ǁ*i*PKP	**PKPdf**	**02 05 33.6**	**-0.8**		
LOBO	**Lobor**	**164.14**	**321**	*i* P	**PKPdf**	**02 05 32.4**	**-1.7**		
BIOA	**Bad Ischl, Aus**	**164.18**	**329**	*i* PKP	**PKPdf**	**02 05 33.5**	**-0.6**		
	comp=Z,20nm,1.5s,SNR=10								
BIOA				*i* PKP	**PKPab**	**02 06 28.5**	**+0.6**		
	comp=Z,76nm,1.3s,SNR=12								
TIR	**Tirane**	**164.19**	**300**	ǁP	**PKPdf**	**02 05 34.2**	**-0.1**		
TIR	**Tirane**	**164.19**	**300**		**PKPab**	**02 06 26.2**	**-1.9**		
TIR	**Tirane**	**164.19**	**300**	ǁPKIKP	**PKPdf**	**02 05 34.2**	**-0.1**		
TIR	**Tirane**	**164.19**	**300**	PKP	**PKPdf**	**02 05 35.0**	**+0.7**		
BMRD	**Maredsous**	**164.19**	**353**	*d*PKPdf	**PKPdf**	**02 05 34.1**	**+0.2**		
BMRD				*d*PKP	**PKPab**	**02 06 27.6**	**-0.1**		
PMOZ	**Porto Moniz, M**	**164.20**	**91**	*e*PP	**PP**	**02 10 22.5**	**+7.5**		
PMOZ	**Porto Moniz, M**	**164.20**	**91**	*e*LR	LR	03 02 02.7			
	comp=Z,3µm,18.0s								
PDG	**Podgorica**	**164.22**	**305**	ǁP	**PKPdf**	**02 05 33.7**	**-0.6**		
PDG	**Podgorica**	**164.22**	**305**	ǁ*i*P	**PKPdf**	**02 05 33.4**	**-0.8**		
PDG	**Podgorica**	**164.22**	**305**	ǁ*i*PKP	**PKPdf**	**02 05 33.9**	**-0.3**		
NKME	**Niksic**	**164.28**	**306**	ǁ*i*PKP	**PKPdf**	**02 05 33.8**	**-0.6**		
RCHB	**Rochefort**	**164.28**	**352**	*d*PKPdf	**PKPdf**	**02 05 34.0**	**0.0**		
RCHB				*d*PKP	**PKPab**	**02 06 28.4**	**+0.4**		
SOKA	**Soboth**	**164.31**	**324**	*i* PKP	**PKPdf**	**02 05 33.8**	**-0.6**		
	comp=Z,29nm,1.6s,SNR=22								
SOKA				*e*PKP	**PKPab**	**02 06 28.5**	**0.0**		
	comp=Z,79nm,1.3s								
PTJ	**Puntijarka**	**164.36**	**320**	P	**PKPdf**	**02 05 33.6**	**-0.8**		
DRME	**Dracevica, Mon**	**164.36**	**304**	ǁ*i*P	**PKPdf**	**02 05 33.3**	**-1.1**		
DRME	**Dracevica, Mon**	**164.36**	**304**	ǁ*i*PKP	**PKPdf**	**02 05 34.1**	**-0.3**		
BLY	**Banja Luka**	**164.39**	**315**	ǁ*i*P	**PKPdf**	**02 05 33.7**	**-0.6**		
CEME	**Cevo**	**164.40**	**305**	ǁ*i*PKP	**PKPdf**	**02 05 33.8**	**-0.7**		
ZAG	**Zagreb**	**164.40**	**320**	P	**PKPdf**	**02 05 33.6**	**-0.7**		
A051A	**Mrakovica**	**164.40**	**316**	ǁ*i*P	**PKPdf**	**02 05 33.4**	**-1.0**		
ULC	**Ulcinj**	**164.41**	**303**	ǁ*i*PKP	**PKPdf**	**02 05 33.8**	**-0.7**		
DOU	**Dourbes**	**164.41**	**353**	*d*PKPdf	**PKPdf**	**02 05 34.1**	**0.0**		
DOU				*d*PKP	**PKPab**	**02 06 29.1**	**+0.4**		
BRY	**Bratogost**	**164.50**	**307**	*e*P	**PKPdf**	**02 05 33.1**	**-1.6**		
BRY	**Bratogost**	**164.50**	**307**	ǁ*i*PKP	**PKPdf**	**02 05 33.1**	**-1.0**		
BUM	**Brajici-Budva**	**164.51**	**305**	ǁ*i*PKP	**PKPdf**	**02 05 34.1**	**-0.5**		
WLF	**Walferdange**	**164.63**	**349**	PKPab	**PKPab**	**02 06 29.5**	**-0.2**		
WLF	**Walferdange**	**164.63**	**349**	*d*PKPdf	**PKPdf**	**02 05 35.4**	**+1.0**		
WLF				*d*PcP	**PKPab**	**02 06 30.6**	**+1.0**		
WLF	**Walferdange**	**164.63**	**349**	PKP	**PKPdf**	**02 05 33.1**	**-1.3**		
WLF	**Walferdange**	**164.63**	**349**	PKP2	**PKPab**	**02 06 29.5**	**-0.2**		
OBKA	**Obir**	**164.66**	**324**	*i* PKP	**PKPdf**	**02 05 34.3**	**-0.4**		
	comp=Z,9.3nm,1.4s,SNR=5.6								
OBKA				*e*PKP	**PKPab**	**02 06 28.5**	**-1.6**		
	comp=Z,21nm,1.4s								
OBKA	**Obir**	**164.66**	**324**	*e*P	**PKPdf**	**02 05 33.3**	**-1.4**		
CRES	**Cresnjev**	**164.68**	**321**	ǁ*i*P	**PKPdf**	**02 05 33.3**	**-1.3**		
KBA	**Koenbreinsper**	**164.78**	**328**	*i* PKP	**PKPdf**	**02 05 34.1**	**-0.7**		
	comp=Z,29nm,1.7s,SNR=8.5								
KBA				*e*PKP	**PKPab**	**02 06 30.7**	**0.0**		
	comp=Z,41nm,1.0s								
LESA	**Schwarzleotal**	**164.79**	**330**	*e*PKP	**PKPdf**	**02 05 34.1**	**-0.7**		
	comp=Z,40nm,1.5s								
LESA				*e*PKP	**PKPab**	**02 06 30.4**	**-0.2**		
	comp=Z,72nm,1.5s								
OZLJ	**Ozalj**	**164.81**	**320**	*i* P	**PKPdf**	**02 05 31.0**	**-3.7**		
DBRK	**Dubrovnik**	**164.86**	**307**	*i* P	**PKPdf**	**02 05 32.9**	**-1.9**		
A050A	**Klekovaca**	**164.93**	**315**	ǁ*i*P	**PKPdf**	**02 05 33.9**	**-1.0**		
MYKA	**Terra Mystica**	**164.99**	**326**	*i* PKP	**PKPdf**	**02 05 34.5**	**-0.4**		
	comp=Z,25nm,1.7s,SNR=11								
MYKA				*ep*PKP	**pPKPdf**	**02 05 38.4**	**-1.8**		
	comp=Z,9.0nm,1.2s								
MYKA				*e*PKP	**PKPab**	**02 06 31.0**	**-0.5**		
	comp=Z,70nm,1.6s								
MYKA				*ep*PKP	**pPKPab**	**02 06 34.1**	**-2.5**		
	comp=Z,9.3nm,1.1s								
BOJS	**Bojanci**	**165.00**	**320**	ǁ*i*P	**PKPdf**	**02 05 34.3**	**-0.5**		
LJU	**Ljubljana**	**165.00**	**323**	*e*PKPdf	**PKPdf**	**02 05 34.5**	**-0.4**		
LJU				*i* PKPab	**PKPab**	**02 06 31.3**	**-0.2**		
VISS	**Visnje**	**165.01**	**322**	*e*PKPdf	**PKPdf**	**02 05 34.4**	**-0.4**		
VISS				*e*		02 05 48.3			
STON	**Ston**	**165.06**	**308**	*i* P	**PKPdf**	**02 05 34.5**	**-0.4**		
STON	**Ston**	**165.06**	**308**	*e*P	**PKPdf**	**02 05 33.2**	**-1.7**		
CEY	**Cerknica**	**165.26**	**323**	ǁ*i*P	**PKPdf**	**02 05 33.7**	**-1.4**		
KIJV	**Kijevo**	**165.28**	**314**	*i* P	**PKPdf**	**02 05 34.4**	**-0.8**		
MAKA	**Makarska**	**165.29**	**310**	*i* P	**PKPdf**	**02 05 34.2**	**-0.9**		
WATA	**Walderalm**	**165.30**	**333**	*i* PKP	**PKPdf**	**02 05 34.9**	**-0.3**		
	comp=Z,30nm,1.4s,SNR=14								
WATA				*i* PKP	**PKPab**	**02 06 33.3**	**+0.4**		
	comp=Z,101nm,1.7s,SNR=9.5								
WTTA	**Wattenberg**	**165.34**	**332**	*i* PKP	**PKPdf**	**02 05 35.2**	**-0.1**		
	comp=Z,46nm,1.5s,SNR=18								
WTTA				*i* PKP	**PKPab**	**02 06 33.7**	**+0.5**		
	comp=Z,74nm,1.3s,SNR=7.3								
ABTA	**Abfaltersbach**	**165.40**	**329**	*i* PKP	**PKPdf**	**02 05 34.5**	**-0.8**		
	comp=Z,44nm,1.6s,SNR=20								
ABTA				*i* PKP	**PKPab**	**02 06 31.8**	**-1.5**		
	comp=Z,57nm,1.1s,SNR=7.4								
BFO	**Black Forest**	**165.46**	**342**		**PKPdf**	**02 05 34.8**	**-0.4**		
BFO	**Black Forest**	**165.46**	**342**	PKIKP	**PKPdf**	**02 05 34.8**	**-0.4**		
MOTA	**Moosalm**	**165.47**	**334**	*e*PKP	**PKPdf**	**02 05 34.6**	**-0.8**		
	comp=Z,32nm,1.4s,SNR=20								
MOTA				*i* PKP	**PKPab**	**02 06 34.3**	**+0.7**		
	comp=Z,125nm,1.4s,SNR=8.6								
RETA	**Reutte**	**165.47**	**335**	*i* PKP	**PKPdf**	**02 05 35.0**	**-0.3**		
	comp=Z,16nm,1.5s,SNR=7.3								
RETA				*i* PKP	**PKPab**	**02 06 34.4**	**+0.9**		
	comp=Z,127nm,1.3s,SNR=19								
SQTA	**Sankt Quirin**	**165.53**	**333**	*i* PKP	**PKPdf**	**02 05 35.4**	**0.0**		
	comp=Z,31nm,1.3s,SNR=13								
SQTA				*i* PKP	**PKPab**	**02 06 34.6**	**+0.7**		
	comp=Z,65nm,1.2s,SNR=7.0								
LSTV	**Lastovo**	**165.63**	**309**	*i* P	**PKPdf**	**02 05 34.1**	**-1.3**		
HVAR	**Hvar**	**165.70**	**311**	*i* P	**PKPdf**	**02 05 33.1**	**-2.4**		
MORI	**Morici**	**165.77**	**314**	*i* P	**PKPdf**	**02 05 33.9**	**-1.7**		
NVLJ	**Novalja**	**165.82**	**318**	*i* P	**PKPdf**	**02 05 34.2**	**-1.3**		
ECH	**Echery**	**165.84**	**345**	PKPab	**PKPab**	**02 06 34.0**	**-1.1**		
ECH	**Echery**	**165.84**	**345**	PKP2	**PKPab**	**02 06 34.0**	**-1.1**		
FETA	**Feichten**	**165.88**	**334**	*i* PKP	**PKPdf**	**02 05 35.7**	**-0.1**		
	comp=Z,37nm,1.3s,SNR=27								
FETA				*i* PKP	**PKPab**	**02 06 36.3**	**+0.8**		
	comp=Z,77nm,1.1s,SNR=7.8								
VIRC	**Vir**	**165.89**	**317**	*i* P	**PKPdf**	**02 05 33.7**	**-1.9**		
DAVA	**Damuels**	**165.94**	**336**	*i* PKP	**PKPdf**	**02 05 35.7**	**-0.1**		
	comp=Z,22nm,1.3s,SNR=8.2								
DAVA				*i* PKP	**PKPab**	**02 06 36.6**	**+0.9**		
	comp=Z,125nm,1.2s,SNR=12								
DAVOX	**Davos/Dischmat**	**166.39**	**335**	PKP	**PKPdf**	**02 05 34.0**	**-2.2**		
	comp=Z,12nm,1.1s,baz=79,slow=0.6,SNR=18								
DAVOX				PKPab	**PKPab**	**02 06 35.8**	**-2.0**		
	comp=Z,33nm,0.9s,baz=330,slow=0.4,SNR=14								
CLF	**Chambon-Foret**	**166.63**	**358**	PKPab	**PKPab**	**02 06 38.7**	**+0.2**		
SGRT	**San Giovanni R**	**166.86**	**307**	PKPab	**PKPab**	**02 06 39.1**	**-0.9**		
TIP	**Timpagrande**	**167.11**	**295**	ǁP	**PKPdf**	**02 05 37.0**	**+0.2**		
TIP	**Timpagrande**	**167.11**	**295**	PKP	**PKPdf**	**02 05 37.2**	**+0.4**		
LOR	**Lormes**	**167.28**	**353**	*e*PKIKP	**PKPdf**	**02 05 36.8**	**+0.2**		
CUC	**Castrocucco**	**167.54**	**299**	PKPab	**PKPab**	**02 06 41.8**	**-1.3**		
TAM	**Tamanrasset**	**167.71**	**197**		**PKPab**	**02 06 43.5**	**-0.6**		
TAM	**Tamanrasset**	**167.71**	**197**	PKP2	**PKPab**	**02 06 43.5**	**-0.6**		
AVF	**Avril sur Loir**	**167.80**	**355**	*e*PKIKP	**PKPdf**	**02 05 39.1**	**+2.1**		
PAOL	**Paolisi**	**167.98**	**306**	PKPab	**PKPab**	**02 06 43.3**	**-1.7**		
CESX	**Cesi**	**168.35**	**316**	PKPab	**PKPab**	**02 06 44.5**	**-1.9**		
VLC	**Villacollemand**	**168.36**	**327**	PKP	**PKPdf**	**02 05 34.8**	**-2.7**		
LPL	**La Plagne**	**168.48**	**342**	*e*PKIKP	**PKPdf**	**02 05 37.9**	**+0.1**		
LPG	**La Plagne**	**168.49**	**342**	*e*PKIKP	**PKPdf**	**02 05 38.0**	**+0.1**		
SSB	**Saint Sauveur**	**169.16**	**349**	PKPab	**PKPab**	**02 06 48.9**	**-0.9**		
SSB	**Saint Sauveur**	**169.16**	**349**	PKP2	**PKPab**	**02 06 48.9**	**-0.9**		
ORIF	**Oris-en-Rattie**	**169.25**	**344**	*e*PKIKP	**PKPdf**	**02 05 38.0**	**-0.1**		
VAE	**Valguarnera**	**169.31**	**289**	PKP	**PKPdf**	**02 05 37.8**	**-0.6**		
	comp=Z,18nm,0.9s,baz=62,slow=2.2,SNR=3.8								
VAE				PKPab	**PKPab**	**02 06 50.7**	**-0.3**		
	comp=Z,52nm,1.2s,baz=85,slow=11,SNR=2.5								
PGAV	**Gavieira, Arco**	**169.31**	**44**	*e*PKPdf	**PKPdf**	**02 05 39.3**	**+1.0**		
PGAV	**Gavieira, Arco**	**169.31**	**44**	*e*PP	**PP**	**02 10 41.6**	**+1.1**		
PGAV	**Gavieira, Arco**	**169.31**	**44**	*e*SS	SS	02 31 48.3	**+13**		
PGAV	**Gavieira, Arco**	**169.31**	**44**	*e*LQ	LQ	02 55 35.8			
PGAV				*e*LR	LR	03 05 11.3			
	comp=Z,3µm,18.0s								
VIVF	**Saint-Julien-l**	**169.55**	**348**	*e*PKIKP	**PKPdf**	**02 05 38.4**	**+0.2**		
PCAB	**Cabril**	**169.62**	**44**	*e*PKPdf	**PKPdf**	**02 05 39.5**	**+1.1**		
PCAB	**Cabril**	**169.62**	**44**	*e*PKPab	**PKPab**	**02 06 52.4**	**+0.3**		
PTO	**Porto**	**169.62**	**48**	*e*PKPab	**PKPab**	**02 06 52.6**	**+0.5**		
POLO	**Lamas de Olo**	**169.96**	**45**	*e*PKPdf	**PKPdf**	**02 05 39.8**	**+1.1**		
POLO	**Lamas de Olo**	**169.96**	**45**	*e*PKPab	**PKPab**	**02 06 54.2**	**+0.5**		
POLO	**Lamas de Olo**	**169.96**	**45**	*e*PP	**PP**	**02 10 45.7**	**+1.9**		
POLO	**Lamas de Olo**	**169.96**	**45**	*e*SS	SS	02 31 40.1	**-1.5**		
PVRL	**Vila Real**	**170.07**	**45**	*e*PKPdf	**PKPdf**	**02 05 40.1**	**+1.4**		
PVRL	**Vila Real**	**170.07**	**45**	*e*PKPab	**PKPab**	**02 06 54.2**	**+0.1**		
**EC

PCDR	**Punta Cana, DR**	**0.61**	**23**	⇑*e*P		**Pn**	**01 56 00.1**	**+1.8**
PCDR	**Punta Cana, DR**	**0.61**	**23**	*e*S		**Sn**	**01 56 12.6**	**+0.9**
PCDR	**Punta Cana, DR**	**0.61**	**23**			**Pn**	**01 56 00.1**	**+1.8**
PCDR						**Sn**	**01 56 12.6**	**+0.9**
PCDR	**Punta Cana, DR**	**0.61**	**23**	IAML			01 56 14.1	
	comp=E,113nm,2.6s							
PCDR				IAML			01 56 17.1	
	comp=N,194nm,1.8s							
PCDR	**Punta Cana, DR**	**0.61**	**23**	⇓*e*Pg		**Pn**	**01 56 00.3**	**+1.9**
PCDR				*e*Sg		**Sn**	**01 56 11.4**	**-0.4**
PCDR				IAML			01 56 16.7	
	comp=N,182nm,1.5s							
HIDR	**Higuey Centro**	**0.64**	**353**	⇑*e*Pg		**Pn**	**01 55 56.3**	**-2.4**
HIDR				⇑*e*Sg		**Sn**	**01 56 05.0**	**-7.2**
HIDR				IAML			01 56 22.4	
	comp=N,83nm,0.2s							
HIDR	**Higuey Centro**	**0.64**	**353**	*i* P		**Pn**	**01 56 00.8**	**+2.1**
HIDR				*i* S		**Sn**	**01 56 12.8**	**+0.6**
HIDR				IAML			01 56 14.6	
	comp=N,26nm,0.3s							
HIDR	**Higuey Centro**	**0.64**	**353**	*e*Pg		**Pn**	**01 56 00.1**	**+1.4**
HIDR				*e*Sg		**Sn**	**01 56 12.8**	**+0.6**
HIDR				IAML			01 56 22.4	
	comp=N,83nm,0.2s							
CRPR	**Cabo Rojo, PR**	**1.45**	**88**	Pn		**Pn**	**01 56 07.7**	**+0.8**
CRPR				IAML			01 57 13.1	
	comp=E,40nm,3.0s							
CRPR	**Cabo Rojo, PR**	**1.45**	**88**	⇑*e*Pg		**Pn**	**01 56 08.1**	**+1.2**
CRPR				IAML			01 56 58.9	
	comp=N,38nm,1.9s							
MLPR	**Magueyes Islan**	**1.51**	**89**	Pn		**Pn**	**01 56 08.6**	**+0.9**
MLPR	**Magueyes Islan**	**1.51**	**89**	⇑*e*Pg		**Pn**	**01 56 07.1**	**-0.5**
MLPR				⇓*e*Sg		**Sn**	**01 56 25.0**	**-3.2**
MLPR				IAML			01 56 45.6	
	comp=N,19nm,2.8s							
MLPR	**Magueyes Islan**	**1.51**	**89**	⇑*e*Pg		**Pn**	**01 56 09.5**	**+1.8**
MLPR				⇑*e*Sg		**Sn**	**01 56 26.4**	**-1.8**
MLPR				IAML			01 56 45.6	
	comp=N,19nm,2.8s							
MLPR	**Magueyes Islan**	**1.51**	**89**	⇓*e*Pg		**Pn**	**01 56 07.8**	**+0.2**
MLPR				IAML			01 56 48.6	
	comp=N,24nm,3.3s							
AGPR	**Aguadilla, PR**	**1.54**	**70**	Pn		**Pn**	**01 56 09.6**	**+1.7**
AGPR	**Aguadilla, PR**	**1.54**	**70**	⇑*e*Pg		Pn	01 56 02.8	-5.1
AGPR				⇑*e*Sg		Sn	01 56 14.9	-14
AGPR				IAML			01 56 17.0	
	comp=N,98nm,2.6s							
AGPR	**Aguadilla, PR**	**1.54**	**70**	⇑*e*Pg		**Pn**	**01 56 07.4**	**-0.5**
AGPR				*e*Sg		**Sn**	**01 56 25.7**	**-3.0**
AGPR				IAML			01 56 29.9	
	comp=E,8.7nm,0.4s							
AOPR	**Arecibo Observ**	**1.83**	**77**	⇑*e*P		**Pn**	**01 56 13.2**	**+1.6**
AOPR	**Arecibo Observ**	**1.83**	**77**	*e*S		**Sn**	**01 56 35.2**	**0.0**
AOPR	**Arecibo Observ**	**1.83**	**77**			**Pn**	**01 56 13.2**	**+1.6**
AOPR						**Sn**	**01 56 35.2**	**0.0**
AOPR	**Arecibo Observ**	**1.83**	**77**	IAML			01 57 04.2	
	comp=E,44nm,1.6s							
AOPR				IAML			01 57 27.3	
	comp=N,40nm,2.0s							
AOPR	**Arecibo Observ**	**1.83**	**77**	⇑*e*Pg		**Pn**	**01 56 07.9**	**-3.7**
AOPR				⇑*e*Sg		Sn	01 56 25.2	-10
AOPR				IAML			01 56 53.8	
	comp=N,24nm,2.0s							
AOPR	**Arecibo Observ**	**1.83**	**77**	⇑*e*Pg		**Pn**	**01 56 13.3**	**+1.7**
AOPR				⇑*e*Sg		**Sn**	**01 56 34.1**	**-1.1**
AOPR				IAML			01 56 38.4	
	comp=E,15nm,0.3s							
AOPR	**Arecibo Observ**	**1.83**	**77**	⇑*e*Pg		**Pn**	**01 56 11.8**	**+0.2**
AOPR				IAML			01 56 37.2	
	comp=E,24nm,0.3s							
AOPR				IAML			01 57 12.9	
	comp=N,36nm,2.5s							
UUPR	**Utuado, UPR, P**	**1.85**	**80**	Pn		**Pn**	**01 56 14.0**	**+2.3**
UUPR				IAML			01 56 38.1	
	comp=E,67nm,0.4s							
CELP	**Cerrillos**	**1.96**	**86**	⇑*e*P		**Pn**	**01 56 14.0**	**+0.8**
CELP	**Cerrillos**	**1.96**	**86**	*e*S		**Sn**	**01 56 39.5**	**+1.5**
CELP	**Cerrillos**	**1.96**	**86**			**Pn**	**01 56 14.0**	**+0.8**
CELP						**Sn**	**01 56 39.5**	**+1.5**
CELP	**Cerrillos**	**1.96**	**86**	IAML			01 56 57.3	
	comp=E,22nm,2.6s							
CELP				IAML			01 57 06.2	
	comp=N,26nm,4.0s							
CELP	**Cerrillos**	**1.96**	**86**	⇑*e*Pg		**Pn**	**01 56 12.2**	**-0.9**
CELP				⇑*e*Sg		**Sn**	**01 56 35.1**	**-2.9**
CELP				IAML			01 57 05.6	
	comp=N,25nm,1.9s							
CELP	**Cerrillos**	**1.96**	**86**	⇑*e*Pg		**Pn**	**01 56 14.3**	**+1.2**
CELP				⇑*e*Sg		**Sn**	**01 56 37.8**	**-0.2**
CELP	**Cerrillos**	**1.96**	**86**	*e*Pg		**Pn**	**01 56 13.9**	**+0.8**
CELP				*e*Sg		**Sn**	**01 56 37.8**	**-0.2**
CELP				IAML			01 57 05.6	
	comp=N,25nm,1.9s							

*SSNC **18** 01:59:38.0±1.3, 19°.01N×70°.12W, h120km±23km, MD3.7, ML3.4*
*OSPL **18** 01:59:45.7±2.3, 19°.41N×70°.40W, h0km±9km, ML3.3*
*SDD **18** 01:59:45.5±2.2, 19°.44N×70°.39W, h21km±34km, MD3.8, ML3.3, MW3.6*

ISC 18 01:59:43.7±1.0, 19°.46N±0°.03×70°.39W±0°.02, h16km±8km, n28, σ1§80/50, 15C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SC01	**Santiago de lo**	**0.32**	**265**	*i* P	**Pb**	**01 59 51.5**	**+0.5**
SC01				*e*S	**Sg**	**01 59 55.7**	**+0.6**
SC01				IAML		02 00 07.4	
	comp=Z,804nm,0.4s						
LONA1	**Toro Cenizo, N**	**0.50**	**98**	*i* P	**Pg**	**01 59 53.8**	**0.0**
LONA1				*e*S	**Sb**	**02 00 01.4**	**+0.2**
LONA1				IAML		02 00 03.2	
	comp=Z,2µm,0.5s						
NADR	**Nagua**	**0.52**	**101**	⇓*e*Pg	**Pg**	**01 59 53.4**	**-0.6**
NADR				⇑*e*Sg	**Sb**	**02 00 03.0**	**+1.4**
NADR				IAML		02 00 03.9	
	comp=N,7µm,0.4s						
NADR				IAML		02 00 04.0	
	comp=E,5µm,0.4s						
MADR	**Mao Valverde**	**0.68**	**279**	⇑*e*Pg	**Pn**	**01 59 58.6**	**0.0**
MADR				⇓*e*Sg	**Sn**	**02 00 09.3**	**+0.5**
MADR				IAML		02 00 15.1	
	comp=N,2µm,0.5s						
MADR				IAML		02 00 15.3	
	comp=E,2µm,0.7s						
LUDR	**Luperon**	**0.69**	**310**	*e*Pg	**Pg**	**01 59 57.1**	**-0.1**
LUDR				⇑*e*Sg	**Sb**	**02 00 07.9**	**+1.4**
LUDR				IAML		02 00 09.0	
	comp=E,3µm,0.4s						
LUDR				IAML		02 00 11.3	
	comp=N,4µm,0.4s						
SDDR	**Presa de Saban**	**0.97**	**241**	⇑*e*Pg	**Pb**	**02 00 01.7**	**-0.4**
SDDR				⇑*e*Sg	**Sg**	**02 00 15.6**	**+0.3**
SDDR				IAML		02 00 17.2	
	comp=E,230nm,0.8s						
SDDR				IAML		02 00 17.7	
	comp=N,232nm,0.6s						
SDDR	**Presa de Saban**	**0.97**	**241**	*e*P	**Pb**	**02 00 01.5**	**-0.7**
SDDR				IAML		02 00 17.9	
	comp=N,173nm,0.4s						
SDDR				IAML		02 00 19.5	
	comp=N,165nm,0.3s						
SDDR	**Presa de Saban**	**0.97**	**241**	*i* P	**Pb**	**02 00 01.6**	**-0.5**
SDDR				*e*S	**Sg**	**02 00 15.5**	**+0.3**
SDDR				IAML		02 00 19.2	
	comp=Z,205nm,0.6s						
REDR	**Restauracion**	**0.99**	**253**	⇑*e*Pg	**Pn**	**02 00 06.5**	**+3.6**
REDR				⇑*e*Sg	**Sn**	**02 00 23.3**	**+6.7**
REDR				IAML		02 00 24.9	
	comp=N,491nm,0.2s						
REDR				IAML		02 00 25.3	
	comp=E,620nm,0.7s						
BANI	**BANI**	**1.06**	**178**	⇑*e*Pg	**Pb**	**02 00 03.5**	**-0.2**
BANI				⇑*e*Sg	**Sg**	**02 00 17.7**	**-0.4**
BANI				IAML		02 00 20.9	
	comp=N,607nm,0.7s						
BANI				IAML		02 00 35.9	
	comp=E,410nm,0.3s						
SDD	**Santo Domingo**	**1.09**	**155**	*i* P	**Pb**	**02 00 03.8**	**-0.4**
SDD				*e*S	**Sb**	**02 00 18.2**	**+0.1**
SDD				*e*S	**Sg**	**02 00 18.5**	**-0.6**
SMDR	**Samana, DR**	**1.15**	**98**	⇓*e*Pg	**Pn**	**02 00 04.8**	**-0.3**
SMDR				⇑*e*Sg	**Sn**	**02 00 20.7**	**+0.3**
SMDR				IAML		02 00 24.0	
	comp=E,488nm,0.2s						
SMDR				IAML		02 00 24.1	
	comp=N,650nm,0.3s						
LODA1	**ITESIL, Dajabo**	**1.24**	**274**	*i* P	**Pg**	**02 00 07.5**	**-0.1**
LODA1				*e*S	**Sg**	**02 00 24.4**	**+0.4**
MCDR	**Montecristi**	**1.27**	**290**	⇓*e*Pg	**Pn**	**02 00 07.3**	**+0.6**
MCDR				⇑*e*Sg	**Sn**	**02 00 24.1**	**+0.7**
MCDR				⇑*e*		02 00 26.4	
MCDR				IAML		02 00 26.8	
	comp=E,445nm,0.6s						
MCDR				IAML		02 00 30.2	
	comp=N,507nm,0.6s						
PODR	**Polo**	**1.53**	**213**	⇑*e*Pg	**Pb**	**02 00 12.0**	**+0.1**
PODR				⇑*e*Sg	**Sb**	**02 00 31.5**	**+0.4**
PODR				IAML		02 00 40.6	
	comp=E,306nm,0.4s						
PODR				IAML		02 00 41.0	
	comp=N,200nm,0.5s						
PODR	**Polo**	**1.53**	**213**	*i* P	**Pb**	**02 00 12.1**	**+0.1**
HIDR	**Higuey Centro**	**1.80**	**118**	⇓*e*Pg	**Pb**	**02 00 16.2**	**-0.1**
HIDR				⇓*e*Sg	**Sb**	**02 00 39.7**	**+1.0**
HIDR				IAML		02 00 41.0	
	comp=N,995nm,0.2s						
HIDR				IAML		02 00 41.2	
	comp=E,870nm,0.3s						
PAPH	**Port-au-Prince**	**2.03**	**243**	*i* P	**Pn**	**02 00 18.5**	**+1.3**
PAPH				IAML		02 00 57.4	
	comp=Z,48nm,0.6s						
PCDR	**Punta Cana, DR**	**2.12**	**116**	*i* P	**Pb**	**02 00 21.1**	**-0.6**
PCDR				IAML		02 00 52.6	
	comp=Z,279nm,0.8s						
GRTK	**Grand Turk**	**2.16**	**341**	*i* P	**Pb**	**02 00 24.2**	**+1.7**
GRTK				*e*S	**Sn**	**02 00 46.4**	**+0.9**
GRTK				IAML		02 00 49.5	
	comp=Z,186nm,0.7s						
AGPR	**Aguadilla, PR**	**3.26**	**107**	*i* P	**Pn**	**02 00 35.7**	**+1.6**
AGPR				*e*S	**Sn**	**02 01 13.9**	**+1.3**
AGPR				IAML		02 01 29.1	
	comp=Z,94nm,2.0s						
CRPR	**Cabo Rojo, PR**	**3.43**	**114**	*i* P	**Pn**	**02 00 38.7**	**+2.2**
CRPR				IAML		02 01 44.6	
	comp=Z,100nm,2.6s						
MASC	**Masc**	**3.68**	**282**	*e*P	**Pn**	**02 00 38.3**	**-1.7**
MASC				*e*S	**Sn**	**02 01 22.8**	**-0.3**
MASC				IAML		02 01 36.7	
	comp=E,65nm,0.7s						
MASC				IAML		02 01 39.0	
	comp=N,60nm,0.6s						
QMBU	**Quimbuelo**	**4.23**	**281**	*e*P	**Pn**	**02 00 44.7**	**-2.7**
QMBU				*e*S	**Sn**	**02 01 34.8**	**-1.7**
QMBU				IAML		02 01 43.3	
	comp=E,11nm,0.4s						
QMBU				IAML		02 01 43.4	
	comp=N,15nm,0.3s						
SABCS	**La Quijada**	**4.72**	**282**	*e*P	**Pn**	**02 00 52.2**	**-2.0**
SABCS				*e*S	**Sn**	**02 01 47.4**	**-1.3**
SABCS				IAML		02 02 01.4	
	comp=N,22nm,0.8s						
SABCS				IAML		02 02 04.1	
	comp=E,42nm,1.0s						
RCC	**Rio Carpintero**	**5.03**	**277**	*e*P	**Pn**	**02 00 55.5**	**-3.0**
PINC	**Pinares de May**	**5.18**	**282**	*e*P	**Pn**	**02 00 57.9**	**-2.7**
LMGC	**Las Mercedes**	**6.26**	**277**	*e*P	**Pn**	**02 01 12.1**	**-3.2**
LMGC				*e*S	**Sn**	**02 02 22.0**	**-4.5**

UCR 18 02:08:13.6±1.3, 9°.39N×84°.62W, h15km±8km, MW3.7, 6C-30D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RITA	**Parrita**	**0.32**	**65**	*e*P	Pg	02 08 20.1	-0.1
RITA				*e*S	Sb	02 08 25.7	-0.2
SVQ2	**Quepos**	**0.45**	**84**	*e*P	Pg	02 08 22.2	-0.4
SVQ2				*e*S	Sb	02 08 29.3	-0.5
LAPE	**Finca La Fe, P**	**0.51**	**326**	⇓*i*P	Pb	02 08 24.7	-0.1
LLNJ	**Naranjito**	**0.52**	**80**	⇓*i*P	Pg	02 08 23.5	-0.4
LLNJ				*e*S	Sg	02 08 31.3	+0.4
TRB2	**Turrubares**	**0.55**	**18**	⇓*e*P	Pg	02 08 23.7	-0.8
ARZA	**Esparza**	**0.60**	**356**	*e*P	Pg	02 08 24.9	-0.6
ABE2	**San Pablo**	**0.64**	**60**	*e*P	Pg	02 08 25.5	-0.8
RAZU	**San Marcos de**	**0.65**	**65**	*e*P	Pg	02 08 25.6	-0.8
SANTA	**Santa Ana**	**0.69**	**38**	⇓*i*P	Pg	02 08 25.6	-1.6
LCR2	**La Lucha 2**	**0.70**	**60**	⇓*i*P	Pg	02 08 26.3	-1.1
RAMO	**San Ramon**	**0.71**	**12**	⇓*i*P	Pg	02 08 26.8	-0.8
BELE	**Belen**	**0.72**	**36**	⇓*i*P	Pg	02 08 27.6	-0.2
TCS1	**Tacares**	**0.72**	**26**	⇓*i*P	Pg	02 08 27.1	-0.7
SARCI	**Sarchi**	**0.75**	**21**	*e*P	Pg	02 08 27.7	-0.6
LUJA	**Lujan**	**0.76**	**45**	⇓*i*P	Pg	02 08 28.4	-0.2
SJS	**Escuela Geolog**	**0.78**	**45**	⇓*e*P	Pg	02 08 27.8	-1.2
SJS3	**Mercedes San J**	**0.78**	**45**	⇓*i*P	Pg	02 08 27.9	-1.0
SJS3				*e*S	Sg	02 08 38.7	-0.6
HDC	**Heredia**	**0.79**	**39**	⇓*i*P	Pg	02 08 28.0	-1.1
HDC				*e*S	Sg	02 08 38.3	-1.2
LUPE	**Guadalupe**	**0.79**	**45**	*e*P	Pg	02 08 27.6	-1.4
HDC3	**Heredia 3**	**0.79**	**39**	⇓*i*P	Pg	02 08 28.1	-1.0
HDC3				*e*S	Sg	02 08 37.6	-1.9
TRIO	**Tres Rios**	**0.81**	**50**	⇑*i*P	Pg	02 08 28.1	-1.3
OCM	**Ochomogo**	**0.82**	**52**	*e*P	Pg	02 08 27.9	-1.8
ZARE	**Zarcero**	**0.83**	**16**	⇓*i*P	Pg	02 08 29.3	-0.4
CDM	**Cerro de Muert**	**0.86**	**79**	⇓*e*P	Pg	02 08 29.1	-1.3
CDM				*e*S	Sn	02 08 43.1	-1.0
REPA	**Paraso**	**0.86**	**59**	*e*P	Pb	02 08 29.9	-0.5
NYURE	**Nandayure**	**0.87**	**314**	*e*P	Pb	02 08 29.9	-0.5
BUS1	**Rivas**	**0.88**	**79**	⇓*e*P	Pg	02 08 29.2	-1.5
BUS1				*e*S	Sg	02 08 42.3	-0.1
CVIMO	**Finca Echandi**	**0.92**	**46**	⇓*i*P	Pb	02 08 30.3	-1.1
CVIMO				*e*S	Sn	02 08 44.7	-0.6
CPMI	**Catarata Coope**	**0.92**	**15**	⇓*i*P	Pb	02 08 30.5	-0.9
CPMI				*e*S	Sg	02 08 43.9	+0.2
PEZE	**Perez Zeledon,**	**0.93**	**90**	⇑*i*P	Pb	02 08 30.5	-1.0
JUNT	**Juntas**	**0.95**	**339**	*e*P	Pb	02 08 31.4	-0.4
PCAYA	**Pacayas**	**0.96**	**56**	*e*P	Pb	02 08 31.6	-0.4
JTS	**Las Juntas de**	**0.96**	**340**	⇓*e*P	Pb	02 08 30.7	-1.3
JTS				*e*S	Sg	02 08 44.7	-0.1
VICA	**Volcano Irazu**	**0.97**	**52**	⇓*e*P	Pb	02 08 31.0	-1.4
ICR3	**Volcano Irazu**	**0.97**	**53**	⇑*e*P	Pb	02 08 31.5	-1.0
ICR3				*e*S	Sn	02 08 46.3	-0.6
RAFA	**San Farael, Vo**	**0.98**	**54**	*e*P	Pb	02 08 31.5	-1.0
OCHAL	**Ojochal**	**1.00**	**106**	*e*P	Pb	02 08 31.6	-1.1
VTLA	**Turrialba Volc**	**1.03**	**54**	*e*P	Pb	02 08 32.0	-1.5
CVTQ	**Turrialba Volc**	**1.04**	**54**	*e*P	Pb	02 08 32.7	-0.8
VTR0	**Volcan Turrial**	**1.05**	**53**	*e*P	Pb	02 08 33.7	-0.1
CVTV	**Tajo**	**1.06**	**54**	*e*P	Pb	02 08 32.8	-1.0
CVTR	**Volcan Turrial**	**1.06**	**53**	*e*P	Pb	02 08 33.5	-0.4
TURIB	**Turrialba**	**1.06**	**61**	*e*P	Pb	02 08 32.0	-1.7
VTCV	**VTCV, Calle Va**	**1.06**	**56**	⇓*i*P	Pb	02 08 32.5	-1.3
ARE1	**Arenal 1**	**1.07**	**355**	⇓*e*P	Pb	02 08 33.3	-0.6
VACR	**Volcan Arenal**	**1.08**	**357**	⇓*e*P	Pb	02 08 33.3	-0.8
VTLO	**VTLO**	**1.10**	**53**	⇓*e*P	Pb	02 08 33.1	-1.3
CEDE	**Laguna Cedeo**	**1.10**	**356**	⇓*e*P	Pb	02 08 33.8	-0.6
CEDE				*e*S	Sn	02 08 54.1	+4.7
DUNO	**Dulce Nombre,**	**1.10**	**309**	*e*P	Pb	02 08 33.9	-0.5
NICO	**Nicoya**	**1.10**	**312**	*e*P	Pg	02 08 34.9	-0.1
ITAL	**Pital**	**1.11**	**18**	*e*P	Pb	02 08 33.4	-1.2
RVSTA	**Santa Teresita**	**1.12**	**58**	*e*P	Pb	02 08 33.7	-1.1
CNAS	**Canas**	**1.14**	**336**	*e*P	Pn	02 08 34.9	-0.1
RIFO	**Rio Frio, Sara**	**1.15**	**37**	⇓*i*P	Pn	02 08 34.3	-0.9
RIFO				*e*S	Sb	02 08 50.1	+0.1
JUD3	**Juan Diaz 3**	**1.19**	**311**	*e*P	Pn	02 08 35.7	-0.1
RVLA	**Villa Bonita**	**1.25**	**55**	*e*P	Pb	02 08 36.7	-0.2
SRBA	**San Rafael, Bu**	**1.25**	**97**	⇑*i*P	Pn	02 08 35.9	-0.7
LCOCO	**El Coco**	**1.26**	**56**	*e*P	Pn	02 08 36.5	-0.1
ORTG	**Ortega, Santa**	**1.27**	**320**	*e*P	Pn	02 08 35.8	-1.2
ORTG				*e*S	Sg	02 08 56.4	+1.5
CARI	**Cariari**	**1.31**	**42**	*e*P	Pb	02 08 38.1	+0.3
COVE	**Coope Vega, Sa**	**1.34**	**9**	⇓*e*P	Pn	02 08 37.0	-0.8
EDBA	**Buenos Aires**	**1.35**	**99**	*e*P	Pn	02 08 36.5	-1.3
TENO	**El Achiote**	**1.36**	**345**	⇓*e*P	Pn	02 08 37.2	-0.9
TENO				*e*S	Sn	02 08 55.3	-0.5
DRK0	**Durika**	**1.36**	**95**	*e*P	Pn	02 08 37.4	-0.9
DRK0				*e*S	Sn	02 08 55.1	-1.0
CUI	**Cuipilapa**	**1.37**	**337**	⇓*e*P	Pn	02 08 37.9	-0.4
CUI				*e*S	Sb	02 08 57.1	+0.6
COLC	**Colonia**	**1.40**	**336**	⇑*e*P	Pn	02 08 38.2	-0.4
BATAN	**Batan**	**1.42**	**60**	⇓*i*P	Pn	02 08 38.5	-0.2
BATAN				*e*S	Sg	02 08 59.0	-0.3
EDP2	**Potrero Grande**	**1.47**	**104**	*e*P	Pn	02 08 39.0	-0.6
VERA	**Finca Concepci**	**1.48**	**350**	*e*P	Pn	02 08 39.5	-0.2
VMAR	**Armenia, Volca**	**1.50**	**341**	⇑*i*P	Pn	02 08 40.3	+0.3
ALIBA	**Liberia Airpor**	**1.51**	**323**	*e*P	Pn	02 08 40.5	+0.4
TRT1	**Tortuguero**	**1.51**	**37**	*e*P	Pn	02 08 39.6	-0.4
GPS3	**Bodega del ICE**	**1.55**	**332**	*e*P	Pg	02 08 42.9	-0.5
VRLE	**La Escondida,**	**1.58**	**332**	*e*P	Pn	02 08 41.2	+0.1
VORI	**VORI**	**1.59**	**333**	*e*P	Pn	02 08 41.4	-0.1
PIRO	**Carate, Puerto**	**1.60**	**127**	*e*P	Pg	02 08 45.0	+0.6
GB1A	**Borinquen Arri**	**1.62**	**332**	*e*P	Pn	02 08 42.0	+0.4
HZTE	**Horizontes, Gu**	**1.63**	**324**	*e*P	Pn	02 08 42.5	+0.7
CDITO	**Canoas**	**1.91**	**115**	*e*P	Pg	02 08 53.0	+2.8
ESPN	**Las Esperanzas**	**2.81**	**6**	*e*P	Pn	02 08 58.1	+0.2

IDC 18 02:14:22.0±1.8, 2°.22N×126°.93E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=159.9km s-min=22.1km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.20**	**162**	P	P	02 19 31.1	+0.4
	0.8nm,0.5s,baz=342,slow=12,SNR=7.4						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**26.61**	**166**	P	P	02 20 02.2	-0.1
	0.5nm,0.5s,baz=345,slow=8.1,SNR=9.3						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**58.90**	**326**	P	P	02 24 22.1	-0.8
	0.4nm,0.5s,baz=119,slow=8.7,SNR=6.3						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**63.11**	**328**	P	P	02 24 52.2	+0.8
	0.3nm,0.3s,baz=132,slow=6.5,SNR=1.7						

*NEIC **18** 02:17:54.2±1.6, 19°.43N±0°.03×154°.94W±0°.03, h5km±1km, Error ellipse: s-maj=7.1km s-min=2.8km az=131.0*
HVO 18 02:17:52.7±1.5, 19°.43N±0°.01×154°.87W±0°.03, h1km±9km, ML2.7/8, ML2.6/30(NEIC), Error ellipse: s-maj=4.5km s-min=1.5km az=108.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.05**	**344**		Pg	02 17 54.9	+1.1
PHO	**Puu Honuaula**	**0.05**	**344**		Pg	02 17 54.4	+0.6
PAH	**Pahoa**	**0.10**	**314**		Pg	02 17 56.7	+2.1
JOKA	**Jonika Flow**	**0.12**	**272**		Pg	02 17 55.6	+0.5
JOKA	**Jonika Flow**	**0.12**	**272**	IAML		02 17 58.0	
	comp=E,2µm,0.8s						
JOKA				IAML		02 17 58.9	
	comp=N,2µm,0.8s						
JCUZ	**Jacuzzi**	**0.22**	**258**	Pg	Pg	02 17 57.3	+0.4
JCUZ				IAML		02 18 01.3	
	comp=E,399nm,1.1s						
NPOC	**North of Pu'u**	**0.23**	**261**	Pg	Pg	02 17 57.6	+0.6
STCH	**Steam Cracks**	**0.24**	**260**		Pg	02 17 57.7	+0.3
STCH				IAML		02 18 04.9	
	comp=E,372nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.28**	**260**		Pg	02 17 59.1	+1.0
PUH	**Pauahi**	**0.33**	**260**		Pg	02 17 59.4	+0.5
PUH					Sg	02 18 04.5	+1.3
PUH	**Pauahi**	**0.33**	**260**	IAML		02 18 06.8	
	comp=N,925nm,1.6s						
PUH				IAML		02 18 07.5	
	comp=E,614nm,0.7s						
RSD	**Rainshed**	**0.38**	**275**		Sg	02 18 06.4	+1.4
RSD	**Rainshed**	**0.38**	**275**		Pg	02 18 00.7	+0.7
RSD	**Rainshed**	**0.38**	**275**	IAML		02 18 06.8	
	comp=N,995nm,0.6s						
RSD	**Rainshed**	**0.38**	**275**	IAML		02 18 06.2	
	comp=E,821nm,1.6s						
HLP	**Hilina Pali**	**0.43**	**252**		Pg	02 18 01.4	+0.4
HLP					Sg	02 18 07.8	+1.3
HLP	**Hilina Pali**	**0.43**	**252**	IAML		02 18 14.7	
	comp=N,886nm,1.2s						
MLH	**Mauna Loa**	**0.49**	**278**		Pg	02 18 02.2	+0.1
MLH					Sg	02 18 09.8	+1.4
MLH	**Mauna Loa**	**0.49**	**278**	IAML		02 18 10.2	
	comp=N,1µm,1.6s						
MLH				IAML		02 18 13.0	
	comp=E,461nm,0.9s						
HMH	**Humu'ula Sheep**	**0.60**	**287**		Sb	02 18 13.7	-1.6
HMH	**Humu'ula Sheep**	**0.60**	**287**		Pg	02 18 04.1	-0.1
HMH	**Humu'ula Sheep**	**0.60**	**287**	IAML		02 18 18.7	
	comp=N,1µm,0.7s						
HMH				IAML		02 18 22.9

CAST	**Castle Rocks**	**81.50**	**20**	P	**P**	**02 34 36.8**	**+0.1**
CAST				IAmb	IAmb	02 34 38.4	
	comp=Z,2.6nm,0.7s						
G19K	**Purcell Mounta**	**81.91**	**16**	P	**P**	**02 34 39.1**	**+0.4**
G19K				IAmb	IAmb	02 35 14.2	
	comp=Z,4.4nm,1.4s						
KTH	**Kantishna Hill**	**81.98**	**20**	P	**P**	**02 34 38.4**	**-0.8**
I21K	**Tanana**	**82.73**	**18**	P	**P**	**02 34 43.4**	**+0.3**
E19K	**Redstone River**	**82.85**	**15**	P	**P**	**02 34 44.2**	**+0.6**
E19K				IAmb	IAmb	02 34 45.7	
	comp=Z,4.0nm,1.0s						
D19K	**Kuna River**	**83.40**	**14**	P	**P**	**02 34 47.0**	**+0.4**
ILAR	**Eielson Array**	**84.12**	**20**	P	**P**	**02 34 49.8**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=250,slow=5.3,SNR=14						
	comp=Z,1.0nm,0.5s						
WMQ	**Urumqi**	**84.25**	**316**	*e*P	**P**	**02 34 50.9**	**-0.5**
WMQ				pP	PcP	02 34 57.6	+2.4
WMQ				pmax	pmax		
	comp=Z,21nm,0.7s						
M27K	**Edge Creek, AK**	**84.56**	**23**	P	**P**	**02 34 54.0**	**+1.3**
M27K				IAmb	IAmb	02 35 24.0	
	comp=Z,4.6nm,1.4s						
MKAR	**Makanchi Array**	**88.78**	**318**	P	**P**	**02 35 12.9**	**-0.5**
	comp=Z,0.7nm,0.7s,baz=108,slow=6.5,SNR=7.3						
	comp=Z,0.7nm,0.7s						
YKA	**Yellowknife Ar**	**96.39**	**28**	P	**P**	**02 35 47.1**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=266,slow=5.0,SNR=6.1						
	comp=Z,0.3nm,0.7s						

KRNET ***18*** *02:26:24.4±0.1,39.˚89N×70.˚93E,h11km,mb2.7*
ISU ***18*** *02:26:25.0,39.˚88N×70.˚99E,h27km*
SOME ***18*** *02:26:25.9,40.˚02N×70.˚78E,h10km*
NNC ***18*** *02:26:27.8±1.4,40.˚07N×70.˚82E,h0km,mb3.1,mpv2.8,*
Error ellipse: s-maj=11.3km s-min=8.7km az=35.0

ISC 18 02:26:23.8±1.0,39.˚94N±0.˚03×70.˚90E±0.˚02,h13km±8km, n24,σ1ş53/45,15C-6D,Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.14**	**332**	⇓*e*P	**Pb**	**02 26 28.3**	**0.0**
	baz=34						
BTK				⇓*e*S	**Sg**	**02 26 31.1**	**+1.1**
	baz=34						
MINT	**Mingtut**	**0.53**	**6**	P	**Pn**	**02 26 37.0**	**-0.1**
MINT				S	**Sn**	**02 26 45.7**	**-0.2**
CHMI	**Chimion**	**0.58**	**55**	P	**Pb**	**02 26 36.6**	**+0.8**
CHMI				S	**Sb**	**02 26 45.0**	**+1.0**
FRG	**Fergana**	**0.80**	**57**	P	**Pn**	**02 26 40.4**	**-0.5**
FRG				S	**Sb**	**02 26 51.7**	**+1.3**
DRK	**Karamyk**	**0.83**	**123**	⇑*i*P	**Pb**	**02 26 39.5**	**-0.7**
	baz=20						
DRK				⇑*i*S	**Sg**	**02 26 50.6**	**-0.2**
	baz=20						
CHDK	**Chadak**	**1.04**	**354**	P	**Pn**	**02 26 46.1**	**+1.9**
CHDK				S	**Sn**	**02 27 02.2**	**+3.6**
GAR	**Garm**	**1.04**	**206**	⇑*i*P	**Pn**	**02 26 43.4**	**-0.8**
	baz=8.0						
GAR				⇑*i*S	**Sn**	**02 26 57.5**	**-1.2**
	baz=8.0						
TSTA	**Tashata**	**1.36**	**62**	P	**Pg**	**02 26 49.9**	**-0.1**
TSTA				S	**Sg**	**02 27 09.3**	**+1.5**
OHH	**Osh**	**1.56**	**67**	⇓*e*P	**Pg**	**02 26 53.6**	**-0.1**
	baz=65						
OHH				⇓*e*S	**Sg**	**02 27 14.8**	**+0.9**
	baz=65						
TRKS	**Terek-Say**	**1.60**	**6**	⇑*i*P	**Pg**	**02 26 54.0**	**-0.6**
	baz=7.0						
TRKS				⇑*i*S	**Sg**	**02 27 15.8**	**+0.4**
	baz=7.0						
SFK	**Sufi-Kurgan**	**2.00**	**87**	⇑*i*P	**Pg**	**02 27 01.2**	**-1.0**
	baz=85						
SFK				⇑*i*S	**Sg**	**02 27 28.1**	**0.0**
	baz=85						
ARK	**Arkit**	**2.02**	**23**	⇑*i*P	**Pg**	**02 27 02.2**	**-0.5**
	baz=22						
ARK				⇑*i*S	**Sg**	**02 27 30.0**	**+1.1**
	baz=22						
ARSB	**Arslanbob**	**2.10**	**48**	⇓*e*P	**Pb**	**02 27 02.7**	**+0.8**
	baz=47						
ARSB				⇓*e*S	**Sg**	**02 27 31.4**	**0.0**
	baz=47						
BXML	**Bakhmal**	**2.23**	**264**	P	**Pg**	**02 27 07.7**	**+1.2**
BXML				S	**Sg**	**02 27 41.3**	**+5.9**
IUG	**Iuzhnay**	**2.30**	**344**	Pg	**Pg**	**02 27 06.8**	**-1.2**
	14nm,0.4s						
IUG				Lg	Lg	02 27 36.3	
	82nm,0.4s						
IUG	**Iuzhnay**	**2.30**	**344**	*e*P	**Pg**	**02 27 06.8**	**-1.2**
	14nm,0.4s						
IUG				*e*S	**Sg**	**02 27 36.3**	**-1.6**
	82nm,0.4s						
KRSA	**Karasay**	**2.44**	**275**	P	**Pg**	**02 27 08.1**	**-2.4**
KRSA				S	**Sg**	**02 27 42.1**	**0.0**
MNAS	**Manas**	**2.82**	**25**	⇑*i*P	**Pb**	**02 27 13.2**	**-0.9**
	baz=24						
MNAS				⇑*i*S	**Sb**	**02 27 49.1**	**+0.6**
	baz=24						
KK31	**Karatay Array**	**3.18**	**355**	⇑Pn	**Pb**	**02 27 17.4**	**-2.7**
	0.4nm,0.6s						
KK31				Pg	**Pg**	**02 27 23.3**	**-1.4**
	0.5nm,0.3s,baz=183,slow=14,SNR=9.7						
KK31				Lg	Lg	02 28 05.0	
	2.3nm,0.3s,baz=182,slow=31,SNR=15						
KKAR	**Karatay Array**	**3.18**	**355**	⇑*i*P	**Pb**	**02 27 18.3**	**-1.8**
	baz=55						
KKAR				⇑*i*S	**Sb**	**02 27 57.7**	**-1.0**
	baz=55						
BRLS	**Borolday**	**3.19**	**346**	Pg	**Pb**	**02 27 19.6**	**-0.8**
	0.7nm,0.2s						
BRLS				Lg	Lg	02 27 58.2	
	6.9nm,0.2s						
BRLS	**Borolday**	**3.19**	**346**	*e*P	**Pb**	**02 27 19.6**	**-0.8**
	0.7nm,0.2s						
BRLS				*e*S	**Sb**	**02 27 58.2**	**-1.0**
	6.9nm,0.2s						
MRKS	**Merke**	**3.31**	**31**	Pg	**Pg**	**02 27 26.4**	**-0.7**
	2.1nm,0.3s						
MRKS				Lg	Lg	02 28 09.8	
	5.8nm,0.6s						
MRKS	**Merke**	**3.31**	**31**	*e*P	**Pg**	**02 27 26.4**	**-0.7**
	2.1nm,0.3s						
MRKS				*e*S	**Sg**	**02 28 09.8**	**-0.2**
	5.8nm,0.6s						

BUL ***18*** *02:33:57.1±0.5,28.˚72S×24.˚74E,h10km±7km,MD4.3*
EAF ***18*** *02:33:57.1±0.4,28.˚42S×24.˚00E,h66km±20km,MD3.9*
PRE ***18*** *02:33:57.8±1.0,29.˚20S×24.˚45E,h5km,ML2.8*

ISC 18 02:33:58.1±0.8,29.˚20S±0.˚05×24.˚43E±0.˚04,h10km,n27, σ1ş51/33,South Africa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**0.93**	**51**	*i* P	**Pn**	**02 34 20.6**	**+3.2**
BOSA	**Boshof**	**0.93**	**51**	*e*P	**Pg**	**02 34 15.8**	**-0.3**
BOSA				*e*S	**Sg**	**02 34 28.8**	**+0.5**
BOSA				IAML		02 34 36.5	
	comp=Z,291nm,0.7s						
BOSA	**Boshof**	**0.93**	**51**	*i* P	**Pb**	**02 34 16.7**	**+0.2**
BFON	**Badsfontein, M**	**2.67**	**194**	*e*P	**Pn**	**02 34 41.7**	**+0.4**
BFON				*e*S	**Sn**	**02 35 14.3**	**+0.6**
BFON				IAML		02 35 16.2	
	comp=Z,80nm,0.6s						
BRAK	**Brakfontein**	**2.89**	**207**	*e*P	**Pn**	**02 34 45.4**	**+1.1**
BRAK				*e*S	**Sn**	**02 35 19.9**	**+0.7**
BRAK				IAML		02 35 33.8	
	comp=Z,56nm,0.5s						
GRAF	**Camdeboo Natio**	**3.07**	**179**	*e*P	**Pn**	**02 34 47.6**	**+0.8**
GRAF				*e*S	**Sn**	**02 35 23.8**	**+0.3**
GRAF				IAML		02 35 31.9	
	comp=Z,56nm,0.8s						
GRAN	**Grantham**	**3.65**	**212**	*e*P	**Pn**	**02 34 55.8**	**+1.1**
GRAN				*e*S	**Sn**	**02 35 39.0**	**+1.1**
GRAN				IAML		02 35 51.9	
	comp=Z,43nm,0.4s						
FRAZ	**Fraserburg**	**3.76**	**223**	*e*P	**Pn**	**02 34 57.7**	**+1.4**
FRAZ				*e*S	**Sn**	**02 35 42.1**	**+1.3**
FRAZ				IAML		02 36 10.1	
	comp=Z,19nm,0.3s						
MERW	**Merweville**	**4.26**	**215**	*e*P	**Pn**	**02 35 04.9**	**+1.7**
MERW				*e*S	**Sn**	**02 35 53.1**	**0.0**
MERW				IAML		02 36 14.0	
	comp=Z,32nm,0.6s						
ARMS	**Ukamas**	**4.28**	**285**	*i* P	Pn	02 34 58.0	-5.4
ARMS				*i* S	**Sg**	**02 36 14.4**	**-1.2**
ARMS				IAML		02 36 27.7	
	comp=Z,63nm,0.2s						
GRHM	**Grahamstown, E**	**4.39**	**158**	*e*P	**Pn**	**02 35 06.2**	**+1.2**
GRHM				*e*S	**Sn**	**02 35 56.7**	**+0.5**
GRHM				IAML		02 36 06.9	
	comp=Z,44nm,0.5s						
SUR	**Sutherland**	**4.44**	**224**	*i* P	**Pn**	**02 35 09.6**	**+3.9**
SUR	**Sutherland**	**4.44**	**224**	*i* P	**Pn**	**02 35 06.4**	**+0.7**
KSTD	**Kokstad**	**4.47**	**110**	*e*P	**Pn**	**02 35 07.0**	**+0.9**
KSTD				*e*S	**Sn**	**02 35 58.0**	**-0.2**
KSTD				IAML		02 36 09.4	
	comp=Z,27nm,0.7s						
BUFB	**Buffelsbos**	**4.94**	**177**	*e*P	**Pn**	**02 35 13.3**	**+0.9**
BUFB				*e*S	**Sn**	**02 36 09.1**	**-0.6**
BUFB				IAML		02 36 22.0	
	comp=Z,30nm,0.4s						
CRLN	**Carolina, Mapu**	**5.90**	**59**	*e*P	**Pn**	**02 35 26.0**	**+0.2**
CRLN				*e*S	**Sn**	**02 36 31.5**	**-2.1**
CER	**Ceres**	**6.04**	**225**	*e*P	**Pn**	**02 35 29.7**	**+2.1**
CER				*e*S	**Sn**	**02 36 35.9**	**-0.9**
LEPH	**Lephalale, Lim**	**6.12**	**30**	*e*P	**Pn**	**02 35 30.2**	**+1.4**
LEPH				*e*S	**Sn**	**02 36 36.6**	**-2.3**
LEPH				IAML		02 37 18.9	
	comp=Z,19nm,0.4s						
AUSN	**Aus**	**7.65**	**287**	*i* P	Pn	02 35 33.5	-16
AUSN				*i* S	**Sg**	**02 38 05.0**	**+1.2**
AUSN				IAML		02 38 10.6	
	comp=Z,6.4nm,0.4s						
MOPA	**Mopani**	**8.43**	**49**	*i* P	Pn	02 35 47.1	-13
MOPA	**Mopani**	**8.43**	**49**	*i* P	Pn	02 35 51.8	-8.7
MUSN	**Musina, Limpop**	**8.45**	**37**	*i* P	Pn	02 35 47.4	-13
MUSN	**Musina, Limpop**	**8.45**	**37**	*i* P	Pn	02 35 50.8	-10
WIN	**Windhoek**	**9.34**	**313**	*i* S	Sn	02 38 52.8	+55
WIN	**Windhoek**	**9.34**	**313**	*i* P	**Pn**	**02 36 10.3**	**-2.6**
MATP	**Matopo**	**9.49**	**24**	*i* P	Pn	02 36 00.9	-14
MATP	**Matopo**	**9.49**	**24**	*i* P	Pn	02 36 00.9	-14

IDC 18 02:44:48.3±2.2,9.˚20S×148.˚73E,h0km,mb3.5/3, mbtmp3.5/4,ML3.0/1,Error ellipse: s-maj=91.2km s-min=33.0km az=124.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.54**	**231**	P	Pn	02 48 52.9	-1.5
	baz=55,slow=12,SNR=1.2						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**20.20**	**223**	P	P	02 49 25.4	+0.5
	0.6nm,0.6s,baz=59,slow=11,SNR=4.1						
	0.6nm,0.6s						
MKAR	**Makanchi Array**	**81.04**	**320**	P	P	02 57 05.4	+0.2
	0.3nm,0.6s,baz=112,slow=6.9,SNR=4.2						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**87.74**	**23**	P	P	02 57 38.9	+0.1
	0.4nm,0.8s,baz=255,slow=4.2,SNR=4.5						
	0.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**147.44**	**280**	PKPbc	PKPbc	03 04 34.4	-0.9
	0.7nm,0.8s,baz=99,slow=2.3,SNR=3.5						

IDC ***18*** *02:47:42.8±2.0,30.˚18S×177.˚66W,h18km±11km,mb4.8/17, mbtmp4.9/18,ML3.6/1,MS4.5/17,Error ellipse: s-maj=15.4km s-min=11.9km az=88.0*
BJI ***18*** *02:47:42.9±0.0,30.˚19S×177.˚48W,h30km,mb5.1/26, mB5.7/8,Ms5.2/4,Ms7 5.0/4*
MOS ***18*** *02:47:42.3±1.0,30.˚27S×177.˚60W,h23km,mb5.5/22, Error ellipse: s-maj=11.8km s-min=9.3km az=103.8*
NEIC ***18*** *02:47:46.4±1.9,30.˚24S±0.˚05×177.˚7W±0.˚1,h35km±1km, mb5.1/91,Error ellipse: s-maj=18.4km s-min=9.0km az=86.0*
GCMT ***18*** *02:47:48.4±0.4,30.˚21S±0.˚03×177.˚41W±0.˚03,h42km±1km, MW5.3/64,Moment Tensor Solution. s28,c33; s64,c86; Duration: 1ş0 Moment tensor: Scale 10^17^Nm; Mrr1.10±.07; Mθθ-0.23±.04; Mϕϕ-0.86±.04; Mrθ0.03±.03; Mθϕ-0.10±.03; Mϕr0.46±.03; Best double couple: M₀1.09400×10^17^ NP1:ϕs7.00000°,δ57.00000°, λ88.00000°. NP2:ϕs191.00000°,δ33.00000°,λ93.00000°. Principal axes: T 1.2020, Plg77.0000°, Azm271.0000°; N -0.2170, Plg2.0000°, Azm8.0000°; P -0.9850, Plg12.0000°, Azm98.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NOU ***18*** *02:47:59.3,30.˚50S×177.˚26W,h183km,mb5.3/52, Kermadec Islands, New Zealand*

ISC 18 02:47:44.5±0.2,30.˚35S±0.˚04×177.˚45W±0.˚05,h35km, n818,σ2ş18/762,mb5.2/98,MS4.8/22,24C-12D,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.15**	**339**	P	**Pn**	**02 48 02.6**	**-1.6**
GLKZ				S	**Sn**	**02 48 15.3**	**-3.4**
RAO	**Raoul Island**	**1.16**	**339**	Pn	**Pn**	**02 48 03.0**	**-1.3**
RAO				Sn	**Sn**	**02 48 15.9**	**-3.0**
RAO	**Raoul Island**	**1.16**	**339**	Pn	**Pn**	**02 48 00.4**	**-3.9**
	3μm,0.3s,baz=189,slow=4.7,SNR=121						
RAO				Sn	**Sn**	**02 48 15.0**	**-4.0**
	29μm,0.3s,baz=177,slow=24,SNR=29						
RIZ	**Raoul Island**	**1.17**	**339**	P	**Pn**	**02 48 03.1**	**-1.3**
RIZ				S	**Sn**	**02 48 16.1**	**-3.0**
HAZ	**Te Kaha**	**8.38**	**207**	P	**Pn**	**02 49 41.8**	**-1.7**
HAZ				S	**Sn**	**02 51 15.8**	**-1.0**
WCZ	**Waipu Caves**	**8.86**	**229**	P	Pn	02 49 57.2	+7.3
OUZ	**Omahuta**	**8.97**	**235**	P	Pn	02 49 57.5	+6.0
URZ	**Urewera**	**9.09**	**208**	Pn	**Pn**	**02 49 50.1**	**-3.0**
	2.7nm,0.3s,baz=119,slow=23,SNR=16						
URZ				Sn	**Sn**	**02 51 30.4**	**-3.7**
	47nm,0.3s,baz=90,slow=20,SNR=14						
URZ	**Urewera**	**9.09**	**208**	P	**Pn**	**02 49 50.0**	**-3.1**
URZ				S	**Sn**	**02 51 31.8**	**-2.3**
MKAZ	**Moumakai**	**9.12**	**220**	P	**Pn**	**02 49 57.1**	**+3.5**
RAGZ	**Rawiri**	**9.17**	**206**	P	**Pn**	**02 49 50.8**	**-3.6**
RAGZ				S	**Sn**	**02 51 34.5**	**-1.8**
TOZ	**Tahuroa Road**	**9.40**	**217**		**Pn**	**02 49 56.6**	**-0.9**
MUGZ	**Murupara**	**9.41**	**209**	P	**Pn**	**02 49 53.7**	**-3.9**
MUGZ				S	**Sn**	**02 51 41.1**	**-1.1**
RTZ	**Ruatahuna**	**9.44**	**208**	Pn	**Pn**	**02 49 55.1**	**-2.9**
SNGZ	**Shannon Statio**	**9.45**	**206**	P	**Pn**	**02 49 55.7**	**-2.4**
SNGZ				S	**Sn**	**02 51 40.6**	**-2.5**
RAHZ	**Arahi**	**9.66**	**206**	P	**Pn**	**02 49 59.9**	**-1.1**
RAHZ				S	**Sn**	**02 51 46.9**	**-1.4**
MTHZ	**Maungataniwha**	**9.70**	**207**	P	**Pn**	**02 49 58.1**	**-3.5**
MTHZ				S	**Sn**	**02 51 46.6**	**-2.7**
WHHZ	**Waihua**	**9.75**	**205**	S	**Sn**	**02 51 47.6**	**-2.7**
MRHZ	**Matea Rd**	**9.86**	**209**	S	**Sn**	**02 51 48.9**	**-4.3**
NMHZ	**Naumai**	**9.93**	**207**	P	**Pn**	**02 50 02.0**	**-2.7**
NMHZ				S	**Sn**	**02 51 52.0**	**-2.8**
ARHZ	**Aropaoanui**	**10.00**	**206**	P	**Pn**	**02 50 01.1**	**-4.5**
ARHZ				S	**Sn**	**02 51 53.2**	**-3.3**
BKZ	**Black Stump Fm**	**10.11**	**208**	P	Pn	02 50 18.8	+12
BKZ	**Black Stump Fm**	**10.11**	**208**		**Pn**	**02 50 04.7**	**-2.5**
MCHZ	**McNeill Hill**	**10.27**	**206**	S	**Sn**	**02 51 58.4**	**-4.8**
HIZ	**Hauiti**	**10.33**	**216**	P	Pn	02 50 23.2	+13
HIZ	**Hauiti**	**10.33**	**216**	Pn	**Pn**	**02 50 09.9**	**-0.2**
BHHZ	**Black Hill Sta**	**10.56**	**208**	P	**Pn**	**02 50 12.3**	**-1.1**
BHHZ				S	**Sn**	**02 52 04.4**	**-6.0**
PNHZ	**Pukenui**	**10.87**	**207**	P	**Pn**	**02 50 12.8**	**-4.7**
PNHZ				S	**Sn**	**02 52 10.9**	**-7.0**
WPHZ	**Waipukurau**	**10.90**	**206**	P	**Pn**	**02 50 18.9**	**+0.9**
WPHZ				S	**Sn**	**02 52 12.7**	**-6.1**
PRHZ	**Porangahau**	**11.01**	**204**	S	**Sn**	**02 52 15.4**	**-5.9**
DVHZ	**Dannevirke**	**11.21**	**206**	S	**Sn**	**02 52 18.9**	**-7.4**
TCW	**Tory Channel**	**12.75**	**209**		**Pn**	**02 50 42.9**	**-0.2**
TUWZ	**Tuamarina**	**13.07**	**210**		**Pn**	**02 50 49.4**	**+1.8**
MSVF	**Nonsavu**	**13.21**	**341**	Pn	**Pn**	**02 50 47.3**	**-2.4**
MSVF	**Nonsavu**	**13.21**	**341**	*i* P	**Pn**	**02 50 50.5**	**+0.8**
QRZ	**Quartz Range**	**13.25**	**215**	P	**P**	**02 50 59.3**	**-0.1**
BSWZ	**Blackbirch Sta**	**13.33**	**209**		**Pn**	**02 50 51.4**	**+0.2**
CTZ	**Chatham Island**	**13.38**	**177**	Pn	**Pn**	**02 50 51.3**	**-0.6**
TAVE	**Taveuni**	**13.76**	**350**	P	**P**	**02 51 08.9**	**+3.7**
THZ	**Tophouse**	**13.80**	**212**	Pn	**Pn**	**02 50 57.9**	**+0.3**
THZ	**Tophouse**	**13.80**	**212**	P	**Pn**	**02 50 57.9**	**+0.3**
KHZ	**Kahutara**	**14.05**	**209**		**Pn**	**02 50 57.7**	**-3.3**
KHZ	**Kahutara**	**14.05**	**209**	P	Pn	02 50 53.1	-7.9
GVZ	**Greta Valley S**	**14.72**	**209**	Pn	**Pn**	**02 51 06.3**	**-3.8**
LTZ	**Lake Taylor**	**14.89**	**211**	Pn	**Pn**	**02 51 10.7**	**-1.7**
INZ	**Inchbonnie**	**15.22**	**213**		**Pn**	**02 51 14.2**	**-2.6**
OXZ	**Oxford**	**15.43**	**210**	P	**Pn**	**02 51 15.8**	**-3.7**
OXZ				IAmb	IAmb	02 51 24.5	
	comp=Z,71nm,0.7s						
MARNC	**Mare, Loyalty**	**15.75**	**301**	P	P	02 51 35.0	+7.7
OUENC	**Ouen Island, N**	**16.13**	**296**	P	**P**	**02 51 38.4**	**+6.9**
OUENC	**Ouen Island, N**	**16.13**	**296**	Pn	**Pn**	**02 51 27.1**	**-1.5**
RPZ	**Rata Peaks**	**16.17**	**211**	P	**P**	**02 51 35.0**	**+3.1**
RPZ	**Rata Peaks**	**16.17**	**211**	P	**Pn**	**02 51 27.4**	**-1.7**
RPZ	**Rata Peaks**	**16.17**	**211**	Pn	**Pn**	**02 51 25.1**	**-4.0**
	comp=Z,3.1nm,0.3s,baz=55,slow=1.4,SNR=16						
RPZ				Sn		02 54 10.7	-17
	comp=Z,3.4nm,0.3s,baz=21,slow=18,SNR=3.1						
RPZ				LR	LR	02 57 35.2	
	comp=Z,2μm,20.7s,baz=38,slow=36						
YATNC	**Mamie plateau,**	**16.29**	**297**	P	**P**	**02 51 39.0**	**+5.7**
ONTNC	**Ouen Toro**	**16.49**	**295**	P	**P**	**02 51 41.8**	**+6.3**
ONTNC	**Ouen Toro**	**16.49**	**295**	P	**Pn**	**02 51 29.4**	**-3.8**
DZM	**Mont Dzumac**	**16.62**	**296**	Pn	**Pn**	**02 51 32.7**	**-2.3**
DZM	**Mont Dzumac**	**16.62**	**296**	LR	LR	02 56 33.3	
	comp=Z,3μm,19.9s,baz=134,slow=32						
NOUC	**Port Laguerre**	**16.72**	**296**	P	**P**	**02 51 45.2**	**+7.1**
LIFNC	**LIFOU**	**16.77**	**301**	P	**P**	**02 51 45.5**	**+6.9**
AFI	**Afiamalu**	**17.17**	**19**	P	**P**	**02 51 48.9**	**+5.7**
AFI	**Afiamalu**	**17.17**	**19**	Pn	**Pn**	**02 51 36.7**	**-5.1**
AFI	**Afiamalu**	**17.17**	**19**	P	**Pn**	**02 51 36.7**	**-5.1**
AFI				pmax	pmax		
	comp=Z,28nm,0.8s						
ODZ	**Otahua Downs**	**17.41**	**209**	Pn	**Pn**	**02 51 44.4**	**-0.1**
RAR	**Rarotonga**	**18.31**	**64**	P	**P**	**02 51 55.6**	**-0.1**
	comp=Z,1.7nm,0.3s,baz=334,slow=17,SNR=2.0						
	comp=Z,19nm,0.7s						
LHI	**Lord Howe Isla**	**20.18**	**261**	P	Pn	02 52 20.5	+2.4
LHI	**Lord Howe Isla**	**20.18**	**261**	P	**P**	**02 52 16.8**	**+0.7**
GC1S	**Gold Coast 1 S**	**25.40**	**268**	P	**P**	**02 53 11.1**	**+2.4**
AUWSH	**Wavell State H**	**25.98**	**269**	P	**P**	**02 53 16.8**	**+2.8**
ARMA	**Armidale**	**26.64**	**262**	P	**P**	**02 53 20.2**	**+0.1**
	baz=26,SNR=21						
ARMA	**Armidale**	**26.64**	**262**	P	**P**	**02 53 22.4**	**+2.3**
ARMA	**Armidale**	**26.64**	**262**	P	**P**	**02 53 22.8**	**+2.7**
ARMA				IAmb	IAmb	02 53 24.0	
	comp=Z,58nm,1.1s						
RIV	**Riverview**	**26.77**	**254**	P	**P**	**02 53 21.5**	**+0.4**
	baz=26,SNR=3.2						
RIV	**Riverview**	**26.77**	**254**	P	**P**	**02 53 23.0**	**+1.9**
MGCD	**Mangrove Creek**	**26.83**	**256**	P	**P**	**02 53 22.4**	**+0.7**
	baz=26,SNR=16						
MGCD	**Mangrove Creek**	**26.83**	**256**	P	**P**	**02 53 24.5**	**+2.9**
WOLH	**Wollongong Har**	**27.00**	**253**	P	**P**	**02 53 26.1**	**+3.0**
SYDH	**Sydney Hard Ro**	**27.12**	**254**	P	**P**	**02 53 27.2**	**+3.0**
EIDS	**Eidsvold**	**28.21**	**272**	P	**P**	**02 53 34.7**	**+0.6**
	baz=28,SNR=8.3						
EIDS	**Eidsvold**	**28.21**	**272**	P	**P**	**02 53 35.5**	**+1.4**
EIDS	**Eidsvold**	**28.21**	**272**	P	**P**	**02 53 35.1**	**+1.0**
EIDS				IAmb	IAmb	02 53 36.2	
	comp=Z,46nm,0.9s						
CNB	**Canberra Magne**	**28.24**	**251**	P	**P**	**02 53 36.9**	**+2.5**
	baz=28,SNR=15						
CNB	**Canberra Magne**	**28.24**	**251**	P	**P**	**02 53 37.2**	**+2.8**
PPT	**Papeete**	**28.38**	**70**	LR	LR	03 05 38.0	
	comp=Z,223nm,18.3s,baz=262,slow=38						
MILA	**Mila**	**28.48**	**247**	P	**P**	**02 53 37.1**	**+0.7**
	baz=28,SNR=16						
MILA	**Mila**	**28.48**	**247**	P	**P**	**02 53 37.5**	**+1.1**
CAN	**Canberra**	**28.54**	**251**	P	**P**	**02 53 39.1**	**+2.1**
CAN	**Canberra**	**28.54**	**251**	P	**P**	**02 53 39.5**	**+2.5**
CAN	**Canberra**	**28.54**	**251**	P	**P**	**02 53 39.5**	**+2.5**
CAN				pmax	pmax		
	comp=Z,69nm,0.9s						
GD1S	**Gladstone Soft**	**28.62**	**275**	P	**P**	**02 53 39.6**	**+1.9**
YNG	**Young**	**29.05**	**253**	P	**P**	**02 53 42.2**	**+0.7**
	baz=28,SNR=15						
YNG	**Young**	**29.05**	**253**	P	**P**	**02 53 44.2**	**+2.7**
RK1H	**Rockhampton Ha**	**29.36**	**276**	P	**P**	**02 53 46.2**	**+1.9**
HNR	**Honiara**	**29.63**	**310**	LR	LR	03 03 39.2	
	comp=Z,11μm,19.4s,baz=125,slow=33						
GLAD	**Gladstone**	**29.83**	**240**	P	**P**	**02 53 49.4**	**+1.1**
MOO	**Moorlands**	**30.70**	**237**	P	**P**	**02 53 57.2**	**+1.2**
	baz=30,SNR=3.7						
TAU	**Tasmania Unive**	**30.70**	**236**	P	**P**	**02 53 56.2**	**+0.2**
TOO	**Toolangi**	**31.42**	**247**	P	**P**	**02 54 04.1**	**+1.6**
	baz=31,SNR=18						
TOO	**Toolangi**	**31.42**	**247**	P	**P**	**02 54 04.8**	**+2.3**
TOO	**Toolangi**	**31.42**	**247**	P	**P**	**02 54 02.5**	**0.0**
TOO	**Toolangi**	**31.42**	**247**	P	**P**	**02 54 02.5**	**0.0**
TOO				pmax	pmax		
	comp=Z,85nm,1.1s						
CMSA	**Cobar Meteorol**	**31.54**	**258**	P	**P**	**02 54 05.0**	**+1.5**
	baz=31,SNR=53						
CMSA	**Cobar Mete

comp=Z,55nm,0.6s,baz=111,slow=7.6,SNR=210
WRA PcP **PcP** **02 57 36.1 0.0**
comp=Z,2.8nm,0.7s,baz=117,slow=3.7,SNR=2.2
WRA ScP **ScP** **03 01 27.3 +1.7**
comp=Z,1.0nm,0.9s,baz=107,slow=3.6,SNR=6.6
WRA S **S** **03 02 22.4 -4.6**
comp=Z,1.3nm,1.0s,baz=109,slow=14,SNR=3.9
WRA LR LR 03 14 16.8
comp=Z,1µm,18.2s,baz=114,slow=36
comp=Z,55nm,0.6s
WB0 Warramunga Arr 44.59 272 P **P** **02 55 52.2 -1.3**
FORT Forrest 46.52 255 P **P** **02 56 07.4 -1.2**
baz=46,SNR=44
FORT Forrest 46.52 255 P **P** **02 56 08.4 -0.3**
WRKA Warakurna 47.96 262 P **P** **02 56 18.4 -1.6**
baz=47,SNR=43
WRKA Warakurna 47.96 262 P **P** **02 56 20.0 0.0**
SBA Scott Base 48.13 184 P **P** **02 56 22.4 +2.0**
SBA Scott Base 48.13 184 P **P** **02 56 22.5 +2.0**
SBA pmax pmax
comp=Z,42nm,0.9s
SBA Scott Base 48.13 184 P P 02 56 26.1 +5.6
VNDA Vanda 48.20 186 P **P** **02 56 21.9 +0.8**
VNDA Vanda 48.20 186 P **P** **02 56 21.8 +0.8**
comp=Z,1.3nm,0.6s,baz=22,slow=6.0,SNR=16
comp=Z,1.3nm,0.6s
VNDA Vanda 48.20 186 P **P** **02 56 21.9 +0.8**
VNDA pmax pmax
comp=Z,5.0nm,0.7s
VNDA Vanda 48.20 186 P **P** **02 56 25.2 +4.2**
JAY Jayapura 48.30 297 P **P** **02 56 21.8 -0.9**
comp=Z,25nm,1.2s
MTN Manton Dam 50.45 279 P **P** **02 56 38.0 -1.1**
baz=50,SNR=3.5
KMBL Kambalda 51.49 252 P **P** **02 56 45.5 -1.2**
baz=51,SNR=8.3
KMBL Kambalda 51.49 252 P **P** **02 56 46.7 -0.1**
FITZ Fitzroy Crossi 52.84 270 P **P** **02 56 56.1 -0.8**
baz=52,SNR=3
CCD Concordia, Ant 53.14 196 P **P** **02 57 00.8 +2.1**
FAKI Fak Fak 54.77 290 P **P** **02 57 09.4 -1.6**
comp=Z,62nm,1.8s
KLBR Kellerberrin 54.82 251 P **P** **02 57 09.9 -1.4**
baz=54,SNR=11
NWAO Narrogin (SRO) 54.86 249 LR LR 03 17 53.3
comp=Z,531nm,18.7s,baz=73,slow=33
CASY Casey 55.41 208 P **P** **02 57 15.3 +0.4**
CASY Casey 55.41 208 P **P** **02 57 15.6 +0.7**
MEEK Meekatharra 55.66 257 P **P** **02 57 15.8 -1.6**
baz=55,SNR=5.2
MBWA Marble Bar 56.70 263 P **P** **02 57 23.1 -1.7**
SWI Sorong 56.77 291 P **P** **02 57 24.7 -0.7**
comp=Z,69nm,0.9s
SWI Sorong 56.77 291 P **P** **02 57 24.9 -0.5**
GUMO Guam 56.78 315 LR LR 03 19 46.6
comp=Z,82nm,21.9s,baz=130,slow=34
BATI Baumata 58.12 277 LR LR 03 22 39.4
comp=Z,1µm,18.6s,baz=124,slow=36
QSPA South Pole Qui 59.77 180 P **P** **02 57 47.3 +1.5**
QSPA South Pole Qui 59.77 180 P **P** **02 57 49.1 +3.3**
comp=Z,24nm,0.9s,baz=31,slow=3.9,SNR=44
comp=Z,24nm,0.9s
QSPA South Pole Qui 59.77 180 P **P** **02 57 49.4 +3.6**
SANI Sanana 60.40 286 P **P** **02 57 49.1 -1.6**
comp=Z,40nm,1.1s
EDFI Ende, Flores 60.52 277 P **P** **02 57 52.2 +0.5**
comp=Z,25nm,1.3s
TNTI Ternate 60.87 290 P **P** **02 57 52.9 -1.0**
comp=Z,35nm,1.1s,comp=Z,8µm
BKSI Bulukumba 63.59 280 P **P** **02 58 10.9 -1.3**
comp=Z,13nm,0.7s
KAPI Kappang 64.07 280 LR LR 03 26 42.2
comp=Z,229nm,18.0s,baz=178,slow=37
GTOI Gorontalo 64.36 287 P **P** **02 58 16.6 -0.6**
comp=Z,10nm,0.7s,comp=Z,154nm
TWSI Taliwang, Sumb 64.66 275 P **P** **02 58 18.0 -1.2**
comp=Z,28nm,0.9s
MPSI Mapaga 66.79 285 P **P** **02 58 31.1 -1.8**
comp=Z,21nm,1.1s
MAW Mawson 72.53 200 P **P** **02 59 09.3 +1.9**
comp=Z,18nm,0.8s,baz=132,slow=6.9,SNR=30
comp=Z,18nm,0.8s
SBUM Sibu 74.37 282 P **P** **02 59 18.5 -0.6**
KSM Kuching 75.48 280 P **P** **02 59 24.6 -1.0**
KSM IAmb IAmb 02 59 25.7
comp=Z,23nm,1.0s
KASI Kota Agung 76.93 271 P **P** **02 59 32.0 -1.8**
comp=Z,31nm,1.0s
ELIB Princess Elisa 76.96 187 *d*P **P** **02 59 35.1 +1.9**
comp=Z,20nm,0.9s
JOW Kunigami 76.98 312 LR LR 03 34 12.5
comp=Z,149nm,18.0s,baz=24,slow=36
TROLL Troll, Antarti 77.93 180 ⇑P **P** **02 59 40.7 +2.1**
comp=N,580nm,0.8s
INU Inuyama 78.14 323 P **P** **02 59 39.4 -0.6**
INU IAmb IAmb 02 59 41.1
comp=Z,13nm,0.8s
JGF Kuroka 78.16 324 IAmb IAmb 02 59 41.5
comp=Z,13nm,0.7s
SNAA Sanae 78.20 178 P **P** **02 59 42.0 +2.0**
SNAA IAmb IAmb 02 59 50.9
comp=Z,25nm,1.0s
SNAA Sanae 78.20 178 ⇑P **P** **02 59 42.1 +2.0**
comp=Z,256nm,0.9s
SNAA Sanae 78.20 178 P **P** **02 59 41.5 +1.5**
comp=Z,11nm,0.9s,baz=193,slow=5.4,SNR=19
comp=Z,11nm,0.9s
SNAA Sanae 78.20 178*ce*P **P** **02 59 41.0 +1.0**
SNAA pmax pmax
comp=Z,23nm,1.0s
VNA3 Neumayer Olymp 78.33 176 ⇑P **P** **02 59 42.7 +2.0**
comp=Z,32nm,0.8s
MJAR Matsushiro Arr 78.47 325 P **P** **02 59 40.8 -1.1**
comp=Z,6.9nm,0.7s,baz=156,slow=5.3,SNR=17
comp=Z,6.9nm,0.7s
MAJO Matsushiro 78.47 325 P **P** **02 59 41.9 0.0**
MAJO Matsushiro 78.47 325 P **P** **02 59 40.2 -1.6**
MAJO pmax pmax
comp=Z,9.0nm,0.7s
VNA2 Neumayer--Watz 78.77 177 ⇑P **P** **02 59 45.0 +1.9**
comp=Z,25nm,0.8s,baz=176,slow=5.1
NVL N'lazarevskaya 78.96 183 *e*P **P** **02 59 45.2 +1.1**
NVL pmax pmax
comp=Z,14nm,0.7s
VNA1 Neumayer--Stat 79.00 176 ⇑P **P** **02 59 46.5 +2.2**
comp=Z,36nm,1.0s
JNU Nakatsue 79.83 318 LR LR 03 31 55.8
comp=Z,72nm,18.1s,baz=31,slow=33
H03S2 Juan Fernandez 80.10 123 T T 04 29 19.2
baz=238,slow=74,SNR=141
H03S1 Juan Fernandez 80.11 123 T T 04 29 10.1
baz=238,slow=74,SNR=143
H03S3 Juan Fernandez 80.11 123 T T 04 29 13.3
baz=238,slow=74,SNR=159
H03N3 Juan Fernandez 80.29 123 T T 04 29 19.4
baz=232,slow=75
H03N2 Juan Fernandez 80.29 123 T T 04 29 18.0
baz=232,slow=75
H03N1 Juan Fernandez 80.30 123 T T 04 29 24.3
baz=232,slow=75
AMKA Amchitka 81.42 358 P **P** **02 59 58.5 +1.1**
PLCA Paso Flores 82.19 133 P **P** **03 00 03.6 +1.5**
comp=Z,4.1nm,1.1s,baz=295,slow=4.5,SNR=4.3
comp=Z,4.1nm,1.1s
PDSI Padang 82.71 273 P **P** **03 00 03.2 -2.0**
comp=Z,11nm,0.5s,comp=Z,4µm
SHEM Shemya Is, Ala 83.05 355 LR LR 03 34 42.8
comp=Z,275nm,18.6s,baz=124,slow=34
SNCC San Nicolas Is 83.66 46 P **P** **03 00 10.6 +1.1**
baz=227
SCI2 San Clemente I 84.09 46 P **P** **03 00 12.2 +0.5**
baz=228
LPIG La Paz 84.10 58 LR LR 03 33 29.2
comp=Z,357nm,18.1s,baz=336,slow=33
SBC Santa Barbara 84.35 45 P **P** **03 00 17.0 +4.0**
baz=227
UNV Unalaska Valle 84.38 6 P **P** **03 00 15.6 +3.0**
baz=190
CIS Catalina Islan 84.45 46 P **P** **03 00 15.2 +1.6**
baz=228
PKM Mcpherson Peak 84.59 44 P **P** **03 00 15.9 +1.4**
baz=227
KSRS Korea Array 84.61 319 P **P** **03 00 14.9 +0.7**
comp=Z,4.4nm,0.9s,baz=147,slow=6.1,SNR=4.0
KSRS PKPPKP **P'P'df** **03 26 26.2 -0.9**
comp=Z,0.8nm,0.4s,baz=222,slow=5.5,SNR=4.3
comp=Z,4.4nm,0.9s

YSS Yuzh-Sakhalins 84.91 334 P **P** **03 00 16.6 +1.1**
YSS Yuzh-Sakhalins 84.91 334*ce*P **P** **03 00 17.4 +1.9**
YSS pmax pmax
comp=Z,33nm,0.8s
109C Camp Elliot, M 84.94 47 P **P** **03 00 18.5 +2.5**
baz=229
MURC Murrieta 85.35 47 P **P** **03 00 21.6 +3.5**
baz=229,SNR=5.3
ARVC Arvin 85.35 45 P **P** **03 00 21.5 +3.5**
baz=228
MONP2 Monument Peak 85.38 48 P **P** **03 00 22.1 +3.6**
baz=229
IKP In-Ko-Pah, Jac 85.42 48 P **P** **03 00 21.3 +2.8**
baz=230
BFSC Mount Baldy Ra 85.48 46 P **P** **03 00 21.9 +3.0**
baz=228
VES Vestal, Richgr 85.68 44 P **P** **03 00 22.6 +3.0**
baz=228,SNR=7.0
EDW2 Edwards Air Fo 85.70 45 P **P** **03 00 21.9 +2.1**
baz=228
SWSC Sam W. Stewart 85.81 48 P **P** **03 00 22.4 +2.1**
baz=230
PFO Pinyon Flats O 85.82 47 P **P** **03 00 24.0 +3.5**
baz=229
PFO Pinyon Flats O 85.82 47 *i* P **P** **03 00 21.8 +1.2**
PFO pmax pmax
comp=Z,15nm,1.1s
TPFO Pinon Flats 85.82 47 P **P** **03 00 23.8 +3.2**
baz=229
VOG Valley Oaks Go 85.82 43 P **P** **03 00 17.8 -2.5**
baz=227
PEA0B Petropavlovsk- 85.88 345*ce*P **P** **03 00 22.4 +2.2**
PETK Petropavlovsk- 85.88 345 P **P** **03 00 19.7 -0.5**
comp=Z,34nm,0.8s,baz=150,slow=6.2,SNR=22
comp=Z,34nm,0.8s
BBRC Big Bear Solar 85.95 46 P **P** **03 00 22.1 +0.7**
baz=229
CHNA Chernabura Isl 86.21 10 P **P** **03 00 23.9 +2.2**
baz=196
LRMC Laurel Mtn Rad 86.28 45 P **P** **03 00 23.7 +0.8**
baz=228,SNR=7.8
RRX Edison Barstow 86.31 46 P **P** **03 00 24.5 +1.7**
baz=229
GSI Gunungsitoli 86.31 274 P **P** **03 00 23.6 +0.2**
GSI Gunungsitoli 86.31 274 P **P** **03 00 23.0 -0.3**
comp=Z,69nm,0.9s,comp=Z,2µm
BELC Belle Mtn. Jos 86.36 47 P **P** **03 00 24.9 +1.6**
baz=230,SNR=8.3
CMB Columbia Colle 86.40 42 IAmb IAmb 03 00 27.1
comp=Z,11nm,0.9s
BC3 Big Chuckawall 86.49 48 P **P** **03 00 26.4 +2.5**
baz=230,SNR=5.9
GLA Glamis 86.50 48 P **P** **03 00 27.4 +3.5**
baz=230
NJ2 Nanjing 86.57 310 *e*P **P** **03 00 26.3 +2.2**
NJ2 pmax pmax
comp=Z,11nm,0.5s
SDPT Sand Point 86.58 10 P **P** **03 00 25.3 +1.8**
baz=195
CWC Cottonwood Cre 86.68 44 P **P** **03 00 27.8 +3.0**
baz=228
AFDM Forest Hills D 86.70 41 IAmb IAmb 03 00 28.4
comp=Z,10nm,1.2s
GSC Goldstone, Bar 86.71 46 IAmb IAmb 03 00 29.3
comp=Z,19nm,1.1s
GSC Goldstone, Bar 86.71 46 P **P** **03 00 29.0 +4.2**
baz=229,SNR=9.7
MPMC Manual Prospec 86.78 45 P **P** **03 00 28.6 +3.3**
baz=228,SNR=11
UBPT Khong Chiam 86.85 290 P **P** **03 00 25.5 -0.3**
UBPT IAmb IAmb 03 00 27.7
comp=Z,12nm,0.8s
IRM Iron Mountain 87.00 47 P **P** **03 00 30.2 +3.9**
baz=230,SNR=13
GMRC Granite Mounta 87.08 47 P **P** **03 00 29.7 +3.0**
baz=230
214A Organ Pipe Nat 87.13 50 P **P** **03 00 30.4 +3.5**
baz=231
GWY Greenwater Val 87.37 45 IAmb IAmb 03 00 32.2
comp=Z,9.3nm,1.0s
USRK Ussuriysk Ar. 87.38 326 P **P** **03 00 27.7 -0.1**
comp=Z,4.3nm,0.8s,baz=106,slow=3.8,SNR=9.0
comp=Z,4.3nm,0.8s
SHOC Shshone, Teco 87.42 45 P **P** **03 00 30.3 +2.1**
baz=229,SNR=5.6
FURC Furnace Creek, 87.43 45 P **P** **03 00 31.9 +3.7**
baz=229,SNR=5.6
GRAC Grapevine Rang 87.48 44 P **P** **03 00 32.3 +3.8**
baz=229,SNR=8.5
PNTR Pine Nut 87.57 41 IAmb IAmb 03 00 33.0
comp=Z,13nm,0.8s
NEE2 Needles Airpor 87.73 47 P **P** **03 00 30.6 +0.9**
baz=230
PDMCI Parker Dam,Lak 87.74 48 P **P** **03 00 31.5 +1.8**
baz=231,SNR=7.8
NVAR Mina Array Bea 87.88 42 P **P** **03 00 31.8 +1.2**
NVAR Mina Array Bea 87.88 42 P **P** **03 00 32.2 +1.6**
comp=Z,6.1nm,0.8s,baz=223,slow=8.6,SNR=39
NVAR LR LR 03 36 32.8
comp=Z,257nm,18.0s,baz=30,slow=33
comp=Z,6.1nm,0.8s
SNSI Sinabang, Aceh 87.94 274 P **P** **03 00 32.4 +1.2**
comp=Z,151nm,1.5s
NV11 Mina Array Sit 87.96 43 IAmb IAmb 03 00 34.8
comp=Z,8.3nm,1.0s
V12A Nelson 88.19 46 IAmb IAmb 03 00 36.1
comp=Z,6.5nm,1.0s
TYV Tymovskoe 88.20 336 *e*P **P** **03 00 33.0 +1.5**
TYV pmax pmax
comp=Z,100nm,2.5s
TYV pmax pmax
comp=Z,16nm,1.2s
KVN Kaiserville 88.41 42 IAmb IAmb 03 00 36.7
comp=Z,7.9nm,0.9s
WHN Wuhan 88.69 307 P P 03 00 43.6 +9.3
TUC Tucson 88.71 51 P **P** **03 00 36.5 +2.0**
TUC IAmb IAmb 03 00 39.7
comp=Z,15nm,1.1s
TUC Tucson 88.71 51 P **P** **03 00 35.1 +0.6**
baz=232
TUC Tucson 88.71 51 P **P** **03 00 36.5 +2.0**
TUC pmax pmax
comp=Z,15nm,1.1s
MDJ Mudanjiang 88.85 325 P **P** **03 00 39.0 +4.3**
MDJ pmax pmax
comp=Z,15nm,1.1s
MDJ pmax pmax
comp=Z,430nm,10.7s
PRN Pahroc Range 89.15 45 IAmb IAmb 03 00 41.4
comp=Z,23nm,1.3s
319A Douglas 89.17 53 IAmb IAmb 03 00 41.7
comp=Z,17nm,1.1s
BUCK Buck Mountain 89.30 36 IAmb IAmb 03 00 41.1
comp=Z,19nm,1.1s
R11B Troy Canyon, C 89.43 44 P **P** **03 00 41.1 +3.2**
baz=230
OHAK Old Harbor 89.59 13 P **P** **03 00 41.7 +3.8**
baz=201
H04D Lebanon 89.66 36 IAmb IAmb 03 00 42.6
comp=Z,24nm,1.3s
BMN Battle Mountai 89.83 41 IAmb IAmb 03 00 43.5
comp=Z,13nm,1.3s
H04A Detroit Lake 90.05 36 IAmb IAmb 03 00 43.8
comp=Z,18nm,1.1s
U15A North Rim 90.25 47 IAmb IAmb 03 00 46.7
comp=Z,14nm,1.0s
KDAK Kodiak Island 90.25 13 P **P** **03 00 44.6 +3.7**
baz=201
WUAZ Wupatki 90.27 48 IAmb IAmb 03 00 46.6
comp=Z,16nm,1.0s
WUAZ Wupatki 90.27 48 P **P** **03 00 44.2 +2.3**
baz=232
CCUT Cedar City 90.28 46 IAmb IAmb 03 00 46.7
comp=Z,7.1nm,1.1s
TIA Tai'an 90.28 313 P **P** **03 00 42.3 +0.6**
TIA pmax pmax
comp=Z,8.0nm,1.0s
Q16K King Salmon 90.37 11 P **P** **03 00 44.3 +2.8**
baz=198
O15K Ungalikthiuk R 90.38 9 P **P** **03 00 45.3 +3.8**
baz=195
CN2 Changchun 90.39 323 *e*P **P** **03 00 41.5 -0.4**
CN2 pmax pmax
comp=Z,10.0nm,0.7s
SPR3 Spring Creek 3 90.60 44 IAmb IAmb 03 00 47.1
comp=Z,8.3nm,1.3s
BNX BinXian 90.74 325 ⇓P **P** **03 00 43.6 +0.1**
BNX pmax pmax
comp=Z,11nm,1.1s
BNX pmax pmax
comp=Z,85nm,4.9s
PKCU Pink Cliffs 90.86 46 IAmb IAmb 03 00 50.0
comp=Z,16nm,1.1s
N14K Kuskokwak Cree 90.87 8 P **P** **03 00 47.2 +3.4**
baz=194
121A Cookes Peak, D 90.87 52 P **P** **03 00 47.3 +2.5**
baz=234
P17K Kvichak River 90.90 11 P **P** **03 00 48.2 +4.3**
baz=198
O16K Kokwok River B 91.03 10 P **P** **03 00 46.4 +1.9**
baz=197
Q20K Shuyak Island 91.06 13 P **P** **03 00 47.1 +2.5**
baz=202
J08A Circle Bar Ran 91.08 39 IAmb IAmb 03 00 49.1
comp=Z,14nm,1.2s
Q19K Cape Douglas, 91.12 12 P **P** **03 00 47.4 +2.4**
baz=200
M13K Dall Lake 91.17 7 P **P** **03 00 49.1 +4.0**
baz=192
KLR Kul'dur 91.23 329*ce*P **P** **03 00 47.0 +1.3**
KLR pmax pmax
comp=Z,18nm,1.7s
P18K Big Mountain, 91.28 11 P **P** **03 00 48.8 +3.0**
baz=199
N15K Kwethluk River 91.31 9 P **P** **03 00 49.6 +3.8**
baz=195
O17K Koliganek Bris 91.35 10 P **P** **03 00 48.5 +2.5**
baz=198
M14K Bethel 91.65 8 P **P** **03 00 46.1 -1.2**
baz=193
O18K Koktuh Hills 91.72 11 P **P** **03 00 49.8 +2.0**
baz=199
M15K Kasigluk River 91.74 8 P **P** **03 00 47.3 -0.5**
baz=194
N16K Nishlik Lake 91.78 9 P **P** **03 00 52.2 +4.2**
baz=196
P19K Oil Pt 91.88 12 P **P** **03 00 50.9 +2.4**
baz=201
TX31 Lajitas Ar. Si 91.96 57 IAmb IAmb 03 00 53.5
comp=Z,6.0nm,1.2s
TXAR Lajitas Array 91.96 57 P **P** **03 00 52.5 +2.8**
TXAR Lajitas Array 91.96 57 P **P** **03 00 52.2 +2.4**
comp=Z,2.0nm,0.9s,baz=207,slow=5.9,SNR=17
comp=Z,2.0nm,0.9s
N17K Nushagak Hills 92.06 10 P **P** **03 00 50.9 +1.6**
baz=198
MNTX Cornudas Mount 92.06 54 P **P** **03 00 51.0 +0.9**
baz=235
G08A Pilot Rock 92.13 37 P **P** **03 00 52.5 +2.3**
L14K Kuka Creek 92.14 7 P **P** **03 00 53.0 +3.4**
baz=193
HOM Homer 92.18 13 P **P** **03 00 52.6 +2.8**
baz=202
O19K Port Alsworth 92.19 11 P **P** **03 00 52.2 +2.3**
baz=200
DUG Dugway, Tooele 92.26 44 P **P** **03 00 53.4 +2.4**
baz=231
M16K Timber Creek 92.28 9 P **P** **03 00 49.5 -0.8**
baz=196
LYN LuoYang 92.33 309 ⇑P **P** **03 00 52.9 +1.7**
LYN sP pwP 03 01 08.6 +2.4
LYN pmax pmax
comp=Z,19nm,0.6s
LYN LR LR
comp=Z,320nm,15.8s
LYN LR LR
comp=Z,190nm,17.9s
LYN LR LR
comp=Z,540nm,17.5s
Y22D IRIS PASSCAL I 92.36 52 P **P** **03 00 47.7 -3.9**
baz=235
Y22F Passcal Instru 92.36 52 P P 03 00 44.9 -6.7
baz=235
O20K Slope Mountain 92.39 12 P **P** **03 00 50.6 -0.3**
baz=201
BRSE Bradley Lake S 92.43 13 P **P** **03 00 48.5 -2.6**
baz=203
K13K Kusilvak Mount 92.53 6 P **P** **03 00 52.7 +1.3**
baz=191
HNS HongShan 92.54 312 ⇑P **P** **03 00 52.8 +0.7**
HNS sP **pwP** **03 01 09.1 +2.0**
HNS pmax pmax
comp=Z,10.0nm,0.9s
MFID Camas Ranch 92.57 40 IAmb IAmb 03 00 55.8
comp=Z,8.3nm,0.9s
L15K Ungalak Mounta 92.61 8 P **P** **03 00 51.6 -0.2**
baz=194
N19K Bonanza Creek 92.75 11 P **P** **03 00 49.4 -3.3**
baz=200
M17K Holitna River 92.86 9 IAmb IAmb 03 01 00.5
comp=Z,12nm,0.9s
M17K Holitna River 92.86 9 P **P** **03 00 50.4 -2.5**
baz=197
L16K Owhat River 92.88 8 P **P** **03 00 53.2 +0.1**
baz=196
SRU San Rafael Swe 92.99 46 IAmb IAmb 03 00 58.2
comp=Z,5.0nm,0.9s
SEW Seward 93.02 14 P **P** **03 00 51.7 -2.0**
baz=204
Q23K Middleton Isla 93.08 15 P **P** **03 00 55.6 +1.6**
baz=207
MVCO Mesa Verde 93.14 48 P **P** **03 00 57.9 +2.7**
baz=234
ANMO Albuquerque 93.17 51 P **P** **03 00 58.0 +2.6**
ANMO Albuquerque 93.17 51 P **P** **03 00 57.9 +2.5**
baz=235
ANMO Albuquerque 93.17 51*ce*P **P** **03 00 56.6 +1.2**
ANMO pmax pmax
comp=Z,4.0nm,1.0s
M18K Stony River 93.18 10 P **P** **03 00 55.1 +0.7**
baz=199
K15K Wolf Creek Mou 93.20 7 P **P** **03 00 56.9 +2.3**
K15K Wolf Creek Mou 93.20 7 P **P** **03 00 53.7 -0.8**
baz=194
CAPN Captain Cook N 93.30 13 P **P** **03 00 55.1 +0.1**
baz=203
P23K Montague Islan 93.36 15 P **P** **03 00 55.2 -0.1**
baz=206
J14K Nanvaranak Lak 93.44 6 P **P** **03 00 56.1 +0.5**
baz=192
L17K Donlin 93.44 9 P **P** **03 00 53.8 -1.8**
baz=197
HLID Hailey 93.45 40 IAmb IAmb 03 01 00.2
comp=Z,6.3nm,0.9s
HLID Hailey 93.45 40 P **P** **03 00 55.7 -0.7**
baz=230
F10A Beach Ranch, E 93.49 37 IAmb IAmb 03 00 59.1
comp=Z,8.2nm,0.9s
CRAG Craig 93.50 23 P **P** **03 00 58.9 +2.9**
baz=217
N20K Mount Spurr 93.51 12 P **P** **03 00 56.0 -0.1**
baz=202
LVC Limon Verde 93.55 119 LR LR 03 34 15.7
comp=Z,195nm,18.8s,baz=335,slow=30
PLID Pearl Lake 93.56 39 IAmb IAmb 03 01 00.1
comp=Z,8.5nm,0.9s
L18K Granite Mounta 93.75 10 P **P** **03 00 57.1 +0.1**
baz=198
M19K Big River Lodg 93.80 11 P **P** **03 00 59.5 +2.2**
baz=200
CMAR Chiang Mai Arr 93.83 289 P **P** **03 00 59.0 +0.5**
comp=Z,1.1nm,0.3s,baz=143,slow=3.9,SNR=8.8
CMAR PKiKP **PKiKP** **03 05 44.6 +1.1**
comp=Z,1.5nm,0.3s,baz=64,slow=2.1,SNR=1.7
CMAR PKPPKP **P'P'df** **03 26 12.4 -1.1**
comp=Z,2.0nm,0.3s,baz=284,slow=5.2,SNR=5.6
comp=Z,1.1nm,0.3s
CMAR Chiang Mai Arr 93.83 289 P **P** **03 00 59.0 +0.5**
RC01 Rabbit Creek A 93.87 13 P **P** **03 00 58.6 +1.0**
baz=204
V35K Ketchikan 93.92 24 P **P** **03 01 01.1 +3.1**
baz=218
KAIM Kayak Island 93.97 16 P **P** **03 00 57.2 -0.9**
baz=208
M20K Styx River 93.98 11 P **P** **03 00 59.8 +1.6**
baz=201
L19K White Mountain 93.99 10 P **P** **03 00 59.1 +0.9**
baz=200
K17K Iditarod 94.00 9 P **P** **03 00 57.3 -0.9**
baz=197
U33K Whale Pass 94.02 23 P **P** **03 01 00.8 +2.4**
baz=217
SUA Susitna One 94.02 12 P **P** **03 00 58.4 -0.1**
baz=203
SIT Sitka 94.05 22 P **P** **03 01 01.7 +3.2**
baz=216

EYAK	Cordova Ski Ar baz=207	94.22	15	P		P	03 01 01.2	+2.0
GLI	Glacier Island baz=206	94.22	14	P		P	03 01 00.1	+0.9
J16K	Anvik River comp=Z,12nm,0.9s	94.27	8	IAmb		IAmb	03 01 06.3	
J16K	Anvik River baz=195	94.27	8	P		P	03 00 59.0	-0.4
SKT	Skwentna baz=202	94.35	12	P		P	03 00 59.4	-0.5
KNK	Knik Glacier baz=205	94.42	14	P		P	03 01 00.6	+0.5
L20K	Farewell, AK baz=200	94.42	11	P		P	03 01 01.6	+1.4
PMR	Palmer baz=204	94.45	13	P		P	03 01 04.2	+4.0
WRAK	Wrangell Islan baz=218	94.52	23	P		P	03 01 01.1	+0.4
J17K	VABM Dome J17K comp=Z,16nm,1.4s	94.56	8	P IAmb		P IAmb	03 01 02.5 03 01 09.2	+1.8
J17K	VABM Dome baz=196	94.56	8	P		P	03 00 59.4	-1.4
833A	Chaparral WMA, baz=238	94.56	60	P		P	03 01 04.3	+2.7
S32K	Killisnoo baz=216	94.63	22	P		P	03 01 01.1	0.0
MESA	MESA baz=210	94.80	17	P		P	03 01 00.6	-1.5
SML	Sawmill baz=205	94.80	13	P		P	03 00 57.9	-4.1
I17K	Unalakleet baz=195	94.84	7	P		P	03 01 00.6	-1.4
BMRM	Bremner River baz=208	94.85	15	P		P	03 01 03.8	+1.6
M23K	Glacier View baz=206	94.91	14	P		P	03 01 01.9	-0.5
J18K	Innoko River J18K comp=Z,6.8nm,1.0s	94.93	9	P IAmb		P IAmb	03 01 04.6 03 01 08.7	+2.1
J18K	Innoko River baz=198	94.93	9	P		P	03 00 59.6	-2.9
O20A	White River Ci baz=234	95.02	46	P		P	03 00 59.9	-3.8
KLU	Klutina baz=207	95.02	15	P		P	03 01 01.0	-2.0
PNL	Peninsula baz=212	95.03	18	P		P	03 01 00.5	-2.5
SCM	Sheep Creek Mo baz=206	95.03	14	P		P	03 01 02.5	-0.6
PPLA	Purkeypile baz=202	95.09	11	P		P	03 01 06.6	+3.1
MSTX	Muleshoe baz=237	95.15	54	P		P	03 01 01.9	-2.5
K20K	Telida baz=200	95.22	10	P		P	03 01 06.2	+2.4
R32K	Eaglecrest baz=216	95.30	21	P		P	03 01 04.6	+0.3
JCT	Junction City baz=238	95.40	58	P		P	03 01 04.2	-1.2
SDCO	Great Sand Dun baz=236	95.40	49	P		P	03 01 01.1	-4.5
H16K	Elim baz=193	95.42	7	P		P	03 01 02.3	-2.4
N25K	Chitina, Valde baz=208	95.42	15	P		P	03 01 04.2	-0.6
P29M	Windy Craggy baz=214	95.45	19	P		P	03 01 05.0	0.0
M24K	Tolsona, Glenn baz=207	95.52	14	P		P	03 01 03.2	-2.0
J19K	Poorman baz=199	95.59	9	P		P	03 01 03.5	-1.9
CAST	Castle Rocks comp=Z,8.2nm,1.1s	95.60	11	IAmb		IAmb	03 01 13.5	
CAST	Castle Rocks baz=202	95.60	11	P		P	03 01 02.6	-2.9
G15K	Niukluk baz=192	95.60	6	P		P	03 01 03.6	-1.9
WAT6	Susitna Watana baz=206	95.62	13	P		P	03 01 04.2	-1.7
T35M	Bob Quinn baz=220	95.69	24	P		P	03 01 06.9	+0.8
WAT1	Susitna Watana baz=205	95.69	13	P		P	03 01 08.6	+2.6
PZH	PanZhiHua PZH comp=Z,10.0nm,0.5s	95.70	297	P pmax		P pmax	03 01 08.5	+1.4
O28M	Mount Upton baz=212	95.75	17	P		P	03 01 06.6	0.0
BW06	Boulder Array baz=234	95.77	43	P		P	03 01 10.4	+3.3
PDAR	Pinedale Array comp=Z,1.0nm,0.7s,baz=225,slow=3.6,SNR=8.3 PDAR comp=Z,0.9nm,0.6s,baz=94,slow=4.8,SNR=8.7 comp=Z,1.0nm,0.7s	95.77	43	P PKKPbc		P **PKKPbc**	03 01 08.2 03 17 57.0	+1.1 -0.6
T25A	Trinidad baz=236	95.78	50	P		P	03 01 08.6	+1.3
MSO	Missoula baz=231	95.78	38	P		P	03 01 07.3	+0.4
TNA	Tin City baz=188	95.88	4	P		P	03 01 07.7	+1.0
F14K	Arctic Creek baz=190	95.90	5	P		P	03 01 07.3	+0.5
TRF	Thorofare Moun baz=203	95.94	12	P		P	03 01 02.1	-5.2
H17K	Granite Mounta baz=195	95.95	7	P		P	03 01 07.9	+0.8
J20K	Nowinta River baz=200	95.98	10	P		P	03 01 11.1	+3.9
CHUM	Lake Minchumin baz=202	95.99	11	P		P	03 01 09.4	+2.2
HARP	HAARP baz=208	96.00	14	P		P	03 01 06.0	-1.3
SKAG	Skagway baz=216	96.01	20	P		P	03 01 03.9	-3.6
SEY	Seymchan SEY comp=Z,9.0nm,1.0s	96.03	347	*ceP* pmax		P pmax	03 01 08.4	+0.9
P30M	Million Dollar baz=214	96.08	19	P		P	03 01 09.8	+1.9
S34M	Telegraph Cree baz=219	96.11	23	P		P	03 01 11.0	+3.0
GCSA	Galena City Sc baz=198	96.14	9	P		P	03 01 09.3	+1.5
DHY	Denali Highway baz=206	96.14	13	P		P	03 01 06.5	-1.7
G16K	Koyuk River baz=193	96.14	6	P		P	03 01 07.2	-0.7
H17A	Grant Village baz=233	96.14	42	P		P	03 01 10.8	+2.0
RND	Reindeer comp=Z,6.6nm,0.8s	96.16	13	IAmb		IAmb	03 01 14.9	
F15K	North Star Dit baz=191	96.25	5	P		P	03 01 08.4	0.0
BOZ	Bozeman (W) comp=Z,4.8nm,1.1s	96.28	40	IAmb		IAmb	03 01 13.1	
BOZ	Bozeman (W) baz=232	96.28	40	P		P	03 01 05.2	-4.1
YUK8	Steele Glacier baz=212	96.30	17	P		P	03 01 08.2	-0.9
Q24A	Divide baz=236	96.31	48	P		P	03 01 07.4	-2.4
H18K	Honhosa River baz=197	96.34	8	P		P	03 01 07.0	-1.9
YUK6	Outpost Mounta baz=213	96.38	18	P		P	03 01 07.1	-2.3
AMTX	Amarillo baz=238	96.40	53	P		P	03 01 06.9	-3.1
BPAW	Bear Paw Mtn. baz=203	96.41	11	P		P	03 01 06.3	-3.0
G17K	Kiwalik Mounta baz=195	96.42	7	P		P	03 01 07.7	-1.5
ZEA	Zeya	96.43	331	*eP*		P	03 01 10.8	+1.3
PAX	Paxson baz=208	96.44	14	P		P	03 01 08.3	-1.2
MCK	McKinley baz=205	96.44	12	P		P	03 01 08.3	-1.1
M26K	Nabesna, AK baz=210	96.48	15	P		P	03 01 08.0	-1.6
ISCO	Idaho Springs baz=236	96.48	47	P		P	03 01 08.9	-1.6
HYT	Haines Junctio baz=214	96.52	18	P		P	03 01 05.4	-4.5
I20K	Naaghedeneel baz=200	96.52	10	P		P	03 01 08.2	-1.4
HHC	Hu-ho-hao-te HHC comp=Z,130nm,6.1s	96.54	314	*eP* pmax		P pmax	03 01 12.0	+1.5
HHC	comp=Z,320nm,14.5s			LR		LR		
HHC	comp=Z,140nm,15.3s			LR		LR		
HHC	comp=Z,300nm,16.8s			LR		LR		
YUK3	Moose Creek baz=212	96.55	17	P		P	03 01 06.9	-3.2
P32M	Atlin baz=217	96.60	21	P		P	03 01 08.1	-2.1
YUK4	Talbot Arm baz=213	96.64	18	P		P	03 01 11.6	+1.0
M27K	Edge Creek, AK baz=210	96.70	16	P		P	03 01 09.5	-1.2
O30N	Mendenhall baz=215	96.86	19	P		P	03 01 10.7	-0.7
DLBC	Dease Lake baz=220	96.89	23	P		P	03 01 08.9	-2.7
N23A	Red Feather La baz=236	96.89	46	P		P	03 01 11.2	-1.1
H19K	Roundabout Mou baz=198	96.94	9	P		P	03 01 09.1	-2.4
L26K	Log Cabin Wild baz=209	96.95	15	P		P	03 01 10.9	-0.8
G18K	Tagagawik baz=196	97.02	8	P		P	03 01 11.4	-0.6
H20K	Anotleneega Mo baz=200	97.12	9	P		P	03 01 09.9	-2.5
K24K	Donnelly Dome baz=207	97.12	14	P		P	03 01 11.8	-0.6
WHY	Whitehorse baz=216	97.12	20	P		P	03 01 10.9	-1.7
N30M	Aishikik Lake baz=214	97.16	18	P		P	03 01 10.7	-2.0
435B	Jarrell baz=239	97.18	59	P		P	03 01 11.2	-2.4
NEA2	Nenana baz=204	97.20	12	P		P	03 01 10.3	-2.5
I21K	Tanana baz=202	97.25	11	P		P	03 01 10.5	-2.5
WRH	Wood River Hil comp=Z,6.1nm,1.0s	97.27	12	IAmb		IAmb	03 01 16.2	
F17K	Baldwin Pennin baz=194	97.27	6	P		P	03 01 07.3	-5.7
R33M	Jennings River baz=219	97.31	22	P		Pdif	03 01 17.4	+3.7
MLY	Manley baz=203	97.32	11	P		Pdif	03 01 17.1	+3.7
L27K	Beaver Creek, baz=211	97.32	16	P		P	03 01 12.5	-0.9
RLMT	Red Lodge baz=234	97.33	42	P		P	03 01 10.8	-3.3
P33M	Teslin, Yukon baz=218	97.37	21	P		P	03 01 11.1	-2.7
HDA	Harding Lake baz=206	97.43	13	P		P	03 01 12.7	-1.1
G19K	Purcell Mounta baz=198	97.45	8	P		P	03 01 09.0	-4.9
K22A	Casper baz=236	97.52	45	P		P	03 01 12.8	-2.2
N31M	Braeburn, Yuko baz=216	97.54	19	P		P	03 01 13.5	-0.9
H21K	Melozitna Rive baz=201	97.57	10	P		Pdif	03 01 15.7	+1.2
F18K	Selawik baz=196	97.59	7	P		Pdif	03 01 16.3	+1.8
M29M	Somme Creek baz=213	97.61	17	P		P	03 01 13.1	-1.7
SCRK	Sand Creek baz=209	97.64	14	P		P	03 01 14.6	-0.3
I23K	Minto, Yukon-K baz=204	97.66	12	P		Pdif	03 01 18.4	+3.6
COLA	College baz=206	97.68	12	P		Pdif	03 01 19.2	+4.3
COLA	College COLA comp=Z,6.0nm,0.9s	97.68	12	*i* P pmax		P pmax	03 01 14.8	-0.1
ILAR	Eielson Array comp=Z,0.8nm,0.8s,baz=225,slow=5.7,SNR=9.5 ILAR comp=Z,0.5nm,0.8s,baz=245,slow=2.0,SNR=4.1 ILAR comp=Z,0.4nm,0.8s,baz=329,slow=3.6,SNR=5.5 comp=Z,0.8nm,0.8s	97.77	13	P PKiKP PKKPbc		Pdif **PKiKP** **PKKPbc**	03 01 15.8 03 05 50.1 03 17 51.9	+0.5 +1.1 -0.9
E17K	Hotham Inlet baz=194	97.84	6	P		Pdif	03 01 18.5	+2.8
WHTX	Lake Whitney, baz=239	97.90	58	P		Pdif	03 01 17.7	+0.9
J25K	Salcha River, baz=208	97.92	13	P		P	03 01 14.4	-1.7
POKR	Poker Plat Res baz=206	97.98	12	P		Pdif	03 01 17.1	+0.8
KSCO	Kaye Shedlock' baz=237	97.98	49	P		P	03 01 15.1	-2.0
H22K	Ishtalitna Cre baz=203	98.01	11	P		P	03 01 15.8	-0.6
F19K	Shaleruckik Mo baz=197	98.03	8	P		P	03 01 15.4	-1.0
N32M	Quiet Lake baz=218	98.04	20	P		P	03 01 15.5	-1.2
K27K	Chicken baz=210	98.10	15	P		P	03 01 16.2	-0.6
M30M	Minto, Yukon baz=215	98.16	18	P		P	03 01 15.5	-1.7
J26L	Joseph Creek comp=Z,7.8nm,1.2s	98.19	14	IAmb		IAmb	03 01 21.8	
J26L	Joseph Creek baz=209	98.19	14	P		P	03 01 15.6	-1.7
H23K	Yukon River baz=204	98.25	11	P		P	03 01 16.4	-1.1
L29M	L29M baz=214	98.26	17	P		Pdif	03 01 20.8	+3.1
G21K	Allakaket baz=201	98.27	9	P		Pdif	03 01 20.4	+2.8
E18K	Tukpahlearik C baz=195	98.29	6	P		Pdif	03 01 20.1	+2.5
D17K	Noatak River baz=193	98.34	5	P		Pdif	03 01 21.1	+3.3
WMOK	Wichita Mounta baz=239	98.35	55	P		P	03 01 16.4	-2.3
F20K	Avaraart Lake baz=199	98.48	8	P		P	03 01 18.3	-0.1
M31M	Drury Creek, Y baz=217	98.50	19	P		Pdif	03 01 21.4	+2.7
H24K	Noodor Dome baz=206	98.55	12	P		P	03 01 17.2	-1.7
WTLY	Watson Lake, Y baz=221	98.57	22	P		P	03 01 17.5	-1.6
E19K	Redstone River baz=198	98.69	8	P		P	03 01 17.8	-1.6
PRP	Porcupine Dome baz=208	98.70	13	P		P	03 01 17.9	-1.8
RDOG	Red Dog Mine baz=193	98.70	5	P		P	03 01 18.6	-0.9
C16K	Lisburne Hills baz=191	98.73	5	P		P	03 01 18.5	-1.1
DAWY	Dawson baz=213	98.75	16	P		Pdif	03 01 20.0	+0.2
EGMT	Eagleton baz=234	98.76	39	P		Pdif	03 01 22.6	+2.2
BILL	Bilibino	98.84	354	*eP*		Pdif	03 01 20.3	+0.2
TOAD	Toad River Com baz=224	98.86	25	P		Pdif	03 01 20.5	+0.1
F21K	Alatna River baz=201	98.94	9	P		P	03 01 18.9	-1.6
G22K	Bettles baz=203	98.95	10	P		P	03 01 18.5	-2.1
EGAK	Eagle baz=211	98.95	15	P		P	03 01 20.0	-0.7
G23K	Bananza Creek baz=204	98.98	11	P		P	03 01 19.6	-1.2
I26K	Coal Creek Min baz=210	98.98	14	P		Pdif	03 01 22.1	+1.3
K29M	Barlow Dome baz=214	99.02	17	P		**Pdif**	03 01 23.7	+2.6
C17K	DeLong Mountai baz=193	99.09	5	P		**Pdif**	03 01 20.1	-1.2
H25L	Birch Creek baz=207	99.31	12	P		**Pdif**	03 01 19.1	-3.0
J29N	Klondike Camp baz=214	99.36	16	P		**Pdif**	03 01 21.6	-1.0
F22K	John River baz=202	99.39	10	P		**Pdif**	03 01 21.9	-0.7
G24K	Hadweenzic Riv baz=206	99.40	12	P		**Pdif**	03 01 21.1	-1.5
C18K	Utukok River baz=194	99.43	6	P		**Pdif**	03 01 24.9	+2.1
COLD	Coldfoot baz=204	99.43	10	P		**Pdif**	03 01 22.6	-0.1
E20K	Nigu River baz=199	99.57	8	P		**Pdif**	03 01 20.9	-2.5
D19K	Kuna River baz=197	99.58	7	P		**Pdif**	03 01 22.1	-1.3
G25K	Bearman Lake baz=207	99.70	12	P		**Pdif**	03 01 23.8	-0.1
MMPY	Sheldon Lake, baz=219	99.73	20	P		**Pdif**	03 01 22.8	-1.4
CBKS	Cedar Bluff baz=239	99.79	51	P		**Pdif**	03 01 23.0	-2.1
I28M	Miner Creek baz=212	99.80	15	P		**Pdif**	03 01 21.4	-3.1
RSSD	Black Hills baz=237	99.85	44	P		**Pdif**	03 01 22.7	-2.7
J30M	Hart River baz=215	99.92	17	P		**Pdif**	03 01 23.1	-2.1
D20K	Etivluk River baz=198	99.96	8	P		**Pdif**	03 01 21.5	-3.6
LAO	LASA Array baz=236	99.97	41	P		**Pdif**	03 01 26.4	+0.7
C19K	Lookout Ridge baz=196	100.02	6	P		**Pdif**	03 01 25.2	-0.2
E22K	Anaktuvuk Pass baz=202	100.03	9	P		**Pdif**	03 01 25.3	-0.2
F24K	Squaw Lake baz=206	100.07	11	P		**Pdif**	03 01 23.7	-1.9
B18K	Kokolik River baz=194	100.07	6	P		**Pdif**	03 01 27.7	+2.2
I29M	Ogilvie Camp, baz=214	100.10	16	P		**Pdif**	03 01 22.1	-3.6
H27K	Steamboat Moun baz=211	100.12	14	P		**Pdif**	03 01 24.0	-1.9
KOTAN	Kotaneelee Air baz=225	100.20	24	P		**Pdif**	03 01 20.9	-5.4
E23K	Chandalar baz=204	100.28	10	P		**Pdif**	03 01 23.9	-2.7
G26K	Porcupine Rive baz=209	100.30	13	P		**Pdif**	03 01 23.6	-3.0
I30M	Mount Dempster baz=215	100.44	16	P		**Pdif**	03 01 26.5	-0.9
E24K	Your Creek baz=205	100.48	11	P		**Pdif**	03 01 24.9	-2.5
F25K	Christian Rive baz=208	100.52	12	P		**Pdif**	03 01 25.7	-1.9
C21K	Knifeblade Rid baz=200	100.59	8	P		**Pdif**	03 01 27.7	-0.1
G27K	Doyon Strip baz=211	100.59	14	P		**Pdif**	03 01 24.2	-3.8
D22K	Ayikyak River baz=202	100.60	9	P		**Pdif**	03 01 24.3	-3.6
H29M	Whitestone baz=214	100.80	15	P		**Pdif**	03 01 25.8	-3.0
TOLK	Toolik Lake Re baz=204	100.82	10	P		**Pdif**	03 01 25.2	-3.8
F26K	Sheenjek River baz=209	100.88	12	P		**Pdif**	03 01 28.5	-0.8
A19K	Wainwright baz=194	100.95	6	P		**Pdif**	03 01 29.7	+0.3
D23K	Nanushuk River baz=203	100.96	10	P		**Pdif**	03 01 26.5	-3.0
E25K	Arctic Village baz=208	101.00	12	P		**Pdif**	03 01 26.1	-3.6
TUL3	Leonard baz=241	101.05	55	P		**Pdif**	03 01 27.8	-2.9
B21K	Ikpikpuk River baz=200	101.06	8	P		**Pdif**	03 01 26.3	-3.5
B20K	Meade River baz=198	101.14	7	P		**Pdif**	03 01 25.0	-5.3
EPYK	Eagle Plains baz=215	101.30	16	P		**Pdif**	03 01 27.4	-3.7
D24K	Happy Valley baz=205	101.41	10	P		**Pdif**	03 01 29.6	-1.9
H31M	Peel River baz=217	101.41	17	P		**Pdif**	03 01 29.5	-2.1
G29M	Pine Creek baz=214	101.45	15	P		**Pdif**	03 01 29.7	-2.1
F28M	Old Crow baz=213	101.65	14	P		**Pdif**	03 01 31.3	-1.3
C23K	Ikillik River baz=204	101.77	9	P		**Pdif**	03 01 31.8	-1.3
E27K	Coleen River baz=211	101.79	13	P		**Pdif**	03 01 30.2	-3.1
B22K	Teshekpuk Lake baz=201	101.88	8	P		**Pdif**	03 01 30.5	-3.0
G30M	tAoh Zraii Nji baz=216	101.92	15	P		**Pdif**	03 01 31.3	-2.5
C24K	Franklin Bluff baz=205	101.94	10	P		**Pdif**	03 01 31.4	-2.4
MIAR	Mount Ida baz=242	101.98	57	P		**Pdif**	03 01 29.2	-5.7
DGMT	Dagmar baz=238	102.09	41	P		**Pdif**	03 01 31.4	-3.7
A22K	Sinclair Lake baz=200	102.32	7	P		**Pdif**	03 01 33.1	-2.4
G31M	Satah River baz=217	102.33	16	P		**Pdif**	03 01 30.8	-4.7
A21K	Barrow baz=198	102.45	7	P		**Pdif**	03 01 33.6	-2.4
F30M	Barrier River baz=216	102.53	15	P		**Pdif**	03 01 35.2	-1.3
E28M	Babbage River baz=213	102.55	13	P		**Pdif**	03 01 35.8	-0.8
WRGLY	Wrigley baz=226	102.59	22	P		**Pdif**	03 01 35.8	-1.0
C27K	Jago River baz=210	102.66	11	P		**Pdif**	03 01 34.6	-2.5
E29M	Blow River baz=214	102.71	14	P		**Pdif**	03 01 34.8	-2.5
C26K	Camden Bay baz=209	102.71	11	P		**Pdif**	03 01 33.6	-3.6
D27M	Malcolm River baz=212	102.82	13	P		**Pdif**	03 01 34.1	-3.7
F31M	Tsiigehtchic baz=218	102.86	16	P		**Pdif**	03 01 33.8	-4.2
SUSD	Miller baz=240	103.14	46	P		**Pdif**	03 01 35.0	-4.8
VBMS	Vicksburg baz=242	103.15	60	P		**Pdif**	03 01 36.1	-4.0
D28M	Stokes Point baz=214	103.32	13	P		**Pdif**	03 01 35.8	-4.2
INK	Inuvik baz=218	103.60	15	P		**Pdif**	03 01 37.0	-4.2
ECSD	EROS Data Cent baz=242	104.27	48	P		**Pdif**	03 01 44.0	-0.8
OXF	Oxford baz=243	105.02	59	P		**PKiKP**	03 05 58.6	-4.5
YKA	Yellowknife Ar comp=Z,0.3nm,0.6s,baz=277,slow=1.8,SNR=6.3 YKA comp=Z,0.7nm,0.8s,baz=35,slow=3.3,SNR=9.2	105.19	25	PKiKP PKKPbc		**PKiKP** **PKKPbc**	03 06 02.0 03 17 28.1	-0.5 -2.6
CCM	Cathedral Cave baz=243	105.27	55	P		**PKiKP**	03 06 01.9	-1.5
SCIA	State Center baz=243	105.64	50	P		**PKiKP**	03 05 56.5	-7.5
LRAL	Lakeview Retre baz=244	106.17	61	P		PKiKP	03 05 57.1	-8.1
C36M	Paulatuk baz=226	106.68	17	P		**PKiKP**	03 05 59.6	-5.4
AGMN	Agassiz Nation baz=243	106.84	44	P		**PKiKP**	03 06 03.1	-2.9
WVT	Waverly baz=245	106.88	58	P		**PKiKP**	03 06 00.9	-5.6
SPMN	Marine on St. baz=244	107.38	47	P		**PKiKP**	03 06 01.5	-5.6
ULM	Lac du Bonnet comp=Z,2.9nm,1.0s,baz=175,slow=12,SNR=2.9 ULM comp=Z,2.9nm,0.8s,baz=36,slow=3.4,SNR=4.9	107.70	42	PKKPbc PKKP	PKKPbc	**PKiKP** **PKKPab**	03 06 02.0 03 17 35.0	-0.5 +1.5
HDIL	Hopedale baz=245	107.72	53	P		**PKiKP**	03 06 04.2	-3.7
JFWS	Jewell Farm baz=245	108.06	51	P		**PKiKP**	03 06 05.4	-3.1
A36M	Sachs Harbour baz=226	108.23	15	P		**PKiKP**	03 06 07.9	+0.1
WCI	Wyandotte Cave baz=246	108.87	56	P		**PKiKP**	03 06 08.7	-1.4
GOGA	Godfrey baz=246	109.01	62	P		**PKiKP**	03 06 07.7	-2.8
SFIN	Lafayette baz=246	109.17	54	P		**PKiKP**	03 06 07.5	-3.1
EYMN	Ely baz=246	109.34	45	P		**PKiKP**	03 06 10.1	-0.6
TZTN	Tazewell baz=247	110.20	59	P		**PKiKP**	03 06 09.4	-3.3
O48B	Farmland baz=247	110.49	55	P		**PKiKP**	03 06 08.2	-4.9

P49A	Miami Univ. Ec	110.52	56	P		PKiKP	03 06 10.0	-3.2	
	baz=247								
ACSO	Alum Creek Sta	112.02	55	P		PKiKP	03 06 14.3	-1.6	
	baz=248								
AAM	Ann Arbor	112.30	53	P		PKiKP	03 06 14.5	-1.9	
	baz=249								
P52A	Corning	112.41	56	P		PKiKP	03 06 15.9	-0.9	
	baz=249								
BLA	Blacksburg	112.78	59	P		PKiKP	03 06 12.5	-5.0	
	baz=248								
O53A	New Philadelph	113.29	56	P		PKiKP	03 06 13.5	-4.9	
	baz=249								
WMQ	Urumqi	113.57	308	*e*PKP		PKiKP	03 06 19.4	+0.5	
MCWV	Mont Chateau	114.07	57	P		PKPdf	03 06 15.6	-4.3	
	baz=250								
M53A	WI Miller and	114.08	55	P		PKPdf	03 06 16.8	-3.1	
	baz=250								
BOSA	Boshof	117.50	202	PKP		PKPdf	03 06 26.4	-0.8	
	comp=Z,2.4nm,1.0s,baz=141,slow=4.3,SNR=2.2								
BINY	Binghamton	117.65	55	P		PKiKP	03 06 28.0	+1.2	
	baz=253								
MK31	Makanchi Array	118.10	310	*c* iPKIKP		PKPdf	03 06 27.2	-0.3	
MKAR	Makanchi Array	118.10	310	PKPdf		PKPdf	03 06 27.3	-0.2	
MKAR	Makanchi Array	118.10	310	PKP		PKPdf	03 06 26.7	-0.8	
	comp=Z,5.5nm,0.8s,baz=64,slow=2.8,SNR=39								
MKAR				PKKPbc		PKKPab	03 16 48.0	-0.2	
	comp=Z,0.3nm,0.7s,baz=270,slow=3.9,SNR=2.5								
MKAR	Makanchi Array	118.10	310	*c* iPKIKP		PKPdf	03 06 27.1	-0.4	
MKAR				pmax		pmax			
	comp=Z,6.0nm,0.8s								
ZALV	Zalesovo Beam	118.31	318	PKPdf		PKPdf	03 06 27.1	-0.4	
ZALV	Zalesovo Beam	118.31	318	PKP		PKPdf	03 06 26.6	-1.0	
	comp=Z,3.7nm,0.7s,baz=151,slow=1.5,SNR=16								
PAL	Palisades	118.80	57	P		PKiKP	03 06 30.2	+1.2	
	baz=254								
LONY	Lake Ozonia	119.30	53	P		PKiKP	03 06 30.4	+0.5	
	baz=255								
L61B	Northampton	120.08	56	P		PKiKP	03 06 31.9	+0.4	
	baz=255								
KSH	Kashi	120.62	301	PKP		PKiKP	03 06 33.8	+1.0	
KSH				sPKP			03 06 49.9		
KSH				LR		LR			
	comp=Z,380nm,17.2s								
KSH				LR		LR			
	comp=Z,400nm,17.4s								
KSH				LR		LR			
	comp=Z,690nm,19.1s								
HRV	Adam Dziewonsk	120.89	56	P		PKiKP	03 06 34.9	+1.9	
	baz=256								
LBNH	Lisbon	121.05	54	P		PKiKP	03 06 33.8	+0.4	
	baz=256								
ULHL	Ulahol	121.13	304	P		PKiKP	03 06 34.3	+0.5	
	SNR=10								
M65A	Busby, Falmout	121.32	57	P		PKiKP	03 06 35.0	+1.1	
	baz=256								
KURK	Kurchatov	121.36	314	PKPdf		PKiKP	03 06 33.7	0.0	
KURK	Kurchatov	121.36	314	*ce*PKIKP		PKPdf	03 06 33.5	0.0	
KURK				pmax		pmax			
	comp=Z,24nm,0.8s								
KURBB	Kurchatov Arra	121.39	314	PKP		PKPdf	03 06 32.5	-1.1	
	comp=Z,16nm,0.8s,baz=105,slow=2.0,SNR=138								
TKM2	Tokmak 2	121.75	304	P		PKPdf	03 06 34.6	-0.2	
	SNR=17								
UCH	Uchtor	122.37	303	P		PKiKP	03 06 37.3	+0.7	
	SNR=39								
CHMS	Chumysh	122.38	304	P		PKiKP	03 06 36.3	+0.2	
	SNR=6.8								
AAK	Ala-Archa	122.48	304	P		PKiKP	03 06 36.6	+0.2	
	SNR=8.2								
AAK	Ala-Archa	122.48	304	PKPdf		PKiKP	03 06 36.7	+0.3	
AAK	Ala-Archa	122.48	304	*ce*PKIKP		PKiKP	03 06 36.7	+0.3	
AAK				pmax		pmax			
	comp=Z,15nm,1.3s								
USP	Ospenovka	122.61	304	P		PKPdf	03 06 36.2	-0.1	
	SNR=8.1								
EKS2	Erkin-Say	123.00	304	P		PKiKP	03 06 37.5	+0.1	
	SNR=13								
KBL	Kabul	124.64	293	PKPdf		PKiKP	03 06 41.1	+0.1	
KBL	Kabul	124.64	293	PKIKP		PKiKP	03 06 41.1	+0.1	
KKAR	Karatay Array	125.44	304	PKPdf		PKiKP	03 06 42.1	0.0	
KKAR	Karatay Array	125.44	304	PKIKP		PKiKP	03 06 42.1	0.0	
SIMJ	Simiganj	125.67	298	PKPdf		PKiKP	03 06 43.1	+0.3	
BVAR	Borovoye Array	126.70	316	PKP		PKPdf	03 06 42.4	-1.3	
	comp=Z,26nm,0.8s,baz=93,slow=3.0,SNR=82								
BRVK	Borovoye	126.76	316	PKPdf		PKiKP	03 06 44.5	+0.1	
BRVK	Borovoye	126.76	316	*ce*PKIKP		PKiKP	03 06 44.3	0.0	
BRVK				pmax		pmax			
	comp=Z,26nm,1.0s								
NEEM	North Greenlan	127.06	13	*i* P		PKPdf	03 06 43.9	-0.2	
UPNV	Upernavik	127.86	19	*i* P		PKPdf	03 06 45.2	-0.1	
SPITS	Spitsbergen Ar	131.68	356	PKP		PKPdf	03 06 53.0	+0.4	
	comp=Z,14nm,0.8s,baz=299,slow=13,SNR=5.4								
DAG	Danmarks Havn	132.44	6	*i* P		PKPdf	03 06 53.0	-1.0	
SUMG	Summit	132.52	16	*i* P		PKiKP	03 06 55.7	-0.2	
ABKAR	Akbulak array	133.23	311	PKPdf		PKPdf	03 06 56.4	+0.1	
ARU	Arti	133.35	321	PKPdf		PKPdf	03 06 56.2	0.0	
ARU	Arti	133.35	321	PKP		PKPdf	03 06 56.4	+0.1	
	comp=Z,17nm,0.8s,baz=159,slow=0.6,SNR=20								
ARU	Arti	133.35	321	*i* PKIKP		PKPdf	03 06 56.8	+0.6	
ARU							03 09 22.9		
GEYT	Alibeck	133.97	295	PKPdf		PKPdf	03 06 58.6	+0.5	
GEYT	Alibeck	133.97	295	PKP		PKPdf	03 06 58.3	+0.2	
	comp=Z,6.9nm,0.7s,baz=146,slow=0.5,SNR=20								
GEYT				SKPbc		SKPbc	03 10 25.0	+0.4	
	comp=Z,0.9nm,0.5s,baz=189,slow=2.8,SNR=3.2								
ICESG	Greenland Ices	134.35	20	*i* P		PKPdf	03 06 58.9	+0.7	
AKTO	Aktyubinsk	134.41	312	PKP		PKPdf	03 06 58.3	-0.2	
	comp=Z,13nm,0.8s,baz=27,slow=0.3,SNR=23								
AKTO				SKPbc		SKPbc	03 10 26.6	+1.0	
	comp=Z,2.1nm,0.8s,baz=182,slow=6.2,SNR=6.4								
DBG	Daneborg	134.48	8	*i* P		PKPdf	03 06 57.0	-0.9	
SCO	Scoresbysund	137.54	12	*i* P		PKPdf	03 07 04.2	+0.5	
ARCES	ARCESS Array B	138.64	348	PKhKP		PKPpre	03 06 55.9		
	comp=Z,9.5nm,1.1s,baz=2.6,slow=2.7,SNR=6.4								
ARCES				PKP		PKPdf	03 07 05.1	-0.6	
	comp=Z,3.7nm,0.6s,baz=345,slow=2.1,SNR=14								
H10N3	ASCENSION HYDR	138.65	154	T		T	05 42 52.5		
	baz=204,slow=75,SNR=82								
H10N1	ASCENSION HYDR	138.66	154	T		T	05 42 44.3		
	baz=204,slow=75,SNR=73								
H10N2	ASCENSION HYDR	138.67	154	T		T	05 42 53.8		
	baz=204,slow=75,SNR=90								
BELG	Belogornoye	140.47	317	PKP		PKPdf	03 07 10.5	+1.0	
	comp=Z,30nm,0.8s,baz=216,slow=1.6,SNR=13								
KLMR	Klimovskoe	140.94	332	*e*PKIKP		PKPdf	03 07 08.1	-2.0	
KLMR				pmax		pmax			
	comp=Z,25nm,1.1s								
VRH	Novokhopyorsk	144.33	317	*e*PKIKP		PKiKP	03 07 18.4	-1.6	
VRH				pmax		pmax			
	comp=Z,20nm,0.6s								
GNI	Garni	144.47	298	PKPdf		PKPbc	03 07 16.5	+0.6	
GNI	Garni	144.47	298	PKIKP		PKPbc	03 07 16.5	+0.6	
MOS	Moscow	144.56	326	*i* PKIKP		PKPab	03 07 14.1	-1.1	
MOS				*e*			03 10 29.5		
MOS				pmax		pmax			
	comp=Z,33nm,0.6s								
GOF	Gofitskoye	145.14	306	*ce*PKIKP		PKPbc	03 07 17.7	0.0	
PUL	Pulkovo	145.14	336	*ce*PKIKP		PKPdf	03 07 17.8	+0.2	
PUL				pmax		pmax			
	comp=Z,174nm,0.7s								
FINES	FINESS Array B	145.25	340			PKPab	03 07 17.7	+0.1	
FINES	FINESS Array B	145.25	340	PKPbc		PKPbc	03 07 17.6	+0.1	
	comp=Z,118nm,0.8s,baz=63,slow=3.1,SNR=291								
NSS	Namsos	145.29	353	*e*P		PKPdf	03 07 17.9	+0.2	
LPSR	Galich'ya Gora	145.37	320	*e*PKP2		PKPbc	03 07 16.5	-1.6	
LPSR				pmax		pmax			
	comp=Z,70nm,0.9s								
OBN	Obninsk	145.40	326			PKPab	03 07 18.3	0.0	
OBN	Obninsk	145.40	326	*c* iPKIKP		PKPbc	03 07 18.1	0.0	
OBN				*i*			03 07 22.7		
OBN				pmax		pmax			
	comp=Z,131nm,1.0s								
OBN				pmax		pmax			
	comp=Z,42nm,0.8s								
OBN				MLR		MLR			
	comp=Z,222nm,17.0s								
KBZ	Khabaz	145.47	304	PKPbc		PKPab	03 07 18.9	0.0	
	comp=Z,13nm,0.9s,baz=94,slow=2.3,SNR=24								
KBZ	Khabaz	145.47	304	*ce*PKIKP		PKPab	03 07 19.1	+0.1	
KIV	Kislovodsk	145.59	305	PKPbc		PKPab	03 07 19.5	0.0	
KIV	Kislovodsk	145.59	305	*c* iPKIKP		PKPbc	03 07 19.2	-0.1	
KIV				*i*			03 07 21.4		
KIV				*i*			03 07 27.3		
KIV				*e*			03 10 38.6		
KIV				pmax		pmax			
	comp=Z,43nm,1.2s								
KIV				pmax		pmax			
	comp=Z,20nm,0.9s								
KIV				MLR		MLR			
	comp=Z,171nm,17.0s								
KIV	Kislovodsk	145.59	305	PKP		PKPab	03 07 19.6	0.0	
VORR	Voronezh	145.61	319	*e*PKP2		PKPdf	03 07 17.7	-0.9	
VORR				pmax		pmax			
	comp=Z,60nm,0.4s								
SHA1	Shidzhatmaz	145.65	304	*ce*PKIKP		PKPab	03 07 20.0	0.0	
VSR	Storozhevoye	145.81	318	*e*PKIKP		PKPdf	03 07 18.4	-0.6	
VSR				pmax		pmax			
	comp=Z,90nm,0.9s								
TBLU	Trondheim	146.71	354	*e*P		PKPbc	03 07 22.1	+0.3	
ERBR	Yeremizino-Bor	146.76	308	*i* PKP2		PKPab	03 07 23.6	-0.3	
ERBR				pmax		pmax			
	comp=Z,179nm,1.4s								
LABN	Labinsk	146.84	306	*i* PKP2		PKiKP	03 07 25.4	-0.1	
LABN				pmax		pmax			
	comp=Z,25nm,0.6s								
MOL	Molde	147.60	356	*e*P		PKPbc	03 07 25.2	+0.8	
DOMB	Dombas	148.01	354	*e*P		PKPbc	03 07 26.1	+0.5	
KHAM	Kharkiv	148.01	317	PKP		PKiKP	03 07 27.0	-0.8	
AKN	Aaknes	148.03	356	*e*P		PKiKP	03 07 26.7	-0.7	
FOO	Floro	148.70	358	*e*P		PKPbc	03 07 27.5	+0.2	
NB2	NORSAR Subarra	148.77	352	PKP		PKPbc	03 07 27.7	+0.1	
	comp=Z,45nm,1.0s,baz=13,slow=2.6								
NB2	NORSAR Subarra	148.77	352	PKP		PKPbc	03 07 27.7	+0.1	
	baz=13,slow=2.6								
NOA	NORSAR Array B	148.77	352	PKPbc		PKPbc	03 07 27.1	-0.4	
	comp=Z,17nm,0.8s,baz=16,slow=4.4,SNR=46								
NC602	NORSAR Array S	149.02	351	*e*P		PKPbc	03 07 28.6	+0.5	
ANN	Anapa	149.08	308	*i* PKP2		PKPbc	03 07 29.0	+0.2	
ANN				pmax		pmax			
	comp=Z,78nm,1.0s								
HYA	Hoyanger	149.08	357	*e*P		PKiKP	03 07 29.0	-0.5	
PLTM	Poltava	149.18	318	PKP		PKiKP	03 07 30.5	+0.4	
SUE	Sulen	149.25	358	*e*P		PKiKP	03 07 29.5	-0.4	
HFS	Hagfors	149.28	349	PKPbc		PKPbc	03 07 28.7	-0.1	
	comp=Z,27nm,0.8s,baz=59,slow=0.9,SNR=36								
SKAR	Skarslia	149.42	354	*e*P		PKiKP	03 07 30.3	0.0	
MNK	Minsk	149.77	330	*i* PKHKP		PKPpre	03 07 26.6		
MNK				*i*			03 11 09.0		
MNK				pmax		pmax			
	comp=E,6.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,88nm,0.9s								
MNK				pmax		pmax			
	comp=N,30nm,1.0s								
MNK				MLR		MLR			
	comp=E,106nm,16.0s								
MNK				MLR		MLR			
	comp=Z,251nm,18.0s								
MNK				MLR		MLR			
	comp=N,319nm,21.0s								
ASK	Askoy	149.81	357	*e*P		PKiKP	03 07 30.9	-0.1	
BER	Bergen	149.90	357	*e*P		PKiKP	03 07 31.5	+0.3	
ODD1	Odda	150.31	356	*e*P		PKiKP	03 07 32.7	+0.5	
KONO	Kongsberg	150.31	353			PKiKP	03 07 32.3	+0.2	
KONO	Kongsberg	150.31	353	*e*P		PKiKP	03 07 32.0	-0.1	
KONO	Kongsberg	150.31	353	PKIKP		PKiKP	03 07 32.3	+0.2	
BLS5	Blasjo	150.80	356	*e*P		PKiKP	03 07 33.6	+0.4	
KMY	Karmoy	151.08	357	*e*P		PKiKP	03 07 34.4	+0.7	
SIM	Simferopol'	151.28	309	*e*PKIKP		PKiKP	03 07 34.9	+0.3	
SIM				pmax		pmax			
	comp=Z,107nm,0.8s								
AKASG	Malin Array Be	151.54	323	PKP		PKPdf	03 07 27.5	-0.8	
	comp=Z,46nm,1.0s,baz=48,slow=2.4,SNR=21								
AKASG				PKPbc		PKiKP	03 07 34.8	-0.1	
	comp=Z,52nm,0.8s,baz=46,slow=3.0,SNR=64								
KIEV	Kiev	151.56	323			PKiKP	03 07 34.9	-0.1	
KIEV	Kiev	151.56	323	PKIKP		PKiKP	03 07 34.9	-0.1	
HWQ	Hawqa	151.58	287	*e*P		PKiKP	03 07 35.9	+0.2	
HOMB	Homborsund	151.78	353	*e*P		PKiKP	03 07 36.0	+0.9	
BHL	Bhannes	151.81	286	*e*P		PKiKP	03 07 36.7	+0.5	
SNART	Snartemo	151.83	355	*e*P		PKiKP	03 07 36.0	+0.7	
MMAI	Mount Meron Ar	151.98	284	PKPbc		PKiKP	03 07 37.5	+0.9	
	comp=Z,49nm,0.8s,baz=81,slow=5.2,SNR=56								
SUW	Suwalki	152.04	334	*e*PKP		PKiKP	03 07 36.1	+0.3	
BRTR	Keskin Array B	152.99	299	PKPdf		PKPdf	03 07 30.5	-0.5	
BRTR	Keskin Array B	152.99	299	PKP		PKPdf	03 07 30.8	-0.2	
	comp=Z,1.7nm,0.9s,baz=140,slow=2.9,SNR=11								
BRTR				PKPbc		PKPbc	03 07 38.2	-0.1	
	comp=Z,11nm,0.8s,baz=131,slow=3.4,SNR=41								
BRTR	Keskin Array B	152.99	299	PKIKP		PKPdf	03 07 30.5	-0.5	
LVV	L'vov	154.69	326	*e*PKIKP		PKiKP	03 07 42.1	+0.6	
EKA	Eskdalemuir Ar	154.69	8	PKP		PKPdf	03 07 32.6	-0.2	
	comp=Z,2.1nm,1.0s,baz=328,slow=2.3,SNR=1.7								
EKA				PKPbc		PKiKP	03 07 41.9	+0.6	
	comp=Z,3.1nm,0.9s,baz=318,slow=1.1,SNR=6.9								
CRVS	Cervenica-Dubn	156.54	328	*e*PKP		PKPdf	03 07 38.1	+2.6	
CRVS				*e*			03 08 05.2		
CRVS	Cervenica-Dubn	156.54	328	*e*PKIKP		PKPdf	03 07 38.1	+2.6	
OSTC	Ostas	157.36	337	*e*PKPAB		PKPab	03 08 09.6	+1.8	
OSTC	Ostas	157.36	337	*e*PKP2		PKPab	03 08 09.6	+1.8	
CHVC	Chvalec	157.39	337	*e*PKPAB		PKPab	03 08 08.8	+0.8	
CHVC	Chvalec	157.39	337	*e*PKP2		PKPab	03 08 08.8	+0.8	
UPC	Upice	157.47	337	*e*PKPAB		PKPab	03 08 09.1	+0.8	
UPC	Upice	157.47	337	*e*PKP2		PKPab	03 08 09.1	+0.8	
DPC	Dobruska-Polom	157.50	337	*e*PKPAB		PKPab	03 08 09.5	+1.0	
DPC	Dobruska-Polom	157.50	337	*e*PKP2		PKPab	03 08 09.5	+1.0	
MORC	Moravsky Berou	157.53	334	*e*PKP		PKPab	03 08 09.0	+0.3	
PVCC	Panska Ves	157.91	339	*e*PKPAB		PKPab	03 08 11.5	+1.3	
PVCC	Panska Ves	157.91	339	*e*PKP2		PKPab	03 08 11.5	+1.3	
VYHS	Vyhne	158.02	330	*e*PKP		PKPdf	03 07 42.6	+5.3	
VYHS				*e*			03 08 11.4		
VYHS	Vyhne	158.02	330	*e*PKIKP		PKPdf	03 07 42.6	+5.3	
VYHS				*e*			03 08 11.4		
HSKC	Hora Svate Kat	158.18	341	*e*PKPAB		PKPab	03 08 12.0	+0.6	
JAVC	Velka Javorina	158.22	332	*e*PKP		PKPab	03 08 12.9	+1.2	
PRU	Pruhonice	158.40	339	*e*PKPAB		PKPab	03 08 13.6	+1.3	
PRU	Pruhonice	158.40	339	*e*PKP2		PKPab	03 08 13.6	+1.3	
KRUC	Moravsky	158.55	335	*e*PKP		PKPab	03 08 13.4	+0.4	
MODS	Modra-Piesok	158.76	332	*e*PKP		PKPab	03 08 14.4	+0.4	
MODS	Modra-Piesok	158.76	332	*e*PKP2		PKPab	03 08 14.4	+0.4	
NKC	Novy Kostel	158.78	342	*e*PKPAB		PKPab	03 08 14.9	+0.9	
NKC	Novy Kostel	158.78	342	*e*PKP2		PKPab	03 08 14.9	+0.9	
KHC	Kasperske Hory	159.45	339	*e*PKPAB		PKPab	03 08 17.8	+0.8	
KHC	Kasperske Hory	159.45	339	*e*PKP2		PKPab	03 08 17.8	+0.8	
CKRC	Cesky Krumlov	159.49	337	*e*PKPAB		PKPab	03 08 17.3	+0.2	
CKRC	Cesky Krumlov	159.49	337	*e*PKP2		PKPab	03 08 17.3	+0.2	
MEM	Membach	159.59	354	*d*PKP		PKPab	03 08 17.7	+0.3	
GRFO	Grafenberg	159.59	344	PKPab		PKPab	03 08 18.5	+1.0	
GRFO	Grafenberg	159.59	344	PKP2		PKPab	03 08 18.5	+1.0	
BTNL	Ternell	159.60	353	*d*PKP		PKPab	03 08 17.0	-0.5	
BSTI	Sart Tilman	159.66	354	*d*PKP		PKPab	03 08 18.5	+0.8	
GERES	GERESS Array B	159.66	338	PKP		PKPdf	03 07 39.8	+0.4	
	comp=Z,0.2nm,0.3s,baz=349,slow=4.0,SNR=4.1								
GERES				PKPab		PKPab	03 08 17.1	-0.8	
	comp=Z,5.2nm,0.9s,baz=20,slow=4.3,SNR=13								
CONA	Conrad Observa	159.68	334	*e*PKP		PKPab	03 08 19.4	+1.3	
	comp=Z,9.1nm,1.0s								
RONA	Rosalia, Austr	159.70	332	*e*PKP		PKPab	03 08 19.3	+1.2	
	comp=Z,13nm,1.2s								
BCLA	Clavier	159.84	355	*d*PKP		PKPab	03 08 18.7	+0.2	
BHOU	Houvegnez	159.84	354	*d*PKP		PKPab	03 08 19.3	+0.8	
BGES	Gesves	159.89	355	*d*PKP		PKPab	03 08 18.7	0.0	
BMRD	Maredsous	159.99	356	*d*PKP		PKPab	03 08 19.7	+0.5	
RCHB	Rochefort	160.11	355	*d*PKP		PKPab	03 08 19.9	+0.3	
DOU	Dourbes	160.21	356	*d*PKP		PKPab	03 08 20.7	+0.5	
MOA	Molln	160.34	336	*e*PKP		PKPab	03 08 21.3	+0.5	
	comp=Z,9.0nm,1.0s								
ARSA	Arzberg	160.37	333	*e*PKP		PKPab	03 08 22.1	+1.0	
	comp=Z,5.7nm,1.3s								
WLF	Walferdange	160.51	353	*d*PKP		PKPab	03 08 22.5	+1.0	
BIOA	Bad Ischl, Aus	160.69	337	*i* PKP		PKPab	03 08 23.2	+0.8	
	comp=Z,18nm,1.2s,SNR=7.5								
SOKA	Soboth	161.03	333	*i* PKP		PKPab	03 08 24.1	+0.1	
	comp=Z,10nm,1.3s,SNR=5.6								
LESA	Schwarzleotal	161.24	338	*e*PKP		PKPab	03 08 25.6	+0.8	
	comp=Z,15nm,1.4s								
KBA	Koelnbreinsper	161.32	336	*e*PKP		PKPab	03 08 25.5	+0.2	
	comp=Z,5.4nm,0.8s								
OBKA	Obir	161.36	333	*e*PKP		PKPab	03 08 24.8	-0.6	
	comp=Z,3.2nm,0.7s								
BFO	Black Forest	161.50	348	PKPab		PKPab	03 08 26.4	+0.5	
BFO	Black Forest	161.50	348	PKP2		PKPab	03 08 26.4	+0.5	
MYKA	Terra Mystica	161.60	335	*e*PKP		PKPab	03 08 26.2	-0.2	
	comp=Z,7.8nm,0.9s								
WATA	Walderalm	161.66	340	*i* PKP		PKPab	03 08 27.4	+0.6	
	comp=Z,19nm,1.1s,SNR=6.9								
WTTA	Wattenberg	161.71	340	*i* PKP		PKPab	03 08 27.9	+0.9	
	comp=Z,16nm,0.8s,SNR=7.2								
RETA	Reutte	161.75	342	*i* PKP		PKPab	03 08 27.9	+0.8	
	comp=Z,28nm,1.0s,SNR=13								
MOTA	Moosalm	161.78	341	*i* PKP		PKPab	03 08 28.1	+0.7	
	comp=Z,36nm,1.0s,SNR=13								
SQTA	Sankt Quirin	161.87	341	*i* PKP		PKPab	03 08 28.6	+0.9	
	comp=Z,28nm,1.0s,SNR=10.0								
ABTA	Abfaltersbach	161.89	338	*i* PKP		PKPab	03 08 27.5	-0.2	
	comp=Z,13nm,0.9s,SNR=5.3								
DAVA	Damuels	162.16	344	*i* PKP		PKPab	03 08 29.8	+0.8	
	comp=Z,23nm,0.8s,SNR=9.5								
FETA	Feichten	162.19	341	*i* PKP		PKPab	03 08 30.0	+0.9	
	comp=Z,16nm,1.1s,SNR=7.0								
TOA0	Torodi Ar. Sit	162.87	177	PKPab		PKPab	03 08 34.0	+1.5	
TORD	Torodi Ar. Bea	162.87	177	PKP		PKPdf	03 07 43.7	0.0	
	comp=Z,1.8nm,1.0s,baz=270,slow=4.3,SNR=6.3								
TORD				PKPab		PKPab	03 08 32.0	-0.6	
	comp=Z,7.5nm,0.9s,baz=158,slow=2.8,SNR=15								
PBRG	Braganca	166.33	31	*e*PKPdf		PKPdf	03 07 49.3	+3.3	
MVO	Moncorvo	166.70	33	*e*PKPdf		PKPdf	03 07 48.4	+2.1	
PCBR	Castelo Branco	167.47	38	*e*PKPdf		PKPdf	03 07 49.5	+2.7	
PNCL	Nicolau / Gran	168.00	47	*e*PKPdf		PKPdf	03 07 50.0	+2.8	
PESTR	Estremoz	168.09	42	*e*PKPdf		PKPdf	03 07 50.0	+2.7	
PBEJ	Beja	168.47	46	*e*PKPdf		PKPdf	03 07 50.0	+2.4	
PBDV	Barranco-do-Ve	168.90	49	*e*PKPdf		PKPdf	03 07 46.0	-1.9	

NEIC ***18*** *03:06:54.8±1.2, 19°.42N±0°.03×154°.89W±0°.03, h5km±1km, Error ellipse: s-maj=6.9km s-min=2.9km az=309.0*

HVO 18 03:06:54.5±1.8, 19°.44N±0°.03×154°.88W±0°.04, h1km±8km, ML2.9/3, ML2.6/30(NEIC), Error ellipse: s-maj=5.6km s-min=2.4km az=124.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PHO	Puu Honuaula	0.04	346			Pg		03 06 56.4	+1.0
PHO	Puu Honuaula	0.04	346			Pg		03 06 56.2	+0.8
JOKA	Jonika Flow	0.12	267			Pg		03 06 57.4	+0.6
JOKA					IAML			03 07 00.3	
	comp=N,2μm,0.9s								
JCUZ	Jacuzzi	0.22	255	Pg		Pg		03 06 59.2	+0.6
STCH	Steam Cracks	0.24	257			Pg		03 06 59.5	+0.4
STCH						Sg		03 07 04.7	+2.5
STCH	Steam Cracks	0.24	257		IAML			03 07 04.9	
	comp=N,378nm,0.2s								
STCH					IAML			03 07 06.0	
	comp=E,424nm,0.9s								
KNHH	Kane Nui o Ham	0.28	258			Pg		03 07 00.1	+0.2
PUH	Pauahi	0.33	258			Pg		03 07 01.2	+0.5
PUH						Sg		03 07 06.6	+1.6
PUH	Pauahi	0.33	258	

ISC 18 03:12:14.2±0.8, 23.89S±0.04×66.89W±0.04, h208km±8km, n44, σ1§42/78, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLA	**San Lorenzo**	**1.51**	**123**	*e*P	**Pn**	**03 12 48.4**	**-0.5**
SLA				*e*S	**Sn**	**03 13 16.4**	**+0.5**
HJA	**Humahuaca**	**1.52**	**64**	*e*P	**Pn**	**03 12 48.9**	**-0.4**
AZAP	**Zapla**	**1.70**	**102**	*e*P	**Pn**	**03 12 49.7**	**-1.0**
YJA	**Yavi**	**2.13**	**37**	*e*P	**Pn**	**03 12 55.2**	**+0.1**
YJA				*e*S	**Sn**	**03 13 27.0**	**0.0**
LVC	**Limon Verde**	**2.25**	**304**	*e*P	**Pn**	**03 12 57.2**	**+0.9**
LVC				*e*S	**Sn**	**03 13 30.2**	**+1.1**
LVC	**Limon Verde**	**2.25**	**304**	P	**Pn**	**03 12 57.3**	**+0.9**
	11nm,0.2s,baz=149,slow=5.6,SNR=103						
LVC				S	**Sn**	**03 13 29.4**	**+0.3**
	33nm,0.3s,baz=73,slow=20,SNR=10						
LVC	**Limon Verde**	**2.25**	**304**	*e*P	**Pn**	**03 12 57.2**	**+0.9**
LVC				*i* S	**Sn**	**03 13 29.4**	**+0.3**
LVC				IAML		03 13 32.9	
	comp=Z,376nm,0.2s						
FSA	**Cafayete**	**2.36**	**160**	*e*P	**Pn**	**03 12 56.5**	**-0.7**
PB15	**IPOC Station P**	**2.46**	**286**	*e*P	**Pn**	**03 12 59.2**	**+0.8**
PB15				*e*S	**Sn**	**03 13 33.1**	**+0.2**
PB15	**IPOC Station P**	**2.46**	**286**	*e*P	**Pn**	**03 12 59.1**	**+0.8**
PB15				*i* S	**Sn**	**03 13 32.3**	**-0.6**
ALOL	**LOMAS DE OLMED**	**2.67**	**89**	*e*P	**Pn**	**03 12 59.5**	**-1.0**
PB06	**IPOC Station P**	**2.73**	**295**	*e*P	**Pn**	**03 13 02.0**	**+0.6**
PB06				*e*S	**Sn**	**03 13 38.2**	**0.0**
PB06				IAML		03 13 40.1	
	comp=Z,235nm,0.1s						
PB06	**IPOC Station P**	**2.73**	**295**	*e*P	**Pn**	**03 13 02.1**	**+0.8**
PB06				*i* S	**Sn**	**03 13 37.6**	**-0.6**
PB06				IAML		03 13 38.8	
	comp=E,340nm,0.4s						
GO02	**Mina Guanaco**	**2.76**	**242**	*e*P	**Pn**	**03 13 02.0**	**+0.2**
GO02				*e*S	**Sn**	**03 13 38.8**	**-0.3**
GO02	**Mina Guanaco**	**2.76**	**242**	*e*P	**Pn**	**03 13 02.0**	**+0.2**
GO02				*i* S	**Sn**	**03 13 38.4**	**-0.7**
PB09	**IPOC Station P**	**3.01**	**313**	*e*P	**Pn**	**03 13 05.7**	**+1.2**
PB09				*e*S	**Sn**	**03 13 44.6**	**+0.6**
PB09				IAML		03 13 46.9	
	comp=Z,96nm,0.3s						
PB09	**IPOC Station P**	**3.01**	**313**	*e*P	**Pn**	**03 13 05.5**	**+0.9**
PB09				*i* S	**Sn**	**03 13 44.5**	**+0.5**
PB14	**IPOC Station P**	**3.29**	**256**	*e*P	**Pn**	**03 13 07.8**	**-0.2**
PB14				*e*S	**Sn**	**03 13 48.7**	**-1.3**
PB14				IAML		03 13 52.3	
	comp=Z,57nm,0.4s						
PB14	**IPOC Station P**	**3.29**	**256**	*e*P	**Pn**	**03 13 07.8**	**-0.2**
PB14				*i* S	**Sn**	**03 13 47.9**	**-2.1**
PB04	**IPOC Station P**	**3.38**	**297**	*e*P	**Pn**	**03 13 09.5**	**+0.6**
PB04				*e*S	**Sn**	**03 13 51.3**	**-0.4**
PB04				IAML		03 13 52.0	
	comp=Z,150nm,0.5s						
PB04	**IPOC Station P**	**3.38**	**297**	*e*P	**Pn**	**03 13 08.6**	**-0.3**
PB04				*i* S	**Sn**	**03 13 50.1**	**-1.7**
PB10	**IPOC Station P**	**3.38**	**276**	*e*P	**Pn**	**03 13 09.0**	**+0.3**
PB10				*e*S	**Sn**	**03 13 50.0**	**-1.5**
PB10				IAML		03 13 54.4	
	comp=Z,62nm,0.2s						
PB10	**IPOC Station P**	**3.38**	**276**	*e*P	**Pn**	**03 13 09.0**	**+0.3**
PB10				*i* S	**Sn**	**03 13 49.1**	**-2.4**
PB07	**IPOC Station P**	**3.50**	**307**	*e*P	**Pn**	**03 13 10.8**	**+0.3**
PB07				*e*S	**Sn**	**03 13 53.2**	**-1.3**
PB07				IAML		03 13 57.5	
	comp=Z,100nm,0.6s						
PB07	**IPOC Station P**	**3.50**	**307**	*e*P	**Pn**	**03 13 10.7**	**+0.3**
PB07				*i* S	**Sn**	**03 13 52.7**	**-1.8**
PB01	**IPOC Station P**	**3.71**	**319**	*e*P	**Pn**	**03 13 13.2**	**+0.3**
PB01				*e*S	**Sn**	**03 13 58.6**	**-0.4**
PB01				IAML		03 14 01.0	
	comp=Z,82nm,0.2s						
PB01	**IPOC Station P**	**3.71**	**319**	*e*P	**Pn**	**03 13 13.1**	**+0.2**
PB01				*i* S	**Sn**	**03 13 57.8**	**-1.2**
PB02	**IPOC Station P**	**3.78**	**312**	*e*P	**Pn**	**03 13 13.9**	**+0.3**
PB02				*e*S	**Sn**	**03 13 59.2**	**-1.1**
PB02				IAML		03 14 02.8	
	comp=Z,174nm,0.3s						
PB02	**IPOC Station P**	**3.78**	**312**	*e*P	**Pn**	**03 13 13.7**	**0.0**
PB02				*i* S	**Sn**	**03 13 58.3**	**-2.1**
AC01	**Pan de Azucar**	**4.04**	**235**	*e*P	**Pn**	**03 13 15.5**	**-1.3**
AC01				*e*S	**Sn**	**03 14 03.0**	**-3.1**
AC01				IAML		03 14 03.7	
	comp=Z,43nm,0.4s						
AC01	**Pan de Azucar**	**4.04**	**235**	*e*P	**Pn**	**03 13 15.5**	**-1.3**
AC01				*i* S	**Sn**	**03 14 02.4**	**-3.7**
PB08	**IPOC Station P**	**4.28**	**330**	*e*P	**Pn**	**03 13 21.3**	**+1.1**
PB08				*e*S	**Sn**	**03 14 12.3**	**+0.2**
PB08				IAML		03 14 17.7	
	comp=Z,22nm,0.3s						
PATCX	**Punta Patache**	**4.29**	**315**	*e*P	**Pn**	**03 13 19.8**	**-0.3**
PATCX				*e*S	**Sn**	**03 14 10.7**	**-1.2**
PATCX				IAML		03 14 17.2	
	comp=Z,35nm,0.4s						
TA01	**Diego Aracena**	**4.50**	**317**	*e*P	**Pn**	**03 13 22.6**	**0.0**
TA01				*e*S	**Sn**	**03 14 13.3**	**-3.0**
TA01				IAML		03 14 20.0	
	comp=Z,22nm,0.7s						
HMBC	**Humberstone**	**4.54**	**322**	*e*P	**Pn**	**03 13 22.3**	**-0.9**
HMBC				*e*S	**Sn**	**03 14 14.5**	**-3.1**
HMBC				IAML		03 14 17.1	
	comp=Z,70nm,0.3s						
GO01	**Chusmiza**	**4.72**	**333**	*e*P	**Pn**	**03 13 27.1**	**+1.4**
GO01				*e*S	**Sn**	**03 14 22.0**	**-0.1**
PB11	**IPOC Station P**	**4.85**	**328**	*e*P	**Pn**	**03 13 26.5**	**-0.6**
PB11				*e*S	**Sn**	**03 14 22.3**	**-2.3**
PB11				IAML		03 14 26.2	
	comp=Z,43nm,0.2s						
LPAZ	**La Paz**	**7.66**	**351**	P	**Pn**	**03 14 03.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=157,slow=8.1,SNR=6.3						
LPAZ				S	**Sn**	**03 15 27.2**	**-3.5**
	comp=Z,1.1nm,0.9s,baz=260,slow=25,SNR=2.7						
CPUP	**Villa Florida**	**9.00**	**108**	P	**Pn**	**03 14 17.4**	**-3.0**
	comp=Z,3.6nm,1.1s,baz=245,slow=16,SNR=3.2						
SIV	**San Ignacio**	**9.58**	**36**	P	**Pn**	**03 14 24.6**	**-3.4**
	comp=Z,1.0nm,0.5s,baz=253,slow=4.0,SNR=6.4						
PLCA	**Paso Flores**	**17.07**	**190**	P	**Pn**	**03 16 04.8**	**+4.0**
	comp=Z,1.6nm,1.0s,baz=18,slow=9.7,SNR=3.3						
BDFB	**Brasilia**	**19.56**	**69**	P	**P**	**03 16 26.6**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=233,slow=13,SNR=3.9						
TORD	**Torodi Ar. Bea**	**76.44**	**69**	P	**P**	**03 23 41.6**	**+0.2**
	comp=Z,0.6nm,1.1s,baz=257,slow=7.6,SNR=1.7						
	comp=Z,0.6nm,1.1s						
MKAR	**Makanchi Array**	**146.38**	**39**	PKPbc	**PKPbc**	**03 31 31.6**	**+1.1**
	comp=Z,0.2nm,0.5s,baz=318,slow=3.7,SNR=2.8						

*NEIC **18** 03:14:33.5±1.4, 19.40N±0.02×154.82W±0.01, h8km±3km, Error ellipse: s-maj=3.2km s-min=1.4km az=193.0*

HVO 18 03:14:34.2±1.3, 19.48N±0.03×154.89W±0.03, h2km±3km, ML2.5/4, ML2.1/8(NEIC), Error ellipse: s-maj=4.5km s-min=4.1km az=61.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.01**	**324**		Pg	03 14 35.0	+0.2
PHO	**Puu Honuaula**	**0.01**	**324**		Pg	03 14 34.9	+0.1
PAH	**Pahoa**	**0.06**	**287**		Pg	03 14 37.4	+2.0
JOKA	**Jonika Flow**	**0.12**	**248**		Pg	03 14 39.9	+3.2
JOKA	**Jonika Flow**	**0.12**	**248**	IAML		03 14 40.2	
	comp=E,350nm,0.5s						
JOKA				IAML		03 14 40.2	
	comp=N,683nm,0.8s						
RSD	**Rainshed**	**0.37**	**268**		Pg	03 14 42.3	+0.9
RSD	**Rainshed**	**0.37**	**268**	IAML		03 14 45.4	
	comp=N,758nm,0.9s						
RSD				IAML		03 14 46.0	
	comp=E,679nm,1.6s						

*IPEC **18** 03:45:41.7±0.3, 51.62N×16.18E, h1km, ML2.7/3, Error ellipse: s-maj=2.1km s-min=1.2km az=31.0*
*DNK **18** 03:45:42.9±1.2, 51.72N×15.95E, h0km±63km, ML2.6*
*IDC **18** 03:45:43.4±0.7, 51.64N×15.67E, h0km, mb3.2/3, mbtmp3.2/10, ML2.8/7, Error ellipse: s-maj=18.1km s-min=8.0km az=112.0*
*UPP **18** 03:45:45.6±3.0, 51.79N×15.61E, h0km, ML2.0*
*PRU **18** 03:45:45.4, 51.48N×16.04E, h0km*
*VIE **18** 03:45:46.6±1.3, 51.33N×16.11E, h0km, mb2.6/17, ml2.7/14, ms3.4/2, Error ellipse: s-maj=8.5km s-min=8.0km az=141.0, Suspected Mining induced.*

ISC 18 03:45:41.0±0.6, 51.67N±0.03×16.13E±0.02, h0km, n66, σ1§60/116, mb3.1/3, Poland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**1.08**	**183**	*e*PG	**Pg**	**03 46 01.8**	**+0.1**
CHVC				*e*SG	**Sg**	**03 46 14.7**	**-1.0**
OSTC	**Ostas**	**1.11**	**177**	*e*PG	**Pg**	**03 46 02.4**	**+0.1**
OSTC				*e*SG	**Sg**	**03 46 15.1**	**-1.6**
	comp=Z,66nm,0.3s						
UPC	**Upice**	**1.16**	**184**	*e*PG	**Pg**	**03 46 03.2**	**-0.1**
UPC				*e*SG	**Sg**	**03 46 16.9**	**-1.4**
DPC	**Dobruska-Polom**	**1.32**	**175**	*e*PG	**Pg**	**03 46 05.8**	**-0.5**
DPC				*e*SG	**Sg**	**03 46 21.5**	**-2.0**
	comp=Z,132nm,1.2s						
PVCC	**Panska Ves**	**1.51**	**221**	*e*PG	**Pg**	**03 46 09.8**	**0.0**
PVCC				*e*SG	**Sg**	**03 46 28.6**	**-0.7**
	comp=Z,242nm,0.3s						
BRG	**Berggiesshubel**	**1.59**	**241**	Pg	**Pg**	**03 46 11.7**	**+0.3**
BRG				Sg	**Sg**	**03 46 31.9**	**0.0**
BRG				Amp		03 46 33.0	
	comp=Z,133nm,0.4s						
PRA	**Prague**	**1.93**	**215**	*e*PN	**Pn**	**03 46 15.0**	**0.0**
PRA				*e*PG	**Pb**	**03 46 17.2**	**+0.2**
PRA				*e*SG	**Sb**	**03 46 40.8**	**-0.7**
	comp=Z,60nm,0.7s						
GOPC	**Ondrejov Pecny, Ondr**	**1.95**	**206**	*e*PG	**Pb**	**03 46 16.9**	**-0.5**
PRU	**Pruhonice**	**1.96**	**212**	*e*SG	**Sn**	**03 46 41.1**	**+0.4**
	comp=Z,46nm,0.5s						
CLL	**Collm**	**1.99**	**261**	*i* Pn	**Pn**	**03 46 15.8**	**0.0**
	comp=Z,18nm,0.4s						
CLL				*i* Pg	**Pg**	**03 46 18.8**	**-0.3**
CLL				*i* x	x	03 46 22.7	
CLL				*e*Sg	**Sg**	**03 46 44.0**	**-0.8**
	comp=Z,36nm,0.5s						
CLL				AMS	AMS	04 53 00.0	
	comp=Z,100nm,18.4s						
HSKC	**Hora Svate Kat**	**2.00**	**239**	*e*SG	**Sb**	**03 46 43.6**	**-0.2**
	comp=Z,159nm,1.0s						
MORC	**Moravsky Berou**	**2.10**	**154**	*e*Pn	**Pn**	**03 46 17.1**	**-0.3**
	baz=336						
MORC				*e*Sg	**Sb**	**03 46 45.8**	**-0.6**
	comp=Z,46nm,0.6s,baz=336						
TREC	**Trest**	**2.41**	**190**	*e*SG	**Sb**	**03 46 56.1**	**+0.6**
MAUC	**Maruska**	**2.55**	**154**	*e*PN	**Pn**	**03 46 23.9**	**+0.3**
MAUC				*e*PG	**Pb**	**03 46 27.6**	**+0.1**
KRUC	**Moravsky**	**2.61**	**176**	*e*Pn	**Pn**	**03 46 24.5**	**0.0**
	baz=357						
KRUC				*e*Sg	**Sb**	**03 47 02.3**	**+1.0**
	comp=Z,40nm,0.8s,baz=357						
NKC	**Novy Kostel**	**2.74**	**240**	*e*PN	**Pn**	**03 46 26.9**	**+0.7**
NKC				*e*PG	**Pg**	**03 46 32.9**	**-0.5**
NKC				*e*SG	**Sg**	**03 47 07.2**	**-1.6**
	comp=Z,58nm,0.5s						
OJC	**Ojcow**	**2.74**	**121**	*e*Pg	**Pg**	**03 46 33.5**	**+0.2**
OJC				*e*Sg	**Sg**	**03 47 08.8**	**-0.1**
JAVC	**Velka Javorina**	**2.98**	**160**	*e*Pn	**Pn**	**03 46 29.4**	**-0.1**
	baz=342						
KHC	**Kasperske Hory**	**3.02**	**214**	*e*PN	**Pn**	**03 46 29.9**	**-0.2**
KHC				*e*PG	**Pg**	**03 46 37.8**	**-1.0**
KHC				*e*SN	**Sn**	**03 47 06.0**	**-0.9**
KHC				*e*SG	**Sb**	**03 47 15.3**	**+2.3**
	comp=Z,16nm,0.4s						
CKRC	**Cesky Krumlov**	**3.08**	**203**	*e*PN	**Pn**	**03 46 31.2**	**+0.3**
CKRC				*e*PG	**Pb**	**03 46 36.9**	**+0.3**
CKRC				*e*SG	**Sb**	**03 47 16.1**	**+1.3**
	comp=Z,19nm,0.5s						
GERES	**GERESS Array B**	**3.23**	**210**	Pn	**Pn**	**03 46 32.5**	**-0.4**
	comp=Z,1.2nm,0.3s,baz=28,slow=4.4,SNR=21						
GERES				Pg	**Pb**	**03 46 39.4**	**+0.2**
	comp=Z,3.8nm,0.3s,baz=22,slow=19,SNR=22						
GERES				Lg	Lg	03 47 20.4	
	comp=Z,3.9nm,0.3s,baz=27,slow=26,SNR=8.6						
	comp=Z,2.6nm,0.3s						
LANS	**Liptovska Anna**	**3.30**	**138**	*e*PN	**Pn**	**03 46 34.8**	**+0.8**
LANS				*e*PG	**Pg**	**03 46 43.8**	**-0.4**
LANS				*e*SG	**Sg**	**03 47 25.8**	**-1.2**
MODS	**Modra-Piesok**	**3.38**	**167**	*e*PN	**Pn**	**03 46 36.5**	**+1.5**
MODS				*e*PG	**Pg**	**03 46 45.6**	**-0.1**
MODS				*e*SG	**Sg**	**03 47 27.4**	**-2.1**
BSD	**Bornholm Skovb**	**3.53**	**349**	*i* P	**Pn**	**03 46 37.5**	**+0.5**
BSD				*i* S	**Sn**	**03 47 17.8**	**-1.6**
BSD				IAML		03 47 27.5	
	comp=Z,8.4nm,0.7s						
ZST	**Bratislava**	**3.53**	**169**	*e*SG	**Sb**	**03 47 30.3**	**+2.6**
VYHS	**Vyhne**	**3.62**	**150**	*e*PN	**Pn**	**03 46 38.4**	**+0.1**
VYHS				*e*PG	**Pg**	**03 46 51.5**	**+1.1**
VYHS				*e*SG	**Sg**	**03 47 35.1**	**-2.2**
CONA	**Conrad Observa**	**3.75**	**183**	*i* Pn	**Pn**	**03 46 40.5**	**+0.4**
	comp=Z,1.6nm,0.2s,SNR=7.3						
CONA				*e*Sg	**Sg**	**03 47 39.1**	**-2.2**
	comp=Z,22nm,0.5s						
STHS	**Stebnicka Huta**	**3.96**	**123**	*e*PG	**Pg**	**03 46 57.6**	**+0.7**
STHS				*e*SG	**Sg**	**03 47 50.7**	**+2.5**
RONA	**Rosalia, Austr**	**3.97**	**178**	Sg	**Sg**	**03 47 45.0**	**-3.5**
	comp=Z,10nm,0.4s						
MOA	**Molln**	**4.01**	**198**	*i* Pn	**Pn**	**03 46 44.0**	**+0.4**
	comp=Z,8.0nm,0.3s,SNR=7.3						
MOA				*e*Sg	**Sg**	**03 47 47.1**	**-2.5**
	comp=Z,11nm,0.4s						
LUNU	**Lund**	**4.28**	**339**	P	**Pn**	**03 46 48.5**	**+1.2**
LUNU				S	**Sn**	**03 47 36.9**	**-1.0**
LUNU	**Lund**	**4.28**	**339**	*i* P	**Pn**	**03 46 48.4**	**+1.2**
LUNU				P	**Pn**	**03 46 48.5**	**+1.2**
LUNU				*i* S	**Sn**	**03 47 36.5**	**-1.5**
LUNU				S	**Sn**	**03 47 36.9**	**-1.0**
BIOA	**Bad Ischl, Aus**	**4.30**	**203**	*e*Pn	**Pn**	**03 46 48.6**	**+1.0**
	comp=Z,4.0nm,0.3s						
BIOA				*e*Sg	**Sg**	**03 48 00.7**	**+1.7**
	comp=Z,27nm,0.5s						
ARSA	**Arzberg**	**4.44**	**185**	*e*Pn	**Pn**	**03 46 51.8**	**+2.2**
	comp=Z,2.0nm,0.3s						
ARSA				*e*Sg	**Sg**	**03 48 05.0**	**+1.5**
	comp=Z,20nm,0.7s						
BLEU	**Blekinge**	**4.65**	**358**	P	**Pn**	**03 46 54.0**	**+1.6**
BLEU				S	**Sn**	**03 47 45.8**	**-1.2**
BLEU	**Blekinge**	**4.65**	**358**	P	**Pn**	**03 46 54.0**	**+1.6**
BLEU				*e*P	**Pn**	**03 46 54.1**	**+1.8**
BLEU				S	**Sn**	**03 47 45.8**	**-1.2**
BLEU				*i* S	**Sn**	**03 47 45.8**	**-1.2**
BJUU	**Bjuv**	**4.78**	**339**	P	**Pn**	**03 46 54.4**	**+0.2**
BJUU	**Bjuv**	**4.78**	**339**	P	**Pn**	**03 46 54.4**	**+0.2**
BJUU				*e*P	**Pn**	**03 46 55.2**	**+1.0**
BJUU				*i* S	**Sn**	**03 47 48.7**	**-1.6**
KOLS	**Kolonicke sedl**	**4.79**	**122**	*e*PG	**Pn**	**03 46 55.3**	**+0.9**
LESA	**Schwarzleotal**	**4.80**	**209**	*e*Pn	**Pn**	**03 46 54.7**	**0.0**
	comp=Z,0.2nm,0.1s						
LESA				*e*Sg	**Sg**	**03 48 12.7**	**-2.6**
	comp=Z,8.4nm,0.5s						
KBA	**Koelnbreinsper**	**4.94**	**203**	*i* Pn	**Pn**	**03 46 57.2**	**+0.6**
	comp=Z,4.9nm,0.4s,SNR=12						
KBA				Sg	**Sg**	**03 48 18.8**	**-0.8**
	comp=Z,14nm,0.8s						
DEL	**Delary**	**4.99**	**345**	P	**Pn**	**03 46 58.0**	**+0.9**
DEL	**Delary**	**4.99**	**345**	P	**Pn**	**03 46 58.0**	**+0.9**
DEL				*e*P	**Pn**	**03 46 58.3**	**+1.2**
SOKA	**Soboth**	**5.04**	**189**	*i* Pn	**Pn**	**03 46 59.9**	**+1.9**
	comp=Z,1.1nm,0.3s						
SOKA				Sg	**Sg**	**03 48 20.7**	**-2.3**
	comp=Z,3.8nm,0.6s						
OBKA	**Obir**	**5.27**	**192**	Sg	**Sg**	**03 48 28.1**	**-2.0**
	comp=Z,5.1nm,0.7s						
WTTA	**Wattenberg**	**5.29**	**215**	Sg	**Sg**	**03 48 33.1**	**+2.2**
	comp=Z,8.0nm,0.5s						
VXJU	**Vaexsjoe**	**5.31**	**353**	P	**Pn**	**03 47 03.6**	**+2.1**
VXJU	**Vaexsjoe**	**5.31**	**353**	P	**Pn**	**03 47 03.6**	**+2.1**
MOTA	**Moosalm**	**5.42**	**219**	*e*Pn	**Pn**	**03 47 06.9**	**+3.7**
	comp=Z,1.2nm,0.3s						
MOTA				*e*Sg	**Sg**	**03 48 41.2**	**+6.0**
	comp=Z,6.5nm,0.5s						
ABTA	**Abfaltersbach**	**5.46**	**207**	*e*Pn	**Pn**	**03 47 06.1**	**+2.4**
	comp=Z,2.5nm,0.4s						
ABTA				*e*Sg	**Sg**	**03 48 34.5**	**-1.9**
	comp=Z,7.8nm,0.5s						
SQTA	**Sankt Quirin**	**5.49**	**218**	*e*Pn	**Pn**	**03 47 06.2**	**+2.2**
	comp=Z,1.0nm,0.2s						
SQTA				*e*Sg	**Sg**	**03 48 42.3**	**+5.2**
	comp=Z,6.7nm,0.5s						
BYXU	**Byxelkrok**	**5.66**	**5**	P	**Pn**	**03 47 08.4**	**+2.2**
BYXU	**Byxelkrok**	**5.66**	**5**	P	**Pn**	**03 47 08.4**	**+2.2**
GNOU	**Gnosjoe**	**5.80**	**347**	P	**Pn**	**03 47 09.8**	**+1.6**
GNOU	**Gnosjoe**	**5.80**	**347**	P	**Pn**	**03 47 09.8**	**+1.6**
FETA	**Feichten**	**5.84**	**219**	*e*Pn	**Pn**	**03 47 08.6**	**-0.3**
	comp=Z,0.3nm,0.3s						
DAVA	**Damuels**	**5.98**	**225**	*e*Pn	**Pn**	**03 47 14.4**	**+3.5**
	comp=Z,1.4nm,0.3s						
DAVOX	**Davos/Dischmat**	**6.38**	**222**	Pn	**Pn**	**03 47 17.5**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=58,slow=19,SNR=1.9						
DAVOX				Lg	Lg	03 49 02.7	
	comp=Z,0.2nm,0.3s,baz=18,slow=5.9,SNR=3.0						
	comp=Z,0.5nm,0.3s						
AKASG	**Malin Array Be**	**8.29**	**92**	Pn	**Pn**	**03 47 44.2**	**+1.9**
	comp=Z,0.4nm,0.3s,baz=282,slow=12,SNR=1.7						
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**8.60**	**352**	Pn	**Pn**	**03 47 47.0**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=176,slow=28,SNR=1.1						
	comp=Z,0.6nm,0.6s						
NOA	**NORSAR Array B**	**9.78**	**346**	Pn	**Pn**	**03 48 02.5**	**-0.3**
	baz=164,slow=14,SNR=1.9						
	comp=Z,0.4nm,0.7s						
FINES	**FINESS Array B**	**11.21**	**25**	Pn	**Pn**	**03 48 22.0**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=215,slow=11,SNR=5.1						
	comp=Z,1.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**12.05**	**295**	Pn	**Pn**	**03 48 30.7**	**-3.1**
	baz=98,slow=14						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**40.15**	**202**	P	**P**	**03 53 18.7**	**0.0**
	comp=Z,0.5nm,0.9s,baz=19,slow=9.2,SNR=2.6						
	comp=Z,0.5nm,0.9s						
MKAR	**Makanchi Array**	**42.15**	**69**	P	P	03 53 41.1	+6.2
	comp=Z,0.1nm,0.4s,baz=303,slow=9.5,SNR=1.4						
	comp=Z,0.1nm,0.4s						
YKA	**Yellowknife Ar**	**59.72**	**336**	P	**P**	**03 55 48.0**	**+1.2**
	comp=Z,0.2nm,0.7s,baz=24,slow=7.1,SNR=3.5						
	comp=Z,0.2nm,0.7s						

IDC 18 03:47:46.0±5.3, 29.64N×69.85E, h0km, mb3.6/4, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=149.3km s-min=31.9km az=135.0, Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**19.68**	**26**	P	P	03 52 16.8	+0.1
	0.1nm,0.3s,baz=208,slow=12,SNR=6.7						
	0.6nm,0.7s						
KURBB	**Kurchatov Arra**	**21.96**	**15**	P	P	03 52 40.7	-0.5
	0.6nm,0.7s,baz=209,slow=9.2,SNR=5.9						
	0.6nm,0.7s						
BVAR	**Borovoye Array**	**23.37**	**1**	P	P	03 52 56.3	+0.2
	1.0nm,0.7s,baz=188,slow=9.6,SNR=4.6						
	1.0nm,0.7s						
ZALV	**Zalesovo Beam**	**26.62**	**20**	P	P	03 53 26.1	+0.1
	2.9nm,0.7s,baz=207,slow=11,SNR=9.7						
	2.9nm,0.7s						
TORD	**Torodi Ar. Bea**	**64.74**	**271**	P	P	03 58 26.5	0.0
	0.6nm,1.0s,baz=58,slow=5.7,SNR=2.0						
	0.6nm,1.0s						

*IDC **18** 03:52:55.8±2.0, 61.56N×5.06E, h0km, mbtmp3.2/4, ML2.2/4, Error ellipse: s-maj=23.0km s-min=14.4km az=9.0*
*DNK **18** 03:52:55.4±2.4, 61.73N×5.19E, h0km±35km, ML2.6*
*BER **18** 03:52:56.2±2.2, 61.90N×4.78E, h14km±4km, ML2.6, ML2.7(NAO), Confirmed Earthquake*
*NAO **18** 03:52:56.8±1.5, 61.82N×4.97E, h22km±5km, ML2.7*
*UPP **18** 03:52:57.8±2.9, 61.61N×5.29E, h0km, ML2.2*

ISC 18 03:52:57.9±1.0, 61.71N±0.03×5.32E±0.03, h20km±7km, n81, σ1§67/151, 1C, Southern Norway

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FOO	**Floro**	**0.17**	**229**	*e*P	**Pb**	**03 53 03.0**	**+1.0**
FOO				*e*S	**Sg**	**03 53 07.6**	**+1.8**
FOO				IAML		03 53 08.0	
	comp=Z,652nm,0.2s						
FOO	**Floro**	**0.17**	**229**	Pg	**Pb**	**03 53 03.0**	**+1.0**
FOO				Lg	Lg	03 53 07.7	
HYA	**Hoyanger**	**0.69**	**142**	*e*P	**Pn**	**03 53 13.4**	**+0.9**
HYA				*e*S	**Sn**	**03 53 26.8**	**+4.2**
HYA				IAML		03 53 28.3	
	comp=Z,374nm,0.2s						
HYA	**Hoyanger**	**0.69**	**142**	Pg	**Pn**	**03 53 13.5**	**+0.9**
HYA				Lg	Lg	03 53 26.6	
SUE	**Sulen**	**0.71**	**202**	*e*P	**Pb**	**03 53 11.1**	**-0.4**
SUE				*e*S	**Sb**	**03 53 22.0**	**+1.2**
SUE				*e*		03 53 23.9	
SUE				IAML		03 53 24.8	
	comp=Z,513nm,0.3s						
AKN	**Aaknes**	**0.92**	**59**	*e*P	**Pg**	**03 53 14.9**	**-1.0**
AKN				*e*S	**Sn**	**03 53 29.0**	**+0.5**
AKN				IAML		03 53 31.2

NB2				Sn	**Sn**	**03 54 20.8**	**+3.0**	
	baz=293,slow=28								
NB2				Sg	**Sg**	**03 54 30.0**	**-1.6**	
	baz=288,slow=37								
NB2	**NORSAR Subarra**	**2.92**	**101**	Pn	**Pn**	**03 53 44.6**	**+1.3**		
	baz=286,slow=14								
NB2				Sn	**Sn**	**03 54 20.8**	**+3.0**		
	baz=293,slow=28								
NB2				Lg	Lg	03 54 30.0			
	baz=288,slow=37								
NOA	**NORSAR Array B**	**2.92**	**101**	Pn	**Pn**	**03 53 44.4**	**+1.1**		
	comp=Z,0.1nm,0.3s,baz=292,slow=16,SNR=2.1								
NOA				Pg	**Pb**	**03 53 48.6**	**-0.7**		
	comp=Z,0.2nm,0.3s,baz=292,slow=17,SNR=14								
NOA				Sn	**Sn**	**03 54 19.4**	**+1.7**		
	comp=Z,0.6nm,0.3s,baz=296,slow=14,SNR=3.9								
NOA				Lg	Lg	03 54 30.4			
	comp=Z,1.0nm,0.3s,baz=282,slow=18,SNR=8.3								
KONO	**Kongsberg**	**2.95**	**133**	*e*P	**Pn**	**03 53 44.8**	**+1.2**		
KONO				*e*Sg	**Sg**	**03 54 32.5**	**-0.2**		
KONO				IAML		03 54 37.4			
	comp=Z,18nm,0.3s								
NC3	**NORSAR Subarra**	**2.96**	**96**	Pn	**Pn**	**03 53 44.9**	**+1.1**		
NC3				Sg	**Sg**	**03 54 31.1**	**-1.9**		
NC3	**NORSAR Subarra**	**2.96**	**96**	Pn	**Pn**	**03 53 44.9**	**+1.1**		
NC3				Lg	Lg	03 54 31.1			
NC6	**NORSAR Subarra**	**3.12**	**105**	Pn	**Pn**	**03 53 47.1**	**+1.1**		
NC6				Sn	**Sn**	**03 54 25.9**	**+3.1**		
NC6				Sg	**Sg**	**03 54 35.7**	**-2.5**		
NC6	**NORSAR Subarra**	**3.12**	**105**	Pn	**Pn**	**03 53 47.1**	**+1.1**		
NC6				Sn	**Sn**	**03 54 25.9**	**+3.1**		
NC6				Lg	Lg	03 54 35.7			
NC4	**NORSAR Subarra**	**3.15**	**99**	Pn	**Pn**	**03 53 47.0**	**+0.7**		
NC4				Sg	**Sg**	**03 54 36.9**	**-2.0**		
NC4	**NORSAR Subarra**	**3.15**	**99**	Pn	**Pn**	**03 53 47.0**	**+0.7**		
NC4				Lg	Lg	03 54 36.9			
NRA0	**NORESS Array S**	**3.17**	**105**	Pn	**Pn**	**03 53 47.7**	**+1.1**		
	baz=300,slow=12								
NRA0				Sn	**Sn**	**03 54 24.8**	**+1.1**		
	baz=300,slow=22								
NRA0				Sg	**Sg**	**03 54 37.6**	**-1.9**		
	baz=292,slow=28								
NRA0	**NORESS Array S**	**3.17**	**105**	Pn	**Pn**	**03 53 47.7**	**+1.1**		
	baz=300,slow=12								
NRA0				Sn	**Sn**	**03 54 24.8**	**+1.1**		
	baz=300,slow=22								
NRA0				Lg	Lg	03 54 37.6			
	baz=292,slow=28								
SNART	**Snartemo**	**3.52**	**163**	*e*P	**Pn**	**03 53 52.2**	**+0.9**		
SNART	**Snartemo**	**3.52**	**163**	*i* P	**Pn**	**03 53 51.3**	**-0.1**		
SNART				*i* S	**Sn**	**03 54 33.2**	**+0.9**		
HOMB	**Homborsund**	**3.81**	**154**	*e*P	**Pn**	**03 53 56.6**	**+1.3**		
HOMB				*e*S	**Sn**	**03 54 41.0**	**+1.6**		
HOMB				IAML		03 54 42.9			
	comp=Z,68nm,0.2s								
HOMB	**Homborsund**	**3.81**	**154**	*i* P	**Pn**	**03 53 55.8**	**+0.4**		
HOMB				*e*S	**Sn**	**03 54 40.6**	**+1.1**		
STRU	**Stroemstad**	**3.96**	**130**	*e*P	**Pn**	**03 53 57.5**	**0.0**		
STRU				*e*		03 54 08.2			
STRU				*e*S	**Sn**	**03 54 43.5**	**+0.2**		
STRU	**Stroemstad**	**3.96**	**130**	*i* P	**Pn**	**03 53 56.9**	**-0.6**		
STRU				*i* S	**Sn**	**03 54 43.2**	**-0.1**		
NSS	**Namsos**	**4.14**	**44**	*e*P	**Pn**	**03 53 59.9**	**0.0**		
FINU	**Finntorp**	**4.22**	**120**	P	**Pn**	**03 54 02.0**	**+0.8**		
FINU				S	**Sn**	**03 54 50.1**	**+0.3**		
FINU	**Finntorp**	**4.22**	**120**	P	**Pn**	**03 54 02.0**	**+0.8**		
FINU				S	**Sn**	**03 54 50.1**	**+0.3**		
UDD	**Uddeholm**	**4.36**	**108**	P	**Pn**	**03 54 04.9**	**+1.9**		
UDD	**Uddeholm**	**4.36**	**108**	P	**Pn**	**03 54 04.9**	**+1.9**		
HFS	**Hagfors**	**4.38**	**107**	Pn	**Pn**	**03 54 04.8**	**+1.5**		
	baz=294,slow=12								
HFS				Sn	**Sn**	**03 54 55.0**	**+1.2**		
	baz=288,slow=18								
HFS	**Hagfors**	**4.38**	**107**	Pn	**Pn**	**03 54 04.8**	**+1.5**		
	baz=294,slow=12								
HFS				Sn	**Sn**	**03 54 55.0**	**+1.2**		
	baz=288,slow=18								
HFS	**Hagfors**	**4.38**	**107**	Pn	**Pn**	**03 54 04.6**	**+1.3**		
	comp=Z,0.3nm,0.3s,baz=289,slow=12,SNR=11								
HFS				Pg	**Pb**	**03 54 12.3**	**-1.9**		
	comp=Z,0.7nm,0.3s,baz=289,slow=14,SNR=10								
HFS				Sn	**Sn**	**03 54 54.9**	**+1.1**		
	comp=Z,1.8nm,0.3s,baz=288,slow=20,SNR=11								
HFS				Lg	Lg	03 55 15.2			
	comp=Z,3.8nm,0.3s,baz=294,slow=33,SNR=14								
	comp=Z,0.7nm,0.2s								
NASU	**Vaermlandsnaes**	**4.81**	**122**	P	**Pn**	**03 54 09.5**	**+0.4**		
NASU	**Vaermlandsnaes**	**4.81**	**122**	P	**Pn**	**03 54 09.5**	**+0.4**		
TJOU	**Tjoern**	**4.87**	**136**	*i* P	**Pn**	**03 54 10.6**	**+0.6**		
TJOU				*e*S	**Sn**	**03 54 04.5**	**-1.1**		
ROTU	**Roteberg**	**5.03**	**89**	P	**Pn**	**03 54 13.2**	**+1.1**		
ROTU	**Roteberg**	**5.03**	**89**	P	**Pn**	**03 54 13.2**	**+1.1**		
FALU	**Falun**	**5.25**	**99**	P	**Pn**	**03 54 16.2**	**+1.0**		
FALU	**Falun**	**5.25**	**99**	P	**Pn**	**03 54 16.2**	**+1.0**		
NRAU	**Nora**	**5.25**	**110**	P	**Pn**	**03 54 17.5**	**+2.4**		
NRAU	**Nora**	**5.25**	**110**	P	**Pn**	**03 54 17.5**	**+2.4**		
HASU	**Hassela**	**5.36**	**80**	P	**Pn**	**03 54 18.1**	**+1.5**		
HASU	**Hassela**	**5.36**	**80**	P	**Pn**	**03 54 18.1**	**+1.5**		
ONAU	**Onsala**	**5.48**	**139**	P	**Pn**	**03 54 18.6**	**+0.3**		
ONAU	**Onsala**	**5.48**	**139**	P	**Pn**	**03 54 18.6**	**+0.3**		
ONAU				*i* S	**Sn**	**03 55 19.7**	**-0.9**		
BORU	**Boraas**	**5.56**	**134**	*i* P	**Pn**	**03 54 19.8**	**+0.2**		
BORU				*e*S	**Sn**	**03 55 21.6**	**-1.2**		
MUD	**Monsted U'grnd**	**5.63**	**158**	*i* P	**Pn**	**03 54 20.9**	**+0.4**		
MUD				*i* S	**Sn**	**03 55 23.9**	**-0.6**		
MUD				IAML		03 56 12.7			
	comp=Z,7.1nm,0.1s								
FABU	**Falkenberg**	**6.05**	**138**	*i* P	**Pn**	**03 54 26.0**	**-0.2**		
FABU				*i* S	**Sn**	**03 55 33.0**	**-1.7**		
DEL	**Delary**	**6.86**	**136**	*e*P	**Pn**	**03 54 36.9**	**-0.4**		
DEL				*e*S	**Sn**	**03 55 52.6**	**-1.9**		
BJUU	**Bjuv**	**6.92**	**141**	*i* P	**Pn**	**03 54 37.8**	**-0.3**		
BJUU				*i* S	**Sn**	**03 55 53.2**	**-2.9**		
LUNU	**Lund**	**7.42**	**142**	*i* P	**Pn**	**03 54 42.2**	**-2.7**		
LUNU				*i* S	**Sn**	**03 56 07.7**	**-0.7**		
BLEU	**Blekinge**	**7.66**	**130**	*i* P	**Pn**	**03 54 48.7**	**+0.5**		
BLEU				*e*S	**Sn**	**03 56 10.6**	**-3.7**		
EKA	**Eskdalemuir Ar**	**7.78**	**218**	Pn	**Pn**	**03 54 46.2**	**-3.7**		
	comp=Z,0.2nm,0.3s,baz=25,slow=12,SNR=9.6								
EKA				Sn	Sn	03 56 07.3	-10		
	baz=38,slow=25								
BSD	**Bornholm Skovb**	**8.31**	**138**	*e*P	**Pn**	**03 54 57.5**	**+0.3**		
BSD				IAML		03 57 39.4			
	comp=Z,0.8nm,0.3s								
FIA0	**FINESS Array S**	**9.89**	**82**	Pn	**Pn**	**03 55 19.3**	**+0.5**		
	baz=286,slow=10								
FIA0				Sn	**Sn**	**03 57 05.8**	**-3.4**		
	baz=281,slow=22								
FIA0	**FINESS Array S**	**9.89**	**82**	Pn	**Pn**	**03 55 19.3**	**+0.5**		
	baz=286,slow=10								
FIA0				Sn	**Sn**	**03 57 05.8**	**-3.4**		
	baz=281,slow=22								
FINES	**FINESS Array B**	**9.89**	**82**	Pn	**Pn**	**03 55 19.4**	**+0.5**		
	comp=Z,0.1nm,0.3s,baz=281,slow=9.8,SNR=1.3								
FINES				Sn	**Sn**	**03 57 04.0**	**-5.2**		
	comp=Z,0.2nm,0.3s,baz=286,slow=26,SNR=1.5								
FINES				Lg	Lg	03 58 09.4			
	comp=Z,0.6nm,0.3s,baz=283,slow=26,SNR=7.0								
	comp=Z,0.5nm,0.6s								
ARCES	**ARCESS Array B**	**11.39**	**38**	Pn	**Pn**	**03 55 39.7**	**+0.5**		
	baz=236,slow=13,SNR=1.8								
	comp=Z,2.2nm,0.9s								

WEL 18 03:59:44.3±0.6, 42°S±2°×17°4E±°, h6km±5km, M3.4/9, ML3.6/9, MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=112.4, confirmed, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEKS	**Kekerengu Vall**	**0.21**	**87**	P	Pg	03 59 48.7	+0.1
KEKS				S	Sg	03 59 52.0	+0.7
BSWZ	**Blackbirch Sta**	**0.29**	**28**	P	Pg	03 59 50.1	+0.2
BSWZ				S	Sg	03 59 55.1	+1.4
CMWZ	**Cape Campbell**	**0.44**	**60**	P	Pg	03 59 53.7	+0.8
CMWZ				S	Sb	04 00 01.0	-0.4
KIKS	**Kaikoura**	**0.46**	**181**	P	Pg	03 59 53.9	+0.8
KIKS				S	Sb	04 00 01.2	-0.7
KHZ	**Kahutara**	**0.46**	**195**	P	Pg	03 59 53.5	+0.3
KHZ				S	Sg	04 00 00.1	+0.8
TUWZ	**Tuamarina**	**0.57**	**19**	P	Pg	03 59 55.6	+0.3
TUWZ				S	Sb	04 00 04.2	-0.9
THZ	**Tophouse**	**0.63**	**289**	P	Pg	03 59 56.8	+0.4
THZ				S	Sg	04 00 05.6	+1.0

NNZ	**Nelson**	**0.79**	**342**	P	Pg	03 59 58.9	-0.5		
NNZ				S	Sb	04 00 11.2	-0.2		
TCW	**Tory Channel**	**0.87**	**30**	P	Pg	04 00 00.7	-0.4		
MRNZ	**Matariki Terra**	**0.91**	**309**	P	Pb	04 00 02.1	-0.4		
BHW	**Baring Head**	**1.04**	**58**	P	Pg	04 00 04.0	-0.3		
WEL	**Wellington**	**1.05**	**50**	P	Pg	04 00 04.6	+0.1		
TKNZ	**Takaka Hill**	**1.09**	**329**	P	Pg	04 00 05.0	-0.2		
GVZ	**Greta Valley S**	**1.11**	**206**	P	Pg	04 00 05.4	-0.3		
DUWZ	**D'Urville Isla**	**1.18**	**8**	P	Pg	04 00 06.1	-0.9		
PLWZ	**Palliser**	**1.23**	**72**	P	Pg	04 00 06.0	-1.9		
LTZ	**Lake Taylor**	**1.33**	**232**	P	Pn	04 00 09.0	-0.6		
CAW	**Cannon Point**	**1.34**	**50**	P	Pn	04 00 08.4	-1.3		
PAWZ	**Paruwai Farm**	**1.42**	**66**	P	Pn	04 00 08.7	-2.1		
DSZ	**Denniston Nort**	**1.43**	**278**	P	Pg	04 00 11.8	0.0		
AMCZ	**Amberley**	**1.43**	**212**	P	Pn	04 00 09.6	-1.3		
KIW	**Kapiti Island**	**1.43**	**40**	P	Pn	04 00 10.2	-0.7		
QRZ	**Quartz Range**	**1.44**	**322**	P	Pn	04 00 11.3	+0.3		
MTW	**Mount Morrison**	**1.58**	**60**	P	Pn	04 00 10.6	-2.2		
OGWZ	**Otaki Gorge**	**1.60**	**44**	P	Pn	04 00 12.0	-1.2		
HOWZ	**Holdsworth Sta**	**1.74**	**53**	P	Pn	04 00 13.1	-2.0		
OKCZ	**Okains Bay**	**1.81**	**195**	P	Pn	04 00 14.0	-2.2		
OXZ	**Oxford**	**1.83**	**222**	P	Pn	04 00 14.5	-1.9		
INZ	**Inchbonnie**	**1.83**	**245**	P	Pn	04 00 16.5	+0.1		
TMWZ	**Te Maipa**	**1.86**	**63**	P	Pn	04 00 14.5	-2.3		
MQZ	**McQueen's Vall**	**1.90**	**204**	P	Pn	04 00 14.5	-2.7		
MRZ	**Mangatainoka R**	**1.93**	**48**	P	Pn	04 00 15.9	-1.8		
AKCZ	**Akaroa Harbour**	**1.99**	**197**	P	Pn	04 00 16.3	-2.2		
RACZ	**Rakaia**	**2.10**	**213**	P	Pn	04 00 17.8	-2.2		
MHCZ	**Mount Hutt**	**2.21**	**224**	P	Pn	04 00 19.8	-1.9		
PRWZ	**Pori Road**	**2.22**	**51**	P	Pn	04 00 19.5	-2.2		
BFZ	**Birch Farm**	**2.31**	**57**	P	Pn	04 00 20.0	-2.9		
WACZ	**Wakanui South**	**2.40**	**214**	P	Pn	04 00 22.1	-2.1		
WAZ	**Wanganui**	**2.42**	**24**	P	Pb	04 00 28.0	-0.3		
WVZ	**Waitaha Valley**	**2.45**	**242**	P	Pn	04 00 24.9	0.0		
LREZ	**Lake Rotokare**	**2.56**	**12**	P	Pb	04 00 29.8	-0.9		
TSZ	**Takapari Road**	**2.56**	**43**	P	Pn	04 00 24.6	-1.9		
RPZ	**Rata Peaks**	**2.61**	**227**	P	Pn	04 00 25.7	-1.5		
KHEZ	**Kahui Hut**	**2.68**	**5**	P	Pb	04 00 32.7	-0.1		
NBEZ	**Newall Road No**	**2.70**	**3**	P	Pb	04 00 33.3	+0.2		
NEZ	**North Egmont**	**2.71**	**7**	P	Pb	04 00 33.8	+0.4		
PKE	**Pukeiti**	**2.78**	**5**	P	Pb	04 00 32.5	-2.0		
PNHZ	**Pukenui**	**2.79**	**44**	P	Pn	04 00 27.4	-2.3		
GCSZ	**Gaunt Creek Bo**	**2.83**	**240**	P	Pn	04 00 30.6	+0.5		
VRZ	**Vera Road**	**2.95**	**16**	P	Pb	04 00 35.3	-2.1		
PKVZ	**Pokaka**	**2.96**	**26**	P	Pn	04 00 34.7	+2.8		
MOVZ	**Moawhango**	**3.00**	**32**	P	Pb	04 00 35.4	-2.8		
WNVZ	**Wahianoa**	**3.01**	**29**	P	Pb	04 00 35.6	-2.8		
TRVZ	**Turoa**	**3.02**	**28**	P	Pn	04 00 34.6	+1.7		
WHVZ	**Whangaehu Hut**	**3.04**	**29**	P	Pb	04 00 36.3	-2.8		
MAVZ	**Matarangi**	**3.05**	**28**	P	Pb	04 00 36.8	-2.4		
FWVZ	**Far West T-bar**	**3.06**	**28**	P	Pn	04 00 36.0	+2.6		
BHHZ	**Black Hill Sta**	**3.06**	**37**	P	Pn	04 00 36.0	+2.7		
TUVZ	**Tukino**	**3.08**	**30**	P	Pn	04 00 36.2	+2.5		
COVZ	**Chateau Observ**	**3.10**	**28**	P	Pb	04 00 38.0	-2.0		
TMZ	**Timaru**	**3.11**	**218**	P	Pn	04 00 32.3	-1.8		
NGZ	**Ngauruhoe**	**3.14**	**28**	P	Pn	04 00 37.2	+2.6		
OTVZ	**Oturere**	**3.18**	**29**	P	Pb	04 00 40.1	-1.2		
NNVZ	**North Ngauruho**	**3.19**	**28**	P	Pb	04 00 38.7	-2.8		
WTVZ	**West Tongariro**	**3.19**	**27**	P	Pb	04 00 39.3	-2.3		
ETVZ	**East Tongariro**	**3.22**	**29**	P	Pn	04 00 37.6	+2.0		
TMVZ	**Te Maari**	**3.23**	**29**	P	Pn	04 00 38.2	+2.4		
FOZ	**Fox Glacier**	**3.26**	**240**	P	Pn	04 00 36.9	+1.0		
LBZ	**Lake Benmore**	**3.53**	**226**	P	Pn	04 00 38.6	-1.1		
HIZ	**Hauiti**	**3.56**	**15**	P	Pn	04 00 42.7	+2.5		
ODZ	**Otahua Downs**	**3.79**	**215**	P	Pn	04 00 40.8	-2.5		
TOZ	**Tahuroa Road**	**4.45**	**19**	P	Pn	04 00 55.8	+3.4		
HHSZ	**Highcliff Hill**	**4.51**	**209**	P	Pn	04 00 56.2	+3.0		
TUZ	**Tuapeka**	**4.95**	**215**	P	Pn	04 00 57.8	-1.4		

NEIC ***18*** *04:00:45.4±1.1, 56°34N±0°08×148°5W±0°1, h21km±6km, ML3.5/56, ML3.2(AEIC), Error ellipse: s-maj=11.5km s-min=8.8km az=173.0*
AEIC ***18*** *04:00:47.3±1.3, 56°30N±0°10×148°5W±0°1, h3km±8km, Error ellipse: s-maj=13.9km s-min=9.5km az=172.0*
ISC 18 04:00:46.0±1.7, 56°3N±0°1×148°52W±0°07, h35km, n186, σ0.66/185, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.67**	**306**		**Pn**	**04 01 26.9**	**+0.3**
KDAK					**Sn**	**04 01 56.7**	**-0.9**
OHAK	**Old Harbor**	**2.79**	**291**		**Pn**	**04 01 28.3**	**+0.3**
OHAK					**Sn**	**04 01 59.2**	**-1.1**
OHAK	**Old Harbor**	**2.79**	**291**	P	**Pn**	**04 01 28.3**	**+0.3**
	baz=107						
OHAK				S	**Sn**	**04 01 59.2**	**-1.1**
	baz=107						
SYI	**Shuyak Island**	**3.12**	**320**		**Pn**	**04 01 33.4**	**+0.7**
SYI					**Sn**	**04 02 09.4**	**+0.7**
Q20K	**Shuyak Island**	**3.12**	**320**	P	**Pn**	**04 01 33.4**	**+0.7**
	baz=136						
Q20K				S	**Sn**	**04 02 09.4**	**+0.6**
	baz=136						
Q23K	**Middleton Isla**	**3.35**	**19**		**Pn**	**04 01 35.4**	**-0.4**
Q23K	**Middleton Isla**	**3.35**	**19**	IAML		04 03 03.6	
	comp=E,70nm,1.1s						
Q23K	**Middleton Isla**	**3.35**	**19**	P	**Pn**	**04 01 35.4**	**-0.4**
	baz=201						
CNPM	**China Poot**	**3.55**	**337**		**Pn**	**04 01 38.6**	**+0.1**
CNPM					**Sn**	**04 02 19.3**	**+0.1**
BRSE	**Bradley Lake S**	**3.65**	**342**		**Pn**	**04 01 40.2**	**+0.2**
BRSE					**Sn**	**04 02 21.1**	**-0.6**
BRSE	**Bradley Lake S**	**3.65**	**342**	P	**Pn**	**04 01 40.2**	**+0.2**
	baz=160						
BRSE				S	**Sn**	**04 02 21.1**	**-0.6**
	baz=160						
BRLK	**Bradley Lake**	**3.70**	**341**		**Pn**	**04 01 40.4**	**-0.2**
BRLK	**Bradley Lake**	**3.70**	**341**	IAML		04 02 29.1	
	comp=E,46nm,0.5s						
HOM	**Homer**	**3.76**	**335**	Pn	**Pn**	**04 01 42.6**	**+1.2**
P23K	**Montague Islan**	**3.76**	**9**		**Pn**	**04 01 40.9**	**-0.5**
P23K	**Montague Islan**	**3.76**	**9**	P	**Pn**	**04 01 40.9**	**-0.5**
	baz=189						
Q19K	**Cape Douglas,**	**3.82**	**316**	Pn	**Pn**	**04 01 43.6**	**+1.3**
Q19K				IAML		04 02 18.6	
	comp=N,105nm,1.0s						
SEW	**Seward**	**3.85**	**353**		**Pn**	**04 01 42.0**	**-0.7**
SEW	**Seward**	**3.85**	**353**	P	**Pn**	**04 01 42.0**	**-0.7**
	baz=172						
ACHA	**Angle Creek He**	**4.17**	**300**		**Pn**	**04 01 48.1**	**+1.0**
P19K	**Oil Pt**	**4.20**	**325**		**Pn**	**04 01 47.5**	**+0.1**
P19K				IAML		04 02 43.2	
	comp=N,75nm,0.6s						
P19K	**Oil Pt**	**4.20**	**325**	P	**Pn**	**04 01 48.5**	**+1.0**
	baz=141						
KAIM	**Kayak Island**	**4.24**	**29**		**Pn**	**04 01 47.9**	**-0.1**
KAIM	**Kayak Island**	**4.24**	**29**	IAML		04 02 37.9	
	comp=N,58nm,0.7s						
KAIM				IAML		04 02 38.4	
	comp=E,47nm,0.9s						
KAIM	**Kayak Island**	**4.24**	**29**	P	**Pn**	**04 01 47.9**	**-0.1**
	baz=212						
O22K	**Cooper Landing**	**4.24**	**352**	Pn	**Pn**	**04 01 47.4**	**-0.7**
HIN	**Hinchinbrook I**	**4.25**	**14**		**Pn**	**04 01 48.0**	**-0.2**
HIN	**Hinchinbrook I**	**4.25**	**14**	IAML		04 02 35.7	
	comp=N,70nm,1.0s						
HIN				IAML		04 02 44.6	
	comp=E,75nm,1.1s						
SLKM	**Skilak Lake**	**4.32**	**349**		**Pn**	**04 01 49.1**	**-0.1**
O20K	**Slope Mountain**	**4.37**	**332**		**Pn**	**04 01 50.4**	**+0.4**
O20K	**Slope Mountain**	**4.37**	**332**	P	**Pn**	**04 01 50.3**	**+0.4**
	baz=148						
IVE	**Iliamna Volcan**	**4.42**	**329**		**Pn**	**04 01 50.6**	**0.0**
EYAK	**Cordova Ski Ar**	**4.50**	**18**		**Pn**	**04 01 51.6**	**-0.1**
EYAK	**Cordova Ski Ar**	**4.50**	**18**	P	**Pn**	**04 01 51.6**	**-0.1**
	baz=200						
SUCK	**Suckling Hills**	**4.54**	**32**		**Pn**	**04 01 52.0**	**-0.2**
SUCK	**Suckling Hills**	**4.54**	**32**	IAML		04 02 55.2	
	comp=N,53nm,0.7s						
SUCK				IAML		04 02 55.9	
	comp=E,36nm,1.0s						
RAGM	**Ragged Mountai**	**4.57**	**25**		**Pn**	**04 01 52.6**	**-0.1**
FID	**Port Fidalgo**	**4.59**	**13**		**Pn**	**04 01 52.5**	**-0.4**
FID	**Port Fidalgo**	**4.59**	**13**	IAML		04 03 03.3	
	comp=E,50nm,0.5s						
FID				IAML		04 03 03.5	
	comp=N,49nm,0.7s						
NICHA	**Nichawak Mount**	**4.62**	**29**		**Pn**	**04 01 53.1**	**-0.2**
HMT	**Hamilton**	**4.63**	**27**		**Pn**	**04 01 53.1**	**-0.3**
GLI	**Glacier Island**	**4.66**	**9**		**Pn**	**04 01 52.9**	**-0.9**
GLI				IAML		04 02 56.9	
	comp=E,44nm,0.8s						
GLI				IAML		04 03 03.6	
	comp=N,22nm,0.5s						
RED	**Redoubt Volcan**	**4.70**	**333**		**Pn**	**04 01 54.1**	**-0.3**
GOAT	**Goat Mountain**	**4.74**	**23**		**Pn**	**04 01 54.8**	**-0.2**
P18K	**Big Mountain,**	**4.74**	**314**		**Pn**	**04 01 55.2**	**+0.2**
P18K	**Big Mountain,**	**4.74**	**314**	P	**Pn**	**04 01 55.2**	**+0.2**
	baz=128						
RDT	**Redoubt**	**4.75**	**336**		**Pn**	**04 01 54.9**	**-0.2**
GRIN	**Grindle Hills**	**4.84**	**32**		**Pn**	**04 01 56.3**	**-0.1**
RC01	**Rabbit Creek A**	**4.85**	**353**	Pn	**Pn**	**04 01 56.2**	**-0.2**
RC01				IAML		04 02 52.3	
	comp=E,30nm,0.6s						
RC01				IAML		04 03 12.9	
	comp=N,40nm,0.7s						
SNH	**Sunshine Point**	**4.92**	**35**		**Pn**	**04 01 57.3**	**-0.1**
SNH	**Sunshine Point**	**4.92**	**35**	IAML		04 02 53.1	
	comp=E,30nm,0.7s						
SNH				IAML		04 03 15.2	
	comp=N,26nm,0.9s						
KHIT	**Khitrov Hills**	**5.00**	**32**		**Pn**	**04 01 58.1**	**-0.4**
O18K	**Koktuh Hills**	**5.03**	**318**	Pn	**Pn**	**04 01 59.1**	**+0.2**
BMRM	**Bremner River**	**5.11**	**22**		**Pn**	**04 01 59.9**	**-0.2**
BMRM	**Bremner River**	**5.11**	**22**	P	**Pn**	**04 01 59.8**	**-0.2**
	baz=205						
WAX	**Waxell Ridge**	**5.12**	**33**		**Pn**	**04 01 59.8**	**-0.5**
KNK	**Knik Glacier**	**5.13**	**0**	Pn	**Pn**	**04 01 59.6**	**-0.7**
KNK				IAML		04 02 55.8	
	comp=N,41nm,0.7s						
BARK	**Barkley Ridge**	**5.20**	**35**		**Pn**	**04 02 00.8**	**-0.5**
MESA	**MESA**	**5.21**	**39**	Pn	**Pn**	**04 02 02.1**	**+0.5**
MESA				IAML		04 03 05.1	
	comp=N,29nm,0.4s						
MESA				IAML		04 03 07.5	
	comp=E,28nm,0.7s						
SUA	**Susitna One**	**5.31**	**348**	Pn	**Pn**	**04 02 03.5**	**+0.7**
SUA				IAML		04 03 06.6	
	comp=E,14nm,1.0s						
SUA				IAML		04 03 10.6	
	comp=N,16nm,1.1s						
PMR	**Palmer**	**5.32**	**357**	Pn	**Pn**	**04 02 02.9**	**0.0**
PMR				IAML		04 03 07.0	
	comp=N,20nm,0.6s						
PMR				IAML		04 03 08.0	
	comp=E,21nm,0.9s						
KLU	**Klutina**	**5.38**	**13**		**Pn**	**04 02 03.8**	**0.0**
KLU	**Klutina**	**5.38**	**13**	IAML		04 03 08.2	
	comp=E,25nm,0.6s						
KLU	**Klutina**	**5.38**	**13**	P	**Pn**	**04 02 03.7**	**0.0**
	baz=195						
ISLE	**Juniper Island**	**5.40**	**34**		**Pn**	**04 02 04.1**	**0.0**
ISLE	**Juniper Island**	**5.40**	**34**	IAML		04 03 06.7	
	comp=N,20nm,1.2s						
ISLE				IAML		04 03 18.5	
	comp=E,16nm,1.1s						
STLK	**Strandline Lak**	**5.49**	**343**		**Pn**	**04 02 05.6**	**+0.3**
GHO	**Glory Hole Cre**	**5.50**	**358**		**Pn**	**04 02 06.3**	**+1.0**
N19K	**Bonanza Creek**	**5.50**	**328**		**Pn**	**04 02 05.5**	**0.0**
N19K	**Bonanza Creek**	**5.50**	**328**	P	**Pn**	**04 02 05.5**	**0.0**
	baz=143						
SML	**Sawmill**	**5.53**	**1**	Pn	**Pn**	**04 02 06.5**	**+0.7**
SCM	**

M30M	**Minto, Yukon**	**8.67**	**39**	Pn	**Pn**	**04 02 49.1**	**+0.3**
MDM	**Murphy Dome**	**8.69**	**1**	Pn	**Pn**	**04 02 49.5**	**+0.4**
MLY	**Manley**	**8.83**	**354**	Pn	**Pn**	**04 02 50.7**	**-0.3**
J17K	**VABM Dome**	**8.87**	**328**	Pn	**Pn**	**04 02 51.7**	**+0.1**
I23K	**Minto, Yukon-K**	**8.89**	**358**	Pn	**Pn**	**04 02 53.0**	**+1.3**
K15K	**Wolf Creek Mou**	**8.96**	**317**	Pn	**Pn**	**04 02 54.3**	**+1.5**
DAWY	**Dawson**	**9.01**	**26**	Pn	**Pn**	**04 02 52.5**	**-1.0**
I21K	**Tanana**	**9.07**	**351**	Pn	**Pn**	**04 02 55.0**	**+0.7**
P33M	**Teslin, Yukon**	**9.15**	**58**	Pn	**Pn**	**04 02 55.6**	**+0.1**
J16K	**Anvik River**	**9.27**	**324**	Pn	**Pn**	**04 02 57.3**	**+0.3**
M31M	**Drury Creek, Y**	**9.34**	**45**	Pn	**Pn**	**04 02 58.8**	**+0.8**
K29M	**Barlow Dome**	**9.34**	**31**	Pn	**Pn**	**04 02 58.0**	**0.0**
N32M	**Quiet Lake**	**9.38**	**52**	Pn	**Pn**	**04 02 59.2**	**+0.7**
H23K	**Yukon River**	**9.57**	**357**	Pn	**Pn**	**04 03 02.0**	**+0.8**
H24K	**Noodor Dome**	**9.58**	**2**	Pn	**Pn**	**04 03 01.5**	**+0.3**
H21K	**Melozitna Rive**	**9.62**	**349**	Pn	**Pn**	**04 03 02.4**	**+0.6**
R33M	**Jennings River**	**9.85**	**64**	Pn	**Pn**	**04 03 05.6**	**+0.5**
I28M	**Miner Creek**	**10.08**	**21**	Pn	**Pn**	**04 03 07.1**	**-1.0**
H18K	**Honhosa River**	**10.09**	**336**	Pn	**Pn**	**04 03 07.5**	**-0.8**
J30M	**Hart River**	**10.23**	**31**	Pn	**Pn**	**04 03 10.4**	**+0.1**
G23K	**Bananza Creek**	**10.47**	**357**	Pn	**Pn**	**04 03 12.7**	**-0.8**
G21K	**Allakaket**	**10.52**	**349**	Pn	**Pn**	**04 03 13.4**	**-0.7**
UNV	**Unalaska Valle**	**10.60**	**264**	Pn	**Pn**	**04 03 15.8**	**+0.5**
I30M	**Mount Dempster**	**10.72**	**28**	Pn	**Pn**	**04 03 16.1**	**-0.8**
BMAR	**Burnt Mountain**	**11.32**	**8**	Pn	**Pn**	**04 03 24.9**	**-0.2**
G29M	**Pine Creek**	**11.74**	**21**	Pn	**Pn**	**04 03 30.2**	**-0.5**
F17K	**Baldwin Pennin**	**11.83**	**334**	Pn	**Pn**	**04 03 33.1**	**+1.1**
E21K	**Killik River**	**12.44**	**351**	Pn	**Pn**	**04 03 39.9**	**-0.4**
C23K	**Itkillik River**	**13.62**	**357**	Pn	**Pn**	**04 03 54.5**	**-1.9**
INK	**Inuvik**	**13.86**	**24**	Pn	**Pn**	**04 04 00.7**	**+1.1**
B22K	**Teshekpuk Lake**	**14.26**	**353**	Pn	**Pn**	**04 04 05.6**	**+0.5**

CATAC ***18*** *04:03:00.9±0.3, 13°.36N×88°.06W, h6km±3km, ML2.7*
SNET ***18*** *04:03:00.0±0.4, 13°.32N×88°.07W, h8km±3km, ML2.6*

ISC 18 04:03:00.7±1.0,**13°.37N**±0°.04×**88°.04W**±0°.03,**h19**km±2km,
n24,σ0°**29/33,3C-1D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.16**	**111**	⇑*i* P	**Pg**	**04 03 04.9**	**-0.3**
LCND				*e*S	**Sg**	**04 03 08.0**	**-0.2**
LCND	**La Caada**	**0.16**	**111**	*i* P	**Pg**	**04 03 04.7**	**-0.4**
LCND				*i* P	**Pg**	**04 03 04.8**	**-0.3**
LCND				*i* S	**Sg**	**04 03 08.5**	**+0.3**
LCND				IAML		04 03 09.0	
	comp=Z,3µm,1.0s						
LCND				IAML		04 03 41.0	
	comp=Z,8µm,1.0s						
CNRM	**Centro Naciona**	**0.17**	**311**	*i* P	**Pg**	**04 03 04.7**	**-0.5**
CNRM				IAML		04 03 12.3	
	comp=Z,6µm,1.0s						
INTP	**Intipuca**	**0.17**	**184**	⇓*i* P	**Pb**	**04 03 03.9**	**-0.2**
INTP				*e*S	**Sb**	**04 03 06.3**	**+0.1**
BLLM	**Bellamira**	**0.20**	**292**	⇑*e*P	**Pb**	**04 03 05.5**	**+0.1**
CNCH	**Conchagua**	**0.22**	**114**	⇑P	**Pg**	**04 03 06.1**	**-0.1**
CNCH				*e*S	**Sg**	**04 03 10.5**	**+0.6**
CNCH	**Conchagua**	**0.22**	**114**	*i* P	**Pg**	**04 03 06.0**	**-0.1**
CNCH				IAML		04 03 14.9	
	comp=Z,4µm,1.0s						
VSM	**San Miguel**	**0.23**	**285**	*e*P	**Pb**	**04 03 06.2**	**0.0**
RANC	**El Ranchito**	**0.25**	**286**	*e*P	**Pb**	**04 03 06.3**	**-0.3**
RANC	**El Ranchito**	**0.25**	**286**	*i* P	**Pb**	**04 03 06.2**	**-0.3**
RANC				*i* S	**Sg**	**04 03 10.9**	**+0.3**
RANC				IAML		04 03 15.5	
	comp=Z,2µm,1.0s						
LCY	**Lacayo**	**0.25**	**283**	*e*P	**Pb**	**04 03 06.4**	**-0.1**
PACA	**Pacayal**	**0.29**	**291**	*e*P	**Pg**	**04 03 07.0**	**-0.2**
PACA	**Pacayal**	**0.29**	**291**	*i* P	**Pg**	**04 03 07.0**	**-0.2**
PACA				IAML		04 03 24.5	
	comp=Z,5µm,1.0s						
AMPH	**Amapala**	**0.38**	**102**	*e*P	**Pb**	**04 03 08.9**	**0.0**
COEB	**Comit de Eme**	**0.49**	**286**	*i* P	**Pg**	**04 03 10.6**	**-0.1**
COEB				*i* S	**Sg**	**04 03 17.5**	**0.0**
COEB				IAML		04 03 20.2	
	comp=Z,190nm,1.0s						
TECO	**Alcaldia de Te**	**0.74**	**283**	*i* S	**Sg**	**04 03 25.1**	**0.0**
SCLA	**Alcaldia de Sa**	**0.75**	**297**	*i* P	**Pb**	**04 03 15.1**	**0.0**
SCLA				IAML		04 03 33.4	
	comp=Z,40nm,1.0s						
UESV	**Universidad de**	**0.77**	**290**	*i* P	**Pg**	**04 03 15.8**	**-0.1**
UESV				*i* S	**Sn**	**04 03 27.2**	**-0.6**
UESV				IAML		04 03 27.5	
	comp=Z,150nm,1.0s						
COEG	**Centro de Oper**	**0.85**	**287**	*i* P	**Pb**	**04 03 17.0**	**0.0**
COEG				*i* S	**Sg**	**04 03 29.0**	**+0.3**
COEG				IAML		04 03 32.3	
	comp=Z,100nm,1.0s						
PAVA	**Las Pavas**	**0.94**	**292**	*i* P	**Pg**	**04 03 19.2**	**+0.2**
PAVA				IAML		04 03 35.6	
	comp=Z,230nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.02**	**47**	*i* P	**Pg**	**04 03 20.3**	**-0.2**
CRIN	**San Cristobal**	**1.17**	**124**	*i* P	**Pg**	**04 03 23.3**	**-0.1**
CRIN				IAML		04 03 25.4	
	comp=Z,280nm,1.0s						
JAYA	**Jayaque - finc**	**1.40**	**282**	*i* P	**Pn**	**04 03 25.8**	**+0.4**
JAYA				IAML		04 03 48.1	
	comp=Z,280nm,1.0s						
MTO3	**Montecristo**	**1.64**	**309**	*i* P	**Pb**	**04 03 30.3**	**-0.2**
MTO3				IAML		04 03 53.7	
	comp=Z,69nm,1.0s						

NOU ***18*** *04:31:55.3, 38°.36S×176°.20E, h191km, MLv4.1/14, North Island, New Zealand*
WEL ***18*** *04:32:00.5±0.9, 38°.5±.5°×17°.6E±.°, h136km±7km, M3.2/48, MLv3.2/48, Error ellipse: s-maj=0.0km s-min=0.0km az=129.7, confirmed*

ISC 18 04:31:54.0±1.7,**38°.31S**±0°.05×**176°.13E**±0°.05,**h187**km±9km,
n172,σ1°**94**/176,**North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.04**	**198**	P	**Pn**	**04 32 19.9**	**+1.3**
HSRZ	**Hossack Road**	**0.09**	**92**	P	**Pn**	**04 32 19.9**	**+1.3**
UTU	**Utuhina**	**0.14**	**22**	P	**Pn**	**04 32 21.2**	**+2.4**
HRRZ	**Handcock Road**	**0.15**	**124**	P	**Pn**	**04 32 20.0**	**+1.3**
HLRZ	**Highlands Stat**	**0.19**	**72**	P	**Pn**	**04 32 20.2**	**+1.4**
WPRZ	**Whakapapataran**	**0.21**	**173**	P	**Pn**	**04 32 20.1**	**+1.3**
OMRZ	**Omania**	**0.28**	**44**	P	**Pn**	**04 32 20.1**	**+1.1**
PRRZ	**Plateau Road**	**0.28**	**132**	P	**Pn**	**04 32 20.0**	**+1.1**
PRRZ				S	**S**	**04 32 36.3**	**-1.9**
KUTZ	**Kaahu Road**	**0.30**	**233**	P	**Pn**	**04 32 20.4**	**+1.4**
KAQZ	**Kaharoa**	**0.30**	**18**	P	**Pn**	**04 32 20.0**	**+0.9**
ALRZ	**Allen Road**	**0.30**	**146**	P	**Pn**	**04 32 20.2**	**+1.2**
RRRZ	**Republican Roa**	**0.31**	**96**	P	**Pn**	**04 32 20.0**	**+1.0**
TARZ	**Mount Tarawera**	**0.31**	**76**	P	**Pn**	**04 32 20.4**	**+1.3**
WHTZ	**Whakaora**	**0.38**	**200**	P	**Pn**	**04 32 20.9**	**+1.6**
TLZ	**Tolley Road**	**0.46**	**267**	P	**Pn**	**04 32 21.0**	**+1.5**
KMRZ	**Kaimai**	**0.48**	**342**	P	**Pn**	**04 32 20.7**	**+1.0**
KMRZ				S	**S**	**04 32 37.7**	**-1.6**
WATZ	**Wairara**	**0.51**	**218**	P	**Pn**	**04 32 21.2**	**+1.6**
MUGZ	**Murupara**	**0.53**	**109**	P	**Pn**	**04 32 20.6**	**+0.9**
MUGZ				S	**S**	**04 32 37.2**	**-2.4**
MARZ	**Manawahe**	**0.54**	**53**	P	**Pn**	**04 32 20.4**	**+0.6**
MRHZ	**Matea Rd**	**0.57**	**157**	P	**Pn**	**04 32 21.3**	**+1.4**
MRHZ				S	**S**	**04 32 37.3**	**-2.8**
OPRZ	**Ohinepanea**	**0.57**	**36**	P	**Pn**	**04 32 20.7**	**+0.8**
OPRZ				S	**S**	**04 32 38.0**	**-1.9**
HATZ	**Hinemaiaia**	**0.58**	**183**	P	**Pn**	**04 32 21.4**	**+1.4**
TGRZ	**Tauranga**	**0.59**	**10**	P	**Pn**	**04 32 20.9**	**+0.9**
RATZ	**Rangitukua**	**0.62**	**206**	P	**Pn**	**04 32 21.7**	**+1.6**
RITZ	**Rihia Road**	**0.70**	**197**	P	**Pn**	**04 32 22.6**	**+2.1**
RTZ	**Ruatahuna**	**0.74**	**115**	P	**Pn**	**04 32 22.2**	**+1.3**
KATZ	**Kakaramea**	**0.75**	**207**	P	**Pn**	**04 32 23.1**	**+2.1**
TOZ	**Tahuroa Road**	**0.76**	**319**	P	**Pn**	**04 32 22.2**	**+1.4**
TOZ				S	**S**	**04 32 40.2**	**-1.3**
URZ	**Urewera**	**0.78**	**87**	P	**Pn**	**04 32 21.7**	**+0.8**
URZ	**Urewera**	**0.78**	**87**	P	**Pn**	**04 32 21.7**	**+0.8**
MTHZ	**Maungataniwha**	**0.78**	**134**	P	**Pn**	**04 32 22.7**	**+1.7**
NTVZ	**North Tongarir**	**0.86**	**204**	P	**Pn**	**04 32 23.7**	**+2.1**
TMVZ	**Te Maari**	**0.87**	**202**	P	**Pn**	**04 32 23.5**	**+1.8**
ETVZ	**East Tongariro**	**0.89**	**201**	P	**Pn**	**04 32 23.7**	**+1.9**
BKZ	**Black Stump Fm**	**0.90**	**162**	P	**Pn**	**04 32 23.4**	**+1.6**
BKZ	**Black Stump Fm**	**0.90**	**162**	P	**Pn**	**04 32 23.6**	**+1.8**
WTVZ	**West Tongariro**	**0.91**	**207**	P	**Pn**	**04 32 23.8**	**+1.9**
NNVZ	**North Ngauruho**	**0.91**	**206**	P	**Pn**	**04 32 24.0**	**+2.0**
OTVZ	**Oturere**	**0.93**	**203**	P	**Pn**	**04 32 24.3**	**+2.2**
TWVZ	**Taurewa**	**0.93**	**215**	P	**Pn**	**04 32 24.0**	**+1.9**
NMHZ	**Naumai**	**0.95**	**146**	P	**Pn**	**04 32 24.8**	**+2.7**
SNVZ	**South Ngauruho**	**0.95**	**203**	P	**Pn**	**04 32 24.4**	**+2.1**
NGZ	**Ngauruhoe**	**0.96**	**205**	P	**Pn**	**04 32 24.2**	**+1.9**
RAHZ	**Arahi**	**0.96**	**129**	P	**Pn**	**04 32 24.4**	**+2.2**
COVZ	**Chateau Observ**	**1.00**	**207**	P	**Pn**	**04 32 24.3**	**+1.8**
HIZ	**Hauiti**	**1.02**	**258**	P	**Pn**	**04 32 24.5**	**+2.0**
HIZ	**Hauiti**	**1.02**	**258**	P	**Pn**	**04 32 24.6**	**+2.0**
TUVZ	**Tukino**	**1.03**	**201**	P	**Pn**	**04 32 25.0**	**+2.2**
RAGZ	**Rawiri**	**1.03**	**101**	P	**Pn**	**04 32 24.6**	**+1.9**
MYRZ	**Mayor Island**	**1.03**	**5**	P	**Pn**	**04 32 24.3**	**+1.6**
FWVZ	**Far West T-bar**	**1.05**	**205**	P	**Pn**	**04 32 24.8**	**+1.8**
MAVZ	**Matarangi**	**1.05**	**205**	P	**Pn**	**04 32 25.0**	**+1.9**
WHVZ	**Whangaehu Hut**	**1.06**	**203**	P	**Pn**	**04 32 25.0**	**+1.9**
SNGZ	**Shannon Statio**	**1.06**	**117**	P	**Pn**	**04 32 25.1**	**+2.2**
TRVZ	**Turoa**	**1.09**	**204**	P	**Pn**	**04 32 25.2**	**+1.9**
WNVZ	**Wahianoa**	**1.10**	**202**	P	**Pn**	**04 32 25.4**	**+2.1**
MWZ	**Matawai**	**1.10**	**92**	P	**Pn**	**04 32 24.6**	**+1.4**
MOVZ	**Moawhango**	**1.14**	**195**	P	**Pn**	**04 32 25.3**	**+1.8**
KWHZ	**Kaweka Forest**	**1.14**	**168**	P	**Pn**	**04 32 25.8**	**+2.3**
PKVZ	**Pokaka**	**1.15**	**212**	P	**Pn**	**04 32 25.8**	**+2.1**
WHHZ	**Waihua**	**1.16**	**132**	P	**Pn**	**04 32 26.1**	**+2.5**
ARHZ	**Aropaoanui**	**1.17**	**145**	P	**Pn**	**04 32 26.3**	**+2.7**
BHHZ	**Black Hill Sta**	**1.18**	**182**	P	**Pn**	**04 32 25.8**	**+2.0**
MTVZ	**Mangateitei**	**1.19**	**205**	P	**Pn**	**04 32 26.3**	**+2.3**
MCHZ	**McNeill Hill**	**1.22**	**159**	P	**Pn**	**04 32 27.0**	**+2.9**
RUGZ	**Raukumara Rang**	**1.27**	**75**	P	**Pn**	**04 32 25.3**	**+0.6**
RIGZ	**Rimuhau**	**1.34**	**108**	P	**Pn**	**04 32 27.5**	**+2.3**
VRZ	**Vera Road**	**1.34**	**232**	P	**Pn**	**04 32 27.8**	**+2.7**
KRHZ	**Kereru**	**1.35**	**172**	P	**Pn**	**04 32 27.6**	**+2.4**
KNZ	**Kokohu**	**1.40**	**121**	P	**Pn**	**04 32 27.9**	**+2.3**
HAZ	**Te Kaha**	**1.42**	**68**	P	**Pn**	**04 32 26.8**	**+1.0**
MKAZ	**Moumakai**	**1.43**	**327**	P	**Pn**	**04 32 27.7**	**+1.8**
TWGZ	**Tauwhareparae**	**1.47**	**85**	P	**Pn**	**04 32 28.6**	**+2.3**
PRQZ	**Paritu Road**	**1.51**	**115**	P	**Pn**	**04 32 29.0**	**+2.4**
CKHZ	**Cape Kidnapper**	**1.54**	**152**	P	**Pn**	**04 32 29.8**	**+2.9**
KBAZ	**Karaka Road Bo**	**1.56**	**321**	P	**Pn**	**04 32 29.1**	**+2.0**
KAHZ	**Kahuranaki**	**1.59**	**159**	P	**Pn**	**04 32 30.4**	**+2.9**
KUZ	**Kuaotunu**	**1.59**	**348**	P	**Pn**	**04 32 28.9**	**+1.4**
KUZ	**Kuaotunu**	**1.59**	**348**	P	**Pn**	**04 32 29.1**	**+1.6**
PKGZ	**Pakihiroa**	**1.59**	**75**	P	**Pn**	**04 32 29.4**	**+1.9**
PNHZ	**Pukenui**	**1.60**	**178**	P	**Pn**	**04 32 29.8**	**+2.2**
MHEZ	**Mangahewa**	**1.61**	**241**	P	**Pn**	**04 32 31.2**	**+3.6**
MHGZ	**Mahia Peninsul**	**1.63**	**122**	P	**Pn**	**04 32 30.5**	**+2.7**
CNGZ	**Carnagh Statio**	**1.64**	**97**	P	**Pn**	**04 32 30.7**	**+2.8**
ETAZ	**East Tamaki Re**	**1.65**	**324**	P	**Pn**	**04 32 29.9**	**+1.9**
PUZ	**Puketiti**	**1.69**	**83**	P	**Pn**	**04 32 30.3**	**+1.8**
WAZ	**Wanganui**	**1.70**	**211**	P	**Pn**	**04 32 31.1**	**+2.7**
WIAZ	**Waiheke Island**	**1.71**	**332**	P	**Pn**	**04 32 30.6**	**+2.0**
AWAZ	**Awhitu Peninsu**	**1.71**	**316**	P	**Pn**	**04 32 30.6**	**+2.0**
DREZ	**Durham Road**	**1.74**	**239**	P	**Pn**	**04 32 32.3**	**+3.4**
TSZ	**Takapari Road**	**1.75**	**184**	P	**Pn**	**04 32 31.3**	**+2.3**
LREZ	**Lake Rotokare**	**1.77**	**229**	P	**Pn**	**04 32 32.4**	**+3.3**
WPHZ	**Waipukurau**	**1.77**	**172**	P	**Pn**	**04 32 31.6**	**+2.5**
EPAZ	**Eden Park BICE**	**1.80**	**322**	P	**Pn**	**04 32 31.4**	**+1.9**
PXZ	**Pawanui**	**1.81**	**162**	P	**Pn**	**04 32 32.2**	**+2.7**
MBAZ	**Motutapu North**	**1.82**	**327**	P	**Pn**	**04 32 31.7**	**+2.0**
HBAZ	**Herne Bay Bore**	**1.83**	**322**	P	**Pn**	**04 32 31.7**	**+1.9**
WTAZ	**Waiatarua**	**1.85**	**318**	P	**Pn**	**04 32 32.2**	**+2.2**
PREZ	**Palmer Road**	**1.85**	**236**	P	**Pn**	**04 32 33.5**	**+3.5**
NEZ	**North Egmont**	**1.85**	**238**	P	**Pn**	**04 32 33.5**	**+3.4**
WMGZ	**Waiomatatini S**	**1.87**	**76**	P	**Pn**	**04 32 32.3**	**+2.1**
MXZ	**Matakaoa Point**	**1.88**	**67**	P	**Pn**	**04 32 32.4**	**+2.1**
MXZ	**Matakaoa Point**	**1.88**	**67**	P	**Pn**	**04 32 32.4**	**+2.1**
PKE	**Pukeiti**	**1.89**	**241**	P	**Pn**	**04 32 33.7**	**+3.3**
KHEZ	**Kahui Hut**	**1.92**	**239**	P	**Pn**	**04 32 34.0**	**+3.2**
KHEZ	**Kahui Hut**	**1.92**	**239**	P	**Pn**	**04 32 34.1**	**+3.2**
DVHZ	**Dannevirke**	**1.99**	**179**	P	**Pn**	**04 32 33.6**	**+2.2**
ABAZ	**Army Bay**	**1.99**	**328**	P	**Pn**	**04 32 34.0**	**+2.5**
PRHZ	**Porangahau**	**1.99**	**169**	P	**Pn**	**04 32 34.1**	**+2.6**
OHWZ	**Ohakea**	**2.00**	**198**	P	**Pn**	**04 32 34.3**	**+2.9**
NBEZ	**Newall Road No**	**2.01**	**241**	P	**Pn**	**04 32 35.0**	**+3.4**
NMEZ	**Namu Road**	**2.07**	**237**	P	**Pn**	**04 32 35.6**	**+3.3**
POWZ	**Post Office Ro**	**2.10**	**188**	P	**Pn**	**04 32 34.8**	**+2.2**
GRZ	**Great Barrier**	**2.12**	**345**	P	**Pn**	**04 32 35.0**	**+2.1**
ANWZ	**Angora Road**	**2.17**	**173**	P	**Pn**	**04 32 36.0**	**+2.7**
PRWZ	**Pori Road**	**2.25**	**183**	P	**Pn**	**04 32 36.7**	**+2.5**
BFZ	**Birch Farm**	**2.37**	**178**	P	**Pn**	**04 32 37.6**	**+2.0**
BFZ	**Birch Farm**	**2.37**	**178**	P	**Pn**	**04 32 37.8**	**+2.2**
MRZ	**Mangatainoka R**	**2.39**	**190**	P	**Pn**	**04 32 37.8**	**+2.0**
TIWZ	**Tintock**	**2.47**	**184**	P	**Pn**	**04 32 39.0**	**+2.2**
CPWZ	**Castlepoint**	**2.60**	**179**	P	**Pn**	**04 32 40.9**	**+2.7**
OGWZ	**Otaki Gorge**	**2.61**	**196**	P	**Pn**	**04 32 40.3**	**+2.0**
HOWZ	**Holdsworth Sta**	**2.63**	**190**	P	**Pn**	**04 32 40.3**	**+1.8**
KIW	**Kapiti Island**	**2.72**	**200**	P	**Pn**	**04 32 41.2**	**+1.6**
WCZ	**Waipu Caves**	**2.76**	**328**	P	**Pn**	**04 32 42.7**	**+2.6**
TMWZ	**Te Maipa**	**2.80**	**184**	P	**Pn**	**04 32 42.4**	**+1.8**
MTMZ	**Mount Morrison**	**2.89**	**189**	P	**Pn**	**04 32 43.1**	**+1.6**
CAW	**Cannon Point**	**2.91**	**196**	P	**Pn**	**04 32 43.6**	**+1.7**
DUWZ	**D'Urville Isla**	**3.02**	**214**	P	**Pn**	**04 32 44.7**	**+1.6**
TRWZ	**Traveller**	**3.10**	**186**	P	**Pn**	**04 32 45.8**	**+1.7**
PAWZ	**Paruwai Farm**	**3.12**	**190**	P	**Pn**	**04 32 45.9**	**+1.6**
WEL	**Wellington**	**3.15**	**199**	P	**Pn**	**04 32 46.4**	**+1.6**
SNZO	**South Karori**	**3.19**	**200**	P	**Pn**	**04 32 46.5**	**+1.3**
TCW	**Tory Channel**	**3.23**	**206**	P	**Pn**	**04 32 47.0**	**+1.4**
BHW	**Baring Head**	**3.24**	**197**	P	**Pn**	**04 32 47.2**	**+1.3**
PLWZ	**Palliser**	**3.33**	**191**	P	**Pn**	**04 32 48.1**	**+1.2**
TUWZ	**Tuamarina**	**3.54**	**208**	P	**Pn**	**04 32 50.8**	**+1.3**
NNZ	**Nelson**	**3.59**	**215**	P	**Pn**	**04 32 51.4**	**+1.3**
TKNZ	**Takaka Hill**	**3.66**	**221**	P	**Pn**	**04 32 52.1**	**+1.1**
OUZ	**Omahuta**	**3.69**	**326**	P	Pn	04 32 54.7	+3.3
OUZ	**Omahuta**	**3.69**	**326**	P	Pn	04 32 54.7	+3.3
CMWZ	**Cape Campbell**	**3.74**	**203**	P	**Pn**	**04 32 54.0**	**+2.1**
QRZ	**Quartz Range**	**3.75**	**227**	P	**Pn**	**04 32 52.9**	**+0.8**
QRZ	**Quartz Range**	**3.75**	**227**	P	**Pn**	**04 32 54.0**	**+0.8**
BSWZ	**Blackbirch Sta**	**3.82**	**206**	P	**Pn**	**04 32 54.4**	**+1.5**
MRNZ	**Matariki Terra**	**4.03**	**219**	P	**Pn**	**04 32 56.5**	**+0.8**
THZ	**Tophouse**	**4.24**	**215**	P	**Pn**	**04 32 59.8**	**+1.4**
KHZ	**Kahutara**	**4.55**	**205**	P	**Pn**	**04 33 03.7**	**+1.5**
KHZ	**Kahutara**	**4.55**	**205**	P	**Pn**	**04 33 03.5**	**+1.3**
DSZ	**Denniston Nort**	**4.77**	**223**	P	**Pn**	**04 33 05.4**	**+0.3**
GVZ	**Greta Valley S**	**5.21**	**206**	P	**Pn**	**04 33 11.8**	**+1.0**
LTZ	**Lake Taylor**	**5.35**	**212**	P	**Pn**	**04 33 13.0**	**+0.4**
AMCZ	**Amberley**	**5.53**	**207**	P	**Pn**	**04 33 15.8**	**+0.9**
INZ	**Inchbonnie**	**5.67**	**217**	P	**Pn**	**04 33 16.6**	**-0.1**
OKCZ	**Okains Bay**	**5.88**	**202**	P	**Pn**	**04 33 20.1**	**+0.6**
OXZ	**Oxford**	**5.89**	**210**	P	**Pn**	**04 33 19.8**	**+0.2**
MQZ	**McQueen's Vall**	**6.00**	**205**	P	**Pn**	**04 33 20.7**	**-0.2**
AKCZ	**Akaroa Harbour**	**6.07**	**203**	P	**Pn**	**04 33 22.4**	**+0.6**
RACZ	**Rakaia**	**6.20**	**208**	P	**Pn**	**04 33 23.8**	**+0.3**
MHCZ	**Mount Hutt**	**6.26**	**212**	P	**Pn**	**04 33 24.9**	**+0.5**
WACZ	**Wakanui South**	**6.49**	**209**	P	**Pn**	**04 33 27.9**	**+0.5**
RPZ	**Rata Peaks**	**6.62**	**214**	P	**Pn**	**04 33 29.0**	**+0.1**
GCSZ	**Gaunt Creek Bo**	**6.66**	**219**	P	**Pn**	**04 33 29.1**	**-0.5**
ARCZ	**Arundel**	**6.76**	**212**	P	**Pn**	**04 33 29.8**	**-1.1**
FOZ	**Fox Glacier**	**7.07**	**220**	P	**Pn**	**04 33 35.0**	**+0.1**
TMZ	**Timaru**	**7.19**	**211**	P	**Pn**	**04 33 37.0**	**+0.5**
LBZ	**Lake Benmore**	**7.54**	**214**	P	**Pn**	**04 33 42.0**	**+0.9**
ODZ	**Otahua Downs**	**7.88**	**210**	P	**Pn**	**04 33 46.4**	**+0.8**
ODZ	**Otahua Downs**	**7.88**	**210**	P	**Pn**	**04 33 46.2**	**+0.7**
JCZ	**Jackson Bay**	**7.99**	**222**	P	**Pn**	**04 33 48.1**	**+1.0**
JCZ	**Jackson Bay**	**7.99**	**222**	P	**Pn**	**04 33 46.8**	**-0.3**

IDC 18 04:34:47.3±5.5,**6°.07S×141°.97E, h0km, mb3.8**/2,
mbtmp3.8/4,**ML3.7**/2,**MS4.4**/1,**Error ellipse:**
s-maj=208.0km s-min=33.0km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.65**	**208**	Pn	**Pn**	**04 38 28.7**	**-0.7**
	0.2nm,0.3s,baz=30,slow=13,SNR=6.9						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**19.14**	**203**	P	P	04 39 12.4	+0.2
	0.4nm,0.3s,baz=33,slow=9.7,SNR=20						
	2.2nm,0.6s						
RPZ	**Rata Peaks**	**45.37**	**150**	LR	LR	05 01 35.0	
	comp=Z,432nm,20.4s,baz=179,slow=35						
MKAR	**Makanchi Array**	**74.42**	**322**	P	P	04 46 27.1	-0.2
	0.3nm,0.6s,baz=105,slow=3.3,SNR=1.6						
	0.3nm,0.6s						
BVAR	**Borovoye Array**	**83.91**	**325**	P	P	04 47 19.4	+0.3
	1.4nm,0.8s,baz=77,slow=6.5,SNR=2.6						
	1.4nm,0.8s						

IDC ***18*** *04:34:52.7±2.1, 10°.16N×125°.88E, h144km±21km, mb3.7/13, mbtmp4.2/14, MS3.5/6, Error ellipse: s-maj=31.1km s-min=14.2km az=61.0*

ISC 18 04:34:54.1±0.6,**10°.16N**±0°.08×**125°.8E**±0°.2,**h150**km,**n30,**
σ1°**61**/21,**mb3.8**/15,**Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**3.08**	**184**	P	**Pn**	**04 35 42.9**	**+0.4**
	360nm,0.4s,baz=214,slow=11,SNR=2.7						
DAV				S	**Sn**	**04 36 17.6**	**-2.4**
	249nm,0.4s,baz=86,slow=14,SNR=1.3						
TGY	**Tagaytay City**	**6.15**	**310**	P	**Pn**	**04 36 24.1**	**+1.3**
	178nm,0.3s,baz=345,slow=15,SNR=3.4						
TGY				LR	LR	04 39 05.8	
	comp=Z,345nm,20.0s,baz=150,slow=41						
JOW	**Kunigami**	**16.75**	**8**	LR	LR	04 46 14.3	
	comp=Z,153nm,18.9s,baz=259,slow=41						
GUMO	**Guam**	**18.98**	**78**	LR	LR	04 47 25.4	
	comp=Z,129nm,18.4s,baz=240,slow=40						
JCJ	**Chichijima**	**22.87**	**40**	LR	LR	04 47 37.9	
	comp=Z,81nm,21.0s,baz=127,slow=34						
CMAR	**Chiang Mai Arr**	**27.25**	**291**	P	**P**	**04 40 25.1**	**+0.6**
	1.4nm,0.3s,baz=101,slow=7.9,SNR=10						
	1.4nm,0.3s						
PMG	**Port Moresby**	**28.82**	**132**	LR	LR	04 54 33.0	
	comp=Z,228nm,19.3s,baz=276,slow=41						
WRA	**Warramunga Arr**	**31.08**	**164**	P	**P**	**04 40 56.8**	**-1.5**
	1.0nm,0.7s,baz=344,slow=9.4,SNR=3.7						
	1.0nm,0.7s						
ASAR	**Alice Springs**	**34.55**	**167**	P	**P**	**04 41 28.0**	**-0.5**
	0.8nm,0.3s,baz=350,slow=7.1,SNR=6.4						
	0.8nm,0.3s						

MCUR	**KIREHR**	**1.73**	**206**	P		**Pn**	**04 35 37.5**	**-0.4**
MCUR				S		**Sn**	**04 36 00.3**	**+0.1**
CUAYA	**Sivas-Altinyay**	**1.74**	**146**	P		**Pn**	**04 35 39.0**	**+0.9**
CUAYA				S		**Sb**	**04 36 03.5**	**+1.8**
BR131	**Keskin Array S**	**1.75**	**236**	Pn		**Pn**	**04 35 37.7**	**-0.5**
BR131				Sn		**Sn**	**04 36 00.8**	**+0.2**
BR131	**Keskin Array S**	**1.75**	**236**	*c i* P		**Pn**	**04 35 37.6**	**-0.5**
BRTR	**Keskin Array B**	**1.75**	**236**	Pn		**Pn**	**04 35 37.9**	**-0.2**
BRTR	**Keskin Array B**	**1.75**	**236**	Pg		**Pn**	**04 35 38.2**	**0.0**
	246nm,0.3s,baz=63,slow=14,SNR=2448							
BRTR				Lg		Lg	04 36 02.2	
	256nm,0.3s,baz=48,slow=21,SNR=16							
BRTR	**Keskin Array B**	**1.75**	**236**	*i* P		**Pn**	**04 35 37.5**	**-0.7**
BRTR				pmax		pmax		
	comp=Z,1μm,0.5s							
BR106	**Keskin Array S**	**1.75**	**236**	P		**Pn**	**04 35 38.2**	**-0.1**
BR104	**Keskin Array S**	**1.75**	**235**	P		**Pn**	**04 35 38.0**	**-0.3**
PELI	**Kastamonı-Ara**	**1.76**	**290**	P		**Pn**	**04 35 38.3**	**0.0**
PELI				S		**Sb**	**04 36 02.3**	**0.0**
BR105	**Keskin Array S**	**1.76**	**236**	P		**Pn**	**04 35 38.3**	**-0.1**
ORDU	**Ordu-Boztepe**	**1.80**	**81**	P		**Pn**	**04 35 38.6**	**-0.2**
ORDU				S		**Sb**	**04 36 03.7**	**+0.3**
GUNE	**Kayseri**	**1.82**	**177**	P		**Pn**	**04 35 39.5**	**+0.4**
GUNE				S		**Sg**	**04 36 06.4**	**+0.4**
KESK	**Krkkale-Ke**	**1.83**	**234**	P		**Pn**	**04 35 39.0**	**-0.3**
KESK				S		**Sb**	**04 36 06.0**	**+1.6**
BNN	**Bunyan**	**1.89**	**172**	Pn		**Pn**	**04 35 39.9**	**-0.2**
BNN	**Bunyan**	**1.89**	**172**	Pn		**Pn**	**04 35 40.6**	**+0.5**
CUZAR	**Zara_SIVAS**	**1.92**	**115**	P		**Pn**	**04 35 41.0**	**+0.4**
CUZAR				S		**Sb**	**04 36 08.5**	**+1.6**
AVNS	**Nevsehir-Avano**	**1.98**	**195**	P		**Pn**	**04 35 41.5**	**+0.1**
AVNS				S		**Sb**	**04 36 10.3**	**+1.7**
KIRS	**Kirsehir-Merke**	**2.00**	**218**	P		**Pn**	**04 35 42.3**	**+0.7**
KIRS				S		**Sb**	**04 36 10.1**	**+0.7**
CUKAN	**kangal_SIVAS**	**2.06**	**132**	P		**Pn**	**04 35 43.3**	**+0.9**
CUKAN				S		**Sb**	**04 36 10.2**	**-0.7**
SUSE	**Susehri**	**2.12**	**103**	P		**Pn**	**04 35 43.4**	**+0.1**
SUSE				S		**Sb**	**04 36 14.4**	**+1.8**
SAFT	**Safranbolu**	**2.20**	**285**	Pn		**Pn**	**04 35 44.7**	**+0.4**
KBUK	**KARABUK-Merkez**	**2.24**	**284**	P		**Pn**	**04 35 45.0**	**+0.1**
KBUK				S		**Sb**	**04 36 17.3**	**+1.2**
ANTO	**Ankara**	**2.25**	**249**	⇓P		**Pn**	**04 35 46.7**	**+1.8**
ANTO	**Ankara**	**2.25**	**249**			**Pn**	**04 35 44.8**	**-0.2**
ANTO	**Ankara**	**2.25**	**249**	P		**Pn**	**04 35 44.8**	**-0.2**
ANTO	**Ankara**	**2.25**	**249**	P		**Pn**	**04 35 46.1**	**+1.1**
DERS	**Karabk-Eskip**	**2.25**	**274**	P		**Pn**	**04 35 45.5**	**+0.4**
DERS				S		**Sg**	**04 36 20.0**	**+0.2**
BR231	**Keskin MP Arra**	**2.27**	**248**			**Pn**	**04 35 44.8**	**-0.6**
KURC	**Kurucasile-Bar**	**2.37**	**299**	Pn		**Pn**	**04 35 47.3**	**+0.7**
SARI	**SarD1z-Kayseri**	**2.42**	**163**	Pn		**Pn**	**04 35 47.3**	**-0.1**
ESPY	**Espiye-Giresun**	**2.45**	**84**	Pn		**Pn**	**04 35 47.8**	**+0.1**
ILIC	**ilic-Erzincan**	**2.67**	**117**	Pn		**Pn**	**04 35 51.1**	**+0.3**
ARPR	**Arapgir-MALATY**	**2.71**	**126**	Pn		**Pn**	**04 35 51.8**	**+0.3**
ARPR	**Arapgir-MALATY**	**2.71**	**126**	Pn		**Pn**	**04 35 52.3**	**+0.8**
KTUT	**Trabzon**	**3.24**	**84**	⇑P		**Pn**	**04 36 00.5**	**+1.9**
MDUB	**Mudurnu**	**3.29**	**267**	Pn		**Pn**	**04 35 59.6**	**+0.2**
GAZ	**Gaziantep**	**3.79**	**159**			**Pn**	**04 36 06.6**	**+0.4**
YAL	**Yalta**	**3.89**	**346**	*e*P		**Pn**	**04 36 08.0**	**+0.5**
YAL				Pm			04 36 12.2	
	comp=Z,32nm,0.3s							
YAL				*e*S		**Sn**	**04 36 52.0**	**-1.4**
YAL				Sm			04 36 54.0	
	comp=N,38nm,0.4s							
YAL				Sm			04 36 54.0	
	comp=E,181nm,0.3s							
YAL	**Yalta**	**3.89**	**346**	*e*P		**Pn**	**04 36 08.0**	**+0.5**
YAL				*e*S		**Sn**	**04 36 52.0**	**-1.4**
ALU	**Alushta**	**4.04**	**349**	*e*P		**Pn**	**04 36 09.7**	**+0.1**
ALU				Pm			04 36 16.5	
	comp=Z,78nm,0.5s							
ALU				*e*S		**Sn**	**04 36 55.2**	**-1.8**
ALU				Sm			04 37 00.0	
	comp=N,87nm,0.4s							
ALU				Sm			04 37 00.0	
	comp=E,43nm,0.3s							
ALU	**Alushta**	**4.04**	**349**	*e*P		**Pn**	**04 36 09.7**	**+0.1**
ALU				*e*S		**Sn**	**04 36 55.2**	**-1.8**
SEV	**Sevastopol'**	**4.05**	**341**	*e*P		**Pn**	**04 36 10.5**	**+0.8**
SEV				Pm			04 36 16.2	
	comp=Z,10.0nm,0.3s							
SEV				*e*S		**Sn**	**04 36 57.2**	**-0.2**
SEV				Sm			04 37 01.0	
	comp=N,39nm,0.3s							
SEV				Sm			04 37 01.0	
	comp=E,25nm,0.4s							
SUDU	**Sudak**	**4.18**	**355**	*e*P		**Pn**	**04 36 11.0**	**-0.5**
SUDU				Pm			04 36 13.2	
	comp=Z,95nm,0.6s							
SUDU				*e*S		**Sn**	**04 36 58.2**	**-2.3**
SUDU				Sm			04 37 05.9	
	comp=N,216nm,0.5s							
SUDU				Sm			04 37 06.0	
	comp=E,83nm,0.5s							
SUDU	**Sudak**	**4.18**	**355**	*e*P		**Pn**	**04 36 11.0**	**-0.5**
SUDU				*e*S		**Sn**	**04 36 58.2**	**-2.3**
SOC	**Sochi**	**4.24**	**46**	*e*P		**Pn**	**04 36 10.8**	**-1.5**
SOC				*e*			04 37 02.3	
SOC				pmax		pmax		
	comp=Z,79nm,0.9s							
SOC				MLR		MLR		
	comp=Z,284nm,19.0s							
FEO	**Feodosiya**	**4.30**	**359**	*e*P		**Pn**	**04 36 12.6**	**-0.4**
FEO				Pm			04 36 15.9	
	comp=Z,52nm,0.2s							
FEO				*e*S		**Sn**	**04 37 02.6**	**-0.7**
FEO				Sm			04 37 06.9	
	comp=N,61nm,0.3s							
FEO				Sm			04 37 06.9	
	comp=E,191nm,0.4s							
FEO	**Feodosiya**	**4.30**	**359**	*e*P		**Pn**	**04 36 12.6**	**-0.4**
FEO				*e*S		**Sn**	**04 37 02.6**	**-0.7**
ANN	**Anapa**	**4.31**	**19**	*e*P		**Pn**	**04 36 11.2**	**-2.1**
ANN				*e*S		**Sn**	**04 37 03.5**	**-0.2**
ANN				pmax		pmax		
	comp=Z,31nm,0.8s							
VSLR	**Vesyoloye**	**4.34**	**49**	*c i* P		**Pn**	**04 36 12.6**	**-1.1**
SIM	**Simferopol'**	**4.35**	**347**	*e*P		**Pn**	**04 36 15.5**	**+1.8**
SIM				Pm			04 36 20.9	
	comp=Z,69nm,0.4s							
SIM				*e*S		**Sn**	**04 37 03.8**	**-0.8**
SIM				Sm			04 37 07.5	
	comp=N,41nm,0.3s							
SIM				Sm			04 37 07.5	
	comp=E,120nm,0.5s							
SIM	**Simferopol'**	**4.35**	**347**	*e*P		**Pn**	**04 36 15.6**	**+1.8**
SIM				S		**Sn**	**04 37 02.2**	**-2.4**
SIM				pmax		pmax		
	comp=Z,45nm,0.8s							
SIM				smax		smax		
	comp=N,302nm,1.0s							
SIM				smax		smax		
	comp=N,367nm,0.9s							
BCA	**Borcka**	**4.67**	**79**	⇓P		**Pn**	**04 36 18.8**	**+0.4**
ISP	**Isparta**	**4.83**	**235**	Pn		**Pn**	**04 36 19.7**	**-0.9**
ISP	**Isparta**	**4.83**	**235**	*ce*P		**Pn**	**04 36 19.3**	**-1.3**
ISP				pmax		pmax		
	comp=Z,50nm,1.3s							
TARU	**Tarkhankut**	**5.14**	**336**	*e*P		**Pn**	**04 36 25.2**	**+0.6**
TARU				Pm			04 36 35.3	
	comp=Z,19nm,0.3s							
TARU				*e*S		**Sn**	**04 37 24.3**	**+0.2**
TARU				Sm			04 37 29.0	
	comp=N,163nm,0.4s							
TARU				Sm			04 37 29.0	
	comp=E,24nm,0.3s							
GURO	**Guroymak-BITLI**	**5.48**	**111**			**Pn**	**04 36 30.8**	**+1.3**
LABN	**Labinsk**	**5.49**	**43**	*e*P		**Pn**	**04 36 28.0**	**-1.4**
LABN				*e*S		**Sn**	**04 37 33.2**	**+0.5**
LABN				pmax		pmax		
	comp=Z,22nm,0.4s							
CTYL	**Yalikoy Yolu**	**5.51**	**280**	P		**Pn**	**04 36 30.0**	**+0.3**
ELL	**Elmali**	**5.91**	**230**	Pn		**Pn**	**04 36 37.5**	**+2.1**
ELL	**Elmali**	**5.91**	**230**	P		**Pn**	**04 36 37.5**	**+2.1**
BALB	**Balikesir**	**5.94**	**262**	Pn		**Pn**	**04 36 35.1**	**-0.6**
CSS	**Mathiatis**	**6.00**	**197**	Pn		**Pn**	**04 36 36.2**	**-0.3**
CSS	**Mathiatis**	**6.00**	**197**	P		**Pn**	**04 36 36.4**	**-0.2**
	comp=Z,20nm,0.8s,comp=Z,0.1nm							
SHA1	**Shidzhatmaz**	**6.10**	**58**	*ce*P		**Pn**	**04 36 38.9**	**+0.8**
ERBR	**Yeremizino-Bor**	**6.17**	**34**	*e*P		**Pn**	**04 36 38.7**	**-0.1**
ERBR				*e*S		**Sn**	**04 37 48.4**	**-1.1**
ERBR				pmax		pmax		
	comp=Z,143nm,0.6s							
KIV	**Kislovodsk**	**6.22**	**56**	⇑P		**Pn**	**04 36 39.8**	**+0.2**
KIV	**Kislovodsk**	**6.22**	**56**	P		**Pn**	**04 36 39.6**	**0.0**
KIV	**Kislovodsk**	**6.22**	**56**	*ce*P		**Pn**	**04 36 40.1**	**+0.5**
KIV				S		**Sn**	**04 37 56.0**	**+5.1**
KIV				pmax		pmax		
	comp=Z,45nm,0.8s							
KIV				MLR		MLR		
	comp=Z,295nm,13.0s							
KIV	**Kislovodsk**	**6.22**	**56**	P		**Pn**	**04 36 40.4**	**+0.8**
	comp=Z,64nm,0.9s,comp=Z,471nmcomp=Z,0.2nm							
ONI	**Oni**	**6.24**	**70**	Pn		**Pn**	**04 36 39.8**	**0.0**
ONI	**Oni**	**6.24**	**70**	P		**Pn**	**04 36 39.8**	**0.0**
KBZ	**Khabaz**	**6.25**	**59**	Pn		**Pn**	**04 36 40.2**	**+0.3**
	comp=Z,1.3nm,0.3s,baz=244,slow=12,SNR=51							
KBZ				LR		LR	04 38 43.7	
	comp=Z,102nm,21.7s,baz=258,slow=35							
	comp=Z,23nm,0.8s							
KBZ	**Khabaz**	**6.25**	**59**	*ce*P		**Pn**	**04 36 40.8**	**+0.9**
JURR	**Jurilovca**	**6.34**	**312**	⇓P		**Pn**	**04 36 40.8**	**-0.3**
TLCR		**6.63**	**314**	⇑P		**Pn**	**04 36 43.9**	**-1.3**
TLCR		**6.63**	**314**	⇑P		**Pn**	**04 36 43.9**	**-1.3**
TPGR	**Topolog**	**6.65**	**311**	⇓P		**Pn**	**04 36 44.4**	**-1.1**
HARR	**Harsova**	**6.85**	**308**	⇑P		**Pn**	**04 36 47.2**	**-0.9**
HARR	**Harsova**	**6.85**	**308**	⇑P		**Pn**	**04 36 47.2**	**-0.9**
CFR	**Carcaliu**	**7.01**	**312**	⇓P		**Pn**	**04 36 49.8**	**-0.5**
CFR	**Carcaliu**	**7.01**	**312**	⇓P		**Pn**	**04 36 49.8**	**-0.5**
GOF	**Gofitskoye**	**7.03**	**49**	*ce*P		**Pb**	04 37 00.5	-9.2
GNI	**Garni**	**7.07**	**92**	Pn		**Pn**	**04 36 53.8**	**+2.5**
GNI	**Garni**	**7.07**	**92**	Pn		**Pn**	**04 36 49.0**	**-2.3**
	comp=Z,1.2nm,0.3s,baz=347,slow=8.5,SNR=1.8							
GNI	**Garni**	**7.07**	**92**	*ce*P		**Pn**	**04 36 51.3**	**0.0**
GNI				pmax		pmax		
	comp=Z,16nm,1.7s							
GNI	**Garni**	**7.07**	**92**	P		**Pn**	**04 36 49.0**	**-2.3**
	comp=Z,11nm,0.7s,comp=Z,328nmcomp=Z,0.1nm							
EZN	**Ezine**	**7.08**	**266**	P		**Pn**	**04 36 52.2**	**+0.9**
PURM	**Purcari**	**7.10**	**327**	P		**Pn**	**04 36 51.2**	**-0.3**
ELND	**Elena**	**7.53**	**290**	⇑P		**Pn**	**04 36 56.7**	**-0.7**
RDO	**Rodhopi**	**7.56**	**276**	Pn		**Pn**	**04 36 57.9**	**-0.1**
MMAI	**Mount Meron Ar**	**7.69**	**181**	Pn		**Pn**	**04 37 00.7**	**+0.9**
	comp=Z,5.0nm,0.3s,baz=354,slow=13,SNR=20							
	comp=Z,18nm,0.7s							
ISR	**Istrita**	**7.91**	**307**	⇑P		**Pn**	**04 37 02.4**	**-0.4**
ISR	**Istrita**	**7.91**	**307**	⇑P		**Pn**	**04 37 02.4**	**-0.4**
ISR	**Istrita**	**7.91**	**307**	P		**Pn**	**04 37 04.9**	**+2.1**
VRI	**Vrincioaia**	**8.21**	**312**	⇑P		**Pn**	**04 37 07.0**	**+0.1**
VRI	**Vrincioaia**	**8.21**	**312**	⇑P		**Pn**	**04 37 07.0**	**+0.1**
VRI	**Vrincioaia**	**8.21**	**312**	P		**Pn**	**04 37 08.5**	**+1.7**
	comp=Z,15nm,1.0s							
NEHR	**Nehoiu**	**8.22**	**308**	⇓P		**Pn**	**04 37 07.1**	**+0.1**
PLOR	**Plostina**	**8.25**	**311**	⇓P		**Pn**	**04 37 06.4**	**-1.0**
PLOR	**Plostina**	**8.25**	**311**	⇓P		**Pn**	**04 37 06.4**	**-1.0**
PLOR3	**Plostina Array**	**8.25**	**311**	P		**Pn**	**04 37 09.8**	**+2.4**
	comp=Z,22nm,0.9s							
KARP	**Karpathos**	**8.36**	**235**	Pn		**Pn**	**04 37 09.8**	**+0.8**
MLR	**Muntele Rosu**	**8.46**	**307**	⇑P		**Pn**	**04 37 10.0**	**-0.4**
MLR	**Muntele Rosu**	**8.46**	**307**	Pn		**Pn**	**04 37 12.9**	**+2.5**
MLR	**Muntele Rosu**	**8.46**	**307**	Pn		**Pn**	**04 37 13.5**	**+3.1**
	comp=Z,0.6nm,0.3s,baz=163,slow=17,SNR=6.0							
MLR				Sn		**Sn**	**04 38 48.3**	**+2.1**
	comp=Z,1.7nm,0.3s,baz=190,slow=17,SNR=4.2							
	comp=Z,3.3nm,0.4s							
COVR	**Voineasa-Covas**	**8.50**	**310**	⇑P		**Pn**	**04 37 10.5**	**-0.4**
APE	**Apeiranthos**	**8.59**	**248**	⇓P		**Pn**	**04 37 12.5**	**+0.4**
APE	**Apeiranthos**	**8.59**	**248**	*i* P		**Pn**	**04 37 12.0**	**-0.1**
TESR	**Tescani**	**8.65**	**315**	⇓P		**Pn**	**04 37 11.9**	**-0.9**
TESR	**Tescani**	**8.65**	**315**	P		**Pn**	**04 37 12.1**	**-0.7**
	comp=Z,19nm,0.6s							
VOIR		**8.99**	**305**	P		**Pn**	**04 37 18.6**	**+1.1**
	comp=Z,9.5nm,1.0s							
SORM	**Soroca**	**9.01**	**328**	⇓P		**Pn**	**04 37 16.5**	**-1.2**
SORM	**Soroca**	**9.01**	**328**	⇓P		**Pn**	**04 37 16.5**	**-1.2**
DOPR	**Dopca**	**9.04**	**309**	⇑P		**Pn**	**04 37 17.5**	**-0.8**
NDNU	**Novodnistrovsk**	**9.77**	**326**	P		**Pn**	**04 37 26.6**	**-1.6**
BURAR	**Bucovina Array**	**10.10**	**316**	⇓P		**Pn**	**04 37 31.8**	**-1.0**
BURAR	**Bucovina Array**	**10.10**	**316**	Pn		**Pn**	**04 37 32.7**	**-0.1**
BURAR	**Bucovina Array**	**10.10**	**316**	⇓P		**Pn**	**04 37 31.8**	**-1.0**
BUR08	**Bucovina Ar. S**	**10.13**	**317**	Pn		**Pn**	**04 37 32.0**	**-1.2**
KMPD	**K-Podol'skiy**	**10.14**	**324**	P		**Pn**	**04 37 35.2**	**+1.9**
AGG	**Agios Georgios**	**10.27**	**265**	Pn		**Pn**	**04 37 35.6**	**+0.4**
AGG	**Agios Georgios**	**10.27**	**265**	P		**Pn**	**04 37 35.6**	**+0.4**
VORD	**Divnogorie**	**10.58**	**13**	*e*P		**Pn**	**04 37 38.4**	**-0.8**
VORD				pmax		pmax		
	comp=Z,20nm,0.6s							
LUBAR	**Lubar, Ukraine**	**10.69**	**332**	P		**Pn**	**04 37 39.6**	**-1.1**
AK07	**Malin Array Si**	**10.77**	**338**	P		**Pn**	**04 37 39.2**	**-2.6**
VSR	**Storozhevoye**	**10.80**	**12**	*e*P		**Pn**	**04 37 40.2**	**-2.0**
VSR				pmax		pmax		
	comp=Z,30nm,0.6s							
AK10	**Malin Array Si**	**10.80**	**338**	P		**Pn**	**04 37 43.7**	**+1.4**
AK09	**Malin Array Si**	**10.80**	**338**	P		**Pn**	**04 37 43.0**	**+0.7**
AK08	**Malin Array Si**	**10.83**	**338**	P		**Pn**	**04 37 41.9**	**-0.8**
AK05	**Malin Array Si**	**10.83**	**338**	Pn		**Pn**	**04 37 43.0**	**+0.3**
AK05	**Malin Array Si**	**10.83**	**338**	P		**Pn**	**04 37 42.9**	**+0.2**
AK02	**Malin Array Si**	**10.87**	**338**	P		**Pn**	**04 37 43.4**	**+0.3**
AK13	**Malin Array Si**	**10.87**	**338**	P		**Pn**	**04 37 42.9**	**-0.3**
AK12	**Malin Array Si**	**10.87**	**338**	P		**Pn**	**04 37 41.1**	**-2.1**
AK14	**Malin Array Si**	**10.87**	**338**	P		**Pn**	**04 37 42.9**	**-0.3**
AK01	**Malin Array Si**	**10.89**	**338**	P		**Pn**	**04 37 42.1**	**-1.4**
AK11	**Malin Array Si**	**10.89**	**338**	P		**Pn**	**04 37 42.5**	**-1.0**
KIEV	**Kiev**	**10.90**	**338**	Pn		**Pn**	**04 37 42.0**	**-1.6**
KIEV	**Kiev**	**10.90**	**338**	P		**Pn**	**04 37 42.0**	**-1.6**
AKASG	**Malin Array Be**	**10.90**	**338**	Pn		**Pn**	**04 37 43.5**	**-0.1**
	comp=Z,1.6nm,0.3s,baz=162,slow=12,SNR=6.2							
AKASG				Sn		**Sn**	**04 39 41.1**	**-4.6**
	comp=Z,2.7nm,0.3s,baz=146,slow=24,SNR=6.8							
	comp=Z,0.2nm,0.2s							
AKBB	**Malin Array Si**	**10.90**	**338**			**Pn**	**04 37 44.3**	**+0.7**
AKBB	**Malin Array Si**	**10.90**	**338**	*ce*P		**Pn**	**04 37 43.9**	**+0.3**
RAKU	**Rahkiv**	**10.91**	**316**	P		**Pn**	**04 37 42.9**	**-0.9**
AK15	**Malin Array Si**	**10.92**	**338**	P		**Pn**	**04 37 40.5**	**-3.4**
AK18	**Malin Array Si**	**10.96**	**338**	P		**Pn**	**04 37 44.2**	**-0.3**
AK19	**Malin Array Si**	**10.98**	**338**	P		**Pn**	**04 37 44.4**	**-0.3**
EIL	**Elat**	**11.04**	**183**	Pn		**Pn**	**04 37 47.8**	**+2.2**
	comp=Z,0.3nm,0.3s,baz=353,slow=20,SNR=4.5							
STNU	**Starunia**	**11.18**	**319**	P		**Pn**	**04 37 45.1**	**-2.3**
VORR	**Voronezh**	**11.25**	**12**	P		**Pn**	**04 37 45.9**	**-2.4**
VORR				*e*S		**Sn**	**04 39 47.7**	**-6.4**
VORR				pmax		pmax		
	comp=Z,14nm,1.4s							
MI30	**MI30,Zelenitsa**	**11.25**	**335**	P		**Pn**	**04 37 44.8**	**-3.6**
VRH	**Novokhopyorsk**	**11.33**	**20**	*e*P		**Pn**	**04 37 48.3**	**-1.2**
VRH				pmax		pmax		
	comp=Z,80nm,0.6s							
MORS	**Morshin**	**11.76**	**320**	P		**Pn**	**04 37 55.6**	**+0.2**
MUKU	**Mukachevo**	**11.96**	**315**	P		**Pn**	**04 37 56.8**	**-1.3**
LPSR	**Galich'ya Gora**	**12.11**	**10**	*e*P		**Pn**	**04 37 58.4**	**-1.8**
LPSR				pmax		pmax		
	comp=Z,50nm,0.9s							
HOLU	**Holmets**	**12.17**	**314**	P		**Pn**	**04 37 59.8**	**-1.2**
RNPP5	**Staryi Chortor**	**12.45**	**331**	P		**Pn**	**04 38 02.5**	**-2.3**
KOLS	**Kolonicke sedl**	**12.46**	**316**	*e*PN		**Pn**	**04 38 08.1**	**+3.1**
KOLS	**Kolonicke sedl**	**12.46**	**316**	*e*P		**Pn**	**04 38 08.1**	**+3.1**
CRVS	**Cervenica-Dubn**	**12.88**	**314**	*e*PN		**Pn**	**04 38 09.7**	**-1.1**
CRVS	**Cervenica-Dubn**	**12.88**	**314**	*e*P		**Pn**	**04 38 09.7**	**-1.1**
BELG	**Belogornoye**	**14.32**	**31**	Pn		**Pn**	**04 38 29.0**	**-1.3**
	comp=Z,0.9nm,0.3s,baz=216,slow=18,SNR=2.8							
	comp=Z,11nm,0.7s							
OBN	**Obninsk**	**14.42**	**2**	*c i* P		**Pn**	**04 38 34.0**	**+2.4**
OBN				S		**Sn**	**04 41 11.0**	**-0.5**
OBN				pmax		pmax		
	comp=Z,9.0nm,0.5s							
OBN				MLR		MLR		
	comp=Z,85nm,13.0s							
CUC	**Castrocucco**	**15.04**	**274**	Pn		**Pn**	**04 38 39.4**	**-0.8**
CUC				IAmb		IAmb	04 38 50.2	
	comp=Z,9.8nm,1.0s							
NACGM	**Naroch**	**15.33**	**341**	*e*P		**Pn**	**04 38 43.7**	**-0.3**
	comp=Z,13nm,0.7s,baz=154							
MORC	**Moravsky Berou**	**15.53**	**312**	P		**Pn**	**04 38 47.7**	**+1.1**
MORC	**Moravsky Berou**	**15.53**	**312**	P		**Pn**	**04 38 47.7**	**+1.1**
MORC				pmax		pmax		
	comp=Z,5.0nm,1.0s							
CONA	**Conrad Observa**	**15.77**	**304**	*ep*P		pP	04 38 56.8	+0.4
	comp=Z,12nm,1.2s							
VAE	**Valguarnera**	**16.69**	**266**	Pn		**P**	**04 39 04.0**	**-0.1**
	comp=Z,13nm,0.6s,baz=8.7,slow=13,SNR=2.6							
MOA	**Molln**	**16.77**	**302**	*e*P		**P**	**04 39 10.5**	**+5.7**
	comp=Z,7.9nm,1.3s							
KBA	**Koelnbreinsper**	**17.16**	**299**	*e*Pn		**Pn**	**04 39 07.7**	**0.0**
	comp=Z,0.5nm,0.3s							
GERES	**GERESS Array B**	**17.44**	**305**	Pn		**P**	**04 39 13.7**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=116,slow=11,SNR=6.4							
	comp=Z,1.0nm,0.6s							
KHC	**Kasperske Hory**	**17.61**	**306**	*e*P		**P**	**04 39 15.5**	**+1.3**
KHC	**Kasperske Hory**	**17.61**	**306**	*ce*P		**Pn**	**04 39 13.3**	**+0.2**
KHC				pmax		pmax		
	comp=Z,10.0nm,1.3s							
GEYT	**Alibeck**	**17.70**	**92**	P		**Pn**	**04 39 11.4**	**-2.9**
GEYT	**Alibeck**	**17.70**	**92**	P		**Pn**	**04 39 14.3**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=247,slow=14,SNR=4.0							
	comp=Z,1.1nm,0.4s							
GEYT	**Alibeck**	**17.70**	**92**	P		**Pn**	**04 39 11.4**	**-2.9**
GEYT				pmax		pmax		
	comp=Z,12nm,1.5s							
AKTO	**Aktyubinsk**	**18.44**	**51**	P		**P**	**04 39 21.6**	**-1.6**
	comp=Z,0.8nm,0.3s,baz=252,slow=9.3,SNR=31							
AKTO				LR		LR	04 49 15.6	
	comp=Z,85nm,20.8s,baz=308,slow=46							
	comp=Z,11nm,0.7s							
VSU	**Vasula**	**18.62**	**345**	*i* P		**P**	**04 39 25.0**	**0.0**
FETA	**Feichten**	**18.90**	**298**	*e*Pn		**P**	**04 39 28.8**	**+0.3**
	comp=Z,0.8nm,0.4s							
ABKAR	**Akbulak array**	**19.21**	**55**	P		**P**	**04 39 31.3**	**-0.4**
ABKAR	**Akbulak array**	**19.21**	**55**	P		**P**	**04 39 30.9**	**-0.8**
ABKAR				IAmb		IAmb	04 39 43.0	
	comp=Z,4.9nm,0.9s							
DAVOX	**Davos/Dischmat**	**19.43**	**297**	P		**Pn**	**04 39 37.7**	**+2.2**
	comp=Z,2.2nm,0.6s,baz=152,slow=17,SNR=3.6							
DAVA	**Damuels**	**19.52**	**298**	*e*P		**Pn**	**04 39 39.3**	**+2.8**
	comp=Z,10.0nm,1.3s							
TUE	**Stuetta**	**19.75**	**296**	P		**P**	**04 39 38.6**	**+0.7**
	comp=Z,22nm,1.1s							
KIRV	**Kirov**	**19.94**	**22**	P		**P**	**04 39 39.1**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=234,slow=14,SNR=4.2							
	comp=Z,7.1nm,0.6s							
KIRV	**Kirov**	**19.94**	**22**	*e*P		**P**	**04 39 38.3**	**-1.3**
VSL	**Villasalto**	**20.01**	**275**			**P**	**04 39 40.4**	**-0.1**
VSL				IAmb		IAmb	04 39 48.0	
	comp=Z,9.2nm,0.8s							
KLMR	**Klimovskoe**	**20.31**	**6**	*e*P		**P**	**04 39 42.0**	**-1.5**
KLMR				pmax		pmax		
	comp=Z,31nm,1.3s							
VALR	**Valaam**	**20.86**	**354**	*i* P		**P**	**04 39 48.3**	**-1.2**
VALR				pmax		pmax		
	comp=Z,16nm,1.1s							
KEST	**Kesra**	**21.11**	**265**	P		**P**	**04 39 55.5**	**+2.9**
	comp=Z,3.5nm,0.8s,baz=282,slow=9.3,SNR=2.6							
KEST				LR		LR	04 49 25.7	
	comp=Z,139nm,19.9s,baz=352,slow=41							
FINES	**FINESS Array B**	**21.53**	**348**	P		**P**

TIXI					pmax	pmax			
	comp=Z,5.0nm,1.8s								
PZH	**PanZhiHua**	**55.74**	**83**	P	**P**	**04 44 46.8**	**+1.9**		
PZH				pmax	pmax				
	comp=Z,30nm,1.3s								
HHC	**Hu-ho-hao-te**	**55.78**	**63**	*e*P	**P**	**04 44 44.4**	**-0.5**		
XLT	**XiLinHaoTe**	**57.38**	**58**	*e*P	P	04 45 01.8	+5.5		
XLT				pmax	pmax				
	comp=Z,14nm,0.9s								
XLT				pmax	pmax				
	comp=Z,88nm,4.7s								
CMAR	**Chiang Mai Arr**	**58.19**	**92**	P	**P**	**04 45 01.6**	**-0.6**		
	comp=Z,1.5nm,0.3s,baz=306,slow=5.4,SNR=1.8								
	comp=Z,1.5nm,0.3s								
YKA	**Yellowknife Ar**	**74.36**	**346**	P	**P**	**04 46 45.2**	**0.0**		
	comp=Z,1.0nm,0.9s,baz=24,slow=6.4,SNR=10								
	comp=Z,1.0nm,0.9s								

KRNET ***18*** *04:49:43.9±0.1, 41.˚76N×79.˚49E, h23km, mb3.7*
SOME ***18*** *04:49:43.3, 41.˚77N×79.˚53E, h15km*
NNC ***18*** *04:49:45.0±0.7, 41.˚82N×79.˚45E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=4.7km s-min=2.8km az=149.0*

ISC 18 04:49:43.1±1.4, 41.˚68N±0.˚05×79.˚54E±0.˚04, h10km, n85, σ1§64/139, 41C-18D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**1.17**	**314**	⇓*e*P	**Pb**	**04 50 04.8**	**-0.7**
	baz=13						
PRZ				⇓*e*S	**Sg**	**04 50 19.7**	**-1.1**
	baz=13						
SHLS	**Shalkode**	**1.48**	**358**	P	**Pg**	**04 50 10.6**	**-0.9**
	179nm,0.3s						
SHLS				S	**Sg**	**04 50 30.4**	**-0.3**
	2µm,0.7s						
SHLS	**Shalkode**	**1.48**	**358**	*e*P	**Pg**	**04 50 10.6**	**-0.9**
	179nm,0.3s						
SHLS				*e*S	**Sg**	**04 50 30.4**	**-0.3**
	2µm,0.7s						
SHLS	**Shalkode**	**1.48**	**358**	*e*P	**Pg**	**04 50 10.6**	**-0.9**
	baz=12						
SHLS				*e*S	**Sg**	**04 50 30.4**	**-0.3**
	baz=12						
UZB	**Uzynbulak**	**1.52**	**346**	P	**Pb**	**04 50 10.4**	**-1.0**
	108nm,0.5s						
UZB				S	**Sn**	**04 50 30.0**	**-0.3**
	484nm,0.3s						
UZB	**Uzynbulak**	**1.52**	**346**	*e*P	**Pb**	**04 50 10.4**	**-1.0**
	108nm,0.5s						
UZB				*e*S	**Sn**	**04 50 30.0**	**-0.3**
	484nm,0.3s						
UZB	**Uzynbulak**	**1.52**	**346**	*e*P	**Pb**	**04 50 10.4**	**-1.0**
	baz=46						
UZB				*e*S	**Sn**	**04 50 30.0**	**-0.3**
	baz=46						
SATY	**Saty**	**1.61**	**329**	P	**Pb**	**04 50 12.2**	**-0.9**
	62nm,0.3s						
SATY				S	**Sb**	**04 50 33.0**	**-0.6**
	289nm,0.3s						
SATY	**Saty**	**1.61**	**329**	*e*P	**Pb**	**04 50 12.2**	**-0.9**
	62nm,0.3s						
SATY				*e*S	**Sb**	**04 50 33.0**	**-0.6**
	289nm,0.3s						
SATY	**Saty**	**1.61**	**329**	*e*P	**Pb**	**04 50 12.2**	**-0.9**
	baz=29						
SATY				*e*S	**Sb**	**04 50 33.0**	**-0.6**
	baz=29						
PDGK	**Podgornoye**	**1.65**	**359**	P	**Pb**	**04 50 12.7**	**-1.0**
	63nm,0.4s						
PDGK				S	**Sb**	**04 50 33.9**	**-0.7**
	424nm,0.7s						
PDGK	**Podgornoye**	**1.65**	**359**	⇑P	**Pn**	**04 50 12.4**	**+0.1**
	52nm,0.3s						
PDGK				⇓S	**Sb**	**04 50 33.9**	**-0.7**
	503nm,0.5s						
ZHN	**Zhinishke**	**1.70**	**332**	P	**Pb**	**04 50 13.6**	**-1.0**
	168nm,0.3s						
ZHN				S	**Sb**	**04 50 35.6**	**-0.4**
	448nm,0.3s						
ZHN	**Zhinishke**	**1.70**	**332**	*e*P	**Pb**	**04 50 13.6**	**-1.0**
	168nm,0.3s						
ZHN				*e*S	**Sb**	**04 50 35.6**	**-0.4**
	448nm,0.3s						
ANVS	**Anan'yevo**	**1.78**	**309**	⇑*e*P	**Pb**	**04 50 15.5**	**-0.4**
	baz=8.0						
ANVS				⇑*e*S	**Sb**	**04 50 38.2**	**-0.1**
	baz=8.0						
KDJ	**Kajisay**	**1.82**	**285**	⇑*e*P	**Pb**	**04 50 16.1**	**-0.5**
	baz=83						
KDJ				⇑*e*S	**Sb**	**04 50 39.2**	**-0.3**
	baz=83						
KTMS	**Ketmen**	**1.86**	**18**	P	**Pb**	**04 50 16.5**	**-0.9**
	66nm,0.4s						
KTMS				S	**Sb**	**04 50 40.6**	**-0.2**
	98nm,0.5s						
KTMS	**Ketmen**	**1.86**	**18**	*e*P	**Pb**	**04 50 16.5**	**-0.9**
	66nm,0.4s						
KTMS				*e*S	**Sb**	**04 50 40.6**	**-0.2**
	98nm,0.5s						
KTMS	**Ketmen**	**1.86**	**18**	*e*P	**Pb**	**04 50 16.5**	**-0.9**
	baz=20						
KTMS				*e*S	**Sb**	**04 50 40.6**	**-0.2**
	baz=20						
KURS	**Kuram**	**2.07**	**331**	Pg	**Pb**	**04 50 20.5**	**-0.4**
	160nm,0.5s						
KURS				Lg	Lg	04 50 47.3	
	232nm,0.7s						
KURS	**Kuram**	**2.07**	**331**	*e*P	**Pb**	**04 50 20.4**	**-0.4**
	160nm,0.5s						
KURS				*e*S	**Sb**	**04 50 47.3**	**+0.6**
	232nm,0.7s						
KURS	**Kuram**	**2.07**	**331**	*e*P	**Pb**	**04 50 20.5**	**-0.4**
	baz=31						
KURS				*e*S	**Sb**	**04 50 47.3**	**+0.6**
	baz=31						
TNSS	**Tian-Shan**	**2.35**	**306**	Pg	**Pb**	**04 50 24.9**	**-0.9**
	49nm,0.2s						
TNSS				Lg	Lg	04 50 55.1	
	203nm,0.6s						
TNSS	**Tian-Shan**	**2.35**	**306**	*e*P	**Pb**	**04 50 24.9**	**-0.9**
	49nm,0.2s						
TNSS				*e*S	**Sb**	**04 50 55.1**	**0.0**
	203nm,0.6s						
MDOK	**Medeo**	**2.37**	**310**	⇓Pn	**Pb**	**04 50 24.9**	**-1.1**
	50nm,0.5s						
MDOK				Pg	**Pb**	**04 50 25.0**	**-0.9**
	79nm,0.5s						
MDOK				Lg	Lg	04 50 55.1	
	541nm,0.5s						
MDOK				⇑Lg	Lg	04 50 55.5	
	383nm,0.6s						
MDOK	**Medeo**	**2.37**	**310**	*e*P	**Pb**	**04 50 25.0**	**-0.9**
	79nm,0.5s						
MDOK				*e*S	**Sb**	**04 50 55.1**	**-0.2**
	541nm,0.5s						
KOTS	**Kotyrbulak**	**2.38**	**312**	Pg	**Pb**	**04 50 25.6**	**-0.5**
	105nm,0.3s						
KOTS				Lg	Lg	04 50 56.3	
	423nm,0.6s						
KOTS	**Kotyrbulak**	**2.38**	**312**	*e*P	**Pb**	**04 50 25.6**	**-0.5**
	105nm,0.3s						
KOTS				*e*S	**Sb**	**04 50 56.3**	**+0.8**
	423nm,0.6s						
KNDC	**Almaty**	**2.45**	**310**	⇓Pg	**Pg**	**04 50 28.7**	**-1.3**
	62nm,0.4s						
KNDC				⇑Lg	Lg	04 50 58.8	
	348nm,0.5s						
AAA	**Alma-Ata**	**2.47**	**309**	Pg	**Pb**	**04 50 27.4**	**-0.3**
	112nm,0.4s						
AAA				Lg	Lg	04 50 59.3	
	679nm,0.5s						
AAA	**Alma-Ata**	**2.47**	**309**	*e*P	**Pb**	**04 50 27.4**	**-0.3**
	112nm,0.4s						
AAA				*e*S	**Sb**	**04 50 59.3**	**+1.1**
	679nm,0.5s						
ULHL	**Ulahol**	**2.52**	**284**	⇑*e*P	**Pb**	**04 50 27.0**	**-1.6**
	baz=82						
ULHL				⇑*e*S	**Sb**	**04 50 58.4**	**-1.4**
	baz=82						
BLB	**Baldybastay**	**2.54**	**342**	Pg	**Pb**	**04 50 27.8**	**-1.0**
	877nm,0.4s						
BLB				Lg	Lg	04 50 60.0	
	353nm,0.6s						
IZV	**Izvestkoviy**	**2.56**	**303**	Pg	**Pb**	**04 50 28.8**	**-0.4**
	34nm,0.5s						
IZV				Lg	Lg	04 51 01.8	
	399nm,0.6s						
IZV	**Izvestkoviy**	**2.56**	**303**	*e*P	**Pb**	**04 50 28.8**	**-0.4**
	34nm,0.5s						
IZV				*e*S	**Sb**	**04 51 01.8**	**+1.0**
	399nm,0.6s						
DJR	**Jarkent**	**2.66**	**4**	Pg	**Pb**	**04 50 29.5**	**-1.4**
	30nm,0.3s						
DJR				Lg	Lg	04 51 03.0	
	133nm,0.3s						
DJR	**Jarkent**	**2.66**	**4**	*e*P	**Pb**	**04 50 29.5**	**-1.4**
	30nm,0.3s						
DJR				*e*S	**Sb**	**04 51 03.0**	**-0.6**
	133nm,0.3s						
NRN	**Naryn**	**2.67**	**266**	⇑*e*P	**Pb**	**04 50 29.7**	**-1.5**
	baz=64						
NRN				⇑*e*S	**Sb**	**04 51 03.0**	**-1.1**
	baz=64						
KNOS	**Konyrlen**	**2.69**	**354**	Pg	**Pb**	**04 50 30.1**	**-1.4**
	73nm,0.4s						
KNOS				Lg	Lg	04 51 03.9	
	76nm,0.2s						
MTBS	**Maitube**	**2.72**	**303**	Pg	**Pb**	**04 50 31.3**	**-0.6**
	30nm,0.3s						
MTBS				Lg	Lg	04 51 05.9	
	152nm,0.4s						
MTBS	**Maitube**	**2.72**	**303**	*e*P	**Pb**	**04 50 31.3**	**-0.6**
	30nm,0.3s						
MTBS				*e*S	**Sb**	**04 51 05.9**	**+0.5**
	152nm,0.4s						
BOOM	**Boomskoye usch**	**2.80**	**288**	⇑*e*P	**Pb**	**04 50 30.9**	**-2.4**
	baz=87						
BOOM				⇑*e*S	**Sb**	**04 51 05.4**	**-2.3**
	baz=87						
ARXS	**Arharly**	**2.83**	**334**	Pg	**Pb**	**04 50 32.3**	**-1.4**
	45nm,0.2s						
ARXS				Lg	Lg	04 51 07.6	
	82nm,0.5s						
ARXS	**Arharly**	**2.83**	**334**	*e*P	**Pb**	**04 50 32.3**	**-1.4**
	45nm,0.2s						
ARXS				*e*S	**Sb**	**04 51 07.6**	**-0.9**
	82nm,0.5s						
CHKK	**Chushkaly**	**2.87**	**320**	Pg	**Pb**	**04 50 34.5**	**0.0**
	45nm,0.3s						
CHKK				Lg	Lg	04 51 11.1	
	303nm,0.4s						
CHKK	**Chushkaly**	**2.87**	**320**	*e*P	**Pb**	**04 50 34.5**	**0.0**
	45nm,0.3s						
CHKK				*e*S	**Sb**	**04 51 11.1**	**+1.4**
	303nm,0.4s						
KTBS	**Karatobe**	**2.93**	**315**	Pg	**Pb**	**04 50 34.9**	**-0.5**
	52nm,0.6s						
KTBS				Lg	Lg	04 51 12.2	
	147nm,0.4s						
KTBS	**Karatobe**	**2.93**	**315**	*e*P	**Pb**	**04 50 34.9**	**-0.5**
	52nm,0.6s						
KTBS				*e*S	**Sb**	**04 51 12.2**	**+1.0**
	147nm,0.4s						
KST	**Kastek**	**2.98**	**298**	Pg	**Pb**	**04 50 36.6**	**+0.2**
	55nm,0.6s						
KST				Lg	Lg	04 51 15.1	
	158nm,0.6s						
KST	**Kastek**	**2.98**	**298**	*e*P	**Pb**	**04 50 36.6**	**+0.2**
	55nm,0.6s						
KST				*e*S	**Sb**	**04 51 15.1**	**+2.2**
	158nm,0.6s						
TKM2	**Tokmak 2**	**3.18**	**294**	⇓Pn	**Pb**	**04 50 36.3**	**-3.5**
	11nm,0.4s						
TKM2				⇑Lg	Lg	04 51 22.6	
	62nm,0.5s						
TKM2	**Tokmak 2**	**3.18**	**294**	⇑*e*P	**Pb**	**04 50 36.2**	**-3.5**
	baz=93						
TKM2				⇑*e*S	**Sn**	**04 51 14.0**	**+2.6**
	baz=93						
DGS	**Degeres**	**3.20**	**301**	Pg	**Pb**	**04 50 39.4**	**-0.7**
	43nm,0.5s						
DGS				Lg	Lg	04 51 19.6	
	110nm,0.7s						
DGS	**Degeres**	**3.20**	**301**	*e*P	**Pb**	**04 50 39.4**	**-0.7**
	43nm,0.5s						
DGS				*e*S	**Sb**	**04 51 19.6**	**+0.5**
	110nm,0.7s						
KUU	**Kurty**	**3.23**	**314**	Pg	**Pb**	**04 50 40.3**	**-0.3**
	14nm,0.1s						
KUU				Lg	Lg	04 51 21.3	
	102nm,0.4s						
KUU	**Kurty**	**3.23**	**314**	*e*P	**Pb**	**04 50 40.3**	**-0.3**
	14nm,0.1s						
KUU				*e*S	**Sb**	**04 51 21.3**	**+1.3**
	102nm,0.4s						
TDK	**Taldyqorghan**	**3.42**	**346**	Pg	**Pb**	**04 50 43.9**	**+0.1**
	156nm,0.4s						
TDK				Lg	Lg	04 51 27.3	
	153nm,0.6s						
TDK	**Taldyqorghan**	**3.42**	**346**	*e*P	**Pb**	**04 50 43.9**	**+0.1**
	156nm,0.4s						
TDK				*e*S	**Sb**	**04 51 27.4**	**+1.8**
	153nm,0.6s						
KRBS	**Karabastau**	**3.49**	**307**	Pg	**Pb**	**04 50 45.0**	**0.0**
	19nm,0.3s						
KRBS				Lg	Lg	04 51 29.6	
	78nm,0.6s						
KRBS	**Karabastau**	**3.49**	**307**	*e*P	**Pb**	**04 50 45.0**	**0.0**
	19nm,0.3s						
KRBS				*e*S	**Sb**	**04 51 29.6**	**+2.2**
	78nm,0.6s						
KBK	**Karagaybulak**	**3.55**	**287**	⇑*e*P	**Pn**	**04 50 41.3**	**+2.9**
	baz=86						
KBK				⇑*e*S	**Sn**	**04 51 22.8**	**+2.2**
	baz=86						
KAPS	**Kapalarasan**	**3.61**	**358**	Pg	**Pb**	**04 50 47.0**	**0.0**
	16nm,0.6s						
KAPS				Lg	Lg	04 51 32.4	
	104nm,0.7s						
KAPS	**Kapalarasan**	**3.61**	**358**	*e*P	**Pb**	**04 50 47.0**	**0.0**
	16nm,0.6s						
KAPS				*e*S	**Sb**	**04 51 32.5**	**+1.6**
	104nm,0.7s						
CHMS	**Chumysh**	**3.79**	**292**	⇑Pg	**Pg**	**04 50 53.1**	**-2.5**
	6.4nm,0.6s						
CHMS				⇑Lg	Lg	04 51 42.1	
	20nm,0.6s						
CHMS	**Chumysh**	**3.79**	**292**	⇑*e*P	**Pn**	**04 50 44.4**	**+2.8**
	baz=91						
CHMS				⇑*e*S	**Sn**	**04 51 28.3**	**+2.1**
	baz=91						
UCH	**Uchtor**	**3.79**	**280**	⇓*e*P	**Pn**	**04 50 44.9**	**+2.9**
	baz=79						
UCH				⇓*e*S	**Sn**	**04 51 29.1**	**+2.3**
	baz=79						
FRU1	**Bishkek**	**3.82**	**289**	⇑*e*P	**Pn**	**04 50 45.0**	**+3.0**
	baz=88						
FRU1				⇑*e*S	**Sn**	**04 51 29.5**	**+2.5**
	baz=88						
AAK	**Ala-Archa**	**3.87**	**286**	⇓Pg	**Pg**	**04 50 54.3**	**-3.0**
	9.6nm,0.5s						
AAK				⇑Lg	Lg	04 51 44.5	
	45nm,0.8s						
AAK	**Ala-Archa**	**3.87**	**286**	⇑*e*P	**Pn**	**04 50 45.8**	**+3.0**
	baz=85						
AAK				⇑*e*S	**Sn**	**04 51 30.6**	**+2.1**
	baz=85						
ARLS	**Aral**	**3.91**	**274**	⇑*e*P	**Pn**	**04 50 46.3**	**+3.0**
	baz=73						
ARLS				⇑*e*S	**Sn**	**04 51 31.5**	**+2.2**
	baz=73						
SGDS	**Sogindy**	**4.04**	**298**	Pg	**Pb**	**04 50 55.7**	**+1.4**
	17nm,0.5s						
SGDS				Lg	Lg	04 51 47.7	
	39nm,0.6s						
USP	**Ospenovka**	**4.05**	**295**	⇑*e*P	**Pn**	**04 50 48.1**	**+2.9**
	baz=94						
USP				⇑*e*S	**Sn**	**04 51 34.7**	**+2.0**
	baz=94						
EKS2	**Erkin-Say**	**4.39**	**285**	⇓*e*P	**Pn**	**04 50 52.9**	**+2.9**
	baz=84						
EKS2				⇓*e*S	**Sn**	**04 51 43.1**	**+1.8**
	baz=84						
SFK	**Sufi-Kurgan**	**4.87**	**252**	⇓*e*P	**Pn**	**04 51 00.1**	**+3.4**
	baz=51						
SFK				⇓*e*S	**Sn**	**04 51 55.4**	**+2.2**
	baz=51						
BTLS	**Baital**	**5.23**	**312**	Pg	**Pg**	**04 51 18.8**	**-4.4**
	6.1nm,0.8s						
BTLS				Lg	Lg	04 52 27.8	
	15nm,0.6s						
BTLS	**Baital**	**5.23**	**312**	*e*P	**Pg**	**04 51 18.8**	**-4.4**
	6.1nm,0.8s						
BTLS				*e*S	**Sg**	**04 52 27.8**	**-3.1**
	15nm,0.6s						
MNAS	**Manas**	**5.30**	**281**	⇓*e*P	**Pn**	**04 51 05.5**	**+3.1**
	baz=80						
MNAS				⇓*e*S	**Sn**	**04 52 04.7**	**+1.1**
	baz=80						
MAKZ	**Makanchi**	**5.42**	**18**	⇓Pn	**Pn**	**04 51 06.1**	**+2.1**
	1.3nm,0.3s						
MAKZ				⇑Sn	**Sn**	**04 52 07.7**	**+1.4**
	9.5nm,0.5s						
MK31	**Makanchi Array**	**5.48**	**20**	⇑Pn	**Pn**	**04 51 06.6**	**+1.7**
	1.2nm,0.3s,baz=202,slow=13,SNR=57						
MK31				⇓Sn	**Sn**	**04 52 11.0**	**+3.1**
	7.0nm,0.5s,baz=149,slow=39,SNR=4.3						
MK31				⇑Lg	Lg	04 52 36.4	
	8.5nm,0.5s						
KK31	**Karatay Array**	**6.83**	**285**	⇓Pg	Pg	04 51 48.0	-5.9
	1.4nm,0.5s,baz=94,slow=16,SNR=8.4						
KK31				⇑Lg	Lg	04 53 19.7	
	3.1nm,0.5s,baz=86,slow=29,SNR=7.7						
KKAR	**Karatay Array**	**6.83**	**285**	⇑*i*P	**Pn**	**04 51 26.5**	**+3.1**
	baz=84						
KKAR				⇑*e*S	**Sn**	**04 52 40.9**	**-0.4**
	baz=84						
IUG	**Iuzhnay**	**7.11**	**277**	Pg	**Pg**	**04 51 55.5**	**-3.7**
	11nm,0.5s						
IUG				Lg	Lg	04 53 30.7	
	19nm,0.9s						
GAR	**Garm**	**7.54**	**252**	⇑*e*P	**Pn**	**04 51 36.6**	**+3.5**
	baz=52						
GAR				⇑*e*S	**Sn**	**04 52 58.5**	**-0.2**
	baz=52						
OTUK	**Ortayu**	**8.31**	**325**	⇑Lg	Lg	04 54 04.3	
	9.6nm,0.7s						
KURBB	**Kurchatov Arra**	**8.97**	**356**	⇑Lg	Lg	04 54 24.7	
	26nm,1.3s						

WEL ***18*** *04:51:05.9±0.7, 32.˚5S×17.˚8W±1.˚2, h255km±9km, M5.4/38, mB5.8/38, ML6.2/27, MLv6.2/37, Mw(mB)5.3/38, Error ellipse: s-maj=0.0km s-min=0.0km az=108.1, confirmed*
NOU ***18*** *04:51:06.8, 31.˚16S×179.˚13W, h264km, mb5.3/69, Kermadec Islands Region*
IDC ***18*** *04:51:08.4±0.6, 30.˚82S×179.˚52W, h265km±4km, mb4.4/17, mbtmp5.0/19, Error ellipse: s-maj=11.9km s-min=9.8km az=135.0*
NEIC ***18*** *04:51:08.7±1.9, 30.˚96S±0.˚09×179.˚4W±0.˚1, h262km±5km, mb4.9/143, Error ellipse: s-maj=16.0km s-min=12.8km az=104.0*
GCMT ***18*** *04:51:10.7±0.3, 30.˚91S±0.˚02×179.˚38W±0.˚02, h263km±2km, MW5.2/82, Moment Tensor Solution. s53,c63; s82,c100; Duration: 180 Moment tensor: Scale 10^17Nm; Mrr-0.40±.04; Mθθ-0.57±.03; Mφφ0.96±.03; Mrθ-0.37±.03; Mrφ0.21±.03; Mθφ0.15±.03; Best double couple: M0.95000×10^17 NP1:φs150.00000°, δ68.00000°, λ-148.00000°. NP2:φs46.00000°, δ61.00000°, λ-26.00000°. Principal axes: T 1.0020, Plg4.0000°, Azm277.0000°; N -0.1050, Plg52.0000°, Azm181.0000°; P -0.8970, Plg38.0000°, Azm10.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 04:51:07.7±0.4, 31.˚10S±0.˚04×179.˚26W±0.˚05, h263km±3km, n797, σ1§67/785, mb4.9/96, 12C-20D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**2.17**	**33**	P	**Pn**	**04 51 53.4**	**+0.6**
GLKZ				S	**S**	**04 52 27.7**	**-0.8**
RAO	**Raoul Island**	**2.17**	**33**	P	**Pn**	**04 51 53.7**	**+0.8**
RAO	**Raoul Island**	**2.17**	**33**		**Pn**	**04 51 53.0**	**+0.1**
RAO				Sn	**S**	**04 52 27.4**	**-1.3**
RAO	**Raoul Island**	**2.17**	**33**	P	**Pn**	**04 51 53.5**	**+0.6**
	944nm,0.4s,baz=127,slow=7.1,SNR=9.7						
RAO				S	**S**	**04 52 28.0**	**-0.7**
	3µm,0.4s,baz=75,slow=23,SNR=18						
RIZ	**Raoul Island**	**2.17**	**32**	P	**Pn**	**04 51 54.3**	**+1.4**
MXZ	**Matakaoa Point**	**6.76**	**197**	P	**Pn**	**04 52 42.4**	**-2.9**
MXZ	**Matakaoa Point**	**6.76**	**197**	Pn	**Pn**	**04 52 42.1**	**-3.3**
MXZ	**Matakaoa Point**	**6.76**	**197**	P	**Pn**	**04 52 42.6**	**-2.8**
MXZ				S	**S**	**04 53 59.8**	**-4.1**
WMGZ	**Waiomatatini S**	**6.97**	**195**	P	**Pn**	**04 52 45.9**	**-2.2**
WMGZ				S	**S**	**04 54 04.9**	**-4.0**
KUZ	**Kuaotunu**	**7.01**	**215**	P	**Pn**	**04 52 50.1**	**+1.6**
WIZ	**White Island**	**7.05**	**204**	P	**Pn**	**04 52 49.3**	**+0.2**
HAZ	**Te Kaha**	**7.08**	**199**	P	**Pn**	**04 52 46.1**	**-3.2**
HAZ				S	**S**	**04 54 10.5**	**-0.7**
PKGZ	**Pakihiroa**	**7.12**	**197**	P	**Pn**	**04 52 47.2**	**-2.8**
PKGZ				S	**S**	**04 54 08.2**	**-4.1**
WCZ	**Waipu Caves**	**7.20**	**226**	P	**Pn**	**04 52 53.7**	**+2.8**
PUZ	**Puketiti**	**7.25**	**196**	P	**Pn**	**04 52 48.6**	**-3.0**
PUZ				S	**S**	**04 54 11.0**	**-4.2**
OUZ	**Omahuta**	**7.27**	**234**	P	**Pn**	**04 52 53.8**	**+2.0**
RUGZ	**Raukumara Rang**	**7.30**	**199**	P	**Pn**	**04 52 49.1**	**-3.2**
RUGZ				S	**S**	**04 54 12.3**	**-4.2**
WIAZ	**Waiheke Island**	**7.35**	**218**	P	**Pn**	**04 52 55.8**	**+3.0**
ABAZ	**Army Bay**	**7.37**	**220**	P	**Pn**	**04 52 56.3**	**+3.3**
TWGZ	**Tauwhareparae**	**7.42**	**197**	P	**Pn**	**04 52 50.9**	**-2.8**
TWGZ				S	**S**	**04 54 16.1**	**-3.0**
WHRZ	**Whale Island**	**7.42**	**204**	P	**Pn**	**04 52 53.3**	**-0.4**
WHRZ				S	**S**	**04 54 18.4**	**-0.8**
MBAZ	**Motutapu North**	**7.45**	**219**	P	**Pn**	**04 52 57.2**	**+3.1**
MKAZ	**Moumakai**	**7.57**	**216**	P	**Pn**	**04 52 57.9**	**+2.3**
ETAZ	**East Tamaki Re**	**7.58**	**218**	P	**Pn**	**04 52 58.6**	**+3.0**
HBAZ	**Herne Bay Bore**	**7.61**	**219**	P	**Pn**	**04 52 58.8**	**+2.9**
EPAZ	**Eden Park BICE**	**7.62**	**219**	P	**Pn**	**04 52 59.7**	**+3.6**
MARZ	**Manawahe**	**7.64**	**205**	P	**Pn**	**04 52 55.5**	**-1.0**
MARZ				S	**S**	**04 54 26.8**	**+2.6**
CNGZ	**Carnagh Statio**	**7.66**	**195**	P	**Pn**	**04 52 53.7**	**-3.0**
CNGZ				S	**S**	**04 54 22.2**	**-2.3**
MWZ	**Matawai**	**7.69**	**199**	P	**Pn**	**04 52 53.9**	**-3.2**
EDRZ	**Edgecumbe**	**7.73**	**204**	P	**Pn**	**04 52 54.9**	**-2.7**
URZ	**Urewera**	**7.74**	**202**	P	**Pn**	**04 52 53.6**	**-4.1**
	53nm,0.3s,baz=122,slow=14,SNR=94						
URZ				S	**S**	**04 54 22.1**	**-4.4**
	695nm,0.4s,baz=288,slow=19,SNR=3.7						
URZ	**Urewera**	**7.74**	**202**	P	**Pn**	**04 52 53.9**	**-3.8**
URZ				S	**S**	**04 54 21.4**	**-5.1**
WTAZ	**Waiatarua**	**7.75**	**220**	P	**Pn**	**04 53 00.6**	**+2.7**
LIRZ	**Lichensteins R**	**7.77**	**206**	P	**Pn**	**04 53 01.7**	**+3.6**
MKRZ	**Makatiti**	**7.86**	**205**	P	**Pn**	**04 53 02.9**	**+3.7**
OMRZ	**Omania**	**7.86**	**206**	P	**Pn**	**04 52 58.0**	**-1.3**
RAGZ	**Rawiri**	**7.87**	**199**	P	**Pn**	**04 52 56.7**	**-2.7**
RAGZ				S	**S**	**04 54 25.7**	**-3.8**
TOZ	**Tahuroa Road**	**7.91**	**212**	Pn	**Pn**	**04 53 00.1**	**+0.4**
TARZ	**Mount Tarawera**	**7.93**	**205**	P	**Pn**	**04 53 01.7**	**+1.6**
TARZ				S	**S**	**04 54 33.3**	**+2.5**
NGRZ	**Ngongotaha**	**7.93**	**207**	P	**Pn**	**04 53 04.1**	**+4.0**
RIGZ	**Rimuhau**	**7.97**	**197**	P	**Pn**	**04 52 56.9**	**-3.8**
RIGZ				S	**S**	**04 54 27.0**	**-4.9**
HLRZ	**Highlands Stat**	**8.00**	**206**	P	**Pn**	**04 53 00.8**	**-0.1**
RRRZ	**Republican Roa**	**8.02**	**205**	P	**Pn**	**04 53 02.7**	**+1.5**
MUGZ	**Murupara**	**8.05**

BKZ **Black Stump Fm** 8.77 202 P **Pn** 04 53 06.1 -4.5
HIZ **Hauiti** 8.84 212 P **Pn** 04 53 11.2 -0.2
KATZ **Kakaramea** 8.88 206 P **Pn** 04 53 14.0 +1.9
MCHZ **McNeill Hill** 8.96 201 P **Pn** 04 53 08.4 -4.5
NTVZ **North Tongarir** 8.99 206 P **Pn** 04 53 14.4 +0.9
KRVZ **Karewarewa** 9.01 206 P **Pn** 04 53 14.1 +0.5
KWHZ **Kaweka Forest** 9.03 202 P Pn 04 53 09.0 -4.8
WTVZ **West Tongariro** 9.04 206 P **Pn** 04 53 12.2 -1.9
NNVZ **North Ngauruho** 9.05 206 P **Pn** 04 53 12.1 -2.1
CKHZ **Cape Kidnapper** 9.05 198 P Pn 04 53 09.3 -4.8
OTVZ **Oturere** 9.06 206 P **Pn** 04 53 14.0 -0.3
NGZ **Ngauruhoe** 9.09 206 P **Pn** 04 53 12.5 -2.2
COVZ **Chateau Observ** 9.13 206 P **Pn** 04 53 15.3 +0.1
MAVZ **Matarangi** 9.19 206 P **Pn** 04 53 14.2 -2.0
KAHZ **Kahuranaki** 9.23 199 P Pn 04 53 11.7 -4.7
KRHZ **Kereru** 9.24 202 P Pn 04 53 11.1 -5.4
MTVZ **Mangateitei** 9.32 206 P **Pn** 04 53 17.2 -0.4
VRZ **Vera Road** 9.39 210 P **Pn** 04 53 19.9 +1.6
PXZ **Pawanui** 9.46 198 P Pn 04 53 13.9 -5.3
MHEZ **Mangahewa** 9.54 212 P **P** 04 53 24.3 -1.7
PRHZ **Porangahau** 9.74 199 P Pn 04 53 17.2 -5.5
TSZ **Takapari Road** 9.75 202 P **Pn** 04 53 20.8 -2.1
PREZ **Palmer Road** 9.83 211 P **P** 04 53 26.8 -2.5
KHEZ **Kahui Hut** 9.85 212 P **Pn** 04 53 25.2 +0.9
DVHZ **Dannevirke** 9.90 201 P **Pn** 04 53 20.6 -4.2
ANWZ **Angora Road** 9.96 199 P **Pn** 04 53 20.8 -4.7
OHWZ **Ohakea** 10.10 204 P **Pn** 04 53 25.2 -2.0
POWZ **Post Office Ro** 10.11 202 P **Pn** 04 53 23.9 -3.5
PRWZ **Pori Road** 10.20 201 P **Pn** 04 53 26.9 -1.6
BFZ **Birch Farm** 10.23 200 P **Pn** 04 53 27.5 -1.4
TIWZ **Tintock** 10.43 201 P **Pn** 04 53 29.8 -1.6
CPWZ **Castlepoint** 10.46 199 P **Pn** 04 53 29.5 -2.1
MTW **Mount Morrison** 10.89 201 P **Pn** 04 53 33.4 -3.7
NFK **Norfolk Island** 11.28 277 P **Pn** 04 53 42.5 +0.5
baz=11,SNR=6.0
NFK **Norfolk Island** 11.28 277 P **Pn** 04 53 42.2 +0.1
SNZO **South Karori** 11.29 204 P **Pn** 04 53 39.2 -2.9
KHZ **Kahutara** 12.68 205 P **Pn** 04 53 57.4 -1.7
CTZ **Chatham Island** 12.79 171 P **Pn** 04 53 58.8 -1.6
CTZ **Chatham Island** 12.79 171 **P** 04 54 03.4 +1.3
MSVF **Nonsavu** 13.53 349 P **Pn** 04 54 09.2 -0.7
MSVF **Nonsavu** 13.53 349 **Pn** 04 54 07.9 -2.0
TAVE **Taveuni** 14.34 357 P **P** 04 54 19.5 0.0
PINNC **Pines Island,** 14.56 302 P **Pn** 04 54 22.1 -0.1
PINNC **Pines Island,** 14.56 302 **P** 04 54 20.8 -1.1
YSA **Yasawairara** 14.62 348 P **P** 04 54 21.2 -1.5
NIUE **Niue** 14.64 37 P **P** 04 54 21.4 -1.5
baz=14,SNR=5.0
NIUE S **S** 04 56 58.5 -6.2
baz=14
NIUE **Niue** 14.64 37 P **P** 04 54 22.8 -0.1
NIUE **Niue** 14.64 37 P **P** 04 54 22.0 -0.9
RPZ **Rata Peaks** 14.75 209 P **P** 04 54 20.0 -3.8
RPZ **Rata Peaks** 14.75 209 P **P** 04 54 19.2 -4.6
34nm,0.3s,baz=18,slow=3.2,SNR=20
RPZ S S 04 56 54.2 -12
100nm,0.4s,baz=311,slow=22,SNR=25
MARNC **Mare, Loyalty** 14.81 307 P **P** 04 54 25.4 -0.1
OUENC **Ouen Island, N** 15.12 302 P **Pn** 04 54 28.5 -0.4
OUENC **Ouen Island, N** 15.12 302 **P** 04 54 27.9 -0.2
YATNC **Mamie plateau,** 15.30 303 P **P** 04 54 30.3 +0.1
ONTNC **Ouen Toro** 15.47 301 P **P** 04 54 32.1 +0.1
ONTNC **Ouen Toro** 15.47 301 P **P** 04 54 31.5 -0.5
DZM **Mont Dzumac** 15.62 302 P **P** 04 54 33.8 0.0
DZM **Mont Dzumac** 15.62 302 *e*Pn **P** 04 54 34.1 +0.3
1µm,1.1s
DZM *e*Sn **S** 04 57 30.9 +5.8
130nm,1.6s
DZM **Mont Dzumac** 15.62 302 P **P** 04 54 33.5 -0.3
DZM **Mont Dzumac** 15.62 302 P **P** 04 54 32.5 -1.3
304nm,0.8s,baz=118,slow=14,SNR=79
NOUC **Port Laguerre** 15.71 301 P **P** 04 54 34.5 -0.1
LIFNC **LIFOU** 15.90 307 P **P** 04 54 36.3 -0.3
LIFNC **LIFOU** 15.90 307 P **P** 04 54 35.8 -0.9
ODZ **Otahua Downs** 16.01 207 P **P** 04 54 37.0 -0.7
JCZ **Jackson Bay** 16.03 213 P **P** 04 54 36.8 -1.2
AFI **Afiamalu** 18.44 24 P **P** 04 55 04.4 0.0
LHI **Lord Howe Isla** 18.53 263 P **P** 04 55 06.6 +1.4
LHI **Lord Howe Isla** 18.53 263 P **P** 04 55 06.6 +1.4
FUNA **Funafuti** 22.50 356 P **P** 04 55 43.9 -1.4
FUNA **Funafuti** 22.50 356 P **P** 04 55 43.0 -2.2
GC1S **Gold Coast 1 S** 23.83 270 P **P** 04 55 58.5 +1.3
AUWSH **Wavell State H** 24.43 272 P **P** 04 56 03.6 +1.0
ARMA **Armidale** 25.00 264 P **P** 04 56 09.6 +1.6
baz=25,SNR=19
ARMA **Armidale** 25.00 264 P **P** 04 56 09.4 +1.4
ARMA **Armidale** 25.00 264 P **P** 04 56 09.4 +1.4
ARMA IAmb IAmb 04 56 10.0
comp=Z,25nm,0.7s
RIV **Riverview** 25.07 256 P **P** 04 56 08.5 +0.1
MGCD **Mangrove Creek** 25.14 257 P **P** 04 56 11.1 +2.0
baz=25,SNR=25
MGCD **Mangrove Creek** 25.14 257 P **P** 04 56 11.1 +2.0
SYDH **Sydney Hard Ro** 25.42 256 P **P** 04 56 13.5 +2.0
AUPHS **Peel High Scho** 25.53 262 P **P** 04 56 13.1 +0.5
CNB **Canberra Magne** 26.53 252 P **P** 04 56 23.2 +1.6
baz=27,SNR=16
CNB **Canberra Magne** 26.53 252 P **P** 04 56 23.1 +1.6
EIDS **Eidsvold** 26.70 275 P **P** 04 56 22.5 -0.5
baz=27,SNR=9.0
EIDS **Eidsvold** 26.70 275 P **P** 04 56 22.6 -0.5
EIDS **Eidsvold** 26.70 275 P **P** 04 56 21.8 -1.3
EIDS IAmb IAmb 04 56 23.5
comp=Z,36nm,0.9s
MILA **Mila** 26.75 249 P **P** 04 56 25.2 +1.7
baz=27,SNR=12
MILA **Mila** 26.75 249 P **P** 04 56 25.3 +1.8
CAN **Canberra** 26.83 252 P **P** 04 56 25.4 +1.2
CAN **Canberra** 26.83 252 P **P** 04 56 25.2 +1.0
AUSMG **Snowy Mountain** 27.16 250 P **P** 04 56 27.2 0.0
AUDCS **Dubbo College** 27.31 259 P **P** 04 56 28.5 +0.1
YNG **Young** 27.35 255 P **P** 04 56 28.6 -0.2
baz=26,SNR=14
YNG **Young** 27.35 255 P **P** 04 56 28.7 -0.1
RK1H **Rockhampton Ha** 27.91 279 P **P** 04 56 33.5 -0.3
AULRC **Lightning Ridg** 28.29 265 P **P** 04 56 37.5 +0.3
TOO **Toolangi** 29.70 248 P **P** 04 56 50.8 +1.3
baz=30,SNR=20
TOO **Toolangi** 29.70 248 P **P** 04 56 50.6 +1.1
TOO **Toolangi** 29.70 248 P **P** 04 56 49.9 +0.4
TOO IAmb IAmb 04 56 52.2
comp=Z,36nm,0.7s
CMSA **Cobar Meteorol** 29.87 260 P **P** 04 56 51.6 +0.5
baz=30,SNR=95
CMSA **Cobar Meteorol** 29.87 260 P **P** 04 56 51.3 +0.2
PPT2 **Papeete2** 30.09 70 *e*SS SS 05 03 42.0 +0.3
comp=Z,980nm,26.2s
PPT2 *e*SS **SS** 05 03 46.5 +4.8
comp=Z,512nm,28.8s
BRAT **Ballarat** 30.94 248 P **P** 04 57 00.1 -0.2
QLP **Quilpie** 32.20 269 P **P** 04 57 10.9 -0.6
baz=32,SNR=18
QLP **Quilpie** 32.20 269 P **P** 04 57 10.9 -0.6
ARPS **Mount Arapiles** 32.61 249 P **P** 04 57 15.6 +0.7
baz=33,SNR=8.1
ARPS **Mount Arapiles** 32.61 249 P **P** 04 57 15.8 +0.9
TV1H **Townsville Har** 32.78 283 P **P** 04 57 15.8 -0.7
CTAO **Charters Tower** 32.86 281 P **P** 04 57 16.9 -0.3
CTAO **Charters Tower** 32.86 281 P **P** 04 57 16.5 -0.8
CTAO **Charters Tower** 32.86 281 P **P** 04 57 16.9 -0.3
CTAO ScP **ScP** 05 03 11.4 -2.5
TARA **Tarawa** 33.12 346 P **P** 04 57 19.3 -0.2
TARA **Tarawa** 33.12 346 P **P** 04 57 18.0 -1.5
TARA **Tarawa** 33.12 346 P **P** 04 57 18.8 -0.7
STKA **Stephens Creek** 33.27 258 P **P** 04 57 21.3 +0.6
baz=33,SNR=250
STKA **Stephens Creek** 33.27 258 P **P** 04 57 20.8 +0.1
STKA **Stephens Creek** 33.27 258 P **P** 04 57 21.1 +0.4
STKA IAmb IAmb 04 57 22.1
comp=Z,36nm,0.8s
STKA **Stephens Creek** 33.27 258 P **P** 04 57 21.1 +0.4
comp=Z,183nm,0.5s,baz=101,slow=13,SNR=402
STKA ScP **ScP** 05 03 16.5 +1.2
comp=Z,3.3nm,0.7s,baz=45,slow=2.9,SNR=2.8
HTT **Hallett** 35.27 255 P **P** 04 57 37.8 0.0
baz=35,SNR=42
HTT **Hallett** 35.27 255 P **P** 04 57 37.7 -0.2
MTSU **Mount Surprise** 35.38 283 P **P** 04 57 38.6 -0.3
baz=36,SNR=22
MTSU **Mount Surprise** 35.38 283 P **P** 04 57 38.3 -0.6
LCRK **Leigh Creek** 36.38 260 P **P** 04 57 46.8 -0.4
WHYH **Whyalla** 36.45 255 P **P** 04 57 47.8 +0.1

BBOO **Buckleboo** 37.74 255 P **P** 04 57 57.7 -0.9
baz=38,SNR=29
BBOO **Buckleboo** 37.74 255 P **P** 04 57 57.9 -0.7
BBOO **Buckleboo** 37.74 255 P **P** 04 57 57.9 -0.7
BBOO IAmb IAmb 04 57 58.7
comp=Z,47nm,0.7s
QIS **Mount Isa** 38.30 276 P **P** 04 58 02.1 -1.3
baz=38,SNR=34
QIS **Mount Isa** 38.30 276 P **P** 04 58 02.1 -1.3
COEN **Coen** 38.44 288 P **P** 04 58 03.9 -0.6
baz=39,SNR=34
COEN **Coen** 38.44 288 P **P** 04 58 03.9 -0.6
COEN **Coen** 38.44 288 P **P** 04 58 03.7 -0.9
COEN IAmb IAmb 04 58 04.6
comp=Z,40nm,0.9s
OOD **Oodnadatta** 39.17 263 P **P** 04 58 10.0 -0.5
MULG **Mulgathing** 39.92 259 P **P** 04 58 15.3 -1.3
AS01 **Alice Springs** 41.96 268 P **P** 04 58 31.8 -1.5
AS31 **Alice Springs** 42.00 268 P **P** 04 58 32.1 -1.5
ASAR **Alice Springs** 42.00 268 P **P** 04 58 31.7 -1.9
ASAR **Alice Springs** 42.00 268 P **P** 04 58 32.2 -1.4
comp=Z,42nm,0.8s,baz=105,slow=7.5,SNR=308
ASAR PcP **PcP** 05 00 21.2 -2.2
comp=Z,9.0nm,0.7s,baz=103,slow=7.3,SNR=4.3
ASAR ScP **ScP** 05 03 46.1 -2.3
comp=Z,4.3nm,0.8s,baz=115,slow=4.1,SNR=11
ASAR S **S** 05 04 29.3 -3.2
comp=Z,0.8nm,0.7s,baz=103,slow=16,SNR=3.3
comp=Z,42nm,0.8s
WR0 **Warramunga Arr** 42.87 274 P **P** 04 58 39.1 -1.6
WR0 IAmb IAmb 04 58 39.9
comp=Z,88nm,1.2s
WB1 **Warramunga Ar.** 43.04 274 P **P** 04 58 40.0 -2.0
WRA **Warramunga Arr** 43.05 274 P **P** 04 58 40.5 -1.5
WRA **Warramunga Arr** 43.05 274 P **P** 04 58 40.2 -1.9
comp=Z,72nm,0.6s,baz=112,slow=7.7,SNR=383
WRA PcP **PcP** 05 00 25.4 -1.7
comp=Z,6.6nm,0.7s,baz=117,slow=4.2,SNR=1.5
WRA ScP **ScP** 05 03 49.6 -3.1
comp=Z,4.4nm,1.0s,baz=118,slow=4.2,SNR=5.7
WRA S S 05 04 37.9 -10
comp=Z,2.5nm,0.9s,baz=108,slow=15,SNR=4.4
comp=Z,72nm,0.6s
WB0 **Warramunga Arr** 43.08 274 P **P** 04 58 40.8 -1.5
DRV **Dumont d'Urvil** 43.08 202 P **P** 04 58 41.5 -0.1
DRV ScP **ScP** 05 03 50.1 -1.8
FORT **Forrest** 44.83 256 P **P** 04 58 54.6 -1.4
FORT **Forrest** 44.83 256 P **P** 04 58 53.9 -2.1
FORT IAmb IAmb 04 58 55.7
comp=Z,55nm,0.6s
WRKA **Warakurna** 46.33 264 P **P** 04 59 05.8 -2.0
SBA **Scott Base** 47.26 184 P **P** 04 59 17.2 +3.0
VNDA **Vanda** 47.30 186 P **P** 04 59 16.4 +1.9
VNDA **Vanda** 47.30 186 P **P** 04 59 16.8 +2.3
comp=Z,0.4nm,0.4s,baz=7.8,slow=6.9,SNR=11
VNDA PcP **PcP** 05 00 42.9 +2.1
comp=Z,2.7nm,0.6s,baz=340,slow=5.8,SNR=11
VNDA ScP **ScP** 05 04 09.2 0.0
comp=Z,3.4nm,0.8s,baz=346,slow=4.7,SNR=9.6
VNDA **Vanda** 47.30 186 P **P** 04 59 17.0 +2.5
VNDA PcP **PcP** 05 00 42.7 +1.9
VNDA ScP **ScP** 05 04 09.2 0.0
MTN **Manton Dam** 49.03 280 P **P** 04 59 26.3 -2.2
MTN IAmb IAmb 05 00 06.2
comp=Z,86nm,1.4s
WAKE **Wake Island** 51.89 343 P **P** 04 59 48.9 -0.7
CCD **Concordia, Ant** 51.98 196 P **P** 04 59 50.1 0.0
CCD pP **pP** 05 00 46.4 +0.4
CCD ScP **ScP** 05 04 27.7 -2.2
KLBR **Kellerberrin** 53.10 252 P **P** 04 59 57.0 -1.6
CASY **Casey** 54.02 208 P **P** 05 00 03.9 -0.7
CASY IAmb IAmb 05 01 49.0
comp=Z,73nm,2.0s
CASY **Casey** 54.02 208 P **P** 05 00 03.4 -1.2
PSA00 **Pilbara Seismi** 54.82 264 P **P** 05 00 08.4 -2.6
PSA00 IAmb IAmb 05 01 24.5
comp=Z,38nm,1.2s
MBWA **Marble Bar** 55.08 265 P **P** 05 00 11.2 -1.7
MORW **Morawa** 55.30 254 P **P** 05 00 12.1 -2.3
MORW IAmb IAmb 05 00 33.4
comp=Z,56nm,1.7s
MIDW **Midway** 59.01 2 P **P** 05 00 39.5 -0.5
MIDW **Midway** 59.01 2 P **P** 05 00 39.8 -0.2
QSPA **South Pole Qui** 59.01 180 P **P** 05 00 42.7 +2.9
QSPA **South Pole Qui** 59.01 180 PKPPKP 05 30 08.4
comp=Z,3.2nm,1.0s,baz=223,slow=0.7,SNR=5.5
QSPA **South Pole Qui** 59.01 180 P **P** 05 00 42.9 +3.0
QSPA PcP **PcP** 05 01 28.2 +2.5
QSPA pP **pP** 05 01 40.7 +2.9
QSPA ScP **ScP** 05 05 02.6 +2.0
SMAI **San Martin Ant** 69.19 158 P **P** 05 01 48.6 +3.1
BELA **Belgrano 2** 69.24 172 P **P** 05 01 48.0 +2.3
BELA IAmb IAmb 05 01 49.4
comp=Z,12nm,0.5s
PMSA **Palmer Station** 72.07 156 P **P** 05 02 06.7 +3.9
comp=Z,5.2nm,0.6s,baz=257,slow=6.5,SNR=1.7
comp=Z,5.2nm,0.6s
MG05 **Puerto Natales** 75.63 142 P **P** 05 02 27.0 +3.4
MG05 IAmb IAmb 05 02 49.7
comp=Z,73nm,1.9s
GO09 **Cerro Castillo** 75.93 142 P **P** 05 02 28.5 +3.1
GO09 IAmb IAmb 05 02 29.7
comp=Z,44nm,1.6s
ELIB **Princess Elisa** 76.03 187 *d*P **P** 05 02 26.6 +0.8
comp=Z,6.4nm,0.7s
ELIB *d*pP **pwP** 05 03 30.4 -0.2
TROLL **Troll, Antarti** 77.17 181 ⇓P **P** 05 02 34.0 +1.9
comp=Z,1µm,0.8s
SNAA **Sanae** 77.48 179 P **P** 05 02 35.8 +2.0
SNAA IAmb IAmb 05 02 36.6
comp=Z,24nm,0.8s
SNAA **Sanae** 77.48 179 ⇓P **P** 05 02 36.0 +2.2
comp=Z,284nm,0.4s
SNAA **Sanae** 77.48 179 P **P** 05 02 35.5 +1.7
comp=Z,22nm,0.7s,baz=202,slow=7.1,SNR=33
comp=Z,22nm,0.7s
VNA3 **Neumayer Olymp** 77.68 177 ⇓P **P** 05 02 36.9 +2.1
comp=Z,108nm,0.6s
JGF **Kuroka** 77.87 325 P **P** 05 02 35.9 -0.4
VNA2 **Neumayer--Watz** 78.10 177 ⇓P **P** 05 02 39.5 +2.4
comp=Z,74nm,0.5s,baz=178,slow=5.5
MJAR **Matsushiro Arr** 78.21 326 P **P** 05 02 36.1 -2.0
comp=Z,3.4nm,0.8s,baz=160,slow=5.8,SNR=5.8
comp=Z,3.4nm,0.8s
VNA1 **Neumayer--Stat** 78.34 177 ⇓P **P** 05 02 40.9 +2.6
comp=Z,53nm,0.6s
COYC **Coyhaique** 79.17 137 P **P** 05 02 47.4 +4.0
COYC IAmb IAmb 05 02 51.0
comp=Z,56nm,1.7s
LL02 **Futaleuf** 80.63 135 P **P** 05 02 54.8 +3.6
H03S2 **Juan Fernandez** 80.98 124 T T 06 32 23.3
baz=236,slow=74,SNR=14
H03S1 **Juan Fernandez** 80.99 124 T T 06 32 32.5
baz=236,slow=74,SNR=12
H03S3 **Juan Fernandez** 80.99 124 T T 06 32 38.6
baz=236,slow=74,SNR=12
H03N3 **Juan Fernandez** 81.18 124 T T 06 32 57.3
baz=240,slow=72,SNR=15
H03N2 **Juan Fernandez** 81.18 124 T T 06 32 43.2
baz=240,slow=72,SNR=10
H03N1 **Juan Fernandez** 81.19 124 T T 06 32 53.1
baz=240,slow=72,SNR=25
AMKA **Amchitka** 82.13 359 P **P** 05 02 58.5 -0.1
H06S1 **SOCORRO T** 82.15 63 T T 06 35 07.6
SNR=14
ASAJ **Asahikawa** 82.57 333 P **P** 05 03 03.4 +2.4
comp=Z,7.1nm,0.5s,baz=199,slow=4.1,SNR=2.1
PLCA **Paso Flores** 82.82 133 P **P** 05 03 06.2 +3.4
PLCA **Paso Flores** 82.82 133 P **P** 05 03 06.2 +3.4
comp=Z,4.8nm,0.6s,baz=219,slow=6.7,SNR=22
comp=Z,4.8nm,0.6s
ATKA **Atka Island** 83.06 3 P **P** 05 03 03.4 +0.1
SHEM **Shemya Is, Ala** 83.67 356 P **P** 05 03 05.9 -0.5
comp=Z,101nm,0.8s,baz=90,slow=8.1,SNR=4.9
comp=Z,101nm,0.8s
KSRS **Korea Array** 84.19 320 P **P** 05 03 09.2 -0.2
comp=Z,2.6nm,0.8s,baz=123,slow=4.9,SNR=2.5
comp=Z,2.6nm,0.8s
UNV **Unalaska Valle** 85.31 8 P **P** 05 03 16.5 +2.0
baz=191
SCI2 **San Clemente I** 85.74 47 P **P** 05 03 19.7 +2.5
baz=229
NJ2 **Nanjing** 85.89 311 *e*P **P** 05 03 20.5 +2.6
NJ2 pmax pmax
comp=Z,12nm,0.5s
SBC **Santa Barbara** 85.98 46 P **P** 05 03 20.9 +2.5
baz=228
CIS **Catalina Islan** 86.10 47 P **P** 05 03 20.6 +1.6
baz=229
PKM **Mcpherson Peak** 86.22 45 P **P** 05 03 21.3 +1.5
baz=228
PEA0B **Petropavlovsk-** 86.22 346 P **P** 05 03 19.5 +0.4
PETK **Petropavlovsk-** 86.22 346 P **P** 05 03 18.9 -0.2
PETK **Petropavlovsk-** 86.22 346 P **P** 05 03 18.3 -0.8
comp=Z,30nm,0.8s,baz=110,slow=7.1,SNR=58
comp=Z,30nm,0.6s
FMP **Fort Macarthur** 86.38 47 P **P** 05 03 22.2 +1.9
baz=229
SMMC **Simmler** 86.40 45 P **P** 05 03 22.3 +1.8
baz=228
109C **Camp Elliot, M** 86.59 48 P **P** 05 03 23.4 +2.0
baz=230
FALS **False Pass** 86.69 9 P **P** 05 03 23.2 +2.0
baz=194
OSI **Osito Audit: C** 86.71 46 P **P** 05 03 23.8 +1.8
baz=229
DECC **Green Verdugo** 86.71 46 P **P** 05 03 23.8 +1.8
baz=229
ELS **Elsinore Mount** 86.88 47 P **P** 05 03 24.2 +1.4
ARVC **Arvin** 86.98 46 P **P** 05 03 24.9 +1.7
baz=228
MURC **Murrieta** 87.00 48 P **P** 05 03 24.8 +1.4
baz=230
MONP2 **Monument Peak** 87.03 49 P **P** 05 03 24.6 +0.8
baz=230
IKP **In-Ko-Pah, Jac** 87.08 49 P **P** 05 03 23.9 +0.1
baz=230
BFSC **Mount Baldy Ra** 87.12 47 P **P** 05 03 25.9 +1.9
baz=229
USRK **Ussuriysk Ar.** 87.15 327 P **P** 05 03 23.4 -0.4
comp=Z,1.5nm,0.5s,baz=180,slow=5.5,SNR=2.6
comp=Z,1.5nm,0.5s
YUH **Yuha Desert** 87.20 49 P **P** 05 03 25.4 +1.1
YUH IAmb IAmb 05 03 28.1
comp=Z,19nm,1.2s
CHNA **Chernabura Isl** 87.24 11 P **P** 05 03 24.9 +1.0
baz=197
VES **Vestal, Richgr** 87.30 45 P **P** 05 03 26.1 +1.4
baz=228
EDW2 **Edwards Air Fo** 87.33 46 P **P** 05 03 26.8 +1.8
baz=229,SNR=6.5
SWSC **Sam W. Stewart** 87.47 49 P **P** 05 03 27.4 +1.9
baz=230
PFO **Pinyon Flats O** 87.47 48 P **P** 05 03 26.9 +1.1
PFO **Pinyon Flats O** 87.47 48 P **P** 05 03 27.5 +1.7
baz=230
TPFO **Pinon Flats** 87.47 48 P **P** 05 03 27.3 +1.6
baz=230
SDPT **Sand Point** 87.59 11 P **P** 05 03 25.8 +0.2
baz=196
S12K **Black Hills** 87.70 10 P **P** 05 03 26.1 +0.1
S12K **Black Hills** 87.70 10 P **P** 05 03 26.7 +0.6
baz=195
LRMC **Laurel Mtn Rad** 87.92 46 P **P** 05 03 29.6 +1.8
baz=229,SNR=5.4
CMB **Columbia Colle** 88.00 43 P **P** 05 03 28.5 +0.5
BELC **Belle Mtn. Jos** 88.02 48 P **P** 05 03 30.1 +1.8
baz=230
BC3 **Big Chuckawall** 88.14 48 P **P** 05 03 31.0 +2.1
baz=230
GLA **Glamis** 88.17 49 P **P** 05 03 30.1 +1.2
GLA IAmb IAmb 05 03 33.0
comp=Z,21nm,0.9s
GLA **Glamis** 88.17 49 P **P** 05 03 31.6 +2.7
baz=231
SPIA **Saint Paul Isl** 88.26 5 P **P** 05 03 30.0 +1.4
baz=188
AFDM **Forest Hills D** 88.29 42 P **P** 05 03 30.9 +1.6
HSIG 88.30 55 P **P** 05 03 31.0 +1.4
HSIG IAmb IAmb 05 03 32.3
comp=Z,11nm,1.0s
CWC **Cottonwood Cre** 88.31 45 P **P** 05 03 31.7 +2.1
baz=229
HEC **Hector,Ludlow** 88.34 47 P **P** 05 03 31.5 +1.8
baz=230
GSC **Goldstone, Bar** 88.35 47 P **P** 05 03 31.7 +2.0
GSC IAmb IAmb 05 03 33.2
comp=Z,14nm,1.2s
GSC **Goldstone, Bar** 88.35 47 P **P** 05 03 32.1 +2.4
baz=230,SNR=6.9
MPMC **Manual Prospec** 88.42 46 P **P** 05 03 32.4 +2.2
baz=229,SNR=5.3
TIN **Tinemaha, Big** 88.62 44 P **P** 05 03 33.0 +1.9
baz=229
MLAC **Mammoth, Mammo** 88.64 44 P **P** 05 03 33.4 +2.1
baz=228
S14K **Fog Glacier** 88.64 11 P **P** 05 03 32.0 +1.4
baz=197
IRM **Iron Mountain** 88.66 48 P **P** 05 03 33.6 +2.4
baz=231
113A **Mohawk Valley,** 88.68 50 P **P** 05 03 33.9 +2.7
113A IAmb IAmb 05 03 35.2
comp=Z,19nm,1.3s
GMRC **Granite Mounta** 88.73 48 P **P** 05 03 34.3 +2.7
baz=230
214A **Organ Pipe Nat** 88.81 51 P **P** 05 03 34.4 +2.4
214A IAmb IAmb 05 03 36.1
comp=Z,24nm,1.4s
214A **Organ Pipe Nat** 88.81 51 P **P** 05 03 34.1 +2.1
baz=232
CHGN **Chignik** 88.85 11 P **P** 05 03 32.9 +1.5
baz=198
WAKR **Walker** 88.87 43 P **P** 05 03 34.3 +2.0
WAKR IAmb IAmb 05 03 35.6
comp=Z,14nm,1.2s
CHIR **Chirikof Islan** 88.90 13 P **P** 05 03 33.8 +2.1
baz=200
DSP **Deep Springs** 88.98 44 P **P** 05 03 34.5 +1.9
MPK **Martis Peak** 89.06 42 P **P** 05 03 33.6 +0.3
MPK IAmb IAmb 05 03 36.9
comp=Z,24nm,1.2s
SHOC **Shoshone, Teco** 89.06 46 P **P** 05 03 34.7 +1.7
baz=230
FURC **Furnace Creek,** 89.07 46 P **P** 05 03 35.0 +2.1
baz=230
GRAC **Grapevine Rang** 89.10 45 P **P** 05 03 35.2 +2.0
GRAC IAmb IAmb 05 03 36.6
comp=Z,15nm,0.9s
GRAC **Grapevine Rang** 89.10 45 P **P** 05 03 34.9 +1.6
baz=229,SNR=8.4
PNTR **Pine Nut** 89.17 42 P **P** 05 03 34.5 +0.8
PNTR IAmb IAmb 05 03 36.6
comp=Z,21nm,1.2s
LHV **Little Huntoon** 89.25 43 P **P** 05 03 34.0 +0.2
LHV IAmb IAmb 05 03 37.0
comp=Z,16nm,1.1s
YBH **Yreka Blue Hor** 89.25 39 P **P** 05 03 34.2 +0.4
YERR **Yerington** 89.31 42 P **P** 05 03 35.4 +1.1
GMN **Gold Mountain** 89.37 45 P **P** 05 03 36.0 +1.3
PDMCI **Parker Dam,Lak** 89.40 49 P **P** 05 03 36.3 +1.8
baz=231
K02D **Willamette Mer** 89.42 37 P **P** 05 03 35.7 +1.1
K02D IAmb IAmb 05 03 37.9
comp=Z,20nm,1.1s
WCT **Wildcat Mounta** 89.42 45 P **P** 05 03 35.6 +0.9
NVAR **Mina Array Bea** 89.48 43 P **P** 05 03 36.5 +1.3
comp=Z,7.4nm,0.9s,baz=222,slow=7.9,SNR=29
comp=Z,7.4nm,0.9s
NV11 **Mina Array Sit** 89.57 43 P **P** 05 03 36.1 +0.6
NV11 IAmb IAmb 05 03 38.3
comp=Z,11nm,1.1s
HUMO **Hull Mountain** 89.73 38 P **P** 05 03 37.1 +1.1
HUMO IAmb IAmb 05 03 40.2
comp=Z,19nm,1.3s
V12A **Nelson** 89.84 47 P **P** 05 03 37.4 +0.6
SII **Sitkinak Islan** 89.88 14 P **P** 05 03 38.6 +2.3
baz=202
TPH **Tonopah** 89.89 44 P **P** 05 03 38.6 +1.6
Y14A **Wickenburg** 89.91 50 P **P** 05 03 39.0 +1.9
Y14A IAmb IAmb 05 03 40.6
comp=Z,15nm,1.3s
DBO **Dodson Butte** 89.94 37 P **P** 05 03 38.8 +1.8
DBO IAmb IAmb 05 03 40.3
comp=Z,18nm,1.1s
KVN **Kaiserville** 90.02 43 P **P** 05 03 39.0 +1.4
CN2 **Changchun** 90.05 323 *e*P **P** 05 03 37.6 +0.2
CN2 pmax pmax
comp=Z,10.0nm,0.5s
SHPR **Sheep Range** 90.14 46 P **P** 05 03 38.5 +0.3
I03D **Drain, OR** 90.29 37 P **P** 05 03 39.3 +0.8
I03D IAmb IAmb 05 03 41.6
comp=Z,24nm,1.2s
TUC **Tucson** 90.39 52 P **P** 05 03 38.7 -0.7

TUC					IAmb	IAmb	05 03 43.6	
	comp=Z,9.8nm,0.9s							
TUC	**Tucson**	**90.39**	**52**	P	**P**		**05 03 41.9**	**+2.5**
	baz=233							
OHAK	**Old Harbor**	**90.67**	**14**	P	**P**		**05 03 41.4**	**+1.6**
	baz=202							
PRN	**Pahroc Range**	**90.78**	**46**	P	**P**		**05 03 41.9**	**+0.8**
PRN				IAmb	IAmb		05 03 44.8	
	comp=Z,14nm,1.2s							
BUCK	**Buck Mountain**	**90.83**	**37**	P	**P**		**05 03 41.5**	**+0.5**
BUCK				IAmb	IAmb		05 03 44.8	
	comp=Z,24nm,1.1s							
I04A	**Tendick Farm,**	**90.84**	**37**	P	**P**		**05 03 41.2**	**0.0**
I04A				IAmb	IAmb		05 03 43.6	
	comp=Z,17nm,1.0s							
K05A	**Summer Lake**	**90.91**	**39**	P	**P**		**05 03 42.6**	**+1.0**
K05A				IAmb	IAmb		05 03 44.7	
	comp=Z,20nm,1.1s							
GYA	**Guiyang**	**90.97**	**300**	*e*P	**P**		**05 03 42.5**	**+0.3**
GYA				pmax	pmax			
	comp=Z,9.0nm,0.8s							
GYA				pmax	pmax			
	comp=Z,130nm,5.5s							
R11B	**Troy Canyon, C**	**91.06**	**45**	P	**P**		**05 03 43.2**	**+0.8**
R11B	**Troy Canyon, C**	**91.06**	**45**	P	**P**		**05 03 43.6**	**+1.1**
	baz=230							
KLR	**Kul'dur**	**91.10**	**330**	P	**P**		**05 03 41.9**	**-0.2**
	comp=Z,3.4nm,0.8s,baz=162,slow=3.2,SNR=10							
	comp=Z,3.4nm,0.8s							
J05D	**Fort Rock, OR**	**91.11**	**38**	P	**P**		**05 03 43.3**	**+0.8**
J05D				IAmb	IAmb		05 03 45.5	
	comp=Z,22nm,1.2s							
Q17K	**Contact Creek**	**91.15**	**12**	P	**P**		**05 03 42.8**	**+0.5**
	baz=200							
H04D	**Lebanon**	**91.18**	**37**	P	**P**		**05 03 42.0**	**-0.6**
H04D				IAmb	IAmb		05 03 45.8	
	comp=Z,22nm,1.3s							
X16A	**Lo Mia Camp, P**	**91.23**	**50**	P	**P**		**05 03 43.2**	**-0.2**
O14K	**Tigyukauivet M**	**91.25**	**9**	P	**P**		**05 03 43.6**	**+1.1**
	baz=196							
KDAK	**Kodiak Island**	**91.34**	**14**	P	**P**		**05 03 44.1**	**+1.1**
	baz=203							
O15K	**Ungalikthiuk R**	**91.38**	**10**	P	**P**		**05 03 44.0**	**+0.9**
	baz=197							
Q16K	**King Salmon**	**91.41**	**12**	P	**P**		**05 03 43.7**	**+0.5**
	baz=199							
BMN	**Battle Mountai**	**91.43**	**42**	P	**P**		**05 03 44.4**	**+0.3**
BMN				IAmb	IAmb		05 03 46.8	
	comp=Z,14nm,1.2s							
H04A	**Detroit Lake**	**91.58**	**37**	IAmb	IAmb		05 03 46.3	
	comp=Z,7.7nm,0.8s							
I05D	**Terrebonne, OR**	**91.78**	**37**	IAmb	IAmb		05 03 48.2	
	comp=Z,14nm,0.9s							
M11K	**Mekoryuk**	**91.78**	**6**	P	**P**		**05 03 45.4**	**+0.5**
	baz=191							
N14K	**Kuskokwak Cree**	**91.84**	**9**	P	**P**		**05 03 45.2**	**0.0**
	baz=195							
U15A	**North Rim**	**91.90**	**48**	IAmb	IAmb		05 03 50.1	
	comp=Z,7.5nm,0.8s							
KNB	**Kanab**	**91.92**	**47**	IAmb	IAmb		05 03 50.1	
	comp=Z,14nm,1.4s							
P17K	**Kvichak River**	**91.93**	**12**	P	**P**		**05 03 45.3**	**-0.4**
	baz=200							
WUAZ	**Wupatki**	**91.94**	**49**	P	**P**		**05 03 47.1**	**+0.6**
	baz=233							
WVOR	**Wild Horse Val**	**91.95**	**40**	IAmb	IAmb		05 03 49.1	
	comp=Z,9.0nm,1.1s							
Q12A	**Willow Creek R**	**91.95**	**45**	IAmb	IAmb		05 03 49.4	
	comp=Z,7.4nm,0.9s							
O16K	**Kokwok River B**	**92.04**	**11**	P	**P**		**05 03 46.3**	**+0.2**
	baz=198							
M13K	**Dall Lake**	**92.11**	**8**	P	**P**		**05 03 46.7**	**+0.3**
	baz=194							
Q20K	**Shuyak Island**	**92.14**	**14**	P	**P**		**05 03 47.3**	**+0.7**
	baz=203							
Q19K	**Cape Douglas,**	**92.19**	**13**	P	**P**		**05 03 46.8**	**-0.1**
	baz=202							
N15K	**Kwethluk River**	**92.29**	**9**	P	**P**		**05 03 48.0**	**+0.7**
	baz=197,SNR=14							
P18K	**Big Mountain,**	**92.33**	**12**	P	**P**		**05 03 47.2**	**-0.4**
	baz=201							
O17K	**Koliganek Bris**	**92.37**	**11**	P	**P**		**05 03 46.8**	**-0.9**
	baz=199							
121A	**Cookes Peak, D**	**92.57**	**53**	P	**P**		**05 03 49.3**	**-0.2**
	baz=235							
I07A	**Izee**	**92.57**	**39**	IAmb	IAmb		05 03 52.0	
	comp=Z,11nm,1.1s							
M14K	**Bethel**	**92.61**	**8**	P	**P**		**05 03 49.2**	**+0.5**
	baz=195							
CMAR	**Chiang Mai Arr**	**92.61**	**290**	P	**P**		**05 03 48.6**	**-1.3**
	comp=Z,0.6nm,0.3s,baz=134,slow=3.9,SNR=1.9							
	comp=Z,0.6nm,0.3s							
M15K	**Kasigluk River**	**92.72**	**9**	P	**P**		**05 03 48.7**	**-0.5**
	baz=196,SNR=9.8							
W18A	**Petrified Fore**	**92.77**	**50**	P	**P**		**05 03 50.7**	**+0.3**
	baz=234							
O18K	**Koktuh Hills**	**92.77**	**12**	P	**P**		**05 03 49.5**	**-0.1**
	baz=201							
N16K	**Nishlik Lake**	**92.78**	**10**	P	**P**		**05 03 50.0**	**+0.4**
	baz=198,SNR=11							
P19K	**Oil Pt**	**92.94**	**13**	P	**P**		**05 03 51.4**	**+1.0**
	baz=202							
MTPU	**Mount Pierson**	**92.95**	**47**	IAmb	IAmb		05 03 55.5	
	comp=Z,24nm,1.9s							
N17K	**Nushagak Hills**	**93.07**	**11**	P	**P**		**05 03 51.3**	**+0.4**
	baz=199							
L14K	**Kuka Creek**	**93.09**	**8**	IAmb	IAmb		05 03 52.6	
	comp=Z,12nm,0.9s							
L14K	**Kuka Creek**	**93.09**	**8**	P	**P**		**05 03 51.3**	**+0.4**
	baz=194							
O19K	**Port Alsworth**	**93.25**	**12**	P	**P**		**05 03 51.5**	**-0.2**
	baz=201							
HOM	**Homer**	**93.26**	**14**	P	**P**		**05 03 51.8**	**0.0**
	baz=204							
M16K	**Timber Creek**	**93.28**	**10**	P	**P**		**05 03 52.4**	**+0.6**
	baz=198,SNR=6.8							
N18K	**Kilae Creek**	**93.43**	**11**	P	**P**		**05 03 52.8**	**+0.2**
	baz=200							
K13K	**Kusilvak Mount**	**93.45**	**7**	P	**P**		**05 03 53.1**	**+0.4**
	baz=193							
O20K	**Slope Mountain**	**93.46**	**13**	P	**P**		**05 03 53.0**	**+0.1**
	baz=203							
BRSE	**Bradley Lake S**	**93.52**	**14**	P	**P**		**05 03 53.3**	**+0.2**
	baz=204							
L15K	**Ungalak Mounta**	**93.56**	**8**	P	**P**		**05 03 53.3**	**+0.1**
	baz=195,SNR=5.9							
TXAR	**Lajitas Array**	**93.67**	**58**	P	**P**		**05 03 56.5**	**+1.9**
	comp=Z,1.2nm,1.0s,baz=219,slow=5.6,SNR=9.3							
	comp=Z,1.2nm,1.0s							
MNTX	**Cornudas Mount**	**93.76**	**55**	P	**P**		**05 03 54.9**	**+0.1**
	baz=236							
N19K	**Bonanza Creek**	**93.80**	**12**	IAmb	IAmb		05 03 55.4	
	comp=Z,14nm,1.1s							
N19K	**Bonanza Creek**	**93.80**	**12**	P	**P**		**05 03 54.6**	**+0.3**
	baz=201							
L16K	**Owhat River**	**93.86**	**9**	P	**P**		**05 03 55.0**	**+0.5**
	baz=197,SNR=8.2							
M17K	**Holitna River**	**93.86**	**10**	P	**P**		**05 03 55.1**	**+0.5**
	baz=199							
DUG	**Dugway, Tooele**	**93.89**	**45**	P	**P**		**05 03 56.1**	**+0.7**
	baz=232							
Y22D	**IRIS PASSCAL I**	**94.05**	**52**	P	**P**		**05 03 55.4**	**-0.8**
	baz=235							
Y22F	**Passcal Instru**	**94.05**	**52**	P	**P**		**05 03 55.8**	**-0.5**
	baz=235							
SEW	**Seward**	**94.13**	**14**	P	**P**		**05 03 56.0**	**+0.3**
	baz=206							
K15K	**Wolf Creek Mou**	**94.16**	**8**	P	**P**		**05 03 55.8**	**0.0**
	baz=195							
M18K	**Stony River**	**94.20**	**11**	P	**P**		**05 03 56.2**	**+0.1**
	baz=200,SNR=5.8							
Q23K	**Middleton Isla**	**94.22**	**16**	P	**P**		**05 03 56.0**	**-0.2**
	baz=208							
TMUT	**Trail Mountain**	**94.32**	**46**	IAmb	IAmb		05 04 00.7	
	comp=Z,12nm,1.5s							
J14K	**Nanvaranak Lak**	**94.37**	**7**	P	**P**		**05 03 57.0**	**+0.2**
	baz=194							
O22K	**Cooper Landing**	**94.41**	**14**	P	**P**		**05 03 56.7**	**-0.3**
	baz=205							
L17K	**Donlin**	**94.43**	**10**	P	**P**		**05 03 57.4**	**+0.3**
	baz=198,SNR=6.3							
P23K	**Montague Islan**	**94.48**	**15**	P	**P**		**05 03 57.8**	**+0.4**
	baz=207							
N20K	**Mount Spurr**	**94.57**	**13**	P	**P**		**05 03 58.6**	**+0.7**
	baz=203							
PZH	**PanZhiHua**	**94.67**	**298**	P	**P**		**05 04 01.1**	**+1.8**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,80nm,7.4s							
L18K	**Granite Mounta**	**94.76**	**10**	P	**P**		**05 03 59.2**	**+0.6**
	baz=200							
MVCO	**Mesa Verde**	**94.81**	**49**	P	**P**		**05 03 59.5**	**-0.3**
	baz=234							
M19K	**Big River Lodg**	**94.83**	**12**	P	**P**		**05 03 59.0**	**0.0**
	baz=201							
ANMO	**Albuquerque**	**94.86**	**52**	P	**P**		**05 03 59.8**	**-0.2**
	baz=235							
RC01	**Rabbit Creek A**	**94.96**	**14**	P	**P**		**05 03 59.8**	**+0.2**
	baz=205							
K17K	**Iditarod**	**94.99**	**10**	IAmb	IAmb		05 04 02.5	
	comp=Z,12nm,1.1s							
K17K	**Iditarod**	**94.99**	**10**	P	**P**		**05 03 59.7**	**+0.1**
	baz=198,SNR=6.4							
L19K	**White Mountain**	**95.02**	**11**	P	**P**		**05 03 60.0**	**+0.1**
	baz=201,SNR=9.9							
M20K	**Styx River**	**95.03**	**12**	P	**P**		**05 04 00.3**	**+0.3**
	baz=202							
HLID	**Hailey**	**95.04**	**41**	P	**P**		**05 04 00.7**	**+0.1**
	baz=231							
SUA	**Susitna One**	**95.10**	**13**	P	**P**		**05 04 00.0**	**-0.3**
	baz=204							
KAIM	**Kayak Island**	**95.13**	**17**	P	**P**		**05 04 00.9**	**+0.6**
	baz=210							
J16K	**Anvik River**	**95.23**	**8**	P	**P**		**05 04 01.5**	**+0.7**
	baz=196							
U33K	**Whale Pass**	**95.33**	**24**	P	**P**		**05 04 02.1**	**+0.8**
	baz=219							
GLI	**Glacier Island**	**95.34**	**15**	P	**P**		**05 04 01.7**	**+0.4**
	baz=208							
EYAK	**Cordova Ski Ar**	**95.36**	**16**	P	**P**		**05 04 01.8**	**+0.4**
	baz=209							
SKT	**Skwentna**	**95.42**	**13**	P	**P**		**05 04 02.0**	**+0.3**
	baz=204							
L20K	**Farewell, AK**	**95.46**	**12**	P	**P**		**05 04 02.3**	**+0.5**
	baz=202							
M22K	**Willow**	**95.49**	**13**	P	**P**		**05 04 02.7**	**+0.8**
	baz=205							
J17K	**VABM Dome**	**95.53**	**9**	P	**P**		**05 04 02.5**	**+0.4**
	baz=198							
S31K	**Pelican**	**95.77**	**21**	P	**P**		**05 04 02.8**	**-0.5**
	baz=216							
I17K	**Unalakdeet**	**95.80**	**8**	P	**P**		**05 04 03.3**	**+0.1**
	baz=196							
J18K	**Innoko River**	**95.93**	**10**	IAmb	IAmb		05 04 06.7	
	comp=Z,8.8nm,0.8s							
J18K	**Innoko River**	**95.93**	**10**	P	**P**		**05 04 04.2**	**+0.2**
	baz=200,SNR=9.5							
HHC	**Hu-ho-hao-te**	**95.95**	**315**	*e*P	**P**		**05 04 09.1**	**+4.4**
HHC	**Hu-ho-hao-te**	**95.95**	**315**	S	**S**		**05 15 01.1**	**+1.5**
HHC				pmax	pmax			
	comp=Z,7.0nm,1.1s							
HHC				pmax	pmax			
	comp=Z,66nm,6.0s							
ANM	**Nome**	**95.97**	**6**	P	**P**		**05 04 04.5**	**+0.4**
	baz=192							
MESA	**MESA**	**95.98**	**18**	P	**P**		**05 04 05.5**	**+1.0**
	baz=212							
BMRM	**Bremner River**	**96.00**	**16**	P	**P**		**05 04 04.1**	**-0.3**
	baz=210							
CUT	**Chulitna**	**96.05**	**13**	P	**P**		**05 04 05.3**	**+0.9**
	baz=205							
SCM	**Sheep Creek Mo**	**96.14**	**15**	P	**P**		**05 04 05.8**	**+0.8**
	baz=207							
PPLA	**Purkeypile**	**96.14**	**12**	P	**P**		**05 04 05.8**	**+0.7**
	baz=203							
KLU	**Klutina**	**96.15**	**15**	P	**P**		**05 04 05.9**	**+0.8**
	baz=208							
ISLE	**Juniper Island**	**96.24**	**17**	IAmb	IAmb		05 04 07.9	
	comp=Z,11nm,1.0s							
K20K	**Telida**	**96.25**	**11**	IAmb	IAmb		05 04 06.5	
	comp=Z,12nm,1.2s							
K20K	**Telida**	**96.25**	**11**	P	**P**		**05 04 05.3**	**-0.1**
	baz=202							
833A	**Chaparral WMA,**	**96.28**	**61**	P	**P**		**05 04 05.6**	**-0.8**
	baz=238							
R31K	**City Hall, Gus**	**96.29**	**21**	P	**P**		**05 04 06.6**	**+1.0**
	baz=217							
H16K	**Elim**	**96.35**	**7**	P	**P**		**05 04 06.0**	**+0.2**
	baz=195							
SEY	**Seymchan**	**96.42**	**347**	P	**P**		**05 04 05.8**	**-0.3**
	comp=Z,11nm,0.9s,baz=146,slow=5.7,SNR=21							
	comp=Z,11nm,0.9s							
G15K	**Niukluk**	**96.51**	**6**	P	**P**		**05 04 06.6**	**+0.1**
	baz=193							
N25K	**Chitina, Valde**	**96.56**	**16**	P	**P**		**05 04 06.9**	**0.0**
	baz=210							
NEW	**Newport**	**96.57**	**36**	P	**P**		**05 04 07.0**	**-0.3**
	baz=230							
J19K	**Porman**	**96.60**	**10**	P	**P**		**05 04 07.5**	**+0.6**
	baz=200							
CAST	**Castle Rocks**	**96.64**	**12**	IAmb	IAmb		05 04 07.0	
	comp=Z,6.6nm,1.0s							
CAST	**Castle Rocks**	**96.64**	**12**	P	**P**		**05 04 06.3**	**-0.8**
	baz=203,SNR=6.5							
O20A	**White River Ci**	**96.66**	**47**	P	**P**		**05 04 08.3**	**+0.2**
	baz=235							
WAT6	**Susitna Watana**	**96.72**	**14**	P	**P**		**05 04 07.4**	**-0.3**
	baz=207							
MCARA	**McCarthy VSAT**	**96.74**	**17**	IAmb	IAmb		05 04 10.0	
	comp=Z,12nm,1.0s							
MCARA	**McCarthy VSAT**	**96.74**	**17**	P	**P**		**05 04 08.1**	**+0.4**
	baz=211							
WAT1	**Susitna Watana**	**96.78**	**14**	P	**P**		**05 04 08.1**	**+0.3**
	baz=206							
F14K	**Arctic Creek**	**96.78**	**5**	P	**P**		**05 04 07.8**	**+0.1**
	baz=191							
BARN	**Barnard Glacie**	**96.81**	**17**	IAmb	IAmb		05 04 11.2	
	comp=Z,11nm,1.1s							
CTGM	**Chitina Glacie**	**96.81**	**18**	IAmb	IAmb		05 04 11.0	
	comp=Z,6.7nm,1.0s							
H17K	**Granite Mounta**	**96.91**	**8**	P	**P**		**05 04 08.3**	**0.0**
	baz=197							
PLBC	**Pleasant Camp**	**96.94**	**20**	P	**P**		**05 04 09.6**	**+1.0**
	baz=216							
O28M	**Mount Upton**	**96.95**	**18**	P	**P**		**05 04 09.4**	**+0.4**
	baz=213							
J20K	**Nowinta River**	**97.00**	**11**	P	**P**		**05 04 09.2**	**+0.5**
	baz=202,SNR=5.1							
TRF	**Thorofare Moun**	**97.00**	**13**	P	**P**		**05 04 08.8**	**-0.2**
	baz=205,SNR=8.7							
T35M	**Bob Quinn**	**97.01**	**25**	P	Pdif		05 04 09.5	+0.5
	baz=221							
CHUM	**Lake Minchumin**	**97.03**	**12**	P	**P**		**05 04 08.7**	**-0.1**
	baz=203							
G16K	**Koyuk River**	**97.07**	**7**	P	Pdif		05 04 09.5	+0.5
	baz=195							
JCT	**Junction City**	**97.11**	**59**	P	Pdif		05 04 10.5	+0.3
	baz=238							
GCSA	**Galena City Sc**	**97.12**	**9**	P	Pdif		05 04 10.1	+0.8
	baz=199							
F15K	**North Star Dit**	**97.15**	**6**	P	**P**		**05 04 09.1**	**-0.3**
	baz=193							
DHY	**Denali Highway**	**97.24**	**14**	P	Pdif		05 04 10.6	+0.5
	baz=207							
SKAG	**Skagway**	**97.26**	**21**	P	Pdif		05 04 10.7	+0.7
	baz=217							
H18K	**Honhosa River**	**97.31**	**9**	P	**P**		**05 04 09.7**	**-0.4**
	baz=198							
P30M	**Million Dollar**	**97.31**	**20**	P	**P**		**05 04 10.1**	**-0.2**
	baz=216							
MSO	**Missoula**	**97.34**	**39**	P	Pdif		05 04 11.4	+0.5
	baz=232							
G17K	**Kiwalik Mounta**	**97.36**	**8**	P	Pdif		05 04 10.7	+0.4
	baz=196							
BW06	**Boulder Array**	**97.39**	**44**	P	**P**		**05 04 11.1**	**-0.3**
	baz=234							
PDAR	**Pinedale Array**	**97.39**	**44**	P	Pdif		05 04 12.3	+0.9
	comp=Z,0.7nm,0.6s,baz=215,slow=3.0,SNR=5.2							
PDAR				PKKPbc	**PKKPbc**		**05 20 48.3**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=63,slow=4.4,SNR=5.3							
	comp=Z,0.7nm,0.6s							
S34M	**Telegraph Cree**	**97.41**	**24**	P	Pdif		05 04 11.6	+0.8
	baz=220							
T25A	**Trinidad**	**97.46**	**51**	P	**P**		**05 04 10.7**	**-1.0**
	baz=237							
BPAW	**Bear Paw Mtn.**	**97.47**	**12**	P	**P**		**05 04 10.9**	**0.0**
	baz=204							
YUK8	**Steele Glacier**	**97.49**	**18**	P	Pdif		05 04 11.4	0.0
	baz=214							
MCK	**McKinley**	**97.52**	**13**	P	**P**		**05 04 10.2**	**-0.9**
	baz=206							
I20K	**Naaghedeneel**	**97.53**	**10**	P	Pdif		05 04 11.3	+0.2
	baz=202							
PAX	**Paxson**	**97.55**	**15**	P	**P**		**05 04 11.3**	**-0.1**
	baz=209							
YUK6	**Outpost Mounta**	**97.59**	**19**	P	**P**		**05 04 10.9**	**-0.9**
	baz=215							
M26K	**Nabesna, AK**	**97.62**	**16**	P	**P**		**05 04 11.6**	**0.0**
	baz=211							
YUK3	**Moose Creek**	**97.72**	**17**	P	Pdif		05 04 12.4	0.0
	baz=213							
HYT	**Haines Junctio**	**97.73**	**19**	P	Pdif		05 04 12.5	+0.2
	baz=215							
YUK4	**Talbot Arm**	**97.84**	**18**	P	Pdif		05 04 13.7	+0.9
	baz=215							
M27K	**Edge Creek, AK**	**97.86**	**17**	P	**P**		**05 04 12.6**	**-0.3**
	baz=212							
BOZ	**Bozeman (W)**	**97.86**	**41**	P	Pdif		05 04 13.7	+0.4
	baz=233							
P32M	**Atlin**	**97.86**	**22**	P	**P**		**05 04 12.6**	**-0.3**
	baz=218							
H19K	**Roundabout Mou**	**97.92**	**9**	P	Pdif		05 04 13.4	+0.6
	baz=200							
Q24A	**Divide**	**97.97**	**49**	P	**P**		**05 04 14.2**	**0.0**
	baz=237							
G18K	**Tagagawik**	**97.98**	**8**	P	Pdif		05 04 13.7	+0.6
	baz=198							
L26K	**Log Cabin Wild**	**98.08**	**16**	P	Pdif		05 04 14.3	+0.6
	baz=211							
O30N	**Mendenhall**	**98.09**	**20**	P	Pdif		05 04 14.7	+0.9
	baz=217							
H20K	**Anotleneega Mo**	**98.12**	**10**	P	Pdif		05 04 14.2	+0.4
	baz=201							
ISCO	**Idaho Springs**	**98.14**	**48**	P	Pdif		05 04 15.4	+0.5
	baz=236							
DLBC	**Dease Lake**	**98.19**	**24**	P	Pdif		05 04 15.2	+0.8
	baz=221							
F17K	**Baldwin Pennin**	**98.20**	**7**	IAmb	IAmb		05 04 23.1	
	comp=Z,6.2nm,0.9s							
F17K	**Baldwin Pennin**	**98.20**	**7**	P	**P**		**05 04 14.8**	**+0.7**
	baz=196							
K24K	**Donnelly Dome**	**98.22**	**14**	P	**P**		**05 04 15.3**	**+1.0**
	baz=209							
NEA2	**Nenana**	**98.27**	**13**	P	**P**		**05 04 15.4**	**+0.9**
	baz=206							
LZH	**Lanzhou**	**98.28**	**307**	*e*P	**P**		**05 04 15.4**	**0.0**
LZH				pP	pwP		05 05 21.6	+0.6
LZH				pmax	pmax			
	comp=Z,16nm,1.1s							
I21K	**Tanana**	**98.29**	**11**	IAmb	IAmb		05 04 25.5	
	comp=Z,4.9nm,0.9s							
I21K	**Tanana**	**98.29**	**11**	P	**P**		**05 04 15.5**	**+1.0**
	baz=204							
WRH	**Wood River Hil**	**98.35**	**13**	IAmb	IAmb		05 04 19.0	
	comp=Z,4.8nm,0.8s							
ABTX	**Abilene, Hawle**	**98.35**	**57**	P	Pdif		05 04 15.4	-0.2
	baz=239							
WHY	**Whitehorse**	**98.36**	**20**	P	**P**		**05 04 15.3**	**+0.3**
	baz=218							
MLY	**Manley**	**98.36**	**12**	P	**P**		**05 04 15.7**	**+0.7**
	baz=205							
N30M	**Aishikik Lake**	**98.36**	**19**	P	**P**		**05 04 15.2**	**+0.2**
	baz=216							
G19K	**Purcell Mounta**	**98.42**	**9**	IAmb	IAmb		05 04 16.5	
	comp=Z,5.2nm,1.0s							
G19K	**Purcell Mounta**	**98.42**	**9**	P	**P**		**05 04 15.5**	**+0.4**
	baz=199							
L27K	**Beaver Creek,**	**98.47**	**16**	P	**P**		**05 04 15.8**	**+0.4**
	baz=212							
HDA	**Harding Lake**	**98.52**	**14**	IAmb	IAmb		05 04 28.3	
	comp=Z,4.4nm,0.7s							
HDA	**Harding Lake**	**98.52**	**14**	P	Pdif		05 04 15.3	-0.2
	baz=208							
F18K	**Selawik**	**98.54**	**8**	P	**P**		**05 04 15.8**	**+0.3**
	baz=197							
N23A	**Red Feather La**	**98.54**	**47**	P	Pdif		05 04 16.2	-0.3
	baz=236							
H21K	**Melozitna Rive**	**98.59**	**11**	IAmb	IAmb		05 08 20.2	
	comp=Z,14nm,1.6s							
H21K	**Melozitna Rive**	**98.59**	**11**	P	**P**		**05 04 16.3**	**+0.4**
	baz=203							
R33M	**Jennings River**	**98.60**	**23**	P	Pdif		05 04 16.2	0.0
	baz=221							
P33M	**Teslin, Yukon**	**98.64**	**21**	P	**P**		**05 04 17.1**	**+0.8**
	baz=219							
N31M	**Braeburn, Yuko**	**98.76**	**20**	P	**P**		**05 04 17.9**	**+1.1**
	baz=217							
SCRK	**Sand Creek**	**98.76**	**15**	IAmb	IAmb		05 08 20.1	
	comp=Z,7.1nm,1.3s							
SCRK	**Sand Creek**	**98.76**	**15**	P	Pdif		05 04 16.8	0.0
	baz=210							
E17K	**Hotham Inlet**	**98.77**	**7**	P	**P**		**05 04 17.3**	**+0.7**
	baz=195							
M29M	**Somme Creek**	**98.80**	**18**	P	**P**		**05 04 17.5**	**+0.5**
	baz=215							
ILAR	**Eielson Array**	**98.85**	**13**		Pdif		05 04 16.8	-0.2
ILAR	**Eielson Array**	**98.85**	**13**	P	Pdif		05 04 16.6	-0.5
	comp=Z,2.0nm,0.6s,baz=227,slow=5.2,SNR=14							
ILAR				PKiKP	**PKiKP**		**05 08 46.1**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=204,slow=4.8,SNR=5.1							
ILAR				PKKPbc	**PKKPbc**		**05 20 44.5**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=26,slow=2.3,SNR=9.7							
	comp=Z,2.0nm,0.6s							
RLMT	**Red Lodge**	**98.93**	**42**	P	Pdif		05 04 17.9	-0.2
	baz=235							
F19K	**Shaleruckik Mo**	**98.99**	**8**	P	Pdif		05 04 17.3	-0.2
	baz=199							
J25K	**Salcha River,**	**99.02**	**14**	P	**Pdif**		**05 04 17.9**	**+0.1**
	baz=209							
H22K	**Ishtalitna Cre**	**99.04**	**11**	P	**Pdif**		**05 04 18.4**	**+0.6**
	baz=204							
POKR	**Poker Plat Res**	**99.05**	**13**	P	**Pdif**		**05 04 18.2**	**+0.3**
	baz=208							
K22A	**Casper**	**99.15**	**46**	P	**Pdif**		**05 04 19.5**	**+0.3**
	baz=236							
E18K	**Tukpahlearik C**	**99.22**	**7**	P	**Pdif**		**05 04 19.0**	**+0.4**
	baz=196							
K27K	**Chicken**	**99.24**	**16**	IAmb	IAmb		05 04 21.5	
	comp=Z,3.6nm,0.9s							
K27K	**Chicken**	**99.24**	**16**	P	**Pdif**		**05 04 19.6**	**+0.8**
	baz=212							
**D17

C18K	Utukok River	100.35	7	P		Pdif	05 04 25.0	+1.3
	baz=196							
H25L	Birch Creek	100.39	13	P		Pdif	05 04 25.2	+1.5
	baz=209							
F22K	John River	100.40	10	P		Pdif	05 04 24.6	+0.7
	baz=204							
COLD	Coldfoot	100.46	11	P		Pdif	05 04 25.4	+1.3
	baz=205							
D19K	Kuna River	100.53	8	P		Pdif	05 04 24.0	-0.4
	baz=199							
E20K	Nigu River	100.54	9	P		Pdif	05 04 24.8	+0.2
	baz=200							
I27K	Kandik River	100.68	15	P		Pdif	05 04 26.2	+0.9
	baz=212							
G25K	Bearman Lake	100.77	13	P		Pdif	05 04 26.5	+1.0
	baz=209							
D20K	Etivluk River	100.92	8	P		Pdif	05 04 26.9	+0.7
	baz=200							
I28M	Miner Creek	100.93	16	P		Pdif	05 04 27.3	+0.9
	baz=214							
C19K	Lookout Ridge	100.95	7	P		Pdif	05 04 27.0	+0.7
	baz=197							
B18K	Kokolik River	100.98	6	P		Pdif	05 04 27.0	+0.7
	baz=195							
E21K	Killik River	101.01	9	P		Pdif	05 04 27.2	+0.7
	baz=202							
E22K	Anaktuvuk Pass	101.03	10	P		Pdif	05 04 27.1	+0.4
	baz=204							
J30M	Hart River	101.10	17	P		Pdif	05 04 28.2	+1.1
	baz=217							
F24K	Squaw Lake	101.11	12	P		Pdif	05 04 28.7	+1.6
	baz=207							
H27K	Steamboat Moun	101.24	15	P		Pdif	05 04 28.7	+1.1
	baz=213							
I29M	Ogilvie Camp,	101.25	16	P		Pdif	05 04 29.1	+1.4
	baz=215							
E23K	Chandalar	101.31	11	P		Pdif	05 04 29.3	+1.3
	baz=206							
G26K	Porcupine Rive	101.38	13	P		Pdif	05 04 29.4	+1.2
	baz=211							
RSSD	Black Hills	101.48	45	P		Pdif	05 04 30.3	+0.8
	baz=238							
E24K	Your Creek	101.51	11	P		Pdif	05 04 29.4	+0.6
	baz=207							
KOTAN	Kotaneelee Air	101.53	25	P		Pdif	05 04 29.8	+0.8
	baz=226							
NATX	Nacogdoches	101.56	60	P		Pdif	05 04 29.6	-0.3
	baz=241							
LAO	LASA Array	101.56	42	P		Pdif	05 04 30.1	+0.5
	baz=237							
C21K	Kniveblade Rid	101.56	9	P		Pdif	05 04 29.6	+0.6
	baz=202							
F25K	Christian Rive	101.58	13	P		Pdif	05 04 29.5	+0.3
	baz=209							
D22K	Ayikyak River	101.59	10			Pdif	05 04 30.5	+1.4
D22K	Ayikyak River	101.59	10	P		Pdif	05 04 29.9	+0.7
	baz=203							
I30M	Mount Dempster	101.61	17	P		Pdif	05 04 30.1	+0.6
	baz=217							
G27K	Doyon Strip	101.70	14	P		Pdif	05 04 30.2	+0.5
	baz=212							
TOLK	Toolik Lake Re	101.84	11	P		Pdif	05 04 30.9	+0.6
	baz=206							
H29M	Whitestone	101.94	16	P		Pdif	05 04 31.7	+1.0
	baz=215							
F26K	Sheenjek River	101.96	13	P		Pdif	05 04 31.7	+0.8
	baz=210							
D23K	Nanushuk River	101.97	10	P		Pdif	05 04 32.2	+1.4
	baz=205							
B21K	Ikpikpuk River	102.02	9	P		Pdif	05 04 31.1	+0.1
	baz=202							
E25K	Arctic Village	102.06	12	P		Pdif	05 04 31.2	-0.1
	baz=209							
B20K	Meade River	102.08	8	P		Pdif	05 04 31.5	+0.3
	baz=200							
D24K	Happy Valley	102.42	11	P		Pdif	05 04 33.8	+1.0
	baz=207							
EPYK	Eagle Plains	102.45	16	P		Pdif	05 04 34.2	+1.1
	baz=217							
G29M	Pine Creek	102.58	15	P		Pdif	05 04 34.1	+0.5
	baz=216							
H31M	Peel River	102.59	17	P		Pdif	05 04 35.0	+1.4
	baz=219							
F28M	Old Crow	102.76	14	P		Pdif	05 04 35.4	+1.0
	baz=214							
C23K	Itkillik River	102.77	10	P		Pdif	05 04 35.2	+0.9
	baz=205							
B22K	Teshekpuk Lake	102.85	9	P		Pdif	05 04 35.8	+1.2
	baz=203							
E27K	Coleen River	102.88	14	P		Pdif	05 04 35.9	+1.0
	baz=213							
C24K	Franklin Bluff	102.95	10	P		Pdif	05 04 35.5	+0.4
	baz=207							
D25K	Kavik River	102.98	11	P		Pdif	05 04 36.0	+0.7
	baz=209							
G30M	tAoh Zraii Nji	103.06	16	P		Pdif	05 04 36.3	+0.5
	baz=217							
A22K	Sinclair Lake	103.27	8	P		Pdif	05 04 37.3	+0.8
	baz=202							
G31M	Satah River	103.48	17	P		Pdif	05 04 37.7	+0.2
	baz=219							
E28M	Babbage River	103.65	14	P		Pdif	05 04 38.4	+0.1
	baz=215							
F30M	Barrier River	103.67	16	P		Pdif	05 04 38.9	+0.5
	baz=218							
MIAR	Mount Ida	103.70	58	P		Pdif	05 04 40.2	+0.9
	baz=242							
C27K	Jago River	103.71	12	P		Pdif	05 04 39.0	+0.5
	baz=211							
KSU1	Kansas State U	103.73	53	P		Pdif	05 04 40.7	+1.3
	baz=241							
C26K	Camden Bay	103.75	12	P		Pdif	05 04 39.4	+0.8
	baz=210							
E29M	Blow River	103.82	15	P		Pdif	05 04 39.7	+0.6
	baz=216							
D27M	Malcolm River	103.90	13	P		Pdif	05 04 40.6	+1.1
	baz=213							
F31M	Tsiigehtchic	104.02	16	P		Pdif	05 04 41.2	+1.3
	baz=219							
INK	Inuvik	104.74	16	P		Pdif	05 04 44.3	+1.2
	baz=220							
YKA	Yellowknife Ar	106.54	26	Pdiff		Pdif	05 04 52.6	+1.4
	comp=Z,0.2nm,0.8s,baz=245,slow=4.6,SNR=2.3							
YKA				PKiKP		PKiKP	05 09 00.2	-0.3
	comp=Z,0.3nm,0.5s,baz=265,slow=1.9,SNR=24							
YKA				PKKPbc		PKKPbc	05 20 18.6	-4.1
	comp=Z,0.4nm,0.6s,baz=34,slow=3.4,SNR=14							
C36M	Paulatuk	107.86	18	P		PKiKP	05 09 03.8	+1.1
	baz=228							
LRAL	Lakeview Retre	107.89	62	P		PKiKP	05 09 04.5	+0.6
	baz=244							
AGMN	Agassiz Nation	108.46	44	P		PKiKP	05 09 05.4	+0.9
	baz=244							
WVT	Waverly	108.60	59	P		PKiKP	05 09 06.0	+0.8
	baz=245							
TIXI	Tiksi	108.65	345	PKiKP		PKiKP	05 09 03.2	-0.9
	comp=Z,3.3nm,0.7s,baz=58,slow=1.2,SNR=11							
A36M	Sachs Harbour	109.37	15	P		PKiKP	05 09 06.2	+0.7
	baz=228							
JFWS	Jewell Farm	109.74	51	P		PKiKP	05 09 08.3	+1.2
	baz=246							
TIGA	Tifton	109.83	65	P		PKiKP	05 09 07.8	+0.3
	baz=245							
GOGA	Godfrey	110.74	63	P		PKiKP	05 09 10.2	+1.0
	baz=246							
GLMI	Grayling	114.23	51	P		PKiKP	05 09 17.1	+1.5
	baz=250							
O53A	New Philadelph	115.00	57	P		PKiKP	05 09 17.4	+0.2
	baz=250							
M53A	WI Miller and	115.79	56	P		PKPdf	05 09 18.6	-0.1
	baz=251							
BOSA	Boshof	116.19	204	PKP		PKiKP	05 09 20.6	+0.5
	comp=Z,0.6nm,0.4s,baz=180,slow=4.0,SNR=5.1							
BOSA				PKKPbc		PKKPab	05 19 55.7	-3.1
	comp=Z,1.6nm,0.7s,baz=270,slow=3.1,SNR=4.8							
CBN	Corbin Frederi	117.11	60	P		PKiKP	05 09 21.4	+0.1
	baz=251							
MKAR	Makanchi Array	117.39	310	PKP		PKPdf	05 09 20.5	-1.1
	comp=Z,3.7nm,0.8s,baz=102,slow=1.1,SNR=23							
MKAR				SKP			05 12 28.8	
	comp=Z,0.5nm,0.6s,baz=120,slow=4.0,SNR=2.6							
SSPA	Standing Stone	117.52	57	P		PKiKP	05 09 22.7	+0.7
	baz=252							
ZALV	Zalesovo Beam	117.83	318	PKP		PKPdf	05 09 20.4	-1.7
	comp=Z,1.5nm,0.5s,baz=109,slow=1.1,SNR=7.0							
RES	Resolute Bay	118.23	17	PKP		PKPdf	05 09 21.6	-0.8
	comp=Z,3.7nm,0.9s,baz=315,slow=2.6,SNR=7.2							
RES				SKP			05 12 30.6	
	comp=Z,2.1nm,0.8s,baz=298,slow=1.2,SNR=5.0							
BINY	Binghamton	119.36	56	P		PKiKP	05 09 26.2	+0.6
	baz=254							
KSH	Kashi	119.66	301	PKP		PKPdf	05 09 25.6	-0.8
BOOM	Boomskoye usch	120.53	304	PKPdf		PKPdf	05 09 27.6	-0.4
KURBB	Kurchatov Arra	120.78	314	PKP		PKPdf	05 09 26.8	-1.1
	comp=Z,7.9nm,0.6s,baz=109,slow=1.8,SNR=60							
KURBB				SKP			05 12 36.9	
	comp=Z,0.7nm,0.2s,baz=80,slow=2.3,SNR=4.3							
LONY	Lake Ozonia	120.99	54	P		PKPdf	05 09 28.4	-0.2
	baz=256							
AAK	Ala-Archa	121.60	304	PKP		PKPdf	05 09 29.2	-0.8
	comp=Z,4.6nm,0.7s,baz=236,slow=3.6,SNR=4.8							
L61B	Northampton	121.79	57	P		PKPdf	05 09 30.3	+0.1
	baz=256							
LBNH	Lisbon	122.75	55	P		PKiKP	05 09 32.5	+0.3
	baz=257							
KK31	Karatay Array	124.56	303	PKPdf		PKPdf	05 09 34.9	-0.6
PKME	Peaks-Kenny Pk	124.80	54	P		PKiKP	05 09 36.4	+0.2
	baz=259							
BVAR	Borovoye Array	126.15	315	PKP		PKPdf	05 09 37.4	-0.8
	comp=Z,13nm,0.7s,baz=86,slow=1.9,SNR=50							
SCHQ	Schefferville	127.48	42	PKP		PKPdf	05 09 40.4	-0.3
	comp=Z,4.0nm,0.9s,baz=248,slow=5.4,SNR=3.6							
NEEM	North Greenlan	128.14	13	*i* P		PKPdf	05 09 39.4	-2.3
SPITS	Spitsbergen Ar	132.32	356	PKP		PKiKP	05 09 50.1	-0.3
	comp=Z,17nm,0.7s,baz=64,slow=3.4,SNR=26							
SPITS				SKPbc		SKPbc	05 12 50.3	-0.5
	comp=Z,14nm,0.8s,baz=46,slow=6.2,SNR=4.5							
GEYT	Alibeck	132.87	295	PKP		PKPdf	05 09 50.9	-0.7
	comp=Z,1.8nm,0.7s,baz=151,slow=3.3,SNR=4.4							
GEYT				SKPbc		SKPbc	05 12 51.7	-2.2
	comp=Z,2.5nm,0.7s,baz=101,slow=1.5,SNR=5.4							
ARU	Arti	132.94	320	PKP		PKPdf	05 09 50.3	-0.7
	comp=Z,9.8nm,0.4s,baz=269,slow=3.8,SNR=13							
ARU				SKPbc		SKPbc	05 12 51.3	-2.1
	comp=Z,4.3nm,0.2s,baz=73,slow=1.0,SNR=9.3							
DAG	Danmarks Havn	133.35	6	*i* P		PKPdf	05 09 48.0	-3.2
SUMG	Summit	133.66	15	*i* P		PKPdf	05 09 53.0	+0.6
AKTO	Aktyubinsk	133.77	312	PKP		PKPdf	05 09 52.1	-0.6
	comp=Z,8.1nm,0.6s,baz=113,slow=3.9,SNR=22							
AKTO				SKPbc		SKPbc	05 12 55.4	-1.1
	comp=Z,9.3nm,0.9s,baz=100,slow=3.2,SNR=15							
DBG	Daneborg	135.44	8	*i* P		PKPdf	05 09 52.4	-2.8
SCO	Scoresbysund	138.59	11	*i* P		PKPdf	05 10 00.4	-0.7
ARCES	ARCESS Array B	139.03	347	PKhKP		PKPpre	05 09 55.0	
	comp=Z,8.8nm,0.8s,baz=56,slow=1.8,SNR=23							
ARCES				PKP		PKPdf	05 10 00.5	-1.4
	comp=Z,12nm,0.6s,baz=70,slow=1.3,SNR=13							
ARCES				SKPbc		SKPbc	05 13 09.9	-1.7
	comp=Z,6.7nm,0.7s,baz=29,slow=2.1,SNR=9.3							
BELG	Belogornoye	139.95	316	PKhKP		PKPpre	05 09 56.0	
	comp=Z,14nm,0.7s,baz=338,slow=0.8,SNR=3.8							
BELG				PKP		PKPdf	05 10 04.6	+0.6
	comp=Z,36nm,0.9s,baz=170,slow=1.4,SNR=8.1							
BELG				SKPbc		SKPbc	05 13 14.3	-0.3
	comp=Z,30nm,1.0s,baz=56,slow=3.6,SNR=8.7							
STEI	Steigen	142.16	351	*e*P		PKPdf	05 10 04.6	-3.0
KONS	Konsvik	143.79	352	*e*P		PKPbc	05 10 08.6	-0.3
MOR8	Moi Rana	143.92	351	*e*P		PKPab	05 10 07.5	-1.3
STOK	Stokkvaagen	143.96	352	*e*P		PKPab	05 10 08.9	+0.1
KBZ	Khabaz	144.59	303	PKP		PKPab	05 10 11.7	-0.3
	comp=Z,6.9nm,0.7s,baz=231,slow=1.1,SNR=15							
OBN	Obninsk	145.11	324	⇑P		PKPdf	05 10 12.9	-0.2
OBN	Obninsk	145.11	324	PKP		PKPdf	05 10 13.0	-0.1
	comp=Z,96nm,0.5s,baz=20,slow=3.6,SNR=27							
FINES	FINESS Array B	145.41	339	PKPbc		PKPdf	05 10 13.2	-0.2
	comp=Z,147nm,0.7s,baz=49,slow=4.2,SNR=426							
FINES				SKPbc		SKPbc	05 13 27.1	-0.6
	comp=Z,3.3nm,0.7s,baz=48,slow=2.1,SNR=2.3							
BCA	Borcka	145.74	299	⇑P		PKPdf	05 10 14.3	-0.4
NSS	Namsos	145.82	351	*e*P		PKPdf	05 10 14.5	+0.5
TBLU	Trondheim	147.26	352	*e*P		PKPbc	05 10 18.0	-1.3
MOL	Molde	148.21	354	*e*P		PKPbc	05 10 21.6	-0.1
DOMB	Dombas	148.57	352	*e*P		PKPbc	05 10 22.3	-0.5
AKN	Aaknes	148.65	354	*e*P		PKPbc	05 10 23.0	+0.1
NB2	NORSAR Subarra1	149.26	350	PKP		PKPbc	05 10 23.8	-0.7
	comp=Z,36nm,0.6s,baz=17,slow=2.6							
NB2	NORSAR Subarra1	149.26	350	PKPab		PKPbc	05 10 23.8	-0.7
	baz=17,slow=2.6							
NOA	NORSAR Array B	149.26	350	PKPbc		PKPbc	05 10 23.7	-0.7
	comp=Z,33nm,0.7s,baz=15,slow=4.2,SNR=130							
FOO	Floro	149.36	356	*e*P		PKPbc	05 10 24.7	+0.1
NC602	NORSAR Array S	149.50	350	*e*P		PKPbc	05 10 24.6	-0.4
HFS	Hagfors	149.70	347	PKPbc		PKPbc	05 10 24.1	-1.4
	comp=Z,52nm,0.8s,baz=85,slow=3.5,SNR=87							
HYA	Hoyanger	149.71	355	*e*P		PKPbc	05 10 25.5	0.0
SUE	Sulen	149.92	356	*e*P		PKPbc	05 10 26.1	+0.1
SKAR	Skarslia	149.99	353	*e*P		PKPbc	05 10 26.5	+0.2
DIKM	Dikmen	150.46	301	⇑P		PKPdf	05 10 23.3	+1.0
ASK	Askoy	150.46	356	*e*P		PKPbc	05 10 27.6	+0.3
BER	Bergen	150.55	355	*e*P		PKiKP	05 10 27.8	-0.3
MMAI	Mount Meron Ar	150.64	283	PKPbc		PKPbc	05 10 28.8	0.0
	comp=Z,6.7nm,0.5s,baz=84,slow=7.2,SNR=12							
KONO	Kongsberg	150.83	351	*e*P		PKPbc	05 10 27.6	-0.6
ODD1	Odda	150.91	354	*e*P		PKPbc	05 10 28.7	+0.3
STRU	Stroemstad	151.18	349	*i* P		PKPbc	05 10 27.6	-1.4
AKASG	Malin Array Be	151.18	321	PKPbc		PKPbc	05 10 28.4	-0.9
	comp=Z,24nm,0.7s,baz=55,slow=2.6,SNR=81							
AKBB	Malin Array Si	151.18	321	PKP		PKPbc	05 10 28.7	-0.6
KIEV	Kiev	151.19	321	⇑P		PKPbc	05 10 28.0	-1.3
BLS5	Blasjo	151.41	354	*e*P		PKPbc	05 10 29.6	0.0
MI30	MI30,Zelenitsa	151.71	322	PKP		PKPbc	05 10 29.8	-0.7
KMY	Karmoy	151.72	355	*e*P		PKiKP	05 10 30.4	-0.1
BRTR	Keskin Array B	151.97	297	PKP		PKPdf	05 10 24.4	-0.6
	comp=Z,0.6nm,0.7s,baz=40,slow=2.5,SNR=4.3							
BRTR				PKPbc		PKPbc	05 10 30.8	-0.9
	comp=Z,7.7nm,0.9s,baz=117,slow=2.8,SNR=30							
BRTR				PKPab		PKPab	05 10 38.2	-3.9
	comp=Z,2.7nm,0.6s,baz=120,slow=3.2,SNR=11							
SUW	Suwalki	151.99	331	*e*PKP		PKPbc	05 10 30.6	-0.4
TJOU	Tjoern	152.05	348	*i* P		PKPbc	05 10 29.7	-1.3
BORU	Boraas	152.20	346	*i* P		PKPbc	05 10 29.7	-1.7
HOMB	Homborsund	152.31	351	*e*P		PKPbc	05 10 31.3	-0.3
HOMB	Homborsund	152.31	351	*i* P		PKPbc	05 10 30.7	-0.8
SNART	Snartemo	152.40	353	*e*P		PKiKP	05 10 32.1	+0.1
SNART	Snartemo	152.40	353	*i* P		PKPbc	05 10 30.5	-1.3
ONAU	Onsala	152.59	347	*i* P		PKPbc	05 10 30.7	-1.5
BLEU	Blekinge	152.67	342	*i* P		PKPbc	05 10 31.0	-1.4
FABU	Falkenberg	152.79	346	*i* P		PKPbc	05 10 31.3	-1.4
SORM	Soroca	152.97	317	⇑P		PKPdf	05 10 29.1	+3.2
DEL	Delary	153.02	344	*i* P		PKPbc	05 10 31.8	-1.4
BJUU	Bjuv	153.58	344	*i* P		PKPbc	05 10 33.6	-0.8
BSD	Bornholm Skovb	153.96	341	*i* P		PKPbc	05 10 34.4	-0.8
LLD	Lille Linde	154.44	345	*i* P		PKPbc	05 10 35.5	-0.8
VRI	Vrincioaia	155.02	314	⇓P		PKPdf	05 10 33.1	+4.2
BURAR	Bucovina Array	155.05	318	⇓P		PKPdf	05 10 33.7	+4.7
DBIC	Dimbokro	155.14	167	PKP		PKPdf	05 10 31.1	+1.1
	comp=Z,3.2nm,0.7s,baz=158,slow=5.1,SNR=3.8							
DBIC				PKPab		PKPab	05 10 57.3	+1.5
	comp=Z,5.1nm,0.9s,baz=196,slow=6.7,SNR=4.0							
TURR	Turia	155.38	314	⇑P		PKPdf	05 10 30.4	+1.0
EKA	Eskdalemuir Ar	155.62	5	PKP		PKPdf	05 10 29.4	+0.1
	comp=Z,0.5nm,0.6s,baz=358,slow=2.4,SNR=5.3							
EKA				PKPab		PKPab	05 10 55.8	-1.0
	comp=Z,4.0nm,0.6s,baz=322,slow=2.6,SNR=13							
CRVS	Cervenica-Dubn	156.29	325	*e*PKP		PKPab	05 11 04.7	+4.6
ARR	Arges	156.56	314	⇑P		PKPdf	05 10 31.2	+0.2
DRGR		156.93	319	⇑P		PKPdf	05 10 32.6	+1.1
MORC	Moravsky Berou	157.47	331	*e*PKP		PKPab	05 11 04.7	-0.5
DPC	Dobruska-Polom	157.52	333	*e*PKPAB		PKPab	05 11 05.5	+0.2
KRLC	Kraliky	157.56	332	*e*PKPAB		PKPab	05 11 05.1	-0.4
VYHS	Vyhne	157.84	327	*e*PKP		PKPab	05 11 06.7	-0.1
CLL	Collm	157.86	339	⇑/PKPab		PKPab	05 11 06.2	-0.5
	comp=Z,21nm,0.9s							
CLL	Collm	157.86	339	*e*PKPdif		PKPdf	05 10 44.0	+12
	comp=Z,7.0nm,0.9s							
BRG	Berggiesshubel	157.94	337	*e*PKP		PKPdf	05 10 35.7	+3.2
BRG				Amp			05 10 38.1	
	comp=Z,3.2nm,0.8s							
BRG				PKPab		PKPab	05 11 07.2	+0.2
BRG				Amp			05 11 08.9	
	comp=Z,16nm,0.9s							
PVCC	Panska Ves	158.02	336	*e*PKPAB		PKPab	05 11 07.8	+0.4
JAVC	Velka Javorina	158.11	329	*e*PKP		PKPab	05 11 08.8	+0.8
HERR	Herculane	158.16	315	⇑P		PKPdf	05 10 33.6	+0.7
BZS	Buzias	158.23	318	⇑P		PKPdf	05 10 33.5	+0.5
KRUC	Moravsky	158.50	331	*e*PKP		PKPab	05 11 09.3	-0.3
BLKB	Belogradchik	158.62	312	⇑P		PKPdf	05 10 34.8	+1.2
MODS	Modra-Piesok	158.65	329	*e*PKP		PKPab	05 11 11.2	+0.9
KHC	Kasperske Hory	159.54	335	*e*PKPAB		PKPab	05 11 14.2	+0.1
RONA	Rosalia, Austr	159.59	329	*e*PKP		PKPab	05 11 14.8	+0.4
	comp=Z,11nm,1.2s							
CONA	Conrad Observa	159.60	330	*e*PKP		PKPdf	05 10 34.1	-0.6
	comp=Z,4.1nm,1.5s							
CONA				*e*PKP		PKPab	05 11 14.7	+0.2
	comp=Z,12nm,1.7s							
GERES	GERESS Array B	159.73	335	PKPab		PKPab	05 11 15.0	0.0
	comp=Z,2.7nm,0.7s,baz=52,slow=3.8,SNR=7.6							
BEBN	Eben Emael	159.98	351	*d*PKP		PKPab	05 11 15.3	-0.6
MEM	Membach	160.12	350	*d*PKP		PKPab	05 11 15.7	-0.7
BTNL	Ternell	160.12	350	*d*PKP		PKPab	05 11 15.8	-0.8
BSTI	Sart Tilman	160.20	351	*d*PKP		PKPab	05 11 16.4	-0.4
BHOU	Houvegnez	160.37	350	*d*PKP		PKPab	05 11 17.2	-0.4
BCLA	Clavier	160.40	351	*d*PKP		PKPab	05 11 17.1	-0.6
BGES	Gesves	160.46	352	*d*PKP		PKPab	05 11 17.1	-0.9
BMRD	Maredsous	160.58	352	*d*PKP		PKPab	05 11 17.8	-0.7
RCHB	Rochefort	160.67	351	*d*PKP		PKPab	05 11 18.3	-0.6
DOU	Dourbes	160.80	352	*d*PKP		PKPab	05 11 18.8	-0.7
WLF	Walferdange	161.01	349	*d*PKP		PKPab	05 11 20.4	0.0
OBKA	Obir	161.27	329	*e*PKP		PKPdf	05 10 36.3	-0.2
	comp=Z,1.4nm,0.6s							
LESA	Schwarzleotal	161.30	334	*e*PKP		PKPdf	05 10 35.9	-0.6
	comp=Z,4.9nm,1.0s							
LESA				*e*PKP		PKPab	05 11 22.0	+0.1
	comp=Z,9.0nm,1.2s							
MYKA	Terra Mystica	161.56	331	*e*PKP		PKPdf	05 10 35.9	-0.9
	comp=Z,3.6nm,1.1s							
WATA	Walderalm	161.77	336	*e*PKP		PKPdf	05 10 37.3	+0.2
	comp=Z,2.9nm,0.5s							
RETA	Reutte	161.92	338	*e*PKP		PKPab	05 11 24.7	+0.1
	comp=Z,17nm,1.1s							
ABTA	Abfaltersbach	161.92	333	*e*PKP		PKPdf	05 10 36.5	-0.7
	comp=Z,0.6nm,0.4s							
ABTA				*e*PKP		PKPab	05 11 24.2	-0.5
	comp=Z,2.7nm,0.5s							
MOTA	Moosalm	161.93	337	*e*PKP		PKPab	05 11 24.9	+0.2
	comp=Z,10nm,0.8s							
SQTA	Sankt Quirin	162.00	336	*e*PKP		PKPdf	05 10 36.9	-0.3
	comp=Z,1.4nm,0.4s							
SQTA				*e*PKP		PKPab	05 11 24.9	-0.1
	comp=Z,12nm,1.1s							
TORD	Torodi Ar. Bea	162.11	183	PKP		PKPdf	05 10 38.4	+0.2
	comp=Z,2.3nm,0.9s,baz=336,slow=1.4,SNR=7.9							
TORD				PKPab		PKPab	05 11 26.9	+0.9
	comp=Z,7.0nm,0.6s,baz=177,slow=3.5,SNR=22							
FETA	Feichten	162.34	337	*e*PKP		PKPdf	05 10 37.2	-0.5
	comp=Z,5.9nm,1.2s							
FETA				*e*PKP		PKPab	05 11 26.4	-0.1
	comp=Z,12nm,1.2s							
DAVA	Damuels	162.37	339	*e*PKP		PKPab	05 11 26.6	-0.1
	comp=Z,27nm,1.2s							
MVO	Moncorvo	168.16	30	*e*PKPdf		PKPdf	05 10 44.5	+1.9
PCBR	Castelo Branco	169.00	35	*e*PKPdf		PKPdf	05 10 44.6	+1.5
PNCL	Nicolau / Gran	169.64	45	*e*PKPdf		PKPdf	05 10 44.9	+1.4
MORF	Marmelete	170.06	49	*e*PKPdf		PKPdf	05 10 45.1	+1.2
PBAR	Barrancos	170.47	40	*e*PKPdf		PKPdf	05 10 46.0	+2.0
PBDV	Barranco-do-Ve	170.56	47	*e*PKPdf		PKPdf	05 10 45.2	+1.1
ESDC	Sonseca Array	170.62	23	PKP		PKPdf	05 10 44.3	+0.2
	comp=Z,2.6nm,0.9s,baz=331,slow=2.7,SNR=15							
ESDC				PKPab		PKPab	05 12 03.5	+0.3
	comp=Z,5.7nm,1.0s,baz=338,slow=5.4,SNR=18							
ESDC				PP		PP	05 15 55.0	+1.5
	comp=Z,1.4nm,1.0s,baz=330,slow=4.4,SNR=5.0							

IDC ***18*** *04:56:20.1±6.5, 57.°94S×25.°

TOA0						IAmb		IAmb	05 08 06.0	
	comp=Z,5.2nm,1.2s									
TORD	**Torodi Ar. Bea**	**74.24**	**27**	P		**P**		**P**	**05 07 51.3**	**+0.7**
TORD	**Torodi Ar. Bea**	**74.24**	**27**	P		**P**		**P**	**05 07 50.9**	**+0.3**
	comp=Z,2.7nm,0.5s,baz=200,slow=6.0,SNR=31									
	comp=Z,2.7nm,0.5s									
HUMP	**Col San Antoni**	**82.95**	**321**	P		**P**		**P**	**05 08 38.7**	**+0.2**
HUMP						IAmb		IAmb	05 08 38.9	
	comp=Z,14nm,1.0s									
DGAR	**Diego Garcia**	**87.83**	**100**	P		**P**		**P**	**05 09 04.2**	**+1.2**
PDAR	**Pinedale Array**	**122.26**	**300**	PKP		**PKPdf**		**PKPdf**	**05 15 06.7**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=110,slow=5.2,SNR=1.9									
NEEM	**North Greenlan**	**136.12**	**352**	*i* P		**Pdif**		**Pdif**	**05 12 34.5**	**-3.7**
YKA	**Yellowknife Ar**	**138.31**	**316**	PKP		**PKPdf**		**PKPdf**	**05 15 36.4**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=120,slow=1.9,SNR=15									
ILAR	**Eielson Array**	**152.18**	**309**	PKPbc		**PKPbc**		**PKPbc**	**05 16 07.0**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=136,slow=3.6,SNR=36									

IDC 18 05:04:48.3±3.6, 54°.47N×86°.78E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=31.5km s-min=19.0km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.27**	**246**	I	I	05 12 30.0	
	0.2nm,1.0s,baz=66,slow=329,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.27**	**246**	Pg	Pg	05 05 10.6	-2.0
	0.8nm,0.3s,baz=66,slow=14,SNR=7.3						
ZALV				Lg	Lg	05 05 29.7	
	0.5nm,0.3s,baz=66,slow=25,SNR=6.1						
KURBB	**Kurchatov Arra**	**6.34**	**236**	Pn	Pn	05 06 23.9	+1.0
	baz=54,slow=14,SNR=2.8						
	0.8nm,0.2s						
MKAR	**Makanchi Array**	**8.20**	**202**	Pn	Pn	05 06 49.9	+1.5
	0.1nm,0.3s,baz=22,slow=13,SNR=4.8						
	0.2nm,0.3s						

DJA 18 05:32:37.1±6.3, 3°.5S×25°.4±3°.3E×5°.6, h10km, M4.3/2, mB6.6/2, MLv4.3/2, Mw(mB)6.4/2
IDC 18 05:32:41.5±1.1, 3°.15S×143°.12E, h0km, mb3.9/9, mbtmp4.0/10, ML3.8/1, MS3.4/8, Error ellipse: s-maj=42.7km s-min=14.8km az=97.0
ISC 18 05:32:43.2±1.0, 3°.1S±0°.1×143°.1E±0°.2, h10km, n24, σ1s35/13, mb4.0/9, MS3.5/6, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**2.45**	**284**	P	**Pn**	**05 33 23.4**	**+0.1**
GENI	**Genyem**	**2.96**	**280**	P	**Pn**	**05 33 29.7**	**-0.6**
MMPI	**Merauke**	**5.94**	**207**	P	Pn	05 34 06.1	-5.1
GUMO	**Guam**	**16.71**	**6**	LR	LR	05 42 48.3	
	comp=Z,37nm,19.7s,baz=114,slow=36						
WRA	**Warramunga Arr**	**18.76**	**206**	P	**P**	**05 37 00.5**	**-2.1**
	0.3nm,0.3s,baz=26,slow=12,SNR=11						
WRA				LR	LR	05 45 09.5	
	comp=Z,142nm,21.9s,baz=128,slow=40						
	5.2nm,0.9s						
BATI	**Baumata**	**20.52**	**249**	LR	LR	05 46 43.3	
	comp=Z,162nm,19.6s,baz=149,slow=41						
ASAR	**Alice Springs**	**22.26**	**203**	P	**P**	**05 37 40.6**	**+0.1**
	1.2nm,0.8s,baz=30,slow=11,SNR=5.3						
ASAR				S	**S**	**05 41 48.6**	**+3.0**
	1.0nm,0.8s,baz=24,slow=25,SNR=3.2						
ASAR				LR	LR	05 46 52.1	
	comp=Z,166nm,20.6s,baz=34,slow=38						
	1.2nm,0.8s						
STKA	**Stephens Creek**	**28.62**	**183**	P	**P**	**05 38 40.3**	**+0.4**
	1.9nm,0.7s,baz=354,slow=9.0,SNR=3.4						
STKA				LR	LR	05 50 42.0	
	comp=Z,127nm,19.0s,baz=145,slow=38						
	1.9nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**31.66**	**46**	T	T	06 12 33.3	
	baz=229,slow=75,SNR=38						
H11S2	**WAKE ISLAND Hy**	**31.67**	**46**	T	T	06 12 31.3	
	baz=229,slow=75,SNR=38						
H11S1	**WAKE ISLAND Hy**	**31.68**	**46**	T	T	06 12 30.7	
	baz=229,slow=75,SNR=36						
H11N1	**WAKE ISLAND Hy**	**32.60**	**45**	T	T	06 14 04.0	
	baz=226						
H11N2	**WAKE ISLAND Hy**	**32.62**	**45**	T	T	06 14 15.9	
	baz=226						
H11N3	**WAKE ISLAND Hy**	**32.62**	**45**	T	T	06 13 45.8	
	baz=226						
NWAO	**Narrogin (SRO)**	**38.26**	**216**	LR	LR	05 56 36.3	
	comp=Z,93nm,19.1s,baz=200,slow=38						
MJAR	**Matsushiro Arr**	**39.73**	**354**	LR	LR	05 55 33.9	
	comp=Z,26nm,21.3s,baz=58,slow=34						
CMAR	**Chiang Mai Arr**	**48.46**	**298**	P	**P**	**05 41 26.3**	**-0.1**
	1.0nm,0.3s,baz=119,slow=5.6,SNR=5.3						
	1.0nm,0.3s						
SONM	**Songino Array**	**60.04**	**332**	P	**P**	**05 42 50.2**	**-0.2**
	1.4nm,0.7s,baz=169,slow=8.5,SNR=2.2						
	1.4nm,0.7s						
MKAR	**Makanchi Array**	**72.82**	**321**	P	**P**	**05 44 12.6**	**+0.4**
	0.6nm,0.7s,baz=122,slow=5.4,SNR=1.7						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**74.53**	**329**	P	**P**	**05 44 22.1**	**0.0**
	0.5nm,0.5s,baz=111,slow=7.9,SNR=2.3						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**82.18**	**324**	P	**P**	**05 45 05.2**	**+0.8**
	1.4nm,0.8s,baz=120,slow=8.5,SNR=5.0						
	1.4nm,0.8s						
ILAR	**Eielson Array**	**84.43**	**24**	P	**P**	**05 45 16.4**	**+0.7**
	1.0nm,0.9s,baz=266,slow=4.4,SNR=7.5						
	1.0nm,0.9s						
QSPA	**South Pole Qui**	**86.81**	**180**	P	**P**	**05 45 26.0**	**-1.8**
	1.2nm,0.8s,baz=307,slow=2.1,SNR=2.8						
	1.2nm,0.8s						
INK	**Inuvik**	**90.44**	**22**	LR	LR	06 26 29.3	
	comp=Z,33nm,18.6s,baz=187,slow=36						

IDC 18 05:44:04.6±1.0, 20°.88S×174°.71W, h0km, mb3.8/7, mbtmp3.7/7, Error ellipse: s-maj=50.3km s-min=25.2km az=143.0
ISC 18 05:44:08.8±0.9, 20°.9S±0°.3×174°.7W±0°.2, h27km, n8, σ0s52/8, mb3.8/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.40**	**257**	P	**P**	**05 52 41.2**	**0.0**
	1.0nm,0.9s,baz=93,slow=8.7,SNR=6.2						
	1.0nm,0.9s						
WRA	**Warramunga Arr**	**47.57**	**262**	P	**P**	**05 52 41.9**	**-0.5**
	0.6nm,0.8s,baz=95,slow=8.0,SNR=3.0						
	0.6nm,0.8s						
VNDA	**Vanda**	**57.81**	**186**	P	**P**	**05 53 57.5**	**+0.2**
	0.8nm,1.0s,baz=18,slow=5.2,SNR=2.8						
	0.8nm,1.0s						
NVAR	**Mina Array Bea**	**79.24**	**42**	P	**P**	**05 56 11.9**	**0.0**
	1.3nm,0.8s,baz=225,slow=8.9,SNR=8.7						
	1.3nm,0.8s						
TXAR	**Lajitas Array**	**84.72**	**56**	P	**P**	**05 56 40.0**	**-0.8**
	0.3nm,0.9s,baz=193,slow=2.8,SNR=3.7						
	0.3nm,0.9s						
ILAR	**Eielson Array**	**88.05**	**12**	P	**P**	**05 56 56.5**	**+0.3**
	1.0nm,1.1s,baz=216,slow=5.6,SNR=3.1						
	1.0nm,1.1s						
YKA	**Yellowknife Ar**	**95.61**	**24**	P	**P**	**05 57 31.7**	**+0.4**
	0.4nm,0.9s,baz=240,slow=3.5,SNR=5.2						
	0.4nm,0.9s						
AKASG	**Malin Array Be**	**144.78**	**333**	PKP	**PKPdf**	**06 03 43.4**	**+0.4**
	0.3nm,0.3s,baz=40,slow=4.5,SNR=6.7						

DJA 18 05:57:56.1±0.9, 8°S±5°×107°E±°, h24km±9km, M3.9/8, mb4.5/1, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNJI	**Cibinong**	**0.64**	**348**	P	Pn	05 58 09.3	-0.4
LEM	**Lembang**	**1.16**	**18**	P	Pn	05 58 16.7	-0.3
SKJI	**Sukabumi**	**1.16**	**323**	P	Pn	05 58 16.9	0.0
CMJI	**Cimerak**	**1.19**	**83**	P	Pn	05 58 17.4	+0.2
KPJI	**Karang Pucung**	**1.76**	**70**	P	Pn	05 58 25.1	0.0
UGM	**Wanagama**	**3.23**	**90**	P	Pn	05 58 45.2	-0.2

IDC 18 05:58:02.2±0.8, 0°.65S×122°.23E, h0km, mb3.8/8, mbtmp3.9/9, ML4.2/1, MS3.0/7, Error ellipse: s-maj=42.8km s-min=16.0km az=72.0
DJA 18 05:58:04.3±0.7, 1°.5S±3°×12°2E±°, h11km±6km, M4.6/12, mb4.8/7, mB4.9/3, MLv4.5/12, Mw(mB)4.2/3

ISC 18 05:58:04.0±0.7, 0°.67S±0°.07×122°.38E±0°.08, h10km, n27, σ1s10/24, mb3.9/9, MS2.9/6, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUWI	**Luwuk**	**0.55**	**133**	P	**Pb**	**05 58 15.8**	**+0.2**
GTOI	**Gorontalo**	**1.44**	**26**	P	**Pn**	**05 58 30.0**	**-0.1**
KMSI	**Cibinong**	**2.02**	**53**	P	**Pn**	**05 58 38.1**	**-0.1**
TTSI	**Tana Toraja**	**3.48**	**227**	P	**Pn**	**05 58 59.6**	**+1.4**
SANI	**Sanana**	**3.86**	**111**	P	**Pn**	**05 59 03.4**	**-0.1**
BBSI	**Bau Bau**	**4.79**	**178**	P	**Pn**	**05 59 17.0**	**+0.7**
KAPI	**Kappang**	**5.05**	**211**	Pn	**Pn**	**05 59 19.9**	**0.0**
	9.2nm,0.3s,baz=22,slow=9.3,SNR=25						
KAPI				Sn	**Sn**	**06 00 16.6**	**-1.7**
	4.7nm,0.3s,baz=215,slow=20,SNR=18						
	36nm,0.5s						
BKSI	**Bulukumba**	**5.14**	**206**	P	**Pn**	**05 59 21.4**	**+0.3**
	54nm,0.6s,638nm0.4nm						
EDFI	**Ende, Flores**	**8.06**	**185**	P	**Pn**	**06 00 01.9**	**+0.6**
	45nm,0.6s						
DAV	**Davao City (W)**	**8.32**	**23**	LR	LR	06 03 12.7	
	comp=Z,113nm,21.9s,baz=178,slow=37						
PLAI	**Plampang**	**9.31**	**209**	P	**Pn**	**06 00 18.8**	**+0.4**
	42nm,0.6s						
FAKI	**Fak Fak**	**10.12**	**103**	P	**Pn**	**06 00 29.5**	**0.0**
WRA	**Warramunga Arr**	**22.45**	**149**	P	**P**	**06 03 04.5**	**+1.1**
	3.8nm,1.0s,baz=331,slow=9.8,SNR=9.4						
	3.8nm,1.0s						
ASAR	**Alice Springs**	**25.45**	**155**	P	**P**	**06 03 32.9**	**+0.5**
	1.0nm,0.6s,baz=343,slow=14,SNR=21						
ASAR				PcP	**PcP**	**06 07 04.2**	**-0.2**
	0.5nm,0.5s,baz=341,slow=2.1,SNR=5.4						
	1.0nm,0.6s						
JOW	**Kujgami**	**27.92**	**11**	LR	LR	06 15 50.5	
	comp=Z,26nm,19.6s,baz=173,slow=38						
CMAR	**Chiang Mai Arr**	**29.86**	**311**	P	**P**	**06 04 13.9**	**+2.0**
	1.0nm,0.3s,baz=129,slow=7.1,SNR=7.0						
CMAR				LR	LR	06 16 47.0	
	comp=Z,20nm,18.5s,baz=115,slow=38						
KSRS	**Korea Array**	**38.28**	**7**	LR	LR	06 20 20.7	
	comp=Z,22nm,21.9s,baz=145,slow=35						
MJAR	**Matsushiro Arr**	**39.84**	**20**	LR	LR	06 22 34.1	
	comp=Z,13nm,18.6s,baz=194,slow=37						
ASAJ	**Asahikawa**	**48.10**	**20**	LR	LR	06 28 08.0	
	comp=Z,19nm,19.4s,baz=270,slow=38						
SONM	**Songino Array**	**50.27**	**346**	P	**P**	**06 07 01.2**	**+0.5**
	2.1nm,0.9s,baz=178,slow=10,SNR=3.5						
	2.1nm,0.9s						
KLR	**Kul'dur**	**50.35**	**8**	LR	LR	06 30 27.0	
	comp=Z,17nm,18.8s,baz=240,slow=39						
MKAR	**Makanchi Array**	**58.85**	**329**	P	**P**	**06 08 03.0**	**+0.1**
	1.2nm,0.7s,baz=121,slow=8.4,SNR=8.9						
MKAR				PcP	**PcP**	**06 08 50.8**	**-1.6**
	0.8nm,0.8s,baz=148,slow=5.8,SNR=2.2						
	1.2nm,0.7s						
ZALV	**Zalesovo Beam**	**62.66**	**336**	P	**P**	**06 08 26.9**	**-1.7**
	1.0nm,0.7s,baz=142,slow=7.3,SNR=2.2						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**63.23**	**330**	P	**P**	**06 08 30.4**	**-2.1**
	0.4nm,0.6s,baz=125,slow=5.8,SNR=5.6						
	0.4nm,0.6s						
BVAR	**Borovoye Array**	**68.73**	**329**	P	**P**	**06 09 09.0**	**+1.1**
	0.4nm,0.5s,baz=118,slow=12,SNR=1.7						
	0.4nm,0.5s						
VNDA	**Vanda**	**79.68**	**172**	P	**P**	**06 10 11.4**	**+0.1**
	0.5nm,0.8s,baz=309,slow=7.0,SNR=2.0						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**119.97**	**285**	PKP	**PKPdf**	**06 16 54.4**	**-1.5**
	0.5nm,0.7s,baz=86,slow=2.4,SNR=3.1						

IDC 18 05:58:52.9±0.7, 12°.89S×45°.57E, h0km, mb3.9/16, mbtmp4.0/19, ML4.7/4, MS3.5/5, Error ellipse: s-maj=21.6km s-min=17.0km az=87.0
NEIC 18 05:58:54.0±2.2, 12°.81S±0°.08×45°.72E±0°.06, h10km±1km, mb4.3/13, Error ellipse: s-maj=14.8km s-min=7.7km az=150.0
PRE 18 05:59:05.2±2.2, 14°.03S×44°.88E, h10km, mb5.3
ISC 18 05:58:53.6±0.5, 12°.89S±0°.06×45°.69E±0°.07, h10km, n69, σ1s37/64, mb4.0/21, MS3.4/3, 1C, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.83**	**166**	Pn	**Pn**	**06 00 21.8**	**+1.4**
	6.4nm,0.3s,baz=336,slow=13,SNR=367						
OPO				Sn	**Sn**	**06 01 22.9**	**-4.5**
	24nm,0.3s,baz=250,slow=20,SNR=14						
ABPO	**Ambohimpanom**	**6.27**	**167**	Pn	**Pn**	**06 00 26.9**	**+0.5**
ABPO	**Ambohimpanom**	**6.27**	**167**	⇑*i* P	**Pn**	**06 00 27.8**	**+1.4**
ABPO				*e*S	Sn	06 01 27.9	-10
VOI	**Vohitsoka**	**9.03**	**173**	Pn	**Pn**	**06 01 04.9**	**+0.6**
VOI	**Vohitsoka**	**9.03**	**173**	*e*P	**Pn**	**06 01 05.3**	**+1.0**
VOI				*e*S	Sn	06 02 31.6	-15
FOMA	**Nahampoana Res**	**12.08**	**174**	Pn	**Pn**	**06 01 46.1**	**+0.1**
RER	**Riviere de l'E**	**12.65**	**132**	Pn	**Pn**	**06 01 53.2**	**-0.6**
MSEY	**Mahe Island**	**12.65**	**51**	Pn	**Pn**	**06 01 51.9**	**-1.9**
KIBK	**Kibwezi**	**12.93**	**324**	Pn	**Pn**	**06 01 54.9**	**-2.8**
KRI	**Karoi**	**16.02**	**254**	*i* P	**Pn**	**06 02 39.0**	**-0.4**
KRI	**Karoi**	**16.02**	**254**	*i* P	Pn	06 02 28.3	-11
LSZ	**Lusaka**	**17.14**	**260**	Pn	**P**	**06 02 53.5**	**-1.8**
LSZ				IAmb	IAmb	06 03 03.5	
	comp=Z,11nm,0.8s						
LSZ	**Lusaka**	**17.14**	**260**	P	**Pn**	**06 02 53.0**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=101,slow=11,SNR=6.7						
LSZ				S	Sn	06 05 49.1	-15
	comp=Z,3.8nm,0.6s,baz=358,slow=23,SNR=2.1						
LSZ				LR	LR	06 09 08.0	
	comp=Z,224nm,19.1s,baz=120,slow=36						
	comp=Z,6.4nm,0.7s						
MOPA	**Mopani**	**17.19**	**230**	*i* P	**Pn**	**06 02 52.0**	**-2.0**
MOPA				*i* S	Sn	06 05 45.1	-20
MOPA	**Mopani**	**17.19**	**230**	*e*P	**Pn**	**06 02 52.4**	**-1.6**
MUSN	**Musina, Limpop**	**17.73**	**236**	*i* P	**P**	**06 03 00.6**	**-1.1**
MUSN	**Musina, Limpop**	**17.73**	**236**	*e*P	**Pn**	**06 02 59.5**	**-1.4**
MPHEP	**Siloam, Limpop**	**17.79**	**234**	*e*P	**Pn**	**06 03 01.1**	**-0.5**
HOED	**Hoedspruit, Li**	**18.06**	**229**	*e*P	**P**	**06 03 05.4**	**+0.2**
MATP	**Matopo**	**18.08**	**243**	*i* P	**P**	**06 03 04.7**	**-0.9**
MATP				*i* S	Sn	06 06 12.1	-15
MATP	**Matopo**	**18.08**	**243**	P	**P**	**06 03 05.2**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=64,slow=11,SNR=12						
MATP				S	Sn	06 06 14.1	-13
	comp=Z,1.7nm,0.7s,baz=345,slow=19,SNR=2.4						
	comp=Z,4.2nm,0.7s						
PILG	**Pilgrimsrest,**	**18.53**	**228**	*e*P	**P**	**06 03 09.3**	**-1.4**
DULL	**Dullstroom, Mp**	**19.18**	**227**	*e*P	**Pn**	**06 03 18.8**	**+0.1**
LODK	**Lodwar**	**19.18**	**327**	P	**P**	**06 03 15.5**	**-2.2**
MBAR	**Mbarara**	**19.20**	**308**	P	**P**	**06 03 16.0**	**-2.0**
MBAR				IAmb	IAmb	06 03 23.1	
	comp=Z,18nm,1.2s						
MBAR	**Mbarara**	**19.20**	**308**	P	**P**	**06 03 17.3**	**-0.7**
	comp=Z,1.9nm,0.3s,baz=110,slow=15,SNR=2.6						
MBAR				LR	LR	06 09 56.9	
	comp=Z,120nm,21.6s,baz=122,slow=35						
	comp=Z,4.6nm,0.2s						
POGA	**Pongola**	**19.45**	**220**	P	**Pn**	**06 03 21.7**	**0.0**
POGA				IAmb	IAmb	06 03 38.0	
	comp=Z,51nm,1.4s						
POGA	**Pongola**	**19.45**	**220**	*e*P	**P**	**06 03 19.0**	**-1.4**
WTBG	**Waterberg Wild**	**19.49**	**232**	*e*P	**Pn**	**06 03 25.9**	**+3.6**
LEPH	**Lephalale, Lim**	**20.16**	**235**	*e*P	Pn	06 03 29.4	-0.8
LEPH				IAmb	IAmb	06 03 43.3	
	comp=Z,13nm,0.8s						
BOSA	**Boshof**	**24.63**	**227**		**P**	**06 04 13.8**	**-0.8**
BOSA				IAmb	IAmb	06 04 33.6	
	comp=Z,10nm,0.9s						
BOSA	**Boshof**	**24.63**	**227**	*i* P	**P**	**06 04 13.1**	**-1.5**
BOSA	**Boshof**	**24.63**	**227**	*e*P	**P**	**06 04 14.1**	**-0.6**
BOSA				IAmb	IAmb	06 04 20.5	
	comp=Z,247nm,2.9s						
BOSA	**Boshof**	**24.63**	**227**	P	**P**	**06 04 13.8**	**-0.8**
	comp=Z,4.2nm,0.4s,baz=50,slow=8.3,SNR=18						
	comp=Z,4.2nm,0.4s						
TSUM	**Tsumeb**	**27.70**	**253**	LR	LR	06 15 20.6	
	comp=Z,82nm,18.1s,baz=121,slow=36						
SUR	**Sutherland**	**29.93**	**226**		**P**	**06 05 02.9**	**+0.7**
PALK	**Pallekele**	**40.15**	**62**	LR	LR	06 19 40.2	
	comp=Z,49nm,20.6s,baz=352,slow=31						
TOA0	**Torodi Ar. Sit**	**50.71**	**299**	P	**P**	**06 07 54.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**50.71**	**299**	P	**P**	**06 07 54.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**50.71**	**299**	P	**P**	**06 07 54.2**	**+0.3**
	comp=Z,1.7nm,1.0s,baz=133,slow=7.1,SNR=6.1						
TORD				LR	LR	06 28 06.6	
	comp=Z,77nm,21.5s,baz=139,slow=35						
	comp=Z,1.7nm,1.0s						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRTR	**Keskin Array B**	**53.53**	**348**	P	**P**	**06 08 15.8**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=182,slow=6.9,SNR=5.0						
	comp=Z,1.0nm,0.7s						
DBIC	**Dimbokro**	**53.84**	**288**	P	**P**	**06 08 18.7**	**+1.4**
KBZ	**Khabaz**	**56.40**	**358**	P	P	06 08 42.2	+7.1
	comp=Z,0.4nm,0.3s,baz=198,slow=6.6,SNR=4.5						
KK31	**Karatay Array**	**60.18**	**21**	P	**P**	**06 09 00.3**	**-1.4**
KK31				IAmb	IAmb	06 09 11.1	
	comp=Z,5.1nm,1.1s						
KKAR	**Karatay Array**	**60.18**	**21**	P	**P**	**06 09 02.0**	**+0.3**
ABKAR	**Akbulak array**	**63.14**	**10**	P	**P**	**06 09 21.2**	**-0.3**
AKTO	**Aktyubinsk**	**63.97**	**9**	P	**P**	**06 09 29.3**	**+2.3**
	comp=Z,0.5nm,0.5s,baz=102,slow=3.2,SNR=1.5						
	comp=Z,0.5nm,0.5s						
GEC2	**GERESS Array S**	**67.67**	**338**	P	**P**	**06 09 50.5**	**-0.4**
GEC2				IAmb	IAmb	06 10 03.2	
	comp=Z,1.8nm,0.8s						
GERES	**GERESS Array B**	**67.67**	**338**	P	**P**	**06 09 50.5**	**-0.4**
GERES	**GERESS Array B**	**67.67**	**338**	P	**P**	**06 09 51.0**	**0.0**
	comp=Z,0.7nm,0.5s,baz=167,slow=8.9,SNR=2.4						
	comp=Z,0.7nm,0.5s						
MK31	**Makanchi Array**	**67.86**	**26**	P	**P**	**06 09 53.1**	**+0.9**
MK31				IAmb	IAmb	06 10 01.0	
	comp=Z,1.8nm,1.0s						
MKAR	**Makanchi Array**	**67.86**	**26**	P	**P**	**06 09 53.0**	**+0.8**
MKAR	**Makanchi Array**	**67.86**	**26**	P	**P**	**06 09 53.5**	**+1.3**
	comp=Z,0.4nm,0.6s,baz=224,slow=5.6,SNR=4.1						
	comp=Z,0.4nm,0.6s						
WMQ	**Urumqi**	**68.19**	**31**	*e*P	**P**	**06 09 54.9**	**+0.6**
WMQ				pmax	pmax		
	comp=Z,11nm,0.9s						
BVAR	**Borovoye Array**	**68.99**	**16**	P	**P**	**06 10 01.6**	**+2.6**
	comp=Z,0.3nm,0.4s,baz=199,slow=4.0,SNR=2.4						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**69.45**	**22**	P	P	06 10 08.5	+6.5
	comp=Z,0.4nm,0.6s,baz=224,slow=6.2,SNR=3.0						
ESDC	**Sonseca Array**	**69.74**	**321**	P	**P**	**06 10 05.4**	**+1.3**
	comp=Z,1.1nm,0.8s,baz=122,slow=5.7,SNR=7.7						
	comp=Z,1.1nm,0.8s						
FINES	**FINESS Array B**	**75.70**	**350**	P	**P**	**06 10 39.3**	**+0.4**
	comp=Z,1.7nm,0.8s,baz=160,slow=4.4,SNR=2.2						
	comp=Z,1.7nm,0.8s						
HFS	**Hagfors**	**77.17**	**344**	P	**P**	**06 10 46.7**	**-0.6**
	comp=Z,2.9nm,0.8s,baz=171,slow=10,SNR=2.8						
	comp=Z,2.9nm,0.8s						
QSPA	**South Pole Qui**	**77.21**	**180**	P	**P**	**06 10 49.5**	**+1.8**
	comp=Z,1.9nm,0.8s,baz=269,slow=3.0,SNR=6.4						
	comp=Z,1.9nm,0.8s						
NOA	**NORSAR Array B**	**78.60**	**344**	P	**P**	**06 10 56.1**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=134,slow=6.1,SNR=2.7						
	comp=Z,0.4nm,0.6s						
EKA	**Eskdalemuir Ar**	**79.35**	**334**	P	**P**	**06 10 58.7**	**-0.8**
	comp=Z,0.8nm,0.6s,baz=131,slow=8.6,SNR=4.3						
	comp=Z,0.8nm,0.6s						
HHC	**Hu-ho-hao-te**	**80.91**	**45**	*e*P	**P**	**06 11 08.4**	**0.0**
ASAR	**Alice Springs**	**83.32**	**113**	P	**P**	**06 11 22.2**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=263,slow=4.7,SNR=5.2						
	comp=Z,0.2nm,0.5s						
ARCES	**ARCESS Array B**	**83.43**	**353**	P	**P**	**06 11 20.2**	**-0.7**
	comp=Z,2.8nm,1.0s,baz=44,slow=4.0,SNR=2.1						
	comp=Z,2.8nm,1.0s						
WRA	**Warramunga Arr**	**84.45**	**109**	P	**P**	**06 11 28.3**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=259,slow=4.0,SNR=4.2						
	comp=Z,0.5nm,0.8s						
PDAR	**Pinedale Array**	**143.33**	**329**	PKP	**PKPdf**	**06 18 29.4**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=263,slow=1.5,SNR=2.0						
TXAR	**Lajitas Array**	**147.20**	**305**	PKPbc	**PKPbc**	**06 18 38.7**	**+0.7**
	comp=Z,0.6nm,0.9s,baz=77,slow=3.9,SNR=5.2						
NVAR	**Mina Array Bea**	**150.85**	**334**	PKP	**PKPdf**	**06 18 41.1**	**-0.4**
	comp=Z,0.2nm,0.4s,baz=253,slow=2.7,SNR=1.6						

NNC 18 06:00:32.4±2.4, 54°.13N×87°.19E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=25.4km s-min=12.7km az=9.0, Suspected Mining explosion.
IDC 18 06:00:33.7±2.6, 54°.15N×87°.10E, h0km, mbtmp3.2/3, ML2.8/3, Error ellipse: s-maj=22.2km s-min=15.9km az=55.0
ISC 18 06:00:32.7±4.0, 54°.3N±0°.2×87°.0E±0°.2, h0km, n9, σ1s29/13, 5C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**253**	I	I

SNET IAML 06 04 56.8
comp=Z,2μm,1.0s
UEES Universidad Ev 1.19 25 *eP* **Pb 06 04 35.6 +0.1**
UEES Universidad Ev 1.19 25 *i* P **Pb 06 04 35.9 +0.5**
UEES IAML 06 05 03.6
comp=Z,930nm,1.0s
BOQS Boqueron 1.19 23 *eP* **Pb 06 04 36.0 +0.5**
UTEC Universidad Te 1.19 27 *i* P **Pb 06 04 36.0 +0.5**
UTEC IAML 06 05 14.1
comp=Z,1μm,1.0s
CEVE Cerro Verde 1.20 6 *eP* **Pb 06 04 35.6 0.0**
CEVE IAML 06 04 59.9
comp=Z,2μm,0.3s
CEVE Cerro Verde 1.20 6 *i* P **Pb 06 04 35.4 -0.2**
CEVE IAML 06 04 59.7
comp=Z,2μm,1.0s
PIC2 El Picacho 1.21 24 *eP* **Pb 06 04 36.2 +0.4**
CEDA San Andres 1.22 17 *eP* **Pb 06 04 35.7 -0.2**
CEDA IAML 06 05 03.7
comp=Z,1μm,0.4s
CEDA San Andres 1.22 17 *i* P **Pb 06 04 37.1 +1.2**
CEDA IAML 06 05 03.2
comp=Z,3μm,1.0s
UDBS Universidad Do 1.23 29 *i* P **Pb 06 04 36.1 0.0**
UDBS IAML 06 05 07.3
comp=Z,1μm,1.0s
SNJE San Jose 1.24 7 *eP* **Pb 06 04 35.7 -0.6**
NUBE Las Nubes 1.26 359⇑ *eP* **Pn 06 04 36.0 -0.6**
NUBE Las Nubes 1.26 359 *i* P **Pn 06 04 36.1 -0.5**
NUBE IAML 06 05 01.6
comp=Z,2μm,1.0s
RTR El Retiro 1.26 5 *eP* **Pn 06 04 36.5 -0.1**
COEG Centro de Oper 1.30 41 *eP* **Pn 06 04 37.1 0.0**
COEG Centro de Oper 1.30 41 *i* P **Pn 06 04 37.2 +0.1**
COEG IAML 06 05 13.2
comp=Z,940nm,1.0s
TECO Alcaldia de Te 1.31 47 *eP* **Pn 06 04 37.0 -0.1**
TECO Alcaldia de Te 1.31 47 *i* P **Pn 06 04 37.2 +0.1**
TECO IAML 06 04 46.2
comp=Z,610nm,1.0s
PAVA Las Pavas 1.34 37 *eP* **Pn 06 04 38.1 +0.5**
PAVA Las Pavas 1.34 37 *i* P **Pn 06 04 38.3 +0.7**
PAVA IAML 06 05 01.8
comp=Z,2μm,1.0s
UNIC Universidad Ca 1.36 9 *i* P **Pn 06 04 37.2 -0.6**
UNIC IAML 06 05 11.8
comp=Z,370nm,1.0s
LOAL Lomas de Alarc 1.36 359 *i* P **Pn 06 04 38.1 +0.3**
LOAL IAML 06 04 46.7
comp=Z,5μm,1.0s
UESV Universidad de 1.38 43 *i* P **Pn 06 04 37.9 -0.1**
UESV IAML 06 05 00.6
comp=Z,610nm,1.0s
SLOZ Alcaldia de Sa 1.39 359 *eP* **Pn 06 04 38.0 -0.2**
SCLA Alcaldia de Sa 1.46 43 *eP* **Pn 06 04 39.7 +0.4**
SCLA Alcaldia de Sa 1.46 43 *i* P **Pn 06 04 39.6 +0.4**
SCLA IAML 06 05 19.9
comp=Z,480nm,1.0s
COEB Comit de Eme 1.48 54 *eP* **Pn 06 04 39.5 +0.1**
PACA Pacayal 1.63 59 *eP* **Pn 06 04 42.1 +0.5**
PACA Pacayal 1.63 59 *i* P **Pn 06 04 41.8 +0.2**
PACA IAML 06 05 21.5
comp=Z,9μm,1.0s
LCY Lacayo 1.63 61 *eP* **Pn 06 04 42.2 +0.6**
RANC El Ranchito 1.64 61 *eP* **Pn 06 04 42.0 +0.2**
RANC El Ranchito 1.64 61 *i* P **Pn 06 04 41.7 -0.1**
RANC IAML 06 05 19.5
comp=Z,660nm,1.0s
BLLM Bellamira 1.69 61 *eP* **Pn 06 04 43.3 +0.9**
CNRM Centro Naciona 1.76 61 *i* P **Pn 06 04 43.4 +0.1**
CNRM IAML 06 05 24.5
comp=Z,3μm,1.0s
MTO3 Montecristo 1.80 12 **Pn 06 04 44.2 +0.2**
MTO3 Montecristo 1.80 12 *eP* **Pn 06 04 44.6 +0.6**
MTO3 Montecristo 1.80 12 *i* P **Pn 06 04 43.9 -0.1**
MTO3 IAML 06 04 53.9
comp=Z,650nm,1.0s
LCND La Caada 1.94 70 *eP* **Pn 06 04 46.0 +0.2**
LCND La Caada 1.94 70 *i* P **Pn 06 04 46.0 +0.2**
LCND IAML 06 05 25.5
comp=Z,450nm,1.0s
ESQI Esquipulas 1.96 12 **Pn 06 04 45.3 -0.8**
ESQI Esquipulas 1.96 12 *i* P **Pn 06 04 48.4 +2.3**
ESQI IAML 06 05 21.0
comp=Z,880nm,1.0s
CNCH Conchagua 1.99 71 *i* P **Pn 06 04 46.8 +0.3**
CNCH IAML 06 05 30.5
comp=Z,890nm,1.0s
NBG Las Nubes 2.02 344 *eP* **Pn 06 04 48.1 +1.0**
GUNB GUNB 2.03 344 *i* P **Pn 06 04 46.5 -0.8**
GUNB IAML 06 05 26.5
comp=Z,480nm,1.0s
FUG Fuego 3 2.09 330 *eP* **Pn 06 04 48.7 +0.7**
MRL Marmol 2.44 2 *eP* **Pb 06 04 59.0 +2.3**
APG El Apazote 2.45 344 P **Pn 06 04 53.1 +0.1**
comp=Z,3.4nm,0.5s,baz=119,slow=11,SNR=49
APG S **Sn 06 05 20.9 -2.3**
comp=Z,9.9nm,0.9s,baz=66,slow=22,SNR=9.8
CRIN San Cristobal 2.65 88 **Pn 06 04 55.4 -0.2**
CRIN San Cristobal 2.65 88 *eP* **Pn 06 04 56.0 +0.5**
CRIN San Cristobal 2.65 88 *i* P **Pn 06 04 55.9 +0.3**
CRIN IAML 06 05 38.3
comp=Z,1μm,1.0s
STG3 Santiaguito 3, 2.71 320 *eP* **Pn 06 04 55.0 -1.5**
TGUH Tegucigalpa,Un 2.81 59 **Pn 06 04 57.8 0.0**
TGUH Tegucigalpa,Un 2.81 59 *eP* **Pn 06 04 58.6 +0.8**
TGUH Tegucigalpa,Un 2.81 59 *i* P **Pn 06 04 58.8 +1.0**
TGUH IAML 06 05 41.3
comp=Z,290nm,1.0s
PACN Al O del Volca 2.90 92 *i* P **Pn 06 04 57.6 -1.4**
PACN IAML 06 05 00.2
comp=Z,590nm,1.0s
QUIS Sacapulas 2.94 334 *i* P **Pn 06 05 00.6 +1.0**
QUIS IAML 06 05 14.4
comp=Z,280nm,1.0s
ROCN Rota Cerro Neg 2.95 92 *i* P **Pn 06 04 58.6 -1.0**
ROCN IAML 06 05 42.3
comp=Z,180nm,1.0s
CNGN Cerro Negro 2.99 92 **Pn 06 04 59.7 -0.6**
CNGN Cerro Negro 2.99 92 *eP* **Pn 06 04 59.9 -0.4**
CNGN Cerro Negro 2.99 92 *i* P **Pn 06 05 00.1 -0.2**
CNGN IAML 06 05 51.3
comp=Z,350nm,1.0s
MACN El Madrono 3.02 93 *i* P **Pn 06 05 00.6 0.0**
MACN IAML 06 05 45.9
comp=Z,210nm,1.0s
LEVN Ruinas Leon Vi 3.08 94 *i* P **Pn 06 05 01.4 0.0**
LEVN IAML 06 05 48.3
comp=Z,330nm,1.0s
COPN Copaltepe 3.13 98 *i* P **Pn 06 05 01.8 -0.3**
COPN IAML 06 05 43.8
comp=Z,280nm,1.0s
MOMN Momotombo 3.15 94 *i* P **Pn 06 05 02.4 -0.1**
MOMN IAML 06 05 02.9
comp=Z,15nm,1.0s
HUEH Huehuetenango 3.16 328 **Pn 06 05 02.5 -0.2**
MOM2 El Cardon 3.21 93 *i* P **Pn 06 05 03.5 +0.3**
MOM2 IAML 06 05 46.9
comp=Z,200nm,1.0s
SAPS Ciudad Sandino 3.31 98 *i* P **Pn 06 05 04.6 0.0**
SAPS IAML 06 05 47.6
comp=Z,510nm,1.0s
APYN Apoyeque 3.36 96 *i* P **Pn 06 05 05.3 0.0**
APYN IAML 06 05 49.9
comp=Z,270nm,1.0s
RE6B4 Centro civico 3.42 98 *i* P **Pn 06 05 06.4 +0.2**
RE6B4 IAML 06 05 53.8
comp=Z,260nm,1.0s
RB28C Hialeah 3.44 98 *i* P **Pn 06 05 06.8 +0.4**
RB28C IAML 06 05 50.1
comp=Z,360nm,1.0s
CRUN El Crucero 3.44 100 *i* P **Pn 06 05 05.9 -0.7**
CRUN IAML 06 06 01.3
comp=Z,4μm,1.0s
TISN Laguna Tiscapa 3.45 98 *i* P Pn 06 05 03.1 -3.4
TISN IAML 06 05 50.2
comp=Z,29nm,1.0s
JAPN Al SSO del Vol 4.14 105 *i* P **Pn 06 05 17.1 +1.0**
JAPN IAML 06 05 17.7
comp=Z,150nm,1.0s
MORN Al O del Volca 4.17 105 *i* P **Pn 06 05 16.8 +0.4**
MORN IAML 06 06 10.4
comp=Z,340nm,1.0s
CONN Concepcion 4.18 104 *i* P **Pn 06 05 16.8 +0.2**
CONN IAML 06 06 29.0
comp=Z,1μm,1.0s
OMEN Al SSO del Vol 4.20 105 *i* P **Pn 06 05 17.0 +0.2**
OMEN IAML 06 06 08.5
comp=Z,230nm,1.0s
PETF Flores 4.26 359 **Pn 06 05 17.4 -0.3**
CCIG Comitan 4.29 328 **Pn 06 05 19.5 +1.2**
HZTE Horizontes, Gu 4.50 115 Pn **Pn 06 05 22.0 +1.0**
ACON Acoyapa 4.53 98 **Pn 06 05 20.8 -0.6**
ORTG Ortega, Santa 4.78 118 **Pn 06 05 25.6 +0.6**
DUNO Dulce Nombre, 4.89 121 **Pn 06 05 27.2 +0.8**
JTS Las Juntas de 5.26 116 **Pn 06 05 32.1 +0.7**
JTS Las Juntas de 5.26 116 P **Pn 06 05 32.6 +1.2**
comp=Z,7.3nm,0.3s,baz=308,slow=19,SNR=22
JTS S **Sn 06 06 31.0 -1.2**
comp=Z,7.1nm,0.4s,baz=353,slow=22,SNR=1.8
ARE1 Arenal 1 5.39 113 **Pn 06 05 34.6 +1.3**
JACO JACO, Garabito 5.81 120 Pn **Pn 06 05 41.8 +2.8**
LCR2 La Lucha 2 6.34 116 **Pn 06 05 48.6 +2.2**
RIMA Rio Macho 6.45 116 **Pn 06 05 49.6 +1.6**
CMIG Matias Romero 6.64 312 P **Pn 06 05 50.2 -0.3**
comp=Z,2.6nm,0.5s,baz=134,slow=11,SNR=7.7
CMIG S **Sn 06 07 09.9 +3.6**
comp=Z,1.8nm,0.4s,baz=359,slow=21,SNR=0.9
PEZE Perez Zeledon, 6.79 118 Pn **Pn 06 05 54.3 +1.8**
SRBA San Rafael, Bu 7.14 118 **Pn 06 05 59.3 +2.0**
TEIG Tepich 7.68 10 Pn **Pn 06 06 06.3 +1.6**
CDITO Canoas 7.88 120 Pn **Pn 06 06 10.6 +3.1**
BRU2 Volcan 7.93 118 **Pn 06 06 09.8 +1.6**
BCIP Isla Barro Col 10.34 108 Pn **Pn 06 06 42.9 +1.8**
833A Chaparral WMA, 18.02 332 **Pn 06 08 23.7 +0.4**
435B Jarrell 19.45 339 P **P 06 08 38.9 -0.7**
VBMS Vicksburg 19.51 358 P **P 06 08 40.2 +0.1**
DRIO Del Rio 19.52 331 P **P 06 08 38.5 -1.8**
NATX Nacogdoches 19.56 347 P **P 06 08 40.8 +0.1**
NATX IAmb IAmb 06 08 41.9
comp=Z,26nm,1.0s
143A Socs Landing, 20.03 356 P **P 06 08 45.6 -0.3**
143A IAmb IAmb 06 08 48.2
comp=Z,28nm,1.4s
237A Washetta, Mont 20.06 345 P **P 06 08 45.2 -1.0**
237A IAmb IAmb 06 08 46.4
comp=Z,21nm,0.9s
BRDY Brady 20.43 337 P **P 06 08 48.1 -2.1**
BRDY IAmb IAmb 06 08 50.1
comp=Z,11nm,0.8s
152A Waverly Hall 20.47 12 P **P 06 08 49.9 -0.7**
Z41A Richland Creek 20.72 353 P **P 06 08 52.4 -0.9**
Z41A IAmb IAmb 06 08 56.8
comp=Z,18nm,0.6s
FW14 Alvarado 20.82 342 P **P 06 08 52.9 -1.5**
TREL Terrell 20.83 345 P **P 06 08 53.4 -1.2**
TXAR Lajitas Array 21.05 324 P **P 06 08 57.3 +0.2**
TXAR Lajitas Array 21.05 324 P **P 06 08 57.6 +0.5**
comp=Z,7.0nm,0.7s,baz=150,slow=11,SNR=118
comp=Z,7.0nm,0.7s
TX31 Lajitas Ar. Si 21.05 324 P **P 06 08 57.3 +0.2**
Y45A Yeager Farm, C 21.14 1 P **P 06 08 58.4 +0.6**
Y45A IAmb IAmb 06 09 01.5
comp=Z,30nm,0.8s
WLAR White Oak Lake 21.18 352 P **P 06 08 59.5 +1.2**
WLAR IAmb IAmb 06 09 02.0
comp=Z,24nm,0.8s
CCAR Cane Creek 21.27 355 P **P 06 08 59.2 0.0**
CCAR IAmb IAmb 06 09 02.4
comp=Z,24nm,0.7s
Y49A Blount Mountai 21.35 8 P **P 06 08 59.2 -1.0**
Y49A IAmb IAmb 06 09 00.3
comp=Z,10nm,0.7s
OXF Oxford 21.78 1 P **P 06 09 03.8 -0.9**
ALPN Alpine 21.83 326 P **P 06 09 04.8 -0.7**
MIAR Mount Ida 22.09 352 P **P 06 09 08.1 0.0**
MIAR IAmb IAmb 06 09 09.9
comp=Z,14nm,0.8s
UALR University of 22.17 354 P **P 06 09 08.7 -0.2**
UALR IAmb IAmb 06 09 10.8
comp=Z,31nm,0.8s
LOOK Love County 22.31 344 P **P 06 09 08.6 -1.9**
LPIG La Paz 22.56 303 P **P 06 09 15.7 +2.5**
comp=Z,11nm,0.3s,baz=213,slow=2.4,SNR=8.4
comp=Z,11nm,0.3s
HODGE Hodges 22.56 16 P **P 06 09 12.0 -1.1**
HODGE IAmb IAmb 06 09 13.3
comp=Z,12nm,0.9s
WHAR Wooly Hollow 22.67 355 P **P 06 09 13.3 -1.0**
WHAR IAmb IAmb 06 09 15.4
comp=Z,11nm,0.8s
VHRN Van Horn 22.89 324 P **P 06 09 16.2 -0.6**
TKL Tuckaleechee C 23.55 12 P **P 06 09 20.8 -2.6**
comp=Z,3.9nm,0.7s,baz=176,slow=13,SNR=6.7
TKL LR LR 06 19 47.3
comp=Z,53nm,18.4s,baz=206,slow=40
comp=Z,3.9nm,0.7s
U54A Nelsons Funny 24.84 15 P **P 06 09 33.7 -1.7**
U54A IAmb IAmb 06 09 35.6
comp=Z,14nm,0.9s
S44A Carbondale 24.96 1 P **P 06 09 34.5 -1.9**
SIUC Southern Illin 24.98 1 P **P 06 09 35.1 -1.5**
S39A Bolivar 25.16 353 P **P 06 09 35.7 -2.5**
S39A IAmb IAmb 06 09 38.7
comp=Z,11nm,0.7s
SADO Sadowa 33.29 14 LR LR 06 24 41.5
comp=Z,71nm,19.0s,baz=308,slow=37
PDAR Pinedale Array 34.58 334 P P 06 10 59.5 -2.4
comp=Z,0.2nm,0.5s,baz=131,slow=13,SNR=1.7
comp=Z,0.2nm,0.5s
NVAR Mina Array Bea 36.10 320 P **P 06 11 13.9 -1.2**
comp=Z,0.7nm,0.6s,baz=130,slow=7.5,SNR=5.4
NVAR PcP **PcP 06 13 40.5 -0.6**
comp=Z,0.6nm,0.7s,baz=150,slow=3.7,SNR=4.3
comp=Z,0.7nm,0.6s
ULM Lac du Bonnet 37.84 354 P P 06 11 26.1 -3.4
comp=Z,2.3nm,0.6s,baz=169,slow=6.7,SNR=4.5
comp=Z,2.3nm,0.6s
SCHQ Schefferville 45.78 18 P P 06 12 30.3 -4.1
comp=Z,5.5nm,0.7s,baz=224,slow=6.4,SNR=8.4
comp=Z,5.5nm,0.7s
YKA Yellowknife Ar 52.86 346 P P 06 13 25.6 -2.8
comp=Z,1.2nm,0.9s,baz=144,slow=6.8,SNR=22
YKA PcP **PcP 06 14 35.3 -2.2**
comp=Z,0.1nm,0.6s,baz=148,slow=3.6,SNR=1.4
comp=Z,1.2nm,0.9s
INK Inuvik 62.37 343 P P 06 14 31.7 -3.5
comp=Z,1.1nm,0.8s,baz=105,slow=5.3,SNR=3.8
comp=Z,1.1nm,0.8s
ILAR Eielson Array 64.95 337 P P 06 14 49.2 -3.2
comp=Z,0.6nm,1.0s,baz=152,slow=2.4,SNR=4.4
comp=Z,0.6nm,1.0s
EKA Eskdalemuir Ar 77.80 36 P P 06 16 05.5 -4.6
comp=Z,0.8nm,0.8s,baz=266,slow=8.3,SNR=2.4
comp=Z,0.8nm,0.8s
ESDC Sonseca Array 78.85 52 P P 06 16 11.3 -5.1
comp=Z,0.6nm,0.8s,baz=236,slow=9.1,SNR=1.5
comp=Z,0.6nm,0.8s
SPITS Spitsbergen Ar 80.98 12 P P 06 16 22.8 -4.4
comp=Z,9.3nm,0.9s,baz=326,slow=7.3,SNR=1.3
comp=Z,9.3nm,0.9s
TORD Torodi Ar. Bea 88.57 77 P P 06 17 03.8 -2.8
comp=Z,0.4nm,0.8s,baz=289,slow=5.6,SNR=2.3
comp=Z,0.4nm,0.8s
CMAR Chiang Mai Arr 147.94 344 PKPbc **PKPdf 06 23 57.0 +0.8**
comp=Z,0.7nm,0.3s,baz=336,slow=3.6,SNR=8.0

IDC ***18*** *06:16:43.1±0.5,55.˚55S×26.˚58W,h0km,mb4.4/11, mbtmp4.3/12,ML3.8/1,MS4.4/26, Error ellipse: s-maj=21.2km s-min=15.4km az=62.0*
NEIC ***18*** *06:16:45.1±2.0,55.˚6S±0.˚1×26.˚8W±0.˚2,h10km±1km, mb5.0/44, Error ellipse: s-maj=20.1km s-min=15.7km az=203.0*
GCMT ***18*** *06:16:50.1±0.2,55.˚51S±0.˚02×26.˚47W±0.˚04,h18km±1km, MW5.1/93, Moment Tensor Solution. s46,c57; s93,c126; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.99±.21; $M_{\theta\theta}$-2.36±.15; $M_{\phi\phi}$-1.62±.13; $M_{r\theta}$-2.88±.38; $M_{\phi\phi}$2.20±.09; $M_{\theta\phi}$2.16±.32; Best double couple: $M_0$5.46000×10^{16} NP1:ϕ_s308.00000°,δ66.00000°,λ88.00000°. NP2: ϕ_s133.00000°,δ24.00000°,λ94.00000°. Principal axes: T 5.3480, Plg69.0000°, Azm214.0000°; N 0.2340, Plg2.0000°, Azm309.0000°; P -5.5730, Plg21.0000°, Azm39.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 06:16:44.9±0.4,55.˚65S±0.˚07×26.˚81W±0.˚07,h10km,n347,

σ0ˢ**72**/315,**mb4.9**/27,**MS4.5**/26,**5C**,**South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.74**	**280**		**Pn**	**06 18 10.6**	**+0.5**
ESPZ	**Base Esperanza**	**17.02**	**231**	P	**Pn**	**06 20 43.6**	**+1.0**
VNA1	**Neumayer--Stat**	**17.09**	**159** ⇑	P	**P**	**06 20 45.8**	**+0.5**
	comp=Z,22nm,0.9s						
VNA3	**Neumayer Olymp**	**17.30**	**161** ⇑	P	**P**	**06 20 49.4**	**+1.7**
	comp=Z,10nm,0.8s						
VNA2	**Neumayer--Watz**	**17.49**	**159** ⇑	P	**P**	**06 20 51.1**	**+1.4**
	comp=Z,1.9nm,0.4s,baz=313,slow=16						
EFI	**East Falkland**	**18.85**	**269**	P	**P**	**06 21 03.0**	**-1.8**
EFI				IAmb	IAmb	06 21 07.2	
	comp=Z,219nm,1.8s						
SNAA	**Sanae**	**19.03**	**157**	P	**P**	**06 21 06.7**	**+0.1**
SNAA	**Sanae**	**19.03**	**157** ⇑	P	**P**	**06 21 07.0**	**+0.3**
	comp=Z,64nm,0.8s						
SNAA	**Sanae**	**19.03**	**157**	P	**P**	**06 21 07.1**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=308,slow=12,SNR=12						
SNAA				LR	LR	06 27 09.4	
	comp=Z,971nm,20.6s,baz=294,slow=33						
	comp=Z,1.7nm,0.5s						
PMSA	**Palmer Station**	**20.32**	**228**	P	**P**	**06 21 19.2**	**-1.5**
PMSA				IAmb	IAmb	06 21 29.8	
	comp=Z,43nm,1.1s						
PMSA	**Palmer Station**	**20.32**	**228**	P	Pn	06 21 22.4	-0.3
	comp=Z,13nm,0.8s,baz=144,slow=2.7,SNR=2.3						
PMSA				LR	LR	06 28 10.6	
	comp=Z,1μm,18.8s,baz=78,slow=34						
	comp=Z,13nm,0.8s						
TROLL	**Troll, Antarti**	**20.52**	**154** ⇑	P	Pn	06 21 25.1	0.0
	comp=Z,105nm,0.4s						
SMAI	**San Martin Ant**	**22.21**	**220**	P	**P**	**06 21 39.0**	**-2.0**
BELA	**Belgrano 2**	**22.50**	**184**	P	**P**	**06 21 43.2**	**-0.8**
BELA				IAmb	IAmb	06 22 04.9	
	comp=Z,48nm,1.5s						
MG02	**Cerro Sombrero**	**24.68**	**259**	P	**P**	**06 22 04.5**	**-1.1**
MG05	**Puerto Natales**	**26.98**	**259**	P	**P**	**06 22 25.4**	**-1.0**
MG05				IAmb	IAmb	06 23 08.3	
	comp=Z,28nm,1.3s						
GO08	**Villa O'Higgin**	**28.58**	**265**	P	**P**	**06 22 40.1**	**-0.7**
TRQA	**Tornquist**	**29.36**	**292**	P	**P**	**06 22 48.7**	**+0.9**
PLTB	**Pedras Altas**	**30.39**	**311**	P	**P**	**06 22 57.3**	**+0.3**
PLTB				IAmb	IAmb	06 23 08.9	
	comp=Z,32nm,1.6s						
TBOT	**Tacuarembo**	**31.49**	**307**	*eP*	**P**	**06 23 07.4**	**+0.8**
CPSB	**Cacapava Do Su**	**31.50**	**312**	*eP*	**P**	**06 23 07.6**	**+0.9**
PLCA	**Paso Flores**	**32.14**	**279**	P	**P**	**06 23 12.7**	**+0.2**
	comp=Z,0.9nm,1.0s,baz=181,slow=11,SNR=2.3						
PLCA				LR	LR	06 37 15.5	
	comp=Z,432nm,18.1s,baz=130,slow=38						
	comp=Z,0.9nm,1.0s						
LL03	**Petrohue**	**32.91**	**277**	P	**P**	**06 23 18.3**	**-0.7**
UNIS	**Unistalda (Bra**	**33.35**	**311**	*eP*	**P**	**06 23 23.8**	**+0.8**
ITQB	**Itaqui**	**33.51**	**308**	*eP*	**P**	**06 23 25.1**	**+0.7**
ITAB	**Concordia**	**33.77**	**317**	*eP*	**P**	**06 23 27.4**	**+0.7**
CHAP	**Chapeco**	**34.18**	**315**	*eP*	**P**	**06 23 30.4**	**+0.2**
QSPA	**South Pole Qui**	**34.60**	**180**	P	**P**	**06 23 34.1**	**+0.3**
QSPA	**South Pole Qui**	**34.60**	**180**	P	**P**	**06 23 34.0**	**+0.3**
	comp=Z,5.2nm,0.5s,baz=205,slow=1.6,SNR=46						
QSPA				LR	LR	06 37 38.3	
	comp=Z,1μm,18.8s,baz=190,slow=36						
	comp=Z,5.2nm,0.5s						
PET01	**Itanhaem-SP**	**34.75**	**326**	*eP*	**P**	**06 23 35.3**	**+0.2**
SLP01	**Ubatuba-SP**	**35.02**	**330**	*eP*	**P**	**06 23 38.0**	**+0.4**
FRBT	**Francisco Belt**	**35.27**	**316**	*eP*	**P**	**06 23 39.4**	**-0.3**
DUB01	**Friburgo-RJ**	**35.47**	**335**	*eP*	**P**	**06 23 41.4**	**-0.1**
VAO	**Valinhos**	**35.86**	**327**	*eP*	**P**	**06 23 45.2**	**+0.4**
CPUP	**Villa Florida**	**36.71**	**310**	P	**P**	**06 23 52.4**	**+0.5**
CPUP	**Villa Florida**	**36.71**	**310**	P	**P**	**06 23 51.7**	**-0.2**
	comp=Z,4.6nm,0.8s,baz=152,slow=6.6,SNR=12						
CPUP				LR	LR	06 39 16.3	
	comp=Z,635nm,19.6s,baz=156,slow=37						
	comp=Z,4.6nm,0.8s						
CPUP	**Villa Florida**	**36.71**	**310**	*eP*	**P**	**06 23 51.4**	**-0.5**
MT09	**Talagante**	**37.39**	**287**	P	**P**	**06 23 56.7**	**-1.1**
MT09				IAmb	IAmb	06 24 27.0	
	comp=Z,32nm,1.5s						
MT01	**Popeta**	**37.47**	**287**	P	**P**	**06 23 56.5**	**-1.8**
MT01				IAmb	IAmb	06 24 48.6	
	comp=Z,40nm,1.6s						
MT02	**Curacav**	**37.86**	**287**	P	**P**	**06 24 01.3**	**-0.4**
MT02				IAmb	IAmb	06 25 13.8	
	comp=Z,78nm,1.8s						
ZON	**Zonda**	**37.88**	**292**	P	**P**	**06 24 01.9**	**0.0**
TICA	**Tres Isletas**	**38.02**	**306**	*eP*	**P**	**06 24 03.9**	**+0.9**
AMBA	**Amambai (Brazi**	**38.76**	**316**	*eP*	**P**	**06 24 09.5**	**+0.1**
DIAM	**Diamantina, MG**	**39.42**	**334**	*eP*	**P**	**06 24 15.4**	**+0.3**
CO01	**Juntas Del Tor**	**39.86**	**292**	P	**P**	**06 24 20.1**	**+1.4**
PMNB	**Patos De Minas**	**39.92**	**330**	*eP*	**P**	**06 24 20.0**	**+0.8**
SUR	**Sutherland**	**40.33**	**75**	LR	LR	06 37 44.4	
	comp=Z,1μm,19.1s,baz=216,slow=31						
MAW	**Mawson**	**40.35**	**144**	P	**P**	**06 24 21.1**	**-1.0**
	comp=Z,2.4nm,0.7s,baz=233,slow=12,SNR=4.3						
	comp=Z,2.4nm,0.7s						
CO05	**La Serena**	**40.51**	**291**	P	**P**	**06 24 23.9**	**+0.1**
AC05	**El Transito**	**40.86**	**293**	P	**P**	**06 24 26.5**	**-0.4**
AC05				IAmb	IAmb	06 25 01.0	
	comp=Z,50nm,1.3s						
MURT	**Porto Murtinho**	**40.95**	**313**	*eP*	**P**	**06 24 27.2**	**-0.3**
AQDB	**Aquidauana**	**41.25**	**317**	P	**P**	**06 24 29.1**	**-0.9**
AQDB	**Aquidauana**	**41.25**	**317**	*eP*	**P**	**06 24 29.4**	**-0.6**
BDQN	**Bodoquena, MS**	**41.69**	**315**	*eP*	**P**	**06 24 32.9**	**-0.7**
JANB	**Januaria**	**42.69**	**335**	*eP*	**P**	**06 24 42.2**	**+0.3**
BDFB	**Brasilia**	**43.12**	**329**	P	**P**	**06 24 44.7**	**-0.7**
	comp=Z,2.2nm,0.7s,baz=141,slow=3.7,SNR=5.2						
BDFB				LR	LR	06 43 36.6	
	comp=Z,611nm,18.0s,baz=149,slow=37						
	comp=Z,2.2nm,0.7s						
GO02	**Mina Guanaco**	**43.50**	**297**	P	**P**	**06 24 48.7**	**0.0**
GO02				IAmb	IAmb	06 25 04.0	
	comp=Z,36nm,1.1s						
ARAG	**Araguaiana, MT**	**44.24**	**324**	*eP*	**P**	**06 24 54.5**	**+0.2**
BBRB	**Robore, Bolivi**	**44.88**	**313**	*eP*	**P**	**06 24 59.5**	**+0.1**
LVC	**Limon Verde**	**45.28**	**299**	P	**P**	**06 25 04.1**	**+1.0**
LVC				IAmb	IAmb	06 25 06.9	
	comp=Z,13nm,0.8s						
LVC	**Limon Verde**	**45.28**	**299**	LR	LR	06 47 42.8	
	comp=Z,271nm,18.0s,baz=162,slow=41						
LVC	**Limon Verde**	**45.28**	**299**	*eP*	**P**	**06 25 04.8**	**+1.8**
SDBA	**SAO DESIDERIO**	**45.39**	**335**	*eP*	**P**	**06 25 03.8**	**+0.3**
SALV	**Santo Antonio**	**45.42**	**319**	*eP*	**P**	**06 25 04.3**	**+0.7**
BOSA	**Boshof**	**45.66**	**76**	P	**P**	**06 25 03.5**	**-2.2**
BOSA				IAmb	IAmb	06 25 50.5	
	comp=Z,25nm,1.4s						
BOSA	**Boshof**	**45.66**	**76**	P	**P**	**06 25 03.5**	**-2.2**
	comp=Z,4.9nm,0.8s,baz=230,slow=7.4,SNR=6.4						
BOSA				LR	LR	06 41 00.3	
	comp=Z,1μm,19.1s,baz=200,slow=32						
	comp=Z,4.9nm,0.8s						
BBSD	**Serra de San D**	**46.19**	**313**	*eP*	**P**	**06 25 09.6**	**-0.2**
SBA	**Scott Base**	**46.50**	**184**	P	**P**	**06 25 12.9**	**+1.4**
SBA				IAmb	IAmb	06 25 20.6	
	comp=Z,22nm,1.6s						
PB01	**IPOC Station P**	**46.89**	**300**	P	**P**	**06 25 15.2**	**-0.2**
VNDA	**Vanda**	**46.99**	**183**	P	**P**	**06 25 16.2**	**+0.8**
VNDA	**Vanda**	**46.99**	**183**	P	**P**	**06 25 16.1**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=184,slow=6.8,SNR=19						
VNDA				LR	LR	06 43 51.8	
	comp=Z,250nm,19.7s,baz=162,slow=35						
	comp=Z,1.6nm,0.5s						
PTLB	**Pontes e Lacer**	**47.16**	**315**	P	**P**	**06 25 18.1**	**+0.7**
PTLB				IAmb	IAmb	06 25 20.1	
	comp=Z,13nm,0.9s						
PTLB	**Pontes e Lacer**	**47.16**	**315**	*eP*	**P**	**06 25 17.7**	**+0.4**
H04S2	**CROZET ISLANDS**	**47.52**	**114**	T	T	07 17 02.0	
	baz=231						
H04S3	**CROZET ISLANDS**	**47.53**	**114**	T	T	07 17 02.2	
	baz=231						
H04S1	**CROZET ISLANDS**	**47.54**	**114**	T	T	07 17 02.4	
	baz=231						
SNDB	**Serra Nova Dou**	**47.57**	**327**	*eP*	**P**	**06 25 20.4**	**-0.2**
GO01	**Chusmiza**	**47.91**	**301**	P	**P**	**06 25 24.4**	**+0.6**
GO01				IAmb	IAmb	06 25 42.4	
	comp=Z,17nm,0.9s						
H10N1	**ASCENSION HYDR**	**48.67**	**16**	T	T	07 17 50.3	
	baz=188						
H10N3	**ASCENSION HYDR**	**48.67**	**16**	T	T	07 17 47.7	
	baz=188						
H10N2	**ASCENSION HYDR**	**48.69**	**16**	T	T	07 17 47.0	
	baz=188						
**TSU

PDRB	Porto dos Gac	49.75	320	eP	P	P	06 25 36.7	-0.6
VILB	Vilhena	49.84	315	eP	P	P	06 25 37.9	-0.2
POGA	Pongola	50.23	81	P	P	P	06 25 40.1	-0.8
LPAZ	La Paz	50.32	305	P	P	P	06 25 42.6	+0.2
LPAZ	La Paz	50.32	305	P	P	P	06 25 42.6	+0.2
	comp=Z,10nm,0.9s,baz=134,slow=6.3,SNR=44							
LPAZ				LR	LR	LR	06 47 05.8	
	comp=Z,198nm,20.8s,baz=168,slow=36 comp=Z,10nm,0.9s							
LPAZ	La Paz	50.32	305	eP	P	P	06 25 42.9	+0.5
NPGB	Novo Progresso	53.51	324	eP	P	P	06 26 05.8	+0.3
CASY	Casey	54.22	160	P	P	P	06 26 10.4	+0.4
CASY				IAmb	IAmb	IAmb	06 26 46.0	
	comp=Z,13nm,1.1s							
SAML	Samuel	54.67	314	P	P	P	06 26 12.9	-1.1
SAML	Samuel	54.67	314	eP	P	P	06 26 13.6	-0.4
ETMB	Extrema	55.16	310	P	P	P	06 26 17.0	-0.5
ETMB				IAmb	IAmb	IAmb	06 26 18.6	
	comp=Z,14nm,1.0s							
ETMB	Extrema	55.16	310	eP	P	P	06 26 17.3	-0.2
NNA	Nana	58.24	298	LR	LR	LR	06 53 41.7	
	comp=Z,93nm,19.4s,baz=140,slow=38							
CZSB	Cruzeiro do Su	59.93	305	eP	P	P	06 26 51.0	-0.2
ATAH	Atahualpa	63.18	299	LR	LR	LR	06 57 53.3	
	comp=Z,191nm,18.7s,baz=158,slow=39							
BOAV	Boa Vista	64.09	322	P	P	P	06 27 18.4	-0.6
BOAV				IAmb	IAmb	IAmb	06 27 20.6	
	comp=Z,9.9nm,1.0s							
BOAV	Boa Vista	64.09	322	eP	P	P	06 27 18.7	-0.3
DBIC	Dimbokro	64.71	24	P	P	P	06 27 24.4	+1.4
DBIC	Dimbokro	64.71	24	LR	LR	LR	06 49 35.2	
	comp=Z,451nm,19.2s,baz=186,slow=30							
ABPO	Ambohimpanom	65.53	88	P	P	P	06 27 30.2	+1.6
TULM	Tulcn-Chalpat	69.72	304	P	P	P	06 27 55.0	-0.4
TULM				IAmb	IAmb	IAmb	06 28 33.2	
	comp=Z,9.0nm,0.9s							
MBAR	Mbarara	71.78	63	LR	LR	LR	06 56 48.8	
	comp=Z,298nm,19.3s,baz=192,slow=34							
TOA0	Torodi Ar. Sit	72.60	29	P	P	P	06 28 11.8	-0.4
TOA0				IAmb	IAmb	IAmb	06 28 12.9	
	comp=Z,9.4nm,0.7s							
TORD	Torodi Ar. Bea	72.60	29	P	P	P	06 28 11.5	-0.8
TORD				IAmb	IAmb	IAmb	06 28 12.9	
	comp=Z,8.4nm,0.7s							
TORD	Torodi Ar. Bea	72.60	29	P	P	P	06 28 11.8	-0.5
	comp=Z,8.3nm,0.7s,baz=199,slow=6.0,SNR=40							
TORD				LR	LR	LR	06 55 56.0	
	comp=Z,205nm,18.7s,baz=153,slow=32 comp=Z,8.3nm,0.7s							
PCRV	Puerto La Cruz	72.77	321	LR	LR	LR	07 00 16.4	
	comp=Z,352nm,20.3s,slow=36							
BAUV	El Baul	72.90	317	P	P	P	06 28 13.9	-0.2
SDV	Santo Domingo	73.88	315	P	P	P	06 28 19.7	-0.3
SDV				IAmb	IAmb	IAmb	06 28 21.3	
	comp=Z,8.2nm,0.6s							
SDV	Santo Domingo	73.88	315	LR	LR	LR	07 02 29.1	
	comp=Z,283nm,19.4s,baz=138,slow=37							
TBI	Tubuai	87.50	231	eLR	LR	LR	06 57 10.3	
	comp=Z,984nm,27.2s							
TBI				eLR	LR	LR	06 57 17.7	
	comp=Z,1µm,31.0s							
ATD	Arta Tunnel	88.31	67	LR	LR	LR	07 05 53.6	
	comp=Z,11nm,20.9s,baz=196,slow=34							
H08S1	Diego Carcia H	88.96	102	T	T	T	08 08 13.3	
	baz=213,slow=76							
H08S2	Diego Garcia H	88.97	102	T	T	T	08 08 08.5	
	baz=213							
H08S3	Diego Garcia H	88.98	102	T	T	T	08 08 15.6	
	baz=213,slow=76							
MDT	Midelt	90.14	19	LR	LR	LR	07 06 32.0	
	comp=Z,259nm,18.2s,baz=217,slow=33							
PPT2	Papeete2	92.59	233	eLR	LR	LR	06 59 34.5	
	comp=Z,166nm,22.8s							
PPT2				eLR	LR	LR	06 59 35.2	
	comp=Z,220nm,26.8s							
PPT	Papeete	92.61	233	LR	LR	LR	07 03 04.9	
	comp=Z,139nm,19.2s,baz=148,slow=30							
RAR	Rarotonga	93.67	223	LR	LR	LR	07 05 47.8	
	comp=Z,115nm,18.7s,baz=180,slow=31							
KEST	Kesra	96.12	29	LR	LR	LR	07 09 13.4	
	comp=Z,256nm,20.2s,baz=190,slow=33							
ESDC	Sonseca Array	96.93	18	LR	LR	LR	07 10 23.4	
	comp=Z,151nm,19.2s,baz=188,slow=33							
VAE	Valguarnera	99.20	32	LR	LR	LR	07 10 09.4	
	comp=Z,330nm,20.0s,baz=137,slow=32							
ASAR	Alice Springs	99.31	162	P		Pdif	06 30 26.9	-0.2
	comp=Z,0.3nm,0.5s,baz=189,slow=3.9,SNR=4.3 comp=Z,0.3nm,0.5s							
EIL	Elat	99.92	51	LR	LR	LR	07 12 22.5	
	comp=Z,255nm,19.6s,baz=246,slow=34							
DZM	Mont Dzumac	101.77	193	eLR	LR	LR	07 03 58.9	
	comp=Z,232nm,23.2s							
PDAR	Pinedale Array	120.31	302	PKP		PKPdf	06 35 35.7	0.0
	comp=Z,0.2nm,0.4s,baz=160,slow=2.9,SNR=1.8							
FINES	FINESS Array B	123.93	28	PKP		PKPdf	06 35 40.3	-1.4
	comp=Z,0.9nm,0.7s,baz=132,slow=4.1,SNR=2.0							
CMAR	Chiang Mai Arr	125.01	110	PKP		PKPdf	06 35 45.2	0.0
	comp=Z,1.0nm,0.3s,baz=219,slow=4.2,SNR=1.3							
AAK	Ala-Archa	129.64	70	PKP		PKPdf	06 35 53.3	-0.2
	comp=Z,1.1nm,0.7s,baz=212,slow=6.9,SNR=5.6							
ARCES	ARCESS Array B	130.49	21	PKP		PKPdf	06 35 52.3	-1.7
	comp=Z,3.2nm,0.9s,baz=129,slow=2.4,SNR=4.1							
ARU	Arti	131.27	47	PKP		PKPdf	06 35 56.2	+0.3
	comp=Z,4.9nm,0.2s,baz=185,slow=3.8,SNR=4.4							
BVAR	Borovoye Array	134.38	57	PKP		PKPdf	06 36 00.9	-1.0
	comp=Z,1.5nm,0.8s,baz=229,slow=1.6,SNR=5.9							
YKA	Yellowknife Ar	136.01	318	PKP		PKPdf	06 36 05.0	+0.4
	comp=Z,1.6nm,0.9s,baz=114,slow=1.9,SNR=21							
MKAR	Makanchi Array	136.56	71	PKhKP		PKPpre	06 36 01.4	
	comp=Z,0.1nm,0.4s,baz=5.7,slow=1.4,SNR=3.1							
MKAR				PKP		PKPdf	06 36 05.6	-0.5
	comp=Z,0.1nm,0.4s,baz=224,slow=4.0,SNR=3.1							
KURBB	Kurchatov Arra	136.94	64	PKP		PKPdf	06 36 05.6	-1.1
	comp=Z,0.3nm,0.5s,baz=244,slow=2.9,SNR=4.6							
P29M	Windy Craggy	144.33	306	P		PKPdf	06 36 20.0	+0.2
	baz=115							
HYT	Haines Junctio	144.71	307	P		PKPbc	06 36 19.9	+0.4
	baz=113,SNR=10							
N30M	Aishikik Lake	144.78	309	P		PKPdf	06 36 20.4	-0.2
	baz=113,SNR=26							
MAYO	Mayo, Yukon	145.06	312	P		PKPab	06 36 20.6	+0.1
	baz=111							
M30M	Minto, Yukon	145.07	311	P		PKPbc	06 36 20.5	0.0
	baz=112,SNR=19							
PNL	Peninsula	145.12	305	P		PKPdf	06 36 21.5	+0.4
	baz=114							
YUK6	Outpost Mounta	145.15	307	P		PKPbc	06 36 20.7	-0.4
	baz=113							
YUK4	Talbot Arm	145.43	308	P		PKPbc	06 36 22.0	+0.1
	baz=112,SNR=8.1							
F31M	Tsiigehtchic	145.46	319	P		PKPbc	06 36 21.7	+0.2
	baz=107							
G31M	Satah River	145.50	318	P		PKPdf	06 36 21.4	-0.1
	baz=107,SNR=15							
J30M	Hart River	145.57	314	P		PKPdf	06 36 22.0	+0.1
	baz=109,SNR=7.8							
INK	Inuvik	145.62	321	P		PKPdf	06 36 21.9	+0.2
	baz=106,SNR=10							
M29M	Somme Creek	145.75	310	P		PKPbc	06 36 22.9	+0.1
	baz=111,SNR=16							
I30M	Mount Dempster	145.80	315	P		PKPbc	06 36 22.8	-0.1
	baz=108,SNR=18							
K29M	Barlow Dome	145.82	312	P		PKPdf	06 36 22.6	+0.3
	baz=109,SNR=14							
L29M	L29M	145.83	311	P		PKPbc	06 36 22.8	-0.2
	baz=110,SNR=22							
YUK8	Steele Glacier	145.91	307	P		PKPdf	06 36 23.2	+0.5
	baz=111,SNR=12							
O28M	Mount Upton	145.91	307	P		PKPbc	06 36 23.7	+0.1
	baz=112							
G30M	tAoh Zraii Nji	146.25	318	P		PKPbc	06 36 24.1	+0.1
	baz=106							
F30M	Barrier River	146.26	319	P		PKPbc	06 36 23.6	-0.5
	baz=105,SNR=9.2							
EPYK	Eagle Plains	146.28	317	P		PKPbc	06 36 24.1	-0.1
	baz=106,SNR=6.3							
J29N	Klondike Camp	146.31	313	P		PKPbc	06 36 24.5	+0.1
	baz=108							
YUK3	Moose Creek	146.39	308	P		PKPbc	06 36 24.7	-0.2
	baz=110							
MESA	MESA	146.50	305	P		PKPbc	06 36 24.8	-0.4
	baz=112							
I29M	Ogilvie Camp,	146.62	315	P		PKPbc	06 36 25.1	-0.1
	baz=106,SNR=8.9							
DAWY	Dawson	146.68	312	P		PKPbc	06 36 25.3	-0.1
	baz=108,SNR=14							
BVCY	Beaver Creek	146.79	309	P		PKPdf	06 36 24.7	+0.8
	baz=109							
H29M	Whitestone	146.88	316	P		PKPbc	06 36 25.9	0.0
	baz=105,SNR=11							
G29M	Pine Creek	146.92	318	P		PKPbc	06 36 25.9	0.0
	baz=104,SNR=13							
M27K	Edge Creek, AK	147.22	309	P		PKPbc	06 36 27.1	0.0
	baz=108,SNR=6.7							
E29M	Blow River	147.22	320	P		PKPbc	06 36 26.5	-0.3
	baz=102,SNR=10							
I28M	Miner Creek	147.29	315	P		PKPbc	06 36 27.4	+0.2
	baz=105,SNR=10							
L27K	Beaver Creek,	147.41	310	P		PKPbc	06 36 26.6	-0.9
	baz=108,SNR=11							
KAIM	Kayak Island	147.56	304	P		PKPbc	06 36 27.2	-0.7
	baz=110							
EGAK	Eagle	147.62	313	P		PKPbc	06 36 27.5	-0.4
	baz=105							
D28M	Stokes Point	147.70	322	P		PKPbc	06 36 27.3	-0.7
	baz=100							
M26K	Nabesna, AK	147.73	308	P		PKPbc	06 36 27.6	-0.8
	baz=108							
F28M	Old Crow	147.78	319	P		PKPbc	06 36 28.0	-0.3
	baz=102,SNR=12							
K27K	Chicken	147.80	312	P		PKPbc	06 36 28.3	-0.2
	baz=106							
E28M	Babbage River	147.85	320	P		PKPbc	06 36 28.4	-0.1
	baz=101							
BMRM	Bremner River	148.00	305	P		PKPbc	06 36 27.8	-1.4
	baz=109							
I27K	Kandik River	148.01	315	P		PKPbc	06 36 28.4	-0.7
	baz=104,SNR=7.7							
L26K	Log Cabin Wild	148.06	310	P		PKPbc	06 36 28.7	-0.5
	baz=106,SNR=9.1							
H27K	Steamboat Moun	148.12	316	P		PKPbc	06 36 29.4	0.0
	baz=103,SNR=13							
N25K	Chitina, Valde	148.20	307	P		PKPbc	06 36 29.5	-0.2
	baz=108							
G27K	Doyon Strip	148.29	317	P		PKPbc	06 36 29.6	-0.1
	baz=102							
EYAK	Cordova Ski Ar	148.40	304	P		PKPbc	06 36 30.4	+0.3
	baz=109							
D27M	Malcolm River	148.47	322	P		PKPbc	06 36 30.7	+0.5
	baz=98							
E27K	Coleen River	148.53	319	P		PKPbc	06 36 30.4	0.0
	baz=100							
J26L	Joseph Creek	148.55	312	P		PKPbc	06 36 31.2	+0.7
	baz=104,SNR=9.6							
I26K	Coal Creek Min	148.57	314	P		PKPbc	06 36 30.8	+0.4
	baz=103							
SCRK	Sand Creek	148.60	311	P		PKPbc	06 36 31.2	+0.4
	baz=105,SNR=12							
HARP	HAARP	148.69	308	P		PKiKP	06 36 31.8	-0.5
	baz=106							
KLU	Klutina	148.77	306	P		PKiKP	06 36 32.2	-0.4
	baz=107							
PAX	Paxson	148.98	309	P		PKPbc	06 36 32.0	+0.3
	baz=105,SNR=7.3							
P23K	Montague Islan	149.00	303	P		PKPbc	06 36 31.9	+0.2
	baz=109							
M24K	Tolsona, Glenn	149.06	307	P		PKiKP	06 36 32.6	-0.5
	baz=106							
GLI	Glacier Island	149.13	305	P		PKPbc	06 36 32.2	+0.2
	baz=102							
G26K	Porcupine Rive	149.15	317	P		PKPbc	06 36 32.1	+0.3
	baz=100							
K24K	Donnelly Dome	149.32	310	P		PKPbc	06 36 32.3	-0.2
	baz=104							
J25K	Salcha River,	149.33	312	P		PKPbc	06 36 32.4	0.0
	baz=102							
F26K	Sheenjek River	149.41	318	P		PKPbc	06 36 32.9	+0.4
	baz=98							
C27K	Jago River	149.48	322	P		PKiKP	06 36 33.5	-0.2
	baz=95							
SCM	Sheep Creek Mo	149.51	306	P		PKPbc	06 36 33.3	+0.3
	baz=106							
PRP	Porcupine Dome	149.58	314	P		PKPbc	06 36 32.9	-0.2
	baz=101							
M23K	Glacier View	149.68	306	P		PKPbc	06 36 33.3	0.0
	baz=106							
H25L	Birch Creek	149.83	315	P		PKPbc	06 36 34.1	+0.6
	baz=99							
DHY	Denali Highway	149.85	309	P		PKiKP	06 36 34.8	0.0
	baz=104							
WAT6	Susitna Watana	149.89	308	P		PKPbc	06 36 34.3	+0.3
	baz=104							
KNK	Knik Glacier	149.92	305	P		PKPbc	06 36 34.5	+0.5
	baz=106							
C26K	Camden Bay	149.92	323	P		PKiKP	06 36 34.9	+0.4
	baz=94							
F25K	Christian Rive	149.96	318	P		PKiKP	06 36 35.3	+0.5
	baz=97							
HDA	Harding Lake	149.96	311	P		PKiKP	06 36 35.5	+0.7
	baz=102							
SML	Sawmill	149.97	306	P		PKPbc	06 36 34.3	+0.2
	baz=105							
E25K	Arctic Village	149.99	319	P		PKiKP	06 36 34.8	-0.1
	baz=96,SNR=9.6							
ILAR	Eielson Array	150.00	312	PKPbc		PKPbc	06 36 33.8	-0.2
	comp=Z,8.5nm,0.9s,baz=124,slow=1.6,SNR=44							
SEW	Seward	150.01	302	P		PKiKP	06 36 34.7	-0.3
	baz=107							
G25K	Bearman Lake	150.02	316	P		PKiKP	06 36 34.9	0.0
	baz=98							
O22K	Cooper Landing	150.25	303	P		PKiKP	06 36 35.3	-0.1
	baz=106							
PMR	Palmer	150.28	305	P		PKiKP	06 36 35.6	+0.1
	baz=105							
POKR	Poker Flat Res	150.30	313	P		PKiKP	06 36 35.5	0.0
	baz=102							
WAT1	Susitna Watana	150.31	308	P		PKPbc	06 36 35.1	+0.2
	baz=103							
D25K	Kavik River	150.39	321	P		PKiKP	06 36 35.6	-0.1
	baz=94							
RC01	Rabbit Creek A	150.43	304	P		PKPbc	06 36 35.5	+0.4
	baz=105							
COLA	College	150.43	312	P		PKiKP	06 36 35.5	-0.2
	baz=100							
BRSE	Bear Lake S	150.53	301	P		PKPbc	06 36 35.2	-0.2
	baz=107							
G24K	Hadweenzic Riv	150.56	316	P		PKiKP	06 36 36.1	+0.1
	baz=97,SNR=7.1							
H24K	Noodor Dome	150.60	314	P		PKPbc	06 36 35.4	-0.1
	baz=98							
MCK	McKinley	150.68	310	P		PKPbc	06 36 35.8	+0.1
	baz=101							
M22K	Willow	150.77	305	P		PKPbc	06 36 36.1	+0.3
	baz=104							
F24K	Squaw Lake	150.81	318	P		PKPbc	06 36 36.3	+0.4
	baz=96							
KDAK	Kodiak Island	150.83	297	P		PKPbc	06 36 36.1	0.0
	baz=109							
NEA2	Nenana	150.90	311	P		PKPbc	06 36 36.2	0.0
	baz=100,SNR=8.9							
HOM	Homer	150.94	301	P		PKPbc	06 36 36.4	0.0
	baz=107							
CUT	Chulitna	150.99	307	P		PKPbc	06 36 36.6	+0.2
	baz=104							
SUA	Susitna One	150.99	305	P		PKPbc	06 36 36.4	-0.3
	baz=104							
OHAK	Old Harbor	151.00	296	P		PKPbc	06 36 36.5	-0.1
	baz=110							
Q20K	Shuyak Island	151.00	299	P		PKiKP	06 36 36.9	-0.2
	baz=108							
E24K	Your Creek	151.08	319	P		PKPbc	06 36 36.6	0.0
	baz=94							
I23K	Minto, Yukon-K	151.11	313	P		PKPbc	06 36 36.0	-0.6
	baz=98							
TRF	Thorofare Moun	151.22	309	P		PKPbc	06 36 36.8	-0.3
	baz=101							
C24K	Franklin Bluff	151.23	322	P		PKiKP	06 36 37.3	0.0
	baz=91							
SII	Sitkinak Islan	151.23	294	P		PKPbc	06 36 37.5	+0.3
	baz=111							
D24K	Happy Valley	151.26	321	P		PKiKP	06 36 37.4	+0.1
	baz=92							
H23K	Yukon River	151.27	314	P		PKiKP	06 36 37.6	0.0
	baz=97							
SKT	Skwentna	151.48	306	P		PKPbc	06 36 37.8	+0.2
	baz=103							
E23K	Chandalar	151.50	319	P		PKiKP	06 36 37.9	-0.1
	baz=93							
TOLK	Toolik Lake Re	151.51	320	P		PKiKP	06 36 38.1	+0.1
	baz=92,SNR=9.3							
O20K	Slope Mountain	151.53	301	P		PKPbc	06 36 37.4	-0.4
	baz=105							
G23K	Bananza Creek	151.56	316	P		PKPbc	06 36 37.9	+0.2
	baz=95,SNR=10							
N20K	Mount Spurr	151.62	304	P		PKPbc	06 36 37.2	-0.8
	baz=104							
BPAW	Bear Paw Mtn.	151.64	310	P		PKPbc	06 36 37.8	-0.1
	baz=99							
MLY	Manley	151.67	312	P		PKPbc	06 36 37.7	-0.3
	baz=98							
COLD	Coldfoot	151.67	317	P		PKPbc	06 36 38.0	+0.1
	baz=94							
CHIR	Chirikof Islan	151.71	292	P		PKPbc	06 36 38.6	+0.3
	baz=111							
Q19K	Cape Douglas,	151.71	299	P		PKPbc	06 36 37.4	-0.8
	baz=107							
C23K	Itkillik River	151.89	322	P		PKiKP	06 36 39.0	+0.3
	baz=89							
D23K	Nanushuk River	151.92	320	P		PKiKP	06 36 38.8	0.0
	baz=90							
PPLA	Purkeypile	151.96	307	P		PKPbc	06 36 38.6	-0.2
	baz=100							
CAST	Castle Rocks	152.01	309	P		PKPbc	06 36 38.8	0.0
	baz=100							
H22K	Ishtalitna Cre	152.03	314	P		PKiKP	06 36 39.2	+0.1
	baz=96							
G22K	Bettles	152.16	316	P		PKiKP	06 36 39.5	+0.2
	baz=93							
CHUM	Lake Minchumin	152.18	309	P		PKiKP	06 36 40.2	+0.8
	baz=98							
M20K	Styx River	152.20	305	P		PKiKP	06 36 39.8	+0.1
	baz=102							
I21K	Tanana	152.21	312	P		PKiKP	06 36 40.0	+0.6
	baz=96							
E22K	Anaktuvuk Pass	152.33	319	P		PKPbc	06 36 39.4	0.0
	baz=91							
O19K	Port Alsworth	152.38	301	P		PKiKP	06 36 40.6	+0.7
	baz=104							
F22K	John River	152.45	317	P		PKiKP	06 36 40.4	+0.4
	baz=92							
H21K	Melozitna Rive	152.60	313	P		PKiKP	06 36 40.9	+0.7
	baz=95							
N19K	Bonanza Creek	152.61	303	P		PKiKP	06 36 41.0	+0.5
	baz=103							
P18K	Big Mountain,	152.63	299	P		PKiKP	06 36 41.0	+0.4
	baz=105							
D22K	Ayikyak River	152.65	320	P		PKPbc	06 36 40.0	-0.1
	baz=89,SNR=7.5							
Q17K	Contact Creek	152.65	297	P		PKiKP	06 36 40.0	-0.5
	baz=107							
L20K	Farewell, AK	152.65	306	P		PKPbc	06 36 40.4	+0.2
	baz=100							
O18K	Koktuh Hills	152.73	300	P		PKiKP	06 36 41.3	+0.6
	baz=104							
M19K	Big River Lodg	152.79	305	P		PKiKP	06 36 41.0	+0.2
	baz=101							
B22K	Teshekpuk Lake	152.82	323	P		PKiKP	06 36 41.3	+0.8
	baz=85							
K20K	Telida	152.88	308	P		PKiKP	06 36 41.5	+0.6
	baz=98							
G21K	Allakaket	152.94	315	P		PKiKP	06 36 41.3	+0.4
	baz=92							
F21K	Alatna River	152.95	317	P		PKiKP	06 36 41.2	+0.2
	baz=91							
J20K	Nowinta River	153.02	310	P		PKiKP	06 36 41.4	+0.3
	baz=96							
L19K	White Mountain	153.05	305	P		PKiKP	06 36 42.4	+1.1
	baz=100							
Q16K	King Salmon	153.15	297	P		PKiKP	06 36 41.6	+0.1
	baz=106							
P17K	Kvichak River	153.18	299	P		PKiKP	06 36 42.2	+0.6
	baz=105							
I20K	Naaghedeneel	153.22	311	P		PKiKP	06 36 42.5	+1.0
	baz=95							
N18K	Kilae Creek	153.25	302	P		PKiKP	06 36 42.7	+0.9
	baz=102							
A22K	Sinclair Lake	153.26	325	P		PKiKP	06 36 42.3	+0.9
	baz=82							
B21K	Ikpikpuk River	153.29	322	P		PKiKP	06 36 42.3	+0.8
	baz=85							
R16K	Pilot Point	153.31	295	P		PKiKP	06 36 42.7	+0.9
	baz=107							
CHGN	Chignik	153.35	292	P		PKiKP	06 36 43.2	+1.2
	baz=109							
C21K	Knifeblade Rid	153.39	321	P		PKiKP	06 36 42.8	+1.1
	baz=86							
H20K	Anotleneega Mo	153.45	313	P		PKiKP	06 36 43.0	+1.0
	baz=93							
CHNA	Chernabura Isl	153.47	288	P		PKiKP	06 36 43.5	+1.2
	baz=111							
O17K	Koliganek Bris	153.64	300	P		PKiKP	06 36 43.4	+0.9
	baz=103							
J19K	Poorman	153.64	309	P		PKiKP	06 36 44.1	+1.6
	baz=96							
A21K	Barrow	153.74	326	P		PKiKP	06 36 44.1	+1.8
	baz=80							
F20K	Avaraart Lake	153.83	316	P		PKiKP	06 36 43.8	+1.1
	baz=89							
N17K	Nushagak Hills	153.85	301	P		PKiKP	06 36 44.0	+1.0
	baz=102							
L18K	Granite Mounta	153.91	305	P		PKiKP	06 36 44.4	+1.4
	baz=98							
P16K	Nushagak River	153.91	298	P		PKiKP	06 36 44.9	+1.9
	baz=104							
S14K	Fog Glacier	153.94	291	P		PKiKP	06 36 45.2	+1.8
	baz=109							
E20K	Nigu River	153.96	319	P		PKiKP	06 36 45.3	+2.2
	baz=86							
J18K	Innoko River	154.07	308	P		PKiKP	06 36 45.4	+2.1
	baz=96							
D20K	Etivluk River	154.08	320	P		PKiKP	06 36 45.2	+1.9
	baz=85							
O16K	Kokwok River B	154.09	299	P		PKiKP	06 36 45.7	+2.3
	baz=103							
H19K	Roundabout Mou	154.10	313	P		PKPab	06 36 57.4	+0.3
	baz=92							
SDPT	Sand Point	154.13	289	P		PKPab	06 36 57.3	-0.1
	baz=110							
M17K	Holitna River	154.13	303	P		PKPab	06 36 58.9	+1.6
	baz=100							
B20K	Meade River	154.13	323	P		PKPab	06 36 58.6	+1.5
	baz=82							
G19K	Purcell Mounta	154.37	314	P		PKPab	06 36 59.5	+1.2
	baz=90							
E19K	Redstone River	154.40	317	P		PKPab	06 36 59.5	+1.2
	baz=87							
F19K	Shaleruckit Mo	154.64	316	P		PKPab	06

F17K	**Baldwin Pennin**	**156.04**	**315**	P		**PKPab**	**06 37 05.4 +0.1**
	baz=85						
M14K	**Bethel**	**156.20**	**301**	P		**PKPab**	**06 37 06.0 -0.1**
	baz=98						
E17K	**Hotham Inlet**	**156.21**	**317**	P		**PKPab**	**06 37 06.3 +0.2**
	baz=83						
RDOG	**Red Dog Mine**	**156.48**	**319**	P		**PKPab**	**06 37 06.6 -0.6**
	baz=80						
C17K	**DeLong Mountai**	**156.50**	**320**	P		**PKPab**	**06 37 07.1 -0.2**
	baz=79						
D17K	**Noatak River**	**156.60**	**318**	P		**PKPab**	**06 37 07.7 0.0**
	baz=81						
L14K	**Kuka Creek**	**156.62**	**302**	P		**PKPab**	**06 37 08.0 0.0**
	baz=96						
M13K	**Dall Lake**	**156.84**	**300**	P		**PKPab**	**06 37 08.9 0.0**
	baz=98						
UNV	**Unalaska Valle**	**156.89**	**282**	P		**PKPab**	**06 37 08.3 -1.0**
	baz=111						
J14K	**Nanvaranak Lak**	**157.13**	**306**	P		**PKPab**	**06 37 08.7 -1.4**
	baz=92						
C16K	**Lisburne Hills**	**157.33**	**320**	P		**PKPab**	**06 37 10.2 -0.6**
	baz=77						
F15K	**North Star Dit**	**157.49**	**313**	P		**PKPab**	**06 37 11.6 -0.1**
	baz=84						
K13K	**Kusilvak Mount**	**157.61**	**304**	P		**PKPab**	**06 37 11.6 -0.6**
	baz=93						
ANM	**Nome**	**157.90**	**311**	P		**PKPab**	**06 37 13.2 -0.2**
	baz=86						
MJAR	**Matsushiro Arr**	**158.34**	**146**	PKPab		**PKPab**	**06 37 16.2 +0.2**
	comp=Z,1.1nm,0.3s,baz=11,slow=6.3,SNR=1.1						

IDC 18 06:19:54.4±3.0, 54.41N×86.85E, h0km, mbtmp3.1/2, ML2.7/2, Error ellipse: s-maj=26.8km s-min=18.2km az=52.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.28**	**249**	I	I	06 28 20.0	
	baz=68,slow=327,SNR=1.6						
ZALV	**Zalesovo Beam**	**1.28**	**249**	Pg	Pg	06 20 17.0	-1.9
	1.4nm,0.3s,baz=70,slow=16,SNR=13						
ZALV				Lg	Lg	06 20 35.1	
	1.1nm,0.3s,baz=72,slow=27,SNR=5.2						
KURBB	**Kurchatov Arra**	**6.34**	**237**	Pn	Pn	06 21 29.9	+1.0
	0.1nm,0.3s,baz=54,slow=14,SNR=15						
KURBB				Lg	Lg	06 23 17.0	
	0.1nm,0.3s,baz=51,slow=28,SNR=2.0						
	2.0nm,0.6s						
MKAR	**Makanchi Array**	**8.16**	**203**	Pn	Pn	06 21 55.2	+1.2
	0.1nm,0.3s,baz=25,slow=14,SNR=6.2						
MKAR				Lg	Lg	06 24 15.1	
	baz=23,slow=31,SNR=1.6						
	0.2nm,0.3s						

IDC 18 06:22:50.3±1.1, 53.07N×157.93E, h254km±7km, mb2.8/4, mbtmp3.4/4, Error ellipse: s-maj=37.8km s-min=25.9km az=153.0, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.15**	**288**	P	Pn	06 23 22.7	-0.3
	16nm,0.4s,baz=96,slow=2.5,SNR=40						
PETK				S	S	06 23 50.2	+1.5
	1.8nm,0.5s,baz=98,slow=3.3,SNR=1.6						
ILAR	**Eielson Array**	**29.76**	**45**	P	P	06 28 33.1	+0.1
	0.3nm,0.7s,baz=258,slow=6.5,SNR=7.3						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**41.69**	**302**	P	P	06 30 13.9	0.0
	0.4nm,0.3s,baz=64,slow=9.8,SNR=1.8						
	0.4nm,0.3s						
YKA	**Yellowknife Ar**	**44.06**	**42**	P	P	06 30 32.4	-0.3
	0.4nm,0.8s,baz=303,slow=8.3,SNR=7.0						
	0.4nm,0.8s						
TXAR	**Lajitas Array**	**71.84**	**65**	P	P	06 33 46.1	+0.6
	0.1nm,0.5s,baz=295,slow=5.8,SNR=4.2						
	0.1nm,0.5s						

*MEX **18** 06:33:32.1±1.2, 15.26N×94.36W, h38km±24km, MD4.6*
*NEIC **18** 06:33:34.1±2.6, 15.46N±0.10×94.23W±0.08, h67km±10km, mb4.3/24, Error ellipse: s-maj=15.9km s-min=9.0km az=211.0*
*IDC **18** 06:33:35.4±1.6, 16.00N×93.84W, h51km±11km, mb3.8/14, mbtmp4.0/17, ML3.5/2, MS3.5/5, Error ellipse: s-maj=33.4km s-min=7.2km az=36.0*
*GCG **18** 06:33:35.0±1.3, 15.39N×93.82W, h0km±358km, MD4.6*
*CATAC **18** 06:33:36.9±0.8, 15.23N×93.89W, h10km, MB4.8, mb4.8, ML4.6*

ISC 18 06:33:30.9±0.9, 15.27N±0.05×94.40W±0.03, h46km±10km, n141, σ2933/187, mb4.1/15, MS3.5/4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.08**	**26**	*e*P	**Pn**	**06 33 48.9**	**-0.8**
CARR				*e*S	**Sn**	**06 34 01.6**	**-1.8**
PCIG		**1.21**	**69**	*i* P	**Pn**	**06 33 50.3**	**-1.2**
PCIG				*i* S	**Sn**	**06 34 04.5**	**-2.2**
HUIG	**Huatulco**	**1.72**	**287**	*i* P	**Pn**	**06 33 58.0**	**-0.4**
HUIG				*i* S	**Sn**	**06 34 16.5**	**-2.8**
CMIG	**Matias Romero**	**1.87**	**346**	P	**Pn**	**06 34 00.3**	**-0.2**
	137nm,0.3s,baz=188,slow=10,SNR=683						
CMIG				S	**Sn**	**06 34 17.4**	**-5.5**
	214nm,0.5s,baz=182,slow=15,SNR=5.4						
CMIG	**Matias Romero**	**1.87**	**346**	*e*P	**Pn**	**06 34 00.4**	**0.0**
CMIG				*e*S	**Sn**	**06 34 21.3**	**-1.6**
TGIG		**1.94**	**39**	*i* P	**Pn**	**06 34 01.5**	**+0.1**
TGIG				*e*S	**Sn**	**06 34 24.8**	**+0.2**
TGBT	**Tuxtla Gutierr**	**1.95**	**40**	*e*P	**Pn**	**06 34 01.6**	**0.0**
TGBT				*e*S	**Sn**	**06 34 23.4**	**-1.6**
UXUV	**UXUV**	**2.05**	**7**	*i* P	**Pn**	**06 34 03.5**	**+0.6**
UXUV				*e*S	**Sn**	**06 34 27.7**	**+0.4**
THIG		**2.09**	**100**	*e*P	**Pn**	**06 34 02.5**	**-1.0**
THIG				*e*S	**Sn**	**06 34 26.0**	**-2.3**
PATR	**El Naranjo**	**2.09**	**94**	*i* P	**Pn**	**06 34 02.5**	**-1.2**
PATR				*i* S	**Sn**	**06 34 25.8**	**-2.9**
PAVE	**Pavencul**	**2.14**	**92**	*i* P	**Pn**	**06 34 03.5**	**-0.9**
PAVE				*i* S	**Sn**	**06 34 27.8**	**-2.1**
CHUJ	**Union Juarez**	**2.22**	**94**	*i* P	**Pn**	**06 34 04.2**	**-1.2**
CHUJ				*i* S	**Sn**	**06 34 28.8**	**-3.0**
CCIG	**Comitan**	**2.40**	**65**		**Pn**	**06 34 08.1**	**+0.2**
CCIG	**Comitan**	**2.40**	**65**	*e*P	**Pn**	**06 34 08.2**	**+0.4**
CCIG				*e*S	**Sn**	**06 34 36.2**	**+0.1**
SMSP	**San Marcos**	**2.54**	**96**	*e*P	**Pn**	**06 34 09.2**	**-0.8**
SMSP				*e*S	**Sn**	**06 34 37.5**	**-2.4**
SMSP	**San Marcos**	**2.54**	**96**	*i* P	**Pn**	**06 34 09.1**	**-0.8**
SMSP				*i* S	**Sn**	**06 34 37.7**	**-2.2**
SMSP				IAML		06 34 43.2	
	comp=Z,6μm,1.0s						
RTAL	**Retalhuleu**	**2.71**	**106**	Pn	**Pn**	**06 34 11.5**	**-0.5**
RTAL	**Retalhuleu**	**2.71**	**106**	*e*P	**Pn**	**06 34 11.6**	**-0.5**
RTAL				*e*S	**Sn**	**06 34 41.5**	**-2.2**
RTAL	**Retalhuleu**	**2.71**	**106**	*i* P	**Pn**	**06 34 11.4**	**-0.7**
RTAL				*i* S	**Sn**	**06 34 40.7**	**-3.0**
RTAL				IAML		06 34 48.4	
	comp=Z,2μm,1.0s						
PEIG	**Puerto Escondi**	**2.75**	**286**	*i* P	**Pn**	**06 34 12.4**	**-0.1**
PEIG				*i* S	**Sn**	**06 34 41.0**	**-3.5**
NEUV	**Arroyo Zacate**	**2.78**	**331**	*e*P	**Pn**	**06 34 13.0**	**+0.1**
NEUV				*e*S	**Sn**	**06 34 44.7**	**-0.5**
STG3	**Santiaguito 3,**	**2.79**	**101**	*e*P	**Pn**	**06 34 13.6**	**+0.3**
HUEH	**Huehuetenango**	**2.79**	**89**		**Pn**	**06 34 13.8**	**+0.5**
HUEH	**Huehuetenango**	**2.79**	**89**	*e*P	**Pn**	**06 34 14.6**	**+1.2**
HUEH				*e*S	**Sn**	**06 34 45.0**	**-1.0**
HUEH	**Huehuetenango**	**2.79**	**89**	*i* P	**Pn**	**06 34 15.1**	**+1.8**
HUEH				*i* S	**Sn**	**06 34 48.0**	**+2.1**
HUEH				IAML		06 34 53.5	
	comp=Z,8μm,1.0s						
OXLC	**Oaxaca**	**2.85**	**309**	*e*P	**Pn**	**06 34 16.2**	**+2.1**
OXLC				*e*S	**Sn**	**06 34 47.1**	**-0.1**
VHO	**Vista Hermosa**	**2.87**	**309**	*e*P	**Pn**	**06 34 15.3**	**+0.9**
VHO				*e*S	**Sn**	**06 34 47.0**	**-0.9**
SULM	**Suchitepequez,**	**2.90**	**109**	*e*P	**Pn**	**06 34 16.2**	**+1.5**
VHSA	**Villahermosa**	**3.04**	**27**	*e*P	**Pn**	**06 34 18.0**	**+1.5**
VHSA				*e*S	**Sn**	**06 34 53.4**	**+1.8**
QUIS	**Sacapulas**	**3.19**	**89**	*i* P	**Pn**	**06 34 20.3**	**+1.6**
QUIS				IAML		06 35 01.8	
	comp=Z,2μm,1.0s						
PMUV	**Sontecomapan**	**3.33**	**348**	*e*P	**Pn**	**06 34 18.6**	**-2.0**
PMUV				*e*S	**Sn**	**06 34 55.9**	**-3.1**
YOIG	**Yosondua**	**3.41**	**298**	*e*P	**Pn**	**06 34 23.9**	**+2.0**
YOIG				*e*S	**Sn**	**06 35 00.6**	**-0.8**
FUG	**Fuego 3**	**3.53**	**103**	*e*P	Pn	06 34 07.6	-16
FUG				*e*S	**Sn**	**06 35 03.5**	**-0.7**
PNIG	**Pinotepa**	**3.76**	**288**	*i* P	**Pn**	**06 34 27.3**	**+0.8**
PNIG				*e*S	**Sn**	**06 35 04.7**	**-4.8**
TXIG	**Tlaxiaco**	**3.79**	**302**	*e*P	**Pn**	**06 34 29.6**	**+2.4**
TXIG				*e*S	**Sn**	**06 35 08.1**	**-2.6**
TOIG	**Toxpalan**	**3.80**	**318**	*e*P	**Pn**	**06 34 30.0**	**+2.9**
TOIG				*e*S	**Sn**	**06 35 10.0**	**-0.6**
APG	**El Apazote**	**3.81**	**93**	P	**Pn**	**06 34 27.2**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=204,slow=14,SNR=40						
APG				S	**Sn**	**06 35 05.8**	**-5.1**
	comp=Z,5.9nm,0.5s,baz=61,slow=23,SNR=4.7						
	comp=Z,2.5nm,0.4s						
GUNB	**GUNB**	**3.97**	**99**	*i* P	**Pn**	**06 34 32.9**	**+3.3**
GUNB				IAML		06 35 28.8	
	comp=Z,360nm,1.0s						
NBG	**Las Nubes**	**3.97**	**99**	*e*P	**Pn**	**06 34 33.7**	**+4.1**
HLIG	**Huajuapan de L**	**4.14**	**308**	*e*P	**Pn**	**06 34 34.4**	**+2.5**
HLIG				*e*S	**Sn**	**06 35 17.9**	**-1.2**
FTIG	**Fresnillo de T**	**4.44**	**307**	*i* P	**Pn**	**06 34 38.6**	**+2.7**
FTIG				*e*S	**Sn**	**06 35 25.1**	**-1.3**
MRL	**Marmol**	**4.55**	**92**	*e*P	**Pn**	**06 34 38.8**	**+1.2**
TLIG	**Tlapa**	**4.61**	**300**		**Pn**	**06 34 40.3**	**+2.1**
TLIG	**Tlapa**	**4.61**	**300**	*e*P	**Pn**	**06 34 40.8**	**+2.6**
TLIG				*e*S	**Sn**	**06 35 27.6**	**-2.8**
PETF	**Flores**	**4.65**	**69**		**Pn**	**06 34 38.6**	**-0.1**
PETF	**Flores**	**4.65**	**69**	*e*P	**Pn**	**06 34 38.3**	**-0.4**
PETF				*e*S	**Sn**	**06 35 28.9**	**-2.5**
PETF	**Flores**	**4.65**	**69**	*i* P	**Pn**	**06 34 38.8**	**+0.1**
PETF				IAML		06 34 40.8	
	comp=Z,1μm,1.0s						
NUBE	**Las Nubes**	**4.67**	**106**	*i* P	**Pn**	**06 34 39.8**	**+0.7**
NUBE				*i* S	**Sn**	**06 35 29.5**	**-2.7**
NUBE				IAML		06 35 46.7	
	comp=Z,300nm,1.0s						
JAUV	**Jalcomulco**	**4.68**	**331**	*e*P	**Pn**	**06 34 37.7**	**-1.3**
JAUV				*e*S	**Sn**	**06 35 28.8**	**-3.3**
CRIG	**Cruz Grande**	**4.78**	**288**	*e*P	**Pn**	**06 34 41.5**	**+1.1**
CRIG				*e*S	**Sn**	**06 35 28.3**	**-6.3**
SCIG	**Sabancuy**	**4.79**	**39**	*e*P	**Pn**	**06 34 40.2**	**-0.3**
SCIG				*e*S	**Sn**	**06 35 29.1**	**-5.7**
LVIG	**Laguna Verde**	**4.83**	**337**	*e*P	**Pn**	**06 34 41.6**	**+0.5**
LVIG				*e*S	**Sn**	**06 35 28.8**	**-7.0**
CEVE	**Cerro Verde**	**4.84**	**107**	*i* P	**Pn**	**06 34 43.4**	**+1.9**
CEVE				IAML		06 35 48.2	
	comp=Z,550nm,1.0s						
UNIC	**Universidad Ca**	**4.86**	**105**	*i* P	Pn	06 34 47.5	+5.8
UNIC				IAML		06 34 50.7	
	comp=Z,160nm,1.0s						
ESQI	**Esquipulas**	**4.94**	**98**		**Pn**	**06 34 43.5**	**+0.7**
ESQI	**Esquipulas**	**4.94**	**98**	*i* P	**Pn**	**06 34 43.7**	**+1.0**
ESQI				IAML		06 36 14.2	
	comp=Z,470nm,1.0s						
MTO3	**Montecristo**	**4.95**	**99**	Pn	**Pn**	**06 34 43.2**	**+0.2**
MTO3	**Montecristo**	**4.95**	**99**	*i* P	**Pn**	**06 34 43.7**	**+0.8**
MTO3				IAML		06 36 20.2	
	comp=Z,120nm,1.0s						
JAYA	**Jayaque - finc**	**5.05**	**108**	*i* P	**Pn**	**06 34 45.2**	**+0.8**
JAYA				IAML		06 35 44.4	
	comp=Z,780nm,1.0s						
PMON	**Piamonte**	**5.16**	**107**	*i* P	**Pn**	**06 34 48.0**	**+2.2**
PMON				IAML		06 35 50.0	
	comp=Z,430nm,1.0s						
UEES	**Universidad Ev**	**5.23**	**107**	*i* P	Pn	06 34 52.2	+5.5
UEES				IAML		06 36 17.6	
	comp=Z,150nm,1.0s						
SNET	**Serv Nac Est T**	**5.24**	**107**	Pn	**Pn**	**06 34 48.4**	**+1.5**
DAIG	**Los Arroyos**	**5.34**	**290**	*e*P	**Pn**	**06 34 49.8**	**+1.6**
DAIG				*e*S	**Sn**	**06 35 41.2**	**-7.2**
PAVA	**Las Pavas**	**5.51**	**106**	*i* P	**Pn**	**06 34 54.6**	**+4.0**
PAVA				IVmB_BB		06 35 09.7	
	comp=Z,2μm,1.0s						
PAVA				IAmb	IAmb	06 35 16.7	
	comp=Z,150nm,0.5s						
PAVA				IAML		06 36 13.1	
	comp=Z,220nm,1.0s						
PPM	**Popocatepetl**	**5.53**	**314**	*e*P	**Pn**	**06 34 55.6**	**+4.4**
PPM				*e*S	**Sn**	**06 35 55.6**	**+1.8**
COEG	**Centro de Oper**	**5.59**	**106**	*i* P	**Pn**	**06 34 54.7**	**+3.1**
COEG				IAmb	IAmb	06 34 58.1	
	comp=Z,80nm,0.5s						
COEG				IVmB_BB		06 34 58.2	
	comp=Z,990nm,1.0s						
COEG				IAML		06 36 11.1	
	comp=Z,170nm,1.0s						
IZABA	**Izabal, Puerto**	**5.62**	**85**	*e*P	**Pn**	**06 34 51.1**	**-0.9**
IZABA				*e*S	**Sn**	**06 35 52.3**	**-3.0**
MEIG	**Mezcala**	**5.66**	**299**	*e*P	**Pn**	**06 34 55.6**	**+3.0**
MEIG				*e*S	**Sn**	**06 35 54.2**	**-2.2**
AMVM	**AMECAMECA**	**5.69**	**313**	*e*P	**Pn**	**06 34 55.8**	**+2.6**
AMVM				*e*S	**Sn**	**06 35 55.4**	**-1.9**
SCLA	**Alcaldia de Sa**	**5.71**	**105**	*i* P	**Pn**	**06 34 54.0**	**+0.8**
SCLA				IAmb	IAmb	06 35 10.4	
	comp=Z,27nm,0.7s						
SCLA				IVmB_BB		06 35 47.1	
	comp=Z,330nm,1.0s						
SCLA				IAML		06 36 31.0	
	comp=Z,64nm,1.0s						
TECO	**Alcaldia de Te**	**5.71**	**107**	*i* P	**Pn**	**06 34 54.1**	**+0.9**
TECO				IVmB_BB		06 35 04.6	
	comp=Z,700nm,1.0s						
TECO				IAmb	IAmb	06 35 04.8	
	comp=Z,29nm,0.6s						
TECO				IAML		06 36 19.6	
	comp=Z,61nm,1.0s						
YAIG	**Yautepec**	**5.72**	**309**	*e*P	**Pn**	**06 34 57.0**	**+3.5**
YAIG				*e*S	**Sn**	**06 35 54.5**	**-3.5**
PLIG	**Platanillo**	**5.79**	**303**	*e*P	**Pn**	**06 34 57.6**	**+3.2**
PLIG				*e*S	**Sn**	**06 35 58.1**	**-1.5**
CAIG	**El Cayaco**	**5.91**	**288**	*e*P	**Pn**	**06 34 57.6**	**+1.6**
CAIG				*e*S	**Sn**	**06 35 55.8**	**-6.6**
THVM	**De Xico**	**5.94**	**313**	*e*P	**Pn**	**06 34 56.8**	**+0.2**
THVM				*e*S	**Sn**	**06 36 08.4**	**+4.9**
COEB	**Comit de Eme**	**5.95**	**106**	*i* P	**Pn**	**06 34 59.6**	**+3.0**
COEB				IAmb	IAmb	06 35 21.8	
	comp=Z,38nm,0.5s						
COEB				IAML		06 36 16.9	
	comp=Z,74nm,1.0s						
TLVM	**San Miguel Top**	**6.00**	**311**	*e*P	**Pn**	**06 34 59.0**	**+1.5**
TLVM				*e*S	**Sn**	**06 36 07.3**	**+2.2**
MZVM		**6.04**	**311**	*e*P	**Pn**	**06 35 01.7**	**+4.0**
MZVM				*e*S	**Sn**	**06 36 08.2**	**+2.5**
MAVM	**Malinalco, Edo**	**6.10**	**308**	*e*P	**Pn**	**06 35 02.3**	**+3.4**
MAVM				*e*S	**Sn**	**06 36 05.6**	**-1.8**
PACA	**Pacayal**	**6.15**	**106**	*i* P	**Pn**	**06 35 03.7**	**+4.3**
PACA				IVmB_BB		06 35 29.6	
	comp=Z,3μm,1.0s						
PACA				IAmb	IAmb	06 35 29.7	
	comp=Z,280nm,0.8s						
PACA				IAML		06 36 42.9	
	comp=Z,730nm,1.0s						
AOVM	**Tlapan**	**6.16**	**311**	*e*P	**Pn**	**06 35 00.5**	**+0.6**
AOVM				*e*S	**Sn**	**06 36 11.5**	**+2.3**
INVM	**La Marquesa**	**6.22**	**311**	*e*P	**Pn**	**06 35 03.5**	**+3.0**
INVM				*e*S	**Sn**	**06 36 05.9**	**-4.6**
TGUH	**Tegucigalpa,Un**	**7.00**	**99**	Pn	**Pn**	**06 35 11.0**	**0.0**
MYIG	**Mrida**	**7.18**	**37**	*e*P	**Pn**	**06 35 13.9**	**+0.5**
MYIG				*e*S	**Sn**	**06 36 29.0**	**-4.7**
TEIG	**Tepich**	**7.63**	**49**		**Pn**	**06 35 18.1**	**-1.5**
MOIG	**Morelia**	**7.82**	**305**	Pn	**Pn**	**06 35 26.9**	**+4.5**
ACON	**Acoyapa**	**9.55**	**109**	Pn	**Pn**	**06 35 45.4**	**-0.5**
ORTG	**Ortega, Santa**	**9.99**	**118**	Pn	**Pn**	**06 35 54.0**	**+2.0**
DUNO	**Dulce Nombre,**	**10.10**	**120**		**Pn**	**06 35 55.7**	**+2.2**
JTS	**Las Juntas de**	**10.46**	**117**		**Pn**	**06 36 00.2**	**+1.9**
JTS	**Las Juntas de**	**10.46**	**117**	P	**Pn**	**06 36 00.6**	**+2.3**
	comp=Z,1.7nm,0.3s,baz=325,slow=17,SNR=9.7						
JTS				S	**Sn**	**06 37 55.1**	**+0.9**
	comp=Z,3.4nm,0.9s,baz=113,slow=14,SNR=1.5						
	comp=Z,3.2nm,0.3s						
ARE1	**Arenal 1**	**10.58**	**116**		**Pn**	**06 36 01.6**	**+1.6**
SOCE	**Pocosol**	**10.70**	**116**	Pn	**Pn**	**06 36 03.0**	**+1.3**
ZAIG	**Zacatecas**	**10.74**	**315**	Pn	**Pn**	**06 36 05.6**	**+3.2**
LCR2	**La Lucha 2**	**11.54**	**117**		**Pn**	**06 36 13.6**	**+0.3**
RIMA	**Rio Macho**	**11.64**	**117**		**Pn**	**06 36 15.7**	**+0.9**
PEZE	**Perez Zeledon,**	**11.99**	**118**	Pn	**Pn**	**06 36 21.0**	**+1.6**
SRBA	**San Rafael, Bu**	**12.34**	**118**	Pn	**Pn**	**06 36 24.9**	**+0.7**
SOR	**Soroa**	**13.11**	**53**		**Pn**	**06 36 30.7**	**-3.8**
833A	**Chaparral WMA,**	**13.79**	**341**		**Pn**	**06 36 45.6**	**+1.8**
435B	**Jarrell**	**15.71**	**350**		**Pn**	**06 37 08.9**	**-0.3**
435B				IAmb	IAmb	06 37 51.1	
	comp=Z,17nm,0.6s						
TXAR	**Lajitas Array**	**16.40**	**330**	Pn	**Pn**	**06 37 18.4**	**+0.3**
TXAR	**Lajitas Array**	**16.40**	**330**	P	**Pn**	**06 37 18.2**	**+0.1**
	comp=Z,2.5nm,0.7s,baz=145,slow=11,SNR=4.1						
TX31	**Lajitas Ar. Si**	**16.40**	**330**		**P**	**06 37 20.1**	**-0.3**
OZNA	**Ozona**	**16.75**	**340**		**P**	**06 37 23.5**	**-0.7**
WHTX	**Lake Whitney,**	**16.88**	**351**	P	**P**	**06 37 24.9**	**-0.5**
WHTX				IAmb	IAmb	06 37 50.0	
	comp=Z,12nm,0.7s						
FW14	**Alvarado**	**17.24**	**352**		**P**	**06 37 30.1**	**+0.7**
FW14				IAmb	IAmb	06 38 01.6	
	comp=Z,17nm,0.6s						
ALPN	**Alpine**	**17.26**	**332**		**P**	**06 37 30.1**	**+0.3**
LPIG	**La Paz**	**17.36**	**303**	LR	LR	06 45 10.4	
	comp=Z,42nm,20.7s,baz=182,slow=40						
SGCY	**Sterling City**	**17.67**	**341**	P	**Pn**	**06 37 33.8**	**0.0**
SGCY				IAmb	IAmb	06 37 40.7	
	comp=Z,12nm,0.8s						
MNHN	**Monahans**	**17.73**	**336**	P	**P**	**06 37 34.8**	**-0.2**
ABTX	**Abilene, Hawle**	**17.92**	**345**	P	**P**	**06 37 37.6**	**+0.6**
ABTX				IAmb	IAmb	06 37 38.9	
	comp=Z,12nm,0.7s						
ODSA	**Odessa**	**18.35**	**338**		**Pn**	**06 37 44.1**	**+2.0**
ODSA				IAmb	IAmb	06 37 45.8	
	comp=Z,20nm,0.8s						
SN07	**Snyder 07**	**18.70**	**343**	P	**Pn**	**06 37 46.9**	**+0.7**
MIAR	**Mount Ida**	**19.21**	**2**	P	**P**	**06 37 50.3**	**-0.7**
DKNS	**Dickens**	**19.24**	**343**	P	**Pn**	**06 37 52.5**	**-0.4**
DKNS				IAmb	IAmb	06 37 53.1	
	comp=Z,12nm,0.6s						
OKCSW	**OKLAHOMA CITY**	**20.23**	**353**	P	**P**	**06 38 03.1**	**+0.8**
SMWD	**Samnorwood**	**20.44**	**346**	P	**P**	**06 38 05.6**	**+1.1**
SMWD				IAmb	IAmb	06 38 07.1	
	comp=Z,20nm,0.8s						
OK029	**Liberty Lake**	**20.62**	**353**	P	**P**	**06 38 06.2**	**-0.3**
319A	**Douglas**	**21.03**	**322**	P	**P**	**06 38 13.5**	**+2.5**
319A				IAmb	IAmb	06 38 15.0	
	comp=Z,17nm,0.9s						
121A	**Cookes Peak, D**	**21.06**	**327**	P	**P**	**06 38 13.8**	**+2.4**
OK032	**Salt Plains WL**	**21.71**	**352**	P	**P**	**06 38 19.6**	**+1.5**
ANMO	**Albuquerque**	**22.39**	**333**	P	**P**	**06 38 25.8**	**+0.1**
	comp=Z,2.1nm,0.6s,baz=235,slow=12,SNR=4.1						
	comp=Z,2.1nm,0.6s						
TKL	**Tuckaleechee C**	**22.42**	**23**	P	**P**	**06 38 20.6**	**-5.2**
	comp=Z,3.1nm,1.0s,baz=64,slow=2.5,SNR=1.9						
	comp=Z,3.1nm,1.0s						
PFO	**Pinyon Flats O**	**27.04**	**316**	LR	LR	06 51 45.0	
	comp=Z,64nm,18.1s,baz=16,slow=40						
PDAR	**Pinedale Array**	**30.34**	**338**	P	**P**	**06 39 38.7**	**+0.2**
	comp=Z,0.7nm,0.7s,baz=138,slow=9.0,SNR=4.9						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**31.24**	**322**	P	**P**	**06 39 48.8**	**+2.3**
	comp=Z,2.6nm,0.8s,baz=137,slow=9.0,SNR=15						
	comp=Z,2.6nm,0.8s						
SADO	**Sadowa**	**32.12**	**21**	LR	LR	06 54 00.3	
	comp=Z,66nm,18.1s,baz=108,slow=39						
ULM	**Lac du Bonnet**	**34.91**	**358**	P	**P**	**06 40 15.8**	**-2.2**
	comp=Z,2.1nm,0.7s,baz=178,slow=9.5,SNR=3.7						
	comp=Z,2.1nm,0.7s						
YBH	**Yreka Blue Hor**	**35.95**	**323**	LR	LR	06 56 56.7	
	comp=Z,88nm,18.4s,baz=154,slow=39						
LPAZ	**La Paz**	**40.69**	**139**	P	P	06 41 15.3	+7.3
	comp=Z,1.2nm,1.0s,baz=295,slow=3.5,SNR=3.6						
	comp=Z,1.2nm,1.0s						
YKA	**Yellowknife Ar**	**49.28**	**348**	P	**P**	**06 42 14.7**	**-0.2**
	comp=Z,1.2nm,0.7s,baz=150,slow=6.6,SNR=25						
	comp=Z,1.2nm,0.7s						
BDFB	**Brasilia**	**55.16**	**122**	P	**P**	**06 43 01.2**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=268,slow=9.9,SNR=3.2						
	comp=Z,0.9nm,0.5s						
ILAR	**Eielson Array**	**60.77**	**337**	P	**P**	**06 43 37.8**	**-0.1**
	comp=Z,1.7nm,1.0s,baz=133,slow=4.8,SNR=11						
	comp=Z,1.7nm,1.0s						
EKA	**Eskdalemuir Ar**	**78.29**	**36**	P	**P**	**06 45 25.2**	**-0.9**
	comp=Z,1.1nm,0.7s,baz=269,slow=6.1,SNR=2.7						
	comp=Z,1.1nm,0.7s						
SPITS	**Spitsbergen Ar**	**79.31**	**11**	P	**P**	**06 45 32.2**	**+0.9**
	comp=Z,16nm,1.0s,baz=283,slow=4.2,SNR=2.6						
	comp=Z,16nm,1.0s						
NB2	**NORSAR Subarra**	**84.13**	**28**	P	P	06 46 12.4	+15
	comp=Z,0.9nm,0.7s,baz=291,slow

mb4.9/42,Error ellipse: s-maj=19.0km s-min=16.9km az=213.0

GCMT ***18*** *06:35:58.1±0.4,55.85S±0.03×26.47W±0.05,h14km±1km, MW4.9/72,Moment Tensor Solution. s17,c23; s72,c88; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.31±.21; $M_{\theta\theta}$-1.28±.13; $M_{\phi\phi}$-1.03±.12; $M_{r\theta}$-1.23±.33; $M_{\theta\phi}$1.16±.08; $M_{\phi r}$0.88±.30; Best double couple: M_o2.76700×10^{16} NP1:ϕ_s309.00000°,δ62.00000°,λ87.00000°. NP2: ϕ_s135.00000°,δ29.00000°,λ96.00000°. Principal axes: T 2.7650, Plg73.0000°, Azm211.0000°; N 0.0040, Plg3.0000°, Azm310.0000°; P -2.7690, Plg17.0000°, Azm41.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 06:35:53.9±0.4,55.57S±0.08×26.61W±0.08,h10km,n296, σ0.90/275,mb4.9/25,MS4.4/24,5C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.84**	**279**			**Pn**	**06 37 20.1**	**-0.3**
VNA1	**Neumayer--Stat**	**17.13**	**159**	⇑P		**P**	**06 39 56.9**	**+2.3**
	comp=Z,8.5nm,0.9s							
VNA3	**Neumayer Olymp**	**17.34**	**162**	⇑P		**P**	**06 39 58.9**	**+1.8**
	comp=Z,2.0nm,0.2s							
VNA2	**Neumayer--Watz**	**17.52**	**159**	⇑P		**P**	**06 40 00.5**	**+1.4**
	comp=Z,2.6nm,0.3s,baz=321,slow=14							
EFI	**East Falkland**	**18.97**	**269**	P		**P**	**06 40 13.9**	**-1.1**
EFI				IAmb		IAmb	06 40 27.1	
	comp=Z,196nm,1.8s							
SNAA	**Sanae**	**19.06**	**157**	P		**P**	**06 40 15.4**	**-0.6**
SNAA	**Sanae**	**19.06**	**157**	⇑P		**Pn**	**06 40 16.9**	**+0.2**
	comp=Z,147nm,0.5s							
SNAA	**Sanae**	**19.06**	**157**	P		**P**	**06 40 15.9**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=296,slow=11,SNR=14							
SNAA				LR		LR	06 46 18.1	
	comp=Z,567nm,20.6s,baz=300,slow=33							
	comp=Z,1.3nm,0.5s							
PMSA	**Palmer Station**	**20.47**	**228**	P		**P**	**06 40 30.3**	**-1.0**
PMSA	**Palmer Station**	**20.47**	**228**	P		**P**	**06 40 31.9**	**+0.6**
	comp=Z,21nm,0.6s,baz=65,slow=5.7,SNR=12							
PMSA				LR		LR	06 47 37.5	
	comp=Z,894nm,18.1s,baz=78,slow=34							
	comp=Z,21nm,0.6s							
TROLL	**Troll, Antarti**	**20.54**	**154**	⇑P		Pn	06 40 34.1	-0.3
	comp=Z,206nm,0.7s							
MG02	**Cerro Sombrero**	**24.81**	**259**	P		**P**	**06 41 14.0**	**-1.8**
MG05	**Puerto Natales**	**27.11**	**259**	P		**P**	**06 41 34.5**	**-2.1**
GO09	**Cerro Castillo**	**27.20**	**260**	P		**P**	**06 41 34.9**	**-2.5**
GO08	**Villa O'Higgin**	**28.70**	**265**	P		**P**	**06 41 50.0**	**-0.8**
TRQA	**Tornquist**	**29.44**	**292**	P		**P**	**06 41 57.9**	**+0.4**
PLTB	**Pedras Altas**	**30.43**	**310**	P		**P**	**06 42 08.0**	**+1.7**
PLTB				IAmb		IAmb	06 42 09.9	
	comp=Z,17nm,1.2s							
PLCA	**Paso Flores**	**32.24**	**279**	LR		LR	06 56 33.2	
	comp=Z,308nm,18.1s,baz=130,slow=38							
UNIS	**Unistalda (Bra**	**33.39**	**311**	*e*P		**P**	**06 42 32.5**	**+0.2**
QSPA	**South Pole Qui**	**34.69**	**180**	P		**P**	**06 42 43.0**	**-0.5**
QSPA				IAmb		IAmb	06 42 57.3	
	comp=Z,32nm,1.6s							
QSPA	**South Pole Qui**	**34.69**	**180**	P		**P**	**06 42 43.7**	**+0.3**
	comp=Z,4.8nm,0.6s,baz=203,slow=1.4,SNR=47							
QSPA				LR		LR	06 56 55.6	
	comp=Z,708nm,18.4s,baz=190,slow=36							
	comp=Z,4.8nm,0.6s							
CPUP	**Villa Florida**	**36.74**	**310**	P		**P**	**06 43 01.0**	**-0.2**
CPUP	**Villa Florida**	**36.74**	**310**	P		**P**	**06 43 01.3**	**+0.1**
	comp=Z,3.1nm,0.6s,baz=154,slow=6.0,SNR=10							
CPUP				LR		LR	06 58 25.0	
	comp=Z,417nm,19.0s,baz=156,slow=37							
	comp=Z,3.1nm,0.6s							
MT08	**Bocatoma Ro**	**37.20**	**288**	P		**P**	**06 43 06.2**	**+0.8**
MT08				IAmb		IAmb	06 43 29.2	
	comp=Z,45nm,1.9s							
MT09	**Talagante**	**37.48**	**287**	P		**P**	**06 43 06.3**	**-1.3**
MT09				IAmb		IAmb	06 43 47.2	
	comp=Z,21nm,1.2s							
PEL	**Peldehue**	**37.79**	**288**	P		**P**	**06 43 09.5**	**-0.7**
PEL				IAmb		IAmb	06 43 15.8	
	comp=Z,16nm,0.6s							
MT02	**Curacav**	**37.95**	**287**	P		**P**	**06 43 10.6**	**-0.8**
MT02				IAmb		IAmb	06 44 29.7	
	comp=Z,28nm,1.2s							
ZON	**Zonda**	**37.95**	**292**	P		**P**	**06 43 11.0**	**-0.6**
VA03	**San Esteban**	**38.01**	**288**	P		**P**	**06 43 11.8**	**-0.2**
VA03				IAmb		IAmb	06 43 27.3	
	comp=Z,17nm,0.8s							
TICA	**Tres Isletas**	**38.06**	**306**	*e*P		**P**	**06 43 13.7**	**+1.3**
CO03	**El Pedregal**	**39.58**	**290**	P		**P**	**06 43 25.6**	**+0.4**
CO03				IAmb		IAmb	06 43 25.7	
	comp=Z,42nm,1.5s							
CO01	**Juntas del Tor**	**39.94**	**292**	P		**P**	**06 43 28.8**	**+0.4**
SUR	**Sutherland**	**40.20**	**75**	LR		LR	06 56 53.4	
	comp=Z,606nm,19.5s,baz=218,slow=31							
AC05	**El Transito**	**40.94**	**292**	P		**P**	**06 43 37.1**	**+0.5**
AC05				IAmb		IAmb	06 43 56.0	
	comp=Z,19nm,0.9s							
LCO	**Las Campanas**	**41.02**	**292**	P		**P**	**06 43 37.1**	**-0.3**
LCO				IAmb		IAmb	06 43 37.6	
	comp=Z,47nm,1.5s							
AQDB	**Aquidauana**	**41.27**	**316**	P		**P**	**06 43 38.8**	**-0.4**
AQDB	**Aquidauana**	**41.27**	**316**	*e*P		**P**	**06 43 39.5**	**+0.4**
BDQN	**Bodoquena, MS**	**41.71**	**315**	*e*P		**P**	**06 43 42.5**	**-0.2**
AC04	**Llanos de Chal**	**41.86**	**292**	P		**P**	**06 43 44.4**	**+0.4**
BDFB	**Brasilia**	**43.11**	**329**	P		**P**	**06 43 55.1**	**+0.8**
	comp=Z,1.6nm,0.7s,baz=148,slow=12,SNR=1.6							
BDFB				LR		LR	07 00 53.1	
	comp=Z,321nm,18.5s,baz=147,slow=35							
	comp=Z,1.6nm,0.7s							
GO02	**Mina Guanaco**	**43.56**	**296**	P		**P**	**06 43 58.5**	**+0.3**
ARAG	**Araguaiana, MT**	**44.24**	**324**	*e*P		**P**	**06 44 04.7**	**+1.4**
BBRB	**Robore, Bolivi**	**44.91**	**313**	*e*P		**P**	**06 44 08.7**	**0.0**
LVC	**Limon Verde**	**45.34**	**299**	P		**P**	**06 44 12.5**	**0.0**
LVC	**Limon Verde**	**45.34**	**299**	LR		LR	07 06 52.3	
	comp=Z,189nm,18.0s,baz=162,slow=41							
LVC	**Limon Verde**	**45.34**	**299**	*e*P		**P**	**06 44 13.3**	**+0.8**
SDBA	**SAO DESIDERIO**	**45.36**	**334**	*e*P		**P**	**06 44 12.5**	**+0.2**
SALV	**Santo Antonio**	**45.43**	**319**	*e*P		**P**	**06 44 13.8**	**+1.0**
BOSA	**Boshof**	**45.53**	**76**	P		**P**	**06 44 13.8**	**+0.1**
BOSA				IAmb		IAmb	06 45 57.0	
	comp=Z,59nm,2.0s							
BOSA	**Boshof**	**45.53**	**76**	P		**P**	**06 44 13.4**	**-0.3**
	comp=Z,2.0nm,0.6s,baz=213,slow=5.9,SNR=5.7							
BOSA				LR		LR	07 00 09.0	
	comp=Z,902nm,19.0s,baz=197,slow=32							
	comp=Z,2.0nm,0.6s							
PB09	**IPOC Station P**	**46.19**	**299**	P		**P**	**06 44 19.5**	**+0.5**
BBSD	**Serra de San D**	**46.22**	**312**	*e*P		**P**	**06 44 18.7**	**-0.4**
SBA	**Scott Base**	**46.59**	**184**	P		**P**	**06 44 21.9**	**+0.6**
SBA				IAmb		IAmb	06 44 24.0	
	comp=Z,28nm,1.8s							
PB01	**IPOC Station P**	**46.95**	**300**	P		**P**	**06 44 25.1**	**+0.3**
VNDA	**Vanda**	**47.07**	**183**	P		**P**	**06 44 25.4**	**+0.3**
VNDA	**Vanda**	**47.07**	**183**	P		**P**	**06 44 25.2**	**+0.2**
	comp=Z,4.1nm,0.6s,baz=192,slow=6.4,SNR=58							
	comp=Z,4.1nm,0.6s							
PTLB	**Pontes e Lacer**	**47.18**	**315**	P		**P**	**06 44 26.3**	**-0.2**
PTLB				IAmb		IAmb	06 44 33.5	
	comp=Z,9.9nm,0.9s							
PTLB	**Pontes e Lacer**	**47.18**	**315**	*e*P		**P**	**06 44 26.5**	**0.0**
PB08	**IPOC Station P**	**47.55**	**301**	P		**P**	**06 44 30.4**	**+0.5**
SNDB	**Serra Nova Dou**	**47.57**	**326**	*e*P		**P**	**06 44 30.1**	**+0.6**
GO01	**Chusmiza**	**47.97**	**301**	P		**P**	**06 44 33.6**	**+0.4**
GO01				IAmb		IAmb	06 44 50.2	
	comp=Z,19nm,0.9s							
PB11	**IPOC Station P**	**48.12**	**300**	P		**P**	**06 44 34.2**	**+0.2**
H10N1	**ASCENSION HYDR**	**48.56**	**16**	T		T	07 36 59.2	
	baz=188							
H10N3	**ASCENSION HYDR**	**48.56**	**16**	T		T	07 37 01.9	
	baz=188							
H10N2	**ASCENSION HYDR**	**48.58**	**16**	T		T	07 37 00.5	
	baz=188							
TSUM	**Tsumeb**	**49.16**	**61**	LR		LR	07 02 08.4	
	comp=Z,249nm,19.3s,baz=151,slow=32							
PDRB	**Porto dos Gac**	**49.76**	**320**	*e*P		**P**	**06 44 46.7**	**+0.2**
LPAZ	**La Paz**	**50.37**	**304**	P		**P**	**06 44 52.2**	**+0.5**
LPAZ				IAmb		IAmb	06 44 53.5	
	comp=Z,9.8nm,0.8s							
LPAZ	**La Paz**	**50.37**	**304**	P		**P**	**06 44 52.1**	**+0.3**
	comp=Z,8.2nm,0.7s,baz=158,slow=6.5,SNR=39							
LPAZ				LR		LR	07 06 15.6	
	comp=Z,122nm,21.1s,baz=162,slow=36							
	comp=Z,8.2nm,0.7s							
LPAZ	**La Paz**	**50.37**	**304**	*e*P		**P**	**06 44 52.6**	**+0.8**
SAML	**Samuel**	**54.70**	**314**	P		**P**	**06 45 23.1**	**0.0**
SAML				IAmb		IAmb	06 45 32.4	
	comp=Z,12nm,1.4s							
SAML	**Samuel**	**54.70**	**314**	*e*P		**P**	**06 45 23.3**	**+0.2**
ETMB	**Extrema**	**55.20**	**310**	P		**P**	**06 45 26.2**	**-0.6**
ETMB				IAmb		IAmb	06 45 27.6	
	comp=Z,9.6nm,0.9s							
LSZ	**Lusaka**	**57.89**	**69**	LR		LR	07 07 56.1	
	comp=Z,328nm,19.0s,baz=179,slow=33							
BOAV	**Boa Vista**	**64.10**	**322**	P		**P**	**06 46 26.9**	**-1.1**
BOAV				IAmb		IAmb	06 46 28.5	
	comp=Z,8.1nm,1.0s							
DBIC	**Dimbokro**	**64.59**	**24**	P		**P**	**06 46 31.1**	**-0.1**
DBIC	**Dimbokro**	**64.59**	**24**	P		**P**	**06 46 30.5**	**-0.7**
	comp=Z,14nm,1.1s,baz=172,slow=9.5,SNR=4.0							
DBIC				LR		LR	07 08 03.8	
	comp=Z,273nm,20.5s,baz=192,slow=30							
	comp=Z,14nm,1.1s							
OPO	**Ambohidratompo**	**65.74**	**88**	LR		LR	07 09 42.1	
	comp=Z,303nm,19.6s,baz=358,slow=31							
MBAR	**Mbarara**	**71.64**	**63**	LR		LR	07 15 48.3	
	comp=Z,173nm,20.6s,baz=187,slow=34							
TOA0	**Torodi Ar. Sit**	**72.47**	**29**	P		**P**	**06 47 20.4**	**0.0**
TOA0				IAmb		IAmb	06 47 22.9	
	comp=Z,9.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**72.47**	**29**	P		**P**	**06 47 20.7**	**+0.2**
TORD				IAmb		IAmb	06 47 22.9	
	comp=Z,6.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**72.47**	**29**	P		**P**	**06 47 20.1**	**-0.4**
	comp=Z,8.3nm,0.5s,baz=191,slow=4.5,SNR=54							
TORD				LR		LR	07 15 04.7	
	comp=Z,169nm,18.4s,baz=150,slow=32							
	comp=Z,8.3nm,0.5s							
URZ	**Urewera**	**84.37**	**199**	LR		LR	07 22 42.9	
	comp=Z,246nm,18.9s,baz=209,slow=33							
MTO3	**Montecristo**	**87.21**	**300**	P		**P**	**06 48 39.9**	**-0.6**
MTO3				IAmb		IAmb	06 49 52.9	
	comp=Z,7.9nm,1.1s							
TBI	**Tubuai**	**87.64**	**231**	*e*LR		LR	07 16 26.6	
	comp=Z,879nm,28.8s							
ATD	**Arta Tunnel**	**88.17**	**67**	LR		LR	07 28 07.4	
	comp=Z,7.0nm,18.1s,baz=171,slow=36							
MDT	**Midelt**	**90.02**	**18**	LR		LR	07 24 37.5	
	comp=Z,176nm,18.9s,baz=231,slow=32							
RAO	**Raoul Island**	**92.03**	**205**	LR		LR	07 25 28.4	
	comp=Z,131nm,20.4s,baz=126,slow=32							
PPT2	**Papeete2**	**92.73**	**233**	*e*LR		LR	07 18 48.4	
	comp=Z,154nm,31.8s							
PPT2				*e*LR		LR	07 18 51.8	
	comp=Z,138nm,22.5s							
PPT	**Papeete**	**92.75**	**233**	LR		LR	07 21 14.3	
	comp=Z,97nm,19.9s,baz=158,slow=29							
RAR	**Rarotonga**	**93.81**	**223**	LR		LR	07 27 09.0	
	comp=Z,75nm,18.0s,baz=178,slow=33							
EIL	**Elat**	**99.78**	**51**	LR		LR	07 31 31.5	
	comp=Z,217nm,19.2s,baz=246,slow=34							
DZM	**Mont Dzumac**	**101.88**	**192**	*e*LR		LR	07 23 05.5	
	comp=Z,173nm,24.8s							
NOA	**NORSAR Array B**	**120.04**	**20**	PKP		**PKPdf**	**06 54 43.6**	**+0.3**
	comp=Z,0.1nm,0.4s,baz=207,slow=1.8,SNR=2.7							
NVAR	**Mina Array Bea**	**121.51**	**293**	PKP		**PKiKP**	**06 54 47.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=154,slow=5.0,SNR=1.5							
FINES	**FINESS Array B**	**123.80**	**27**	PKP		**PKPdf**	**06 54 49.9**	**-0.6**
	comp=Z,5.7nm,1.2s,baz=225,slow=2.2,SNR=2.9							
MSO	**Missoula**	**125.46**	**303**	P		**PKiKP**	**06 54 55.3**	**+0.6**
	baz=136							
ARCES	**ARCESS Array B**	**130.37**	**21**	PKP		**PKPdf**	**06 55 02.6**	**-0.2**
	comp=Z,4.1nm,1.0s,baz=196,slow=1.3,SNR=2.4							
BVAR	**Borovoye Array**	**134.24**	**57**	PKP		**PKiKP**	**06 55 11.8**	**-0.1**
	comp=Z,3.9nm,1.1s,baz=180,slow=0.9,SNR=5.9							
YKA	**Yellowknife Ar**	**136.03**	**318**	PKP		**PKPdf**	**06 55 14.2**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=107,slow=1.8,SNR=14							
YKA				PP		**PP**	**06 57 52.5**	**-1.7**
	comp=Z,0.4nm,1.0s,baz=114,slow=6.6,SNR=4.7							
KURBB	**Kurchatov Arra**	**136.80**	**64**	PKP		**PKPdf**	**06 55 15.8**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=229,slow=2.7,SNR=5.0							
ZALV	**Zalesovo Beam**	**141.86**	**63**	PKP		**PKPdf**	**06 55 25.8**	**+1.3**
	comp=Z,0.4nm,0.3s,baz=309,slow=3.1,SNR=1.5							
P29M	**Windy Craggy**	**144.38**	**306**	P		**PKPdf**	**06 55 29.4**	**+0.6**
	baz=115							
HYT	**Haines Junctio**	**144.76**	**308**	P		PKPbc	06 55 29.2	+0.5
	baz=113,SNR=6.7							
N30M	**Aishikik Lake**	**144.82**	**309**	P		**PKPdf**	**06 55 30.1**	**+0.4**
	baz=113,SNR=17							
MAYO	**Mayo, Yukon**	**145.09**	**312**	P		**PKPdf**	**06 55 30.5**	**+0.5**
	baz=111							
M30M	**Minto, Yukon**	**145.11**	**311**	P		**PKPdf**	**06 55 30.4**	**+0.4**
	baz=111,SNR=15							
PNL	**Peninsula**	**145.16**	**305**	P		**PKPdf**	**06 55 30.7**	**+0.5**
	baz=114							
YUK6	**Outpost Mounta**	**145.19**	**307**	P		**PKPdf**	**06 55 31.1**	**+0.6**
	baz=113							
H31M	**Peel River**	**145.20**	**317**	P		**PKPdf**	**06 55 30.4**	**+0.3**
	baz=109,SNR=10.0							
YUK4	**Talbot Arm**	**145.47**	**308**	P		**PKPdf**	**06 55 31.2**	**+0.2**
	baz=112,SNR=9.8							
F31M	**Tsiigehtchic**	**145.47**	**319**	P		**PKPab**	**06 55 31.1**	**+0.3**
	baz=107							
G31M	**Satah River**	**145.52**	**318**	P		**PKPab**	**06 55 31.4**	**+0.4**
	baz=107,SNR=9.1							
J30M	**Hart River**	**145.60**	**314**	P		**PKPab**	**06 55 32.1**	**+0.5**
	baz=109,SNR=5.9							
INK	**Inuvik**	**145.63**	**321**	P		**PKPab**	**06 55 31.9**	**+0.5**
	baz=106,SNR=13							
M29M	**Somme Creek**	**145.78**	**310**	P		**PKPdf**	**06 55 31.8**	**+0.5**
	baz=110,SNR=6.6							
I30M	**Mount Dempster**	**145.82**	**315**	P		**PKPab**	**06 55 32.5**	**+0.1**
	baz=108,SNR=8.8							
K29M	**Barlow Dome**	**145.85**	**312**	P		**PKPab**	**06 55 32.7**	**+0.2**
	baz=109,SNR=7.1							
L29M	**L29M**	**145.87**	**311**	P		**PKPab**	**06 55 33.0**	**+0.5**
	baz=110,SNR=21							
YUK8	**Steele Glacier**	**145.95**	**308**	P		**PKPab**	**06 55 33.2**	**+0.1**
	baz=111,SNR=6.1							
O28M	**Mount Upton**	**145.95**	**307**	P		**PKPab**	**06 55 33.5**	**+0.3**
	baz=112							
G30M	**tAoh Zraii Nji**	**146.27**	**318**	P		**PKPbc**	**06 55 33.5**	**+0.4**
	baz=106							
F30M	**Barrier River**	**146.27**	**319**	P		**PKPbc**	**06 55 33.5**	**+0.5**
	baz=105,SNR=9.5							
EPYK	**Eagle Plains**	**146.29**	**317**	P		**PKPbc**	**06 55 33.0**	**-0.2**
	baz=106							
NJ2	**Nanjing**	**146.31**	**120**	*e*P		**PKPdf**	**06 55 33.6**	**+0.6**
NJ2				pmax		pmax		
	comp=Z,11nm,0.5s							
YUK3	**Moose Creek**	**146.43**	**308**	P		**PKPbc**	**06 55 34.3**	**+0.3**
	baz=110							
CTG	**Chitna Glacier**	**146.55**	**307**	P		**PKPbc**	**06 55 34.4**	**+0.1**
	baz=111							
I29M	**Ogilvie Camp,**	**146.64**	**315**	P		**PKPbc**	**06 55 34.2**	**0.0**
	baz=106,SNR=7.7							
DAWY	**Dawson**	**146.71**	**312**	P		**PKPbc**	**06 55 34.9**	**+0.4**
	baz=108,SNR=14							
H29M	**Whitestone**	**146.90**	**316**	P		**PKPbc**	**06 55 35.6**	**+0.7**
	baz=105,SNR=6.0							
G29M	**Pine Creek**	**146.94**	**318**	P		**PKPbc**	**06 55 35.7**	**+0.7**
	baz=104,SNR=10							
E29M	**Blow River**	**147.23**	**320**	P		**PKPbc**	**06 55 36.1**	**+0.4**
	baz=102,SNR=7.9							
M27K	**Eagle Creek, AK**	**147.26**	**309**	P		**PKPbc**	**06 55 36.4**	**+0.1**
	baz=108							
I28M	**Miner Creek**	**147.32**	**315**	P		**PKPbc**	**06 55 36.9**	**+0.6**
	baz=105							
L27K	**Beaver Creek,**	**147.45**	**310**	P		**PKPbc**	**06 55 37.3**	**+0.7**
	baz=107,SNR=8.9							
KAIM	**Kayak Island**	**147.62**	**304**	P		**PKPbc**	**06 55 37.3**	**+0.2**
	baz=110							
EGAK	**Eagle**	**147.64**	**313**	P		**PKPbc**	**06 55 37.7**	**+0.7**
	baz=105							
D28M	**Stokes Point**	**147.71**	**322**	P		**PKPbc**	**06 55 38.0**	**+1.0**
	baz=100							
M26K	**Nabesna, AK**	**147.76**	**309**	P		**PKPbc**	**06 55 38.3**	**+0.8**
	baz=108							
F28M	**Old Crow**	**147.80**	**319**	P		**PKPbc**	**06 55 38.0**	**+0.7**
	baz=102,SNR=7.3							
K27K	**Chicken**	**147.83**	**312**	P		**PKPbc**	**06 55 38.5**	**+1.0**
	baz=106							
E28M	**Babbage River**	**147.86**	**321**	P		**PKiKP**	**06 55 39.0**	**-0.4**
	baz=100							
BTO	**Baotou**	**147.99**	**99**	SS		**SKPbc**	**06 59 09.9**	**-6.6**
BTO				pmax		pmax		
	comp=Z,16nm,0.7s							
BTO				pmax		pmax		
	comp=Z,210nm,10.0s							
BTO				LR		LR		
	comp=N,200nm,18.7s							
BTO				LR		LR		
	comp=E,250nm,16.3s							
BTO				LR		LR		
	comp=Z,370nm,16.9s							
I27K	**Kandik River**	**148.04**	**315**	P		**PKPbc**	**06 55 39.2**	**+1.1**
	baz=104							
BMRM	**Bremner River**	**148.05**	**306**	P		**PKPbc**	**06 55 39.2**	**+0.9**
	baz=109							
L26K	**Log Cabin Wild**	**148.10**	**310**	P		**PKPbc**	**06 55 39.1**	**+0.8**
	baz=106,SNR=5.4							
H27K	**Steamboat Moun**	**148.14**	**316**	P		**PKPbc**	**06 55 38.6**	**+0.2**
	baz=103,SNR=8.6							
N25K	**Chitina, Valde**	**148.25**	**307**	P		**PKiKP**	**06 55 40.0**	**-0.5**
	baz=108							
HNS	**HongShan**	**148.31**	**109**	*e*PKPbc		**PKiKP**	**06 55 40.8**	**-0.4**
HNS				LR		LR		
	comp=N,110nm,15.9s							
HNS				LR		LR		
	comp=E,95nm,14.3s							
HNS				LR		LR		
	comp=Z,150nm,19.6s							
G27K	**Doyon Strip**	**148.31**	**317**	P		**PKiKP**	**06 55 40.4**	**0.0**
	baz=102							
Q23K	**Middleton Isla**	**148.36**	**302**	P		**PKiKP**	**06 55 40.4**	**-0.2**
	baz=110							
EYAK	**Cordova Ski Ar**	**148.45**	**304**	P		**PKiKP**	**06 55 40.4**	**-0.4**
	baz=109							
D27M	**Malcolm River**	**148.48**	**322**	P		**PKiKP**	**06 55 40.4**	**-0.4**
	baz=98							
E27K	**Coleen River**	**148.54**	**320**	P		**PKiKP**	**06 55 40.4**	**-0.4**
	baz=100							
J26L	**Joseph Creek**	**148.58**	**312**	P		**PKPbc**	**06 55 40.5**	**+0.8**
	baz=104							
I26K	**Coal Creek Min**	**148.59**	**314**	P		**PKiKP**	**06 55 40.8**	**-0.2**
	baz=103							
SCRK	**Sand Creek**	**148.63**	**311**	P		**PKPbc**	**06 55 40.4**	**+0.6**
	baz=104							
HARP	**HAARP**	**148.73**	**308**	P		**PKPbc**	**06 55 40.4**	**+0.4**
	baz=106							
KLU	**Klutina**	**148.82**	**306**	P		**PKPbc**	**06 55 40.1**	**-0.2**
	baz=107							
HHC	**Hu-ho-hao-te**	**149.02**	**101**	*e*P		**PKPdf**	**06 55 33.8**	**-3.6**
PAX	**Paxson**	**149.02**	**309**	P		**PKPbc**	**06 55 40.9**	**+0.1**
	baz=105							
P23K	**Montague Islan**	**149.06**	**303**	P		**PKPbc**	**06 55 40.7**	**-0.1**
	baz=108							
M24K	**Tolsona, Glenn**	**149.11**	**307**	P		**PKPbc**	**06 55 41.6**	**+0.6**
	baz=106							
G26K	**Porcupine Rive**	**149.17**	**317**	P		**PKPbc**	**06 55 40.9**	**0.0**
	baz=100,SNR=5.2							
GLI	**Glacier Island**	**149.18**	**305**	P		**PKPbc**	**06 55 41.7**	**+0.6**
	baz=107							
K24K	**Donnelly Dome**	**149.36**	**310**	P		**PKiKP**	**06 55 42.4**	**-0.2**
	baz=103							
J25K	**Salcha River,**	**149.36**	**312**	P		**PKiKP**	**06 55 42.8**	**+0.1**
	baz=102							
F26K	**Sheenjek River**	**149.42**	**318**	P		**PKiKP**	**06 55 43.0**	**+0.3**
	baz=98,SNR=7.8							
C27K	**Jago River**	**149.49**	**322**	P		**PKiKP**	**06 55 43.1**	**+0.4**
	baz=95							
SCM	**Sheep Creek Mo**	**149.56**	**306**	P		**PKiKP**	**06 55 43.0**	**-0.2**
	baz=106							
PRP	**Porcupine Dome**	**149.61**	**314**	P		**PKPbc**	**06 55 42.9**	**+0.7**
	baz=101							
M23K	**Glacier View**	**149.73**	**306**	P		**PKiKP**	**06 55 43.9**	**+0.5**
	baz=105							
H25L	**Birch Creek**	**149.86**	**315**	P		**PKiKP**	**06 55 44.0**	**+0.5**
	baz=99							
DHY	**Denali Highway**	**149.89**	**309**	P		**PKiKP**	**06 55 43.9**	**0.0**
	baz=104							
C26K	**Camden Bay**	**149.93**	**323**	P		**PKiKP**	**06 55 44.5**	**+0.9**
	baz=94							
WAT6	**Susitna Watana**	**149.93**	**308**	P		**PKiKP**	**06 55 44.0**	**0.0**
	baz=104,SNR=6.8							
KNK	**Knik Glacier**	**149.97**	**305**	P		**PKiKP**	**06 55 44.2**	**+0.2**
	baz=106							
F25K	**Christian Rive**	**149.97**	**318**	P		**PKiKP**	**06 55 44.2**	**+0.4**
	baz=97,SNR=5.7							
HDA	**Harding Lake**	**149.99**	**311**	P		**PKiKP**	**06 55 44.8**	**+0.9**
	baz=102							
E25K	**Arctic Village**	**150.01**	**319**	P		**PKiKP**	**06 55 44.1**	**+0.3**
	baz=96,SNR=7.3							
SML	**

D23K	Nanushuk River baz=90	151.93	321	P	PKiKP	06 55 48.3 +0.5
PPLA	Purkeypile baz=100	152.00	307	P	PKPbc	06 55 47.8 -0.1
CAST	Castle Rocks baz=99	152.04	309	P	PKiKP	06 55 48.8 +0.6
H22K	Ishtalitna Cre baz=95	152.06	314	P	PKiKP	06 55 48.9 +0.8
G22K	Bettles baz=93	152.19	316	P	PKiKP	06 55 48.8 +0.5
CHUM	Lake Minchumin baz=98	152.22	310	P	PKiKP	06 55 49.6 +1.1
I21K	Tanana baz=96	152.24	312	P	PKiKP	06 55 49.1 +0.6
M20K	Styx River baz=102	152.24	305	P	PKiKP	06 55 49.0 +0.2
E22K	Anaktuvuk Pass baz=91	152.34	319	P	PKiKP	06 55 49.4 +0.7
O19K	Port Alsworth baz=104	152.44	301	P	PKiKP	06 55 49.5 +0.5
F22K	John River baz=92	152.47	317	P	PKiKP	06 55 49.7 +0.7
H21K	Melozitna Rive baz=95	152.62	313	P	PKiKP	06 55 50.1 +0.8
D22K	Ayikyak River baz=88	152.66	320	P	PKiKP	06 55 50.4 +1.1
N19K	Bonanza Creek baz=103	152.66	303	P	PKiKP	06 55 50.4 +0.7
P18K	Big Mountain, baz=105	152.69	299	P	PKiKP	06 55 50.6 +1.0
L20K	Farewell, AK baz=100	152.70	306	P	PKiKP	06 55 50.7 +1.1
Q17K	Contact Creek baz=107	152.71	297	P	PKiKP	06 55 50.8 +1.0
O18K	Koktuh Hills baz=104	152.79	300	P	PKiKP	06 55 51.1 +1.3
B22K	Teshekpuk Lake baz=85	152.83	324	P	PKiKP	06 55 50.1 +0.5
M19K	Big River Lodg baz=101	152.83	305	P	PKiKP	06 55 50.5 +0.7
K20K	Telida baz=98	152.92	308	P	PKiKP	06 55 50.8 +0.8
G21K	Allakaket baz=92	152.96	315	P	PKiKP	06 55 51.2 +1.3
F21K	Alatna River baz=91	152.97	317	P	PKiKP	06 55 50.7 +0.7
J20K	Nowinta River baz=96	153.06	310	P	PKiKP	06 55 50.8 +0.6
L19K	White Mountain baz=100	153.10	305	P	PKiKP	06 55 51.4 +1.0
E21K	Killik River baz=88	153.14	319	P	PKiKP	06 55 50.5 +0.2
Q16K	King Salmon baz=105	153.21	297	P	PKiKP	06 55 51.6 +1.0
P17K	Kvichak River baz=104	153.24	299	P	PKiKP	06 55 51.4 +0.7
I20K	Naaghedeneel baz=95	153.26	311	P	PKiKP	06 55 50.9 +0.3
A22K	Sinclair Lake baz=82	153.26	325	P	PKiKP	06 55 51.5 +1.1
B21K	Ikpikpuk River baz=85	153.30	322	P	PKiKP	06 55 51.9 +1.4
N18K	Kilae Creek baz=102	153.31	302	P	PKiKP	06 55 52.0 +1.1
R16K	Pilot Point baz=107	153.38	295	P	PKiKP	06 55 52.1 +1.1
C21K	Knifeblade Rid baz=86	153.40	321	P	PKiKP	06 55 51.6 +0.8
CHGN	Chignik baz=109	153.43	292	P	PKiKP	06 55 51.9 +0.8
M18K	Stony River baz=100	153.43	304	P	PKiKP	06 55 52.1 +1.0
H20K	Anotleneega Mo baz=93	153.47	313	P	PKiKP	06 55 52.1 +1.1
CHNA	Chernabura Isl baz=111	153.55	288	P	PKiKP	06 55 51.7 +0.3
J19K	Poorman baz=96	153.68	309	P	PKiKP	06 55 52.5 +1.0
O17K	Koliganek Bris baz=103	153.70	300	P	PKiKP	06 55 53.8 +2.2
F20K	Avaraart Lake baz=89	153.85	316	P	PKiKP	06 55 53.7 +2.0
N17K	Nushagak Hills baz=101	153.90	301	P	PKiKP	06 55 53.6 +1.6
L18K	Granite Mounta baz=98	153.95	305	P	PKiKP	06 55 52.6 +0.5
E20K	Nigu River baz=86	153.97	319	P	PKiKP	06 55 53.5 +1.4
S14K	Fog Glacier baz=108	154.02	291	P	PKiKP	06 55 53.2 +0.6
D20K	Etivluk River baz=85	154.09	320	P	PKiKP	06 55 53.7 +1.5
J18K	Innoko River baz=96	154.12	308	P	PKiKP	06 55 53.4 +1.0
H19K	Roundabout Mou baz=92	154.13	313	P	PKiKP	06 55 53.4 +1.1
O16K	Kokwok River B baz=103	154.15	299	P	PKiKP	06 55 54.0 +1.4
M17K	Holitna River baz=99	154.18	303	P	PKiKP	06 55 54.0 +1.4
SDPT	Sand Point baz=110	154.21	289	P	PKiKP	06 55 53.5 +0.7
G19K	Purcell Mounta baz=90	154.40	314	P	PKiKP	06 55 53.5 +0.6
E19K	Redstone River baz=87	154.42	317	P	PKiKP	06 55 54.4 +1.4
F19K	Shaleruckik Mo baz=88	154.66	316	P	PKiKP	06 55 54.0 +0.6
N16K	Nishlik Lake baz=100	154.66	301	P	PKiKP	06 55 54.2 +0.6
D19K	Kuna River baz=84	154.66	320	P	PKPbc	06 55 53.5 0.0
L17K	Donlin baz=97	154.69	305	P	PKiKP	06 55 54.5 +0.9
K17K	Iditarod baz=96	154.76	306	P	PKiKP	06 55 54.4 +1.6
M16K	Timber Creek baz=99	154.85	302	P	PKPab	06 56 10.3 +0.9
H18K	Honhosa River baz=91	154.93	312	P	PKPab	06 56 10.9 +1.2
G18K	Tagagawik baz=89	155.04	314	P	PKPab	06 56 11.5 +1.4
C19K	Lookout Ridge baz=81	155.11	321	P	PKPab	06 56 11.0 +0.6
J17K	VABM Dome baz=94	155.17	308	P	PKPab	06 56 11.5 +0.8
L16K	Owhat River baz=97	155.19	304	P	PKPab	06 56 12.1 +1.3
F18K	Selawik baz=86	155.42	315	P	PKPab	06 56 12.0 +0.4
H17K	Granite Mounta baz=90	155.58	311	P	PKPab	06 56 13.8 +1.4
C18K	Utukok River baz=80	155.76	321	P	PKPab	06 56 13.8 +0.6
L15K	Ungalak Mounta baz=96	156.14	303	P	PKPab	06 56 16.0 +1.1
C17K	DeLong Mountai baz=79	156.51	320	P	PKPab	06 56 17.3 +0.9
D17K	Noatak River baz=80	156.62	319	P	PKPab	06 56 18.1 +1.3
ANM	Nome baz=86	157.94	311	P	PKPab	06 56 23.6 +1.1
M11K	Mekoryuk baz=95	158.30	299	P	PKPab	06 56 25.7 +1.4

NOU ***18*** *06:36:43.5, 13°.88S×171°.52W, h6km, mb5.2/13, Samoa Islands*
IDC ***18*** *06:36:58.8±0.5, 15°.42S×173°.16W, h0km, mb4.6/18, mbtmp4.6/19, ML3.3/1, MS4.0/38, Error ellipse: s-maj=20.0km s-min=15.1km az=132.0*
BJI ***18*** *06:36:59.8±0.0, 14°.74S×172°.36W, h7km, mb4.9/17, mB5.3/10, Ms5.0/4, Ms7 4.6/5*
MOS ***18*** *06:37:00.1±1.0, 15°.38S×172°.90W, h10km, mb5.1/18, Error ellipse: s-maj=12.4km s-min=9.5km az=60.8*
NEIC ***18*** *06:37:02.4±1.8, 15°.32S±0°.07×172°.77W±0°.09, h10km±1km, mb5.2/58, Error ellipse: s-maj=15.6km s-min=10.4km az=123.0*
GCMT ***18*** *06:37:09.4±0.3, 15°.44S±0°.03×172°.72W±0°.02, h49km±2km, MW5.0/92, Moment Tensor Solution. s32,c40; s92,c125; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r=1.61±.22; $M_{\theta\theta}$2.70±.16; $M_{\theta\phi}$-1.09±.16; $M_{\phi\phi}$-1.57±.13; $M_{r\theta}$-1.43±.12; $M_{r\phi}$2.10±.12; Best double couple: M_o3.76800×10^{16} NP1:ϕ_s139.00000°,δ74.00000°,λ-57.00000°. NP2: ϕ_s252.00000°,δ36.00000°,λ-153.00000°. Principal axes:*

T 4.0600, Plg22.0000°, Azm205.0000°; N -0.5840, Plg32.0000°, Azm309.0000°; P -3.4760, Plg50.0000°, Azm86.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 18 06:37:01.2±0.3, 15°.35S±0°.07×172°.75W±0°.06, h10km, n614, σ1°15/580, mb5.0/56, MS4.2/40, 31C-22D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.71	33		Pn	06 37 32.7	+1.4
AFI	Afiamalu	1.71	33	P	Pn	06 37 32.7	+1.4
NIUE	Niue	4.58	144		Pn	06 38 11.4	+0.8
TAVE	Taveuni	7.01	258	P	Pn	06 38 48.2	+4.1
MSVF	Nonsavu	9.14	254	P	Pn	06 39 17.8	+4.5
MSVF	Nonsavu	9.14	254	Pn	Pn	06 39 16.9	+3.6
MSVF	Nonsavu	9.14	254	P	Pn	06 39 16.9	+3.6
RAR	Rarotonga	13.62	117	Pn	Pn	06 40 16.5	+1.8
	1.4nm,0.3s,baz=294,slow=8.8,SNR=6.3						
RAR				Sn	Sn	06 42 36.1	-10
	0.6nm,0.3s,baz=124,slow=20,SNR=1.0						
RAR				LR	LR	06 44 17.0	
	comp=Z,389nm,18.5s,baz=270,slow=31						
	29nm,1.0s						
MARNC	Mare, Loyalty	19.22	249	P	P	06 41 27.0	+1.3
LIFNC	LIFOU	19.77	251	P	P	06 41 30.5	-1.2
LIFNC				IAmb	IAmb	06 41 38.5	
	comp=Z,110nm,1.0s						
PINNC	Pines Island,	20.06	246	P	P	06 41 33.9	-0.9
PINNC				IAmb	IAmb	06 41 50.3	
	comp=Z,93nm,0.9s						
OUENC	Ouen Island, N	20.54	247	P	P	06 41 41.5	+1.5
OUENC	Ouen Island, N	20.54	247	P	P	06 41 40.9	+0.9
OUENC				IAmb	IAmb	06 41 42.5	
	comp=Z,96nm,0.9s						
DZM	Mont Dzumac	20.80	248	P	P	06 41 43.0	0.0
DZM	Mont Dzumac	20.80	248	P	P	06 41 42.1	-0.9
DZM				IAmb	IAmb	06 41 45.8	
	comp=Z,86nm,1.1s						
DZM	Mont Dzumac	20.80	248	P	P	06 41 41.2	-1.8
	comp=Z,48nm,0.9s,baz=86,slow=16,SNR=16						
ONTNC	Ouen Toro	20.85	247	P	P	06 41 43.7	+0.3
NOUC	Port Laguerre	20.93	248	P	P	06 41 45.7	+1.4
PPT	Papeete	22.33	99	LR	LR	06 48 17.9	
	comp=Z,164nm,19.9s,baz=264,slow=30						
OUZ	Omahuta	23.27	209	P	P	06 42 07.7	-1.3
MXZ	Matakaoa Point	23.50	198	P	P	06 42 11.9	+0.6
MXZ	Matakaoa Point	23.50	198	P	P	06 42 11.5	+0.2
MXZ				IAmb	IAmb	06 42 36.5	
	comp=Z,41nm,0.9s						
MXZ	Matakaoa Point	23.50	198	P	P	06 42 11.7	+0.4
KUZ	Kuaotunu	23.65	204	P	P	06 42 10.8	-2.0
WMGZ	Waiomatatini S	23.71	198	P	P	06 42 12.3	-1.0
HAZ	Te Kaha	23.84	199	P	P	06 42 11.9	-2.7
PKGZ	Pakihiroa	23.87	198	P	P	06 42 15.3	+0.3
PUZ	Puketiti	23.99	198	P	P	06 42 16.6	+0.5
RUGZ	Raukumara Rang	24.06	199	P	P	06 42 16.5	-0.4
TWGZ	Tauwhareparae	24.16	198	P	P	06 42 18.3	+0.6
MKAZ	Moumakai	24.18	204	P	P	06 42 16.4	-1.5
MWZ	Matawai	24.45	199	P	P	06 42 20.0	-0.4
URZ	Urewera	24.51	200	LR	LR	06 51 16.7	
	comp=Z,264nm,18.1s,baz=38,slow=35						
URZ	Urewera	24.51	200	P	P	06 42 18.5	-2.3
KMRZ	Kaimai	24.54	202	P	P	06 42 17.1	-4.0
TOZ	Tahuroa Road	24.60	203	P	P	06 42 20.3	-1.3
TOZ				IAmb	IAmb	06 42 21.6	
	comp=Z,100nm,1.4s						
TOZ	Tahuroa Road	24.60	203	P	P	06 42 21.0	-0.6
MUGZ	Murupara	24.82	200	P	P	06 42 21.2	-2.5
RAHZ	Arahi	25.12	199	P	P	06 42 26.5	+0.1
BKZ	Black Stump Fm	25.54	200	P	P	06 42 29.7	-0.5
BKZ	Black Stump Fm	25.54	200	P	P	06 42 28.3	-1.9
TMVZ	Te Maari	25.75	201	P	P	06 42 30.9	-1.3
ETVZ	East Tongariro	25.77	201	P	P	06 42 31.1	-1.3
BHHZ	Black Hill Sta	25.97	200	P	P	06 42 32.5	-1.6
WNVZ	Wahianoa	25.98	201	P	P	06 42 30.1	-4.3
KRHZ	Kereru	26.01	199	P	P	06 42 31.4	-3.0
VRZ	Vera Road	26.10	202	P	P	06 42 37.3	+2.0
PXZ	Pawanui	26.21	198	P	P	06 42 35.9	-0.3
TSZ	Takapari Road	26.52	200	P	P	06 42 38.2	-0.9
ANWZ	Angora Road	26.72	199	P	P	06 42 43.0	+2.2
HNR	Honiara	27.30	279	P	P	06 42 37.7	-8.6
HNR	Honiara	27.30	279	LR	LR	06 51 59.2	
	comp=Z,5μm,20.9s,baz=164,slow=34						
QRZ	Quartz Range	28.43	204	P	P	06 42 55.4	-0.7
RPZ	Rata Peaks	31.46	203	LR	LR	06 54 59.0	
	comp=Z,633nm,21.7s,baz=28,slow=35						
JCZ	Jackson Bay	32.65	205	P	P	06 43 32.7	-0.9
H11S2	WAKE ISLAND Hy	39.25	328	T	T	07 24 55.1	
	baz=146,slow=76,SNR=18						
H11S3	WAKE ISLAND Hy	39.27	328	T	T	07 24 54.3	
	baz=146,slow=76,SNR=81						
H11S1	WAKE ISLAND Hy	39.27	328	T	T	07 24 56.5	
	baz=146,slow=76,SNR=57						
PMG	Port Moresby	39.56	274	LR	LR	06 58 57.2	
	comp=Z,115nm,19.5s,baz=100,slow=34						
H11N3	WAKE ISLAND Hy	40.19	329	T	T	07 27 24.8	
	baz=150,slow=76,SNR=54						
H11N1	WAKE ISLAND Hy	40.19	329	T	T	07 27 13.8	
	baz=150,slow=76,SNR=41						
H11N2	WAKE ISLAND Hy	40.20	329	T	T	07 27 17.5	
	baz=150,slow=76,SNR=5.4						
STKA	Stephens Creek	44.61	240	P	P	06 45 13.6	-0.4
STKA	Stephens Creek	44.61	240	P	P	06 45 09.5	-4.5
	comp=Z,5.2nm,0.9s,baz=63,slow=6.9,SNR=7.7						
STKA				LR	LR	07 01 29.2	
	comp=Z,159nm,21.3s,baz=152,slow=33						
	comp=Z,5.2nm,0.9s						
STKA	Stephens Creek	44.61	240	P	P	06 45 13.6	-0.4
STKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WB0	Warramunga Arr	50.43	257	P	P	06 45 59.2	-0.3
WB0				IAmb	IAmb	06 46 19.9	
	comp=Z,60nm,1.9s						
WB2	Warramunga Arr	50.46	257	P	P	06 45 59.4	-0.3
WB2				IAmb	IAmb	06 46 02.7	
	comp=Z,51nm,1.9s						
WRA	Warramunga Arr	50.47	257	P	P	06 45 58.9	-0.9
WRA	Warramunga Arr	50.47	257	P	P	06 45 54.5	-5.2
	comp=Z,3.7nm,1.1s,baz=92,slow=7.1,SNR=17						
WRA				LR	LR	07 05 26.1	
	comp=Z,272nm,21.2s,baz=126,slow=34						
	comp=Z,3.7nm,1.1s						
WRA	Warramunga Arr	50.47	257	P	P	06 45 58.9	-0.9
WRA				pmax	pmax		
	comp=Z,4.0nm,2.0s						
AS31	Alice Springs	50.72	252	P	P	06 45 58.2	-3.5
ASAR	Alice Springs	50.73	252	P	P	06 45 58.9	-2.8
ASAR	Alice Springs	50.73	252	P	P	06 45 57.2	-4.5
	comp=Z,7.3nm,0.7s,baz=86,slow=8.2,SNR=53						
ASAR				LR	LR	07 05 46.4	
	comp=Z,548nm,21.4s,baz=115,slow=34						
	comp=Z,7.3nm,0.7s						
ASAR	Alice Springs	50.73	252	P	P	06 45 58.9	-2.8
MTN	Manton Dam	54.37	265	P	P	06 46 29.2	+0.5
FORT	Forrest	56.00	243	P	P	06 46 37.4	-3.0
FORT				IAmb	IAmb	06 46 60.0	
	comp=Z,14nm,0.8s						
SBA	Scott Base	63.35	185	P	P	06 47 31.0	+0.8
SBA	Scott Base	63.35	185	P	P	06 47 31.0	+0.8
SBA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
VNDA	Vanda	63.49	186	P	P	06 47 31.3	+0.2
VNDA	Vanda	63.49	186	P	P	06 47 30.8	-0.3
	comp=Z,2.5nm,0.9s,baz=345,slow=6.7,SNR=4.5						
	comp=Z,2.5nm,0.9s						
NWAO	Narrogin (SRO)	65.19	241	P	P	06 47 43.9	+0.8
NWAO				IAmb	IAmb	06 48 44.5	
	comp=Z,36nm,1.4s						
NWAO	Narrogin (SRO)	65.19	241	LR	LR	07 13 36.9	
	comp=Z,193nm,20.6s,baz=139,slow=34						
NWAO	Narrogin (SRO)	65.19	241	P	P	06 47 43.9	+0.8
NWAO				pmax	pmax		
	comp=Z,36nm,1.4s						
MORW	Morawa	66.47	245	P	P	06 47 54.1	+2.7
KAPI	Kappang	67.01	271	LR	LR	07 15 43.1	
	comp=Z,52nm,20.2s,baz=140,slow=35						
KAPI	Kappang	67.01	271	*eP*	P	06 47 56.5	+1.5
KAPI				pmax	pmax		
	comp=Z,12nm,1.2s						
SHEM	Shemya Is, Ala	68.75	351	LR	LR	07 11 44.2	
	comp=Z,236nm,21.5s,baz=128,slow=30						
MJAR	Matsushiro Arr	69.31	319	P	P	06 48 06.8	-2.2
	comp=Z,0.9nm,0.3s,baz=156,slow=5.4,SNR=5.3						
	comp=Z,0.9nm,0.3s						
SCI2	San Clemente I baz=236	70.62	46	P	P	06 48 18.6	+1.4
SBC	Santa Barbara baz=235	70.65	44	P	P	06 48 18.6	+1.3
PKM	Mcpherson Peak baz=234	70.84	44	P	P	06 48 20.2	+1.5
SMMC	Simmler baz=234	70.96	44	P	P	06 48 21.1	+1.9
JOW	Kunigami	70.97	306	LR	LR	07 13 20.7	
	comp=Z,42nm,21.0s,baz=130,slow=31						
BCW	Bitter Crk WRg	71.14	44	P	P	06 48 22.0	+1.7
BCW				IAmb	IAmb	06 48 23.0	
	comp=Z,33nm,1.2s						
FMP	Fort Macarthur baz=236	71.21	46	P	P	06 48 22.2	+1.6
OSI	Osito Audit: C baz=235	71.42	45	P	P	06 48 23.3	+1.3
DECC	Green Verdugo baz=236	71.48	45	P	P	06 48 23.3	+1.0
ARVC	Arvin baz=235	71.64	44	P	P	06 48 24.8	+1.5
KMRM	Mail Ridge	71.64	38	P	P	06 48 25.2	+2.0
ASAJ	Asahikawa	71.83	328	LR	LR	07 13 43.4	
	comp=Z,52nm,21.4s,baz=207,slow=31						
VES	Vestal, Richgr baz=235,SNR=12	71.87	44	P	P	06 48 26.2	+1.6
MURC	Murrieta baz=237	71.91	46	P	P	06 48 26.2	+1.3
BFSC	Mount Baldy Ra baz=236	71.94	46	P	P	06 48 26.6	+1.4
VOG	Valley Oaks Go baz=234	71.95	43	P	P	06 48 26.5	+1.4
KHMM	Horse Mountain	72.04	37	P	P	06 48 27.3	+1.5
KHMM				IAmb	IAmb	06 48 30.0	
	comp=Z,16nm,1.0s						
EDW2	Edwards Air Fo baz=236,SNR=10	72.06	45	P	P	06 48 27.4	+1.5
MONP2	Monument Peak baz=237	72.07	47	P	P	06 48 27.7	+1.6
IKP	In-Ko-Pah, Jac baz=238	72.16	48	P	P	06 48 28.3	+1.7
CMB	Columbia Colle	72.31	41	P	P	06 48 28.2	+0.9
CMB	Columbia Colle	72.31	41	P	P	06 48 28.2	+0.9
CMB				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHIR	Chirikof Islan baz=197	72.36	10	P	P	06 48 30.1	+3.1
KRMB	Red Mountain	72.36	36	P	P	06 48 28.5	+0.9
KRMB				IAmb	IAmb	06 48 30.4	
	comp=Z,17nm,1.0s						
CHGN	Chignik baz=194	72.39	8	P	P	06 48 30.5	+3.3
PFO	Pinyon Flats O	72.43	47	P	P	06 48 28.8	+0.6
PFO	Pinyon Flats O	72.43	47	P	P	06 48 29.4	+1.2
PFO	Pinyon Flats O	72.43	47	LR	LR	07 12 58.1	
	comp=Z,211nm,20.5s,baz=237,slow=30						
PFO	Pinyon Flats O	72.43	47	*de*P	P	06 48 29.7	+1.5
PFO				pmax	pmax		
	comp=Z,15nm,1.0s						
TPFO	Pinon Flats baz=237	72.43	47	P	P	06 48 29.6	+1.4
BBRC	Big Bear Solar baz=237	72.46	46	P	P	06 48 30.0	+1.5
LPIG	La Paz	72.48	58	LR	LR	07 12 24.0	
	comp=Z,190nm,20.0s,baz=207,slow=29						
SWSC	Sam W. Stewart baz=238	72.54	48	P	P	06 48 30.5	+1.8
ORV	Oroville	72.54	39	P	P	06 48 29.1	+0.5
ORV				IAmb	IAmb	06 48 31.3	
	comp=Z,32nm,1.8s						
ORV	Oroville	72.54	39	P	P	06 48 29.1	+0.5
ORV				pmax	pmax		
	comp=Z,32nm,1.8s						
LRMC	Laurel Mtn Rad baz=236,SNR=9.4	72.61	45	P	P	06 48 30.9	+1.7
RRX	Edison Barstow baz=236	72.74	45	P	P	06 48 31.0	+1.1
PETK	Petropavlovsk-	72.78	342	P	P	06 48 29.5	-0.2
	comp=Z,12nm,0.9s,baz=115,slow=10.0,SNR=7.0						
PETK				LR	LR	07 16 56.2	
	comp=Z,58nm,20.1s,baz=170,slow=33						
	comp=Z,12nm,0.9s						
CWC	Cottonwood Cre baz=235	72.88	43	P	P	06 48 32.6	+1.7
MDPB	Devils Postpil	72.91	42	P	P	06 48 31.5	+0.3
BELC	Belle Mtn. Jos baz=237,SNR=10	72.96	47	P	P	06 48 33.0	+1.6
MPMC	Manual Prospec baz=236,SNR=23	73.06	44	P	P	06 48 33.7	+1.7
GSC	Goldstone, Bar	73.11	45	P	P	06 48 33.0	+0.9
GSC				IAmb	IAmb	06 48 34.8	
	comp=Z,19nm,1.1s						
GSC	Goldstone, Bar baz=236,SNR=9.6	73.11	45	P	P	06 48 33.6	+1.5
GSC	Goldstone, Bar	73.11	45	P	P	06 48 33.1	+0.9
GSC				pmax	pmax		
	comp=Z,19nm,1.1s						
TIN	Tinemaha, Big baz=235	73.13	43	P	P	06 48 34.1	+1.8
BC3	Big Chuckawall baz=238,SNR=6.6	73.16	47	P	P	06 48 34.0	+1.4
HEC	Hector,Ludlow baz=237,SNR=5.4	73.17	46	P	P	06 48 33.3	+0.8
YBH	Yreka Blue Hor	73.18	37	P	P	06 48 33.1	+0.6
YBH				IAmb	IAmb	06 48 35.6	
	comp=Z,22nm,1.1s						
YBH	Yreka Blue Hor	73.18	37	LR	LR	07 13 15.8	
	comp=Z,200nm,21.2s,baz=236,slow=30						
YBH	Yreka Blue Hor	73.18	37	P	P	06 48 33.1	+0.6
YBH				pmax	pmax		
	comp=Z,23nm,1.1s						
GLA	Glamis baz=238	73.29	48	P	P	06 48 34.9	+1.7
SII	Sitkinak Islan baz=199	73.31	11	P	P	06 48 35.9	+3.2
GMRC	Granite Mounta baz=237	73.62	46	P	P	06 48 36.6	+1.4
IRM	Iron Mountain baz=238	73.64	47	P	P	06 48 36.9	+1.7
GRAC	Grapevine Rang baz=236,SNR=7.2	73.67	43	P	P	06 48 37.1	+1.7
FURC	Furnace Creek, baz=236,SNR=6.2	73.71	44	P	P	06 48 37.4	+1.9
YSS	Yuzh-Sakhalins	73.76	330	*e*P	P	06 48 36.2	+0.7
TUQ	Turquoise Moun baz=237	73.78	45	P	P	06 48 37.6	+1.4
SHOC	Shoshone, Teco baz=237,SNR=5.4	73.80	45	P	P	06 48 37.8	+1.7
NVAR	Mina Array Bea	73.87	42	P	P	06 48 38.2	+1.4
	comp=Z,8.8nm,0.9s,baz=228,slow=9.1,SNR=40						
NVAR				LR	LR	07 13 41.8	
	comp=Z,235nm,21.8s,baz=251,slow=30						
	comp=Z,8.8nm,0.9s						
214A	Organ Pipe Nat	74.20	50	P	P	06 48 39.3	+0.8
214A	Organ Pipe Nat baz=240,SNR=5.6	74.20	50	P	P	06 48 40.2	+1.6
K04D	Chiloquin, OR	74.30	37	P	P	06 48 40.7	+1.7
K04D				IAmb	IAmb	06 48 41.9	
	comp=Z,36nm,1.0s						
NEE2	Needles Airpor baz=238	74.33	47	P	P	06 48 40.6	+1.4
PDMCI	Parker Dam,Lak baz=238,SNR=8.4	74.43	47	P	P	06 48 41.4	+1.6
Q17K	Contact Creek baz=197	74.65	9	P	P	06 48 42.3	+1.6
QSPA	South Pole Qui	74.69	180	P	P	06 48 41.7	+0.7
QSPA				IAmb	IAmb	06 48 56.0	
	comp=Z,27nm,1.1s						
QSPA	South Pole Qui	74.69	180	P	P	06 48 40.8	-0.2
	comp=Z,5.8nm,1.0s,baz=36,slow=0.3,SNR=12						
	comp=Z,5.8nm,1.0s						
KDAK	Kodiak Island baz=200	74.75	11	P	P	06 48 43.2	+2.1
KDAK	Kodiak Island	74.75	11	LR	LR	07 14 29.2	
	comp=Z,214nm,21.8s,baz=215,slow=30						
KDAK	Kodiak Island	74.75	11	*eP*	P	06 48 43.0	+1.9
KDAK				pmax	pmax		
	comp=Z,34nm,1.4s						
SHPR	Sheep Range	74.88	45	P	P	06 48 43.7	+1.1
J05D	Fort Rock, OR	75.01	36	P	P	06 48 43.9	+0.7
P17K	Kvichak River baz=196	75.47	9	P	P	06 48 45.2	0.0
Q20K	Shuyak Island baz=200	75.57	11	P	P	06 48 46.2	+0.4

R11B	Troy Canyon, C baz=237,SNR=13	75.59	43	P		P	06 48 47.3	+0.6
Q19K	Cape Douglas, baz=199	75.65	10	P		P	06 48 45.9	-0.4
P18K	Big Mountain, baz=197	75.84	9	P		P	06 48 47.0	-0.3
TUC	Tucson baz=241	75.87	50	P		P	06 48 49.2	+0.9
M13K	Dall Lake baz=189	75.88	5	P		P	06 48 48.5	+1.0
O17K	Koliganek Bris baz=196	75.93	8	P		P	06 48 48.4	+0.6
N15K	Kwethluk River baz=192	75.95	6	P		P	06 48 48.2	+0.2
O18K	Koktuh Hills baz=197	76.28	9	P		P	06 48 50.7	+0.8
M14K	Bethel baz=191,SNR=7.3	76.34	5	P		P	06 48 50.5	+0.4
M15K	Kasigluk River baz=192,SNR=8.6	76.40	6	P		P	06 48 50.8	+0.3
X16A X16A	Lo Mia Camp, P comp=Z,28nm,1.0s	76.41	48	P IAmb		P IAmb	06 48 51.9 06 48 54.6	+0.4
KSRS	Korea Array comp=Z,25nm,21.9s,baz=215,slow=32	76.57	315	LR		LR	07 17 02.6	
N17K	Nushagak Hills baz=195	76.65	8	P		P	06 48 51.6	-0.3
O19K	Port Alsworth baz=198	76.74	9	P		P	06 48 52.1	-0.4
SPR3 SPR3	Spring Creek 3 comp=Z,20nm,1.2s	76.77	43	P IAmb		P IAmb	06 48 53.6 06 48 55.7	+0.1
PSUT PSUT	Pine Spring comp=Z,17nm,0.9s	76.84	44	P IAmb		P IAmb	06 48 54.5 06 48 56.3	+0.6
L14K	Kuka Creek baz=190,SNR=5.0	76.86	5	P		P	06 48 53.3	+0.2
SZCU SZCU	Shurtz Canyon comp=Z,24nm,1.2s	76.86	45	P IAmb		P IAmb	06 48 55.3 06 48 57.0	+1.4
LON LON	Longmire comp=Z,22nm,1.4s	76.88	33	P IAmb		P IAmb	06 48 54.3 06 48 55.8	+0.6
LON LON	Longmire comp=Z,22nm,1.4s	76.88	33	P pmax		P pmax	06 48 54.3	+0.6
M16K	Timber Creek baz=194	76.91	7	P		P	06 48 53.7	+0.2
BRSE	Bradley Lake S baz=202	76.93	11	P		P	06 48 53.9	+0.3
N18K	Kilae Creek baz=197	76.97	8	P		P	06 48 53.8	0.0
WUAZ	Wupatki baz=240,SNR=11	77.00	47	P		P	06 48 56.1	+1.4
L15K	Ungalak Mounta baz=191,SNR=5.7	77.29	5	P		P	06 48 55.9	+0.4
K13K	Kusilvak Mount baz=188	77.30	4	P		P	06 48 56.0	+0.5
N19K	Bonanza Creek baz=198	77.31	9	P		P	06 48 55.5	-0.3
M17K	Holitna River baz=195	77.46	7	P		P	06 48 57.5	+1.0
SEW	Seward baz=203	77.52	12	P		P	06 48 57.8	+1.1
L16K	Owhat River baz=193	77.53	6	P		P	06 48 58.0	+1.2
Q23K	Middleton Isla baz=206	77.55	13	P		P	06 48 58.1	+1.1
BBB	Bella Bella comp=Z,121nm,21.2s,baz=206,slow=30	77.56	26	LR		LR	07 15 25.1	
USA0B	Ussuriysk Arra	77.73	323⇑	*e*P		P	06 48 58.5	+0.1
USRK	Ussuriysk Ar. comp=Z,16nm,1.3s,baz=186,slow=3.8,SNR=4.7 comp=Z,16nm,1.3s	77.73	323	P		P	06 48 58.2	-0.2
M18K	Stony River baz=197	77.76	8	P		P	06 48 59.9	+1.7
CAPN	Captain Cook N baz=201	77.81	11	P		P	06 49 00.9	+2.4
K15K	Wolf Creek Mou baz=191,SNR=5.8	77.90	5	P		P	06 49 00.2	+1.3
W18A	Petrified Fore baz=241,SNR=5.9	77.98	48	P		P	06 49 01.5	+1.3
N20K	Mount Spurr baz=200	78.04	10	P		P	06 49 00.1	+0.3
CRAG	Craig baz=219	78.06	22	P		P	06 49 01.3	+1.4
L17K	Donlin baz=194,SNR=8.6	78.07	7	P		P	06 49 01.3	+1.4
J14K	Nanvaranak Lak baz=189	78.18	4	P		P	06 49 01.3	+0.9
121A	Cookes Peak, D baz=243,SNR=9.3	78.22	51	P		P	06 49 02.8	+1.2
L18K	Granite Mounta baz=196,SNR=6.6	78.35	8	P		P	06 49 02.5	+1.1
M19K	Big River Lodg baz=198	78.36	9	P		P	06 49 02.3	+0.8
RC01	Rabbit Creek A baz=202	78.37	11	P		P	06 49 01.6	0.0
DUG	Dugway, Tooele baz=238,SNR=13	78.40	43	P		P	06 49 03.2	+0.8
KAIM	Kayak Island baz=208	78.44	14	P		P	06 49 02.8	+0.8
V35K	Ketchikan baz=220	78.50	23	P		P	06 49 03.0	+0.7
M20K	Styx River baz=199	78.53	9	P		P	06 49 02.1	-0.5
SUA	Susitna One baz=202	78.54	11	P		P	06 49 02.4	-0.2
L19K	White Mountain baz=198	78.56	8	P		P	06 49 02.5	-0.1
SIT	Sitka baz=217	78.56	20	P		P	06 49 03.6	+1.0
U33K	Whale Pass baz=219	78.57	21	P		P	06 49 03.2	+0.5
D08A	Wollman Farm,	78.62	34	P		P	06 49 04.4	+1.1
K17K	Iditarod baz=194	78.64	7	P		P	06 49 03.5	+0.5
EYAK	Cordova Ski Ar baz=206	78.69	13	P		P	06 49 03.7	+0.4
GLI	Glacier Island baz=205,SNR=7.7	78.70	12	P		P	06 49 02.3	-1.1
NLU	North Lily Min	78.76	43	P		P	06 49 05.4	+0.9
SKT	Skwentna baz=201	78.88	10	P		P	06 49 03.6	-0.8
KNK	Knik Glacier baz=204	78.92	12	P		P	06 49 04.7	+0.2
M22K	Willow baz=202,SNR=6.8	78.92	11	P		P	06 49 04.1	-0.5
PMR	Palmer baz=203,SNR=6.4	78.95	11	P		P	06 49 04.5	-0.2
J16K	Anvik River baz=192,SNR=8.8	78.95	6	P		P	06 49 06.0	+1.3
L20K	Farewell, AK baz=198,SNR=5.6	78.98	9	P		P	06 49 04.6	-0.3
TMUT	Trail Mountain	79.00	44	P		P	06 49 07.2	+1.2
S31K	Pelican baz=216	79.01	19	P		P	06 49 06.5	+1.5
WRAK	Wrangell Islan baz=219	79.08	22	P		P	06 49 07.1	+1.6
MPU	Maple Canyon	79.08	43	P		P	06 49 06.6	+0.4
S32K	Kiilisnoo baz=217	79.14	20	P		P	06 49 06.7	+0.9
HLID HLID	Hailey comp=Z,40nm,1.1s	79.19	39	P IAmb		P IAmb	06 49 07.9 06 49 09.5	+1.1
HLID	Hailey baz=236,SNR=57	79.19	39	P		P	06 49 08.4	+1.6
J17K	VABM Dome baz=193	79.22	6	P		P	06 49 06.6	+0.5
MESA	MESA baz=210	79.26	15	P		P	06 49 07.0	+0.3
SML	Sawmill baz=204	79.30	12	P		P	06 49 06.9	+0.2
BMRM	Bremner River baz=208,SNR=11	79.32	14	P		P	06 49 07.0	+0.1
M23K	Glacier View baz=204	79.41	12	P		P	06 49 07.4	+0.1
PNL	Peninsula baz=212	79.50	16	P		P	06 49 08.3	+0.5
KLU	Klutina baz=206	79.50	13	P		P	06 49 07.9	0.0
SCM	Sheep Creek Mo baz=205,SNR=6.7	79.52	12	P		P	06 49 07.9	-0.1
I17K	Unalakleet baz=192	79.54	5	P		P	06 49 09.1	+1.2
J18K	Innoko River baz=196,SNR=7.6	79.55	7	P		P	06 49 08.5	+0.5
Y22D	IRIS PASSCAL I baz=243	79.56	50	P		P	06 49 10.1	+1.2
Y22F	Passcal Instru baz=243	79.56	50	P		P	06 49 10.0	+1.1
PPLA	Purkeypile baz=200	79.64	9	P		P	06 49 09.0	+0.3
MNTX	Cornudas Mount baz=245,SNR=24	79.69	53	P		P	06 49 11.1	+1.6
TCUT	Toone Canyon	79.79	42	P		P	06 49 11.2	+1.1
K20K	Telida baz=198,SNR=8.8	79.79	8	P		P	06 49 09.5	+0.2
R32K	Eaglecrest baz=217	79.80	19	P		P	06 49 10.9	+1.5
MVCO	Mesa Verde baz=242,SNR=7.4	79.85	47	P		P	06 49 12.0	+1.4
N25K	Chitina, Valde baz=207,SNR=12	79.89	13	P		P	06 49 10.2	+0.2
P29M	Windy Craggy baz=214,SNR=5.8	79.93	17	P		P	06 49 11.0	+0.9
M24K	Tolsona, Glenn baz=206,SNR=8.1	80.00	12	P		P	06 49 11.4	+0.8
MCARA	McCarthy VSAT baz=209	80.05	14	P		P	06 49 10.9	+0.2
TXAR TXAR	Lajitas Array comp=Z,12nm,1.1s,baz=224,slow=5.2,SNR=63 comp=Z,107nm,20.1s,baz=200,slow=30 comp=Z,12nm,1.1s	80.06	56	P LR		P LR	06 49 13.2 07 16 53.6	+1.6
CTG	Chitna Glacier baz=211	80.09	15	P		P	06 49 11.4	+0.2
WAT6	Susitna Watana baz=204,SNR=9.2	80.12	11	P		P	06 49 11.6	+0.3
CAST	Castle Rocks baz=200	80.15	9	P		P	06 49 10.3	-0.9
H16K	Elim baz=190	80.15	5	P		P	06 49 11.9	+0.7
PLBC	Pleasant Camp baz=215,SNR=8.7	80.19	18	P		P	06 49 11.5	0.0
J19K	Poorman baz=197	80.20	8	P		P	06 49 12.4	+0.9
WAT1	Susitna Watana baz=204	80.20	11	P		P	06 49 10.8	-0.8
O28M	Mount Upton baz=212,SNR=7.6	80.22	16	P		P	06 49 12.2	+0.1
T35M	Bob Quinn baz=221	80.25	22	P		P	06 49 12.6	+0.6
ANMO ANMO	Albuquerque comp=Z,22nm,1.2s	80.29	50	P IAmb		P IAmb	06 49 14.1 06 49 15.8	+1.1
ANMO	Albuquerque baz=243	80.29	50	P		P	06 49 14.0	+1.1
ANMO	Albuquerque comp=Z,10nm,1.0s,baz=312,slow=6.4,SNR=33	80.29	50	P LR		P LR	06 49 14.1 07 17 05.7	+1.1
ANMO	Albuquerque comp=Z,95nm,21.1s,baz=300,slow=30 comp=Z,10nm,1.0s	80.29	50	*de*P		P	06 49 14.7	+1.8
ANMO	Albuquerque comp=Z,17nm,1.0s	80.29	50	*de*P pmax		P pmax	06 49 14.7	+1.8
NEW	Newport baz=234	80.31	34	P		P	06 49 12.8	+0.2
NEW	Newport comp=Z,129nm,20.8s,baz=204,slow=30	80.31	34	LR		LR	07 17 24.4	
G15K	Niukluk baz=188	80.38	4	P		P	06 49 12.8	+0.4
TRF	Thorofare Moun baz=202	80.47	10	P		P	06 49 12.4	-0.8
HARP	HAARP baz=207	80.48	13	P		P	06 49 13.6	+0.5
SKAG	Skagway baz=216,SNR=6.6	80.50	18	P		P	06 49 13.3	+0.1
CHUM	Lake Minchumin baz=200,SNR=8.1	80.55	9	P		P	06 49 12.9	-0.4
P30M	Million Dollar baz=215	80.56	17	P		P	06 49 12.8	-0.8
J20K	Nowinta River baz=198,SNR=13	80.56	8	P		P	06 49 13.7	+0.2
H17K	Granite Mounta baz=192	80.64	6	P		P	06 49 14.0	+0.1
NJ2 NJ2 NJ2	Nanjing comp=Z,12nm,0.5s comp=Z,100nm,3.5s	80.64	307	*e*P sP pmax		P PcP pmax	06 49 16.3 06 49 20.4 pmax	+1.7 -1.0
DHY	Denali Highway baz=205	80.64	11	P		P	06 49 12.5	-1.6
S34M	Telegraph Cree baz=220	80.65	21	P		P	06 49 14.5	+0.4
F14K	Arctic Creek baz=186	80.73	3	P		P	06 49 14.5	+0.2
TNA	Tin City baz=185	80.75	2	P		P	06 49 15.0	+0.7
YUK8	Steele Glacier baz=212,SNR=9.0	80.77	15	P		P	06 49 15.2	+0.2
GCSA	Galena City Sc baz=195	80.77	7	P		P	06 49 14.9	+0.5
KLR KLR	Kul'dur comp=Z,1.2nm,0.4s,baz=300,slow=8.3,SNR=5.3 comp=Z,1.2nm,0.4s	80.82	327	P pmax		P pmax	06 49 13.1 pmax	-2.0
KLR KLR	Kul'dur comp=Z,5.0nm,1.2s	80.82	327	*e*P pmax		P pmax	06 49 12.1	-3.1
AHID AHID	Auburn Hatcher comp=Z,25nm,1.1s	80.83	41	P IAmb		P IAmb	06 49 16.1 06 49 17.9	+0.5
YUK6	Outpost Mounta baz=213	80.85	16	P		P	06 49 15.7	+0.3
G16K	Koyuk River baz=190	80.89	4	P		P	06 49 15.4	+0.2
PAX	Paxson baz=216,SNR=5.7	80.92	12	P		P	06 49 15.1	-0.5
M26K	Nabesna, AK baz=209,SNR=18	80.95	14	P		P	06 49 15.8	+0.2
BPAW	Bear Paw Mtn. baz=201	80.96	9	P		P	06 49 14.7	-1.0
MCK	McKinley baz=203,SNR=12	80.96	10	P		P	06 49 15.4	-0.3
HYT	Haines Junctio baz=214,SNR=14	80.98	17	P		P	06 49 16.6	+0.7
H18K	Honosa River baz=194	81.00	6	P		P	06 49 15.8	0.0
YUK3	Moose Creek baz=211,SNR=17	81.01	15	P		P	06 49 16.4	+0.2
F15K	North Star Dit baz=188	81.05	3	P		P	06 49 16.2	+0.2
P32M	Atlin baz=218	81.10	19	P		P	06 49 17.1	+0.7
YUK4	Talbot Arm baz=213	81.11	16	P		P	06 49 16.9	+0.2
I20K	Naaghedeneel baz=198	81.11	8	P		P	06 49 18.0	+1.7
G17K	Kiwalik Mounta baz=192	81.13	5	P		P	06 49 16.7	+0.2
M27K	Edge Creek, AK baz=210,SNR=20	81.17	14	P		P	06 49 17.5	+0.6
MSO	Missoula baz=236,SNR=20	81.27	36	P		P	06 49 18.0	+0.3
BNX BNX	BinXian comp=Z,11nm,0.9s	81.28	322	⇓P pmax		P pmax	06 49 16.6 pmax	-1.1
BNX	comp=Z,57nm,4.1s			pmax		pmax		
FXWY FXWY	Fox Creek comp=Z,32nm,1.2s	81.32	40	P IAmb		P IAmb	06 49 19.0 06 49 20.9	+0.7
O30N	Mendenhall baz=216,SNR=11	81.34	17	P		P	06 49 18.4	+0.6
O20A	White River Ci baz=242,SNR=5.8	81.41	44	P		P	06 49 17.8	-0.9
L26K	Log Cabin Wild baz=208,SNR=5.9	81.42	13	P		P	06 49 18.3	+0.2
DLBC	Dease Lake baz=221	81.43	21	P		P	06 49 18.8	+0.6
CN2 CN2	Changchun comp=Z,10.0nm,0.8s	81.46	320	*e*P pmax		P pmax	06 49 18.8	+0.1
H19K	Roundabout Mou baz=196,SNR=7.0	81.57	7	P		P	06 49 19.6	+0.8
WHY	Whitehorse baz=217	81.60	18	P		P	06 49 19.6	+0.4
K24K	Donnelly Dome baz=206,SNR=6.2	81.61	12	P		P	06 49 19.2	+0.1
N30M	Aishikik Lake baz=214	81.62	16	P		P	06 49 19.5	+0.2
G18K	Tagagawik baz=194,SNR=7.9	81.70	6	P		P	06 49 19.5	+0.1
H20K	Anotleneega Mo baz=197,SNR=5.2	81.73	7	P		P	06 49 19.6	0.0
NEA2	Nenana baz=203	81.73	10	P		P	06 49 19.2	-0.5
L27K	Beaver Creek, baz=210	81.80	14	P		P	06 49 20.3	+0.2
BW06	Boulder Array baz=240,SNR=11	81.81	42	P		P	06 49 21.4	+0.5
PDAR	Pinedale Array	81.81	42	P		P	06 49 20.9	0.0
PDAR PDAR	Pinedale Array comp=Z,13nm,1.1s,baz=222,slow=3.6,SNR=47 comp=Z,136nm,19.3s,baz=245,slow=32 comp=Z,13nm,1.1s	81.81	42	P LR		P LR	06 49 21.4 07 20 24.7	+0.6
I21K	Tanana baz=200	81.82	9	P		P	06 49 20.0	-0.1
R33M	Jennings River baz=220,SNR=6.5	81.83	20	P		P	06 49 20.7	+0.2
P33M	Teslin, Yukon baz=219	81.87	19	P		P	06 49 20.6	+0.1
MLY	Manley baz=201,SNR=12	81.87	9	P		P	06 49 19.7	-0.7
HDA	Harding Lake baz=205,SNR=8.8	81.94	11	P		P	06 49 20.4	-0.4
BOZ	Bozeman (W) baz=238,SNR=36	81.96	38	P		P	06 49 22.8	+1.2
H17A	Grant Village baz=239,SNR=15	81.98	40	P		P	06 49 21.2	-0.6
F17K	Baldwin Pennin baz=191	82.01	5	P		P	06 49 21.4	+0.4
N31M	Braeburn, Yuko baz=216,SNR=8.0	82.01	17	P		P	06 49 21.1	-0.1
YHH	Holmes Hill	82.02	39	P		P	06 49 23.1	+1.1
M29M	Somme Creek baz=213,SNR=9.0	82.08	15	P		P	06 49 21.9	+0.3
G19K	Purcell Mounta baz=195,SNR=10	82.10	6	P		P	06 49 22.1	+0.6
SCRK	Sand Creek baz=208,SNR=11	82.13	12	P		P	06 49 22.0	0.0
H21K	Melozitna Rive baz=199,SNR=7.7	82.16	8	P		P	06 49 22.5	+0.6
I23K	Minto, Yukon-K baz=203,SNR=9.3	82.20	10	P		P	06 49 21.4	-0.6
COLA	College baz=204	82.20	10	P		P	06 49 21.5	-0.6
COLA COLA	College comp=Z,22nm,0.9s	82.20	10	*d i*P pmax		P pmax	06 49 21.6	-0.5
SDCO	Great Sand Dun baz=244,SNR=29	82.22	48	P		P	06 49 24.2	+1.0
ILAR ILAR	Eielson Array comp=Z,2.3nm,0.7s,baz=229,slow=6.2,SNR=27 comp=Z,108nm,21.7s,baz=187,slow=31 comp=Z,2.3nm,0.7s	82.28	11	P LR		P LR	06 49 21.9 07 18 58.0	-0.7
F18K	Selawik baz=193,SNR=5.4	82.30	5	P		P	06 49 22.6	0.0
J25K	Salcha River, baz=206,SNR=11	82.42	12	P		P	06 49 23.0	-0.4
POKR	Poker Plat Res baz=204,SNR=6.6	82.50	11	P		P	06 49 23.5	-0.2
N32M	Quiet Lake baz=218	82.53	18	P		P	06 49 24.1	+0.2
H22K	Ishtalitna Cre baz=201	82.58	9	P		P	06 49 24.3	+0.2
K27K	Chicken baz=210	82.58	13	P		P	06 49 25.0	+0.8
E17K	Hotham Inlet baz=191,SNR=7.3	82.59	4	P		P	06 49 24.6	+0.5
M30M	Minto, Yukon baz=215,SNR=8.6	82.62	16	P		P	06 49 24.5	+0.1
MSTX	Muleshoe baz=246	82.63	52	P		P	06 49 26.0	+0.7
SEY	Seymchan comp=Z,9nm,0.8s,baz=178,slow=5.2,SNR=10 comp=Z,7.9nm,0.8s	82.64	345	P		P	06 49 22.8	-1.6
SEY SEY	Seymchan comp=Z,20nm,1.3s	82.64	345⇑	*e*P pmax		P pmax	06 49 24.0 pmax	-0.4
J26L	Joseph Creek baz=208,SNR=12	82.68	12	P		P	06 49 25.3	+0.5
F19K	Shaleruckik Mo baz=194	82.70	6	P		P	06 49 25.0	+0.3
L29M	L29M baz=213,SNR=29	82.72	15	P		P	06 49 25.6	+0.6
T25A	Trinidad baz=244,SNR=13	82.74	48	P		P	06 49 26.9	+1.1
H23K	Yukon River baz=202	82.80	9	P		P	06 49 27.3	+2.0
G21K	Allakaket baz=199,SNR=7.0	82.88	8	P		P	06 49 25.7	+0.1
M31M	Drury Creek, Y baz=217,SNR=6.3	82.98	17	P		P	06 49 26.2	0.0
Q24A	Divide baz=244,SNR=13	83.00	47	P		P	06 49 28.5	+1.2
E18K	Tukpahlearik C baz=192,SNR=15	83.02	5	P		P	06 49 26.8	+0.4
ISCO	Idaho Springs baz=243,SNR=11	83.05	46	P		P	06 49 28.7	+1.2
H24K	Noodor Dome baz=204	83.08	10	P		P	06 49 25.8	-1.0
WTLY	Watson Lake, Y baz=222	83.10	20	P		P	06 49 27.3	+0.3
D17K	Noatak River baz=189,SNR=7.3	83.12	4	P		P	06 49 27.0	+0.2
F20K	Avaraart Lake baz=196	83.12	7	P		P	06 49 27.0	+0.1
833A	Chaparral WMA, baz=248	83.14	58	P		P	06 49 28.1	+0.3
RLMT	Red Lodge baz=240,SNR=24	83.16	40	P		P	06 49 28.8	+1.0
PRP	Porcupine Dome baz=206,SNR=23	83.20	11	P		P	06 49 27.6	+0.1
DAWY	Dawson baz=212,SNR=18	83.22	14	P		P	06 49 28.0	+0.5
CMIG	Matias Romero comp=Z,116nm,18.7s,baz=188,slow=30	83.27	70	LR		LR	07 18 21.0	
FARO	Faro, Yukon baz=218	83.30	17	P		P	06 49 28.1	+0.2
N23A	Red Feather La baz=243,SNR=19	83.31	45	P		P	06 49 30.1	+1.3
E19K	Redstone River baz=195,SNR=20	83.36	6	P		P	06 49 28.6	+0.5
EGAK	Eagle baz=210,SNR=8.1	83.43	13	P		P	06 49 28.8	+0.2
TOAD	Toad River Com baz=226,SNR=35	83.46	23	P		P	06 49 29.3	+0.5
I26K	Coal Creek Min baz=209	83.47	12	P		P	06 49 29.4	+0.6
QIZ QIZ QIZ QIZ QIZ	Qiongzhong comp=Z,140nm,18.0s comp=Z,78nm,15.7s comp=Z,170nm,18.6s	83.47	292	P S SS LR LR LR		P SKSac SS LR LR LR	06 49 29.8 06 59 52.8 07 05 20.1	0.0 -0.1 +2.0
RDOG	Red Dog Mine baz=190	83.48	4	P		P	06 49 29.0	+0.3
K29M	Barlow Dome baz=214,SNR=12	83.49	15	P		P	06 49 29.6	+0.6
G22K	Bettles baz=200	83.53	8	P		P	06 49 28.9	-0.1
LIRD	Liard River Hi baz=225	83.53	22	P		P	06 49 29.6	+0.4
G23K	Bananza Creek baz=202,SNR=9.4	83.55	9	P		P	06 49 29.4	+0.3
F21K	Alatna River baz=199,SNR=8.1	83.55	7	P		P	06 49 29.3	+0.1
C16K	Lisburne Hills baz=187	83.57	3	P		P	06 49 29.3	+0.2
JCT	Junction City baz=248	83.60	56	P		P	06 49 29.8	-0.4
MAYO	Mayo, Yukon baz=216	83.70	16	P		P	06 49 31.2	+1.3
HEH	HeiHe	83.72	326	*e*P		P	06 49 28.3	-2.0
K22A	Casper baz=242,SNR=8.5	83.72	43	P		P	06 49 31.6	+0.8
PHWY PHWY	Pilot Hill comp=Z,14nm,1.0s	83.82	44	P IAmb		P IAmb	06 49 32.0 06 49 33.3	+0.5
AMTX	Amarillo baz=246	83.83	51	P		P	06 49 32.1	+0.7
H25L	Birch Creek baz=206	83.83	11	P		P	06 49 30.7	+0.2
C17K	DeLong Mountai baz=189	83.89	4	P		P	06 49 30.8	0.0
DKNS	Dickens	83.92	53	P		P	06 49 32.1	+0.2
PMSA	Palmer Station	83.96	156	LR		LR	07 23 03.3	

	comp=Z,50nm,18.0s,baz=234,slow=33							
F22K	**John River**	83.99	8	P		P	06 49 32.0	+0.7
	baz=200							
COLD	**Coldfoot**	84.00	9	P		P	06 49 32.1	+0.7
	baz=202,SNR=12							
I27K	**Kandik River**	84.05	12	P		P	06 49 31.8	+0.1
	baz=210,SNR=7.5							
C18K	**Utukok River**	84.19	4	P		P	06 49 32.1	-0.3
	baz=191							
G25K	**Bearman Lake**	84.23	10	P		P	06 49 32.0	-0.5
	baz=206							
E20K	**Nigu River**	84.24	6	P		P	06 49 32.9	+0.3
	baz=196,SNR=29							
I28M	**Miner Creek**	84.28	13	P		P	06 49 32.9	-0.1
	baz=212,SNR=5.8							
D19K	**Kuna River**	84.28	5	P		P	06 49 33.0	+0.2
	baz=194,SNR=11							
EGMT	**Eagleton**	84.31	37	P		P	06 49 33.9	+0.4
	baz=240,SNR=11							
TGTN	**Hyland Airport**	84.32	20	P		P	06 49 34.0	+0.8
	baz=223,SNR=9.3							
J30M	**Hart River**	84.39	15	P		P	06 49 33.4	-0.2
J30M				IAmb		IAmb	06 49 35.1	
	comp=Z,40nm,2.0s							
J30M	**Hart River**	84.39	15	P		P	06 49 33.5	-0.1
	baz=215,SNR=9.5							
ABTX	**Abilene, Hawle**	84.52	54	P		P	06 49 35.8	+0.9
	baz=248							
BILL	**Bilibino**	84.55	352	*e*P		P	06 49 33.9	-0.2
I29M	**Ogilvie Camp,**	84.57	14	P		P	06 49 33.7	-0.6
I29M				IAmb		IAmb	06 49 35.4	
	comp=Z,11nm,1.1s							
I29M	**Ogilvie Camp,**	84.57	14	P		P	06 49 34.2	-0.1
	baz=213,SNR=9.9							
H27K	**Steamboat Moun**	84.61	12	P		P	06 49 34.9	+0.3
	baz=210,SNR=12							
F24K	**Squaw Lake**	84.62	9	P		P	06 49 35.2	+0.6
	baz=204,SNR=7.7							
E22K	**Anaktuvuk Pass**	84.63	8	P		P	06 49 35.2	+0.6
	baz=200							
D20K	**Etivluk River**	84.64	6	P		P	06 49 35.0	+0.4
	baz=196,SNR=19							
E21K	**Killik River**	84.66	7	P		P	06 49 34.7	0.0
	baz=198							
H03S2	**Juan Fernandez**	84.70	123	T		T	08 23 31.5	
	baz=251							
H03S1	**Juan Fernandez**	84.72	123	T		T	08 23 28.4	
	baz=251							
H03S3	**Juan Fernandez**	84.72	123	T		T	08 24 02.2	
	baz=251							
C19K	**Lookout Ridge**	84.75	5	P		P	06 49 35.8	+0.5
	baz=193,SNR=10							
KSCO	**Kaye Shedlock'**	84.80	47	P		P	06 49 36.7	+0.4
	baz=245							
G26K	**Porcupine Rive**	84.81	11	P		P	06 49 36.2	+0.8
	baz=208,SNR=33							
B18K	**Kokolik River**	84.85	4	P		P	06 49 35.9	+0.3
	baz=190							
E23K	**Chandalar**	84.86	9	P		P	06 49 36.2	+0.3
	baz=202							
I30M	**Mount Dempster**	84.91	15	P		P	06 49 36.4	+0.2
	baz=215,SNR=16							
E24K	**Your Creek**	85.04	9	P		P	06 49 37.3	+0.6
	baz=203							
F25K	**Christian Rive**	85.05	10	P		P	06 49 37.7	+0.9
	baz=206,SNR=7.7							
BMAR	**Burnt Mountain**	85.09	11	P		P	06 49 37.4	+0.4
G27K	**Doyon Strip**	85.09	12	P		P	06 49 37.6	+0.6
	baz=210,SNR=10							
EDM	**Edmonton**	85.12	31	P		P	06 49 37.2	-0.2
EDM	**Edmonton**	85.12	31	P		P	06 49 37.2	-0.2
EDM				pmax		pmax		
	comp=Z,52nm,1.3s							
D22K	**Ayikyak River**	85.23	7	P		P	06 49 38.2	+0.6
	baz=199,SNR=18							
C21K	**Knifeblade Rid**	85.25	6	P		P	06 49 37.7	0.0
	baz=197,SNR=13							
H29M	**Whitestone**	85.28	13	P		P	06 49 38.1	+0.3
	baz=213,SNR=13							
F26K	**Sheenjek River**	85.40	11	P		P	06 49 39.0	+0.5
	baz=208,SNR=11							
TOLK	**Toolik Lake Re**	85.41	8	P		P	06 49 39.3	+0.8
	baz=202,SNR=9.4							
435B	**Jarrell**	85.49	57	P		P	06 49 38.5	-1.3
	baz=249							
E25K	**Arctic Village**	85.54	10	P		P	06 49 40.0	+0.8
	baz=206,SNR=12							
D23K	**Nanushuk River**	85.56	8	P		P	06 49 40.1	+0.9
	baz=201							
ZEA	**Zeya**	85.71	329	*e*P		P	06 49 39.9	-0.4
B21K	**Ikpikpuk River**	85.72	6	P		P	06 49 40.1	+0.2
	baz=197							
A19K	**Wainwright**	85.73	4	P		P	06 49 40.2	+0.3
	baz=191							
LAO	**LASA Array**	85.77	39	P		P	06 49 41.5	+0.7
	baz=242,SNR=7.6							
EPYK	**Eagle Plains**	85.77	14	P		P	06 49 40.5	+0.1
	baz=215,SNR=6.3							
B20K	**Meade River**	85.84	5	P		P	06 49 40.9	+0.3
	baz=195							
H31M	**Peel River**	85.88	15	P		P	06 49 40.9	0.0
	baz=217							
FW03	**Perrin-Whitt E**	85.91	54	P		P	06 49 42.1	+0.3
HNS	**HongShan**	85.91	310	*e*P		P	06 49 43.5	+1.9
G29M	**Pine Creek**	85.93	13	P		P	06 49 41.0	-0.2
	baz=213,SNR=9.4							
WMOK	**Wichita Mounta**	85.97	53	P		P	06 49 41.6	-0.5
	baz=248							
D24K	**Happy Valley**	85.99	8	P		P	06 49 41.7	+0.4
	baz=203							
RSSD	**Black Hills**	86.00	42	P		P	06 49 41.1	-1.2
	baz=244							
OGNE	**Ogallala**	86.01	46	P		P	06 49 42.4	+0.2
	baz=246							
WHTX	**Lake Whitney,**	86.02	55	P		P	06 49 41.8	-0.6
	baz=249							
F28M	**Old Crow**	86.14	12	P		P	06 49 42.2	0.0
	baz=212,SNR=8.4							
FW13	**Cleburne**	86.17	55	P		P	06 49 43.6	+0.5
E27K	**Coleen River**	86.30	11	P		P	06 49 43.1	+0.1
	baz=210,SNR=9.5							
C23K	**Ikhillik River**	86.38	8	P		P	06 49 43.8	+0.5
	baz=201,SNR=6.9							
G30M	**tAoh Zraii Nji**	86.39	14	P		P	06 49 43.1	-0.3
	baz=215							
D25K	**Kavik River**	86.50	9	P		P	06 49 45.2	+1.2
	baz=205							
C24K	**Franklin Bluff**	86.53	8	P		P	06 49 44.2	+0.2
	baz=203							
B22K	**Teshekpuk Lake**	86.53	6	P		P	06 49 45.3	+1.4
	baz=199							
HKT	**Hockley**	86.62	58	⇓*e*P		P	06 49 46.0	+0.7
HKT				pmax		pmax		
	comp=Z,9.0nm,1.5s							
Z35A	**Perchaven, San**	86.65	54	P		P	06 49 46.1	+0.7
CBKS	**Cedar Bluff**	86.79	48	P		P	06 49 45.9	-0.2
	baz=247							
G31M	**Satah River**	86.79	14	P		P	06 49 45.1	-0.2
	baz=217,SNR=10.0							
F30M	**Barrier River**	87.00	13	P		P	06 49 46.1	-0.3
	baz=215							
A22K	**Sinclair Lake**	87.00	6	P		P	06 49 46.1	-0.2
	baz=197							
E28M	**Babbage River**	87.05	12	P		P	06 49 46.6	0.0
	baz=212							
WRGLY	**Wrigley**	87.11	20	P		P	06 49 47.8	+0.8
	baz=227							
C27K	**Jago River**	87.19	10	P		P	06 49 48.0	+0.8
	baz=208							
E29M	**Blow River**	87.20	12	P		P	06 49 46.9	-0.3
	baz=213							
C26K	**Camden Bay**	87.26	9	P		P	06 49 48.1	+0.5
	baz=207							
D27M	**Malcolm River**	87.33	11	P		P	06 49 47.4	-0.6
	baz=210							
F31M	**Tsiigehtchic**	87.33	14	P		P	06 49 47.7	-0.2
	baz=217,SNR=7.0							
TREL	**Terrell**	87.36	55	P		P	06 49 50.1	+1.2
DGMT	**Dagmar**	87.80	38	P		P	06 49 50.7	+0.1
	baz=244							
D28M	**Stokes Point**	87.82	11	P		P	06 49 50.6	+0.4
	baz=213							
MAW	**Mawson**	88.04	198	P		P	06 49 50.0	-1.5
MAW	comp=Z,2.9nm,0.8s			LR		LR	07 25 07.1	
	comp=Z,166nm,22.0s,baz=122,slow=33 comp=Z,2.9nm,0.8s							
INK	**Inuvik**	88.07	14	P		P	06 49 51.3	-0.1
	baz=218,SNR=7.4							
INK	**Inuvik**	88.07	14	LR		LR	07 22 19.1	
	comp=Z,133nm,21.6s,baz=186,slow=31							
TUL3	**Leonard**	88.67	52	P		P	06 49 54.8	-0.3
	baz=250							
BGNE	**Belgrade**	88.89	46	P		P	06 49 55.8	-0.2
	baz=248							
PLCA	**Paso Flores**	89.07	132	LR		LR	07 22 13.3	
	comp=Z,73nm,20.1s,baz=210,slow=30							
KSU1	**Kansas State U**	89.16	49	P		P	06 49 57.4	+0.1
	baz=249							
HHC	**Hu-ho-hao-te**	89.46	313	*e*P		P	06 50 00.4	+1.6
HHC				pmax		pmax		
	comp=Z,130nm,4.4s							
HHC	**Hu-ho-hao-te**	89.46	313	*e*P		P	06 50 00.3	+1.5
HHC				S		S	07 00 45.4	-4.1
HHC				sS		ScS	07 00 59.4	+5.2
HHC				pmax		pmax		
	comp=Z,130nm,4.4s							
YKA	**Yellowknife Ar**	89.81	23	P		P	06 49 59.5	-0.2
	comp=Z,2.8nm,1.0s,baz=242,slow=4.1,SNR=34							
YKA				LR		LR	07 23 48.6	
	comp=Z,143nm,20.4s,baz=220,slow=31 comp=Z,2.8nm,1.0s							
MIAR	**Mount Ida**	89.94	54	P		P	06 50 01.1	+0.1
	baz=251							
JTS	**Las Juntas de**	90.58	80	LR		LR	07 20 40.3	
	comp=Z,114nm,20.5s,baz=248,slow=29							
JTS	**Las Juntas de**	90.58	80	*ce*P		P	06 50 06.6	+2.1
JTS				pmax		pmax		
	comp=Z,15nm,1.2s							
ECSD	**EROS Data Cent**	90.78	45	P		P	06 50 04.2	-0.6
	baz=249							
C36M	**Paulatuk**	91.15	15	P		P	06 50 06.6	+0.8
	baz=226							
ELIB	**Princess Elisa**	92.23	185	*d*P		P	06 50 08.5	-2.7
	comp=Z,8.0nm,1.0s							
ATAH	**Atahualpa**	92.30	98	LR		LR	07 21 57.3	
	comp=Z,126nm,19.8s,baz=176,slow=29							
A36M	**Sachs Harbour**	92.71	13	P		P	06 50 13.2	+0.2
	baz=225,SNR=8.6							
CCM	**Cathedral Cave**	92.81	51	P		P	06 50 13.2	-1.1
	baz=253							
PZH	**PanZhiHua**	92.82	297	P		P	06 50 16.0	+1.2
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,80nm,5.7s							
AGMN	**Agassiz Nation**	92.85	41	P		P	06 50 13.0	-1.2
	baz=250							
SNAA	**Sanae**	92.92	177	LR		LR	07 28 39.3	
	comp=Z,38nm,18.6s,baz=154,slow=33							
SNAA	**Sanae**	92.92	177	⇓*e*P		P	06 50 14.0	-0.3
SNAA				pmax		pmax		
	comp=Z,3.0nm,1.2s							
CMAR	**Chiang Mai Arr**	93.20	288	P		P	06 50 15.6	-1.0
	comp=Z,0.7nm,0.3s,baz=54,slow=4.6,SNR=1.5							
CMAR				LR		LR	07 29 44.9	
	comp=Z,15nm,19.7s,baz=195,slow=34 comp=Z,0.7nm,0.3s							
OXF	**Oxford**	93.21	55	P		P	06 50 15.1	-1.1
	baz=254							
SPMN	**Marine on St.**	93.85	44	P		P	06 50 17.4	-1.5
	baz=252							
BRAL	**Brewton**	94.21	59	P		P	06 50 18.8	-2.1
	baz=254							
LRAL	**Lakeview Retre**	94.74	57	P		P	06 50 23.4	+0.1
	baz=255							
ULN	**Ulaanbaatar**	94.82	318	⇑*e*P		P	06 50 23.7	+0.2
ULN				pmax		pmax		
	comp=Z,2.0nm,0.9s							
WVT	**Waverly**	94.89	54	P		P	06 50 23.3	-0.6
	baz=254							
JFWS	**Jewell Farm**	94.93	47	P		P	06 50 23.0	-1.0
	baz=254							
HDIL	**Hopedale**	94.97	49	P		P	06 50 23.1	-1.0
	baz=254							
LVC	**Limon Verde**	96.47	115	LR		LR	07 24 18.6	
	comp=Z,35nm,19.3s,baz=242,slow=29							
SFIN	**Lafayette**	96.54	50	P		P	06 50 30.5	-0.8
	baz=255							
WCI	**Wyandotte Cave**	96.61	52	P		P	06 50 29.7	-2.0
	baz=256							
TIGA	**Tifton**	97.15	59	P		P	06 50 32.5	-1.8
	baz=256							
GOGA	**Godfrey**	97.70	58	P		P	06 50 35.5	-1.3
	baz=257							
O48B	**Farmland**	97.95	51	P		P	06 50 36.1	-1.6
	baz=257							
TKL	**Tuckaleechee C**	97.97	55	LR		LR	07 28 08.9	
	comp=Z,143nm,21.5s,baz=191,slow=31							
P49A	**Miami Univ. Ec**	98.11	51	P		P	06 50 37.2	-1.3
	baz=257							
GLMI	**Grayling**	99.35	46	P		Pdif	06 50 43.0	-0.9
	baz=258							
P52A	**Corning**	100.09	52	P		Pdif	06 50 46.2	-1.1
	baz=258							
O53A	**New Philadelph**	100.90	51	P		Pdif	06 50 50.0	-0.9
	baz=259							
WMQ	**Urumqi**	107.31	312	*e*P		Pdif	06 51 21.6	+2.2
ARU	**Arti**	123.63	329	*i* PKIKP		PKPdf	06 55 56.6	-2.3
ARU							06 57 37.5	
ARU							07 03 08.2	
GNI	**Garni**	139.09	315	⇑*e*PKIKP		PKPdf	06 56 28.5	-0.3
AKASG	**Malin Array Be**	140.53	338	PKP		PKPdf	06 56 29.6	-1.3
	comp=Z,1.9nm,0.9s,baz=30,slow=1.1,SNR=6.3							
AKBB	**Malin Array Si**	140.53	338	⇑*e*PKIKP		PKPdf	06 56 29.5	-1.4
LVV	**L'vov**	143.01	342	*e*PKIKP		PKPdf	06 56 37.4	+2.1
CLL	**Collm**	143.84	354	*i* PKPdf		PKPab	06 56 34.4	+0.7
	comp=Z,6.0nm,0.9s							
CLL				AMS		AMS	07 16 00.0	
	comp=Z,100nm,20.3s							
CLL				AMS		AMS	07 35 00.0	
	comp=Z,100nm,20.2s							
CLL	**Collm**	143.84	354	*i* PKIKP		PKPab	06 56 34.4	+0.7
CLL				pmax		pmax		
	comp=Z,6.0nm,0.9s							
STHS	**Stebnicka Huta**	144.16	344	*e*PKP		PKPab	06 56 34.8	-0.2
STHS	**Stebnicka Huta**	144.16	344	*e*PKIKP		PKPab	06 56 34.8	-0.2
BURAR	**Bucovina Array**	144.56	339	⇑P		PKPab	06 56 36.1	-0.6
BURAR	**Bucovina Array**	144.56	339	⇑PKIKP		PKPab	06 56 36.1	-0.6
CRVS	**Cervenica-Dubn**	144.57	344	*e*PKP		PKPab	06 56 36.4	-0.2
CRVS	**Cervenica-Dubn**	144.57	344	*e*PKIKP		PKPab	06 56 36.4	-0.2
MORC	**Moravsky Berou**	144.66	348	⇑P		PKPab	06 56 36.6	-0.3
MORC	**Moravsky Berou**	144.66	348	*e*PKP		PKPab	06 56 36.3	-0.6
MORC	**Moravsky Berou**	144.66	348	⇑PKIKP		PKPab	06 56 36.6	-0.3
MEM	**Membach**	144.82	1	*d*PKPdf		PKPab	06 56 36.6	-0.8
BSTI	**Sart Tilman**	144.83	2	*d*PKPdf		PKPab	06 56 37.0	-0.5
LANS	**Liptovska Anna**	144.84	346	*e*PKP		PKPab	06 56 38.0	+0.4
LANS	**Liptovska Anna**	144.84	346	*e*PKIKP		PKPab	06 56 38.0	+0.4
BCLA	**Clavier**	144.99	2	*d*PKPdf		PKPab	06 56 37.2	-0.8
BGES	**Gesves**	145.02	2	*d*PKPdf		PKPab	06 56 37.2	-0.9
BHOU	**Houvegnez**	145.08	1	*d*PKPdf		PKPbc	06 56 37.6	-0.8
BMRD	**Maredsous**	145.08	3	*d*PKPdf		PKPbc	06 56 37.7	-0.6
KECS	**Kecovo**	145.21	345	*e*PKP		PKPbc	06 56 38.8	0.0
KECS	**Kecovo**	145.21	345	*e*PKIKP		PKPbc	06 56 38.8	0.0
DOU	**Dourbes**	145.28	3	*d*PKPdf		PKPbc	06 56 38.4	-0.5
ARCR	**ARCALIA**	145.31	339	⇓P		PKPbc	06 56 37.8	-1.4
CFR	**Carcaliu**	145.44	334	⇑P		PKPbc	06 56 38.8	-0.8
CFR	**Carcaliu**	145.44	334	⇑PKIKP		PKPbc	06 56 38.8	-0.8
VRI	**Vrincioaia**	145.47	336	⇑P		PKPbc	06 56 39.0	-0.7
VRI	**Vrincioaia**	145.47	336	⇑PKIKP		PKPbc	06 56 39.0	-0.7
PLOR	**Plostina**	145.51	336	⇑P		PKPbc	06 56 39.1	-0.8
PLOR	**Plostina**	145.51	336	⇑PKIKP		PKPbc	06 56 39.1	-0.8
JAVC	**Velka Javorina**	145.51	348	*e*PKP		PKPbc	06 56 39.8	0.0
ZVC	**Zvikov**	145.54	352	*e*PKP		PKPdf	06 56 39.7	-0.1
KRUC	**Moravsky**	145.56	349	*e*PKP		PKPdf	06 56 39.9	-0.9
TPGR	**Topolog**	145.57	333	⇑P		PKPdf	06 56 39.8	-0.2
VYHS	**Vyhne**	145.60	346	*e*PKP		PKPdf	06 56 39.8	-0.1
VYHS				*e*			06 56 57.8	
VYHS	**Vyhne**	145.60	346	*e*PKIKP		PKPdf	06 56 39.8	-0.1
WLF	**Walferdange**	145.77	1	*d*PKPdf		PKPdf	06 56 40.7	+0.6
DOPR	**Dopca**	145.90	337	⇑P		PKPdf	06 56 41.3	+0.7
HARR	**Harsova**	145.92	333	⇓P		PKPdf	06 56 40.6	+0.1
HARR	**Harsova**	145.92	333	⇓PKP2		PKPdf	06 56 40.6	+0.1
KHC	**Kasperske Hory**	145.92	353	*e*PKP		PKPdf	06 56 41.1	+0.6
KHC				*ex*		x	06 56 57.5	
KHC	**Kasperske Hory**	145.92	353	*de*PKP2		PKPdf	06 56 40.2	-0.3
KHC				pmax		pmax		
	comp=Z,84nm,1.3s							
NEHR	**Nehoiu**	146.00	336	⇑P		PKPdf	06 56 41.8	+1.0
MODS	**Modra-Piesok**	146.05	348	*e*PKP		PKPdf	06 56 41.7	+1.0
MODS				*e*			06 56 59.6	
MODS	**Modra-Piesok**	146.05	348	*e*PKP2		PKPdf	06 56 41.7	+1.0
MLR	**Muntele Rosu**	146.08	336	⇑P		PKPdf	06 56 41.1	+0.1
MLR	**Muntele Rosu**	146.08	336	⇑PKP2		PKPdf	06 56 41.1	+0.1
DRGR		146.11	341	⇑P		PKPdf	06 56 40.8	-0.1
DRGR		146.11	341	⇑PKP2		PKPdf	06 56 40.8	-0.1
CKRC	**Cesky Krumlov**	146.13	352	*e*PKP		PKPdf	06 56 41.7	+0.9
CKRC	**Cesky Krumlov**	146.13	352	*e*PKP2		PKPdf	06 56 41.7	+0.9
GERES	**GERESS Array B**	146.18	352	PKPbc		PKPdf	06 56 40.5	-0.5
	comp=Z,9.7nm,1.1s,baz=29,slow=3.0,SNR=16							
VOIR		146.47	337	⇓P		PKPdf	06 56 41.9	+0.3
VOIR		146.47	337	⇓PKP2		PKPdf	06 56 41.9	+0.3
BRTR	**Keskin Array B**	146.52	322			PKPdf	06 56 41.2	-0.7
BRTR	**Keskin Array B**	146.52	322	PKPbc		PKPdf	06 56 42.0	+0.1
	comp=Z,24nm,1.1s,baz=108,slow=2.0,SNR=43							
BRTR	**Keskin Array B**	146.52	322	PKIKP		PKPdf	06 56 41.2	-0.7
ARR	**Arges**	146.69	337	⇑P		PKPdf	06 56 42.4	+0.5
CONA	**Conrad Observa**	146.75	349	*i* PKP		PKPdf	06 56 41.3	-0.7
	comp=Z,11nm,1.0s,SNR=7.1							
RONA	**Rosalia, Austr**	146.89	349	*i* PKP		PKPdf	06 56 42.5	+0.3
	comp=Z,18nm,1.3s,SNR=7.9							
MOA	**Molln**	147.08	351	*i* PKP		PKPdf	06 56 44.3	+1.8
	comp=Z,15nm,1.2s,SNR=5.4							
GZR	**Gura Zlata**	147.32	340	⇑P		PKPdf	06 56 44.3	+1.3
GZR	**Gura Zlata**	147.32	340	⇑PKIKP		PKPdf	06 56 44.3	+1.3
BIOA	**Bad Ischl, Aus**	147.32	352	*e*PKP		PKPdf	06 56 44.7	+1.8
	comp=Z,5.8nm,0.6s							
ARSA	**Arzberg**	147.46	350	*e*PKP		PKPdf	06 56 45.0	+1.8
	comp=Z,8.9nm,1.2s							
BZS	**Buzias**	147.50	341	⇑P		PKPdf	06 56 44.1	+0.9
BZS	**Buzias**	147.50	341	⇑PKP2		PKPdf	06 56 44.1	+0.9
LESA	**Schwarzleotal**	147.71	353	*e*PKP		PKPdf	06 56 45.8	+2.2
	comp=Z,12nm,1.0s							
MORH	**Mrgy, Hungar**	147.79	345	⇓P		PKPdf	06 56 44.5	+0.8
RETA	**Reutte**	147.83	356	*i* PKP		PKPdf	06 56 46.2	+2.4
	comp=Z,12nm,1.1s,SNR=7.0							
HERR	**Herculane**	147.89	340	⇑P		PKPdf	06 56 45.1	+1.3
WATA	**Walderalm**	147.91	354	*e*PKP		PKPdf	06 56 46.3	+2.3
	comp=Z,8.3nm,0.9s							
MOTA	**Moosalm**	147.94	355	*e*PKP		PKPdf	06 56 46.2	+2.1
	comp=Z,13nm,1.1s							
KBA	**Koelnbreinsper**	147.97	352	*e*PKP		PKPdf	06 56 46.3	+2.1
	comp=Z,4.7nm,1.0s							
WTTA	**Wattenberg**	147.97	354	*e*PKiKP		PKPdf	06 56 46.8	+2.6
	comp=Z,12nm,1.0s							
SQTA	**Sankt Quirin**	148.06	355	*e*PKP		PKPbc	06 56 46.9	-0.4
	comp=Z,9.4nm,1.0s							
DAVA	**Damuels**	148.09	357	*e*PKiKP		PKPbc	06 56 47.0	-0.4
	comp=Z,15nm,1.1s							
SOKA	**Soboth**	148.10	350	*i* PKP		PKPdf	06 56 46.4	+2.1
	comp=Z,16nm,1.3s,SNR=8.4							
FETA	**Feichten**	148.29	355	*i* PKiKP		PKPbc	06 56 47.7	-0.4
	comp=Z,11nm,1.1s,SNR=6.5							
MYKA	**Terra Mystica**	148.36	352	*e*PKP		PKPdf	06 56 46.9	+2.2
	comp=Z,10nm,1.1s							
ABTA	**Abfaltersbach**	148.39	353	*i* PKP		PKPdf	06 56 47.0	+2.3
	comp=Z,14nm,1.0s,SNR=7.6							
MMAI	**Mount Meron Ar**	149.03	310	PKPbc		PKPdf	06 56 48.0	+1.8
	comp=Z,2.0nm,0.6s,baz=58,slow=5.3,SNR=2.0							
ESDC	**Sonseca Array**	153.85	20	PKP		PKPdf	06 56 51.9	-1.5
	comp=Z,0.2nm,0.3s,baz=356,slow=3.9,SNR=3.5							
ESDC				PKPbc		PKPbc	06 56 59.9	-1.3
	comp=Z,1.7nm,1.0s,baz=330,slow=3.5,SNR=5.8							
ESDC				PKPab		PKPab	06 57 14.3	+0.2
	comp=Z,2.7nm,1.1s,baz=325,slow=3.9,SNR=9.9							
TORD	**Torodi Ar. Bea**	174.18	111	PKP		PKPdf	06 57 09.7	-2.6
	comp=Z,0.7nm,0.9s,baz=356,slow=2.0,SNR=4.3							
TORD				PKPab		PKPab	06 58 42.8	-1.1
	comp=Z,1.1nm,0.9s,baz=258,slow=5.9,SNR=3.6							

IDC ***18*** *06:48:41.5±1.8,5.66S×130.72E,h0km,mb4.0/4, mbtmp4.2/6,ML4.5/2,MS3.8/3,Error ellipse: s-maj=94.8km s-min=27.4km az=68.0*

NEIC ***18*** *06:48:51.5±2.1,5.56S±0.07×131.1E±0.1,h89km±12km, mb4.3/9,Error ellipse: s-maj=18.0km s-min=10.2km az=84.0*

DJA ***18*** *06:48:51.6±0.3,6.5S±2.3×13.1E±,h92km±9km,M4.6/10, mb4.6/6,mB5.4/2,MLv4.6/10,Mw(mB)4.8/2*

ISC 18 06:48:51.3±0.6,5.58S±0.05×131.15E±0.06,h100km,n32, σ1961/32,mb4.2/8,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	1.63	310	P	**Pn**	06 49 20.0	+0.8
BNDI				S	**Sn**	06 49 39.9	-0.4
SAUI	**Saumlaki**	2.39	176		**Pn**	06 49 30.0	+0.9
SAUI	**Saumlaki**	2.39	176	P	**Pn**	06 49 30.3	+1.3
SAUI				S	**Sn**	06 49 57.3	-0.6
FAKI

	comp=N,575μm,1.9s						
IVGP	**Vulcano Grotta**	**0.15 349**	P	Pg	06 53 54.0	+0.6	
IVGP			S	Sg	06 53 56.0	+0.4	
LLI	**Lipari**	**0.20 349**	P	Pg	06 53 55.4	+1.1	
MUCR	**Ucria**	**0.23 206**	P	Pg	06 53 55.4	+0.7	
MUCR			S	Sg	06 53 59.2	+1.4	
MUCR			AML	AML			
	comp=E,70μm,0.9s						
MUCR			AML	AML			
	comp=N,105μm,0.4s						
NOV	**Novara**	**0.24 153**	P	Pg	06 53 56.0	+1.0	
NOV			S	Sg	06 53 59.9	+1.5	
MPNC	**Port Mandanici**	**0.30 110**	P	Pg	06 53 56.7	+0.7	
MPNC			S	Sb	06 54 02.2	-0.5	
MPNC			AML	AML			
	comp=E,75μm,1.6s						
MPNC			AML	AML			
	comp=N,98μm,0.2s						
MPNC			AML	AML			
	comp=E,71μm,0.4s						
AIO	**Antillo**	**0.33 146**	P	Pb	06 53 57.7	-0.6	
AIO			S	Sb	06 54 02.7	-1.0	
AIO			AML	AML			
	comp=E,63μm,0.2s						
AIO			AML	AML			
	comp=N,68μm,0.2s						

*NNC **18** 06:59:03.9±5.1,54°.29N×87°.59E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=73.3km s-min=36.7km az=170.0, Suspected Mining explosion.*
*IDC **18** 06:59:11.3±2.6,54°.18N×86°.91E,h0km,mbtmp3.3/3, ML2.8/3,Error ellipse: s-maj=23.2km s-min=13.0km az=63.0.*

ISC 18 06:59:10.1±3.5,54°.3N±0°.2×86°.9E±0°.2,h0km,n8,σ2s77/11, 5C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.27 256**		I	I	07 08 30.0	
	0.3nm,0.8s,baz=77,slow=328,SNR=23						
ZAA0	**Zalesovo Array**	**1.27 256**		⇓P	**Pg**	**06 59 33.2**	**-1.1**
	0.5nm,0.5s						
ZAA0				⇑S	**Sn**	**06 59 57.2**	**+4.5**
	4.9nm,1.1s						
ZALV	**Zalesovo Beam**	**1.27 256**		Pg	**Pb**	**06 59 34.0**	**-0.8**
	2.7nm,0.3s,baz=74,slow=16,SNR=21						
ZALV				Lg	Lg	06 59 52.8	
	1.3nm,0.3s,baz=79,slow=26,SNR=5.1						
KURK	**Kurchatov**	**6.18 238**		⇓Pn	**Pn**	**07 00 43.1**	**+0.6**
	4.3nm,0.9s						
KURK				⇑Sn	**Sn**	**07 01 56.5**	**+2.6**
	2.5nm,0.8s						
KURK				⇑Lg	Lg	07 02 29.6	
	6.9nm,0.9s						
KURBB	**Kurchatov Arra**	**6.29 238**		⇑Pn	**Pn**	**07 00 45.2**	**+1.3**
	4.6nm,0.7s,baz=57,slow=14						
KURBB				⇑Lg	Lg	07 02 35.7	
	7.0nm,0.8s						
KURBB	**Kurchatov Arra**	**6.29 238**		Pn	**Pn**	**07 00 45.5**	**+1.5**
	0.2nm,0.3s,baz=56,slow=14,SNR=22						
KURBB				Lg	Lg	07 02 29.0	
	baz=52,slow=32,SNR=2.7						
	4.4nm,0.8s						
MKAR	**Makanchi Array**	**8.04 203**		Pn	**Pn**	**07 01 09.1**	**+1.0**
	0.2nm,0.3s,baz=25,slow=14,SNR=6.5						
MKAR				Sn	**Sn**	**07 02 38.1**	**-1.6**
	baz=24,slow=28,SNR=5.3						
MKAR				Lg	Lg	07 03 22.1	
	0.1nm,0.3s,baz=24,slow=28,SNR=3.1						
	0.3nm,0.3s						
BVAR	**Borovoye Array**	**9.88 269**		Pn	**Pn**	**07 01 34.8**	**+1.5**
	baz=72,slow=15,SNR=2.9						
BVAR				Sn	**Sn**	**07 03 20.1**	**-4.7**
	baz=76,slow=26,SNR=3.1						
	0.8nm,0.5s						

*NNC **18** 07:15:31.9±1.8,49°.52N×81°.48E,h0km,mb2.9,mpv2.5, Error ellipse: s-maj=31.4km s-min=5.2km az=57.0, Suspected Mining explosion.*

IDC 18 07:14:03.4±3.6,53°.60N×87°.80E,h0km,mbtmp2.9/2, ML2.4/2,6C-2D,Error ellipse: s-maj=33.8km s-min=17.9km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.80 283**		I	I	07 26 10.0	
	0.1nm,0.8s,baz=98,slow=333,SNR=5.0						
ZALV	**Zalesovo Beam**	**1.80 282**		Pg	Pn	07 14 35.5	-0.2
	1.2nm,0.3s,baz=103,slow=13,SNR=12						
ZALV				Lg	Lg	07 15 00.6	
	3.6nm,0.3s,baz=104,slow=26,SNR=14						
KURK	**Kurchatov**	**6.34 247**		⇑Pn	Pg	07 16 09.8	+5.0
	6.6nm,0.7s						
KURK				⇑Lg	Lg	07 16 41.6	
	9.9nm,0.7s						
KURBB	**Kurchatov Arra**	**6.44 246**		⇓Pn	Pg	07 16 10.1	+3.4
	12nm,1.0s						
KURBB				⇑Lg	Lg	07 16 40.5	
	19nm,0.7s						
KURBB	**Kurchatov Arra**	**6.44 246**		Pn	Pn	07 15 40.2	+0.8
	0.1nm,0.3s,baz=62,slow=14,SNR=5.4						
	0.7nm,0.6s						
MK31	**Makanchi Array**	**7.67 210**		⇑Pg	Pb	07 16 21.9	+4.7
	0.1nm,0.2s,baz=3.3,slow=30,SNR=9.3						
MK31				⇑Lg	Lg	07 17 01.4	
	0.4nm,0.2s,baz=355,slow=28,SNR=7.9						
MKAR	**Makanchi Array**	**7.67 210**		Pn	Pn	07 15 57.4	+1.1
	0.1nm,0.3s,baz=28,slow=13,SNR=2.6						
	0.2nm,0.3s						
MAKZ	**Makanchi**	**7.75 211**		⇑Pg	Pb	07 16 21.8	+3.2
	0.5nm,0.5s						
MAKZ				⇓Lg	Lg	07 16 59.8	
	2.7nm,0.7s						

IDC 18 07:18:38.4±2.0,25°.26N×93°.94E,h0km,mb3.5/5, mbtmp3.5/5,MS3.9/2,Error ellipse: s-maj=197.3km s-min=21.4km az=58.0,Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**23.41 340**		P	P	07 23 48.1	-0.9
	0.4nm,0.5s,baz=156,slow=9.0,SNR=5.4						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**27.97 339**		P	P	07 24 31.1	+0.4
	0.2nm,0.6s,baz=161,slow=8.8,SNR=1.9						
	0.2nm,0.6s						
PETK	**Petropavlovsk-**	**54.55 42**		LR	LR	07 54 25.7	
	comp=Z,116nm,20.2s,baz=184,slow=39						
MLR	**Muntele Rosu**	**57.30 309**		LR	LR	07 58 24.1	
	comp=Z,111nm,19.4s,baz=34,slow=42						
WRA	**Warramunga Arr**	**59.68 135**		P	P	07 28 45.1	+0.2
	1.6nm,0.7s,baz=322,slow=7.3,SNR=14						
	1.6nm,0.7s						
ASAR	**Alice Springs**	**62.16 138**		P	P	07 29 01.2	-0.6
	0.3nm,0.6s,baz=314,slow=6.5,SNR=2.2						
	0.3nm,0.6s						
NOA	**NORSAR Array B**	**64.75 328**		P	P	07 29 18.9	+0.4
	0.5nm,0.7s,baz=68,slow=8.1,SNR=2.3						
	0.5nm,0.7s						

*IDC **18** 07:44:38.6±4.3,14°.91N×91°.25W,h44km±31km,mb3.7/2, mbtmp3.8/3,ML3.5/1,Error ellipse: s-maj=102.0km s-min=31.3km az=8.0*
*CATAC **18** 07:44:39.3±0.5,15°.78N×91°.18W,h12km,ML3.9*
*GCG **18** 07:44:40.6±0.3,15°.73N×90°.93W,h60km±43km,MD4.2*

ISC 18 07:44:38.6±1.7,15°.73N±0°.05×91°.02W±0°.06,h10km±13km, n30,σ1s39/35,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
QUIS	**Sacapulas**	**0.44 189**		*i* P	**Pg**	**07 44 46.3**	**-0.9**
QUIS				IAML		07 44 54.6	
	comp=Z,10μm,1.0s						
HUEH	**Huehuetenango**	**0.62 229**		*i* P	**Pg**	**07 44 50.8**	**+0.2**
HUEH				IAML		07 45 13.0	
	comp=Z,8μm,1.0s						
APG	**El Apazote**	**0.90 143**		P	**Pb**	**07 44 54.2**	**-2.2**
	comp=Z,14nm,0.5s,baz=98,slow=15,SNR=113						
APG				S	**Sb**	**07 45 05.1**	**-3.3**
	comp=Z,34nm,0.3s,baz=220,slow=17,SNR=27						
SMSP	**San Marcos**	**1.05 225**		*i* P	**Pg**	**07 44 59.0**	**+0.2**
SMSP				IAML		07 45 31.5	
	comp=Z,2μm,1.0s						
STG3	**Santiaguito 3,**	**1.14 208**		*e*P	**Pg**	**07 45 01.7**	**+1.2**
GUMI	**Mixco**	**1.16 160**		*i* P	**Pn**	**07 44 59.9**	**-1.2**
GUMI				IAML		07 45 17.6	
	comp=Z,4μm,1.0s						
GCG4	**OSOP**	**1.23 157**		*i* P	**Pn**	**07 45 01.0**	**-1.0**
GCG4				IAML		07 45 23.3	
	comp=Z,2μm,1.0s						
FUG	**Fuego 3**	**1.28 172**		*e*P	**Pb**	**07 45 02.9**	**0.0**
FUG				*e*S	**Sb**	**07 45 20.4**	**+0.8**
GUNB	**GUNB**	**1.30 150**		*i* P	**Pn**	**07 45 02.8**	**-0.3**
GUNB				IAML		07 45 33.3	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.30 150**		*e*P	**Pn**	**07 45 03.2**	**0.0**
RTAL	**Retalhuleu**	**1.36 209**		*i* P	**Pg**	**07 45 04.9**	**+0.1**
RTAL				IAML		07 45 26.8	
	comp=Z,1μm,1.0s						
MRL	**Marmol**	**1.44 116**		*e*P	**Pn**	**07 45 04.3**	**-0.6**
SULM	**Suchitepequez,**	**1.51 201**		*e*P	**Pg**	**07 45 08.6**	**+1.1**
PETF	**Flores**	**1.62 43**		*i* P	**Pb**	**07 45 08.0**	**-0.6**
PETF				IAML		07 45 34.7	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.99 125**		*i* P	**Pn**	**07 45 13.3**	**+0.8**
ESQI				*i* S	**Sb**	**07 45 42.1**	**+2.2**
ESQI				IAML		07 45 50.5	
	comp=Z,2μm,1.0s						
MTO3	**Montecristo**	**2.08 129**		*i* P	**Pn**	**07 45 13.7**	**0.0**
MTO3				IAML		07 45 50.5	
	comp=Z,590nm,1.0s						
NUBE	**Las Nubes**	**2.17 146**		*i* P	**Pn**	**07 45 16.0**	**+1.0**
NUBE				*i* S	**Sb**	**07 45 46.7**	**+1.5**
NUBE				IAML		07 45 55.2	
	comp=Z,520nm,1.0s						
UNIC	**Universidad Ca**	**2.24 141**		*i* P	**Pb**	**07 45 18.7**	**-0.6**
UNIC				*i* S	**Sb**	**07 45 49.1**	**+2.0**
UNIC				IAML		07 47 16.1	
	comp=Z,210nm,1.0s						
CEVE	**Cerro Verde**	**2.32 144**		*i* P	**Pb**	**07 45 20.2**	**-0.5**
CEVE				IAML		07 46 06.4	
	comp=Z,370nm,1.0s						
JAYA	**Jayaque - finc**	**2.56 143**		*i* P	**Pb**	**07 45 23.9**	**-0.8**
JAYA				IAML		07 46 04.1	
	comp=Z,290nm,1.0s						
PMON	**Piamonte**	**2.59 140**		*i* P	**Pb**	**07 45 25.7**	**+0.4**
PMON				IAML		07 46 11.5	
	comp=Z,270nm,1.0s						
PAVA	**Las Pavas**	**2.84 135**		*i* P	**Pb**	**07 45 28.6**	**-0.9**
PAVA				IAML		07 46 11.2	
	comp=Z,420nm,1.0s						
COEG	**Centro de Oper**	**2.94 135**		*i* P	**Pb**	**07 45 30.6**	**-0.6**
COEG				IAML		07 46 22.8	
	comp=Z,100nm,1.0s						
SCLA	**Alcaldia de Sa**	**2.99 132**		*i* P	**Pb**	**07 45 31.9**	**-0.2**
SCLA				IAML		07 46 27.6	
	comp=Z,140nm,1.0s						
TECO	**Alcaldia de Te**	**3.07 135**		*i* P	**Pb**	**07 45 33.1**	**-0.3**
TECO				IAML		07 46 26.9	
	comp=Z,72nm,1.0s						
COEB	**Comit de Eme**	**3.27 132**		*i* P	**Pb**	**07 45 39.3**	**+2.4**
LCND	**La Caada**	**3.87 128**		*i* P	**Pn**	**07 45 37.3**	**-0.9**
LCND				IAML		07 45 38.0	
	comp=Z,26μm,1.0s						
TXAR	**Lajitas Array**	**17.86 321**		P	**P**	**07 48 51.3**	**+3.2**
	baz=149,slow=11,SNR=11						
	comp=Z,2.1nm,0.9s						
NVAR	**Mina Array Bea**	**32.97 319**		P	**P**	**07 51 11.7**	**-2.3**
	comp=Z,0.6nm,0.9s,baz=134,slow=7.7,SNR=2.4						
	comp=Z,0.6nm,0.9s						
ARCES	**ARCESS Array B**	**84.21 18**		P	**P**	**07 57 09.9**	**-0.1**
	comp=Z,2.5nm,0.9s,baz=302,slow=5.1,SNR=4.7						
	comp=Z,2.5nm,0.9s						

*MEX **18** 07:44:50.2±1.3,15°.57N×94°.95W,h8km±54km,MD4.3*
*IDC **18** 07:44:53.1±2.1,17°.11N×93°.73W,h0km,mb3.7/2, mbtmp3.6/4,ML3.4/2,MS3.1/1,Error ellipse: s-maj=39.7km s-min=14.2km az=170.0*

ISC 18 07:44:52.6±1.1,15°.87N±0°.07×94°.88W±0°.04,h52km±18km, n21,σ2s84/30,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CARR	**Arriaga**	**1.00 68**		*e*P	**Pn**	**07 45 08.5**	**-1.9**
CARR				*e*S	**Sn**	**07 45 22.1**	**-1.4**
HUIG	**Huatulco**	**1.19 265**		*i* P	Pn	07 45 06.4	-6.6
CMIG	**Matias Romero**	**1.21 360**		Pg	**Pn**	**07 45 13.3**	**0.0**
	68nm,0.3s,baz=180,slow=15,SNR=968						
CMIG				Lg	Lg	07 45 30.2	
	439nm,0.3s,baz=329,slow=21,SNR=32						
CMIG				LR	LR	07 45 41.5	
	comp=Z,69nm,21.9s,baz=102,slow=44						
UXUV	**UXUV**	**1.60 26**		*e*P	**Pn**	**07 45 19.5**	**+1.0**
UXUV				*e*S	**Sn**	**07 45 39.0**	**+0.9**
PCIG		**1.60 96**		*e*P	**Pn**	**07 45 16.1**	**-2.4**
PCIG				*e*S	**Sn**	**07 45 35.9**	**-2.3**
TGIG		**1.91 62**		*e*P	**Pn**	**07 45 23.1**	**+0.2**
TGIG				*e*S	**Sn**	**07 45 49.6**	**+3.8**
TGBT	**Tuxtla Gutierr**	**1.94 62**		*e*P	**Pn**	**07 45 24.5**	**+1.4**
TGBT				*e*S	**Sn**	**07 45 50.9**	**+4.6**
NEUV	**Arroyo Zacate**	**2.04 334**		*e*P	**Pn**	**07 45 24.4**	**-0.1**
NEUV				*e*S	**Sn**	**07 45 50.9**	**+2.1**
OXLC	**Oaxaca**	**2.12 304**		*e*P	**Pn**	**07 45 24.5**	**-1.3**
OXLC				*e*S	**Sn**	**07 45 49.9**	**-1.2**
PMUV	**Sontecomapan**	**2.67 355**		*e*P	**Pn**	**07 45 32.8**	**-0.5**
PMUV				*e*S	**Sn**	**07 45 57.8**	**-6.7**
YOIG	**Yosondua**	**2.75 291**		*e*P	**Pn**	**07 45 37.6**	**+3.2**
YOIG				*e*S	**Sn**	**07 46 14.1**	**+7.5**
TXIG	**Tlaxiaco**	**3.10 297**		*e*P	**Pn**	**07 45 37.9**	**-1.4**
TXIG				*e*S	**Sn**	**07 46 11.2**	**-4.0**
PNIG	**Pinotepa**	**3.17 280**		*e*P	Pn	07 45 35.4	-4.6
PNIG				*e*S	Sn	07 46 07.0	-10
HLIG	**Huajuapan de L**	**3.42 305**		*e*P	**Pn**	**07 45 43.5**	**-0.2**
HLIG				*e*S	**Sn**	**07 46 23.1**	**+0.1**
FTIG	**Fresnillo de T**	**3.72 303**		*e*P	**Pn**	**07 45 47.2**	**-0.5**
FTIG				*e*S	**Sn**	**07 46 27.3**	**-3.0**
JAUV	**Jalcomulco**	**3.93 332**		*e*P	**Pn**	**07 45 50.0**	**-0.6**
JAUV				*e*S	**Sn**	**07 46 37.6**	**+2.1**
JTS	**Las Juntas de**	**11.14 119**		Pn	**Pn**	**07 47 30.8**	**+1.4**
	0.2nm,0.3s,baz=261,slow=20,SNR=1.3						
	1.4nm,0.6s						
TXAR	**Lajitas Array**	**15.65 330**		Pn	**P**	**07 48 32.0**	**-1.3**
	baz=142,slow=10,SNR=7.7						
	0.8nm,0.9s						
LPAZ	**La Paz**	**41.44 139**		LR	LR	08 08 26.8	
	comp=Z,22nm,18.1s,baz=82,slow=34						
YKA	**Yellowknife Ar**	**48.60 348**		P	**P**	**07 53 30.6**	**-0.2**
	1.6nm,0.9s,baz=144,slow=7.1,SNR=23						
	1.6nm,0.9s						
ILAR	**Eielson Array**	**60.04 337**		P	P	07 54 57.1	+3.2
	0.7nm,1.0s,baz=98,slow=6.5,SNR=4.4						
	0.7nm,1.0s						

*NNC **18** 07:45:16.1±2.8,53°.48N×87°.74E,h0km,mb3.2,mpv2.8, Error ellipse: s-maj=25.5km s-min=12.5km az=59.0, Suspected Mining explosion.*
*IDC **18** 07:45:18.6±2.7,53°.49N×87°.46E,h0km,mbtmp3.2/2, ML2.9/2,Error ellipse: s-maj=24.4km s-min=13.5km az=65.0*

ISC 18 07:45:17.5±3.9,53°.5N±0°.1×87°.6E±0°.2,h0km,n8,σ1s35/10, 7C-2D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.68 285**		I	I	07 56 30.0	
	0.1nm,1.1s,baz=102,slow=334,SNR=4.8						
ZAA0	**Zalesovo Array**	**1.68 285**		⇑P	**Pn**	**07 45 47.5**	**-0.7**
	1.0nm,0.7s						
ZAA0				⇑S	**Sg**	**07 46 12.9**	**+1.4**
	5.9nm,0.8s						
ZALV	**Zalesovo Beam**	**1.68 285**		Pg	**Pn**	**07 45 47.9**	**-0.2**
	2.5nm,0.3s,baz=108,slow=15,SNR=17						
ZALV				Lg	Lg	07 46 09.9	
	2.3nm,0.3s,baz=107,slow=26,SNR=11						
KURK	**Kurchatov**	**6.19 246**		⇓Pn	**Pn**	**07 46 49.7**	**-0.3**
	0.7nm,0.5s						
KURK				⇑Lg	Lg	07 48 33.3	
	6.2nm,0.7s						
KURBB	**Kurchatov Arra**	**6.29 246**		⇑Pn	**Pn**	**07 46 51.8**	**+0.4**
	1.1nm,0.3s						
KURBB				⇓Lg	Lg	07 48 36.9	
	6.6nm,0.6s						
KURBB	**Kurchatov Arra**	**6.29 246**		Pn	**Pn**	**07 46 52.5**	**+1.1**
	0.1nm,0.3s,baz=62,slow=14,SNR=12						
KURBB				Lg	Lg	07 48 34.4	
	0.1nm,0.3s,baz=59,slow=30,SNR=8.8						
	1.2nm,0.5s						
MK31	**Makanchi Array**	**7.55 209**		⇑Pn	**Pn**	**07 47 09.7**	**+0.9**
	0.3nm,0.4s,baz=29,slow=13,SNR=12						
MK31				⇑Sn	**Sn**	**07 48 33.2**	**-1.9**
	2.0nm,1.1s						
MK31				⇑Lg	Lg	07 49 15.0	
	2.3nm,0.9s,baz=33,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**7.55 209**		Pn	**Pn**	**07 47 10.1**	**+1.3**
	0.4nm,0.3s,baz=29,slow=14,SNR=14						
MKAR				Sn	**Sn**	**07 48 33.5**	**-1.6**
	0.1nm,0.3s,baz=29,slow=22,SNR=2.7						
MKAR				Lg	Lg	07 49 16.1	
	0.1nm,0.3s,baz=32,slow=28,SNR=9.4						
	0.7nm,0.4s						

*FUNV **18** 07:48:18.7,10°.42N×70°.26W,h2km,MW3.2*
*RSNC **18** 07:48:20.4±0.9,10°.N±3°.×7°.0W±°,h8km±12km,M2.4,mb3.6, ML2.4*

ISC 18 07:48:17.8±1.3,10°.43N±0°.04×70°.27W±0°.03,h8km±11km, n19,σ1s38/35,Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SIQV	**Siquisique**	**0.51 65**		*e*P	**Pg**	**07 48 27.7**	**+0.2**
SIQV				*e*S	**Sg**	**07 48 35.2**	**+0.9**
TEPV	**Terepaima**	**1.16 114**		*e*P	**Pg**	**07 48 40.0**	**-0.1**
TEPV				*e*S	**Sg**	**07 48 55.6**	**+0.4**
JACV	**Jacura**	**1.56 65**		*e*P	**Pb**	**07 48 46.9**	**-0.1**
JACV				*e*S	**Sb**	**07 49 07.6**	**+0.7**
SDV	**Santo Domingo**	**1.58 193**		P	**Pn**	**07 48 46.3**	**0.0**
SDV				S	**Sn**	**07 49 06.5**	**-0.5**
URIC	**Uribia, Colomb**	**2.11 307**		P	**Pb**	**07 48 54.8**	**-1.5**
URIC				S	**Sb**	**07 49 22.8**	**+0.1**
SOCV	**Socops**	**2.21 195**		*e*P	**Pb**	**07 48 57.3**	**-0.8**
SOCV				*e*S	**Sn**	**07 49 23.0**	**+0.6**
MCQV	**Machiques**	**2.26 261**		*e*P	**Pn**	**07 48 56.3**	**+0.8**
MCQV				*e*S	**Sn**	**07 49 24.1**	**+0.5**
CRJC	**Cerrejon, Guaj**	**2.63 283**		P	**Pn**	**07 49 00.4**	**-0.3**
CRJC				S	**Sn**	**07 49 30.4**	**-2.5**
BAUV	**El Baul**	**2.65 124**		*e*P	**Pn**	**07 49 01.9**	**+1.1**
BAUV				*e*S	**Sn**	**07 49 33.0**	**-0.2**
BENV	**Beln**	**2.67 100**		*e*P	**Pn**	**07 49 02.6**	**+1.3**
BENV				*e*S	**Sn**	**07 49 34.0**	**+0.1**
TACV	**Tcata**	**3.21 95**		*e*P	**Pn**	**07 49 09.3**	**+0.7**
CAPV	**Capacho**	**3.25 219**		*e*P	**Pn**	**07 49 17.4**	**+1.3**
CAPV				*e*S	**Sn**	**07 49 48.1**	**-0.3**
OCAC	**Ocana**	**3.71 234**		P	**Pn**	**07 49 16.8**	**+1.1**
OCAC				S	**Sb**	**07 50 12.3**	**+3.2**
PAMC	**Pamplona, Colo**	**3.90 218**		P	**Pn**	**07 49 17.0**	**-1.5**
PAMC				S	**Sn**	**07 50 05.2**	**+0.5**
CACV	**CAICARA DEL OR**	**4.66 127**		*e*P	**Pb**	**07 49 35.5**	**-4.3**
BARC	**Barichara**	**4.78 217**		P	**Pn**	**07 49 32.5**	**+2.1**
SJCC	**San Jacinto, C**	**4.86 264**		P	**Pn**	**07 49 32.0**	**+0.6**
SJCC				S	**Sn**	**07 50 28.8**	**+0.8**
RUSC	**La Rusia**	**5.30 212**		P	**Pn**	**07 49 38.7**	**+0.9**
RUSC				S	**Sn**	**07 50 37.8**	**-1.5**
ZARC	**Zaragoza, Cauc**	**5.39 238**		P	**Pn**	**07 49 38.8**	**+0.2**
ZARC				S	**Sn**	**07 50 40.8**	**-0.1**

*SDD **18** 08:04:51.8±2.2,17°.62N×68°.61W,h49km±85km,MD3.4, ML3.4,MW3.5*
*RSPR **18** 08:04:52.9,18°.04N×68°.50W,h90km±3km,MD3.3/11*
*NEIC **18** 08:04:52.6±1.1,18°.2N±0°.1×68°.43W±0°.08,h101km±6km, ML3.2/30,Md3.3/11(RSPR),Error ellipse: s-maj=20.5km s-min=8.3km az=202.0*

ISC 18 08:04:52.8±1.6,18°.2N±0°.1×68°.43W±0°.05,h100km±10km, n47,σ0s88/61,17C-7D,Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCDR	**Punta Cana, DR**	**0.36**	**7**	⇓*e*P	**Pn**	**08 05 07.4**	**-0.3**
PCDR	**Punta Cana, DR**	**0.36**	**7**	*e*S	**Sn**	**08 05 20.0**	**+1.2**
PCDR	**Punta Cana, DR**	**0.36**	**7**		**Pn**	**08 05 07.4**	**-0.3**
PCDR					**Sn**	**08 05 18.7**	**0.0**
PCDR				IAML		08 05 21.1	
	comp=E,489nm,0.6s						
PCDR	**Punta Cana, DR**	**0.36**	**7**	⇓*e*Pg	**Pn**	**08 05 07.5**	**-0.3**
PCDR				⇑*e*Sg	**Sn**	**08 05 19.9**	**+1.1**
PCDR				IAML		08 05 20.6	
	comp=E,451nm,0.8s						
PCDR				IAML		08 05 22.7	
	comp=N,1μm,0.3s						
HIDR	**Higuey Centro**	**0.52 328**		⇑*e*Pg	**Pn**	**08 05 07.7**	**-1.0**
HIDR				⇑*e*Sg	**Sn**	**08 05 19.6**	**-0.9**
HIDR				IAML		08 05 21.4	
	comp=N,2μm,0.2s						
HIDR				IAML		08 05 22.4	
	comp=E,2μm,0.3s						
HATOM	**Hato Mayor del**	**1.10 305**		⇑*e*Pg	**Pn**	**08 05 13.4**	**-1.0**
HATOM				⇑*e*Sg	**Sn**	**08 05 29.3**	**-1.4**
HATOM				IAML		08 05 29.6	
	comp=E,163nm,0.3s						
HATOM				IAML		08 05 29.9	
	comp=N,211nm,0.2s						
PRSN	**Puerto Rico Se**	**1.22**	**87**	⇑*e*P	**Pn**	**08 05 15.7**	**0.0**
PRSN	**Puerto Rico Se**	**1.22**	**87**	*e*S	**Sn**	**08 05 32.9**	**-0.1**
PRSN	**Puerto Rico Se**	**1.22**	**87**		**Pn**	**08 05 14.9**	**-0.7**
PRSN				IAML		08 05 38.6	
	comp=E,259nm,0.1s						
PRSN				IAML		08 05 38.8	
	comp=N,492nm,0.3s						
PRSN	**Puerto Rico Se**	**1.22**	**87**		**Sn**	**08 05 32.9**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.26**	**97**	⇑*e*P	**Pn**	**08 05 15.8**	**-0.3**
CRPR	**Cabo Rojo, PR**	**1.26**	**97**	*e*S	**Sn**	**08 05 34.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.26**	**97**		**Pn**	**08 05 15.8**	**-0.3**
CRPR					**Sn**	**08 05 34.3**	**+0.5**
CRPR	**Cabo Rojo, PR**	**1.26**	**97**	⇓*e*Pg	**Pn**	**08 05 15.8**	**-0.3**
CRPR				⇑*e*Sg	**Sn**	**08 05 34.6**	**+0.8**
CRPR				IAML		08 05 35.6	
	comp=N,141nm,0.2s						
CRPR				IAML		08 05 36.3	
	comp=E,125nm,0.2s						
LSP	**Las Mesas**	**1.27**	**89**	⇑*e*P	**Pn**	**08 05 16.0**	**-0.4**
LSP	**Las Mesas**	**1.27**	**89**	*e

NADR				⇑*e*Sg		**Sn**	**08 05 48.7**	**+3.0**
NADR				IAML			08 05 51.6	
	comp=N,799nm,0.5s							
NADR				IAML			08 05 53.8	
	comp=E,567nm,0.4s							
EMPR	**Esperanza - Ma**	**1.83**	**80**	Pn		**Pn**	**08 05 22.6**	**-0.6**
EMPR				IAML			08 05 52.3	
	comp=N,202nm,0.5s							
EMPR				IAML			08 05 55.0	
	comp=E,302nm,0.7s							
IGPR	**InterUniversit**	**2.21**	**95**	Pn		**Pn**	**08 05 27.1**	**-1.0**
IGPR				IAML			08 05 59.0	
	comp=E,125nm,0.2s							
IGPR				IAML			08 05 59.8	
	comp=N,120nm,0.3s							
GCPR	**Guaynabo City**	**2.23**	**86**	Pn		**Pn**	**08 05 27.6**	**-0.8**
GCPR				IAML			08 05 55.5	
	comp=E,84nm,0.4s							
HUMP	**Col San Antoni**	**2.45**	**90**	Pn		**Pn**	**08 05 30.8**	**-0.5**
HUMP				IAML			08 06 04.3	
	comp=E,142nm,0.2s							
HUMP				IAML			08 06 05.0	
	comp=N,112nm,0.2s							
SDDR	**Presa de Saban**	**2.84**	**287**	Pn		**Pn**	**08 05 37.7**	**+1.3**
SDDR				IAML			08 06 17.4	
	comp=N,50nm,0.8s							
SDDR				IAML			08 06 19.3	
	comp=N,54nm,0.9s							
GRTK	**Grand Turk**	**4.20**	**323**	Pn		**Pn**	**08 05 52.0**	**-2.7**

NIED ***18*** *08:28:22.4, 37°.39N×141°.67E, h43km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}-0.92; $M_{\theta\theta}$0.68; $M_{\phi\phi}$0.23; $M_{r\theta}$-0.17; $M_{\theta\phi}$-1.38; $M_{\phi r}$2.17; Fault plane solution: M_o2.70000×10^{14} NP1: ϕ_s167.00000°, δ79.00000°, λ-59.00000°. NP2: ϕ_s275.00000°, δ32.00000°, λ-158.00000°.*

JMA 18 08:28:22.4±0.2, 37°.4N±0°.4×141°.7E±0°.9, h43km±2km, MV3.6/39, 12D, E OFF FUKUSHIMA PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.64**	**268**	⇓*i*P		Pn	08 28 35.1	0.0
JFK				⇓*e*S		Sn	08 28 43.3	-0.9
JMST	**Minamisoumatoc**	**0.71**	**298**	⇓*i*P		Pn	08 28 36.0	0.0
JMST				⇓S		Sn	08 28 45.5	-0.4
ONAJ	**Iwakimizuishiy**	**0.76**	**246**	⇓*i*P		Pn	08 28 36.6	-0.1
ONAJ				⇓S		Sn	08 28 46.3	-0.8
JMM	**Marumori**	**0.84**	**304**	⇓*i*P		Pn	08 28 38.0	+0.1
JMM				⇓S		Sn	08 28 49.0	-0.1
JOTO	**OTAMA OYAMA**	**1.08**	**279**	P		Pn	08 28 42.1	+1.0
JIO	**Ouri**	**1.09**	**346**	⇓*i*P		Pn	08 28 41.4	+0.1
JIO				⇓S		Sn	08 28 54.5	-0.7
JHO	**Hitachi**	**1.18**	**229**	⇓*i*P		Pn	08 28 42.0	-0.4
JHO				⇓S		Sn	08 28 56.4	-0.9
JOU	**Okura**	**1.26**	**321**	P		Pn	08 28 44.5	+1.0
JOU				S		Sn	08 29 01.1	+1.8
JYS	**Shirataka**	**1.52**	**304**	P		Pn	08 28 48.7	+1.6
JYS				S		Sn	08 29 08.3	+2.6
JFY	**Yanaizu**	**1.57**	**271**	P		Pn	08 28 48.8	+1.0
JMK	**Ichinoseki**	**1.60**	**347**	*i* P		Pn	08 28 48.9	+0.8
JMK				S		Sn	08 29 08.5	+0.9

IDC 18 08:31:01.9±3.6, 53°.74N×87°.99E, h0km, mbtmp2.7/1, ML2.8/1, Error ellipse: s-maj=31.2km s-min=19.1km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.89**	**278**	I		I	08 44 10.0	
	0.2nm,1.0s,baz=92,slow=336,SNR=14							
ZALV	**Zalesovo Beam**	**1.89**	**278**	Pn		Pn	08 31 35.6	+0.2
	1.4nm,0.3s,baz=91,slow=13,SNR=29							
ZALV				Lg		Lg	08 32 02.2	
	3.3nm,0.3s,baz=97,slow=23,SNR=21							
MKAR	**Makanchi Array**	**7.86**	**210**	Pn		Pn	08 32 58.5	+1.2
	0.1nm,0.3s,baz=20,slow=15,SNR=3.0							
MKAR				Lg		Lg	08 35 08.2	
	0.1nm,0.3s,baz=19,slow=35,SNR=1.8							
	0.2nm,0.3s							

IDC 18 08:35:15.1±3.1, 53°.53N×87°.49E, h0km, mbtmp2.6/2, ML2.4/2, Error ellipse: s-maj=27.2km s-min=16.3km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.64**	**286**	Pg		Pn	08 35 44.2	-0.9
	0.9nm,0.3s,baz=107,slow=16,SNR=7.8							
ZALV				Lg		Lg	08 36 07.0	
	0.8nm,0.3s,baz=103,slow=31,SNR=5.6							
I46RU	**ZALESOVO INFRA**	**1.64**	**286**	I		I	08 46 50.0	
	0.6nm,0.8s,baz=101,slow=329,SNR=14							
KURBB	**Kurchatov Arra**	**6.24**	**246**	Pn		Pn	08 36 49.2	+0.9
	baz=60,slow=14,SNR=5.4							
KURBB				Lg		Lg	08 38 31.9	
	baz=64,slow=32,SNR=5.9							
	0.5nm,0.6s							
MKAR	**Makanchi Array**	**7.52**	**208**	Pn		Pn	08 37 07.3	+1.4
	0.1nm,0.3s,baz=20,slow=9.7,SNR=2.0							
MKAR				Lg		Lg	08 39 11.4	
	0.1nm,0.3s,baz=24,slow=28,SNR=5.2							
	0.2nm,0.4s							

IDC ***18*** *08:36:01.1±1.0, 55°.58S×26°.59W, h0km, mb3.8/4, mbtmp3.8/5, ML3.1/1, Error ellipse: s-maj=45.0km s-min=22.4km az=83.0*

ISC 18 08:36:06.5±1.1, 55°.6S±0°.2×26°.6W±0°.3, h38km, n6, σ0s64/6, mb3.9/4, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**19.02**	**157**	P		**P**	**08 40 24.0**	**-0.7**
	0.1nm,0.3s,baz=335,slow=19,SNR=2.0							
	2.2nm,1.0s							
QSPA	**South Pole Qui**	**34.64**	**180**	P		**P**	**08 42 51.7**	**-0.1**
	0.7nm,0.5s,baz=232,slow=1.9,SNR=6.0							
	0.7nm,0.5s							
VNDA	**Vanda**	**47.03**	**183**	P		**P**	**08 44 34.0**	**+0.7**
	0.6nm,0.6s,baz=186,slow=5.9,SNR=11							
	0.6nm,0.6s							
LPAZ	**La Paz**	**50.39**	**304**	P		**P**	**08 45 00.3**	**-0.2**
	1.0nm,0.7s,baz=141,slow=6.5,SNR=5.8							
	1.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**72.51**	**29**	P		**P**	**08 47 29.4**	**+0.2**
	0.7nm,0.5s,baz=203,slow=5.8,SNR=12							
	0.7nm,0.5s							
ILAR	**Eielson Array**	**150.06**	**312**	PKPbc		**PKiKP**	**08 55 52.0**	**-0.3**
	0.5nm,0.7s,baz=106,slow=2.1,SNR=5.3							

ISK ***18*** *08:41:39.8, 40°.72N×35°.52E, h5km, ML3.5/28*
AFAD ***18*** *08:41:39.3±0.0, 40°.71N×35°.52E, h7km±3km, MW3.5*
CFUSG ***18*** *08:41:41.5, 40°.64N×35°.28E, h33km, mb2.7/4, Northern Turkey Magtype MSH 3.0 from 4 stations*

ISC 18 08:41:40.7±1.2, 40°.71N±0°.02×35°.48E±0°.02, h3km±10km, n47, σ1s04/66, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.57**	**49**	Pg		**Pg**	**08 41 51.5**	**-0.1**
KVT				Sg		**Sg**	**08 42 00.1**	**+1.1**
CKRK	**Yozgat, Cekere**	**0.64**	**178**	P		**Pg**	**08 41 52.5**	**-0.4**
CKRK				*i* AML		AML	08 42 01.0	
	comp=E,2μm,0.4s							
CKRK				S		**Sg**	**08 42 01.6**	**+0.4**
CKRK				*i* AML		AML	08 42 05.0	
	comp=N,1μm,0.2s							
CORM	**Corum**	**0.84**	**231**	Pg		**Pg**	**08 41 56.9**	**+0.1**
KAGI	**orum-Kargı**	**0.87**	**300**	P		**Pg**	**08 41 56.7**	**-0.7**
KAGI				S		**Sb**	**08 42 09.3**	**-1.2**
KAGI				*i* AML		AML	08 42 10.0	
	comp=N,1μm,0.3s							
KAGI				*i* AML		AML	08 42 16.0	
	comp=E,695nm,0.6s							
TOKT	**Tokat**	**0.90**	**115**	Pg		**Pg**	**08 41 57.9**	**-0.1**
TOKT				Sg		**Sg**	**08 42 10.8**	**+1.1**
DIKM	**Dikmen**	**0.95**	**350**	Pg		**Pb**	**08 41 59.3**	**-0.6**
BOYA	**Sinop/Boyabat-**	**1.02**	**324**	P		**Pg**	**08 41 59.7**	**-0.5**
BOYA				S		**Sb**	**08 42 13.6**	**-1.3**
BOYA				*i* AML		AML	08 42 22.0	
	comp=E,402nm,0.5s							
YOZG	**Bozok Univ. Me**	**1.07**	**210**	P		**Pg**	**08 42 00.3**	**-0.8**
YOZG				S		**Sg**	**08 42 15.0**	**0.0**
YOZG				*i* AML		AML	08 42 18.0	
	comp=E,574nm,0.5s							
YOZG				*i* AML		AML	08 42 21.0	
	comp=N,624nm,0.6s							
SUNG	**orum-Sungurl**	**1.07**	**241**	P		**Pg**	**08 42 01.1**	**-0.2**
SUNG				S		**Sb**	**08 42 16.8**	**+0.4**
SUNG				*i* AML		AML	08 42 22.0	
	comp=E,516nm,0.5s							
SUNG				*i* AML		AML	08 42 23.0	
	comp=N,513nm,1.0s							
YENC	**ankr-Yen**	**1.24**	**269**	P		**Pn**	**08 42 04.0**	**-1.1**
YENC				S		**Sn**	**08 42 22.5**	**+0.1**
YENC				*i* AML		AML	08 42 26.0	
	comp=N,890nm,0.5s							
YENC				*i* AML		AML	08 42 26.0	
	comp=E,1μm,0.4s							
CDAG	**Cicekdag**	**1.38**	**218**	P		**Pn**	**08 42 05.8**	**-1.1**
CDAG				S		**Sb**	**08 42 24.4**	**-0.8**
CDAG				*i* AML		AML	08 42 28.0	
	comp=E,676nm,0.7s							
CDAG				*i* AML		AML	08 42 28.0	
	comp=N,432nm,0.3s							
SIRC	**Yozgat**	**1.40**	**191**	P		**Pn**	**08 42 06.2**	**-1.0**
SIRC				S		**Sn**	**08 42 25.1**	**-1.1**
SIRC				*i* AML		AML	08 42 28.0	
	comp=E,873nm,0.6s							
SIRC				*i* AML		AML	08 42 29.0	
	comp=N,926nm,0.3s							
SVSK	**Karacayir**	**1.41**	**124**	Pn		**Pn**	**08 42 06.8**	**-0.4**
CUSAR	**Sarkisla-SIVAS**	**1.42**	**155**	P		**Pn**	**08 42 05.5**	**-2.0**
CUSAR				S		**Sn**	**08 42 25.5**	**-1.3**
CUSAR				*i* AML		AML	08 42 30.0	
	comp=E,393nm,0.9s							
CUSAR				*i* AML		AML	08 42 37.0	
	comp=N,358nm,0.8s							
RSDY	**Resadiye-TOKAT**	**1.44**	**102**	Pn		**Pn**	**08 42 07.2**	**-0.6**
KOZK	**Kozakli-Nevseh**	**1.57**	**198**	Pn		**Pn**	**08 42 10.1**	**+0.5**
AKPI	**Kirsehir/Akpin**	**1.66**	**224**	P		**Pn**	**08 42 10.3**	**-0.4**
AKPI				S		**Sg**	**08 42 35.3**	**+1.4**
AKPI				*i* AML		AML	08 42 36.0	
	comp=N,185nm,0.3s							
MCUR	**KIREHR**	**1.71**	**206**	P		**Pn**	**08 42 12.0**	**+0.5**
MCUR				S		**Sn**	**08 42 34.7**	**+0.8**
MCUR				*i* AML		AML	08 42 37.0	
	comp=N,166nm,0.3s							
MCUR				*i* AML		AML	08 42 38.0	
	comp=E,188nm,0.4s							
PELI	**Kastamonı-Ara**	**1.74**	**290**	P		**Pb**	**08 42 12.7**	**-0.7**
PELI				S		**Sg**	**08 42 35.9**	**-0.8**
PELI				*i* AML		AML	08 42 40.0	
	comp=E,238nm,0.7s							
PELI				*i* AML		AML	08 42 41.0	
	comp=N,216nm,0.7s							
KESK	**Krkkale-Ke**	**1.81**	**234**	P		**Pn**	**08 42 13.2**	**+0.3**
KESK				S		**Sg**	**08 42 39.1**	**+0.3**
KESK				*i* AML		AML	08 42 42.0	
	comp=N,388nm,0.7s							
KESK				*i* AML		AML	08 42 43.0	
	comp=E,348nm,0.4s							
BNN	**Bunyan**	**1.88**	**171**	Pn		**Pn**	**08 42 14.2**	**+0.4**
YAYX	**Yaylak**	**2.19**	**216**	Pn		**Pn**	**08 42 19.1**	**+1.1**
AFSR	**Afar-Bala (An**	**2.24**	**236**	Pn		**Pn**	**08 42 20.1**	**+1.4**
SERE	**Serefikochisa**	**2.30**	**221**	Pn		**Pn**	**08 42 20.7**	**+1.1**
KURC	**Kurucasile-Bar**	**2.35**	**300**	Pn		**Pn**	**08 42 21.6**	**+1.4**
SARI	**SarD1z-Kayseri**	**2.41**	**162**	Pn		**Pn**	**08 42 22.1**	**+0.9**
ESPY	**Espiye-Giresun**	**2.48**	**84**	Pn		**Pn**	**08 42 22.5**	**+0.6**
KULU	**Kulu**	**2.53**	**230**	Pn		**Pn**	**08 42 24.3**	**+1.5**
DARE	**Darende-Malaty**	**2.64**	**143**	Pn		**Pn**	**08 42 25.1**	**+0.8**
ILIC	**ilic-Erzincan**	**2.68**	**117**	Pn		**Pn**	**08 42 25.6**	**+0.7**
ARPR	**Arapgir-MALATY**	**2.73**	**125**	Pn		**Pn**	**08 42 26.2**	**+0.7**
YUVA	**Yuva-Kibriscik**	**2.91**	**265**	Pn		**Pn**	**08 42 29.2**	**+1.3**
CHBY	**Cihanbeyli**	**2.92**	**224**	Pn		**Pn**	**08 42 29.7**	**+1.6**
SULT	**Sultanhani-AKS**	**2.93**	**212**	Pn		**Pn**	**08 42 30.1**	**+1.8**
CMRD	**Camardi-Nigde**	**3.07**	**187**	Pn		**Pn**	**08 42 32.0**	**+1.8**
SVRH	**Sivrihisar-ESK**	**3.29**	**249**	Pn		**Pn**	**08 42 34.8**	**+1.6**
KMRS	**Kahramanmaras**	**3.39**	**160**	Pn		**Pn**	**08 42 35.7**	**+1.2**
ERZN	**Erzincan**	**3.44**	**108**	Pn		**Pn**	**08 42 36.2**	**+0.9**
LADK	**Ladik-KONYA**	**3.48**	**225**	Pn		**Pn**	**08 42 37.8**	**+2.0**
PTK	**Pertek**	**3.52**	**120**	Pn		**Pn**	**08 42 37.6**	**+1.1**
KONT	**Konya-Tatoy**	**3.67**	**222**	Pn		**Pn**	**08 42 40.4**	**+2.0**
SRCK	**Saricakaya, Es**	**3.77**	**261**	Pn		**Pn**	**08 42 41.1**	**+1.4**
YAL	**Yalta**	**3.90**	**346**	*e*P		**Pn**	**08 42 42.9**	**+1.4**
YAL				Sm			08 42 28.9	
	comp=E,35nm,0.3s							
YAL				Pm			08 42 46.2	
	comp=Z,10.0nm,0.3s							
YAL				*e*S		**Sn**	**08 43 27.6**	**-0.1**
YAL				Sm			08 43 28.9	
	comp=N,8.0nm,0.3s							
ALU	**Alushta**	**4.05**	**349**	*e*P		**Pn**	**08 42 43.9**	**+0.4**
ALU				Sm			08 42 32.9	
	comp=E,7.0nm,0.3s							
ALU				Pm			08 42 45.6	
	comp=Z,8.0nm,0.3s							
ALU				*e*S		**Sn**	**08 43 31.3**	**-0.1**
ALU				Sm			08 43 32.9	
	comp=N,21nm,0.3s							
SEV	**Sevastopol'**	**4.06**	**341**	*e*P		**Pn**	**08 42 44.4**	**+0.8**
SEV				Sm			08 42 34.9	
	comp=E,2.0nm,0.3s							
SEV				Pm			08 42 48.8	
	comp=Z,3.0nm,0.3s							
SEV				*e*S		**Sn**	**08 43 31.9**	**+0.3**
SEV				Sm			08 43 34.9	
	comp=N,7.0nm,0.3s							
SUDU	**Sudak**	**4.19**	**355**	*e*P		**Pn**	**08 42 46.2**	**+0.7**
SUDU				Sm			08 42 39.7	
	comp=E,12nm,0.4s							
SUDU				Pm			08 42 51.8	
	comp=Z,14nm,0.4s							
SUDU				*e*S		**Sn**	**08 43 36.0**	**+1.1**
SUDU				Sm			08 43 39.6	
	comp=N,36nm,0.5s							
TARU	**Tarkhankut**	**5.14**	**336**	*e*S		**Sn**	**08 43 57.9**	**-0.4**
TARU				Sm			08 44 00.8	
	comp=N,18nm,0.4s							
TARU				Sm			08 44 00.8	
	comp=E,4.0nm,0.3s							

JMA ***18*** *08:50:43.0±0.8, 45°.N±4°.×15°.0E±°, h30km, MV5.0/17, MW4.6/17, KURILE ISLANDS REGION*
NIED ***18*** *08:50:43.0, 45°.37N×150°.16E, h30km, MW4.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{16}Nm; M_{rr}1.04; $M_{\theta\theta}$-0.58; $M_{\phi\phi}$-0.46; $M_{r\theta}$-1.05; $M_{\theta\phi}$-0.19; $M_{\phi r}$-0.22; Fault plane solution: M_o1.38000×10^{16} NP1: ϕ_s252.00000°, δ70.00000°, λ96.00000°. NP2: ϕ_s54.00000°, δ21.00000°, λ72.00000°.*
BJI ***18*** *08:50:44.1±0.0, 45°.09N×150°.10E, h67km, mb4.6/38, mB4.8/16, Ms4.0/18, Ms7.3/9/20*
SKHL ***18*** *08:50:44.3±0.5, 45°.10N×150°.20E, h80km±6km, mb5.5/5, msha6.2/5*
MOS ***18*** *08:50:44.5±1.2, 45°.19N×150°.02E, h74km, mb5.0/14, Error ellipse: s-maj=7.2km s-min=5.9km az=71.8*
IDC ***18*** *08:50:44.5±2.2, 45°.34N×149°.97E, h54km±19km, mb3.9/21, mbtmp4.2/28, ML3.5/7, MS3.8/63, Error ellipse: s-maj=14.7km s-min=11.9km az=139.0*
NEIC ***18*** *08:50:46.7±1.3, 45°.3N±0°.1×150°.0E±0°.1, h72km±7km, mb4.7/92, Error ellipse: s-maj=16.0km s-min=12.1km az=151.0*

ISC 18 08:50:43.7±0.6, 45°.21N±0°.05×150°.16E±0°.04, h52km±4km, h52km:pP-P, n689, σ1s09/658, mb4.6/103, MS3.9/63, 16C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.62**	**272**	*e*P		**Pn**	**08 51 10.1**	**+0.3**
KUR				AMB		AMB	08 51 11.3	
	2μm,0.4s							
KUR				*i* S		**Sn**	**08 51 29.6**	**+0.1**
KUR				A		A	08 51 30.9	
	5μm,0.4s							
KUR				A		A	08 51 30.9	
	4μm,0.4s							
KUR	**Kuril'sk**	**1.62**	**272**	*c* iPN		**Pn**	**08 51 10.1**	**+0.3**
KUR				*i* S		**Sn**	**08 51 29.2**	**-0.3**
KUR				pmax	pmax			
	comp=Z,2μm,0.4s							
KUR				pmax	pmax			
	comp=N,422nm,0.2s							
KUR				pmax	pmax			
	comp=E,363nm,0.2s							
KUR				smax	smax			
	comp=N,5μm,0.4s							
KUR				smax	smax			
	comp=E,4μm,0.4s							
SHO	**Shikotan**	**2.73**	**242**	*e*P		**Pn**	**08 51 25.1**	**+0.1**
SHO				AMB		AMB	08 51 28.4	
	comp=E,170nm,0.3s							
SHO				*i* S		**Sn**	**08 51 55.9**	**-0.9**
SHO				A		A	08 52 02.3	
	comp=E,780nm,0.4s							
SHO				A		A	08 52 02.3	
	comp=E,960nm,0.4s							
SHO	**Shikotan**	**2.73**	**242**	*e*PN		**Pn**	**08 51 24.5**	**-0.5**
SHO				*i* S		**Sn**	**08 51 55.8**	**-1.0**
SHO				pmax	pmax			
	comp=Z,169nm,0.3s							
SHO				pmax	pmax			
	comp=N,57nm,0.2s							
SHO				smax	smax			
	comp=N,299nm,0.3s							
SHO				smax	smax			
	comp=E,906nm,0.6s							
YUK	**Yuzh-Kuril'sk**	**3.29**	**250**	*i* P		**Pn**	**08 51 34.2**	**+1.6**
YUK				AMB		AMB	08 51 37.9	
	comp=E,540nm,0.3s							
YUK				*i* S		**Sn**	**08 52 11.2**	**+0.8**
YUK				A		A	08 52 16.9	
	comp=E,2μm,0.5s							
YUK				A		A	08 52 16.9	
	comp=E,660nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.29**	**250**	*d* iPN		**Pn**	**08 51 34.6**	**+2.0**
YUK				*i* S		**Sn**	**08 52 12.3**	**+1.9**
YUK				pmax	pmax			
	comp=N,127nm,0.2s							
YUK				pmax	pmax			
	comp=Z,542nm,0.2s							
YUK				pmax	pmax			
	comp=E,174nm,0.1s							
YUK				smax	smax			
	comp=E,1μm,0.7s							
YUK				smax	smax			
	comp=N,4μm,1.1s							
YUK				smax	smax			
	comp=E,659nm,0.2s							
YUK				smax	smax			
	comp=N,2μm,0.5s							
NEM2	**Nemuro 2**	**3.67**	**241**	P		**Pn**	**08 51 37.4**	**-0.4**
NEM2				*e*S		**Sn**	**08 52 17.7**	**-2.1**
RUSJ	**Misakicho**	**3.67**	**254**	*e*PN		**Pn**	**08 51 40.3**	**+2.4**
NMR	**Nemuro--Hokkai**	**3.67**	**241**	*e*P		**Pn**	**08 51 38.4**	**+0.5**
NMR				*e*S		**Sn**	**08 52 19.3**	**-0.6**
NMR	**Nemuro--Hokkai**	**3.67**	**241**	*e*PN		**Pn**	**08 51 37.2**	**-0.7**
NMR				*e*S		**Sn**	**08 52 19.3**	**-0.6**
JRA	**Rausu**	**3.82**	**252**	P		**Pn**	**08 51 42.3**	**+2.4**
JRA				*e*S		**Sn**	**08 52 27.1**	**+3.7**
JNK	**Nakash**	**4.22**	**249**	*e*P		**Pn**	**08 51 45.4**	**0.0**
JNK				*e*S		**Sn**	**08 52 35.2**	**+1.7**
AKK	**Akkeshi**	**4.41**	**242**	*e*P		**Pn**	**08 51 48.8**	**+0.8**
JAK	**Akkeshi**	**4.51**	**243**	P		**Pn**	**08 51 49.4**	**0.0**
JAK				*e*S		**Sn**	**08 52 38.0**	**-2.5**
JTKR	**Abashiri--Toko**	**4.63**	**257**	P		**Pn**	**08 51 52.5**	**+1.5**
JAR	**Ashorobuto**	**4.97**	**250**	P		**Pn**	**08 51 58.0**	**+2.3**
JAR				*e*S		**Sn**	**08 52 54.6**	**+2.8**
JOB	**Onbets**	**5.11**	**245**	P		**Pn**	**08 51 59.1**	**+1.5**
JOB				*e*S		**Sn**	**08 52 55.7**	**+0.5**
YSS	**Yuzh-Sakhalins**	**5.43**	**291**			**Pn**	**08 52 03.0**	**+1.0**
YSS	**Yuzh-Sakhalins**	**5.43**	**291**	*e*P		**Pn**	**08 52 03.9**	**+1.9**
YSS				*e*S		**Sn**	**08 53 03.1**	**-0.1**
YSS	**Yuzh-Sakhalins**	**5.43**	**291**	*e*PN		**Pn**	**08 52 03.1**	**+1.0**
YSS				*e*S		**Sn**	**08 53 02.1**	**-1.1**
YSS				pmax	pmax			
	comp=Z,30nm,0.9s							
YSS				smax	smax			
	comp=E,50nm,1.1s							
YSS				MLR	MLR			
	comp=N,500nm,14.0s							
JKK2	**Kamakawa 2**	**5.46**	**258**	P		**Pn**	**08 52 05.4**	**+2.9**
JKA	**Kamikawa-asahi**	**5.50**	**261**			**Pn**	**08 52 05.4**	**+2.5**
JKA	**Kamikawa-asahi**	**5.50**	**261**	*e*P		**Pn**	**08 52 05.4**	**+2.5**
ASAJ	**Asahikawa**	**5.50**	**261**	P		**Pn**	**08 52 03.0**	**0.0**
	comp=N,3.9nm,0.3s,baz=92,slow=13,SNR=13							
ASAJ				S		**Sn**	**08 52 59.5**	**-5.4**
	comp=N,33nm,0.7s,baz=52,slow=22,SNR=2.0							
ASAJ				LR		LR	08 54 16.5	
	comp=N,916nm,20.9s,baz=138,slow=39							
	comp=N,20nm,0.5s							
ASAJ	**Asahikawa**	**5.50**	**261**	PN		**Pn**	**08 52 05.4**	**+2.4**
JCH	**Churui**	**5.55**	**244**	P		**Pn**	**08 52 04.6**	**+0.9**
JCH				S		**Sn**	**08 53 05.6**	**-0.5**
ERM	**Erimo**	**6.00**	**240**			**Pn**	**08 52 11.8**	**+2.0**
ERM	**Erimo**	**6.00**	**240**	*de*PN		**Pn**	**08 52 12.1**	**+2.3**
ERM				pmax	pmax			
	comp=Z,119nm,1.0s							
JNBK	**Urakawa-nobuka**	**6.11**	**244**	P		**Pn**	**08 52 11.7**	**+0.4**
JRBN	**Rebuntou**	**6.41**	**275**	*e*P		**Pn**	**08 52 18.6**	**+3.1**
UGL	**Uglegorsk**	**6.74**	**308**	*e*rx		rx	08 52 32.4	
UGL	**Uglegorsk**	**6.74**	**308**	*e*PN		Pn	08 52 32.4	+13
UGL				pmax	pmax			
	comp=Z,60nm,0.7s							
SKR	**Severo-Kuril's**	**6.78**	**34**	*e*P		**Pn**	**08 52 22.2**	**+1.8**
SKR				AMB		AMB	08 52 24.8	
	comp=Z,200nm,0.7s							
SKR				*e*S		**Sn**	**08 53 35.8**	**-0.4**
SKR				A		A	08 53 41.7	
	comp=Z,310nm,0.6s							
SKR				A		A	08 53 41.7	
	comp=Z,210nm,0.6s							
SKR	**Severo-Kuril's**	**6.78**	**34**	*e*PN		**Pn**	**08 52 24.5**	**+4.1**
SKR				pmax	pmax			
	comp=Z,199nm,1.5s							
SKR				pmax	pmax			
	comp=Z,2μm,5.2s							
SKR				MLR	MLR			
	comp=Z,2μm,11.0s							
TYV	**Tymovskoe**	**7.56**	**321**	*e*P		**Pn**	**08 52 33.9**	**+2.8**
TYV	**Tymovskoe**	**7.56**	**321**	*e*PN		**Pn**	**08 52 32.8**	**+1.7**
TYV				pmax	pmax			
	comp=Z,100nm,2.4s							
TYV				pmax	pmax			
	comp=Z,16nm,1.1s							
PAU	**Pauzhetka**	**7.67**	**33**	*e*P

comp=Z,525nm,21.0s,baz=140,slow=38
comp=Z,22nm,1.1s
KLR Kul'dur 13.13 294 *e*P **Pn 08 53 48.2 +0.9**
KLR Kul'dur 13.13 294 *d* i PN **Pn 08 53 50.2 +2.9**
KLR pmax pmax
comp=Z,27nm,1.2s
HEH HeiHe 16.09 296 *e*P **P 08 54 27.8 -0.9**
HEH S **Sn 08 57 26.4 +3.0**
HEH pmax pmax
comp=Z,10.0nm,0.8s
HEH pmax pmax
comp=Z,140nm,6.5s
HEH LR LR
comp=Z,150nm,18.2s
HEH LR LR
comp=Z,450nm,16.4s
HEH LR LR
comp=Z,590nm,18.8s
ZEA Zeya 17.09 308 *e*P **Pn 08 54 38.2 -0.5**
ZEA Zeya 17.09 308 *e*P **P 08 54 40.2 +0.4**
ZEA *e*S **Sn 08 57 38.3 -9.4**
ZEA pmax pmax
comp=N,20nm,0.9s
ZEA pmax pmax
comp=E,20nm,1.2s
ZEA pmax pmax
comp=Z,30nm,1.2s
ZEA smax smax
comp=E,100nm,7.5s
ZEA smax smax
comp=N,100nm,7.8s
SHEM Shemya Is, Ala 17.37 56 LR LR 09 02 27.5
comp=N,20nm,18.3s,baz=123,slow=40
SEY Seymchan 17.80 3 P **Pn 08 54 46.0 -1.3**
comp=N,0.2nm,0.3s,baz=174,slow=9.9,SNR=18
SEY LR LR 09 01 56.3
comp=N,391nm,18.4s,baz=184,slow=38
comp=N,11nm,0.9s
SEY Seymchan 17.80 3 *e*P **P 08 54 48.1 +0.6**
SEY Seymchan 17.80 3⇓ *e*P **P 08 54 48.1 +0.6**
SEY pmax pmax
comp=Z,20nm,1.3s
KSRS Korea Array 18.37 253 P **P 08 54 53.6 -0.3**
comp=Z,0.1nm,0.3s,baz=58,slow=11,SNR=5.2
KSRS LR LR 09 01 25.6
comp=Z,177nm,20.9s,baz=55,slow=35
comp=Z,3.8nm,1.0s
JNU Nakatsue 19.16 238 LR LR 09 03 00.4
comp=Z,98nm,18.8s,baz=42,slow=38
JCJ Chichijima 19.17 202 LR LR 09 03 43.4
comp=Z,58nm,18.8s,baz=94,slow=40
TJN Taejon 19.33 251 *de*P **Pn 08 55 05.4 -0.6**
YAK Yakutsk 20.61 332 P Pn 08 55 20.6 -0.2
YAK Yakutsk 20.61 332 P **P 08 55 18.4 +0.3**
comp=Z,177nm,0.9s,baz=120,slow=4.5,SNR=48
YAK LR LR 09 03 34.9
comp=Z,391nm,19.6s,baz=148,slow=38
YAK Yakutsk 20.61 332 *c* i P Pn 08 55 21.5 +0.7
YAK *e* 08 55 38.4
YAK *e*S Sn 08 59 08.9 -3.3
YAK *e**SS sS 08 59 24.7 +0.4
YAK *e*SS **SnSn 08 59 33.8 +6.4**
YAK *e*SSS SSS 08 59 48.3
YAK pmax pmax
comp=Z,245nm,1.0s
YAK pmax pmax
comp=N,77nm,1.0s
YAK pmax pmax
comp=E,63nm,1.1s
YAK pmax pmax
comp=Z,70nm,1.5s
YAK pmax pmax
comp=N,42nm,1.2s
YAK pmax pmax
comp=E,49nm,1.4s
YAK smax smax
comp=E,33nm,1.7s
YAK smax smax
comp=N,52nm,1.8s
YAK MLR MLR
comp=Z,497nm,22.0s
YAK MLR MLR
comp=N,263nm,20.0s
YAK MLR MLR
comp=E,185nm,20.0s
XLT XiLinHaoTe 24.22 279 *e*P **P 08 55 57.1 +1.7**
XLT S **S 09 00 12.0 +1.9**
XLT sS sS 09 00 35.1 +3.0
XLT pmax pmax
comp=E,10.0nm,0.8s
XLT pmax pmax
comp=E,110nm,4.7s
XLT LR LR
comp=E,140nm,14.2s
XLT LR LR
comp=E,150nm,17.3s
BILL Bilibino 24.38 15 *e*P **P 08 55 59.0 +2.5**
BILL Bilibino 24.38 15 *e*P **P 08 55 59.0 +2.5**
JOW Kunigami 25.35 231 LR LR 09 06 12.8
comp=E,51nm,19.7s,baz=70,slow=37
SPIA Saint Paul Isl 27.14 50 P **P 08 56 21.3 -0.2**
baz=261
P08K Saint George I 27.44 51 P **P 08 56 22.4 -1.8**
baz=263
NJ2 Nanjing 27.57 252 *e*P **P 08 56 26.1 +0.5**
NJ2 pmax pmax
comp=E,14nm,0.6s
HNS HongShan 27.58 266 ⇑P **P 08 56 26.1 +0.5**
HNS S **S 09 01 03.4 +0.1**
HNS LR LR
comp=E,82nm,23.9s
HNS LR LR
comp=E,150nm,23.1s
HNS LR LR
comp=E,180nm,23.1s
HHC Hu-ho-hao-te 28.36 275 *e*P **P 08 56 33.3 +0.6**
HHC pmax pmax
comp=E,7.0nm,0.6s
HHC pmax pmax
comp=E,99nm,6.5s
HHC LR LR
comp=E,120nm,14.5s
HHC LR LR
comp=E,200nm,13.8s
HHC LR LR
comp=E,410nm,15.6s
TIXI Tiksi 28.41 346 LR LR 09 09 48.5
comp=E,150nm,18.1s,baz=159,slow=40
H11N2 WAKE ISLAND Hy 28.95 146 T T 09 27 14.8
baz=336,slow=76,SNR=6720
H11N1 WAKE ISLAND Hy 28.96 146 T T 09 27 26.9
baz=336,slow=76,SNR=4956
H11N3 WAKE ISLAND Hy 28.97 146 T T 09 27 16.1
baz=336,slow=76,SNR=4558
UNV Unalaska Valle 29.02 57 P **P 08 56 38.5 +0.2**
baz=271
M11K Mekoryuk 29.77 44 P **P 08 56 44.8 -0.1**
baz=259
SONM Songino Array 29.93 291 LR LR 09 09 48.7
comp=E,237nm,18.4s,baz=90,slow=38
H11S1 WAKE ISLAND Hy 29.98 147 T T 09 28 39.5
baz=336,slow=76,SNR=4426
H11S3 WAKE ISLAND Hy 29.99 147 T T 09 28 29.0
baz=336,slow=76,SNR=4108
H11S2 WAKE ISLAND Hy 30.00 147 T T 09 28 40.9
baz=336,slow=76,SNR=3472
TNA Tin City 30.45 33 P **P 08 56 50.7 -0.2**
baz=249
FALS False Pass 30.81 55 P **P 08 56 53.0 -1.2**
baz=271
F14K Arctic Creek 31.05 34 P **P 08 56 56.1 0.0**
baz=251
ANM Nome 31.15 36 P **P 08 56 56.8 -0.2**
baz=253
M13K Dall Lake 31.17 44 P **P 08 56 57.6 +0.4**
baz=262
J14K Nanvaranak Lak 31.48 40 P **P 08 56 59.5 -0.4**
baz=258
S12K Black Hills 31.57 53 P **P 08 57 01.1 +0.2**
baz=271
L14K Kuka Creek 31.63 42 P **P 08 57 02.7 +1.4**
L14K Kuka Creek 31.63 42 P **P 08 57 01.5 +0.3**
baz=261
F15K North Star Dit 31.78 34 P **P 08 57 02.3 -0.3**
baz=252
G15K Niukluk 31.82 35 P **P 08 57 03.0 +0.1**
baz=254
GUMO Guam 31.84 190 LR LR 09 10 22.6
comp=E,106nm,19.6s,baz=36,slow=37
M14K Bethel 31.90 44 P **P 08 57 06.7 +3.1**
M14K IAmb IAmb 08 57 42.3
comp=Z,22nm,1.2s
M14K Bethel 31.90 44 P **P 08 57 03.5 -0.1**
baz=263
N14K Kuskokwak Cree 31.94 45 P **P 08 57 04.3 +0.2**
baz=265
O14K Tigyukauivet M 32.10 46 P **P 08 57 06.2 +0.8**
baz=266
L15K Ungalak Mounta 32.25 42 P **P 08 57 06.6 -0.1**
baz=262
K15K Wolf Creek Mou 32.32 41 P **P 08 57 07.8 +0.4**
baz=261
C16K Lisburne Hills 32.41 29 P **P 08 57 07.6 -0.4**
C16K Lisburne Hills 32.41 29 P **P 08 57 08.4 +0.3**
baz=248
H16K Elim 32.47 36 P **P 08 57 09.3 +0.6**
baz=257
SDPT Sand Point 32.48 54 P **P 08 57 09.5 +0.7**
baz=273
M15K Kasigluk River 32.51 44 P **P 08 57 09.6 +0.5**
baz=264
G16K Koyuk River 32.61 35 P **P 08 57 10.5 +0.6**
baz=255
N15K Kwethluk River 32.76 45 P **P 08 57 12.1 +0.8**
N15K IAmb IAmb 08 57 24.2
comp=Z,20nm,1.2s
N15K Kwethluk River 32.76 45 P **P 08 57 11.7 +0.5**
baz=266
O15K Ungalikthiuk R 32.84 47 P **P 08 57 12.1 +0.3**
baz=267
J16K Anvik River 32.91 39 P **P 08 57 12.6 +0.1**
baz=260
S14K Fog Glacier 32.97 52 P **P 08 57 13.4 +0.3**
baz=272
I17K Unalakleet 32.97 38 P **P 08 57 13.6 +0.6**
baz=259
D17K Noatak River 33.01 31 P **P 08 57 13.8 +0.6**
baz=251,SNR=6.3
CHNA Chernabura Isl 33.02 55 P **P 08 57 14.0 +0.4**
baz=274
RDOG Red Dog Mine 33.19 30 P **P 08 57 15.2 +0.4**
RDOG Red Dog Mine 33.19 30 P **P 08 57 15.5 +0.7**
baz=251
L16K Owhat River 33.20 42 P **P 08 57 16.0 +1.0**
L16K Owhat River 33.20 42 P **P 08 57 15.7 +0.6**
baz=264
C17K DeLong Mountai 33.23 29 P **P 08 57 15.5 +0.2**
baz=250
E17K Hotham Inlet 33.28 32 P **P 08 57 15.9 +0.3**
baz=253,SNR=7.9
F17K Baldwin Pennin 33.32 33 P **P 08 57 16.3 +0.3**
baz=255
G17K Kiwalik Mounta 33.33 35 P **P 08 57 17.0 +0.9**
baz=257
M16K Timber Creek 33.39 43 P **P 08 57 16.9 +0.2**
M16K Timber Creek 33.39 43 P **P 08 57 16.9 +0.2**
baz=265
N16K Nishlik Lake 33.44 44 P **P 08 57 17.9 +0.8**
baz=266
H17K Granite Mounta 33.51 36 P **P 08 57 17.7 0.0**
baz=259
J17K VABM Dome 33.60 39 P **P 08 57 17.9 -0.6**
baz=262
O16K Kokwok River B 33.74 46 P **P 08 57 18.8 -0.9**
baz=268
L17K Donlin 33.80 41 P **P 08 57 19.8 -0.5**
baz=264
E18K Tukpahlearik C 33.83 32 P **P 08 57 20.4 -0.1**
baz=254
K17K Iditarod 33.86 40 P **P 08 57 20.7 -0.1**
baz=264
C18K Utukok River 33.98 29 P **P 08 57 21.6 -0.2**
C18K IAmb IAmb 08 57 23.7
comp=Z,11nm,1.1s
C18K Utukok River 33.98 29 P **P 08 57 21.8 0.0**
baz=252,SNR=6.6
F18K Selawik 33.98 33 P **P 08 57 21.8 +0.1**
baz=256
B18K Kokolik River 34.01 28 P **P 08 57 21.9 0.0**
baz=250
R16K Pilot Point 34.01 50 P **P 08 57 22.4 +0.4**
baz=272
M17K Holitna River 34.15 43 P **P 08 57 24.7 +1.4**
M17K IAmb IAmb 08 57 26.5
comp=Z,12nm,1.1s
M17K Holitna River 34.15 43 P **P 08 57 23.6 +0.3**
baz=266
H18K Honhosa River 34.20 36 P **P 08 57 23.9 +0.3**
baz=260
G18K Tagagawik 34.22 35 P **P 08 57 24.0 +0.2**
G18K IAmb IAmb 08 57 37.6
comp=Z,7.6nm,0.8s
G18K Tagagawik 34.22 35 P **P 08 57 23.9 0.0**
baz=258
N17K Nushagak Hills 34.22 44 P **P 08 57 24.2 +0.3**
baz=268
O17K Koliganek Bris 34.25 46 P **P 08 57 24.4 +0.3**
baz=269
Q16K King Salmon 34.47 48 P **P 08 57 26.6 +0.6**
baz=271
L18K Granite Mounta 34.56 41 P **P 08 57 27.2 +0.4**
baz=266
P17K Kvichak River 34.58 47 P **P 08 57 27.3 +0.3**
baz=270
J18K Innoko River 34.66 39 P **P 08 57 28.0 +0.2**
J18K IAmb IAmb 08 58 00.7
comp=Z,12nm,1.4s
J18K Innoko River 34.66 39 P **P 08 57 27.3 -0.4**
baz=264
C19K Lookout Ridge 34.67 29 P **P 08 57 27.4 -0.3**
C19K Lookout Ridge 34.67 29 P **P 08 57 28.0 +0.2**
baz=253,SNR=6.6
F19K Shaleruckik Mo 34.76 33 P **P 08 57 28.2 -0.3**
baz=258
N18K Kilae Creek 34.87 44 P **P 08 57 29.1 -0.5**
baz=269
G19K Purcell Mounta 34.90 34 P **P 08 57 30.3 +0.6**
G19K Purcell Mounta 34.90 34 P **P 08 57 29.2 -0.4**
baz=260
M18K Stony River 34.93 43 P **P 08 57 30.3 +0.3**
baz=268
D19K Kuna River 35.02 30 P **P 08 57 30.5 -0.3**
D19K Kuna River 35.02 30 P **P 08 57 30.4 -0.3**
baz=255,SNR=13
H19K Roundabout Mou 35.05 36 P **P 08 57 31.6 +0.7**
H19K Roundabout Mou 35.05 36 P **P 08 57 30.7 -0.3**
baz=261,SNR=16
E19K Redstone River 35.10 32 P **P 08 57 31.7 +0.3**
E19K IAmb IAmb 08 57 37.6
comp=Z,8.2nm,0.8s
E19K Redstone River 35.10 32 P **P 08 57 31.3 -0.1**
baz=258,SNR=14
P18K Big Mountain, 35.20 46 P **P 08 57 31.6 -0.8**
baz=271
CHIR Chirikof Islan 35.20 53 P **P 08 57 31.6 -0.7**
baz=276
O18K Koktuh Hills 35.20 46 P **P 08 57 32.1 -0.3**
baz=270
J19K Poorman 35.20 38 P **P 08 57 32.6 +0.2**
J19K IAmb IAmb 08 57 46.1
comp=Z,6.9nm,0.9s
J19K Poorman 35.20 38 P **P 08 57 31.7 -0.7**
baz=264
L19K White Mountain 35.42 42 P **P 08 57 33.4 -0.8**
baz=268
N19K Bonanza Creek 35.56 44 P **P 08 57 35.1 -0.5**
baz=270
F20K Avaraart Lake 35.59 33 P **P 08 57 35.5 -0.1**
baz=260
D20K Etivluk River 35.61 30 P **P 08 57 35.7 -0.1**
baz=257,SNR=21
M19K Big River Lodg 35.63 42 P **P 08 57 36.1 +0.1**
baz=268
O19K Port Alsworth 35.64 45 P **P 08 57 35.1 -1.0**
baz=271
E20K Nigu River 35.66 31 P **P 08 57 36.3 0.0**
baz=258,SNR=29
H20K Anotleneega Mo 35.69 36 P **P 08 57 36.1 -0.5**
baz=263
B20K Meade River 35.75 28 P **P 08 57 37.3 +0.4**
baz=254
I20K Naaghedeneel 35.78 37 P **P 08 57 38.0 +0.7**
baz=264
K20K Telida 35.84 40 P **P 08 57 37.9 +0.1**
baz=267
J20K Nowinta River 35.87 38 P **P 08 57 38.7 +0.7**
J20K IAmb IAmb 08 57 53.6
comp=Z,6.2nm,0.8s
J20K Nowinta River 35.87 38 P **P 08 57 37.8 -0.2**
baz=265
LZH Lanzhou 35.88 272 *e*P **P 08 57 38.3 -0.3**
LZH pmax pmax
comp=Z,20nm,1.1s
L20K Farewell, AK 35.88 41 P **P 08 57 38.1 -0.2**
baz=268
SII Sitkinak Islan 35.92 51 P **P 08 57 38.2 -0.4**
baz=276
Q19K Cape Douglas, 36.03 47 P **P 08 57 39.1 -0.4**
baz=273
P19K Oil Pt 36.21 46 P **P 08 57 41.3 +0.3**
baz=272
M20K Styx River 36.22 42 P **P 08 57 40.8 -0.4**
baz=269
A21K Barrow 36.30 26 P **P 08 57 41.6 0.0**
baz=253
OHAK Old Harbor 36.34 50 P **P 08 57 42.4 +0.2**
baz=276
C21K Knifeblade Rid 36.35 30 P **P 08 57 42.3 +0.2**
baz=258,SNR=18
G21K Allakaket 36.38 34 P **P 08 57 42.9 +0.5**
G21K IAmb IAmb 08 57 56.4
comp=Z,8.1nm,0.8s
G21K Allakaket 36.38 34 P **P 08 57 42.2 -0.2**
baz=263,SNR=11
F21K Alatna River 36.49 33 P **P 08 57 44.0 +0.7**
F21K Alatna River 36.49 33 P **P 08 57 43.6 +0.3**
baz=262
O20K Slope Mountain 36.49 45 P **P 08 57 43.3 -0.2**
baz=272
E21K Killik River 36.50 31 P **P 08 57 43.7 +0.3**
baz=260
B21K Ikpikpuk River 36.51 29 P **P 08 57 43.7 +0.2**
baz=258
H21K Melozitna Rive 36.57 36 P **P 08 57 44.1 +0.1**
H21K Melozitna Rive 36.57 36 P **P 08 57 44.2 +0.1**
baz=265
CHUM Lake Minchumin 36.65 39 P **P 08 57 45.1 +0.4**
baz=268
N20K Mount Spurr 36.67 43 P **P 08 57 45.4 +0.4**
baz=271
KDAK Kodiak Island 36.67 49 LR LR 09 13 08.6
comp=Z,78nm,21.9s,baz=264,slow=37
PPLA Purkeypile 36.68 40 P **P 08 57 45.0 -0.1**
baz=269
A22K Sinclair Lake 36.72 27 P **P 08 57 45.3 +0.1**
baz=255
CAST Castle Rocks 36.74 40 P **P 08 57 46.3 +0.8**
CAST IAmb IAmb 08 58 00.1
comp=Z,6.5nm,0.8s
CAST Castle Rocks 36.74 40 P **P 08 57 46.4 +0.9**
baz=268
SKT Skwentna 36.98 42 P **P 08 57 48.1 +0.6**
baz=271
HOM Homer 37.01 46 P **P 08 57 48.6 +0.8**
baz=274
F22K John River 37.02 33 P **P 08 57 48.4 +0.5**
baz=263
D22K Ayikyak River 37.04 30 P **P 08 57 48.2 +0.1**
D22K IAmb IAmb 08 57 53.6
comp=Z,8.0nm,0.7s
D22K Ayikyak River 37.04 30 P **P 08 57 48.7 +0.7**
baz=260,SNR=13
B22K Teshekpuk Lake 37.07 28 P **P 08 57 48.2 +0.1**
B22K IAmb IAmb 08 57 52.7
comp=Z,9.9nm,0.8s
B22K Teshekpuk Lake 37.07 28 P **P 08 57 48.5 +0.4**
baz=258,SNR=9.3
H22K Ishtalitna Cre 37.18 35 P **P 08 57 49.4 +0.2**
baz=266
GTA Gaotai 37.18 279 *e*P **P 08 57 50.5 +0.8**
GTA sP sP 08 58 11.6 +2.3
GTA pmax pmax
comp=Z,4.0nm,1.1s
GTA LR LR
comp=Z,65nm,17.9s
GTA LR LR
comp=Z,100nm,15.1s
GTA LR LR
comp=Z,110nm,17.1s
G22K Bettles 37.22 34 P **P 08 57 49.8 +0.3**
baz=264,SNR=25
E22K Anaktuvuk Pass 37.24 32 P **P 08 57 50.2 +0.4**
baz=262
BPAW Bear Paw Mtn. 37.25 38 P **P 08 57 50.6 +0.8**
baz=268
KTH Kantishna Hill 37.26 39 P **P 08 57 50.9 +0.9**
SUA Susitna One 37.36 43 P **P 08 57 51.4 +0.5**
baz=272
MLY Manley 37.39 37 P **P 08 57 51.6 +0.6**
MLY Manley 37.39 37 P **P 08 57 51.0 -0.1**
baz=267
BRSE Bradley Lake S 37.46 46 P **P 08 57 51.5 -0.2**
baz=274
TRF Thorofare Moun 37.55 39 P **P 08 57 53.1 +0.6**
TRF IAmb IAmb 08 58 08.0
comp=Z,7.3nm,0.8s
TRF Thorofare Moun 37.55 39 P **P 08 57 52.0 -0.5**
baz=270
CUT Chulitna 37.56 41 P **P 08 57 52.3 -0.1**
baz=271
M22K Willow 37.65 42 P **P 08 57 52.2 -1.0**
baz=272
COLD Coldfoot 37.76 33 P **P 08 57 54.2 +0.1**
baz=265,SNR=12
D23K Nanushuk River 37.77 30 P **P 08 57 53.6 -0.6**
baz=262
G23K Bananza Creek 37.78 34 P **P 08 57 54.8 +0.4**
G23K IAmb IAmb 08 58 00.3
comp=Z,9.7nm,1.1s
G23K Bananza Creek 37.78 34 P **P 08 57 54.1 -0.3**
baz=266,SNR=13
RC01 Rabbit Creek A 37.87 43 P **P 08 57 54.8 -0.2**
baz=273
BWN Browne 37.91 38 P **P 08 57 57.4 +2.0**
O22K Cooper Landing 37.91 44 P **P 08 57 55.9 +0.5**
baz=274
C23K Itkillik River 37.92 29 P **P 08 57 55.9 +0.5**
C23K Itkillik River 37.92 29 P **P 08 57 55.5 +0.1**
baz=261,SNR=20
H23K Yukon River 37.92 36 P **P 08 57 56.0 +0.5**
H23K IAmb IAmb 08 58 10.1
comp=Z,7.0nm,0.8s
H23K Yukon River 37.92 36 P **P 08 57 54.7 -0.8**
baz=268
I23K Minto, Yukon-K 37.98 37 P **P 08 57 55.8 -0.1**
baz=268
E23K Chandalar 38.05 32 P **P 08 57 55.6 -1.0**
baz=265
SEW Seward 38.08 45 P **P 08 57 56.0 -0.9**
baz=275
NEA2 Nenana 38.09 38 P **P 08 57 57.6 +0.7**
NEA2 IAmb IAmb 08 58 11.0
comp=Z,8.0nm,0.8s
NEA2 Nenana 38.09 38 P **P 08 57 56.7 -0.2**
baz=270
TOLK Toolik Lake Re 38.13 31 P **P 08 57 57.2 0.0**
TOLK IAmb IAmb 08 58 02.9
comp=Z,9.4nm,0.7s
TOLK Toolik Lake Re 38.13 31 P **P 08 57 57.2 0.0**
baz=264,SNR=12
PMR Palmer 38.13 42 P **P 08 57 57.3 0.0**
baz=273
MCK McKinley 38.15 39 P **P 08 57 57.6 +0.2**
baz=271
WAT1 Susitna Watana 38.34 40 P **P 08 57 59.3 +0.2**
baz=272
MDM Murphy Dome 38.45 37 P **P 08 58 00.3 +0.3**
MDM IAmb IAmb 08 58 14.2
comp=Z,7.8nm,0.8s
D24K Happy Valley 38.46 30 P **P 08 58 00.1 +0.2**
D24K IAmb IAmb 08 58 02.3
comp=Z,9.3nm,0.8s
D24K Happy Valley 38.46 30 P **P 08 57 59.9 0.0**
baz=264,SNR=9.4
KNK Knik Glacier 38.47 43 P **P 08 57 59.8 -0.3**
baz=274
E24K Your Creek 38.48 32 P **P 08 57 59.5 -0.7**
baz=266
SML Sawmill 38.50 42 P **P 08 58 01.1 +0.6**
SML Sawmill 38.50 42 P **P 08 57 59.4 -1.0**
baz=274,SNR=11
WRH Wood River Hil 38.51 38 P **P 08 58 01.4 +1.0**

WRH IAmb IAmb 08 58 13.0
comp=Z,9.7nm,1.1s
C24K Franklin Bluff 38.56 29 P **P** 08 58 00.1 -0.7
baz=263,SNR=16
H24K Noodor Dome 38.61 36 P **P** 08 58 00.4 -0.9
baz=269
COLA College 38.61 37 P **P** 08 58 01.0 -0.2
baz=270
COLA College 38.61 37 *ce*P **P** 08 58 02.4 +1.2
COLA pmax pmax
comp=Z,6.0nm,0.9s
CCB Clear Creek Bu 38.63 38 P **P** 08 58 02.4 +1.0
CCB IAmb IAmb 08 58 16.6
comp=Z,5.2nm,0.7s
F24K Squaw Lake 38.67 33 P **P** 08 58 01.5 -0.3
baz=267,SNR=15
WAT6 Susitna Watana 38.73 41 P **P** 08 58 02.3 -0.2
baz=273
M23K Glacier View 38.79 42 P **P** 08 58 03.1 +0.3
baz=274
POKR Poker Plat Res 38.79 37 P **P** 08 58 03.0 +0.2
baz=270
G24K Hadweenzic Riv 38.80 34 P **P** 08 58 03.6 +0.8
G24K Hadweenzic Riv 38.80 34 P **P** 08 58 03.3 +0.5
baz=268,SNR=19
DHY Denali Highway 38.87 40 P **P** 08 58 03.9 +0.2
DHY Denali Highway 38.87 40 P **P** 08 58 04.0 +0.3
baz=273
SCM Sheep Creek Mo 38.97 42 P **P** 08 58 04.4 0.0
baz=274
HDA Harding Lake 39.01 38 P **P** 08 58 04.7 +0.1
HDA IAmb IAmb 08 58 20.5
comp=Z,6.3nm,0.8s
HDA Harding Lake 39.01 38 P **P** 08 58 05.1 +0.5
baz=272
IL31 39.03 37 P **P** 08 58 05.3 +0.6
ILAR Eielson Array 39.03 37 P **P** 08 58 04.6 -0.2
comp=Z,2.0nm,0.5s,baz=274,slow=8.7,SNR=24
ILAR LR LR 09 16 47.7
comp=Z,61nm,18.7s,baz=266,slow=40
comp=Z,2.0nm,0.5s
P23K Montague Islan 39.11 45 P **P** 08 58 05.3 -0.2
baz=277
GLI Glacier Island 39.17 44 P **P** 08 58 05.8 -0.2
baz=276
D25K Kavik River 39.34 30 P **P** 08 58 07.7 +0.3
baz=266
G25K Bearman Lake 39.34 34 P **P** 08 58 07.7 +0.4
baz=270,SNR=8.2
GYA Guiyang 39.36 257 *e*P **P** 08 58 10.5 +2.4
GYA pmax pmax
comp=Z,14nm,1.0s
H25L Birch Creek 39.45 35 P **P** 08 58 08.5 +0.2
baz=270
M24K Tolsona, Glenn 39.49 42 P **P** 08 58 08.8 +0.1
baz=275
F25K Christian Rive 39.53 33 P **P** 08 58 08.9 -0.1
baz=269,SNR=11
K24K Donnelly Dome 39.55 39 P **P** 08 58 09.0 -0.1
baz=273
E25K Arctic Village 39.58 32 P **P** 08 58 10.2 +0.9
E25K IAmb IAmb 08 58 24.9
comp=Z,7.7nm,0.9s
E25K Arctic Village 39.58 32 P **P** 08 58 08.5 -0.8
baz=268,SNR=13
PRP Porcupine Dome 39.59 36 P **P** 08 58 10.3 +0.8
PRP IAmb IAmb 08 58 24.9
comp=Z,6.7nm,0.8s
PRP Porcupine Dome 39.59 36 P **P** 08 58 08.5 -1.0
baz=272,SNR=7.8
KLU Klutina 39.67 42 P **P** 08 58 09.7 -0.5
baz=276
J25K Salcha River, 39.69 38 P **P** 08 58 10.5 +0.2
J25K Salcha River, 39.69 38 P **P** 08 58 09.9 -0.4
baz=273
FYU Fort Yukon 39.69 34 P **P** 08 58 11.4 +1.2
Q23K Middleton Isla 39.72 46 P **P** 08 58 10.3 -0.2
baz=278
PAX Paxson 39.75 40 P **P** 08 58 11.0 +0.2
baz=275
EYAK Cordova Ski Ar 39.86 44 P **P** 08 58 11.5 -0.3
baz=277
C26K Camden Bay 39.89 29 P **P** 08 58 12.0 +0.2
baz=267,SNR=12
BMAR Burnt Mountain 39.94 33 P **P** 08 58 13.2 +0.8
HARP HAARP 39.94 41 P **P** 08 58 11.6 -0.8
baz=276
F26K Sheenjek River 40.11 33 P **P** 08 58 13.8 +0.1
baz=270,SNR=11
G26K Porcupine Rive 40.26 34 P **P** 08 58 15.2 +0.3
baz=271,SNR=23
N25K Chitina, Valde 40.29 42 P **P** 08 58 15.5 +0.1
baz=277
C27K Jago River 40.30 30 P **P** 08 58 15.4 +0.1
baz=268
SCRK Sand Creek 40.33 38 P **P** 08 58 15.8 +0.1
SCRK Sand Creek 40.33 38 P **P** 08 58 15.6 -0.1
baz=275
BMRM Bremner River 40.37 43 P **P** 08 58 15.8 -0.2
baz=278
J26L Joseph Creek 40.47 38 P **P** 08 58 16.4 -0.4
J26L Joseph Creek 40.47 38 P **P** 08 58 16.6 -0.2
baz=274
I26K Coal Creek Min 40.59 36 P **P** 08 58 17.9 +0.2
baz=274
KAIM Kayak Island 40.61 45 P **P** 08 58 18.2 +0.3
baz=279
L26K Log Cabin Wild 40.70 40 P **P** 08 58 18.7 0.0
baz=276,SNR=5.2
M26K Nabesna, AK 40.94 41 P **P** 08 58 20.3 -0.4
baz=277,SNR=10
E27K Coleen River 41.06 32 P **P** 08 58 21.8 +0.2
baz=272
MCARA McCarthy VSAT 41.07 42 P **P** 08 58 21.8 +0.1
baz=279
G27K Doyon Strip 41.10 34 P **P** 08 58 22.1 +0.2
baz=274
K27K Chicken 41.16 38 P **P** 08 58 23.2 +0.8
K27K IAmb IAmb 08 58 38.6
comp=Z,13nm,1.1s
K27K Chicken 41.16 38 P **P** 08 58 22.3 -0.1
baz=276,SNR=9.0
H27K Steamboat Moun 41.19 35 P **P** 08 58 23.3 +0.6
baz=274,SNR=9.8
I27K Kandik River 41.20 36 P **P** 08 58 23.0 +0.1
baz=275
D27M Malcolm River 41.26 30 P **P** 08 58 24.2 +0.9
baz=271
WAX Waxell Ridge 41.30 44 P **P** 08 58 24.5 +0.8
WAX IAmb IAmb 08 58 29.3
comp=Z,14nm,0.8s
L27K Beaver Creek, 41.39 40 P **P** 08 58 24.4 0.0
baz=278,SNR=11
BCAR Beaver Creek A 41.41 40 P **P** 08 58 25.6 +1.0
M27K Edge Creek, AK 41.46 41 P **P** 08 58 25.2 +0.1
baz=278,SNR=6.1
EGAK Eagle 41.48 37 P **P** 08 58 25.5 +0.6
baz=276
F28M Old Crow 41.74 33 P **P** 08 58 28.1 +1.0
baz=274,SNR=7.9
MESA MESA 41.79 44 P **P** 08 58 28.0 +0.2
baz=281
E28M Babbage River 41.80 31 P **P** 08 58 28.7 +1.1
baz=273
ZAA0 Zalesovo Array 41.85 306 P P 08 58 38.8 +11
ZALV Zalesovo Beam 41.85 306 P P 08 58 38.9 +11
ZALV Zalesovo Beam 41.85 306 LR LR 09 17 06.2
comp=Z,195nm,18.3s,baz=80,slow=38
ZALV Zalesovo Beam 41.85 306 P P 08 58 38.9 +11
I28M Miner Creek 41.92 36 P **P** 08 58 29.8 +1.1
baz=276,SNR=9.1
BVCY Beaver Creek 41.92 41 P **P** 08 58 29.3 +0.6
baz=279
CTG Chitna Glacier 41.94 43 P **P** 08 58 29.4 +0.4
baz=280
D28M Stokes Point 42.05 30 P **P** 08 58 30.3 +0.7
baz=273
YUK3 Moose Creek 42.22 41 P **P** 08 58 31.6 +0.3
baz=280
DAWY Dawson 42.33 38 P **P** 08 58 33.0 +1.0
baz=278
E29M Blow River 42.42 31 P **P** 08 58 33.9 +1.2
E29M Blow River 42.42 31 P **P** 08 58 33.3 +0.6
baz=275,SNR=15
H29M Whitestone 42.47 35 P **P** 08 58 33.7 +0.6
baz=277
G29M Pine Creek 42.52 34 P **P** 08 58 34.1 +0.6
baz=277,SNR=12
O28M Mount Upton 42.53 43 P **P** 08 58 33.5 -0.5
baz=281
I29M Ogilvie Camp, 42.60 36 P **P** 08 58 34.6 +0.4
baz=278,SNR=7.9
YUK8 Steele Glacier 42.63 42 P **P** 08 58 34.6 -0.2
baz=281
PZH PanZhiHua 42.74 261 P **P** 08 58 36.5 +0.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,80nm,5.3s
M29M Somme Creek 43.02 40 P **P** 08 58 37.7 0.0
baz=281
L29M L29M 43.04 39 P **P** 08 58 39.3 +1.5
L29M L29M 43.04 39 P **P** 08 58 38.1 +0.3
baz=281,SNR=10
EPYK Eagle Plains 43.11 34 P **P** 08 58 39.5 +1.2
EPYK IAmb IAmb 08 58 54.0
comp=Z,12nm,0.9s
EPYK Eagle Plains 43.11 34 P **P** 08 58 38.6 +0.3
baz=278,SNR=6.6
YUK4 Talbot Arm 43.15 42 P **P** 08 58 39.5 +0.6
baz=282
PNL Peninsula 43.15 44 P **P** 08 58 39.4 +0.7
baz=283
K29M Barlow Dome 43.18 38 P **P** 08 58 39.1 +0.1
baz=280
G30M tAoh Zraii Nji 43.22 33 P **P** 08 58 39.6 +0.4
baz=278
F30M Barrier River 43.30 32 P **P** 08 58 40.4 +0.6
baz=278,SNR=19
YUK6 Outpost Mounta 43.37 42 P **P** 08 58 39.9 -0.8
baz=283
I30M Mount Dempster 43.43 36 P **P** 08 58 41.8 +0.8
I30M IAmb IAmb 08 58 57.0
comp=Z,15nm,0.9s
I30M Mount Dempster 43.43 36 P **P** 08 58 42.0 +1.0
baz=280,SNR=16
J30M Hart River 43.56 37 P **P** 08 58 42.5 +0.4
baz=280
WMQ Urumqi 43.56 291 *e*P **P** 08 58 43.5 +1.2
WMQ pmax pmax
comp=Z,28nm,0.9s
WMQ LR LR
comp=Z,280nm,14.5s
WMQ LR LR
comp=Z,330nm,15.5s
WMQ LR LR
comp=Z,170nm,20.7s
DAV Davao City (W) 43.57 217 LR LR 09 15 58.7
comp=Z,43nm,21.1s,baz=3.5,slow=35
M30M Minto, Yukon 43.75 40 P **P** 08 58 43.9 +0.4
baz=282
HYT Haines Junctio 43.80 42 P **P** 08 58 44.8 +0.8
baz=283,SNR=12
N30M Aishikik Lake 43.86 41 P **P** 08 58 45.1 +0.7
baz=283
MAYO Mayo, Yukon 43.94 38 P **P** 08 58 45.9 +0.9
baz=282
P29M Windy Craggy 43.98 44 P **P** 08 58 46.0 +0.7
baz=284,SNR=6.6
G31M Satah River 43.99 33 P **P** 08 58 46.0 +0.7
baz=280
INK Inuvik 44.04 31 P **P** 08 58 46.3 +0.6
baz=279,SNR=8.7
INK Inuvik 44.04 31 LR LR 09 19 01.9
comp=Z,108nm,19.5s,baz=354,slow=39
F31M Tsiigehtchic 44.10 33 P **P** 08 58 47.0 +0.8
baz=280
H31M Peel River 44.16 35 P **P** 08 58 47.6 +0.9
baz=281
P30M Million Dollar 44.24 43 P **P** 08 58 48.1 +0.6
baz=285
N31M Braeburn, Yuko 44.46 41 P **P** 08 58 49.9 +0.7
baz=284
O30N Mendenhall 44.49 42 P **P** 08 58 49.8 +0.4
baz=285
PLBC Pleasant Camp 44.70 44 P **P** 08 58 51.8 +0.7
baz=286
M31M Drury Creek, Y 44.92 40 P **P** 08 58 53.8 +1.0
baz=284,SNR=8.2
WHY Whitehorse 45.09 42 P **P** 08 58 54.7 +0.4
baz=286
S31K Pelican 45.19 46 P **P** 08 58 56.1 +1.2
baz=287
SKAG Skagway 45.21 44 P **P** 08 58 55.2 +0.1
baz=286
R31K City Hall, Gus 45.30 45 P **P** 08 58 56.3 +0.5
baz=287
FARO Faro, Yukon 45.39 40 P **P** 08 58 56.9 +0.4
baz=285,SNR=7.4
N32M Quiet Lake 45.80 41 P **P** 08 59 00.2 +0.3
baz=286
MK31 Makanchi Array 45.82 297 **P** 08 58 59.4 -0.8
MK31 Makanchi Array 45.82 297 P **P** 08 58 59.4 -0.8
MK31 pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 45.82 297 P **P** 08 58 59.8 -0.3
MKAR Makanchi Array 45.82 297 P **P** 08 58 58.2 -1.9
comp=Z,0.3nm,0.3s,baz=72,slow=7.7,SNR=4.8
MKAR LR LR 09 19 21.1
comp=Z,398nm,19.1s,baz=62,slow=38
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 45.82 297 *e*P **P** 08 58 59.8 -0.3
MKAR Makanchi Array 45.82 297 P **P** 08 58 59.8 -0.3
SIT Sitka 45.93 47 P **P** 08 59 00.9 +0.1
baz=289
P32M Atlin 45.96 43 P **P** 08 59 01.4 +0.4
baz=287
R32K Eaglecrest 45.96 45 P **P** 08 59 01.5 +0.4
baz=288
A36M Sachs Harbour 46.13 25 P **P** 08 59 02.7 +0.5
A36M IAmb IAmb 08 59 35.6
comp=Z,8.5nm,0.8s
A36M Sachs Harbour 46.13 25 P **P** 08 59 02.8 +0.5
baz=283
S32K Killisnoo 46.18 46 P **P** 08 59 03.0 +0.2
baz=289
P33M Teslin, Yukon 46.20 42 P **P** 08 59 04.5 +1.5
P33M IAmb IAmb 08 59 30.3
comp=Z,8.1nm,1.1s
P33M Teslin, Yukon 46.20 42 P **P** 08 59 03.6 +0.5
baz=288,SNR=7.1
KURK Kurchatov 46.50 304 P **P** 08 59 05.0 -0.4
KURK Kurchatov 46.50 304 *e*P **P** 08 59 04.2 -1.2
KURK Kurchatov 46.50 304 *de*P **P** 08 59 04.2 -1.2
KURK pmax pmax
comp=Z,3.0nm,1.0s
KURBB Kurchatov Arra 46.59 304 P **P** 08 59 04.8 -1.2
comp=Z,2.1nm,0.9s,baz=68,slow=8.4,SNR=8.5
KURBB LR LR 09 18 44.4
comp=Z,92nm,21.3s,baz=180,slow=36
comp=Z,2.1nm,0.9s
C36M Paulatuk 47.17 29 P **P** 08 59 10.1 -0.3
C36M Paulatuk 47.17 29 P **P** 08 59 10.4 +0.1
baz=286,SNR=13
R33M Jennings River 47.35 43 P **P** 08 59 12.4 +0.3
baz=290
U33K Whale Pass 47.40 48 P **P** 08 59 13.4 +1.1
baz=291
CRAG Craig 47.63 49 P **P** 08 59 14.1 0.0
baz=292
WRAK Wrangell Islan 47.69 47 P **P** 08 59 14.5 0.0
baz=291
S34M Telegraph Cree 47.78 45 P **P** 08 59 16.1 +0.8
baz=291
TGTN Hyland Airport 47.90 40 P **P** 08 59 16.5 +0.3
baz=290
WTLY Watson Lake, Y 48.14 42 P **P** 08 59 18.4 +0.3
baz=290
DLBC Dease Lake 48.14 44 P **P** 08 59 17.9 -0.2
baz=291
V35K Ketchikan 48.48 48 P **P** 08 59 21.2 +0.5
baz=293
T35M Bob Quinn 48.56 46 P **P** 08 59 21.7 +0.3
baz=292,SNR=5.6
GRNB Grenville Isla 49.96 50 P **P** 08 59 33.9 +1.9
CMAR Chiang Mai Arr 49.99 255 P **P** 08 59 33.2 +0.5
comp=Z,0.8nm,0.3s,baz=32,slow=7.7,SNR=4.8
CMAR LR LR 09 22 13.5
comp=Z,46nm,19.9s,baz=70,slow=38
comp=Z,0.8nm,0.3s
BVAR Borovoye Array 50.24 309 P **P** 08 59 32.9 -1.2
comp=Z,0.5nm,0.4s,baz=53,slow=5.7,SNR=4.3
BVAR LR LR 09 22 07.8
comp=Z,116nm,21.1s,baz=42,slow=38
comp=Z,0.5nm,0.4s
BRVK Borovoye 50.28 309 *e*P **P** 08 59 34.1 -0.4
BRVK Borovoye 50.28 309 *ce*P **P** 08 59 34.1 -0.4
BRVK pmax pmax
comp=Z,3.0nm,1.3s
TOAD Toad River Com 50.30 42 P **P** 08 59 35.2 +0.6
baz=294,SNR=8.3
KOTAN Kotaneelee Air 50.33 40 P **P** 08 59 35.0 +0.3
baz=294
BBB Bella Bella 51.69 51 LR LR 09 20 54.2
comp=Z,61nm,19.9s,baz=290,slow=35
BOOM Boomskoye usch 51.81 295 P **P** 08 59 46.6 +0.3
BOOM Boomskoye usch 51.81 295 P **P** 08 59 46.6 +0.3
BOOM pmax pmax
comp=Z,3.0nm,0.8s
AAK Ala-Archa 52.66 296 LR LR 09 23 41.9
comp=Z,158nm,19.3s,baz=62,slow=38
RES Resolute Bay 52.94 18 P **P** 08 59 52.9 -1.0
RES IAmb IAmb 08 59 57.0
comp=Z,9.7nm,0.9s
RES Resolute Bay 52.94 18 LR LR 09 24 12.5
comp=Z,93nm,19.9s,baz=334,slow=38
RES Resolute Bay 52.94 18 P **P** 08 59 52.9 -1.0
RES pmax pmax
comp=Z,10.0nm,0.9s
YKA Yellowknife Ar 53.38 35 P **P** 08 59 57.5 +0.2
YKA Yellowknife Ar 53.38 35 P **P** 08 59 57.6 +0.3
comp=Z,2.9nm,0.8s,baz=300,slow=7.2,SNR=34
comp=Z,2.9nm,0.8s
SPITS Spitsbergen Ar 53.75 349 LR LR 09 24 50.0
comp=Z,89nm,18.2s,baz=18,slow=38
ARU Arti 54.74 317 LR LR 09 25 15.5
comp=Z,170nm,21.3s,baz=35,slow=38
ARU Arti 54.74 317 *eP* **P** 09 00 06.1 -1.3
ARU Arti 54.74 317 ‖ *eP* **P** 09 00 06.1 -1.3
ARU pmax pmax
comp=Z,11nm,1.3s
KK31 Karatay Array 54.92 298 P **P** 09 00 08.6 -0.3
KK31 Karatay Array 54.92 298 P **P** 09 00 08.6 -0.3
KK31 pmax pmax
comp=Z,3.0nm,1.1s
KKAR Karatay Array 54.92 298 P **P** 09 00 08.6 -0.3
KKAR Karatay Array 54.92 298 P **P** 09 00 08.6 -0.3
HNR Honiara 55.10 168 LR LR 09 20 22.3
comp=Z,1μm,21.9s,baz=338,slow=32
BRLDA Berland Lookou 56.37 45 P **P** 09 00 20.0 +0.7
NEEM North Greenlan 56.90 5 *i* P **P** 09 00 21.0 -2.0
NEEM IAmb IAmb 09 00 23.1
comp=Z,7.8nm,0.9s
KAPI Kappang 56.91 217 LR LR 09 26 43.0
comp=Z,20nm,19.1s,baz=75,slow=38
GAR Garm 57.28 294 P **P** 09 00 25.6 -0.3
GAR IAmb IAmb 09 00 41.3
comp=Z,7.7nm,0.9s
KIRV Kirov 57.75 323 LR LR 09 27 34.0
comp=Z,227nm,19.5s,baz=48,slow=38
ABKAR Akbulak array 57.81 309 **P** 09 00 28.4 -0.9
ABKAR Akbulak array 57.81 309 **P** 09 00 28.7 -0.7
ABKAR IAmb IAmb 09 00 43.6
comp=Z,6.1nm,1.4s
AKTO Aktyubinsk 58.20 311 LR LR 09 27 43.5
comp=Z,277nm,19.6s,baz=36,slow=38
SIMJ Simiganj 58.32 295 P **P** 09 00 32.1 -1.2
SIMJ IAmb IAmb 09 00 55.9
comp=Z,5.9nm,0.8s
NIL Nilore 58.42 288 P **P** 09 00 35.0 +1.1
NIL Nilore 58.42 288 P **P** 09 00 35.0 +1.1
NIL pmax pmax
comp=Z,18nm,1.0s
ARCES ARCESS Array B 58.61 340 LR LR 09 28 54.3
comp=Z,74nm,20.4s,baz=48,slow=39
BUCK Buck Mountain 58.72 57 P **P** 09 00 37.5 +1.6
J01E Myrtle Point 58.73 59 P **P** 09 00 37.6 +1.8
EDM Edmonton 58.86 44 P **P** 09 00 37.0 +0.3
EDM Edmonton 58.86 44 P **P** 09 00 37.0 +0.3
EDM pmax pmax
comp=Z,13nm,0.8s
NEW Newport 59.74 51 P **P** 09 00 43.0 +0.2
baz=305
PINE Pine Mountain 60.16 57 P **P** 09 00 47.7 +1.7
MSO Missoula 62.33 50 P **P** 09 01 00.6 +0.1
baz=308
SUMG Summit 62.36 3 *i* P **P** 09 01 00.0 -0.6
SUMG IAmb IAmb 09 01 02.8
comp=Z,9.5nm,0.9s
JMIC Jan Mayen 63.10 352 LR LR 09 28 29.5
comp=Z,50nm,18.2s,baz=308,slow=36
FFC Flin Flon 63.23 38 P **P** 09 01 06.3 +0.1
FFC IAmb IAmb 09 01 22.0
comp=Z,10nm,0.9s
FFC Flin Flon 63.23 38 P **P** 09 01 06.3 +0.1
FFC pmax pmax
comp=Z,10.0nm,1.0s
PAHR Pah Rah Range 63.53 60 P **P** 09 01 09.7 +1.1
PAHR IAmb IAmb 09 01 10.9
comp=Z,15nm,1.3s
PNTR Pine Nut 63.78 60 P **P** 09 01 11.5 +1.1
PNTR IAmb IAmb 09 01 12.3
comp=Z,8.5nm,0.9s
EGMT Eagleton 63.82 47 P **P** 09 01 10.5 +0.2
baz=309
YERR Yerington 64.06 60 P **P** 09 01 13.5 +1.3
YERR IAmb IAmb 09 01 14.7
comp=Z,16nm,1.2s
HLID Hailey 64.08 54 P **P** 09 01 12.7 +0.5
baz=309
BOZ Bozeman (W) 64.36 50 P **P** 09 01 14.3 +0.4
baz=309
FIA1 FINESS Array S 64.53 334 P **P** 09 01 15.1 +0.5
FINES FINESS Array B 64.53 334 P **P** 09 01 14.4 -0.2
comp=Z,3.1nm,0.7s,baz=35,slow=7.0,SNR=9.0
FINES LR LR 09 31 47.4
comp=Z,159nm,20.4s,baz=54,slow=38
comp=Z,3.1nm,0.7s
KVN Kaiserville 64.72 59 P **P** 09 01 17.6 +1.1
KVN IAmb IAmb 09 01 18.9
comp=Z,11nm,1.1s
KVN Kaiserville 64.72 59 P **P** 09 01 17.6 +1.1
KVN pmax pmax
comp=Z,11nm,1.1s
NVAR Mina Array Bea 64.98 60 P **P** 09 01 19.2 +1.0
NVAR Mina Array Bea 64.98 60 P **P** 09 01 19.5 +1.3
comp=Z,4.0nm,0.7s,baz=294,slow=6.6,SNR=32
comp=Z,4.0nm,0.7s
OBN Obninsk 65.39 325 LR LR 09 31 33.1
comp=Z,39nm,21.8s,baz=358,slow=38
OBN Obninsk 65.39 325 *eP* **P** 09 01 19.0 -1.2
OBN Obninsk 65.39 325 ‖ *eP* **P** 09 01 19.0 -1.2
OBN *PP **sP** 09 01 39.0 -1.6
OBN *SP **PcP** 09 01 48.0 -3.9
OBN *eS **S** 09 09 57.3 -2.9
OBN *SS **pS** 09 10 20.0 +2.2
OBN pmax pmax
comp=Z,10.0nm,0.5s
OBN MLR MLR
comp=Z,79nm,17.0s
GEYT Alibeck 65.60 300 P **P** 09 01 22.4 +0.4
comp=Z,2.1nm,0.7s,baz=64,slow=10,SNR=5.7
GEYT LR LR 09 32 31.0
comp=Z,115nm,19.9s,baz=52,slow=38
comp=Z,2.1nm,0.7s
VOG Valley Oaks Go 65.64 62 P **P** 09 01 22.7 +0.6
baz=309
H17A Grant Village 65.70 51 P **P** 09 01 23.0 +0.2
baz=310
ICESG Greenland Ices 65.78 4 *i* P **P** 09 01 22.1 -0.9
ICESG IAmb IAmb 09 01 25.2
comp=Z,20nm,1.1s
HEL Helsinki 65.86 333 P P 09 01 31.1 +7.9
HEL pmax pmax
comp=Z,8.0nm,1.1s
SMMC Simmler 65.88 64 P **P** 09 01 24.3 +0.4
baz=309
RLMT Red Lodge 65.94 50 P **P** 09 01 24.3 0.0
baz=311
VES Vestal, Richgr 66.12 63 P **P** 09 01 25.9 +0.6
baz=310
PKM Mcpherson Peak 66.27 64 P **P** 09 01 27.0 +0.4
baz=310
DGMT Dagmar 66.35 44 P **P** 09 01 26.7 0.0
baz=312
CWC Cottonwood Cre 66.37 62 P **P** 09 01 28.1 +1.0
baz=310
WR0 Warramunga Arr 66.40 196 P **P** 09 01 27.9 +0.8
WRAB Tennant Creek 66.41 196 ‖ *eP* **P** 09 01 29.3 +2.1
WRAB pmax pmax
comp=Z,9.0nm,1.1s

WRA	Warramunga Arr	66.42	196	P		P	09 01 27.7	+0.4
WRA	Warramunga Arr	66.42	196	P		P	09 01 27.9	+0.7
	comp=Z,2.5nm,0.8s,baz=16,slow=6.8,SNR=12							
WRA				LR		LR	09 28 43.4	
	comp=Z,40nm,21.9s,baz=58,slow=34							
	comp=Z,2.5nm,0.8s							
WRA	Warramunga Arr	66.42	196	P		P	09 01 27.7	+0.4
GRAC	Grapevine Rang	66.46	61	P		P	09 01 28.5	+0.9
	baz=310							
LAO	LASA Array	66.52	47	P		P	09 01 28.3	+0.5
	baz=312							
R11B	Troy Canyon, C	66.68	59	P		P	09 01 30.1	+0.9
	baz=310							
ARVC	Arvin	66.74	63	P		P	09 01 29.9	+0.6
	baz=310							
MPMC	Manual Prospec	66.98	62	P		P	09 01 31.9	+0.8
	baz=310							
SFJD	Kangerlussuaq	67.00	9	LR		LR	09 30 42.6	
	comp=Z,76nm,21.7s,baz=354,slow=36							
FURC	Furnace Creek,	67.11	61	P		P	09 01 32.4	+0.8
	baz=310							
DUG	Dugway, Tooele	67.14	56	P		P	09 01 32.3	+0.3
	baz=311							
FRB	Frobisher Bay	67.16	18	LR		LR	09 34 16.3	
	comp=Z,84nm,18.9s,baz=311,slow=39							
LRMC	Laurel Mtn Rad	67.23	62	P		P	09 01 33.2	+0.6
	baz=310							
BW06	Boulder Array	67.32	52	P		P	09 01 33.3	+0.1
	baz=311							
PDAR	Pinedale Array	67.32	52	P		P	09 01 33.8	+0.6
	comp=Z,3.0nm,0.9s,baz=288,slow=1.4,SNR=19							
	comp=Z,3.0nm,0.9s							
EDW2	Edwards Air Fo	67.42	63	P		P	09 01 34.2	+0.5
	baz=310							
SNCC	San Nicolas Is	67.50	65	P		P	09 01 34.7	+0.6
	baz=310							
DECC	Green Verdugo	67.61	64	P		P	09 01 35.9	+1.0
	baz=310							
SHOC	Shoshone, Teco	67.84	61	P		P	09 01 36.9	+0.6
	baz=311							
GSC	Goldstone, Bar	67.89	62	P		P	09 01 37.0	+0.3
	baz=311							
DY2G	Dye2	67.93	7	eP		P	09 01 35.1	-1.5
BFSC	Mount Baldy Ra	68.05	63	P		P	09 01 38.1	+0.4
	baz=311							
CIS	Catalina Islan	68.11	64	P		P	09 01 39.1	+1.1
	baz=311							
TUQ	Turquoise Moun	68.36	61	P		P	09 01 39.5	-0.2
	baz=311							
HEC	Hector,Ludlow	68.50	62	P		P	09 01 40.8	+0.3
	baz=311							
BBRC	Big Bear Solar	68.50	63	P		P	09 01 40.9	+0.3
	baz=311							
DZM	Mont Dzumac	68.59	164	eLR		LR	09 22 30.1	
	comp=Z,117nm,23.1s							
DZM	Mont Dzumac	68.59	164	LR		LR	09 24 45.6	
	comp=Z,71nm,21.9s,baz=230,slow=30							
MURC	Murrieta	68.75	63	P		P	09 01 42.6	+0.5
	baz=311							
GMRC	Granite Mounta	68.94	62	P		P	09 01 43.5	+0.1
	baz=311							
LCMT	Little Creek M	68.96	58	P		P	09 01 44.9	+1.5
LCMT				IAmb		IAmb	09 02 00.5	
	comp=Z,6.9nm,1.0s							
NB2	NORSAR Subarra	68.99	340	P		P	09 01 43.7	+0.6
	comp=Z,0.5nm,0.6s,baz=32,slow=6.5							
NOA	NORSAR Array B	68.99	340	P		P	09 01 42.2	-0.9
	comp=Z,0.7nm,0.5s,baz=30,slow=6.3,SNR=4.7							
NOA				LR		LR	09 36 31.0	
	comp=Z,103nm,19.7s,baz=40,slow=40							
	comp=Z,0.7nm,0.5s							
MDND	Maddock	69.02	43	P		P	09 01 43.5	+0.1
	baz=315							
K22A	Casper	69.06	50	P		P	09 01 43.9	-0.1
	baz=313							
HFS	Hagfors	69.15	338	P		P	09 01 42.5	-1.5
	comp=Z,3.2nm,0.9s,baz=28,slow=6.9,SNR=2.7							
HFS				LR		LR	09 36 24.2	
	comp=Z,118nm,19.2s,baz=12,slow=40							
	comp=Z,3.2nm,0.9s							
PFO	Pinyon Flats O	69.21	63	P		P	09 01 45.7	+0.7
	baz=311							
TPFO	Pinon Flats	69.22	63	P		P	09 01 44.9	-0.2
	baz=311							
BELC	Belle Mtn. Jos	69.25	62	P		P	09 01 45.6	+0.4
	baz=311							
109C	Camp Elliot, M	69.28	64	P		P	09 01 46.1	+0.8
	baz=311							
RSSD	Black Hills	69.39	48	P		P	09 01 45.6	-0.5
	baz=314							
NEE2	Needles Airpor	69.60	61	P		P	09 01 47.0	-0.3
	baz=312							
IRM	Iron Mountain	69.68	62	P		P	09 01 47.2	-0.5
	baz=312							
MONP2	Monument Peak	69.71	64	P		P	09 01 47.5	-0.7
	baz=311							
O20A	White River Ci	69.81	53	P		P	09 01 47.8	-0.9
	baz=313							
BC3	Big Chuckawall	69.81	62	P		P	09 01 48.4	-0.3
	baz=312							
HMU	Henry Mountain	69.84	56	P		P	09 01 50.1	+1.1
HMU				IAmb		IAmb	09 02 03.6	
	comp=Z,7.2nm,0.8s							
IKP	In-Ko-Pah, Jac	70.06	64	P		P	09 01 50.7	+0.5
	baz=312							
SWSC	Sam W. Stewart	70.06	63	P		P	09 01 50.1	0.0
	baz=312							
AS31	Alice Springs	70.13	196	P		P	09 01 51.8	+1.3
ASAR	Alice Springs	70.13	196	P		P	09 01 52.1	+1.6
ASAR	Alice Springs	70.13	196	P		P	09 01 51.6	+1.2
	comp=Z,1.7nm,0.8s,baz=11,slow=5.9,SNR=22							
ASAR				LR		LR	09 31 16.9	
	comp=Z,53nm,19.9s,baz=60,slow=35							
	comp=Z,1.7nm,0.8s							
PDMCI	Parker Dam,Lak	70.20	61	P		P	09 01 51.6	+0.7
	baz=312							
KIV	Kislovodsk	70.37	313	eP		P	09 01 53.2	+1.3
KIV	Kislovodsk	70.37	313	⇓eP		P	09 01 53.8	+1.9
KIV				e			09 02 11.6	
KIV				e			09 11 18.6	
KIV				pmax		pmax		
	comp=Z,13nm,1.0s							
KIV				MLR		MLR		
	comp=Z,217nm,20.0s							
KBZ	Khabaz	70.41	313	P		P	09 01 52.2	+0.2
	comp=Z,11nm,1.0s,baz=64,slow=1.1,SNR=17							
KBZ				LR		LR	09 36 43.2	
	comp=Z,253nm,20.6s,baz=46,slow=39							
	comp=Z,11nm,1.0s							
KBZ	Khabaz	70.41	313	eP		P	09 01 53.3	+1.3
KBZ	Khabaz	70.41	313	deP		P	09 01 53.3	+1.3
KBZ				pmax		pmax		
	comp=Z,11nm,0.9s							
PALK	Pallekele	70.42	260	LR		LR	09 36 25.0	
	comp=Z,33nm,18.0s,baz=226,slow=39							
AGMN	Agassiz Nation	70.44	40	P		P	09 01 52.5	+0.3
	baz=317							
N23A	Red Feather La	70.57	51	P		P	09 01 53.2	-0.2
	baz=314							
GLA	Glamis	70.61	62	P		P	09 01 54.2	+0.7
	baz=312							
WUAZ	Wupatki	71.08	59	P		P	09 01 56.3	-0.2
	baz=312							
SMCO	Snowmass	71.17	53	P		P	09 01 57.9	+0.6
ISCO	Idaho Springs	71.51	52	P		P	09 01 59.8	+0.6
	baz=314							
MVCO	Mesa Verde	71.64	56	P		P	09 02 00.1	+0.2
	baz=313							
AKASG	Malin Array Be	71.65	325	P		P	09 01 59.0	-0.4
	comp=Z,0.6nm,0.4s,baz=36,slow=5.4,SNR=11							
AKASG				LR		LR	09 35 26.4	
	comp=Z,99nm,21.6s,baz=44,slow=38							
	comp=Z,0.6nm,0.4s							
AKASG	Malin Array Be	71.65	325	P		P	09 01 59.0	-0.4
AKBB	Malin Array Si	71.65	325	⇑eP		P	09 01 58.6	-0.8
AKBB	Malin Array Si	71.65	325	P		P	09 01 59.3	-0.1
GNI	Garni	71.92	309	LR		LR	09 36 24.4	
	comp=Z,79nm,21.6s,baz=48,slow=38							
W18A	Petrified Fore	72.34	58	P		P	09 02 03.2	-0.8
	baz=313							
Q24A	Divide	72.35	52	P		P	09 02 03.8	-0.4
	baz=314							
214A	Organ Pipe Nat	72.60	62	P		P	09 02 05.5	+0.1
	baz=313							
LUBAR	Lubar, Ukraine	72.85	325	P		P	09 02 06.8	+0.2
SDCO	Great Sand Dun	73.00	53	P		P	09 02 07.5	-0.6
	baz=314							
ECSD	EROS Data Cent	73.43	44	P		P	09 02 09.9	-0.2
ECSD				IAmb		IAmb	09 02 25.6	
	comp=Z,14nm,1.2s							
ECSD	EROS Data Cent	73.43	44	P		P	09 02 09.6	-0.6
	baz=318							
TUC	Tucson	73.62	61	P		P	09 02 11.5	0.0
	baz=314							
KSCO	Kaye Shedlock'	73.71	51	P		P	09 02 12.3	+0.3
	baz=316							
T25A	Trinidad	74.04	53	P		P	09 02 13.7	-0.5
	baz=315							
SPMN	Marine on St.	74.14	41	P		P	09 02 14.4	+0.2
	baz=319							
BGNE	Belgrade	74.36	47	P		P	09 02 15.9	+0.2
	baz=317							
ANMO	Albuquerque	74.40	56	P		P	09 02 17.1	+0.9
	baz=315							
ANMO	Albuquerque	74.40	56	⇓eP		P	09 02 17.6	+1.4
ANMO				pmax		pmax		
	comp=Z,3.0nm,1.3s							
WSAR	Wadi Sarin	74.92	288	LR		LR	09 39 15.5	
	comp=Z,62nm,21.0s,baz=60,slow=39							
121A	Cookes Peak, D	75.30	59	P		P	09 02 21.8	+0.4
	baz=315							
SCHQ	Schefferville	75.50	21	LR		LR	09 39 12.1	
	comp=Z,78nm,18.1s,baz=296,slow=38							
BURAR	Bucovina Array	75.70	325			P	09 02 23.2	-0.2
BURAR				IAmb		IAmb	09 02 33.0	
	comp=Z,5.4nm,0.8s							
BERU	Beregovo	76.22	327	P		P	09 02 27.2	+1.1
SCIA	State Center	76.45	43	P		P	09 02 28.4	+0.8
	baz=320							
LANS	Liptovska Anna	76.65	329	eP		P	09 02 29.1	+0.5
LANS	Liptovska Anna	76.65	329	eP		P	09 02 29.2	+0.6
MORC	Moravsky Berou	76.80	331	eP		P	09 02 30.3	+0.8
KSU1	Kansas State U	76.86	47	P		P	09 02 29.7	-0.3
	baz=318							
CLL	Collm	76.98	334	i P		P	09 02 30.5	+0.1
	comp=Z,5.0nm,0.7s							
CLL				i PcP		PcP	09 02 41.4	+0.2
CLL				AMS		AMS	09 40 00.0	
	comp=Z,100nm,20.9s							
CLL	Collm	76.98	334	i P		P	09 02 30.5	+0.1
CLL				pmax		pmax		
	comp=Z,5.0nm,0.7s							
JFWS	Jewell Farm	77.09	41	P		P	09 02 31.1	-0.1
	baz=321							
MLR	Muntele Rosu	77.10	323	LR		LR	09 39 57.9	
	comp=Z,101nm,18.6s,baz=48,slow=38							
STKA	Stephens Creek	77.12	187	LR		LR	09 39 30.9	
	comp=Z,32nm,19.3s,baz=29,slow=38							
AMTX	Amarillo	77.20	53	P		P	09 02 31.9	-0.2
	baz=317							
MSTX	Muleshoe	77.23	55	P		P	09 02 32.2	-0.1
	baz=316							
EKA	Eskdalemuir Ar	77.31	345	P		P	09 02 31.6	-0.5
	comp=Z,0.3nm,0.3s,baz=0.0,slow=2.9,SNR=3.9							
	comp=Z,0.3nm,0.3s							
MNTX	Cornudas Mount	77.33	58	P		P	09 02 32.8	+0.1
	baz=316							
VYHS	Vyhne	77.42	329	eP		P	09 02 32.5	-0.5
VYHS	Vyhne	77.42	329	eP		P	09 02 32.5	-0.5
JAVC	Velka Javorina	77.53	330	eP		P	09 02 35.6	+2.0
KRUC	Moravsky	77.81	331	eP		P	09 02 35.4	+0.3
BRTR	Keskin Array B	78.06	315	P		P	09 02 35.9	-0.9
	comp=Z,2.5nm,0.9s,baz=69,slow=6.8,SNR=8.4							
BRTR				LR		LR	09 42 52.9	
	comp=Z,54nm,18.9s,baz=77,slow=40							
	comp=Z,2.5nm,0.9s							
KHC	Kasperske Hory	78.69	333	⇓eP		P	09 02 40.3	+0.3
KHC				pmax		pmax		
	comp=Z,14nm,1.0s							
L44A	Lake County Fo	78.74	40	P		P	09 02 39.8	-0.5
	baz=322							
GERES	GERESS Array B	78.90	332	P		P	09 02 40.4	-0.8
	comp=Z,1.3nm,0.7s,baz=32,slow=7.7,SNR=2.9							
GERES				LR		LR	09 41 55.3	
	comp=Z,111nm,18.6s,baz=44,slow=39							
	comp=Z,1.3nm,0.7s							
WMOK	Wichita Mounta	78.93	52	P		P	09 02 41.8	+0.2
	baz=318							
CONA	Conrad Observa	78.96	331	eP		P	09 02 42.4	+0.9
	comp=Z,6.0nm,1.2s							
RONA	Rosalia, Austr	79.00	330	eP		P	09 02 43.2	+1.5
	comp=Z,2.5nm,0.5s							
HDIL	Hopedale	79.38	42	P		P	09 02 43.9	+0.1
	baz=322							
TUL3	Leonard	79.68	49	P		P	09 02 45.8	+0.2
	baz=319							
ABTX	Abilene, Hawle	80.00	54	P		P	09 02 47.0	-0.4
	baz=318							
TXAR	Lajitas Array	80.05	58	P		P	09 02 48.5	+0.7
	comp=Z,3.7nm,0.6s,baz=299,slow=4.1,SNR=57							
	comp=Z,3.7nm,0.6s							
RAR	Rarotonga	80.28	133	LR		LR	09 33 04.6	
	comp=Z,99nm,20.9s,baz=299,slow=32							
SADO	Sawa	80.32	33	LR		LR	09 40 49.8	
	comp=Z,50nm,18.8s,baz=288,slow=37							
SOKA	Soboth	80.32	330	eP		P	09 02 49.5	+0.5
	comp=Z,8.2nm,1.3s							
CCM	Cathedral Cave	80.38	45	P		P	09 02 49.3	0.0
	baz=321							
LESA	Schwarzleotal	80.47	332	eP		P	09 02 50.6	+0.8
	comp=Z,6.4nm,1.1s							
AAM	Ann Arbor	80.52	37	P		P	09 02 49.0	-1.0
	baz=325							
SFIN	Lafayette	80.54	41	P		P	09 02 48.6	-1.5
	baz=323							
KBA	Koelnbreinsper	80.55	332	eP		P	09 02 51.3	+1.0
	comp=Z,8.0nm,1.1s							
MYKA	Terra Mystica	80.84	331	eP		P	09 02 52.0	+0.2
	comp=Z,2.9nm,0.6s							
WATA	Walderalm	80.91	333	eP		P	09 02 53.2	+1.1
	comp=Z,3.2nm,0.5s							
WTTA	Wattenberg	80.95	333	eP		P	09 02 52.4	-0.1
	comp=Z,3.6nm,0.4s							
RETA	Reutte	81.03	333	eP		P	09 02 52.4	-0.3
	comp=Z,4.4nm,1.0s							
MOTA	Moosalm	81.05	333	eP		P	09 02 53.3	+0.4
	comp=Z,7.2nm,0.9s							
SQTA	Sankt Quirin	81.13	333	eP		P	09 02 54.2	+0.9
	comp=Z,2.8nm,0.6s							
FETA	Feichten	81.46	333	eP		P	09 02 54.2	-1.0
	comp=Z,2.8nm,0.8s							
DAVA	Damuels	81.49	334	eP		P	09 02 56.6	+1.3
	comp=Z,2.7nm,0.5s							
JCT	Junction City	81.50	55	P		P	09 02 54.8	-0.7
	baz=318							
O48B	Farmland	81.52	40	P		P	09 02 54.7	-0.6
	baz=324							
WHTX	Lake Whitney,	81.71	53	P		P	09 02 56.7	+0.2
	baz=319							
MIAR	Mount Ida	81.89	48	P		P	09 02 57.0	-0.4
	baz=320							
DAVOX	Davos/Dischmat	81.94	334	LR		LR	09 42 26.1	
	comp=Z,124nm,20.5s,baz=290,slow=38							
LONY	Lake Ozonia	82.15	30	P		P	09 02 58.0	-0.6
	baz=330							
MMAI	Mount Meron Ar	82.25	310	P		P	09 02 59.9	+0.5
	comp=Z,1.4nm,0.4s,baz=38,slow=8.2,SNR=5.1							
MMAI				LR		LR	09 43 01.3	
	comp=Z,121nm,21.6s,baz=319,slow=38							
	comp=Z,1.4nm,0.4s							
P49A	Miami Univ. Ec	82.30	40	P		P	09 02 59.2	-0.3
	baz=324							
M53A	WI Miller and	82.49	36	P		P	09 03 00.1	-0.3
	baz=327							
ACSO	Alum Creek Sta	82.50	38	P		P	09 03 00.4	-0.1
	baz=325							
435B	Jarrell	82.54	53	P		P	09 03 01.0	+0.1
	baz=319							
WCI	Wyandotte Cave	82.63	41	P		P	09 03 01.0	-0.3
	baz=324							
PPT	Papeete	82.98	123	LR		LR	09 37 44.8	
	comp=Z,74nm,18.2s,baz=296,slow=34							
PPT2	Papeete2	83.00	123	eLR		LR	09 29 05.3	
	comp=Z,127nm,28.8s							
PPT2				eLR		LR	09 29 10.9	
	comp=Z,172nm,26.0s							
O53A	New Philadelph	83.25	37	P		P	09 03 04.3	-0.1
	baz=326							
833A	Chaparral WMA,	83.33	56	P		P	09 03 04.6	-0.4
	baz=318							
P52A	Corning	83.37	38	P		P	09 03 04.1	-0.9
	baz=326							
PKME	Peaks-Kenny Pk	83.38	27	P		P	09 03 04.7	-0.2
	baz=333							
LBNH	Lisbon	83.41	29	P		P	09 03 04.3	-0.9
	baz=332							
NATX	Nacogdoches	83.44	51	P		P	09 03 05.0	-0.4
	baz=320							
WVT	Waverly	83.58	44	P		P	09 03 05.1	-1.0
	baz=323							
BINY	Binghamton	83.72	33	P		P	09 03 06.1	-0.6
	baz=329							
OXF	Oxford	84.07	46	P		P	09 03 08.2	-0.5
	baz=322							
SSPA	Standing Stone	84.30	35	P		P	09 03 08.5	-1.3
	baz=328							
MCWV	Mont Chateau	84.32	36	P		P	09 03 08.8	-1.1
	baz=327							
L61B	Northampton	84.72	30	P		P	09 03 10.6	-1.2
	baz=331							
EIL	Elat	85.04	308	LR		LR	09 47 21.7	
	comp=Z,51nm,18.0s,baz=67,slow=40							
HRV	Adam Dziewonsk	85.06	30	P		P	09 03 12.8	-0.7
	baz=332							
VBMS	Vicksburg	85.30	48	P		P	09 03 13.5	-1.4
	baz=322							
PAL	Palisades	85.53	32	P		P	09 03 14.0	-1.8
	baz=331							
TKL	Tuckaleechee C	85.89	41	LR		LR	09 43 58.6	
	comp=Z,35nm,19.6s,baz=342,slow=37							
BLA	Blacksburg	86.12	38	P		P	09 03 17.9	-1.1
	baz=327							
LRAL	Lakeview Retre	86.46	45	P		P	09 03 20.0	-0.7
	baz=324							
TBI	Tubuai	87.58	127	eLR		LR	09 30 53.3	
	comp=Z,688nm,37.8s							
TBI				eLR		LR	09 31 21.1	
	comp=Z,938nm,30.8s							
GOGA	Godfrey	87.88	42	P		P	09 03 26.8	-0.7
	baz=326							
VAE	Valguarnera	88.52	326	LR		LR	09 46 50.2	
	comp=Z,154nm,18.9s,baz=142,slow=38							
TIGA	Tifton	89.44	44	P		P	09 03 33.7	-1.1
	baz=325							
KEST	Kesra	91.97	329	LR		LR	09 49 59.8	
	comp=Z,92nm,18.1s,baz=310,slow=39							
ESDC	Sonseca Array	92.35	340	LR		LR	09 51 01.2	
	comp=Z,54nm,18.2s,baz=22,slow=39							
DWPF	Disney Wildern	93.23	44	P		P	09 03 51.7	-0.8
	baz=326							
MDT	Midelt	99.03	339	LR		LR	09 55 56.6	
	comp=Z,62nm,20.2s,baz=1.5,slow=40							
TORD	Torodi Ar. Bea	115.28	326	PKP		PKiKP	09 09 19.5	-0.1
	comp=Z,0.2nm,0.4s,baz=11,slow=3.3,SNR=2.4							
VNDA	Vanda	122.67	177	PKP		PKPdf	09 09 32.0	+0.1
	comp=Z,1.1nm,0.8s,baz=320,slow=3.4,SNR=7.6							
VNDA	Vanda	122.67	177	PKIKP		PKPdf	09 09 32.0	+0.1
QSPA	South Pole Qui	134.95	180	PKP		PKiKP	09 09 57.4	+0.4
	comp=Z,3.6nm,1.0s,baz=262,slow=1.3,SNR=9.8							
LPAZ	La Paz	136.89	61	PKP		PKPdf	09 10 02.1	+0.7
	comp=Z,0.7nm,0.7s,baz=38,slow=2.0,SNR=3.5							
H03N2	Juan Fernandez	140.81	90	T		T	11 47 23.3	
	baz=306,slow=77,SNR=132							
H03N1	Juan Fernandez	140.82	90	T		T	11 47 18.5	
	baz=306,slow=77,SNR=137							
H03N3	Juan Fernandez	140.82	90	T		T	11 47 24.1	
	baz=306,slow=77,SNR=191							
ELIB	Princess Elisa	143.53	205	dPKPdf		PKPbc	09 10 09.5	+0.8
BDFB	Brasilia	146.78	33	PKPbc		PKPab	09 10 21.1	-0.3
	comp=Z,3.1nm,0.5s,baz=277,slow=6.4,SNR=7.6							
NVL	N'lazarevskaya	147.39	204	ePKP2		PKPbc	09 10 19.9	-0.2
NVL				pmax		pmax		
	comp=Z,21nm,1.0s							
TROLL	Troll, Antarti	149.08	199	⇓PKPbc		PKiKP	09 10 26.2	+0.2
	comp=Z,469nm,0.9s							
TROLL				⇑pPKPdf		pPKPbc	09 10 40.0	+0.1
	comp=Z,368nm,0.8s							
PLCA	Paso Flores	150.11	96	PKPbc		PKiKP	09 10 29.4	+0.5
	comp=Z,12nm,1.0s,baz=262,slow=2.8,SNR=21							
SNAA	Sanae	150.49	197	⇓PKPbc		PKiKP	09 10 28.9	+0.1
	comp=Z,166nm,0.8s							
SNAA				⇑pPKPdf		sPKPdf	09 10 42.2	-1.7
	comp=Z,74nm,0.7s							
SNAA	Sanae	150.49	197	PKPbc		PKiKP	09 10 28.7	-0.1
	comp=Z,7.5nm,0.8s,baz=194,slow=2.2,SNR=13							
CPUP	Villa Florida	151.02	59	PKPbc		PKiKP	09 10 31.9	+0.8
	comp=Z,1.6nm,0.9s,baz=14,slow=4.4,SNR=7.5							
VNA2	Neumayer--Watz	151.98	196	⇑PKPab		pPKPbc	09 10 46.0	-0.6
	comp=Z,6.6nm,0.6s,baz=128,slow=1.5							
VNA2				⇓PKPbc		PKiKP	09 10 32.3	+0.5
	comp=Z,16nm,0.7s,baz=140,slow=1.6							
VNA3	Neumayer Olymp	152.12	194	⇑PKPab		pPKPbc	09 10 46.6	-0.4
	comp=Z,4.0nm,0.7s							
VNA3				⇓PKPbc		PKiKP	09 10 32.6	+0.5
	comp=Z,9.2nm,0.8s							

RHSSO 18 09:01:12.5±0.2, 44°.17N×18°.14E, h4km±3km, ML1.6/9, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAPS	Han Pijesak,BI	0.59	98	ePg	Pg	09 01 23.3	-0.6
HAPS				eSg	Sg	09 01 32.4	+0.8
SRKY	Kupres RS	0.71	262	ePg	Pg	09 01 25.2	-0.9
SRKY				eSg	Sg	09 01 35.6	+0.3
NEVS	Nevesinje	0.88	182	ePg	Pg	09 01 28.4	-0.9
NEVS				eSg	Sg	09 01 40.4	-0.2
BLY	Banja Luka	0.89	310	ePg	Pg	09 01 29.2	-0.4
BLY				eSg	Sg	09 01 41.3	+0.1
BBLS	Lazi&#263i	0.96	108	ePg	Pg	09 01 30.2	-0.8
BBLS				eSg	Sg	09 01 43.1	-0.4
RUDO	Rudo	1.05	122	ePg	Pg	09 01 31.7	-0.9
RUDO				eSg	Sg	09 01 46.1	-0.1
TEKS	Tekeris	1.07	69	ePg	Pg	09 01 31.1	-1.8
TEKS				eSg	Sg	09 01 46.1	-0.7
UPM	Unac-Piva	1.12	150	ePg	Pg	09 01 31.8	-2.1
UPM				eSg	Sg	09 01 48.3	-0.2
A050A	Klekovaca	1.19	286	ePg	Pg	09 01 33.7	-1.7
A050A				eSg	Sg	09 01 50.2	-0.6
A051A	Mrakovica	1.22	314	ePg	Pg	09 01 34.6	-1.2
A051A				eSg	Sg	09 01 50.9	-0.6
TREB	Trebinje	1.47	174	eSg	Sg	09 01 59.5	0.0
DRME	Dracevica, Mon	2.13	159	ePn	Pn	09 01 49.5	+0.7
DRME				eSn	Sn	09 02 15.5	-0.2

NEIC ***18*** *09:03:57.2±2.1, 7°.27S±0°.09×127°.69E±0°.09, h265km±10km, mb4.4/12, Error ellipse: s-maj=

EIDS	**Eidsvold**	**28.64**	**132**	P	**P**	**09 09 28.3**	**-1.4**
EIDS				IAmb	IAmb	09 09 36.2	
	comp=Z,24nm,1.5s						
MSVF	**Nonsavu**	**50.05**	**107**	P	**P**	**09 12 24.3**	**-1.7**
MSVF				IAmb	IAmb	09 12 30.7	
	comp=Z,25nm,1.4s						
FUNA	**Funafuti**	**50.94**	**95**	P	**P**	**09 12 30.6**	**-2.0**
ERM	**Erimo**	**51.03**	**15**	P	**P**	**09 12 31.8**	**-0.9**
USA0B	**Ussuriysk Arra**	**51.37**	**4**	P	**P**	**09 12 33.7**	**-1.6**
USA0B				IAmb	IAmb	09 12 41.8	
	comp=Z,14nm,1.4s						
TCW	**Tory Channel**	**53.31**	**137**	P	**P**	**09 12 48.3**	**-1.3**
BFZ	**Birch Farm**	**54.44**	**136**	P	**P**	**09 12 58.2**	**+0.4**
HIA	**Hailar**	**56.73**	**354**	P	**P**	**09 13 14.9**	**+1.1**
HIA				IAmb	IAmb	09 13 33.0	
	comp=Z,9.7nm,1.0s						
VNDA	**Vanda**	**72.46**	**173**	P	**P**	**09 14 56.9**	**+2.1**

DJA 18 09:06:06.1±0.9, 5°N±5°×96°E±°, h10km, M4.3/8, mb4.4/3, mB6.4/1, MLv4.2/8, Mw(mB)6.1/1, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.68**	**144**	P	Pg	09 06 17.9	-1.4
KCSI	**Kotacane, Aceh**	**2.19**	**126**	P	Pn	09 06 44.0	+1.4
SNSI	**Sinabang, Aceh**	**2.42**	**172**	P	Pn	09 06 46.1	+0.4
GSI	**Gunungsitoli**	**3.83**	**156**	P	Pn	09 07 05.5	+0.3
PBSI	**Pulau Batu**	**5.35**	**155**	P	Pn	09 07 26.6	+0.5
	65nm,1.1s,0.3nm						

*SDD **18** 09:53:26.3±2.5, 17°.09N×67°.23W, h15km±564km, MD3.2, ML2.7, MW3.0*

ISC 18 09:53:27.1±1.9, 17°.1N±0°.1×66°.90W±0°.08, h35km, n8, σ1°32/12, 7C-2D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRPR	**Cabo Rojo, PR**	**0.96**	**348**	⇑eP	**Pn**	**09 53 44.1**	**-0.1**
CRPR				⇑eSg	**Sn**	**09 53 53.5**	**-3.1**
CRPR				IAML		09 54 03.8	
	comp=N,98nm,0.2s						
CRPR				IAML		09 54 04.2	
	comp=E,84nm,0.2s						
CELP	**Cerrillos**	**1.05**	**17**	⇑eP	**Pn**	**09 53 45.9**	**+0.5**
CELP				IAML		09 54 04.8	
	comp=N,302nm,0.7s						
AOPR	**Arecibo Observ**	**1.29**	**6**	⇑eP	**Pn**	**09 53 49.0**	**+0.3**
AOPR				⇓eSg	**Sn**	**09 54 05.8**	**+1.0**
AOPR				IAML		09 54 15.4	
	comp=N,207nm,0.3s						
AOPR				IAML		09 54 16.0	
	comp=E,456nm,0.3s						
AOPR	**Arecibo Observ**	**1.29**	**6**	eP	**Pn**	**09 53 48.9**	**+0.3**
AGPR	**Aguadilla, PR**	**1.42**	**352**	⇑eP	**Pn**	**09 53 50.0**	**-0.5**
AGPR				⇑eSg	**Sn**	**09 54 09.5**	**+1.7**
AGPR				IAML		09 54 16.9	
	comp=E,143nm,3.1s						
AGPR				IAML		09 54 22.4	
	comp=N,76nm,1.6s						
HATOM	**Hato Mayor del**	**2.92**	**306**	⇓eP	**Pn**	**09 54 12.1**	**+0.9**
HATOM				⇑eSg	**Sn**	**09 54 44.6**	**-0.5**
HATOM				IAML		09 54 47.8	
	comp=E,32nm,0.6s						
MBFL	**Flemmings, Mon**	**4.50**	**93**	eP	**Pn**	**09 54 32.3**	**-0.5**
ANBD	**Bethesda, Anti**	**4.91**	**89**	eP	**Pn**	**09 54 38.9**	**+0.4**

IDC 18 10:44:21.7±4.7, 60°.89S×152°.85E, h0km, mb3.9/2, mbtmp4.0/3, ML3.9/1, MS3.7/11, Error ellipse: s-maj=337.7km s-min=37.1km az=75.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VNDA	**Vanda**	**16.97**	**173**	Pn	Pn	10 48 20.0	-0.1
VNDA	0.4nm,0.3s,baz=343,slow=11,SNR=18			Sn	Sn	10 51 22.8	-6.2
	baz=68,slow=5.8,SNR=1.4 3.6nm,0.8s						
URZ	**Urewera**	**27.27**	**45**	LR	LR	10 59 50.1	
	comp=Z,181nm,19.0s,baz=12,slow=34						
QSPA	**South Pole Qui**	**29.20**	**180**	LR	LR	11 02 44.4	
	comp=Z,128nm,19.1s,baz=315,slow=38						
STKA	**Stephens Creek**	**29.95**	**341**	LR	LR	11 01 10.4	
	comp=Z,75nm,19.2s,baz=60,slow=34						
H01W1	**Cape Leeuwin H**	**35.86**	**299**	T	T	11 29 49.0	
	baz=147,slow=75,SNR=29						
H01W2	**Cape Leeuwin H**	**35.86**	**299**	T	T	11 29 44.9	
	baz=147,slow=75,SNR=14						
H01W3	**Cape Leeuwin H**	**35.87**	**299**	T	T	11 29 52.7	
	baz=147,slow=75,SNR=25						
NWAO	**Narrogin (SRO)**	**36.27**	**304**	LR	LR	11 03 02.2	
	comp=Z,156nm,19.0s,baz=198,slow=31						
MAW	**Mawson**	**36.31**	**220**	LR	LR	11 06 42.2	
	comp=Z,155nm,18.6s,baz=157,slow=37						
RAO	**Raoul Island**	**37.16**	**45**	LR	LR	11 04 08.7	
	comp=Z,228nm,21.7s,baz=146,slow=32						
ASAR	**Alice Springs**	**39.44**	**332**	P	P	10 51 53.4	+0.1
	2.4nm,1.1s,baz=158,slow=9.2,SNR=6.3 2.4nm,1.1s						
DZM	**Mont Dzumac**	**39.94**	**20**	LR	LR	11 05 03.4	
	comp=Z,126nm,19.4s,baz=204,slow=31						
WRA	**Warramunga Arr**	**42.94**	**334**	P	P	10 52 21.8	-0.3
	1.9nm,1.1s,baz=167,slow=7.4,SNR=4.7 1.9nm,1.1s						
PMG	**Port Moresby**	**51.55**	**353**	LR	LR	11 12 57.6	
	comp=Z,112nm,18.4s,baz=98,slow=33						
KAPI	**Kappang**	**61.06**	**322**	LR	LR	11 19 07.6	
	comp=Z,33nm,20.9s,baz=128,slow=34						
LEM	**Lembang**	**63.58**	**308**	LR	LR	11 19 23.0	
	comp=Z,41nm,21.2s,baz=179,slow=33						
H03S1	**Juan Fernandez**	**76.61**	**138**	T	T	12 20 55.9	
	baz=202,slow=74,SNR=14						
H03S2	**Juan Fernandez**	**76.61**	**138**	T	T	12 20 54.6	
	baz=202,slow=74,SNR=11						
H03S3	**Juan Fernandez**	**76.62**	**138**	T	T	12 20 53.0	
	baz=202,slow=74,SNR=14						
H08S2	**Diego Garcia H**	**78.67**	**275**	T	T	12 23 36.6	
	baz=149,slow=76,SNR=20						
H08S1	**Diego Garcia H**	**78.68**	**275**	T	T	12 23 37.4	
	baz=149,slow=76,SNR=15						
H08S3	**Diego Garcia H**	**78.69**	**275**	T	T	12 23 38.1	
	baz=149,slow=76,SNR=22						
SUR	**Sutherland**	**79.17**	**220**	LR	LR	11 29 57.3	
	comp=Z,34nm,18.0s,baz=174,slow=35						

*SOME **18** 10:45:20.2, 39°.05N×72°.07E, h10km*

*NNC **18** 10:45:22.6±3.2, 38°.71N×71°.09E, h0km, mb4.2, mpv3.9, Error ellipse: s-maj=26.3km s-min=16.7km az=33.0*

*IDC **18** 10:45:29.2±5.3, 38°.83N×71°.55E, h82km±46km, mb3.0/3, mbtmp3.4/8, ML2.9/5, Error ellipse: s-maj=43.0km s-min=37.7km az=157.0*

ISC 18 10:45:20.1±1.1, 39°.05N±0°.06×72°.07E±0°.04, h10km, n37, σ2°46/49, mb3.3/3, 5C-8D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IUG	**Iuzhnay**	**3.46**	**334**	Pg	**Pb**	**10 46 23.7**	**+2.1**
IUG	102nm,0.6s			Lg	Lg	10 47 09.5	
	148nm,0.7s						
IUG	**Iuzhnay**	**3.46**	**334**	eP	**Pb**	**10 46 23.7**	**+2.1**
IUG	102nm,0.6s			eS	**Sg**	**10 47 09.5**	**-1.9**
	148nm,0.7s						
CHM	**Chimkent**	**3.77**	**331**	eP	**Pb**	**10 46 29.3**	**+2.5**
CHM	107nm,0.2s			eS	**Sg**	**10 47 18.9**	**-2.2**
	244nm,0.2s						
MRKS	**Merke**	**3.80**	**13**	Pg	**Pg**	**10 46 30.5**	**-2.4**
MRKS	15nm,0.7s			Lg	Lg	10 47 21.1	
	31nm,0.6s						
MRKS	**Merke**	**3.80**	**13**	eP	**Pg**	**10 46 30.4**	**-2.4**
MRKS	15nm,0.7s			eS	**Sg**	**10 47 21.1**	**-0.9**
	31nm,0.6s						
DZA	**Taraz**	**3.88**	**352**	Pg	**Pb**	**10 46 31.3**	**+2.6**
DZA	95nm,0.1s			Lg	Lg	10 47 22.4	
	138nm,0.2s						
DZA	**Taraz**	**3.88**	**352**	eP	**Pb**	**10 46 31.2**	**+2.6**
	95nm,0.1s						
DZA				eS	**Sg**	**10 47 22.4**	**-2.4**
	138nm,0.2s						
AAK	**Ala-Archa**	**4.03**	**26**	⇑Pn	**Pg**	**10 46 35.4**	**-1.9**
	4.9nm,0.5s						
AAK				⇓Pg	Pb	10 46 48.0	+17
	24nm,0.8s						
AAK	**Ala-Archa**	**4.03**	**26**	P	**Pg**	**10 46 35.5**	**-1.9**
	3.2nm,0.3s,baz=56,slow=22,SNR=11						
AAK				S	**Sb**	**10 47 23.7**	**+3.5**
	5.6nm,0.5s,baz=239,slow=15,SNR=3.6 8.1nm,0.5s						
KK31	**Karatay Array**	**4.22**	**344**	⇓Pn	**Pb**	**10 46 32.9**	**-1.5**
	11nm,0.5s,baz=177,slow=13,SNR=131						
KK31				⇓Pg	Pg	10 46 45.9	+4.9
	5.3nm,0.3s						
KK31				⇑Sn	**Sb**	**10 47 26.1**	**+0.6**
	5.9nm,0.4s,baz=179,slow=22,SNR=4.0						
KK31				⇓Lg	Lg	10 47 48.0	
	22nm,0.7s						
BRLS	**Borolday**	**4.32**	**338**	Pg	**Pb**	**10 46 36.5**	**+0.3**
	8.7nm,0.5s						
BRLS				Lg	Lg	10 47 31.4	
	16nm,0.6s						
BRLS	**Borolday**	**4.32**	**338**	eP	**Pb**	**10 46 36.5**	**+0.3**
	8.7nm,0.5s						
BRLS				eS	**Sb**	**10 47 31.4**	**+3.0**
	16nm,0.6s						
CHMS	**Chumysh**	**4.44**	**26**	⇓Pn	**Pb**	**10 46 39.6**	**+1.4**
	13nm,0.5s						
CHMS				⇓Sn	**Sg**	**10 47 40.7**	**-1.9**
	17nm,0.7s						
TKM2	**Tokmak 2**	**4.70**	**33**	⇓Pn	**Pb**	**10 46 44.4**	**+1.6**
	4.3nm,0.6s						
TKM2				⇑Pg	Pg	10 47 02.1	+12
	5.1nm,0.5s						
TKM2				⇑Lg	Lg	10 48 13.4	
	18nm,0.9s						
SGDS	**Sogindy**	**4.80**	**23**	Pg	**Pg**	**10 46 48.6**	**-3.5**
	5.2nm,0.3s						
SGDS				Lg	Lg	10 47 52.1	
	11nm,0.7s						
MTBS	**Maitube**	**5.24**	**38**	Pg	**Pg**	**10 46 57.7**	**-2.7**
	3.3nm,0.2s						
MTBS				Lg	Lg	10 48 08.2	
	7.7nm,0.4s						
MTBS	**Maitube**	**5.24**	**38**	eP	**Pg**	**10 46 57.7**	**-2.7**
	3.3nm,0.2s						
MTBS				eS	**Sg**	**10 48 08.2**	**-0.2**
	7.7nm,0.4s						
KRBS	**Karabastau**	**5.38**	**29**	Pg	**Pg**	**10 47 00.2**	**-2.9**
	5.4nm,0.6s						
KRBS				Lg	Lg	10 48 12.2	
	4.7nm,0.7s						
KRBS	**Karabastau**	**5.38**	**29**	eP	**Pg**	**10 47 00.2**	**-2.9**
	5.4nm,0.6s						
KRBS				eS	**Sg**	**10 48 12.2**	**-0.5**
	4.7nm,0.7s						
TNSS	**Tian-Shan**	**5.43**	**41**	Pg	**Pg**	**10 47 01.3**	**-2.8**
	3.2nm,0.3s						
TNSS				Lg	Lg	10 48 13.9	
	6.2nm,0.6s						
TNSS	**Tian-Shan**	**5.43**	**41**	eP	**Pg**	**10 47 01.3**	**-2.8**
	3.2nm,0.3s						
TNSS				eS	**Sg**	**10 48 13.9**	**-0.5**
	6.2nm,0.6s						
MDOK	**Medeo**	**5.57**	**41**	⇑Pn	**Pb**	**10 46 56.5**	**-1.1**
	2.1nm,0.5s						
MDOK				⇓Pg	Pg	10 47 19.0	+12
	4.9nm,0.8s						
MDOK				Lg	Lg	10 48 41.7	
	15nm,0.8s						
KOTS	**Kotyrbulak**	**5.65**	**41**	eP	**Pg**	**10 47 05.4**	**-3.0**
	7.7nm,0.5s						
KTBS	**Karatobe**	**5.81**	**35**	Pg	**Pg**	**10 47 08.4**	**-3.0**
	2.6nm,0.4s						
KTBS				Lg	Lg	10 48 26.1	
	5.7nm,0.6s						
KTBS	**Karatobe**	**5.81**	**35**	eP	**Pg**	**10 47 08.4**	**-3.0**
	2.6nm,0.4s						
KTBS				eS	**Sg**	**10 48 26.1**	**-0.4**
	5.7nm,0.6s						
BTLS	**Baital**	**6.17**	**13**	Pg	**Pg**	**10 47 15.2**	**-3.0**
	2.9nm,0.7s						
BTLS				Lg	Lg	10 48 37.9	
	4.0nm,0.6s						
BTLS	**Baital**	**6.17**	**13**	eP	**Pg**	**10 47 15.2**	**-3.0**
	2.9nm,0.7s						
BTLS				eS	**Sg**	**10 48 37.9**	**-0.1**
	4.0nm,0.6s						
ARXS	**Arharly**	**6.72**	**38**	Pg	**Pg**	**10 47 25.1**	**-3.8**
	1.8nm,0.6s						
ARXS				Lg	Lg	10 48 54.9	
	5.2nm,0.6s						
ARXS	**Arharly**	**6.72**	**38**	eP	**Pg**	**10 47 25.1**	**-3.8**
	1.8nm,0.6s						
ARXS				eS	**Sg**	**10 48 54.9**	**-1.0**
	5.2nm,0.6s						
MKAR	**Makanchi Array**	**10.77**	**41**	P	Pn	10 48 07.3	+13
	0.1nm,0.3s,baz=222,slow=12,SNR=5.0 0.5nm,0.7s						
KURBB	**Kurchatov Arra**	**12.44**	**19**	P	Pn	10 48 27.3	+10
	baz=215,slow=12,SNR=2.7 0.3nm,0.5s						
AB31	**Akbulak array**	**13.40**	**324**	P	**Pn**	**10 48 31.0**	**+0.8**
	0.9nm,0.6s,baz=172,slow=9.8,SNR=25						
BVAR	**Borovoye Array**	**14.03**	**356**	P	**P**	**10 48 45.8**	**-1.0**
	baz=170,slow=18,SNR=3.6 1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**17.25**	**26**	P	**P**	**10 49 28.0**	**+5.5**
	0.2nm,0.3s,baz=213,slow=10,SNR=4.8 1.2nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.64**	**268**	P	**P**	**10 56 08.1**	**-3.1**
	0.3nm,0.6s,baz=51,slow=6.3,SNR=1.5 0.3nm,0.6s						
YKA	**Yellowknife Ar**	**78.66**	**3**	P	**P**	**10 57 24.5**	**+2.6**
	0.1nm,0.7s,baz=346,slow=5.9,SNR=1.7 0.1nm,0.7s						
WRA	**Warramunga Arr**	**82.64**	**123**	P	**P**	**10 57 44.4**	**+0.6**
	0.2nm,0.8s,baz=326,slow=5.0,SNR=1.2 0.2nm,0.8s						

*NOU **18** 10:46:34.7, 36°.82S×176°.96E, h307km, mb3.9/7, Off E. Coast of N. Island, N.Z.*

*WEL **18** 10:46:38.9±1.0, 37°S±10°×177°E±°, h267km±8km, M3.0/19, ML3.0/8, MLv3.0/19, Error ellipse: s-maj=0.0km s-min=0.0km az=32.8, confirmed*

ISC 18 10:46:34.4±2.5, 36°.83S±0°.09×176°.92E±0°.10, h303km±15km, n78, σ1°42/86, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUZ	**Kuaotunu**	**0.97**	**275**	P	**Pn**	**10 47 15.6**	**+0.7**
KUZ	**Kuaotunu**	**0.97**	**275**	P	**Pn**	**10 47 15.6**	**+0.7**
OPRZ	**Ohinepanea**	**1.05**	**196**	P	**Pn**	**10 47 16.5**	**+1.3**
HAZ	**Te Kaha**	**1.15**	**144**	P	**Pn**	**10 47 16.2**	**+0.5**
HAZ				S	**S**	**10 47 45.6**	**-3.0**
RUGZ	**Raukumara Rang**	**1.28**	**152**	P	**Pn**	**10 47 16.8**	**+0.3**
RUGZ				S	**S**	**10 47 47.1**	**-3.1**
MXZ	**Matakaoa Point**	**1.33**	**124**	P	**Pn**	**10 47 17.5**	**+0.8**
MXZ	**Matakaoa Point**	**1.33**	**124**	P	**Pn**	**10 47 17.5**	**+0.8**
MXZ				S	**S**	**10 47 49.5**	**-0.9**
PKGZ	**Pakihiroa**	**1.40**	**139**	P	**Pn**	**10 47 18.5**	**+1.3**
PKGZ				S	**S**	**10 47 49.6**	**-1.7**
MKAZ	**Moumakai**	**1.44**	**258**	P	**Pn**	**10 47 18.7**	**+1.4**
URZ	**Urewera**	**1.44**	**174**	P	**Pn**	**10 47 18.0**	**+0.7**
URZ	**Urewera**	**1.44**	**174**	P	**Pn**	**10 47 18.0**	**+0.7**
URZ				S	**S**	**10 47 50.8**	**-0.7**
TOZ	**Tahuroa Road**	**1.45**	**231**	P	**Pn**	**10 47 19.3**	**+1.9**
RRRZ	**Republican Roa**	**1.54**	**192**	P	**Pn**	**10 47 19.6**	**+1.6**
WMGZ	**Waiomatatini S**	**1.55**	**130**	P	**Pn**	**10 47 19.4**	**+1.4**
WMGZ				S	**S**	**10 47 52.5**	**-0.4**
MWZ	**Matawai**	**1.58**	**162**	P	**Pn**	**10 47 19.3**	**+1.0**
MWZ				S	**S**	**10 47 52.0**	**-1.3**
TWGZ	**Tauwhareparae**	**1.59**	**148**	P	**Pn**	**10 47 20.2**	**+1.8**
TWGZ				S	**S**	**10 47 53.2**	**-0.2**
MBAZ	**Motutapu North**	**1.62**	**272**	P	**Pn**	**10 47 20.1**	**+1.5**
PUZ	**Puketiti**	**1.63**	**140**	P	**Pn**	**10 47 19.9**	**+1.2**
MUGZ	**Murupara**	**1.65**	**184**	P	**Pn**	**10 47 19.8**	**+1.0**
RAGZ	**Rawiri**	**1.71**	**167**	P	**Pn**	**10 47 21.0**	**+1.7**
PRRZ	**Plateau Road**	**1.72**	**194**	P	**Pn**	**10 47 20.9**	**+1.7**
RTZ	**Ruatahuna**	**1.78**	**179**	P	**Pn**	**10 47 20.9**	**+1.1**
ALRZ	**Allen Road**	**1.79**	**195**	P	**Pn**	**10 47 21.2**	**+1.5**
TLZ	**Tolley Road**	**1.86**	**216**	P	**Pn**	**10 47 22.8**	**+2.5**
CNGZ	**Carnagh Statio**	**1.94**	**149**	P	**Pn**	**10 47 23.0**	**+2.1**
SNGZ	**Shannon Statio**	**1.98**	**170**	P	**Pn**	**10 47 22.8**	**+1.6**
RIGZ	**Rimuhau**	**1.99**	**161**	P	**Pn**	**10 47 23.1**	**+1.8**
MTHZ	**Maungataniwha**	**2.02**	**182**	P	**Pn**	**10 47 22.8**	**+1.3**
MRHZ	**Matea Rd**	**2.04**	**191**	P	**Pn**	**10 47 23.0**	**+1.3**
RAHZ	**Arahi**	**2.09**	**176**	P	**Pn**	**10 47 23.8**	**+1.8**
PRGZ	**Paritu Road**	**2.23**	**160**	P	**Pn**	**10 47 25.1**	**+1.9**
RATZ	**Rangitukua**	**2.23**	**204**	P	**Pn**	**10 47 25.1**	**+1.8**
WHHZ	**Waihua**	**2.26**	**174**	P	**Pn**	**10 47 25.3**	**+1.9**
WCZ	**Waipu Caves**	**2.26**	**292**	P	**Pn**	**10 47 24.6**	**+1.0**
NMHZ	**Naumai**	**2.27**	**182**	P	**Pn**	**10 47 25.7**	**+2.1**
KNZ	**Kokohu**	**2.27**	**165**	P	**Pn**	**10 47 24.9**	**+1.4**
RITZ	**Rihia Road**	**2.30**	**201**	P	**Pn**	**10 47 25.9**	**+2.0**
BKZ	**Black Stump Fm**	**2.36**	**188**	P	**Pn**	**10 47 25.5**	**+1.1**
BKZ	**Black Stump Fm**	**2.36**	**188**	P	**Pn**	**10 47 25.4**	**+1.1**
ARHZ	**Aropaoamui**	**2.43**	**179**	P	**Pn**	**10 47 26.6**	**+1.7**
MHGZ	**Mahia Peninsul**	**2.45**	**162**	P	**Pn**	**10 47 27.1**	**+2.0**
TMVZ	**Te Maari**	**2.48**	**202**	P	**Pn**	**10 47 27.3**	**+1.9**
ETVZ	**East Tongariro**	**2.49**	**202**	P	**Pn**	**10 47 27.3**	**+1.6**
WTVZ	**West Tongariro**	**2.51**	**204**	P	**Pn**	**10 47 27.3**	**+1.5**
MCHZ	**McNeill Hill**	**2.62**	**184**	P	**Pn**	**10 47 28.3**	**+1.8**
KWHZ	**Kaweka Forest**	**2.62**	**188**	P	**Pn**	**10 47 28.1**	**+1.4**
FWVZ	**Far West T-bar**	**2.65**	**204**	P	**Pn**	**10 47 28.9**	**+1.7**
WHVZ	**Whangaehu Hut**	**2.67**	**203**	P	**Pn**	**10 47 28.7**	**+1.4**
WNVZ	**Wahianoa**	**2.70**	**202**	P	**Pn**	**10 47 28.9**	**+1.3**
MOVZ	**Moawhango**	**2.73**	**199**	P	**Pn**	**10 47 28.8**	**+1.1**
BHHZ	**Black Hill Sta**	**2.74**	**194**	P	**Pn**	**10 47 28.8**	**+1.0**
CKHZ	**Cape Kidnapper**	**2.83**	**178**	P	**Pn**	**10 47 30.2**	**+1.6**
KRHZ	**Kereru**	**2.84**	**189**	P	**Pn**	**10 47 29.7**	**+1.0**
VRZ	**Vera Road**	**2.86**	**216**	P	**Pn**	**10 47 31.3**	**+2.5**
KAHZ	**Kahuranaki**	**2.96**	**181**	P	**Pn**	**10 47 31.4**	**+1.5**
PNHZ	**Pukenui**	**3.13**	**190**	P	**Pn**	**10 47 32.3**	**+0.7**
OUZ	**Omahuta**	**3.14**	**300**	P	**Pn**	**10 47 32.6**	**+0.9**
OUZ	**Omahuta**	**3.14**	**300**	P	**Pn**	**10 47 32.5**	**+0.8**
PXZ	**Pawanui**	**3.20**	**181**	P	**Pn**	**10 47 33.3**	**+1.1**
WPHZ	**Waipukurau**	**3.25**	**187**	P	**Pn**	**10 47 34.3**	**+1.6**
TSZ	**Takapari Road**	**3.31**	**193**	P	**Pn**	**10 47 34.1**	**+0.7**
PRHZ	**Porangahau**	**3.44**	**184**	P	**Pn**	**10 47 35.9**	**+1.3**
POWZ	**Post Office Ro**	**3.67**	**194**	P	**Pn**	**10 47 38.2**	**+1.2**
BFZ	**Birch Farm**	**3.88**	**188**	P	**Pn**	**10 47 40.7**	**+1.3**
MRZ	**Mangatainoka R**	**3.97**	**195**	P	**Pn**	**10 47 41.0**	**+0.7**
HOWZ	**Holdsworth Sta**	**4.21**	**195**	P	**Pn**	**10 47 43.6**	**+0.6**
OGWZ	**Otaki Gorge**	**4.21**	**198**	P	**Pn**	**10 47 43.4**	**+0.5**
MTW	**Mount Morrison**	**4.46**	**194**	P	**Pn**	**10 47 45.8**	**0.0**
CAW	**Cannon Point**	**4.51**	**198**	P	**Pn**	**10 47 46.7**	**+0.4**
TCW	**Tory Channel**	**4.84**	**204**	P	**Pn**	**10 47 50.1**	**+0.2**
PLWZ	**Palliser**	**4.91**	**195**	P	**Pn**	**10 47 51.3**	**+0.4**
TUWZ	**Tuamarina**	**5.14**	**206**	P	**Pn**	**10 47 53.6**	**+0.1**
QRZ	**Quartz Range**	**5.26**	**219**	P	**Pn**	**10 47 55.6**	**+0.7**
QRZ	**Quartz Range**	**5.26**	**219**	P	**Pn**	**10 47 55.1**	**+0.2**
THZ	**Tophouse**	**5.83**	**211**	P	**Pn**	**10 48 02.2**	**+0.6**
KHZ	**Kahutara**	**6.16**	**204**	P	**Pn**	**10 48 06.1**	**+0.6**
KHZ	**Kahutara**	**6.16**	**204**	P	**Pn**	**10 48 06.0**	**+0.5**
GVZ	**Greta Valley S**	**6.82**	**205**	P	**Pn**	**10 48 14.1**	**+0.6**

*IDC **18** 10:53:52.9±0.4, 33°.15S×15°.94W, h0km, mb4.8/19, mbtmp4.7/19, MS4.4/44, Error ellipse: s-maj=15.5km s-min=13.5km az=113.0*

*MOS **18** 10:53:53.4±0.8, 33°.22S×16°.01W, h10km, mb5.4/34, MS4.4/4, Error ellipse: s-maj=11.9km s-min=7.7km az=61.8*

*NEIC **18** 10:53:55.7±1.4, 33°.16S±0°.10×16°.0W±0°.1, h10km±1km, mb5.4/172, Ms_20 5.0/152, Error ellipse: s-maj=16.3km s-min=14.7km az=160.0*

*BJI **18** 10:53:56.0±0.0, 33°.10S×15°.90W, h11km, mB5.3/2, Ms4.8/5, Ms7 4.6/8*

*GCMT **18** 10:53:58.7±0.2, 33°.07S±0°.01×15°.70W±0°.02, h12km, MW5.1/142, Moment Tensor Solution. s59,c71; s142,c223; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr5.68±.08; Mθθ-4.69±.08; Mφφ-0.98±.08; Mrθ-3.13±.28; Mθφ-1.59±.07; Mφr1.54±.36; Best double couple: M0 6.42500×10^16^ NP1:φ270.00000°, δ60.00000°, λ109.00000°. NP2:φ55.00000°, δ35.00000°, λ60.00000°. Principal axes: T 7.0140, Plg69.0000°, Azm220.0000°; N -1.1690, Plg17.0000°, Azm80.0000°; P -5.8360, Plg13.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 10:53:54.9±0.2, 33°.14S±0°.06×15°.95W±0°.05, h10km, n1023, σ0°93/929, mb5.3/172, MS4.9/127, 29C-32D, Southern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHEL	**Horse Pasture**	**19.44**	**31**	P	**P**	**10 58 21.7**	**0.0**
SHEL				IAmb	IAmb	10 58 24.6	
	comp=Z,192nm,1.1s						
SHEL	**Horse Pasture**	**19.44**	**31**	P	**P**	**10 58 21.7**	**0.0**
SHEL				pmax	pmax		
	comp=Z,192nm,1.1s						
ASCN	**Ascension**	**25.12**	**4**	P	**P**	**10 59 18.6**	**-1.5**
H10N1	**ASCENSION HYDR**	**25.20**	**3**	T	T	11 25 23.9	
	baz=190,slow=78,SNR=22						
H10N3	**ASCENSION HYDR**	**25.21**	**3**	T	T	11 25 27.6	
	baz=190,slow=78,SNR=204						
H10N2	**ASCENSION HYDR**	**25.22**	**3**	T	T	11 25 27.8	
	baz=190,slow=78,SNR=60						
ALF01	**Guarapari-ES**	**25.30**	**293**	eP	**P**	**10 59 22.2**	**+0.5**
CAM01	**Campos-RJ**	**25.37**	**290**	eP	**P**	**10 59 19.9**	**-2.4**
HOPE	**Hope Point**	**25.65**	**208**	P	**P**	**10 59 24.1**	**-0.4**
HOPE	**Hope Point**	**25.65**	**208**	P	**P**	**10 59 24.1**	**-0.4**
HOPE				pmax	pmax		
	comp=Z,325nm,1.6s						
DUB01	**Friburgo-RJ**	**25.80**	**289**	eP	**P**	**10 59 23.8**	**-2.6**
RIB01	**Linhares

TSUM Tsumeb 32.98 74 P **P** **11 00 29.6 -0.7**
TSUM Tsumeb 32.98 74 LR LR 11 11 15.5
comp=Z,464nm,19.2s,baz=156,slow=32
CRSM Crissiumal (Br 33.23 269 *e*P **P** **11 00 33.3 +1.0**
NBMA Muriti-CE 33.24 315 *e*P **P** **11 00 31.6 -0.8**
PCMB Pacaembu 33.24 281 *e*P **P** **11 00 32.9 +0.5**
RODS Rosario do Sul 33.36 264 *e*P **P** **11 00 34.7 +1.4**
ITRB Iturama 33.43 285 *e*P **P** **11 00 34.5 +0.5**
SDBA SAO DESIDERIO 33.55 301 *e*P **P** **11 00 34.7 -0.4**
UNIS Unistalda (Bra 33.61 266 *e*P **P** **11 00 36.6 +1.1**
NBPA Parau_RN 33.62 320 *e*P **P** **11 00 35.3 -0.4**
TBOT Tacuaremb 33.65 261 *e*P **P** **11 00 36.4 +0.6**
BDFB Brasilia 33.81 293 P **P** **11 00 37.4 -0.1**
BDFB Brasilia 33.81 293 P **P** **11 00 37.0 -0.6**
comp=Z,66nm,1.1s,baz=121,slow=7.3,SNR=40
BDFB LR LR 11 12 31.4
comp=Z,1µm,18.3s,baz=137,slow=33
comp=Z,66nm,1.1s
BDFB Brasilia 33.81 293 P **P** **11 00 37.4 -0.1**
BDFB pmax pmax
comp=Z,123nm,1.2s
TRCB Terra Rica 33.85 278 P **P** **11 00 38.9 +1.2**
TRCB IAmb IAmb 11 00 39.8
comp=Z,70nm,1.1s
TRCB Terra Rica 33.85 278 *e*P **P** **11 00 37.8 +0.2**
MCR1 Marechal Candi 34.33 275 *e*P **P** **11 00 42.6 +0.8**
AZCA Azaras, Argent 34.67 268 *e*P **P** **11 00 44.4 -0.4**
ITQB Itaqui 34.73 265 P **P** **11 00 46.3 +1.0**
ITQB Itaqui 34.73 265 *e*P **P** **11 00 46.2 +1.0**
PSAL Palomas, Salto 35.18 262 *e*P **P** **11 00 49.3 +0.3**
NBPB Pedra_Branca-C 35.18 316 *e*P **P** **11 00 49.5 +0.3**
GRHM Grahamstown, E 35.24 102 P **P** **11 00 49.8 +0.2**
GRHM IAmb IAmb 11 00 50.7
comp=Z,51nm,1.0s
BOSA Boshof 35.49 94 P **P** **11 00 50.9 -1.1**
BOSA Boshof 35.49 94 P **P** **11 00 50.9 -1.1**
comp=Z,8.7nm,1.0s,baz=263,slow=6.5,SNR=11
BOSA LR LR 11 13 01.4
comp=Z,705nm,18.2s,baz=249,slow=32
comp=Z,8.7nm,1.0s
NBCL Cascavel-CE 35.53 319 *e*P **P** **11 00 51.8 -0.4**
AMBA Amambai (Brazi 35.75 276 *e*P **P** **11 00 54.5 +0.4**
RPRD Ribas do Rio P 35.78 281 *e*P **P** **11 00 53.5 -0.9**
SJPY San Joaquin 35.85 272 *e*P **P** **11 00 54.9 -0.1**
MECA Mercedes 36.14 264 *e*P **P** **11 00 57.5 +0.2**
CPUP Villa Florida 36.39 270 P **P** **11 00 59.6 +0.2**
CPUP Villa Florida 36.39 270 P **P** **11 00 59.0 -0.4**
comp=Z,3.2nm,0.9s,baz=141,slow=6.7,SNR=6.4
CPUP LR LR 11 13 57.3
comp=Z,522nm,18.9s,baz=117,slow=33
comp=Z,3.2nm,0.9s
CPUP Villa Florida 36.39 270 P **P** **11 00 59.7 +0.2**
CPUP pmax pmax
comp=Z,38nm,1.7s
CPUP Villa Florida 36.39 270 *e*P **P** **11 00 59.4 0.0**
DVLD Doverlandia 36.51 288 *e*P **P** **11 01 00.5 -0.2**
ARAG Araguaiana, MT 36.75 289 *e*P **P** **11 01 02.6 0.0**
NBPS Pedro II - PI 37.20 315 *e*P **P** **11 01 06.1 -0.5**
NBMO Morrinhos-CE 37.26 318 *e*P **P** **11 01 06.8 -0.1**
AQDB Aquidauana 37.43 280 P **P** **11 01 09.1 +0.6**
AQDB Aquidauana 37.43 280 *e*P **P** **11 01 08.4 0.0**
TRQA Tornquist 37.45 249 P **P** **11 01 08.0 -0.5**
TRQA Tornquist 37.45 249 P **P** **11 01 08.0 -0.5**
TRQA pmax pmax
comp=Z,48nm,1.4s
RVDE Rio Verde (Bra 37.51 282 *e*P **P** **11 01 09.4 +0.3**
VNA1 Neumayer--Stat 37.80 176 ⇓P **P** **11 01 11.6 +0.6**
comp=Z,12nm,1.0s
SMTB Santa Maria do 37.89 302 *e*P **P** **11 01 11.6 -0.7**
VNA2 Neumayer--Watz 38.13 175 ⇓P **P** **11 01 14.0 +0.3**
comp=Z,14nm,0.9s,baz=348,slow=11
PP1B Ponte de Pedra 38.18 284 *e*P **P** **11 01 14.9 +0.1**
VNA3 Neumayer Olymp 38.31 177 ⇓P **P** **11 01 15.3 -0.1**
comp=Z,7.4nm,0.8s
BDQN Bodoquena, MS 38.32 279 *e*P **P** **11 01 15.8 -0.2**
MURT Porto Murtinho 38.48 276 *e*P **P** **11 01 17.7 +0.4**
SNDB Serra Nova Dou 38.57 295 *e*P **P** **11 01 18.0 -0.1**
NBBC Barra do Corda 38.73 309 *e*P **P** **11 01 18.8 -0.6**
VACA Villa Angela C 38.77 266 *e*P **P** **11 01 20.1 +0.4**
PANT Pantanal (Braz 38.90 281 *e*P **P** **11 01 20.6 -0.3**
TICA Tres Isletas 38.93 268 *e*P **P** **11 01 22.5 +1.5**
SNAA Sanae 39.23 173 P **P** **11 01 23.2 +0.2**
SNAA Sanae 39.23 173 ⇓P **P** **11 01 22.2 -0.8**
comp=Z,86nm,0.9s
SNAA Sanae 39.23 173 P **P** **11 01 22.3 -0.7**
comp=Z,4.4nm,0.9s,baz=330,slow=7.4,SNR=8.9
SNAA LR LR 11 13 28.0
comp=Z,1µm,21.2s,baz=317,slow=30
comp=Z,4.4nm,0.9s
SNAA Sanae 39.23 173⇓ *e*P **P** **11 01 23.0 0.0**
SNAA pmax pmax
comp=Z,10.0nm,1.2s
SALV Santo Antonio 39.74 286 *e*P **P** **11 01 29.0 +1.1**
TROLL Troll, Antarti 40.14 171 ⇓P **P** **11 01 31.3 +0.5**
comp=Z,581nm,0.9s
FDPY Filadelfia 40.16 274 *e*P **P** **11 01 32.2 +0.9**
LIC Lamto 40.50 17⇑ *e*P **P** **11 01 33.5 -0.6**
comp=Z,86nm,1.2s
NVL N'lazarevskaya 40.59 166 *e*P **P** **11 01 31.7 -2.6**
NVL pmax pmax
comp=Z,14nm,0.9s
NVL MLR MLR
comp=Z,516nm,17.0s
NBRS Nobres 40.68 288 *e*P **P** **11 01 35.6 -0.1**
KIC Kosan Boka 40.70 17⇑ *e*P **P** **11 01 34.7 -1.0**
comp=Z,63nm,0.6s
CCRS Cacerres, MT, 40.81 282 *e*P **P** **11 01 36.9 +0.2**
BBLB La Banda, Boli 40.86 280 *e*P **P** **11 01 37.7 +0.5**
TIC Toumodi 40.90 17⇑ *e*P **P** **11 01 36.7 -0.8**
comp=Z,59nm,0.9s
DBIC Dimbokro 40.97 17 P **P** **11 01 37.7 -0.2**
DBIC IAmb IAmb 11 01 39.0
comp=Z,157nm,1.5s
DBIC Dimbokro 40.97 17 P **P** **11 01 37.0 -1.0**
comp=Z,19nm,0.7s,baz=177,slow=7.4,SNR=16
DBIC LR LR 11 14 37.3
comp=Z,882nm,19.0s,baz=182,slow=30
comp=Z,19nm,0.7s
DBIC Dimbokro 40.97 17 P **P** **11 01 37.7 -0.2**
DBIC pmax pmax
comp=Z,157nm,1.5s
PTET Porto Estrela 41.21 285 *e*P **P** **11 01 40.3 +0.3**
PRPB Parauapebas 41.34 303 *e*P **P** **11 01 41.2 +0.1**
BBRB Robore, Bolivi 41.89 280 *e*P **P** **11 01 46.3 +0.7**
CLDB Colider 42.71 292 *e*P **P** **11 01 53.0 +0.6**
PTLB Pontes e Lacer 42.78 284 P **P** **11 01 53.6 +0.7**
PTLB IAmb IAmb 11 01 55.2
comp=Z,57nm,1.2s
PTLB Pontes e Lacer 42.78 284 *e*P **P** **11 01 53.5 +0.7**
TMAB Tom-Au,PA,Br 42.93 309 *e*P **P** **11 01 54.3 +0.2**
PMSA Palmer Station 42.97 208 LR LR 11 17 47.3
comp=Z,237nm,18.1s,baz=61,slow=33
PDRB Porto dos Gac 43.00 290 *e*P **P** **11 01 55.0 +0.3**
BBSD Serra de San D 43.09 280 *e*P **P** **11 01 56.0 +0.6**
LSZ Lusaka 43.65 77 P **P** **11 02 00.7 +0.6**
LSZ Lusaka 43.65 77 LR LR 11 17 38.6
comp=Z,205nm,21.9s,baz=220,slow=33
LSZ Lusaka 43.65 77 P **P** **11 02 00.7 +0.6**
LSZ pmax pmax
comp=Z,49nm,1.4s
PLCA Paso Flores 43.70 244 P **P** **11 02 00.5 +0.4**
PLCA Paso Flores 43.70 244 P **P** **11 02 00.1 0.0**
comp=Z,9.3nm,1.0s,baz=86,slow=7.5,SNR=10
PLCA LR LR 11 18 58.7
comp=Z,156nm,20.2s,baz=96,slow=34
comp=Z,9.3nm,1.0s
PLCA Paso Flores 43.70 244 P **P** **11 02 00.5 +0.4**
PLCA pmax pmax
comp=Z,27nm,1.3s
PLCA Paso Flores 43.70 244 *e*P **P** **11 02 00.4 +0.3**
MG04 Isla Riesco 43.95 226 P **P** **11 02 02.7 +0.9**
MG04 IAmb IAmb 11 02 04.3
comp=Z,68nm,1.2s
VBST Vila Bela da S 43.98 284 *e*P **P** **11 02 03.0 +0.4**
ELIB Princess Elisa 44.00 163 *d*P **P** **11 02 02.1 -0.1**
comp=Z,9.9nm,0.9s
SIV San Ignacio 44.08 282 P **P** **11 02 04.2 +0.8**
comp=Z,31nm,1.2s,baz=118,slow=10,SNR=47
comp=Z,31nm,1.2s
ZON Zonda 44.18 257 P **P** **11 02 02.7 -1.5**
ZON Zonda 44.18 257 P **P** **11 02 02.7 -1.5**
ZON pmax pmax
comp=Z,28nm,1.5s
COYC Coyhaique 44.30 237 P **P** **11 02 03.7 -1.1**

LL02 Futaleuf 44.35 240 P **P** **11 02 05.0 -0.2**
GO09 Cerro Castillo 44.35 228 P **P** **11 02 04.8 -0.3**
MG05 Puerto Natales 44.46 228 P **P** **11 02 05.5 -0.5**
GO08 Villa O'Higgin 44.48 232 P **P** **11 02 06.6 +0.4**
AY03 Cochrane 44.55 234 P **P** **11 02 06.8 0.0**
GO06 Curarrehue 44.57 245 P **P** **11 02 06.0 -1.2**
MT08 Bocatoma Ro 44.75 254 P **P** **11 02 09.1 +0.2**
MT08 IAmb IAmb 11 02 10.5
comp=Z,57nm,1.2s
NPGB Novo Progresso 44.78 297 *e*P **P** **11 02 08.9 -0.2**
LMEL Las Melosas 44.80 253 P **P** **11 02 08.9 -0.2**
LMEL IAmb IAmb 11 02 10.4
comp=Z,53nm,1.2s
LR05 Currie 44.87 244 P **P** **11 02 07.5 -2.0**
MT13 San Alfonso 44.89 254 P **P** **11 02 09.8 -0.1**
MT13 IAmb IAmb 11 02 14.1
comp=Z,45nm,1.2s
VILB Vilhena 45.00 286 P **P** **11 02 11.4 +0.7**
VILB IAmb IAmb 11 02 13.2
comp=Z,74nm,1.3s
VILB Vilhena 45.00 286 *e*P **P** **11 02 12.3 +1.5**
BO02 Sierra Bellavi 45.02 252 P **P** **11 02 10.3 -0.5**
BO04 La Punta 45.09 253 P **P** **11 02 10.7 -0.7**
BO04 IAmb IAmb 11 02 12.0
comp=Z,60nm,1.2s
MT16 CCHEN 45.16 254 P **P** **11 02 12.1 +0.2**
MT05 Renca 45.35 254 P **P** **11 02 13.3 -0.1**
MT05 IAmb IAmb 11 03 36.8
comp=Z,43nm,0.9s
BO01 Tunca 45.37 252 P **P** **11 02 13.0 -0.5**
BO01 IAmb IAmb 11 02 13.2
comp=Z,35nm,1.0s
PEL Peldehue 45.37 254 P **P** **11 02 13.0 -0.6**
PEL Peldehue 45.37 254 P **P** **11 02 13.0 -0.6**
PEL pmax pmax
comp=Z,134nm,1.8s
MT09 Talagante 45.45 253 P **P** **11 02 13.7 -0.6**
MT09 IAmb IAmb 11 02 14.8
comp=Z,84nm,1.4s
BELA Belgrano 2 45.59 185 P **P** **11 02 14.6 0.0**
MT01 Popeta 45.63 253 P **P** **11 02 15.0 -0.6**
MT01 IAmb IAmb 11 02 16.1
comp=Z,42nm,1.4s
CO01 Juntas del Tor 45.82 259 P **P** **11 02 17.6 +0.2**
CO01 IAmb IAmb 11 02 19.1
comp=Z,56nm,1.3s
GO05 Huala 45.88 251 P **P** **11 02 16.9 -0.7**
GO05 IAmb IAmb 11 02 18.9
comp=Z,30nm,1.1s
AC05 El Transito 46.34 260 P **P** **11 02 21.3 -0.1**
AC05 IAmb IAmb 11 02 25.6
comp=Z,32nm,1.1s
BI05 Punta Hualpn 46.47 249 P **P** **11 02 22.2 +0.2**
CO05 La Serena 46.78 258 P **P** **11 02 23.6 -1.0**
AF01 San Pedro de A 46.79 269 P **P** **11 02 24.6 -0.6**
AF01 IAmb IAmb 11 02 45.8
comp=Z,30nm,0.8s
ITTB Itaituba 46.84 299 *e*P **P** **11 02 25.4 +0.2**
AC06 Mina Casimiro 46.91 262 P **P** **11 02 25.7 -0.1**
MCPB Macapa, AP 47.06 306 *e*P **P** **11 02 26.9 0.0**
GO02 Mina Guanaco 47.09 265 P **P** **11 02 27.2 -0.3**
AC04 Llanos de Chal 47.21 261 P **P** **11 02 27.7 -0.3**
MBO M'Bour 47.27 359 P **P** **11 02 28.5 0.0**
LVC Limon Verde 47.54 269 P **P** **11 02 29.5 -1.6**
LVC Limon Verde 47.54 269 LR LR 11 20 49.2
comp=Z,201nm,21.8s,baz=128,slow=34
LVC Limon Verde 47.54 269 P **P** **11 02 29.5 -1.6**
LVC pmax pmax
comp=Z,11nm,1.1s
LVC Limon Verde 47.54 269 *e*P **P** **11 02 29.7 -1.5**
AC01 Pan de Azucar 47.56 263 P **P** **11 02 30.8 0.0**
PB14 IPOC Station P 47.98 265 P **P** **11 02 33.4 -1.0**
PB06 IPOC Station P 48.06 268 P **P** **11 02 34.5 -0.4**
PB06 IAmb IAmb 11 03 19.7
comp=Z,25nm,1.1s
PB10 IPOC Station P 48.55 267 P **P** **11 02 38.7 +0.2**
PB04 IPOC Station P 48.70 268 P **P** **11 02 39.8 0.0**
PB07 IPOC Station P 48.74 269 P **P** **11 02 39.9 -0.3**
PB08 IPOC Station P 48.82 271 P **P** **11 02 40.4 -0.7**
PB08 IAmb IAmb 11 02 42.3
comp=Z,55nm,1.2s
PB02 IPOC Station P 48.92 270 P **P** **11 02 41.3 -0.2**
TOA0 Torodi Ar. Sit 49.01 23 P **P** **11 02 41.4 -0.6**
TOA0 Torodi Ar. Sit 49.01 23 P **P** **11 02 41.5 -0.4**
SNR=12
TOA0 P **P** **11 02 41.5 -0.4**
SNR=12
TORD Torodi Ar. Bea 49.01 23 P **P** **11 02 41.1 -0.8**
TORD Torodi Ar. Bea 49.01 23 P **P** **11 02 41.5 -0.4**
comp=Z,61nm,1.1s,baz=199,slow=7.1,SNR=79
TORD LR LR 11 18 46.2
comp=Z,547nm,21.4s,baz=190,slow=30
comp=Z,61nm,1.1s
GO01 Chusmiza 49.06 272 P **P** **11 02 41.8 -1.2**
GO01 IAmb IAmb 11 02 43.8
comp=Z,71nm,1.2s
PATCX Punta Patache 49.35 270 P **P** **11 02 44.9 +0.1**
PATCX IAmb IAmb 11 02 47.2
comp=Z,68nm,1.3s
PB11 IPOC Station P 49.41 272 P **P** **11 02 44.8 -0.5**
TA01 Diego Aracena 49.49 270 P **P** **11 02 45.5 -0.2**
TA01 IAmb IAmb 11 02 46.0
comp=Z,44nm,1.2s
TA02 Huaiquique 49.58 271 P **P** **11 02 47.0 +0.6**
TA02 IAmb IAmb 11 02 47.6
comp=Z,66nm,1.3s
TA02 PcP **PcP** **11 04 09.1 +1.1**
SAML Samuel 49.69 288 P **P** **11 02 47.1 -0.1**
SAML PcP **PcP** **11 04 08.0 -0.5**
SAML Samuel 49.69 288 *e*P **P** **11 02 47.6 +0.3**
LPAZ La Paz 49.78 277 P **P** **11 02 47.3 -1.4**
LPAZ La Paz 49.78 277 P **P** **11 02 46.6 -2.1**
comp=Z,7.4nm,1.0s,baz=107,slow=6.7,SNR=19
LPAZ LR LR 11 22 52.8
comp=Z,363nm,19.9s,baz=108,slow=35
comp=Z,7.4nm,1.0s
LPAZ La Paz 49.78 277 P **P** **11 02 47.3 -1.4**
LPAZ pmax pmax
comp=Z,20nm,1.3s
LPAZ La Paz 49.78 277 *e*P **P** **11 02 47.4 -1.3**
PB16 IPOC Station P 49.94 273 P **P** **11 02 49.4 -0.5**
PB16 IAmb IAmb 11 02 51.1
comp=Z,85nm,1.4s
PB18 Visviri 50.27 274 P **P** **11 02 50.5 -1.8**
PB18 IAmb IAmb 11 03 36.2
comp=Z,81nm,1.5s
PB12 IPOC Station P 50.50 273 P **P** **11 02 52.9 -0.6**
PB12 IAmb IAmb 11 02 54.0
comp=Z,47nm,1.2s
JIR01 Jirau 50.64 286 *e*P **P** **11 02 54.2 -0.3**
MACA Manacapuru-AM 51.32 296 P **P** **11 03 00.4 +0.8**
MACA IAmb IAmb 11 03 01.5
comp=Z,55nm,1.0s
MACA Manacapuru-AM 51.32 296 *e*P **P** **11 03 00.3 +0.8**
MDP Montagnes des 51.53 311 LR LR 11 23 29.8
comp=Z,584nm,18.7s,baz=115,slow=34
ETMB Extrema 51.63 285 P **P** **11 03 01.8 -0.1**
ETMB IAmb IAmb 11 03 03.4
comp=Z,53nm,1.2s
ETMB PcP **PcP** **11 04 15.4 -0.3**
ETMB Extrema 51.63 285 *e*P **P** **11 03 02.0 +0.1**
H04S3 CROZET ISLANDS 52.20 126 T T 11 59 27.0
baz=262,slow=76,SNR=19
H04S2 CROZET ISLANDS 52.20 126 T T 11 59 25.9
baz=262,slow=76,SNR=20
H04S1 CROZET ISLANDS 52.22 126 T T 11 59 26.5
baz=262,slow=76,SNR=17
TEFE Tefe 54.12 292 *e*P **P** **11 03 21.0 +0.6**
MBAR Mbarara 54.47 63 P **P** **11 03 24.1 +1.0**
MBAR IAmb IAmb 11 03 25.9
comp=Z,56nm,1.3s
MBAR Mbarara 54.47 63 LR LR 11 24 48.3
comp=Z,535nm,19.0s,baz=218,slow=34
MBAR Mbarara 54.47 63 P **P** **11 03 24.2 +1.2**
MBAR P **P** **11 03 24.2 +1.2**
MBAR Mbarara 54.47 63*d* P **P** **11 03 25.0 +1.9**
MBAR pmax pmax
comp=Z,28nm,1.2s
FOMA Nahampoana Res 54.90 99 P **P** **11 03 25.1 -0.8**
BOAV Boa Vista 54.93 301 P **P** **11 03 26.7 +0.5**
BOAV IAmb IAmb 11 03 28.1
comp=Z,78nm,1.8s
BOAV PcP **PcP** **11 04 27.8 -0.4**
BOAV Boa Vista 54.93 301 *e*P **P** **11 03 26.6 +0.4**

MAW Mawson 55.61 153 P **P** **11 03 29.5 -0.8**
comp=Z,20nm,0.9s,baz=265,slow=6.6,SNR=25
MAW LR LR 11 22 04.4
comp=Z,807nm,21.3s,baz=270,slow=30
comp=Z,20nm,0.9s
VOI Vohitsoka 56.04 96 P **P** **11 03 32.7 -1.6**
QSPA South Pole Qui 57.11 180 P **P** **11 03 41.6 +0.3**
QSPA South Pole Qui 57.11 180 P **P** **11 03 41.4 +0.1**
comp=Z,34nm,0.9s,baz=218,slow=3.4,SNR=84
QSPA LR LR 11 24 50.4
comp=Z,305nm,20.6s,baz=201,slow=32
comp=Z,34nm,0.9s
ABPO Ambohimpanom 57.70 93 P **P** **11 03 47.5 +1.3**
ABPO IAmb IAmb 11 03 48.5
comp=Z,30nm,1.2s
ABPO Ambohimpanom 57.70 93 P **P** **11 03 47.5 +1.3**
ABPO pmax pmax
comp=Z,30nm,1.3s
TBTG Tabatinga, AM 57.87 288 P **P** **11 03 46.2 -1.0**
TBTG Tabatinga, AM 57.87 288 *e*P **P** **11 03 47.0 -0.2**
CZSB Cruzeiro do Su 58.09 282 P **P** **11 03 47.2 -1.5**
CZSB Cruzeiro do Su 58.09 282 *e*P **P** **11 03 46.9 -1.9**
KIBK Kibwezi 59.01 71 P **P** **11 03 54.0 -1.3**
KIBK IAmb IAmb 11 04 00.3
comp=Z,74nm,1.8s
KIBK Kibwezi 59.01 71 P **P** **11 03 58.8 +3.6**
NNA Nana 59.23 276 LR LR 11 29 39.6
comp=Z,204nm,18.6s,baz=137,slow=36
NNA Nana 59.23 276‖ *e*P **P** **11 03 56.8 +0.1**
NNA pmax pmax
comp=Z,29nm,1.1s
TAM Tamanrasset 59.27 23 P **P** **11 03 57.7 +0.8**
TAM IAmb IAmb 11 03 58.6
comp=Z,44nm,1.3s
TAM Tamanrasset 59.27 23 P **P** **11 03 57.7 +0.8**
TAM pmax pmax
comp=Z,44nm,1.3s
LODK Lodwar 60.58 63 P **P** **11 04 07.4 +1.3**
LODK IAmb IAmb 11 04 08.8
comp=Z,31nm,1.5s
LODK Lodwar 60.58 63 P **P** **11 04 08.2 +2.2**
SNR=7.8
PCRV Puerto La Cruz 63.27 304 LR LR 11 30 05.8
comp=Z,1µm,20.6s,slow=34
SVN Savane Anatole 64.34 310 IAMs_20 IAMs_20 11 25 50.5
comp=Z,873nm,20.0s
BAUV El Baul 64.83 301 P **P** **11 04 34.2 -0.1**
PMOZ Porto Moniz, M 65.62 359 *e*LR LR 11 24 33.2
comp=Z,245nm,18.0s
MDT Midelt 66.47 10 LR LR 11 29 56.2
comp=Z,730nm,21.9s,baz=202,slow=32
AVE Averroes 66.57 8 P **P** **11 04 44.7 -0.4**
AVE IAMs_20 IAMs_20 11 29 58.2
comp=Z,896nm,19.0s
SDV Santo Domingo 66.68 299 P **P** **11 04 46.4 -0.1**
SDV IAMs_20 IAMs_20 11 33 51.6
comp=Z,977nm,18.0s
SDV Santo Domingo 66.68 299 LR LR 11 32 00.6
comp=Z,883nm,20.1s,baz=119,slow=34
SDV Santo Domingo 66.68 299 *e*P **P** **11 04 46.1 -0.4**
TULM Tulcn-Chalpat 67.09 287 P **P** **11 04 50.3 +0.8**
SBA Scott Base 69.25 181 P **P** **11 05 02.4 +0.9**
SBA Scott Base 69.25 181 P **P** **11 05 02.4 +0.9**
SBA pmax pmax
comp=Z,53nm,1.0s
VNDA Vanda 69.59 179 P **P** **11 05 04.2 +0.7**
VNDA IAmb IAmb 11 05 05.2
comp=Z,32nm,1.3s
VNDA Vanda 69.59 179 P **P** **11 05 03.8 +0.2**
comp=Z,8.5nm,1.0s,baz=207,slow=5.2,SNR=31
VNDA LR LR 11 33 14.8
comp=Z,147nm,19.3s,baz=184,slow=34
comp=Z,8.5nm,1.0s
VNDA Vanda 69.59 179 P **P** **11 05 04.3 +0.7**
VNDA pmax pmax
comp=Z,32nm,1.3s
TATN Tataouine 69.97 24 P **P** **11 05 08.3 +1.9**
TATN IAmb IAmb 11 05 09.3
comp=Z,42nm,1.1s
CDCN Doucen 70.21 18 P P 11 05 16.0 +8.1
MORF Marmelete 70.41 6 *e*P **P** **11 05 09.2 +0.1**
comp=Z,49nm,1.4s
MORF Marmelete 70.41 6 *e*P **P** **11 05 09.7 +0.6**
MORF IAmb IAmb 11 05 10.1
comp=Z,14nm,0.8s
PBDV Barranco-do-Ve 70.42 7 *e*P **P** **11 05 09.6 +0.5**
comp=Z,62nm,1.5s
PVAQ Vaqueiros 70.60 7 *e*P **P** **11 05 08.9 -1.2**
comp=Z,66nm,1.6s
PVAQ Vaqueiros 70.60 7 *e*LR LR 11 27 38.9
comp=Z,349nm,22.0s
PVAQ Vaqueiros 70.60 7 P **P** **11 05 10.5 +0.4**
PVAQ IAmb IAmb 11 05 11.5
comp=Z,27nm,1.1s
ABRIN Birine 70.70 16 P **P** **11 05 11.7 +0.8**
PBEJ Beja 71.20 7 *e*P **P** **11 05 14.4 +0.6**
comp=Z,47nm,2.1s
ATAF Djebel Tarf 71.22 17 P **P** **11 05 15.0 +0.9**
PNCL Nicolau / Gran 71.22 6 *e*P **P** **11 05 14.4 +0.5**
comp=Z,44nm,1.7s
CBBAR Babar 71.31 20 P **P** **11 05 15.0 +0.3**
PBAR Barrancos 71.43 7 *e*P **P** **11 05 15.2 0.0**
comp=Z,41nm,1.6s
EVO Evora 71.69 7 *e*P **P** **11 05 17.4 +0.7**
comp=Z,39nm,1.6s
CART Cartagena 71.73 12 IAMs_20 IAMs_20 11 32 45.8
comp=Z,542nm,21.0s
AKED El Kharrouba 71.75 16 P **P** **11 05 17.8 +0.7**
CTEI Djebel Teioual 71.95 19 P **P** **11 05 18.4 -0.1**
PESTR Estremoz 72.06 7 *e*P **P** **11 05 19.6 +0.6**
comp=Z,48nm,1.6s
PESTR Estremoz 72.06 7 P **P** **11 05 18.8 -0.2**
PESTR IAmb IAmb 11 05 21.2
comp=Z,66nm,1.5s
PMTG Montargil 72.20 6 *e*P **P** **11 05 20.1 +0.3**
comp=Z,43nm,1.6s
KEST Kesra 72.49 21 P **P** **11 05 22.3 +0.6**
KEST IAmb IAmb 11 05 23.3
comp=Z,54nm,1.3s
KEST Kesra 72.49 21 P **P** **11 05 22.4 +0.7**
comp=Z,19nm,1.1s,baz=179,slow=1.9,SNR=9.6
comp=Z,19nm,1.1s
KEST Kesra 72.49 21 P **P** **11 05 23.1 +1.4**
SNR=5.3
KEST P **P** **11 05 23.1 +1.4**
SNR=5.3
PMRV Marv??o 72.64 7 *e*P **P** **11 05 22.6 +0.2**
comp=Z,44nm,1.6s
PMRV Marv??o 72.64 7 *e*LR LR 11 28 45.8
comp=Z,264nm,20.0s
CMAH Djebel Manchou 72.76 20 P **P** **11 05 24.1 +0.8**
CASY Casey 72.80 160 P **P** **11 05 23.3 +0.2**
CASY IAmb IAmb 11 05 24.2
comp=Z,27nm,1.1s
PCBR Castelo Branco 73.04 7 *e*P **P** **11 05 25.6 +0.9**
comp=Z,12nm,0.9s
ESDC Sonseca Array 73.29 10 P **P** **11 05 26.1 -0.3**
ESDC Sonseca Array 73.29 10 P **P** **11 05 25.9 -0.4**
comp=Z,4.9nm,1.1s,baz=193,slow=6.2,SNR=22
ESDC LR LR 11 36 56.3
comp=Z,274nm,18.3s,baz=170,slow=35
comp=Z,4.9nm,1.1s
MTE Manteigas 73.58 7 *e*LR LR 11 29 32.4
comp=Z,308nm,18.0s
MVO Moncorvo 74.39 7 *e*P **P** **11 05 33.4 +0.6**
comp=Z,38nm,1.7s
MVO Moncorvo 74.39 7 *e*LR LR 11 29 51.3
comp=Z,227nm,24.0s
PCAB Cabril 74.84 6 *e*P **P** **11 05 35.4 +0.1**
comp=Z,51nm,2.0s
MAHO Mahon 75.04 16 IAMs_20 IAMs_20 11 36 19.5
comp=Z,645nm,18.0s
PBRG Braganca 75.06 7 *e*P **P** **11 05 37.1 +0.5**
comp=Z,42nm,1.6s
PGAV Gavieira, Arco 75.07 6 *e*LR LR 11 29 50.0
comp=Z,244nm,18.0s
CLTB Caltabellotta 75.42 24 IAMs_20 IAMs_20 11 42 48.6
comp=Z,636nm,18.0s
VAE Valguarnera 75.74 25 LR LR 11 38 15.8
comp=Z,335nm,18.4s,baz=170,slow=35
VSL Villasalto 75.99 20 IAMs_20 IAMs_20 11 37 33.5
comp=Z,422nm,18.0s
SRBA San Rafael, Bu 76.61 290 P **P** **11 05 46.6 +0.3**
SRBA IAmb IAmb 11 05 47.6
comp=Z,33nm,1.3s
CEL Celeste 76.96 25 P **P** **11 05 48.0 +0.4**
comp=Z,22nm,1.9s

LCR2 La Lucha 2 77.43 290 P P 11 05 51.8 +0.9
LCR2 IAmb IAmb 11 05 52.1
comp=Z,28nm,1.3s
MTDJ Mount Denham 77.86 301 P P 11 05 53.3 +0.3
TIP Timpagrande 78.09 25 ⇓P P 11 05 54.2 +0.3
TIP Timpagrande 78.09 25 P P 11 05 54.0 +0.1
TIP IAmb IAmb 11 05 54.7
comp=Z,36nm,1.4s
TIP Timpagrande 78.09 25 P P 11 05 53.7 -0.2
comp=Z,15nm,1.3s
IDI Anoyia 78.09 33 P P 11 05 54.8 +0.8
COVE Coope Vega, Sa 78.33 291 P P 11 05 55.6 -0.1
ITM Ithomi 78.37 30 P P 11 05 56.1 +0.7
ITM IAmb IAmb 11 05 56.6
comp=Z,43nm,1.3s
JTS Las Juntas de 78.50 290 P P 11 05 56.5 -0.1
JTS IAmb IAmb 11 05 58.1
comp=Z,39nm,1.4s
JTS Las Juntas de 78.50 290 LR LR 11 39 56.4
comp=Z,486nm,20.0s,baz=125,slow=35
JTS Las Juntas de 78.50 290 *de*P **P 11 05 56.4 -0.3**
JTS pmax pmax
comp=Z,30nm,1.4s
EIL Elat 78.90 43 LR LR 11 36 42.5
comp=Z,143nm,22.0s,baz=246,slow=33
ORTG Ortega, Santa 78.94 290 IAmb IAmb 11 06 00.1
comp=Z,45nm,1.4s
PAOL Paolisi 78.99 23 P P 11 05 58.6 -0.1
PAOL IAmb IAmb 11 05 59.8
comp=Z,56nm,1.6s
KARP Karpathos 79.36 35 P P 11 06 01.4 +0.4
KARP IAmb IAmb 11 06 02.2
comp=Z,50nm,0.9s
KARP Karpathos 79.36 35 P P 11 06 01.1 +0.2
comp=Z,69nm,1.0s,comp=Z,786nm
INTR Introdacqua 79.66 22 P P 11 06 03.0 +0.6
ACON Acoyapa 79.68 292 IAmb IAmb 11 06 03.9
comp=Z,47nm,1.4s
CESX Cesi 79.80 21 P P 11 06 03.0 -0.1
APE Apeiranthos 79.85 33 ⇑P P 11 06 02.9 -0.7
APE Apeiranthos 79.85 33 *de*P **P 11 06 03.6 +0.1**
APE pmax pmax
comp=Z,18nm,1.1s
CAMP Campotosto 79.98 22 P P 11 06 04.2 0.0
AGG Agios Georgios 80.10 29 P P 11 06 05.3 +0.4
AGG Agios Georgios 80.10 29 P P 11 06 05.3 +0.4
AGG pmax pmax
comp=Z,11nm,1.1s
ARG Arkhangelos 80.36 35 IAmb IAmb 11 06 08.5
comp=Z,72nm,1.3s
BNI Bardonecchia 80.49 16 P P 11 06 07.5 +0.6
BNI IAMs_20 IAMs_20 11 38 19.7
comp=Z,474nm,21.0s
BNI Bardonecchia 80.49 16 P P 11 06 07.5 +0.6
BNI pmax pmax
comp=Z,16nm,1.4s
TIR Tirane 81.13 26 IAmb IAmb 11 06 12.3
comp=Z,64nm,1.2s
TIR Tirane 81.13 26 P P 11 06 10.4 +0.2
comp=Z,50nm,1.3s
FNA Florina 81.22 28 IAmb IAmb 11 06 11.5
comp=Z,42nm,1.6s
RAYN Ar Rayn 81.25 55 P P 11 06 12.8 +1.4
RAYN IAmb IAmb 11 06 13.9
comp=Z,30nm,1.3s
RAYN Ar Rayn 81.25 55 P P 11 06 12.8 +1.4
RAYN pmax pmax
comp=Z,30nm,1.3s
MMAI Mount Meron Ar 81.65 42 LR LR 11 40 02.1
comp=Z,128nm,20.4s,baz=161,slow=34
PUK Puka 81.74 26 P P 11 06 14.2 +0.6
PUK IAmb IAmb 11 06 14.9
comp=Z,31nm,1.4s
PDG Podgorica 81.85 26 P P 11 06 13.9 -0.1
TUE Stuetta 82.47 17 IAMs_20 IAMs_20 11 40 46.1
comp=Z,713nm,18.0s
TUE Stuetta 82.47 17 P P 11 06 15.9 -1.6
comp=Z,46nm,1.4s
EZN Ezine 82.47 32 P P 11 06 17.1 -0.2
CTI Castel Tesino 82.68 19 P P 11 06 18.9 +0.5
CTI IAmb IAmb 11 06 19.4
comp=Z,38nm,1.4s
CTI Castel Tesino 82.68 19 P P 11 06 18.9 +0.5
CTI pmax pmax
comp=Z,38nm,1.4s
KKB Krupnik 82.81 28 *i*P **P 11 06 21.0 +1.9**
MMB Musomishta 82.82 29 *i*P **P 11 06 18.4 -0.8**
FUORN Ofenpass-Fuorn 82.84 18 P P 11 06 19.4 -0.1
DAVOX Davos/Dischmat 82.89 18 LR LR 11 41 12.1
comp=Z,672nm,18.3s,baz=261,slow=34
ABTO Aybut 82.96 64 P P 11 06 21.2 +0.7
GBRS Gornja Briga 83.12 21 *i*P **P 11 06 21.0 +0.3**
CIMO Cimolais 83.14 19 IAmb IAmb 11 06 21.6
comp=Z,17nm,1.2s
STAL STALIGIAL 83.17 20 IAmb IAmb 11 09 29.7
comp=Z,21nm,0.6s
RDO Rodhopi 83.22 30 P P 11 06 21.5 +0.3
RDO IAmb IAmb 11 06 22.9
comp=Z,43nm,1.3s
BOJS Bojanci 83.23 22 *e*P **P 11 06 21.2 0.0**
FETA Feichten 83.33 18 *e*P **P 11 06 21.7 -0.2**
comp=Z,11nm,1.2s
DAVA Damuels 83.36 17 *i*P **P 11 06 22.0 0.0**
comp=Z,42nm,1.5s,SNR=12
VTS Vitosha 83.51 28 *i*P **P 11 06 22.7 -0.2**
KDZ Kurdzhali 83.54 30 *i*P **P 11 06 22.7 -0.2**
ABTA Abfaltersbach 83.56 19 *i*P **P 11 06 23.5 +0.5**
comp=Z,33nm,1.3s,SNR=12
PRED Cave del Predi 83.58 20 IAmb IAmb 11 06 22.9
comp=Z,22nm,1.4s
SQTA Sankt Quirin 83.64 18 *i*P **P 11 06 23.7 +0.3**
comp=Z,16nm,1.0s,SNR=5.5
WHFO Wadi Hawf 83.66 64 P P 11 06 25.5 +1.4
WHFO P P 11 06 25.5 +1.4
MOZS Mozjanca 83.70 21 *e*P **P 11 06 23.6 0.0**
MOTA Moosalm 83.73 18 *e*P **P 11 06 23.6 -0.3**
comp=Z,15nm,1.3s
RBK Rabkut 83.73 65 P P 11 06 25.0 +0.5
RBK P P 11 06 25.0 +0.5
MYKA Terra Mystica 83.77 20 *e*P **P 11 06 24.9 +0.9**
comp=Z,13nm,1.5s
RETA Reutte 83.77 18 *e*P **P 11 06 23.7 -0.3**
comp=Z,9.2nm,1.1s
BOVS Bovan 83.79 26 ⇓P P 11 06 24.0 -0.1
WTTA Wattenberg 83.80 18 *i*P **P 11 06 24.7 +0.4**
comp=Z,23nm,1.1s,SNR=6.5
WATA Walderalm 83.84 18 *e*P **P 11 06 24.6 +0.2**
comp=Z,16nm,0.8s
OBKA Obir 83.92 21 *e*P **P 11 06 25.6 +0.8**
comp=Z,14nm,1.5s
BFO Black Forest 83.96 16 P P 11 06 24.9 0.0
BFO IAmb IAmb 11 06 26.2
comp=Z,22nm,1.2s
BFO Black Forest 83.96 16 P P 11 06 24.9 0.0
BFO pmax pmax
comp=Z,22nm,1.2s
KBA Koelnbreinsper 84.09 20 *i*P **P 11 06 25.7 -0.1**
comp=Z,8.3nm,1.2s,SNR=5.3
BLKB Belogradchik 84.15 27 ⇑P P 11 06 26.8 +0.8
PERS Pernice 84.21 21 *e*P **P 11 06 26.4 +0.2**
SOKA Soboth 84.22 21 *i*P **P 11 06 26.8 +0.5**
comp=Z,33nm,1.5s,SNR=15
LESA Schwarzleotal 84.22 19 *e*P **P 11 06 25.8 -0.5**
comp=Z,6.8nm,0.6s
MPEP Malo Peshtene 84.33 28 P P 11 06 26.5 -0.4
DOK Doka 84.35 64 P P 11 06 29.2 +1.7
DOK P P 11 06 29.2 +1.7
FRGS Fruska Gora 84.42 25 P P 11 06 26.9 -0.4
comp=Z,9.8nm,0.6s,comp=Z,362nm
SOR Soroa 84.70 301 IAmb IAmb 11 06 31.4
comp=Z,46nm,1.3s
BIOA Bad Ischl, Aus 84.73 20 *e*P **P 11 06 28.7 -0.2**
comp=Z,9.3nm,0.9s
WLF Walferdange 84.75 14 *d*P **P 11 06 29.7 +0.9**
JMB Yambol 84.75 30 P P 11 06 28.3 -0.7
MDVR Moldovita 84.78 26 ⇑P P 11 06 30.0 +0.9
KLYT Kilyos 84.84 32 P P 11 06 28.9 -0.5
ELND Elena 84.84 29 ⇑P P 11 06 29.9 +0.5
ARSA Arzberg 84.88 21 *i*P **P 11 06 30.3 +0.7**
comp=Z,22nm,1.3s,SNR=7.3
MORH Mrgy, Hungar 84.95 23 ⇑P P 11 06 30.8 +1.0
MORH Mrgy, Hungar 84.95 23 P P 11 06 29.3 -0.6
comp=Z,18nm,1.7s,comp=Z,274nm
RCHB Rochefort 85.03 13 *d*P **P 11 06 30.2 0.0**
MOA Molln 85.06 20 *e*P **P 11 06 30.3 -0.2**
comp=Z,10nm,0.9s
BMRD Maredsous 85.08 13 *d*P **P 11 06 31.4 +1.0**
comp=Z,7.6nm,1.2s
HERR Herculane 85.12 26 ⇑P P 11 06 31.5 +0.7
SZH Strazhitsa 85.16 29 *i*P **P 11 06 31.7 +0.7**
BGES Gesves 85.22 13 *d*P **P 11 06 32.3 +1.1**
BCLA Clavier 85.30 13 *d*P **P 11 06 32.9 +1.4**
BHOU Houvegnez 85.37 14 *d*P **P 11 06 33.5 +1.6**
MPLH Magyarpolny 85.43 22 P **P 11 06 32.5 +0.2**
comp=Z,49nm,1.2s,comp=Z,696nm
BZS Buzias 85.46 25 ⇑P P 11 06 33.4 +1.0
BZS Buzias 85.46 25 ⇑P P 11 06 33.4 +1.0
ANTO Ankara 85.50 35 P P 11 06 34.5 +1.5
ANTO Ankara 85.50 35 P P 11 06 32.9 0.0
comp=Z,8.0nm,0.6s
RONA Rosalia, Austr 85.52 21 *i*P **P 11 06 33.8 +1.0**
comp=Z,33nm,1.4s,SNR=9.6
CONA Conrad Observa 85.59 21 *i*P **P 11 06 33.9 +0.8**
comp=Z,21nm,1.3s,SNR=12
APG El Apazote 85.61 291 LR LR 11 46 25.2
comp=Z,111nm,18.4s,baz=78,slow=37
MEM Membach 85.61 14 *d*P **P 11 06 34.2 +1.1**
GZR Gura Zlata 85.69 26 ⇑P P 11 06 34.5 +0.8
GZR Gura Zlata 85.69 26 P P 11 06 33.3 -0.4
SMRA Abu-Samra 85.74 57 P P 11 06 36.4 +2.0
BR105 Keskin Array S 85.79 36 P P 11 06 34.2 -0.3
comp=Z,4.2nm,1.3s,comp=Z,59nm
BR104 Keskin Array S 85.79 36 P P 11 06 34.2 -0.3
comp=Z,3.7nm,1.2s,comp=Z,51nm
GEC2 GERESS Array S 85.80 19 P P 11 06 34.1 -0.1
GEC2 IAmb IAmb 11 09 53.8
comp=Z,40nm,1.6s
GERES GERESS Array B 85.80 19 P P 11 06 34.1 -0.1
GERES GERESS Array B 85.80 19 P P 11 06 34.0 -0.2
comp=Z,2.7nm,0.9s,baz=207,slow=5.7,SNR=6.9
GERES PP PP 11 09 52.8 -1.4
comp=Z,3.2nm,1.0s,baz=216,slow=4.3,SNR=8.0
GERES LR LR 11 43 23.6
comp=Z,286nm,18.0s,baz=223,slow=35
comp=Z,2.7nm,0.9s
BR106 Keskin Array S 85.80 36 P P 11 06 33.9 -0.6
comp=Z,4.3nm,1.6s,comp=Z,56nm
BR131 Keskin Array S 85.81 36 P P 11 06 35.1 +0.6
SNR=5.2
BR131 Keskin Array S 85.81 36 *de*P **P 11 06 34.7 +0.2**
BRTR Keskin Array B 85.81 36 P P 11 06 34.8 +0.2
comp=Z,1.7nm,0.9s,baz=200,slow=3.3,SNR=9.1
comp=Z,1.7nm,0.9s
SLWR Sila 85.92 58 P P 11 06 36.2 +0.9
SLWR P P 11 06 36.2 +0.9
GRFO Grafenberg 85.93 17 P P 11 06 35.5 +0.8
GRFO IAmb IAmb 11 07 33.9
comp=Z,19nm,0.7s
GRFO IAMs_20 IAMs_20 11 43 01.5
comp=Z,401nm,18.0s
GRFO Grafenberg 85.93 17 P P 11 06 35.5 +0.8
GRFO pmax pmax
comp=Z,19nm,0.7s
GRA1 Grafenberg Arr 85.93 17 IAMs_20 IAMs_20 11 43 01.5
comp=Z,390nm,18.0s
KHC Kasperske Hory 86.03 19 IAmb IAmb 11 09 55.6
comp=Z,32nm,1.5s
KHC Kasperske Hory 86.03 19 *e*P **P 11 06 34.0 -1.3**
KHC Kasperske Hory 86.03 19 *de*P **P 11 06 35.1 -0.2**
KHC pmax pmax
comp=Z,39nm,1.7s
KHC Kasperske Hory 86.03 19 P P 11 06 34.2 -1.1
comp=Z,11nm,1.5s
ZST Bratislava 86.21 21 *e*P **P 11 06 36.7 +0.6**
ZST Bratislava 86.21 21 *e*P **P 11 06 36.7 +0.6**
SRO Srobarova 86.25 22 *e*P **P 11 06 37.0 +0.8**
SRO Srobarova 86.25 22 *e*P **P 11 06 37.1 +0.8**
SRO pmax pmax
comp=Z,26nm,0.9s
ARR Arges 86.37 27 ⇑P P 11 06 37.8 +0.7
MODS Modra-Piesok 86.42 21 *e*P **P 11 06 37.3 +0.1**
MODS Modra-Piesok 86.42 21 *e*P **P 11 06 37.3 +0.1**
MODS pmax pmax
comp=Z,51nm,1.3s
SHMA Al-Shehemyia 86.54 56 P P 11 06 38.5 +0.2
MZR Muzera 86.55 60 P P 11 06 39.6 +1.2
MZR P P 11 06 39.6 +1.2
VOIR 86.59 28 ⇑P P 11 06 38.7 +0.5
VOIR 86.59 28 ⇑P P 11 06 38.7 +0.5
VOIR 86.59 28 P P 11 06 37.4 -0.8
comp=Z,13nm,1.7s
KRUC Moravsky 86.77 21 *e*P **P 11 06 38.0 -0.8**
KRUC *e*PP **PP 11 10 01.2 -0.6**
PSZ Piszkesteto 86.85 23 ⇑P P 11 06 40.3 +0.9
PSZ Piszkesteto 86.85 23 IAmb IAmb 11 06 40.6
comp=Z,28nm,1.1s
PSZ IAMs_20 IAMs_20 11 45 40.1
comp=Z,353nm,18.0s
PSZ Piszkesteto 86.85 23 ⇑P P 11 06 40.3 +0.9
DRGR 86.86 25 ⇑P P 11 06 40.5 +1.1
DRGR 86.86 25 P P 11 06 40.0 +0.6
MARR Marisel-Cluj 86.91 26 ⇑P P 11 06 40.8 +1.1
ISR Istrita 86.92 29 P P 11 06 39.3 -0.5
comp=Z,63nm,1.2s,comp=Z,6μm
JAVC Velka Javorina 86.97 21 *e*P **P 11 06 40.5 +0.6**
JAVC *e*PP **PP 11 10 02.5 -1.1**
MLR Muntele Rosu 86.99 28 ⇑P P 11 06 40.9 +0.7
MLR Muntele Rosu 86.99 28 P P 11 06 40.4 +0.2
MLR Muntele Rosu 86.99 28 LR LR 11 43 40.8
comp=Z,82nm,19.4s,baz=228,slow=34
MLR Muntele Rosu 86.99 28 ⇑P P 11 06 40.9 +0.7
MLR Muntele Rosu 86.99 28 P P 11 06 39.8 -0.4
comp=Z,38nm,1.4s,comp=Z,539nm
DWPF Disney Wildern 86.99 306 P P 11 06 41.4 +1.0
baz=130
TEIG Tepich 87.00 296 P P 11 06 40.4 -0.3
TEIG Tepich 87.00 296 LR LR 11 46 37.9
comp=Z,2μm,18.0s,slow=36
VYHS Vyhne 87.01 22 *e*P **P 11 06 40.4 +0.3**
VYHS Vyhne 87.01 22 *e*P **P 11 06 40.4 +0.3**
VYHS pmax pmax
comp=Z,27nm,1.4s
VRAC Vranov 87.05 21 *e*P **P 11 06 39.6 -0.6**
VRAC *e*PP **PP 11 10 03.1 -1.0**
VRAC Vranov 87.05 21 LR LR 11 44 18.2
comp=Z,403nm,18.1s,baz=220,slow=35
COVR Voineasa-Covas 87.38 28 ⇑P P 11 06 30.9 -11
PLOR3 Plostina Array 87.56 28 P P 11 06 41.6 -1.3
comp=Z,7.1nm,1.6s
PLOR5 Plostina Array 87.56 28 P P 11 06 41.8 -1.0
comp=Z,7.4nm,1.1s
UMZA Um Al Zommool 87.60 61 P P 11 06 43.7 +0.2
UMZA P P 11 06 43.7 +0.2
VRI Vrincioaia 87.61 28 ⇑P P 11 06 42.9 -0.1
VRI Vrincioaia 87.61 28 ⇑P P 11 06 42.9 -0.1
VRI Vrincioaia 87.61 28 P P 11 06 42.0 -1.0
comp=Z,14nm,1.5s,comp=Z,831nm
DQM DQM 87.71 65 P P 11 06 44.4 +0.3
DQM P P 11 06 44.4 +0.3
BRG Berggiesshubel 87.71 18 *e*P **P 11 06 44.6 +1.3**
BRG Amp 11 06 47.0
comp=Z,5.2nm,0.9s
MORC Moravsky Berou 87.75 21 ⇑P P 11 06 44.2 +0.6
MORC Moravsky Berou 87.75 21 IAmb IAmb 11 06 45.8
comp=Z,39nm,1.8s
MORC Moravsky Berou 87.75 21 *e*P **P 11 06 43.2 -0.4**
MORC *e*PP **PP 11 10 08.9 -0.9**
MORC Moravsky Berou 87.75 21 ⇑P P 11 06 44.2 +0.6
LANS Liptovska Anna 87.79 22 *e*P **P 11 06 45.0 +1.2**
LANS *e*PP **PP 11 10 09.1 -1.0**
LANS Liptovska Anna 87.79 22 *e*P **P 11 06 45.1 +1.2**
LANS *e* 11 10 09.1
LANS pmax pmax
comp=Z,7.0nm,1.3s
CLL Collm 87.86 18 IAMs_20 IAMs_20 11 44 37.7
comp=Z,372nm,19.0s
CLL Collm 87.86 18 *i*P **P 11 06 44.6 +0.5**
comp=Z,16nm,1.3s
CLL *i* PP **PP 11 10 08.3 -2.3**
CLL *e*S **S 11 17 30.0 +3.4**
CLL *e*SS **SS 11 23 06.0 -8.8**
CLL AMS AMS 11 44 00.0
comp=N,200nm,19.1s
CLL AMS AMS 11 44 00.0
comp=E,200nm,21.0s
CLL AMS AMS 11 44 00.0
comp=Z,300nm,18.0s
CLL Collm 87.86 18 *i*P **P 11 06 44.6 +0.5**
CLL pmax pmax
comp=Z,16nm,1.3s
CLL MLR MLR
comp=Z,300nm,18.0s
CLL Collm 87.86 18 P **P 11 06 44.1 0.0**
comp=Z,11nm,1.6s
DPC Dobruska-Polom 87.90 20 P P 11 06 44.3 0.0
comp=Z,8.7nm,1.4s
TRSU Trosnyk 88.05 25 P P 11 06 44.3 -0.7
BERU Beregovo 88.06 25 P P 11 06 45.0 -0.1
TESR Tescani 88.11 28 P P 11 06 44.7 -0.7
comp=Z,10nm,1.4s
HOLU Holmets 88.22 24 P P 11 06 45.5 -0.3
CRVS Cervenica-Dubn 88.23 24 *e*P **P 11 06 46.2 +0.3**
CRVS Cervenica-Dubn 88.23 24 *e*P **P 11 06 46.3 +0.3**
CRVS pmax pmax
comp=Z,50nm,1.5s
MUKU Mukachevo 88.26 25 P P 11 06 46.0 0.0
BRIU Brid 88.28 25 P P 11 06 46.3 +0.2
NIE Niedzica 88.29 23 P P 11 06 46.3 +0.1
comp=Z,4.5nm,1.4s
BURAR Bucovina Array 88.47 26 ⇓P P 11 06 48.1 +0.8
BURAR Bucovina Array 88.47 26 P P 11 06 48.0 +0.8
BURAR Bucovina Array 88.47 26 ⇓P P 11 06 48.1 +0.8
BUR08 Bucovina Ar. S 88.49 26 P P 11 06 47.9 +0.6
AJN Ajban 88.59 59 P P 11 06 49.0 +0.8
MEZ Mezhgor'ye 88.61 25 P P 11 06 47.6 -0.1
MHTO MHTO 88.66 64 P P 11 06 49.4 +0.8
EKB Eskdalemuir 88.79 7 P P 11 06 49.6 +1.3
EKB IAmb IAmb 11 06 50.4
comp=Z,34nm,1.3s
EKA Eskdalemuir Ar 88.80 7 P P 11 06 49.3 +0.9
comp=Z,1.3nm,0.6s,baz=188,slow=4.0,SNR=8.6
comp=Z,1.3nm,0.6s
OJC Ojcow 88.83 22 P P 11 06 48.9 +0.2
comp=Z,6.0nm,1.2s
ALNE Al Ain 88.84 60 P P 11 06 51.1 +1.7
ALNE P P 11 06 51.1 +1.7
ASUD Al Ashush, Dub 88.88 60 P P 11 06 51.3 +1.7
ASUD P P 11 06 51.3 +1.7
ARQ Araqi 88.97 61 P P 11 06 51.7 +1.7
ARQ P P 11 06 51.7 +1.7
KSV Kosov 89.00 26 P P 11 06 47.7 -1.9
BSY Bisya 89.12 62 P P 11 06 51.7 +0.9
BSY P P 11 06 51.7 +0.9
STNU Starunia 89.12 25 P P 11 06 50.5 +0.4
FAQ Al Faqa, Dubai 89.14 60 P P 11 06 51.8 +1.0
FAQ P P 11 06 51.8 +1.0
MORS Morshin 89.26 25 P P 11 06 50.9 +0.2
KWP Kalwaria Pacla 89.28 24 IAMs_20 IAMs_20 11 47 06.2
comp=Z,655nm,19.0s
NAZ Nazwa, Dubai 89.34 59 P P 11 06 53.2 +1.5
NAZ P P 11 06 53.2 +1.5
ASHO Ashiyiah 89.44 60 P P 11 06 53.4 +1.1
SNR=5.3
ASHO P P 11 06 53.4 +1.1
SNR=5.3
SOHO SOHO 89.46 61 P P 11 06 53.4 +1.1
SOHO P P 11 06 53.4 +1.1
JMDO Jabal Madar 89.57 63 P P 11 06 53.5 +0.6
HATD Hatta, Dubai 89.58 60 P P 11 06 54.0 +1.1
SNR=6.8
HATD P P 11 06 54.0 +1.1
SNR=6.8
UMQ Umm Al-Quwin 89.66 59 P P 11 06 53.5 +0.3
HOQ Hoqain 89.70 61 P P 11 06 54.5 +1.1
HOQ P P 11 06 54.5 +1.1
UOSS Minazif 89.70 60 P P 11 06 53.5 +0.1
UOSS IAmb IAmb 11 06 54.3
comp=Z,34nm,1.4s
UOSS Minazif 89.70 60 P P 11 06 54.4 +1.0
UOSS P P 11 06 54.4 +1.0
LVV L'vov 89.89 25 *e*P **P 11 06 53.3 -0.4**
MASF Masafi 89.93 59 P P 11 06 55.1 +0.6
SORM Soroca 90.10 28 P P 11 06 53.2 -1.5
comp=Z,12nm,1.6s,comp=Z,616nm
CMIG Matias Romero 90.28 290 LR LR 11 49 08.2
comp=Z,189nm,18.1s,baz=122,slow=37
T59A Double "B" Far 90.36 315 IAmb IAmb 11 06 57.6
comp=Z,24nm,1.1s
JLN Jalan Bani Buh 90.42 64 P P 11 06 57.4 +0.6
WSAR Wadi Sarin 90.47 62 LR LR 11 47 01.1
comp=Z,69nm,18.0s,baz=225,slow=35
V58A Windy Hill, Pi 90.51 313 P P 11 06 58.1 +1.2
V58A IAmb IAmb 11 06 59.0
comp=Z,32nm,1.1s
EMMW East Machias 90.52 326 IAMs_20 IAMs_20 11 38 05.0
comp=Z,420nm,20.0s
TIGA Tifton 90.55 308 P P 11 06 58.4 +1.2
baz=129
HRV Adam Dziewonsk 90.91 322 P P 11 07 00.7 +2.1
baz=136
PAL Palisades 91.07 320 P P 11 07 00.3 +0.9
baz=135
WUPA West Chester U 91.25 318 IAmb IAmb 11 07 02.4
comp=Z,17nm,1.4s
LUBAR Lubar, Ukraine 91.33 27 P P 11 06 59.7 -0.6
L61B Northampton 91.44 322 P P 11 07 02.6 +1.5
baz=136
KMSC Kings Mountain 91.45 312 P P 11 07 01.8 +0.4
baz=130
GOGA Godfrey 91.71 309 P P 11 07 03.4 +0.8
baz=129
RNPP5 Staryi Chortor 91.72 25 P P 11 07 02.0 -0.1
RNPP8 Varash 91.80 25 P P 11 07 02.4 -0.1
PKME Peaks-Kenny Pk 91.80 325 IAMs_20 IAMs_20 11 38 00.9
comp=Z,344nm,19.0s
PKME Peaks-Kenny Pk 91.80 325 P P 11 07 04.3 +1.7
baz=138
RNPP9 Sopachiv 91.87 25 P P 11 07 03.1 +0.3
GNI Garni 91.98 42 P P 11 07 06.0 +2.1
GNI Garni 91.98 42 LR LR 11 48 60.0
comp=Z,80nm,18.5s,baz=224,slow=36
GNI Garni 91.98 42 P P 11 07 05.6 +1.7
GNI Garni 91.98 42 *d*/P **P 11 07 05.5 +1.6**
GNI pmax pmax
comp=Z,33nm,1.3s
GNI Garni 91.98 42 P P 11 07 04.8 +0.9
comp=Z,38nm,1.4s,comp=Z,504nm
152A Waverly Hall 92.06 308 IAmb IAmb 11 07 05.0
comp=Z,11nm,0.9s
MI30 MI30,Zelenitsa 92.16 26 P P 11 07 04.0 -0.2
BLA Blacksburg 92.23 314 P P 11 07 06.5 +1.6
baz=131
LBNH Lisbon 92.34 323 P P 11 07 07.0 +1.8
baz=136
G62A West of Eustis 92.36 325 P P 11 07 05.7 +0.4
AK13 Malin Array Si 92.38 27 P P 11 07 05.0 -0.2
AK07 Malin Array Si 92.38 27 P P 11 07 05.0 -0.2
AK14 Malin Array Si 92.41 27 P P 11 07 05.7 +0.4
AK05 Malin Array Si 92.44 27 P P 11 07 05.6 +0.1
AK12 Malin Array Si 92.44 27 P P 11 07 05.4 -0.1
AK10 Malin Array Si 92.44 27 P P 11 07 05.4 -0.1
AK19 Malin Array Si 92.45 27 P P 11 07 05.2 -0.3
AK20 Malin Array Si 92.46 27 P P 11 07 05.5 -0.1
AK09 Malin Array Si 92.46 27 P P 11 07 05.5 -0.1
AK08 Malin Array Si 92.47 27 P P 11 07 05.3 -0.3
AKASG Malin Array Be 92.51 27 P P 11 07 06.0 +0.1
AKASG IAmb IAmb 11 07 07.3
comp=Z,22nm,1.4s
AKASG Malin Array Be 92.51 27 P P 11 07 05.6 -0.2
comp=Z,4.4nm,0.9s,baz=222,slow=5.0,SNR=27
AKASG LR LR 11 47 33.3
comp=Z,112nm,21.1s,baz=228,slow=35
comp=Z,4.4nm,0.9s
AKASG Malin Array Be 92.51 27 *ce*P **P 11 07 05.9 +0.1**
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 92.51 27 P P 11 07 06.5 +0.8
AKBB IAmb IAmb 11 07 06.7
comp=Z,22nm,1.3s
AKBB Malin Array Si 92.51 27 *de*P **P 11 07 05.9 +0.1**
AKBB Malin Array Si 92.51 27 P P 11 07 05.0 -0.8
SSPA Standing Stone 93.01 318 P P 11 07 10.5 +2.0
baz=132
BINY Binghamton 93.02 320 P P 11 07 09.7 +1.3
baz=133
D62A Allapoint, All 93.03 327 P P 11 07 08.3 0.0
D62A IAmb IAmb 11 07 09.8
comp=Z,13nm,1.1s
TKL Tuckaleechee C 93.31 311 LR LR 11 51 11.6
comp=Z,75nm,18.1s,baz=147,slow=37
SHA1 Shidzhatmaz 93.33 38 *de*P **P 11 07 11.0 +0.9**
KBZ Khabaz 93.45 38 P P 11 07 10.7 +0.4
comp=Z,4.9nm,1.0s,baz=233,slow=2.5,SNR=14
comp=Z,4.9nm,1.0s
KBZ Khabaz 93.45 38 ⇓ *e*P **P 11 07 11.2 +0.9**

KBZ				pmax	pmax				
	comp=Z,15nm,1.3s								
MCWV	**Mont Chateau**	**93.49**	**316**	P	**P**	**11 07 11.9**	**+1.3**		
	baz=131								
KIV	**Kislovodsk**	**93.50**	**38**	P	**P**	**11 07 11.8**	**+1.1**		
KIV	**Kislovodsk**	**93.50**	**38***d*	*i*P	**P**	**11 07 11.3**	**+0.6**		
KIV				*e*		11 07 16.4			
KIV				S	**SKSac**	**11 17 38.0**	**-7.0**		
KIV				SS	**SS**	**11 24 42.0**	**+5.3**		
KIV				pmax	pmax				
	comp=Z,17nm,1.3s								
KIV				MLR	MLR				
	comp=Z,50nm,18.0s								
KIV	**Kislovodsk**	**93.50**	**38**	P	**P**	**11 07 11.1**	**+0.4**		
TZTN	**Tazewell**	**93.73**	**312**	P	**P**	**11 07 13.2**	**+1.3**		
	baz=129								
LRAL	**Lakeview Retre**	**93.80**	**307**	P	**P**	**11 07 12.5**	**+0.2**		
LRAL				IAmb	IAmb	11 07 13.1			
	comp=Z,14nm,1.1s								
LRAL	**Lakeview Retre**	**93.80**	**307**	P	**P**	**11 07 12.2**	**0.0**		
	baz=128								
LONY	**Lake Ozonia**	**93.95**	**322**	P	**P**	**11 07 13.1**	**+0.5**		
	baz=134								
O53A	**New Philadelph**	**94.67**	**316**	P	**P**	**11 07 16.8**	**+0.8**		
	baz=130								
X48A	**Hartselle**	**94.69**	**308**	P	**P**	**11 07 16.2**	**0.0**		
X48A				IAmb	IAmb	11 07 16.9			
	comp=Z,18nm,1.2s								
P52A	**Corning**	**94.82**	**315**	P	**P**	**11 07 16.6**	**-0.2**		
	baz=130								
M53A	**WI Miller and**	**95.13**	**317**	P	**P**	**11 07 18.1**	**0.0**		
	baz=130								
ERPA	**Erie**	**95.18**	**318**	P	**P**	**11 07 20.6**	**+2.2**		
	baz=131								
CLTN	**Cedars of Leba**	**95.22**	**310**	P	**P**	**11 07 18.9**	**+0.2**		
VBMS	**Vicksburg**	**95.70**	**305**	IAMs_20	IAMs_20	11 49 43.5			
	comp=Z,359nm,20.0s								
HFS	**Hagfors**	**96.09**	**14**	LR	LR	11 50 01.6			
	comp=Z,237nm,19.2s,baz=208,slow=35								
WVT	**Waverly**	**96.21**	**309**	P	**P**	**11 07 24.8**	**+1.6**		
	baz=127								
OXF	**Oxford**	**96.29**	**307**	P	**P**	**11 07 24.4**	**+0.9**		
	baz=126								
P49A	**Miami Univ. Ec**	**96.31**	**314**	P	**P**	**11 07 24.3**	**+0.8**		
	baz=128								
NOA	**NORSAR Array B**	**96.43**	**13**	LR	LR	11 48 47.5			
	comp=Z,99nm,20.7s,baz=200,slow=34								
SADO	**Sadowa**	**96.45**	**320**	LR	LR	11 47 05.0			
	comp=Z,137nm,18.0s,baz=114,slow=33								
WCI	**Wyandotte Cave**	**96.49**	**312**	P	**P**	**11 07 26.4**	**+2.1**		
	baz=128								
UTMT	**University of**	**97.00**	**309**	P	**P**	**11 07 26.9**	**+0.1**		
BORG	**Borgarnes**	**97.65**	**358**	LR	LR	11 45 04.1			
	comp=Z,96nm,18.1s,baz=181,slow=31								
H01W2	**Cape Leeuwin H**	**97.71**	**141**	T	T	12 56 59.1			
	baz=221,slow=75,SNR=55								
H01W3	**Cape Leeuwin H**	**97.73**	**141**	T	T	12 56 60.0			
	baz=221,slow=75,SNR=58								
N47A	**Urbana**	**97.73**	**314**	P	**P**	**11 07 29.0**	**-0.9**		
H01W1	**Cape Leeuwin H**	**97.73**	**141**	T	T	12 57 00.3			
	baz=221,slow=75,SNR=72								
SCHQ	**Schefferville**	**97.90**	**333**	LR	LR	11 48 23.5			
	comp=Z,244nm,18.0s,baz=53,slow=33								
SFIN	**Lafayette**	**98.28**	**313**	P	Pdif	11 07 33.8	+1.3		
	baz=127								
GEYT	**Alibeck**	**98.68**	**50**	LR	LR	11 49 34.2			
	comp=Z,87nm,21.7s,baz=251,slow=34								
MIAR	**Mount Ida**	**99.13**	**305**	P	**Pdif**	**11 07 38.1**	**+1.7**		
	baz=124								
PALK	**Pallekele**	**99.49**	**88**	LR	LR	11 45 31.2			
	comp=Z,254nm,21.7s,baz=341,slow=31								
CCM	**Cathedral Cave**	**99.55**	**309**	P	**Pdif**	**11 07 39.5**	**+1.4**		
	baz=125								
833A	**Chaparral WMA,**	**99.92**	**297**	P	**Pdif**	**11 07 40.7**	**+0.7**		
	baz=122								
WHTX	**Lake Whitney,**	**100.46**	**301**	P	**Pdif**	**11 07 43.0**	**+0.6**		
	baz=123								
HNDO	**Hondo**	**100.48**	**298**	Pdif	**Pdif**	**11 07 43.1**	**+0.6**		
JCT	**Junction City**	**101.36**	**299**	Pdif	**Pdif**	**11 07 46.6**	**+0.2**		
JCT	**Junction City**	**101.36**	**299**	P	**Pdif**	**11 07 47.4**	**+0.9**		
	baz=122								
TUL3	**Leonard**	**101.39**	**305**	P	**Pdif**	**11 07 46.6**	**+0.2**		
	baz=123								
JFWS	**Jewell Farm**	**101.67**	**314**	P	**Pdif**	**11 07 48.4**	**+0.9**		
	baz=125								
OK033	**Mehan**	**102.25**	**305**	Pdif	**Pdif**	**11 07 50.0**	**-0.3**		
OK033				IAMs_20	IAMs_20	11 52 09.9			
	comp=Z,321nm,18.0s								
ABTX	**Abilene, Hawle**	**102.36**	**301**	P	**Pdif**	**11 07 51.8**	**+0.9**		
	baz=122								
OK029	**Liberty Lake**	**102.48**	**305**	IAMs_20	IAMs_20	11 53 04.8			
	comp=Z,302nm,20.0s								
WMOK	**Wichita Mounta**	**102.85**	**303**	P	**Pdif**	**11 07 53.8**	**+0.9**		
	baz=122								
EYMN	**Ely**	**105.19**	**318**	P	**PKiKP**	**11 12 18.0**	**+0.8**		
	baz=123								
MSTX	**Muleshoe**	**105.30**	**301**	P	**PKiKP**	**11 12 18.4**	**+0.3**		
	baz=120								
CBKS	**Cedar Bluff**	**105.58**	**306**	P	**PKiKP**	**11 12 18.6**	**+0.3**		
	baz=120								
ECSD	**EROS Data Cent**	**106.03**	**312**	P	**PKiKP**	**11 12 19.7**	**+0.7**		
	baz=121								
EPT	**El Paso**	**106.98**	**297**	IAMs_20	IAMs_20	12 03 14.1			
	comp=Z,367nm,18.0s								
APA	**Apatity**	**107.02**	**18**↓	*i*P	**Pdif**	**11 08 04.5**	**-6.1**		
APA				pmax	pmax				
	comp=Z,8.0nm,1.0s								
AGMN	**Agassiz Nation**	**107.87**	**316**	P	**PKiKP**	**11 12 22.4**	**+0.2**		
	baz=120								
121A	**Cookes Peak, D**	**108.29**	**297**	P	**PKiKP**	**11 12 23.7**	**-0.1**		
	baz=118								
TBI	**Tubuai**	**108.45**	**225**	*e*LR	LR	11 44 01.6			
	comp=Z,888nm,34.5s								
TBI				*e*LR	LR	11 44 07.9			
	comp=Z,596nm,35.5s								
ISCO	**Idaho Springs**	**110.06**	**305**	P	**PKiKP**	**11 12 26.7**	**-0.3**		
	baz=117								
TUC	**Tucson**	**110.44**	**296**	P	**PKiKP**	**11 12 27.5**	**-0.2**		
	baz=117								
RSSD	**Black Hills**	**110.93**	**310**	P	**PKiKP**	**11 12 28.5**	**+0.1**		
	baz=116								
214A	**Organ Pipe Nat**	**111.82**	**295**	P	**PKiKP**	**11 12 30.6**	**+0.4**		
	baz=116								
O20A	**White River Ci**	**112.03**	**304**	P	**PKiKP**	**11 12 31.0**	**+0.4**		
	baz=115								
PPT2	**Papeete2**	**112.88**	**229**	*e*LR	LR	11 46 14.0			
	comp=Z,208nm,33.0s								
DGMT	**Dagmar**	**112.89**	**314**	P	**PKiKP**	**11 12 32.9**	**+1.2**		
	baz=114								
LAO	**LASA Array**	**113.41**	**311**	P	**PKiKP**	**11 12 33.4**	**+0.6**		
	baz=114								
PDMCI	**Parker Dam,Lak**	**113.84**	**296**	P	**PKiKP**	**11 12 34.2**	**+0.2**		
	baz=115								
PDAR	**Pinedale Array**	**114.01**	**306**	PKP	PKPdf	11 12 32.1	-2.3		
	comp=Z,0.4nm,0.6s,baz=106,slow=6.7,SNR=2.4								
TULEG	**Thule**	**114.22**	**348**	IAMs_20	IAMs_20	12 03 37.3			
	comp=Z,329nm,20.0s								
SWSC	**Sam W. Stewart**	**114.53**	**294**	P	**PKiKP**	**11 12 35.8**	**+0.5**		
	baz=115								
BC3	**Big Chuckawall**	**114.56**	**295**	P	**PKiKP**	**11 12 35.9**	**+0.4**		
	baz=115								
RLMT	**Red Lodge**	**114.75**	**309**	P	**PKiKP**	**11 12 36.0**	**+0.3**		
	baz=113								
LOHW	**Long Hollow**	**115.05**	**307**	IAMs_20	IAMs_20	11 55 53.5			
	comp=Z,324nm,22.0s								
LKWY	**Lake**	**115.28**	**308**	IAMs_20	IAMs_20	11 56 56.5			
	comp=Z,352nm,20.0s								
FXWY	**Fox Creek**	**115.34**	**307**	IAMs_20	IAMs_20	12 00 36.3			
	comp=Z,284nm,20.0s								
GSC	**Goldstone, Bar**	**116.25**	**296**	P	**PKiKP**	**11 12 39.0**	**+0.3**		
	baz=113								
BOZ	**Bozeman (W)**	**116.47**	**309**	P	**PKiKP**	**11 12 39.6**	**+0.8**		
	baz=111								
BFSC	**Mount Baldy Ra**	**116.47**	**295**	P	**PKPdf**	**11 12 39.4**	**+0.2**		
	baz=114								
R11B	**Troy Canyon, C**	**116.52**	**300**		**PKiKP**	**11 12 40.0**	**+0.8**		
R11B	**Troy Canyon, C**	**116.52**	**300**	P	**PKiKP**	**11 12 39.7**	**+0.4**		
	baz=112								
ASAR	**Alice Springs**	**116.62**	**149**	PKP	**PKPdf**	**11 12 37.1**	**-2.8**		
	comp=Z,0.7nm,0.9s,baz=193,slow=3.9,SNR=5.1								
SCI2	**San Clemente I**	**116.65**	**293**	P	**PKiKP**	**11 12 40.0**	**+0.6**		
	baz=114								
CIS	**Catalina Islan**	**116.72**	**294**	P	**PKiKP**	**11 12 40.1**	**+0.5**		
	baz=114								
FURC	**Furnace Creek,**	**116.74**	**298**	P	**PKiKP**	**11 12 40.7**	**+1.3**		
	baz=113								
EDW2	**Edwards Air Fo**	**116.98**	**296**	P	**PKiKP**	**11 12 41.0**	**+0.9**		
	baz=113								
MPMC	**Manual Prospec**	**117.05**	**297**	P	**PKiKP**	**11 12 40.9**	**+0.5**		
	baz=113								
GRAC	**Grapevine Rang**	**117.32**	**298**	P	**PKiKP**	**11 12 42.0**	**+1.3**		
	baz=112								
KURBB	**Kurchatov Arra**	**117.46**	**46**	PKP	**PKPdf**	**11 12 39.9**	**-0.4**		
	comp=Z,0.9nm,0.7s,baz=255,slow=2.1,SNR=7.6								
KURK	**Kurchatov**	**117.55**	**46**	PKIKP	**PKPdf**	**11 12 39.9**	**-0.6**		
CWC	**Cottonwood Cre**	**117.64**	**297**	P	**PKPdf**	**11 12 41.3**	**-0.1**		
	baz=112								
NVAR	**Mina Array Bea**	**118.54**	**299**	PKP	**PKPdf**	**11 12 43.0**	**-0.1**		
	comp=Z,0.7nm,0.8s,baz=102,slow=3.0,SNR=6.2								
NVAR				PKKPab	**PKKPab**	**11 23 01.0**	**-0.1**		
	comp=Z,0.5nm,0.8s,baz=254,slow=4.2,SNR=3.9								
MK31	**Makanchi Array**	**118.55**	**51**↑	*i*PKIKP	**PKPdf**	**11 12 41.6**	**-1.1**		
MKAR	**Makanchi Array**	**118.55**	**51**	PKP	**PKPdf**	**11 12 40.2**	**-2.5**		
	comp=Z,0.3nm,0.4s,baz=231,slow=6.9,SNR=5.6								
MKAR				PKKPab	**PKKPab**	**11 23 01.6**	**+1.4**		
	comp=Z,0.8nm,0.9s,baz=65,slow=9.5,SNR=5.2								
YERR	**Yerington**	**119.42**	**299**		**PKPdf**	**11 12 45.1**	**+0.3**		
CMAR	**Chiang Mai Arr**	**120.43**	**87**	PKPdf	**PKPdf**	**11 12 47.0**	**-0.1**		
CMAR	**Chiang Mai Arr**	**120.43**	**87**	PKP	**PKPdf**	**11 12 46.7**	**-0.4**		
	comp=Z,0.8nm,0.3s,baz=241,slow=3.8,SNR=14								
CHTO	**Chiang Mai**	**120.60**	**87**	PKPdf	**PKPdf**	**11 12 46.6**	**-0.8**		
CHTO	**Chiang Mai**	**120.60**	**87**	PKIKP	**PKPdf**	**11 12 46.6**	**-0.8**		
AFDM	**Forest Hills D**	**120.68**	**299**	PKPdf	**PKPdf**	**11 12 46.7**	**-0.3**		
WMQ	**Urumqi**	**121.25**	**55**	*e*PKP	**PKiKP**	**11 12 48.8**	**+0.7**		
WMQ				LR	LR				
	comp=Z,130nm,24.7s								
ZALV	**Zalesovo Beam**	**122.11**	**43**	PKP	**PKPdf**	**11 12 48.2**	**-1.0**		
	comp=Z,0.4nm,0.3s,baz=267,slow=5.9,SNR=4.4								
ZALV				PKKPbc	**PKKPbc**	**11 22 45.9**	**-0.7**		
	comp=Z,2.1nm,0.8s,baz=90,slow=4.4,SNR=7.4								
YKA	**Yellowknife Ar**	**122.72**	**327**	PKPdf	**PKPdf**	**11 12 49.5**	**-0.6**		
YKA	**Yellowknife Ar**	**122.72**	**327**	PKP	**PKPdf**	**11 12 49.1**	**-1.0**		
	comp=Z,2.7nm,1.0s,baz=81,slow=2.0,SNR=26								
YKA				PKKPbc	**PKKPbc**	**11 22 43.5**	**-1.0**		
	comp=Z,0.5nm,0.9s,baz=284,slow=4.3,SNR=8.0								
HUMO	**Hull Mountain**	**123.24**	**302**	PKPdf	**PKPdf**	**11 12 52.0**	**+0.2**		
H04D	**Lebanon**	**123.61**	**305**	PKPdf	**PKiKP**	**11 12 53.0**	**+0.4**		
DZM	**Mont Dzumac**	**125.05**	**183**	*e*LR	LR	11 51 52.3			
	comp=Z,442nm,24.9s								
PZH	**PanZhiHua**	**126.22**	**80**	PKP	**PKPdf**	**11 12 58.3**	**+0.2**		
C36M	**Paulatuk**	**126.96**	**335**	P	**PKiKP**	**11 12 59.3**	**+0.7**		
	baz=86								
A36M	**Sachs Harbour**	**127.11**	**338**	IAMs_20	IAMs_20	12 01 49.0			
	comp=Z,244nm,21.0s								
A36M	**Sachs Harbour**	**127.11**	**338**	P	**PKPdf**	**11 12 58.9**	**+0.6**		
	baz=83								
TOAD	**Toad River Com**	**127.50**	**322**	P	**PKPdf**	**11 12 59.6**	**+0.1**		
	baz=93								
LIRD	**Liard River Hi**	**127.98**	**322**	P	**PKiKP**	**11 13 01.0**	**+0.2**		
	baz=92								
GTA	**Gaotai**	**128.80**	**64**	PKP	**PKPdf**	**11 13 02.9**	**+0.2**		
TGTN	**Hyland Airport**	**129.07**	**325**	P	**PKiKP**	**11 13 03.1**	**0.0**		
	baz=89								
MYLDM	**Lahad Datu**	**129.35**	**113**	IAMs_20	IAMs_20	12 05 13.2			
	comp=Z,225nm,20.0s								
WTLY	**Watson Lake, Y**	**129.35**	**323**	P	**PKiKP**	**11 13 03.9**	**+0.2**		
	baz=89								
GRNB	**Grenville Isla**	**129.83**	**315**	PKPdf	**PKPdf**	**11 13 03.5**	**-0.5**		
QIZ	**Qiongzhong**	**129.84**	**92**	PKP	**PKPdf**	**11 13 05.3**	**+0.2**		
QIZ				PP	**PP**	**11 15 17.1**	**+0.4**		
QIZ				SS	SS	11 32 42.8	+1.3		
QIZ				AMB	AMB				
	comp=Z,91nm,8.0s								
QIZ				LR	LR				
	comp=Z,93nm,15.1s								
QIZ				LR	LR				
	comp=Z,83nm,13.9s								
QIZ				LR	LR				
	comp=Z,110nm,17.7s								
DLBC	**Dease Lake**	**130.00**	**321**	PKPdf	**PKiKP**	**11 13 05.2**	**+0.1**		
DLBC	**Dease Lake**	**130.00**	**321**	P	**PKPdf**	**11 13 04.8**	**+0.6**		
	baz=90								
RUBB	**Prince Rupert**	**130.03**	**316**	PKPdf	**PKiKP**	**11 13 05.2**	**+0.1**		
T35M	**Bob Quinn**	**130.11**	**319**	P	**PKiKP**	**11 13 05.3**	**0.0**		
	baz=91								
R33M	**Jennings River**	**130.47**	**322**	PKPdf	**PKiKP**	**11 13 06.2**	**+0.2**		
R33M	**Jennings River**	**130.47**	**322**	P	**PKiKP**	**11 13 06.1**	**0.0**		
	baz=88								
INK	**Inuvik**	**130.50**	**334**	P	**PKPdf**	**11 13 04.7**	**-0.1**		
	baz=78								
INK	**Inuvik**	**130.50**	**334**	PKP	**PKPdf**	**11 13 04.4**	**-0.4**		
	comp=Z,16nm,1.1s,baz=101,slow=3.0,SNR=22								
S34M	**Telegraph Cree**	**130.59**	**320**	P	**PKPdf**	**11 13 05.8**	**+0.5**		
	baz=89								
F31M	**Tsiigehtchic**	**130.76**	**333**	IAMs_20	IAMs_20	12 08 55.7			
	comp=Z,290nm,18.0s								
F31M	**Tsiigehtchic**	**130.76**	**333**	P	**PKPdf**	**11 13 05.4**	**+0.1**		
	baz=78								
V35K	**Ketchikan**	**130.85**	**317**	P	**PKPdf**	**11 13 06.0**	**+0.2**		
	baz=91								
LZH	**Lanzhou**	**131.06**	**69**	*e*PKP	**PKiKP**	**11 13 08.3**	**+0.3**		
G31M	**Satah River**	**131.06**	**333**	PKPdf	**PKPdf**	**11 13 06.0**	**+0.1**		
G31M				IAMs_20	IAMs_20	12 04 21.8			
	comp=Z,405nm,21.0s								
G31M	**Satah River**	**131.06**	**333**	P	**PKPdf**	**11 13 05.6**	**-0.3**		
	baz=78								
WRAK	**Wrangell Islan**	**131.27**	**319**	P	**PKPdf**	**11 13 06.8**	**+0.2**		
	baz=90								
H31M	**Peel River**	**131.31**	**331**	P	**PKPdf**	**11 13 06.3**	**-0.2**		
	baz=79								
P33M	**Teslin, Yukon**	**131.35**	**324**	PKPdf	**PKPdf**	**11 13 06.9**	**+0.1**		
P33M				IAMs_20	IAMs_20	12 06 13.0			
	comp=Z,297nm,20.0s								
P33M	**Teslin, Yukon**	**131.35**	**324**	P	**PKPdf**	**11 13 06.9**	**+0.1**		
	baz=86								
N32M	**Quiet Lake**	**131.40**	**325**		**PKiKP**	**11 13 07.7**	**-0.1**		
N32M	**Quiet Lake**	**131.40**	**325**	P	**PKPdf**	**11 13 07.1**	**+0.3**		
	baz=85								
FARO	**Faro, Yukon**	**131.42**	**326**		**PKPdf**	**11 13 07.3**	**+0.5**		
FARO	**Faro, Yukon**	**131.42**	**326**	P	**PKPdf**	**11 13 07.0**	**+0.2**		
	baz=83								
F30M	**Barrier River**	**131.49**	**334**	P	**PKPdf**	**11 13 07.5**	**+0.8**		
	baz=76								
U33K	**Whale Pass**	**131.71**	**318**	P	**PKPdf**	**11 13 07.8**	**+0.4**		
	baz=89								
CRAG	**Craig**	**131.72**	**317**	P	**PKPdf**	**11 13 08.0**	**+0.6**		
	baz=90								
G30M	**tAoh Zraii Nji**	**131.80**	**333**	IAMs_20	IAMs_20	12 01 30.3			
	comp=Z,379nm,22.0s								
G30M	**tAoh Zraii Nji**	**131.80**	**333**	P	**PKPdf**	**11 13 07.8**	**+0.4**		
	baz=76								
P32M	**Atlin**	**131.85**	**323**	P	**PKPdf**	**11 13 07.9**	**+0.1**		
	baz=85								
M31M	**Drury Creek, Y**	**131.91**	**326**	PKPdf	**PKPdf**	**11 13 07.4**	**-0.3**		
M31M				IAMs_20	IAMs_20	12 06 08.4			
	comp=Z,312nm,20.0s								
M31M	**Drury Creek, Y**	**131.91**	**326**	P	**PKPdf**	**11 13 07.5**	**-0.3**		
	baz=82								
E29M	**Blow River**	**132.05**	**335**	P	**PKPdf**	**11 13 07.3**	**-0.5**		
	baz=74								
D28M	**Stokes Point**	**132.06**	**336**	P	**PKPdf**	**11 13 07.8**	**+0.1**		
	baz=72								
EPYK	**Eagle Plains**	**132.14**	**332**		**PKPdf**	**11 13 08.4**	**+0.4**		
EPYK	**Eagle Plains**	**132.14**	**332**	P	**PKPdf**	**11 13 08.0**	**0.0**		
	baz=76,SNR=6.2								
I30M	**Mount Dempster**	**132.26**	**331**	P	**PKPdf**	**11 13 08.0**	**-0.4**		
	baz=78,SNR=13								
WHY	**Whitehorse**	**132.33**	**324**	P	**PKPdf**	**11 13 08.7**	**+0.1**		
	baz=83								
MAYO	**Mayo, Yukon**	**132.37**	**328**	P	**PKPdf**	**11 13 08.6**	**+0.1**		
	baz=80								
R32K	**Eaglecrest**	**132.37**	**321**	P	**PKPdf**	**11 13 09.3**	**+0.6**		
	baz=86								
J30M	**Hart River**	**132.37**	**330**	P	**PKPdf**	**11 13 08.8**	**+0.2**		
	baz=78,SNR=13								
S32K	**Killisnoo**	**132.45**	**320**	P	**PKPdf**	**11 13 09.2**	**+0.4**		
	baz=87								
G29M	**Pine Creek**	**132.51**	**333**	PKPdf	**PKPdf**	**11 13 08.9**	**+0.2**		
G29M	**Pine Creek**	**132.51**	**333**	P	**PKPdf**	**11 13 08.3**	**-0.4**		
	baz=75,SNR=5.1								
E28M	**Babbage River**	**132.56**	**335**	P	**PKPdf**	**11 13 08.5**	**-0.3**		
	baz=72								
N31M	**Braeburn, Yuko**	**132.66**	**326**	P	**PKPdf**	**11 13 09.1**	**0.0**		
	baz=82								
SKAG	**Skagway**	**132.69**	**323**	P	**PKPdf**	**11 13 08.9**	**-0.2**		
	baz=84								
H29M	**Whitestone**	**132.82**	**332**	P	**PKPdf**	**11 13 09.2**	**-0.1**		
	baz=75,SNR=17								
D27M	**Malcolm River**	**132.84**	**337**	IAMs_20	IAMs_20	12 04 16.5			
	comp=Z,363nm,22.0s								
D27M	**Malcolm River**	**132.84**	**337**	P	**PKPdf**	**11 13 10.1**	**+0.8**		
	baz=70								
O30N	**Mendenhall**	**132.91**	**325**		**PKiKP**	**11 13 10.7**	**-0.1**		
O30N	**Mendenhall**	**132.91**	**325**	P	**PKPdf**	**11 13 10.2**	**+0.5**		
	baz=82								
M30M	**Minto, Yukon**	**132.95**	**327**		**PKPdf**	**11 13 09.9**	**+0.2**		
M30M	**Minto, Yukon**	**132.95**	**327**	P	**PKPdf**	**11 13 09.6**	**-0.1**		
	baz=80,SNR=14								
F28M	**Old Crow**	**132.99**	**334**	IAMs_20	IAMs_20	12 04 37.7			
	comp=Z,279nm,20.0s								
F28M	**Old Crow**	**132.99**	**334**	P	**PKPdf**	**11 13 09.5**	**-0.1**		
	baz=72,SNR=6.7								
I29M	**Ogilvie Camp,**	**133.01**	**331**		**PKPdf**	**11 13 09.7**	**0.0**		
I29M	**Ogilvie Camp,**	**133.01**	**331**	P	**PKPdf**	**11 13 10.0**	**+0.3**		
	baz=75,SNR=9.1								
K29M	**Barlow Dome**	**133.03**	**329**	IAMs_20	IAMs_20	12 04 21.0			
	comp=Z,337nm,20.0s								
K29M	**Barlow Dome**	**133.03**	**329**	P	**PKPdf**	**11 13 10.0**	**+0.1**		
	baz=78,SNR=11								
PLBC	**Pleasant Camp**	**133.21**	**323**	P	**PKiKP**	**11 13 11.3**	**-0.1**		
	baz=83								
N30M	**Aishikik Lake**	**133.28**	**326**	IAMs_20	IAMs_20	12 06 19.8			
	comp=Z,258nm,20.0s								
N30M	**Aishikik Lake**	**133.28**	**326**	P	**PKiKP**	**11 13 11.5**	**-0.1**		
	baz=81,SNR=6.1								
P30M	**Million Dollar**	**133.42**	**324**	P	**PKPdf**	**11 13 10.7**	**0.0**		
	baz=82								
E27K	**Coleen River**	**133.42**	**335**	IAMs_20	IAMs_20	12 09 49.0			
	comp=Z,356nm,20.0s								
E27K	**Coleen River**	**133.42**	**335**	P	**PKPdf**	**11 13 10.9**	**+0.5**		
	baz=70								
L29M	**L29M**	**133.45**	**328**	IAMs_20	IAMs_20	12 05 44.2			
	comp=Z,297nm,21.0s								
L29M	**L29M**	**133.45**	**328**	P	**PKPdf**	**11 13 11.2**	**+0.5**		
	baz=78,SNR=8.1								
HYT	**Haines Junctio**	**133.58**	**325**	PKPdf	**PKiKP**	**11 13 12.3**	**0.0**		
HYT	**Haines Junctio**	**133.58**	**325**	P	**PKPdf**	**11 13 11.4**	**+0.4**		
	baz=81,SNR=13								
C27K	**Jago River**	**133.59**	**338**	P	**PKiKP**	**11 13 12.1**	**+0.2**		
	baz=66								
I28M	**Miner Creek**	**133.65**	**331**	P	**PKPdf**	**11 13 11.1**	**0.0**		
	baz=74,SNR=12								
M29M	**Somme Creek**	**133.74**	**327**	P	**PKPdf**	**11 13 12.0**	**+0.7**		
	baz=78,SNR=10								
DAWY	**Dawson**	**133.78**	**329**		**PKPdf**	**11 13 11.6**	**+0.3**		
DAWY	**Dawson**	**133.78**	**329**	P	**PKPdf**	**11 13 11.2**	**0.0**		
	baz=76,SNR=5.9								
C26K	**Camden Bay**	**133.85**	**338**	P	**PKPdf**	**11 13 12.0**	**+0.9**		
	baz=65								
P29M	**Windy Craggy**	**133.88**	**323**	P	**PKPdf**	**11 13 11.8**	**+0.3**		
	baz=82								
G27K	**Doyon Strip**	**133.91**	**333**	IAMs_20	IAMs_20	12 04 51.9			
	comp=Z,311nm,19.0s								
G27K	**Doyon Strip**	**133.91**	**333**	P	**PKPdf**	**11 13 11.6**	**+0.2**		
	baz=71,SNR=7.9								
YUK6	**Outpost Mounta**	**133.98**	**325**	P	**PKPdf**	**11 13 11.5**	**-0.5**		
	baz=80								
YUK4	**Talbot Arm**	**134.04**	**326**	P	**PKPdf**	**11 13 12.4**	**+0.4**		
	baz=79,SNR=6.3								
H27K	**Steamboat Moun**	**134.04**	**333**	P	**PKPdf**	**11 13 11.9**	**+0.3**		
	baz=72,SNR=12								
I27K	**Kandik River**	**134.28**	**332**	P	**PKPdf**	**11 13 12.3**	**+0.2**		
	baz=72								
EGAK	**Eagle**	**134.34**	**331**	P	**PKPdf**	**11 13 12.2**	**+0.1**		
	baz=74								
F26K	**Sheenjek River**	**134.50**	**335**	P	**PKPdf**	**11 13

comp=Z,222nm,21.0s
H24K **Noodor Dome** 136.60 334 IAMs_20 IAMs_20 12 07 57.2
comp=Z,306nm,19.0s
H24K **Noodor Dome** 136.60 334 P PKPdf 11 13 17.2 +0.7
baz=65
IL31 136.65 332 PKPdf 11 13 16.7 +0.3
ILAR **Eielson Array** 136.65 332 PKPdf PKPdf 11 13 16.7 +0.2
ILAR **Eielson Array** 136.65 332 PKP PKPdf 11 13 16.3 -0.2
comp=Z,2.9nm,0.8s,baz=39,slow=0.7,SNR=25
PAX **Paxson** 136.71 329 P PKPdf 11 13 17.3 +0.5
baz=71
POKR **Poker Plat Res** 136.73 332 IAMs_20 IAMs_20 12 08 02.5
comp=Z,376nm,21.0s
POKR **Poker Plat Res** 136.73 332 P PKPdf 11 13 16.6 0.0
baz=66
N25K **Chitina, Valde** 136.75 327 P PKPdf 11 13 16.9 0.0
baz=73
HARP **HAARP** 136.76 328 P PKPdf 11 13 17.4 +0.6
baz=72
D22K **Ayikyak River** 136.76 339 PKPdf PKPdf 11 13 17.3 +0.7
D22K IAMs_20 IAMs_20 12 06 53.1
comp=Z,390nm,22.0s
D22K **Ayikyak River** 136.76 339 P PKPdf 11 13 17.4 +0.8
baz=57,SNR=15
COLD **Coldfoot** 136.81 336 P PKPdf 11 13 16.9 +0.2
baz=61,SNR=8.7
HDA **Harding Lake** 136.81 331 P PKPdf 11 13 16.8 0.0
baz=68
E22K **Anaktuvuk Pass** 136.89 338 IAMs_20 IAMs_20 12 06 37.5
comp=Z,315nm,20.0s
E22K **Anaktuvuk Pass** 136.89 338 P PKPdf 11 13 17.4 +0.4
baz=59
B21K **Ikpikpuk River** 136.91 340 PKPdf PKPdf 11 13 17.3 +0.5
B21K **Ikpikpuk River** 136.91 340 P PKPdf 11 13 17.7 +0.9
baz=54
BMRM **Bremner River** 136.94 326 P PKPdf 11 13 18.0 +0.8
baz=74
COLA **College** 136.99 332 P PKPdf 11 13 17.1 0.0
baz=66
COLA **College** 136.99 332 *de*PKIKP PKPdf 11 13 16.5 -0.6
G23K **Bananza Creek** 136.99 335 IAMs_20 IAMs_20 12 06 10.4
comp=Z,251nm,20.0s
G23K **Bananza Creek** 136.99 335 P PKPdf 11 13 17.8 +0.6
baz=62
MDM **Murphy Dome** 137.10 332 PKPdf PKPdf 11 13 16.8 -0.5
MDM IAMs_20 IAMs_20 12 08 37.4
comp=Z,350nm,20.0s
KAIM **Kayak Island** 137.13 325 P PKPdf 11 13 18.6 +1.1
baz=75
TIXI **Tiksi** 137.16 16 PKP PKPdf 11 13 16.3 -0.9
comp=Z,1.5nm,0.2s,baz=305,slow=3.7,SNR=4.0
H23K **Yukon River** 137.23 334 P PKPdf 11 13 18.6 +1.0
baz=64
C21K **Knifeblade Rid** 137.23 340 P PKPdf 11 13 18.3 +0.8
baz=54,SNR=6.1
M24K **Tolsona, Glenn** 137.30 328 P PKPdf 11 13 18.6 +0.7
baz=71
F22K **John River** 137.33 337 P PKPdf 11 13 18.7 +1.0
baz=59
B20K **Meade River** 137.38 341 P PKiKP 11 13 19.0 -0.5
baz=51
KLU **Klutina** 137.39 327 P PKPdf 11 13 19.2 +1.1
baz=72
E21K **Killik River** 137.40 339 PKPdf 11 13 18.8 +0.9
E21K IAMs_20 IAMs_20 12 06 24.9
comp=Z,346nm,22.0s
E21K **Killik River** 137.40 339 P PKPdf 11 13 18.6 +0.8
baz=56
G22K **Bettles** 137.41 336 P PKPdf 11 13 18.9 +1.1
baz=60
I23K **Minto, Yukon-K** 137.46 333 IAMs_20 IAMs_20 12 08 57.8
comp=Z,291nm,19.0s
I23K **Minto, Yukon-K** 137.46 333 P PKPdf 11 13 18.3 +0.3
baz=64
DHY **Denali Highway** 137.49 330 P PKPdf 11 13 18.3 0.0
baz=69
NEA2 **Nenana** 137.58 332 IAMs_20 IAMs_20 12 09 27.1
comp=Z,308nm,19.0s
NEA2 **Nenana** 137.58 332 P PKPdf 11 13 19.0 +0.7
baz=65
EYAK **Cordova Ski Ar** 137.59 326 P PKPdf 11 13 19.0 +0.7
baz=73
WAT6 **Susitna Watana** 137.82 329 P PKPdf 11 13 19.8 +0.8
baz=69
H22K **Ishtalitna Cre** 137.86 335 P PKPdf 11 13 19.9 +1.2
baz=61
MCK **McKinley** 137.88 331 P PKPdf 11 13 19.1 +0.2
baz=66
SCM **Sheep Creek Mo** 137.91 328 P PKPdf 11 13 20.0 +1.0
baz=70
HHC **Hu-ho-hao-te** 137.91 64 *e*PKP PKPdf 11 13 16.1 -3.6
F21K **Alatna River** 137.91 337 IAMs_20 IAMs_20 12 07 01.6
comp=Z,329nm,22.0s
F21K **Alatna River** 137.91 337 P PKPdf 11 13 19.8 +1.0
baz=58,SNR=10.0
RND **Reindeer** 137.98 330 PKPdf PKPdf 11 13 19.7 +0.6
RND **Reindeer** 137.98 330 PKIKP PKPdf 11 13 19.7 +0.6
HIN **Hinchinbrook I** 138.00 326 IAMs_20 IAMs_20 12 06 40.5
comp=Z,324nm,20.0s
D20K **Etivluk River** 138.03 340 P PKPdf 11 13 20.0 +1.0
baz=53,SNR=8.0
MLY **Manley** 138.03 333 P PKPdf 11 13 19.1 0.0
baz=63
WAT1 **Susitna Watana** 138.08 330 P PKPdf 11 13 20.1 +0.9
baz=68
GLI **Glacier Island** 138.12 327 P PKPdf 11 13 19.8 +0.5
baz=71
E20K **Nigu River** 138.18 339 P PKPdf 11 13 20.3 +1.0
baz=54,SNR=11
Q23K **Middleton Isla** 138.21 324 P PKPdf 11 13 20.3 +0.9
baz=74
G21K **Allakaket** 138.30 336 IAMs_20 IAMs_20 12 07 15.8
comp=Z,286nm,20.0s
G21K **Allakaket** 138.30 336 P PKPdf 11 13 20.0 +0.5
baz=58,SNR=9.0
SML **Sawmill** 138.37 328 P PKPdf 11 13 20.5 +0.7
baz=69
H21K **Melozitna Rive** 138.49 335 P PKPdf 11 13 20.6 +0.7
baz=60
BPAW **Bear Paw Mtn.** 138.55 332 PKPdf PKPdf 11 13 20.2 +0.2
BPAW **Bear Paw Mtn.** 138.55 332 P PKPdf 11 13 20.3 +0.2
baz=64
TRF **Thorofare Moun** 138.55 331 P PKPdf 11 13 20.6 +0.3
baz=65
KNK **Knik Glacier** 138.56 328 IAMs_20 IAMs_20 12 06 56.3
comp=Z,354nm,21.0s
KNK **Knik Glacier** 138.56 328 P PKPdf 11 13 21.0 +0.8
baz=69
D19K **Kuna River** 138.60 340 P PKPdf 11 13 20.6 +0.5
baz=51,SNR=7.6
C19K **Lookout Ridge** 138.61 341 PKPdf PKPdf 11 13 20.8 +0.7
C19K **Lookout Ridge** 138.61 341 P PKPdf 11 13 20.8 +0.7
baz=49
F20K **Avaraart Lake** 138.74 337 IAMs_20 IAMs_20 12 07 20.4
comp=Z,325nm,22.0s
F20K **Avaraart Lake** 138.74 337 P PKPdf 11 13 20.6 +0.4
baz=55
KTH **Kantishna Hill** 138.76 331 IAMs_20 IAMs_20 12 09 36.4
comp=Z,352nm,20.0s
PMR **Palmer** 138.80 328 P PKPdf 11 13 20.8 +0.3
baz=68
E19K **Redstone River** 138.97 338 P PKPdf 11 13 21.3 +0.5
baz=53
CUT **Chulitna** 138.98 329 P PKPdf 11 13 21.5 +0.7
baz=66
B18K **Kokolik River** 139.02 342 P PKPdf 11 13 21.4 +0.7
baz=46
CHUM **Lake Minchumin** 139.17 332 P PKPdf 11 13 21.3 +0.1
baz=62
M22K **Willow** 139.17 329 P PKPdf 11 13 21.7 +0.6
baz=67
RC01 **Rabbit Creek A** 139.26 327 P PKPdf 11 13 21.7 +0.3
baz=68
CAST **Castle Rocks** 139.29 331 PKPdf PKPdf 11 13 21.4 0.0
CAST IAMs_20 IAMs_20 12 10 52.3
comp=Z,283nm,20.0s
CAST **Castle Rocks** 139.29 331 P PKPdf 11 13 21.4 0.0
baz=63
H20K **Anotleneega Mo** 139.32 335 P PKPdf 11 13 22.2 +0.8
baz=58,SNR=14
C18K **Utukok River** 139.35 341 P PKPdf 11 13 21.7 +0.3
baz=47
F19K **Shaleruckik Mo** 139.52 338 P PKPdf 11 13 22.5 +0.8
baz=53
I20K **Naaghedeneel** 139.54 334 P PKPdf 11 13 23.0 +1.2
baz=59,SNR=7.1
SUA **Susitna One** 139.56 328 P PKPdf 11 13 22.8 +0.7
baz=67
PPLA **Purkeypile** 139.57 331 P PKPdf 11 13 22.8 +0.7
baz=64
SKT **Skwentna** 139.69 329 IAMs_20 IAMs_20 12 12 27.1
comp=Z,313nm,18.0s
SKT **Skwentna** 139.69 329 P PKPdf 11 13 22.8 +0.6
baz=65
G19K **Purcell Mounta** 139.71 337 PKPdf PKPdf 11 13 23.6 +1.5
G19K **Purcell Mounta** 139.71 337 P PKPdf 11 13 22.9 +0.8
baz=54
J20K **Nowinta River** 139.73 333 P PKPdf 11 13 23.2 +1.0
baz=60
H19K **Roundabout Mou** 139.84 336 PKPdf PKPdf 11 13 23.7 +1.4
H19K **Roundabout Mou** 139.84 336 P PKPdf 11 13 23.3 +1.0
baz=56,SNR=8.4
HNS **HongShan** 139.86 70 ⇓PKP PKPdf 11 13 23.4 +0.2
HNS LR LR
comp=Z,95nm,15.2s
C17K **DeLong Mountai** 140.00 342 P PKPdf 11 13 23.2 +0.6
baz=45
E18K **Tukpahlearik C** 140.01 340 P PKPdf 11 13 23.1 +0.5
baz=49,SNR=5.9
CAPN **Captain Cook N** 140.02 327 P PKPdf 11 13 23.1 +0.4
baz=67
K20K **Telida** 140.11 332 P PKPdf 11 13 23.2 +0.3
baz=61
BRSE **Bradley Lake S** 140.22 326 P PKPdf 11 13 23.9 +0.7
baz=68
RDOG **Red Dog Mine** 140.22 341 P PKPdf 11 13 23.6 +0.6
baz=46
F18K **Selawik** 140.25 338 P PKPdf 11 13 24.3 +1.3
baz=51
N20K **Mount Spurr** 140.31 328 P PKPdf 11 13 23.8 +0.4
baz=65
G18K **Tagagawik** 140.37 337 P PKPdf 11 13 24.2 +0.9
baz=53
J19K **Poorman** 140.38 333 PKPdf PKiKP 11 13 25.0 -0.9
J19K **Poorman** 140.38 333 P PKPdf 11 13 24.3 +1.0
baz=58,SNR=6.6
M20K **Styx River** 140.42 330 P PKPdf 11 13 24.2 +0.6
baz=64
GCSA **Galena City Sc** 140.44 335 P PKPdf 11 13 23.8 +0.4
baz=56
L20K **Farewell, AK** 140.46 331 P PKPdf 11 13 23.3 -0.2
baz=62
D17K **Noatak River** 140.52 341 P PKPdf 11 13 24.0 +0.5
baz=46
E17K **Nothnam Inlet** 140.59 340 P PKPdf 11 13 24.0 +0.4
baz=48,SNR=6.4
HOM **Homer** 140.68 326 P PKPdf 11 13 24.0 0.0
baz=68
C16K **Lisburne Hills** 140.70 343 P PKPdf 11 13 24.4 +0.7
baz=42
H18K **Honhosa River** 140.72 336 P PKPdf 11 13 24.9 +1.0
baz=54
F17K **Baldwin Pennin** 140.85 339 P PKPdf 11 13 25.0 +1.0
baz=49
M19K **Big River Lodg** 140.94 330 P PKPdf 11 13 25.3 +0.9
baz=62
O20K **Slope Mountain** 140.96 327 P PKPdf 11 13 25.3 +0.7
baz=66
L19K **White Mountain** 141.00 331 P PKPdf 11 13 25.1 +0.5
baz=61
J18K **Innoko River** 141.08 333 P PKPdf 11 13 25.8 +1.2
baz=58,SNR=7.0
G17K **Kiwalik Mounta** 141.27 337 P PKPdf 11 13 25.9 +1.0
baz=51
BJI **Beijing** 141.33 66 PKP PKPdf 11 13 25.8 0.0
BJI LR LR
comp=Z,70nm,16.9s
BJI LR LR
comp=Z,53nm,16.6s
BJI LR LR
comp=Z,85nm,17.3s
H17K **Granite Mounta** 141.37 336 IAMs_20 IAMs_20 12 08 58.1
comp=Z,338nm,22.0s
H17K **Granite Mounta** 141.37 336 P PKPdf 11 13 26.1 +1.0
baz=52
P19K **Oil Pt** 141.42 326 P PKPdf 11 13 25.7 +0.3
baz=66
N19K **Bonanza Creek** 141.48 329 P PKPdf 11 13 25.8 +0.3
baz=63
O19K **Port Alsworth** 141.68 328 P PKPdf 11 13 26.8 +1.0
baz=64
L18K **Granite Mounta** 141.72 331 PKPdf PKPdf 11 13 26.1 +0.3
L18K **Granite Mounta** 141.72 331 P PKPdf 11 13 26.8 +1.0
baz=59
M18K **Stony River** 141.74 330 P PKPdf 11 13 26.9 +1.0
baz=61,SNR=7.1
KDAK **Kodiak Island** 141.83 323 P PKPdf 11 13 27.4 +1.3
baz=69
G16K **Koyuk River** 141.88 338 IAMs_20 IAMs_20 12 17 27.4
comp=Z,181nm,19.0s
G16K **Koyuk River** 141.88 338 P PKPdf 11 13 27.2 +1.2
baz=49
J17K **VABM Dome** 142.00 334 P PKPdf 11 13 27.5 +1.3
baz=55
K17K **Iditarod** 142.09 333 PKPdf PKPdf 11 13 28.1 +1.6
K17K IAMs_20 IAMs_20 12 14 22.3
comp=Z,258nm,20.0s
K17K **Iditarod** 142.09 333 P PKPdf 11 13 27.7 +1.2
baz=56
NJ2 **Nanjing** 142.13 79 *e*PKP PKPdf 11 13 27.4 -0.1
N18K **Kilae Creek** 142.16 329 P PKPdf 11 13 28.2 +1.5
baz=62
I17K **Unalakleet** 142.29 335 IAMs_20 IAMs_20 12 12 15.3
comp=Z,277nm,18.0s
H16K **Elim** 142.34 337 P PKPdf 11 13 27.8 +1.0
baz=50
F15K **North Star Dit** 142.36 339 IAMs_20 IAMs_20 12 09 51.1
comp=Z,269nm,20.0s
F15K **North Star Dit** 142.36 339 P PKPdf 11 13 27.6 +0.7
baz=46
OHAK **Old Harbor** 142.39 323 P PKPdf 11 13 28.2 +1.1
baz=69
L17K **Donlin** 142.41 332 P PKPdf 11 13 28.3 +1.2
baz=57
P18K **Big Mountain,** 142.45 327 IAMs_20 IAMs_20 12 09 07.1
comp=Z,311nm,22.0s
P18K **Big Mountain,** 142.45 327 P PKPdf 11 13 27.9 +0.6
baz=64
M17K **Holitna River** 142.45 331 P PKPdf 11 13 27.3 +0.2
baz=51
J16K **Anvik River** 142.62 334 PKPdf PKPdf 11 13 28.8 +1.4
J16K **Anvik River** 142.62 334 P PKPdf 11 13 27.8 +0.4
baz=53
N17K **Nushagak Hills** 142.79 329 P PKPdf 11 13 28.8 +1.0
baz=60
Q16K **King Salmon** 143.43 326 P PKPdf 11 13 27.9 -1.0
baz=63
N16K **Nishlik Lake** 143.49 330 P PKPbc 11 13 27.5 +1.2
baz=58
HIA **Iliamna** 143.55 50 IAMs_20 IAMs_20 12 23 16.9
comp=Z,190nm,20.0s
K15K **Wolf Creek Mou** 143.56 334 P PKPdf 11 13 28.2 -0.9
baz=53
L15K **Ungalak Mounta** 143.91 333 P PKPdf 11 13 29.2 -0.5
baz=54
J14K **Nanvaranak Lak** 144.01 335 P PKPbc 11 13 29.1 +1.4
baz=50
M15K **Kasigluk River** 144.17 331 P PKPbc 11 13 29.1 +0.8
baz=56
N15K **Kwethluk River** 144.21 330 P PKPbc 11 13 29.6 +1.1
baz=57
R16K **Pilot Point** 144.37 325 P PKPab 11 13 29.1 +0.5
baz=63
L14K **Kuka Creek** 144.57 333 PKPdf PKPab 11 13 29.7 +0.4
L14K **Kuka Creek** 144.57 333 P PKPbc 11 13 30.1 +0.6
baz=53,SNR=14
O15K **Ungalikthiuk R** 144.62 328 P PKPbc 11 13 30.3 +0.5
baz=59
M14K **Bethel** 144.65 332 P PKPbc 11 13 30.3 +0.6
baz=54,SNR=15
K13K **Kusilvak Mount** 144.93 335 P PKPab 11 13 30.9 +0.3
baz=49
N14K **Kuskokwak Cree** 145.01 330 P PKPbc 11 13 31.1 +0.1
baz=56,SNR=7.2
BILL **Bilibino** 145.03 359 PKPbc 11 13 30.9 0.0
BILL **Bilibino** 145.03 359 IAMs_20 IAMs_20 12 10 03.4
comp=Z,242nm,22.0s
BILL **Bilibino** 145.03 359 *e*PKIKP PKPbc 11 13 31.1 +0.2
O14K **Tigyukauivet M** 145.21 329 PKPdf 11 13 32.8 +0.8
O14K **Tigyukauivet M** 145.21 329 P PKPdf 11 13 32.5 +0.5
baz=57,SNR=7.0
CHGN **Chignik** 145.34 323 P PKPbc 11 13 32.2 0.0
baz=64
M13K **Dall Lake** 145.40 332 PKPab 11 13 33.1 +0.7
M13K **Dall Lake** 145.40 332 P PKPab 11 13 32.9 +0.5
baz=53,SNR=7.1
S14K **Fog Glacier** 145.92 324 P PKPdf 11 13 33.8 +0.4
baz=63
M11K **Mekoryuk** 146.51 333 P PKPbc 11 13 35.8 +0.2
baz=49
CHNA **Chernabura Isl** 146.58 321 P PKPbc 11 13 35.9 -0.1
baz=65
ZEA **Zeya** 146.80 41 *e*PKP2 PKPbc 11 13 37.0 +0.3
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA pmax pmax
comp=E,100nm,4.1s
ZEA pmax pmax
comp=Z,100nm,5.4s
SDPT **Sand Point** 146.81 323 P PKPbc 11 13 36.7 0.0
baz=63
S12K **Black Hills** 147.43 324 P PKPbc 11 13 38.3 -0.2
baz=60
HEH **HeiHe** 148.15 47 PKPbc PKPdf 11 13 37.4 +0.2
CN2 **Changchun** 148.22 59 *e*PKPbc PKPbc 11 13 40.3 -0.6
JOW **Kunigami** 148.49 92 PKPbc PKPbc 11 13 42.2 0.0
FALS **False Pass** 148.53 323 P PKPbc 11 13 41.2 -0.2
baz=60
SEY **Seymchan** 149.28 10 *e*PKIKP PKPdf 11 13 37.9 -0.8
SEY pmax pmax
comp=Z,55nm,1.3s
BNX **BinXian** 149.30 55 ⇓PKPbc PKPbc 11 13 42.8 -0.8
KSAR **Wonju Array Be** 150.29 71 PKPbc 11 13 45.9 -0.4
KSAR **Wonju Array Be** 150.29 71 PKIKP PKPbc 11 13 45.9 -0.4
KSRS **Korea Array** 150.32 71 PKPbc PKPbc 11 13 45.7 -0.7
comp=Z,6.8nm,0.9s,baz=289,slow=1.8,SNR=13
UNV **Unalaska Valle** 150.60 324 P PKPbc 11 13 46.8 +0.3
baz=57
MDJ **Mudanjiang** 151.04 57 PKPbc PKPbc 11 13 47.3 -0.5
MDJ **Mudanjiang** 151.04 57 PKPbc 11 13 47.8 -0.1
KLR **Kul'dur** 151.14 47 *e*PKIKP PKPdf 11 13 39.4 -2.7
KLR pmax pmax
comp=Z,31nm,0.9s
JSD **Sado** 158.50 70 PKPdf PKPdf 11 13 51.4 -1.1
JSD PKPab PKPab 11 14 25.1 -2.4
PETK **Petropavlovsk-** 159.52 11 PKPdf PKPdf 11 13 54.2 +0.9
PETK **Petropavlovsk-** 159.52 11 PKIKP PKPdf 11 13 54.2 +0.9

IDC 18 10:54:52.1±6.7, 18°14S×177°33W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=290.6km s-min=36.6km az=143.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.60**	**260**	P	P	11 03 14.4	-0.1
	0.4nm,0.4s,baz=97,slow=7.7,SNR=21						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**45.71**	**254**	P	P	11 03 15.2	-0.1
	0.5nm,0.4s,baz=83,slow=8.1,SNR=24						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**85.89**	**13**	P	P	11 07 33.4	0.0
	0.2nm,0.4s,baz=221,slow=4.8,SNR=6.1						
	0.2nm,0.4s						

*DNK **18** 11:05:52.7±1.1, 57°.78N×22°.23E, h0km, ML2.8, ML2.5(UPP), Suspected explosion*
*UPP **18** 11:05:54.0±2.0, 57°.83N×22°.06E, h0km, ML2.5*
*EST **18** 11:05:56.0±0.1, 57°.88N×21°.84E, h0km, ML2.0(HEL), Explosion*
*HEL **18** 11:05:56.3±0.3, 57°.88N×21°.86E, h0km, ML2.0, Explosion*
*LVSN **18** 11:05:58.2±6.0, 57°.82N×21°.89E, h0km, 31km, ML2.3*

ISC 18 11:05:54.0±0.8, 57°.84N±0°.02×21°.93E±0°.03, h0km, n52, σ1§13/73, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**0.29**	**138**	*e*P	**Pb**	**11 06 01.6**	**-0.4**
SLIT				*e*S	**Sb**	**11 06 06.6**	**-0.7**
SLIT				AML	AML	11 06 24.9	
	comp=E,1μm,0.5s						
SLIT				AML	AML	11 06 27.2	
	comp=Z,1μm,0.6s						
SLIT				AML	AML	11 06 27.4	
	comp=N,2μm,0.8s						
SLIT	**Slitere, Latvi**	**0.29**	**138**	*e*P	**Pb**	**11 06 01.6**	**-0.4**
SLIT				*e*S	**Sb**	**11 06 06.7**	**-0.6**
MTSE	**Matsula**	**1.32**	**48**	*e*P	**Pg**	**11 06 19.1**	**-0.3**
MTSE	**Matsula**	**1.32**	**48**	*e*P	**Pn**	**11 06 19.8**	**+0.1**
MTSE				*e*S	**Sb**	**11 06 37.1**	**-0.2**
MTSE	**Matsula**	**1.32**	**48**	*e*P	**Pb**	**11 06 19.6**	**-0.1**
MTSE				*e*S	**Sb**	**11 06 36.7**	**-0.5**
EE01	**Perakula, Nova**	**1.63**	**32**	*e*P	**Pn**	**11 06 24.4**	**+0.4**
EE01				*e*S	**Sg**	**11 06 46.4**	**0.0**
GOTU	**Gotland**	**1.81**	**266**	*e*P	**Pn**	**11 06 27.0**	**+0.6**
GOTU				*e*SN	**Sn**	**11 06 51.6**	**+1.6**
GOTU	**Gotland**	**1.81**	**266**	P	**Pn**	**11 06 27.0**	**+0.6**
GOTU				S	**Sb**	**11 06 52.4**	**+1.2**
GOTU	**Gotland**	**1.81**	**266**	P	**Pn**	**11 06 27.0**	**+0.6**
GOTU				S	**Sb**	**11 06 52.4**	**+1.2**
PBUR	**Paburge**	**1.82**	**180**	*e*P	**Pb**	**11 06 28.1**	**-0.1**
PBUR				*e*S	**Sg**	**11 06 52.8**	**+0.3**
PBUR				AML	AML	11 06 54.1	
	comp=E,52nm,0.6s						
PBUR				AML	AML	11 06 56.3	
	comp=N,74nm,0.6s						
PBUR				AML	AML	11 06 56.8	
	comp=Z,97nm,0.6s						
EE08	**Sarghaua, Vand**	**1.93**	**64**	*e*P	**Pb**	**11 06 30.0**	**-0.1**
EE08				*e*SG	**Sg**	**11 06 56.1**	**+0.1**
EE02	**Kiisa, Saku**	**1.98**	**46**	*e*P	**Pb**	**11 06 30.8**	**-0.1**
EE02				*e*SG	**Sg**	**11 06 57.5**	**-0.2**
NYNU	**Nynaeshamn**	**2.37**	**301**	P	**Pn**	**11 06 35.1**	**+0.9**
NYNU	**Nynaeshamn**	**2.37**	**301**	P	**Pn**	**11 06 35.1**	**+0.9**
EE03	**Tooma soojaam,**	**2.51**	**64**	*e*PB	**Pb**	**11 06 39.6**	**-0.3**
EE03				*e*SB	**Sg**	**11 07 12.9**	**-1.7**
NRTU	**Norrtaelje**	**2.52**	**318**	P	**Pn**	**11 06 37.1**	**+0.9**
NRTU	**Norrtaelje**	**2.52**	**318**	P	**Pn**	**11 06 37.1**	**+0.9**
AAL	**Aland**	**2.55**	**338**	*e*P	**Pn**	**11 06 37.8**	**+1.2**
AAL	**Aland**	**2.55**	**338**	*e*P	**Pn**	**11 06 37.1**	**+0.5**
AAL				*e*SG	**Sb**	**11 07 13.1**	**+0.6**
AAL	**Aland**	**2.55**	**338**	P	**Pn**	**11 06 37.1**	**+0.5**
AAL	**Aland**	**2.55**	**338**	P	**Pn**	**11 06 37.1**	**+0.5**
PABE	**Paberze**	**2.60**	**154**	*e*P	**Pb**	**11 06 40.3**	**-1.1**
PABE	**Paberze**	**2.60**	**154**	*e*P	**Pb**	**11 06 40.2**	**-1.1**
PABE				AML	AML	11 06 41.4	
	comp=Z,14nm,0.1s						
PABE				*e*S	**Sb**	**11 07 12.9**	**-0.9**
PABE				AML	AML	11 07 17.7	
	comp=N,21nm,0.2s						
PABE				AML	AML	11 07 20.2	
	comp=E,16nm,0.2s						
VSU	**Vasula**	**2.62**	**74**	*e*P	**Pb**	**11 06 41.2**	**-0.6**
ARBE	**Arbavere**	**2.66**	**51**	*e*P	**Pb**	**11 06 41.9**	**-0.5**
ARBE	**Arbavere**	**2.66**	**51**	*e*P	**Pb**	**11 06 41.5**	**-0.9**
ARBE				AML	AML	11 07 00.1	
	comp=Z,71nm,0.8s						
ARBE				*e*S	**Sb**	**11 07 16.1**	**+0.7**
ARBE				AML	AML	11 07 20.7	
	comp=N,227nm,0.1s						
ARBE				AML	AML	11 07 22.2	
	comp=E,196nm,0.2s						
ARBE	**Arbavere**	**2.66**	**51**	*e*P	**Pb**	**11 06 41.3**	**-1.1**
ARBE				*e*PG	**Pg**	**11 06 43.7**	**-1.2**
ARBE				*e*SB	**Sb**	**11 07 15.9**	**+0.5**
MEF	**Metsahovi**	**2.70**	**27**	*e*P	**Pn**	**11 06 39.9**	**+1.3**
MEF	**Metsahovi**	**2.70**	**27**	*e*P	**Pb**	**11 06 42.1**	**-1.1**
MEF				*e*S	**Sb**	**11 07 16.8**	**0.0**
MEF				AML	AML	11 07 20.9	
	comp=E,14nm,0.3s						
MEF				AML	AML	11 07 21.7	
	comp=N,7.6nm,0.2s						
MEF				AML	AML	11 07 23.6	
	comp=Z,8.1nm,0.3s						
MEF	**Metsahovi**	**2.70**	**27**	*e*PB	**Pb**	**11 06 42.2**	**-1.0**
MEF				*e*SB	**Sb**	**11 07 16.9**	**0.0**
MEF				MSG		11 07 21.2	
	comp=Z,4.0nm,0.1s						
BYXU	**Byxelkrok**	**2.71**	**260**	P	**Pn**	**11 06 40.5**	**+1.7**
BYXU	**Byxelkrok**	**2.71**	**260**	P	**Pn**	**11 06 40.5**	**+1.7**
HEL1	**Helsinki**	**2.80**	**32**	*e*PB	**Pb**	**11 06 44.8**	**0.0**
HEL1				*e*SB	**Sb**	**11 07 19.8**	**+0.3**
HEL1				MSG		11 07 23.8	
	comp=Z,4.8nm,0.1s						
VIKU	**Vikbolandet**	**2.85**	**286**	*e*P	**Pn**	**11 06 42.0**	**+1.4**
VIKU	**Vikbolandet**	**2.85**	**286**	P	**Pn**	**11 06 42.1**	**+1.4**
VIKU	**Vikbolandet**	**2.85**	**286**	P	**Pn**	**11 06 42.1**	**+1.4**
VSTU	**Vaestervik**	**2.90**	**269**	P	**Pn**	**11 06 42.7**	**+1.4**

VSTU	**Vaestervik**	**2.90 269**	P	**Pn**	**11 06 42.7**	**+1.4**
NUR	**Nurmijrvi**	**3.02 26**	*e*PB	**Pb**	**11 06 47.3**	**-1.3**
NUR			*e*SB	**Sb**	**11 07 25.5**	**-0.5**
NUR			MSG		11 07 33.3	
	comp=Z,3.6nm,0.2s					
FLYU	**Flymyra**	**3.11 319**	P	**Pn**	**11 06 45.1**	**+0.9**
FLYU	**Flymyra**	**3.11 319**	P	**Pn**	**11 06 45.1**	**+0.9**
FIBU	**Brunna**	**3.15 313**	P	**Pn**	**11 06 45.6**	**+0.7**
FIBU	**Brunna**	**3.15 313**	P	**Pn**	**11 06 45.6**	**+0.7**
RAF	**Rauma**	**3.19 359**	*e*P	**Pn**	**11 06 46.5**	**+1.1**
RAF	**Rauma**	**3.19 359**	*e*P	**Pn**	**11 06 48.0**	**+2.6**
RAF			AML	AML	11 07 30.8	
	comp=Z,4.1nm,0.6s					
RAF			AML	AML	11 07 36.5	
	comp=E,12nm,0.7s					
RAF			AML	AML	11 07 37.1	
	comp=N,4.5nm,0.4s					
RAF	**Rauma**	**3.19 359**	*e*P	**Pn**	**11 06 46.8**	**+1.4**
ISAL	**Salakas**	**3.24 133**	*e*P	**Pn**	**11 06 49.2**	**+3.1**
BSD	**Bornholm Skovb**	**4.75 238**	*e*P	**Pn**	**11 07 06.5**	**-0.3**
BSD			IAML		11 07 18.5	
	comp=Z,7.4nm,0.7s					
BORU	**Boraas**	**4.92 271**	*e*P	**Pn**	**11 07 11.1**	**+2.1**
FABU	**Falkenberg**	**5.05 264**	*e*P	**Pn**	**11 07 11.7**	**+0.7**
LUNU	**Lund**	**5.17 248**	*e*P	**Pb**	**11 07 21.6**	**-3.6**
BJUU	**Bjuv**	**5.19 254**	*e*P	**Pn**	**11 07 14.3**	**+1.5**

WEL 18 11:06:54.2±1.2,**34°S**±12°×**18°0E**±2°1,**h341**km±17km,
M4.0/12,**mB4.5**/6,**ML4.4**/5,**MLv4.2**/12,**Mw(mB)3.7**/6,
Error ellipse: s-maj=0.0km s-min=0.0km az=104.0,
confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**3.82 201**		P	Pn	11 08 02.1	+1.4
WMGZ	**Waiomatatini S**	**4.03 198**		P	Pn	11 08 03.6	+0.7
WMGZ	**Waiomatatini S**	**4.03 198**		P	Pn	11 08 02.7	-0.2
WMGZ				S	S	11 09 00.1	+1.9
HAZ	**Te Kaha**	**4.17 205**		P	Pn	11 08 03.1	-1.2
HAZ	**Te Kaha**	**4.17 205**		P	Pn	11 08 02.4	-1.9
HAZ				S	S	11 09 00.4	-0.4
PKGZ	**Pakihiroa**	**4.19 201**		P	Pn	11 08 03.7	-0.9
PKGZ	**Pakihiroa**	**4.19 201**		P	Pn	11 08 02.9	-1.7
PKGZ				S	S	11 09 01.5	+0.1
PUZ	**Puketiti**	**4.31 199**		P	Pn	11 08 05.2	-0.7
RUGZ	**Raukumara Rang**	**4.39 205**		P	Pn	11 08 07.5	+0.8
RUGZ	**Raukumara Rang**	**4.39 205**		P	Pn	11 08 06.5	-0.3
TWGZ	**Tauwhareparae**	**4.48 201**		P	Pn	11 08 10.0	+2.3
TWGZ	**Tauwhareparae**	**4.48 201**		P	Pn	11 08 10.3	+2.6
TWGZ				S	S	11 09 07.8	+0.7
OPRZ	**Ohinepanea**	**4.75 215**		P	Pn	11 08 09.7	-0.9
MWZ	**Matawai**	**4.77 204**		P	Pn	11 08 10.0	-0.9
URZ	**Urewera**	**4.86 208**		P	Pn	11 08 09.9	-1.8
RAGZ	**Rawiri**	**4.96 204**		P	Pn	11 08 14.7	+1.8
MKAZ	**Moumakai**	**5.02 230**		P	Pn	11 08 13.3	-0.2
RIGZ	**Rimuhau**	**5.04 200**		P	Pn	11 08 15.7	+2.0
RIGZ	**Rimuhau**	**5.04 200**		P	Pn	11 08 12.5	-1.2
RIGZ				S	S	11 09 19.3	+1.2
ETAZ	**East Tamaki Re**	**5.08 233**		P	Pn	11 08 14.4	+0.2
HLRZ	**Highlands Stat**	**5.17 214**		P	Pn	11 08 16.7	+1.4
HLRZ	**Highlands Stat**	**5.17 214**		P	Pn	11 08 16.9	+1.6
MUGZ	**Murupara**	**5.18 209**		P	Pn	11 08 16.3	+1.0
MUGZ	**Murupara**	**5.18 209**		P	Pn	11 08 13.0	-2.3
PRGZ	**Paritu Road**	**5.21 198**		P	Pn	11 08 18.2	+2.6
PRGZ	**Paritu Road**	**5.21 198**		P	Pn	11 08 17.2	+1.5
PRGZ				S	S	11 09 22.6	+1.1
RTZ	**Ruatahuna**	**5.22 207**		P	Pn	11 08 16.5	+0.7
SNGZ	**Shannon Statio**	**5.24 203**		P	Pn	11 08 15.4	-0.6
SNGZ	**Shannon Statio**	**5.24 203**		P	Pn	11 08 13.3	-2.6
SNGZ				S	S	11 09 22.0	-0.1
KNZ	**Kokohu**	**5.36 200**		P	Pn	11 08 16.2	-1.1
PRRZ	**Plateau Road**	**5.36 212**		P	Pn	11 08 18.6	+1.3
MHGZ	**Mahia Peninsul**	**5.42 197**		P	Pn	11 08 18.5	+0.5
MHGZ	**Mahia Peninsul**	**5.42 197**		P	Pn	11 08 18.0	0.0
ALRZ	**Allen Road**	**5.43 212**		P	Pn	11 08 19.1	+1.0
RAHZ	**Arahi**	**5.45 205**		P	Pn	11 08 17.1	-1.2
MTHZ	**Maungataniwha**	**5.48 207**		P	Pn	11 08 20.2	+1.5
WHHZ	**Waihua**	**5.54 203**		P	Pn	11 08 21.5	+2.1
KUTZ	**Kaahu Road**	**5.61 216**		P	Pn	11 08 22.1	+1.8
MRHZ	**Matea Rd**	**5.63 210**		P	Pn	11 08 21.0	+0.6
TLZ	**Tolley Road**	**5.63 219**		P	Pn	11 08 22.9	+2.4
NMHZ	**Naumai**	**5.71 206**		P	Pn	11 08 22.7	+1.4
ARHZ	**Aropaoanui**	**5.79 204**		P	Pn	11 08 21.2	-0.9
BKZ	**Black Stump Fm**	**5.88 208**		P	Pn	11 08 23.7	+0.4
MCHZ	**McNeill Hill**	**6.05 205**		P	Pn	11 08 26.1	+0.9
CKHZ	**Cape Kidnapper**	**6.12 202**		P	Pn	11 08 27.8	+1.8
HIZ	**Hauiti**	**6.13 221**		P	Pn	11 08 28.2	+2.1
KWHZ	**Kaweka Forest**	**6.13 207**		P	Pn	11 08 27.6	+1.4
KAHZ	**Kahuranaki**	**6.31 202**		P	Pn	11 08 29.6	+1.4
BHHZ	**Black Hill Sta**	**6.33 209**		P	Pn	11 08 28.6	+0.1
KRHZ	**Kereru**	**6.35 206**		P	Pn	11 08 28.9	+0.2
FWVZ	**Far West T-bar**	**6.35 213**		P	Pn	11 08 29.4	+0.5
MOVZ	**Moawhango**	**6.39 211**		P	Pn	11 08 29.1	-0.1
WNVZ	**Wahianoa**	**6.39 212**		P	Pn	11 08 29.5	+0.2
PXZ	**Pawanui**	**6.53 202**		P	Pn	11 08 31.5	+0.8
PNHZ	**Pukenui**	**6.65 206**		P	Pn	11 08 31.7	-0.4
PNHZ				S	S	11 09 48.6	-3.0
WPHZ	**Waipukurau**	**6.70 204**		P	Pn	11 08 33.4	+0.8
WPHZ				S	S	11 09 52.0	-0.6
PRHZ	**Porangahau**	**6.81 202**		P	Pn	11 08 34.6	+0.6
PRHZ				S	S	11 09 55.9	+0.7
TSZ	**Takapari Road**	**6.86 207**		P	Pn	11 08 34.4	-0.2
TSZ				S	S	11 09 54.8	-1.4
WAZ	**Wanganui**	**7.01 213**		P	Pn	11 08 36.0	-0.4
PRWZ	**Pori Road**	**7.29 205**		P	Pn	11 08 40.5	+0.8
PRWZ				S	S	11 10 05.0	-0.5
BFZ	**Birch Farm**	**7.32 203**		P	Pn	11 08 40.6	+0.7
BFZ				S	S	11 10 05.7	-0.2
MRZ	**Mangatainoka R**	**7.53 207**		P	Pn	11 08 41.8	-0.7
MRZ				S	S	11 10 08.8	-1.8
HOWZ	**Holdsworth Sta**	**7.76 206**		P	Pn	11 08 44.4	-0.8
HOWZ				S	S	11 10 13.6	-2.0
TMWZ	**Te Maipa**	**7.81 203**		P	Pn	11 08 46.5	+0.6
TMWZ				S	S	11 10 16.5	-0.3
OGWZ	**Otaki Gorge**	**7.82 208**		P	Pn	11 08 44.4	-1.5
OGWZ				S	S	11 10 14.7	-2.2
KIW	**Kapiti Island**	**7.96 209**		P	Pn	11 08 46.8	-0.8
KIW				S	S	11 10 19.6	-0.4
MTW	**Mount Morrison**	**7.99 205**		P	Pn	11 08 47.6	-0.4
MTW				S	S	11 10 18.4	-2.3
CAW	**Cannon Point**	**8.11 207**		P	Pn	11 08 48.0	-1.4
CAW				S	S	11 10 21.3	-2.0
TRWZ	**Traveller**	**8.14 204**		P	Pn	11 08 50.9	+1.1
TRWZ				S	S	11 10 22.6	-1.4
PLWZ	**Palliser**	**8.44 205**		P	Pn	11 08 53.1	-0.3
TCW	**Tory Channel**	**8.52 211**		P	Pn	11 08 53.2	-1.0
TCW				S	S	11 10 29.0	-3.1
THZ	**Tophouse**	**9.57 214**		P	Pn	11 09 06.3	-0.5
THZ				S	S	11 10 52.5	-3.0

*SOME **18** 11:09:54.7,38°.72N×71°.92E,h5km*
*NNC **18** 11:09:56.6±6.2,37°.92N×72°.12E,h0km,mb3.5,mpv3.1,*
Error ellipse: s-maj=51.3km s-min=44.3km az=32.0
ISC 18 11:09:52.1±3.7,**38°.6N**±0°.2×**71°.99E**±0°.08,**h10**km,**n6,**
σ2s20/11,1C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IUG	**Iuzhnay**	**3.83 338**		*e*P	**Pg**	**11 11 04.0**	**-1.5**
	9.1nm,0.2s						
IUG				*e*S	**Sg**	**11 11 53.5**	**-1.6**
	40nm,0.4s						
MRKS	**Merke**	**4.23 12**		*e*P	**Pg**	**11 11 11.9**	**-1.3**
	4.2nm,0.3s						
MRKS				*e*S	**Sg**	**11 12 07.0**	**-1.0**
	14nm,0.5s						
AAK	**Ala-Archa**	**4.45 25**		⇓P	**Pb**	**11 11 14.1**	**+3.7**
	1.7nm,0.5s						
AAK				⇓S	**Sg**	**11 12 14.4**	**-0.5**
	7.9nm,0.5s						
KK31	**Karatay Array**	**4.62 346**		⇑P	**Pg**	**11 11 18.4**	**-2.3**
	0.4nm,0.2s,baz=164,slow=12,SNR=16						
KK31				S	**Sg**	**11 12 19.8**	**-0.7**
	7.2nm,0.6s,baz=44,slow=7.3,SNR=14						
BRLS	**Borolday**	**4.70 340**		*e*P	**Pb**	**11 11 16.1**	**+1.4**
	2.0nm,0.2s						
BRLS				*e*S	**Sb**	**11 12 14.3**	**+3.0**
	17nm,0.2s						
TKM2	**Tokmak 2**	**5.10 31**		⇓P	**Pb**	**11 11 20.4**	**-1.1**
	1.7nm,0.6s						

*NEIC **18** 11:26:28.8±1.0,19°.346N×0°.008×155°.254W×0°.009,*
h1km±6km,Error ellipse: s-maj=1.8km s-min=0.5km
az=130.0
HVO 18 11:26:28.0±0.7,**19°.356N**×0°.009×**155°.249W**×0°.009,
h1km±5km,**ML2.8**/21,**ML2.2**/54(NEIC),**Error ellipse:**
s-maj=1.6km s-min=0.9km az=138.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.04 60**		Pg	Pg	11 26 29.6	+0.8
PUH				Sg	Sg	11 26 30.7	+1.4
KKO	**Keanakako`i**	**0.04 339**		Pg	Pg	11 26 29.8	+0.9
KKO				IAML		11 26 29.9	
	comp=N,3μm,1.3s						
KKO				Sg	Sg	11 26 31.0	+1.4
RIM	**Rim**	**0.05 329**		IAML		11 26 29.5	
	comp=N,3μm,1.2s						
RIM				Pg	Pg	11 26 29.8	+0.9
RIM				Sg	Sg	11 26 31.2	+1.6
SDHHI	**Sand Hill**	**0.05 308**		Pg	Pg	11 26 30.0	+0.9
SDHHI				IAML		11 26 30.8	
	comp=E,3μm,0.1s						
SDHHI				IAML		11 26 30.8	
	comp=N,3μm,0.3s						
BYL	**Byron's Ledge**	**0.06 349**		Pg	Pg	11 26 30.1	+1.0
BYL				IAML		11 26 30.6	
	comp=E,3μm,0.8s						
BYL	**Byron's Ledge**	**0.06 349**			Sg	11 26 31.6	+1.7
NPH	**North Pit**	**0.06 331**		Pg	Pg	11 26 30.1	+0.8
NPH				Sg	Sg	11 26 31.6	+1.4
HATHI	**Halema'uma'u T**	**0.07 350**			Pg	11 26 30.4	+1.0
HATHI				IAML		11 26 30.9	
	comp=N,2μm,0.2s						
HATHI				IAML		11 26 31.3	
	comp=E,3μm,0.2s						
HATHI				Sg	Sg	11 26 32.1	+1.7
OBL	**Observatory Le**	**0.07 332**		Pg	Pg	11 26 29.3	-0.1
WRMHI	**West Rim**	**0.07 316**		Pg	Pg	11 26 30.1	+0.7
WRMHI				Sg	Sg	11 26 32.2	+1.8
SBLHI	**Steaming Bluff**	**0.07 346**		Pg	Pg	11 26 30.0	+0.5
SBLHI				IAML		11 26 31.4	
	comp=N,2μm,0.6s						
SBLHI				Sg	Sg	11 26 32.2	+1.7
UWB	**Uwekahuna B**	**0.07 338**		Pg	Pg	11 26 30.5	+1.0
UWB				IAML		11 26 31.4	
	comp=N,2μm,0.9s						
UWB				IAML		11 26 31.8	
	comp=E,1μm,0.4s						
UWB				Sg	Sg	11 26 32.2	+1.6
UWE	**Uwekahuna**	**0.08 327**		Pg	Pg	11 26 30.1	+0.5
KNHH	**Kane Nui o Ham**	**0.08 73**			Pg	11 26 30.5	+0.9
HLP	**Hilina Pali**	**0.08 223**			Pg	11 26 30.7	+1.1
HLP				IAML		11 26 32.3	
	comp=N,2μm,0.2s						
HLP					Sg	11 26 32.9	+2.2
RSD	**Rainshed**	**0.11 346**			Pg	11 26 31.0	+0.9
RSD				IAML		11 26 33.2	
	comp=N,2μm,1.1s						
RSD					Sg	11 26 33.6	+2.0
RSD				IAML		11 26 33.7	
	comp=E,899nm,1.1s						
STCH	**Steam Cracks**	**0.12 76**			Pg	11 26 31.2	+0.8
STCH				IAML		11 26 34.5	
	comp=E,862nm,0.3s						
STCH				IAML		11 26 34.5	
	comp=N,842nm,0.7s						
NPOC	**North of Pu'u**	**0.14 74**			Pg	11 26 31.5	+0.8
NPOC					Sg	11 26 34.8	+2.4
NPOC				IAML		11 26 35.0	
	comp=N,1μm,0.6s						
NPOC				IAML		11 26 35.5	
	comp=E,849nm,0.7s						
JCUZ	**Jacuzzi**	**0.14 79**			Pg	11 26 31.7	+0.9
JCUZ				IAML		11 26 35.5	
	comp=N,920nm,0.6s						
JCUZ				IAML		11 26 35.6	
	comp=E,665nm,0.6s						
HTC	**Hot Caves**	**0.18 230**			Pg	11 26 32.5	+0.9
MLH	**Mauna Loa**	**0.19 317**			Pg	11 26 32.8	+1.1
MLH				IAML		11 26 34.6	
	comp=N,638nm,0.8s						
MLH				IAML		11 26 37.9	
	comp=E,458nm,0.8s						
JOKA	**Jonika Flow**	**0.24 71**		Pg	Pg	11 26 33.2	+0.5
JOKA				IAML		11 26 40.5	
	comp=E,479nm,0.7s						
MWH	**Moku'aweowe**	**0.35 291**			Pg	11 26 35.6	+0.8
KHU	**Kahuku**	**0.36 253**			Pg	11 26 34.2	-0.8
KHU				IAML		11 26 42.7	
	comp=E,283nm,0.7s						
KHU				IAML		11 26 46.0	
	comp=N,354nm,1.1s						
ALEP	**Alea Permanent**	**0.42 296**			Pg	11 26 36.9	+0.9
POHA	**Pohakuloa**	**0.48 326**			Pg	11 26 37.7	+0.4
POHA					Sg	11 26 45.1	+1.6
POHA	**Pohakuloa**	**0.48 326**		IAML		11 26 52.7	
	comp=N,243nm,0.7s						
HUH	**Hualalai**	**0.64 301**			Pg	11 26 40.9	+0.5
CPH	**Captain Cook**	**0.65 282**			Pg	11 26 40.2	-0.2

IDC 18 11:40:45.6±1.7,**20°.89S**×**179°.06W**,**h0**km,**mb3.4**/4,
mbtmp3.4/4,**Error ellipse: s-maj=46.6km s-min=41.4km**
az=177.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.47 257**		P	P	11 48 51.3	+0.4
	0.2nm,0.5s,baz=79,slow=9.7,SNR=7.5						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**43.57 263**		P	P	11 48 51.0	-0.6
	0.2nm,0.6s,baz=98,slow=7.2,SNR=6.7						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**69.18 180**		P	P	11 51 53.7	-0.2
	0.6nm,0.6s,baz=25,slow=5.6,SNR=5.2						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**88.91 13**		P	P	11 53 41.7	+0.2
	0.2nm,0.9s,baz=205,slow=5.9,SNR=1.9						
	0.2nm,0.9s						

*NNC **18** 11:41:06.6±1.5,41°.43N×74°.95E,h0km,mb3.8,mpv3.5,*
Error ellipse: s-maj=10.5km s-min=6.5km az=5.0
*KRNET **18** 11:41:06.8±0.1,41°.49N×74°.96E,h25km,mb2.9*
*SOME **18** 11:41:06.4,41°.45N×75°.00E,h15km*
*KNET **18** 11:41:08.4±0.5,41°.58N×74°.98E,h12km±3km,ml2.4,Error*
ellipse: s-maj=4.5km s-min=2.7km az=48.0
ISC 18 11:41:04.7±1.1,**41°.40N**±0°.03×**75°.08E**±0°.02,**h9**km±10km,
n68,σ1s25/116,33C-21D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**0.69 87**		⇑*e*P	**Pn**	**11 41 21.3**	**+0.3**
	baz=95						
NRN				⇑*e*S	**Sn**	**11 41 31.5**	**-0.6**
	baz=95						
ARLS	**Aral**	**0.73 309**		⇑*e*P	**Pg**	**11 41 18.4**	**-0.3**
	baz=8.0						
ARLS				⇑*e*S	**Sg**	**11 41 26.7**	**-1.6**
	baz=8.0						
UCH	**Uchtor**	**0.93 333**		P	**Pg**	**11 41 22.8**	**+0.3**
	67nm,0.1s,SNR=334						
UCH				⇓S	**Sg**	**11 41 34.2**	**-0.4**
	126nm,0.2s						
UCH	**Uchtor**	**0.93 333**		⇑*e*P	**Pg**	**11 41 22.5**	**0.0**
	baz=36						
UCH				⇑*e*S	**Sg**	**11 41 33.8**	**-0.8**
	baz=36						
KBK	**Karagaybulak**	**1.26 356**		⇓P	**Pg**	**11 41 29.2**	**+0.4**
	34nm,0.1s,SNR=26						
KBK				⇓S	**Sn**	**11 41 45.8**	**+0.1**
	105nm,0.2s						
KBK	**Karagaybulak**	**1.26 356**		⇓*e*P	**Pb**	**11 41 28.5**	**-0.2**
	baz=59						
KBK				⇓*e*S	**Sb**	**11 41 44.2**	**-0.9**
	baz=59						
BOOM	**Boomskoye usch**	**1.26 30**		⇑*e*P	**Pg**	**11 41 29.9**	**+1.0**
	baz=36						
BOOM				⇑*e*S	**Sn**	**11 41 46.4**	**+0.5**
	baz=36						
AAK	**Ala-Archa**	**1.31 341**		⇓P	**Pg**	**11 41 29.8**	**0.0**
	64nm,0.2s,SNR=106						
AAK				⇓S	**Sb**	**11 41 45.7**	**-0.9**
	32nm,0.2s						
AAK	**Ala-Archa**	**1.31 341**		⇑P	**Pb**	**11 41 29.6**	**0.0**
	34nm,0.5s						
AAK				⇑S	**Sb**	**11 41 45.6**	**-1.0**
	14nm,0.3s						
AAK	**Ala-Archa**	**1.31 341**		⇑*e*P	**Pn**	**11 41 29.2**	**-0.1**
	baz=43						
AAK				⇑*e*S	**Sb**	**11 41 45.2**	**-1.3**
	baz=43						
TKM2	**Tokmak 2**	**1.56 14**		⇓P	**Pg**	**11 41 34.9**	**+0.2**
	14nm,0.1s,SNR=18						
TKM2				⇑S	**Sg**	**11 41 55.5**	**+0.5**
	37nm,0.2s						
TKM2	**Tokmak 2**	**1.56 14**		⇑Pn	**Pg**	**11 41 34.8**	**+0.1**
	4.6nm,0.2s						
TKM2				⇓Sn	**Sg**	**11 42 00.6**	**+5.6**
	43nm,0.5s						
TKM2	**Tokmak 2**	**1.56 14**		⇓*e*P	**Pg**	**11 41 34.4**	**-0.3**
	baz=18						
TKM2				⇓*e*S	**Sg**	**11 41 54.1**	**-0.9**
	baz=18						
ARSB	**Arslanbob**	**1.58 268**		⇓*e*P	**Pb**	**11 41 34.4**	**+0.2**
	baz=64						
ARSB				⇓*e*S	**Sn**	**11 41 54.0**	**+0.2**
	baz=64						
EKS2	**Erkin-Say**	**1.59 323**		⇓*e*P	**Pn**	**11 41 33.6**	**+0.4**
	baz=23						
EKS2				⇓*e*S	**Sn**	**11 41 53.1**	**-0.8**
	baz=23						
CHMS	**Chumysh**	**1.61 351**		⇓P	**Pg**	**11 41 35.3**	**-0.3**
	26nm,0.2s,SNR=20						
CHMS				⇑S	**Sg**	**11 41 55.8**	**-0.7**
	39nm,0.2s						
CHMS	**Chumysh**	**1.61 351**		⇓Pn	**Pg**	**11 41 35.1**	**-0.5**
	9.3nm,0.3s						
CHMS				⇑Sn	**Sg**	**11 42 01.1**	**+4.6**
	33nm,0.8s						
CHMS	**Chumysh**	**1.61 351**		⇑*e*P	**Pb**	**11 41 34.4**	**-0.3**
	baz=54						
CHMS				⇑*e*S	**Sb**	**11 41 54.4**	**-0.8**
	baz=54						
KDJ	**Kajisay**	**1.73 64**		⇑*e*P	**Pg**	**11 41 38.9**	**+1.1**
	baz=68						
KDJ				⇑*e*S	**Sg**	**11 42 02.0**	**+1.7**
	baz=68						
KST	**Kastek**	**1.77 22**		P	**Pg**	**11 41 38.8**	**+0.3**
	11nm,0.3s						
KST				S	**Sg**	**11 42 01.8**	**+0.4**
	148nm,0.5s						
KST	**Kastek**	**1.77 22**		*e*P	**Pg**	**11 41 38.8**	**+0.3**
	11nm,0.3s						
KST				*e*S	**Sg**	**11 42 01.8**	**+0.4**
	148nm,0.5s						
SFK	**Sufi-Kurgan**	**1.83 221**		⇑*e*P	**Pb**	**11 41 39.5**	**+0.9**
	baz=17						
SFK				⇑*e*S	**Sb**	**11 42 03.6**	**0.0**
	baz=17						
DGS	**Degeres**	**1.91 15**		P	**Pg**	**11 41 41.5**	**+0.2**
	33nm,0.4s						
DGS				S	**Sg**	**11 42 06.3**	**+0.3**
	110nm,0.7s						
DGS	**Degeres**	**1.91 15**		*e*P	**Pg**	**11 41 41.5**	**+0.2**
	33nm,0.4s						
DGS				*e*S	**Sg**	**11 42 06.3**	**+0.3**
	110nm,0.7s						
USP	**Ospenovka**	**1.91 347**		⇓P	**Pg**	**11 41 40.7**	**-0.6**
	38nm,0.3s,SNR=39						
USP				⇑S	**Sg**	**11 42 04.9**	**-1.2**
	50nm,0.3s						
USP	**Ospenovka**	**1.91 347**		⇓*e*P	**Pb**	**11 41 38.9**	**-0.9**
	baz=49						
USP				⇓*e*S	**Sn**	**11 42 02.3**	**+0.5**
	baz=49						
MRKS	**Merke**	**1.92 315**		P	**Pb**	**11 41 40.3**	**+0.3**
	16nm,0.4s						
MRKS				S	**Sb**	**11 42 04.3**	**+0.1**
	28nm,0.2s						
MRKS	**Merke**	**1.92 315**		*e*P	**Pb**	**11 41 40.3**	**+0.3**
	16nm,0.4s						
MRKS				*e*S	**Sb**	**11 42 04.3**	**+0.1**
	28nm,0.2s						
OHH	**Osh**	**1.95 244**		⇑*e*P	**Pb**	**11 41 40.3**	**-0.1**
	baz=40						
OHH				⇑*e*S	**Sb**	**11 42 04.7**	**-0.1**
	baz=40						
IZV	**Izvestkoviy**	**1.99 34**		Pg	**Pg**	**11 41 43.5**	**+0.7**
	6.4nm,0.2s						
IZV				Lg	Lg	11 42 09.9	
	55nm,0.8s						
IZV	**Izvestkoviy**	**1.99 34**		*e*P	**Pg**	**11 41 43.5**	**+0.7**
	6.4nm,0.2s						
IZV				*e*S	**Sg**	**11 42 09.9**	**+1.3**
	55nm,0.8s						
MTBS	**Maitube**	**2.00 30**		Pg	**Pg**	**11 41 43.3**	**+0.4**
	13nm,0.2s						
MTBS				Lg	Lg	11 42 09.4	
	62nm,0.4s						
MTBS	**Maitube**	**2.00 30**		*e*P	**Pg**	**11 41 43.3**	**+0.4**
	13nm,0.2s						
MTBS				*e*S	**Sg**	**11 42 09.3**	**+0.6**
	62nm,0.4s						
SGDS	**Sogindy**	**2.07 351**		Pg	**Pg**	**11 41 43.6**	**-0.8**
	24nm,0.3s						
SGDS				Lg	Lg	11 42 09.8	
	43nm,0.2s						
TNSS	**Tian-Shan**	**2.14 40**		Pg	**Pg**	**11 41 46.3**	**+0.5**
	11nm,0.3s						
TNSS				Lg	Lg	11 42 14.5	
	20nm,0.2s						
TNSS	**Tian-Shan**	**2.14 40**		*e*P	**Pg**	**11 41 46.3**	**+0.5**
	11nm,0.3s						
TNSS				*e*S	**Sg**	**11 42 14.5**	**+1.0**
	20nm,0.2s						
MNAS	**Manas**	**2.21 300**		⇑*e*P	**Pn**	**11 41 42.8**	**+1.1**
	baz=99						
MNAS				⇑*e*S	**Sn**	**11 42 09.1**	**-0.1**
	baz=99						
MDOK	**Medeo**	**2.29 39**		Pn	**Pg**	**11 41 48.5**	**+0.1**
	8.0nm,0.4s						
MDOK				Pg	**Pg**	**11 41 48.6**	**+0.1**
	15nm,0.3s						
MDOK				Lg	Lg	11 42 18.5	
	24nm,0.5s						
MDOK				⇑Sn	**Sg**	**11 42 18.7**	**+0.6**
	15nm,0.5s

CHKK					Lg	Lg	11 42 34.3			
	47nm,0.3s									
CHKK	**Chushkaly**	**2.83**	**29**	*eP*	**Pg**	**Pg**	**11 41 57.8**	**-0.9**		
	9.2nm,0.4s									
CHKK				*eS*	**Sg**	**Sg**	**11 42 34.4**	**-1.0**		
	47nm,0.3s									
SATY	**Saty**	**2.97**	**55**	Pg	**Pg**	**Pg**	**11 42 01.2**	**-0.4**		
	8.6nm,0.5s									
SATY					Lg	Lg	11 42 40.2			
	19nm,0.3s									
SATY	**Saty**	**2.97**	**55**	*eP*	**Pg**	**Pg**	**11 42 01.2**	**-0.4**		
	8.6nm,0.5s									
SATY				*eS*	**Sg**	**Sg**	**11 42 40.2**	**+0.1**		
	19nm,0.3s									
KURS	**Kuram**	**3.09**	**47**	Pg	**Pg**	**Pg**	**11 42 03.3**	**-0.6**		
	3.8nm,0.6s									
KURS					Lg	Lg	11 42 43.9			
	9.8nm,0.6s									
KURS	**Kuram**	**3.09**	**47**	*eP*	**Pg**	**Pg**	**11 42 03.3**	**-0.6**		
	3.8nm,0.6s									
KURS				*eS*	**Sg**	**Sg**	**11 42 43.9**	**-0.1**		
	9.8nm,0.6s									
UZB	**Uzynbulak**	**3.40**	**58**	Pg	**Pg**	**Pg**	**11 42 08.9**	**-1.0**		
	3.2nm,0.3s									
UZB					Lg	Lg	11 42 53.3			
	9.7nm,0.5s									
UZB	**Uzynbulak**	**3.40**	**58**	*eP*	**Pg**	**Pg**	**11 42 08.9**	**-1.0**		
	3.2nm,0.3s									
UZB				*eS*	**Sg**	**Sg**	**11 42 53.3**	**-0.7**		
	9.7nm,0.5s									
ARXS	**Arharly**	**3.46**	**35**	Pg	**Pg**	**Pg**	**11 42 09.1**	**-1.8**		
	6.4nm,0.5s									
ARXS					Lg	Lg	11 42 53.8			
	34nm,0.6s									
ARXS	**Arharly**	**3.46**	**35**	*eP*	**Pg**	**Pg**	**11 42 09.1**	**-1.8**		
	6.4nm,0.5s									
ARXS				*eS*	**Sg**	**Sg**	**11 42 53.8**	**-2.0**		
	34nm,0.6s									
BLB	**Baldybastay**	**3.67**	**42**	Pg	**Pg**	**Pg**	**11 42 13.3**	**-1.8**		
	25nm,0.3s									
BLB					Lg	Lg	11 43 01.1			
	17nm,0.5s									
BTLS	**Baital**	**3.71**	**349**	Pg	**Pb**	**Pb**	**11 42 11.8**	**+1.4**		
	3.2nm,0.4s									
BTLS					Lg	Lg	11 42 58.6			
	7.9nm,0.3s									
BTLS	**Baital**	**3.71**	**349**	*eP*	**Pb**	**Pb**	**11 42 11.8**	**+1.4**		
	3.2nm,0.4s									
BTLS				*eS*	**Sb**	**Sb**	**11 42 58.6**	**+3.0**		
	7.9nm,0.3s									
PDGK	**Podgornoye**	**3.79**	**58**	Pg	**Pg**	**Pg**	**11 42 15.6**	**-1.7**		
	1.6nm,0.2s									
PDGK					Lg	Lg	11 43 05.0			
	3.3nm,0.3s									
KK31	**Karatay Array**	**3.79**	**298**	⇑Pg	**Pb**	**Pb**	**11 42 13.1**	**+1.3**		
	0.7nm,0.4s,baz=110,slow=15,SNR=9.3									
KK31				⇑Lg	Lg	Lg	11 43 00.5			
	5.0nm,0.4s,baz=114,slow=27,SNR=9.0									
IUG	**luzhnay**	**3.85**	**283**	Pg	**Pb**	**Pb**	**11 42 15.4**	**+2.6**		
	13nm,0.4s									
IUG					Lg	Lg	11 43 04.5			
	17nm,0.5s									
IUG	**luzhnay**	**3.85**	**283**	*eP*	**Pb**	**Pb**	**11 42 15.4**	**+2.6**		
	13nm,0.4s									
IUG				*eS*	**Sg**	**Sg**	**11 43 04.5**	**-3.7**		
	17nm,0.5s									
DJR	**Jarkent**	**4.53**	**48**	Pg	**Pg**	**Pg**	**11 42 28.9**	**-2.6**		
	2.0nm,0.3s									
DJR					Lg	Lg	11 43 27.7			
	5.0nm,0.7s									
DJR	**Jarkent**	**4.53**	**48**	*eP*	**Pg**	**Pg**	**11 42 28.9**	**-2.6**		
	2.0nm,0.3s									
DJR				*eS*	**Sg**	**Sg**	**11 43 27.7**	**-2.5**		
	5.0nm,0.7s									
OTUK	**Ortayu**	**7.11**	**345**	⇓Lg	Lg	Lg	11 44 46.9			
	2.4nm,1.0s									

SJA ***18*** *11:55:57.3±0.7,21°.98S×67°.23W,h219km±5km,ML3.7, MW3.6*
IDC ***18*** *11:55:58.5±1.3,22°.04S×66°.92W,h164km±18km,mb3.6/2, mbtmp4.0/4,Error ellipse: s-maj=32.8km s-min=11.7km az=123.0*
SCB ***18*** *11:56:00.6±1.2,22°.03S×67°.24W,h173km±14km,ML3.9/2, MW3.6,Error ellipse: s-maj=8.3km s-min=6.3km az=0.0*
GUC ***18*** *11:56:01.2±0.7,21°.96S×67°.50W,h210km±6km,ML3.9*
NEIC ***18*** *11:56:01.3±1.4,21°.98S±0°.06×67°.5W±0°.1,h203km±8km, mb4.1/4,Error ellipse: s-maj=19.7km s-min=8.8km az=88.0*

ISC 18 11:56:00.2±0.7,21°.95S±0°.04×67°.26W±0°.03,h192km±6km, n87,σ1°.58/129,2C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.31**	**221**	Pn	**Pn**	**11 56 32.8**	**+1.0**
AF01				Sn	**Sn**	**11 56 58.0**	**+1.5**
YJA	**Yavi**	**1.63**	**98**	*eP*	**Pn**	**11 56 34.8**	**-0.2**
YJA				*eS*	**Sn**	**11 57 00.9**	**-0.8**
MOCB	**Mochara**	**1.66**	**65**	Pg	**Pn**	**11 56 34.8**	**-0.4**
MOCB				Sg	**Sn**	**11 57 00.5**	**-1.8**
MOCB				IAML		11 57 01.5	
	467nm,0.3s						
LVC	**Limon Verde**	**1.67**	**247**		**Pn**	**11 56 35.5**	**+0.4**
LVC				Sn	**Sn**	**11 57 02.0**	**-0.2**
LVC	**Limon Verde**	**1.67**	**247**	*eP*	**Pn**	**11 56 35.3**	**+0.2**
LVC				*eS*	**Sn**	**11 57 02.9**	**+0.6**
LVC	**Limon Verde**	**1.67**	**247**	P	**Pn**	**11 56 35.1**	**0.0**
	33nm,0.6s,baz=57,slow=9.1,SNR=98						
LVC				S	**Sn**	**11 57 01.5**	**-0.7**
	14nm,0.3s,baz=270,slow=21,SNR=48						
LVC	**Limon Verde**	**1.67**	**247**	*eP*	**Pn**	**11 56 35.1**	**0.0**
LVC				*eS*	**Sn**	**11 57 00.9**	**-1.3**
LVC				IAML		11 57 02.7	
	274nm,0.5s						
PB09	**IPOC Station P**	**1.85**	**274**		**Pn**	**11 56 37.2**	**+0.4**
PB09				Sn	**Sn**	**11 57 05.3**	**+0.1**
PB09	**IPOC Station P**	**1.85**	**274**	*eP*	**Pn**	**11 56 36.8**	**+0.1**
PB09				*eS*	**Sn**	**11 57 06.2**	**+1.1**
PB09	**IPOC Station P**	**1.85**	**274**	*eP*	**Pn**	**11 56 37.2**	**+0.4**
PB09				*eS*	**Sn**	**11 57 04.0**	**-1.2**
PB09	**IPOC Station P**	**1.85**	**274**	Pg	**Pn**	**11 56 36.9**	**+0.1**
HJA	**Humahuaca**	**2.11**	**127**	*eP*	**Pn**	**11 56 39.6**	**-0.2**
HJA				*eS*	**Sn**	**11 57 12.7**	**+2.2**
PB06	**IPOC Station P**	**2.27**	**250**		**Pn**	**11 56 40.4**	**-0.8**
PB06				Sn	**Sn**	**11 57 11.9**	**-1.2**
PB06	**IPOC Station P**	**2.27**	**250**	*eP*	**Pn**	**11 56 40.4**	**-0.8**
PB06				*eS*	**Sn**	**11 57 13.5**	**+0.4**
PB06				IAML		11 57 14.4	
	comp=Z,91nm,0.2s						
PB06	**IPOC Station P**	**2.27**	**250**	*eP*	**Pn**	**11 56 41.0**	**-0.2**
PB06				*eS*	**Sn**	**11 57 11.6**	**-1.5**
PB06				IAML		11 57 14.1	
	comp=E,250nm,0.2s						
PB15	**IPOC Station P**	**2.40**	**238**		**Pn**	**11 56 42.1**	**-0.5**
PB15				Sn	**Sn**	**11 57 15.2**	**-0.6**
PB15	**IPOC Station P**	**2.40**	**238**	*eP*	**Pn**	**11 56 42.8**	**+0.1**
PB15				*eS*	**Sn**	**11 57 15.3**	**-0.4**
PB15				IAML		11 57 18.9	
	comp=Z,408nm,0.2s						
PB15	**IPOC Station P**	**2.40**	**238**	*eP*	**Pn**	**11 56 42.7**	**0.0**
PB15				*eS*	**Sn**	**11 57 14.0**	**-1.7**
PB15				IAML		11 57 18.3	
	comp=N,466nm,0.1s						
PB15	**IPOC Station P**	**2.40**	**238**	Pg	**Pn**	**11 56 42.5**	**-0.2**
PB07	**IPOC Station P**	**2.45**	**275**		**Pn**	**11 56 43.5**	**+0.2**
PB07	**IPOC Station P**	**2.45**	**275**	*eP*	**Pn**	**11 56 42.8**	**-0.5**
PB07				*eS*	**Sn**	**11 57 16.4**	**-0.3**
PB07				IAML		11 57 16.5	
	comp=Z,239nm,0.5s						
PB07	**IPOC Station P**	**2.45**	**275**	*eP*	**Pn**	**11 56 43.2**	**0.0**
PB07				*eS*	**Sn**	**11 57 14.7**	**-2.1**
PB07				IAML		11 57 16.7	
	comp=N,424nm,0.2s						
PB08	**IPOC Station P**	**2.53**	**315**		**Pn**	**11 56 45.4**	**+1.0**
PB08	**IPOC Station P**	**2.53**	**315**	*eP*	**Pn**	**11 56 44.8**	**+0.4**
PB08				*eS*	**Sn**	**11 57 19.9**	**+1.2**
PB08				IAML		11 57 21.7	
	comp=Z,83nm,0.4s						
PB08	**IPOC Station P**	**2.53**	**315**	⇑*iP*	**Pn**	**11 56 45.4**	**+1.0**
PB08				*eS*	**Sn**	**11 57 18.8**	**+0.1**
PB08				IAML		11 57 21.6	
	comp=E,148nm,0.2s						
PB08	**IPOC Station P**	**2.53**	**315**	Pg	**Pn**	**11 56 45.0**	**+0.6**
PB02	**IPOC Station P**	**2.54**	**284**		**Pn**	**11 56 44.1**	**-0.1**
PB02	**IPOC Station P**	**2.54**	**284**	*eP*	**Pn**	**11 56 43.7**	**-0.4**
PB02				*eS*	**Sn**	**11 57 17.0**	**-1.3**
PB02				IAML		11 57 18.6	
	comp=Z,621nm,0.2s						
PB02	**IPOC Station P**	**2.54**	**284**	*eP*	**Pn**	**11 56 44.0**	**-0.1**
PB02				*eS*	**Sn**	**11 57 15.8**	**-2.6**
PB02				IAML		11 57 17.4	
	comp=N,596nm,0.3s						
PB02	**IPOC Station P**	**2.54**	**284**	Pg	**Pn**	**11 56 44.2**	**+0.1**
PB02				Sg	**Sn**	**11 57 17.2**	**-1.1**
PB02				IAML		11 57 21.9	
	comp=N,435nm,0.2s						
PB04	**IPOC Station P**	**2.71**	**261**		**Pn**	**11 56 45.5**	**-0.6**
PB04	**IPOC Station P**	**2.71**	**261**	*eP*	**Pn**	**11 56 46.3**	**+0.1**
PB04				*eS*	**Sn**	**11 57 20.2**	**-1.8**
PB04				IAML		11 57 25.3	
	comp=Z,125nm,0.2s						
PB04	**IPOC Station P**	**2.71**	**261**	*eP*	**Pn**	**11 56 45.6**	**-0.6**
PB04				*eS*	**Sn**	**11 57 19.5**	**-2.5**
PB04				IAML		11 57 21.1	
	comp=N,210nm,0.2s						
GO01	**Chusmiza**	**2.91**	**321**		**Pn**	**11 56 49.5**	**+0.6**
GO01	**Chusmiza**	**2.91**	**321**	*eP*	**Pn**	**11 56 49.0**	**+0.2**
GO01				*eS*	**Sn**	**11 57 27.8**	**+1.1**
GO01	**Chusmiza**	**2.91**	**321**	*eP*	**Pn**	**11 56 49.4**	**+0.6**
GO01				*eS*	**Sn**	**11 57 27.2**	**+0.4**
GO01				IAML		11 57 32.0	
	comp=N,373nm,0.2s						
GO01	**Chusmiza**	**2.91**	**321**	Pg	**Pn**	**11 56 49.7**	**+0.8**
PATCX	**Punta Patache**	**2.93**	**292**		**Pn**	**11 56 48.4**	**-0.3**
PATCX	**Punta Patache**	**2.93**	**292**	*eP*	**Pn**	**11 56 47.9**	**-0.7**
PATCX				*eS*	**Sn**	**11 57 25.6**	**-0.9**
PATCX				IAML		11 57 27.3	
	comp=Z,161nm,0.2s						
PATCX	**Punta Patache**	**2.93**	**292**	*eP*	**Pn**	**11 56 48.3**	**-0.3**
PATCX				*eS*	**Sn**	**11 57 24.2**	**-2.3**
PATCX				IAML		11 57 26.3	
	comp=N,496nm,0.2s						
HMBC	**Humberstone**	**2.97**	**304**		**Pn**	**11 56 48.5**	**-0.7**
AZAP	**Zapla**	**3.03**	**139**	*eP*	**Pn**	**11 56 49.2**	**-0.8**
AZAP				*eS*	Sn	11 57 09.4	-20
TA01	**Diego Aracena**	**3.06**	**296**		**Pn**	**11 56 49.7**	**-0.4**
TA01	**Diego Aracena**	**3.06**	**296**	*eP*	**Pn**	**11 56 49.6**	**-0.5**
TA01				*eS*	**Sn**	**11 57 27.7**	**-1.4**
TA01				IAML		11 57 28.6	
	comp=Z,122nm,0.2s						
TA01	**Diego Aracena**	**3.06**	**296**	*eP*	**Pn**	**11 56 49.3**	**-0.8**
TA01				*eS*	**Sn**	**11 57 26.0**	**-3.1**
TA01				IAML		11 57 29.4	
	comp=E,239nm,0.2s						
PB11	**IPOC Station P**	**3.13**	**314**		**Pn**	**11 56 51.1**	**-0.1**
PB11	**IPOC Station P**	**3.13**	**314**	*eP*	**Pn**	**11 56 50.3**	**-0.9**
PB11				*eS*	**Sn**	**11 57 29.8**	**-1.2**
PB11				IAML		11 57 32.5	
	comp=Z,182nm,0.3s						
PB11	**IPOC Station P**	**3.13**	**314**	⇑*iP*	**Pn**	**11 56 50.7**	**-0.5**
PB11				*eS*	**Sn**	**11 57 28.9**	**-2.1**
PB11	**IPOC Station P**	**3.13**	**314**	Pg	**Pn**	**11 56 51.1**	**-0.1**
TA02	**Huaiquique**	**3.16**	**301**		**Pn**	**11 56 50.8**	**-0.6**
TA02	**Huaiquique**	**3.16**	**301**	*eP*	**Pn**	**11 56 50.8**	**-0.6**
TA02				*eS*	**Sn**	**11 57 30.9**	**-0.5**
TA02				IAML		11 57 32.9	
	comp=Z,153nm,0.1s						
SLA	**San Lorenzo**	**3.19**	**150**	*eP*	**Pn**	**11 56 48.1**	**-3.8**
PB10	**IPOC Station P**	**3.42**	**242**	Pn	**Pn**	**11 56 54.5**	**+0.1**
PB10	**IPOC Station P**	**3.42**	**242**	*eP*	**Pn**	**11 56 53.8**	**-0.7**
PB10				*eS*	**Sn**	**11 57 34.5**	**-2.5**
PB10	**IPOC Station P**	**3.42**	**242**	*eP*	**Pn**	**11 56 54.1**	**-0.3**
PB10				*eS*	**Sn**	**11 57 32.4**	**-4.6**
PB10				IAML		11 57 34.5	
	comp=N,61nm,0.4s						
SOEO	**Opoqueri**	**3.42**	**350**	Pg	**Pn**	**11 56 56.7**	**+1.6**
ALOL	**LOMAS DE OLMED**	**3.54**	**122**	*eS*	**Sn**	**11 57 44.9**	**+5.2**
GO02	**Mina Guanaco**	**3.84**	**213**		**Pn**	**11 56 59.7**	**-0.3**
GO02	**Mina Guanaco**	**3.84**	**213**	*eP*	**Pn**	**11 56 59.5**	**-0.5**
GO02				*eS*	**Sn**	**11 57 44.2**	**-2.8**
PB14	**IPOC Station P**	**3.93**	**227**	Pn	**Pn**	**11 57 00.8**	**-0.3**
PB14	**IPOC Station P**	**3.93**	**227**	*eP*	**Pn**	**11 57 00.1**	**-1.0**
PB14				*eS*	**Sn**	**11 57 45.4**	**-3.5**
PB14				IAML		11 57 47.4	
	comp=Z,29nm,0.5s						
PB16	**IPOC Station P**	**4.18**	**329**		**Pn**	**11 57 05.3**	**+0.8**
AOEA	**Aiguile**	**4.21**	**27**	Pg	**Pn**	**11 57 04.8**	**+0.1**
PB12	**IPOC Station P**	**4.40**	**319**		**Pn**	**11 57 05.2**	**-1.6**
PB12	**IPOC Station P**	**4.40**	**319**	*eP*	**Pn**	**11 57 05.2**	**-1.6**
PB12				*eS*	**Sn**	**11 57 56.8**	**-2.4**
PB12				IAML		11 57 59.4	
	comp=Z,72nm,0.4s						
PB18	**Visviri**	**4.82**	**334**	Pn	**Pn**	**11 57 09.8**	**-2.9**
SOEJ	**Jacaque**	**5.03**	**350**	Pg	**Pn**	**11 57 17.0**	**+1.6**
BBOE	**La Paz, Chanca**	**5.16**	**352**	Pg	**Pn**	**11 57 19.1**	**+2.0**
AC01	**Pan de Azucar**	**5.17**	**216**	Pn	**Pn**	**11 57 15.3**	**-1.3**
AC01	**Pan de Azucar**	**5.17**	**216**	*eP*	**Pn**	**11 57 14.7**	**-2.0**
AC01				IAML		11 58 16.0	
	comp=Z,36nm,1.9s						
BBOD	**La Paz, Gloria**	**5.44**	**346**	Pg	**Pn**	**11 57 21.7**	**+1.1**
LPAZ	**La Paz**	**5.70**	**352**		**Pn**	**11 57 23.3**	**-0.7**
LPAZ	**La Paz**	**5.70**	**352**	P	**Pn**	**11 57 24.7**	**+0.6**
	comp=Z,2.6nm,0.3s,baz=149,slow=3.8,SNR=14						
LPAZ				S	**Sn**	**11 58 31.2**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=300,slow=15,SNR=1.8						
LPAZ	**La Paz**	**5.70**	**352**	Pg	**Pn**	**11 57 25.2**	**+1.1**
AC04	**Llanos de Chal**	**7.12**	**208**	Pn	**Pn**	**11 57 38.0**	**-4.0**
AC05	**El Transito**	**7.38**	**201**	Pn	**Pn**	**11 57 43.6**	**-1.8**
SIV	**San Ignacio**	**8.33**	**46**	P	**Pn**	**11 57 55.3**	**-2.5**
	comp=Z,4.8nm,0.4s,baz=240,slow=10,SNR=21						
SIV				S	**Sn**	**11 59 24.0**	**-7.5**
	comp=Z,1.9nm,0.3s,baz=150,slow=22,SNR=6.5						
CO01	**Juntas del Tor**	**8.39**	**197**	Pn	**Pn**	**11 57 57.8**	**-0.9**
MT02	**Curacav**	**11.77**	**196**	Pn	**Pn**	**11 58 41.6**	**-0.8**
PLTB	**Pedras Altas**	**15.60**	**132**	P	**P**	**11 59 31.9**	**+1.7**
PLTB				IAmb	IAmb	11 59 45.5	
	comp=Z,11nm,1.2s						
TRQA	**Tornquist**	**16.68**	**165**	P	**Pn**	**11 59 42.3**	**-0.7**
PLCA	**Paso Flores**	**18.93**	**188**	P	**P**	**12 00 05.2**	**-1.4**
PMSA	**Palmer Station**	**42.86**	**178**	P	**P**	**12 03 41.0**	**+2.0**
QSPA	**South Pole Qui**	**68.24**	**180**	P	**P**	**12 06 41.3**	**+1.4**
QSPA				IAmb	IAmb	12 06 41.4	
	comp=Z,4.1nm,1.3s						
QSPA	**South Pole Qui**	**68.24**	**180**	P	**P**	**12 06 41.1**	**+1.2**
	comp=Z,0.5nm,0.4s,baz=333,slow=2.2,SNR=5.9						
	comp=Z,0.5nm,0.4s						
TORD	**Torodi Ar. Bea**	**76.07**	**70**	P	**P**	**12 07 26.6**	**-0.4**
	comp=Z,1.4nm,0.5s,baz=259,slow=5.4,SNR=17						
	comp=Z,1.4nm,0.5s						
MKAR	**Makanchi Array**	**145.08**	**37**	PKP	**PKPab**	**12 15 15.6**	**+1.0**
	comp=Z,0.4nm,0.7s,baz=300,slow=2.8,SNR=3.4						

NEIC 18 12:04:05.1±0.7,31°.62N±0°.02×104°.49W±0°.02,h5km±1km, mb_Lg2.5/26,ML2.7/46,Error ellipse: s-maj=3.2km s-min=2.9km az=323.0,Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.58**	**115**		Pg	12 04 16.7	+0.4
PECS				Sg	Sg	12 04 25.1	+1.1
VHRN	**Van Horn**	**0.93**	**207**	Pg	Pg	12 04 22.9	-0.2
VHRN				Sg	Sb	12 04 36.4	-0.1
ALPN	**Alpine**	**1.44**	**149**	Pg	Pn	12 04 31.8	-0.2
MNHN	**Monahans**	**1.50**	**100**		Pn	12 04 32.9	+0.2
ODSA	**Odessa**	**1.72**	**73**		Pb	12 04 36.6	-0.7
EPT	**El Paso**	**1.73**	**276**		Pb	12 04 37.0	-0.4
TX31	**Lajitas Ar. Si**	**2.38**	**163**		Pn	12 04 46.2	+1.3
TXAR	**Lajitas Array**	**2.38**	**163**		Pn	12 04 46.0	+1.1
SAND	**Sanderson**	**2.62**	**129**	Pn	Pn	12 04 49.9	+1.6
MSTX	**Muleshoe**	**2.75**	**31**		Pn	12 04 51.7	+1.6
SGCY	**Sterling City**	**2.88**	**83**	Pn	Pn	12 04 53.2	+1.5
SGCY				IAmb_Lg		12 05 35.4	
	comp=Z,16nm,0.7s						
POST	**Post**	**2.91**	**59**	Pn	Pn	12 04 54.0	+1.8
POST				IAmb_Lg		12 05 42.5	
	comp=Z,16nm,0.7s						
121A	**Cookes Peak, D**	**2.94**	**289**		Pn	12 04 53.3	+0.5
121A				IAML		12 05 49.0	
	comp=E,17nm,0.6s						
121A				IAML		12 05 50.2	
	comp=N,16nm,0.6s						
OZNA	**Ozona**	**2.96**	**103**	Pn	Pn	12 04 53.5	+0.6
OZNA				IAmb_Lg		12 05 45.1	
	comp=Z,20nm,1.3s						
Y22D	**IRIS PASSCAL I**	**3.19**	**321**	Pn	Pn	12 04 57.5	+1.3
SN05	**Snyder 5**	**3.30**	**67**	Pn	Pn	12 04 58.7	+1.2
SN05				IAmb_Lg		12 05 48.9	
	comp=Z,16nm,0.9s						
SN07	**Snyder 07**	**3.38**	**63**	Pn	Pn	12 04 59.0	+0.4
SN07				IAmb_Lg		12 05 51.4	
	comp=Z,19nm,0.8s						
DKNS	**Dickens**	**3.63**	**55**	Pn	Pn	12 05 03.4	+1.2
ANMO	**Albuquerque**	**3.71**	**334**	IAML		12 05 57.3	
	comp=Z,16nm,0.9s						
ANMO				IAML		12 05 59.7	
	comp=Z,8.5nm,0.4s						
ANMO	**Albuquerque**	**3.71**	**334**	Pn	Pn	12 05 04.5	+1.3
DRIO	**Del Rio**	**3.99**	**122**	Pn	Pn	12 05 07.0	+0.1
AMTX	**Amarillo**	**4.02**	**35**	Pn	Pn	12 05 09.1	+1.7
DUN6	**Lazy B Ranch**	**4.02**	**285**	Pn	Pn	12 05 08.6	+1.2
APMT	**Aspermont**	**4.06**	**64**	Pn	Pn	12 05 08.6	+0.6
APMT				IAmb_Lg		12 06 17.9	
	comp=Z,11nm,0.7s						
319A	**Douglas**	**4.10**	**268**	Pn	Pn	12 05 09.0	+0.4
319A				IAML		12 06 19.3	
	comp=E,13nm,1.2s						
319A				IAML		12 06 26.8	
	comp=N,10.0nm,0.8s						
JCT	**Junction City**	**4.18**	**105**	IAmb_Lg		12 06 20.0	
	comp=Z,14nm,0.8s						
ABTX	**Abilene, Hawle**	**4.23**	**75**	Pn	Pn	12 05 10.8	+0.5
ABTX				IAmb_Lg		12 06 22.4	
	comp=Z,14nm,1.0s						
BRDY	**Brady**	**4.70**	**93**	Pn	Pn	12 05 16.7	-0.1
HPIG		**4.78**	**193**	Pn	Pn	12 05 18.9	+0.9
HPIG				IAML		12 06 41.2	
	comp=E,8.9nm,0.5s						
HPIG				IAML		12 08 00.2	
	comp=N,5.8nm,3.8s						
HNDO	**Hondo**	**4.95**	**114**	Pn	Pn	12 05 19.6	-0.5
SMWD	**Samnorwood**	**4.97**	**44**	Pn	Pn	12 05 22.3	+1.9
RTBA	**Rita Blanca**	**5.02**	**16**	Pn	Pn	12 05 21.9	+0.6
PLPT	**Palo Pinto**	**5.36**	**76**	IAmb_Lg		12 06 59.5	
	comp=Z,6.3nm,0.7s						
T25A	**Trinidad**	**5.51**	**1**	Pn	Pn	12 05 31.1	+3.1
T25A				IAmb_Lg		12 07 01.2	
	comp=Z,6.8nm,0.8s						
WTFS	**Witchita Falls**	**5.51**	**66**	Pn	Pn	12 05 27.2	-0.7
FW03	**Perrin-Whitt E**	**5.62**	**74**	IAmb_Lg		12 07 13.9	
	comp=Z,6.1nm,0.9s						
WMOK	**Wichita Mounta**	**5.71**	**55**	Pn	Pn	12 05 31.9	+1.4

AFAD ***18*** *12:09:32.9±0.0,35°.10N×36°.73E,h3km±2km,ML2.3*
GRAL ***18*** *12:09:35.6±0.3,35°.20N×36°.75E,h0km±1km,MD2.9*

ISC 18 12:09:35.3±1.4,35°.16N±0°.03×36°.74E±0°.08,h2km±12km, n12,σ0°.76/21,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEIL	**Beino**	**0.77**	**216**	*eP*	**Pg**	**12 09 50.2**	**+0.2**
BEIL				*eS*	**Sg**	**12 10 00.8**	**+0.8**
FKH	**Fakeheh**	**0.96**	**197**	*eP*	**Pg**	**12 09 53.4**	**-0.1**
HWQ	**Hawqa**	**1.10**	**217**	*eP*	**Pg**	**12 09 56.0**	**-0.3**
HWQ				*eS*	**Sg**	**12 10 11.1**	**+0.6**
RHAN	**Hatay/Reyhanl**	**1.10**	**354**	P	**Pg**	**12 09 54.7**	**-1.7**
RHAN				S	**Sn**	**12 10 14.6**	**+1.0**
BHL	**Bhannes**	**1.54**	**216**	*eP*	**Pn**	**12 10 03.4**	**-0.6**
HASA	**Hatay-Hassa-Ha**	**1.60**	**353**	P	**Pn**	**12 10 04.6**	**0.0**
HASA				S	**Sg**	**12 10 27.7**	**+1.1**
HASA				*i* AML	AML	12 10 32.0	
	comp=E,43nm,0.6s						
HASA				*i* AML	AML	12 10 34.0	
	comp=N,55nm,0.7s						
KUZU	**Kuzuini**	**1.63**	**10**	P	**Pn**	**12 10 05.2**	**+0.1**
KUZU				S	**Sg**	**12 10 29.1**	**+1.4**
KUZU				*i* AML	AML	12 10 31.0	
	comp=N,77nm,0.4s						
KUZU				*i* AML	AML	12 10 31.0	
	comp=E,92nm,0.4s						
DQRL	**Deir Qamar**	**1.75**	**214**	*eP*	**Pn**	**12 10 06.4**	**-0.3**
RCY	**Rachaya**	**1.82**	**204**	*eP*	**Pn**	**12 10 07.6**	**-0.3**
RCY				*eS*	**Sn**	**12 10 31.2**	**-0.4**
YURE	**YUREGIR**	**1.89**	**332**	P	**Pb**	**12 10 10.2**	**-0.3**
YURE				S	**Sg**	**12 10 36.7**	**+0.8**
KAMA	**Osmaniye**	**2.02**	**358**	P	**Pn**	**12 10 10.6**	**+0.1**
KAMA				S	**Sg**	**12 10 40.6**	**+0.4**
KAMA				*i* AML	AML	12 10 43.0	
	comp=E,12nm,0.3s						
KAMA				*i* AML	AML	12 10 44.0	
	comp=N,8.8nm,0.4s						
**AT

CHGB				*i* S		Sn	12 38 44.2	-0.4
	baz=280								
NNS	**Nan Shan**	**0.79**	**312**	P		Pn	12 38 33.2	-0.3
	baz=311								
NNS				S		Sn	12 38 44.0	-0.5
	baz=311								
VWDT	**VWDT**	**0.82**	**259**	P		Pb	12 38 33.5	+0.2
	baz=258								
VWDT				*e*S		Sn	12 38 45.0	-0.1
	baz=258								
WUSB	**Renai**	**0.83**	**275**	P		Pn	12 38 33.9	-0.1
	baz=275								
WUSB				S		Sn	12 38 45.5	0.0
	baz=275								
ENTT	**Nioudou**	**0.83**	**330**	*e*P		Pn	12 38 34.2	+0.3
	baz=330								
ENTT				*e*S		Sn	12 38 45.5	+0.1
	baz=330								
YULB	**Yu-li**	**0.84**	**232**	*e*P		Pb	12 38 33.1	-0.7
	baz=231								
TDCB	**Techi**	**0.85**	**293**	*e*S		Sn	12 38 46.7	+0.5
	baz=292								
YHNB	**Yeheng**	**0.95**	**322**	*e*P		Pn	12 38 35.7	0.0
	baz=321								
YHNB				*e*S		Sb	12 38 48.2	+0.3
	baz=321								
NSK	**Sanguang**	**0.97**	**322**	*e*P		Pb	12 38 37.3	+1.4
	baz=321								
NSK				*e*S		Sb	12 38 48.4	+0.1
	baz=321								
SSLB	**Suanglung**	**0.98**	**263**	*e*P		Pb	12 38 36.9	+0.8
	baz=262								
SSLB				*e*S		Sb	12 38 48.9	+0.1
	baz=262								
WCS	**Beigang Elemen**	**1.02**	**278**	*e*P		Pb	12 38 36.7	-0.1
	baz=277								
WHYT	**Xinyi Township**	**1.09**	**259**	*e*P		Pb	12 38 38.2	+0.2
	baz=258								
ALS	**Alishan**	**1.18**	**250**	*e*P		Pb	12 38 39.7	0.0
	baz=249								

JMA 18 12:38:24.1±0.1, 24.3N±0.4×123.7E±0.4, h7km, MV1.0/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.26**	**161**	P	Pg	12 38 29.3	+0.1
HATJ				*e*S	Sg	12 38 32.8	+0.2
JKRS	**Kuro-shima**	**0.28**	**103**	P	Pg	12 38 29.8	+0.2
JKRS				*e*S	Sg	12 38 33.8	+0.5
JIJ	**Ishigaki jima**	**0.40**	**81**	*e*P	Pg	12 38 31.9	+0.1
JIJ				*e*S	Sg	12 38 36.8	-0.3
JISG	**Ishigakijimahi**	**0.61**	**62**	P	Pg	12 38 36.4	+0.4
JISG				*e*S	Sb	12 38 45.1	-0.9
JYNG	**Yonagunijimaku**	**0.72**	**282**	*e*S	Sg	12 38 47.4	+0.1

IDC 18 12:38:29.9±3.1, 7.48S×158.18E, h0km, mb3.4/4, mbtmp3.4/4, Error ellipse: s-maj=145.8km s-min=31.8km az=130.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.22**	**239**	P	P	12 44 06.5	-0.3
	0.6nm,1.0s,baz=75,slow=10,SNR=1.7						
	0.6nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**27.14**	**18**	T	T	13 13 16.8	
	baz=205						
H11S2	**WAKE ISLAND Hy**	**27.14**	**18**	T	T	13 13 23.0	
	baz=205						
H11S1	**WAKE ISLAND Hy**	**27.15**	**18**	T	T	13 13 26.5	
	baz=205						
ASAR	**Alice Springs**	**28.31**	**233**	P	P	12 44 25.9	+0.4
	0.4nm,1.0s,baz=60,slow=9.7,SNR=2.0						
	0.4nm,1.0s						
ILAR	**Eielson Array**	**82.68**	**21**	P	P	12 50 55.1	0.0
	0.2nm,0.5s,baz=244,slow=4.6,SNR=6.3						
	0.2nm,0.5s						
MKAR	**Makanchi Array**	**85.86**	**318**	P	P	12 51 11.7	0.0
	0.2nm,0.4s,baz=114,slow=3.6,SNR=2.7						
	0.2nm,0.4s						

*UCR **18** 12:43:51.9±1.9, 4.04N×82.81W, h0km±79km, MW4.9*

*IDC **18** 12:43:52.6±0.5, 3.98N×82.60W, h0km, mb4.4/17, mbtmp4.5/23, ML3.8/5, MS4.8/54, Error ellipse: s-maj=22.2km s-min=11.2km az=61.0*

*MOS **18** 12:43:52.4±1.0, 4.00N×82.65W, h10km, mb5.4/25, Error ellipse: s-maj=13.7km s-min=6.3km az=107.5*

*NEIC **18** 12:43:54.5, 4.02N×82.54W, h10km*

*NEIC **18** 12:43:54.8, 3.93N×82.54W, h12km, Moment Tensor Solution. Duration: 28s8 Moment tensor: Scale 1017Nm; Mrr0.16; Mθθ0.05; Mθφ-0.20; Mrθ-0.28; Mφφ1.68; Mφr-0.29; Fault plane solution: M0 1.74000×1017 NP1: ϕs181.19000°, δ80.12000°, λ169.18000°. NP2: ϕs273.07000°, δ79.34000°, λ10.06000°. Principal axes: T 1.7093, Plg15.0000°, Azm137.0000°; N 0.0526, Plg75.0000°, Azm319.0000°; P -1.7619, Plg1.0000°, Azm227.0000°;*

*RSNC **18** 12:43:54.4±0.6, 4.7N×83.3W×7.1, h10km, M5.2, mB5.7, mb5.4, ML4.0, Mw(mB)5.2, MwMwp5.4, Mwp5.5*

*NEIC **18** 12:43:54.8, 4.03N×82.54W, h12km*

*NEIC **18** 12:43:54.8±1.8, 4.03N±0.02×82.53W±0.07, h10km±1km, mb5.1/467, Mwb5.3/37, Mww5.4/51, Error ellipse: s-maj=11.3km s-min=3.3km az=282.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr-0.21; Mθθ-0.14; Mφφ0.35; Mrθ0.31; Mθφ1.07; Mφr0.05; Fault plane solution: M0 1.16000×1017 NP1:ϕs353.95000°, δ72.89000°, λ-175.94000°. NP2:ϕs262.75000°, δ86.12000°, λ-17.15000°. Principal axes: T 1.2406, Plg9.0000°, Azm310.0000°; N -0.1885, Plg72.0000°, Azm70.0000°; P -1.0522, Plg15.0000°, Azm217.0000°;*

*BJI **18** 12:43:55.1±0.4, 4.00N×82.60W, h10km, mB5.2/6, Ms5.4/22, Ms7 5.2/22*

*GCMT **18** 12:43:57.8±0.1, 3.91N×82.69W, h12km, MW5.4/157, Moment Tensor Solution. s126, c235; s157, c322; Duration: 183 Moment tensor: Scale 1017Nm; Mrr0.17±.01; Mθθ-0.06±.01; Mφφ-0.11±.02; Mrθ0.03±.04; Mθφ1.71±.01; Mφr0.51±.04; Best double couple: M0 1.78800×1017 NP1:ϕs360.00000°, δ87.00000°, λ163.00000°. NP2:ϕs91.00000°, δ73.00000°, λ3.00000°. Principal axes: T 1.7200, Plg14.0000°, Azm314.0000°; N 0.1350, Plg73.0000°, Azm170.0000°; P -1.8560, Plg10.0000°, Azm47.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*UPA **18** 12:43:59.2±2.8, 4.40N×82.78W, h15km, MW5.7*

ISC 18 12:43:54.7±0.3, 3.96N±0.04×82.60W±0.05, h14km, n1065, σ1831/866, mb5.1/279, MS5.0/69, 14C-10D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	**El Cacao, Vera**	**3.78**	**27**	*e*P	**Pn**	**12 44 50.7**	**-2.0**
CACAO	**El Cacao, Vera**	**3.78**	**27**	P	**Pn**	**12 44 50.9**	**-1.8**
CACAO				S	**Sn**	**12 45 31.9**	**-5.1**
MARI3	**Mariato, Verag**	**4.00**	**24**	*e*P	**Pn**	**12 44 55.0**	**-0.6**
GMAL	**Guarumal, Vera**	**4.02**	**20**	*e*P	**Pn**	**12 44 53.7**	**-2.2**
GMAL	**Guarumal, Vera**	**4.02**	**20**	P	**Pn**	**12 44 56.3**	**+0.4**
PTPM	**Petroterminale**	**4.23**	**356**	ǁ *e*P	**Pn**	**12 44 54.8**	**-4.0**
PEDA3	**Pedasi**	**4.38**	**36**	*e*P	**Pn**	**12 45 01.3**	**+0.5**
TUMC	**Tumaco**	**4.41**	**119**	Pn	**Pn**	**12 44 59.9**	**-1.5**
TUMC	**Tumaco**	**4.41**	**119**	P	**Pn**	**12 45 00.3**	**-1.0**
TUMC				S	**Sn**	**12 45 50.4**	**-2.2**
PCRI3	**Pocri, Los San**	**4.43**	**34**	*e*P	**Pn**	**12 45 02.3**	**+0.8**
AZU	**Azuero**	**4.46**	**31**	ǁ *e*P	**Pn**	**12 45 00.5**	**-1.4**
AZU				IAmb	IAmb	12 45 04.7	
	comp=Z,3μm,1.8s						
AZU	**Azuero**	**4.46**	**31**	P	**Pn**	**12 45 01.2**	**-0.7**
CHIT3	**Chitre**	**4.53**	**29**	*e*P	**Pn**	**12 45 03.9**	**+1.1**
GR1C	**Gorgona, Isla**	**4.53**	**102**	P	**Pn**	**12 45 02.5**	**-0.4**
GR1C				S	**Sn**	**12 45 52.7**	**-2.7**
CDITO	**Canoas**	**4.59**	**357**		**Pn**	**12 45 01.4**	**-2.3**
BCO2	**Palmira**	**4.73**	**1**	*e*P	**Pn**	**12 45 04.0**	**-1.9**
BRU2	**Volcan**	**4.80**	**359**	Pn	**Pn**	**12 45 05.2**	**-1.7**
BRU2	**Volcan**	**4.80**	**359**	*e*P	**Pn**	**12 45 05.1**	**-1.7**
PNME	**Penonome**	**5.03**	**27**	*e*P	**Pn**	**12 45 11.2**	**+1.3**
OCHAL	**Ojochal**	**5.21**	**349**	*e*P	**Pn**	**12 45 08.8**	**-3.5**
EDBA	**Buenos Aires**	**5.21**	**353**	*e*P	**Pn**	**12 45 11.0**	**-1.3**
BURE	**Buenos Aires**	**5.23**	**352**	*e*P	**Pn**	**12 45 10.9**	**-1.7**
MALC	**Bahia Malaga**	**5.26**	**89**	P	**Pn**	**12 45 14.4**	**+1.5**
MALC				S	**Sn**	**12 46 14.4**	**+1.0**
PAC1	**Pacto, Paraso**	**5.29**	**134**	P	**Pn**	**12 45 12.2**	**-1.3**
PAC1				S	**Sn**	**12 46 09.1**	**-5.3**
SRBA	**San Rafael, Bu**	**5.29**	**352**	Pn	**Pn**	**12 45 10.9**	**-2.6**
SRBA	**San Rafael, Bu**	**5.29**	**352**	*e*P	**Pn**	**12 45 10.3**	**-3.2**
DRK0	**Durika**	**5.31**	**353**	*e*P	**Pn**	**12 45 11.2**	**-2.6**
PIZC	**Pizarro, Choco**	**5.32**	**79**	P	**Pn**	**12 45 14.3**	**+0.5**
	comp=Z,660nm,0.8s,comp=Z,8μm						
PIZC				S	**Sn**	**12 46 16.4**	**+1.4**
	comp=Z,660nm,0.8s,comp=Z,8μm						
CNI2	**El Empalme, Bo**	**5.43**	**1**	*e*P	**Pn**	**12 45 15.6**	**+0.3**
PEZE	**Perez Zeledon,**	**5.49**	**349**		**Pn**	**12 45 13.6**	**-2.7**
CUSE	**Cuicocha Este**	**5.55**	**131**	P	**Pn**	**12 45 16.1**	**-1.3**
CUSE				S	**Sn**	**12 46 15.7**	**-5.6**
ZANG	**Zanguenga, Cho**	**5.66**	**29**	*e*P	**Pn**	**12 45 19.3**	**+0.8**
ZANG	**Zanguenga, Cho**	**5.66**	**29**	*e*P	**Pn**	**12 45 19.0**	**+0.5**
PULU	**Pululahua**	**5.67**	**134**		**Pn**	**12 45 17.8**	**-1.1**
BUS1	**Rivas**	**5.67**	**349**	*e*P	**Pn**	**12 45 15.5**	**-3.6**
IMBA	**Imbabura, San**	**5.72**	**130**		**Pn**	**12 45 20.2**	**+0.4**
PTAC	**Punta Ardita,**	**5.73**	**56**	P	**Pn**	**12 45 18.1**	**-1.3**
	comp=Z,133nm,0.9s,comp=Z,4μm						
ARRA3	**Arraijan, Pana**	**5.77**	**30**	*e*P	**Pn**	**12 45 21.5**	**+1.5**
TULM	**Tulcn-Chalpat**	**5.79**	**124**	Pn	**Pn**	**12 45 20.2**	**-0.5**
TULM	**Tulcn-Chalpat**	**5.79**	**124**	P	**Pn**	**12 45 21.3**	**+0.6**
UPA	**Univ. de Panam**	**5.85**	**31**	*e*P	**Pn**	**12 45 21.2**	**+0.1**
UPA				IAMs_20	IAMs_20	12 47 20.3	
	comp=Z,536μm,14.7s						
BCIP	**Isla Barro Col**	**5.86**	**28**	Pn	**Pn**	**12 45 21.6**	**+0.4**
BCIP	**Isla Barro Col**	**5.86**	**28**	ǁ *e*P	**Pn**	**12 45 20.9**	**-0.3**
BCIP				IAMs_20	IAMs_20	12 47 21.2	
	comp=Z,37μm,11.1s						
BCIP	**Isla Barro Col**	**5.86**	**28**	P	**Pn**	**12 45 21.6**	**+0.4**
	comp=Z,896nm,1.0s,comp=Z,8μmcomp=Z,23μm						
BCIP	**Isla Barro Col**	**5.86**	**28**	P	**Pn**	**12 45 21.6**	**+0.4**
ABE2	**Sabana Pablo**	**5.89**	**346**	*e*P	**Pn**	**12 45 18.9**	**-2.9**
LCR2	**La Lucha 2**	**5.91**	**346**		**Pn**	**12 45 19.2**	**-3.0**
GCUF	**Volcan Galeras**	**5.91**	**117**	P	**Pn**	**12 45 22.8**	**+0.4**
FRIJ	**El Hiral**	**5.96**	**29**	*e*P	**Pn**	**12 45 22.7**	**+0.1**
JAMC	**Jamundi, Valle**	**5.96**	**97**	P	**Pn**	**12 45 23.6**	**+0.7**
	comp=Z,138nm,0.7s,comp=Z,3μmcomp=Z,9μm						
REPA	**Paraso**	**5.96**	**348**	*e*P	**Pn**	**12 45 22.1**	**-0.7**
JACO	**JACO, Garabito**	**6.02**	**340**		**Pn**	**12 45 20.8**	**-2.7**
RAFA	**San Farael, Vo**	**6.08**	**349**	*e*P	**Pn**	**12 45 22.5**	**-2.1**
POPC	**Popayan, Colom**	**6.08**	**103**	P	**Pn**	**12 45 25.1**	**+0.6**
	comp=Z,116nm,0.8s,comp=Z,2μmcomp=Z,9μm						
VTCV	**VTCV, Calle Va**	**6.09**	**350**	*e*P	**Pn**	**12 45 22.4**	**-2.2**
VICA	**Volcano Irazu**	**6.11**	**348**	*e*P	**Pn**	**12 45 22.7**	**-2.4**
CVTV	**Tajo**	**6.11**	**349**	*e*P	**Pn**	**12 45 22.8**	**-2.2**
VTLA	**Turrialba Volc**	**6.12**	**349**	*e*P	**Pn**	**12 45 23.6**	**-1.4**
CRUC	**La Cruz**	**6.12**	**113**	P	**Pn**	**12 45 26.4**	**+1.2**
BATAN	**Batan**	**6.15**	**353**		**Pn**	**12 45 24.9**	**-0.2**
LCOCO	**El Coco**	**6.16**	**351**	*e*P	**Pn**	**12 45 24.9**	**-0.5**
CVIMO	**Finca Echandi**	**6.17**	**348**	*e*P	**Pn**	**12 45 23.9**	**-1.8**
HDC	**Heredia**	**6.19**	**346**		**Pn**	**12 45 23.9**	**-2.0**
HDC	**Heredia**	**6.19**	**346**	*e*P	**Pn**	**12 45 22.0**	**-3.8**
SLOR	**San Lorenzo -**	**6.21**	**139**	Pn	**Pn**	**12 45 26.3**	**-0.1**
CHPO	**Chepo, Panama**	**6.23**	**34**	*e*P	**Pn**	**12 45 28.1**	**+1.8**
YOTC	**Yotoco, Valle**	**6.24**	**90**	P	**Pn**	**12 45 27.6**	**+1.0**
	comp=Z,192nm,0.9s,comp=Z,2μmcomp=Z,5μm						
PLMC	**San Jos del P**	**6.37**	**81**	P	**Pn**	**12 45 29.0**	**+0.7**
	comp=Z,738nm,0.6s,comp=Z,12μm						
UPD2	**Meteti**	**6.45**	**45**	ǁ *e*P	**Pn**	**12 45 30.5**	**+1.2**
TOTI	**Torti**	**6.53**	**41**	*e*P	**Pn**	**12 45 31.5**	**+1.1**
CHSH	**Refugio Sur-Vo**	**6.58**	**145**	Pn	**Pn**	**12 45 32.3**	**+0.6**
SOCE	**Pocosol**	**6.69**	**343**		**Pn**	**12 45 31.3**	**-1.3**
JTS	**Las Juntas de**	**6.71**	**340**	Pn	**Pn**	**12 45 31.6**	**-1.3**
JTS	**Las Juntas de**	**6.71**	**340**	Pn	**Pn**	**12 45 30.9**	**-2.0**
	comp=Z,101nm,0.4s,baz=155,slow=4.9,SNR=63						
JTS				Sn	**Sn**	**12 46 50.1**	**+0.9**
	comp=Z,3.0nm,0.3s,baz=281,slow=19,SNR=1.4						
JTS	**Las Juntas de**	**6.71**	**340**	P	**Pn**	**12 45 30.5**	**-2.4**
JTS	**Las Juntas de**	**6.71**	**340**	*ce*P	**Pn**	**12 45 30.7**	**-2.2**
JTS				pmax	pmax		
	comp=Z,44nm,0.8s						
DUNO	**Dulce Nombre,**	**6.72**	**335**		**Pn**	**12 45 31.4**	**-1.7**
ARE1	**Arenal 1**	**6.79**	**342**		**Pn**	**12 45 33.3**	**-0.8**
CEDE	**Laguna Cedeo**	**6.81**	**342**	*e*P	**Pn**	**12 45 33.5**	**-0.9**
COVE	**Coope Vega, Sa**	**6.95**	**345**		**Pn**	**12 45 35.9**	**-0.3**
ORTG	**Ortega, Santa**	**6.96**	**336**	Pn	**Pn**	**12 45 35.3**	**-1.2**
CAPC	**Capurgana**	**6.99**	**48**	P	**Pn**	**12 45 39.4**	**+2.7**
	comp=Z,176nm,1.1s,comp=Z,3μmcomp=Z,19μm						
DBBC	**Dabeiba**	**7.05**	**64**	P	**Pn**	**12 45 39.3**	**+1.6**
COLC	**Colonia**	**7.14**	**339**	*e*P	**Pn**	**12 45 38.3**	**-0.6**
APAC	**Apartado, Choc**	**7.16**	**57**	P	**Pn**	**12 45 43.1**	**+4.1**
	comp=Z,141nm,1.0s,comp=Z,8μmcomp=Z,29μm						
GARC	**Garzon, Huila**	**7.32**	**104**	P	**Pn**	**12 45 43.0**	**+1.5**
	comp=Z,162nm,0.8s,comp=Z,3μmcomp=Z,8μm						
VRLE	**La Escondida,**	**7.32**	**338**	*e*P	**Pn**	**12 45 40.5**	**-0.9**
FLOC	**Florencia**	**7.33**	**109**	P	**Pn**	**12 45 43.3**	**+1.8**
	comp=Z,172nm,1.1s,comp=Z,3μmcomp=Z,21μm						
HZTE	**Horizontes, Gu**	**7.34**	**336**	Pn	**Pn**	**12 45 40.9**	**-0.7**
PRAC	**Prado**	**7.70**	**92**	P	**Pn**	**12 45 50.0**	**+3.4**
	comp=Z,241nm,1.0s,comp=Z,6μm						
ACON	**Acoyapa**	**8.35**	**342**		**Pn**	**12 45 54.9**	**-0.6**
ESPN	**Las Esperanzas**	**8.35**	**349**		**Pn**	**12 45 54.4**	**-1.1**
ZARC	**Zaragoza, Cauc**	**8.47**	**65**	P	**Pn**	**12 46 00.9**	**+3.8**
	comp=Z,179nm,1.3s,comp=Z,3μmcomp=Z,14μm						
PTBC	**PUERTO BERRIO,**	**8.51**	**72**	P	**Pn**	**12 46 01.9**	**+4.3**
	comp=Z,825nm,1.0s,comp=Z,9μm						
SPBC	**San Pablo de B**	**8.67**	**78**	P	Pn	12 46 05.7	+5.8
	comp=Z,161nm,1.2s,comp=Z,2μm						
CHIC	**Chingaza**	**8.87**	**85**	P	Pn	12 46 07.8	+4.8
	comp=Z,193nm,1.1s,comp=Z,2μmcomp=Z,6μm						
VILC	**Villavicencio,**	**8.89**	**89**	P	Pn	12 46 07.9	+4.9
MACC	**Macarena, Meta**	**8.93**	**101**	P	**Pn**	**12 46 06.9**	**+3.5**
	comp=Z,364nm,1.1s,comp=Z,3μmcomp=Z,7μm						
PAYG	**Puerto Ayora**	**8.95**	**239**	Pn	**Pn**	**12 46 05.7**	**+1.9**
CNGN	**Cerro Negro**	**9.40**	**335**	Pn	**Pn**	**12 46 09.0**	**-0.9**
SJCC	**San Jacinto, C**	**9.44**	**51**	P	**Pn**	**12 46 14.7**	**+4.3**
CRIN	**San Cristobal**	**9.73**	**333**	Pn	**Pn**	**12 46 14.1**	**-0.4**
BARC	**Barichara**	**9.74**	**74**	P	**Pn**	**12 46 18.7**	**+4.0**
TGUH	**Tegucigalpa,Un**	**11.04**	**336**	Pn	**Pn**	**12 46 29.4**	**-3.1**
ATAH	**Atahualpa**	**11.79**	**159**	Pn	**Pn**	**12 46 43.5**	**+0.5**
	comp=Z,1.0nm,0.3s,baz=11,slow=2.2,SNR=9.2						
ATAH				Sn	**Sn**	**12 48 56.1**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=98,slow=23,SNR=1.9						
ATAH				LR	LR	12 51 02.8	
	comp=Z,29μm,18.9s,baz=334,slow=36						
	comp=Z,9.1nm,0.8s						
SDV	**Santo Domingo**	**12.86**	**67**	Pn	**Pn**	**12 46 58.4**	**+1.0**
SDV	**Santo Domingo**	**12.86**	**67**	Pn	**Pn**	**12 46 58.2**	**+0.8**
	comp=Z,0.7nm,0.3s,baz=247,slow=11,SNR=22						
SDV				LR	LR	12 51 42.3	
	comp=Z,12μm,21.8s,baz=249,slow=37						
	comp=Z,35nm,1.0s						
SDV	**Santo Domingo**	**12.86**	**67**	*e*P	**Pn**	**12 46 57.9**	**+0.4**
APG	**El Apazote**	**13.43**	**325**	Pn	**Pn**	**12 47 06.2**	**+0.9**
	baz=147,slow=11,SNR=3.6						
APG				LR	LR	12 51 29.3	
	comp=Z,722nm,19.7s,baz=244,slow=34						
MTDJ	**Mount Denham**	**15.02**	**19**	Pn	**Pn**	**12 47 23.9**	**-3.0**
MTDJ	**Mount Denham**	**15.02**	**19**	*e*P	**Pn**	**12 47 23.5**	**-3.3**
TBTG	**Tabatinga, AM**	**15.04**	**122**	Pn	**Pn**	**12 47 26.0**	**-1.1**
TBTG				IAmb	IAmb	12 47 34.5	
	comp=Z,99nm,0.8s						
TBTG	**Tabatinga, AM**	**15.04**	**122**	*e*P	**Pn**	**12 47 25.9**	**-1.2**
CZSB	**Cruzeiro do Su**	**15.24**	**140**		**Pn**	**12 47 27.4**	**-2.3**
CZSB	**Cruzeiro do Su**	**15.24**	**140**	*e*P	**Pn**	**12 47 26.8**	**-2.9**
BAUV	**El Baul**	**15.29**	**70**	Pn	**Pn**	**12 47 27.9**	**-2.5**
NNA	**Nana**	**16.85**	**160**	Pn	**Pn**	**12 47 51.2**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=331,slow=5.9,SNR=10.0						
NNA				Sn	**Sn**	**12 50 54.9**	**-2.6**
	comp=Z,1.4nm,0.3s,baz=112,slow=8.1,SNR=1.6						
NNA				LR	LR	12 53 54.6	
	comp=Z,4μm,18.9s,baz=323,slow=36						
	comp=Z,81nm,1.2s						
NNA	**Nana**	**16.85**	**160**	*de*P	**P**	**12 47 51.7**	**-0.7**
NNA				pmax	pmax		
	comp=Z,177nm,1.4s						
LMGC	**Las Mercedes**	**16.91**	**18**	*e*P	**Pn**	**12 47 47.0**	**-4.2**
LMGC				IAMs_20	IAMs_20	12 53 11.5	
	comp=N,5μm,23.4s						
LMGC				IAMs_20	IAMs_20	12 53 39.0	
	comp=E,2μm,13.3s						
CHIV	**Chivirico**	**17.02**	**20**	*e*P	**Pn**	**12 47 52.3**	**-0.2**
CHIV				*e*S	**S**	**12 51 08.3**	**-3.2**
TEIG	**Tepich**	**17.09**	**342**	LR	LR	12 53 37.8	
	comp=E,27μm,21.0s,slow=34						
MARVS	**Santiago de Cu**	**17.23**	**22**	*e*P	**Pn**	**12 47 53.2**	**-1.9**
MARVS				*e*S	**Sn**	**12 51 06.1**	**-0.6**
RCC	**Rio Carpintero**	**17.30**	**22**	*e*P	**Pn**	**12 47 49.5**	**-6.5**
YAR	**Yar**	**17.41**	**20**	*e*P	**Pn**	**12 47 57.2**	**-0.2**
GTBY	**Guantanamo Bay**	**17.47**	**24**	*e*P	**Pn**	**12 47 54.5**	**-3.6**
PINC	**Pinares de May**	**17.72**	**21**	*e*P	**P**	**12 48 03.4**	**+1.4**
CMIG	**Matias Romero**	**17.76**	**318**	P	**P**	**12 48 02.3**	**-0.2**
	comp=E,0.1nm,0.3s,baz=125,slow=9.6,SNR=15						
CMIG				LR	LR	12 53 34.3	
	comp=E,6μm,21.2s,baz=139,slow=33						
	comp=E,10nm,1.0s						
SABCS	**La Quijada**	**17.78**	**23**	*e*P	**P**	**12 48 02.8**	**+0.1**
QMBU	**Quimbuelo**	**17.84**	**25**	*e*P	**Pn**	**12 47 58.4**	**-4.3**
MASC	**Masc**	**18.07**	**26**	*e*P	Pn	12 47 58.1	-7.4
PCRV	**Puerto La Cruz**	**18.86**	**70**	P	**Pn**	**12 48 15.4**	**+0.1**
	comp=E,0.5nm,0.3s,baz=262,slow=5.6,SNR=11						
PCRV				LR	LR	12 57 03.1	
	comp=E,5μm,18.8s,slow=42						
	comp=E,105nm,1.3s						
TEFE	**Tefe**	**19.43**	**112**	*e*P	**P**	**12 48 21.4**	**+0.5**
PCDR	**Punta Cana, DR**	**20.07**	**43**	P	**P**	**12 48 26.8**	**-1.0**
TLIG	**Tlapa**	**20.68**	**312**	P	**P**	**12 48 34.7**	**+0.1**
PRSN	**Puerto Rico Se**	**20.73**	**46**	P	**P**	**12 48 33.3**	**-1.7**
PRSN				IAmb	IAmb	12 48 42.3	
	comp=Z,168nm,1.4s						
AGPR	**Aguadilla, PR**	**20.92**	**45**	P	**P**	**12 48 35.1**	**-1.9**
OBIP	**Obispado Ponce**	**21.00**	**47**	P	**P**	**12 48 36.7**	**-1.3**
CELP	**Cerrillos**	**21.05**	**47**	P	**P**	**12 48 37.1**	**-1.3**
AOPR	**Arecibo Observ**	**21.09**	**46**	P	**P**	**12 48 37.8**	**-1.2**
ETMB	**Extrema**	**21.30**	**130**	P	**P**	**12 48 40.5**	**-0.8**
ETMB				IAmb	IAmb	12 48 52.0	
	comp=Z,131nm,1.0s						
IGPR	**InterUniversit**	**21.32**	**48**	P	**P**	**12 48 39.2**	**-2.2**
IGPR				IAmb	IAmb	12 48 50.4	
	comp=Z,128nm,1.5s						
EMPR	**Esperanza - Ma**	**21.34**	**46**	P	**P**	**12 48 40.2**	**-1.4**
GCPR	**Guaynabo City**	**21.56**	**47**	P	**P**	**12 48 43.6**	**-0.3**
HUMP	**Col San Antoni**	**21.62**	**48**	P	**P**	**12 48 43.5**	**-1.1**
BOAV	**Boa Vista**	**22.10**	**93**	P	**P**	**12 48 48.9**	**-1.0**
BOAV	**Boa Vista**	**22.10**	**93**	*e*P	**P**	**12 48 51.4**	**+1.5**
MACA	**Manacapuru-AM**	**23.02**	**108**	P	**P**	**12 48 58.1**	**-1.5**
MACA	**Manacapuru-AM**	**23.02**	**108**	*e*P	**P**	**12 49 00.4**	**+0.8**
SAML	**Samuel**	**23.22**	**124**	P	**P**	**12 49 00.2**	**-1.5**
SAML	**Samuel**	**23.22**	**124**	P	**P**	**12 49 00.2**	**-1.5**
SAML				pmax	pmax		
	comp=Z,119nm,1.2s						
SAML	**Samuel**	**23.22**	**124**	*e*P	**P**	**12 49 00.6**	**-1.1**
FDF	**Fort de France**	**23.69**	**62**	P	**P**	**12 49 05.7**	**-0.7**
FDF	**Fort de France**	**23.69**	**62**	P	**P**	**12 49 05.7**	**-0.7**
FDF				pmax	pmax		
	comp=Z,290nm,1.2s						
MPOM	**Morne Pois Mar**	**23.83**	**63**	P	**P**	**12 49 05.5**	**-2.2**
DWPF	**Disney Wildern**	**24.04**	**3**	P	**P**	**12 49 09.4**	**-0.1**
	baz=183						
LPAZ	**La Paz**	**24.69**	**145**	P	**P**	**12 49 16.6**	**+0.3**
LPAZ	**La Paz**	**24.69**	**145**	P	**P**	**12 49 16.7**	**+0.5**
	comp=Z,147nm,1.2s,baz=339,slow=8.4,SNR=70						
LPAZ				LR	LR	13 00 24.3	
	comp=Z,4μm,19.7s,baz=296,slow=40						
LPAZ	**La Paz**	**24.69**	**145**	*e*P	**P**	**12 49 16.5**	**+0.3**
LPAZ	**La Paz**	**24.69**	**145**	*e*P	**P**	**12 49 15.7**	**-0.5**
PB12	**IPOC Station P**	**25.48**	**152**	P	**P**	**12 49 22.1**	**-0.7**
PB16	**IPOC Station P**	**25.64**	**150**	P	**P**	**12 49 25.3**	**+0.5**
PB11	**IPOC Station P

comp=Z,40nm,1.2s
MIAR Mount Ida 32.10 343 P P 12 50 22.0 +0.5
baz=159
MIAR Mount Ida 32.10 343 P P 12 50 21.0 -0.5
MIAR pmax pmax
comp=Z,40nm,1.3s
TXAR Lajitas Array 32.18 324 P P 12 50 22.7 +0.2
TXAR Lajitas Array 32.18 324 P P 12 50 22.6 +0.1
comp=Z,0.8nm,0.7s,baz=142,slow=8.1,SNR=9.3
TXAR PcP **PcP 12 53 11.9 +0.6**
comp=Z,1.1nm,1.0s,baz=131,slow=4.9,SNR=2.9
TXAR LR LR 13 03 04.6
comp=Z,596nm,19.9s,baz=136,slow=36
comp=Z,0.8nm,0.7s
TXAR Lajitas Array 32.18 324 P P 12 50 22.7 +0.2
TX31 Lajitas Ar. Si 32.19 324 P P 12 50 21.5 -1.0
PLPT Palo Pinto 32.25 335 IAmb IAmb 12 50 36.3
comp=Z,17nm,0.8s
U56A King 32.30 3 IAmb IAmb 12 50 48.6
comp=Z,48nm,1.4s
WVT Waverly 32.38 352 P P 12 50 23.7 -0.2
WVT Waverly 32.38 352 P P 12 50 23.8 -0.2
baz=170
WVT Waverly 32.38 352 P P 12 50 23.7 -0.2
WVT pmax pmax
comp=Z,10.0nm,1.1s
TZTN Tazewell 32.44 359 P P 12 50 24.6 +0.1
baz=178
WHAR Wooly Hollow 32.44 345 P P 12 50 24.5 0.0
WHAR IAmb IAmb 12 50 48.1
comp=Z,37nm,1.2s
U49A Red Boiling Sp 32.53 355 IAmb IAmb 12 50 59.0
comp=Z,23nm,1.2s
ABTX Abilene, Hawle 32.68 333 P P 12 50 27.1 +0.4
baz=147
LCAR Lake Charles 32.91 347 P P 12 50 28.2 -0.5
LCAR IAmb IAmb 12 50 49.7
comp=Z,31nm,1.1s
ALPN Alpine 32.94 325 IAmb IAmb 12 50 54.3
comp=Z,39nm,1.1s
T50A Nancy 32.97 357 IAmb IAmb 12 50 38.5
comp=Z,24nm,1.4s
FCAR Ozark Folk Cen 32.97 346 IAmb IAmb 12 50 50.1
comp=Z,24nm,1.2s
SALV Santo Antonio 33.14 127 *eP* **P 12 50 31.2 +0.3**
BLA Blacksburg 33.15 3 P P 12 50 31.1 +0.3
baz=184
T59A Double "B" Far 33.18 7 IAmb IAmb 12 50 41.0
comp=Z,24nm,1.1s
MNHN Monahans 33.19 327 IAmb IAmb 12 50 55.8
comp=Z,45nm,1.4s
LPIG La Paz 33.38 309 LR LR 13 01 05.5
comp=Z,1μm,20.6s,baz=126,slow=31
S51A Beattyville 33.53 359 IAmb IAmb 12 50 49.8
comp=Z,21nm,1.0s
ODSA Odessa 33.69 329 IAmb IAmb 12 50 56.1
comp=Z,31nm,1.0s
PECS Pecos 33.82 326 IAmb IAmb 12 51 19.4
comp=Z,46nm,1.5s
HHAR Hobbs 33.82 343 IAmb IAmb 12 50 48.1
comp=Z,18nm,1.0s
TUL3 Leonard 34.05 341 P P 12 50 38.4 -0.1
baz=156
U38A Gravette 34.10 343 IAmb IAmb 12 50 54.7
comp=Z,28nm,1.1s
WMOK Wichita Mounta 34.11 336 P P 12 50 39.0 -0.2
baz=150
R58B Mineral 34.12 7 IAmb IAmb 12 51 05.0
comp=Z,29nm,1.3s
R50A Paris 34.20 358 IAmb IAmb 12 51 07.5
comp=Z,36nm,1.4s
WCI Wyandotte Cave 34.27 355 P P 12 50 40.7 +0.2
baz=173
CBN Corbin Frederi 34.42 7 P P 12 50 42.0 +0.3
baz=189
FVM French Village 34.61 349 IAmb IAmb 12 51 18.4
comp=Z,54nm,1.7s
CCM Cathedral Cave 34.84 348 P P 12 50 46.3 +0.8
baz=165
CCM Cathedral Cave 34.84 348 P P 12 50 44.2 -1.2
CCM pmax pmax
comp=Z,70nm,1.7s
Q52A Bidwell 34.84 0 IAmb IAmb 12 51 10.5
comp=Z,51nm,1.4s
Q54A Coxs Mills 34.90 2 IAmb IAmb 12 51 04.7
comp=Z,38nm,1.4s
Q51A Peebles 34.91 359 P P 12 50 43.6 -2.4
Q51A IAmb IAmb 12 51 10.6
comp=Z,25nm,0.9s
MNTX Cornudas Mount 34.92 325 P P 12 50 46.7 +0.5
baz=138,SNR=32
SNDB Serra Nova Dou 34.92 117 *eP* **P 12 50 47.2 +0.8**
S39A Bolivar 34.98 345 IAmb IAmb 12 50 53.4
comp=Z,40nm,1.1s
TMAB Tom-Au,PA,Br 35.05 100 *eP* **P 12 50 47.3 -0.3**
BDQN Bodoquena, MS 35.11 135 *eP* **P 12 50 48.9 +1.0**
T35A Sooner Cattle 35.20 340 IAmb IAmb 12 50 59.2
comp=Z,40nm,1.1s
MSTX Muleshoe 35.27 330 IAmb IAmb 12 51 11.4
comp=Z,29nm,0.9s
MSTX Muleshoe 35.27 330 P P 12 50 50.3 +1.0
baz=143,SNR=7.1
P48A Milroy 35.43 356 IAmb IAmb 12 51 05.1
comp=Z,20nm,0.9s
P49A Miami Univ. Ec 35.47 357 P P 12 50 51.5 +0.8
baz=176
AMTX Amarillo 35.49 332 P P 12 50 50.9 -0.3
baz=146
P52A Corning 35.52 1 P P 12 50 51.9 +0.7
baz=181
ELIS Ellis County 35.52 336 IAmb IAmb 12 51 15.6
comp=Z,58nm,1.3s
RVDE Rio Verde (Bra 35.54 131 *eP* **P 12 50 52.6 +0.9**
MCWV Mont Chateau 35.62 4 P P 12 50 51.8 -0.3
baz=185
AQDB Aquidauana 35.88 134 IAmb IAmb 12 50 57.6
comp=Z,29nm,1.0s
AQDB Aquidauana 35.88 134 *eP* **P 12 50 55.7 +1.2**
ACSO Alum Creek Sta 36.11 360 IAmb IAmb 12 51 03.5
comp=Z,40nm,1.1s
ACSO Alum Creek Sta 36.11 360 P P 12 50 56.4 +0.1
baz=179
O53A New Philadelph 36.15 2 P P 12 50 56.0 -0.6
baz=182
ARAG Araguaiana, MT 36.20 123 *eP* **P 12 50 58.4 +1.0**
O48B Farmland 36.21 357 IAmb IAmb 12 51 14.9
comp=Z,34nm,1.1s
O48B Farmland 36.21 357 P P 12 50 56.6 -0.5
baz=176
MVL Millersville 36.32 8 IAmb IAmb 12 51 08.6
comp=Z,27nm,1.2s
P40A Paris 36.43 348 IAmb IAmb 12 51 07.9
comp=Z,37nm,1.4s
SFIN Lafayette 36.48 354 P P 12 50 58.7 -0.8
baz=172
CO02 Combarbal 36.68 163 P P 12 51 02.1 +0.7
SSPA Standing Stone 36.76 6 P P 12 50 59.3 -2.5
SSPA IAmb IAmb 12 51 27.5
comp=Z,41nm,1.3s
SSPA Standing Stone 36.76 6 P P 12 51 02.2 +0.3
baz=188
HDIL Hopedale 36.93 352 P P 12 51 03.8 +0.5
baz=169
121A Cookes Peak, D 36.93 323 P P 12 51 04.9 +1.3
baz=135,SNR=14
SMTB Santa Maria do 37.16 110 *eP* **P 12 51 06.5 +0.8**
KSU1 Kansas State U 37.22 342 IAmb IAmb 12 51 17.9
comp=Z,48nm,1.1s
KSU1 Kansas State U 37.22 342 P P 12 51 05.4 -0.4
baz=156
M53A WI Miller and 37.36 2 P P 12 51 07.6 +0.7
baz=183
H03N2 Juan Fernandez 37.36 175 T T 13 30 36.6
baz=354,slow=76,SNR=216
H03N1 Juan Fernandez 37.36 175 T T 13 30 40.8
baz=354,slow=76,SNR=330
H03N3 Juan Fernandez 37.37 175 T T 13 30 39.5
baz=354,slow=76,SNR=284
M55A Ridgway 37.50 5 IAmb IAmb 12 51 12.0
comp=Z,59nm,1.4s
M57A Sunshine Farm, 37.54 7 P P 12 51 08.2 -0.3
M57A IAmb IAmb 12 51 18.8
comp=Z,53nm,1.1s
Y22D IRIS PASSCAL I 37.55 326 P P 12 51 09.6 +0.8
baz=138
Y22F Passcal Instru 37.55 326 P P 12 51 10.0 +1.2
baz=138

PAL Palisades 37.70 11 P P 12 51 10.4 +0.6
baz=194
ZON Zonda 37.72 160 P P 12 51 09.6 -0.6
ZON IAmb IAmb 12 51 22.0
comp=Z,54nm,1.3s
ZON Zonda 37.72 160 P P 12 51 09.6 -0.6
ZON pmax pmax
comp=Z,54nm,1.3s
N38A Joes South For 37.90 347 P P 12 51 10.4 -1.1
KSPA Keystone Colle 37.93 8 P P 12 51 10.6 -1.2
KSPA IAmb IAmb 12 51 20.3
comp=Z,40nm,1.1s
ANMO Albuquerque 37.94 327 P P 12 51 13.0 +0.8
ANMO IAmb IAmb 12 51 38.0
comp=Z,62nm,1.3s
ANMO Albuquerque 37.94 327 P P 12 51 13.1 +0.9
baz=139
ANMO Albuquerque 37.94 327 *ceP* **P 12 51 12.8 +0.6**
ANMO pmax pmax
comp=Z,29nm,1.1s
CBKS Cedar Bluff 38.04 338 P P 12 51 14.8 +2.0
baz=151
ERPA Erie 38.06 3 P P 12 51 14.2 +1.3
baz=184
AAM Ann Arbor 38.19 359 P P 12 51 14.0 +0.1
baz=178
YLE Yale 38.19 12 P P 12 51 13.6 -0.3
VA03 San Esteban 38.27 163 P P 12 51 14.2 -0.6
L56A Greenwood 38.28 6 P P 12 51 13.3 -1.4
L56A IAmb IAmb 12 51 33.3
comp=Z,54nm,1.4s
L44A Lake County Fo 38.35 354 P P 12 51 15.9 +0.6
baz=171
WVNY West Valley, N 38.45 5 IAmb IAmb 12 51 35.0
comp=Z,65nm,1.4s
BINY Binghamton 38.53 8 IAmb IAmb 12 51 45.3
comp=Z,36nm,1.1s
BINY Binghamton 38.53 8 P P 12 51 17.1 +0.3
baz=190
N35A Tabor 38.57 344 IAmb IAmb 12 51 42.0
comp=Z,36nm,0.9s
PEL Peldehue 38.59 164 P P 12 51 16.5 -1.0
PEL IAmb IAmb 12 51 35.9
comp=Z,51nm,1.1s
PEL Peldehue 38.59 164 P P 12 51 16.5 -1.0
PEL pmax pmax
comp=Z,51nm,1.1s
T25A Trinidad 38.61 332 P P 12 51 19.2 +1.4
baz=144,SNR=34
TUC Tucson 38.64 320 P P 12 51 16.5 -1.5
TUC Tucson 38.64 320 P P 12 51 19.4 +1.4
baz=131
TUC Tucson 38.64 320 P P 12 51 16.5 -1.5
TUC pmax pmax
comp=Z,14nm,1.2s
L59A Walton 38.66 9 IAmb IAmb 12 51 25.9
comp=Z,38nm,1.2s
CPUP Villa Florida 38.80 142 P P 12 51 19.4 +0.1
comp=Z,8.7nm,0.8s,baz=314,slow=9.6,SNR=16
CPUP LR LR 13 08 50.7
comp=Z,2μm,19.8s,baz=326,slow=39
comp=Z,8.7nm,0.8s
M65A Busby, Falmout 38.94 14 P P 12 51 20.4 +0.2
baz=199
SCIA State Center 38.96 347 P P 12 51 21.5 +1.1
baz=163
K57A Scipio Center 38.99 7 IAmb IAmb 12 51 27.9
comp=Z,70nm,1.3s
ROSB Rosrio 39.05 99 *eP* **P 12 51 22.5 +0.9**
MT09 Talagante 39.10 165 IAmb IAmb 12 51 33.6
comp=Z,85nm,1.2s
L61B Northampton 39.34 12 P P 12 51 24.3 +0.8
baz=196
KSCO Kaye Shedlock' 39.35 335 IAmb IAmb 12 51 40.7
comp=Z,36nm,1.1s
KSCO Kaye Shedlock' 39.35 335 P P 12 51 25.2 +1.2
baz=147
JFWS Jewell Farm 39.38 351 P P 12 51 25.1 +1.1
baz=168
BDFB Brasilia 39.38 120 LR LR 13 08 21.8
comp=Z,4μm,18.3s,baz=298,slow=37
LMEL Las Melosas 39.38 164 IAmb IAmb 12 51 36.6
comp=Z,64nm,1.1s
BO04 La Punta 39.41 164 IAmb IAmb 12 51 35.4
comp=Z,50nm,1.1s
ITRB Iturama 39.47 128 *eP* **P 12 51 25.3 +0.3**
SDCO Great Sand Dun 39.62 331 IAmb IAmb 12 51 40.6
comp=Z,35nm,0.9s
SDCO Great Sand Dun 39.62 331 P P 12 51 28.0 +1.7
baz=142,SNR=40
HRV Adam Dziewonsk 39.63 13 P P 12 51 27.2 +1.2
baz=197
BO01 Tunca 39.66 165 P P 12 51 25.3 -1.0
214A Organ Pipe Nat 39.73 318 P P 12 51 26.3 -0.8
214A Organ Pipe Nat 39.73 318 P P 12 51 28.5 +1.4
baz=128
J58A Remsen 39.77 8 P P 12 51 25.3 -1.8
J58A IAmb IAmb 12 51 35.1
comp=Z,43nm,1.2s
L34A Svendsen Farm, 39.80 344 P P 12 51 27.9 +0.5
L34A IAmb IAmb 12 51 52.6
comp=Z,28nm,0.9s
BGNE Belgrade 39.81 342 P P 12 51 27.4 -0.2
baz=155
W18A Petrified Fore 39.90 324 IAmb IAmb 12 51 54.7
comp=Z,56nm,1.2s
W18A Petrified Fore 39.90 324 P P 12 51 30.0 +1.4
baz=135
GO05 Huala 40.04 166 P P 12 51 28.2 -1.3
GO05 IAmb IAmb 12 51 40.0
comp=Z,45nm,1.0s
BO02 Sierra Bellavi 40.12 165 P P 12 51 30.6 +0.4
BO02 IAmb IAmb 12 51 41.2
comp=Z,50nm,1.4s
RPN Rapa Nui 40.27 218 LR LR 13 04 01.8
comp=Z,1μm,18.4s,baz=42,slow=30
IPMB Ipameri, GO 40.32 124 *eP* **P 12 51 31.5 -0.6**
Q24A Divide 40.42 333 IAmb IAmb 12 51 54.7
comp=Z,47nm,1.4s
Q24A Divide 40.42 333 P P 12 51 34.7 +1.6
baz=144,SNR=16
NCB Newcomb 40.53 9 P P 12 51 31.3 -2.2
NCB IAmb IAmb 12 51 36.4
comp=Z,80nm,1.9s
H43A Windswept, Lux 40.60 354 P P 12 51 32.2 -1.8
H43A IAmb IAmb 12 51 43.1
comp=Z,26nm,0.8s
MVCO Mesa Verde 40.73 328 P P 12 51 37.1 +1.6
baz=138,SNR=26
GLMI Grayling 40.74 358 P P 12 51 36.2 +1.1
baz=177
SADO Sadowa 40.76 4 LR LR 13 07 55.3
comp=Z,2μm,21.7s,baz=194,slow=35
OGNE Ogallala 40.76 337 P P 12 51 36.5 +1.0
baz=149
SDBA SAO DESIDERIO 40.84 114 *eP* **P 12 51 37.2 +0.7**
LDASE Londrina, Braz 41.01 133 *eP* **P 12 51 38.3 +0.5**
LONY Lake Ozonia 41.11 9 P P 12 51 39.1 +0.9
baz=192
VT1 Waterbury 41.13 11 IAmb IAmb 12 51 46.2
comp=Z,48nm,1.1s
WUAZ Wupatki 41.14 323 IAmb IAmb 12 51 58.8
comp=Z,33nm,1.1s
WUAZ Wupatki 41.14 323 P P 12 51 40.7 +1.8
baz=133,SNR=14
LBNH Lisbon 41.21 12 P P 12 51 40.5 +1.5
baz=196
ISCO Ido Springs 41.31 333 IAmb IAmb 12 52 03.4
comp=Z,47nm,1.6s
ISCO Idaho Springs 41.31 333 P P 12 51 42.2 +1.9
baz=144,SNR=7.8
WBO Williamsburg 41.38 8 IAmb IAmb 12 51 44.7
comp=Z,77nm,1.8s
SMCO Snowmass 41.45 331 IAmb IAmb 12 52 10.4
comp=Z,45nm,1.2s
ECSD EROS Data Cent 41.51 345 IAmb IAmb 12 52 03.8
comp=Z,48nm,1.6s
ECSD EROS Data Cent 41.51 345 P P 12 51 43.6 +2.1
baz=158
BB19B Bebedouro 41.65 128 *eP* **P 12 51 44.0 +1.0**
CRSM Crissiumal (Br 41.68 140 *eP* **P 12 51 43.6 +0.5**
ITQB Itaqui 41.69 145 P P 12 51 42.8 -0.3
ITQB Itaqui 41.69 145 *eP* **P 12 51 44.2 +1.0**
GLA Glamis 41.75 318 P P 12 51 44.9 +1.1
baz=127
SPMN Marine on St. 42.06 349 IAmb IAmb 12 51 52.4
comp=Z,35nm,1.1s

SPMN Marine on St. 42.06 349 P P 12 51 47.2 +1.2
baz=165
PDMCl Parker Dam,Lak 42.07 320 P P 12 51 48.1 +1.8
baz=129
UNIS Unistalda (Bra 42.16 143 *eP* **P 12 51 48.2 +1.1**
PSAL Palomas, Salto 42.22 147 *eP* **P 12 51 47.9 +0.4**
N23A Red Feather La 42.34 334 IAmb IAmb 12 52 13.2
comp=Z,43nm,1.3s
N23A Red Feather La 42.34 334 P P 12 51 50.1 +1.4
baz=144
SWSC Sam W. Stewart 42.35 317 P P 12 51 49.9 +1.4
baz=126
JANB Januaria 42.37 117 *eP* **P 12 51 49.0 0.0**
IKP In-Ko-Pah, Jac 42.39 316 P P 12 51 50.7 +1.7
baz=125
G62A West of Eustis 42.44 13 IAmb IAmb 12 51 57.5
comp=Z,62nm,1.3s
BC3 Big Chuckawall 42.53 318 P P 12 51 51.2 +1.0
baz=127
IRM Iron Mountain 42.63 319 P P 12 51 52.0 +1.1
baz=128
NEE2 Needles Airpor 42.66 320 P P 12 51 51.5 +0.4
baz=129
TRQ Mont Tremblant 42.68 8 P P 12 51 50.3 -0.8
MONP2 Monument Peak 42.74 316 P P 12 51 51.6 -0.4
baz=125
ITAB Concordia 42.75 138 *eP* **P 12 51 54.3 +2.5**
PKME Peaks-Kenny Pk 42.76 14 P P 12 51 51.6 -0.1
baz=200
O20A White River Ci 42.81 331 P P 12 51 53.2 +0.7
baz=140
PKCU Pink Cliffs 43.01 325 IAmb IAmb 12 52 14.6
comp=Z,48nm,1.0s
RODS Rosario do Sul 43.02 144 *eP* **P 12 51 55.0 +0.9**
KNB Kanab 43.02 324 IAmb IAmb 12 52 10.8
comp=Z,34nm,1.2s
BELC Belle Mtn. Jos 43.10 318 P P 12 51 55.5 +0.6
baz=126
PMD Palm Desert 43.15 317 P P 12 51 54.4 -0.7
TPFO Pinon Flats 43.18 317 P P 12 51 55.8 +0.4
baz=126
PFO Pinyon Flats O 43.18 317 P P 12 51 55.1 -0.4
PFO Pinyon Flats O 43.18 317 P P 12 51 55.9 +0.4
baz=126
PFO Pinyon Flats O 43.18 317 LR LR 13 08 49.4
comp=Z,2μm,18.9s,baz=126,slow=35
PFO Pinyon Flats O 43.18 317 *eP* **P 12 51 53.8 -1.7**
PFO pmax pmax
comp=Z,28nm,1.4s
SRU San Rafael Swe 43.20 328 P P 12 51 55.9 +0.2
SRU IAmb IAmb 12 52 07.3
comp=Z,32nm,0.9s
SRU San Rafael Swe 43.20 328 P P 12 51 55.9 +0.2
SRU pmax pmax
comp=Z,32nm,0.9s
109C Camp Elliot, M 43.21 316 P P 12 51 56.0 +0.4
baz=124
LCMT Little Creek M 43.27 323 IAmb IAmb 12 52 34.0
comp=Z,61nm,2.0s
GMRC Granite Mounta 43.35 319 P P 12 51 57.4 +0.5
baz=128
F33A 5 Mile Ranch, 43.39 346 IAmb IAmb 12 52 02.8
comp=Z,59nm,1.3s
RWWY Rawlins 43.55 333 IAmb IAmb 12 52 13.2
comp=Z,25nm,1.0s
TBOT Tacuaremb 43.60 146 *eP* **P 12 52 00.7 +2.1**
MURC Murrieta 43.68 317 P P 12 51 58.6 -0.8
baz=125
MVU Marysvale 43.69 326 P P 12 51 59.8 +0.1
RDMU Red Mountain 43.80 330 IAmb IAmb 12 52 13.1
comp=Z,27nm,0.9s
BBRC Big Bear Solar 43.87 318 P P 12 52 01.7 +0.5
baz=126
VAO Valinhos 43.91 129 *eP* **P 12 52 02.5 +1.1**
TUQ Turquoise Moun 43.92 320 P P 12 52 01.5 +0.1
baz=128
E62A Clayton Lake 43.99 13 IAmb IAmb 12 52 09.0
comp=Z,25nm,1.1s
K22A Casper 44.02 335 P P 12 52 02.7 +0.5
baz=144
SHPR Sheep Range 44.10 321 P P 12 52 03.3 -0.6
CPSB Cacapava Do Su 44.10 143 *eP* **P 12 52 03.2 +0.4**
VLDQ Val d'Or 44.21 5 P P 12 52 02.1 -1.3
VLDQ IAmb IAmb 12 52 30.4
comp=Z,26nm,1.3s
RSSD Black Hills 44.24 338 P P 12 52 03.1 -0.9
RSSD IAmb IAmb 12 52 19.0
comp=Z,29nm,0.9s
RSSD Black Hills 44.24 338 P P 12 52 04.5 +0.5
baz=148
RSSD Black Hills 44.24 338 P P 12 52 03.1 -0.9
RSSD pmax pmax
comp=Z,29nm,1.0s
SCI2 San Clemente I 44.27 315 P P 12 52 03.6 -0.5
baz=123
DIAM Diamantina, MG 44.28 121 *eP* **P 12 52 04.9 +0.3**
RRX Edison Barstow 44.28 318 P P 12 52 05.0 +0.8
baz=126
BFSC Mount Baldy Ra 44.36 317 P P 12 52 05.6 +0.7
baz=125
BSUT Blindstream Ca 44.38 329 P P 12 52 05.3 0.0
BSUT IAmb IAmb 12 52 13.7
comp=Z,26nm,1.1s
CIS Catalina Islan 44.41 316 P P 12 52 05.1 -0.2
baz=123
GSC Goldstone, Bar 44.41 319 P P 12 52 05.3 0.0
GSC Goldstone, Bar 44.41 319 P P 12 52 05.0 -0.4
baz=127
GSC Goldstone, Bar 44.41 319 P P 12 52 05.3 0.0
GSC pmax pmax
comp=Z,17nm,1.2s
SHOC Shoshone, Teco 44.43 320 P P 12 52 06.2 +0.8
baz=128
EYMN Ely 44.48 351 P P 12 52 06.7 +1.1
baz=167
FMP Fort Macarthur 44.50 316 P P 12 52 06.7 +0.8
baz=124
LMN Caledonia Moun 44.52 18 IAmb IAmb 12 52 14.4
comp=Z,40nm,1.3s
GO06 Curarrehue 44.53 168 IAmb IAmb 12 52 13.0
comp=Z,33nm,1.1s
D62A Allapoint, All 44.53 13 IAmb IAmb 12 52 34.4
comp=Z,30nm,1.3s
PSUT Pine Spring 44.65 325 IAmb IAmb 12 52 44.8
comp=Z,56nm,1.7s
LMQ La Malbaie 44.70 12 IAmb IAmb 12 52 35.8
comp=Z,38nm,1.1s
DECC Green Verdugo 44.83 317 P P 12 52 09.1 +0.5
baz=124
GWY Greenwater Val 44.85 320 P P 12 52 08.4 -0.5
EDW2 Edwards Air Fo 44.95 318 P P 12 52 10.4 +0.7
baz=125
PLTB Pedras Altas 44.98 144 P P 12 52 09.7 -0.1
PLTB Pedras Altas 44.98 144 *eP* **P 12 52 09.9 +0.1**
CTU Camp Tracy 45.00 328 IAmb IAmb 12 52 29.3
comp=Z,28nm,1.1s
LR05 Currie 45.04 169 P P 12 52 10.5 +0.5
LPA La Plata 45.09 151 *eP* **P 12 52 04.1 -6.4**
LRMC Laurel Mtn Rad 45.09 319 P P 12 52 11.2 +0.3
baz=126
SNCC San Nicolas Is 45.11 315 P P 12 52 10.9 +0.1
baz=122
CCAC Calif City Air 45.12 318 IAmb IAmb 12 52 22.3
comp=Z,27nm,0.9s
TCUT Toone Canyon 45.14 329 P P 12 52 10.9 -0.3
FURC Furnace Creek, 45.15 320 P P 12 52 11.3 +0.3
baz=128
S11A Rachel 45.19 322 IAmb IAmb 12 52 49.7
comp=Z,44nm,1.3s
DUG Dugway, Tooele 45.21 327 P P 12 52 12.5 +0.8
baz=135
SPR3 Spring Creek 3 45.24 325 P P 12 52 11.7 -0.4
E28A Huff 45.26 342 IAmb IAmb 12 52 28.2
comp=Z,40nm,1.1s
OSI Osito Audit: C 45.30 317 P P 12 52 12.8 +0.4
baz=124
MPMC Manual Prospec 45.31 319 P P 12 52 12.5 0.0
baz=127
BW06 Boulder Array 45.47 332 P P 12 52 14.3 +0.4
baz=141
PDAR Pinedale Array 45.47 332 P P 12 52 13.0 -0.8
PDAR Pinedale Array 45.47 332 P P 12 52 14.8 +0.9
comp=Z,2.8nm,0.8s,baz=128,slow=9.2,SNR=14
PDAR PcP **PcP 12 53 52.7 0.0**
comp=Z,0.9nm,0.7s,baz=149,slow=3.7,SNR=1.6
PDAR LR LR 13 13 01.6
comp=Z,2μm,18.6s,baz=152,slow=38

R11B **Troy Canyon, C** 45.54 323 P P 12 52 14.8 +0.4
baz=130,SNR=14
Q12A **Willow Creek R** 45.55 324 IAmb IAmb 12 52 53.8
comp=Z,18nm,1.1s
HWUT **Hardware Ranch** 45.58 329 IAmb IAmb 12 52 26.1
comp=Z,26nm,0.8s
SCZ2 **Santa Cruz Isl** 45.59 316 P P 12 52 14.7 +0.1
baz=123
AGMN **Agassiz Nation** 45.62 348 IAmb IAmb 12 52 21.0
comp=Z,32nm,1.2s
AGMN **Agassiz Nation** 45.62 348 P P 12 52 15.1 +0.5
baz=161
LL04 **Puerto Octay** 45.62 169 IAmb IAmb 12 52 25.2
comp=Z,36nm,1.1s
ARVC **Arvin** 45.66 317 P P 12 52 15.0 -0.1
baz=124
GRAC **Grapevine Rang** 45.79 320 IAmb IAmb 12 52 46.1
comp=Z,20nm,0.9s
GRAC **Grapevine Rang** 45.79 320 P P 12 52 16.6 +0.4
baz=127
PLCA **Paso Flores** 45.83 167 P P 12 52 16.1 -0.3
comp=Z,12nm,0.9s,baz=335,slow=7.9,SNR=14
comp=Z,12nm,0.9s
PLCA **Paso Flores** 45.83 167 *e*P P 12 52 16.2 -0.2
BGU **Big Grassy Mou** 45.85 328 IAmb IAmb 12 52 41.6
comp=Z,28nm,1.2s
SBC **Santa Barbara** 45.88 316 P P 12 52 17.2 +0.3
baz=123
CWC **Cottonwood Cre** 45.92 319 P P 12 52 17.1 -0.3
baz=126
TRQA **Tornquist** 45.98 157 P P 12 52 18.3 +0.7
TRQA **Tornquist** 45.98 157 P P 12 52 18.3 +0.7
TRQA pmax pmax
comp=Z,156nm,2.0s
MDND **Maddock** 46.11 344 P P 12 52 19.2 +0.7
baz=156
LCH **Last Change Ra** 46.11 321 IAmb IAmb 12 52 41.0
comp=Z,42nm,2.0s
PKM **Mcpherson Peak** 46.19 316 P P 12 52 19.1 -0.5
baz=123
AHID **Auburn Hatcher** 46.21 331 IAmb IAmb 12 52 44.8
comp=Z,36nm,1.4s
VES **Vestal, Richgr** 46.23 318 P P 12 52 19.6 0.0
baz=125
MZP **Montezuma Peak** 46.23 321 P P 12 52 20.4 +0.4
TIN **Tinemaha, Big** 46.38 320 P P 12 52 21.0 +0.1
baz=127
SMMC **Simmler** 46.55 317 P P 12 52 21.4 -0.8
baz=123
TPAW **Teton Pass** 46.68 332 IAmb IAmb 12 52 35.6
comp=Z,27nm,1.1s
VOG **Valley Oaks Go** 46.70 318 P P 12 52 22.1 -1.3
baz=125
Q09A **Carvers** 46.81 323 IAmb IAmb 12 52 41.2
comp=Z,20nm,0.9s
ELK **Elko** 46.93 326 LR LR 13 11 18.4
comp=Z,2µm,22.0s,baz=138,slow=35
LL01 **San Ignacio de** 47.04 170 IAmb IAmb 12 52 35.6
comp=Z,21nm,1.1s
MLAC **Mammoth, Mammo** 47.11 320 P P 12 52 26.1 -0.6
baz=126
NV11 **Mina Array Sit** 47.16 321 IAmb IAmb 12 52 46.6
comp=Z,18nm,1.1s
RLMT **Red Lodge** 47.19 334 IAmb IAmb 12 52 38.0
comp=Z,15nm,1.1s
RLMT **Red Lodge** 47.19 334 P P 12 52 27.5 +0.3
baz=142
H17A **Grant Village** 47.20 333 P P 12 52 27.2 -0.2
baz=140
LAO **LASA Array** 47.23 338 P P 12 52 26.2 -1.2
baz=147
NVAR **Mina Array Bea** 47.25 321 P P 12 52 28.6 +0.7
NVAR **Mina Array Bea** 47.25 321 P P 12 52 28.4 +0.5
comp=Z,4.1nm,0.8s,baz=139,slow=7.2,SNR=29
NVAR PcP PcP 12 53 59.4 +0.3
comp=Z,0.6nm,0.7s,baz=133,slow=3.8,SNR=0.8
NVAR LR LR 13 12 11.4
comp=Z,2µm,19.1s,baz=126,slow=36
comp=Z,4.1nm,0.8s
MDPB **Devils Postpil** 47.27 320 P P 12 52 28.4 +0.3
MDPB IAmb IAmb 12 52 47.3
comp=Z,20nm,1.0s
ULM **Lac du Bonnet** 47.47 348 P P 12 52 28.4 -0.7
comp=Z,12nm,0.8s,baz=158,slow=8.5,SNR=12
comp=Z,12nm,0.8s
ULM **Lac du Bonnet** 47.47 348 *de*P P 12 52 27.6 -1.5
RYN **Ryan** 47.51 321 P P 12 52 30.5 +0.7
RYN IAmb IAmb 12 52 49.0
comp=Z,17nm,1.1s
YHH **Holmes Hill** 47.63 333 P P 12 52 30.4 -0.4
RCBR **Riachuelo** 47.64 102 LR LR 13 12 23.8
comp=Z,1µm,18.9s,baz=154,slow=36
BMN **Battle Mountai** 47.85 324 IAmb IAmb 12 52 42.9
comp=Z,24nm,1.1s
WAKR **Walker** 48.01 321 IAmb IAmb 12 52 53.3
comp=Z,26nm,1.2s
DGMT **Dagmar** 48.05 341 P P 12 52 33.8 +0.1
baz=150
YERR **Yerington** 48.17 321 IAmb IAmb 12 52 54.2
comp=Z,16nm,1.2s
HLID **Hailey** 48.44 329 P P 12 52 36.8 -0.2
baz=135
BOZ **Bozeman (W)** 48.60 333 IAmb IAmb 12 52 46.2
comp=Z,26nm,1.2s
BOZ **Bozeman (W)** 48.60 333 P P 12 52 37.8 -0.4
baz=140,SNR=29
EMB **Emerald Bay** 48.71 321 IAmb IAmb 12 53 03.4
comp=Z,23nm,1.5s
MPK **Martis Peak** 48.85 321 IAmb IAmb 12 53 07.0
comp=Z,18nm,1.2s
DLMT **Dillon** 48.87 332 P P 12 52 40.6 +0.5
DLMT IAmb IAmb 12 53 01.0
comp=Z,16nm,1.1s
MFID **Camas Ranch** 49.07 328 IAmb IAmb 12 53 06.7
comp=Z,39nm,1.4s
EGMT **Eagleton** 49.70 336 IAmb IAmb 12 53 00.5
comp=Z,28nm,1.1s
EGMT **Eagleton** 49.70 336 P P 12 52 45.8 -0.6
baz=143
ORV **Oroville** 49.93 321 IAmb IAmb 12 53 07.6
comp=Z,42nm,1.4s
COYC **Coyhaique** 50.20 170 P P 12 52 49.8 -0.3
COYC IAmb IAmb 12 52 56.8
comp=Z,23nm,0.9s
PLID **Pearl Lake** 50.32 330 P P 12 52 50.5 -0.9
MSO **Missoula** 50.59 332 P P 12 52 52.7 -0.4
baz=138
K05A **Summer Lake** 51.44 324 IAmb IAmb 12 53 10.4
comp=Z,53nm,1.8s
F10A **Beach Ranch, E** 51.56 330 IAmb IAmb 12 53 20.9
comp=Z,25nm,1.2s
YBH **Yreka Blue Hor** 51.93 322 LR LR 13 15 09.4
comp=Z,1µm,20.5s,baz=148,slow=36
L04D **Klamath Falls** 51.97 323 IAmb IAmb 12 53 32.5
comp=Z,39nm,1.2s
J05D **Fort Rock, OR** 51.98 325 IAmb IAmb 12 53 24.4
comp=Z,68nm,1.8s
G08A **Pilot Rock** 51.99 328 IAmb IAmb 12 53 25.2
comp=Z,69nm,1.9s
SCHQ **Schefferville** 52.31 11 IAmb IAmb 12 53 15.8
comp=Z,27nm,1.1s
SCHQ **Schefferville** 52.31 11 P P 12 53 05.7 -0.1
comp=Z,4.9nm,0.9s,baz=189,slow=6.9,SNR=7.4
comp=Z,4.9nm,0.9s
I04A **Tendick Farm,** 52.97 324 P P 12 53 10.5 -0.5
FFC **Flin Flon** 53.00 346 P P 12 53 10.6 -0.3
FFC IAmb IAmb 12 53 18.4
comp=Z,44nm,1.4s
FFC **Flin Flon** 53.00 346 *e*P P 12 53 10.6 -0.3
DBO **Dodson Butte** 53.06 323 P P 12 53 12.2 +0.6
K02D **Willamette Mer** 53.07 323 IAmb IAmb 12 53 30.2
comp=Z,21nm,1.1s
NEW **Newport** 53.11 332 P P 12 53 12.2 +0.3
baz=135
NEW **Newport** 53.11 332 LR LR 13 16 20.0
comp=Z,1µm,20.9s,baz=132,slow=37
D08A **Wollman Farm,** 53.16 330 IAmb IAmb 12 53 19.7
comp=Z,20nm,1.1s
BUCK **Buck Mountain** 53.54 325 IAmb IAmb 12 53 25.0
comp=Z,23nm,1.1s
FCC **Fort Churchill** 55.39 353 IAmb IAmb 12 53 34.8
comp=Z,28nm,1.2s
GNW **Green Mountain** 55.51 328 IAmb IAmb 12 53 36.5
comp=Z,14nm,1.0s
OZB **Mount Ozzard** 57.77 328 IAmb IAmb 12 53 58.2
comp=Z,16nm,0.9s
FRB **Frobisher Bay** 60.54 7 LR LR 13 19 10.1
comp=Z,1µm,21.3s,baz=197,slow=35
HILA **High Level** 60.67 340 P P 12 54 05.6 +0.3
BBB **Bella Bella** 61.02 330 P P 12 54 09.4 +1.6
BBB IAmb IAmb 12 54 20.2
comp=Z,16nm,0.9s
BBB **Bella Bella** 61.02 330 LR LR 13 21 52.9
comp=Z,367nm,18.5s,baz=142,slow=37
GRNB **Grenville Isla** 62.89 331 P P 12 54 21.0 +0.6
YKA **Yellowknife Ar** 63.03 344 P P 12 54 20.9 -0.2
YKA **Yellowknife Ar** 63.03 344 P P 12 54 20.7 -0.4
comp=Z,4.6nm,0.9s,baz=136,slow=5.9,SNR=67
YKA LR LR 13 22 13.7
comp=Z,436nm,21.0s,baz=148,slow=36
comp=Z,4.6nm,0.9s
YKA **Yellowknife Ar** 63.03 344 *e*P P 12 54 20.9 -0.2
RUBB **Prince Rupert** 63.30 331 P P 12 54 24.1 +1.1
RUBB IAmb IAmb 12 54 36.0
comp=Z,14nm,1.0s
DIB **Dawson Inlet,** 63.80 329 P P 12 54 27.7 +1.3
DIB IAmb IAmb 12 54 35.0
comp=Z,21nm,1.1s
TOAD **Toad River Com** 63.89 337 P P 12 54 27.0 +0.1
baz=131,SNR=16
U35K **Hyder** 64.11 333 P P 12 54 28.0 -0.3
baz=125
KOTAN **Kotaneelee Air** 64.30 338 P P 12 54 30.0 +0.5
baz=133,SNR=6.0
V35K **Ketchikan** 64.52 331 P P 12 54 30.7 -0.3
baz=123
LIRD **Liard River Hi** 64.59 337 P P 12 54 30.8 -0.6
baz=130
T35M **Bob Quinn** 64.83 333 IAmb IAmb 12 54 41.1
comp=Z,13nm,0.9s
T35M **Bob Quinn** 64.83 333 P P 12 54 33.0 -0.1
baz=125,SNR=5.2
CRAG **Craig** 65.32 331 P P 12 54 35.9 -0.3
baz=122
WRAK **Wrangell Islan** 65.46 332 P P 12 54 37.1 0.0
baz=123
DLBC **Dease Lake** 65.58 335 P P 12 54 37.4 -0.6
baz=126,SNR=29
DLBC **Dease Lake** 65.58 335 LR LR 13 25 23.2
comp=Z,922nm,20.6s,baz=112,slow=38
U33K **Whale Pass** 65.66 332 P P 12 54 38.1 -0.3
baz=122
S34M **Telegraph Cree** 65.75 334 IAmb IAmb 12 54 47.4
comp=Z,20nm,1.2s
S34M **Telegraph Cree** 65.75 334 P P 12 54 39.3 +0.3
baz=125
T33K **Petersburg** 65.96 332 P P 12 54 40.1 -0.3
baz=123
WTLY **Watson Lake, Y** 66.09 337 IAmb IAmb 12 54 49.0
comp=Z,23nm,1.2s
WTLY **Watson Lake, Y** 66.09 337 P P 12 54 40.7 -0.5
baz=128,SNR=5.3
WRGLY **Wrigley** 66.24 341 P P 12 54 43.1 +1.0
WRGLY **Wrigley** 66.24 341 P P 12 54 42.4 +0.4
baz=134
R33M **Jennings River** 66.54 335 P P 12 54 44.5 +0.2
R33M IAmb IAmb 12 54 52.4
comp=Z,18nm,1.1s
R33M **Jennings River** 66.54 335 P P 12 54 43.6 -0.7
baz=126
SFJD **Kangerlussuaq** 66.69 13 LR LR 13 22 49.6
comp=Z,606nm,21.2s,baz=216,slow=35
TGTN **Hyland Airport** 66.78 338 P P 12 54 46.2 +0.5
baz=129
S32K **Killisnoo** 67.06 332 P P 12 54 46.6 -0.7
baz=121
SIT **Sitka** 67.19 332 P P 12 54 47.7 -0.5
baz=120
PMOZ **Porto Moniz, M** 67.26 56 *e*LR LR 13 15 33.4
comp=Z,425nm,20.0s
R32K **Eaglecrest** 67.46 333 P P 12 54 50.2 +0.2
baz=122
P33M **Teslin, Yukon** 67.78 336 IAmb IAmb 12 54 60.0
comp=Z,24nm,1.4s
P33M **Teslin, Yukon** 67.78 336 P P 12 54 51.6 -0.4
baz=124
P32M **Atlin** 67.81 335 IAmb IAmb 12 55 00.3
comp=Z,14nm,1.2s
P32M **Atlin** 67.81 335 P P 12 54 52.4 +0.2
baz=123
S31K **Pelican** 68.08 332 P P 12 54 54.0 +0.3
baz=120
R31K **City Hall, Gus** 68.08 333 P P 12 54 54.1 +0.3
baz=121
N32M **Quiet Lake** 68.42 336 P P 12 54 56.2 +0.2
baz=124
SKAG **Skagway** 68.44 334 P P 12 54 56.3 +0.3
baz=121
WHY **Whitehorse** 68.88 335 P P 12 54 58.4 -0.6
baz=122
PLBC **Pleasant Camp** 68.89 334 P P 12 54 58.8 -0.1
baz=120
FARO **Faro, Yukon** 69.13 337 P P 12 55 02.0 +1.7
FARO **Faro, Yukon** 69.13 337 P P 12 55 00.5 +0.1
baz=124,SNR=6.0
PPT **Papeete** 69.41 250 LR LR 13 17 43.0
comp=Z,1µm,21.8s,baz=82,slow=29
O30N **Mendenhall** 69.44 335 P P 12 55 03.2 +0.8
O30N IAmb IAmb 12 55 09.9
comp=Z,9.6nm,0.9s
O30N **Mendenhall** 69.44 335 P P 12 55 01.9 -0.5
baz=121
P30M **Million Dollar** 69.48 334 P P 12 55 02.1 -0.5
baz=120
M31M **Drury Creek, Y** 69.52 337 IAmb IAmb 12 55 22.6
comp=Z,17nm,1.2s
M31M **Drury Creek, Y** 69.52 337 P P 12 55 03.1 +0.3
baz=123
P29M **Windy Craggy** 69.58 334 P P 12 55 03.5 +0.3
baz=119
N31M **Braeburn, Yuko** 69.69 336 P P 12 55 05.5 +1.6
N31M IAmb IAmb 12 55 11.8
comp=Z,16nm,1.0s
N31M **Braeburn, Yuko** 69.69 336 P P 12 55 03.8 -0.1
baz=122,SNR=6.3
HYT **Haines Junctio** 70.07 335 P P 12 55 06.2 -0.2
baz=120
N30M **Aishikik Lake** 70.22 335 P P 12 55 08.4 +1.3
N30M IAmb IAmb 12 55 15.6
comp=Z,16nm,1.1s
N30M **Aishikik Lake** 70.22 335 P P 12 55 07.3 +0.1
baz=120
PNL **Peninsula** 70.34 333 P P 12 55 07.8 -0.1
baz=118
YUK6 **Outpost Mounta** 70.50 335 P P 12 55 09.0 -0.1
baz=119
M30M **Minto, Yukon** 70.67 337 P P 12 55 10.0 +0.1
M30M IAmb IAmb 12 55 17.7
comp=Z,25nm,1.2s
M30M **Minto, Yukon** 70.67 337 P P 12 55 10.0 +0.1
baz=121,SNR=6.8
C36M **Paulatuk** 70.77 346 P P 12 55 09.2 -1.1
C36M **Paulatuk** 70.77 346 P P 12 55 10.3 0.0
baz=136
YUK4 **Talbot Arm** 70.81 335 P P 12 55 10.6 -0.4
baz=119
MAYO **Mayo, Yukon** 70.85 338 P P 12 55 10.8 -0.1
baz=122
RES **Resolute Bay** 71.03 357 P P 12 55 11.5 -0.2
RES IAmb IAmb 12 55 55.1
comp=Z,20nm,1.6s
RES **Resolute Bay** 71.03 357 LR LR 13 25 49.4
comp=Z,758nm,21.1s,baz=160,slow=35
RES **Resolute Bay** 71.03 357 P P 12 55 11.5 -0.2
RES pmax pmax
comp=Z,20nm,1.7s
O28M **Mount Upton** 71.20 334 P P 12 55 12.6 -0.8
baz=117
YUK8 **Steele Glacier** 71.26 335 P P 12 55 13.2 -0.5
baz=118,SNR=5.8
M29M **Somme Creek** 71.27 336 IAmb IAmb 12 55 21.9
comp=Z,23nm,1.1s
M29M **Somme Creek** 71.27 336 P P 12 55 13.3 -0.3
baz=119,SNR=7.9
L29M **L29M** 71.47 337 IAmb IAmb 12 55 22.0
comp=Z,12nm,0.9s
L29M **L29M** 71.47 337 P P 12 55 14.3 -0.4
baz=120,SNR=15
H31M **Peel River** 71.51 340 P P 12 55 15.5 +0.6
H31M IAmb IAmb 12 55 23.7
comp=Z,24nm,1.2s
H31M **Peel River** 71.51 340 P P 12 55 15.4 +0.5
baz=124
J30M **Hart River** 71.54 338 P P 12 55 15.4 +0.3
J30M IAmb IAmb 12 55 23.5
comp=Z,17nm,1.1s
J30M **Hart River** 71.54 338 P P 12 55 15.5 +0.3
baz=122,SNR=22
LOGN **Logan Glacier** 71.58 334 P P 12 55 15.1 -0.5
LOGN IAmb IAmb 12 55 24.1
comp=Z,19nm,1.2s
K29M **Barlow Dome** 71.60 338 P P 12 55 16.5 +0.9
K29M IAmb IAmb 12 55 22.7
comp=Z,14nm,0.9s
K29M **Barlow Dome** 71.60 338 P P 12 55 15.4 -0.2
baz=121,SNR=21
MESA **MESA** 71.72 333 P P 12 55 15.7 -0.7
baz=115
YUK3 **Moose Creek** 71.78 335 P P 12 55 16.4 -0.4
baz=117
CTG **Chitna Glacier** 71.79 334 P P 12 55 16.9 +0.1
baz=116
I30M **Mount Dempster** 71.90 339 P P 12 55 18.3 +0.9
I30M **Mount Dempster** 71.90 339 P P 12 55 18.0 +0.6
baz=122,SNR=32
BARN **Barnard Glacie** 71.97 334 P P 12 55 19.2 +1.2
BARN IAmb IAmb 12 55 54.7
comp=Z,27nm,1.5s
ISLE **Juniper Island** 72.08 333 IAmb IAmb 12 55 30.2
comp=Z,18nm,1.1s
G31M **Satah River** 72.12 341 P P 12 55 18.7 +0.2
G31M **Satah River** 72.12 341 P P 12 55 19.1 +0.6
baz=125,SNR=12
J29N **Klondike Camp** 72.17 338 P P 12 55 19.1 +0.1
baz=120
F31M **Tsiigehtchic** 72.25 342 P P 12 55 19.6 +0.3
F31M **Tsiigehtchic** 72.25 342 P P 12 55 18.8 -0.4
baz=125
DAWY **Dawson** 72.43 337 IAmb IAmb 12 55 27.2
comp=Z,11nm,0.9s
DAWY **Dawson** 72.43 337 P P 12 55 21.4 +0.9
baz=119,SNR=7.5
EPYK **Eagle Plains** 72.63 340 P P 12 55 21.8 +0.2
EPYK IAmb IAmb 12 55 29.1
comp=Z,26nm,1.2s
EPYK **Eagle Plains** 72.63 340 P P 12 55 22.1 +0.5
baz=122
M27K **Edge Creek, AK** 72.64 335 P P 12 55 22.2 +0.3
M27K **Edge Creek, AK** 72.64 335 P P 12 55 21.2 -0.7
baz=116
I29M **Ogilvie Camp,** 72.67 339 P P 12 55 22.7 +0.9
I29M IAmb IAmb 12 55 35.6
comp=Z,26nm,1.1s
I29M **Ogilvie Camp,** 72.67 339 P P 12 55 21.5 -0.3
baz=120,SNR=21
INK **Inuvik** 72.69 342 IAmb IAmb 12 55 29.9
comp=Z,31nm,1.2s
INK **Inuvik** 72.69 342 P P 12 55 22.8 +1.0
baz=126,SNR=24
INK **Inuvik** 72.69 342 LR LR 13 28 46.9
comp=Z,744nm,21.8s,baz=161,slow=37
MCARA **McCarthy VSAT** 72.71 334 P P 12 55 22.3 +0.1
baz=115
KAIM **Kayak Island** 72.75 332 P P 12 55 22.0 -0.3
baz=113
G30M **tAoh Zraii Nji** 72.80 341 IAmb IAmb 12 55 36.9
comp=Z,26nm,1.6s
G30M **tAoh Zraii Nji** 72.80 341 P P 12 55 21.1 -1.4
baz=123
VRDI **Verde Repeater** 72.83 334 IAmb IAmb 12 55 30.6
comp=Z,18nm,1.1s
BCAR **Beaver Creek A** 72.91 336 P P 12 55 23.8 +0.4
L27K **Beaver Creek,** 72.93 336 P P 12 55 24.8 +1.3
L27K IAmb IAmb 12 55 31.7
comp=Z,17nm,1.1s
L27K **Beaver Creek,** 72.93 336 P P 12 55 23.5 +0.1
baz=116,SNR=21
A36M **Sachs Harbour** 72.93 347 P P 12 55 22.8 -0.4
baz=135,SNR=29
F30M **Barrier River** 73.00 341 P P 12 55 23.1 -0.6
baz=123,SNR=9.8
RAGM **Ragged Mountai** 73.05 333 P P 12 55 23.9 -0.3
GLB **Gilahina Butte** 73.08 334 IAmb IAmb 12 55 32.5
comp=Z,20nm,1.1s
H29M **Whitestone** 73.12 339 IAmb IAmb 12 55 32.7
comp=Z,28nm,1.1s
H29M **Whitestone** 73.12 339 P P 12 55 25.0 +0.5
baz=120,SNR=20
M26K **Nabesna, AK** 73.13 335 IAmb IAmb 12 55 38.5
comp=Z,16nm,1.2s
M26K **Nabesna, AK** 73.13 335 P P 12 55 25.7 +1.1
baz=115,SNR=5.5
BMRM **Bremner River** 73.24 333 P P 12 55 25.1 -0.3
baz=113
I28M **Miner Creek** 73.30 338 P P 12 55 26.5 +0.8
I28M IAmb IAmb 12 55 55.5
comp=Z,34nm,1.4s
I28M **Miner Creek** 73.30 338 P P 12 55 25.7 +0.1
baz=119
G29M **Pine Creek** 73.36 340 P P 12 55 26.1 +0.2
baz=121,SNR=21
EGAK **Eagle** 73.44 338 P P 12 55 27.3 +1.0
EGAK IAmb IAmb 12 55 39.9
comp=Z,13nm,1.1s
EGAK **Eagle** 73.44 338 P P 12 55 26.4 +0.1
baz=117,SNR=5.4
K27K **Chicken** 73.46 337 P P 12 55 26.9 +0.4
K27K **Chicken** 73.46 337 P P 12 55 26.7 +0.2
baz=116
Q23K **Middleton Isla** 73.47 331 P P 12 55 26.1 -0.5
baz=111
N25K **Chitina, Valde** 73.49 334 P P 12 55 26.2 -0.6
baz=113
L26K **Log Cabin Wild** 73.54 335 P P 12 55 26.6 -0.5
baz=115,SNR=5.7
EYAK **Cordova Ski Ar** 73.60 333 P P 12 55 27.5 +0.2
baz=112
MENT **Mentasta** 73.66 335 P P 12 55 28.4 +0.7
SUMG **Summit** 73.68 13 P P 12 55 27.6 -0.5
SUMG **Summit** 73.68 13 P P 12 55 27.6 -0.5
SUMG pmax pmax
comp=Z,38nm,1.0s
I27K **Kandik River** 73.99 338 P P 12 55 29.5 -0.1
baz=117,SNR=22
KLU **Klutina** 74.03 334 IAmb IAmb 12 55 44.3
comp=Z,20nm,1.0s
KLU **Klutina** 74.03 334 P P 12 55 29.4 -0.6
baz=112
HARP **HAARP** 74.05 335 P P 12 55 30.1 +0.1
baz=113
E29M **Blow River** 74.09 342 IAmb IAmb 12 55 44.5
comp=Z,21nm,1.4s
E29M **Blow River** 74.09 342 P P 12 55 30.4 +0.3
baz=121,SNR=9.1
P23K **Montague Islan** 74.17 332 P P 12 55 30.7 0.0
baz=110
SCRK **Sand Creek** 74.20 336 P P 12 55 31.4 +0.4
baz=114,SNR=15
J26L **Joseph Creek** 74.25 337 P P 12 55 32.7 +1.5
J26L IAmb IAmb 12 55 45.4
comp=Z,26nm,1.1s
J26L **Joseph Creek** 74.25 337 P P 12 55 31.7 +0.5
baz=115,SNR=20
H27K **Steamboat Moun** 74.25 339 P P 12 55 31.6 +0.4
baz=117
F28M **Old Crow** 74.34 340 P P 12 55 32.4 +0.8
F28M IAmb IAmb 12 55 45.0
comp=Z,15nm,1.1s
F28M **Old Crow** 74.34 340 P P 12 55 32.4 +0.8
baz=119
GLI **Glacier Island** 74.34 333 P P 12 55 31.7 0.0
baz=111
M24K **Tolsona, Glenn** 74.38 334 P P 12 55 33.0 +1.0
M24K **Tolsona, Glenn** 74.38 334 P P 12 55 32.1 +0.1
baz=112,SNR=5.3
PAX **Paxson** 74.40 335 P P 12 55 32.2 0.0
baz=113,SNR=5.4
I26K **Coal Creek Min** 74.44 338 P P 12 55 31.4 -0.8
baz=116
BORG **Borgarnes** 74.48 23 LR LR 13 23 29.5
comp=Z,863nm,21.8s,baz=242,slow=32
PMAFR **Mafra** 74.56 51 *e*S S 13 05 13.9 +5.1
G27K **Doyon Strip** 74.56 339 P P 12 55 33.5 +0.5
G27K **Doyon Strip** 74.56 339 P P 12 55 32.6 -0.3
baz=117,SNR=15
PFVI **Vila Bisbo** 74.69 53 *e*S S 13 05 14.2 +3.9
E28M **Babbage River** 74.72 341 IAmb IAmb 12 55 47.5
comp=Z,18nm,1.1s
E28M **Babbage River** 74.72 341 P P 12 55 34.6 +0.8
baz=126,SNR=7.2
SCM **Sheep Creek Mo** 74.78 334 P P 12 55 34.4 0.0

baz=111
D28M Stokes Point 74.84 342 P P 12 55 34.4 0.0
baz=121
MORF Marmelete 74.85 53 eS sS 13 05 22.7 +4.8
K24K Donnelly Dome 74.85 336 P P 12 55 33.8 -0.9
baz=113
M23K Glacier View 74.94 333 P P 12 55 35.3 +0.1
baz=110,SNR=5.8
J25K Salcha River, 75.01 337 IAmb IAmb 12 55 42.8
comp=Z,14nm,0.9s
J25K Salcha River, 75.01 337 P P 12 55 36.0 +0.4
baz=113,SNR=19
PSBE So Bento 75.01 50 eS S 13 05 17.9 +4.1
PNCL Nicolau / Gran 75.04 52 eS S 13 05 17.4 +3.3
KNK Knik Glacier 75.14 333 IAmb IAmb 12 55 43.4
comp=Z,23nm,0.8s
KNK Knik Glacier 75.14 333 P P 12 55 36.9 +0.5
baz=110,SNR=6.4
SEW Seward 75.18 332 P P 12 55 36.0 -0.5
baz=108
E27K Coleen River 75.19 341 IAmb IAmb 12 55 44.2
comp=Z,18nm,1.1s
E27K Coleen River 75.19 341 P P 12 55 37.9 +1.4
baz=118,SNR=5.9
SML Sawmill 75.22 333 P P 12 55 37.6 +0.7
SML Sawmill 75.22 333 P P 12 55 35.9 -0.9
baz=110
WAT6 Susitna Watana 75.23 334 P P 12 55 37.4 +0.3
baz=110,SNR=28
DHY Denali Highway 75.25 335 P P 12 55 36.6 -0.6
DHY Denali Highway 75.25 335 P P 12 55 37.6 +0.5
baz=111
PCAS Casmilo, Conde 75.30 50 eP P 12 55 39.4 +1.7
comp=Z,64nm,1.6s
PCAS eS S 13 05 19.4 +2.4
PCVE Castro Verde 75.37 52 eP P 12 55 39.8 +1.6
G26K Porcupine Rive 75.38 339 P P 12 55 38.1 +0.5
baz=115
COI Coimbra 75.39 50 eS S 13 05 20.5 +2.6
PMTG Montargil 75.39 51 eP P 12 55 40.6 +2.3
comp=Z,23nm,2.1s
PMTG eS S 13 05 16.4 -1.6
PBDV Barranco-do-Ve 75.42 53 eS sS 13 05 28.6 +4.4
O22K Cooper Landing 75.42 332 P P 12 55 38.7 +0.7
baz=108
PRP Porcupine Dome 75.43 337 P P 12 55 36.6 -1.5
PRP IAmb IAmb 12 55 45.8
comp=Z,19nm,1.4s
PRP Porcupine Dome 75.43 337 P P 12 55 38.2 +0.1
baz=113
GHO Glory Hole Cre 75.47 333 IAmb IAmb 12 55 45.1
comp=Z,20nm,0.8s
D27M Malcolm River 75.48 342 P P 12 55 39.0 +0.7
baz=119
PMR Palmer 75.51 333 P P 12 55 38.1 -0.3
baz=109
HDA Harding Lake 75.56 336 P P 12 55 39.2 +0.5
HDA IAmb IAmb 12 55 45.3
comp=Z,16nm,1.0s
HDA Harding Lake 75.56 336 P P 12 55 38.9 +0.2
baz=112,SNR=17
PVAQ Vaqueiros 75.60 53 eS S 13 05 26.3 +5.9
PVAQ Vaqueiros 75.60 53 eLR LR 13 19 27.7
comp=Z,304nm,22.0s
RC01 Rabbit Creek A 75.62 332 P P 12 55 39.0 -0.2
RC01 IAmb IAmb 12 55 50.9
comp=Z,17nm,1.1s
RC01 Rabbit Creek A 75.62 332 P P 12 55 39.2 +0.1
baz=108
IL03 Eielson Array 75.66 337 P P 12 55 39.5 +0.3
WAT1 Susitna Watana 75.67 334 P P 12 55 40.4 +1.0
baz=110
IL31 75.67 337 P P 12 55 39.2 -0.1
IL31 IAmb IAmb 12 56 02.5
comp=Z,20nm,1.4s
ILAR Eielson Array 75.67 337 P P 12 55 39.9 +0.5
ILAR Eielson Array 75.67 337 P P 12 55 39.3 0.0
comp=Z,1.4nm,0.7s,baz=130,slow=3.6,SNR=17
ILAR LR LR 13 31 24.2
comp=Z,777nm,20.0s,baz=100,slow=38
comp=Z,1.4nm,0.7s
ILAR Eielson Array 75.67 337 P P 12 55 39.9 +0.5
BRSE Bradley Lake S 75.68 331 P P 12 55 39.8 +0.3
baz=107
PGAV Gavieira, Arco 75.72 48 eLR LR 13 19 26.6
comp=Z,365nm,22.0s
FYU Fort Yukon 75.74 339 IAmb IAmb 12 55 54.2
comp=Z,30nm,1.1s
F26K Sheenjek River 75.83 340 P P 12 55 41.4 +1.2
baz=115,SNR=5.4
H25L Birch Creek 75.84 338 P P 12 55 41.4 +1.2
baz=113,SNR=16
PVIS Viseu 75.84 49 eP P 12 55 40.6 -0.3
comp=Z,130nm,0.8s
PESTR Estremoz 75.86 51 eP P 12 55 42.8 +1.8
comp=Z,39nm,2.1s
PESTR eS S 13 05 26.9 +3.6
PESTR Estremoz 75.86 51 P P 12 55 40.5 -0.5
PESTR IAmb IAmb 12 55 54.1
comp=Z,18nm,1.0s
BMAR Burnt Mountain 75.86 339 P P 12 55 41.3 +0.8
POLO Lamas de Olo 76.00 48 eS S 13 05 27.3 +2.4
M22K Willow 76.01 333 P P 12 55 41.4 +0.1
baz=108
POKR Poker Plat Res 76.02 337 P P 12 55 41.1 -0.2
baz=111
PCBR Castelo Branco 76.06 50 eP P 12 55 46.3 +4.3
KDAK Kodiak Island 76.06 329 P P 12 55 41.4 -0.3
baz=105
KDAK Kodiak Island 76.06 329 LR LR 13 29 19.0
comp=Z,441nm,20.4s,baz=117,slow=36
KDAK Kodiak Island 76.06 329⇑ eP P 12 55 41.6 -0.1
KDAK pmax pmax
comp=Z,114nm,1.8s
MTE Manteigas 76.07 49 eP P 12 55 45.1 +2.9
MTE eS S 13 05 29.4 +3.8
MTE Manteigas 76.07 49 eLQ LQ 13 16 20.5
MTE eLR LR 13 19 25.7
comp=Z,658nm,20.0s
PMRV Marv??o 76.08 50 eP P 12 55 41.5 -0.7
comp=Z,25nm,2.2s
PMRV eS S 13 05 28.9 +3.3
PMRV Marv??o 76.08 50 eLR LR 13 19 31.6
comp=Z,417nm,22.0s
COLA College 76.09 336 P P 12 55 42.3 +0.6
baz=111
COLA College 76.09 336⇑ eP P 12 55 43.4 +1.7
COLA pmax pmax
comp=Z,15nm,1.6s
HOM Homer 76.10 331 P P 12 55 42.5 +0.7
baz=106
MCK McKinley 76.14 335 P P 12 55 42.4 +0.4
baz=110
G25K Bearman Lake 76.14 339 P P 12 55 43.0 +1.1
baz=113,SNR=5.9
CAPN Captain Cook N 76.18 332 P P 12 55 42.9 +0.7
baz=107
Q20K Shuyak Island 76.18 330 P P 12 55 43.7 +1.3
baz=105
SUA Susitna One 76.20 333 P P 12 55 43.7 +1.2
baz=108
PBAR Barrancos 76.22 52 eP P 12 55 44.8 +1.8
comp=Z,30nm,2.1s
CUT Chulitna 76.28 334 P P 12 55 43.8 +1.0
baz=108
OHAK Old Harbor 76.29 328 P P 12 55 43.9 +1.0
baz=104
F25K Christian Rive 76.31 339 P P 12 55 43.6 +0.6
baz=114,SNR=5.2
H24K Noodor Dome 76.45 337 IAmb IAmb 12 55 51.6
comp=Z,32nm,1.3s
H24K Noodor Dome 76.45 337 P P 12 55 44.2 +0.4
baz=111,SNR=17
NEA2 Nenana 76.48 336 IAmb IAmb 12 55 57.2
comp=Z,15nm,1.1s
NEA2 Nenana 76.48 336 P P 12 55 45.0 +1.0
baz=110
E25K Arctic Village 76.49 340 P P 12 55 44.8 +0.7
E25K IAmb IAmb 12 55 58.1
comp=Z,19nm,1.3s
E25K Arctic Village 76.49 340 P P 12 55 44.7 +0.7
baz=114
C27K Jago River 76.52 342 P P 12 55 44.9 +0.8
baz=116
MVO Moncorvo 76.55 49 eP P 12 55 49.6 +4.7
MVO eS S 13 05 35.5 +4.7
MVO Moncorvo 76.55 49 eLR LR 13 19 45.4
comp=Z,604nm,22.0s
SII Sitkinak Islan 76.61 327 P P 12 55 44.5 -0.3
baz=103
TRF Thorofare Moun 76.61 335 P P 12 55 45.8 +0.9
TRF IAmb IAmb 12 55 51.6
comp=Z,15nm,0.8s
TRF Thorofare Moun 76.61 335 P P 12 55 45.3 +0.3
baz=108,SNR=6.1
G24K Hadweenzic Riv 76.62 338 P P 12 55 45.4 +0.7
baz=112
O20K Slope Mountain 76.69 331 P P 12 55 44.6 -0.7
baz=105
SKT Skwentna 76.71 333 IAmb IAmb 12 55 52.1
comp=Z,22nm,0.9s
SKT Skwentna 76.71 333 P P 12 55 44.7 -0.7
baz=107,SNR=7.9
I23K Minto, Yukon-K 76.79 336 P P 12 55 45.8 +0.1
baz=110
N20K Mount Spurr 76.80 332 P P 12 55 44.7 -1.2
baz=106
P19K Oil Pt 76.87 331 P P 12 55 46.1 -0.2
baz=105
Q19K Cape Douglas, 76.89 330 P P 12 55 45.6 -0.8
baz=104
KTH Kantishna Hill 76.92 335 IAmb IAmb 12 55 53.5
comp=Z,20nm,1.0s
C26K Camden Bay 77.03 342 P P 12 55 47.3 +0.4
baz=115,SNR=18
F24K Squaw Lake 77.07 339 IAmb IAmb 12 56 01.5
comp=Z,18nm,1.4s
F24K Squaw Lake 77.07 339 P P 12 55 47.1 -0.2
baz=112
H23K Yukon River 77.09 337 P P 12 55 47.4 0.0
baz=110
BPAW Bear Paw Mtn. 77.11 335 P P 12 55 48.3 +0.7
BPAW IAmb IAmb 12 55 54.1
comp=Z,22nm,0.9s
BPAW Bear Paw Mtn. 77.11 335 P P 12 55 46.9 -0.7
baz=108,SNR=19
CHIR Chirikof Islan 77.23 326 P P 12 55 48.3 0.0
baz=102
TIC Toumodi 77.23 84⇑ eP P 12 55 50.1 +0.9
comp=Z,26nm,1.1s
LIC Lamto 77.25 85⇑ eP P 12 55 49.7 +0.4
comp=Z,22nm,0.7s
D25K Kavik River 77.25 341 P P 12 55 48.5 +0.3
baz=113,SNR=18
PPLA Purkeypile 77.27 334 P P 12 55 47.6 -1.0
baz=106
MLY Manley 77.30 336 IAmb IAmb 12 56 01.8
comp=Z,14nm,1.1s
MLY Manley 77.30 336 P P 12 55 47.9 -0.8
baz=108
CAST Castle Rocks 77.38 334 P P 12 55 49.1 +0.1
CAST IAmb IAmb 12 56 01.8
comp=Z,28nm,1.2s
CAST Castle Rocks 77.38 334 P P 12 55 48.7 -0.3
baz=107,SNR=20
DBIC Dimbokro 77.39 84 P P 12 55 49.2 -0.9
DBIC Dimbokro 77.39 84 P P 12 55 50.9 +0.8
comp=Z,10nm,0.9s,baz=264,slow=9.2,SNR=5.8
DBIC LR LR 13 27 57.9
comp=Z,355nm,21.1s,baz=256,slow=34
comp=Z,10nm,0.9s
DBIC Dimbokro 77.39 84 P P 12 55 49.2 -0.9
DBIC pmax pmax
comp=Z,42nm,1.2s
M20K Styx River 77.41 333 P P 12 55 49.8 +0.4
M20K IAmb IAmb 12 55 55.9
comp=Z,14nm,0.9s
M20K Styx River 77.41 333 P P 12 55 48.9 -0.4
baz=105
E24K Your Creek 77.49 339 P P 12 55 49.0 -0.7
baz=111
KIC Kosan Boka 77.52 84⇓ eP P 12 55 51.6 +0.8
comp=Z,20nm,0.7s
O19K Port Alsworth 77.54 331 P P 12 55 49.4 -0.5
baz=104
G23K Bananza Creek 77.57 338 IAmb IAmb 12 55 57.7
comp=Z,14nm,1.0s
G23K Bananza Creek 77.57 338 P P 12 55 49.9 -0.2
baz=109,SNR=19
CHUM Lake Minchumin 77.61 335 P P 12 55 49.1 -1.2
baz=106
N19K Bonanza Creek 77.77 332 IAmb IAmb 12 55 58.3
comp=Z,32nm,1.4s
N19K Bonanza Creek 77.77 332 P P 12 55 50.3 -1.1
baz=104
MDT Midelt 77.78 57 LR LR 13 26 08.6
comp=Z,300nm,20.6s,baz=294,slow=33
P18K Big Mountain, 77.80 330 P P 12 55 50.8 -0.7
baz=103
COLD Coldfoot 77.81 338 P P 12 55 50.8 -0.6
baz=109
H22K Ishtalitna Cre 77.83 337 P P 12 55 50.6 -0.9
baz=108
E23K Chandalar 77.88 339 P P 12 55 51.1 -0.7
baz=110
O18K Koktuh Hills 77.89 330 P P 12 55 52.0 0.0
baz=103
L20K Farewell, AK 77.91 333 P P 12 55 51.6 -0.5
baz=105,SNR=5.5
D24K Happy Valley 77.99 340 P P 12 55 51.3 -1.0
baz=111
M19K Big River Lodg 77.99 333 P P 12 55 51.9 -0.6
baz=104
TOLK Toolik Lake Re 78.06 340 P P 12 55 53.4 +0.5
TOLK Toolik Lake Re 78.06 340 P P 12 55 52.2 -0.7
baz=110
C24K Franklin Bluff 78.16 341 P P 12 55 52.4 -0.8
baz=111
G22K Bettles 78.19 338 P P 12 55 52.2 -1.3
baz=108
K20K Telida 78.22 334 P P 12 55 54.4 +0.7
K20K Telida 78.22 334 P P 12 55 53.1 -0.7
baz=105,SNR=14
L19K White Mountain 78.27 333 P P 12 55 54.3 +0.2
L19K White Mountain 78.27 333 P P 12 55 53.6 -0.5
baz=104,SNR=5.5
H21K Melozitna Rive 78.32 337 P P 12 55 54.8 +0.6
H21K Melozitna Rive 78.32 337 P P 12 55 53.6 -0.6
baz=106
P17K Kvichak River 78.36 330 P P 12 55 53.6 -0.9
baz=102
Q16K King Salmon 78.36 329 P P 12 55 52.9 -1.7
baz=102
N18K Kilae Creek 78.41 331 IAmb IAmb 12 56 01.4
comp=Z,22nm,0.9s
N18K Kilae Creek 78.41 331 P P 12 55 53.6 -1.3
baz=103,SNR=5.2
J20K Nowinta River 78.46 335 IAmb IAmb 12 56 01.5
comp=Z,21nm,1.0s
J20K Nowinta River 78.46 335 P P 12 55 55.2 +0.2
baz=105,SNR=5.4
D23K Nanushuk River 78.56 340 P P 12 55 54.3 -1.2
baz=109
M18K Stony River 78.56 332 P P 12 55 54.7 -0.9
baz=103
F22K John River 78.62 338 P P 12 55 54.9 -1.0
baz=107
R16K Pilot Point 78.63 328 P P 12 55 56.0 0.0
baz=100
E22K Anaktuvuk Pass 78.68 339 P P 12 55 56.2 0.0
baz=108
ESDC Sonseca Array 78.74 50 P P 12 55 57.5 +0.3
ESDC Sonseca Array 78.74 50 P P 12 55 57.5 +0.3
comp=Z,4.6nm,0.8s,baz=270,slow=5.4,SNR=20
ESDC LR LR 13 25 56.4
comp=Z,432nm,21.3s,baz=266,slow=32
comp=Z,4.6nm,0.8s
ESBB Sonseca Array 78.74 50 P P 12 55 57.3 +0.1
ESBB IAmb IAmb 12 56 17.4
comp=Z,22nm,1.4s
I20K Naaghedeneel 78.76 335 P P 12 55 55.8 -0.9
baz=105
O17K Koliganek Bris 78.81 330 P P 12 55 57.1 +0.1
baz=101,SNR=5.9
C23K Itkillik River 78.82 341 P P 12 55 58.1 +1.2
C23K IAmb IAmb 12 56 04.2
comp=Z,28nm,1.3s
C23K Itkillik River 78.82 341 P P 12 55 56.8 -0.1
baz=109,SNR=9.5
G21K Allakaket 78.83 337 P P 12 55 58.0 +1.0
G21K IAmb IAmb 12 56 04.9
comp=Z,37nm,1.5s
G21K Allakaket 78.83 337 P P 12 55 56.5 -0.6
baz=106
CHGN Chignik 78.86 327 P P 12 55 57.0 -0.3
baz=100
N17K Nushagak Hills 79.00 331 P P 12 55 57.5 -0.6
baz=102
F21K Alatna River 79.02 338 IAmb IAmb 12 56 06.0
comp=Z,17nm,1.0s
F21K Alatna River 79.02 338 P P 12 55 57.5 -0.6
baz=106,SNR=7.1
J19K Poorman 79.05 335 P P 12 55 58.0 -0.2
baz=104
H20K Anotleneega Mo 79.11 336 P P 12 55 58.1 -0.5
baz=104,SNR=5.6
P16K Nushagak River 79.11 329 P P 12 55 57.0 -1.7
baz=100
L18K Granite Mounta 79.12 333 P P 12 55 57.1 -1.6
baz=102
D22K Ayikyak River 79.22 340 IAmb IAmb 12 56 12.8
comp=Z,26nm,1.4s
D22K Ayikyak River 79.22 340 P P 12 55 57.9 -1.2
baz=107
O16K Kokwok River B 79.27 330 P P 12 55 58.2 -1.3
baz=100
CHNA Chernabura Isl 79.28 325 P P 12 55 58.1 -1.6
baz=98
M17K Holitna River 79.30 332 IAmb IAmb 12 56 10.5
comp=Z,38nm,1.5s
M17K Holitna River 79.30 332 P P 12 55 59.0 -0.7
baz=101
J18K Innoko River 79.40 334 P P 12 56 00.3 +0.1
J18K Innoko River 79.40 334 P P 12 55 59.2 -1.0
baz=102
S14K Fog Glacier 79.48 326 P P 12 55 59.4 -1.5
baz=99
RAR Rarotonga 79.51 248 LR LR 13 23 04.5
comp=Z,460nm,18.6s,baz=86,slow=30
E21K Killik River 79.54 339 P P 12 56 01.2 +0.3
E21K Killik River 79.54 339 P P 12 55 59.8 -1.1
baz=106
H19K Roundabout Mou 79.75 336 P P 12 56 00.8 -1.2
baz=103
GCSA Galena City Sc 79.75 335 P P 12 56 00.8 -1.2
baz=102
N16K Nishlik Lake 79.76 331 P P 12 56 00.9 -1.4
baz=100
F20K Avaraart Lake 79.82 338 P P 12 56 01.4 -1.0
F20K Avaraart Lake 79.82 338 P P 12 56 01.2 -1.2
baz=104
L17K Donlin 79.84 332 P P 12 56 01.6 -1.0
baz=101
SDPT Sand Point 79.86 325 P P 12 56 02.1 -0.7
baz=98
B22K Teshekpuk Lake 79.89 341 IAmb IAmb 12 56 16.2
comp=Z,26nm,1.1s
B22K Teshekpuk Lake 79.89 341 P P 12 56 01.8 -0.9
baz=107
M16K Timber Creek 79.95 331 P P 12 56 02.2 -1.0
baz=100
K17K Iditarod 79.95 333 P P 12 56 03.8 +0.6
K17K IAmb IAmb 12 56 10.5
comp=Z,28nm,1.1s
K17K Iditarod 79.95 333 P P 12 56 02.9 -0.3
baz=101
C21K Knifeblade Rid 80.02 340 P P 12 56 03.5 0.0
baz=105
O15K Ungalikthiuk R 80.07 329 P P 12 56 03.4 -0.5
baz=99
B21K Ikpikpuk River 80.09 340 P P 12 56 03.3 -0.5
baz=106
G19K Purcell Mounta 80.14 337 P P 12 56 05.6 +1.4
G19K Purcell Mounta 80.14 337 P P 12 56 04.5 +0.3
baz=103
E20K Nigu River 80.29 339 P P 12 56 04.7 -0.3
baz=104,SNR=9.4
L16K Owhat River 80.31 332 IAmb IAmb 12 56 13.2
comp=Z,32nm,1.1s
L16K Owhat River 80.31 332 P P 12 56 04.8 -0.4
baz=100
N15K Kwethluk River 80.36 330 P P 12 56 04.6 -0.9
baz=99
J17K VABM Dome 80.43 334 IAmb IAmb 12 56 13.8
comp=Z,32nm,1.2s
J17K VABM Dome 80.43 334 P P 12 56 05.3 -0.5
baz=100,SNR=5.2
H18K Honhosa River 80.45 335 P P 12 56 06.4 +0.5
baz=101
E19K Redstone River 80.49 338 P P 12 56 05.4 -0.6
baz=103
D20K Etivluk River 80.55 339 P P 12 56 05.9 -0.5
baz=103,SNR=6.1
F19K Shaleruckik Mo 80.56 337 P P 12 56 05.5 -0.9
baz=102
A22K Sinclair Lake 80.58 342 P P 12 56 05.8 -0.6
baz=105
G18K Tagagawik 80.72 336 IAmb IAmb 12 56 21.1
comp=Z,22nm,1.2s
G18K Tagagawik 80.72 336 P P 12 56 06.3 -1.0
baz=101
M15K Kasigluk River 80.73 331 P P 12 56 06.4 -1.0
baz=98
EKA Eskdalemuir Ar 80.75 35 P P 12 56 07.3 -0.3
comp=Z,0.8nm,0.6s,baz=260,slow=5.0,SNR=5.7
comp=Z,0.8nm,0.6s
S12K Black Hills 80.80 326 P P 12 56 07.0 -0.9
baz=96
O14K Tigyukauivet M 80.81 329 P P 12 56 06.9 -1.0
baz=98
D19K Kuna River 81.04 339 P P 12 56 09.0 0.0
D19K Kuna River 81.04 339 P P 12 56 08.3 -0.7
baz=102
B20K Meade River 81.04 340 P P 12 56 07.9 -1.0
baz=103
H17K Granite Mounta 81.06 335 P P 12 56 08.4 -0.7
baz=100
J16K Anvik River 81.09 333 P P 12 56 07.8 -1.5
J16K IAmb IAmb 12 56 17.6
comp=Z,26nm,1.4s
J16K Anvik River 81.09 333 P P 12 56 08.3 -1.0
baz=99
N14K Kuskokwak Cree 81.12 330 P P 12 56 08.5 -1.0
baz=97
JMIC Jan Mayen 81.12 19 LR LR 13 29 02.7
comp=Z,208nm,21.8s,baz=268,slow=33
A21K Barrow 81.17 342 P P 12 56 09.0 -0.6
baz=104
I17K Unalakleet 81.22 334 P P 12 56 09.3 -0.7
baz=99
F18K Selawik 81.25 337 P P 12 56 08.8 -1.2
baz=100
L15K Ungalak Mounta 81.26 332 P P 12 56 10.1 -0.1
baz=98
M14K Bethel 81.36 331 IAmb IAmb 12 56 18.7
comp=Z,30nm,1.1s
M14K Bethel 81.36 331 P P 12 56 10.7 0.0
baz=97
K15K Wolf Creek Mou 81.36 332 P P 12 56 10.4 -0.4
baz=98
G17K Kiwalik Mounta 81.46 336 P P 12 56 10.9 -0.4
baz=99
FALS False Pass 81.49 325 P P 12 56 10.0 -1.5
baz=95
C19K Lookout Ridge 81.68 339 IAmb IAmb 12 56 33.1
comp=Z,23nm,1.3s
C19K Lookout Ridge 81.68 339 P P 12 56 12.3 -0.1
baz=101
E18K Tukpahlearik C 81.76 338 P P 12 56 13.0 +0.3
baz=100
L14K Kuka Creek 81.78 331 P P 12 56 12.2 -0.7
baz=97
F17K Baldwin Pennin 81.85 337 P P 12 56 13.2 0.0
baz=99
H16K Elim 82.00 335 P P 12 56 13.4 -0.7
baz=98
M13K Dall Lake 82.00 330 P P 12 56 13.4 -0.7
baz=96
G16K Koyuk River 82.15 335 P P 12 56 14.5 -0.4
baz=98
E17K Hotham Inlet 82.17 337 P P 12 56 14.6 -0.4
baz=98
C18K Utukok River 82.18 339 P P 12 56 14.3 -0.8
baz=99
J14K Nanvaranak Lak 82.35 333 P P 12 56 14.2 -1.7
J14K Nanvaranak Lak 82.35 333 P P 12 56 15.2 -0.7
baz=96
A19K Wainwright 82.39 340 P P 12 56 15.4 -0.6
baz=99
B18K Kokolik River 82.51 339 P P 12 56 15.7 -1.0
baz=99
RDOG Red Dog Mine 82.72 338 P P 12 56 17.1 -0.7
baz=97

D17K	**Noatak River**	**82.74**	**338**	P		**P**		**12 56 17.5**	**-0.4**
	baz=97								
K13K	**Kusilvak Mount**	**82.78**	**332**	P		**P**		**12 56 17.2**	**-1.0**
	baz=95								
CEST	**Esterri de Car**	**82.81**	**48**	P		**P**		**12 56 18.7**	**-0.3**
CEST				IAmb		IAmb		12 56 30.9	
	comp=Z,9.7nm,0.9s								
C17K	**DeLong Mountai**	**82.88**	**338**	P		**P**		**12 56 18.8**	**+0.2**
	baz=97								
F15K	**North Star Dit**	**83.13**	**336**	P		**P**		**12 56 19.8**	**-0.2**
	baz=96								
UNV	**Unalaska Valle**	**83.22**	**324**	P		**P**		**12 56 20.4**	**-0.2**
	baz=92								
ANM	**Nome**	**83.33**	**334**	P		**P**		**12 56 21.2**	**+0.2**
	baz=95								
M11K	**Mekoryuk**	**83.41**	**330**	P		**P**		**12 56 21.2**	**-0.2**
	baz=94								
TORD	**Torodi Ar. Bea**	**83.57**	**77**	P		**P**		**12 56 23.4**	**+0.1**
	comp=Z,1.3nm,0.7s,baz=291,slow=4.0,SNR=6.9								
TORD				LR		LR		13 33 33.7	
	comp=Z,346nm,19.2s,baz=267,slow=36								
	comp=Z,1.3nm,0.7s								
C16K	**Lisburne Hills**	**83.65**	**338**	P		**P**		**12 56 22.3**	**-0.3**
	baz=95								
F14K	**Arctic Creek**	**83.81**	**335**	P		**P**		**12 56 23.0**	**-0.5**
	baz=94								
TNA	**Tin City**	**84.48**	**335**	P		**P**		**12 56 26.7**	**-0.1**
	baz=92								
P08K	**Saint George I**	**85.03**	**326**	P		**P**		**12 56 29.3**	**-0.5**
	baz=90								
BNI	**Bardonecchia**	**86.72**	**45**	IAmb		IAmb		12 56 57.3	
	comp=Z,21nm,1.4s								
ECH	**Echery**	**86.92**	**42**	P		**P**		**12 56 37.8**	**-1.6**
ECH				IAmb		IAmb		12 56 52.1	
	comp=Z,22nm,1.2s								
ECH	**Echery**	**86.92**	**42**	P		**P**		**12 56 37.8**	**-1.6**
ECH				pmax		pmax			
	comp=Z,22nm,1.2s								
SENIN	**Lac Senin/Sane**	**87.10**	**44**	P		**P**		**12 56 39.0**	**-1.5**
SPITS	**Spitsbergen Ar**	**87.99**	**12**	LR		LR		13 35 25.4	
	comp=Z,341nm,21.4s,baz=248,slow=35								
VNA3	**Neumayer Olymp**	**88.29**	**162**	⇑P		**P**		**12 56 45.1**	**-0.4**
	comp=Z,8.8nm,0.9s								
NOA	**NORSAR Array B**	**88.42**	**29**	P		**P**		**12 56 45.6**	**-0.7**
	comp=Z,0.4nm,0.7s,baz=268,slow=4.6,SNR=1.8								
NOA				LR		LR		13 32 29.8	
	comp=Z,428nm,20.8s,baz=265,slow=33								
	comp=Z,0.4nm,0.7s								
VNA1	**Neumayer--Stat**	**88.56**	**161**	P		**P**		**12 56 47.4**	**+0.7**
	comp=Z,9.3nm,0.9s								
DAVA	**Damuels**	**88.81**	**43**	*e*PcP		**PcP**		**12 56 49.8**	**-0.4**
	comp=Z,8.7nm,1.2s								
DAVOX	**Davos/Dischmat**	**88.85**	**43**	P		**P**		**12 56 48.6**	**-0.2**
	comp=Z,1.1nm,0.4s,baz=261,slow=6.6,SNR=4.0								
DAVOX				LR		LR		13 31 51.2	
	comp=Z,448nm,20.7s,baz=258,slow=32								
	comp=Z,1.1nm,0.4s								
VNA2	**Neumayer--Watz**	**88.91**	**161**	P		**P**		**12 56 48.2**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=287,slow=1.6								
RETA	**Reutte**	**89.39**	**43**	*e*PcP		**PcP**		**12 56 52.6**	**-0.1**
	comp=Z,4.4nm,0.8s								
FETA	**Feichten**	**89.41**	**43**	*e*PcP		**PcP**		**12 56 52.7**	**-0.1**
	comp=Z,8.2nm,1.2s								
HFS	**Hagfors**	**89.74**	**30**	LR		LR		13 31 08.4	
	comp=Z,338nm,21.3s,baz=275,slow=32								
WTTA	**Wattenberg**	**90.00**	**43**	*e*PcP		**P**		**12 56 54.5**	**+0.2**
	comp=Z,5.0nm,1.3s								
NKC	**Novy Kostel**	**90.22**	**40**	AMS		AMS		13 30 30.0	
	comp=Z,1μm,22.0s								
CLL	**Collm**	**90.45**	**39**	*e*P		**P**		**12 56 57.0**	**+1.0**
CLL				*e*				12 57 03.0	
SNAA	**Sanae**	**90.51**	**162**⇑	*e*P		**P**		**12 56 56.0**	**+0.1**
SNAA				pmax		pmax			
	comp=Z,15nm,1.6s								
ABTA	**Abfaltersbach**	**90.65**	**43**	*e*pP		pP		12 56 59.2	-1.6
	comp=Z,4.8nm,1.5s								
LESA	**Schwarzleotal**	**90.69**	**43**	*e*pP		**P**		**12 56 59.0**	**+1.6**
	comp=Z,5.2nm,1.1s								
HSKC	**Hora Svate Kat**	**90.80**	**39**	AMS		AMS		13 30 40.0	
	comp=Z,900nm,23.2s								
KHC	**Kasperske Hory**	**91.08**	**41**	*e*SKS		**SKSac**		**13 07 24.4**	**-6.6**
KHC				AMS		AMS		13 33 00.0	
	comp=Z,600nm,19.5s								
KHC	**Kasperske Hory**	**91.08**	**41**⇑	*e*P		**P**		**12 57 00.0**	**+0.9**
KHC				pmax		pmax			
	comp=Z,17nm,1.6s								
KBA	**Koelnbreinsper**	**91.18**	**43**	*e*pP		pP		12 57 01.9	-1.4
	comp=Z,8.2nm,1.3s								
GERES	**GERESS Array B**	**91.20**	**41**	P		**P**		**12 57 00.8**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=283,slow=4.9,SNR=2.0								
GERES				LR		LR		13 33 02.7	
	comp=Z,500nm,20.5s,baz=269,slow=32								
	comp=Z,0.3nm,0.4s								
BIOA	**Bad Ischl, Aus**	**91.30**	**42**	*e*pP		pP		12 57 03.3	-0.4
	comp=Z,7.1nm,1.1s								
ZVC	**Zvikov**	**91.44**	**40**	AMS		AMS		13 30 40.0	
	comp=Z,500nm,23.2s								
PRA	**Prague**	**91.51**	**40**	AMS		AMS		13 31 00.0	
	comp=Z,1μm,23.4s								
PVCC	**Panska Ves**	**91.53**	**39**	AMS		AMS		13 31 10.0	
	comp=Z,800nm,22.8s								
PRU	**Pruhonice**	**91.59**	**40**	AMS		AMS		13 31 10.0	
	comp=Z,1μm,22.6s								
CKRC	**Cesky Krumlov**	**91.60**	**41**	*e*SKS		**SKSac**		**13 07 34.4**	**+0.5**
CKRC				AMS		AMS		13 33 00.0	
	comp=Z,600nm,22.1s								
MOA	**Molln**	**91.70**	**42**	*e*pP		pP		12 57 05.1	-0.4
	comp=Z,8.0nm,1.6s								
GOPC	**GO Pecny, Ondr**	**91.75**	**40**	AMS		AMS		13 30 50.0	
	comp=Z,1μm,22.4s								
TROLL	**Troll, Antarti**	**92.23**	**162**	P		**P**		**12 57 04.2**	**+0.3**
	comp=Z,175nm,0.9s								
UPC	**Upice**	**92.44**	**39**	*e*SKS		**SKSac**		**13 07 38.8**	**+0.3**
UPC				AMS		AMS		13 31 30.0	
	comp=Z,800nm,20.7s								
CHVC	**Chvalec**	**92.46**	**39**	AMS		AMS		13 31 20.0	
	comp=Z,700nm,23.1s								
OSTC	**Ostas**	**92.56**	**39**	AMS		AMS		13 31 50.0	
	comp=Z,800nm,24.0s								
ARCES	**ARCESS Array B**	**92.57**	**20**	LR		LR		13 33 34.2	
	comp=Z,419nm,21.4s,baz=285,slow=32								
DPC	**Dobruska-Polom**	**92.67**	**39**	AMS		AMS		13 31 40.0	
	comp=Z,800nm,23.9s								
CONA	**Conrad Observa**	**92.75**	**42**	*e*pP		**P**		**12 57 08.4**	**+1.5**
	comp=Z,11nm,1.9s								
KRUC	**Moravsky**	**92.92**	**41**	*e*P		**P**		**12 57 09.0**	**+1.5**
KRLC	**Kraliky**	**93.00**	**40**	AMS		AMS		13 31 50.0	
	comp=Z,800nm,22.4s								
VRAC	**Vranov**	**93.01**	**40**	*e*P		**P**		**12 57 08.3**	**+0.3**
VRAC	**Vranov**	**93.01**	**40**	LR		LR		13 32 59.0	
	comp=Z,615nm,22.0s,slow=32								
RONA	**Rosalia, Austr**	**93.08**	**42**	*e*pP		pP		12 57 10.4	-1.5
	comp=Z,3.9nm,1.0s								
VAE	**Valguarnera**	**93.17**	**52**	LR		LR		13 39 21.3	
	comp=Z,451nm,18.1s,baz=322,slow=36								
MORC	**Moravsky Berou**	**93.54**	**40**	*e*P		**P**		**12 57 11.3**	**+0.9**
JAVC	**Velka Javorina**	**93.78**	**41**	*e*P		**P**		**12 57 12.5**	**+0.9**
OKC	**Ostrava-Krasne**	**93.91**	**40**	AMS		AMS		13 32 30.0	
	comp=Z,900nm,21.9s								
QSPA	**South Pole Qui**	**93.98**	**180**	P		**P**		**12 57 12.6**	**+0.5**
QSPA	**South Pole Qui**	**93.98**	**180**	P		**P**		**12 57 12.1**	**0.0**
	comp=Z,3.0nm,0.7s,baz=143,slow=1.0,SNR=20								
	comp=Z,3.0nm,0.7s								
BILL	**Bilibino**	**94.11**	**339**	P		**P**		**12 57 13.8**	**+1.2**
BILL				IAmb		IAmb		12 57 26.2	
	comp=Z,18nm,1.5s								
BILL	**Bilibino**	**94.11**	**339**	*e*P		**P**		**12 57 13.4**	**+0.8**
SHEM	**Shemya Is, Ala**	**94.88**	**324**	LR		LR		13 38 56.2	
	comp=Z,72nm,19.9s,baz=122,slow=35								
NVL	**N'lazarevskaya**	**95.18**	**161**	*e*P		P		12 57 25.5	+8.1
NVL				pmax		pmax			
	comp=Z,11nm,0.9s								
NVL				MLR		MLR			
	comp=Z,586nm,21.0s								
FINES	**FINESS Array B**	**95.36**	**27**	LR		LR		13 35 58.5	
	comp=Z,578nm,21.5s,baz=279,slow=33								
APA	**Apatity**	**96.00**	**20**⇓	*i*P		P		12 57 14.2	-7.0
APA				pmax		pmax			
	comp=Z,7.0nm,1.2s								
RAO	**Raoul Island**	**96.55**	**241**	LR		LR		13 30 31.0	
	comp=Z,429nm,20.8s,baz=111,slow=29								
VSU	**Vasula**	**96.62**	**30**⇑	*e*P		**P**		**12 57 22.8**	**-1.4**
VSU				pmax		pmax			
	comp=Z,9.0nm,1.2s								
VNDA	**Vanda**	**99.24**	**191**	LR		LR		13 34 21.3	
	comp=Z,387nm,19.6s,baz=114,slow=30								
TIXI	**Tiksi**	**101.80**	**350**⇑	*e*P		**Pdif**		**12 57 45.8**	**-1.3**
TIXI				pmax		pmax			
	comp=Z,4.0nm,1.1s								
BVAR	**Borovoye Array**	**118.83**	**18**	PKP		**PKiKP**		**13 02 44.5**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=321,slow=3.7,SNR=1.9								
HEH	**HeiHe**	**120.13**	**338**	PKP		**PKiKP**		**13 02 46.0**	**+0.6**
HEH				sPKP				13 02 51.6	
HEH				PP		**PP**		**13 04 14.4**	**+5.0**
HEH				AMB		AMB			
	comp=Z,140nm,5.3s								
HEH				LR		LR			
	comp=Z,110nm,19.1s								
HEH				LR		LR			
	comp=Z,440nm,19.5s								
HEH				LR		LR			
	comp=Z,690nm,18.8s								
ZALV	**Zalesovo Beam**	**121.35**	**9**	PKP		**PKPdf**		**13 02 46.6**	**-0.9**
	comp=Z,0.5nm,0.4s,baz=320,slow=4.3,SNR=4.1								
KURK	**Kurchatov**	**123.20**	**14***d*	*i*PKiKP		**PKiKP**		**13 02 51.7**	**+0.3**
KURBB	**Kurchatov Arra**	**123.26**	**14**	PKP		**PKPdf**		**13 02 50.9**	**-0.4**
	comp=Z,1.6nm,0.8s,baz=328,slow=2.3,SNR=11								
MDJ	**Mudanjiang**	**123.71**	**333**	PKP		**PKPdf**		**13 02 50.6**	**-1.8**
MK31	**Makanchi Array**	**127.73**	**13**⇑	*i*PKiKP		**PKPdf**		**13 03 00.1**	**0.0**
MKAR	**Makanchi Array**	**127.73**	**13**	PKPdf		**PKPdf**		**13 03 00.3**	**+0.2**
MKAR	**Makanchi Array**	**127.73**	**13**	PKP		**PKPdf**		**13 02 59.9**	**-0.2**
	comp=Z,1.0nm,0.9s,baz=337,slow=2.2,SNR=5.6								
SONM	**Songino Array**	**127.82**	**352**	PKP		**PKPdf**		**13 02 59.7**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=5.2,slow=1.6,SNR=3.6								
WMQ	**Urumqi**	**131.64**	**9**	*e*PKP		**PKiKP**		**13 03 08.4**	**-0.3**
WMQ				LR		LR			
	comp=Z,410nm,24.1s								
WMQ				LR		LR			
	comp=Z,290nm,19.3s								
WMQ				LR		LR			
	comp=Z,390nm,22.1s								
HHC	**Hu-ho-hao-te**	**133.56**	**345**	*e*PKP		**PKPdf**		**13 03 07.3**	**-4.1**
HHC				LR		LR			
	comp=Z,270nm,16.8s								
HHC				LR		LR			
	comp=Z,140nm,17.2s								
HHC				LR		LR			
	comp=Z,450nm,18.3s								
HNS	**HongShan**	**135.81**	**340**	*e*PKP		**PKPdf**		**13 03 16.1**	**+0.5**
HNS				SS		SS		13 23 56.1	+6.2
HNS				LR		LR			
	comp=Z,420nm,22.3s								
HNS				LR		LR			
	comp=Z,230nm,18.3s								
HNS				LR		LR			
	comp=Z,560nm,22.1s								
NJ2	**Nanjing**	**138.78**	**332**	*e*PKP		**PKPdf**		**13 03 20.6**	**-0.6**
ASAR	**Alice Springs**	**139.69**	**237**	PKhKP		PKPpre		13 03 13.6	
	comp=Z,0.7nm,0.7s,baz=111,slow=2.6,SNR=7.5								
WRA	**Warramunga Arr**	**140.66**	**243**	PKhKP		PKPpre		13 03 17.6	
	comp=Z,1.0nm,0.6s,baz=106,slow=2.7,SNR=13								
WHN	**Wuhan**	**142.06**	**336**	PKP		**PKiKP**		**13 03 29.8**	**-0.3**
CNSH	**ChangSha**	**144.72**	**336**	⇑PKP		**PKiKP**		**13 03 34.3**	**-1.4**
CD2	**Chengdu**	**144.80**	**350**	PKP		**PKiKP**		**13 03 34.3**	**-1.5**
H01W1	**Cape Leeuwin H**	**145.52**	**205**	T		T		15 46 29.5	
	baz=151,slow=76,SNR=23								
H01W2	**Cape Leeuwin H**	**145.52**	**205**	T		T		15 46 33.1	
	baz=151,slow=76,SNR=18								
H01W3	**Cape Leeuwin H**	**145.53**	**205**	T		T		15 46 51.8	
	baz=151,slow=76,SNR=19								
GYA	**Guiyang**	**148.46**	**344**	*e*PKPbc		**PKiKP**		**13 03 44.1**	**+0.5**
PZH	**PanZhiHua**	**149.43**	**352**	PKPbc		**PKPdf**		**13 03 39.0**	**-1.0**
PZH				PKPab		**pPKPbc**		**13 03 47.1**	**-0.9**
PZH				AMB		AMB			
	comp=Z,100nm,6.9s								
PZH				LR		LR			
	comp=Z,200nm,21.6s								
PZH				LR		LR			
	comp=Z,180nm,21.8s								
PZH				LR		LR			
	comp=Z,250nm,23.1s								
TNCH	**TengChong**	**151.16**	**358**	PKPbc		**PKPdf**		**13 03 40.3**	**-2.6**
TNCH				PKPab		**PKPab**		**13 03 55.8**	**-0.5**
TNCH				PP		**PP**		**13 07 27.3**	**+2.4**
TNCH				SS		SS		13 26 44.6	-2.2
TNCH				AMB		AMB			
	comp=Z,110nm,4.8s								
TNCH				LR		LR			
	comp=Z,140nm,20.3s								
TNCH				LR		LR			
	comp=Z,140nm,19.6s								
TNCH				LR		LR			
	comp=Z,370nm,19.3s								
CMAR	**Chiang Mai Arr**	**157.67**	**356**	PKP		**PKPdf**		**13 03 51.4**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=341,slow=1.9,SNR=4.4								
CMAR				PKPab		**PKPab**		**13 04 24.1**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=54,slow=14,SNR=1.8								

*IDC **18** 13:36:02.8±3.3, 6°.73N×72°.94W, h164km±29km, mb3.3/5, mbtmp3.8/7, Error ellipse: s-maj=34.1km s-min=26.8km az=49.0*
*RSNC **18** 13:36:05.5±0.0, 7°.N±1°×7°.3W±°, h144km±4km, M4.2, mb4.3, mB5.0, ML3.7, Mw(mB)4.3*
ISC 18 13:36:02.8±0.7, 6°.87N±0°.03×73°.11W±0°.04, h154km±6km, n44, σ1°$40/80, mb3.5/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
BARC	**Barichara**	**0.29**	**194**	P	**Pn**	**13 36 24.3**	**+0.2**
BARC				S	**Sn**	**13 36 38.9**	**-1.4**
PAMC	**Pamplona, Colo**	**0.62**	**41**	P	**Pn**	**13 36 27.0**	**+1.2**
PAMC				S	**Sn**	**13 36 44.3**	**+0.9**
RUSC	**La Rusia**	**0.97**	**178**	P	**Pn**	**13 36 28.1**	**-0.2**
RUSC				S	**Sn**	**13 36 46.8**	**-1.0**
OCAC	**Ocana**	**1.37**	**351**	P	**Pn**	**13 36 32.4**	**+0.9**
OCAC				S	**Sn**	**13 36 54.3**	**+0.7**
PTBC	**PUERTO BERRIO,**	**1.38**	**256**	P	**Pn**	**13 36 30.5**	**-0.9**
PTBC				S	**Sn**	**13 36 52.1**	**-1.2**
TAMC	**Tame, Arauca**	**1.38**	**108**	P	**Pn**	**13 36 32.6**	**+1.1**
TAMC				S	**Sn**	**13 36 54.3**	**+0.8**
SPBC	**San Pablo de B**	**1.54**	**218**	P	**Pn**	**13 36 33.0**	**-0.2**
SPBC				P	**Pn**	**13 36 33.0**	**-0.2**
SPBC				P	**Pn**	**13 36 33.0**	**-0.2**
SPBC				S	**Sn**	**13 36 56.3**	**-0.3**
SPBC				S	**Sn**	**13 36 56.3**	**-0.3**
ZARC	**Zaragoza, Cauc**	**1.84**	**290**	P	**Pn**	**13 36 36.4**	**+0.1**
ZARC				P		13 36 36.8	
ZARC				S	**Sn**	**13 37 02.4**	**+0.3**
NORC	**Norcasia**	**2.18**	**233**	P	**Pn**	**13 36 40.0**	**-0.3**
NORC				S	**Sn**	**13 37 07.8**	**-1.4**
CHIC	**Chingaza**	**2.31**	**196**	P	**Pn**	**13 36 42.0**	**-0.3**
CHIC				S	**Sn**	**13 37 11.5**	**-1.2**
HELC	**Santa Helena**	**2.50**	**254**	P	**Pn**	**13 36 45.5**	**+1.1**
HELC				S	**Sn**	**13 37 16.4**	**-0.1**
CVER	**Cruz Verde, Cu**	**2.52**	**202**	P	**Pn**	**13 36 45.6**	**+0.7**
CVER				S	**Sn**	**13 37 17.8**	**+0.4**
UREC	**San Jos de Ur**	**2.56**	**290**	P	**Pn**	**13 36 43.9**	**-0.9**
UREC				S	**Sn**	**13 37 15.3**	**-1.9**
VILC	**Villavicencio,**	**2.80**	**192**	P	**Pn**	**13 36 47.5**	**-0.5**
VILC				S	**Sn**	**13 37 21.9**	**-1.1**
PTGC	**Puerto Gaitan,**	**2.83**	**160**	P	**Pn**	**13 36 47.3**	**-0.9**
PTGC				S	**Sn**	**13 37 20.7**	**-2.7**
NIZA	**Niza - Manizal**	**2.96**	**233**	P	**Pn**	**13 36 52.8**	**+2.7**
NIZA				S	**Sn**	**13 37 30.1**	**+3.5**
DBBC	**Dabeiba**	**3.08**	**273**	P	**Pn**	**13 36 52.1**	**+0.7**
DBBC				P	**Pn**	**13 36 52.1**	**+0.7**
DBBC				S	**Sn**	**13 37 26.7**	**-2.3**
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**13 36 53.9**	**+1.3**
	87nm,0.3s,baz=250,slow=4.9,SNR=37						
SDV				S	**Sn**	**13 37 31.2**	**0.0**
	268nm,0.4s,baz=56,slow=22,SNR=39						
SDV	**Santo Domingo**	**3.17**	**51**	P	**Pn**	**13 36 53.9**	**+1.3**
SDV				S	**Sn**	**13 37 31.6**	**+0.4**
APAC	**Apartado, Choc**	**3.59**	**287**	P	**Pn**	**13 36 58.1**	**+0.3**
APAC				S	**Sn**	**13 37 39.0**	**-1.5**
PRAC	**Prado**	**3.60**	**209**	P	**Pn**	**13 36 57.7**	**-0.4**
PRAC				S	**Sn**	**13 37 40.5**	**-0.5**
SJCC	**San Jacinto, C**	**3.63**	**326**	P	**Pn**	**13 36 57.9**	**-0.6**
SJCC				S	**Sn**	**13 37 39.9**	**-1.9**
PLMC	**San Jos del P**	**3.71**	**238**	P	**Pn**	**13 36 59.9**	**+0.4**
PLMC				S	**Sn**	**13 37 44.3**	**+0.8**
URMC	**La Uribe, Meta**	**3.82**	**199**	P	**Pn**	**13 37 01.1**	**+0.2**
URMC				S	**Sn**	**13 37 45.8**	**-0.2**
CRJC	**Cerrejon, Guaj**	**4.13**	**3**	P	**Pn**	**13 37 04.5**	**-0.4**
CRJC				S	**Sn**	**13 37 52.8**	**-0.5**
YOTC	**Yotoco, Valle**	**4.31**	**228**	P	**Pn**	**13 37 07.0**	**-0.4**
GUVC	**San Jose del G**	**4.33**	**174**	P	**Pn**	**13 37 06.8**	**-0.7**
GUVC				S	**Sn**	**13 37 56.1**	**-1.8**
CAPC	**Capurgana**	**4.55**	**293**	P	**Pn**	**13 37 08.5**	**-1.9**
CAPC				S	**Sn**	**13 37 58.8**	**-4.2**
MACC	**Macarena, Meta**	**4.75**	**189**	P	**Pn**	**13 37 11.3**	**-1.8**
MACC				S	**Sn**	**13 38 03.0**	**-4.9**
URIC	**Uribia, Colomb**	**4.92**	**13**	P	**Pn**	**13 37 15.0**	**-0.3**
URIC				S	**Sn**	**13 38 12.0**	**+0.1**
MALC	**Bahia Malaga**	**5.08**	**236**	P	**Pn**	**13 37 18.6**	**+1.3**
JAMC	**Jamundi, Valle**	**5.08**	**224**	P	**Pn**	**13 37 17.4**	**-0.1**
	28nm,0.7s,1μm						
JAMC				S	**Sn**	**13 38 15.9**	**0.0**
	28nm,0.7s,1μm						
GARC	**Garzon, Huila**	**5.23**	**207**	P	**Pn**	**13 37 18.4**	**-1.1**
GARC				S	**Sn**	**13 38 15.8**	**-3.6**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**13 37 24.6**	**+0.4**
	37nm,0.7s,522nm						
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**13 37 27.0**	**-0.4**
	64nm,1.0s,1μm						
BCIP	**Isla Barro Col**	**7.04**	**289**	P	**Pn**	**13 37 42.2**	**-1.2**
PCRV	**Puerto La Cruz**	**9.00**	**68**	P	**Pn**	**13 38 10.3**	**+0.7**
	4.0nm,0.4s,baz=296,slow=4.8,SNR=8.2						
PCRV				S	**Sn**	**13 39 48.0**	**-1.6**
	5.8nm,0.5s,baz=347,slow=24,SNR=2.1						
TXAR	**Lajitas Array**	**36.43**	**312**	P	**P**	**13 42 53.9**	**+0.9**
	0.6nm,0.6s,baz=126,slow=8.8,SNR=8.0						
	0.6nm,0.6s						
SCHQ	**Schefferville**	**48.09**	**5**	P	**P**	**13 44 27.4**	**+0.8**
	5.1nm,0.6s,baz=200,slow=6.4,SNR=7.3						
	5.1nm,0.6s						
NVAR	**Mina Array Bea**	**51.45**	**315**	P	**P**	**13 44 53.3**	**+0.7**
	0.3nm,0.6s,baz=108,slow=8.6,SNR=2.2						
	0.3nm,0.6s						
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**13 46 14.6**	**+0.3**
	0.9nm,0.8s,baz=127,slow=6.2,SNR=16						
	0.9nm,0.8s						
ILAR	**Eielson Array**	**76.92**	**335**	P	**P**	**13 47 37.4**	**-0.4**
	0.2nm,0.8s,baz=98,slow=6.5,SNR=2.3						
	0.2nm,0.8s						
ASAR	**Alice Springs**	**149.15**	**234**	PKPbc	**PKPbc**	**13 55 32.4**	**-1.5**
	0.3nm,0.4s,baz=120,slow=3.5,SNR=12						
WRA	**Warramunga Arr**	**150.37**	**241**	PKPbc	**PKPbc**	**13 55 35.3**	**-1.6**
	0.5nm,0.4s,baz=107,slow=2.8,SNR=20						

*NEIC **18** 13:51:54.5±0.6, 35°.8S±0°.1×179°.5W±0°.2, h10km±2km, mb4.5/10, Error ellipse: s-maj=31.2km s-min=10.4km az=123.0*
*WEL **18** 13:51:58.1±0.6, 36°.5±5°.×17°.9W±°, h115km±23km, M4.3/42, mB4.7/7, ML4.9/47, MLv4.6/42, Mw(mB)4.0/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.6, confirmed*
*NOU **18** 13:52:02.8, 36°.36S×179°.73W, h123km, ML4.4/9, East of North Island, N.Z.*
*IDC **18** 13:52:12.5±2.5, 35°.94S×177°.57E, h0km, mb4.3/3, mbtmp4.2/5, ML3.8/2, Error ellipse: s-maj=50.0km s-min=28.0km az=86.0*
ISC 18 13:51:58.3±1.0, 36°.04S±0°.07×179°.34W±0°.09, h49km, n119, σ1°$85/133, mb4.4/9, East of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MXZ	**Matakaoa Point**	**2.42**	**231**	P	**Pn**	**13 52 35.6**	**+0.1**
MXZ	**Matakaoa Point**	**2.42**	**231**	Pn	**Pn**	**13 52 35.5**	**0.0**
TWGZ	**Tauwhareparae**	**3.02**	**224**	P	**Pn**	**13 52 44.5**	**+0.7**
TWGZ				S	**Sn**	**13 53 19.8**	**+1.1**
RUGZ	**Raukumara Rang**	**3.06**	**230**	P	**Pn**	**13 52 45.4**	**+1.0**
RUGZ				S	**Sn**	**13 53 20.8**	**+0.9**
CNGZ	**Carnagh Statio**	**3.13**	**218**	P	**Pn**	**13 52 46.2**	**+1.1**
MWZ	**Matawai**	**3.39**	**227**	P	**Pn**	**13 52 48.8**	**0.0**
MWZ				S	**Sn**	**13 53 26.6**	**-1.2**
WHRZ	**Whale Island**	**3.46**	**237**	P	**Pn**	**13 52 50.9**	**+1.2**
WHRZ				S	**Sn**	**13 53 29.9**	**+0.3**
RIGZ	**Rimuhau**	**3.52**	**220**	P	**Pn**	**13 52 50.4**	**-0.2**
RIGZ				S	**Sn**	**13 53 31.0**	**0.0**
URZ	**Urewera**	**3.60**	**231**	P	**Pn**	**13 52 51.9**	**+0.3**
URZ	**Urewera**	**3.60**	**231**	Pn	**Pn**	**13 52 51.9**	**+0.3**
	13nm,0.3s,baz=301,slow=23,SNR=82						
URZ				Sn	**Sn**	**13 53 30.8**	**-2.0**
	130nm,0.3s,baz=254,slow=22,SNR=36						
	31nm,0.3s						
PRGZ	**Paritu Road**

TKNZ	Takaka Hill	7.83	228	P	Pn	13 53 49.2	-0.4
CTZ	Chatham Island	7.96	166	P	Pn	13 53 52.8	+1.4
MRNZ	Matariki Terra	8.17	227	P	Pn	13 53 51.7	-2.6
THZ	Tophouse	8.32	224		Pn	13 53 53.3	-3.0
THZ	Tophouse	8.32	224	P	Pn	13 53 53.8	-2.5
KHZ	Kahutara	8.43	219	P	Pn	13 53 55.7	-2.1
KHZ	Kahutara	8.43	219	P	Pn	13 53 55.9	-1.9
GVZ	Greta Valley S	9.08	218	Pn	Pn	13 54 05.4	-1.4
GVZ	Greta Valley S	9.08	218	P	Pn	13 54 04.4	-2.4
LTZ	Lake Taylor	9.35	221	P	Pn	13 54 07.2	-3.2
AMCZ	Amberley	9.43	218	P	Pn	13 54 09.9	-1.6
OKCZ	Okains Bay	9.64	215	P	Pn	13 54 11.9	-2.5
INZ	Inchbonnie	9.77	224	Pn	Pn	13 54 15.5	-0.6
INZ	Inchbonnie	9.77	224	P	Pn	13 54 14.5	-1.6
MQZ	McQueen's Vall	9.82	216	P	Pn	13 54 12.6	-4.2
OXZ	Oxford	9.85	220	P	Pn	13 54 15.0	-2.3
OXZ				S	Sn	13 55 53.7	-13
RPZ	Rata Peaks	10.63	221	Pn	Pn	13 54 26.5	-1.5
	1.9nm,0.3s,baz=54,slow=3.0,SNR=6.3						
RPZ				Sn	Sn	13 56 12.8	-13
	4.0nm,0.3s,baz=113,slow=24,SNR=13 6.0nm,0.4s						
LBZ	Lake Benmore	11.55	221	Pn	Pn	13 54 38.4	-2.2
MLZ	Mavora Lakes	13.30	222	Pn	Pn	13 55 00.2	-4.2
STKA	Stephens Creek	32.52	266	P	P	13 58 23.5	-1.1
	1.5nm,0.7s,baz=117,slow=11,SNR=3.4 1.5nm,0.7s						
AS31	Alice Springs	42.02	274	P	P	13 59 44.4	-0.8
ASAR	Alice Springs	42.02	274	P	P	13 59 44.4	-0.8
ASAR	Alice Springs	42.02	274	P	P	13 59 45.4	+0.3
	2.4nm,0.5s,baz=114,slow=7.7,SNR=65 2.4nm,0.5s						
WR0	Warramunga Arr	43.35	279	P	P	13 59 54.8	-1.1
WR0				IAmb	IAmb	13 59 59.3	
	comp=Z,10nm,1.4s						
WB2	Warramunga Arr	43.51	279	P	P	13 59 56.5	-0.6
WB2				IAmb	IAmb	13 59 58.5	
	comp=Z,5.3nm,0.6s						
WRA	Warramunga Arr	43.52	279	P	P	13 59 56.4	-0.9
WRA	Warramunga Arr	43.52	279	P	P	13 59 56.9	-0.4
	comp=Z,3.8nm,0.6s,baz=121,slow=7.6,SNR=40 comp=Z,3.8nm,0.6s						
WB0	Warramunga Arr	43.57	279	P	P	13 59 57.4	-0.2
WB0				IAmb	IAmb	14 00 29.3	
	comp=Z,8.6nm,1.1s						
FORT	Forrest	43.79	261	P	P	13 59 59.4	+0.1
CASY	Casey	49.67	210	P	P	14 00 49.3	+4.6
CASY				IAmb	IAmb	14 01 05.3	
	comp=Z,11nm,1.5s						
NWAO	Narrogin (SRO)	51.55	254	P	P	14 00 59.1	-0.4
QSPA	South Pole Qui	54.08	180	P	P	14 01 21.4	+3.6
QSPA				IAmb	IAmb	14 01 58.1	
	comp=Z,6.9nm,1.4s						
SNAA	Sanae	72.56	179	P	P	14 03 21.8	+2.0
SNAA				IAmb	IAmb	14 03 34.8	
	comp=Z,7.8nm,1.3s						
FINES	FINESS Array B	149.94	336	PKPbc	PKPab	14 12 00.9	+13
	comp=Z,3.8nm,0.8s,baz=41,slow=4.4,SNR=5.1						

*RSNC **18** 13:56:36.0±0.6,4˚N±3˚×8˚3W±˚, h10km,M5.0,mB5.5, mb5.3,ML4.0,Mw(mB)4.9,MwMwp5.2,Mwp5.2*
*IDC **18** 13:56:36.8±0.5,4.01N×82.52W,h0km,mb4.5/18, mbtmp4.6/24,ML3.6/6,MS4.5/52,Error ellipse: s-maj=21.1km s-min=11.3km az=58.0*
*NEIC **18** 13:56:37.8±2.9,3.90N±0.07×82.7W±0.1,h10km±1km, mb5.0/81,Mww5.3/35,Error ellipse: s-maj=19.0km s-min=10.6km az=245.0*
*NEIC **18** 13:56:37.8, 3.90N×82.67W,h12km*
*NEIC **18** 13:56:37.8,4.00N×82.47W,h12km,Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^17^Nm; Mrr=0.05; Mθθ=0.04; Mϕϕ0.10; Mrθ=0.24; Mθϕ0.78; Mϕr0.63; Fault plane solution: M0 1.02000×10^17^ NP1: ϕs177.98000°,δ84.07000°,λ-141.93000°. NP2: ϕs83.36000°,δ52.17000°,λ-7.52000°. Principal axes: T 0.9292, Plg21.0000°, Azm305.0000°; N 0.1827, Plg52.0000°, Azm185.0000°; P -1.1119, Plg30.0000°, Azm48.0000°;*
*UCR **18** 13:56:37.5±1.0,4.15N×82.90W,h0km±59km,MW4.6*
*GCMT **18** 13:56:41.8±0.1,3.91N±0.01×82.68W±0.01,h12km, MW5.2/151,Moment Tensor Solution. s88,c132; s151,c271; Duration: 1s0 Moment tensor: Scale 10^16^ Nm; Mrr0.28±.10; Mθθ0.25±.09; Mϕϕ-0.52±.11; Mrθ0.61±.26; Mθϕ7.50±.07; Mϕr3.02±.27; Best double couple: M0 8.12000×10^16^ NP1:ϕs1.00000°,δ86.00000°, λ158.00000°. NP2:ϕs92.00000°,δ68.00000°,λ4.00000°. Principal axes: T 8.1970, Plg18.0000°, Azm314.0000°; N -0.1530, Plg68.0000°, Azm172.0000°; P -8.0430, Plg13.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*UPA **18** 13:56:41.6±2.0,4.28N×82.78W,h10km±999km, MW5.3*
ISC 18 13:56:38.4±0.3,3.96N±0.04×82.60W±0.05,h14km,n419, σ1s95/378,mb5.0/67,MS4.6/57,8C-13D,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CACAO	El Cacao, Vera	3.78	27	‖eP	Pn	13 57 35.1	-1.2
CACAO	El Cacao, Vera	3.78	27	P	Pn	13 57 36.1	-0.2
CACAO				S	Sn	13 58 17.2	-3.5
GMAL	Guarumal, Vera	4.02	20	eP	Pn	13 57 40.3	+0.8
GMAL	Guarumal, Vera	4.02	20	P	Pn	13 57 39.4	-0.1
TOSI3	Tonosi	4.04	32	eP	Pn	13 57 40.4	+0.5
LIMO3	Limones	4.12	356	eP	Pn	13 57 39.1	-1.9
ACHO3	Achotines, Los	4.20	35	‖iP	Pn	13 57 43.0	+1.0
PTPM	Petroterminale	4.23	356	eP	Pn	13 57 39.6	-2.8
PEDA3	Pedasi	4.37	36	eP	Pn	13 57 44.4	-0.1
MESA3	La Mesa, Verag	4.39	19	eP	Pn	13 57 44.4	-0.3
PCRI3	Pocri, Los San	4.43	34	‖eP	Pn	13 57 46.4	+1.2
AZU	Azuero	4.46	31	‖iP	Pn	13 57 45.1	-0.4
AZU	Azuero	4.46	31	P	Pn	13 57 44.6	-1.0
GR1C	Gorgona, Isla	4.52	102	P	Pn	13 57 45.1	-1.4
CHIT3	Chitre	4.53	29	eP	Pn	13 57 47.4	+0.9
CDITO	Canoas	4.59	357		Pn	13 57 45.9	-1.6
BCO2	Palmira	4.73	1	‖eP	Pn	13 57 47.9	-1.6
BRU2	Volcan	4.81	359	Pn	Pn	13 57 49.2	-1.3
BRU2	Volcan	4.81	359	‖eP	Pn	13 57 49.6	-0.9
PNME	Penonome	5.03	27	‖eP	Pn	13 57 54.0	+0.5
OCHAL	Ojochal	5.21	349	eP	Pn	13 57 53.5	-2.5
SRBA	San Rafael, Bu	5.29	352	Pn	Pn	13 57 55.5	-1.7
SRBA	San Rafael, Bu	5.29	352	eP	Pn	13 57 55.2	-2.0
DRK0	Durika	5.31	353	eP	Pn	13 57 55.6	-1.8
PIZC	Pizarro, Choco	5.32	79	P	Pn	13 57 57.6	+0.2
	597nm,1.0s,6μm						
PIZC				S	Sn	13 58 56.5	-2.0
	597nm,1.0s,6μm						
PEZE	Perez Zeledon,	5.50	349		Pn	13 57 57.8	-2.1
PEZE	Perez Zeledon,	5.50	349	eP	Pn	13 57 57.7	-2.3
PULU	Pululahua	5.66	134	Pn	Pn	13 58 00.5	-2.0
ZANG	Zanguenga, Cho	5.66	29	‖eP	Pn	13 58 03.5	+1.4
ZANG	Zanguenga, Cho	5.66	29	eP	Pn	13 58 03.2	+1.1
BUS1	Rivas	5.68	348	eP	Pn	13 58 00.2	-2.6
BUS1				eS	Sn	13 59 06.2	-1.8
CDM	Cerro de Muert	5.68	348	eP	Pn	13 58 00.2	-2.6
IMBA	Imbabura, San	5.72	130	Pn	Pn	13 58 02.4	-1.0
PTAC	Punta Ardita,	5.72	56	‖eP	Pn	13 58 06.4	+3.4
PTAC	Punta Ardita, 140nm,1.1s,5um	5.72	56	P	Pn	13 58 04.7	+1.7
ARRA3	Arraijan, Pana	5.77	30	‖eP	Pn	13 58 05.2	+1.6
TULM	Tulcn-Chalpat	5.79	124	Pn	Pn	13 58 03.6	-0.6
UPA	Univ. de Panam	5.85	31	‖iP	Pn	13 58 05.8	+1.1
BCIP	Isla Barro Col	5.86	28	Pn	Pn	13 58 06.4	+1.6
BCIP	Isla Barro Col	5.86	28	‖iP	Pn	13 58 05.5	+0.7
BCIP	Isla Barro Col 541nm,1.4s,6um	5.86	28	P	Pn	13 58 06.2	+1.4
BCIP	Isla Barro Col	5.86	28	eP	Pn	13 58 05.3	+0.5
LCR2	La Lucha 2	5.91	346		Pn	13 58 04.1	-1.8
LCR2	La Lucha 2	5.91	346	eP	Pn	13 58 03.4	-2.5
FRIJ	El Hiral	5.96	28	‖eP	Pn	13 58 07.2	+1.0
JACO	JACO, Garabito	6.03	340		Pn	13 58 05.2	-2.0
OCM	Ochomogo	6.05	347	eP	Pn	13 58 06.0	-1.7
VTCV	VTCV, Calle Va	6.09	349	eP	Pn	13 58 06.9	-1.3
CVTV	Tajo	6.12	349	eP	Pn	13 58 07.8	-0.9
VTLA	Turrialba Volc	6.12	349	eP	Pn	13 58 07.5	-1.2
BATAN	Batan	6.15	353	‖eP	Pn	13 58 09.7	+0.8
VTLO	VTLO	6.15	350	eP	Pn	13 58 07.7	-1.4
HDC	Heredia	6.19	346		Pn	13 58 08.0	-1.5
HDC	Heredia	6.19	346	eP	Pn	13 58 07.5	-2.1
HDC				eS	Sn	13 59 18.9	-1.4
SLOR	San Lorenzo -	6.20	139		Pn	13 58 10.7	+0.6
PLMC	San Jos del P	6.37	81	P	Pn	13 58 12.7	+0.8
	728nm,0.9s,8μm						
UPD2	Meteti	6.45	45	‖iP	Pn	13 58 15.3	+2.4
TOTI	Torti	6.52	41	iP	Pn	13 58 17.1	+3.1
SOCE	Pocosol	6.69	343		Pn	13 58 15.3	-1.0
JTS	Las Juntas de	6.71	340	Pn	Pn	13 58 14.6	-2.0
JTS	Las Juntas de	6.71	340	‖eP	Pn	13 58 15.1	-1.5
JTS				eS	Sn	13 59 21.0	-12
JTS	Las Juntas de	6.71	340	Pn	Pn	13 58 15.1	-1.5
	54nm,0.4s,baz=185,slow=4.6,SNR=54						
JTS				Sn	Sn	13 59 32.5	-0.5
	3.5nm,0.3s,baz=263,slow=23,SNR=1.6						
JTS	Las Juntas de	6.71	340	eP	Pn	13 58 14.7	-2.0
DUNO	Dulce Nombre,	6.73	335		Pn	13 58 15.2	-1.6
ARE1	Arenal 1	6.79	342		Pn	13 58 16.5	-1.3
COVE	Coope Vega, Sa	6.95	345		Pn	13 58 19.8	-0.1
ORTG	Ortega, Santa	6.97	336	Pn	Pn	13 58 19.0	-1.2
CAPC	Capurgana	6.98	48	P	Pn	13 58 22.8	+2.5
	143nm,1.2s						
DBBC	Dabeiba	7.05	64	P	Pn	13 58 23.8	+2.5
APAC	Apartado, Choc	7.15	57	P	Pn	13 58 26.5	+3.8
	104nm,1.2s,3μm14μm						
HZTE	Horizontes, Gu	7.34	336	Pn	Pn	13 58 24.2	-1.1
PRAC	Prado	7.70	92	P	Pn	13 58 33.6	+3.4
	141nm,1.1s,3μm5μm						
NORC	Norcasia	7.87	78	P	Pn	13 58 35.7	+3.2
	287nm,1.1s,2μm4μm						
UREC	San Jos de Ur	7.97	61	‖eP	Pn	13 58 36.0	+2.0
UREC	San Jos de Ur	7.97	61	P	Pn	13 58 36.8	+2.8
	48nm,1.3s,776nm						
ACON	Acoyapa	8.36	342		Pn	13 58 39.2	0.0
ZARC	Zaragoza, Cauc	8.46	65	P	Pn	13 58 43.9	+3.2
	149nm,1.3s,2μm7μm						
PTBC	PUERTO BERRIO,	8.50	72	P	Pn	13 58 44.9	+3.7
	597nm,1.2s,6μm3μm						
SPBC	San Pablo de B	8.66	78	P	Pn	13 58 49.7	+6.2
VILC	Villavicencio,	8.88	89	P	Pn	13 58 51.1	+4.5
MACC	Macarena, Meta	8.92	101	P	Pn	13 58 48.6	+1.6
	134nm,0.7s,1μm						
SJCC	San Jacinto, C	9.43	51	P	Pn	13 58 58.3	+4.3
BARC	Barichara	9.73	74	P	Pn	13 59 02.3	+4.0
ATAH	Atahualpa	11.79	159	Pn	Pn	13 59 28.2	+1.6
	0.6nm,0.3s,baz=330,slow=14,SNR=2.7						
ATAH				Sn	Sn	14 01 42.8	+4.4
	0.4nm,0.3s,baz=263,slow=20,SNR=3.6						
ATAH				LR	LR	14 03 45.5	
	comp=Z,14μm,19.0s,baz=335,slow=36 4.0nm,0.6s						
SDV	Santo Domingo	12.86	67	Pn	Pn	13 59 41.6	+0.6
SDV	Santo Domingo	12.86	67	Pn	Pn	13 59 41.3	+0.2
	2.0nm,0.3s,baz=216,slow=13,SNR=18						
SDV				Sn	Sn	14 02 05.2	+1.0
	1.3nm,0.3s,baz=350,slow=21,SNR=1.3						
SDV				LR	LR	14 04 26.4	
	comp=Z,5μm,21.8s,baz=250,slow=37 25nm,0.8s						
SDV	Santo Domingo	12.86	67	eP	Pn	13 59 41.0	0.0
APG	El Apazote	13.44	325	Pn	Pn	13 59 50.8	+1.8
	0.1nm,0.3s,baz=154,slow=11,SNR=4.6						
APG				LR	LR	14 04 13.6	
	comp=Z,384nm,19.8s,baz=246,slow=34						
MTDJ	Mount Denham	15.02	19	Pn	Pn	14 00 07.4	-3.1
MTDJ				IAmb	IAmb	14 00 15.0	
	comp=Z,64nm,1.1s						
TBTG	Tabatinga, AM	15.04	122	Pn	Pn	14 00 06.0	-4.7
TBTG				IAmb	IAmb	14 00 15.7	
	comp=Z,35nm,0.6s						
CZSB	Cruzeiro do Su	15.24	140		Pn	14 00 10.5	-2.8
CZSB				IAmb	IAmb	14 00 20.4	
	comp=Z,52nm,0.8s						
CZSB	Cruzeiro do Su	15.24	140	eP	Pn	14 00 10.3	-3.0
CZSB				eS	Sn	14 03 03.1	+1.0
BAUV	El Baul	15.29	70	Pn	Pn	14 00 09.3	-4.6
CCIG	Comitan	15.42	323		Pn	14 00 11.2	-4.7
NNA	Nana	16.84	160		Pn	14 00 31.4	-2.6
NNA	Nana	16.84	160	Pn	P	14 00 36.6	+0.6
	comp=Z,1.2nm,0.3s,baz=343,slow=16,SNR=2.6						
NNA				LR	LR	14 06 37.5	
	comp=Z,2μm,19.3s,baz=324,slow=36 comp=Z,17nm,0.9s						
TEIG	Tepich	17.09	342	LR	LR	14 06 45.6	
	comp=Z,10μm,21.7s,slow=36						
GTBY	Guantanamo Bay	17.47	24	Pn	Pn	14 00 38.3	-3.5
CMIG	Matias Romero	17.77	318	P	Pn	14 00 46.1	+0.7
	comp=Z,0.1nm,0.3s,baz=137,slow=13,SNR=7.9						
CMIG				LR	LR	14 06 18.5	
	comp=Z,3μm,21.2s,baz=140,slow=33 comp=Z,11nm,1.1s						
SDDR	Presa de Saban	18.58	36	P	P	14 00 55.4	+0.2
SDDR				IAmb	IAmb	14 01 02.8	
	comp=Z,143nm,1.4s						
PCRV	Puerto La Cruz	18.86	70	P	P	14 00 58.4	+0.1
	comp=Z,0.6nm,0.3s,baz=264,slow=6.0,SNR=14						
PCRV				LR	LR	14 09 47.0	
	comp=Z,2μm,18.1s,slow=42 comp=Z,99nm,1.2s						
TEFE	Tefe	19.42	112	eP	P	14 01 04.6	+0.2
MLPR	Magueyes Islan	20.64	46	P	P	14 01 14.6	-3.1
OBIP	Obispado Ponce	21.00	47	P	P	14 01 18.6	-3.1
CELP	Cerrillos	21.04	47	P	P	14 01 19.3	-2.8
ETMB	Extrema	21.30	130	P	P	14 01 23.1	-1.8
ETMB				IAmb	IAmb	14 01 36.0	
	comp=Z,146nm,1.5s						
ETMB	Extrema	21.30	130	eP	P	14 01 24.8	0.0
ETMB				eS	S	14 05 22.9	+1.6
BOAV	Boa Vista	22.09	93	P	P	14 01 33.3	-0.2
BOAV	Boa Vista	22.09	93	eP	P	14 01 34.6	+1.1
BOAV				eS	S	14 05 37.6	+0.6
MACA	Manacapuru-AM	23.01	108	eP	P	14 01 43.7	+0.5
SAML	Samuel	23.22	124	P	P	14 01 43.1	-2.2
SAML				IAmb	IAmb	14 01 51.5	
	comp=Z,59nm,1.2s						
SAML	Samuel	23.22	124	eP	P	14 01 44.7	-0.6
SAML				eS	S	14 05 55.6	-1.5
FDF	Fort de France	23.69	62	P	P	14 01 45.3	-4.7
LPAZ	La Paz	24.68	145	P	P	14 01 54.6	-5.2
LPAZ				IAmb	IAmb	14 02 16.8	
	comp=Z,62nm,1.1s						
LPAZ	La Paz	24.68	145	P	P	14 02 00.1	+0.2
	comp=Z,18nm,1.0s,baz=338,slow=8.6,SNR=26						
LPAZ				LR	LR	14 13 07.1	
	comp=Z,2μm,19.6s,baz=298,slow=40 comp=Z,18nm,1.0s						
LPAZ	La Paz	24.68	145	eP	P	14 01 59.1	-0.7
LPAZ				eS	S	14 06 22.1	+0.4
PB12	IPOC Station P	25.48	152	P	P	14 02 04.4	-2.0
PB12				IAmb	IAmb	14 02 21.1	
	comp=Z,32nm,1.1s						
PB11	IPOC Station P	26.79	152	P	P	14 02 18.9	+0.6
PB11				IAmb	IAmb	14 02 51.3	
	comp=Z,33nm,1.1s						
GO01	Chusmiza	26.92	151	P	P	14 02 17.9	-2.1
VILB	Vilhena	27.88	127	eP	P	14 02 28.6	+0.5
833A	Chaparral WMA, baz=144	29.03	328	P	P	14 02 40.4	+2.2
SIV	San Ignacio	29.09	133	LR	LR	14 14 41.4	
	comp=Z,4μm,18.1s,baz=306,slow=37						
LRAL	Lakeview Retre baz=171	29.22	352	P	P	14 02 41.8	+2.0
NPGB	Novo Progresso	29.30	112	eP	P	14 02 40.0	-0.8
LVC	Limon Verde	29.60	154	LR	LR	14 15 18.3	
	comp=Z,932nm,21.5s,baz=334,slow=38						
MDP	Montagnes des	29.88	87	LR	LR	14 15 04.8	
	comp=Z,2μm,18.6s,baz=276,slow=37						
PDRB	Porto dos Gac	30.02	121	eP	P	14 02 46.5	-0.7
HODGE	Hodges	30.12	1	P	P	14 02 46.5	-1.2
PTLB	Pontes e Lacer	30.19	130	P	P	14 02 48.8	+0.2
PTLB				IAmb	IAmb	14 03 13.6	
	comp=Z,58nm,2.0s						
PTLB	Pontes e Lacer	30.19	130	eP	P	14 02 49.2	+0.7
BBSD	Serra de San D	30.21	135	eP	P	14 02 49.0	+0.2
DRIO	Del Rio	30.55	328	P	P	14 02 52.3	+0.7
DRIO				IAmb	IAmb	14 03 00.2	
	comp=Z,46nm,1.7s						
JCT	Junction City	30.98	330	P	P	14 02 57.0	+1.5
JCT	Junction City baz=145	30.98	330	P	P	14 02 57.7	+2.3
TKL	Tuckaleechee C	31.56	358	LR	LR	14 15 22.7	
	comp=Z,598nm,19.2s,baz=182,slow=36						
MIAR	Mount Ida baz=159	32.10	143	P	P	14 03 06.5	+1.3
TXAR	Lajitas Array	32.19	324	P	P	14 03 07.1	+0.9
TXAR	Lajitas Array	32.19	324	P	P	14 03 07.2	+1.0
	comp=Z,3.5nm,1.1s,baz=140,slow=9.9,SNR=17						
TXAR				PcP	PcP	14 05 56.9	+1.9
	comp=Z,0.7nm,0.9s,baz=165,slow=3.7,SNR=4.2						
TXAR				LR	LR	14 15 48.7	
	comp=Z,313nm,19.6s,baz=135,slow=36 comp=Z,3.5nm,1.1s						
TX31	Lajitas Ar. Si	32.19	324	P	P	14 03 07.0	+0.8
TZTN	Tazewell baz=178	32.44	359	P	P	14 03 10.1	+1.9
WHAR	Wooly Hollow	32.44	345	P	P	14 03 08.6	+0.4
WHAR				IAmb	IAmb	14 03 16.8	
	comp=Z,22nm,1.1s						
LCAR	Lake Charles	32.92	347	P	P	14 03 12.4	0.0
LCAR				IAmb	IAmb	14 03 20.8	
	comp=Z,27nm,1.1s						
ALPN	Alpine	32.95	325	P	P	14 03 13.8	+1.0
ALPN				IAmb	IAmb	14 03 16.4	
	comp=Z,22nm,1.1s						
T59A	Double "B" Far	33.18	7	P	P	14 03 11.8	-2.8
T59A				IAmb	IAmb	14 03 23.9	
	comp=Z,37nm,1.3s						
LPIG	La Paz	33.39	309	LR	LR	14 13 49.8	
	comp=Z,591nm,21.2s,baz=150,slow=31						
ODSA	Odessa	33.69	329	P	P	14 03 20.6	+1.3
ODSA				IAmb	IAmb	14 03 22.2	
	comp=Z,24nm,0.9s						
HHAR	Hobbs	33.82	343	P	P	14 03 19.8	-0.5
HHAR				IAmb	IAmb	14 03 27.9	
	comp=Z,27nm,1.3s						
VHRN	Van Horn	34.03	324	P	P	14 03 22.9	+0.6
U38A	Gravette	34.10	343	P	P	14 03 22.2	-0.5
U38A				IAmb	IAmb	14 03 24.8	
	comp=Z,24nm,1.2s						
WMOK	Wichita Mounta	34.11	336	P	P	14 03 22.9	0.0
WMOK	Wichita Mounta baz=151	34.11	336	P	P	14 03 24.5	+1.6
MNTX	Cornudas Mount baz=138	34.93	325	P	P	14 03 31.2	+1.3
BDQN	Bodoquena, MS	35.10	135	eP	P	14 03 31.3	-0.3
T35A	Sooner Cattle	35.20	340	P	P	14 03 33.1	+0.9
MSTX	Muleshoe baz=144	35.28	330	P	P	14 03 34.8	+1.8
RVDE	Rio Verde (Bra	35.54	131	eP	P	14 03 35.5	+0.1
AQDB	Aquidauana	35.87	134	eP	P	14 03 38.5	+0.4
ARAG	Araguaiana, MT	36.19	123	eP	P	14 03 40.4	-0.6
O48B	Farmland baz=176	36.21	357	P	P	14 03 41.2	+0.4
WUPA	West Chester U	36.37	9	P	P	14 03 40.2	-1.9
SSPA	Standing Stone	36.76	6	P	P	14 03 45.9	+0.4
SSPA	Standing Stone baz=188	36.76	6	P	P	14 03 47.0	+1.5
N51A	Ashland	36.80	0	P	P	14 03 42.2	-3.6
P38A	Dawn	36.86	346	P	P	14 03 46.6	+0.2
121A	Cookes Peak, D baz=135	36.94	323	P	P	14 03 50.9	+3.5
SMTB	Santa Maria do	37.15	110	eP	P	14 03 49.0	-0.3
RTBA	Rita Blanca	37.26	333	P	P	14 03 50.2	+0.2
RTBA				IAmb	IAmb	14 04 00.8	
	comp=Z,60nm,1.6s						
H03N2	Juan Fernandez baz=354,slow=76,SNR=57	37.36	175	T	T	14 43 20.0	
H03N1	Juan Fernandez baz=354,slow=76,SNR=67	37.36	175	T	T	14 43 21.2	
H03N3	Juan Fernandez baz=354,slow=76,SNR=80	37.37	175	T	T	14 43 19.3	
KSPA	Keystone Colle	37.93	8	P	P	14 03 51.8	-3.7
KSPA				IAmb	IAmb	14 04 04.9	
	comp=Z,48nm,1.3s						
ANMO	Albuquerque	37.94	327	P	P	14 03 57.0	+1.1
ANMO				IAmb	IAmb	14 04 00.2	
	comp=Z,34nm,1.1s						
ANMO	Albuquerque baz=139	37.94	327	P	P	14 03 57.8	+1.9
ANMO	Albuquerque	37.94	327	LR	LR	14 19 48.6	
	comp=Z,624nm,20.7s,baz=238,slow=37						
AMBA	Amambai (Brazi	37.95	136	eP	P	14 03 56.0	+0.1
VA03	San Esteban	38.27	164	P	P	14 03 57.3	-1.1
BINY	Binghamton	38.53	8	P	P	14 03 57.9	-2.6
BINY				IAmb	IAmb	14 04 09.9	
	comp=Z,46nm,1.2s						
BINY	Binghamton baz=191	38.53	8	P	P	14 04 02.6	+2.1
T25A	Trinidad baz=144	38.61	332	P	P	14 04 04.1	+2.6
CPUP	Villa Florida	38.79	142	P	P	14 04 01.5	-1.4
	comp=Z,2.6nm,0.8s,baz=319,slow=10.0,SNR=5.3						
CPUP				LR	LR	14 21 33.6	
	comp=Z,1μm,20.1s,baz=326,slow=39 comp=Z,2.6nm,0.8s						
BDFB	Brasilia	39.38	120	LR	LR	14 21 04.7	
	comp=Z,2μm,18.2s,baz=300,slow=37						
LMEL	Las Melosas	39.38	164	P	P	14 04 05.8	-2.1
LMEL				IAmb	IAmb	14 04 23.3	
	comp=Z,54nm,1.4s						
SDCO	Great Sand Dun baz=143	39.62	331	P	P	14 04 12.3	+2.3
W18A	Petrified Fore baz=135	39.91	324	P	P	14 04 14.4	+2.1
RPN	Rapa Nui	40.27	218	LR	LR	14 16 18.7	
	comp=Z,1μm,21.4s,baz=40,slow=29						
IPMB	Ipameri, GO	40.31	124	eP	P	14 04 14.8	-1.0
Q24A	Divide baz=144	40.43	333	P	P	14 04 18.4	+1.7
MVCO	Mesa Verde	40.73	328	P	P	14 04 19.4	+0.2
MVCO				IAmb	IAmb	14 04 23.3	
	comp=Z,46nm,1.1s						
MVCO	Mesa Verde baz=138	40.73	328	P	P	14 04 20.

PLTB IAmb IAmb 14 04 59.8
comp=Z,29nm,1.3s
DUG Dugway, Tooele 45.22 327 P P 14 04 58.3 +3.0
baz=135
BW06 Boulder Array 45.48 332 P P 14 04 58.7 +1.2
baz=141
PD31 Pinedale Array 45.48 332 P P 14 04 57.8 +0.3
PDAR Pinedale Array 45.48 332 P P 14 04 58.0 +0.5
comp=Z,3.9nm,1.0s,baz=140,slow=9.5,SNR=21
PDAR PcP **PcP 14 06 37.4 +1.0**
comp=Z,2.1nm,1.0s,baz=160,slow=2.9,SNR=3.1
PDAR LR LR 14 25 36.6
comp=Z,856nm,18.7s,baz=152,slow=38
comp=Z,3.9nm,1.0s
R11B Troy Canyon, C 45.55 323 P P 14 05 00.1 +2.0
baz=131
HWUT Hardware Ranch 45.58 329 P P 14 04 59.3 +1.0
AGMN Agassiz Nation 45.62 348 P P 14 04 58.8 +0.6
AGMN Agassiz Nation 45.62 348 P P 14 04 59.4 +1.2
baz=162
PLCA Paso Flores 45.82 167 P P 14 05 00.3 +0.3
comp=Z,6.4nm,1.1s,baz=338,slow=9.7,SNR=7.7
comp=Z,6.4nm,1.1s
PLCA Paso Flores 45.82 167 eP P 14 04 59.9 -0.2
CWC Cottonwood Cre 45.92 319 P P 14 05 03.6 +2.5
baz=126
TRQA Tornquist 45.97 157 P P 14 04 59.3 -1.9
TRQA IAmb IAmb 14 05 17.3
comp=Z,38nm,1.5s
ELK Elko 46.93 326 LR LR 14 25 19.6
comp=Z,638nm,18.4s,baz=140,slow=37
NVAR Mina Array Bea 47.26 321 P P 14 05 12.8 +1.3
NVAR Mina Array Bea 47.26 321 P P 14 05 12.7 +1.1
comp=Z,8.9nm,0.8s,baz=133,slow=6.1,SNR=43
NVAR PcP **PcP 14 06 43.7 +1.0**
comp=Z,0.9nm,0.8s,baz=142,slow=4.5,SNR=1.5
NVAR LR LR 14 24 55.6
comp=Z,892nm,19.3s,baz=130,slow=36
comp=Z,8.9nm,0.8s
ULM Lac du Bonnet 47.48 348 P P 14 05 12.1 -0.6
ULM Lac du Bonnet 47.48 348 P P 14 05 11.7 -1.1
comp=Z,7.2nm,0.9s,baz=158,slow=6.4,SNR=7.6
comp=Z,7.2nm,0.9s
RCBR Riachuelo 47.63 102 LR LR 14 25 07.1
comp=Z,563nm,19.1s,baz=154,slow=36
BMN Battle Mountai 47.86 324 P P 14 05 16.9 +0.7
BMN IAmb IAmb 14 05 19.5
comp=Z,19nm,1.1s
DGMT Dagmar 48.05 341 P P 14 05 19.6 +2.2
baz=151
HLID Hailey 48.45 329 P P 14 05 22.7 +2.0
baz=136
BOZ Bozeman (W) 48.60 333 P P 14 05 23.7 +1.9
baz=140
COYC Coyhaique 50.20 170 P P 14 05 32.1 -1.5
COYC IAmb IAmb 14 05 43.7
comp=Z,18nm,1.0s
PLID Pearl Lake 50.33 330 P P 14 05 35.3 +0.2
MSO Missoula 50.59 332 P P 14 05 38.5 +1.6
baz=138
BMO Blue Mountains 50.84 329 P P 14 05 38.6 -0.1
BMO IAmb IAmb 14 05 46.9
comp=Z,31nm,1.9s
YBH Yreka Blue Hor 51.94 322 LR LR 14 27 53.6
comp=Z,708nm,20.2s,baz=152,slow=36
SCHQ Schefferville 52.31 11 P P 14 05 48.3 -1.2
SCHQ Schefferville 52.31 11 P P 14 05 47.8 -1.7
comp=Z,8.7nm,0.9s,baz=199,slow=3.9,SNR=5.4
SCHQ LR LR 14 27 11.2
comp=Z,433nm,21.4s,baz=257,slow=35
comp=Z,8.7nm,0.9s
FFC Flin Flon 53.00 346 P P 14 05 55.2 +0.6
NEW Newport 53.12 332 P P 14 05 57.6 +2.0
baz=135
NEW Newport 53.12 332 LR LR 14 29 14.5
comp=Z,573nm,20.2s,baz=136,slow=37
EDM Edmonton 55.23 338 P P 14 06 11.4 +0.4
FCC Fort Churchill 55.39 353 P P 14 06 11.6 -0.3
BRLDA Berland Lookou 57.46 336 P P 14 06 27.5 +0.6
BBB Bella Bella 61.02 330 LR LR 14 37 05.2
comp=Z,139nm,18.1s,baz=151,slow=40
YKA Yellowknife Ar 63.03 344 P P 14 07 05.0 +0.2
comp=Z,7.4nm,1.0s,baz=135,slow=6.3,SNR=17
YKA LR LR 14 37 21.5
comp=Z,212nm,18.2s,baz=151,slow=39
comp=Z,7.4nm,1.0s
DLBC Dease Lake 65.59 335 P P 14 07 23.3 +1.6
baz=126
DLBC Dease Lake 65.59 335 P P 14 07 22.9 +1.2
comp=Z,14nm,0.9s,baz=144,slow=2.0,SNR=6.4
DLBC LR LR 14 38 07.5
comp=Z,472nm,20.5s,baz=113,slow=38
comp=Z,14nm,0.9s
S34M Telegraph Cree 65.76 334 P P 14 07 25.0 +2.3
baz=125
SFJD Kangerlussuaq 66.69 13 LR LR 14 35 34.8
comp=Z,280nm,21.2s,baz=218,slow=35
PMOZ Porto Moniz, M 67.25 56 eLR LR 14 28 35.1
comp=Z,165nm,20.0s
PPT Papeete 69.41 250 LR LR 14 31 11.2
comp=Z,553nm,18.3s,baz=80,slow=30
N30M Aishikik Lake 70.22 335 P P 14 07 53.3 +2.5
baz=120
M30M Minto, Yukon 70.67 337 P P 14 07 55.5 +2.0
baz=121
RES Resolute Bay 71.03 357 LR LR 14 40 18.5
comp=Z,364nm,18.3s,baz=149,slow=37
M29M Somme Creek 71.27 336 P P 14 07 59.9 +2.6
baz=120
L29M L29M 71.47 337 P P 14 08 00.6 +2.3
baz=120
J30M Hart River 71.54 338 P P 14 08 01.8 +2.9
baz=122
K29M Barlow Dome 71.61 338 P P 14 08 00.9 +1.6
baz=121
I30M Mount Dempster 71.91 339 P P 14 08 03.3 +2.2
baz=122
G31M Satah River 72.13 341 P P 14 08 04.6 +2.4
baz=125
DAWY Dawson 72.43 337 P P 14 08 05.7 +1.5
baz=119
EPYK Eagle Plains 72.64 340 P P 14 08 08.1 +2.8
baz=122
I29M Ogilvie Camp, 72.67 339 P P 14 08 07.3 +1.8
baz=120
INK Inuvik 72.70 342 P P 14 08 07.9 +2.4
baz=126
INK Inuvik 72.70 342 LR LR 14 42 56.1
comp=Z,332nm,18.2s,baz=176,slow=38
BCAR Beaver Creek A 72.92 336 P P 14 08 08.1 +1.1
L27K Beaver Creek, 72.93 336 P P 14 08 09.1 +2.0
baz=116
A36M Sachs Harbour 72.94 347 P P 14 08 07.6 +0.7
baz=135
F30M Barrier River 73.00 341 P P 14 08 09.6 +2.2
baz=124
H29M Whitestone 73.13 339 P P 14 08 10.5 +2.3
baz=121
BMRM Bremner River 73.25 333 P P 14 08 10.9 +1.9
baz=113
G29M Pine Creek 73.36 340 P P 14 08 11.9 +2.3
baz=121
L26K Log Cabin Wild 73.54 335 P P 14 08 12.4 +1.7
baz=115
SUMG Summit 73.68 13 P P 14 08 10.4 -1.4
I27K Kandik River 74.00 338 P P 14 08 15.7 +2.3
baz=117
KLU Klutina 74.04 334 P P 14 08 15.9 +2.2
baz=112
E29M Blow River 74.09 342 P P 14 08 16.0 +2.2
baz=122
SCRK Sand Creek 74.20 336 P P 14 08 16.5 +1.8
baz=115
J26L Joseph Creek 74.25 337 P P 14 08 17.1 +2.1
baz=115
PMAFR Mafra 74.56 51 eS S 14 17 57.0 +4.6
PFVI Vila Bisbo 74.69 53 eS S 14 18 04.7 +11
E28M Babbage River 74.72 341 P P 14 08 19.5 +2.0
baz=120
SCM Sheep Creek Mo 74.79 334 P P 14 08 19.9 +1.9
baz=111
MORF Marmelete 74.85 53 eP P 14 08 20.4 +1.5
comp=Z,97nm,1.9s
PSBE So Bento 75.00 50 eS S 14 18 04.5 +7.1
J25K Salcha River, 75.01 337 P P 14 08 21.0 +1.7
baz=113
PNCL Nicolau / Gran 75.04 52 eS S 14 18 03.4 +5.6
E27K Coleen River 75.19 341 P P 14 08 21.9 +1.7
baz=118
SML Sawmill 75.22 333 P P 14 08 20.5 0.0
SML Sawmill 75.22 333 P P 14 08 21.8 +1.3
baz=110
WAT6 Susitna Watana 75.23 334 P P 14 08 21.9 +1.2
baz=111
PCAS Casmilo, Conde 75.30 50 eP P 14 08 22.8 +1.4
comp=Z,67nm,1.7s
PCVE Castro Verde 75.37 52 eP P 14 08 22.8 +1.0
comp=Z,43nm,1.8s
PMTG Montargil 75.39 51 eP P 14 08 23.0 +1.1
comp=Z,32nm,1.5s
PBDV Barranco-do-Ve 75.41 53 eSS SS 14 23 07.8 +15
D27M Malcolm River 75.49 342 P P 14 08 24.1 +2.1
baz=119
HDA Harding Lake 75.56 336 P P 14 08 23.6 +1.2
baz=112
PVAQ Vaqueiros 75.60 53 eLR LR 14 32 12.2
comp=Z,128nm,22.0s
IL31 75.67 337 P P 14 08 22.8 -0.2
IL31 IAmb IAmb 14 08 32.8
comp=Z,24nm,1.6s
ILAR Eielson Array 75.67 337 P P 14 08 23.5 +0.5
comp=Z,2.4nm,1.0s,baz=138,slow=4.3,SNR=11
ILAR LR LR 14 44 08.7
comp=Z,368nm,19.9s,baz=107,slow=38
comp=Z,2.4nm,1.0s
PGAV Gavieira, Arco 75.72 48 eP P 14 08 25.4 +1.5
comp=Z,39nm,1.7s
PGAV Gavieira, Arco 75.72 48 eLR LR 14 32 27.9
comp=Z,183nm,22.0s
H25L Birch Creek 75.84 338 P P 14 08 26.1 +2.2
baz=113
PVIS Viseu 75.84 49 eP P 14 08 25.8 +1.3
comp=Z,98nm,0.9s
PESTR Estremoz 75.86 51 eP P 14 08 25.8 +1.2
comp=Z,42nm,2.0s
PESTR eS S 14 18 10.3 +3.4
RND Reindeer 75.99 335 P P 14 08 25.5 +0.6
KDAK Kodiak Island 76.07 329 LR LR 14 42 14.2
comp=Z,230nm,21.7s,baz=119,slow=36
MTE Manteigas 76.07 49 eLR LR 14 32 19.0
comp=Z,279nm,22.0s
PMRV Marv??o 76.07 50 eP P 14 08 25.6 -0.2
comp=Z,34nm,1.7s
PMRV Marv??o 76.07 50 eLR LR 14 32 32.6
comp=Z,189nm,20.0s
MCK McKinley 76.14 335 P P 14 08 27.8 +2.1
baz=110
SUA Susitna One 76.21 333 P P 14 08 28.0 +1.7
baz=108
PBAR Barrancos 76.21 52 eP P 14 08 27.2 +0.6
comp=Z,24nm,1.8s
F25K Christian Rive 76.31 339 P P 14 08 29.1 +2.5
baz=114
H24K Noodoo Dome 76.45 337 P P 14 08 30.1 +2.6
baz=111
NEA2 Nenana 76.49 336 P P 14 08 28.8 +1.2
baz=110
E25K Arctic Village 76.50 340 P P 14 08 30.3 +2.6
baz=114
C27K Jago River 76.53 342 P P 14 08 30.2 +2.4
baz=116
MVO Moncorvo 76.55 49 eP P 14 08 30.3 +1.7
comp=Z,27nm,1.5s
MVO eS S 14 18 19.7 +5.2
MVO Moncorvo 76.55 49 eLR LR 14 32 37.2
comp=Z,271nm,22.0s
G24K Hadweenzic Riv 76.62 338 P P 14 08 30.6 +2.2
baz=112
PBRG Braganca 76.83 48 eP P 14 08 30.9 +0.8
comp=Z,28nm,1.6s
C26K Camden Bay 77.03 342 P P 14 08 32.9 +2.4
baz=115
F24K Squaw Lake 77.08 339 P P 14 08 33.5 +2.6
baz=112
H23K Yukon River 77.09 337 P P 14 08 33.5 +2.4
baz=110
BPAW Bear Paw Mtn. 77.12 335 P P 14 08 31.4 +0.2
BPAW IAmb IAmb 14 08 33.6
comp=Z,21nm,1.2s
TIC Toumodi 77.23 84⇑ eP P 14 08 33.5 +0.7
comp=Z,32nm,1.1s
LIC Lato 77.24 85⇑ eP P 14 08 33.7 +0.8
comp=Z,59nm,1.0s
D25K Kavik River 77.25 341 P P 14 08 34.1 +2.1
baz=114
CAST Castle Rocks 77.38 334 P P 14 08 32.2 -0.5
CAST IAmb IAmb 14 08 42.2
comp=Z,20nm,1.2s
DBIC Dimbokro 77.39 84 P P 14 08 35.0 +1.3
comp=Z,8.8nm,0.8s,baz=276,slow=5.8,SNR=4.4
DBIC LR LR 14 40 41.8
comp=Z,169nm,20.8s,baz=260,slow=34
comp=Z,8.8nm,0.8s
KIC Kosan Boka 77.52 84⇑ eP P 14 08 35.2 +0.7
comp=Z,32nm,0.8s
O19K Port Alsworth 77.54 331 P P 14 08 35.4 +1.8
baz=104
G23K Bananza Creek 77.57 338 P P 14 08 35.9 +2.1
baz=110
MDT Midelt 77.77 57 LR LR 14 39 03.0
comp=Z,135nm,20.4s,baz=312,slow=33
COLD Coldfoot 77.81 338 P P 14 08 37.6 +2.6
baz=109
TOLK Toolik Lake Re 78.07 340 P P 14 08 39.0 +2.5
baz=110
C24K Franklin Bluff 78.16 341 P P 14 08 39.8 +2.9
baz=111
N18K Kilae Creek 78.41 331 P P 14 08 40.5 +1.9
baz=103
J20K Nowinta River 78.47 335 P P 14 08 40.7 +1.9
baz=105
D23K Nanushuk River 78.56 340 P P 14 08 42.2 +3.0
baz=109
ESDC Sonseca Array 78.74 50 P P 14 08 41.5 +0.7
comp=Z,8.4nm,0.9s,baz=270,slow=5.6,SNR=33
ESDC LR LR 14 38 30.2
comp=Z,177nm,20.9s,baz=274,slow=32
comp=Z,8.4nm,0.9s
O17K Koliganek Brk 78.81 330 P P 14 08 42.7 +2.0
baz=102
C23K Itkillik River 78.83 341 P P 14 08 43.8 +3.3
baz=110
G21K Allakaket 78.84 337 P P 14 08 42.5 +1.8
baz=106
F21K Alatna River 79.03 338 P P 14 08 44.0 +2.2
baz=106
RAR Rarotonga 79.52 248 LR LR 14 35 20.8
comp=Z,245nm,21.0s,baz=80,slow=29
H19K Roundabout Mou 79.75 336 P P 14 08 47.9 +2.2
baz=103
B22K Teshekpuk Lake 79.90 341 P P 14 08 48.4 +2.0
baz=107
G19K Purcell Mounta 80.15 337 P P 14 08 49.4 +1.5
baz=103
E20K Nigu River 80.29 339 P P 14 08 51.4 +2.7
baz=104
L16K Owhat River 80.32 332 P P 14 08 51.7 +2.9
baz=100
A22K Sinclair Lake 80.58 342 P P 14 08 52.0 +1.9
baz=106
G18K Tagagawik 80.72 336 P P 14 08 53.0 +2.0
baz=101
M15K Kasigluk River 80.74 331 P P 14 08 53.2 +2.1
baz=99
EKA Eskdalemuir Ar 80.75 35 P P 14 08 50.4 -0.9
comp=Z,3.0nm,0.9s,baz=254,slow=6.0,SNR=6.1
comp=Z,3.0nm,0.9s
TOA0 Torodi Ar. Sit 83.56 77 P P 14 09 06.8 -0.1
TORD Torodi Ar. Bea 83.56 77 P P 14 09 07.2 +0.4
TORD Torodi Ar. Bea 83.56 77 P P 14 09 07.6 +0.7
comp=Z,3.7nm,1.0s,baz=293,slow=3.5,SNR=16
TORD LR LR 14 46 17.4
comp=Z,149nm,19.1s,baz=279,slow=36
comp=Z,3.7nm,1.0s
SSB Saint Sauveur 85.20 45 P P 14 09 15.1 +0.5
SSB IAmb IAmb 14 09 17.3
comp=Z,13nm,1.2s
SPITS Spitsbergen Ar 87.99 12 LR LR 14 48 20.5
comp=Z,165nm,21.2s,baz=248,slow=35
VNA3 Neumayer Olymp 88.29 162 ⇑P P 14 09 28.7 -0.4
comp=Z,5.7nm,0.8s
NOA NORSAR Array B 88.42 29 P P 14 09 30.7 +0.7
comp=Z,1.2nm,1.0s,baz=275,slow=4.5,SNR=4.0
NOA LR LR 14 45 24.6
comp=Z,182nm,20.6s,baz=270,slow=33
comp=Z,1.2nm,1.0s
DAVOX Davos/Dischmat 88.84 43 LR LR 14 44 15.1
comp=Z,165nm,20.0s,baz=264,slow=32
HFS Hagfors 89.73 30 LR LR 14 43 31.2
comp=Z,180nm,21.8s,baz=274,slow=31
SNAA Sanae 90.51 162 LR LR 14 49 17.8
comp=Z,108nm,20.8s,baz=304,slow=35
HSKC Hora Svate Kat 90.80 39 AMS AMS 14 43 20.0
comp=Z,400nm,24.2s
KHC Kasperske Hory 91.08 41 eP P 14 09 44.0 +1.3
KHC AMS AMS 14 43 00.0
comp=Z,400nm,21.2s
BRG Berggiesshubel 91.09 39 eP P 14 09 44.4 +1.7
BRG Amp 14 09 46.7
comp=Z,2.8nm,0.8s
BRG Berggiesshubel 91.09 39 P P 14 09 51.1 +8.5
BRG Amp 14 09 54.2
comp=Z,5.6nm,1.1s
GERES GERESS Array B 91.19 41 P P 14 09 44.5 +1.2
comp=Z,0.9nm,0.7s,baz=354,slow=2.7,SNR=4.7
comp=Z,0.9nm,0.7s
ZVC Zvikov 91.44 40 AMS AMS 14 46 50.0
comp=Z,200nm,23.0s
PRA Prague 91.50 40 AMS AMS 14 44 10.0
comp=Z,600nm,24.8s
PVCC Panska Ves 91.53 39 AMS AMS 14 43 40.0
comp=Z,400nm,24.2s
PRU Pruhonice 91.59 40 AMS AMS 14 44 10.0
comp=Z,300nm,22.3s
CKRC Cesky Krumlov 91.60 41 AMS AMS 14 43 00.0
comp=Z,300nm,21.6s
UPC Upice 92.44 39 AMS AMS 14 43 40.0
comp=Z,400nm,21.2s
ARCES ARCESS Array B 92.57 20 LR LR 14 46 18.6
comp=Z,170nm,20.8s,baz=286,slow=32
DPC Dobruska-Polom 92.66 39 AMS AMS 14 43 50.0
comp=Z,400nm,21.0s
DPC Dobruska-Polom 92.66 39 P P 14 09 52.3 +2.3
KRUC Moravsky 92.92 41 eP P 14 09 51.1 -0.1
KRLC Kraliky 93.00 40 AMS AMS 14 45 10.0
comp=Z,400nm,19.4s
VRAC Vranov 93.01 40 eP P 14 09 51.4 -0.2
VAE Valguarnera 93.17 52 LR LR 14 51 39.2
comp=Z,191nm,18.2s,baz=320,slow=36
MORC Moravsky Berou 93.54 40 eP P 14 09 54.4 +0.3
JAVC Velka Javorina 93.78 41 eP P 14 09 54.8 -0.4
QSPA South Pole Qui 93.98 180 P P 14 09 56.9 +1.1
comp=Z,2.2nm,1.0s,baz=160,slow=2.2,SNR=11
comp=Z,7.2nm,1.0s
SHEM Shemya Is, Ala 94.89 324 LR LR 14 51 29.9
comp=Z,87nm,20.6s,baz=114,slow=35
FINES FINESS Array B 95.36 27 LR LR 14 48 42.5
comp=Z,250nm,21.3s,baz=261,slow=33
RAO Raoul Island 96.56 241 LR LR 14 43 15.5
comp=Z,183nm,20.9s,baz=136,slow=29
VNDA Vanda 99.24 191 LR LR 14 46 54.2
comp=Z,142nm,20.1s,baz=106,slow=30
HEH HeiHe 120.13 338 Pdif Pdif 14 11 46.8 -6.0
HEH LR LR
comp=N,190nm,17.4s
HEH LR LR
comp=E,240nm,18.0s
HEH LR LR
comp=Z,310nm,17.5s
ZALV Zalesovo Beam 121.35 9 PKP PKPdf 14 15 31.0 -0.2
comp=Z,0.5nm,0.4s,baz=197,slow=1.5,SNR=4.5
KURBB Kurchatov Arra 123.26 14 PKP PKPdf 14 15 35.0 +0.1
comp=Z,1.6nm,0.9s,baz=328,slow=2.4,SNR=9.3
MKAR Makanchi Array 127.73 13 PKP PKPdf 14 15 43.6 -0.1
comp=Z,1.3nm,0.9s,baz=325,slow=3.6,SNR=6.3
SONM Songino Array 127.82 352 PKP PKPdf 14 15 44.5 +0.5
comp=Z,1.1nm,0.8s,baz=357,slow=3.0,SNR=4.0
WMQ Urumqi 131.64 9 eP PKPdf 14 15 48.1 -3.2
WMQ LR LR
comp=Z,220nm,21.5s
HHC Hu-ho-hao-te 133.56 345 eP PKPdf 14 15 48.5 -6.6
NJ2 Nanjing 138.79 332 eP PKPdf 14 16 02.0 -2.9
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
ASAR Alice Springs 139.70 237 PKhKP PKPpre 13 56 35.7
comp=Z,2.9nm,0.8s,baz=87,slow=9.0,SNR=34
ASAR PKhKP PKPpre 14 15 58.8
comp=Z,0.4nm,0.8s,baz=110,slow=2.3,SNR=2.8
ASAR PKP PKPdf 14 16 06.2 -0.6
comp=Z,0.8nm,0.9s,baz=115,slow=1.5,SNR=5.1
LZH Lanzhou 139.71 352 ePKP PKPdf 14 16 04.0 -2.7
WRA Warramunga Arr 140.66 243 PKhKP PKPpre 13 56 34.6
comp=Z,0.8nm,0.7s,baz=99,slow=6.7,SNR=6.0
WRA PKhKP PKPpre 14 16 00.8
comp=Z,0.4nm,0.6s,baz=119,slow=2.2,SNR=1.8
WRA PKP PKPdf 14 16 08.1 -0.5
comp=Z,1.6nm,0.8s,baz=107,slow=2.1,SNR=5.9
WHN Wuhan 142.06 336 PKPbc PKPdf 14 16 13.6 +2.8
CD2 Chengdu 144.80 350 PKP PKPab 14 16 15.5 +0.9
GYA Guiyang 148.46 344 eP PKPbc 14 16 25.6 0.0
GYA pmax pmax
comp=Z,17nm,1.3s
PZH PanZhiHua 149.43 352 PKPbc PKPdf 14 16 21.0 -2.7
PZH PKPab pPKPbc 14 16 33.3 +1.6
TNCH TengChong 151.17 358 eP PKPdf 14 16 22.3 -4.2
TNCH pP sPKPdf 14 16 32.4 +1.0
TNCH pmax pmax
comp=Z,17nm,1.7s
CMAR Chiang Mai Arr 157.68 356 PKP PKPdf 14 16 35.8 +0.3
comp=Z,0.4nm,0.3s,baz=46,slow=2.6,SNR=4.4
CMAR PKPab PKPab 14 17 08.0 +0.6
comp=Z,1.1nm,0.8s,baz=347,slow=4.1,SNR=5.5

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*IDC **18** 14:00:48.0±0.5,53°.02N×167°.50W, h0km, mb4.6/31, mbtmp4.6/33, ML3.9/2, MS3.8/15, Error ellipse: s-maj=16.1km s-min=9.6km az=173.0*
*AEIC **18** 14:00:52.7±2.6, 52°.88N±0°.06×167°.42W±0°.06, h23km±5km, Error ellipse: s-maj=8.4km s-min=5.3km az=169.0*
*NEIC **18** 14:00:54.5±2.2, 52°.96N±0°.06×167°.44W±0°.06, h47km±6km, mb4.4/143, ML4.4/8, ML4.5(AEIC), Error ellipse: s-maj=9.2km s-min=5.3km az=180.0*

ISC 18 14:00:54.1±0.7, 52°.89N±0°.07×167°.47W±0°.04, h47km±5km, n421, σ1°33/425, mb4.7/90, MS3.8/15, 4C-2D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
OKFG	**Magazine Ridge**	**0.59**	**333**			**Pn 14 01 05.0**	**-1.2**
OKFG						**Sn 14 01 14.6**	**-0.4**
OKTU	**Okmok Mt. Tuli**	**0.60**	**325**			**Pn 14 01 05.4**	**-1.1**
OKCE	**Okmok Cone E**	**0.68**	**322**			**Pn 14 01 06.6**	**-0.9**
OKCE						**Sn 14 01 18.0**	**+0.8**
OKNC	**Okmok New Cone**	**0.69**	**325**			**Pn 14 01 06.6**	**-1.0**
OKWE	**Okmok W'ng Wal**	**0.75**	**322**			**Pn 14 01 07.3**	**-1.0**
MAPS	**Pakushin South**	**0.97**	**19**			**Pn 14 01 10.0**	**-1.3**
MNAT	**Makushin Natee**	**1.10**	**25**			**Pn 14 01 12.1**	**-1.0**
MNAT						**Sn 14 01 26.4**	**-0.7**
MSW	**Makushin Switc**	**1.11**	**21**			**Pn 14 01 12.5**	**-0.7**
MSW						**Sn 14 01 27.4**	**+0.2**
UNV	**Unalaska Valle**	**1.12**	**31**			**Pn 14 01 12.0**	**-1.3**
UNV						**Sn 14 01 27.0**	**-0.5**
MTBL	**Makushin Table**	**1.18**	**23**			**Pn 14 01 13.8**	**-0.5**
AKRB	**Akutan Reef Bi**	**1.50**	**33**			**Pn 14 01 18.2**	**-0.3**
AKRB						**Sn 14 01 39.1**	**+2.2**
ZRO	**Akutan Zero**	**1.50**	**36**			**Pn 14 01 17.6**	**-0.9**
AKBBA	**Akutan Broad B**	**1.52**	**36**			**Pn 14 01 17.9**	**-0.9**
LVA	**Lava Point**	**1.54**	**33**			**Pn 14 01 18.5**	**-0.5**
LVA						**Sn 14 01 38.0**	**+0.3**
AHB	**Akutan Harbor**	**1.58**	**38**			**Pn 14 01 18.4**	**-1.2**
AKSA	**Akutan Strait**	**1.64**	**40**			**Pn 14 01 19.0**	**-1.4**
WECS	**Westdahl Cape**	**2.29**	**43**			**Pn 14 01 29.6**	**+0.2**
WESE	**West Dahl East**	**2.33**	**46**			**Pn 14 01 29.9**	**-0.1**
WEBT	**Westdahl Beart**	**2.35**	**42**			**Pn 14 01 30.2**	**+0.1**
WEBT						**Sn 14 01 58.6**	**+0.9**
SSLN	**Shishaldin Nor**	**2.82**	**45**			**Pn 14 01 37.1**	**+0.5**
ISLZ	**Isanotski Laza**	**2.89**	**49**			**Pn 14 01 37.9**	**+0.3**
ISNN	**Isanotski Nort**	**2.93**	**47**			**Pn 14 01 38.6**	**+0.6**
FALS	**False Pass**	**3.10**	**49**	P		**Pn 14 01 42.6**	**+2.2**
FALS	**False Pass**	**3.10**	**49**			**Pn 14 01 41.1**	**+0.6**
KOFP	**Korovin Flat P**	**4.09**	**264**			**Pn 14 01 55.5**	**+1.4**
KOKL	**Mount Kliuchef**	**4.14**	**265**			**Pn 14 01 56.1**	**+1.3**
ATKA	**Atka Island**	**4.17**	**263**	P		**Pn 14 01 55.2**	**+0.2**
ATKA	**Atka Island**	**4.17**	**263**	Pn		**Pn 14 01 55.9**	**+0.8**
ATKA				IAML		14 03 01.7	
	comp=N,397nm,0.7s						
ATKA				IAML		14 03 11.3	
	comp=E,387nm,0.7s						
PS1A	**Pavlof South-1**	**4.21**	**51**			**Pn 14 01 57.4**	**+1.7**
S12K	**Black Hills**	**4.24**	**46**			**Pn 14 01 56.1**	**0.0**
S12K				IAML		14 03 05.9	

comp=N,548nm,0.7s
S12K IAML 14 03 18.3

comp=E,486nm,0.8s
SPIA Saint Paul Isl 4.58 341 P Pn 14 02 03.2 +2.4
SPIA Saint Paul Isl 4.58 341 Pn 14 02 00.1 -0.6
SDPT Sand Point 4.79 56 P Pn 14 02 04.1 +0.5
SDPT Sand Point 4.79 56 Pn Pn 14 02 03.3 -0.3
CNBA Chernabura Isl 5.05 64 Pn 14 02 06.3 -0.8
VNFG Fog Glacier, M 5.72 50 Pn 14 02 17.2 +0.7
VNHG Veniaminof 1 5.87 52 Pn 14 02 21.5 +3.0
O14K Tigyukauivet M 7.26 26 Pn Pn 14 02 39.2 +1.8
M11K Mekoryuk 7.55 5 Pn 14 02 43.3 +2.0
O15K Ungalikthiuk R 7.61 31 Pn 14 02 44.1 +1.9
N14K Kuskokwak Cree 7.74 22 Pn 14 02 46.1 +2.1
M13K Dall Lake 7.88 15 Pn Pn 14 02 44.5 -1.3
CEPE Semis' Perret 7.93 268 Pn 14 02 47.6 +0.9
CEAP Semis' Anvil P 7.97 269 Pn 14 02 49.3 +2.1
AMKA Amchitka 8.28 265 Pn Pn 14 02 51.8 +0.4
N15K Kwethluk River 8.35 26 Pn 14 02 55.0 +2.6
M14K Bethel 8.44 19 Pn 14 02 55.9 +2.4
O16K Kokwok River B 8.50 34 Pn Pn 14 02 56.9 +2.5
ANCK Angle Creek 8.62 47 Pn 14 02 56.7 +0.6
M15K Kasigluk River 8.66 23 Pn 14 02 58.0 +1.5
ACHA Angle Creek He 8.70 47 Pn 14 02 58.7 +1.5
P17K Kvichak River 8.83 40 Pn 14 03 01.8 +3.0
L14K Kuka Creek 8.86 15 Pn 14 03 00.2 +0.9
N16K Nishlik Lake 8.98 29 Pn 14 03 03.4 +2.5
O17K Koliganek Bris 8.98 36 Pn 14 03 02.6 +1.7
K13K Kusilvak Mount 9.19 8 Pn 14 03 05.6 +1.7
OHAK Old Harbor 9.22 56 P Pn 14 03 03.6 -0.6
OHAK Old Harbor 9.22 56 Pn 14 03 03.1 -1.1
M16K Timber Creek 9.38 26 Pn 14 03 08.7 +2.3
L15K Ungalak Mounta 9.38 18 Pn 14 03 08.4 +1.9
P18K Big Mountain, 9.43 41 Pn 14 03 09.7 +2.5
N17K Nushagak Hills 9.51 32 Pn Pn 14 03 10.5 +2.4
O18K Koktuh Hills 9.73 39 Pn 14 03 13.9 +2.6
KDAK Kodiak Island 9.79 54 Pn 14 03 09.9 -2.1
KDAK Kodiak Island 9.79 54 Pn Pn 14 03 09.7 -2.3
comp=E,1.8nm,0.3s,baz=130,slow=1.9,SNR=11
KDAK Sn **Sn 14 04 54.5 -5.9**
baz=259,slow=23
Q19K Cape Douglas, 9.83 47 Pn 14 03 11.0 -1.7
L16K Owhat River 9.84 23 Pn 14 03 15.4 +2.8
K15K Wolf Creek Mou 9.95 16 Pn 14 03 15.4 +1.2
N18K Kilae Creek 10.05 34 Pn Pn 14 03 16.1 +0.4
J14K Nanvaranak Lak 10.10 10 Pn Pn 14 03 18.3 +2.1
M17K Holitna River 10.11 29 Pn Pn 14 03 17.9 +1.4
SYI Shuyak Island 10.24 50 Pn Pn 14 03 17.3 -0.9
N19K Bonanza Creek 10.64 37 Pn Pn 14 03 26.3 +2.6
L18K Granite Mounta 10.98 27 Pn 14 03 30.0 +1.6
K17K Iditarod 10.98 23 Pn 14 03 29.7 +1.3
J16K Anvik River 11.03 16 Pn Pn 14 03 29.3 +0.3
SHEM Shemya Is, Ala 11.16 277 Pn Pn 14 03 29.0 -1.8
comp=E,1.2nm,0.3s,baz=97,slow=18,SNR=2.0
comp=E,120nm,1.1s
CNPM China Poot 11.20 47 Pn Pn 14 03 30.4 -1.0
J17K VABM Dome 11.42 19 Pn 14 03 36.4 +2.1
M19K Big River Lodg 11.44 33 Pn 14 03 34.4 -0.1
BRLK Bradley Lake 11.47 47 Pn 14 03 34.9 -0.2
L19K White Mountain 11.49 31 Pn Pn 14 03 37.1 +1.7
M20K Styx River 11.85 35 Pn 14 03 40.4 +0.1
J18K Innoko River 12.00 24 Pn Pn 14 03 43.9 +1.6
O22K Cooper Landing 12.34 45 Pn 14 03 46.7 -0.1
SUA Susitna One 12.46 40 Pn 14 03 48.5 -0.1
SKT Skwentna 12.48 37 Pn Pn 14 03 52.5 +3.8
K20K Telida 12.62 29 Pn Pn 14 03 53.1 +2.3
RC01 Rabbit Creek A 12.65 43 Pn Pn 14 03 51.2 +0.1
H17K Granite Mounta 12.68 15 Pn 14 03 54.2 +2.7
J19K Poorman 12.72 24 Pn 14 03 53.6 +1.6
F15K North Star Dit 12.94 5 Pn 14 03 54.0 -1.0
H18K Honhosa River 13.14 17 Pn Pn 14 04 01.8 +4.0
PMR Palmer 13.17 41 Pn 14 03 57.0 -1.1
J20K Nowinta River 13.24 26 Pn Pn 14 03 56.8 -2.4
CAST Castle Rocks 13.27 31 Pn Pn 14 04 03.0 +3.5
KNIK Knik Glacier 13.34 43 Pn 14 04 00.5 -0.1
GHO Glory Hole Cre 13.35 41 Pn 14 03 59.8 -0.9
SML Sawmill 13.60 41 Pn Pn 14 04 03.6 -0.6
GLI Glacier Island 13.66 46 Pn Pn 14 04 03.9 -1.1
HIN Hinchinbrook I 13.72 49 Pn Pn 14 04 02.5 -3.2
KTH Kantishna Hill 13.74 32 Pn Pn 14 04 05.4 -0.6
G18K Tagagawik 13.77 15 Pn Pn 14 04 09.6 +3.2
H19K Roundabout Mou 13.84 19 Pn Pn 14 04 10.2 +3.0
TRF Thorofare Moun 13.88 34 Pn 14 04 10.5 +2.5
FID Port Fidalgo 13.88 47 Pn 14 04 04.5 -3.3
F17K Baldwin Pennin 13.94 10 Pn Pn 14 04 11.6 +2.9
SCM Sheep Creek Mo 14.02 42 Pn 14 04 07.7 -2.2
BPAW Bear Paw Mtn. 14.10 31 P P 14 04 14.8 -2.6
G19K Purcell Mounta 14.27 17 P 14 04 16.9 -2.3
RND Reindeer 14.34 35 Pn 14 04 13.3 -0.9
KLU Klutina 14.45 45 Pn Pn 14 04 13.1 -2.5
KAIM Kayak Island 14.52 52 Pn Pn 14 04 16.9 +0.5
RAGM Ragged Mountai 14.55 50 Pn 14 04 14.8 -2.1
M24K Tolsona, Glenn 14.63 43 Pn 14 04 17.0 -1.0
DHY Denali Highway 14.68 38 Pn Pn 14 04 17.2 -1.4
HMT Hamilton 14.73 50 Pn 14 04 18.4 -0.9
H21K Melozitna Rive 14.78 24 Pn Pn 14 04 20.3 +0.5
F19K Shaleruckik Mo 14.78 15 P 14 04 22.3 -2.6
MLY Manley 14.85 28 P 14 04 23.3 -2.4
E18K Tukpahlearik C 14.96 10 P 14 04 25.5 -1.3
NEA2 Nenana 15.04 32 P P 14 04 25.8 -2.1
WRH Wood River Hil 15.28 33 Pn Pn 14 04 26.8 +0.4
G21K Allakaket 15.31 21 P P 14 04 29.6 -1.2
G21K IAmb IAmb 14 04 34.6
comp=Z,13nm,0.8s
F20K Avaraart Lake 15.32 18 P 14 04 29.9 -1.0
I23K Minto, Yukon-K 15.34 30 P P 14 04 29.2 -1.8
I23K IAmb IAmb 14 04 44.7
comp=Z,15nm,0.8s
GLB Gilahina Butte 15.35 47 Pn Pn 14 04 25.6 -1.7
GLB IAmb IAmb 14 04 42.7
comp=Z,18nm,0.7s
SNH Sunshine Point 15.35 52 Pn 14 04 26.6 -0.7
VRDI Verde Repeater 15.42 48 Pn Pn 14 04 26.4 -2.0
VRDI IAmb IAmb 14 04 32.3
comp=Z,15nm,0.8s
WAX Waxell Ridge 15.43 51 Pn 14 04 26.2 -2.2
E19K Redstone River 15.44 15 P P 14 04 31.1 -1.1
E19K IAmb IAmb 14 04 37.9
comp=Z,26nm,0.8s
C16K Lisburne Hills 15.47 3 P P 14 04 30.7 -1.9
C16K IAmb IAmb 14 04 40.6
comp=Z,18nm,0.8s
CCB Clear Creek Bu 15.49 33 Pn 14 04 27.6 -1.4
MDM Murphy Dome 15.56 32 Pn Pn 14 04 29.8 -0.2
COLA College 15.62 32 P Pn 14 04 31.8 +1.1
COLA College 15.62 32 Pn 14 04 30.9 +0.1
COLA IAmb IAmb 14 04 46.7
comp=Z,16nm,1.0s
HDA Harding Lake 15.63 34 P P 14 04 32.5 -1.8
MCARA McCarthy VSAT 15.67 48 Pn 14 04 32.5 +1.1
MCARA IAmb IAmb 14 04 48.5
comp=Z,35nm,0.9s
ISLE Juniper Island 15.72 51 Pn 14 04 31.7 -0.4
ISLE IAmb IAmb 14 04 43.1
comp=Z,34nm,0.7s
H23K Yukon River 15.77 28 P P 14 04 35.0 -0.9
H23K IAmb IAmb 14 04 58.7
comp=Z,16nm,0.9s
IL31 15.87 33 Pn 14 04 33.7 -0.2
ILAR Eielson Array 15.87 33 Pn 14 04 33.6 -0.4
ILAR Eielson Array 15.87 33 Pn Pn 14 04 31.2 -2.8
comp=Z,0.3nm,0.3s,baz=220,slow=10,SNR=30
ILAR PcP **PcP 14 09 30.2 +0.5**
comp=Z,0.8nm,0.6s,baz=260,slow=3.2,SNR=7.9
ILAR LR LR 14 11 18.2
comp=Z,330nm,18.1s,baz=223,slow=40
comp=Z,0.9nm,0.6s
MENT Mentasta 16.03 42 Pn 14 04 35.5 -0.5
MENT IAmb IAmb 14 04 53.6
comp=Z,12nm,0.6s
C18K Utukok River 16.09 8 P 14 04 41.7 +2.2
C18K IAmb IAmb 14 05 02.2
comp=Z,32nm,1.4s
M26K Nabesna, AK 16.09 44 Pn Pn 14 04 35.6 -1.2
M26K IAmb IAmb 14 04 41.9
comp=Z,19nm,0.6s
BARN Barnard Glacie 16.18 49 P P 14 04 40.1 -0.6
BARN IAmb IAmb 14 04 43.7
comp=Z,22nm,0.6s
L26K Log Cabin Wild 16.22 42 Pn 14 04 38.0 -0.5
L26K IAmb IAmb 14 04 41.8
comp=Z,14nm,0.7s

H24K Noodor Dome 16.27 30 Pn Pn 14 04 38.0 -1.0
D19K Kuna River 16.28 12 P P 14 04 42.5 +1.0
J25K Salcha River, 16.30 35 Pn 14 04 38.4 -1.0
CTGM Chitina Glacie 16.30 50 Pn 14 04 39.6 +0.1
CTGM IAmb IAmb 14 04 44.7
comp=Z,39nm,0.7s
G23K Bananza Creek 16.31 25 Pn 14 04 39.7 +0.2
G23K IAmb IAmb 14 04 54.0
comp=Z,22nm,1.1s
LOGN Logan Glacier 16.41 51 Pn 14 04 40.9 -0.1
LOGN IAmb IAmb 14 04 46.5
comp=Z,26nm,0.9s
SCRK Sand Creek 16.45 38 Pn Pn 14 04 41.0 -0.4
M27K Edge Creek, AK 16.55 45 Pn 14 04 43.0 +0.3
C19K Lookout Ridge 16.69 10 P 14 04 47.9 +1.9
PRP Porcupine Dome 16.79 33 Pn Pn 14 04 44.3 -1.4
BCPM Bancas Point 16.84 54 P P 14 04 49.5 +1.7
L27K Beaver Creek, 16.86 43 Pn Pn 14 04 46.2 -0.3
E21K Killik River 16.87 17 P P 14 04 49.8 +1.7
BCAR Beaver Creek A 16.88 43 Pn 14 04 46.2 -0.6
J26L Joseph Creek 16.88 37 Pn 14 04 47.0 +0.3
J26L IAmb IAmb 14 05 03.3
comp=Z,12nm,0.6s
G24K Hadweenzic Riv 16.99 28 Pn 14 04 48.0 0.0
E22K Anaktuvuk Pass 17.03 20 P 14 04 52.0 +2.2
E22K IAmb IAmb 14 04 59.9
comp=Z,17nm,0.8s
K27K Chicken 17.20 40 P P 14 04 51.1 -0.6
F24K Squaw Lake 17.47 25 Pn P 14 04 57.0 +2.3
I26K Coal Creek Min 17.47 35 P Pn 14 04 52.0 -2.0
I26K IAmb IAmb 14 05 21.0
comp=Z,24nm,1.1s
D22K Ayikyak River 17.49 18 P 14 04 57.1 +2.3
FYU Fort Yukon 17.55 30 P 14 04 55.6 +0.1
P29M Windy Craggy 17.73 56 P 14 05 00.8 +3.2
P29M IAmb IAmb 14 05 10.3
comp=Z,38nm,1.1s
E24K Your Creek 17.74 24 P P 14 04 58.2 +0.5
B21K Ikpikpuk River 17.82 15 P 14 04 58.0 -0.4
B21K IAmb IAmb 14 05 14.8
comp=Z,19nm,0.8s
B20K Meade River 17.82 12 P P 14 04 59.4 +1.0
EGAK Eagle 17.91 38 P Pn 14 04 58.8 -0.6
TOLK Toolik Lake Re 17.93 21 P 14 05 02.0 +2.2
M29M Somme Creek 18.07 47 P P 14 05 00.9 -0.4
M29M IAmb IAmb 14 05 09.5
comp=Z,26nm,1.1s
HYT Haines Junctio 18.07 52 P Pn 14 05 01.6 +0.1
HYT IAmb IAmb 14 05 09.0
comp=Z,37nm,0.8s
DAWY Dawson 18.27 41 P P 14 05 03.1 -0.5
DAWY IAmb IAmb 14 05 09.8
comp=Z,13nm,0.7s
BMAR Burnt Mountain 18.32 29 P P 14 05 02.9 -1.1
S31K Pelican 18.33 61 Pn 14 05 06.1 +1.5
S31K IAmb IAmb 14 05 14.9
comp=Z,15nm,0.7s
N30M Aishikik Lake 18.41 50 P P 14 05 05.4 +0.2
L29M L29M 18.43 45 P 14 05 05.5 +0.1
L29M IAmb IAmb 14 05 12.8
comp=Z,18nm,0.7s
D24K Happy Valley 18.50 21 P Pn 14 05 07.0 +0.5
E25K Arctic Village 18.52 26 P Pn 14 05 07.2 +0.5
E25K IAmb IAmb 14 05 11.9
comp=Z,11nm,0.6s
B22K Teshekpuk Lake 18.65 15 P P 14 05 07.2 -0.4
B22K IAmb IAmb 14 05 14.5
comp=Z,16nm,0.8s
I28M Miner Creek 18.69 37 P P 14 05 07.8 -0.4
I28M IAmb IAmb 14 05 19.0
comp=Z,12nm,0.7s
C23K Itkillik River 18.70 18 P P 14 05 08.1 0.0
C23K IAmb IAmb 14 05 10.8
comp=Z,18nm,0.6s
O30N Mendenhall 18.73 53 P Pn 14 05 10.2 +0.7
O30N IAmb IAmb 14 05 13.0
comp=Z,24nm,0.8s
SIT Sitka 18.81 64 Pn 14 05 11.3 +1.1
SIT IAmb IAmb 14 05 24.0
comp=Z,17nm,1.0s
G27K Doyon Strip 18.83 32 P P 14 05 09.4 -0.2
M30M Minto, Yukon 18.84 47 P Pn 14 05 10.6 -0.1
SKAG Skagway 18.92 57 P Pn 14 05 13.2 +1.6
SKAG Skagway 18.92 57 P Pn 14 05 12.6 +1.0
K29M Barlow Dome 18.95 43 P 14 05 11.3 +0.3
K29M IAmb IAmb 14 05 18.4
comp=Z,13nm,0.8s
N31M Braeburn, Yuko 19.03 51 Pn 14 05 14.5 +1.6
D25K Kavik River 19.19 23 P P 14 05 13.5 0.0
D25K IAmb IAmb 14 05 20.9
comp=Z,33nm,0.9s
S32K Killisnoo 19.21 63 P Pn 14 05 16.5 +1.5
S32K IAmb IAmb 14 05 25.2
comp=Z,22nm,0.8s
R32K Eaglecrest 19.25 61 P Pn 14 05 15.9 +0.3
R32K IAmb IAmb 14 05 32.8
comp=Z,20nm,1.1s
I29M Ogilvie Camp, 19.26 38 P P 14 05 13.5 -0.8
WHY Whitehorse 19.30 53 P 14 05 15.3 +0.4
WHY IAmb IAmb 14 05 32.3
comp=Z,23nm,0.8s
JIS Juneau Island 19.33 61 P Pn 14 05 17.3 +0.9
JIS Juneau Island 19.33 61 P P 14 05 15.8 +0.8
JIS IAmb IAmb 14 05 27.9
comp=Z,26nm,0.8s
H29M Whitestone 19.63 36 P P 14 05 17.9 -0.5
E27K Coleen River 19.67 29 P P 14 05 18.5 -0.4
J30M Hart River 19.70 41 P P 14 05 19.1 -0.2
J30M IAmb IAmb 14 05 25.9
comp=Z,10nm,0.6s
P32M Atlin 19.75 57 P Pn 14 05 21.9 +0.4
M31M Drury Creek, Y 19.83 49 P Pn 14 05 22.5 +0.1
F28M Old Crow 19.86 31 P P 14 05 19.8 -1.1
F28M IAmb IAmb 14 05 28.4
comp=Z,8.2nm,0.6s
I30M Mount Dempster 19.93 40 P P 14 05 20.4 -1.4
I30M IAmb IAmb 14 05 27.5
comp=Z,12nm,0.7s
U33K Whale Pass 20.08 67 P Pn 14 05 26.2 +0.9
U33K IAmb IAmb 14 05 47.2
comp=Z,37nm,1.4s
G29M Pine Creek 20.09 34 P P 14 05 22.8 -0.6
CRAG Craig 20.14 69 P Pn 14 05 26.7 +0.6
CRAG Craig 20.14 69 P Pn 14 05 26.8 +0.6
CRAG IAmb IAmb 14 05 27.3
comp=Z,20nm,0.7s
N32M Quiet Lake 20.25 52 P Pn 14 05 26.7 -0.8
P33M Teslin, Yukon 20.26 55 P P 14 05 26.1 +0.8
P33M IAmb IAmb 14 05 38.3
comp=Z,26nm,0.9s
EPYK Eagle Plains 20.29 36 P P 14 05 24.7 -0.9
EPYK IAmb IAmb 14 05 25.7
comp=Z,34nm,0.9s
FARO Faro, Yukon 20.31 49 P Pn 14 05 27.1 -1.1
D27M Malcolm River 20.52 27 P P 14 05 28.7 +0.7
D27M IAmb IAmb 14 05 36.4
comp=Z,10nm,0.8s
E28M Babbage River 20.54 29 P P 14 05 27.7 -0.5
G30M tAoh Zraii Nji 20.75 35 P P 14 05 28.9 -1.6
G30M IAmb IAmb 14 05 34.7
comp=Z,15nm,0.5s
PEA0B Petropavlovsk- 20.85 285 P P 14 05 31.0 -0.6
PEA0B IAmb IAmb 14 05 41.7
comp=Z,36nm,1.1s
PETK Petropavlovsk- 20.85 285 P P 14 05 30.8 -0.8
PETK Petropavlovsk- 20.85 285 P P 14 05 31.1 -0.5
comp=Z,13nm,0.4s,baz=86,slow=14,SNR=44
PETK LR LR 14 13 24.7
comp=Z,148nm,20.6s,baz=80,slow=36
comp=Z,13nm,0.4s
E29M Blow River 20.91 31 P P 14 05 31.9 -0.3
E29M IAmb IAmb 14 05 32.7
comp=Z,21nm,1.1s
DIB Dawson Inlet, 20.92 75 P P 14 05 33.9 +1.6
DIB IAmb IAmb 14 05 52.3
comp=Z,13nm,0.9s
H31M Peel River 20.94 39 P P 14 05 31.3 -1.2
H31M IAmb IAmb 14 05 40.7
comp=Z,16nm,0.7s
V35K Ketchikan 21.02 69 P P 14 05 35.0 +1.6
V35K IAmb IAmb 14 05 49.7
comp=Z,12nm,0.8s
S34M Telegraph Cree 21.05 62 P P 14 05 36.6 +2.9
S34M IAmb IAmb 14 05 47.8

comp=Z,12nm,0.8s
R33M Jennings River 21.14 58 P P 14 05 36.5 +1.7
R33M IAmb IAmb 14 05 44.8
comp=Z,20nm,0.9s
G31M Satah River 21.41 36 P P 14 05 35.7 -1.9
G31M IAmb IAmb 14 05 51.5
comp=Z,16nm,0.8s
T35M Bob Quinn 21.58 64 P P 14 05 39.5 0.0
DLBC Dease Lake 21.62 60 P P 14 05 43.1 +3.2
DLBC IAmb IAmb 14 05 59.9
comp=Z,11nm,0.8s
DLBC Dease Lake 21.62 60 P P 14 05 40.9 +0.9
comp=Z,6.8nm,0.7s,baz=265,slow=9.8,SNR=19
DLBC S **S 14 09 34.7 -2.0**
comp=Z,2.2nm,0.7s,baz=128,slow=22,SNR=3.1
DLBC LR LR 14 13 01.4
comp=Z,103nm,19.9s,baz=334,slow=34
comp=Z,6.8nm,0.7s
RUBB Prince Rupert 21.96 71 P P 14 05 44.1 +0.6
RUBB IAmb IAmb 14 06 17.0
comp=Z,9.9nm,1.0s
GRNB Grenville Isla 22.24 72 P P 14 05 47.0 +0.5
INK Inuvik 22.27 33 P P 14 05 45.0 -1.8
INK Inuvik 22.27 33 LR LR 14 15 20.6
comp=Z,231nm,18.3s,baz=180,slow=39
SEY Seymchan 23.18 311 LR LR 14 15 12.0
comp=Z,86nm,18.6s,baz=134,slow=37
MA2 Magadan 23.82 303 P P 14 06 02.9 +0.5
MA2 Magadan 23.82 303 P P 14 06 01.2 -1.1
MA2 Magadan 23.82 303 LR LR 14 14 54.2
comp=Z,111nm,19.8s,baz=98,slow=36
MA2 Magadan 23.82 303 P P 14 06 02.7 +0.3
comp=Z,46nm,0.7s
WRGLY Wrigley 24.96 48 P P 14 06 14.7 +2.0
C36M Paulatuk 25.85 34 P P 14 06 20.3 -0.3
C36M IAmb IAmb 14 06 21.3
comp=Z,11nm,0.7s
A36M Sachs Harbour 26.41 28 P P 14 06 25.4 -0.3
A36M IAmb IAmb 14 06 30.8
comp=Z,18nm,0.8s
YKA Yellowknife Ar 29.02 50 P P 14 06 49.8 +0.6
YKA Yellowknife Ar 29.02 50 P P 14 06 50.2 +1.1
comp=Z,4.5nm,0.6s,baz=277,slow=9.1,SNR=59
YKA PcP **PcP 14 09 57.3 +1.0**
comp=Z,2.7nm,0.6s,baz=295,slow=2.5,SNR=16
comp=Z,4.5nm,0.6s
I04A Tendick Farm, 30.84 89 P P 14 07 07.5 +2.0
I04A IAmb IAmb 14 07 09.2
comp=Z,7.3nm,0.8s
TIXI Tiksi 32.89 328 LR LR 14 21 27.8
comp=Z,161nm,21.7s,baz=88,slow=38
YAK Yakutsk 33.71 311 LR LR 14 20 33.3
comp=Z,89nm,20.4s,baz=68,slow=35
PNTR Pine Nut 35.32 93 P P 14 07 46.4 +1.6
RES Resolute Bay 35.40 26 P P 14 07 44.4 -0.3
YERR Yerington 35.60 93 P P 14 07 48.2 +1.0
YERR IAmb IAmb 14 07 50.0
comp=Z,5.7nm,0.7s
WAKR Walker 35.79 94 P P 14 07 51.0 +2.1
WAKR IAmb IAmb 14 07 51.9
comp=Z,6.1nm,0.7s
KVN Kaiserville 36.25 92 P P 14 07 53.6 +0.9
NVAR Mina Array Bea 36.52 93 P P 14 07 57.1 +2.0
comp=Z,2.9nm,0.7s,baz=298,slow=8.0,SNR=18
NVAR PcP **PcP 14 10 19.2 +1.3**
comp=Z,1.1nm,0.6s,baz=304,slow=2.8,SNR=5.8
comp=Z,2.9nm,0.7s
YHH Holmes Hill 37.26 79 P P 14 08 02.0 +0.6
KLR Kul'dur 37.38 290 LR LR 14 24 12.3
comp=Z,143nm,18.9s,baz=80,slow=38
R11B Troy Canyon, C 38.22 91 P P 14 08 10.9 +1.5
H11N2 WAKE ISLAND Hy 38.59 221 T T 14 49 52.2
baz=24,slow=76,SNR=1730
H11N3 WAKE ISLAND Hy 38.60 221 T T 14 49 53.9
baz=24,slow=76,SNR=1657
H11N1 WAKE ISLAND Hy 38.61 221 T T 14 49 50.1
baz=24,slow=76,SNR=983
PD31 Pinedale Array 39.17 81 P P 14 08 17.2 -0.2
PDAR Pinedale Array 39.17 81 P P 14 08 17.2 -0.2
PDAR Pinedale Array 39.17 81 P P 14 08 18.4 +1.0
comp=Z,3.2nm,0.8s,baz=306,slow=4.4,SNR=15
comp=Z,3.2nm,0.8s
FCC Fort Churchill 39.71 51 P P 14 08 22.5 +1.1
H11S1 WAKE ISLAND Hy 39.78 220 T T 14 51 19.9
baz=24,slow=76,SNR=4006
H11S2 WAKE ISLAND Hy 39.79 220 T T 14 51 12.2
baz=24,slow=76,SNR=1191
H11S3 WAKE ISLAND Hy 39.80 220 T T 14 51 21.1
baz=24,slow=76,SNR=1362
MAJO Matsushiro 40.87 269 P P 14 08 32.2 +0.9
MAJO Matsushiro 40.87 269 P P 14 08 31.8 +0.5
MJAR Matsushiro Arr 40.87 269 P P 14 08 31.6 +0.3
comp=Z,7.7nm,0.7s,baz=39,slow=7.2,SNR=12
comp=Z,7.7nm,0.7s
MDJ Mudanjiang 41.09 285 P P 14 08 28.9 -4.1
MDJ pmax pmax
comp=Z,11nm,1.6s
MDJ pmax pmax
comp=Z,180nm,4.9s
U15A North Rim 41.46 91 P P 14 08 36.7 +0.2
U15A IAmb IAmb 14 08 39.2
comp=Z,4.1nm,0.8s
RSSD Black Hills 41.66 76 P P 14 08 36.9 -1.0
RSSD IAmb IAmb 14 08 38.9
comp=Z,3.8nm,0.6s
JGF Kuroka 42.01 268 P P 14 08 41.0 +0.3
JGF Kuroka 42.01 268 P P 14 08 40.7 +0.1
ULM Lac du Bonnet 42.88 64 P P 14 08 46.9 -0.6
ULM IAmb IAmb 14 08 54.0
comp=Z,3.8nm,0.8s
ULM Lac du Bonnet 42.88 64 P P 14 08 47.7 +0.2
comp=Z,2.0nm,0.7s,baz=322,slow=4.1,SNR=3.0
ULM LR LR 14 27 05.9
comp=Z,286nm,21.5s,baz=160,slow=37
comp=Z,2.0nm,0.7s
NOR Nord 44.84 6 *i* **P P 14 09 02.7 -0.1**
NOR IAmb IAmb 14 09 05.5
comp=Z,2.1nm,0.8s
JMN Monobe 45.38 269 P P 14 09 08.5 +0.7
KSRS Korea Array 46.49 278 P P 14 09 17.0 +0.6
comp=Z,3.5nm,0.6s,baz=54,slow=7.4,SNR=12
comp=Z,3.5nm,0.6s
JNU Nakatsue 47.62 271 P P 14 09 26.1 +0.8
JNU Nakatsue 47.62 271 P P 14 09 24.8 -0.5
UMMG Uummannaq 48.41 24 *i* **P P 14 09 30.3 -0.6**
UMMG IAmb IAmb 14 09 33.3
comp=Z,5.8nm,0.8s
DAG Danmarks Havn 49.10 9 *i* **P P 14 09 35.0 -1.1**
DAG IAmb IAmb 14 09 36.9
comp=Z,11nm,0.6s
SPITS Spitsbergen Ar 49.17 359 P P 14 09 36.3 -0.3
comp=Z,1.1nm,0.3s,baz=21,slow=5.2,SNR=14
comp=Z,1.1nm,0.3s
SUMG Summit 49.94 18 *i* **P P 14 09 42.8 -0.2**
SUMG IAmb IAmb 14 09 46.0
comp=Z,8.8nm,0.7s
WMOK Wichita Mounta 50.76 82 P P 14 09 49.2 0.0
WMOK IAmb IAmb 14 09 50.7
comp=Z,5.1nm,0.7s
DBG Daneborg 51.19 11 *i* **P P 14 09 50.5 -1.4**
DBG IAmb IAmb 14 09 52.5
comp=Z,8.2nm,0.6s
SFJD Kangerlussuaq 51.40 27 *i* **P P 14 09 52.7 -0.9**
SFJD IAmb IAmb 14 09 54.5
comp=Z,5.7nm,0.7s
TX31 Lajitas Ar. Si 51.59 91 P P 14 09 56.3 +0.7
TXAR Lajitas Array 51.59 91 P P 14 09 56.2 +0.6
TXAR Lajitas Array 51.59 91 P P 14 09 56.5 +0.9
comp=Z,7.9nm,0.6s,baz=299,slow=5.5,SNR=103
comp=Z,7.9nm,0.6s
ULN Ulaanbaatar 51.66 301 P P 14 09 56.1 +0.1
SONM Songino Array 52.02 301 P P 14 09 58.6 -0.1
comp=Z,2.2nm,0.6s,baz=42,slow=6.1,SNR=7.4
SONM PcP **PcP 14 11 11.1 +0.7**
comp=Z,2.8nm,0.7s,baz=70,slow=2.8,SNR=6.9
comp=Z,2.2nm,0.6s
ICESG Greenland Ices 52.48 21 *i* **P P 14 10 00.8 -1.2**
ICESG IAmb IAmb 14 10 02.7
comp=Z,6.5nm,0.6s
X37A Clayton 52.90 80 P P 14 10 05.7 +0.6
DY2G Dye2 52.95 25 *i* **P P 14 10 04.2 -1.1**
DY2G IAmb IAmb 14 10 06.7
comp=Z,6.6nm,0.6s
HHC Hu-ho-hao-te 53.81 292 eP P 14 10 12.5 +0.6
FCAR Ozark Folk Cen 53.93 76 P P 14 10 10.7 -2.0
SCHQ Schefferville 54.26 44 P P 14 10 15.0 +0.2

HNS	**HongShan**	**54.35**	**287**	⇑P		**P**	**14**	**10**	**16.3**	**+0.6**
HNS				pmax	pmax					
	comp=Z,24nm,0.8s									
NJ2	**Nanjing**	**55.62**	**279**	*e*P		**P**	**14**	**10**	**24.8**	**-0.1**
NJ2				pmax	pmax					
	comp=Z,13nm,0.6s									
OXF	**Oxford**	**56.48**	**76**	P		P	**14**	**10**	**30.6**	**-0.5**
ARCES	**ARCESS Array B**	**57.52**	**355**	P		P	**14**	**10**	**37.2**	**-0.8**
	comp=Z,1.6nm,0.6s,baz=11,slow=6.2,SNR=10									
ARCES				PcP		**PcP**	**14**	**11**	**31.4**	**+0.4**
	comp=Z,2.5nm,0.6s,baz=22,slow=3.8,SNR=9.1									
	comp=Z,1.6nm,0.6s									
LYN	**LuoYang**	**57.63**	**286**	⇓P		**P**	**14**	**10**	**39.8**	**+0.6**
LYN				pmax	pmax					
	comp=Z,24nm,0.7s									
ZAA0	**Zalesovo Array**	**57.81**	**318**	P		**P**	**14**	**10**	**39.3**	**-0.9**
ZAA0				IAmb	IAmb		14	10	41.2	
	comp=Z,4.2nm,0.7s									
ZAA0						**PcP**	**14**	**11**	**32.7**	**+0.4**
ZALV	**Zalesovo Beam**	**57.81**	**318**	P		**P**	**14**	**10**	**38.7**	**-1.5**
ZALV						**PcP**	**14**	**11**	**32.5**	**+0.2**
ZALV	**Zalesovo Beam**	**57.81**	**318**	P		**P**	**14**	**10**	**39.4**	**-0.8**
	comp=Z,4.5nm,0.6s,baz=42,slow=6.6,SNR=20									
ZALV				PcP		**PcP**	**14**	**11**	**32.9**	**+0.5**
	comp=Z,3.7nm,0.6s,baz=51,slow=4.5,SNR=8.7									
ZALV				LR		LR	14	38	04.2	
	comp=Z,79nm,19.3s,baz=289,slow=39									
	comp=Z,4.5nm,0.6s									
YOJ	**Yonaguni jima**	**58.62**	**270**	P		**P**	**14**	**10**	**45.5**	**-0.7**
	comp=Z,54nm,1.1s									
WHN	**Wuhan**	**59.38**	**281**	P		**P**	**14**	**10**	**51.4**	**0.0**
WHN				pmax	pmax					
	comp=Z,50nm,0.7s									
SSLB	**Suanglung**	**60.37**	**271**	P		**P**	**14**	**10**	**58.7**	**+0.4**
SSLB	**Suanglung**	**60.37**	**271**	P		**P**	**14**	**10**	**56.3**	**-2.1**
YULB	**Yu-li**	**60.45**	**270**	P		**P**	**14**	**10**	**59.1**	**+0.2**
YULB	**Yu-li**	**60.45**	**270**	P		**P**	**14**	**10**	**58.5**	**-0.5**
LZH	**Lanzhou**	**61.46**	**293**	*e*P		**P**	**14**	**11**	**05.6**	**-0.2**
LZH				pP		sP	14	11	27.8	+3.7
LZH				pmax	pmax					
	comp=Z,13nm,1.1s									
LZH				LR		LR				
	comp=N,160nm,18.9s									
LZH				LR		LR				
	comp=E,160nm,17.5s									
LZH				LR		LR				
	comp=Z,190nm,19.9s									
CNSH	**ChangSha**	**61.95**	**280**	⇑P		**P**	**14**	**11**	**08.8**	**-0.1**
CNSH				pmax	pmax					
	comp=Z,24nm,0.8s									
KURK	**Kurchatov**	**62.75**	**319**	P		**P**	**14**	**11**	**13.6**	**-0.4**
KURBB	**Kurchatov Arra**	**62.85**	**319**	P		**P**	**14**	**11**	**14.1**	**-0.6**
	comp=Z,4.4nm,0.6s,baz=28,slow=6.6,SNR=44									
KURBB				PcP		**PcP**	**14**	**11**	**53.0**	**+0.3**
	comp=Z,2.6nm,0.9s,baz=37,slow=4.5,SNR=6.9									
	comp=Z,4.4nm,0.6s									
BVAR	**Borovoye Array**	**63.95**	**325**	P		**P**	**14**	**11**	**21.8**	**-0.1**
	comp=Z,7.7nm,0.6s,baz=52,slow=7.4,SNR=43									
BVAR				PcP		**PcP**	**14**	**11**	**57.3**	**+0.3**
	comp=Z,5.1nm,0.6s,baz=38,slow=2.6,SNR=10									
	comp=Z,7.7nm,0.6s									
MK31	**Makanchi Array**	**64.28**	**314**	P		**P**	**14**	**11**	**23.0**	**-1.2**
MK31				IAmb	IAmb		14	11	24.8	
	comp=Z,2.7nm,0.7s									
MKAR	**Makanchi Array**	**64.28**	**314**	P		**P**	**14**	**11**	**22.9**	**-1.3**
MKAR				PcP		**PcP**	**14**	**11**	**58.1**	**-0.5**
MKAR	**Makanchi Array**	**64.28**	**314**	P		**P**	**14**	**11**	**22.9**	**-1.3**
	comp=Z,4.5nm,0.7s,baz=47,slow=7.0,SNR=44									
MKAR				PcP		**PcP**	**14**	**11**	**58.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=46,slow=6.9,SNR=3.9									
	comp=Z,4.5nm,0.7s									
MAKZ	**Makanchi**	**64.41**	**315**	P		**P**	**14**	**11**	**23.5**	**-1.6**
MAKZ				IAmb	IAmb		14	11	24.5	
	comp=Z,4.0nm,0.6s									
MAKZ				PcP		**PcP**	**14**	**11**	**57.9**	**-1.2**
ARU	**Arti**	**64.68**	**334**	P		**P**	**14**	**11**	**25.6**	**-1.0**
ARU	**Arti**	**64.68**	**334**	P		**P**	**14**	**11**	**26.4**	**-0.2**
	comp=Z,9.5nm,0.9s									
CD2	**Chengdu**	**65.31**	**289**	P		**P**	**14**	**11**	**31.8**	**+0.7**
CD2				pmax	pmax					
	comp=Z,20nm,0.6s									
SZP	**Santa**	**65.40**	**267**	P		**P**	**14**	**11**	**32.0**	**+0.2**
FINES	**FINESS Array B**	**65.51**	**353**	P		**P**	**14**	**11**	**30.8**	**-1.0**
	comp=Z,7.7nm,0.7s,baz=14,slow=6.8,SNR=25									
	comp=Z,7.7nm,0.7s									
CMIG	**Matias Romero**	**66.06**	**93**	P		**P**	**14**	**11**	**36.0**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=9.5,slow=6.1,SNR=5.4									
	comp=Z,2.5nm,0.6s									
NB2	**NORSAR Subarra**	**66.42**	**1**	P		**P**	**14**	**11**	**37.8**	**0.0**
	comp=Z,1.4nm,0.7s,baz=359,slow=6.5									
NOA	**NORSAR Array B**	**66.42**	**1**	P		**P**	**14**	**11**	**37.3**	**-0.5**
	comp=Z,1.9nm,0.7s,baz=0.1,slow=6.3,SNR=7.6									
	comp=Z,1.9nm,0.7s									
GYA	**Guiyang**	**66.94**	**284**	⇑P		**P**	**14**	**11**	**42.3**	**+0.5**
GYA				pmax	pmax					
	comp=Z,30nm,0.8s									
HFS	**Hagfors**	**67.33**	**359**	P		**P**	**14**	**11**	**43.1**	**-0.4**
	comp=Z,4.3nm,0.4s,baz=26,slow=3.7,SNR=26									
	comp=Z,4.3nm,0.4s									
PZH	**PanZhiHua**	**69.78**	**287**	P		**P**	**14**	**12**	**00.1**	**+0.6**
PZH				pmax	pmax					
	comp=Z,50nm,0.9s									
KMI	**Kunming**	**70.25**	**286**	⇑P		**P**	**14**	**12**	**01.9**	**-0.7**
KMI				pmax	pmax					
	comp=Z,20nm,0.8s									
ABKAR	**Akbulak array**	**70.59**	**329**	P		**P**	**14**	**12**	**03.9**	**-0.1**
ABKAR				IAmb	IAmb		14	12	05.4	
	comp=Z,5.7nm,0.8s									
ABKAR				PcP		**PcP**	**14**	**12**	**25.2**	**+0.4**
ABKAR	**Akbulak array**	**70.59**	**329**	P		**P**	**14**	**12**	**03.6**	**-0.4**
ABKAR				PcP		**PcP**	**14**	**12**	**25.0**	**+0.2**
EKA	**Eskdalemuir Ar**	**71.36**	**9**	P		**P**	**14**	**12**	**08.6**	**0.0**
	comp=Z,3.0nm,0.6s,baz=343,slow=4.6,SNR=15									
	comp=Z,3.0nm,0.6s									
KKAR	**Karatay Array**	**72.16**	**319**	P		**P**	**14**	**12**	**12.9**	**-0.7**
KSH	**Kashi**	**72.87**	**314**	P		**P**	**14**	**12**	**21.3**	**+3.3**
KSH				pmax	pmax					
	comp=Z,11nm,0.8s									
RNPP8	**Varash**	**75.54**	**351**	P		**P**	**14**	**12**	**33.2**	**0.0**
RNPP5	**Staryi Chortor**	**75.65**	**351**	P		**P**	**14**	**12**	**33.7**	**-0.1**
MI28	**MI28,Pidlybu**	**75.77**	**350**	P		**P**	**14**	**12**	**34.2**	**-0.3**
AKASG	**Malin Array Be**	**75.83**	**349**	P		**P**	**14**	**12**	**34.0**	**-0.8**
	comp=Z,14nm,0.6s,baz=13,slow=5.6,SNR=49									
	comp=Z,14nm,0.6s									
AKBB	**Malin Array Si**	**75.83**	**349**	P		**P**	**14**	**12**	**34.1**	**-0.7**
AKBB				pP		**sP**	**14**	**12**	**55.3**	**+1.8**
KIEV	**Kiev**	**75.83**	**349**	P		**P**	**14**	**12**	**33.2**	**-1.6**
CLL	**Collm**	**76.18**	**360**	*i* P		**P**	**14**	**12**	**36.7**	**-0.1**
	comp=Z,5.0nm,0.7s									
CLL				*i* pP		**sP**	**14**	**12**	**53.9**	**-1.5**
SIMJ	**Simiganj**	**76.53**	**318**	P		**P**	**14**	**12**	**38.3**	**-1.0**
BRG	**Berggiesshubel**	**76.61**	**359**	*e*P		**P**	**14**	**12**	**39.6**	**+0.3**
BRG				Amp			14	12	41.1	
	comp=Z,3.0nm,0.9s									
BRG				Amp			14	43	08.0	
	comp=N,0.1nm,24.4s									
BRG				Amp			14	43	12.0	
	comp=Z,0.4nm,25.6s									
BRG				Amp			14	43	17.0	
	comp=E,0.2nm,23.6s									
LUBAR	**Lubar, Ukraine**	**76.76**	**350**	P		**P**	**14**	**12**	**38.8**	**-1.3**
BMRD	**Maredsous**	**76.97**	**5**	*d*P		**P**	**14**	**12**	**41.8**	**+0.5**
DPC	**Dobruska-Polom**	**77.09**	**358**	*e*P		**P**	**14**	**12**	**42.9**	**+0.9**
DPC	**Dobruska-Polom**	**77.09**	**358**	P		**P**	**14**	**12**	**42.9**	**+0.9**
	comp=E,9.5nm,0.8s									
CHTO	**Chiang Mai**	**77.35**	**284**	P		**P**	**14**	**12**	**43.9**	**0.0**
CHTO				IAmb	IAmb		14	12	45.6	
	comp=Z,4.2nm,0.7s									
GOPC	**GO Pecny, Ondr**	**77.56**	**359**	*e*P		**P**	**14**	**12**	**44.9**	**+0.3**
MORC	**Moravsky Berou**	**77.62**	**357**	*e*P		**P**	**14**	**12**	**45.4**	**+0.4**
CMAR	**Chiang Mai Arr**	**77.62**	**284**	P		**P**	**14**	**12**	**46.0**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=24,slow=6.1,SNR=40									
	comp=Z,5.5nm,0.7s									
STHS	**Stebnicka Huta**	**77.80**	**354**	*e*P		**P**	**14**	**12**	**46.7**	**+0.7**
MAUC	**Maruska**	**78.02**	**356**	*e*P		**P**	**14**	**12**	**48.3**	**+1.1**
ZVC	**Zvikov**	**78.04**	**359**	*e*P		**P**	**14**	**12**	**48.0**	**+0.7**
NDNU	**Novodnistrovsk**	**78.11**	**350**	P		**P**	**14**	**12**	**47.3**	**-0.4**
VRAC	**Vranov**	**78.12**	**357**	*e*P		**P**	**14**	**12**	**48.5**	**+0.7**
LANS	**Liptovska Anna**	**78.17**	**355**	*e*P		**P**	**14**	**12**	**49.8**	**+1.7**
KOLS	**Kolonicke sedl**	**78.22**	**353**	*e*P		**P**	**14**	**12**	**49.3**	**+1.0**
KMPD	**K-Podol'skiy**	**78.23**	**351**	P		**P**	**14**	**12**	**47.6**	**-0.7**
CRVS	**Cervenica-Dubn**	**78.30**	**354**	*e*P		**P**	**14**	**12**	**49.8**	**+1.0**
KHC	**Kasperske Hory**	**78.35**	**359**	*e*P		**P**	**14**	**12**	**50.0**	**+0.9**
KRUC	**Moravsky**	**78.37**	**357**	*e*P		**P**	**14**	**12**	**49.7**	**+0.6**
SORM	**Soroca**	**78.46**	**349**	P		**P**	**14**	**12**	**49.1**	**-0.5**
	comp=Z,21nm,0.6s									

JAVC	**Velka Javorina**	**78.53**	**357**	*e*P		**P**	**14**	**12**	**51.8**	**+1.7**
KSV	**Kosov**	**78.61**	**352**	P		**P**	**14**	**12**	**49.2**	**-1.3**
GERES	**GERESS Array B**	**78.64**	**359**	P		**P**	**14**	**12**	**50.2**	**-0.5**
GERES	**GERESS Array B**	**78.64**	**359**	P		**P**	**14**	**12**	**51.0**	**+0.2**
	comp=Z,2.1nm,0.6s,baz=15,slow=5.5,SNR=9.6									
	comp=Z,2.1nm,0.6s									
NSLU	**Nyzhne Selyshc**	**78.78**	**352**	P		**P**	**14**	**12**	**52.6**	**+1.2**
VYHS	**Vyhne**	**78.85**	**356**	*e*P		**P**	**14**	**12**	**52.6**	**+0.8**
BERU	**Beregovo**	**78.89**	**353**	P		**P**	**14**	**12**	**52.0**	**0.0**
KORU	**Korolevo**	**78.93**	**353**	P		**P**	**14**	**12**	**53.2**	**+1.0**
MODS	**Modra-Piesok**	**79.03**	**357**	*e*P		**P**	**14**	**12**	**54.2**	**+1.4**
ZST	**Bratislava**	**79.22**	**357**	*e*P		**P**	**14**	**12**	**55.3**	**+1.5**
BURAR	**Bucovina Array**	**79.29**	**351**	P		**P**	**14**	**12**	**54.5**	**+0.1**
CONA	**Conrad Observa**	**79.52**	**358**	*e*P		**P**	**14**	**12**	**56.6**	**+1.0**
	comp=Z,6.7nm,0.7s,SNR=7.5									
SRO	**Srobarova**	**79.55**	**356**	*e*P		**P**	**14**	**12**	**57.2**	**+1.6**
MOA	**Molln**	**79.63**	**359**	*i* P		**P**	**14**	**12**	**56.5**	**+0.5**
	comp=Z,4.0nm,0.8s									
RONA	**Rosalia, Austr**	**79.74**	**357**	*i* P		**P**	**14**	**12**	**57.8**	**+1.1**
	comp=Z,4.0nm,0.7s									
RETA	**Reutte**	**79.99**	**1**	*i* P		**P**	**14**	**12**	**58.7**	**+0.6**
	comp=Z,2.6nm,0.6s									
MOTA	**Mosalm**	**80.14**	**1**	*i* P		**P**	**14**	**12**	**59.6**	**+0.6**
	comp=Z,4.8nm,0.6s									
WATA	**Walderalm**	**80.15**	**1**	*i* P		**P**	**14**	**12**	**59.8**	**+0.8**
	comp=Z,4.6nm,0.5s									
DAVA	**Damuels**	**80.18**	**2**	*i* PcP		**P**	**14**	**13**	**01.1**	**+1.9**
	comp=Z,4.7nm,0.6s									
ARSA	**Arzberg**	**80.21**	**358**	*i* P		**P**	**14**	**13**	**00.3**	**+1.1**
	comp=Z,5.4nm,0.7s									
WTTA	**Wattenberg**	**80.22**	**1**	*i* P		**P**	**14**	**13**	**00.5**	**+1.0**
	comp=Z,9.1nm,0.7s,SNR=5.1									
SQTA	**Sankt Quirin**	**80.26**	**1**	*e*P		**P**	**14**	**13**	**00.3**	**+0.7**
	comp=Z,13nm,0.8s									
KBZ	**Khabaz**	**80.27**	**338**	P		**P**	**14**	**13**	**00.4**	**+0.8**
	comp=Z,5.5nm,0.9s,baz=19,slow=3.4,SNR=9.9									
	comp=Z,5.5nm,0.9s									
KBA	**Koelnbreinsper**	**80.41**	**359**	*i* P		**P**	**14**	**13**	**01.8**	**+1.3**
	comp=Z,16nm,0.6s									
FETA	**Feichten**	**80.46**	**1**	*e*P		**P**	**14**	**13**	**01.7**	**+0.9**
	comp=Z,8.6nm,0.8s,SNR=6.3									
ABTA	**Abfaltersbach**	**80.74**	**0**	*i* PcP		**P**	**14**	**13**	**03.7**	**+1.5**
	comp=Z,6.3nm,0.9s									
SOKA	**Soboth**	**80.79**	**358**	*e*P		**P**	**14**	**13**	**03.3**	**+0.9**
	comp=Z,13nm,1.1s,SNR=10									
PERS	**Pernice**	**80.83**	**358**	*i* P		**P**	**14**	**13**	**03.4**	**+0.8**
FUORN	**Ofenpass-Fuorn**	**80.85**	**2**	P		**P**	**14**	**13**	**02.0**	**-1.0**
MYKA	**Terra Mystica**	**80.86**	**359**	*i* PcP		**P**	**14**	**13**	**04.2**	**+1.4**
	comp=Z,4.4nm,0.5s									
OBKA	**Obir**	**80.97**	**359**	*e*P		**P**	**14**	**13**	**04.3**	**+0.9**
	comp=Z,15nm,0.7s,SNR=6.7									
ROBS	**Robic**	**81.24**	**359**	*i* P		**P**	**14**	**13**	**04.6**	**-0.1**
GEYT	**Alibeck**	**81.28**	**325**	P		**P**	**14**	**13**	**05.9**	**+0.8**
	comp=Z,8.4nm,0.7s,baz=347,slow=4.6,SNR=23									
	comp=Z,8.4nm,0.7s									
BOJS	**Bojanci**	**81.96**	**358**	*i* P		**P**	**14**	**13**	**08.8**	**+0.3**
BRTR	**Keskin Array B**	**85.96**	**344**	P		**P**	**14**	**13**	**29.6**	**+0.4**
BRTR	**Keskin Array B**	**85.96**	**344**	P		**P**	**14**	**13**	**30.1**	**+0.8**
	comp=Z,11nm,0.7s,baz=28,slow=2.5,SNR=53									
BRTR				LR		LR	14	55	56.3	
	comp=Z,141nm,21.8s,baz=328,slow=38									
	comp=Z,11nm,0.7s									
ESDC	**Sonseca Array**	**86.71**	**13**	P		**P**	**14**	**13**	**32.9**	**+0.1**
	comp=Z,1.7nm,0.6s,baz=344,slow=4.5,SNR=15									
	comp=Z,1.7nm,0.6s									
WRA	**Warramunga Arr**	**88.24**	**233**	P		**P**	**14**	**13**	**39.3**	**-0.9**
	comp=Z,3.1nm,0.7s,baz=32,slow=5.8,SNR=26									
	comp=Z,3.1nm,0.7s									
ASAR	**Alice Springs**	**91.62**	**232**	P		**P**	**14**	**13**	**56.0**	**+0.1**
	comp=Z,3.1nm,0.8s,baz=36,slow=5.2,SNR=36									
	comp=Z,3.1nm,0.8s									
URZ	**Urewera**	**91.76**	**192**	LR	LR	LR	14	46	17.8	
	comp=Z,177nm,21.6s,baz=34,slow=30									
MMAI	**Mount Meron Ar**	**92.16**	**341**	P		**P**	**14**	**13**	**59.4**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=29,slow=3.3,SNR=3.4									
MMAI				LR		LR	15	01	48.6	
	comp=Z,81nm,18.9s,baz=186,slow=40									
	comp=Z,2.0nm,0.6s									
EIL	**Elat**	**95.49**	**341**	LR		LR	15	03	57.6	
	comp=Z,57nm,18.3s,baz=252,slow=40									
H03N2	**Juan Fernandez**	**115.05**	**113**	T		T	16	24	52.1	
	baz=322,slow=78,SNR=117									
H03N1	**Juan Fernandez**	**115.06**	**113**	T		T	16	24	53.4	
	baz=322,slow=78,SNR=108									
H03N3	**Juan Fernandez**	**115.06**	**113**	T		T	16	24	52.6	
	baz=322,slow=78,SNR=154									
PLCA	**Paso Flores**	**124.93**	**113**	PKP		**PKPdf**	**14**	**19**	**48.6**	**+0.3**
	comp=Z,1.1nm,0.9s,baz=288,slow=9.6,SNR=3.7									
QSPA	**South Pole Qui**	**142.65**	**180**	PKhKP	PKPpre		14	20	15.2	
	comp=Z,3.8nm,0.7s,baz=209,slow=1.2,SNR=14									
MAW	**Mawson**	**152.00**	**219**	PKPbc		**PKPbc**	**14**	**20**	**42.7**	**+0.3**
BOSA	**Boshof**	**153.98**	**334**	PKPbc		**PKiKP**	**14**	**20**	**48.3**	**0.0**
	comp=Z,3.4nm,1.0s,baz=275,slow=0.2,SNR=2.1									

*DJA **18** 14:21:48.8±1.4,3°S±4°×14°0E±°, h14km±14km, M4.4/4, mb4.6/3, MLv4.3/4*
ISC 18 14:21:47.7±1.1, 3°3S±0°.1×139°26E±0°.09, h37km, n12, σ1°23/14, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
GENI	**Genyem**	**1.15**	**52**	P		**Pn**	**14**	**22**	**07.9**	**+0.7**
GENI	**Genyem**	**1.15**	**52**	P		**Pn**	**14**	**22**	**07.7**	**+0.5**
GENI				S		**Sn**	**14**	**22**	**22.4**	**+0.8**
JAY	**Jayapura**	**1.64**	**61**	P		**Pn**	**14**	**22**	**13.1**	**-0.9**
JAY				S		**Sn**	**14**	**22**	**32.3**	**-1.6**
TABU	**Tabubil**	**2.76**	**135**	P		**Pn**	**14**	**22**	**32.0**	**+2.6**
MMPI	**Merauke**	**5.25**	**168**	P		**Pn**	**14**	**23**	**04.9**	**+1.3**
	609nm,1.0s,1.9nm									
FAKI	**Fak Fak**	**7.01**	**273**	P		**Pn**	**14**	**23**	**28.4**	**+0.5**
COEN	**Coen**	**11.27**	**160**	P		**Pn**	**14**	**24**	**25.7**	**-0.5**
KDU	**Kakadu**	**11.49**	**215**	P		**Pn**	**14**	**24**	**29.6**	**+0.4**
DRS	**Darwin Rock St**	**12.28**	**222**	P		**Pn**	**14**	**24**	**39.8**	**-0.2**
MTN	**Manton Dam**	**12.43**	**220**	P		**Pn**	**14**	**24**	**42.8**	**+0.7**
MTSU	**Mount Surprise**	**15.55**	**162**	P		**Pn**	**14**	**25**	**23.3**	**-1.0**
QIS	**Mount Isa**	**17.15**	**179**	P		**Pn**	**14**	**25**	**43.3**	**-1.3**

*IDC **18** 14:50:22.2±1.7,54°.74N×163°.06E, h0km, mb3.3/2, mbtmp3.2/3, ML2.3/1, Error ellipse: s-maj=102.4km s-min=26.7km az=145.0*
*KRSC **18** 14:50:24.9±0.8,55°.08N×162°.35E, h40km±21km, Ml4.0*
ISC 18 14:50:22.0±1.2, 54°93N±0°.04×162°47E±0°.05, h26km, n40, σ1°18/42, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
TUMD	**Tumrok D**	**1.22**	**284**	*e*P		**Pb**	**14**	**50**	**45.3**	**+0.8**
TUMD				*e*S		**Sn**	**14**	**50**	**59.6**	**+0.5**
KBTR	**Krutoberegovo**	**1.29**	**9**	*e*P		**Pb**	**14**	**50**	**45.9**	**+0.2**
KBTR				*e*S		**Sb**	**14**	**51**	**02.0**	**+0.1**
TUMR	**Tumrok**	**1.38**	**286**	*e*P		**Pb**	**14**	**50**	**48.0**	**+0.8**
BZGR	**Bezymyannyi-Gr**	**1.43**	**316**	*e*P		**Pb**	**14**	**50**	**47.8**	**-0.3**
ZLN	**Zelenaya**	**1.44**	**320**	*e*P		**Pb**	**14**	**50**	**48.2**	**-0.1**
BZP	**Bezymyannyi-Pe**	**1.48**	**312**	*e*P		**Pb**	**14**	**50**	**48.1**	**-0.8**
BZMR	**Bezymyannaya**	**1.51**	**312**	*e*P		**Pb**	**14**	**50**	**48.7**	**-0.7**
KMNR	**Kamenistaya**	**1.52**	**304**	*e*P		**Pb**	**14**	**50**	**49.2**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.53**	**313**	*e*P		**Pb**	**14**	**50**	**49.0**	**-0.7**
LGNR	**Loginova**	**1.54**	**319**	*e*P		**Pb**	**14**	**50**	**49.8**	**-0.2**
CIRR	**Tsirk**	**1.54**	**321**	*e*P		**Pb**	**14**	**50**	**49.8**	**-0.1**
KIRR	**Kirishev**	**1.59**	**311**	*e*P		**Pb**	**14**	**50**	**50.0**	**-0.8**
KPT	**Kopyto**	**1.65**	**310**	*e*P		**Pb**	**14**	**50**	**51.0**	**-0.8**
KRSR	**Krestovskiy**	**1.68**	**321**	*e*P		**Pb**	**14**	**50**	**50.8**	**-1.5**
KLY	**Klyuchi**	**1.73**	**324**	*e*P		**Pn**	**14**	**50**	**50.3**	**-0.1**
KOZ	**Kozyrevsk**	**1.86**	**308**	*e*P		**Pb**	**14**	**50**	**53.7**	**-1.6**
KII	**Karymskiy**	**1.98**	**244**	*e*P		**Pb**	**14**	**50**	**58.7**	**+1.3**
BKI	**Bering**	**2.03**	**81**	*e*S		**Sb**	**14**	**51**	**23.2**	**+0.2**
SRDR	**Sredinnyy**	**2.09**	**313**	*e*P		**Pb**	**14**	**50**	**57.1**	**-2.2**
SPN	**Mys Shipunski**	**2.34**	**219**	*e*P		**Pb**	**14**	**51**	**03.6**	**+0.2**
SPN				*e*S		**Sb**	**14**	**51**	**31.8**	**-0.1**
ESO	**Esso**	**2.37**	**296**	*e*P		**Pn**	**14**	**51**	**00.6**	**+1.4**
NLC	**Nalytchevo**	**2.55**	**228**	*e*P		**Pb**	**14**	**51**	**07.1**	**0.0**
NLC				*e*S		**Sb**	**14**	**51**	**38.4**	**+0.5**
SMAR	**Somma**	**2.73**	**234**	*e*P		**Pb**	**14**	**51**	**10.2**	**-0.1**
KRX	**Arik**	**2.75**	**237**	*e*P		**Pb**	**14**	**51**	**10.9**	**+0.5**
UGLR	**Uglovaya**	**2.76**	**233**	*e*P		**Pb**	**14**	**51**	**11.1**	**+0.5**
AVH	**Avacha**	**2.76**	**234**	*e*P		**Pb**	**14**	**51**	**11.6**	**+1.0**
KOK	**Koryaka**	**2.79**	**236**	*e*P		**Pb**	**14**	**51**	**11.2**	**-0.1**
DALK	**Dalny**	**2.91**	**231**	*e*P		**Pb**	**14**	**51**	**12.6**	**-0.5**
GNL	**Ganaly**	**2.93**	**247**	*e*P		**Pb**	**14**	**51**	**11.8**	**-1.8**
PET	**Petropavlovsk**	**2.96**	**231**	*e*P		**Pb**	**14**	**51**	**13.1**	**-0.9**
PET				*e*S		**Sb**	**14**	**51**	**48.7**	**-0.9**
KRMR				*e*S		**Sb**	**14**	**51**	**58.3**	**-1.8**
PETK	**Petropavlovsk-**	**3.36**	**239**	Pn		**Pb**	**14**	**51**	**18.5**	**-2.3**
	1.2nm,0.3s,baz=67,slow=19,SNR=30									
PETK				Sn		**Sb**	**14**	**52**	**03.5**	**+2.3**
	4.8nm,0.3s,baz=96,slow=20,SNR=5.1									
	3.3nm,0.5s									
GRL	**Gorelyy**	**3.54**	**229**	*e*P		**Pb**	**14**	**51**	**22.7**	**-1.3**
MTVR	**Mutnovka**	**3.54**	**228**	*e*P		**Pb**	**14**	**51**	**21.7**	**-2.3**
ASAK	**Asacha**	**3.73**	**229**	*e*P		**Pb**	**14**	**51**	**25.0**	**-2.2**
H11N2	**WAKE ISLAND Hy**	**35.30**	**173**	T		T	15	34	42.8	
	baz=355,slow=76,SNR=19									
H11N3	**WAKE ISLAND Hy**	**35.32**	**173**	T		T	15	34	41.9	
	baz=355,slow=76,SNR=18									
H11N1	**WAKE ISLAND Hy**	**35.32**	**173**	T		T	15	34	44.2	
	baz=355,slow=76,SNR=18									
YKA	**Yellowknife Ar**	**40.86**	**45**	P		P	14	58	04.3	+3.2
	0.2nm,0.5s,baz=302,slow=8.7,SNR=3.0									
	0.2nm,0.5s									
ASAR	**Alice Springs**	**82.02**	**206**	P		P	15	02	43.7	+4.2
	0.3nm,0.8s,baz=19,slow=5.2,SNR=4.3									
	0.3nm,0.8s									

*NEIC **18** 15:18:29.2±0.7, 19°.35N±0°.01×155°.281W±0°.008, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.

*KOLA **18** 15:25:38.2, 67.61N × 33.94E, h0km, ML2.2, Error ellipse: s-maj=5.3km s-min=1.8km az=150.0, Khibiny, mines Koashva, Nyurkpakh*
*IDC **18** 15:25:40.4±2.1, 67.71N×33.49E, h0km, mbtmp3.5/3, ML2.6/3, Error ellipse: s-maj=24.0km s-min=11.5km az=77.0*
ISC 18 15:25:37.9±0.9, **67.64N**±0.04×**33.87E**±0.04, **h0km**, **n26, σ1s28/44**, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA	**Apatity**	**0.20**	**247**	**P**	**Pg**	**15 25 41.7**	**+0.1**
APA0	**Apatity Array**	**0.34**	**264**	**P**	**Pg**	**15 25 44.5**	**+0.1**
APA0				S	**Sg**	**15 25 49.2**	**+0.5**
LVZ	**Lovozero**	**0.39**	**49**	**P**	**Pg**	**15 25 45.3**	**-0.1**
LVZ				S	**Sg**	**15 25 50.5**	**+0.1**
LVZ	**Lovozero**	**0.39**	**49**	**PG**	**Pg**	**15 25 45.2**	**-0.1**
LVZ				SG	**Sg**	**15 25 50.8**	**+0.4**
TERR	**Teriberka**	**1.63**	**16**	**P**	**Pn**	**15 26 07.5**	**-0.2**
TERR				S	**Sn**	**15 26 28.8**	**-0.7**
VRF	**Varrio** baz=85	**1.63**	**276**	**PG**	**Pn**	**15 26 07.6**	**-0.2**
VRF				MSG		15 26 25.8	
	comp=Z,13nm,0.2s						
VRF				SN	**Sn**	**15 26 28.8**	**-0.6**
OLKF	**Oulanka, Finla** baz=46	**2.20**	**235**	**PN**	**Pn**	**15 26 16.7**	**+1.1**
OLKF				SN	**Sb**	**15 26 46.3**	**-0.1**
OLKF				MSG		15 26 46.5	
	comp=Z,5.9nm,0.2s						
RAJF	**Raja-Jooseppi**	**2.25**	**294**	**PG**	**Pn**	**15 26 16.7**	**+0.4**
KU6	**Riekki**	**2.26**	**226**	**PN**	**Pn**	**15 26 17.9**	**+1.4**
KU6				SN	**Sb**	**15 26 47.6**	**-0.5**
KU6				MSG		15 26 49.1	
	comp=Z,5.4nm,0.2s						
MSF	**Maaselka**	**2.59**	**230**	**PN**	**Pn**	**15 26 22.7**	**+1.8**
MSF				SN	**Sb**	**15 26 57.3**	**-0.1**
SGF	**Sodankyl**	**2.83**	**269**	**PN**	**Pn**	**15 26 24.6**	**+0.4**
SGF				SG	**Sb**	**15 27 03.7**	**-0.6**
VADS	**Vadso**	**2.98**	**329**	**P**	**Pn**	**15 26 26.2**	**0.0**
VADS				S	**Sn**	**15 27 02.6**	**+0.1**
RNF	**Rovaniemi** baz=68	**3.24**	**255**	**PN**	**Pn**	**15 26 30.1**	**+0.2**
RNF				SB	**Sb**	**15 27 15.7**	**-0.5**
RANF	**Ranua** baz=56	**3.24**	**243**	**PN**	**Pn**	**15 26 31.1**	**+1.1**
RANF				SB	**Sb**	**15 27 16.8**	**+0.5**
KEV	**Kevo** baz=129	**3.28**	**313**	**PB**	**Pn**	**15 26 31.3**	**+0.8**
KEV				MSG		15 27 09.8	
	comp=Z,4.6nm,0.2s						
KEV				SB	**Sn**	**15 27 09.9**	**-0.2**
ARCES	**ARCESS Array B** comp=Z,1.5nm,0.3s,baz=122,slow=15,SNR=123	**3.61**	**306**	Pn	**Pn**	**15 26 35.1**	**+0.2**
ARCES				Sn	**Sn**	**15 27 17.1**	**-1.1**
	comp=Z,0.3nm,0.3s,baz=116,slow=24,SNR=6.0						
ARCES				Lg	Lg	15 27 27.2	
	comp=Z,0.9nm,0.3s,baz=117,slow=29,SNR=4.4						
	comp=Z,3.5nm,0.3s						
KLF	**Kolari** baz=72	**3.84**	**268**	**PN**	**Pn**	**15 26 38.4**	**+0.2**
HEF	**Hetta**	**3.92**	**286**	**PN**	**Pn**	**15 26 39.4**	**+0.2**
HEF				SN	**Sn**	**15 27 24.4**	**-1.3**
TOF	**Tornio** baz=59	**4.08**	**252**	**PG**	**Pb**	**15 26 51.7**	**+1.2**
OUL	**Oulu**	**4.11**	**235**	**PG**	**Pb**	**15 26 53.2**	**+2.2**
OUL				SG	**Sg**	**15 27 47.7**	**-2.1**
LANU	**Lannavaara**	**4.52**	**281**	**PN**	**Pn**	**15 26 46.6**	**-0.9**
LANU				SG	**Sb**	**15 27 56.4**	**+3.6**
ERTU	**Ertsjaerv**	**4.69**	**262**	**PN**	**Pn**	**15 26 49.7**	**-0.2**
ERTU				SN	**Sn**	**15 27 44.7**	**-0.2**
I37NO	**I37NO** baz=98,slow=326,SNR=3.2	**5.83**	**291**	I	I	15 59 40.0	
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=27,slow=13,SNR=1.6	**7.07**	**212**	Pn	**Pn**	**15 27 22.6**	**+0.2**
FINES				Sn	**Sn**	**15 28 40.2**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=24,slow=24,SNR=1.7						
FINES				Lg	Lg	15 29 12.4	
	comp=Z,0.2nm,0.3s,baz=30,slow=28,SNR=2.4						
	comp=Z,2.0nm,1.0s						
FAUS	**Fauske**	**7.13**	**276**	S	**Sn**	**15 28 41.5**	**-3.3**
SPITS	**Spitsbergen Ar** baz=141,slow=16	**11.68**	**342**	Pn	**Pn**	**15 28 22.6**	**-2.8**
	comp=Z,2.6nm,0.7s						

*NEIC **18** 15:26:15.2±1.3, 19.446N±0.010×154.98W±0.01, h10km±1km, Error ellipse: s-maj=2.9km s-min=1.7km az=144.0*
HVO 18 15:26:13.5±1.7, **19.37N**±0.03×**154.86W**±0.03, **h12**km±3km, **ML2.6**/4, **ML2.7**/28(NEIC), **Error ellipse: s-maj=6.2km s-min=1.5km az=139.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PHO	**Puu Honuaula**	**0.12**	**345**		Pb	15 26 18.6	+0.8
PAH	**Pahoa**	**0.15**	**326**		Pb	15 26 19.7	+1.3
JOKA	**Jonika Flow**	**0.15**	**295**		Pg	15 26 17.0	-0.1
JOKA				IAML		15 26 20.2	
	comp=N,1μm,0.6s						
JCUZ	**Jacuzzi**	**0.23**	**274**		Pg	15 26 18.5	0.0
JCUZ	**Jacuzzi**	**0.23**	**274**	IAML		15 26 23.0	
	comp=E,744nm,0.2s						
JCUZ				IAML		15 26 23.1	
	comp=N,401nm,0.3s						
NPOC	**North of Pu'u**	**0.24**	**276**		Pg	15 26 18.5	-0.1
NPOC	**North of Pu'u**	**0.24**	**276**	IAML		15 26 22.8	
	comp=E,910nm,0.2s						
NPOC				IAML		15 26 23.0	
	comp=N,820nm,0.3s						
STCH	**Steam Cracks**	**0.25**	**274**		Pg	15 26 18.7	-0.2
STCH	**Steam Cracks**	**0.25**	**274**	IAML		15 26 23.1	
	comp=E,2μm,0.1s						
STCH				IAML		15 26 23.3	
	comp=N,734nm,0.1s						
PUH	**Pauahi**	**0.34**	**271**		Sg	15 26 24.9	0.0
PUH	**Pauahi**	**0.34**	**271**		Pg	15 26 19.3	-1.1
PUH	**Pauahi**	**0.34**	**271**	IAML		15 26 25.5	
	comp=E,669nm,0.6s						
PUH				IAML		15 26 29.4	
	comp=N,1μm,0.8s						
HATHI	**Halema'uma'u T**	**0.38**	**278**	Pg	Pg	15 26 20.7	-0.5
RSD	**Rainshed**	**0.41**	**283**	IAML		15 26 27.5	
	comp=E,977nm,0.6s						
HLP	**Hilina Pali**	**0.43**	**260**	Pg	Pg	15 26 21.6	-0.4
HLP				IAML		15 26 32.8	
	comp=N,703nm,0.9s						
MLH	**Mauna Loa**	**0.51**	**284**	Pg	Pg	15 26 22.7	-1.0
MLH				IAML		15 26 25.3	
	comp=N,587nm,1.6s						
HMH	**Humu'ula Sheep**	**0.63**	**292**	Pg	Pg	15 26 24.8	-1.1
HMH				IAML		15 26 40.3	
	comp=E,339nm,0.9s						
HMH				IAML		15 26 44.7	
	comp=N,325nm,0.4s						
MWH	**Moku'aweowe**	**0.71**	**280**	Pg	Pg	15 26 25.1	-2.3
MWH				IAML		15 26 36.2	
	comp=N,437nm,0.9s						
KHU	**Kahuku**	**0.72**	**260**	Pg	Pg	15 26 26.9	-0.7
KHU				IAML		15 26 36.2	
	comp=N,273nm,1.6s						
KHU				IAML		15 26 41.4	
	comp=E,404nm,2.7s						

*NEIC **18** 15:39:29.9±0.6, 36.46N±0.01×96.88W±0.02, h7km±2km, Error ellipse: s-maj=1.8km s-min=1.5km az=68.0*
TUL 18 15:39:29.9±0.5, **36.460N**±0.009×**96.87W**±0.01, **h5**km±3km, **ML2.8, mb_Lg2.7**/70(NEIC), **ML2.9**/55(NEIC), **Error ellipse: s-maj=2.0km s-min=0.3km az=52.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK051	**E0350 and S346**	**0.05**	**33**		Pg	15 39 31.9	+0.6
OK051				Sg	Sg	15 39 33.1	+0.9
OK048	**Pawnee Station**	**0.07**	**233**	Pg	Pg	15 39 31.9	+0.4
QUOK	**Quay**	**0.32**	**155**	Pg	Pg	15 39 35.9	-0.2
QUOK				Sg	Sg	15 39 41.1	+0.9
QUOK				IAML		15 39 42.7	
	comp=N,1μm,0.3s						
BLOK	**Blackwell**	**0.41**	**318**		Pg	15 39 38.2	+0.4
BLOK				IAML		15 39 45.4	
	comp=N,2μm,0.4s						
BLOK				IAML		15 39 49.0	
	comp=E,2μm,0.2s						
OK033	**Mehan**	**0.42**	**187**		Pg	15 39 38.3	+0.4
OK052	**Battle Ridge R**	**0.47**	**173**		Pg	15 39 39.2	+0.3
OK052				IAML		15 39 49.0	
	comp=E,1μm,0.5s						
OK031	**S. Brethren Rd**	**0.51**	**177**		Pg	15 39 40.0	+0.4
OK031				IAML		15 39 51.6	
	comp=E,561nm,0.5s						
T35A	**Sooner Cattle**	**0.54**	**32**	Pg	Pg	15 39 40.6	+0.3
DEOK	**Depew**	**0.69**	**154**	Pg	Pg	15 39 43.4	+0.3
DEOK				IAML		15 39 56.0	
	comp=N,477nm,0.4s						
DEOK				IAML		15 39 56.0	
	comp=E,750nm,0.6s						
KAN13	**South Haven SW**	**0.74**	**319**	Pg	Pg	15 39 43.2	-0.9
OK029	**Liberty Lake**	**0.81**	**216**	Pg	Pg	15 39 44.4	-1.1
OK029				IAML		15 40 02.0	
	comp=E,280nm,0.6s						
OK029				IAML		15 40 05.8	
	comp=E,318nm,0.7s						
GC02	**Grant County #**	**0.89**	**296**	Pg	Pg	15 39 45.9	-1.0
CROK	**Carrier**	**0.90**	**273**	Pg	Pg	15 39 46.9	-0.2
CROK				IAML		15 40 06.9	
	comp=E,400nm,0.3s						
CROK				IAML		15 40 09.5	
	comp=N,346nm,0.3s						
ADOK	**Arcadia Dam**	**0.90**	**207**	Pg	Pg	15 39 47.1	0.0
KAN09	**Caldwell North**	**0.90**	**319**	Pg	Pg	15 39 47.2	-0.1
KAN01	**Argonia South**	**0.99**	**314**	Pg	Pg	15 39 48.5	-0.4
KAN01				IAML		15 40 05.6	
	comp=E,312nm,0.6s						
KAN01				IAML		15 40 07.0	
	comp=N,309nm,0.7s						
KAN14	**Manchester OK**	**1.01**	**300**		Pg	15 39 48.9	-0.3
KAN14				IAML		15 40 09.2	
	comp=E,203nm,0.1s						
KAN14				IAML		15 40 10.6	
	comp=N,289nm,0.4s						
TUL3	**Leonard**	**1.03**	**122**	Pg	Pg	15 39 49.6	0.0
KAN06	**Argonia West S**	**1.11**	**315**	Pg	Pg	15 39 50.9	-0.4
KAN12	**Harper NE Stat**	**1.23**	**313**	Pg	Pg	15 39 52.9	-0.6
FNO	**Franklin**	**1.27**	**200**		Pg	15 39 53.1	-1.3
FNO				IAML		15 40 12.6	
	comp=E,223nm,0.3s						
OK035	**E0210 Rd and N**	**1.50**	**280**		Pn	15 39 57.7	+0.2
RLO	**Rose Lookout**	**1.52**	**101**	Pg	Pn	15 39 57.9	0.0
NOKA	**Waynoka**	**1.67**	**277**		Pn	15 40 00.1	+0.2
U32A	**Winter Ranch,**	**1.72**	**268**		Pn	15 40 01.0	+0.5
X37A	**Clayton** comp=Z,22nm,0.8s	**2.23**	**146**	IAmb_Lg		15 40 41.0	
HHAR	**Hobbs**	**2.37**	**93**	Pn	Pn	15 40 10.4	+0.9
KSU1	**Kansas State U** comp=Z,29nm,1.2s	**2.65**	**4**	IAmb_Lg		15 40 54.7	
S39A	**Bolivar** comp=Z,29nm,0.8s	**3.09**	**66**	IAmb_Lg		15 41 13.7	
MGMO	**Mountain Grove** comp=Z,14nm,0.9s	**3.76**	**78**	IAmb_Lg		15 41 35.4	
FW07	**Weatherford** comp=Z,16nm,1.1s	**3.82**	**192**	IAmb_Lg		15 41 35.5	
PLPT	**Palo Pinto** comp=Z,12nm,1.0s	**3.83**	**199**	IAmb_Lg		15 41 36.9	
WHAR	**Wooly Hollow** comp=Z,16nm,0.9s	**3.90**	**106**	IAmb_Lg		15 41 35.9	
UALR	**University of** comp=Z,19nm,0.9s	**4.05**	**113**	IAmb_Lg		15 41 48.0	
R40A	**Maddies Statio** comp=Z,22nm,0.8s	**4.10**	**62**	IAmb_Lg		15 41 43.6	
P38A	**Dawn** comp=Z,20nm,0.8s	**4.12**	**39**	IAmb_Lg		15 41 41.9	
WLAR	**White Oak Lake** comp=Z,21nm,0.8s	**4.14**	**131**	IAmb_Lg		15 41 43.3	
AMTX	**Amarillo** comp=Z,18nm,0.8s	**4.22**	**250**	IAmb_Lg		15 41 46.3	
DKNS	**Dickens** comp=Z,11nm,0.8s	**4.34**	**231**	IAmb_Lg		15 41 55.4	
ABTX	**Abilene, Hawle** comp=Z,11nm,0.9s	**4.46**	**212**	IAmb_Lg		15 41 52.6	
N35A	**Tabor** comp=Z,26nm,0.8s	**4.50**	**12**	IAmb_Lg		15 42 04.0	
T42A	**Van Buren** comp=Z,13nm,0.9s	**4.68**	**81**	IAmb_Lg		15 42 09.2	
SN07	**Snyder 07** comp=Z,10nm,0.8s	**4.71**	**226**	IAmb_Lg		15 42 09.2	
RTBA	**Rita Blanca** comp=Z,10nm,0.9s	**4.73**	**271**	IAmb_Lg		15 42 08.2	
SN05	**Snyder 5** comp=Z,18nm,0.8s	**4.87**	**224**	IAmb_Lg		15 42 07.0	
N38A	**Joes South For** comp=Z,25nm,0.7s	**5.18**	**32**	IAmb_Lg		15 42 21.7	
PBMO	**Poplar Bluff** comp=Z,20nm,0.7s	**5.19**	**85**	IAmb_Lg		15 42 19.8	
KSCO	**Kaye Shedlock'** comp=Z,19nm,1.2s	**5.22**	**301**	IAmb_Lg		15 42 17.4	
FVM	**French Village** comp=Z,13nm,1.1s	**5.37**	**72**	IAmb_Lg		15 42 35.5	
SLM	**Saint Louis** comp=Z,22nm,0.7s	**5.70**	**66**	IAmb_Lg		15 42 29.7	
SGCY	**Sterling City** comp=Z,20nm,1.0s	**5.74**	**219**	IAmb_Lg		15 42 45.5	
CGM3	**Cape Girardeau** comp=Z,11nm,0.8s	**5.84**	**80**	IAmb_Lg		15 42 37.5	
T25A	**Trinidad** comp=Z,8.1nm,0.7s	**6.09**	**279**	IAmb_Lg		15 42 47.7	
JCT	**Junction City** comp=Z,9.3nm,0.8s	**6.45**	**203**	IAmb_Lg		15 42 54.2	
L40A	**Anamosa** comp=Z,12nm,0.7s	**7.11**	**36**	IAmb_Lg		15 43 15.4	
ISCO	**Idaho Springs** comp=Z,5.9nm,1.0s	**7.65**	**298**	IAmb_Lg		15 43 46.9	
PECS	**Pecos** comp=Z,5.3nm,0.8s	**7.72**	**231**	IAmb_Lg		15 43 45.4	
JFWS	**Jewell Farm** comp=Z,8.7nm,0.7s	**8.22**	**36**	IAmb_Lg		15 43 56.1	
PHWY	**Pilot Hill** comp=Z,4.7nm,0.9s	**8.26**	**308**	IAmb_Lg		15 44 00.8	
N23A	**Red Feather La** comp=Z,14nm,1.0s	**8.36**	**305**	IAmb_Lg		15 44 08.3	
RSSD	**Black Hills** comp=Z,9.8nm,1.1s	**9.40**	**327**	IAmb_Lg		15 44 34.2	
K22A	**Casper** comp=Z,7.0nm,0.8s	**9.68**	**313**	IAmb_Lg		15 44 55.8	

*GII **18** 15:44:21.7±0.3, 33.32N±0.01×35.637E±0.007, h1km, Md1.9/6, Mws2.1/10, confirmed*
*GRAL **18** 15:44:21.5±0.3, 33.27N×35.66E, h0km±4km, MD3.0*
*JSO **18** 15:44:22, 33.32N×35.66E, h1km, Mw2.1/13*
ISC 18 15:44:22.0±0.9, **33.33N**±0.02×**35.66E**±0.04, **h8**km±7km, **n55, σ0s70/58, Jordan-Syria region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NATI	**Neve Ativ**	**0.09**	**139**	P	**Pg**	**15 44 23.9**	**-0.3**
NATI	**Neve Ativ**	**0.09**	**139**	P	**Pg**	**15 44 24.1**	**-0.1**
GEM	**Giv'at Ha'Em**	**0.12**	**180**	P	**Pg**	**15 44 24.9**	**+0.2**
GEM	**Giv'at Ha'Em**	**0.12**	**180**	P	**Pg**	**15 44 24.6**	**-0.1**
GEM				S	**Sg**	**15 44 26.5**	**-0.1**
QRWL	**Qaraoun**	**0.21**	**4**	*eP*	**Pg**	**15 44 26.5**	**+0.1**
RCY	**Rachaya**	**0.22**	**41**	*eP*	**Pg**	**15 44 26.5**	**0.0**
RCY				*eS*	**Sg**	**15 44 30.0**	**+0.5**
KSHT	**Keshet**	**0.37**	**160**	S	**Sb**	**15 44 35.7**	**-1.1**
KSHT	**Keshet**	**0.37**	**160**	P	**Pg**	**15 44 29.5**	**+0.3**
MMC1	**Mount Meron ar**	**0.37**	**216**	P	**Pg**	**15 44 29.3**	**0.0**
DQRL	**Deir Qamar**	**0.38**	**348**	*eP*	**Pg**	**15 44 29.4**	**-0.1**
DQRL				*eS*	**Sg**	**15 44 35.3**	**+0.8**
MMB1	**Mount Meron ar**	**0.38**	**214**	P	**Pg**	**15 44 29.5**	**0.0**
MMC7	**Mount Meron ar**	**0.38**	**216**	P	**Pg**	**15 44 29.5**	**-0.1**
MMA0B	**Mount Meron ar**	**0.39**	**215**	S	**Sb**	**15 44 35.7**	**-1.6**
MMA0B	**Mount Meron ar**	**0.39**	**215**	P	**Pg**	**15 44 29.3**	**-0.2**
HNTI	**Hanita**	**0.48**	**239**	P	**Pg**	**15 44 31.4**	**+0.1**
HNTI	**Hanita**	**0.48**	**239**	S	**Sb**	**15 44 39.1**	**-0.9**
HNTI	**Hanita**	**0.48**	**239**	P	**Pg**	**15 44 31.1**	**-0.2**
ZAHL	**Zahle**	**0.56**	**19**	*eP*	**Pg**	**15 44 32.7**	**-0.1**
BHL	**Bhannes**	**0.57**	**359**	*eP*	**Pg**	**15 44 32.9**	**-0.2**
BLGI	**Bet Lehem HaGe**	**0.72**	**214**	P	**Pb**	**15 44 35.9**	**-0.8**
BLGI	**Bet Lehem HaGe**	**0.72**	**214**	S	**Sb**	**15 44 46.3**	**-0.5**
BLGI	**Bet Lehem HaGe**	**0.72**	**214**	P	**Pb**	**15 44 36.0**	**-0.8**
OFRI	**`Ofer**	**0.91**	**219**	P	**Pb**	**15 44 39.4**	**-0.7**
OFRI	**`Ofer**	**0.91**	**219**	S	**Sb**	**15 44 52.3**	**-0.1**
OFRI	**`Ofer**	**0.91**	**219**	P	**Pg**	**15 44 39.3**	**-0.2**
MMLI	**Mount Malkishu**	**0.92**	**193**	P	**Pg**	**15 44 38.9**	**-0.7**
MMLI	**Mount Malkishu**	**0.92**	**193**	S	**Sb**	**15 44 52.3**	**-0.2**
HWQ	**Hawqa**	**0.97**	**14**	*eP*	**Pg**	**15 44 40.0**	**-0.7**
HMDT	**Nahal Hemdat**	**1.08**	**186**	P	**Pg**	**15 44 42.2**	**-0.6**
HMDT	**Nahal Hemdat**	**1.08**	**186**	S	**Sb**	**15 44 58.1**	**+0.8**
HMDT	**Nahal Hemdat**	**1.08**	**186**	P	**Pg**	**15 44 42.1**	**-0.7**
SLTI	**Sal'it**	**1.21**	**206**	S	**Sn**	**15 45 01.7**	**-0.1**
SLTI	**Sal'it**	**1.21**	**206**	P	**Pg**	**15 44 44.7**	**-0.5**
BEIL	**Beino**	**1.28**	**20**	*eP*	**Pg**	**15 44 45.4**	**-1.2**
HSUJ	**Al Zarqa**	**1.30**	**160**	P	**Pg**	**15 44 46.2**	**-0.8**
DSI	**Dead Sea**	**1.77**	**188**	S	**Sb**	**15 45 16.8**	**-0.5**
DSI	**Dead Sea**	**1.77**	**188**	P	**Pn**	**15 44 52.9**	**-0.2**
AMAZ	**Amatzia**	**1.90**	**200**	P	**Pn**	**15 44 54.9**	**+0.1**
AMAZ	**Amatzia**	**1.90**	**200**	S	**Sn**	**15 45 20.1**	**+1.1**
YTIR	**Yattir**	**2.02**	**193**	P	**Pn**	**15 44 56.7**	**+0.3**
YTIR	**Yattir**	**2.02**	**193**	S	**Sb**	**15 45 24.3**	**-0.1**
GHAJ	**Ghor Haditha**	**2.02**	**182**	P	**Pn**	**15 44 57.0**	**+0.6**
GHAJ	**Ghor Haditha**	**2.02**	**182**	S	**Sn**	**15 45 23.3**	**+1.4**
GHAJ	**Ghor Haditha**	**2.02**	**182**	P	**Pn**	**15 44 56.6**	**+0.2**
MSBI	**Mazada**	**2.03**	**187**	P	**Pn**	**15 44 56.6**	**+0.1**
MSBI	**Mazada**	**2.03**	**187**	S	**Sb**	**15 45 24.3**	**-0.3**
PRNI	**Paran**	**3.02**	**191**	P	**Pn**	**15 45 12.2**	**+2.0**
PRNI	**Paran**	**3.02**	**191**	P	**Pn**	**15 45 10.5**	**+0.3**
PRNI	**Paran**	**3.02**	**191**	S	**Sn**	**15 45 47.8**	**+1.1**
KRMI	**Paran Flat**	**3.30**	**194**	P	**Pn**	**15 45 14.4**	**+0.3**
HRFI	**Mount Harif**	**3.33**	**189**	S	**Sn**	**15 45 55.3**	**+1.0**
HRFI	**Mount Harif**	**3.33**	**189**	P	**Pn**	**15 45 14.9**	**+0.4**
MBRI	**Mt Berech**	**3.58**	**190**	P	**Pn**	**15 45 18.5**	**+0.5**
MBRI	**Mt Berech**	**3.58**	**190**	S	**Sn**	**15 46 02.2**	**+1.6**
EIL	**Elat**	**3.70**	**190**	P	**Pn**	**15 45 19.9**	**+0.3**

*SOME **18** 16:03:27.3, 39.42N×73.55E, h5km*
*KRNET **18** 16:03:28.2±0.1, 39.47N×73.52E, h16km, mb3.0*
*NNC **18** 16:03:31.0±1.0, 39.52N×73.57E, h0km, mb3.6, mpv3.5, Error ellipse: s-maj=8.1km s-min=4.1km az=175.0*
ISC 18 16:03:26.7±1.4, **39.51N**±0.05×**73.56E**±0.02, **h12**km±11km, **n61, σ1s82/96, 25C-14D, Tajikistan-Xinjiang border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan** baz=58	**0.50**	**355**	↑*eP*	**Pn**	**16 03 38.7**	**-1.3**
SFK				↑*eS*	**Sb**	**16 03 46.4**	**+1.4**
	baz=58						
OHH	**Osh** baz=32	**1.18**	**330**	↑*eP*	**Pn**	**16 03 50.7**	**+1.6**
OHH				↑*eS*	**Sn**	**16 04 06.7**	**+1.6**
	baz=32						
DRK	**Karamyk** baz=71	**1.36**	**269**	↑*eP*	**Pg**	**16 03 53.1**	**+0.1**
DRK				↑*eS*	**Sg**	**16 04 11.2**	**+0.5**
	baz=71						
ARSB	**Arslanbob** baz=48	**1.86**	**346**	↑*eP*	**Pg**	**16 04 02.8**	**+0.3**
ARSB				↑*eS*	**Sg**	**16 04 28.4**	**+1.7**
	baz=48						
BTK	**Batken** baz=87	**2.19**	**285**	↑*eP*	**Pb**	**16 04 06.6**	**+0.4**
BTK				↑*eS*	**Sb**	**16 04 34.9**	**+1.6**
	baz=87						
ARLS	**Aral** baz=14	**2.42**	**14**	↓*eP*	**Pg**	**16 04 11.2**	**-1.8**
ARLS				↓*eS*	**Sg**	**16 04 42.1**	**-2.3**
	baz=14						
GAR	**Garm** baz=60	**2.57**	**260**	↑*eP*	**Pb**	**16 04 11.4**	**-1.5**
GAR				↑*eS*	**Sb**	**16 04 43.5**	**-1.0**
	baz=60						
NRN	**Naryn** baz=43	**2.67**	**43**	↓*eP*	**Pb**	**16 04 14.6**	**-0.1**
NRN				↓*eS*	**Sb**	**16 04 47.8**	**+0.3**
	baz=43						
TRKS	**Terek-Say** baz=19	**2.73**	**318**	↓*eP*	**Pb**	**16 04 13.8**	**-1.8**
TRKS				↓*eS*	**Sb**	**16 04 47.4**	**-1.8**
	baz=19						
UCH	**Uchtor** baz=15	**2.81**	**15**	↓*eP*	**Pb**	**16 04 15.9**	**-1.1**
UCH				↓*eS*	**Sb**	**16 04 51.3**	**-0.3**
	baz=15						
MNAS	**Manas** baz=46	**3.08**	**345**	↑*eP*	**Pb**	**16 04 19.9**	**-1.6**
MNAS				↑*eS*	**Sb**	**16 04 57.2**	**-1.9**
	baz=46						
AAK	**Ala-Archa** 4.0nm,0.4s	**3.20**	**12**	↓Pn	**Pb**	**16 04 24.2**	**+0.7**
AAK				↓Lg	Lg	16 05 12.7	
	19nm,0.8s						
AAK	**Ala-Archa** baz=13	**3.20**	**12**	↑*eP*	**Pb**	**16 04 21.3**	**-2.3**
AAK				↑*eS*	**Sb**	**16 05 00.3**	**-2.3**
	baz=13						
BOOM	**Boomskoye usch** baz=30	**3.48**	**30**	↑*eP*	**Pb**	**16 04 25.6**	**-2.7**
BOOM				↑*eS*	**Sb**	**16 05 07.4**	**-3.1**
	baz=30						
CHMS	**Chumysh** 5.1nm,0.8s	**3.60**	**14**	↓Pn	**Pb**	**16 04 29.4**	**-0.9**
CHMS	104nm,0.1s			Pg	Pg	16 04 43.5	+7.9
CHMS				↓Lg	Lg	16 05 25.7	
	9.7nm,0.7s						
CHMS				Lg	Lg	16 05 38.5	
	101nm,0.6s						
TKM2	**Tokmak 2** 1.2nm,0.3s	**3.73**	**24**	↑Pn	**Pb**	**16 04 32.1**	**-0.6**
TKM2				↓Lg	Lg	16 05 29.2	
	8.4nm,0.7s						
IUG	**Iuzhnay** 8.1nm,0.3s	**3.76**	**316**	Pg	**Pg**	**16 04 37.3**	**-1.3**
IUG				Lg	Lg	16 05 27.6	
	36nm,0.5s						
IUG	**Iuzhnay** 8.1nm,0.3s	**3.76**	**316**	*eP*	**Pg**	**16 04 37.4**	**-1.3**
IUG				*eS*	**Sg**	**16 05 27.6**	**+0.3**
	36nm,0.5s						
DZA	**Taraz** 98nm,0.2s	**3.77**	**334**	Pg	**Pg**	**16 04 38.8**	**-0.2**
DZA				Lg	Lg	16 05 30.1	
	90nm,0.7s						
DZA	**Taraz** 98nm,0.2s	**3.77**	**334**	*eP*	**Pg**	**16 04 38.8**	**-0.2**
DZA				*eS*	**Sg**	**16 05 30.1**	**+2.3**
	90nm,0.7s						
KDJ	**Kajisay** baz=45	**3.79**	**45**	↑*eP*	**Pb**	**16 04 29.7**	**-3.9**
KDJ				↑*eS*	**Sb**	**16 05 15.3**	**-4.3**
	baz=45						
KST	**Kastek** 2.1nm,0.5s	**3.96**	**26**	Pg	**Pg**	**16 04 42.7**	**+0.1**
KST				Lg	L

0.3nm,0.2s,baz=136,slow=9.5,SNR=5.8
KK31 ⇑Pg **Pg** **16 04 48.2 -0.1**
0.6nm,0.2s,baz=149,slow=14,SNR=6.2
KK31 ⇑Sn **Sb** **16 05 29.5 -3.5**
1.6nm,0.3s
KK31 ⇑Lg Lg 16 05 46.9
4.2nm,0.5s
TNSS Tian-Shan 4.35 35 Pg **Pg** **16 04 50.1 +0.1**
2.6nm,0.1s
TNSS Lg Lg 16 05 49.9
3.3nm,0.5s
TNSS Tian-Shan 4.35 35 *eP* **Pg** **16 04 49.7 -0.3**
1.2nm,0.1s
TNSS *eS* **Sg** **16 05 48.8 +2.5**
4.3nm,0.5s
KRBS Karabastau 4.47 20 Pg **Pg** **16 04 51.5 -0.8**
1.9nm,0.1s
KRBS Lg Lg 16 05 52.3
6.9nm,0.6s
KRBS Karabastau 4.47 20 *eP* **Pg** **16 04 51.5 -0.8**
1.9nm,0.1s
KRBS *eS* **Sg** **16 05 52.3 +2.1**
6.9nm,0.6s
MDOK Medeo 4.49 35 Pg **Pg** **16 04 52.4 -0.3**
1.7nm,0.2s
MDOK Pg Pb 16 04 53.1 +7.5
2.8nm,0.5s
MDOK Lg Lg 16 05 53.9
12nm,0.8s
MDOK ⇑Lg Lg 16 05 54.4
22nm,1.1s
MDOK Medeo 4.49 35 *eP* **Pg** **16 04 52.4 -0.3**
1.7nm,0.2s
MDOK *eS* **Sg** **16 05 53.9 +3.0**
12nm,0.8s
BRLS Boroldaу 4.50 323 Pg **Pg** **16 04 50.2 -2.6**
1.8nm,0.3s
BRLS Lg Lg 16 05 49.8
8.7nm,0.3s
BRLS Boroldaу 4.50 323 *eP* **Pg** **16 04 50.2 -2.6**
1.8nm,0.3s
BRLS *eS* **Sg** **16 05 49.8 -1.3**
8.7nm,0.3s
KOTS Kotyrbulak 4.58 35 Pg **Pg** **16 04 53.9 -0.4**
2.1nm,1.2s
KOTS Lg Lg 16 05 56.4
24nm,0.9s
KOTS Kotyrbulak 4.58 35 *eP* **Pg** **16 04 54.0 -0.4**
2.1nm,1.2s
KOTS *eS* **Sg** **16 05 56.4 +2.7**
24nm,0.9s
KTBS Karatobe 4.80 28 Pg **Pg** **16 04 57.3 -1.3**
1.3nm,0.3s
KTBS Lg Lg 16 06 02.3
12nm,0.7s
KTBS Karatobe 4.80 28 *eP* **Pg** **16 04 57.4 -1.3**
1.3nm,0.3s
KTBS *eS* **Sg** **16 06 02.3 +1.4**
12nm,0.7s
CHKK Chushkaly 5.04 29 Pg **Pg** **16 05 01.8 -1.4**
1.0nm,0.1s
CHKK Lg Lg 16 06 09.7
5.4nm,0.5s
CHKK Chushkaly 5.04 29 *eP* **Pg** **16 05 01.8 -1.4**
1.0nm,0.1s
CHKK *eS* **Sg** **16 06 09.7 +1.3**
5.4nm,0.5s
SATY Saty 5.08 44 Pg **Pg** **16 05 02.9 -1.2**
0.9nm,0.1s
SATY Lg Lg 16 06 11.8
5.1nm,0.7s
SATY Saty 5.08 44 *eP* **Pg** **16 05 02.9 -1.2**
0.9nm,0.1s
SATY *eS* **Sg** **16 06 11.8 +1.9**
5.1nm,0.7s
KURS Kuram 5.27 40 Pg **Pg** **16 05 06.7 -0.8**
1.6nm,0.5s
KURS Lg Lg 16 06 18.1
4.0nm,0.5s
KURS Kuram 5.27 40 *eP* **Pg** **16 05 06.7 -0.8**
1.6nm,0.5s
KURS *eS* **Sg** **16 06 18.1 +2.4**
4.0nm,0.5s
UZB Uzynbulak 5.48 47 Pg **Pg** **16 05 09.8 -1.9**
2.0nm,0.2s
UZB Lg Lg 16 06 23.5
1.8nm,0.2s
UZB Uzynbulak 5.48 47 *eP* **Pg** **16 05 09.8 -1.9**
2.0nm,0.2s
UZB *eS* **Sg** **16 06 23.5 +0.9**
1.8nm,0.2s
BTLS Baital 5.54 4 Pg **Pg** **16 05 12.9 +0.2**
1.8nm,0.2s
BTLS Lg Lg 16 06 28.9
2.2nm,0.5s
BTLS Baital 5.54 4 *eP* **Pg** **16 05 12.9 +0.2**
1.8nm,0.2s
BTLS *eS* **Sg** **16 06 28.9 +4.5**
2.2nm,0.5s
ARXS Arharly 5.67 33 Pg **Pg** **16 05 13.8 -1.5**
1.1nm,0.5s
ARXS Lg Lg 16 06 30.6
4.5nm,0.3s
ARXS Arharly 5.67 33 *eP* **Pg** **16 05 13.8 -1.5**
1.1nm,0.5s
ARXS *eS* **Sg** **16 06 30.6 +1.8**
4.5nm,0.3s
SHLS Shalkode 5.74 49 Pg **Pg** **16 05 19.0 +2.4**
2.5nm,0.7s
SHLS Lg Lg 16 06 39.5
5.4nm,0.7s
SHLS Shalkode 5.74 49 *eP* **Pg** **16 05 19.0 +2.4**
2.5nm,0.7s
SHLS *eS* Sg 16 06 39.5 +8.6
5.4nm,0.7s
PDGK Podgornoye 5.86 48 Pg **Pg** **16 05 17.0 -2.0**
0.6nm,0.5s
PDGK Lg Lg 16 06 36.1
1.3nm,1.3s
BLB Baldybastay 5.87 37 Pg **Pg** **16 05 17.4 -1.7**
3.3nm,0.7s
BLB Lg Lg 16 06 36.3
4.6nm,1.2s
KNOS Konyrlen 6.40 39 Pg **Pg** **16 05 28.3 -0.9**
0.7nm,0.3s
KNOS Lg Lg 16 06 55.6
3.1nm,0.5s

*IDC **18** 16:34:33.4±0.7, 60°.46S×26°.49W, h0km, mb4.4/9, mbtmp4.4/9, MS3.6/19, Error ellipse: s-maj=27.7km s-min=17.2km az=67.0*
*NEIC **18** 16:34:37.6±2.1, 60°.5S±0°.1×26°.7W±0°.3, h24km±3km, mb5.1/49, Error ellipse: s-maj=22.0km s-min=8.8km az=50.0*
ISC 18 16:34:36.2±0.5, 60°.53S±0°.09×26°.5W±0°.1, h20km, n129, σ1§16/109, mb5.0/32, MS3.6/18, 9C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**8.25**	**315**	Pn	**Pn**	**16 36 34.8**	**+0.3**
VNA1	**Neumayer--Stat**	**12.57**	**151**	⇑P	**Pn**	**16 37 30.7**	**-2.9**
	comp=Z,25nm,0.3s						
VNA1				⇑S	Sn	16 39 39.2	-14
	comp=Z,6.6nm,0.7s						
VNA3	**Neumayer Olymp**	**12.69**	**155**	⇑P	**Pn**	**16 37 32.1**	**-3.1**
	comp=Z,34nm,0.6s						
VNA3				⇑S	Sn	16 39 38.4	-17
	comp=Z,0.1nm,0.1s						
VNA2	**Neumayer--Watz**	**12.97**	**151**	⇑P	**Pn**	**16 37 35.8**	**-3.3**
	comp=Z,4.7nm,0.3s,baz=314,slow=15						
VNA2				⇑S	Sn	16 39 47.0	-16
	comp=Z,0.3nm,0.2s,baz=313,slow=21						
SNAA	**Sanae**	**14.57**	**150**	Pn	Pn	16 37 57.0	-4.0
SNAA	**Sanae**	**14.57**	**150**	⇑P	Pn	16 37 57.1	-3.9
	comp=Z,69nm,0.3s						
SNAA				⇑S	Sn	16 40 25.6	-16
	comp=Z,162nm,0.6s						
SNAA	**Sanae**	**14.57**	**150**	Pn	Pn	16 37 57.0	-3.9
	comp=Z,1.4nm,0.3s,baz=313,slow=16,SNR=32						
SNAA				Sn	Sn	16 40 21.8	-20
	comp=Z,0.1nm,0.3s,baz=65,slow=23,SNR=2.0						
SNAA				LR	LR	16 42 15.5	
	comp=Z,243nm,20.0s,baz=269,slow=32						
TROLL	**Troll, Antarti**	**16.16**	**147**	⇑P	**Pn**	**16 38 21.1**	**-0.7**
	comp=Z,382nm,0.8s						
TROLL				⇓S	Sn	16 41 03.7	-16
	comp=Z,20nm,0.3s						
BELA	**Belgrano 2**	**17.63**	**186**		**Pn**	**16 38 41.1**	**+1.0**
ELIB	**Princess Elisa**	**22.29**	**141**	*d*P	**P**	**16 39 31.2**	**-0.6**
	comp=Z,4.5nm,1.1s						
QSPA	**South Pole Qui**	**29.70**	**180**	P	**P**	**16 40 42.3**	**+1.8**
QSPA				IAmb	IAmb	16 40 44.0	
	comp=Z,66nm,1.2s						
QSPA	**South Pole Qui**	**29.70**	**180**	P	**P**	**16 40 42.0**	**+1.5**
	comp=Z,29nm,0.9s,baz=205,slow=3.0,SNR=64						
QSPA				LR	LR	16 52 25.7	
	comp=Z,178nm,18.6s,baz=188,slow=36						
	comp=Z,29nm,0.9s						
TRQA	**Tornquist**	**31.63**	**299**	P	**P**	**16 40 56.7**	**-0.9**
TRQA				IAmb	IAmb	16 40 59.3	
	comp=Z,14nm,0.8s						
LL01	**San Ignacio de**	**33.00**	**282**	P	**P**	**16 41 07.8**	**-1.7**
LL01				IAmb	IAmb	16 41 18.9	
	comp=Z,42nm,1.2s						
PLCA	**Paso Flores**	**33.37**	**286**	P	**P**	**16 41 12.4**	**-0.5**
PLCA				IAmb	IAmb	16 42 16.5	
	comp=Z,37nm,2.0s						
PLCA	**Paso Flores**	**33.37**	**286**	P	**P**	**16 41 12.1**	**-0.8**
	comp=Z,1.0nm,0.7s,baz=132,slow=11,SNR=3.7						
PLCA				LR	LR	16 54 38.6	
	comp=Z,96nm,19.5s,baz=164,slow=36						
	comp=Z,1.0nm,0.7s						
PLTB	**Pedras Altas**	**33.87**	**316**	P	**P**	**16 41 17.2**	**0.0**
PLTB				IAmb	IAmb	16 41 19.1	
	comp=Z,34nm,1.4s						
LR05	**Currie**	**34.46**	**285**	P	**P**	**16 41 20.3**	**-1.9**
MAW	**Mawson**	**36.40**	**140**	P	**P**	**16 41 38.0**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=247,slow=7.7						
	comp=Z,2.0nm,0.6s						
ITQB	**Itaqui**	**36.84**	**313**	P	**P**	**16 41 42.3**	**-0.4**
ITQB				IAmb	IAmb	16 41 44.1	
	comp=Z,22nm,0.8s						
BO02	**Sierra Bellavi**	**38.27**	**292**	P	**P**	**16 41 54.6**	**-0.3**
BO01	**Tunca**	**38.74**	**292**	P	**P**	**16 41 57.7**	**-1.0**
BO01				IAmb	IAmb	16 42 00.5	
	comp=Z,53nm,1.4s						
BO04	**La Punta**	**38.86**	**293**	P	**P**	**16 41 59.5**	**-0.3**
BO04				IAmb	IAmb	16 42 01.8	
	comp=Z,27nm,0.9s						
MT08	**Bocatoma Ro**	**39.04**	**294**	P	**P**	**16 42 02.0**	**+0.4**
MT08				IAmb	IAmb	16 42 04.4	
	comp=Z,24nm,0.8s						
MT09	**Talagante**	**39.21**	**293**	P	**P**	**16 42 00.7**	**-2.2**
MT01	**Popeta**	**39.25**	**292**	P	**P**	**16 42 03.5**	**+0.4**
MT01				IAmb	IAmb	16 42 04.1	
	comp=Z,23nm,0.8s						
MT16	**CCHEN**	**39.29**	**293**	P	**P**	**16 42 02.8**	**-0.6**
PEL	**Peldehue**	**39.60**	**293**	P	**P**	**16 42 05.7**	**-0.3**
MT02	**Curacav**	**39.71**	**293**	P	**P**	**16 42 06.9**	**+0.1**
MT02				IAmb	IAmb	16 42 08.2	
	comp=Z,24nm,0.8s						
VA03	**San Esteban**	**39.86**	**294**	P	**P**	**16 42 08.5**	**+0.3**
VA03				IAmb	IAmb	16 42 10.3	
	comp=Z,51nm,0.8s						
ZON	**Zonda**	**40.05**	**297**	P	**P**	**16 42 09.9**	**+0.1**
CPUP	**Villa Florida**	**40.13**	**315**	P	**P**	**16 42 09.7**	**-0.8**
	comp=Z,3.0nm,0.8s,baz=143,slow=5.9,SNR=5.1						
CPUP				LR	LR	16 57 21.8	
	comp=Z,95nm,21.4s,baz=202,slow=34						
	comp=Z,3.0nm,0.8s						
VA01	**Torpederas**	**40.14**	**293**	P	**P**	**16 42 08.2**	**-2.2**
CO02	**Combarbal**	**41.38**	**295**	P	**P**	**16 42 19.8**	**-1.1**
CO02				IAmb	IAmb	16 43 41.1	
	comp=Z,36nm,1.2s						
CO03	**El Pedregal**	**41.55**	**295**	P	**P**	**16 42 21.4**	**-0.8**
SBA	**Scott Base**	**41.62**	**184**	P	**P**	**16 42 24.8**	**+2.7**
SUR	**Sutherland**	**41.68**	**69**	P	**P**	**16 42 23.8**	**+0.4**
SUR	**Sutherland**	**41.68**	**69**	LR	LR	16 55 31.3	
	comp=Z,64nm,21.5s,baz=194,slow=30						
CO01	**Juntas del Tor**	**42.02**	**297**	P	**P**	**16 42 27.6**	**+1.4**
CO01				IAmb	IAmb	16 42 28.9	
	comp=Z,30nm,0.9s						
VNDA	**Vanda**	**42.10**	**183**	P	**P**	**16 42 26.6**	**+0.5**
VNDA	**Vanda**	**42.10**	**183**	P	**P**	**16 42 28.2**	**+2.2**
	comp=Z,4.1nm,0.9s,baz=179,slow=9.1,SNR=22						
VNDA				LR	LR	16 59 53.2	
	comp=Z,34nm,18.9s,baz=198,slow=36						
	comp=Z,4.1nm,0.9s						
CO06	**Fray Jorge**	**42.11**	**294**	P	**P**	**16 42 26.5**	**-0.2**
AC05	**El Transito**	**43.08**	**297**	P	**P**	**16 42 34.0**	**-0.7**
LCO	**Las Campanas**	**43.12**	**297**	P	**P**	**16 42 35.2**	**+0.1**
AC04	**Llanos de Chal**	**43.98**	**297**	P	**P**	**16 42 40.2**	**-1.6**
AC04				IAmb	IAmb	16 42 43.5	
	comp=Z,39nm,0.9s						
AC06	**Mina Casimiro**	**44.40**	**298**	P	**P**	**16 42 43.4**	**-1.8**
AC06				IAmb	IAmb	16 42 46.3	
	comp=Z,21nm,0.9s						
H04S2	**CROZET ISLANDS**	**45.54**	**110**	T	T	17 31 54.4	
	baz=224,slow=77,SNR=5.1						
H04S3	**CROZET ISLANDS**	**45.55**	**110**	T	T	17 32 03.7	
	baz=224,slow=77,SNR=5.4						
AC01	**Pan de Azucar**	**45.56**	**299**	P	**P**	**16 42 54.0**	**-0.4**
H04S1	**CROZET ISLANDS**	**45.56**	**110**	T	T	17 31 48.9	
	baz=224,slow=77,SNR=4.7						
GO02	**Mina Guanaco**	**45.99**	**301**	P	**P**	**16 42 57.2**	**-0.9**
GO02				IAmb	IAmb	16 42 59.4	
	comp=Z,23nm,0.6s						
BOSA	**Boshof**	**46.91**	**71**	LR	LR	16 58 10.6	
	comp=Z,35nm,21.4s,baz=193,slow=30						
BDFB	**Brasilia**	**47.46**	**331**	LR	LR	17 00 45.8	
	comp=Z,71nm,21.2s,baz=155,slow=33						
PB10	**IPOC Station P**	**47.85**	**301**	P	**P**	**16 43 11.5**	**-0.9**
LVC	**Limon Verde**	**47.96**	**303**	P	**P**	**16 43 12.8**	**-0.9**
LVC	**Limon Verde**	**47.96**	**303**	LR	LR	17 02 36.8	
	comp=Z,69nm,21.3s,baz=181,slow=35						
PB04	**IPOC Station P**	**48.72**	**302**	P	**P**	**16 43 16.9**	**-2.4**
PB09	**IPOC Station P**	**48.82**	**303**	P	**P**	**16 43 20.7**	**+0.6**
PB09				IAmb	IAmb	16 43 45.1	
	comp=Z,46nm,1.6s						
PB07	**IPOC Station P**	**49.15**	**302**	P	**P**	**16 43 23.1**	**+0.5**
PB07				IAmb	IAmb	16 43 23.9	
	comp=Z,17nm,0.7s						
PB02	**IPOC Station P**	**49.52**	**303**	P	**P**	**16 43 25.9**	**+0.6**
PB02				IAmb	IAmb	16 43 26.8	
	comp=Z,18nm,0.8s						
CASY	**Casey**	**49.57**	**159**	P	**P**	**16 43 26.4**	**+1.3**
CASY				IAmb	IAmb	16 43 28.6	
	comp=Z,16nm,0.8s						
PB01	**IPOC Station P**	**49.59**	**303**	P	**P**	**16 43 26.5**	**+0.7**
PB01				IAmb	IAmb	16 43 27.3	
	comp=Z,18nm,0.7s						
PATCX	**Punta Patache**	**50.07**	**303**	P	**P**	**16 43 28.1**	**-1.4**
PATCX				IAmb	IAmb	16 43 30.7	
	comp=Z,28nm,1.1s						
GO01	**Chusmiza**	**50.70**	**304**	P	**P**	**16 43 33.9**	**-0.9**
PB11	**IPOC Station P**	**50.81**	**304**	P	**P**	**16 43 34.9**	**-0.3**
PB11				IAmb	IAmb	16 43 36.9	
	comp=Z,26nm,1.4s						
SIV	**San Ignacio**	**50.98**	**315**	LR	LR	17 05 20.5	
	comp=Z,58nm,19.7s,baz=127,slow=36						
TSUM	**Tsumeb**	**51.70**	**57**	LR	LR	17 00 39.2	
	comp=Z,25nm,20.9s,baz=212,slow=30						
LPAZ	**La Paz**	**53.33**	**307**	P	**P**	**16 43 54.9**	**+0.4**
LPAZ	**La Paz**	**53.33**	**307**	P	**P**	**16 43 54.6**	**+0.1**
	comp=Z,3.7nm,0.5s,baz=134,slow=7.5,SNR=22						
LPAZ				LR	LR	17 09 14.1	
	comp=Z,38nm,18.7s,baz=172,slow=39						
	comp=Z,3.7nm,0.5s						
LSZ	**Lusaka**	**59.78**	**66**	LR	LR	17 06 17.9	
	comp=Z,39nm,20.5s,baz=158,slow=32						
BOAV	**Boa Vista**	**68.07**	**323**	P	**P**	**16 45 32.5**	**-1.7**
MDP	**Montagnes des**	**68.57**	**332**	LR	LR	17 13 18.4	
	comp=Z,39nm,21.2s,baz=116,slow=34						
DBIC	**Dimbokro**	**69.14**	**23**	P	**P**	**16 45 41.0**	**+0.3**
	comp=Z,4.8nm,0.8s,baz=177,slow=7.5,SNR=3.8						
	comp=Z,4.8nm,0.8s						
MBAR	**Mbarara**	**73.95**	**61**	LR	LR	17 15 33.1	
	comp=Z,28nm,19.3s,baz=188,slow=33						
ROSC	**El Rosal**	**75.04**	**310**	LR	LR	17 22 41.8	
	comp=Z,55nm,18.3s,baz=208,slow=38						
TOA0	**Torodi Ar. Sit**	**76.82**	**28**	P	**P**	**16 46 26.6**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.82**	**28**	P	**P**	**16 46 27.3**	**+1.0**
TORD	**Torodi Ar. Bea**	**76.82**	**28**	P	**P**	**16 46 27.2**	**+1.0**
	comp=Z,4.2nm,0.6s,baz=194,slow=5.0,SNR=19						
	comp=Z,4.2nm,0.6s						
SDV	**Santo Domingo**	**77.45**	**315**	LR	LR	17 23 08.0	
	comp=Z,97nm,18.7s,baz=166,slow=38						
TBI	**Tubuai**	**84.53**	**231**	*e*LR	LR	17 13 47.0	
	comp=Z,687nm,33.0s						
ASAR	**Alice Springs**	**94.60**	**162**	P	**P**	**16 47 55.0**	**-0.4**
	comp=Z,0.9nm,0.8s,baz=180,slow=4.8,SNR=8.8						
ASAR				LR	LR	17 28 23.9	
	comp=Z,115nm,19.0s,baz=136,slow=34						
	comp=Z,0.9nm,0.8s						
MDT	**Midelt**	**94.73**	**18**	LR	LR	17 26 29.0	
	comp=Z,33nm,19.0s,baz=168,slow=33						
CMAR	**Chiang Mai Arr**	**123.08**	**113**	PKP	**PKPdf**	**16 53 30.8**	**-0.1**
	comp=Z,0.2nm,0.4s,baz=235,slow=3.2,SNR=4.0						
YKA	**Yellowknife Ar**	**139.66**	**314**	PKP	**PKiKP**	**16 54 02.0**	**-1.1**
	comp=Z,0.6nm,0.6s,baz=117,slow=2.1,SNR=9.2						
P33M	**Teslin, Yukon**	**145.33**	**303**	P	**PKPdf**	**16 54 12.1**	**+1.1**
	baz=124						
P32M	**Atlin**	**145.36**	**301**	P	**PKPab**	**16 54 12.3**	**+1.2**
	baz=124						
MMPY	**Sheldon Lake,**	**145.99**	**307**	P	**PKPab**	**16 54 13.9**	**+0.4**
	baz=121						
M31M	**Drury Creek, Y**	**147.03**	**305**	P	**PKPab**	**16 54 16.6**	**-0.9**
	baz=120						
HYT	**Haines Junctio**	**147.62**	**301**	P	**PKPab**	**16 54 20.3**	**+0.3**
	baz=120						
N30M	**Aishikik Lake**	**147.76**	**303**	P	**PKPab**	**16 54 21.1**	**+0.6**
	baz=120						
A36M	**Sachs Harbour**	**148.15**	**324**	P	**PKPbc**	**16 54 18.7**	**+0.1**
	baz=112						
M30M	**Minto, Yukon**	**148.19**	**305**	P	**PKPbc**	**16 54 19.5**	**+0.5**
	baz=118						
H31M	**Peel River**	**148.69**	**311**	P	**PKPbc**	**16 54 20.8**	**+0.6**
	baz=115						
O28M	**Mount Upton**	**148.73**	**300**	P	**PKiKP**	**16 54 22.5**	**+0.3**
	baz=119						
YUK8	**Steele Glacier**	**148.80**	**301**	P	**PKiKP**	**16 54 22.0**	**-0.3**
	baz=119						
J30M	**Hart River**	**148.91**	**308**	P	**PKiKP**	**16 54 22.0**	**-0.2**
	baz=116						
L29M	**L29M**	**148.98**	**305**		**PKiKP**	**16 54 21.6**	**-0.7**
L29M	**L29M**	**148.98**	**305**	P	**PKiKP**	**16 54 22.1**	**-0.3**
	baz=117						
G31M	**Satah River**	**149.12**	**313**	P	**PKiKP**	**16 54 22.0**	**-0.4**
	baz=114						
F31M	**Tsiigehtchic**	**149.14**	**314**	P	**PKiKP**	**16 54 22.3**	**-0.1**
	baz=113						
I30M	**Mount Dempster**	**149.21**	**309**		**PKiKP**	**16 54 22.7**	**-0.1**
I30M	**Mount Dempster**	**149.21**	**309**	P	**PKiKP**	**16 54 22.6**	**-0.3**
	baz=115						
EPYK	**Eagle Plains**	**149.80**	**311**	P	**PKiKP**	**16 54 24.0**	**+0.1**
	baz=113						
G30M	**tAoh Zraii Nji**	**149.85**	**313**	P	**PKiKP**	**16 54 24.4**	**+0.3**
	baz=112						
SONM	**Songino Array**	**150.36**	**94**	PKPbc	**PKPbc**	**16 54 24.6**	**-0.4**
	comp=Z,2.3nm,0.9s,baz=264,slow=1.4,SNR=5.2						
H29M	**Whitestone**	**150.36**	**310**	P	**PKiKP**	**16 54 25.4**	**+0.4**
	baz=112						
BCAR	**Beaver Creek A**	**150.46**	**303**		**PKiKP**	**16 54 26.7**	**+1.3**
L27K	**Beaver Creek,**	**150.47**	**303**	P	**PKiKP**	**16 54 26.1**	**+0.7**
	baz=115						
G29M	**Pine Creek**	**150.49**	**312**	P	**PKiKP**	**16 54 25.5**	**+0.2**
	baz=111						
I28M	**Miner Creek**	**150.67**	**308**	P	**PKiKP**	**16 54 26.2**	**+0.3**
	baz=112						
E29M	**Blow River**	**150.94**	**315**	P	**PKiKP**	**16 54 26.3**	**+0.1**
	baz=109						
K27K	**Chicken**	**150.97**	**305**	P	**PKiKP**	**16 54 27.7**	**+1.4**
	baz=113						
I27K	**Kandik River**	**151.38**	**308**	P	**PKiKP**	**16 54 28.4**	**+1.2**
	baz=111						
F28M	**Old Crow**	**151.40**	**313**	P	**PKiKP**	**16 54 28.0**	**+0.8**
	baz=109						
H27K	**Steamboat Moun**	**151.56**	**310**	P	**PKiKP**	**16 54 28.8**	**+1.3**
	baz=110						
SCRK	**Sand Creek**	**151.72**	**304**	P	**PKiKP**	**16 54 29.6**	**+1.5**
	baz=112						
J26L	**Joseph Creek**	**151.75**	**305**		**PKPbc**	**16 54 26.9**	**-0.8**
J26L	**Joseph Creek**	**151.75**	**305**	P	**PKiKP**	**16 54 29.5**	**+1.4**
	baz=112						
I26K	**Coal Creek Min**	**151.88**	**307**	P	**PKiKP**	**16 54 29.2**	**+1.0**
	baz=110						
M24K	**Tolsona, Glenn**	**151.90**	**300**	P	**PKiKP**	**16 54 30.7**	**+2.3**
	baz=114						
E27K	**Coleen River**	**152.20**	**313**	P	**PKiKP**	**16 54 30.0**	**+1.1**
	baz=106						
J25K	**Salcha River,**	**152.52**	**305**	P	**PKiKP**	**16 54 30.9**	**+1.3**
	baz=110						
F26K	**Sheenjek River**	**152.99**	**312**	P	**PKiKP**	**16 54 32.4**	**+2.0**
	baz=105						
ILAR	**Eielson Array**	**153.19**	**305**	PKPbc	**PKiKP**	**16 54 31.4**	**+0.5**
	comp=Z,1.7nm,0.9s,baz=158,slow=2.4,SNR=14						
C27K	**Jago River**	**153.29**	**316**	P	**PKiKP**	**16 54 32.6**	**+1.6**
	baz=102						
F25K	**Christian River**	**153.52**	**311**	P	**PKiKP**	**16 54 33.6**	**+2.0**
	baz=104						
E25K	**Arctic Village**	**153.62**	**312**	P	**PKiKP**	**16 54 33.3**	**+1.6**
	baz=104						
D25K	**Kavik River**	**154.15**	**315**	P	**PKiKP**	**16 54 33.9**	**+1.0**
	baz=100						
TOLK	**Toolik Lake Re**	**155.17**	**313**	P	PKPdf	16 54 36.8	+11
	baz=99						

*HVO **18** 16:44:13.1±1.8, 19°.53N±0°.02×156°.40W±0°.02, h15km±8km, ML3.7/26, ML3.7/42(NEIC), Error ellipse: s-maj=3.2km s-min=2.6km az=120.0*
NEIC 18 16:44:11.3±1.9, 19°.509N±0°.009×156°.43W±0°.04, h10km±2km, Error ellipse: s-maj=6.2km s-min=3.1km az=86.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKH	**Kailua Kona**	**0.41**	**69**		Pb	16 44 20.6	0.0
KKH					Sb	16 44 26.7	-0.2
CPH	**Captain Cook**	**0.48**	**92**		Pb	16 44 21.3	-0.6
HUH	**Hualalai**	**0.58**	**72**		Pg	16 44 22.5	-0.2
HUH				IAML		16 44 30.6	
	comp=N,5μm,0.2s						
HUH				IAML		16 44 32.5	
	comp=E,5μm,0.1s						
HUH	**Hualalai**	**0.58**	**72**		Sg	16 44 29.8	-0.7
ALEP	**Alea Permanent**	**0.74**	**87**		Pg	16 44 25.1	-0.5
ALEP					Sg	16 44 34.3	-1.0
MWH	**Moku'aweowe**	**0.78**	**92**		Pg	16 44 25.3	-1.2
MWH	**Moku'aweowe**	**0.78**	**92**	IAML		16 44 44.6	
	comp=N,3μm,0.4s						
MWH				IAML		16 44 49.3	
	comp=E,3μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.80**	**88**		Pg	16 44 25.7	-1.1
MLOA					Sg	16 44 35.4	-2.0
MLOA	**Mauna Loa Obse**	**0.80**	**88**		Pg	16 44 25.7	-1.1
MLOA					Sg	16 44 35.4	-2.0
KHU	**Kahuku**	**0.81**	**109**		Pg	16 44 25.6	-1.4
KHU				IAML		16 44 35.6	
	comp=N,2μm,0.2s						
KHU				IAML		16 44 35.9	
	comp=E,3μm,0.2s						
MHA	**Mahukona**	**0.84**	**36**		Pg	16 44 26.2	-1.2
MHA	**Mahukona**	**0.84**	**36**		Sg	16 44 35.6	-2.7
HPAH	**Hawaii Prepara**	**0.86**	**53**		Pg	16 44 26.1	-1.8
HPAH	**Hawaii Prepara**	**0.86**	**53**		Sg	16 44 35.6	-3.5
HPAH	**Hawaii Prepara**	**0.86**	**53**	IAML		16 44 35.6	
	comp=N,906nm,0.3s						
HPAH				IAML		16 44 36.3	
	comp=E,801nm,0.2s						
POHA	**Pohakuloa**	**0.88**	**73**	Pg	Pg	16 44 26.5	-1.7
POHA	**Pohakuloa**	**0.88**	**73**		Sg	16 44 36.6	-3.2
POHA	**Pohakuloa**	**0.88**	**73**	IAML		16 44 37.4	
	comp=E,2μm,0.1s						
POHA				IAML		16 44 38.6	
	comp=E,2μm,0.1s						
HMH	**Humu'ula Sheep**	**0.89**	**84**	Pg	Pg	16 44 27.2	-1.4
HMH				IAML		16 44 40.4	
	comp=N,2μm,0.1s						
HMH				IAML		16 44 44.4	
	comp=E,1μm,0.3s						
MLH	**Mauna Loa**	**0.98**	**91**	Pg	Pg	16 44 27.9	-2.3
HLP	**Hilina Pali**	**1.08**	**101**		Pg	16 44 30.7	-1.3
HLP				IAML		16 44 42.9	
	comp=N,2μm,0.2s						
HL

JOKA	**Jonika Flow**	**1.34**	**93**	IAML			16 44 48.9	
	comp=N,847nm,0.7s							
KHLH	**Kahului Airpor**	**1.38**	**360**			Pn	16 44 34.4	-2.2
KPA	**Kalaupapa**	**1.75**	**343**			Pn	16 44 38.5	-3.2
KPA						Sn	16 44 56.5	-7.7
WMR	**Waimanalo Ridg**	**2.15**	**327**			Pn	16 44 44.3	-3.0
DHH	**Diamond Head**	**2.17**	**324**		Pn	Pn	16 44 44.7	-2.8
DHH	**Diamond Head**	**2.17**	**324**			Sn	16 45 09.1	-5.3
HON	**Honolulu**	**2.33**	**321**			Sn	16 45 13.0	-5.5
HON	**Honolulu**	**2.33**	**321**			Pn	16 44 46.8	-3.0
KIP	**Kipapa**	**2.42**	**322**			Pn	16 44 48.1	-2.8
KIP	**Kipapa**	**2.42**	**322**	IAML			16 45 16.7	
	comp=N,255nm,0.7s							
KEKH	**Kekaha**	**3.94**	**309**			Pn	16 45 08.6	-3.3
KEKH						Sn	16 45 49.3	-8.9

NOU 18 17:11:48.2, 32°38S × 176°60W, h0km, mb4.7/6, South of Kermadec Islands, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.65**	**218**	P	Pn	17 13 26.7	-0.4
KUZ	**Kuaotunu**	**7.69**	**233**	P	Pn	17 13 41.1	-0.3
URZ	**Urewera**	**7.80**	**219**	P	Pn	17 13 41.8	-1.1
OUZ	**Omahuta**	**8.64**	**248**	P	Pn	17 13 54.3	-0.1
BKZ	**Black Stump Fm**	**8.79**	**218**	P	Pn	17 13 57.4	+0.8
HIZ	**Hauiti**	**9.27**	**226**	P	Pn	17 14 03.5	+0.4

*IDC **18** 17:27:21.6±0.6, 36°14S × 101°66W, h0km, mb4.3/10, mbtmp4.3/10, MS4.1/36, Error ellipse: s-maj=25.5km s-min=17.8km az=88.0*
*NEIC **18** 17:27:23.3±1.0, 36°0S±0°1 × 101°5W±0°1, h10km±1km, mb4.8/111, Error ellipse: s-maj=24.2km s-min=15.8km az=211.0*
*GCMT **18** 17:27:24.3±0.2, 36°19S±0°01 × 101°42W±0°02, h12km±1km, MW4.9/112, Moment Tensor Solution. s43,c52; s112,c160; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.91±.10; Mθθ=0.00±.09; Mϕϕ=0.90±.09; Mrθ=0.10±.23; Mθϕ=-2.85±.08; Mϕr=0.04±.21; Best double couple: M=2.88800×10^16 NP1=ϕs=95.00000°, δ=90.00000°, λ=-178.00000°. NP2=ϕs=5.00000°, δ=88.00000°, λ=0.00000°. Principal axes: T 3.3420, Plg1.0000°, Azm230.0000°; N -0.9090, Plg88.0000°, Azm102.0000°; P -2.4340, Plg2.0000°, Azm320.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 17:27:22.4±0.5, 36°06S±0°09 × 101°58W±0°10, h10km, n181, σ0°99/126, mb4.8/61, MS4.1/36, 1C-2D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**11.09**	**321**	LR	LR	17 33 09.5	
	comp=Z,1μm,20.0s,baz=119,slow=31						
VA02	**Isla de Pascua**	**11.11**	**321**	Pn	**Pn**	**17 30 00.8**	**-0.5**
H03S2	**Juan Fernandez**	**18.70**	**90**	T	T	17 50 52.1	
	baz=254,slow=75,SNR=13						
H03S1	**Juan Fernandez**	**18.71**	**90**	T	T	17 50 58.6	
	baz=254,slow=75,SNR=12						
H03S3	**Juan Fernandez**	**18.71**	**90**	T	T	17 50 59.1	
	baz=254,slow=75,SNR=9.5						
H03N2	**Juan Fernandez**	**18.79**	**89**	T	T	17 50 56.9	
	baz=248,slow=72,SNR=16						
H03N3	**Juan Fernandez**	**18.79**	**89**	T	T	17 51 06.2	
	baz=248,slow=72,SNR=16						
H03N1	**Juan Fernandez**	**18.80**	**89**	T	T	17 51 02.6	
	baz=248,slow=72,SNR=19						
LL02	**Futaleuf**	**23.90**	**116**	P	**P**	**17 32 36.8**	**+0.5**
LL02				IAmb	IAmb	17 32 46.8	
	comp=Z,19nm,1.1s						
GO06	**Curarrehue**	**23.99**	**108**	P	**P**	**17 32 36.9**	**-0.4**
GO05	**Huala**	**24.11**	**96**	P	**P**	**17 32 36.9**	**-1.5**
GO05				IAmb	IAmb	17 32 41.1	
	comp=Z,14nm,0.8s						
VA05	**Santo Domingo**	**24.66**	**93**	P	**P**	**17 32 40.9**	**-2.4**
PLCA	**Paso Flores**	**24.69**	**110**	P	**P**	**17 32 43.4**	**-0.2**
PLCA				IAmb	IAmb	17 32 53.5	
	comp=Z,58nm,1.8s						
PLCA	**Paso Flores**	**24.69**	**110**	P	**P**	**17 32 44.3**	**+0.6**
	comp=Z,5.5nm,0.8s,baz=216,slow=14,SNR=4.8						
PLCA				LR	LR	17 38 45.5	
	comp=Z,106nm,20.9s,baz=274,slow=28						
	comp=Z,5.5nm,0.8s						
PLCA	**Paso Flores**	**24.69**	**110**	*eP*	**P**	**17 32 46.2**	**+2.6**
VA01	**Torpederas**	**24.80**	**92**	P	**P**	**17 32 43.2**	**-1.3**
MT01	**Popeta**	**24.91**	**94**	P	**P**	**17 32 44.9**	**-0.6**
BO01	**Tunca**	**24.92**	**95**	P	**P**	**17 32 45.0**	**-0.7**
BO01				IAmb	IAmb	17 32 54.2	
	comp=Z,23nm,1.1s						
BO02	**Sierra Bellavi**	**25.08**	**96**	P	**P**	**17 32 46.7**	**-0.5**
MT09	**Talagante**	**25.14**	**94**	P	**P**	**17 32 47.0**	**-0.8**
MT09				IAmb	IAmb	17 32 52.3	
	comp=Z,11nm,0.8s						
MT02	**Curacav**	**25.15**	**93**	P	**P**	**17 32 47.0**	**-0.8**
MT02				IAmb	IAmb	17 32 49.6	
	comp=Z,40nm,1.4s						
BO04	**La Punta**	**25.39**	**94**	P	**P**	**17 32 50.1**	**0.0**
BO04				IAmb	IAmb	17 32 52.9	
	comp=Z,23nm,0.9s						
MT16	**CCHEN**	**25.60**	**93**	P	**P**	**17 32 52.0**	**+0.1**
MT13	**San Alfonso**	**25.71**	**94**	P	**P**	**17 32 52.4**	**-0.7**
MT13				IAmb	IAmb	17 32 55.6	
	comp=Z,22nm,0.8s						
VA03	**San Esteban**	**25.75**	**92**	P	**P**	**17 32 53.2**	**-0.1**
VA03				IAmb	IAmb	17 33 01.6	
	comp=Z,28nm,0.9s						
LMEL	**Las Melosas**	**25.76**	**94**	P	**P**	**17 32 53.3**	**-0.1**
GO09	**Cerro Castillo**	**25.83**	**135**	P	**P**	**17 32 54.6**	**+0.9**
MG05	**Puerto Natales**	**25.91**	**136**	P	**P**	**17 32 54.6**	**+0.2**
MT08	**Bocatoma Ro**	**26.01**	**94**	P	**P**	**17 32 55.4**	**-0.5**
MT08				IAmb	IAmb	17 33 01.9	
	comp=Z,23nm,0.8s						
LCO	**Las Campanas**	**26.89**	**84**	P	**P**	**17 33 03.0**	**-0.9**
LCO				IAmb	IAmb	17 33 07.1	
	comp=Z,19nm,0.9s						
AC05	**El Transito**	**27.30**	**84**	P	**P**	**17 33 06.4**	**-1.0**
AC05				IAmb	IAmb	17 33 10.6	
	comp=Z,17nm,1.0s						
GO02	**Mina Guanaco**	**29.47**	**77**	P	**P**	**17 33 26.3**	**-0.7**
PB15	**IPOC Station P**	**30.56**	**74**	P	**P**	**17 33 35.4**	**-1.1**
PB15				IAmb	IAmb	17 33 40.1	
	comp=Z,18nm,0.8s						
PB06	**IPOC Station P**	**30.75**	**73**	P	**P**	**17 33 37.3**	**-0.9**
PB02	**IPOC Station P**	**31.27**	**71**	P	**P**	**17 33 40.4**	**-2.2**
PB02				IAmb	IAmb	17 33 45.9	
	comp=Z,13nm,0.8s						
LVC	**Limon Verde**	**31.32**	**74**	P	**P**	**17 33 42.1**	**-1.2**
LVC				IAmb	IAmb	17 33 46.9	
	comp=Z,16nm,1.0s						
LVC	**Limon Verde**	**31.32**	**74**	LR	LR	17 43 11.3	
	comp=Z,417nm,19.4s,baz=248,slow=30						
LVC	**Limon Verde**	**31.32**	**74**	*eP*	**P**	**17 33 43.9**	**+0.5**
PATCX	**Punta Patache**	**31.36**	**70**	P	**P**	**17 33 43.5**	**0.0**
TA01	**Diego Aracena**	**31.49**	**69**	P	**P**	**17 33 43.5**	**-0.9**
PB09	**IPOC Station P**	**31.50**	**72**	P	**P**	**17 33 43.7**	**-1.1**
HMBC	**Humberstone**	**31.88**	**69**	P	**P**	**17 33 46.4**	**-1.7**
PB11	**IPOC Station P**	**32.36**	**69**	P	**P**	**17 33 50.8**	**-1.5**
PB08	**IPOC Station P**	**32.52**	**70**	P	**P**	**17 33 52.3**	**-1.6**
PB12	**IPOC Station P**	**32.56**	**66**	P	**P**	**17 33 53.3**	**-0.6**
NNA	**Nana**	**32.75**	**49**	LR	LR	17 44 05.7	
	comp=Z,596nm,19.4s,baz=222,slow=31						
GO01	**Chusmiza**	**32.76**	**69**	P	**P**	**17 33 55.0**	**-1.3**
GO01				IAmb	IAmb	17 33 59.9	
	comp=Z,10nm,0.8s						
LPAZ	**La Paz**	**35.64**	**65**	P	**P**	**17 34 20.0**	**-1.4**
LPAZ	**La Paz**	**35.64**	**65**	P	**P**	**17 34 22.1**	**+0.7**
	comp=Z,26nm,1.1s,baz=215,slow=6.5,SNR=21						
LPAZ				LR	LR	17 45 48.4	
	comp=Z,118nm,21.0s,baz=208,slow=31						
	comp=Z,26nm,1.1s						
LPAZ	**La Paz**	**35.64**	**65**	*eP*	**P**	**17 34 22.7**	**+1.3**
ATAH	**Atahualpa**	**35.76**	**42**	LR	LR	17 45 18.2	
	comp=Z,550nm,20.5s,baz=227,slow=30						
PMSA	**Palmer Station**	**36.40**	**154**	LR	LR	17 45 15.5	
	comp=Z,453nm,19.7s,baz=300,slow=30						
PSAL	**Palomas, Salto**	**36.74**	**95**	*eP*	**P**	**17 34 31.6**	**+1.7**
ITQB	**Itaqui**	**38.03**	**94**	P	**P**	**17 34 40.8**	**-0.1**
ITQB				IAmb	IAmb	17 34 43.7	
	comp=Z,20nm,0.9s						
ITQB	**Itaqui**	**38.03**	**94**	*eP*	**P**	**17 34 42.9**	**+2.0**
CPUP	**Villa Florida**	**38.79**	**88**	LR	LR	17 47 58.2	
	comp=Z,141nm,18.9s,baz=238,slow=32						
PLTB	**Pedras Altas**	**39.73**	**98**	P	**P**	**17 34 55.1**	**-0.1**
PLTB				IAmb	IAmb	17 35 02.6	
	comp=Z,14nm,0.9s						
CHSH	**Refugio Sur-Vo**	**40.32**	**37**	P	**P**	**17 35 00.0**	**-0.8**
CHSH				IAmb	IAmb	17 35 09.6	
	comp=Z,33nm,1.4s						
BBSD	**Serra de San D**	**40.80**	**74**	*eP*	**P**	**17 35 05.7**	**+1.5**
BBRB	**Robore, Bolivi**	**40.81**	**76**	*eP*	**P**	**17 35 05.7**	**+1.4**
SIV	**San Ignacio**	**41.15**	**72**	LR	LR	17 49 56.2	
	comp=Z,292nm,20.7s,baz=288,slow=33						
ETMB	**Extrema**	**41.37**	**60**	P	**P**	**17 35 08.0**	**-0.9**
ETMB	**Extrema**	**41.37**	**60**	*eP*	**P**	**17 35 08.1**	**-0.7**
BDQN	**Bodoquena, MS**	**42.06**	**81**	*eP*	**P**	**17 35 14.8**	**+0.3**
AMBA	**Amambai (Brazi**	**42.23**	**85**	*eP*	**P**	**17 35 16.2**	**+0.3**
AQDB	**Aquidauana**	**42.89**	**81**	P	**P**	**17 35 20.2**	**-1.0**
PTLB	**Pontes e Lacer**	**42.97**	**73**	P	**P**	**17 35 20.8**	**-1.0**
PTLB	**Pontes e Lacer**	**42.97**	**73**	*eP*	**P**	**17 35 22.6**	**+0.8**
VILB	**Vilhena**	**43.68**	**69**	P	**P**	**17 35 26.0**	**-1.6**
VILB				IAmb	IAmb	17 35 30.8	
	comp=Z,24nm,1.0s						
VILB	**Vilhena**	**43.68**	**69**	*eP*	**P**	**17 35 27.8**	**+0.2**
SAML	**Samuel**	**44.11**	**62**	P	**P**	**17 35 29.9**	**-1.2**
SAML				IAmb	IAmb	17 35 34.5	
	comp=Z,23nm,1.1s						
SAML	**Samuel**	**44.11**	**62**	*eP*	**P**	**17 35 31.0**	**-0.1**
RVDE	**Rio Verde (Bra**	**44.26**	**80**	*eP*	**P**	**17 35 32.4**	**+0.1**
SALV	**Santo Antonio**	**45.39**	**76**	*eP*	**P**	**17 35 42.7**	**+1.4**
PPT	**Papeete**	**46.13**	**280**	LR	LR	17 49 07.3	
	comp=Z,140nm,18.5s,baz=141,slow=28						
FRTB	**Fartura**	**46.43**	**89**	*eP*	**P**	**17 35 50.2**	**+0.7**
PDRB	**Porto dos Gac**	**47.15**	**70**	*eP*	**P**	**17 35 57.5**	**+2.3**
ROSC	**El Rosal**	**48.04**	**38**	LR	LR	17 52 31.4	
	comp=Z,340nm,21.6s,baz=242,slow=31						
SRBA	**San Rafael, Bu**	**48.21**	**24**	P	**P**	**17 36 04.2**	**+0.8**
ARAG	**Araguaiana, MT**	**48.57**	**79**	*eP*	**P**	**17 36 07.3**	**+1.2**
JTS	**Las Juntas de**	**48.69**	**22**	LR	LR	17 51 28.0	
	comp=Z,313nm,19.2s,baz=185,slow=30						
NPGB	**Novo Progresso**	**51.11**	**67**	*eP*	**P**	**17 36 25.0**	**-0.6**
SNDB	**Serra Nova Dou**	**51.14**	**75**	*eP*	**P**	**17 36 26.0**	**+0.3**
BDFB	**Brasilia**	**51.63**	**81**	P	**P**	**17 36 30.9**	**+1.4**
	comp=Z,4.0nm,0.8s,baz=240,slow=11,SNR=4.7						
BDFB				LR	LR	17 56 09.5	
	comp=Z,117nm,20.9s,baz=306,slow=33						
	comp=Z,4.0nm,0.8s						
RAR	**Rarotonga**	**52.46**	**270**	LR	LR	17 53 06.6	
	comp=Z,55nm,21.8s,baz=145,slow=30						
ITTB	**Itaituba**	**52.62**	**64**	*eP*	**P**	**17 36 37.9**	**+1.1**
CMIG	**Matias Romero**	**53.24**	**8**	LR	LR	17 53 40.3	
	comp=Z,202nm,20.0s,baz=181,slow=30						
SDV	**Santo Domingo**	**53.36**	**39**	LR	LR	17 54 50.9	
	comp=Z,76nm,20.5s,baz=184,slow=31						
BOAV	**Boa Vista**	**54.12**	**54**	P	**P**	**17 36 47.1**	**-0.7**
BOAV				IAmb	IAmb	17 36 50.0	
	comp=Z,9.7nm,1.0s						
BOAV	**Boa Vista**	**54.12**	**54**	*eP*	**P**	**17 36 47.5**	**-0.3**
QSPA	**South Pole Qui**	**54.15**	**180**	P	**P**	**17 36 46.8**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=139,slow=2.6,SNR=14						
QSPA				LR	LR	17 55 08.5	
	comp=Z,129nm,21.6s,baz=114,slow=31						
	comp=Z,4.4nm,0.8s						
JANB	**Januaria**	**54.93**	**83**	*eP*	**P**	**17 36 53.7**	**-0.1**
SDBA	**SAO DESIDERIO**	**55.94**	**80**	*eP*	**P**	**17 37 01.5**	**+0.4**
VNDA	**Vanda**	**56.51**	**195**	P	**P**	**17 37 03.9**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=91,slow=2.9,SNR=5.8						
VNDA				LR	LR	17 56 58.5	
	comp=Z,128nm,18.3s,baz=104,slow=32						
	comp=Z,1.6nm,1.0s						
VNA3	**Neumayer Olymp**	**56.92**	**157**	⇓P	**P**	**17 37 07.2**	**0.0**
	comp=Z,6.1nm,0.8s						
TEIG	**Tepich**	**57.38**	**15**	LR	LR	17 57 48.0	
	comp=Z,1μm,19.1s,slow=32						
PCRV	**Puerto La Cruz**	**57.68**	**44**	LR	LR	18 00 21.9	
	comp=Z,570nm,18.2s,slow=34						
VNA2	**Neumayer--Watz**	**57.72**	**157**	⇑P	**P**	**17 37 12.0**	**-0.9**
	comp=Z,3.9nm,0.9s,baz=280,slow=5.0						
MCPB	**Macapa, AP**	**58.02**	**64**	*eP*	**P**	**17 37 14.8**	**-1.0**
SNAA	**Sanae**	**58.87**	**159**	P	**P**	**17 37 22.6**	**+1.6**
	comp=Z,2.8nm,0.9s,baz=253,slow=4.3,SNR=3.5						
SNAA				LR	LR	17 58 15.1	
	comp=Z,199nm,20.1s,baz=272,slow=32						
	comp=Z,2.8nm,0.9s						
MDP	**Montagnes des**	**61.42**	**59**	LR	LR	18 01 29.1	
	comp=Z,176nm,19.9s,baz=274,slow=33						
URZ	**Urewera**	**62.76**	**241**	LR	LR	17 58 22.6	
	comp=Z,258nm,19.4s,baz=26,slow=30						
RAO	**Raoul Island**	**63.12**	**252**	LR	LR	17 58 13.2	
	comp=Z,164nm,22.0s,baz=140,slow=29						
RPZ	**Rata Peaks**	**64.50**	**233**	LR	LR	17 58 49.3	
	comp=Z,348nm,18.2s,baz=50,slow=29						
TX31	**Lajitas Ar. Si**	**65.08**	**358**	P	**P**	**17 38 03.4**	**+0.3**
TX31				IAmb	IAmb	17 38 05.4	
	comp=Z,9.9nm,1.5s						
TXAR	**Lajitas Array**	**65.08**	**358**	P	**P**	**17 38 03.4**	**+0.3**
TXAR	**Lajitas Array**	**65.08**	**358**	P	**P**	**17 38 03.7**	**+0.6**
	comp=Z,1.5nm,0.9s,baz=180,slow=8.5,SNR=13						
	comp=Z,1.5nm,0.9s						
ELIB	**Princess Elisa**	**65.66**	**164**	*d*P	**P**	**17 38 05.4**	**-1.1**
SAND	**Sanderson**	**65.67**	**359**	P	**P**	**17 38 06.8**	**0.0**
RCBR	**Riachuelo**	**66.97**	**80**	LR	LR	18 04 21.0	
	comp=Z,70nm,20.6s,baz=160,slow=33						
MNHN	**Monahans**	**67.05**	**359**	P	**P**	**17 38 15.8**	**0.0**
MNHN				IAmb	IAmb	17 38 17.4	
	comp=Z,6.3nm,1.0s						
TUC	**Tucson**	**68.56**	**352**	P	**P**	**17 38 25.6**	**+0.3**
TUC				IAmb	IAmb	17 38 27.7	
	comp=Z,11nm,1.4s						
DUN6	**Lazy B Ranch**	**68.62**	**353**	P	**P**	**17 38 25.7**	**0.0**
APMT	**Aspermont**	**69.04**	**1**	P	**P**	**17 38 28.6**	**+0.5**
AMTX	**Amarillo**	**70.58**	**360**	P	**P**	**17 38 37.8**	**+0.1**
AMTX				IAmb	IAmb	17 41 12.9	
	comp=Z,6.6nm,0.7s						
X18A	**Snowflake**	**70.66**	**353**	P	**P**	**17 38 39.1**	**+0.9**
X18A				IAmb	IAmb	17 38 41.1	
	comp=Z,10nm,1.0s						
X16A	**Lo Mia Camp, P**	**70.72**	**351**	P	**P**	**17 38 39.6**	**+1.0**
X16A				IAmb	IAmb	17 38 49.5	
	comp=Z,5.5nm,1.1s						
U15A	**North Rim**	**72.80**	**351**	P	**P**	**17 38 52.0**	**+0.7**
U15A				IAmb	IAmb	17 38 53.9	
	comp=Z,9.4nm,1.3s						
QSM	**Queen of Sheba**	**73.06**	**347**	P	**P**	**17 38 53.7**	**+1.2**
QSM				IAmb	IAmb	17 39 02.6	
	comp=Z,7.4nm,1.1s						
MVCO	**Mesa Verde**	**73.18**	**354**	P	**P**	**17 38 54.4**	**+0.9**
MVCO				IAmb	IAmb	17 39 03.4	
	comp=Z,10.0nm,0.9s						
TKL	**Tuckaleechee C**	**73.25**	**15**	LR	LR	18 08 13.9	
	comp=Z,47nm,19.0s,baz=170,slow=33						
SHPR	**Sheep Range**	**73.29**	**349**	P	**P**	**17 38 54.1**	**0.0**
KNB	**Kanab**	**73.45**	**351**	P	**P**	**17 38 55.9**	**+0.9**
LCMT	**Little Creek M**	**73.50**	**350**	P	**P**	**17 38 55.3**	**+0.1**
SDCO	**Great Sand Dun**	**73.53**	**357**	P	**P**	**17 38 55.3**	**-0.2**
PKCU	**Pink Cliffs**	**73.81**	**351**	P	**P**	**17 38 57.3**	**+0.1**
CCUT	**Cedar City**	**74.05**	**350**	P	**P**	**17 38 59.7**	**+1.1**
CCUT				IAmb	IAmb	17 39 09.1	
	comp=Z,9.3nm,0.9s						
HMU	**Henry Mountain**	**74.11**	**352**	IAmb	IAmb	17 39 08.7	
	comp=Z,14nm,1.2s						
PRN	**Pahroc Range**	**74.16**	**349**	IAmb	IAmb	17 39 11.6	
	comp=Z,7.4nm,1.1s						
MTPU	**Mount Pierson**	**74.38**	**351**	P	**P**	**17 39 00.6**	**0.0**
PSUT	**Pine Spring**	**75.08**	**350**	IAmb	IAmb	17 39 14.1	
	comp=Z,8.1nm,1.3s						
Q16A	**Castle Valley**	**75.13**	**352**	IAmb	IAmb	17 39 14.8	
	comp=Z,7.9nm,1.0s						
R11B	**Troy Canyon, C**	**75.16**	**349**	P	**P**	**17 39 05.8**	**+0.9**
SRU	**San Rafael Swe**	**75.25**	**353**	IAmb	IAmb	17 39 15.0	
	comp=Z,7.6nm,1.0s						
TMUT	**Trail Mountain**	**75.51**	**352**	IAmb	IAmb	17 39 17.1	
	comp=Z,7.9nm,0.9s						
LHV	**Little Huntoon**	**75.58**	**346**	IAmb	IAmb	17 39 18.6	
	comp=Z,10nm,1.1s						
SPR3	**Spring Creek 3**	**75.61**	**350**	P	**P**	**17 39 08.3**	**+0.7**
NV11	**Mina Array Sit**	**75.69**	**347**	IAmb	IAmb	17 39 18.8	
	comp=Z,9.4nm,1.0s						
NVAR	**Mina Array Bea**	**75.72**	**347**	P	**P**	**17 39 08.6**	**+0.5**
NVAR	**Mina Array Bea**	**75.72**	**347**	P	**P**	**17 39 09.9**	**+1.7**
	comp=Z,4.0nm,0.9s,baz=175,slow=7.4,SNR=18						
NVAR				LR	LR	18 06 43.2	
	comp=Z,58nm,18.4s,baz=70,slow=31						
	comp=Z,4.0nm,0.9s						
RYN	**Ryan**	**75.95**	**346**	P	**P**	**17 39 09.9**	**+0.5**
NLU	**North Lily Min**	**76.26**	**352**	IAmb	IAmb	17 39 21.5	
	comp=Z,5.4nm,1.0s						
KVN	**Kaiserville**	**76.28**	**347**	IAmb	IAmb	17 39 21.6	
	comp=Z,6.1nm,1.0s						
BSUT	**Blindstream Ca**	**76.69**	**353**	IAmb	IAmb	17 39 23.9	
	comp=Z,11nm,1.0s						
MPK	**Martis Peak**	**76.89**	**345**	P	**P**	**17 39 15.7**	**+0.8**
MPK				IAmb	IAmb	17 39 26.1	
	comp=Z,10nm,0.9s						
PD31	**Pinedale Array**	**78.79**	**354**	IAmb	IAmb	17 39 34.5	
	comp=Z,7.7nm,0.8s						
PDAR	**Pinedale Array**	**78.79**	**354**	P	**P**	**17 39 25.1**	**-0.2**
PDAR	**Pinedale Array**	**78.79**	**354**	P	**P**	**17 39 25.9**	**+0.6**
	comp=Z,3.9nm,0.9s,baz=162,slow=6.2,SNR=17						
PDAR				LR	LR	18 08 35.7	
	comp=Z,27nm,20.8s,baz=176,slow=31						
	comp=Z,3.9nm,0.9s						
DZM	**Mont Dzumac**	**78.87**	**251**	LR	LR	18 06 09.1	
	comp=Z,189nm,20.8s,baz=192,slow=30						
TPAW	**Teton Pass**	**79.63**	**353**	P	**P**	**17 39 29.4**	**-0.6**
TPAW				IAmb	IAmb	17 39 40.3	
	comp=Z,12nm,1.2s						
YBH	**Yreka Blue Hor**	**79.80**	**344**	P	**P**	**17 39 31.1**	**+0.4**
YBH	**Yreka Blue Hor**	**79.80**	**344**	LR	LR	18 07 21.1	
	comp=Z,82nm,19.0s,baz=186,slow=30						
RSSD	**Black Hills**	**79.84**	**358**	P	**P**	**17 39 31.0**	**0.0**
HLID	**Hailey**	**80.10**	**351**	IAmb	IAmb	17 39 42.7	
	comp=Z,9.7nm,0.9s						
K05A	**Summer Lake**	**80.37**	**346**	P	**P**	**17 39 35.2**	**+1.4**
K05A				IAmb	IAmb	17 39 44.6	
	comp=Z,13nm,1.1s						
J08A	**Circle Bar Ran**	**80.53**	**348**	IAmb	IAmb	17 39 45.0	
	comp=Z,6.7nm,0.9s						
J05D	**Fort Rock, OR**	**80.97**	**346**	IAmb	IAmb	17 39 47.5	
	comp=Z,13nm,0.9s						
PINE	**Pine Mountain**	**81.40**	**346**	P	**P**	**17 39 39.9**	**+0.5**
PINE				IAmb	IAmb	17 39 50.4	
	comp=Z,13nm,0.9s						
I07A	**Izee**	**81.41**	**347**	IAmb	IAmb	17 39 49.9	
	comp=Z,7.1nm,1.0s						
G40A	**Rib Lake**	**81.60**	**8**	P	**P**	**17 39 40.1**	**-0.1**
PLID	**Pearl Lake**	**81.82**	**350**	P	**P**	**17 39 41.7**	**+0.2**
SADO	**Sadowa**	**82.98**	**16**	LR	LR	18 13 16.1	
	comp=Z,115nm,19.0s,baz=132,slow=33						
ULM	**Lac du Bonnet**	**86.08**	**4**	P	**P**	**17 40 02.5**	**-0.4**
STKA	**Stephens Creek**	**90.18**	**229**	LR	LR	18 12 24.0	
	comp=Z,130nm,21.9s,baz=131,slow=30						
HNR	**Honiara**	**91.28**	**257**	LR	LR	18 13 15.6	
	comp=Z,1μm,21.9s,baz=168,slow=30						
SUR	**Sutherland**	**93.15**	**134**	LR	LR	18 18 29.0	
	comp=Z,48nm,18.8s,baz=186,slow=33						
BOSA	**Boshof**	**98.50**	**135**	LR	LR	18 18 48.1	
	comp=Z,48nm,20.6s,baz=200,slow=31						
YKA	**Yellowknife Ar**	**98.77**	**354**	P	Pdif	17 41 03.1	+1.6
	comp=Z,0.3nm,0.8s,baz=162,slow=4.3,SNR=5.0						
	comp=Z,0.3nm,0.8s						
DBIC	**Dimbokro**	**99.31**	**89**	LR	LR	18 21 38.1	
	comp=Z,64nm,21.9s,baz=212,slow=33						
H01W1	**Cape Leeuwin H**	**101.94**	**209**	T	T	19 35 40.8	
	baz=151,slow=76,SNR=30						
H01W2	**Cape Leeuwin H**	**101.95**	**209**	T	T	19 35 39.8	
	baz=151,slow=76,SNR=27						
H01W3	**Cape Leeuwin H**	**101.96**	**209**	T	T	19 35 42.0	
	baz=151,slow=76,SNR=26						
MMAI	**Mount Meron Ar**	**144.64**	**82**	PKP	**PKPdf**	**17 47 00.1**	**+0.6**
	comp=Z,4.7nm,0.8s,baz=272,slow=4.2,SNR=5.4						
BRTR	**Keskin Array B**	**144.75**	**70**		**PKPab**	**17 46 58.2**	**-0.2**
BRTR	**Keskin Array B**	**144.75**	**70**	PKP	PKPbc	17 46 59.0	+0.6
	comp=Z,5.3nm,0.8s,baz=226,slow=3.0,SNR=28						
BNN	**Bunyan**	**146.31**	**72**		**PKPdf**	**17 47 01.2**	**-1.0**
KBZ	**Khabaz**	**151.85**	**63**	PKPbc	**PKiKP**	**17 47 19.1**	**+1.6**
	comp=Z,6.4nm,0.8s,baz=281,slow=1.1,SNR=14						
CMAR	**Chiang Mai Arr**	**154.79**	**231**	PKPdf	**PKPdf**	**17 47 13.9**	**-1.9**
CMAR				PKPab	**PKPab**	**17 47 38.6**	**-0.8**
CMAR	**Chiang Mai Arr**	**154.79**	**231**	PKPab	**PKPab**	**17 47 38.8**	**-0.5**
	comp=Z,1.5nm,0.7s,baz=163,slow=3.2,SNR

UZB				S	Sn	18 02 40.9	+1.0	
	70nm,0.1s							
UZB	**Uzynbulak**	**1.94**	**230**	*e*P	**Pb**	**18 02 17.3**	**+0.2**	
	570nm,0.8s							
UZB				*e*S	**Sn**	**18 02 40.9**	**+1.0**	
	70nm,0.1s							
TDK	**Taldyqorghan**	**1.96**	**288**	P	**Pb**	**18 02 17.8**	**+0.4**	
	570nm,0.8s							
TDK				S	**Sb**	**18 02 41.9**	**-0.4**	
	236nm,0.4s							
TDK	**Taldyqorghan**	**1.96**	**288**	*e*P	**Pb**	**18 02 17.8**	**+0.4**	
	1.8nm,0.4s							
TDK				*e*S	**Sb**	**18 02 41.9**	**-0.4**	
	236nm,0.4s							
ZHN	**Zhinishke**	**2.26**	**237**	Pg	**Pb**	**18 02 23.0**	**+0.3**	
	1.8nm,0.4s							
ZHN				Lg	Lg	18 02 50.8		
	44nm,0.3s							
ZHN	**Zhinishke**	**2.26**	**237**	*e*P	**Pb**	**18 02 23.0**	**+0.3**	
	1μm,0.2s							
ZHN				*e*S	**Sb**	**18 02 50.8**	**-0.3**	
	44nm,0.3s							
KURS	**Kuram**	**2.27**	**247**	Pg	**Pb**	**18 02 23.1**	**+0.4**	
	1μm,0.2s							
KURS				Lg	Lg	18 02 51.0		
	7.6nm,0.2s							
KURS	**Kuram**	**2.27**	**247**	*e*P	**Pb**	**18 02 23.1**	**+0.4**	
	80nm,0.3s							
KURS				*e*S	**Sb**	**18 02 51.0**	**-0.2**	
	7.6nm,0.2s							
ARXS	**Arharly**	**2.31**	**266**	Pg	**Pb**	**18 02 23.5**	**0.0**	
	80nm,0.3s							
ARXS				Lg	Lg	18 02 51.7		
	15nm,0.1s							
ARXS	**Arharly**	**2.31**	**266**	*e*P	**Pb**	**18 02 23.5**	**0.0**	
	336nm,0.4s							
ARXS				*e*S	**Sb**	**18 02 51.6**	**-0.8**	
	15nm,0.1s							
SATY	**Saty**	**2.34**	**235**	Pg	**Pb**	**18 02 23.8**	**-0.2**	
	336nm,0.4s							
SATY				Lg	Lg	18 02 52.3		
	49nm,0.3s							
SATY	**Saty**	**2.34**	**235**	*e*P	**Pb**	**18 02 23.8**	**-0.2**	
	1μm,0.4s							
SATY				*e*S	**Sb**	**18 02 52.3**	**-1.1**	
	49nm,0.3s							
MAKZ	**Makanchi**	**2.48**	**15**	⇑Pn	**Pb**	**18 02 26.6**	**+0.3**	
	1μm,0.4s							
MAKZ				⇑Sn	**Sb**	**18 02 58.1**	**+1.0**	
	2.6nm,0.2s							
MK31	**Makanchi Array**	**2.53**	**20**	⇓Pn	**Pb**	**18 02 27.9**	**+0.7**	
	71nm,0.6s							
MK31	2.4nm,0.2s,baz=206,slow=14,SNR=922			Sn	**Sb**	**18 02 59.4**	**+0.7**	
	19nm,0.3s,baz=203,slow=26,SNR=15							
CHKK	**Chushkaly**	**2.97**	**260**	Pg	**Pb**	**18 02 34.9**	**+0.3**	
	12nm,0.3s							
CHKK				Lg	Lg	18 03 11.1		
	192nm,0.9s							
CHKK	**Chushkaly**	**2.97**	**260**	*e*P	**Pb**	**18 02 34.9**	**+0.3**	
	12nm,0.3s							
CHKK				*e*S	**Sb**	**18 03 11.1**	**-0.1**	
	192nm,0.9s							
KOTS	**Kotyrbulak**	**3.08**	**249**	Pg	**Pb**	**18 02 37.4**	**+0.8**	
	12nm,0.5s							
KOTS				Lg	Lg	18 03 15.3		
	136nm,0.5s							
KOTS	**Kotyrbulak**	**3.08**	**249**	*e*P	**Pb**	**18 02 37.4**	**+0.8**	
	12nm,0.5s							
KOTS				*e*S	**Sb**	**18 03 15.3**	**+0.7**	
	136nm,0.5s							
MDOK	**Medeo**	**3.15**	**248**	⇑Pn	**Pn**	**18 02 33.2**	**+1.5**	
	5.2nm,0.5s							
MDOK				Pg	**Pb**	**18 02 38.2**	**+0.4**	
	7.5nm,0.2s							
MDOK				⇑Pg	**Pg**	**18 02 42.5**	**+1.0**	
	15nm,0.4s							
MDOK				Lg	Lg	18 03 16.8		
	68nm,0.6s							
MDOK				⇑Lg	Lg	18 03 22.4		
	111nm,0.6s							
MDOK	**Medeo**	**3.15**	**248**	*e*P	**Pb**	**18 02 38.2**	**+0.4**	
	7.5nm,0.2s							
MDOK				*e*S	**Sb**	**18 03 16.8**	**+0.2**	
	68nm,0.6s							
KNDC	**Almaty**	**3.18**	**249**	⇑Pg	**Pg**	**18 02 42.7**	**+0.6**	
	24nm,0.4s							
KNDC				⇑Lg	Lg	18 03 22.2		
	195nm,0.8s							
KTBS	**Karatobe**	**3.22**	**259**	Pg	**Pb**	**18 02 38.9**	**0.0**	
	12nm,0.5s							
KTBS				Lg	Lg	18 03 18.3		
	160nm,1.2s							
KTBS	**Karatobe**	**3.22**	**259**	*e*P	**Pb**	**18 02 38.9**	**0.0**	
	12nm,0.5s							
KTBS				*e*S	**Sb**	**18 03 18.3**	**-0.2**	
	160nm,1.2s							
AAA	**Alma-Ata**	**3.22**	**249**	Pg	**Pb**	**18 02 40.3**	**+1.3**	
	16nm,0.1s							
AAA				Lg	Lg	18 03 20.3		
	166nm,0.7s							
AAA	**Alma-Ata**	**3.22**	**249**	*e*P	**Pb**	**18 02 40.3**	**+1.3**	
	16nm,0.1s							
AAA				*e*S	**Sb**	**18 03 20.2**	**+1.7**	
	166nm,0.7s							
TNSS	**Tian-Shan**	**3.27**	**246**	Pg	**Pb**	**18 02 41.1**	**+1.1**	
	6.6nm,0.7s							
TNSS				Lg	Lg	18 03 21.7		
	36nm,0.4s							
TNSS	**Tian-Shan**	**3.27**	**246**	*e*P	**Pb**	**18 02 41.1**	**+1.1**	
	6.6nm,0.7s							
TNSS				*e*S	**Sb**	**18 03 21.7**	**+1.4**	
	36nm,0.4s							
IZV	**Izvestkoviy**	**3.49**	**248**	Pg	**Pb**	**18 02 45.8**	**+2.2**	
	4.1nm,0.4s							
IZV				Lg	Lg	18 03 29.9		
	50nm,0.5s							
IZV	**Izvestkoviy**	**3.49**	**248**	*e*P	**Pb**	**18 02 45.8**	**+2.2**	
	4.1nm,0.4s							
IZV				*e*S	**Sb**	**18 03 29.9**	**+3.5**	
	50nm,0.5s							
MTBS	**Maitube**	**3.58**	**250**	Pg	**Pb**	**18 02 45.7**	**+0.6**	
	6.7nm,0.3s							
MTBS				Lg	Lg	18 03 29.8		
	78nm,1.0s							
MTBS	**Maitube**	**3.58**	**250**	*e*P	**Pb**	**18 02 45.7**	**+0.6**	
	6.7nm,0.3s							
MTBS				*e*S	**Sb**	**18 03 29.8**	**+0.9**	
	78nm,1.0s							
KST	**Kastek**	**3.92**	**251**	Pg	**Pb**	**18 02 52.3**	**+1.3**	
	9.9nm,0.3s							
KST				Lg	Lg	18 03 41.0		
	50nm,0.1s							
KST	**Kastek**	**3.92**	**251**	*e*P	**Pb**	**18 02 52.3**	**+1.3**	
	9.9nm,0.3s							
KST				*e*S	**Sb**	**18 03 41.0**	**+2.1**	
	50nm,0.1s							
KRBS	**Karabastau**	**3.93**	**261**	Pg	**Pb**	**18 02 52.1**	**+1.1**	
	6.3nm,0.6s							
KRBS				Lg	Lg	18 03 40.8		
	26nm,1.1s							
KRBS	**Karabastau**	**3.93**	**261**	*e*P	**Pb**	**18 02 52.1**	**+1.1**	
	6.3nm,0.6s							
KRBS				*e*S	**Sb**	**18 03 40.8**	**+1.8**	
	26nm,1.1s							
DGS	**Degeres**	**3.99**	**255**	Pg	**Pb**	**18 02 53.2**	**+1.2**	
	6.0nm,0.8s							
DGS				Lg	Lg	18 03 42.8		
	110nm,1.0s							
DGS	**Degeres**	**3.99**	**255**	*e*P	**Pb**	**18 02 53.2**	**+1.2**	
	6.0nm,0.8s							
DGS				*e*S	**Sb**	**18 03 42.9**	**+2.2**	
	110nm,1.0s							
ZSN	**Zaisan**	**4.04**	**40**	Pg	**Pb**	**18 02 53.3**	**+0.4**	
	3.6nm,0.3s							
ZSN				Lg	Lg	18 03 42.6		
	12nm,1.2s							
ZSN	**Zaisan**	**4.04**	**40**	*e*P	**Pb**	**18 02 53.3**	**+0.4**	
	3.6nm,0.3s							
ZSN				*e*S	**Sb**	**18 03 42.6**	**+0.6**	
	12nm,1.2s							
TKM2	**Tokmak 2**	**4.22**	**251**	⇑Pn	**Pn**	**18 02 47.7**	**+1.2**	
	0.6nm,0.2s							
TKM2				⇓Pg	**Pb**	**18 02 59.5**	**+3.4**	
	11nm,0.6s							
TKM2				⇑Lg	Lg	18 03 56.1		
	40nm,0.5s							
CHMS	**Chumysh**	**4.77**	**255**	⇓Pg	**Pg**	**18 03 10.6**	**-1.9**	
	4.0nm,0.4s							
CHMS				⇑Lg	Lg	18 04 11.0		
	24nm,0.5s							
BTLS	**Baital**	**5.02**	**280**	Pg	**Pb**	**18 03 13.2**	**+3.6**	
	3.6nm,0.3s							
BTLS				Lg	Lg	18 04 17.0		
	11nm,0.3s							
BTLS	**Baital**	**5.02**	**280**	*e*P	**Pb**	**18 03 13.2**	**+3.6**	
	3.6nm,0.3s							
BTLS				*e*S	**Sg**	**18 04 17.0**	**-5.2**	
	11nm,0.3s							
AAK	**Ala-Archa**	**5.08**	**252**	⇓Pg	**Pg**	**18 03 17.6**	**-0.9**	
	5.0nm,0.6s							
AAK				⇑Lg	Lg	18 04 21.0		
	22nm,0.6s							
SEM	**Semipalatinsk**	**6.01**	**355**	Pg	**Pg**	**18 03 35.2**	**-1.0**	
	3.8nm,0.3s							
SEM				Lg	Lg	18 04 55.0		
	24nm,0.7s							
SEM	**Semipalatinsk**	**6.01**	**355**	*e*P	**Pg**	**18 03 35.2**	**-1.0**	
	3.8nm,0.3s							
SEM				*e*S	**Sg**	**18 04 55.0**	**+0.8**	
	24nm,0.7s							
KURBB	**Kurchatov Arra**	**6.43**	**346**	⇑Pn	**Pn**	**18 03 19.2**	**+2.6**	
	0.6nm,0.5s							
KURBB				⇓Pg	**Pg**	**18 03 42.1**	**-2.1**	
	5.3nm,0.6s							
KURBB				⇓Sn	**Sn**	**18 04 29.2**	**-1.2**	
	21nm,0.6s							
KURBB				⇑Lg	Lg	18 05 08.3		
	57nm,0.6s							
KURK	**Kurchatov**	**6.50**	**346**	⇑Pn	**Pn**	**18 03 20.2**	**+2.5**	
	1.7nm,0.9s							
KURK				⇑Pg	**Pg**	**18 03 43.6**	**-2.1**	
	4.1nm,0.7s							
KURK				⇑Sn	**Sn**	**18 04 31.4**	**-0.8**	
	20nm,0.6s							
KURK				⇑Lg	Lg	18 05 10.3		
	35nm,0.7s							
OTUK	**Ortayu**	**7.13**	**305**	⇓Pn	**Pn**	**18 03 26.6**	**+0.4**	
	1.5nm,0.5s							
OTUK				⇑Lg	Lg	18 05 24.8		
	31nm,0.8s							
KK31	**Karatay Array**	**7.73**	**264**	⇓Pg	Pg	18 04 04.1	-5.1	
	0.8nm,0.5s,baz=69,slow=16,SNR=4.0							
KK31				⇓Lg	Lg	18 05 45.3		
	4.1nm,0.5s,baz=74,slow=30,SNR=5.8							
BVA0	**Borovoye Array**	**11.10**	**325**	Pn	**Pn**	**18 04 22.3**	**+1.7**	
	1.5nm,0.8s,baz=151,slow=11,SNR=4.7							
BVA0				⇑Sn	**Sn**	**18 06 23.0**	**-2.2**	
	1.6nm,0.6s,baz=0.0,slow=0.1,SNR=3.6							
BVA0				⇑Lg	Lg	18 07 34.0		
	11nm,1.1s,baz=135,slow=28,SNR=5.3							

TAP ***18*** *18:05:26.0,24.˚58N×122.˚08E,h73km,ML2.6,B*
JMA ***18*** *18:05:25.6±0.2,24.˚5N±0.˚8×122.˚1E±0.˚3,h80km±1km,*
MV1.8/11,TAIWAN REGION

ISC 18 18:05:26.4±1.3,24.˚59N±0.˚03×122.˚13E±0.˚02,h70km±6km,
n99,σ0.971/152,2D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.19**	**151**	*e*P		**Pn**		**18 05 36.9**	**+0.1**
	baz=157								
TWC	**Suao**	**0.25**	**275**	*e*P		**Pn**		**18 05 37.2**	**-0.1**
	baz=279								
TWC				*e*S		**Sn**		**18 05 45.4**	**+0.1**
	baz=279								
ESAO	**Su ao**	**0.26**	**267**	*e*P		**Pn**		**18 05 37.6**	**+0.3**
	baz=270								
ESAO				*e*S		**Sn**		**18 05 45.6**	**+0.3**
	baz=270								
EGS		**0.31**	**325**	*e*P		**Pn**		**18 05 37.7**	**-0.1**
	baz=342								
EOS3	**EOS3**	**0.35**	**150**	*e*P		**Pn**		**18 05 38.7**	**+0.9**
	baz=154								
EWUT	**Wuta**	**0.35**	**246**	*e*P		**Pn**		**18 05 38.0**	**0.0**
	baz=245								
EWUT				*e*S		**Sn**		**18 05 46.7**	**+0.3**
	baz=245								
NDS	**Dongshan**	**0.38**	**277**	*i* P		**Pn**		**18 05 38.5**	**+0.3**
	baz=280								
NDS				*e*S		**Sn**		**18 05 47.4**	**+0.5**
	baz=280								
ENA	**Nanau**	**0.39**	**246**	P		**Pn**		**18 05 38.2**	**-0.1**
	baz=240								
ENA				S		**Sn**		**18 05 47.2**	**+0.2**
	baz=240								
TWB1	**Santiao Chiao**	**0.44**	**343**	*e*P		**Pn**		**18 05 38.2**	**-0.5**
	baz=343								
TWB1				*e*S		**Sn**		**18 05 47.2**	**-0.5**
	baz=343								
EAHA	**Aohua**	**0.44**	**234**	P		**Pn**		**18 05 38.5**	**-0.2**
	baz=225								
EAHA				*e*S		**Sn**		**18 05 48.2**	**+0.5**
	baz=225								
TWE	**Neicheng**	**0.44**	**288**	⇓*i*P		**Pn**		**18 05 38.9**	**+0.2**
	baz=291								
TWE				*e*S		**Sn**		**18 05 48.5**	**+0.8**
	baz=291								
TIPB	**Shuangxi**	**0.47**	**324**	⇓*i*P		**Pn**		**18 05 38.8**	**-0.3**
	baz=334								
TIPB				*e*S		**Sn**		**18 05 47.7**	**-0.6**
	baz=334								
EOS4	**EOS4**	**0.50**	**160**	*e*P		**Pn**		**18 05 38.8**	**0.0**
	baz=162								
EOS4				*e*S		**Sn**		**18 05 48.3**	**+0.3**
	baz=162								
ENTT	**Nioudou**	**0.51**	**276**	*e*P		**Pn**		**18 05 39.8**	**+0.3**
	baz=280								
ENTT				*e*S		**Sn**		**18 05 49.5**	**+0.5**
	baz=280								
FUSB	**Fushanzhiwuyua**	**0.52**	**289**	*e*P		**Pn**		**18 05 39.8**	**+0.3**
	baz=301								
LATG	**Datong**	**0.55**	**265**	P		**Pn**		**18 05 39.7**	**-0.2**
	baz=260								
LATG				*i* S		**Sn**		**18 05 50.1**	**+0.3**
	baz=260								
SXI1	**Grass Mountain**	**0.55**	**336**	*e*P		**Pn**		**18 05 39.6**	**-0.3**
	baz=329								
SXI1				*e*S		**Sn**		**18 05 49.8**	**+0.1**
	baz=329								
NDT	**Datong Townshi**	**0.56**	**272**	*e*P		**Pn**		**18 05 40.0**	**+0.2**
	baz=268								
NDT				*i* S		**Sn**		**18 05 50.2**	**+0.4**
	baz=268								
NWF	**Wu-fen Shan**	**0.57**	**327**	*i* P		**Pn**		**18 05 39.9**	**-0.2**
	baz=323								
NWF				*i* S		**Sn**		**18 05 49.3**	**-0.8**
	baz=323								
WFSB	**Wu-fen Shan**	**0.57**	**327**	*e*P		**Pn**		**18 05 40.0**	**0.0**
	baz=331								
NWLT	**Wulai**	**0.60**	**288**	P		**Pn**		**18 05 40.4**	**+0.1**
	baz=301								
NWLT				*i* S		**Sn**		**18 05 50.6**	**+0.1**
	baz=301								
ETL	**Fush Village**	**0.63**	**227**	*e*P		**Pn**		**18 05 39.8**	**-0.8**
	baz=220								
TWA	**Mucha**	**0.63**	**308**	*e*P		**Pn**		**18 05 40.5**	**-0.2**
	baz=320								
TWA				*e*S		**Sn**		**18 05 50.5**	**-0.5**
	baz=320								
NACB	**Ninganchiao**	**0.64**	**230**	P		**Pn**		**18 05 39.5**	**-1.2**
NACB	**Ninganchiao**	**0.64**	**230**	*e*P		**Pn**		**18 05 39.9**	**-0.8**
	baz=221								
NACB				*e*S		**Sn**		**18 05 50.5**	**-0.6**
	baz=221								
TNOU	**National Taiwa**	**0.65**	**330**	*e*P		**Pn**		**18 05 40.4**	**-0.3**
	baz=334								
NHDH	**Xindian Distri**	**0.66**	**304**	*e*S		**Sn**		**18 05 51.1**	**-0.5**
	baz=314								
YHNB	**Yeheng**	**0.69**	**277**	P		**Pn**		**18 05 41.3**	**0.0**
YHNB	**Yeheng**	**0.69**	**277**	*e*P		**Pn**		**18 05 41.4**	**+0.1**
	baz=278								
YHNB				*e*S		**Sn**		**18 05 52.4**	**+0.1**
	baz=278								
NNSB	**Datong**	**0.70**	**257**	*i* P		**Pn**		**18 05 41.3**	**-0.2**
	baz=252								
TWD	**Chiawan**	**0.70**	**224**	*e*P		**Pn**		**18 05 40.7**	**-0.7**
	baz=217								
TWD				*e*S		**Sn**		**18 05 52.1**	**-0.2**
	baz=217								
NNS	**Nan Shan**	**0.70**	**258**	*e*P		**Pn**		**18 05 41.4**	**-0.2**
	baz=252								
NNS				*e*S		**Sn**		**18 05 52.5**	**-0.2**
	baz=252								
YM01	**YM01**	**0.75**	**318**	*e*P		**Pn**		**18 05 41.6**	**-0.4**
	baz=320								
YM01				*e*S		**Sn**		**18 05 52.9**	**-0.6**
	baz=320								
JYNG	**Yonagunijimaku**	**0.76**	**100**	P		**Pn**		**18 05 42.1**	**+0.1**
JYNG				*e*S		**Sn**		**18 05 54.0**	**+0.5**
YM08	**YM08**	**0.77**	**321**	*e*P		**Pn**		**18 05 41.5**	**-0.7**
	baz=323								
YM08				*e*S		**Sn**		**18 05 52.6**	**-1.3**
	baz=323								
HWA	**Hwalien**	**0.77**	**218**	*e*P		**Pn**		**18 05 41.9**	**-0.3**
	baz=208								
YOJ	**Yonaguni jima**	**0.81**	**99**	P		**Pn**		**18 05 42.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.81**	**99**	*e*P		**Pn**		**18 05 42.9**	**+0.2**
YOJ				*e*S		**Sn**		**18 05 55.2**	**+0.5**
YOJ	**Yonaguni jima**	**0.81**	**99**	P		**Pn**		**18 05 42.8**	**+0.2**
	baz=93								
YOJ				*e*S		**Sn**		**18 05 55.1**	**+0.5**
	baz=93								
TWS1	**Kuangyinshan**	**0.82**	**308**	*e*P		**Pn**		**18 05 42.7**	**-0.1**
	baz=316								
TWS1				*e*S		**Sn**		**18 05 55.2**	**+0.3**
	baz=316								
ETM	**Tongmen**	**0.85**	**223**	*e*P		**Pn**		**18 05 42.3**	**-0.8**
	baz=231								
LXIB	**Xiulin Townshi**	**0.86**	**229**	*e*P		**Pn**		**18 05 42.3**	**-1.1**
	baz=228								
LXIB				*e*S		**Sn**		**18 05 55.0**	**-1.0**
	baz=228								
FUSS	**Fushou**	**0.87**	**247**	*e*P		**Pn**		**18 05 43.5**	**-0.1**
	baz=243								
WHF	**Hehuan Shan**	**0.90**	**241**	*i* P		**Pn**		**18 05 43.8**	**-0.4**
	baz=240								
WHF				*e*S		**Sn**		**18 05 56.9**	**-0.4**
	baz=240								
NFF	**Wufeng Townshi**	**0.92**	**273**	*e*P		**Pn**		**18 05 44.1**	**+0.1**
	baz=280								
NFF				*i* S		**Sn**		**18 05 57.0**	**-0.1**
	baz=280								
TWT	**Tachien**	**0.93**	**249**	*e*S		**Sn**		**18 05 57.5**	**+0.1**
	baz=242								
TDCB	**Techi**	**0.94**	**249**	*e*P		**Pn**		**18 05 44.6**	**+0.2**
	baz=242								
TDCB				*e*S		**Sn**		**18 05 57.5**	**-0.2**
	baz=242								
SHUL	**Shoufeng**	**0.95**	**213**	*i* P		**Pn**		**18 05 43.7**	**-0.6**
	baz=211								
SHUL				*e*S		**Sn**		**18 05 58.1**	**+0.5**
	baz=211								
ESL	**Shilin**	**1.00**	**220**	*e*P		**Pn**		**18 05 43.7**	**-1.2**
	baz=225								
LIOB	**Emei**	**1.01**	**273**	*e*P		**Pn**		**18 05 45.5**	**+0.3**
	baz=274								
LIOB				*e*S		**Sn**		**18 05 58.9**	**-0.1**
	baz=274								
CHGB	**Renai**	**1.02**	**239**	*e*P		**Pn**		**18 05 45.2**	**-0.1**
	baz=230								
CHGB				*e*S		**Sn**		**18 05 58.9**	**-0.5**
	baz=230								
NSTT	**Nanjuang**	**1.03**	**273**	*e*P		**Pn**		**18 05 45.3**	**0.0**
	baz=273								
NSTT				*e*S		**Sn**		**18 05 59.1**	**-0.2**
	baz=273								
OWD	**Renai**	**1.07**	**234**	*e*P		**Pn**		**18 05 45.6**	**-0.4**
	baz=228								
OWD				S		**Sn**		**18 05 60.0**	**-0.6**
	baz=228								
WUSB	**Renai**	**1.10**	**237**	*e*P		**Pn**		**18 05 46.1**	**-0.2**
	baz=230								
WUSB				*e*S		**Sn**		**18 06 00.8**	**-0.3**
	baz=230								
WARBT	**Fenglin Townsh**	**1.10**	**218**	*e*P		**Pn**		**18 05 44.6**	**-1.6**
	baz=223								
EGFH	**Guangfu**	**1.12**	**215**	*e*P		**Pn**		**18 05 45.6**	**-0.8**
	baz=212								
WHP	**Taichung City**	**1.12**	**254**	*e*P		**Pn**		**18 05 48.0**	**+1.5**
	baz=254								
WHP				*e*S		**Sn**		**18 06 02.9**	**+1.3**
	baz=254								
VWDT	**VWDT**	**1.23**	**228**	P		**Pn**		**18 05 47.5**	**-0.3**
	baz=220								
VWDT				*e*S		**Sn**		**18 06 03.0**	**-0.8**
	baz=220								
WCS	**Beigang Elemen**	**1.23**	**245**	*e*P		**Pn**		**18 05 48.4**	**+0.5**
	baz=243								
HGSD	**Ruisui**	**1.27**	**211**	*e*P		**Pn**		**18 05 47.8**	**-0.6**
	baz=219								
HGSD				S		**Sn**		**18 06 05.0**	**+0.2**
	baz=219								
EHY	**Hungye**	**1.30**	**215**	*e*P		**Pn**		**18 05 47.7**	**-1.2**
	baz=218								
SMLT	**Sun Moon Lake**	**1.32**	**238**	*e*P		**Pn**		**18 05 49.9**	**+0.7**
	baz=231								
SMLT				*e*S		**Sn**		**18 06 07.5**	**+1.2**
	baz=231								
SSLB	**Suanglung**	**1.34**	**234**	P		**Pn**		**18 05 49.3**	**0.0**
SSLB	**Suanglung**	**1.34**	**234**	*e*P		**Pn**		**18 05 49.3**	**0.0**
	baz=232								
TYC	**Yuchr**	**1.34**	**240**	*e*P		**Pn**		**18 05 50.1**	**+0.7**
	baz=239								
TYC				*e*S		**Sn**		**18 06 07.1**	**+0.5**
	baz=239								
YULB	**Yu-li**	**1.41**	**213**	P		**Pn**		**18 05 49.3**	**-1.0**
YULB	**Yu-li**	**1.41**	**213**	*e*P		**Pn**		**18 05 48.5**	**-1.7**
	baz=217								
EYUL	**Yuli**	**1.44**	**211**	*e*P		**Pn**		**18 05 50.8**	**+0.1**
	baz=217								
TWF1	**Yuli**	**1.45**	**212**	*e*P		**Pn**		**18 05 49.4**	**-1.4**
	baz=217								
WHYT	**Xinyi Township**	**1.47**	**233**	P		**Pn**		**18 05 51.6**	**+0.6**
	baz=232								
WHYT				S		**Sn**		**18 06 10.7**	**+1.2**
	baz=232								
IRIF	**Iriomote-Funau**	**1.48**	**99**	*e*P		**Pn**		**18 05 51.0**	**-0.1**
IRIF				*e*S		**Sn**		**18 06 09.5**	**-0.3**
CHKH	**Chenggong**	**1.54**	**206**	*e*P		**Pn**		**18 05 50.9**	**-1.1**
	baz=196								
CHKH				*e*S		**Sn**		**18 06 09.4**	**-1.8**
	baz=196								
FULB	**Fuli**	**1.58**	**209**	*e*P		**Pn**		**18 05 51.9**	**-0.6**
	baz=215								
ALS	**Alishan**	**1.62**	**229**	*e*P		**Pn**		**18 05 54.0**	**+0.7**
	baz=219								
ALS				*e*S		**Sn**		**18 06 15.1**	**+1.6**
	baz=219								
CHKT	**Chengkung**	**1.64**	**205**	*e*P		**Pn**		**18 05 51.6**	**-1.6**
	baz=194								
EHD	**Haiduan**	**1.66**	**211**	*e*P		**Pn**		**18 05 53.3**	**-0.3**
	baz=214								
WDLH	**Douliu**	**1.71**	**239**	*e*P		**Pn**		**18 05 54.4**	**+0.2**
	baz=250								
WDLH				*e*S		**Sn**		**18 06 15.4**	**+0.3**
	baz=250								
ELDTW	**Lidau**	**1.73**	**216**	*e*P		**Pn**		**18 05 53.4**	**-1.1**
	baz=209								
JKRS	**Kuro-shima**	**1.75**	**101**	*e*P		**Pn**		**18 05 55.0**	**+0.3**
JKRS				*e*S		**Sn**		**18 06 16.5**	**+0

	baz=212						
SLGT				*e*S	**Sn**	**18 06 25.8**	**+1.4**
	baz=212						
ECL	**Taimali**	**2.26**	**209**	*e*P	**Pn**	**18 06 01.5**	**-0.1**
	baz=200						
SSD	**Sandimen**	**2.29**	**217**	*e*P	**Pn**	**18 06 02.5**	**+0.5**
	baz=213						
MASBT	**Mashibuluo**	**2.40**	**215**	*e*P	**Pn**	**18 06 03.8**	**+0.3**
	baz=211						
VWUC	**VWUC**	**2.47**	**280**	*e*P	**Pn**	**18 06 03.3**	**-1.1**
	baz=280						
EAST	**Anshuo**	**2.49**	**208**	*e*P	**Pn**	**18 06 05.2**	**+0.5**
	baz=201						

*THE **18** 18:09:34.8, 35˚.08N×23˚.90E, h1km±2km, ML2.3/4, Error ellipse: s-maj=2.1km s-min=0.7km az=225.0*
*ATH **18** 18:09:34.7, 35˚.06N×23˚.89E, h13km±2km, ML2.5/7, Error ellipse: s-maj=2.3km s-min=0.9km az=194.0*
ISC 18 18:09:35.2±1.0, 35˚.08N±0˚.03×23˚.93E±0˚.03, h12km±9km, n20, σ0°73/35, Crete

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KNDR	**Palaiochora Ch**	**0.26**	**307**	P	**Pg**	**18 09 40.0**	**-0.6**
KNDR				S	**Sg**	**18 09 44.7**	**+0.6**
KNDR				AML	AML	18 09 46.4	
	comp=E,2953μm,0.2s						
KNDR				AML	AML	18 09 50.0	
	comp=N,3423μm,0.3s						
GVDS	**Gavdos**	**0.27**	**151**	P	**Pg**	**18 09 40.1**	**-0.7**
GVDS				S	**Sg**	**18 09 44.8**	**+0.3**
GVD	**Gavdhos**	**0.27**	**152**	P	**Pg**	**18 09 40.3**	**-0.5**
GVD				S	**Sg**	**18 09 45.2**	**+0.7**
GVD	**Gavdhos**	**0.27**	**152**	P	**Pg**	**18 09 40.4**	**-0.5**
GVD				S	**Sg**	**18 09 44.5**	**0.0**
GVD				AML	AML	18 09 47.0	
	comp=E,9029μm,0.3s						
GVD				AML	AML	18 09 47.1	
	comp=N,12949μm,0.2s						
IMMV	**Iera Moni Meta**	**0.38**	**6**	P	**Pg**	**18 09 42.5**	**-0.4**
IMMV				S	**Sg**	**18 09 48.8**	**+0.8**
	comp=N,2μm,0.2s						
IMMV	**Iera Moni Meta**	**0.38**	**6**	P	**Pg**	**18 09 42.5**	**-0.4**
IMMV				S	**Sg**	**18 09 48.9**	**+0.9**
IMMV				AML	AML	18 09 49.2	
	comp=N,3504μm,0.3s						
IMMV				AML	AML	18 09 49.8	
	comp=E,4260μm,0.2s						
CHAN	**Chania**	**0.45**	**11**	P	**Pg**	**18 09 43.8**	**-0.2**
CHAN				S	**Sg**	**18 09 51.1**	**+1.1**
CHAN				AML	AML	18 09 52.6	
	comp=N,2191μm,0.5s						
CHAN				AML	AML	18 09 53.7	
	comp=E,2046μm,0.2s						
RODP	**Rodopos**	**0.50**	**343**	P	**Pg**	**18 09 44.7**	**-0.4**
RODP				S	**Sg**	**18 09 52.3**	**+0.5**
PRNS	**Prines Rethymn**	**0.55**	**58**	P	**Pg**	**18 09 44.6**	**-1.3**
PRNS				S	**Sg**	**18 09 52.3**	**-0.8**
TMBK	**Timbaki Herakl**	**0.68**	**90**	P	**Pg**	**18 09 48.6**	**+0.1**
IDI	**Anoyia**	**0.81**	**75**	P	**Pg**	**18 09 49.8**	**-1.2**
IDI				S	**Sb**	**18 10 03.1**	**+0.8**
	comp=E,192nm,0.4s						
IDI	**Anoyia**	**0.81**	**75**	P	**Pg**	**18 09 49.7**	**-1.2**
IDI				S	**Sg**	**18 10 02.2**	**+0.7**
IDI				AML	AML	18 10 04.6	
	comp=N,534μm,0.5s						
IDI				AML	AML	18 10 07.0	
	comp=E,395μm,0.3s						
ANKY	**Antikythira Is**	**0.94**	**327**	P	**Pg**	**18 09 52.3**	**-1.1**
ANKY				S	**Sg**	**18 10 05.0**	**-0.7**
	comp=E,162nm,0.4s						
ANKY	**Antikythira Is**	**0.94**	**327**	P	**Pg**	**18 09 52.3**	**-1.1**
ANKY				S	**Sg**	**18 10 04.8**	**-0.9**
ANKY				AML	AML	18 10 07.6	
	comp=N,347μm,0.4s						
ANKY				AML	AML	18 10 09.3	
	comp=E,321μm,0.6s						
MHLO	**Agia Marina, M**	**1.65**	**13**	P	**Pn**	**18 10 04.3**	**+0.2**
MHLO				S	**Sb**	**18 10 26.8**	**+0.4**
THR5	**Thira Island,**	**1.76**	**40**	P	**Pn**	**18 10 06.1**	**+0.5**
THR5	**Thira Island,**	**1.76**	**40**	P	**Pn**	**18 10 05.8**	**+0.1**
SNT5	**Nea Kammeni, S**	**1.78**	**42**	P	**Pn**	**18 10 05.5**	**-0.3**
VLI	**Veliai**	**1.82**	**334**	P	**Pn**	**18 10 07.2**	**+0.7**
VLI				S	**Sn**	**18 10 29.7**	**+0.1**
	comp=E,38nm,0.6s						
APE	**Apeiranthos**	**2.37**	**33**	P	**Pn**	**18 10 13.7**	**-0.4**
APE				AML	AML	18 10 55.8	
	comp=E,34μm,0.4s						
APE				AML	AML	18 10 59.5	
	comp=N,37μm,0.3s						

*IDC **18** 18:34:57.1±3.0, 2˚.09N×98˚.36E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=184.7km s-min=21.9km az=52.0*
*DJA **18** 18:35:16.3±0.5, 2˚N±3˚×97˚9E±˚, h131km±6km, M3.4/8, MLv3.4/8*
ISC 18 18:35:15.4±0.9, 2˚.38N±0˚.08×98˚.94E±0˚.09, h150km, n11, σ0°76/12, mb3.3/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KCSI	**Kotacane, Aceh**	**1.63**	**314**	P	**Pn**	**18 35 46.7**	**+0.3**
GSI	**Gunungsitoli**	**1.73**	**232**	P	**Pn**	**18 35 48.1**	**+0.6**
PBSI	**Pulau Batu**	**2.51**	**195**	P	**Pn**	**18 35 56.9**	**+0.2**
SNSI	**Sinabang, Aceh**	**2.61**	**271**	P	**Pn**	**18 35 59.1**	**+1.2**
SNSI				S	**Sn**	**18 36 29.3**	**-1.4**
MLSI	**Meulaboh, Aceh**	**3.15**	**307**	P	**Pn**	**18 36 05.3**	**+0.6**
PDSI	**Padang**	**3.61**	**155**	P	**Pn**	**18 36 10.7**	**+0.1**
WRA	**Warramunga Arr**	**41.22**	**124**	P	**P**	**18 42 46.8**	**+0.9**
	0.4nm,0.6s,baz=304,slow=8.9,SNR=5.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**42.75**	**129**	P	**P**	**18 42 58.5**	**+0.3**
	0.2nm,0.6s,baz=302,slow=8.3,SNR=7.3						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**46.55**	**344**	P	**P**	**18 43 27.9**	**-0.2**
	0.3nm,0.4s,baz=159,slow=8.6,SNR=9.4						
	0.3nm,0.4s						
BVAR	**Borovoye Array**	**55.74**	**340**	P	**P**	**18 44 36.0**	**-0.4**
	0.6nm,0.4s,baz=136,slow=9.5,SNR=5.5						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**79.77**	**332**	P	**P**	**18 47 06.3**	**-0.3**
	1.5nm,0.8s,baz=118,slow=8.0,SNR=3.6						
	1.5nm,0.8s						

*IDC **18** 18:54:52.0±1.1, 33˚.92N×89˚.43E, h0km, mb3.7/8, mbtmp3.6/12, ML3.4/4, MS3.4/4, Error ellipse: s-maj=33.0km s-min=20.4km az=51.0*
ISC 18 18:54:56.7±0.9, 34˚.0N±0˚.1×89˚.5E±0˚.2, h33km, n15, σ1°43/12, mb3.7/7, MS3.4/4, Xizang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.86**	**339**	Pn	**Pn**	**18 58 07.8**	**-2.9**
	baz=149,slow=16,SNR=2.6						
	0.3nm,0.7s						
CMAR	**Chiang Mai Arr**	**17.67**	**149**	P	**P**	**18 59 00.2**	**-0.8**
	0.4nm,0.3s,baz=328,slow=12,SNR=14						
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**18.41**	**337**	P	**P**	**18 59 07.8**	**-1.1**
	baz=148,slow=12,SNR=14						
	0.8nm,0.8s						
SONM	**Songino Array**	**18.74**	**38**	P	**Pn**	**18 59 14.7**	**+1.3**
	0.2nm,0.3s,baz=226,slow=13,SNR=5.7						
	1.1nm,0.8s						
ZALV	**Zalesovo Beam**	**20.18**	**352**	P	**P**	**18 59 29.6**	**+1.3**
	2.1nm,0.6s,baz=163,slow=11,SNR=7.7						
	2.1nm,0.6s						
BVAR	**Borovoye Array**	**23.36**	**330**	P	**P**	**19 00 02.5**	**+0.4**
	0.6nm,0.7s,baz=143,slow=10,SNR=4.7						
	0.6nm,0.7s						
GEYT	**Alibeck**	**25.61**	**288**	P	**P**	**19 00 23.2**	**+0.1**
	2.2nm,0.9s,baz=132,slow=8.2,SNR=6.7						
	2.2nm,0.9s						
JNU	**Nakatsue**	**34.34**	**80**	LR	LR	19 16 06.2	
	comp=Z,32nm,18.2s,baz=40,slow=37						
BRTR	**Keskin Array B**	**44.41**	**294**	P	**P**	**19 03 04.5**	**0.0**
	0.5nm,0.7s,baz=106,slow=9.1,SNR=4.3						
	0.5nm,0.7s						
AKASG	**Malin Array Be**	**46.21**	**310**	LR	LR	19 24 41.0	
	comp=Z,29nm,19.7s,baz=56,slow=39						
ARCES	**ARCESS Array B**	**49.48**	**335**	LR	LR	19 26 35.5	
	comp=Z,52nm,18.3s,baz=94,slow=38						
NOA	**NORSAR Array B**	**55.32**	**325**	P	**P**	**19 04 28.1**	**+1.1**
	0.4nm,0.6s,baz=86,slow=6.2,SNR=2.4						
	0.4nm,0.6s						
GERES	**GERESS Array B**	**56.42**	**310**	P	**P**	**19 04 36.2**	**+1.1**
	0.7nm,0.7s,baz=60,slow=7.9,SNR=5.5						
GERES				LR	LR	19 31 27.8	
	comp=Z,36nm,18.6s,baz=16,slow=39						
	0.7nm,0.7s						
EKA	**Eskdalemuir Ar**	**64.19**	**321**	P	**P**	**19 05 28.9**	**+0.9**
	1.5nm,0.9s,baz=78,slow=8.6,SNR=3.8						
	1.5nm,0.9s						
WRA	**Warramunga Arr**	**68.61**	**135**	P	**P**	**19 05 55.7**	**-0.9**
	1.2nm,1.0s,baz=326,slow=6.5,SNR=4.0						
	1.2nm,1.0s						

*IDC **18** 18:55:41.5±1.1, 20˚.83S×174˚.30W, h0km, mb4.0/6, mbtmp4.0/7, ML4.2/1, MS3.3/6, Error ellipse: s-maj=59.9km s-min=23.1km az=141.0*
*NEIC **18** 18:55:41.6±1.7, 20˚.4S±0˚.1×173˚.95W±0˚.09, h10km±1km, mb4.6/12, Error ellipse: s-maj=18.9km s-min=13.6km az=191.0*
ISC 18 18:55:41.4±0.5, 20˚.44S±0˚.09×173˚.93W±0˚.09, h10km, n35, σ2°63/32, mb4.4/11, MS3.5/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**4.01**	**71**		**Pn**	**18 56 42.4**	**-0.4**
NIUE				Sn	**Sn**	**18 57 24.5**	**-5.4**
AFI	**Afiamalu**	**6.81**	**18**	Pn	**Pn**	**18 57 21.0**	**-0.5**
AFI				Sn	**Sn**	**18 58 32.9**	**-6.3**
MSVF	**Nonsavu**	**8.04**	**288**		Pn	18 57 45.5	+7.0
RAR	**Rarotonga**	**13.26**	**96**	LR	LR	19 03 42.4	
	comp=Z,32nm,19.6s,baz=294,slow=35						
DZM	**Mont Dzumac**	**18.37**	**261**	LR	LR	19 05 58.1	
	comp=Z,160nm,18.7s,baz=186,slow=34						
URZ	**Urewera**	**19.38**	**202**	P	**P**	**19 00 03.7**	**-3.6**
	0.8nm,0.3s,baz=136,slow=19,SNR=1.8						
	6.7nm,0.6s						
PPT	**Papeete**	**23.20**	**87**	LR	LR	19 09 30.2	
	comp=Z,41nm,18.6s,baz=270,slow=35						
STKA	**Stephens Creek**	**41.26**	**245**	P	**P**	**19 03 26.8**	**-0.1**
STKA	**Stephens Creek**	**41.26**	**245**	P	**P**	**19 03 24.2**	**-2.8**
	1.5nm,0.5s,baz=102,slow=11,SNR=2.0						
	1.5nm,0.5s						
COEN	**Coen**	**41.39**	**272**	P	**P**	**19 03 27.2**	**-1.0**
BBOO	**Buckleboo**	**45.99**	**244**	P	**P**	**19 04 04.4**	**-0.7**
BBOO				IAmb	IAmb	19 04 11.3	
	comp=Z,9.6nm,1.1s						
AS31	**Alice Springs**	**48.24**	**256**	P	**P**	**19 04 20.9**	**-2.0**
ASAR	**Alice Springs**	**48.24**	**256**	P	**P**	**19 04 19.8**	**-3.1**
ASAR	**Alice Springs**	**48.24**	**256**	P	**P**	**19 04 20.6**	**-2.3**
	comp=Z,1.5nm,0.6s,baz=98,slow=7.9,SNR=39						
ASAR				PcP	**PcP**	**19 05 50.6**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=103,slow=4.1,SNR=1.6						
	comp=Z,1.5nm,0.6s						
WB0	**Warramunga Arr**	**48.36**	**261**	P	**P**	**19 04 20.9**	**-2.9**
WB0				IAmb	IAmb	19 05 01.3	
	comp=Z,13nm,1.3s						
WRA	**Warramunga Arr**	**48.38**	**261**	P	**P**	**19 04 21.5**	**-2.4**
	comp=Z,1.2nm,0.7s,baz=96,slow=7.6,SNR=11						
WRA				PcP	**PcP**	**19 05 51.4**	**+0.9**
	comp=Z,0.6nm,0.7s,baz=102,slow=2.9,SNR=2.4						
	comp=Z,1.2nm,0.7s						
FORT	**Forrest**	**52.82**	**246**	P	**P**	**19 04 54.4**	**-2.9**
FITZ	**Fitzroy Crossi**	**56.81**	**261**	P	**P**	**19 05 25.6**	**-0.8**
SBA	**Scott Base**	**58.22**	**185**	P	**P**	**19 05 36.2**	**+0.8**
SBA				IAmb	IAmb	19 06 07.6	
	comp=Z,6.0nm,1.2s						
MORW	**Morawa**	**63.37**	**247**	P	**P**	**19 06 10.8**	**-0.5**
CASY	**Casey**	**65.66**	**205**	IAmb	IAmb	19 06 23.8	
	comp=Z,4.3nm,1.2s						
CASY				P	**P**	**19 06 24.2**	**-1.4**
QSPA	**South Pole Qui**	**69.63**	**180**	P	**P**	**19 06 51.8**	**+0.9**
QSPA				IAmb	IAmb	19 07 28.1	
	comp=Z,3.9nm,1.2s						
ASAJ	**Asahikawa**	**75.56**	**329**	LR	LR	19 39 50.9	
	comp=Z,23nm,18.2s,baz=256,slow=35						
NVAR	**Mina Array Bea**	**78.41**	**41**	P	**P**	**19 07 47.1**	**+4.5**
	comp=Z,0.7nm,0.6s,baz=230,slow=9.5,SNR=5.6						
	comp=Z,0.7nm,0.6s						
K15K	**Wolf Creek Mou**	**83.04**	**6**	P	**P**	**19 08 10.5**	**+3.9**
KLR	**Kul'dur**	**84.47**	**328**	LR	LR	19 41 50.3	
	comp=Z,22nm,19.9s,baz=166,slow=33						
ILAR	**Eielson Array**	**87.46**	**11**	P	**P**	**19 08 32.0**	**+3.4**
	comp=Z,0.4nm,0.8s,baz=224,slow=5.0,SNR=4.9						
	comp=Z,0.4nm,0.8s						
CMAR	**Chiang Mai Arr**	**93.70**	**288**	P	**P**	**19 09 01.5**	**+2.6**
	comp=Z,1.3nm,0.8s,baz=113,slow=2.4,SNR=9.4						
	comp=Z,1.3nm,0.8s						
TIXI	**Tiksi**	**99.69**	**344**	LR	LR	19 47 41.5	
	comp=Z,17nm,20.3s,baz=162,slow=31						
KURBB	**Kurchatov Arra**	**116.59**	**317**	PKP	**PKiKP**	**19 14 26.1**	**+0.5**
	comp=Z,0.4nm,0.7s,baz=108,slow=2.0,SNR=4.8						
BVAR	**Borovoye Array**	**121.47**	**320**	PKP	**PKiKP**	**19 14 36.4**	**+1.3**
	comp=Z,0.9nm,0.6s,baz=112,slow=1.6,SNR=5.9						
AKASG	**Malin Array Be**	**144.71**	**334**	PKP	**PKPdf**	**19 15 18.8**	**+0.4**
	comp=Z,1.5nm,0.6s,baz=42,slow=4.2,SNR=10						
BRTR	**Keskin Array B**	**149.55**	**315**	PKPbc	**PKiKP**	**19 15 32.8**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=126,slow=2.7,SNR=6.6						
GERES	**GERESS Array B**	**151.00**	**350**	PKPbc	**PKiKP**	**19 15 37.1**	**+1.9**
	comp=Z,0.6nm,0.6s,baz=20,slow=3.1,SNR=4.2						
MMAI	**Mount Meron Ar**	**151.06**	**302**	PKPbc	**PKiKP**	**19 15 37.5**	**+1.7**
	comp=Z,2.9nm,0.7s,baz=98,slow=1.7,SNR=5.6						

*SJA **18** 19:13:05.6±0.8, 21˚.09S×70˚.41W, h37km±1km, ML3.4, MW3.6*
*GUC **18** 19:13:07.3±0.8, 21˚.09S×70˚.44W, h37km±3km, ML3.5*
ISC 18 19:13:06.4±1.2, 21˚.09S±0˚.02×70˚.46W±0˚.05, h33km±6km, n34, σ1°05/63, 5C-2D, Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PATCX	**Punta Patache**	**0.39**	**47**	*e*P	**Pb**	**19 13 15.4**	**0.0**
PATCX				IAML		19 13 23.4	
	comp=Z,1μm,0.1s						
PATCX	**Punta Patache**	**0.39**	**47**	⇑*i*P	**Pb**	**19 13 15.7**	**+0.3**
PATCX				*e*S	**Sb**	**19 13 22.0**	**+0.4**
PATCX				IAML		19 13 22.2	
	comp=E,6μm,0.2s						
PB02	**IPOC Station P**	**0.57**	**114**	*e*P	**Pn**	**19 13 18.0**	**-0.4**
PB02				*e*S	**Sb**	**19 13 26.3**	**-0.1**
PB02				IAML		19 13 27.0	
	comp=Z,6μm,0.1s						
PB02	**IPOC Station P**	**0.57**	**114**	*i* P	**Pn**	**19 13 18.2**	**-0.2**
PB02				*e*S	**Sb**	**19 13 26.1**	**-0.3**
PB02				IAML		19 13 26.4	
	comp=E,7μm,0.2s						
TA01	**Diego Aracena**	**0.58**	**27**	*e*P	**Pn**	**19 13 18.1**	**-0.2**
TA01				*e*S	**Sn**	**19 13 26.8**	**0.0**
TA01				IAML		19 13 27.1	
	comp=Z,836nm,0.2s						
TA01	**Diego Aracena**	**0.58**	**27**	⇑*i*P	**Pn**	**19 13 18.2**	**-0.2**
TA01				*e*S	**Sn**	**19 13 26.4**	**-0.4**
TA01				IAML		19 13 27.2	
	comp=N,4μm,0.2s						
PB07	**IPOC Station P**	**0.83**	**140**	*e*P	**Pn**	**19 13 21.8**	**-0.2**
PB07				*e*S	**Sn**	**19 13 30.8**	**-2.4**
PB07				IAML		19 13 33.7	
	comp=Z,2μm,0.3s						
PB07	**IPOC Station P**	**0.83**	**140**	*i* P	**Pn**	**19 13 22.1**	**+0.1**
PB07				*e*S	**Sn**	**19 13 32.8**	**-0.4**
PB07				IAML		19 13 33.6	
	comp=E,4μm,0.2s						
TA02	**Huaiquique**	**0.87**	**21**	*e*P	**Pn**	**19 13 22.4**	**0.0**
TA02				*e*S	**Sb**	**19 13 35.1**	**+0.6**
TA02				IAML		19 13 36.9	
	comp=Z,2μm,0.1s						
TA02	**Huaiquique**	**0.87**	**21**	*e*P	**Pn**	**19 13 22.2**	**-0.1**
PB01	**IPOC Station P**	**0.91**	**87**	*e*P	**Pn**	**19 13 22.4**	**-0.5**
PB01				*e*S	**Sn**	**19 13 32.5**	**-2.5**
PB01				IAML		19 13 36.2	
	comp=Z,923nm,0.1s						
PB01	**IPOC Station P**	**0.91**	**87**	⇓*i*P	**Pn**	**19 13 22.5**	**-0.5**
HMBC	**Humberstone**	**0.97**	**34**	*e*P	**Pn**	**19 13 23.3**	**-0.5**
HMBC				*e*S	**Sn**	**19 13 36.8**	**+0.3**
HMBC				IAML		19 13 39.8	
	comp=Z,843nm,0.2s						
HMBC	**Humberstone**	**0.97**	**34**	⇑*i*P	**Pn**	**19 13 23.4**	**-0.5**
HMBC				*e*S	**Sn**	**19 13 34.8**	**-1.7**
HMBC				IAML		19 13 38.5	
	comp=N,1μm,0.5s						
PB04	**IPOC Station P**	**1.27**	**167**	*e*P	**Pn**	**19 13 28.6**	**+0.5**
PB04				*e*S	**Sn**	**19 13 46.3**	**+2.2**
PB04				IAML		19 13 48.6	
	comp=Z,2μm,0.2s						
PB04	**IPOC Station P**	**1.27**	**167**	*e*P	**Pn**	**19 13 28.6**	**+0.5**
PB04				*e*S	**Sn**	**19 13 46.1**	**+2.0**
PB04				IAML		19 13 49.5	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**1.34**	**122**	*e*P	**Pn**	**19 13 29.7**	**+0.8**
PB09				*e*S	**Sb**	**19 13 47.9**	**+0.1**
PB09				IAML		19 13 49.3	
	comp=Z,550nm,0.2s						
PB09	**IPOC Station P**	**1.34**	**122**	⇓*i*P	**Pn**	**19 13 30.0**	**+1.0**
PB09				*e*S	**Sb**	**19 13 47.7**	**-0.2**
PB11	**IPOC Station P**	**1.52**	**30**	*e*P	**Pn**	**19 13 31.4**	**-0.1**
PB11				*e*S	**Sb**	**19 13 51.9**	**-1.2**
PB11				IAML		19 13 53.2	
	comp=Z,400nm,0.2s						
PB11	**IPOC Station P**	**1.52**	**30**	*e*P	**Pn**	**19 13 32.3**	**+0.8**
PB11				*e*S	**Sn**	**19 13 51.4**	**+1.2**
PB11				IAML		19 13 52.8	
	comp=N,1μm,0.2s						
PB08	**IPOC Station P**	**1.55**	**53**	*e*P	**Pn**	**19 13 32.5**	**+0.5**
PB08				*e*S	**Sn**	**19 13 52.0**	**+0.8**
PB08				IAML		19 13 53.3	
	comp=Z,643nm,0.2s						
PB08	**IPOC Station P**	**1.55**	**53**	⇑*i*P	**Pn**	**19 13 32.5**	**+0.5**
PB08				*e*S	**Sn**	**19 13 51.7**	**+0.5**
PB06	**IPOC Station P**	**1.81**	**153**	*e*P	**Pn**	**19 13 35.9**	**+0.5**
PB06				*e*S	**Sb**	**19 14 01.4**	**+0.1**
PB06				IAML		19 14 02.0	
	comp=Z,417nm,0.1s						
PB06	**IPOC Station P**	**1.81**	**153**	⇑*i*P	**Pn**	**19 13 36.0**	**+0.5**
PB06				*e*S	**Sn**	**19 14 00.5**	**+3.2**
GO01	**Chusmiza**	**1.85**	**40**	*e*P	**Pn**	**19 13 37.0**	**+0.8**
GO01				*e*S	**Sn**	**19 14 00.5**	**+1.8**
LVC	**Limon Verde**	**2.09**	**137**	*e*P	**Pn**	**19 13 41.5**	**+2.1**
LVC				*e*S	**Sn**	**19 14 03.6**	**-0.9**
LVC				IAML		19 14 10.9	
	comp=Z,232nm,1.4s						
PB15	**IPOC Station P**	**2.30**	**157**	*e*P	**Pn**	**19 13 43.0**	**+0.8**
PB15				*e*S	**Sn**	**19 14 09.1**	**-0.4**
PB15	**IPOC Station P**	**2.30**	**157**	*e*P	**Pn**	**19 13 42.8**	**+0.5**
PB10	**IPOC Station P**	**2.41**	**182**	*e*P	**Pn**	**19 13 43.5**	**-0.1**
PB10				*e*S	**Sb**	**19 14 17.9**	**-0.7**
PB10				IAML		19 14 23.3	
	comp=Z,60nm,0.3s						
PB12	**IPOC Station P**	**2.46**	**3**	*e*P	**Pn**	**19 13 44.6**	**+0.2**
PB12				*e*S	**Sn**	**19 14 13.7**	**+0.2**
PB12				IAML		19 14 19.9	
	comp=Z,119nm,0.8s						
PB12	**IPOC Station P**	**2.46**	**3**	*e*P	**Pn**	**19 13 44.6**	**+0.2**
PB14	**IPOC Station P**	**3.52**	**179**	*e*P	**Pn**	**19 13 58.6**	**-0.5**
PB14				*e*S	**Sb**	**19 14 48.3**	**-2.4**
PB14				IAML		19 15 05.5	
	comp=Z,43nm,0.6s						
GO02	**Mina Guanaco**	**4.13**	**169**	*e*P	**Pn**	**19 14 08.3**	**+0.8**
GO02				*e*S	**Sb**	**19 15 07.1**	**-1.2**
AC01	**Pan de Azucar**	**5.04**	**181**	*e*P	**Pn**	**19 14 18.1**	**-1.5**
AC01				*e*S	**Sb**	**19 15 33.9**	**-0.1**
AC01				IAML		19 15 47.7	
	comp=Z,25nm,0.9s						

DJA 18 19:40:01.4±1.8, 5˚N±11˚×12˚5E±˚, h459km±23km, M3.9/7, mb3.9/4, MLv3.8/7, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**4.18**	**201**	P	P	19 41 17.0	-1.7
LBMI	**Labuha**	**5.97**	**150**	P	P	19 41 36.8	+1.0
	8.5nm,0.5s,0.2nm						
SANI	**Sanana**	**6.73**	**167**	P	P	19 41 42.5	-1.1
	36nm,0.7s,0.2nm						

*HVO **18** 19:51:06.5±0.7, 19˚.410N±0˚.008×155˚.270W±0˚.006, h0km±2km, ML2.9/17, ML2.0/46(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=191.0*
NEIC 18 19:51:07.2±0.9, 19˚.398N±0˚.008×155˚.271W±0˚.006, h3km±1km, Error ellipse: s-maj=1.1km s-min=0.8km az=189.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.00**	**230**		Pg	19 51 07.3	-0.5
KKO	**Keanakako`i**	**0.01**	**89**		Pg	19 51 07.3	-0.6
NPH	**North Pit**	**0.02**	**326**		Pg	19 51 07.0	-0.9
BYL	**Byron's Ledge**	**0.02**	**36**		Pg	19 51 07.2	-0.8
OBL	**Observatory Le**	**0.02**	**328**	IAML		19 51 06.9	
	comp=E,5μm,0.6s						
OBL				IAML		19 51 07.0	
	comp=N,5μm,0.6s						
OBL					Pg	19 51 07.3	-0.7
SDHHI	**Sand Hill**	**0.02**	**249**		Pg	19 51 07.8	-0.2
HATHI	**Halema'uma'u T**	**0.03**	**21**		Pg	19 51 07.4	-0.6
UWB	**Uwekahuna B**	**0.03**	**346**		Pg	19 51 07.3	-0.8
SBLHI	**Steaming Bluff**	**0.03**	**6**		Pg	19 51 07.4	-0.7
WRMHI	**West Rim**	**0.03**	**288**	IAML		19 51 07.4	
	comp=N,2μm,0.9s						
WRMHI					Pg	19 51 07.7	-0.4
UWE	**Uwekahuna**	**0.03**	**318**	IAML		19 51 07.3	
	comp=N,3μm,0.7s						
UWE				IAML		19 51 07.4	
	comp=E,2μm,0.6s						
UWE					Pg	19 51 07.7	-0.4
PUH	**Pauahi**	**0.06**	**114**		Pg	19 51 08.6	+0.2
PUH				IAML		19 51 09.2	
	comp=N,1μm,0.2s						
PUH				IAML		19 51 09.4	
	comp=E,1μm,0.2s						
RSD	**Rainshed**	**0.07**	**354**		P

201nm,0.4s,baz=333,slow=18,SNR=9.0

SGSI	**Sangihe**	**2.28**	**212**	P	**Pn**	**19 57 41.7**	**-0.8**
SGSI				S	**Sn**	19 58 09.2	-1.0
TNTI	**Ternate**	**4.86**	**173**	P	**Pn**	**19 58 17.0**	**-0.2**
GTOI	**Gorontalo**	**6.20**	**217**	P	Pn	19 58 33.2	-2.2
	7.4nm,0.7s,0.0nm						
LBMI	**Labuha**	**6.27**	**173**	P	**Pn**	**19 58 36.4**	**+0.1**
SANI	**Sanana**	**7.66**	**186**	P	Pn	19 58 53.1	-2.2
	36nm,0.8s,1μm0.2nm						
BATI	**Baumata**	**16.02**	**191**	P	**Pn**	**20 00 49.8**	**+3.8**
	6.5nm,0.3s,baz=0.0,slow=2.0,SNR=1.2						
TWSI	**Taliwang, Sumb**	**17.33**	**215**	P	**P**	**20 01 04.5**	**+2.6**
WRA	**Warramunga Arr**	**26.48**	**164**	P	**P**	**20 02 34.6**	**+0.2**
	0.2nm,0.4s,baz=346,slow=9.6,SNR=2.1						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**29.94**	**167**	P	**P**	**20 03 05.3**	**+0.1**
	0.6nm,0.6s,baz=340,slow=7.2,SNR=4.6						
ASAR				PcP	**PcP**	**20 06 05.0**	**-0.6**
	0.3nm,0.6s,baz=336,slow=2.0,SNR=4.4						
	0.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**29.97**	**298**	P	**P**	**20 03 03.9**	**-1.6**
	0.2nm,0.6s,baz=94,slow=7.5,SNR=2.4						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**56.02**	**325**	P	**P**	**20 06 33.0**	**-1.8**
	0.2nm,0.3s,baz=119,slow=7.2,SNR=7.9						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**60.17**	**327**	P	**P**	**20 07 01.3**	**-2.2**
	0.2nm,0.5s,baz=128,slow=7.2,SNR=1.9						
	0.2nm,0.5s						

DJA 18 20:24:17.7±0.4, 0°S±3°×12°3E±°, h72km±7km, M4.2/9, mb3.9/2, MLv4.3/9, MwMwp5.3/1, Mwp5.5/1, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**0.82**	**189**	P	Pn	20 24 34.8	+0.7
LUWI				S	Sn	20 24 48.5	+2.3
GTOI	**Gorontalo**	**0.87**	**7**	P	Pn	20 24 36.4	+1.7
GTOI				S	Sn	20 24 50.5	+3.2
KMSI	**Cibinong**	**1.34**	**54**	P	Pn	20 24 41.6	+0.9
SANI	**Sanana**	**3.58**	**120**	P	Pn	20 25 08.0	-2.8
TTSI	**Tana Toraja**	**4.16**	**228**	P	Pn	20 25 18.9	+0.1
LBMI	**Labuha**	**4.62**	**95**	P	Pn	20 25 25.7	+0.6
EDFI	**Ende, Flores**	**8.55**	**188**	P	Pn	20 26 19.3	+0.4

*MOS **18** 20:25:55.5±0.8, 1°.05N×120°.02E, h10km, mb5.3/39, Error ellipse: s-maj=12.0km s-min=5.7km az=114.0*

*NEIC **18** 20:25:57.9, 1°.02N×119°.94E, h12km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^{16}Nm; M_{rr}2.50; $M_{\theta\theta}$-2.35; $M_{\phi\phi}$-0.15; $M_{r\theta}$-3.70; $M_{\theta\phi}$-0.89; $M_{\phi r}$-1.92; Fault plane solution: $M_0$4.91000×10^{16} NP1: ϕ_s243.75000°, δ74.20000°, λ86.01000°. NP2:ϕ_s78.10000°, δ16.28000°, λ103.80000°. Principal axes: T 4.8437, Plg61.0000°, Azm148.0000°; N 0.1297, Plg4.0000°, Azm245.0000°; P -4.9733, Plg29.0000°, Azm337.0000°;*

*NEIC **18** 20:25:58.0±1.8, 1°.03N±0°.06×119°.94E±0°.03, h10km±3km, mb5.1/102, Mww5.1/23 Error ellipse: s-maj=8.1km s-min=4.8km az=177.0*

*NEIC **18** 20:25:57.9, 1°.02N×119°.94E, h12km*

*BJI **18** 20:25:58.2±0.0, 0°.98N×120°.10E, h27km, mb4.8/76, mB5.0/65, Ms4.7/72, Ms7 4.5/71*

*GCMT **18** 20:26:00.0±0.1, 1°.37N±0°.01×120°.00E±0°.01, h30km, MW5.2/121, Moment Tensor Solution. s102,c167; s121,c208; Duration: 1s0 Moment tensor: Scale 10^{16} Nm; M_{rr}3.95±.15; $M_{\theta\theta}$-3.68±.10; $M_{\phi\phi}$-0.27±.11; $M_{r\theta}$-5.96±.26; $M_{\theta\phi}$-1.75±.07; $M_{\phi r}$-2.13±.20; Best double couple: $M_0$7.58800×10^{16} NP1:ϕ_s250.00000°, δ73.00000°, λ92.00000°. NP2:ϕ_s64.00000°, δ17.00000°, λ84.00000°. Principal axes: T 7.3590, Plg62.0000°, Azm163.0000°; N 0.4530, Plg2.0000°, Azm69.0000°; P -7.8170, Plg28.0000°, Azm338.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*IDC **18** 20:26:01.1±0.5, 1°.05N×120°.13E, h33km±2km, mb4.3/22, mbtmp4.5/26, ML4.4/4, MS4.3/54 Error ellipse: s-maj=16.9km s-min=10.1km az=72.0*

*DJA **18** 20:26:03.1±0.2, 1°N±2°×12°0E±°, h44km±2km, M5.0/50, mb5.1/50, mB5.5/31, MLv5.4/13, Mw5.1/31, Mw(mB)4.9/31, MwMwp4.9/9, Mwp5.2/9*

ISC 18 20:26:00.2±0.3, 1°.02N±0°.03×120°.02E±0°.03, h27km±1km, h27km:pP-P, n432, σ1s76/465, mb5.0/121, MS4.3/80, 9C-14D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TOLI2	**Tolitoli**	**0.76**	**83**	Pg	**Pn**	**20 26 14.3**	**-1.0**
TOLI2				Sg	**Sn**	**20 26 25.0**	**-0.9**
GTOI	**Gorontalo**	**3.01**	**97**	P	**Pn**	**20 26 47.9**	**+1.7**
LUWI	**Luwuk**	**3.43**	**127**	P	**Pb**	**20 26 59.0**	**-1.3**
LUWI	**Luwuk**	**3.43**	**127**		**Pn**	**20 26 54.7**	**+2.7**
LUWI				Sn	**Sb**	**20 27 38.3**	**-3.3**
LUWI	**Luwuk**	**3.43**	**127**	P	**Pn**	**20 26 55.6**	**+3.7**
BKB	**Balikpapan**	**3.86**	**234**	P	**Pn**	**20 26 59.1**	**+1.2**
BKB	**Balikpapan**	**3.86**	**234**		**Pn**	**20 26 57.6**	**-0.3**
BKB				Sn	**Sn**	**20 27 43.1**	**+0.7**
BKB	**Balikpapan**	**3.86**	**234**	P	**Pn**	**20 26 58.8**	**+0.9**
TTSI	**Tana Toraja**	**4.05**	**183**	P	Pn	20 27 05.4	+5.0
MYLDM	**Lahad Datu**	**4.40**	**340**	Pn	**Pn**	**20 27 05.0**	**-0.3**
MTKI	**Muara Teweh, K**	**5.49**	**249**	P	**Pn**	**20 27 21.0**	**+0.8**
	377nm,0.9s,7μm3μm1.3nm						
KAPI	**Kappang**	**6.00**	**183**	Pn	**Pn**	**20 27 27.2**	**-0.2**
KAPI	**Kappang**	**6.00**	**183**	Pn	**Pn**	**20 27 29.6**	**+2.3**
	2.8nm,0.3s,baz=351,slow=11,SNR=13						
KAPI				Sn	**Sn**	**20 28 40.0**	**+4.8**
	1.3nm,0.3s,baz=72,slow=23,SNR=1.4						
KAPI				LR	LR	20 30 28.1	
	comp=Z,12μm,19.1s,baz=4.0,slow=44						
	25nm,0.8s						
KAPI	**Kappang**	**6.00**	**183**	*de*P	**Pn**	**20 27 31.0**	**+3.7**
KAPI				pmax	pmax		
	comp=Z,49nm,1.2s						
BBSI	**Bau Bau**	**6.95**	**159**	P	**Pn**	**20 27 44.3**	**+3.9**
	comp=Z,616nm,1.1s,comp=Z,7μmcomp=Z,10μmcomp=Z,2.2nm						
TNTI	**Ternate**	**7.35**	**92**	P	Pn	20 27 52.7	+6.9
TNTI	**Ternate**	**7.35**	**92**	Pn	**Pn**	**20 27 47.2**	**+1.4**
LBMI	**Labuha**	**7.66**	**102**	P	**Pn**	**20 27 50.9**	**+0.8**
	comp=Z,274nm,0.9s,comp=Z,3μmcomp=Z,6.1nm						
SBUM	**Sibu**	**7.93**	**280**	Pn	**Pn**	**20 27 52.8**	**-1.0**
DAV	**Davao City (W)**	**8.17**	**43**	Pn	**Pn**	**20 27 59.0**	**+1.8**
DAV	**Davao City (W)**	**8.17**	**43**	Pn	**Pn**	**20 27 57.0**	**-0.1**
	comp=Z,24nm,0.3s,baz=70,slow=4.2,SNR=1.4						
DAV				LR	LR	20 31 49.1	
	comp=Z,4μm,18.2s,baz=280,slow=43						
	comp=Z,96nm,0.3s						
KSM	**Kuching**	**9.72**	**273**	P	**Pn**	**20 28 23.1**	**+4.7**
KSM	**Kuching**	**9.72**	**273**		**Pn**	**20 28 18.0**	**-0.4**
MMRI	**Maumere**	**9.85**	**167**	P	Pn	20 28 26.1	+6.0
MMRI	**Maumere**	**9.85**	**167**	Pn	**Pn**	**20 28 18.9**	**-1.2**
MMRI	**Maumere**	**9.85**	**167**	P	Pn	20 28 26.5	+6.4
	comp=Z,120nm,1.5s,comp=Z,5μm						
PLAI	**Plampang**	**10.04**	**193**	P	**Pn**	**20 28 26.6**	**+3.8**
PLAI	**Plampang**	**10.04**	**193**	P	**Pn**	**20 28 26.9**	**+4.1**
	comp=Z,85nm,1.3s,comp=Z,1μm						
TWSI	**Taliwang, Sumb**	**10.19**	**198**	P	Pn	20 28 29.7	+4.9
	comp=Z,42nm,1.6s						
JAGI	**Jajag, Banyuwa**	**11.10**	**212**	Pn	**Pn**	**20 28 36.8**	**-0.5**
SOEI	**Soe**	**11.51**	**159**	P	Pn	20 28 48.6	+5.5
SOEI	**Soe**	**11.51**	**159**		**Pn**	**20 28 41.9**	**-1.2**
BATI	**Baumata**	**11.73**	**162**	Pn	**Pn**	**20 28 47.0**	**+1.0**
	comp=Z,1.2nm,0.3s,baz=307,slow=14,SNR=1.1						
BATI				LR	LR	20 34 03.6	
	comp=Z,7μm,19.4s,baz=10,slow=41						
	comp=Z,4.8nm,0.3s						
SMRI	**Semarang**	**12.48**	**230**	Pn	**Pn**	**20 28 54.1**	**-2.1**
FAKI	**Fak Fak**	**12.83**	**108**	Pn	**Pn**	**20 28 59.4**	**-1.7**
UGM	**Wanagama**	**12.98**	**227**	Pn	**Pn**	**20 28 59.7**	**-3.4**
TGY	**Tagaytay City**	**13.03**	**4**	Pn	**Pn**	**20 29 05.0**	**+1.2**
	baz=233,slow=18						
TGY				LR	LR	20 34 23.0	
	comp=Z,1μm,18.4s,baz=175,slow=39						
CMJI	**Cimerak**	**14.48**	**233**	P	**P**	**20 29 31.6**	**+1.6**
	comp=Z,138nm,0.9s						
LEM	**Lembang**	**14.63**	**238**	Pn	**P**	**20 29 29.6**	**-2.2**
	comp=Z,2.3nm,0.3s,baz=122,slow=13,SNR=1.6						
LEM				LR	LR	20 35 30.6	
	comp=Z,2μm,21.1s,baz=55,slow=39						
	comp=Z,7.1nm,0.4s						

BBJI	**Bungbulang**	**14.95**	**235**	P	**P**	**20 29 34.0**	**-1.2**
CBJI	**Citeko**	**15.09**	**240**	P	**P**	**20 29 36.3**	**-0.4**
	comp=Z,91nm,1.1s						
DBJI	**Dramaga**	**15.24**	**240**	P	**Pn**	**20 29 36.3**	**+2.6**
	comp=Z,77nm,1.5s						
CNJI	**Cibinong**	**15.29**	**237**	P	**P**	**20 29 41.4**	**+2.4**
	comp=Z,69nm,1.2s,comp=Z,809nm						
SKJI	**Sukabumi**	**15.62**	**239**	P	**P**	**20 29 43.6**	**+0.9**
	comp=Z,172nm,1.3s,comp=Z,3μm						
DLV	**T Lat**	**15.77**	**314**	P	**Pn**	**20 29 41.3**	**+0.5**
DLV	**T Lat**	**15.77**	**314**		**Pn**	**20 29 37.8**	**-3.0**
MYKOM	**Kota Tinggi**	**16.18**	**273**	Pn	**Pn**	**20 29 41.7**	**-4.3**
KASI	**Kota Agung**	**16.81**	**247**	P	**P**	**20 29 57.5**	**+1.6**
	comp=Z,69nm,1.5s,comp=Z,1μm						
LWLI	**Liwa**	**17.04**	**249**	P	**P**	**20 30 01.8**	**+3.3**
	comp=Z,125nm,1.2s,comp=Z,3μm						
DRS	**Darwin Rock St**	**17.18**	**141**	P	**P**	**20 30 00.4**	**+0.4**
MTN	**Manton Dam**	**17.64**	**142**	P	**P**	**20 30 05.4**	**+0.4**
	baz=18,SNR=92						
MTN	**Manton Dam**	**17.64**	**142**	P	**P**	**20 30 05.8**	**+0.7**
MTN	**Manton Dam**	**17.64**	**142**	P	**P**	**20 30 05.5**	**+0.4**
MTN				lAmb	lAmb	20 30 08.1	
	comp=Z,378nm,1.5s						
MNAI	**Manna**	**17.87**	**252**		**Pn**	**20 30 05.5**	**-1.6**
MNAI				lAmb	lAmb	20 30 13.7	
	comp=Z,153nm,1.0s						
KDU	**Kakadu**	**18.39**	**138**	P	**Pn**	**20 30 13.4**	**0.0**
	baz=18,SNR=20						
KDU	**Kakadu**	**18.39**	**138**	P	**Pn**	**20 30 13.5**	**0.0**
BKNI	**Bangkinang**	**18.99**	**268**	P	**P**	**20 30 20.2**	**+0.2**
BKNI				lAmb	lAmb	20 30 31.0	
	comp=Z,40nm,0.5s						
BKNI	**Bangkinang**	**18.99**	**268**	P	**Pn**	**20 30 23.5**	**+2.7**
	comp=Z,86nm,0.8s,comp=Z,2μm						
IPM	**Ipoh**	**19.28**	**281**	P	**Pn**	**20 30 24.7**	**+0.4**
IPM	**Ipoh**	**19.28**	**281**		**P**	**20 30 20.5**	**-2.7**
FITZ	**Fitzroy Crossi**	**19.79**	**164**	P	**Pn**	**20 30 30.0**	**-0.3**
	baz=20,SNR=18						
FITZ	**Fitzroy Crossi**	**19.79**	**164**		**P**	**20 30 27.2**	**-1.4**
KULM	**Kulim**	**19.80**	**283**		**P**	**20 30 25.8**	**-3.0**
UBPT	**Khong Chiam**	**20.18**	**315**	P	Pn	20 30 34.1	-0.8
UBPT	**Khong Chiam**	**20.18**	**315**		**P**	**20 30 31.3**	**-1.5**
GENI	**Genyem**	**20.46**	**100**	P	Pn	20 30 38.0	-0.2
GENI	**Genyem**	**20.46**	**100**	P	Pn	20 30 37.7	-0.5
	comp=Z,90nm,2.0s,comp=Z,2μm						
QIZ	**Qiongzhong**	**20.49**	**331**	P	Pn	20 30 38.9	+0.4
QIZ	**Qiongzhong**	**20.49**	**331**	P	**P**	**20 30 36.5**	**+0.2**
QIZ				S	**S**	**20 34 26.0**	**+1.5**
QIZ				pmax	pmax		
	comp=Z,610nm,8.6s						
QIZ				LR	LR		
	comp=Z,480nm,16.9s						
QIZ				LR	LR		
	comp=Z,600nm,13.8s						
QIZ				LR	LR		
	comp=Z,750nm,16.4s						
QIZ	**Qiongzhong**	**20.49**	**331**		**P**	**20 30 34.5**	**-1.7**
JAY	**Jayapura**	**20.97**	**100**	P	**P**	**20 30 42.3**	**+0.7**
	comp=Z,30nm,1.0s,comp=Z,553nm						
SISI	**Saibi**	**21.06**	**264**	P	**P**	**20 30 44.4**	**+1.9**
	comp=Z,162nm,1.1s,comp=Z,1μm						
PSI	**Prapat**	**21.16**	**275**	P	**P**	**20 30 45.0**	**+1.3**
SRIT	**Nakonsritamara**	**21.68**	**291**	P	**P**	**20 30 52.4**	**+3.2**
SRIT	**Nakonsritamara**	**21.68**	**291**	P	**P**	**20 30 46.4**	**-2.7**
TWGBT	**Beinan**	**21.69**	**3**	P	**P**	**20 30 51.5**	**+2.4**
TWG	**Pinlang**	**21.69**	**3**	P	**P**	**20 30 47.7**	**-1.5**
HKPS	**Hong Kong Po S**	**21.89**	**345**	P	**P**	**20 30 50.1**	**-1.1**
HKPS				lAmb	lAmb	20 31 08.7	
	comp=Z,88nm,1.7s						
MBWA	**Marble Bar**	**22.05**	**181**	P	**P**	**20 30 51.3**	**-1.7**
MBWA				lAmb	lAmb	20 31 14.5	
	comp=Z,150nm,1.8s						
TABU	**Tabubil**	**22.08**	**107**	P	**P**	**20 30 54.9**	**+1.4**
TPUB	**Ta-pu**	**22.15**	**1**	P	**P**	**20 30 54.7**	**+0.6**
TPUB	**Ta-pu**	**22.15**	**1**	P	**P**	**20 30 52.8**	**-1.4**
TPUB				lAmb	lAmb	20 31 10.9	
	comp=Z,49nm,0.9s						
YULB	**Yu-li**	**22.27**	**3**	P	**P**	**20 30 56.0**	**+0.6**
YULB	**Yu-li**	**22.27**	**3**	P	**P**	**20 30 53.9**	**-1.5**
GSI	**Gunungsitoli**	**22.44**	**271**	P	**P**	**20 30 54.5**	**-2.9**
GSI				lAmb	lAmb	20 31 18.6	
	comp=Z,73nm,1.2s						
PSA00	**Pilbara Seismi**	**22.46**	**180**	P	**P**	**20 30 57.9**	**+0.5**
PSA00	**Pilbara Seismi**	**22.46**	**180**	P	**P**	**20 30 55.6**	**-1.9**
PSA00	**Pilbara Seismi**	**22.46**	**180**	P	**P**	**20 30 55.6**	**-1.9**
PSA00				lAmb	lAmb	20 30 59.8	
	comp=Z,58nm,0.9s						
SSLB	**Suanglung**	**22.65**	**2**	P	**P**	**20 30 59.4**	**-0.1**
SSLB	**Suanglung**	**22.65**	**2**	P	**P**	**20 30 57.8**	**-1.6**
GZH	**Guangzhou**	**22.87**	**344**	P	**P**	**20 31 07.0**	**+5.2**
GZH				S	Sn	20 35 17.5	-8.5
GZH				pmax	pmax		
	comp=Z,17nm,0.8s						
GZH				pmax	pmax		
	comp=Z,700nm,3.9s						
GZH				LR	LR		
	comp=Z,290nm,13.4s						
GZH				LR	LR		
	comp=Z,260nm,10.5s						
GZH				LR	LR		
	comp=Z,480nm,16.3s						
NACB	**Ninganchiao**	**23.07**	**4**	P	**P**	**20 31 03.5**	**-0.2**
YHNB	**Yeheng**	**23.54**	**3**	P	**P**	**20 31 08.4**	**-0.2**
YHNB	**Yeheng**	**23.54**	**3**	P	**P**	**20 31 07.0**	**-1.6**
YHNB				lAmb	lAmb	20 31 29.9	
	comp=Z,40nm,1.2s						
MLSI	**Meulaboh, Aceh**	**23.81**	**278**	P	**P**	**20 31 11.0**	**-0.2**
	comp=Z,44nm,0.8s						
QZH	**Quanzhou**	**23.82**	**357**	*i*P	**P**	**20 31 09.8**	**-1.3**
QZH				S	**S**	**20 35 26.3**	**+0.9**
QZH				pmax	pmax		
	comp=Z,300nm,5.3s						
QZH				LR	LR		
	comp=Z,860nm,14.8s						
QZH				LR	LR		
	comp=Z,540nm,12.7s						
QZH				LR	LR		
	comp=Z,1μm,15.6s						
TATO	**Taipei**	**23.85**	**3**	P	**P**	**20 31 09.7**	**-1.7**
TATO				lAmb	lAmb	20 31 28.0	
	comp=Z,87nm,1.4s						
GIRL	**Giralia**	**24.19**	**193**	P	**P**	**20 31 15.3**	**+0.7**
	baz=24,SNR=3.0						
SRDT	**SRDT**	**24.54**	**304**	P	**P**	**20 31 19.7**	**+1.8**
WB0	**Warramunga Arr**	**25.01**	**146**	P	**P**	**20 31 20.8**	**-1.3**
WRAB	**Tennant Creek**	**25.12**	**147**	P	**P**	**20 31 22.2**	**-0.9**
WRAB	**Tennant Creek**	**25.12**	**147**	*c i*P	**P**	**20 31 22.5**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,123nm,1.2s						
WRA	**Warramunga Arr**	**25.12**	**147**	P	**P**	**20 31 22.2**	**-1.0**
WRA	**Warramunga Arr**	**25.12**	**147**	P	**P**	**20 31 22.6**	**-0.6**
	comp=Z,90nm,0.9s,baz=334,slow=9.5,SNR=472						
WRA				PcP	**PcP**	**20 34 57.0**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=322,slow=2.2,SNR=4.7						
WRA	**Warramunga Arr**	**25.12**	**147**	P	**P**	**20 31 22.2**	**-1.0**
WRA				pmax	pmax		
	comp=Z,16nm,1.0s						
WB2	**Warramunga Arr**	**25.13**	**147**	P	**P**	**20 31 22.0**	**-1.2**
WR0	**Warramunga Arr**	**25.25**	**146**	P	**P**	**20 31 23.1**	**-1.2**
SLVN	**Son La**	**25.59**	**323**	P	**P**	**20 31 26.0**	**-1.4**
GULI	**GuiLin**	**25.87**	**340**	*i*P	**P**	**20 31 29.6**	**-0.2**
GULI				S	**S**	**20 36 00.5**	**+2.3**
GULI				pmax	pmax		
	comp=Z,10.0nm,1.2s						
GULI				pmax	pmax		
	comp=Z,330nm,8.7s						
GULI				LR	LR		
	comp=Z,490nm,19.2s						
GULI				LR	LR		
	comp=Z,370nm,20.8s						
GULI				LR	LR		
	comp=Z,600nm,18.6s						
PHRA	**Phrae**	**26.06**	**313**	P	**P**	**20 31 30.6**	**-1.0**
COCO	**West Island**	**26.50**	**240**	P	**P**	**20 31 34.9**	**-0.8**
COCO	**West Island**	**26.50**	**240**	P	**P**	**20 31 34.9**	**-0.8**
COCO				pmax	pmax		
	comp=Z,217nm,1.5s						
JOW	**Kunigami**	**26.86**	**16**	P	**P**	**20 31 37.9**	**-0.9**
JOW	**Kunigami**	**26.86**	**16**	LR	LR	20 43 44.0	
	comp=Z,1μm,19.0s,baz=154,slow=40						
JMZ	**Minamidaito 2**	**26.91**	**23**	P	**P**	**20 31 38.7**	**-0.6**
JMZ				lAmb	lAmb	20 32 18.3	
	comp=Z,57nm,0.9s						
CM31	**Chiang Mai Arr**	**26.99**	**311**	P	**P**	**20 31 38.4**	**-1.7**
CMAR	**Chiang Mai Arr**	**26.99**	**311**	P	**P**	**20 31 39.0**	**-1.1**

CMAR	**Chiang Mai Arr**	**26.99**	**311**	P	**P**	**20 31 40.8**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=134,slow=7.2,SNR=30						
CMAR				pP	**pwP**	**20 31 50.6**	**-0.4**
	comp=Z,14nm,0.9s,baz=136,slow=7.4,SNR=16						
CMAR				LR	LR	20 44 14.5	
	comp=Z,1μm,18.6s,baz=125,slow=40						
	comp=Z,4.3nm,0.9s						
CMAR	**Chiang Mai Arr**	**26.99**	**311**	P	**P**	**20 31 39.0**	**-1.1**
CRAI	**Chiangrai**	**27.08**	**316**	P	**P**	**20 31 39.9**	**-1.0**
WRKA	**Warakurna**	**27.12**	**163**	P	**P**	**20 31 41.4**	**+0.2**
	baz=27,SNR=34						
WRKA	**Warakurna**	**27.12**	**163**	P	**P**	**20 31 40.9**	**-0.3**
CHTO	**Chiang Mai**	**27.20**	**312**	P	**P**	**20 31 40.7**	**-1.3**
CHTO				lAmb	lAmb	20 31 54.0	
	comp=Z,40nm,1.1s						
CHTO	**Chiang Mai**	**27.20**	**312**	P	**P**	**20 31 40.7**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,40nm,1.2s						
COEN	**Coen**	**27.34**	**124**	P	**P**	**20 31 43.8**	**+0.5**
	baz=28,SNR=4.2						
MANU	**Manus Island**	**27.51**	**96**	P	**P**	**20 31 43.1**	**-1.7**
MANU				lAmb	lAmb	20 32 05.3	
	comp=Z,43nm,1.4s						
MEEK	**Meekatharra**	**27.53**	**183**	P	**P**	**20 31 44.9**	**+0.1**
	baz=28,SNR=33						
MEEK	**Meekatharra**	**27.53**	**183**	P	**P**	**20 31 45.3**	**+0.4**
GUMO	**Guam**	**27.58**	**62**	P	**P**	**20 31 44.9**	**-0.5**
GUMO	**Guam**	**27.58**	**62**	P	**P**	**20 31 44.9**	**-0.5**
GUMO				pmax	pmax		
	comp=Z,193nm,1.3s						
CNSH	**ChangSha**	**27.85**	**347**	⇓P	**P**	**20 31 46.9**	**-0.7**
CNSH				S	**S**	**20 36 30.4**	**+1.0**
CNSH				pmax	pmax		
	comp=Z,150nm,5.7s						
CNSH				LR	LR		
	comp=Z,530nm,16.7s						
CNSH				LR	LR		
	comp=Z,370nm,17.2s						
CNSH				LR	LR		
	comp=Z,880nm,18.4s						
AS31	**Alice Springs**	**28.01**	**152**	P	**P**	**20 31 48.8**	**-0.4**
ASAR	**Alice Springs**	**28.01**	**152**	P	**P**	**20 31 48.1**	**-1.1**
ASAR	**Alice Springs**	**28.01**	**152**	P	**P**	**20 31 49.1**	**-0.1**
	comp=Z,17nm,0.4s,baz=336,slow=10,SNR=397						
ASAR				PcP	**PcP**	**20 35 03.9**	**-0.1**
	comp=Z,4.2nm,0.6s,baz=340,slow=2.3,SNR=11						
	comp=Z,17nm,0.4s						
ASAR	**Alice Springs**	**28.01**	**152**	P	**P**	**20 31 48.1**	**-1.1**
AS01	**Alice Springs**	**28.03**	**152**	P	**P**	**20 31 49.4**	**0.0**
GYA	**Guiyang**	**28.37**	**334**	P	**P**	**20 31 54.8**	**+2.3**
GYA				pP	pwP	20 32 05.8	+2.5
GYA				PP	**PnPn**	**20 32 47.4**	**+5.5**
GYA				S	**S**	**20 36 42.4**	**+4.5**
GYA				pmax	pmax		
	comp=Z,9.0nm,1.2s						
GYA				pmax	pmax		
	comp=Z,330nm,7.4s						
GYA				LR	LR		
	comp=Z,690nm,16.4s						
GYA				LR	LR		
	comp=Z,510nm,15.8s						
GYA				LR	LR		
	comp=Z,1μm,16.5s						
QIS	**Mount Isa**	**28.77**	**139**	P	**P**	**20 31 55.6**	**-0.3**
	baz=29,SNR=16						
QIS	**Mount Isa**	**28.77**	**139**	P	**P**	**20 31 55.7**	**-0.3**
KMI	**Kunming**	**29.20**	**326**	⇑P	**P**	**20 31 59.5**	**-0.5**
KMI				S	**S**	**20 36 52.5**	**+1.2**
KMI				PcS	**PcS**	**20 38 43.0**	**-7.4**
KMI				pmax	pmax		
	comp=Z,11nm,1.0s						
KMI				pmax	pmax		
	comp=Z,190nm,7.2s						
KMI				LR	LR		
	comp=Z,520nm,16.9s						
KMI				LR	LR		
	comp=Z,330nm,24.5s						
KMI				LR	LR		
	comp=Z,600nm,23.8s						
WHN	**Wuhan**	**29.85**	**350**	P	**P**	**20 32 06.9**	**+1.5**
WHN				PP	**PnPn**	**20 33 00.5**	**-1.4**
WHN				S	**S**	**20 37 03.3**	**+2.5**
WHN				pmax	pmax		
	comp=Z,400nm,5.3s						
WHN				LR	LR		
	comp=Z,1μm,13.6s						
WHN				LR	LR		
	comp=Z,2μm,14.3s						
WHN				LR	LR		
	comp=Z,3μm,17.9s						
SSE	**Sheshan**	**29.93**	**2**	P	**P**	**20 32 06.5**	**+0.4**
SSE				S	**S**	**20 37 01.6**	**-0.5**
SSE				pmax	pmax		
	comp=Z,8.0nm,0.6s						
SSE				pmax	pmax		
	comp=Z,70nm,5.9s						
SSE				LR	LR		
	comp=Z,140nm,16.0s						
SSE				LR	LR		
	comp=Z,260nm,16.0s						
MORW	**Morawa**	**30.16**	**187**	P	**P**	**20 32 09.1**	**+0.9**
	baz=30,SNR=5.2						
MORW	**Morawa**	**30.16**	**187**	P	**P**	**20 32 09.2**	**+1.0**
MORW	**Morawa**	**30.16**	**187**	P	**P**	**20 32 07.9**	**-0.4**
MTSU	**Mount Surprise**	**30.56**	**130**	P	**P**	**20 32

FORT Forrest 32.54 167 P **P** **20 32 28.7 -0.4**
CTAO Charters Tower 33.18 131 P **P** **20 32 34.9 0.0**
CTAO IAmb IAmb 20 33 38.8
comp=Z,52nm,1.4s
CTAO Charters Tower 33.18 131 P **P** **20 32 34.9 0.0**
CTAO pmax pmax
comp=Z,52nm,1.4s
CD2 Chengdu 33.48 334 P **P** **20 32 37.8 +0.3**
CD2 sP pwP 20 32 46.6 -1.8
CD2 S **S** **20 37 58.3 +0.5**
CD2 pmax pmax
comp=Z,30nm,1.0s
CD2 pmax pmax
comp=Z,120nm,4.4s
CD2 LR LR
comp=Z,240nm,14.2s
CD2 LR LR
comp=Z,300nm,15.9s
CD2 LR LR
comp=Z,570nm,15.4s
JNU Nakatsue 33.52 17 P **P** **20 32 37.4 -0.3**
JNU Nakatsue 33.52 17 LR LR 20 47 00.1
comp=Z,341nm,19.6s,baz=182,slow=38
JCJ Chichijima 33.54 37 P **P** **20 32 37.0 -0.9**
JCJ Chichijima 33.54 37 LR LR 20 43 54.5
comp=Z,253nm,21.6s,baz=156,slow=32
NWAO Narrogin (SRO) 33.87 184 P **P** **20 32 41.5 +0.8**
baz=34,SNR=22
NWAO P **P** **20 32 41.5 +0.8**
baz=34,SNR=22
NWAO Narrogin (SRO) 33.87 184 P **P** **20 32 41.7 +1.0**
NWAO Narrogin (SRO) 33.87 184 P **P** **20 32 41.5 +0.8**
NWAO Narrogin (SRO) 33.87 184 P **P** **20 32 40.6 -0.1**
NWAO Narrogin (SRO) 33.87 184 LR LR 20 47 19.0
comp=Z,629nm,20.9s,baz=357,slow=38
NWAO Narrogin (SRO) 33.87 184 P **P** **20 32 40.6 -0.1**
NWAO pmax pmax
comp=Z,173nm,1.6s
MULG Mulgathing 33.88 158 P **P** **20 32 41.5 +0.6**
LYN LuoYang 34.09 349 ⇑P **P** **20 32 43.4 +0.8**
LYN S **S** **20 38 09.1 +2.1**
LYN pmax pmax
comp=Z,22nm,0.9s
LYN pmax pmax
comp=Z,220nm,9.2s
LYN LR LR
comp=Z,940nm,18.6s
LYN LR LR
comp=Z,870nm,19.6s
LYN LR LR
comp=Z,1μm,18.2s
XAN Xi'an 34.45 344 P **P** **20 32 45.9 +0.1**
XAN S **S** **20 38 13.8 +1.2**
XAN sS sS 20 38 23.8 -0.4
XAN pmax pmax
comp=Z,10.0nm,1.0s
XAN LR LR
comp=Z,640nm,17.1s
XAN LR LR
comp=Z,750nm,16.8s
XAN LR LR
comp=Z,2μm,17.8s
JTU Tsushima 34.46 14 P **P** **20 32 45.7 -0.2**
INKA Innaminka 34.85 147 P **P** **20 32 50.3 +1.0**
TIA Tai'an 35.12 356 P **P** **20 32 51.4 -0.1**
TIA S **S** **20 38 24.3 +1.6**
TIA pmax pmax
comp=Z,5.0nm,0.8s
TIA pmax pmax
comp=Z,110nm,5.5s
TIA LR LR
comp=Z,310nm,15.3s
TIA LR LR
comp=Z,86nm,8.6s
TIA LR LR
comp=Z,490nm,16.7s
LCRK Leigh Creek 35.77 153 P **P** **20 32 58.0 +0.8**
QLP Quilpie 36.03 141 P **P** **20 33 00.2 +0.7**
baz=36,SNR=19
QLP Quilpie 36.03 141 P **P** **20 33 00.0 +0.5**
SHL Shillong 36.49 314 P **P** **20 33 02.4 -1.3**
SHL Shillong 36.49 314 P **P** **20 33 02.4 -1.3**
HNS HongShan 36.53 353 ⇓P **P** **20 33 04.0 +0.5**
HNS PP **PP** **20 34 27.8 +0.8**
HNS S **S** **20 38 47.0 +2.7**
HNS pmax pmax
comp=Z,10.0nm,0.6s
HNS pmax pmax
comp=Z,160nm,5.7s
HNS LR LR
comp=Z,870nm,16.7s
HNS LR LR
comp=Z,830nm,17.5s
INCN Inchon 36.79 9 P **P** **20 33 04.6 -1.2**
INCN Inchon 36.79 9 P **P** **20 33 04.6 -1.2**
INCN pmax pmax
comp=Z,172nm,2.0s
BBOO Buckleboo 36.90 157 P **P** **20 33 06.9 +0.1**
baz=37,SNR=25
BBOO Buckleboo 36.90 157 P **PKiKP** **20 42 46.0 -0.2**
baz=29,SNR=5.6
BBOO Buckleboo 36.90 157 P **P** **20 33 07.2 +0.4**
BBOO Buckleboo 36.90 157 P **P** **20 33 06.3 -0.6**
KSAR Wonju Array Be 36.96 10 P **P** **20 33 06.6 -0.6**
KSAR Wonju Array Be 36.96 10 P **P** **20 33 06.6 -0.6**
KSRS Korea Array 36.98 10 P **P** **20 33 05.9 -1.5**
comp=Z,2.5nm,0.7s,baz=185,slow=12,SNR=6.5
KSRS LR LR 20 48 07.8
comp=Z,482nm,20.6s,baz=200,slow=36
comp=Z,2.5nm,0.7s
WHYH Whyalla 37.70 156 P **P** **20 33 14.5 +0.9**
LZH Lanzhou 37.98 338 *e*P **P** **20 33 16.8 +0.7**
LZH sP sP 20 33 25.9 -0.2
LZH PP **PnPn** **20 34 45.4 +0.7**
LZH S **S** **20 39 07.4 +0.6**
LZH pmax pmax
comp=Z,16nm,1.1s
LZH pmax pmax
comp=Z,220nm,7.5s
LZH LR LR
comp=Z,670nm,16.1s
LZH LR LR
comp=Z,480nm,18.2s
LZH LR LR
comp=Z,900nm,17.2s
RK1H Rockhampton Ha 38.30 131 P **P** **20 33 18.5 -0.3**
STKA Stephens Creek 38.58 150 P **P** **20 33 21.5 +0.4**
baz=39,SNR=54
STKA Stephens Creek 38.58 150 P **P** **20 33 21.4 +0.4**
STKA Stephens Creek 38.58 150 P **P** **20 33 20.4 -0.6**
STKA Stephens Creek 38.58 150 P **P** **20 33 20.4 -0.6**
comp=Z,32nm,0.7s,baz=333,slow=8.5,SNR=71
STKA LR LR 20 52 21.7
comp=Z,708nm,18.6s,baz=330,slow=41
comp=Z,32nm,0.7s
STKA Stephens Creek 38.58 150 *c i*P **P** **20 33 21.5 +0.4**
HTT Hallett 38.62 154 P **P** **20 33 22.1 +0.7**
baz=39,SNR=111
HTT Hallett 38.62 154 P **P** **20 33 22.2 +0.8**
BJI Beijing 38.99 355 P **P** **20 33 25.8 +1.5**
BJI S **S** **20 39 22.8 +1.2**
BJI pmax pmax
comp=Z,5.0nm,1.2s
BJI pmax pmax
comp=Z,95nm,10.3s
BJI LR LR
comp=Z,300nm,18.8s
BJI LR LR
comp=Z,97nm,18.2s
BJI LR LR
comp=Z,450nm,18.3s
MAJO Matsushiro 39.15 23⇑ *e*P **P** **20 33 23.8 -2.0**
MAJO pmax pmax
comp=Z,9.0nm,1.0s
MJAR Matsushiro Arr 39.15 23 P **P** **20 33 23.9 -1.9**
comp=Z,9.7nm,1.0s,baz=193,slow=8.3,SNR=13
MJAR pP **sP** **20 33 36.2 +0.4**
comp=Z,4.9nm,0.7s,baz=189,slow=7.0,SNR=5.1
MJAR LR LR 20 49 18.0
comp=Z,366nm,20.5s,baz=216,slow=36
comp=Z,9.7nm,1.0s
MJB9 Matsu-Tunnel 39.15 23 P **P** **20 33 26.6 +0.8**
MJB9 IAmb IAmb 20 33 30.4
comp=Z,35nm,1.3s
LSA Lhasa 39.60 319 P **P** **20 33 31.6 +1.5**
LSA pmax pmax
comp=Z,28nm,0.8s
LSA Lhasa 39.60 319 P **P** **20 33 30.4 +0.3**
LSA IAmb IAmb 20 33 42.5
comp=Z,30nm,0.8s
LSA Lhasa 39.60 319 P **P** **20 33 30.4 +0.3**
LSA pmax pmax
comp=Z,29nm,0.8s
PALK Pallekele 39.68 280 LR LR 20 51 44.7
comp=Z,279nm,20.6s,baz=203,slow=39
HHC Hu-ho-hao-te 40.38 350 *e*P **P** **20 33 38.8 +2.8**
HHC PP **PP** **20 35 10.5 +1.2**
HHC S **S** **20 39 45.9 +3.3**
HHC pmax pmax
comp=Z,6.0nm,0.8s
HHC pmax pmax
comp=Z,64nm,5.0s
HHC LR LR
comp=Z,470nm,18.3s
HHC LR LR
comp=Z,160nm,18.3s
HHC LR LR
comp=Z,290nm,18.6s
AULRC Lightning Ridg 40.38 141 P **P** **20 33 36.8 +0.7**
BTO Baotou 40.43 348 *e*P **P** **20 33 38.3 +1.8**
BTO pP **pwP** **20 33 48.3 +0.8**
BTO sP **sP** **20 33 52.3 +5.6**
BTO PP **PnPn** **20 35 16.4 +2.6**
BTO S **S** **20 39 47.0 +3.5**
BTO sS sS 20 40 03.3 +8.1
BTO pmax pmax
comp=Z,43nm,1.0s
BTO pmax pmax
comp=Z,410nm,11.7s
BTO LR LR
comp=Z,1μm,18.6s
BTO LR LR
comp=Z,880nm,18.6s
BTO LR LR
comp=Z,1μm,20.2s
CMSA Cobar Meteorol 40.52 145 P **P** **20 33 37.9 +0.8**
baz=41,SNR=80
CMSA Cobar Meteorol 40.52 145 P **P** **20 33 38.1 +0.9**
HNR Honiara 41.09 106 LR LR 20 54 23.6
comp=Z,5μm,18.9s,baz=282,slow=42
GOMU GeErMu 42.09 329 P **P** **20 33 51.6 +1.1**
GOMU pP pP 20 33 56.0 -1.6
GOMU sP pwP 20 33 59.5 -2.0
GOMU PP **PP** **20 35 34.8 +6.6**
GOMU S **S** **20 40 02.3 -6.4**
GOMU pmax pmax
comp=Z,4.0nm,1.0s
GOMU LR LR
comp=Z,540nm,19.9s
GOMU LR LR
comp=Z,1μm,20.9s
GOMU LR LR
comp=Z,440nm,19.1s
ARPS Mount Arapiles 42.71 154 P **P** **20 33 55.9 +0.8**
baz=43,SNR=15
ARPS Mount Arapiles 42.71 154 P **P** **20 33 56.1 +1.0**
AUDCS Dubbo College 42.73 143 P **P** **20 33 56.5 +1.2**
XLT XiLinHaoTe 42.84 356 *e*P P 20 34 01.8 +5.7
XLT S **S** **20 40 23.5 +4.6**
XLT sS sS 20 40 36.8 +6.0
XLT pmax pmax
comp=Z,17nm,0.9s
XLT pmax pmax
comp=Z,190nm,4.9s
XLT LR LR
comp=N,20nm,13.0s
XLT LR LR
comp=E,290nm,17.5s
XLT LR LR
comp=Z,260nm,16.4s
AUPHS Peel High Scho 43.36 140 P **P** **20 34 01.5 +1.0**
AUMAG Moama Anglican 43.52 151 P **P** **20 34 02.4 +0.8**
HYB Hyderabad 43.90 294 *e*P **P** **20 34 03.8 -1.2**
YNG Young 44.08 146 P **P** **20 34 07.8 +1.6**
baz=44,SNR=11
YNG Young 44.08 146 P **P** **20 34 07.7 +1.5**
MDJ Mudanjiang 44.23 10 P **P** **20 34 08.0 +0.8**
MDJ pP pP 20 34 11.3 -3.2
MDJ PP **PP** **20 35 50.3 -0.4**
MDJ PcP **PcP** **20 35 54.5 +3.0**
MDJ S **S** **20 40 40.3 +1.2**
MDJ pmax pmax
comp=Z,48nm,0.9s
MDJ pmax pmax
comp=Z,110nm,6.9s
MDJ LR LR
comp=Z,300nm,14.0s
MDJ LR LR
comp=Z,340nm,16.1s
MDJ LR LR
comp=Z,450nm,16.7s
MDJ Mudanjiang 44.23 10 P **P** **20 34 07.1 -0.1**
MDJ IAmb IAmb 20 34 08.8
comp=Z,43nm,1.0s
USA0B Ussuriysk Arra 44.29 12 P **P** **20 34 08.0 +0.3**
USA0B Ussuriysk Arra 44.29 12 *de*P **P** **20 34 07.5 -0.2**
USRK Ussuriysk Ar. 44.29 12 P **P** **20 34 07.4 -0.3**
USRK Ussuriysk Ar. 44.29 12 P **P** **20 34 07.2 -0.5**
comp=Z,9.1nm,0.9s,baz=187,slow=7.9,SNR=10
USRK pP **pwP** **20 34 17.9 -0.4**
comp=Z,5.3nm,0.7s,baz=198,slow=4.5,SNR=6.6
USRK LR LR 20 53 24.8
comp=Z,160nm,19.7s,baz=158,slow=37
comp=Z,9.1nm,0.9s
USRK Ussuriysk Ar. 44.29 12 P **P** **20 34 07.4 -0.3**
BRAT Ballarat 44.30 153 P **P** **20 34 09.0 +1.2**
TOO Toolangi 45.05 151 P **P** **20 34 15.6 +1.7**
baz=45,SNR=4.7
TOO Toolangi 45.05 151 P **P** **20 34 15.9 +2.0**
TOO Toolangi 45.05 151 P **P** **20 34 13.9 0.0**
TOO IAmb IAmb 20 34 16.8
comp=Z,74nm,1.6s
TOO Toolangi 45.05 151 P **P** **20 34 13.9 0.0**
TOO pmax pmax
comp=Z,74nm,1.7s
CAN Canberra 45.16 146 P **P** **20 34 16.0 +1.1**
CAN Canberra 45.16 146 P **P** **20 34 15.1 +0.2**
CAN Canberra 45.16 146 P **P** **20 34 15.1 +0.2**
CAN pmax pmax
comp=Z,260nm,1.7s
CNB Canberra Magne 45.37 146 P **P** **20 34 17.9 +1.4**
baz=46,SNR=6.4
CNB Canberra Magne 45.37 146 P **P** **20 34 18.6 +2.1**
ASAJ Asahikawa 47.37 22 LR LR 20 55 19.0
comp=Z,195nm,20.0s,baz=222,slow=37
ASAJ Asahikawa 47.37 22 P **P** **20 34 31.3 -0.7**
ASAJ pmax pmax
comp=Z,24nm,1.0s
JKA Kamikawa-asahi 47.37 22 P **P** **20 34 31.2 -0.8**
JKA IAmb IAmb 20 34 33.1
comp=Z,24nm,1.0s
ULN Ulaanbaatar 48.00 348 P **P** **20 34 36.8 -0.3**
ULN IAmb IAmb 20 34 38.8
comp=Z,23nm,0.9s
ULN Ulaanbaatar 48.00 348 *de*P **P** **20 34 37.6 +0.6**
ULN pmax pmax
comp=Z,24nm,1.0s
SONM Songino Array 48.10 348 P **P** **20 34 37.9 +0.1**
SONM IAmb IAmb 20 34 39.5
comp=Z,12nm,1.0s
SONM Songino Array 48.10 348 P **P** **20 34 38.4 +0.5**
comp=Z,10nm,0.9s,baz=166,slow=8.5,SNR=40
SONM pP **pwP** **20 34 47.9 -1.1**
comp=Z,7.1nm,0.8s,baz=164,slow=7.4,SNR=9.5
SONM LR LR 20 57 43.5
comp=Z,388nm,18.3s,baz=156,slow=40
comp=Z,10nm,0.9s
SONM Songino Array 48.10 348 P **P** **20 34 37.9 +0.1**
SONM pmax pmax
comp=Z,12nm,1.0s
KLR Kul'dur 49.07 10 *ce*P **P** **20 34 45.1 +0.1**
KLR pmax pmax
comp=Z,26nm,2.5s
HEH HeiHe 49.45 6 *e*P **P** **20 34 48.0 +0.1**
HEH pP **pwP** **20 34 58.3 -0.2**
HEH PP **PP** **20 36 43.6 +1.3**
HEH S **S** **20 41 50.6 -2.9**
HEH pmax pmax
comp=Z,42nm,0.9s
HEH pmax pmax
comp=Z,240nm,4.8s
HEH LR LR
comp=Z,310nm,16.9s
HEH LR LR
comp=Z,240nm,16.4s
HEH LR LR
comp=Z,340nm,15.3s
YSS Yuzh-Sakhalins 49.86 20 *e*P **P** **20 34 50.8 -0.3**
YSS *e* 20 36 43.2
YSS *e*S **S** **20 41 56.9 -2.5**
YSS pmax pmax
comp=Z,10.0nm,1.0s
DZM Mont Dzumac 50.75 120 *e*P **P** **20 34 58.7 +0.3**
comp=Z,50nm,1.4s
DZM *e*S **S** **20 42 16.7 +4.0**
comp=Z,322nm,31.2s
DZM Mont Dzumac 50.75 120 P **P** **20 34 57.1 -1.3**
DZM IAmb IAmb 20 35 10.1
comp=Z,64nm,1.6s
CIT Chita 51.11 355 *e*P **P** **20 35 01.2 +0.7**
CIT *e* 20 35 09.8
CIT *e* 20 36 54.0
CIT *e* 20 37 57.8
CIT pmax pmax
comp=Z,45nm,2.5s
YATNC Mamie plateau, 51.13 120 P **P** **20 35 02.9 +1.7**
ZAK Zakamensk 51.20 346 *e*P **P** **20 35 01.5 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.2s
WMQ Urumqi 51.41 330 *e*P **P** **20 35 04.5 +1.5**
WMQ pmax pmax
comp=Z,18nm,1.3s
WMQ LR LR
comp=Z,350nm,18.7s
WMQ LR LR
comp=Z,390nm,21.3s
WMQ LR LR
comp=Z,350nm,24.0s
ZEA Zeya 52.88 5 *e*P **P** **20 35 13.6 0.0**
ZEA *e*S **S** **20 42 44.7 +3.9**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
ZEA pmax pmax
comp=Z,100nm,5.0s
ZEA smax smax
comp=N,100nm,13.6s
ZEA MLR MLR
comp=N,200nm,14.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
MOY Mondy 52.95 345 *e*P **P** **20 35 15.1 +0.8**
MOY pmax pmax
comp=Z,34nm,2.9s
NIL Nilore 54.48 312 P **P** **20 35 24.2 -1.6**
NIL Nilore 54.48 312 P **P** **20 35 24.2 -1.6**
NIL pmax pmax
comp=Z,60nm,1.5s
KSH Kashi 55.45 319 P **P** **20 35 34.4 +1.6**
KSH pP pP 20 35 40.9 +0.8
KSH sP pwP 20 35 44.8 +0.7
KSH S **S** **20 43 19.4 +3.1**
KSH pmax pmax
comp=Z,9.0nm,1.0s
KSH LR LR
comp=Z,540nm,18.9s
KSH LR LR
comp=Z,230nm,16.3s
KSH LR LR
comp=Z,520nm,22.2s
MK31 Makanchi Array 56.21 330 P **P** **20 35 37.2 -0.8**
MK31 IAmb IAmb 20 35 50.2
comp=Z,20nm,1.1s
MK31 Makanchi Array 56.21 330 *de*P **P** **20 35 38.6 +0.6**
MKAR Makanchi Array 56.21 330 P **P** **20 35 37.7 -0.3**
MKAR Makanchi Array 56.21 330 P **P** **20 35 38.6 +0.6**
comp=Z,11nm,0.8s,baz=130,slow=7.8,SNR=87
MKAR pP **pwP** **20 35 49.0 -0.3**
comp=Z,16nm,0.9s,baz=128,slow=7.0,SNR=18
MKAR LR LR 21 02 48.6
comp=Z,223nm,18.9s,baz=112,slow=39
comp=Z,11nm,0.8s
MKAR Makanchi Array 56.21 330 P **P** **20 35 37.7 -0.3**
MAKZ Makanchi 56.38 329 P **P** **20 35 39.0 -0.2**
MAKZ IAmb IAmb 20 35 50.8
comp=Z,16nm,0.9s
MAKZ Makanchi 56.38 329 P **P** **20 35 39.0 -0.2**
MAKZ pmax pmax
comp=Z,16nm,1.0s
BOD Bodaibo 56.83 356 *e*P **P** **20 35 42.4 +0.3**
BOD pmax pmax
comp=Z,29nm,1.3s
BOOM Boomskoye usch 57.10 322 P **P** **20 35 44.4 -0.2**
BOOM IAmb IAmb 20 35 56.8
comp=Z,15nm,1.0s
BOOM Boomskoye usch 57.10 322 P **P** **20 35 44.4 -0.2**
BOOM pmax pmax
comp=Z,15nm,1.0s
KBL Kabul 58.02 311 P **P** **20 35 50.9 -0.4**
KBL IAmb IAmb 20 36 02.5
comp=Z,31nm,0.9s
KBL Kabul 58.02 311 P **P** **20 35 50.9 -0.4**
KBL pmax pmax
comp=Z,31nm,0.9s
AAK Ala-Archa 58.07 322 P **P** **20 35 52.1 +0.6**
AAK IAmb IAmb 20 36 03.9
comp=Z,18nm,0.8s
AAK Ala-Archa 58.07 322 LR LR 21 02 44.8
comp=Z,279nm,21.6s,baz=124,slow=38
AAK Ala-Archa 58.07 322 *de*P **P** **20 35 52.4 +1.0**
AAK pmax pmax
comp=Z,27nm,2.5s
DRK Karamyk 58.21 317 P **P** **20 35 52.5 -0.2**
DRK IAmb IAmb 20 36 04.7
comp=Z,17nm,0.7s
DRK Karamyk 58.21 317 P **P** **20 35 52.5 -0.2**
DRK pmax pmax
comp=Z,17nm,0.7s
ARSB Arslanbob 58.34 320 P **P** **20 35 52.6 -0.7**
ARSB Arslanbob 58.34 320 P **P** **20 35 52.6 -0.7**
ARSB pmax pmax
comp=Z,7.0nm,1.2s
GAR Garm 59.01 316 P **P** **20 35 57.6 -0.4**
BTK Batken 59.15 317 P **P** **20 35 58.6 -0.3**
BTK IAmb IAmb 20 36 15.6
comp=Z,13nm,0.9s
BTK Batken 59.15 317 P **P** **20 35 58.6 -0.3**
BTK pmax pmax
comp=Z,13nm,0.9s
CHGR Chuyangaron 59.66 315 P **P** **20 36 02.4 -0.1**
CHGR Chuyangaron 59.66 315 P **P** **20 36 02.4 -0.1**
CHGR pmax pmax
comp=Z,51nm,0.9s
SIMJ Simiganj 59.77 315 P **P** **20 36 02.5 -0.8**
SIMJ IAmb IAmb 20 36 14.5
comp=Z,22nm,0.9s
ZAA0 Zalesovo Array 60.18 337 IAmb IAmb 20 36 16.1
comp=Z,19nm,1.1s
ZALV Zalesovo Beam 60.18 337 P **P** **20 36 04.7 -0.9**
ZALV Zalesovo Beam 60.18 337 P **P** **20 36 05.0 -0.6**
comp=Z,15nm,1.0s,baz=130,slow=6.0,SNR=38
ZALV pP **pwP** **20 36 15.4 -1.5**
comp=Z,7.7nm,0.8s,baz=133,slow=6.3,SNR=9.3
ZALV LR LR 21 04 10.0
comp=Z,150nm,20.2s,baz=150,slow=38
comp=Z,15nm,1.0s
ZALV Zalesovo Beam 60.18 337 P **P** **20 36 04.7 -0.9**
PETK Petropavlovsk- 60.58 25 P **P** **20 36 08.5 +0.2**
comp=Z,4.1nm,0.8s,baz=208,slow=9.0,SNR=3.1
PETK pP **sP** **20 36 18.3 -0.7**
comp=Z,6.1nm,0.7s,baz=219,slow=6.2,SNR=5.5
PETK LR LR 21 01 31.4
comp=Z,126nm,20.4s,baz=221,slow=35
comp=Z,4.1nm,0.8s
KURBB Kurchatov Arra 60.61 331 P **P** **20 36 09.1 +0.5**
comp=Z,9.8nm,0.8s,baz=137,slow=6.8,SNR=23
KURBB pP **pwP** **20 36 19.6 -0.4**
comp=Z,1.8nm,0.4s,baz=50,slow=24,SNR=4.9
KURBB LR LR 21 06 22.1
comp=Z,226nm,18.0s,baz=156,slow=40
comp=Z,9.8nm,0.8s
KURK Kurchatov 60.63 331 *d i*P **P** **20 36 09.2 +0.5**
KURK pmax pmax
comp=Z,29nm,0.8s
KKAR Karatay Array 60.82 320 P **P** **20 36 09.2 -1.0**
KKAR Karatay Array 60.82 320 P **P** **20 36 09.2 -1.0**
YAK Yakutsk 61.29 5 P **P** **20 36 12.7 -0.3**
YAK IAmb IAmb 20 36 25.0

comp=Z,27nm,0.9s
YAK Yakutsk 61.29 5 LR LR 21 04 24.8
comp=Z,156nm,19.4s,baz=186,slow=38
YAK Yakutsk 61.29 5 *e*P **P** **20 36 12.5 -0.5**
YAK *e* 20 38 24.9
YAK *e*S **S** **20 44 29.2 -2.2**
YAK *e**SS sS 20 44 53.6 +10
YAK *e* 20 45 58.9
YAK *e*SS **SS** **20 48 28.6 -3.5**
YAK pmax pmax
comp=Z,16nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK pmax pmax
comp=Z,79nm,3.4s
YAK pmax pmax
comp=N,39nm,3.5s
YAK smax smax
comp=E,121nm,4.1s
YAK smax smax
comp=N,125nm,3.8s
MA2 Magadan 63.09 17 LR LR 21 07 34.1
comp=N,62nm,18.1s,baz=192,slow=40
WSAR Wadi Sarin 63.43 295 LR LR 21 07 48.5
comp=N,138nm,19.1s,baz=122,slow=40
URZ Urewera 65.37 133 LR LR 21 04 14.1
comp=N,428nm,21.9s,baz=32,slow=35
BVAR Borovoye Array 66.09 330 P **P** **20 36 44.5 -0.3**
comp=N,6.5nm,0.8s,baz=134,slow=8.5,SNR=34
BVAR pP **pwP** **20 36 54.8 -1.5**
comp=N,11nm,0.7s,baz=107,slow=11,SNR=19
BVAR LR LR 21 08 31.9
comp=N,165nm,20.8s,baz=119,slow=39
comp=N,6.5nm,0.8s
BRVK Borovoye 66.16 330 P **P** **20 36 45.3 0.0**
BRVK lAmb lAmb 20 36 57.2
comp=Z,23nm,1.1s
BRVK Borovoye 66.16 330 *de*P **P** **20 36 45.5 +0.2**
BRVK pmax pmax
comp=Z,12nm,1.0s
SEY Seymchan 66.29 16 LR LR 21 07 39.1
comp=Z,187nm,18.4s,baz=204,slow=38
RAO Raoul Island 66.37 123 LR LR 21 05 04.9
comp=Z,162nm,21.4s,baz=107,slow=35
GEYT Alibeck 67.47 311 P **P** **20 36 53.6 -0.4**
GEYT lAmb lAmb 20 37 06.0
comp=Z,16nm,0.9s
GEYT Alibeck 67.47 311 P **P** **20 36 54.6 +0.6**
comp=Z,1.7nm,0.8s,baz=183,slow=5.8,SNR=6.9
GEYT pP **pwP** **20 37 05.1 +0.2**
comp=Z,12nm,0.9s,baz=120,slow=7.4,SNR=18
comp=Z,1.7nm,0.8s
GEYT Alibeck 67.47 311 P **P** **20 36 53.6 -0.4**
GEYT pmax pmax
comp=Z,16nm,0.9s
CASY Casey 67.50 184 P **P** **20 36 53.6 +0.1**
CASY lAmb lAmb 20 36 54.5
comp=Z,18nm,1.1s
ABKAR Akbulak array 70.11 323 P **P** **20 37 10.6 +0.4**
ABKAR Akbulak array 70.11 323 lAmb lAmb 20 37 21.6
comp=Z,13nm,0.8s
TIXI Tiksi 70.75 3 P **P** **20 37 12.2 -1.4**
TIXI lAmb lAmb 20 37 23.9
comp=Z,7.4nm,0.8s
TIXI Tiksi 70.75 3 LR LR 21 11 04.8
comp=Z,258nm,20.8s,baz=199,slow=38
TIXI Tiksi 70.75 3‖ *e*P **P** **20 37 12.7 -0.9**
TIXI pmax pmax
comp=Z,18nm,2.5s
AKTO Aktyubinsk 71.72 324 LR LR 21 13 35.1
comp=Z,143nm,18.5s,baz=50,slow=40
SVE Sverdlovsk 72.86 330 *e*P **P** **20 37 27.3 +0.7**
SVE pmax pmax
comp=Z,51nm,0.9s
ARU Arti 73.73 329 P **P** **20 37 30.9 -0.9**
ARU lAmb lAmb 20 37 42.6
comp=Z,28nm,0.9s
ARU Arti 73.73 329 LR LR 21 13 22.1
comp=Z,127nm,21.6s,baz=74,slow=38
ARU Arti 73.73 329 *d*/P **P** **20 37 31.7 0.0**
ARU 20 37 50.8
ARU S **S** **20 47 04.3 +3.3**
ARU pmax pmax
comp=Z,8.0nm,0.9s
ARU Arti 73.73 329 P **P** **20 37 31.2 -0.5**
comp=Z,36nm,0.9s
BILL Bilibino 73.95 16 *e*P **P** **20 37 32.8 0.0**
MAK Makhachkala 76.55 314 *e*P **P** **20 37 46.1 -2.2**
MAK *e* 20 40 43.0
MAK *e*S **S** **20 47 26.8 -6.0**
MAK pmax pmax
comp=Z,50nm,0.9s
GROC Groznyy 77.83 314 *e*P **P** **20 37 55.1 -0.4**
GROC *e* 20 38 05.4
GROC pmax pmax
comp=Z,5.0nm,0.5s
GNI Garni 78.11 311 P **PKiKP** **20 43 34.2 -0.8**
comp=Z,8.1nm,1.4s
BELG Belogornoye 78.50 323 LR LR 21 17 16.2
comp=Z,89nm,18.4s,baz=83,slow=39
MAW Mawson 78.96 199 LR LR 21 09 02.6
comp=Z,152nm,20.3s,slow=33
KIRV Kirov 79.11 330‖ *e*P **P** **20 38 02.6 +0.5**
KBZ Khabaz 80.00 314 P **P** **20 38 07.9 +0.6**
comp=Z,1.2nm,0.6s,baz=18,slow=3.2,SNR=1.3
KBZ pP **pwP** **20 38 18.1 -0.4**
comp=Z,6.1nm,0.9s,baz=120,slow=3.3,SNR=9.5
KBZ LR LR 21 20 15.5
comp=Z,121nm,19.4s,baz=74,slow=41
comp=Z,1.2nm,0.6s
KBZ Khabaz 80.00 314‖ *e*P **P** **20 38 08.7 +1.4**
KBZ pmax pmax
comp=Z,2.0nm,0.9s
KVAR Kislovodsk Arr 80.17 314 LR LR 21 20 10.7
comp=Z,94nm,18.8s,baz=254,slow=40
KIV Kislovodsk 80.18 314‖ *e*P **P** **20 38 08.9 +0.4**
KIV 20 38 18.0
KIV *i*S **S** **20 48 13.9 +1.9**
KIV *e*PS **PnS** **20 48 56.1 -3.0**
KIV pmax pmax
comp=Z,2.0nm,0.9s
KIV MLR MLR
comp=Z,93nm,21.0s
VNDA Vanda 81.68 172 P **P** **20 38 15.2 -0.4**
VNDA Vanda 81.68 172 P **P** **20 38 15.0 -0.7**
comp=Z,3.2nm,0.9s,baz=315,slow=4.2,SNR=16
VNDA LR LR 21 14 28.0
comp=Z,315nm,20.5s,baz=345,slow=36
comp=Z,3.2nm,0.9s
VNDA Vanda 81.68 172 P **P** **20 38 15.2 -0.4**
VNDA pmax pmax
comp=Z,6.0nm,1.1s
VRH Novokhopyorsk 81.88 322 *e*P **P** **20 38 20.9 +3.7**
VRH pmax pmax
comp=Z,20nm,1.0s
SOC Sochi 82.27 314 *e*P **P** **20 38 18.3 -1.1**
SOC *e* 20 41 25.5
SOC *e*PPP PPP 20 43 18.3
SOC *e*S **S** **20 48 34.5 +1.0**
SOC *e*SS **SS** **20 53 52.4 -1.6**
SOC *e*SSS SSS 20 57 24.1
SOC pmax pmax
comp=Z,15nm,0.9s
SBA Scott Base 82.66 171 P **P** **20 38 21.0 +0.2**
SBA lAmb lAmb 20 38 59.5
comp=Z,25nm,1.6s
SBA Scott Base 82.66 171 P **P** **20 38 21.0 +0.2**
SBA pmax pmax
comp=Z,25nm,1.7s
VORD Divnogorie 83.36 321 *e*P **P** **20 38 26.3 +1.4**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VSR Storozhevoye 83.47 321 *e*P **P** **20 38 24.3 -1.2**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORR Voronezh 83.50 322 *e*P **P** **20 38 30.3 +4.7**
VORR pmax pmax
comp=Z,30nm,0.4s
LPSR Galich'ya Gora 83.77 323 *e*P **P** **20 38 26.9 -0.1**
LPSR pmax pmax
comp=Z,20nm,0.8s
D17K Noatak River 84.09 22 P **P** **20 38 30.5 +2.1**
baz=258
KLMR Klimovskoe 84.48 331 *e*P **P** **20 38 30.4 0.0**
KLMR pmax pmax
comp=Z,34nm,1.0s
N16K Nishlik Lake 84.77 29 P **P** **20 38 32.9 +0.9**
baz=263
H17K Granite Mounta 84.86 25 P **P** **20 38 34.2 +1.9**
baz=262
MOS Moscow 84.87 326 *e*P P 20 38 40.7 +8.2
MOS pmax pmax
comp=Z,30nm,0.7s
MMAI Mount Meron Ar 84.93 303 P **P** **20 38 34.5 +1.1**
comp=Z,1.2nm,0.7s,baz=63,slow=6.6,SNR=2.4
MMAI pP **pwP** **20 38 45.0 +0.3**
comp=Z,9.0nm,0.8s,baz=96,slow=7.8,SNR=14
MMAI LR LR 21 24 45.5
comp=Z,71nm,18.2s,baz=50,slow=42
comp=Z,1.2nm,0.7s
E18K Tukpahlearik C 84.98 22 P **P** **20 38 33.4 +0.5**
E18K lAmb lAmb 20 39 00.0
comp=Z,11nm,1.1s
EIL Elat 85.21 300 LR LR 21 21 29.6
comp=Z,109nm,18.1s,baz=75,slow=39
C19K Lookout Ridge 85.62 21 **P** **20 38 37.6 +1.5**
C19K lAmb lAmb 20 38 50.2
comp=Z,36nm,1.4s
D19K Kuna River 86.06 21 P **P** **20 38 39.9 +1.6**
baz=263
J18K Innoko River 86.07 27 **P** **20 38 38.3 -0.1**
J18K lAmb lAmb 20 39 06.4
comp=Z,27nm,2.0s
J18K Innoko River 86.07 27 P **P** **20 38 40.0 +1.6**
baz=264
E19K Redstone River 86.27 23 lAmb lAmb 20 39 07.1
comp=Z,15nm,1.1s
BR104 Keskin Array S 86.56 310 P **P** **20 38 41.0 -0.5**
comp=Z,11nm,1.0s,comp=Z,80nm
BR131 Keskin Array S 86.56 310 lAmb lAmb 20 38 52.1
comp=Z,10nm,0.8s
BR131 Keskin Array S 86.56 310‖ *e*P **P** **20 38 41.9 +0.4**
BRTR Keskin Array B 86.56 310 P **P** **20 38 40.5 -1.0**
BRTR Keskin Array B 86.56 310 P **P** **20 38 41.7 +0.2**
comp=Z,2.5nm,0.8s,baz=124,slow=5.4,SNR=18
BRTR pP **sP** **20 38 51.5 -0.5**
comp=Z,8.2nm,0.8s,baz=129,slow=5.7,SNR=24
BRTR LR LR 21 24 27.2
comp=Z,65nm,18.7s,baz=111,slow=40
comp=Z,2.5nm,0.8s
BRTR Keskin Array B 86.56 310 P **P** **20 38 40.5 -1.0**
BR105 Keskin Array S 86.58 310 P **P** **20 38 41.1 -0.5**
comp=Z,12nm,0.9s,comp=Z,85nm
BR106 Keskin Array S 86.58 310 P **P** **20 38 41.7 +0.1**
comp=Z,11nm,0.9s,comp=Z,78nm
CSS Mathiatis 86.70 305 P **P** **20 38 41.9 -0.2**
CSS lAmb lAmb 20 38 53.7
comp=Z,20nm,0.8s
CSS Mathiatis 86.70 305 P **P** **20 38 42.9 +0.8**
comp=Z,28nm,0.8s
F20K Avaraart Lake 86.81 23 P **P** **20 38 43.6 +1.7**
F20K lAmb lAmb 20 39 09.1
comp=Z,15nm,1.7s
E21K Killik River 87.58 22 P **P** **20 38 47.4 +1.7**
baz=267
KDAK Kodiak Island 87.75 32 LR LR 21 15 28.5
comp=Z,175nm,20.3s,baz=263,slow=34
F22K John River 88.22 23 P **P** **20 38 50.8 +2.1**
baz=268
E22K Anaktuvuk Pass 88.37 22 P **P** **20 38 51.5 +2.0**
baz=269
AK09 Malin Array Si 89.69 320 P **P** **20 38 54.9 -1.0**
AK10 Malin Array Si 89.71 320 P **P** **20 38 54.8 -1.2**
AKASG Malin Array Be 89.72 321 P **P** **20 38 55.1 -0.9**
comp=Z,0.2nm,0.3s,baz=73,slow=4.5,SNR=4.3
AKASG pP **sP** **20 39 05.3 -1.3**
comp=Z,5.5nm,0.9s,baz=77,slow=4.4,SNR=7.7
AKASG LR LR 21 23 05.3
comp=Z,80nm,21.5s,baz=92,slow=38
comp=Z,0.2nm,0.3s
AKBB Malin Array Si 89.72 321 P **P** **20 38 54.9 -1.2**
KIEV Kiev 89.73 321 P **P** **20 38 54.6 -1.5**
AK07 Malin Array Si 89.74 320 P **P** **20 38 55.2 -1.0**
AK15 Malin Array Si 89.79 321 P **P** **20 38 56.3 -0.1**
AK14 Malin Array Si 89.80 320 P **P** **20 38 55.8 -0.7**
ILAR Eielson Array 90.41 25 P **P** **20 38 58.4 -0.6**
comp=Z,0.3nm,0.6s,baz=258,slow=4.3,SNR=3.1
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 90.64 339 P **P** **20 39 00.3 +0.3**
comp=Z,2.3nm,0.8s,baz=60,slow=5.3,SNR=2.5
comp=Z,2.3nm,0.8s
LUBAR Lubar, Ukraine 90.69 320 P **P** **20 38 59.4 -1.2**
PPT2 Papeete2 90.69 107 *e*S **S** **20 50 00.8 +4.3**
comp=Z,86nm,25.5s
PPT2 Papeete2 90.69 107 *e*LR LR 21 07 56.0
comp=Z,126nm,22.2s
PPT2 *e*LR LR 21 07 59.7
comp=Z,145nm,23.5s
TBI Tubuai 90.88 113 *e*S **S** **20 49 51.1 -6.7**
comp=Z,476nm,27.5s
TBI Tubuai 90.88 113 *e*LR LR 21 07 59.7
comp=Z,645nm,25.0s
QSPA South Pole Qui 90.95 180 P **P** **20 39 01.5 -0.1**
QSPA South Pole Qui 90.95 180 P **P** **20 39 01.5 -0.1**
comp=Z,3.8nm,0.6s,baz=298,slow=0.8,SNR=27
QSPA LR LR 21 19 08.1
comp=Z,253nm,20.7s,baz=343,slow=35
comp=Z,3.8nm,0.6s
FINES FINESS Array B 91.00 331 P **P** **20 39 01.8 0.0**
comp=Z,2.3nm,1.1s,baz=90,slow=2.8,SNR=1.4
FINES pP **sP** **20 39 11.3 -1.6**
comp=Z,2.9nm,0.9s,baz=183,slow=29,SNR=2.5
comp=Z,2.3nm,1.1s
NDNU Novodnistrovsk 91.00 318 P **P** **20 39 00.6 -1.5**
C27K Jago River 91.24 20 P **P** **20 39 04.7 +1.9**
baz=276
KMPD K-Podol'skiy 91.61 318 P **P** **20 39 04.6 -0.3**
KMPD P **PcP** **20 39 05.5 -0.3**
MATP Matopo 91.78 250 LR LR 21 18 44.2
comp=Z,118nm,19.1s,baz=61,slow=34
SPITS Spitsbergen Ar 91.79 348 LR LR 21 26 45.3
comp=Z,180nm,18.1s,baz=34,slow=40
I26K Coal Creek Min 91.94 25 P **P** **20 39 06.8 +0.7**
baz=277
LSZ Lusaka 92.04 255 LR LR 21 18 02.6
comp=Z,143nm,20.6s,baz=104,slow=34
MLR Muntele Rosu 92.14 315 LR LR 21 26 56.1
comp=Z,127nm,20.2s,baz=73,slow=40
E27K Coleen River 92.18 22 P **P** **20 39 08.3 +1.1**
baz=278
BURAR Bucovina Array 92.50 318 P **P** **20 39 09.1 -0.1**
BUR08 Bucovina Ar. S 92.51 318 P **P** **20 39 08.9 -0.4**
BUR08 lAmb lAmb 20 39 37.6
comp=Z,12nm,1.6s
I27K Kandik River 92.54 24 P **P** **20 39 11.2 +2.2**
baz=278
YUK3 Moose Creek 93.61 28 P **P** **20 39 14.0 -0.2**
baz=279
KOLS Kolonicke sedl 94.33 319 *e*P **P** **20 39 21.2 +3.7**
KOLS *e* 20 39 28.4
KOLS Kolonicke sedl 94.33 319 *e*P **P** **20 39 21.2 +3.7**
KOLS *e* 20 39 28.4
F30M Barrier River 94.45 22 P **P** **20 39 19.1 +1.5**
baz=284
BOSA Boshof 94.67 242 LR LR 21 18 49.1
comp=Z,148nm,19.5s,baz=116,slow=33
HFS Hagfors 97.20 331 LR LR 21 28 50.5
comp=Z,122nm,18.3s,baz=77,slow=39
VRAC Vranov 97.97 320 LR LR 21 30 01.0
comp=Z,104nm,18.3s,baz=72,slow=39
NOA NORSAR Array B 98.13 332 LR LR 21 29 37.3
comp=Z,97nm,18.3s,baz=80,slow=39
SUR Sutherland 98.33 238 LR LR 21 19 05.8
comp=Z,134nm,20.3s,baz=102,slow=32
DLBC Dease Lake 99.46 30 LR LR 21 27 21.0
comp=Z,68nm,18.3s,baz=306,slow=37
CLL Collm 99.78 322 *e*P/dif **Pdif** **20 39 39.0 -3.1**
CLL *e*SKSac **SKSac** **20 50 18.0 -1.0**
CLL *e*S/dif **ScS** **20 51 06.0 -8.2**
CLL *e*PS **PS** **20 52 41.0 -4.3**
CLL *e*PPS PPS 20 53 29.0
CLL *e*SS **SS** **20 58 08.0 +2.1**
CLL *ex* x 21 00 18.0
CLL *ex* x 21 03 41.0
CLL AMS AMS 21 34 00.0
comp=Z,200nm,18.8s
CLL Collm 99.78 322 *e*P **Pdif** **20 39 37.0 -5.1**
CLL *e* 20 50 18.0
CLL *e*S **ScS** **20 51 06.0 -8.2**
GERES GERESS Array B 99.92 320 LR LR 21 31 09.8
comp=Z,130nm,18.9s,baz=74,slow=39
TORD Torodi Ar. Bea 117.27 285 PKP **PKPdf** **20 44 43.7 -0.5**
comp=Z,0.3nm,0.8s,baz=132,slow=2.6,SNR=1.9
TORD PKKPab **PKKPab** **20 55 11.8 0.0**
comp=Z,0.6nm,0.8s,baz=317,slow=5.9,SNR=4.7
TXAR Lajitas Array 128.51 50 PKP **PKPdf** **20 45 04.9 -0.7**
comp=Z,0.2nm,0.7s,baz=258,slow=1.8,SNR=2.9
PLCA Paso Flores 139.33 168 PKP **PKPdf** **20 45 25.7 +0.2**
comp=Z,3.1nm,0.9s,baz=252,slow=3.2,SNR=3.3
PEL Peldehue 146.50 164 **PKPdf** **20 45 36.4 -2.0**
PEL PKPbc **PKPbc** **20 45 40.0 +0.3**
PEL Peldehue 146.50 164 PKP2 **PKPbc** **20 45 40.0 +0.3**
ZON Zonda 148.55 166 **PKPbc** **20 45 45.0 -0.4**
ZON Zonda 148.55 166 PKP2 **PKPbc** **20 45 45.0 -0.4**
CO03 El Pedregal 148.66 162 **PKPbc** **20 45 45.4 -0.3**
LPAZ La Paz 162.83 153 PKP **PKPdf** **20 46 02.2 +0.4**
comp=Z,2.4nm,0.9s,baz=349,slow=0.6,SNR=8.3

MOS ***18*** *20:31:33.9±0.9, 1°.11N×120°.12E, h10km, mb5.2/46, Error ellipse: s-maj=11.4km s-min=5.4km az=113.2*
NEIC ***18*** *20:31:36.4±1.3, 1°.08N±0°.05×120°.04E±0°.04, h10km±1km, mb5.1/113, Error ellipse: s-maj=8.7km s-min=6.9km az=190.0*
BJI ***18*** *20:31:36.3±0.0, 0°.99N×120°.07E, h25km, mb4.7/62, mB5.1/32, Ms4.6/32, Ms7 4.4/33*
DJA ***18*** *20:31:37.9±0.5, 1°.N±2°×12°.0E±°, h10km±4km, M5.2/31, mB6.2/4, mb4.9/31, MLv5.1/17, Mw4.8/8, Mw(mB)5.8/4, MwMwp5.5/1, Mwp5.7/1*
IDC ***18*** *20:31:39.0±0.5, 1°.06N×120°.14E, h32km±3km, mb4.4/24, mbtmp4.6/27, ML3.9/3, Error ellipse: s-maj=19.1km s-min=9.6km az=71.0*
GCMT ***18*** *20:31:39.4±0.4, 1°.51N±0°.02×120°.18E±0°.04, h35km, MW5.1/67, Moment Tensor Solution. s25,c29; s67,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr6.16±.38; Mθθ-4.06±.20; Mφφ-2.10±.22; Mrθ-1.99±.16; Mθφ-0.97±.10; Mφr0.25±.24; Best double couple: M0 5.65200×10^16 NP1:φs256.00000°, δ55.00000°, λ98.00000°. NP2: φs63.00000°, δ36.00000°, λ79.00000°. Principal axes: T 6.5550, Plg79.0000°, Azm195.0000°; N -1.8060, Plg6.0000°, Azm72.0000°; P -4.7490, Plg9.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 18 20:31:38.9±0.4, 1°.03N±0°.03×120°.07E±0°.04, h31km±2km, h34km: pP-P, n330, σ1§41/352, mb5.0/124, MS4.5/11, 14C-12D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op	ISC		
MPSI	**Mapaga**	**0.71**	**194**	P	**Pn**	**20 31 53.5**	**+0.6**
TOLI2	**Tolitoli**	**0.72**	**84**		**Pn**	**20 31 53.0**	**0.0**
TOLI2				Sg	**Sn**	**20 32 02.9**	**0.0**
GTOI	**Gorontalo**	**2.97**	**98**	P	**Pb**	**20 32 27.4**	**-3.8**
GTOI	**Gorontalo**	**2.97**	**98**	P	**Pn**	**20 32 24.7**	**+0.8**
LUWI	**Luwuk**	**3.40**	**127**	Pn	**Pn**	**20 32 31.2**	**+1.3**
LUWI	**Luwuk**	**3.40**	**127**	P	**Pb**	**20 32 36.7**	**-1.8**
LUWI	**Luwuk**	**3.40**	**127**	P	**Pn**	**20 32 33.5**	**+3.6**
BKB	**Balikpapan**	**3.91**	**234**	Pn	**Pn**	**20 32 35.2**	**-1.6**
BKB	**Balikpapan**	**3.91**	**234**	P	**Pn**	**20 32 35.7**	**-1.1**
KMSI	**Cibinong**	**3.94**	**97**	P	**Pn**	**20 32 41.7**	**+4.4**
TTSI	**Tana Toraja**	**4.06**	**184**	P	**Pb**	**20 32 45.4**	**-4.4**
TTSI	**Tana Toraja**	**4.06**	**184**	P	**Pn**	**20 32 42.4**	**+3.4**
MYLDM	**Lahad Datu**	**4.41**	**339**	Pn	**Pn**	**20 32 42.9**	**-0.9**
MTKI	**Muara Teweh, K** 190nm,0.6s,1.2nm	**5.53**	**249**	P	**Pn**	**20 32 59.9**	**+0.7**
MTKI	**Muara Teweh, K** 190nm,0.6s,1.2nm	**5.53**	**249**	P	**Pn**	**20 32 59.7**	**+0.5**
KAPI	**Kappang**	**6.02**	**183**		**Pn**	**20 33 06.2**	**+0.3**
KAPI	**Kappang** 1.2nm,0.3s,baz=354,slow=11,SNR=3.8	**6.02**	**183**	Pn	**Pn**	**20 33 06.3**	**+0.4**
KAPI	2.0nm,0.3s,baz=229,slow=19,SNR=1.3 19nm,0.7s			Sn	**Sn**	**20 34 12.5**	**-1.2**
KAPI	**Kappang**	**6.02**	**183**‖	*e*P	**Pn**	**20 33 08.6**	**+2.7**
KAPI	comp=Z,28nm,1.1s			pmax	pmax		
SANI	**Sanana**	**6.66**	**117**	P	**Pn**	**20 33 18.1**	**+3.3**
	comp=Z,54nm,1.0s,comp=Z,0.6nm						
BBSI	**Bau Bau**	**6.94**	**159**	P	**Pn**	**20 33 21.0**	**+2.4**
BBSI	**Bau Bau**	**6.94**	**159**	P	**Pn**	**20 33 21.2**	**+2.6**
	comp=Z,242nm,0.9s,comp=Z,0.8nm						
TNTI	**Ternate**	**7.30**	**92**	Pn	**Pn**	**20 33 21.9**	**-1.6**
TNTI	**Ternate**	**7.30**	**92**	P	**Pn**	**20 33 25.7**	**+2.2**
	comp=Z,51nm,1.2s,comp=Z,0.2nm						
LBMI	**Labuha**	**7.62**	**103**	P	**Pn**	**20 33 32.3**	**+4.4**
	comp=Z,219nm,0.9s,comp=Z,3.0nm						
LBMI	**Labuha**	**7.62**	**103**	P	**Pn**	**20 33 30.6**	**+2.7**
	comp=Z,219nm,0.9s,comp=Z,3.0nm						
SBUM	**Sibu**	**7.97**	**280**	Pn	**Pn**	**20 33 32.2**	**-0.5**
DAV	**Davao City (W)**	**8.13**	**42**	Pn	**Pn**	**20 33 33.3**	**-1.7**
KSM	**Kuching**	**9.77**	**273**	Pn	**Pn**	**20 33 55.6**	**-1.8**
PLAI	**Plampang**	**10.06**	**193**	P	**Pn**	**20 34 04.6**	**+3.2**
SRBI	**Singaraja**	**10.27**	**208**	P	**Pn**	**20 34 07.1**	**+2.8**
SWI	**Sorong** comp=Z,28nm,1.2s	**11.35**	**100**	P	**Pn**	**20 34 22.1**	**+3.1**
SOEI	**Soe**	**11.50**	**159**	Pn	**Pn**	**20 34 22.0**	**+0.7**
SOEI	**Soe** comp=Z,94nm,1.1s	**11.50**	**159**	P	**Pn**	**20 34 25.3**	**+4.0**
BATI	**Baumata** comp=Z,0.8nm,0.3s,baz=262,slow=22,SNR=1.9 comp=Z,50nm,1.2s	**11.73**	**162**	Pn	**Pn**	**20 34 23.4**	**-0.9**
BATI	**Baumata** comp=Z,92nm,1.0s	**11.73**	**162**	P	Pn	20 34 29.1	+4.9
PWJI	**Pageriwoio** comp=Z,43nm,1.4s	**12.20**	**222**	P	**Pn**	**20 34 33.6**	**+2.9**
FAKI	**Fak Fak**	**12.79**	**108**	Pn	**Pn**	**20 34 38.4**	**-0.5**
LEM	**Lembang** comp=Z,1.2nm,0.3s,baz=119,slow=19,SNR=1.6 comp=Z,11nm,0.6s	**14.68**	**238**	Pn	**Pn**	**20 35 05.8**	**+1.1**
SBJI	**Serang** comp=Z,114nm,0.5s,comp=Z,4µm	**15.63**	**243**	P	**Pn**	**20 35 17.2**	**+0.1**
SKJI	**Sukabumi** comp=Z,103nm,0.7s	**15.67**	**239**	P	**P**	**20 35 19.8**	**-1.7**
DLV	**T Lat**	**15.80**	**314**	P	**Pn**	**20 35 18.5**	**-1.0**
MYKOM	**Kota Tinggi**	**16.23**	**273**	P	**P**	**20 35 27.0**	**-0.7**
LWLI	**Liwa** comp=Z,85nm,1.1s	**17.09**	**249**	P	**P**	**20 35 40.1**	**+2.8**
MTN	**Manton Dam** baz=18,SNR=11	**17.62**	**142**	P	**P**	**20 35 44.1**	**+1.1**
MTN	**Manton Dam**	**17.62**	**142**		**P**	**20 35 42.9**	**-0.2**
MTN	comp=Z,69nm,0.9s			lAmb	lAmb	20 35 46.6	
KDU	**Kakadu** baz=18,SNR=7.8	**18.37**	**138**	P	**Pn**	**20 35 51.9**	**+0.5**
IPM	**Ipoh**	**19.32**	**281**	P	**P**	**20 36 01.8**	**0.0**
PDSI	**Padang** comp=Z,34nm,1.3s	**19.70**	**264**	P	**Pn**	**20 36 07.4**	**-0.2**
FITZ	**Fitzroy Crossi** baz=20,SNR=17	**19.79**	**164**	P	**Pn**	**20 36 07.9**	**-0.6**
FITZ	**Fitzroy Crossi**	**19.79**	**164**	P	**P**	**20 36 07.1**	**+0.3**
KULM	**Kulim**	**19.84**	**283**	P	**Pn**	**20 36 08.5**	**-0.7**
UBPT	**Khong Chiam**	**20.20**	**315**	P	**P**	**20 36 11.1**	**-0.2**
QIZ	**Qiongzhong**	**20.50**	**331**	P	**P**	**20 36 15.0**	**+0.4**
QIZ				S	Sn	20 40 06.6	-0.8
QIZ	comp=Z,18nm,1.0s			pmax	pmax		
QIZ	**Qiongzhong**	**20.50**	**331**	P	**P**	**20 36 14.4**	**-0.2**
JAY	**Jayapura** comp=Z,35nm,1.0s	**20.93**	**100**	P	Pn	20 36 22.4	+0.4
JAY	**Jayapura** comp=Z,35nm,1.0s	**20.93**	**100**	P	Pn	20 36 21.2	-0.8
SISI	**Saibi** comp=Z,81nm,1.2s	**21.11**	**264**	P	**P**	**20 36 22.5**	**+1.3**
TWG	**Pinlang**	**21.68**	**3**	P	**P**	**20 36 26.4**	**-0.9**
SRIT	**Nakonsritamara**	**21.72**	**291**	P	**P**	**20 36 26.2**	**-1.6**
HKPS	**Hong Kong Po S**	**21.89**	**345**	P	**P**	**20 36 28.5**	**-1.1**
MBWA	**Marble Bar**	**22.06**	**181**	P	**P**	**20 36 30.7**	**-0.7**
MBWA	comp=Z,31nm,0.8s			lAmb	lAmb	20 36 34.8	
TPUB	**Ta-pu**	**22.14**	**1**	P	**P**	**20 36 31.2**	**-1.0**
TPUB	comp=Z,62nm,1.1s			lAmb	lAmb	20 36 49.7	
YULB	**Yu-li**	**22.26**	**3**	P	**P**	**20 36 31.9**	**-1.6**
YULB	comp=Z,30nm,0.8s			lAmb	lAmb	20 36 40.8	
PSA00	**Pilbara Seismi**	**22.47**	**181**	P	**P**	**20 36 35.2**	**-0.5**
PSA00	comp=Z,49nm,0.9s			lAmb	lAmb	20 36 38.2	
PSA00	**Pilbara Seismi**	**22.47**	**181**	P	**P**	**20 36 35.0**	**-0.7**
PSA00	comp=Z,29nm,1.1s			lAmb	lAmb	20 36 38.1	

GSI **Gunungsitoli** 22.49 271 P **P** **20 36 34.7 -1.4**
GSI lAmb lAmb 20 36 57.8
comp=Z,53nm,1.0s
SSLB Suanglung 22.64 2 P **P** **20 36 35.9 -1.7**
SSLB lAmb lAmb 20 37 11.7
comp=Z,43nm,1.2s
YHNB Yeheng 23.53 3 P **P** **20 36 44.7 -2.0**
YHNB lAmb lAmb 20 36 59.0
comp=Z,30nm,1.0s
SNSI Sinabang, Aceh 23.77 274 P **P** **20 36 51.0 +2.0**
comp=Z,40nm,0.6s
TATO Taipei 23.84 3 P **P** **20 36 48.3 -1.2**
TATO lAmb lAmb 20 36 49.5
comp=Z,54nm,1.1s
WB0 Warramunga Arr 25.00 147 P **P** **20 36 59.2 -0.9**
WRAB Tennant Creek 25.11 147 P **P** **20 37 00.0 -1.2**
WRAB Tennant Creek 25.11 147 *c iP* **P** **20 37 01.0 -0.2**
WRAB pmax pmax
comp=Z,115nm,0.9s
WRA Warramunga Arr 25.11 147 P **P** **20 37 00.8 -0.4**
WRA Warramunga Arr 25.11 147 P **P** **20 37 00.3 -0.9**
comp=Z,101nm,0.9s,baz=326,slow=10,SNR=91
WRA Warramunga Arr 25.11 147 *i* P **P** **20 37 01.0 -0.2**
WRA pmax pmax
comp=Z,101nm,0.9s
WB2 Warramunga Arr 25.11 147 P **P** **20 37 00.7 -0.5**
WR0 Warramunga Arr 25.23 147 P **P** **20 37 01.4 -0.9**
SLVN Son La 25.61 323 P **P** **20 37 05.6 -0.2**
GULI GuiLin 25.87 340 ⇑P P 20 37 16.9 +8.8
GULI pmax pmax
comp=Z,10.0nm,1.6s
PHRA Phrae 26.08 313 P **P** **20 37 10.6 +0.5**
JOW Kunigami 26.84 16 P **P** **20 37 16.2 -0.5**
JMZ Minamidaito 2 26.89 23 P **P** **20 37 16.5 -0.7**
CM31 Chiang Mai Arr 27.01 311 P **P** **20 37 17.9 -0.6**
CMAR Chiang Mai Arr 27.01 311 P **P** **20 37 16.3 -2.2**
CMAR Chiang Mai Arr 27.01 311 P **P** **20 37 18.4 -0.1**
comp=Z,3.9nm,0.8s,baz=133,slow=7.0,SNR=21
CMAR pP **sP** **20 37 28.3 -1.7**
comp=Z,11nm,0.9s,baz=141,slow=7.6,SNR=14
comp=Z,3.9nm,0.8s
CMAR Chiang Mai Arr 27.01 311 *i* P **P** **20 37 18.8 +0.3**
CMAR pmax pmax
comp=Z,4.0nm,0.9s
CRAI Chiangrai 27.11 316 P **P** **20 37 18.5 -0.8**
WRKA Warakurna 27.11 163 P **P** **20 37 20.2 +0.9**
baz=27,SNR=21
CHTO Chiang Mai 27.23 312 P **P** **20 37 20.0 -0.4**
CHTO lAmb lAmb 20 37 32.3
comp=Z,47nm,1.2s
CHTO Chiang Mai 27.23 312 P **P** **20 37 20.0 -0.4**
CHTO pmax pmax
comp=Z,47nm,1.3s
MANU Manus Island 27.46 96 P **P** **20 37 22.4 -0.2**
GUMO Guam 27.53 62 P **P** **20 37 22.5 -0.7**
GUMO Guam 27.53 62 P **P** **20 37 22.5 -0.7**
GUMO pmax pmax
comp=Z,455nm,1.8s
MEEK Meekatharra 27.55 183 P **P** **20 37 23.6 +0.5**
baz=28,SNR=28
AS31 Alice Springs 28.00 152 P **P** **20 37 27.0 -0.2**
ASAR Alice Springs 28.00 152 P **P** **20 37 27.4 +0.2**
ASAR **PcP** **20 40 41.0 -1.0**
ASAR Alice Springs 28.00 152 P **P** **20 37 27.8 +0.5**
comp=Z,24nm,0.8s,baz=336,slow=10.0,SNR=70
ASAR PcP **PcP** **20 40 42.4 +0.4**
comp=Z,4.1nm,0.7s,baz=336,slow=1.9,SNR=10
comp=Z,24nm,0.8s
ASAR Alice Springs 28.00 152 P **P** **20 37 27.4 +0.2**
ASAR 20 40 41.0
GYA Guiyang 28.38 334 *eP* **P** **20 37 31.3 +0.6**
GYA pmax pmax
comp=Z,9.0nm,1.4s
QIS Mount Isa 28.75 139 P **P** **20 37 33.9 0.0**
baz=29,SNR=10
PMG Port Moresby 28.90 112 P **P** **20 37 35.2 -0.2**
comp=Z,24nm,0.8s,baz=290,slow=10,SNR=4.3
comp=Z,24nm,0.8s
PBA Port Blair 29.10 292 P **P** **20 37 37.0 -0.2**
PBA lAmb lAmb 20 37 40.7
comp=Z,30nm,1.0s
KMI Kunming 29.22 326 ⇓P P 20 37 31.8 -6.5
KMI sP sP 20 37 49.6 -0.3
KMI S **S** **20 42 26.8 -2.5**
KMI pmax pmax
comp=Z,13nm,1.1s
KMI LR LR
comp=N,620nm,16.4s
KMI LR LR
comp=E,390nm,16.5s
KMI LR LR
comp=Z,700nm,15.7s
WHN Wuhan 29.85 350 P **P** **20 37 44.9 +1.4**
MORW Morawa 30.18 187 P **P** **20 37 47.6 +1.1**
baz=30,SNR=8.1
MORW Morawa 30.18 187 P **P** **20 37 47.4 +0.9**
MORW lAmb lAmb 20 37 48.5
comp=Z,54nm,1.1s
ENH Enshi 30.77 342 P **P** **20 37 51.6 -0.2**
ENH lAmb lAmb 20 37 53.3
comp=Z,32nm,1.3s
PZH PanZhiHua 30.86 327 P **P** **20 37 52.6 -0.1**
PZH pmax pmax
comp=Z,10.0nm,0.9s
NJ2 Nanjing 30.87 358 *eP* **P** **20 37 55.6 +3.0**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
NJ2 LR LR
comp=Z,700nm,15.2s
NJ2 LR LR
comp=Z,580nm,18.2s
NJ2 LR LR
comp=Z,920nm,16.8s
BLDU Ballidu 31.64 186 P **P** **20 37 59.9 +0.6**
baz=32,SNR=7.8
TNCH TengChong 31.66 321 *eP* **P** **20 37 59.4 -0.5**
TNCH pP pP 20 38 06.5 -1.5
TNCH pmax pmax
comp=Z,10.0nm,0.7s
KMBL Kambalda 32.27 177 P **P** **20 38 05.5 +0.5**
baz=32,SNR=12
RABL Rabaul 32.49 99 P **P** **20 38 06.7 -0.4**
KLBR Kellerberrin 32.52 184 P **P** **20 38 07.9 +0.8**
baz=33,SNR=12
FORT Forrest 32.54 167 P **P** **20 38 07.9 +0.6**
baz=33,SNR=13
FORT Forrest 32.54 167 P **P** **20 38 06.9 -0.4**
CTAO Charters Tower 33.16 131 P **P** **20 38 11.9 -0.9**
CTAO lAmb lAmb 20 38 40.8
comp=Z,54nm,1.6s
CTAO Charters Tower 33.16 131 P **P** **20 38 12.0 -0.9**
CTAO pmax pmax
comp=Z,54nm,1.7s
CD2 Chengdu 33.50 334 P **P** **20 38 15.5 -0.2**
CD2 sP pwP 20 38 25.0 -2.9
CD2 pmax pmax
comp=Z,20nm,1.0s
NWAO Narrogin (SRO) 33.88 184 P **P** **20 38 20.0 +1.0**
baz=34,SNR=18
NWAO P **P** **20 38 20.0 +1.0**
baz=34,SNR=18
NWAO Narrogin (SRO) 33.88 184 P **P** **20 38 19.6 +0.6**
NWAO Narrogin (SRO) 33.88 184 P **P** **20 38 19.6 +0.6**
NWAO pmax pmax
comp=Z,63nm,0.9s
JTU Tsushima 34.44 14 P **P** **20 38 23.2 -0.6**
JMN Monobe 35.01 20 P **P** **20 38 28.1 -0.7**
TJN Taejon 35.81 10⇑*eP* **P** **20 38 32.7 -2.9**
QLP Quilpie 36.01 141 P **P** **20 38 38.4 +1.0**
baz=36,SNR=34
SHL Shillong 36.52 314 P **P** **20 38 41.5 -0.5**
SHL lAmb lAmb 20 38 52.8
comp=Z,51nm,1.0s
SHL Shillong 36.52 314 P **P** **20 38 41.5 -0.5**
SHL pmax pmax
comp=Z,51nm,1.0s
HNS HongShan 36.52 353 ⇑P **P** **20 38 42.8 +1.2**
HNS *eS* **S** **20 44 25.6 +3.6**
HNS pmax pmax
comp=Z,7.0nm,0.9s
HNS LR LR
comp=Z,580nm,14.3s
HNS LR LR
comp=Z,380nm,15.1s
HNS LR LR
comp=Z,750nm,16.1s
BBOO Buckleboo 36.89 157 P **P** **20 38 45.3 +0.4**
baz=37,SNR=17
BBOO Buckleboo 36.89 157 P **P** **20 38 44.6 -0.3**
BBOO lAmb lAmb 20 38 46.3
comp=Z,33nm,0.8s
KSAR Wonju Array Be 36.94 10 P **P** **20 38 46.0 +0.8**
KSAR Wonju Array Be 36.94 10 P **P** **20 38 46.0 +0.8**
KSRS Korea Array 36.96 10 P **P** **20 38 44.1 -1.2**
comp=Z,2.5nm,0.7s,baz=195,slow=7.5,SNR=7.1
comp=Z,2.5nm,0.7s
INU Inuyama 37.61 23 P **P** **20 38 50.2 -0.8**
INU lAmb lAmb 20 39 06.8
comp=Z,92nm,1.6s
LZH Lanzhou 37.99 338 *eP* **P** **20 38 55.3 +1.0**
LZH sP pwP 20 39 05.0 -1.6
LZH pmax pmax
comp=Z,14nm,1.1s
LZH LR LR
comp=Z,670nm,15.8s
LZH LR LR
comp=Z,500nm,16.1s
LZH LR LR
comp=Z,900nm,16.8s
STKA Stephens Creek 38.57 150 P **P** **20 39 00.0 +1.0**
baz=39,SNR=26
STKA Stephens Creek 38.57 150 P **P** **20 38 59.5 +0.4**
STKA Stephens Creek 38.57 150 P **P** **20 38 59.5 +0.4**
comp=Z,49nm,0.9s,baz=317,slow=8.7,SNR=49
comp=Z,49nm,0.9s
HTT Hallett 38.61 154 P **P** **20 39 00.7 +1.2**
baz=39,SNR=38
MAJO Matsushiro 39.12 23 P **P** **20 39 02.5 -1.2**
MAJO lAmb lAmb 20 39 09.2
comp=Z,23nm,1.1s
MAJO Matsushiro 39.12 23⇑*eP* **P** **20 39 02.8 -0.9**
MAJO pmax pmax
comp=Z,47nm,2.0s
MJAR Matsushiro Arr 39.12 23 P **P** **20 39 02.4 -1.3**
comp=Z,13nm,1.0s,baz=193,slow=8.2,SNR=14
comp=Z,13nm,1.0s
MJB9 Matsu-Tunnel 39.12 23 P **P** **20 39 03.3 -0.4**
LSA Lhasa 39.62 319 P **P** **20 39 09.9 +1.4**
LSA pmax pmax
comp=Z,26nm,0.9s
LSA Lhasa 39.62 319 P **P** **20 39 09.2 +0.7**
LSA lAmb lAmb 20 39 20.8
comp=Z,22nm,0.8s
LSA Lhasa 39.62 319 P **P** **20 39 09.2 +0.7**
LSA pmax pmax
comp=Z,22nm,0.8s
HHC Hu-ho-hao-te 40.38 350 *eP* **P** **20 39 17.0 +2.8**
HHC pmax pmax
comp=Z,160nm,5.7s
HHC LR LR
comp=Z,340nm,17.6s
HHC LR LR
comp=Z,270nm,16.0s
HHC LR LR
comp=Z,280nm,16.8s
BTO Baotou 40.43 348 *eP* **P** **20 39 16.8 +2.2**
BTO pP **pwP** **20 39 26.8 -0.1**
BTO sP **sP** **20 39 30.8 +4.2**
BTO PP **PnPn** **20 40 54.8 +2.8**
BTO S **S** **20 45 27.1 +5.9**
BTO pmax pmax
comp=Z,48nm,0.9s
BTO pmax pmax
comp=Z,340nm,9.3s
BTO LR LR
comp=Z,1μm,17.1s
BTO LR LR
comp=Z,670nm,15.6s
BTO LR LR
comp=Z,900nm,17.3s
CMSA Cobar Meteorol 40.50 145 P **P** **20 39 16.5 +1.4**
baz=41,SNR=52
JMM Marumori 41.32 25 P **P** **20 39 21.0 -0.8**
JMM lAmb lAmb 20 39 22.8
comp=Z,69nm,1.1s
GOMU GeErMu 42.10 329 P **P** **20 39 29.9 +1.2**
GOMU pP pP 20 39 33.3 -3.7
GOMU sP pwP 20 39 36.1 -4.9
GOMU pmax pmax
comp=Z,5.0nm,0.7s
GOMU LR LR
comp=Z,530nm,19.4s
GOMU LR LR
comp=Z,1μm,20.5s
GOMU LR LR
comp=Z,420nm,15.7s
GTA Gaotai 42.44 337 ⇓P **P** **20 39 32.3 +1.2**
GTA pP pwP 20 39 41.3 -1.0
GTA pmax pmax
comp=Z,20nm,1.1s
GTA LR LR
comp=Z,190nm,17.5s
GTA LR LR
comp=Z,290nm,15.9s
GTA LR LR
comp=Z,290nm,18.3s
ARPS Mount Arapiles 42.70 154 P **P** **20 39 34.2 +1.1**
baz=43,SNR=9.8
HYB Hyderabad 43.94 294 *eP* **P** **20 39 42.9 -0.6**
YNG Young 44.06 146 P **P** **20 39 43.9 -0.3**
baz=44,SNR=10
MDJ Mudanjiang 44.21 10 P **P** **20 39 46.3 +1.1**
MDJ pmax pmax
comp=Z,57nm,1.1s
MDJ pmax pmax
comp=Z,170nm,7.6s
MDJ Mudanjiang 44.21 10 P **P** **20 39 45.1 -0.1**
USA0B Ussuriysk Arra 44.27 12 P **P** **20 39 45.6 -0.1**
USA0B lAmb lAmb 20 39 47.4
comp=Z,18nm,1.2s
USA0B Ussuriysk Arra 44.27 12⇓*eP* **P** **20 39 46.1 +0.5**
USRK Ussuriysk Ar. 44.27 12 P **P** **20 39 45.3 -0.3**
comp=Z,11nm,0.9s,baz=197,slow=8.8,SNR=10
comp=Z,11nm,0.9s
USRK Ussuriysk Ar. 44.27 12 P **P** **20 39 45.4 -0.2**
BNX BinXian 44.99 7 ⇑P **P** **20 39 51.4 0.0**
BNX pmax pmax
comp=Z,12nm,1.0s
BNX pmax pmax
comp=Z,240nm,4.1s
TOO Toolangi 45.04 151 P **P** **20 39 52.0 0.0**
TOO Toolangi 45.04 151 P **P** **20 39 52.0 0.0**
TOO pmax pmax
comp=Z,76nm,1.8s
CAN Canberra 45.15 146 P **P** **20 39 52.5 -0.3**
CAN Canberra 45.15 146 P **P** **20 39 52.6 -0.3**
CAN pmax pmax
comp=Z,69nm,0.9s
CNB Canberra Magne 45.35 146 P **P** **20 39 54.8 +0.3**
baz=45,SNR=5.4
ASAJ Asahikawa 47.34 22 P **P** **20 40 09.6 -0.3**
ASAJ pmax pmax
comp=Z,24nm,0.9s
JKA Kamikawa-asahi 47.34 22 P **P** **20 40 09.6 -0.4**
JKA lAmb lAmb 20 40 11.4
comp=Z,24nm,0.9s
ULN Ulaanbaatar 47.99 348 P **P** **20 40 14.9 -0.3**
ULN lAmb lAmb 20 40 17.1
comp=Z,27nm,1.1s
ULN Ulaanbaatar 47.99 348 *d iP* **P** **20 40 15.7 +0.6**
ULN pmax pmax
comp=Z,24nm,1.0s
SONM Songino Array 48.10 348 P **P** **20 40 15.7 -0.2**
SONM lAmb lAmb 20 40 17.9
comp=Z,12nm,1.1s
SONM Songino Array 48.10 348 P **P** **20 40 16.5 +0.6**
comp=Z,9.4nm,0.9s,baz=167,slow=8.5,SNR=27
SONM pP **pwP** **20 40 26.1 -1.4**
comp=Z,5.3nm,0.9s,baz=163,slow=6.2,SNR=6.6
comp=Z,9.4nm,0.9s
SONM Songino Array 48.10 348 P **P** **20 40 15.7 -0.2**
SONM pmax pmax
comp=Z,12nm,1.1s
KLR Kul'dur 49.05 10*de*P **P** **20 40 22.7 -0.3**
KLR pmax pmax
comp=Z,9.0nm,1.0s
HEH HeiHe 49.44 6 *eP* **P** **20 40 26.5 +0.6**
HEH pmax pmax
comp=Z,46nm,0.9s
HEH pmax pmax
comp=Z,140nm,5.0s
YSS Yuzh-Sakhalins 49.84 20⇑*eP* **P** **20 40 29.6 +0.6**
YSS pmax pmax
comp=Z,19nm,1.7s
CIT Chita 51.10 355 *eP* **P** **20 40 38.4 -0.2**
CIT *e* 20 41 49.2
CIT *e* 20 48 00.4
CIT pmax pmax
comp=Z,39nm,2.3s
ZAK Zakamensk 51.20 346 *eP* **P** **20 40 39.5 0.0**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
WMQ Urumqi 51.42 330 *eP* **P** **20 40 41.3 +0.1**
WMQ PcP **PcP** **20 41 56.5 +1.0**
WMQ pmax pmax
comp=Z,24nm,0.7s
WMQ LR LR
comp=Z,470nm,19.5s
WMQ LR LR
comp=Z,410nm,15.5s
WMQ LR LR
comp=Z,250nm,21.5s
TARA Tarawa 52.84 89 P **P** **20 40 51.7 -0.5**
ZEA Zeya 52.86 5 *eP* **P** **20 40 52.3 +0.7**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
MOY Mondy 52.95 345 *eP* **P** **20 40 53.2 +0.7**
MOY pmax pmax
comp=Z,17nm,2.1s
NIL Nilore 54.51 312 P **P** **20 41 03.6 -0.5**
NIL Nilore 54.51 312 P **P** **20 41 03.6 -0.5**
NIL pmax pmax
comp=Z,50nm,1.3s
KSH Kashi 55.47 319 P **P** **20 41 12.8 +1.7**
KSH pP sP 20 41 22.3 -1.0
KSH pmax pmax
comp=Z,10.0nm,0.8s
MK31 Makanchi Array 56.22 330 P **P** **20 41 16.1 -0.1**
MK31 lAmb lAmb 20 41 28.5
comp=Z,13nm,0.9s
MK31 Makanchi Array 56.22 330 *d iP* **P** **20 41 17.0 +0.8**
MKAR Makanchi Array 56.22 330 P **P** **20 41 16.2 0.0**
MKAR Makanchi Array 56.22 330 P **P** **20 41 17.1 +0.9**
comp=Z,12nm,0.8s,baz=132,slow=8.4,SNR=68
MKAR pP **pwP** **20 41 27.1 -0.7**
comp=Z,13nm,0.9s,baz=132,slow=8.3,SNR=18
comp=Z,12nm,0.8s
MAKZ Makanchi 56.39 329 P **P** **20 41 17.3 -0.1**
MAKZ lAmb lAmb 20 41 29.0
comp=Z,22nm,1.1s
MAKZ Makanchi 56.39 329 P **P** **20 41 17.3 -0.1**
MAKZ pmax pmax
comp=Z,22nm,1.2s
BOOM Boomskoye usch 57.12 322 P **P** **20 41 22.4 -0.5**
BOOM lAmb lAmb 20 41 35.1
comp=Z,16nm,1.1s
BOOM Boomskoye usch 57.12 322 P **P** **20 41 22.4 -0.5**
BOOM pmax pmax
comp=Z,16nm,1.1s
KBL Kabul 58.05 311 P **P** **20 41 29.2 -0.3**
KBL lAmb lAmb 20 41 46.1
comp=Z,26nm,1.1s
KBL Kabul 58.05 311 P **P** **20 41 29.3 -0.3**
KBL pmax pmax
comp=Z,26nm,1.1s
AAK Ala-Archa 58.09 322 P **P** **20 41 30.1 +0.3**
AAK lAmb lAmb 20 41 42.1
comp=Z,30nm,1.3s
AAK Ala-Archa 58.09 322 *d iP* **P** **20 41 30.7 +1.0**
AAK pmax pmax
comp=Z,7.0nm,1.0s
DRK Karamyk 58.24 317 P **P** **20 41 31.7 +0.8**
DRK lAmb lAmb 20 41 43.0
comp=Z,14nm,0.7s
DRK Karamyk 58.24 317 P **P** **20 41 31.7 +0.8**
DRK pmax pmax
comp=Z,14nm,0.7s
ARSB Arslanbob 58.36 320 P **P** **20 41 31.1 -0.5**
ARSB Arslanbob 58.36 320 P **P** **20 41 31.1 -0.5**
ARSB pmax pmax
comp=Z,10.0nm,1.3s
GAR Garm 59.03 316 P **P** **20 41 36.0 -0.3**
BTK Batken 59.18 317 P **P** **20 41 36.0 -1.2**
BTK lAmb lAmb 20 41 55.3
comp=Z,29nm,1.4s
BTK Batken 59.18 317 P **P** **20 41 36.0 -1.2**
BTK pmax pmax
comp=Z,29nm,1.4s
FUNA Funafuti 59.68 100 P **P** **20 41 40.3 -0.7**
CHGR Chuyangaron 59.69 315 P **P** **20 41 40.1 -0.7**
CHGR Chuyangaron 59.69 315 P **P** **20 41 40.1 -0.7**
CHGR pmax pmax
comp=Z,44nm,1.0s
SIMJ Simiganj 59.79 315 P **P** **20 41 41.1 -0.5**
SIMJ lAmb lAmb 20 41 53.4
comp=Z,22nm,1.1s
MSVF Nonsavu 60.01 111 P **P** **20 41 43.0 -0.3**
MSVF lAmb lAmb 20 41 46.2
comp=Z,14nm,1.0s
MSVF Nonsavu 60.01 111 P **P** **20 41 43.0 -0.3**
MSVF pmax pmax
comp=Z,14nm,1.0s
ZAA0 Zalesovo Array 60.19 337 P **P** **20 41 42.7 -1.1**
ZAA0 lAmb lAmb 20 41 44.6
comp=Z,16nm,1.1s
ZALV Zalesovo Beam 60.19 337 P **P** **20 41 42.9 -0.9**
ZALV Zalesovo Beam 60.19 337 P **P** **20 41 43.2 -0.6**
comp=Z,10nm,0.9s,baz=130,slow=6.0,SNR=27
comp=Z,10nm,0.9s
ZALV Zalesovo Beam 60.19 337 *i* P **P** **20 41 43.5 -0.3**
ZALV pmax pmax
comp=Z,10.0nm,0.9s
PEA0B Petropavlovsk- 60.55 25⇑*eP* **P** **20 41 47.0 +0.7**
PETK Petropavlovsk- 60.55 25 P **P** **20 41 46.0 -0.3**
PETK Petropavlovsk- 60.55 25 P **P** **20 41 44.6 -1.6**
comp=Z,5.8nm,0.8s,baz=211,slow=5.2,SNR=5.6
comp=Z,5.8nm,0.8s
PETK Petropavlovsk- 60.55 25 P **P** **20 41 46.0 -0.3**
KURBB Kurchatov Arra 60.62 331 P **P** **20 41 47.4 +0.6**
comp=Z,12nm,0.9s,baz=141,slow=6.7,SNR=54
KURBB pP **pP** **20 41 56.6 +0.9**
comp=Z,16nm,0.9s,baz=135,slow=6.7,SNR=21
comp=Z,12nm,0.9s
KURK Kurchatov 60.64 331 P **P** **20 41 47.2 +0.3**
KURK Kurchatov 60.64 331 *d iP* **P** **20 41 47.1 +0.2**
KURK pmax pmax
comp=Z,34nm,0.9s
KK31 Karatay Array 60.84 320 P **P** **20 41 48.1 -0.4**
KK31 Karatay Array 60.84 320 P **P** **20 41 48.1 -0.4**
KK31 pmax pmax
comp=Z,7.0nm,1.1s
KKAR Karatay Array 60.84 320 **P** **20 41 47.5 -1.0**
KKAR Karatay Array 60.84 320 P **P** **20 41 48.5 0.0**
KKAR Karatay Array 60.84 320 P **P** **20 41 48.5 0.0**
YAK Yakutsk 61.28 5 P **P** **20 41 50.7 -0.3**
YAK Yakutsk 61.28 5 *eP* **P** **20 41 51.3 +0.3**
YAK *e* 20 44 12.4
YAK *eS* **S** **20 50 08.0 -0.9**
YAK *e*SS* **sS** **20 50 29.2 +6.0**
YAK *eSS* **SS** **20 54 03.7 -6.0**
YAK pmax pmax
comp=Z,24nm,0.8s
YAK pmax pmax
comp=N,5.0nm,0.9s
YAK pmax pmax
comp=Z,45nm,3.2s
YAK pmax pmax
comp=N,87nm,3.3s
YAK pmax pmax
comp=E,55nm,2.8s
YAK smax smax
comp=E,61nm,3.3s
YAK smax smax
comp=N,36nm,3.8s
PYZ Puysegur Point 62.33 145 P **P** **20 41 58.9 +0.5**
HRA Herat 63.23 308 P **P** **20 42 03.8 -1.2**
MRNZ Matariki Terra 63.63 138 P **P** **20 42 06.9 -0.3**
TUWZ Tuamarina 64.44 138 P **P** **20 42 11.5 -1.0**
BVAR Borovoye Array 66.11 330 P **P** **20 42 23.1 0.0**
comp=N,7.8nm,0.8s,baz=131,slow=9.4,SNR=31
BVAR pP **pwP** **20 42 33.5 -1.5**
comp=N,11nm,0.8s,baz=159,slow=5.7,SNR=19
comp=N,7.8nm,0.8s
BRVK Borovoye 66.18 330 P **P** **20 42 23.3 -0.2**
BRVK lAmb lAmb 20 42 35.4
comp=Z,17nm,0.9s

BRVK	**Borovoye**	**66.18**	**330**	*d*	*i*P		**P**	**20 42 23.7**	**+0.2**
BRVK					pmax		pmax		
	comp=Z,12nm,1.0s								
SEY	**Seymchan**	**66.27**	**15**⇑	*e*	P		**P**	**20 42 24.4**	**+0.5**
SEY					pmax		pmax		
	comp=Z,3.0nm,1.1s								
GEYT	**Alibeck**	**67.50**	**311**		P		**P**	**20 42 32.2**	**-0.1**
GEYT					IAmb		IAmb	20 42 44.3	
	comp=Z,10nm,0.9s								
GEYT	**Alibeck**	**67.50**	**311**		P		**P**	**20 42 33.0**	**+0.7**
	comp=Z,2.7nm,0.8s,baz=145,slow=5.4,SNR=8.6								
GEYT					pP		**sP**	**20 42 42.9**	**-1.7**
	comp=Z,8.3nm,0.9s,baz=132,slow=8.0,SNR=12								
	comp=Z,2.7nm,0.8s								
GEYT	**Alibeck**	**67.50**	**311**		P		**P**	**20 42 32.2**	**-0.1**
GEYT					pmax		pmax		
	comp=Z,10.0nm,0.9s								
GYA0B	**ALIBECK ARRAY**	**67.50**	**311**				**P**	**20 42 31.9**	**-0.4**
GYA0B					IAmb		IAmb	20 42 51.5	
	comp=Z,11nm,1.1s								
CASY	**Casey**	**67.51**	**184**		P		**P**	**20 42 32.1**	**+0.4**
CASY					IAmb		IAmb	20 42 33.3	
	comp=Z,14nm,0.9s								
ABKAR	**Akbulak array**	**70.13**	**323**		P		**P**	**20 42 47.8**	**-0.6**
ABKAR					IAmb		IAmb	20 42 59.8	
	comp=Z,11nm,0.8s								
ABKAR	**Akbulak array**	**70.13**	**323**		P		**P**	**20 42 48.2**	**-0.2**
TIXI	**Tiksi**	**70.73**	**3**		P		**P**	**20 42 50.2**	**-1.4**
TIXI	**Tiksi**	**70.73**	**3**		P		**P**	**20 42 50.2**	**-1.4**
TIXI					pmax		pmax		
	comp=Z,6.0nm,0.8s								
SVE	**Sverdlovsk**	**72.87**	**330**	*e*	P		**P**	**20 43 05.8**	**+1.0**
SVE					pmax		pmax		
	comp=Z,41nm,1.0s								
ARU	**Arti**	**73.75**	**329**		P		**P**	**20 43 09.3**	**-0.6**
ARU					IAmb		IAmb	20 43 20.8	
	comp=Z,24nm,0.9s								
ARU	**Arti**	**73.75**	**329**	*c*	*i*P		**P**	**20 43 09.7**	**-0.2**
ARU					S		**S**	**20 52 41.1**	**+2.3**
ARU					SS		**SS**	**20 57 19.4**	**-3.5**
ARU					pmax		pmax		
	comp=Z,12nm,0.9s								
ARU	**Arti**	**73.75**	**329**		P		**P**	**20 43 09.4**	**-0.6**
	comp=Z,32nm,1.0s,comp=Z,308nm								
GROC	**Groznyy**	**77.85**	**314**	*e*	P		**P**	**20 43 36.4**	**+2.7**
GROC				*e*				20 43 45.1	
GROC					pmax		pmax		
	comp=Z,9.0nm,1.1s								
GNI	**Garni**	**78.13**	**311**⇑	*e*	P		**P**	**20 43 37.7**	**+2.1**
GNI					pmax		pmax		
	comp=Z,3.0nm,1.0s								
MAW	**Mawson**	**78.99**	**199**		P		**P**	**20 43 40.3**	**+0.9**
	comp=Z,4.6nm,1.0s,baz=47,slow=6.7								
	comp=Z,4.6nm,1.0s								
KIRV	**Kirov**	**79.12**	**330**⇑	*e*	P		**P**	**20 43 39.5**	**-0.8**
ONI	**Oni**	**79.46**	**313**		P		**P**	**20 43 42.5**	**-0.1**
ONI	**Oni**	**79.46**	**313**		P		**P**	**20 43 42.5**	**-0.1**
ONI					pmax		pmax		
	comp=Z,7.0nm,1.0s								
GURO	**Guroymak-BITLI**	**80.00**	**309**				**P**	**20 43 45.4**	**-0.4**
GURO					IAmb		IAmb	20 43 58.6	
	comp=Z,25nm,1.4s								
KBZ	**Khabaz**	**80.02**	**314**		P		**P**	**20 43 46.0**	**+0.5**
	comp=Z,1.9nm,0.8s,baz=154,slow=4.5,SNR=2.7								
KBZ					pP		**sP**	**20 43 55.8**	**-2.0**
	comp=Z,6.4nm,1.0s,baz=296,slow=1.9,SNR=6.7								
	comp=Z,1.9nm,0.8s								
KBZ	**Khabaz**	**80.02**	**314**⇑	*e*	P		**P**	**20 43 46.7**	**+1.1**
KBZ					pmax		pmax		
	comp=Z,7.0nm,1.0s								
KIV	**Kislovodsk**	**80.20**	**314**⇓	*e*	P		**P**	**20 43 44.9**	**-1.8**
KIV				*e*				20 43 51.0	
KIV					S		**SKSac**	**20 54 00.0**	**-2.4**
KIV					PS		PnS	20 54 58.0	+20
KIV					SS		**SS**	**20 58 59.0**	**-2.2**
KIV					pmax		pmax		
	comp=Z,4.0nm,1.0s								
KIV					MLR		MLR		
	comp=Z,108nm,17.0s								
VNDA	**Vanda**	**81.68**	**172**		P		**P**	**20 43 53.7**	**-0.1**
VNDA	**Vanda**	**81.68**	**172**		P		**P**	**20 43 53.6**	**-0.2**
	comp=Z,3.2nm,0.8s,baz=307,slow=6.8,SNR=16								
	comp=Z,3.2nm,0.8s								
VNDA	**Vanda**	**81.68**	**172**		P		**P**	**20 43 53.7**	**-0.1**
VNDA					pmax		pmax		
	comp=Z,7.0nm,1.2s								
VRH	**Novokhopyorsk**	**81.89**	**322**	*e*	P		**P**	**20 43 54.1**	**-1.3**
VRH					pmax		pmax		
	comp=Z,10.0nm,0.6s								
SOC	**Sochi**	**82.30**	**314**	*e*	P		**P**	**20 43 56.9**	**-0.8**
SOC				*e*				20 47 05.7	
SOC				*e*	PPP		PPP	20 48 56.8	
SOC				*e*	S		**S**	**20 54 16.4**	**+5.0**
SOC					pmax		pmax		
	comp=Z,10.0nm,0.9s								
SBA	**Scott Base**	**82.66**	**171**		P		**P**	**20 43 59.7**	**+0.8**
SBA					IAmb		IAmb	20 44 37.8	
	comp=Z,27nm,1.8s								
SBA	**Scott Base**	**82.66**	**171**		P		**P**	**20 43 59.7**	**+0.8**
SBA					pmax		pmax		
	comp=Z,27nm,1.8s								
VORD	**Divnogorie**	**83.38**	**321**	*e*	P		**P**	**20 44 02.4**	**-0.7**
VORD					pmax		pmax		
	comp=Z,4.0nm,0.7s								
VSR	**Storozhevoye**	**83.49**	**321**	*e*	P		**P**	**20 44 02.1**	**-1.6**
VSR					pmax		pmax		
	comp=Z,5.0nm,0.7s								
VORR	**Voronezh**	**83.52**	**322**	*e*	P		**P**	**20 44 01.6**	**-2.2**
VORR					pmax		pmax		
	comp=Z,10.0nm,0.4s								
LPSR	**Galich'ya Gora**	**83.79**	**323**	*e*	P		**P**	**20 44 04.0**	**-1.2**
LPSR					pmax		pmax		
	comp=Z,10.0nm,0.7s								
N15K	**Kwethluk River**	**84.05**	**30**		P		**P**	**20 44 07.2**	**+0.8**
N15K	**Kwethluk River**	**84.05**	**30**		P		**P**	**20 44 08.4**	**+2.0**
	baz=262								
J16K	**Anvik River**	**84.28**	**27**		P		**P**	**20 44 09.6**	**+2.1**
	baz=261								
KLMR	**Klimovskoe**	**84.49**	**331**	*e*	P		**P**	**20 44 08.3**	**-0.3**
KLMR					pmax		pmax		
	comp=Z,49nm,1.5s								
N16K	**Nishlik Lake**	**84.74**	**29**		P		**P**	**20 44 12.2**	**+2.3**
	baz=263								
MOS	**Moscow**	**84.89**	**326**	*e*	P		P	20 44 20.0	+9.3
E18K	**Tukpahlearik C**	**84.95**	**22**		P		**P**	**20 44 11.9**	**+1.1**
E18K					IAmb		IAmb	20 44 32.8	
	comp=Z,8.5nm,0.9s								
E18K	**Tukpahlearik C**	**84.95**	**22**		P		**P**	**20 44 13.0**	**+2.2**
	baz=261								
MMAI	**Mount Meron Ar**	**84.96**	**303**		P		**P**	**20 44 11.3**	**-0.4**
	comp=Z,3.0nm,0.8s,baz=76,slow=7.8,SNR=3.7								
MMAI					pP		**pP**	**20 44 21.6**	**+0.4**
	comp=Z,8.3nm,0.9s,baz=94,slow=8.8,SNR=9.8								
	comp=Z,3.0nm,0.8s								
OBN	**Obninsk**	**85.43**	**325**⇑	*e*	P		**P**	**20 44 13.6**	**+0.2**
OBN					S		**SKSac**	**20 54 39.0**	**+2.8**
OBN					pmax		pmax		
	comp=Z,11nm,0.5s								
OBN					MLR		MLR		
	comp=Z,190nm,20.0s								
C19K	**Lookout Ridge**	**85.59**	**21**		P		**P**	**20 44 14.7**	**+0.6**
C19K					IAmb		IAmb	20 44 28.3	
	comp=Z,30nm,1.4s								
D19K	**Kuna River**	**86.03**	**21**		IAmb		IAmb	20 44 31.3	
	comp=Z,11nm,0.8s								
D19K	**Kuna River**	**86.03**	**21**		P		**P**	**20 44 17.7**	**+1.4**
	baz=263								
BR104	**Keskin Array S**	**86.59**	**310**		P		**P**	**20 44 20.0**	**+0.3**
	comp=Z,7.3nm,1.1s,comp=Z,62nm								
BR131	**Keskin Array S**	**86.59**	**310**		P		**P**	**20 44 18.7**	**-1.1**
BR131					IAmb		IAmb	20 44 30.9	
	comp=Z,7.7nm,0.9s								
BR131	**Keskin Array S**	**86.59**	**310**		P		**P**	**20 44 18.7**	**-1.1**
BR131					pmax		pmax		
	comp=Z,8.0nm,1.0s								
BRTR	**Keskin Array B**	**86.59**	**310**		P		**P**	**20 44 19.4**	**-0.4**
BRTR	**Keskin Array B**	**86.59**	**310**		P		**P**	**20 44 18.6**	**-1.1**
	comp=Z,2.1nm,0.8s,baz=126,slow=6.3,SNR=13								
BRTR					pP		**pP**	**20 44 29.1**	**+0.3**
	comp=Z,5.0nm,0.9s,baz=121,slow=2.6,SNR=14								
	comp=Z,2.1nm,0.8s								
BRTR	**Keskin Array B**	**86.59**	**310**	*i*	P		**P**	**20 44 20.7**	**+0.9**
BRTR					pmax		pmax		
	comp=Z,2.0nm,0.8s								
BR105	**Keskin Array S**	**86.61**	**310**		P		**P**	**20 44 20.5**	**+0.7**
	comp=Z,7.5nm,1.1s,comp=Z,58nm								
BR106	**Keskin Array S**	**86.61**	**310**		P		**P**	**20 44 20.1**	**+0.3**
	comp=Z,6.9nm,0.9s,comp=Z,54nm								
E20K	**Nigu River**	**86.72**	**22**		P		**P**	**20 44 21.1**	**+1.4**
	baz=265								
CSS	**Mathiatis**	**86.73**	**305**		P		**P**	**20 44 19.3**	**-1.1**
CSS					IAmb		IAmb	20 44 32.0	
	comp=Z,15nm,0.8s								
CSS	**Mathiatis**	**86.73**	**305**		P		**P**	**20 44 21.0**	**+0.6**
	comp=Z,21nm,0.9s								
A22K	**Sinclair Lake**	**87.38**	**19**		P		**P**	**20 44 25.5**	**+2.8**
	baz=266								
E21K	**Killik River**	**87.55**	**22**		P		**P**	**20 44 24.0**	**+0.3**
E21K					IAmb		IAmb	20 44 37.4	
	comp=Z,4.5nm,0.8s								
E21K	**Killik River**	**87.55**	**22**		P		**P**	**20 44 25.1**	**+1.4**
	baz=267								
B22K	**Teshekpuk Lake**	**87.85**	**20**				**P**	**20 44 24.5**	**-0.4**
B22K					IAmb		IAmb	20 45 00.3	
	comp=Z,23nm,1.4s								
C23K	**Itkillik River**	**88.80**	**20**		P		**P**	**20 44 29.0**	**-0.4**
MBAR	**Mbarara**	**89.34**	**269**⇓	*e*	P		**P**	**20 44 33.8**	**+0.4**
MBAR					pmax		pmax		
	comp=Z,3.0nm,1.3s								
AK09	**Malin Array Si**	**89.71**	**320**		P		**P**	**20 44 33.2**	**-0.9**
AK10	**Malin Array Si**	**89.73**	**320**		P		**P**	**20 44 34.5**	**+0.3**
AKASG	**Malin Array Be**	**89.75**	**321**		P		**P**	**20 44 33.1**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=75,slow=4.3,SNR=4.5								
AKASG					pP		**pP**	**20 44 43.3**	**-0.1**
	comp=Z,2.8nm,0.7s,baz=76,slow=4.1,SNR=6.2								
	comp=Z,0.9nm,0.6s								
AKBB	**Malin Array Si**	**89.75**	**321**		P		**P**	**20 44 33.5**	**-0.8**
AK07	**Malin Array Si**	**89.76**	**320**		P		**P**	**20 44 33.5**	**-0.9**
AK14	**Malin Array Si**	**89.82**	**320**		P		**P**	**20 44 34.4**	**-0.2**
ILAR	**Eielson Array**	**90.38**	**25**		P		**P**	**20 44 36.7**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=224,slow=3.8,SNR=1.8								
	comp=Z,0.3nm,0.6s								
MNK	**Minsk**	**90.44**	**324**	*e*	P		**P**	**20 44 38.1**	**+0.7**
ARCES	**ARCESS Array B**	**90.64**	**339**		P		**P**	**20 44 37.6**	**-0.5**
	comp=Z,2.1nm,0.9s,baz=95,slow=4.3,SNR=5.4								
	comp=Z,2.1nm,0.9s								
LUBAR	**Lubar, Ukraine**	**90.71**	**320**		P		**P**	**20 44 37.6**	**-1.2**
QSPA	**South Pole Qui**	**90.96**	**180**		P		**P**	**20 44 39.8**	**0.0**
QSPA					IAmb		IAmb	20 44 40.8	
	comp=Z,9.1nm,1.1s								
QSPA	**South Pole Qui**	**90.96**	**180**		P		**P**	**20 44 38.5**	**-1.3**
	comp=Z,5.0nm,0.9s,baz=292,slow=1.6,SNR=11								
	comp=Z,5.0nm,0.9s								
FINES	**FINESS Array B**	**91.02**	**331**		P		**P**	**20 44 38.3**	**-1.7**
	comp=Z,1.8nm,0.9s,baz=236,slow=27,SNR=1.8								
	comp=Z,1.8nm,0.9s								
NDNU	**Novodnistrovsk**	**91.03**	**318**		P		**P**	**20 44 39.3**	**-1.0**
RNPP9	**Sopachiv**	**91.81**	**321**		P		**P**	**20 44 42.9**	**-1.0**
RNPP5	**Staryi Chortor**	**91.83**	**321**		P		**P**	**20 44 43.9**	**-0.1**
EZN	**Ezine**	**92.23**	**310**		P		**P**	**20 44 45.4**	**-0.7**
BUR08	**Bucovina Ar. S**	**92.53**	**318**		P		**P**	**20 44 46.7**	**-0.8**
BUR08					IAmb		IAmb	20 45 15.8	
	comp=Z,18nm,1.9s								
MORS	**Morshin**	**93.28**	**319**		P		**P**	**20 44 49.8**	**-0.9**
R32K	**Eaglecrest**	**97.19**	**31**		P		**P**	**20 45 07.5**	**-0.9**
YKA	**Yellowknife Ar**	**104.63**	**23**		PKKPbc		PKKPbc	21 01 26.1	-2.6
	comp=Z,2.0nm,0.4s,baz=262,slow=10,SNR=3.8								
TORD	**Torodi Ar. Bea**	**117.31**	**285**		PKKPbc		PKKPbc	21 00 46.6	+0.9
	comp=Z,2.0nm,1.1s,baz=318,slow=3.1,SNR=5.1								
CO02	**Combarbal**	**148.22**	**162**				**PKPbc**	**20 51 22.7**	**-0.1**
ZON	**Zonda**	**148.54**	**166**		PKPab		**PKPbc**	**20 51 23.4**	**-0.1**
ZON	**Zonda**	**148.54**	**166**		PKP2		**PKPbc**	**20 51 23.4**	**-0.1**
CO03	**El Pedregal**	**148.65**	**162**				**PKPbc**	**20 51 24.1**	**+0.2**
LPAZ	**La Paz**	**162.82**	**152**		PKP		**PKPdf**	**20 51 40.3**	**+0.4**
	comp=Z,1.4nm,0.8s,baz=177,slow=4.0,SNR=6.6								

NEIC ***18*** *20:33:09.4±0.9, 19°.35N±0°.01×155°.26W±0°.01, h5km±1km, Error ellipse: s-maj=2.3km s-min=2.0km az=39.0*

HVO 18 20:33:08.8±0.6, 19°.36N±0°.01×155°.266W±0°.009, h0km±6km, ML3.2/44, ML2.8/60(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=162.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.04**	**349**		Pg	20 33 10.3	+0.7
KKO	**Keanakako`i**	**0.04**	**360**		Pg	20 33 10.4	+0.7
SDHHI	**Sand Hill**	**0.04**	**322**		Pg	20 33 10.3	+0.7
PUH	**Pauahi**	**0.05**	**68**		Pg	20 33 10.6	+0.9
BYL	**Byron's Ledge**	**0.06**	**6**		Pg	20 33 10.8	+0.9
BYL					IAML	20 33 11.6	
	comp=N,5μm,0.5s						
BYL					IAML	20 33 11.9	
	comp=E,7μm,0.5s						
NPH	**North Pit**	**0.06**	**346**		Pg	20 33 10.7	+0.7
WRMHI	**West Rim**	**0.06**	**328**		Pg	20 33 10.8	+0.8
WRMHI					IAML	20 33 11.0	
	comp=N,4μm,1.1s						
WRMHI					IAML	20 33 11.8	
	comp=E,7μm,0.7s						
OBL	**Observatory Le**	**0.06**	**344**		Pg	20 33 10.9	+0.8
OBL					IAML	20 33 11.7	
	comp=N,11μm,1.0s						
OBL					IAML	20 33 12.0	
	comp=E,8μm,0.4s						
HATHI	**Halema'uma'u T**	**0.07**	**4**		Pg	20 33 11.1	+0.9
HATHI					IAML	20 33 12.2	
	comp=E,8μm,0.6s						
HATHI					IAML	20 33 12.5	
	comp=N,10μm,0.7s						
UWB	**Uwekahuna B**	**0.07**	**351**		Pg	20 33 11.1	+0.9
UWB					IAML	20 33 11.8	
	comp=E,3μm,1.0s						
UWB					IAML	20 33 11.9	
	comp=N,6μm,1.7s						
UWE	**Uwekahuna**	**0.07**	**339**		IAML	20 33 10.5	
	comp=E,4μm,0.8s						
UWE					Pg	20 33 11.2	+1.0
HLP	**Hilina Pali**	**0.07**	**214**		Pg	20 33 11.2	+1.0
HLP					IAML	20 33 12.0	
	comp=N,6μm,0.5s						
HLP					IAML	20 33 12.3	
	comp=E,6μm,0.3s						
SBLHI	**Steaming Bluff**	**0.07**	**358**		Pg	20 33 11.2	+0.9
SBLHI					IAML	20 33 12.0	
	comp=N,9μm,0.6s						
SBLHI					IAML	20 33 12.6	
	comp=E,7μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.09**	**75**		Pg	20 33 11.5	+0.9
RSD	**Rainshed**	**0.11**	**354**		Pg	20 33 11.8	+0.9
RSD					IAML	20 33 13.5	
	comp=E,3μm,0.8s						
RSD					IAML	20 33 14.2	
	comp=N,4μm,0.6s						
STCH	**Steam Cracks**	**0.14**	**77**		Pg	20 33 12.2	+0.8
STCH					IAML	20 33 15.6	
	comp=N,4μm,0.9s						
STCH					IAML	20 33 15.7	
	comp=E,6μm,1.0s						
NPOC	**North of Pu'u**	**0.15**	**76**		Pg	20 33 12.5	+0.8
NPOC					IAML	20 33 16.1	
	comp=N,4μm,0.8s						
NPOC					IAML	20 33 16.3	
	comp=E,4μm,0.9s						
JCUZ	**Jacuzzi**	**0.16**	**79**		Pg	20 33 12.7	+0.8
JCUZ					IAML	20 33 16.4	
	comp=N,3μm,0.9s						
JCUZ					IAML	20 33 16.6	
	comp=E,4μm,1.0s						
HTC	**Hot Caves**	**0.17**	**227**		Pg	20 33 13.1	+1.1
MLH	**Mauna Loa**	**0.18**	**321**		Pg	20 33 13.3	+1.1
JOKA	**Jonika Flow**	**0.26**	**72**		Pg	20 33 14.2	+0.5
JOKA					IAML	20 33 22.1	
	comp=N,2μm,1.1s						
JOKA					IAML	20 33 22.1	
	comp=E,1μm,0.9s						
HMH	**Humu'ula Sheep**	**0.32**	**320**		Pg	20 33 15.8	+0.9
HMH					IAML	20 33 25.3	
	comp=N,2μm,0.8s						
MWH	**Moku'aweowe**	**0.34**	**292**		Pg	20 33 16.1	+0.8
MLOA	**Mauna Loa Obse**	**0.34**	**302**		Pg	20 33 16.1	+0.7
KHU	**Kahuku**	**0.35**	**252**		Pg	20 33 15.9	+0.5
KHU					IAML	20 33 25.4	
	comp=E,1μm,1.4s						
KHU					IAML	20 33 26.8	
	comp=N,1μm,1.1s						
ALEP	**Alea Permanent**	**0.40**	**297**		Pg	20 33 16.9	+0.4
ALEP					Sg	20 33 23.6	+1.8
POHA	**Pohakuloa**	**0.47**	**328**		Pg	20 33 18.4	+0.5
POHA	**Pohakuloa**	**0.47**	**328**		Sg	20 33 25.6	+1.6
CPH	**Captain Cook**	**0.63**	**282**		Pg	20 33 20.6	-0.2
HUH	**Hualalai**	**0.63**	**301**		Pg	20 33 21.1	+0.3
HPAH	**Hawaii Prepara**	**0.79**	**329**		Pg	20 33 22.7	-1.1
MHA	**Mahukona**	**1.02**	**324**		Pg	20 33 26.9	-1.5
HLK	**Haleakala**	**1.67**	**327**	Pn	Pn	20 33 37.9	-1.7
WMR	**Waimanalo Ridg**	**2.99**	**311**	Pn	Pn	20 33 56.0	-1.5

IDC ***18*** *20:36:44.6±0.8, 4°.08S×133°.55E, h0km, mb4.1/12, mbtmp4.1/14, ML4.7/2, MS3.8/5, Error ellipse: s-maj=35.5km s-min=15.5km az=74.0*

DJA ***18*** *20:36:46.4±0.2, 4°.S±3°×13°.4E±°, h10km, M4.8/12, mb5.0/12, mB5.2/2, MLv4.7/10, Mw(mB)4.7/2, MwMwp5.4/1, Mwp5.5/1*

NEIC ***18*** *20:36:46.1±1.4, 4°.15S±0°.06×133°.49E±0°.08, h10km±1km, mb4.6/44, Error ellipse: s-maj=13.1km s-min=9.6km az=71.0*

GCMT ***18*** *20:36:47.1±0.4, 4°.06S±0°.02×133°.50E±0°.03, h17km±2km, MW4.8/74, Moment Tensor Solution. s3,c3; s74,c98; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.33±.12; Mθθ-0.47±.08; Mφφ0.79±.10; Mrθ-0.59±.25; Mrφ1.42±.07; Mθφ-0.04±.21; Best double couple: Mo1.67700×10^16 NP1:φs76.00000°, δ82.00000°, λ-23.00000°. NP2: φs169.00000°, δ68.00000°, λ-172.00000°. Principal axes: T 1.7800, Plg10.0000°, Azm125.0000°; N -0.2070, Plg66.0000°, Azm238.0000°; P -1.5740, Plg21.0000°, Azm31.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 18 20:36:45.8±0.4, 4°.26S±0°.04×133°.50E±0°.05, h10km, n104, σ1s80/104, mb4.5/36, MS4.1/5, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.63**	**19**	P	**Pg**	**20 36 54.5**	**-3.5**
FAKI	**Fak Fak**	**1.83**	**317**		**Pn**	**20 37 15.9**	**-1.5**
FAKI	**Fak Fak**	**1.83**	**317**	P	**Pn**	**20 37 15.8**	**-1.5**
BNDI	**Bandanaira**	**3.60**	**266**	P	**Pn**	**20 37 42.4**	**+0.7**
SWI	**Sorong**	**4.05**	**326**	P	**Pn**	**20 37 45.3**	**-2.6**
SAUI	**Saumlaki**	**4.30**	**211**	Pn	**Pn**	**20 37 53.2**	**+1.9**
GENI	**Genyem**	**6.86**	**76**	P	**Pn**	**20 38 27.3**	**+0.8**
	67nm,0.7s,0.3nm						
LBMI	**Labuha**	**6.99**	**301**	P	**Pn**	**20 38 27.2**	**-1.2**
	117nm,0.9s,0.4nm						
JAY	**Jayapura**	**7.40**	**77**	P	**Pn**	**20 38 35.0**	**+1.0**
	16nm,0.9s,0.1nm						
SANI	**Sanana**	**7.82**	**286**	P	**Pn**	**20 38 38.7**	**-1.0**
	73nm,0.8s,0.4nm						
TNTI	**Ternate**	**7.91**	**309**	Pn	**Pn**	**20 38 39.9**	**-1.1**
KDU	**Kakadu**	**8.44**	**187**	P	**Pn**	**20 38 50.1**	**+1.9**
	baz=8.6						
MTN	**Manton Dam**	**8.85**	**195**	Pn	**Pn**	**20 38 54.9**	**+1.1**
SOEI	**Soe**	**10.67**	**239**	Pn	**Pn**	**20 39 19.8**	**+0.8**
SOEI					Sn	**20 41 19.5**	**+0.9**
BATI	**Baumata**	**11.41**	**238**	Pn	**Pn**	**20 39 30.1**	**+1.0**
	12nm,0.3s,baz=42,slow=2.6,SNR=16						
BATI				Sn	**Sn**	**20 41 35.4**	**-1.3**
	0.8nm,0.3s,baz=342,slow=20,SNR=2.1						
BATI	**Baumata**	**11.41**	**238**	P	**Pn**	**20 39 30.8**	**+1.8**
	121nm,0.7s						
MMRI	**Maumere**	**12.01**	**248**	Pn	**Pn**	**20 39 39.7**	**+2.5**
EDFI	**Ende, Flores**	**12.55**	**249**	P	**Pn**	**20 39 47.4**	**+2.6**
	42nm,1.0s						
COEN	**Coen**	**13.56**	**136**	P	**Pn**	**20 39 57.0**	**-1.4**
	baz=14,SNR=5.8						
COEN	**Coen**	**13.56**	**136**		**Pn**	**20 39 56.3**	**-2.1**
KAPI	**Kappang**	**13.73**	**266**	Pn	**Pn**	**20 40 03.1**	**+2.5**
	2.8nm,0.4s,baz=70,slow=12,SNR=1.5						
TOLI2	**Tolitoli**	**13.79**	**292**	Pn	**Pn**	**20 39 59.9**	**-1.6**
PMG	**Port Moresby**	**14.49**	**111**	LR	LR	20 46 14.0	
	comp=Z,1μm,19.8s,baz=310,slow=39						
WB0	**Warramunga Arr**	**15.44**	**177**		**Pn**	**20 40 22.7**	**-1.2**
WB0				IAmb	IAmb	20 40 49.3	
	comp=Z,36nm,0.9s						
WRA	**Warramunga Arr**	**15.61**	**177**		**Pn**	**20 40 24.9**	**-1.3**
WRA	**Warramunga Arr**	**15.61**	**177**	Pn	**Pn**	**20 40 24.2**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=5.5,slow=13,SNR=15						
WRA				Sn	**Sn**	**20 43 12.2**	**-7.1**
	comp=Z,1.6nm,0.3s,baz=8.1,slow=22,SNR=5.8						
WB2	**Warramunga Arr**	**15.61**	**177**		**Pn**	**20 40 24.0**	**-2.1**
WB2				IAmb	IAmb	20 40 37.1	
	comp=Z,42nm,0.9s						
WR0	**Warramunga Arr**	**15.64**	**176**		**Pn**	**20 40 26.0**	**-0.5**
WR0				IAmb	IAmb	20 40 37.4	
	comp=Z,50nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.76**	**209**	P	**Pn**	**20 40 26.8**	**-1.3**
	baz=16,SNR=17						
FITZ	**Fitzroy Crossi**	**15.76**	**209**		**Pn**	**20 40 24.6**	**-3.4**
QIS	**Mount Isa**	**17.25**	**160**	P	**P**	**20 40 49.5**	**+0.9**
	baz=18,SNR=13						
MTSU	**Mount Surprise**	**17.38**	**143**	P	**P**	**20 40 50.8**	**+0.8**
	baz=18,SNR=4.9						
MYLDM	**Lahad Datu**	**17.68

HHC				LR	LR			
	comp=N,170nm,16.0s							
HHC				LR	LR			
	comp=E,210nm,16.0s							
HHC				LR	LR			
	comp=Z,340nm,16.0s							
TUWZ	**Tuamarina**	**51.73**	**142**	P	**P**	**20 45 54.9**	**+1.4**	
GTA	**Gaotai**	**53.40**	**328**	*eP*	**P**	**20 46 09.0**	**+3.0**	
GTA				pP	sP	20 46 13.9	+3.4	
GTA				pmax	pmax			
	comp=Z,4.0nm,1.0s							
GTA				LR	LR			
	comp=N,180nm,15.5s							
GTA				LR	LR			
	comp=E,240nm,16.3s							
GTA				LR	LR			
	comp=Z,210nm,16.7s							
SONM	**Songino Array**	**57.07**	**339**	P	**P**	**20 46 31.7**	**-0.7**	
	comp=Z,0.7nm,0.8s,baz=157,slow=7.2,SNR=2.6							
WMQ	comp=Z,0.7nm,0.8s							
WMQ	**Urumqi**	**63.11**	**324**	*eP*	**P**	**20 47 17.8**	**+4.0**	
WMQ				sP	sP	20 47 22.1	+3.8	
WMQ				PP	PP	20 49 41.9	+9.1	
WMQ				pmax	pmax			
	comp=Z,18nm,0.9s							
CASY	**Casey**	**63.96**	**190**	P	**P**	**20 47 19.6**	**+0.6**	
CASY				IAmb	IAmb	20 48 01.1		
	comp=Z,5.9nm,1.1s							
YAK	**Yakutsk**	**66.17**	**358**	P	**P**	**20 47 33.1**	**-0.2**	
SHEM	**Shemya Is, Ala**	**66.30**	**26**	LR	LR	21 12 36.3		
	comp=Z,102nm,21.5s,baz=90,slow=32							
MK31	**Makanchi Array**	**67.94**	**325**	P	**P**	**20 47 43.8**	**-1.2**	
MK31				IAmb	IAmb	20 47 49.3		
	comp=Z,2.8nm,0.8s							
MKAR	**Makanchi Array**	**67.94**	**325**	P	**P**	**20 47 43.9**	**-1.1**	
MKAR	**Makanchi Array**	**67.94**	**325**	P	**P**	**20 47 44.9**	**-0.1**	
	comp=Z,4.7nm,0.9s,baz=117,slow=7.6,SNR=22							
	comp=Z,4.7nm,0.9s							
MAKZ	**Makanchi**	**68.12**	**325**	P	**P**	**20 47 45.2**	**-0.9**	
MAKZ				IAmb	IAmb	20 47 49.9		
	comp=Z,4.1nm,0.9s							
BOOM	**Boomskoye usch**	**69.76**	**318**	P	**P**	**20 47 55.7**	**-0.8**	
ZAA0	**Zalesovo Array**	**70.75**	**332**	P	**P**	**20 48 01.2**	**-0.9**	
ZAA0				IAmb	IAmb	20 48 12.8		
	comp=Z,2.4nm,0.8s							
ZALV	**Zalesovo Beam**	**70.75**	**332**	P	**P**	**20 48 01.0**	**-1.2**	
ZALV	**Zalesovo Beam**	**70.75**	**332**	P	**P**	**20 48 03.0**	**+0.8**	
	comp=Z,0.6nm,0.4s,baz=146,slow=3.4,SNR=4.1							
	comp=Z,0.6nm,0.4s							
ARSB	**Arslanbob**	**71.27**	**316**	P	**P**	**20 48 06.4**	**+0.6**	
KURK	**Kurchatov**	**72.08**	**327**	P	**P**	**20 48 11.4**	**+1.1**	
KURK				IAmb	IAmb	20 48 14.8		
	comp=Z,3.1nm,0.9s							
KURBB	**Kurchatov Arra**	**72.08**	**327**	P	**P**	**20 48 09.9**	**-0.3**	
	comp=Z,1.5nm,0.7s,baz=123,slow=5.1,SNR=12							
	comp=Z,1.5nm,0.7s							
KK31	**Karatay Array**	**73.65**	**317**	P	**P**	**20 48 19.4**	**-0.5**	
KKAR	**Karatay Array**	**73.65**	**317**	P	**P**	**20 48 18.9**	**-0.9**	
KKAR	**Karatay Array**	**73.65**	**317**	P	**P**	**20 48 19.0**	**-0.8**	
KKAR				IAmb	IAmb	20 48 23.5		
	comp=Z,1.5nm,0.8s							
VNDA	**Vanda**	**74.76**	**174**	P	**P**	**20 48 27.7**	**+2.1**	
VNDA	**Vanda**	**74.76**	**174**	P	**P**	**20 48 27.6**	**+1.9**	
	comp=Z,2.2nm,0.8s,baz=310,slow=5.3,SNR=11							
	comp=Z,2.2nm,0.8s							
TIXI	**Tiksi**	**75.83**	**358**	P	**P**	**20 48 33.5**	**+1.7**	
RER	**Riviere de l'E**	**77.06**	**249**	P	**P**	**20 48 40.5**	**+0.5**	
BVAR	**Borovoye Array**	**77.67**	**327**	P	**P**	**20 48 41.5**	**-1.1**	
	comp=Z,0.8nm,0.7s,baz=114,slow=6.6,SNR=9.0							
	comp=Z,0.8nm,0.7s							
BRVK	**Borovoye**	**77.74**	**327**	P	**P**	**20 48 44.0**	**+1.1**	
BRVK				IAmb	IAmb	20 49 01.5		
	comp=Z,2.2nm,0.7s							
MAW	**Mawson**	**78.76**	**202**	P	**P**	**20 48 49.7**	**+1.3**	
	comp=Z,1.4nm,0.8s,baz=46,slow=7.6							
	comp=Z,1.4nm,0.8s							
GEYT	**Alibeck**	**81.15**	**309**	P	**P**	**20 49 01.6**	**-0.4**	
	comp=Z,1.8nm,0.8s,baz=216,slow=7.1,SNR=2.1							
	comp=Z,1.8nm,0.8s							
ABKAR	**Akbulak array**	**82.58**	**321**	P	**P**	**20 49 08.2**	**-0.9**	
ABKAR				IAmb	IAmb	20 49 13.7		
	comp=Z,2.6nm,0.9s							
ABKAR	**Akbulak array**	**82.58**	**321**	P	**P**	**20 49 08.3**	**-0.8**	
M16K	**Timber Creek**	**83.04**	**27**	P	**P**	**20 49 12.4**	**+1.0**	
J17K	**VABM Dome**	**83.89**	**25**	P	**P**	**20 49 15.5**	**-0.1**	
J17K				IAmb	IAmb	20 49 36.1		
	comp=Z,11nm,1.4s							
K17K	**Iditarod**	**83.96**	**25**	P	**P**	**20 49 15.9**	**-0.1**	
K17K				IAmb	IAmb	20 49 47.8		
	comp=Z,10nm,1.4s							
H17K	**Granite Mounta**	**84.14**	**23**	P	**P**	**20 49 16.3**	**-0.6**	
H17K				IAmb	IAmb	20 49 33.3		
	comp=Z,9.4nm,1.1s							
QSPA	**South Pole Qui**	**85.70**	**180**	P	**P**	**20 49 24.4**	**-0.5**	
QSPA				IAmb	IAmb	20 49 30.4		
	comp=Z,7.5nm,1.0s							
QSPA	**South Pole Qui**	**85.70**	**180**	P	**P**	**20 49 26.3**	**+1.3**	
	comp=Z,4.9nm,0.9s,baz=257,slow=1.4,SNR=11							
	comp=Z,4.9nm,0.9s							
ILAR	**Eielson Array**	**89.40**	**25**	P	**P**	**20 49 41.9**	**-0.7**	
	comp=Z,0.3nm,0.6s,baz=278,slow=4.4,SNR=2.6							
ILAR				LR	LR	21 24 54.0		
	comp=Z,81nm,20.6s,baz=251,slow=32							
	comp=Z,0.3nm,0.6s							
ELIB	**Princess Elisa**	**92.12**	**197**	*dP*	**P**	**20 49 55.4**	**0.0**	
	comp=Z,5.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**131.63**	**284**	PKP	**PKPdf**	**20 56 00.2**	**+0.2**	
	comp=Z,0.7nm,0.7s,baz=51,slow=2.9,SNR=4.3							

IDC 18 20:39:48.4±2.7, 6°.53S×146°.64E, h0km, mb3.4/2, mbtmp3.7/4, ML1.8/1, Error ellipse: s-maj=69.6km s-min=27.6km az=80.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.90**	**170**	Pn	Pn	20 40 36.0	+0.2
	11nm,0.3s,baz=14,slow=9.4,SNR=29						
PMG				Sn	Sn	20 41 12.7	+1.2
	13nm,0.3s,baz=211,slow=19,SNR=6.0						
	22nm,0.3s						
WRA	**Warramunga Arr**	**17.90**	**221**	P	P	20 44 00.9	+1.2
	2.6nm,0.6s,baz=44,slow=12,SNR=1.1						
ASAR	**Alice Springs**	**20.98**	**214**	P	P	20 44 32.2	-1.2
	1.5nm,0.6s,baz=44,slow=9.9,SNR=5.9						
	1.5nm,0.6s						
MKAR	**Makanchi Array**	**77.68**	**321**	P	P	20 51 47.1	+0.1
	0.2nm,0.7s,baz=106,slow=4.7,SNR=1.8						
	0.2nm,0.7s						

*SJA **18** 20:52:13.6±0.7, 26°.12S×69°.42W, h128km±6km, ML3.9, MW3.8*
*GUC **18** 20:52:15.1±0.6, 26°.15S×69°.29W, h90km, ML3.9*
ISC 18 20:52:12.4±1.3, 26°.09S±0°.03×69°.59W±0°.06, h150km±11km, n41, σ2°.31/64, 5C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AC01	**Pan de Azucar**	**0.91**	**266**	*eP*	**Pn**	**20 52 37.1**	**+0.7**
AC01				*eS*	**Pn**	**20 52 37.8**	**+1.5**
AC01				IAML		20 52 38.5	
	comp=Z,2μm,0.1s						
AC01				*eS*	**Sn**	**20 52 55.6**	**+1.0**
AC01	**Pan de Azucar**	**0.91**	**266**	*eP*	**Pn**	**20 52 37.9**	**+1.5**
AC01				*eS*	**Sn**	**20 52 55.0**	**+0.3**
AC01				IAML		20 52 55.9	
	comp=E,3μm,0.2s						
GO02	**Mina Guanaco**	**0.93**	**0**	*eP*	**Pn**	**20 52 37.2**	**+0.2**
GO02				*eS*	**Sn**	**20 52 54.0**	**-1.6**
GO02	**Mina Guanaco**	**0.93**	**0**	*eP*	**Pn**	**20 52 37.0**	**0.0**
GO02				*i S*	**Sn**	**20 52 53.3**	**-2.3**
AC06	**Mina Casimiro**	**1.43**	**208**	*eP*	**Pn**	**20 52 42.0**	**+0.7**
AC06				*i S*	**Sn**	**20 53 03.2**	**-0.2**
AC06				IAML		20 53 05.4	
	comp=N,1μm,0.2s						
PB14	**IPOC Station P**	**1.64**	**333**	*eP*	**Pn**	**20 52 45.8**	**+2.0**
PB14				*eS*	**Sn**	**20 53 09.1**	**+1.3**
PB14				IAML		20 53 10.8	
	comp=Z,1μm,0.4s						
PB14	**IPOC Station P**	**1.64**	**333**	*eP*	**Pn**	**20 52 46.3**	**+2.6**
PB14				*i S*	**Sn**	**20 53 08.3**	**+0.6**
PB14				IAML		20 53 11.1	
	comp=N,1μm,0.5s						
AC04	**Llanos de Chal**	**2.48**	**212**	*eP*	**Pn**	**20 52 54.8**	**+1.5**
AC04				*eS*	**Sn**	**20 53 21.5**	**-3.3**
AC04				IAML		20 53 26.8	
	comp=Z,334nm,0.2s						
AC04	**Llanos de Chal**	**2.48**	**212**	*eP*	**Pn**	**20 52 54.4**	**+1.1**
AC04				IAML		20 53 27.0	
	comp=N,1μm,0.3s						
PB10	**IPOC Station P**	**2.71**	**341**	*eP*	**Pn**	**20 52 58.3**	**+2.1**
PB10				*eS*	**Sn**	**20 53 26.8**	**-3.2**
PB10				IAML		20 53 31.2	
	comp=Z,193nm,0.6s						
PB10	**IPOC Station P**	**2.71**	**341**	*eP*	**Pn**	**20 52 58.3**	**+2.1**
PB10				*i S*	**Sn**	**20 53 26.6**	**-3.4**
PB10				IAML		20 53 31.7	
	comp=N,567nm,0.1s						
AC05	**El Transito**	**2.80**	**192**	*eP*	**Pn**	**20 52 58.9**	**+1.5**
AC05				*eS*	Sn	20 53 22.9	-9.2
AC05				IAML		20 53 36.5	
	comp=Z,323nm,0.5s						
AC05	**El Transito**	**2.80**	**192**	*eP*	**Pn**	**20 52 58.7**	**+1.4**
AC05				*eS*	**Sn**	**20 53 27.9**	**-4.2**
PB15	**IPOC Station P**	**2.88**	**2**	*eP*	**Pn**	**20 53 00.8**	**+2.3**
PB15				*eS*	**Sn**	**20 53 31.5**	**-2.4**
PB15				IAML		20 53 38.4	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**2.88**	**2**	*eP*	**Pn**	**20 53 00.7**	**+2.3**
VCA	**Vinchina**	**2.91**	**155**	*eP*	**Pn**	**20 53 00.5**	**+1.7**
VCA				*eS*	**Sn**	**20 53 35.2**	**+0.7**
VCA				IAML		20 53 37.9	
	comp=Z,211nm,0.3s						
VCA	**Vinchina**	**2.91**	**155**	*iP*	**Pn**	**20 53 00.5**	**+1.7**
VCA				*eS*	**Sn**	**20 53 34.6**	**+0.1**
VCA				IAML		20 53 38.0	
	comp=E,331nm,0.5s						
LCO	**Las Campanas**	**3.07**	**198**	*eP*	**Pn**	**20 53 02.4**	**+1.6**
LCO				*eS*	**Sn**	**20 53 39.2**	**+0.8**
LCO	**Las Campanas**	**3.07**	**198**	*eP*	**Pn**	**20 53 01.9**	**+1.0**
LCO				*i S*	**Sn**	**20 53 31.1**	**-7.3**
FSA	**Cafayete**	**3.25**	**91**	*eP*	**Pn**	**20 53 04.0**	**+0.9**
PB06	**IPOC Station P**	**3.37**	**0**	*eP*	**Pn**	**20 53 06.6**	**+1.8**
PB06				*eS*	Sn	20 53 34.0	-11
PB06				IAML		20 53 40.0	
	comp=Z,231nm,0.7s						
PB06	**IPOC Station P**	**3.37**	**0**	*iP*	**Pn**	**20 53 06.5**	**+1.8**
PB06				*eS*	**Sn**	**20 53 39.8**	**-5.5**
AGUA	**GUANDACOL**	**3.52**	**164**	*eP*	**Pn**	**20 53 08.3**	**+1.8**
AGUA				*eS*	**Sn**	**20 53 49.0**	**+0.6**
AGUA				IAML		20 53 52.5	
	comp=Z,208nm,0.2s						
LVC	**Limon Verde**	**3.52**	**10**	*eP*	**Pn**	**20 53 08.6**	**+1.7**
LVC				*eS*	Sn	20 53 37.8	-11
LVC				IAML		20 53 44.4	
	comp=Z,116nm,0.4s						
LVC	**Limon Verde**	**3.52**	**10**	*iP*	**Pn**	**20 53 08.6**	**+1.7**
PB04	**IPOC Station P**	**3.78**	**352**	*eP*	**Pn**	**20 53 11.2**	**+1.2**
AROD	**Rodeo**	**4.06**	**179**	*eP*	**Pn**	**20 53 16.4**	**+2.7**
AROD				*eS*	**Sn**	**20 53 55.3**	**-6.1**
GO04	**Tololo Observa**	**4.20**	**194**	*eP*	**Pn**	**20 53 15.7**	**+0.2**
GO04	**Tololo Observa**	**4.20**	**194**	*eP*	**Pn**	**20 53 16.3**	**+0.8**
PB09	**IPOC Station P**	**4.29**	**4**	*eP*	**Pn**	**20 53 18.9**	**+2.2**
PB07	**IPOC Station P**	**4.36**	**356**	*eP*	**Pn**	**20 53 18.7**	**+1.2**
ACCO	**Cerro Coronel**	**4.50**	**174**	*eP*	**Pn**	**20 53 21.6**	**+2.1**
ACCO				*eS*	Sn	20 53 57.9	-14
AZAP	**Zapla**	**4.50**	**67**	*eP*	**Pn**	**20 53 21.8**	**+2.2**
PB02	**IPOC Station P**	**4.76**	**357**	*iP*	**Pn**	**20 53 23.6**	**+0.8**
CO03	**El Pedregal**	**4.83**	**191**	*eP*	**Pn**	**20 53 24.3**	**+0.8**
CO03				*eS*	**Sn**	**20 54 22.2**	**+3.1**
CO03				IAML		20 54 45.4	
	comp=Z,73nm,0.3s						
CO03	**El Pedregal**	**4.83**	**191**	*eP*	**Pn**	**20 53 24.4**	**+0.9**
DOCA	**Reserva Natura**	**4.86**	**175**	*eP*	**Pn**	**20 53 26.0**	**+1.7**
DOCA				*eS*	**Sn**	**20 54 20.1**	**-0.2**
DOCA				IAML		20 54 56.3	
	comp=Z,132nm,0.6s						
AVFE	**Valle Fertil**	**4.92**	**158**	*eP*	**Pn**	**20 53 25.4**	**+0.5**
AVFE				*eS*	**Sn**	**20 54 17.1**	**-4.3**
AVFE				IAML		20 54 18.2	
	comp=Z,245nm,0.4s						
PB01	**IPOC Station P**	**5.03**	**1**	*eP*	**Pn**	**20 53 27.6**	**+1.3**
PB01				IAML		20 54 47.5	
	comp=Z,54nm,0.3s						
CO02	**Combarbal**	**5.24**	**193**	*eP*	**Pn**	**20 53 29.2**	**+0.2**
CO02				IAML		20 54 57.0	
	comp=Z,84nm,1.1s						
RTLL	**Cerro Villicun**	**5.31**	**170**	*eP*	**Pn**	**20 53 31.1**	**+1.2**

*IDC **18** 21:07:27.0±7.6, 17°.86S×178°.03W, h528km±82km, mb2.9/5, mbtmp3.8/5, Error ellipse: s-maj=33.6km s-min=32.8km az=136.0*
ISC 18 21:07:32.5±1.0, 17°.9S±0°.3×178°.2W±0°.2, h590km, n7, σ0°.58/9, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**44.83**	**259**	P	**P**	**21 14 55.3**	**-0.2**
	0.5nm,0.3s,baz=94,slow=7.3,SNR=17						
WRA				PcP	**PcP**	**21 16 24.5**	**0.0**
	0.6nm,0.9s,baz=89,slow=3.5,SNR=1.8						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**44.99**	**254**	P	**P**	**21 14 57.1**	**+0.4**
	1.9nm,0.5s,baz=86,slow=8.7,SNR=30						
ASAR				PcP	**PcP**	**21 16 24.9**	**-0.2**
	0.2nm,0.6s,baz=100,slow=4.8,SNR=1.8						
	1.9nm,0.5s						
QSPA	**South Pole Qui**	**72.19**	**180**	P	**P**	**21 17 58.1**	**-0.3**
	0.6nm,0.5s,baz=275,slow=0.6,SNR=5.5						
	0.6nm,0.5s						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**21 19 09.2**	**-0.7**
	0.2nm,0.4s,baz=224,slow=5.0,SNR=6.9						
	0.2nm,0.4s						
TXAR	**Lajitas Array**	**85.81**	**58**	P	**P**	**21 19 11.4**	**+0.4**
	0.3nm,0.6s,baz=201,slow=6.7,SNR=3.7						
	0.3nm,0.6s						
BRTR	**Keskin Array B**	**144.89**	**315**	PKPbc	**PKPdf**	**21 26 04.6**	**+1.0**
	0.4nm,0.6s,baz=115,slow=6.2,SNR=4.1						
MMAI	**Mount Meron Ar**	**146.28**	**303**	PKPbc	**PKPbc**	**21 26 08.5**	**0.0**
	0.7nm,0.5s,baz=70,slow=5.7,SNR=5.3						

*JMA **18** 21:13:43.2±0.1, 34°.1N±1°.13°.6E±°, h398km, MV3.0/25, SHIMA PENINSULA REGION*
*IDC **18** 21:13:45.0±1.3, 34°.24N×136°.41E, h373km±17km, mb2.8/2, mbtmp3.6/8, Error ellipse: s-maj=30.8km s-min=18.9km az=114.0*
ISC 18 21:13:45.2±1.0, 34°.3N±0°.1×136°.35E±0°.08, h380km±11km, n18, σ0°.34/18, Western Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKN2	**Miekihoku**	**0.09**	**225**	P	**Pn**	**21 14 32.8**	**+0.3**
JWY	**Kouya**	**0.63**	**263**	P	**Pn**	**21 14 33.4**	**+0.1**
JTNC	**Tanabenakahech**	**0.78**	**232**	*eP*	**Pn**	**21 14 33.5**	**-0.1**
JYTA	**Yamagatataniai**	**1.33**	**14**	*eP*	**Pn**	**21 14 35.7**	**+0.2**
JAI	**Aioi**	**1.66**	**253**	*eP*	**Pn**	**21 14 37.2**	**-0.1**
JKG	**Kaga**	**1.97**	**360**	P	**Pn**	**21 14 38.9**	**-0.1**
JMN	**Monobe**	**2.13**	**255**	P	**Pn**	**21 14 40.5**	**+0.2**
JRY	**Ryogami san**	**2.70**	**50**	*eP*	**Pn**	**21 14 44.6**	**+0.2**
MJAR	**Matsushiro Arr**	**2.70**	**34**	P	**Pn**	**21 14 43.6**	**-0.8**
	9.9nm,0.5s,baz=214,slow=8.7,SNR=28						
JHS	**Saijyo**	**2.75**	**286**	*eP*	**Pn**	**21 14 45.0**	**+0.1**
BSO1	**Boso 1**	**3.84**	**83**	*eP*	**Pn**	**21 14 53.9**	**0.0**
JNU	**Nakatsue**	**4.71**	**257**	P	**Pn**	**21 15 03.5**	**+0.1**
	15nm,1.1s,baz=235,slow=4.5,SNR=4.9						
KSRS	**Korea Array**	**7.53**	**297**	P	**P**	**21 15 35.0**	**-0.2**
	1.2nm,0.5s,baz=116,slow=12,SNR=4.5						
USRK	**Uesuriysk Ar.**	**10.44**	**342**	P	**Pn**	**21 16 08.4**	**+0.2**
	1.5nm,0.4s,baz=151,slow=9.4,SNR=8.5						
ASAJ	**Asahikawa**	**10.93**	**24**	P	**Pn**	**21 16 14.0**	**+0.1**
	2.8nm,0.6s,baz=216,slow=8.7,SNR=1.6						
KLR	**Kul'dur**	**15.30**	**349**	P	**P**	**21 17 01.1**	**-0.3**
	0.4nm,0.5s,baz=191,slow=10,SNR=1.8						
WRA	**Warramunga Arr**	**53.98**	**182**	P	**P**	**21 22 31.2**	**-0.3**
	0.3nm,0.3s,baz=358,slow=7.8,SNR=6.2						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**53.98**	**31**	P	**P**	**21 22 31.6**	**+0.6**
	0.3nm,0.6s,baz=268,slow=5.7,SNR=4.5						
	0.3nm,0.6s						

IDC 18 21:38:13.3±1.9, 3°.06N×123°.34E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=207.8km s-min=27.9km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.28**	**155**	P	P	21 43 40.6	-1.0
	0.7nm,0.4s,baz=334,slow=10,SNR=10						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**28.48**	**159**	P	P	21 44 09.9	-0.5
	0.2nm,0.5s,baz=337,slow=9.1,SNR=2.8						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**38.83**	**155**	P	P	21 45 41.8	+1.6
	0.7nm,0.4s,baz=347,slow=19,SNR=3.2						
	0.7nm,0.4s						
MKAR	**Makanchi Array**	**56.23**	**327**	P	P	21 47 55.3	-0.1
	0.1nm,0.4s,baz=133,slow=7.5,SNR=2.3						
	0.1nm,0.4s						

*NEIC **18** 21:41:44.1±0.7, 19°.33N±0°.05×155°.07W±0°.04, h33km±3km, Error ellipse: s-maj=7.5km s-min=3.6km az=152.0*
HVO 18 21:41:44.0±1.1, 19°.30N±0°.04×154°.98W±0°.04, h37km±2km, Md2.7/13, ML2.9/38(NEIC), Error ellipse: s-maj=7.4km s-min=4.2km az=136.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.14**	**351**	Pn	Pn	21 41 49.8	-5.8
JOKA				Sn	Sn	21 41 54.0	-13
JCUZ	**Jacuzzi**	**0.14**	**307**	Pn	Pn	21 41 49.9	-5.4
JCUZ				Sn	Sn	21 41 54.2	-12
NPOC	**North of Pu'u**	**0.15**	**308**	Pn	Pn	21 41 50.0	-4.8
NPOC				IAML		21 41 54.5	
	comp=E,1μm,0.2s						
STCH	**Steam Cracks**	**0.16**	**303**	Pn	Pn	21 41 49.8	-4.8
STCH				Sn	Sn	21 41 54.0	-11
STCH				IAML		21 41 54.6	
	comp=E,1μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.20**	**295**	Pn	Pn	21 41 50.1	-3.4
PUH	**Pauahi**	**0.23**	**289**	Pn	Pn	21 41 50.4	-2.4
PUH				IAML		21 41 53.3	
	comp=N,912nm,0.9s						
PUH				Sn	Sn	21 41 54.7	-6.2
BYL	**Byron's Ledge**	**0.29**	**294**	Pn	Pn	21 41 50.5	-1.9
BYL				Sn	Sn	21 41 55.4	-4.3
BYL				IAML		21 41 56.8	
	comp=N,2μm,0.8s						
KKO	**Keanakako`i**	**0.29**	**291**	Pn	Pn	21 41 51.0	-1.4
KKO				Sn	Sn	21 41 55.5	-4.2
HATHI	**Halema'uma'u T**	**0.29**	**295**	Pn	Pn	21 41 50.3	-2.0
HATHI				Sn	Sn	21 41 55.8	-3.8
RIM	**Rim**	**0.29**	**290**	Pn	Pn	21 41 50.7	-1.7
RIM				Sn	Sn	21 41 55.7	-3.9
SBLHI	**Steaming Bluff**	**0.30**	**296**	Pn	Pn	21 41 50.8	-1.6
HLP	**Hilina Pali**	**0.31**	**270**	Pn	Pn	21 41 51.1	-1.2
HLP				IAML		21 41 55.3	
	comp=E,1μm,1.0s						
HLP				Sn	Sn	21 41 56.4	-3.1
HLP				IAML		21 41 56.9	
	comp=N,1μm,0.1s						
RSD	**Rainshed**	**0.32**	**301**	Pn	Pn	21 41 51.4	-1.1
RSD				Sn	Sn	21 41 56.3	-3.2
RSD				IAML		21 41 57.2	
	comp=N,1μm,2.7s						
RSD				IAML		21 42 00.9	
	comp=E,997nm,1.2s						
HTC	**Hot Caves**	**0.40**	**261**		Pn	21 41 52.4	-0.6
MLH	**Mauna Loa**	**0.43**	**297**	Pn	Pn	21 41 52.3	-1.4
MLH				IAML		21 41 58.6	
	comp=E,524nm,1.0s						
MLH				Sn	Sn	21 41 58.8	-2.0
MLH				IAML		21 42 04.7	
	comp=N,645nm,1.2s						
KHU	**Kahuku**	**0.60**	**265**	Pn	Pn	21 41 54.3	-2.1
KHU				IAML		21 42 04.3	
	comp=E,413nm,1.6s						
KHU				IAML		21 42 19.7	
	comp=N,343nm,2.6s						
ALEP	**Alea Permanent**	**0.67**	**291**		Pn	21 41 55.5	-1.9
ALEP					Sn	21 42 04.4	-2.4
HUH	**Hualalai**	**0.89**	**296**	Pn	Pn	21 41 58.2	-2.0
HUH				IAML		21 42 07.1	
	comp=E,242nm,1.4s						
HUH				IAML		21 42 16.7	
	comp=N,232nm,1.2s						
MHA	**Mahukona**	**1.24**	**316**	Pn	Pn	21 42 02.8	-2.0
HLK	**Haleakala**	**1.88**	**321**	Pn	Pn	21 42 11.7	-2.2
KPA	**Kalaupapa**	**2.66**	**315**	Pn	Pn	21 42 22.0	-2.3
WMR	**Waimanalo Ridg**	**3.24**	**309**	Pn	Pn	21 42 29.9	-2.4
HON	**Honolulu**	**3.48**	**306**	Pn	Pn	21 42 33.3	-2.3
KEKH	**Kekaha**	**5.17**	**302**	Pn	Pn	21 42 55.9	-3.0

*NEIC **18** 21:47:50.8±1.7, 19°.37N±0°.02×155°.23W±0°.03, h5km±1km, Error ellipse: s-maj=5.8km s-min=2.2km az=123.0*
HVO 18 21:47:51.1±0.7, 19°.410N±0°.010×155°.27W±0°.01, h0km±2km, ML3.0/14, ML2.0/22(NEIC), Error ellipse: s-maj=2.1km s-min=1.1km az=123.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BYL	**Byron's Ledge**	**0.01**	**79**	Pg	Pg	21 47 51.8	+0.3
BYL					Sg	21 47 52.3	+0.6
NPH	**North Pit**	**0.01**	**280**	Pg	Pg	21 47 51.6	+0.1
KKO	**Keanakako`i**	**0.01**	**164**	Pg	Pg	21 47 51.9	+0.3
HATHI	**Halema'uma'u T**	**0.01**	**33**	Pg	Pg	21 47 52.0	+0.4
HATHI					Sg	21 47 52.5	+0.6
OBL	**Observatory Le**	**0.01**	**

PGRA				A		A	22 06 00.0	
	42nm,0.1s							
H07N1	**FLORES T-PHASE**	**1.77**	**242**	T		T	22 07 11.4	
PCED	**Cedros**	**1.93**	**171**	*eP*		**Pg**	**22 05 33.0**	**0.0**
PCED				*eS*		**Sb**	**22 05 56.3**	**+0.2**
PCED				A		A	22 05 58.1	
	62nm,0.4s							
ROSA	**Rosais**	**1.93**	**160**	*eP*		**Pb**	**22 05 31.8**	**+0.1**
ROSA				*eS*		**Sb**	**22 05 56.3**	**+0.2**
ROSA				A		A	22 05 59.9	
	30nm,0.3s							
CALA	**Caldeira**	**1.98**	**171**	*eP*		**Pb**	**22 05 33.2**	**+0.7**
CALA				*eS*		**Sb**	**22 05 57.5**	**0.0**
CALA				A		A	22 05 59.1	
	122nm,0.5s							
PRIB2	**Ribeirinha**	**1.98**	**169**	*eS*		**Sb**	**22 05 57.2**	**-0.2**
PRIB2				A		A	22 06 01.4	
	311nm,0.5s							
H07S1	**FLORES T-PHASE**	**2.00**	**235**	*eS*		**Sn**	**22 05 54.9**	**-0.9**
H07S1				A		A	22 05 57.3	
	11nm,0.3s							
PFCBR	**Castelo Branco**	**2.04**	**172**	*eP*		**Pb**	**22 05 33.2**	**-0.2**
PFCBR				*eS*		**Sn**	**22 05 58.3**	**+1.7**
PFCBR				A		A	22 06 00.2	
	31nm,0.4s							
HOR	**Horta**	**2.04**	**170**	*eS*		**Sb**	**22 05 59.1**	**-0.1**
HOR				A		A	22 06 00.6	
	97nm,0.2s							
PMAN	**Manadas**	**2.05**	**158**	*eP*		**Pb**	**22 05 33.3**	**-0.5**
PMAN				*eS*		**Sb**	**22 05 59.0**	**-0.6**
PMAN				A		A	22 06 03.1	
	32nm,0.2s							
PICO	**Pico**	**2.10**	**166**	*eP*		**Pb**	**22 05 35.1**	**+0.5**
PICO				*eS*		**Sb**	**22 06 00.2**	**-0.8**
PICO				A		A	22 06 03.0	
	54nm,0.4s							
PCAN	**Candelaria**	**2.12**	**167**	*eP*		**Pb**	**22 05 34.8**	**-0.2**
PCAN				*eS*		**Sb**	**22 06 01.2**	**-0.4**
PCAN				A		A	22 06 07.4	
	58nm,0.3s							
PID	**Ribeirinha**	**2.22**	**160**	*eP*		**Pb**	**22 05 35.8**	**-0.9**
PID				*eS*		**Sb**	**22 06 03.4**	**-1.1**
PID				A		A	22 06 06.9	
	40nm,0.5s							
PSBA	**Serra de Santa**	**2.23**	**142**	*eP*		**Pb**	**22 05 35.4**	**-1.4**
PSBA				*eS*		**Sb**	**22 06 03.0**	**-1.8**
PSBA				A		A	22 06 05.8	
	63nm,0.3s							
PAGU	**Agualva, Azore**	**2.30**	**140**	*eP*		**Pb**	**22 05 36.3**	**-1.7**
PAGU				*eS*		**Sb**	**22 06 04.3**	**-2.4**
PAGU				A		A	22 06 06.1	
	96nm,0.1s							
ADH	**Angra Heroismo**	**2.36**	**142**	*eP*		**Pn**	**22 05 36.0**	**+0.6**
ADH				*eS*		**Sn**	**22 06 04.5**	**-0.3**
ADH				A		A	22 06 10.7	
	33nm,0.5s							
PSCM	**Serra do Cume**	**2.38**	**140**	*eP*		**Pb**	**22 05 37.9**	**-1.5**
PSCM				*eS*		**Sb**	**22 06 05.8**	**-3.3**
PSCM				A		A	22 06 10.6	
	58nm,0.2s							
CMLA	**Cha da Macela**	**3.92**	**134**	*eS*		**Sn**	**22 06 43.0**	**-0.2**
CMLA				A		A	22 06 48.7	
	43nm,0.3s							
BART	**Pico Bartolome**	**4.11**	**131**	*eP*		**Pn**	**22 06 01.5**	**+2.0**
PSMA	**Santa Maria**	**4.70**	**138**	*eP*		**Pn**	**22 06 10.0**	**+2.5**
PSMN	**Pico do Norte,**	**4.73**	**137**	*eP*		**Pn**	**22 06 10.4**	**+2.5**
ESDC	**Sonseca Array**	**19.23**	**84**	P		**Pn**	**22 09 23.6**	**+1.7**
	baz=280,slow=9.0,SNR=4.0							
	1.3nm,1.0s							
EKA	**Eskdalemuir Ar**	**22.64**	**40**	P		**P**	**22 09 59.0**	**+1.4**
	0.4nm,0.8s,baz=240,slow=9.8,SNR=1.3							
	0.4nm,0.8s							
YKA	**Yellowknife Ar**	**53.05**	**325**	P		**P**	**22 14 11.7**	**-2.0**
	0.4nm,0.9s,baz=66,slow=7.7,SNR=3.8							
	0.4nm,0.9s							
PDAR	**Pinedale Array**	**57.93**	**301**	P		**P**	**22 14 47.1**	**-2.3**
	0.6nm,0.7s,baz=61,slow=7.3,SNR=3.4							
	0.6nm,0.7s							
TXAR	**Lajitas Array**	**60.49**	**285**	P		**P**	**22 15 06.6**	**-0.6**
	0.6nm,0.8s,baz=69,slow=7.8,SNR=5.5							
	0.6nm,0.8s							
BVAR	**Borovoye Array**	**63.88**	**42**	P		**P**	**22 15 30.9**	**+1.5**
	0.3nm,0.5s,baz=321,slow=2.0,SNR=1.7							
	0.3nm,0.5s							
KURBB	**Kurchatov Arra**	**69.38**	**40**	P		**P**	**22 16 04.7**	**+0.2**
	0.6nm,1.0s,baz=314,slow=6.5,SNR=3.4							
	0.6nm,1.0s							
MKAR	**Makanchi Array**	**73.77**	**42**	P		**P**	**22 16 33.1**	**+2.0**
	0.3nm,0.7s,baz=328,slow=5.1,SNR=2.6							
	0.3nm,0.7s							

*IDC **18** 22:10:38.1±2.1,29°.89N×138°.06E,h390$_{km}$±47$_{km}$,mb2.8/6, mbtmp3.6/9,Error ellipse: s-maj=92.8km s-min=14.4km az=71.0*

ISC 18 22:10:38.5±1.2,29°.9N±0°.1×138°.2E±0°.2,h400$_{km}$,n10, σ0^{s}44/10,mb3.1/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.47**	**23**	P	**Pn**	**22 11 45.6**	**-0.1**
	124nm,0.8s,baz=240,slow=20,SNR=2.8						
JHJ				S	**S**	**22 12 39.9**	**-0.2**
	158nm,1.1s,baz=180,slow=20,SNR=1.8						
JCJ	**Chichijima**	**4.50**	**128**	P	Pn	22 11 48.7	-6.8
	12nm,0.4s,baz=292,slow=19,SNR=9.1						
JCJ				S	S	22 12 47.5	-11
	75nm,0.3s,baz=294,slow=20,SNR=22						
USRK	**Ussuriysk Ar.**	**15.08**	**343**	P	**P**	**22 13 52.1**	**+0.5**
	1.1nm,0.6s,baz=161,slow=9.2,SNR=2.9						
KLR	**Kul'dur**	**19.90**	**348**	P	**P**	**22 14 41.9**	**+0.2**
	0.7nm,0.4s,baz=166,slow=8.3,SNR=3.9						
ZALV	**Zalesovo Beam**	**45.05**	**318**	P	**P**	**22 18 16.0**	**-0.3**
	0.4nm,0.4s,baz=91,slow=7.2,SNR=1.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**45.97**	**308**	P	**P**	**22 18 22.7**	**-0.8**
	0.2nm,0.6s,baz=88,slow=7.5,SNR=2.7						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**48.55**	**313**	P	**P**	**22 18 43.0**	**-0.1**
	0.1nm,0.3s,baz=90,slow=7.7,SNR=5.4						
	0.1nm,0.3s						
WRA	**Warramunga Arr**	**49.71**	**185**	P	**P**	**22 18 52.1**	**0.0**
	0.5nm,0.4s,baz=1.0,slow=7.6,SNR=11						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**53.44**	**185**	P	**P**	**22 19 19.3**	**0.0**
	0.5nm,0.6s,baz=3.7,slow=7.0,SNR=6.3						
	0.5nm,0.6s						
BVAR	**Borovoye Array**	**53.58**	**316**	P	**P**	**22 19 20.5**	**+0.6**
	0.5nm,0.4s,baz=102,slow=8.0,SNR=3.8						
	0.5nm,0.4s						

*NEIC **18** 22:12:29.8±0.8,19°.413N±0°.010×155°.292W±0°.008, h1$_{km}$±3$_{km}$,Error ellipse: s-maj=1.5km s-min=0.9km az=194.0*

HVO 18 22:12:29.3±0.7,19°.413N±0°.010×155°.288W±0°.007, h1$_{km}$±3$_{km}$,ML2.6/29,ML2.1/44(NEIC),Error ellipse: s-maj=1.4km s-min=0.9km az=189.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**99**	Pg	Pg	22 12 29.7	0.0
OBL	**Observatory Le**	**0.01**	**39**	Pg	Pg	22 12 29.8	+0.1
UWE	**Uwekahuna**	**0.01**	**329**	Pg	Pg	22 12 30.0	+0.2
WRMHI	**West Rim**	**0.01**	**241**	IAML		22 12 29.8	
	comp=N,3μm,0.6s						
WRMHI				Pg	Pg	22 12 30.0	+0.2
UWB	**Uwekahuna B**	**0.01**	**38**	Pg	Pg	22 12 29.9	+0.1
RIM	**Rim**	**0.02**	**143**	IAML	Pg	22 12 30.1	+0.2
	comp=N,2μm,0.7s						
RIM				Pg	Pg	22 12 30.1	+0.2
SBLHI	**Steaming Bluff**	**0.02**	**53**	Pg	Pg	22 12 30.5	+0.7
SDHHI	**Sand Hill**	**0.02**	**194**	Pg	Pg	22 12 30.5	+0.6
BYL	**Byron's Ledge**	**0.03**	**92**	Pg	Pg	22 12 30.5	+0.6
KKO	**Keanakako`i**	**0.03**	**126**	IAML		22 12 30.1	
	comp=E,2μm,1.0s						
KKO				Pg	Pg	22 12 30.4	+0.6
HATHI	**Halema'uma'u T**	**0.03**	**69**	Pg	Pg	22 12 30.4	+0.5
PUH	**Pauahi**	**0.08**	**120**	Pg	Pg	22 12 31.4	+0.6
PUH				IAML		22 12 33.1	
	comp=E,698nm,0.3s						
PUH				IAML		22 12 33.3	
	comp=N,1μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.12**	**107**	Pg	Pg	22 12 32.5	+0.9
HLP	**Hilina Pali**	**0.12**	**189**	Pg	Pg	22 12 32.4	+0.8
HLP				IAML		22 12 34.0	
	comp=E,721nm,1.4s						
HLP				IAML		22 12 35.5	
	comp=N,1μm,0.6s						
MLH	**Mauna Loa**	**0.12**	**311**	Pg	Pg	22 12 32.6	+0.8
STCH	**Steam Cracks**	**0.16**	**100**	Pg	Pg	22 12 32.6	+0.3
STCH				IAML		22 12 36.8	
	comp=N,902nm,0.5s						
STCH				IAML		22 12 37.3	
	comp=E,776nm,0.9s						
NPOC	**North of Pu'u**	**0.17**	**97**	Pg	Pg	22 12 33.0	+0.4
NPOC				IAML		22 12 36.8	
	comp=N,1μm,0.7s						
NPOC				IAML		22 12 37.7	
	comp=E,847nm,1.0s						
JCUZ	**Jacuzzi**	**0.18**	**99**	Pg	Pg	22 12 33.1	+0.3
JCUZ				IAML		22 12 36.7	
	comp=E,657nm,0.8s						
JCUZ				IAML		22 12 39.0	
	comp=N,480nm,0.5s						
HTC	**Hot Caves**	**0.20**	**211**		Pg	22 12 34.2	+1.0
HMH	**Humu'ula Sheep**	**0.26**	**316**	Pg	Pg	22 12 35.3	+0.9
JOKA	**Jonika Flow**	**0.27**	**86**	Pg	Pg	22 12 34.9	+0.4
JOKA				IAML		22 12 42.7	
	comp=E,293nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.30**	**294**	Pg	Pg	22 12 35.5	+0.5
MLOA				IAML		22 12 45.2	
	comp=E,600nm,0.7s						
MWH	**Moku'aweowe**	**0.30**	**284**	Pg	Pg	22 12 35.8	+0.7
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg	22 12 36.4	+0.3
KHU				Sg	Sg	22 12 40.8	+0.2
POHA	**Pohakuloa**	**0.41**	**326**	Pg	Pg	22 12 38.0	+0.7
HUH	**Hualalai**	**0.58**	**298**	Pg	Pg	22 12 40.7	+0.2
HPAH	**Hawaii Prepara**	**0.72**	**328**	Pg	Pg	22 12 42.3	-1.0
MHA	**Mahukona**	**0.96**	**323**	Pg	Pg	22 12 45.8	-2.0

*IDC **18** 22:15:31.3±1.2,40°.87N×29°.67W,h0$_{km}$,mb3.5/10, mbtmp3.6/11,ML3.3/1,MS3.6/53,Error ellipse: s-maj=38.1km s-min=19.4km az=10.0*

*SVSA **18** 22:15:36.0±1.4,40°.85N×29°.09W,h10$_{km}$,ML3.7(INMG), Error ellipse: s-maj=8.0km s-min=4.9km az=80.0*

ISC 18 22:15:33.1±0.8,40°.44N±0°.05×29°.31W±0°.07,h10$_{km}$,n78, σ1^{s}33/41,mb3.7/10,MS3.6/52,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**1.58**	**242**	*eP*	**Pg**	**22 16 04.2**	**+0.8**
H07N1	**FLORES T-PHASE**	**1.58**	**242**	T	T	22 17 53.6	
	SNR=7.4						
SRBC	**Serra Branca**	**1.71**	**145**	*eP*	**Pn**	**22 16 02.7**	**-0.2**
SRBC				*eS*	**Sn**	**22 16 24.6**	**-0.2**
SRBC				A	A	22 16 30.7	
	446nm,0.4s						
PCED	**Cedros**	**1.87**	**165**	*eP*	**Pg**	**22 16 09.1**	**+0.2**
PCED				*eS*	**Sg**	**22 16 32.9**	**-0.2**
PCED				A	A	22 16 38.2	
	292nm,0.3s						
ROSA	**Rosais**	**1.91**	**154**	*eP*	**Pb**	**22 16 07.8**	**-0.1**
ROSA				*eS*	**Sg**	**22 16 32.5**	**-1.8**
ROSA				A	A	22 16 39.6	
	79nm,0.4s						
CALA	**Caldeira**	**1.91**	**166**	*eP*	**Pg**	**22 16 09.5**	**-0.3**
CALA				*eS*	**Sg**	**22 16 34.1**	**-0.5**
CALA				A	A	22 16 35.9	
	387nm,0.3s						
PFCBR	**Castelo Branco**	**1.97**	**166**	*eS*	**Sg**	**22 16 35.7**	**-0.7**
PFCBR				A	A	22 16 37.5	
	95nm,0.3s						
HOR	**Horta**	**1.98**	**164**	*eP*	**Pg**	**22 16 10.4**	**-0.7**
HOR				*eS*	**Sg**	**22 16 35.6**	**-1.1**
HOR				A	A	22 16 37.0	
	238nm,0.2s						
PMAN	**Manadas**	**2.04**	**152**	*eP*	**Pb**	**22 16 10.2**	**+0.1**
PMAN				*eS*	**Sb**	**22 16 35.5**	**0.0**
PMAN				A	A	22 16 41.8	
	100nm,0.4s						
PICO	**Pico**	**2.05**	**160**	*eP*	**Pb**	**22 16 10.5**	**0.0**
PICO				*eS*	**Sg**	**22 16 37.7**	**-1.4**
PICO				A	A	22 16 41.6	
	154nm,0.3s						
PCAN	**Candelaria**	**2.07**	**162**	*eP*	**Pb**	**22 16 11.2**	**+0.4**
PCAN				*eS*	**Sg**	**22 16 38.1**	**-1.6**
PCAN				A	A	22 16 42.4	
	217nm,0.5s						
PSBA	**Serra de Santa**	**2.27**	**137**	*eP*	**Pn**	**22 16 11.5**	**+0.9**
PSBA				*eS*	**Sn**	**22 16 38.7**	**+0.1**
PSBA				A	A	22 16 45.3	
	133nm,0.5s						
PAGU	**Agualva, Azore**	**2.34**	**135**	*eP*	**Pn**	**22 16 13.6**	**+2.0**
PAGU				*eS*	**Sn**	**22 16 39.9**	**-0.5**
PAGU				A	A	22 16 42.8	
	105nm,0.2s						
ADH	**Angra Heroismo**	**2.40**	**137**	*eP*	**Pn**	**22 16 11.4**	**-1.0**
ADH				*eS*	**Sn**	**22 16 40.4**	**-1.4**
ADH				A	A	22 16 49.5	
	55nm,0.5s						
PSCM	**Serra do Cume**	**2.42**	**135**	*eP*	**Pn**	**22 16 14.7**	**+1.9**
PSCM				*eS*	**Sn**	**22 16 42.4**	**-0.1**
PSCM				A	A	22 16 45.0	
	106nm,0.1s						
PSET	**Sete Cidades**	**3.82**	**132**	*eP*	**Pn**	**22 16 33.0**	**+1.0**
CMLA	**Cha da Macela**	**3.98**	**131**	*eP*	**Pn**	**22 16 34.8**	**+0.7**
CMLA				*eS*	**Sn**	**22 17 20.9**	**+0.2**
CMLA				A	A	22 17 27.3	
	54nm,0.3s						
BART	**Pico Bartolome**	**4.17**	**128**	*eP*	**Pn**	**22 16 37.4**	**+0.5**
PSMA	**Santa Maria**	**4.74**	**135**	*eP*	**Pn**	**22 16 45.9**	**+1.3**
PSMN	**Pico do Norte,**	**4.77**	**135**	*eP*	**Pn**	**22 16 46.9**	**+1.9**
ESDC	**Sonseca Array**	**19.40**	**84**	P	**P**	**22 20 01.3**	**+2.0**
	baz=279,slow=9.8,SNR=9.1						
ESDC				LR	LR	22 26 22.4	
	comp=Z,259nm,18.7s,baz=266,slow=33						
	1.2nm,0.7s						
MDT	**Midelt**	**21.19**	**103**	LR	LR	22 26 59.6	
	comp=Z,124nm,20.5s,baz=297,slow=32						
EKA	**Eskdalemuir Ar**	**22.82**	**40**	P	**P**	**22 20 33.0**	**-2.9**
	0.6nm,0.7s,baz=241,slow=9.6,SNR=2.4						
	0.6nm,0.7s						
BORG	**Borgarnes**	**24.79**	**8**	LR	LR	22 27 43.7	
	comp=Z,109nm,20.3s,baz=187,slow=30						
SCHQ	**Schefferville**	**28.69**	**313**	LR	LR	22 30 54.6	
	comp=Z,113nm,20.3s,baz=302,slow=33						
DAVOX	**Davos/Dischmat**	**28.85**	**64**	LR	LR	22 31 02.5	
	comp=Z,88nm,21.4s,baz=276,slow=32						
SFJD	**Kangerlussuaq**	**29.12**	**343**	LR	LR	22 30 32.6	
	comp=Z,76nm,19.0s,baz=170,slow=32						
KEST	**Kesra**	**30.61**	**86**	LR	LR	22 33 58.2	
	comp=Z,136nm,18.8s,baz=220,slow=36						
GERES	**GERESS Array B**	**31.38**	**60**	LR	LR	22 32 35.4	
	comp=Z,82nm,20.6s,baz=268,slow=33						
NOA	**NORSAR Array B**	**32.13**	**36**	LR	LR	22 32 47.8	
	comp=Z,37nm,21.5s,baz=260,slow=32						
FRB	**Frobisher Bay**	**32.69**	**329**	LR	LR	22 32 44.5	
	comp=Z,41nm,19.1s,baz=346,slow=32						
HFS	**Hagfors**	**32.99**	**39**	LR	LR	22 34 05.5	
	comp=Z,74nm,19.6s,baz=262,slow=34						
VRAC	**Vranov**	**33.27**	**59**	LR	LR	22 34 52.7	
	comp=Z,66nm,18.3s,baz=266,slow=35						
VAE	**Valguarnera**	**33.87**	**81**	LR	LR	22 34 28.3	
	comp=Z,189nm,20.1s,baz=310,slow=33						
SADO	**Sadowa**	**36.47**	**294**	LR	LR	22 36 07.1	
	comp=Z,229nm,20.9s,baz=124,slow=34						
TORD	**Torodi Ar. Bea**	**38.44**	**126**	P	**P**	**22 22 58.7**	**+3.7**
	1.8nm,1.0s,baz=332,slow=9.3,SNR=5.2						
TORD				LR	LR	22 37 09.9	
	comp=Z,80nm,20.8s,baz=318,slow=33						
	1.8nm,1.0s						
FINES	**FINESS Array B**	**39.20**	**39**	LR	LR	22 37 46.8	
	comp=Z,51nm,19.6s,baz=254,slow=34						
DBIC	**Dimbokro**	**40.12**	**140**	LR	LR	22 39 08.7	
	comp=Z,55nm,18.1s,baz=295,slow=35						
MDP	**Montagnes des**	**40.96**	**217**	LR	LR	22 36 14.7	
	comp=Z,75nm,20.0s,baz=306,slow=30						
AKASG	**Malin Array Be**	**41.23**	**55**	LR	LR	22 39 48.6	
	comp=Z,102nm,18.5s,baz=280,slow=35						
TKL	**Tuckaleechee C**	**42.59**	**282**	LR	LR	22 39 38.6	
	comp=Z,84nm,19.6s,baz=64,slow=34						
OBN	**Obninsk**	**44.92**	**48**	LR	LR	22 42 31.2	
	comp=Z,50nm,18.8s,baz=174,slow=36						
RES	**Resolute Bay**	**45.03**	**340**	LR	LR	22 39 27.8	
	comp=Z,76nm,18.2s,baz=3.0,slow=32						
ULM	**Lac du Bonnet**	**46.35**	**306**	LR	LR	22 42 08.1	
	comp=Z,195nm,19.4s,baz=92,slow=35						
BRTR	**Keskin Array B**	**47.23**	**69**	P	**P**	**22 24 07.9**	**+1.5**
	0.5nm,0.8s,baz=286,slow=7.3,SNR=3.3						
	0.5nm,0.8s						
SDV	**Santo Domingo**	**48.28**	**241**	LR	LR	22 42 18.6	
	comp=Z,23nm,18.7s,baz=316,slow=33						
KIRV	**Kirov**	**51.05**	**41**	LR	LR	22 45 43.7	
	comp=Z,48nm,18.1s,baz=292,slow=36						
MMAI	**Mount Meron Ar**	**51.37**	**77**	P	**P**	**22 24 37.6**	**-0.4**
	0.8nm,0.7s,baz=297,slow=16,SNR=1.6						
	0.8nm,0.7s						
YKA	**Yellowknife Ar**	**53.04**	**325**	P	P	22 24 44.6	-5.3
	0.3nm,0.8s,baz=70,slow=7.3,SNR=2.2						
	0.3nm,0.8s						
ROSC	**El Rosal**	**53.71**	**241**	LR	LR	22 45 26.5	
	comp=Z,82nm,19.4s,baz=52,slow=33						
TEIG	**Tepich**	**53.73**	**266**	LR	LR	22 45 11.8	
	comp=Z,348nm,19.5s,slow=33						
GNI	**Garni**	**54.85**	**64**	LR	LR	22 51 13.6	
	comp=Z,19nm,18.6s,baz=283,slow=39						
ARU	**Arti**	**56.43**	**42**	LR	LR	22 48 43.1	
	comp=Z,30nm,18.6s,baz=137,slow=35						
JTS	**Las Juntas de**	**57.42**	**255**	LR	LR	22 45 27.0	
	comp=Z,44nm,21.3s,baz=36,slow=31						
PDAR	**Pinedale Array**	**57.84**	**301**	P	**P**	**22 25 23.0**	**-2.1**
	1.4nm,1.0s,baz=70,slow=8.7,SNR=9.4						
PDAR				LR	LR	22 48 44.5	
	comp=Z,93nm,20.8s,baz=75,slow=35						
	1.4nm,1.0s						
AKTO	**Aktyubinsk**	**58.70**	**48**	LR	LR	22 50 29.0	
	comp=Z,49nm,18.3s,baz=251,slow=36						
ANMO	**Albuquerque**	**59.48**	**292**	LR	LR	22 49 37.4	
	comp=Z,60nm,21.6s,baz=160,slow=35						
NEW	**Newport**	**59.99**	**310**	LR	LR	22 49 02.2	
	comp=Z,107nm,21.5s,baz=113,slow=34						
TXAR	**Lajitas Array**	**60.36**	**285**	P	P	22 25 38.3	-4.2
	0.6nm,0.9s,baz=65,slow=7.2,SNR=4.4						
TXAR				LR	LR	22 51 00.1	
	comp=Z,31nm,19.8s,baz=49,slow=36						
	0.6nm,0.9s						
CMIG	**Matias Romero**	**60.62**	**268**	LR	LR	22 50 14.7	
	comp=Z,63nm,19.6s,baz=1.0,slow=34						
ELK	**Elko**	**62.53**	**301**	LR	LR	22 53 20.8	
	comp=Z,65nm,18.3s,baz=58,slow=37						
BVAR	**Borovoye Array**	**64.07**	**41**	LR	LR	22 54 26.2	
	comp=Z,36nm,18.4s,baz=312,slow=36						
BBB	**Bella Bella**	**64.08**	**317**	LR	LR	22 53 09.5	
	comp=Z,61nm,18.2s,baz=88,slow=36						
ILAR	**Eielson Array**	**64.38**	**335**	LR	LR	22 50 02.4	
	comp=Z,52nm,19.1s,baz=92,slow=32						
ATAH	**Atahualpa**	**65.40**	**236**	LR	LR	22 52 35.8	
	comp=Z,38nm,21.6s,baz=2.6,slow=34						
YBH	**Yreka Blue Hor**	**66.76**	**306**	LR	LR	22 54 44.8	
	comp=Z,62nm,18.4s,baz=54,slow=36						
LPAZ	**La Paz**	**66.99**	**221**	LR	LR	22 52 29.8	
	comp=Z,48nm,20.8s,baz=34,slow=33						
PFO	**Pinyon Flats O**	**67.19**	**295**	LR	LR	22 54 45.3	
	comp=Z,130nm,19.6s,baz=63,slow=35						
MBAR	**Mbarara**	**68.02**	**111**	LR	LR	22 56 06.9	
	comp=Z,53nm,18.2s,baz=287,slow=36						
LPIG	**La Paz**	**68.19**	**284**	LR	LR	22 54 58.5	
	comp=Z,50nm,20.9s,baz=44,slow=35						
NNA	**Nana**	**68.23**	**231**	LR	LR	22 54 49.0	
	comp=Z,34nm,21.2s,baz=351,slow=34						
KURBB	**Kurchatov Arra**	**69.56**	**40**	P	**P**	**22 26 40.1**	**-1.9**
	0.3nm,0.7s,baz=311,slow=6.0,SNR=2.6						
KURBB				LR	LR	22 56 48.9	
	comp=Z,44nm,18.7s,baz=164,slow=36						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**70.32**	**35**	LR	LR	22 56 07.2	
	comp=Z,19nm,20.9s,baz=90,slow=35						
AAK	**Ala-Archa**	**72.44**	**49**	LR	LR	22 58 43.1	
	comp=Z,41nm,20.5s,baz=337,slow=36						
TSUM	**Tsumeb**	**73.64**	**134**	LR	LR	22 56 49.7	
	comp=Z,41nm,21.5s,baz=330,slow=33						
MKAR	**Makanchi Array**	**73.95**	**42**	P	**P**	**22 27 09.2**	**+0.7**
	0.3nm,0.9s,baz=305,slow=5.1,SNR=2.1						
MKAR				LR	LR	23 00 22.3	
	comp=Z,58nm,18.5s,baz=324,slow=36						
	0.3nm,0.9s						
LSZ	**Lusaka**	**76.90**	**123**	LR	LR	23 02 21.9	
	comp=Z,119nm,18.1s,baz=302,slow=36						
SONM	**Songino Array**	**83.72**	**28**	P	**P**	**22 28 01.2**	**-1.0**
	0.3nm,0.3s,baz=340,slow=7.7,SNR=1.7						
	0.3nm,0.3s						

*IDC **18** 22:21:14.3±3.6,3°.92S×135°.45E,h0$_{km}$,mb3.3/2, mbtmp3.4/4,ML3.4/2,MS2.6/1,Error ellipse: s-maj=178.2km s-min=29.4km az=80.0*

*DJA **18** 22:21:22.8±1.3,4°.5±11°×13°.4E±°,h29$_{km}$±6$_{km}$,M3.6/5, MLv3.6/5*

ISC 18 22:21:21.8±1.2,4°.11S±0°.09×133°.8E±0°.2,h35$_{km}$,n8, σ2^{s}53/8,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	**Kaimana, Papua**	**0.45**	**353**	P	**Pn**	**22 21 29.5**	**-2.2**
KMPI				S	**Sn**	**22 21 37.8**	**-0.8**
FAKI	**Fak Fak**	**1.92**	**308**	P	**Pn**	**22 21 49.5**	**-2.5**
SWI	**Sorong**	**4.08**	**322**	P	**Pn**	**22 22 21.7**	**0.0**
WRA	**Warramunga Arr**	**15.75**	**178**	Pn	**Pn**	**22 24 59.2**	**-1.9**
	0.1nm,0.3s,baz=3.4,slow=13,SNR=2.7						
WRA				Sn	Sn	22 27 46.2	-8.4
	0.1nm,0.3s,baz=8.0,slow=22,SNR=3.8						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**19.44**	**180**	P

RSD				IAML			00 34 38.1		
	comp=E,1μm,0.2s								
SDHHI	**Sand Hill**	**0.04**	**200**	Pg	Pg		00 34 36.9	-0.1	
PUH	**Pauahi**	**0.08**	**130**	Pg	Pg		00 34 38.2	+0.3	
PUH				IAML			00 34 40.3		
	comp=N,1μm,0.6s								
PUH				IAML			00 34 40.4		
	comp=E,1μm,0.4s								
KNHH	**Kane Nui o Ham**	**0.11**	**114**	Pg	Pg		00 34 39.2	+0.7	
MLH	**Mauna Loa**	**0.12**	**304**	IAML			00 34 39.0		
	comp=N,679nm,1.0s								
MLH				Pg	Pg		00 34 40.1	+1.4	
MLH				IAML			00 34 41.0		
	comp=E,429nm,0.2s								
HLP	**Hilina Pali**	**0.13**	**192**	Pg	Pg		00 34 39.7	+0.9	
HLP				IAML			00 34 41.0		
	comp=N,696nm,0.9s								
STCH	**Steam Cracks**	**0.15**	**105**	Pg	Pg		00 34 39.7	+0.4	
STCH				IAML			00 34 43.3		
	comp=E,686nm,1.0s								
STCH				IAML			00 34 43.9		
	comp=N,483nm,0.2s								
NPOC	**North of Pu'u**	**0.16**	**101**	Pg	Pg		00 34 40.0	+0.5	
JOKA	**Jonika Flow**	**0.26**	**88**	Pg	Pg		00 34 41.3	0.0	
MLOA	**Mauna Loa Obse**	**0.30**	**292**	Pg	Pg		00 34 42.9	+0.8	
MLOA				IAML			00 34 45.9		
	comp=E,269nm,1.2s								
MWH	**Moku'aweowe**	**0.30**	**281**	Pg	Pg		00 34 43.0	+0.8	
KHU	**Kahuku**	**0.36**	**241**	Pg	Pg		00 34 43.6	+0.3	
HUH	**Hualalai**	**0.58**	**296**	Pg	Pg		00 34 48.3	+0.8	

IDC ***19*** *00:45:37.6±0.8,32.˚62N×97.˚16W,h0km,mb3.8/6, mbtmp3.6/13,ML3.5/7,MS2.8/2,Error ellipse: s-maj=17.4km s-min=8.6km az=153.0*

ANF ***19*** *00:45:38.8±0.7,32.˚48N×97.˚13W,h6km±5km, Error ellipse: s-maj=4.2km s-min=3.5km az=120.0*

NEIC ***19*** *00:45:39.5±0.9,32.˚48N±0.˚02×97.˚17W±0.˚02,h5km±2km, mb_Lg3.5/140,ML3.6/18,Mwr3.4/12(SLM), Error ellipse: s-maj=3.3km s-min=2.7km az=152.0*

NEIC ***19*** *00:45:39,32.˚48N×97.˚17W,h5km,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=1.51; $M_{\theta\theta}$=0.38; $M_{\phi\phi}$=1.13; $M_{r\theta}$=0.13; $M_{\theta\phi}$=0.65; $M_{\phi r}$=0.23; Fault plane solution: M_0=1.53000×10^{14} NP1:γ_0=30.00000°,δ40.00000°, λ-90.00000°. NP2:γ_0=210.00000°,δ50.00000°, λ-90.00000°. Principal axes: T 1.5315, Plg5.0000°, Azm300.0000°; N 0.0007, Plg0.0000°, Azm30.0000°; P -1.5322, Plg85.0000°, Azm120.0000°;*

ISC 19 00:45:38.6±0.8,32.˚50N±0.˚02×97.˚14W±0.˚02,h13km±5km, n157,σ1°28/159,mb3.8/6,Central Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FW14	**Alvarado**	**0.11**	**203**	**Pg**	**Pg**	**00 45 41.4**	**-0.3**
FW14				Sg	**Sg**	**00 45 43.1**	**-0.8**
FW14				IAML		00 45 43.6	
	44μm,0.3s						
FW16	**Waxahatchie**	**0.21**	**95**	Pg	**Pg**	**00 45 43.5**	**+0.3**
FW16				Sg	**Sg**	**00 45 46.9**	**+0.6**
FW16				IAML		00 45 50.3	
	12μm,0.9s						
FW13	**Cleburne**	**0.29**	**239**	Pg	**Pg**	**00 45 44.5**	**-0.1**
FW13				Sg	**Sg**	**00 45 47.0**	**-1.6**
WHTX	**Lake Whitney,**	**0.57**	**208**	Pg	**Pg**	**00 45 49.7**	**-0.1**
WHTX				Sg	**Sg**	**00 45 56.7**	**-0.7**
WHTX	**Lake Whitney,** baz=26	**0.57**	**208**	P	**Pg**	**00 45 49.8**	**-0.1**
WHTX				S	**Sg**	**00 45 57.2**	**-0.3**
	baz=26						
FW07	**Weatherford**	**0.58**	**290**	Pg	**Pg**	**00 45 49.9**	**-0.1**
FW07				Sg	**Sg**	**00 45 57.1**	**-0.5**
FW07				IAML		00 45 59.7	
	3μm,0.2s						
FW07				IAML		00 46 03.4	
	3μm,0.4s						
FW06	**Azle**	**0.59**	**323**	Pg	**Pg**	**00 45 50.0**	**-0.1**
FW06				Sg	**Sg**	**00 45 57.9**	**+0.1**
FW06				IAML		00 46 06.8	
	2μm,0.2s						
FW06				IAML		00 46 07.9	
	2μm,0.3s						
Z35A	**Perchaven, San**	**0.83**	**353**	Pg	**Pg**	**00 45 54.4**	**-0.3**
Z35A				Sg	**Sg**	**00 46 05.7**	**+0.1**
Z35A				IAML		00 46 09.1	
	comp=E,1μm,0.9s						
Z35A				IAML		00 46 13.9	
	comp=N,2μm,0.7s						
TREL	**Terrell**	**0.92**	**75**	Pg	**Pb**	**00 45 56.6**	**+0.3**
TREL				Sg	**Sb**	**00 46 09.0**	**+0.6**
FW03	**Perrin-Whitt E**	**0.95**	**305**	Pg	**Pg**	**00 45 56.4**	**-0.5**
FW03				Sg	**Sg**	**00 46 08.7**	**-0.6**
FW03				IAmb_Lg		00 46 09.2	
	comp=Z,419nm,0.8s						
FW03				IAML		00 46 15.3	
	comp=Z,2μm,0.3s						
FW03				IAML		00 46 15.3	
	comp=Z,3μm,0.4s						
PLPT	**Palo Pinto**	**1.04**	**288**	Pg	**Pg**	**00 45 58.0**	**-0.7**
PLPT				Sg	**Sg**	**00 46 11.7**	**-0.5**
237A	**Washetta, Mont**	**1.23**	**113**	Pg	**Pb**	**00 46 00.6**	**+0.1**
LOOK	**Love County**	**1.49**	**359**	Pg	**Pb**	**00 46 06.4**	**+0.3**
WTFS	**Witchita Falls**	**1.68**	**319**	Pn	**Pb**	**00 46 09.5**	**+0.1**
WTFS				IAmb_Lg		00 46 32.9	
	comp=Z,176nm,1.0s						
435B	**Jarrell**	**1.75**	**193**	Pn	**Pn**	**00 46 09.7**	**+1.0**
435B	**Jarrell** baz=12	**1.75**	**193**	P	**Pn**	**00 46 09.8**	**+1.0**
435B				Sb	**Sg**	**00 46 35.1**	**+0.1**
	baz=12						
Z38A	**Mt. Pleasant**	**1.96**	**67**	Pn	**Pn**	**00 46 13.0**	**+1.4**
ABTX	**Abilene, Hawle**	**2.12**	**274**	Pn	**Pn**	**00 46 15.1**	**+1.3**
ABTX	**Abilene, Hawle** baz=93	**2.12**	**274**	P	**Pn**	**00 46 15.2**	**+1.5**
ABTX				Sb	**Sg**	**00 46 45.2**	**-1.5**
	baz=93						
HNVL	**Huntsville, TX**	**2.25**	**140**	Pn	**Pn**	**00 46 16.6**	**+1.0**
X37A	**Clayton**	**2.55**	**35**	Pn	**Pn**	**00 46 21.3**	**+1.6**
X37A				IAmb_Lg		00 47 01.7	
	comp=Z,181nm,0.8s						
WMOK	**Wichita Mounta**	**2.62**	**329**	Pn	**Pn**	**00 46 22.1**	**+1.5**
WMOK	**Wichita Mounta** baz=149	**2.62**	**329**	P	**Pn**	**00 46 22.5**	**+1.8**
APMT	**Aspermont**	**2.64**	**289**	Pn	**Pn**	**00 46 22.7**	**+1.8**
MLDN	**Muldoon**	**2.71**	**179**	Pn	**Pn**	**00 46 22.4**	**+0.5**
MLDN				IAmb_Lg		00 47 09.9	
	comp=Z,176nm,0.7s						
FNO	**Franklin**	**2.76**	**356**	Pn	**Pn**	**00 46 24.0**	**+1.5**
FNO				IAmb_Lg		00 47 06.7	
	comp=Z,185nm,0.8s						
JCT	**Junction City**	**3.04**	**229**	Pn	**Pn**	**00 46 27.2**	**+0.8**
JCT	**Junction City** baz=48	**3.04**	**229**	P	**Pn**	**00 46 27.4**	**+0.9**
SN05	**Snyder 5**	**3.18**	**278**	Pn	**Pn**	**00 46 29.6**	**+1.3**
SN07	**Snyder 07**	**3.21**	**282**	Pn	**Pn**	**00 46 30.6**	**+1.7**
SN07				IAmb_Lg		00 47 25.9	
	comp=Z,112nm,0.8s						
OK029	**Liberty Lake**	**3.30**	**356**	Pn	**Pn**	**00 46 32.0**	**+2.1**
OK029				IAmb_Lg		00 47 30.8	
	comp=Z,98nm,0.7s						
DEOK	**Depew**	**3.38**	**9**	Pn	**Pn**	**00 46 33.1**	**+2.1**
DKNS	**Dickens**	**3.38**	**291**	Pn	**Pn**	**00 46 33.3**	**+2.1**
DKNS				IAmb_Lg		00 47 25.3	
	comp=Z,132nm,0.7s						
CSTR	**Hydro, Custer**	**3.39**	**338**	Pn	**Pn**	**00 46 33.9**	**+2.7**
SGCY	**Sterling City**	**3.43**	**261**	Pn	**Pn**	**00 46 32.7**	**+0.8**
OK031	**S. Brethren Rd**	**3.45**	**4**	Pn	**Pn**	**00 46 33.1**	**+1.0**
HNDO	**Hondo**	**3.49**	**212**	Pn	**Pn**	**00 46 33.8**	**+1.3**
OK052	**Battle Ridge R**	**3.49**	**4**	Pn	**Pn**	**00 46 34.0**	**+1.3**
EF01	**Eagle Ford 01**	**3.53**	**198**	Pn	**Pn**	**00 46 33.8**	**+0.7**
EF01				IAmb_Lg		00 47 34.2	
	comp=Z,130nm,0.8s						
TUL3	**Leonard**	**3.58**	**18**	Pn	**Pn**	**00 46 35.0**	**+1.2**
TUL3				IAmb_Lg		00 47 40.0	
	comp=Z,125nm,0.8s						
WLAR	**White Oak Lake**	**3.58**	**70**	Pn	**Pn**	**00 46 34.9**	**+1.1**
WLAR				IAmb_Lg		00 47 36.0	
	comp=Z,120nm,0.8s						
MIAR	**Mount Ida**	**3.61**	**55**	Pn	**Pn**	**00 46 34.7**	**+0.5**
MIAR	**Mount Ida** baz=236	**3.61**	**55**	P	**Pn**	**00 46 34.8**	**+0.6**
SMWD	**Samnorwood**	**3.66**	**316**	Pn	**Pn**	**00 46 36.3**	**+1.3**
QUOK	**Quay**	**3.68**	**5**	Pn	**Pn**	**00 46 36.5**	**+1.3**
735A	**Kenedy**	**3.68**	**189**	Pn	**Pn**	**00 46 36.2**	**+1.1**
POST	**Post**	**3.72**	**280**	Pn	**Pn**	**00 46 36.9**	**+1.2**
POST				IAmb_Lg		00 47 41.8	
	comp=Z,133nm,0.9s						
OZNA	**Ozona**	**3.75**	**246**	Pn	**Pn**	**00 46 37.5**	**+1.4**
OZNA				IAmb_Lg		00 47 41.7	
	comp=Z,133nm,0.7s						
441A	**DeRidder**	**3.79**	**116**	Pn	**Pn**	**00 46 38.3**	**+1.5**
OK048	**Pawnee Station**	**3.91**	**2**	Pn	**Pn**	**00 46 39.6**	**+1.3**
OK051	**E0350 and S346**	**4.00**	**4**	Pn	**Pn**	**00 46 40.6**	**+1.0**
RLO	**Rose Lookout**	**4.05**	**25**	Pn	**Pn**	**00 46 41.0**	**+0.7**
RLO				IAmb_Lg		00 47 55.4	
	comp=Z,62nm,0.7s						
CROK	**Carrier**	**4.05**	**350**	Pn	**Pn**	**00 46 41.1**	**+0.7**
CROK				IAmb_Lg		00 47 58.0	
	comp=Z,108nm,0.8s						
X40A	**Basin Creek Fa**	**4.11**	**60**	Pn	**Pn**	**00 46 41.9**	**+0.9**
U32A	**Winter Ranch,**	**4.16**	**339**	Pn	**Pn**	**00 46 43.3**	**+1.4**
OK038	**West end E0370**	**4.18**	**342**	Pn	**Pn**	**00 46 43.6**	**+1.5**
OK038				IAmb_Lg		00 48 03.3	
	comp=Z,131nm,0.7s						
BLOK	**Blackwell**	**4.25**	**359**	IAmb_Lg		00 48 05.8	
	comp=Z,116nm,0.7s						
DRIO	**Del Rio**	**4.28**	**225**	Pn	**Pn**	**00 46 44.9**	**+1.3**
DRIO				IAmb_Lg		00 48 03.7	
	comp=Z,140nm,0.7s						
GC02	**Grant County #**	**4.38**	**352**	Pn	**Pn**	**00 46 46.0**	**+1.1**
NOKA	**Waynoka**	**4.38**	**341**	IAmb_Lg		00 48 06.8	
	comp=Z,138nm,0.7s						
OK032	**Salt Plains WL**	**4.38**	**349**	Pn	**Pn**	**00 46 46.4**	**+1.5**
OK032				IAmb_Lg		00 48 02.3	
	comp=Z,92nm,0.8s						
OK035	**E0210 Rd and N**	**4.39**	**343**	Pn	**Pn**	**00 46 46.1**	**+1.1**
T35A	**Sooner Cattle**	**4.43**	**7**	Pn	**Pn**	**00 46 46.3**	**+0.7**
AMTX	**Amarillo**	**4.47**	**303**	Pn	**Pn**	**00 46 46.8**	**+0.6**
KAN17	**Caldwell West**	**4.56**	**354**	Pn	**Pn**	**00 46 48.4**	**+1.1**
ODSA	**Odessa**	**4.59**	**267**	Pn	**Pn**	**00 46 48.8**	**+0.9**
ODSA				IAmb_Lg		00 48 08.2	
	comp=Z,142nm,1.1s						
833A	**Chaparral WMA,**	**4.60**	**206**	Pn	**Pn**	**00 46 48.7**	**+0.8**
833A				IAmb_Lg		00 48 16.9	
	comp=Z,120nm,1.1s						
833A	**Chaparral WMA,** baz=24	**4.60**	**206**	P	**Pn**	**00 46 49.1**	**+1.3**
UALR	**University of**	**4.60**	**59**	Pn	**Pn**	**00 46 48.8**	**+1.0**
HHAR	**Hobbs**	**4.61**	**34**	Pn	**Pn**	**00 46 49.3**	**+1.3**
KAN09	**Caldwell North**	**4.64**	**355**	Pn	**Pn**	**00 46 49.6**	**+1.2**
KAN01	**Argonia South**	**4.67**	**354**	Pn	**Pn**	**00 46 49.8**	**+1.0**
KAN01				IAmb_Lg		00 48 09.0	
	comp=Z,116nm,1.0s						
CCAR	**Cane Creek**	**4.72**	**71**	Pn	**Pn**	**00 46 50.4**	**+1.0**
CCAR				IAmb_Lg		00 48 12.5	
	comp=Z,100nm,0.8s						
KAN08	**Anthony NE Sta**	**4.76**	**352**	IAmb_Lg		00 48 14.6	
	comp=Z,134nm,1.2s						
KAN06	**Argonia West S**	**4.77**	**353**	Pn	**Pn**	**00 46 51.0**	**+0.8**
KAN06				IAmb_Lg		00 48 19.3	
	comp=Z,102nm,0.9s						
KAN12	**Harper NE Stat**	**4.84**	**352**	IAmb_Lg		00 48 23.9	
	comp=Z,63nm,0.8s						
WHAR	**Wooly Hollow**	**4.90**	**54**	Pn	**Pn**	**00 46 53.1**	**+1.1**
MNHN	**Monahans**	**4.92**	**258**	Pn	**Pn**	**00 46 52.8**	**+0.5**
MNHN				IAmb_Lg		00 48 17.1	
	comp=Z,98nm,0.8s						
MSTX	**Muleshoe**	**4.94**	**289**	Pn	**Pn**	**00 46 53.6**	**+0.9**
MSTX				IAmb_Lg		00 48 21.1	
	comp=Z,88nm,0.8s						
MSTX	**Muleshoe** baz=106	**4.94**	**289**	S	**Sn**	**00 47 51.7**	**+2.0**
SAND	**Sanderson**	**4.97**	**241**	Pn	**Pn**	**00 46 54.7**	**+1.8**
FCAR	**Ozark Folk Cen**	**5.36**	**50**	Pn	**Pn**	**00 46 59.3**	**+1.1**
HBVL	**Hebbronville**	**5.58**	**194**	Pn	**Pn**	**00 47 01.8**	**+0.5**
VBMS	**Vicksburg**	**5.61**	**91**	IAmb_Lg		00 48 52.8	
	comp=Z,46nm,0.8s						
PECS	**Pecos**	**5.83**	**261**	Pn	**Pn**	**00 47 06.0**	**+1.2**
ALPN	**Alpine**	**5.94**	**251**	Pn	**Pn**	**00 47 06.5**	**0.0**
ALPN				IAmb_Lg		00 48 54.3	
	comp=Z,102nm,0.9s						
R32A	**Long Quarter,**	**6.04**	**348**	Pn	**Pn**	**00 47 08.9**	**+1.2**
S39A	**Bolivar**	**6.05**	**30**	Pn	**Pn**	**00 47 08.6**	**+0.8**
S39A				IAmb_Lg		00 48 53.7	
	comp=Z,49nm,1.0s						
RTBA	**Rita Blanca**	**6.06**	**312**	Pn	**Pn**	**00 47 10.2**	**+2.1**
RTBA				IAmb_Lg		00 48 56.1	
	comp=Z,57nm,0.7s						
LCAR	**Lake Charles**	**6.10**	**53**	Pn	**Pn**	**00 47 09.2**	**+0.7**
MGMO	**Mountain Grove**	**6.13**	**39**	Pn	**Pn**	**00 47 10.4**	**+1.5**
MGMO				IAmb_Lg		00 48 56.2	
	comp=Z,44nm,0.8s						
TXAR	**Lajitas Array**	**6.43**	**242**	Pn	**Pn**	**00 47 13.9**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=67,slow=12,SNR=49						
TXAR				Pg	**Pb**	**00 47 31.9**	**+1.4**
	comp=Z,2.8nm,0.3s,baz=71,slow=13,SNR=5.1						
TXAR				Sn	**Sn**	**00 48 25.1**	**-1.4**
	comp=Z,3.2nm,0.3s,baz=67,slow=16,SNR=1.4						
TXAR				Lg	Lg	00 48 56.8	
	comp=Z,3.6nm,0.3s,baz=59,slow=15,SNR=4.1						
	comp=Z,3.8nm,0.3s						
TX31	**Lajitas Ar. Si**	**6.44**	**242**	Pn	**Pn**	**00 47 13.7**	**+0.5**
Y45A	**Yeager Farm, C**	**6.51**	**76**	Pn	**Pn**	**00 47 15.2**	**+1.0**
Y45A				IAmb_Lg		00 49 26.1	
	comp=Z,57nm,0.8s						
KSU1	**Kansas State U**	**6.60**	**4**	IAmb_Lg		00 49 14.3	
	comp=Z,86nm,1.0s						
CBKS	**Cedar Bluff**	**6.64**	**342**	Pn	**Pn**	**00 47 16.7**	**+0.7**
CBKS				IAmb_Lg		00 49 18.0	
	comp=Z,53nm,0.8s						
OXF	**Oxford**	**6.76**	**71**	Pn	**Pn**	**00 47 17.5**	**0.0**
OXF				IAmb_Lg		00 49 33.2	
	comp=Z,39nm,0.8s						
R40A	**Maddies Statio**	**7.01**	**33**	Pn	**Pn**	**00 47 22.2**	**+1.3**
R40A				IAmb_Lg		00 49 37.5	
	comp=Z,39nm,1.1s						
PEBM	**Pemiscott Bayo**	**7.02**	**57**	IAmb_Lg		00 49 31.2	
	comp=Z,42nm,0.8s						
LNXT	**Lenox**	**7.28**	**58**	Pn	**Pn**	**00 47 25.8**	**+1.2**
CCM	**Cathedral Cave**	**7.34**	**39**	Pn	**Pn**	**00 47 25.7**	**+0.2**
CCM	**Cathedral Cave** baz=223	**7.34**	**39**	P	**Pn**	**00 47 26.5**	**+1.0**
PARMO	**Parma**	**7.37**	**54**	Pn	**Pn**	**00 47 25.9**	**0.0**
PARMO				IAmb_Lg		00 49 32.0	
	comp=Z,37nm,0.8s						
GLAT	**Glass**	**7.50**	**58**	IAmb_Lg		00 49 43.3	
	comp=Z,38nm,0.8s						
T25A	**Trinidad**	**7.56**	**310**	Pn	**Pn**	**00 47 30.7**	**+2.0**
HICK	**Hickman**	**7.67**	**56**	Pn	**Pn**	**00 47 30.4**	**+0.4**
HICK				IAmb_Lg		00 49 48.4	
	comp=Z,44nm,0.8s						
P38A	**Dawn**	**7.68**	**21**	Pn	**Pn**	**00 47 29.7**	**-0.5**
P38A				IAmb_Lg		00 49 52.3	
	comp=Z,35nm,0.8s						
FVM	**French Village**	**7.75**	**43**	Pn	**Pn**	**00 47 31.0**	**-0.1**
CGM3	**Cape Girardeau**	**7.79**	**50**	Pn	**Pn**	**00 47 31.8**	**+0.2**
CGM3				IAmb_Lg		00 50 04.3	
	comp=Z,29nm,1.1s						
KSCO	**Kaye Shedlock'**	**7.88**	**327**	IAmb_Lg		00 50 02.7	
	comp=Z,48nm,0.7s						
ANMO	**Albuquerque**	**8.13**	**290**	IAmb_Lg		00 50 05.2	
	comp=Z,40nm,0.7s						
ANMO	**Albuquerque**	**8.13**	**290**	Pn	**Pn**	**00 47 35.9**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=90,slow=20,SNR=2.0						
ANMO				Pg	Pb	00 48 05.4	+5.9
	comp=Z,1.7nm,0.3s,baz=200,slow=16,SNR=8.9						
ANMO				Sn	**Sn**	**00 49 10.0**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=181,slow=17,SNR=1.2						
ANMO				Lg	Lg	00 49 52.6	
	comp=Z,3.4nm,0.3s,baz=93,slow=19,SNR=6.0						
	comp=Z,0.4nm,0.3s						
P40A	**Paris**	**8.13**	**29**	Pn	**Pn**	**00 47 36.3**	**0.0**
P40A				IAmb_Lg		00 50 11.8	
	comp=Z,57nm,0.9s						
T45A	**Paducah**	**8.32**	**55**	IAmb_Lg		00 50 13.1	
	comp=Z,37nm,0.8s						
WVT	**Waverly**	**8.51**	**62**	Pn	**Pn**	**00 47 40.6**	**-0.9**
SDCO	**Great Sand Dun**	**8.62**	**310**	Pn	**Pn**	**00 47 44.7**	**+1.4**
SDCO				IAmb_Lg		00 50 19.9	
	comp=Z,48nm,1.2s						
X48A	**Hartselle**	**8.65**	**74**	Pn	**Pn**	**00 47 42.8**	**-0.8**
N38A	**Joes South For**	**8.85**	**20**	Pn	**Pn**	**00 47 44.6**	**-1.6**
N38A				IAmb_Lg		00 50 34.3	
	comp=Z,54nm,0.7s						
Y49A	**Blount Mountai**	**9.09**	**79**	Pn	**Pn**	**00 47 49.2**	**-0.4**
Q24A	**Divide**	**9.16**	**317**	IAmb_Lg		00 50 52.8	
	comp=Z,34nm,0.8s						
Q44A	**Meyer Farm, Va**	**9.19**	**44**	Pn	**Pn**	**00 47 50.8**	**0.0**
Q44A				IAmb_Lg		00 50 49.0	
	comp=Z,30nm,0.9s						
OGNE	**Ogallala**	**9.29**	**336**	Pn	**Pn**	**00 47 53.2**	**+0.8**
OGNE				IAmb_Lg		00 50 54.6	
	comp=Z,55nm,0.9s						
T47A	**Sharon Grove**	**9.39**	**59**	Pn	**Pn**	**00 47 53.3**	**-0.3**
P43A	**Skaggs, Pawnee**	**9.42**	**39**	IAmb_Lg		00 51 03.1	
	comp=Z,31nm,0.8s						
N41A	**Harden Midland**	**9.62**	**30**	Pn	**Pn**	**00 47 57.2**	**+0.5**
N41A				IAmb_Lg		00 50 46.9	
	comp=Z,39nm,0.8s						
SWET	**Sewanee**	**9.71**	**71**	Pn	**Pn**	**00 47 58.7**	**+0.7**
FPAL	**Fort Paine**	**9.84**	**75**	Pn	**Pn**	**00 47 59.4**	**-0.4**
SCIA	**State Center**	**9.89**	**17**	IAmb_Lg		00 51 16.9	
	comp=Z,40nm,0.7s						
BRIGG	**Briggsdale**	**9.91**	**326**	Pn	**Pn**	**00 48 02.8**	**+1.8**
BRIGG				IAmb_Lg		00 51 02.5	
	comp=Z,44nm,0.9s						
ISCO	**Idaho Springs**	**9.99**	**319**	IAmb_Lg		00 51 08.6	
	comp=Z,38nm,1.1s						
W50A	**Signal Mountai**	**10.20**	**71**	Pn	**Pn**	**00 48 03.8**	**-1.0**
HDIL	**Hopedale**	**10.22**	**36**	Pn	**Pn**	**00 48 05.3**	**+0.4**
X51A	**Calhoun**	**10.46**	**75**	Pn	**Pn**	**00 48 07.3**	**-0.9**
L40A	**Anamosa**	**10.64**	**25**	Pn	**Pn**	**00 48 09.7**	**-1.0**
CPCT	**Cooper Cave**	**10.88**	**71**	Pn	**Pn**	**00 48 12.7**	**-1.3**
N23A	**Red Feather La**	**10.95**	**322**	Pn	**Pn**	**00 48 17.4**	**+2.1**
T50A	**Nancy**	**11.07**	**63**	Pn	**Pn**	**00 48 16.5**	**-0.2**
ECSD	**EROS Data Cent**	**11.22**	**2**	Pn	**Pn**	**00 48 17.0**	**-1.7**
TKL	**Tuckaleechee C**	**11.52**	**70**	Pn	**Pn**	**00 48 20.6**	**-2.2**
TKL	**Tuckaleechee C**	**11.52**	**70**	Pn	**Pn**	**00 48 20.1**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=324,slow=10,SNR=1.7						
TKL				Sn	**Sn**	**00 50 25.0**	**-6.4**
	comp=Z,0.1nm,0.3s,baz=242,slow=11,SNR=2.6						
	comp=Z,1.3nm,0.6s						
V52A	**Sevierville**	**11.70**	**70**	Pn	**Pn**	**00 48 22.7**	**-2.6**
JFWS	**Jewell Farm**	**11.73**	**26**	Pn	**Pn**	**00 48 24.6**	**-1.0**
S51A	**Beattyville**	**12.22**	**61**	Pn	**Pn**	**00 48 31.2**	**-1.2**
RSSD	**Black Hills**	**12.79**	**337**	Pn	**Pn**	**00 48 42.9**	**+2.5**
I42A	**Draeger Farm,**	**13.07**	**27**	Pn	**Pn**	**00 48 41.7**	**-2.3**
P52A	**Corning**	**14.06**	**55**	Pn	**Pn**	**00 48 56.5**	**-1.0**
PDAR	**Pinedale Array**	**14.19**	**320**	Pn	**Pn**	**00 49 01.1**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=117,slow=18,SNR=2.3						
PDAR				Lg	Lg	00 52 56.2	
	comp=Z,0.1nm,0.3s,baz=125,slow=13,SNR=2.1						
PDAR				LR	LR	00 54 25.8	
	comp=Z,24nm,19.8s,baz=162,slow=38						
	comp=Z,0.2nm,0.4s						
CMIG	**Matias Romero**	**15.48**	**172**	Pn	**Pn**	**00 49 18.3**	**+1.6**
	comp=Z,0.8nm,0.3s,baz=6.9,slow=12,SNR=6.9						
CMIG				Sn	Sn	00 51 57.0	-11
	comp=Z,0.2nm,0.3s,baz=52,slow=18,SNR=1.6						
	comp=Z,2.7nm,0.5s						
ULM	**Lac du Bonnet**	**17.76**	**3**	P	**Pn**	**00 49 43.6**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=157,slow=11,SNR=1.7						
ULM				S	Sn	00 52 47.2	-16
	comp=Z,1.4nm,0.7s,baz=210,slow=20,SNR=1.6						
ULM				Lg	Lg	00 54 41.1	
	comp=Z,0.2nm,0.3s,baz=129,slow=19,SNR=1.4						
	comp=Z,1.6nm,0.6s						
NVAR	**Mina Array Bea**	**18.21**	**295**	P	**Pn**	**00 49 50.6**	**-0.7**
	baz=107,slow=12,SNR=1.5						
	comp=Z,0.1nm,0.5s						
NEW	**Newport**	**21.80**	**322**	LR	LR	00 59 25.1	
	comp=Z,43nm,20.4s,baz=284,slow=38						
YKA	**Yellowknife Ar**	**32.02**	**345**	P	**P**	**00 52 03.9**	**-0.6**
	comp=Z,0.8nm,0.8s,baz=145,slow=8.4,SNR=11						
YKA				PcP	**PcP**	**00 54 54.1**	**+0.2**
	comp=Z,0.1nm,0.5s,baz=140,slow=2.5,SNR=1.0						
	comp=Z,0.8nm,0.8s						
ILAR	**Eielson Array**	**44.18**	**332**	P	**P**	**00 53 47.0**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=124,slow=7.1,SNR=5.4						
	comp=Z,0.4nm,0.8s						
EKA	**Eskdalemuir Ar**	**66.09**	**39**	P	**P**	**00 56 24.6**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=290,slow=7.5,SNR=8.1						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**70.11**	**18**	P	**P**	**00 56 50.9**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=302,slow=7.0,SNR=4.2						
	comp=Z,1.9nm,0.8s						
FINES	**FINESS Array B**	**75.73**	**25**	P	**P**	**00 57 24.8**	**+1.3**
	comp=Z,1.0nm,0.

comp=Z,0.8nm,0.7s,baz=350,slow=6.2,SNR=9.2
comp=Z,0.8nm,0.7s
MORW Morawa 60.73 246 P P 00 56 25.0 -1.0
MORW IAmb IAmb 00 56 40.8
comp=Z,26nm,1.4s
JAGI Jajag, Banyuwa 66.42 269 P P 00 57 01.2 -1.3
MJAR Matsushiro Arr 68.35 323 P P 00 57 13.3 -0.4
comp=Z,4.4nm,0.6s,baz=159,slow=5.3,SNR=8.8
comp=Z,4.4nm,0.6s
UGM Wanagama 70.03 268 P P 00 57 24.0 -0.3
NIKH Nikolski High 71.29 6 P P 00 57 30.2 -0.6
baz=189
QSPA South Pole Qui 71.88 180 P P 00 57 35.5 +1.2
QSPA South Pole Qui 71.88 180 P P 00 57 35.5 +1.2
comp=Z,4.9nm,0.8s,baz=28,slow=0.6,SNR=23
comp=Z,4.9nm,0.8s
UNV Unalaska Valle 72.40 7 P P 00 57 37.0 -0.2
baz=192
SSLB Suanglung 72.71 303 P P 00 57 37.7 -2.0
SSLB IAmb IAmb 00 57 40.0
comp=Z,15nm,1.0s
TPUB Ta-pu 72.73 302 P P 00 57 38.4 -1.4
PETK Petropavlovsk- 74.03 345 P P 00 57 46.5 0.0
comp=Z,8.9nm,0.8s,baz=115,slow=8.1,SNR=9.5
comp=Z,8.9nm,0.8s
CHNA Chernabura Isl 74.39 11 P P 00 57 48.2 -0.2
baz=198
SDPT Sand Point 74.73 10 P P 00 57 49.6 -0.7
baz=197
S12K Black Hills 74.82 9 P P 00 57 50.1 -0.8
baz=196
KSRS Korea Array 75.16 318 P P 00 57 54.2 +1.1
comp=Z,1.2nm,0.7s,baz=103,slow=11,SNR=2.5
comp=Z,1.2nm,0.7s
USRK Ussuriysk Ar. 77.05 326 P P 00 58 02.9 -0.5
comp=Z,1.1nm,0.4s,baz=126,slow=9.4,SNR=2.1
comp=Z,1.1nm,0.4s
MURC Murrieta 77.51 48 P P 00 58 06.5 +0.3
baz=238
EDW2 Edwards Air Fo 77.63 47 P P 00 58 07.0 +0.1
baz=237
MONP2 Monument Peak 77.69 49 P P 00 58 07.4 0.0
baz=239
OHAK Old Harbor 77.90 13 P P 00 58 07.7 0.0
baz=204
PFO Pinyon Flats O 78.04 49 P P 00 58 08.8 -0.4
baz=239
TPFO Pinon Flats 78.04 49 P P 00 58 09.5 +0.3
baz=239
YBH Yreka Blue Hor 78.49 39 P P 00 58 12.5 +1.2
comp=Z,1.9nm,0.9s,baz=212,slow=2.0,SNR=6.3
comp=Z,1.9nm,0.9s
O15K Ungalikthiuk R 78.50 9 P P 00 58 11.7 +0.8
baz=196
BELC Belle Mtn. Jos 78.57 48 P P 00 58 11.9 0.0
baz=239
KDAK Kodiak Island 78.57 14 P P 00 58 12.1 +0.9
baz=205
N14K Kuskokwak Cree 78.94 8 P P 00 58 13.3 +0.2
baz=196
NVAR Mina Array Bea 79.35 44 P P 00 58 16.9 +0.7
NVAR Mina Array Bea 79.35 44 P P 00 58 15.9 -0.2
comp=Z,1.7nm,0.8s,baz=222,slow=8.4,SNR=11
comp=Z,1.7nm,0.8s
TUQ Turquoise Moun 79.36 47 P P 00 58 15.7 -0.4
baz=239
N15K Kwethluk River 79.41 9 P P 00 58 16.5 +0.8
baz=197
P18K Big Mountain, 79.50 12 P P 00 58 16.0 -0.1
baz=202
O17K Koliganek Bris 79.52 11 P P 00 58 15.9 -0.2
baz=200
M14K Bethel 79.71 8 P P 00 58 16.7 -0.5
baz=196
KVN Kaiserville 79.82 43 P P 00 58 19.6 +1.0
M15K Kasigluk River 79.83 9 P P 00 58 17.6 -0.2
baz=197
N16K Nishlik Lake 79.90 10 P P 00 58 17.9 -0.3
baz=199
O18K Koktuh Hills 79.94 11 P P 00 58 18.1 -0.3
O18K Koktuh Hills 79.94 11 P P 00 58 18.5 +0.1
baz=202
L14K Kuka Creek 80.19 7 P P 00 58 20.7 +1.1
baz=195
N17K Nushagak Hills 80.21 10 P P 00 58 20.6 +0.8
baz=200
J05D Fort Rock, OR 80.29 38 P P 00 58 22.4 +1.6
J05D IAmb IAmb 00 58 23.3
comp=Z,8.2nm,1.0s
M16K Timber Creek 80.39 9 P P 00 58 21.5 +0.7
M16K IAmb IAmb 00 58 22.6
comp=Z,11nm,0.9s
M16K Timber Creek 80.39 9 P P 00 58 21.5 +0.7
baz=198,SNR=5.1
O19K Port Alsworth 80.42 12 P P 00 58 21.0 +0.1
baz=203
HOM Homer 80.48 13 P P 00 58 21.5 +0.3
baz=205
BNX BinXian 80.54 325 ⇓P P 00 58 21.9 +0.1
BNX pmax pmax
comp=Z,9.0nm,1.0s
BNX pmax pmax
comp=Z,210nm,4.1s
K13K Kusilvak Mount 80.54 6 P P 00 58 22.3 +0.9
baz=193
N18K Kilae Creek 80.58 11 P P 00 58 22.0 +0.2
baz=201
O20K Slope Mountain 80.66 13 P P 00 58 22.2 0.0
baz=204
L15K Ungalak Mounta 80.67 8 P P 00 58 22.7 +0.6
baz=196
BRSE Bradley Lake S 80.75 14 P P 00 58 22.5 -0.2
baz=206
N19K Bonanza Creek 80.96 11 P P 00 58 24.1 +0.3
baz=203
L16K Owhat River 80.97 9 P P 00 58 23.8 +0.1
L16K IAmb IAmb 00 58 25.7
comp=Z,7.9nm,1.0s
L16K Owhat River 80.97 9 P P 00 58 24.7 +1.0
baz=198
M17K Holitna River 81.00 10 P P 00 58 24.9 +1.0
M17K IAmb IAmb 00 58 26.1
comp=Z,10nm,0.9s
M17K Holitna River 81.00 10 P P 00 58 25.0 +1.1
baz=200
R11B Troy Canyon, C 81.11 45 P P 00 58 25.4 +0.2
baz=238
K15K Wolf Creek Mou 81.25 8 P P 00 58 25.9 +0.8
K15K Wolf Creek Mou 81.25 8 P P 00 58 25.3 +0.1
baz=196,SNR=7.1
M18K Stony River 81.35 11 P P 00 58 25.9 +0.3
baz=201
L17K Donlin 81.55 9 P P 00 58 28.1 +1.4
baz=199
TUC Tucson 81.56 52 P P 00 58 27.7 +0.1
baz=242
N20K Mount Spurr 81.76 12 P P 00 58 28.7 +0.8
baz=205
P23K Montague Islan 81.77 15 P P 00 58 28.0 +0.2
baz=209
BELA Belgrano 2 81.85 173 P P 00 58 28.3 +0.2
L18K Granite Mounta 81.89 10 P P 00 58 28.9 +0.5
L18K Granite Mounta 81.89 10 P P 00 58 28.9 +0.5
baz=200
M19K Big River Lodg 81.99 11 P P 00 58 28.7 -0.3
baz=203
K17K Iditarod 82.11 9 P P 00 58 29.7 +0.2
K17K IAmb IAmb 00 58 30.2
comp=Z,18nm,1.4s
K17K Iditarod 82.11 9 P P 00 58 29.1 -0.3
baz=199
L19K White Mountain 82.17 11 P P 00 58 30.3 +0.5
L19K White Mountain 82.17 11 P P 00 58 30.3 +0.5
baz=202
M20K Styx River 82.21 12 P P 00 58 30.2 +0.1
baz=204
SUA Susitna One 82.30 13 P P 00 58 30.7 +0.1
baz=206
J16K Anvik River 82.33 8 P P 00 58 30.7 +0.1
J16K IAmb IAmb 00 58 31.9
comp=Z,5.5nm,0.8s
U15A North Rim 82.41 48 P P 00 58 32.8 +0.8
KAIM Kayak Island 82.47 16 P P 00 58 31.8 +0.5
baz=212
ELK Elko 82.58 43 P P 00 58 33.1 +0.4
comp=Z,0.7nm,0.4s,baz=232,slow=7.3,SNR=6.1
comp=Z,0.7nm,0.4s
CRAG Craig 82.60 24 P P 00 58 32.2 +0.1
baz=223
SKT Skwentna 82.61 12 P P 00 58 32.3 +0.3
baz=205
L20K Farewell, AK 82.61 11 P P 00 58 32.5 +0.4
baz=203
J17K VABM Dome 82.64 8 P P 00 58 32.5 +0.4
J17K IAmb IAmb 00 58 36.6
comp=Z,11nm,1.5s
J17K VABM Dome 82.64 8 P P 00 58 32.8 +0.7
baz=198
EYAK Cordova Ski Ar 82.66 15 P P 00 58 32.3 +0.1
baz=211
KNK Knik Glacier 82.76 14 P P 00 58 32.5 -0.3
baz=208
PMR Palmer 82.77 13 P P 00 58 32.5 -0.3
baz=208
I17K Unalakleet 82.90 8 P P 00 58 33.1 -0.3
baz=197
GHO Glory Hole Cre 82.97 13 P P 00 58 33.6 -0.3
GHO IAmb IAmb 00 58 35.1
comp=Z,8.5nm,0.8s
J18K Innoko River 83.06 9 P P 00 58 34.2 0.0
J18K IAmb IAmb 00 58 35.6
comp=Z,8.1nm,0.9s
J18K Innoko River 83.06 9 P P 00 58 34.2 0.0
baz=200,SNR=8.8
SML Sawmill 83.14 14 P P 00 58 33.6 -1.2
baz=208
M23K Glacier View 83.26 14 P P 00 58 34.9 -0.4
baz=209
BMRM Bremner River 83.31 16 P P 00 58 35.8 +0.2
baz=212
PPLA Purkeypile 83.31 12 P P 00 58 35.1 -0.6
baz=205
S31K Pelican 83.36 21 P P 00 58 35.4 -0.3
baz=220
MESA MEA 83.36 17 P P 00 58 36.0 0.0
baz=214
SCM Sheep Creek Mo 83.39 14 P P 00 58 35.7 -0.3
SCM IAmb IAmb 00 58 36.8
comp=Z,11nm,0.9s
SCM Sheep Creek Mo 83.39 14 P P 00 58 35.9 -0.1
baz=209
K20K Telida 83.39 11 P P 00 58 36.0 +0.1
K20K IAmb IAmb 00 58 37.0
comp=Z,8.8nm,0.9s
K20K Telida 83.39 11 P P 00 58 36.0 +0.1
baz=203
KLU Klutina 83.43 15 P P 00 58 36.3 +0.1
baz=211
H16K Elim 83.44 7 P P 00 58 35.4 -0.7
baz=195
S32K Killisnoo 83.56 22 P P 00 58 35.8 -0.9
baz=221
ISLE Juniper Island 83.60 17 P P 00 58 37.6 +0.4
ISLE IAmb IAmb 00 58 38.3
comp=Z,7.4nm,0.8s
J19K Poorman 83.73 10 P P 00 58 37.8 +0.3
J19K Poorman 83.73 10 P P 00 58 36.4 -1.2
baz=201
CAST Castle Rocks 83.81 11 P P 00 58 36.3 -1.7
CAST IAmb IAmb 00 58 37.6
comp=Z,7.6nm,0.8s
CAST Castle Rocks 83.81 11 P P 00 58 36.8 -1.2
baz=205,SNR=11
VRDI Verde Repeater 83.83 16 P P 00 58 38.2 -0.2
VRDI IAmb IAmb 00 58 39.4
comp=Z,12nm,1.4s
N25K Chitina, Valde 83.85 15 P P 00 58 38.9 +0.5
N25K IAmb IAmb 00 58 39.4
comp=Z,7.6nm,0.8s
N25K Chitina, Valde 83.85 15 P P 00 58 37.7 -0.7
baz=212
M24K Tolsona, Glenn 83.90 14 P P 00 58 37.8 -0.7
baz=210
GLB Gilahina Butte 83.91 16 P P 00 58 38.7 +0.1
121A Cookes Peak, D 83.92 53 P P 00 58 38.1 -1.4
baz=244
WAT6 Susitna Watana 83.95 14 P P 00 58 37.8 -1.1
baz=209,SNR=6.4
WAT1 Susitna Watana 83.99 13 P P 00 58 38.4 -0.6
baz=208
H17K Granite Mounta 84.00 8 P P 00 58 38.8 -0.1
baz=197
MCARA McCarthy VSAT 84.07 16 P P 00 58 39.8 +0.5
baz=213
J20K Nowinta River 84.14 10 P P 00 58 39.7 +0.1
J20K IAmb IAmb 00 58 40.7
comp=Z,5.5nm,0.8s
J20K Nowinta River 84.14 10 P P 00 58 39.4 -0.1
baz=203
KTH Kantishna Hill 84.16 12 P P 00 58 38.6 -1.1
KTH IAmb IAmb 00 58 40.9
comp=Z,5.9nm,0.9s
G16K Koyuk River 84.16 7 P P 00 58 39.3 -0.3
baz=195
P29M Windy Craggy 84.17 19 P P 00 58 40.2 +0.4
baz=218
CTG Chitna Glacier 84.18 17 P P 00 58 38.7 -1.3
baz=215
R32K Eaglecrest 84.19 21 P P 00 58 38.9 -1.0
baz=221
TRF Thorofare Moun 84.19 12 P P 00 58 39.2 -0.8
TRF IAmb IAmb 00 58 40.6
comp=Z,8.5nm,0.7s
TRF Thorofare Moun 84.19 12 P P 00 58 38.7 -1.3
baz=206,SNR=7.5
CHUM Lake Minchumin 84.19 11 P P 00 58 38.6 -1.1
baz=204
F15K North Star Dit 84.24 6 P P 00 58 39.3 -0.7
baz=193
GCSA Galena City Sc 84.24 9 P P 00 58 39.7 -0.2
baz=200
LYN LuoYang 84.30 309 eP P 00 58 42.5 +1.5
LYN pmax pmax
comp=Z,23nm,0.9s
LYN pmax pmax
comp=Z,110nm,5.4s
O28M Mount Upton 84.35 18 P P 00 58 39.8 -1.2
baz=216
HARP HAARP 84.39 15 P P 00 58 40.8 -0.1
baz=211
H18K Honhosa River 84.41 8 P P 00 58 40.4 -0.5
baz=199
RND Reindeer 84.44 13 P P 00 58 40.6 -0.6
RND IAmb IAmb 00 58 42.0
comp=Z,10nm,0.8s
G17K Kiwalik Mounta 84.46 7 P P 00 58 40.4 -0.7
baz=197
DHY Denali Highway 84.47 13 P P 00 58 41.0 -0.4
baz=209
PLBC Pleasant Camp 84.47 20 P P 00 58 41.2 -0.1
baz=219
HLID Hailey 84.58 41 P P 00 58 41.7 -0.7
baz=239
BPAW Bear Paw Mtn. 84.64 12 P P 00 58 42.4 +0.4
baz=206
MCK McKinley 84.72 13 P P 00 58 42.8 +0.3
baz=208
P30M Million Dollar 84.80 19 P P 00 58 43.0 +0.1
baz=219
T35M Bob Quinn 84.81 24 P P 00 58 43.0 0.0
baz=225
PAX Paxson 84.81 14 P P 00 58 42.2 -0.8
baz=211
SKAG Skagway 84.81 20 P P 00 58 43.0 +0.1
baz=220
YUK8 Steele Glacier 84.88 17 P P 00 58 43.1 -0.5
baz=216
M26K Nabesna, AK 84.93 16 P P 00 58 43.6 0.0
baz=213
YUK6 Outpost Mounta 85.02 18 P P 00 58 44.0 -0.2
baz=218
H19K Roundabout Mou 85.04 9 P P 00 58 44.9 +1.0
baz=200
G18K Tagagawik 85.08 8 P P 00 58 43.4 -0.7
baz=198
YUK3 Moose Creek 85.09 17 P P 00 58 44.7 +0.2
baz=216,SNR=6.1
S34M Telegraph Cree 85.14 23 P P 00 58 45.5 +1.0
baz=224
HYT Haines Junctio 85.18 19 P P 00 58 45.3 +0.5
baz=218
M27K Edge Creek, AK 85.19 16 P P 00 58 45.4 +0.5
M27K IAmb IAmb 00 58 46.6
comp=Z,8.2nm,1.1s
M27K Edge Creek, AK 85.19 16 P P 00 58 45.4 +0.5
baz=214
H20K Anotleneega Mo 85.24 9 P P 00 58 46.2 +1.3
baz=202
YUK4 Talbot Arm 85.25 18 P P 00 58 45.6 +0.3
baz=217
F17K Baldwin Pennin 85.29 7 P P 00 58 44.3 -0.8
baz=196
L26K Log Cabin Wild 85.37 15 P P 00 58 46.3 +0.7
baz=213
MNTX Cornudas Mount 85.41 55 P P 00 58 46.2 -0.3
baz=246
I21K Tanana 85.44 11 P P 00 58 46.0 +0.2
baz=205
P32M Atlin 85.45 21 P P 00 58 45.3 -0.7
baz=222
NEA2 Nenana 85.45 12 P P 00 58 45.7 -0.2
baz=208
K24K Donnelly Dome 85.46 14 P P 00 58 46.3 +0.3
baz=211
NEW Newport 85.50 36 P P 00 58 46.8 +0.2
baz=236
BVCY Beaver Creek 85.50 16 P P 00 58 46.9 +0.6
baz=215
MLY Manley 85.53 11 P P 00 58 47.0 +0.7
baz=206
G19K Purcell Mounta 85.53 8 P P 00 58 46.3 +0.1
baz=200
O30N Mendenhall 85.58 19 P P 00 58 46.5 -0.1
baz=220
F18K Selawik 85.63 7 P P 00 58 47.1 +0.5
baz=198
HDA Harding Lake 85.73 13 P P 00 58 46.6 -0.7
baz=210
H21K Melozitna Rive 85.73 10 P P 00 58 47.2 -0.1
baz=204
CCB Clear Creek Bu 85.76 13 P P 00 58 46.0 -1.3
CCB IAmb IAmb 00 58 47.7
comp=Z,9.6nm,1.3s
L27K Beaver Creek, 85.78 16 P P 00 58 47.0 -0.5
baz=214
N30M Aishikik Lake 85.81 18 P P 00 58 47.4 -0.4
baz=219
TXAR Lajitas Array 85.81 57 P P 00 58 50.7 +2.1
comp=Z,1.1nm,0.7s,baz=216,slow=6.2,SNR=14
comp=Z,1.1nm,0.7s
E17K Hotham Inlet 85.85 6 P P 00 58 47.5 -0.2
baz=195
WHY Whitehorse 85.87 20 P P 00 58 47.9 -0.2
baz=221
I23K Minto, Yukon-K 85.89 12 P P 00 58 47.8 -0.2
baz=207
DLBC Dease Lake 85.92 23 P P 00 58 47.8 -0.6
baz=225
ANMO Albuquerque 85.96 51 P P 00 58 48.8 -0.5
baz=245
SCRK Sand Creek 86.02 14 P P 00 58 49.3 +0.5
baz=212
IL31 86.06 13 P P 00 58 48.1 -0.6
ILAR Eielson Array 86.06 13 P P 00 58 48.5 -0.3
ILAR Eielson Array 86.06 13 P P 00 58 48.0 -0.8
comp=Z,2.2nm,0.8s,baz=219,slow=5.2,SNR=19
comp=Z,2.2nm,0.8s
F19K Shaleruckik Mo 86.09 8 P P 00 58 48.9 +0.1
F19K Shaleruckik Mo 86.09 8 P P 00 58 49.3 +0.4
baz=199
M29M Somme Creek 86.19 17 P P 00 58 49.8 +0.3
baz=217
H22K Ishtalitna Cre 86.19 11 P P 00 58 49.6 +0.2
baz=205
XLT XiLinHaoTe 86.20 319 eP P 00 58 51.3 +1.2
XLT pmax pmax
comp=Z,9.0nm,1.0s
XLT pmax pmax
comp=Z,59nm,3.8s
P33M Teslin, Yukon 86.22 21 P P 00 58 50.3 +0.6
baz=222
N31M Braeburn, Yuko 86.22 19 P P 00 58 49.9 +0.2
baz=220
POKR Poker Plat Res 86.25 12 P P 00 58 50.4 +0.7
baz=209
J25K Salcha River, 86.25 13 P P 00 58 48.8 -1.0
J25K Salcha River, 86.25 13 P P 00 58 50.0 +0.2
baz=211,SNR=5.1
R33M Jennings River 86.26 22 P P 00 58 50.1 0.0
baz=224
E18K Tukpahlearik C 86.31 7 P P 00 58 50.3 +0.4
baz=197
D17K Noatak River 86.33 6 P P 00 58 51.0 +1.0
baz=194
G21K Allakaket 86.41 10 P P 00 58 50.7 +0.3
baz=203
H23K Yukon River 86.46 11 P P 00 58 50.8 +0.1
baz=207
K27K Chicken 86.53 15 P P 00 58 51.6 +0.6
baz=214
MSO Missoula 86.55 38 P P 00 58 51.2 -0.4
baz=239
J26L Joseph Creek 86.56 14 P P 00 58 52.2 +0.9
J26L Joseph Creek 86.56 14 P P 00 58 52.0 +0.7
baz=213,SNR=6.6
F20K Avaraart Lake 86.57 9 P P 00 58 51.2 +0.1
baz=201
RDOG Red Dog Mine 86.69 6 P P 00 58 51.8 +0.1
baz=194
C16K Lisburne Hills 86.70 5 P P 00 58 52.0 +0.3
baz=192
XAN Xi'an 86.73 307 ⇑P P 00 58 54.3 +1.5
XAN pmax pmax
comp=Z,18nm,1.0s
E19K Redstone River 86.75 8 P P 00 58 51.9 -0.1
E19K Redstone River 86.75 8 P P 00 58 52.6 +0.6
baz=200
M30M Minto, Yukon 86.77 18 P P 00 58 52.9 +0.6
M30M IAmb IAmb 00 58 53.2
comp=Z,3.8nm,0.8s
M30M Minto, Yukon 86.77 18 P P 00 58 52.6 +0.4
baz=219
H24K Noodor Dome 86.79 12 P P 00 58 51.1 -1.2
H24K Noodor Dome 86.79 12 P P 00 58 53.1 +0.8
baz=209
L29M L29M 86.81 17 P P 00 58 53.2 +0.8
L29M IAmb IAmb 00 58 54.4
comp=Z,11nm,1.2s
L29M L29M 86.81 17 P P 00 58 52.8 +0.3
baz=218,SNR=5.4
N32M Quiet Lake 86.83 20 P P 00 58 52.0 -0.6
baz=222
O20A White River Ci 86.95 46 P P 00 58 52.7 -1.2
baz=243
PRP Porcupine Dome 87.00 13 P P 00 58 52.4 -1.0
baz=211
F21K Alatna River 87.06 9 P P 00 58 52.9 -0.6
baz=203
G22K Bettles 87.10 10 P P 00 58 53.4 -0.3
baz=205
G23K Bananza Creek 87.17 11 P P 00 58 54.3 +0.3
baz=206
M31M Drury Creek, Y 87.20 19 P P 00 58 53.9 -0.4
baz=221
PDAR Pinedale Array 87.28 43 P P 00 58 54.7 -0.7
comp=Z,0.8nm,0.8s,baz=211,slow=1.7,SNR=5.9
comp=Z,0.8nm,0.8s
I26K Coal Creek Min 87.34 14 P P 00 58 54.4 -0.3
baz=213
F22K John River 87.53 10 P P 00 58 56.2 +0.5
baz=204
K29M Barlow Dome 87.56 17 P P 00 58 56.1 +0.1
baz=218
COLD Coldfoot 87.60 10 P P 00 58 56.2 +0.2
baz=206
D19K Kuna River 87.62 7 P P 00 58 55.5 -0.6
baz=199
G24K Hadweenzic Riv 87.63 12 P P 00 58 55.5 -0.7
baz=209
E20K Nigu River 87.64 8 P P 00 58 56.2 0.0
baz=201
HHC Hu-ho-hao-te 87.74 314 eP P 00 59 01.3 +3.9
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,78nm,5.6s
SDCO Great Sand Dun 87.84 49 P P 00 58 57.4 -0.8
baz=245
I27K Kandik River 87.94 14 P P 00 58 57.8 +0.1
baz=214
G25K Bearman Lake 87.96 12 P P 00 58 57.8 +0.1
baz=210
D20K Etivluk River 88.02 8 P P 00 58 57.7 -0.2
baz=200

TOAD	Toad River Com	88.04	24	P	P	00 58 58.4	+0.1
	baz=229						
B18K	Kokolik River	88.06	6	P	P	00 58 58.3	+0.2
	baz=195						
E21K	Killik River	88.12	9	P	P	00 58 59.0	+0.5
	baz=203						
E22K	Anaktuvuk Pass	88.16	10	P	P	00 58 58.9	+0.3
E22K				IAmb	IAmb	00 58 59.8	
	comp=Z,5.2nm,1.1s						
E22K	Anaktuvuk Pass	88.16	10	P	P	00 58 59.1	+0.5
	baz=205						
I28M	Miner Creek	88.22	15	P	P	00 58 59.4	+0.3
I28M				IAmb	IAmb	00 59 12.0	
	comp=Z,6.2nm,1.4s						
I28M	Miner Creek	88.22	15	P	P	00 58 58.6	-0.4
	baz=216						
F24K	Squaw Lake	88.28	11	P	P	00 58 59.4	+0.2
F24K				IAmb	IAmb	00 59 00.2	
	comp=Z,3.0nm,0.7s						
F24K	Squaw Lake	88.28	11	P	P	00 58 59.0	-0.2
	baz=208						
T25A	Trinidad	88.38	50	P	P	00 58 59.9	-0.7
	baz=246						
J30M	Hart River	88.46	17	P	P	00 59 00.7	+0.5
	baz=219						
H27K	Steamboat Moun	88.48	14	P	P	00 59 01.0	+0.8
	baz=214						
MMPY	Sheldon Lake,	88.49	20	P	P	00 59 00.9	+0.6
	baz=224,SNR=5.0						
G26K	Porcupine Rive	88.59	13	P	P	00 59 00.9	+0.4
	baz=212						
ISCO	Idaho Springs	88.63	47	P	P	00 59 00.8	-1.0
	baz=245						
E24K	Your Creek	88.66	11	P	P	00 59 01.1	+0.1
	baz=208						
C21K	Knifeblade Rid	88.67	8	P	P	00 59 01.3	+0.4
	baz=202						
D22K	Ayikyak River	88.71	9	P	P	00 59 01.7	+0.6
	baz=204						
TGTN	Hyland Airport	88.72	21	P	P	00 59 01.5	+0.1
	baz=226						
F25K	Christian Rive	88.77	12	P	P	00 59 02.4	+0.9
	baz=211						
BMAR	Burnt Mountain	88.83	12	P	P	00 59 02.4	+0.6
N23A	Red Feather La	88.86	46	P	P	00 59 02.6	-0.2
	baz=245						
833A	Chaparral WMA,	88.90	60	P	P	00 59 02.3	-0.7
	baz=249						
G27K	Doyon Strip	88.93	14	P	P	00 59 03.3	+1.0
	baz=214						
ELIB	Princess Elisa	88.94	187	*d*P	P	00 59 01.2	-1.3
	comp=Z,2.6nm,0.0s						
A19K	Wainwright	88.95	6	P	P	00 59 03.1	+1.0
	baz=196						
I30M	Mount Dempster	88.95	16	P	P	00 59 03.1	+0.7
	baz=219						
TOLK	Toolik Lake Re	88.98	10	P	P	00 59 03.3	+0.8
	baz=207						
D23K	Nanushuk River	89.09	10	P	P	00 59 03.5	+0.6
	baz=206						
F26K	Sheenjek River	89.15	12	P	P	00 59 03.8	+0.6
	baz=212						
B20K	Meade River	89.17	7	P	P	00 59 04.2	+1.0
	baz=200						
H29M	Whitestone	89.22	15	P	P	00 59 03.8	+0.2
H29M	Whitestone	89.22	15	P	P	00 59 03.5	-0.1
	baz=217						
E25K	Arctic Village	89.24	12	P	P	00 59 04.4	+0.7
	baz=211						
CMAR	Chiang Mai Arr	89.34	290	P	P	00 59 06.3	+1.1
	comp=Z,2.0nm,0.7s,baz=111,slow=2.9,SNR=16						
	comp=Z,2.0nm,0.7s						
JCT	Junction City	89.35	58	P	P	00 59 04.8	-0.2
	baz=249						
AMTX	Amarillo	89.52	53	P	P	00 59 05.8	0.0
	baz=248						
D24K	Happy Valley	89.56	10	P	P	00 59 06.0	+0.9
	baz=208						
EGMT	Eagleton	89.61	39	P	P	00 59 05.5	-0.5
	baz=242						
PZH	PanZhiHua	89.62	298	P	P	00 59 06.8	+0.3
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
EPYK	Eagle Plains	89.76	15	P	P	00 59 06.3	+0.2
	baz=219						
G29M	Pine Creek	89.86	15	P	P	00 59 06.6	+0.1
	baz=218						
C23K	Itkillik River	89.89	9	P	P	00 59 06.2	-0.3
	baz=206						
H31M	Peel River	89.94	17	P	P	00 59 06.8	-0.1
	baz=221						
B22K	Teshekpuk Lake	89.95	8	P	P	00 59 06.6	-0.2
	baz=203						
F28M	Old Crow	90.00	14	P	P	00 59 07.2	0.0
	baz=216						
C24K	Franklin Bluff	90.09	10	P	P	00 59 07.6	+0.1
	baz=208						
E27K	Coleen River	90.09	13	P	P	00 59 07.5	-0.1
	baz=214						
D25K	Kavik River	90.13	11	P	P	00 59 07.5	-0.3
	baz=210						
ABTX	Abilene, Hawle	90.25	56	P	P	00 59 08.8	-0.4
	baz=249						
G30M	tAoh Zraii Nji	90.36	15	P	P	00 59 08.4	-0.5
	baz=219						
A22K	Sinclair Lake	90.37	7	P	P	00 59 09.0	+0.3
	baz=202						
VNA3	Neumayer Olymp	90.45	176	⇑P	P	00 59 10.0	+0.6
	comp=Z,3.4nm,0.6s						
G31M	Satah River	90.81	16	P	P	00 59 10.9	+0.1
G31M	Satah River	90.81	16	P	P	00 59 10.5	-0.3
	baz=221						
E28M	Babbage River	90.87	13	P	P	00 59 11.0	-0.2
	baz=216						
C27K	Jago River	90.88	11	P	P	00 59 11.2	+0.1
	baz=212						
C26K	Camden Bay	90.91	11	P	P	00 59 11.9	+0.7
	baz=211						
F30M	Barrier River	90.95	15	P	P	00 59 12.7	+1.2
	baz=220						
E29M	Blow River	91.06	14	P	P	00 59 12.8	+0.8
	baz=218						
D27M	Malcolm River	91.09	12	P	P	00 59 12.2	0.0
	baz=215						
LAO	LASA Array	91.16	41	P	P	00 59 13.4	+0.3
	baz=245						
F31M	Tsiigehtchic	91.33	16	P	P	00 59 13.7	+0.5
	baz=222						
RSSD	Black Hills	91.49	44	P	P	00 59 14.1	-0.7
	baz=246						
D28M	Stokes Point	91.63	13	P	P	00 59 14.2	-0.4
	baz=217						
WMOK	Wichita Mounta	91.69	54	P	P	00 59 14.7	-1.1
	baz=249						
WHTX	Lake Whitney,	91.76	57	P	P	00 59 15.3	-0.8
	baz=250						
INK	Inuvik	92.04	15	P	P	00 59 15.6	-0.8
INK				IAmb	IAmb	00 59 17.2	
	comp=Z,5.9nm,1.1s						
INK	Inuvik	92.04	15	P	P	00 59 16.4	-0.1
	baz=222						
DGMT	Dagmar	93.15	40	P	P	00 59 22.3	+0.2
	baz=246						
SONM	Songino Array	94.01	319	P	P	00 59 26.3	+0.2
	comp=Z,0.2nm,0.4s,baz=141,slow=7.4,SNR=1.9						
	comp=Z,0.2nm,0.4s						
TUL3	Leonard	94.38	54	P	P	00 59 28.0	0.0
	baz=251						
YKA	Yellowknife Ar	94.41	25	P	P	00 59 27.2	-0.2
	comp=Z,0.5nm,0.8s,baz=246,slow=4.0,SNR=7.1						
	comp=Z,0.5nm,0.8s						
KSU1	Kansas State U	94.82	51	P	P	00 59 30.1	+0.2
	baz=251						
SUSD	Miller	94.99	45	P	P	00 59 31.0	+0.4
	baz=250						
C36M	Paulatuk	95.24	17	P	P	00 59 32.0	+1.0
	baz=230						
MIAR	Mount Ida	95.67	56	P	P	00 59 33.6	-0.2
	baz=252						
ECSD	EROS Data Cent	96.33	46	P	P	00 59 37.1	+0.4
	baz=251						
A36M	Sachs Harbour	96.64	14	P	P	00 59 38.1	+0.8
	baz=230						
OXF	Oxford	98.95	57	P	P	00 59 49.2	+0.6
	baz=254						
JFWS	Jewell Farm	100.54	48	P	Pdif	00 59 55.7	+0.3
	baz=255						
WVT	Waverly	100.62	55	P	Pdif	00 59 56.2	+0.4
	baz=255						
HDIL	Hopedale	100.63	51	P	Pdif	00 59 56.3	+0.5
	baz=255						
SFIN	Lafayette	102.21	51	P	Pdif	01 00 03.4	+0.6
	baz=257						
TIGA	Tifton	102.91	61	P	Pdif	01 00 06.2	+0.1
	baz=257						
GOGA	Godfrey	103.46	59	P	Pdif	01 00 08.9	+0.3
	baz=257						
O48B	Farmland	103.63	52	P	Pdif	01 00 09.5	+0.4
	baz=258						
P49A	Miami Univ. Ec	103.81	53	P	Pdif	01 00 10.0	0.0
	baz=258						
ACSO	Alum Creek Sta	105.25	52	P	PKiKP	01 04 26.8	+0.1
	baz=259						
KMSC	Kings Mountain	105.55	58	P	PKiKP	01 04 27.8	+0.4
	baz=259						
O53A	New Philadelph	106.59	52	P	PKiKP	01 04 29.1	-0.1
	baz=260						
BLA	Blacksburg	106.67	56	P	PKiKP	01 04 28.7	-0.8
	baz=260						
M53A	WI Miller and	107.19	51	P	PKiKP	01 04 29.7	-0.6
	baz=261						
MCWV	Mont Chateau	107.53	53	P	PKiKP	01 04 31.1	+0.1
	baz=261						
ERPA	Erie	107.80	51	P	PKiKP	01 04 31.4	0.0
	baz=262						
CNNC	Cliffs of the	108.34	58	P	PKiKP	01 04 32.0	-0.5
	baz=260						
MKAR	Makanchi Array	109.60	314	PKiKP	PKiKP	01 04 33.9	-0.8
	comp=Z,0.5nm,0.7s,baz=52,slow=2.2,SNR=4.4						
BINY	Binghamton	110.76	51	P	PKiKP	01 04 36.9	-0.1
	baz=264						
LONY	Lake Ozonia	112.00	49	P	PKiKP	01 04 39.0	-0.2
	baz=266						
PAL	Palisades	112.20	52	P	PKiKP	01 04 39.3	-0.4
	baz=265						
KURBB	Kurchatov Arra	112.34	318	PKiKP	PKiKP	01 04 38.3	-1.3
	comp=Z,0.1nm,0.3s,baz=92,slow=1.6,SNR=6.5						
L61B	Northampton	113.23	51	P	PKiKP	01 04 41.7	+0.1
	baz=266						
LBNH	Lisbon	113.88	49	P	PKiKP	01 04 42.6	-0.3
	baz=268						
HRV	Adam Dziewonsk	114.06	51	P	PKPdf	01 04 42.9	-0.3
	baz=267						
M65A	Busby, Falmout	114.69	52	P	PKPdf	01 04 43.8	-0.6
	baz=267						
PKME	Peaks-Kenny Pk	115.78	48	P	PKPdf	01 04 46.3	-0.1
	baz=270						
BVAR	Borovoye Array	117.30	321	PKP	PKPdf	01 04 48.5	-0.7
	comp=Z,0.7nm,0.4s,baz=143,slow=0.7,SNR=7.3						
ARCES	ARCESS Array B	126.64	350	PKP	PKPdf	01 05 06.5	-0.1
	comp=Z,2.4nm,0.9s,baz=28,slow=0.9,SNR=8.3						
FINES	FINESS Array B	133.55	344	PKP	PKPdf	01 05 20.0	+0.1
	comp=Z,2.0nm,0.9s,baz=126,slow=7.1,SNR=4.5						
AKASG	Malin Array Be	140.97	332	PKhKP	PKPpre	01 05 26.0	
	comp=Z,0.3nm,0.3s,baz=30,slow=3.8,SNR=2.5						
EKA	Eskdalemuir Ar	142.70	5	PKhKP	PKPpre	01 05 31.3	
	comp=Z,0.9nm,0.8s,baz=350,slow=3.1,SNR=4.1						
BNN	Bunyan	144.12	312	PKPdf	PKPbc	01 05 39.6	-0.1
OJC	Ojcow	145.00	340	PKPdf	PKPbc	01 05 41.7	-0.1
BUR08	Diucovina Ar. S	145.01	332	PKPbc	PKPbc	01 05 42.7	+0.6
BR131	Keskin Array S	145.25	315	PKPbc	PKPbc	01 05 42.9	-0.2
BRTR	Keskin Array B	145.25	315	PKPbc	PKPbc	01 05 43.2	+0.1
BRTR	Keskin Array B	145.25	315	PKPbc	PKPdf	01 05 42.5	+0.6
	comp=Z,3.5nm,0.7s,baz=140,slow=4.9,SNR=28						
CLL	Collm	145.81	348	PKPbc	PKPbc	01 05 43.7	-0.4
DPC	Dobruska-Polom	145.91	344	*e*PKP	PKPbc	01 05 45.6	+1.1
PVCC	Panska Ves	146.19	346	*e*PKP	PKPbc	01 05 46.2	+1.0
MAUC	Maruska	146.36	341	*e*PKP	PKPbc	01 05 46.8	+1.0
MMAI	Mount Meron Ar	146.61	303	PKPbc	PKPbc	01 05 47.3	+0.3
	comp=Z,5.2nm,0.6s,baz=60,slow=4.9,SNR=18						
PRU	Pruhonice	146.70	345	*e*PKP	PKPbc	01 05 47.2	+0.6
MEM	Membach	147.48	355	*d*PKiKP	PKPbc	01 05 49.2	+0.6
BTNL	Ternell	147.50	355	*d*PKiKP	PKPbc	01 05 49.4	+0.7
BSTI	Sart Tilman	147.54	356	*d*PKPdf	PKPdf	01 05 45.2	0.0
BSTI				*d*PKiKP	PKPbc	01 05 49.4	+0.7
CSS	Mathiatis	147.55	307	PKPbc	PKPbc	01 05 49.3	-0.1
KHC	Kasperske Hory	147.73	346	PKPbc	PKPbc	01 05 49.9	+0.5
KHC	Kasperske Hory	147.73	346	*e*PKP	PKPbc	01 05 50.1	+0.7
BMRD	Maredsous	147.87	357	*d*PKiKP	PKPbc	01 05 49.8	+0.2
GEC2	GERESS Array S	147.97	345	PKPbc	PKPbc	01 05 50.4	+0.3
GERES	GERESS Array B	147.97	345	PKPdf	PKPdf	01 05 46.2	+0.1
GERES				PKPbc	PKPbc	01 05 50.8	+0.7
GERES	GERESS Array B	147.97	345	PKPbc	PKPbc	01 05 50.1	+0.1
	comp=Z,2.8nm,0.6s,baz=29,slow=3.0,SNR=20						
RCHB	Rochefort	147.99	356	*d*PKiKP	PKPbc	01 05 50.2	+0.3
DOU	Dourbes	148.09	357	*d*PKiKP	PKPbc	01 05 50.6	+0.5
CONA	Conrad Observa	148.24	342	*i* PKiKP	PKPbc	01 05 51.5	+0.7
	comp=Z,8.0nm,1.1s,SNR=6.7						
RONA	Rosalia, Austr	148.31	341	*i* PKP	PKPbc	01 05 51.6	+0.7
	comp=Z,7.4nm,1.0s,SNR=6.5						
WLF	Walferdange	148.41	355	PKPbc	PKPbc	01 05 51.4	+0.4
WLF	Walferdange	148.41	355	*d*PKiKP	PKiKP	01 05 51.9	-0.2
MOA	Molln	148.75	344	*i* PKP	PKPbc	01 05 52.2	+0.3
	comp=Z,4.2nm,1.0s						
ARSA	Arzberg	148.95	342	*i* PKP	PKPbc	01 05 52.6	+0.2
	comp=Z,5.0nm,1.3s						
BIOA	Bad Ischl, Aus	149.06	345	*i* PKP	PKPbc	01 05 52.6	-0.1
	comp=Z,3.1nm,0.9s						
BFO	Black Forest	149.48	352		PKPbc	01 05 53.7	0.0
RDO	Rodhopi	149.48	324	PKPbc	PKPbc	01 05 53.8	-0.1
LESA	Schwarzleotal	149.54	346	*i* PKP	PKPbc	01 05 53.9	0.0
	comp=Z,4.3nm,0.8s						
SOKA	Soboth	149.61	342	*i* PKP	PKPbc	01 05 53.8	-0.3
	comp=Z,5.6nm,1.2s						
KBA	Koelnbreinsper	149.70	345	*i* PKP	PKPbc	01 05 54.2	-0.3
	comp=Z,5.1nm,0.8s						
WATA	Walderalm	149.87	347	*i* PKP	PKPbc	01 05 54.8	0.0
	comp=Z,4.6nm,0.7s						
RETA	Reute	149.89	348	*i* PKP	PKPbc	01 05 55.0	+0.3
	comp=Z,3.8nm,1.1s						
OBKA	Obir	149.90	343	*i* PKP	PKPbc	01 05 54.6	-0.2
	comp=Z,6.5nm,1.5s						
WTTA	Wattenberg	149.93	347	*i* PKP	PKPbc	01 05 55.2	+0.2
	comp=Z,8.4nm,0.6s,SNR=5.9						
MOTA	Moosalm	149.96	348	*i* PKP	PKPbc	01 05 55.1	+0.1
	comp=Z,6.4nm,0.9s						
MYKA	Terra Mystica	150.04	344	*i* PKP	PKPbc	01 05 54.7	-0.4
	comp=Z,5.6nm,0.5s						
SQTA	Sankt Quirin	150.06	347	*i* PKP	PKPbc	01 05 55.4	+0.3
	comp=Z,7.0nm,0.8s						
ABTA	Abfaltersbach	150.21	345	*i* PKP	PKPbc	01 05 55.2	-0.3
	comp=Z,8.9nm,0.7s,SNR=8.3						
PRED	Cave del Predi	150.23	344	PKPdf	PKPdf	01 05 49.8	+0.1
PRED				PKPbc	PKPbc	01 05 54.4	-1.2
PRED				PKPab	PKPab	01 06 03.8	-0.5
DAVA	Damuels	150.25	349	*i* PKiKP	PKiKP	01 05 56.2	0.0
	comp=Z,5.1nm,0.8s						
FETA	Feichten	150.35	348	*i* PKiKP	PKiKP	01 05 56.3	-0.1
	comp=Z,6.3nm,0.9s						
CIMO	Cimolais	150.64	345	PKPbc	PKPbc	01 05 56.0	-0.5
FUORN	Ofenpass-Fuorn	150.82	348	PKPbc	PKPbc	01 05 57.0	-0.2
TUE	Stuetta	151.13	349	PKPbc	PKiKP	01 05 58.1	0.0
FNA	Florina	151.98	328	PKPbc	PKPbc	01 05 58.9	-0.7
ESDC	Sonseca Array	157.96	12	PKPab	PKPab	01 06 37.2	-0.4
	comp=Z,1.3nm,1.0s,baz=324,slow=3.6,SNR=6.6						

*IDC **19** 00:52:21.0±1.4, 4.°54S×150.°96E, h0km, mb3.7/7, mbtmp3.7/7, Error ellipse: s-maj=65.4km s-min=23.4km az=119.0*

ISC 19 00:52:26.2±1.2, 4.°5S±0.°2×151.°0E±0.°3, h35km, n9, σ1§20/9, mb3.7/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	6.15	218	Sn	Sn	00 55 04.8	+1.1
	8.1nm,0.3s,baz=80,slow=22,SNR=7.3						
WRA	Warramunga Arr	22.30	225	P	P	00 57 18.6	-2.2
	1.3nm,0.9s,baz=52,slow=10,SNR=2.5						
	1.3nm,0.9s						
ASAR	Alice Springs	25.16	219	P	P	00 57 48.2	-0.2
	3.2nm,0.6s,baz=56,slow=8.8,SNR=19						
	3.2nm,0.6s						
PETK	Petropavlovsk-	57.70	5	P	P	01 02 12.8	-0.3
	2.0nm,0.9s,baz=180,slow=8.1,SNR=1.6						
	2.0nm,0.9s						
SONM	Songino Array	65.13	329	P	P	01 03 03.0	-0.6
	0.2nm,0.4s,baz=138,slow=5.5,SNR=1.2						
	0.2nm,0.4s						
ILAR	Eielson Array	82.60	22	P	P	01 04 46.2	+0.8
	0.2nm,0.6s,baz=253,slow=5.6,SNR=2.0						
	0.2nm,0.6s						
BVAR	Borovoye Array	87.93	323	P	P	01 05 13.5	+1.2
	0.3nm,0.5s,baz=90,slow=5.8,SNR=2.4						
	0.3nm,0.5s						
NVAR	Mina Array Bea	93.35	52	P	P	01 05 37.8	-0.4
	0.2nm,0.6s,baz=310,slow=5.8,SNR=2.0						
	0.2nm,0.6s						
TORD	Torodi Ar. Bea	148.48	288	PKPbc	PKiKP	01 12 11.8	-0.1
	0.8nm,0.7s,baz=66,slow=3.4,SNR=5.3						

*IDC **19** 00:56:33.7±2.6, 35.°58N×141.°99E, h0km, mb3.4/3, mbtmp3.3/4, ML2.2/1, MS2.7/3, Error ellipse: s-maj=69.9km s-min=30.7km az=52.0*

*JMA **19** 00:56:40.8±0.2, 35.°2N±0.°3×141.°2E±0.°9, h33km±2km, MV2.7/31, E OFF BOSO PENINSULA*

ISC 19 00:56:41.7±1.5, 35.°16N±0.°07×141.°2E±0.°1, h35km, n18, σ1§23/11, mb3.6/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	0.54	200	P	Pn	00 56 52.5	+0.1
BSO2	Boso 2	0.55	222	X		00 57 03.4	
BSO3	Boso 3	0.67	238	P	Pn	00 56 54.5	0.0
BSO3				X		00 57 06.1	
BSO4	Boso 4	0.73	257	P	Pn	00 56 55.4	+0.1
BSO4				X		00 57 06.4	
JKUC	kamogawauchiur	0.82	270	P	Pn	00 56 56.1	-0.6
JKUC				S	Sn	00 57 07.7	0.0
JYT	Yasato	1.34	323	P	Pn	00 57 03.2	-0.7
JYT				S	Sn	00 57 21.8	+1.2
MJAR	Matsushiro Arr	2.79	300	Pn	Pn	00 57 25.5	+1.6
	0.3nm,0.3s,baz=106,slow=14,SNR=5.5						
MJAR				Sn	Sn	00 58 06.4	+10
	0.2nm,0.3s,baz=127,slow=14,SNR=4.2						
MJAR				LR	LR	00 58 51.4	
	comp=Z,85nm,19.9s,baz=177,slow=43						
	2.6nm,0.5s						
KSRS	Korea Array	10.96	286	LR	LR	01 02 57.8	
	comp=Z,16nm,19.2s,baz=105,slow=33						
H11N2	WAKE ISLAND Hy	27.39	117	T	T	01 31 12.3	
	baz=310,slow=75,SNR=8.4						
H11N1	WAKE ISLAND Hy	27.40	117	T	T	01 31 24.4	
	baz=310,slow=75,SNR=8.2						
H11N3	WAKE ISLAND Hy	27.41	117	T	T	01 31 14.6	
	baz=310,slow=75,SNR=8.5						
TGY	Tagaytay City	27.80	226	LR	LR	01 13 33.0	
	comp=Z,64nm,20.5s,baz=212,slow=36						
H11S3	WAKE ISLAND Hy	28.04	120	T	T	01 31 59.3	
	baz=312,slow=76,SNR=21						
H11S1	WAKE ISLAND Hy	28.04	120	T	T	01 31 59.8	
	baz=312,slow=76,SNR=26						
H11S2	WAKE ISLAND Hy	28.05	120	T	T	01 32 05.8	
	baz=312,slow=76,SNR=23						
MKAR	Makanchi Array	44.99	304	P	P	01 04 51.0	-2.5
	0.2nm,0.5s,baz=79,slow=7.5,SNR=2.3						
	0.2nm,0.5s						
KURBB	Kurchatov Arra	47.03	309	P	P	01 05 09.5	0.0
	0.3nm,0.4s,baz=86,slow=8.1,SNR=6.4						
	0.3nm,0.4s						
WRA	Warramunga Arr	55.19	188	P	P	01 06 11.9	+0.9
	0.3nm,0.5s,baz=0.9,slow=7.4,SNR=1.6						
	0.3nm,0.5s						

IDC 19 01:06:52.4±1.3, 9.°53S×111.°75W, h0km, mb3.6/5, mbtmp3.6/5, MS3.4/7, Error ellipse: s-maj=86.7km s-min=24.6km az=83.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	Matias Romero	31.27	32	LR	LR	01 22 50.9	
	comp=Z,55nm,20.4s,baz=198,slow=31						
ATAH	Atahualpa	33.08	88	LR	LR	01 23 35.2	
	comp=Z,67nm,20.7s,baz=272,slow=30						
NNA	Nana	34.37	97	LR	LR	01 23 21.0	
	comp=Z,53nm,20.6s,baz=266,slow=29						
PPT	Papeete	37.57	254	LR	LR	01 24 26.9	
	comp=Z,85nm,18.2s,baz=160,slow=28						
H03N2	Juan Fernandez	38.43	133	T	T	01 54 56.3	
	baz=304,slow=77,SNR=31						
H03N3	Juan Fernandez	38.45	133	T	T	01 54 58.4	
	baz=304,slow=77,SNR=29						
H03N1	Juan Fernandez	38.45	133	T	T	01 54 57.8	
	baz=304,slow=77,SNR=34						
TXAR	Lajitas Array	39.42	11	P	P	01 14 25.1	+0.8
	0.5nm,0.7s,baz=187,slow=9.6,SNR=6.9						
	0.5nm,0.7s						
ROSC	El Rosal	39.94	71	LR	LR	01 28 00.9	
	comp=Z,21nm,22.0s,baz=286,slow=32						
PLCA	Paso Flores	47.86	138	P	P	01 15 32.2	-0.1
	1.0nm,0.5s,baz=301,slow=7.4,SNR=4.3						
	1.0nm,0.5s						
PDAR	Pinedale Array	52.08	2	P	P	01 16 03.9	-0.6
	0.1nm,0.3s,baz=160,slow=8.6,SNR=2.2						
	0.1nm,0.3s						
MDP	Montagnes des	60.66	79	LR	LR	01 39 53.6	
	comp=Z,32nm,18.2s,baz=288,slow=33						
BDFB	Brasilia	62.32	103	LR	LR	01 43 10.6	
	comp=Z,37nm,18.3s,baz=159,slow=35						
YKA	Yellowknife Ar	71.84	359	P	P	01 18 16.6	-0.2
	0.1nm,0.5s,baz=177,slow=4.9,SNR=3.7						
	0.1nm,0.5s						
QSPA	South Pole Qui	80.55	180	P	P	01 19 06.9	+0.4
	3.0nm,1.0s,baz=160,slow=1.6,SNR=6.6						
	3.0nm,1.0s						
H11S2	WAKE ISLAND Hy	85.08	290	T	T	02 53 23.7	
	baz=102,slow=75,SNR=111						
H11S1	WAKE ISLAND Hy	85.08	290	T	T	02 53 24.1	
	baz=102,slow=75,SNR=87						
H11S3	WAKE ISLAND Hy	85.10	290	T	T	02 53 26.9	
	baz=102,slow=75,SNR=82						
H11N3	WAKE ISLAND Hy	85.14	291	T	T	02 53 29.3	
	baz=103,slow=74,SNR=19						
H11N2	WAKE ISLAND Hy	85.15	291	T	T	02 53 28.6	
	baz=103,slow=74,SNR=24						
H11N1	WAKE ISLAND Hy	85.16	291	T	T	02 53 28.9	
	baz=103,slow=74,SNR=18						
GEYT	Alibeck	150.29	16	PKPbc	PKPbc	01 26 44.9	-1.2
	1.4nm,0.7s,baz=329,slow=1.7,SNR=4.4						

TAP 19 01:06:59.4, 21.°27N×121.°70E, h180km, ML3.5, D, Taiwan region

| Code | Station Name | Δ° | A

TWGBT eS Sn 01 07 56.8 -2.0
baz=332
TWG Pinlang 1.65 339 eP Pn 01 07 32.8 -0.1
baz=332
TWG eS Sn 01 07 56.3 -2.6
baz=332
MASBT Mashibuluo 1.66 324 P Pn 01 07 33.2 +0.2
baz=324
MASBT eS Sn 01 07 57.9 -1.2
baz=324
LONT Longtian 1.71 342 eP Pn 01 07 32.8 -0.7
baz=336
LONT eS Sn 01 07 58.3 -1.7
baz=336
EDH Donghe 1.73 348 eP Pn 01 07 31.9 -1.8
baz=341
EDH eS Sn 01 07 58.2 -2.2
baz=341
TSMG Majia 1.73 326 eP Pn 01 07 33.9 +0.2
baz=330
TSMG eS Sn 01 07 59.7 -0.6
baz=330
SSD Sandimen 1.77 326 eP Pn 01 07 34.3 +0.3
baz=330
SSD eS Sn 01 08 00.2 -0.8
baz=330
CHKT Chengkung 1.85 350 eS Sn 01 08 01.5 -0.9
baz=347
CHKH Chenggong 1.93 352 eP Pn 01 07 35.0 -0.8
baz=351
CHKH eS Sn 01 08 03.2 -0.9
baz=351
FULB Fuli 1.96 349 eP Pn 01 07 36.3 +0.2
baz=345
FULB eS Sn 01 08 04.0 -0.6
baz=345
SCST Cishan 1.96 325 eP Pn 01 07 36.5 +0.5
baz=332
SCST eS Sn 01 08 05.2 +0.7
baz=332
SLGT Liugui 1.98 330 P Pn 01 07 36.6 +0.4
baz=330
SLGT S Sn 01 08 04.6 -0.3
baz=330
ELDTW Lidau 2.01 342 eP Pn 01 07 37.1 +0.4
baz=337
ELDTW eS Sn 01 08 05.4 -0.4
baz=337
STYH Taoyuan 2.08 336 eS Sn 01 08 07.2 +0.4
baz=336
TWF1 Yuli 2.11 350 eP Pn 01 07 38.1 +0.5
baz=346
YULB Yu-li 2.15 350 eP Pn 01 07 37.2 -0.9
baz=342
YULB eS Sn 01 08 05.8 -2.5
baz=342
CHN1 Nanshi 2.19 330 eP Pn 01 07 39.2 +0.6
baz=335
CHN1 eS Sn 01 08 08.6 -0.6
baz=335
WTP Ta-pu 2.21 333 eP Pn 01 07 39.2 +0.4
baz=333
WTP eS Sn 01 08 09.2 -0.4
baz=333
HGSD Ruisui 2.23 353 eP Pn 01 07 40.4 +1.5
baz=357
HGSD eS Sn 01 08 10.4 +0.5
baz=357
SNST Tainan City 2.24 330 eP Pn 01 07 39.2 +0.1
baz=336
SNST eS Sn 01 08 09.7 -0.3
baz=336
TPUB Ta-pu 2.25 334 eP Pn 01 07 39.3 0.0
baz=334
TPUB eS Sn 01 08 09.6 -0.8
baz=334
EHY Hungye 2.25 351 eP Pn 01 07 39.7 +0.4
baz=344
EHY eS Sn 01 08 08.7 -1.7
baz=344
TWK Hsinying 2.28 331 eP Pn 01 07 39.4 -0.3
baz=331
TWK eS Sn 01 08 10.7 -0.4
baz=331
CHN4 Tsaushan 2.31 334 eP Pn 01 07 40.0 +0.1
baz=334
CHN4 eS Sn 01 08 11.6 0.0
baz=334
ALS Alishan 2.38 340 eP Pn 01 07 41.0 -0.1
baz=340
ALS eS Sn 01 08 13.2 -0.3
baz=340
TSCK Chigu Township 2.40 322 eP Pn 01 07 41.2 +0.4
baz=316
TSCK eS Sn 01 08 13.3 +0.2
baz=316
WARBT Fenglin Townsh 2.45 353 eP Pn 01 07 41.1 -0.5
baz=349
WARBT eS Sn 01 08 12.7 -1.8
baz=349
CHN5 Tsauling 2.50 338 eP Pn 01 07 42.3 0.0
baz=338
CHN5 eS Sn 01 08 15.0 -0.6
baz=338
VWDT VWDT 2.53 348 eP Pn 01 07 43.5 +1.1
baz=342
VWDT eS Sn 01 08 16.0 +0.1
baz=342
SSLB Suanglung 2.60 345 eP Pn 01 07 42.8 -0.5
baz=345
SSLB eS Sn 01 08 16.8 -0.8
baz=345
TYC Yuchr 2.74 344 eP Pn 01 07 44.9 0.0
baz=344
TYC eS Sn 01 08 20.0 -0.4
baz=344
WDGT Dungji 2.74 317 eP Pn 01 07 45.4 +0.5
baz=317
LXIB Xiulin Townshi 2.75 354 eP Pn 01 07 45.8 +0.6
LXIB eS Sn 01 08 20.1 -0.9
WUSB Renai 2.76 349 eP Pn 01 07 45.8 +0.4
baz=342
WUSB eS Sn 01 08 20.5 -0.7
baz=342
FUSS Fushou 2.99 352 eP Pn 01 07 48.8 +0.6
baz=358
FUSS eS Sn 01 08 26.1 -0.2
baz=358
PNG Penghu 3.03 319 eP Pn 01 07 48.8 +0.4
baz=319
WHP Taichung City 3.07 347 eP Pn 01 07 49.7 +0.7
baz=342
WHP eS Sn 01 08 28.7 +0.9
baz=342
NSK Sanguang 3.41 355 eP Pn 01 07 54.9 +1.8
baz=355
VWUC VWUC 4.25 331 eP Pn 01 08 04.1 +0.5
baz=331

*IDC **19** 01:20:58.8±2.3,21°.66N×143°.10E,h266km±19km, mb3.5/13,mbtmp4.2/14,Error ellipse: s-maj=21.9km s-min=17.3km az=72.0*

ISC 19 01:20:56.8±0.8,21°.5N±0°.1×143°.1E±0°.2,h250km,n18, σ0.88/19,mb3.9/12,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**5.59**	**351**	P		**Pn**	**01 22 21.0**	**+1.2**
	46nm,0.3s,baz=108,slow=20,SNR=36							
JCJ				S		**S**	**01 23 26.6**	**+0.4**
	47nm,0.4s,baz=126,slow=23,SNR=9.8							
KSRS	**Korea Array**	**20.60**	**324**	P		**P**	**01 25 17.7**	**+0.6**
	0.9nm,0.5s,baz=155,slow=15,SNR=1.9							
	0.9nm,0.5s							
KLR	**Kul'dur**	**29.07**	**345**	P		**P**	**01 26 34.5**	**+0.5**
	2.9nm,0.6s,baz=150,slow=9.0,SNR=8.1							
	2.9nm,0.6s							
WRA	**Warramunga Arr**	**42.12**	**192**	P		**P**	**01 28 25.8**	**+1.0**
	0.2nm,0.3s,baz=15,slow=9.2,SNR=5.3							
	0.2nm,0.3s							
ZALV	**Zalesovo Beam**	**54.29**	**322**	P		**P**	**01 29 56.3**	**-0.9**
	0.5nm,0.3s,baz=109,slow=11,SNR=1.9							
	0.5nm,0.3s							
MKAR	**Makanchi Array**	**54.76**	**313**	PcP		**PcP**	**01 30 59.0**	**-1.0**
	0.3nm,0.4s,baz=74,slow=5.3,SNR=2.0							
KURBB	**Kurchatov Arra**	**57.59**	**317**	P		**P**	**01 30 20.5**	**-0.1**
	1.6nm,0.5s,baz=93,slow=7.5,SNR=18							
	1.6nm,0.5s							
ILAR	**Eielson Array**	**62.20**	**27**	P		**P**	**01 30 50.9**	**-0.7**
	0.6nm,0.6s,baz=261,slow=5.0,SNR=7.1							
	0.6nm,0.6s							
BVAR	**Borovoye Array**	**62.75**	**320**	P		**P**	**01 30 55.4**	**0.0**
	3.0nm,0.3s,baz=98,slow=7.9,SNR=28							
	3.0nm,0.3s							
SPITS	**Spitsbergen Ar**	**75.97**	**350**	P		**P**	**01 32 15.7**	**-0.1**
	10nm,1.0s,baz=93,slow=3.0,SNR=1.6							
	10nm,1.0s							
YKA	**Yellowknife Ar**	**76.62**	**28**	P		**P**	**01 32 19.5**	**-0.1**
	0.7nm,0.6s,baz=294,slow=6.2,SNR=11							
	0.7nm,0.6s							
ARCES	**ARCESS Array B**	**79.05**	**341**	P		**P**	**01 32 32.9**	**0.0**
	1.5nm,0.5s,baz=75,slow=8.3,SNR=18							
	1.5nm,0.5s							
NVAR	**Mina Array Bea**	**83.29**	**51**	P		**P**	**01 32 56.3**	**+0.2**
	0.7nm,0.7s,baz=275,slow=5.6,SNR=4.6							
	0.7nm,0.7s							
FINES	**FINESS Array B**	**83.29**	**334**	P		**P**	**01 32 54.1**	**-1.2**
	1.3nm,0.5s,baz=56,slow=5.1,SNR=16							
	1.3nm,0.5s							
HFS	**Hagfors**	**88.84**	**337**	P		**P**	**01 33 20.6**	**-1.7**
	0.8nm,0.4s,baz=93,slow=3.0,SNR=7.1							
	0.8nm,0.4s							
TORD	**Torodi Ar. Bea**	**128.79**	**309**	PKP		**PKPdf**	**01 39 34.4**	**-0.9**
	0.1nm,0.5s,baz=81,slow=2.6,SNR=0.9							
PLCA	**Paso Flores**	**145.70**	**132**	PKPbc		**PKPdf**	**01 40 06.8**	**+1.2**
	0.9nm,0.6s,baz=275,slow=3.8,SNR=4.7							
LPAZ	**La Paz**	**150.01**	**85**	PKPbc		**PKPbc**	**01 40 19.6**	**+0.3**
	0.8nm,0.6s,baz=229,slow=4.5,SNR=5.9							

*SKHL **19** 01:21:52.1±0.6,46°.80N×150°.90E,h164km±4km, mb5.5/6, mbv5.0/2,msh5.3/2,msha5.9/6*

*MOS **19** 01:21:52.6±1.1,46°.88N×150°.84E,h177km, mb4.1/14, Error ellipse: s-maj=8.5km s-min=6.3km az=68.0*

*NEIC **19** 01:21:55.1±1.6,47°.2N±0°.1×150°.6E±0°.2,h165km±10km, mb4.3/33,Error ellipse: s-maj=20.5km s-min=11.8km az=145.0*

*IDC **19** 01:21:55.5±1.6,47°.08N×150°.64E,h180km±14km, mb3.4/25,mbtmp4.0/33,MS2.8/1,Error ellipse: s-maj=13.4km s-min=9.4km az=141.0*

*JMA **19** 01:21:56.3±0.8,46°.N±3°.×15°.1E±°,h183km,MV4.3/16, KURILE ISLANDS REGION*

ISC 19 01:21:54.5±0.5,46°.68N±0°.05×150°.95E±0°.06,h200km, n172,σ2.54/169,mb3.9/48,10C-5D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.59**	**237**	eP		**Pn**	**01 22 37.1**	**-2.3**
KUR					AMB	AMB	01 22 40.1	
	150nm,0.4s							
KUR					eS	**Sn**	**01 23 13.0**	**-1.3**
KUR					A	A	01 23 15.5	
	1μm,3.0s							
KUR					A	A	01 23 15.5	
	850nm,3.0s							
KUR					A	A	01 23 19.9	
	330nm,0.4s							
KUR					A	A	01 23 19.9	
	600nm,0.4s							
KUR	**Kuril'sk**	**2.59**	**237**	ePN		**Pn**	**01 22 39.2**	**-0.2**
KUR					eS	**Sn**	**01 23 14.2**	**-0.1**
KUR					pmax	pmax		
	comp=Z,134nm,0.4s							
KUR					smax	smax		
	comp=N,237nm,0.4s							
KUR					smax	smax		
	comp=E,446nm,0.4s							
SHO	**Shikotan**	**4.04**	**227**	iP		**Pn**	**01 22 53.9**	**-2.9**
SHO					AMB	AMB	01 22 54.5	
	comp=E,130nm,0.1s							
SHO				i	S	**Sn**	**01 23 39.0**	**-6.7**
SHO					A	A	01 23 43.1	
	comp=E,200nm,0.2s							
SHO					A	A	01 23 43.1	
	comp=E,370nm,0.2s							
SHO	**Shikotan**	**4.04**	**227**	i	PN	**Pn**	**01 22 53.8**	**-3.0**
SHO				i	S	**Sn**	**01 23 38.8**	**-6.9**
SHO					pmax	pmax		
	comp=N,77nm,0.1s							
SHO					pmax	pmax		
	comp=E,50nm,0.1s							
SHO					pmax	pmax		
	comp=Z,126nm,0.1s							
SHO					smax	smax		
	comp=N,196nm,0.2s							
SHO					smax	smax		
	comp=E,374nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**4.45**	**235**	iP		**Pn**	**01 23 00.9**	**-1.1**
YUK					AMB	AMB	01 23 02.7	
	comp=E,350nm,0.2s							
YUK				i	S	**Sn**	**01 23 54.2**	**-0.8**
YUK					A	A	01 23 55.5	
	comp=E,900nm,2.0s							
YUK					A	A	01 23 55.5	
	comp=E,1μm,2.0s							
YUK					A	A	01 23 57.3	
	comp=E,200nm,0.2s							
YUK					A	A	01 23 57.3	
	comp=E,430nm,0.2s							
YUK	**Yuzh-Kuril'sk**	**4.45**	**235**	d	iPN	**Pn**	**01 23 00.9**	**-1.1**
YUK					iS	**Sn**	**01 23 52.8**	**-2.2**
YUK					pmax	pmax		
	comp=E,132nm,0.2s							
YUK					pmax	pmax		
	comp=Z,348nm,0.2s							
YUK					pmax	pmax		
	comp=N,101nm,0.1s							
YUK					smax	smax		
	comp=N,598nm,1.5s							
YUK					smax	smax		
	comp=E,423nm,1.3s							
YUK					smax	smax		
	comp=N,197nm,0.2s							
YUK					smax	smax		
	comp=E,432nm,0.2s							
RUSJ	**Misakicho**	**4.77**	**239**	ePN		**Pn**	**01 23 05.2**	**-0.7**
RUSJ					eS	**Sn**	**01 24 04.5**	**+2.4**
JRA	**Rausu**	**4.94**	**238**	P		**Pn**	**01 23 07.2**	**-0.9**
NEM2	**Nemuro 2**	**4.96**	**230**	P		**Pn**	**01 23 05.1**	**-3.3**
NEM2					eS	**Sn**	**01 23 59.0**	**-7.5**
NMR	**Nemuro--Hokkai**	**4.96**	**230**	i	P	**Pn**	**01 23 05.2**	**-3.2**
NMR	**Nemuro--Hokkai**	**4.96**	**230**	‖i	PN	**Pn**	**01 23 05.0**	**-3.4**
SKR	**Severo-Kuril's**	**5.27**	**39**	eP		**Pn**	**01 23 08.7**	**-3.5**
SKR					AMB	AMB	01 23 08.9	
	comp=E,80nm,0.3s							
SKR					AMB	AMB	01 23 12.0	
	comp=E,850nm,2.5s							
SKR					eS	**Sn**	**01 24 08.6**	**-5.0**
SKR					A	A	01 24 13.1	
	comp=E,130nm,0.3s							
SKR					A	A	01 24 13.1	
	comp=E,110nm,0.3s							
SKR					A	A	01 24 13.6	
	comp=E,2μm,3.0s							
SKR					A	A	01 24 13.6	
	comp=E,750nm,3.0s							
SKR	**Severo-Kuril's**	**5.27**	**39**	de	PN	**Pn**	**01 23 08.4**	**-3.8**
JNK	**Nakash**	**5.38**	**237**	P		**Pn**	**01 23 12.4**	**-1.4**
YSS	**Yuzh-Sakhalins**	**5.63**	**276**	Pn		**Pn**	**01 23 13.8**	**-3.1**
YSS	**Yuzh-Sakhalins**	**5.63**	**276**	eP		**Pn**	**01 23 15.3**	**-1.6**
YSS					AMB	AMB	01 23 16.5	
	comp=E,150nm,3.0s							
YSS	**Yuzh-Sakhalins**	**5.63**	**276**	ePN		**Pn**	**01 23 15.6**	**-1.3**
YSS					eS	**Sn**	**01 24 20.4**	**-1.6**
YSS					pmax	pmax		
	comp=Z,100nm,3.0s							
YSS					pmax	pmax		
	comp=Z,30nm,0.8s							
YSS					smax	smax		
	comp=N,10.0nm,0.4s							
YSS					smax	smax		
	comp=E,10.0nm,0.3s							
JTKR	**Abashiri--Toko**	**5.65**	**244**	P		**Pn**	**01 23 16.7**	**-0.5**
AKK	**Akkeshi**	**5.68**	**232**	eP		**Pn**	**01 23 14.6**	**-3.0**
JAK	**Akkeshi**	**5.77**	**233**	P		**Pn**	**01 23 15.9**	**-2.9**
JAK				S		**Sn**	**01 24 19.0**	**-6.4**
JAR	**Ashorobuto**	**6.11**	**239**	P		**Pn**	**01 23 22.2**	**-0.9**
JAR				S		**Sn**	**01 24 31.0**	**-2.3**
PAU	**Pauzhetka**	**6.15**	**37**	eP		**Pn**	**01 23 20.6**	**-2.9**
PAU					AMB	AMB	01 23 22.0	
	comp=E,120nm,0.4s							
PAU					eS	**Sn**	**01 24 27.3**	**-6.7**
	comp=E,100nm,0.2s							
PAU					A	A	01 24 28.5	
	comp=E,160nm,0.2s							
JOB	**Onbets**	**6.31**	**236**	P		**Pn**	**01 23 23.9**	**-1.9**
JOB					eS	**Sn**	**01 24 32.2**	**-5.8**
JKA	**Kamikawa-asahi**	**6.41**	**249**	Pn		**Pn**	**01 23 27.5**	**+0.4**
JKA	**Kamikawa-asahi**	**6.41**	**249**	eP		**Pn**	**01 23 27.5**	**+0.4**
ASAJ	**Asahikawa**	**6.41**	**249**	P		**Pn**	**01 23 27.8**	**+0.7**
	comp=E,193nm,0.7s,baz=74,slow=12,SNR=116							
ASAJ	**Asahikawa**	**6.41**	**249**	PN		**Pn**	**01 23 27.5**	**+0.4**
JKK2	**Kamakawa 2**	**6.43**	**247**	P		**Pn**	**01 23 27.4**	**+0.1**
JWK2	**Keihoku**	**6.45**	**261**	eP		**Pn**	**01 23 28.7**	**+1.2**
JCH	**Churui**	**6.76**	**236**	P		**Pn**	**01 23 29.0**	**-2.7**
JCH				S		**Sn**	**01 24 41.5**	**-7.2**
TYV	**Tymovskoe**	**6.89**	**310**	eP		**Pn**	**01 23 29.8**	**-3.4**
JAB	**Ashibetsu**	**6.94**	**246**	P		**Pn**	**01 23 34.4**	**+0.5**
JRBN	**Rebuntou**	**6.99**	**263**	eP		**Pn**	**01 23 34.8**	**+0.2**
ERM	**Erimo**	**7.27**	**233**			**Pn**	**01 23 36.8**	**-1.5**
ERM	**Erimo**	**7.27**	**233**	‖	ePN	**Pn**	**01 23 36.0**	**-2.3**
JNBK	**Urakawa-nobuka**	**7.33**	**236**	P		**Pn**	**01 23 35.5**	**-3.5**
JNBK					eS	**Sn**	**01 24 53.3**	**-8.6**
PEA0B	**Petropavlovsk-**	**7.77**	**32**	P		**Pn**	**01 23 41.4**	**-3.2**
PEA0B	**Petropavlovsk-**	**7.77**	**32**	‖	ePN	**Pn**	**01 23 41.9**	**-2.7**
PETK	**Petropavlovsk-**	**7.77**	**32**	P		**Pn**	**01 23 41.1**	**-3.5**
PETK	**Petropavlovsk-**	**7.77**	**32**	P		**Pn**	**01 23 41.9**	**-2.7**
	comp=E,6.3nm,0.6s,baz=191,slow=11,SNR=34							
PET	**Petropavlovsk**	**8.07**	**35**	Pn		**Pn**	**01 23 44.6**	**-3.8**
JANG	**Nango**	**9.30**	**231**	P		**Pn**	**01 24 00.3**	**-4.4**
JANG					eS	Sn	01 25 37.0	-12
JSD	**Sado**	**12.74**	**232**			**P**	**01 24 54.0**	**+1.8**
MA2	**Magadan**	**12.92**	**360**	P		**Pn**	**01 24 47.2**	**-3.5**
	comp=E,4.1nm,0.5s,baz=142,slow=18,SNR=2.4							
KLR	**Kul'dur**	**13.12**	**288**	P		**P**	**01 24 52.1**	**-4.2**
	comp=E,2.8nm,0.8s,baz=94,slow=14,SNR=8.1							
KLR	**Kul'dur**	**13.12**	**288**	eP		**P**	**01 24 52.6**	**-3.7**
KLR	**Kul'dur**	**13.12**	**288**	‖	ePN	**P**	**01 24 52.6**	**-3.7**
KLR					pmax	pmax		
	comp=Z,2.0nm,0.7s							
USA0B	**Ussuriysk Arra**	**13.54**	**266**	P		**P**	**01 24 58.5**	**-2.6**
USA0B	**Ussuriysk Arra**	**13.54**	**266**	d	iPN	**P**	**01 24 57.9**	**-3.2**
USRK	**Ussuriysk Ar.**	**13.54**	**266**	P		**P**	**01 24 58.4**	**-2.7**
	comp=Z,12nm,0.5s,baz=69,slow=13,SNR=16							
MJB9	**Matsu-Tunnel**	**13.89**	**228**			**P**	**01 25 06.9**	**+1.8**
MAJO	**Matsushiro**	**13.89**	**228**			**P**	**01 25 05.8**	**+0.7**
MAJO	**Matsushiro**	**13.89**	**228**	‖	eP	**P**	**01 25 03.7**	**-1.4**
MJAR	**Matsushiro Arr**	**13.89**	**228**	P		**P**	**01 25 07.6**	**+2.5**
	comp=Z,5.5nm,0.6s,baz=22,slow=12,SNR=5.4							
JGF	**Kuroka**	**15.05**	**227**			**P**	**01 25 20.0**	**+2.0**
JGF					IAmb	IAmb	01 25 22.6	
	comp=Z,13nm,0.8s							
MDJ	**Mudanjiang**	**15.07**	**270**			**P**	**01 25 16.6**	**-1.4**
JSG	**Sagara**	**15.39**	**223**	Pn		**P**	**01 25 24.3**	**+2.7**
INU	**Inuyama**	**15.42**	**228**	Pn		**P**	**01 25 23.9**	**+1.9**
INU					IAmb	IAmb	01 25 26.7	
	comp=E,19nm,1.0s							
HEH	**HeiHe**	**15.99**	**292**	eP		**Pn**	**01 25 28.8**	**+0.2**
HEH					pmax	pmax		
	comp=Z,34nm,0.8s							
HEH					pmax	pmax		
	comp=Z,93nm,5.0s							
SEY	**Seymchan**	**16.31**	**2**	P		**Pn**	**01 25 30.3**	**-1.9**
	comp=Z,1.2nm,0.2s,baz=219,slow=14,SNR=1.6							
ZEA	**Zeya**	**16.68**	**304**	eP		**Pn**	**01 25 36.0**	**-0.7**
ZEA	**Zeya**	**16.68**	**304**	eP		**Pn**	**01 25 36.8**	**+0.1**
ZEA					pmax	pmax		
	comp=E,10.0nm,0.8s							
ZEA					pmax	pmax		
	comp=Z,10.0nm,0.7s							
JMN	**Monobe**	**18.32**	**231**	P		**Pn**	**01 25 57.1**	**+0.9**
KSRS	**Korea Array**	**19.36**	**250**	P		**Pn**	**01 26 07.0**	**-1.5**
	comp=Z,8.8nm,0.8s,baz=57,slow=11,SNR=16							
KSRS	**Korea Array**	**19.36**	**250**	eP		**Pn**	**01 26 07.0**	**-1.5**
KSRS	**Korea Array**	**19.36**	**250**	P		**Pn**	**01 26 07.0**	**-1.5**
KSAR	**Wonju Array Be**	**19.39**	**250**	P		**Pn**	**01 26 07.4**	**-1.5**
KSAR	**Wonju Array Be**	**19.39**	**250**	P		**Pn**	**01 26 07.4**	**-1.5**
YAK	**Yakutsk**	**19.60**	**329**	LR		LR	01 34 00.8	
	comp=Z,28nm,21.4s,baz=17,slow=38							
YAK	**Yakutsk**	**19.60**	**329**	eP		**Pn**	**01 26 07.6**	**-3.4**
YAK	**Yakutsk**	**19.60**	**329**	eP		**Pn**	**01 26 07.6**	**-3.4**
YAK					eS	**S**	**01 29 36.1**	**-1.0**
YAK					pmax	pmax		
	comp=Z,21nm,0.9s							
YAK					pmax	pmax		
	comp=N,7.0nm,1.2s							
YAK					pmax	pmax		
	comp=E,5.0nm,1.4s							
YAK					smax	smax		
	comp=E,95nm,5.4s							
YAK					smax	smax		
	comp=N,79nm,3.8s							
YAK					smax	smax		
	comp=E,4.0nm,0.9s							
YAK					smax	smax		
	comp=N,3.0nm,0.7s							
YAK					pmax	pmax		
	comp=N,20nm,0.7s							
YAK					pmax	pmax		
	comp=E,23nm,0.9s							
BILL	**Bilibino**	**22.82**	**15**	eP		**P**	**01 26 40.9**	**+1.1**
BILL	**Bilibino**	**22.82**	**15**	eP		**P**	**01 26 40.9**	**+1.1**
JOW	**Kunigami**	**26.71**	**230**	P		**P**	**01 27 18.4**	**+3.1**
	comp=E,4.1nm,0.4s,baz=58,slow=13,SNR=2.3							
	comp=E,4.1nm,0.4s							
TIK	**Tiksi**	**27.12**	**345**	eP		**P**	**01 27 17.1**	**-1.3**
TIXI	**Tiksi**	**27.13**	**345**	P		**P**	**01 27 17.1**	**-1.4**
TIXI	**Tiksi**	**27.13**	**345**	P		**P**	**01 27 17.1**	**-1.4**
TIXI					pmax	pmax		
	comp=Z,1.0nm,0.5s							
HHC	**Hu-ho-hao-te**	**28.81**	**273**	eP		**P**	**01 27 35.8**	**+1.9**
HHC					pmax	pmax		
	comp=Z,8.0nm,0.6s							
HHC					pmax	pmax		
	comp=Z,59nm,5.3s							
ULN	**Ulaanbaatar**	**29.51**	**289**	P		P	01 27 42.4	+2.3
ULN					IAmb	IAmb	01 27 46.2	
	comp=Z,4.5nm,0.9s							
ULN	**Ulaanbaatar**	**29.51**	**289**	eP		**P**	**01 27 40.8**	**+0.7**
ULN	**Ulaanbaatar**	**29.51**	**289**	‖	eP	**P**	**01 27 40.8**	**+0.7**
ULN					pmax	pmax		
	comp=Z,5.0nm,0.9s							
H11N2	**WAKE ISLAND Hy**	**29.89**	**149**		T	T	01 59 31.9	
	baz=339,slow=75,SNR=81							
H11N1	**WAKE ISLAND Hy**	**29.90**	**149**		T	T	01 59 31.4	
	baz=339,slow=75,SNR=57							
H11N3	**WAKE ISLAND Hy**	**29.91**	**149**		T	T	01 59 31.8	
	baz=339,slow=75,SNR=67							
SONM	**Songino Array**	**29.95**	**289**	P		**P**	**01 27 43.3**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=63,slow=8.7,SNR=4.7							
SONM					PcP	**PcP**	**01 30 43.3**	**+2.1**
	comp=Z,0.3nm,0.5s,baz=90,slow=1.4,SNR=2.0							
	comp=Z,0.7nm,0.7s							
H11S1	**WAKE ISLAND Hy**	**30.95**	**150**		T	T	02 00 34.0	
	baz=340,slow=76,SNR=52							
H11S3	**WAKE ISLAND Hy**	**30.96**	**150**		T	T	02 00 54.6	
	baz=340,slow=76,SNR=48							
H11S2	**WAKE ISLAND Hy**	**30.97**	**150**		T	T	02 00 48.7	
	baz=340,slow=76,SNR=40							
LYN	**LuoYang**	**31.32**	**261**	eP		**P**	**01 27 58.3**	**+2.4**
LYN					pmax	pmax		
	comp=Z,13nm,0.7s							
M16K	**Timber Creek**	**31.95**	**45**	P		**P**	**01 28 02.9**	**+1.7**
M16K					IAmb	IAmb	01 28 18.4	
	comp=Z,10nm,1.4s							
E18K	**Tukpahlearik C**	**32.29**	**33**	P		P	01 28 06.0	+1.9
E18K					IAmb	IAmb	01 28 27.2	
	comp=Z,5.7nm,1.4s							
C18K	**Utukok River**	**32.43**	**30**	P		**P**	**01 28 06.5**	**+1.2**
C19K	**Lookout Ridge**	**33.12**	**30**	P		**P**	**01 28 12.8**	**+1.5**
C19K					IAmb	IAmb	01 28 22.2	
	comp=Z,12nm,1.4s							
H19K	**Roundabout Mou**	**33.54**	**37**	P		P	01 28 16.8	+1.9
E19K	**Redstone River**	**33.57**	**33**	P		**P**	**01 28 16.9**	**+1.8**
E19K					IAmb	IAmb	01 28 22.4	
	comp=Z,2.6nm,0.7s							
J19K	**Poorman**	**33.72**	**40**	P		**P**	**01 28 17.5**	**+1.1**
J19K					IAmb	IAmb	01 28 41.0	
	comp=Z,7.6nm,1.4s							
B20K	**Meade River**	**34.20**	**29**	P		**P**	**01 28 21.8**	**+1.3**
C23K	**Itkillik River**	**36.37**	**30**	P		**P**	**01 28 40.5**	**+1.5**
C23K					IAmb	IAmb	01 28 41.4	
	comp=Z,10nm,1.4s							
TOLK	**Toolik Lake Re**	**36.59**	**32**	P		**P**	**01 28 42.5**	**+1.6**
TOLK					IAmb	IAmb	01 28 43.6	
	comp=Z,2.7nm,0.5s							

CCB	**Clear Creek Bu**	**37.14**	**39**	P		**P**	**01 28 46.9**	**+1.4**
ILAR	**Eielson Array**	**37.53**	**38**	P		**P**	**01 28 49.6**	**+0.7**
ILAR	**Eielson Array**	**37.53**	**38**	P		**P**	**01 28 50.4**	**+1.5**
	comp=Z,0.3nm,0.4s,baz=270,slow=5.4,SNR=12							
	comp=Z,0.3nm,0.4s							
BMAR	**Burnt Mountain**	**38.41**	**34**	P		P	01 28 58.1	+1.9
BCAR	**Beaver Creek A**	**39.93**	**41**	P		P	01 29 11.6	+2.7
E29M	**Blow River**	**40.89**	**32**	P		P	01 29 18.8	+2.3
ZALV	**Zalesovo Beam**	**41.44**	**305**	P		**P**	**01 29 19.8**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=33,slow=8.6,SNR=1.9							
ZALV				PcP		**PcP**	**01 31 16.9**	**+2.0**
	comp=Z,0.8nm,0.4s,baz=104,slow=5.0,SNR=4.0							
	comp=Z,0.6nm,0.4s							
HYT	**Haines Junctio**	**42.35**	**44**	P		P	01 29 31.6	+2.9
HYT				IAmb		IAmb	01 29 36.3	
	comp=Z,11nm,1.5s							
INK	**Inuvik**	**42.51**	**32**	P		P	01 29 31.6	+2.0
INK	**Inuvik**	**42.51**	**32**	P		P	01 29 31.6	+2.0
INK				pmax		pmax		
	comp=Z,2.0nm,0.5s							
PZH	**PanZhiHua**	**43.53**	**260**	P		P	01 29 41.9	+3.4
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,5.1s							
MK31	**Makanchi Array**	**45.64**	**296**	P		**P**	**01 29 55.1**	**+0.3**
MK31	**Makanchi Array**	**45.64**	**296**	*ce*P		**P**	**01 29 54.8**	**-0.1**
MKAR	**Makanchi Array**	**45.64**	**296**	P		**P**	**01 29 54.9**	**+0.1**
MKAR	**Makanchi Array**	**45.64**	**296**	P		**P**	**01 29 54.7**	**-0.1**
	comp=Z,1.8nm,0.6s,baz=67,slow=7.9,SNR=19							
MKAR				PcP		**PcP**	**01 31 31.6**	**+2.1**
	comp=Z,0.9nm,0.6s,baz=62,slow=2.5,SNR=7.0							
	comp=Z,1.8nm,0.6s							
MKAR	**Makanchi Array**	**45.64**	**296**	*e*P		**P**	**01 29 55.0**	**+0.1**
MKAR	**Makanchi Array**	**45.64**	**296**	*i* P		**P**	**01 29 55.0**	**+0.1**
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
KURK	**Kurchatov**	**46.15**	**303**	P		**P**	**01 29 58.1**	**-0.7**
KURK				IAmb		IAmb	01 29 59.1	
	comp=Z,2.8nm,0.6s							
KURK	**Kurchatov**	**46.15**	**303**	*e*P		**P**	**01 29 58.6**	**-0.1**
KURK	**Kurchatov**	**46.15**	**303**	*e*P		**P**	**01 29 58.6**	**-0.1**
KURK				pmax		pmax		
	comp=Z,5.0nm,2.5s							
KURBB	**Kurchatov Arra**	**46.24**	**303**	P		**P**	**01 29 58.7**	**-0.7**
	comp=Z,2.2nm,0.6s,baz=71,slow=8.6,SNR=15							
KURBB				PcP		**PcP**	**01 31 33.3**	**+1.8**
	comp=Z,0.9nm,0.7s,baz=70,slow=3.6,SNR=7.6							
	comp=Z,2.2nm,0.6s							
CRAI	**Chiangrai**	**48.71**	**255**	P		P	01 30 21.5	+2.7
CRAI				IAmb		IAmb	01 30 22.9	
	comp=Z,7.1nm,1.2s							
BVAR	**Borovoye Array**	**49.74**	**309**	P		**P**	**01 30 25.6**	**-0.6**
	comp=Z,0.9nm,0.6s,baz=55,slow=9.2,SNR=7.7							
BVAR				PcP		**PcP**	**01 31 46.0**	**+1.9**
	comp=Z,1.3nm,0.5s,baz=64,slow=3.6,SNR=7.1							
BVAR				ScP		**ScP**	**01 35 23.9**	**+3.7**
	comp=Z,0.4nm,0.7s,baz=64,slow=3.4,SNR=2.6							
	comp=Z,0.9nm,0.6s							
BRVK	**Borovoye**	**49.78**	**309**	P		**P**	**01 30 27.2**	**+0.8**
BRVK	**Borovoye**	**49.78**	**309**	*e*P		**P**	**01 30 27.3**	**+0.8**
BRVK	**Borovoye**	**49.78**	**309**	P		**P**	**01 30 27.3**	**+0.8**
BRVK				pmax		pmax		
	comp=Z,1.0nm,0.7s							
PHRA	**Phrae**	**50.03**	**253**	P		P	01 30 32.1	+3.4
CHTO	**Chiang Mai**	**50.66**	**255**	P		P	01 30 36.5	+3.0
CHTO	**Chiang Mai**	**50.66**	**255**	P		P	01 30 36.5	+3.0
CHTO				pmax		pmax		
	comp=Z,8.0nm,0.7s							
SHL	**Shillong**	**50.88**	**267**	P		**P**	**01 30 37.0**	**+1.7**
SHL	**Shillong**	**50.88**	**267**	P		**P**	**01 30 37.0**	**+1.7**
CM31	**Chiang Mai Arr**	**50.91**	**255**	P		**P**	**01 30 38.0**	**+2.6**
CMAR	**Chiang Mai Arr**	**50.91**	**255**	P		P	01 30 38.6	+3.2
CMAR	**Chiang Mai Arr**	**50.91**	**255**	P		P	01 30 38.5	+3.1
	comp=Z,3.9nm,0.6s,baz=39,slow=7.3,SNR=16							
	comp=Z,3.9nm,0.6s							
CMAR	**Chiang Mai Arr**	**50.91**	**255**	*ce*P		P	01 30 39.2	+3.8
CMAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
YKA	**Yellowknife Ar**	**51.86**	**36**	P		**P**	**01 30 43.2**	**+1.3**
	comp=Z,0.2nm,0.4s,baz=311,slow=14,SNR=7.4							
YKA				pP		**pP**	**01 31 22.7**	**-2.5**
	comp=Z,0.7nm,0.8s,baz=299,slow=7.4,SNR=5.7							
	comp=Z,0.2nm,0.4s							
AAK	**Ala-Archa**	**52.52**	**295**	*e*P		**P**	**01 30 48.8**	**+1.6**
AAK	**Ala-Archa**	**52.52**	**295**	*e*P		**P**	**01 30 48.8**	**+1.6**
AAK				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ARU	**Arti**	**54.05**	**317**	P		**P**	**01 30 57.5**	**-0.4**
ARU				IAmb		IAmb	01 30 58.5	
	comp=Z,4.6nm,0.8s							
ARU	**Arti**	**54.05**	**317**	*e*P		**P**	**01 30 57.3**	**-0.6**
ARU	**Arti**	**54.05**	**317**	*c i*P		**P**	**01 30 57.3**	**-0.6**
ARU							01 32 01.5	
ARU				S		**S**	**01 38 20.7**	**+2.7**
ARU				SS		**SS**	**01 42 02.2**	**+0.6**
ARU				pmax		pmax		
	comp=Z,4.0nm,0.6s							
KK31	**Karatay Array**	**54.72**	**298**	P		**P**	**01 31 03.2**	**+0.3**
KK31	**Karatay Array**	**54.72**	**298**	P		**P**	**01 31 03.3**	**+0.3**
KK31				pmax		pmax		
	comp=Z,2.0nm,0.9s							
KKAR	**Karatay Array**	**54.72**	**298**	P		**P**	**01 31 03.4**	**+0.4**
KKAR	**Karatay Array**	**54.72**	**298**	P		**P**	**01 31 03.4**	**+0.4**
ABKAR	**Akbulak array**	**57.32**	**309**	P		**P**	**01 31 21.2**	**0.0**
ABKAR				IAmb		IAmb	01 31 22.6	
	comp=Z,3.9nm,1.2s							
ABKAR	**Akbulak array**	**57.32**	**309**	P		**P**	**01 31 21.3**	**+0.1**
SIMJ	**Simiganj**	**58.21**	**294**	P		**P**	**01 31 28.5**	**+0.7**
FINES	**FINESS Array B**	**63.45**	**334**	P		**P**	**01 32 01.6**	**-0.9**
	comp=Z,2.0nm,0.6s,baz=35,slow=7.4,SNR=13							
	comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**63.45**	**334**	*i* P		**P**	**01 32 02.9**	**+0.4**
FINES				pmax		pmax		
	comp=Z,2.0nm,0.6s							
NVAR	**Mina Array Bea**	**63.78**	**61**	P		P	01 32 08.7	+3.4
	comp=Z,0.1nm,0.3s,baz=298,slow=7.1,SNR=2.2							
	comp=Z,0.1nm,0.3s							
OBN	**Obninsk**	**64.51**	**325**	*e*P		P	01 32 11.8	+2.3
OBN				*e*			01 32 42.8	
OBN				pmax		pmax		
	comp=Z,3.0nm,1.0s							
GEYT	**Alibeck**	**65.35**	**300**	P		**P**	**01 32 17.1**	**+1.8**
	comp=Z,0.8nm,0.5s,baz=29,slow=3.3,SNR=1.6							
	comp=Z,0.8nm,0.5s							
PDAR	**Pinedale Array**	**65.98**	**53**	P		P	01 32 22.6	+3.1
	comp=Z,0.3nm,0.4s,baz=191,slow=0.8,SNR=5.8							
	comp=Z,0.3nm,0.4s							
NB2	**NORSAR Subarra**	**67.80**	**340**	P		**P**	**01 32 30.4**	**0.0**
	comp=Z,0.9nm,0.6s,baz=30,slow=6.5							
NOA	**NORSAR Array B**	**67.80**	**340**	P		**P**	**01 32 30.1**	**-0.3**
	comp=Z,0.7nm,0.7s,baz=29,slow=6.3,SNR=4.2							
	comp=Z,0.7nm,0.7s							
HFS	**Hagfors**	**67.99**	**339**	P		**P**	**01 32 31.1**	**-0.4**
	comp=Z,1.3nm,0.6s,baz=49,slow=4.5,SNR=6.5							
	comp=Z,1.3nm,0.6s							
WRA	**Warramunga Arr**	**67.99**	**197**	P		**P**	**01 32 35.3**	**+3.3**
	comp=Z,1.7nm,0.9s,baz=24,slow=7.0,SNR=5.1							
	comp=Z,1.7nm,0.9s							
KIV	**Kislovodsk**	**69.77**	**313**	*e*P		**P**	**01 32 42.6**	**-0.3**
KIV				*e*			01 33 03.6	
KIV				*e**PP		**pP**	**01 33 21.1**	**-7.7**
KIV				*e*			01 35 19.7	
KIV				pmax		pmax		
	comp=Z,6.0nm,0.4s							
KBZ	**Khabaz**	**69.82**	**313**	P		**P**	**01 32 43.1**	**0.0**
	comp=Z,1.3nm,0.6s,baz=116,slow=7.4,SNR=2.7							
	comp=Z,1.3nm,0.6s							
AKASG	**Malin Array Be**	**70.76**	**325**	P		**P**	**01 32 48.3**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=33,slow=5.7,SNR=4.0							
	comp=Z,0.5nm,0.4s							
AKASG	**Malin Array Be**	**70.76**	**325**	*i* P		**P**	**01 32 48.5**	**-0.1**
AKASG				pmax		pmax		
	comp=Z,1.0nm,0.5s							
ASAR	**Alice Springs**	**71.69**	**196**	P		P	01 32 59.1	+4.6
	comp=Z,1.5nm,0.7s,baz=10,slow=5.3,SNR=14							
	comp=Z,1.5nm,0.7s							
SCHQ	**Schefferville**	**73.94**	**22**	P		**P**	**01 33 09.1**	**+1.7**
	comp=Z,1.7nm,0.7s,baz=234,slow=8.7,SNR=1.8							
	comp=Z,1.7nm,0.7s							
EKA	**Eskdalemuir Ar**	**76.04**	**345**	P		**P**	**01 33 20.1**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=18,slow=5.3,SNR=6.2							
	comp=Z,0.3nm,0.4s							
BRTR	**Keskin Array B**	**77.40**	**315**	P		**P**	**01 33 28.8**	**+1.3**
	comp=Z,0.4nm,0.7s,baz=90,slow=6.3,SNR=3.7							
	comp=Z,0.4nm,0.7s							
BRTR	**Keskin Array B**	**77.40**	**315**	*i* P		P	01 33 30.0	+2.5
TXAR	**Lajitas Array**	**78.82**	**59**	P		P	01 33 38.5	+3.2
	comp=Z,0.3nm,0.6s,baz=307,slow=4.7,SNR=5.6							
	comp=Z,0.3nm,0.6s							
MMAI	**Mount Meron Ar**	**81.73**	**310**	P		**P**	**01 33 52.2**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=51,slow=6.6,SNR=12							
	comp=Z,0.8nm,0.4s							
ESDC	**Sonseca Array**	**91.15**	**341**	P		**P**	**01 34 37.2**	**+0.6**
	comp=Z,0.3nm,0.7s,baz=13,slow=3.6,SNR=2.9							
	comp=Z,0.3nm,0.7s							
QSPA	**South Pole Qui**	**136.42**	**180**	PKP		**PKiKP**	**01 40 55.5**	**+2.7**
	comp=Z,0.4nm,0.5s,baz=280,slow=3.8,SNR=1.4							
PLCA	**Paso Flores**	**149.69**	**94**	PKPbc		**PKPab**	**01 41 23.5**	**-2.6**
	comp=Z,0.7nm,0.4s,baz=250,slow=4.2,SNR=4.0							
SNAA	**Sanae**	**152.06**	**197**	PKPbc		**PKiKP**	**01 41 28.3**	**+3.4**
	comp=Z,2.2nm,1.0s,baz=168,slow=9.3,SNR=2.3							

IDC 19 01:32:09.1±2.3, 7°.31S×120°.40E, h430km±23km, mb2.8/2, mbtmp3.5/4, Error ellipse: s-maj=168.6km s-min=19.0km az=55.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**2.37**	**344**	P	P	01 33 10.3	+0.1
	8.6nm,0.5s,baz=160,slow=4.5,SNR=5.9						
WRA	**Warramunga Arr**	**18.45**	**134**	P	P	01 35 56.2	-1.0
	1.0nm,0.6s,baz=313,slow=11,SNR=6.4						
ASAR	**Alice Springs**	**20.80**	**143**	P	P	01 36 19.4	+0.3
	0.9nm,0.4s,baz=316,slow=8.3,SNR=16						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**63.61**	**332**	P	P	01 41 56.4	0.0
	0.3nm,0.4s,baz=139,slow=8.1,SNR=4.1						
	0.3nm,0.4s						

IDC 19 01:43:56.2±3.0, 10°.74N×125°.02E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=278.7km s-min=22.5km az=65.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**31.84**	**163**	P	P	01 50 22.4	-0.6
	0.5nm,0.5s,baz=344,slow=9.2,SNR=5.3						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**35.28**	**166**	P	P	01 50 53.4	+0.4
	0.3nm,0.3s,baz=340,slow=7.2,SNR=8.3						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**50.91**	**323**	P	P	01 52 59.2	0.0
	0.5nm,0.6s,baz=117,slow=8.3,SNR=5.9						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**54.99**	**326**	P	P	01 53 29.1	-0.2
	0.4nm,0.4s,baz=125,slow=6.8,SNR=4.8						
	0.4nm,0.4s						

IDC 19 01:52:11.4±1.1, 7°.35S×157°.81E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=58.3km s-min=25.6km az=130.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.97**	**239**	P	P	01 57 46.5	+0.4
	1.1nm,0.5s,baz=62,slow=8.9,SNR=13						
	1.1nm,0.5s						
ASAR	**Alice Springs**	**28.10**	**232**	P	P	01 58 05.4	+0.2
	0.4nm,0.5s,baz=56,slow=9.8,SNR=7.4						
	0.4nm,0.5s						
QSPA	**South Pole Qui**	**82.63**	**180**	P	P	02 04 35.7	-0.8
	1.3nm,0.6s,baz=18,slow=0.5,SNR=15						
	1.3nm,0.6s						
ILAR	**Eielson Array**	**82.69**	**21**	P	P	02 04 37.4	+0.7
	0.3nm,0.5s,baz=251,slow=5.4,SNR=6.1						
	0.3nm,0.5s						
YKA	**Yellowknife Ar**	**95.34**	**28**	P	P	02 05 37.0	-0.3
	0.4nm,0.8s,baz=270,slow=5.1,SNR=7.1						
	0.4nm,0.8s						

IDC 19 01:52:55.8±3.6, 34°.68S×178°.30W, h0km, mb4.2/2, mbtmp4.1/3, ML3.7/1, Error ellipse: s-maj=84.9km s-min=38.5km az=127.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**5.14**	**225**	Pn	Pn	01 54 14.8	+0.8
	2.7nm,0.3s,baz=53,slow=5.1,SNR=7.0						
URZ				Sn	Sn	01 55 13.2	-0.8
	1.4nm,0.3s,baz=67,slow=12,SNR=2.0						
	16nm,0.6s						
ASAR	**Alice Springs**	**42.80**	**272**	P	P	02 00 55.6	+0.1
	1.7nm,0.5s,baz=113,slow=7.6,SNR=14						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**44.17**	**277**	P	P	02 01 06.2	-0.4
	2.2nm,0.6s,baz=120,slow=7.4,SNR=14						
	2.2nm,0.6s						
FINES	**FINESS Array B**	**149.03**	**337**	PKPbc	PKPbc	02 12 44.3	-0.7
	1.9nm,1.0s,baz=98,slow=4.2,SNR=2.0						

*PRE **19** 02:17:54.3±0.8, 29°.35S×24°.38E±0°.04, h5km, ML2.6*
ISC 19 02:17:54.1±0.8, 29°.31S±0°.05×24°.38E±0°.04, h10km, n19, σ1s31/34, South Africa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**1.03**	**48**	*i* P	**Pn**	**02 18 15.5**	**+0.7**
BOSA	**Boshof**	**1.03**	**48**	*e*P	**Pb**	**02 18 14.2**	**0.0**
BOSA				*e*S	**Sb**	**02 18 28.6**	**+0.7**
BOSA				IAML		02 18 30.8	
	comp=Z,134nm,0.7s						
BOSA	**Boshof**	**1.03**	**48**	*i* P	Pg	02 18 08.2	-5.9
BFON	**Badsfontein, M**	**2.55**	**193**	*e*P	**Pn**	**02 18 36.5**	**+0.8**
BFON				*e*S	**Sn**	**02 19 07.3**	**+0.4**
BFON				IAML		02 19 14.7	
	comp=Z,61nm,0.4s						
BRAK	**Brakfontein**	**2.78**	**207**	*e*P	**Pn**	**02 18 40.2**	**+1.5**
BRAK				*e*S	**Sn**	**02 19 13.9**	**+1.5**
BRAK				IAML		02 19 28.1	
	comp=Z,40nm,0.5s						
GRAF	**Camdeboo Natio**	**2.96**	**178**	*e*P	**Pn**	**02 18 42.2**	**+0.9**
GRAF				*e*S	**Sn**	**02 19 16.8**	**-0.1**
GRAF				IAML		02 19 25.5	
	comp=Z,36nm,0.8s						
GRAN	**Grantham**	**3.54**	**212**	*e*P	**Pn**	**02 18 50.9**	**+1.7**
GRAN				*e*S	**Sn**	**02 19 32.2**	**+1.0**
GRAN				IAML		02 19 46.2	
	comp=Z,38nm,0.4s						
PRYS	**Parys**	**3.54**	**49**	*e*P	**Pn**	**02 18 50.4**	**+1.0**
PRYS				*e*S	**Sn**	**02 19 32.2**	**+0.8**
PRYS				IAML		02 19 45.0	
	comp=Z,11nm,0.2s						
FRAZ	**Fraserburg**	**3.66**	**224**	*e*P	**Pn**	**02 18 53.1**	**+2.2**
FRAZ				*e*S	**Sn**	**02 19 35.4**	**+1.2**
FRAZ				IAML		02 19 56.4	
	comp=Z,15nm,0.4s						
MERW	**Merweville**	**4.15**	**215**	*e*P	**Pn**	**02 18 59.0**	**+1.2**
MERW				*e*S	**Sn**	**02 19 45.7**	**-0.7**
MERW				IAML		02 20 03.2	
	comp=Z,15nm,0.4s						
ARMS	**Ukamas**	**4.27**	**286**	*i* P	**Pb**	**02 19 07.8**	**-1.6**
ARMS				*i* S	**Sg**	**02 20 09.1**	**-2.1**
ARMS				IAML		02 20 22.0	
	comp=Z,48nm,0.2s						
GRHM	**Grahamstown, E**	**4.31**	**157**	*e*P	**Pn**	**02 19 00.4**	**+0.6**
GRHM				*e*S	**Sn**	**02 19 49.6**	**-0.6**
GRHM				IAML		02 20 05.3	
	comp=Z,25nm,0.4s						
KSTD	**Kokstad**	**4.47**	**108**	*e*P	**Pn**	**02 19 02.9**	**+0.7**
KSTD				*e*S	**Sn**	**02 19 52.9**	**-1.4**
KSTD				IAML		02 20 04.0	
	comp=Z,14nm,0.4s						
BUFB	**Buffelsbos**	**4.84**	**176**	*e*P	**Pn**	**02 19 08.0**	**+1.0**
BUFB				*e*S	**Sn**	**02 20 02.3**	**-0.8**
BUFB				IAML		02 20 16.1	
	comp=Z,18nm,0.3s						
PMBG	**Pietermaritzbu**	**5.35**	**94**	*e*P	**Pn**	**02 19 15.3**	**+1.1**
PMBG				*e*S	**Sn**	**02 20 14.5**	**-1.4**
PMBG				IAML		02 20 36.2	
	comp=Z,15nm,0.4s						
CER	**Ceres**	**5.94**	**226**	*e*P	**Pn**	**02 19 23.6**	**+1.4**
CER				*e*S	**Sn**	**02 20 29.4**	**-0.9**
LEPH	**Lephalale, Lim**	**6.23**	**30**	*e*P	**Pn**	**02 19 28.3**	**+2.0**
LEPH				*e*S	**Sn**	**02 20 37.4**	**-0.2**
LEPH				IAML		02 21 13.0	
	comp=Z,10nm,0.4s						
AUSN	**Aus**	**7.64**	**288**	*i* P	Pb	02 20 14.2	+7.2
AUSN				*i* S	**Sg**	**02 22 00.1**	**+0.5**
AUSN				IAML		02 22 05.4	
	comp=Z,4.0nm,0.4s						
MOPA	**Mopani**	**8.53**	**49**	*e*P	**Pn**	**02 19 59.0**	**+1.2**
MOPA				*e*S	**Sn**	**02 21 31.1**	**-3.1**
MOPA				IAML		02 21 31.9	
	comp=Z,4.1nm,0.4s						

IDC 19 02:24:49.1±2.1, 9°.09S×127°.94E, h0km, mb3.1/1, mbtmp3.2/3, ML3.5/2, Error ellipse: s-maj=119.9km s-min=27.1km az=63.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.43**	**151**	Pn	Pn	02 27 46.6	-1.0
	0.3nm,0.3s,baz=330,slow=13,SNR=14						
WRA				Sn	Sn	02 30 08.2	+1.2
	0.4nm,0.3s,baz=334,slow=21,SNR=6.6						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**15.57**	**159**	Pn	Pn	02 28 31.4	+1.2
	0.1nm,0.3s,baz=340,slow=9.6,SNR=6.8						
ASAR				Sn	Sn	02 31 24.9	+1.3
	baz=334,slow=38,SNR=2.4						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**68.89**	**328**	P	P	02 35 55.8	0.0
	0.1nm,0.6s,baz=120,slow=7.7,SNR=1.5						
	0.1nm,0.6s						

*AZER **19** 02:31:47.6, 41°.73N×48°.41E, h14km, ml2.6*
*DRS **19** 02:31:49.9, 41°.93N×48°.71E, h21km*
ISC 19 02:31:49.2±1.2, 41°.80N±0°.03×48°.49E±0°.04, h19km±2km, n32, σ1s41/55, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRN	**Derbent**	**0.26**	**332**	*e*Pg	**Pg**	**02 31 54.6**	**-0.5**
	485nm,0.2s						
DRN				*e*Sg	**Sb**	**02 31 58.2**	**-0.8**
	1μm,0.5s						
QSAR	**Qusar**	**0.33**	**211**	P	**Pg**	**02 31 55.0**	**-1.5**
QSAR				S	**Sg**	**02 32 00.3**	**-1.1**
QUBA	**Quba, Azerbaij**	**0.45**	**180**	P	**Pg**	**02 31 57.7**	**-0.7**
QUBA				S	**Sg**	**02 32 04.6**	**+0.1**
XNQ	**Khinaliq**	**0.68**	**203**	P	**Pb**	**02 32 01.1**	**-1.5**
XNQ				S	**Sb**	**02 32 11.1**	**-0.5**
URKR	**Urkarakh**	**0.74**	**300**	*e*Pg	**Pb**	**02 32 02.2**	**-1.3**
	114nm,0.2s						
URKR				*e*Sg	**Sb**	**02 32 12.3**	**-0.9**
	20nm,0.1s						
SIZA	**Siyzn**	**0.79**	**157**	P	**Pb**	**02 32 03.4**	**-0.9**
SIZA				S	**Sg**	**02 32 14.5**	**-0.6**
SGKR	**Sergokala**	**0.91**	**317**	*e*Pg	**Pb**	**02 32 05.4**	**-1.0**
	90nm,0.4s						
SGKR				*e*Sg	**Sb**	**02 32 17.9**	**-0.1**
	10.0nm,0.2s						
QBL	**Gabala**	**0.99**	**210**	P	**Pb**	**02 32 06.2**	**-1.5**
QBL				S	**Sb**	**02 32 18.5**	**-1.8**
ATGJ	**Altiaghaj**	**1.00**	**160**	P	**Pn**	**02 32 07.7**	**-0.6**
ATGJ				S	**Sn**	**02 32 22.4**	**+0.6**
PQL	**Pirkuli**	**1.01**	**176**	P	**Pb**	**02 32 07.7**	**-0.5**
PQL				S	**Sn**	**02 32 22.0**	**-0.3**
IML	**Ismayilli**	**1.03**	**193**	P	**Pb**	**02 32 07.2**	**-1.3**
IML				S	**Sb**	**02 32 21.5**	**-0.2**
KMKR	**Kumukh**	**1.09**	**288**	*e*Pg	**Pn**	**02 32 09.1**	**-0.6**
	28nm,0.1s						
KMKR				*e*Sg	**Sb**	**02 32 23.4**	**-0.1**
	64nm,0.2s						
SEKA	**Sheki**	**1.14**	**239**	P	**Pn**	**02 32 08.5**	**-1.7**
SEKA				S	**Sb**	**02 32 23.0**	**-1.7**
GNBR	**Gunib**	**1.28**	**298**	*e*Pg	**Pb**	**02 32 12.5**	**-0.3**
	20nm,0.1s						
GBS	**Qobustan**	**1.31**	**165**	P	**Pg**	**02 32 14.4**	**-0.2**
GBS				S	**Sg**	**02 32 33.0**	**+1.4**
ARKR	**Arakani**	**1.37**	**306**	*e*Pg	**Pn**	**02 32 13.1**	**-0.3**
	9.0nm,0.3s						
ARKR				*e*Sg	**Sb**	**02 32 31.4**	**-0.1**
	94nm,0.4s						
ZKTA	**Zakatala**	**1.41**	**264**	Pn	**Pg**	**02 32 16.2**	**-0.3**
ZKTA				Sn	**Sg**	**02 32 35.8**	**+0.9**
KDMR	**Kurdemir**	**1.44**	**189**	Sn	**Sg**	**02 32 36.6**	**+0.7**
BUJR	**Buynaksk**	**1.45**	**315**	*e*Pg	**Pn**	**02 32 13.5**	**-1.0**
	18nm,0.4s						
MNGR	**Mingechevir, A**	**1.48**	**226**	Sn	**Sg**	**02 32 37.7**	**+0.7**
XNZR	**Khunzakh**	**1.52**	**300**	*e*Pg	**Pn**	**02 32 15.7**	**+0.2**
	17nm,0.3s						
XNZR				*e*Sg	**Sb**	**02 32 36.0**	**+0.1**
	48nm,0.3s						
UNCR	**Uncukul**	**1.56**	**306**	*e*Pg	**Pn**	**02 32 15.5**	**-0.4**
	17nm,0.4s						
ZRD	**Zardab**	**1.64**	**202**	Sn	**Sg**	**02 32 41.9**	**-0.2**
NDR	**Nardaran**	**1.66**	**137**	Sn	**Sg**	**02 32 46.1**	**+3.3**
AGDM	**Agdam**	**1.99**	**212**	Sn	**Sn**	**02 32 47.9**	**+1.7**
GANJ	**Ganja**	**2.00**	**236**	Pn	**Pn**	**02 32 21.8**	**-0.2**
GANJ				Sn	**Sn**	**02 32 47.4**	**+0.9**

	39nm,0.3s							
KAUR	**Kamensk Uralsk**	**3.46**	**165**	*e*P	Pn	02 33 03.9	+0.4	
	4.7nm,0.2s,baz=166							
KAUR				*e*S	Sn	02 33 46.3	+1.1	
	16nm,0.3s,baz=166							
KAUR				*i* AML	AML	02 33 51.4		
	33nm,1.5s							
KAUR	**Kamensk Uralsk**	**3.46**	**165**	*e*P	Pn	02 33 03.9	+0.4	
	6.4nm,0.4s,baz=165							
KAUR				*e*S	Sb	02 33 49.7	-3.4	
	baz=165							
KAUR				*i* AML	AML	02 33 51.4		
	33nm,1.5s,baz=165							
KAUR				*i* AML	AML	02 33 57.3		
	42nm,0.3s							

MOS ***19*** *03:02:12.3±0.9,56.˚25N×114.˚35E,h11km,mb4.5/2,Error ellipse: s-maj=15.6km s-min=12.0km az=73.6*
BYKL ***19*** *03:02:14.0±0.1,56.˚28N×114.˚24E,h15km±3km*
ISC 19 03:02:13.2±0.6,56˚27N±0˚.03×114˚23E±0˚.02,h10km,n46,σ3$08/82,6D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.40**	**249**	*e*Pg		**Pg**	**03 02 21.9**	**+0.7**
SVKR				*e*Sg		**Sg**	**03 02 27.5**	**+1.0**
SVKR				*e*			03 02 31.7	
SVKR				Pmax				
	533nm,0.2s							
SVKR				max				
	4µm,0.5s							
SVKR	**Severomuysk**	**0.40**	**249**	*e*PG		**Pg**	**03 02 21.9**	**+0.7**
SVKR				*e*			03 02 27.5	
SVKR				pmax	pmax			
	comp=Z,428nm,0.2s							
SVKR				smax	smax			
	comp=E,3µm,0.5s							
UKT	**Uakit**	**0.85**	**204**	⇓*i*Pg		**Pg**	**03 02 29.7**	**+0.1**
UKT				*e*Sg		**Sg**	**03 02 41.4**	**+0.8**
UKT				Pmax				
	comp=E,207nm,0.5s							
UKT				Smax				
	comp=E,988nm,0.4s							
UKT	**Uakit**	**0.85**	**204**	⇓*i*PG		**Pg**	**03 02 29.7**	**+0.1**
UKT				*e*			03 02 40.5	
UKT				pmax	pmax			
	comp=Z,59nm,0.2s							
UKT				smax	smax			
	comp=N,855nm,0.3s							
NLYR	**Nelyaty**	**0.85**	**74**	*e*Pg		**Pg**	**03 02 29.7**	**+0.1**
NLYR				*e*Pb		**Pn**	**03 02 31.7**	**+0.4**
NLYR				*e*Sg		**Sg**	**03 02 41.2**	**+0.5**
NLYR				*e*Sb		**Sn**	**03 02 45.1**	**+1.2**
NLYR				max				
	comp=N,223nm,0.2s							
NLYR				max				
	comp=N,2µm,0.3s							
YOA	**Uoyan**	**1.41**	**266**	*e*Pg		**Pb**	**03 02 40.4**	**+0.8**
YOA				*e*Sg		**Sb**	**03 02 58.9**	**+1.4**
YOA				Pmax				
	comp=N,334nm,0.2s							
YOA				Smax				
	comp=N,4µm,0.6s							
YOA	**Uoyan**	**1.41**	**266**	*e*PG		**Pn**	**03 02 38.6**	**-0.3**
YOA				*e*			03 02 57.7	
YOA				pmax	pmax			
	comp=Z,387nm,0.3s							
YOA				smax	smax			
	comp=N,4µm,0.6s							
BOD	**Bodaibo**	**1.56**	**356**	*e*Pg		**Pn**	**03 02 41.7**	**+0.6**
BOD				*e*Pb		**Pb**	**03 02 42.6**	**+0.4**
BOD				*e*Sg		**Sb**	**03 03 02.1**	**0.0**
BOD				max				
	comp=N,546nm,0.2s							
BOD				Smax				
	comp=N,4µm,0.4s							
BOD	**Bodaibo**	**1.56**	**356**	*e*PN		**Pn**	**03 02 41.7**	**+0.6**
BOD				*e*			03 03 01.8	
BOD				pmax	pmax			
	comp=Z,544nm,0.2s							
BOD				smax	smax			
	comp=E,3µm,0.3s							
KMO	**Kumora**	**1.74**	**259**	*e*Pg		**Pb**	**03 02 45.7**	**+0.5**
KMO				*e*			03 02 50.9	
KMO				*e*Sg		**Sb**	**03 03 08.0**	**+0.9**
KMO				*e*			03 03 10.1	
KMO				max				
	comp=E,140nm,0.4s							
KMO				max				
	comp=E,2µm,0.9s							
KMO	**Kumora**	**1.74**	**259**	*e*PN		**Pb**	**03 02 45.7**	**+0.5**
KMO				*e*			03 03 08.0	
KMO				pmax	pmax			
	comp=Z,156nm,0.3s							
KMO				smax	smax			
	comp=N,2µm,0.9s							
YLYR	**Ulyunkhan**	**2.23**	**233**	⇓*i*Pn		**Pn**	**03 02 51.3**	**+1.1**
YLYR				*e*Pg		**Pb**	**03 02 54.1**	**+0.5**
YLYR				*e*			03 02 59.2	
YLYR				*e*Sg		**Sb**	**03 03 24.2**	**+3.0**
YLYR				Pmax				
	comp=N,32nm,0.4s							
YLYR				Smax				
	comp=N,554nm,0.7s							
YLYR	**Ulyunkhan**	**2.23**	**233**	⇓*i*PN		**Pn**	**03 02 51.3**	**+1.1**
YLYR				*e*			03 02 53.9	
YLYR				*e*S		**Sn**	**03 03 19.7**	**+1.9**
YLYR				*e*			03 03 23.0	
YLYR				pmax	pmax			
	comp=Z,110nm,0.6s							
YLYR				smax	smax			
	comp=E,556nm,0.6s							
CRS	**Chara**	**2.32**	**72**	*e*Pn		**Pn**	**03 02 52.4**	**+0.8**
CRS				*e*Pg		**Pb**	**03 02 56.7**	**+1.5**
CRS				*e*Sg		**Sg**	**03 03 26.8**	**-1.1**
CRS				Pmax				
	comp=E,168nm,1.0s							
CRS				Smax				
	comp=E,327nm,0.5s							
CRS	**Chara**	**2.32**	**72**	*e*PN		**Pn**	**03 02 52.2**	**+0.6**
CRS				*e*			03 02 57.1	
CRS				*e*			03 03 26.6	
CRS				pmax	pmax			
	comp=Z,73nm,0.4s							
CRS				smax	smax			
	comp=E,316nm,0.4s							
NIZB	**Nizh Angarsk**	**2.68**	**261**	*e*Pn		**Pn**	**03 02 58.2**	**+1.8**
NIZB				*e*Pg		**Pb**	**03 03 01.9**	**+0.7**
NIZB				*e*			03 03 31.3	
NIZB				*e*Sg		**Sb**	**03 03 36.7**	**+2.6**
NIZB				*e*			03 03 39.4	
NIZB				Pmax				
	comp=E,37nm,0.4s							
NIZB				max				
	comp=E,265nm,0.4s							
KHNR	**Khani**	**3.25**	**76**	*e*Pn		**Pn**	**03 03 05.6**	**+1.4**
KHNR				*e*Pg		**Pb**	**03 03 11.9**	**+0.9**
KHNR				*e*Sg		**Sg**	**03 03 54.7**	**-2.8**
VTMR	**Vitim**	**3.31**	**345**	*e*Pn		**Pn**	**03 03 05.9**	**+0.9**
VTMR				*e*Pg		**Pb**	**03 03 12.7**	**+0.7**
VTMR				*e*Sn		**Sn**	**03 03 44.4**	**+0.1**
VTMR				*e*Sg		**Sb**	**03 03 55.7**	**+3.5**
SYVR	**Suvo**	**3.57**	**225**	*e*Pn		**Pn**	**03 03 09.4**	**+0.7**
SYVR				*e*Pg		**Pb**	**03 03 18.1**	**+1.6**
SYVR				*e*Sg		**Sb**	**03 04 05.0**	**+5.1**
SYVR				Pmax				
	comp=E,29nm,0.5s							
SYVR				Smax				
	comp=E,289nm,0.8s							
SYVR	**Suvo**	**3.57**	**225**	*e*PN		**Pg**	**03 03 20.3**	**-1.3**
SYVR				*e*			03 04 05.7	
SYVR				pmax	pmax			
	comp=Z,32nm,0.6s							
SYVR				smax	smax			
	comp=E,299nm,0.8s							
TUP	**Tupik**	**3.75**	**117**	⇓*i*Pn		**Pn**	**03 03 11.2**	**0.0**
TUP				*e*			03 03 18.4	
TUP				*e*Pg		**Pb**	**03 03 20.4**	**+0.8**
TUP				*e*Sn		**Sn**	**03 03 55.1**	**-0.3**
TUP				*e*Sg		**Sb**	**03 04 09.9**	**+4.8**
TUP				Pmax				
	comp=E,57nm,0.6s							
TUP				Smax				
	comp=E,519nm,0.6s							
TUP	**Tupik**	**3.75**	**117**	⇓*i*PN		**Pn**	**03 03 11.2**	**0.0**
TUP				*e*			03 03 18.2	
TUP				*e*S		**Sn**	**03 03 53.4**	**-2.0**
TUP				*e*			03 04 09.1	
TUP				pmax	pmax			
	comp=Z,46nm,0.4s							
TUP				smax	smax			
	comp=N,518nm,0.7s							
YKLR	**Yuktali**	**4.14**	**82**	*e*Pn		**Pn**	**03 03 17.2**	**+0.8**
YKLR				*e*Pg		**Pb**	**03 03 27.8**	**+1.7**
YKLR				*e*Sg		**Sb**	**03 04 21.0**	**+4.9**
CIT	**Chita**	**4.27**	**186**	*e*Pg		**Pb**	**03 03 31.3**	**+2.9**
CIT				*e*Sg		**Sg**	**03 04 26.7**	**-3.6**
CIT				Pmax				
	comp=N,131nm,0.1s							
CIT				Smax				
	comp=N,497nm,0.6s							
MXMB	**Maximikha**	**4.37**	**229**	*e*Sg		**Sg**	**03 04 30.3**	**-3.3**
OGRR	**Ongureny**	**4.64**	**238**	*e*Pn		**Pn**	**03 03 24.0**	**+0.7**
OGRR				*e*Pg		**Pb**	**03 03 37.3**	**+2.7**
OGRR				*e*Sg		**Sb**	**03 04 37.3**	**+6.8**
OGRR				Pmax				
	comp=N,19nm,1.2s							
OGRR				Smax				
	comp=N,87nm,1.3s							
GORB	**Goryachinsk**	**4.77**	**229**	*e*Pg		**Pb**	**03 03 39.4**	**+2.6**
GORB				*e*Sg		**Sg**	**03 04 41.4**	**-4.7**
UZR	**Uzur**	**4.77**	**235**	*e*Pg		**Pb**	**03 03 39.7**	**+2.8**
UZR				*e*Sg		**Sb**	**03 04 41.5**	**+7.1**
UZR				Pmax				
	comp=N,32nm,1.1s							
UZR				Smax				
	comp=N,74nm,0.9s							
KELR	**Kotokel**	**5.01**	**228**	*e*Sg		**Sg**	**03 04 49.8**	**-4.3**
KELR				*e*			03 04 55.7	
TRG	**Tyrgan**	**5.78**	**236**	*e*Pn		**Pn**	**03 03 40.4**	**+1.4**
TRG				*e*Pg		**Pb**	**03 03 57.4**	**+3.3**
TRG				*e*Sg		**Sb**	**03 05 12.1**	**+8.8**
TRG				Pmax				
	comp=N,17nm,0.7s							
TRG				Smax				
	comp=N,52nm,1.5s							
UUDB	**Ulan-Yde**	**5.86**	**224**	*e*Sg		**Sg**	**03 05 15.8**	**-5.4**
UUDB				Smax				
	comp=N,119nm,0.6s							
CLNS	**Chul'man**	**5.93**	**80**	*e*Pg		**Pb**	**03 03 59.9**	**+3.3**
CLNS				*e*Sg		**Sg**	**03 05 16.9**	**-6.5**
FFNB	**Fofonovo**	**6.09**	**229**	*e*Sg		**Sg**	**03 05 22.7**	**-5.8**
HRMR	**Khuramsha**	**6.32**	**226**	*e*Pg		Pb	03 04 08.6	+5.3
HRMR				*e*Sg		**Sg**	**03 05 30.9**	**-5.2**
HRMR				Pmax				
	comp=N,16nm,0.4s							
HRMR				Smax				
	comp=N,225nm,0.8s							
KPC	**Khapcheranga**	**6.67**	**190**	*e*Pn		**Pn**	**03 03 53.1**	**+1.9**
KPC				*e*Pg		**Pb**	**03 04 13.7**	**+4.5**
KPC				*e*Sg		**Sg**	**03 05 41.2**	**-5.9**
KPC				Pmax				
	comp=N,10.0nm,0.9s							
KPC				Smax				
	comp=N,123nm,1.1s							
BGT	**Bolshoye Golou**	**6.68**	**234**	*e*Sg		**Sg**	**03 05 40.3**	**-7.3**
BGT				Smax				
	comp=N,37nm,1.0s							
IRK	**Irkutsk**	**7.09**	**240**	*e*PG		Pb	03 04 21.9	+5.6
IRK				*e*			03 05 54.1	
IRK				pmax	pmax			
	comp=Z,202nm,0.1s							
IRK				smax	smax			
	comp=E,366nm,0.3s							
IVK	**Ivanovka**	**7.30**	**236**	*e*Sg		**Sg**	**03 06 00.3**	**-7.2**
IVK				Smax				
	comp=E,29nm,1.4s							
TLY	**Talaya**	**7.75**	**238**	*e*Sg		Sg	03 06 13.0	-8.6
TLY				Smax				
	comp=E,23nm,2.0s							
ZEA	**Zeya**	**7.90**	**103**	*i* PN		**Pn**	**03 04 08.5**	**+0.4**
ARS	**Arshan**	**8.19**	**243**	*e*Sg		Sg	03 06 27.6	-8.2
ARS				Smax				
	comp=E,79nm,0.8s							
ULN	**Ulaanbaatar**	**9.50**	**211**	*i* P		**Pn**	**03 04 27.4**	**-2.7**
KLR	**Kul'dur**	**12.71**	**116**	*i* P		**Pn**	**03 05 14.5**	**+0.5**
KLR				pmax	pmax			
	comp=Z,8.0nm,2.7s							
TIXI	**Tiksi**	**16.64**	**16**	*i* P		**Pn**	**03 06 05.7**	**-0.4**
TIXI				pmax	pmax			
	comp=Z,2.0nm,0.8s							
OBN	**Obninsk**	**41.60**	**302**	*e*P		**P**	**03 10 02.0**	**+1.1**
OBN				*e*			03 11 37.6	
OBN				*e*			03 11 56.5	
OBN				*e*PPP	PPP		03 12 05.7	
OBN				pmax	pmax			
	comp=Z,4.0nm,0.7s							
KIV	**Kislovodsk**	**45.45**	**286**	*e*P		**P**	**03 10 32.3**	**+0.2**
KIV				*e*			03 12 12.5	
KIV				*e*			03 12 21.3	
KIV				*e*PPP	PPP		03 12 56.1	
KIV				pmax	pmax			
	comp=Z,3.0nm,0.9s							

IDC ***19*** *03:09:03.4±0.7,24.˚82N×122.˚23E,h0km,mb3.9/16, mbtmp3.9/18,ML3.6/1,MS3.5/30,Error ellipse: s-maj=20.4km s-min=15.0km az=69.0*
NIED ***19*** *03:09:06.0,24.˚98N×122.˚40E,h48km,MW4.4,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.60; Mθθ5.29; Mφφ-3.70; Mrθ1.27; Mθφ0.48; Mφr1.33; Fault plane solution: M₀4.96000×10¹⁵ NP1: φs225.00000°,δ80.00000°,λ-153.00000°. NP2: φs130.00000°,δ64.00000°,λ-12.00000°.*
TAP ***19*** *03:09:06.0,24.˚95N×122.˚33E,h17km,ML4.3,C*
NEIC ***19*** *03:09:06.5±1.2,24.˚85N±0˚.06×122.˚32E±0˚.01,h14km±5km, mb4.4/28,Error ellipse: s-maj=8.2km s-min=1.6km az=187.0*
ASIES ***19*** *03:09:06.0,24.˚95N×122.˚33E,h17km,ML4.3,Mw4.2, Moment Tensor Solution. Moment tensor: Scale 10²²Nm; Mrr-0.87; Mθθ1.53; Mφφ-1.69; Mrθ-0.52; Mθφ0.03; Mφr1.17; Fault plane solution: M₀2.14830×10²² NP1: φs129.92000°,δ75.54000°,λ-36.92000°. NP2: φs230.55000°,δ54.43000°,λ-162.12000°. Principal axes: T Plg13.5760°, Azm184.3620°; N Plg50.7250°, Azm291.5380°; P Plg36.0090°, Azm84.2540°;*
JMA ***19*** *03:09:06.0±0.2,25.˚N±2.˚×122.˚4E±0.˚6,h48km±4km, MV3.9/13,TAIWAN REGION*
BJI ***19*** *03:09:08.5±0.0,24.˚94N×122.˚28E,h20km,mb4.2/12, mB4.5/9,ML4.4/5,Ms4.4/17,Ms7 4.2/17*
ISC 19 03:09:06.3±1.0,24˚93N±0˚.02×122˚34E±0˚.02,h17km±6km, n226,σ1$08/271,mb4.2/26,MS3.5/26,9C-8D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.33**	**284**	⇓*i*P		**Pb**	**03 09 13.0**	**-0.7**
TWB1	baz=280			*i* S		**Sb**	**03 09 17.7**	**-1.0**
EGS	baz=280	**0.38**	**257**	P		**Pb**	**03 09 14.2**	**-0.4**
EGS	baz=246			*e*S		**Sb**	**03 09 19.4**	**-0.8**
SXI1	**Grass Mountain**	**0.45**	**291**	⇓*i*P		**Pb**	**03 09 15.5**	**-0.3**
SXI1	baz=288			*i* S		**Sb**	**03 09 21.6**	**-0.7**
TIPB	baz=288 **Shuangxi**	**0.47**	**275**	P		**Pb**	**03 09 15.6**	**-0.5**
TIPB	baz=273			S		**Sb**	**03 09 22.2**	**-0.5**
NTC	baz=273 **Toucheng**	**0.47**	**261**	*e*P		**Pb**	**03 09 15.8**	**-0.3**
EOS2	baz=258 **EOS2**	**0.52**	**191**	⇓*i*P		**Pb**	**03 09 17.4**	**+0.6**
EOS2	baz=198			S		**Sb**	**03 09 25.6**	**+1.5**
WFSB	baz=198 **Wu-fen Shan**	**0.53**	**286**	⇓*i*P		**Pb**	**03 09 17.1**	**0.0**
WFSB	baz=283			*i* S		**Sb**	**03 09 24.2**	**-0.2**
TWC	baz=283 **Suao** baz=233	**0.55**	**235**	⇑*i*P		**Pg**	**03 09 16.6**	**-0.6**
TWC	baz=233			S		**Sg**	**03 09 24.2**	**-0.4**
TNOU	**National Taiwa** baz=290	**0.56**	**293**	⇑*i*P		**Pb**	**03 09 17.6**	**-0.1**
TNOU	baz=290			S		**Sb**	**03 09 24.6**	**-0.8**
ILA	**Ilan** baz=251	**0.56**	**253**	*e*S		**Sb**	**03 09 25.7**	**+0.3**
ESAO	**Su ao** baz=231	**0.57**	**232**	P		**Pg**	**03 09 17.5**	**-0.2**
ESAO	baz=231			S		**Sg**	**03 09 24.2**	**-1.1**
NDS	**Dongshan** baz=234	**0.64**	**243**	P		**Pb**	**03 09 19.1**	**+0.1**
NDS	baz=234			S		**Sn**	**03 09 29.3**	**-1.1**
EOS3	**EOS3** baz=178	**0.64**	**182**	P		**Pg**	**03 09 19.6**	**+0.7**
EOS3	baz=178			*e*S		**Sn**	**03 09 29.6**	**-0.5**
TWE	**Neicheng** baz=240	**0.65**	**251**	P		**Pg**	**03 09 18.6**	**-0.4**
TWE	baz=240			S		**Sb**	**03 09 27.6**	**-0.2**
NWRT	**Kuosheng** baz=292	**0.67**	**294**	*e*P		**Pb**	**03 09 19.6**	**+0.1**
NWRT	baz=292			*e*S		**Sb**	**03 09 28.7**	**+0.1**
TWA	**Mucha** baz=272	**0.69**	**274**	P		**Pg**	**03 09 19.9**	**+0.1**
TWA	baz=272			S		**Sb**	**03 09 29.5**	**+0.4**
EWUT	**Wuta** baz=220	**0.70**	**227**	P		**Pg**	**03 09 20.3**	**+0.2**
EWUT	baz=220			*e*S		**Sb**	**03 09 29.1**	**-0.3**
FUSB	**Fushanzhiwuyua** baz=255	**0.70**	**256**	⇓*i*P		**Pg**	**03 09 19.9**	**-0.3**
FUSB	baz=255			S		**Sb**	**03 09 29.1**	**-0.5**
NHY	**Taipei** baz=277	**0.71**	**279**	*e*P		**Pg**	**03 09 19.9**	**-0.2**
NHY	baz=277			*e*S		**Sn**	**03 09 30.2**	**-1.8**
JYNG	**Yonaguni jima**	**0.73**	**131**	P		**Pb**	**03 09 19.8**	**-0.7**
JYNG				*e*S		**Sb**	**03 09 30.6**	**+0.4**
YM08	**YM08** baz=289	**0.73**	**291**	⇑*i*P		**Pg**	**03 09 20.4**	**-0.2**
YM08	baz=289			S		**Sg**	**03 09 29.6**	**-0.6**
YM01	**YM01** baz=285	**0.73**	**287**	⇑*i*P		**Pn**	**03 09 20.7**	**-1.1**
YM01	baz=285			S		**Sg**	**03 09 30.5**	**+0.2**
PCYT	**Pengchaiyu** baz=339	**0.74**	**341**	⇑*i*P		**Pg**	**03 09 20.2**	**-0.5**
PCYT	baz=339			*e*S		**Sn**	**03 09 31.1**	**-1.7**
ENA	**Nanau** baz=212	**0.74**	**228**	P		**Pb**	**03 09 20.3**	**-0.4**
ENA	baz=212			S		**Sb**	**03 09 30.2**	**-0.4**
NHDH	**Xindian Distri** baz=271	**0.74**	**273**	P		**Pn**	**03 09 21.2**	**-0.8**
NHDH	baz=271			S		**Sg**	**03 09 30.8**	**+0.2**
TWY	**Chenhua** baz=284	**0.76**	**297**	⇑*i*P		**Pg**	**03 09 20.9**	**-0.1**
TWY	baz=284			*i* S		**Sn**	**03 09 31.5**	**-1.7**
ENTT	**Nioudou** baz=257	**0.76**	**248**	P		**Pb**	**03 09 20.7**	**-0.4**
ENTT	baz=257			S		**Sn**	**03 09 32.5**	**-0.9**
TAP	**Taipei** baz=276	**0.77**	**278**	P		**Pn**	**03 09 21.6**	**-0.7**
TAP	baz=276			S		**Sn**	**03 09 32.1**	**-1.3**
YOJ	**Yonaguni jima**	**0.77**	**127**	P		**Pb**	**03 09 20.4**	**-0.8**
YOJ	**Yonaguni jima**	**0.77**	**127**			**Pb**	**03 09 20.4**	**-0.8**
YOJ					Sg	**Sb**	**03 09 30.3**	**-1.0**
YOJ	**Yonaguni jima**	**0.77**	**127**	*e*P		**Pb**	**03 09 20.5**	**-0.8**
YOJ				*e*S		**Sb**	**03 09 31.2**	**-0.1**
YOJ	**Yonaguni jima** baz=119	**0.77**	**127**	⇓P		**Pb**	**03 09 20.4**	**-0.8**
YOJ	baz=119			S		**Sb**	**03 09 30.8**	**-0.6**
NSM	**Shimen** baz=284	**0.77**	**298**	*e*P		**Pn**	**03 09 21.3**	**-1.0**
NSM	baz=284			S		**Sn**	**03 09 32.9**	**-0.7**
TATO	**Taipei**	**0.78**	**274**	P		**Pn**	**03 09 21.7**	**-0.7**
TATO	**Taipei**	**0.78**	**274**			**Pg**	**03 09 21.2**	**-0.2**
TATO	**Taipei** baz=272	**0.78**	**274**	*e*P		**Pn**	**03 09 21.6**	**-0.8**
TATO	baz=272			*e*S		**Sg**	**03 09 31.5**	**-0.2**
NWLT	**Wulai** baz=257	**0.78**	**259**	P		**Pg**	**03 09 21.1**	**-0.3**
ANP	**Anpu** baz=287	**0.79**	**289**	*e*P		**Pn**	**03 09 21.7**	**-0.9**
EOS4	**EOS4** baz=180	**0.81**	**181**	P		**Pb**	**03 09 21.7**	**+0.1**
EAHA	**Aohua** baz=222	**0.81**	**223**	P		**Pg**	**03 09 22.0**	**0.0**
EAHA	baz=222			*e*S		**Sn**	**03 09 33.8**	**-0.7**
NDT	**Datong Townshi** baz=256	**0.82**	**247**	P		**Pn**	**03 09 22.4**	**-0.7**
NDT	baz=256			*e*S		**Sn**	**03 09 34.3**	**-0.5**
EHP	**Heping Village** baz=227	**0.82**	**222**	*e*P		**Pn**	**03 09 22.6**	**-0.5**
EHP	baz=227			*e*S		**Sg**	**03 09 33.2**	**0.0**
LATG	**Datong** baz=242	**0.84**	**242**	P		**Pb**	**03 09 22.2**	**-0.3**
LATG	baz=242			S		**Sb**	**03 09 33.3**	**-0.2**
NTST	**Danshui** baz=285	**0.84**	**286**	*e*P		**Pn**	**03 09 23.0**	**-0.4**
TWS1	**Kuangyinshan** baz=280	**0.85**	**282**	*e*P		**Pn**	**03 09 23.4**	**-0.1**
TWS1	baz=280			*e*S		**Sn**	**03 09 34.6**	**-1.0**
YHNB	**Yeheng**	**0.91**	**254**	P		**Pg**	**03 09 23.7**	**-0.4**
YHNB	**Yeheng**	**0.91**	**254**			**Pb**	**03 09 22.7**	**-1.0**
YHNB					Sg	**Sb**	**03 09 35.1**	**-0.6**
YHNB	**Yeheng** baz=266	**0.91**	**254**	⇓*i*P		**Pb**	**03 09 23.3**	**-0.4**
YHNB	baz=266			S		**Sg**	**03 09 36.2**	**+0.1**
NSK	**Sanguang** baz=266	**0.93**	**254**	⇓*i*P		**Pb**	**03 09 23.5**	**-0.4**
NSK	baz=266			S		**Sn**	**03 09 36.9**	**-0.7**
NNSB	**Datong** baz=232	**1.00**	**240**	P		**Pb**	**03 09 25.0**	**-0.2**
NNSB	baz=232			S		**Sg**	**03 09 38.5**	**-0.5**
NNS	**Nan Shan** baz=232	**1.01**	**241**	*e*P		**Pn**	**03 09 25.3**	**-0.4**
NNS	baz=232			*e*S		**Sn**	**03 09 39.1**	**-0.4**
ETL	**Fush Village** baz=221	**1.01**	**221**	*e*P		**Pb**	**03 09 25.3**	**0.0**
ETL	baz=221			*e*S		**Sb**	**03 09 38.7**	**+0.4**
NACB	**Ninganchiao**	**1.01**	**222**	P		**Pb**	**03 09 25.2**	**-0.2**
NACB	**Ninganchiao**	**1.01**	**222**			**Pb**	**03 09 24.5**	**-0.9**
NACB	**Ninganchiao** baz=223	**1.01**	**222**	⇑P		**Pb**	**03 09 24.9**	**-0.5**
NACB	baz=223			*e*S		**Sb**	**03 09 38.0**	**-0.4**
NCUH	**Zhongli** baz=271	**1.05**	**272**	*e*P		**Pg**	**03 09 26.9**	**+0.3**
TWD	**Chiawan** baz=226	**1.08**	**219**	P		**Pn**	**03 09 26.5**	**-0.1**
TWD	baz=226			S		**Sb**	**03 09 40.8**	**+0.3**
NFF	**Wufeng Townshi** baz=266	**1.15**	**255**	P		**Pn**	**03 09 27.1**	**-0.6**
HWA	**Hwalien** baz=215	**1.16**	**215**	*e*P		**Pg**	**03 09 29.0**	**+0.3**
FUSS	**Fushou** baz=236	**1.21**	**236**	*e*P		**Pb**	**03 09 28.7**	**-0.1**
FUSS	baz=236			*e*S		**Sn**	**03 09 44.7**	**0.0**

ETM	**Tongmen**	**1.23 219**	*e*P		**Pb**	**03 09 29.2**	**+0.1**
	baz=219								
LIOB	**Emei**	**1.24 257**	*e*P		**Pn**	**03 09 28.4**	**-0.4**
	baz=256								
LXIB	**Xiulin Townshi**	**1.24 223**	⇑P		**Pb**	**03 09 29.0**	**-0.3**
	baz=224								
LXIB			*e*S		**Sn**	**03 09 45.1**	**-0.3**
	baz=224								
SBCB	**Hsinchu**	**1.24 264**	*e*P		**Pb**	**03 09 28.6**	**-0.6**
	baz=278								
SBCB			*e*S		**Sg**	**03 09 46.8**	**+0.4**
	baz=278								
NSTT	**Nanjuang**	**1.25 257**	P		**Pn**	**03 09 28.4**	**-0.6**
	baz=256								
NSTT			*e*S		**Sg**	**03 09 48.0**	**+1.2**
	baz=256								
WHF	**Hehuan Shan**	**1.25 232**	P		**Pb**	**03 09 29.9**	**+0.2**
	baz=239								
WHF			*e*S		**Sn**	**03 09 46.1**	**0.0**
	baz=239								
TEYL	**Yanliau Villag**	**1.26 213**	*e*P		**Pb**	**03 09 29.5**	**0.0**
	baz=214								
TWT	**Tachien**	**1.26 238**	P		**Pg**	**03 09 30.0**	**-0.6**
	baz=231								
TWT			*e*S		**Sg**	**03 09 46.5**	**-0.5**
	baz=231								
TDCB	**Techi**	**1.27 238**	P		**Pb**	**03 09 29.7**	**-0.2**
	baz=233								
TDCB			*e*S		**Sn**	**03 09 46.4**	**+0.3**
	baz=233								
SHUL	**Shoufeng**	**1.34 212**	*e*P		**Pn**	**03 09 30.4**	**+0.2**
	baz=193								
SHUL			*e*S		**Sg**	**03 09 49.1**	**-0.5**
	baz=193								
CHGB	**Renai**	**1.37 231**	*e*P		**Pg**	**03 09 32.2**	**-0.5**
	baz=232								
CHGB			*e*S		**Sg**	**03 09 50.1**	**-0.5**
	baz=232								
ESL	**Shilin**	**1.39 217**	*e*P		**Pb**	**03 09 31.2**	**-0.5**
	baz=231								
ESL			*e*S		**Sg**	**03 09 51.1**	**0.0**
	baz=231								
IRIF	**Iriomote-Funau**	**1.40 115**	*e*P		**Pn**	**03 09 29.2**	**-1.8**
WHP	**Taichung City**	**1.43 243**	P		**Pg**	**03 09 33.9**	**+0.2**
	baz=231								
WHP			*e*S		**Sg**	**03 09 52.0**	**-0.4**
	baz=231								
OWD	**Renai**	**1.44 228**	*e*P		**Pb**	**03 09 32.7**	**0.0**
	baz=229								
OWD			*e*S		**Sb**	**03 09 51.3**	**+0.4**
	baz=229								
WUSB	**Renai**	**1.45 230**	P		**Pb**	**03 09 33.2**	**+0.2**
	baz=231								
WUSB			*e*S		**Sb**	**03 09 52.0**	**+0.8**
	baz=231								
WARBT	**Fenglin Townsh**	**1.49 216**	P		**Pn**	**03 09 31.8**	**-0.5**
	baz=217								
WARBT			*e*S		**Sg**	**03 09 54.0**	**-0.4**
	baz=217								
EGFH	**Guangfu**	**1.51 214**	*e*P		**Pb**	**03 09 33.2**	**-0.6**
	baz=195								
NSY	**Sanyi**	**1.52 251**	*e*P		**Pg**	**03 09 36.4**	**+0.8**
	baz=264								
WCS	**Beigang Elemen**	**1.56 237**	*e*P		**Pb**	**03 09 35.1**	**+0.3**
	baz=225								
HATJ	**Hateruma jima**	**1.59 123**	*e*P		**Pn**	**03 09 32.7**	**-1.0**
VWDT	**VWDT**	**1.60 223**	*e*P		**Pb**	**03 09 34.8**	**-0.6**
	baz=224								
HGSD	**Ruisui**	**1.66 210**	*e*P		**Pn**	**03 09 34.5**	**-0.1**
	baz=193								
JKRS	**Kuro-shima**	**1.67 114**	*e*P		**Pn**	**03 09 33.5**	**-1.2**
SMLT	**Sun Moon Lake**	**1.68 232**	*e*P		**Pb**	**03 09 36.8**	**+0.1**
	baz=217								
EHY	**Hungye**	**1.69 213**	P		**Pn**	**03 09 34.7**	**-0.4**
	baz=213								
TYC	**Yuchr**	**1.69 233**	*e*P		**Pb**	**03 09 37.2**	**+0.2**
	baz=233								
SSLB	**Suanglung**	**1.70 228**	P		**Pb**	**03 09 37.1**	**0.0**
SSLB	**Suanglung**	**1.70 228**			**Pn**	**03 09 35.4**	**+0.2**
SSLB	**Suanglung**	**1.70 228**	*e*P		**Pb**	**03 09 36.4**	**-0.7**
	baz=228								
JIJ	**Ishigaki jima**	**1.73 109**	*e*P		**Pn**	**03 09 33.8**	**-1.8**
YULB	**Yu-li**	**1.80 212**	P		**Pb**	**03 09 37.9**	**-1.0**
YULB	**Yu-li**	**1.80 212**			**Pn**	**03 09 35.6**	**-1.0**
YULB	**Yu-li**	**1.80 212**	*e*P		**Pn**	**03 09 35.8**	**-0.8**
	baz=213								
JISG	**Ishigakijimahi**	**1.82 100**	P		**Pn**	**03 09 35.6**	**-1.3**
WHYT	**Xinyi Township**	**1.83 228**	*e*P		**Pb**	**03 09 39.0**	**-0.3**
	baz=216								
EYUL	**Yuli**	**1.83 211**	*e*P		**Pn**	**03 09 36.6**	**-0.4**
	baz=227								
TWF1	**Yuli**	**1.84 211**	P		**Pn**	**03 09 36.5**	**-0.6**
	baz=212								
CHKH	**Chenggong**	**1.93 207**	*e*P		**Pn**	**03 09 37.8**	**-0.6**
	baz=189								
FULB	**Fuli**	**1.97 209**	*e*P		**Pn**	**03 09 39.2**	**+0.3**
	baz=192								
ALS	**Alishan**	**1.99 225**	P		**Pb**	**03 09 41.1**	**-1.1**
	baz=212								
CHKT	**Chengkung**	**2.03 206**	*e*P		**Pn**	**03 09 39.0**	**-0.7**
	baz=189								
WGK	**Gukeng**	**2.04 233**	*e*P		**Pb**	**03 09 42.7**	**-0.2**
	baz=233								
EHD	**Haiduan**	**2.05 211**	*e*P		**Pn**	**03 09 40.7**	**+0.6**
	baz=211								
WDLH	**Douliu**	**2.06 233**	*e*P		**Pb**	**03 09 43.4**	**+0.2**
	baz=233								
WRL	**Guolierlin Hig**	**2.06 241**	*e*P		**Pb**	**03 09 43.7**	**+0.4**
	baz=241								
ECS	**Chishang**	**2.10 210**	*e*P		**Pn**	**03 09 40.1**	**-0.5**
	baz=210								
ELDTW	**Lidau**	**2.11 215**	*e*P		**Pn**	**03 09 40.9**	**-0.1**
	baz=199								
EDH	**Donghe**	**2.17 206**	*e*P		**Pn**	**03 09 39.5**	**-2.1**
	baz=191								
WCKO	**Fanlu**	**2.17 227**	*e*P		**Pn**	**03 09 42.8**	**+1.1**
	baz=227								
CHN2	**Minshiung**	**2.20 231**	*e*P		**Pg**	**03 09 46.9**	**-1.6**
	baz=247								
CHN4	**Tsaushan**	**2.24 226**	P		**Pb**	**03 09 45.3**	**-1.1**
	baz=226								
TPUB	**Ta-pu**	**2.25 224**	P		**Pb**	**03 09 45.1**	**-1.4**
TPUB	**Ta-pu**	**2.25 224**			**Pn**	**03 09 42.4**	**-0.4**
TPUB	**Ta-pu**	**2.25 224**	P		**Pb**	**03 09 45.3**	**-1.2**
	baz=210								
TPUB			*e*S		**Sb**	**03 10 15.2**	**+1.1**
	baz=210								
STYH	**Taoyuan**	**2.26 220**	*e*P		**Pn**	**03 09 44.5**	**+1.6**
	baz=205								
LONT	**Longtian**	**2.30 209**	*e*P		**Pn**	**03 09 44.7**	**+1.3**
	baz=210								
WTP	**Ta-pu**	**2.30 224**	*e*P		**Pb**	**03 09 46.0**	**-1.4**
	baz=209								
TWK	**Hsinying**	**2.37 226**	*e*P		**Pb**	**03 09 47.0**	**-1.5**
	baz=210								
TWK			*e*S		**Sb**	**03 10 18.6**	**+1.1**
	baz=210								
LDUT	**Ludao**	**2.38 200**	*e*P		**Pn**	**03 09 43.6**	**-1.0**
	baz=199								
SNST	**Tainan City**	**2.40 225**	*e*P		**Pb**	**03 09 47.6**	**-1.3**
	baz=225								
TWGBT	**Beinan**	**2.40 209**	P		**Pn**	**03 09 45.2**	**+0.4**
TWGBT	**Beinan**	**2.40 209**	*e*P		**Pn**	**03 09 44.8**	**0.0**
	baz=210								
TWG	**Pinlang**	**2.40 209**			**Pn**	**03 09 42.7**	**-2.1**
TWG	**Pinlang**	**2.40 209**	*e*P		**Pn**	**03 09 44.5**	**-0.3**
	baz=210								
CHN1	**Nanshi**	**2.40 224**	*e*P		**Pb**	**03 09 47.4**	**-1.6**
	baz=224								
SGST	**Jiashian**	**2.44 221**	*e*P		**Pn**	**03 09 46.9**	**+1.5**
	baz=222								
ICHU	**Yihu**	**2.45 231**	*e*P		**Pb**	**03 09 48.5**	**-1.3**
	baz=231								
SLGT	**Liugui**	**2.47 219**	*e*P		**Pb**	**03 09 48.2**	**-2.1**
	baz=220								
MATB	**Ma-tsu**	**2.48 300**	*e*P		**Pn**	**03 09 44.9**	**-1.0**
	baz=297								
VWUC	**VWUC**	**2.62 272**	*e*P		**Pn**	**03 09 46.9**	**-1.0**
	baz=271								
SCST	**Cishan**	**2.65 220**	*e*P		**Pb**	**03 09 51.3**	**-1.9**
	baz=221								
ECL	**Taimali**	**2.65 209**	*e*P		**Pn**	**03 09 48.1**	**-0.1**
	baz=210								
SSD	**Sandimen**	**2.68 216**	*e*P		**Pn**	**03 09 49.7**	**+1.1**
	baz=200								
TSMG	**Majia**	**2.71 215**	*e*P		**Pn**	**03 09 51.1**	**+2.1**
	baz=200								
XPSS	**Dashiqiu**	**2.78 316**	*e*P		**Pn**	**03 09 48.7**	**-1.3**
	baz=312								
MASBT	**Mashibuluo**	**2.79 214**	*e*P		**Pn**	**03 09 51.4**	**+1.3**
	baz=200								
LYJJ	**Jianjiangzhen**	**2.83 305**	*e*P		**Pn**	**03 09 49.9**	**-0.8**
	baz=302								
EAST	**Anshuo**	**2.88 209**	*e*P		**Pn**	**03 09 51.4**	**-0.1**
	baz=195								
PTMZ	**Houxiangcun**	**2.92 273**	*e*P		**Pn**	**03 09 51.3**	**-0.7**
	baz=272								
WDGT	**Dungji**	**2.96 236**	*e*P		**Pn**	**03 09 55.0**	**+2.5**
	baz=236								
SCZT	**Fangliau**	**3.00 212**	*e*P		**Pn**	**03 09 55.8**	**+2.8**
	baz=197								
SLIU	**Shizi**	**3.05 208**	*e*P		**Pn**	**03 09 54.5**	**+0.8**
	baz=196								
MHZQ	**Yeshan**	**3.21 292**	*e*P		**Pn**	**03 09 54.7**	**-1.2**
	baz=289								
TWK1	**Hengchun**	**3.29 206**	*e*P		**Pn**	**03 09 57.6**	**+0.5**
	baz=194								
TWKBT	**Hengchun**	**3.29 206**	*e*P		**Pn**	**03 09 57.5**	**+0.5**
	baz=194								
QZH	**Quanzhou**	**3.40 271**		Pn	**Pn**	**03 09 58.4**	**-0.2**
QZH				Sn	**Sn**	**03 10 34.8**	**-3.8**
QZH				smax	smax		
	comp=N,310nm,0.7s						
QZH				smax	smax		
	comp=E,140nm,0.9s						
QZH				LR	LR		
	comp=N,2μm,9.5s						
QZH				LR	LR		
	comp=E,2μm,12.0s						
QZH				LR	LR		
	comp=Z,2μm,11.9s						
KNM	**Kinmen**	**3.59 263**	*e*P		**Pn**	**03 10 02.4**	**+1.3**
	baz=262						
KNMB	**Chin-men Tao**	**3.62 263**	*e*P		**Pn**	**03 09 60.0**	**-1.6**
	baz=263						
JOW	**Kunigami**	**5.67 69**		Pn	**Pn**	**03 10 30.6**	**+0.8**
JOW	**Kunigami**	**5.67 69**		Pn	**Pn**	**03 10 31.2**	**+1.4**
	3.8nm,0.3s,baz=243,slow=8.9,SNR=16						
	29nm,0.7s						
NJ2	**Nanjing**	**7.73 337**	*e*Pn		**Pn**	**03 11 01.8**	**+3.8**
NJ2				Sn	**Sn**	**03 12 31.3**	**+6.1**
NJ2				smax	smax		
	comp=N,260nm,1.2s						
NJ2				smax	smax		
	comp=E,230nm,1.1s						
NJ2				LR	LR		
	comp=N,2μm,9.9s						
NJ2				LR	LR		
	comp=E,1μm,8.5s						
NJ2				LR	LR		
	comp=Z,2μm,8.1s						
JNU	**Nakatsue**	**11.06 40**		LR	LR	03 16 39.5	
	comp=Z,191nm,18.5s,baz=222,slow=41						
LYN	**LuoYang**	**12.86 321**	*e*P		**Pn**	**03 12 09.8**	**+1.5**
LYN				S	Sn	03 14 42.3	+11
LYN				pmax	pmax		
	comp=Z,180nm,4.7s						
LYN				LR	LR		
	comp=N,2μm,12.0s						
LYN				LR	LR		
	comp=E,1μm,10.3s						
LYN				LR	LR		
	comp=Z,2μm,12.7s						
QIZ	**Qiongzhong**	**12.99 246**		P	**Pn**	**03 12 10.0**	**-0.2**
QIZ				S	**Sn**	**03 14 36.9**	**+2.5**
QIZ				LR	LR		
	comp=N,390nm,9.4s						
QIZ				LR	LR		
	comp=E,300nm,8.0s						
QIZ				LR	LR		
	comp=Z,500nm,10.3s						
KSRS	**Korea Array**	**13.36 20**		Pn	**P**	**03 12 24.9**	**+0.3**
	0.5nm,0.3s,baz=196,slow=12,SNR=11						
KSRS				LR	LR	03 18 13.3	
	comp=Z,246nm,18.1s,baz=200,slow=41						
HNS	**HongShan**	**14.03 334**	⇑P		**P**	**03 12 31.5**	**-0.6**
HNS			*e*S		S	03 15 11.4	-10
HNS				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HNS				LR	LR		
	comp=N,1μm,11.2s						
HNS				LR	LR		
	comp=E,370nm,9.6s						
HNS				LR	LR		
	comp=Z,760nm,11.2s						
MJAR	**Matsushiro Arr**	**17.86 46**		P	**P**	**03 13 17.2**	**+2.6**
	1.3nm,0.8s,baz=243,slow=8.0,SNR=1.7						
MJAR				LR	LR	03 21 00.5	
	comp=Z,150nm,18.3s,baz=228,slow=40						
JCJ	**Chichijima**	**17.97 79**		LR	LR	03 19 02.5	
	comp=Z,77nm,19.6s,baz=202,slow=33						
DAV	**Davao City (W)**	**18.03 170**		LR	LR	03 20 03.1	
	comp=Z,113nm,21.1s,baz=350,slow=37						
PZH	**PanZhiHua**	**18.63 279**		P	**Pn**	**03 13 23.8**	**+0.2**
PZH				S	**Sn**	**03 16 44.9**	**-6.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110nm,5.1s						
PZH				LR	LR		
	comp=N,270nm,11.2s						
PZH				LR	LR		
	comp=E,330nm,11.4s						
PZH				LR	LR		
	comp=Z,320nm,12.8s						
LZH	**Lanzhou**	**19.40 309**	*e*P		**Pn**	**03 13 33.0**	**+0.2**
LZH				sP	sP	03 13 43.1	+4.9
LZH				sS	sS	03 17 17.8	+0.1
LZH				pmax	pmax		
	comp=Z,15nm,1.1s						
LZH				LR	LR		
	comp=N,570nm,16.5s						
LZH				LR	LR		
	comp=E,380nm,16.1s						
LZH				LR	LR		
	comp=Z,550nm,15.5s						
USRK	**Ussuriysk Ar.**	**20.77 20**			Pn	03 13 47.6	-1.2
USRK	**Ussuriysk Ar.**	**20.77 20**		P	Pn	03 13 47.9	-0.9
	3.2nm,0.8s,baz=185,slow=9.1,SNR=5.3						
USRK				LR	LR	03 22 40.9	
	comp=Z,99nm,18.7s,baz=203,slow=39						
	3.2nm,0.8s						
CRAI	**Chiangrai**	**20.81 261**		P	**P**	**03 13 47.3**	**+0.3**
CRAI				IAmb	IAmb	03 13 59.4	
	comp=Z,13nm,1.4s						
PHRA	**Phrae**	**21.50 257**		P	**P**	**03 13 54.9**	**+0.4**
CHTO	**Chiang Mai**	**22.53 259**		P	**P**	**03 14 05.3**	**-0.2**
CMAR	**Chiang Mai Arr**	**22.66 258**		P	**P**	**03 14 07.5**	**+0.6**
CMAR	**Chiang Mai Arr**	**22.66 258**		P	**P**	**03 14 06.3**	**-0.6**
	comp=Z,0.9nm,0.3s,baz=67,slow=6.9,SNR=1.7						
CMAR				LR	LR	03 23 18.4	
	comp=Z,133nm,20.7s,baz=75,slow=38						
	comp=Z,0.9nm,0.3s						
GUMO	**Guam**	**24.03 114**		LR	LR	03 23 07.6	
	comp=Z,66nm,19.6s,baz=144,slow=35						
TNTI	**Ternate**	**24.50 168**		P	**P**	**03 14 24.7**	**-0.2**
ASAJ	**Asahikawa**	**25.27 36**		LR	LR	03 24 42.6	
	comp=Z,103nm,18.8s,baz=298,slow=37						
KLR	**Kul'dur**	**25.35 14**		P	**P**	**03 14 34.2**	**+1.9**
	comp=Z,5.8nm,1.0s,baz=218,slow=8.9,SNR=6.5						
KLR				LR	LR	03 25 11.2	
	comp=Z,103nm,20.7s,baz=210,slow=38						
	comp=Z,5.8nm,1.0s						
HEH	**HeiHe**	**25.59 8**	*e*P		**P**	**03 14 37.1**	**+2.7**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
HEH				pmax	pmax		
	comp=Z,160nm,5.4s						
HEH				LR	LR		
	comp=Z,410nm,9.3s						
HEH				LR	LR		
	comp=Z,280nm,10.2s						
HEH				LR	LR		
	comp=Z,520nm,10.3s						
ULN	**Ulaanbaatar**	**25.89 336**		P	**P**	**03 14 38.1**	**+0.7**
ULN				IAmb	IAmb	03 14 44.6	
	comp=Z,2.4nm,0.6s						
SONM	**Songino Array**	**26.11 335**		P	**P**	**03 14 40.3**	**+0.9**
SONM				IAmb	IAmb	03 14 50.0	
	comp=Z,6.8nm,1.4s						
SONM	**Songino Array**	**26.11 335**		P	**P**	**03 14 40.2**	**+0.9**
	comp=Z,1.2nm,0.7s,baz=141,slow=9.4,SNR=6.8						
SONM				LR	LR	03 25 22.6	
	comp=Z,107nm,19.0s,baz=138,slow=37						
	comp=Z,1.2nm,0.7s						
YSS	**Yuzh-Sakhalins**	**27.34 31**		P	**P**	**03 14 52.9**	**+2.6**
SHL	**Shillong**	**27.53 278**		P	**P**	**03 14 52.6**	**+0.1**
SHL				IAmb	IAmb	03 15 00.3	
	comp=Z,17nm,1.4s						
KAPI	**Kappang**	**29.87 185**		LR	LR	03 29 13.0	
	comp=Z,40nm,19.6s,baz=52,slow=41						
YAK	**Yakutsk**	**37.42 6**		LR	LR	03 31 43.8	
	comp=Z,63nm,19.8s,baz=163,slow=36						
MK31	**Makanchi Array**	**38.55 315**		P	**P**	**03 16 28.3**	**+0.3**
MKAR	**Makanchi Array**	**38.55 315**		P	**P**	**03 16 27.7**	**-0.3**
MKAR	**Makanchi Array**	**38.55 315**		P	**P**	**03 16 28.5**	**+0.5**
	comp=Z,2.8nm,0.9s,baz=102,slow=10.0,SNR=18						
	comp=Z,2.8nm,0.9s						
PETK	**Petropavlovsk-**	**38.66 34**		LR	LR	03 33 03.0	
	comp=Z,38nm,18.3s,baz=217,slow=37						
MAKZ	**Makanchi**	**38.76 315**		P	**P**	**03 16 30.1**	**+0.3**
MA2	**Magadan**	**39.90 22**		LR	LR	03 33 26.2	
	comp=Z,80nm,18.7s,baz=287,slow=36						
ZAA0	**Zalesovo Array**	**40.20 326**		P	**P**	**03 16 41.8**	**+0.2**
ZALV	**Zalesovo Beam**	**40.20 326**		P	**P**	**03 16 41.8**	**+0.1**
	comp=Z,2.2nm,0.8s,baz=111,slow=8.1,SNR=5.8						
ZALV				LR	LR	03 36 22.3	
	comp=Z,23nm,18.3s,baz=36,slow=41						
	comp=Z,2.2nm,0.8s						
KURK	**Kurchatov**	**42.21 319**		P	**P**	**03 16 58.6**	**+0.4**
KURK				IAmb	IAmb	03 17 05.3	
	comp=Z,6.1nm,1.1s						
KURBB	**Kurchatov Arra**	**42.23 319**		P	**P**	**03 16 58.5**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=110,slow=8.0,SNR=6.4						
	comp=Z,1.0nm,0.8s						
SEY	**Seymchan**	**42.92 20**		LR	LR	03 34 58.5	
	comp=Z,36nm,20.0s,baz=131,slow=36						
PALK	**Pallekele**	**43.46 253**		LR	LR	03 36 03.9	
	comp=Z,62nm,19.5s,baz=169,slow=37						
GAR	**Garm**	**45.73 301**		P	**P**	**03 17 28.0**	**+1.1**
GAR				IAmb	IAmb	03 17 39.4	
	comp=Z,5.4nm,0.9s						
WB0	**Warramunga Arr**	**45.95 164**		P	**P**	**03 17 27.7**	**-0.8**
WRA	**Warramunga Arr**	**46.11 164**		P	**P**	**03 17 29.4**	**-0.3**
WRA	**Warramunga Arr**	**46.11 164**		P	**P**	**03 17 29.4**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=347,slow=8.3,SNR=13						
WRA				PcP	**PcP**	**03 19 04.7**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=349,slow=3.8,SNR=6.5						
	comp=Z,5.9nm,0.9s						
KBL	**Kabul**	**46.80 295**		P	**P**	**03 17 35.8**	**+0.4**
KBL				IAmb	IAmb	03 17 37.8	
	comp=Z,5.5nm,1.1s						
TIXI	**Tiksi**	**46.90 3**		LR	LR	03 38 40.5	
	comp=Z,109nm,19.1s,baz=205,slow=38						
BVAR	**Borovoye Array**	**47.77 320**		P	**P**	**03 17 42.8**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=105,slow=11,SNR=3.4						
	comp=Z,1.2nm,0.6s						
AS31	**Alice Springs**	**49.59 166**		P	**P**	**03 17 56.4**	**-0.4**
ASAR	**Alice Springs**	**49.59 166**		P	**P**	**03 17 56.1**	**-0.6**
	comp=Z,1.9nm,0.9s,baz=344,slow=6.8,SNR=13						
ASAR				PcP	**PcP**	**03 19 16.9**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=360,slow=3.4,SNR=4.2						
	comp=Z,1.9nm,0.9s						
ABKAR	**Akbulak array**	**53.68 314**		P	**P**	**03 18 27.4**	**+0.4**
ABKAR	**Akbulak array**	**53.68 314**		P	**P**	**03 18 27.4**	**+0.4**
ABKAR				IAmb	IAmb	03 18 29.1	
	comp=Z,3.7nm,1.1s						
BBOO	**Buckleboo**	**58.89 167**		P	**P**	**03 19 02.8**	**-1.5**
KIRV	**Kirov**	**60.22 325**		LR	LR	03 47 32.1	
	comp=Z,106nm,19.7s,baz=90,slow=38						
J17K	**VABM Dome**	**62.92 30**		P	**P**	**03 19 31.3**	**-0.1**
J17K				IAmb	IAmb	03 19 43.1	
	comp=Z,4.6nm,1.4s						
D19K	**Kuna River**	**63.23 24**		P	**P**	**03 19 34.7**	**+1.2**
D19K				IAmb	IAmb	03 19 58.4	
	comp=Z,9.0nm,1.4s						
GNI	**Garni**	**65.25 304**		LR	LR	03 51 55.0	
	comp=Z,30nm,18.9s,baz=72,slow=39						
H21K	**Melozitna Rive**	**65.47 27**		P	**P**	**03 19 48.0**	**-0.1**
H21K				IAmb	IAmb	03 19 50.1	
	comp=Z,6.1nm,1.4s						
KBZ	**Khabaz**	**65.84 309**		LR	LR	03 51 52.7	
	comp=Z,65nm,18.1s,baz=40,slow=39						
KIV	**Kislovodsk**	**65.94 309**		P	**P**	**03 19 51.4**	**-0.3**
ILAR	**Eielson Array**	**68.07 28**		P	**P**	**03 20 04.9**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=280,slow=5.6,SNR=1.5						
ILAR				LR	LR	03 52 14.0	
	comp=Z,32nm,18.4s,baz=228,slow=38						
	comp=Z,0.2nm,0.5s						
BMAR	**Burnt Mountain**	**68.42 24**		P	**P**	**03 20 07.6**	**+0.7**
FINES	**FINESS Array B**	**71.33 330**		P	**P**	**03 20 24.3**	**-0.6**
	comp=Z,2.8nm,0.9s,baz=99,slow=12,SNR=5.5						
FINES				LR	LR	03 54 59.4	
	comp=Z,85nm,21.6s,baz=74,slow=39						
	comp=Z,2.8nm,0.9s						
I30M	**Mount Dempster**	**72.22 26**		P	**P**	**03 20 30.3**	**0.0**
I30M				IAmb	IAmb	03 20 43.2	
	comp=Z,4.2nm,1.1s						
AKASG	**Malin Array Be**	**73.02 318**		P	**P**	**03 20 34.6**	**-0.5**
	comp=Z,0.1nm,0.2s,baz=60,slow=4.9,SNR=4.6						
	comp=Z,0.1nm,0.2s						
BR131	**Keskin Array S**	**73.58 307**		P	**P**	**03 20 38.5**	**-0.3**
BR131				IAmb	IAmb	03 20 46.5	
	comp=Z,2.4nm,0.9s						
BRTR	**Keskin Array B**	**73.58 307**		P	**P**	**03 20 38.4**	**-0.4**
BRTR	**Keskin Array B**	**73.58 307**		P	**P**	**03 20 38.5**	**-0.4**
	comp=Z,1.2nm,1.0s,baz=97,slow=5.3,SNR=8.7						
BRTR				LR	LR	04 00 00.7	
	comp=Z,31nm,18.6s,baz=318,slow=42						
	comp=Z,1.2nm,1.0s						
HFS	**Hagfors**	**77.43 331**		LR	LR	03 57 44.7	
	comp=Z,114nm,20.3s,baz=57,slow=38						
NOA	**NORSAR Array B**	**78.06 332**		P	**P**	**03 21 02.5**	**-1.4**
	comp=Z,0.4nm,0.7s,baz=54,slow=8.4,SNR=1.7						
NOA				LR	LR	03 59 06.8	
	comp=Z,53nm,18.1s,baz=240,slow=38						
	comp=Z,0.4nm,0.7s						
JMIC	**Jan Mayen**	**78.38 345**		LR	LR	04 02 20.1	
	comp=Z,30nm,18.1s,baz=270,slow=41						
YKA	**Yellowknife Ar**	**81.87 23**		P	**P**	**03 21 24.5**	**0.0**
	comp=Z,0.4nm,0.8s,baz=313,slow=5.4,SNR=6.6						
	comp=Z,0.4nm,0.8s						
BORG	**Borgarnes**	**86.28 345**		LR	LR	04 03 47.1	
	comp=Z,52nm,18.3s,baz=75,slow=38						
FRB	**Frobisher Bay**	**91.21 5**		LR	LR	04 07 55.2	
	comp=Z,34nm,18.2s,baz=157,slow=39						

UPA ***19*** *03:31:20.6±1.1,9.°46N×83.°82W, h6km±5km, MW3.6*
UCR ***19*** *03:31:21.5±0.8,9.°48N×83.°79W, h30km

CORON	Coronado	0.54	338	eP		Pb		03 31 32.8	-0.2
LUPE	Guadalupe	0.54	332	eP		Pb		03 31 32.5	-0.5
VTR0	Volcan Turrial	0.55	4	eP		Pb		03 31 32.6	-0.7
DRK0	Durika	0.58	111	eP		Pb		03 31 32.6	-1.1
DOMI	Santo Domingo	0.59	330	eP		Pb		03 31 33.2	-0.5
SANTA	Santa Ana	0.60	320	eP		Pb		03 31 32.6	-1.3
EDPN	Palmar Norte	0.60	146	eP		Pb		03 31 33.3	-0.6
HDC	Heredia	0.61	329	eP		Pb		03 31 33.5	-0.7
HDC				eS		Sb		03 31 42.5	0.0
BELE	Belen	0.64	322	eP		Pb		03 31 33.5	-1.0
BATAN	Batan	0.75	33	∥iP		Pb		03 31 36.0	-0.3
BATAN				eS		Sn		03 31 47.8	+0.8
TCS1	Tacares	0.76	319	eP		Pb		03 31 35.9	-0.7
EDP2	Potrero Grande	0.76	126	eP		Pb		03 31 35.7	-0.8
TRB2	Turrubares	0.78	304	eP		Pb		03 31 35.7	-1.2
RIFO	Rio Frio, Sara	0.85	352	eP		Pb		03 31 37.3	-0.8
JACO	JACO, Garabito	0.87	283	eP		Pb		03 31 37.2	-1.2
ZARE	Zarcero	0.92	320	eP		Pb		03 31 38.8	-0.6
CPMI	Catarata Coope	0.99	324	eP		Pb		03 31 39.5	-1.1
LAFE	Finca La Fe, P	1.15	287	eP		Pn		03 31 42.5	+0.5
PIRO	Carate, Puerto	1.15	157	eP		Pn		03 31 42.2	+0.1
CDITO	Canoas	1.27	134	eP		Pn		03 31 43.9	+0.1
CDITO				eS		Sb		03 32 01.8	+0.6
BRU2	Volcan	1.28	122	eP		Pn		03 31 44.1	+0.1
BRU2				eS		Sb		03 32 02.3	+0.7
BRU2	Volcan	1.28	122	eP		Pn		03 31 43.6	-0.5
CNI2	El Empalme, Bo	1.31	92	eP		Pn		03 31 44.2	0.0
CNI2				eS		Sn		03 32 01.8	+1.1
JTS	Las Juntas de	1.40	306	eP		Pn		03 31 45.5	-0.1
JTS				eS		Sn		03 32 04.4	+1.2
JTS	Las Juntas de	1.40	306	eP		Pn		03 31 45.1	-0.4
BCO2	Palmira	1.46	121	eP		Pn		03 31 46.6	+0.2
BCO2				eS		Sb		03 32 06.7	+0.1
PTPM	Petroterminale	1.55	144	eP		Pb		03 31 49.2	-0.7
PTPM				eS		Sb		03 32 08.9	-0.2
DVD	David	1.68	128	eP		Pn		03 31 49.5	+0.1
DVD				eS		Sb		03 32 12.2	-0.6
TENO	El Achiote	1.69	317	eP		Pn		03 31 49.9	+0.3

*IDC **19** 03:43:21.9±1.2,55°.86S×26°.90W, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=39.9km s-min=31.3km az=80.0*
*NEIC **19** 03:43:27.1±0.7,55°.9S±0°.2×27°.0W±0°.2, h35km±2km, mb4.3/9, Error ellipse: s-maj=29.1km s-min=20.0km az=32.0*

ISC 19 03:43:26.8±1.0,55°.9S±0°.1×27°.1W±0°.2, h35km, n20, σ0s59/15, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
HOPE	Hope Point	5.65	282	Pn		Pn	03 44 48.7	+0.6
GO08	Villa O'Higgin	28.43	266	P		P	03 49 17.2	-0.7
PLTB	Pedras Altas	30.42	311	P		P	03 49 34.7	-1.0
QSPA	South Pole Qui	34.40	180	P		P	03 50 10.3	-0.1
QSPA				IAmb		IAmb	03 50 32.5	
	comp=Z,6.3nm,1.4s							
LVC	Limon Verde	45.27	300	P		P	03 51 41.7	+0.5
LVC				IAmb		IAmb	03 52 06.0	
	comp=Z,4.9nm,1.2s							
LVC	Limon Verde	45.27	300	P		P	03 51 41.9	+0.7
	comp=Z,1.6nm,0.5s,baz=150,slow=8.1,SNR=1.5							
	comp=Z,1.6nm,0.5s							
VNDA	Vanda	46.78	183	P		P	03 51 52.1	+0.1
VNDA	Vanda	46.78	183	P		P	03 51 52.2	+0.1
	comp=Z,0.5nm,0.6s,baz=188,slow=5.5,SNR=6.7							
	comp=Z,0.5nm,0.6s							
H10S2	ASCENSION HYDR	47.78	17	T		T	04 44 05.8	
	baz=186							
H10S3	ASCENSION HYDR	47.79	17	T		T	04 44 06.1	
	baz=34							
GO01	Chusmiza	47.91	302	P		P	03 52 02.2	+0.1
GO01				IAmb		IAmb	03 52 03.9	
	comp=Z,3.5nm,0.9s							
H10N1	ASCENSION HYDR	48.90	17	T		T	04 45 35.7	
	baz=193							
H10N3	ASCENSION HYDR	48.90	17	T		T	04 45 30.0	
	baz=193							
H10N2	ASCENSION HYDR	48.92	17	T		T	04 45 31.1	
	baz=193							
LPAZ	La Paz	50.33	305	P		P	03 52 21.3	+0.6
LPAZ	La Paz	50.33	305	P		P	03 52 21.7	+0.9
	comp=Z,0.7nm,0.4s,baz=180,slow=5.1,SNR=7.0							
	comp=Z,0.7nm,0.4s							
TOA0	Torodi Ar. Sit	72.84	29	P		P	03 54 51.9	+0.1
TOA0				IAmb		IAmb	03 55 05.7	
	comp=Z,5.1nm,1.4s							
TORD	Torodi Ar. Bea	72.84	29	P		P	03 54 51.5	-0.3
TORD				IAmb		IAmb	03 55 06.4	
	comp=Z,2.0nm,1.4s							
TORD	Torodi Ar. Bea	72.84	29	P		P	03 54 52.3	+0.5
	comp=Z,0.3nm,0.4s,baz=202,slow=5.8,SNR=12							
	comp=Z,0.3nm,0.4s							
ILAR	Eielson Array	150.04	312	PKPbc		PKPbc	04 03 12.1	0.0
	comp=Z,0.3nm,0.7s,baz=116,slow=2.1,SNR=2.2							

*DJA **19** 03:57:16.6±0.2,6°.5±3°×10°.6E±°, h159km±2km, M4.6/21, mB5.2/11, mb4.8/19, MLv4.7/21, Mw(mB)4.6/11*
*IDC **19** 03:57:17.4±1.4,5°.90S×105°.80E, h162km±11km, mb3.7/16, mbtmp4.1/17, Error ellipse: s-maj=25.8km s-min=10.8km az=51.0*
*NEIC **19** 03:57:17.4±1.9,6°.0S±0°.1×105°.80E±0°.09, h157km±7km, mb4.4/17, Error ellipse: s-maj=19.2km s-min=9.3km az=214.0*

ISC 19 03:57:15.4±0.5,6°.16S±0°.07×105°.70E±0°.05, h150km, n98, σ1s78/103, mb4.1/24, 1D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SBJI	Serang	0.43	85	P		Pn	03 57 39.1	+2.7
SBJI				S		Sn	03 57 55.2	+2.9
TNG	Tangerang	0.94	91	P		Pn	03 57 42.2	+2.5
TNG				P			03 57 42.3	
TNG				S		Sn	03 58 01.3	+3.2
DBJI	Dramaga	1.11	111	P		Pn	03 57 43.8	+2.6
DBJI				S		Sn	03 58 03.9	+3.0
SKJI	Sukabumi	1.19	135	P		Pn	03 57 44.4	+2.5
KASI	Kota Agung	1.35	298	P		Pn	03 57 47.6	+4.1
CNJI	Cibinong	1.82	129	P		Pn	03 57 49.7	+1.2
LWLI	Liwa	1.99	305	P		Pn	03 57 54.0	+3.4
LWLI				S		Sn	03 58 21.7	+4.2
LEM	Lembang	2.02	109	P		Pn	03 57 53.5	+2.6
	401nm,0.7s,baz=294,slow=3.2,SNR=58							
LEM	Lembang	2.02	109	P		Pn	03 57 53.5	+2.6
BBJI	Bungbulang	2.33	124	P		Pn	03 57 56.1	+1.6
JCJI	Jatiwangi	2.58	97	P		Pn	03 58 00.0	+2.5
CMJI	Cimerak	3.17	121	P		Pn	03 58 05.7	+0.8
MNAI	Manna	3.27	303			Pn	03 58 09.2	+3.0
MNAI				Sn		Sn	03 58 48.0	+2.4
MNAI	Manna	3.27	303	P		Pn	03 58 10.2	+4.0
PMBI	Palembang	3.34	344			Pn	03 58 08.2	+1.0
PPBI	Pangkal Pinang	4.00	6	P		Pn	03 58 17.9	+2.2
XMIS	Christmas Isla	4.29	181	Pn		Pn	03 58 19.6	0.0
SMRI	Semarang	4.79	101	P		Pn	03 58 28.8	+2.7
SMRI	Semarang	4.79	101	Pn		Pn	03 58 27.7	+1.6
SMRI	Semarang	4.79	101	P		Pn	03 58 28.6	+2.5
YOGI	Yogyakarta	4.85	110	P		Pn	03 58 28.4	+1.5
UGM	Wanagama	5.09	110	Pn		Pn	03 58 31.1	+0.9
UGM	Wanagama	5.09	110	P		Pn	03 58 31.1	+0.9
	204nm,2.2s,1.0nm							
DSRI	Dabo	5.75	349	P		Pn	03 58 40.7	+1.8
NGJI	Ngawi	5.84	102	P		Pn	03 58 51.6	+12
PWJI	Pagerwojo	6.33	107	P		Pn	03 58 48.3	+1.7
	45nm,1.2s,0.3nm							
PPSI	Pulau Pagai	6.60	300	P		Pn	03 58 52.0	+1.8
	350nm,0.6s,5μm1.5nm							
PDSI	Padang	7.38	315	P		Pn	03 59 00.7	0.0
	105nm,0.7s,11μm0.5nm							
BKNI	Bangkinang	7.95	324	P		Pn	03 59 08.4	+0.2
BKNI	Bangkinang	7.95	324	Pn		Pn	03 59 07.4	-0.8
MYKOM	Kota Tinggi	8.11	347	Pn		Pn	03 59 08.3	-2.1
SISI	Saibi	8.16	306	P		Pn	03 59 11.3	+0.3
	198nm,0.8s,2μm							
ABJI	Asem Bagus	8.62	101	P		Pn	03 59 19.1	+1.9
	73nm,1.0s							
JAGI	Jajag, Banyuwa	8.69	106	P		Pn	03 59 19.6	+1.5
JAGI	Jajag, Banyuwa	8.69	106	Pn		Pn	03 59 17.6	-0.5
JAGI	Jajag, Banyuwa	8.69	106	P		Pn	03 59 18.8	+0.7
PBSI	Pulau Batu	9.57	309	P		Pn	03 59 29.4	-0.4
	149nm,1.1s							
SRBI	Singaraja	9.63	102	P		Pn	03 59 32.4	+1.8
	71nm,0.7s							
SBUM	Sibu	10.75	37	Pn		Pn	03 59 44.9	-0.5
GSI	Gunungsitoli	10.99	312	P		Pn	03 59 47.6	-1.0
GSI	Gunungsitoli	10.99	312	Pn		Pn	03 59 46.9	-1.7
GSI	Gunungsitoli	10.99	312	P		Pn	03 59 47.4	-1.2
	80nm,0.6s,3μm							
RPSI	Rantau Prapat	11.10	322	Pn		Pn	03 59 48.7	-1.3
PSI	Prapat	11.18	323	P		Pn	03 59 49.2	-2.0
KULM	Kulim	12.44	336	Pn		Pn	04 00 07.7	+0.2
BKSI	Bukukumba	14.37	87	P		Pn	04 00 34.5	+2.4
	38nm,0.8s							
SRIT	Nakonsritamara	15.87	337	P		Pn	04 00 50.3	-0.4
SRIT	Nakonsritamara	15.87	337			Pn	04 00 50.0	-0.7
TOLI2	Tolitoli	16.70	65	P		Pn	04 01 02.9	+2.1
TOLI2	Tolitoli	16.70	65			P	04 01 01.1	+0.6
MYLDM	Lahad Datu	17.04	49	P		P	04 01 04.9	+0.7
MYLDM				IAmb		IAmb	04 01 10.1	
	comp=Z,30nm,1.0s							
BATI	Baumata	18.23	104	P		P	04 01 19.1	+1.8
	comp=Z,87nm,0.7s,baz=243,slow=5.1,SNR=7.5							
BATI				S		S	04 04 35.1	-3.2
	comp=Z,19nm,0.4s,baz=12,slow=20,SNR=1.3							
GTOI	Gorontalo	18.55	69	P		P	04 01 21.1	+0.2
	comp=Z,18nm,0.8s							
SOEI	Soe	18.73	102	P		P	04 01 24.8	+1.9
SOEI	Soe	18.73	102	P		P	04 01 23.8	+0.9
TNTI	Ternate	22.70	73	P		P	04 02 04.5	-0.1
CMAR	Chiang Mai Arr	25.35	345	P		P	04 02 27.1	-1.6
	comp=Z,0.8nm,0.3s,baz=159,slow=6.4,SNR=1.8							
CMAR				ScP		ScP	04 09 19.8	-3.2
	comp=Z,1.0nm,0.3s,baz=140,slow=3.5,SNR=1.5							
	comp=Z,0.8nm,0.3s							
WB0	Warramunga Arr	30.99	119	P		P	04 03 18.3	-0.6
WB0				IAmb		IAmb	04 03 36.3	
	comp=Z,12nm,1.3s							
WRA	Warramunga Arr	31.01	119	P		P	04 03 18.8	-0.3
WRA	Warramunga Arr	31.01	119	P		P	04 03 20.0	+0.9
	comp=Z,0.6nm,0.4s,baz=290,slow=10.0,SNR=9.9							
WRA				PcP		PcP	04 06 12.2	+0.7
	comp=Z,0.2nm,0.3s,baz=301,slow=2.1,SNR=1.6							
	comp=Z,0.6nm,0.4s							
ASAR	Alice Springs	32.22	126	P		P	04 03 30.3	+0.6
ASAR	Alice Springs	32.22	126	P		P	04 03 31.0	+1.3
	comp=Z,2.4nm,0.8s,baz=298,slow=7.9,SNR=19							
ASAR				PcP		PcP	04 06 15.6	+0.7
	comp=Z,0.4nm,0.8s,baz=306,slow=2.4,SNR=2.4							
ASAR				S		S	04 08 28.1	-3.9
	comp=Z,2.9nm,1.1s,baz=292,slow=14,SNR=7.6							
ASAR				ScP		ScP	04 09 44.1	-0.6
	comp=Z,0.4nm,0.6s,baz=321,slow=1.8,SNR=4.2							
	comp=Z,0.4nm,0.8s							
AS31	Alice Springs	32.22	126	P		P	04 03 30.3	+0.5
PZH	PanZhiHua	32.70	353	P		P	04 03 35.8	+2.0
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,6.9s							
COEN	Coen	37.66	105	P		P	04 04 16.1	-0.3
STKA	Stephens Creek	42.16	132	P		P	04 04 54.9	+1.6
STKA	Stephens Creek	42.16	132	P		P	04 04 55.0	+1.6
	comp=Z,4.7nm,0.6s,baz=306,slow=9.0,SNR=14							
	comp=Z,4.7nm,0.6s							
KSRS	Korea Array	48.09	24	P		P	04 05 39.1	-0.9
	comp=Z,1.0nm,0.5s,baz=216,slow=8.5,SNR=4.3							
	comp=Z,1.0nm,0.5s							
MJAR	Matsushiro Arr	52.26	33	P		P	04 06 10.0	-1.5
	comp=Z,0.6nm,0.4s,baz=217,slow=5.3,SNR=1.8							
	comp=Z,0.6nm,0.4s							
SONM	Songino Array	53.77	1	P		P	04 06 21.4	-0.9
	comp=Z,0.9nm,0.4s,baz=176,slow=9.6,SNR=6.1							
	comp=Z,0.9nm,0.4s							
BNX	BinXian	55.19	18	∥P		P	04 06 32.9	+0.4
BNX				pmax		pmax		
	comp=Z,14nm,0.7s							
BNX				pmax		pmax		
	comp=Z,89nm,4.3s							
USA0B	Ussuriysk Arra	55.45	23	P		P	04 06 33.7	-0.7
USA0B				IAmb		IAmb	04 06 34.6	
	comp=Z,6.0nm,0.8s							
USRK	Ussuriysk Ar.	55.45	23	P		P	04 06 33.9	-0.5
USRK	Ussuriysk Ar.	55.45	23	P		P	04 06 33.2	-1.2
	comp=Z,5.0nm,0.6s,baz=198,slow=4.9,SNR=12							
	comp=Z,5.0nm,0.6s							
MK31	Makanchi Array	56.67	341	P		P	04 06 42.5	-0.6
MKAR	Makanchi Array	56.67	341	P		P	04 06 42.0	-1.1
	comp=Z,0.9nm,0.5s,baz=145,slow=7.8,SNR=14							
	comp=Z,0.9nm,0.5s							
HEH	HeiHe	59.25	16	eP		P	04 07 00.4	-0.5
HEH				pmax		pmax		
	comp=Z,8.0nm,0.6s							
H04N2	CROZET ISLANDS	61.06	220	T		T	05 13 45.3	
	baz=66,slow=75,SNR=16							
H04N1	CROZET ISLANDS	61.08	220	T		T	05 13 26.4	
	baz=66,slow=75,SNR=12							
H04N3	CROZET ISLANDS	61.08	220	T		T	05 13 48.3	
	baz=66,slow=75,SNR=19							
KURBB	Kurchatov Arra	61.23	341	P		P	04 07 13.3	-1.1
	comp=Z,0.4nm,0.5s,baz=149,slow=6.1,SNR=5.3							
	comp=Z,0.4nm,0.5s							
H04S1	CROZET ISLANDS	61.27	219	T		T	05 13 37.5	
	baz=66							
H04S3	CROZET ISLANDS	61.28	219	T		T	05 14 07.3	
	baz=66							
H04S2	CROZET ISLANDS	61.28	219	T		T	05 13 57.5	
	baz=66							
ZALV	Zalesovo Beam	62.41	346	P		P	04 07 21.5	-0.7
	comp=Z,0.5nm,0.3s,baz=131,slow=18,SNR=1.7							
	comp=Z,0.5nm,0.3s							
BVAR	Borovoye Array	66.10	338	P		P	04 07 45.4	-0.9
	comp=Z,0.9nm,0.5s,baz=149,slow=6.9,SNR=4.1							
	comp=Z,0.9nm,0.5s							
ABKAR	Akbulak array	68.04	330	P		P	04 07 57.9	-0.7
ABKAR				IAmb		IAmb	04 07 59.4	
	comp=Z,3.6nm,0.9s							
ABKAR	Akbulak array	68.04	330	P		P	04 07 57.8	-0.8
PETK	Petropavlovsk-	73.50	30	P		P	04 08 30.3	-1.2
PETK	Petropavlovsk-	73.50	30	P		P	04 08 30.6	-1.0
	comp=Z,4.6nm,0.9s,baz=183,slow=2.9,SNR=4.5							
	comp=Z,4.6nm,0.9s							
KBZ	Khabaz	75.17	318	P		P	04 08 41.9	+0.6
	comp=Z,3.4nm,0.9s,baz=152,slow=3.5,SNR=6.2							
	comp=Z,3.4nm,0.9s							
GHAJ	Ghor Haditha	76.46	304	P		P	04 08 48.9	-0.1
GHAJ				IAmb		IAmb	04 09 02.4	
	comp=Z,10nm,0.9s							
MMAI	Mount Meron Ar	77.07	306	P		P	04 08 53.1	+0.7
	comp=Z,0.9nm,0.5s,baz=105,slow=8.7,SNR=3.7							
	comp=Z,0.9nm,0.5s							
BR131	Keskin Array S	80.31	312	P		P	04 09 10.1	0.0
BR131				IAmb		IAmb	04 09 11.3	
	comp=Z,1.3nm,0.7s							
BRTR	Keskin Array B	80.31	312	P		P	04 09 10.5	+0.4
	comp=Z,0.9nm,0.6s,baz=137,slow=7.9,SNR=9.1							
	comp=Z,0.9nm,0.6s							
KARP	Karpathos	84.30	307	P		P	04 09 32.2	+1.4
KARP				IAmb		IAmb	04 09 33.3	
	comp=Z,8.9nm,0.9s							
PDAR	Pinedale Array	132.07	35	PKP		PKPdf	04 16 10.6	-1.3
	comp=Z,0.2nm,0.4s,baz=351,slow=5.0,SNR=1.6							
PDAR				SKPbc		SKPbc	04 19 21.4	-3.1
	comp=Z,0.1nm,0.3s,baz=294,slow=2.9,SNR=2.6							
TXAR	Lajitas Array	143.96	47	PKP		PKPbc	04 16 33.1	+1.0
	comp=Z,0.8nm,0.8s,baz=259,slow=1.6,SNR=10							
TXAR				SKPbc		SKPbc	04 19 57.7	-1.2
	comp=Z,0.4nm,0.6s,baz=232,slow=4.4,SNR=4.3							

*DSN **19** 04:00:35.8±1.4,27°.24N×55°.34E, h10km, ML3.2/8, Error ellipse: s-maj=20.5km s-min=8.0km az=34.0*
*OMAN **19** 04:00:37.1±1.5,27°.17N×55°.05E, h25km±27km, mb2.9/5, ml3.3/16, Error ellipse: s-maj=18.7km s-min=6.8km az=168.0*
*TEH **19** 04:00:38.2,26°.96N×55°.17E, h23km±31km, ML3.7*

ISC 19 04:00:38.1±1.3,27°.00N±0°.04×55°.15E±0°.03, h9km±11km, n55, σ0s93/72, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LAR1	LAR	0.95	314	Pg		Pg	04 00 56.7	+0.2
LAR1				Sg		Sn	04 01 12.0	+0.3
GENO	Geno	0.99	66	Pg		Pg	04 00 56.8	-0.5
SHME	Shamm	1.30	137	P		Pn	04 01 01.9	-0.6
SHME				S		Sn	04 01 20.3	+0.2
SHME	Shamm	1.30	137	P		Pg	04 01 03.4	+0.3
	SNR=6.6							
SHME				S		Sn	04 01 20.9	+0.9

IBND	Bandar-abas	1.32	70	Pg		Pn		04 01 02.9	+0.2
BANOM	Banah	1.49	136	P		Pn		04 01 03.7	-1.5
BANOM				S		Sg		04 01 25.8	-0.3
BANOM	Banah	1.49	136	P		Pb		04 01 05.9	-0.1
BANOM				S		Sg		04 01 26.5	+0.4
LMD1	Lamerd	1.80	281	Pn		Pb		04 01 11.3	0.0
MASF	Masafi	1.86	151	P		Pn		04 01 10.3	0.0
	SNR=8.6								
MASF				S		Sb		04 01 35.2	-0.6
MSFE	Esma-Masafi	1.87	151	P		Pn		04 01 09.9	-0.5
MDH	Madha	1.99	148	P		Pn		04 01 12.1	+0.2
MDH	Madha	1.99	148	P		Pn		04 01 12.9	+1.0
MDH				S		Sb		04 01 38.4	-0.9
JHRM	Jahrom	2.04	317	Pn		Pn		04 01 13.8	+1.0
NAZ	Nazwa, Dubai	2.06	167	P		Pn		04 01 13.5	+0.6
NAZ	Nazwa, Dubai	2.06	167	P		Pn		04 01 13.8	+0.9
UOSS	Minazif	2.26	155	P		Pn		04 01 14.5	-1.2
UOSS	Minazif	2.26	155	P		Pn		04 01 16.6	+0.9
UOSS				S		Sb		04 01 46.1	-1.1
FAQ	Al Faqa, Dubai	2.28	170	P		Pn		04 01 17.6	+1.6
HATD	Hatta, Dubai	2.34	158	P		Pn		04 01 16.2	-0.6
HATD	Hatta, Dubai	2.34	158	P		Pn		04 01 18.5	+1.7
HATD				S		Sn		04 01 46.7	+0.9
ASUD	Al Ashush, Dub	2.37	176	P		Pn		04 01 18.1	+0.8
ASUD	Al Ashush, Dub	2.37	176	P		Pn		04 01 18.5	+1.3
	SNR=7.6								
ASUD				S		Sb		04 01 49.1	-1.3
ASHO	Ashiyiah	2.45	160	P		Pn		04 01 18.4	0.0
	SNR=14								
JASK	Jask - Hormozg	2.69	114	Pn		Pn		04 01 20.8	-0.8
JASK	Jask - Hormozg	2.69	114	P		Pn		04 01 21.0	-0.6
JASK				S		Sn		04 01 54.3	0.0
NGRK	Negar Kerman	2.98	28	Pn		Pn		04 01 25.8	-0.1
ALNE	Al Ain	2.98	169	P		Pn		04 01 26.0	+0.4
ALNE				S		Sn		04 02 03.2	+1.5
SOHO	SOHO	3.12	156	P		Pn		04 01 29.8	+2.2
TVBK	TV Kerman	3.29	25	Pn		Pn		04 01 30.7	+0.5
CHMN	Cheshme madani	3.54	36	Pn		Pn		04 01 34.7	+1.0
KHGB	Koh Gabri	3.56	19	Pn		Pn		04 01 34.6	+0.8
KBAM	BAM	3.61	53	Pn		Pn		04 01 34.4	0.0
ARQ	Araqi	3.86	161	P		Pn		04 01 38.5	+0.8
TRNA	Turayna	4.20	238	P		Pn		04 01 42.0	-0.4
	SNR=5.1								
TRNA				S		Sn		04 02 29.5	-2.2
MZR	Muzera	4.26	201	P		Pn		04 01 42.4	-0.8
MZR				S		Sn		04 02 32.3	-0.9
UMZA	Um Al Zommool	4.27	180	P		Pn		04 01 43.3	-0.1
UMZA				S		Sn		04 02 33.9	+0.5
IMEH	Mehriz	4.40	354	Pn		Pn		04 01 45.9	+0.6
IBAF	Bafgh	4.58	4	Pn		Pn		04 01 47.8	0.0
BSY	Bisya	4.63	156	P		Pn		04 01 49.4	+1.0
SMDO	Samad	4.73	146	P		Pn		04 01 51.2	+1.5
SMDO				S		Sn		04 02 45.8	+1.0
WSAR	Wadi Sarin	4.90	139	P		Pn		04 01 53.9	+1.8
WSAR				S		Sn		04 02 49.1	+0.2
ISAD	Sadrabad	5.06	346	Pn		Pn		04 01 55.4	+1.0
KLNJ	Kolanjah	5.06	323	Pn		Pn		04 01 54.4	-0.2
JMDO	Jabal Madar	5.34	149	P		Pn		04 01 58.9	+0.8
IRAM	Ramesheh	5.36	334	Pn		Pn		04 01 58.4	-0.1
WBK	Wadi Bani Khal	5.58	141	P		Pn		04 02 01.8	+0.4
TPRV	Parvadeh(Tabas	6.15	12	Pn		Pn		04 02 10.0	+0.7
JLN	Jalan Bani Buh	6.20	140	P		Pn		04 02 11.8	+2.0
IKOO	Kooshah	6.36	31	Pn		Pn		04 02 12.7	+0.5
SRVN	Saravan	6.47	85	Pn		Pn		04 02 14.3	+0.6
MHTO	MHTO	6.52	156	P		Pn		04 02 13.4	-0.9
DOK	Doka	8.40	187	P		Pn		04 02 40.0	-0.1
WHFO	Wadi Hawf	9.13	188	P		Pn		04 02 49.0	-1.2
	SNR=5.5								
DMTO	DMTO	9.24	181	P		Pn		04 02 52.7	+1.0
ABTO	Aybut	9.76	190	P		Pn		04 02 58.5	-0.2

*NEIC **19** 04:10:05.9±3.0,22°.91S±0°.06×174°.73W±0°.09, h10km±1km, mb4.7/13, Error ellipse: s-maj=15.6km s-min=8.8km az=67.0*
*IDC **19** 04:10:06.8±0.5,22°.96S×175°.22W, h0km, mb4.3/17, mbtmp4.3/17, ML5.6/1, MS3.6/20, Error ellipse: s-maj=22.1km s-min=16.5km az=112.0*

ISC 19 04:10:06.5±0.4,23°.02S±0°.07×174°.75W±0°.08, h10km, n83, σ2s21/63, mb4.5/23, MS3.7/19, 3C-1D, Tonga Islands region

| Code | Station Name | Δ° | AZ° | Phase | ID | ISC

ASAJ	**Asahikawa**	**77.39**	**330**	LR	LR	04 49 58.9	
	comp=Z,35nm,19.9s,baz=190,slow=31						
PETK	**Petropavlovsk-**	**79.50**	**344**	P	**P**	**04 22 14.0**	**+0.9**
	comp=Z,7.7nm,0.9s,baz=109,slow=7.0,SNR=5.1						
PETK				LR	LR	04 49 56.6	
	comp=Z,39nm,20.3s,baz=122,slow=30						
	comp=Z,7.7nm,0.9s						
MAW	**Mawson**	**80.21**	**199**	P	**P**	**04 22 19.2**	**+2.4**
	comp=Z,3.2nm,0.6s,baz=185,slow=7.4,SNR=4.6						
	comp=Z,3.2nm,0.6s						
KSRS	**Korea Array**	**80.77**	**317**	P	**P**	**04 22 21.8**	**+1.5**
	comp=Z,1.4nm,0.6s,baz=118,slow=4.7,SNR=5.0						
KSRS				LR	LR	04 56 40.4	
	comp=Z,13nm,18.5s,baz=340,slow=35						
	comp=Z,1.4nm,0.6s						
NVAR	**Mina Array Bea**	**80.84**	**42**	P	**P**	**04 22 23.8**	**+2.8**
	comp=Z,2.0nm,0.9s,baz=224,slow=9.4,SNR=9.4						
	comp=Z,2.0nm,0.9s						
H03S2	**Juan Fernandez**	**82.08**	**123**	T	T	05 54 22.5	
	baz=246						
H03S1	**Juan Fernandez**	**82.10**	**123**	T	T	05 54 26.6	
	baz=246						
H03S3	**Juan Fernandez**	**82.10**	**123**	T	T	05 54 18.5	
	baz=246						
H03N2	**Juan Fernandez**	**82.23**	**123**	T	T	05 54 30.1	
	baz=252						
H03N3	**Juan Fernandez**	**82.23**	**123**	T	T	05 54 34.0	
	baz=252						
H03N1	**Juan Fernandez**	**82.25**	**123**	T	T	05 54 30.0	
	baz=252						
USRK	**Ussuriysk Ar.**	**82.75**	**324**	P	**P**	**04 22 32.9**	**+2.3**
	comp=Z,8.1nm,0.9s,baz=130,slow=3.3,SNR=10						
	comp=Z,8.1nm,0.9s						
ELK	**Elko**	**84.13**	**41**	LR	LR	04 58 58.7	
	comp=Z,62nm,18.1s,baz=265,slow=35						
TROLL	**Troll, Antarti**	**85.20**	**179**	⇑P	**P**	**04 22 44.8**	**+1.8**
	comp=Z,111nm,0.6s						
PLCA	**Paso Flores**	**85.35**	**132**	LR	LR	04 54 03.2	
	comp=Z,38nm,19.5s,baz=332,slow=31						
SNAA	**Sanae**	**85.39**	**177**	⇑P	**P**	**04 22 45.4**	**+1.5**
	comp=Z,38nm,0.7s						
SNAA	**Sanae**	**85.39**	**177**	P	**P**	**04 22 46.8**	**+2.9**
	comp=Z,1.7nm,0.8s,baz=33,slow=11,SNR=3.7						
	comp=Z,1.7nm,0.8s						
VNA3	**Neumayer Olymp**	**85.42**	**175**	⇑P	**P**	**04 22 45.7**	**+1.7**
	comp=Z,3.5nm,0.6s						
TXAR	**Lajitas Array**	**85.91**	**56**	P	**P**	**04 22 50.5**	**+3.3**
	comp=Z,1.0nm,0.9s,baz=209,slow=7.2,SNR=7.8						
	comp=Z,1.0nm,0.9s						
BNX	**BinXian**	**86.23**	**324**	⇓P	**P**	**04 22 50.0**	**+1.8**
BNX				pmax	pmax		
	comp=Z,12nm,0.8s						
BNX				pmax	pmax		
	comp=Z,120nm,4.3s						
KLR	**Kul'dur**	**86.24**	**328**	LR	LR	04 55 28.7	
	comp=Z,34nm,19.9s,baz=146,slow=32						
MA2	**Magadan**	**87.03**	**343**	LR	LR	04 54 11.1	
	comp=Z,27nm,21.4s,baz=120,slow=30						
PDAR	**Pinedale Array**	**88.76**	**42**	P	**P**	**04 23 03.0**	**+2.2**
	comp=Z,0.6nm,0.8s,baz=264,slow=1.5,SNR=4.3						
	comp=Z,0.6nm,0.8s						
SEY	**Seymchan**	**89.53**	**346**	LR	LR	05 01 13.6	
	comp=Z,31nm,18.5s,baz=206,slow=34						
ILAR	**Eielson Array**	**90.13**	**12**	P	**P**	**04 23 07.8**	**+1.5**
	comp=Z,1.4nm,1.0s,baz=218,slow=5.0,SNR=6.2						
	comp=Z,1.4nm,1.0s						
CMAR	**Chiang Mai Arr**	**93.79**	**288**	P	**P**	**04 23 26.1**	**+1.7**
	comp=Z,1.5nm,0.3s,baz=128,slow=3.0,SNR=15						
CMAR				LR	LR	05 03 50.2	
	comp=Z,9.2nm,19.6s,baz=105,slow=34						
	comp=Z,1.5nm,0.3s						
LVC	**Limon Verde**	**94.80**	**117**	LR	LR	04 58 38.5	
	comp=Z,37nm,18.3s,baz=220,slow=31						
YAK	**Yakutsk**	**95.59**	**337**	LR	LR	05 07 59.8	
	comp=Z,12nm,18.2s,baz=152,slow=36						
YKA	**Yellowknife Ar**	**97.55**	**24**	P	Pdif	04 23 42.1	+1.6
	comp=Z,0.4nm,0.9s,baz=243,slow=4.0,SNR=5.8						
	comp=Z,0.4nm,0.9s						
BVAR	**Borovoye Array**	**122.95**	**319**	PKP	**PKiKP**	**04 29 02.2**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=68,slow=4.0,SNR=4.4						
AKASG	**Malin Array Be**	**146.66**	**332**	PKPbc	**PKPab**	**04 29 48.1**	**-1.3**
	comp=Z,3.8nm,0.8s,baz=36,slow=4.2,SNR=15						
AKBB	**Malin Array Si**	**146.66**	**332**		**PKPbc**	**04 29 46.7**	**-1.6**
KIEV	**Kiev**	**146.67**	**332**	PKPbc	**PKPbc**	**04 29 46.9**	**-1.5**
EKA	**Eskdalemuir Ar**	**147.13**	**9**	PKPbc	**PKiKP**	**04 29 50.6**	**-1.3**
	comp=Z,1.4nm,0.8s,baz=1.1,slow=4.3,SNR=5.1						
ARPR	**Arapgir-MALATY**	**147.66**	**307**	PKPbc	**PKPbc**	**04 29 50.5**	**-1.2**
BNN	**Bunyan**	**149.56**	**308**	PKPdf	**PKPdf**	**04 29 49.3**	**-2.7**
BURAR	**Bucovina Array**	**150.72**	**332**	PKPbc	**PKPbc**	**04 29 57.8**	**-1.3**
BR131	**Keskin Array S**	**150.76**	**311**	PKPdf	**PKPdf**	**04 29 50.2**	**-3.8**
BR131				PKPbc	**PKPbc**	**04 29 57.8**	**-1.7**
BRTR	**Keskin Array B**	**150.76**	**311**	PKPdf	**PKPdf**	**04 29 50.7**	**-3.2**
BRTR	**Keskin Array B**	**150.76**	**311**	PKPbc	**PKiKP**	**04 30 00.3**	**+0.2**
	comp=Z,2.5nm,1.0s,baz=150,slow=2.2,SNR=11						
STHS	**Stebnicka Huta**	**150.79**	**338**	*e*PKP	**PKiKP**	**04 30 00.9**	**+1.2**
KOLS	**Kolonicke sedl**	**150.84**	**337**	*e*PKP	**PKiKP**	**04 30 01.8**	**+2.0**
CLL	**Collm**	**151.13**	**350**	PKPdf	**PKPdf**	**04 29 52.3**	**-1.6**
CLL	**Collm**	**151.13**	**350**	*i* PKP	**PKiKP**	**04 30 01.2**	**+0.9**
	comp=Z,8.0nm,1.1s						
CLL				*i* x	x	04 30 04.9	
CLL				*i* x	x	04 30 18.0	
MMAI	**Mount Meron Ar**	**151.66**	**297**	PKPbc	**PKiKP**	**04 30 02.3**	**+0.2**
	comp=Z,6.0nm,0.9s,baz=56,slow=7.4,SNR=6.0						
MDUB	**Mudurnu**	**152.06**	**315**	PKPbc	**PKPbc**	**04 30 00.2**	**-2.2**
VYHS	**Vyhne**	**152.38**	**340**	*e*PKP	**PKPab**	**04 30 15.3**	**+2.5**
TORD	**Torodi Ar. Bea**	**169.62**	**160**	PKPab	**PKPab**	**04 31 32.4**	**+4.0**
	comp=Z,0.5nm,0.9s,baz=178,slow=1.8,SNR=2.6						

*GII **19** 04:10:56.6±0.6, 26°.56N±0°.08×33°.73E±0°.03, h1km, Md3.7/5, Mws3.8/4, confirmed*
*SGS **19** 04:11:15.9, 27°.72N×34°.40E, h8km, Ml2.4*

ISC 19 04:11:13.2±1.9, 27°.59N±0°.06×34°.35E±0°.08, h12km, n46, σ1§90/47, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RSHS		**0.81**	**29**	S	**Sg**	**04 11 37.7**	**-1.8**
RSHS		**0.81**	**29**	P	**Pb**	**04 11 29.1**	**-0.2**
KRABS	**KRABS**	**0.95**	**57**	P	**Pg**	**04 11 31.5**	**0.0**
KRABS	**KRABS**	**0.95**	**57**	S	**Sg**	**04 11 43.4**	**-0.5**
AYUS	**`Aynunah**	**1.01**	**54**	S	**Sg**	**04 11 45.0**	**-0.9**
AYUS				P	**Pg**	**04 11 32.5**	**-0.1**
MWLHS	**Almuwaylih**	**1.05**	**81**	P	**Pb**	**04 11 32.9**	**-0.3**
TAYS	**Tayyib Ism**	**1.06**	**26**	P	**Pb**	**04 11 32.7**	**-0.8**
TAYS	**Tayyib Ism**	**1.06**	**26**	S	**Sg**	**04 11 46.0**	**-1.6**
BDAS	**Al Bad`**	**1.07**	**38**	P	**Pb**	**04 11 33.0**	**-0.7**
WTBKS	**WTBKS**	**1.47**	**70**	S	**Sn**	**04 11 57.7**	**-1.2**
WTBKS	**WTBKS**	**1.47**	**70**	P	**Pn**	**04 11 39.8**	**+0.2**
JLOS		**1.52**	**41**	P	**Pn**	**04 11 40.1**	**-0.2**
HAQS	**Haql**	**1.54**	**19**	P	**Pn**	**04 11 39.9**	**-0.6**
HAQS	**Haql**	**1.54**	**19**	S	**Sn**	**04 11 59.1**	**-1.4**
JMOS	**Jabal al Moall**	**1.71**	**23**	P	**Pn**	**04 11 42.6**	**-0.2**
URD07	**Al Anba**	**2.00**	**87**	P	**Pn**	**04 11 48.0**	**+1.0**
WJHS		**2.01**	**115**	P	**Pn**	**04 11 46.7**	**-0.3**
EIL	**Elat**	**2.14**	**14**	S	**Sg**	**04 12 28.4**	**+6.4**
EIL	**Elat**	**2.14**	**14**	P	**Pn**	**04 11 48.3**	**-0.4**
URD06	**Shuwaq**	**2.15**	**93**	P	**Pn**	**04 11 49.8**	**+0.8**
MBRI	**Mt Berech**	**2.25**	**13**	P	**Pn**	**04 11 51.0**	**+0.7**
URD12	**Shuwaq**	**2.41**	**85**	P	**Pn**	**04 11 54.0**	**+1.5**
BIDS	**Bi'r al Bayda'**	**2.43**	**107**	P	**Pn**	**04 11 53.3**	**+0.5**
URD10	**Hayder**	**2.50**	**76**	P	**Pn**	**04 11 55.0**	**+1.2**
EWJHS	**Al Wajh**	**2.51**	**124**	P	**Pn**	**04 11 53.2**	**-0.6**
HRFI	**Mount Harif**	**2.51**	**14**	S	**Sg**	**04 12 38.6**	**+4.7**
HRFI	**Mount Harif**	**2.51**	**14**	P	**Pn**	**04 11 54.6**	**+0.8**
KRMI	**Paran Flat**	**2.54**	**7**	P	**Pn**	**04 11 54.9**	**+0.6**
KRMI	**Paran Flat**	**2.54**	**7**	S	**Sg**	**04 12 37.7**	**+2.8**
URD04	**Abu Rakah**	**2.64**	**100**	P	**Pn**	**04 11 56.7**	**+0.9**
URD11	**Tayma**	**2.78**	**82**	P	**Pn**	**04 11 59.0**	**+1.4**
PRNI	**Paran**	**2.81**	**12**	S	**Sg**	**04 12 46.4**	**+2.9**
PRNI	**Paran**	**2.81**	**12**	P	**Pn**	**04 11 58.8**	**+0.8**
URD03	**Al Ula**	**2.91**	**108**	P	**Pn**	**04 12 00.4**	**+0.9**
URD01	**URD01**	**3.02**	**101**	P	**Pn**	**04 12 02.8**	**+1.9**
ZFRI	**Zfri**	**3.04**	**14**	S	**Sg**	**04 12 52.6**	**+1.7**
ZFRI	**Zfri**	**3.04**	**14**	P	**Pn**	**04 12 01.9**	**+0.8**
QLABS	**Al Qalibar**	**3.18**	**84**	P	**Pn**	**04 12 04.9**	**+1.7**
OLAS	**OLAS**	**3.22**	**114**	P	**Pn**	**04 12 04.5**	**+0.8**
URD02	**Al Ula**	**3.28**	**106**	P	**Pn**	**04 12 06.1**	**+1.6**
KZIT	**Kziot**	**3.30**	**1**	S	**Sg**	**04 12 57.1**	**-2.2**
KZIT	**Kziot**	**3.30**	**1**	P	**Pn**	**04 12 04.9**	**+0.1**
MSBI	**Mazada**	**3.81**	**13**	P	**Pn**	**04 12 12.2**	**+0.5**
YTIR	**Yattir**	**3.82**	**10**	S	**Sg**	**04 13 10.2**	**-5.7**
YTIR	**Yattir**	**3.82**	**10**	P	**Pn**	**04 12 13.4**	**+1.5**
NTAIM	**NTAIM**	**4.05**	**81**	P	**Pn**	**04 12 16.5**	**+1.5**

IDC 19 04:51:27.6±1.1, 3°.05S×28°.06E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=39.9km s-min=25.8km az=99.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**25.56**	**186**	P	P	04 56 58.2	-0.4
	2.2nm,0.9s,baz=13,slow=6.1,SNR=1.6						
	2.2nm,0.9s						
TORD	**Torodi Ar. Bea**	**30.72**	**302**	P	P	04 57 44.7	-0.1
	0.7nm,0.6s,baz=105,slow=8.1,SNR=6.8						
	0.7nm,0.6s						
BRTR	**Keskin Array B**	**42.87**	**6**	P	P	04 59 28.0	0.0
	0.5nm,0.6s,baz=194,slow=10,SNR=4.1						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**68.65**	**32**	P	P	05 02 32.8	0.0
	0.5nm,0.7s,baz=238,slow=6.9,SNR=2.5						
	0.5nm,0.7s						
MKAR	**Makanchi Array**	**68.74**	**37**	P	P	05 02 33.3	-0.1
	0.6nm,0.6s,baz=248,slow=6.4,SNR=6.4						
	0.6nm,0.6s						
QSPA	**South Pole Qui**	**87.00**	**180**	P	P	05 04 15.4	+0.5
	1.1nm,1.1s,baz=340,slow=2.8,SNR=1.6						
	1.1nm,1.1s						

IDC 19 04:59:46.8±1.4, 3°.01S×28°.10E, h0km, mb4.0/6, mbtmp4.0/6, Error ellipse: s-maj=39.8km s-min=29.6km az=165.0, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TORD	**Torodi Ar. Bea**	**30.73**	**302**	P	P	05 06 03.4	-0.6
	1.1nm,0.6s,baz=101,slow=7.8,SNR=8.6						
	1.1nm,0.6s						
DBIC	**Dimbokro**	**34.27**	**286**	P	P	05 06 35.6	+0.5
	2.2nm,0.6s,baz=97,slow=7.3,SNR=4.1						
	2.2nm,0.6s						
BRTR	**Keskin Array B**	**42.83**	**6**	P	P	05 07 47.1	+0.3
	0.4nm,0.7s,baz=191,slow=7.0,SNR=2.6						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**68.60**	**32**	P	P	05 10 51.6	+0.1
	1.1nm,0.2s,baz=242,slow=6.5,SNR=2.5						
	1.1nm,0.2s						
MKAR	**Makanchi Array**	**68.69**	**37**	P	P	05 10 52.1	-0.1
	1.1nm,0.9s,baz=241,slow=4.9,SNR=7.8						
	1.1nm,0.9s						
QSPA	**South Pole Qui**	**87.04**	**180**	P	P	05 12 34.1	0.0
	1.8nm,1.1s,baz=315,slow=2.9,SNR=3.2						
	1.8nm,1.1s						

*DNK **19** 05:01:24.8±1.9, 59°.53N×25°.31E, h0km, ML3.0, ML2.5(UPP), Suspected explosion*
*UPP **19** 05:01:26.6±2.7, 59°.61N×25°.13E, h0km, ML2.5*
*EST **19** 05:01:29.3±0.0, 59°.47N×24°.75E, h0km, ML2.1(HEL), Explosion*
*IDC **19** 05:01:29.9±2.1, 59°.56N×24°.78E, h0km, mbtmp3.1/3, ML2.5/3, Error ellipse: s-maj=23.4km s-min=7.8km az=142.0*
*HEL **19** 05:01:29.3±0.1, 59°.47N×24°.76E, h0km, ML2.1, Explosion*
*LVSN **19** 05:01:29.9±3.4, 59°.48N×24°.77E, h0km, 36km, ML2.4*
*BER **19** 05:01:30.1±3.2, 59°.45N×24°.82E, h0km, ML2.1(HEL), Suspected explosion*

ISC 19 05:01:27.6±0.7, 59°.47N±0°.02×24°.74E±0°.02, h0km, n90, σ1§35/128, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EE02	**Kiisa, Saku**	**0.28**	**185**	*e*P	**Pg**	**05 01 34.4**	**+1.5**
EE02				*e*S	**Sg**	**05 01 37.7**	**+1.2**
EE01	**Perakula, Nova**	**0.63**	**246**	*e*P	**Pg**	**05 01 40.6**	**+1.0**
EE01				*e*S	**Sg**	**05 01 48.7**	**+0.9**
ARBE	**Arbavere**	**0.63**	**92**	*e*P	**Pg**	**05 01 40.5**	**+0.8**
ARBE				*e*S	**Sg**	**05 01 48.5**	**+0.7**
ARBE	**Arbavere**	**0.63**	**92**	*e*P	**Pg**	**05 01 37.3**	**-2.4**
ARBE	**Arbavere**	**0.63**	**92**	*e*P	**Pg**	**05 01 40.6**	**+0.9**
ARBE				*e*S	**Sg**	**05 01 48.0**	**+0.2**
ARBE				AML	AML	05 01 50.6	
	comp=N,672nm,0.1s						
ARBE				AML	AML	05 01 51.5	
	comp=E,448nm,0.1s						
ARBE				AML	AML	05 02 02.5	
	comp=Z,243nm,0.7s						
ARBE	**Arbavere**	**0.63**	**92**	*e*P	**Pg**	**05 01 40.5**	**+0.8**
ARBE				*e*S	**Sg**	**05 01 48.5**	**+0.7**
HEL1	**Helsinki**	**0.71**	**6**	*e*P	**Pg**	**05 01 41.8**	**+0.6**
HEL1				*e*S	**Sg**	**05 01 51.5**	**+1.0**
HEL1	**Helsinki**	**0.71**	**6**	*e*P	**Pg**	**05 01 41.8**	**+0.6**
HEL1				*e*S	**Sg**	**05 01 51.5**	**+1.0**
MEF	**Metsahovi**	**0.77**	**347**	*e*P	**Pg**	**05 01 42.9**	**+0.6**
MEF				*e*S	**Sg**	**05 01 52.8**	**+0.5**
MEF				MSG		05 01 53.2	
	comp=Z,21nm,0.1s						
MEF	**Metsahovi**	**0.77**	**347**	*e*P	**Pb**	**05 01 43.8**	**-0.1**
MEF	**Metsahovi**	**0.77**	**347**	*e*P	**Pg**	**05 01 43.1**	**+0.7**
MEF				*e*S	**Sg**	**05 01 53.3**	**+1.0**
MEF				AML	AML	05 01 59.0	
	comp=N,35nm,0.9s						
MEF				AML	AML	05 01 59.1	
	comp=Z,47nm,0.7s						
MEF				AML	AML	05 02 03.6	
	comp=E,36nm,0.6s						
MEF	**Metsahovi**	**0.77**	**347**	*e*P	**Pg**	**05 01 42.9**	**+0.6**
MEF				*e*S	**Sg**	**05 01 52.8**	**+0.5**
MEF				MSG		05 01 53.2	
	comp=Z,21nm,0.1s						
EE08	**Sarghaua, Vand**	**0.85**	**162**	*e*P	**Pg**	**05 01 44.8**	**+0.9**
EE08				*e*S	**Sg**	**05 01 55.8**	**+0.9**
MTSE	**Matsula**	**0.90**	**213**	*e*P	**Pg**	**05 01 45.5**	**+0.8**
MTSE				*e*S	**Sg**	**05 01 57.2**	**+0.9**
MTSE	**Matsula**	**0.90**	**213**	*e*P	**Pg**	**05 01 43.1**	**-1.5**
MTSE	**Matsula**	**0.90**	**213**	*e*P	**Pg**	**05 01 45.6**	**+0.8**
MTSE				*e*S	**Sg**	**05 01 56.4**	**+0.2**
MTSE	**Matsula**	**0.90**	**213**	*e*P	**Pg**	**05 01 45.5**	**+0.8**
MTSE				*e*S	**Sg**	**05 01 57.2**	**+0.9**
EE03	**Tooma soojaam,**	**0.99**	**127**	*e*P	**Pg**	**05 01 46.9**	**+0.5**
EE03				*e*S	**Sg**	**05 02 00.2**	**+0.9**
NUR	**Nurmijrvi**	**1.04**	**357**	*e*P	**Pg**	**05 01 47.9**	**+0.3**
NUR	**Nurmijrvi**	**1.04**	**357**	*e*P	**Pg**	**05 01 47.9**	**+0.3**
PVF	**Pernaja**	**1.22**	**27**	*e*P	**Pg**	**05 01 50.8**	**-0.1**
PVF	**Pernaja**	**1.22**	**27**	*e*P	**Pg**	**05 01 50.8**	**-0.1**
VSU	**Vasula**	**1.44**	**134**	*e*P	**Pn**	**05 01 55.2**	**+0.4**
VSU				*e*S	**Sg**	**05 02 13.9**	**+0.1**
VSU	**Vasula**	**1.44**	**134**	*e*P	**Pn**	**05 01 55.5**	**+0.6**
VSU				AML	AML	05 01 57.4	
	comp=Z,36nm,0.3s						
VSU				*e*S	**Sg**	**05 02 13.8**	**-0.1**
VSU				AML	AML	05 02 19.7	
	comp=E,71nm,0.6s						
VSU				AML	AML	05 02 20.1	
	comp=N,56nm,0.6s						
VSU	**Vasula**	**1.44**	**134**	*e*P	**Pn**	**05 01 55.2**	**+0.4**
VSU				*e*S	**Sg**	**05 02 13.9**	**+0.1**
VJF	**Virojoki**	**1.77**	**52**	*e*P	**Pn**	**05 02 00.6**	**+1.2**
VJF				*e*S	**Sn**	**05 02 23.2**	**+0.6**
FIA0	**FINESS Array S**	**2.09**	**18**	*e*P	**Pn**	**05 02 05.3**	**+1.5**
FIA0				*e*SG	**Sb**	**05 02 33.6**	**+0.9**
FIA0				MSG		05 02 36.8	
	comp=Z,12nm,0.1s						
FIA0	**FINESS Array S**	**2.09**	**18**	*e*P	**Pn**	**05 02 05.3**	**+1.5**
FIA0				*e*SG	**Sb**	**05 02 33.6**	**+0.9**
FIA0				MSG		05 02 36.8	
	comp=Z,12nm,0.1s						
FINES	**FINESS Array B**	**2.09**	**18**	Pn	**Pb**	**05 02 06.2**	**0.0**
	comp=Z,5.6nm,0.3s,baz=202,slow=13,SNR=246						
FINES				Lg	Lg	05 02 32.5	
	comp=Z,4.0nm,0.3s,baz=196,slow=29,SNR=16						
FINES				Rg	Rg	05 02 45.2	
	comp=Z,16nm,0.8s,baz=194,slow=31,SNR=12						
FIA1	**FINESS Array S**	**2.09**	**18**	*e*PG	**Pb**	**05 02 06.4**	**+0.1**
RAF	**Rauma**	**2.15**	**318**	*e*P	**Pb**	**05 02 06.9**	**-0.4**
RAF				*e*SB	**Sb**	**05 02 34.8**	**+0.2**
RAF				MSG		05 02 37.3	
	comp=Z,17nm,0.1s						
RAF	**Rauma**	**2.15**	**318**	*e*P	**Pn**	**05 02 06.5**	**+1.9**
RAF	**Rauma**	**2.15**	**318**	*e*P	**Pb**	**05 02 07.0**	**-0.4**
RAF				AML	AML	05 02 38.0	
	comp=N,27nm,0.2s						
RAF				AML	AML	05 02 38.3	
	comp=Z,31nm,0.2s						
RAF				AML	AML	05 02 38.4	
	comp=E,29nm,0.2s						
RAF	**Rauma**	**2.15**	**318**	*e*P	**Pb**	**05 02 06.9**	**-0.4**
RAF				*e*SB	**Sb**	**05 02 34.8**	**+0.2**
RAF				MSG		05 02 37.3	
	comp=Z,17nm,0.1s						
SLIT	**Slitere, Latvi**	**2.25**	**216**	*e*PB	**Pb**	**05 02 08.7**	**-0.3**
SLIT	**Slitere, Latvi**	**2.25**	**216**	*e*P	**Pn**	**05 02 04.0**	**-1.9**
SLIT	**Slitere, Latvi**	**2.25**	**216**	*e*P	**Pb**	**05 02 08.8**	**-0.3**
SLIT				AML	AML	05 02 40.6	
	comp=E,212nm,0.4s						
SLIT				AML	AML	05 02 41.1	
	comp=N,213nm,0.2s						
SLIT				AML	AML	05 02 41.2	
	comp=Z,147nm,0.2s						
SLIT	**Slitere, Latvi**	**2.25**	**216**	*e*PB	**Pb**	**05 02 08.7**	**-0.3**
SLIT				*e*SG	**Sb**	**05 02 39.1**	**+1.8**
AAL	**Aland**	**2.50**	**289**	*e*P	**Pn**	**05 02 10.7**	**+1.2**
AAL				*e*SB	**Sb**	**05 02 45.0**	**+0.4**
AAL	**Aland**	**2.50**	**289**	*e*P	**Pn**	**05 02 11.0**	**+1.6**
AAL	**Aland**	**2.50**	**289**	*e*P	**Pn**	**05 02 10.7**	**+1.2**
AAL				*e*SB	**Sb**	**05 02 45.0**	**+0.4**
AAL	**Aland**	**2.50**	**289**	P	**Pn**	**05 02 10.8**	**+1.3**
AAL				S	**Sb**	**05 02 43.7**	**-0.9**
AAL	**Aland**	**2.50**	**289**	P	**Pn**	**05 02 10.8**	**+1.3**
AAL				S	**Sb**	**05 02 43.7**	**-0.9**
KEF	**Keuruu**	**2.71**	**1**	*e*P	**Pn**	**05 02 14.5**	**+2.2**
KEF	**Keuruu**	**2.71**	**1**	*e*P	**Pn**	**05 02 13.2**	**+0.9**
KEF	**Keuruu**	**2.71**	**1**	*e*P	**Pn**	**05 02 14.5**	**+2.2**
KPF	**Kankaanpaa**	**2.71**	**332**	*e*SB	**Sb**	**05 02 50.8**	**+0.1**
KPF				MSG		05 02 53.5	
	comp=Z,8.2nm,0.2s						
KPF	**Kankaanpaa**	**2.71**	**332**	*e*SB	**Sb**	**05 02 50.8**	**+0.1**
KPF				MSG		05 02 53.5	
	comp=Z,8.2nm,0.2s						
RUF	**Ruokolahti**	**2.86**	**45**	*e*P	**Pn**	**05 02 15.1**	**+0.7**
NRTU	**Norrtaelje**	**3.12**	**276**	P	**Pn**	**05 02 19.1**	**+1.3**
NRTU	**Norrtaelje**	**3.12**	**276**	P	**Pn**	**05 02 19.1**	**+1.3**
GRAU	**Graesoe**	**3.24**	**288**	P	**Pn**	**05 02 20.2**	**+0.5**
GRAU	**Graesoe**	**3.24**	**288**	P	**Pn**	**05 02 20.1**	**+0.5**
FORU	**Forsmark**	**3.43**	**288**	P	**Pn**	**05 02 23.0**	**+0.9**
FORU	**Forsmark**	**3.43**	**288**	P	**Pn**	**05 02 23.0**	**+0.9**
NYNU	**Nynaeshamn**	**3.49**	**265**	P	**Pn**	**05 02 24.7**	**+1.7**
NYNU	**Nynaeshamn**	**3.49**	**265**	P	**Pn**	**05 02 24.7**	**+1.7**
FLYU	**Flymyra**	**3.53**	**284**	P	**Pn**	**05 02 24.7**	**+1.2**
FLYU	**Flymyra**	**3.53**	**284**	P	**Pn**	**05 02 24.7**	**+1.2**
UPP	**Uppsala**	**3.63**	**279**	P	**Pn**	**05 02 26.2**	**+1.2**
UPP	**Uppsala**	**3.63**	**279**	P	**Pn**	**05 02 26.2**	**+1.2**
VAF	**Ylistaro**	**3.72**	**345**	*e*P	**Pn**	**05 02 27.1**	**+0.9**
FIBU	**Brunna**	**3.77**	**280**	P	**Pn**	**05 02 28.0**	**+1.2**
FIBU				S	**Sn**	**05 03 13.9**	**+2.0**
FIBU	**Brunna**	**3.77**	**280**	P	**Pn**	**05 02 28.0**	**+1.2**
FIBU				S	**Sn**	**05 03 13.9**	**+2.0**
BACU	**Backbrunna**	**3.89**	**279**	P	**Pn**	**05 02 29.6**	**+1.1**
BACU	**Backbrunna**	**3.89**	**279**	P	**Pn**	**05 02 29.6**	**+1.1**
PABE	**Paberze**	**4.00**	**186**	AML	AML	05 03 40.7	
	comp=N,19nm,0.5s						
VIKU	**Vikbolandet**	**4.27**	**260**	*e*P	**Pn**	**05 02 34.1**	**+0.3**
IDID	**Didziasalis**	**4.30**	**165**	*e*P	Pn	05 02 27.7	-6.5
JOF	**Joensuu**	**4.70**	**40**	*e*P	**Pn**	**05 02 36.6**	**-3.0**
HFS	**Hagfors**	**5.62**	**282**	Pn	**Pn**	**05 02 52.8**	**+0.6**
	comp=N,0.4nm,0.3s,baz=91,slow=14,SNR=19						
HFS				Sn	**Sn**	**05 03 56.7**	**-0.7**
	comp=N,0.5nm,0.3s,baz=90,slow=29,SNR=8.8						
HFS				Lg	Lg	05 04 25.2	
	comp=N,0.9nm,0.3s,baz=98,slow=32,SNR=6.6						
	comp=N,0.7nm,0.3s						
BLEU	**Blekinge**	**5.72**	**240**	*i* P	**Pn**	**05 02 54.7**

comp=Z,0.1nm,0.2s
MORC Moravsky Berou 67.14 341 P **P** 05 20 38.1 0.0
MORC IAmb IAmb 05 20 39.0
comp=Z,3.3nm,0.9s
GERES GERESS Array B 67.68 338 P **P** 05 20 40.9 -0.6
GERES GERESS Array B 67.68 338 P **P** 05 20 40.7 -0.8
comp=Z,0.7nm,0.4s,baz=195,slow=9.7,SNR=6.8
comp=Z,0.7nm,0.4s
MKAR Makanchi Array 67.89 26 P **P** 05 20 42.3 -0.5
comp=Z,0.3nm,0.6s,baz=234,slow=8.8,SNR=2.7
comp=Z,0.3nm,0.6s
ESDC Sonseca Array 69.74 321 P **P** 05 20 55.1 +0.5
comp=Z,1.1nm,0.8s,baz=132,slow=5.7,SNR=10
comp=Z,1.1nm,0.8s
FINES FINESS Array B 75.72 350 P **P** 05 21 29.2 -0.3
comp=Z,1.4nm,0.8s,baz=157,slow=10,SNR=3.8
comp=Z,1.4nm,0.8s
HFS Hagfors 77.19 344 P **P** 05 21 37.6 -0.3
comp=Z,2.0nm,0.8s,baz=122,slow=7.3,SNR=4.1
comp=Z,2.0nm,0.8s
QSPA South Pole Qui 77.19 180 P **P** 05 21 38.5 +0.3
QSPA IAmb IAmb 05 21 47.1
comp=Z,7.8nm,1.5s
QSPA South Pole Qui 77.19 180 P **P** 05 21 39.7 +1.6
comp=Z,2.4nm,0.9s,baz=272,slow=0.8,SNR=6.5
comp=Z,2.4nm,0.9s
EKA Eskdalemuir Ar 79.36 334 P **P** 05 21 49.9 -0.2
comp=Z,1.5nm,0.8s,baz=131,slow=6.1,SNR=4.6
comp=Z,1.5nm,0.8s
SONM Songino Array 80.95 37 P **P** 05 21 59.0 0.0
comp=Z,0.5nm,0.7s,baz=199,slow=4.0,SNR=1.9
comp=Z,0.5nm,0.7s
VNDA Vanda 82.93 169 P **P** 05 22 09.8 +1.0
comp=Z,0.4nm,0.8s,baz=354,slow=2.6,SNR=2.0
comp=Z,0.4nm,0.8s
ASAR Alice Springs 83.33 113 P **P** 05 22 13.0 +1.0
comp=Z,0.3nm,0.5s,baz=263,slow=4.9,SNR=7.5
comp=Z,0.3nm,0.5s
WRA Warramunga Arr 84.45 109 P **P** 05 22 18.5 +0.7
comp=Z,0.5nm,0.8s,baz=261,slow=3.3,SNR=2.1
comp=Z,0.5nm,0.8s
TXAR Lajitas Array 147.20 305 PKPbc **PKPbc** 05 29 27.7 -0.8
comp=Z,0.6nm,1.0s,baz=69,slow=3.0,SNR=3.3

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*MDD **19** 05:12:10.1±0.1, 42.°88N×4.°60W, h12km, mb_Lg3.2/78, Error ellipse: s-maj=1.4km s-min=0.9km az=170.0*
*INMG **19** 05:12:10.3±1.9, 42.°91N×4.°59W, h19km±3km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.4km az=1.0*
*LDG **19** 05:12:10.3±0.1, 42.°89N×4.°62W, h10km, Md3.1/2, Ml3.2/25, Error ellipse: s-maj=1.8km s-min=1.5km az=142.0*
*STR **19** 05:12:15.4±1.1, 43.°N×8.°×.°, h10km, MLv3.1/16, Error ellipse: s-maj=0.0km s-min=0.0km az=29.9, preliminary*
ISC 19 05:12:08.3±1.0, 42.85N±0.02×4.59W±0.02, h17km±8km, n111, σ2s04/232, 1C-2D, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EARI	**Arriondas**	**0.65**	**315**	⇓Pg		**Pg**	**05 12 21.3**	**+0.3**
EARI				Sg		**Sg**	**05 12 29.7**	**+0.1**
EARI				*i* Vmb_Lg			05 12 32.0	
ELAN	**Lanestosa**	**0.93**	**65**	⇑Pg		**Pb**	**05 12 26.5**	**+0.5**
ELAN				Sg		**Sb**	**05 12 39.2**	**+1.2**
ELAN				*i* Vmb_Lg			05 12 44.3	
ECAL	**Calabor**	**1.83**	**241**	Pn		**Pn**	**05 12 39.8**	**+0.7**
ECAL				Pg		**Pg**	**05 12 43.0**	**-0.5**
ECAL				Sn		**Sb**	**05 13 03.5**	**-0.6**
ECAL				Sg		**Sg**	**05 13 07.6**	**+0.3**
ECAL				*i* Vmb_Lg			05 13 16.9	
PBRG	**Braganca**	**1.91**	**238**	⇓*e*Pn		**Pn**	**05 12 41.2**	**+1.1**
PBRG	**Braganca**	**1.91**	**238**	*e*Pg		**Pg**	**05 12 44.9**	**0.0**
PBRG				*e*Sn		**Sg**	**05 13 09.1**	**-0.6**
PBRG				A		A	05 13 16.4	
	45nm,0.4s							
EPON	**Pontenova**	**1.94**	**285**	Pn		**Pn**	**05 12 41.5**	**+1.0**
EPON				Pg		**Pb**	**05 12 44.0**	**+0.8**
EPON				Sn		**Sn**	**05 13 05.5**	**+1.0**
EPON				Sg		**Sg**	**05 13 09.5**	**-1.2**
EPON				*i* Vmb_Lg			05 13 14.5	
EJUZ	**Juzbado, Salam**	**2.01**	**209**	Pg		**Pg**	**05 12 46.3**	**-0.6**
EJUZ				Sn		**Sb**	**05 13 08.2**	**-1.0**
EJUZ				Sg		**Sg**	**05 13 12.3**	**-0.7**
EARA	**Aranguren**	**2.21**	**91**	Pn		**Pn**	**05 12 45.7**	**+1.5**
EARA				Pg		**Pb**	**05 12 49.7**	**+1.9**
EARA				Sn		**Sn**	**05 13 13.2**	**+2.0**
EARA				Sg		**Sb**	**05 13 18.1**	**+3.1**
EARA				*i* Vmb_Lg			05 13 21.4	
EARA	**Aranguren**	**2.21**	**91**	P		**Pn**	**05 12 44.8**	**+0.5**
EARA	**Aranguren**	**2.21**	**91**	S		**Sn**	**05 13 13.4**	**+2.1**
GUD	**Guadarrama**	**2.22**	**172**	Pn		**Pn**	**05 12 45.2**	**+0.6**
GUD				Pg		**Pg**	**05 12 50.5**	**-0.5**
GUD				Sn		**Sn**	**05 13 12.0**	**+0.3**
GUD				Sg		**Sg**	**05 13 18.8**	**-1.0**
GUD				*i* Vmb_Lg			05 13 20.6	
EORO	**Oroz-Betelu**	**2.41**	**88**	Pg		**Pb**	**05 12 51.7**	**+0.5**
EORO				Sn		**Sn**	**05 13 17.3**	**+1.1**
EORO				*i* Vmb_Lg			05 13 27.4	
OSSF	**Osses**	**2.47**	**79**	P		**Pn**	**05 12 50.9**	**+3.1**
OSSF				S		**Sn**	**05 13 20.1**	**+2.5**
MVO	**Moncorvo**	**2.48**	**228**	*e*Pn		**Pn**	**05 12 48.8**	**+0.8**
MVO	**Moncorvo**	**2.48**	**228**	*e*Pg		**Pg**	**05 12 55.2**	**-0.6**
MVO				*e*Sg		**Sg**	**05 13 32.6**	**+4.7**
MVO				A		A	05 13 32.7	
	39nm,0.3s							
SJPF	**Ste Jean**	**2.48**	**83**	*e*Pn		**Pn**	**05 12 50.0**	**+2.0**
SJPF				*e*Sn		**Sn**	**05 13 17.5**	**-0.4**
	26nm,0.3s							
EAGO	**Agolada(Pontev**	**2.58**	**270**	Pn		**Pn**	**05 12 49.7**	**+0.4**
EAGO				Sn		**Sn**	**05 13 20.1**	**-0.2**
EAGO				Sg		**Sg**	**05 13 29.4**	**-1.7**
EAGO				*i* Vmb_Lg			05 13 34.9	
TERF	**Tercis-les-Bai**	**2.67**	**71**	P		**Pn**	**05 12 53.0**	**+2.5**
ELOB	**Lobios**	**2.76**	**250**	Pn		**Pn**	**05 12 52.5**	**+0.7**
ELOB				Pg		**Pg**	**05 12 59.2**	**-1.9**
ELOB				Sn		**Sn**	**05 13 25.5**	**+0.7**
ELOB				Sg		**Sg**	**05 13 35.2**	**-1.6**
ELOB				*i* Vmb_Lg			05 13 39.9	
ETOR	**Torete**	**2.77**	**136**	Pn		**Pn**	**05 12 53.6**	**+1.6**
ETOR				Pg		**Pb**	**05 12 59.4**	**+2.0**
ETOR				Sn		**Sn**	**05 13 27.8**	**+2.6**
ETOR				Sg		**Sg**	**05 13 36.8**	**-0.5**
ETOR				*i* Vmb_Lg			05 13 44.0	
PCAB	**Cabril**	**2.79**	**247**	*e*Pn		**Pn**	**05 12 53.1**	**+0.8**
PCAB	**Cabril**	**2.79**	**247**	*e*Pg		**Pg**	**05 13 00.8**	**-1.1**
PCAB				*e*Sn		**Sn**	**05 13 26.1**	**+0.4**
PCAB				A		A	05 13 39.4	
	27nm,0.3s							
PCAB				*e*Sg		**Sg**	**05 13 39.5**	**+1.4**
POLO	**Lamas de Olo**	**2.80**	**239**	*e*Pn		**Pn**	**05 12 53.3**	**+0.8**
POLO	**Lamas de Olo**	**2.80**	**239**	*e*Pg		**Pg**	**05 13 01.4**	**-0.6**
POLO				*e*Sg		**Sg**	**05 13 36.3**	**-2.1**
POLO				A		A	05 13 45.4	
	9.1nm,0.5s							
PVRL	**Vila Real**	**2.81**	**237**	*e*Pn		**Pn**	**05 12 53.7**	**+1.2**
PVRL	**Vila Real**	**2.81**	**237**	*e*Pg		**Pg**	**05 13 02.0**	**-0.1**
PVRL				*e*Sg		**Sg**	**05 13 36.3**	**-2.3**
PVRL				A		A	05 13 43.7	
	29nm,0.2s							
ATE	**Arette**	**2.86**	**84**	P		**Pn**	**05 12 55.9**	**+2.7**
ATE				S		**Sn**	**05 13 29.0**	**+1.8**
PGAV	**Gavieira, Arco**	**2.87**	**253**	*e*Pn		**Pn**	**05 12 54.2**	**+0.8**
PGAV	**Gavieira, Arco**	**2.87**	**253**	*e*Pg		**Pg**	**05 13 03.1**	**-0.1**
PGAV				*e*Sn		**Sn**	**05 13 28.1**	**+0.6**
PGAV				*e*Sg		**Sg**	**05 13 39.1**	**-1.3**
PGAV				A		A	05 13 43.8	
	23nm,0.4s							
ETSF	**Etsaut**	**2.96**	**88**	*e*Pn		**Pn**	**05 12 57.0**	**+2.4**
ETSF				*e*Sn		**Sn**	**05 13 30.3**	**+0.5**
	15nm,0.3s							
CANF	**Canfranc**	**2.99**	**90**	P		**Pb**	**05 12 59.6**	**-1.7**
CANF				S		**Sn**	**05 13 31.1**	**+0.4**
EPLA	**Plasencia**	**3.00**	**203**	Pn		**Pn**	**05 12 56.6**	**+1.5**
EPLA				Pg		**Pg**	**05 13 04.6**	**-1.1**
EPLA				Sn		**Sn**	**05 13 30.0**	**-0.7**
EPLA				Sg		**Sg**	**05 13 42.0**	**-2.5**
EPLA				*i* Vmb_Lg			05 13 47.1	
ESDC	**Sonseca Array**	**3.20**	**171**	Pn		**Pn**	**05 12 59.8**	**+1.8**
ESDC				Pg		**Pg**	**05 13 07.6**	**-2.1**
ESDC				Sn		**Sn**	**05 13 34.5**	**-1.3**
ESDC				Sg		**Sg**	**05 13 49.2**	**-2.0**
ESDC				*i* Vmb_Lg			05 13 56.0	
EMAZ	**Mazaricos**	**3.23**	**273**	Pn		**Pn**	**05 12 59.3**	**+1.1**
EMAZ				Sn		**Sn**	**05 13 35.1**	**-1.2**
EMAZ				Sg		**Sg**	**05 13 49.8**	**-2.1**
EMAZ				*i* Vmb_Lg			05 13 58.1	
ESAC	**San Caprasio**	**3.25**	**109**	Pn		**Pn**	**05 12 56.6**	**-2.0**
ESAC				Sn		**Sn**	**05 13 34.6**	**-2.4**
ESAC				Sg		**Sb**	**05 13 47.9**	**+2.9**
ESAC				*i* Vmb_Lg			05 13 51.4	
PVIS	**Viseu**	**3.26**	**230**	*e*Pn		**Pn**	**05 12 58.9**	**+0.1**
PVIS				*e*Sg		**Sg**	**05 13 52.5**	**-0.6**
PVIS				A		A	05 13 55.9	
	12nm,0.4s							
MTE	**Manteigas**	**3.30**	**223**	*e*Pn		**Pn**	**05 13 00.9**	**+1.6**
MTE	**Manteigas**	**3.30**	**223**	*e*Pg		**Pg**	**05 13 11.1**	**-0.4**
MTE				*e*Sn		**Sn**	**05 13 38.7**	**+0.5**
MTE				*e*Sg		**Sg**	**05 13 53.8**	**-0.5**
MTE				A		A	05 13 55.1	
	19nm,0.7s							
PAB	**San Pablo**	**3.30**	**177**	Pn		**Pn**	**05 13 01.3**	**+2.0**
PAB				Pg		**Pg**	**05 13 09.8**	**-1.7**
PAB				Sn		**Sn**	**05 13 39.0**	**+0.8**
PAB				Sg		**Sg**	**05 13 51.7**	**-2.6**
PAB				*i* Vmb_Lg			05 14 00.5	
VIEF	**Viey**	**3.39**	**88**	P		**Pn**	**05 13 03.1**	**+2.6**
VIEF				S		**Sn**	**05 13 41.3**	**+0.9**
E0901	**Celadas (Terue**	**3.50**	**131**	Pn		**Pn**	**05 13 03.7**	**+1.5**
E0901				Pg		**Pb**	**05 13 12.0**	**+2.0**
E0901				Sn		**Sn**	**05 13 46.0**	**+2.7**
E0901				Sg		**Sg**	**05 13 59.4**	**-1.5**
E0901				*i* Vmb_Lg			05 14 22.5	
ECHI	**Chisagues Biel**	**3.52**	**91**	Pn		**Pn**	**05 13 03.7**	**+1.2**
ECHI				Sn		**Sn**	**05 13 43.6**	**-0.2**
ECHI				*i* Vmb_Lg			05 13 48.6	
ECHI	**Chisagues Biel**	**3.52**	**91**	P		**Pn**	**05 13 05.0**	**+2.6**
ECHI	**Chisagues Biel**	**3.52**	**91**	S		**Sn**	**05 13 44.0**	**+0.2**
EPF	**Esparros**	**3.62**	**85**	*e*Pn		**Pn**	**05 13 05.4**	**+1.7**
EPF	**Esparros**	**3.62**	**85**	*e*Pg		**Pg**	**05 13 16.7**	**-0.9**
EPF				*e*Sn		**Sn**	**05 13 46.9**	**+0.8**
PCBR	**Castelo Branco**	**3.71**	**217**	*e*Pg		**Pg**	**05 13 18.8**	**-0.5**
PCBR				*e*Sn		**Sn**	**05 13 47.5**	**-0.6**
PCBR				*e*Sg		**Sg**	**05 14 04.8**	**-2.6**
PCBR				A		A	05 14 15.5	
	15nm,0.4s							
EMOS	**Mosqueruela**	**3.96**	**127**	Pn		**Pn**	**05 13 10.8**	**+2.4**
EMOS				Pg		**Pb**	**05 13 19.3**	**+1.6**
EMOS				Sn		**Sn**	**05 13 56.1**	**+1.5**
EMOS				Sg		**Sg**	**05 14 11.8**	**-3.5**
EMOS				*i* Vmb_Lg			05 14 21.2	
PMRV	**Marv??o**	**4.02**	**213**	*e*Pn		**Pn**	**05 13 11.1**	**+2.0**
PMRV	**Marv??o**	**4.02**	**213**	*e*Pg		**Pg**	**05 13 24.1**	**-1.1**
PMRV				*e*Sn		**Sn**	**05 13 54.0**	**-1.8**
PMRV				*e*Sg		**Sg**	**05 14 14.4**	**-2.9**
PMRV				A		A	05 14 28.4	
	13nm,0.7s							
PCAS	**Casmilo, Conde**	**4.05**	**228**	*e*Pn		**Pn**	**05 13 11.1**	**+1.5**
PCAS	**Casmilo, Conde**	**4.05**	**228**	*e*Pg		**Pg**	**05 13 25.6**	**-0.3**
PCAS				*e*Sg		**Sg**	**05 14 19.0**	**+0.6**
PCAS				A		A	05 14 24.5	
	8.4nm,0.6s							
PSIM	**Granatula de C**	**4.07**	**171**	Pn		**Pn**	**05 13 12.0**	**+2.1**
PSIM				Pg		**Pb**	**05 13 22.7**	**+3.1**
PSIM				Sn		**Sn**	**05 13 54.9**	**-2.2**
PSIM				Sg		**Sg**	**05 14 17.3**	**-1.6**
ERTA	**Horta de San J**	**4.13**	**116**	Pn		**Pn**	**05 13 12.3**	**+1.7**
ERTA				Sn		**Sn**	**05 13 58.8**	**+0.2**
ERTA				Sg		**Sg**	**05 14 17.7**	**-3.0**
ERTA				*i* Vmb_Lg			05 14 26.3	
MLS	**Moulis**	**4.17**	**87**	P		**Pn**	**05 13 14.4**	**+3.2**
MLS				S		**Sn**	**05 14 01.9**	**+2.2**
ECHE	**Chera**	**4.24**	**139**	Pn		**Pn**	**05 13 14.2**	**+1.9**
ECHE				Pg		**Pb**	**05 13 26.2**	**+3.7**
ECHE				*i* Vmb_Lg			05 14 31.1	
SALF	**Salau**	**4.25**	**89**	P		**Pn**	**05 13 15.5**	**+3.2**
SALF				S		**Sn**	**05 14 04.9**	**+3.3**
LFF	**La Frestale**	**4.38**	**60**	*e*Pn		**Pn**	**05 13 16.0**	**+2.0**
LFF				*e*Sn		**Sn**	**05 14 02.6**	**-2.1**
	6.5nm,0.3s							
EVIV	**Cofrentes, Val**	**4.43**	**143**	Pn		**Pn**	**05 13 16.6**	**+1.7**
EVIV				Sn		**Sn**	**05 14 06.2**	**+0.2**
EVIV				Sg		**Sg**	**05 14 29.4**	**-1.1**
EVIV				*i* Vmb_Lg			05 14 34.5	
MONQ	**Montcuq**	**4.46**	**68**	P		**Pn**	**05 13 17.2**	**+2.0**
MONQ				S		**Sn**	**05 14 06.8**	**0.0**
EPOB	**Poblet**	**4.47**	**108**	Pn		**Pn**	**05 13 16.6**	**+1.2**
EPOB				Sn		**Sn**	**05 14 06.1**	**-0.9**
EPOB				*i* Vmb_Lg			05 14 09.3	
EBAD	**Badajoz**	**4.48**	**205**	Pn		**Pn**	**05 13 16.0**	**+0.6**
EBAD				Sn		**Sn**	**05 14 05.4**	**-1.8**
EBAD				Sg		**Sg**	**05 14 29.4**	**-2.7**
EBAD				*i* Vmb_Lg			05 14 36.1	
PESTR	**Estremoz**	**4.58**	**211**	*e*Sn		**Sn**	**05 14 08.1**	**-1.6**
PESTR				*e*Sg		**Sg**	**05 14 33.4**	**-1.9**
PESTR				A		A	05 14 41.8	
	7.7nm,0.5s							
EMIR	**Miracle**	**4.62**	**100**	Pn		**Pn**	**05 13 19.7**	**+2.3**
EMIR				Sn		**Sn**	**05 14 09.2**	**-1.5**
PMTG	**Montargil**	**4.67**	**217**	*e*Sn		**Sn**	**05 14 09.7**	**-2.2**
PMTG				*e*Sg		**Sg**	**05 14 37.0**	**-1.2**
PMTG				A		A	05 14 52.7	
	4.5nm,0.5s							
EADA	**Adamuz**	**4.67**	**180**	Pn		**Pn**	**05 13 20.2**	**+2.0**
EADA				Sn		**Sn**	**05 14 09.2**	**-2.8**
EADA				Sg		**Sg**	**05 14 36.9**	**-1.4**
EADA				*i* Vmb_Lg			05 14 39.7	
DUNF	**Dun**	**4.70**	**86**	P		**Pn**	**05 13 21.5**	**+3.0**
DUNF				S		**Sn**	**05 14 13.7**	**+1.1**
ETOB	**Tobarra**	**4.79**	**150**	Pn		**Pn**	**05 13 21.8**	**+2.0**
ETOB				Sg		**Sg**	**05 14 40.1**	**-1.9**
ETOB				*i* Vmb_Lg			05 14 52.5	
ECAB	**El Cabril**	**4.81**	**188**	Pn		**Pn**	**05 13 21.9**	**+1.9**
ECAB				Sn		**Sn**	**05 14 12.8**	**-2.5**
ECAB				Sg		**Sg**	**05 14 39.9**	**-2.7**
ECAB				*i* Vmb_Lg			05 14 45.9	
MFF	**Saint Martin d**	**4.91**	**39**	*e*Pn		**Pn**	**05 13 21.9**	**+0.5**
MFF				*e*Sn		**Sn**	**05 14 14.4**	**-3.3**
	7.8nm,0.4s							
MFF	**Saint Martin d**	**4.91**	**39**	P		**Pn**	**05 13 21.8**	**+0.5**
FNEB	**Nbias**	**4.92**	**87**	P		**Pn**	**05 13 24.2**	**+2.7**
FNEB				S		**Sn**	**05 14 19.6**	**+1.6**
CARF	**Carcanieres**	**4.93**	**89**	P		**Pn**	**05 13 25.3**	**+3.6**
ECOL	**Islas Columbre**	**4.94**	**125**	Pn		**Pn**	**05 13 23.0**	**+1.3**
MTLF	**Montolieu**	**5.01**	**82**	*e*Pn		**Pn**	**05 13 25.4**	**+2.7**
MTLF				*e*Sn		**Sn**	**05 14 19.1**	**-1.0**
	2.7nm,0.3s							
MTLF	**Montolieu**	**5.01**	**82**	P		**Pn**	**05 13 25.8**	**+3.2**
PBAR	**Barrancos**	**5.03**	**203**	*e*Pn		**Pn**	**05 13 25.4**	**+2.5**
PBAR				*e*Sn		**Sn**	**05 14 18.7**	**-1.9**
PBAR				A		A	05 14 56.8	
	9.1nm,0.6s							
EVO	**Evora**	**5.04**	**212**	*e*Pn		**Pn**	**05 13 23.9**	**+0.8**
EVO				*e*Sn		**Sn**	**05 14 18.4**	**-2.5**
RJF	**Les Rejaudoux**	**5.04**	**59**	*e*Pn		**Pn**	**05 13 24.4**	**+1.3**
RJF				*e*Sn		**Sn**	**05 14 18.4**	**-2.5**
	14nm,0.2s							
EQES	**Quesada**	**5.17**	**167**	Sn		**Sn**	**05 14 22.0**	**-2.3**
EQES				Sg		**Sg**	**05 14 51.6**	**-2.6**
EQES				*i* Vmb_Lg			05 15 04.5	
QUIF	**Quistinic**	**5.17**	**11**	*e*Pn		**Pn**	**05 13 24.6**	**-0.3**
QUIF				*e*Sn		**Sn**	**05 14 20.1**	**-4.0**
	6.1nm,0.2s							
CAF	**Calviac**	**5.24**	**64**	*e*Pn		**Pn**	**05 13 26.9**	**+1.1**
CAF				*e*Sn		**Sn**	**05 14 23.3**	**-2.5**
	9.0nm,0.2s							
FILF	**Fillols**	**5.27**	**91**	P		**Pn**	**05 13 27.8**	**+1.4**
ROSF	**Rostrenen**	**5.57**	**9**	*e*Pn		**Pn**	**05 13 30.0**	**-0.3**
ROSF				*e*Sn		**Sn**	**05 14 29.0**	**-4.9**
	17nm,0.5s							
SGMF	**Saint Gilles**	**5.59**	**14**	*e*Pn		**Pn**	**05 13 30.5**	**-0.2**
SGMF				*e*Sn		**Sn**	**05 14 29.7**	**-4.9**
	8.0nm,0.5s							
PNCL	**Nicolau / Gran**	**5.60**	**214**	*e*Pn		**Pn**	**05 13 32.0**	**+1.1**
PNCL				*e*Sn		**Sn**	**05 14 32.7**	**-2.1**
PNCL				*e*Sg		**Sg**	**05 15 08.2**	**+0.1**
PNCL				A		A	05 15 13.7	
	2.5nm,0.4s							
CLAF	**Gruissan**	**5.64**	**84**	P		**Pn**	**05 13 33.6**	**+2.3**
CLAF				S		**Sn**	**05 14 35.3**	**-0.3**
FRNF	**Fournols**	**5.74**	**61**	P		**Pn**	**05 13 33.6**	**+0.8**
FRNF				S		**Sn**	**05 14 35.2**	**-3.0**
PCVE	**Castro Verde**	**5.84**	**208**	*e*Sn		**Sn**	**05 14 38.1**	**-2.6**
PCVE				A		A	05 15 25.7	
	4.7nm,0.8s							
VERF	**Verneugheol**	**5.84**	**58**	P		**Pn**	**05 13 34.8**	**+0.6**
VERF				S		**Sn**	**05 14 37.3**	**-3.6**
EIBI	**Ibiza**	**5.89**	**128**	Pn		**Pn**	**05 13 36.1**	**+1.3**
EIBI				Sn		**Sn**	**05 14 39.1**	**-2.9**
PVAQ	**Vaqueiros**	**5.94**	**205**	*e*Sn		**Sn**	**05 14 40.9**	**-2.3**
PVAQ				A		A	05 15 20.5	
	5.4nm,0.7s							
TCF	**Toulx Ste Croi**	**5.95**	**52**	*e*Pn		**Pn**	**05 13 35.9**	**+0.3**
TCF				*e*Sn		**Sn**	**05 14 39.7**	**-3.7**
	13nm,0.5s							
GRR	**Gorron**	**6.13**	**24**	*e*Pn		**Pn**	**05 13 37.8**	**-0.2**
GRR				*e*Sn		**Sn**	**05 14 43.2**	**-4.5**
	4.5nm,0.2s							
LBL	**Lubilhac**	**6.13**	**64**	P		**Pn**	**05 13 39.1**	**+1.0**
PBDV	**Barranco-do-Ve**	**6.16**	**206**	*e*Sn		**Sn**	**05 14 46.2**	**-2.3**
PBDV				A		A	05 15 35.9	
	4.6nm,0.5s							
PTEO	**Sao Teotonio**	**6.17**	**212**	*e*Sn		**Sn**	**05 14 47.0**	**-1.8**
PTEO				*e*Sg		**Sg**	**05 15 27.4**	**+1.2**
PTEO				A		A	05 15 33.9	
	6.3nm,0.6s							
LASF	**Ste Croix**	**6.27**	**76**	*e*Pn		**Pn**	**05 13 41.7**	**+1.7**
LASF				*e*Sn		**Sn**	**05 14 50.1**	**-1.1**
	5.6nm,0.4s							
MORF	**Marmelete**	**6.35**	**211**	*e*Sn		**Sn**	**05 14 51.3**	**-2.1**
MORF				A		A	05 15 34.8	
	3.2nm,0.7s							
BGF	**Bois d'Agland**	**6.47**	**52**	*e*Pn		**Pn**	**05 13 42.9**	**+0.2**
BGF				*e*Sn		**Sn**	**05 14 51.8**	**-4.3**
	9.6nm,0.3s							
COLF	**Collangettes**	**6.52**	**63**	P		**Pn**	**05 13 44.4**	**+0.9**
LDF	**La Druitiere**	**6.54**	**27**	*e*Pn		**Pn**	**05 13 43.4**	**-0.3**
LDF				*e*Sn		**Sn**	**05 14 53.1**	**-4.8**
	3.4nm,0.3s							
PFVI	**Vila Bisbo**	**6.57**	**211**	*e*Sn		**Sn**	**05 14 56.1**	**-2.5**
FLN	**La Foliniere**	**6.58**	**24**	*e*Pn		**Pn**	**05 13 43.9**	**-0.3**
	baz=207							
FLN				*e*Sn		**Sn**	**05 14 54.5**	**-4.2**
	1.8nm,0.3s,baz=210							
AVF	**Avril sur Loir**	**6.88**	**52**	*e*Pn		**Pn**	**05 13 48.9**	**+0.5**
AVF				*e*Sn		**Sn**	**05 15 01.7**	**-4.7**
	3.5nm,0.5s							
VIVF	**Saint-Julien-l**	**6.99**	**70**	*e*Pn		**Pn**	**05 13 51.3**	**+1.4**
VIVF				*e*Sn		**Sn**	**05 15 04.9**	**-4.1**
	2.8nm,0.3s							
SSB	**Saint Sauveur**	**7.01**	**67**	P		**Pn**	**05 13 52.2**	**+2.0**
SMF	**Signal de Mont**	**7.10**	**55**	*e*Pn		**Pn**	**05 13 51.7**	**+0.3**
SMF				*e*Sn		**Sn**	**05 15 07.1**	**-4.6**
	2.1nm,0.3s							
SSF	**Saint Saulge**	**7.12**	**51**	*e*Pn		**Pn**	**05 13 51.8**	**+0.1**
SSF				*e*Sn		**Sn**	**05 15 06.7**	**-5.5**
	2.0nm,0.3s							
LOR	**Lormes**	**7.43**	**51**	*e*Pn		**Pn**	**05 13 56.4**	**+0.4**
	baz=237							
LOR				*e*Sn		**Sn**	**05 15 15.2**	**-4.7**
	1.8nm,0.2s							
CABF	**La Chapelle**	**8.48**	**60**	*e*Pn		**Pn**	**05 14 10.8**	**+0.4**

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*IDC **19** 05:17:00.2±0.6, 12.°815N×45.°58E, h0km, mb4.0/19, mbtmp4.0/21, ML4.5/3, MS3.7/17, Error ellipse: s-maj=19.8km s-min=16.8km az=93.0*
*NEIC **19** 05:17:01.9±1.5, 12.°90S±0.°08×45.°76E±0.°02, h10km±1km, mb4.7/18, Error ellipse: s-maj=13.8km s-min=3.3km az=173.0*
ISC 19 05:17:01.4±0.4, 12.°90S±0.°06×45.°72E±0.°08, h10km, n85, σ1s04/76, mb4.5/44, MS3.8/14, 3C, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.82**	**166**	Pn		**Pn**	**05 18 29.3**	**+1.3**
	7.7nm,0.3s,baz=335,slow=13,SNR=76							
OPO				Sn		**Sn**	**05 19 30.5**	**-4.4**
	7.9nm,0.3s,baz=330,slow=13,SNR=15							
OPO				LR		LR	05 21 00.6	
	comp=Z,451nm,19.7s,baz=189,slow=40							
ABPO	**Ambohimpanom**	**6.26**	**167**			**Pn**	**05 18 35.2**	**+1.1**
VOI	**Vohitsoka**	**9.02**	**174**			**Pn**	**05 19 12.1**	**+0.2**
ZOMB	**Zomba**	**10.36**	**255**	*e*PN		**Pn**	**05 19 28.7**	**-1.6**
ZOMB				*e*SN		Sn	05 21 13.7	-13
ZOMB	**Zomba**	**10.36**	**255**	*e*PN		**Pn**	**05 19 28.7**	**-1.6**
ZOMB				*e*SN		Sn	05 21 13.7	-13
FOMA	**Nahampoana Res**	**12.08**	**175**

ABKAR				IAmb	IAmb	05 27 37.7	
	comp=Z,11nm,1.3s						
TROLL	**Troll, Antarti**	**64.42**	**194**	⇑P	**P**	**05 27 39.9**	**+2.2**
	comp=Z,206nm,0.8s						
AKASG	**Malin Array Be**	**64.95**	**349**	P	**P**	**05 27 40.3**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=169,slow=5.3,SNR=4.7						
	comp=Z,0.2nm,0.3s						
SOKA	**Soboth**	**65.38**	**337**	*i* P	**P**	**05 27 44.7**	**+0.6**
	comp=Z,2.9nm,0.9s						
ARSA	**Arzberg**	**65.68**	**338**	*i* P	**P**	**05 27 46.7**	**+0.6**
	comp=Z,5.4nm,1.1s						
RONA	**Rosalia, Austr**	**65.78**	**339**	*i* P	**P**	**05 27 47.3**	**+0.6**
	comp=Z,6.9nm,0.8s						
MYKA	**Terra Mystica**	**65.88**	**336**	*i* P	**P**	**05 27 47.4**	**0.0**
	comp=Z,1.6nm,0.5s						
CONA	**Conrad Observa**	**66.13**	**339**	*i* P	**P**	**05 27 49.5**	**+0.5**
	comp=Z,4.1nm,0.9s						
MDT	**Midelt**	**66.13**	**315**	LR	LR	05 56 12.9	
	comp=Z,46nm,18.1s,baz=150,slow=36						
KBA	**Koelnbreinsper**	**66.36**	**336**	*i* P	**P**	**05 27 50.7**	**+0.1**
	comp=Z,4.0nm,0.9s						
VNA1	**Neumayer--Stat**	**66.41**	**197**	⇑P	P	05 27 59.3	+8.9
	comp=Z,5.3nm,0.7s						
ABTA	**Abfaltersbach**	**66.42**	**336**	*i* P	**P**	**05 27 51.2**	**+0.3**
	comp=Z,3.0nm,0.8s						
MOA	**Molln**	**66.65**	**337**	*i* P	**P**	**05 27 52.5**	**+0.2**
	comp=Z,5.6nm,1.0s						
BIOA	**Bad Ischl, Aus**	**66.75**	**337**	*i* P	**P**	**05 27 52.6**	**-0.3**
	comp=Z,3.4nm,0.8s						
LESA	**Schwarzleotal**	**66.91**	**336**	*i* P	**P**	**05 27 53.4**	**-0.5**
	comp=Z,3.0nm,1.0s						
VNA3	**Neumayer Olymp**	**67.11**	**197**	⇑P	**P**	**05 27 56.1**	**+1.2**
	comp=Z,3.4nm,0.8s						
MORC	**Moravsky Berou**	**67.14**	**341**	P	**P**	**05 27 54.9**	**-0.5**
MORC				IAmb	IAmb	05 27 56.3	
	comp=Z,3.9nm,0.8s						
WTTA	**Wattenberg**	**67.19**	**336**	*i* P	**P**	**05 27 55.9**	**0.0**
	comp=Z,1.8nm,0.6s						
WATA	**Walderalm**	**67.27**	**336**	*i* P	**P**	**05 27 56.9**	**+0.5**
	comp=Z,2.7nm,0.6s						
SQTA	**Sankt Quirin**	**67.33**	**335**	*i* P	**P**	**05 27 57.2**	**+0.5**
	comp=Z,1.2nm,0.4s						
FETA	**Feichten**	**67.37**	**335**	*i* P	**P**	**05 27 57.1**	**+0.1**
	comp=Z,7.1nm,1.1s						
MOTA	**Moosalm**	**67.47**	**335**	*i* P	**P**	**05 27 57.3**	**-0.4**
	comp=Z,2.9nm,0.7s						
GEC2	**GERESS Array S**	**67.69**	**338**	P	**P**	**05 27 58.1**	**-0.8**
GEC2				IAmb	IAmb	05 27 59.1	
	comp=Z,3.8nm,0.9s						
GERES	**GERESS Array B**	**67.69**	**338**	P	**P**	**05 27 58.2**	**-0.7**
GERES	**GERESS Array B**	**67.69**	**338**	P	**P**	**05 27 57.7**	**-1.2**
	comp=Z,1.9nm,0.8s,baz=156,slow=7.0,SNR=8.4						
	comp=Z,1.9nm,0.8s						
RETA	**Reutte**	**67.72**	**335**	*i* P	**P**	**05 27 58.9**	**-0.2**
	comp=Z,3.8nm,0.9s						
DAVA	**Damuels**	**67.93**	**335**	*i* P	**P**	**05 28 00.2**	**-0.4**
	comp=Z,4.5nm,1.3s						
BVAR	**Borovoye Array**	**68.99**	**16**	P	**P**	**05 28 05.6**	**-1.3**
	comp=Z,0.5nm,0.5s,baz=224,slow=4.0,SNR=2.1						
	comp=Z,0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**69.45**	**22**	P	**P**	**05 28 10.2**	**+0.5**
	comp=Z,0.1nm,0.4s,baz=220,slow=6.7,SNR=1.6						
	comp=Z,0.1nm,0.4s						
ESDC	**Sonseca Array**	**69.76**	**321**	P	**P**	**05 28 12.2**	**+0.1**
ESDC	**Sonseca Array**	**69.76**	**321**	P	**P**	**05 28 12.8**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=125,slow=5.9,SNR=17						
	comp=Z,1.7nm,0.8s						
ARU	**Arti**	**69.89**	**8**	P	**P**	**05 28 12.6**	**+0.2**
ARU				IAmb	IAmb	05 28 20.9	
	comp=Z,8.8nm,1.3s						
CLL	**Collm**	**69.98**	**339**	*i* P	**P**	**05 28 12.9**	**-0.1**
ZALV	**Zalesovo Beam**	**74.43**	**23**	P	**P**	**05 28 39.1**	**-0.4**
	comp=Z,0.4nm,0.4s,baz=242,slow=3.1,SNR=1.2						
	comp=Z,0.4nm,0.4s						
FINES	**FINESS Array B**	**75.71**	**350**	P	**P**	**05 28 46.4**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=155,slow=14,SNR=6.3						
FINES				LR	LR	06 01 51.3	
	comp=Z,52nm,18.4s,baz=129,slow=36						
	comp=Z,2.6nm,0.8s						
HFS	**Hagfors**	**77.19**	**344**	P	**P**	**05 28 55.1**	**0.0**
	comp=Z,2.6nm,0.7s,baz=145,slow=10,SNR=6.3						
	comp=Z,2.6nm,0.7s						
QSPA	**South Pole Qui**	**77.20**	**180**	P	**P**	**05 28 57.2**	**+1.7**
	comp=Z,1.8nm,0.9s,baz=224,slow=2.5,SNR=3.6						
QSPA				LR	LR	06 00 11.4	
	comp=Z,74nm,20.1s,baz=260,slow=34						
	comp=Z,1.8nm,0.9s						
NOA	**NORSAR Array B**	**78.62**	**344**	P	**P**	**05 29 03.1**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=136,slow=5.2,SNR=3.7						
	comp=Z,0.7nm,0.8s						
EKA	**Eskdalemuir Ar**	**79.37**	**334**	P	**P**	**05 29 07.1**	**-0.3**
	comp=Z,1.7nm,0.8s,baz=141,slow=6.0,SNR=5.8						
	comp=Z,1.7nm,0.8s						
SONM	**Songino Array**	**80.92**	**37**	P	**P**	**05 29 17.5**	**+1.4**
	comp=Z,1.0nm,0.9s,baz=231,slow=4.2,SNR=3.9						
	comp=Z,1.0nm,0.9s						
VNDA	**Vanda**	**82.93**	**169**	LR	LR	06 03 52.9	
	comp=Z,54nm,18.5s,baz=307,slow=34						
ASAR	**Alice Springs**	**83.29**	**113**	P	**P**	**05 29 30.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=265,slow=4.8,SNR=8.1						
ASAR				LR	LR	05 59 28.0	
	comp=Z,78nm,19.8s,baz=94,slow=30						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**84.42**	**109**	P	**P**	**05 29 36.0**	**+1.1**
	comp=Z,0.8nm,0.9s,baz=254,slow=3.4,SNR=2.6						
	comp=Z,0.8nm,0.9s						
PDAR	**Pinedale Array**	**143.35**	**329**	PKP	**PKPdf**	**05 36 36.0**	**-0.8**
	comp=Z,0.5nm,0.8s,baz=90,slow=3.0,SNR=4.5						
TXAR	**Lajitas Array**	**147.23**	**305**	PKPbc	**PKPbc**	**05 36 46.2**	**+0.4**
	comp=Z,0.8nm,0.9s,baz=86,slow=6.4,SNR=4.5						
NVAR	**Mina Array Bea**	**150.87**	**334**	PKP	**PKPdf**	**05 36 50.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=59,slow=0.9,SNR=5.1						

KRSC 19 05:20:12.8±1.1, 49°19N×156°56E, h44km±20km, MI3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
PAU	**Pauzhetka**	**2.29**	**4**		*e*S	Sn	05 21 18.5	+3.6
KDTR	**Khodutka, Kamc**	**2.79**	**20**		*e*S	Sn	05 21 31.4	+4.0
ASAK	**Asacha**	**3.31**	**14**		*e*P	Pn	05 21 05.4	+3.3
MTVR	**Mutnovka**	**3.45**	**17**		*e*P	Pn	05 21 07.5	+3.3
MTVR					*e*S	Sn	05 21 48.5	+4.6
GRL	**Gorelyy**	**3.50**	**15**		*e*P	Pn	05 21 08.9	+4.1
GRL					*e*S	Sn	05 21 49.7	+4.7
UGLR	**Uglovaya**	**4.27**	**19**		*e*P	Pn	05 21 18.8	+3.5
AVH	**Avacha**	**4.30**	**18**		*e*P	Pn	05 21 20.4	+4.7
KOK	**Koryaka**	**4.31**	**17**		*e*P	Pn	05 21 20.2	+4.3
SMAR	**Somma**	**4.32**	**18**		*e*P	Pn	05 21 20.0	+4.0
KRX	**Arik**	**4.38**	**17**		*e*P	Pn	05 21 20.1	+3.3

*SKHL **19** 05:27:15.7±0.1, 43°.70N×147°.70E, h38km±3km, mb4.5/3*
*JMA **19** 05:27:15.5±0.3, 44°N±1°×14°7E±°, h18km, MV3.5/14, E OFF HOKKAIDO*

ISC 19 05:27:11.7±2.2, 43°.7N±0°.1×147°.58E±0°.09, h11km±12km, n11, σ0s99/19, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.58**	**291**	*i* P		**Pn**	**05 27 27.0**	**+1.1**
SHO					AMB	AMB	05 27 27.6	
	380nm,0.3s							
SHO				*i* S		**Sn**	**05 27 35.3**	**-0.1**
SHO					A	A	05 27 35.8	
	3μm,0.4s							
SHO					A	A	05 27 35.8	
	620nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**1.30**	**287**	*i* P		**Pg**	**05 27 37.1**	**+0.5**
YUK					AMB	AMB	05 27 38.6	
	360nm,0.2s							
YUK				*i* S		**Sb**	**05 27 53.1**	**+0.4**
YUK					A	A	05 27 53.5	
	2μm,0.3s							
YUK					A	A	05 27 53.5	
	660nm,0.3s							
NEM2	**Nemuro 2**	**1.37**	**258**	*e*P		**Pg**	**05 27 38.2**	**+0.2**
NEM2				*e*S		**Sb**	**05 27 54.3**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.38**	**258**	*e*P		**Pg**	**05 27 38.7**	**+0.5**
NMR				*e*S		**Sg**	**05 27 56.0**	**-0.2**
KUR	**Kuril'sk**	**1.58**	**7**	*e*P		**Pn**	**05 27 40.5**	**+0.9**
KUR					AMB	AMB	05 27 42.7	
	50nm,0.4s							
KUR				*e*S		**Sn**	**05 27 59.1**	**-0.9**
KUR					A	A	05 28 01.1	
	250nm,0.2s							
KUR					A	A	05 28 01.1	
	180nm,0.2s							
JNSB	**Nemuroshibetsu**	**1.87**	**274**	*e*P		**Pb**	**05 27 46.3**	**+0.4**
JNSB					S	**Sb**	**05 28 08.7**	**-0.5**
JNK	**Nakash**	**2.08**	**269**	*e*S		**Sn**	**05 28 13.5**	**+1.1**
AKK	**Akkeshi**	**2.10**	**253**	*e*P		**Pb**	**05 27 49.5**	**-0.3**
JAK	**Akkeshi**	**2.21**	**253**	P		**Pb**	**05 27 50.6**	**-1.0**
JAK					S	**Sn**	**05 28 15.9**	**+0.4**
JTKR	**Abashiri--Toko**	**2.68**	**278**	*e*P		**Pb**	**05 27 58.5**	**-1.1**
JTKR				*e*S		**Sb**	**05 28 30.7**	**-1.7**
JAR	**Ashorobuto**	**2.80**	**264**	P		**Pb**	**05 27 59.8**	**-1.9**

*IDC **19** 05:27:38.1±0.8, 85°.22N×10°.11E, h0km, mb3.7/19, mbtmp3.7/21, ML4.0/2, MS3.3/16, Error ellipse: s-maj=18.6km s-min=15.5km az=72.0*
*NEIC **19** 05:27:38.6±1.3, 85°.0N±0°.1×±°, h10km±2km, mb4.1/17, Error ellipse: s-maj=31.6km s-min=4.6km az=45.0*
*FCIAR **19** 05:27:39.0, 85°.29N×11°.67E, h10km, station OMEGA has station magnitude of 3.90*
*KOLA **19** 05:27:41.8, 85°.07N×10°.32E, h0km, ML1.9, Error ellipse: s-maj=216.8km s-min=51.2km az=70.0, Arctic Ocean, Gakkel ridge*

ISC 19 05:27:38.7±0.5, 85.08N±0°.05×9°.52E±0°.05, h10km, n76, σ2s71/79, mb3.8/27, MS3.2/14, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NOR	**Nord**	**4.56**	**235**	*e*P		**Pn**	**05 28 50.2**	**+2.5**
NOR	**Nord**	**4.56**	**235**	*i* P		**Pn**	**05 28 51.4**	**+3.7**
ZFI2	**Zemlya Franca-**	**6.16**	**112**	*e*P		**Pn**	**05 29 08.3**	**-1.2**
ZFI2				*e*S		**Sn**	**05 30 13.2**	**-6.7**
OMEGA	**Omega**	**6.19**	**112**	*e*P		**Pn**	**05 29 08.4**	**-1.5**
OMEGA				*e*S		**Sn**	**05 30 13.4**	**-7.2**
	48nm,1.1s							
KBS	**Kingsbay**	**6.20**	**176**	Pn		**Pn**	**05 29 09.5**	**-0.5**
KBS	**Kingsbay**	**6.20**	**176**	P		**Pn**	**05 29 09.6**	**-0.5**
KBS				S		**Sn**	**05 30 15.9**	**-5.0**
KBS	**Kingsbay**	**6.20**	**176**	*e*P		**Pn**	**05 29 09.6**	**-0.5**
KBS				*e*S		**Sn**	**05 30 16.9**	**-4.0**
KBS				IAML			05 30 20.7	
	comp=Z,9.1nm,0.4s							
KBS	**Kingsbay**	**6.20**	**176**	*e*P		**Pn**	**05 29 09.6**	**-0.5**
KBS				*e*S		**Sn**	**05 30 17.3**	**-3.6**
KBS	**Kingsbay**	**6.20**	**176**	*i* P		**Pn**	**05 29 10.7**	**+0.6**
KBS				*i* S		**Sn**	**05 30 16.0**	**-4.9**
SPA0	**Spitsbergen Ar**	**7.01**	**168**	*e*P		**Pn**	**05 29 20.9**	**-0.3**
SPA0				*e*S		**Sn**	**05 30 35.7**	**-5.0**
SPA0				IAML			05 30 44.8	
	comp=Z,5.3nm,0.4s							
SPA0	**Spitsbergen Ar**	**7.01**	**168**	*e*P		**Pn**	**05 29 20.5**	**-0.6**
SPA0				*e*S		**Sn**	**05 30 36.2**	**-4.5**
SPITS	**Spitsbergen Ar**	**7.01**	**168**	P		**Pn**	**05 29 20.8**	**-0.4**
SPITS				S		**Sn**	**05 30 36.3**	**-4.4**
SPITS	**Spitsbergen Ar**	**7.01**	**168**	Pn		**Pn**	**05 29 20.9**	**-0.3**
	baz=12,slow=12							
SPITS				Sn		**Sn**	**05 30 34.6**	**-6.1**
	baz=20,slow=18							
	comp=Z,5.7nm,0.3s							
SPB2	**Spitsbergen Ar**	**7.01**	**168**			**Pn**	**05 29 21.1**	**-0.1**
BRBB	**Barentsburg B**	**7.06**	**172**	P		**Pn**	**05 29 23.8**	**+1.9**
BRBB				S		**Sn**	**05 30 36.5**	**-5.5**
BRBB	**Barentsburg B**	**7.06**	**172**	*e*P		**Pn**	**05 29 21.6**	**-0.3**
BRBB				*e*S		**Sn**	**05 30 37.4**	**-4.6**
HSPB	**Hornsund (broa**	**8.17**	**170**	P		**Pn**	**05 29 37.1**	**0.0**
HSPB				S		**Sn**	**05 31 05.5**	**-3.9**
HSPB	**Hornsund (broa**	**8.17**	**170**	*e*P		**Pn**	**05 29 37.4**	**+0.3**
HSPB				*e*S		**Sn**	**05 31 05.0**	**-4.3**
HOPEN	**Hopen**	**8.90**	**156**	*e*P		**Pn**	**05 29 46.7**	**-0.3**
HOPEN				IAML			05 31 13.5	
	comp=Z,17nm,0.8s							
HOPEN				*e*S		Sn	05 31 19.1	-8.1
HOPEN	**Hopen**	**8.90**	**156**	*e*P		**Pn**	**05 29 45.9**	**-1.2**
HOPEN				*e*S		Sn	05 31 19.3	-7.9
DAG	**Danmarks Havn**	**9.24**	**223**	*e*P		**Pn**	**05 29 54.3**	**+2.6**
DAG	**Danmarks Havn**	**9.24**	**223**	*i* P		**Pn**	**05 29 52.8**	**+1.0**
NEEM	**North Greenlan**	**11.06**	**263**	*i* P		**Pn**	**05 30 16.4**	**-0.5**
NEEM				*i* S		**Sn**	**05 32 14.9**	**-5.7**
NEEM				IAML			05 32 17.1	
	comp=Z,4.9nm,0.7s							
DBG	**Daneborg**	**11.74**	**222**	*e*P		**Pn**	**05 30 27.9**	**+1.9**
SUMG	**Summit**	**14.67**	**242**			**Pn**	**05 31 03.1**	**-3.2**
KEV	**Kevo**	**15.71**	**157**	Pn		**Pn**	**05 31 19.3**	**-0.4**
ARCES	**ARCESS Array B**	**15.88**	**159**	Pn		**Pn**	**05 31 21.8**	**-0.1**
ARCES				IAmb		IAmb	05 31 43.5	
	comp=Z,14nm,1.3s							
ARCES	**ARCESS Array B**	**15.88**	**159**	Pn		**Pn**	**05 31 20.4**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=350,slow=13,SNR=14							
ARCES				Sn		Sn	05 34 05.4	-12
	comp=Z,0.2nm,0.3s,baz=3.9,slow=20,SNR=5.1							
ARCES				LR		LR	05 36 34.9	
	comp=Z,54nm,21.7s,baz=126,slow=34							
	comp=Z,3.7nm,0.9s							
RES	**Resolute Bay**	**17.31**	**300**			**Pn**	**05 31 35.5**	**-4.4**
RES	**Resolute Bay**	**17.31**	**300**	P		**Pn**	**05 31 34.6**	**-5.3**
	comp=Z,1.6nm,0.4s,baz=38,slow=9.4,SNR=10							
RES				S		Sn	05 34 36.2	-16
	comp=Z,1.3nm,1.0s,baz=182,slow=14,SNR=1.9							
RES				LR		LR	05 38 19.9	
	comp=Z,95nm,19.4s,baz=349,slow=37							
TIXI	**Tiksi**	**21.32**	**49**	LR		LR	05 39 12.9	
	comp=Z,22nm,19.7s,baz=24,slow=33							
A36M	**Sachs Harbour**	**21.89**	**324**	P		**P**	**05 32 30.4**	**-0.9**
A36M				IAmb		IAmb	05 32 32.3	
	comp=Z,9.9nm,1.1s							
FINES	**FINESS Array B**	**24.01**	**160**	P		**P**	**05 32 53.3**	**+0.2**
FINES	**FINESS Array B**	**24.01**	**160**	P		**P**	**05 32 55.1**	**+2.0**
	comp=Z,2.8nm,0.9s,baz=10,slow=12,SNR=5.6							
FINES				LR		LR	05 41 50.3	
	comp=Z,54nm,18.7s,baz=290,slow=35							
	comp=Z,2.8nm,0.9s							
NC405	**NORSAR Array S**	**24.10**	**177**	P		**P**	**05 32 54.8**	**+0.8**
NC405				IAmb		IAmb	05 32 56.9	
	comp=Z,6.4nm,0.8s							
NOA	**NORSAR Array B**	**24.17**	**178**	P		**P**	**05 32 56.2**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=357,slow=8.9,SNR=6.1							
	comp=Z,1.0nm,0.6s							
C36M	**Paulatuk**	**24.45**	**322**	P		**P**	**05 32 56.4**	**-0.6**
C36M				IAmb		IAmb	05 32 57.2	
	comp=Z,5.2nm,0.8s							
B22K	**Teshekpuk Lake**	**24.56**	**346**	P		**P**	**05 32 57.7**	**-0.3**
HFS	**Hagfors**	**25.09**	**175**	P		**P**	**05 33 04.4**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=287,slow=10,SNR=2.9							
	comp=Z,1.7nm,0.8s							
D25K	**Kavik River**	**25.41**	**340**	P		**P**	**05 33 05.5**	**-0.3**
D25K				IAmb		IAmb	05 33 12.0	
	comp=Z,2.7nm,0.8s							
FRB	**Frobisher Bay**	**25.81**	**268**	LR		LR	05 43 04.9	
	comp=Z,61nm,19.0s,baz=30,slow=36							
INK	**Inuvik**	**25.95**	**329**	LR		LR	05 44 53.7	
	comp=Z,36nm,18.0s,baz=279,slow=40							
E29M	**Blow River**	**26.05**	**333**	P		**P**	**05 33 11.1**	**-0.4**
D19K	**Kuna River**	**26.50**	**350**	P		**P**	**05 33 16.5**	**+0.8**
D19K				IAmb		IAmb	05 33 55.9	
	comp=Z,10nm,1.4s							
E25K	**Arctic Village**	**26.58**	**339**	P		**P**	**05 33 16.2**	**-0.2**
F28M	**Old Crow**	**26.90**	**334**	P		**P**	**05 33 18.9**	**-0.4**
F28M				IAmb		IAmb	05 33 19.8	
	comp=Z,4.8nm,0.9s							
G31M	**Satah River**	**27.36**	**330**	P		**P**	**05 33 21.9**	**-1.5**
KIRV	**Kirov**	**27.95**	**134**	LR		LR	05 47 31.8	
	comp=Z,48nm,18.7s,baz=348,slow=43							
H29M	**Whitestone**	**28.23**	**333**	P		**P**	**05 33 30.2**	**-1.1**
H29M				IAmb		IAmb	05 33 31.7	
	comp=Z,2.9nm,0.8s							
I30M	**Mount Dempster**	**29.15**	**331**	P		**P**	**05 33 38.1**	**-1.4**
J30M	**Hart River**	**29.80**	**331**	P		**P**	**05 33 44.6**	**-0.6**
J30M				IAmb		IAmb	05 33 45.7	
	comp=Z,2.2nm,0.8s							
ILAR	**Eielson Array**	**29.98**	**340**	P		**P**	**05 33 46.8**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=356,slow=5.4,SNR=5.3							
ILAR				LR		LR	05 45 24.5	
	comp=Z,57nm,19.7s,baz=298,slow=36							
	comp=Z,0.5nm,1.0s							
EKA	**Eskdalemuir Ar**	**30.03**	**195**	P		**P**	**05 33 49.9**	**+2.7**
	comp=Z,0.5nm,0.6s,baz=349,slow=7.7,SNR=4.7							
	comp=Z,0.5nm,0.6s							
YKA	**Yellowknife Ar**	**30.70**	**311**	P		**P**	**05 33 54.5**	**+1.5**
	comp=Z,0.4nm,1.0s,baz=5.7,slow=8.7,SNR=2.4							
	comp=Z,0.4nm,1.0s							
SKT	**Skwentna**	**32.90**	**344**	P		**P**	**05 34 11.8**	**-0.6**
CLL	**Collm**	**33.94**	**176**	*i* Px		Px	05 34 23.9	
AKASG	**Malin Array Be**	**34.86**	**158**	P		**P**	**05 34 30.4**	**+1.0**
	comp=Z,0.5nm,0.6s,baz=355,slow=9.2,SNR=1.3							
	comp=Z,0.5nm,0.6s							
BVAR	**Borovoye Array**	**34.98**	**113**	P		**P**	**05 34 32.5**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=329,slow=5.0,SNR=2.4							
	comp=Z,0.4nm,0.4s							
ZALV	**Zalesovo Beam**	**35.26**	**98**	P		**P**	**05 34 34.4**	**+1.5**
	comp=Z,1.6nm,0.5s,baz=342,slow=7.5,SNR=6.0							
	comp=Z,1.6nm,0.5s							
GERES	**GERESS Array B**	**36.41**	**175**	P		**P**	**05 34 46.1**	**+3.2**
	comp=Z,0.4nm,0.6s,baz=7.8,slow=7.9,SNR=2.8							
	comp=Z,0.4nm,0.6s							
KDAK	**Kodiak Island**	**37.13**	**344**	LR		LR	05 49 49.9	
	comp=Z,45nm,19.7s,baz=193,slow=36							
KURBB	**Kurchatov Arra**	**38.03**	**105**	P		**P**	**05 34 57.4**	**+0.9**
	comp=Z,0.9nm,0.2s,baz=358,slow=7.9,SNR=6.9							
	comp=Z,0.9nm,0.2s							
MKAR	**Makanchi Array**	**42.15**	**102**	P		**P**	**05 35 31.0**	**+0.3**
	comp=Z,0.7nm,0.7s,baz=352,slow=7.4,SNR=4.5							
	comp=Z,0.7nm,0.7s							
KBZ	**Khabaz**	**42.40**	**144**	P		**P**	**05 35 33.5**	**+0.8**
	comp=Z,1.0nm,0.6s,baz=5.7,slow=9.6,SNR=2.2							
	comp=Z,1.0nm,0.6s							
SONM	**Songino Array**	**43.18**	**78**	P		**P**	**05 35 39.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=355,slow=8.7,SNR=1.5							
	comp=Z,0.5nm,0.6s							
AAK	**Ala-Archa**	**45.63**	**111**	LR		LR	05 59 32.7	
	comp=Z,44nm,18.1s,baz=344,slow=42							
ESDC	**Sonseca Array**	**45.71**	**195**	P		**P**	**05 36 01.9**	**+2.5**
	comp=Z,0.4nm,0.6s,baz=0.3,slow=7.7,SNR=4.6							
	comp=Z,0.4nm,0.6s							
BRTR	**Keskin Array B**	**45.98**	**154**	P		**P**	**05 36 04.1**	**+2.5**
	comp=Z,0.5nm,0.8s,baz=0.0,slow=4.3,SNR=2.2							
	comp=Z,0.5nm,0.8s							
GEYT	**Alibeck**	**49.08**	**128**	LR		LR	05 59 59.2	
	comp=Z,67nm,20.6s,baz=75,slow=40							
PDAR	**Pinedale Array**	**49.98**	**303**	LR		LR	05 56 45.2	
	comp=Z,30nm,21.2s,baz=21,slow=35							
TKL	**Tuckaleechee C**	**54.96**	**277**	LR		LR	06 00 13.6	
	comp=Z,44nm,19.1s,baz=6.5,slow=36							
ANMO	**Albuquerque**	**57.52**	**299**	LR		LR	06 03 11.6	
	comp=Z,41nm,18.7s,baz=77,slow=37							
TXAR	**Lajitas Array**	**62.88**	**296**	P		**P**	**05 38 04.8**	**+0.2**
	comp=Z,0.3nm,0.7s,baz=347,slow=3.7,SNR=2.5							
	comp=Z,0.3nm,0.7s							
WSAR	**Wadi Sarin**	**63.71**	**129**	LR		LR	06 13 25.2	
	comp=Z,25nm,18.6s,baz=312,slow=43							
CMAR	**Chiang Mai Arr**	**71.68**	**89**	P		**P**	**05 38 59.6**	**-0.7**
	comp=Z,0.9nm,0.3s,baz=349,slow=7.7,SNR=6.6							
CMAR				LR		LR	06 12 09.8	
	comp=Z,12nm,19.9s,baz=185,slow=37							
	comp=Z,0.9nm,0.3s							
TORD	**Torodi Ar. Bea**	**72.03**	**188**	P		**P**	**05 39 03.8**	**+1.3**
	comp=Z,0.6nm,0.5s,baz=358,slow=6.6,SNR=6.3							
	comp=Z,0.6nm,0.5s							

*JMA **19** 05:53:47.8±0.3, 44°N±1°×14°8E±°, h0km, MV3.7/22, SE OFF ETOROFU*
*SKHL **19** 05:53:48.5±0.2, 44°.22N×148°.20E, h38km±2km, mb4.5/3*

ISC 19 05:53:45.5±2.9, 44°.22N±0°.09×148°.2E±0°.2, h9km±12km, n16, σ1s43/24, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.05**	**346**	*i* P		**Pg**	**05 54 05.5**	**-0.2**
KUR					AMB	AMB	05 54 06.0	
	160nm,0.4s							
KUR				*i* S		**Sg**	**05 54 18.2**	**-1.1**
KUR					A	A	05 54 20.0	
	650nm,0.4s							
KUR					A	A	05 54 20.0	
	730nm,0.4s							
SHO	**Shikotan**	**1.07**	**252**	*i* P		**Pg**	**05 54 06.6**	**+0.6**
SHO					AMB	AMB	05 54 06.7	
	110nm,0.2s							
SHO				*i* S		**Sg**	**05 54 19.0**	**-0.9**
SHO					A	A	05 54 19.5	
	190nm,0.2s							
SHO					A	A	05 54 19.5	
	1μm,0.2s							

comp=N,904nm,0.2s
MLH Mauna Loa 0.13 315 Pg 06 20 03.2 +1.0
MLH Sg 06 20 06.1 +2.1
MLH Mauna Loa 0.13 315 IAML 06 20 06.4
comp=E,1µm,0.5s
MLH IAML 06 20 06.6
comp=N,2µm,0.4s
STCH Steam Cracks 0.15 96 Pg 06 20 03.3 +0.6
STCH Steam Cracks 0.15 96 IAML 06 20 04.0
comp=N,402nm,1.1s
STCH IAML 06 20 06.7
comp=E,602nm,0.7s
NPOC North of Pu'u 0.17 93 Pg 06 20 03.8 +0.8
NPOC IAML 06 20 08.0
comp=N,445nm,1.0s
NPOC North of Pu'u 0.17 93 Sg 06 20 06.0 +0.9
NPOC North of Pu'u 0.17 93 IAML 06 20 04.8
comp=E,495nm,1.1s
HTC Hot Caves 0.19 212 Pg 06 20 04.2 +0.8
HMH Humu'ula Sheep 0.27 318 Pg 06 20 05.7 +0.8
HMH Humu'ula Sheep 0.27 318 IAML 06 20 13.1
comp=E,264nm,1.2s
HMH IAML 06 20 14.4
comp=N,306nm,0.9s
KHU Kahuku 0.34 244 Pg 06 20 07.1 +0.9
KHU Kahuku 0.34 244 IAML 06 20 08.1
comp=N,330nm,1.9s
KHU IAML 06 20 09.6
comp=E,366nm,1.8s
ALEP Alea Permanent 0.36 293 Sg 06 20 11.4 0.0
POHA Pohakuloa 0.42 327 Sg 06 20 14.9 +1.6

RSNC 19 06:23:23.0±0.0, 7°N±1°, 7°4W±°, h9km±3km, M1.9, mb4.1, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTBC	**PUERTO BERRIO,**	**0.57**	**195**	P	Pg	06 23 33.4	-0.8
PTBC				S	Sg	06 23 41.6	-0.1
ZARC	**Zaragoza, Cauc**	**0.67**	**306**	P	Pg	06 23 34.5	-1.5
ZARC				S	Sg	06 23 43.2	-1.5
BARC	**Barichara**	**1.23**	**114**	P	Pb	06 23 44.4	-2.1
BARC				S	Sb	06 23 59.8	-2.8
UREC	**San Jos de Ur**	**1.38**	**298**	P	Pn	06 23 46.2	-2.2
UREC				S	Sb	06 24 01.9	-4.7
OCAC	**Ocana**	**1.50**	**41**	P	Pn	06 23 47.7	-2.5
OCAC				S	Sn	06 24 06.9	-3.1
HELC	**Santa Helena**	**1.51**	**233**	P	Pn	06 23 48.7	-1.9
HELC				S	Sn	06 24 08.0	-2.6
PAMC	**Pamplona, Colo**	**1.62**	**81**	P	Pn	06 23 50.3	-1.8
PAMC				S	Sn	06 24 10.0	-3.3
NORC	**Norcasia**	**1.62**	**200**	P	Pn	06 23 50.0	-1.9
NORC				S	Sn	06 24 10.8	-2.2
RUSC	**La Rusia**	**1.71**	**134**	P	Pn	06 23 51.6	-1.8
RUSC				S	Sn	06 24 13.6	-2.1
SJCC	**San Jacinto, C**	**2.91**	**343**	P	Pn	06 24 08.4	-1.2
SJCC				S	Sn	06 24 42.5	-2.2
PRAC	**Prado**	**3.41**	**190**	P	Pn	06 24 19.2	+2.7
PRAC				S	Sn	06 24 57.4	+0.3
CRJC	**Cerrejon, Guaj**	**4.14**	**20**	P	Pn	06 24 28.3	+1.7
CRJC				S	Sn	06 25 13.2	-2.0
URIC	**Uribia, Colomb**	**5.11**	**26**	P	Pn	06 24 39.4	-0.4
URIC				S	Sn	06 25 37.8	-1.2

*NEIC **19** 06:40:56.0±0.3, 36°.64N±0°.02×99°.16W±0°.04, h5km±1km, Error ellipse: s-maj=5.9km s-min=2.9km az=298.0*
TUL 19 06:40:55.7±0.2, 36°.64N±0°.02×99°.18W±0°.02, h3km±2km, ML2.7, mb_Lg2.4/37(NEIC), ML2.7/14(NEIC), Error ellipse: s-maj=3.2km s-min=1.8km az=174.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NOKA	**Waynoka**	**0.20**	**90**	Pg	Pg	06 41 00.2	+0.6
NOKA				IAML		06 41 05.9	
comp=E,2µm,0.2s							
U32A	**Winter Ranch,**	**0.29**	**150**	Pg	Pg	06 41 01.8	+0.5
U32A				IAML		06 41 06.7	
comp=N,842nm,0.5s							
U32A				IAML		06 41 07.3	
comp=E,987nm,0.1s							
OK035	**E0210 Rd and N**	**0.39**	**79**	Pg	Pg	06 41 03.6	+0.5
OK035				IAML		06 41 09.8	
comp=E,1µm,0.3s							
OK038	**West end E0370**	**0.39**	**114**		Pg	06 41 03.6	+0.4
OK032	**Salt Plains WL**	**0.80**	**78**	Pg	Pg	06 41 11.0	0.0
OK032				IAML		06 41 30.5	
comp=E,328nm,0.2s							
OK032				IAML		06 41 32.6	
comp=E,242nm,0.2s							
CROK	**Carrier**	**0.97**	**97**		Pg	06 41 14.2	-0.1
CROK				IAML		06 41 32.5	
comp=E,211nm,0.3s							
CROK				IAML		06 41 40.1	
comp=N,276nm,0.3s							
KAN14	**Manchester OK**	**1.03**	**71**		Pg	06 41 15.2	-0.3
CSTR	**Hydro, Custer**	**1.06**	**158**	Pg	Pg	06 41 15.9	-0.2
GC02	**Grant County #**	**1.08**	**78**		Pg	06 41 16.1	-0.4
KAN08	**Anthony NE Sta**	**1.14**	**58**	Pg	Pg	06 41 17.1	-0.4
KAN17	**Caldwell West**	**1.21**	**70**	Pg	Pg	06 41 18.4	-0.4
KAN06	**Argonia West S**	**1.22**	**60**	Pg	Pg	06 41 18.6	-0.6
KAN01	**Argonia South**	**1.25**	**65**	Pg	Pg	06 41 19.2	-0.5
BLOK	**Blackwell**	**1.58**	**85**		Pb	06 41 25.1	-0.5
OK029	**Liberty Lake**	**1.63**	**120**		Pb	06 41 25.8	-0.5
SMWD	**Samnorwood**	**1.75**	**210**		Pb	06 41 28.0	-0.5
SMWD				IAmb_Lg		06 41 52.7	
comp=Z,22nm,0.8s							
R32A	**Long Quarter,**	**1.82**	**12**		Pn	06 41 28.6	+0.6
WMOK	**Wichita Mounta**	**1.92**	**170**	IAmb_Lg		06 42 01.7	
comp=Z,13nm,0.8s							
FNO	**Franklin**	**1.99**	**133**		Pn	06 41 31.2	+0.9
OK031	**S. Brethren Rd**	**2.01**	**109**	IAmb_Lg		06 41 59.3	
comp=Z,15nm,1.0s							
AMTX	**Amarillo**	**2.68**	**230**	IAmb_Lg		06 42 20.4	
comp=Z,11nm,0.7s							
KSU1	**Kansas State U**	**3.19**	**39**	IAmb_Lg		06 42 38.5	
comp=Z,13nm,1.1s							
KSCO	**Kaye Shedlock'**	**3.62**	**312**	IAmb_Lg		06 42 57.1	
comp=Z,8.9nm,0.7s							
X37A	**Clayton**	**3.71**	**122**	IAmb_Lg		06 43 03.0	
comp=Z,7.0nm,0.9s							
U38A	**Gravette**	**3.87**	**91**	IAmb_Lg		06 43 04.4	
comp=Z,7.1nm,0.9s							
POST	**Post**	**4.04**	**209**	IAmb_Lg		06 43 10.7	
comp=Z,7.3nm,0.9s							
T25A	**Trinidad**	**4.22**	**278**	IAmb_Lg		06 43 08.3	
comp=Z,8.3nm,0.8s							
HHAR	**Hobbs**	**4.24**	**93**	IAmb_Lg		06 43 22.8	
comp=Z,6.1nm,1.0s							
R40A	**Maddies Statio**	**5.74**	**71**	IAmb_Lg		06 43 59.0	
comp=Z,4.8nm,0.8s							
MNHN	**Monahans**	**6.06**	**210**	IAmb_Lg		06 44 18.7	
comp=Z,4.0nm,1.0s							
JCT	**Junction City**	**6.16**	**185**	IAmb_Lg		06 44 26.1	
comp=Z,9.1nm,1.2s							
N38A	**Joes South For**	**6.23**	**46**	IAmb_Lg		06 44 29.8	
comp=Z,7.3nm,0.7s							
P40A	**Paris**	**6.32**	**61**	IAmb_Lg		06 44 18.0	
comp=Z,8.0nm,0.8s							
N23A	**Red Feather La**	**6.78**	**311**	IAmb_Lg		06 44 41.3	
comp=Z,4.9nm,0.7s							
PBMO	**Poplar Bluff**	**7.03**	**86**	IAmb_Lg		06 44 47.0	
comp=Z,5.0nm,0.8s							
RSSD	**Black Hills**	**8.34**	**335**	IAmb_Lg		06 45 40.9	
comp=Z,4.5nm,1.1s							

*VAO **19** 06:43:35.8±0.4, 32°.23S×71°.45W, h10km, mb4.8*
*SJA **19** 06:43:38.1±0.7, 32°.23S×71°.52W, h16km±2km, ML4.8, MW4.7*
*MOS **19** 06:43:39.1±1.1, 32°.13S×71°.25W, h33km, mb5.2/20, Error ellipse: s-maj=14.7km s-min=6.7km az=96.9*
*NEIC **19** 06:43:40.5±1.6, 32°.18S±0°.04×71°.49W±0°.06, h32km±4km, mb5.1/70, Mwr4.7/59, Mwr4.9(GUC), Error ellipse: s-maj=8.0km s-min=5.2km az=90.0, Moment Tensor Solution. Moment tensor: Scale 10^{16}Nm; M_{rr}1.33; $M_{\theta\theta}$-0.74; $M_{\phi\phi}$-0.59; $M_{r\theta}$0.04; $M_{\theta\phi}$-0.54; $M_{\phi r}$0.81; Fault plane solution: M_o1.52000×10^{16} NP1:ϕ_s28.97000°, δ60.09000°, λ71.02000°. NP2:ϕ_s243.57000°, δ34.95000°, λ119.48000°. Principal axes: T 1.6405, Plg69.0000°, Azm260.0000°; N -0.2923, Plg16.0000°, Azm39.0000°; P -1.3482, Plg13.0000°, Azm133.0000°;*
*GUC **19** 06:43:40.4±0.8, 32°.20S×71°.38W, h40km±1km, ML4.8*
*NEIC **19** 06:43:40.5, 32°.18S×71°.49W, h32km*
*IDC **19** 06:43:41.9±2.2, 32°.13S×71°.21W, h45km±19km, mb4.6/15, mbtmp4.7/20, ML4.4/5, MS3.9/36, Error ellipse: s-maj=17.5km s-min=12.0km az=84.0*
ISC 19 06:43:39.5±0.8, 32°.18S±0°.02×71°.43W±0°.03, h29km±5km, n558, σ1°18/571, mb5.1/57, MS4.0/34, 16C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.86**	**192**		Pn	06 43 56.3	+0.6
VA01	**Torpederas**	**0.86**	**192**	eP	Pn	06 43 41.0	-15
VA01				eS	Sn	06 43 56.4	-11
VA01				IAML		06 44 08.7	
comp=Z,37µm,0.4s							
VA01	**Torpederas**	**0.86**	**192**	eP	Pn	06 43 56.2	+0.6
VA01				iS	Sn	06 44 07.7	+0.4
VA01				IAML		06 44 09.4	
comp=E,64µm,0.2s							
ROCH	**El Roble**	**0.86**	**156**	eP	Pn	06 43 56.4	+0.4
ROCH				iS	Sn	06 44 07.7	-0.1
ROCH				IAML		06 44 08.7	
comp=N,77µm,0.5s							
ROC1	**El Roble**	**0.87**	**156**	eP	Pn	06 43 56.3	+0.2
ROC1				eS	Sn	06 44 07.3	-0.6
VA03	**San Esteban**	**0.94**	**128**		Pn	06 43 57.4	+0.4
VA03	**San Esteban**	**0.94**	**128**	eP	Pn	06 43 56.6	-0.3
VA03				eS	Sb	06 44 10.7	+1.1
VA03				IAML		06 44 14.2	
comp=Z,44µm,0.7s							
VA03	**San Esteban**	**0.94**	**128**	eP	Pn	06 43 57.3	+0.4
VA03				iS	Sb	06 44 09.4	-0.1
VA03				IAML		06 44 11.6	
comp=N,40µm,0.2s							
CO02	**Combarbal**	**1.04**	**21**		Pn	06 43 59.2	+0.9
CO02	**Combarbal**	**1.04**	**21**	eP	Pn	06 43 59.1	+0.9
CO02				eS	Sb	06 44 13.4	+1.1
CO02	**Combarbal**	**1.04**	**21**	eP	Pn	06 43 59.2	+0.9
CO02				iP	Pn	06 43 59.2	+0.9
CO02				iS	Sb	06 44 13.4	+1.1
MT02	**Curacav**	**1.10**	**167**		Pn	06 43 59.1	+0.1
MT02	**Curacav**	**1.10**	**167**	eP	Pn	06 43 59.1	+0.1
MT02				eS	Sb	06 44 14.9	+0.9
MT02				IAML		06 44 17.4	
comp=Z,14µm,0.7s							
MT02	**Curacav**	**1.10**	**167**	eP	Pn	06 43 59.1	+0.1
MT02				iS	Sn	06 44 13.7	+0.3
PEL	**Peldehue**	**1.15**	**147**		Pn	06 44 00.3	+0.6
PEL	**Peldehue**	**1.15**	**147**	eP	Pn	06 44 00.3	+0.6
PEL				eS	Sb	06 44 16.6	+1.3
PEL	**Peldehue**	**1.15**	**147**	eP	Pn	06 44 00.1	+0.4
PEL				IAML		06 44 13.6	
comp=N,61µm,0.4s							
PEL				iS	Sb	06 44 15.0	-0.3
PEL	**Peldehue**	**1.15**	**147**	P	Pn	06 44 00.3	+0.6
MT10	**Hacienda Santa**	**1.32**	**146**	eP	Pn	06 44 03.3	+1.1
MT10				iS	Sb	06 44 19.8	-0.7
MT10				IAML		06 44 24.3	
comp=N,49µm,0.3s							
MT05	**Renca**	**1.34**	**154**		Pn	06 44 03.4	+1.0
MT05	**Renca**	**1.34**	**154**	eP	Pn	06 44 03.6	+1.2
MT05				eS	Sb	06 44 21.6	+0.8
MT05				IAML		06 44 24.8	
comp=Z,17µm,0.2s							
MT05	**Renca**	**1.34**	**154**	eP	Pb	06 44 03.8	-0.3
MT05				iS	Sb	06 44 20.5	-0.4
MT05				IAML		06 44 25.3	
comp=E,33µm,0.2s							
MT14	**Cerro Cal¡n**	**1.43**	**148**	eP	Pn	06 44 04.8	+1.2
MT14				iS	Sb	06 44 22.6	-0.7
MT14				IAML		06 44 23.9	
comp=E,45µm,0.7s							
MT16	**CCHEN**	**1.46**	**149**	Pn	Pn	06 44 04.9	+0.9
MT16	**CCHEN**	**1.46**	**149**	eP	Pn	06 44 05.2	+1.2
MT16				iS	Sn	06 44 23.2	+0.9
MT16				IAML		06 44 24.6	
comp=N,15µm,0.7s							
CO03	**El Pedregal**	**1.48**	**26**	Pn	Pn	06 44 05.3	+1.0
CO03	**El Pedregal**	**1.48**	**26**	eP	Pn	06 44 05.7	+1.4
CO03				eS	Sb	06 44 27.4	+2.6
CO03				IAML		06 44 29.4	
comp=Z,8µm,0.7s							
CO03	**El Pedregal**	**1.48**	**26**	eP	Pn	06 44 05.8	+1.5
CO03				iS	Sb	06 44 24.9	+0.1
CO03				IAML		06 44 28.4	
comp=N,15µm,0.2s							
VA05	**Santo Domingo**	**1.48**	**186**		Pn	06 44 05.3	+1.1
VA05	**Santo Domingo**	**1.48**	**186**	eP	Pn	06 44 05.7	+1.5
VA05				iS	Sb	06 44 24.7	-0.1
VA05				IAML		06 44 30.9	
comp=N,47µm,0.4s							
FCH	**Farellones**	**1.49**	**140**	eP	Pn	06 44 05.7	+1.0
FCH				iS	Sn	06 44 24.1	+0.7
CO06	**Fray Jorge**	**1.51**	**353**		Pn	06 44 05.6	+1.0
CO06	**Fray Jorge**	**1.51**	**353**	eP	Pn	06 44 05.8	+1.1
CO06				iS	Sb	06 44 25.9	+0.3
CO06				IAML		06 44 29.9	
comp=N,12µm,0.4s							
MT15	**Las Vizcachas**	**1.61**	**151**	eP	Pn	06 44 07.1	+1.0
MT15				iS	Sb	06 44 28.1	-0.6
MT09	**Talagante**	**1.63**	**167**	Pn	Pn	06 44 07.0	+0.5
MT09	**Talagante**	**1.63**	**167**	eP	Pn	06 44 07.5	+1.0
MT09				iS	Sb	06 44 29.2	-0.1
MT09				IAML		06 44 33.9	
comp=E,30µm,0.6s							
MT04	**Ro Olivares**	**1.64**	**139**	eP	Pn	06 44 07.7	+1.1
MT04				iS	Sb	06 44 28.6	-0.9
MT04				IAML		06 44 34.8	
comp=N,9µm,0.4s							
MT01	**Popeta**	**1.69**	**175**		Pn	06 44 08.7	+1.6
MT01	**Popeta**	**1.69**	**175**	eP	Pn	06 44 08.4	+1.3
MT01				eS	Sb	06 44 30.9	+0.2
MT01				IAML		06 44 33.7	
comp=Z,14µm,0.8s							
MT01	**Popeta**	**1.69**	**175**	eP	Pn	06 44 08.2	+1.1
MT01				iS	Sb	06 44 30.1	-0.5
MT01				IAML		06 44 35.8	
comp=E,24µm,0.5s							
MT12	**Pirque**	**1.72**	**155**	eP	Pn	06 44 08.7	+1.1
MT12				iS	Sn	06 44 30.2	+1.6
MT12				IAML		06 44 40.8	
comp=N,40µm,0.4s							
MT08	**Bocatoma Ro**	**1.73**	**137**		Pn	06 44 09.2	+1.3
MT08	**Bocatoma Ro**	**1.73**	**137**	eP	Pb	06 44 09.8	-1.0
MT08				iS	Sb	06 44 31.5	-0.8
MT08				IAML		06 44 39.2	
comp=N,8µm,0.6s							
MT13	**San Alfonso**	**1.83**	**149**		Pn	06 44 10.3	+1.1
MT13	**San Alfonso**	**1.83**	**149**	eP	Pn	06 44 10.4	+1.3
MT13				iS	Sn	06 44 33.1	+1.6
MT13				IAML		06 44 37.0	
comp=N,16µm,0.2s							
RTLS	**Leoncito**	**1.85**	**79**	eP	Pb	06 44 13.4	+0.5
RTLS				eS	Sb	06 44 39.4	+3.6
RTLS				IAML		06 44 44.7	
comp=Z,9µm,0.9s							
BO04	**La Punta**	**1.93**	**159**		Pn	06 44 11.8	+1.3
BO04	**La Punta**	**1.93**	**159**	eP	Pn	06 44 11.6	+1.1
BO04				iS	Sn	06 44 35.3	+1.5
BO04				IAML		06 44 38.8	
comp=N,17µm,0.3s							
LMEL	**Las Melosas**	**1.96**	**149**		Pn	06 44 12.0	+1.1
LMEL	**Las Melosas**	**1.96**	**149**	eP	Pn	06 44 12.4	+1.5
LMEL				iS	Sn	06 44 36.6	+2.0
GO04	**Tololo Observa**	**2.07**	**15**		Pn	06 44 14.9	+2.3
GO04	**Tololo Observa**	**2.07**	**15**	eP	Pb	06 44 15.3	-1.3
GO04				eS	Sb	06 44 47.2	+5.1
GO04	**Tololo Observa**	**2.07**	**15**	eP	Pn	06 44 14.3	+1.7
GO04				iS	Sb	06 44 41.1	-1.0
ARCO	**CERRO ARCO**	**2.21**	**108**	eP	Pb	06 44 19.3	+0.3
ARCO				IAML		06 44 51.8	
comp=Z,3µm,0.8s							
BO01	**Tunca**	**2.22**	**173**	Pn	Pn	06 44 16.1	+1.6
BO01	**Tunca**	**2.22**	**173**	eP	Pn	06 44 16.1	+1.6
BO01				eS	Sb	06 44 44.2	-1.9
BO01				IAML		06 44 53.4	
comp=Z,8µm,0.8s							
BO01	**Tunca**	**2.22**	**173**	eP	Pn	06 44 16.3	+1.9
BO01				iS	Sn	06 44 43.0	+2.0
BO01				IAML		06 44 49.8	
comp=N,7µm,0.3s							
ASAL	**Salagasta**	**2.23**	**101**	eP	Pb	06 44 19.1	-0.2
ASAL				eS	Sb	06 44 53.6	+7.1
CO05	**La Serena**	**2.26**	**4**	Pn	Pn	06 44 16.3	+1.3
CO05	**La Serena**	**2.26**	**4**	eP	Pn	06 44 16.8	+1.8
CO05				iS	Sb	06 44 45.3	-1.9
CO05				IAML		06 44 50.4	
comp=E,15µm,0.7s							
DOCA	**Reserva Natura**	**2.35**	**59**	eP	Pb	06 44 20.4	-1.0
DOCA				eS	Sb	06 44 51.2	+1.1
DOCA				IAML		06 44 53.5	
comp=Z,11µm,1.6s							
AAGR	**Agrelo**	**2.37**	**113**	eP	Pb	06 44 21.4	-0.3
ZON	**Zonda**	**2.43**	**76**		Pb	06 44 21.1	-1.4
ZON	**Zonda**	**2.43**	**76**	eP	Pb	06 44 21.7	-0.8
ZON				IAML		06 45 00.5	
comp=Z,2µm,0.7s							
ZON	**Zonda**	**2.43**	**76**	P	Pb	06 44 21.1	-1.4
RTCV	**Cerro Valdivia**	**2.48**	**83**	eP	Pb	06 44 22.7	-0.6
CO01	**Juntas del Tor**	**2.48**	**28**		Pn	06 44 20.7	+2.5
CO01	**Juntas del Tor**	**2.48**	**28**	eP	Pn	06 44 20.6	+2.5
CO01				eS	Sb	06 44 54.1	+0.4
CO01				IAML		06 45 04.9	
comp=Z,3µm,1.1s							
CO01	**Juntas del Tor**	**2.48**	**28**	eP	Pn	06 44 20.6	+2.4
CO01				iS	Sb	06 44 51.0	-2.7
CO01				IAML		06 44 57.5	
comp=N,3µm,0.4s							
ACCO	**Cerro Coronel**	**2.57**	**52**	eP	Pb	06 44 24.1	-1.1
AROD	**Rodeo**	**2.62**	**40**	eP	Pb	06 44 24.6	-1.3
BO02	**Sierra Bellavi**	**2.66**	**168**		Pn	06 44 22.6	+2.0
BO02	**Sierra Bellavi**	**2.66**	**168**	eP	Pn	06 44 22.3	+1.8
BO02				eS	Sb	06 45 00.4	+1.7
BO02				IAML		06 45 07.2	
comp=Z,11µm,0.7s							
BO02	**Sierra Bellavi**	**2.66**	**168**	eP	Pn	06 44 22.4	+1.8
BO02				iS	Sn	06 44 53.5	+1.6
AVIZ	**Vizcacheras**	**2.77**	**118**	eP	Pb	06 44 25.8	-2.6
ACDV	**Cuesta del Vie**	**2.82**	**45**	eP	Pb	06 44 27.4	-1.8
ACDV				IAML		06 45 21.4	
comp=Z,2µm,1.0s							
GO05	**Huala**	**2.85**	**188**	Pn	Pn	06 44 23.6	+0.5
GO05	**Huala**	**2.85**	**188**	eP	Pn	06 44 23.6	+0.5
GO05				eS	Sb	06 45 09.5	+5.3
GO05	**Huala**	**2.85**	**188**	eP	Pn	06 44 23.8	+0.6
GO05				iS	Sb	06 45 05.8	+1.6
LCO	**Las Campanas**	**3.22**	**11**	Pn	Pn	06 44 29.9	+1.4
LCO	**Las Campanas**	**3.22**	**11**	eP	Pn	06 44 30.3	+1.8
LCO				eS	Sb	06 45 16.6	+1.5
LCO	**Las Campanas**	**3.22**	**11**	eP	Pn	06 44 30.2	+1.8
LCO				iS	Sn	06 45 08.7	+2.7
LCO	**Las Campanas**	**3.22**	**11**	P	Pn	06 44 29.9	+1.4
AC05	**El Transito**	**3.48**	**17**	Pn	Pn	06 44 34.4	+2.5
AC05	**El Transito**	**3.48**	**17**	eP	Pn	06 44 34.3	+2.5
AC05				eS	Sb	06 45 24.1	+1.7
AC05				IAML		06 45 37.2	
comp=Z,2µm,0.8s							
ML02	**Panimavida**	**3.57**	**180**		Pn	06 44 33.9	+0.9
ML02	**Panimavida**	**3.57**	**180**	eP	Pn	06 44 34.3	+1.3
ML02				iS	Sn	06 45 15.8	+1.5
RFA	**San Rafael**	**3.58**	**137**	eP	Pn	06 44 35.8	+2.6
RFA				IAML		06 45 40.7	
comp=Z,1µm,1.0s							
AGUA	**GUANDACOL**	**3.69**	**44**	eP	Pn	06 44 39.1	+4.4
AGUA				IAML		06 45 52.3	
comp=Z,2µm,1.0s							
AVFE	**Valle Fertil**	**3.72**	**67**	eP	Pn	06 44 38.5	+3.4
AVFE				IAML		06 45 49.1	
comp=Z,1µm,0.6s							
AC04	**Llanos de Chal**	**3.98**	**5**	Pn	Pn	06 44 39.6	+1.0
AC04	**Llanos de Chal**	**3.98**	**5**	eS	Sb	06 45 41.5	+5.0
AC04				IAML		06 45 43.1	
comp=Z,2µm,0.7s							
BI05	**Punta Hualpn**	**4.78**	**197**		Pn	06 44 48.9	-0.7
AC06	**Mina Casimiro**	**4.90**	**11**		Pn	06 44 51.9	+0.7
AC01	**Pan de Azucar**	**6.05**	**7**		Pn	06 45 06.3	-0.9
VA04	**Juan Fernndez**	**6.39**	**255**		Pn	06 45 11.7	0.0
H03N1	**Juan Fernandez**	**6.42**	**257**	T	T	06 51 48.0	
baz=86,slow=73,SNR=2484							
H03N3	**Juan Fernandez**	**6.43**	**257**	T	T	06 51 47.8	
baz=86,slow=73,SNR=3631							
H03N2	**Juan Fernandez**	**6.44**	**257**	T	T	06 51 48.2	
baz=86,slow=73,SNR=6689							
H03S3	**Juan Fernandez**	**6.49**	**253**	T	T	06 51 51.0	
baz=83,slow=75,SNR=140							
H03S1	**Juan Fernandez**	**6.49**	**253**	T	T	06 51 43.4	
baz=83,slow=75,SNR=49							
H03S2	**Juan Fernandez**	**6.51**	**253**	T	T	06 51 48.0	
baz=83,slow=75,SNR=734							
LC02	**Puerto Saavedr**	**6.79**	**193**		Pn	06 45 17.1	0.0
GO02	**Mina Guanaco**	**7.18**	**13**		Pn	06 45 23.1	+0.3
GO06	**Curarrehue**	**7.39**	**180**		Pn	06 45 26.6	+1.0
LR03	**Panguipulli**	**7.47**	**185**		Pn	06 45 26.4	-0.1
PB14	**IPOC Station P**	**7.58**	**7**	Pn	Pn	06 45 27.3	-1.1
LR04	**Corral**	**7.85**	**191**		Pn	06 45 30.7	-1.0
LR05	**Currie**	**8.05**	**183**		Pn	06 45 34.5	+0.1
PLCA	**Paso Flores**	**8.56**	**176**		Pn	06 45 43.3	+1.7
PLCA	**Paso Flores**	**8.56**	**176**	P	Pn	06 45 43.6	+2.0
comp=Z,1.5nm,0.3s,baz=345,slow=9.5,SNR=40							
PLCA				S	Sn	06 47 16.9	-0.4
comp=Z,16nm,0.8s,baz=318,slow=16,SNR=1.3							
PLCA				LR	LR	06 49 05.3	
comp=Z,956nm,18.0s,baz=358,slow=38							
comp=Z,4.4nm,0.4s							
PLCA	**Paso Flores**	**8.56**	**176**	P	Pn	06 45 43.3	+1.7
PLCA	**Paso Flores**	**8.56**	**176**	eP	Pn	06 45 39.4	-2.2
LL04	**Puerto Octay**	**8.75**	**185**		Pn	06 45 43.7	-0.4
PB15	**IPOC Station P**	**9.11**	**11**		Pn	06 45 48.5	-0.7
TRQA	**Tornquist**	**9.71**	**130**		Pn	06 45 58.3	+1.0
TRQA	**Tornquist**	**9.71**	**130**	P	Pn	06 45 58.3	+1.0
LVC	**Limon Verde**	**9.79**	**14**	P	Pn	06 45 57.1	-1.6
comp=Z,1.3nm,0.3s,baz=204,slow=5.9,SNR=8.8							
LVC				LR	LR	06 50 00.6	
comp=Z,765nm,19.1s,baz=206,slow=39							
comp=Z,2.5nm,0.3s							
LVC	**Limon Verde**	**9.79**	**14**	eP	Pn	06 45 57.0	-1.8
LL01	**San Ignacio de**	**10.21**	**184**		Pn	06 46 03.5	-0.6
TICA	**Tres Isletas**	**11.24**	**62**	eP	Pn	06 46 18.3	+0.1
PSAL	**Pal

comp=Z,125nm,1.7s
PCMB **Pacaembu** 20.81 65 *e*P P 06 48 17.8 -0.9
FRTB **Fartura** 21.23 71 *e*P P 06 48 21.8 -1.4
SALV **Santo Antonio** 21.62 45 *e*P P 06 48 26.7 -0.7
MG03 **Isla Dawson** 21.67 178 P P 06 48 27.2 -0.4
VILB **Vilhena** 21.74 31 P P 06 48 27.7 -1.0
VILB **Vilhena** 21.74 31 *e*P P 06 48 27.7 -1.0
EFI **East Falkland** 21.81 157 P P 06 48 28.4 -0.7
EFI IAmb IAmb 06 48 46.0
comp=Z,53nm,0.9s
EFI **East Falkland** 21.81 157 *c i*P P 06 48 30.1 +1.0
EFI pmax pmax
comp=Z,43nm,1.3s
ITRB **Iturama** 22.61 62 *e*P P 06 48 36.4 -1.7
ETMB **Extrema** 22.77 13 P P 06 48 39.7 -0.1
ETMB **Extrema** 22.77 13 *e*P P 06 48 40.1 +0.3
BB19B **Bebedouro** 23.23 67 *e*P P 06 48 43.9 -0.6
RCLB **Rio Claro- Sao** 23.31 71 *e*P P 06 48 44.8 -0.5
ARAG **Araguaiana, MT** 24.23 52 *e*P P 06 48 53.3 -0.7
SAML **Samuel** 24.35 20 P P 06 48 53.8 -1.3
SAML **Samuel** 24.35 20 P P 06 48 53.8 -1.3
SAML pmax pmax
comp=Z,11nm,1.0s
SAML **Samuel** 24.35 20 *e*P P 06 48 54.6 -0.5
CZSB **Cruzeiro do Su** 24.36 357 P P 06 48 55.4 +0.3
CZSB IAmb IAmb 06 49 11.6
comp=Z,47nm,1.1s
CZSB **Cruzeiro do Su** 24.36 357 *e*P P 06 48 55.5 +0.4
PDRB **Porto dos Gac** 24.54 37 *e*P P 06 48 56.0 -0.9
IPMB **Ipameri, GO** 25.27 62 *e*P P 06 49 02.0 -1.5
ATAH **Atahualpa** 25.75 344 LR LR 06 57 19.1
comp=Z,275nm,21.8s,baz=217,slow=32
SNDB **Serra Nova Dou** 27.34 47 *e*P P 06 49 21.0 -1.1
TBTG **Tabatinga, AM** 27.89 3 *e*P P 06 49 26.8 -0.2
DIAM **Diamantina, MG** 28.56 68 *e*P P 06 49 31.6 -1.6
NPGB **Novo Progresso** 29.15 34 *e*P P 06 49 36.4 -1.9
TEFE **Tefe** 29.23 14 *e*P P 06 49 38.7 -0.2
JANB **Januaria** 30.00 62 *e*P P 06 49 44.9 -1.1
MACA **Manacapuru-AM** 30.58 21 P P 06 49 49.6 -1.3
MACA IAmb IAmb 06 50 12.8
comp=Z,20nm,0.7s
MACA **Manacapuru-AM** 30.58 21 *e*P P 06 49 50.2 -0.7
SDBA **SAO DESIDERIO** 31.31 57 *e*P P 06 49 56.4 -1.0
SMTB **Santa Maria do** 32.05 49 *e*P P 06 50 03.5 -0.4
PMSA **Palmer Station** 32.94 174 LR LR 07 02 50.0
comp=Z,216nm,20.6s,baz=336,slow=35
RPN **Rapa Nui** 33.20 269 LR LR 06 59 34.3
comp=Z,226nm,20.8s,baz=110,slow=28
BOAV **Boa Vista** 35.91 19 P P 06 50 36.7 -0.7
BOAV IAmb IAmb 06 50 48.1
comp=Z,15nm,0.8s
BOAV **Boa Vista** 35.91 19 *e*P P 06 50 37.0 -0.4
ROSC **El Rosal** 36.92 355 P P 06 50 46.6 +0.2
comp=Z,12nm,0.7s,baz=202,slow=23,SNR=2.0
ROSC LR LR 07 06 56.2
comp=Z,183nm,19.0s,baz=188,slow=38
comp=Z,12nm,0.7s
SDV **Santo Domingo** 40.84 1 LR LR 07 10 16.8
comp=Z,114nm,19.3s,baz=176,slow=39
BAUV **El Baul** 41.02 5 P P 06 51 19.6 -0.7
BAUV IAmb IAmb 06 51 31.7
comp=Z,31nm,1.0s
MDP **Montagnes des** 41.16 29 LR LR 07 09 59.4
comp=Z,289nm,20.3s,baz=203,slow=38
RCBR **Riachuelo** 42.27 59 LR LR 07 10 28.8
comp=Z,316nm,18.2s,baz=187,slow=38
PCRV **Puerto La Cruz** 42.62 10 LR LR 07 11 23.9
comp=Z,127nm,18.4s,slow=39
ORTG **Ortega, Santa** 44.38 340 P P 06 51 49.0 +1.3
BELA **Belgrano 2** 48.58 170 P P 06 52 20.3 +0.5
BELA IAmb IAmb 06 52 22.2
comp=Z,14nm,1.0s
OBIP **Obispado Ponce** 50.15 6 P P 06 52 31.6 -0.8
APG **El Apazote** 50.34 336 LR LR 07 09 34.6
comp=Z,8.5nm,19.2s,baz=219,slow=31
VNA3 **Neumayer Olymp** 50.85 158 ⇑P P 06 52 37.5 +0.3
comp=Z,10nm,0.8s
VNA2 **Neumayer--Watz** 51.49 158 ⇑P P 06 52 41.9 -0.1
comp=Z,8.4nm,0.6s,baz=289,slow=5.4
SNAA **Sanae** 53.08 158 P P 06 52 54.0 +0.1
SNAA IAmb IAmb 06 52 55.5
comp=Z,23nm,1.0s
SNAA **Sanae** 53.08 158 ⇑P P 06 52 54.0 +0.1
comp=Z,366nm,0.9s
SNAA **Sanae** 53.08 158 P P 06 52 54.4 +0.5
comp=Z,14nm,0.8s,baz=276,slow=6.1,SNR=38
SNAA LR LR 07 13 37.2
comp=Z,127nm,21.7s,baz=270,slow=34
comp=Z,14nm,0.8s
SNAA **Sanae** 53.08 158 *c i*P P 06 52 54.1 +0.2
SNAA pmax pmax
comp=Z,25nm,1.0s
CMIG **Matias Romero** 53.90 332 LR LR 07 10 13.3
comp=Z,133nm,21.7s,baz=176,slow=30
TEIG **Tepich** 54.55 340 P P 06 53 04.9 -0.2
TROLL **Troll, Antarti** 54.79 159 ⇑P P 06 53 07.1 +0.6
comp=Z,610nm,0.8s
SOR **Soroa** 55.77 347 P P 06 53 12.8 -1.0
SOR IAmb IAmb 06 53 29.8
comp=Z,23nm,1.1s
SOR **Soroa** 55.77 347 P P 06 53 12.9 -1.0
SOR pmax pmax
comp=Z,23nm,1.1s
NVL **N'lazarevskaya** 57.79 157 *e*P P 06 53 27.2 -0.4
NVL pmax pmax
comp=Z,23nm,0.9s
NVL MLR MLR
comp=Z,545nm,19.0s
QSPA **South Pole Qui** 58.05 180 P P 06 53 30.6 +0.8
QSPA **South Pole Qui** 58.05 180 P P 06 53 30.8 +1.0
comp=Z,28nm,0.9s,baz=151,slow=1.9,SNR=82
comp=Z,28nm,0.9s
DWPF **Disney Wildern** 60.71 350 P P 06 53 47.9 -0.4
baz=170
SHEL **Horse Pasture** 61.27 91 P P 06 53 52.3 -0.2
SHEL **Horse Pasture** 61.27 91 P P 06 53 52.3 -0.2
SHEL pmax pmax
comp=Z,187nm,1.3s
656A **Willston** 62.11 349 P P 06 53 57.5 -0.2
553A **Crawfordville** 63.24 347 P P 06 54 05.2 0.0
TIGA **Tifton** 64.31 348 P P 06 54 11.7 -0.6
baz=169
HBVL **Hebbronville** 64.38 333 P P 06 54 14.6 +1.8
HBVL IAmb IAmb 06 54 15.5
comp=Z,16nm,0.9s
BRAL **Brewton** 64.72 345 P P 06 54 13.9 -1.0
baz=166
SBA **Scott Base** 64.96 191 P P 06 54 17.6 +1.6
SBA **Scott Base** 64.96 191 P P 06 54 17.6 +1.6
SBA pmax pmax
comp=Z,11nm,1.3s
735A **Kenedy** 65.67 335 P P 06 54 21.6 +0.4
833A **Chaparral WMA,** 65.79 333 P P 06 54 22.0 +0.1
baz=154
VNDA **Vanda** 65.98 191 P P 06 54 23.6 +1.0
VNDA **Vanda** 65.98 191 P P 06 54 24.0 +1.3
comp=Z,2.8nm,0.9s,baz=132,slow=5.7,SNR=10.0
comp=Z,2.8nm,0.9s
VNDA **Vanda** 65.98 191 P P 06 54 23.6 +1.0
VNDA pmax pmax
comp=Z,7.0nm,1.1s
GOGA **Godfrey** 66.22 349 P P 06 54 24.3 -0.3
baz=169
LRAL **Lakeview Retre** 66.51 346 P P 06 54 26.1 -0.4
baz=166
VBMS **Vicksburg** 66.55 342 P P 06 54 26.8 +0.1
baz=163
HNDO **Hondo** 66.83 334 P P 06 54 29.8 +1.1
LPIG **La Paz** 67.17 322 LR LR 07 18 35.5
comp=Z,56nm,19.3s,baz=192,slow=31
NATX **Nacogdoches** 67.28 339 P P 06 54 32.2 +0.8
baz=159
CNNC **Cliffs of the** 67.34 354 P P 06 54 32.1 +0.4
baz=174
435B **Jarrell** 67.35 336 P P 06 54 32.4 +0.5
baz=156
KMSC **Kings Mountain** 67.61 351 P P 06 54 34.0 +0.5
baz=171
JCT **Junction City** 67.88 334 P 06 54 36.0 +0.7
JCT IAmb IAmb 06 54 37.2
comp=Z,22nm,1.0s
JCT **Junction City** 67.88 334 P P 06 54 35.4 +0.2
baz=154
JCT **Junction City** 67.88 334 P P 06 54 36.0 +0.7
JCT pmax pmax
comp=Z,22nm,1.0s
BRDY **Brady** 68.31 335 P 06 54 38.1 +0.2
BRDY IAmb IAmb 06 54 39.5
comp=Z,9.1nm,0.8s
CPCT **Cooper Cave** 68.39 349 P P 06 54 37.4 -0.9
CPCT IAmb IAmb 06 54 54.2
comp=Z,30nm,1.4s
WHTX **Lake Whitney,** 68.41 336 P P 06 54 38.5 0.0
baz=157
TXAR **Lajitas Array** 68.41 330 P P 06 54 40.1 +1.4
TXAR **Lajitas Array** 68.41 330 P P 06 54 39.9 +1.2
comp=Z,3.9nm,0.7s,baz=151,slow=8.3,SNR=61
TXAR LR LR 07 19 57.1
comp=Z,82nm,19.6s,baz=154,slow=32
comp=Z,3.9nm,0.7s
TXAR **Lajitas Array** 68.41 330 P P 06 54 40.1 +1.4
TX31 **Lajitas Ar. Si** 68.41 330 P P 06 54 39.0 +0.3
OXF **Oxford** 68.46 344 P P 06 54 38.5 -0.3
OXF **Oxford** 68.46 344 P P 06 54 38.5 -0.3
baz=164,SNR=9.2
OXF **Oxford** 68.46 344 P P 06 54 38.5 -0.3
OXF pmax pmax
comp=Z,49nm,1.0s
V52A **Sevierville** 68.62 349 P P 06 54 39.5 -0.2
V52A IAmb IAmb 06 54 40.4
comp=Z,21nm,1.2s
OZNA **Ozona** 68.78 333 P P 06 54 41.3 +0.4
OZNA IAmb IAmb 06 54 42.6
comp=Z,13nm,0.8s
TZTN **Tazewell** 69.30 350 P P 06 54 43.6 -0.4
baz=169
BLA **Blacksburg** 69.54 352 P P 06 54 45.6 +0.1
baz=172
MIAR **Mount Ida** 69.56 341 P P 06 54 45.8 +0.2
baz=160
WVT **Waverly** 69.67 346 P P 06 54 45.7 -0.5
WVT **Waverly** 69.67 346 P P 06 54 46.5 +0.2
baz=165
WVT **Waverly** 69.67 346 P P 06 54 45.7 -0.5
WVT pmax pmax
comp=Z,151nm,0.9s
ABTX **Abilene, Hawle** 69.75 335 P P 06 54 47.1 +0.3
baz=155
MNHN **Monahans** 69.79 332 P P 06 54 47.8 +0.5
MNHN IAmb IAmb 06 54 49.0
comp=Z,15nm,0.8s
CBN **Corbin Frederi** 70.24 355 P P 06 54 50.5 +0.8
baz=175
LCAR **Lake Charles** 70.37 343 P P 06 54 50.4 -0.1
LCAR IAmb IAmb 06 54 51.5
comp=Z,20nm,0.8s
ODSA **Odessa** 70.39 332 P P 06 54 51.0 +0.1
PBMO **Poplar Bluff** 70.87 344 P P 06 54 53.5 -0.1
PBMO IAmb IAmb 06 54 54.1
comp=Z,11nm,0.7s
PPT **Papeete** 71.02 261 P P 06 54 57.3 +2.2
comp=Z,31nm,0.6s,baz=77,slow=8.8,SNR=4.4
comp=Z,31nm,0.6s
MNTX **Cornudas Mount** 71.19 330 P P 06 54 55.2 -0.5
baz=150
WMOK **Wichita Mounta** 71.36 336 P P 06 54 56.6 0.0
baz=156
WCI **Wyandotte Cave** 71.41 348 P P 06 54 56.8 0.0
baz=167
TUL3 **Leonard** 71.48 339 P 06 54 57.3 0.0
TUL3 IAmb IAmb 06 54 58.4
comp=Z,16nm,0.8s
TUL3 **Leonard** 71.48 339 P P 06 54 57.3 0.0
baz=158
MCWV **Mont Chateau** 71.90 353 P P 06 54 59.9 +0.1
baz=173
MSTX **Muleshoe** 72.11 333 P P 06 55 01.4 +0.1
MSTX IAmb IAmb 06 55 02.7
comp=Z,20nm,0.8s
MSTX **Muleshoe** 72.11 333 P P 06 55 01.2 -0.1
baz=153
P52A **Corning** 72.14 351 P P 06 55 00.7 -0.5
baz=171
SMWD **Samnorwood** 72.19 335 P P 06 55 01.9 +0.2
SMWD IAmb IAmb 06 55 03.2
comp=Z,23nm,0.9s
CCM **Cathedral Cave** 72.28 344 P P 06 55 01.4 -0.6
baz=163
CCM **Cathedral Cave** 72.28 344 P P 06 55 02.1 +0.1
CCM pmax pmax
comp=Z,33nm,1.0s
P49A **Miami Univ. Ec** 72.41 349 P P 06 55 02.7 -0.2
baz=168
P48A **Milroy** 72.45 349 P P 06 55 02.1 -1.0
P48A IAmb IAmb 06 55 03.4
comp=Z,38nm,1.4s
AMTX **Amarillo** 72.52 334 P P 06 55 03.8 +0.2
baz=154
O53A **New Philadelph** 72.63 352 P P 06 55 04.1 0.0
baz=171
SSPA **Standing Stone** 72.70 355 P P 06 55 04.8 +0.3
baz=174
R40A **Maddies Statio** 72.75 343 P P 06 55 04.5 -0.4
ACSO **Alum Creek Sta** 72.84 351 P P 06 55 05.4 +0.1
baz=170
PAL **Palisades** 72.86 358 P P 06 55 05.8 +0.4
baz=178
121A **Cookes Peak, D** 72.95 328 P P 06 55 07.0 +0.6
baz=148
O48B **Farmland** 73.19 349 P P 06 55 07.2 -0.2
baz=168
SFIN **Lafayette** 73.64 348 P P 06 55 09.3 -0.7
baz=166
N49A **Columbus Grove** 73.69 350 P P 06 55 09.5 -0.8
N49A IAmb IAmb 06 55 11.0
comp=Z,23nm,0.8s
M53A **WI Miller and** 73.75 353 P P 06 55 10.4 -0.3
baz=172
DBIC **Dimbokro** 74.11 71 P P 06 55 12.9 -0.6
DBIC IAmb IAmb 06 55 13.8
comp=Z,17nm,0.8s
DBIC **Dimbokro** 74.11 71 P P 06 55 12.3 -1.1
comp=Z,20nm,0.8s,baz=223,slow=5.8,SNR=18
DBIC LR LR 07 24 22.7
comp=Z,90nm,22.0s,baz=198,slow=33
comp=Z,20nm,0.8s
DBIC **Dimbokro** 74.11 71 P P 06 55 12.9 -0.6
DBIC pmax pmax
comp=Z,17nm,0.8s
BINY **Binghamton** 74.13 356 P P 06 55 13.6 +0.6
baz=176
TUC **Tucson** 74.14 326 P P 06 55 14.4 +1.1
baz=146
HDIL **Hopedale** 74.24 346 P P 06 55 13.4 -0.1
baz=164
L61B **Northampton** 74.28 359 P P 06 55 14.1 +0.3
baz=179
HRV **Adam Dziewonsk** 74.32 360 P P 06 55 14.2 +0.2
baz=180
ERPA **Erie** 74.35 353 P P 06 55 14.3 +0.2
baz=173
ANMO **Albuquerque** 74.44 331 P P 06 55 16.1 +0.9
baz=150
ANMO **Albuquerque** 74.44 331 LR LR 07 23 35.1
comp=Z,110nm,20.3s,baz=260,slow=32
ANMO **Albuquerque** 74.44 331 *c i*P P 06 55 16.4 +1.3
ANMO pmax pmax
comp=Z,15nm,1.4s
WVNY **West Valley, N** 74.52 354 P P 06 55 15.4 +0.2
WVNY IAmb IAmb 06 55 16.6
comp=Z,26nm,0.9s
KSU1 **Kansas State U** 74.68 340 P P 06 55 16.6 +0.4
baz=158
MAW **Mawson** 74.78 163 P P 06 55 16.6 +0.1
comp=Z,13nm,1.0s,baz=233,slow=9.3,SNR=6.9
MAW LR LR 07 28 49.2
comp=Z,115nm,19.6s,slow=36
comp=Z,13nm,1.0s
214A **Organ Pipe Nat** 74.83 324 P P 06 55 17.7 +0.4
baz=145
SUR **Sutherland** 75.26 119 LR LR 07 24 52.1
comp=Z,68nm,18.9s,baz=223,slow=33
CBKS **Cedar Bluff** 75.38 337 P P 06 55 20.9 +0.6
baz=156
L44A **Lake County Fo** 75.53 347 P P 06 55 22.6 +1.6
baz=166
T25A **Trinidad** 75.53 333 P P 06 55 22.9 +1.5
baz=152
W18A **Petrified Fore** 76.00 328 P P 06 55 25.3 +1.2
baz=147
LBNH **Lisbon** 76.06 360 P P 06 55 24.6 +0.7
baz=180
X16A **Lo Mia Camp, P** 76.19 327 P P 06 55 26.4 +1.2
X16A IAmb IAmb 06 55 27.9
comp=Z,20nm,1.0s
SCIA **State Center** 76.40 343 P P 06 55 26.6 +0.6
baz=161
SDCO **Great Sand Dun** 76.48 333 P P 06 55 28.2 +1.3
baz=151
LONY **Lake Ozonia** 76.49 358 P P 06 55 27.7 +1.3
baz=177
Y14A **Wickenburg** 76.53 325 P P 06 55 28.2 +1.2
KSCO **Kaye Shedlock'** 76.54 335 P P 06 55 28.5 +1.6
baz=153
JFWS **Jewell Farm** 76.70 346 P P 06 55 27.2 -0.4
JFWS IAmb IAmb 06 55 28.8
comp=Z,35nm,1.4s
JFWS **Jewell Farm** 76.70 346 P P 06 55 27.7 +0.1
baz=164
JFWS **Jewell Farm** 76.70 346 P P 06 55 27.2 -0.4
JFWS pmax pmax
comp=Z,35nm,1.4s
GLA **Glamis** 76.72 324 P P 06 55 28.8 +0.7
baz=143
SADO **Sadowa** 76.91 354 P P 06 55 28.6 -0.1
SADO **Sadowa** 76.91 354 LR LR 07 30 25.2
comp=Z,40nm,21.5s,baz=109,slow=36
G62A **West of Eustis** 77.04 1 P P 06 55 30.1 +0.6
G62A IAmb IAmb 06 55 31.5
comp=Z,12nm,0.9s
IKP **In-Ko-Pah, Jac** 77.05 323 P P 06 55 31.2 +1.2
baz=142
WUAZ **Wupatki** 77.07 327 P P 06 55 31.9 +1.8
baz=146
SWSC **Sam W. Stewart** 77.12 323 P P 06 55 31.6 +1.3
baz=143
MVCO **Mesa Verde** 77.23 330 P P 06 55 32.1 +1.0
baz=149
BGNE **Belgrade** 77.26 340 P P 06 55 31.0 +0.1
baz=157
PDMCI **Parker Dam,Lak** 77.38 325 P P 06 55 32.6 +1.0
baz=144
MONP2 **Monument Peak** 77.40 322 P P 06 55 32.5 +0.4
baz=142
Q24A **Divide** 77.41 334 P P 06 55 33.3 +1.1
baz=151,SNR=21
BC3 **Big Chuckawall** 77.51 324 P P 06 55 33.8 +1.2
baz=143,SNR=18
109C **Camp Elliot, M** 77.75 322 P P 06 55 34.8 +1.0
baz=142
IRM **Iron Mountain** 77.76 324 P P 06 55 35.2 +1.3
baz=143,SNR=12
W13A **Hualapai Mount** 77.90 326 P P 06 55 36.2 +1.3
W13A IAmb IAmb 06 55 37.5
comp=Z,12nm,0.8s
TPFO **Pinon Flats** 77.98 323 P P 06 55 36.7 +1.5
baz=142,SNR=8.8
PFO **Pinyon Flats O** 77.99 323 P P 06 55 37.2 +2.0
baz=142,SNR=10
PFO **Pinyon Flats O** 77.99 323 LR LR 07 23 09.0
comp=Z,92nm,18.9s,baz=145,slow=30
PFO **Pinyon Flats O** 77.99 323 *c i*P P 06 55 37.0 +1.7
PFO pmax pmax
comp=Z,32nm,1.0s
BELC **Belle Mtn. Jos** 78.06 323 P P 06 55 37.1 +1.4
baz=143,SNR=6.8
OGNE **Ogallala** 78.06 337 P P 06 55 36.0 +0.6
baz=154
ISCO **Idaho Springs** 78.32 334 P P 06 55 38.2 +1.0
baz=151,SNR=14
MURC **Murrieta** 78.36 322 P P 06 55 38.4 +1.3
baz=142,SNR=6.8
GMRC **Granite Mounta** 78.51 324 P P 06 55 39.8 +1.7
baz=143,SNR=16
BBRC **Big Bear Solar** 78.74 323 P P 06 55 41.1 +1.6
baz=142
HEC **Hector,Ludlow** 78.89 324 P P 06 55 41.6 +1.5
baz=143,SNR=7.0
KNB **Kanab** 78.96 327 P P 06 55 41.6 +1.0
KNB IAmb IAmb 06 55 43.5
comp=Z,30nm,1.1s
KNB **Kanab** 78.96 327 P P 06 55 41.6 +1.0
KNB pmax pmax
comp=Z,29nm,1.1s
ECSD **EROS Data Cent** 78.98 342 P P 06 55 40.6 +0.3
baz=159
BFSC **Mount Baldy Ra** 79.10 322 P P 06 55 42.1 +0.8
baz=142,SNR=7.4
TUQ **Turquoise Moun** 79.16 324 P P 06 55 43.1 +1.4
baz=143,SNR=9.0
TSUM **Tsumeb** 79.22 106 LR LR 07 26 07.5
comp=Z,96nm,19.3s,baz=343,slow=32
RRX **Edison Barstow** 79.26 323 P P 06 55 43.2 +1.1
baz=142
SNCC **San Nicolas Is** 79.32 321 P P 06 55 43.2 +0.8
baz=140
N23A **Red Feather La** 79.39 334 P P 06 55 44.1 +1.1
baz=151,SNR=9.4
SPMN **Marine on St.** 79.45 345 P P 06 55 44.0 +1.2
baz=162
DECC **Green Verdugo** 79.46 322 P P 06 55 44.1 +0.9
baz=141
GSC **Goldstone, Bar** 79.50 324 P P 06 55 44.6 +1.1
baz=142,SNR=8.1
O20A **White River Ci** 79.62 332 P P 06 55 44.8 +0.7
O20A IAmb IAmb 06 55 46.3
comp=Z,13nm,0.8s
O20A **White River Ci** 79.62 332 P P 06 55 45.5 +1.3
baz=149,SNR=14
SHOC **Shoshone, Teco** 79.70 324 P P 06 55 45.7 +1.2
baz=143
EDW2 **Edwards Air Fo** 79.77 323 P P 06 55 45.9 +1.0
baz=142,SNR=7.4
P18A **Preston Nutter** 80.00 331 P P 06 55 46.8 +0.4
P18A IAmb IAmb 06 55 48.7
comp=Z,25nm,0.9s
LRMC **Laurel Mtn Rad** 80.08 323 P P 06 55 47.7 +1.0
baz=142
TCRU **Three Creeks R** 80.10 329 P P 06 55 48.3 +1.4
SUSD **Miller** 80.28 340 P P 06 55 48.4 +1.0
baz=157
ARVC **Arvin** 80.39 322 P P 06 55 49.4 +1.2
baz=141
MPMC **Manual Prospec** 80.43 324 P P 06 55 49.4 +0.8
baz=142,SNR=10.0
FURC **Furnace Creek,** 80.44 324 P P 06 55 49.7 +1.3
baz=142,SNR=13
BOSA **Boshof** 80.46 118 P P 06 55 48.5 -0.6
BOSA **Boshof** 80.46 118 P P 06 55 48.6 -0.5
comp=Z,9.9nm,1.0s,baz=245,slow=4.7,SNR=8.1
BOSA LR LR 07 28 04.0
comp=Z,71nm,19.9s,baz=199,slow=33
comp=Z,9.9nm,1.0s
PKM **Mcpherson Peak** 80.72 321 P P 06 55 51.7 +1.5
baz=140,SNR=6.6
BSUT **Blindstream Ca** 80.98 331 P P 06 55 52.4 +0.7
BSUT IAmb IAmb 06 55 53.9
comp=Z,17nm,1.1s
CWC **Cottonwood Cre** 81.03 324 P P 06 55 52.8 +1.0
baz=142
VES **Vestal, Richgr** 81.08 323 P P 06 55 53.1 +1.3
baz=141,SNR=14
GRAC **Grapevine Rang** 81.11 324 P P 06 55 53.7 +1.6
baz=142
K22A **Casper** 81.14 335 P P 06 55 53.4 +1.2
baz=151,SNR=16
SMMC **Simmler** 81.15 322 P P 06 55 53.7 +1.4
baz=140
GMN **Gold Mountain** 81.30 325 P P 06 55 53.9 +0.7
R11B **Troy Canyon, C** 81.32 326 P P 06 55 55.0 +1.7
baz=144,SNR=22
RSSD **Black Hills** 81.56 337 P P 06 55 54.2 -0.3
RSSD IAmb IAmb 06 55 56.1
comp=Z,18nm,1.0s
RSSD **Black Hills** 81.56 337 P P 06 55 54.9 +0.4
baz=153
RSSD **Black Hills** 81.56 337 P P 06 55 54.2 -0.3
RSSD pmax pmax
comp=Z,18nm,1.0s
DUG **Dugway, Tooele** 81.57 329 P P 06 55 55.5 +0.9
baz=146,SNR=14
TIN **Tinemaha, Big** 81.58 324 P P 06 55 55.8 +1.2
baz=142
EYMN **Ely** 81.77 347 P P 06 55 55.3 +0.1
baz=163
TPH **Tonopah** 81.89 325 P P 06 55 57.8 +1.4
TPH **Tonopah** 81.89 325 P P 06 55 57.8 +1.4
TPH pmax pmax
comp=Z,78nm,0.9s

SPUT	**South Promonto**	**82.33**	**330**	P	**P**	06 55 58.9	**+0.3**
SPUT				IAmb	IAmb	06 56 00.3	
	comp=Z,21nm,1.1s						
MLAC	**Mammoth, Mammo**	**82.33**	**324**	P	**P**	06 55 58.7	**0.0**
	baz=141						
PDAR	**Pinedale Array**	**82.38**	**333**	P	**P**	06 55 59.0	**+0.1**
	comp=Z,2.4nm,0.7s,baz=145,slow=5.5,SNR=20						
PDAR				LR	LR	07 29 06.6	
	comp=Z,55nm,20.7s,baz=148,slow=33						
	comp=Z,2.4nm,0.7s						
NVAR	**Mina Array Bea**	**82.69**	**325**	P	**P**	06 56 01.3	**+0.7**
NVAR	**Mina Array Bea**	**82.69**	**325**	P	**P**	06 56 01.8	**+1.2**
	comp=Z,8.9nm,0.8s,baz=156,slow=6.3,SNR=71						
	comp=Z,8.9nm,0.8s						
AGMN	**Agassiz Nation**	**83.05**	**344**	P	**P**	06 56 02.1	**+0.2**
	baz=159						
ELK	**Elko**	**83.09**	**328**	LR	LR	07 29 08.6	
	comp=Z,74nm,19.4s,baz=158,slow=33						
TOA0	**Torodi Ar. Sit**	**83.11**	**70**	P	**P**	06 56 02.6	**-0.4**
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	06 56 02.2	**-0.8**
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P	**P**	06 56 02.7	**-0.3**
	comp=Z,16nm,0.8s,baz=282,slow=4.9,SNR=66						
TORD				LR	LR	07 29 58.5	
	comp=Z,115nm,21.7s,baz=204,slow=34						
	comp=Z,16nm,0.8s						
MDND	**Maddock**	**83.58**	**341**	P	**P**	06 56 05.2	**+0.6**
	baz=156						
H17A	**Grant Village**	**84.15**	**333**	P	**P**	06 56 08.5	**+0.5**
	baz=148						
LAO	**LASA Array**	**84.55**	**337**	P	**P**	06 56 10.1	**+0.4**
	baz=151						
ULM	**Lac du Bonnet**	**84.88**	**345**	P	**P**	06 56 09.7	**-1.5**
	comp=Z,11nm,0.8s,baz=160,slow=4.2,SNR=20						
	comp=Z,11nm,0.8s						
HLID	**Hailey**	**85.01**	**330**	P	**P**	06 56 12.6	**+0.4**
	baz=145						
DGMT	**Dagmar**	**85.47**	**339**	P	**P**	06 56 15.0	**+0.8**
	baz=153						
BOZ	**Bozeman (W)**	**85.56**	**333**	P	**P**	06 56 15.3	**+0.4**
	baz=147						
SCHQ	**Schefferville**	**86.75**	**3**	P	**P**	06 56 19.6	**-0.7**
	comp=Z,15nm,1.1s,baz=226,slow=5.6,SNR=5.8						
	comp=Z,15nm,1.1s						
EGMT	**Eagleton**	**86.92**	**335**	P	**P**	06 56 21.3	**-0.1**
	baz=148						
RAO	**Raoul Island**	**87.28**	**237**	LR	LR	07 27 32.0	
	comp=Z,114nm,21.9s,baz=48,slow=30						
MSO	**Missoula**	**87.49**	**332**	P	**P**	06 56 24.6	**+0.4**
	baz=145						
LSZ	**Lusaka**	**89.88**	**108**	LR	LR	07 34 04.1	
	comp=Z,79nm,19.2s,baz=200,slow=34						
NEW	**Newport**	**89.92**	**331**	P	**P**	06 56 35.3	**-0.3**
	baz=143						
NEW	**Newport**	**89.92**	**331**	LR	LR	07 33 24.5	
	comp=Z,84nm,19.4s,baz=126,slow=33						
MDT	**Midelt**	**90.28**	**51**	LR	LR	07 35 44.9	
	comp=Z,52nm,21.6s,baz=245,slow=35						
FRB	**Frobisher Bay**	**95.63**	**1**	LR	LR	07 42 27.3	
	comp=Z,33nm,18.2s,baz=222,slow=37						
BBB	**Bella Bella**	**97.52**	**329**	LR	LR	07 37 08.4	
	comp=Z,44nm,18.3s,baz=128,slow=33						
MBAR	**Mbarara**	**99.97**	**97**	LR	LR	07 39 20.0	
	comp=Z,45nm,20.6s,baz=207,slow=33						
YKA	**Yellowknife Ar**	**100.50**	**341**	P	**Pdif**	06 57 22.4	**-1.0**
	comp=Z,0.4nm,0.6s,baz=141,slow=4.4,SNR=4.9						
TOAD	**Toad River Com**	**101.10**	**335**	P	**Pdif**	06 57 26.1	**-0.2**
	baz=136						
S31K	**Pelican**	**104.83**	**330**	P	**PKiKP**	07 01 57.4	**-0.4**
	baz=128						
PLBC	**Pleasant Camp**	**105.80**	**331**	P	**PKiKP**	07 01 59.6	**+0.1**
	baz=127						
MODS	**Modra-Piesok**	**112.47**	**46**	*e*PDIFF	**Pdif**	06 58 19.3	**+2.2**
MODS	**Modra-Piesok**	**112.47**	**46**	*i* P	**Pdif**	06 58 19.3	**+2.2**
Q16K	**King Salmon**	**114.52**	**325**	P	PKPdf	07 02 16.2	+0.2
	baz=112						
R16K	**Pilot Point**	**114.57**	**324**	P	PKPdf	07 02 16.1	0.0
	baz=112						
CHUM	**Lake Minchumin**	**114.57**	**331**	P	PKPdf	07 02 16.0	0.0
	baz=113						
P17K	**Kvichak River**	**114.61**	**326**	P	**PKiKP**	07 02 16.9	**+0.7**
	baz=112						
CHNA	**Chernabura Isl**	**114.62**	**320**	P	PKPdf	07 02 16.1	-0.3
D25K	**Kavik River**	**114.66**	**338**	P	**PKiKP**	07 02 16.6	**+0.4**
	baz=116						
L20K	**Farewell, AK**	**114.68**	**330**	P	PKPdf	07 02 16.6	+0.2
	baz=112						
M19K	**Big River Lodg**	**114.69**	**329**	P	**PKiKP**	07 02 16.9	**+0.6**
	baz=112						
G23K	**Bananza Creek**	**114.81**	**335**	P	PKPdf	07 02 16.4	-0.1
	baz=114						
N18K	**Kilae Creek**	**114.90**	**327**	P	**PKiKP**	07 02 17.5	**+0.8**
	baz=112						
I21K	**Tanana**	**114.94**	**333**	P	**PKiKP**	07 02 17.2	**+0.5**
	baz=113						
H22K	**Ishtalitna Cre**	**114.99**	**334**	P	**PKPdf**	07 02 17.6	**+0.8**
	baz=113						
L19K	**White Mountain**	**114.99**	**329**	P	**PKPdf**	07 02 17.2	**+0.2**
	baz=112						
COLD	**Coldfoot**	**115.08**	**335**	P	**PKPdf**	07 02 17.6	**+0.7**
	baz=113						
K20K	**Telida**	**115.09**	**330**	P	**PKiKP**	07 02 17.5	**+0.4**
	baz=112						
S14K	**Fog Glacier**	**115.12**	**322**	P	**PKiKP**	07 02 17.7	**+0.3**
	baz=111						
SDPT	**Sand Point**	**115.28**	**321**	P	**PKPdf**	07 02 17.4	**-0.1**
	baz=110						
P16K	**Nushagak River**	**115.30**	**325**	P	**PKiKP**	07 02 17.8	**+0.3**
	baz=111						
D24K	**Happy Valley**	**115.38**	**337**	P	**PKPdf**	07 02 18.0	**+0.6**
	baz=114						
TOLK	**Toolik Lake Re**	**115.43**	**337**	P	**PKPdf**	07 02 18.1	**+0.5**
	baz=113						
G22K	**Bettles**	**115.44**	**335**	P	**PKiKP**	07 02 17.8	**+0.2**
	baz=112						
H21K	**Melozitna Rive**	**115.44**	**333**	P	**PKiKP**	07 02 18.4	**+0.7**
	baz=112						
N17K	**Nushagak Hills**	**115.44**	**327**	P	**PKiKP**	07 02 18.6	**+0.8**
	baz=111						
O16K	**Kokwok River B**	**115.55**	**326**	P	**PKPdf**	07 02 18.2	**+0.2**
	baz=110						
C24K	**Franklin Bluff**	**115.57**	**338**	P	**PKiKP**	07 02 19.0	**+1.2**
	baz=114						
I20K	**Naaghedeneel**	**115.79**	**332**	P	**PKiKP**	07 02 18.9	**+0.6**
	baz=111						
L18K	**Granite Mounta**	**115.81**	**329**	P	**PKPdf**	07 02 18.6	**+0.2**
	baz=110						
M17K	**Holitna River**	**115.86**	**328**	P	**PKiKP**	07 02 19.2	**+0.6**
	baz=110						
F22K	**John River**	**115.90**	**335**	P	**PKiKP**	07 02 18.9	**+0.4**
	baz=112						
D23K	**Nanushuk River**	**115.92**	**337**	P	**PKiKP**	07 02 19.0	**+0.4**
	baz=112						
G21K	**Allakaket**	**116.02**	**334**	P	**PKPdf**	07 02 19.0	**+0.3**
	baz=111						
N16K	**Nishlik Lake**	**116.16**	**327**	P	**PKPdf**	07 02 19.3	**0.0**
	baz=109						
H20K	**Anotleneega Mo**	**116.19**	**332**	P	**PKiKP**	07 02 19.7	**+0.6**
	baz=110						
C23K	**Itkillik River**	**116.23**	**338**	P	**PKiKP**	07 02 19.9	**+0.8**
	baz=112						
O15K	**Ungalikthiuk R**	**116.24**	**325**	P	**PKiKP**	07 02 20.0	**+0.6**
	baz=109						
S12K	**Black Hills**	**116.25**	**321**	P	**PKiKP**	07 02 20.0	**+0.5**
	baz=109						
J18K	**Innoko River**	**116.25**	**330**	P	**PKiKP**	07 02 20.3	**+1.1**
	baz=110						
F21K	**Alatna River**	**116.27**	**335**	P	**PKiKP**	07 02 20.5	**+1.3**
	baz=111						
M16K	**Timber Creek**	**116.43**	**327**	P	**PKiKP**	07 02 20.1	**+0.4**
	baz=109						
L17K	**Donlin**	**116.49**	**328**	P	**PKiKP**	07 02 20.1	**+0.4**
	baz=109						
D22K	**Ayikyak River**	**116.57**	**336**	P	**PKiKP**	07 02 21.0	**+1.2**
	baz=110						
K17K	**Iditarod**	**116.68**	**329**	P	**PKPdf**	07 02 20.4	**+0.3**
	baz=109						
N15K	**Kwethluk River**	**116.69**	**326**	P	**PKiKP**	07 02 20.7	**+0.5**
	baz=108						
H19K	**Roundabout Mou**	**116.82**	**332**	P	**PKPdf**	07 02 20.5	**+0.3**
	baz=109						
E21K	**Killik River**	**116.86**	**336**	P	**PKiKP**	07 02 21.0	**+0.6**
	baz=110						
L16K	**Owhat River**	**116.89**	**328**	P	**PKiKP**	07 02 20.9	**+0.3**
	baz=108						
O14K	**Tigyukauivet M**	**116.97**	**325**	P	**PKPdf**	07 02 20.7	**-0.1**
	baz=108						
F20K	**Avaraart Lake**	**117.03**	**334**	P	**PKiKP**	07 02 21.1	**+0.4**
	baz=109						
M15K	**Kasigluk River**	**117.13**	**326**	P	**PKPdf**	07 02 20.8	**-0.2**
	baz=108						
J17K	**VABM Dome**	**117.23**	**330**	P	**PKiKP**	07 02 22.0	**+0.8**
	baz=108						
G19K	**Purcell Mounta**	**117.26**	**333**	P	**PKiKP**	07 02 21.7	**+0.6**
	baz=108						
B22K	**Teshekpuk Lake**	**117.31**	**338**	P	**PKiKP**	07 02 21.9	**+0.8**
	baz=109						
C21K	**Knifeblade Rid**	**117.37**	**336**	P	**PKiKP**	07 02 21.7	**+0.4**
	baz=109						
N14K	**Kuskokwak Cree**	**117.37**	**325**	P	**PKiKP**	07 02 21.9	**+0.4**
	baz=107						
B21K	**Ikpikpuk River**	**117.46**	**337**	P	**PKiKP**	07 02 22.6	**+1.1**
	baz=108						
E20K	**Nigu River**	**117.58**	**335**	P	**PKiKP**	07 02 22.3	**+0.5**
	baz=108						
E19K	**Redstone River**	**117.72**	**334**	P	**PKiKP**	07 02 22.9	**+0.9**
	baz=107						
F19K	**Shaleruckik Mo**	**117.73**	**334**	P	**PKiKP**	07 02 22.4	**+0.4**
	baz=107						
M14K	**Bethel**	**117.75**	**326**	P	**PKiKP**	07 02 22.6	**+0.4**
	baz=107						
L15K	**Ungalak Mounta**	**117.79**	**327**	P	**PKiKP**	07 02 22.7	**+0.4**
	baz=107						
G18K	**Tagagawik**	**117.80**	**332**	P	**PKiKP**	07 02 23.3	**+1.1**
	baz=107						
J16K	**Anvik River**	**117.86**	**329**	P	**PKiKP**	07 02 22.7	**+0.3**
	baz=107						
D20K	**Etivluk River**	**117.87**	**336**	P	**PKPdf**	07 02 22.4	**+0.1**
	baz=107						
K15K	**Wolf Creek Mou**	**117.99**	**328**	P	**PKiKP**	07 02 23.2	**+0.5**
	baz=106						
A22K	**Sinclair Lake**	**118.01**	**338**	P	**PKiKP**	07 02 22.9	**+0.5**
	baz=108						
H17K	**Granite Mounta**	**118.03**	**331**	P	**PKiKP**	07 02 23.8	**+1.1**
	baz=106						
I17K	**Unalakleet**	**118.07**	**330**	P	**PKiKP**	07 02 23.5	**+0.7**
	baz=106						
UNV	**Unalaska Valle**	**118.12**	**318**	P	**PKiKP**	07 02 23.5	**+0.4**
	baz=107						
L14K	**Kuka Creek**	**118.25**	**327**	P	**PKiKP**	07 02 23.5	**+0.3**
	baz=106						
M13K	**Dall Lake**	**118.31**	**326**	P	**PKiKP**	07 02 23.6	**+0.3**
	baz=106						
F18K	**Selawik**	**118.39**	**333**	P	**PKiKP**	07 02 24.0	**+0.7**
	baz=106						
B20K	**Meade River**	**118.42**	**337**	P	**PKPdf**	07 02 23.4	**+0.1**
	baz=106						
H16K	**Elim**	**118.91**	**331**	P	**PKPdf**	07 02 24.6	**+0.3**
	baz=104						
E18K	**Tukpahlearik C**	**118.96**	**334**	P	**PKiKP**	07 02 25.3	**+0.9**
	baz=104						
F17K	**Baldwin Pennin**	**118.96**	**333**	P	**PKiKP**	07 02 25.4	**+1.0**
	baz=104						
C19K	**Lookout Ridge**	**119.01**	**336**	P	**PKiKP**	07 02 25.6	**+1.1**
	baz=104						
J14K	**Nanvaranak Lak**	**119.01**	**328**	P	**PKiKP**	07 02 25.0	**+0.4**
	baz=104						
G16K	**Koyuk River**	**119.15**	**331**	P	**PKiKP**	07 02 25.4	**+0.6**
	baz=104						
NIKH	**Nikolski High**	**119.23**	**317**	P	**PKiKP**	07 02 25.9	**+0.5**
	baz=106						
E17K	**Hotham Inlet**	**119.34**	**333**	P	**PKiKP**	07 02 25.8	**+0.6**
	baz=104						
ASAR	**Alice Springs**	**119.42**	**207**	PKP	**PKPdf**	07 02 25.5	**-1.3**
	comp=Z,1.4nm,0.7s,baz=127,slow=1.9,SNR=12						
G15K	**Niukluk**	**119.75**	**331**	P	**PKiKP**	07 02 27.1	**+1.1**
	baz=103						
A19K	**Wainwright**	**119.77**	**337**	P	**PKiKP**	07 02 26.8	**+1.0**
	baz=102						
B18K	**Kokolik River**	**119.84**	**336**	P	**PKiKP**	07 02 27.3	**+1.2**
	baz=102						
D17K	**Noatak River**	**119.95**	**334**	P	**PKiKP**	07 02 26.9	**+0.6**
	baz=102						
F15K	**North Star Dit**	**120.15**	**331**	P	**PKiKP**	07 02 27.5	**+0.7**
	baz=102						
ANM	**Nome**	**120.21**	**330**	P	**PKiKP**	07 02 27.8	**+0.8**
	baz=102						
BR104	**Keskin Array S**	**120.49**	**60**	PKP	**PKPdf**	07 02 27.9	**-0.5**
BR131	**Keskin Array S**	**120.49**	**60**	*i* PKIKP	**PKPdf**	07 02 27.9	**-0.5**
BRTR	**Keskin Array B**	**120.49**	**60**	PKP	**PKPdf**	07 02 27.1	**-1.3**
	comp=Z,1.3nm,0.8s,baz=199,slow=3.3,SNR=7.3						
AKASG	**Malin Array Be**	**120.58**	**47**	PKP	**PKPdf**	07 02 26.4	**-1.6**
	comp=Z,0.2nm,0.3s,baz=271,slow=3.0,SNR=5.3						
AKASG	**Malin Array Be**	**120.58**	**47**	*i* PKIKP	**PKPdf**	07 02 27.7	**-0.3**
AKBB	**Malin Array Si**	**120.58**	**47**	*i* PKIKP	**PKPdf**	07 02 26.6	**-1.4**
C16K	**Lisburne Hills**	**120.89**	**334**	P	**PKiKP**	07 02 29.7	**+1.5**
	baz=100						
ARCES	**ARCESS Array B**	**122.15**	**24**	PKP	**PKPdf**	07 02 29.6	**-0.9**
	comp=Z,3.7nm,1.0s,baz=264,slow=3.3,SNR=1.8						
WRA	**Warramunga Arr**	**122.59**	**209**	PKP	**PKPdf**	07 02 32.1	**-0.9**
	comp=Z,4.4nm,0.7s,baz=166,slow=1.5,SNR=29						
OBN	**Obninsk**	**125.76**	**42**	*e*PKIKP	**PKPdf**	07 02 36.6	**-1.1**
OBN				*e*		07 04 29.2	
OBN				*e*PPP	PPP	07 07 09.6	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
H11S2	**WAKE ISLAND Hyl**	**126.29**	**270**	T	T	09 21 42.8	
	baz=118,slow=75,SNR=820						
H11S1	**WAKE ISLAND Hyl**	**126.30**	**270**	T	T	09 21 42.5	
	baz=118,slow=75,SNR=1034						
H11S3	**WAKE ISLAND Hyl**	**126.31**	**270**	T	T	09 21 40.3	
	baz=118,slow=75,SNR=785						
H11N3	**WAKE ISLAND Hyl**	**126.66**	**272**	T	T	09 22 05.0	
	baz=117,slow=75,SNR=188						
H11N1	**WAKE ISLAND Hyl**	**126.67**	**272**	T	T	09 22 09.5	
	baz=117,slow=75,SNR=63						
H11N2	**WAKE ISLAND Hyl**	**126.68**	**272**	T	T	09 22 09.0	
	baz=117,slow=75,SNR=541						
KIV	**Kislovodsk**	**128.09**	**57**	*e*PKIKP	**PKPdf**	07 02 42.4	**-0.3**
KIV				*e*PPP	PPP	07 07 26.6	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,55nm,16.0s						
KBZ	**Khabaz**	**128.19**	**57**	PKP	**PKPdf**	07 02 43.0	**+0.3**
	comp=Z,1.8nm,0.6s,baz=258,slow=2.7,SNR=4.2						
KBZ	**Khabaz**	**128.19**	**57**	*i* PKIKP	**PKiKP**	07 02 43.5	**+0.1**
NCK	**Nalchik**	**128.65**	**58**	*i* PKIKP	**PKPdf**	07 02 44.1	**+0.4**
BILL	**Bilibino**	**131.42**	**335**	*e*PKIKP	**PKPdf**	07 02 48.8	**+0.6**
BELG	**Belogornoye**	**132.16**	**46**	*e*PKIKP	**PKPdf**	07 02 49.7	**-0.3**
KIRV	**Kirov**	**132.78**	**38**	*e*PKIKP	**PKPdf**	07 02 50.7	**-0.3**
ARU	**Arti**	**138.03**	**40**	*e*PKIKP	**PKPdf**	07 02 59.9	**-1.0**
SEY	**Seymchan**	**138.70**	**331**	*i* PKIKP	**PKPdf**	07 03 01.2	**-0.7**
SEY				pmax	pmax		
	comp=Z,9.0nm,1.0s						
TIXI	**Tiksi**	**139.00**	**350**	*i* PKIKP	**PKPdf**	07 03 02.3	**+0.1**
BRVK	**Borovoye**	**145.52**	**41**	*c i* PKIKP	**PKPbc**	07 03 14.8	**+0.3**
BVAR	**Borovoye Array**	**145.59**	**41**	PKPbc	**PKPab**	07 03 15.2	**+0.1**
	comp=Z,17nm,0.6s,baz=292,slow=3.5,SNR=110						
YAK	**Yakutsk**	**147.18**	**342**	*c i* PKP2	**PKPbc**	07 03 18.9	**-0.2**
YAK				*e*		07 06 47.0	
YAK				pmax	pmax		
	comp=Z,89nm,0.9s						
YAK				pmax	pmax		
	comp=N,9.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,126nm,4.8s						
YAK				pmax	pmax		
	comp=N,56nm,3.6s						
YAK				pmax	pmax		
	comp=E,51nm,3.5s						
HYB	**Hyderabad**	**149.17**	**111**	*e*PKPbc	**PKPbc**	07 03 25.5	**-0.3**
YSS	**Yuzh-Sakhalins**	**150.07**	**310**	*i* PKIKP	**PKPbc**	07 03 26.9	**-0.2**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EKS2	**Erkin-Say**	**150.64**	**59**	P	**PKPbc**	07 03 29.1	**+0.4**
	SNR=11						
USP	**Ospenovka**	**151.06**	**58**	P	**PKPbc**	07 03 29.9	**+0.2**
	SNR=6.2						
AAK	**Ala-Archa**	**151.17**	**59**	P	**PKiKP**	07 03 30.8	**+0.2**
	SNR=11						
AAK	**Ala-Archa**	**151.17**	**59**	*e*PKIKP	**PKPdf**	07 03 25.5	**+1.3**
KURBB	**Kurchatov Arra**	**151.19**	**41**	PKPbc	**PKPbc**	07 03 29.7	**+0.1**
	comp=Z,19nm,0.8s,baz=303,slow=2.9,SNR=57						
KURK	**Kurchatov**	**151.19**	**41**	PKIKP	**PKPbc**	07 03 29.7	**+0.1**
UCH	**Uchtor**	**151.25**	**60**	P	**PKiKP**	07 03 31.4	**+0.2**
	SNR=19						
TKM2	**Tokmak 2**	**151.91**	**58**	P	**PKPbc**	07 03 31.8	**0.0**
	SNR=6.2						
ZALV	**Zalesovo Beam**	**152.41**	**31**	PKP	**PKPdf**	07 03 23.8	**-1.7**
	comp=Z,1.4nm,0.7s,baz=327,slow=2.5,SNR=5.6						
ZALV				PKPbc	**PKPbc**	07 03 32.0	**-0.3**
	comp=Z,22nm,0.5s,baz=299,slow=3.1,SNR=81						
ZALV				PKPab	**pPKPbc**	07 03 43.6	**+1.7**
	comp=Z,15nm,0.7s,baz=294,slow=3.0,SNR=11						
KSH	**Kashi**	**152.69**	**65**	PKPbc	**PKPdf**	07 03 26.8	**+0.3**
KSH				sPKP		07 03 43.4	
KSH				SKS	**SKSdf**	07 10 26.8	**-5.0**
BOD	**Bodaibo**	**154.09**	**353**	*e*PKP2	**PKPab**	07 03 49.4	**-0.1**
BOD				pmax	pmax		
	comp=Z,14nm,1.0s						
ZEA	**Zeya**	**154.63**	**334**	*e*PKP2	**PKPab**	07 03 52.5	**+0.6**
MKAR	**Makanchi Array**	**155.16**	**46**	PKP	**PKPdf**	07 03 27.7	**-1.9**
	comp=Z,0.9nm,0.8s,baz=339,slow=1.7,SNR=7.3						
MKAR				PKPbc	**pPKPdf**	07 03 38.1	**-1.1**
	comp=Z,3.2nm,0.9s,baz=336,slow=2.7,SNR=18						
MKAR				PKPab	sPKPbc	07 03 53.9	+2.4
	comp=Z,4.9nm,0.7s,baz=288,slow=3.9,SNR=15						
MJAR	**Matsushiro Arr**	**155.20**	**288**	PKPbc	PKPdf	07 03 40.4	+10
	comp=Z,1.6nm,0.7s,baz=65,slow=1.9,SNR=2.1						
MJAR				PKPab	**PKPab**	07 03 55.6	**+0.6**
	comp=Z,2.4nm,0.7s,baz=95,slow=1.5,SNR=4.6						
HEH	**HeiHe**	**157.16**	**328**	*e*P	**PKPab**	07 04 02.8	**-0.1**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
HEH				pmax	pmax		
	comp=Z,190nm,4.3s						
USRK	**Ussuriysk Ar.**	**158.11**	**310**	PKPab	**PKPab**	07 04 07.1	**-0.1**
	comp=Z,1.8nm,0.7s,baz=64,slow=3.4,SNR=4.7						
WMQ	**Urumqi**	**159.92**	**49**	*e*P	**PKPdf**	07 03 35.4	**-0.3**
BNX	**BinXian**	**160.12**	**318**	⇓P	**PKPab**	07 04 16.5	**+0.6**
BNX				pmax	pmax		
	comp=Z,12nm,1.2s						
BNX				pmax	pmax		
	comp=Z,120nm,4.9s						
KSRS	**Korea Array**	**163.27**	**294**	PKPab	**PKPab**	07 04 31.2	**+1.2**
	comp=Z,2.8nm,0.9s,baz=83,slow=4.5,SNR=6.4						
SONM	**Songino Array**	**164.28**	**5**	PKPab	**PKPab**	07 04 34.6	**+0.6**
	comp=Z,1.3nm,0.8s,baz=336,slow=3.5,SNR=7.3						
XLT	**XiLinHaoTe**	**166.90**	**335**	*e*P	**PKPdf**	07 03 45.0	**+2.7**
XLT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
XLT				pmax	pmax		
	comp=Z,89nm,4.7s						
GTA	**Gaotai**	**169.88**	**42**	PKP	**PKPdf**	07 03 45.1	**+0.6**
GTA				pPKP	pPKPdf	07 03 55.4	+1.3
HHC	**Hu-ho-hao-te**	**171.02**	**345**	*e*P	**PKPdf**	07 03 44.3	**-0.8**
NJ2	**Nanjing**	**171.27**	**272**	*e*P	**PKPdf**	07 03 50.3	**+5.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.6s						
PZH	**PanZhiHua**	**171.79**	**132**	PKP	**PKPdf**	07 03 44.0	**-1.9**

SJA ***19*** *07:11:43.1±0.6,32°.25S×71°.49W,h20km±2km, ML3.6, MW3.7*
GUC ***19*** *07:11:44.6±0.9,32°.21S×71°.36W,h34km±19km, ML3.6*
IDC ***19*** *07:11:46.6±3.0,32°.19S×71°.09W,h47km±26km, mb3.3/2, mbtmp3.5/6,ML3.2/4, Error ellipse: s-maj=54.8km s-min=28.2km az=92.0*

ISC 19 07:11:44.0±1.1, 32°.20S±0°.02×71°.42W±0°.04, h29km±9km, n51, σ2s02/83, 5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VA01	**Torpederas**	**0.84**	**193**	*e*P	**Pb**	**07 11 59.3**	**-0.8**
VA01				IAML		07 12 14.6	
	comp=Z,1μm,0.3s						
VA01	**Torpederas**	**0.84**	**193**	*e*P	**Pb**	**07 12 00.2**	**+0.1**
VA01				*e*S	**Sb**	**07 12 11.2**	**+0.1**
VA01				IAML		07 12 13.2	
	comp=N,4μm,0.1s						
ROCH	**El Roble**	**0.84**	**156**	⇓*i*P	**Pn**	**07 12 00.3**	**+0.1**
ROCH				*e*S	**Sn**	**07 12 11.6**	**-0.2**
ROCH				IAML		07 12 12.3	
	comp=E,6μm,0.1s						
ROC1	**El Roble**	**0.84**	**156**	*e*P	**Pn**	**07 12 00.4**	**+0.2**
ROC1				*e*S	**Sb**	**07 12 10.8**	**-0.6**
VA03	**San Esteban**	**0.92**	**128**	*e*P	**Pn**	**07 12 01.6**	**+0.4**
VA03				*e*S	**Sn**	**07 12 14.2**	**+0.6**
VA03				IAML		07 12 16.7	
	comp=Z,5μm,0.5s						
VA03	**San Esteban**	**0.92**	**128**	⇓*i*P	**Pn**	**07 12 01.4**	**+0.1**
VA03				*e*S	**Sn**	**07 12 13.1**	**-0.6**
CO02	**Combarbal**	**1.06**	**20**	*e*P	**Pb**	**07 12 03.5**	**-0.3**
CO02				IAML		07 12 19.8	
	comp=Z,4μm,0.4s						
CO02	**Combarbal**	**1.06**	**20**	*e*P	**Pb**	**07 12 03.3**	**-0.5**
CO02				*e*S	**Sn**	**07 12 17.2**	**+0.3**
MT02	**Curacav**	**1.08**	**167**	*e*P	**Pn**	**07 12 03.2**	**-0.1**
MT02				*e*S	**Sn**	**07 12 20.1**	**+2.7**
MT02				IAML		07 12 21.2	
	comp=Z,719nm,0.7s						
MT02	**Curacav**	**1.08**	**167**	*e*P	**Pn**	**07 12 03.2**	**-0.1**
MT02				*e*S	**Sb**	**07 12 17.4**	**-0.6**
PEL	**Peldehue**	**1.13**	**147**	*e

ACCO	**Cerro Coronel**	**2.58**	**52**	*eP*		**Pb**	07 12 28.3	**-1.5**
ACCO				*eS*		Sb	07 13 11.5	+10
AROD	**Rodeo**	**2.62**	**40**	*eP*		**Pb**	07 12 29.0	**-1.6**
AROD				*eS*		**Sb**	07 13 06.1	**+3.6**
BO02	**Sierra Bellavi**	**2.64**	**169**	*eP*		**Pn**	07 12 26.6	**+1.8**
BO02				*eS*		**Sn**	07 12 56.6	**+0.7**
BO02				IAML			07 13 11.0	
	comp=Z,486nm,0.6s							
RTLL	**Cerro Villicun**	**2.65**	**72**	*eP*		**Pb**	07 12 28.3	**-2.6**
RTLL				*eS*		**Sn**	07 12 47.9	**-8.4**
AVIZ	**Vizcacheras**	**2.75**	**118**	*eP*		**Pn**	07 12 24.9	**-1.4**
ACDV	**Cuesta del Vie**	**2.82**	**45**	*eP*		**Pb**	07 12 31.9	**-2.0**
ACDV				*eS*		**Sb**	07 13 14.0	**+5.9**
ACDV				IAML			07 13 25.3	
	comp=Z,105nm,0.8s							
GO05	**Huala**	**2.83**	**189**	*eP*		**Pn**	07 12 27.7	**+0.3**
GO05				*eS*		**Sb**	07 13 06.3	**-1.9**
LCO	**Las Campanas**	**3.24**	**11**	*eP*		**Pn**	07 12 34.8	**+1.6**
LCO				*eS*		**Sn**	07 13 15.0	**+4.0**
LCO				IAML			07 13 35.5	
	comp=Z,125nm,0.5s							
AC05	**El Transito**	**3.50**	**17**	*eS*		**Sb**	07 13 22.6	**-4.8**
AC05				IAML			07 13 41.4	
	comp=Z,132nm,0.8s							
AVFE	**Valle Fertil**	**3.72**	**67**	*eP*		**Pn**	07 12 42.5	**+2.8**
AVFE				IAML			07 13 44.5	
	comp=Z,80nm,0.4s							
PLCA	**Paso Flores**	**8.54**	**176**	P		**Pn**	07 13 47.6	**+1.7**
	comp=Z,0.1nm,0.3s,baz=320,slow=12,SNR=2.0 comp=Z,1.6nm,1.0s							
LVC	**Limon Verde**	**9.81**	**14**	P		**Pn**	07 14 04.0	**+0.5**
	comp=Z,0.2nm,0.3s,baz=243,slow=21,SNR=1.0 comp=Z,2.5nm,0.9s							
LPAZ	**La Paz**	**16.12**	**11**	P		**Pn**	07 15 30.9	**+1.6**
	baz=13,slow=6.6,SNR=2.4 comp=Z,0.7nm,0.7s							
SIV	**San Ignacio**	**18.68**	**33**	P		**P**	07 15 59.0	**-1.1**
	baz=228,slow=16,SNR=1.9 comp=Z,0.6nm,0.8s							
TXAR	**Lajitas Array**	**68.43**	**330**	P		**P**	07 22 44.2	**+0.8**
	comp=Z,0.2nm,0.6s,baz=163,slow=6.6,SNR=3.0 comp=Z,0.2nm,0.6s							
TORD	**Torodi Ar. Bea**	**83.11**	**70**	P		**P**	07 24 05.7	**-1.8**
	comp=Z,0.9nm,0.9s,baz=199,slow=4.0,SNR=4.3 comp=Z,0.9nm,0.9s							
BVAR	**Borovoye Array**	**145.60**	**41**	PKPbc		**PKPdf**	07 31 19.2	**+0.1**
	comp=Z,0.7nm,0.6s,baz=320,slow=3.8,SNR=4.3							
KURBB	**Kurchatov Arra**	**151.19**	**41**	PKPbc		**PKPbc**	07 31 33.5	**-0.7**
	comp=Z,0.5nm,0.6s,baz=302,slow=3.0,SNR=8.2							
ZALV	**Zalesovo Beam**	**152.43**	**31**	PKPbc		**PKPbc**	07 31 36.4	**-0.5**
	comp=Z,1.0nm,0.5s,baz=338,slow=3.2,SNR=2.2							

DJA ***19*** *07:54:47.7±0.2,9°S×3°×11°9E±°, h41km±12km, M4.8/16, mB5.6/4, mb4.8/11, MLv4.6/16, Mw(mB)5.1/4*
NEIC ***19*** *07:54:47.7±2.2, 9°.345S±0°.04×119°.25E±0°.07, h31km±6km, mb4.2/12, Error ellipse: s-maj=9.5km s-min=5.7km az=79.0*
IDC ***19*** *07:54:53.2±4.6, 9°.01S×119°.60E, h90km±41km, mb3.5/6, mbtmp3.9/10, Error ellipse: s-maj=58.8km s-min=10.7km az=60.0*

ISC 19 07:54:48.7±0.5, 9°.35S±0°.05×119°.27E±0°.04, h50km, n94, σ1°68/88, mb4.2/14, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BASI	**Baing, Sumba**	**1.55**	**124**	P		**Pn**	**07 55 13.0**	**-0.9**
PLAI	**Plampang**	**1.56**	**289**	P		**Pn**	**07 55 12.0**	**-2.0**
PLAI	**Plampang**	**1.56**	**289**	P		**Pn**	**07 55 11.8**	**-2.2**
PLAI				S		**Sn**	**07 55 30.4**	**-2.7**
TWSI	**Taliwang, Sumb**	**2.43**	**284**	P		**Pn**	**07 55 24.7**	**-1.3**
TWSI				S		**Sn**	**07 55 53.2**	**-1.4**
EDFI	**Ende, Flores**	**2.46**	**76**	P		**Pn**	**07 55 25.0**	**-1.5**
MMRI	**Maumere**	**3.02**	**77**	P		**Pn**	**07 55 34.5**	**+0.5**
MMRI	**Maumere**	**3.02**	**77**	Pn		**Pn**	**07 55 33.8**	**-0.2**
MMRI	**Maumere**	**3.02**	**77**	P		**Pn**	**07 55 34.4**	**+0.5**
DNP	**Denpasar**	**4.06**	**279**	P		**Pn**	**07 55 49.1**	**+0.8**
BKSI	**Bulukumba**	**4.09**	**12**	P		**Pn**	**07 55 48.0**	**-0.7**
SRBI	**Singaraja**	**4.20**	**287**	P		**Pn**	**07 55 49.1**	**-1.1**
KAPI	**Kappang**	**4.33**	**6**	P		**Pn**	**07 55 51.5**	**-0.5**
KAPI	**Kappang**	**4.33**	**6**	Pn		**Pn**	**07 55 51.1**	**-0.9**
KAPI	**Kappang**	**4.33**	**6**	P		**Pn**	**07 55 51.4**	**-0.7**
	26nm,0.3s,baz=189,slow=7.0,SNR=13							
KAPI				S		**Sn**	**07 56 38.5**	**-2.8**
	56nm,0.5s,baz=50,slow=24,SNR=3.7							
BATI	**Baumata**	**4.42**	**102**	P		**Pn**	**07 55 54.4**	**+1.2**
	89nm,0.3s,baz=298,slow=5.4,SNR=7.4							
BATI				S		**Sn**	**07 56 43.0**	**-0.4**
	79nm,0.4s,baz=19,slow=20,SNR=1.7							
BATI	**Baumata**	**4.42**	**102**	P		**Pn**	**07 55 56.7**	**+3.5**
SOEI	**Soe**	**4.95**	**95**	P		**Pn**	**07 56 01.3**	**+0.7**
SOEI	**Soe**	**4.95**	**95**	Pn		**Pn**	**07 56 00.2**	**-0.4**
SOEI	**Soe**	**4.95**	**95**	P		**Pn**	**07 55 59.5**	**-1.1**
JAGI	**Jajag, Banyuwa**	**5.13**	**279**	P		**Pn**	**07 56 01.9**	**-1.1**
JAGI	**Jajag, Banyuwa**	**5.13**	**279**	Pn		**Pn**	**07 56 01.6**	**-1.4**
JAGI	**Jajag, Banyuwa**	**5.13**	**279**	P		**Pn**	**07 56 01.9**	**-1.1**
ABJI	**Asem Bagus**	**5.21**	**287**	P		**Pn**	**07 56 04.5**	**+0.4**
	165nm,0.8s,0.6nm							
BLJI	**Banyuglugur**	**5.83**	**285**	P		**Pn**	**07 56 12.6**	**0.0**
	197nm,0.5s,4μm0.8nm							
TTSI	**Tana Toraja**	**6.29**	**5**	P		**Pn**	**07 56 18.5**	**-0.3**
	32nm,0.7s,2μm0.2nm							
PWJI	**Pagerwojo**	**7.50**	**280**	P		**Pn**	**07 56 36.3**	**+0.8**
	76nm,0.8s,0.4nm							
UGM	**Wanagama**	**8.76**	**279**	P		**Pn**	**07 56 53.7**	**+0.8**
UGM	**Wanagama**	**8.76**	**279**	Pn		**Pn**	**07 56 53.6**	**+0.7**
UGM	**Wanagama**	**8.76**	**279**	P		**Pn**	**07 56 52.4**	**-0.5**
	148nm,2.0s							
FITZ	**Fitzroy Crossi**	**10.67**	**145**	Pn		**Pn**	**07 57 18.1**	**-0.9**
BBJI	**Bungbulang**	**11.65**	**278**	P		**Pn**	**07 57 32.8**	**+0.4**
MBWA	**Marble Bar**	**11.75**	**178**	P		**Pn**	**07 57 31.4**	**-2.3**
MBWA	**Marble Bar**	**11.75**	**178**	Pn		**Pn**	**07 57 31.2**	**-2.6**
DRS	**Darwin Rock St**	**11.83**	**106**	P		**Pn**	**07 57 34.7**	**0.0**
MTN	**Manton Dam**	**12.15**	**108**	P		**Pn**	**07 57 37.8**	**-1.4**
MTN	**Manton Dam**	**12.15**	**108**	Pn		**Pn**	**07 57 37.1**	**-2.1**
PSA00	**Pilbara Seismi**	**12.17**	**177**	P		**Pn**	**07 57 37.3**	**-2.1**
PSA00	**Pilbara Seismi**	**12.17**	**177**	Pn		**Pn**	**07 57 36.8**	**-2.6**
KDU	**Kakadu**	**13.38**	**106**	P		**Pn**	**07 57 55.3**	**-0.7**
GIRL	**Giralia**	**14.07**	**199**	P		**Pn**	**07 58 04.8**	**-0.6**
GIRL	**Giralia**	**14.07**	**199**	Pn		**Pn**	**07 58 03.6**	**-1.8**
FAKI	**Fak Fak**	**14.39**	**64**	Pn		**Pn**	**07 58 08.3**	**-1.4**
MEEK	**Meekatharra**	**17.21**	**182**	P		**P**	**07 58 45.9**	**-0.7**
WRKA	**Warakurna**	**17.81**	**152**	P		**P**	**07 58 54.8**	**+1.5**
WRA	**Warramunga Arr**	**17.97**	**128**			**Pn**	**07 58 54.5**	**-0.6**
WRA	**Warramunga Arr**	**17.97**	**128**	P		**Pn**	**07 58 54.3**	**-0.7**
	0.9nm,0.5s,baz=300,slow=13,SNR=27							
WRA				S		Sn	08 02 03.7	-11
	1.4nm,0.7s,baz=295,slow=22,SNR=4.3							
WB2	**Warramunga Arr**	**17.98**	**128**			**P**	**07 58 54.1**	**-1.0**
WB2				IAmb		IAmb	07 59 09.7	
	comp=Z,5.2nm,0.7s							
MORW	**Morawa**	**19.85**	**188**	P		**Pn**	**07 59 18.2**	**+0.7**
MORW	**Morawa**	**19.85**	**188**	Pn		**Pn**	**07 59 18.7**	**+1.1**
MORW				IAmb		IAmb	07 59 33.5	
	comp=Z,8.7nm,0.8s							
AS31	**Alice Springs**	**19.96**	**137**	P		**P**	**07 59 17.2**	**+0.3**
ASAR	**Alice Springs**	**19.96**	**137**	P		**Pn**	**07 59 17.9**	**-1.1**
ASAR	**Alice Springs**	**19.96**	**137**	P		**Pn**	**07 59 18.7**	**-0.2**
	comp=Z,4.1nm,0.5s,baz=311,slow=10.0,SNR=78							
ASAR				S		**S**	**08 02 51.5**	**-7.4**
	comp=Z,0.7nm,0.6s,baz=311,slow=22,SNR=4.0							
AS01	**Alice Springs**	**19.99**	**137**	P		**Pn**	**07 59 19.4**	**+0.1**
BLDU	**Ballidu**	**21.30**	**186**	P		**P**	**07 59 32.4**	**+1.2**
KLBR	**Kellerberrin**	**22.18**	**183**	P		**P**	**07 59 42.2**	**+1.6**
QIS	**Mount Isa**	**22.56**	**122**	P		**P**	**07 59 46.7**	**+1.8**
MUN	**Mundaring**	**22.70**	**187**	P		**P**	**07 59 46.5**	**+0.3**
NWAO	**Narrogin (SRO)**	**23.54**	**184**	P		**P**	**07 59 56.3**	**+1.8**
NWAO	**Narrogin (SRO)**	**23.54**	**184**	P		**P**	**07 59 55.0**	**+0.5**
COEN	**Coen**	**23.85**	**103**	P		**P**	**07 59 59.8**	**+2.2**
COEN	**Coen**	**23.85**	**103**	P		**P**	**07 59 57.5**	**-0.1**
OOD	**Oodnadatta**	**24.01**	**142**	P		**P**	**08 00 00.5**	**+1.6**
MULG	**Mulgathing**	**24.99**	**148**	P		**P**	**08 00 10.0**	**+2.1**
LCRK	**Leigh Creek**	**27.45**	**143**	P		**P**	**08 00 31.6**	**+1.6**
BBOO	**Buckleboo**	**28.03**	**149**	P		**P**	**08 00 36.8**	**+1.6**
BBOO	**Buckleboo**	**28.03**	**149**	P		**P**	**08 00 36.2**	**+0.9**
BBOO				IAmb		IAmb	08 00 48.1	
	comp=Z,16nm,1.3s							
HTT	**Hallett**	**30.04**	**146**	P		**P**	**08 00 54.4**	**+1.3**
STKA	**Stephens Creek**	**30.52**	**140**	P		**P**	**08 00 59.2**	**+1.9**
STKA	**Stephens Creek**	**30.52**	**140**	P		**P**	**08 00 58.8**	**+1.5**
STKA	**Stephens Creek**	**30.52**	**140**	P		**P**	**08 00 59.0**	**+1.7**
	comp=Z,2.3nm,0.6s,baz=320,slow=11,SNR=9.5 comp=Z,2.3nm,0.6s							

PZH	**PanZhiHua**	**39.49**	**335**	P		**P**	**08 02 18.8**	**+4.1**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,100nm,6.3s								
LYN	**LuoYang**	**44.13**	**352**	*eP*		**P**	**08 02 50.8**	**-1.5**
LYN				pmax		pmax			
	comp=Z,9.0nm,0.5s								
LYN				pmax		pmax			
	comp=Z,120nm,5.5s								
H08S2	**Diego Garcia H**	**46.27**	**268**	T		T	08 52 25.8		
	baz=95,slow=76,SNR=117								
H08S3	**Diego Garcia H**	**46.28**	**268**	T		T	08 52 26.6		
	baz=95,slow=76,SNR=104								
H08S1	**Diego Garcia H**	**46.29**	**268**	T		T	08 52 27.2		
	baz=95,slow=76,SNR=47								
LZH	**Lanzhou**	**47.47**	**343**	*eP*		P	08 03 25.4	+6.6	
LZH				sP		sP	08 03 38.3	+0.7	
LZH				pmax		pmax			
	comp=Z,20nm,1.2s								
HHC	**Hu-ho-hao-te**	**50.45**	**352**	*eP*		P	08 03 47.0	+5.5	
HHC				pmax		pmax			
	comp=Z,4.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,78nm,6.7s								
XLT	**XiLinHaoTe**	**53.07**	**357**	*eP*		P	08 04 08.5	+7.5	
XLT				pmax		pmax			
	comp=Z,9.0nm,0.8s								
XLT				pmax		pmax			
	comp=Z,100nm,4.4s								
ERM	**Erimo**	**55.61**	**21**	P		**P**	**08 04 21.1**	**+1.8**	
SONM	**Songino Array**	**58.06**	**350**	P		**P**	**08 04 35.5**	**-1.3**	
	comp=Z,0.9nm,0.7s,baz=168,slow=8.6,SNR=4.9 comp=Z,0.9nm,0.7s								
KSH	**Kashi**	**63.04**	**323**	P		P	08 05 15.5	+4.6	
MKAR	**Makanchi Array**	**64.89**	**333**	P		**P**	**08 05 21.9**	**-0.9**	
MKAR	**Makanchi Array**	**64.89**	**333**	P		**P**	**08 05 21.7**	**-1.1**	
	comp=Z,0.6nm,0.8s,baz=88,slow=9.8,SNR=4.4 comp=Z,0.6nm,0.8s								
H04N2	**CROZET ISLANDS**	**67.74**	**224**	T		T	09 20 45.0		
	baz=84,slow=75								
H04N1	**CROZET ISLANDS**	**67.75**	**224**	T		T	09 20 45.4		
	baz=84,slow=75								
H04N3	**CROZET ISLANDS**	**67.75**	**224**	T		T	09 20 47.6		
	baz=84,slow=75								
KURBB	**Kurchatov Arra**	**69.39**	**334**	P		**P**	**08 05 50.1**	**-1.2**	
	comp=Z,0.2nm,0.3s,baz=138,slow=5.7,SNR=1.4 comp=Z,0.2nm,0.3s								
ZALV	**Zalesovo Beam**	**69.46**	**339**	P		**P**	**08 05 49.8**	**-1.8**	
	comp=Z,0.7nm,0.4s,baz=132,slow=6.4,SNR=2.4 comp=Z,0.7nm,0.4s								
VNDA	**Vanda**	**71.61**	**171**	P		**P**	**08 06 06.1**	**+1.7**	
VNDA				IAmb		IAmb	08 06 14.3		
	comp=Z,3.2nm,1.4s								
VNDA	**Vanda**	**71.61**	**171**	P		**P**	**08 06 06.9**	**+2.5**	
	comp=Z,0.5nm,0.8s,baz=315,slow=5.7,SNR=1.7 comp=Z,0.5nm,0.8s								
ABKAR	**Akbulak array**	**78.00**	**325**	P		**P**	**08 06 43.3**	**+1.6**	
ABKAR				IAmb		IAmb	08 07 02.7		
	comp=Z,2.8nm,1.4s								
QSPA	**South Pole Qui**	**80.65**	**180**	P		**P**	**08 06 57.4**	**+1.3**	
QSPA				IAmb		IAmb	08 07 06.9		
	comp=Z,5.3nm,1.4s								
H09W1	**TRISTAN DA CUNI**	**15.28**	**221**	T		T	10 17 55.4		
	SNR=12								
CPUP	**Villa Florida**	**144.38**	**185**	PKP		**PKPdf**	**08 14 19.1**	**-1.1**	
	comp=Z,1.8nm,0.8s,baz=169,slow=5.2,SNR=3.2								

RSNC 19 07:55:24.1±0.0, 7°N±2°×7°3W±°, h143km±4km, M1.7, ML1.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**200**	P		Pn	07 55 42.7	-1.3
BARC				S		Sn	07 55 58.2	-0.8
PAMC	**Pamplona, Colo**	**0.65**	**38**	P		Pn	07 55 45.6	-0.5
PAMC				S		Sn	07 56 02.8	0.0
RUSC	**La Rusia**	**0.92**	**179**	P		Pn	07 55 46.8	-1.3
RUSC				S		Sn	07 56 05.9	-0.5
TAMC	**Tame, Arauca**	**1.35**	**106**	P		Pn	07 55 51.1	-0.6
PTBC	**PUERTO BERRIO,**	**1.38**	**258**	P		Pn	07 55 49.3	-2.5
PTBC				S		Sn	07 56 10.6	-2.4
OCAC	**Ocana**	**1.43**	**351**	P		Pn	07 55 51.5	-1.0
OCAC				S		Sn	07 56 13.3	-1.0
SPBC	**San Pablo de B**	**1.51**	**220**	P		Pn	07 55 51.8	-1.6
SPBC				S		Sn	07 56 14.5	-1.2
ZARC	**Zaragoza, Cauc**	**1.87**	**291**	P		Pn	07 55 55.1	-2.2
ZARC				S		Sn	07 56 22.5	-0.2
CHIC	**Chingaza**	**2.27**	**196**	P		Pn	07 56 01.4	-1.0
CHIC				S		Sn	07 56 31.4	-0.5
ROSC	**El Rosal**	**2.31**	**212**	P		Pn	07 56 03.3	+0.3
ROSC				S		Sn	07 56 32.0	-0.8
HELC	**Santa Helena**	**2.49**	**256**	S		Sn	07 56 36.6	-0.1
HELC	**Santa Helena**	**2.49**	**256**	P		Pn	07 56 03.7	-1.5
HELC	**Santa Helena**	**2.49**	**256**	S		Sn	07 56 36.6	-0.1
UREC	**San Jos de Ur**	**2.58**	**291**	P		Pn	07 56 03.4	-2.6
UREC				S		Sn	07 56 36.1	-2.1
PTGC	**Puerto Gaitan,**	**2.78**	**160**	P		Pn	07 56 05.9	-2.5
PTGC				S		Sn	07 56 39.0	-3.6
PRAC	**Prado**	**3.56**	**210**	S		Sn	07 57 04.1	+3.4
SJCC	**San Jacinto, C**	**3.69**	**326**	P		Pn	07 56 14.7	-5.4
SJCC				S		Sn	07 56 59.5	-4.1

RSNC 19 07:55:34.3±0.0, 6°N±2°×7°8W±°, h19km±3km, M2.3, ML2.3, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PIZC	**Pizarro, Choco**	**0.64**	**151**	P		Pb	07 55 45.4	-1.4
PIZC				S		Sb	07 55 54.0	-1.3
SOLC	**Bahia Solano**	**0.74**	**21**	P		Pb	07 55 47.2	-1.4
SOLC				S		Sb	07 55 58.3	0.0
PLMC	**San Jos del P**	**1.52**	**114**	P		Pn	07 55 58.1	-2.4
PLMC				S		Sn	07 56 16.6	-3.1
MALC	**Bahia Malaga**	**1.54**	**168**	P		Pn	07 55 59.0	-1.8
MALC				S		Sn	07 56 18.7	-1.7
PTAC	**Punta Ardita,**	**1.61**	**355**	P		Pn	07 56 01.4	-0.4
PTAC				S		Sn	07 56 17.9	-4.2
YOTC	**Yotoco, Valle**	**2.03**	**139**	P		Pn	07 56 05.0	-2.6
YOTC				S		Sn	07 56 28.5	-3.9
HELC	**Santa Helena**	**2.23**	**73**	P		Pn	07 56 04.9	-5.7
JAMC	**Jamundi, Valle**	**2.50**	**157**	P		Pn	07 56 12.2	-2.1
JAMC				S		Sn	07 56 43.0	-1.4
APAC	**Apartado, Choc**	**2.59**	**25**	P		Pn	07 56 17.4	+2.1
APAC				S		Sb	07 56 49.2	-2.5
CAPC	**Capurgana**	**3.10**	**6**	P		Pn	07 56 24.4	+2.1
CAPC				S		Sn	07 57 02.3	+3.5
POPC	**Popayan, Colom**	**3.13**	**161**	P		Pn	07 56 21.5	-1.4
POPC				S		Sn	07 56 56.9	-3.0
PRAC	**Prado**	**3.31**	**123**	P		Pn	07 56 25.3	+0.1
PRAC				S		Sn	07 57 00.4	-3.7
PRAC	**Prado**	**3.31**	**123**	P		Pn	07 56 25.6	+0.4
AZU	**Azuero**	**3.43**	**311**	P		Pn	07 56 24.4	-2.3
AZU				S		Sn	07 57 03.5	-3.3
CACAO	**El Cacao, Vera**	**3.65**	**300**	P		Pn	07 56 26.8	-3.0
CACAO				S		Sn	07 57 05.8	-6.5

WEL ***19*** *08:16:08.1±0.3, 42°S×3°×17°4E±°, h14km±2km, M3.5/24, ML3.7/25, MLv3.5/24, Error ellipse: s-maj=0.0km s-min=0.0km az=123.1, confirmed*
NOU ***19*** *08:16:09.5, 42.32S×173.37E, h3km, MLv4.0/8, South Island, New Zealand*

ISC 19 08:16:07.9±0.9, 42°24S±0°.03×173°.73E±0°.03, h18km±8km, n83, σ1°39/87, South Island

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KIKS	**Kaikoura**	**0.19**	**191**	P		**Pb**	**08 16 13.6**	**+1.4**
KIKS				S		**Sg**	**08 16 17.7**	**+1.7**
KHZ	**Kahutara**	**0.22**	**219**	P		**Pb**	**08 16 13.0**	**-0.1**
KHZ	**Kahutara**	**0.22**	**219**	P		**Pb**	**08 16 13.4**	**+0.2**
KHZ				S		**Sg**	**08 16 17.0**	**+0.1**
KEKS	**Kekerengu Vall**	**0.34**	**33**	P		**Pb**	**08 16 16.5**	**+1.0**
BSWZ	**Blackbirch Sta**	**0.54**	**12**	P		**Pb**	**08 16 19.4**	**+0.6**
BSWZ				S		**Sb**	**08 16 27.4**	**+1.3**
CMWZ	**Cape Campbell**	**0.61**	**36**	P		**Pn**	**08 16 22.1**	**+0.4**
WTMC	**Te Mara Farm W**	**0.63**	**233**	P		**Pb**	**08 16 20.7**	**+0.5**
WTMC				S		**Sb**	**08 16 29.2**	**+0.6**
THZ	**Tophouse**	**0.78**	**308**	P		**Pb**	**08 16 22.7**	**-0.2**
TUWZ	**Tuamarina**	**0.83**	**11**	P		**Pn**	**08 16 24.7**	**0.0**
GVZ	**Greta Valley S**	**0.89**	**215**	P		**Pn**	**08 16 26.2**	**+0.8**

NNZ	**Nelson**	**1.06**	**346**	P		**Pn**	**08 16 27.9**	**+0.1**	
TCW	**Tory Channel**	**1.11**	**22**	P		**Pn**	**08 16 29.7**	**+1.2**	
MRNZ	**Matariki Terra**	**1.11**	**319**	P		**Pn**	**08 16 29.0**	**+0.4**	
BHW	**Baring Head**	**1.19**	**46**	P		**Pg**	**08 16 30.8**	**-0.2**	
LTZ	**Lake Taylor**	**1.21**	**243**	P		**Pb**	**08 16 29.9**	**-0.3**	
AMCZ	**Amberley**	**1.23**	**220**	P		**Pg**	**08 16 30.9**	**-0.8**	
WEL	**Wellington**	**1.23**	**39**	P		**Pg**	**08 16 31.6**	**-0.2**	
PLWZ	**Palliser**	**1.32**	**60**	P		**Pb**	**08 16 32.1**	**-0.1**	
TKNZ	**Takaka Hill**	**1.34**	**334**	P		**Pg**	**08 16 32.9**	**-0.8**	
DUWZ	**D'Urville Isla**	**1.45**	**6**	P		**Pg**	**08 16 34.7**	**-1.1**	
CAW	**Cannon Point**	**1.51**	**42**	P		**Pb**	**08 16 35.1**	**-0.3**	
PAWZ	**Paruwai Farm**	**1.53**	**56**	P		**Pn**	**08 16 34.9**	**+0.5**	
OKCZ	**Okains Bay**	**1.56**	**198**	P		**Pn**	**08 16 34.9**	**+0.2**	
KIW	**Kapiti Island**	**1.64**	**33**	P		**Pn**	**08 16 37.4**	**-0.2**	
OXZ	**Oxford**	**1.65**	**228**	P		**Pn**	**08 16 35.6**	**-0.3**	
MQZ	**McQueen's Vall**	**1.66**	**208**	P		**Pn**	**08 16 35.5**	**-0.6**	
QRZ	**Quartz Range**	**1.68**	**327**	P		**Pn**	**08 16 38.3**	**+0.1**	
QRZ	**Quartz Range**	**1.68**	**327**	P		**Pg**	**08 16 38.5**	**-1.7**	
TRWZ	**Traveller**	**1.69**	**61**	P		**Pn**	**08 16 36.8**	**+0.2**	
MTW	**Mount Morrison**	**1.71**	**51**	P		**Pn**	**08 16 37.2**	**+0.4**	
AKCZ	**Akaroa Harbour**	**1.74**	**200**	P		**Pn**	**08 16 37.1**	**-0.1**	
INZ	**Inchbonnie**	**1.76**	**253**	P		**Pn**	**08 16 38.1**	**+0.7**	
OGWZ	**Otaki Gorge**	**1.79**	**38**	P		**Pb**	**08 16 39.0**	**-1.2**	
RACZ	**Rakaia**	**1.89**	**218**	P		**Pn**	**08 16 39.1**	**-0.1**	
HOWZ	**Holdsworth Sta**	**1.90**	**46**	P		**Pn**	**08 16 39.9**	**+0.5**	
TMWZ	**Te Maipa**	**1.98**	**56**	P		**Pn**	**08 16 40.6**	**+0.1**	
MHCZ	**Mount Hutt**	**2.04**	**230**	P		**Pn**	**08 16 40.9**	**-0.5**	
MRZ	**Mangatainoka R**	**2.10**	**42**	P		**Pn**	**08 16 42.8**	**+0.6**	
WACZ	**Wakanui South**	**2.19**	**219**	P		**Pn**	**08 16 43.1**	**-0.3**	
WVZ	**Waitaha Valley**	**2.36**	**248**	P		**Pn**	**08 16 46.5**	**+0.8**	
PRWZ	**Pori Road**	**2.38**	**46**	P		**Pg**	**08 16 53.3**	**-0.4**	
BFZ	**Birch Farm**	**2.45**	**51**	P		**Pn**	**08 16 47.0**	**0.0**	
RPZ	**Rata Peaks**	**2.45**	**232**	P		**Pn**	**08 16 46.9**	**-0.1**	
RPZ	**Rata Peaks**	**2.45**	**232**	P		**Pn**	**08 16 46.9**	**-0.1**	
ARCZ	**Arundel**	**2.53**	**227**	P		**Pn**	**08 16 47.8**	**-0.2**	
WAZ	**Wanganui**	**2.66**	**21**	P		**Pb**	**08 16 53.1**	**-1.9**	
GCSZ	**Gaunt Creek Bo**	**2.73**	**246**	P		**Pn**	**08 16 52.4**	**+1.6**	
LREZ	**Lake Rotokare**	**2.83**	**11**	P		**Pb**	**08 16 59.0**	**+1.2**	
PREZ	**Palmer Road**	**2.92**	**7**	P		**Pb**	**08 16 58.6**	**-0.8**	
TMZ	**Timaru**	**2.92**	**222**	P		**Pn**	**08 16 53.7**	**+0.3**	
KHEZ	**Kahui Hut**	**2.95**	**4**	P		**Pb**	**08 16 59.2**	**-0.8**	
KHEZ	**Kahui Hut**	**2.95**	**4**	P		**Pb**	**08 16 59.3**	**-0.8**	
NBEZ	**Newall Road No**	**2.97**	**2**	P		**Pb**	**08 16 59.4**	**-0.9**	
PNHZ	**Pukenui**	**2.98**	**40**	P		**Pn**	**08 16 54.3**	**0.0**	
PKE	**Pukeiti**	**3.05**	**4**	P		**Pb**	**08 17 00.5**	**-1.2**	
FOZ	**Fox Glacier**	**3

OXBJ Sn 08 44 44.1 -0.5
OXBJ Oaxaca 3.13 312 *e*P **Pn 08 44 10.1 +2.3**
OXBJ eS Sn 08 44 44.1 -0.5
OXIG Oaxaca 3.14 312 Sn 08 44 44.7 -0.1
VHO Vista Hermosa 3.14 312 *e*P Pn 08 44 07.0 -1.0
VHO eS Sn 08 44 44.7 -0.1
FUG Fuego 3 3.39 98 *e*P Pn 08 44 13.0 +1.6
FUG eS Sn 08 44 51.3 +0.4
YOIG Yosondua 3.64 302 Pn 08 44 17.1 +2.2
YOIG Yosondua 3.64 302 *e*P Pn 08 44 17.1 +2.2
YOIG eS Sn 08 44 55.5 -1.9
PMUV Sontecomapan 3.65 348 *e*P Pn 08 44 13.6 -1.3
PMUV eS Sn 08 44 55.5 -1.7
APG El Apazote 3.71 89 P Pn 08 44 17.4 +1.6
comp=Z,0.8nm,0.3s,baz=194,slow=13,SNR=29
APG S Sn 08 44 58.9 0.0
comp=Z,6.0nm,0.7s,baz=60,slow=23,SNR=1.8
comp=Z,1.7nm,0.3s
PNIG Pinotepa 3.95 292 Pn 08 44 19.9 +0.9
PNIG Pinotepa 3.95 292 *e*P Pn 08 44 19.9 +0.9
PNIG eS Sn 08 44 59.8 -4.7
TXIG Tlaxiaco 4.04 305 Pn 08 44 23.2 +2.8
TXIG Tlaxiaco 4.04 305 *e*P Pn 08 44 23.2 +2.8
TXIG eS Sn 08 45 05.7 -1.3
TOIG Toxpalan 4.09 320 Sn 08 45 08.2 0.0
TOIG Toxpalan 4.09 320 *e*P Pn 08 44 25.0 +4.0
TOIG eS Sn 08 45 08.2 0.0
HLIG Huajuapan de L 4.41 311 Pn 08 44 27.5 +2.1
HLIG Sn 08 45 15.8 -0.3
HLIG Huajuapan de L 4.41 311 *e*P Pn 08 44 27.5 +2.1
HLIG eS Sn 08 45 15.8 -0.3
MRL Marmol 4.47 88 *e*P Pn 08 44 28.8 +2.6
NUBE Las Nubes 4.51 103 *i*P Pn 08 44 28.9 +2.2
NUBE IAML 08 45 39.4
comp=Z,120nm,1.0s
TPIG Tehuac#an 4.52 320 Sn 08 45 19.8 +1.0
TPIG Tehuac#an 4.52 320 *e*P Pn 08 44 31.9 +5.0
TPIG eS Sn 08 45 19.8 +1.0
CEVE Cerro Verde 4.67 103 *i*P Pn 08 44 32.9 +3.8
CEVE IAML 08 45 45.3
comp=Z,290nm,1.0s
PETF Flores 4.69 65 Pn 08 44 29.1 0.0
PETF Flores 4.69 65 *e*P Pn 08 44 29.4 +0.3
PETF eS Sn 08 45 20.9 -1.9
PETF Flores 4.69 65 *i*P Pn 08 44 30.2 +1.1
PETF IAML 08 44 32.5
comp=Z,290nm,1.0s
FTIG Fresnillo de T 4.70 309 Pn 08 44 32.3 +2.9
FTIG Fresnillo de T 4.70 309 *e*P Pn 08 44 32.3 +2.9
FTIG eS Sn 08 45 21.8 -1.4
OZST Orizaba 4.71 326 *e*S Sn 08 45 21.4 -2.0
MTO3 Montecristo 4.82 96 Pn 08 44 31.5 +0.4
ESQI Esquipulas 4.82 94 Pn 08 44 32.8 +1.8
TLIG Tlapa 4.84 303 Pn Pn 08 44 34.9 +3.5
TLIG Tlapa 4.84 303 *e*P Pn 08 44 34.3 +3.0
TLIG eS Sn 08 45 27.0 +0.3
JAYA Jayaque - finc 4.88 105 *i*P Pn 08 44 34.7 +2.8
JAYA *i*S Sn 08 45 29.5 +1.8
JAYA IAML 08 45 41.3
comp=Z,250nm,1.0s
CRIG Cruz Grande 4.97 291 Pn 08 44 34.5 +1.5
CRIG Cruz Grande 4.97 291 *e*P Pn 08 44 34.5 +1.5
CRIG eS Sn 08 45 24.9 -4.8
SCIG Sabancuy 4.98 36 *e*P Pn 08 44 33.0 -0.1
SCIG eS Sn 08 45 26.4 -3.5
SNET Serv Nac Est T 5.08 104 Pn Pn 08 44 37.7 +3.2
LVIG Laguna Verde 5.15 337 *e*P Pn 08 44 31.6 -3.8
LVIG eS Sn 08 45 29.5 -4.6
COEG Centro de Oper 5.42 104 *i*P Pn 08 44 44.3 +5.0
COEG IAmb IAmb 08 44 47.8
comp=Z,74nm,0.6s
COEG IAML 08 44 52.5
comp=Z,100nm,1.0s
COEG IVmB_BB 08 44 52.5
comp=Z,810nm,1.0s
COEG *i*S Sn 08 45 42.6 +1.6
DAIG Los Arroyos 5.54 292 Pn 08 44 42.1 +1.4
DAIG Los Arroyos 5.54 292 *e*P Pn 08 44 42.1 +1.4
DAIG eS Sn 08 45 38.6 -5.0
TECO Alcaldia de Te 5.54 104 *i*P Pn 08 44 47.5 +6.7
TECO IAmb IAmb 08 44 50.7
comp=Z,20nm,0.4s
TECO IAML 08 44 51.3
comp=Z,33nm,1.0s
TECO IVmB_BB 08 45 19.9
comp=Z,1μm,1.0s
SCLA Alcaldia de Sa 5.55 102 *i*P Pn 08 44 44.7 +3.8
SCLA IAmb IAmb 08 45 11.2
comp=Z,20nm,0.9s
SCLA IVmB_BB 08 45 20.5
comp=Z,280nm,1.0s
SCLA IAML 08 46 13.0
comp=Z,37nm,1.0s
PPM Popocatepetl 5.81 315 *e*P Pn 08 44 49.5 +4.5
PPM eS Sn 08 45 53.0 +1.8
PPIG Popocatepetl 5.81 315 Sn 08 45 53.0 +1.8
MEIG Mezcala 5.89 301 Pn 08 44 46.3 +0.6
MEIG Mezcala 5.89 301 *e*P Pn 08 44 46.3 +0.6
MEIG eS Sn 08 45 48.5 -4.1
YAIG Yautepec 5.99 311 Pn 08 44 48.6 +1.5
YAIG Sn 08 45 53.9 -1.1
YAIG Yautepec 5.99 311 *e*P Pn 08 44 48.6 +1.5
YAIG eS Sn 08 45 53.9 -1.1
PLIG Platanillo 6.04 305 Pn 08 44 49.9 +2.2
PLIG Platanillo 6.04 305 *e*P Pn 08 44 49.9 +2.2
PLIG eS Sn 08 45 54.7 -1.4
CAIG El Cayaco 6.10 291 Pn 08 44 50.5 +2.1
CAIG El Cayaco 6.10 291 *e*P Pn 08 44 50.5 +2.1
CAIG eS Sn 08 45 49.4 -8.1
MZVM 6.31 312 Pn 08 44 54.2 +2.8
MZVM 6.31 312 *e*P Pn 08 44 54.2 +2.8
MZVM eS Sn 08 45 58.7 -4.1
MAVM Malinalco, Edo 6.36 309 Pn 08 44 52.3 +0.1
MAVM Malinalco, Edo 6.36 309 *e*P Pn 08 44 52.3 +0.1
MAVM eS Sn 08 46 01.2 -3.0
ARIG Puente Sto Nin 6.67 301 Pn 08 44 58.0 +1.7
ARIG Puente Sto Nin 6.67 301 *e*P Pn 08 44 58.0 +1.7
ARIG eS Sn 08 46 09.2 -2.4
MYIG Mrida 7.38 35 *e*P Pn 08 45 03.8 -2.3
MYIG eS Sn 08 46 26.5 -2.5
TEIG Tepich 7.78 47 Pn Pn 08 45 09.9 -1.6
TEIG Tepich 7.78 47 LR LR 08 48 38.8
comp=Z,2μm,18.4s,slow=42
CNGN Cerro Negro 7.78 107 Pn Pn 08 45 15.5 +3.8
ORTG Ortega, Santa 9.77 117 Pn Pn 08 45 41.5 +2.5
DUNO Dulce Nombre, 9.87 118 Pn Pn 08 45 43.6 +3.2
JTS Las Juntas de 10.24 116 P Pn 08 45 48.3 +2.9
comp=Z,0.2nm,0.3s,baz=312,slow=19,SNR=1.6
comp=Z,2.1nm,0.8s
SOR Soroa 13.22 52 Pn Pn 08 46 24.9 -1.3
TX31 Lajitas Ar. Si 16.71 330 P P 08 47 16.0 +1.3
TXAR Lajitas Array 16.71 330 P 08 47 17.1 +2.4
TXAR Lajitas Array 16.71 330 P Pn 08 47 14.5 +2.0
comp=Z,0.1nm,0.3s,baz=156,slow=12,SNR=8.2
comp=Z,0.8nm,0.9s
BRDY Brady 16.81 346 P Pn 08 47 15.8 +2.1
PLPT Palo Pinto 18.14 349 P P 08 47 31.9 +1.6
ABTX Abilene, Hawle 18.24 345 P P 08 47 32.9 +1.4
ABTX IAmb IAmb 08 47 35.1
comp=Z,7.9nm,0.7s
X37A Clayton 19.57 357 P P 08 47 47.5 +1.6
FNO Franklin 20.40 353 P 08 47 55.8 +0.8
SMWD Samnorwood 20.76 346 P P 08 47 59.8 +0.8
SMWD IAmb IAmb 08 48 09.3
comp=Z,8.0nm,0.5s
AMTX Amarillo 20.92 343 P P 08 48 03.0 +2.2
AMTX IAmb IAmb 08 48 07.0
comp=Z,15nm,1.0s
FCAR Ozark Folk Cen 20.93 5 P P 08 48 02.5 +1.7
FCAR IAmb IAmb 08 48 04.8
comp=Z,4.3nm,0.8s
OK029 Liberty Lake 20.94 353 P 08 48 01.1 +0.2
OK029 IAmb IAmb 08 48 03.0
comp=Z,15nm,1.1s
HHAR Hobbs 21.24 1 P P 08 48 05.1 +1.0
HHAR IAmb IAmb 08 48 08.4
comp=Z,4.8nm,0.6s
OK051 E0350 and S346 21.58 354 P P 08 48 09.4 +1.7
OK051 IAmb IAmb 08 48 11.9
comp=Z,14nm,1.0s
CROK Carrier 21.71 352 P 08 48 11.2 +2.1
U32A Winter Ranch, 21.74 350 P 08 48 11.8 +2.3
U32A IAmb IAmb 08 48 14.7
comp=Z,17nm,1.0s
OK032 Salt Plains WL 22.03 352 P P 08 48 13.7 +1.1
TKL Tuckaleechee C 22.67 23 LR LR 08 59 17.3
comp=Z,34nm,18.2s,baz=152,slow=43
SDV Santo Domingo 23.92 102 LR LR 08 57 58.7
comp=Z,36nm,19.0s,baz=96,slow=37
CBKS Cedar Bluff 24.24 350 P P 08 48 36.5 +1.6
PFO Pinyon Flats O 27.33 317 LR LR 09 01 42.2
comp=Z,2nm,18.3s,baz=240,slow=40
SADO Sadowa 32.38 20 LR LR 09 05 01.9
comp=Z,41nm,18.3s,baz=323,slow=41
ULM Lac du Bonnet 35.22 358 P P 08 50 10.2 -1.9
comp=Z,1.2nm,0.5s,baz=169,slow=11,SNR=4.8
comp=Z,1.2nm,0.5s
YKA Yellowknife Ar 49.60 348 P P 08 52 07.8 -1.0
comp=Z,0.8nm,0.9s,baz=151,slow=7.8,SNR=6.1
comp=Z,0.8nm,0.9s
ILAR Eielson Array 61.09 337 P P 08 53 31.0 -0.6
comp=Z,0.3nm,0.7s,baz=143,slow=4.9,SNR=4.5
comp=Z,0.3nm,0.7s
EKA Eskdalemuir Ar 78.49 36 P P 08 55 15.9 -2.9
comp=Z,0.3nm,0.5s,baz=267,slow=6.3,SNR=2.6
comp=Z,0.3nm,0.5s

*SJA **19** 08:55:16.9±0.6,21°.65S×67°.35W,h208km±5km,ML4.1, MW3.8*
*IDC **19** 08:55:17.6±1.1,21°.68S×67°.13W,h173km±15km,mb3.7/4, mbtmp4.2/7,Error ellipse: s-maj=32.6km s-min=11.0km az=112.0*
*NEIC **19** 08:55:18.8±1.4,21°.68S±0°.07×67°.4W±0°.1,h194km±8km, mb4.2/7,Error ellipse: s-maj=15.2km s-min=9.7km az=91.0*
*SCB **19** 08:55:19.1±1.2,21°.72S×67°.36W,h180km±12km,ML3.9/3, MW4.2,Error ellipse: s-maj=5.8km s-min=3.6km az=0.0*
*GUC **19** 08:55:20.3±0.8,21°.73S×67°.51W,h199km±8km,ML4.4*
ISC 19 08:55:18.2±0.7,21°.66S±0°.03×67°.34W±0°.03,h191km±6km, n95,σ1s51/134,mb3.9/5,4D,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.50**	**211**			**Pn**	**08 55 52.6**	**+1.2**
MOCB	**Mochara**	**1.64**	**76**	Pg		**Pn**	**08 55 53.5**	**+0.6**
MOCB				Sg		**Sn**	**08 56 19.9**	**+0.2**
MOCB				IAML			08 56 21.3	
	674nm,0.3s							
LVC	**Limon Verde**	**1.74**	**237**			**Pn**	**08 55 54.2**	**+0.5**
LVC	**Limon Verde**	**1.74**	**237**	*e*P		**Pn**	**08 55 54.3**	**+0.5**
LVC				eS		**Sn**	**08 56 22.0**	**+0.7**
LVC	**Limon Verde**	**1.74**	**237**	P		**Pn**	**08 55 54.5**	**+0.8**
	44nm,0.3s,baz=54,slow=7.9,SNR=167							
LVC				S		**Sn**	**08 56 20.9**	**-0.5**
	126nm,0.3s,baz=222,slow=20,SNR=20							
LVC	**Limon Verde**	**1.74**	**237**	*e*P		**Pn**	**08 55 54.2**	**+0.5**
LVC				eS		**Sn**	**08 56 20.3**	**-1.0**
LVC				IAML			08 56 22.3	
	comp=Z,1μm,0.6s							
YJA	**Yavi**	**1.77**	**107**	*e*P		**Pn**	**08 55 55.4**	**+1.2**
YJA				eS		**Sn**	**08 56 22.9**	**+0.9**
PB09	**IPOC Station P**	**1.77**	**265**			**Pn**	**08 55 53.7**	**-0.2**
PB09	**IPOC Station P**	**1.77**	**265**	*e*P		**Pn**	**08 55 55.0**	**+1.0**
PB09				eS		**Sn**	**08 56 22.8**	**+1.2**
PB09				IAML			08 56 25.8	
	comp=Z,404nm,0.2s							
PB09	**IPOC Station P**	**1.77**	**265**	*e*P		**Pn**	**08 55 54.9**	**+1.0**
PB09				eS		**Sn**	**08 56 21.9**	**+0.3**
PB09	**IPOC Station P**	**1.77**	**265**	Pg		**Pn**	**08 55 54.8**	**+0.9**
PB08	**IPOC Station P**	**2.27**	**311**			**Pn**	**08 56 00.3**	**+0.8**
PB08	**IPOC Station P**	**2.27**	**311**	*e*P		**Pn**	**08 56 01.0**	**+1.6**
PB08				eS		**Sn**	**08 56 33.0**	**+1.6**
PB08				IAML			08 56 33.6	
	comp=Z,252nm,0.6s							
PB08	**IPOC Station P**	**2.27**	**311**	⇓*i*P		**Pn**	**08 56 01.0**	**+1.6**
PB08				eS		**Sn**	**08 56 31.8**	**+0.4**
PB08				IAML			08 56 34.5	
	comp=N,634nm,0.4s							
PB08	**IPOC Station P**	**2.27**	**311**	Pg		**Pn**	**08 56 00.8**	**+1.4**
PB06	**IPOC Station P**	**2.32**	**243**			**Pn**	**08 56 00.6**	**+1.0**
PB06	**IPOC Station P**	**2.32**	**243**	*e*P		**Pn**	**08 55 59.6**	**0.0**
PB06				eS		**Sn**	**08 56 31.9**	**0.0**
PB06				IAML			08 56 33.3	
	comp=Z,320nm,0.2s							
PB06	**IPOC Station P**	**2.32**	**243**	*e*P		**Pn**	**08 55 59.8**	**+0.1**
PB06				eS		**Sn**	**08 56 30.4**	**-1.5**
HJA	**Humahuaca**	**2.36**	**131**	*e*P		**Pn**	**08 56 01.4**	**+1.1**
HJA				eS		Sn	08 56 21.1	-12
HJA				IAML			08 56 38.9	
	comp=Z,191nm,0.5s							
PB07	**IPOC Station P**	**2.37**	**268**			**Pn**	**08 56 01.2**	**+0.9**
PB07	**IPOC Station P**	**2.37**	**268**	*e*P		**Pn**	**08 56 00.5**	**+0.2**
PB07				eS		Sn	08 56 22.0	-11
PB07				eS			08 56 32.3	
PB07				IAML			08 56 34.3	
	comp=Z,664nm,0.2s							
PB07	**IPOC Station P**	**2.37**	**268**	*e*P		**Pn**	**08 56 00.7**	**+0.4**
PB07				eS		**Sn**	**08 56 31.3**	**-1.6**
PB07				IAML			08 56 32.8	
	comp=N,1μm,0.2s							
PB02	**IPOC Station P**	**2.41**	**278**			**Pn**	**08 56 00.3**	**-0.3**
PB02	**IPOC Station P**	**2.41**	**278**	*e*P		**Pn**	**08 56 01.0**	**+0.4**
PB02				eS		**Sn**	**08 56 31.1**	**-2.4**
PB02				IAML			08 56 35.4	
	comp=Z,2μm,0.2s							
PB02	**IPOC Station P**	**2.41**	**278**	⇓*i*P		**Pn**	**08 56 00.8**	**+0.2**
PB02				eS		**Sn**	**08 56 31.5**	**-2.0**
PB02				IAML			08 56 34.0	
	comp=E,3μm,0.2s							
PB02	**IPOC Station P**	**2.41**	**278**	Pg		**Pn**	**08 56 01.1**	**+0.5**
PB02				Sg		**Sn**	**08 56 32.2**	**-1.3**
PB02				IAML			08 56 33.3	
	comp=E,2μm,0.3s							
AOVT	**TarijaAcel**	**2.45**	**88**	Pg		**Pn**	**08 56 02.1**	**+0.9**
PB15	**IPOC Station P**	**2.50**	**232**			**Pn**	**08 56 01.9**	**+0.1**
PB15	**IPOC Station P**	**2.50**	**232**	*e*P		**Pn**	**08 56 02.6**	**+0.8**
PB15				eS		**Sn**	**08 56 35.5**	**-0.2**
PB15				IAML			08 56 37.9	
	comp=Z,2μm,0.1s							
PB15	**IPOC Station P**	**2.50**	**232**	*e*P		**Pn**	**08 56 02.3**	**+0.5**
PB15				eS		**Sn**	**08 56 34.5**	**-1.3**
PB15				IAML			08 56 37.3	
	comp=E,2μm,0.2s							
PB15	**IPOC Station P**	**2.50**	**232**	Pg		**Pn**	**08 56 02.7**	**+0.9**
GO01	**Chusmiza**	**2.63**	**318**			**Pn**	**08 56 04.1**	**+0.4**
GO01	**Chusmiza**	**2.63**	**318**	*e*P		**Pn**	**08 56 04.4**	**+0.7**
GO01				eS		**Sn**	**08 56 42.3**	**+3.4**
GO01	**Chusmiza**	**2.63**	**318**	⇓*i*P		**Pn**	**08 56 04.7**	**+1.1**
GO01				eS		**Sn**	**08 56 39.5**	**+0.6**
GO01				IAML			08 56 44.9	
	comp=E,653nm,0.2s							
GO01	**Chusmiza**	**2.63**	**318**	Pg		**Pn**	**08 56 04.9**	**+1.3**
PB04	**IPOC Station P**	**2.69**	**255**			**Pn**	**08 56 04.0**	**+0.1**
PB04	**IPOC Station P**	**2.69**	**255**	*e*P		**Pn**	**08 56 04.4**	**+0.5**
PB04				eS		**Sn**	**08 56 38.0**	**-1.6**
PB04				IAML			08 56 42.6	
	comp=Z,465nm,0.1s							
PB04	**IPOC Station P**	**2.69**	**255**	*e*P		**Pn**	**08 56 04.0**	**+0.1**
PB04				eS		**Sn**	**08 56 36.7**	**-2.8**
PB04				IAML			08 56 40.9	
	comp=N,788nm,0.2s							
HMBC	**Humberstone**	**2.75**	**300**			**Pn**	**08 56 04.6**	**0.0**
HMBC	**Humberstone**	**2.75**	**300**	*e*P		**Pn**	**08 56 04.8**	**+0.2**
HMBC				eS		**Sn**	**08 56 39.6**	**-1.0**
HMBC				IAML			08 56 41.2	
	comp=Z,1μm,0.4s							
HMBC	**Humberstone**	**2.75**	**300**	⇓*i*P		**Pn**	**08 56 04.6**	**0.0**
HMBC				eS		**Sn**	**08 56 39.0**	**-1.6**
PATCX	**Punta Patache**	**2.75**	**287**			**Pn**	**08 56 04.9**	**+0.3**
PATCX	**Punta Patache**	**2.75**	**287**	*e*P		**Pn**	**08 56 04.4**	**-0.1**
PATCX				eS		**Sn**	**08 56 40.2**	**-0.5**
PATCX				IAML			08 56 41.4	
	comp=Z,580nm,0.3s							
PATCX	**Punta Patache**	**2.75**	**287**	*e*P		**Pn**	**08 56 04.9**	**+0.3**
PATCX				eS		**Sn**	**08 56 39.1**	**-1.6**
PATCX				IAML			08 56 41.5	
	comp=E,2μm,0.3s							
TA01	**Diego Aracena**	**2.87**	**292**	Pn		**Pn**	**08 56 06.1**	**+0.3**
TA01	**Diego Aracena**	**2.87**	**292**	*e*P		**Pn**	**08 56 05.8**	**0.0**
TA01				eS		**Sn**	**08 56 41.5**	**-1.4**
TA01				IAML			08 56 44.5	
	comp=Z,343nm,0.3s							
TA01	**Diego Aracena**	**2.87**	**292**	*e*P		**Pn**	**08 56 05.6**	**-0.2**
TA01				eS		**Sn**	**08 56 40.8**	**-2.1**
TA01				IAML			08 56 43.2	
	comp=N,1μm,0.3s							
PB11	**IPOC Station P**	**2.88**	**311**	Pn		**Pn**	**08 56 06.1**	**0.0**
PB11	**IPOC Station P**	**2.88**	**311**	*e*P		**Pn**	**08 56 05.8**	**-0.3**
PB11				eS		**Sn**	**08 56 42.5**	**-0.9**
PB11				IAML			08 56 45.0	
	comp=Z,335nm,0.3s							
PB11	**IPOC Station P**	**2.88**	**311**	Pg		**Pn**	**08 56 06.4**	**+0.3**
TA02	**Huaiquique**	**2.95**	**297**			**Pn**	**08 56 06.5**	**-0.3**
TA02	**Huaiquique**	**2.95**	**297**	*e*P		**Pn**	**08 56 07.1**	**+0.3**
TA02				eS		**Sn**	**08 56 43.4**	**-1.3**
TA02				IAML			08 56 46.2	
	comp=Z,412nm,0.3s							
SOEO	**Opoqueri**	**3.12**	**350**	Pg		**Pn**	**08 56 11.5**	**+2.1**
AZAP	**Zapla**	**3.30**	**141**	*e*P		**Pn**	**08 56 11.6**	**+0.4**
AZAP				eS		**Sn**	**08 56 47.1**	**-5.6**
AZAP				IAML			08 56 53.3	
	comp=Z,152nm,0.5s							
SLA	**San Lorenzo**	**3.48**	**151**	*e*P		**Pn**	**08 56 14.8**	**+1.4**
SLA				eS		**Sn**	**08 57 02.6**	**+6.0**
PB10	**IPOC Station P**	**3.50**	**238**	Pn		**Pn**	**08 56 13.2**	**-0.2**
PB10	**IPOC Station P**	**3.50**	**238**	*e*P		**Pn**	**08 56 13.4**	**0.0**
PB10				eS		**Sn**	**08 56 54.6**	**-2.0**
PB10				IAML			08 56 55.9	
	comp=Z,176nm,0.3s							
ALOL	**LOMAS DE OLMED**	**3.77**	**125**	*e*P		**Pn**	**08 56 17.0**	**+0.2**
ALOL				eS		**Sn**	**08 57 00.4**	**-2.4**
SOET	**ToroToro**	**3.81**	**22**	Pg		**Pn**	**08 56 19.1**	**+1.4**
SOET				Sg		**Sn**	**08 57 05.2**	**+1.0**
SOET				IAML			08 57 06.9	
	comp=Z,30nm,0.6s							
AOEA	**Aiquile**	**3.99**	**30**	Pg		**Pn**	**08 56 20.9**	**+1.0**
GO02	**Mina Guanaco**	**4.05**	**210**	Pn		**Pn**	**08 56 20.6**	**0.0**
GO02	**Mina Guanaco**	**4.05**	**210**	*e*P		**Pn**	**08 56 20.7**	**0.0**
GO02				eS		**Sn**	**08 57 07.5**	**-2.1**
PB14	**IPOC Station P**	**4.08**	**223**	Pn		**Pn**	**08 56 20.4**	**-0.6**
PB14	**IPOC Station P**	**4.08**	**223**	*e*P		**Pn**	**08 56 20.8**	**-0.2**
PB14				eS		**Sn**	**08 57 07.1**	**-3.1**
PB14				IAML			08 57 08.6	
	comp=Z,140nm,0.2s							
PB12	**IPOC Station P**	**4.13**	**317**	*e*P		**Pn**	**08 56 20.4**	**-1.1**
PB12				eS		**Sn**	**08 57 09.0**	**-2.1**
PB12				IAML			08 57 12.4	
	comp=Z,112nm,0.5s							
PB18	**Visviri**	**4.52**	**333**			**Pn**	**08 56 28.3**	**+1.4**
SOEJ	**Jacaque**	**4.73**	**350**	Pg		**Pn**	**08 56 31.4**	**+1.9**
BBOE	**La Paz, Chanca**	**4.86**	**353**	Pg		**Pn**	**08 56 33.0**	**+1.8**
BBOD	**La Paz, Gloria**	**5.14**	**346**	Pg		**Pn**	**08 56 36.5**	**+1.8**
AC01	**Pan de Azucar**	**5.37**	**213**	Pn		**Pn**	**08 56 35.2**	**-1.9**
AC01	**Pan de Azucar**	**5.37**	**213**	*e*P		**Pn**	**08 56 35.5**	**-1.6**
AC01				eS		Sn	08 57 25.5	-14
AC01				IAML			08 57 37.6	
	comp=Z,64nm,0.8s							
LPAZ	**La Paz**	**5.40**	**352**	Pn		**Pn**	**08 56 39.4**	**+1.3**
LPAZ	**La Paz**	**5.40**	**352**	P		**Pn**	**08 56 39.9**	**+1.7**
	comp=Z,13nm,0.4s,baz=147,slow=3.5,SNR=140							
LPAZ				S		**Sn**	**08 57 40.7**	**-0.4**
	comp=Z,4.1nm,0.6s,baz=282,slow=12,SNR=1.8							
LPAZ	**La Paz**	**5.40**	**352**	Pg		**Pn**	**08 56 39.7**	**+1.5**
AC05	**El Transito**	**7.62**	**200**	Pn		**Pn**	**08 57 05.1**	**-1.5**
SIV	**San Ignacio**	**8.19**	**48**	P		**Pn**	**08 57 12.0**	**-2.0**
	comp=Z,25nm,0.4s,baz=235,slow=9.9,SNR=111							
SIV				S		**Sn**	**08 58 38.9**	**-7.1**
	comp=Z,5.8nm,0.4s,baz=136,slow=21,SNR=7.8							
PTLB	**Pontes e Lacer**	**9.93**	**53**	Pn		**Pn**	**08 57 35.3**	**-1.5**
CPUP	**Villa Florida**	**10.26**	**119**	P		**Pn**	**08 57 42.1**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=291,slow=11,SNR=5.0							
VILB	**Vilhena**	**11.02**	**39**	Pn		**Pn**	**08 57 51.2**	**+0.3**
MT02	**Curacav**	**12.03**	**195**	Pn		**Pn**	**08 58 02.6**	**-1.1**
TRQA	**Tornquist**	**16.98**	**165**	P		**P**	**08 59 03.5**	**0.0**
TRQA				IAmb		IAmb	08 59 27.3	
	comp=Z,21nm,1.4s							
GO06	**Curarrehue**	**18.21**	**190**	P		**P**	**08 59 16.2**	**-0.8**
GO06				IAmb		IAmb	08 59 22.4	
	comp=Z,10nm,1.1s							
PLCA	**Paso Flores**	**19.21**	**187**	P		**P**	**08 59 26.3**	**-1.4**
PLCA				IAmb		IAmb	08 59 33.5	
	comp=Z,13nm,1.4s							
PLCA	**Paso Flores**	**19.21**	**187**	P		**P**	**08 59 28.5**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=358,slow=11,SNR=7.0							
SNAA	**Sanae**	**61.65**	**161**	P		**P**	**09 05 17.1**	**+1.6**
SNAA				IAmb		IAmb	09 05 18.1	
	comp=Z,6.2nm,1.3s							
SNAA	**Sanae**	**61.65**	**161**	P		**P**	**09 05 15.8**	**+0.3**
	comp=Z,2.1nm,0.8s,baz=348,slow=7.6,SNR=3.7							
	comp=Z,2.1nm,0.8s							
DBIC	**Dimbokro**	**67.38**	**73**	P		**P**	**09 05 52.9**	**-0.5**
DBIC	**Dimbokro**	**67.38**	**73**	P		**P**	**09 05 53.0**	**-0.4**
	comp=Z,1.2nm,0.4s,baz=225,slow=5.7,SNR=1.2							
	comp=Z,1.2nm,0.4s							
QSPA	**South Pole Qui**	**68.53**	**180**	P		**P**	**09 06 01.6**	**+1.6**
QSPA	**South Pole Qui**	**68.53**	**180**	P		**P**	**09 06 02.0**	**+2.0**
	comp=Z,1.0nm,0.5s,baz=304,slow=0.9,SNR=14							
	comp=Z,1.0nm,0.5s							
TOA0	**Torodi Ar. Sit**	**76.04**	**70**	P		**P**	**09 06 44.5**	**-0.5**
TOA0				IAmb		IAmb	09 07 24.3	
	comp=Z,3.1nm,1.4s							
TORD	**Torodi Ar. Bea**	**76.04**	**70**	P		**P**	**09 06 45.1**	**+0.1**
	comp=Z,0.7nm,0.3s,baz=262,slow=5.9,SNR=23							
	comp=Z,0.7nm,0.3s							
ASAR	**Alice Springs**	**130.43**	**206**	PKP		**PKiKP**	**09 14 07.7**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=134,slow=1.5,SNR=1.7							
WRA	**Warramunga Arr**	**133.54**	**209**	PKP		**PKPdf**	**09 14 13.0**	**+0.3**
	comp=Z,0.8nm,1.1s,baz=150,slow=1.7,SNR=5.9							
MKAR	**Makanchi Array**	**144.89**	**37**	PKP		**PKPdf**	**09 14 33.7**	**+1.3**
	comp=Z,1.4nm,0.7s,baz=324,slow=3.5,SNR=11							

*SKHL **19** 08:57:27.6±0.3,45°.00N×150°.10E,h64km±4km,mb4.8/3*
*IDC **19** 08:57:29.2±3.3,45°.76N×149°.61E,h124km±27km,mb3.0/6, mbtmp3.4/8,Error ellipse: s-maj=60.8km s-min=20.5km az=161.0*
ISC 19 08:57:24.9±0.9,45°.2N±0°.1×150°.0E±0°.1,h100km,n19, σ1s66/17,mb3.4/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.49**	**271**	*i*P		**Pn**	**08 57 52.4**	**+1.4**
KUR				AMB		AMB	08 57 53.8	
	600nm,0.4s							
KUR				*e*S		**Sn**	**08 58 11.3**	**+0.5**
KUR				A		A	08 58 13.4	
	1μm,0.7s							
KUR				A		A	08 58 13.4	
	1μm,0.7s							
SHO	**Shikotan**	**2.63**	**240**	*i*P		**Pn**	**08 58 07.0**	**+1.4**
SHO				AMB		AMB	08 58 11.2	
	20nm,0.1s							
SHO				*i*S		**Sn**	**08 58 35.6**	**-1.3**
SHO				A		A	08 58 39.5	
	150nm,0.

0.2nm,0.6s,baz=74,slow=9.9,SNR=2.5
0.2nm,0.6s
KURBB Kurchatov Arra 46.48 304 P **P** 09 05 39.0 -2.6
0.2nm,0.3s,baz=76,slow=9.4,SNR=1.9
0.2nm,0.3s
YKA Yellowknife Ar 53.44 35 P **P** 09 06 32.5 -1.5
0.2nm,0.6s,baz=301,slow=7.8,SNR=3.1
0.2nm,0.6s
PDAR Pinedale Array 67.41 52 P **P** 09 08 10.4 +0.7
0.4nm,0.7s,baz=323,slow=7.3,SNR=2.4
0.4nm,0.7s
TXAR Lajitas Array 80.15 58 P **P** 09 09 25.6 +1.4
0.2nm,0.6s,baz=309,slow=5.7,SNR=2.9
0.2nm,0.6s

KRNET ***19*** *09:06:13.4±0.1, 41˚.74N×71˚.70E, h21km, mb2.5*
SOME ***19*** *09:06:14.0, 41˚.83N×71˚.80E, h5km*
ISU ***19*** *09:06:15.1, 41˚.74N×71˚.69E, h14km*
NNC ***19*** *09:06:16.6±1.8, 41˚.88N×71˚.73E, h0km, mb3.4, mpv3.2,*
Error ellipse: s-maj=18.8km s-min=6.7km az=3.0
ISC 19 09:06:14.8±1.1, 41˚.75N±0˚.02×71˚.67E±0˚.02, h5km±9km, n51, σ1§63/91, 28C-14D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
ARK	**Arkit**	**0.23**	**77**	⇑*i*P		**Pg**	**09 06 18.5**	**-0.8**
	baz=73							
ARK				⇑*i*S		**Sg**	**09 06 21.7**	**-0.6**
	baz=73							
TRKS	**Terek-Say**	**0.45**	**242**	⇑*i*P		**Pg**	**09 06 22.9**	**-0.6**
	baz=35							
TRKS				⇑*i*S		**Sg**	**09 06 29.6**	**+0.2**
	baz=35							
KSNS	**Kasansay**	**0.60**	**191**	P		**Pg**	**09 06 26.8**	**+0.5**
KSNS				S		**Sg**	**09 06 35.7**	**+1.7**
MNAS	**Manas**	**0.97**	**40**	⇑*i*P		**Pb**	**09 06 31.5**	**-2.7**
	baz=39							
MNAS				⇑*i*S		**Sb**	**09 06 44.5**	**-2.8**
	baz=39							
ARSB	**Arslanbob**	**1.07**	**113**	⇓*i*P		**Pb**	**09 06 32.9**	**-3.1**
	baz=13							
ARSB				⇓*i*S		**Sb**	**09 06 47.1**	**-3.3**
	baz=13							
CHMG	**Chimgan**	**1.26**	**262**	P		**Pn**	**09 06 38.7**	**-0.5**
CHMG				S		**Sn**	**09 06 56.3**	**-0.2**
TSTA	**Tashata**	**1.32**	**152**	P		**Pn**	**09 06 39.6**	**-0.3**
TSTA				S		**Sg**	**09 06 57.8**	**+0.7**
FRG	**Fergana**	**1.37**	**176**	P		**Pn**	**09 06 40.6**	**-0.1**
FRG				S		**Sg**	**09 06 59.5**	**+0.6**
CHMI	**Chimion**	**1.48**	**184**	P		**Pn**	**09 06 42.2**	**+0.1**
CHMI				S		**Sb**	**09 07 02.4**	**+0.5**
MRKS	**Merke**	**1.53**	**49**	P		**Pn**	**09 06 41.7**	**-1.2**
	5.2nm,0.3s							
MRKS				S		**Sn**	**09 07 02.3**	**-0.9**
	37nm,0.3s							
MRKS	**Merke**	**1.53**	**49**	*e*P		**Pn**	**09 06 41.7**	**-1.2**
	5.2nm,0.3s							
MRKS				*e*S		**Sn**	**09 07 02.1**	**-1.1**
	37nm,0.3s							
KK31	**Karatay Array**	**1.60**	**328**	⇓P		**Pn**	**09 06 44.1**	**+0.3**
	2.1nm,0.2s,baz=146,slow=17,SNR=25							
KK31				⇑S		**Sn**	**09 07 04.7**	**-0.2**
	7.3nm,0.3s,baz=144,slow=28,SNR=18							
KKAR	**Karatay Array**	**1.60**	**328**	⇓*i*P		**Pn**	**09 06 43.0**	**-0.8**
	baz=28							
KKAR				⇓*i*S		**Sn**	**09 07 04.7**	**-0.2**
	baz=28							
BTK	**Batken**	**1.81**	**201**	⇑*e*P		**Pn**	**09 06 46.2**	**-0.5**
	baz=2.0							
BTK				⇑*i*S		**Sn**	**09 07 09.8**	**-0.2**
	baz=2.0							
EKS2	**Erkin-Say**	**1.82**	**59**	⇑*i*P		**Pn**	**09 06 46.1**	**-0.8**
	baz=58							
EKS2				⇑*i*S		**Sn**	**09 07 09.7**	**-0.6**
	baz=58							
BRLS	**Boroldoy**	**1.87**	**314**	P		**Pn**	**09 06 48.2**	**+0.7**
	16nm,0.3s							
BRLS				S		**Sb**	**09 07 13.6**	**+0.5**
	14nm,0.3s							
BRLS	**Boroldoy**	**1.87**	**314**	*e*P		**Pn**	**09 06 48.2**	**+0.7**
	16nm,0.3s							
BRLS				*e*S		**Sb**	**09 07 12.9**	**-0.1**
	14nm,0.3s							
ARLS	**Aral**	**1.99**	**86**	⇑*i*P		**Pn**	**09 06 48.6**	**-0.7**
	baz=86							
ARLS				⇑*i*S		**Sn**	**09 07 13.7**	**-1.0**
	baz=86							
UCH	**Uchtor**	**2.18**	**76**	⇑*i*P		**Pn**	**09 06 51.4**	**-0.7**
	baz=76							
UCH				⇑*i*S		**Sn**	**09 07 18.8**	**-0.9**
	baz=76							
SFK	**Sufi-Kurgan**	**2.22**	**141**	⇑*i*P		**Pn**	**09 06 51.6**	**-0.9**
	baz=41							
SFK				⇑*i*S		**Sn**	**09 07 19.5**	**-1.0**
	baz=41							
DRK	**Karamyk**	**2.27**	**177**	⇓*i*P		**Pn**	**09 06 52.7**	**-0.5**
	baz=78							
DRK				⇓*i*S		**Sn**	**09 07 20.9**	**-0.7**
	baz=78							
AAK	**Ala-Archa**	**2.28**	**66**	⇓Pn		**Pb**	**09 06 55.7**	**-0.9**
	3.5nm,0.4s							
AAK				⇓Sn		**Sb**	**09 07 25.9**	**+0.7**
	18nm,0.7s							
AAK	**Ala-Archa**	**2.28**	**66**	⇑*i*P		**Pn**	**09 06 52.7**	**-0.6**
	baz=66							
AAK				⇑*i*S		**Sn**	**09 07 21.1**	**-0.8**
	baz=66							
USP	**Ospenovka**	**2.59**	**53**	⇑*i*P		**Pn**	**09 06 56.8**	**-0.6**
	baz=53							
USP				⇑*i*S		**Sn**	**09 07 28.5**	**-0.8**
	baz=53							
KBK	**Karagaybulak**	**2.60**	**68**	⇓*i*P		**Pn**	**09 06 57.0**	**-0.7**
	baz=68							
KBK				⇓*i*S		**Sn**	**09 07 28.8**	**-1.0**
	baz=68							
CHMS	**Chumysh**	**2.61**	**60**	⇑*i*P		**Pn**	**09 06 56.9**	**-0.7**
	baz=60							
CHMS				⇑*i*S		**Sn**	**09 07 28.7**	**-1.0**
	baz=60							
GAR	**Garm**	**2.93**	**201**	⇓*i*P		**Pn**	**09 07 01.8**	**-0.4**
	baz=1.0							
GAR				⇓*i*S		**Sn**	**09 07 36.9**	**-0.9**
	baz=1.0							
TKM2	**Tokmak 2**	**3.14**	**67**	⇑Pn		**Pn**	**09 07 07.7**	**+2.6**
	1.5nm,0.3s							
TKM2				⇓Sn		**Sb**	**09 07 50.9**	**+0.9**
	7.5nm,0.6s							
TKM2	**Tokmak 2**	**3.14**	**67**	⇑*e*P		**Pn**	**09 07 04.7**	**-0.5**
	baz=66							
TKM2				⇑*i*S		**Sn**	**09 07 41.9**	**-1.2**
	baz=66							
BOOM	**Boomskoye usch**	**3.27**	**75**	⇑*i*P		**Pn**	**09 07 06.4**	**-0.4**
	baz=75							
BOOM				⇑*i*S		**Sn**	**09 07 44.6**	**-1.5**
	baz=75							
DGS	**Degeres**	**3.38**	**62**	Pg		**Pb**	**09 07 14.1**	**-1.3**
	3.1nm,0.4s							
DGS				Lg		Lg	09 07 57.4	
	12nm,0.5s							
DGS	**Degeres**	**3.38**	**62**	*e*P		**Pb**	**09 07 14.3**	**-1.0**
	2.9nm,0.2s							
DGS				*e*S		**Sb**	**09 07 57.4**	**+0.5**
	15nm,0.2s							
KST	**Kastek**	**3.44**	**66**	Pg		**Pb**	**09 07 16.2**	**0.0**
	3.0nm,0.4s							
KST				Lg		Lg	09 08 00.8	
	25nm,0.4s							
KST	**Kastek**	**3.44**	**66**	*e*P		**Pb**	**09 07 16.1**	**-0.1**
	3.0nm,0.2s							
KST				*e*S		**Sb**	**09 08 00.6**	**+2.3**
	25nm,0.4s							
KRBS	**Karabastau**	**3.54**	**55**	Pg		**Pb**	**09 07 15.9**	**-2.0**
	1.3nm,0.2s							
KRBS				Lg		Lg	09 08 00.4	
	6.5nm,0.3s							
KRBS	**Karabastau**	**3.54**	**55**	*e*P		**Pb**	**09 07 15.9**	**-2.0**
	1.4nm,0.1s							
KRBS				*e*S		**Sb**	**09 08 00.4**	**-0.8**
	6.5nm,0.3s							
MTBS	**Maitube**	**3.79**	**67**	Pg		**Pb**	**09 07 22.1**	**-0.1**
	1.7nm,0.1s							
MTBS				Lg		Lg	09 08 10.8	
	6.8nm,0.4s							
MTBS	**Maitube**	**3.79**	**67**	*e*P		**Pb**	**09 07 22.1**	**-0.1**
	1.7nm,0.1s							
MTBS				*e*S		**Sb**	**09 08 10.8**	**+2.4**
	5.8nm,0.2s							
IZV	**Izvestkoviy**	**3.88**	**69**	Pg		**Pb**	**09 07 24.8**	**+0.9**
	1.3nm,0.3s							
IZV				Lg		Lg	09 08 15.7	
	3.2nm,0.3s							
IZV	**Izvestkoviy**	**3.88**	**69**	*e*P		**Pb**	**09 07 24.8**	**+0.9**
	0.7nm,0.1s							
IZV				*e*S		**Sb**	**09 08 15.7**	**+4.5**
	5.1nm,0.2s							
TNSS	**Tian-Shan**	**4.12**	**70**	Pg		**Pb**	**09 07 28.4**	**+0.4**
	1.9nm,0.5s							
TNSS				Lg		Lg	09 08 21.6	
	2.7nm,0.6s							
TNSS	**Tian-Shan**	**4.12**	**70**	*e*P		**Pb**	**09 07 28.4**	**+0.4**
	1.8nm,0.2s							
TNSS				*e*S		**Sb**	**09 08 21.6**	**+3.4**
	5.1nm,0.3s							
KTBS	**Karatobe**	**4.18**	**60**	Pg		**Pb**	**09 07 28.8**	**-0.1**
	2.3nm,0.3s							
KTBS				Lg		Lg	09 08 22.5	
	5.0nm,0.6s							
KTBS	**Karatobe**	**4.18**	**60**	*e*P		**Pb**	**09 07 28.8**	**-0.1**
	2.3nm,0.3s							
KTBS				*e*S		**Sb**	**09 08 22.5**	**+2.7**
	5.0nm,0.6s							
MDOK	**Medeo**	**4.23**	**69**	Pg		**Pb**	**09 07 30.1**	**+0.4**
	3.8nm,0.6s							
MDOK				Lg		Lg	09 08 24.6	
	4.1nm,0.6s							
MDOK	**Medeo**	**4.23**	**69**	*e*P		**Pb**	**09 07 30.1**	**+0.4**
	3.3nm,0.3s							
MDOK				*e*S		**Sb**	**09 08 24.6**	**+3.5**
	4.2nm,0.4s							
ARXS	**Arharly**	**5.15**	**59**	Pg		**Pb**	**09 07 46.9**	**+1.5**
	1.6nm,0.5s							
ARXS				Lg		Lg	09 08 53.9	
	9.1nm,0.5s							
ARXS	**Arharly**	**5.15**	**59**	*e*P		**Pb**	**09 07 47.1**	**+1.7**
	1.6nm,0.2s							
ARXS				*e*S		**Sb**	**09 08 53.9**	**+6.4**
	9.0nm,0.3s							
BLB	**Baldybastay**	**5.53**	**63**	Pg		**Pb**	**09 07 52.7**	**+0.8**
	3.6nm,0.4s							
BLB				Lg		Lg	09 09 03.6	
	3.9nm,0.5s							
UZB	**Uzymbulak**	**5.62**	**73**	Pg		**Pb**	**09 07 54.7**	**+1.2**
	1.8nm,0.2s							
UZB				Lg		Lg	09 09 06.7	
	1.7nm,0.4s							
UZB	**Uzynbulak**	**5.62**	**73**	*e*P		**Pb**	**09 07 54.7**	**+1.2**
	1.8nm,0.1s							
UZB				*e*S		**Sb**	**09 09 06.7**	**+5.5**
	1.7nm,0.4s							

IDC ***19*** *09:36:17.9±0.5, 4˚.76S×145˚.05E, h0km, mb5.0/20, mbtmp4.9/22, MLv4.9/1, MS4.3/47, Error ellipse: s-maj=22.3km s-min=11.8km az=84.0*
MOS ***19*** *09:36:21.8±0.6, 4˚.72S×144˚.85E, h34km, mb5.3/43, Error ellipse: s-maj=9.7km s-min=5.5km az=109.3*
BJI ***19*** *09:36:23.1±0.0, 4˚.79S×145˚.22E, h62km, mb5.0/77, mB5.1/42, Ms4.6/55, Ms7 4.4/58*
NEIC ***19*** *09:36:26.8±1.2, 4˚.78S±0˚.07×144˚.84E±0˚.08, h59km±5km, mb5.2/223, Error ellipse: s-maj=11.2km s-min=10.3km az=114.0*
GCMT ***19*** *09:36:27.8±0.1, 4˚.75S±0˚.01×144˚.91E±0˚.01, h52km, MW5.2/128, Moment Tensor Solution. s100,c159; s128,c219; Duration: 1§0 Moment tensor: Scale 10^17 Nm; Mrr0.63±.01; Mθθ-0.59±.01; Mϕϕ-0.04±.01; Mrθ-0.23±.01; Mrϕ0.37±.01; Mθϕ0.25±.01; Best double couple: M0 0.78700×10^17 NP1:ϕs307.00000°, δ58.00000°, λ103.00000°. NP2:ϕs104.00000°, δ34.00000°, λ71.00000°. Principal axes: T 0.7230, Plg74.0000°, Azm250.0000°; N 0.1270, Plg11.0000°, Azm121.0000°; P -0.8510, Plg12.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
DJA ***19*** *09:36:27.6±0.3, 5˚S±2˚×14˚5E±˚, h71km±3km, M5.3/67, mB5.7/49, mb5.4/67, MLv5.6/4, Mw(mB)5.3/49, MwMwp4.9/8, Mwp5.2/8*
ISC 19 09:36:26.2±0.3, 4˚.82S±0˚.03×144˚.84E±0˚.04, h60km±2km, h60km:pP-P, n865, σ1§18/818, mb5.1/197, MS4.4/65, 24C-9D, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**3.63**	**263**	P		**Pn**	**09 37 22.3**	**+2.3**
MANU	**Manus Island**	**3.74**	**43**	P		**Pn**	**09 37 21.3**	**-0.2**
MANU	**Manus Island**	**3.74**	**43**	Pn		**Pn**	**09 37 20.8**	**-0.7**
JAY	**Jayapura**	**4.72**	**299**	P		**Pn**	**09 37 36.8**	**+1.9**
PMG	**Port Moresby**	**5.10**	**153**	Pn		**Pn**	**09 37 36.6**	**-3.6**
	33nm,0.4s,baz=32,slow=5.4,SNR=31							
PMG				Sn		**Sn**	**09 38 35.4**	**-2.5**
	15nm,0.3s,baz=30,slow=12,SNR=3.1							
PMG				LR		LR	09 39 14.8	
	comp=Z,1μm,19.6s,baz=338,slow=35							
GENI	**Genyem**	**5.16**	**295**	P		**Pn**	**09 37 43.6**	**+2.6**
GENI	**Genyem**	**5.16**	**295**	P		**Pn**	**09 37 42.3**	**+1.3**
	784nm,1.0s,11μm5μm14nm							
BULU	**Kimbe**	**5.50**	**98**	P		**Pn**	**09 37 49.0**	**+3.3**
RABL	**Rabaul**	**7.33**	**85**	P		**Pn**	**09 38 13.6**	**+2.8**
RABL	**Rabaul**	**7.33**	**85**	Pn		**Pn**	**09 38 13.3**	**+2.6**
COEN	**Coen**	**9.22**	**190**	P		**Pn**	**09 38 36.9**	**+0.2**
	baz=9.2,SNR=32							
COEN	**Coen**	**9.22**	**190**	P		**Pn**	**09 38 37.8**	**+1.1**
COEN	**Coen**	**9.22**	**190**	Pn		**Pn**	**09 38 37.5**	**+0.8**
FAKI	**Fak Fak**	**12.70**	**278**	P		**Pn**	**09 39 25.4**	**+1.2**
FAKI	**Fak Fak**	**12.70**	**278**	Pn		**Pn**	**09 39 21.8**	**-2.4**
FAKI	**Fak Fak**	**12.70**	**278**	P		**Pn**	**09 39 24.6**	**+0.4**
	81nm,1.1s,1μm2μm							
MTSU	**Mount Surprise**	**13.24**	**182**	P		**Pn**	**09 39 31.9**	**+0.4**
	baz=13,SNR=15							
MTSU	**Mount Surprise**	**13.24**	**182**	P		**Pn**	**09 39 32.9**	**+1.4**
SWI	**Sorong**	**14.12**	**286**	P		**Pn**	**09 39 42.1**	**-1.2**
	215nm,1.1s,2μm							
TV1H	**Townsville Har**	**14.48**	**173**	P		**Pn**	**09 39 49.8**	**+1.8**
KDU	**Kakadu**	**14.50**	**237**	P		**Pn**	**09 39 47.1**	**-1.2**
	baz=14,SNR=15							
KDU	**Kakadu**	**14.50**	**237**	P		**Pn**	**09 39 46.5**	**-1.8**
BNDI	**Bandanaira**	**14.89**	**271**	P		**Pn**	**09 39 54.5**	**+1.1**
	684nm,1.7s							
CTAO	**Charters Tower**	**15.24**	**175**	P		**Pn**	**09 39 58.1**	**+0.2**
CTAO	**Charters Tower**	**15.24**	**175**	Pn		**Pn**	**09 39 58.3**	**+0.4**
CTAO	**Charters Tower**	**15.24**	**175**	P		**Pn**	**09 39 58.3**	**+0.4**
CTAO				pmax	pmax			
	comp=Z,95nm,1.3s							
HNR	**Honiara**	**15.67**	**108**	P		**P**	**09 40 05.9**	**-0.6**
HNR	**Honiara**	**15.67**	**108**			**Pn**	**09 40 02.4**	**-1.1**
HNR				IAmb		IAmb	09 40 11.4	
	comp=Z,216nm,1.1s							
HNR	**Honiara**	**15.67**	**108**	LR		LR	09 45 23.9	
	comp=Z,12μm,21.8s,baz=276,slow=35							
HNR	**Honiara**	**15.67**	**108**	P		**Pn**	**09 40 02.4**	**-1.1**
HNR				pmax	pmax			
	comp=Z,216nm,1.1s							
MTN	**Manton Dam**	**15.71**	**239**	P		**P**	**09 40 06.0**	**-0.8**
DRS	**Darwin Rock St**	**15.71**	**240**	P		**P**	**09 40 05.8**	**-1.1**
QIS	**Mount Isa**	**16.45**	**198**	P		**Pn**	**09 40 13.4**	**+0.1**
	baz=16,SNR=26							
QIS	**Mount Isa**	**16.45**	**198**	P		**Pn**	**09 40 12.7**	**-0.6**
PATS	**Pohnpei**	**17.75**	**49**	P		**P**	**09 40 29.8**	**+0.3**
	baz=18,SNR=8.2							
PATS	**Pohnpei**	**17.75**	**49**	P		**P**	**09 40 30.6**	**+1.1**
PATS	**Pohnpei**	**17.75**	**49**	P		**Pn**	**09 40 29.3**	**-0.1**
LBMI	**Labuha**	**17.80**	**283**	P		**P**	**09 40 32.0**	**+1.9**
	comp=Z,224nm,1.2s,comp=Z,4μm							
WB0	**Warramunga Arr**	**18.01**	**214**			**P**	**09 40 32.4**	**+0.1**
WB0				IAmb		IAmb	09 40 44.9	
	comp=Z,268nm,1.5s							
WR0	**Warramunga Ar**	**18.08**	**213**	P		**P**	**09 40 33.3**	**+0.1**
WR0				IAmb		IAmb	09 40 36.2	
	comp=Z,121nm,0.8s							
WRAB	**Tennant Creek**	**18.16**	**213**	P		**P**	**09 40 33.8**	**-0.2**
WRAB	**Tennant Creek**	**18.16**	**213**	*d* iP		**P**	**09 40 33.0**	**-1.0**
WRAB				pmax	pmax			
	comp=Z,251nm,2.0s							
WB2	**Warramunga Arr**	**18.17**	**213**			**P**	**09 40 34.2**	**+0.1**
WRA	**Warramunga Arr**	**18.18**	**213**	P		**Pn**	**09 40 34.6**	**0.0**
WRA	**Warramunga Ar**	**18.18**	**213**	P		**P**	**09 40 33.7**	**-0.5**
	comp=Z,3.9nm,0.3s,baz=41,slow=11,SNR=161							
WRA				Lg		Lg	09 45 56.8	
	comp=Z,0.3nm,0.3s,baz=322,slow=24,SNR=2.7							
WRA				LR		LR	09 48 06.2	
	comp=Z,2μm,19.2s,baz=2.5,slow=39							
	comp=Z,53nm,0.8s							
WRA	**Warramunga Arr**	**18.18**	**213**	*i* P		**P**	**09 40 34.2**	**0.0**
WRA				pmax	pmax			
	comp=Z,58nm,0.8s							
GUMO	**Guam**	**18.29**	**0**	LR		LR	09 47 08.5	
	comp=Z,1μm,18.9s,baz=191,slow=36							
TNTI	**Ternate**	**18.32**	**287**	P		**Pn**	**09 40 37.3**	**+1.0**
TNTI	**Ternate**	**18.32**	**287**	P		**P**	**09 40 35.9**	**+0.1**
TNTI	**Ternate**	**18.32**	**287**	P		**Pn**	**09 40 37.3**	**+1.0**
	comp=Z,48nm,1.8s,comp=Z,1μmcomp=Z,717nm							
SANI	**Sanana**	**19.01**	**278**	P		**Pn**	**09 40 44.3**	**-0.4**
SANI	**Sanana**	**19.01**	**278**	P		**P**	**09 40 42.1**	**-1.3**
	comp=Z,126nm,1.1s,comp=Z,2μm							
SOEI	**Soe**	**20.98**	**255**	P		Pn	09 41 07.3	-0.8
SOEI	**Soe**	**20.98**	**255**			Pn	09 41 06.6	-1.5
SOEI	**Soe**	**20.98**	**255**	P		**P**	**09 41 06.1**	**+1.2**
	comp=Z,648nm,1.0s,comp=Z,8μm							
SGSI	**Sangihe**	**21.06**	**293**	P		**P**	**09 41 07.0**	**+1.4**
	comp=Z,216nm,0.8s							
EIDS	**Eidsvold**	**21.29**	**164**	P		**P**	**09 41 08.4**	**+0.4**
	baz=21,SNR=6.5							
EIDS	**Eidsvold**	**21.29**	**164**	P		**P**	**09 41 08.2**	**+0.2**
EIDS	**Eidsvold**	**21.29**	**164**	P		**P**	**09 41 08.4**	**+0.4**
AS01	**Alice Springs**	**21.48**	**208**	P		**P**	**09 41 10.5**	**+0.5**
ASAR	**Alice Springs**	**21.50**	**208**	P		**P**	**09 41 10.9**	**+0.7**
ASAR	**Alice Springs**	**21.50**	**208**	P		**P**	**09 41 10.6**	**+0.3**
	comp=Z,13nm,0.7s,baz=40,slow=8.4,SNR=170							
	comp=Z,13nm,0.7s							
KMSI	**Cibinong**	**21.51**	**284**	P		**P**	**09 41 11.8**	**+1.3**
	comp=Z,490nm,1.1s,comp=Z,7μm							
QLP	**Quilpie**	**21.65**	**181**	P		**P**	**09 41 12.6**	**+0.9**
	baz=22,SNR=4.3							
QLP	**Quilpie**	**21.65**	**181**	P		**P**	**09 41 12.2**	**+0.4**
BATI	**Baumata**	**21.66**	**254**	P		**P**	**09 41 13.3**	**+1.2**
	comp=Z,79nm,0.5s,baz=140,slow=1.9,SNR=7.7							
BATI				LR		LR	09 52 02.1	
	comp=Z,2μm,20.6s,baz=84,slow=43							
	comp=Z,79nm,0.5s							
BATI	**Baumata**	**21.66**	**254**	P		**P**	**09 41 13.2**	**+1.2**
	comp=Z,441nm,0.9s,comp=Z,4μm							
BBSI	**Bau Bau**	**22.19**	**267**	P		**P**	**09 41 17.5**	**-0.2**
	comp=Z,215nm,1.2s,comp=Z,22μm							
LUWI	**Luwuk**	**22.35**	**279**	P		**P**	**09 41 21.3**	**+1.8**
LUWI	**Luwuk**	**22.35**	**279**	P		**P**	**09 41 20.2**	**+0.8**
LUWI	**Luwuk**	**22.35**	**279**	P		**P**	**09 41 20.3**	**+0.8**
	comp=Z,303nm,1.3s,comp=Z,6μm							
GTOI	**Gorontalo**	**22.47**	**283**	P		**P**	**09 41 22.9**	**+2.2**
	comp=Z,79nm,1.0s,comp=Z,1μm							
DAV	**Davao City (W)**	**22.56**	**301**	LR		LR	09 50 40.5	
	comp=Z,523nm,18.6s,baz=138,slow=38							
MMRI	**Maumere**	**22.76**	**259**	P		**P**	**09 41 23.2**	**-0.6**
MMRI	**Maumere**	**22.76**	**259**	P		**P**	**09 41 22.3**	**-1.5**
MMRI	**Maumere**	**22.76**	**259**	P		**P**	**09 41 23.7**	**-0.1**
	comp=Z,135nm,1.3s,comp=Z,3μm							
FITZ	**Fitzroy Crossi**	**22.94**	**233**	P		**P**	**09 41 25.2**	**-0.5**
	baz=23,SNR=33							
FITZ	**Fitzroy Crossi**	**22.94**	**233**	P		**P**	**09 41 26.1**	**+0.4**
INKA	**Innaminka**	**23.12**	**189**	P		**P**	**09 41 27.1**	**-0.2**
EDFI	**Ende, Flores**	**23.31**	**259**	P		**P**	**09 41 28.8**	**-0.6**
	comp=Z,158nm,1.1s,comp=Z,2μm							
AUWSH	**Wavell State H**	**23.78**	**162**	P		**P**	**09 41 33.1**	**-0.3**
OOD	**Oodnadatta**	**24.45**	**200**	P		**P**	**09 41 40.8**	**+1.2**
KOUNC	**Koumac, New Ca**	**24.54**	**131**	P		**P**	**09 41 40.1**	**-0.3**
BKSI	**Bulukumba**	**24.62**	**268**	P		**P**	**09 41 40.6**	**-0.7**
	comp=Z,104nm,1.0s,comp=Z,1μm							
BASI	**Baing, Sumba**	**24.63**	**256**	P		**P**	**09 41 42.0**	**+0.6**
	comp=Z,789nm,1.1s,comp=Z,10μm							
AULRC	**Lightning Ridg**	**24.66**	**173**	P		**P**	**09 41 41.7**	**+0.3**
TOLI2	**Tolitoli**	**24.74**	**283**	P		**P**	**09 41 43.9**	**+1.5**
TOLI2	**Tolitoli**	**24.74**	**283**	P		**P**	**09 41 41.8**	**-0.7**
KAPI	**Kappang**	**24.99**	**268**	P		**P**	**09 41 45.8**	**+1.1**
KAPI	**Kappang**	**24.99**	**268**	P		**P**	**09 41 45.4**	**+0.7**
KAPI	**Kappang**	**24.99**	**268**	LR		LR	09 54 07.3	
	comp=Z,422nm,20.9s,baz=96,slow=42							
KAPI	**Kappang**	**24.99**	**268**	*c* iP		**P**	**09 41 45.5**	**+0.8**
KAPI				pmax	pmax			
	comp=Z,224nm,1.3s							
TTSI	**Tana Toraja**	**25.02**	**273**	P		**P**	**09 41 46.9**	**+2.0**
	comp=Z,229nm,1.1s,comp=Z,3μm							
WRKA	**Warakurna**	**25.62**	**217**	P		**P**	**09 41 49.9**	**-0.4**
	baz=26,SNR=42							
WRKA	**Warakurna**	**25.62**	**217**	P		**P**	**09 41 49.8**	**-0.5**
DVP	**Devils Point**	**26.20**	**121**	P		**P**	**09 41 56.8**	**+1.2**
LCRK	**Leigh Creek**	**26.24**	**193**	P		**P**	**09 41 56.0**	**+0.2**
CMSA	**Cobar Meteorol**	**26.59**	**178**	P		**P**	**09 41 59.8**	**+0.9**
	baz=27,SNR=20							
CMSA	**Cobar Meteorol**	**26.59**	**178**	P		**P**	**09 42 00.0**	**+1.1**
AUPHS	**Peel High Scho**	**26.75**	**168**	P		**P**	**09 42 01.9**	**+1.4**
DZM	**Mont Dzumac**	**27.05**	**131**	P		**P**	**09 42 03.1**	**-0.2**
DZM	**Mont Dzumac**	**27.05**	**131**	*e*P		**P**	**09 42 01.1**	**-2.2**
	comp=Z,106nm,1.4s							
DZM				*e*S		**S**	**09 46 42.0**	**+4.8**
	comp=Z,487nm,23.5s							
DZM				*e*LR		LR	09 48 54.9	
	comp=Z,3μm,26.2s							
DZM	**Mont Dzumac**	**27.05**	**131**	P		**P**	**09 42 02.4**	**-1.0**
DZM				IAmb		IAmb	09 42 03.9	
	comp=Z,60nm,1.3s

JCJ	**Chichijima**	**31.83**	**356**	LR	LR	09 55 23.7			
	comp=Z,186nm,19.0s,baz=147,slow=36								
ARPS	**Mount Arapiles**	**31.91**	**185**	P	**P**	**09 42 47.9**	**+1.7**		
	baz=32,SNR=6.2								
ARPS	**Mount Arapiles**	**31.91**	**185**	P	**P**	**09 42 47.6**	**+1.5**		
MILA	**Mila**	**32.32**	**174**	P	**P**	**09 42 50.8**	**+1.0**		
	baz=32,SNR=3.9								
BRAT	**Ballarat**	**32.59**	**181**	P	**P**	**09 42 54.3**	**+2.3**		
TOO	**Toolangi**	**32.60**	**179**	P	**P**	**09 42 54.1**	**+1.8**		
	baz=33,SNR=4.6								
TOO	**Toolangi**	**32.60**	**179**	P	**P**	**09 42 54.0**	**+1.8**		
TOO	**Toolangi**	**32.60**	**179**	P	**P**	**09 42 53.1**	**+0.9**		
TOO				IAmb	IAmb	09 42 55.7			
	comp=Z,48nm,1.1s								
TOO	**Toolangi**	**32.60**	**179**	P	**P**	**09 42 53.1**	**+0.9**		
TOO				pmax	pmax				
	comp=Z,48nm,1.1s								
H11N1	**WAKE ISLAND Hy**	**32.63**	**41**	T	T	10 16 59.0			
	baz=220								
H11N3	**WAKE ISLAND Hy**	**32.65**	**41**	T	T	10 17 01.4			
	baz=220								
H11N2	**WAKE ISLAND Hy**	**32.65**	**41**	T	T	10 16 59.2			
	baz=220								
MEEK	**Meekatharra**	**33.14**	**226**	P	**P**	**09 42 57.5**	**+0.4**		
	baz=33,SNR=23								
MEEK	**Meekatharra**	**33.14**	**226**	P	**P**	**09 42 57.8**	**+0.7**		
JMZ	**Minamidaito 2**	**33.20**	**337**	P	**P**	**09 42 58.0**	**+0.5**		
JMZ	**Minamidaito 2**	**33.20**	**337**	P	**P**	**09 42 57.8**	**+0.3**		
SBUM	**Sibu**	**33.38**	**282**	P	**P**	**09 42 59.3**	**0.0**		
KMBL	**Kambalda**	**34.09**	**217**	P	**P**	**09 43 05.3**	**+0.1**		
	baz=34,SNR=11								
KMBL	**Kambalda**	**34.09**	**217**	P	**P**	**09 43 06.1**	**+0.8**		
GIRL	**Giralia**	**34.48**	**236**	P	**P**	**09 43 09.6**	**+0.9**		
	baz=34,SNR=3.8								
GIRL	**Giralia**	**34.48**	**236**	P	**P**	**09 43 09.2**	**+0.6**		
MSVF	**Nonsavu**	**34.93**	**114**	P	**P**	**09 43 12.1**	**-0.6**		
MSVF	**Nonsavu**	**34.93**	**114**	P	**P**	**09 43 11.8**	**-0.9**		
MSVF				IAmb	IAmb	09 43 27.9			
	comp=Z,39nm,1.1s								
MSVF	**Nonsavu**	**34.93**	**114**	⇑*e*P	**P**	**09 43 13.4**	**+0.7**		
MSVF				pmax	pmax				
	comp=Z,50nm,1.5s								
MSVF	**Nonsavu**	**34.93**	**114**	P	**P**	**09 43 11.2**	**-1.6**		
MSVF				pP	**pP**	**09 43 26.0**	**-1.7**		
KSM	**Kuching**	**35.06**	**279**	P	**P**	**09 43 14.1**	**+0.2**		
JOW	**Kunigami**	**35.31**	**334**	P	**P**	**09 43 16.8**	**+1.0**		
JOW	**Kunigami**	**35.31**	**334**	P	**P**	**09 43 15.3**	**-0.5**		
JOW	**Kunigami**	**35.31**	**334**	LR	LR	09 54 36.0			
	comp=Z,774nm,21.7s,baz=140,slow=31								
TWGBT	**Beinan**	**35.97**	**321**	P	**P**	**09 43 20.9**	**-0.6**		
YOJ	**Yonaguni jima**	**36.04**	**325**	P	**P**	**09 43 23.5**	**+1.5**		
YOJ	**Yonaguni jima**	**36.04**	**325**	P	**P**	**09 43 22.0**	**0.0**		
YOJ	**Yonaguni jima**	**36.04**	**325**	P	**P**	**09 43 22.0**	**0.0**		
YOJ				pmax	pmax				
	comp=Z,116nm,1.1s								
YULB	**Yu-li**	**36.25**	**322**	P	**P**	**09 43 24.5**	**+0.6**		
YULB	**Yu-li**	**36.25**	**322**	P	**P**	**09 43 23.6**	**-0.3**		
YULB				IAmb	IAmb	09 43 35.7			
	comp=Z,45nm,1.3s								
MORW	**Morawa**	**36.41**	**225**	P	**P**	**09 43 26.2**	**+1.0**		
	baz=36,SNR=9.3								
MORW	**Morawa**	**36.41**	**225**	P	**P**	**09 43 26.1**	**+1.0**		
MORW	**Morawa**	**36.41**	**225**	P	**P**	**09 43 25.8**	**+0.6**		
TAVE	**Taveuni**	**36.52**	**112**	P	**P**	**09 43 28.0**	**+1.7**		
TPUB	**Ta-pu**	**36.60**	**321**	P	**P**	**09 43 26.4**	**-0.5**		
TPUB	**Ta-pu**	**36.60**	**321**	P	**P**	**09 43 26.2**	**-0.7**		
NACB	**Ninganchiao**	**36.65**	**323**	P	**P**	**09 43 28.4**	**+1.1**		
SSLB	**Suanglung**	**36.76**	**322**	P	**P**	**09 43 28.5**	**+0.3**		
SSLB	**Suanglung**	**36.76**	**322**	P	**P**	**09 43 27.8**	**-0.4**		
SSLB				IAmb	IAmb	09 43 32.6			
	comp=Z,27nm,1.0s								
KLBR	**Kellerberrin**	**36.81**	**220**	P	**P**	**09 43 28.6**	**+0.1**		
	baz=37,SNR=8.3								
KLBR	**Kellerberrin**	**36.81**	**220**	P	**P**	**09 43 28.4**	**-0.2**		
BLDU	**Ballidu**	**36.88**	**223**	P	**P**	**09 43 29.3**	**+0.2**		
	baz=37,SNR=17								
BLDU	**Ballidu**	**36.88**	**223**	P	**P**	**09 43 29.3**	**+0.2**		
LEM	**Lembang**	**37.08**	**265**	LR	LR	10 00 53.5			
	comp=Z,229nm,21.2s,baz=110,slow=40								
YHNB	**Yeheng**	**37.16**	**323**	P	**P**	**09 43 33.0**	**+1.3**		
YHNB	**Yeheng**	**37.16**	**323**	P	**P**	**09 43 32.4**	**+0.7**		
TATO	**Taipei**	**37.32**	**324**	P	**P**	**09 43 33.8**	**+0.8**		
TATO	**Taipei**	**37.32**	**324**	P	**P**	**09 43 33.0**	**+0.1**		
TATO	**Taipei**	**37.32**	**324**	P	**P**	**09 43 33.7**	**+0.8**		
TATO				pP	**pP**	**09 43 48.7**	**+0.7**		
MOO	**Moorlands**	**37.52**	**177**	P	**P**	**09 43 36.3**	**+1.8**		
	baz=38,SNR=5.0								
TAU	**Tasmania Unive**	**37.99**	**177**	P	**P**	**09 43 39.6**	**+1.2**		
TAU				IAmb	IAmb	09 43 41.3			
	comp=Z,46nm,1.1s								
TAU	**Tasmania Unive**	**37.99**	**177**	P	**P**	**09 43 39.6**	**+1.2**		
TAU				pmax	pmax				
	comp=Z,46nm,1.1s								
NWAO	**Narrogin (SRO)**	**38.01**	**219**	P	**P**	**09 43 40.8**	**+2.0**		
	baz=38,SNR=4.6								
NWAO				P	**P**	**09 43 40.8**	**+2.0**		
	baz=38,SNR=4.6								
NWAO	**Narrogin (SRO)**	**38.01**	**219**	P	**P**	**09 43 40.1**	**+1.3**		
NWAO	**Narrogin (SRO)**	**38.01**	**219**	P	**P**	**09 43 39.7**	**+0.9**		
NWAO				IAmb	IAmb	09 44 07.4			
	comp=Z,26nm,1.1s								
NWAO	**Narrogin (SRO)**	**38.01**	**219**	LR	LR	10 00 23.2			
	comp=Z,1µm,18.0s,baz=62,slow=38								
NWAO	**Narrogin (SRO)**	**38.01**	**219**	P	**P**	**09 43 39.7**	**+0.9**		
NWAO				pmax	pmax				
	comp=Z,26nm,1.2s								
MUN	**Mundaring**	**38.06**	**221**	P	**P**	**09 43 40.6**	**+1.4**		
	baz=38,SNR=3.2								
MUN	**Mundaring**	**38.06**	**221**	P	**P**	**09 43 39.9**	**+0.7**		
PPBI	**Pangkal Pinang**	**38.71**	**273**	P	**P**	**09 43 45.2**	**+0.3**		
KNMB	**Chin-men Tao**	**38.86**	**320**	P	**P**	**09 43 46.5**	**+0.5**		
QZH	**Quanzhou**	**39.07**	**320**	*e*P	**P**	**09 43 51.8**	**+4.1**		
QZH				PcS	**PcS**	**09 49 46.4**	**-0.1**		
QZH				LR	LR				
	comp=Z,380nm,20.7s								
QZH				LR	LR				
	comp=Z,370nm,17.1s								
QZH				LR	LR				
	comp=Z,550nm,23.7s								
JNU	**Nakatsue**	**39.99**	**342**	P	**P**	**09 43 56.1**	**+0.8**		
JNU				IAmb	IAmb	09 44 13.6			
	comp=Z,24nm,0.8s								
JNU	**Nakatsue**	**39.99**	**342**	LR	LR	09 57 30.2			
	comp=Z,717nm,21.7s,baz=164,slow=32								
KASI	**Kota Agung**	**40.18**	**267**	P	**P**	**09 43 56.9**	**-0.2**		
	comp=Z,208nm,1.0s,comp=Z,1µm								
DSRI	**Dabo**	**40.44**	**275**	P	**P**	**09 43 59.6**	**+0.4**		
	comp=Z,53nm,1.4s,comp=Z,2µm								
LWLI	**Liwa**	**40.62**	**268**	P	**P**	**09 44 00.6**	**-0.3**		
	comp=Z,155nm,0.5s								
INU	**Inuyama**	**40.63**	**350**	P	**P**	**09 44 02.3**	**+1.9**		
JGF	**Kuroka**	**40.82**	**351**	P	**P**	**09 44 02.3**	**+0.2**		
MYKOM	**Kota Tinggi**	**41.47**	**278**	P	**P**	**09 44 07.6**	**-0.2**		
MYKOM				IAmb	IAmb	09 44 09.5			
	comp=Z,33nm,0.9s								
MJAR	**Matsushiro Arr**	**41.61**	**352**	P	**P**	**09 44 07.1**	**-1.4**		
	comp=Z,39nm,1.2s,baz=173,slow=5.4,SNR=4.5								
MJAR				LR	LR	10 01 27.7			
	comp=Z,242nm,18.9s,baz=160,slow=36								
	comp=Z,39nm,1.2s								
MAJO	**Matsushiro**	**41.61**	**352**	P	**P**	**09 44 09.0**	**+0.4**		
MAJO	**Matsushiro**	**41.61**	**352**	P	**P**	**09 44 08.2**	**-0.4**		
MAJO				IAmb	IAmb	09 44 28.5			
	comp=Z,66nm,1.2s								
MAJO	**Matsushiro**	**41.61**	**352**	*c i*P	**P**	**09 44 07.5**	**-1.1**		
MAJO				pmax	pmax				
	comp=Z,70nm,1.4s								
MAJO	**Matsushiro**	**41.61**	**352**	P	**P**	**09 44 08.6**	**+0.1**		
MAJO				pP	**pP**	**09 44 24.8**	**+0.9**		
MJB9	**Matsu-Tunnel**	**41.62**	**352**	IAmb	IAmb	09 44 27.1			
	comp=Z,85nm,1.4s								
QIZ	**Qiongzhong**	**41.82**	**306**	P	**P**	**09 44 11.1**	**+0.6**		
QIZ				S	**S**	**09 50 26.6**	**+2.4**		
QIZ				pmax	pmax				
	comp=Z,150nm,13.8s								
QIZ				LR	LR				
	comp=N,130nm,17.3s								
QIZ				LR	LR				
	comp=E,180nm,21.2s								
QIZ				LR	LR				
	comp=Z,310nm,20.0s								
QIZ	**Qiongzhong**	**41.82**	**306**	P	**P**	**09 44 10.8**	**+0.3**		
QIZ				PP	**PP**	**09 45 47.1**	**-1.2**		
QIZ				S	**S**	**09 50 26.8**	**+2.6**		
QIZ				pmax	pmax				
	comp=Z,15nm,1.3s								
QIZ				pmax	pmax				
	comp=Z,130nm,5.6s								
QIZ				LR	LR				
	comp=Z,130nm,17.5s								
QIZ				LR	LR				
	comp=Z,180nm,21.3s								
QIZ				LR	LR				
	comp=Z,310nm,22.4s								
UBPT	**Khong Chiam**	**43.81**	**298**	P	**P**	**09 44 26.2**	**-0.4**		
BKNI	**Bangkinang**	**44.05**	**275**	P	**P**	**09 44 29.0**	**+0.4**		
BKNI	**Bangkinang**	**44.05**	**275**	P	**P**	**09 44 29.0**	**+0.4**		
	comp=Z,478nm,1.1s,comp=Z,5µm								
NJ2	**Nanjing**	**44.23**	**328**	⇓P	**P**	**09 44 31.4**	**+1.7**		
NJ2				pP	**pP**	**09 44 46.0**	**+0.9**		
NJ2				S	**S**	**09 51 04.4**	**+5.3**		
NJ2				pmax	pmax				
	comp=Z,17nm,0.7s								
NJ2				pmax	pmax				
	comp=Z,250nm,4.0s								
NJ2				LR	LR				
	comp=Z,380nm,22.7s								
NJ2				LR	LR				
	comp=Z,310nm,16.7s								
NJ2				LR	LR				
	comp=Z,630nm,19.6s								
URZ	**Urewera**	**44.38**	**143**	LR	LR	10 01 14.6			
	comp=Z,772nm,21.6s,baz=34,slow=34								
JCZ	**Jackson Bay**	**44.41**	**155**	P	**P**	**09 44 32.5**	**+1.3**		
PDSI	**Padang**	**44.48**	**274**	P	**P**	**09 44 31.0**	**-1.1**		
	comp=Z,86nm,0.8s,comp=Z,1µm								
RTZ	**Ruatahuna**	**44.53**	**144**	P	**P**	**09 44 32.4**	**+0.2**		
RTZ				IAmb	IAmb	09 44 35.8			
	comp=Z,69nm,1.2s								
IPM	**Ipoh**	**44.73**	**281**	P	**P**	**09 44 34.5**	**+0.4**		
IPM	**Ipoh**	**44.73**	**281**	P	**P**	**09 44 33.4**	**-0.7**		
TUWZ	**Tuamarina**	**44.78**	**149**	P	**P**	**09 44 34.6**	**+0.5**		
GULI	**GuiLin**	**44.91**	**313**	⇑P	**P**	**09 44 35.4**	**+0.1**		
GULI				S	**S**	**09 51 08.4**	**-0.8**		
GULI				pmax	pmax				
	comp=Z,10.0nm,1.2s								
GULI				pmax	pmax				
	comp=Z,110nm,7.6s								
GULI				LR	LR				
	comp=Z,150nm,19.5s								
GULI				LR	LR				
	comp=Z,170nm,17.9s								
GULI				LR	LR				
	comp=Z,280nm,19.6s								
KSRS	**Korea Array**	**44.91**	**341**	P	**P**	**09 44 35.1**	**0.0**		
	comp=Z,21nm,1.1s,baz=158,slow=9.6,SNR=39								
KSRS				LR	LR	10 00 33.5			
	comp=Z,653nm,21.6s,baz=155,slow=32								
	comp=Z,21nm,1.1s								
KSAR	**Wonju Array Be**	**44.92**	**341**	P	**P**	**09 44 35.4**	**+0.3**		
KSAR	**Wonju Array Be**	**44.92**	**341**	P	**P**	**09 44 35.4**	**+0.3**		
CNSH	**ChangSha**	**44.96**	**319**	⇑P	**P**	**09 44 37.0**	**+1.3**		
CNSH				S	**S**	**09 51 13.8**	**+3.9**		
CNSH				pmax	pmax				
	comp=Z,16nm,1.1s								
CNSH				LR	LR				
	comp=Z,220nm,23.4s								
CNSH				LR	LR				
	comp=Z,340nm,21.1s								
CNSH				LR	LR				
	comp=Z,460nm,22.8s								
KS19	**Wonju Array Si**	**44.98**	**341**	P	**P**	**09 44 35.9**	**+0.2**		
KS19				IAmb	IAmb	09 44 53.9			
	comp=Z,25nm,0.8s								
MRZ	**Mangatainoka R**	**45.11**	**147**	P	**P**	**09 44 37.4**	**+0.7**		
RPZ	**Rata Peaks**	**45.11**	**153**	LR	LR	10 03 04.3			
	comp=Z,516nm,19.1s,baz=314,slow=36								
KULM	**Kulim**	**45.26**	**282**	P	**P**	**09 44 37.3**	**-1.0**		
KULM				IAmb	IAmb	09 44 39.4			
	comp=Z,40nm,1.3s								
INCN	**Inchon**	**45.38**	**340**	P	**P**	**09 44 39.6**	**+0.8**		
INCN	**Inchon**	**45.38**	**340**	P	**P**	**09 44 38.8**	**0.0**		
INCN	**Inchon**	**45.38**	**340**	P	**P**	**09 44 38.8**	**0.0**		
INCN				pmax	pmax				
	comp=Z,59nm,1.2s								
WHN	**Wuhan**	**45.68**	**322**	P	**P**	**09 44 42.5**	**+1.2**		
WHN				pP	**pP**	**09 44 57.8**	**+1.0**		
WHN				S	**S**	**09 51 24.3**	**+4.1**		
WHN				pmax	pmax				
	comp=Z,190nm,1.4s								
WHN				LR	LR				
	comp=Z,670nm,18.4s								
SISI	**Saibi**	**45.80**	**273**	P	**P**	**09 44 42.5**	**-0.1**		
	comp=Z,182nm,0.9s,comp=Z,2µm								
PSI	**Prapat**	**46.49**	**278**	P	**P**	**09 44 47.6**	**-0.6**		
SRIT	**Nakonsritamara**	**47.03**	**286**	P	**P**	**09 44 52.7**	**+0.5**		
GSI	**Gunungsitoli**	**47.61**	**276**	P	**P**	**09 44 56.1**	**-0.6**		
GSI	**Gunungsitoli**	**47.61**	**276**	P	**P**	**09 44 55.7**	**-1.0**		
GSI	**Gunungsitoli**	**47.61**	**276**	P	**P**	**09 44 55.5**	**-1.2**		
	comp=Z,95nm,0.9s,comp=Z,4µm								
KCSI	**Kotacane, Aceh**	**47.75**	**279**	P	**P**	**09 44 56.6**	**-1.2**		
GYA	**Guiyang**	**48.30**	**312**	⇓P	**P**	**09 45 04.0**	**+2.0**		
GYA				pP	pP	09 45 19.3	+1.8		
GYA				S	**S**	**09 52 03.8**	**+5.9**		
GYA				pmax	pmax				
	comp=Z,39nm,0.9s								
GYA				pmax	pmax				
	comp=Z,160nm,4.9s								
TIA	**Tai'an**	**48.37**	**330**	P	**P**	**09 45 01.9**	**-0.3**		
TIA				pmax	pmax				
	comp=Z,13nm,1.1s								
TIA				pmax	pmax				
	comp=Z,130nm,3.3s								
TIA				LR	LR				
	comp=Z,180nm,21.4s								
TIA				LR	LR				
	comp=Z,160nm,17.5s								
TIA				LR	LR				
	comp=Z,310nm,22.6s								
ASAJ	**Asahikawa**	**48.76**	**358**	P	**P**	**09 45 04.7**	**-0.4**		
	comp=Z,15nm,0.9s,baz=229,slow=9.3,SNR=8.6								
ASAJ				LR	LR	10 03 34.6			
	comp=Z,97nm,21.9s,baz=186,slow=34								
	comp=Z,15nm,0.9s								
SNSI	**Sinabang, Aceh**	**49.00**	**277**	P	**P**	**09 45 05.2**	**-2.2**		
	comp=Z,175nm,1.1s,comp=Z,2µm								
SRDT	**SRDT**	**49.17**	**294**	P	**P**	**09 45 09.7**	**+1.0**		
MLSI	**Meulaboh, Aceh**	**49.22**	**280**	P	**P**	**09 45 08.0**	**-1.1**		
	comp=Z,94nm,1.0s								
LYN	**LuoYang**	**49.64**	**325**	*e*P	**P**	**09 45 12.6**	**+0.6**		
LYN				pP	pP	09 45 30.6	+3.0		
LYN				S	**S**	**09 52 16.8**	**+0.5**		
LYN				sS	sS	09 52 44.4	+1.8		
LYN				pmax	pmax				
	comp=Z,29nm,1.0s								
LYN				pmax	pmax				
	comp=Z,230nm,4.1s								
LYN				LR	LR				
	comp=Z,470nm,20.6s								
LYN				LR	LR				
	comp=Z,430nm,17.9s								
LYN				LR	LR				
	comp=Z,620nm,18.6s								
USA0B	**Ussuriysk Arra**	**50.15**	**348**	P	**P**	**09 45 15.3**	**-0.3**		
USA0B				IAmb	IAmb	09 45 17.2			
	comp=Z,29nm,1.2s								
USA0B	**Ussuriysk Arra**	**50.15**	**348**	⇓*e*P	**P**	**09 45 14.2**	**-1.4**		
USRK	**Ussuriysk Ar.**	**50.15**	**348**	P	**P**	**09 45 15.3**	**-0.3**		
	comp=Z,15nm,1.1s,baz=166,slow=8.8,SNR=17								
USRK				LR	LR	10 04 37.3			
	comp=Z,154nm,21.9s,baz=165,slow=34								
	comp=Z,15nm,1.1s								
CRAI	**Chiangrai**	**50.27**	**301**	P	**P**	**09 45 17.9**	**+0.9**		
CRAI				IAmb	IAmb	09 45 19.2			
	comp=Z,28nm,1.1s								
SNY	**Shenyang**	**50.31**	**339**	⇑P	**P**	**09 45 16.6**	**-0.3**		
SNY				S	**S**	**09 52 24.3**	**-1.0**		
SNY				pmax	pmax				
	comp=Z,11nm,1.1s								
SNY				pmax	pmax				
	comp=Z,200nm,3.5s								
SNY				LR	LR				
	comp=Z,370nm,16.5s								
SNY				LR	LR				
	comp=Z,260nm,17.7s								
SNY				LR	LR				
	comp=Z,610nm,21.2s								
HNS	**HongShan**	**50.51**	**329**	⇑P	**P**	**09 45 18.6**	**+0.1**		
HNS				pP	**pP**	**09 45 31.6**	**-2.6**		
HNS				S	**S**	**09 52 30.1**	**+1.8**		
HNS				sS	**sS**	**09 52 53.5**	**-1.2**		
HNS				SS	**SS**	**09 56 00.1**	**-3.1**		
HNS				pmax	pmax				
	comp=Z,41nm,1.1s								
HNS				pmax	pmax				
	comp=Z,120nm,4.5s								
HNS				LR	LR				
	comp=Z,290nm,23.1s								
HNS				LR	LR				
	comp=Z,310nm,23.9s								
HNS				LR	LR				
	comp=Z,430nm,23.5s								
KMI	**Kunming**	**50.58**	**308**	⇑P	**P**	**09 45 21.0**	**+1.5**		
KMI				S	**S**	**09 52 29.8**	**-0.3**		
KMI				pmax	pmax				
	comp=Z,130nm,4.2s								
KMI				LR	LR				
	comp=Z,180nm,16.6s								
KMI				LR	LR				
	comp=Z,130nm,22.6s								
KMI				LR	LR				
	comp=Z,240nm,23.7s								
CMAR	**Chiang Mai Arr**	**50.80**	**298**	P	**P**	**09 45 21.6**	**+0.6**		
CMAR	**Chiang Mai Arr**	**50.80**	**298**	P	**P**	**09 45 22.1**	**+1.0**		
	comp=Z,20nm,1.0s,baz=119,slow=5.8,SNR=31								
CMAR				LR	LR	10 09 11.0			
	comp=Z,66nm,18.5s,baz=130,slow=39								
	comp=Z,20nm,1.0s								
CMAR	**Chiang Mai Arr**	**50.80**	**298**	P	**P**	**09 45 21.6**	**+0.6**		
CHTO	**Chiang Mai**	**50.94**	**299**	P	**P**	**09 45 22.1**	**+0.1**		
CHTO				IAmb	IAmb	09 45 24.0			
	comp=Z,24nm,1.1s								
CHTO	**Chiang Mai**	**50.94**	**299**	P	**P**	**09 45 22.1**	**+0.1**		
CHTO				pmax	pmax				
	comp=Z,24nm,1.1s								
MDJ	**Mudanjiang**	**51.08**	**346**	P	**P**	**09 45 22.9**	**+0.2**		
MDJ				pmax	pmax				
	comp=Z,12nm,1.2s								
MDJ				pmax	pmax				
	comp=Z,160nm,3.9s								
XAN	**Xi'an**	**51.42**	**321**	⇑P	**P**	**09 45 25.3**	**-0.1**		
XAN				pP	pP	09 45 38.3	-2.8		
XAN				S	**S**	**09 52 38.0**	**-3.0**		
XAN				pmax	pmax				
	comp=Z,45nm,1.2s								
XAN				LR	LR				
	comp=Z,350nm,19.4s								
XAN				LR	LR				
	comp=Z,280nm,18.1s								
XAN				LR	LR				
	comp=Z,430nm,17.5s								
XAN	**Xi'an**	**51.42**	**321**	P	**P**	**09 45 25.4**	**0.0**		
XAN				pP	**pP**	**09 45 40.9**	**-0.2**		
CN2	**Changchun**	**51.46**	**342**	*e*P	**P**	**09 45 24.4**	**-1.1**		
CN2				*e*pP	pP	09 45 43.3	+2.1		
CN2				PcP	**PcP**	**09 46 37.3**	**-1.9**		
CN2				*e*S	**S**	**09 52 38.1**	**-3.1**		
CN2				pmax	pmax				
	comp=Z,10.0nm,1.4s								
CN2				LR	LR				
	comp=Z,140nm,14.0s								
CN2				LR	LR				
	comp=Z,160nm,14.0s								
YSS	**Yuzh-Sakhalins**	**51.58**	**358**	P	**P**	**09 45 26.8**	**+0.5**		
YSS	**Yuzh-Sakhalins**	**51.58**	**358**	P	**P**	**09 45 26.4**	**0.0**		
YSS				IAmb	IAmb	09 45 52.9			
	comp=Z,32nm,1.2s								
YSS	**Yuzh-Sakhalins**	**51.58**	**358**	*ce*P	**P**	**09 45 26.8**	**+0.5**		
YSS				pmax	pmax				
	comp=Z,21nm,1.0s								
BJT	**Baijiatuau**	**51.83**	**332**	P	**P**	**09 45 28.5**	**+0.1**		
BJT	**Baijiatuau**	**51.83**	**332**	P	**P**	**09 45 28.4**	**+0.1**		
BJI	**Beijing**	**51.84**	**332**	P	**P**	**09 45 28.3**	**-0.1**		
BJI				pP	**pP**	**09 45 45.5**	**+1.4**		
BJI				S	**S**	**09 52 47.4**	**+0.8**		
BJI				pmax	pmax				
	comp=Z,16nm,1.2s								
BJI				LR	LR				
	comp=Z,160nm,23.2s								
BJI				LR	LR				
	comp=Z,110nm,22.6s								
BJI				LR	LR				
	comp=Z,220nm,23.0s								
PZH	**PanZhiHua**	**52.05**	**309**	P	**P**	**09 45 31.4**	**+1.0**		
PZH				S	**S**	**09 52 53.1**	**+3.0**		
PZH				pmax	pmax				
	comp=Z,10.0nm,0.6s								
PZH				pmax	pmax				
	comp=Z,100nm,4.9s								
PZH				LR	LR				
	comp=Z,180nm,22.1s								
PZH				LR	LR				
	comp=Z,180nm,21.6s								
PZH				LR	LR				
	comp=Z,240nm,21.4s								
BNX	**BinXian**	**52.68**	**345**	⇓P	**P**	**09 45 34.8**	**+0.2**		
BNX				pmax	pmax				
	comp=Z,23nm,1.4s								
BNX				pmax	pmax				
	comp=Z,280nm,4.6s								
CD2	**Chengdu**	**52.92**	**315**	P	**P**	**09 45 36.9**	**+0.2**		
CD2				S	**S**	**09 53 03.6**	**+1.9**		
CD2				sS	sS	09 53 28.3	-0.1		
CD2				ScS	**ScS**	**09 55 21.4**	**0.0**		
CD2				pmax	pmax				
	comp=Z,30nm,0.9s								
CD2				pmax	pmax				
	comp=Z,60nm,4.1s								
CD2				LR	LR				
	comp=Z,90nm,11.0s								
CD2				LR	LR				
	comp=Z,120nm,15.2s								
CD2				LR	LR				
	comp=Z,260nm,17.8s								
HHC	**Hu-ho-hao-te**	**54.72**	**329**	*e*P	**P**	**09 45 52.9**	**+3.2**		
HHC				S	**S**	**09 53 30.5**	**+4.7**		
HHC				SS	**SS**	**09 57 10.8**	**+1.0**		
HHC				pmax	pmax				
	comp=Z,5.0nm,0.5s								
HHC				LR	LR				
	comp=Z,180nm,13.7s								
HHC				LR	LR				
	comp=Z,170nm,16.2s								
HHC				LR	LR				
	comp=Z,530nm,21.1s								
XLT	**XiLinHaoTe**	**54.98**	**335**	*e*P	**P**	**09 45 51.0**	**-0.5**		
XLT				pP	sP	09 46 10.9	-3.3		
XLT				S	**S**	**09 53 26.9**	**-2.3**		
XLT				pmax	pmax				
	comp=Z,10.0nm,1.4s								
XLT				pmax

LZH LR LR
comp=Z,260nm,16.3s
LZH LR LR
comp=Z,380nm,17.2s
RAR Rarotonga 56.07 112 LR LR 10 07 41.3
comp=Z,59nm,21.0s,baz=298,slow=34
HEH HeiHe 56.88 347 *e*P **P 09 46 05.0 +0.1**
HEH pmax pmax
comp=Z,12nm,1.6s
HEH pmax pmax
comp=Z,250nm,4.2s
HIA Hailar 58.12 341 P **P 09 46 14.7 +1.0**
PEA0B Petropavlovsk- 58.73 9 P **P 09 46 18.1 +0.3**
PEA0B Petropavlovsk- 58.73 9*c i*P **P 09 46 18.3 +0.5**
PETK Petropavlovsk- 58.73 9 P **P 09 46 18.3 +0.5**
PETK Petropavlovsk- 58.73 9 P **P 09 46 17.8 0.0**
comp=Z,23nm,1.0s,baz=159,slow=4.5,SNR=13
PETK LR LR 10 07 28.0
comp=Z,301nm,21.4s,baz=180,slow=32
comp=Z,23nm,1.0s
SHL Shillong 59.58 303 P **P 09 46 24.4 0.0**
SHL Shillong 59.58 303 P **P 09 46 24.4 0.0**
SHL pmax pmax
comp=Z,28nm,1.0s
ZEA Zeya 60.19 348 *e*P **P 09 46 28.5 +0.7**
ZEA *e**PP **pP 09 46 46.9 +3.1**
ZEA *e*S **S 09 54 40.5 +3.6**
ZEA pmax pmax
comp=N,20nm,1.5s
ZEA pmax pmax
comp=Z,30nm,1.5s
GTA Gaotai 60.47 321 *e*P **P 09 46 30.8 +0.6**
GTA S **S 09 54 34.6 -6.8**
GTA pmax pmax
comp=Z,9.0nm,1.1s
GTA LR LR
comp=Z,130nm,24.3s
GTA LR LR
comp=Z,180nm,20.7s
GTA LR LR
comp=Z,190nm,22.7s
DRV Dumont d'Urvil 61.83 182 P **P 09 46 39.1 +0.5**
DRV pP **pP 09 46 54.9 +0.1**
DRV sP **sP 09 47 02.2 +0.7**
GOMU GeErMu 62.05 315 P **P 09 46 41.0 -0.2**
GOMU S **S 09 55 05.8 +3.8**
GOMU pmax pmax
comp=Z,15nm,0.9s
GOMU LR LR
comp=Z,180nm,17.3s
GOMU LR LR
comp=Z,300nm,17.9s
GOMU LR LR
comp=Z,650nm,20.4s
ULN Ulaanbaatar 62.06 332 P **P 09 46 41.1 +0.4**
ULN IAmb IAmb 09 46 42.8
comp=Z,30nm,1.3s
ULN Ulaanbaatar 62.06 332*c i*P **P 09 46 41.3 +0.5**
ULN pmax pmax
comp=Z,30nm,1.4s
ULN Ulaanbaatar 62.06 332 P **P 09 46 41.3 +0.5**
SONM Songino Array 62.34 332 P **P 09 46 42.5 -0.1**
SONM IAmb IAmb 09 46 45.2
comp=Z,23nm,1.3s
SONM Songino Array 62.34 332 P **P 09 46 42.6 -0.1**
comp=Z,12nm,1.2s,baz=153,slow=6.9,SNR=35
SONM LR LR 10 12 43.4
comp=Z,431nm,21.2s,baz=136,slow=35
SONM PKP2bc 10 15 57.2
comp=Z,1.5nm,1.0s,baz=286,slow=2.1,SNR=8.2
comp=Z,12nm,1.2s
SHEM Shemya Is, Ala 62.46 20 LR LR 10 11 28.6
comp=Z,277nm,19.3s,baz=146,slow=34
MA2 Magadan 64.37 3 P **P 09 46 56.3 +0.7**
MA2 Magadan 64.37 3 P **P 09 46 55.9 +0.2**
MA2 IAmb IAmb 09 47 10.7
comp=Z,42nm,1.3s
MA2 Magadan 64.37 3*c i*P **P 09 46 55.7 +0.1**
MA2 pmax pmax
comp=Z,40nm,1.4s
MA2 Magadan 64.37 3 P **P 09 46 55.9 +0.2**
MA2 Magadan 64.37 3 P **P 09 46 56.3 +0.7**
comp=Z,29nm,1.1s
PALK Pallekele 65.12 280 LR LR 10 19 29.6
comp=Z,150nm,20.5s,baz=221,slow=40
PPT2 Papeete2 65.30 107 *e*P **P 09 47 04.1 +1.5**
comp=Z,70nm,26.8s
PPT2 *e*S **S 09 55 47.5 +5.1**
comp=Z,73nm,23.2s
PPT2 *e*LQ LQ 10 03 38.9
comp=Z,261nm,26.0s
PPT2 *e*LR LR 10 06 29.9
comp=Z,377nm,22.8s
PPT2 *e*LR LR 10 06 33.6
comp=Z,311nm,24.2s
ZAK Zakamensk 65.59 332 *e*P **P 09 47 03.6 -0.3**
ZAK *e* 09 47 09.3
ZAK pmax pmax
comp=Z,31nm,1.2s
ZAK pmax pmax
comp=Z,25nm,1.0s
TBI Tubuai 65.81 113 *e*S **S 09 55 56.0 +7.7**
comp=Z,521nm,34.0s
TBI *e*LQ LQ 10 04 04.5
comp=Z,2µm,39.2s
TBI *e*LR LR 10 06 42.4
comp=Z,2µm,37.5s
CASY Casey 65.83 194 P **P 09 47 05.3 +0.2**
CASY IAmb IAmb 09 47 06.5
comp=Z,26nm,0.8s
CASY Casey 65.83 194 P **P 09 47 05.3 +0.2**
CASY pP **pP 09 47 21.2 -0.1**
BOD Bodaibo 67.21 343 *e*P **P 09 47 13.6 -0.3**
BOD pmax pmax
comp=Z,21nm,1.4s
MOY Mondy 67.53 332 *e*P **P 09 47 16.8 +0.6**
MOY pmax pmax
comp=Z,37nm,1.5s
YAK Yakutsk 67.68 352 P **P 09 47 17.1 +0.3**
YAK Yakutsk 67.68 352 *e*P **P 09 47 16.3 -0.5**
YAK *e**PP **pP 09 47 34.8 +1.7**
YAK *e* 09 47 42.4
YAK *e* 09 49 43.7
YAK *e*PPP PPP 09 51 19.7
YAK *e*S **S 09 56 08.8 -0.6**
YAK *e**SS **sS 09 56 40.9 +4.0**
YAK *e* 09 57 08.2
YAK *e*SS **SS 10 00 26.6 -5.0**
YAK pmax pmax
comp=Z,22nm,1.1s
YAK pmax pmax
comp=N,12nm,1.5s
YAK pmax pmax
comp=E,5.0nm,1.6s
YAK pmax pmax
comp=Z,144nm,4.4s
YAK pmax pmax
comp=N,35nm,2.3s
YAK pmax pmax
comp=E,21nm,2.3s
YAK smax smax
comp=E,113nm,4.0s
YAK smax smax
comp=N,50nm,3.2s
SEY Seymchan 67.81 4⇑*i*P **P 09 47 17.3 -0.3**
SEY pmax pmax
comp=Z,29nm,1.2s
HYB Hyderabad 69.03 291 *e*P **P 09 47 26.5 +0.3**
NIKH Nikolski High 69.52 28 P **P 09 47 29.1 +0.6**
baz=230
WMQ Urumqi 70.50 320 *e*P **P 09 47 34.6 -0.2**
WMQ pmax pmax
comp=Z,28nm,0.7s
UNV Unalaska Valle 71.17 28 P **P 09 47 38.8 +0.3**
baz=232
CCD Concordia, Ant 71.31 186 P **P 09 47 39.9 +0.3**
CCD pP **pP 09 47 55.7 -0.3**
VNDA Vanda 73.22 176 P **P 09 47 51.0 +0.6**
VNDA IAmb IAmb 09 47 52.4
comp=Z,46nm,1.1s
VNDA Vanda 73.22 176 P **P 09 47 51.0 +0.6**
comp=Z,22nm,0.9s,baz=326,slow=6.4,SNR=92
VNDA LR LR 10 19 31.6
comp=Z,235nm,18.3s,baz=350,slow=35
comp=Z,22nm,0.9s
VNDA Vanda 73.22 176 P **P 09 47 51.0 +0.6**

FALS False Pass 73.22 28 P **P 09 47 50.7 -0.1**
baz=235
SBA Scott Base 73.89 175 P **P 09 47 55.8 +1.4**
SBA IAmb IAmb 09 48 24.3
comp=Z,46nm,1.1s
SBA Scott Base 73.89 175 P **P 09 47 55.8 +1.4**
SBA pmax pmax
comp=Z,46nm,1.2s
ZSN Zaisan 73.91 322 *e*P **P 09 47 55.4 +0.3**
baz=322
ZSN *i*S **S 09 57 23.3 +0.8**
baz=322
ZSN Zaisan 73.91 322 *e*P **P 09 47 55.3 +0.3**
ZSN *i*S **S 09 57 23.3 +0.8**
BILL Bilibino 74.24 8 P **P 09 47 56.5 0.0**
BILL Bilibino 74.24 8 *i*P **P 09 47 57.0 +0.5**
S12K Black Hills 74.34 28 P **P 09 47 57.2 -0.2**
S12K Black Hills 74.34 28 P **P 09 47 57.8 +0.4**
baz=236
SDPT Sand Point 74.90 29 P **P 09 48 00.1 -0.4**
baz=237
CHNA Chernabura Isl 75.06 30 P **P 09 48 01.9 +0.4**
baz=238
MK31 Makanchi Array 75.23 321 P **P 09 48 02.7 0.0**
MK31 Makanchi Array 75.23 321*c i*P **P 09 48 02.7 0.0**
MKAR Makanchi Array 75.23 321 P **P 09 48 02.6 -0.1**
MKAR Makanchi Array 75.23 321 P **P 09 48 03.2 +0.5**
comp=Z,13nm,1.0s,baz=108,slow=7.8,SNR=58
MKAR LR LR 10 22 34.2
comp=Z,101nm,19.1s,baz=116,slow=37
comp=Z,13nm,1.0s
MKAR Makanchi Array 75.23 321*i*P **P 09 48 03.2 +0.5**
MKAR pmax pmax
comp=Z,14nm,1.0s
M11K Mekoryuk 75.38 23 P **P 09 48 03.9 +0.8**
baz=231
MAKZ Makanchi 75.43 321 P **P 09 48 03.8 0.0**
MAKZ IAmb IAmb 09 48 21.9
comp=Z,20nm,0.9s
MAKZ Makanchi 75.43 321 P **P 09 48 03.8 0.0**
MAKZ pmax pmax
comp=Z,20nm,1.0s
SHLS Shalkode 75.70 317 *e*P **P 09 48 04.2 -1.4**
baz=317
SHLS Shalkode 75.70 317 *e*P **P 09 48 04.2 -1.4**
GAMB Gambell 75.73 18 P **P 09 48 04.9 -0.2**
baz=225
S14K Fog Glacier 75.84 28 P **P 09 48 05.8 -0.3**
baz=238
UZB Uzynbulak 76.00 317 *e*P **P 09 48 07.5 +0.1**
baz=316
UZB Uzynbulak 76.00 317 *e*P **P 09 48 07.4 +0.1**
CHGN Chignik 76.39 29 P **P 09 48 08.3 -0.8**
CHGN Chignik 76.39 29 P **P 09 48 08.2 -0.8**
baz=239
SATY Saty 76.39 316 *e*P **P 09 48 09.7 +0.1**
baz=316
SATY Saty 76.39 316 *e*P **P 09 48 09.6 0.0**
M13K Dall Lake 76.51 24 P **P 09 48 10.2 +0.6**
M13K Dall Lake 76.51 24 P **P 09 48 10.7 +1.0**
baz=234,SNR=5.8
O14K Tigyukauivet M 76.70 25 P **P 09 48 10.7 0.0**
O14K IAmb IAmb 09 48 13.1
comp=Z,34nm,1.1s
O14K Tigyukauivet M 76.70 25 P **P 09 48 11.4 +0.7**
baz=236,SNR=6.6
ZAA0 Zalesovo Array 76.88 328 P **P 09 48 11.2 -0.6**
ZALV Zalesovo Beam 76.88 328 P **P 09 48 11.2 -0.6**
ZALV Zalesovo Beam 76.88 328 P **P 09 48 11.3 -0.5**
comp=Z,13nm,0.8s,baz=107,slow=5.1,SNR=40
ZALV LR LR 10 21 00.1
comp=Z,269nm,21.8s,baz=96,slow=35
comp=Z,13nm,0.8s
N14K Kuskokwak Cree 76.90 25 P **P 09 48 12.5 +0.7**
baz=235
K13K Kusilvak Mount 76.93 22 P **P 09 48 12.4 +0.4**
K13K IAmb IAmb 09 48 28.8
comp=Z,22nm,1.1s
K13K Kusilvak Mount 76.93 22 P **P 09 48 13.0 +1.0**
baz=232,SNR=6.0
KSH Kashi 77.00 312 P **P 09 48 15.3 +2.3**
KSH pP pP 09 48 30.4 +0.8
KSH pmax pmax
comp=Z,7.0nm,1.3s
TIXI Tiksi 77.04 355 P **P 09 48 10.8 -1.6**
TIXI Tiksi 77.04 355⇓*i*P **P 09 48 11.1 -1.3**
TIXI pmax pmax
comp=Z,10.0nm,1.0s
TDK Taldyqorghan 77.06 318 *e*P **P 09 48 13.6 +0.4**
comp=Z,10nm,0.6s,baz=318
TDK Taldyqorghan 77.06 318 *e*P **P 09 48 13.5 +0.4**
TDK pmax pmax
comp=Z,10.0nm,0.6s
ARXS Arharly 77.18 317 *e*P **P 09 48 14.5 +0.6**
M14K Bethel 77.27 24 P **P 09 48 14.2 +0.3**
baz=235,SNR=8.4
O15K Ungalikthiuk R 77.28 26 P **P 09 48 15.0 +1.0**
baz=237,SNR=6.4
L14K Kuka Creek 77.33 23 IAmb IAmb 09 48 33.4
comp=Z,34nm,1.1s
L14K Kuka Creek 77.33 23 P **P 09 48 14.8 +0.6**
baz=234,SNR=8.8
MDOK Medeo 77.37 316 *e*P **P 09 48 15.3 +0.2**
baz=316
MDOK Medeo 77.37 316 *e*P **P 09 48 15.3 +0.2**
TNSS Tian-Shan 77.39 316 *e*P **P 09 48 15.4 -0.1**
baz=316
TNSS Tian-Shan 77.39 316 *e*P **P 09 48 15.4 -0.1**
R16K Pilot Point 77.44 28 P **P 09 48 14.9 0.0**
baz=240
NIL Nilore 77.50 306 P **P 09 48 15.5 -0.3**
NIL IAmb IAmb 09 48 35.8
comp=Z,24nm,0.9s
NIL Nilore 77.50 306 P **P 09 48 15.5 -0.3**
NIL pmax pmax
comp=Z,24nm,1.0s
CHIR Chirikof Islan 77.52 30 P **P 09 48 15.6 +0.3**
baz=242
CHKK Chushkaly 77.63 317 *e*P **P 09 48 16.7 +0.3**
baz=317
CHKK Chushkaly 77.63 317 *e*P **P 09 48 16.6 +0.3**
N15K Kwethluk River 77.70 25 IAmb IAmb 09 48 18.4
comp=Z,29nm,1.1s
N15K Kwethluk River 77.70 25 P **P 09 48 17.1 +0.7**
baz=237,SNR=8.2
M15K Kasigluk River 77.75 24 P **P 09 48 16.8 +0.2**
baz=236
J14K Nanvaranak Lak 77.83 22 IAmb IAmb 09 48 35.0
comp=Z,22nm,1.2s
J14K Nanvaranak Lak 77.83 22 P **P 09 48 18.2 +1.2**
baz=233
BOOM Boomskoye usch 77.92 315 P **P 09 48 18.5 +0.3**
BOOM Boomskoye usch 77.92 315 P **P 09 48 18.5 +0.3**
BOOM pmax pmax
comp=Z,13nm,0.8s
L15K Ungalak Mounta 77.99 23 P **P 09 48 18.6 +0.7**
baz=235,SNR=5.6
P16K Nushagak River 78.00 26 P **P 09 48 18.1 +0.1**
baz=239
KUU Kurty 78.09 317 *e*P **P 09 48 19.0 0.0**
comp=Z,16nm,0.9s,baz=317
KUU Kurty 78.09 317 *e*P **P 09 48 18.9 0.0**
KUU pmax pmax
comp=Z,16nm,0.9s
TNA Tin City 78.14 18 P **P 09 48 18.9 +0.3**
baz=228
O16K Kokwok River B 78.25 26 IAmb IAmb 09 48 34.3
comp=Z,28nm,1.1s
O16K Kokwok River B 78.25 26 P **P 09 48 19.9 +0.5**
baz=239,SNR=9.3
ANM Nome 78.32 20 P **P 09 48 20.1 +0.5**
baz=231
K15K Wolf Creek Mou 78.33 23 IAmb IAmb 09 48 35.2
comp=Z,24nm,1.1s
K15K Wolf Creek Mou 78.33 23 P **P 09 48 20.6 +0.8**
baz=235,SNR=8.6
Q16K King Salmon 78.42 27 P **P 09 48 21.4 +1.1**
baz=240
N16K Nishlik Lake 78.42 25 P **P 09 48 21.5 +1.1**
baz=238,SNR=7.8
SII Sitkinak Islan 78.57 30 P **P 09 48 21.8 +0.5**
baz=243
F14K Arctic Creek 78.58 19 P **P 09 48 22.0 +0.8**
baz=230
M16K Timber Creek 78.64 24 P **P 09 48 21.8 +0.3**
M16K IAmb IAmb 09 48 23.6
comp=Z,27nm,1.1s
M16K Timber Creek 78.64 24 P **P 09 48 22.1 +0.6**
baz=238,SNR=10
P17K Kvichak River 78.77 27 P **P 09 48 23.1 +0.8**
baz=240
O17K Koliganek Bris 78.78 26 P **P 09 48 22.9 +0.7**
baz=240,SNR=24
L16K Owhat River 78.80 24 IAmb IAmb 09 48 24.2
comp=Z,26nm,1.1s
L16K Owhat River 78.80 24 P **P 09 48 23.3 +0.9**
baz=237,SNR=9.1
KURK Kurchatov 78.99 324 P **P 09 48 23.4 -0.2**
KURK IAmb IAmb 09 48 24.7
comp=Z,26nm,1.1s
KURK Kurchatov 78.99 324*c i*P **P 09 48 23.0 -0.6**
KURK pmax pmax
comp=Z,29nm,1.2s
AAK Ala-Archa 78.99 315 P **P 09 48 24.4 +0.3**
AAK Ala-Archa 78.99 315 LR LR 10 23 39.9
comp=Z,103nm,22.0s,baz=105,slow=36
AAK Ala-Archa 78.99 315*c i*P **P 09 48 24.4 +0.3**
AAK pmax pmax
comp=Z,11nm,0.9s
KURBB Kurchatov Arra 79.01 324 P **P 09 48 23.5 -0.2**
comp=Z,8.9nm,1.0s,baz=113,slow=4.8,SNR=35
comp=Z,8.9nm,1.0s
G15K Niukluk 79.03 20 P **P 09 48 24.3 +0.7**
baz=232
N17K Nushagak Hills 79.12 25 IAmb IAmb 09 48 41.2
comp=Z,49nm,1.5s
N17K Nushagak Hills 79.12 25 P **P 09 48 25.2 +1.1**
baz=239,SNR=9.5
SGDS Sogindy 79.13 316 *e*P **P 09 48 24.7 -0.1**
baz=316
SGDS Sogindy 79.13 316 *e*P **P 09 48 24.6 -0.1**
J16K Anvik River 79.24 22 IAmb IAmb 09 48 27.2
comp=Z,30nm,1.3s
J16K Anvik River 79.24 22 P **P 09 48 26.1 +1.3**
baz=236,SNR=8.3
F15K North Star Dit 79.27 19 IAmb IAmb 09 48 26.8
comp=Z,25nm,1.1s
F15K North Star Dit 79.27 19 P **P 09 48 25.5 +0.6**
baz=232
OHAK Old Harbor 79.31 29 P **P 09 48 25.7 +0.5**
baz=243
P18K Big Mountain, 79.41 27 P **P 09 48 26.2 +0.3**
baz=241
H16K Elim 79.43 20 P **P 09 48 26.2 +0.4**
baz=234
M17K Holitna River 79.47 24 IAmb IAmb 09 48 28.6
comp=Z,28nm,1.1s
M17K Holitna River 79.47 24 P **P 09 48 26.9 +0.9**
baz=239,SNR=7.2
L17K Donlin 79.50 24 P **P 09 48 27.1 +0.9**
baz=238,SNR=6.5
I17K Unalakleet 79.55 21 IAmb IAmb 09 48 28.9
comp=Z,29nm,1.1s
I17K Unalakleet 79.55 21 P **P 09 48 27.4 +1.0**
baz=236,SNR=7.4
O18K Koktuh Hills 79.64 26 P **P 09 48 28.0 +0.9**
baz=241
N18K Kilae Creek 79.75 25 P **P 09 48 28.5 +0.8**
baz=240,SNR=6.2
K17K Iditarod 79.81 23 IAmb IAmb 09 48 30.1
comp=Z,37nm,1.1s
K17K Iditarod 79.81 23 P **P 09 48 28.9 +1.1**
baz=238,SNR=16
G16K Koyuk River 79.84 20 P **P 09 48 29.0 +1.0**
baz=234
J17K VABM Dome 79.88 22 IAmb IAmb 09 48 30.5
comp=Z,23nm,1.0s
J17K VABM Dome 79.88 22 P **P 09 48 29.4 +1.1**
baz=237,SNR=10.0
KDAK Kodiak Island 79.90 29 P **P 09 48 28.9 +0.5**
baz=244
KDAK Kodiak Island 79.90 29 LR LR 10 18 37.9
comp=Z,188nm,21.6s,baz=249,slow=32
Q19K Cape Douglas, 79.92 28 P **P 09 48 28.1 -0.5**
baz=243
BTLS Baital 80.00 317 *e*P **P 09 48 29.2 -0.1**
baz=317
BTLS Baital 80.00 317 *e*P **P 09 48 29.2 -0.1**
M18K Stony River 80.18 25 P **P 09 48 30.5 +0.7**
baz=240,SNR=9.4
L18K Granite Mounta 80.19 24 P **P 09 48 30.5 +0.6**
baz=240,SNR=10
O19K Port Alsworth 80.20 26 P **P 09 48 30.0 0.0**
baz=242
Q20K Shuyak Island 80.36 28 P **P 09 48 30.9 0.0**
baz=244
N19K Bonanza Creek 80.42 26 P **P 09 48 31.5 +0.1**
N19K IAmb IAmb 09 48 47.8
comp=Z,39nm,1.4s
N19K Bonanza Creek 80.42 26 P **P 09 48 31.5 +0.1**
baz=242,SNR=7.3
H17K Granite Mounta 80.42 21 IAmb IAmb 09 48 46.6
comp=Z,30nm,1.0s
H17K Granite Mounta 80.42 21 P **P 09 48 32.3 +1.2**
baz=236,SNR=13
P19K Oil Pt 80.44 27 P **P 09 48 30.9 -0.5**
baz=243
G17K Kiwalik Mounta 80.48 20 P **P 09 48 31.8 +0.4**
baz=235,SNR=12
C16K Lisburne Hills 80.68 17 IAmb IAmb 09 48 34.0
comp=Z,30nm,1.2s
C16K Lisburne Hills 80.68 17 P **P 09 48 32.9 +0.5**
baz=230
J18K Innoko River 80.82 23 P **P 09 48 33.6 +0.3**
baz=239,SNR=11
F17K Baldwin Pennin 80.82 19 P **P 09 48 33.5 +0.3**
baz=235
O20K Slope Mountain 80.90 27 P **P 09 48 33.1 -0.8**
baz=244
L19K White Mountain 80.92 24 P **P 09 48 34.4 +0.6**
L19K White Mountain 80.92 24 P **P 09 48 34.5 +0.6**
baz=241,SNR=13
BTK Batken 80.96 312 P **P 09 48 34.8 +0.1**
BTK Batken 80.96 312 P **P 09 48 34.8 +0.1**
BTK pmax pmax
comp=Z,8.0nm,1.0s
M19K Big River Lodg 80.98 25 P **P 09 48 35.1 +0.9**
baz=242
D17K Noatak River 80.99 18 P **P 09 48 34.8 +0.7**
baz=233,SNR=16
E17K Hotham Inlet 81.01 19 P **P 09 48 35.2 +1.0**
baz=234,SNR=20
GAR Garm 81.09 311 IAmb IAmb 09 49 05.0
comp=Z,30nm,1.4s
H18K Honhosa River 81.09 21 P **P 09 48 34.8 +0.1**
baz=238
KBL Kabul 81.10 306 P **P 09 48 35.0 -0.7**
KBL Kabul 81.10 306 P **P 09 48 35.0 -0.7**
KBL pmax pmax
comp=Z,7.0nm,1.1s
HOM Homer 81.16 27 P **P 09 48 35.1 0.0**
baz=244
RDOG Red Dog Mine 81.26 18 IAmb IAmb 09 48 50.8
comp=Z,36nm,1.0s
RDOG Red Dog Mine 81.26 18 P **P 09 48 36.2 +0.6**
baz=233,SNR=8.1
DZA Taraz 81.30 315 *e*P **P 09 48 35.9 -0.4**
comp=Z,8.0nm,0.5s,baz=314
DZA Taraz 81.30 315 *e*P **P 09 48 35.9 -0.4**
DZA pmax pmax
comp=Z,8.0nm,0.5s
G18K Tagagawik 81.39 20 P **P 09 48 36.4 +0.1**
G18K IAmb IAmb 09 48 37.7
comp=Z,22nm,0.9s
G18K Tagagawik 81.39 20 P **P 09 48 36.6 +0.3**
baz=237,SNR=19
GCSA Galena City Sc 81.41 22 P **P 09 48 36.5 +0.2**
baz=239
C17K DeLong Mountai 81.44 17 P **P 09 48 37.1 +0.6**
baz=232,SNR=5.9
F18K Selawik 81.44 19 P **P 09 48 36.5 0.0**
baz=236
L20K Farewell, AK 81.46 24 P **P 09 48 37.2 +0.4**
baz=242,SNR=6.9
M20K Styx River 81.50 25 P **P 09 48 37.4 +0.4**
baz=243
J19K Poorman 81.50 23 P **P 09 48 37.5 +0.5**
baz=240,SNR=12
N20K Mount Spurr 81.58 26 P **P 09 48 37.8 +0.4**
baz=244
E18K Tukpahlearik C 81.60 19 IAmb IAmb 09 48 52.6
comp=Z,31nm,1.1s
E18K Tukpahlearik C 81.60 19 P **P 09 48 37.9 +0.5**
baz=235,SNR=16

BRSE Bradley Lake S 81.61 27 P P 09 48 37.8 +0.2
baz=245
K20K Telida 81.80 24 P P 09 48 38.6 +0.1
baz=242
CHGR Chuyangaron 81.89 310 P P 09 48 39.1 -0.5
CHGR IAmb IAmb 09 49 00.7
comp=Z,18nm,0.8s
CHGR Chuyangaron 81.89 310 P P 09 48 39.1 -0.5
CHGR pmax pmax
comp=Z,18nm,0.8s
KK31 Karatay Array 81.93 315 P P 09 48 39.9 +0.2
KK31 Karatay Array 81.93 315 P P 09 48 39.9 +0.2
KK31 pmax pmax
comp=Z,13nm,1.2s
KKAR Karatay Array 81.93 315 P P 09 48 39.3 -0.3
KKAR Karatay Array 81.93 315 P P 09 48 39.9 +0.2
KKAR IAmb IAmb 09 48 41.6
comp=Z,12nm,1.1s
KKAR Karatay Array 81.93 315 P P 09 48 39.9 +0.2
KKAR pmax pmax
comp=Z,12nm,1.2s
H19K Roundabout Mou 81.97 21 IAmb IAmb 09 48 41.1
comp=Z,31nm,1.0s
H19K Roundabout Mou 81.97 21 P P 09 48 40.0 +0.7
baz=239,SNR=23
SIMJ Simiganj 82.01 310 P P 09 48 40.0 -0.3
G19K Purcell Mounta 82.06 20 IAmb IAmb 09 48 41.7
comp=Z,33nm,1.1s
G19K Purcell Mounta 82.06 20 P P 09 48 40.5 +0.6
baz=239,SNR=21
C18K Utukok River 82.13 17 P P 09 48 40.4 +0.2
baz=234
J20K Nowinta River 82.16 23 IAmb IAmb 09 48 42.3
comp=Z,32nm,1.1s
J20K Nowinta River 82.16 23 P P 09 48 41.0 +0.7
baz=242,SNR=16
F19K Shaleruckik Mo 82.19 20 P P 09 48 40.4 -0.1
baz=238
SKT Skwentna 82.22 25 P P 09 48 40.9 +0.2
baz=244
I20K Naaghedeneel 82.33 22 P P 09 48 42.0 +0.8
I20K Naaghedeneel 82.33 22 P P 09 48 41.9 +0.7
baz=241,SNR=8.4
SUA Susitna One 82.33 26 P P 09 48 41.5 +0.1
baz=245
BRZS Berezniki 82.34 322 eP P 09 48 41.4 -0.3
baz=322
BRZS Berezniki 82.34 322 eP P 09 48 41.3 -0.3
PPLA Purkeypile 82.35 24 P P 09 48 41.3 -0.3
baz=244
SEW Seward 82.35 27 P P 09 48 41.0 -0.4
baz=246
B18K Kokolik River 82.37 17 P P 09 48 41.4 +0.1
baz=234
O22K Cooper Landing 82.38 27 P P 09 48 41.3 -0.2
baz=246
BRLS Boroldav 82.39 314 eP P 09 48 41.9 -0.2
baz=314
BRLS Boroldav 82.39 314 eP P 09 48 41.9 -0.2
H20K Anotleneega Mo 82.52 21 P P 09 48 42.5 +0.3
baz=241,SNR=12
CAST Castle Rocks 82.62 24 P P 09 48 42.4 -0.5
baz=244,SNR=12
RC01 Rabbit Creek A 82.62 26 P P 09 48 42.2 -0.6
baz=246
E19K Redstone River 82.71 19 IAmb IAmb 09 49 00.4
comp=Z,31nm,0.9s
E19K Redstone River 82.71 19 P P 09 48 43.8 +0.6
baz=238,SNR=28
M22K Willow 82.73 26 P P 09 48 43.1 -0.2
baz=246
CHUM Lake Minchumin 82.74 23 P P 09 48 43.9 +0.5
baz=243,SNR=29
C19K Lookout Ridge 82.87 17 P P 09 48 44.7 +0.7
baz=236,SNR=7.3
CUT Chulitna 82.93 25 P P 09 48 43.7 -0.7
baz=245
D19K Kuna River 82.98 18 IAmb IAmb 09 49 01.4
comp=Z,25nm,1.0s
D19K Kuna River 82.98 18 P P 09 48 44.7 +0.1
baz=237,SNR=9.8
F20K Avaraart Lake 83.00 20 P P 09 48 45.0 +0.4
baz=240
A19K Wainwright 83.07 16 P P 09 48 44.0 -0.9
baz=234
PMR Palmer 83.09 26 P P 09 48 44.5 -0.7
PMR Palmer 83.09 26 P P 09 48 44.8 -0.5
baz=246
KTH Kantishna Hill 83.15 24 P P 09 48 44.6 -1.0
KTH IAmb IAmb 09 48 46.4
comp=Z,31nm,1.2s
P23K Montague Islan 83.26 28 P P 09 48 46.2 0.0
baz=248
KNK Knik Glacier 83.32 26 P P 09 48 45.8 -0.7
baz=247
H21K Melozitna Rive 83.36 22 P P 09 48 46.9 +0.4
baz=243,SNR=7.9
BPAW Bear Paw Mtn. 83.36 23 P P 09 48 46.0 -0.6
baz=245,SNR=8.8
TRF Thorofare Moun 83.36 24 P P 09 48 45.6 -1.3
baz=245,SNR=5.4
E20K Nigu River 83.46 19 P P 09 48 47.7 +0.6
baz=239,SNR=18
G21K Allakaket 83.51 21 P P 09 48 47.5 +0.2
baz=242,SNR=6.2
SML Sawmill 83.53 26 IAmb IAmb 09 49 04.3
comp=Z,30nm,1.0s
SML Sawmill 83.53 26 P P 09 48 47.3 -0.3
baz=247
Q23K Middleton Isla 83.55 29 P P 09 48 47.3 -0.3
baz=249
D20K Etivluk River 83.56 18 P P 09 48 47.6 +0.1
baz=239,SNR=11
GLI Glacier Island 83.73 27 P P 09 48 48.0 -0.6
baz=248
M23K Glacier View 83.79 26 P P 09 48 48.4 -0.5
baz=248
WAT1 Susitna Watana 83.83 25 P P 09 48 48.9 -0.2
baz=247
F21K Alatna River 83.85 20 P P 09 48 49.0 -0.1
baz=242,SNR=5.9
MLY Manley 83.86 23 IAmb IAmb 09 48 50.3
comp=Z,21nm,1.0s
MLY Manley 83.86 23 P P 09 48 49.0 -0.2
baz=245,SNR=7.4
SCM Sheep Creek Mo 83.98 26 P P 09 48 49.6 -0.3
baz=248
H22K Ishtalitna Cre 83.99 22 P P 09 48 49.8 0.0
baz=244,SNR=9.2
MCK McKinley 84.03 24 P P 09 48 49.5 -0.5
MCK IAmb IAmb 09 49 06.2
comp=Z,32nm,1.0s
MCK McKinley 84.03 24 P P 09 48 49.5 -0.5
baz=246,SNR=16
MCK McKinley 84.03 24 P P 09 48 49.6 -0.5
MCK pmax pmax
comp=Z,32nm,1.0s
B20K Meade River 84.08 17 P P 09 48 50.4 +0.3
baz=238
WAT6 Susitna Watana 84.08 25 P P 09 48 50.1 -0.4
baz=248,SNR=7.8
EYAK Cordova Ski Ar 84.23 28 P P 09 48 51.2 +0.1
baz=250
E21K Kilik River 84.27 19 P P 09 48 51.7 +0.5
baz=241
NEA2 Nenana 84.33 23 P P 09 48 50.9 -0.6
NEA2 IAmb IAmb 09 49 05.1
comp=Z,18nm,1.0s
NEA2 Nenana 84.33 23 P P 09 48 50.3 -1.2
baz=246,SNR=7.8
C21K Knifeblade Rid 84.36 18 P P 09 48 51.7 +0.1
baz=240
G22K Bettles 84.40 21 P P 09 48 51.7 -0.1
baz=244
DHY Denali Highway 84.42 25 IAmb IAmb 09 49 05.9
comp=Z,29nm,1.0s
DHY Denali Highway 84.42 25 P P 09 48 52.0 -0.2
baz=248,SNR=11
F22K John River 84.43 20 P P 09 48 52.3 +0.3
baz=243
I23K Minto, Yukon-K 84.44 23 P P 09 48 52.8 +0.8
baz=246
KLU Klutina 84.48 27 P P 09 48 52.6 +0.2
KLU IAmb IAmb 09 48 53.7
comp=Z,20nm,1.0s
KLU Klutina 84.48 27 P P 09 48 52.5 0.0
baz=249,SNR=5.2

BVAR Borovoye Array 84.56 324 P P 09 48 53.1 +0.2
comp=Z,17nm,0.9s,baz=104,slow=6.3,SNR=60
comp=Z,17nm,0.9s
M24K Tolsona, Glenn 84.59 26 P P 09 48 52.9 -0.1
baz=249
BRVK Borovoye 84.63 324 P P 09 48 53.3 0.0
BRVK IAmb IAmb 09 49 13.5
comp=Z,25nm,1.1s
BRVK Borovoye 84.63 324 c i P P 09 48 52.9 -0.4
BRVK pmax pmax
comp=Z,29nm,1.1s
B21K Ikpikpuk River 84.64 18 P P 09 48 53.3 +0.3
baz=241
KAIM Kayak Island 84.64 29 P P 09 48 53.0 -0.2
baz=251
H23K Yukon River 84.65 22 P P 09 48 53.2 +0.1
baz=246,SNR=6.6
WRH Wood River Hil 84.67 24 P P 09 48 52.5 -0.7
E22K Anaktuvuk Pass 84.83 20 P P 09 48 54.5 +0.4
baz=243
G23K Bananza Creek 84.84 21 IAmb IAmb 09 49 08.5
comp=Z,19nm,1.1s
G23K Bananza Creek 84.84 21 P P 09 48 54.7 +0.6
baz=245,SNR=8.9
D22K Ayikyak River 84.89 19 IAmb IAmb 09 49 09.8
comp=Z,24nm,1.0s
D22K Ayikyak River 84.89 19 P P 09 48 54.9 +0.6
baz=242,SNR=10.0
BMRM Bremner River 84.90 28 P P 09 48 54.3 -0.2
baz=251
COLA College 84.92 23 P P 09 48 53.0 -1.5
COLA College 84.92 23 P P 09 48 53.5 -1.0
COLA IAmb IAmb 09 49 07.7
comp=Z,23nm,1.1s
COLA College 84.92 23 P P 09 48 53.6 -0.8
baz=247
COLA College 84.92 23 c i P P 09 48 52.9 -1.5
COLA pmax pmax
comp=Z,20nm,0.9s
COLD Coldfoot 84.99 21 P P 09 48 54.8 0.0
baz=245,SNR=19
HDA Harding Lake 85.10 24 P P 09 48 54.3 -1.1
baz=248,SNR=6.4
N25K Chitina, Valde 85.11 27 P P 09 48 55.4 -0.3
baz=251
HARP HAARP 85.14 26 P P 09 48 56.2 +0.5
baz=250
QSPA South Pole Qui 85.14 180 P P 09 48 55.6 -0.2
comp=Z,72nm,1.0s,baz=346,slow=2.2,SNR=89
QSPA LR LR 10 26 39.6
comp=Z,335nm,21.3s,baz=12,slow=36
comp=Z,72nm,1.0s
POKR Poker Plat Res 85.17 23 P P 09 48 54.6 -1.2
baz=248
PAX Paxson 85.20 25 P P 09 48 55.2 -0.8
baz=250,SNR=5.2
A22K Sinclair Lake 85.22 17 P P 09 48 56.1 +0.3
baz=240
BGLC Bering Glacier 85.24 29 P P 09 48 56.1 0.0
baz=252
IL31 85.26 24 IAmb IAmb 09 49 09.0
comp=Z,20nm,1.0s
ILAR Eielson Array 85.26 24 P P 09 48 54.4 -1.8
comp=Z,14nm,0.9s,baz=255,slow=4.8,SNR=102
ILAR LR LR 10 24 32.0
comp=Z,102nm,18.6s,baz=248,slow=34
comp=Z,14nm,0.9s
H24K Noodor Dome 85.28 22 P P 09 48 56.3 0.0
baz=247,SNR=7.7
B22K Teshekpuk Lake 85.35 17 IAmb IAmb 09 49 11.6
comp=Z,23nm,1.1s
B22K Teshekpuk Lake 85.35 17 P P 09 48 56.4 -0.1
baz=242,SNR=7.2
K24K Donnelly Dome 85.36 25 P P 09 48 57.5 +0.8
baz=249,SNR=5.9
GLB Gilahina Butte 85.42 27 IAmb IAmb 09 49 11.0
comp=Z,15nm,1.1s
D23K Nanushuk River 85.58 19 P P 09 48 58.2 +0.5
baz=244
MCARA McCarthy VSAT 85.76 27 P P 09 48 58.4 -0.4
baz=252
G24K Hadweenzic Riv 85.76 22 IAmb IAmb 09 49 00.1
comp=Z,81nm,1.1s
G24K Hadweenzic Riv 85.76 22 P P 09 48 58.9 +0.2
baz=248,SNR=8.1
TOLK Toolik Lake Re 85.80 20 IAmb IAmb 09 49 23.8
comp=Z,16nm,1.1s
TOLK Toolik Lake Re 85.80 20 P P 09 48 59.4 +0.5
baz=246,SNR=13
J25K Salcha River, 85.81 24 P P 09 48 58.4 -0.7
baz=250,SNR=27
MESA MEA 85.90 29 P P 09 48 59.9 +0.2
baz=253
F24K Squaw Lake 85.93 21 IAmb IAmb 09 49 01.4
comp=Z,18nm,0.9s
F24K Squaw Lake 85.93 21 P P 09 49 00.4 +0.9
baz=247,SNR=20
E24K Your Creek 85.94 20 P P 09 48 59.6 0.0
baz=246
MENT Mentasta 85.94 26 P P 09 49 00.0 +0.3
C23K Itkillik River 85.98 18 IAmb IAmb 09 49 02.4
comp=Z,33nm,1.0s
C23K Itkillik River 85.98 18 P P 09 49 00.1 +0.5
baz=244,SNR=12
PRP Porcupine Dome 86.07 23 P P 09 49 00.5 +0.1
baz=250
M26K Nabesna, AK 86.09 26 P P 09 49 00.6 +0.2
baz=252
L26K Log Cabin Wild 86.13 26 IAmb IAmb 09 49 14.5
comp=Z,12nm,1.0s
L26K Log Cabin Wild 86.13 26 P P 09 49 00.4 -0.2
baz=252,SNR=5.5
SCRK Sand Creek 86.16 25 P P 09 49 00.4 -0.5
baz=251,SNR=8.5
H25L Birch Creek 86.22 22 P P 09 49 01.0 +0.1
baz=249
D24K Happy Valley 86.26 19 P P 09 49 02.1 +1.0
baz=246,SNR=16
BARN Barnard Glacie 86.29 28 IAmb IAmb 09 49 03.1
comp=Z,20nm,1.0s
G25K Bearman Lake 86.29 22 P P 09 49 01.6 +0.3
baz=249
CTG Chitna Glacier 86.41 28 P P 09 49 02.6 +0.4
baz=254,SNR=5.2
CTGM Chitina Glacie 86.42 28 IAmb IAmb 09 49 03.7
comp=Z,19nm,1.0s
J26L Joseph Creek 86.51 24 P P 09 49 02.5 -0.1
J26L IAmb IAmb 09 49 16.4
comp=Z,18nm,1.1s
J26L Joseph Creek 86.51 24 P P 09 49 02.5 -0.1
baz=251,SNR=12
C24K Franklin Bluff 86.53 19 P P 09 49 03.1 +0.7
baz=246
FYU Fort Yukon 86.55 22 IAmb IAmb 09 49 17.0
comp=Z,16nm,0.8s
M27K Edge Creek, AK 86.57 27 P P 09 49 03.0 +0.1
baz=253,SNR=12
HRA Herat 86.60 305 P P 09 49 03.7 -0.1
HRA IAmb IAmb 09 49 23.9
comp=Z,16nm,1.1s
F25K Christian Rive 86.76 21 P P 09 49 04.2 +0.5
baz=249,SNR=7.7
L27K Beaver Creek, 86.80 26 IAmb IAmb 09 49 05.3
comp=Z,17nm,1.1s
L27K Beaver Creek, 86.80 26 P P 09 49 04.1 +0.2
baz=253,SNR=14
BCAR Beaver Creek A 86.82 26 P P 09 49 04.0 0.0
O28M Mount Upton 86.90 28 P P 09 49 04.4 -0.4
baz=254
I26K Coal Creek Min 86.93 24 P P 09 49 03.9 -0.6
baz=252
E25K Arctic Village 86.97 21 IAmb IAmb 09 49 06.6
comp=Z,14nm,1.1s
E25K Arctic Village 86.97 21 P P 09 49 05.3 +0.7
baz=249,SNR=12
K27K Chicken 86.98 25 P P 09 49 04.9 +0.2
baz=253
PNL Peninsula 87.00 30 P P 09 49 05.2 +0.3
baz=255
YUK3 Moose Creek 87.05 27 P P 09 49 05.4 +0.1
baz=254,SNR=9.3
BMAR Burnt Mountain 87.08 21 P P 09 49 05.8 +0.6
D25K Kavik River 87.13 19 P P 09 49 05.6 +0.2
baz=248
G26K Porcupine Rive 87.22 22 P P 09 49 06.4 +0.6
baz=251,SNR=7.8
YUK8 Steele Glacier 87.24 28 P P 09 49 06.4 +0.1
baz=255

F26K Sheenjek River 87.33 21 P P 09 49 07.2 +0.9
baz=251,SNR=34
EGAK Eagle 87.58 24 IAmb IAmb 09 49 08.7
comp=Z,15nm,1.1s
EGAK Eagle 87.58 24 P P 09 49 07.5 0.0
baz=254,SNR=9.0
I27K Kandik River 87.63 23 P P 09 49 08.2 +0.3
baz=253,SNR=20
YUK4 Talbot Arm 87.77 28 P P 09 49 09.1 +0.2
baz=256,SNR=6.6
P29M Windy Craggy 87.80 30 P P 09 49 08.9 +0.1
baz=257,SNR=5.2
YUK6 Outpost Mounta 87.81 28 P P 09 49 08.8 -0.2
baz=256
C26K Camden Bay 87.83 19 P P 09 49 09.3 +0.7
baz=250,SNR=37
H27K Steamboat Moun 87.85 23 P P 09 49 09.5 +0.6
baz=253,SNR=18
G27K Doyon Strip 87.97 22 P P 09 49 10.1 +0.6
baz=253,SNR=5.7
C27K Jago River 88.12 19 P P 09 49 10.4 +0.4
baz=251,SNR=16
DAWY Dawson 88.12 25 P P 09 49 10.6 +0.3
DAWY Dawson 88.12 25 P P 09 49 10.5 +0.3
baz=255,SNR=22
M29M Somme Creek 88.13 27 IAmb IAmb 09 49 11.9
comp=Z,17nm,1.1s
M29M Somme Creek 88.13 27 P P 09 49 10.8 +0.4
baz=256,SNR=14
HYT Haines Junctio 88.19 29 IAmb IAmb 09 49 12.3
comp=Z,21nm,1.0s
HYT Haines Junctio 88.19 29 P P 09 49 10.5 -0.2
baz=257,SNR=11
S31K Pelican 88.20 32 P P 09 49 10.7 0.0
baz=258
I28M Miner Creek 88.26 24 P P 09 49 11.0 0.0
baz=255,SNR=8.3
P30M Million Dollar 88.30 29 P P 09 49 10.6 -0.5
baz=257
E27K Coleen River 88.40 21 P P 09 49 12.2 +0.7
baz=253,SNR=18
L29M L29M 88.44 26 P P 09 49 11.5 -0.2
baz=256,SNR=21
PLBC Pleasant Camp 88.45 30 P P 09 49 11.8 0.0
baz=258
SIT Sitka 88.50 33 P P 09 49 11.6 -0.5
baz=259
N30M Aishikik Lake 88.53 28 IAmb IAmb 09 49 13.6
comp=Z,14nm,1.1s
N30M Aishikik Lake 88.53 28 P P 09 49 12.3 +0.1
baz=257,SNR=6.3
J29N Klondike Camp 88.72 25 P P 09 49 13.1 0.0
baz=256
O30N Mendenhall 88.86 29 IAmb IAmb 09 49 15.1
comp=Z,12nm,1.1s
O30N Mendenhall 88.86 29 P P 09 49 13.5 -0.3
baz=258,SNR=6.9
F28M Old Crow 88.87 22 IAmb IAmb 09 49 28.1
comp=Z,12nm,1.1s
F28M Old Crow 88.87 22 P P 09 49 13.7 0.0
baz=255,SNR=9.8
K29M Barlow Dome 88.87 26 P P 09 49 13.7 -0.2
baz=257,SNR=26
I29M Ogilvie Camp, 88.90 24 IAmb IAmb 09 49 35.2
comp=Z,17nm,1.2s
I29M Ogilvie Camp, 88.90 24 P P 09 49 14.1 +0.3
baz=256,SNR=12
M30M Minto, Yukon 88.91 27 P P 09 49 13.9 -0.1
baz=258,SNR=7.3
D27M Malcolm River 88.93 20 P P 09 49 14.1 +0.1
baz=254
SKAG Skagway 88.97 30 P P 09 49 15.0 +0.8
SKAG Skagway 88.97 30 IAmb IAmb 09 49 15.8
comp=Z,24nm,1.4s
SKAG Skagway 88.97 30 P P 09 49 14.1 -0.1
baz=259
S32K Killisnoo 88.98 32 P P 09 49 13.9 -0.3
baz=260
H29M Whitestone 89.08 23 IAmb IAmb 09 49 36.7
comp=Z,13nm,1.1s
H29M Whitestone 89.08 23 P P 09 49 14.6 -0.1
baz=256
N31M Braeburn, Yuko 89.15 28 IAmb IAmb 09 49 41.3
comp=Z,16nm,1.1s
N31M Braeburn, Yuko 89.15 28 P P 09 49 15.1 0.0
baz=258
R32K Eaglecrest 89.16 31 P P 09 49 14.9 -0.3
baz=260
E28M Babbage River 89.25 21 IAmb IAmb 09 49 33.8
comp=Z,12nm,1.2s
E28M Babbage River 89.25 21 P P 09 49 15.4 -0.1
baz=255,SNR=6.5
G29M Pine Creek 89.38 23 P P 09 49 16.2 +0.1
baz=256,SNR=12
WHY Whitehorse 89.42 29 IAmb IAmb 09 49 34.9
comp=Z,15nm,1.3s
WHY Whitehorse 89.42 29 P P 09 49 16.2 -0.3
baz=259
CRAG Craig 89.43 34 P P 09 49 15.6 -0.9
baz=261
MAYO Mayo, Yukon 89.53 26 P P 09 49 16.3 -0.5
baz=258
U33K Whale Pass 89.53 34 P P 09 49 16.6 -0.3
baz=261
J30M Hart River 89.54 25 IAmb IAmb 09 49 37.3
comp=Z,17nm,1.1s
J30M Hart River 89.54 25 P P 09 49 16.8 -0.2
baz=258,SNR=14
I30M Mount Dempster 89.66 24 IAmb IAmb 09 49 38.0
comp=Z,18nm,1.4s
I30M Mount Dempster 89.66 24 P P 09 49 17.0 -0.5
baz=258,SNR=9.2
D28M Stokes Point 89.71 20 P P 09 49 17.4 -0.1
baz=256
T33K Petersburg 89.74 33 P P 09 49 17.6 -0.3
baz=261
EPYK Eagle Plains 89.77 23 P P 09 49 17.3 -0.6
baz=258,SNR=10
E29M Blow River 89.78 21 P P 09 49 17.1 -0.7
baz=256
P32M Atlin 89.80 30 P P 09 49 18.0 -0.2
baz=260
M31M Drury Creek, Y 89.93 28 P P 09 49 18.3 -0.5
baz=260
WRAK Wrangell Islan 90.01 33 P P 09 49 19.1 -0.1
baz=261
G30M tAoh Zraii Nji 90.09 23 IAmb IAmb 09 49 33.1
comp=Z,17nm,1.1s
G30M tAoh Zraii Nji 90.09 23 P P 09 49 18.6 -0.8
baz=258
V35K Ketchikan 90.26 35 P P 09 49 20.5 +0.1
baz=262
ABKAR Akbulak array 90.28 319 P P 09 49 19.7 -1.0
GEYT Alibeck 90.34 308 P P 09 49 21.1 -0.1
comp=Z,0.7nm,0.4s,baz=93,slow=2.9,SNR=1.3
GEYT LR LR 10 31 56.8
comp=Z,114nm,21.3s,baz=90,slow=37
comp=Z,0.7nm,0.4s
P33M Teslin, Yukon 90.35 30 P P 09 49 19.4 -1.4
baz=261
N32M Quiet Lake 90.37 29 P P 09 49 19.8 -1.0
baz=261
F30M Barrier River 90.39 22 P P 09 49 20.0 -0.7
baz=258,SNR=7.8
FARO Faro, Yukon 90.42 28 P P 09 49 20.4 -0.6
baz=260
H31M Peel River 90.61 24 IAmb IAmb 09 49 22.6
comp=Z,7.6nm,0.9s
H31M Peel River 90.61 24 P P 09 49 21.3 -0.5
baz=260
G31M Satah River 90.83 23 P P 09 49 22.2 -0.5
baz=260,SNR=10.0
F31M Tsiigehtchic 91.13 22 IAmb IAmb 09 49 24.5
comp=Z,10.0nm,1.1s
F31M Tsiigehtchic 91.13 22 P P 09 49 23.0 -1.1
baz=260,SNR=6.0
R33M Jennings River 91.16 31 P P 09 49 24.4 -0.3
baz=263
INK Inuvik 91.35 22 IAmb IAmb 09 49 26.0
comp=Z,11nm,1.0s
INK Inuvik 91.35 22 P P 09 49 24.2 -1.0
baz=260,SNR=14
INK Inuvik 91.35 22 LR LR 10 29 14.5
comp=Z,282nm,19.3s,baz=196,slow=35
DLBC Dease Lake 91.52 32 P P 09 49 25.4 -0.9
baz=263
DLBC Dease Lake 91.52 32 LR LR 10 21 26.0
comp=Z,282nm,22.0s,baz=275,slow=30

AKTO	**Aktyubinsk**	**91.65**	**320**	LR	LR	10 31 14.6			
	comp=Z,102nm,21.2s,baz=94,slow=36								
ARU	**Arti**	**91.92**	**326**	*d* P	**P**	**09 49 26.5**	**-1.5**		
ARU				pmax	pmax				
	comp=Z,7.0nm,1.0s								
ARU	**Arti**	**91.92**	**326**	P	**P**	**09 49 26.2**	**-1.8**		
	comp=Z,8.0nm,1.0s								
BBB	**Bella Bella**	**91.96**	**38**	LR	LR	10 24 32.1			
	comp=Z,243nm,19.7s,baz=252,slow=32								
WTLY	**Watson Lake, Y**	**92.33**	**30**	IAmb	IAmb	09 49 31.0			
	comp=Z,13nm,1.1s								
WTLY	**Watson Lake, Y**	**92.33**	**30**	P	**P**	**09 49 28.9**	**-1.1**		
	baz=264,SNR=6.7								
TGTN	**Hyland Airport**	**92.72**	**29**	P	**P**	**09 49 30.7**	**-1.0**		
	baz=265								
LIRD	**Liard River Hi**	**93.64**	**31**	P	**P**	**09 49 35.2**	**-0.8**		
	baz=267								
TOAD	**Toad River Com**	**94.05**	**31**	P	**P**	**09 49 37.1**	**-0.8**		
	baz=268								
A36M	**Sachs Harbour**	**94.53**	**18**	P	**P**	**09 49 38.5**	**-1.2**		
	baz=268								
KOTAN	**Kotaneelee Air**	**94.70**	**30**	P	**P**	**09 49 39.8**	**-1.0**		
	baz=269								
ELIB	**Princess Elisa**	**94.76**	**195**	*d* P	**P**	**09 49 41.7**	**+0.7**		
	comp=Z,10nm,1.2s								
C36M	**Paulatuk**	**94.86**	**21**	IAmb	IAmb	09 49 41.2			
	comp=Z,7.7nm,1.1s								
C36M	**Paulatuk**	**94.86**	**21**	P	**P**	**09 49 39.8**	**-1.5**		
	baz=269,SNR=5.9								
YBH	**Yreka Blue Hor**	**95.01**	**49**	LR	LR	10 25 46.5			
	comp=Z,374nm,20.0s,baz=308,slow=31								
J05D	**Fort Rock, OR**	**96.14**	**47**	P	**P**	**09 49 47.1**	**-0.8**		
J05D				IAmb	IAmb	09 49 49.0			
	comp=Z,7.4nm,1.3s								
KIRV	**Kirov**	**96.92**	**328**	LR	LR	10 37 06.9			
	comp=Z,94nm,18.8s,baz=77,slow=38								
BELG	**Belogornoye**	**98.20**	**322**	LR	LR	10 35 31.0			
	comp=Z,219nm,21.7s,baz=334,slow=36								
BELG	**Belogornoye**	**98.20**	**322**	*d* P	**P**	**09 49 55.4**	**-1.4**		
BELG				pmax	pmax				
	comp=Z,5.0nm,1.6s								
NVAR	**Mina Array Bea**	**98.35**	**52**	P	**P**	**09 49 57.9**	**-0.3**		
	comp=Z,0.8nm,0.8s,baz=255,slow=5.1,SNR=7.2								
NVAR				PKKPab	PKKPdf	10 06 57.5	+24		
	comp=Z,1.0nm,1.0s,baz=99,slow=4.4,SNR=7.1								
NVAR				LR	LR	10 26 37.2			
	comp=Z,302nm,20.9s,baz=266,slow=31								
	comp=Z,0.8nm,0.8s								
EDW2	**Edwards Air Fo**	**98.61**	**56**	P	**P**	**09 49 58.3**	**-0.9**		
	baz=270								
MAK	**Makhachkala**	**98.63**	**313**	*e* P	**P**	**09 49 57.2**	**-1.8**		
MAK				*e**PP	**pP**	**09 50 13.4**	**-2.6**		
MAK				*e*		09 54 05.0			
MAK				*e*PPP	PPP	09 56 08.4			
MAK				*e*		10 00 29.7			
MAK				*e*SS	SS	10 08 05.6	-4.5		
MAK				pmax	pmax				
	comp=Z,28nm,0.3s								
LRMC	**Laurel Mtn Rad**	**98.87**	**55**	P	**P**	**09 49 59.2**	**-1.2**		
	baz=270								
BFSC	**Mount Baldy Ra**	**98.89**	**56**	P	**P**	**09 49 59.3**	**-1.2**		
	baz=270								
NEW	**Newport**	**98.93**	**42**	P	**P**	**09 49 59.4**	**-0.9**		
	baz=273								
NEW	**Newport**	**98.93**	**42**	LR	LR	10 27 41.4			
	comp=Z,135nm,20.3s,baz=284,slow=31								
BMO	**Blue Mountains**	**98.95**	**46**	P	Pdif	09 50 00.6	+0.1		
BMO				IAmb	IAmb	09 50 17.4			
	comp=Z,6.2nm,1.2s								
BMO	**Blue Mountains**	**98.95**	**46**	P	Pdif	09 50 00.6	+0.1		
BMO				pmax	pmax				
	comp=Z,6.0nm,1.2s								
MPMC	**Manual Prospec**	**99.02**	**54**	P	**Pdif**	**09 50 00.5**	**-0.7**		
	baz=271								
YKA	**Yellowknife Ar**	**99.13**	**28**	P	**Pdif**	**09 50 00.7**	**0.0**		
YKA	**Yellowknife Ar**	**99.13**	**28**	P	**Pdif**	**09 49 59.5**	**-1.2**		
	comp=Z,1.5nm,1.0s,baz=280,slow=4.8,SNR=15								
YKA				PP	**PP**	**09 54 03.0**	**-0.6**		
	comp=Z,0.6nm,1.0s,baz=270,slow=8.0,SNR=3.8								
YKA				PKKPbc	**PKKPbc**	**10 06 25.6**	**-2.9**		
	comp=Z,1.2nm,0.9s,baz=85,slow=2.9,SNR=13								
YKA				LR	LR	10 35 04.4			
	comp=Z,106nm,18.4s,baz=277,slow=36								
	comp=Z,1.5nm,1.0s								
YKA	**Yellowknife Ar**	**99.13**	**28**	*i* P	**Pdif**	**09 50 00.7**	**0.0**		
YKA				pmax	pmax				
	comp=Z,2.0nm,1.1s								
TROLL	**Troll, Antarti**	**99.54**	**191**	⇑Pdiff	**Pdif**	**09 50 03.2**	**+0.5**		
	comp=Z,152nm,0.8s								
GSC	**Goldstone, Bar**	**99.58**	**55**	P	**Pdif**	**09 50 02.3**	**-1.3**		
	baz=271								
PFO	**Pinyon Flats O**	**99.89**	**57**	P	**Pdif**	**09 50 04.0**	**-1.0**		
	baz=271								
PFO	**Pinyon Flats O**	**99.89**	**57**	LR	LR	10 26 56.2			
	comp=Z,223nm,21.3s,baz=264,slow=30								
TPFO	**Pinon Flats**	**99.90**	**57**	P	**Pdif**	**09 50 04.5**	**-0.6**		
	baz=271								
MONP2	**Monument Peak**	**99.94**	**58**	P	**Pdif**	**09 50 03.6**	**-1.7**		
	baz=271								
SHOC	**Shoshone, Teco**	**100.00**	**55**	P	**Pdif**	**09 50 04.7**	**-0.6**		
	baz=271								
SWSC	**Sam W. Stewart**	**100.46**	**58**	P	**Pdif**	**09 50 06.6**	**-0.7**		
	baz=271								
R11B	**Troy Canyon, C**	**100.48**	**52**	P	**Pdif**	**09 50 07.1**	**-0.6**		
	baz=272								
GMRC	**Granite Mounta**	**100.53**	**56**	P	**Pdif**	**09 50 07.3**	**-0.6**		
	baz=272								
BC3	**Big Chuckawall**	**100.73**	**57**	P	**Pdif**	**09 50 08.1**	**-0.7**		
	baz=271								
SNAA	**Sanae**	**100.79**	**190**	PP	**PP**	**09 54 15.7**	**0.0**		
	comp=Z,4.5nm,1.1s,baz=179,slow=6.5,SNR=5.1								
HLID	**Hailey**	**101.09**	**47**	P	**Pdif**	**09 50 09.5**	**-0.7**		
	baz=274								
MSO	**Missoula**	**101.18**	**43**	P	**Pdif**	**09 50 09.3**	**-1.1**		
	baz=275								
NEE2	**Needles Airpor**	**101.39**	**56**	P	**Pdif**	**09 50 09.8**	**-1.6**		
	baz=272								
SPR3	**Spring Creek 3**	**101.44**	**51**	Pdif	**Pdif**	**09 50 11.8**	**-0.2**		
PDMCI	**Parker Dam,Lak**	**101.80**	**56**	P	**Pdif**	**09 50 11.1**	**-2.2**		
	baz=272								
DUG	**Dugway, Tooele**	**102.53**	**50**	P	**Pdif**	**09 50 14.5**	**-2.1**		
	baz=274								
BOZ	**Bozeman (W)**	**102.90**	**44**	P	**Pdif**	**09 50 15.3**	**-2.8**		
	baz=276								
214A	**Organ Pipe Nat**	**103.01**	**58**	P	**Pdif**	**09 50 17.0**	**-1.8**		
	baz=272								
H17A	**Grant Village**	**103.78**	**46**	P	**Pdif**	**09 50 20.9**	**-1.3**		
	baz=277								
EGMT	**Eagleton**	**103.86**	**42**	P	**Pdif**	**09 50 20.9**	**-1.4**		
	baz=278								
WUAZ	**Wupatki**	**104.01**	**55**	P	**Pdif**	**09 50 21.4**	**-1.9**		
	baz=274								
PDAR	**Pinedale Array**	**104.71**	**47**	Pdiff	**Pdif**	**09 50 24.9**	**-1.5**		
	comp=Z,0.2nm,0.4s,baz=287,slow=3.7,SNR=2.6								
TUC	**Tucson**	**104.71**	**58**	P	**Pdif**	**09 50 24.6**	**-1.9**		
	baz=274								
W18A	**Petrified Fore**	**105.37**	**55**	P	**PKiKP**	**09 54 41.3**	**-1.9**		
	baz=275								
O20A	**White River Ci**	**106.02**	**50**	P	**PKiKP**	**09 54 42.5**	**-1.8**		
	baz=277								
MVCO	**Mesa Verde**	**106.17**	**53**	P	**PKiKP**	**09 54 42.6**	**-2.1**		
	baz=276								
LAO	**LASA Array**	**106.45**	**43**	P	**PKiKP**	**09 54 43.6**	**-1.0**		
	baz=281								
K22A	**Casper**	**106.94**	**47**	P	**PKiKP**	**09 54 44.5**	**-1.3**		
	baz=279								
121A	**Cookes Peak, D**	**107.22**	**58**	P	**PKiKP**	**09 54 45.5**	**-1.2**		
	baz=275								
DGMT	**Dagmar**	**107.44**	**41**	P	**PKiKP**	**09 54 45.1**	**-1.3**		
	baz=283								
N23A	**Red Feather La**	**107.64**	**49**	P	**PKiKP**	**09 54 45.1**	**-2.2**		
	baz=279								
ISCO	**Idaho Springs**	**108.07**	**50**	P	**PKiKP**	**09 54 46.6**	**-1.5**		
	baz=279								
ANMO	**Albuquerque**	**108.07**	**55**	P	**PKiKP**	**09 54 46.5**	**-1.7**		
	baz=277								
RSSD	**Black Hills**	**108.46**	**45**	P	**PKiKP**	**09 54 46.4**	**-2.2**		
	baz=282								
SDCO	**Great Sand Dun**	**108.46**	**52**	P	**PKiKP**	**09 54 46.8**	**-2.1**		
	baz=278								
Q24A	**Divide**	**108.55**	**51**	P	**PKiKP**	**09 54 46.4**	**-2.7**		
	baz=279								
NACGM	**Naroch**	**109.81**	**327**	*e*Pdif	**Pdif**	**09 50 49.2**	**+0.8**		
	comp=Z,15nm,0.9s,baz=69								
MDND	**Maddock**	**110.57**	**40**	P	**PKiKP**	**09 54 51.6**	**-0.7**		
	baz=286								
TXAR	**Lajitas Array**	**111.07**	**61**	PKKPab	PKKPab	10 06 01.8	+1.1		
	comp=Z,2.6nm,0.9s,baz=122,slow=7.0,SNR=22								
SUSD	**Miller**	**111.93**	**44**	P	**PKiKP**	**09 54 53.1**	**-1.9**		
	baz=286								
AMTX	**Amarillo**	**111.96**	**54**	P	**PKiKP**	**09 54 53.2**	**-2.2**		
	baz=280								
CBKS	**Cedar Bluff**	**112.73**	**50**	P	**PKiKP**	**09 54 55.7**	**-1.0**		
	baz=283								
AGMN	**Agassiz Nation**	**112.82**	**39**	P	**PKiKP**	**09 54 54.4**	**-2.1**		
	baz=290								
ABTX	**Abilene, Hawle**	**114.02**	**56**	P	PKPdf	09 54 58.2	-1.1		
	baz=280								
JCT	**Junction City**	**114.24**	**59**	P	PKPdf	09 54 59.0	-0.8		
	baz=279								
WMOK	**Wichita Mounta**	**114.33**	**54**	P	PKPdf	09 54 56.2	-3.6		
	baz=282								
833A	**Chaparral WMA,**	**114.92**	**61**	P	PKPdf	09 54 59.5	-1.5		
	baz=278								
KSU1	**Kansas State U**	**115.03**	**49**	P	**PKiKP**	**09 55 00.4**	**-0.5**		
	baz=285								
EYMN	**Ely**	**115.67**	**38**	P	**PKiKP**	**09 55 02.0**	**0.0**		
	baz=293								
SPMN	**Marine on St.**	**115.85**	**42**	P	**PKiKP**	**09 55 00.9**	**-1.5**		
	baz=291								
CLL	**Collm**	**118.83**	**328**	*i* PKIKP	**PKPdf**	**09 55 06.7**	**-1.2**		
CLL				*i*		09 55 22.0			
CLL				pmax	pmax				
	comp=Z,4.0nm,0.9s								
GERES	**GERESS Array B**	**119.72**	**325**	PKP	**PKiKP**	**09 55 09.9**	**0.0**		
	comp=Z,0.3nm,0.3s,baz=52,slow=5.3,SNR=1.8								
EKA	**Eskdalemuir Ar**	**123.46**	**339**	PKP	**PKPdf**	**09 55 16.2**	**-0.5**		
	comp=Z,0.1nm,0.3s,baz=21,slow=2.3,SNR=2.4								
P49A	**Miami Univ. Ec**	**123.56**	**45**	P	**PKPdf**	**09 55 16.7**	**-0.7**		
	baz=295								
PLCA	**Paso Flores**	**124.27**	**148**	PKP	**PKPdf**	**09 55 18.4**	**-0.4**		
	comp=Z,3.0nm,1.0s,baz=179,slow=3.0,SNR=5.2								
ACSO	**Alum Creek Sta**	**124.47**	**43**	P	**PKPdf**	**09 55 18.4**	**-0.7**		
	baz=296								
P52A	**Corning**	**125.32**	**44**	P	**PKPdf**	**09 55 20.4**	**-0.4**		
	baz=297								
ERPA	**Erie**	**125.56**	**40**	P	**PKPdf**	**09 55 20.1**	**-1.0**		
	baz=300								
TZTN	**Tazewell**	**125.62**	**48**	P	**PKPdf**	**09 55 20.3**	**-1.2**		
	baz=294								
O53A	**New Philadelph**	**125.67**	**43**	P	**PKPdf**	**09 55 20.7**	**-0.7**		
	baz=298								
LONY	**Lake Ozonia**	**127.46**	**35**	P	**PKPdf**	**09 55 22.9**	**-1.8**		
	baz=307								
TIGA	**Tifton**	**127.48**	**54**	P	**PKPdf**	**09 55 23.5**	**-1.7**		
	baz=290								
BLA	**Blacksburg**	**127.61**	**46**	P	**PKPdf**	**09 55 23.7**	**-1.6**		
	baz=297								
SSPA	**Standing Stone**	**127.68**	**41**	P	**PKPdf**	**09 55 23.0**	**-2.2**		
	baz=301								
BINY	**Binghamton**	**128.04**	**38**	P	**PKiKP**	**09 55 27.0**	**+0.5**		
	baz=304								
LBNH	**Lisbon**	**129.19**	**34**	P	**PKiKP**	**09 55 29.5**	**+0.8**		
	baz=310								
PKME	**Peaks-Kenny Pk**	**129.92**	**31**	P	**PKPdf**	**09 55 27.6**	**-1.8**		
	baz=313								
PAL	**Palisades**	**130.00**	**38**	P	**PKPdf**	**09 55 26.7**	**-2.9**		
	baz=306								
LPAZ	**La Paz**	**141.23**	**123**		**PKPdf**	**09 55 50.9**	**-1.1**		
LPAZ	**La Paz**	**141.23**	**123**	PKP	**PKPdf**	**09 55 49.9**	**-2.1**		
	comp=Z,0.8nm,0.5s,baz=211,slow=5.9,SNR=4.2								
CPUP	**Villa Florida**	**142.31**	**146**	PKhKP	PKPpre	09 55 45.5			
	comp=Z,1.6nm,0.8s,baz=90,slow=1.0,SNR=2.2								
TOA0	**Torodi Ar. Sit**	**142.71**	**285**	PKPdf	**PKPdf**	**09 55 52.1**	**-1.8**		
TORD	**Torodi Ar. Bea**	**142.71**	**285**	PKPdf	**PKPdf**	**09 55 49.8**	**-4.1**		
TORD	**Torodi Ar. Bea**	**142.71**	**285**	PKhKP	PKPpre	09 55 49.3			
	comp=Z,3.7nm,1.0s,baz=72,slow=3.9,SNR=12								
ETMB	**Extrema**	**145.82**	**115**		**PKPdf**	**09 55 58.1**	**-1.2**		
SIV	**San Ignacio**	**147.06**	**129**	PKPbc	**PKPbc**	**09 56 03.1**	**-0.4**		
	comp=Z,6.2nm,0.6s,baz=219,slow=2.6,SNR=26								
PTLB	**Pontes e Lacer**	**148.87**	**131**		**PKPbc**	**09 56 07.1**	**-1.1**		
SAML	**Samuel**	**148.90**	**116**		**PKPbc**	**09 56 07.2**	**-1.2**		
SAML	**Samuel**	**148.90**	**116**	PKP2	**PKPbc**	**09 56 07.2**	**-1.2**		
VILB	**Vilhena**	**149.50**	**126**		**PKPbc**	**09 56 09.1**	**-0.8**		
KIC	**Kosan Boka**	**149.69**	**274**	⇑*e* P	**PKPbc**	**09 56 10.4**	**0.0**		
	comp=Z,27nm,1.0s								
DBIC	**Dimbokro**	**149.79**	**275**		**PKiKP**	**09 56 11.7**	**+0.1**		
DBIC	**Dimbokro**	**149.79**	**275**	PKPbc	**PKPbc**	**09 56 11.2**	**+0.5**		
	comp=Z,21nm,0.8s,baz=90,slow=2.2,SNR=13								
DBIC	**Dimbokro**	**149.79**	**275**	PKP2	**PKiKP**	**09 56 11.7**	**+0.1**		
TIC	**Toumodi**	**149.96**	**275**	⇑*e* P	**PKiKP**	**09 56 12.4**	**+0.4**		
	comp=Z,63nm,1.0s								
LIC	**Lamto**	**149.97**	**274**	⇑*e* P	**PKPbc**	**09 56 11.1**	**0.0**		
	comp=Z,80nm,0.9s								
BDFB	**Brasilia**	**156.01**	**148**	PKP	**PKPdf**	**09 56 15.5**	**+0.5**		
	comp=Z,0.8nm,0.3s,baz=117,slow=9.0,SNR=1.4								

*HVO **19** 09:41:00.2±1.3, 19°.34N±0°.02×155°.25W±0°.01, h-0km±5km, ML2.5/11, ML2.2/34(NEIC), Error ellipse: s-maj=3.2km s-min=1.2km az=162.0*

NEIC 19 09:41:00.2±1.7, 19°.29N±0°.02×155°.22W±0°.01, h5km±1km, Error ellipse: s-maj=4.3km s-min=2.5km az=334.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HLP	**Hilina Pali**	**0.08**	**272**	IAML		09 41 02.0		
	comp=E,1μm,1.3s							
HLP				Pg	Pg	09 41 03.0	+1.0	
HLP				IAML		09 41 03.8		
	comp=N,1μm,0.3s							
PUH	**Pauahi**	**0.08**	**5**	Pg	Pg	09 41 02.1	+0.1	
KNHH	**Kane Nui o Ham**	**0.10**	**31**		Pg	09 41 01.9	-0.5	
KKO	**Keanakako`i**	**0.11**	**339**	Pg	Pg	09 41 00.9	-1.6	
RIM	**Rim**	**0.11**	**335**		Pg	09 41 01.4	-1.2	
SDHHI	**Sand Hill**	**0.12**	**325**	Pg	Pg	09 41 01.0	-1.6	
BYL	**Byron's Ledge**	**0.12**	**344**	IAML		09 41 01.8		
	comp=N,2μm,0.8s							
BYL				IAML		09 41 02.7		
	comp=E,3μm,0.9s							
BYL				Pg	Pg	09 41 02.9	+0.1	
STCH	**Steam Cracks**	**0.13**	**46**	Pg	Pg	09 41 03.9	+1.0	
STCH					Sg	09 41 04.0	-0.6	
HATHI	**Halema'uma'u T**	**0.13**	**345**		Pg	09 41 01.6	-1.4	
HATHI				IAML		09 41 03.9		
	comp=E,2μm,0.8s							
SBLHI	**Steaming Bluff**	**0.14**	**342**	Pg	Pg	09 41 01.4	-1.7	
NPOC	**North of Pu'u**	**0.15**	**47**	Pg	Pg	09 41 04.2	+1.0	
HTC	**Hot Caves**	**0.17**	**251**		Pg	09 41 04.8	+1.2	
MLH	**Mauna Loa**	**0.25**	**322**	Pg	Pg	09 41 05.1	0.0	
MLH				IAML		09 41 10.0		
	comp=E,419nm,1.3s							
MLH				IAML		09 41 10.4		
	comp=N,594nm,0.8s							
KHU	**Kahuku**	**0.37**	**263**		Pg	09 41 07.7	+0.2	
KHU				IAML		09 41 13.4		
	comp=N,286nm,2.6s							
KHU				IAML		09 41 17.3		
	comp=E,386nm,1.0s							
HMH	**Humu'ula Sheep**	**0.39**	**321**	IAML		09 41 07.7		
	comp=E,234nm,1.3s							
HMH				Pg	Pg	09 41 07.8	-0.1	
HMH				IAML		09 41 12.1		
	comp=N,273nm,1.7s							
MWH	**Moku'aweowe**	**0.40**	**298**		Pg	09 41 07.3	-0.8	
MLOA	**Mauna Loa Obse**	**0.41**	**306**	Pg	Pg	09 41 07.9	-0.3	
MLOA				IAML		09 41 16.1		
	comp=E,369nm,0.5s							
POHA	**Pohakuloa**	**0.55**	**328**	Pg	Pg	09 41 09.8	-0.9	
POHA				IAML		09 41 23.4		
	comp=E,236nm,1.1s							
POHA				IAML		09 41 26.3		
	comp=E,189nm,0.8s							
HUH	**Hualalai**	**0.70**	**304**		Pg	09 41 13.6	0.0	

*HVO **19** 09:42:16.3±0.8, 19°.34N±0°.01×155°.258W±0°.006, h-0km±4km, ML3.2/13, ML2.3/48(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=195.0*

NEIC 19 09:42:17.4±0.7, 19°.345N±0°.010×155°.263W±0°.007, h1km±4km, Error ellipse: s-maj=1.5km s-min=0.8km az=198.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RIM	**Rim**	**0.05**	**348**	Pg	Pg	09 42 18.4	-0.1	
RIM					Sg	09 42 18.6	-0.6	
RIM				IAML		09 42 18.6		
	comp=E,3μm,1.4s							
RIM				IAML		09 42 18.6		
	comp=N,5μm,1.0s							
KKO	**Keanakako`i**	**0.05**	**357**		Pg	09 42 18.6	+0.1	
KKO				IAML		09 42 18.9		
	comp=E,3μm,0.8s							
KKO				IAML		09 42 18.9		
	comp=N,3μm,1.2s							
PUH	**Pauahi**	**0.05**	**56**	Pg	Pg	09 42 18.3	-0.2	
PUH					Sg	09 42 18.6	-0.6	
SDHHI	**Sand Hill**	**0.05**	**327**		Pg	09 42 17.3	-1.2	
SDHHI				IAML		09 42 18.4		
	comp=E,3μm,0.9s							
SDHHI				IAML		09 42 19.0		
	comp=N,3μm,0.9s							
HLP	**Hilina Pali**	**0.06**	**221**	Pg	Pg	09 42 19.0	+0.3	
BYL	**Byron's Ledge**	**0.07**	**2**	IAML		09 42 18.2		
	comp=E,2μm,0.8s							
BYL				Pg	Pg	09 42 18.9	+0.1	
BYL				IAML		09 42 19.6		
	comp=N,4μm,0.9s							
WRMHI	**West Rim**	**0.07**	**330**		Pg	09 42 17.9	-1.0	
WRMHI				IAML		09 42 19.6		
	comp=N,3μm,0.9s							
HATHI	**Halema'uma'u T**	**0.08**	**1**	IAML		09 42 18.4		
	comp=N,2μm,0.7s							
HATHI				Pg	Pg	09 42 19.0	0.0	
HATHI				IAML		09 42 19.1		
	comp=E,3μm,0.7s							
KNHH	**Kane Nui o Ham**	**0.10**	**69**		Pg	09 42 19.2	0.0	
RSD	**Rainshed**	**0.12**	**353**		Pg	09 42 19.7	0.0	
RSD				IAML		09 42 21.7		
	comp=N,1μm,0.8s							
RSD				IAML		09 42 22.4		
	comp=E,2μm,0.8s							
STCH	**Steam Cracks**	**0.14**	**73**		Pg	09 42 19.8	-0.2	
STCH				IAML		09 42 21.8		
	comp=E,1μm,1.0s							
NPOC	**North of Pu'u**	**0.15**	**72**		Pg	09 42 19.7	-0.7	
NPOC				IAML		09 42 23.7		
	comp=N,885nm,1.4s							
JCUZ	**Jacuzzi**	**0.16**	**75**	Pg	Pg	09 42 20.6	+0.1	
HTC	**Hot Caves**	**0.17**	**230**		Pg	09 42 20.9	+0.3	
MLH	**Mauna Loa**	**0.19**	**322**		Pg	09 42 21.2	+0.1	
MLH				IAML		09 42 23.2		
	comp=N,874nm,1.4s							
MLH				IAML		09 42 26.1		
	comp=E,757nm,0.8s							
JOKA	**Jonika Flow**	**0.26**	**70**	Pg	Pg	09 42 21.7	-0.7	
JOKA				IAML		09 42 29.2		
	comp=E,771nm,1.1s							
HMH	**Humu'ula Sheep**	**0.33**	**321**		Pg	09 42 23.1	-0.7	
HMH				IAML		09 42 35.1		
	comp=N,455nm,0.9s							
MWH	**Moku'aweowe**	**0.34**	**294**	Pg	Pg	09 42 23.8	-0.3	
KHU	**Kahuku**	**0.35**	**254**		Pg	09 42 23.6	-0.5	
KHU				IAML		09 42 31.7		
	comp=E,511nm,0.9s							
MLOA	**Mauna Loa Obse**	**0.35**	**303**	Pg	Pg	09 42 24.0	-0.2	
MLOA	**Mauna Loa Obse**	**0.35**	**303**	Pg	Pg	09 42 24.1	-0.1	
ALEP	**Alea Permanent**	**0.41**	**299**		Pg	09 42 25.4	+0.1	

*NEIC **19** 09:58:27.6±2.1, 19°.45N±0°.02×155°.25W±0°.03, h5km±1km, Error ellipse: s-maj=5.5km s-min=2.7km az=51.0*

*NEIC **19** 09:58:28, 19°.31N×155°.07W, h12km, Moment Tensor Solution. Duration: 18 Moment tensor: Scale 10^{16}Nm; M_{rr}=4.47; $M_{\theta\theta}$=2.31; $M_{\phi\phi}$=2.15; $M_{r\theta}$=-2.08; $M_{r\phi}$=0.97; $M_{\theta\phi}$=1.96; Fault plane solution: M_0=4.43000×10^{16} NP1:∅s71.90000°, δ52.19000°, λ-61.40000°. NP2:∅s210.25000°, δ46.08000°, λ-121.67000°. Principal axes: T 3.2202, Plg3.0000°, Azm142.0000°; N 2.4295, Plg22.0000°, Azm233.0000°; P -5.6497, Plg68.0000°, Azm44.0000°;*

*NEIC **19** 09:58:28, 19°.41N×155°.28W, h12km*

*GCMT **19** 09:58:50.2±0.2, 19°.33N±0°.02×155°.22W±0°.02, h12km, MW5.0/132, Moment Tensor Solution. s47,c58; s132,c187; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=3.76±.06; $M_{\theta\theta}$=2.10±.07; $M_{\phi\phi}$=1.66±.06; $M_{r\theta}$=1.07±.28; $M_{\theta\phi}$=1.38±.06; $M_{r\phi}$=0.50±.26; Best double couple: M_o=3.70900×10^{16} NP1:∅s234.00000°, δ54.00000°, λ-85.00000°. NP2:∅s46.00000°, δ36.00000°, λ-96.00000°. Principal axes: T 3.4580, Plg9.0000°, Azm320.0000°; N 0.5040, Plg4.0000°, Azm51.0000°; P -3.9610, Plg80.0000°, Azm164.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

HVO 19 09:58:33.2±1.4, 19°.41N±0°.01×155°.281W±0°.009, h0km±2km, ML3.0/6, ML2.1/27(NEIC), Mww5.0/7(NEIC) Error ellipse: s-maj=3.1km s-min=2.0km az=178.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
NPH	**North Pit**	**0.01**	**0**		Pg	09 58 27.2	-6.2	
RIM	**Rim**	**0.01**	**146**		Pg	09 58 27.6	-5.9	
OBL	**Observatory Le**	**0.01**	**347**		Pg	09 58 27.9	-5.6	
KKO	**Keanakako`i**	**0.02**	**117**		Pg	09 58 27.4	-6.2	
WRMHI	**West Rim**	**0.02**	**275**		Pg	09 58 27.6	-5.9	
SDHHI	**Sand Hill**	**0.02**	**219**		Pg	09 58 28.6	-5.0	
UWB	**Uwekahuna B**	**0.02**	**8**		Pg	09 58 28.5

VNDA	**Vanda**	**72.32**	**178**	LR	LR	10 49 46.5		
	comp=Z,50nm,19.5s,baz=350,slow=34							
TORD	**Torodi Ar. Bea**	**149.12**	**287**	PKPbc	PKPbc	10 29 18.4	-0.3	
	0.4nm,0.7s,baz=79,slow=3.1,SNR=2.4							

*IDC **19** 10:40:25.9±10.0, 15°.16S×174°.99W, h220km±98km, mb3.3/7, mbtmp3.8/7, MS3.9/1, Error ellipse: s-maj=29.0km s-min=21.8km az=95.0*
*NEIC **19** 10:40:28.9±0.8, 15°.0S±0°.2×174°.9W±0°.1, h253km±17km, mb4.0/16, Error ellipse: s-maj=31.0km s-min=11.7km az=212.0*

ISC 19 10:40:28.7±0.6, **15°.1S**±0°.1×**174°.99W**±0°.09, **h250km**, **n32**, σ0.6 **61/32**, **mb3.9/16**, **Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.32**	**70**	Pn	**Pn**	**10 41 23.8**	**-1.1**
AFI	**Afiamalu**	**3.32**	**70**	Sn	**S**	**10 42 08.3**	**-1.0**
NIUE	**Niue**	**6.25**	**130**	Pn	**Pn**	**10 41 59.9**	**-0.1**
TOZ	**Tahuroa Road**	**24.07**	**199**	P	**P**	**10 45 21.3**	**-0.2**
TOZ				IAmb	IAmb	10 45 46.3	
	comp=Z,5.0nm,0.8s						
WHZ	**Wether Hill Ro**	**33.89**	**202**	P	**P**	**10 46 48.1**	**0.0**
WHZ				IAmb	IAmb	10 47 10.9	
	comp=Z,4.6nm,0.8s						
ARMA	**Armidale**	**34.20**	**238**	P	**P**	**10 46 51.0**	**-0.1**
ARMA				IAmb	IAmb	10 47 02.1	
	comp=Z,4.1nm,1.0s						
CTAO	**Charters Tower**	**37.22**	**257**	P	**P**	**10 47 16.1**	**-0.7**
CTAO				IAmb	IAmb	10 47 41.1	
	comp=Z,5.2nm,0.9s						
CAN	**Canberra**	**38.02**	**231**	P	**P**	**10 47 22.7**	**-0.4**
STKA	**Stephens Creek**	**42.87**	**239**	P	**P**	**10 48 03.0**	**+0.2**
STKA	**Stephens Creek**	**42.87**	**239**	P	**P**	**10 48 02.2**	**-0.6**
	comp=Z,1.3nm,0.6s,baz=86,slow=11,SNR=4.5						
	comp=Z,1.3nm,0.6s						
BBOO	**Buckleboo**	**47.65**	**239**	P	**P**	**10 48 39.8**	**-0.5**
BBOO				IAmb	IAmb	10 48 40.6	
	comp=Z,5.3nm,0.9s						
WB0	**Warramunga Arr**	**48.38**	**257**	P	**P**	**10 48 45.8**	**-0.2**
WB0				IAmb	IAmb	10 48 46.8	
	comp=Z,4.3nm,0.9s						
WB2	**Warramunga Arr**	**48.41**	**257**	P	**P**	**10 48 46.1**	**-0.2**
WB2				IAmb	IAmb	10 48 47.4	
	comp=Z,5.3nm,0.9s						
WRA	**Warramunga Arr**	**48.42**	**257**	P	**P**	**10 48 46.0**	**-0.3**
WRA	**Warramunga Arr**	**48.42**	**257**	P	**P**	**10 48 46.1**	**-0.3**
	comp=Z,1.8nm,0.5s,baz=85,slow=7.5,SNR=41						
WRA				PcP	**PcP**	**10 50 08.9**	**+0.3**
	comp=Z,0.5nm,0.9s,baz=94,slow=5.7,SNR=2.3						
	comp=Z,1.8nm,0.5s						
ASAR	**Alice Springs**	**48.75**	**252**	P	**P**	**10 48 49.1**	**+0.2**
ASAR	**Alice Springs**	**48.75**	**252**	P	**P**	**10 48 48.9**	**0.0**
	comp=Z,19nm,0.5s,baz=86,slow=8.0,SNR=384						
ASAR				PcP	**sP**	**10 50 10.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=96,slow=6.1,SNR=2.4						
MTN	**Manton Dam**	**52.23**	**265**	P	**P**	**10 49 14.0**	**-0.8**
MTN				IAmb	IAmb	10 49 24.6	
	comp=Z,8.3nm,0.9s						
SAUI	**Saumlaki**	**52.99**	**271**	P	**P**	**10 49 18.9**	**-1.5**
FORT	**Forrest**	**54.19**	**243**	P	**P**	**10 49 28.9**	**0.0**
BATI	**Baumata**	**59.91**	**267**	LR	LR	11 13 55.8	
	comp=Z,100nm,21.8s,baz=141,slow=34						
PSA00	**Pilbara Seismi**	**61.83**	**253**	P	**P**	**10 50 22.0**	**+0.1**
SBA	**Scott Base**	**63.44**	**184**	P	**P**	**10 50 31.4**	**-0.1**
VNDA	**Vanda**	**63.53**	**185**	P	**P**	**10 50 32.8**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=25,slow=7.5,SNR=3.7						
	comp=Z,0.4nm,0.7s						
PETK	**Petropavlovsk-**	**71.88**	**343**	P	**P**	**10 51 25.4**	**+1.0**
	comp=Z,2.0nm,0.7s,baz=112,slow=10,SNR=4.6						
	comp=Z,2.0nm,0.7s						
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**10 51 42.5**	**+0.2**
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**10 51 42.2**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=13,slow=1.1,SNR=8.2						
	comp=Z,0.9nm,0.6s						
TXAR	**Lajitas Array**	**81.72**	**57**	P	**P**	**10 52 21.1**	**+1.2**
	comp=Z,0.1nm,0.5s,baz=226,slow=7.4,SNR=1.7						
	comp=Z,0.1nm,0.5s						
ILAR	**Eielson Array**	**82.45**	**12**	P	**P**	**10 52 23.2**	**+0.4**
	comp=Z,0.3nm,0.4s,baz=209,slow=5.3,SNR=9.3						
	comp=Z,0.3nm,0.4s						
BRTR	**Keskin Array B**	**144.95**	**320**	PKPbc	PKPbc	10 59 36.4	0.0
	comp=Z,0.6nm,0.6s,baz=22,slow=4.0,SNR=3.9						
GERES	**GERESS Array B**	**145.59**	**350**	PKPbc	**PKPdf**	**10 59 37.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=5.2,slow=2.2,SNR=1.8						
MMAI	**Mount Meron Ar**	**147.18**	**308**	PKPbc	**PKPbc**	**10 59 43.6**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=31,slow=3.4,SNR=3.9						

*DNK **19** 10:47:25.9±1.9, 59°.51N×25°.42E, h7km±84km, ML2.9*
*UPP **19** 10:47:27.5±2.7, 59°.53N×25°.13E, h0km, ML2.4*
*HEL **19** 10:47:29.7±0.1, 59°.46N×24°.74E, h0km, ML2.1, Explosion*
*EST **19** 10:47:30.3±0.0, 59°.47N×24°.74E, h0km, ML2.2(HEL), Explosion*
*LVSN **19** 10:47:30.8±3.4, 59°.51N×24°.79E, h0km±36km, ML2.3*
*IDC **19** 10:47:31.8±2.1, 59°.60N×24°.71E, h0km, mbtmp3.1/3, ML2.4/3, Error ellipse: s-maj=21.7km s-min=7.0km az=145.0*

ISC 19 10:47:29.1±0.7, **59°.47N**±0°.02×**24°.73E**±0°.02, **h0km**, **n69**, σ1 **13/101**, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE02	**Kiisa, Saku**	**0.28**	**183**	*e*P	**Pg**	**10 47 35.3**	**+1.0**
EE02				*e*S	**Sg**	**10 47 38.7**	**+0.9**
EE01	**Perakula, Nova**	**0.62**	**246**	*e*P	**Pg**	**10 47 41.5**	**+0.5**
EE01				*e*S	**Sg**	**10 47 49.8**	**+0.7**
ARBE	**Arbavere**	**0.64**	**92**	*e*P	**Pg**	**10 47 41.7**	**+0.3**
ARBE	**Arbavere**	**0.64**	**92**	*e*P	**Pg**	**10 47 41.6**	**+0.3**
ARBE				*e*S	**Sg**	**10 47 48.8**	**-0.8**
ARBE				AML	AML	10 47 57.1	
	comp=E,439nm,0.1s						
ARBE				AML	AML	10 48 02.0	
	comp=N,459nm,0.1s						
ARBE				AML	AML	10 48 04.8	
	comp=Z,175nm,0.6s						
ARBE	**Arbavere**	**0.64**	**92**	*e*P	**Pg**	**10 47 41.5**	**+0.2**
ARBE				*e*S	**Sg**	**10 47 49.8**	**+0.2**
HEL1	**Helsinki**	**0.72**	**6**	*e*P	**Pg**	**10 47 43.0**	**+0.2**
HEL1				*e*S	**Sg**	**10 47 52.4**	**+0.3**
MEF	**Metsahovi**	**0.77**	**348**	*e*P	**Pg**	**10 47 43.9**	**+0.1**
MEF	**Metsahovi**	**0.77**	**348**	*e*P	**Pg**	**10 47 44.1**	**+0.3**
MEF				*e*S	**Sg**	**10 47 53.1**	**-0.8**
MEF				AML	AML	10 48 01.2	
	comp=Z,47nm,0.9s						
MEF				AML	AML	10 48 01.9	
	comp=N,43nm,0.7s						
MEF				AML	AML	10 48 04.0	
	comp=E,42nm,0.2s						
MEF	**Metsahovi**	**0.77**	**348**	*e*P	**Pg**	**10 47 44.1**	**+0.3**
MEF				MSG		10 47 54.1	
	comp=Z,32nm,0.2s						
MEF				*e*S	**Sg**	**10 47 54.2**	**+0.3**
EE08	**Sarghaua, Vand**	**0.85**	**162**	*e*P	**Pg**	**10 47 45.9**	**+0.6**
EE08				*e*S	**Sg**	**10 47 56.9**	**+0.5**
MTSE	**Matsula**	**0.89**	**212**	*e*P	**Pg**	**10 47 46.5**	**+0.4**
MTSE	**Matsula**	**0.89**	**212**	*e*P	**Pg**	**10 47 46.5**	**+0.4**
MTSE				*e*S	**Sg**	**10 47 58.5**	**+0.9**
MTSE	**Matsula**	**0.89**	**212**	*e*P	**Pg**	**10 47 46.5**	**+0.4**
MTSE				*e*SB	**Sg**	**10 47 58.9**	**+1.4**
EE03	**Tooma soojaam,**	**0.99**	**126**	*e*P	**Pg**	**10 47 48.0**	**-0.1**
NUR	**Nurmijrvi**	**1.05**	**358**	*e*P	**Pg**	**10 47 49.0**	**-0.2**
NUR				MSG		10 48 01.9	
	comp=Z,44nm,0.2s						
NUR				*e*SN	**Sn**	**10 48 08.4**	**+2.1**
PVF	**Pernaja**	**1.22**	**27**	*e*P	**Pg**	**10 47 52.0**	**-0.4**
PVF				MSG		10 48 06.8	
	comp=Z,16nm,0.2s						
PVF				*e*SN	**Sn**	**10 48 12.6**	**+1.9**
VSU	**Vasula**	**1.45**	**133**	*e*P	**Pn**	**10 47 56.3**	**-0.1**
VSU				*e*S	**Sg**	**10 48 15.1**	**-0.3**
VSU				AML	AML	10 48 21.2	
	comp=N,43nm,0.4s						
VSU				AML	AML	10 48 21.3	
	comp=Z,22nm,0.2s						
VSU				AML	AML	10 48 27.2	
	comp=E,48nm,0.4s						
VSU	**Vasula**	**1.45**	**133**	*e*P	**Pn**	**10 47 56.2**	**-0.1**
VJF	**Virojoki**	**1.78**	**52**	*e*P	**Pn**	**10 48 01.6**	**+0.6**
VJF				MSG		10 48 22.8	
	comp=Z,18nm,0.2s						
VJF				*e*SN	**Sb**	**10 48 25.4**	**0.0**
FIA0	**FINESS Array S**	**2.10**	**18**	*e*PG	**Pb**	**10 48 07.5**	**-0.4**
FIA0				MSG		10 48 31.9	
	comp=Z,14nm,0.2s						
FIA0				*e*SB	**Sb**	**10 48 33.8**	**-0.6**
FINES	**FINESS Array B**	**2.10**	**18**	Pg	**Pb**	**10 48 07.1**	**-0.8**
	comp=Z,4.1nm,0.3s,baz=196,slow=14,SNR=302						
FINES				Lg	Lg	10 48 33.7	
	comp=Z,3.9nm,0.3s,baz=202,slow=27,SNR=18						
FIA1	**FINESS Array S**	**2.10**	**18**	*e*PG	**Pb**	**10 48 07.5**	**-0.4**
RAF	**Rauma**	**2.15**	**318**	*e*P	**Pb**	**10 48 08.3**	**-0.6**
RAF	**Rauma**	**2.15**	**318**	*e*P	**Pb**	**10 48 08.1**	**-0.7**
RAF				AML	AML	10 48 38.7	
	comp=E,28nm,0.4s						
RAF				AML	AML	10 48 39.4	
	comp=Z,29nm,0.4s						
RAF				AML	AML	10 48 39.8	
	comp=N,23nm,0.1s						
RAF	**Rauma**	**2.15**	**318**	*e*PB	**Pb**	**10 48 08.1**	**-0.7**
RAF				MSG		10 48 33.7	
	comp=Z,20nm,0.2s						
RAF				*e*SG	**Sb**	**10 48 36.8**	**+0.8**
SLIT	**Slitere, Latvi**	**2.24**	**216**	*e*P	**Pb**	**10 48 09.6**	**-0.8**
SLIT	**Slitere, Latvi**	**2.24**	**216**	*e*P	**Pb**	**10 48 09.9**	**-0.5**
SLIT				AML	AML	10 48 10.0	
	comp=Z,134nm,0.1s						
SLIT				AML	AML	10 48 42.1	
	comp=N,217nm,0.4s						
SLIT				AML	AML	10 48 42.8	
	comp=E,203nm,0.3s						
SLIT	**Slitere, Latvi**	**2.24**	**216**	*e*PG	**Pb**	**10 48 09.7**	**-0.7**
AAL	**Aland**	**2.50**	**289**	*e*P	**Pn**	**10 48 12.0**	**+1.1**
AAL	**Aland**	**2.50**	**289**	*e*P	**Pn**	**10 48 11.7**	**+0.9**
AAL				*e*PB	**Pb**	**10 48 13.5**	**-1.2**
AAL				*e*SB	**Sb**	**10 48 46.0**	**+0.1**
AAL	**Aland**	**2.50**	**289**	P	**Pn**	**10 48 11.8**	**+0.9**
AAL				S	**Sb**	**10 48 46.1**	**+0.1**
AAL	**Aland**	**2.50**	**289**	P	**Pn**	**10 48 11.8**	**+0.9**
AAL				S	**Sb**	**10 48 46.1**	**+0.1**
KEF	**Keuruu**	**2.71**	**1**	*e*P	**Pn**	**10 48 16.3**	**+2.5**
KEF	**Keuruu**	**2.71**	**1**	*e*PB	**Pb**	**10 48 16.9**	**-1.4**
KEF				MSG		10 48 49.8	
	comp=Z,7.2nm,0.2s						
KEF				*e*SG	**Sb**	**10 48 52.8**	**+0.6**
KPF	**Kankaanpaa**	**2.71**	**332**	*e*PB	**Pn**	**10 48 16.3**	**+2.5**
KPF				*e*SB	**Sb**	**10 48 51.9**	**-0.3**
KAF	**Kangasniemi**	**2.77**	**16**	*e*P	**Pn**	**10 48 16.0**	**+1.4**
KAF				MSG		10 48 51.3	
	comp=Z,7.7nm,0.2s						
KAF				*e*SB	**Sb**	**10 48 54.1**	**+0.3**
RUF	**Ruokolahti**	**2.87**	**45**	*e*P	**Pn**	**10 48 16.4**	**+0.4**
RUF				MSG		10 48 54.2	
	comp=Z,7.8nm,0.2s						
RUF				*e*SG	**Sb**	**10 48 58.4**	**+1.7**
NRTU	**Norrtaelje**	**3.11**	**277**	P	**Pn**	**10 48 20.0**	**+0.7**
NRTU	**Norrtaelje**	**3.11**	**277**	P	**Pn**	**10 48 20.0**	**+0.7**
GRAU	**Graesoe**	**3.24**	**288**	P	**Pn**	**10 48 21.5**	**+0.5**
GRAU	**Graesoe**	**3.24**	**288**	P	**Pn**	**10 48 21.5**	**+0.5**
NYNU	**Nynaeshamn**	**3.48**	**265**	P	**Pn**	**10 48 25.9**	**+1.5**
NYNU	**Nynaeshamn**	**3.48**	**265**	P	**Pn**	**10 48 25.9**	**+1.5**
FLYU	**Flymyra**	**3.52**	**284**	P	**Pn**	**10 48 25.5**	**+0.5**
FLYU	**Flymyra**	**3.52**	**284**	P	**Pn**	**10 48 25.5**	**+0.5**
VAF	**Vulstaro**	**3.72**	**345**	*e*P	**Pn**	**10 48 29.8**	**+2.1**
FIBU	**Brunna**	**3.77**	**280**	P	**Pn**	**10 48 29.1**	**+0.9**
FIBU	**Brunna**	**3.77**	**280**	P	**Pn**	**10 48 29.1**	**+0.9**
BACU	**Backbrunna**	**3.89**	**279**	P	**Pn**	**10 48 30.7**	**+0.7**
BACU	**Backbrunna**	**3.89**	**279**	P	**Pn**	**10 48 30.7**	**+0.7**
OSTU	**Oestervaala**	**3.91**	**285**	P	**Pn**	**10 48 31.0**	**+0.8**
OSTU				S	**Sn**	**10 49 17.6**	**+0.9**
OSTU	**Oestervaala**	**3.91**	**285**	P	**Pn**	**10 48 31.0**	**+0.8**
OSTU				S	**Sn**	**10 49 17.6**	**+0.9**
IGGU	**Iggoen**	**3.96**	**294**	P	**Pn**	**10 48 31.8**	**+0.8**
IGGU	**Iggoen**	**3.96**	**294**	P	**Pn**	**10 48 31.8**	**+0.8**
VIKU	**Vikbolandet**	**4.26**	**260**	*e*P	**Pn**	**10 48 35.8**	**+0.7**
HEMU	**Hemsoen**	**4.58**	**318**	*e*P	**Pn**	**10 48 40.8**	**+1.4**
JOF	**Joensuu**	**4.71**	**40**	*e*P	**Pn**	**10 48 39.9**	**-1.3**
JOF	**Joensuu**	**4.71**	**40**	*e*P	**Pn**	**10 48 41.5**	**+0.3**
HFS	**Hagfors**	**5.61**	**282**	Pn	**Pn**	**10 48 53.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=96,slow=15,SNR=24						
HFS				Sn	**Sn**	**10 49 58.4**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=89,slow=27,SNR=6.8						
HFS				Lg	Lg	10 50 25.7	
	comp=Z,0.9nm,0.3s,baz=87,slow=30,SNR=7.1						
	comp=Z,0.8nm,0.3s						
BLEU	**Blekinge**	**5.71**	**240**	*i* P	**Pn**	**10 48 55.5**	**+0.4**
BLEU				*i* S	**Sn**	**10 50 00.9**	**-0.3**
DEL	**Delary**	**6.51**	**247**	*i* P	**Pn**	**10 49 06.0**	**0.0**
BORU	**Boraas**	**6.52**	**259**	*i* S	**Sn**	**10 50 21.3**	**+0.2**
FABU	**Falkenberg**	**6.80**	**254**	*i* P	**Pn**	**10 49 12.4**	**+2.4**
FABU				*i* S	**Sn**	**10 50 25.6**	**-2.5**
BSD	**Bornholm Skovb**	**6.88**	**235**	*e*P	**Pn**	**10 49 10.0**	**-1.0**
BSD				*i* S	**Sn**	**10 50 26.1**	**-3.7**
BSD				IAML		10 50 44.2	
	comp=Z,4.5nm,0.9s						
NOA	**NORSAR Array B**	**6.91**	**289**	Pn	**Pn**	**10 49 10.9**	**-0.6**
	baz=95,slow=17,SNR=6.7						
NOA				Sn	**Sn**	**10 50 26.7**	**-4.0**
	baz=103,slow=18,SNR=1.2						
NOA				Lg	Lg	10 51 06.9	
	baz=69,slow=20,SNR=4.4						
	comp=Z,0.2nm,0.5s						
TJOU	**Tjoern**	**6.97**	**264**	*e*P	**Pn**	**10 49 12.4**	**+0.2**
ONAU	**Onsala**	**7.04**	**258**	*i* P	**Pn**	**10 49 13.6**	**+0.4**
BJUU	**Bjuv**	**7.12**	**247**	*i* P	**Pn**	**10 49 14.2**	**-0.1**
BJUU				*i* S	**Sn**	**10 50 32.8**	**-3.1**
ARCES	**ARCESS Array B**	**10.12**	**2**	Pn	**Pn**	**10 49 53.5**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=10						
	comp=Z,1.3nm,0.8s						

*IDC **19** 10:56:57.3±2.2, 7°.09S×128°.88E, h0km, mb3.4/1, mbtmp4.0/4, ML4.3/3, Error ellipse: s-maj=50.7km s-min=33.0km az=72.0*

ISC 19 10:57:09.3±3.0, **8°.0S**±0°.2×**128°.5E**±0°.1, **h100km**, **n14**, σ2 **27/10**, **Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.05**	**152**	P	Pn	10 58 30.1	+7.4
BATI	**Baumata**	**5.26**	**244**	Pn	**Pn**	**10 58 26.3**	**+0.7**
	18nm,0.3s,baz=259,slow=1.1,SNR=36						
BATI				Sn	**Sn**	**10 59 23.1**	**-2.0**
	23nm,0.3s,baz=2.7,slow=22,SNR=9.5						
	44nm,0.3s						
MTN	**Manton Dam**	**5.52**	**152**	P	Pn	10 58 36.5	+7.4
LUWI	**Luwuk**	**8.91**	**320**	P	Pn	10 59 47.2	+32
WRA	**Warramunga Arr**	**13.21**	**155**	Pn	**P**	**11 00 15.6**	**-3.6**
	1.6nm,0.3s,baz=340,slow=12,SNR=28						
WRA				Sn	**Sn**	**11 02 39.1**	**+0.8**
	1.5nm,0.3s,baz=330,slow=23,SNR=10						
	1.4nm,0.3s						
ASAR	**Alice Springs**	**16.47**	**162**	P	P	11 00 59.1	+3.6
	0.5nm,0.3s,baz=338,slow=11,SNR=28						
ASAR				S	**Sn**	**11 03 56.4**	**-0.9**
	0.8nm,0.4s,baz=337,slow=28,SNR=6.6						
	1.8nm,0.5s						
AS01	**Alice Springs**	**16.48**	**162**	P	**P**	**11 00 58.2**	**+2.6**
QIS	**Mount Isa**	**16.52**	**141**	P	P	11 01 00.3	+4.3
WRKA	**Warakurna**	**17.00**	**181**	P	**Pn**	**11 01 02.1**	**+1.2**
MEEK	**Meekatharra**	**20.82**	**206**	P	**P**	**11 01 44.2**	**+1.3**
OOD	**Oodnadatta**	**20.88**	**162**	P	P	11 01 47.6	+4.1
FORT	**Forrest**	**22.72**	**181**	P	**P**	**11 02 04.7**	**+1.9**
MULG	**Mulgathing**	**22.82**	**167**	P	**P**	**11 02 05.9**	**+2.0**
MKAR	**Makanchi Array**	**68.20**	**328**	P	P	11 07 56.8	-2.3
	0.2nm,0.5s,baz=131,slow=7.9,SNR=1.3						
	0.2nm,0.5s						

*JMA **19** 10:59:40.9±0.3, 28°.1N±0°.5×128°.0E±0°.6, h17km±3km, MV3.2/13, NW OFF OKINAWAJIMA IS*
*IDC **19** 10:59:42.2±3.9, 27°.63N×127°.06E, h0km, mb3.7/5, mbtmp3.7/5, MS3.1/5, Error ellipse: s-maj=221.2km s-min=28.8km az=64.0*

ISC 19 10:59:40.8±1.7, **28°.10N**±0°.05×**128°.04E**±0°.06, **h6km**±11km, **n20**, σ0.6 **65/23**, **mb3.7/5**, **Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.87**	**111**	P	**Pb**	**10 59 58.4**	**+0.2**
JTK				S	**Sb**	**11 00 10.6**	**+0.5**
JOKE	**Okinoerabujima**	**0.88**	**147**	*i* P	**Pb**	**10 59 58.3**	**-0.1**
JOKE				S	**Sb**	**11 00 10.8**	**+0.5**
JAMN	**Amaminishikomi**	**1.01**	**82**	*i* P	**Pb**	**11 00 00.7**	**-0.1**
JAMN				S	**Sb**	**11 00 14.9**	**+0.6**
JIH	**Iheya**	**1.06**	**183**	*i* P	**Pg**	**11 00 01.1**	**-0.1**
JIH				S	**Sg**	**11 00 15.9**	**+0.9**
JYRO	**Yoronjima**	**1.13**	**161**	*i* P	**Pg**	**11 00 02.4**	**-0.1**
JYRO				S	**Sb**	**11 00 18.5**	**+0.8**
JOW	**Kunigami**	**1.28**	**170**	P	**Pn**	**11 00 04.6**	**-0.6**
JOW				S	**Sg**	**11 00 21.5**	**-0.5**
JAM	**Amami Oshima**	**1.42**	**77**	P	**Pg**	**11 00 07.8**	**-0.2**
JAM				S	**Sn**	**11 00 26.1**	**0.0**
JTAJ	**Takarajima**	**1.47**	**44**	*e*P	**Pn**	**11 00 06.9**	**-0.8**
JNTH	**Nagotoyohara**	**1.57**	**180**	P	**Pn**	**11 00 09.0**	**-0.3**
JNTH				*e*S	**Sn**	**11 00 29.2**	**-0.8**
JAGN	**Aguni-jima**	**1.66**	**205**	P	**Pn**	**11 00 09.7**	**-0.7**
KSRS	**Korea Array**	**9.33**	**359**	LR	LR	11 05 44.7	
	comp=Z,61nm,18.1s,baz=170,slow=37						
MJAR	**Matsushiro Arr**	**12.03**	**43**	LR	LR	11 07 52.5	
	comp=Z,57nm,18.8s,baz=217,slow=38						
TGY	**Tagaytay City**	**15.42**	**207**	LR	LR	11 08 36.6	
	comp=Z,60nm,21.9s,baz=12,slow=37						
SONM	**Songino Array**	**25.91**	**325**	P	**P**	**11 05 15.2**	**+1.6**
	0.6nm,0.4s,baz=132,slow=8.0,SNR=5.2						
	0.6nm,0.4s						
MA2	**Magadan**	**35.11**	**20**	LR	LR	11 23 19.0	
	comp=Z,26nm,18.6s,baz=226,slow=40						
MKAR	**Makanchi Array**	**40.18**	**310**	P	**P**	**11 07 18.1**	**+0.3**
	0.9nm,0.8s,baz=108,slow=7.8,SNR=5.4						
	0.9nm,0.8s						
KURBB	**Kurchatov Arra**	**43.40**	**315**	P	**P**	**11 07 43.7**	**-0.3**
	0.5nm,0.5s,baz=102,slow=8.8,SNR=3.6						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**48.15**	**172**	P	**P**	**11 08 21.5**	**-0.3**
	0.7nm,0.8s,baz=350,slow=8.3,SNR=2.9						
	0.7nm,0.8s						
BVAR	**Borovoye Array**	**48.78**	**317**	P	**P**	**11 08 26.0**	**-0.4**
	0.6nm,0.5s,baz=110,slow=6.3,SNR=2.5						
	0.6nm,0.5s						
YKA	**Yellowknife Ar**	**76.91**	**25**	LR	LR	11 51 57.8	
	comp=Z,40nm,18.9s,baz=14,slow=40						

*ROM **19** 11:01:56.5±0.1, 37°.684N±0°.006×15°.880E±0°.009, h31km, ML3.0/84, Error ellipse: s-maj=1.0km s-min=0.3km az=310.0*
*THE **19** 11:02:03.5, 37°.68N×16°.73E, h10km±38km, ML3.0/1, Error ellipse: s-maj=51.3km s-min=3.4km az=246.0*

ISC 19 11:01:56.2±1.2, **37°.67N**±0°.03×**15°.94E**±0°.03, **h34km**±2km, **n62**, σ1 **16/81**, **Sicily**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOI	**Samo**	**0.41**	**13**	P	**Pn**	**11 02 06.0**	**+0.3**
SOI				S	**Sb**	**11 02 12.3**	**+0.5**
SOI				AML	AML		
	comp=E,3405μm,1.3s						
SOI				AML	AML		
	comp=N,2035μm,0.8s						
SOI				AML	AML		
	comp=E,3405μm,0.7s						
CEL	**Celeste**	**0.59**	**356**	P	**Pb**	**11 02 08.2**	**-0.1**
CEL				S	**Sn**	**11 02 17.1**	**+0.5**
CEL				AML	AML		
	comp=E,3285μm,0.4s						
CEL				AML	AML		
	comp=N,2960μm,0.5s						
CEL				AML	AML		
	comp=N,2380μm,1.1s						
CEL				AML	AML		
	comp=N,2960μm,1.5s						
CEL				AML	AML		
	comp=E,4020μm,0.5s						
AIO	**Antillo**	**0.64**	**298**	P	**Pb**	**11 02 08.5**	**-0.5**
AIO				S	**Sb**	**11 02 17.5**	**-0.4**
AIO				AML	AML		
	comp=E,1865μm,0.4s						
AIO				AML	AML		
	comp=N,1625μm,0.7s						
MPNC	**Port Mandanici**	**0.66**	**316**	P	**Pb**	**11 02 08.8**	**-0.7**
MPNC				S	**Sb**	**11 02 18.1**	**-0.5**
MPNC				AML	AML		
	comp=N,3870μm,0.6s						
MPNC				AML	AML		
	comp=E,5480μm,0.3s						
EPOZ	**Pozzillo**	**0.70**	**257**	P	**Pn**	**11 02 08.3**	**-1.3**
EPOZ				S	**Sb**	**11 02 16.2**	**-3.2**
EPOZ				AML	AML		
	comp=N,3790μm,0.8s						
EPOZ				AML	AML		
	comp=E,2595μm,0.4s						
EPOZ				AML	AML		
	comp=N,3790μm,1.2s						
EPOZ				AML	AML		
	comp=E,2595μm,1.6s						
AGST	**Augusta-Monte**	**0.70**	**234**	P	**Pn**	**11 02 10.1**	**+0.4**
AGST				S	**Sb**	**11 02 19.0**	**-0.6**
AGST				AML	AML		
	comp=E,2890μm,0.2s						
AGST				AML	AML		
	comp=N,3110μm,0.6s						
AGST				AML	AML		
	comp=N,3110μm,1.4s						
NOV	**Novara**	**0.73**	**299**	P	**Pn**	**11 02 09.9**	**-0.2**
NOV				S	**Sb**	**11 02 19.8**	**-0.5

HLNI S **Sn** **11 02 24.9 +0.5**
HLNI AML AML
comp=N,1750μm,1.3s
HLNI AML AML
comp=E,2455μm,0.2s
HLNI AML AML
comp=N,1750μm,0.7s
MUCR Ucria 0.92 294 P **Pn** **11 02 12.9 +0.1**
MUCR AML AML
comp=E,550μm,0.7s
MUCR AML AML
comp=N,912μm,0.3s
JOPP Joppolo 0.93 357 P **Pn** **11 02 13.5 +0.5**
JOPP S **Sb** **11 02 26.9 +0.8**
JOPP AML AML
comp=N,1470μm,0.4s
JOPP AML AML
comp=E,952μm,0.8s
JOPP AML AML
comp=E,952μm,1.2s
MEU Monte Lauro 0.99 235 P **Pn** **11 02 14.5 +0.8**
MEU S **Sb** **11 02 28.1 +0.4**
MEU AML AML
comp=E,1570μm,1.5s
MEU AML AML
comp=E,1570μm,0.5s
MEU AML AML
comp=N,2260μm,0.3s
MNO Monte Soro 1.02 285 P **Pn** **11 02 14.8 +0.6**
MNO AML AML
comp=E,778μm,0.5s
MNO AML AML
comp=E,778μm,0.5s
MNO AML AML
comp=N,880μm,0.4s
VPL Vulcano Piano 1.03 313 P **Pn** **11 02 14.8 +0.5**
VPL AML AML
comp=E,1850μm,0.4s
VPL AML AML
comp=N,2205μm,0.5s
VPL AML AML
comp=E,1850μm,1.6s
IVGP Vulcano Grotta 1.06 313 P **Pn** **11 02 14.8 +0.1**
GALF Gagliano Caste 1.09 272 P **Pn** **11 02 16.1 +1.0**
GALF AML AML
comp=E,594μm,0.3s
GALF AML AML
comp=N,560μm,0.4s
GALF AML AML
comp=N,560μm,1.6s
HVZN Vizzini 1.09 244 P **Pn** **11 02 16.1 +0.9**
HVZN S **Sn** **11 02 30.6 +1.4**
LLI Lipari 1.10 315 P **Pn** **11 02 15.8 +0.6**
LLI AML AML
comp=E,2250μm,1.4s
LLI AML AML
comp=N,4070μm,0.4s
CAGR Agira 1.15 268 P **Pb** **11 02 17.5 +0.1**
CAGR AML AML
comp=N,644μm,0.6s
CAGR AML AML
comp=E,708μm,0.5s
HMDC Modica 1.17 233 P **Pn** **11 02 16.7 +0.6**
HMDC S **Sn** **11 02 31.3 +0.4**
HMDC AML AML
comp=E,649μm,0.7s
HMDC AML AML
comp=N,718μm,1.4s
HPAC Pachino 1.18 214 P **Pb** **11 02 17.8 -0.2**
HPAC S **Sb** **11 02 33.1 +0.2**
GRI Girifalco 1.21 18 P **Pb** **11 02 18.2 -0.3**
RAFF Raffo Rosso 1.33 251 P **Pn** **11 02 19.5 +1.1**
RAFF AML AML
comp=N,674μm,0.2s
RAFF AML AML
comp=E,780μm,0.7s
RAFF AML AML
comp=N,674μm,1.8s
IFIL Filicudi I Eol 1.40 310 P **Pn** **11 02 19.1 -0.3**
PETRA Petralia Sopra 1.46 277 P **Pn** **11 02 21.9 +1.6**
PETRA AML AML
comp=N,328μm,1.1s
PETRA AML AML
comp=N,328μm,0.9s
PETRA AML AML
comp=E,282μm,0.7s
PLLN Pollina 1.46 283 P **Pn** **11 02 21.6 +1.5**
SERS Sersale 1.48 23 P **Pb** **11 02 22.7 -0.5**
SERS AML AML
comp=E,172μm,0.6s
SERS AML AML
comp=N,126μm,0.5s
SERS AML AML
comp=E,172μm,1.4s
CSLB Castelbuono 1.52 281 P **Pn** **11 02 22.2 +1.3**
CSLB AML AML
comp=E,69μm,0.6s
CSLB AML AML
comp=N,95μm,0.4s
CSLB AML AML
comp=N,95μm,1.6s
CSLB AML AML
comp=E,69μm,1.4s
IACL Alicudi 1.52 305 P **Pn** **11 02 21.2 +0.3**
IACL AML AML
comp=N,437μm,1.5s
IACL AML AML
comp=E,545μm,0.7s
IACL AML AML
comp=N,437μm,0.5s
CAR1 CAROLEI 1.59 8 P **Pn** **11 02 22.6 +0.5**
CAR1 AML AML
comp=N,472μm,0.7s
CAR1 AML AML
comp=N,472μm,1.3s
CAR1 AML AML
comp=E,503μm,0.5s
TIP Timpagrande 1.64 23 P **Pn** **11 02 24.5 +1.9**
TIP AML AML
comp=E,89μm,1.1s
TIP AML AML
comp=N,152μm,0.6s
SPS2 Spezzano della 1.65 11 AML AML
comp=N,113μm,0.8s
SPS2 AML AML
comp=E,119μm,1.0s
ALJA Alia 1.74 273 P **Pn** **11 02 26.0 +2.0**
CET2 Cetraro 1.85 0 P **Pn** **11 02 25.9 +0.3**
CET2 AML AML
comp=E,291μm,0.6s
CET2 AML AML
comp=N,505μm,0.7s
CET2 AML AML
comp=E,291μm,1.4s
PIPA Pietrapaola 1.94 20 P **Pn** **11 02 29.2 +2.5**
PIPA AML AML
comp=E,148μm,0.7s
PIPA AML AML
comp=N,92μm,1.0s
PIPA AML AML
comp=N,92μm,1.0s
PIPA AML AML
comp=E,148μm,1.3s
GRIS Grisolia 2.07 358 P **Pn** **11 02 29.4 +0.8**
SALB San Lorenzo Be 2.22 8 P **Pn** **11 02 32.2 +1.5**
CUC Castrocucco 2.32 358 AML AML
comp=N,140μm,1.4s
CUC AML AML
comp=E,138μm,1.4s
CUC AML AML
comp=N,140μm,0.6s
CUC AML AML
comp=N,132μm,0.9s
CUC AML AML
comp=E,138μm,0.6s
CUC AML AML
comp=E,122μm,0.5s
BULG Bulgheria - Ca 2.44 350 P **Pn** **11 02 34.1 +0.4**
MGR Morigerati 2.48 353 P **Pn** **11 02 34.9 +0.7**
MGR AML AML
comp=E,83μm,1.5s
MGR AML AML
comp=N,72μm,1.2s
MGR AML AML
comp=E,83μm,0.5s
CMPR Campora 2.69 350 AML AML
comp=N,54μm,0.4s
CMPR AML AML
comp=E,63μm,0.3s
MIGL Miglionico 2.95 7 P **Pn** **11 02 42.6 +1.9**
LTRZ Laterza 3.00 13 P **Pn** **11 02 42.1 +0.7**
MATE Matera 3.03 11 P **Pn** **11 02 42.4 +0.7**
MATE AML AML
comp=N,56μm,0.5s
MATE AML AML
comp=E,60μm,0.1s
TAR1 Taranto 3.04 20 P **Pn** **11 02 42.1 +0.3**
SCTE Santa Cesarea 3.10 39 P **Pn** **11 02 43.0 +0.3**
NOCI Noci 3.23 15 P **Pn** **11 02 44.6 +0.1**
NOCI AML AML
comp=E,90μm,0.6s
NOCI AML AML
comp=N,156μm,0.5s
NOCI AML AML
comp=N,156μm,1.5s
AMUR Altamura 3.27 9 P **Pn** **11 02 45.8 +0.7**
AMUR AML AML
comp=E,58μm,1.2s
AMUR AML AML
comp=N,60μm,0.7s
AMUR AML AML
comp=E,58μm,0.8s
DMLN Damoulianata-K 3.55 79 P **Pn** **11 02 50.8 +1.9**
DMLN S **Sn** **11 03 25.2 -4.4**
DRAG Dragano-Lefkad 3.79 73 P **Pn** **11 02 53.0 +0.9**
DRAG S **Sn** **11 03 33.3 -2.2**
EVGI Lefkada island 3.84 74 P **Pn** **11 02 53.9 +1.1**
EVGI S **Sn** **11 03 34.2 -2.5**
comp=E,85nm,0.1s
IGT Igoumenitsa 3.91 60 P **Pn** **11 02 56.1 +2.3**
IGT S **Sn** **11 03 36.9 -1.6**
VVLD Villa Vallelon 4.56 338 AML AML
comp=N,20μm,1.2s
VVLD AML AML
comp=E,27μm,0.4s
VVLD AML AML
comp=N,20μm,0.8s
MORI Morici 6.19 358 *e*Pn **Pn** **11 03 25.6 +0.5**
KIJV Kijevo 6.34 3 *e*Pn **Pn** **11 03 27.5 +0.4**
KIJV Sn **Sn** **11 04 37.2 -1.1**
DUGI Dugi Otok 6.35 354 *e*Pn **Pn** **11 03 28.1 +0.8**

*IDC **19** 11:30:50.0±1.0,56°.66S×27°.07W,h0km,mb3.9/3,*
mbtmp3.8/4,ML3.4/1,Error ellipse: s-maj=69.4km
s-min=26.1km az=90.0
ISC 19 11:31:03.1±1.0,56.9S±0.2×26.6W±0.4,h100km,n7,
σ0.8s34/9,mb3.6/3,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**17.88**	**155**	P		**P**		**11 35 04.0**	**-0.2**
	0.1nm,0.3s,baz=298,slow=11,SNR=7.5								
SNAA				PcP		**PcP**		**11 39 35.6**	**+0.4**
	0.5nm,0.6s,baz=0.0,slow=1.0,SNR=0.8								
	1.4nm,0.6s								
QSPA	**South Pole Qui**	**33.40**	**180**	P		**P**		**11 37 31.9**	**+0.2**
	2.8nm,0.4s,baz=164,slow=2.7,SNR=57								
QSPA				PcP		**PcP**		**11 40 10.7**	**+0.1**
	1.0nm,0.5s,baz=264,slow=0.8,SNR=5.8								
	2.8nm,0.4s								
VNDA	**Vanda**	**45.79**	**183**	P		**P**		**11 39 14.0**	**0.0**
	0.5nm,0.5s,baz=184,slow=6.9,SNR=4.2								
	0.5nm,0.5s								
TORD	**Torodi Ar. Bea**	**73.59**	**29**	P		**P**		**11 42 25.4**	**+0.3**
	0.4nm,0.8s,baz=208,slow=6.8,SNR=1.8								
	0.4nm,0.8s								
YKA	**Yellowknife Ar**	**136.99**	**317**	PKP		**PKPdf**		**11 50 12.2**	**-0.3**
	0.6nm,0.9s,baz=116,slow=1.6,SNR=5.4								
SONM	**Songino Array**	**150.43**	**87**	PKPbc		**PKPbc**		**11 50 41.5**	**-0.5**
	1.0nm,0.7s,baz=225,slow=3.5,SNR=2.2								
ILAR	**Eielson Array**	**150.89**	**310**	PKPbc		**PKPbc**		**11 50 42.1**	**-0.2**
	0.9nm,0.5s,baz=123,slow=1.1,SNR=24								

*SJA **19** 11:36:31.0±0.9,24°.76S×70°.23W,h67km±4km,ML3.8,*
MW3.8
*GUC **19** 11:36:31.8±0.8,24°.71S×70°.18W,h71km±4km,ML3.9*
*IDC **19** 11:36:33.3±0.9,24°.72S×70°.09W,h70km±7km,mb3.3/3,*
mbtmp3.8/6,Error ellipse: s-maj=40.1km s-min=10.8km
az=114.0
ISC 19 11:36:32.0±0.7,24°.73S±0°.03×70°.22W±0°.05,h64km±5km,
n34,σ1.1s24/54,mb3.8/4,1C-1D,Near coast of northern
Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PB14	**IPOC Station P**	**0.19**	**301**	*i* P		**Pn**		**11 36 42.8**	**+0.6**
PB14				*e*S		**Sn**		**11 36 50.9**	**+1.2**
PB14				IAML				11 36 51.2	
	comp=Z,7μm,0.2s								
PB14	**IPOC Station P**	**0.19**	**301**	⇓ *i* P		**Pn**		**11 36 42.9**	**+0.6**
PB14				*e*S		**Sn**		**11 36 50.4**	**+0.7**
PB14				IAML				11 36 51.3	
	comp=E,6μm,0.4s								
GO02	**Mina Guanaco**	**0.72**	**127**	*i* P		**Pn**		**11 36 47.2**	**+0.1**
GO02				*e*S		**Sn**		**11 36 58.7**	**+0.6**
GO02	**Mina Guanaco**	**0.72**	**127**	*e*P		**Pn**		**11 36 47.2**	**+0.1**
GO02				IAML				11 36 59.6	
	comp=E,7μm,0.4s								
PB10	**IPOC Station P**	**1.24**	**346**	*i* P		**Pn**		**11 36 53.5**	**+0.1**
PB10				*e*S		**Sn**		**11 37 11.1**	**+1.7**
PB10				IAML				11 37 14.9	
	comp=Z,691nm,0.3s								
PB10	**IPOC Station P**	**1.24**	**346**	⇑ *i* P		**Pn**		**11 36 53.4**	**0.0**
PB10				*e*S		**Sn**		**11 37 09.9**	**+0.5**
AC01	**Pan de Azucar**	**1.46**	**193**	*i* P		**Pn**		**11 36 56.5**	**+0.2**
AC01				*e*S		**Sn**		**11 37 14.8**	**+0.3**
AC01				IAML				11 37 20.7	
	comp=Z,1μm,0.3s								
AC01	**Pan de Azucar**	**1.46**	**193**	*e*P		**Pn**		**11 36 56.9**	**+0.7**
AC01				*e*S		**Sn**		**11 37 15.9**	**+1.5**
AC01				IAML				11 37 21.0	
	comp=E,3μm,0.6s								
PB15	**IPOC Station P**	**1.66**	**25**	*i* P		**Pn**		**11 37 00.3**	**+1.2**
PB15				*e*S		**Sn**		**11 37 21.9**	**+2.3**
PB15	**IPOC Station P**	**1.66**	**25**	*e*P		**Pn**		**11 36 59.5**	**+0.4**
PB15				*e*S		**Sn**		**11 37 19.7**	**+0.1**
PB06	**IPOC Station P**	**2.10**	**17**	*i* P		**Pn**		**11 37 05.6**	**+0.6**
PB06				*e*S		**Sn**		**11 37 32.5**	**+2.4**
PB06				IAML				11 37 37.8	
	comp=Z,858nm,0.2s								
PB06	**IPOC Station P**	**2.10**	**17**	*e*P		**Pn**		**11 37 04.5**	**-0.5**
PB06				*e*S		**Sn**		**11 37 30.0**	**-0.1**
PB06				IAML				11 37 35.3	
	comp=E,1μm,0.4s								
PB04	**IPOC Station P**	**2.38**	**2**	*i* P		**Pn**		**11 37 07.8**	**-1.0**
PB04				*e*S		**Sn**		**11 37 39.5**	**+2.5**
PB04				IAML				11 37 56.0	
	comp=Z,858nm,0.4s								
PB04	**IPOC Station P**	**2.38**	**2**	*e*P		**Pn**		**11 37 07.9**	**-1.0**
PB04				IAML				11 37 46.2	
	comp=E,1μm,0.2s								
LVC	**Limon Verde**	**2.42**	**30**	*i* P		**Pn**		**11 37 10.1**	**+0.4**
LVC				*e*S		**Sn**		**11 37 41.3**	**+2.9**
LVC				IAML				11 37 45.2	
	comp=Z,538nm,0.5s								
LVC	**Limon Verde**	**2.42**	**30**	P		**Pn**		**11 37 09.7**	**0.0**
	comp=Z,87nm,0.3s,baz=176,slow=11,SNR=76								
LVC				S		**Sn**		**11 37 39.2**	**+0.8**
	comp=Z,433nm,0.4s,baz=151,slow=10,SNR=12								
LVC	**Limon Verde**	**2.42**	**30**	*e*P		**Pn**		**11 37 09.6**	**0.0**
LVC				*e*S		**Sn**		**11 37 38.6**	**+0.2**
AF01	**San Pedro de A**	**2.57**	**47**	*e*P		**Pn**		**11 37 12.0**	**+0.5**
AC06	**Mina Casimiro**	**2.62**	**183**	*e*P		**Pn**		**11 37 12.5**	**+0.5**
PB07	**IPOC Station P**	**3.00**	**6**	*i* P		**Pn**		**11 37 17.6**	**+0.2**
PB07				*e*S		**Sn**		**11 37 54.5**	**+2.3**
PB07				IAML				11 38 06.8	
	comp=Z,557nm,0.4s								
PB09	**IPOC Station P**	**3.05**	**17**	*i* P		**Pn**		**11 37 19.7**	**+1.7**
PB09				*e*S		**Sn**		**11 37 55.9**	**+2.5**
PB09				IAML				11 38 12.3	
	comp=Z,352nm,0.7s								
PB09	**IPOC Station P**	**3.05**	**17**	*e*P		**Pn**		**11 37 18.2**	**+0.2**
AZAP	**Zapla**	**4.72**	**85**	*i* P		**Pn**		**11 37 42.5**	**+1.5**
AZAP				IAML				11 38 41.1	
	comp=Z,17nm,1.1s								
AGUA	**GUANDACOL**	**4.99**	**162**	*i* P		**Pn**		**11 37 45.8**	**+1.4**
AGUA				IAML				11 38 57.6	
	comp=Z,56nm,0.7s								
LPAZ	**La Paz**	**8.62**	**14**	P		**Pn**		**11 38 34.7**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=237,slow=6.2,SNR=2.7								
SIV	**San Ignacio**	**12.21**	**46**	P		**Pn**		**11 39 21.2**	**-1.9**
	comp=Z,5.8nm,0.4s,baz=239,slow=9.4,SNR=24								
SIV				S		**Sn**		**11 41 34.2**	**-3.4**
	comp=Z,0.6nm,0.3s,baz=306,slow=21,SNR=1.8								
TXAR	**Lajitas Array**	**62.62**	**327**	P		**P**		**11 46 49.7**	**-0.1**
	comp=Z,0.1nm,0.7s,baz=134,slow=7.8,SNR=1.7								
	comp=Z,0.1nm,0.7s								
QSPA	**South Pole Qui**	**65.48**	**180**	P		**P**		**11 47 09.2**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=144,slow=8.7,SNR=5.5								
	comp=Z,0.6nm,0.7s								
TORD	**Torodi Ar. Bea**	**79.58**	**70**	P		**P**		**11 48 32.2**	**-0.4**
	comp=Z,0.8nm,0.4s,baz=255,slow=4.3,SNR=1.0								
TORD				pP		**pP**		**11 48 50.2**	**-0.8**
	comp=Z,0.6nm,0.4s,baz=252,slow=5.0,SNR=1.3								
	comp=Z,0.8nm,0.4s								
YKA	**Yellowknife Ar**	**93.82**	**341**	pP		pP		11 49 59.9	-0.4
	comp=Z,0.4nm,0.8s,baz=135,slow=4.2,SNR=7.1								
ASAR	**Alice Springs**	**126.51**	**208**	PKP		**PKiKP**		**11 55 28.8**	**-0.2**
	comp=Z,0.1nm,0.4s,baz=146,slow=1.8,SNR=1.4								
WRA	**Warramunga Arr**	**129.57**	**210**	PKP		**PKiKP**		**11 55 35.1**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=143,slow=1.5,SNR=5.0								
KURBB	**Kurchatov Arra**	**144.67**	**35**	PKP		**PKPdf**		**11 56 00.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=302,slow=3.6,SNR=4.1								
KURBB				pPKP		**pPKPdf**		**11 56 20.4**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=316,slow=3.9,SNR=3.6								
ZALV	**Zalesovo Beam**	**145.37**	**26**	PKPbc		**PKPab**		**11 56 03.0**	**+0.6**
	comp=Z,2.6nm,0.6s,baz=318,slow=1.9,SNR=14								
ZALV				pPKPbc		**pPKPdf**		**11 56 22.4**	**+0.8**
	comp=Z,3.6nm,0.6s,baz=314,slow=4.4,SNR=9.1								

*SKHL **19** 11:39:04.4±0.2,43°.50N×150°.20E,h49km±7km,mb4.5/2*
*JMA **19** 11:39:06.5±0.6,44°.N±3°×15°.0E±°,h30km,MV3.9/10,SE*
OFF ETOROFU
ISC 19 11:39:06.8±4.1,43°.6N±0°.1×150°.1E±0°.2,h53km,n13,
σ1.9s39/24,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**2.27**	**315**	*e*P		**Pn**		**11 39 41.3**	**-0.6**
KUR				AMB		AMB		11 39 44.2	
	60nm,0.4s								
KUR				*e*S		**Sn**		**11 40 08.9**	**+0.2**
KUR				A		A		11 40 12.1	
	190nm,0.4s								
KUR				A		A		11 40 12.1	
	150nm,0.4s								
SHO	**Shikotan**	**2.41**	**277**	*e*P		**Pn**		**11 39 42.1**	**-1.6**
SHO				*i* S		**Sn**		**11 40 10.5**	**-1.5**
SHO				A		A		11 40 14.6	
	140nm,0.3s								
SHO				A		A		11 40 14.6	
	100nm,0.3s								
YUK	**Yuzh-Kuril'sk**	**3.12**	**279**	*e*P		**Pn**		**11 39 52.3**	**-1.2**
YUK				AMB		AMB		11 39 55.1	
	50nm,0.2s								
YUK				*i* S		**Sn**		**11 40 28.1**	**-1.4**
YUK				A		A		11 40 29.6	
	60nm,0.2s								
YUK				A		A		11 40 29.6	
	180nm,0.2s								
NEM2	**Nemuro 2**	**3.21**	**267**	P		**Pn**		**11 39 54.5**	**-0.2**
NEM2				*e*S		**Sn**		**11 40 30.2**	**-1.5**
NMR	**Nemuro--Hokkai**	**3.22**	**267**	*e*P		**Pn**		**11 39 54.3**	**-0.5**
NMR				*e*S		**Sn**		**11 40 30.0**	**-2.0**
JRA	**Rausu**	**3.65**	**276**	*e*P		**Pn**		**11 40 02.1**	**+1.5**
JRA				*e*S		**Sn**		**11 40 43.8**	**+1.4**
AKK	**Akkeshi**	**3.92**	**263**	*e*P		**Pn**		**11 40 03.4**	**-1.0**
JNK	**Nakash**	**3.94**	**271**	*e*P		**Pn**		**11 40 05.4**	**+0.7**
JNK				S		**Sn**		**11 40 48.6**	**-0.9**
JAK	**Akkeshi**	**4.03**	**263**	P		**Pn**		**11 40 05.9**	**+0.1**
JAK				*e*S		**Sn**		**11 40 50.6**	**-1.1**
JTKR	**Abashiri--Toko**	**4.52**	**276**	*e*P		**Pn**		**11 40 14.2**	**+1.5**
JTKR				*e*S		**Sn**		**11 41 06.9**	**+3.0**
JAR	**Ashorobuto**	**4.65**	**268**	P		**Pn**		**11 40 16.6**	**+2.1**
JAR				*e*S		**Sn**		**11 41 07.8**	**+0.7**
JCH	**Churui**	**5.07**	**261**	P		**Pn**		**11 40 21.3**	**+1.1**
JCH				*e*S		**Sn**		**11 41 18.1**	**+0.7**
JNBK	**Urakawa-nobuka**	**5.59**	**258**	*e*P		**Pn**		**11 40 27.6**	**+0.3**

IDC 19 11:54:52.4±59.0,20°.11S×176°.83W,h0km,mb3.8/3,
mbtmp3.8/3,Error ellipse: s-maj=1100.0km
s-min=175.3km az=83.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.95**	**244**	P		P	P	12 02 19.7	-0.6
	0.8nm,0.4s,baz=80,slow=12,SNR=3.0								
	0.8nm,0.4s								
ASAR	**Alice Springs**	**45.68**	**256**	P		P	P	12 03 15.2	-0.2
	1.3nm,0.7s,baz=97,slow=8.2,SNR=20								
	1.3nm,0.7s								
WRA	**Warramunga Arr**	**45.75**	**261**	P		P	P	12 03 16.2	+0.2
	0.4nm,0.5s,baz=94,slow=8.3,SNR=13								
	0.4nm,0.5s								

IDC 19 12:06:51.5±6.8,7°.66N×93°.92E,h0km,mb3.5/4,
mbtmp3.5/4,Error ellipse: s-maj=366.6km
s-min=24.8km az=58.0,Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**40.25**	**348**	P		P	P	12 14 29.9	-0.2
	0.8nm,0.7s,baz=178,slow=10,SNR=5.5								
	0.8nm,0.7s								
KURBB	**Kurchatov Arra**	**44.70**	**346**	P		P	P	12 15 06.1	0.0
	0.4nm,0.5s,baz=167,slow=6.8,SNR=5.9								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**48.32**	**125**	P		P	P	12 15 35.4	+0.3
	0.4nm,0.3s,baz=307,slow=8.4,SNR=2.6								
	0.4nm,0.3s								
ASAR	**Alice Springs**	**49.95**	**130**	P		P	P	12 15 47.1	-0.5
	0.2nm,0.5s,baz=300,slow=7.8,SNR=4.8								
	0.2nm,0.5s								

*IDC **19** 12:17:14.1±0.7,26°.19S×71°.00E,h0km,mb4.0/12,*
mbtmp4.0/12,MS3.7/28,Error ellipse: s-maj=28.8km
s-min=18.1km az=81.0
ISC 19 12:17:15.7±0.8,26°.2S±0°.2×71°.0E±0°.2,h11km,n46,
σ1.9s04/13,mb4.0/12,MS3.7/28,Indian Ocean Triple
Junction

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**18.50**	**5**	T		T	T	12 40 29.8	
	baz=185,slow=75,SNR=97								
H08S2	**Diego Garcia H**	**18.50**	**5**	T		T	T	12 40 27.2	
	baz=185,slow=75,SNR=150								
H08S3	**Diego Garcia H**	**18.52**	**5**	T		T	T	12 40 31.2	
	baz=185,slow=75,SNR=216								
H04N2	**CROZET ISLANDS**	**25.12**	**213**	T		T	T	12 49 00.3	
	baz=44,slow=74,SNR=2467								
H04N1	**CROZET ISLANDS**	**25.13**	**213**	T		T	T	12 48 55.7	
	baz=44,slow=74,SNR=3918								
H04N3	**CROZET ISLANDS**	**25.14**	**213**	T		T	T	12 48 55.9	
	baz=44,slow=74,SNR=2809								
H04S1	**CROZET ISLANDS**	**25.56**	**211**	T		T	T	12 49 35.0	
	baz=54,slow=78,SNR=21								
H04S3	**CROZET ISLANDS**	**25.57**	**211**	T		T	T	12 49 37.6	
	baz=54,slow=78,SNR=41								
H04S2	**CROZET ISLANDS**	**25.58**	**211**	T		T	T	12 49 34.9	
	baz=54,slow=78,SNR=27								
PALK	**Pallekele**	**34.58**	**17**	LR		LR		12 34 25.9	
	comp=Z,217nm,21.6s,baz=288,slow=30								
H01W2	**Cape Leeuwin H**	**37.92**	**114**	T		T	T	13 04 43.3	
	baz=271,slow=75,SNR=76								
H01W3	**Cape Leeuwin H**	**37.92**	**114**	T		T	T	13 04 43.5	
	baz=271,slow=75,SNR=73								
H01W1	**Cape Leeuwin H**	**37.94**	**114**	T		T	T	13 04 44.6	
	baz=271,slow=75,SNR=78								
BOSA	**Boshof**	**40.49**	**256**	LR		LR		12 38 09.7	
	comp=Z,72nm,20.4s,baz=72,slow=31								
NWAO	**Narrogin (SRO)**	**40.53**	**111**	LR		LR		12 38 50.0	
	comp=Z,95nm,20.7s,baz=71,slow=32								
LSZ	**Lusaka**	**41.31**	**277**	LR		LR		12 39 58.3	
	comp=Z,76nm,19.2s,baz=162,slow=33								
MAW	**Mawson**	**41.73**	**185**	LR		LR		12 39 00.3	
	comp=Z,210nm,18.6s,baz=7.0,slow=31								
SUR	**Sutherland**	**43.88**	**250**	LR		LR		12 39 23.8	
	comp=Z,55nm,19.9s,baz=129,slow=30								
TSUM	**Tsumeb**	**49.48**	**266**	LR		LR		12 44 13.9	
	comp=Z,75nm,20.0s,baz=153,slow=33								

KAPI **Kappang** 51.09 74 LR LR 12 47 33.9
comp=Z,21nm,18.7s,baz=71,slow=36
CMAR **Chiang Mai Arr** 52.03 34 P P 12 26 24.3 -1.2
3.2nm,0.9s,baz=220,slow=7.6,SNR=16
CMAR LR LR 12 46 03.2
comp=Z,34nm,18.6s,baz=210,slow=33
3.2nm,0.9s
ASAR **Alice Springs** 56.61 102 P P 12 26 59.1 0.0
1.1nm,0.9s,baz=254,slow=6.7,SNR=9.7
1.1nm,0.9s
WRA **Warramunga Arr** 58.13 98 P P 12 27 09.4 -0.4
0.6nm,0.6s,baz=253,slow=7.4,SNR=3.6
0.6nm,0.6s
QSPA **South Pole Qui** 63.94 180 P P 12 27 48.8 +0.1
2.9nm,0.8s,baz=287,slow=2.2,SNR=11
QSPA LR LR 12 52 50.0
comp=Z,46nm,18.9s,baz=278,slow=33
2.9nm,0.8s
VNDA **Vanda** 64.82 166 P P 12 27 54.5 +0.4
4.4nm,0.9s,baz=274,slow=6.5,SNR=26
VNDA LR LR 12 53 21.0
comp=Z,50nm,18.3s,baz=290,slow=33
4.4nm,0.9s
GEYT **Alibeck** 64.92 349 LR LR 12 52 30.1
comp=Z,38nm,18.6s,baz=160,slow=33
EIL **Elat** 65.41 326 LR LR 12 54 10.1
comp=Z,22nm,18.2s,baz=251,slow=34
AAK **Ala-Archa** 68.56 3 LR LR 12 54 20.9
comp=Z,96nm,21.7s,baz=187,slow=32
GNI **Garni** 70.38 339 LR LR 12 57 07.0
comp=Z,43nm,20.8s,baz=164,slow=34
MKAR **Makanchi Array** 73.36 8 P P 12 28 47.1 -0.3
1.7nm,0.7s,baz=198,slow=6.0,SNR=13
1.7nm,0.7s
PMG **Port Moresby** 73.55 93 LR LR 12 59 26.1
comp=Z,58nm,19.6s,baz=154,slow=34
KBZ **Khabaz** 74.20 339 LR LR 12 58 28.6
comp=Z,69nm,20.9s,baz=156,slow=33
BRTR **Keskin Array B** 74.25 331 P P 12 28 52.5 -0.4
0.3nm,0.4s,baz=153,slow=7.9,SNR=2.4
BRTR LR LR 12 58 04.3
comp=Z,50nm,21.4s,baz=148,slow=33
0.3nm,0.4s
JOW **Kunigami** 76.30 51 LR LR 12 57 55.5
comp=Z,25nm,21.6s,baz=316,slow=32
KURBB **Kurchatov Arra** 76.76 5 P P 12 29 07.8 +0.9
1.3nm,0.8s,baz=200,slow=6.0,SNR=13
1.3nm,0.8s
TORD **Torodi Ar. Bea** 77.86 291 P P 12 29 13.6 -0.3
1.4nm,1.1s,baz=96,slow=6.5,SNR=4.7
TORD LR LR 13 02 00.4
comp=Z,42nm,18.0s,baz=142,slow=34
1.4nm,1.1s
BVAR **Borovoye Array** 78.88 360 P P 12 29 19.6 +1.0
0.3nm,0.4s,baz=134,slow=4.2,SNR=2.8
BVAR LR LR 13 01 52.9
comp=Z,43nm,20.9s,baz=167,slow=34
0.3nm,0.4s
SONM **Songino Array** 80.27 23 P P 12 29 28.2 +1.7
0.7nm,0.8s,baz=207,slow=6.1,SNR=2.2
0.7nm,0.8s
DBIC **Dimbokro** 80.35 282 LR LR 13 01 36.3
comp=Z,49nm,21.9s,baz=90,slow=33
ZALV **Zalesovo Beam** 80.70 8 P P 12 29 29.5 +1.0
1.7nm,0.8s,baz=186,slow=5.2,SNR=5.4
ZALV LR LR 13 04 02.6
comp=Z,34nm,19.1s,baz=124,slow=35
1.7nm,0.8s
JNU **Nakatsue** 81.98 47 LR LR 13 05 40.3
comp=Z,27nm,18.4s,baz=140,slow=36
KSRS **Korea Array** 82.86 42 LR LR 13 04 53.3
comp=Z,26nm,19.7s,baz=205,slow=34
DAVOX **Davos/Dischmat** 91.18 323 LR LR 13 11 05.6
comp=Z,36nm,18.3s,baz=260,slow=35
KLR **Kul'dur** 92.51 35 LR LR 13 11 08.0
comp=Z,39nm,20.1s,baz=200,slow=35
FINES **FINESS Array B** 94.54 340 LR LR 13 10 24.0
comp=Z,70nm,18.9s,baz=232,slow=34
YKA **Yellowknife Ar** 143.51 4 PKP PKPdf 12 36 48.2 -1.7
0.1nm,0.5s,baz=325,slow=3.9,SNR=2.4

IDC 19 12:23:01.4±2.7, 5.87N×94.44E, h0km, mb3.8/4, mbtmp3.8/5, ML4.1/1, Error ellipse: s-maj=94.7km s-min=28.9km az=66.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**13.26**	**19**	Pn	Pn	12 26 10.7	-0.4
	0.3nm,0.3s,baz=211,slow=14,SNR=4.3						
	0.5nm,0.3s						
SONM	**Songino Array**	**43.05**	**12**	P	P	12 31 03.4	+0.4
	1.4nm,0.7s,baz=189,slow=8.3,SNR=4.9						
	1.4nm,0.7s						
KURBB	**Kurchatov Arra**	**46.55**	**346**	P	P	12 31 31.7	+1.0
	0.5nm,0.3s,baz=170,slow=7.4,SNR=1.5						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**48.42**	**129**	P	P	12 31 45.6	-0.2
	0.7nm,0.8s,baz=310,slow=7.4,SNR=5.6						
	0.7nm,0.8s						
ZALV	**Zalesovo Beam**	**48.57**	**352**	P	P	12 31 44.7	-1.7
	1.1nm,0.8s,baz=166,slow=7.4,SNR=1.7						
	1.1nm,0.8s						

IDC 19 12:23:39.6±4.5, 6.40S×150.22E, h141km±35km, mb3.5/3, mbtmp3.9/4, Error ellipse: s-maj=108.4km s-min=30.4km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.26**	**225**	P	Pn	12 24 41.2	-1.8
	5.2nm,0.5s,baz=216,slow=14,SNR=1.9						
PMG				S	Sn	12 25 33.8	+1.4
	10nm,0.7s,baz=165,slow=17,SNR=1.8						
WRA	**Warramunga Arr**	**20.47**	**227**	P	P	12 28 06.6	+0.2
	3.4nm,0.8s,baz=54,slow=11,SNR=23						
	3.4nm,0.8s						
ASAR	**Alice Springs**	**23.26**	**221**	P	P	12 28 34.9	+0.2
	4.9nm,0.7s,baz=56,slow=9.1,SNR=69						
	4.9nm,0.7s						
ILAR	**Eielson Array**	**84.60**	**23**	P	P	12 35 57.4	+0.6
	0.4nm,0.6s,baz=245,slow=4.7,SNR=8.7						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**148.29**	**285**	PKPbc	PKPdf	12 43 08.2	+1.5
	0.5nm,0.7s,baz=65,slow=3.9,SNR=2.9						

NEIC 19 13:11:31.9±2.5, 13.1S±0.1°×45.5E±0.2°, h10km±1km, mb4.3/8, Error ellipse: s-maj=30.9km s-min=18.6km az=75.0, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**6.08**	**164**		Pn	13 13 01.7	-0.5
VOI	**Vohitsoka**	**8.81**	**172**	Pn	Pn	13 13 41.4	+1.7
RER	**Riviere de l'E**	**12.62**	**131**	Pn	Pn	13 14 30.1	-1.7
BOSA	**Boshof**	**24.34**	**228**	P	P	13 16 49.0	-1.3
WIN	**Windhoek**	**28.58**	**247**	P	P	13 17 27.8	-0.9
SUR	**Sutherland**	**29.64**	**226**	P	P	13 17 35.5	-2.4
SUR				IAmb	IAmb	13 17 57.1	
	comp=Z,16nm,1.2s						
TOA0	**Torodi Ar. Sit**	**50.67**	**299**	P	P	13 20 32.5	+0.5
TOA0				IAmb	IAmb	13 20 47.6	
	comp=Z,4.3nm,1.4s						
TORD	**Torodi Ar. Bea**	**50.67**	**299**	P	P	13 20 32.2	+0.2
ELL	**Elmali**	**51.74**	**344**	P	P	13 20 38.8	-1.0
ABKAR	**Akbulak array**	**63.41**	**11**	P	P	13 22 01.2	-0.3
ABKAR	**Akbulak array**	**63.41**	**11**	P	P	13 22 01.1	-0.5
ABKAR				IAmb	IAmb	13 22 07.0	
	comp=Z,1.5nm,1.0s						
QSPA	**South Pole Qui**	**76.97**	**180**	P	P	13 23 26.2	+1.5
QSPA				IAmb	IAmb	13 23 27.4	
	comp=Z,3.4nm,1.1s						

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*IDC **19** 13:37:17.3±2.1, 2.84N×94.25E, h0km, mb4.0/7, mbtmp4.0/8, ML4.3/1, Error ellipse: s-maj=84.9km s-min=20.1km az=58.0*

ISC 19 13:37:18.6±1.8, 2.9N±0.2°×94.3E±0.4°, h10km, n22, σ0°78/9, mb4.1/7, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PALK	**Pallekele**	**14.20**	**289**	Sn	Sn	13 43 00.8	-17
	1.6nm,0.3s,baz=326,slow=23,SNR=9.4						
CMAR	**Chiang Mai Arr**	**16.17**	**16**	Pn	**Pn**	**13 41 05.6**	**-0.5**
	0.4nm,0.3s,baz=214,slow=12,SNR=12						
	2.8nm,0.7s						
H08S2	**Diego Garcia H**	**24.09**	**244**	T	T	14 07 39.8	
	baz=65,slow=76						
H08S3	**Diego Garcia H**	**24.09**	**244**	T	T	14 07 39.9	
	baz=65,slow=76						
H08S1	**Diego Garcia H**	**24.11**	**244**	T	T	14 07 38.7	
	baz=65,slow=76						
H01W3	**Cape Leeuwin H**	**41.92**	**155**	T	T	14 30 18.7	
	baz=332,slow=76,SNR=15						
H01W2	**Cape Leeuwin H**	**41.94**	**155**	T	T	14 30 15.4	
	baz=332,slow=76,SNR=15						
H01W1	**Cape Leeuwin H**	**41.94**	**155**	T	T	14 30 19.9	
	baz=332,slow=76,SNR=18						
MKAR	**Makanchi Array**	**44.99**	**348**	P	**P**	**13 45 35.0**	**+0.8**
	2.1nm,0.5s,baz=167,slow=9.1,SNR=22						
	2.1nm,0.5s						
WRA	**Warramunga Arr**	**45.40**	**122**	P	**P**	**13 45 38.4**	**+0.5**
	0.3nm,0.3s,baz=301,slow=9.3,SNR=13						
	0.3nm,0.3s						
SONM	**Songino Array**	**46.02**	**11**	P	**P**	**13 45 42.6**	**+0.1**
	1.4nm,0.7s,baz=189,slow=9.4,SNR=6.7						
	1.4nm,0.7s						
ASAR	**Alice Springs**	**46.73**	**127**	P	**P**	**13 45 48.2**	**-0.1**
	0.6nm,1.0s,baz=297,slow=8.0,SNR=3.4						
	0.6nm,1.0s						
KURBB	**Kurchatov Arra**	**49.42**	**347**	P	**P**	**13 46 09.1**	**+0.5**
	1.3nm,0.6s,baz=169,slow=6.9,SNR=5.6						
	1.3nm,0.6s						
ZALV	**Zalesovo Beam**	**51.52**	**353**	P	**P**	**13 46 25.1**	**+0.7**
	3.2nm,0.3s,baz=177,slow=8.1,SNR=14						
	3.2nm,0.3s						
BVAR	**Borovoye Array**	**53.76**	**342**	P	**P**	**13 46 40.6**	**-0.5**
	1.2nm,0.6s,baz=126,slow=7.5,SNR=5.7						
	1.2nm,0.6s						
H04N2	**CROZET ISLANDS**	**61.54**	**212**	T	T	14 54 37.7	
	baz=50,slow=75,SNR=83						
H04N1	**CROZET ISLANDS**	**61.55**	**212**	T	T	14 54 37.7	
	baz=50,slow=75,SNR=73						
H04N3	**CROZET ISLANDS**	**61.56**	**212**	T	T	14 54 37.7	
	baz=50,slow=75,SNR=61						
H04S1	**CROZET ISLANDS**	**61.91**	**212**	T	T	14 55 08.2	
	baz=50,slow=76,SNR=11						
H04S3	**CROZET ISLANDS**	**61.92**	**212**	T	T	14 55 04.2	
	baz=50,slow=76,SNR=16						
H04S2	**CROZET ISLANDS**	**61.93**	**212**	T	T	14 55 05.6	
	baz=50,slow=76,SNR=14						
TXAR	**Lajitas Array**	**143.68**	**27**	PKP	**PKPdf**	**13 56 53.6**	**-1.2**
	0.1nm,0.5s,baz=4.3,slow=3.6,SNR=2.0						

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*IDC **19** 13:38:13.2±0.8, 28.48S×178.33W, h190km±7km, mb3.2/4, mbtmp3.7/4, Error ellipse: s-maj=28.9km s-min=27.2km az=60.0*

ISC 19 13:38:13.7±0.9, 28.6S±0.2°×178.3W±0.2°, h200km, n12, σ1°22/11, mb3.4/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.73**	**153**	P	**Pn**	**13 38 41.2**	**-0.6**
	643nm,0.2s,baz=73,slow=17,SNR=15						
RAO				S	**Sn**	**13 39 02.9**	**-0.9**
	631nm,0.3s,baz=69,slow=21,SNR=5.4						
URZ	**Urewera**	**10.37**	**200**	P	Pn	13 40 24.7	-13
	20nm,1.1s,baz=141,slow=11,SNR=6.1						
URZ				S	Sn	13 42 22.0	-11
	7.8nm,0.3s,baz=85,slow=22,SNR=11						
ASAR	**Alice Springs**	**42.97**	**265**	P	**P**	**13 45 54.2**	**+0.9**
	0.6nm,0.8s,baz=105,slow=7.5,SNR=8.7						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**43.79**	**270**	P	**P**	**13 45 59.2**	**-0.7**
	0.3nm,0.4s,baz=107,slow=6.2,SNR=2.1						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**61.51**	**180**	P	**P**	**13 48 10.6**	**+1.4**
	0.7nm,0.5s,baz=25,slow=5.2,SNR=10						
	0.7nm,0.5s						
ILAR	**Eielson Array**	**96.24**	**13**	P	**P**	**13 51 20.2**	**+1.8**
	0.2nm,0.6s,baz=216,slow=4.5,SNR=1.9						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**116.41**	**311**	PKP	**PKPdf**	**13 56 32.0**	**-1.3**
	0.3nm,0.8s,baz=164,slow=1.0,SNR=1.8						
FINES	**FINESS Array B**	**143.37**	**341**	PKhKP	PKPpre	13 57 20.0	
	2.9nm,1.1s,baz=5.7,slow=1.9,SNR=4.9						
NB2	**NORSAR Subarra**	**146.94**	**352**	PKP	**PKPbc**	**13 57 31.7**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=16,slow=3.2						
NOA	**NORSAR Array B**	**146.94**	**352**	PKPbc	**PKPbc**	**13 57 31.2**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=14,slow=4.6,SNR=4.7						
HFS	**Hagfors**	**147.43**	**349**	PKPbc	**PKPbc**	**13 57 32.3**	**-1.0**
	comp=Z,1.4nm,0.6s,baz=352,slow=2.2,SNR=5.7						
AKASG	**Malin Array Be**	**149.70**	**324**	PKPbc	**PKiKP**	**13 57 39.2**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=44,slow=3.4,SNR=5.4						

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*IDC **19** 13:39:16.6±1.2, 6.00N×94.58E, h0km, mb3.8/9, mbtmp3.7/10, ML3.8/1, MS3.0/4, Error ellipse: s-maj=46.6km s-min=21.1km az=55.0*

ISC 19 13:39:26.4±1.1, 6.2N±0.2°×94.8E±0.2°, h73km, n13, σ0°44/10, mb3.8/9, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.85**	**18**	Pn	**Pn**	**13 42 25.7**	**-0.4**
	0.1nm,0.3s,baz=207,slow=14,SNR=2.3						
CMAR				LR	LR	13 47 15.2	
	comp=Z,23nm,19.5s,baz=185,slow=36						
	0.4nm,0.5s						
PALK	**Pallekele**	**14.08**	**275**	LR	LR	13 47 25.9	
	comp=Z,64nm,21.4s,baz=184,slow=35						
LEM	**Lembang**	**18.16**	**135**	LR	LR	13 50 29.4	
	comp=Z,92nm,18.5s,baz=222,slow=37						
JOW	**Kunigami**	**37.88**	**53**	LR	LR	14 02 02.0	
	comp=Z,27nm,19.5s,baz=310,slow=36						
MKAR	**Makanchi Array**	**41.88**	**347**	P	**P**	**13 47 09.9**	**+0.3**
	0.5nm,0.8s,baz=146,slow=10,SNR=2.5						
	0.5nm,0.8s						
SONM	**Songino Array**	**42.67**	**11**	P	**P**	**13 47 16.4**	**+0.4**
	1.8nm,0.8s,baz=193,slow=8.9,SNR=7.0						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**46.73**	**125**	P	**P**	**13 47 48.5**	**-0.1**
	0.8nm,0.9s,baz=303,slow=9.1,SNR=3.5						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**48.31**	**129**	P	**P**	**13 48 00.9**	**0.0**
	0.9nm,0.8s,baz=298,slow=7.5,SNR=6.1						
	0.9nm,0.8s						
ZALV	**Zalesovo Beam**	**48.32**	**352**	P	**P**	**13 48 00.6**	**+0.3**
	0.5nm,0.3s,baz=169,slow=8.3,SNR=4.6						
	0.5nm,0.3s						
BVAR	**Borovoye Array**	**50.80**	**341**	P	**P**	**13 48 19.5**	**+0.2**
	0.8nm,0.7s,baz=128,slow=11,SNR=4.2						
	0.8nm,0.7s						
BRTR	**Keskin Array B**	**64.05**	**311**	P	**P**	**13 49 52.2**	**-0.8**
	0.4nm,0.3s,baz=113,slow=8.2,SNR=4.0						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**74.52**	**332**	P	**P**	**13 50 56.8**	**-0.2**
	1.5nm,0.8s,baz=97,slow=4.4,SNR=3.9						
	1.5nm,0.8s						
GERES	**GERESS Array B**	**79.54**	**318**	P	**P**	**13 51 26.0**	**+0.5**
	0.3nm,0.5s,baz=357,slow=5.3,SNR=3.7						
	0.3nm,0.5s						

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*DJA **19** 14:03:03.2±0.2, 12°S±2°×11°7E±°, h10km, M4.9/24, mB5.3/6, mb4.8/24, MLv5.1/13, Mw(mB)4.8/6*

*NEIC **19** 14:03:06.2±1.9, 11.45S±0.06×117.38E±0.07, h43km±6km, mb4.5/30, Error ellipse: s-maj=11.0km s-min=7.4km az=61.0*

*IDC **19** 14:03:08.4±2.4, 11.32S×117.51E, h64km±23km, mb4.0/15, mbtmp4.3/20, MS3.4/9, Error ellipse: s-maj=21.5km s-min=11.8km az=70.0*

ISC 19 14:03:05.0±0.4, 11.46S±0.05×117.43E±0.05, h34km, n143, σ1°87/137, mb4.6/34, MS3.3/8, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**2.64**	**7**	P	**Pn**	**14 03 46.7**	**+1.5**
PLAI	**Plampang**	**2.64**	**7**	P	**Pn**	**14 03 46.1**	**+0.9**
TWSI	**Taliwang, Sumb**	**2.76**	**349**	P	**Pn**	**14 03 47.7**	**+0.8**
BASI	**Baing, Sumba**	**3.33**	**69**	P	**Pn**	**14 03 55.3**	**+0.6**
DNP	**Denpasar**	**3.53**	**321**	P	**Pn**	**14 03 59.8**	**+2.4**
SRBI	**Singaraja**	**4.01**	**327**	P	**Pn**	**14 04 06.3**	**+2.3**
JAGI	**Jajag, Banyuwa**	**4.39**	**312**	P	**Pn**	**14 04 09.7**	**+0.4**
JAGI	**Jajag, Banyuwa**	**4.39**	**312**	Pn	**Pn**	**14 04 09.2**	**-0.1**
JAGI				Sn	**Sn**	**14 04 57.6**	**-1.7**
JAGI	**Jajag, Banyuwa**	**4.39**	**312**	P	**Pn**	**14 04 09.3**	**0.0**
ABJI	**Asem Bagus**	**4.82**	**319**	P	**Pn**	**14 04 17.1**	**+1.9**
EDFI	**Ende, Flores**	**4.98**	**58**	P	**Pn**	**14 04 17.8**	**+0.2**
	54nm,0.4s,3µm0.4nm						
BLJI	**Banyuglugur**	**5.29**	**314**	P	**Pn**	**14 04 23.1**	**+1.5**
	193nm,0.5s,19µm7.0nm						

MMRI **Maumere** 5.50 60 P Pn 14 04 26.9 +2.3
MMRI **Maumere** 5.50 60 Pn 14 04 26.4 +1.8
MMRI **Maumere** 5.50 60 P Pn 14 04 26.8 +2.2
104nm,0.4s,4µm0.7nm
BATI **Baumata** 6.25 79 P Pn 14 04 36.1 +1.2
48nm,0.4s,baz=280,slow=12,SNR=13
BATI S Sn 14 05 44.0 -1.1
121nm,0.5s,baz=352,slow=17,SNR=10
BATI **Baumata** 6.25 79 P Pn 14 04 36.1 +1.2
59nm,1.2s,2µm0.6nm
BKSI **Bulukumba** 6.66 24 P Pn 14 04 42.9 +2.5
132nm,0.5s,1µm0.5nm
KAPI **Kappang** 6.80 20 Pn Pn 14 04 43.7 +1.2
KAPI **Kappang** 6.80 20 P Pn 14 04 44.1 +1.6
30nm,0.5s,baz=189,slow=8.8,SNR=12
KAPI S Sn 14 05 53.9 -5.0
88nm,0.4s,baz=153,slow=20,SNR=27
SOEI **Soe** 6.93 76 P Pn 14 04 46.7 +2.4
SOEI **Soe** 6.93 76 Pn 14 04 46.2 +1.9
SOEI **Soe** 6.93 76 P Pn 14 04 46.7 +2.4
86nm,0.8s,0.7nm
UGM **Wanagama** 7.67 297 P Pn 14 04 55.1 +0.7
UGM **Wanagama** 7.67 297 Pn Pn 14 04 55.0 +0.7
UGM **Wanagama** 7.67 297 P Pn 14 04 55.3 +0.9
144nm,1.2s,2.5nm
SMRI **Semarang** 8.18 302 P Pn 14 05 01.5 +0.2
138nm,1.9s
TTSI **Tana Toraja** 8.69 16 P Pn 14 05 12.5 +4.1
CMJI **Cimerak** 9.58 292 P Pn 14 05 20.2 -0.4
48nm,0.9s
MBWA **Marble Bar** 9.89 167 P Pn 14 05 24.6 -0.3
MBWA **Marble Bar** 9.89 167 Pn 14 05 24.5 -0.3
PSA00 **Pilbara Seismi** 10.32 167 P Pn 14 05 30.2 -0.5
PSA00 **Pilbara Seismi** 10.32 167 Pn 14 05 30.1 -0.6
FITZ **Fitzroy Crossi** 10.32 131 Pn 14 05 30.0 -0.7
BBJI **Bungbulang** 10.44 292 P Pn 14 05 32.6 +0.2
LEM **Lembang** 10.73 295 P Pn 14 05 40.4 +3.9
13nm,0.4s,baz=139,slow=20,SNR=2.6
LEM S Sn 14 07 30.2 -5.4
36nm,0.7s,baz=259,slow=22,SNR=3.8
CNJI **Cibinong** 10.97 291 P Pn 14 05 39.6 0.0
22nm,1.3s
GIRL **Giralia** 11.53 195 P Pn 14 05 48.2 +0.9
GIRL **Giralia** 11.53 195 Pn Pn 14 05 48.0 +0.7
DRS **Darwin Rock St** 13.21 96 P Pn 14 06 10.8 +0.5
MTN **Manton Dam** 13.47 97 P Pn 14 06 14.4 +0.6
MTN **Manton Dam** 13.47 97 Pn Pn 14 06 13.0 -0.8
KDU **Kakadu** 14.76 96 P Pn 14 06 31.7 +0.3
SBUM **Sibu** 14.76 339 P P 14 06 37.9 +0.9
MEEK **Meekatharra** 15.14 176 P Pn 14 06 35.7 -0.7
MNAI **Manna** 15.97 295 P Pn 14 06 47.9 +0.6
MNAI **Manna** 15.97 295 Pn Pn 14 06 44.0 -3.4
MNAI **Manna** 15.97 295 P Pn 14 06 46.4 -0.9
117nm,1.1s
MYLDM **Lahad Datu** 16.57 4 Pn Pn 14 06 54.0 -0.8
MYLDM IAmb IAmb 14 07 31.4
comp=Z,21nm,1.2s
FAKI **Fak Fak** 16.96 61 P Pn 14 07 01.2 +1.3
FAKI **Fak Fak** 16.96 61 Pn Pn 14 06 58.6 -1.3
FAKI IAmb IAmb 14 07 14.4
comp=Z,12nm,0.7s
FAKI **Fak Fak** 16.96 61 P Pn 14 06 59.6 -0.3
comp=Z,17nm,1.0s
WRKA **Warakurna** 16.98 144 P Pn 14 07 00.5 +0.5
MORW **Morawa** 17.57 184 P P 14 07 08.7 +0.6
MORW **Morawa** 17.57 184 P P 14 07 08.4 +0.3
MORW IAmb IAmb 14 07 12.4
comp=Z,11nm,0.7s
WB0 **Warramunga Arr** 18.29 119 P 14 07 16.0 -0.1
WRA **Warramunga Arr** 18.32 119 P 14 07 17.2 +0.7
WRA **Warramunga Arr** 18.32 119 P P 14 07 16.4 -0.1
comp=Z,1.3nm,0.3s,baz=292,slow=13,SNR=52
WRA S Sn 14 10 27.2 -13
comp=Z,15nm,0.7s,baz=288,slow=24,SNR=16
WRA LR LR 14 14 31.2
comp=Z,118nm,21.0s,baz=306,slow=37
WB2 **Warramunga Arr** 18.33 119 P P 14 07 16.9 +0.4
WR0 **Warramunga Arr** 18.50 119 P P 14 07 19.1 +0.7
MYKOM **Kota Tinggi** 18.86 313 Pn 14 07 23.2 +0.1
MYKOM IAmb IAmb 14 07 26.7
comp=Z,14nm,0.6s
BLDU **Ballidu** 19.07 182 P Pn 14 07 26.0 +0.4
PPSI **Pulau Pagai** 19.31 295 P Pn 14 07 28.4 -0.2
comp=Z,234nm,1.5s
ASAR **Alice Springs** 19.82 130 P P 14 07 32.2 -0.7
ASAR **Alice Springs** 19.82 130 P Pn 14 07 34.8 +0.1
comp=Z,6.5nm,0.7s,baz=303,slow=9.7,SNR=109
ASAR S S 14 11 06.9 -7.6
comp=Z,11nm,0.7s,baz=296,slow=20,SNR=13
AS01 **Alice Springs** 19.86 130 P Pn 14 07 35.3 +0.2
KLBR **Kelerberrin** 20.04 179 P Pn 14 07 37.1 0.0
BKNI **Bangkinang** 20.06 305 P Pn 14 07 36.7 -0.8
KMBL **Kambalda** 20.23 169 P Pn 14 07 39.0 -0.4
MUN **Mundaring** 20.45 183 P Pn 14 07 41.5 -0.4
SISI **Saibi** 20.80 298 P Pn 14 07 45.9 -0.3
comp=Z,22nm,1.5s
NWAO **Narrogin (SRO)** 21.36 180 P P 14 07 51.4 +1.9
NWAO **Narrogin (SRO)** 21.36 180 P P 14 07 50.4 +0.9
NWAO **Narrogin (SRO)** 21.36 180 P P 14 07 51.4 +1.9
comp=Z,10nm,0.7s,baz=359,slow=8.8,SNR=9.8
NWAO S S 14 11 37.6 -7.3
comp=Z,31nm,0.4s,baz=105,slow=12,SNR=9.7
NWAO LR LR 14 15 52.5
comp=Z,141nm,21.9s,baz=193,slow=36
comp=Z,10nm,0.7s
FORT **Forrest** 21.60 154 P P 14 07 54.1 +2.1
FORT **Forrest** 21.60 154 P P 14 07 53.9 +1.9
FORT IAmb IAmb 14 07 56.8
comp=Z,31nm,0.7s
IPM **Ipoh** 22.74 313 P P 14 08 05.6 +1.1
IPM **Ipoh** 22.74 313 P P 14 08 04.5 0.0
IPM IAmb IAmb 14 08 08.7
comp=Z,13nm,0.6s
QIS **Mount Isa** 23.13 116 P P 14 08 09.2 +0.8
RPSI **Rantau Prapat** 23.16 306 P P 14 08 08.0 -0.7
RPSI IAmb IAmb 14 08 14.9
comp=Z,14nm,0.6s
KULM **Kulim** 23.57 314 P P 14 08 12.8 0.0
KULM IAmb IAmb 14 08 25.2
comp=Z,29nm,1.2s
OOD **Oodnadatta** 23.60 136 P P 14 08 14.7 +1.8
MULG **Mulgathing** 24.27 143 P P 14 08 19.7 +0.5
MTSU **Mount Surprise** 26.80 108 P P 14 08 45.7 +3.4
LCRK **Leigh Creek** 27.00 138 P P 14 08 45.1 +1.3
INKA **Innaminka** 27.20 130 P P 14 08 47.8 +2.1
BBOO **Buckleboo** 27.28 144 P P 14 08 47.9 +1.5
BBOO **Buckleboo** 27.28 144 P P 14 08 47.3 +0.9
BBOO IAmb IAmb 14 08 48.4
comp=Z,13nm,0.7s
PMG **Port Moresby** 29.30 89 LR LR 14 25 19.2
comp=Z,73nm,18.6s,baz=198,slow=46
HTT **Hallett** 29.42 141 P P 14 09 07.6 +2.1
STKA **Stephens Creek** 30.15 136 P P 14 09 13.9 +2.0
STKA **Stephens Creek** 30.15 136 P P 14 09 13.3 +1.3
STKA **Stephens Creek** 30.15 136 P P 14 09 13.7 +1.7
comp=Z,6.9nm,0.7s,baz=310,slow=8.5,SNR=17
STKA LR LR 14 22 10.7
comp=Z,136nm,19.4s,baz=11,slow=38
comp=Z,6.9nm,0.7s
ARPS **Mount Arapiles** 33.44 143 P P 14 09 42.7 +2.0
PHRA **Phrae** 34.27 330 P P 14 09 47.1 -1.0
CMAR **Chiang Mai Arr** 34.88 328 P P 14 09 53.5 +0.1
comp=Z,2.0nm,0.7s,baz=156,slow=6.6,SNR=19
CMAR LR LR 14 25 28.4
comp=Z,28nm,19.0s,baz=160,slow=38
comp=Z,2.0nm,0.7s
CRAI **Chiangrai** 35.69 332 P P 14 10 00.1 -0.2
CRAI IAmb IAmb 14 10 01.4
comp=Z,8.3nm,1.1s
TOO **Toolangi** 36.17 141 P P 14 10 06.6 +2.2
TOO **Toolangi** 36.17 141 P P 14 10 05.9 +1.5
YNG **Yong** 36.23 134 P P 14 10 07.2 +2.3
PZH **PanZhiHua** 40.70 338 P P 14 10 43.6 +0.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.3s
NJ2 **Nanjing** 43.29 2 eP P 14 11 06.8 +3.3
NJ2 pmax pmax
comp=Z,14nm,0.7s
NJ2 pmax pmax
comp=Z,230nm,3.8s
CD2 **Chengdu** 44.13 343 P P 14 11 09.5 -0.9
CD2 pmax pmax
comp=Z,10.0nm,0.5s

SHL	**Shillong**	**44.43**	**326**	P	**P**	**14 11 11.8**	**-1.3**
SHL				IAmb	IAmb	14 11 13.1	
	comp=Z,17nm,0.8s						
LYN	**LuoYang**	**46.00**	**354**	*e*P	**P**	**14 11 27.6**	**+2.5**
LYN				pmax	pmax		
	comp=Z,190nm,4.3s						
JNU	**Nakatsue**	**46.15**	**16**	LR	LR	14 31 08.7	
	comp=Z,18nm,20.6s,baz=100,slow=36						
LZH	**Lanzhou**	**49.00**	**345**	*e*P	**P**	**14 11 51.8**	**+3.2**
LZH				pmax	pmax		
	comp=Z,16nm,1.0s						
KSRS	**Korea Array**	**49.64**	**11**	P	**P**	**14 11 52.3**	**-1.0**
	comp=Z,1.6nm,0.8s,baz=183,slow=9.7,SNR=8.5						
	comp=Z,1.6nm,0.8s						
MJAR	**Matsushiro Arr**	**51.60**	**21**	P	**P**	**14 12 05.5**	**-2.7**
	comp=Z,3.3nm,0.8s,baz=191,slow=8.6,SNR=8.5						
	comp=Z,3.3nm,0.8s						
HHC	**Hu-ho-hao-te**	**52.33**	**354**	*e*P	P	14 12 18.6	+5.0
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,84nm,6.1s						
XLT	**XiLinHaoTe**	**55.11**	**359**	*e*P	P	14 12 41.3	+7.4
XLT				pP	pwP	14 12 52.9	+2.4
XLT				sP	sP	14 12 59.8	+14
XLT				PcP	**PcP**	**14 13 40.4**	**+5.5**
XLT				pmax	pmax		
	comp=Z,3.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,93nm,4.4s						
MDJ	**Mudanjiang**	**56.89**	**10**	P	**P**	**14 12 45.4**	**-1.1**
MDJ				pmax	pmax		
	comp=Z,14nm,0.6s						
MDJ				pmax	pmax		
	comp=Z,190nm,4.5s						
USRK	**Ussuriysk Ar.**	**56.96**	**12**	P	**P**	**14 12 44.3**	**-2.6**
USRK	**Ussuriysk Ar.**	**56.96**	**12**	P	**P**	**14 12 46.0**	**-0.9**
	comp=Z,5.7nm,0.6s,baz=186,slow=6.2,SNR=17						
	comp=Z,5.7nm,0.6s						
MSVF	**Nonsavu**	**58.79**	**104**	P	**P**	**14 13 00.3**	**-0.2**
BFZ	**Birch Farm**	**59.05**	**131**	P	**P**	**14 13 00.5**	**-1.3**
SONM	**Songino Array**	**59.84**	**351**	P	**P**	**14 13 06.3**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=165,slow=9.9,SNR=5.6						
	comp=Z,0.8nm,0.5s						
KLR	**Kul'dur**	**61.73**	**11**	LR	LR	14 41 15.1	
	comp=Z,24nm,20.4s,baz=139,slow=37						
HEH	**HeiHe**	**62.07**	**7**	*e*P	**P**	**14 13 20.9**	**-1.2**
HEH				pmax	pmax		
	comp=Z,11nm,0.7s						
HEH				pmax	pmax		
	comp=Z,100nm,3.9s						
KSH	**Kashi**	**63.69**	**325**	P	**P**	**14 13 35.8**	**+2.5**
BOOM	**Boomskoye usch**	**65.78**	**327**	P	**P**	**14 13 46.4**	**-0.6**
MK31	**Makanchi Array**	**65.96**	**334**	P	**P**	**14 13 47.3**	**-0.5**
MK31				IAmb	IAmb	14 14 06.7	
	comp=Z,2.3nm,0.7s						
MKAR	**Makanchi Array**	**65.96**	**334**		**P**	**14 13 46.8**	**-1.1**
MKAR	**Makanchi Array**	**65.96**	**334**	P	**P**	**14 13 47.2**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=146,slow=6.9,SNR=21						
MKAR				LR	LR	14 46 12.1	
	comp=Z,24nm,18.4s,baz=162,slow=39						
	comp=Z,1.4nm,0.4s						
AAK	**Ala-Archa**	**66.65**	**327**	LR	LR	14 49 00.2	
	comp=Z,32nm,18.5s,baz=107,slow=41						
VNDA	**Vanda**	**69.82**	**171**	P	**P**	**14 14 11.7**	**+0.1**
VNDA	**Vanda**	**69.82**	**171**	P	**P**	**14 14 12.3**	**+0.7**
	comp=Z,0.9nm,0.9s,baz=349,slow=3.3,SNR=4.4						
	comp=Z,0.9nm,0.9s						
KURBB	**Kurchatov Array**	**70.50**	**335**	P	**P**	**14 14 15.5**	**-0.6**
	comp=Z,1.6nm,0.6s,baz=147,slow=5.5,SNR=19						
	comp=Z,1.6nm,0.6s						
KURK	**Kurchatov**	**70.54**	**335**	P	**P**	**14 14 15.9**	**-0.5**
KURK				IAmb	IAmb	14 14 25.3	
	comp=Z,4.3nm,0.7s						
ZAA0	**Zalesovo Array**	**70.80**	**340**	P	**P**	**14 14 16.3**	**-1.6**
ZAA0				IAmb	IAmb	14 14 17.1	
	comp=Z,3.5nm,0.6s						
ZALV	**Zalesovo Beam**	**70.80**	**340**	P	**P**	**14 14 16.6**	**-1.3**
ZALV	**Zalesovo Beam**	**70.80**	**340**	P	**P**	**14 14 16.3**	**-1.6**
	comp=Z,3.9nm,0.5s,baz=148,slow=5.1,SNR=20						
	comp=Z,3.9nm,0.5s						
SBA	**Scott Base**	**70.83**	**170**	P	**P**	**14 14 19.6**	**+1.8**
SBA				IAmb	IAmb	14 14 20.5	
	comp=Z,5.7nm,1.4s						
PETK	**Petropavlovsk-**	**72.94**	**24**	P	**P**	**14 14 30.9**	**+0.2**
PETK	**Petropavlovsk-**	**72.94**	**24**	P	**P**	**14 14 31.1**	**+0.3**
	comp=Z,3.2nm,0.6s,baz=230,slow=0.5,SNR=18						
	comp=Z,3.2nm,0.6s						
BVAR	**Borovoye Array**	**75.75**	**333**	P	**P**	**14 14 46.8**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=141,slow=7.6,SNR=7.4						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**78.55**	**180**	P	**P**	**14 15 01.2**	**-1.7**
QSPA	**South Pole Qui**	**78.55**	**180**	P	**P**	**14 15 03.6**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=323,slow=0.6,SNR=6.9						
	comp=Z,1.1nm,0.8s						
ABKAR	**Akbulak array**	**78.69**	**326**		**P**	**14 15 03.3**	**-0.4**
TBI	**Tubuai**	**88.34**	**113**	*e*LR	LR	14 43 57.9	
	comp=Z,1µm,28.2s						
PPT2	**Papeete2**	**89.40**	**108**	*e*LR	LR	14 44 32.9	
	comp=Z,89nm,28.8s						
PPT2				*e*LR	LR	14 44 34.2	
	comp=Z,34nm,22.8s						
BRTR	**Keskin Array B**	**92.52**	**310**	P	**P**	**14 16 13.1**	**-0.1**
	comp=Z,0.7nm,0.7s,baz=133,slow=5.2,SNR=4.7						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**100.62**	**331**	P	**Pdif**	**14 16 48.5**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=111,slow=6.1,SNR=2.1						

*GRAL **19** 14:06:46.9±0.3,33°.10N×35°.59E, h6km±2km, MD2.9*
GII 19 14:06:47.3±0.3,**33°.186N**±0°.003×**35°.595E**±0°.001,**h16**km,
Md1.7/2,Mws2.0/7,confirmed,Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GEM	**Giv'at Ha'Em**	**0.06**	**67**	S	Sg	14 06 53.4	+1.0
GEM	**Giv'at Ha'Em**	**0.06**	**67**	P	Pg	14 06 50.7	+0.3
NATI	**Neve Ativ**	**0.14**	**57**	S	Sb	14 06 54.7	+0.2
NATI	**Neve Ativ**	**0.14**	**57**	P	Pb	14 06 51.5	-0.1
MMA0B	**Mount Meron ar**	**0.23**	**223**	P	Pg	14 06 52.9	+0.3
MMA0B	**Mount Meron ar**	**0.23**	**223**	S	Sb	14 06 57.4	+0.2
MMC7	**Mount Meron ar**	**0.23**	**226**	P	Pg	14 06 53.0	+0.3
KSHT	**Keshet**	**0.27**	**138**	S	Sb	14 06 58.2	-0.1
KSHT	**Keshet**	**0.27**	**138**	P	Pb	14 06 53.6	-0.3
HNTI	**Hanita**	**0.37**	**254**	P	Pb	14 06 55.3	-0.2
HNTI	**Hanita**	**0.37**	**254**	S	Sb	14 07 00.8	-0.1
QRWL	**Qaraoun**	**0.37**	**11**	*e*P	Pg	14 06 55.2	+0.2
RCY	**Rachaya**	**0.37**	**33**	*e*P	Pg	14 06 55.0	0.0
RCY				*e*S	Sb	14 07 00.9	-0.3
DQRL	**Deir Qamar**	**0.52**	**358**	*e*P	Pg	14 06 57.7	0.0
DQRL				*e*S	Sb	14 07 05.9	+0.4
BLGI	**Bet Lehem HaGe**	**0.56**	**217**	P	Pg	14 06 58.4	-0.1
BLGI	**Bet Lehem HaGe**	**0.56**	**217**	S	Sb	14 07 06.5	-0.1
ZAHL	**Zahle**	**0.71**	**20**	*e*P	Pg	14 07 01.2	-0.1
BHL	**Bhannes**	**0.72**	**4**	*e*P	Pg	14 07 01.3	-0.1
BHL				*e*S	Sb	14 07 12.0	+0.8
MMLI	**Mount Malkishu**	**0.76**	**191**	P	Pg	14 07 01.6	-0.6
MMLI	**Mount Malkishu**	**0.76**	**191**	S	Sb	14 07 12.7	+0.4
OFRI	**`Ofer**	**0.76**	**222**	S	Sb	14 07 12.7	+0.3
OFRI	**`Ofer**	**0.76**	**222**	P	Pg	14 07 01.7	-0.5
HMDT	**Nahal Hemdat**	**0.93**	**184**	S	Sg	14 07 17.8	+0.1
HMDT	**Nahal Hemdat**	**0.93**	**184**	P	Pb	14 07 04.4	-0.7
SLTI	**Sal'it**	**1.05**	**207**	S	Sn	14 07 22.2	+0.4
SLTI	**Sal'it**	**1.05**	**207**	P	Pb	14 07 06.7	-0.4
HWQ	**Hawqa**	**1.13**	**15**	*e*P	Pb	14 07 08.2	-0.3
BEIL	**Beino**	**1.44**	**20**	*e*P	Pn	14 07 13.2	+0.4
DSI	**Dead Sea**	**1.62**	**186**	S	Sn	14 07 35.8	0.0
DSI	**Dead Sea**	**1.62**	**186**	P	Pn	14 07 14.8	-0.5

*IDC **19** 14:20:36.9±1.8,6°.18S×130°.04E, h0km, mb3.6/2, mbtmp3.9/5, ML4.1/3, Error ellipse: s-maj=55.5km s-min=28.8km az=79.0*
ISC 19 14:20:49.5±1.4,**7°.0S**±0°.1×**129°.8E**±0°.2,**h100**km,**n18,**
σ3s85/16,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRS	**Darwin Rock St**	**5.54**	**169**	P	Pn	14 22 17.2	+7.6
MTN	**Manton Dam**	**5.99**	**167**	P	Pn	14 22 23.1	+7.4
SOEI	**Soe**	**6.11**	**243**	P	**Pn**	**14 22 18.7**	**+1.2**
KDU	**Kakadu**	**6.27**	**155**	P	Pn	14 22 28.5	+9.0
BATI	**Baumata**	**6.84**	**242**	Pn	**Pn**	**14 22 27.9**	**+0.6**
	6.9nm,0.3s,baz=115,slow=2.8,SNR=5.7						
BATI				Sn	Sn	14 23 34.9	-8.9
	16nm,0.3s,baz=75,slow=19,SNR=16						
	18nm,0.4s						
WRA	**Warramunga Arr**	**13.63**	**161**	Pn	**P**	**14 24 00.9**	**-3.3**
	0.7nm,0.3s,baz=346,slow=13,SNR=37						
WRA				Sn	**Sn**	**14 26 22.3**	**-6.6**
	1.5nm,0.3s,baz=338,slow=22,SNR=9.2						
	1.8nm,0.5s						
QIS	**Mount Isa**	**16.53**	**146**	P	**P**	**14 24 42.1**	**+5.8**
ASAR	**Alice Springs**	**17.07**	**167**	P	**P**	**14 24 45.9**	**+3.7**
	0.7nm,0.3s,baz=344,slow=10.0,SNR=52						
ASAR				S	**Sn**	**14 27 49.6**	**-2.3**
	0.5nm,0.4s,baz=352,slow=27,SNR=6.3						
	3.1nm,0.7s						
AS01	**Alice Springs**	**17.07**	**167**	P	**P**	**14 24 45.3**	**+2.9**
MTSU	**Mount Surprise**	**18.00**	**129**	P	Pn	14 25 02.3	+8.9
WRKA	**Warakurna**	**18.02**	**184**	P	**Pn**	**14 24 54.9**	**+1.3**
OOD	**Oodnadatta**	**21.45**	**166**	P	**P**	**14 25 33.5**	**+3.6**
MULG	**Mulgathing**	**23.54**	**171**	P	**P**	**14 25 53.9**	**+3.1**
FORT	**Forrest**	**23.74**	**184**	P	**P**	**14 25 54.9**	**+2.2**
LCRK	**Leigh Creek**	**24.66**	**162**	P	**P**	**14 26 05.3**	**+4.3**
BBOO	**Buckleboo**	**26.36**	**168**	P	**P**	**14 26 19.2**	**+2.8**
MKAR	**Makanchi Array**	**68.08**	**327**	P	**P**	**14 31 35.1**	**-3.4**
	0.3nm,0.7s,baz=116,slow=6.7,SNR=2.1						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**72.37**	**329**	P	**P**	**14 32 01.7**	**-2.9**
	0.2nm,0.3s,baz=130,slow=6.3,SNR=4.4						
	0.2nm,0.3s						

*JMA **19** 14:30:19.8±0.2,25°.N±2°.×122°.8E±0°.5, h119km±1km, MV3.3/19, NW OFF ISHIGAKIJIMA IS*
*TAP **19** 14:30:19.4,24°.80N×122°.81E, h117km, ML3.8, C*
ISC 19 14:30:19.3±1.1,**24°.76N**±0°.04×**122°.79E**±0°.02,**h119**km±6km,
n167,σ1s04/283,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.34**	**156**	*i* P	**Pn**	**14 30 36.7**	**+0.3**
JYNG				*e*S	**Sn**	**14 30 49.3**	**+0.1**
YOJ	**Yonaguni jima**	**0.36**	**147**	P	**Pn**	**14 30 37.0**	**+0.5**
YOJ	**Yonaguni jima**	**0.36**	**147**	P	**Pn**	**14 30 36.9**	**+0.3**
YOJ				S	**Sn**	**14 30 49.4**	**0.0**
YOJ	**Yonaguni jima**	**0.36**	**147**	*i* P	**Pn**	**14 30 36.8**	**+0.3**
	baz=161						
YOJ				*i* S	**Sn**	**14 30 49.5**	**+0.2**
	baz=161						
EOS2	**EOS2**	**0.62**	**236**	*i* P	**Pn**	**14 30 38.4**	**+0.6**
	baz=239						
EOS2				*i* S	**Sn**	**14 30 52.6**	**+0.8**
	baz=239						
EOS3	**EOS3**	**0.64**	**222**	*i* P	**Pn**	**14 30 38.8**	**+0.8**
	baz=231						
EOS3				S	**Sn**	**14 30 53.4**	**+1.3**
	baz=231						
TWB1	**Santiao Chiao**	**0.77**	**289**	*i* P	**Pn**	**14 30 39.5**	**+0.3**
	baz=282						
EOS4	**EOS4**	**0.77**	**214**	P	**Pn**	**14 30 39.3**	**+0.5**
	baz=214						
EOS4				S	**Sn**	**14 30 53.7**	**+0.2**
	baz=214						
TWC	**Suao**	**0.87**	**260**	*i* P	**Pn**	**14 30 40.1**	**0.0**
	baz=257						
TWC				S	**Sn**	**14 30 54.8**	**-0.9**
	baz=257						
ESAO	**Su ao**	**0.88**	**258**	P	**Pn**	**14 30 40.5**	**+0.3**
	baz=252						
ESAO				S	**Sn**	**14 30 55.6**	**-0.3**
	baz=252						
SXI1	**Grass Mountain**	**0.90**	**292**	P	**Pn**	**14 30 40.6**	**+0.2**
	baz=283						
SXI1				*e*S	**Sn**	**14 30 55.4**	**-0.9**
	baz=283						
TIPB	**Shuangxi**	**0.90**	**283**	*i* P	**Pn**	**14 30 40.9**	**+0.5**
	baz=275						
TIPB				*i* S	**Sn**	**14 30 56.6**	**+0.2**
	baz=275						
IRIF	**Iriomote-Funau**	**0.95**	**116**	P	**Pn**	**14 30 41.1**	**+0.3**
IRIF				S	**Sn**	**14 30 56.8**	**-0.3**
NWF	**Wu-fen Shan**	**0.97**	**289**	*i* P	**Pn**	**14 30 41.6**	**+0.5**
	baz=286						
WFSB	**Wu-fen Shan**	**0.97**	**289**	*i* P	**Pn**	**14 30 41.6**	**+0.6**
	baz=286						
EWUT	**Wuta**	**0.98**	**251**	*e*P	**Pn**	**14 30 41.6**	**+0.5**
	baz=246						
NDS	**Dongshan**	**0.99**	**263**	*e*P	**Pn**	**14 30 41.6**	**+0.5**
	baz=255						
TNOU	**National Taiwa**	**1.00**	**293**	*e*P	**Pn**	**14 30 41.8**	**+0.5**
	baz=290						
ENA	**Nanau**	**1.01**	**251**	*e*P	**Pn**	**14 30 41.9**	**+0.5**
	baz=245						
TWE	**Neicheng**	**1.02**	**268**	*i* P	**Pn**	**14 30 41.9**	**+0.4**
	baz=262						
EAHA	**Aohua**	**1.05**	**246**	P	**Pn**	**14 30 42.3**	**+0.5**
	baz=239						
PCYT	**Pengchaiyu**	**1.08**	**323**	*i* P	**Pn**	**14 30 42.9**	**+0.7**
	baz=321						
FUSB	**Fushanzhiwuyua**	**1.10**	**270**	*i* P	**Pn**	**14 30 42.8**	**+0.5**
	baz=262						
FUSB				S	**Sn**	**14 30 59.2**	**-0.6**
	baz=262						
TWA	**Mucha**	**1.12**	**281**	P	**Pn**	**14 30 43.0**	**+0.4**
	baz=271						
ENTT	**Nioudou**	**1.12**	**264**	P	**Pn**	**14 30 43.4**	**+0.8**
	baz=268						
HATJ	**Hateruma jima**	**1.16**	**127**	P	**Pn**	**14 30 43.7**	**+0.7**
HATJ				*e*S	**Sn**	**14 31 01.0**	**+0.2**
NHDH	**Xindian Distri**	**1.17**	**280**	P	**Pn**	**14 30 43.5**	**+0.5**
	baz=269						
NHDH				*e*S	**Sn**	**14 31 00.5**	**-0.5**
	baz=269						
YM08	**YM08**	**1.17**	**291**	*e*P	**Pn**	**14 30 43.3**	**+0.2**
	baz=289						
NWLT	**Wulai**	**1.17**	**271**	P	**Pn**	**14 30 43.6**	**+0.5**
	baz=269						
NWLT				*e*S	**Sn**	**14 31 00.9**	**-0.2**
	baz=269						
YM01	**YM01**	**1.17**	**289**	*i* P	**Pn**	**14 30 43.7**	**+0.5**
	baz=286						
YM01				S	**Sn**	**14 31 01.3**	**+0.2**
	baz=286						
LATG	**Datong**	**1.18**	**259**	*e*P	**Pn**	**14 30 43.9**	**+0.7**
	baz=250						
NDT	**Datong Townshi**	**1.18**	**262**	P	**Pn**	**14 30 44.2**	**+1.1**
	baz=258						
NDT				*e*S	**Sn**	**14 31 01.4**	**+0.3**
	baz=258						
TATO	**Taipei**	**1.20**	**280**	P	**Pn**	**14 30 43.8**	**+0.4**
ETL	**Fush Village**	**1.23**	**241**	*e*P	**Pn**	**14 30 43.5**	**-0.1**
	baz=239						
JKRS	**Kuro-shima**	**1.23**	**115**	P	**Pn**	**14 30 44.5**	**+0.9**
ANP	**Anpu**	**1.23**	**290**	P	**Pn**	**14 30 44.4**	**+0.6**
	baz=288						
NACB	**Ninganchiao**	**1.24**	**242**	P	**Pn**	**14 30 43.5**	**-0.3**
NACB	**Ninganchiao**	**1.24**	**242**	P	**Pn**	**14 30 43.5**	**-0.3**
	baz=241						
NACB				*e*S	**Sn**	**14 31 02.2**	**-0.2**
	baz=241						
NTST	**Danshui**	**1.28**	**288**	P	**Pn**	**14 30 45.0**	**+0.8**
	baz=286						
NTST				*e*S	**Sn**	**14 31 03.2**	**0.0**
	baz=286						
TWD	**Chiawan**	**1.29**	**238**	P	**Pn**	**14 30 44.1**	**-0.1**
	baz=232						
TWD				*e*S	**Sn**	**14 31 01.6**	**-1.6**
	baz=232						
JIJ	**Ishigaki jima**	**1.29**	**108**	P	**Pn**	**14 30 44.6**	**+0.3**
JIJ				S	**Sn**	**14 31 02.5**	**-0.8**
YHNB	**Yeheng**	**1.29**	**266**	P	**Pn**	**14 30 45.2**	**+0.8**
YHNB	**Yeheng**	**1.29**	**266**	*i* P	**Pn**	**14 30 45.2**	**+0.8**
	baz=264						
YHNB				S	**Sn**	**14 31 03.1**	**-0.4**
	baz=264						
TWS1	**Kuangyinshan**	**1.29**	**285**	*i* P	**Pn**	**14 30 45.0**	**+0.6**
	baz=279						
TWS1				*e*S	**Sn**	**14 31 03.2**	**-0.1**
	baz=279						
NSK	**Sanguang**	**1.31**	**266**	*i* P	**Pn**	**14 30 45.2**	**+0.6**
	baz=264						
NSK				S	**Sn**	**14 31 03.6**	**-0.2**
	baz=264						
NNSB	**Datong**	**1.33**	**256**	P	**Pn**	**14 30 45.3**	**+0.4**
	baz=249						
NNSB				*e*S	**Sn**	**14 31 04.6**	**+0.3**
	baz=249						
NNSH	**Datong**	**1.33**	**256**	*e*P	**Pn**	**14 30 45.4**	**+0.5**
	baz=249						
NNS	**Nan Shan**	**1.33**	**256**	P	**Pn**	**14 30 45.5**	**+0.6**
	baz=248						
NNS				*e*S	**Sn**	**14 31 02.9**	**-1.4**
	baz=248						
HWA	**Hwalien**	**1.34**	**234**	P	**Pn**	**14 30 45.2**	**+0.4**
	baz=228						
HWA				*e*S	**Sn**	**14 31 04.6**	**+0.4**
	baz=228						
JISG	**Ishigakijimahi**	**1.39**	**97**	P	**Pn**	**14 30 45.8**	**+0.4**
JISG				*e*S	**Sn**	**14 31 04.9**	**-0.4**
TEYL	**Yanliau Villag**	**1.41**	**231**	P	**Pn**	**14 30 45.4**	**-0.3**
	baz=231						
TEYL				*e*S	**Sn**	**14 31 05.2**	**-0.4**
	baz=231						
ETM	**Tongmen**	**1.43**	**236**	P	**Pn**	**14 30 45.9**	**0.0**
	baz=231						
ETM				*e*S	**Sn**	**14 31 05.1**	**-1.0**
	baz=231						
LXIB	**Xiulin Townshi**	**1.46**	**240**	P	**Pn**	**14 30 46.3**	**-0.1**
	baz=239						
LXIB				*e*S	**Sn**	**14 31 05.9**	**-1.1**
	baz=239						
NCUH	**Zhongli**	**1.48**	**278**	*e*P	**Pn**	**14 30 47.1**	**+0.7**
	baz=276						
NCUH				*e*S	**Sn**	**14 31 07.4**	**+0.4**
	baz=276						
SHUL	**Shoufeng**	**1.48**	**229**	*e*P	**Pn**	**14 30 46.9**	**+0.4**
	baz=229						
SHUL				*e*S	**Sn**	**14 31 07.7**	**+0.5**
	baz=229						
FUSS	**Fushou**	**1.50**	**250**	P	**Pn**	**14 30 47.7**	**+0.7**
	baz=244						
FUSS				*e*S	**Sn**	**14 31 08.3**	**+0.3**
	baz=244						
WHF	**Hehuan Shan**	**1.52**	**246**	P	**Pn**	**14 30 48.1**	**+0.7**
	baz=245						
WHF				*e*S	**Sn**	**14 31 08.9**	**+0.1**
	baz=245						
NFF	**Wufeng Townshi**	**1.53**	**265**	P	**Pn**	**14 30 47.8**	**+0.7**
	baz=264						
NFF				S	**Sn**	**14 31 08.1**	**-0.2**
	baz=264						
TWT	**Tachien**	**1.56**	**251**	P	**Pn**	**14 30 49.0**	**+1.4**
	baz=244						
TWT				S	**Sn**	**14 31 09.4**	**+0.4**
	baz=244						
ESL	**Shilin**	**1.56**	**233**	*i* P	**Pn**	**14 30 47.2**	**-0.3**
	baz=227						
ESL				*e*S	**Sn**	**14 31 07.3**	**-1.5**
	baz=227						
TDCB	**Techi**	**1.57**	**251**	P	**Pn**	**14 30 48.8**	**+1.0**
	baz=244						
TDCB				S	**Sn**	**14 31 09.3**	**0.0**
	baz=244						
HSN1	**Hsinchu**	**1.61**	**271**	P	**Pn**	**14 30 48.8**	**+0.8**
	baz=261						
HSN1				S	**Sn**	**14 31 10.2**	**+0.3**
	baz=261						
LIOB	**Emei**	**1.62**	**266**	P	**Pn**	**14 30 48.9**	**+0.7**
	baz=264						
LIOB				S	**Sn**	**14 31 10.1**	**0.0**
	baz=264						
CHGB	**Renai**	**1.63**	**245**	P	**Pn**	**14 30 49.4**	**+0.8**
	baz=239						
CHGB				*e*S	**Sn**	**14 31 10.8**	**0.0**
	baz=239						
NSTT	**Nanjuang**	**1.64**	**266**	*i* P	**Pn**	**14 30 48.9**	**+0.6**
	baz=264						
NSTT				*i* S	**Sn**	**14 31 10.1**	**-0.2**
	baz=264						
SBCB	**Hsinchu**	**1.64**	**271**	P	**Pn**	**14 30 49.2**	**+0.8**
	baz=262						
SBCB				*e*S	**Sn**	**14 31 10.3**	**-0.3**
	baz=262						
WARBT	**Fenglin Townsh**	**1.65**	**231**	*i* P	**Pn**	**14 30 48.4**	**-0.2**
	baz=231						
WARBT				S	**Sn**	**14 31 09.4**	**-1.4**
	baz=231						
EGFH	**Guangfu**	**1.66**	**229**	*e*P	**Pn**	**14 30 48.6**	**0.0**
	baz=228						
HSN	**Hsinchu**	**1.66**	**272**	P	**Pn**	**14 30 48.9**	**+0.3**
	baz=262						
HSN				S	**Sn**	**14 31 10.1**	**-0.7**
	baz=262						
OWD	**Renai**	**1.68**	**242**	P	**Pn**	**14 30 49.5**	**+0.5**
	baz=236						
WUSB	**Renai**	**1.71**	**244**	P	**Pn**	**14 30 50.2**	**+0.8**
	baz=239						
WUSB				S	**Sn**	**14 31 12.2**	**0.0**
	baz=239						
JTJ	**Tarama**	**1.74**	**94**	P	**Pn**	**14 30 50.4**	**+0.8**
JTJ				*e*S	**Sn**	**14 31 12.2**	**-0.4**
WHP	**Taichung City**	**1.75**	**254**	*e*P	**Pn**	**14 30 52.2**	**+2.4**
	baz=250						
WHP				*e*S	**Sn**	**14 31 14.2**	**+1.2**
	baz=250						
HGSD	**Ruisui**	**1.78**	**225**	*e*P	**Pn**	**14 30 50.1**	**+0.1**
	baz=224						
HGSD				*e*S	**Sn**	**14 31 12.9**	**-0.6**
	baz=224						
VWDT	**VWDT**	**1.81**	**237**	P	**Pn**	**14 30 51.2**	**+0.8**
	baz=232						
VWDT				S	**Sn**	**14 31 13.9**	**-0.3**
	baz=232						
EHYH	**Wanrong**	**1.83**	**227**	*e*P	**Pn**	**14 30 50.7**	**0.0**
	baz=231						
EHYH				*e*S	**Sn**	**14 31 13.1**	**-1.5**
	baz=231						
NMLH	**Miaoli**	**1.84**	**263**	P	**Pn**	**14 30 51.6**	**+0.9**
	baz=262						
NMLH				*e*S	**Sn**	**14 31 14.9**	**+0.2**
	baz=262						
EHY	**Hungye**	**1.84**	**227**	P	**Pn**	**14 30 50.6**	**-0.2**
	baz=227						
EHY				*e*S	**Sn**	**14 31 13.1**	**-1.6**
	baz=227						
WCS	**Beigang Elemen**	**1.85**	**248**	P	**Pn**	**14 30 52.5**	**+1.5**
	baz=247						
WCS				*e*S	**Sn**	**14 31 16.2**	**+1.1**
	baz=247						
NSY	**Sanyi**	**1.88**	**260**	P	**Pn**	**14 30 52.4**	**+1.1**
	baz=258						
NSY				S	**Sn**	**14 31 16.2**	**+0.5**
	baz=258						
TWQ1	**Liyutan**	**1.89**	**258**	P	**Pn**	**14 30 52.

	baz=251							
WHYT	**Xinyi Township**	**2.06**	**239**	P		**Pn**	**14 30 55.6**	**+2.0**
	baz=237							
WHYT				*e*S		**Sn**	**14 31 21.7**	**+1.8**
	baz=237							
FULB	**Fuli**	**2.08**	**222**	*e*P		**Pn**	**14 30 53.9**	**+0.1**
	baz=216							
FULB				*e*S		**Sn**	**14 31 19.8**	**-0.3**
	baz=216							
WJS	**Zhushan**	**2.10**	**244**	*e*P		**Pn**	**14 30 55.6**	**+1.5**
	baz=253							
WJS				*e*S		**Sn**	**14 31 23.4**	**+2.7**
	baz=253							
CHKT	**Chengkung**	**2.11**	**219**	P		**Pn**	**14 30 54.0**	**-0.2**
	baz=214							
CHKT				*e*S		**Sn**	**14 31 19.0**	**-1.8**
	baz=214							
WNT	**Mingjian**	**2.12**	**246**	*e*P		**Pn**	**14 30 55.9**	**+1.7**
	baz=253							
WNT				*e*S		**Sn**	**14 31 22.2**	**+1.3**
	baz=253							
JIRB	**Irabujima**	**2.16**	**88**	P		**Pn**	**14 30 55.5**	**+0.7**
JIRB				*e*S		**Sn**	**14 31 22.6**	**+0.6**
EHD	**Haiduan**	**2.17**	**222**	P		**Pn**	**14 30 54.8**	**-0.1**
	baz=228							
EHD				*e*S		**Sn**	**14 31 21.5**	**-0.6**
	baz=228							
ECS	**Chishang**	**2.20**	**221**	*e*P		**Pn**	**14 30 55.8**	**+0.5**
	baz=228							
ALS	**Alishan**	**2.20**	**236**	P		**Pn**	**14 30 57.2**	**+1.6**
	baz=235							
ALS				*e*S		**Sn**	**14 31 25.4**	**+2.1**
	baz=235							
JIKM	**Ikemajima**	**2.24**	**85**	*e*P		**Pn**	**14 30 56.7**	**+1.0**
JIKM				*e*S		**Sn**	**14 31 24.2**	**+0.6**
EDH	**Donghe**	**2.25**	**218**	*e*P		**Pn**	**14 30 55.5**	**-0.3**
	baz=212							
EDH				*e*S		**Sn**	**14 31 23.2**	**-0.6**
	baz=212							
CHN5	**Tsauling**	**2.25**	**239**	*e*P		**Pn**	**14 30 57.6**	**+1.6**
	baz=231							
CHN5				*e*S		**Sn**	**14 31 26.2**	**+2.0**
	baz=231							
ELDTW	**Lidau**	**2.26**	**226**	P		**Pn**	**14 30 56.2**	**+0.1**
	baz=225							
ELDTW				*e*S		**Sn**	**14 31 23.4**	**-0.9**
	baz=225							
JMJ	**Miyako jima 2**	**2.27**	**88**	P		**Pn**	**14 30 56.9**	**+0.7**
WGK	**Gukeng**	**2.30**	**243**	*e*P		**Pn**	**14 30 58.4**	**+1.8**
	baz=242							
WGK				*e*S		**Sn**	**14 31 27.0**	**+1.9**
	baz=242							
JMJ2	**Miyako jima3**	**2.31**	**90**	P		**Pn**	**14 30 57.7**	**+1.1**
JMJ2				*e*S		**Sn**	**14 31 25.9**	**+0.8**
WDLH	**Douliu**	**2.32**	**243**	*e*P		**Pn**	**14 30 58.2**	**+1.4**
	baz=242							
WDLH				*e*S		**Sn**	**14 31 26.8**	**+1.3**
	baz=242							
WRL	**Guolierlin Hig**	**2.37**	**249**	P		**Pn**	**14 30 57.9**	**+0.5**
	baz=256							
WRL				*e*S		**Sn**	**14 31 26.1**	**-0.4**
	baz=256							
JOGS	**Gusukube**	**2.38**	**90**	P		**Pn**	**14 30 58.6**	**+1.1**
LONT	**Longtian**	**2.40**	**220**	*e*P		**Pn**	**14 30 57.8**	**0.0**
	baz=220							
LONT				*e*S		**Sn**	**14 31 26.6**	**-0.7**
	baz=220							
WCKO	**Fanlu**	**2.40**	**237**	*e*P		**Pn**	**14 30 59.8**	**+2.0**
	baz=236							
WCKO				*e*S		**Sn**	**14 31 28.9**	**+1.7**
	baz=236							
LDUT	**Ludao**	**2.41**	**211**	P		**Pn**	**14 30 58.2**	**+0.2**
	baz=208							
LDUT				*e*S		**Sn**	**14 31 26.4**	**-1.2**
	baz=208							
STYH	**Taoyuan**	**2.43**	**230**	*e*P		**Pn**	**14 31 00.1**	**+1.9**
	baz=229							
STYH				*e*S		**Sn**	**14 31 29.7**	**+1.6**
	baz=229							
WTK	**Tuku**	**2.44**	**244**	*e*P		**Pn**	**14 30 59.6**	**+1.3**
	baz=244							
WTK				S		**Sn**	**14 31 29.4**	**+1.0**
	baz=244							
CHN2	**Minshiung**	**2.45**	**240**	*e*P		**Pn**	**14 31 00.1**	**+1.7**
	baz=249							
CHN2				*e*S		**Sn**	**14 31 30.0**	**+1.6**
	baz=249							
CHN4	**Tsaushan**	**2.45**	**235**	*e*P		**Pn**	**14 31 00.2**	**+1.7**
	baz=235							
CHN4				*e*S		**Sn**	**14 31 30.3**	**+1.7**
	baz=235							
TPUB	**Ta-pu**	**2.46**	**234**	P		**Pn**	**14 31 00.1**	**+1.5**
TPUB	**Ta-pu**	**2.46**	**234**	*e*P		**Pn**	**14 30 59.9**	**+1.3**
	baz=233							
WTCT	**Ta-ch'eng**	**2.46**	**249**	*e*P		**Pn**	**14 30 59.1**	**+0.6**
	baz=255							
WTCT				*e*S		**Sn**	**14 31 28.6**	**-0.1**
	baz=255							
TWGBT	**Beinan**	**2.49**	**219**	P		**Pn**	**14 30 59.1**	**+0.1**
TWGBT	**Beinan**	**2.49**	**219**	*e*P		**Pn**	**14 30 59.1**	**+0.1**
	baz=219							
TWGBT				*e*S		**Sn**	**14 31 28.7**	**-0.9**
	baz=219							
TWG	**Pinlang**	**2.50**	**220**	*e*P		**Pn**	**14 30 59.1**	**0.0**
	baz=219							
TWG				*e*S		**Sn**	**14 31 28.7**	**-0.8**
	baz=219							
WTP	**Ta-pu**	**2.50**	**233**	*e*P		**Pn**	**14 31 00.3**	**+1.1**
	baz=233							
WTP				*e*S		**Sn**	**14 31 31.6**	**+1.8**
	baz=233							
TTN	**Taitung**	**2.51**	**217**	*e*P		**Pn**	**14 31 00.6**	**+1.4**
	baz=213							
TWK	**Hsinying**	**2.58**	**235**	*e*P		**Pn**	**14 31 01.5**	**+1.3**
	baz=235							
TWK				*e*S		**Sn**	**14 31 33.1**	**+1.5**
	baz=235							
CHN1	**Nanshi**	**2.60**	**233**	*e*P		**Pn**	**14 31 02.1**	**+1.7**
	baz=233							
CHN1				*e*S		**Sn**	**14 31 33.4**	**+1.4**
	baz=233							
WSF	**Szhu**	**2.60**	**245**	*e*P		**Pn**	**14 31 01.2**	**+0.8**
	baz=244							
WSF				*e*S		**Sn**	**14 31 32.6**	**+0.6**
	baz=244							
SNST	**Tainan City**	**2.60**	**234**	*e*P		**Pn**	**14 31 01.9**	**+1.5**
	baz=234							
SNST				*e*S		**Sn**	**14 31 33.5**	**+1.5**
	baz=234							
SGST	**Jiashian**	**2.63**	**231**	*e*P		**Pn**	**14 31 01.6**	**+0.8**
	baz=230							
SGST				*e*S		**Sn**	**14 31 34.4**	**+1.8**
	baz=230							
SLGT	**Liugui**	**2.64**	**229**	*e*P		**Pn**	**14 31 02.5**	**+1.6**
	baz=234							
SLGT				*e*S		**Sn**	**14 31 34.9**	**+2.0**
	baz=234							
WSL	**Shuilin Townsh**	**2.65**	**243**	*e*P		**Pn**	**14 31 02.2**	**+1.1**
	baz=242							
WSL				*e*S		**Sn**	**14 31 34.0**	**+0.9**
	baz=242							
ICHU	**Yijhu**	**2.69**	**239**	*e*P		**Pn**	**14 31 02.4**	**+0.9**
	baz=247							
ICHU				*e*S		**Sn**	**14 31 33.5**	**-0.5**
	baz=247							
ECL	**Taimali**	**2.74**	**218**	*e*P		**Pn**	**14 31 01.7**	**-0.5**
	baz=218							
ECL				*e*S		**Sn**	**14 31 34.0**	**-1.1**
	baz=218							
CHN8	**Yiju**	**2.75**	**240**	*e*P		**Pn**	**14 31 02.9**	**+0.5**
	baz=247							
CHN8				*e*S		**Sn**	**14 31 36.5**	**+1.1**
	baz=247							
SCST	**Cishan**	**2.82**	**229**	*e*P		**Pn**	**14 31 05.1**	**+1.9**
	baz=236							
SSD	**Sandimen**	**2.82**	**225**	*e*P		**Pn**	**14 31 05.2**	**+1.9**
	baz=225							
SSD				*e*S		**Sn**	**14 31 39.7**	**+2.6**
	baz=225							
SHHT	**Tainan City**	**2.83**	**233**	*e*P		**Pn**	**14 31 05.4**	**+2.0**
	baz=241							
TSMG	**Majia**	**2.84**	**224**	*e*P		**Pn**	**14 31 05.3**	**+1.7**
	baz=224							
TSMG				*e*S		**Sn**	**14 31 38.9**	**+1.2**
	baz=224							
SCLT	**Jiali**	**2.86**	**237**	*e*P		**Pn**	**14 31 05.0**	**+1.2**
	baz=229							
SCLT				*e*S		**Sn**	**14 31 39.4**	**+1.5**
	baz=229							
TWM1	**Shoushan**	**2.91**	**229**	*e*P		**Pn**	**14 31 08.5**	**+4.1**
	baz=228							
MASBT	**Mashibuluo**	**2.92**	**223**	*e*P		**Pn**	**14 31 06.1**	**+1.5**
	baz=234							
MASBT				*e*S		**Sn**	**14 31 42.2**	**+2.9**
	baz=234							
MATB	**Ma-tsu**	**2.92**	**299**	*e*P		**Pn**	**14 31 04.5**	**-0.1**
	baz=288							
LAY	**Lan-yu**	**2.94**	**203**	*e*P		**Pn**	**14 31 04.7**	**-0.2**
	baz=203							
TSCK	**Chigu Township**	**2.95**	**238**	P		**Pn**	**14 31 06.1**	**+1.1**
	baz=237							
TSCK				*e*S		**Sn**	**14 31 40.1**	**-0.1**
	baz=237							
TAW	**Tawu**	**2.96**	**216**	*e*P		**Pn**	**14 31 05.5**	**+0.4**
	baz=219							
LYUB	**Lan-yu**	**2.97**	**202**	P		**Pn**	**14 31 04.8**	**-0.4**
	baz=197							
LYUB				*e*S		**Sn**	**14 31 37.5**	**-2.9**
	baz=197							
EAST	**Anshuo**	**2.97**	**217**	*e*P		**Pn**	**14 31 04.6**	**-0.7**
	baz=217							
EAST				*e*S		**Sn**	**14 31 40.8**	**+0.2**
	baz=217							
VWUC	**VWUC**	**3.04**	**275**	*e*P		**Pn**	**14 31 05.9**	**-0.3**
	baz=282							
SCZT	**Fangliau**	**3.11**	**220**	*e*P		**Pn**	**14 31 08.6**	**+1.6**
	baz=215							
SLIU	**Shizi**	**3.13**	**216**	*e*P		**Pn**	**14 31 07.8**	**+0.4**
	baz=218							
SLIU				*e*S		**Sn**	**14 31 44.1**	**-0.2**
	baz=218							
PNG	**Penghu**	**3.19**	**249**	*e*P		**Pn**	**14 31 07.7**	**-0.3**
	baz=248							
PNG				*e*S		**Sn**	**14 31 43.6**	**-2.1**
	baz=248							
PHUB	**P'eng-hu**	**3.19**	**248**	P		**Pn**	**14 31 07.7**	**-0.5**
	baz=247							
PHUB				S		**Sn**	**14 31 43.5**	**-2.4**
	baz=247							
WDGT	**Dungji**	**3.23**	**243**	*e*P		**Pn**	**14 31 08.8**	**+0.2**
	baz=242							
WDGT				*e*S		**Sn**	**14 31 44.0**	**-2.7**
	baz=242							
LYJJ	**Jianjiangzhen**	**3.26**	**304**	*e*P		**Pn**	**14 31 08.5**	**-0.5**
	baz=302							
PTMZ	**Houxiangcun**	**3.35**	**275**	*e*P		**Pn**	**14 31 09.9**	**-0.3**
	baz=281							
TWKBT	**Hengchun**	**3.35**	**213**	*e*P		**Pn**	**14 31 10.7**	**+0.5**
	baz=213							
TWK1	**Hengchun**	**3.35**	**213**	*e*P		**Pn**	**14 31 11.3**	**+1.0**
	baz=213							
VCHM	**Qimei**	**3.44**	**244**	*e*P		**Pn**	**14 31 11.3**	**-0.2**
	baz=243							
VCHM				*e*S		**Sn**	**14 31 49.9**	**-1.9**
	baz=243							
MHZQ	**Yeshan**	**3.65**	**292**	*e*P		**Pn**	**14 31 13.8**	**-0.4**
	baz=283							
KNMB	**Chin-men Tao**	**4.02**	**267**	*e*P		**Pn**	**14 31 18.5**	**-0.6**
	baz=265							
ZPLA	**Ao Xicun**	**4.67**	**261**	*e*P		**Pn**	**14 31 27.9**	**0.0**
	baz=259							
DSXP	**Dongshan**	**5.01**	**259**	*e*P		**Pn**	**14 31 32.5**	**+0.1**
	baz=258							
JOW	**Kunigami**	**5.35**	**66**	P		**Pn**	**14 31 36.1**	**-0.9**
JNU	**Nakatsue**	**10.93**	**39**	P		**Pn**	**14 32 51.9**	**-0.4**

*IDC **19** 14:34:20.3±1.3, 6°.76N×72°.96W, h174km±15km, mb3.1/2, mbtmp3.8/5, Error ellipse: s-maj=34.1km s-min=19.5km az=132.0*

*RSNC **19** 14:34:21.8±0.0, 7°.1N±1°×7°.3W±°, h139km±4km, M3.5, mB5.9, mb3.8, ML3.2, Mw(mB)5.5*

ISC 19 14:34:18.6±0.8, 6°.85N±0°.03×73°.09W±0°.04, h152km±6km, n41, σ1s34/71, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.27**	**200**	P	**Pn**	**14 34 39.8**	**+0.1**
BARC				S	**Sn**	**14 34 54.4**	**-1.3**
PAMC	**Pamplona, Colo**	**0.62**	**38**	P	**Pn**	**14 34 42.7**	**+1.2**
PAMC				S	**Sn**	**14 34 59.7**	**+0.9**
PAMC				S		14 34 59.8	
RUSC	**La Rusia**	**0.95**	**180**	P	**Pn**	**14 34 43.7**	**-0.1**
RUSC				S	**Sn**	**14 35 01.8**	**-1.2**
TAMC	**Tame, Arauca**	**1.35**	**108**	P	**Pn**	**14 34 48.1**	**+1.2**
TAMC				S	**Sn**	**14 35 09.4**	**+0.9**
PTBC	**PUERTO BERRIO,**	**1.39**	**257**	P	**Pn**	**14 34 46.7**	**-0.6**
PTBC				S	**Sn**	**14 35 07.4**	**-1.8**
OCAC	**Ocana**	**1.40**	**351**	P	**Pn**	**14 34 49.3**	**+1.8**
OCAC				S	**Sn**	**14 35 10.0**	**+0.4**
SPBC	**San Pablo de B**	**1.54**	**219**	P	**Pn**	**14 34 48.9**	**0.0**
SPBC				P	**Pn**	**14 34 48.9**	**0.0**
SPBC				S	**Sn**	**14 35 11.2**	**-0.9**
ZARC	**Zaragoza, Cauc**	**1.87**	**290**	P	**Pn**	**14 34 52.9**	**+0.5**
ZARC				S	**Sn**	**14 35 19.0**	**+0.7**
NORC	**Norcasia**	**2.19**	**234**	P	**Pn**	**14 34 56.1**	**0.0**
NORC				P	**Pn**	**14 34 56.1**	**0.0**
NORC				S	**Sn**	**14 35 24.1**	**-0.9**
CHIC	**Chingaza**	**2.30**	**196**	P	**Pn**	**14 34 58.1**	**+0.3**
CHIC				S	**Sn**	**14 35 27.6**	**-0.4**
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**14 35 01.4**	**+3.0**
	39nm,0.3s,baz=308,slow=22,SNR=16						
ROSC				S	**Sn**	**14 35 28.0**	**-0.9**
	98nm,0.3s,baz=84,slow=15,SNR=11						
ROSC	**El Rosal**	**2.34**	**212**	P	**Pn**	**14 35 00.4**	**+2.0**
ROSC				S	**Sn**	**14 35 28.1**	**-0.9**
HELC	**Santa Helena**	**2.51**	**255**	P	**Pn**	**14 35 01.3**	**+0.9**
HELC				S	**Sn**	**14 35 31.3**	**-1.2**
CVER	**Cruz Verde, Cu**	**2.51**	**203**	P	**Pn**	**14 35 01.4**	**+0.9**
CVER				S	**Sn**	**14 35 33.5**	**+0.7**
UREC	**San Jos de Ur**	**2.58**	**290**	P	**Pn**	**14 35 00.2**	**-0.7**
UREC				S	**Sn**	**14 35 30.9**	**-2.7**
VILC	**Villavicencio,**	**2.79**	**193**	P	**Pn**	**14 35 03.6**	**0.0**
VILC				S	**Sn**	**14 35 36.9**	**-1.4**
PTGC	**Puerto Gaitan,**	**2.80**	**160**	P	**Pn**	**14 35 03.1**	**-0.5**
PTGC				S	**Sn**	**14 35 35.8**	**-2.6**
NIZA	**Niza - Manizal**	**2.96**	**233**	P	**Pn**	**14 35 09.2**	**+3.3**
NIZA				S	**Sn**	**14 35 44.8**	**+2.3**
DBBC	**Dabeiba**	**3.10**	**273**	P	**Pn**	**14 35 08.4**	**+0.9**
DBBC				S	**Sn**	**14 35 43.6**	**-1.7**
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**14 35 09.5**	**+1.2**
	55nm,0.3s,baz=231,slow=11,SNR=34						
SDV				S	**Sn**	**14 35 46.9**	**+0.1**
	70nm,0.4s,baz=252,slow=22,SNR=25						
SDV	**Santo Domingo**	**3.16**	**50**	P	**Pn**	**14 35 09.6**	**+1.2**
ARGC	**Ariguani, Magd**	**3.20**	**339**	P	**Pn**	**14 35 10.0**	**+1.4**
ARGC				S	**Sn**	**14 35 49.4**	**+2.0**
PRAC	**Prado**	**3.59**	**210**	P	**Pn**	**14 35 14.0**	**+0.2**
PRAC				S	**Sn**	**14 35 56.2**	**-0.3**
APAC	**Apartado, Choc**	**3.62**	**287**	P	**Pn**	**14 35 14.4**	**+0.4**
APAC				S	**Sn**	**14 35 55.8**	**-1.1**
SJCC	**San Jacinto, C**	**3.67**	**326**	P	**Pn**	**14 35 14.1**	**-0.6**
SJCC				S	**Sn**	**14 35 56.3**	**-1.9**
PLMC	**San Jos del P**	**3.72**	**239**	P	**Pn**	**14 35 15.9**	**+0.5**
PLMC				S	**Sn**	**14 35 58.2**	**-1.3**
URMC	**La Uribe, Meta**	**3.80**	**200**	P	**Pn**	**14 35 16.9**	**+0.4**
URMC				S	**Sn**	**14 36 01.1**	**-0.4**
CRJC	**Cerrejon, Guaj**	**4.15**	**3**	P	**Pn**	**14 35 20.0**	**-1.0**
CRJC				S	**Sn**	**14 36 05.9**	**-3.6**
YOTC	**Yotoco, Valle**	**4.32**	**229**	P	**Pn**	**14 35 22.8**	**-0.4**
MACC	**Macarena, Meta**	**4.74**	**189**	P	**Pn**	**14 35 27.7**	**-1.0**
URIC	**Uribia, Colomb**	**4.94**	**13**	P	**Pn**	**14 35 30.7**	**-0.6**
	24nm,1.1s						
JAMC	**Jamundi, Valle**	**5.08**	**225**	P	**Pn**	**14 35 33.2**	**-0.2**
	7.8nm,0.6s						
MALC	**Bahia Malaga**	**5.08**	**237**	P	**Pn**	**14 35 34.9**	**+1.7**
POPC	**Popayan, Colom**	**5.58**	**220**	P	**Pn**	**14 35 40.2**	**+0.2**
	6.3nm,0.6s						
FLOC	**Florencia**	**5.83**	**206**	P	**Pn**	**14 35 43.1**	**0.0**
	8.0nm,0.9s						
GR1C	**Gorgona, Isla**	**6.34**	**233**	P	**Pn**	**14 35 48.7**	**-1.3**
PCRV	**Puerto La Cruz**	**8.99**	**68**	P	**Pn**	**14 36 27.1**	**+1.8**
	4.0nm,0.6s,baz=345,slow=2.5,SNR=7.6						
PCRV				S	**Sn**	**14 38 03.2**	**-1.9**
	3.6nm,0.7s,baz=44,slow=1.9,SNR=1.4						
TXAR	**Lajitas Array**	**36.47**	**312**	P	**P**	**14 41 10.1**	**+0.8**
	0.6nm,0.7s,baz=123,slow=7.8,SNR=4.7						
	0.6nm,0.7s						
YKA	**Yellowknife Ar**	**63.25**	**340**	P	**P**	**14 44 31.1**	**+0.4**
	0.4nm,0.7s,baz=128,slow=6.2,SNR=8.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**149.16**	**234**	PKPbc	**PKPbc**	**14 53 48.4**	**-1.7**
	0.4nm,0.6s,baz=112,slow=3.7,SNR=6.2						
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc	**PKPbc**	**14 53 51.8**	**-1.3**
	0.1nm,0.3s,baz=108,slow=2.9,SNR=4.5						

IDC 19 14:38:31.3±4.6, 6°.29S×132°.25E, h0km, mb3.4/1, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=297.7km s-min=34.1km az=74.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.72**	**172**	Pn	Pn	14 41 47.6	+0.3
	0.1nm,0.3s,baz=352,slow=13,SNR=9.0						
WRA				Sn	Sn	14 44 10.3	-10
	0.6nm,0.3s,baz=332,slow=24,SNR=12						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**17.35**	**175**	P	Pn	14 42 34.9	-0.2
	0.1nm,0.3s,baz=353,slow=13,SNR=5.4						
ASAR				S	Sn	14 45 38.5	-10
	0.4nm,0.4s,baz=353,slow=26,SNR=4.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**68.88**	**326**	P	P	14 49 38.0	0.0
	0.2nm,0.4s,baz=123,slow=5.0,SNR=2.0						
	0.2nm,0.4s						

*WEL **19** 14:43:45.9±0.8, 37°.5S±6°×17°.8E±°, h162km±6km, M3.6/47, ML3.7/29, MLv3.6/47, Error ellipse: s-maj=0.0km s-min=0.0km az=38.5, confirmed*

*NOU **19** 14:43:46.2, 37°.15S×177°.57E, h172km, MLv4.0/15, Off E. Coast of N. Island, N.Z.*

*IDC **19** 14:44:07.6±20.0, 36°.78S×176°.97E, h380km±189km, mb3.5/4, mbtmp4.2/4, Error ellipse: s-maj=134.7km s-min=19.7km az=57.0*

ISC 19 14:43:47.0±0.8, 37°.05S±0°.07×177°.50E±0°.06, h185km±5km, n180, σ2s02/191, mb4.0/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**0.74**	**163**	P	**Pn**	**14 44 11.4**	**-2.1**
HAZ				S	**Sn**	**14 44 30.5**	**-3.6**
MXZ	**Matakaoa Point**	**0.82**	**129**	P	**Pn**	**14 44 11.4**	**-2.5**
MXZ	**Matakaoa Point**	**0.82**	**129**	P	**Pn**	**14 44 11.5**	**-2.5**
MXZ				S	**Sn**	**14 44 31.4**	**-3.4**
WHRZ	**Whale Island**	**0.91**	**207**	P	**Pn**	**14 44 13.9**	**-0.6**
RUGZ	**Raukumara Rang**	**0.92**	**171**	P	**Pn**	**14 44 12.6**	**-2.2**
PKGZ	**Pakihiroa**	**0.95**	**152**	P	**Pn**	**14 44 13.3**	**-1.6**
PKGZ				S	**Sn**	**14 44 35.3**	**-1.3**
MYRZ	**Mayor Island**	**1.03**	**257**	P	**Pn**	**14 44 13.6**	**-1.8**
WMGZ	**Waiomatatini S**	**1.06**	**137**	P	**Pn**	**14 44 13.8**	**-1.7**
WMGZ				S	**Sn**	**14 44 36.1**	**-1.7**
OPRZ	**Ohinepanea**	**1.09**	**223**	P	**Pn**	**14 44 14.7**	**-1.2**
OPRZ				S	**Sn**	**14 44 37.6**	**-0.7**
MARZ	**Manawahe**	**1.14**	**215**	P	**Pn**	**14 44 15.6**	**-0.7**
PUZ	**Puketiti**	**1.18**	**150**	P	**Pn**	**14 44 15.1**	**-1.5**
PUZ				S	**Sn**	**14 44 37.5**	**-2.2**
TWGZ	**Tauwhareparae**	**1.19**	**161**	P	**Pn**	**14 44 16.3**	**-0.4**
TWGZ				S	**Sn**	**14 44 39.1**	**-0.7**
TGRZ	**Tauranga**	**1.20**	**235**	P	**Pn**	**14 44 15.5**	**-1.2**
EDRZ	**Edgecumbe**	**1.22**	**210**	P	**Pn**	**14 44 16.6**	**-0.3**
URZ	**Urewera**	**1.25**	**194**	P	**Pn**	**14 44 15.8**	**-1.3**
URZ	**Urewera**	**1.25**	**194**	P	**Pn**	**14 44 16.1**	**-0.9**
URZ				S	**Sn**	**14 44 39.5**	**-1.0**
MWZ	**Matawai**	**1.28**	**179**	P	**Pn**	**14 44 16.6**	**-0.8**
MWZ				S	**Sn**	**14 44 40.0**	**-1.2**
LIRZ	**Lichensteins R**	**1.30**	**223**	P	**Pn**	**14 44 17.3**	**-0.3**
OMRZ	**Omania**	**1.39**	**220**	P	**Pn**	**14 44 18.0**	**-0.4**
KARZ	**Kaharoa**	**1.39**	**226**	P	**Pn**	**14 44 18.0**	**-0.4**
TARZ	**Mount Tarawera**	**1.42**	**213**	P	**Pn**	**14 44 18.6**	**-0.2**
RAGZ	**Rawiri**	**1.44**	**183**	P	**Pn**	**14 44 18.7**	**-0.3**
RAGZ				S	**Sn**	**14 44 44.0**	**+0.2**
KUZ	**Kuaotunu**	**1.46**	**282**	P	**Pn**	**14 44 16.3**	**-2.7**
KUZ	**Kuaotunu**	**1.46**	**282**	P	**Pn**	**14 44 16.0**	**-3.0**
KMRZ	**Kaimai**	**1.47**	**237**	P	**Pn**	**14 44 18.6**	**-0.5**
NGRZ	**Ngongotaha**	**1.48**	**224**	P	**Pn**	**14 44 19.2**	**-0.1**
RRRZ	**Republican Roa**	**1.51**	**211**	P	**Pn**	**14 44 19.5**	**+0.1**
HLRZ	**Highlands Stat**	**1.51**	**217**	P	**Pn**	**14 44 19.6**	**+0.2**
UTU	**Utuhina**	**1.53**	**222**	P	**Pn**	**14 44 20.1**	**+0.5**
CNGZ	**Carnagh Statio**	**1.54**	**159**	P	**Pn**	**14 44 19.6**	**0.0**
MUGZ	**Murupara**	**1.54**	**202**	P	**Pn**	**14 44 19.2**	**-0.5**
HSRZ	**Hossack Road**	**1.61**	**218**	P	**Pn**	**14 44 20.7**	**+0.3**
RTZ	**Ruatahuna**	**1.62**	**195**	P	**Pn**	**14 44 19.9**	**-0.7**
HRRZ	**Handcock Road**	**1.65**	**215**	P	**Pn**	**14 44 21.4**	**+0.6**
RIGZ	**Rimuhau**	**1.67**	**173**	P	**Pn**	**14 44 20.6**	**-0.4**
RIGZ				S	**Sn**	**14 44 47.5**	**+0.1**
PRRZ	**Plateau Road**	**1.69**	**211**	P	**Pn**	**14 44 21.1**	**-0.1**
GRRZ	**Galatos Road**	**1.70**	**220**	P	**Pn**	**14 44 21.8**	**+0.5**
TOZ	**Tahuroa Road**	**1.73**	**246**	P	**Pn**	**14 44 21.2**	**-0.3**
TOZ				S	**Sn**	**14 44 48.7**	**+0.3**
SNGZ	**Shannon Statio**	**1.73**	**184**	P	**Pn**	**14 44 21.2**	**-0.4**
ALRZ	**Allen Road**	**1.77**	**211**	P	**Pn**	**14 44 22.0**	**0.0**
WPRZ	**Whakapapatarin**	**1.81**	**216**	P	**Pn**	**14 44 22.9**	**+0.4**
GRZ	**Great Barrier**	**1.83**	**295**	P	**Pn**	**14 44 19.1**	**-3.5**
MKAZ	**Moumakai**	**1.87**	**268**	P	**Pn**	**14 44 21.6**	**-1.4**
MTHZ	**Maungataniwha**	**1.87**	**196**	P	**Pn**	**14 44 23.1**	**0.0**
RAHZ	**Arahi**	**1.89**	**190**	P	**Pn**	**14 44 23.2**	**-0.1**
PRGZ	**Paritu Road**	**1.89**	**171**	P	**Pn**	**14 44 22.8**	**-0.4**
WIAZ	**Waiheke Island**	**1.92**	**277**	P	**Pn**	**14 44 21.4**	**-2.1**
KUTZ	**Kaahu Road**	**1.96**	**222**	P	**Pn**	**14 44 24.5**	**+0.6**

PKE	Pukeiti	3.50	231	P		Pn	14 44 43.4	+1.4
KHEZ	Kahui Hut	3.55	230	P		Pn	14 44 41.0	-1.6
KHEZ	Kahui Hut	3.55	230	P		Pn	14 44 44.2	+1.6
OHWZ	Ohakea	3.59	208	P		Pn	14 44 42.8	-0.2
POWZ	Post Office Ro	3.60	202	P		Pn	14 44 41.9	-1.3
NBEZ	Newall Road No	3.62	231	P		Pn	14 44 45.2	+1.7
PRWZ	Pori Road	3.70	198	P		Pn	14 44 43.2	-1.2
BFZ	Birch Farm	3.76	195	P		Pn	14 44 43.6	-1.5
BFZ	Birch Farm	3.76	195	P		Pn	14 44 43.6	-1.5
MRZ	Mangatainoka R	3.91	202	P		Pn	14 44 45.2	-1.8
TIWZ	Tintock	3.93	198	P		Pn	14 44 46.0	-1.3
CPWZ	Castlepoint	3.98	194	P		Pn	14 44 47.0	-1.0
HOWZ	Holdsworth Sta	4.14	201	P		Pn	14 44 47.8	-2.2
OGWZ	Otaki Gorge	4.18	205	P		Pn	14 44 48.5	-2.0
TMWZ	Te Maipa	4.24	197	P		Pn	14 44 49.4	-1.9
KIW	Kapiti Island	4.31	207	P		Pn	14 44 49.9	-2.2
MTW	Mount Morrison	4.39	200	P		Pn	14 44 50.6	-2.5
CAW	Cannon Point	4.47	204	P		Pn	14 44 51.6	-2.6
TRWZ	Traveller	4.56	197	P		Pn	14 44 53.1	-2.3
PAWZ	Paruwai Farm	4.62	200	P		Pn	14 44 53.4	-2.7
DUWZ	D'Urville Isla	4.67	216	P		Pn	14 44 54.3	-2.5
WEL	Wellington	4.73	206	P		Pn	14 44 55.1	-2.5
SNZO	South Karori	4.78	206	P		Pn	14 44 55.1	-3.0
BHW	Baring Head	4.81	204	P		Pn	14 44 55.5	-2.9
PLWZ	Palliser	4.84	200	P		Pn	14 44 56.0	-3.0
TCW	Tory Channel	4.85	210	P		Pn	14 44 56.2	-2.9
TUWZ	Tuamarina	5.17	211	P		Pn	14 45 00.2	-3.0
NNZ	Nelson	5.25	216	P		Pn	14 45 01.3	-2.9
TKNZ	Takaka Hill	5.32	220	P		Pn	14 45 02.4	-2.8
CMWZ	Cape Campbell	5.34	207	P		Pn	14 45 03.2	-2.2
QRZ	Quartz Range	5.41	224	P		Pn	14 45 03.2	-3.1
QRZ	Quartz Range	5.41	224	P		Pn	14 45 03.2	-3.1
BSWZ	Blackbirch Sta	5.44	210	P		Pn	14 45 03.7	-3.0
MRNZ	Matariki Terra	5.69	219	P		Pn	14 45 06.7	-3.3
THZ	Tophouse	5.90	216	P		Pn	14 45 09.6	-3.2
KHZ	Kahutara	6.17	208	P		Pn	14 45 12.7	-3.4
KHZ	Kahutara	6.17	208	P		Pn	14 45 12.9	-3.2
DSZ	Denniston Nort	6.44	222	P		Pn	14 45 15.9	-3.8
GVZ	Greta Valley S	6.83	209	P		Pn	14 45 21.2	-3.7
LTZ	Lake Taylor	6.99	213	P		Pn	14 45 23.2	-3.9
AMCZ	Amberley	7.16	210	P		Pn	14 45 25.5	-3.6
INZ	Inchbonnie	7.33	218	P		Pn	14 45 27.2	-4.3
OKCZ	Okains Bay	7.48	206	P		Pn	14 45 29.8	-3.5
OXZ	Oxford	7.53	212	P		Pn	14 45 29.9	-4.2
MQZ	McQueen's Vall	7.61	208	P		Pn	14 45 30.2	-4.8
AKCZ	Akaroa Harbour	7.66	206	P		Pn	14 44 31.8	-3.9
RACZ	Rakaia	7.82	210	P		Pn	14 45 33.7	-4.1
MHCZ	Mount Hutt	7.90	213	P		Pn	14 44 34.9	-4.1
WVZ	Waitaha Valley	7.94	219	P		Pn	14 45 36.2	-3.2
WACZ	Wakanui South	8.12	210	P		Pn	14 45 37.5	-4.3
RPZ	Rata Peaks	8.28	214	P		Pn	14 45 41.1	-2.7
RPZ	Rata Peaks	8.28	214	P		Pn	14 45 40.6	-3.2
GCSZ	Gaunt Creek Bo	8.32	219	P		Pn	14 45 40.9	-3.5
ARCZ	Arundel	8.40	213	P		Pn	14 45 41.9	-3.6
FOZ	Fox Glacier	8.74	220	P		Pn	14 45 45.8	-4.1
TMZ	Timaru	8.83	212	P		Pn	14 45 47.0	-4.1
LBZ	Lake Benmore	9.19	215	P		Pn	14 45 52.1	-3.8
ODZ	Otahua Downs	9.51	211	P		Pn	14 45 56.5	-3.5
JCZ	Jackson Bay	9.65	221	P		Pn	14 45 57.5	-4.4
WKZ	Wanaka	10.07	217	P		Pn	14 46 03.4	-3.9
EAZ	Earnscleugh	10.24	215	P		Pn	14 46 05.4	-4.0
AFI	Afiamalu	24.96	25	P		P	14 48 54.0	+0.4
CMSA	Cobar Meteorol	26.77	272	P		P	14 49 11.3	+1.5
INKA	Innaminka	32.23	276	P		P	14 49 58.7	+0.8
LCRK	Leigh Creek	33.15	270	P		P	14 50 08.0	+2.1
ASAR	Alice Springs	39.58	277	P		P	14 51 00.1	-0.4
	2.6nm,0.5s,baz=121,slow=8.1,SNR=55 2.6nm,0.5s							
WRA	Warramunga Arr	41.20	282	P		P	14 51 12.9	-0.8
	2.1nm,0.4s,baz=123,slow=7.0,SNR=40 2.1nm,0.4s							
QSPA	South Pole Qui	53.07	180	P		P	14 52 48.5	+3.5
	2.0nm,0.6s,baz=224,slow=0.6,SNR=22 2.0nm,0.6s							
SNAA	Sanae	71.58	180	P		P	14 54 50.6	+3.0
	1.8nm,1.0s,baz=168,slow=9.3,SNR=2.0 1.8nm,1.0s							
FINES	FINESS Array B	149.74	333	PKPbc		PKPbc	15 03 11.0	-3.0
	1.0nm,0.8s,baz=25,slow=3.7,SNR=4.8							
TORD	Torodi Ar. Bea	155.90	190	PKPab		PKPab	15 03 47.2	0.0
	0.5nm,0.4s,baz=166,slow=2.9,SNR=6.6							

NEIC ***19*** *14:47:51.4±1.9, 40˚.51N±0˚.03×118˚.65W±0˚.02, h5km±1km, Error ellipse: s-maj=4.4km s-min=2.9km az=352.0*

REN 19 14:47:51.6±1.8**, 40˚.52N**±0˚.03×**118˚.66W**±0˚.02**, h2**km±5km**, ML2.5**/14**, ML2.4**/50(NEIC)**, Error ellipse: s-maj=4.2km s-min=0.8km az=155.0, Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAHR	Pah Rah Range	0.99	215		Pg	14 48 10.5	0.0
PAHR					Sb	14 48 24.5	-0.5
BMN	Battle Mountai	1.10	94		Pg	14 48 12.4	-0.2
BMN				IAML		14 48 29.3	
	comp=E,100nm,0.6s						
BMN				IAML		14 48 30.7	
	comp=N,90nm,0.6s						
BMN	Battle Mountai	1.10	94		Sb	14 48 27.6	-0.6
BMRR	Black Mountain	1.32	252		Pg	14 48 16.0	-0.8
PEAR	Peavine Mounta	1.36	228		Pg	14 48 16.8	-0.8
BABR	Babbit Peak	1.44	231		Pn	14 48 17.9	-1.1
VCNR	Virginia City	1.45	212		Pn	14 48 18.6	-0.4
BEKR	Beckworth	1.46	244		Pn	14 48 18.1	-1.1
LOY	Loyalton	1.49	235		Pb	14 48 20.0	-0.1
KVN	Kaiserville	1.53	164		Pn	14 48 19.2	-0.9
KVN	Kaiserville	1.53	164	IAML		14 48 42.5	
	comp=E,45nm,0.5s						
KVN				IAML		14 48 42.8	
	comp=N,58nm,0.5s						
YERR	Yerington	1.60	197		Pn	14 48 20.0	-1.1
YERR	Yerington	1.60	197	IAML		14 48 44.8	
	comp=N,46nm,0.3s						
YERR				IAML		14 48 45.7	
	comp=E,61nm,0.3s						
PNTR	Pine Nut	1.61	207		Pn	14 48 20.2	-1.0
PNTR	Pine Nut	1.61	207	IAML		14 48 49.3	
	comp=N,34nm,0.8s						
PNTR				IAML		14 48 50.8	
	comp=E,33nm,0.7s						
MPK	Martis Peak	1.62	221		Pn	14 48 20.5	-0.9
MPK	Martis Peak	1.62	221	IAML		14 48 46.9	
	comp=N,41nm,0.3s						
MPK				IAML		14 48 49.2	
	comp=E,48nm,0.5s						
DONR	Donner Summit	1.73	228		Pn	14 48 21.9	-1.0
RYN	Ryan	1.90	177		Pn	14 48 24.7	-0.4
EMB	Emerald Bay	1.91	216	Pn	Pn	14 48 23.7	-1.6
WVOR	Wild Horse Val	1.91	0		Pn	14 48 24.6	-0.7
WVOR	Wild Horse Val	1.91	0	IAML		14 48 53.5	
	comp=E,39nm,0.7s						
WVOR				IAML		14 48 55.1	
	comp=E,38nm,0.6s						
NV09	Mina Array Sit	2.10	173		Pn	14 48 27.4	-0.5
WAKR	Walker	2.10	197		Pn	14 48 27.9	-0.1
NVAR	Mina Array Bea	2.11	172		Pn	14 48 27.3	-0.8
NV11	Mina Array Sit	2.12	169		Pn	14 48 27.7	-0.6
NV11				IAML		14 49 01.4	
	comp=E,16nm,0.7s						
LKVW	Lakeview	2.13	324		Pb	14 48 31.5	+0.5
NV08	Mina Array Sit	2.13	173		Pn	14 48 27.8	-0.6
LHV	Little Huntoon	2.27	177		Pn	14 48 30.5	+0.4
AFDM	Forest Hills D	2.38	229	Pn	Pn	14 48 30.2	-1.4
AFDM				IAML		14 49 10.1	
	comp=N,12nm,0.6s						
TPH	Tonopah	2.69	155	Pn	Pn	14 48 37.2	+1.2
K05A	Summer Lake	2.77	323	Pn	Pn	14 48 37.2	+0.1
K05A					Pb	14 48 42.1	+0.3
CMB	Columbia Colle	2.83	209	Pn	Pn	14 48 37.4	-0.4
J08A	Circle Bar Ran	2.84	3		Pn	14 48 38.6	+0.6
J08A				IAML		14 49 25.4	
	comp=N,14nm,0.6s						
J08A				IAML		14 49 28.9	
	comp=E,15nm,0.5s						
MZP	Montezuma Peak	2.99	160		Pb	14 48 43.5	-2.1
MZP				IAML		14 49 27.1	
	comp=N,13nm,0.6s						
MZP				IAML		14 49 27.5	
	comp=E,8.1nm,0.4s						
R11B	Troy Canyon, C	3.22	131	Pn	Pn	14 48 44.2	+0.9
R11B				IAML		14 49 35.6	
	comp=E,5.5nm,0.6s						
R11B				IAML		14 49 39.1	
	comp=N,7.0nm,0.3s						
Q12A	Willow Creek R	3.30	115	Pn	Pn	14 48 45.2	+0.8
J05D	Fort Rock, OR	3.36	326	Pn	Pn	14 48 46.0	+0.7
J05D					Pb	14 48 53.2	+1.1
J05D				IAML		14 49 09.9	
	comp=N,6.1nm,4.3s						
J05D				IAML		14 50 06.5	
	comp=E,6.4nm,3.2s						
I07A	Izee	3.61	350	Pn	Pn	14 48 47.2	-1.5
SPR3	Spring Creek 3	3.66	113	Pn	Pn	14 48 48.5	-1.1
WCT	Wildcat Mounta	4.05	156	Pn	Pn	14 48 53.3	-1.4
PRN	Pahroc Range	4.19	137	Pn	Pn	14 48 58.3	+1.6
DUG	Dugway, Tooele	4.48	92	Pn	Pn	14 49 01.0	+0.4

TIR ***19*** *14:59:11.7, 39˚.82N×20˚.31E, h10km±1km, Md2.7, Ml2.3*
THE ***19*** *14:59:11.3, 39˚.81N×20˚.27E, h13km±2km, ML2.4/5, Error ellipse: s-maj=3.3km s-min=1.1km az=130.0*

ATH 19 14:59:12.2, 39.79N×20˚.37E, h11km±5km**, ML2.1**/3**, Error ellipse: s-maj=5.1km s-min=0.9km az=278.0, Greece-Albania border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.26	187	P	Pg	14 59 16.7	-0.7
	baz=176						
IGT				S	Sg	14 59 22.0	+1.1
	baz=176						
IGT				AMP			
	comp=N,2.7nm,0.2s,baz=176						
IGT	Igoumenitsa	0.26	187	P	Pg	14 59 16.7	-0.7
IGT				S	Sg	14 59 21.8	+0.9
	comp=N,700nm,0.4s						
IGT	Igoumenitsa	0.26	187	P	Pg	14 59 17.0	-0.4
IGT				S	Sg	14 59 21.4	+0.5
IGT				AML	AML	14 59 24.0	
	comp=N,1292μm,0.3s						
IGT				AML	AML	14 59 24.5	
	comp=E,1505μm,0.5s						
SRN	Sarande	0.30	288	P	Pg	14 59 17.4	-0.8
	baz=286						
SRN				S	Sg	14 59 21.2	-1.1
	baz=286						
SRN				AMP			
	comp=E,1.3nm,0.3s,baz=286						
KASA	Kassiopi	0.34	263	P	Pg	14 59 18.7	-0.2
KASA				S	Sg	14 59 23.8	+0.3
KASA				AML	AML	14 59 25.6	
	comp=N,1839μm,0.4s						
KASA				AML	AML	14 59 25.6	
	comp=E,898μm,0.4s						
JAN	Janina	0.39	109	P	Pb	14 59 21.2	0.0
JAN				S	Sb	14 59 27.9	+0.7
	comp=E,610nm,0.2s						
LSK	Leskovik	0.40	26	P	Pg	14 59 18.9	-1.3
	baz=33						
LSK				S	Sg	14 59 26.1	+0.6
	baz=33						
LSK				AMP			
	comp=N,1.9nm,0.4s,baz=33						
PENT	Pentalofos	0.72	55	P	Pg	14 59 25.4	-0.7
PENT	Pentalofos	0.72	55	P	Sg	14 59 25.8	-0.3
PENT				S	Sg	14 59 35.6	+0.1
KPRO	Kipourio	0.78	77	P	Pg	14 59 26.7	-0.6
KPRO				S	Sb	14 59 39.7	+1.2
	comp=N,242nm,0.4s						
KPRO	Kipourio	0.78	77	P	Pg	14 59 26.7	-0.5
NEST	Nestorio	0.81	39	P	Pg	14 59 27.2	-0.7
NEST				S	Sb	14 59 40.3	+0.8
	comp=N,88nm,0.5s						
NEST	Nestorio	0.81	39	P	Pg	14 59 27.4	-0.5
NEST				S	Sg	14 59 39.0	+0.4
NEST				AML	AML	14 59 42.4	
	comp=N,123μm,0.6s						
NEST				AML	AML	14 59 44.0	
	comp=E,229μm,0.7s						
TSLK	Tsoukalades, L	0.98	167	P	Pg	14 59 30.9	-0.2
LKD2	Lefkada island	1.02	167	P	Pn	14 59 32.7	+0.3
LKD2	baz=165						
				S	Sn	14 59 48.4	+1.6
	baz=165						
LKD2				AMP			
	comp=E,0.3nm,0.2s,baz=165						
NYDR	Nydri-Lefkada	1.10	167	P	Pb	14 59 32.7	-0.5
FNA	Florina	1.26	37	P	Pg	14 59 36.4	0.0
FNA	baz=40						
				S	Sn	14 59 54.8	+2.0
	baz=40						
FNA				AMP			
	comp=E,0.2nm,0.5s,baz=40						
FNA	Florina	1.26	37	P	Pn	14 59 35.2	-0.6
FNA				S	Sb	14 59 51.6	-0.6
	comp=E,165nm,0.8s						
OHR	Ohrid	1.36	14	*e*Pn	Pg	14 59 38.2	-0.1
SCTE	Santa Cesarea	1.49	282	P	Pn	14 59 38.9	0.0
	baz=282						
SCTE				S	Sg	14 59 59.9	-0.2
	baz=282						
SCTE				AMP			
	comp=E,0.1nm,0.4s,baz=282						

IDC ***19*** *16:23:52.5±5.0, 21˚.70S×122˚.38E, h0km, mbtmp4.0/4, ML3.9/3, Error ellipse: s-maj=70.1km s-min=29.5km az=154.0*
NOU ***19*** *16:23:52.7, 21˚.79S×122˚.32E, h0km, mb4.3/22, Western Australia*
AUST ***19*** *16:23:53.5±1.1, 21˚.77S×122˚.25E, h10km, Error ellipse: s-maj=16.6km s-min=10.5km az=7.0*

ISC 19 16:23:52.1±0.9**, 21.89S**±0˚.07×**122.28E**±0˚.05**, h10**km**, n42,** σ3°**11/57, Western Australia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSA00	Pilbara Seismi	2.28	277	P	Pn	16 24 32.2	+2.3
MBWA	Marble Bar	2.48	286	P	Pn	16 24 33.7	+1.1
FITZ	Fitzroy Crossi	4.92	41	P	Pn	16 25 07.2	+1.0
	baz=4.9,SNR=8.7						
FITZ	Fitzroy Crossi	4.92	41	P	Pn	16 25 07.2	+1.0
MEEK	Meekatharra	5.79	215	P	Pn	16 25 22.6	+4.3
	baz=5.8,SNR=8.5						
MEEK				S	Sn	16 26 27.7	+2.9
	baz=5.8						
MEEK	Meekatharra	5.79	215	P	Pn	16 25 22.7	+4.5
WRKA	Warakurna	6.35	121	P	Pn	16 25 30.5	+4.6
	baz=6.4,SNR=19						
WRKA				S	Sn	16 26 43.5	+4.9
	baz=6.4						
GIRL	Giralia	7.49	263	P	Pn	16 25 44.1	+2.7
	baz=7.4,SNR=9.8						
GIRL				S	Sn	16 27 02.6	-3.9
	baz=7.4						
GIRL	Giralia	7.49	263	P	Pn	16 25 44.2	+2.7
MORW	Morawa	9.10	217	P	Pn	16 26 05.5	+1.9
	baz=9.1,SNR=3.9						
MORW				S	Sn	16 27 41.3	-4.9
	baz=9.1						
MORW	Morawa	9.10	217	P	Pn	16 26 05.7	+2.0
KMBL	Kambalda	9.45	182	P	Pn	16 26 11.8	+3.5
	baz=9.6						
KMBL	Kambalda	9.45	182	P	Pn	16 26 11.9	+3.5
BLDU	Ballidu	10.03	209	P	Pn	16 26 19.0	+2.8
	baz=10,SNR=17						
BLDU				S	Sn	16 28 05.4	-3.5
	baz=10						
BLDU	Ballidu	10.03	209	P	Pn	16 26 19.1	+2.8
FORT	Forrest	10.26	151	P	Pn	16 26 22.8	+3.3
	baz=10						
FORT				S	Sn	16 28 15.4	+0.8
	baz=10						
FORT	Forrest	10.26	151	P	Pn	16 26 23.0	+3.5
KLBR	Kellerberrin	10.48	202	P	Pn	16 26 25.4	+3.0
	baz=11,SNR=25						
KLBR				S	Sn	16 28 15.2	-4.8
	baz=11						
KLBR	Kellerberrin	10.48	202	P	Pn	16 26 26.1	+3.6
ASAR	Alice Springs	10.87	102	Pn	Pn	16 26 30.1	+2.2
	1.0nm,0.3s,baz=285,slow=12,SNR=121						
ASAR				Sn	Sn	16 28 25.9	-3.8
	0.9nm,0.3s,baz=279,slow=24,SNR=6.7						
ASAR				Lg	Lg	16 29 34.2	
	baz=280,slow=31 4.9nm,0.5s						
AS01	Alice Springs	10.91	102	P	Pn	16 26 30.6	+2.1
MUN	Mundaring	11.42	207	P	Pn	16 26 37.4	+2.1
	baz=12,SNR=3.5						
MUN				S	Sn	16 28 39.5	-3.4
	baz=12						
MUN	Mundaring	11.42	207	P	Pn	16 26 37.7	+2.4
WRA	Warramunga Arr	11.44	82	Pn	Pn	16 26 35.8	+0.1
	0.6nm,0.3s,baz=263,slow=14,SNR=19						
WRA				Sn	Sn	16 28 37.8	-5.8
	0.9nm,0.3s,baz=259,slow=24,SNR=7.4						
WRA				Lg	Lg	16 29 49.7	
	baz=258,slow=32 0.8nm,0.5s						
WB2	Warramunga Arr	11.45	82	P	Pn	16 26 36.7	+0.9
	baz=12						
NWAO	Narrogin (SRO)	11.87	201	P	Pn	16 26 44.0	+2.4
	baz=12,SNR=5.1						
NWAO				P	Pn	16 26 44.0	+2.4
	baz=12,SNR=5.1						
NWAO				S	Sn	16 28 49.6	-4.5
	baz=12						
NWAO				S	Sn	16 28 49.6	-4.5
	baz=12						
NWAO	Narrogin (SRO)	11.87	201	P	Pn	16 26 43.8	+2.2
NWAO	Narrogin (SRO)	11.87	201	Pn	Pn	16 26 44.1	+2.6
	2.0nm,0.3s,baz=31,slow=11,SNR=6.3						
NWAO				Sn	Sn	16 28 48.8	-5.4
	1.5nm,0.3s,baz=323,slow=6.8,SNR=3.6						
NWAO				Lg	Lg	16 30 04.4	
	0.7nm,0.3s,baz=286,slow=23,SNR=7.0						
MTN	Manton Dam	12.33	45	P	Pn	16 26 48.5	+0.6
MULG	Mulgathing	13.48	131	P	Pn	16 27 05.6	+2.1
	baz=14						
MULG	Mulgathing	13.48	131	P	Pn	16 27 05.9	+2.4
OOD	Oodnadatta	13.52	118	P	Pn	16 27 05.0	+1.0
	baz=14						
OOD	Oodnadatta	13.52	118	P	Pn	16 27 04.9	+0.9
QIS	Mount Isa	16.21	89	P	Pn	16 27 40.2	+0.1
	baz=16,SNR=4.2						
QIS	Mount Isa	16.21	89	P	Pn	16 27 40.5	+0.3
BBOO	Buckleboo	16.36	135	P	P	16 27 44.7	-0.2
LCRK	Leigh Creek	16.64	124	P	Pn	16 27 45.7	+0.1
INKA	Innaminka	17.74	113	P	Pn	16 27 59.5	+0.1
	baz=18,SNR=4.8						
INKA	Innaminka	17.74	113	P	Pn	16 27 59.5	+0.1
STKA	Stephens Creek	19.87	124	P	Pn	16 28 26.0	+0.8
STKA	Stephens Creek	19.87	124	P	Pn	16 28 26.3	+1.1
	0.3nm,0.3s,baz=288,slow=12,SNR=12						
STKA				S	S	16 32 01.1	-6.3
	2.2nm,0.8s,baz=216,slow=19,SNR=3.2 3.4nm,0.6s						
CMSA	Cobar Meteorol	22.98	120	P	P	16 29 00.8	+3.8

IDC ***19*** *16:41:18.7±0.9, 44˚.81N×9˚.64E, h0km, mb3.6/9, mbtmp3.6/19, ML3.8/6, MS3.3/18, Error ellipse: s-maj=14.8km s-min=11.0km az=132.0*
STR ***19*** *16:41:19.9±0.8, 45˚.N±3˚×1˚.0E±˚, h5km, MLv4.4/38, Error ellipse: s-maj=0.0km s-min=0.0km az=104.6, preliminary*
BEO ***19*** *16:41:19.9±0.7, 44˚.48N×9˚.80E, h0km, ML4.3/6*
BGR ***19*** *16:41:20.2±0.8, 44˚.77N×9˚.52E, h10km, ML3.7/5, Error ellipse: s-maj=12.2km s-min=11.1km az=16.0*
LDG ***19*** *16:41:20.6±0.1, 44˚.92N×9˚.61E, h10km, Md4.2/2, Ml4.3/48, Error ellipse: s-maj=1.8km s-min=1.0km az=42.0*
PDG ***19*** *16:41:21.2±0.7, 44˚.85N×9˚.73E, h20km±1km, ML4.3/12, Error ellipse: s-maj=0.8km s-min=0.7km az=90.0*
MED_RC ***19*** *16:41:21.0±0.3, 44˚.83N×9˚.65E, h26km±1km, MW4.2/21, Moment Tensor Solution. Mantle waves: s21, c25; Duration: 1s0 Moment tensor: Scale 10¹⁵Nm; Mrr 0.29±.27; Mθθ-2.26±.17; Mϕϕ 1.96±.22; Mrθ 0.62±.23; Mθϕ 0.67±.14; Mϕr 0.49±.23; Best double couple: M₀2.35000×10¹⁵ NP1:ϕs55.00000°, δ86.00000°, λ20.00000°. NP2:ϕs323.00000°, δ70.00000°, λ176.00000°. Principal axes: T 2.2400, Plg17.0000°, Azm281.0000°; N 0.2200, Plg69.0000°, Azm65.0000°; P -2.4700, Plg11.0000°, Azm187.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ROM ***19*** *16:41:21.9±0.1, 44˚.823N±0.004×9˚.682E±0˚.005, h29km, ML4.1/370, Mw3.9 Error ellipse: s-maj=0.4km s-min=0.1km az=296.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁴Nm; Mrr 5.04; Mθθ-7.77; Mϕϕ 2.73; Mrθ 1.33; Mθϕ 3.22; Mϕr 4.07; Fault plane solution: M₀8.68103×10¹⁴ NP1:ϕs319.00000°, δ57.00000°, λ141.00000°. NP2:ϕs73.00000°, δ58.00000°, λ40.00000°.*
PRU ***19*** *16:41:23.1, 45˚.01N×9˚.86E, h10km*
BNS ***19*** *16:41:23.3±0.3, 45˚.01N×9˚.86E, h10km, ML3.9*

ISC 19 16:41:21.7±0.8**, 44.85N**±0˚.02×**9.66E**±0˚.02**, h26**km±7km**, n375,** σ2°**17/484, mb3.6/9, MS3.4/10, 10C-42D, Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GORR	Gorreto	0.36	227	⇑P	Pb	16 41 29.8	+0.2
GORR				S	Sb	16 41 36.2	+1.1
GORR				AML	AML		
	comp=N,60650μm,0.4s						
GORR				AML	AML		
	comp=E,69650μm,0.5s						
GORR				AML	AML		
	comp=N,60650μm,1.6s						
GORR				AML	AML		
	comp=E,69650μm,1.5s						
GORR				AML	AML		
	comp=N,60617μm,0.4s						
GORR				AML	AML		
	comp=E,69669μm,0.5s						
CTL8	Castelleone	0.43	10	P	Pn	16 41 32.2	0.0
GRAM	Graiana	0.46	141	⇑P	Pb	16 41 30.6	-0.8
GRAM				S	Sb	16 41 38.0	0.0
GRAM				AML	AML		
GRAM				AML	AML		
GRAM				AML	AML		
GRAM				AML	AML		
PRMA	PARMA	0.47	100	⇑P	Pb	16 41 30.9	-0.6
PRMA				S	Sn	16 41 40.8	+0.5
PRMA				AML	AML		
	comp=N,56250μm,0.6s						
PRMA				AML	AML		
	comp=E,62400μm,0.5s						
PRMA				AML	AML		
	comp=N,56250μm,1.4s						
PRMA				AML	AML		
	comp=E,62400μm,1.5s						
PRMA				AML	AML		
	comp=E,62438μm,0.5s						
PRMA				AML	AML		
	comp=N,56249μm,0.6s						
SARZ	Sarezzano	0.53	272	P	Pn	16 41 33.6	+0.1
SARZ				AML	AML		
	comp=N,30750μm,0.5s						
SARZ				AML	AML		
	comp=E,26650μm,1.0s						
SARZ				AML	AML		
	comp=E,27400μm,1.0s						
SARZ				AML	AML		
	comp=N,31450μm,0.5s						
SARZ				AML	AML		
	comp=E,27400μm,1.0s						
SARZ				AML	AML		
	comp=E,26650μm,1.0s						
SARZ				AML	AML		
	comp=E,26636μm,1.0s						
SARZ				AML	AML		
	comp=N,31449μm,0.5

comp=N,17950µm,0.5s
MSSA AML AML
comp=E,24700µm,1.5s
MSSA AML AML
comp=N,17950µm,1.5s
MSSA AML AML
comp=E,24699µm,0.5s
MSSA AML AML
comp=N,17934µm,0.5s
ORZI Orzinuovi 0.59 19 ⇓P Pb 16 41 34.2 +0.8
ORZI AML AML
comp=E,13500µm,0.6s
ORZI AML AML
comp=N,19550µm,1.5s
ORZI AML AML
comp=N,19550µm,0.5s
ORZI AML AML
comp=E,14900µm,0.7s
ORZI AML AML
comp=E,13547µm,0.6s
ORZI AML AML
comp=N,15798µm,0.8s
RNCA Ronca, Sant'Ol 0.63 233 ⇓P Pb 16 41 34.5 +0.3
RNCA S Sn 16 41 44.0 -0.1
RNCA AML AML
comp=N,6715µm,0.7s
RNCA AML AML
comp=E,7665µm,0.4s
RNCA AML AML
comp=E,7661µm,0.5s
RNCA AML AML
comp=N,6506µm,0.2s
A312A Bozzolo (MN) 0.64 66 P Pb 16 41 34.5 +0.3
A312A S Sn 16 41 44.9 +0.6
MILN Milano 0.70 335 P Pn 16 41 36.6 +0.8
MILN AML AML
comp=E,25150µm,1.0s
MILN AML AML
comp=N,40400µm,0.6s
MILN AML AML
comp=E,26500µm,0.2s
MILN AML AML
comp=N,39200µm,1.1s
MILN AML AML
comp=E,21140µm,0.3s
MILN AML AML
comp=N,38192µm,0.2s
MILN AML AML
comp=N,38801µm,0.2s
MILN AML AML
comp=E,26469µm,0.2s
FIVI Fivizzano 0.70 151 P Pb 16 41 34.7 -0.6
FIVI S Sb 16 41 45.0 +0.5
A306A Viano (RE) 0.74 115 P Pb 16 41 35.9 -0.1
EQUI Equi 0.77 152 P Pb 16 41 35.9 -0.6
EQUI S Sb 16 41 46.2 -0.4
EQUI AML AML
comp=N,17650µm,1.6s
EQUI AML AML
comp=E,15350µm,0.4s
EQUI AML AML
comp=N,17650µm,0.4s
EQUI AML AML
comp=N,16821µm,0.5s
EQUI AML AML
comp=E,15380µm,0.4s
CAPR Capriolo 0.81 14 P Pn 16 41 38.1 +0.7
CAPR AML AML
comp=E,4820µm,0.8s
CAPR AML AML
comp=N,5035µm,0.5s
CAPR AML AML
comp=N,5034µm,0.6s
CAPR AML AML
comp=E,3756µm,0.4s
PLMA Palmaria, Port 0.81 170 ⇓P Pb 16 41 36.6 -0.6
PLMA S Sb 16 41 47.3 -0.4
PLMA AML AML
comp=N,12885µm,0.5s
GSCL Gusciola 0.83 127 ⇑P Pb 16 41 37.2 -0.3
GSCL S Sn 16 41 50.5 +1.3
GSCL AML AML
comp=E,22600µm,0.6s
GSCL AML AML
comp=N,15800µm,1.3s
GSCL AML AML
comp=N,15796µm,0.4s
GSCL AML AML
comp=E,22611µm,0.6s
BOTM Botticino Matt 0.83 34 P Pn 16 41 38.7 +1.0
BOTM S Sn 16 41 50.4 +1.2
MERA Merate 0.84 348 P Pn 16 41 39.1 +1.3
MERA AML AML
comp=E,25050µm,0.5s
MERA AML AML
comp=N,26100µm,0.3s
MERA AML AML
comp=E,25050µm,1.5s
MERA AML AML
comp=E,25058µm,0.5s
MERA AML AML
comp=N,26114µm,0.3s
A313A Volta Mantovan 0.85 57 ⇓P Pb 16 41 37.8 0.0
A313A S Sn 16 41 50.3 +0.8
PCP Piancastagn 0.85 249 ⇓P Pn 16 41 38.5 +0.5
PCP AML AML
comp=E,22250µm,0.6s
PCP AML AML
comp=N,23450µm,0.6s
PCP AML AML
comp=E,22262µm,0.6s
PCP AML AML
comp=N,23444µm,0.6s
CNCS Concesio 0.85 27 P Pn 16 41 38.6 +0.6
CNCS S Sn 16 41 50.9 +1.3
CNCS AML AML
comp=E,7015µm,0.4s
CNCS AML AML
comp=N,21700µm,0.8s
CNCS AML AML
comp=N,20939µm,0.7s
CNCS AML AML
comp=E,7017µm,0.4s
SARO Sassorosso 0.85 141 ⇑P Pb 16 41 36.7 -1.2
SARO S Sb 16 41 49.1 +0.1
SARO AML AML
comp=E,62800µm,0.4s
SARO AML AML
comp=N,89100µm,0.5s
SARO AML AML
comp=E,62801µm,0.4s
SARO AML AML
comp=N,89088µm,0.5s
MNTV Mantova 0.86 69 P Pb 16 41 38.5 +0.6
VLC Villacollemand 0.87 143 ⇑P Pb 16 41 37.0 -1.1
VLC S Sb 16 41 49.6 +0.3
VLC AML AML
comp=N,15400µm,0.9s
VLC AML AML
comp=N,14850µm,0.9s
VLC AML AML
comp=E,14600µm,0.5s
VLC AML AML
comp=N,14850µm,1.1s
VLC AML AML
comp=N,15400µm,1.1s
VLC AML AML
comp=E,14850µm,0.5s
VLC AML AML
comp=N,15380µm,0.9s
VLC AML AML
comp=N,14867µm,0.9s
VLC AML AML
comp=E,14882µm,0.5s
VLC AML AML
comp=E,14624µm,0.5s
NDIM Novi di Modena 0.88 87 P Pb 16 41 38.6 +0.2
NDIM S Sn 16 41 50.9 +0.6
NDIM AML AML
comp=N,38250µm,1.4s
NDIM AML AML
comp=E,23850µm,0.6s
NDIM AML AML
comp=N,36750µm,1.4s
NDIM AML AML
comp=E,30050µm,1.0s
NDIM AML AML
comp=E,30050µm,1.0s
NDIM AML AML
comp=N,38250µm,0.6s
NDIM AML AML
comp=N,36750µm,0.6s
NDIM AML AML
comp=E,23850µm,1.4s
NDIM AML AML
comp=N,36481µm,0.7s
NDIM AML AML
comp=N,32409µm,0.7s
NDIM AML AML
comp=E,18955µm,0.4s
NDIM AML AML
comp=E,20991µm,0.3s
SBPO S.Benedetto Po 0.92 77 P Pb 16 41 39.3 +0.3
SBPO AML AML
comp=N,44450µm,0.6s
SBPO AML AML
comp=E,24250µm,0.6s
SBPO AML AML
comp=N,44450µm,1.4s
SBPO AML AML
comp=E,24250µm,1.4s
SBPO AML AML
comp=N,44444µm,0.6s
SBPO AML AML
comp=E,24236µm,0.6s
ROTM Rocchetta Tana 0.93 270 P Pn 16 41 41.4 +2.4
ROTM AML AML
comp=E,20650µm,0.6s
ROTM AML AML
comp=N,28600µm,0.5s
ROTM AML AML
comp=E,20632µm,0.6s
ROTM AML AML
comp=N,28582µm,0.5s
MODE Modena 0.95 103 P Pn 16 41 40.4 +1.1
CAVE Cavezzo 0.96 89 P Pb 16 41 39.5 -0.1
CAVE AML AML
comp=E,25400µm,0.8s
CAVE AML AML
comp=E,25400µm,1.2s
CAVE AML AML
comp=N,34050µm,0.6s
CAVE AML AML
comp=N,30518µm,0.2s
CAVE AML AML
comp=E,23269µm,0.3s
ZONE Zone 0.97 19 P Pb 16 41 39.0 -0.8
VOBA Vobarno 0.99 37 P Pb 16 41 40.3 +0.1
VOBA AML AML
comp=E,20500µm,0.4s
VOBA AML AML
comp=N,18150µm,0.6s
VOBA AML AML
comp=E,20490µm,0.4s
VOBA AML AML
comp=N,18128µm,0.6s
CARD Cardoso 1.01 144 P Pb 16 41 40.4 -0.2
CARD S Sb 16 41 53.9 +0.4
CARD AML AML
comp=E,15450µm,1.0s
CARD AML AML
comp=N,17200µm,1.5s
CARD AML AML
comp=E,13746µm,0.3s
CARD AML AML
comp=N,16476µm,0.4s
BDI Bagni Di Lucca 1.04 139 P Pb 16 41 39.9 -1.2
BDI AML AML
comp=E,18850µm,0.4s
BDI AML AML
comp=N,17500µm,0.7s
BDI AML AML
comp=E,18600µm,1.0s
BDI AML AML
comp=N,20050µm,0.4s
BDI AML AML
comp=E,18842µm,0.4s
BDI AML AML
comp=N,20054µm,0.4s
BDI AML AML
comp=N,16310µm,0.4s
BDI AML AML
comp=E,17467µm,0.4s
RAVA Ravarino 1.04 95 P Pn 16 41 41.7 +1.1
RAVA AML AML
comp=E,37800µm,0.6s
RAVA AML AML
comp=N,42750µm,0.6s
RAVA AML AML
comp=E,37800µm,1.4s
RAVA AML AML
comp=N,42707µm,0.6s
RAVA AML AML
comp=E,36681µm,0.4s
ZCCA Zocca 1.07 118 ⇑P Pn 16 41 42.5 +1.5
ZCCA AML AML
comp=E,8080µm,0.7s
ZCCA AML AML
comp=N,14850µm,0.5s
ZCCA AML AML
comp=E,8620µm,0.7s
ZCCA AML AML
comp=N,14650µm,0.5s
ZCCA AML AML
comp=E,8621µm,0.7s
ZCCA AML AML
comp=N,14657µm,0.5s
ZCCA AML AML
comp=E,8082µm,0.7s
ZCCA AML AML
comp=N,14843µm,0.5s
QLNO Quiliano 1.07 241 ⇓P Pn 16 41 42.3 +1.3
QLNO AML AML
comp=N,5682µm,0.7s
ZEN8 San Zeno di Mo 1.09 44 P Pn 16 41 41.4 +0.1
MAIM Mastiano 1.11 147 P Pn 16 41 41.8 +0.3
MAIM S Sb 16 41 56.2 -0.1
MAIM AML AML
comp=E,18450µm,0.7s
MAIM AML AML
comp=N,19500µm,0.6s
MAIM AML AML
comp=E,18471µm,0.7s
MAIM AML AML
comp=N,19472µm,0.6s
BAG8 Bagolino 1.13 30 P Pn 16 41 42.0 +0.2
BAG8 AML AML
comp=E,14600µm,1.3s
BAG8 AML AML
comp=N,12150µm,1.3s
BAG8 AML AML
comp=N,8944µm,0.5s
BAG8 AML AML
comp=E,13681µm,0.5s
POPM Popiglio 1.13 135 P Pn 16 41 42.2 +0.5
POPM AML AML
comp=N,21050µm,0.5s
POPM AML AML
comp=E,15150µm,0.7s
POPM AML AML
comp=E,15150µm,1.3s
POPM AML AML
comp=N,21050µm,1.5s
POPM AML AML
comp=E,15161µm,0.7s
MAGA Magasa 1.15 36 ⇓P Pn 16 41 42.0 -0.2
MAGA S Sn 16 41 58.6 +1.4
MAGA AML AML
comp=E,45300µm,0.5s
MAGA AML AML
comp=N,19650µm,0.5s
MAGA AML AML
comp=N,19650µm,1.5s
MAGA AML AML
comp=E,45322µm,0.5s
MAGA AML AML
comp=N,19674µm,0.5s
MUGIO Muggio 1.16 338 ⇓P Pn 16 41 43.0 +0.8
MUGIO AML AML
comp=E,4080µm,0.6s
MUGIO AML AML
comp=E,4080µm,1.4s
MUGIO AML AML
comp=N,4585µm,0.4s
MUGIO AML AML
comp=E,4078µm,0.6s
MUGIO AML AML
comp=N,4585µm,0.5s
OPPE Oppeano 1.17 66 ⇓P Pn 16 41 43.0 +0.8
OPPE S Sn 16 41 58.9 +1.6
OPPE AML AML
comp=N,21650µm,0.6s
OPPE AML AML
comp=E,14200µm,1.0s
OPPE AML AML
comp=N,21631µm,0.6s
OPPE AML AML
comp=E,13730µm,0.6s
BALD Monte Baldo 1.17 44 ⇓P Pn 16 41 42.5 0.0
BALD S Sb 16 41 58.1 0.0
SERM Sermide 1.18 82 P Pn 16 41 43.3 +0.9
SERM AML AML
comp=E,5515µm,0.8s
SERM AML AML
comp=N,9250µm,0.5s
SERM AML AML
comp=E,9810µm,0.8s
SERM AML AML
comp=N,12300µm,0.5s
SERM AML AML
comp=N,9250µm,0.5s
SERM AML AML
comp=E,9815µm,0.8s
SERM AML AML
comp=E,9810µm,1.2s
SERM AML AML
comp=N,9262µm,0.5s
SERM AML AML
comp=E,9067µm,0.4s
SERM AML AML
comp=N,12282µm,0.5s
SERM AML AML
comp=E,5298µm,0.6s
VARE Varese 1.19 329 ⇓P Pb 16 41 43.9 +0.2
VARE AML AML
comp=E,6730µm,0.4s
VARE AML AML
comp=N,6310µm,0.6s
VARE AML AML
comp=N,5483µm,0.5s
VARE AML AML
comp=E,6730µm,0.4s
MBAL Monte Baldo - 1.20 45 P Pn 16 41 42.8 -0.1
MBAL AML AML
comp=E,8005µm,0.5s
MBAL AML AML
comp=N,8955µm,1.5s
MBAL AML AML
comp=N,7828µm,0.5s
MBAL AML AML
comp=E,6386µm,0.1s
CANO Canova, Maglio 1.20 238 P Pb 16 41 44.0 +0.3
CANO AML AML
comp=E,24850µm,1.0s
CANO AML AML
comp=N,10700µm,0.3s
CANO AML AML
comp=N,10708µm,0.3s
CANO AML AML
comp=E,24868µm,1.1s
FNVD Fontana Vidola 1.25 123 P Pn 16 41 44.3 +0.8
FNVD AML AML
comp=E,8980µm,0.6s
FNVD AML AML
comp=N,10900µm,0.7s
FNVD AML AML
comp=N,10896µm,0.7s
FNVD AML AML
comp=E,8979µm,0.6s
TREG Tregnago 1.26 57 P Pn 16 41 43.8 +0.2
TREG AML AML
comp=E,16350µm,0.5s
TREG AML AML
comp=N,16250µm,0.8s
TREG AML AML
comp=N,15982µm,0.5s
TREG AML AML
comp=E,16361µm,0.5s
MTCR Monte La Croce 1.27 130 P Pb 16 41 44.9 -0.1
MTCR AML AML
comp=E,9500µm,0.7s
MTCR AML AML
comp=N,14450µm,0.5s
MTCR AML AML
comp=E,9349µm,0.4s
MTCR AML AML
comp=N,14434µm,0.5s
ROVR Rover Verones 1.28 51 P Pn 16 41 43.8 -0.2
ROVR AML AML
comp=E,3730µm,0.9s
ROVR AML AML
comp=N,8610µm,0.3s
ROVR AML AML
comp=N,8607µm,0.3s
ROVR AML AML
comp=E,3321µm,0.5s
ROVR AML AML
comp=E,8070µm,0.5s
A307A Bentivoglio (B 1.28 98 P Pb 16 41 45.8 +0.7
PII Pisa 1.29 151 P Pn 16 41 44.9 +0.9
PII AML AML
comp=E,25500µm,1.3s
PII AML AML
comp=N,17500µm,1.3s
PII AML AML
comp=E,20173µm,0.5s
PII AML AML
comp=N,17475µm,0.4s
VARA Varagna 1.31 41 P Pn 16 41 44.4 0.0
VARA AML AML
comp=E,11920µm,0.6s
VARA AML AML
comp=N,15100µm,0.6s
VARA AML AML
comp=E,15500µm,0.6s
VARA AML AML
comp=N,12450µm,1.6s
VARA AML AML
comp=E,15468µm,0.6s
VARA AML AML
comp=N,11417µm,0.6s
VARA AML AML
comp=E,11903µm,0.6s
VARA AML AML
comp=N,15097µm,0.6s
RONC Roncone 1.32 31 P Pn 16 41 45.1 +0.5
FIU Minerbio Fiu 1.32 99 P Pb 16 41 45.7 -0.1
FIU AML AML
comp=E,29300µm,0.6s
FIU AML AML
comp=N,33450µm,0.5s
FIU AML AML
comp=N,33407µm,0.6s
FIU AML AML
comp=E,29260µm,0.6s
FERS Ferrara-Casagl 1.34 87 P Pn 16 41 45.9 +1.2
FERS AML AML
comp=E,25700µm,0.6s
FERS AML AML
comp=N,21850µm,0.5s
FERS AML AML
comp=N,21807µm,0.5s
FERS AML AML
comp=E,25722µm,0.6s
MABI Malga Bissina 1.35 26 P Pn 16 41 45.2 +0.3
MABI AML AML
comp=E,4010µm,0.5s
MABI AML AML
comp=N,3205µm,0.6s
MABI AML AML
comp=E,4006µm,0.5s
MABI AML AML
comp=N,3192µm,0.6s
MARN Marana (Italy) 1.35 54 P Pn 16 41 44.6 -0.3
RORO Rocca Rossa 1.36 238 ⇑P Pn 16 41 45.9 +1.0
RORO AML AML
comp=E,2335µm,0.6s
RORO AML AML
comp=N,2805µm,0.9s
RORO AML AML
comp=N,2706µm,0.5s

RORO AML AML
comp=E,2336µm,0.6s
MPPT Montemurlo 1.36 131 P **Pb 16 41 46.7 +0.1**
MPPT AML AML
comp=E,7610µm,0.6s
MPPT AML AML
comp=N,5825µm,1.2s
MPPT AML AML
comp=E,7607µm,0.6s
MPPT AML AML
comp=N,5766µm,0.5s
MTRZ Monterenzio 1.38 110 P **Pb 16 41 47.6 +0.9**
MTRZ AML AML
comp=E,9395µm,0.6s
MTRZ AML AML
comp=N,9525µm,0.6s
MTRZ AML AML
comp=E,9540µm,0.6s
MTRZ AML AML
comp=N,9655µm,0.6s
MTRZ AML AML
comp=N,9519µm,0.6s
MTRZ AML AML
comp=N,9655µm,0.6s
MTRZ AML AML
comp=E,9525µm,0.6s
MTRZ AML AML
comp=E,9368µm,0.6s
MOCL Monte Cuccoli 1.38 127 P **Pn 16 41 46.2 +0.9**
MOCL AML AML
comp=E,9690µm,0.5s
MOCL AML AML
comp=N,7180µm,1.3s
MOCL AML AML
comp=N,6632µm,0.7s
MOCL AML AML
comp=E,9668µm,0.5s
CRMI Carmignano 1.42 138 P **Pb 16 41 47.7 +0.2**
CRMI AML AML
comp=E,6155µm,0.6s
CRMI AML AML
comp=N,4280µm,1.6s
CRMI AML AML
comp=E,6152µm,0.6s
CRMI AML AML
comp=N,3550µm,0.6s
ZOVE Zovencedo 1.43 64 P **Pn 16 41 45.8 -0.2**
ZOVE AML AML
comp=E,8200µm,0.3s
ZOVE AML AML
comp=N,7000µm,1.5s
ZOVE AML AML
comp=E,8201µm,0.3s
ZOVE AML AML
comp=N,6017µm,0.3s
LUSI Trento, Gardas 1.43 39 ⇓P **Pn 16 41 46.0 -0.1**
LUSI AML AML
comp=E,6905µm,0.3s
LUSI AML AML
comp=N,16850µm,1.1s
LUSI AML AML
comp=E,6906µm,0.3s
LUSI AML AML
comp=N,16091µm,0.3s
GBOS Grotte di Boss 1.44 245 ⇓P **Pb 16 41 47.8 +0.1**
GBOS AML AML
comp=E,3325µm,0.8s
GBOS AML AML
comp=N,3880µm,0.6s
GBOS AML AML
comp=E,3325µm,0.8s
GBOS AML AML
comp=N,3878µm,0.6s
GBOS Grotte di Boss 1.44 245 P **Pb 16 41 48.0 +0.2**
DOSS Dosso del Somm 1.49 46 P **Pn 16 41 46.8 -0.1**
DOSS AML AML
comp=E,9815µm,0.5s
DOSS AML AML
comp=N,7310µm,0.5s
DOSS AML AML
comp=E,7570µm,0.5s
DOSS AML AML
comp=N,9975µm,0.5s
DOSS AML AML
comp=N,9985µm,0.5s
DOSS AML AML
comp=N,7307µm,0.5s
DOSS AML AML
comp=E,7568µm,0.5s
DOSS AML AML
comp=E,9808µm,0.5s
BRIS BRISIGHELLA 1.50 117 P **Pb 16 41 49.8 +1.0**
BRIS AML AML
comp=E,5230µm,0.6s
BRIS AML AML
comp=N,6580µm,0.5s
BRIS AML AML
comp=E,5780µm,0.6s
BRIS AML AML
comp=N,6460µm,0.5s
BRIS AML AML
comp=E,5784µm,0.6s
BRIS AML AML
comp=N,6459µm,0.5s
BRIS AML AML
comp=E,5231µm,0.6s
BRIS AML AML
comp=N,6582µm,0.5s
TRAV Traversella 1.50 297 P **Pn 16 41 47.6 +0.6**
TRAV AML AML
comp=E,6040µm,0.3s
TRAV AML AML
comp=N,5230µm,0.4s
TRAV AML AML
comp=E,6042µm,0.3s
TRAV AML AML
comp=N,5226µm,0.4s
A319A Santa Luce (PI 1.53 154 ⇓P **Pn 16 41 48.4 +1.2**
GAGG Gaggia 1.54 36 P **Pn 16 41 47.6 +0.1**
GAGG AML AML
comp=E,4915µm,0.6s
GAGG AML AML
comp=N,4575µm,1.6s
GAGG AML AML
comp=E,4725µm,1.6s
GAGG AML AML
comp=N,4870µm,0.6s
GAGG AML AML
comp=E,4232µm,0.7s
GAGG AML AML
comp=N,4869µm,0.6s
GAGG AML AML
comp=E,4912µm,0.6s
GAGG AML AML
comp=N,4376µm,0.6s
MGRO Montegrosso 1.55 239 ⇓P **Pb 16 41 49.3 -0.5**
CMPO Campotto Po 1.56 99 P **Pn 16 41 48.7 +1.1**
IMOL Imola, Italy 1.57 108 P **Pn 16 41 48.9 +1.1**
IMOL AML AML
comp=E,6150µm,0.8s
IMOL AML AML
comp=N,6260µm,0.8s
IMOL AML AML
comp=E,6109µm,0.7s
IMOL AML AML
comp=N,6264µm,0.8s
IMI Imperia 1.58 234 ⇓P **Pn 16 41 49.3 +1.3**
IMI S **Sb 16 42 09.7 0.0**
IMI AML AML
comp=E,5235µm,1.2s
IMI AML AML
comp=N,13250µm,0.4s
IMI AML AML
comp=E,5111µm,0.6s
IMI AML AML
comp=N,13290µm,0.4s
SANR Sandrigo 1.59 60 P **Pn 16 41 48.0 -0.1**
TUE Stuetta 1.64 352 ⇓P **Pn 16 41 50.5 +1.5**
TUE AML AML
comp=E,2395µm,1.1s
TUE AML AML
comp=N,1444µm,0.9s
TUE AML AML
comp=E,2855µm,1.1s
TUE AML AML
comp=N,1780µm,0.9s
TUE AML AML
comp=N,1383µm,0.8s
TUE AML AML
comp=E,2163µm,0.6s
TUE AML AML
comp=N,1685µm,0.8s
TUE AML AML
comp=E,1811µm,0.5s
CIRO Champorcher 1.66 298 P **Pn 16 41 49.9 +0.6**
CIRO AML AML
comp=E,2115µm,1.2s
CIRO AML AML
comp=N,3590µm,1.5s
CIRO AML AML
comp=N,2828µm,0.7s
CIRO AML AML
comp=E,2038µm,0.5s
LMD Lutirano 1.66 117 P **Pb 16 41 51.0 -0.6**
LMD AML AML
comp=E,2495µm,0.6s
LMD AML AML
comp=N,2905µm,1.0s
LMD AML AML
comp=E,2494µm,0.6s
LMD AML AML
comp=N,2905µm,1.0s
RUFI Rufina 1.67 127 ⇑P **Pb 16 41 51.1 -0.6**
RUFI AML AML
comp=E,2280µm,0.9s
RUFI AML AML
comp=N,3430µm,1.0s
RUFI AML AML
comp=N,3430µm,1.0s
RUFI AML AML
comp=E,2278µm,0.9s
PANI Panarotta 1.68 44 P **Pn 16 41 49.6 0.0**
PANI AML AML
comp=E,3365µm,1.1s
PANI AML AML
comp=N,3710µm,1.2s
PANI AML AML
comp=N,3471µm,0.5s
PANI AML AML
comp=E,2644µm,0.6s
MMK Mattmark 1.69 316 P **Pn 16 41 50.0 +0.3**
MMK AML AML
comp=E,1760µm,0.4s
MMK AML AML
comp=N,2470µm,0.4s
MMK AML AML
comp=N,2473µm,0.4s
MMK AML AML
comp=E,1763µm,0.4s
BRMO Bormio 1.70 17 P **Pn 16 41 50.9 +1.1**
BRMO AML AML
comp=E,1230µm,0.7s
BRMO AML AML
comp=N,1313µm,0.7s
BRMO AML AML
comp=N,1311µm,0.7s
BRMO AML AML
comp=E,1230µm,0.7s
BHB Bricherasio 1.70 271 P **Pn 16 41 50.6 +0.9**
BHB Bricherasio 1.70 271 P **Pn 16 41 50.4 +0.7**
ENR Entracque 1.72 249 P **Pb 16 41 52.0 -0.5**
ENR AML AML
comp=E,2905µm,0.7s
ENR AML AML
comp=N,4610µm,0.8s
ENR AML AML
comp=E,2903µm,0.7s
ENR AML AML
comp=N,4611µm,0.8s
ENR Entracque 1.72 249 P **Pb 16 41 52.4 -0.2**
RSP Reno Superiore 1.72 281 P **Pn 16 41 50.0 -0.1**
RSP AML AML
comp=E,2175µm,1.0s
RSP AML AML
comp=N,1925µm,0.9s
RSP AML AML
comp=E,2290µm,1.0s
RSP AML AML
comp=N,1985µm,0.9s
RSP AML AML
comp=N,1875µm,1.0s
RSP AML AML
comp=N,1924µm,1.0s
RSP AML AML
comp=E,2088µm,0.5s
RSP AML AML
comp=E,2013µm,0.5s
RSP Reno Superiore 1.72 281 P **Pn 16 41 49.9 -0.1**
CARE Lago del Cares 1.73 24 ⇓P **Pn 16 41 51.1 +0.8**
CARE AML AML
comp=E,1740µm,0.7s
CARE AML AML
comp=N,1620µm,1.5s
CARE AML AML
comp=E,1740µm,0.7s
CARE AML AML
comp=N,1810µm,1.5s
CARE AML AML
comp=N,1774µm,0.7s
CARE AML AML
comp=E,1624µm,0.5s
CARE AML AML
comp=E,1616µm,0.5s
CARE AML AML
comp=N,1577µm,0.7s
MAGO Bibbona 1.73 155 ⇓P **Pn 16 41 50.9 +0.8**
MAGO AML AML
comp=E,2735µm,0.7s
MAGO AML AML
comp=N,3310µm,0.7s
MAGO AML AML
comp=N,3307µm,0.7s
MAGO AML AML
comp=E,2735µm,0.7s
SAOF Saorge 1.74 241 ⇓P **Pn 16 41 52.0 +1.8**
SAOF AML AML
comp=E,4840µm,0.9s
SAOF AML AML
comp=N,4930µm,0.7s
SAOF AML AML
comp=N,4931µm,0.7s
SAOF AML AML
comp=E,4840µm,0.9s
SAOF Saorge 1.74 241 P **Pn 16 41 51.7 +1.6**
SAOF S **Sb 16 42 14.4 +0.2**
OSSC Osservatorio P 1.75 139 ⇓P **Pb 16 41 52.2 -0.9**
OSSC AML AML
comp=E,6075µm,0.6s
OSSC AML AML
comp=N,5010µm,0.7s
OSSC AML AML
comp=E,5015µm,0.7s
OSSC AML AML
comp=N,5995µm,0.6s
OSSC AML AML
comp=E,6074µm,0.6s
OSSC AML AML
comp=N,5009µm,0.7s
OSSC AML AML
comp=E,5019µm,0.7s
OSSC AML AML
comp=N,5995µm,0.6s
BRSN Barisano 1.82 107 AML AML
comp=E,7840µm,1.0s
BRSN AML AML
comp=N,7200µm,0.6s
BRSN AML AML
comp=E,7500µm,1.6s
BRSN AML AML
comp=N,7015µm,0.8s
PZZ Stroppo 1.84 260 P **Pn 16 41 53.7 +2.0**
TURF col de Turini 1.84 242 P **Pb 16 41 53.9 -0.9**
TURF S **Sb 16 42 18.4 +0.9**
BURY Giardini Botan 1.85 235 P **Pn 16 41 52.7 +1.1**
EMBD Embd, Matterta 1.87 317 P **Pn 16 41 53.4 +1.3**
SBF Sospel 1.88 239 *e*P **Pn 16 41 53.9 +1.8**
SBF *e*Sn **Sn 16 42 12.9 -2.0**
comp=N,4µm,0.7s
ESCA l'Escarene 1.93 239 P **Pn 16 41 54.4 +1.6**
ESCA S **Sb 16 42 21.2 +1.4**
DAVOX Davos/Dischmat 1.94 5 Pn **Pn 16 41 55.1 +2.1**
comp=N,118nm,0.3s,baz=173,slow=11,SNR=328
DAVOX Sn **Sb 16 42 21.0 +0.9**
comp=N,92nm,0.3s,baz=322,slow=18,SNR=7.7
DAVOX LR LR 16 42 56.2
comp=N,609nm,19.3s,baz=249,slow=49
MON Monaco 1.96 236 P **Pn 16 41 55.2 +2.1**
MON S **Sb 16 42 21.8 +1.3**
ISO Isola 1.98 251 P **Pb 16 41 55.9 -1.2**
MBDF Montbardon 2.06 268 *e*P **Pn 16 41 56.0 +1.3**
MBDF *e*Sn **Sn 16 42 17.1 -2.5**
comp=N,2µm,0.6s
RIBO Ribolla Roccas 2.15 152 AML AML
comp=E,2639µm,1.3s
LPG La Plagne 2.15 288 *e*P **Pn 16 41 57.2 +1.1**
LPG *e*Sn **Sn 16 42 19.0 -3.1**
comp=E,438nm,0.4s
LPL La Plagne 2.17 289 *e*P **Pn 16 41 57.5 +1.2**
LPL *e*Sn **Sn 16 42 19.5 -3.0**
comp=E,870nm,0.5s
CREF Crivoux 2.18 263 P **Pn 16 41 58.8 +2.4**
FETA Feichten 2.29 19 *e*Pn **Pn 16 42 00.1 +2.1**
comp=E,13nm,0.2s,SNR=157
FETA *e*Sn **Sb 16 42 31.8 +1.4**
comp=E,179nm,0.6s
PGF Pioggiola 2.35 192 *e*Pn **Pn 16 41 59.2 +0.5**
PGF *e*Sn **Sn 16 42 25.4 -1.3**
comp=E,218nm,0.2s
DAVA Damuels 2.44 4 *e*Pn **Pn 16 42 02.4 +2.4**
comp=E,99nm,0.2s,SNR=73
DAVA *e*Sn **Sn 16 42 30.9 +1.9**
comp=E,291nm,0.4s
SF04 Casetta 2.48 144 AML AML
comp=E,803µm,1.1s
SF04 AML AML
comp=N,469µm,0.3s
SQTA Sankt Quirin 2.60 24 *e*Pn **Pn 16 42 04.4 +2.2**
comp=N,27nm,0.2s,SNR=100
SQTA Sn **Sn 16 42 36.2 +3.2**
comp=N,273nm,0.5s
ORIF Oris-en-Rattie 2.69 273 *e*P **Pn 16 42 06.6 +3.3**
ORIF *e*Sn **Sn 16 42 32.0 -3.0**
comp=N,921nm,0.7s
MOTA Moosalm 2.69 21 *e*Pn **Pn 16 42 05.8 +2.5**
comp=N,19nm,0.1s,SNR=93
MOTA *e*Sn **Sn 16 42 38.4 +3.2**
comp=N,55nm,0.4s
LMR La Mourre 2.73 237 *e*P **Pn 16 42 05.2 +1.4**
LMR *e*Sn **Sn 16 42 33.7 -2.2**
comp=N,2µm,0.7s
RETA Reutte 2.75 16 *e*Pn **Pn 16 42 06.3 +2.2**
comp=N,52nm,0.2s,SNR=49
RETA *i* Sn **Sn 16 42 39.7 +3.3**
comp=N,70nm,0.3s
ABTA Abfaltersbach 2.75 45 *e*Pn **Pn 16 42 05.8 +1.6**
comp=N,26nm,0.3s,SNR=76
ABTA *e*Sn **Sn 16 42 38.6 +2.0**
comp=N,154nm,0.4s
WTTA Wattenberg 2.78 29 *e*Pn **Pn 16 42 06.4 +1.8**
comp=N,43nm,0.2s,SNR=43
WTTA *e*Sn **Sn 16 42 40.5 +3.1**
comp=N,94nm,0.4s
WATA Walderalm 2.82 28 *e*Pn **Pn 16 42 07.5 +2.3**
comp=N,24nm,0.2s,SNR=29
WATA Sn **Sn 16 42 41.6 +3.2**
comp=N,113nm,0.3s
BALST Balsthal 2.83 332 P **Pn 16 42 07.0 +1.7**
SULZ Cheisacher 2.88 339 P **Pn 16 42 07.0 +1.1**
SULZ Cheisacher 2.88 339 S **Sn 16 42 41.4 +1.6**
BRJN Brijuni 2.91 87 *i* Pn **Pn 16 42 05.7 -0.6**
AJAC Base Areonaval 2.99 193 P **Pn 16 42 08.8 +1.5**
AJAC S **Sn 16 42 44.1 +1.6**
SLE Schleitheim 3.02 345 P **Pn 16 42 07.9 0.0**
SLE Schleitheim 3.02 345 S **Sn 16 42 43.1 -0.2**
BSTF la Bastide-des 3.04 253 P **Pn 16 42 11.5 +3.5**
ARTF Artigues 3.04 247 P **Pn 16 42 11.0 +2.9**
ROBS Robic 3.04 61 *i* Pn **Pn 16 42 07.7 -0.4**
ROBS *e*Sn **Sn 16 42 42.6 -1.1**
BOURR Bourrignon 3.05 327 P **Pn 16 42 09.7 +1.4**
SMRF Simiane la Rot 3.05 255 *e*P **Pn 16 42 11.1 +2.8**
SMRF *e*Sn **Sn 16 42 41.2 -2.8**
comp=N,274nm,0.5s
CABF La Chapelle 3.06 306 *e*P **Pn 16 42 10.7 +2.3**
CABF *e*Sn **Sn 16 42 40.1 -4.0**
comp=N,515nm,0.8s
OG35 Corcelles 3.11 294 P **Pn 16 42 11.0 +1.9**
ENDD Endenburg 3.16 336 P **Pn 16 42 10.2 +0.5**
ENDD Endenburg 3.16 336 S **Sn 16 42 45.5 -1.0**
CADS Cadrg 3.18 63 *i* Pn **Pn 16 42 09.8 -0.2**
GAVE Gavelli 3.19 132 AML AML
comp=N,1125µm,0.4s
GAVE AML AML
comp=E,921µm,0.7s
SMRN Sveta Marina 3.20 85 *e*Pn **Pn 16 42 09.0 -1.2**
SMRN Sn **Sn 16 42 41.6 -5.8**
VOJS Vojsko 3.20 67 *i* Pn **Pn 16 42 10.5 +0.2**
VOJS *e*Sn **Sn 16 42 46.3 -1.4**
RIVEL MONT RIVEL 3.23 307 P **Pn 16 42 13.3 +2.5**
RIVEL S **Sn 16 42 52.8 +4.3**
GUT Gutenstein 3.24 354 P **Pn 16 42 10.8 0.0**
GUT Gutenstein 3.24 354 S **Sn 16 42 48.2 -0.4**
ILLF Illfurth 3.28 330 P **Pn 16 42 12.6 +1.2**
MYKA Terra Mystica 3.31 56 *i* Pn **Pn 16 42 12.7 +0.9**
comp=E,3.4nm,0.2s
LESA Schwarzleotal 3.32 38 *i* Pn **Pn 16 42 14.2 +2.2**
comp=E,123nm,0.7s
LESA *e*Sn **Sn 16 42 53.4 +2.8**
comp=E,71nm,0.3s
BOUC Bouclans 3.37 317 P **Pn 16 42 14.6 +2.0**
SAUF chteau de Sau 3.39 256 P **Pn 16 42 17.2 +4.4**
KBA Koelnbreinsper 3.40 48 *i* Pn **Pn 16 42 14.5 +1.3**
comp=E,10nm,0.3s,SNR=30
KBA Koelnbreinsper 3.40 48 *e*Pn **Pn 16 42 14.5 +1.3**
RIY Rijeka 3.45 80 *e*Pn **Pn 16 42 12.7 -1.0**
RIY Rijeka 3.45 80 *e*Pn **Pn 16 42 12.9 -0.8**
MOF Molkenrain 3.47 331 P **Pn 16 42 15.4 +1.4**
CEY Cerknica 3.48 74 *e*Pn **Pn 16 42 13.3 -0.8**
CEY Cerknica 3.48 74 *e*Pn **Pn 16 42 13.6 -0.5**
FUR Furstenfeldbru 3.50 18 *e*Pn **Pn 16 42 15.3 +0.9**
WALT Westhalten 3.52 333 P **Pn 16 42 15.6 +0.9**
RONF Ronchamp 3.54 325 P **Pn 16 42 16.4 +1.5**
RONF S **Sn 16 42 58.0 +2.1**
VIVF Saint-Julien-l 3.54 272 *e*P **Pn 16 42 16.9 +1.9**
VIVF *e*Sn **Sn 16 42 52.3 -3.8**
comp=E,290nm,0.8s
HINF Hinteralfeld 3.54 328 *e*P **Pn 16 42 16.2 +1.2**
HINF *e*Sn **Sn 16 42 51.1 -5.0**
comp=E,268nm,0.5s
BFO Black Forest 3.60 346 *e*Pn **Pn 16 42 16.1 +0.4**
RJOB Jochberg 3.61 36 *e*Pn **Pn 16 42 17.4 +1.4**
SSB Saint Sauveur 3.65 279 P **Pn 16 42 17.9 +1.4**
RABC Rab 3.65 90 *e*Pn **Pn 16 42 16.2 -0.2**
NVLJ Novalja 3.73 93 *e*Pn **Pn 16 42 17.4 -0.1**
AGLI Aglientu 3.74 186 AML AML
comp=E,268µm,0.5s
AGLI AML AML
comp=N,216µm,0.5s
OBKA Obir 3.81 62 *i* Pn **Pn 16 42 19.3 +0.6**
comp=N,4.0nm,0.1s,SNR=9.3
OBKA *e*Sn **Sn 16 43 04.1 +1.4**
comp=N,152nm,0.5s
OBKA Obir 3.81 62 *e*Pn **Pn 16 42 19.8 +1.1**
OBKA Obir 3.81 62 *e*Pn **Pn 16 42 19.6 +0.9**
FAGN Fagnano 3.85 131 AML AML
comp=N,447µm,0.4s
FAGN AML AML
comp=E,732µm,0.6s
HAU Haudompre 3.90 325 *e*P **Pn 16 42 21.2 +1.4**
HAU *e*Sn **Sn 16 42 59.7 -5.0**
comp=E,282nm,0.3s
VIRC Vir 3.90 96 *e*Pn **Pn 16 42 20.0 +0.2**
WLS Welschbruch 3.90 337 P **Pn 16 42 21.0 +1.1**
CDF Champ du Feu 3.92 336 *e*P **Pn 16 42 20.8 +0.6**
CDF *e*Sn **Sn 16 42 59.8 -5.6**
comp=E,156nm,0.3s
BIOA Bad Ischl, Aus 3.96 43 *i* Pn **Pn 16 42 21.6 +0.9**
comp=E,7.4nm,0.2s,SNR=10
DUGI Dugi Otok 3.96 101 *i* Pn **Pn 16 42 20.9 +0.2**
DUGI Sn **Sn 16 43 02.9 -3.4**
T0110 Collepietro 3.98 130 AML AML
comp=N,462µm,1.2s
T0110 AML AML
comp=E,450µm,0.6s
BOJS Bojanci 4.01 79 *e*Pn **Pn 16 42 21.2 -0.2**
BOJS Bojanci 4.01 79 *e*Pn **Pn 16 42 21.2 -0.2**
XAFF Xaffevillers 4.13 331 P **Pn 16 42 24.1 +1.2**
OZLJ Ozalj 4.17 77 *e*Pn **Pn 16 42 24.1 +0.5**
SOKA Soboth 4.18 62 *e*Pn **Pn 16 42 24.2 +0.4**

comp=E,6.4nm,0.3s,SNR=12
SOKA eSn Sn 16 43 13.2 +1.4
comp=E,45nm,0.6s
CRES Cresnjev 4.20 75 ePn Pn 16 42 23.7 -0.4
LASF Ste Croix 4.22 261 eP Pn 16 42 26.1 +1.8
LASF eSn Sn 16 43 08.9 -3.9
comp=E,102nm,0.4s
PLIT Plitvice 4.24 88 ePn Pn 16 42 24.8 +0.2
SUBF Surbourg 4.25 344 P Pn 16 42 25.6 +1.0
SUBF Surbourg 4.25 344 S Sn 16 43 11.0 -2.3
COLF Collangettes 4.27 281 P Pn 16 42 26.4 +1.5
CIEL Dossenheim-sur 4.28 339 P Pn 16 42 26.0 +0.8
LPEL Lama dei Pelig 4.33 129 AML AML
comp=E,202µm,1.0s
LPEL AML AML
comp=N,172µm,1.3s
MOA Molln 4.38 45 ePn Pn 16 42 27.5 +1.0
comp=N,11nm,0.3s,SNR=17
MOA Molln 4.38 45 ePn Pn 16 42 29.6 +3.1
MOA eSn Sb 16 43 25.1 -5.1
SMF Signal de Mont 4.45 296 eP Pn 16 42 29.2 +1.8
SMF eSn Sn 16 43 13.5 -4.8
comp=N,213nm,0.5s
MORI Morici 4.45 101 *i* Pn Pn 16 42 28.0 +0.6
ZIRJ Zirje 4.46 103 ePn Pn 16 42 27.3 -0.3
LBL Lubilhac 4.56 277 P Pn 16 42 30.6 +1.6
PTJ Puntijarka 4.57 74 ePn Pn 16 42 28.7 -0.5
PAGF Fort de Pagny 4.59 325 eP Pn 16 42 31.0 +1.7
baz=141
PAGF eSn Sn 16 43 16.0 -5.7
comp=N,104nm,0.4s
SFTF Sexfontaines 4.63 318 eP Pn 16 42 31.7 +1.9
baz=132
SFTF eSn Sn 16 43 17.2 -5.5
comp=N,171nm,0.7s
LOBO Lobor 4.69 72 ePn Pn 16 42 30.3 -0.5
LOR Lormes 4.70 303 eP Pn 16 42 32.6 +1.6
LOR eSn Sn 16 43 19.1 -5.5
comp=N,261nm,0.4s
LOR Lormes 4.70 303 P Pn 16 42 32.5 +1.6
ARSA Arzberg 4.74 57 *i* Pn Pn 16 42 31.8 +0.4
comp=N,21nm,0.4s,SNR=24
ARSA Arzberg 4.74 57 ePn Pn 16 42 31.8 +0.4
ARSA Arzberg 4.74 57 ePn Pn 16 42 31.8 +0.4
AVF Avril sur Loir 4.81 296 eP Pn 16 42 34.0 +1.6
AVF eSn Sn 16 43 21.9 -5.4
comp=N,76nm,0.6s
SSF Saint Saulge 4.83 299 eP Pn 16 42 34.1 +1.5
SSF eSn Sn 16 43 22.0 -5.6
comp=N,142nm,0.4s
WET Wettzell 4.83 26 ePn Pn 16 42 32.5 -0.1
WET eSn Sn 16 43 25.3 -2.3
MEZF Maizieres J'vi 4.83 321 eP Pn 16 42 34.7 +2.0
baz=139
MEZF eSn Sn 16 43 21.9 -5.9
comp=N,202nm,0.8s
GEC2 GERESS Array S 4.86 33 ePn Pn 16 42 33.0 -0.2
GEC2 eSn Sn 16 43 26.3 -2.3
GERES GERESS Array B 4.86 33 Pn Pn 16 42 32.9 -0.3
comp=N,4.4nm,0.3s,baz=210,slow=13,SNR=100
GERES Sn Sn 16 43 27.1 -1.6
comp=N,17nm,0.3s,baz=214,slow=21,SNR=9.1
GERES Lg Lg 16 43 54.9
comp=N,9.9nm,0.3s,baz=215,slow=27,SNR=3.7
comp=N,6.5nm,0.4s
SAVF Savonnieres en 4.89 322 eP Pn 16 42 35.4 +2.0
SAVF eSn Sn 16 43 22.4 -6.7
comp=N,120nm,0.6s
KIJV Kijevo 4.91 98 ePn Pn 16 42 34.0 +0.3
A050A Klekovaca 4.92 92 ePn Pn 16 42 32.4 -1.5
KALN Kalnik 4.95 73 ePn Pn 16 42 32.7 -1.6
GRF Grafenberg Arr 4.96 12 ePn Pn 16 42 33.2 -1.2
CLAF Gruissan 5.04 252 P Pn 16 42 37.8 +2.3
FRNF Fournols 5.05 279 P Pn 16 42 38.0 +2.3
KHC Kasperske Hory 5.05 31 ePN Pn 16 42 35.6 -0.1
KHC eSN Sn 16 43 30.3 -2.9
KHC *ex* x 16 43 40.1
BGF Bois d'Agland 5.07 292 eP Pn 16 42 37.5 +1.6
BGF eSn Sn 16 43 28.2 -5.3
comp=N,151nm,0.4s
MOSL Moslavina 5.07 79 ePn Pn 16 42 35.5 -0.5
CKRC Cesky Krumlov 5.09 37 ePN Pn 16 42 35.8 -0.5
CKRC eSN Sn 16 43 30.3 -3.9
VERF Verneugheol 5.14 283 P Pn 16 42 38.6 +1.7
A051A Mrakovica 5.15 86 ePn Pn 16 42 35.8 -1.3
HVAR Hvar 5.18 106 ePn Pn 16 42 36.7 -0.7
HVAR Sn Sn 16 43 32.4 -3.8
ROTZ Rotzenmuhle 5.21 19 ePn Pn 16 42 37.0 -0.9
CONA Conrad Observa 5.28 52 *i* Pn Pn 16 42 39.6 +0.7
comp=N,11nm,0.4s,SNR=15
CONA eSn Sn 16 43 40.2 +1.3
comp=N,50nm,0.7s
BLY Banja Luka 5.36 88 ePn Pn 16 42 40.0 +0.1
BLY Banja Luka 5.36 88 ePn Pn 16 42 40.2 +0.3
WLF Walferdange 5.37 335 dP Pn 16 42 43.2 +3.1
CAF Calviac 5.39 273 eP Pn 16 42 42.7 +2.3
CAF eSn Sn 16 43 36.3 -5.4
comp=N,129nm,1.0s
MANZ Manzenberg 5.40 17 ePn Pn 16 42 39.0 -1.5
RONA Rosalia, Austr 5.41 56 *i* Pn Pn 16 42 40.8 +0.2
comp=N,8.5nm,0.2s,SNR=15
RONA eSn Sn 16 43 40.9 -1.2
comp=N,14nm,0.3s
TCF Toulx Ste Croi 5.42 288 eP Pn 16 42 42.5 +1.7
TCF eSn Sn 16 43 36.8 -5.5
comp=N,98nm,0.3s
SRKY Kupres RS 5.43 96 ePn Pn 16 42 41.2 +0.2
HYF Humbligny 5.45 299 eP Pn 16 42 43.5 +2.4
HYF eSn Sn 16 43 36.4 -6.6
SJAF Saint Jean de 5.45 247 P Pn 16 42 43.6 +2.3
MAKA Makarska 5.53 104 ePn Pn 16 42 42.3 0.0
ZVC Zvikov 5.53 32 ePN Pn 16 42 42.0 -0.3
ZVC eSN Sn 16 43 41.6 -3.4
MTLF Montolieu 5.57 257 eP Pn 16 42 45.7 +2.9
MTLF eSn Sn 16 43 40.9 -5.0
comp=N,109nm,0.8s
BGG Burgeitz 5.58 344 ePn Pn 16 42 43.6 +0.7
FILF Fillols 5.63 248 P Pn 16 42 47.0 +3.3
LSTV Lastovo 5.63 109 ePn Pn 16 42 42.6 -1.1
NKC Novy Kostel 5.71 18 ePN Pn 16 42 43.8 -0.9
KOE Koeppel 5.73 348 ePn Pn 16 42 45.7 +0.7
RJF Les Rejaudoux 5.78 277 eP Pn 16 42 48.0 +2.3
RJF eSn Sn 16 43 46.4 -4.8
comp=N,331nm,1.5s
FNEB Nbias 5.79 253 P Pn 16 42 49.2 +3.2
FNEB S Sn 16 43 55.8 +4.3
CARF Carcanieres 5.87 251 P Pn 16 42 49.6 +2.6
TANN Tannenbergstha 5.88 18 ePn Pn 16 42 46.2 -0.8
MOX Moxa 5.95 12 ePn Pn 16 42 46.3 -1.7
MOX eSn Sn 16 43 52.0 -3.2
TREC Trest 5.97 40 ePN Pn 16 42 48.1 -0.2
UBBA Unterbreizbach 5.97 2 ePn Pn 16 42 48.0 -0.3
STB Steinbach 6.05 343 ePn Pn 16 42 50.1 +0.7
STB eSn Sn 16 43 56.1 -1.6
comp=N,33nm,1.0s
RCHB Rochefort 6.09 332 dP Pn 16 42 51.8 +1.9
PRU Pruhonice 6.11 31 ePN Pn 16 42 49.8 -0.5
PRU eSN Sn 16 43 55.0 -4.3
ZST Bratislava 6.13 54 ePN Pn 16 42 50.8 +0.3
ZST ePG 16 43 14.8
ZST eSG Sb 16 44 35.4 +15
STON Ston 6.14 106 ePn Pn 16 42 50.4 -0.2
STON Ston 6.14 106 ePn Pn 16 42 50.0 -0.6
GOPC GO Pecny, Ondr 6.15 33 ePN Pn 16 42 50.5 -0.2
GOPC eSN Sn 16 43 56.6 -3.5
GIVF Givet 6.19 330 eP Pn 16 42 53.7 +2.4
GIVF eSn Sn 16 43 54.2 -6.9
comp=N,112nm,0.9s
BTNL Ternell 6.21 339 dP Pn 16 42 53.1 +1.5
KRUC Moravsky 6.24 45 ePN Pn 16 42 51.5 -0.6
KRUC eSN Sn 16 44 00.1 -2.4
MEM Membach 6.26 338 dP Pn 16 42 53.9 +1.6
MEM dP Pn 16 42 53.9 +1.6
MEM dS Sn 16 43 59.1 -3.8
MEM dS 16 43 59.4
DOU Dourbes 6.27 329 dP Pn 16 42 53.3 +0.9
NEVS Nevesinje 6.28 101 ePn Pn 16 42 50.5 -2.1
BCLA Clavier 6.30 334 dP Pn 16 42 55.0 +2.3
BCLA dS Sn 16 44 01.1 -2.7
MODS Modra-Piesok 6.32 53 ePN Pn 16 42 53.5 +0.4
MODS ePG 16 43 21.9
MODS eSG Sb 16 44 41.3 +15
HOBG Hohbusch 6.33 347 ePn Pn 16 42 53.9 +0.7

LFF La Frestale 6.33 274 eP Pn 16 42 56.9 +3.6
LFF eSn Sn 16 43 59.5 -5.3
comp=N,262nm,1.3s
BGES Gesves 6.34 332 dP Pn 16 42 55.5 +2.1
BGES dS Sn 16 44 05.6 +0.8
BSTI Sart Tilman 6.36 336 dP Pn 16 42 55.9 +2.3
BMRD Maredsous 6.38 331 dP Pn 16 42 57.1 +3.2
BMRD dS Sn 16 44 04.3 -1.4
BAIF Baives 6.38 327 eP Pn 16 42 56.3 +2.3
BAIF eSn Sn 16 43 59.0 -7.0
comp=N,100nm,1.0s
KASTN Kahler Asten 6.41 353 ePn Pn 16 42 54.9 +0.6
MLS Moulis 6.47 256 P Pn 16 42 58.2 +3.0
VRAC Vranov 6.50 44 ePN Pn 16 42 54.2 -1.4
VRAC eSN Sn 16 44 07.9 -1.0
VRAC Vranov 6.50 44 Pn Pn 16 42 55.1 -0.5
comp=N,0.6nm,0.3s,baz=249,slow=14,SNR=7.2
VRAC Sn Sn 16 44 08.9 0.0
comp=N,1.5nm,0.3s,baz=298,slow=17,SNR=5.3
VRAC Lg Lg 16 44 46.0
comp=N,1.5nm,0.3s,baz=143,slow=17,SNR=1.2
VRAC LR LR 16 45 12.1
comp=N,59nm,20.4s,baz=224,slow=36
comp=N,2.0nm,0.4s
DBRK Dubrovnik 6.52 107 ePn Pn 16 42 56.2 +0.3
TREB Trebinje 6.64 106 ePn Pn 16 42 56.6 -1.0
BRG Berggiesshubel 6.68 24 ⇑P Pn 16 42 58.0 0.0
BRG Amp 16 43 00.7
comp=Z,4.4nm,0.6s
BRG r 16 43 09.6
BRG Amp 16 43 10.1
comp=Z,9.3nm,0.5s
BRG r 16 43 25.3
BRG Amp 16 43 27.5
comp=Z,7.6nm,0.7s
BRG r 16 43 41.8
BRG r 16 44 12.5
BRG r 16 44 47.2
BRG Amp 16 45 17.0
comp=Z,92nm,1.2s
BRG Amp 16 45 50.0
comp=E,0.1nm,16.0s
BRG Amp 16 45 59.0
comp=Z,0.5nm,14.9s
BRG Amp 16 46 02.0
comp=N,0.4nm,13.5s
BRG Berggiesshubel 6.68 24 ePn Pn 16 42 57.6 -0.3
SRO Srobarova 6.69 61 ePN Pn 16 42 58.6 +0.5
SRO ePG 16 43 27.4
HAPS Han Pijesak,Bl 6.69 93 ePn Pn 16 42 57.7 -0.7
GTTG Gottingen 6.70 2 ePn Pn 16 42 57.8 -0.5
BRY Bratogost 6.71 104 ePn Pn 16 42 58.5 0.0
BRY Bratogost 6.71 104 ⇓P Pn 16 42 58.6 0.0
BRY *i* Sn Sn 16 44 13.2 -1.0
JAVC Velka Javorina 6.80 51 ePN Pn 16 43 01.1 +1.4
CLL Collm 6.84 18 ePn Pn 16 42 58.0 -2.2
CLL *ex* x 16 43 13.0
CLL eP*g* 16 43 31.0
CLL *ex* x 16 43 35.0
CLL *ex* x 16 44 02.0
CLL eSn Sn 16 44 08.0 -9.1
CLL *ex* x 16 44 25.0
CLL eS*g* 16 44 59.0
comp=Z,216nm,1.6s
CLL eAMS AMS 16 45 30.0
HCY Herceg Novi 6.85 107 ePn Pn 16 42 59.5 -0.8
HCY Herceg Novi 6.85 107 ePn Pn 16 43 01.5 +1.2
HCY *i* Sn Sn 16 44 16.6 -0.8
UPM Unac-Piva 6.87 101 ePn Pn 16 43 01.7 +0.9
UPM *i* Sn Sn 16 44 17.2 -1.0
EPF Esparros 6.97 258 eP Pn 16 43 04.6 +2.5
EPF eSn Sn 16 44 14.4 -6.0
comp=Z,34nm,0.7s
CLZ Clausthal 7.01 4 ePn Pn 16 43 01.8 -0.8
NKME Niksic 7.04 104 ePn Pn 16 43 04.2 +1.1
NKME *i* Sn Sn 16 44 21.3 -0.9
TEKS Tekeris 7.04 89 ePn Pn 16 43 00.8 -2.2
TEKS Tekeris 7.04 89 ePn Pn 16 43 00.6 -2.4
BBLS Lazi&#263i 7.06 95 ePn Pn 16 43 02.7 -0.6
BBLS eSn Sn 16 44 18.0 -4.7
BBLS Lazi&#263i 7.06 95 ePn Pn 16 43 02.5 -0.8
MFF Saint Martin d 7.08 288 eP Pn 16 43 05.8 +2.3
MFF eSn Sn 16 44 16.7 -6.4
comp=Z,33nm,0.6s
RUDO Rudo 7.09 97 ePn Pn 16 43 00.2 -3.4
CEME Cevo 7.10 106 ⇓P Pn 16 43 03.6 -0.2
CEME *i* Sn Sn 16 44 22.1 -1.5
UPC Upice 7.10 35 ePN Pn 16 43 02.9 -0.9
DPC Dobruska-Polom 7.11 37 ePN Pn 16 43 02.6 -1.4
KRLC Kraliky 7.11 40 ePN Pn 16 43 03.6 -0.4
MAUC Maruska 7.17 48 ePN Pn 16 43 05.0 +0.2
BUM Brajici-Budva 7.18 108 ePn Pn 16 43 06.1 +1.2
BUM *i* Sn Sn 16 44 24.7 -0.9
FRGS Fruska Gora 7.21 84 ePn Pn 16 43 04.2 -1.1
FRGS Fruska Gora 7.21 84 ePn Pn 16 43 00.4 -4.9
OSTC Ostas 7.22 35 ePN Pn 16 43 04.5 -1.0
MORC Moravsky Berou 7.28 45 ePN Pn 16 43 04.9 -1.4
MORC eSN Sn 16 44 27.0 -1.0
VYHS Vyhne 7.29 57 ePN Pn 16 43 05.3 -1.1
VYHS eP*G* 16 43 38.1
VYHS eS*N* Sn 16 44 24.4 -3.8
VYHS eS*G* 16 45 16.9
PDG Podgorica 7.37 106 ePn Pn 16 43 07.0 -0.5
PDG Podgorica 7.37 106 ePn Pn 16 43 08.4 +0.9
PDG *i* Sn Sn 16 44 29.6 -0.7
KOME Kolasin 7.40 102 ePn Pn 16 43 09.1 +1.1
KOME *i* Sn Sn 16 44 30.3 -0.9
DRME Dracevica, Mon 7.42 108 ePn Pn 16 43 07.3 -0.9
DRME Dracevica, Mon 7.42 108 ⇓P Pn 16 43 07.4 -0.8
DRME *i* Sn Sn 16 44 30.7 -0.8
DIVS Divibare 7.43 92 ePn Pn 16 43 07.6 -0.8
ULC Ulcinj 7.55 109 ePn Pn 16 43 11.5 +1.4
ULC *i* Sn Sn 16 44 32.7 -2.1
SJES Sjenica 7.60 98 ePn Pn 16 43 08.5 -2.3
SJES eSn Sn 16 44 29.0 -7.1
SJES Sjenica 7.60 98 ePn Pn 16 43 01.0 -10
ETSF Etsaut 7.64 259 eP Pn 16 43 14.5 +3.3
ETSF eSn Sn 16 44 30.3 -6.6
comp=Z,58nm,1.0s
IVAS Ivanjica 7.65 96 ePn Pn 16 43 10.0 -1.4
IVAS eSn Sn 16 44 32.0 -5.2
IVA Berane 7.66 101 ePn Pn 16 43 10.4 +0.9
IVA *i* Sn Sn 16 44 36.5 -1.9
LDF La Druitiere 7.69 303 eP Pn 16 43 14.2 +2.3
LDF eSn Sn 16 44 30.8 -7.3
comp=Z,23nm,0.5s
TRUS Trudelj 7.71 91 ePn Pn 16 43 10.7 -1.4
PVY Plav 7.80 103 ⇓P Pn 16 43 14.8 +1.3
PVY *i* Sn Sn 16 44 39.9 -1.0
LANS Liptovska Anna 7.96 54 ePN Pn 16 43 16.8 +1.1
FLN La Foliniere 7.98 303 eP Pn 16 43 19.1 +3.3
FLN eSn Sn 16 44 37.5 -7.7
comp=Z,28nm,0.5s
GRUS Gruza 7.98 93 ePn Pn 16 43 14.9 -1.0
GRUS eSn Sn 16 44 42.6 -2.7
SJPF Ste Jean 8.04 261 eP Pn 16 43 19.0 +2.3
SJPF eSn Sn 16 44 39.6 -7.1
comp=Z,20nm,0.9s
GRR Gorron 8.06 300 eP Pn 16 43 20.0 +3.1
GRR eSn Sn 16 44 39.6 -7.5
comp=Z,42nm,0.7s
VAE Valguarnera 8.19 152 Pn Pn 16 43 19.4 +0.6
comp=Z,4.5nm,0.4s,baz=337,slow=24,SNR=1.5
KECS Kecovo 8.29 60 ePN Pn 16 43 21.4 +1.4
SELS Selova 8.42 97 ePn Pn 16 43 21.0 -0.9
SELS eSn Sn 16 44 51.1 -5.0
KUBS Kucevo 8.58 89 ePn Pn 16 43 22.4 -1.8
BOVS Bovan 8.74 94 ePn Pn 16 43 23.8 -2.4
BARS Barje 9.02 99 ePn Pn 16 43 29.3 -0.9
CRVS Cervenica-Dubn 9.04 59 ePN Pn 16 43 31.5 +1.1
ZAGS Zajecar 9.08 92 ePn Pn 16 43 29.4 -1.5
SGMF Saint Gilles 9.08 296 eP Pn 16 43 33.4 +2.5
SGMF eSn Sn 16 45 04.1 -8.0
comp=Z,65nm,1.3s
KEST Kesra 9.11 182 Pn Pn 16 43 36.4 +4.9
comp=Z,3.9nm,0.3s,baz=294,slow=4.2,SNR=44
KEST LR LR 16 47 11.4
comp=Z,249nm,19.1s,baz=200,slow=39
STHS Stebnicka Huta 9.12 56 ePN Pn 16 43 32.5 +1.0
PRVS Prvonek 9.30 100 ePn Pn 16 43 32.1 -1.9
PRVS eSn Sn 16 45 09.4 -8.3
QUIF Quistinic 9.38 294 eP Pn 16 43 36.9 +1.9

QUIF eSn Sn 16 45 11.3 -8.2
comp=Z,54nm,1.1s
KOLS Kolonicke sedl 9.55 60 ePN Pn 16 43 38.6 +1.2
ROSF Rostrenen 9.56 296 eP Pn 16 43 40.9 +3.4
ROSF eSn Sn 16 45 15.6 -8.4
comp=Z,88nm,1.3s
ESDC Sonseca Array 11.34 248 Pn Pn 16 44 02.7 +0.8
comp=Z,0.7nm,0.3s,baz=59,slow=14,SNR=60
ESDC Sn Sn 16 46 10.3 +2.6
comp=Z,0.1nm,0.3s,baz=57,slow=23,SNR=5.6
ESDC LR LR 16 48 44.0
comp=Z,112nm,18.9s,baz=72,slow=39
comp=Z,4.3nm,0.5s
MLR Muntele Rosu 11.52 81 Pn Pn 16 44 06.9 +2.4
comp=Z,0.1nm,0.3s,baz=304,slow=4.5,SNR=1.6
MLR LR LR 16 48 51.8
comp=Z,107nm,18.2s,baz=254,slow=39
comp=Z,0.8nm,0.6s
EKA Eskdalemuir Ar 13.31 327 Pn Pn 16 44 28.1 -0.6
baz=141,slow=14
EKA Sn Sn 16 47 00.3 +4.7
baz=137,slow=24
comp=Z,0.3nm,0.3s
AKASG Malin Array Be 14.38 59 Pn Pn 16 44 43.7 +0.4
comp=Z,0.2nm,0.3s,baz=249,slow=12,SNR=1.1
AKASG Sn Sn 16 47 20.3 -1.5
comp=Z,0.7nm,0.3s,baz=255,slow=24,SNR=2.6
HFS Hagfors 15.50 8 LR LR 16 51 37.2
comp=Z,111nm,20.7s,baz=192,slow=40
NOA NORSAR Array B 16.24 3 Pn Pn 16 45 06.3 -1.6
comp=Z,0.1nm,0.4s,baz=184,slow=11,SNR=3.8
NOA LR LR 16 52 18.8
comp=Z,102nm,18.3s,baz=195,slow=40
BRTR Keskin Array B 18.44 98 P Pn 16 45 36.6 +1.2
comp=Z,0.3nm,0.6s,baz=294,slow=7.7,SNR=2.2
BRTR LR LR 16 53 19.8
comp=Z,65nm,20.0s,baz=302,slow=39
FINES FINESS Array B 19.22 24 P P 16 45 44.6 +1.2
comp=Z,0.1nm,0.3s,baz=216,slow=11,SNR=7.0
FINES LR LR 16 52 30.1
comp=Z,51nm,21.2s,baz=249,slow=35
comp=Z,1.4nm,0.6s
MMAI Mount Meron Ar 23.15 112 P P 16 46 26.8 +0.8
comp=Z,1.6nm,0.8s,baz=321,slow=13,SNR=1.9
MMAI LR LR 16 58 38.6
comp=Z,59nm,19.1s,baz=272,slow=45
comp=Z,1.6nm,0.8s
KBZ Khabaz 23.73 81 P P 16 46 33.6 +2.1
comp=Z,1.0nm,0.6s,baz=308,slow=11,SNR=3.6
KBZ LR LR 16 57 16.3
comp=Z,40nm,18.3s,baz=289,slow=40
comp=Z,1.0nm,0.6s
ARCES ARCESS Array B 26.02 13 P P 16 46 53.3 +1.2
comp=Z,4.3nm,1.1s,baz=207,slow=9.7,SNR=1.5
comp=Z,4.3nm,1.1s
GNI Garni 26.16 88 LR LR 16 59 46.7
comp=Z,23nm,18.4s,baz=282,slow=42
TORD Torodi Ar. Bea 32.32 195 P P 16 47 48.1 -0.5
comp=Z,0.5nm,0.5s,baz=8.3,slow=9.9,SNR=4.5
TORD LR LR 17 00 22.1
comp=Z,56nm,18.9s,baz=14,slow=35
comp=Z,0.5nm,0.5s
KURBB Kurchatov Arra 45.16 57 P P 16 49 36.3 +0.5
comp=Z,0.3nm,0.7s,baz=296,slow=9.1,SNR=1.7
comp=Z,0.3nm,0.7s
ZALV Zalesovo Beam 47.58 51 LR LR 17 09 45.9
comp=Z,48nm,18.2s,baz=36,slow=36
SCHQ Schefferville 47.98 311 LR LR 17 08 04.8
comp=Z,58nm,19.6s,baz=312,slow=34
MKAR Makanchi Array 48.96 60 P P 16 50 06.2 +0.7
comp=Z,0.9nm,0.9s,baz=311,slow=4.6,SNR=3.8
comp=Z,0.9nm,0.9s
TIXI Tiksi 56.17 19 LR LR 17 18 23.3
comp=Z,22nm,18.0s,baz=178,slow=40
YAK Yakutsk 63.12 27 LR LR 17 21 15.2
comp=Z,28nm,19.3s,baz=344,slow=38
YKA Yellowknife Ar 64.11 335 P P 16 51 54.2 +1.2
comp=Z,1.3nm,0.9s,baz=41,slow=6.6,SNR=16
comp=Z,1.3nm,0.9s
ILAR Eielson Array 69.18 349 P P 16 52 27.2 +1.8
comp=Z,0.3nm,0.8s,baz=17,slow=3.8,SNR=2.1
comp=Z,0.3nm,0.8s
KLR Kul'dur 73.56 35 LR LR 17 28 21.5
comp=Z,36nm,18.4s,baz=130,slow=38
CMAR Chiang Mai Arr 76.73 77 P P 16 53 11.8 +1.0
comp=Z,0.2nm,0.3s,baz=310,slow=7.0,SNR=2.3
comp=Z,0.2nm,0.3s
PDAR Pinedale Array 77.30 319 LR LR 17 26 26.0
comp=Z,31nm,18.8s,baz=70,slow=35

IDC ***19*** *17:00:34.1±0.6,25.˚53S×70.˚77W,h0km,mb4.0/9, mbtmp3.9/13,ML3.6/4,MS3.4/8,Error ellipse: s-maj=23.1km s-min=14.4km az=109.0*
SJA ***19*** *17:00:36.1±0.8,25.˚39S×70.˚85W,h30km±3km,ML4.3, MW4.4*
NEIC ***19*** *17:00:36,25.˚45S×70.˚84W,h16km*
NEIC ***19*** *17:00:37.0±2.6,25.˚46S±0.˚04×70.˚78W±0.˚10,h26km±5km, mb4.2/20,Mwr4.1/35,Error ellipse: s-maj=12.7km s-min=5.9km az=84.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr 1.28; Mθθ 0.11; Mϕϕ -1.39; Mrθ 0.30; Mϕθ -0.07; Mϕr -1.21; Fault plane solution: M₀ 1.83000×10¹⁵ NP1,φs 171.03000°,δ66.79000°, λ 80.07000°. NP2,φs 15.00000°,δ25.14000°,λ 111.92000°. Principal axes: T 1.8035, Plg67.0000°, Azm63.0000°; N 0.0542, Plg9.0000°, Azm175.0000°; P -1.8577, Plg21.0000°, Azm269.0000°;*
GUC ***19*** *17:00:37.8±0.7,25.˚33S×70.˚72W,h38km±4km,ML4.2*
VAO ***19*** *17:00:39.3±1.2,25.˚49S×70.˚87W,h53km±8km,mb4.4*

ISC 19 17:00:35.0±1.4,25.˚46S±0.˚02×70.˚90W±0.˚05,h11km±9km, n142,σ1$24/154,mb4.2/12,MS3.5/3,1C-2D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AC01	**Pan de Azucar**	**0.74**	**158**			**Pn**	**17 00 51.3**	**0.0**
AC01						**Sb**	**17 01 00.3**	**+0.3**
AC01	**Pan de Azucar**	**0.74**	**158**	*eP*		**Pn**	**17 00 51.4**	**0.0**
AC01				*eS*		**Sb**	**17 01 00.6**	**+0.6**
PB14	**IPOC Station P**	**0.95**	**29**	Pn		**Pg**	**17 00 54.1**	**+0.7**
PB14				Sg		**Sb**	**17 01 05.7**	**-0.6**
PB14	**IPOC Station P**	**0.95**	**29**	*eP*		**Pg**	**17 00 54.0**	**+0.7**
PB14				*eS*		**Sb**	**17 01 06.0**	**-0.3**
PB14				IAML			17 01 08.3	
comp=Z,7µm,0.3s								
PB14	**IPOC Station P**	**0.95**	**29**	⇓*iP*		**Pg**	**17 00 54.2**	**+0.9**
PB14				*i* S		**Sb**	**17 01 06.0**	**-0.3**
PB14				IAML			17 01 08.2	
comp=E,7µm,0.3s								
GO02	**Mina Guanaco**	**1.22**	**76**	Pn		**Pn**	**17 00 58.2**	**-0.2**
GO02				Sg		**Sb**	**17 01 12.8**	**-1.4**
GO02	**Mina Guanaco**	**1.22**	**76**	*eP*		**Pn**	**17 00 58.3**	**0.0**
GO02				*eS*		**Sg**	**17 01 15.3**	**+0.7**
GO02	**Mina Guanaco**	**1.22**	**76**	⇓*iP*		**Pn**	**17 00 58.3**	**0.0**
GO02				*i* S		**Sb**	**17 01 13.4**	**-0.9**
GO02				IAML			17 01 17.6	
comp=N,12µm,0.5s								
AC06	**Mina Casimiro**	**1.95**	**166**			**Pb**	**17 01 10.4**	**-0.2**
AC06	**Mina Casimiro**	**1.95**	**166**	*eP*		**Pb**	**17 01 10.3**	**-0.3**
AC06				*eS*		**Sn**	**17 01 32.7**	**+0.1**
PB10	**IPOC Station P**	**1.96**	**9**			**Pn**	**17 01 08.2**	**0.0**
PB10	**IPOC Station P**	**1.96**	**9**	*eP*		**Pn**	**17 01 08.2**	**0.0**
PB10				*eP*		**Pn**	**17 01 08.3**	**0.0**
PB10				*eS*		**Sn**	**17 01 32.5**	**-0.4**
PB10	**IPOC Station P**	**1.96**	**9**	⇑*iP*		**Pn**	**17 01 08.3**	**0.0**
PB10				*i* S		**Sn**	**17 01 32.7**	**-0.2**
PB10				IAML			17 01 42.1	
comp=N,2µm,0.3s								
PB15	**IPOC Station P**	**2.59**	**30**			**Pn**	**17 01 18.5**	**+1.4**
PB15	**IPOC Station P**	**2.59**	**30**	*eP*		**Pn**	**17 01 18.0**	**+0.9**
PB15				*eS*		**Sn**	**17 01 49.2**	**+0.4**
PB06	**IPOC Station P**	**3.00**	**24**			**Pn**	**17 01 23.1**	**+0.4**
PB06	**IPOC Station P**	**3.00**	**24**	*eP*		**Pn**	**17 01 23.5**	**+0.8**
PB06				*eS*		**Sb**	**17 02 08.3**	**+3.0**
PB06				IAML			17 02 15.9	
comp=Z,1µm,0.4s								
PB06	**IPOC Station P**	**3.00**	**24**	*eP*		**Pn**	**17 01 23.3**	**+0.7**
PB06				*i* S		**Sn**	**17 01 58.7**	**0.0**
PB06				IAML			17 02 10.9	
comp=E,2µm,0.4s								
PB04	**IPOC Station P**	**3.19**	**13**			**Pn**	**17 01 24.9**	**-0.4**
PB04	**IPOC Station P**	**3.19**	**13**	*eP*		**Pn**	**17 01 25.0**	**-0.2**
PB04				*eS*		**Sb**	**17 02 08.3**	**-2.5**
PB04				IAML			17 02 30.1	

comp=Z,1µm,0.5s
PB04 IPOC Station P 3.19 13 *e*P Pn **17 01 26.4 +1.2**
PB04 IAML 17 02 24.3
comp=E,2µm,0.2s
LVC Limon Verde 3.37 33 Pn **17 01 29.6 +1.6**
LVC Limon Verde 3.37 33 Pn Pn **17 01 29.8 +1.8**
comp=E,7.6nm,0.3s,baz=214,slow=10,SNR=41
LVC Pg **Pb 17 01 34.5 -0.5**
comp=E,100nm,0.3s,baz=203,slow=9.1,SNR=106
LVC Lg Lg 17 02 17.4
comp=E,294nm,0.3s,baz=35,slow=7.8,SNR=10
LVC LR LR 17 02 56.6
comp=E,650nm,18.5s,baz=224,slow=42
comp=E,136nm,0.3s
LVC Limon Verde 3.37 33 *e*P **Pn 17 01 29.6 +1.6**
LVC *e*S **Sn 17 02 10.1 +2.0**
AC05 El Transito 3.41 171 **Pn 17 01 25.7 -2.5**
AC05 El Transito 3.41 171 *e*P **Pb 17 01 33.1 -2.4**
AF01 San Pedro de A 3.52 45 **Pn 17 01 27.7 -2.3**
LCO Las Campanas 3.54 177 Pn **Pn 17 01 29.0 -1.2**
PB09 IPOC Station P 3.95 23 **Pn 17 01 36.6 +0.9**
PB09 IPOC Station P 3.95 23 *e*P **Pn 17 01 37.0 +1.2**
CO05 La Serena 4.45 184 **Pn 17 01 40.9 -1.5**
CO01 Juntas del Tor 4.55 171 **Pn 17 01 43.0 -1.1**
PB01 IPOC Station P 4.59 17 Pn **Pn 17 01 44.2 -0.2**
PB01 IPOC Station P 4.59 17 *e*P **Pn 17 01 44.4 0.0**
PB01 *e*S **Sb 17 02 52.3 +1.4**
PB01 *e*S Sg 17 02 53.3 -9.1
PB01 IAML 17 03 15.0
comp=Z,296nm,0.4s
PATCX Punta Patache 4.67 9 **Pn 17 01 44.2 -1.4**
PATCX Punta Patache 4.67 9 *e*P **Pn 17 01 44.6 -1.0**
PATCX *e*S **Sb 17 02 53.3 0.0**
PATCX IAML 17 03 20.1
comp=Z,299nm,0.7s
GO04 Tololo Observa 4.69 179 **Pn 17 01 45.0 -1.0**
TA01 Diego Aracena 4.92 8 Pn **Pn 17 01 47.3 -1.6**
TA02 Huaiquique 5.21 8 **Pn 17 01 51.2 -1.7**
CO06 Fray Jorge 5.23 187 **Pn 17 01 52.9 -0.3**
HMBC Humberstone 5.24 10 **Pn 17 01 53.1 -0.4**
CO03 El Pedregal 5.36 178 Pn **Pn 17 01 55.0 0.0**
PB08 IPOC Station P 5.54 17 **Pn 17 01 57.6 -0.1**
CO02 Combarbal 5.72 181 Pn **Pn 17 02 01.5 +1.5**
PB11 IPOC Station P 5.79 12 Pn **Pn 17 01 59.8 -1.2**
GO01 Chusmiza 5.98 16 **Pn 17 02 03.2 -0.7**
ZON Zonda 6.37 163 **Pn 17 02 08.2 -0.7**
PB12 IPOC Station P 6.83 5 Pn **Pn 17 02 13.8 -1.5**
AP01 Chacalluta 7.08 4 Pn **Pn 17 02 18.1 -0.4**
VA03 San Esteban 7.28 178 **Pn 17 02 23.1 +1.6**
VA01 Torpederas 7.56 185 **Pn 17 02 26.7 +1.5**
PEL Peldehue 7.66 179 Pn **Pn 17 02 27.6 +1.1**
MT02 Curacav 7.77 181 **Pn 17 02 27.7 -0.4**
MT05 Renca 7.90 179 Pn **Pn 17 02 30.8 +0.9**
PB18 Visviri 7.94 10 **Pn 17 02 30.8 -0.1**
MT16 CCHEN 7.95 178 Pn **Pn 17 02 31.0 +0.5**
VA05 Santo Domingo 8.19 184 Pn **Pn 17 02 34.7 +0.9**
MT13 San Alfonso 8.27 176 Pn **Pn 17 02 35.4 +0.3**
MT09 Talagante 8.29 181 **Pn 17 02 35.0 -0.3**
LMEL Las Melosas 8.38 176 **Pn 17 02 36.6 0.0**
MT01 Popeta 8.38 182 **Pn 17 02 36.2 -0.2**
BO04 La Punta 8.50 178 **Pn 17 02 38.7 +0.6**
BO01 Tunca 8.90 181 **Pn 17 02 45.2 +1.6**
BO02 Sierra Bellavi 9.30 179 **Pn 17 02 48.5 -0.6**
LPAZ La Paz 9.49 16 Pn **Pn 17 02 49.9 -2.3**
LPAZ La Paz 9.49 16 Pn **Pn 17 02 53.9 +1.6**
comp=Z,0.8nm,0.3s,baz=200,slow=6.4,SNR=16
LPAZ LR LR 17 06 55.6
comp=Z,197nm,19.1s,baz=196,slow=40
comp=Z,2.2nm,0.4s
LPAZ La Paz 9.49 16 *e*P **Pn 17 02 53.8 +1.6**
TICA Tres Isletas 9.52 98 *e*P **Pn 17 02 54.2 +2.2**
GO05 Huala 9.56 185 Pn **Pn 17 02 50.1 -2.5**
H03N1 Juan Fernandez 10.58 219 Pn **Pn 17 03 06.2 0.0**
baz=106,slow=15
H03N1 T T 17 14 24.9
baz=45,slow=72,SNR=329
H03N2 Juan Fernandez 10.59 219 Pn **Pn 17 03 06.4 0.0**
baz=106,slow=15
H03N2 T T 17 14 24.7
baz=45,slow=72,SNR=266
H03N3 Juan Fernandez 10.59 219 Pn **Pn 17 03 06.2 -0.4**
baz=106,slow=15
H03N3 T T 17 14 21.1
baz=45,slow=72,SNR=303
H03S3 Juan Fernandez 10.86 218 Pn **Pn 17 03 09.2 -0.9**
H03S1 Juan Fernandez 10.87 218 Pn **Pn 17 03 09.0 -1.2**
H03S1 T T 17 14 35.3
baz=19,slow=74
H03S2 Juan Fernandez 10.88 218 Pn **Pn 17 03 09.3 -1.1**
H03S2 T T 17 14 39.1
baz=41,slow=74
CPUP Villa Florida 12.25 97 Pn **Pn 17 03 26.1 -3.4**
CPUP Villa Florida 12.25 97 Pn **Pn 17 03 28.2 -1.2**
comp=Z,0.1nm,0.3s,baz=285,slow=16,SNR=1.1
CPUP LR LR 17 08 35.5
comp=Z,214nm,18.7s,baz=262,slow=40
comp=Z,0.7nm,0.5s
CPUP Villa Florida 12.25 97 *e*P **Pn 17 03 30.9 +1.5**
BBRB Robore, Bolivi 12.53 57 *e*P **Pn 17 03 34.0 +0.7**
BBSD Serra de San D 12.63 51 *e*P **Pn 17 03 32.2 -2.6**
PSAL Palomas, Salto 12.98 119 *e*P **Pn 17 03 40.4 +1.0**
SIV San Ignacio 13.16 46 Pn **Pn 17 03 38.8 -3.1**
comp=Z,0.1nm,0.3s,baz=225,slow=8.4,SNR=9.1
SIV Sn **Sn 17 06 09.8 +1.4**
baz=176,slow=12
ITQB Itaqui 13.34 112 *e*P **Pn 17 03 45.6 +1.3**
BDQN Bodoquena, MS 13.96 72 *e*P **Pn 17 03 55.3 +2.5**
TBOT Tacuaremb 14.53 119 *e*P **Pn 17 04 01.4 +0.8**
NNA Nana 14.53 336 LR LR 17 08 33.2
comp=Z,63nm,20.7s,baz=176,slow=33
TRQA Tornquist 14.66 151 Pn **Pn 17 04 00.8 -1.6**
PTLB Pontes e Lacer 14.85 50 P **P 17 04 08.2 -2.6**
PTLB Pontes e Lacer 14.85 50 *e*P **Pn 17 04 06.6 +1.6**
PLCA Paso Flores 15.23 179 P **P 17 04 15.9 +0.8**
PLCA Paso Flores 15.23 179 Pn **Pn 17 04 08.7 -1.4**
baz=7.6,slow=15,SNR=0.9
PLCA LR LR 17 10 45.8
comp=Z,60nm,20.2s,baz=343,slow=40
comp=Z,0.4nm,0.6s
LL04 Puerto Octay 15.46 184 P **P 17 04 17.9 +0.5**
LL04 IAmb IAmb 17 04 26.3
comp=Z,12nm,0.7s
VILB Vilhena 16.02 41 P **Pn 17 04 21.1 +0.7**
VILB Vilhena 16.02 41 *e*P **Pn 17 04 21.6 +1.2**
ETMB Extrema 16.18 17 P **Pn 17 04 23.8 +1.3**
ETMB Extrema 16.18 17 *e*P **Pn 17 04 23.8 +1.3**
PLTB Pedras Altas 16.43 116 **Pn 17 04 25.2 -0.3**
PLTB IAmb IAmb 17 05 02.9
comp=Z,22nm,1.2s
LL06 Loncomilla 16.86 187 P **P 17 04 33.7 +0.7**
TRCB Terra Rica 16.89 85 P **P 17 04 33.6 +0.1**
TRCB IAmb IAmb 17 04 45.6
comp=Z,33nm,0.8s
LL01 San Ignacio de 16.92 184 P **P 17 04 34.2 +0.6**
LL01 IAmb IAmb 17 04 42.9
comp=Z,13nm,0.8s
CZSB Cruzeiro do Su 17.72 354 P **Pn 17 04 40.9 -0.9**
CZSB IAmb IAmb 17 04 45.3
comp=Z,16nm,0.9s
SAML Samuel 17.99 25 P **Pn 17 04 44.6 -0.5**
SAML Samuel 17.99 25 *e*P **P 17 04 46.9 +1.2**
LDASE Londrina, Braz 18.13 88 *e*P **P 17 04 47.2 -0.1**
PDRB Porto dos Gac 19.22 47 *e*P **P 17 04 58.5 -0.7**
TBTG Tabatinga, AM 21.18 3 P **P 17 05 19.1 -1.4**
VAO Valinhos 21.96 89 P **P 17 05 25.4 -3.6**
IPMB Ipameri, GO 22.33 75 *e*P **P 17 05 32.0 -1.0**
TEFE Tefe 22.64 16 *e*P **P 17 05 35.8 -0.4**
SNDB Serra Nova Dou 22.87 58 *e*P **P 17 05 36.5 -2.1**
BDFB Brasilia 23.52 70 P **P 17 05 42.4 -3.0**
BDFB IAmb IAmb 17 05 46.0
comp=Z,6.6nm,1.0s
BDFB Brasilia 23.52 70 P **P 17 05 44.0 -1.4**
comp=Z,5.3nm,0.8s,baz=252,slow=9.6,SNR=5.2
BDFB LR LR 17 16 36.8
comp=Z,84nm,18.2s,baz=324,slow=41
comp=Z,5.3nm,0.8s
NPGB Novo Progresso 23.58 42 *e*P **P 17 05 45.6 -0.2**
ITTB Itaituba 25.53 37 *e*P **P 17 06 03.8 -0.1**
BOAV Boa Vista 29.46 21 P **P 17 06 38.4 -0.7**
BOAV IAmb IAmb 17 06 40.1
comp=Z,5.7nm,0.9s
BAUV El Baul 34.31 5 P **P 17 07 20.1 -1.5**
MDP Montagnes des 35.18 33 LR LR 17 23 10.6
comp=Z,73nm,18.1s,baz=154,slow=39

PCRV Puerto La Cruz 35.94 11 LR LR 17 23 40.4
comp=Z,87nm,19.6s,slow=38
RCBR Riachuelo 38.75 66 P **P 17 07 59.2 -0.5**
BELA Belgrano 2 55.11 171 P **P 17 10 07.2 +0.5**
BELA IAmb IAmb 17 10 34.6
comp=Z,2.9nm,1.2s
SNAA Sanae 59.17 160 P **P 17 10 36.0 +0.4**
SNAA Sanae 59.17 160 P **P 17 10 35.8 +0.2**
comp=Z,1.0nm,0.5s,baz=281,slow=7.9,SNR=16
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 62.91 328 P **P 17 11 03.2 +1.7**
comp=Z,0.4nm,0.7s,baz=157,slow=6.8,SNR=5.0
comp=Z,0.4nm,0.7s
QSPA South Pole Qui 64.75 180 P **P 17 11 14.8 +1.6**
comp=Z,1.6nm,0.5s,baz=176,slow=1.1,SNR=29
comp=Z,1.6nm,0.5s
VNDA Vanda 72.64 190 P **P 17 12 02.4 +0.2**
comp=Z,0.3nm,0.7s,baz=225,slow=2.9,SNR=1.4
comp=Z,0.3nm,0.7s
PDAR Pinedale Array 76.67 332 P **P 17 12 27.0 +0.9**
comp=Z,0.2nm,0.4s,baz=144,slow=6.7,SNR=2.5
comp=Z,0.2nm,0.4s
HLID Hailey 79.46 329 P **P 17 12 42.7 +1.1**
TORD Torodi Ar. Bea 80.40 71 P **P 17 12 47.0 0.0**
comp=Z,3.0nm,0.5s,baz=268,slow=4.8,SNR=29
comp=Z,3.0nm,0.5s
PLID Pearl Lake 81.36 330 P **P 17 12 51.8 0.0**
PLID IAmb IAmb 17 12 54.9
comp=Z,2.9nm,1.0s
BOSA Boshof 83.20 118 P **P 17 13 01.6 -0.2**
comp=Z,3.5nm,0.9s,baz=266,slow=4.2,SNR=5.4
comp=Z,3.5nm,0.9s
YKA Yellowknife Ar 94.32 341 P **P 17 13 54.6 +0.6**
comp=Z,0.6nm,0.8s,baz=137,slow=3.9,SNR=10
comp=Z,0.6nm,0.8s
ASAR Alice Springs 125.57 208 PKP **PKiKP 17 19 37.7 +0.2**
comp=Z,0.7nm,0.5s,baz=130,slow=1.6,SNR=20
H11S2 WAKE ISLAND Hyl 126.47 275 T T 19 39 11.6
baz=108,slow=75,SNR=238
H11S1 WAKE ISLAND Hyl 126.48 275 T T 19 39 10.2
baz=108,slow=75,SNR=153
H11S3 WAKE ISLAND Hyl 126.49 275 T T 19 39 13.0
baz=108,slow=75,SNR=145
H11N3 WAKE ISLAND Hyl 126.66 276 T T 19 39 27.6
baz=108,slow=74,SNR=6.8
H11N1 WAKE ISLAND Hyl 126.68 276 T T 19 39 37.6
baz=108,slow=74,SNR=3.7
H11N2 WAKE ISLAND Hyl 126.68 276 T T 19 39 25.9
baz=108,slow=74,SNR=10
WRA Warramunga Arr 128.63 211 PKP **PKiKP 17 19 43.8 +0.2**
comp=Z,2.8nm,1.2s,baz=168,slow=1.7,SNR=11
KURBB Kurchatov Arra 145.63 35 PKPbc **PKPab 17 20 14.8 +1.1**
comp=Z,1.8nm,0.6s,baz=295,slow=3.2,SNR=21
ZALV Zalesovo Beam 146.30 26 PKPbc **PKPab 17 20 15.7 -0.4**
comp=Z,8.6nm,0.7s,baz=313,slow=4.0,SNR=51
MKAR Makanchi Array 149.88 38 PKPbc **PKiKP 17 20 26.0 -0.1**
comp=Z,3.6nm,0.8s,baz=320,slow=2.9,SNR=16

*OSPL **19** 17:11:33.5±0.8,20°.16N×75°.24W, h5km±4km, ML2.8*
*SSNC **19** 17:11:34.0±1.2, 19°.76N×75°.20W, h5km±9km, MD3.3, ML3.1, MW2.9*
*NEIC **19** 17:11:34.1±1.4, 19°.8N±0°.1×75°.26W±0°.04, h24km±5km, ML3.3/14, Error ellipse: s-maj=16.8km s-min=3.9km az=193.0*
ISC 19 17:11:33.7±1.0, **19°.83N**±0°.06×**75°.22W**±0°.03, **h24**km±6km, **n22**, σ0**s69**/34, **Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GTBY	**Guantanamo Bay**	**0.14**	**49**			**Pb**	**17 11 38.6**	**0.0**
GTBY				Sg		**Sb**	**17 11 41.8**	**-0.1**
GTBY				IAML			17 11 42.1	
	6µm,0.3s							
GTBY				IAML			17 11 42.3	
	4µm,0.2s							
GTBY	**Guantanamo Bay**	**0.14**	**49**	*e*P		**Pb**	**17 11 38.7**	**0.0**
GTBY				*e*S		**Sb**	**17 11 41.8**	**-0.1**
GTBY				IAML			17 11 42.0	
	comp=Z,4µm,0.1s							
GTBY				IAML			17 11 42.2	
	4µm,0.1s							
GTBY	**Guantanamo Bay**	**0.14**	**49**	*i* P		**Pb**	**17 11 38.6**	**0.0**
GTBY				*e*S		**Sb**	**17 11 41.9**	**-0.1**
GTBY				IAML			17 11 42.1	
	comp=Z,2µm,0.3s							
RCC	**Rio Carpintero**	**0.47**	**290**	*e*P		**Pb**	**17 11 43.4**	**0.0**
RCC				*e*S		**Sb**	**17 11 49.6**	**-0.4**
QMBU	**Quimbuelo**	**0.53**	**47**	*e*P		**Pb**	**17 11 44.2**	**-0.2**
QMBU				*e*S		**Sb**	**17 11 51.3**	**-0.5**
QMBU				IAML			17 11 51.7	
	comp=N,1µm,0.2s							
QMBU				IAML			17 11 51.9	
	comp=E,848nm,0.1s							
SABCS	**La Quijada**	**0.53**	**351**	*e*P		**Pb**	**17 11 44.4**	**-0.1**
MARVS	**Santiago de Cu**	**0.66**	**285**	*e*P		**Pb**	**17 11 46.5**	**-0.1**
MARVS				*e*S		**Sb**	**17 11 55.1**	**-0.1**
MARVS				IAML			17 11 56.2	
	comp=E,1µm,0.1s							
MARVS				IAML			17 11 56.5	
	comp=N,1µm,0.2s							
MOAC	**Moa**	**0.86**	**17**	*e*P		**Pb**	**17 11 49.4**	**-0.5**
MASC	**Masc**	**0.99**	**70**	*e*P		**Pn**	**17 11 50.9**	**-1.3**
MASC	**Masc**	**0.99**	**70**	*i* P		**Pn**	**17 11 51.0**	**-1.1**
MASC				*e*S		**Sb**	**17 12 03.3**	**-1.6**
MASC				IAML			17 12 10.3	
	comp=N,157nm,0.5s							
MASC				IAML			17 12 11.3	
	comp=Z,124nm,0.2s							
CHIV	**Chivirico**	**1.13**	**277**	Pn		**Pn**	**17 11 54.0**	**0.0**
CHIV				Sn		**Sn**	**17 12 08.9**	**+0.1**
CHIV				IAML			17 12 09.6	
	comp=N,1µm,0.2s							
CHIV				IAML			17 12 10.4	
	comp=E,1µm,0.1s							
CHIV	**Chivirico**	**1.13**	**277**	*e*P		**Pn**	**17 11 54.0**	**0.0**
CHIV				*e*S		**Sn**	**17 12 08.6**	**-0.1**
CHIV				IAML			17 12 10.3	
	comp=N,541nm,0.1s							
CHIV				IAML			17 12 10.3	
	comp=E,515nm,0.1s							
YAR	**Yar**	**1.19**	**297**	*e*P		**Pn**	**17 11 55.3**	**+0.4**
HLGC	**Holguin**	**1.31**	**323**	*e*P		**Pb**	**17 11 58.4**	**+0.7**
LMGC	**Las Mercedes**	**1.69**	**278**	*e*P		**Pn**	**17 12 01.8**	**0.0**
LMGC				*e*S		**Sn**	**17 12 22.6**	**-0.1**
STH	**Stony Hill**	**2.30**	**221**	*e*P		**Pn**	**17 12 09.9**	**-0.4**
MTDJ	**Mount Denham**	**2.71**	**234**	Pn		**Pn**	**17 12 15.4**	**-0.4**
MTDJ	**Mount Denham**	**2.71**	**234**	*e*P		**Pn**	**17 12 14.8**	**-1.1**
PAPH	**Port-au-Prince**	**3.06**	**115**	Pn		**Pn**	**17 12 20.4**	**-0.2**
PAPH				IAML			17 13 08.4	
	comp=E,109nm,0.2s							
SDDR	**Presa de Saban**	**3.81**	**102**	Pn		**Pn**	**17 12 31.5**	**+0.5**
SDDR				Sn		**Sn**	**17 13 16.1**	**+1.1**
SDDR				IAML			17 13 29.2	
	comp=E,33nm,1.6s							
SDDR	**Presa de Saban**	**3.81**	**102**	*i* P		**Pn**	**17 12 32.0**	**+1.1**
SDDR				*e*S		**Sn**	**17 13 16.5**	**+1.4**
SDDR				IAML			17 13 27.5	
	comp=Z,136nm,0.7s							
GRTK	**Grand Turk**	**4.18**	**66**	Pn		**Pn**	**17 12 37.1**	**+1.1**

*TEH **19** 17:15:44.8, 34°.52N×46°.26E, h0km±729km, ML2.7*
*ISN **19** 17:15:45.5±0.3, 34°.58N×46°.30E, h20km±2km, ML2.9*
ISC 19 17:15:45.2±1.3, **34°.56N**±0°.04×**46°.23E**±0°.04, **h4**km±13km, **n8**, σ0**s87**/13, **Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.19**	**42**	Pg		**Pg**	**17 15 48.8**	**-0.2**
IDHR				Sg		**Sg**	**17 15 52.2**	**+0.6**
GLG1	**Gilan-e-Gharb**	**0.52**	**211**	Pg		**Pb**	**17 15 55.0**	**-0.2**
KCHF	**Cheshme Sefid,**	**0.72**	**113**	Pg		**Pb**	**17 15 59.5**	**-1.0**
KCHF				Sg		**Sb**	**17 16 09.5**	**-1.4**
ILBA	**Ilam Banvizeh**	**0.93**	**181**	Pg		**Pb**	**17 16 03.4**	**-0.6**
IBDR	**Badra**	**1.46**	**190**	*e*Pg		**Pb**	**17 16 12.5**	**-0.5**
IBDR				*e*Sg		**Sg**	**17 16 32.0**	**-0.3**
IBDR				AML	AML		17 16 43.1	
	comp=N,105nm,0.4s							
IBDR				AML	AML		17 16 43.9	
	comp=E,142nm,0.7s							
IKRK	**Kirkuk**	**1.77**	**299**	*e*Pn		**Pb**	**17 16 17.5**	**-0.7**
IKRK				*e*Sn		**Sb**	**17 16 41.0**	**+0.2**
IKRK				AML	AML		17 16 51.5	
	comp=E,238nm,0.4s							
IKRK				AML	AML		17 16 56.5	
	comp=N,211nm,0.5s							
IDOB	**Doab**	**1.79**	**115**	Pg		**Pg**	**17 16 20.7**	**+1.2**
RAFI	**Al-Rafai**	**2.83**	**182**	*e*Pn		**Pn**	**17 16 32.0**	**+0.8**
RAFI				*e*Sn		**Sn**	**17 17 06.0**	**+0.3**

*DNK **19** 17:21:21.5±0.8,59°.59N×25°.17E, h0km, ML2.4(UPP), Suspected explosion*
*UPP **19** 17:21:24.1±2.7,59°.62N×24°.88E, h0km, ML2.4*
*EST **19** 17:21:26.2±0.0,59°.49N×24°.52E, h0km, ML2.2(HEL), Explosion*
*HEL **19** 17:21:26.3±0.1,59°.49N×24°.52E, h0km, ML2.2, Explosion*
*IDC **19** 17:21:26.9±2.0,59°.52N×24°.67E, h0km, mbtmp3.3/4, ML2.5/4, Error ellipse: s-maj=21.9km s-min=7.6km az=142.0*
*LVSN **19** 17:21:27.2±2.6,59°.51N×24°.55E, h0km±29km, ML2.4*
ISC 19 17:21:24.7±0.7, **59°.54N**±0°.02×**24°.58E**±0°.02, **h0**km, **n68**, σ1**s16**/93, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EE02	**Kiisa, Saku**	**0.36**	**170**	*e*P		**Pg**	**17 21 31.8**	**+0.3**
EE02				*e*S		**Sg**	**17 21 35.8**	**-0.2**
EE01	**Perakula, Nova**	**0.59**	**236**	*e*P		**Pg**	**17 21 36.0**	**0.0**
EE01				*e*S		**Sg**	**17 21 42.6**	**-1.0**
HEL1	**Helsinki**	**0.66**	**13**	*e*P		**Pb**	**17 21 39.2**	**+0.3**
HEL1				*e*S		**Sb**	**17 21 48.2**	**-0.5**
MEF	**Metsahovi**	**0.69**	**352**	*e*P		**Pb**	**17 21 39.6**	**+0.2**
MEF	**Metsahovi**	**0.69**	**352**	*e*P		**Pb**	**17 21 39.7**	**+0.2**
MEF				*e*S		**Sb**	**17 21 49.1**	**-0.3**
MEF				AML	AML		17 21 55.5	
	comp=Z,36nm,1.0s							
MEF				AML	AML		17 21 56.1	
	comp=N,33nm,0.8s							
MEF				AML	AML		17 21 59.7	
	comp=E,34nm,0.1s							
MEF	**Metsahovi**	**0.69**	**352**	*e*P		**Pb**	**17 21 39.6**	**+0.2**
MEF				*e*S		**Sb**	**17 21 49.0**	**-0.4**
ARBE	**Arbavere**	**0.72**	**98**	*e*P		**Pb**	**17 21 40.0**	**-0.1**
ARBE	**Arbavere**	**0.72**	**98**	*e*P		**Pb**	**17 21 39.7**	**-0.4**
ARBE				*e*S		**Sb**	**17 21 49.7**	**-0.9**
ARBE				AML	AML		17 21 56.1	
	comp=N,452nm,0.1s							
ARBE				AML	AML		17 21 59.5	
	comp=Z,152nm,0.1s							
ARBE				AML	AML		17 22 02.0	
	comp=E,648nm,0.1s							
ARBE	**Arbavere**	**0.72**	**98**	*e*P		**Pb**	**17 21 39.7**	**-0.4**
ARBE				*e*S		**Sb**	**17 21 50.0**	**-0.6**
MTSE	**Matsula**	**0.92**	**206**	*e*P		**Pg**	**17 21 42.0**	**-0.2**
MTSE	**Matsula**	**0.92**	**206**	*e*P		**Pg**	**17 21 41.9**	**-0.3**
MTSE				*e*S		**Sg**	**17 21 53.7**	**-0.3**
MTSE	**Matsula**	**0.92**	**206**	*e*P		**Pg**	**17 21 42.0**	**-0.2**
MTSE				*e*SB		**Sg**	**17 21 53.6**	**-0.5**
EE08	**Sarghaua, Vand**	**0.95**	**159**	*e*P		**Pg**	**17 21 42.6**	**-0.2**
NUR	**Nurmijrvi**	**0.97**	**2**	*e*P		**Pb**	**17 21 44.8**	**+0.4**
EE03	**Tooma soojaam,**	**1.10**	**127**	*e*P		**Pg**	**17 21 45.9**	**+0.2**
EE03				*e*SB		**Sb**	**17 22 00.6**	**-0.8**
PVF	**Pernaja**	**1.20**	**32**	*e*P		**Pn**	**17 21 48.8**	**+0.2**
PVF				*e*SB		**Sn**	**17 22 05.3**	**-0.2**
VSU	**Vasula**	**1.55**	**133**	*e*P		**Pb**	**17 21 54.1**	**-0.1**
VSU				AML	AML		17 21 56.6	
	comp=Z,48nm,0.2s							
VSU				*e*S		**Sn**	**17 22 14.0**	**-0.3**
VSU				AML	AML		17 22 21.0	
	comp=E,62nm,0.5s							
VSU				AML	AML		17 22 21.5	
	comp=N,62nm,0.4s							
VSU	**Vasula**	**1.55**	**133**	*e*P		**Pb**	**17 21 54.0**	**-0.3**
VSU				*e*S		**Sn**	**17 22 13.6**	**-0.7**
VJF	**Virojoki**	**1.80**	**55**	*e*P		**Pg**	**17 21 58.9**	**-0.2**
VJF				*e*SG		**Sg**	**17 22 24.7**	**+2.3**
VJF				MSG			17 22 25.4	
	comp=Z,17nm,0.2s							
RAF	**Rauma**	**2.04**	**318**	*e*P		**Pb**	**17 22 02.9**	**+0.3**
RAF	**Rauma**	**2.04**	**318**	*e*P		**Pb**	**17 22 03.2**	**+0.6**
RAF				AML	AML		17 22 04.3	
	comp=Z,28nm,0.2s							
RAF				AML	AML		17 22 33.4	
	comp=N,51nm,0.1s							
RAF				AML	AML		17 22 33.4	
	comp=E,36nm,0.2s							
RAF	**Rauma**	**2.04**	**318**	*e*PG		**Pb**	**17 22 03.2**	**+0.6**
RAF				*e*SG		**Sg**	**17 22 30.8**	**+0.6**
RAF				MSG			17 22 32.9	
	comp=Z,13nm,0.1s							
FIA0	**FINESS Array S**	**2.05**	**21**	*e*PG		**Pg**	**17 22 03.8**	**0.0**
FIA0				*e*SG		**Sg**	**17 22 30.8**	**+0.4**
FIA0				MSG			17 22 33.0	
	comp=Z,12nm,0.2s							
FINES	**FINESS Array B**	**2.05**	**21**	Pn		**Pg**	**17 22 03.9**	**0.0**
	comp=Z,7.9nm,0.3s,baz=205,slow=15,SNR=436							
FINES				Lg		Lg	17 22 31.2	
	comp=Z,4.0nm,0.3s,baz=200,slow=28,SNR=22							
	comp=Z,16nm,0.3s							
FIA1	**FINESS Array S**	**2.05**	**21**	*e*PG		**Pg**	**17 22 03.9**	**0.0**
SLIT	**Slitere, Latvi**	**2.26**	**213**	*e*P		**Pn**	**17 22 05.0**	**+1.8**
SLIT	**Slitere, Latvi**	**2.26**	**213**	*e*P		**Pn**	**17 22 05.0**	**+1.8**
SLIT				AML	AML		17 22 05.8	
	comp=Z,312nm,0.3s							
SLIT				AML	AML		17 22 36.4	
	comp=E,288nm,0.3s							
SLIT				AML	AML		17 22 38.1	
	comp=N,250nm,0.3s							
SLIT	**Slitere, Latvi**	**2.26**	**213**	*e*P		**Pn**	**17 22 05.1**	**+1.8**
AAL	**Aland**	**2.40**	**287**	*e*P		**Pb**	**17 22 08.0**	**-0.7**
AAL	**Aland**	**2.40**	**287**	*e*P		**Pn**	**17 22 06.2**	**+1.1**
AAL				*e*SB		**Sb**	**17 22 38.7**	**-0.1**
AAL	**Aland**	**2.40**	**287**	P		**Pn**	**17 22 06.4**	**+1.2**
AAL				S		**Sb**	**17 22 38.5**	**-0.3**
AAL	**Aland**	**2.40**	**287**	P		**Pn**	**17 22 06.4**	**+1.2**
AAL				S		**Sb**	**17 22 38.5**	**-0.3**
KPF	**Kankaanpaa**	**2.61**	**333**	*e*PB		**Pb**	**17 22 11.8**	**-0.5**
KPF				*e*SB		**Sb**	**17 22 46.2**	**+1.4**
KPF				MSG			17 22 49.2	
	comp=Z,8.9nm,0.2s							
KEF	**Keuruu**	**2.64**	**3**	*e*P		**Pb**	**17 22 12.9**	**+0.1**
KEF	**Keuruu**	**2.64**	**3**	*e*PB		**Pb**	**17 22 12.4**	**-0.4**
KEF				*e*SG		**Sg**	**17 22 49.1**	**-0.3**
KEF				MSG			17 22 50.5	
	comp=Z,11nm,0.2s							
NRTU	**Norrtaelje**	**3.03**	**275**	P		**Pn**	**17 22 14.8**	**+1.1**
NRTU	**Norrtaelje**	**3.03**	**275**	P		**Pn**	**17 22 14.8**	**+1.1**
GRAU	**Graesoe**	**3.14**	**287**	P		**Pn**	**17 22 15.8**	**+0.4**
GRAU	**Graesoe**	**3.14**	**287**	P		**Pn**	**17 22 15.8**	**+0.4**
FORU	**Forsmark**	**3.33**	**288**	P		**Pn**	**17 22 18.7**	**+0.9**
FORU	**Forsmark**	**3.33**	**288**	P		**Pn**	**17 22 18.7**	**+0.9**
NYNU	**Nynaeshamn**	**3.42**	**264**	P		**Pn**	**17 22 20.4**	**+1.3**
NYNU	**Nynaeshamn**	**3.42**	**264**	P		**Pn**	**17 22 20.4**	**+1.3**
FLYU	**Flymyra**	**3.43**	**283**	P		**Pn**	**17 22 20.3**	**+1.0**
FLYU	**Flymyra**	**3.43**	**283**	P		**Pn**	**17 22 20.3**	**+1.0**
UPP	**Uppsala**	**3.54**	**278**	P		**Pn**	**17 22 21.9**	**+1.1**
UPP	**Uppsala**	**3.54**	**278**	P		**Pn**	**17 22 21.9**	**+1.1**
VSVD	**Vaisvydziai**	**3.59**	**186**	*e*P		**Pn**

baz=97,slow=14,SNR=8.7

NOA				Sn	**Sn**	**17 24 21.9**	**-2.1**
	baz=100,slow=13,SNR=1.5						
NOA				Lg	Lg	17 24 55.4	
	baz=125,slow=12,SNR=4.3						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**10.04**	**2**	Pn	**Pn**	**17 23 49.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=179,slow=14,SNR=6.7						
ARCES				Sn	**Sn**	**17 25 38.8**	**-4.4**
	comp=Z,0.1nm,0.3s,baz=184,slow=23,SNR=1.3						
	comp=Z,9.6nm,1.2s						

JMA 19 17:22:13.4±0.2,30°N±2°×13°9E±°,h454km,MV3.6/35,
NEAR TORISHIMA IS,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.17**	**143**	P	P	17 23 31.0	+0.6
CBIJ				*e*S	S	17 24 30.9	-2.0
BSO1	**Boso 1**	**4.40**	**18**	*e*P	P	17 23 33.8	+2.2
BSO1				*e*S	S	17 24 37.5	+1.9
BSO3	**Boso 3**	**4.44**	**12**	*e*P	P	17 23 34.7	+2.5
BSO3				*e*S	S	17 24 38.1	+1.4
JHH2	**Haha-jima-NKT2**	**4.54**	**146**	S	S	17 24 38.6	-0.5
BSO4	**Boso 4**	**4.59**	**10**	*e*P	P	17 23 36.4	+2.5
JOD2	**Odawara 2**	**4.80**	**357**	*e*P	P	17 23 36.4	+0.4
JNY	**Yasuok**	**5.05**	**346**	P	P	17 23 39.5	+1.2
JHU	**Hanno**	**5.38**	**359**	P	P	17 23 42.0	+0.5
JRY	**Ryogami san**	**5.56**	**356**	P	P	17 23 44.5	+1.2
JRY				*e*S	S	17 24 54.8	-2.0
JYT	**Yasato**	**5.80**	**7**	P	P	17 23 46.5	+0.9
JAG	**Ashikaga**	**5.95**	**1**	P	P	17 23 47.5	+0.2
JAG				S	S	17 24 59.8	-4.2

BJI ***19*** *17:45:45.0±0.0, 14°.79N×144°.69E, h9km, mb4.7/61, mB5.0/34, Ms4.3/38, Ms7 4.2/39*
IDC ***19*** *17:45:47.0±0.5, 14°.88N×144°.48E, h0km, mb4.5/27, mbtmp4.5/29, ML3.8/2, MS3.8/37, Error ellipse: s-maj=18.3km s-min=10.3km az=77.0*
DJA ***19*** *17:45:47.9±0.4, 15°N±4°×14°5E±°, h10km, M4.6/19, mB5.3/12, mb4.9/19, MLv4.5/1, Mw(mB)4.7/12*
NEIC ***19*** *17:45:48.9± 1.7, 14°.80N±0°.05×144°.49E±0°.07, h14km±4km, mb4.9/129, Error ellipse: s-maj=9.9km s-min=6.3km az=107.0*
GCMT ***19*** *17:45:52.9±0.2, 14°.79N±0°.02×144°.22E±0°.02, h12km, MW4.8/98, Moment Tensor Solution. s34,c42; s98,c150; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=-1.96±.07; Mθθ=0.66±.06; Mϕϕ=1.30±.07; Mrθ=0.41±.23; Mrϕ=1.25±.05; Mθϕ=0.45±.20; Best double couple: M=2.20000×10^16 NP1:ϕs=219.00000°, δ53.00000°, λ-88.00000°. NP2: ϕs=36.00000°, δ37.00000°, λ-93.00000°. Principal axes: T 2.3540, Plg8.0000°, Azm308.0000°; N -0.3110, Plg2.0000°, Azm38.0000°; P -2.0460, Plg82.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 17:45:50.3±0.5,14°.84N±0°.04×144°.53E±0°.05,h23km±3km,
n253,σ1§38/240,mb4.8/110,MS4.0/52,4C-3D,Mariana
Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.29**	**165**	P	**Pn**	**17 46 12.1**	**-0.7**
GUMO	**Guam**	**1.29**	**165**	Pn	**Pn**	**17 46 12.1**	**-0.7**
	952nm,0.3s,baz=256,slow=1.5,SNR=770						
GUMO				Sn	**Sn**	**17 46 28.1**	**-1.3**
	1μm,0.3s,baz=104,slow=20,SNR=10						
JCJ	**Chichijima**	**12.39**	**350**	Pn	**Pn**	**17 48 44.5**	**-0.8**
JCJ	**Chichijima**	**12.39**	**350**	Pn	**Pn**	**17 48 44.9**	**-0.4**
	1.0nm,0.3s,baz=224,slow=15,SNR=1.8						
JCJ				LR	LR	17 52 17.5	
	comp=Z,361nm,20.9s,baz=130,slow=32						
	19nm,0.7s						
PATS	**Pohnpei**	**15.69**	**119**	P	**Pn**	**17 49 30.1**	**+0.1**
PATS	**Pohnpei**	**15.69**	**119**	Pn	**Pn**	**17 49 29.5**	**-0.5**
JMZ	**Minamidaito 2**	**16.57**	**313**	P	**Pn**	**17 49 42.0**	**+0.8**
JMZ	**Minamidaito 2**	**16.57**	**313**	P	**P**	**17 49 43.0**	**-0.5**
JMZ				IAmb	IAmb	17 49 49.0	
	comp=Z,171nm,1.8s						
MANU	**Manus Island**	**17.01**	**170**	P	**P**	**17 49 49.2**	**+0.7**
MANU	**Manus Island**	**17.01**	**170**	P	**P**	**17 49 47.7**	**-0.8**
MANU				IAmb	IAmb	17 49 53.1	
	comp=Z,65nm,0.9s						
JAY	**Jayapura**	**17.65**	**193**	P	**P**	**17 49 58.7**	**+3.0**
	comp=Z,26nm,1.3s,comp=Z,430nm						
GENI	**Genyem**	**17.85**	**194**	P	**P**	**17 49 59.9**	**+2.1**
GENI	**Genyem**	**17.85**	**194**	P	**P**	**17 50 01.6**	**+3.8**
	comp=Z,48nm,1.3s,comp=Z,1μm						
JHJ	**Hachijo jima 2**	**18.70**	**347**	LR	LR	17 56 38.7	
	comp=Z,371nm,19.9s,baz=261,slow=35						
JOW	**Kunigami**	**19.29**	**311**	P	**Pn**	**17 50 15.4**	**+0.7**
JOW	**Kunigami**	**19.29**	**311**	P	**Pn**	**17 50 14.8**	**0.0**
JOW	**Kunigami**	**19.29**	**311**	P	**P**	**17 50 13.0**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=151,slow=12,SNR=7.0						
JOW				LR	LR	17 55 57.6	
	comp=Z,764nm,20.8s,baz=130,slow=32						
	comp=Z,6.7nm,0.6s						
DAV	**Davao City (W)**	**20.13**	**249**	LR	LR	17 56 12.6	
	comp=Z,284nm,21.4s,baz=72,slow=31						
TABU	**Tabubil**	**20.25**	**190**	P	Pn	17 50 25.5	-0.7
RABL	**Rabaul**	**20.37**	**158**	P	Pn	17 50 29.4	+1.9
RABL	**Rabaul**	**20.37**	**158**		**P**	**17 50 26.0**	**+0.6**
SWI	**Sorong**	**20.39**	**221**	P	Pn	17 50 29.5	+1.7
	comp=Z,130nm,1.5s,comp=Z,2μm						
JMN	**Monobe**	**21.14**	**335**	P	**P**	**17 50 34.9**	**+1.3**
FAKI	**Fak Fak**	**21.43**	**216**	P	**P**	**17 50 39.1**	**+2.2**
FAKI	**Fak Fak**	**21.43**	**216**	P	**P**	**17 50 38.1**	**+1.2**
FAKI	**Fak Fak**	**21.43**	**216**	P	**P**	**17 50 40.7**	**+3.8**
	comp=Z,198nm,0.9s,comp=Z,2μm						
INU	**Inuyama**	**21.51**	**343**	P	**P**	**17 50 41.0**	**+3.5**
INU				IAmb	IAmb	17 50 48.1	
	comp=Z,124nm,1.9s						
H11S3	**WAKE ISLAND Hy**	**21.53**	**77**	T	T	18 13 31.9	
	baz=262,slow=75,SNR=46						
H11S1	**WAKE ISLAND Hy**	**21.55**	**77**	T	T	18 13 39.4	
	baz=262,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**21.55**	**77**	T	T	18 13 35.9	
	baz=262,slow=75,SNR=12						
JGF	**Kuroka**	**21.65**	**344**	P	**P**	**17 50 40.4**	**+1.2**
H11N1	**WAKE ISLAND Hy**	**21.89**	**74**	T	T	18 14 00.3	
	baz=262,slow=75,SNR=14						
H11N2	**WAKE ISLAND Hy**	**21.90**	**74**	T	T	18 13 39.8	
	baz=262,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**21.91**	**74**	T	T	18 13 53.5	
	baz=262,slow=75,SNR=9.0						
JNU	**Nakatsue**	**22.02**	**328**	P	**P**	**17 50 43.3**	**+0.1**
JNU	**Nakatsue**	**22.02**	**328**	P	**P**	**17 50 43.0**	**-0.2**
	comp=Z,9.7nm,0.7s,baz=88,slow=3.8,SNR=7.9						
JNU				LR	LR	17 58 36.4	
	comp=Z,74nm,19.2s,baz=190,slow=35						
	comp=Z,9.7nm,0.7s						
MJAR	**Matsushiro Arr**	**22.34**	**347**	P	**P**	**17 50 46.3**	**-0.2**
	comp=Z,12nm,1.1s,baz=172,slow=10.0,SNR=14						
MJAR				LR	LR	17 58 30.4	
	comp=Z,154nm,19.4s,baz=157,slow=34						
	comp=Z,12nm,1.1s						
MAJO	**Matsushiro**	**22.34**	**347**	P	**P**	**17 50 48.2**	**+1.7**
MAJO	**Matsushiro**	**22.34**	**347**	P	**P**	**17 50 47.5**	**+1.0**
MAJO				IAmb	IAmb	17 50 56.6	
	comp=Z,51nm,1.2s						
MJB9	**Matsu-Tunnel**	**22.34**	**347**	P	**P**	**17 50 46.0**	**-0.5**
MJB9				IAmb	IAmb	17 50 57.6	
	comp=Z,50nm,1.2s						
TGY	**Tagaytay City**	**22.86**	**271**	P	**P**	**17 50 51.5**	**-0.7**
	comp=Z,174nm,0.4s,baz=116,slow=6.2,SNR=5.3						
TGY				LR	LR	17 57 48.0	
	comp=Z,300nm,20.5s,baz=126,slow=32						
NACB	**Ninganchiao**	**23.50**	**297**	P	**P**	**17 50 56.9**	**-1.7**
YULB	**Yu-li**	**23.52**	**295**	P	**P**	**17 50 58.1**	**-0.7**
YULB	**Yu-li**	**23.52**	**295**	P	**P**	**17 50 57.2**	**-1.6**
YULB				IAmb	IAmb	17 51 00.6	
	comp=Z,97nm,1.8s						
TWGBT	**Beinan**	**23.55**	**293**	P	**P**	**17 50 58.2**	**-0.9**
TWG	**Pinlang**	**23.55**	**293**	P	**P**	**17 50 57.3**	**-1.9**
TWG				IAmb	IAmb	17 51 19.3	
	comp=Z,108nm,1.9s						
JSD	**Sado**	**23.76**	**348**	P	**P**	**17 51 01.1**	**+0.1**
SSLB	**Suanglung**	**23.93**	**295**	P	**P**	**17 51 03.1**	**+0.3**
SSLB	**Suanglung**	**23.93**	**295**	P	**P**	**17 51 01.0**	**-1.8**
SSLB				IAmb	IAmb	17 51 05.5	
	comp=Z,54nm,1.3s						
TPUB	**Ta-pu**	**24.08**	**294**	P	**P**	**17 51 04.7**	**+0.5**
TPUB	**Ta-pu**	**24.08**	**294**	P	**P**	**17 51 02.3**	**-1.9**
TPUB				IAmb	IAmb	17 51 20.0	
	comp=Z,56nm,1.4s						
PMG	**Port Moresby**	**24.23**	**174**	P	**P**	**17 51 06.9**	**+1.4**
	comp=Z,11nm,0.8s,baz=138,slow=19,SNR=2.2						
	comp=Z,11nm,0.8s						
GTOI	**Gorontalo**	**25.52**	**238**	P	**P**	**17 51 18.0**	**+0.7**
	comp=Z,5.9nm,1.1s,comp=Z,167nm						
LUWI	**Luwuk**	**26.69**	**236**	P	**P**	**17 51 25.7**	**-2.2**
LUWI				IAmb	IAmb	17 51 54.2	
	comp=Z,38nm,0.9s						
SSE	**Sheshan**	**26.81**	**311**	P	**P**	**17 51 28.6**	**-0.2**
SSE				S	**S**	**17 56 04.9**	**+1.1**
SSE				pmax	pmax		
	comp=Z,10.0nm,1.0s						
SSE				pmax	pmax		
	comp=Z,41nm,3.7s						
SSE				LR	LR		
	comp=Z,130nm,20.8s						
SSE				LR	LR		
	comp=Z,170nm,21.4s						
KSRS	**Korea Array**	**26.92**	**330**	P	**P**	**17 51 29.8**	**+0.1**
	comp=Z,4.0nm,0.8s,baz=145,slow=10.0,SNR=16						
KSRS				LR	LR	18 01 41.2	
	comp=Z,142nm,18.1s,baz=145,slow=36						
	comp=Z,4.0nm,0.8s						
KSAR	**Wonju Array Be**	**26.93**	**330**	P	**P**	**17 51 28.6**	**-1.2**
TOLI2	**Tolitoli**	**27.14**	**242**	P	**P**	**17 51 30.1**	**-1.9**
MYLDM	**Lahad Datu**	**27.34**	**252**	P	**P**	**17 51 33.5**	**-0.2**
MYLDM				IAmb	IAmb	17 51 42.9	
	comp=Z,22nm,1.2s						
COEN	**Coen**	**28.64**	**183**	P	**P**	**17 51 44.9**	**-0.5**
NJ2	**Nanjing**	**29.01**	**311**	*e*P	**P**	**17 51 49.4**	**+0.9**
NJ2				sP	**pP**	**17 51 54.6**	**+0.2**
NJ2				pmax	pmax		
	comp=Z,12nm,1.2s						
NJ2				pmax	pmax		
	comp=Z,180nm,4.7s						
JKA	**Kamikawa-asahi**	**29.23**	**357**	P	**P**	**17 51 50.5**	**+0.3**
JKA				IAmb	IAmb	17 52 54.0	
	comp=Z,38nm,1.6s						
ASAJ	**Asahikawa**	**29.23**	**357**	LR	LR	18 03 11.5	
	comp=Z,182nm,21.5s,baz=186,slow=36						
MTN	**Manton Dam**	**30.54**	**206**	P	**P**	**17 52 01.8**	**-0.3**
USRK	**Ussuriysk Ar.**	**31.15**	**342**	LR	LR	18 03 23.9	
	comp=Z,91nm,19.0s,baz=152,slow=34						
KAPI	**Kappang**	**31.50**	**233**	P	**P**	**17 52 09.6**	**-1.1**
KAPI				IAmb	IAmb	17 52 11.8	
	comp=Z,17nm,1.1s						
KAPI	**Kappang**	**31.50**	**233**	LR	LR	18 03 08.3	
	comp=Z,74nm,20.4s,baz=28,slow=33						
SOEI	**Soe**	**31.63**	**221**	P	**P**	**17 52 10.1**	**-1.8**
BATI	**Baumata**	**32.36**	**221**	P	**P**	**17 52 17.6**	**-0.6**
	comp=Z,36nm,0.6s,baz=149,slow=3.5,SNR=5.8						
	comp=Z,36nm,0.6s						
CN2	**Changchun**	**33.15**	**334**	*e*P	**P**	**17 52 22.5**	**-2.3**
QIZ	**Qiongzhong**	**33.41**	**282**	P	**P**	**17 52 26.4**	**-1.0**
QIZ				S	**S**	**17 57 46.4**	**-1.2**
QIZ				LR	LR		
	comp=N,190nm,19.4s						
QIZ				LR	LR		
	comp=E,170nm,17.1s						
QIZ				LR	LR		
	comp=Z,220nm,17.7s						
QIZ	**Qiongzhong**	**33.41**	**282**	P	**P**	**17 52 28.9**	**+1.5**
QIZ				S	**S**	**17 57 46.3**	**-1.3**
QIZ				pmax	pmax		
	comp=Z,120nm,4.8s						
QIZ				LR	LR		
	comp=Z,190nm,18.4s						
QIZ				LR	LR		
	comp=Z,170nm,17.7s						
QIZ				LR	LR		
	comp=Z,290nm,23.8s						
SBUM	**Sibu**	**34.17**	**252**	P	**P**	**17 52 32.5**	**-1.6**
HNS	**HongShan**	**34.70**	**316**	⇑P	**P**	**17 52 38.3**	**-0.1**
HNS				PcP	**PcP**	**17 55 13.4**	**+1.3**
HNS				S	**S**	**17 58 07.0**	**-0.2**
HNS				pmax	pmax		
	comp=Z,15nm,0.9s						
HNS				LR	LR		
	comp=Z,220nm,18.3s						
HNS				LR	LR		
	comp=Z,380nm,15.9s						
HNS				LR	LR		
	comp=Z,430nm,23.9s						
LYN	**LuoYang**	**34.90**	**310**	*e*P	**P**	**17 52 40.1**	**-0.1**
LYN				pP	pP	17 52 43.5	-2.6
LYN				S	**S**	**17 58 13.5**	**+3.2**
LYN				sS	sS	17 58 18.5	-1.3
LYN				pmax	pmax		
	comp=Z,20nm,1.0s						
LYN				pmax	pmax		
	comp=Z,200nm,5.8s						
LYN				LR	LR		
	comp=Z,200nm,13.1s						
LYN				LR	LR		
	comp=Z,260nm,14.4s						
LYN				LR	LR		
	comp=Z,330nm,17.2s						
DLV	**T Lat**	**35.16**	**270**	P	**P**	**17 52 42.7**	**-0.1**
DLV	**T Lat**	**35.16**	**270**	P	**P**	**17 52 41.2**	**-1.6**
DLV				IAmb	IAmb	17 52 45.5	
	comp=Z,16nm,1.3s						
BJI	**Beijing**	**35.27**	**321**	P	**P**	**17 52 42.9**	**-0.4**
BJI				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BJI				LR	LR		
	comp=Z,77nm,15.8s						
BJI				LR	LR		
	comp=Z,69nm,15.9s						
BJI				LR	LR		
	comp=Z,71nm,15.7s						
QIS	**Mount Isa**	**35.51**	**188**	P	**P**	**17 52 46.9**	**+1.4**
ENH	**Enshi**	**35.65**	**302**	P	**P**	**17 52 46.9**	**+0.2**
WB0	**Warramunga Arr**	**35.81**	**196**	P	**P**	**17 52 47.1**	**-1.0**
WB0				IAmb	IAmb	17 52 49.1	
	comp=Z,15nm,1.1s						
STKI	**Sintang**	**35.82**	**249**	P	**P**	**17 52 48.0**	**-0.3**
KLR	**Kul'dur**	**35.86**	**346**	LR	LR	18 06 37.7	
	comp=Z,269nm,19.3s,baz=156,slow=35						
WR0	**Warramunga Arr**	**35.95**	**196**	P	**P**	**17 52 48.9**	**-0.4**
WR0				IAmb	IAmb	17 53 16.6	
	comp=Z,27nm,1.6s						
WRAB	**Tennant Creek**	**35.98**	**196**	P	**P**	**17 52 49.1**	**-0.4**
WRAB				IAmb	IAmb	17 53 59.5	
	comp=Z,20nm,0.8s						
WB2	**Warramunga Arr**	**35.98**	**196**	P	**P**	**17 52 48.0**	**-1.6**
WB2				IAmb	IAmb	17 52 58.8	
	comp=Z,16nm,0.8s						
WRA	**Warramunga Arr**	**35.99**	**196**	P	**P**	**17 52 48.5**	**-1.1**
WRA	**Warramunga Arr**	**35.99**	**196**	P	**P**	**17 52 49.8**	**+0.2**
	comp=Z,6.2nm,0.8s,baz=15,slow=9.5,SNR=30						
WRA				PcP	**PcP**	**17 55 16.3**	**+0.2**
	comp=Z,1.2nm,0.9s,baz=19,slow=3.4,SNR=2.5						
	comp=Z,6.2nm,0.8s						
KSM	**Kuching**	**36.30**	**252**	P	**P**	**17 52 51.8**	**-0.7**
KSM	**Kuching**	**36.30**	**252**	P	**P**	**17 52 49.0**	**-3.4**
KSM				IAmb	IAmb	17 52 52.5	
	comp=Z,12nm,0.9s						
GYA	**Guiyang**	**37.14**	**294**	⇓P	**P**	**17 53 00.1**	**+0.5**
GYA				S	**S**	**17 58 47.5**	**+2.5**
GYA				pmax	pmax		
	comp=Z,12nm,1.0s						
GYA				pmax	pmax		
	comp=Z,150nm,5.6s						
GYA				LR	LR		
	comp=Z,160nm,17.5s						
GYA				LR	LR		
	comp=Z,170nm,16.3s						
GYA				LR	LR		
	comp=Z,250nm,17.0s						
FITZ	**Fitzroy Crossi**	**37.66**	**210**	P	**P**	**17 53 00.7**	**-3.1**
UBPT	**Khong Chiam**	**37.69**	**276**	P	**P**	**17 53 02.8**	**-1.4**
MIDW	**Midway**	**37.69**	**63**	P	**P**	**17 53 02.4**	**-1.7**
HEH	**HeiHe**	**37.96**	**342**	*e*P	**P**	**17 53 06.1**	**0.0**
HEH				sP	**pP**	**17 53 12.9**	**+1.0**
HEH				PcP	**PcP**	**17 55 21.6**	**0.0**
HEH				S	**S**	**17 59 00.1**	**+3.5**
HEH				pmax	pmax		
	comp=Z,20nm,1.2s						
HEH				pmax	pmax		
	comp=Z,86nm,3.7s						
HEH				LR	LR		
	comp=Z,380nm,17.8s						
HEH				LR	LR		
	comp=Z,290nm,14.5s						
HEH				LR	LR		
	comp=Z,370nm,14.1s						
HHC	**Hu-ho-hao-te**	**38.62**	**319**	*e*P	**P**	**17 53 13.3**	**+1.4**
HHC				*e*S	**S**	**17 59 09.6**	**+2.5**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
HHC				LR	LR		
	comp=Z,140nm,16.7s						
HHC				LR	LR		
	comp=Z,260nm,18.6s						
SLVN	**Son La**	**39.07**	**286**	P	**P**	**17 53 14.0**	**-1.9**
SLVN				IAmb	IAmb	17 53 19.8	
	comp=Z,51nm,2.0s						
BTO	**Baotou**	**39.49**	**317**	*e*P	**P**	**17 53 20.3**	**+1.1**
BTO				pP	**pP**	**17 53 25.0**	**-0.1**
BTO				sP	**sP**	**17 53 27.4**	**-0.2**
BTO				PP	**PnPn**	**17 54 55.6**	**+2.6**
BTO				S	**S**	**17 59 25.0**	**+4.8**
BTO				sS	**sS**	**17 59 30.3**	**+0.5**
BTO				SS	**SS**	**18 02 11.0**	**-4.0**
BTO				pmax	pmax		
	comp=Z,33nm,1.0s						
BTO				pmax	pmax		
	comp=Z,320nm,5.3s						
BTO				LR	LR		
	comp=Z,530nm,18.5s						
BTO				LR	LR		
	comp=Z,500nm,19.4s						
BTO				LR	LR		
	comp=Z,760nm,24.1s						
PETK	**Petropavlovsk-**	**39.58**	**12**	PcP	**PcP**	**17 55 27.1**	**+0.5**
	comp=Z,3.1nm,0.8s,baz=178,slow=3.9,SNR=4.2						
PETK				LR	LR	18 06 24.7	
	comp=Z,138nm,21.1s,baz=200,slow=31						
ASAR	**Alice Springs**	**39.66**	**195**	P	**P**	**17 53 19.6**	**-1.0**
ASAR	**Alice Springs**	**39.66**	**195**	P	**P**	**17 53 20.6**	**0.0**
	comp=Z,1.3nm,0.6s,baz=18,slow=9.3,SNR=24						
ASAR				PP	**PnPn**	**17 54 55.3**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=18,slow=11,SNR=5.4						
ASAR				PcP	**PcP**	**17 55 28.9**	**+1.6**
	comp=Z,0.8nm,0.7s,baz=21,slow=3.8,SNR=2.0						
	comp=Z,1.3nm,0.6s						
KMI	**Kunming**	**40.44**	**291**	⇓P	**P**	**17 53 28.1**	**+0.6**
KMI				sP	sP	17 53 35.4	-0.4
KMI				S	**S**	**17 59 35.6**	**+0.5**
KMI				pmax	pmax		
	comp=Z,10.0nm,0.8s						
KMI				pmax	pmax		
	comp=Z,95nm,6.1s						
KMI				LR	LR		
	comp=Z,180nm,21.2s						
KMI				LR	LR		
	comp=Z,200nm,18.2s						
KMI				LR	LR		
	comp=Z,240nm,22.3s						
CD2	**Chengdu**	**40.57**	**300**	P	**P**	**17 53 28.0**	**-0.3**
CD2				S	**S**	**17 59 37.8**	**+1.2**
CD2				pmax	pmax		
	comp=Z,20nm,0.8s						
CD2				LR	LR		
	comp=Z,340nm,19.0s						
QLP	**Quilpie**	**41.17**	**180**	P	**P**	**17 53 33.7**	**+0.6**
PZH	**PanZhiHua**	**41.50**	**293**	P	**P**	**17 53 36.1**	**0.0**
PZH				pP	**pP**	**17 53 41.9**	**-0.2**
PZH				S	**S**	**17 59 52.9**	**+2.3**
PZH				pmax	pmax		
	comp=Z,20nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.9s						
PZH				LR	LR		
	comp=Z,180nm,19.8s						
PZH				LR	LR		
	comp=Z,250nm,20.2s						
PZH				LR	LR		
	comp=Z,250nm,19.6s						
LZH	**Lanzhou**	**41.99**	**308**	*e*P	**P**	**17 53 41.0**	**+1.0**
LZH				sP	sP	17 53 48.0	-0.4
LZH				S	**S**	**17 59 57.4**	**-0.3**
LZH				pmax	pmax		
	comp=Z,31nm,1.1s						
LZH				pmax	pmax		
	comp=Z,170nm,5.7s						
LZH				LR	LR		
	comp=Z,160nm,17.2s						
LZH				LR	LR		
	comp=Z,210nm,17.5s						
LZH				LR	LR		
	comp=Z,250nm,18.2s						
MYKOM	**Kota Tinggi**	**42.19**	**256**	P	**P**	**17 53 40.8**	**-0.9**
DSRI	**Dabo**	**42.34**	**252**	P	**P**	**17 53 42.6**	**-0.3**
	comp=Z,18nm,1.0s						
CRAI	**Chiangrai**	**42.35**	**284**	P	**P**	**17 53 42.1**	**-0.9**
LEM	**Lembang**	**42.46**	**242**	LR	LR	18 12 23.7	
	comp=Z,58nm,21.3s,baz=10.0,slow=38						
NOUC	**Port Laguerre**	**42.47**	**149**	P	**P**	**17 53 46.9**	**+3.2**
INKA	**Innaminka**	**42.49**	**185**	P	**P**	**17 53 44.2**	**+0.4**
INKA	**Innaminka**	**42.49**	**185**	P	**P**	**17 53 44.6**	**+0.8**
DZM	**Mont Dzumac**	**42.51**	**149**	P	**P**	**17 53 47.6**	**+3.4**
DZM	**Mont Dzumac**	**42.51**	**149**	P	**P**	**17 53 42.6**	**-1.6**
DZM				IAmb	IAmb	17 53 57.2	
	comp=Z,36nm,1.0s						
DZM	**Mont Dzumac**	**42.51**	**149**	P	**P**	**17 53 47.3**	**+3.1**
	comp=Z,21nm,0.9s,baz=325,slow=8.4,SNR=9.3						
PHRA	**Phrae**	**42.52**	**281**	P	**P**	**17 53 43.0**	**-1.3**
WRKA	**Warakurna**	**42.68**	**202**	P	**P**	**17 53 45.8**	**+0.3**
WRKA	**Warakurna**	**42.68**	**202**	P	**P**	**17 53 45.5**	**0.0**
OUENC	**Ouen Island, N**	**43.00**	**149**	P	**P**	**17 53 47.2**	**-0.8**
OUENC				IAmb	IAmb	17 54 01.2	
	comp=Z,27nm,0.9s						
OOD	**Oodnadatta**	**43.24**	**191**	P	**P**	**17 53 50.0**	**+0.1**
OOD	**Oodnadatta**	**43.24**	**191**	P	**P**	**17 53 50.3**	**+0.4**
MBWA	**Marble Bar**	**43.27**	**215**	P	**P**	**17 53 49.7**	**-0.6**
CHTO	**Chiang Mai**	**43.73**	**282**	P	**P**	**17 53 53.0**	**-1.1**
CM31	**Chiang Mai Arr**	**43.74**	**281**	P	**P**	**17 53 54.4**	**+0.2**
CM31				IAmb	IAmb	17 53 58.4	
	comp=Z,14nm,0.9s						
CMAR	**Chiang Mai Arr**	**43.74**	**281**	P	**P**	**17 53 53.5**	**-0.7**
CMAR	**Chiang Mai Arr**	**43.74**	**281**	P	**P**	**17 53 54.4**	**+0.2**
	comp=Z,8.6nm,0.8s,baz=79,slow=6.7,SNR=48						
CMAR				PcP	**PcP**	**17 55 42.1**	**+1.2**
	comp=Z,2.3nm,0.8s,baz=73,slow=4.3,SNR=5.2						
CMAR				LR	LR	18 12 52.3	
	comp=Z,67nm,18.1s,baz=90,slow=37						
	comp=Z,8.6nm,0.8s						
IPM	**Ipoh**	**44.02**	**261**	P	**P**	**17 53 55.1**	**-1.4**
IPM				IAmb	IAmb	17 53 57.0	
	comp=Z,12nm,0.8s						
AULRC	**Lightning Ridg**	**44.14**	**176**	P	**P**	**17 53 58.2**	**+1.1**
JOHN	**Johnston Islan**	**44.18**	**81**	P	**P**	**17 53 55.6**	**-2.1**
TNCH	**TengChong**	**44.24**	**291**	⇓P	**P**	**17 53 58.5**	**+0.1**
TNCH				pP	pP	17 54 00.8	-3.6
TNCH				S	**S**	**18

comp=Z,9.0nm,1.1s
GTA LR LR
comp=Z,120nm,19.5s
GTA LR LR
comp=Z,180nm,22.3s
GTA LR LR
comp=Z,190nm,21.9s
MSVF Nonsavu 46.26 133 P **P** **17 54 17.5 +3.2**
MSVF Nonsavu 46.26 133 P **P** **17 54 14.3 0.0**
MSVF IAmb IAmb 17 54 18.2
comp=Z,22nm,1.2s
STKA Stephens Creek 46.53 183 P **P** **17 54 15.6 -0.5**
STKA Stephens Creek 46.53 183 P **P** **17 54 17.2 +1.1**
comp=Z,3.2nm,0.7s,baz=344,slow=9.5,SNR=6.1
comp=Z,3.2nm,0.7s
FORT Forrest 48.04 199 P **P** **17 54 31.4 +3.5**
FORT Forrest 48.04 199 P **P** **17 54 27.2 -0.6**
BBOO Buckleboo 48.07 190 P **P** **17 54 27.4 -0.6**
YAK Yakutsk 48.30 351 P **P** **17 54 29.4 -0.1**
YAK Yakutsk 48.30 351 LR LR 18 14 07.2
comp=Z,120nm,19.3s,baz=153,slow=35
GOMU GeErMu 49.05 305 P **P** **17 54 37.3 +1.2**
GOMU pP pP 17 54 41.5 -0.7
GOMU sP sP 17 54 43.3 -1.3
GOMU S **S** **18 01 35.8 -4.2**
GOMU pmax pmax
comp=Z,14nm,0.8s
GOMU LR LR
comp=Z,220nm,17.7s
GOMU LR LR
comp=Z,180nm,18.6s
GOMU LR LR
comp=Z,250nm,16.6s
CAN Canberra 50.06 175 pP **P** **17 54 44.7 +1.4**
LSA Lhasa 51.14 296 P **P** **17 54 52.9 +0.6**
LSA pmax pmax
comp=Z,22nm,0.8s
LSA Lhasa 51.14 296 IAmb IAmb 17 54 54.0
comp=Z,17nm,0.8s
MORW Morawa 51.61 212 P **P** **17 54 53.8 -1.3**
MORW IAmb IAmb 17 54 59.3
comp=Z,16nm,1.2s
TOO Toolangi 52.14 179 P **P** **17 54 59.5 +0.6**
BILL Bilibino 54.99 10 P **P** **17 55 19.5 +0.1**
WMQ Urumqi 56.05 313 *eP* **P** **17 55 28.8 +1.3**
WMQ pP sP 17 55 36.0 0.0
WMQ pmax pmax
comp=Z,14nm,0.7s
WMQ pmax pmax
comp=Z,120nm,4.1s
WMQ LR LR
comp=Z,1μm,24.1s
WMQ LR LR
comp=Z,1μm,23.1s
WMQ LR LR
comp=Z,250nm,24.9s
RAO Raoul Island 56.89 141 LR LR 18 18 24.3
comp=Z,87nm,20.1s,baz=293,slow=34
TIXI Tiksi 57.56 354 P **P** **17 55 36.8 -0.9**
TIXI IAmb IAmb 17 55 46.8
comp=Z,7.9nm,1.0s
TIXI Tiksi 57.56 354 LR LR 18 26 52.2
comp=Z,16nm,18.5s,baz=150,slow=43
N15K Kwethluk River 60.32 28 P **P** **17 55 56.4 -0.7**
N15K IAmb IAmb 17 56 06.5
comp=Z,8.2nm,0.9s
MK31 Makanchi Array 60.37 316 P **P** **17 55 56.9 -0.7**
MK31 IAmb IAmb 17 56 06.7
comp=Z,11nm,1.3s
MKAR Makanchi Array 60.37 316 P **P** **17 55 57.2 -0.5**
MKAR Makanchi Array 60.37 316 P **P** **17 55 57.5 -0.1**
comp=Z,4.5nm,0.9s,baz=94,slow=8.6,SNR=19
MKAR PcP **PcP** **17 56 42.2 -0.4**
comp=Z,2.1nm,0.9s,baz=100,slow=6.6,SNR=1.6
MKAR LR LR 18 23 03.7
comp=Z,140nm,18.6s,baz=66,slow=37
comp=Z,4.5nm,0.9s
ZAA0 Zalesovo Array 60.42 324 P **P** **17 55 57.1 -0.7**
ZALV Zalesovo Beam 60.42 324 P **P** **17 55 56.6 -1.2**
ZALV Zalesovo Beam 60.42 324 P **P** **17 55 57.5 -0.3**
comp=Z,1.4nm,0.6s,baz=104,slow=6.7,SNR=9.7
ZALV LR LR 18 22 38.0
comp=Z,129nm,19.0s,baz=108,slow=37
comp=Z,1.4nm,0.6s
MAKZ Makanchi 60.58 316 P **P** **17 55 58.1 -1.0**
MAKZ IAmb IAmb 17 56 08.3
comp=Z,11nm,1.0s
URZ Urewera 61.02 151 P **P** **17 56 00.0 -1.9**
comp=Z,13nm,1.0s,baz=279,slow=0.6,SNR=3.7
L16K Owhat River 61.22 27 P **P** **17 56 03.1 0.0**
L16K IAmb IAmb 17 56 12.8
comp=Z,20nm,1.5s
K17K Iditarod 62.13 26 P **P** **17 56 09.9 +0.7**
K17K IAmb IAmb 17 56 13.2
comp=Z,13nm,1.1s
PALK Pallekele 62.92 271 LR LR 18 21 21.9
comp=Z,48nm,21.2s,baz=197,slow=34
RPZ Rata Peaks 63.12 159 P **P** **17 56 17.2 +1.2**
comp=Z,15nm,0.8s,baz=356,slow=4.9,SNR=3.7
comp=Z,15nm,0.8s
KDAK Kodiak Island 63.19 32 LR LR 18 21 55.4
comp=Z,29nm,19.6s,baz=249,slow=34
KURK Kurchatov 63.42 320 P **P** **17 56 16.9 -1.2**
KURBB Kurchatov Arra 63.46 319 P **P** **17 56 18.3 0.0**
KURBB LR LR 18 24 19.3
comp=Z,14nm,0.8s,baz=100,slow=6.8,SNR=136
comp=Z,266nm,19.5s,baz=150,slow=36
comp=Z,14nm,0.8s
KSH Kashi 64.23 307 P **P** **17 56 26.6 +2.8**
KSH sP sP 17 56 33.3 +1.0
KSH pmax pmax
comp=Z,8.0nm,1.3s
CAST Castle Rocks 65.03 26 P **P** **17 56 27.9 -0.5**
RAR Rarotonga 65.36 122 LR LR 18 22 06.6
comp=Z,93nm,18.1s,baz=292,slow=33
AAK Ala-Archa 65.45 310 P **P** **17 56 30.8 -0.9**
KTH Kantishna Hill 65.56 26 P **P** **17 56 33.4 +1.4**
KTH IAmb IAmb 17 56 41.7
comp=Z,14nm,1.2s
NIL Nilore 66.47 300 P **P** **17 56 37.7 -0.6**
E22K Anaktuvuk Pass 66.63 21 IAmb IAmb 17 56 42.2
comp=Z,23nm,1.9s
ILAR Eielson Array 67.59 26 P **P** **17 56 44.5 -0.3**
comp=Z,0.6nm,0.6s,baz=243,slow=5.6,SNR=7.6
ILAR LR LR 18 25 01.5
comp=Z,41nm,20.2s,baz=248,slow=35
comp=Z,0.6nm,0.6s
C23K Itkillik River 67.59 20 P **P** **17 56 45.6 +0.9**
D24K Happy Valley 67.98 21 IAmb IAmb 17 57 05.2
comp=Z,24nm,1.6s
KK31 Karatay Array 68.39 311 IAmb IAmb 17 57 00.2
comp=Z,5.8nm,0.8s
KKAR Karatay Array 68.39 311 P **P** **17 56 49.1 -1.1**
KKAR Karatay Array 68.39 311 IAmb IAmb 17 57 00.2
comp=Z,5.7nm,0.8s
BVAR Borovoye Array 68.75 321 P **P** **17 56 52.4 +0.1**
comp=Z,11nm,0.9s,baz=98,slow=7.6,SNR=46
BVAR LR LR 18 27 53.4
comp=Z,161nm,19.1s,baz=103,slow=37
comp=Z,11nm,0.9s
BRVK Borovoye 68.81 321 P **P** **17 56 52.5 -0.2**
D25K Kavik River 68.87 21 P **P** **17 56 54.5 +1.8**
J26L Joseph Creek 68.93 26 P **P** **17 56 53.6 +0.3**
J26L IAmb IAmb 17 57 06.3
comp=Z,18nm,1.9s
SIMJ Simiganj 69.66 306 P **P** **17 56 56.9 -1.5**
SIMJ IAmb IAmb 17 56 59.4
comp=Z,15nm,0.9s
KBL Kabul 69.90 302 P **P** **17 56 58.7 -1.3**
KBL IAmb IAmb 17 57 01.2
comp=Z,9.8nm,0.8s
P29M Windy Craggy 71.12 32 P **P** **17 57 05.6 -1.1**
P29M IAmb IAmb 17 57 17.5
comp=Z,8.4nm,1.0s
L29M L29M 71.15 28 IAmb IAmb 17 57 11.4
comp=Z,7.5nm,1.0s
K29M Barlow Dome 71.48 27 P **P** **17 57 09.4 +0.5**
N30M Aishikik Lake 71.53 30 IAmb IAmb 17 57 13.0
comp=Z,7.0nm,1.1s
I30M Mount Dempster 72.07 26 P **P** **17 57 12.4 -0.1**
I30M IAmb IAmb 17 57 35.2
comp=Z,14nm,1.9s
PPT Papeete 72.52 114 LR LR 18 24 14.4
comp=Z,58nm,20.5s,baz=308,slow=32
G31M Satah River 73.01 24 P **P** **17 57 17.8 -0.1**
R33M Jennings River 74.57 32 IAmb IAmb 17 58 39.7
comp=Z,6.4nm,0.6s
DLBC Dease Lake 75.11 33 IAmb IAmb 17 58 32.2
comp=Z,9.7nm,0.6s
ABKAR Akbulak array 75.40 318 P **P** **17 57 31.5 -0.6**
ABKAR Akbulak array 75.40 318 IAmb IAmb 17 57 32.9
comp=Z,10nm,1.0s
HRA Herat 75.50 302 IAmb IAmb 17 57 34.1
comp=Z,9.6nm,1.1s
ARU Arti 75.56 325 P **P** **17 57 32.1 -0.8**
ARU IAmb IAmb 17 57 33.9
comp=Z,12nm,1.2s
AKTO Aktyubinsk 76.51 319 LR LR 18 34 07.8
comp=Z,255nm,19.6s,baz=138,slow=38
BBB Bella Bella 76.82 39 LR LR 18 25 47.0
comp=Z,74nm,20.5s,baz=258,slow=31
GEYT Alibeck 78.25 306 P **P** **17 57 48.4 -0.2**
GEYT IAmb IAmb 17 57 50.0
comp=Z,9.1nm,1.1s
GEYT Alibeck 78.25 306 P **P** **17 57 49.3 +0.7**
comp=Z,4.3nm,0.9s,baz=45,slow=0.8,SNR=13
comp=Z,4.3nm,0.9s
YKA Yellowknife Ar 81.91 27 P **P** **17 58 07.1 -0.6**
YKA Yellowknife Ar 81.91 27 P **P** **17 58 08.3 +0.6**
comp=Z,2.8nm,1.0s,baz=293,slow=6.0,SNR=21
comp=Z,2.8nm,1.0s
YBH Yreka Blue Hor 82.30 49 LR LR 18 27 12.7
comp=Z,49nm,21.8s,baz=291,slow=30
KBS Kingsbay 82.92 352 *i* P **P** **17 58 13.0 +0.3**
J05D Fort Rock, OR 83.01 47 P **P** **17 58 13.6 -0.5**
J05D IAmb IAmb 17 58 17.9
comp=Z,7.2nm,1.0s
RES Resolute Bay 83.42 13 IAmb IAmb 17 58 25.8
comp=Z,6.2nm,0.9s
NEW Newport 84.52 42 LR LR 18 28 44.2
comp=Z,71nm,21.8s,baz=312,slow=30
BMO Blue Mountains 85.34 45 IAmb IAmb 17 58 29.7
comp=Z,5.5nm,0.9s
ARCES ARCESS Array B 85.80 342 P **P** **17 58 28.1 +0.6**
comp=Z,18nm,0.9s,baz=70,slow=8.0,SNR=14
comp=Z,18nm,0.9s
PLID Pearl Lake 86.16 44 P **P** **17 58 29.2 -0.8**
NVAR Mina Array Bea 86.40 51 P **P** **17 58 32.6 +1.2**
comp=Z,1.8nm,0.9s,baz=268,slow=5.9,SNR=9.3
comp=Z,1.8nm,0.9s
MFID Camas Ranch 86.77 46 IAmb IAmb 17 58 36.6
comp=Z,8.8nm,0.9s
NEEM North Greenlan 87.44 3 *i* P **P** **17 58 35.5 -0.3**
NEEM IAmb IAmb 17 58 45.6
comp=Z,6.2nm,0.6s
HLID Hailey 87.71 46 IAmb IAmb 17 58 41.7
comp=Z,5.0nm,0.9s
ELK Elko 88.00 48 LR LR 18 30 55.8
comp=Z,56nm,20.4s,baz=284,slow=31
DAG Danmarks Havn 88.02 356 *i* P **P** **17 58 38.0 -0.2**
DAG IAmb IAmb 17 58 39.0
comp=Z,6.0nm,0.8s
KBZ Khabaz 88.05 315 P **P** **17 58 38.5 -0.4**
comp=Z,1.8nm,1.0s,baz=92,slow=16,SNR=3.6
comp=Z,1.8nm,1.0s
R11B Troy Canyon, C 88.47 51 P **P** **17 58 39.9 -1.4**
R11B IAmb IAmb 17 58 51.0
comp=Z,10nm,1.6s
PRN Pahroc Range 89.16 52 P **P** **17 58 43.5 -1.1**
V12A Nelson 89.83 53 IAmb IAmb 17 58 51.6
comp=Z,5.1nm,1.0s
FINES FINESS Array B 89.89 335 P **P** **17 58 46.2 -1.0**
comp=Z,6.3nm,0.8s,baz=53,slow=5.3,SNR=18
comp=Z,6.3nm,0.8s
HWUT Hardware Ranch 90.34 47 IAmb IAmb 18 02 11.1
comp=Z,8.7nm,0.8s
DBG Daneborg 90.52 356 *i* P **P** **17 58 47.9 -2.0**
DBG IAmb IAmb 17 58 50.6
comp=Z,1.7nm,0.8s
NLU North Lily Min 90.54 48 P **P** **17 58 49.8 -1.2**
PDAR Pinedale Array 91.32 45 P **P** **17 58 55.8 +1.1**
comp=Z,0.5nm,0.7s,baz=215,slow=1.8,SNR=4.3
comp=Z,0.5nm,0.7s
JMIC Jan Mayen 92.41 351 LR LR 18 39 36.9
comp=Z,55nm,19.3s,baz=80,slow=35
VNDA Vanda 92.73 176 P **P** **17 59 01.3 +1.4**
comp=Z,0.9nm,0.8s,baz=292,slow=6.3,SNR=7.0
comp=Z,0.9nm,0.8s
HFS Hagfors 95.52 338 P **P** **17 59 11.5 -1.7**
comp=Z,1.6nm,0.8s,baz=52,slow=7.5,SNR=3.6
comp=Z,1.6nm,0.8s
NB2 NORSAR Subarra 95.77 339 P **P** **17 59 14.3 -0.1**
comp=Z,3.9nm,1.2s,baz=42,slow=4.6
NOA NORSAR Array B 95.77 339 P **P** **17 59 13.8 -0.7**
comp=Z,0.9nm,0.8s,baz=52,slow=4.4,SNR=4.2
NOA LR LR 18 43 37.4
comp=Z,48nm,20.1s,baz=175,slow=36
comp=Z,0.9nm,0.8s
BR131 Keskin Array S 95.97 314 P **P** **17 59 14.6 -1.3**
BRTR Keskin Array B 95.97 314 P **P** **17 59 15.1 -0.9**
comp=Z,1.0nm,0.9s,baz=53,slow=4.8,SNR=5.5
comp=Z,1.0nm,0.9s
ICESG Greenland Ices 96.24 2 *i* P **P** **17 59 18.0 +1.3**
ICESG IAmb IAmb 17 59 19.8
comp=Z,4.9nm,0.8s
LPIG La Paz 97.34 63 LR LR 18 36 37.0
comp=Z,46nm,19.1s,baz=306,slow=31
TXAR Lajitas Array 100.93 56 PKiKP **PKiKP** **18 04 02.8 -1.1**
comp=Z,0.8nm,1.0s,baz=291,slow=1.5,SNR=4.0
CLL Collm 101.79 331 *e*PP **PP** **18 03 52.0 +0.3**
CLL AMS AMS 18 47 00.0
comp=Z,100nm,20.8s
TROLL Troll, Antarti 118.60 193 ⇑PKPdf **PKiKP** **18 04 39.1 +3.3**
comp=Z,165nm,1.1s
VNA2 Neumayer--Watz 121.39 190 ⇑PKPdf **PKiKP** **18 04 41.4 +0.2**
comp=Z,5.0nm,0.8s,baz=235,slow=1.1
VNA3 Neumayer Olyn 121.50 190 ⇑PKPdf **PKPdf** **18 04 40.6 -0.7**
comp=Z,2.4nm,1.0s
TORD Torodi Ar. Bea 133.88 305 PKP **PKPdf** **18 05 06.7 +0.2**
comp=Z,0.8nm,0.6s,baz=26,slow=3.0,SNR=4.9
TORD PP **PP** **18 07 34.0 -1.8**
comp=Z,1.0nm,0.9s,baz=20,slow=5.2,SNR=3.9
DBIC Dimbokro 142.88 303 PKhKP PKPpre 18 05 18.8
comp=Z,4.3nm,0.9s,baz=35,slow=3.5,SNR=3.8
LPAZ La Paz 148.52 97 PKPbc **PKPbc** **18 05 36.8 -0.1**
comp=Z,3.4nm,0.9s,baz=356,slow=11,SNR=6.5

IDC ***19*** *17:48:45.9±2.9, 14°.95N×94°.16W, h0km, mb3.7/5, mbtmp3.7/7, ML3.2/3, MS3.8/5, Error ellipse: s-maj=77.8km s-min=27.7km az=30.0*
MEX ***19*** *17:48:46.6±1.0, 14°.56N×94°.29W, h16km±999km, MD4.3*
NEIC ***19*** *17:48:48.8±2.2, 14°.87N±0°.05×94°.22W±0°.04, h27km±7km, mb4.2/46, Md4.3/35(MEX), Error ellipse: s-maj=7.3km s-min=5.4km az=142.0*
ISC 19 17:48:45.6±1.9, 14°.85N±0°.05×94°.37W±0°.03, h13km±11km, n94, σ1°88/113, mb4.2/19, MS3.4/4, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.40**	**52**		**Pn**	**17 49 09.9**	**-1.0**
PCIG					**Sb**	**17 49 27.3**	**-2.0**
PCIG		**1.40**	**52**	*i* P	**Pn**	**17 49 09.9**	**-1.0**
PCIG				*e*S	**Sb**	**17 49 27.3**	**-2.0**
CARR	**Arriaga**	**1.46**	**17**	*e*P	**Pn**	**17 49 11.7**	**0.0**
CARR				*e*S	**Sg**	**17 49 32.9**	**+0.3**
HUIG	**Huatulco**	**1.91**	**299**		**Pn**	**17 49 17.7**	**-0.3**
HUIG					**Sn**	**17 49 39.4**	**-2.6**
HUIG	**Huatulco**	**1.91**	**299**	*e*P	**Pn**	**17 49 17.7**	**-0.3**
HUIG				*e*S	**Sn**	**17 49 39.4**	**-2.6**
PATR	**El Naranjo**	**2.08**	**82**	*e*P	**Pn**	**17 49 17.8**	**-2.7**
PAVE	**Pavencul**	**2.14**	**81**	*e*P	**Pn**	**17 49 19.1**	**-2.3**
PAVE				*e*S	**Sn**	**17 49 43.1**	**-4.9**
CHUJ	**Union Juarez**	**2.20**	**83**	*e*P	**Pn**	**17 49 19.6**	**-2.5**
CHUJ				*e*S	**Sn**	**17 49 44.5**	**-4.9**
TGIG		**2.26**	**32**		**Pn**	**17 49 24.1**	**+1.3**
TGIG					**Sb**	**17 49 53.8**	**-0.5**
TGIG		**2.26**	**32**	*e*P	**Pn**	**17 49 24.1**	**+1.3**
TGIG				*e*S	**Sn**	**17 49 52.8**	**+2.2**
CMIG	**Matias Romero**	**2.28**	**347**		**Pn**	**17 49 24.4**	**+1.3**
CMIG					**Sn**	**17 49 51.9**	**+0.8**
CMIG	**Matias Romero**	**2.28**	**347**	Pn	**Pn**	**17 49 23.5**	**+0.5**
	11nm,0.3s,baz=176,slow=14,SNR=137						
CMIG				Sn	**Sn**	**17 49 48.3**	**-2.8**
	20nm,0.3s,baz=143,slow=16,SNR=7.6						
	45nm,0.3s						
CMIG	**Matias Romero**	**2.28**	**347**	*e*P	**Pn**	**17 49 24.4**	**+1.3**
CMIG				*e*S	**Sn**	**17 49 51.9**	**+0.8**
CCIG	**Comitan**	**2.58**	**56**		**Pn**	**17 49 27.2**	**-0.1**
CCIG	**Comitan**	**2.58**	**56**	*e*P	**Pn**	**17 49 28.4**	**+1.1**
CCIG				*e*S	**Sn**	**17 49 59.5**	**+0.8**
RTAL	**Retalhuleu**	**2.61**	**97**		**Pn**	**17 49 26.4**	**-1.2**
HUEH	**Huehuetenango**	**2.81**	**80**		**Pn**	**17 49 29.3**	**-1.2**
PEIG	**Puerto Escondi**	**2.91**	**293**		**Pn**	**17 49 30.9**	**-0.9**
PEIG					**Sn**	**17 50 03.4**	**-3.3**
PEIG	**Puerto Escondi**	**2.91**	**293**	*e*P	**Pn**	**17 49 30.9**	**-0.9**
PEIG				*e*S	**Sn**	**17 50 03.4**	**-3.3**
OXIG	**Oaxaca**	**3.17**	**314**		**Pb**	**17 49 40.6**	**-1.4**
OXIG					**Sn**	**17 50 14.9**	**+1.5**
VHO	**Vista Hermosa**	**3.17**	**314**	*e*P	**Pb**	**17 49 40.6**	**-1.4**
VHO				*e*S	**Sn**	**17 50 14.9**	**+1.6**
YOIG	**Yosondua**	**3.65**	**304**		**Pn**	**17 49 39.8**	**-2.3**
YOIG					**Sn**	**17 50 27.0**	**+1.7**
YOIG	**Yosondua**	**3.65**	**304**	*e*P	**Pn**	**17 49 39.8**	**-2.3**
YOIG				*e*S	**Sn**	**17 50 27.0**	**+1.7**
APG	**El Apazote**	**3.77**	**87**	Pn	**Pn**	**17 49 43.5**	**-0.4**
	0.2nm,0.3s,baz=129,slow=11,SNR=17						
APG				Sn	**Sn**	**17 50 28.9**	**+0.6**
	0.4nm,0.3s,baz=66,slow=22,SNR=5.1						
PNIG	**Pinotepa**	**3.93**	**293**		**Pn**	**17 49 47.2**	**+1.4**
PNIG					**Sn**	**17 50 29.4**	**-2.5**
PNIG	**Pinotepa**	**3.93**	**293**	*e*P	**Pn**	**17 49 47.2**	**+1.4**
PNIG				*e*S	**Sn**	**17 50 29.4**	**-2.5**
TXIG	**Tlaxiaco**	**4.05**	**307**		**Pn**	**17 49 50.7**	**+3.0**
TXIG					**Sn**	**17 50 36.8**	**+1.6**
TXIG	**Tlaxiaco**	**4.05**	**307**	*e*P	**Pn**	**17 49 50.7**	**+3.0**
TXIG				*e*S	**Sn**	**17 50 36.8**	**+1.6**
TOIG	**Toxpalan**	**4.14**	**322**		Pn	17 49 53.7	+5.0
TOIG					**Sn**	**17 50 35.2**	**-1.9**
TOIG	**Toxpalan**	**4.14**	**322**	*e*P	Pn	17 49 53.7	+5.0
TOIG				*e*S	**Sn**	**17 50 35.2**	**-1.9**
FTIG	**Fresnillo de T**	**4.72**	**311**		Pn	17 50 01.6	+4.8
FTIG					**Sn**	**17 50 51.5**	**-0.1**
FTIG	**Fresnillo de T**	**4.72**	**311**	*e*P	Pn	17 50 01.6	+4.8
FTIG				*e*S	**Sn**	**17 50 51.5**	**-0.1**
PETF	**Flores**	**4.79**	**64**		**Pn**	**17 49 57.1**	**-0.5**
TLIG	**Tlapa**	**4.85**	**304**	Pn	**Pn**	**17 50 02.8**	**+4.3**
MTO3	**Montecristo**	**4.87**	**95**		**Pn**	**17 49 57.6**	**-1.3**
ESQI	**Esquipulas**	**4.87**	**93**		**Pn**	**17 49 58.1**	**-0.6**
PPM	**Popocatepetl**	**5.85**	**316**	*e*P	Pn	17 50 17.5	+4.9
PPM				*e*S	**Sb**	**17 51 35.3**	**-2.7**
PPIG	**Popocatepetl**	**5.85**	**316**		Pn	17 50 17.5	+4.9
PPIG					**Sb**	**17 51 35.3**	**-2.7**
CRIN	**San Cristobal**	**7.42**	**106**	Pn	**Pn**	**17 50 31.9**	**-2.0**
TEIG	**Tepich**	**7.89**	**47**		**Pn**	**17 50 39.5**	**-0.7**
TEIG	**Tepich**	**7.89**	**47**	LR	LR	17 54 02.2	
	comp=Z,3μm,20.2s,slow=41						
HZTE	**Horizontes, Gu**	**9.49**	**115**	Pn	**Pn**	**17 51 01.7**	**-0.5**
KVTX	**Kingsville**	**13.05**	**346**	Pn	**Pn**	**17 51 52.2**	**+1.3**
SOR	**Soroa**	**13.34**	**52**	Pn	**Pn**	**17 51 52.3**	**-2.5**
JCT	**Junction City**	**16.34**	**343**		**P**	**17 52 37.6**	**-0.2**
TXAR	**Lajitas Array**	**16.78**	**331**	P	**P**	**17 52 44.0**	**+1.3**
TXAR	**Lajitas Array**	**16.78**	**331**	Pn	**P**	**17 52 44.6**	**+1.8**
	0.1nm,0.3s,baz=144,slow=12,SNR=11						
	1.6nm,0.9s						
TX31	**Lajitas Ar. Si**	**16.78**	**331**	P	**P**	**17 52 43.6**	**+0.8**
BRDY	**Brady**	**16.90**	**346**	Pn	**Pn**	**17 52 43.3**	**+1.2**
OZNA	**Ozona**	**17.16**	**340**	P	**P**	**17 52 48.1**	**+1.2**
SGCY	**Sterling City**	**18.07**	**341**	P	**P**	**17 52 58.8**	**+1.7**
SGCY				IAmb	IAmb	17 53 05.1	
	comp=Z,8.9nm,0.6s						
MNHN	**Monahans**	**18.12**	**336**	P	**P**	**17 52 59.7**	**+2.1**
ABTX	**Abilene, Hawle**	**18.33**	**346**	P	**P**	**17 53 01.3**	**+1.5**
ODSA	**Odessa**	**18.74**	**338**	P	**Pn**	**17 53 06.6**	**+1.8**
ODSA				IAmb	IAmb	17 53 10.2	
	comp=Z,17nm,1.1s						
MIAR	**Mount Ida**	**19.62**	**2**	P	**P**	**17 53 14.0**	**+0.1**
DKNS	**Dickens**	**19.65**	**344**		**P**	**17 53 15.6**	**+1.2**
DKNS				IAmb	IAmb	17 53 19.7	
	comp=Z,11nm,1.1s						
MSTX	**Muleshoe**	**20.50**	**340**	P	**P**	**17 53 25.8**	**+2.2**
MSTX				IAmb	IAmb	17 53 30.0	
	comp=Z,9.2nm,1.1s						
SMWD	**Samnorwood**	**20.85**	**346**	P	**P**	**17 53 27.7**	**+0.3**
SMWD				IAmb	IAmb	17 53 30.7	
	comp=Z,8.7nm,0.9s						
AMTX	**Amarillo**	**21.01**	**343**	P	**P**	**17 53 30.6**	**+1.5**
OK029	**Liberty Lake**	**21.04**	**353**	P	**P**	**17 53 30.4**	**+1.0**
OK029				IAmb	IAmb	17 53 31.3	
	comp=Z,15nm,1.0s						
FCAR	**Ozark Folk Cen**	**21.05**	**5**	P	**P**	**17 53 29.6**	**+0.1**
OK031	**S. Brethren Rd**	**21.13**	**354**	P	**P**	**17 53 29.8**	**-0.5**
HHAR	**Hobbs**	**21.35**	**1**	P	**P**	**17 53 34.2**	**+1.5**
HHAR				IAmb	IAmb	17 53 36.2	
	comp=Z,4.4nm,0.5s						
121A	**Cookes Peak, D**	**21.43**	**328**	P	**P**	**17 53 37.6**	**+3.8**
121A				IAmb	IAmb	17 53 40.7	
	comp=Z,9.6nm,0.9s						
U38A	**Gravette**	**21.50**	**360**	P	**P**	**17 53 36.6**	**+2.3**
CROK	**Carrier**	**21.80**	**352**	P	**P**	**17 53 40.7**	**+3.1**
CROK				IAmb	IAmb	17 53 41.8	
	comp=Z,18nm,1.1s						
WVT	**Waverly**	**21.98**	**14**	P	**P**	**17 53 39.5**	**+0.1**
T35A	**Sooner Cattle**	**22.06**	**355**	P	**P**	**17 53 39.6**	**-0.7**
T35A				IAmb	IAmb	17 53 41.0	
	comp=Z,5.6nm,0.7s						
ROSC	**El Rosal**	**22.09**	**115**	P	**P**	**17 53 41.6**	**+0.3**
PARMO	**Parma**	**22.11**	**10**	P	**P**	**17 53 41.2**	**+0.4**
MGMO	**Mountain Grove**	**22.29**	**4**	P	**P**	**17 53 43.1**	**+0.3**
MGMO				IAmb	IAmb	17 53 45.8	
	comp=Z,7.1nm,1.1s						
RTBA	**Rita Blanca**	**22.76**	**342**	P	**P**	**17 53 49.9**	**+1.9**
RTBA				IAmb	IAmb	17 53 52.2	
	comp=Z,8.1nm,1.1s						
S39A	**Bolivar**	**22.77**	**2**	P	**P**	**17 53 48.2**	**+0.4**
S39A				IAmb	IAmb	17 53 50.0	
	comp=Z,5.6nm,0.8s						
S44A	**Carbondale**	**23.20**	**10**	P	**P**	**17 53 53.7**	**+1.4**
R40A	**Maddies Statio**	**23.42**	**4**	P	**P**	**17 53 54.6**	**+0.1**
R40A				IAmb	IAmb	17 54 01.4	
	comp=Z,5.9nm,0.9s						
R32A	**Long Quarter,**	**23.79**	**352**	P	**P**	**17 53 59.0**	**+0.8**
SDV	**Santo Domingo**	**23.96**	**102**	LR	LR	18 03 11.6	
	comp=Z,60nm,19.7s,baz=303,slow=36						
PIX	**Pinacate**	**24.11**	**317**	P	**P**	**17 54 04.2**	**+3.0**
PIX				IAmb	IAmb	17 54 05.5	
	comp=Z,7.7nm,1.0s						
P40A	**Paris**	**24.67**	**4**	P	**P**	**17 54 05.1**	**-1.2**
P40A				IAmb	IAmb	17 54 06.3	
	comp=Z,7.3nm,0.7s						
Y14A	**Wickenburg**	**25.40**	**322**	P	**P**	**17 54 14.5**	**+1.4**
VTX	**Valle De La Tr**	**25.59**	**314**	P	**P**	**17 54 16.5**	**+1.7**
SSFO	**Shawnee State**	**25.71**	**20**	P	**P**	**17 54 14.2**	**-1.5**
P48A	**Milroy**	**25.74**	**16**	P	**P**	**17 54 14.3**	**-1.7**
P48A				IAmb	IAmb	17 54 15.4	
	comp=Z,12nm,1.1s						
N38A	**Joes South For**	**25.87**	**2**	P	**P**	**17 54 16.4**	**-0.7**
PFO	**Pinyon Flats O**	**27.37**	**317**	LR	LR	18 05 56.1	
	comp=Z,65nm,18.2s,baz=212,slow=38						
PDAR	**Pinedale Array**	**30.73**	**338**	P	**P**	**17 55 03.1**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=146,slow=12,SNR=1.8						
	comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**31.59**	**323**	P	**P**	**17 55 12.7**	**+4.2**
	comp=Z,2.5nm,1.1s,baz=127,slow=10,SNR=7.8						
	comp=Z,2.5nm,1.1s						
F10A	**Beach Ranch, E**	**36.49**	**333**	P	**P**	**17 55 50.8**	**+0.1**
F10A				IAmb	IAmb	17 55 53.8	
	comp=Z,3.7nm,0.8s						
NEW	**Newport**	**38.25**	**335**	LR	LR	18 14 36.4	
	comp=Z,66nm,19.1s,baz=294,slow=40						
YKA	**Yellowknife Ar**	**49.70**	**348**	P	**P**	**17 57 38.2**	**+1.1**
	comp=Z,0.6nm,0.7s,baz=150,slow=7.0,SNR=9.6						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**61.16**	**337**	P	**P**	**17 59 01.2**	**+1.5**
	comp=Z,1.1nm,0.9s,baz=139,slow=4.2,SNR=5.9						
	comp=Z,1.1nm,0.9s						
SPITS	**Spitsbergen Ar**	**79.71**	**11**	P	**P**	**18 00 55.3**	**+2.5**
	comp=Z,18nm,1.1s,baz=119,slow=1.8,SNR=6.5						
SPITS				LR	LR	18 40 16.5	
	comp=Z,326nm,18.0s,baz=115,slow=39						
NOA	**NORSAR Array B**	**84.49**	**28**	P	**P**	**18 01 19.2**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=290,slow=5.2,SNR=3.5						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**144.40**	**338**	PKP	PKPbc	18 08 22.4	+1.4
	comp=Z,0.7nm,0.8s,baz=21,slow=3.7,SNR=5.0						

NEIC ***19*** *17:54:50.1±2.1, 11°.55S±0°.08×166°.46E±0°.10, h68km±

σ1933/85, **mb4.6**/36, **MS3.4/6, Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.66**	**288**		**Pn**	**17 56 23.4**	**-1.1**
KOUNC	**Koumac, New Ca**	**9.13**	**192**		**Pn**	**17 56 59.3**	**+1.0**
KOUNC					**Sn**	**17 58 36.4**	**-3.2**
LIFNC	**LIFOU**	**9.18**	**175**	Pn	**Pn**	**17 57 01.7**	**+2.9**
DZM	**Mont Dzumac**	**10.43**	**180**	*e*Pn	Pn	17 57 33.6	+18
	52nm,1.4s						
DZM				*e*LR	LR	17 59 52.0	
	327nm,26.8s						
DZM	**Mont Dzumac**	**10.43**	**180**	Pn	**Pn**	**17 57 16.5**	**+0.4**
DZM	**Mont Dzumac**	**10.43**	**180**	P	**Pn**	**17 57 19.5**	**+3.5**
	0.5nm,0.3s,baz=21,slow=18,SNR=3.0						
DZM				S	**Sn**	**17 59 09.1**	**-2.3**
	6.0nm,0.7s,baz=302,slow=22,SNR=2.2						
	5.4nm,0.8s						
ONTNC	**Ouen Toro**	**10.66**	**180**	Pn	**Pn**	**17 57 19.8**	**+0.7**
OUENC	**Ouen Island, N**	**10.78**	**178**	Pn	**Pn**	**17 57 21.9**	**+1.1**
PINNC	**Pines Island,**	**11.01**	**175**	Pn	**Pn**	**17 57 23.6**	**-0.3**
FUNA	**Funafuti**	**13.00**	**78**	Pn	**Pn**	**17 57 50.6**	**-0.5**
RABL	**Rabaul**	**15.86**	**296**	P	**P**	**17 58 32.7**	**+1.2**
RABL				IAmb	IAmb	17 58 47.1	
	comp=Z,25nm,0.6s						
PMG	**Port Moresby**	**19.01**	**275**	LR	LR	18 05 44.0	
	comp=Z,196nm,20.4s,baz=92,slow=34						
EIDS	**Eidsvold**	**19.92**	**224**	P	**Pn**	**17 59 17.8**	**-0.4**
PATS	**Pohnpei**	**19.98**	**336**	P	**Pn**	**17 59 16.2**	**-2.8**
PATS				IAmb	IAmb	17 59 19.2	
	comp=Z,78nm,1.0s						
MANU	**Manus Island**	**21.09**	**295**	P	**P**	**17 59 29.1**	**+0.2**
MANU				IAmb	IAmb	17 59 47.7	
	comp=Z,30nm,1.1s						
CTAO	**Charters Tower**	**21.09**	**244**	P	**P**	**17 59 30.9**	**+2.0**
COEN	**Coen**	**22.73**	**262**	P	**P**	**17 59 48.5**	**+2.0**
ARMA	**Armidale**	**23.20**	**214**	P	**P**	**17 59 51.8**	**+0.6**
ARMA				IAmb	IAmb	17 59 54.8	
	comp=Z,16nm,0.8s						
TOZ	**Tahuroa Road**	**27.29**	**164**	P	**P**	**18 00 31.9**	**+3.7**
TOZ				IAmb	IAmb	18 01 15.7	
	comp=Z,32nm,1.4s						
RTZ	**Ruatahuna**	**28.53**	**162**	P	**P**	**18 00 38.5**	**-0.9**
RTZ				IAmb	IAmb	18 01 11.0	
	comp=Z,30nm,1.3s						
BKZ	**Black Stump Fm**	**28.91**	**164**	P	**P**	**18 00 42.1**	**-0.4**
H11S2	**WAKE ISLAND Hy**	**29.89**	**1**	T	T	18 31 24.5	
	baz=181,slow=74						
H11S3	**WAKE ISLAND Hy**	**29.89**	**1**	T	T	18 31 26.6	
	baz=181						
H11S1	**WAKE ISLAND Hy**	**29.91**	**1**	T	T	18 31 26.3	
	baz=181,slow=74						
MRZ	**Mangatainoka R**	**30.08**	**166**	P	**P**	**18 00 52.0**	**-0.9**
MRNZ	**Matariki Terra**	**30.22**	**170**	P	**P**	**18 00 51.9**	**-2.3**
TCW	**Tory Channel**	**30.32**	**168**	P	**P**	**18 00 54.4**	**-0.6**
DSZ	**Denniston Nort**	**30.42**	**172**	P	**P**	**18 00 57.5**	**+1.6**
TUWZ	**Tuamarina**	**30.46**	**169**	P	**P**	**18 00 53.3**	**-2.9**
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**18 00 56.8**	**+0.3**
STKA	**Stephens Creek**	**30.48**	**225**	P	**P**	**18 00 57.3**	**+0.8**
	comp=Z,4.3nm,0.7s,baz=46,slow=9.0,SNR=10						
	comp=Z,4.3nm,0.7s						
THZ	**Tophouse**	**30.60**	**170**	P	**P**	**18 00 58.5**	**+0.9**
THZ				IAmb	IAmb	18 01 31.9	
	comp=Z,18nm,1.1s						
H11N1	**WAKE ISLAND Hy**	**31.11**	**1**	T	T	18 32 57.1	
	baz=181						
H11N3	**WAKE ISLAND Hy**	**31.11**	**1**	T	T	18 33 01.0	
	baz=181						
H11N2	**WAKE ISLAND Hy**	**31.13**	**1**	T	T	18 32 59.9	
	baz=181						
WB0	**Warramunga Arr**	**31.79**	**251**	P	**P**	**18 01 08.0**	**-0.3**
WB0				IAmb	IAmb	18 01 09.6	
	comp=Z,15nm,1.1s						
WB2	**Warramunga Arr**	**31.86**	**251**	P	**P**	**18 01 07.8**	**-1.0**
WB2				IAmb	IAmb	18 01 10.2	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**31.87**	**251**	P	**P**	**18 01 09.0**	**0.0**
	comp=Z,4.8nm,0.9s,baz=83,slow=8.7,SNR=14						
WRA				PcP	**PcP**	**18 03 57.9**	**-0.8**
	comp=Z,0.8nm,0.7s,baz=77,slow=2.6,SNR=6.6						
	comp=Z,4.8nm,0.9s						
RPZ	**Rata Peaks**	**32.27**	**174**	P	**P**	**18 01 10.7**	**-1.4**
MQZ	**McQueen's Vall**	**32.46**	**171**	P	**P**	**18 01 13.1**	**-0.6**
LBZ	**Lake Benmore**	**32.85**	**175**	P	**P**	**18 01 15.6**	**-1.6**
GUMO	**Guam**	**32.87**	**319**	LR	LR	18 15 09.9	
	comp=Z,24nm,18.8s,baz=156,slow=37						
ASAR	**Alice Springs**	**33.10**	**244**	P	**P**	**18 01 18.4**	**-1.3**
ASAR	**Alice Springs**	**33.10**	**244**	P	**P**	**18 01 19.0**	**-0.7**
	comp=Z,3.7nm,0.7s,baz=69,slow=9.6,SNR=46						
ASAR				PcP	**PcP**	**18 04 02.4**	**+0.3**
	comp=Z,1.7nm,0.8s,baz=85,slow=2.0,SNR=11						
	comp=Z,3.7nm,0.7s						
WKZ	**Wanaka**	**33.20**	**177**	P	**P**	**18 01 19.5**	**-0.8**
BBOO	**Buckleboo**	**34.91**	**228**	P	**P**	**18 01 35.3**	**+0.1**
BBOO				IAmb	IAmb	18 02 11.1	
	comp=Z,22nm,1.4s						
FITZ	**Fitzroy Crossi**	**39.83**	**256**	P	**P**	**18 02 17.7**	**+0.6**
PPT2	**Papeete2**	**42.98**	**103**	*e*LR	LR	18 14 38.6	
	comp=Z,137nm,27.2s						
TBI	**Tubuai**	**43.57**	**112**	*e*LR	LR	18 15 04.2	
	comp=Z,506nm,26.5s						
PSA00	**Pilbara Seismi**	**45.53**	**251**	P	**P**	**18 03 04.1**	**+0.8**
MBWA	**Marble Bar**	**45.60**	**252**	P	**P**	**18 03 02.8**	**-1.1**
TOLI2	**Tolitoli**	**47.01**	**283**	P	**P**	**18 03 15.0**	**0.0**
TOLI2				IAmb	IAmb	18 03 30.6	
	comp=Z,4.5nm,0.8s						
NWAO	**Narrogin (SRO)**	**49.67**	**237**	P	**P**	**18 03 35.8**	**+0.6**
NWAO				IAmb	IAmb	18 03 36.6	
	comp=Z,16nm,0.9s						
NWAO	**Narrogin (SRO)**	**49.67**	**237**	LR	LR	18 24 34.2	
	comp=Z,126nm,19.5s,baz=28,slow=36						
MORW	**Morawa**	**49.90**	**242**	P	**P**	**18 03 37.8**	**+0.7**
MORW				IAmb	IAmb	18 03 38.6	
	comp=Z,7.8nm,0.8s						
MYLDM	**Lahad Datu**	**50.44**	**287**	P	**P**	**18 03 40.9**	**-0.4**
JNU	**Nakatsue**	**55.87**	**324**	LR	LR	18 26 55.8	
	comp=Z,23nm,18.3s,baz=112,slow=34						
PETK	**Petropavlovsk-**	**64.86**	**354**	LR	LR	18 28 46.7	
	comp=Z,28nm,19.8s,baz=130,slow=31						
BKNI	**Bangkinang**	**65.92**	**276**	P	**P**	**18 05 29.9**	**+0.3**
VNDA	**Vanda**	**65.97**	**181**	P	**P**	**18 05 29.3**	**+0.6**
VNDA	**Vanda**	**65.97**	**181**	P	**P**	**18 05 29.9**	**+1.2**
	comp=Z,1.0nm,0.6s,baz=347,slow=6.0,SNR=12						
	comp=Z,1.0nm,0.6s						
CASY	**Casey**	**66.10**	**201**	P	**P**	**18 05 29.3**	**-0.4**
CASY				IAmb	IAmb	18 05 35.5	
	comp=Z,16nm,1.4s						
SBA	**Scott Base**	**66.26**	**180**	P	**P**	**18 05 31.1**	**+0.5**
KLR	**Kul'dur**	**67.79**	**336**	P	**P**	**18 05 40.7**	**0.0**
	comp=Z,1.1nm,0.7s,baz=168,slow=4.5,SNR=3.9						
	comp=Z,1.1nm,0.7s						
PHRA	**Phrae**	**71.74**	**294**	P	**P**	**18 06 04.6**	**-1.0**
CRAI	**Chiangrai**	**72.19**	**296**	P	**P**	**18 06 09.1**	**+0.8**
CRAI				IAmb	IAmb	18 06 10.6	
	comp=Z,5.9nm,1.1s						
CM31	**Chiang Mai Arr**	**72.88**	**294**	P	**P**	**18 06 13.7**	**+1.3**
CM31				IAmb	IAmb	18 06 14.9	
	comp=Z,6.1nm,0.8s						
CMAR	**Chiang Mai Arr**	**72.88**	**294**	P	**P**	**18 06 13.1**	**+0.7**
CMAR	**Chiang Mai Arr**	**72.88**	**294**	P	**P**	**18 06 14.2**	**+1.7**
	comp=Z,3.9nm,0.8s,baz=117,slow=4.4,SNR=20						
CMAR				LR	LR	18 40 23.4	
	comp=Z,7.3nm,18.2s,baz=165,slow=38						
	comp=Z,3.9nm,0.8s						
CHTO	**Chiang Mai**	**73.00**	**294**	P	**P**	**18 06 13.7**	**+0.6**
CHTO				IAmb	IAmb	18 06 15.2	
	comp=Z,7.2nm,1.2s						
KDAK	**Kodiak Island**	**76.86**	**21**	LR	LR	18 35 19.6	
	comp=Z,49nm,19.1s,baz=244,slow=32						
P18K	**Big Mountain,**	**77.21**	**19**	P	**P**	**18 06 34.4**	**-2.1**
P18K				IAmb	IAmb	18 06 48.7	
	comp=Z,22nm,1.3s						
QSPA	**South Pole Qui**	**78.42**	**180**	P	**P**	**18 06 42.9**	**-0.5**
QSPA				IAmb	IAmb	18 06 45.8	
	comp=Z,12nm,1.1s						
QSPA	**South Pole Qui**	**78.42**	**180**	P	**P**	**18 06 44.0**	**+0.6**
	comp=Z,8.1nm,0.9s,baz=242,slow=0.8,SNR=23						
	comp=Z,8.1nm,0.9s						
ULN	**Ulaanbaatar**	**79.09**	**324**	P	**P**	**18 06 46.4**	**-1.0**
SONM	**Songino Array**	**79.46**	**324**	P	**P**	**18 06 49.4**	**0.0**
SONM	**Songino Array**	**79.46**	**324**	P	**P**	**18 06 49.3**	**-0.1**
	comp=Z,0.9nm,0.5s,baz=123,slow=5.5,SNR=6.6						
	comp=Z,0.9nm,0.5s						
L19K	**White Mountain**	**79.51**	**17**	P	**P**	**18 06 48.9**	**-0.3**
L19K				IAmb	IAmb	18 07 04.5	
	comp=Z,14nm,1.5s						
GTA	**Gaotai**	**79.87**	**314**	*e*P	**P**	**18 06 53.0**	**+1.2**
GTA				sP	pP	18 07 07.0	-0.8
GTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CAST	**Castle Rocks**	**81.28**	**18**	P	**P**	**18 06 59.5**	**+0.8**
GOMU	**GeErMu**	**82.33**	**309**	P	**P**	**18 07 07.3**	**+2.1**
GOMU				pP	PcP	18 07 10.3	-0.1
GOMU				sP	pP	18 07 12.4	-8.9
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.8s						
E19K	**Redstone River**	**83.11**	**13**	P	**P**	**18 07 06.5**	**-1.6**
C18K	**Utukok River**	**83.27**	**11**	P	**P**	**18 07 08.7**	**-0.3**
C18K				IAmb	IAmb	18 07 41.6	
	comp=Z,20nm,1.4s						
D19K	**Kuna River**	**83.77**	**12**	P	**P**	**18 07 10.9**	**-0.7**
D19K				IAmb	IAmb	18 07 16.5	
	comp=Z,7.3nm,1.1s						
ILAR	**Eielson Array**	**83.83**	**18**	P	**P**	**18 07 11.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=237,slow=5.7,SNR=2.9						
	comp=Z,0.3nm,0.6s						
J25K	**Salcha River,**	**84.20**	**19**	P	**P**	**18 07 12.1**	**-1.7**
J25K				IAmb	IAmb	18 07 30.1	
	comp=Z,7.4nm,1.4s						
SCRK	**Sand Creek**	**84.22**	**20**	P	**P**	**18 07 13.7**	**-0.3**
SCRK				IAmb	IAmb	18 07 34.2	
	comp=Z,6.9nm,1.4s						
NVAR	**Mina Array Bea**	**85.91**	**50**	P	**P**	**18 07 25.6**	**+2.4**
	comp=Z,0.3nm,0.5s,baz=245,slow=7.7,SNR=2.9						
	comp=Z,0.3nm,0.5s						
H06S1	**SOCORRO T**	**86.87**	**70**	T	T	19 43 08.0	
	SNR=9.3						
MK31	**Makanchi Array**	**94.33**	**317**		**P**	**18 08 01.4**	**-0.9**
MK31				IAmb	IAmb	18 08 03.4	
	comp=Z,3.7nm,1.0s						
MKAR	**Makanchi Array**	**94.33**	**317**		**P**	**18 08 02.0**	**-0.3**
MKAR	**Makanchi Array**	**94.33**	**317**	P	**P**	**18 08 02.5**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=101,slow=5.9,SNR=25						
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**94.35**	**324**	P	**P**	**18 08 01.7**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=101,slow=4.7,SNR=7.2						
	comp=Z,1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**97.48**	**320**	P	Pdif	18 08 15.5	-1.1
	comp=Z,0.3nm,0.6s,baz=96,slow=3.7,SNR=2.9						
	comp=Z,0.3nm,0.6s						
CPUP	**Villa Florida**	**123.22**	**132**	PKP	**PKiKP**	**18 13 40.0**	**-0.3**
	comp=Z,2.8nm,0.4s,baz=199,slow=18,SNR=1.9						
ESDC	**Sonseca Array**	**150.74**	**345**	PKPbc	**PKPbc**	**18 14 33.3**	**-1.9**
	comp=Z,0.2nm,0.6s,baz=11,slow=2.6,SNR=1.6						
TORD	**Torodi Ar. Bea**	**164.94**	**278**	PKP	**PKPdf**	**18 14 47.6**	**0.0**
	comp=Z,0.7nm,1.0s,baz=207,slow=1.6,SNR=2.9						
TORD				PKPab	**PKPab**	**18 15 44.4**	**+0.2**
	comp=Z,1.0nm,0.9s,baz=64,slow=3.4,SNR=4.4						

IDC 19 17:59:07.9±1.6, 52.61N×158.01E, h143km±11km, mb3.1/4, mbtmp3.5/4, Error ellipse: s-maj=55.6km s-min=22.5km az=156.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PETK	**Petropavlovsk-**	**0.54**	**340**	P	Pn	17 59 29.6	+1.0
	78nm,0.3s,baz=117,slow=7.5,SNR=1204						
PETK				S	Sn	17 59 45.6	+1.2
	29nm,0.7s,baz=64,slow=44,SNR=8.4						
ILAR	**Eielson Array**	**30.05**	**45**	P	P	18 05 02.3	-0.7
	0.4nm,0.6s,baz=274,slow=8.8,SNR=5.7						
	0.4nm,0.6s						
NVAR	**Mina Array Bea**	**57.10**	**68**	P	P	18 08 39.8	+0.5
	0.3nm,0.5s,baz=299,slow=8.1,SNR=2.1						
	0.3nm,0.5s						
PDAR	**Pinedale Array**	**58.86**	**59**	P	P	18 08 52.4	+0.8
	0.4nm,0.6s,baz=306,slow=3.9,SNR=3.9						
	0.4nm,0.6s						
TXAR	**Lajitas Array**	**71.99**	**65**	P	P	18 10 15.3	-0.7
	0.2nm,0.5s,baz=310,slow=5.2,SNR=4.8						
	0.2nm,0.5s						

*SJA **19** 18:07:38.2±0.7, 21.98S×68.65W, h135km±4km, ML3.5, MW3.4*

*GUC **19** 18:07:39.7±0.6, 21.98S×68.54W, h118km±3km, ML3.6*

ISC 19 18:07:38.4±1.4, 21.98S±0.03×68.65W±0.05, h133km±9km, n38, σ1927/59, 7C-1D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**0.58**	**288**	*e*P	Pn	**18 07 58.6**	**0.0**
PB09				*e*S	**Sn**	**18 08 14.4**	**+0.7**
PB09				IAML		18 08 15.3	
	comp=Z,481nm,0.2s						
PB09	**IPOC Station P**	**0.58**	**288**	↑*i*P	Pn	**18 07 58.6**	**0.0**
PB09				*e*S	**Sn**	**18 08 13.6**	**-0.2**
LVC	**Limon Verde**	**0.67**	**201**	*e*P	Pn	**18 07 58.9**	**-0.6**
LVC				IAML		18 08 15.0	
	comp=Z,438nm,0.2s						
LVC	**Limon Verde**	**0.67**	**201**	*e*P	Pn	**18 07 58.8**	**-0.6**
LVC				*e*S	**Sn**	**18 08 14.0**	**-1.3**
LVC				IAML		18 08 14.7	
	comp=Z,3μm,0.2s						
AF01	**San Pedro de A**	**1.06**	**156**	*e*P	Pn	**18 08 01.9**	**-0.7**
AF01				*e*S	**Sn**	**18 08 19.2**	**-1.7**
AF01				IAML		18 08 36.5	
	comp=E,446nm,0.4s						
PB06	**IPOC Station P**	**1.12**	**230**	*e*P	Pn	**18 08 03.4**	**+0.5**
PB06				IAML		18 08 24.3	
	comp=Z,361nm,0.3s						
PB06	**IPOC Station P**	**1.12**	**230**	↑*i*P	Pn	**18 08 03.4**	**+0.5**
PB06				*e*S	**Sn**	**18 08 21.7**	**+0.1**
PB06				IAML		18 08 22.8	
	comp=E,635nm,0.1s						
PB01	**IPOC Station P**	**1.22**	**320**	*e*P	Pn	**18 08 03.7**	**-0.1**
PB01				*e*S	**Sn**	**18 08 23.9**	**+0.8**
PB01				IAML		18 08 25.1	
	comp=Z,881nm,0.1s						
PB01	**IPOC Station P**	**1.22**	**320**	↑*e*P	Pn	**18 08 03.8**	**-0.1**
PB01				*e*S	**Sn**	**18 08 23.0**	**-0.1**
PB01				IAML		18 08 24.7	
	comp=N,1μm,0.2s						
PB04	**IPOC Station P**	**1.44**	**255**	*e*P	Pn	**18 08 06.8**	**+0.6**
PB04				IAML		18 08 30.2	
	comp=Z,381nm,0.2s						
PB04	**IPOC Station P**	**1.44**	**255**	↑*e*P	Pn	**18 08 06.9**	**+0.6**
PB04				*e*S	**Sn**	**18 08 27.5**	**+0.1**
PB04				IAML		18 08 30.2	
	comp=E,582nm,0.2s						
PB15	**IPOC Station P**	**1.44**	**212**	*e*P	Pn	**18 08 07.4**	**+1.1**
PB15				IAML		18 08 32.3	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**1.44**	**212**	↑*e*P	Pn	**18 08 07.2**	**+1.0**
PB15				*e*S	**Sn**	**18 08 28.0**	**+0.4**
PATCX	**Punta Patache**	**1.81**	**309**	*e*P	Pn	**18 08 10.9**	**+0.5**
PATCX				IAML		18 08 38.1	
	comp=Z,525nm,0.4s						
PATCX	**Punta Patache**	**1.81**	**309**	*e*P	Pn	**18 08 10.8**	**+0.5**
PATCX				*e*S	**Sn**	**18 08 35.7**	**+0.8**
PATCX				IAML		18 08 36.2	
	comp=N,992nm,0.2s						
PB08	**IPOC Station P**	**1.89**	**345**	*e*P	Pn	**18 08 12.4**	**+0.8**
PB08				*e*S	**Sn**	**18 08 38.0**	**+1.0**
PB08				IAML		18 08 39.6	
	comp=Z,227nm,0.3s						
PB08	**IPOC Station P**	**1.89**	**345**	↑*i*P	Pn	**18 08 12.3**	**+0.7**
PB08				*e*S	**Sn**	**18 08 37.1**	**+0.1**
PB08				IAML		18 08 38.5	
	comp=E,540nm,0.2s						
TA01	**Diego Aracena**	**2.00**	**314**	*e*P	Pn	**18 08 13.0**	**+0.4**
TA01				*e*S	**Sn**	**18 08 39.2**	**+0.4**
TA01				IAML		18 08 41.3	
	comp=Z,167nm,0.2s						
TA01	**Diego Aracena**	**2.00**	**314**	*e*P	Pn	**18 08 13.3**	**+0.7**
TA01				*e*S	**Sn**	**18 08 38.8**	**0.0**
TA01				IAML		18 08 41.2	
	comp=N,757nm,0.3s						
HMBC	**Humberstone**	**2.05**	**325**	*e*P	Pn	**18 08 13.0**	**-0.3**
HMBC				IAML		18 08 41.7	
	comp=Z,572nm,0.3s						
HMBC	**Humberstone**	**2.05**	**325**	*e*P	Pn	**18 08 12.9**	**-0.3**
HMBC				*e*S	**Sn**	**18 08 40.2**	**+0.2**
TA02	**Huaiquique**	**2.19**	**321**	*e*P	Pn	**18 08 16.6**	**+1.7**
TA02				*e*S	**Sn**	**18 08 43.3**	**+0.4**
TA02				IAML		18 08 48.5	
	comp=Z,370nm,0.1s						
TA02	**Huaiquique**	**2.19**	**321**	*e*P	Pn	**18 08 15.5**	**+0.6**
TA02				*e*S	**Sn**	**18 08 42.9**	**0.0**
TA02				IAML		18 08 44.2	
	comp=N,564nm,0.1s						
PB10	**IPOC Station P**	**2.33**	**229**	*e*P	Pn	**18 08 17.6**	**+1.0**
PB10	**IPOC Station P**	**2.33**	**229**	‖*e*P	Pn	**18 08 18.0**	**+1.4**
GO01	**Chusmiza**	**2.35**	**347**	*e*P	Pn	**18 08 18.4**	**+1.0**
GO01	**Chusmiza**	**2.35**	**347**	*e*P	Pn	**18 08 17.9**	**+0.5**
GO01				*e*S	Sn	**18 08 47.5**	**+0.2**
PB11	**IPOC Station P**	**2.40**	**337**	*e*P	Pn	**18 08 17.5**	**-0.2**
PB11				IAML		18 08 48.5	
	comp=Z,179nm,0.1s						
PB11	**IPOC Station P**	**2.40**	**337**	*e*P	Pn	**18 08 17.5**	**-0.2**
PB11				*e*S	**Sn**	**18 08 47.7**	**-0.1**
YJA	**Yavi**	**2.91**	**94**	*e*P	Pn	**18 08 25.6**	**+1.2**
PB14	**IPOC Station P**	**3.09**	**211**	*e*P	Pn	**18 08 27.8**	**+1.2**
PB14	**IPOC Station P**	**3.09**	**211**	*e*P	Pn	**18 08 27.8**	**+1.2**
HJA	**Humahuaca**	**3.23**	**113**	*e*P	Pn	**18 08 30.4**	**+1.9**
GO02	**Mina Guanaco**	**3.29**	**195**	*e*P	Pn	**18 08 29.9**	**+0.7**
GO02	**Mina Guanaco**	**3.29**	**195**	‖*e*P	Pn	**18 08 29.8**	**+0.7**
PB12	**IPOC Station P**	**3.70**	**334**	*e*P	Pn	**18 08 33.7**	**-0.7**
PB12				*e*S	**Sn**	**18 09 10.7**	**-7.1**
PB12				IAML		18 09 16.1	
	comp=Z,66nm,0.4s						
PB12	**IPOC Station P**	**3.70**	**334**	*e*P	Pn	**18 08 35.1**	**+0.7**
AC01	**Pan de Azucar**	**4.52**	**203**	*e*P	Pn	**18 08 44.2**	**-0.8**
AC01				*e*S	**Sn**	**18 09 34.6**	**-2.3**

*NAO **19** 18:14:19.7, 38.08N×22.10E, h33km, mb4.7*

*BEO **19** 18:14:29.2±0.6, 39.52N×19.02E, h0km, ML4.9/12*

*BJI **19** 18:14:35.8±0.0, 39.68N×19.43E, h15km, mb4.4/35, mB4.9/14, Ms4.5/16, Ms7 4.2/18*

*GII **19** 18:14:39.8±0.5, 40.29N×19.79E, h15km, confirmed*

*MOS **19** 18:14:39.3±1.3, 40.27N×19.51E, h12km, mb4.9/36, Error ellipse: s-maj=4.4km s-min=2.9km az=78.2*

*IDC **19** 18:14:40.3±0.5, 40.31N×19.68E, h0km, mb4.2/29, mbtmp4.2/40, ML4.0/10, MS4.0/42, Error ellipse: s-maj=10.6km s-min=8.7km az=149.0*

*TIR **19** 18:14:40.6, 40.29N×19.80E, h15km±1km, Ml4.5*

*NEIC **19** 18:14:40.3±1.8, 40.32N±0.02×19.78E±0.05, h7km±3km, mb4.9/245, ML4.3(BUC), Error ellipse: s-maj=5.2km s-min=2.8km az=84.0*

*PDG **19** 18:14:40.1±0.9, 40.29N×19.58E, h5km±2km, MD4.9/10, ML4.7/13, Error ellipse: s-maj=0.8km s-min=1.6km az=0.0*

*MED_RC **19** 18:14:42.0±0.3, 40.29N×19.60E, h17km, MW4.5/27, Moment Tensor Solution. Mantle waves: s27,c35; Duration: 1s1 Moment tensor: Scale 10^15Nm; Mrr6.77±.51; Mθθ-1.55±.31; Mϕϕ-5.23±.32; Mrθ-1.53±.51; Mθϕ2.53±.15; Mϕr-1.30±.48; Best double couple: Mw6.91000×10^15 NP1:ϕs167.00000°, δ49.00000°, λ109.00000°. NP2:ϕs319.00000°, δ45.00000°, λ69.00000°. Principal axes: T 7.2900, Plg75.0000°, Azm146.0000°; N -0.7700, Plg14.0000°, Azm334.0000°; P -6.5400, Plg2.0000°, Azm244.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*

*ATH **19** 18:14:42.3, 40.29N×19.72E, h6km±1km, ML4.4/18 Error ellipse: s-maj=1.3km s-min=0.8km az=315.0*

*THE **19** 18:14:42.3, 40.33N×19.80E, h8km±1km, ML4.2/5, Error ellipse: s-maj=2.0km s-min=0.8km az=342.0*

*MCSM **19** 18:14:43.6±0.9, 40.0N±2.2×20.0E±.1, h12km±6km, mb4.5, mB5.0, MLv5.0, Mw(mB)4.3*

*AFAD **19** 18:14:47.0±0.0, 40.39N×20.14E, h11km±29km, MW4.4*

*GCMT **19** 18:14:51.3±0.4, 40.30N±0.04×19.62E±0.04, h18km±1km, MW4.6/72, Moment Tensor Solution. s8,c8; s72,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.10±.11; Mθθ-0.50±.06; Mϕϕ-0.60±.07; Mrθ-0.22±.13; Mθϕ0.48±.04; Mϕr-0.06±.15; Best double couple: Mo1.09200×10^16 NP1:ϕs309.00000°, δ49.00000°, λ77.00000°. NP2: ϕs148.00000°, δ43.00000°, λ104.00000°. Principal axes: T 1.1400, Plg80.0000°, Azm154.0000°; N -0.0980, Plg10.0000°, Azm317.0000°; P -1.0450, Plg3.0000°, Azm48.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 19 18:14:40.1±0.7, 40.25N±0.01×19.68E±0.02, h8km±4km, n1346, σ2919/1359, mb4.8/180, MS4.1/38, 35C-38D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.26**	**328**	P	**Pg**	**18 14 46.9**	**+1.7**
	baz=309						
VLO				S	**Sg**	**18 14 52.2**	**+3.5**
	baz=309						
VLO				AMP			
	comp=N,547nm,0.2s,baz=309						
VLO	**Vlora**	**0.26**	**328**	P	**Pg**	**18 14 46.9**	**+1.7**
VLO				S	**Sg**	**18 14 52.7**	**+3.9**
	comp=N,135μm,0.5s						
VLO	**Vlora**	**0.26**	**328**		**Pg**	**18 14 46.7**	**+1.4**
VLO	**Vlora**	**0.26**	**328**	P	**Pg**	**18 14 46.7**	**+1.4**
SRN	**Sarande**	**0.45**	**146**	P	**Pg**	**18 14 49.9**	**+1.2**
	baz=158						
SRN				S	**Sb**	**18 14 56.8**	**-0.2**
	baz=158						
SRN				AMP			
	comp=N,138nm,0.7s,baz=158						
KASA	**Kassiopi**	**0.54**	**158**	P	**Pb**	**18 14 51.9**	**+0.1**
KASA				S	**Sb**	**18

FNA	**Florina**	**1.40**	**67**	P		**Pn**	**18 15 05.9**	**-0.1**
	baz=67								
FNA				S		**Sb**	**18 15 24.5**	**-0.1**
	baz=67								
FNA				AMP					
	comp=N,40nm,0.7s,baz=67								
FNA	**Florina**	**1.40**	**67**	P		**Pn**	**18 15 05.4**	**-0.6**
FNA				S		**Sb**	**18 15 23.9**	**-0.7**
	comp=N,11µm,1.0s								
FNA	**Florina**	**1.40**	**67**	Pn		**Pn**	**18 15 05.0**	**-1.0**
FNA				Sn		**Sb**	**18 15 23.3**	**-1.3**
FNA	**Florina**	**1.40**	**67**	P		**Pb**	**18 15 06.8**	**+0.2**
FNA	**Florina**	**1.40**	**67**	*e*Pn		**Pn**	**18 15 06.3**	**+0.3**
FNA				*e*Sn		Sg	18 15 35.4	+10
FNA	**Florina**	**1.40**	**67**	P		**Pn**	**18 15 05.0**	**-1.0**
FNA							18 15 23.3		
FNA	**Florina**	**1.40**	**67**	P		**Pn**	**18 15 06.3**	**+0.3**
FNA				S		**Sb**	**18 15 24.6**	**-0.1**
TSLK	**Tsoukalades, L**	**1.61**	**152**	P		**Pb**	**18 15 10.9**	**+0.8**
TSLK				S		**Sg**	**18 15 33.6**	**+1.7**
	comp=N,7µm,0.5s								
TSLK	**Tsoukalades, L**	**1.61**	**152**	P		**Pg**	**18 15 11.3**	**+0.3**
TSLK				S		**Sg**	**18 15 32.1**	**+0.2**
LKD2	**Lefkada island**	**1.64**	**152**	P		**Pb**	**18 15 11.4**	**+0.8**
	baz=155								
LKD2	**Lefkada island**	**1.64**	**152**	*e*P		**Pg**	**18 15 11.7**	**+0.1**
LKD2	**Lefkada island**	**1.64**	**152**	P		**Pb**	**18 15 11.2**	**+0.5**
LKD2	**Lefkada island**	**1.64**	**152**	P		**Pb**	**18 15 11.1**	**+0.5**
LKD2				S		**Sb**	**18 15 32.0**	**+0.4**
LKD2				AML	AML		18 15 53.7		
	comp=N,11208µm,0.7s								
LKD2				AML	AML		18 15 56.0		
	comp=E,15227µm,0.5s								
DRAG	**Dragano-Lefkad**	**1.71**	**156**	P		**Pb**	**18 15 11.8**	**+0.1**
DRAG				S		**Sb**	**18 15 34.0**	**+0.6**
NYDR	**Nydri-Lefkada**	**1.73**	**152**	P		**Pb**	**18 15 11.9**	**-0.1**
NYDR	**Nydri-Lefkada**	**1.73**	**152**	P		**Pb**	**18 15 12.2**	**+0.2**
NYDR				S		**Sb**	**18 15 34.1**	**+0.3**
ULC	**Ulcinj**	**1.74**	**349**	*e*Pn		**Pn**	**18 15 10.8**	**+0.1**
ULC				*i* Sn		**Sg**	**18 15 36.6**	**+0.5**
EVGI	**Lefkada island**	**1.79**	**155**	P		**Pb**	**18 15 13.4**	**+0.2**
EVGI	**Lefkada island**	**1.79**	**155**	P		**Pb**	**18 15 12.9**	**-0.3**
EVGI				S		**Sb**	**18 15 36.6**	**+0.7**
PUK	**Puka**	**1.80**	**5**	P		**Pb**	**18 15 13.2**	**-0.1**
	baz=2.0								
PUK	**Puka**	**1.80**	**5**			**Pb**	**18 15 12.5**	**-0.8**
PUK				Sn		**Sn**	**18 15 32.1**	**-2.5**
FSK	**Fiskardo**	**1.92**	**159**	P		**Pb**	**18 15 14.8**	**-0.4**
FSK	**Fiskardo**	**1.92**	**159**	P		**Pb**	**18 15 14.6**	**-0.6**
FSK				S		**Sb**	**18 15 39.9**	**+0.6**
FSK				AML	AML		18 16 17.5		
	comp=N,8320µm,0.7s								
FSK				AML	AML		18 16 21.9		
	comp=Z,4911µm,0.7s								
THL	**Klokotos Trika**	**1.92**	**110**	P		**Pb**	**18 15 15.1**	**-0.3**
THL				AML	AML		18 15 47.5		
	comp=N,14054µm,1.5s								
THL				AML	AML		18 16 06.1		
	comp=E,11087µm,0.6s								
DRME	**Dracevica, Mon**	**1.97**	**349**	*e*Pn		**Pn**	**18 15 14.6**	**+0.8**
DRME	**Dracevica, Mon**	**1.97**	**349**	*i* Pn		**Pn**	**18 15 14.5**	**+0.8**
DRME				*i* Sn		**Sg**	**18 15 42.1**	**-1.3**
TYRN	**Tyrnavos**	**2.04**	**104**	P		**Pb**	**18 15 16.8**	**-0.6**
DMLN	**Damoulianata-K**	**2.08**	**165**	P		**Pn**	**18 15 16.7**	**+1.4**
DMLN	**Damoulianata-K**	**2.08**	**165**	P		**Pn**	**18 15 17.0**	**+1.7**
DMLN				S		**Sb**	**18 15 43.8**	**-0.3**
KEF3	**Kipouria, Keph**	**2.11**	**165**	P		**Pn**	**18 15 17.1**	**+1.4**
KEF3	**Kipouria, Keph**	**2.11**	**165**	P		**Pn**	**18 15 17.0**	**+1.4**
EVR	**Evrytania**	**2.12**	**128**	P		**Pb**	**18 15 18.3**	**-0.4**
EVR				S		**Sn**	**18 15 44.1**	**+1.7**
EVR				AML	AML		18 16 18.4		
	comp=E,12214µm,1.7s								
EVR				AML	AML		18 16 18.9		
	comp=N,15485µm,0.8s								
BUM	**Brajici-Budva**	**2.13**	**344**	⇑*i* Pn		**Pn**	**18 15 16.7**	**+0.6**
BUM				*i* Sn		**Sb**	**18 15 45.7**	**0.0**
BCI	**Bajram Curri**	**2.14**	**8**	P		**Pb**	**18 15 18.5**	**-0.6**
	baz=5.0								
LRSO	**Larissa Observ**	**2.17**	**105**	P		**Pb**	**18 15 18.4**	**-1.1**
PVO	**Paravola**	**2.17**	**138**	P		**Pb**	**18 15 18.6**	**-1.1**
SKO	**Skopje**	**2.18**	**37**	*e*Pn		**Pb**	**18 15 19.1**	**-0.6**
SKO				*e*Sn		**Sg**	**18 15 57.4**	**+7.4**
SKO	**Skopje**	**2.18**	**37**	*i* Pn		**Pb**	**18 15 19.0**	**-0.8**
VLS	**Valsamata**	**2.19**	**161**	P		**Pn**	**18 15 18.3**	**+1.5**
VLS	**Valsamata**	**2.19**	**161**	P		**Pn**	**18 15 18.3**	**+1.5**
GRG	**Griva**	**2.19**	**70**	*e*P		**Pb**	**18 15 18.6**	**-1.4**
GRG	**Griva**	**2.19**	**70**	P		**Pn**	**18 15 18.1**	**+1.2**
GRG				S		**Sn**	**18 15 43.3**	**-0.9**
GRG				AML	AML		18 16 12.1		
	comp=E,7179µm,1.0s								
GRG				AML	AML		18 16 13.7		
	comp=N,16697µm,1.6s								
PDG	**Podgorica**	**2.20**	**352**	⇓P		**Pn**	**18 15 18.0**	**+1.1**
PDG	**Podgorica**	**2.20**	**352**	*e*P		**Pb**	**18 15 18.9**	**-1.2**
PDG	**Podgorica**	**2.20**	**352**	Pn		**Pn**	**18 15 17.4**	**+0.5**
PDG	**Podgorica**	**2.20**	**352**	*e*Pn		**Pn**	**18 15 17.9**	**+1.0**
PDG	**Podgorica**	**2.20**	**352**	⇑*i* Pn		**Pn**	**18 15 17.8**	**+0.9**
PDG				*i* Sn		**Sb**	**18 15 47.6**	**0.0**
PSDA	**Pessada-Kefalo**	**2.25**	**161**	P		**Pn**	**18 15 19.2**	**+1.7**
PSDA	**Pessada-Kefalo**	**2.25**	**161**	P		**Pn**	**18 15 19.0**	**+1.5**
MAKR	**Makrakomi, Fth**	**2.26**	**122**	P		**Pb**	**18 15 20.5**	**-0.7**
MATE	**Matera**	**2.30**	**281**	⇑P		**Pb**	**18 15 20.3**	**-1.5**
MATE	**Matera**	**2.30**	**281**	*e*P		**Pb**	**18 15 20.3**	**-1.5**
MATE	**Matera**	**2.30**	**281**			**Pb**	**18 15 20.3**	**-1.5**
PVY	**Plav**	**2.35**	**5**	*e*Pn		**Pn**	**18 15 20.0**	**+0.8**
PVY				*i* Sn		**Sb**	**18 15 51.4**	**-0.7**
CEME	**Cevo**	**2.37**	**346**	⇓*i* Pn		**Pn**	**18 15 20.0**	**+0.7**
CEME				*i* Sn		**Sb**	**18 15 51.4**	**-1.0**
HCY	**Herceg Novi**	**2.37**	**338**	*e*Pn		**Pn**	**18 15 19.9**	**+0.7**
HCY	**Herceg Novi**	**2.37**	**338**	*e*Pn		**Pn**	**18 15 20.0**	**+0.7**
HCY				*i* Sn		**Sb**	**18 15 51.4**	**-1.0**
AGG	**Agios Georgios**	**2.39**	**120**	*e*P		**Pb**	**18 15 22.7**	**-0.6**
AGG	**Agios Georgios**	**2.39**	**120**	Pn		**Pn**	**18 15 21.5**	**+2.0**
AGG	**Agios Georgios**	**2.39**	**120**	P		**Pb**	**18 15 23.8**	**+0.5**
AGG	**Agios Georgios**	**2.39**	**120**	P		**Pn**	**18 15 21.5**	**+2.0**
AGG	**Agios Georgios**	**2.39**	**120**	P		**Pb**	**18 15 22.3**	**-1.0**
ANX	**Ano Chora**	**2.40**	**133**	P		**Pb**	**18 15 22.3**	**-1.3**
ANX				AML	AML		18 16 28.4		
	comp=N,13311µm,0.6s								
ANX				AML	AML		18 16 30.2		
	comp=E,11075µm,0.8s								
VAY	**Valandovo**	**2.44**	**63**	*e*Pn		**Pn**	**18 15 21.5**	**+1.2**
VAY	**Valandovo**	**2.44**	**63**	*i* Pn		**Pn**	**18 15 22.0**	**+1.7**
TIP	**Timpagrande**	**2.49**	**246**	⇑P		**Pb**	**18 15 23.8**	**-1.4**
TIP	**Timpagrande**	**2.49**	**246**	Pn		**Pn**	**18 15 22.8**	**+1.8**
TIP	**Timpagrande**	**2.49**	**246**	Pn		**Pb**	**18 15 23.7**	**-1.4**
EFP	**Efpalio**	**2.51**	**136**	P		**Pb**	**18 15 23.8**	**-1.6**
EFP				AML	AML		18 16 34.1		
	comp=E,10178µm,1.0s								
EFP				AML	AML		18 16 35.6		
	comp=N,8424µm,1.1s								
THE	**Thessaloniki**	**2.54**	**80**	P		**Pn**	**18 15 23.2**	**+1.6**
THE				S		**Sn**	**18 15 52.4**	**-0.2**
NKME	**Niksic**	**2.57**	**348**	*e*Pn		**Pn**	**18 15 23.0**	**+0.9**
NKME				*i* Sn		**Sb**	**18 15 56.6**	**-1.7**
RLS	**Riolos of Patr**	**2.59**	**147**	P		**Pn**	**18 15 24.6**	**+2.3**
KOME	**Kolasin**	**2.60**	**357**	*e*Pn		**Pn**	**18 15 23.4**	**+0.9**
KOME				*i* Sn		**Sb**	**18 15 57.2**	**-2.0**
KNT	**Kendrikon**	**2.61**	**69**	*e*P		**Pn**	**18 15 23.2**	**+0.6**
KNT	**Kendrikon**	**2.61**	**69**	P		**Pn**	**18 15 23.0**	**+0.4**
IVA	**Berane**	**2.63**	**3**	⇓*i* Pn		**Pn**	**18 15 23.8**	**+0.9**
IVA				*i* Sn		**Sb**	**18 15 58.0**	**-1.9**
HORT	**Hortiatis**	**2.64**	**81**	*e*P		**Pn**	**18 15 23.2**	**+0.2**
HORT	**Hortiatis**	**2.64**	**81**	P		**Pn**	**18 15 25.1**	**+2.1**
HORT				S		**Sn**	**18 15 54.4**	**-0.8**
HORT				AML	AML		18 16 31.7		
	comp=N,6732µm,1.1s								
HORT				AML	AML		18 16 35.1		
	comp=E,3224µm,1.3s								
TREB	**Trebinje**	**2.66**	**338**	*e*Pn		**Pn**	**18 15 23.4**	**+0.2**
DBRK	**Dubrovnik**	**2.68**	**335**	*e*Pn		**Pn**	**18 15 23.9**	**+0.4**
LTHK	**Lithakia**	**2.69**	**160**	P		**Pn**	**18 15 25.2**	**+1.5**
LTHK				AML	AML		18 16 37.6		
	comp=E,6623µm,1.2s								
LTHK				AML	AML		18 16 50.1		
	comp=N,4926µm,0.7s								
AXAR	**Agios Charalam**	**2.74**	**122**	P		**Pn**	**18 15 27.2**	**+2.8**
BRY	**Bratogost**	**2.78**	**343**	*e*Pn		**Pn**	**18 15 26.2**	**+1.1**
BRY	**Bratogost**	**2.78**	**343**	*e*Pn		**Pn**	**18 15 26.1**	**+1.0**
BRY				*i* Sn		**Sb**	**18 16 01.4**	**-3.1**
DRO	**Drossia**	**2.79**	**145**	P		**Pn**	**18 15 27.6**	**+2.5**
DRO				AML	AML		18 16 48.5		
	comp=N,11535µm,1.4s								
DRO				AML	AML		18 16 48.7		
	comp=E,13154µm,0.9s								
XOR	**Xorichti**	**2.85**	**107**	*e*P		**Pn**	**18 15 23.2**	**-2.7**
XOR	**Xorichti**	**2.85**	**107**	P		**Pn**	**18 15 27.5**	**+1.6**
SOH	**Sokhos**	**2.86**	**77**	P		**Pn**	**18 15 27.9**	**+1.9**
SOH				AML	AML		18 16 24.2		
	comp=E,4964µm,1.2s								
SOH				AML	AML		18 16 29.2		
	comp=N,4922µm,1.5s								
PLG	**Polygyros**	**2.88**	**86**	P		**Pn**	**18 15 28.6**	**+2.2**
PRVS	**Prvonek**	**2.89**	**38**	*e*Pn		**Pn**	**18 15 27.8**	**+1.3**
PRVS				*e*Sn		**Sg**	**18 16 11.7**	**-1.2**
NEO	**Neokhori**	**2.89**	**108**	P		**Pn**	**18 15 28.5**	**+2.0**
KLV	**Kalavryta, Ach**	**2.92**	**138**	P		**Pn**	**18 15 29.5**	**+2.5**
CUC	**Castrocucco**	**2.97**	**266**	Pn		**Pb**	**18 15 30.6**	**-2.7**
CUC	**Castrocucco**	**2.97**	**266**	P		**Pb**	**18 15 31.0**	**-2.3**
UPM	**Unac-Piva**	**3.01**	**349**	*e*Pn		**Pn**	**18 15 30.1**	**+1.9**
UPM	**Unac-Piva**	**3.01**	**349**	*e*Pn		**Pn**	**18 15 28.9**	**+0.7**
UPM				*i* Sn		**Sn**	**18 16 06.9**	**+2.4**
STON	**Ston**	**3.01**	**331**	*e*Pn		**Pn**	**18 15 28.0**	**0.0**
STON	**Ston**	**3.01**	**331**	*e*Pn		**Pn**	**18 15 28.3**	**+0.3**
SJES	**Sjenica**	**3.02**	**4**	*e*Pn		**Pn**	**18 15 30.0**	**+1.7**
SJES				*e*Sn		**Sb**	**18 16 13.5**	**+2.3**
SJES	**Sjenica**	**3.02**	**4**	*e*Pn		**Pn**	**18 15 30.5**	**+2.2**
BARS	**Barje**	**3.03**	**31**	*e*Pn		**Pn**	**18 15 30.5**	**+2.2**
BARS				*e*Sn		**Sg**	**18 16 16.4**	**-0.9**
KKB	**Krupnik**	**3.06**	**58**	P		**Pn**	**18 15 31.0**	**+2.3**
BOSS	**Bosilegrad**	**3.08**	**42**	*e*Pn		**Pn**	**18 15 30.8**	**+1.7**
BOSS				*e*Sn		**Sg**	**18 16 17.7**	**-1.3**
PLE	**Pljevlja**	**3.09**	**356**	*e*Pn		**Pn**	**18 15 30.3**	**+1.1**
PLE				*i* Sn		**Sn**	**18 16 08.9**	**+2.5**
PAIG	**Paliouri**	**3.09**	**95**	*e*P		**Pn**	**18 15 30.9**	**+1.8**
SRS	**Serrai**	**3.10**	**73**	*e*P		**Pn**	**18 15 31.5**	**+2.2**
SRS	**Serrai**	**3.10**	**73**	*e*Pn		**Pn**	**18 15 30.3**	**+1.0**
SRS	**Serrai**	**3.10**	**73**	P		**Pn**	**18 15 30.8**	**+1.5**
SRS				AML	AML		18 16 31.1		
	comp=N,2262µm,1.1s								
SRS				AML	AML		18 16 47.6		
	comp=E,2896µm,1.8s								
GUR	**Goura**	**3.10**	**137**	P		**Pn**	**18 15 31.9**	**+2.5**
GUR				AML	AML		18 16 40.3		
	comp=N,4231µm,0.9s								
GUR				AML	AML		18 16 41.7		
	comp=E,3379µm,0.6s								
SELS	**Selova**	**3.16**	**20**	*e*Pn		**Pn**	**18 15 32.4**	**+2.3**
NEVS	**Nevesinje**	**3.27**	**339**	*e*Pn		**Pn**	**18 15 33.3**	**+1.6**
LSTV	**Lastovo**	**3.27**	**321**	*e*Pn		**Pn**	**18 15 32.2**	**+0.6**
OUR	**Ouranopolis**	**3.29**	**87**	*e*P		**Pn**	**18 15 33.9**	**+2.0**
OUR	**Ouranopolis**	**3.29**	**87**	P		**Pn**	**18 15 33.4**	**+1.4**
SGRT	**San Giovanni R**	**3.33**	**298**			**Pn**	**18 15 33.5**	**+0.9**
IVAS	**Ivanjica**	**3.34**	**6**	*e*Pn		**Pn**	**18 15 33.3**	**+0.6**
KOKK	**Sokkinochori,**	**3.34**	**79**	P		**Pn**	**18 15 34.3**	**+1.6**
MMB	**Musomishta**	**3.35**	**66**	P		**Pn**	**18 15 35.4**	**+2.6**
NVR	**Nevrokopi**	**3.36**	**70**	P		**Pn**	**18 15 34.4**	**+1.5**
RUDO	**Rudo**	**3.37**	**356**	*e*Pn		**Pb**	**18 15 39.1**	**-1.0**
LTK	**Loutraki**	**3.39**	**130**	P		**Pn**	**18 15 34.7**	**+1.4**
LOUT	**Loutraki**	**3.42**	**130**	P		**Pn**	**18 15 36.3**	**+2.7**
VIL2	**Platees**	**3.45**	**125**	P		**Pn**	**18 15 36.5**	**+2.3**
ITM	**Ithomi**	**3.53**	**149**	*e*P		**Pn**	**18 15 37.9**	**+2.6**
ITM	**Ithomi**	**3.53**	**149**	Pn		**Pn**	**18 15 35.7**	**+0.5**
ITM	**Ithomi**	**3.53**	**149**	P		**Pn**	**18 15 38.5**	**+3.2**
CEL	**Celeste**	**3.54**	**237**			**Pn**	**18 15 37.2**	**+1.8**
CEL	**Celeste**	**3.54**	**237**	Pn		**Pn**	**18 15 37.7**	**+2.2**
VTS	**Vitosha**	**3.57**	**47**	P		**Pn**	**18 15 38.1**	**+2.2**
BBLS	**Lazi&#263i**	**3.62**	**357**	*e*Pn		**Pn**	**18 15 37.8**	**+1.3**
BBLS				*e*Sn		**Sb**	**18 16 26.0**	**-2.5**
BBLS	**Lazi&#263i**	**3.62**	**357**	*e*Pn		**Pn**	**18 15 37.6**	**+1.1**
MAKA	**Makarska**	**3.63**	**328**	*i* Pn		**Pn**	**18 15 37.3**	**+0.8**
MAK				*i* Sn		**Sn**	**18 16 20.8**	**+1.3**
BOVS	**Bovan**	**3.71**	**23**	⇑P		**Pn**	**18 15 39.2**	**+1.6**
BOVS	**Bovan**	**3.71**	**23**			**Pn**	**18 15 39.2**	**+1.6**
BOVS	**Bovan**	**3.71**	**23**	*e*Pn		**Pn**	**18 15 38.7**	**+1.1**
GRUS	**Gruza**	**3.72**	**12**	*e*Pn		**Pn**	**18 15 39.3**	**+1.5**
GRUS				*e*Sn		**Sb**	**18 16 31.2**	**0.0**
PYL	**PYLOS**	**3.72**	**154**	P		**Pn**	**18 15 39.9**	**+2.1**
KAVA	**Kavala**	**3.76**	**77**	P		**Pn**	**18 15 39.7**	**+1.4**
HVAR	**Hvar**	**3.79**	**322**	*e*Pn		**Pn**	**18 15 39.4**	**+0.6**
DIVS	**Divibare**	**3.85**	**3**	*e*Pn		**Pn**	**18 15 40.6**	**+0.9**
THAS	**Thassos island**	**3.87**	**83**	P		**Pn**	**18 15 41.3**	**+1.5**
HAPS	**Han Pijesak,BI**	**3.87**	**352**	*e*Pn		**Pn**	**18 15 41.9**	**+1.9**
ATH	**Athens Observa**	**3.88**	**125**	P		**Pn**	**18 15 42.0**	**+2.0**
ATHU	**Athens Univers**	**3.93**	**124**	P		**Pn**	**18 15 43.1**	**+2.4**
PTL	**Penteli**	**3.93**	**123**	P		**Pn**	**18 15 43.8**	**+3.1**
KRND	**KRANIDI**	**3.94**	**135**	P		**Pn**	**18 15 42.6**	**+1.7**
DION	**Dionisos Attik**	**3.96**	**122**	P		**Pn**	**18 15 43.8**	**+2.7**
PAOL	**Paolisi**	**3.96**	**283**	Pn		**Pn**	**18 15 43.6**	**+2.4**
VLY	**Voula,Athens**	**4.00**	**125**	P		**Pn**	**18 15 43.7**	**+2.0**
SKY	**Skiros Island**	**4.01**	**108**	P		**Pn**	**18 15 43.5**	**+1.7**
TRUS	**Trudelj**	**4.01**	**8**	*e*Pn		**Pn**	**18 15 42.6**	**+0.8**
ZAGS	**Zajecar**	**4.04**	**27**	*e*Pn		**Pn**	**18 15 43.5**	**+1.3**
BLKB	**Belogradchik**	**4.05**	**33**	⇑P		**Pn**	**18 15 44.8**	**+2.4**
BLKB	**Belogradchik**	**4.05**	**33**			**Pn**	**18 15 44.8**	**+2.4**
PGB	**Panagyurishte**	**4.07**	**55**	P		**Pn**	**18 15 45.5**	**+2.8**
LIA	**Limnos Island**	**4.24**	**93**	*e*P		**Pn**	**18 15 47.4**	**+2.5**
LIA	**Limnos Island**	**4.24**	**93**	P		**Pn**	**18 15 47.3**	**+2.3**
SRKY	**Kupres RS**	**4.25**	**335**	*e*Pn		**Pn**	**18 15 46.8**	**+1.6**
PLD	**Plovdiv**	**4.27**	**62**	*e*P		**Pn**	**18 15 48.4**	**+3.0**
PLD	**Plovdiv**	**4.27**	**62**	P		**Pn**	**18 15 47.8**	**+2.4**
TEKS	**Tekeris**	**4.30**	**359**	*e*Pn		**Pn**	**18 15 45.8**	**0.0**
TEKS	**Tekeris**	**4.30**	**359**	*e*Pn		**Pn**	**18 15 45.8**	**0.0**
MPEP	**Malo Peshtene**	**4.34**	**43**	P		**Pn**	**18 15 49.0**	**+2.6**
VLI	**Veliai**	**4.36**	**143**	P		**Pn**	**18 15 49.8**	**+3.3**
KUBS	**Kucevo**	**4.42**	**19**	*e*Pn		**Pn**	**18 15 46.7**	**-0.7**
KUJV	**Kijevo**	**4.47**	**326**	*e*Pn		**Pn**	**18 15 49.3**	**+1.1**
SMTH	**Samothraki Isl**	**4.48**	**85**	P		**Pn**	**18 15 51.0**	**+2.7**
KDZ	**Kurdzhali**	**4.51**	**70**	*e*P		**Pg**	**18 16 08.6**	**+2.2**
KDZ	**Kurdzhali**	**4.51**	**70**	P		**Pn**	**18 15 50.2**	**+1.6**
RDO	**Rodhopi**	**4.54**	**77**	*e*P		**Pn**	**18 15 51.0**	**+1.8**
RDO	**Rodhopi**	**4.54**	**77**	Pn		**Pn**	**18 15 50.4**	**+1.3**
RDO	**Rodhopi**	**4.54**	**77**	P		**Pn**	**18 15 51.0**	**+1.8**
MGRS	**Mrkonjic Grad**	**4.59**	**336**	*e*Pn		**Pn**	**18 15 52.3**	**+2.5**
MORI	**Morici**	**4.67**	**322**	*e*Pn		**Pn**	**18 15 52.0**	**+1.2**
PUNG	**Punghina**	**4.70**	**30**	⇑P		**Pn**	**18 15 54.0**	**+2.8**
INTR	**Introdacqua**	**4.70**	**294**	Pn		**Pn**	**18 15 53.5**	**+2.1**
GADA	**Gvkgeada**	**4.76**	**89**	*e*P		**Pn**	**18 15 54.3**	**+2.1**
MDVR	**Moldovita**	**4.77**	**18**	⇓P		**Pn**	**18 15 53.7**	**+1.4**
GOAD	**anakkale-G¶**	**4.77**	**89**	P		**Pn**	**18 15 53.5**	**+1.1**
DIM	**Dimitrovgrad**	**4.80**	**66**	P		**Pn**	**18 15 55.3**	**+2.6**
A050A	**Klekovaca**	**4.83**	**332**	*e*Pn		**Pn**	**18 15 55.5**	**+2.4**
BLY	**Banja Luka**	**4.86**	**339**	*e*Pn		**Pn**	**18 15 54.8**	**+1.3**
SIGR	**SIGRI**	**4.88**	**100**	*e*P		**Pn**	**18 15 58.0**	**+4.3**
SIGR	**SIGRI**	**4.88**	**100**	P		**Pn**	**18 15 56.8**	**+3.1**
DJES	**Djerdap**	**4.89**	**25**	*e*Pn		**Pn**	**18 15 56.6**	**+2.7**
ALN	**Alexandroupoli**	**4.89**	**80**	*e*P		**Pn**	**18 15 56.0**	**+2.1**
ALN	**Alexandroupoli**	**4.89**	**80**	Pn		**Pn**	**18 15 55.3**	**+1.4**
ALN	**Alexandroupoli**	**4.89**	**80**	P		**Pn**	**18 15 53.5**	**-0.5**
ALN	**Alexandroupoli**	**4.89**	**80**	P		**Pn**	**18 15 55.3**	**+1.4**
ALN	**Alexandroupoli**	**4.89**	**80**	P		**Pn**	**18 15 56.0**	**+2.1**
FRGS	**Fruska Gora**	**4.91**	**1**	*e*Pn		**Pn**	**18 15 54.1**	**0.0**
FRGS	**Fruska Gora**	**4.91**	**1**	*e*Pn		**Pn**	**18 15 54.2**	**+0.1**
BOZC	**Bozcaada**	**4.91**	**93**	P		**Pn**	**18 15 55.6**	**+1.5**
VAE	**Valguarnera**	**4.95**	**238**	Pn		**Pn**	**18 15 59.1**	**+4.3**
	comp=E,16nm,0.7s,baz=82,slow=7.1,SNR=3.8								
VAE				Pg		**Pg**	**18 16 12.9**	**-2.1**
	comp=E,3.3nm,0.3s,baz=33,slow=17,SNR=6.7								
VAE				Sn		**Sn**	**18 16 57.0**	**+4.8**
	comp=E,4.1nm,0.3s,baz=49,slow=22,SNR=3.5								
ENEZ	**Enez**	**4.96**	**82**	*e*P		**Pn**	**18 15 58.6**	**+3.7**
PVL	**Pavlikeni**	**5.02**	**53**	P		**Pn**	**18 15 58.5**	**+2.9**
KOCA	**Canakkale, Ayv**	**5.03**	**96**	P		**Pn**	**18 15 59.5**	**+3.7**
HERR	**Herculane**	**5.05**	**23**	⇑P		**Pn**	**18 15 58.3**	**+2.2**
DUGI	**Dugi Otok**	**5.08**	**319**	*e*Pn		**Pn**	**18 15 57.7**	**+1.2**
EZN	**Ezine**	**5.12**	**93**	*e*P		**Pn**	**18 15 58.7**	**+1.6**
EZN	**Ezine**	**5.12**	**93**	P		**Pn**	**18 15 58.9**	**+1.9**
EZN	**Ezine**	**5.12**	**93**	P		Pn	18 16 03.7	+6.6
EZN	**Ezine**	**5.12**	**93**	Pn		**Pn**	**18 16 00.9**	**+3.8**
	comp=E,161nm,1.0s								
EZN				Sn		**Sn**	**18 17 02.9**	**+6.6**
	comp=E,161nm,1.0s								
SRE	**Strehaia**	**5.12**	**29**	⇓P		**Pn**	**18 16 00.3**	**+3.2**
SRE	**Strehaia**	**5.12**	**29**	P		**Pn**	**18 16 00.3**	**+3.2**
RAFF	**Raffo Rosso**	**5.14**	**236**	Pn		**Pn**	**18 15 58.9**	**+1.6**
VLAD	**Vladila**	**5.14**	**42**	⇑P		**Pn**	**18 16 00.2**	**+2.9**
UDBI	**Udbina**	**5.16**	**327**	*e*Pn		**Pn**	**18 16 00.5**	**+2.7**
PRK	**Paraskevi**	**5.18**	**99**	P		**Pn**	**18 15 59.8**	**+2.0**
GELI	**Tayfur-Gelibol**	**5.20**	**86**	*e*P		**Pn**	**18 16 00.8**	**+2.7**
PRIJ	**Prijedor**	**5.21**	**336**	*e*Pn		**Pn**	**18 15 56.4**	**-1.8**
COMU	**Canakkale**	**5.21**	**89**	*e*P		**Pn**	**18 16 01.6**	**+3.3**
ERIK	**Erikli-Kesan**	**5.23**	**83**	*e*P		**Pn**	**18 16 01.3**	**+2.7**
ERIK	**Erikli-Kesan**	**5.23**	**83**	P		**Pn**	**18 16 01.1**	**+2.6**
CAMP	**Campotosto**	**5.24**	**298**			**Pn**	**18 16 00.6**	**+1.8**
CHOS	**Chios island**	**5.29**	**109**	*e*P		**Pn**	**18 16 02.4**	**+3.0**
CHOS	**Chios island**	**5.29**	**109**	P		**Pn**	**18 16 01.7**	**+2.3**
VIRC	**Vir**	**5.30**	**321**	*e*Pn		**Pn**	**18 16 00.6**	**+1.1**
BAYC	**CANAKKALE_Bayr**	**5.30**	**93**	P		**Pn**	**18 16 01.1**	**+1.6**
UKOP	**Uzunkopru-Edir**	**5.36**	**78**	*e*P		**Pn**	**18 16 02.9**	**+2.6**
LPK	**Lapseki**	**5.42**	**86**	*e*P		**Pn**	**18 16 05.6**	**+4.5**
KARB	**zmir-Karabur**	**5.45**	**105**	P		**Pn**	**18 16 03.3**	**+1.8**
AYVA	**Ayvalik**	**5.49**	**98**	P		**Pn**	**18 16 03.9**	**+1.8**
PLIT	**Plitvice**	**5.51**	**328**	*e*Pn		**Pn**	**18 16 03.6**	**+1.2**
GUMA	**Gualdo di Mace**	**5.52**	**303**			**Pn**	**18 16 03.7**	**+1.2**
BZS	**Buzias**	**5.55**	**14**	⇑P		**Pn**	**18 16 04.4**	**+1.4**
BZS	**Buz

ZCCA	**Zocca**	**7.64**	**305**			**Pn**	**18 16 31.9 +0.3**
PSZ	**Piszkesteto**	**7.67**	**1**	⇑P		**Pn**	**18 16 33.1 +1.0**
PSZ	**Piszkesteto**	**7.67**	**1**	Pn		**Pn**	**18 16 31.9 -0.2**
PSZ	**Piszkesteto**	**7.67**	**1**			**Pn**	**18 16 33.1 +1.0**
PSZ	**Piszkesteto**	**7.67**	**1**	P		**Pn**	**18 16 33.1 +1.0**
ADVT	**Abdulvahap**	**7.69**	**85**	*e*P		Pn	18 16 39.7 +7.4
ODBI	**Odobesti**	**7.72**	**42**	Pn		Pn	18 16 37.6 +4.9
	comp=E,37nm,0.7s,comp=E,515nmcomp=E,0.2nm						
MYKA	**Terra Mystica**	**7.74**	**327**	*i* Pn		**Pn**	**18 16 33.5 +0.4**
	comp=E,2.5nm,0.3s						
ARG	**Arkhangelos**	**7.77**	**119**	*e*P		**Pn**	**18 16 36.9 +3.4**
ARG	**Arkhangelos**	**7.77**	**119**			**Pn**	**18 16 36.1 +2.6**
ARG	**Arkhangelos**	**7.77**	**119**	P		**Pn**	**18 16 36.1 +2.6**
CAVI	**Cavuskoy**	**7.78**	**87**	*e*P		**Pn**	**18 16 37.3 +3.7**
DALY	**Dalyan (Mula)**	**7.83**	**113**	*e*P		Pn	18 16 39.3 +5.1
RONA	**Rosalia, Austr**	**7.84**	**343**	*i* Pn		**Pn**	**18 16 34.8 +0.4**
	comp=E,2.3nm,0.3s						
STAL	**STALIGIAL**	**7.87**	**322**				
CFR	**Carcaliu**	**7.94**	**49**	⇑P		**Pn**	**18 16 38.7 +2.9**
CFR	**Carcaliu**	**7.94**	**49**	P		**Pn**	**18 16 38.6 +2.9**
VSL	**Villasalto**	**7.96**	**268**			**Pn**	**18 16 37.0 +0.9**
CIMO	**Cimolais**	**8.03**	**321**			**Pn**	**18 16 35.6 -1.4**
TESR	**Tescani**	**8.06**	**37**	⇓P		**Pn**	**18 16 40.3 +3.0**
TESR	**Tescani**	**8.06**	**37**	Pn		**Pn**	**18 16 41.5 +4.1**
	comp=E,21nm,1.9s						
GHRR		**8.10**	**42**	Pn		**Pn**	**18 16 41.5 +3.5**
CONA	**Conrad Observa**	**8.15**	**342**	*i* Pn		**Pn**	**18 16 39.6 +0.9**
	comp=E,1.2nm,0.4s						
FETY	**Fethiye**	**8.22**	**113**	*e*P		Pn	18 16 45.3 +5.7
KBA	**Koelnbreinsper**	**8.22**	**328**	*e*Pn		**Pn**	**18 16 40.8 +1.0**
	comp=E,12nm,0.6s,SNR=11						
KBA				*e*Sn		**Sn**	**18 18 13.2 +0.2**
	comp=E,18nm,0.7s						
CAME	**Cameli-Denizli**	**8.23**	**111**	*e*P		**Pn**	**18 16 43.8 +3.9**
CTI	**Castel Tesino**	**8.24**	**317**	Pn		**Pn**	**18 16 39.4 -0.6**
CTI	**Castel Tesino**	**8.24**	**317**	P		**Pn**	**18 16 39.4 -0.6**
KECS	**Kecovo**	**8.25**	**4**	*e*PN		**Pn**	**18 16 40.3 +0.3**
KECS	**Kecovo**	**8.25**	**4**	*e*P		**Pn**	**18 16 40.3 +0.3**
PRMA	**PARMA**	**8.26**	**306**	Pn		**Pn**	**18 16 40.7 +0.7**
BERU	**Beregovo**	**8.26**	**14**	Pn		**Pn**	**18 16 42.2 +2.1**
VYHS	**Vyhne**	**8.27**	**356**	*e*PN		**Pn**	**18 16 41.7 +1.5**
VYHS	**Vyhne**	**8.27**	**356**	*e*P		**Pn**	**18 16 41.7 +1.5**
GULT	**Gulveren**	**8.28**	**85**	*e*P		Pn	18 16 45.6 +5.1
MODS	**Modra-Piesok**	**8.30**	**349**	*e*P		Pb	18 16 56.2 -7.8
VLDR	**Vladesti**	**8.31**	**45**	⇓P		**Pn**	**18 16 43.9 +3.1**
VLDR	**Vladesti**	**8.31**	**45**			**Pn**	**18 16 43.9 +3.1**
ABTA	**Abfaltersbach**	**8.32**	**324**	*e*Pn		**Pn**	**18 16 41.6 +0.6**
	comp=E,2.8nm,0.2s,SNR=8.1						
ABTA				*i* Sn		**Sn**	**18 18 17.7 +2.5**
	comp=E,57nm,0.8s						
BURAR	**Bucovina Array**	**8.38**	**27**	⇑P		**Pn**	**18 16 45.5 +3.7**
BURAR	**Bucovina Array**	**8.38**	**27**	Pn		**Pn**	**18 16 43.7 +1.9**
BURAR	**Bucovina Array**	**8.38**	**27**	P		**Pn**	**18 16 45.5 +3.7**
SRCK	**Saricakaya, Es**	**8.39**	**88**	*e*P		Pn	18 16 47.1 +5.1
BUR08	**Bucovina Ar. S**	**8.40**	**26**	Pn		**Pn**	**18 16 43.0 +0.9**
RAKU	**Rahkiv**	**8.42**	**21**	Pn		Pn	18 16 47.9 +5.6
BRIU	**Brid**	**8.43**	**15**	Pn		**Pn**	**18 16 45.2 +2.7**
HOLU	**Holmets**	**8.50**	**12**	Pn		**Pn**	**18 16 45.3 +1.9**
MOA	**Molln**	**8.54**	**335**	*e*Pn		**Pn**	**18 16 45.1 +1.2**
	comp=E,11nm,0.4s,SNR=18						
MOA				*e*Sn		**Sn**	**18 18 20.6 +0.2**
	comp=E,16nm,0.7s						
MSSA	**Maissana**	**8.55**	**302**	Pn		**Pn**	**18 16 45.9 +1.6**
SHUT	**Suhut-Afyon**	**8.59**	**98**	*e*P		**Pn**	**18 16 48.1 +3.3**
BIOA	**Bad Ischl, Aus**	**8.62**	**332**	*i* Pn		**Pn**	**18 16 46.7 +1.7**
	comp=E,14nm,0.3s,SNR=18						
MEZ	**Mezhgor'ye**	**8.71**	**17**	Pn		**Pn**	**18 16 49.0 +2.7**
JAVC	**Velka Javorina**	**8.73**	**351**	*e*PN		**Pn**	**18 16 48.3 +1.7**
CRVS	**Cervenica-Dubn**	**8.74**	**8**	*e*PN		**Pn**	**18 16 49.0 +2.2**
CRVS	**Cervenica-Dubn**	**8.74**	**8**	*e*P		**Pn**	**18 16 49.0 +2.2**
ELL	**Elmali**	**8.75**	**110**	Pn		**Pn**	**18 16 49.5 +2.5**
ELL	**Elmali**	**8.75**	**110**	P		**Pn**	**18 16 49.5 +2.5**
LESA	**Schwarzleotal**	**8.77**	**327**	*i* Pn		**Pn**	**18 16 48.5 +1.2**
	comp=E,14nm,0.5s						
LESA				Sn		**Sn**	**18 18 29.8 +3.4**
	comp=E,34nm,0.6s						
ISP	**Isparta**	**8.78**	**103**	*e*P		**Pn**	**18 16 52.2 +4.8**
ISP	**Isparta**	**8.78**	**103**			**Pn**	**18 16 49.5 +2.0**
ISP	**Isparta**	**8.78**	**103**	⇓*e*P		Pn	18 16 52.8 +5.4
ISP				pmax	pmax		
	comp=E,9.0nm,0.6s						
MDUB	**Mudurnu**	**8.80**	**85**	*e*P		Pn	18 16 53.8 +6.1
MDUB	**Mudurnu**	**8.80**	**85**			**Pn**	**18 16 45.6 -2.0**
CIFT	**Cifteler, Eski**	**8.81**	**92**	*e*P		Pn	18 16 53.0 +5.2
KOLS	**Kolonicke sedl**	**8.88**	**11**	*e*PN		**Pn**	**18 16 50.9 +2.3**
KOLS	**Kolonicke sedl**	**8.88**	**11**	*e*P		**Pn**	**18 16 50.9 +2.3**
LANS	**Liptovska Anna**	**8.90**	**359**	*e*PN		Pn	18 16 55.4 +6.4
LANS	**Liptovska Anna**	**8.90**	**359**	*e*P		Pn	18 16 55.4 +6.4
KSV	**Kosov**	**8.94**	**24**	Pn		**Pn**	**18 16 51.9 +2.4**
KORT	**Korkueli**	**8.96**	**108**	*e*P		Pn	18 16 56.1 +6.2
WTTA	**Wattenberg**	**9.11**	**323**	*e*Pn		**Pn**	**18 16 53.6 +1.7**
	comp=E,13nm,0.6s,SNR=16						
WTTA				*i* Sn		**Sn**	**18 18 37.1 +2.5**
	comp=E,43nm,0.6s						
KRUC	**Moravsky**	**9.12**	**346**	*e*PN		**Pn**	**18 16 53.0 +1.1**
STNU	**Starunia**	**9.13**	**21**	Pn		**Pn**	**18 16 56.8 +4.7**
SVRH	**Sivrihisar-ESK**	**9.15**	**91**	*e*P		Pn	18 16 57.3 +4.9
YUVA	**Yuva-Kibriscik**	**9.18**	**85**	*e*P		**Pn**	**18 16 57.4 +4.5**
NIE	**Niedzica**	**9.18**	**3**	*e*P		**Pn**	**18 16 56.5 +3.7**
NIE	**Niedzica**	**9.18**	**3**	Pn		**Pn**	**18 16 56.1 +3.3**
	comp=E,22nm,1.9s						
WATA	**Walderalm**	**9.19**	**323**	*e*Pn		**Pn**	**18 16 54.0 +1.0**
	comp=E,26nm,0.5s,SNR=30						
WATA				*i* Sn		**Sn**	**18 18 38.3 +1.7**
	comp=E,23nm,0.7s						
MAUC	**Maruska**	**9.21**	**352**	*e*PN		**Pn**	**18 16 54.8 +1.6**
STHS	**Stebnicka Huta**	**9.23**	**6**	*e*PN		Pn	18 17 00.4 +6.9
STHS	**Stebnicka Huta**	**9.23**	**6**	*e*P		Pn	18 17 00.4 +6.9
SQTA	**Sankt Quirin**	**9.28**	**321**	*e*Pn		**Pn**	**18 16 56.0 +1.8**
	comp=E,16nm,0.4s,SNR=16						
SQTA				*i* Sn		**Sn**	**18 18 40.8 +2.1**
	comp=E,34nm,0.8s						
KEST	**Kesra**	**9.32**	**244**	Pn		**Pn**	**18 16 58.0 +3.3**
KEST	**Kesra**	**9.32**	**244**	Pn		**Pn**	**18 16 59.0 +4.3**
	comp=Z,0.2nm,0.3s,baz=358,slow=2.4,SNR=6.2						
KEST				LR		LR	18 21 31.3
	comp=Z,795nm,19.3s,baz=4.0,slow=44						
VRAC	**Vranov**	**9.32**	**347**	⇑P		**Pn**	**18 16 55.2 +0.6**
VRAC	**Vranov**	**9.32**	**347**	*e*PN		**Pn**	**18 16 54.8 +0.1**
VRAC	**Vranov**	**9.32**	**347**	Pn		**Pn**	**18 16 55.8 +1.1**
	comp=Z,0.4nm,0.3s,baz=182,slow=15,SNR=4.7						
VRAC				LR		LR	18 21 05.5
	comp=Z,411nm,20.1s,baz=178,slow=42						
	comp=Z,1.6nm,0.6s						
FUORN	**Ofenpass-Fuorn**	**9.35**	**316**	Pn		**Pn**	**18 16 56.1 +0.8**
FETA	**Feichten**	**9.37**	**319**	*e*Pn		**Pn**	**18 16 58.0 +2.5**
	comp=Z,4.8nm,0.4s,SNR=8.6						
FETA				*i* Sn		**Sn**	**18 18 42.2 +1.1**
	comp=Z,9.9nm,0.6s						
MORS	**Morshin**	**9.38**	**17**	Pn		**Pn**	**18 16 59.6 +4.2**
CKRC	**Cesky Krumlov**	**9.38**	**338**	*e*PN		**Pn**	**18 16 56.2 +0.6**
CKRC				AMS		AMS	18 22 00.0
	comp=Z,2µm,10.2s						
CKRC	**Cesky Krumlov**	**9.38**	**338**	*e*P		**Pn**	**18 16 56.2 +0.6**
CKRC				MLR		MLR	
	comp=Z,2µm,10.2s						
MILM	**Milestii Mici**	**9.40**	**42**	*e*P		**Pn**	**18 16 58.0 +2.3**
MILM				*e*S		**Sn**	**18 18 45.0 +3.5**
MILM				*e*L		L	18 20 20.0
MILM				LRM		MLR	18 21 21.0
	comp=Z,1µm,19.0s						
MILM	**Milestii Mici**	**9.40**	**42**	*e*P		**Pn**	**18 16 58.0 +2.3**
MILM				*e*S		**Sn**	**18 18 45.0 +3.5**
MOTA	**Moosalm**	**9.41**	**322**	*i* Pn		**Pn**	**18 16 57.3 +1.2**
	comp=Z,40nm,0.7s,SNR=38						
MOTA				*i* Sn		**Sn**	**18 18 44.3 +2.1**
	comp=Z,22nm,0.6s						
GEC2	**GERESS Array S**	**9.59**	**336**	Pn		**Pn**	**18 16 57.9 -0.5**
GERES	**GERESS Array B**	**9.59**	**336**			**Pn**	**18 16 57.3 -1.1**
GERES	**GERESS Array B**	**9.59**	**336**	Pn		**Pn**	**18 16 58.7 +0.2**
	comp=Z,1.0nm,0.3s,baz=152,slow=15,SNR=14						
GERES				LR		LR	18 21 28.1
	comp=Z,250nm,19.1s,baz=146,slow=43						
	comp=Z,3.7nm,0.5s						
KMPD	**K-Podol'skiy**	**9.62**	**28**	Pn		Pn	18 17 01.8 +3.0
KMPD				Pn		**Pn**	**18 17 01.0 +2.2**
MORC	**Moravsky Berou**	**9.65**	**352**	Pn		**Pn**	**18 17 00.0 +0.8**
MORC	**Moravsky Berou**	**9.65**	**352**	*e*PN		**Pn**	**18 17 02.8 +3.6**
MORC	**Moravsky Berou**	**9.65**	**352**	P		**Pn**	**18 17 00.0 +0.8**
DAVOX	**Davos/Dischmat**	**9.65**	**316**	Pn		**Pn**	**18 17 00.6 +1.2**
	comp=Z,1.3nm,0.3s,baz=146,slow=15,SNR=22						
DAVOX				Sn		**Sn**	**18 18 50.2 +2.1**
	comp=Z,0.8nm,0.3s,baz=165,slow=18,SNR=1.2						
DAVOX				LR		LR	18 21 38.3
	comp=Z,356nm,18.9s,baz=135,slow=44						
	comp=Z,7.5nm,0.5s						
TUE	**Stuetta**	**9.76**	**313**	Pn		**Pn**	**18 17 01.9 +1.0**
TUE	**Stuetta**	**9.76**	**313**	Pn		**Pn**	**18 17 03.2 +2.4**
	comp=Z,211nm,0.8s						
KHC	**Kasperske Hory**	**9.88**	**336**	Pn		**Pn**	**18 17 01.5 -0.8**
KHC	**Kasperske Hory**	**9.88**	**336**	*e*PN		**Pn**	**18 17 02.5 +0.2**
KHC				*e*SN		**Sn**	**18 18 54.8 +1.3**
KHC				AMS		AMS	18 22 10.0
	comp=Z,1µm,11.5s						
KHC	**Kasperske Hory**	**9.88**	**336**	*de*P		**Pn**	**18 17 02.1 -0.3**
KHC				pmax		pmax	
	comp=Z,23nm,1.7s						
KHC	**Kasperske Hory**	**9.88**	**336**	Pn		**Pn**	**18 17 02.6 +0.2**
	comp=Z,10nm,1.3s						
SEYD	**Seydisehir-KON**	**9.91**	**103**	*e*P		Pn	18 17 07.9 +5.1
OJC	**Ojcow**	**9.97**	**0**	*e*P		**Pn**	**18 17 06.3 +2.7**
OJC	**Ojcow**	**9.97**	**0**	Pn		**Pn**	**18 17 04.1 +0.5**
OJC	**Ojcow**	**9.97**	**0**	P		**Pn**	**18 17 04.1 +0.5**
OJC	**Ojcow**	**9.97**	**0**	Pn		**Pn**	**18 17 05.7 +2.1**
	comp=Z,17nm,1.4s						
ZVC	**Zvikov**	**9.98**	**339**	*e*PN		**Pn**	**18 17 04.4 +0.7**
DAVA	**Damuels**	**9.98**	**318**	*e*Pn		**Pn**	**18 17 05.6 +1.8**
	comp=Z,12nm,0.6s						
DAVA				*e*Sn		**Sn**	**18 18 57.8 +1.8**
	comp=Z,17nm,0.6s						
KRLC	**Kraliky**	**10.04**	**349**	*e*PN		**Pn**	**18 17 05.8 +1.3**
KRLC	**Kraliky**	**10.04**	**349**	*e*P		**Pn**	**18 17 05.8 +1.3**
SORM	**Soroca**	**10.04**	**35**	⇓P		**Pn**	**18 17 07.3 +2.7**
SORM	**Soroca**	**10.04**	**35**			**Pn**	**18 17 07.3 +2.7**
SORM	**Soroca**	**10.04**	**35**	P		**Pn**	**18 17 07.2 +2.7**
SORM	**Soroca**	**10.04**	**35**	Pn		**Pn**	**18 17 07.2 +2.7**
	comp=Z,19nm,1.8s						
LVV	**L'vov**	**10.05**	**16**	*e*P		Pn	18 17 10.0 +5.3
LVV				*e*S		**Sn**	**18 19 02.5 +4.9**
LVV				MLR		MLR	
	comp=Z,400nm,10.0s						
LADK	**Ladik-KONYA**	**10.06**	**98**	*e*P		Pn	18 17 10.5 +5.6
KONT	**Konya--Tatoy**	**10.12**	**99**	*e*P		Pn	18 17 10.9 +5.1
PRU	**Pruhonice**	**10.39**	**341**	*e*PN		**Pn**	**18 17 10.2 +0.9**
PRU				AMS		AMS	18 23 20.0
	comp=Z,700nm,8.1s						
PRU	**Pruhonice**	**10.39**	**341**	*e*P		**Pn**	**18 17 10.2 +0.9**
PRU				MLR		MLR	
	comp=Z,700nm,8.1s						
PRA	**Prague**	**10.49**	**341**	AMS		AMS	18 23 30.0
	comp=Z,800nm,9.1s						
HDMB	**Hadim**	**10.55**	**104**	*e*P		**Pn**	**18 17 15.2 +3.5**
TATN	**Tataouine**	**10.62**	**227**	Pn		**Pn**	**18 17 15.5 +3.0**
BNI	**Bardonecchia**	**10.71**	**301**	Pn		**Pn**	**18 17 15.9 +2.1**
BNI	**Bardonecchia**	**10.71**	**301**	P		**Pn**	**18 17 15.9 +2.1**
BR106	**Keskin Array S**	**10.71**	**88**	Pn		**Pn**	**18 17 18.0 +4.1**
	comp=Z,5.5nm,1.1s,comp=Z,61nm						
BR105	**Keskin Array S**	**10.71**	**88**	Pn		**Pn**	**18 17 18.6 +4.7**
	comp=Z,6.2nm,1.2s,comp=Z,62nm						
GAZI	**Gazipasa**	**10.72**	**108**	*e*P		**Pn**	**18 17 16.8 +2.9**
BR131	**Keskin Array S**	**10.73**	**88**	Pn		**Pn**	**18 17 14.0 -0.2**
BR131	**Keskin Array S**	**10.73**	**88**	*de*P		Pn	18 17 19.2 +5.1
BRTR	**Keskin Array B**	**10.73**	**88**	Pn		**Pn**	**18 17 15.7 +1.6**
BRTR	**Keskin Array B**	**10.73**	**88**	Pn		**Pn**	**18 17 18.1 +4.0**
	comp=Z,0.1nm,0.3s,baz=262,slow=13,SNR=9.7						
BRTR				LR		LR	18 22 12.9
	comp=Z,1µm,18.4s,baz=286,slow=42						
	comp=Z,1.4nm,0.9s						
BRTR	**Keskin Array B**	**10.73**	**88**	*i* P		Pn	18 17 19.7 +5.5
BRTR				pmax		pmax	
	comp=Z,1.0nm,0.5s						
BR104	**Keskin Array S**	**10.73**	**88**	Pn		Pn	18 17 19.0 +4.8
	comp=Z,3.9nm,0.8s,comp=Z,65nm						
PVCC	**Panska Ves**	**10.88**	**342**	AMS		AMS	18 22 50.0
	comp=Z,800nm,8.9s						
SENIN	**Lac Senin/Sane**	**10.89**	**308**	Pn		**Pn**	**18 17 16.3 -0.1**
GRA1	**Grafenberg Arr**	**11.17**	**330**	Pn		**Pn**	**18 17 18.5 -1.5**
GRF	**Grafenberg Arr**	**11.17**	**330**	P		**Pn**	**18 17 18.5 -1.5**
GRFO	**Grafenberg**	**11.17**	**330**	Pn		**Pn**	**18 17 18.7 -1.3**
GRFO	**Grafenberg**	**11.17**	**330**	P		**Pn**	**18 17 18.7 -1.3**
LUBAR	**Lubar, Ukraine**	**11.22**	**28**	Pn		**Pn**	**18 17 24.8 +4.1**
HSKC	**Hora Svate Kat**	**11.24**	**339**	AMS		AMS	18 22 50.0
	comp=Z,1µm,7.8s						
STU	**Stuttgart**	**11.33**	**322**			**Pn**	**18 17 21.6 -0.6**
STU	**Stuttgart**	**11.33**	**322**	P		**Pn**	**18 17 21.6 -0.6**
BRG	**Berggiesshubel**	**11.35**	**341**	*e*P		**Pn**	**18 17 22.6 +0.1**
BRG				Amp			18 17 24.3
	comp=Z,4.0nm,0.8s						
BFO	**Black Forest**	**11.45**	**319**	Pn		**Pn**	**18 17 23.2 -0.7**
BFO	**Black Forest**	**11.45**	**319**	P		**Pn**	**18 17 23.2 -0.7**
SIM	**Simferopol'**	**11.63**	**61**	P		Pn	18 17 32.7 +6.4
SIM				pmax		pmax	
	comp=Z,3.0nm,2.0s						
LEF	**Lefka**	**11.65**	**112**	*e*P		**Pn**	**18 17 25.9 -0.7**
KEBE	**Keben-Mersin**	**11.66**	**105**	*e*P		Pn	18 17 33.5 +6.7
IKL	**Isikli**	**11.72**	**106**	*e*P		**Pn**	**18 17 31.7 +4.2**
RNPP5	**Staryi Chortor**	**11.80**	**19**	Pn		**Pn**	**18 17 31.1 +2.5**
MAHO	**Mahon**	**11.81**	**273**	Pn		**Pn**	**18 17 30.2 +1.4**
DIKM	**Dikmen**	**11.87**	**78**	Pn		**Pn**	**18 17 34.2 +4.6**
	comp=Z,16nm,1.2s						
RNPP8	**Varash**	**11.89**	**19**	Pn		**Pn**	**18 17 33.1 +3.3**
ECH	**Echery**	**11.99**	**316**	Pn		**Pn**	**18 17 30.7 -0.5**
ECH	**Echery**	**11.99**	**316**	P		**Pn**	**18 17 30.7 -0.5**
CLL	**Collm**	**11.99**	**339**	Pn		**Pn**	**18 17 30.6 -0.6**
CLL	**Collm**	**11.99**	**339**	*e*Pn		**Pn**	**18 17 35.0 +3.8**
CLL				*ex*		x	18 17 48.0
CLL				*ex*		x	18 18 04.0
CLL				*ex*		x	18 19 13.0
CLL				*e*Sb		Sn	18 20 05.0 +20
CLL				*e*(Sg)			18 20 52.0
CLL				AMS		AMS	18 22 00.0
	comp=N,600nm,18.6s						
CLL				AMS		AMS	18 22 00.0
	comp=E,800nm,19.6s						
CLL				AMS		AMS	18 22 00.0
CLL	**Collm**	**11.99**	**339**	*e*P		**Pn**	**18 17 35.0 +3.8**
CSS	**Mathiatis**	**12.04**	**112**	*e*P		**Pn**	**18 17 32.9 +0.9**
CSS	**Mathiatis**	**12.04**	**112**	Pn		**Pn**	**18 17 31.8 -0.2**
CSS	**Mathiatis**	**12.04**	**112**	P		**Pn**	**18 17 32.1 +0.1**
CSS	**Mathiatis**	**12.04**	**112**	Pn		**Pn**	**18 17 35.3 +3.3**
	comp=E,49nm,1.1s,comp=E,463nm						
MI28	**Mi28,Pidlybu**	**12.05**	**25**	Pn		**Pn**	**18 17 35.2 +3.2**
SSB	**Saint Sauveur**	**12.20**	**299**	Pn		**Pn**	**18 17 33.1 -1.0**
SSB	**Saint Sauveur**	**12.20**	**299**	P		**Pn**	**18 17 33.1 -1.0**
AK05	**Malin Array Si**	**12.33**	**30**	Pn		**Pn**	**18 17 39.9 +4.1**
AK12	**Malin Array Si**	**12.33**	**29**	Pn		**Pn**	**18 17 39.9 +4.1**
AK19	**Malin Array Si**	**12.34**	**29**	Pn		**Pn**	**18 17 38.9 +2.9**
AK15	**Malin Array Si**	**12.36**	**29**	Pn		**Pn**	**18 17 39.4 +3.2**
KIEV	**Kiev**	**12.39**	**29**			**Pn**	**18 17 35.2 -1.4**
KIEV	**Kiev**	**12.39**	**29**	P		**Pn**	**18 17 35.2 -1.4**
KIEV	**Kiev**	**12.39**	**29**	Pn		**Pn**	**18 17 40.4 +3.7**
AKASG	**Malin Array Be**	**12.40**	**29**	Pn		**Pn**	**18 17 36.1 -0.8**
AKASG	**Malin Array Be**	**12.40**	**29**	Pn		**Pn**	**18 17 38.0 +1.2**
	comp=E,0.6nm,0.3s,baz=214,slow=13,SNR=10.0						
AKASG				LR		LR	18 23 14.4
	comp=E,853nm,18.2s,baz=220,slow=42						
	comp=E,1.7nm,0.7s						
AKASG	**Malin Array Be**	**12.40**	**29**	*i* P		**Pn**	**18 17 41.4 +4.6**
AKASG				pmax		pmax	
	comp=Z,2.0nm,0.8s						
AKBB	**Malin Array Si**	**12.40**	**29**			**Pn**	**18 17 35.6 -1.2**
AKBB	**Malin Array Si**	**12.40**	**29**	⇓*e*P		**Pn**	**18 17 40.3 +3.5**
AKBB				pmax		pmax	
	comp=Z,15nm,1.5s						
AKBB	**Malin Array Si**	**12.40**	**29**	Pn		**Pn**	**18 17 40.5 +3.7**
BNN	**Bunyan**	**12.56**	**91**			**Pn**	**18 17 37.8 -1.4**
SVSK	**Karacayir**	**13.27**	**86**	*e*P		**P**	**18 17 54.1 -4.5**
WLF	**Walferdange**	**13.41**	**319**	Pn		**Pn**	**18 17 48.4 -2.1**
WLF	**Walferdange**	**13.41**	**319**	P		**Pn**	**18 17 48.4 -2.1**
ANN	**Anapa**	**13.86**	**65**	*e*P		**Pn**	**18 17 56.2 -0.5**
ANN				*e*S		**Sn**	**18 20 30.6 -0.1**
ANN				pmax		pmax	
	comp=Z,5.0nm,0.5s						
ANN				MLR		MLR	
	comp=Z,300nm,13.0s						
ANN				MLR		MLR	
	comp=E,320nm,14.0s						
ANN				MLR		MLR	
	comp=N,50nm,7.0s						
SUW	**Suwalki**	**13.97**	**9**	Pn		**Pn**	**18 17 55.3 -2.9**
SUW	**Suwalki**	**13.97**	**9**	P		**Pn**	**18 17 55.3 -2.9**
CEST	**Esterri de Car**	**14.02**	**286**	Pn		**Pn**	**18 17 57.2 -1.9**
GAZ	**Gaziantep**	**14.03**	**97**	Pn		**Pn**	**18 17 57.7 -1.6**
MEM	**Membach**	**14.10**	**322**	*dx*		x	18 18 30.5
BCLA	**Clavier**	**14.31**	**320**	*d*PP		P	18 18 48.8 +39
BGES	**Gesves**	**14.40**	**320**	*d*P		**Pn**	**18 18 07.2 +3.1**
ARPR	**Arapgir-MALATY**	**14.42**	**89**	Pn		**Pn**	**18 18 03.8 -0.8**
DOU	**Dourbes**	**14.47**	**318**	*d*P		**Pn**	**18 18 07.8 +2.7**
DOU				*d*PP		**PbPb**	**18 18 50.5 -1.7**
BMRD	**Maredsous**	**14.51**	**319**	*dx*		x	18 18 29.7
BMRD				*d*PP			18 19 13.5
MMAI	**Mount Meron Ar**	**14.54**	**115**	Pn		**Pn**	**18 18 06.0 -0.1**
	comp=N,1.1nm,0.3s,baz=300,slow=12,SNR=8.8						
MMAI				LR		LR	18 24 46.0
	comp=N,190nm,19.4s,baz=272,slow=42						
	comp=N,1.8nm,0.4s						
GEM	**Giv'at Ha'Em**	**14.61**	**114**	P		**Pn**	**18 18 08.2 +1.2**
GEM	**Giv'at Ha'Em**	**14.61**	**114**	Pn		**Pn**	**18 18 04.8 -2.2**
NATI	**Neve Ativ**	**14.63**	**113**	P		**Pn**	**18 18 06.0 -1.3**
NATI	**Neve Ativ**	**14.63**	**113**	Pn		**Pn**	**18 18 05.1 -2.2**
CLF	**Chambon-Foret**	**14.70**	**308**	Pn		**Pn**	**18 18 08.9 +0.7**
SLTI	**Sal'it**	**14.74**	**118**	P		**Pn**	**18 18 07.3 -1.5**
SLTI	**Sal'it**	**14.74**	**118**	P		**Pn**	**18 18 06.3 -2.5**
KSHT	**Keshet**	**14.84**	**114**	P		**Pn**	**18 18 08.2 -2.0**
MMLI	**Mount Malkishu**	**14.88**	**117**	P		**Pn**	**18 18 08.9 -1.8**
SHMJ	**Saham**	**14.95**	**115**	P		**Pn**	**18 18 10.7 -1.0**
QRNJ	**Al-Qirein**	**15.04**	**117**	P		**Pn**	**18 18 12.4 -0.5**
HMDT	**Nahal Hemdat**	**15.06**	**117**	P		**Pn**	**18 18 12.2 -0.9**
HMDT	**Nahal Hemdat**	**15.06**	**117**	P		**Pn**	**18 18 11.3 -1.9**
AMAZ	**Amatzia**	**15.09**	**120**	P		**Pn**	**18 18 11.1 -2.5**
AMAZ	**Amatzia**	**15.09**	**120**	P		**Pn**	**18 18 11.5 -2.1**
KZIT	**Kziot**	**15.16**	**123**	P		**Pn**	**18 18 13.7 -0.8**
KZIT	**Kziot**	**15.16**	**123**	P		**Pn**	**18 18 11.3 -3.2**
SOC	**Sochi**	**15.28**	**71**	*e*P		**Pn**	**18 18 17.2 +1.1**
SOC				*e*			18 21 08.7
SOC				pmax		pmax	
	comp=Z,5.0nm,0.5s						
SOC				MLR		MLR	
	comp=Z,151nm,17.0s						
MNK	**Minsk**	**15.29**	**18**	*e*P		**Pn**	**18 18 16.2 +0.1**
MNK				*e*P		**Pn**	**18 18 16.2 +0.1**
	comp=N,14nm,0.9s						
MNK				*e*P		**Pn**	**18 18 16.2 +0.1**
	comp=Z,28nm,0.8s,baz=205

comp=Z,1.3nm,0.3s,baz=155,slow=12,SNR=5.5
OBN LR LR 18 27 14.8
comp=Z,470nm,18.9s,baz=195,slow=41
comp=Z,8.6nm,0.5s
OBN Obninsk 18.64 31 *e*P **Pn 18 18 59.7 +1.4**
OBN pmax pmax
comp=Z,56nm,1.5s
OBN MLR MLR
comp=Z,340nm,13.0s
OBN Obninsk 18.64 31 P **Pn 18 19 00.5 +2.2**
comp=Z,36nm,1.6s
MTSE Matsula 18.67 7 *e*P **Pn 18 18 58.5 0.0**
VSU Vasula 18.78 12*c i*P **P 18 18 59.6 +0.1**
VSU pmax pmax
comp=Z,38nm,1.0s
VRH Novokhopyorsk 18.81 47 *e*P **P 18 18 57.7 -2.2**
VRH pmax pmax
comp=Z,20nm,0.8s
VRH MLR MLR
comp=Z,570nm,15.0s
GNI Garni 19.14 82 **P 18 19 02.8 -1.0**
GNI IAmb IAmb 18 19 14.6
comp=Z,65nm,1.3s
GNI Garni 19.14 82 P **Pn 18 19 05.7 +1.2**
comp=Z,0.4nm,0.3s,baz=206,slow=2.0,SNR=11
GNI LR LR 18 26 41.1
comp=Z,199nm,18.1s,baz=248,slow=38
comp=Z,17nm,0.9s
GNI Garni 19.14 82*ce*P **Pn 18 19 05.3 +0.7**
GNI pmax pmax
comp=Z,62nm,1.7s
GNI Garni 19.14 82 P **Pn 18 19 06.0 +1.4**
comp=Z,55nm,1.3s,comp=Z,675nm
MOS Moscow 19.51 31 *e*P **P 18 19 07.9 +0.3**
MOS *e*S **S 18 22 53.1 +5.1**
MOS pmax pmax
comp=Z,78nm,1.3s
ARBE Arbavere 19.62 10 *e*P **Pn 18 19 10.4 +0.4**
UPP Uppsala 19.67 357 *e*P **P 18 19 09.7 +0.5**
GROC Groznyy 19.69 73 *e*P **Pn 18 19 14.6 +3.5**
GROC pmax pmax
comp=Z,16nm,0.5s
AAL Aland 19.95 0 *e*P **Pn 18 19 13.1 -0.9**
PBRG Braganca 19.97 283 *e*P **Pn 18 19 16.7 +2.3**
comp=Z,26nm,1.9s
PBRG *i* LQ LQ 18 19 35.1
MEF Metsahovi 20.21 7 *e*P **P 18 19 15.5 +0.4**
MVO Moncorvo 20.24 281 *i* LQ LQ 18 19 45.7
MVO *e*LR LR 18 26 37.3
comp=Z,235nm,20.0s
HFS Hagfors 20.26 351 P Pn 18 19 16.7 -0.9
comp=Z,7.1nm,0.6s,baz=155,slow=11,SNR=22
HFS LR LR 18 28 58.6
comp=Z,262nm,20.6s,baz=176,slow=42
comp=Z,7.1nm,0.6s
KONO Kongsberg 20.43 345 P **P 18 19 16.4 -1.1**
KONO Kongsberg 20.43 345*ce*P Pn 18 19 19.3 -0.3
KONO pmax pmax
comp=Z,28nm,2.9s
MTE Manteigas 20.73 279 *i* LQ LQ 18 19 44.0
MTE *e*LR LR 18 26 16.9
comp=Z,295nm,18.0s
MTE Manteigas 20.73 279 P **P 18 19 20.7 -0.3**
PCBR Castelo Branco 20.77 278 *e*P Pn 18 19 27.3 +3.6
comp=Z,32nm,1.7s
PMRV Marv??o 20.78 277 *e*P Pn 18 19 25.2 +1.3
comp=Z,42nm,1.5s
PMRV *e*LR LR 18 26 19.0
comp=Z,297nm,18.0s
PBAR Barrancos 20.78 273 *e*P Pn 18 19 27.0 +3.1
comp=Z,45nm,2.4s
PBAR *i* LQ LQ 18 19 42.9
POLO Lamas de Olo 20.79 282 *i* LQ LQ 18 19 46.0
MDT Midelt 20.84 257 P Pn 18 19 24.3 -0.4
comp=Z,13nm,1.3s,baz=68,slow=11,SNR=8.4
MDT LR LR 18 26 56.9
comp=Z,226nm,21.9s,baz=63,slow=35
comp=Z,13nm,1.3s
RAF Rauma 20.84 3 *e*P **P 18 19 22.4 +0.5**
PCAB Cabril 20.93 283 *e*P Pn 18 19 28.1 +2.4
comp=Z,41nm,2.0s
PCAB *i* LQ LQ 18 19 50.7
PVIS Viseu 20.95 280 *e*P Pn 18 19 30.0 +4.1
MAK Makhachkala 20.95 73 *e*P **P 18 19 21.5 -1.8**
MAK *e*S **S 18 23 15.2 -1.6**
MAK pmax pmax
comp=Z,38nm,0.3s
MAK MLR MLR
comp=Z,128nm,15.0s
PESTR Estremoz 21.04 275 *i* LQ LQ 18 19 48.4
PESTR Estremoz 21.04 275 P **P 18 19 23.3 -1.0**
PGAV Gavieira, Arco 21.09 284 *e*P **P 18 19 32.0 +7.0**
comp=Z,80nm,1.7s
PGAV *i* LQ LQ 18 19 51.0
PGAV *e*LR LR 18 26 44.0
comp=Z,250nm,20.0s
NC602 NORSAR Array S 21.12 349 P **P 18 19 23.9 -1.1**
TAM Tamanrasset 21.13 219 P **P 18 19 25.4 0.0**
TAM Tamanrasset 21.13 219 P **P 18 19 25.5 0.0**
TAM pmax pmax
comp=Z,7.0nm,1.0s
NAO01 NORSAR Array S 21.32 348 P **P 18 19 25.3 -1.9**
EKA Eskdalemuir Ar 21.37 323 P **P 18 19 28.6 +0.8**
comp=Z,12nm,0.9s,baz=126,slow=9.7,SNR=21
comp=Z,12nm,0.9s
EKB Eskdalemuir 21.39 322 P **P 18 19 24.9 -3.0**
EKB IAmb IAmb 18 19 31.7
comp=Z,43nm,1.3s
COI Coimbra 21.41 279 P **P 18 19 25.6 -2.7**
COI IAmb IAmb 18 19 34.4
comp=Z,56nm,1.6s
COI Coimbra 21.41 279 P **P 18 19 25.6 -2.7**
COI pmax pmax
comp=Z,56nm,1.6s
EVO Evora 21.44 274 *i* LQ LQ 18 19 50.9
PBEJ Beja 21.45 273 *i* LQ LQ 18 19 51.2
NC405 NORSAR Array S 21.46 349 P **P 18 19 27.3 -1.4**
NB201 NORSAR Array S 21.46 349 P **P 18 19 28.1 -0.6**
NB2 NORSAR Subarra 21.46 349 P **P 18 19 30.1 +1.4**
comp=Z,30nm,1.0s,baz=158,slow=10
NOA NORSAR Array B 21.46 349 P **P 18 19 29.8 +1.1**
comp=Z,1.1nm,0.5s,baz=156,slow=9.8,SNR=12
NOA LR LR 18 29 34.8
comp=Z,219nm,18.2s,baz=175,slow=42
comp=Z,1.1nm,0.5s
PMTG Montargil 21.48 276 *e*P **P 18 19 31.7 +2.6**
comp=Z,36nm,2.1s
PMTG *i* LQ LQ 18 19 50.5
PVAQ Vaqueiros 21.50 271 *e*P **P 18 19 30.9 +1.6**
comp=Z,70nm,1.5s
PVAQ *i* LQ LQ 18 19 50.5
PVAQ Vaqueiros 21.50 271 P **P 18 19 29.2 -0.1**
PCAS Casmilo, Conde 21.50 279 *e*P **P 18 19 33.1 +3.8**
comp=Z,47nm,1.8s
PCAS *i* LQ LQ 18 19 52.0
NBO00 NORSAR Array S 21.52 348 P **P 18 19 26.7 -2.6**
NBO00 IAmb IAmb 18 19 34.2
comp=Z,46nm,1.4s
FINES FINESS Array B 21.58 8 P **P 18 19 27.2 -2.7**
FINES FINESS Array B 21.58 8 P **P 18 19 29.0 -0.9**
comp=Z,4.5nm,0.6s,baz=178,slow=11,SNR=23
comp=Z,4.5nm,0.6s
FINES FINESS Array B 21.58 8 *i* P **P 18 19 29.3 -0.6**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FIA1 FINESS Array S 21.58 8 P **P 18 19 28.4 -1.5**
FIA1 IAmb IAmb 18 19 42.2
comp=Z,69nm,1.1s
NC303 NORSAR Array S 21.62 349 P **P 18 19 28.6 -1.7**
PCVE Castro Verde 21.68 272 *e*P **P 18 19 38.3 +7.1**
comp=Z,67nm,1.9s
PBDV Barranco-do-Ve 21.71 271 *e*P **P 18 19 36.2 +4.7**
comp=Z,98nm,1.6s
PBDV *i* LQ LQ 18 19 53.2
NC204 NORSAR Array S 21.75 348 P **P 18 19 30.4 -1.5**
MESJ Messejana 21.77 273 P **P 18 19 31.4 -0.7**
MESJ IAmb IAmb 18 19 47.0
comp=Z,61nm,1.9s
MESJ Messejana 21.77 273 P **P 18 19 31.5 -0.7**
MESJ pmax pmax
comp=Z,61nm,1.9s
PNCL Nicolau / Gran 21.93 274 *e*P **P 18 19 36.9 +3.0**
comp=Z,35nm,2.0s
PNCL *i* LQ LQ 18 19 55.7
KEF Keuruu 22.17 6 *e*P **P 18 19 36.0 -0.2**
VALR Valaam 22.23 14*de*P **P 18 19 37.1 +0.3**
VALR pmax pmax
comp=Z,40nm,1.2s
BELG Belogornoye 22.65 48 P **P 18 19 42.3 +0.9**
comp=Z,5.3nm,0.3s,baz=162,slow=4.2,SNR=6.4
BELG LR LR 18 29 32.9
comp=Z,485nm,18.9s,baz=220,slow=40
comp=Z,5.3nm,0.3s
BELG Belogornoye 22.65 48*ce*P **P 18 19 43.2 +1.8**
VAF Ylistaro 22.90 4 *e*P **P 18 19 45.4 +1.5**
KIRV Kirov 26.32 36 P **P 18 20 17.1 +1.1**
comp=Z,9.8nm,0.5s,baz=221,slow=5.4,SNR=6.8
comp=Z,9.8nm,0.5s
KIRV Kirov 26.32 36*ce*P **P 18 20 17.6 +1.6**
RAYN Ar Rayn 27.41 120 P **P 18 20 24.1 -2.1**
RAYN IAmb IAmb 18 20 47.7
comp=Z,23nm,1.2s
RAYN Ar Rayn 27.41 120 P **P 18 20 24.1 -2.1**
RAYN pmax pmax
comp=Z,23nm,1.3s
AKTO Aktyubinsk 28.52 56 P **P 18 20 36.2 +0.4**
comp=Z,3.5nm,0.4s,baz=238,slow=4.8,SNR=9.2
comp=Z,3.5nm,0.4s
ARCES ARCESS Array B 29.51 4 P **P 18 20 43.0 -1.5**
ARCES ARCESS Array B 29.51 4 P **P 18 20 45.1 +0.6**
comp=Z,2.3nm,0.8s,baz=192,slow=9.4,SNR=6.4
ARCES LR LR 18 34 14.3
comp=Z,623nm,18.4s,baz=170,slow=40
comp=Z,2.3nm,0.8s
ARCES ARCESS Array B 29.51 4 P **P 18 20 43.0 -1.5**
ARCES pmax pmax
comp=Z,88nm,1.8s
ABKAR Akbulak array 29.68 59 P **P 18 20 44.6 -1.5**
GEYT Alibeck 29.77 82 P **P 18 20 45.9 -1.3**
GEYT IAmb IAmb 18 21 07.0
comp=Z,13nm,0.8s
GEYT Alibeck 29.77 82 P **P 18 20 48.1 +0.9**
comp=Z,2.7nm,0.6s,baz=276,slow=7.3,SNR=12
comp=Z,2.7nm,0.6s
GEYT Alibeck 29.77 82 P **P 18 20 45.9 -1.3**
GEYT pmax pmax
comp=Z,13nm,0.9s
GYA0B ALIBECK ARRAY 29.77 82 P **P 18 20 45.7 -1.5**
GYA0B IAmb IAmb 18 21 06.9
comp=Z,12nm,0.8s
ARU Arti 29.99 44 P **P 18 20 46.2 -2.6**
ARU Arti 29.99 44 P **P 18 20 49.3 +0.5**
comp=Z,1.7nm,0.4s,baz=270,slow=9.1,SNR=4.8
comp=Z,1.7nm,0.4s
ARU Arti 29.99 44 P **P 18 20 51.2 +2.4**
ARU 18 21 47.6
ARU S **S 18 25 51.3 +4.6**
ARU SS **SnSn 18 27 23.9 +6.0**
ARU MLR MLR
comp=Z,373nm,16.0s
SVE Sverdlovsk 31.20 44 *e*P P 18 21 18.4 +19
SVE pmax pmax
comp=Z,15nm,0.7s
TOA0 Torodi Ar. Sit 31.28 215 P **P 18 20 60.0 -0.6**
TORD Torodi Ar. Bea 31.28 215 P **P 18 21 00.5 -0.1**
TORD Torodi Ar. Bea 31.28 215 P **P 18 21 02.5 +2.0**
comp=Z,1.5nm,0.6s,baz=14,slow=6.8,SNR=13
TORD LR LR 18 36 07.5
comp=Z,215nm,18.8s,baz=6.5,slow=41
comp=Z,1.5nm,0.6s
HRA Herat 34.11 86 P **P 18 21 23.9 -1.6**
HRA IAmb IAmb 18 21 57.3
comp=Z,18nm,1.4s
CMLA Cha da Macela 34.92 281 P **P 18 21 31.9 -0.4**
CMLA Cha da Macela 34.92 281 P **P 18 21 31.9 -0.4**
CMLA pmax pmax
comp=Z,147nm,1.3s
ATD Arta Tunnel 35.17 138 P **P 18 21 33.3 -1.3**
ATD IAmb IAmb 18 22 16.8
comp=Z,25nm,1.1s
BRVK Borovoye 36.26 52 P **P 18 21 42.5 -1.1**
BRVK IAmb IAmb 18 22 05.8
comp=Z,14nm,1.0s
BRVK Borovoye 36.26 52*d i*P **P 18 21 44.0 +0.4**
BRVK pmax pmax
comp=Z,11nm,1.4s
BVAR Borovoye Array 36.33 52 P **P 18 21 45.0 +0.9**
comp=Z,0.7nm,0.4s,baz=262,slow=7.0,SNR=7.5
comp=Z,0.7nm,0.4s
SCO Scoresbysund 37.02 338 P **P 18 21 49.9 +0.1**
SCO Scoresbysund 37.02 338 P **P 18 21 49.9 +0.1**
SCO pmax pmax
comp=Z,15nm,1.3s
KK31 Karatay Array 37.61 69 P **P 18 21 54.1 -1.1**
KK31 Karatay Array 37.61 69 P **P 18 21 54.1 -1.1**
KK31 pmax pmax
comp=Z,6.0nm,0.8s
KKAR Karatay Array 37.61 69 P **P 18 21 54.6 -0.6**
KKAR Karatay Array 37.61 69 P **P 18 21 54.1 -1.1**
KKAR Karatay Array 37.61 69 P **P 18 21 54.6 -0.6**
KKAR pmax pmax
comp=Z,6.0nm,0.8s
SIMJ Simiganj 37.73 76 P **P 18 21 54.6 -1.8**
CHGR Chuyangaron 37.84 76 P **P 18 21 56.3 -1.0**
CHGR IAmb IAmb 18 22 16.6
comp=Z,24nm,1.0s
CHGR Chuyangaron 37.84 76 P **P 18 21 56.3 -1.0**
CHGR pmax pmax
comp=Z,24nm,1.0s
SPB2 Spitsbergen Ar 38.06 359 P **P 18 21 58.7 +0.1**
SPITS Spitsbergen Ar 38.06 359 P **P 18 21 59.7 +1.1**
comp=Z,1.3nm,0.6s,baz=158,slow=12,SNR=5.3
comp=Z,1.3nm,0.6s
SPITS Spitsbergen Ar 38.06 359 P **P 18 21 58.1 -0.5**
SPITS pmax pmax
comp=Z,58nm,1.4s
GAR Garm 38.59 75 P **P 18 22 02.1 -1.5**
GAR IAmb IAmb 18 22 24.3
comp=Z,42nm,1.3s
BTK Batken 38.64 73 P **P 18 22 01.8 -2.2**
BTK Batken 38.64 73 P **P 18 22 01.8 -2.2**
BTK pmax pmax
comp=Z,14nm,1.0s
KBL Kabul 39.22 82 P **P 18 22 08.0 -1.1**
KBL Kabul 39.22 82 P **P 18 22 08.0 -1.1**
KBL pmax pmax
comp=Z,5.0nm,0.5s
LODK Lodwar 39.31 155 P **P 18 22 09.4 -0.4**
LODK IAmb IAmb 18 22 32.5
comp=Z,60nm,1.9s
DRK Karamyk 39.53 74 P **P 18 22 09.9 -1.8**
DRK Karamyk 39.53 74 P **P 18 22 09.9 -1.8**
DRK pmax pmax
comp=Z,13nm,1.2s
DBIC Dimbokro 40.01 220 P **P 18 22 17.1 +1.6**
DBIC IAmb IAmb 18 22 37.2
comp=Z,33nm,1.4s
DBIC Dimbokro 40.01 220 P **P 18 22 18.5 +3.0**
comp=Z,3.1nm,0.8s,baz=40,slow=7.9,SNR=3.1
DBIC LR LR 18 41 25.9
comp=Z,386nm,19.4s,baz=21,slow=40
comp=Z,3.1nm,0.8s
DBIC Dimbokro 40.01 220 P **P 18 22 17.1 +1.6**
DBIC pmax pmax
comp=Z,33nm,1.5s
AAK Ala-Archa 40.56 68 P **P 18 22 18.3 -1.7**
AAK Ala-Archa 40.56 68 LR LR 18 43 41.2
comp=Z,200nm,18.9s,baz=308,slow=43
AAK Ala-Archa 40.56 68*ce*P **P 18 22 20.1 +0.1**
AAK pmax pmax
comp=Z,11nm,1.7s
FRU1 Bishkek 40.61 68 P **P 18 22 19.9 -0.4**
FRU1 IAmb IAmb 18 22 42.0
comp=Z,54nm,1.4s
FRU1 Bishkek 40.61 68 P **P 18 22 19.9 -0.4**
FRU1 pmax pmax
comp=Z,54nm,1.4s
MBO M'Bour 41.05 242 P **P 18 22 24.0 -0.1**
KURBB Kurchatov Arra 41.56 55 P **P 18 22 29.7 +1.8**
comp=Z,0.5nm,0.4s,baz=288,slow=9.2,SNR=9.5
comp=Z,0.5nm,0.4s
KURK Kurchatov 41.60 55 P **P 18 22 26.7 -1.6**
KURK Kurchatov 41.60 55*ce*P **P 18 22 28.1 -0.2**
KURK pmax pmax
comp=Z,6.0nm,1.7s
MBAR Mbarara 41.89 163 P **P 18 22 30.4 -0.8**
MBAR Mbarara 41.89 163*‖ e*P **P 18 22 33.5 +2.3**
MBAR pmax pmax
comp=Z,10.0nm,1.3s
KSH Kashi 42.58 72 P **P 18 22 35.8 -0.8**
KSH pP pP 18 22 39.8 +0.5
KSH pmax pmax
comp=Z,6.0nm,1.7s
KSH LR LR
comp=Z,180nm,15.6s
KSH LR LR
comp=Z,140nm,14.8s
KSH LR LR
comp=Z,160nm,16.5s
NIL Nilore 42.77 81 P **P 18 22 37.1 -1.1**
NIL IAmb IAmb 18 23 00.9
comp=Z,42nm,1.7s
NIL Nilore 42.77 81 P **P 18 22 37.1 -1.1**
NIL pmax pmax
comp=Z,42nm,1.7s
MAKZ Makanchi 44.59 60 P **P 18 22 50.6 -2.0**
MAKZ Makanchi 44.59 60 P **P 18 22 50.6 -2.0**
MK31 Makanchi Array 44.80 60 P **P 18 22 52.8 -1.5**
MK31 IAmb IAmb 18 23 15.8
comp=Z,10nm,0.8s
MK31 Makanchi Array 44.80 60*d i*P **P 18 22 54.2 -0.1**
MKAR Makanchi Array 44.80 60 P **P 18 22 52.0 -2.4**
MKAR Makanchi Array 44.80 60 P **P 18 22 54.5 +0.2**
comp=Z,2.6nm,0.4s,baz=279,slow=7.4,SNR=40
MKAR LR LR 18 43 49.6
comp=Z,213nm,20.9s,baz=262,slow=39
comp=Z,2.6nm,0.4s
ZAA0 Zalesovo Array 44.82 50 P **P 18 22 52.6 -1.7**
ZAA0 IAmb IAmb 18 23 13.5
comp=Z,8.4nm,0.7s
ZALV Zalesovo Beam 44.82 50 P **P 18 22 53.3 -1.0**
ZALV Zalesovo Beam 44.82 50 P **P 18 22 54.5 +0.2**
comp=Z,2.1nm,0.4s,baz=284,slow=9.4,SNR=11
ZALV LR LR 18 43 37.9
comp=Z,224nm,18.3s,baz=266,slow=39
comp=Z,2.1nm,0.4s
WMQ Urumqi 49.35 62 *e*P **P 18 23 33.3 +3.4**
WMQ pmax pmax
comp=Z,19nm,0.7s
WMQ LR LR
comp=Z,190nm,20.7s
DRLN Deer Lake 53.31 307 P **P 18 23 59.3 -0.1**
MSEY Mahe Island 55.49 135 P **P 18 24 16.4 +0.8**
MSEY Mahe Island 55.49 135 P **P 18 24 16.4 +0.8**
MSEY pmax pmax
comp=Z,69nm,1.3s
LSZ Lusaka 55.80 170 P **P 18 24 19.5 +1.6**
LSZ IAmb IAmb 18 24 51.7
comp=Z,20nm,1.9s
LSZ Lusaka 55.80 170 LR LR 18 49 55.7
comp=Z,86nm,18.3s,baz=3.0,slow=38
LSZ Lusaka 55.80 170 P **P 18 24 19.5 +1.6**
LSZ pmax pmax
comp=Z,20nm,1.9s
GOMU GeErMu 57.51 68 P **P 18 24 30.5 +0.2**
GOMU pP sP 18 24 35.9 +1.7
GOMU sP pP 18 24 38.4 +5.3
GOMU pmax pmax
comp=Z,5.0nm,1.5s
RES Resolute Bay 57.60 343 P **P 18 24 30.5 +0.6**
RES Resolute Bay 57.60 343 LR LR 18 49 15.2
comp=Z,100nm,20.1s,baz=11,slow=36
RES Resolute Bay 57.60 343 P **P 18 24 30.5 +0.6**
RES pmax pmax
comp=Z,5.0nm,1.2s
TIXI Tiksi 57.94 21 P **P 18 24 32.7 +0.3**
TIXI Tiksi 57.94 21 LR LR 18 53 07.2
comp=Z,512nm,19.0s,baz=331,slow=40
TIXI Tiksi 57.94 21*‖ e*P **P 18 24 33.4 +1.1**
TIXI pmax pmax
comp=Z,5.0nm,1.7s
LSA Lhasa 58.07 76 P **P 18 24 34.3 -0.2**
LSA Lhasa 58.07 76 P **P 18 24 34.3 -0.2**
LSA pmax pmax
comp=Z,3.0nm,0.8s
BOD Bodaibo 59.15 38 *e*P **P 18 24 41.3 +0.3**
BOD pmax pmax
comp=Z,15nm,1.3s
TSUM Tsumeb 59.17 182 P **P 18 24 41.5 -0.1**
TSUM IAmb IAmb 18 26 40.7
comp=Z,14nm,1.5s
BATG Bathurst New B 59.33 308 P **P 18 24 42.2 -0.1**
GTA Gaotai 59.44 62 *e*P **P 18 24 43.3 -0.1**
GTA pmax pmax
comp=Z,4.0nm,1.4s
GTA LR LR
comp=Z,78nm,17.5s
GTA LR LR
comp=Z,140nm,17.1s
GTA LR LR
comp=Z,170nm,21.9s
SONM Songino Array 59.66 51 P **P 18 24 44.4 -0.4**
SONM Songino Array 59.66 51 P **P 18 24 45.6 +0.8**
comp=Z,1.1nm,0.7s,baz=282,slow=7.3,SNR=8.6
SONM LR LR 18 52 22.6
comp=Z,167nm,18.8s,baz=282,slow=38
comp=Z,1.1nm,0.7s
SONM Songino Array 59.66 51 P **P 18 24 44.4 -0.4**
SONM pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 60.04 51*‖ e*P **P 18 24 49.0 +1.5**
ULN pmax pmax
comp=Z,2.0nm,1.1s
PKME Peaks-Kenny Pk 62.26 307 P **P 18 25 00.6 -1.8**
baz=60
PALK Pallekele 63.34 104 LR LR 18 56 28.9
comp=Z,80nm,18.1s,baz=349,slow=40
PALK Pallekele 63.34 104 *i* P **P 18 25 09.1 -0.9**
YAK Yakutsk 63.63 30 P **P 18 25 10.7 -0.5**
YAK Yakutsk 63.63 30 LR LR 18 55 58.5
comp=Z,397nm,20.1s,baz=302,slow=39
YAK Yakutsk 63.63 30 *e*P **P 18 25 12.8 +1.6**
YAK *e* 18 25 48.1
YAK *e* 18 27 32.1
YAK *e*PPP PPP 18 28 59.5
YAK *e*S **S 18 33 48.0 +3.0**
YAK *e**SS sS 18 34 06.7 +17
YAK *e* 18 35 08.5
YAK *e*SS **SS 18 37 56.9 +5.3**
YAK pmax pmax
comp=Z,8.0nm,1.6s
YAK pmax pmax
comp=N,4.0nm,1.5s
YAK pmax pmax
comp=E,3.0nm,1.6s
YAK pmax pmax
comp=Z,47nm,2.8s
YAK pmax pmax
comp=N,41nm,3.8s
YAK pmax pmax
comp=E,43nm,3.5s
YAK smax smax
comp=E,80nm,5.3s
YAK smax smax
comp=N,36nm,3.3s
YAK MLR MLR
comp=Z,470nm,22.0s
YAK MLR MLR
comp=N,117nm,25.0s
YAK MLR MLR
comp=E,142nm,21.0s
LZH Lanzhou 63.87 64 *e*P **P 18 25 15.3 +1.9**
LZH sP sP 18 25 21.8 +4.4
LZH pmax pmax
comp=E,25nm,1.1s
LZH LR LR
comp=E,180nm,19.6s
LZH LR LR
comp=E,200nm,18.6s
LZH LR LR
comp=E,240nm,19.2s
LBNH Lisbon 64.40 307 P **P 18 25 15.1 -1.5**
baz=58
HRV Adam Dziewonsk 65.10 305 P **P 18 25 21.0 -0.1**
HRV Adam Dziewonsk 65.10 305 P **P 18 25 19.3 -1.9**
baz=57
HRV Adam Dziewonsk 65.10 305 P **P 18 25 21.0 -0.1**
HRV pmax pmax
comp=Z,47nm,1.5s
A36M Sachs Harbour 65.37 349 P **P 18 25 20.0 -2.4**
baz=29
LONY Lake Ozonia 65.80 309 P **P 18 25 23.3 -2.4**
baz=57
L61B Northampton 65.83 306 P **P 18 25 24.0 -1.9**
baz=57
ACCN Adirondack Com 65.92 307 P **P 18 25 26.9 +0.4**
BBSR BB Station 66.02 293 P **P 18 25 26.6 -0.6**
HHC Hu-ho-hao-te 66.41 56 *e*P **P 18 25 31.5 +1.7**

HHC pmax pmax
comp=Z,6.0nm,0.7s
HHC pmax pmax
comp=Z,34nm,5.8s
PAL Palisades 67.39 305 P **P** 18 25 34.4 -1.4
baz=56
XLT XiLinHaoTe 67.48 51 *e*P P 18 25 21.8 -15
XLT pP pP 18 25 26.4 -13
XLT sP sP 18 25 29.6 -11
XLT pmax pmax
comp=Z,3.0nm,0.8s
XLT pmax pmax
comp=Z,69nm,4.6s
C36M Paulatuk 67.50 347 P **P** 18 25 35.7 -0.3
C36M IAmb IAmb 18 25 56.6
comp=Z,25nm,1.9s
C36M Paulatuk 67.50 347 P **P** 18 25 33.5 -2.5
baz=29
PZH PanZhiHua 67.65 74 P **P** 18 25 37.3 -0.6
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.5s
BINY Binghamton 68.00 307 P **P** 18 25 37.7 -2.1
baz=55
RCBR Riachuelo 68.56 242 LR LR 18 57 20.2
comp=Z,140nm,18.4s,baz=140,slow=37
A21K Barrow 68.70 359 P **P** 18 25 41.5 -2.1
baz=3.0
BOSA Boshof 68.71 175 P **P** 18 25 45.9 +1.7
comp=Z,3.8nm,0.9s,baz=5.0,slow=9.9,SNR=4.7
comp=Z,3.8nm,0.9s
A22K Sinclair Lake 68.99 358 P **P** 18 25 44.0 -1.4
baz=4.3
BILL Bilibino 69.15 13 P **P** 18 25 46.4 0.0
BILL IAmb IAmb 18 26 12.6
comp=Z,6.8nm,0.9s
BILL Bilibino 69.15 13 *i*P **P** 18 25 47.6 +1.2
C26K Camden Bay 69.57 354 P **P** 18 25 46.9 -2.1
baz=12
D28M Stokes Point 69.58 352 P **P** 18 25 47.7 -1.4
baz=17
B22K Teshekpuk Lake 69.61 358 P **P** 18 25 47.0 -2.2
baz=5.5
C27K Jago River 69.76 354 P **P** 18 25 49.0 -1.2
baz=13
A19K Wainwright 69.86 0 P **P** 18 25 48.9 -1.8
baz=359
D27M Malcolm River 69.89 353 P **P** 18 25 49.3 -1.7
baz=16
HEH HeiHe 69.89 41 *e*P **P** 18 25 52.1 +0.8
HEH pmax pmax
comp=Z,8.0nm,1.3s
HEH pmax pmax
comp=Z,160nm,4.6s
HEH LR LR
comp=Z,110nm,15.7s
HEH LR LR
comp=Z,200nm,16.0s
HEH LR LR
comp=Z,300nm,16.5s
INK Inuvik 69.91 350 P **P** 18 25 50.2 -0.9
INK IAmb IAmb 18 25 59.5
comp=Z,12nm,1.6s
INK Inuvik 69.91 350 P **P** 18 25 49.7 -1.4
baz=21
INK Inuvik 69.91 350 LR LR 18 57 38.6
comp=Z,70nm,18.9s,baz=0.0,slow=37
INK Inuvik 69.91 350 P **P** 18 25 50.2 -0.9
INK pmax pmax
comp=Z,12nm,1.7s
C23K Itkillik River 70.00 356 P **P** 18 25 52.4 +0.8
C23K Itkillik River 70.00 356 P **P** 18 25 49.5 -2.1
baz=7.8
C24K Franklin Bluff 70.01 356 P **P** 18 25 49.4 -2.3
baz=9.3
B20K Meade River 70.03 359 P **P** 18 25 49.3 -2.5
baz=2.5
CHTO Chiang Mai 70.04 82 P **P** 18 25 52.2 -0.5
CHTO Chiang Mai 70.04 82 P **P** 18 25 52.2 -0.5
CHTO pmax pmax
comp=Z,4.0nm,1.2s
SSPA Standing Stone 70.07 307 P **P** 18 25 51.4 -1.2
baz=54
CMAR Chiang Mai Arr 70.26 82 P **P** 18 25 53.2 -0.8
CMAR Chiang Mai Arr 70.26 82 P **P** 18 25 54.0 -0.1
comp=Z,1.2nm,1.0s,baz=300,slow=8.4,SNR=4.6
comp=Z,1.2nm,1.0s
CMAR Chiang Mai Arr 70.26 82 P **P** 18 25 54.0 -0.1
D25K Kavik River 70.26 355 P **P** 18 25 53.1 -0.2
D25K Kavik River 70.26 355 P **P** 18 25 51.3 -2.1
baz=11
E28M Babbage River 70.36 352 P **P** 18 25 52.2 -1.7
baz=17
B21K Ikpikpuk River 70.36 358 P **P** 18 25 51.0 -2.9
baz=4.5
E29M Blow River 70.38 351 P **P** 18 25 54.1 +0.1
E29M Blow River 70.38 351 P **P** 18 25 51.5 -2.5
baz=18,SNR=7.9
SEY Seymchan 70.44 21 LR LR 19 00 26.1
comp=Z,180nm,20.2s,baz=346,slow=39
D24K Happy Valley 70.58 356 P **P** 18 25 56.0 +0.8
D24K IAmb IAmb 18 26 13.6
comp=Z,24nm,1.8s
D24K Happy Valley 70.58 356 P **P** 18 25 52.4 -2.8
baz=9.2
B18K Kokolik River 70.70 1 P **P** 18 25 53.3 -2.6
baz=359
F31M Tsiigehtchic 70.75 349 P **P** 18 25 56.8 +0.5
F31M IAmb IAmb 18 26 17.8
comp=Z,8.4nm,0.7s
F31M Tsiigehtchic 70.75 349 P **P** 18 25 53.1 -3.2
baz=21
C21K Knifeblade Rid 70.83 358 P **P** 18 25 53.9 -2.9
baz=4.4
F30M Barrier River 70.87 350 P **P** 18 25 54.1 -2.9
baz=20
D23K Nanushuk River 70.87 356 P **P** 18 25 53.8 -3.1
baz=7.7
C19K Lookout Ridge 70.96 360 P **P** 18 25 55.4 -2.2
baz=0.5
E27K Coleen River 70.97 353 P **P** 18 25 58.4 +0.8
E27K IAmb IAmb 18 27 21.9
comp=Z,18nm,1.7s
E27K Coleen River 70.97 353 P **P** 18 25 54.4 -3.3
baz=15
D22K Ayikyak River 71.04 357 P **P** 18 25 58.6 +0.5
D22K Ayikyak River 71.04 357 P **P** 18 25 55.2 -2.8
baz=6.1
TOLK Toolik Lake Re 71.13 356 P **P** 18 25 55.8 -2.9
baz=8.6
CBN Corbin Frederi 71.19 304 P **P** 18 25 58.3 -1.2
baz=53
PHRA Phrae 71.20 81 P **P** 18 25 59.2 -0.6
YKA Yellowknife Ar 71.22 339 P **P** 18 25 59.7 +0.5
YKA Yellowknife Ar 71.22 339 P **P** 18 26 00.6 +1.4
comp=Z,1.6nm,0.8s,baz=32,slow=6.2,SNR=24
comp=Z,1.6nm,0.8s
M53A WI Miller and 71.28 309 P **P** 18 25 59.1 -0.8
M53A WI Miller and 71.28 309 P **P** 18 25 58.1 -1.8
baz=52
G31M Satah River 71.31 349 P **P** 18 25 59.2 -0.4
G31M IAmb IAmb 18 26 39.8
comp=Z,22nm,1.7s
G31M Satah River 71.31 349 P **P** 18 25 57.0 -2.6
baz=21
D20K Etivluk River 71.32 359 P **P** 18 25 56.7 -3.1
baz=2.9
F28M Old Crow 71.35 352 P **P** 18 26 00.1 +0.2
F28M IAmb IAmb 18 26 20.6
comp=Z,26nm,1.9s
F28M Old Crow 71.35 352 P **P** 18 25 57.3 -2.6
baz=16
E25K Arctic Village 71.38 354 P **P** 18 25 60.0 -0.2
C18K Utukok River 71.42 0 P **P** 18 25 59.7 -0.7
C18K Utukok River 71.42 0 P **P** 18 25 58.0 -2.5
baz=359
G30M tAoh Zraii Nji 71.52 350 P **P** 18 25 58.4 -2.6
baz=19
E21K Killik River 71.53 358 P **P** 18 26 01.2 +0.1
E21K IAmb IAmb 18 26 42.9
comp=Z,25nm,1.8s
E21K Killik River 71.53 358 P **P** 18 25 59.5 -1.5
baz=5.0
D19K Kuna River 71.56 359 P **P** 18 26 01.0 -0.2
D19K IAmb IAmb 18 26 26.6
comp=Z,15nm,1.2s
D19K Kuna River 71.56 359 P **P** 18 25 59.3 -2.0
baz=1.7
C17K DeLong Mountai 71.58 1 P **P** 18 25 59.1 -2.2
baz=358
E24K Your Creek 71.63 355 P **P** 18 26 01.9 +0.2
E24K IAmb IAmb 18 26 29.4
comp=Z,21nm,2.0s
E24K Your Creek 71.63 355 P **P** 18 25 59.3 -2.4
baz=9.4
F26K Sheenjek River 71.68 354 P **P** 18 25 59.9 -2.0
baz=13
C16K Lisburne Hills 71.73 2 P **P** 18 26 00.5 -1.7
baz=356
E22K Anaktuvuk Pass 71.75 357 P **P** 18 26 03.1 +0.7
E22K Anaktuvuk Pass 71.75 357 P **P** 18 26 00.3 -2.1
baz=6.8
E20K Nigu River 71.77 358 P **P** 18 26 00.3 -2.2
baz=3.2
G29M Pine Creek 71.81 351 P **P** 18 26 04.1 +1.3
G29M IAmb IAmb 18 26 55.6
comp=Z,20nm,1.6s
G29M Pine Creek 71.81 351 P **P** 18 25 59.9 -2.8
baz=18
MCWV Mont Chateau 71.86 307 P **P** 18 26 04.3 +0.8
MCWV Mont Chateau 71.86 307 P **P** 18 26 01.6 -1.9
baz=52
F25K Christian Rive 71.91 354 P **P** 18 26 00.7 -2.7
baz=12
G45A Suttons Bay 71.92 314 P **P** 18 26 05.1 +1.4
BMAR Burnt Mountain 71.98 354 P **P** 18 26 04.9 +1.1
RDOG Red Dog Mine 72.00 1 P **P** 18 26 01.2 -2.6
baz=358
F24K Squaw Lake 72.14 355 P **P** 18 26 05.1 +0.4
F24K IAmb IAmb 18 26 26.7
comp=Z,29nm,1.9s
F24K Squaw Lake 72.14 355 P **P** 18 26 02.1 -2.6
baz=9.9
EPYK Eagle Plains 72.17 350 P **P** 18 26 02.4 -2.5
baz=19
SUR Sutherland 72.27 179 LR LR 19 00 36.6
comp=Z,223nm,19.0s,baz=356,slow=38
G27K Doyon Strip 72.31 352 P **P** 18 26 05.7 -0.1
G27K Doyon Strip 72.31 352 P **P** 18 26 04.1 -1.7
baz=15
O53A New Philadelph 72.33 308 P **P** 18 26 04.2 -2.0
baz=52
D17K Noatak River 72.36 1 P **P** 18 26 03.3 -2.6
baz=358
H31M Peel River 72.37 349 P **P** 18 26 06.8 +0.6
H31M Peel River 72.37 349 P **P** 18 26 03.2 -2.9
baz=20
G26K Porcupine Rive 72.38 353 P **P** 18 26 03.7 -2.4
baz=13
F22K John River 72.39 357 P **P** 18 26 04.3 -1.9
baz=6.4
H29M Whitestone 72.52 351 P **P** 18 26 06.6 -0.4
H29M IAmb IAmb 18 27 02.0
comp=Z,34nm,1.9s
H29M Whitestone 72.52 351 P **P** 18 26 04.9 -2.0
baz=17
COLD Coldfoot 72.57 356 P **P** 18 26 04.9 -2.4
baz=8.0
J47A Sunmer 72.59 312 P **P** 18 26 07.3 -0.5
E19K Redstone River 72.59 359 P **P** 18 26 06.2 -1.2
E19K IAmb IAmb 18 26 34.4
comp=Z,8.5nm,0.8s
E19K Redstone River 72.59 359 P **P** 18 26 04.9 -2.5
baz=2.4
E18K Tukpahlearik C 72.66 0 P **P** 18 26 08.3 +0.5
E18K IAmb IAmb 18 26 29.1
comp=Z,8.0nm,0.9s
E18K Tukpahlearik C 72.66 0 P **P** 18 26 05.7 -2.0
baz=360
MA2 Magadan 72.66 24 P **P** 18 26 07.7 -0.2
MA2 IAmb IAmb 18 26 28.6
comp=Z,12nm,0.8s
MA2 Magadan 72.66 24 LR LR 19 02 22.2
comp=Z,207nm,18.5s,baz=308,slow=39
MA2 Magadan 72.66 24‖ *e*P **P** 18 26 09.8 +1.9
MA2 pmax pmax
comp=Z,17nm,3.0s
MA2 Magadan 72.66 24 P **P** 18 26 10.2 +2.3
comp=Z,17nm,0.9s
KLR Kul'dur 72.69 40 LR LR 19 01 26.9
comp=Z,185nm,18.6s,baz=309,slow=39
KLR Kul'dur 72.69 40‖ *e*P **P** 18 26 09.0 +0.7
KLR pmax pmax
comp=Z,6.0nm,1.4s
F21K Alatna River 72.73 357 P **P** 18 26 09.0 +0.7
F21K IAmb IAmb 18 26 30.6
comp=Z,16nm,1.4s
F21K Alatna River 72.73 357 P **P** 18 26 06.2 -2.1
baz=5.4
WRGLY Wrigley 72.75 343 P **P** 18 26 09.2 +0.8
WRGLY IAmb IAmb 18 26 30.7
comp=Z,13nm,1.1s
G25K Bearman Lake 72.76 354 P **P** 18 26 06.2 -2.1
baz=11
H27K Steamboat Moun 72.86 352 P **P** 18 26 07.0 -2.1
baz=15
G24K Hadweenzic Riv 72.92 355 P **P** 18 26 10.4 +1.0
G24K IAmb IAmb 18 28 28.8
comp=Z,5.9nm,0.7s
G24K Hadweenzic Riv 72.92 355 P **P** 18 26 07.8 -1.6
baz=10
G22K Bettles 72.94 356 P **P** 18 26 07.7 -1.8
baz=7.0
CN2 Changchun 72.95 47 *e*P **P** 18 26 10.3 +0.4
CN2 PcP **PcP** 18 26 28.1 +1.2
CN2 pmax pmax
comp=Z,10.0nm,1.2s
F20K Avaraart Lake 72.97 358 P **P** 18 26 09.2 -0.4
F20K IAmb IAmb 18 26 35.5
comp=Z,14nm,1.4s
F20K Avaraart Lake 72.97 358 P **P** 18 26 07.6 -2.0
baz=3.6
E17K Hotham Inlet 72.99 1 P **P** 18 26 07.2 -2.5
baz=359
G23K Bananza Creek 73.08 356 P **P** 18 26 08.6 -1.8
baz=8.1
EYMN Ely 73.11 319 P **P** 18 26 09.2 -1.5
baz=48
L48A N Adams 73.18 311 P **P** 18 26 10.7 -0.6
L48A IAmb IAmb 18 26 33.5
comp=Z,11nm,1.1s
I30M Mount Dempster 73.21 350 P **P** 18 26 10.7 -0.5
I30M Mount Dempster 73.21 350 P **P** 18 26 09.2 -2.0
baz=19,SNR=5.4
H25L Birch Creek 73.23 354 P **P** 18 26 08.3 -2.8
baz=11
F19K Shaleruckik Mo 73.23 359 P **P** 18 26 10.8 -0.4
F19K IAmb IAmb 18 26 38.1
comp=Z,13nm,1.3s
F19K Shaleruckik Mo 73.23 359 P **P** 18 26 08.8 -2.3
baz=2.0
P52A Corning 73.27 308 P **P** 18 26 09.8 -2.0
baz=51
I29M Ogilvie Camp, 73.33 351 P **P** 18 26 11.8 -0.1
I29M Ogilvie Camp, 73.33 351 P **P** 18 26 09.1 -2.7
baz=17
ACSO Alum Creek Sta 73.40 309 P **P** 18 26 13.1 +0.4
ACSO IAmb IAmb 18 26 18.0
comp=Z,18nm,1.3s
ACSO Alum Creek Sta 73.40 309 P **P** 18 26 10.5 -2.2
baz=51
G21K Allakaket 73.44 357 P **P** 18 26 12.0 -0.4
G21K IAmb IAmb 18 26 16.2
comp=Z,16nm,1.5s
G21K Allakaket 73.44 357 P **P** 18 26 09.9 -2.5
baz=5.3
I28M Miner Creek 73.44 351 P **P** 18 26 11.7 -0.9
I28M IAmb IAmb 18 26 35.5
comp=Z,26nm,2.0s
I28M Miner Creek 73.44 351 P **P** 18 26 10.2 -2.4
baz=16
F18K Selawik 73.48 360 P **P** 18 26 10.3 -2.3
baz=0.5
I27K Kandik River 73.48 352 P **P** 18 26 10.7 -2.1
baz=15
F17K Baldwin Pennin 73.64 0 P **P** 18 26 13.2 -0.4
F17K IAmb IAmb 18 26 38.0
comp=Z,9.2nm,0.9s
F17K Baldwin Pennin 73.64 0 P **P** 18 26 11.2 -2.4
baz=359
ULM Lac du Bonnet 73.65 323 P **P** 18 26 14.2 +0.3
ULM IAmb IAmb 18 26 36.3
comp=Z,31nm,1.6s
ULM Lac du Bonnet 73.65 323 P **P** 18 26 15.4 +1.5
comp=Z,3.4nm,1.0s,baz=13,slow=5.0,SNR=4.4
comp=Z,3.4nm,1.0s
ULM Lac du Bonnet 73.65 323 P **P** 18 26 14.2 +0.3
ULM pmax pmax
comp=Z,31nm,1.7s
H24K Noodor Dome 73.81 355 P **P** 18 26 12.2 -2.4
baz=9.8
J30M Hart River 73.82 349 P **P** 18 26 14.9 0.0
J30M IAmb IAmb 18 26 37.2
comp=Z,7.3nm,0.8s
J30M Hart River 73.82 349 P **P** 18 26 12.3 -2.5
baz=19,SNR=8.3
G19K Purcell Mounta 73.91 359 P **P** 18 26 15.0 -0.2
G19K IAmb IAmb 18 26 36.7
comp=Z,16nm,1.4s
G19K Purcell Mounta 73.91 359 P **P** 18 26 12.8 -2.4
baz=2.5
H23K Yukon River 73.93 355 P **P** 18 26 14.3 -1.0
H23K IAmb IAmb 18 26 38.0
comp=Z,11nm,1.2s
H23K Yukon River 73.93 355 P **P** 18 26 13.1 -2.2
baz=8.5
I26K Coal Creek Min 73.93 353 P **P** 18 26 13.1 -2.2
baz=14
PRP Porcupine Dome 73.94 354 P **P** 18 26 13.0 -2.5
baz=12
H22K Ishtalitna Cre 73.96 356 P **P** 18 26 13.8 -1.7
baz=7.0
G18K Tagagawik 74.18 359 P **P** 18 26 16.8 0.0
G18K IAmb IAmb 18 26 41.6
comp=Z,9.1nm,0.9s
G18K Tagagawik 74.18 359 P **P** 18 26 14.7 -2.1
baz=1.2,SNR=5.2
G40A Rib Lake 74.22 316 P **P** 18 26 17.9 +0.6
G40A IAmb IAmb 18 26 49.4
comp=Z,23nm,1.8s
EGAK Eagle 74.23 352 P **P** 18 26 16.7 -0.4
EGAK IAmb IAmb 18 28 17.6
comp=Z,18nm,1.7s
H21K Melozitna Rive 74.27 357 P **P** 18 26 17.1 -0.2
H21K IAmb IAmb 18 26 39.5
comp=Z,16nm,1.1s
H21K Melozitna Rive 74.27 357 P **P** 18 26 15.3 -1.9
baz=5.9
F15K North Star Dit 74.32 2 P **P** 18 26 15.3 -2.3
baz=356
TNA Tin City 74.36 3 P **P** 18 26 14.9 -2.8
baz=354
POKR Poker Plat Res 74.49 354 P **P** 18 26 15.3 -3.3
baz=10
F14K Arctic Creek 74.51 3 P **P** 18 26 15.8 -2.8
baz=355
H20K Anotleneega Mo 74.51 358 P **P** 18 26 16.2 -2.5
baz=4.2
H19K Roundabout Mou 74.52 358 P **P** 18 26 15.9 -2.8
baz=3.0
G17K Kiwalik Mounta 74.58 0 P **P** 18 26 16.4 -2.7
baz=360
N47A Urbana 74.59 311 P **P** 18 26 20.4 +0.8
N47A IAmb IAmb 18 26 22.8
comp=Z,36nm,1.7s
I23K Minto, Yukon-K 74.59 355 P **P** 18 26 16.3 -2.8
baz=8.6
O48B Farmland 74.67 310 P **P** 18 26 18.1 -2.0
baz=50
K29M Barlow Dome 74.68 350 P **P** 18 26 19.9 0.0
K29M Barlow Dome 74.68 350 P **P** 18 26 16.7 -3.2
baz=18
G16K Koyuk River 74.68 1 P **P** 18 26 16.6 -3.0
baz=358
MDM Murphy Dome 74.70 355 P **P** 18 26 20.3 +0.5
I21K Tanana 74.70 356 P **P** 18 26 16.8 -3.0
baz=6.5
DAWY Dawson 74.71 351 P **P** 18 26 20.5 +0.6
DAWY Dawson 74.71 351 P **P** 18 26 17.1 -2.9
baz=16,SNR=5.3
J26L Joseph Creek 74.75 353 P **P** 18 26 20.8 +0.5
J26L Joseph Creek 74.75 353 P **P** 18 26 17.4 -2.8
baz=13
ILAR Eielson Array 74.78 354 P **P** 18 26 20.9 +0.6
ILAR Eielson Array 74.78 354 P **P** 18 26 21.6 +1.3
comp=Z,0.6nm,0.8s,baz=354,slow=5.8,SNR=5.5
comp=Z,0.6nm,0.8s
ILAR Eielson Array 74.78 354 P **P** 18 26 20.9 +0.6
MLY Manley 74.79 356 P **P** 18 26 20.6 +0.2
MLY Manley 74.79 356 P **P** 18 26 17.7 -2.7
baz=7.5
J25K Salcha River, 74.81 353 P **P** 18 26 18.3 -2.2
baz=12
MMPY Sheldon Lake, 74.85 347 P **P** 18 26 21.1 +0.3
MMPY IAmb IAmb 18 26 44.0
comp=Z,11nm,1.3s
MMPY Sheldon Lake, 74.85 347 P **P** 18 26 17.9 -2.9
baz=22
P49A Miami Univ. Ec 74.88 309 P **P** 18 26 18.9 -2.4
baz=50
H18K Honhosa River 74.92 359 P **P** 18 26 21.2 +0.1
H18K Honhosa River 74.92 359 P **P** 18 26 18.1 -3.0
baz=1.5
CCB Clear Creek Bu 74.98 354 P **P** 18 26 21.0 -0.4
CCB IAmb IAmb 18 26 23.9
comp=Z,12nm,1.4s
AGMN Agassiz Nation 75.00 321 P **P** 18 26 21.9 0.0
AGMN IAmb IAmb 18 27 37.3
comp=Z,17nm,1.2s
AGMN Agassiz Nation 75.00 321 P **P** 18 26 19.4 -2.5
baz=46
L44A Lake County Fo 75.01 313 P **P** 18 26 22.1 +0.1
L44A Lake County Fo 75.01 313 P **P** 18 26 19.3 -2.7
baz=49
U54A Nelsons Funny 75.02 305 P **P** 18 26 22.2 0.0
G15K Niukluk 75.05 2 P **P** 18 26 18.6 -3.2
baz=357
K27K Chicken 75.06 352 P **P** 18 26 22.7 +0.8
K27K IAmb IAmb 18 26 45.2
comp=Z,27nm,1.6s
K27K Chicken 75.06 352 P **P** 18 26 19.2 -2.7
baz=14
V55A Taylorsville 75.06 304 P **P** 18 26 22.2 -0.2
NEA2 Nenana 75.12 355 P **P** 18 26 23.2 +1.0
NEA2 IAmb IAmb 18 26 49.7
comp=Z,27nm,2.0s
NEA2 Nenana 75.12 355 P **P** 18 26 19.5 -2.7
baz=8.8
HDA Harding Lake 75.15 354 P **P** 18 26 22.6 +0.2
HDA IAmb IAmb 18 26 48.2
comp=Z,9.0nm,1.0s
HDA Harding Lake 75.15 354 P **P** 18 26 19.3 -3.1
baz=10
H17K Granite Mounta 75.15 360 P **P** 18 26 22.4 0.0
H17K Granite Mounta 75.15 360 P **P** 18 26 19.1 -3.3
baz=0.2
WRH Wood River Hil 75.17 355 P **P** 18 26 23.5 +1.0
WRH IAmb IAmb 18 27 30.3
comp=Z,9.3nm,1.1s
I20K Naaghedeneel 75.19 357 P **P** 18 26 19.2 -3.4
baz=4.5
TGTN Hyland Airport 75.29 345 P **P** 18 26 19.6 -3.8
baz=25
SCRK Sand Creek 75.31 353 P **P** 18 26 23.8 +0.3
SCRK Sand Creek 75.31 353 P **P** 18 26 20.5 -3.0
baz=13
H16K Elim 75.44 1 P **P** 18 26 19.6 -4.4
baz=358
ANM Nome 75.45 2 P **P** 18 26 20.2 -3.9
baz=356
L29M L29M 75.47 350 P **P** 18 26 20.5 -3.8
baz=17
F36A Milaca 75.54 318 P **P** 18 26 25.6 +0.6
F36A IAmb IAmb 18 26 28.3
comp=Z,26nm,1.9s
FARO Faro, Yukon 75.57 347 P **P** 18 26 24.8 -0.1
FARO IAmb IAmb 18 26 48.0
comp=Z,16nm,1.5s
FARO Faro, Yukon 75.57 347 P **P** 18 26 21.5 -3.4
baz=21
KMSC Kings Mountain 75.58 304 P **P** 18 26 22.7 -2.7
baz=51
KOTAN Kotaneelee Air 75.62 342 P **P** 18 26 21.8 -3.4
baz=28
K24K Donnelly Dome 75.65 353 P **P** 18 26 21.6 -3.7
baz=11
SFIN Lafayette 75.72 311 P **P** 18 26 23.6 -2.5
baz=49
BPAW Bear Paw Mtn. 75.73 356 P **P** 18 26 22.2 -3.6
baz=7.3

M31M **Drury Creek, Y** 75.77 348 P P 18 26 26.4 +0.4
M31M **Drury Creek, Y** 75.77 348 P P 18 26 23.2 -2.8
baz=20
M30M **Minto, Yukon** 75.79 349 P P 18 26 22.5 -3.7
baz=18
J20K **Nowinta River** 75.80 357 P P 18 26 25.5 -0.6
J20K **Nowinta River** 75.80 357 P P 18 26 23.0 -3.2
baz=4.8
JFWS **Jewell Farm** 75.82 315 P P 18 26 23.8 -2.8
baz=48
GAMB **Gambell** 75.92 5 P P 18 26 22.9 -3.8
baz=351
R49A **Shelbyville** 75.95 308 P P 18 26 28.0 +0.5
BCAR **Beaver Creek A** 75.97 351 P P 18 26 26.9 -0.2
MCK **McKinley** 75.97 355 P P 18 26 24.0 -3.1
baz=8.9
L27K **Beaver Creek,** 75.97 351 P P 18 26 27.3 +0.1
L27K **Beaver Creek,** 75.97 351 P P 18 26 25.0 -2.2
baz=14
CHUM **Lake Minchumin** 76.02 356 P P 18 26 23.6 -3.7
baz=6.2
J19K **Poorman** 76.03 358 P P 18 26 27.9 +0.4
J19K IAmb IAmb 18 26 52.2
comp=Z,7.6nm,1.0s
J19K **Poorman** 76.03 358 P P 18 26 24.5 -3.0
baz=3.6
TZTN **Tazewell** 76.08 306 P P 18 26 24.6 -3.7
baz=50
M29M **Somme Creek** 76.15 350 P P 18 26 28.6 +0.3
M29M IAmb IAmb 18 26 58.4
comp=Z,6.6nm,0.9s
M29M **Somme Creek** 76.15 350 P P 18 26 23.9 -4.4
baz=17
BLO **Bloomington** 76.18 310 P P 18 26 30.0 +1.2
BLO IAmb IAmb 18 28 28.6
comp=Z,9.5nm,0.6s
BLO **Bloomington** 76.18 310 P P 18 26 30.0 +1.2
BLO pmax pmax
comp=Z,10.0nm,0.6s
I17K **Unalakleet** 76.21 0 P P 18 26 23.2 -5.2
baz=360
USRK **Ussuriysk Ar.** 76.22 43 LR LR 19 04 14.5
comp=Z,214nm,18.0s,baz=347,slow=39
TRF **Thorofare Moun** 76.33 355 P P 18 26 24.8 -4.6
baz=7.8
NJ2 **Nanjing** 76.34 60 *e*P P 18 26 29.5 -0.2
NJ2 pP pP 18 26 32.8 +0.2
NJ2 pmax pmax
comp=Z,8.0nm,0.9s
NJ2 pmax pmax
comp=Z,180nm,4.3s
PAX **Paxson** 76.44 353 P P 18 26 25.4 -4.5
baz=12
CAST **Castle Rocks** 76.47 356 P P 18 26 30.3 +0.4
CAST IAmb IAmb 18 26 51.7
comp=Z,27nm,1.8s
CAST **Castle Rocks** 76.47 356 P P 18 26 26.0 -4.0
baz=6.4
DHY **Denali Highway** 76.50 354 P P 18 26 30.4 +0.1
DHY IAmb IAmb 18 27 00.2
comp=Z,11nm,1.0s
DHY **Denali Highway** 76.50 354 P P 18 26 26.2 -4.2
baz=10
N32M **Quiet Lake** 76.54 347 P P 18 26 30.7 +0.2
N32M IAmb IAmb 18 26 52.1
comp=Z,7.7nm,1.1s
N32M **Quiet Lake** 76.54 347 P P 18 26 26.2 -4.2
baz=21
J18K **Innoko River** 76.59 358 P P 18 26 31.4 +0.7
J18K IAmb IAmb 18 26 58.1
comp=Z,6.2nm,0.9s
J18K **Innoko River** 76.59 358 P P 18 26 26.4 -4.2
baz=2.8
K20K **Telida** 76.62 357 P P 18 26 31.1 +0.2
K20K IAmb IAmb 18 26 54.6
comp=Z,12nm,1.2s
K20K **Telida** 76.62 357 P P 18 26 26.8 -4.0
baz=4.8
WCI **Wyandotte Cave** 76.66 309 P P 18 26 28.0 -3.5
baz=49
M27K **Edge Creek, AK** 76.66 351 P P 18 26 26.8 -4.5
baz=14
N31M **Braeburn, Yuko** 76.67 348 P P 18 26 27.0 -4.2
baz=19
WTLY **Watson Lake, Y** 76.68 344 P P 18 26 32.1 +0.8
J17K **VABM Dome** 76.69 359 P P 18 26 30.4 -0.8
J17K IAmb IAmb 18 26 52.7
comp=Z,23nm,1.3s
J17K **VABM Dome** 76.69 359 P P 18 26 27.3 -3.9
baz=0.9
M26K **Nabesna, AK** 76.75 352 P P 18 26 27.4 -4.3
baz=13
J16K **Anvik River** 76.81 0 P P 18 26 27.9 -4.0
baz=360
WAT1 **Susitna Watana** 76.83 354 P P 18 26 28.5 -3.6
baz=9.1
HDIL **Hopedale** 76.86 312 P P 18 26 29.5 -3.1
baz=48
N30M **Aishikik Lake** 76.89 349 P P 18 26 28.5 -4.0
baz=18
PPLA **Purkeypile** 76.99 356 P P 18 26 29.2 -3.9
baz=6.3
YUK3 **Moose Creek** 77.06 350 P P 18 26 30.0 -3.6
baz=15
YUK4 **Talbot Arm** 77.23 349 P P 18 26 30.3 -4.2
baz=17
W52A **Murphy** 77.25 305 P P 18 26 33.8 -1.1
W52A IAmb IAmb 18 27 50.1
comp=Z,14nm,1.1s
WHY **Whitehorse** 77.31 347 P P 18 26 31.6 -3.3
baz=20
M24K **Tolsona, Glenn** 77.35 353 P P 18 26 31.7 -3.4
baz=11
K17K **Iditarod** 77.37 359 P P 18 26 35.2 +0.1
K17K IAmb IAmb 18 26 57.9
comp=Z,14nm,1.1s
K17K **Iditarod** 77.37 359 P P 18 26 31.8 -3.2
baz=1.5
P33M **Teslin, Yukon** 77.37 346 P P 18 26 31.6 -3.6
baz=21
CUT **Chulitna** 77.37 355 P P 18 26 33.5 -1.5
CUT **Chulitna** 77.37 355 P P 18 26 32.8 -2.2
baz=7.8
O30N **Mendenhall** 77.40 348 P P 18 26 31.4 -3.9
baz=19
YUK8 **Steele Glacier** 77.44 350 P P 18 26 31.5 -4.3
baz=16
U49A **Red Boiling Sp** 77.47 307 P P 18 26 34.5 -1.6
L20K **Farewell, AK** 77.49 357 P P 18 26 31.9 -3.8
baz=5.0
HYT **Haines Junctio** 77.56 349 P P 18 26 34.9 -1.4
HYT IAmb IAmb 18 26 59.6
comp=Z,25nm,1.8s
YUK6 **Outpost Mounta** 77.58 349 P P 18 26 32.5 -4.0
baz=17
MCARA **McCarthy VSAT** 77.74 352 P P 18 26 33.4 -3.7
baz=13
R33M **Jennings River** 77.78 345 P P 18 26 35.9 -1.7
R33M IAmb IAmb 18 27 01.0
comp=Z,13nm,1.2s
R33M **Jennings River** 77.78 345 P P 18 26 34.2 -3.4
baz=22
K15K **Wolf Creek Mou** 77.80 1 P P 18 26 33.9 -3.5
baz=359
L19K **White Mountain** 77.82 357 P P 18 26 36.0 -1.7
L19K **White Mountain** 77.82 357 P P 18 26 34.7 -2.9
baz=4.2,SNR=7.9
L18K **Granite Mounta** 77.84 358 P P 18 26 37.5 -0.2
L18K IAmb IAmb 18 27 04.2
comp=Z,22nm,1.5s
L18K **Granite Mounta** 77.84 358 P P 18 26 34.6 -3.1
baz=2.8
SKT **Skwentna** 77.87 356 P P 18 26 34.5 -3.3
baz=6.8
KLU **Klutina** 77.94 353 P P 18 26 34.8 -3.5
baz=11
CTG **Chitna Glacier** 77.95 351 P P 18 26 34.7 -3.8
baz=15
L17K **Donlin** 77.95 359 P P 18 26 34.5 -3.8
baz=1.5
T47A **Sharon Grove** 77.96 308 P P 18 26 38.8 0.0
T47A IAmb IAmb 18 27 00.8
comp=Z,18nm,1.1s
O28M **Mount Upton** 77.99 350 P P 18 26 36.0 -3.0
baz=16
M22K **Willow** 78.01 355 P P 18 26 38.5 0.0
W50A **Signal Mountai** 78.04 306 P P 18 26 38.1 -1.2
W50A IAmb IAmb 18 26 44.2
comp=Z,21nm,1.4s
GOGA **Godfrey** 78.04 304 P P 18 26 37.5 -1.8
GOGA **Godfrey** 78.04 304 P P 18 26 37.5 -1.8
GOGA pmax pmax
comp=Z,35nm,1.8s
M20K **Styx River** 78.05 357 P P 18 26 38.9 -0.1
M20K IAmb IAmb 18 27 08.4
comp=Z,8.3nm,0.7s
M20K **Styx River** 78.05 357 P P 18 26 35.9 -3.1
baz=5.5
M19K **Big River Lodg** 78.08 357 P P 18 26 38.7 -0.4
M19K IAmb IAmb 18 27 09.8
comp=Z,13nm,1.2s
M19K **Big River Lodg** 78.08 357 P P 18 26 36.9 -2.2
baz=4.5
P30M **Million Dollar** 78.15 348 P P 18 26 35.9 -3.6
baz=18
BMRM **Bremner River** 78.32 352 P P 18 26 37.3 -3.1
baz=12
SUA **Susitna One** 78.34 355 P P 18 26 36.9 -3.7
baz=7.4
L16K **Owhat River** 78.39 360 P P 18 26 37.2 -3.5
baz=0.6
L15K **Ungalak Mounta** 78.42 1 P P 18 26 38.5 -2.4
baz=359
DLBC **Dease Lake** 78.48 344 P P 18 26 39.2 -2.2
baz=23
KSAR **Wonju Array Be** 78.51 50 P P 18 26 40.7 -1.1
KSAR **Wonju Array Be** 78.51 50 P P 18 26 40.7 -1.1
SKAG **Skagway** 78.52 347 P P 18 26 39.1 -2.3
baz=19
KSRS **Korea Array** 78.52 50 P P 18 26 42.8 +0.9
comp=Z,1.8nm,0.8s,baz=308,slow=4.8,SNR=7.3
KSRS LR LR 19 06 45.3
comp=Z,74nm,19.7s,baz=300,slow=40
comp=Z,1.8nm,0.8s
M18K **Stony River** 78.55 358 P P 18 26 39.2 -2.4
baz=3.4
ECSD **EROS Data Cent** 78.60 318 P P 18 26 41.8 -0.4
ECSD **EROS Data Cent** 78.60 318 P P 18 26 39.8 -2.4
baz=44
M17K **Holitna River** 78.67 359 P P 18 26 42.5 +0.2
M17K **Holitna River** 78.67 359 P P 18 26 40.0 -2.3
baz=2.2
N20K **Mount Spurr** 78.69 356 P P 18 26 38.6 -3.9
baz=6.2
PLBC **Pleasant Camp** 78.69 348 P P 18 26 39.6 -2.8
baz=18
P29M **Windy Craggy** 78.74 349 P P 18 26 39.4 -3.3
baz=17
L14K **Kuka Creek** 78.74 1 P P 18 26 39.5 -3.2
baz=358
MESA **MESA** 78.79 351 P P 18 26 39.5 -3.8
baz=14
EYAK **Cordova Ski Ar** 78.85 353 P P 18 26 40.3 -2.9
baz=11
PNL **Peninsula** 78.95 349 P P 18 26 40.8 -3.1
baz=16
WVT **Waverly** 78.96 308 P P 18 26 41.7 -2.7
baz=48
CAPN **Captain Cook N** 79.06 355 P P 18 26 41.2 -3.1
baz=7.0
M16K **Timber Creek** 79.08 359 P P 18 26 41.1 -3.4
baz=1.0
N19K **Bonanza Creek** 79.18 357 P P 18 26 41.2 -4.0
baz=4.5
FVM **French Village** 79.25 311 P P 18 26 44.2 -1.7
FVM IAmb IAmb 18 26 49.5
comp=Z,18nm,1.5s
FVM **French Village** 79.25 311 P P 18 26 44.2 -1.7
FVM pmax pmax
comp=Z,18nm,1.5s
CGM3 **Cape Girardeau** 79.27 310 P P 18 26 44.0 -2.0
CGM3 IAmb IAmb 18 29 22.5
comp=Z,14nm,1.0s
KAIM **Kayak Island** 79.32 352 P P 18 26 42.4 -3.5
baz=12
M14K **Bethel** 79.34 1 P P 18 26 45.2 -0.8
M14K IAmb IAmb 18 27 07.1
comp=Z,17nm,1.2s
M14K **Bethel** 79.34 1 P P 18 26 42.9 -3.1
baz=359
N18K **Kilae Creek** 79.36 358 P P 18 26 42.9 -3.2
baz=3.4
TIGA **Tifton** 79.40 302 P P 18 26 44.4 -2.5
baz=49
M15K **Kaigluk River** 79.41 0 P P 18 26 43.1 -3.2
baz=360
YSS **Yuzh-Sakhalins** 79.47 36 P P 18 26 46.3 -0.6
YSS **Yuzh-Sakhalins** 79.47 36 *e*P P 18 26 47.7 +0.8
YSS *e* 18 29 45.8
YSS *e*S S 18 36 48.4 +0.1
YSS *e*SS SS 18 41 56.3 +1.8
YSS pmax pmax
comp=Z,20nm,0.8s
R32K **Eaglecrest** 79.50 346 P P 18 26 44.3 -2.6
baz=20
P23K **Montague Islan** 79.54 353 P P 18 26 44.0 -3.1
baz=9.9
N17K **Nushagak Hills** 79.55 358 P P 18 26 43.8 -3.3
baz=2.4
SEW **Seward** 79.60 354 P P 18 26 44.1 -3.3
baz=8.3
X48A **Hartselle** 79.60 306 P P 18 26 47.5 -0.3
X48A IAmb IAmb 18 27 10.1
comp=Z,25nm,1.4s
M11K **Mekoryuk** 79.61 3 P P 18 26 44.1 -3.3
baz=355
N16K **Nishlik Lake** 79.62 359 P P 18 26 44.8 -2.8
baz=1.1
M13K **Dall Lake** 79.66 2 P P 18 26 45.3 -2.4
baz=358
CCM **Cathedral Cave** 79.67 311 P P 18 26 46.7 -1.5
baz=46
O19K **Port Alsworth** 79.79 357 P P 18 26 46.0 -2.4
baz=4.6
O20K **Slope Mountain** 79.82 356 P P 18 26 45.7 -3.0
baz=5.9
T35M **Bob Quinn** 79.87 344 P P 18 26 46.1 -2.8
baz=23
P38A **Dawn** 79.87 314 P P 18 26 48.7 -0.5
N15K **Kwethluk River** 79.94 360 P P 18 26 46.6 -2.7
baz=0.1
Q23K **Middleton Isla** 80.01 353 P P 18 26 47.2 -2.4
baz=11
BRSE **E Bradley Lake S** 80.05 355 P P 18 26 47.7 -2.2
baz=7.3
656A **Willston** 80.05 300 P P 18 26 50.4 0.0
PBMO **Poplar Bluff** 80.07 310 P P 18 26 50.5 +0.2
PBMO IAmb IAmb 18 27 12.3
comp=Z,14nm,1.3s
R40A **Maddies Statio** 80.09 312 P P 18 26 49.9 -0.5
R40A IAmb IAmb 18 27 12.6
comp=Z,11nm,1.1s
S31K **Pelican** 80.09 347 P P 18 26 47.5 -2.5
baz=18
O18K **Koktuh Hills** 80.16 357 P P 18 26 50.1 -0.4
O18K IAmb IAmb 18 27 13.1
comp=Z,21nm,1.1s
O18K **Koktuh Hills** 80.16 357 P P 18 26 48.0 -2.4
baz=3.9
N14K **Kuskokwak Cree** 80.18 1 P P 18 26 48.5 -1.9
baz=359
PETK **Petropavlovsk-** 80.19 24 P P 18 26 51.8 +1.1
comp=Z,2.5nm,1.0s,baz=306,slow=11,SNR=3.7
PETK LR LR 19 07 06.4
comp=Z,108nm,18.3s,baz=317,slow=39
comp=Z,2.5nm,1.0s
S32K **Killisnoo** 80.27 346 P P 18 26 49.8 -1.2
baz=20
P19K **Oil Pt** 80.28 356 P P 18 26 49.1 -2.0
baz=5.4
LRAL **Lakeview Retre** 80.52 305 P P 18 26 53.2 +0.3
LRAL IAmb IAmb 18 26 56.7
comp=Z,26nm,1.5s
250A **Grady** 80.76 304 P P 18 26 54.9 +0.7
MGMO **Mountain Grove** 80.88 311 P P 18 26 55.3 +0.6
MGMO IAmb IAmb 18 27 17.4
comp=Z,29nm,1.6s
LAO **LASA Array** 80.92 326 P P 18 26 55.2 +0.3
S39A **Bolivar** 81.11 312 P P 18 26 56.4 +0.5
S39A IAmb IAmb 18 27 17.6
comp=Z,16nm,1.4s
EGMT **Eagleton** 81.33 328 P P 18 26 56.9 -0.2
DLV **T Lat** 81.50 82 P P 18 26 57.8 -0.8
FCAR **Ozark Folk Cen** 81.67 310 P P 18 26 57.4 -1.5
FCAR IAmb IAmb 18 29 11.5
comp=Z,7.2nm,1.0s
RSSD **Black Hills** 81.92 323 P P 18 27 00.3 -0.1
RSSD IAmb IAmb 18 27 22.7
comp=Z,13nm,1.8s
RSSD **Black Hills** 81.92 323 P P 18 27 00.3 -0.1
RSSD pmax pmax
comp=Z,13nm,1.8s
KSU1 **Kansas State U** 81.92 315 P P 18 27 00.9 +0.7
KSU1 IAmb IAmb 18 27 22.4
comp=Z,12nm,1.0s
WHAR **Wooly Hollow** 82.19 310 P P 18 27 01.3 -0.3
U38A **Gravette** 82.59 312 P P 18 27 03.4 -0.4
U38A IAmb IAmb 18 27 25.8
comp=Z,19nm,1.5s
T35A **Sooner Cattle** 83.44 314 P P 18 27 07.6 -0.6
T35A IAmb IAmb 18 27 30.7
comp=Z,13nm,0.9s
MIAR **Mount Ida** 83.46 310 P P 18 27 09.1 +0.8
MIAR IAmb IAmb 18 27 31.0
comp=Z,19nm,1.4s
MIAR **Mount Ida** 83.46 310 P P 18 27 07.7 -0.6
baz=45
MIAR **Mount Ida** 83.46 310 P P 18 27 09.1 +0.8
MIAR pmax pmax
comp=Z,19nm,1.4s
R32A **Long Quarter,** 83.54 316 P P 18 27 08.8 +0.1
TUL3 **Leonard** 83.76 312 P P 18 27 10.4 +0.6
TUL3 IAmb IAmb 18 27 32.1
comp=Z,9.0nm,0.9s
TUL3 **Leonard** 83.76 312 P P 18 27 09.2 -0.6
baz=44
CBKS **Cedar Bluff** 83.79 317 P P 18 27 11.0 +1.0
CBKS **Cedar Bluff** 83.79 317 P P 18 27 07.5 -2.5
baz=42
CBKS **Cedar Bluff** 83.79 317 P P 18 27 11.0 +1.0
CBKS pmax pmax
comp=Z,42nm,1.4s
CHGN **Chignik** 83.80 359 P P 18 27 08.3 -1.3
baz=1.4
BDFB **Brasilia** 83.83 244 P P 18 27 10.4 0.0
BDFB **Brasilia** 83.83 244 P P 18 27 10.4 0.0
BDFB pmax pmax
comp=Z,48nm,1.9s
S14K **Fog Glacier** 83.83 360 P P 18 27 08.7 -1.2
baz=0.5
KAN13 **South Haven SW** 83.91 314 P P 18 27 11.2 +0.7
NEW **Newport** 83.91 333 P P 18 27 07.4 -3.0
baz=32
NEW **Newport** 83.91 333 LR LR 19 06 45.1
comp=Z,51nm,18.2s,baz=10.0,slow=37
KAN06 **Argonia West S** 83.94 315 P P 18 27 10.8 0.0
BLOK **Blackwell** 83.94 314 P P 18 27 11.4 +0.6
MSO **Missoula** 83.95 330 P P 18 27 11.1 +0.4
MSO IAmb IAmb 18 27 15.1
comp=Z,18nm,1.5s
MSO **Missoula** 83.95 330 P P 18 27 08.6 -2.1
baz=34
KAN01 **Argonia South** 83.96 315 P P 18 27 11.5 +0.7
KAN12 **Harper NE Stat** 83.98 315 P P 18 27 11.9 +0.9
KAN08 **Anthony NE Sta** 84.02 315 P P 18 27 11.7 +0.6
KAN17 **Caldwell West** 84.04 314 P P 18 27 12.2 +1.0
OK048 **Pawnee Station** 84.04 314 P P 18 27 12.2 +1.0
BOZ **Bozeman (W)** 84.06 328 P P 18 27 12.3 +0.9
BOZ IAmb IAmb 18 27 34.2
comp=Z,16nm,1.5s
BOZ **Bozeman (W)** 84.06 328 P P 18 27 10.0 -1.4
baz=35
BOZ **Bozeman (W)** 84.06 328 P P 18 27 12.3 +0.9
BOZ pmax pmax
comp=Z,16nm,1.5s
BPMT **Black Pine Rid** 84.08 330 P P 18 27 12.9 +1.3
QUOK **Quay** 84.09 313 P P 18 27 12.2 +0.7
YMP **Mirror Lake Pl** 84.14 327 P P 18 27 12.1 +0.1
LRM **Limekiln Ridge** 84.20 329 P P 18 27 11.7 -0.5
K22A **Casper** 84.20 323 P P 18 27 12.4 +0.2
K22A IAmb IAmb 18 27 34.5
comp=Z,15nm,1.2s
K22A **Casper** 84.20 323 P P 18 27 10.1 -2.1
baz=38
DEOK **Depew** 84.21 313 P P 18 27 13.4 +1.3
KAN14 **Manchester OK** 84.21 314 P P 18 27 13.4 +1.3
CHIR **Chirikof Islan** 84.21 357 P P 18 27 12.0 +0.3
YHH **Holmes Hill** 84.39 327 P P 18 27 13.6 +0.3
S12K **Black Hills** 84.41 1 P P 18 27 09.5 -3.2
baz=359
X37A **Clayton** 84.47 311 P P 18 27 13.8 +0.3
SDPT **Sand Point** 84.77 0 P P 18 27 11.9 -2.7
baz=360
SHEM **Shemya Is, Ala** 84.78 15 LR LR 19 10 39.8
comp=Z,77nm,18.2s,baz=345,slow=40
FLWY **Flagg Ranch** 84.90 327 P P 18 27 15.3 -0.4
MJAR **Matsushiro Arr** 85.00 45 P P 18 27 17.5 +1.4
comp=Z,3.3nm,0.9s,baz=327,slow=4.8,SNR=5.6
MJAR LR LR 19 08 58.4
comp=Z,130nm,18.2s,baz=339,slow=38
comp=Z,3.3nm,0.9s
KSCO **Kaye Shedlock'** 85.14 319 P P 18 27 14.1 -2.8
baz=40
CHNA **Chernabura Isl** 85.29 360 P P 18 27 11.9 -5.3
baz=0.5
N23A **Red Feather La** 85.31 322 P P 18 27 15.4 -2.5
baz=38
FXWY **Fox Creek** 85.40 326 P P 18 27 18.2 -0.1
FXWY IAmb IAmb 18 27 41.3
comp=Z,9.5nm,1.4s
PDAR **Pinedale Array** 85.47 325 P P 18 27 19.4 +0.7
PDAR **Pinedale Array** 85.47 325 P P 18 27 20.6 +2.0
comp=Z,0.9nm,0.9s,baz=90,slow=4.4,SNR=7.5
PDAR LR LR 19 05 12.0
comp=Z,80nm,21.0s,baz=30,slow=36
comp=Z,0.9nm,0.9s
ISCO **Idaho Springs** 86.00 321 P P 18 27 16.3 -5.1
baz=39
UNV **Unalaska Valle** 86.13 4 P P 18 27 17.6 -3.7
baz=355
WMOK **Wichita Mounta** 86.29 313 P P 18 27 23.1 +0.5
WMOK IAmb IAmb 18 27 45.3
comp=Z,9.5nm,1.1s
WMOK **Wichita Mounta** 86.29 313 P P 18 27 19.7 -2.8
baz=42
WMOK **Wichita Mounta** 86.29 313 P P 18 27 23.1 +0.5
WMOK pmax pmax
comp=Z,9.0nm,1.2s
Q24A **Divide** 86.43 320 P P 18 27 20.8 -2.8
baz=39
HLID **Hailey** 86.86 328 P P 18 27 22.1 -3.3
baz=33
NIKH **Nikolski High** 86.86 5 P P 18 27 20.7 -4.3
baz=353
BMO **Blue Mountains** 86.89 331 P P 18 27 25.8 +0.4
BMO IAmb IAmb 18 27 46.8
comp=Z,7.1nm,1.0s
BMO **Blue Mountains** 86.89 331 P P 18 27 25.8 +0.4
BMO pmax pmax
comp=Z,7.0nm,1.0s
O20A **White River Ci** 86.98 323 P P 18 27 22.4 -3.7
baz=37
HWUT **Hardware Ranch** 87.28 326 IAmb IAmb 18 27 49.2
comp=Z,19nm,1.7s
T25A **Trinidad** 87.47 319 P P 18 27 24.9 -3.7
baz=39
WHTX **Lake Whitney,** 87.55 311 P P 18 27 24.4 -4.3
baz=43
ABTX **Abilene, Hawle** 88.33 313 P P 18 27 29.7 -2.8
baz=42
SRU **San Rafael Swe** 88.85 324 P P 18 27 33.9 -1.1
SRU IAmb IAmb 18 27 56.3
comp=Z,7.9nm,1.3s
SRU **San Rafael Swe** 88.85 324 P P 18 27 33.9 -1.1
SRU pmax pmax
comp=Z,8.0nm,1.3s
DUG **Dugway, Tooele** 88.98 326 P P 18 27 36.4 +0.8
DUG IAmb IAmb 18 27 58.1
comp=Z,4.2nm,0.9s
DUG **Dugway, Tooele** 88.98 326 P P 18 27 32.4 -3.2
baz=34
DUG **Dugway, Tooele** 88.98 326 P P 18 27 36.4 +0.8
DUG pmax pmax
comp=Z,4.0nm,1.0s
MSTX **Muleshoe** 89.05 315 P P 18 27 33.5 -2.5
baz=40
Q16A **Castle Valley** 89.30 324 IAmb IAmb 18 27 41.0
comp=Z,8.2nm,1.3s
MVCO **Mesa Verde** 89.43 321 P P 18 27 34.9 -3.0
baz=37

ELK	**Elko**	**89.55**	**327**	LR	LR	19 10 42.4		
	comp=Z,100nm,18.3s,baz=44,slow=38							
JCT	**Junction City**	**90.02**	**311**	P	**P**	**18 27 38.7**	**-1.8**	
	baz=42							
ANMO	**Albuquerque**	**90.22**	**318**	P	**P**	**18 27 39.1**	**-2.4**	
	baz=38							
SPR3	**Spring Creek 3**	**90.63**	**326**	P	**P**	**18 27 44.0**	**+0.5**	
833A	**Chaparral WMA,**	**91.38**	**310**	P	**P**	**18 27 43.5**	**-3.3**	
	baz=42							
W18A	**Petrified Fore**	**91.71**	**321**	P	**P**	**18 27 44.4**	**-4.0**	
	baz=36							
R11B	**Troy Canyon, C**	**91.71**	**326**	P	**P**	**18 27 48.9**	**+0.6**	
R11B				IAmb	IAmb	18 28 10.8		
	comp=Z,8.2nm,1.4s							
R11B	**Troy Canyon, C**	**91.71**	**326**	P	**P**	**18 27 45.1**	**-3.3**	
	baz=32							
WUAZ	**Wupatki**	**92.17**	**322**	P	**P**	**18 27 46.0**	**-4.5**	
	baz=35							
MNTX	**Cornudas Mount**	**92.19**	**316**	P	**P**	**18 27 47.9**	**-2.6**	
	baz=39							
121A	**Cookes Peak, D**	**92.80**	**318**	P	**P**	**18 27 49.5**	**-4.0**	
	baz=37							
TXAR	**Lajitas Array**	**93.08**	**313**	P	**P**	**18 27 57.0**	**+2.3**	
	comp=Z,1.9nm,1.0s,baz=57,slow=4.6,SNR=14							
	comp=Z,1.9nm,1.0s							
TXAR	**Lajitas Array**	**93.08**	**313**	P	**P**	**18 27 57.0**	**+2.3**	
GRAC	**Grapevine Rang**	**93.60**	**327**	P	**P**	**18 27 52.5**	**-4.4**	
	baz=31							
MLAC	**Mammoth, Mammo**	**93.66**	**328**	P	**P**	**18 27 54.1**	**-3.3**	
	baz=30							
TUC	**Tucson**	**94.49**	**320**	P	**P**	**18 27 58.0**	**-3.1**	
	baz=36							
GMRC	**Granite Mounta**	**94.74**	**325**	P	**P**	**18 27 58.0**	**-4.3**	
	baz=32							
GSC	**Goldstone, Bar**	**94.80**	**326**	P	**P**	**18 27 58.7**	**-3.8**	
	baz=32							
HEC	**Hector,Ludlow**	**95.00**	**325**	P	**P**	**18 27 59.0**	**-4.5**	
	baz=32							
LRMC	**Laurel Mtn Rad**	**95.03**	**326**	P	**P**	**18 28 00.1**	**-3.5**	
	baz=31							
IRM	**Iron Mountain**	**95.03**	**324**	P	**P**	**18 27 59.9**	**-3.6**	
	baz=33							
BC3	**Big Chuckawall**	**95.59**	**324**	P	**P**	**18 28 02.7**	**-3.5**	
	baz=33							
EDW2	**Edwards Air Fo**	**95.67**	**326**	P	P	18 28 01.2	-5.3	
	baz=31							
214A	**Organ Pipe Nat**	**95.77**	**321**	P	P	18 28 02.0	-4.9	
	baz=34							
ARVC	**Arvin**	**95.81**	**327**	P	**P**	**18 28 02.9**	**-4.2**	
	baz=30							
BFSC	**Mount Baldy Ra**	**96.07**	**326**	P	**P**	**18 28 05.4**	**-3.0**	
	baz=31							
PFO	**Pinyon Flats O**	**96.08**	**324**	P	**P**	**18 28 05.7**	**-2.8**	
	baz=32							
TPFO	**Pinon Flats**	**96.08**	**324**	P	**P**	**18 28 05.2**	**-3.3**	
	baz=32							
OSI	**Osito Audit: C**	**96.21**	**327**	P	**P**	**18 28 06.7**	**-2.2**	
	baz=30							
SWSC	**Sam W. Stewart**	**96.34**	**324**	P	**P**	**18 28 06.1**	**-3.3**	
	baz=32							
DECC	**Green Verdugo**	**96.35**	**326**	P	**P**	**18 28 07.4**	**-2.2**	
	baz=31							
MURC	**Murrieta**	**96.41**	**325**	P	**P**	**18 28 06.7**	**-3.2**	
	baz=32							
PKM	**Mcpherson Peak**	**96.42**	**327**	P	**P**	**18 28 07.4**	**-2.6**	
	baz=30							
MONP2	**Monument Peak**	**96.67**	**324**	P	**P**	**18 28 06.8**	**-4.4**	
	baz=32							
IKP	**In-Ko-Pah, Jac**	**96.73**	**324**	P	**P**	**18 28 06.6**	**-4.8**	
	baz=32							
SBC	**Santa Barbara**	**96.77**	**327**	P	**P**	**18 28 07.2**	**-4.2**	
	baz=30							
SCZ2	**Santa Cruz Isl**	**97.12**	**327**	P	**P**	**18 28 08.3**	**-4.8**	
	baz=30							
CPUP	**Villa Florida**	**97.44**	**242**	LR	LR	19 15 09.2		
	comp=Z,97nm,18.6s,baz=38,slow=37							
SNCC	**San Nicolas Is**	**97.72**	**326**	P	**P**	**18 28 11.7**	**-4.0**	
	baz=30							
WRA	**Warramunga Arr**	**121.24**	**90**	PKP	**PKiKP**	**18 33 35.8**	**+1.8**	
	comp=Z,0.3nm,0.5s,baz=324,slow=1.8,SNR=1.8							
ASAR	**Alice Springs**	**123.02**	**94**	PKP	**PKiKP**	**18 33 37.9**	**+0.3**	
	comp=Z,0.6nm,0.7s,baz=297,slow=1.6,SNR=11							
PPT2	**Papeete2**	**155.58**	**335**	*e*LR	LR	19 26 47.1		
	comp=Z,50nm,21.8s							
TBI	**Tubuai**	**160.81**	**328**	*e*LR	LR	19 29 09.0		
	comp=Z,392nm,36.2s							

*BEO **19** 18:22:09.7±0.9, 40.05N×19.65E, h13km±3km, ML2.8/5*
*THE **19** 18:22:11.9, 40.26N×19.76E, h0km±3km, ML2.6/5, Error ellipse: s-maj=3.4km s-min=1.0km az=237.0*
*ATH **19** 18:22:12.3±0.4, 40.40N×19.76E, h10km, ML2.8/14, Manual Solution by N.Liadopoulou This location: 2020/06/02 09:09:22 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 3 km; Longitude uncertainty: 1 km*

ISC 19 18:22:11.9±1.1, 40°25'N±0.02×19°75'E±0.03, h7km±9km, n42, σ1s04/62, Albania

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
VLO	**Vlora**	**0.30**	**318**	P		**Pg**	**18**	**22**	**17.9**	**+0.2**
VLO				S		**Sg**	**18**	**22**	**22.1**	**+0.5**
	4um,0.3s									
SRN	**Sarande**	**0.41**	**153**	P		**Pg**	**18**	**22**	**19.8**	**-0.1**
SRN				S		**Sb**	**18**	**22**	**27.0**	**-1.0**
	655nm,0.6s									
LSK	**Leskovik**	**0.66**	**98**	P		**Pg**	**18**	**22**	**23.2**	**-1.3**
LSK				S		**Sg**	**18**	**22**	**33.2**	**+0.1**
SCTE	**Santa Cesarea**	**1.00**	**260**	P		**Pb**	**18**	**22**	**31.6**	**0.0**
SCTE				S		**Sn**	**18**	**22**	**45.8**	**-1.0**
NEST	**Nestorio**	**1.00**	**80**	P		**Pg**	**18**	**22**	**30.9**	**-0.3**
NEST				S		**Sn**	**18**	**22**	**46.2**	**-0.8**
	165nm,0.4s									
NEST	**Nestorio**	**1.00**	**80**	P		**Pg**	**18**	**22**	**30.7**	**-0.5**
NEST				S		**Sg**	**18**	**22**	**44.1**	**-0.2**
JAN	**Janina**	**1.03**	**125**	P		**Pn**	**18**	**22**	**33.6**	**+0.8**
JAN				S		**Sn**	**18**	**22**	**48.2**	**+0.7**
PENT	**Pentalofos**	**1.06**	**92**	P		**Pg**	**18**	**22**	**32.1**	**-0.1**
PENT				S		**Sb**	**18**	**22**	**47.0**	**+0.1**
TIR	**Tirane**	**1.10**	**4**	P		**Pg**	**18**	**22**	**32.0**	**-1.1**
TIR	**Tirane**	**1.10**	**4**	*e*Pg		**Pn**	**18**	**22**	**33.7**	**-0.1**
TIR				*e*Sg		**Sn**	**18**	**22**	**51.6**	**+2.3**
OHR	**Ohrid**	**1.17**	**42**	*e*Pg		**Pb**	**18**	**22**	**33.8**	**-0.8**
OHR				*e*Sg		**Sn**	**18**	**22**	**52.9**	**+1.8**
OHR	**Ohrid**	**1.17**	**42**	*i* Pn		**Pb**	**18**	**22**	**33.9**	**-0.7**
KPRO	**Kipourio**	**1.27**	**103**	P		**Pn**	**18**	**22**	**35.6**	**-0.5**
KPRO				S		**Sn**	**18**	**22**	**54.9**	**+1.4**
	245nm,0.7s									
KPRO	**Kipourio**	**1.27**	**103**	P		**Pb**	**18**	**22**	**36.1**	**-0.1**
KPRO				S		**Sn**	**18**	**22**	**53.6**	**+0.1**
FNA	**Florina**	**1.35**	**66**	P		**Pn**	**18**	**22**	**36.5**	**-0.7**
FNA				S		**Sg**	**18**	**22**	**57.1**	**+1.9**
	420nm,0.5s									
FNA	**Florina**	**1.35**	**66**	*e*Pg		**Pn**	**18**	**22**	**36.7**	**-0.5**
FNA				*e*Sg		**Sg**	**18**	**22**	**57.5**	**+2.3**
FNA	**Florina**	**1.35**	**66**	P		**Pn**	**18**	**22**	**36.3**	**-0.9**
FNA				S		**Sb**	**18**	**22**	**54.4**	**-0.7**
TSLK	**Tsoukalades, L**	**1.58**	**154**	P		**Pg**	**18**	**22**	**42.2**	**0.0**
LKD2	**Lefkada island**	**1.62**	**154**	P		**Pb**	**18**	**22**	**42.5**	**+0.4**
LKD2				S		**Sg**	**18**	**23**	**06.0**	**+2.2**
EVGI	**Lefkada island**	**1.77**	**156**	P		**Pb**	**18**	**22**	**45.2**	**+0.5**
THL	**Klokotos Trika**	**1.87**	**111**	P		**Pb**	**18**	**22**	**45.6**	**-0.8**
FSK	**Fiskardo**	**1.89**	**160**	P		**Pb**	**18**	**22**	**46.0**	**-0.8**
TYRN	**Tyrnavos**	**1.98**	**105**	P		**Pn**	**18**	**22**	**46.6**	**+0.8**
TYRN				S		**Sb**	**18**	**23**	**11.8**	**-1.3**
EVR	**Evrytania**	**2.07**	**129**	P		**Pb**	**18**	**22**	**49.1**	**-0.8**
PVO	**Paravola**	**2.13**	**139**	P		**Pb**	**18**	**22**	**49.8**	**-1.0**
GRG	**Griva**	**2.14**	**70**	P		**Pn**	**18**	**22**	**46.9**	**-1.1**
AGG	**Agios Georgios**	**2.34**	**121**	P		**Pb**	**18**	**22**	**52.7**	**-1.7**
ANX	**Ano Chora**	**2.36**	**134**	P		**Pb**	**18**	**22**	**53.5**	**-1.3**
VAY	**Valandovo**	**2.39**	**62**	*i* Pn		**Pb**	**18**	**22**	**56.2**	**+0.9**
EFP	**Efpalio**	**2.47**	**137**	P		**Pb**	**18**	**22**	**54.5**	**-2.0**
KNT	**Kendrikon**	**2.56**	**68**	P		**Pn**	**18**	**22**	**53.6**	**-0.2**
HORT	**Hortiatis**	**2.58**	**81**	P		**Pn**	**18**	**22**	**53.7**	**-0.4**
XOR	**Xorichti**	**2.79**	**107**	P		**Pn**	**18**	**22**	**58.4**	**+1.4**
PRVS	**Prvonek**	**2.85**	**37**	*e*Pn		**Pn**	**18**	**22**	**58.1**	**+0.2**
PRVS				*e*Sn		**Sn**	**18**	**23**	**33.6**	**+1.0**
BARS	**Barje**	**3.00**	**30**	*e*Pn		**Pn**	**18**	**23**	**00.2**	**+0.3**
BARS				*e*Sn		**Sn**	**18**	**23**	**38.2**	**+2.2**
SJES	**Sjenica**	**3.02**	**3**	*e*Pn		**Pn**	**18**	**22**	**59.7**	**-0.5**
SJES				*e*Sn		**Sn**	**18**	**23**	**36.8**	**+0.2**
BOSS	**Bosilegrad**	**3.04**	**42**	*e*Pn		**Pn**	**18**	**23**	**01.2**	**+0.7**
SELS	**Selova**	**3.14**	**19**	*e*Pn		**Pn**	**18**	**23**	**01.0**	**-0.8**
IVAS	**Ivanjica**	**3.34**	**5**	*e*Pn		**Pn**	**18**	**23**	**03.7**	**-0.9**
BBLS	**Lazi&#263i**	**3.62**	**356**	*e*Pn		**Pn**	**18**	**23**	**08.0**	**-0.5**
ZAGS	**Zajecar**	**4.01**	**27**	*e*Pn		**Pn**	**18**	**23**	**13.5**	**-0.3**
KUBS	**Kucevo**	**4.40**	**18**	*e*Pn		**Pn**	**18**	**23**	**18.2**	**-0.9**

*IDC **19** 18:25:45.4±0.7, 60.38S×26.54W, h0km, mb4.4/8, mbtmp4.3/8, MS3.2/2, Error ellipse: s-maj=28.7km s-min=19.1km az=75.0*
*NEIC **19** 18:25:46.1±1.5, 60.44S±0.03×26.2W±0.2, h10km±1km, mb5.0/45, Error ellipse: s-maj=20.3km s-min=4.2km az=77.0*

ISC 19 18:25:47.5±0.5, 60.48S±0.08×26.3W±0.1, h20km, n109, σ1s25/102, mb4.9/27, 10C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
HOPE	**Hope Point**	**8.30**	**314**	P		Pn	18	27	53.6	+7.0
HOPE				Sn		Sn	18	29	31.3	+12
VNA1	**Neumayer--Stat**	**12.56**	**152**	⇑P		**Pn**	**18**	**28**	**42.5**	**-2.2**
	comp=Z,19nm,0.3s									
VNA1				⇑S		Sn	18	30	49.8	-14
	comp=Z,6.4nm,0.7s									
VNA3	**Neumayer Olymp**	**12.69**	**155**	⇑P		**Pn**	**18**	**28**	**43.9**	**-2.6**
	comp=Z,10nm,0.3s									
VNA3				⇑S		Sn	18	30	49.8	-17
	comp=Z,4.7nm,0.4s									
VNA2	**Neumayer--Watz**	**12.96**	**152**	⇑P		**Pn**	**18**	**28**	**47.5**	**-2.6**
	comp=Z,2.0nm,0.3s,baz=309,slow=15									
VNA2				⇑S		Sn	18	30	59.1	-14
	comp=Z,0.0nm,0.1s,baz=305,slow=20									
SNAA	**Sanae**	**14.56**	**150**	Pn		**Pn**	**18**	**29**	**08.6**	**-3.5**
SNAA	**Sanae**	**14.56**	**150**	⇑P		**Pn**	**18**	**29**	**08.5**	**-3.5**
	comp=Z,56nm,0.3s									
SNAA				⇑S		Sn	18	31	34.7	-18
	comp=Z,98nm,0.4s									
SNAA	**Sanae**	**14.56**	**150**	Pn		**Pn**	**18**	**29**	**08.7**	**-3.3**
	comp=Z,1.4nm,0.3s,baz=316,slow=20,SNR=50									
SNAA				Sn		Sn	18	31	35.5	-17
	comp=Z,0.3nm,0.3s,baz=190,slow=21,SNR=4.5									
SNAA				LR		LR	18	33	17.4	
	comp=Z,131nm,18.9s,baz=137,slow=31									
TROLL	**Troll, Antarti**	**16.14**	**147**	⇑P		**Pn**	**18**	**29**	**30.0**	**-2.9**
	comp=Z,135nm,0.5s									
TROLL				⇑S		Sn	18	32	13.2	-18
	comp=Z,73nm,0.4s									
BELA	**Belgrano 2**	**17.70**	**186**	P		**Pn**	**18**	**29**	**52.0**	**-0.2**
PMSA	**Palmer Station**	**17.70**	**240**			**Pn**	**18**	**29**	**52.5**	**+0.1**
PMSA	**Palmer Station**	**17.70**	**240**	LR		LR	18	35	21.1	
	comp=Z,64nm,19.8s,baz=32,slow=33									
QSPA	**South Pole Qui**	**29.76**	**180**	P		**P**	**18**	**31**	**54.0**	**+1.7**
QSPA				IAmb		IAmb	18	31	55.5	
	comp=Z,39nm,1.3s									
QSPA	**South Pole Qui**	**29.76**	**180**	P		**P**	**18**	**31**	**54.5**	**+2.2**
	comp=Z,13nm,0.7s,baz=213,slow=0.5,SNR=196									
	comp=Z,13nm,0.7s									
TRQA	**Tornquist**	**31.71**	**299**	P		**P**	**18**	**32**	**09.6**	**+0.1**
TRQA				IAmb		IAmb	18	32	10.7	
	comp=Z,11nm,0.6s									
PLCA	**Paso Flores**	**33.48**	**286**	P		**P**	**18**	**32**	**24.2**	**-0.8**
PLCA				IAmb		IAmb	18	33	02.6	
	comp=Z,31nm,1.9s									
PLCA	**Paso Flores**	**33.48**	**286**	P		**P**	**18**	**32**	**24.1**	**-1.0**
	comp=Z,0.8nm,0.6s,baz=151,slow=10,SNR=5.3									
	comp=Z,0.8nm,0.6s									
PLTB	**Pedras Altas**	**33.92**	**315**	P		**P**	**18**	**32**	**28.8**	**-0.1**
PLTB				IAmb		IAmb	18	33	21.6	
	comp=Z,64nm,1.8s									
GO06	**Curarrehue**	**34.81**	**286**	P		**P**	**18**	**32**	**36.5**	**-0.3**
ITQB	**Itaqui**	**36.89**	**313**	P		**P**	**18**	**32**	**54.2**	**-0.2**
ITQB				IAmb		IAmb	18	33	52.3	
	comp=Z,48nm,1.3s									
MT08	**Bocatoma Ro**	**39.13**	**294**	P		**P**	**18**	**33**	**14.1**	**+0.5**
MT08				IAmb		IAmb	18	33	15.8	
	comp=Z,18nm,0.7s									
MT09	**Talagante**	**39.30**	**292**	P		**P**	**18**	**33**	**14.6**	**-0.3**
MT09				IAmb		IAmb	18	33	15.4	
	comp=Z,36nm,0.8s									
MT16	**CCHEN**	**39.38**	**293**	P		**P**	**18**	**33**	**15.6**	**+0.1**
VA05	**Santo Domingo**	**39.69**	**292**	P		**P**	**18**	**33**	**17.8**	**-0.1**
VA05				IAmb		IAmb	18	33	20.0	
	comp=Z,38nm,0.8s									
PEL	**Peldehue**	**39.69**	**293**	P		**P**	**18**	**33**	**18.4**	**+0.3**
MT02	**Curacav**	**39.80**	**293**	P		**P**	**18**	**33**	**17.9**	**-1.0**
VA03	**San Esteban**	**39.95**	**294**	P		**P**	**18**	**33**	**20.6**	**+0.3**
VA03				IAmb		IAmb	18	33	22.1	
	comp=Z,34nm,0.7s									
ZON	**Zonda**	**40.14**	**297**	P		**P**	**18**	**33**	**20.8**	**-1.0**
CPUP	**Villa Florida**	**40.19**	**314**	P		**P**	**18**	**33**	**21.5**	**-0.7**
CPUP	**Villa Florida**	**40.19**	**314**	P		**P**	**18**	**33**	**21.8**	**-0.3**
	comp=Z,2.7nm,0.7s,baz=149,slow=8.7,SNR=1.4									
	comp=Z,2.7nm,0.7s									
SBA	**Scott Base**	**41.69**	**184**	P		**P**	**18**	**33**	**37.2**	**+3.3**
CO01	**Juntas del Tor**	**42.11**	**296**	P		**P**	**18**	**33**	**38.9**	**+0.6**
CO01				IAmb		IAmb	18	33	40.3	
	comp=Z,24nm,1.0s									
VNDA	**Vanda**	**42.16**	**183**	P		**P**	**18**	**33**	**40.2**	**+2.4**
VNDA	**Vanda**	**42.16**	**183**	P		**P**	**18**	**33**	**40.3**	**+2.4**
	comp=Z,2.3nm,0.7s,baz=195,slow=6.6,SNR=17									
	comp=Z,2.3nm,0.7s									
AC05	**El Transito**	**43.17**	**297**	P		**P**	**18**	**33**	**47.3**	**+0.6**
LCO	**Las Campanas**	**43.21**	**296**	P		**P**	**18**	**33**	**47.3**	**+0.1**
LCO				IAmb		IAmb	18	34	13.1	
	comp=Z,31nm,1.3s									
AC04	**Llanos de Chal**	**44.06**	**297**	P		**P**	**18**	**33**	**51.7**	**-2.1**
AC06	**Mina Casimiro**	**44.48**	**298**	P		**P**	**18**	**33**	**57.0**	**-0.1**
AC06				IAmb		IAmb	18	35	32.0	
	comp=Z,22nm,1.4s									
AC01	**Pan de Azucar**	**45.64**	**299**	P		**P**	**18**	**34**	**05.5**	**-0.9**
GO02	**Mina Guanaco**	**46.07**	**300**	P		**P**	**18**	**34**	**10.3**	**+0.2**
PB14	**IPOC Station P**	**46.89**	**300**	P		**P**	**18**	**34**	**15.7**	**-0.8**
PB10	**IPOC Station P**	**47.93**	**300**	P		**P**	**18**	**34**	**24.0**	**-0.3**
LVC	**Limon Verde**	**48.03**	**303**	P		**P**	**18**	**34**	**25.2**	**-0.3**
LVC				IAmb		IAmb	18	36	07.0	
	comp=Z,23nm,1.8s									
PB04	**IPOC Station P**	**48.80**	**301**	P		**P**	**18**	**34**	**30.7**	**-0.5**
PB09	**IPOC Station P**	**48.89**	**303**	P		**P**	**18**	**34**	**32.5**	**+0.6**
PB09				IAmb		IAmb	18	34	33.4	
	comp=Z,18nm,1.1s									
PB01	**IPOC Station P**	**49.67**	**303**	P		**P**	**18**	**34**	**37.5**	**-0.2**
PB01				IAmb		IAmb	18	34	39.0	
	comp=Z,12nm,0.8s									
PB08	**IPOC Station P**	**50.33**	**304**	P		**P**	**18**	**34**	**43.6**	**+0.5**
PB08				IAmb		IAmb	18	35	59.1	
	comp=Z,35nm,1.9s									
HMBC	**Humberstone**	**50.52**	**303**	P		**P**	**18**	**34**	**43.5**	**-0.7**
HMBC				IAmb		IAmb	18	36	26.2	
	comp=Z,34nm,1.5s									
GO01	**Chusmiza**	**50.77**	**304**	P		**P**	**18**	**34**	**46.8**	**+0.2**
GO01				IAmb		IAmb	18	34	47.5	
	comp=Z,6.2nm,0.6s									
PB11	**IPOC Station P**	**50.88**	**303**	P		**P**	**18**	**34**	**46.8**	**-0.2**
PB11				IAmb		IAmb	18	34	50.4	
	comp=Z,20nm,1.4s									
H10S3	**ASCENSION HYDR**	**52.15**	**15**	T		T	19	31	42.2	
	SNR=3.8									
H10N1	**ASCENSION HYDR**	**53.26**	**15**	T		T	19	32	52.2	
	baz=202,slow=75,SNR=3.8									
H10N3	**ASCENSION HYDR**	**53.26**	**15**	T		T	19	32	47.6	
	baz=202,slow=75,SNR=5.6									
H10N2	**ASCENSION HYDR**	**53.28**	**15**	T		T	19	32	58.4	
	baz=202,slow=75,SNR=5.4									
LPAZ	**La Paz**	**53.39**	**307**	P		**P**	**18**	**35**	**05.8**	**-0.5**
LPAZ				IAmb		IAmb	18	35	06.9	
	comp=Z,4.7nm,0.5s									
LPAZ						**PcP**	**18**	**36**	**11.2**	**-2.2**
LPAZ	**La Paz**	**53.39**	**307**	P		**P**	**18**	**35**	**06.2**	**-0.1**
	comp=Z,3.6nm,0.4s,baz=143,slow=6.7,SNR=22									
	comp=Z,3.6nm,0.4s									
SAML	**Samuel**	**58.30**	**316**	P		**P**	**18**	**35**	**39.5**	**-1.2**
ETMB	**Extrema**	**58.58**	**312**	P		**P**	**18**	**35**	**41.8**	**-0.8**
ABPO	**Ambohimpanom**	**65.51**	**85**	P		**P**	**18**	**36**	**29.0**	**-0.3**
ABPO				IAmb		IAmb	18	37	10.2	
	comp=Z,26nm,1.4s									
BOAV	**Boa Vista**	**68.10**	**323**	P		**P**	**18**	**36**	**43.8**	**-1.9**
BOAV				IAmb		IAmb	18	38	08.9	
	comp=Z,18nm,1.6s									
DBIC	**Dimbokro**	**69.03**	**23**	P		**P**	**18**	**36**	**52.5**	**+1.1**
DBIC	**Dimbokro**	**69.03**	**23**	P		**P**	**18**	**36**	**52.5**	**+1.1**
	comp=Z,2.5nm,0.7s,baz=160,slow=6.1,SNR=1.5									
	comp=Z,2.5nm,0.7s									
TOA0	**Torodi Ar. Sit**	**76.71**	**28**	P		**P**	**18**	**37**	**38.8**	**+1.9**
TORD	**Torodi Ar. Bea**	**76.71**	**28**	P		**P**	**18**	**37**	**38.4**	**+1.4**
TORD	**Torodi Ar. Bea**	**76.71**	**28**	P		**P**	**18**	**37**	**38.8**	**+1.9**
	comp=Z,4.3nm,0.7s,baz=200,slow=5.8,SNR=33									
	comp=Z,4.3nm,0.7s									
PPT2	**Papeete2**	**89.92**	**233**	*e*LR		LR	19	07	31.1	
	comp=Z,45nm,23.5s									
ASAR	**Alice Springs**	**94.61**	**162**	P		**P**	**18**	**39**	**07.0**	**+0.2**
	comp=Z,0.6nm,0.9s,baz=184,slow=4.0,SNR=5.6									
	comp=Z,0.6nm,0.9s									
FINES	**FINESS Array B**	**128.06**	**29**	PKP		**PKiKP**	**18**	**44**	**51.2**	**+0.3**
	comp=Z,1.4nm,0.8s,baz=354,slow=1.9,SNR=3.5									
YKA	**Yellowknife Ar**	**139.71**	**314**	PKP		**PKPdf**	**18**	**45**	**12.9**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=123,slow=2.0,SNR=8.2									
P33M	**Teslin, Yukon**	**145.40**	**303**	P		**PKPab**	**18**	**45**	**23.5**	**+0.9**
	baz=123									
M31M	**Drury Creek, Y**	**147.10**	**305**	P		**PKPab**	**18**	**45**	**28.1**	**-1.0**
	baz=120									
A36M	**Sachs Harbour**	**148.18**	**324**			**PKPbc**	**18**	**45**	**30.1**	**+0.2**
A36M	**Sachs Harbour**	**148.18**	**324**	P		**PKiKP**	**18**	**45**	**30.7**	**-0.9**
	baz=112									
M30M	**Minto, Yukon**	**148.26**	**304**	P		**PKiKP**	**18**	**45**	**31.3**	**-0.8**
	baz=118									
H31M	**Peel River**	**148.75**	**311**			**PKPbc**	**18**	**45**	**31.6**	**0.0**
H31M	**Peel River**	**148.75**	**311**	P		**PKiKP**	**18**	**45**	**32.3**	**-0.8**
	baz=115									
J30M	**Hart River**	**148.98**	**308**	P		**PKiKP**	**18**	**45**	**33.6**	**0.0**
	baz=115									
L29M	**L29M**	**149.05**	**305**			**PKiKP**	**18**	**45**	**32.9**	**-0.8**
L29M	**L29M**	**149.05**	**305**	P		**PKiKP**	**18**	**45**	**33.5**	**-0.2**
	baz=117									
K29M	**Barlow Dome**	**149.13**	**306**	P		**PKiKP**	**18**	**45**	**33.8**	**-0.2**
	baz=116									
G31M	**Satah River**	**149.18**	**313**	P		**PKiKP**	**18**	**45**	**33.5**	**-0.3**
	baz=113									
I30M	**Mount Dempster**	**149.27**	**309**			**PKPbc**	**18**	**45**	**32.9**	**-0.2**
I30M	**Mount Dempster**	**149.27**	**309**	P		**PKiKP**	**18**	**45**	**34.0**	**-0.3**
	baz=114									
INK	**Inuvik**	**149.44**	**316**			**PKPbc**	**18**	**45**	**33.3**	**+0.1**
INK	**Inuvik**	**149.44**	**316**	P		**PKiKP**	**18**	**45**	**33.7**	**-0.6**
	baz=111									
EPYK	**Eagle Plains**	**149.86**	**311**	P		**PKiKP**	**18**	**45**	**35.1**	**-0.3**
	baz=112									
DAWY	**Dawson**	**149.97**	**306**	P		**PKiKP**	**18**	**45**	**35.7**	**+0.1**
	baz=114									
F30M	**Barrier River**	**149.98**	**314**	P		**PKiKP**	**18**	**45**	**35.8**	**+0.3**
	baz=111									
SONM	**Songino Array**	**150.24**	**94**	PKPbc		**PKiKP**	**18**	**45**	**36.4**	**-0.4**
	comp=Z,1.5nm,0.9s,baz=241,slow=3.1,SNR=5.3									
H29M	**Whitestone**	**150.42**	**310**	P		**PKiKP**	**18**	**45**	**36.6**	**+0.2**
	baz=112									
G29M	**Pine Creek**	**150.54**	**312**			**PKiKP**	**18**	**45**	**36.0**	**-0.7**
G29M	**Pine Creek**	**150.54**	**312**	P		**PKiKP**	**18**	**45**	**37.0**	**+0.3**
	baz=111									
L27K	**Beaver Creek,**	**150.55**	**303**	P		**PKiKP**	**18**	**45**	**37.6**	**+0.7**
	baz=115									
I28M	**Miner Creek

PCAB	**Cabril**	**2.81**	**246**	*e*Pg	**Pg**	**18 36 02.5**	**-1.1**
PCAB				*e*Sg	**Sb**	**18 36 37.5**	**+3.8**
PCAB				A	A	18 36 43.9	
	81nm,1.0s						
ETOR	**Torete**	**2.82**	**137**	Pn	**Pn**	**18 35 54.3**	**+0.1**
ETOR				Pg	**Pb**	**18 36 00.2**	**+0.4**
ETOR				Sn	**Sn**	**18 36 29.6**	**+1.6**
ETOR				Sg	**Sg**	**18 36 38.7**	**-1.7**
ETOR				*i* Vmb_Lg		18 36 44.3	
POLO	**Lamas de Olo**	**2.83**	**238**	*e*Pn	**Pn**	**18 35 55.0**	**+0.7**
POLO	**Lamas de Olo**	**2.83**	**238**	*e*Pg	**Pb**	**18 36 02.5**	**+2.6**
POLO				*e*Sg	**Sb**	**18 36 38.0**	**+3.7**
POLO				A	A	18 36 47.4	
	33nm,0.5s						
PVRL	**Vila Real**	**2.83**	**236**	*e*Pn	**Pn**	**18 35 55.3**	**+0.9**
PVRL	**Vila Real**	**2.83**	**236**	*e*Pg	**Pg**	**18 36 04.0**	**0.0**
PVRL				*e*Sg	**Sg**	**18 36 39.7**	**-1.1**
PVRL				A	A	18 36 43.8	
	90nm,0.3s						
ATE	**Arette**	**2.87**	**85**	P	**Pn**	**18 35 57.9**	**+3.1**
ATE				S	**Sn**	**18 36 31.0**	**+2.0**
PGAV	**Gavieira, Arco**	**2.88**	**252**	*e*Pn	**Pn**	**18 35 56.0**	**+1.0**
PGAV	**Gavieira, Arco**	**2.88**	**252**	*e*Pg	**Pg**	**18 36 05.0**	**+0.2**
PGAV				*e*Sn	**Sn**	**18 36 30.0**	**+0.7**
PGAV				*e*Sg	**Sg**	**18 36 40.0**	**-2.1**
PGAV				A	A	18 36 45.7	
	90nm,0.4s						
ETSF	**Etsaut**	**2.97**	**89**	*e*Pn	**Pn**	**18 35 58.9**	**+2.6**
ETSF				*e*Sn	**Sn**	**18 36 32.0**	**+0.4**
	53nm,0.3s						
CANF	**Canfranc**	**3.01**	**91**	P	**Pn**	**18 35 59.6**	**+2.8**
CANF				S	**Sn**	**18 36 33.3**	**+0.7**
EPLA	**Plasencia**	**3.05**	**202**	Pn	**Pn**	**18 35 57.7**	**+0.4**
EPLA				Pg	**Pb**	**18 36 04.0**	**+0.3**
EPLA				Sn	**Sn**	**18 36 31.4**	**-2.1**
EPLA				Sg	**Sb**	**18 36 43.2**	**+2.5**
EPLA				*i* Vmb_Lg		18 36 49.3	
EZAM	**Zamans**	**3.12**	**257**	Pn	**Pn**	**18 35 59.5**	**+1.2**
EZAM				Pg	**Pb**	**18 36 07.4**	**+2.6**
EZAM				Sn	**Sn**	**18 36 34.9**	**-0.3**
EZAM				Sg	**Sg**	**18 36 47.3**	**-2.6**
EZAM				*i* Vmb_Lg		18 36 52.4	
EMAZ	**Mazaricos**	**3.21**	**272**	Pn	**Pn**	**18 36 01.2**	**+1.6**
EMAZ				Pg	**Pb**	**18 36 07.8**	**+1.4**
EMAZ				Sn	**Sn**	**18 36 36.3**	**-1.3**
EMAZ				Sg	**Sg**	**18 36 51.1**	**-1.9**
EMAZ				*i* Vmb_Lg		18 36 58.2	
ESDC	**Sonseca Array**	**3.27**	**171**	Pn	**Pn**	**18 35 59.8**	**-0.5**
ESDC				Pg	**Pb**	**18 36 10.5**	**+3.2**
ESDC				Sn	**Sn**	**18 36 36.3**	**-2.6**
ESDC				Sg	**Sb**	**18 36 50.8**	**+3.9**
ESDC				*i* Vmb_Lg		18 36 58.2	
ESAC	**San Caprasio**	**3.28**	**110**	Pn	**Pn**	**18 35 58.4**	**-2.2**
ESAC				Sn	**Sn**	**18 36 36.3**	**-3.1**
ESAC				Sg	**Sb**	**18 36 49.7**	**+2.3**
ESAC				*i* Vmb_Lg		18 36 54.8	
PVIS	**Viseu**	**3.29**	**229**	*e*Pn	**Pn**	**18 36 01.1**	**+0.4**
PVIS	**Viseu**	**3.29**	**229**	*e*Pg	**Pg**	**18 36 11.7**	**-1.1**
PVIS				*e*Sg	**Sg**	**18 36 53.1**	**-2.4**
PVIS				A	A	18 36 58.2	
	35nm,0.3s						
MTE	**Manteigas**	**3.34**	**222**	*e*Pn	**Pn**	**18 36 02.8**	**+1.5**
MTE	**Manteigas**	**3.34**	**222**	*e*Pg	**Pg**	**18 36 12.9**	**-0.8**
MTE				*e*Sg	**Sg**	**18 36 55.7**	**-1.2**
MTE				A	A	18 37 05.3	
	58nm,0.5s						
PAB	**San Pablo**	**3.36**	**177**	Pn	**Pn**	**18 36 01.9**	**+0.2**
PAB				Pg	**Pb**	**18 36 11.4**	**+2.4**
PAB				Sn	**Sn**	**18 36 41.0**	**-0.4**
PAB				Sg	**Sb**	**18 36 53.0**	**+3.3**
PAB				*i* Vmb_Lg		18 36 59.9	
VIEF	**Viey**	**3.40**	**89**	P	**Pn**	**18 36 05.7**	**+3.6**
VIEF				S	**Sn**	**18 36 43.1**	**+0.9**
PTO	**Porto**	**3.47**	**241**	*e*Pg	**Pg**	**18 36 15.7**	**-0.4**
PTO				*e*Sg	**Sg**	**18 36 58.5**	**-2.5**
ECHI	**Chisagues Biel**	**3.54**	**92**	Pn	**Pn**	**18 36 06.4**	**+2.3**
ECHI				Pg	**Pb**	**18 36 13.1**	**+1.1**
ECHI				Sn	**Sn**	**18 36 44.7**	**-1.0**
ECHI				*i* Vmb_Lg		18 36 48.6	
ECHI	**Chisagues Biel**	**3.54**	**92**	P	**Pn**	**18 36 06.4**	**+2.3**
E0901	**Celadas (Terue**	**3.56**	**132**	Pn	**Pn**	**18 36 05.3**	**+0.9**
E0901				Pg	**Pb**	**18 36 14.1**	**+1.8**
E0901				Sn	**Sn**	**18 36 48.0**	**+1.9**
E0901				Sg	**Sb**	**18 37 01.0**	**-2.9**
E0901				*i* Vmb_Lg		18 37 16.1	
EPF	**Esparros**	**3.63**	**86**	*e*Pn	**Pn**	**18 36 07.7**	**+2.4**
EPF				*e*Sn	**Sn**	**18 36 48.6**	**+0.8**
	29nm,0.2s						
LRVF	**chteau la Riv**	**3.71**	**55**	P	**Pn**	**18 36 08.5**	**+2.2**
LRVF				S	**Sn**	**18 36 50.9**	**+1.2**
PCBR	**Castelo Branco**	**3.75**	**216**	*e*Pn	**Pn**	**18 36 07.9**	**+1.0**
PCBR	**Castelo Branco**	**3.75**	**216**	*e*Pg	**Pg**	**18 36 20.9**	**-0.7**
PCBR				*e*Sn	**Sn**	**18 36 49.5**	**-1.3**
PCBR				*e*Sg	**Sg**	**18 37 07.2**	**-3.0**
PCBR				A	A	18 37 17.4	
	46nm,0.4s						
COI	**Coimbra**	**3.93**	**228**	*e*Sn	**Sn**	**18 36 54.9**	**-0.3**
EMOS	**Mosqueruela**	**4.00**	**128**	Pn	**Pn**	**18 36 12.7**	**+2.1**
EMOS				Pg	**Pb**	**18 36 20.8**	**+0.8**
EMOS				Sn	**Sn**	**18 36 58.0**	**+0.8**
EMOS				Sg	**Sb**	**18 37 12.4**	**+4.2**
EMOS				*i* Vmb_Lg		18 37 26.9	
PMRV	**Marv??o**	**4.06**	**212**	*e*Pn	**Pn**	**18 36 12.8**	**+1.5**
PMRV	**Marv??o**	**4.06**	**212**	*e*Pg	**Pg**	**18 36 25.9**	**-1.7**
PMRV				*e*Sn	**Sn**	**18 36 56.4**	**-2.1**
PMRV				*e*Sg	**Sg**	**18 37 17.0**	**-3.2**
PMRV				A	A	18 37 29.2	
	43nm,0.6s						
PCAS	**Casmilo, Conde**	**4.09**	**227**	*e*Pn	**Pn**	**18 36 13.2**	**+1.6**
PCAS	**Casmilo, Conde**	**4.09**	**227**	*e*Pg	**Pb**	**18 36 25.4**	**+4.1**
PCAS				*e*Sg	**Sg**	**18 37 19.1**	**-1.8**
PCAS				A	A	18 37 26.4	
	28nm,0.7s						
PSIM	**Granatula de C**	**4.13**	**171**	Pn	**Pn**	**18 36 12.4**	**+0.1**
PSIM				Sn	**Sn**	**18 36 57.1**	**-3.2**
PSIM				Sg	**Sb**	**18 37 18.0**	**+6.1**
ERTA	**Horta de San J**	**4.16**	**116**	Pn	**Pn**	**18 36 14.1**	**+1.4**
ERTA				Sn	**Sn**	**18 37 00.3**	**-0.7**
ERTA				*i* Vmb_Lg		18 37 24.6	
MLS	**Moulis**	**4.18**	**87**	P	**Pn**	**18 36 16.7**	**+3.8**
MLS				S	**Sn**	**18 37 03.8**	**+2.3**
SALF	**Salau**	**4.26**	**90**	P	**Pn**	**18 36 17.3**	**+3.3**
ECHE	**Chera**	**4.30**	**139**	Pn	**Pn**	**18 36 16.2**	**+1.7**
ECHE				Sn	**Sn**	**18 37 02.8**	**-1.5**
ECHE	**Chera**	**4.30**	**139**	Pn	**Pn**	**18 36 15.9**	**+1.4**
ECHE				Sn	**Sn**	**18 37 03.9**	**-0.4**
ECHE				*i* Vmb_Lg		18 37 38.3	
LFF	**La Frestale**	**4.36**	**60**	*e*Pn	**Pn**	**18 36 17.3**	**+2.0**
LFF				*e*Sn	**Sn**	**18 37 05.2**	**-0.5**
	22nm,0.3s						
MONQ	**Montcuq**	**4.45**	**69**	P	**Pn**	**18 36 18.8**	**+2.2**
MONQ				S	**Sn**	**18 37 08.4**	**+0.4**
EVIV	**Cofrentes, Val**	**4.49**	**143**	Pn	**Pn**	**18 36 18.6**	**+1.5**
EVIV				Sn	**Sn**	**18 37 08.7**	**-0.4**
EVIV				Sg	**Sb**	**18 37 26.0**	**+3.9**
EVIV				*i* Vmb_Lg		18 37 40.7	
EPOB	**Poblet**	**4.50**	**108**	Pn	**Pn**	**18 36 18.2**	**+0.9**
EPOB				Sn	**Sn**	**18 37 07.6**	**-1.7**
EPOB				*i* Vmb_Lg		18 37 10.8	
EPOB				Sg	**Sb**	**18 37 28.7**	**+5.4**
EBAD	**Badajoz**	**4.53**	**205**	Pn	**Pn**	**18 36 17.8**	**+0.2**
EBAD				Sn	**Sn**	**18 37 06.6**	**-3.4**
EBAD	**Badajoz**	**4.53**	**205**	Pn	**Pn**	**18 36 17.9**	**+0.2**
EBAD				Pg	**Pb**	**18 36 29.7**	**+0.8**
EBAD				Sn	**Sn**	**18 37 06.7**	**-3.4**
EBAD				Sg	**Sb**	**18 37 26.6**	**+3.3**
EBAD				*i* Vmb_Lg		18 37 38.5	
PAND	**Andorre**	**4.54**	**93**	P	**Pn**	**18 36 20.6**	**+2.6**
PAND				S	**Sn**	**18 37 10.2**	**-0.4**
PESTR	**Estremoz**	**4.63**	**210**	*e*Pn	**Pn**	**18 36 19.6**	**+0.6**
PESTR	**Estremoz**	**4.63**	**210**	*e*Pg	**Pg**	**18 36 37.9**	**-0.4**
PESTR				*e*Sn	**Sn**	**18 37 10.4**	**-2.0**
PESTR				*e*Sg	**Sb**	**18 37 33.2**	**+7.1**
PESTR				A	A	18 37 43.6	
	28nm,0.6s						
PESTR	**Estremoz**	**4.63**	**210**	Pn	**Pn**	**18 36 19.7**	**+0.6**
PESTR				Sn	**Sn**	**18 37 09.9**	**-2.5**
EMIR	**Miracle**	**4.64**	**100**	Pn	**Pn**	**18 36 20.1**	**+0.8**
EMIR				Sn	**Sn**	**18 37 09.7**	**-3.2**
EMIR				Sg	**Sb**	**18 37 31.8**	**+5.3**
EMIR				*i* Vmb_Lg		18 37 40.5	

DUNF	**Dun**	**4.71**	**86**	P	**Pn**	**18 36 23.1**	**+3.0**
DUNF				S	**Sn**	**18 37 15.3**	**+1.0**
PMTG	**Montargil**	**4.71**	**217**	*e*Pn	**Pn**	**18 36 20.6**	**+0.4**
PMTG	**Montargil**	**4.71**	**217**	*e*Pg	**Pg**	**18 36 39.3**	**-0.7**
PMTG				*e*Sn	**Sn**	**18 37 11.6**	**-2.9**
PMTG				*e*Sg	**Sg**	**18 37 39.2**	**-1.8**
PMTG				A	A	18 37 47.9	
	16nm,0.5s						
EADA	**Adamuz**	**4.74**	**180**	Pn	**Pn**	**18 36 21.2**	**+0.6**
EADA				Sn	**Sn**	**18 37 11.0**	**-4.2**
EADA	**Adamuz**	**4.74**	**180**	Pn	**Pn**	**18 36 21.1**	**+0.6**
EADA				Sn	**Sn**	**18 37 10.9**	**-4.2**
EADA				Sg	**Sb**	**18 37 34.7**	**+5.6**
EADA				*i* Vmb_Lg		18 37 44.3	
ETOB	**Tobarra**	**4.85**	**150**	Pn	**Pn**	**18 36 23.0**	**+0.9**
ETOB	**Tobarra**	**4.85**	**150**	Pn	**Pn**	**18 36 23.6**	**+1.6**
ETOB				Sn	**Sn**	**18 37 15.8**	**-2.2**
ETOB				Sg	**Sb**	**18 37 37.4**	**+5.0**
ETOB				*i* Vmb_Lg		18 37 55.7	
ECAB	**El Cabril**	**4.87**	**188**	Pn	**Pn**	**18 36 22.4**	**+0.1**
ECAB				Sn	**Sn**	**18 37 13.2**	**-5.2**
ECAB	**El Cabril**	**4.87**	**188**	Pn	**Pn**	**18 36 22.7**	**+0.3**
ECAB				Sn	**Sn**	**18 37 13.2**	**-5.2**
ECAB				Sg	**Sb**	**18 37 39.3**	**+6.4**
ECAB				*i* Vmb_Lg		18 37 50.8	
MFF	**Saint Martin d**	**4.87**	**39**	*e*Pn	**Pn**	**18 36 23.6**	**+1.3**
MFF				*e*Sn	**Sn**	**18 37 17.6**	**-0.7**
	20nm,0.3s						
ECOL	**Islas Columbre**	**4.98**	**125**	Pn	**Pn**	**18 36 24.9**	**+1.1**
ECOL				Sn	**Sn**	**18 37 19.5**	**-1.6**
ECOL				Sg	**Sg**	**18 37 47.5**	**-2.1**
MTLF	**Montolieu**	**5.01**	**83**	*e*Pn	**Pn**	**18 36 26.4**	**+2.2**
MTLF				*e*Sn	**Sn**	**18 37 21.1**	**-0.7**
	11nm,0.3s						
MTLF	**Montolieu**	**5.01**	**83**	P	**Pn**	**18 36 25.7**	**+1.4**
MTLF	**Montolieu**	**5.01**	**83**	S	**Sn**	**18 37 22.8**	**+1.0**
RJF	**Les Rejaudoux**	**5.01**	**59**	*e*Pn	**Pn**	**18 36 26.1**	**+1.8**
RJF				*e*Sn	**Sn**	**18 37 21.2**	**-0.7**
	49nm,0.2s						
PBAR	**Barrancos**	**5.08**	**202**	*e*Pn	**Pn**	**18 36 25.6**	**+0.4**
PBAR				*e*Sn	**Sn**	**18 37 20.9**	**-2.6**
PBAR				*e*Sg	**Sg**	**18 37 48.5**	**-4.2**
PBAR				A	A	18 37 58.8	
	31nm,0.6s						
PBAR	**Barrancos**	**5.08**	**202**	Pn	**Pn**	**18 36 25.6**	**+0.4**
PBAR				Sn	**Sn**	**18 37 19.4**	**-4.1**
EVO	**Evora**	**5.08**	**212**	*e*Pn	**Pn**	**18 36 25.7**	**+0.5**
EVO				*e*Sn	**Sn**	**18 37 20.3**	**-3.3**
EVO	**Evora**	**5.08**	**212**	Sn	**Sn**	**18 37 20.1**	**-3.5**
EVO				Pn	**Pn**	**18 36 25.7**	**+0.5**
QUIF	**Quistinic**	**5.11**	**11**	*e*Pn	**Pn**	**18 36 27.1**	**+1.5**
QUIF				*e*Sn	**Sn**	**18 37 21.2**	**-3.0**
	28nm,0.2s						
CAF	**Calviac**	**5.22**	**65**	*e*Pn	**Pn**	**18 36 28.9**	**+1.7**
CAF				*e*Sn	**Sn**	**18 37 25.5**	**-1.5**
	35nm,0.2s						
PMAFR	**Mafra**	**5.31**	**223**	Pn	**Pn**	**18 36 28.8**	**+0.5**
EMIN	**Mina Concepcio**	**5.37**	**198**	Pn	**Pn**	**18 36 29.3**	**+0.1**
PBEJ	**Beja**	**5.47**	**208**	*e*Sn	**Sn**	**18 37 30.2**	**-3.1**
PBEJ				*e*Sg	**Sg**	**18 38 02.0**	**-3.4**
PBEJ				A	A	18 38 16.5	
	13nm,0.5s						
EZAR	**Zarzadilla de**	**5.49**	**155**	Pn	**Pn**	**18 36 32.3**	**+1.3**
EZAR				Sn	**Sn**	**18 37 29.7**	**-4.2**
EZAR				Sg	**Sb**	**18 37 56.1**	**+5.1**
EZAR				*i* Vmb_Lg		18 38 17.7	
ROSF	**Rostrenen**	**5.51**	**9**	*e*Pn	**Pn**	**18 36 32.3**	**+1.2**
ROSF				*e*Sn	**Sn**	**18 37 31.0**	**-3.1**
	23nm,0.2s						
SGMF	**Saint Gilles**	**5.54**	**14**	*e*Pn	**Pn**	**18 36 33.0**	**+1.6**
SGMF				*e*Sn	**Sn**	**18 37 31.9**	**-2.8**
	14nm,0.3s						
EJON	**La Jonquera**	**5.54**	**92**	Pn	**Pn**	**18 36 33.7**	**+2.2**
EJON				Sn	**Sn**	**18 37 33.7**	**-1.2**
EJON	**La Jonquera**	**5.54**	**92**	Pn	**Pn**	**18 36 33.3**	**+1.8**
EJON				Sn	**Sn**	**18 37 35.2**	**+0.3**
EJON				*i* Vmb_Lg		18 37 37.4	
PNCL	**Nicolau / Gran**	**5.65**	**213**	*e*Pn	**Pn**	**18 36 33.7**	**+0.7**
PNCL				*e*Sn	**Sn**	**18 37 34.5**	**-3.0**
PNCL				*e*Sg	**Sg**	**18 38 04.8**	**-6.2**
PNCL				A	A	18 38 12.3	
	8.7nm,0.5s						
PNCL	**Nicolau / Gran**	**5.65**	**213**	Pn	**Pn**	**18 36 33.3**	**+0.3**
PNCL				Sn	**Sn**	**18 37 34.3**	**-3.2**
EMUR	**La Murta**	**5.67**	**152**	Pn	**Pn**	**18 36 34.5**	**+1.1**
FRNF	**Fournols**	**5.72**	**62**	P	**Pn**	**18 36 35.2**	**+1.2**
FRNF				S	**Sn**	**18 37 36.5**	**-2.8**
MESJ	**Messejana**	**5.77**	**210**	*e*Sn	**Sn**	**18 37 37.9**	**-2.6**
MESJ				A	A	18 38 17.8	
	12nm,0.4s						
EGRO	**El Granado**	**5.80**	**203**	Pn	**Pn**	**18 36 35.1**	**-0.1**
EGRO				Sn	**Sn**	**18 37 37.4**	**-4.0**
EGRO				Sg	**Sg**	**18 38 12.1**	**-3.8**
EGRO				*i* Vmb_Lg		18 38 27.6	
VERF	**Verneugheol**	**5.82**	**58**	P	**Pn**	**18 36 36.4**	**+1.0**
VERF				S	**Sn**	**18 37 39.5**	**-2.3**
PCVE	**Castro Verde**	**5.89**	**208**	*e*Sn	**Sn**	**18 37 39.6**	**-3.9**
PCVE				*e*Sg	**Sg**	**18 38 15.6**	**-3.1**
PCVE				A	A	18 38 27.6	
	20nm,0.7s						
PCVE	**Castro Verde**	**5.89**	**208**	Sn	**Sn**	**18 37 39.0**	**-4.4**
TCF	**Toulx Ste Croi**	**5.92**	**53**	*e*Pn	**Pn**	**18 36 37.7**	**+0.9**
TCF				*e*Sn	**Sn**	**18 37 42.6**	**-1.7**
	22nm,0.2s						
EIBI	**Ibiza**	**5.94**	**129**	Pn	**Pn**	**18 36 38.2**	**+1.2**
EIBI				Sn	**Sn**	**18 37 40.4**	**-4.3**
EIBI	**Ibiza**	**5.94**	**129**	Pn	**Pn**	**18 36 38.1**	**+1.1**
EIBI				Sn	**Sn**	**18 37 41.1**	**-3.6**
EIBI				*i* Vmb_Lg		18 37 46.2	
PVAQ	**Vaqueiros**	**5.99**	**205**	*e*Pn	**Pn**	**18 36 38.9**	**+1.2**
PVAQ				*e*Sn	**Sn**	**18 37 42.4**	**-3.6**
PVAQ				A	A	18 38 31.4	
	19nm,0.6s						
PVAQ	**Vaqueiros**	**5.99**	**205**	Pn	**Pn**	**18 36 38.3**	**+0.5**
PVAQ				Sn	**Sn**	**18 37 41.2**	**-4.8**
GRR	**Gorron**	**6.08**	**24**	*e*Pn	**Pn**	**18 36 39.8**	**+1.0**
GRR				*e*Sn	**Sn**	**18 37 44.4**	**-3.6**
	13nm,0.2s						
LBL	**Lubilhac**	**6.11**	**65**	P	**Pn**	**18 36 41.2**	**+1.7**
LBL				S	**Sn**	**18 37 47.1**	**-2.0**
PBDV	**Barranco-do-Ve**	**6.21**	**205**	*e*Sn	**Sn**	**18 37 48.1**	**-3.3**
PBDV				A	A	18 38 37.9	
	13nm,0.5s						
PTEO	**Sao Teotonio**	**6.21**	**212**	*e*Sn	**Sn**	**18 37 48.4**	**-3.1**
PTEO				A	A	18 38 46.7	
	15nm,0.5s						
LASF	**Ste Croix**	**6.26**	**76**	*e*Pn	**Pn**	**18 36 43.3**	**+1.9**
LASF				*e*Sn	**Sn**	**18 37 50.9**	**-1.8**
	20nm,0.4s						
EMIJ	**Mijas**	**6.34**	**181**	Pn	**Pn**	**18 36 43.9**	**+1.4**
EMIJ				Sn	**Sn**	**18 37 51.8**	**-2.8**
EMIJ				Sg	Sb	18 38 24.8	+10
EMIJ				*i* Vmb_Lg		18 38 41.9	
MORF	**Marmelete**	**6.40**	**210**	*e*Sn	**Sn**	**18 37 53.4**	**-2.7**
MORF				A	A	18 38 51.9	
	9.1nm,0.7s						
BGF	**Bois d'Agland**	**6.44**	**53**	*e*Pn	**Pn**	**18 36 45.3**	**+1.5**
BGF				*e*Sn	**Sn**	**18 37 54.9**	**-2.0**
	38nm,0.5s						
LDF	**La Druitiere**	**6.49**	**27**	*e*Pn	**Pn**	**18 36 45.1**	**+0.5**
LDF				*e*Sn	**Sn**	**18 37 55.2**	**-3.1**
	29nm,0.7s						
COLF	**Collangettes**	**6.51**	**64**	P	**Pn**	**18 36 46.5**	**+1.7**
FLN	**La Foliniere**	**6.52**	**25**	*e*Pn	**Pn**	**18 36 46.3**	**+1.3**
	baz=208						
FLN				*e*Sn	**Sn**	**18 37 55.5**	**-3.5**
	20nm,0.5s,baz=209						
PFVI	**Vila Bisbo**	**6.62**	**211**	*e*Sn	**Sn**	**18 37 58.0**	**-3.4**
PFVI				*e*Sg	**Sg**	**18 38 36.6**	**-5.4**
PFVI				A	A	18 38 53.3	
	12nm,0.7s						
HYF	**Humbligny**	**6.73**	**47**	*e*Pn	**Pn**	**18 36 49.8**	**+2.0**
HYF				*e*Sn	**Sn**	**18 38 02.1**	**-2.0**
AVF	**Avril sur Loir**	**6.86**	**53**	*e*Pn	**Pn**	**18 36 50.8**	**+1.2**
AVF				*e*Sn	**Sn**	**18 38 04.7**	**-2.5**
	6.4nm,0.3s						
VIVF	**Saint-Julien-l**	**6.98**	**71**	*e*Pn	**Pn**	**18 36 53.1**	**+1.8**
VIVF				*e*Sn	**Sn**	**18 38 07.5**	**-2.8**
	19nm,0.5s						
SSB	**Saint Sauveur**	**7.00**	**67**	P	**Pn**	**18 36 53.7**	**+2.1**
SMF	**Signal de Mont**	**7.07**	**55**	*e*Pn	**Pn**	**18 36 53.7**	**+1.1**
SMF				*e*Sn	**Sn**	**18 38 10.9**	**-1.7**
	5.5nm,0.3s						
SSF	**Saint Saulge**	**7.09**	**51**	*e*Pn	**Pn**	**18 36 53.9**	**+1.1**
SSF				*e*Sn	**Sn**	**18 38 10.2**	**-2.8**
	7.8nm,0.2s						
LOR	**Lormes**	**7.40**	**51**	*e*Pn	**Pn**	**18 36 58.1**	**+1.0**
LOR				*e*Sn	**Sn**	**18 38 17.9**	**-2.9**
	8.1nm,0.3s,baz=237						
LOR	**Lormes**	**7.40**	**51**	P	**Pn**	**18 36 59.0**	**+1.9**
SMRF	**Simiane la Rot**	**7.48**	**78**	*e*Pn	**Pn**	**18 36 59.2**	**+1.0**
SMRF				*e*Sn	**Sn**	**18 38 19.4**	**-3.4**
	1.3nm,0.3s						
ORIF	**Oris-en-Rattie**	**7.83**	**72**	*e*Pn	**Pn**	**18 37 05.4**	**+2.4**
ORIF				*e*Sn	**Sn**	**18 38 28.1**	**-3.3**
	2.3nm,0.3s						
LMR	**La Mourre**	**8.14**	**83**	*e*Pn	**Pn**	**18 37 08.1**	**+0.9**
LMR				*e*Sn	**Sn**	**18 38 35.2**	**-3.6**
	1.3nm,0.3s						
SALSA	**La sagne**	**8.28**	**79**	P	**Pn**	**18 37 13.5**	**+4.2**
CABF	**La Chapelle**	**8.46**	**60**	*e*Pn	**Pn**	**18 37 13.0**	**+1.4**
CABF				*e*Sn	**Sn**	**18 38 43.2**	**-3.6**
	2.8nm,0.5s						
LPG	**La Plagne**	**8.56**	**69**	*e*Pn	**Pn**	**18 37 15.8**	**+2.6**
LPG				*e*Sn	**Sn**	**18 38 45.8**	**-3.7**
	0.9nm,0.3s						
MEZF	**Maizieres J'vi**	**8.77**	**47**	*e*Pn	**Pn**	**18 37 17.0**	**+1.2**
MEZF				*e*Sn	**Sn**	**18 38 50.4**	**-3.8**
	7.7nm,0.5s						
SBF	**Sospel**	**8.82**	**80**	*e*Pn	**Pn**	**18 37 18.3**	**+1.7**
PAGF	**Fort de Pagny**	**9.16**	**48**	*e*Pn	**Pn**	**18 37 22.3**	**+1.1**
	baz=235						
PAGF				*e*Sn	**Sn**	**18 39 00.2**	**-3.8**
	6.5nm,0.5s						
BAIF	**Baives**	**9.38**	**37**	*e*Pn	**Pn**	**18 37 25.3**	**+1.2**
BAIF				*e*Sn	**Sn**	**18 39 03.8**	**-5.4**
	14nm,0.7s						
HINF	**Hinteralfeld**	**9.44**	**55**	*e*Pn	**Pn**	**18 37 26.0**	**+1.0**
HINF				*e*Sn	**Sn**	**18 39 06.4**	**-4.3**
	2.5nm,0.3s						
DOU	**Dourbes**	**9.58**	**38**	*d*P	**Pn**	**18 37 27.9**	**+1.0**
DOU				*d*S	Sn	18 39 04.9	-9.3
DOU	**Dourbes**	**9.58**	**38**	P	**Pn**	**18 37 27.6**	**+0.7**
GIVF	**Givet**	**9.69**	**39**	*e*Sn	**Sn**	**18 39 11.4**	**-5.4**
	3.7nm,0.2s						
BMRD	**Maredsous**	**9.80**	**38**	*d*P	**Pn**	**18 37 30.9**	**+0.9**
BMRD				*d*S	**Sn**	**18 39 12.5**	**-7.1**
RCHB	**Rochefort**	**9.91**	**40**	*d*S	**Sn**	**18 39 14.8**	**-7.5**
CDF	**Champ du Feu**	**9.97**	**52**	*e*Pn	**Pn**	**18 37 33.1**	**+0.8**
CDF				*e*Sn	**Sn**	**18 39 19.2**	**-4.6**
	2.6nm,0.5s						
BGES	**Gesves**	**10.01**	**38**	*d*P	**Pn**	**18 37 33.7**	**+0.9**
BGES				*d*S	**Sn**	**18 39 17.8**	**-6.9**
PGF	**Pioggiola**	**10.02**	**87**	*e*Pn	**Pn**	**18 37 33.7**	**+0.7**
PGF				*e*Sn	**Sn**	**18 39 20.1**	**-5.0**
	0.9nm,0.2s						
WLF	**Walferdange**	**10.05**	**44**	*d*P	**Pn**	**18 37 33.8**	**+0.5**

IDC ***19*** *18:45:20.5±0.7, 6°48S×143°22E, h0km, mb4.2/12, mbtmp4.2/14, ML1.8/1, MS3.3/4, Error ellipse: s-maj=31.6km s-min=15.5km az=72.0*
NEIC ***19*** *18:45:21.7±1.4, 6°63S±0°04×142°95E±0°09, h10km±1km, mb4.5/25, Error ellipse: s-maj=14.8km s-min=5.7km az=75.0*

ISC 19 18:45:21.6±0.4, 6°68S±0°05×142°98E±0°06, h10km, n64, σ1°81/63, mb4.4/24, MS3.2/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**2.23**	**309**	P	**Pb**	**18 46 01.6**	**-0.6**
GENI	**Genyem**	**4.93**	**325**	P	**Pn**	**18 46 36.6**	**+0.8**
PMG	**Port Moresby**	**4.95**	**124**	Pn	**Pn**	**18 46 35.9**	**-0.2**
	2.6nm,0.3s,baz=337,slow=3.5,SNR=9.4						
PMG				Sn	**Sn**	**18 47 31.

SONM	**Songino Array**	**63.12**	**333**	P		**P**		**18 55 50.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=151,slow=3.4,SNR=4.8								
	comp=Z,0.6nm,0.5s								
OPA	**Opana**	**64.33**	**62**	P		**P**		**18 55 57.0**	**-1.0**
VNDA	**Vanda**	**71.51**	**176**	P		**P**		**18 56 43.8**	**+1.6**
VNDA				IAmb		IAmb		18 56 55.0	
	comp=Z,3.9nm,1.3s								
VNDA	**Vanda**	**71.51**	**176**	P		**P**		**18 56 44.0**	**+1.8**
	comp=Z,1.5nm,1.1s,baz=329,slow=9.5,SNR=3.6								
	comp=Z,1.5nm,1.1s								
MKAR	**Makanchi Array**	**75.51**	**322**	P		**P**		**18 57 05.7**	**-0.6**
MKAR	**Makanchi Array**	**75.51**	**322**	P		**P**		**18 57 06.8**	**+0.5**
	comp=Z,3.0nm,0.9s,baz=110,slow=5.4,SNR=14								
	comp=Z,3.0nm,0.9s								
MAKZ	**Makanchi**	**75.71**	**322**	P		**P**		**18 57 05.5**	**-1.9**
MAKZ				IAmb		IAmb		18 57 09.8	
	comp=Z,4.1nm,1.0s								
ZAA0	**Zalesovo Array**	**77.49**	**329**	P		**P**		**18 57 15.7**	**-1.6**
ZAA0				IAmb		IAmb		18 57 17.0	
	comp=Z,3.0nm,1.2s								
ZALV	**Zalesovo Beam**	**77.49**	**329**	P		**P**		**18 57 16.4**	**-0.9**
ZALV	**Zalesovo Beam**	**77.49**	**329**	P		**P**		**18 57 16.9**	**-0.4**
	comp=Z,1.3nm,0.7s,baz=96,slow=6.0,SNR=5.4								
	comp=Z,1.3nm,0.7s								
KURK	**Kurchatov**	**79.39**	**324**	P		**P**		**18 57 27.8**	**-0.1**
KURK				IAmb		IAmb		18 57 29.0	
	comp=Z,3.8nm,0.9s								
KURBB	**Kurchatov Arra**	**79.40**	**324**	P		**P**		**18 57 28.2**	**+0.3**
	comp=Z,2.0nm,0.9s,baz=112,slow=4.6,SNR=12								
	comp=Z,2.0nm,0.9s								
M14K	**Bethel**	**79.70**	**24**	P		**P**		**18 57 29.6**	**+0.3**
QSPA	**South Pole Qui**	**83.30**	**180**	P		**P**		**18 57 48.9**	**+0.3**
QSPA	**South Pole Qui**	**83.30**	**180**	P		**P**		**18 57 49.5**	**+1.0**
	comp=Z,5.5nm,1.0s,baz=269,slow=0.5,SNR=12								
	comp=Z,5.5nm,1.0s								
BVAR	**Borovoye Array**	**84.98**	**325**	P		**P**		**18 57 57.2**	**+0.1**
	comp=Z,5.7nm,0.8s,baz=108,slow=6.5,SNR=26								
	comp=Z,5.7nm,0.8s								
ILAR	**Eielson Array**	**87.69**	**24**	P		**P**		**18 58 08.7**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=258,slow=4.9,SNR=3.1								
	comp=Z,1.3nm,0.7s								
INK	**Inuvik**	**93.75**	**22**	LR		LR		19 43 00.1	
	comp=Z,27nm,18.2s,baz=2.0,slow=37								
DBIC	**Dimbokro**	**148.06**	**272**	PKPbc		**PKiKP**		**19 05 09.7**	**-0.8**
	comp=Z,7.5nm,1.0s,baz=113,slow=3.1,SNR=4.5								

BJI **19** *19:08:29.8±0.0,5˚.06S×102˚.26E, h71km, mb5.0/64, mB5.0/26, Ms4.5/4, Ms7 4.0/5*

MOS **19** *19:08:34.8±1.0, 4˚.07S×102˚.44E, h53km, mb5.2/73, Error ellipse: s-maj=9.4km s-min=4.4km az=115.5*

NEIC **19** *19:08:36.9±1.6, 4˚.26S±0˚.06×102˚.41E±0˚.06, h59km±5km, mb5.0/94, Error ellipse: s-maj=9.3km s-min=7.8km az=206.0*

DJA **19** *19:08:37.1±0.2, 4˚S±2˚×10˚2E±˚, h58km±3km, M4.8/36, mB5.2/13, mb5.0/36, MLv5.1/19, Mw(mB)4.6/13*

IDC **19** *19:08:40.0±1.9, 4˚.13S×102˚.63E, h85km±16km, mb4.5/30, mbtmp4.8/32, MS3.4/29, Error ellipse: s-maj=14.2km s-min=7.5km az=42.0*

ISC 19 19:08:37.3±0.4, 4˚29S±0˚.04×102˚39E±0˚.04, h68km±3km, h68km:pP-P, n567, σ1§12/569, mb5.0/161, 49C-24D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MNAI	**Manna**	**0.57**	**97**	P		**Pn**		**19 08 49.8**	**-0.9**
MNAI	**Manna**	**0.57**	**97**			**Pn**		**19 08 49.0**	**-1.7**
MNAI				Sn		**Sn**		**19 08 59.0**	**-1.6**
MNAI	**Manna**	**0.57**	**97**	P		**Pn**		**19 08 49.9**	**-0.8**
LWLI	**Liwa**	**1.82**	**113**	P		**Pn**		**19 09 06.5**	**-0.1**
KASI	**Kota Agung**	**2.43**	**120**	P		**Pn**		**19 09 14.4**	**-0.4**
PPSI	**Pulau Pagai**	**2.82**	**303**	P		**Pn**		**19 09 21.4**	**+1.4**
JMBI	**JAMBI**	**2.92**	**25**	P		**Pn**		**19 09 22.7**	**+1.2**
PDSI	**Padang**	**3.87**	**330**	P		**Pn**		**19 09 35.1**	**+0.7**
PPBI	**Pangkal Pinang**	**4.30**	**61**	P		**Pn**		**19 09 40.3**	**0.0**
DSRI	**Dabo**	**4.37**	**30**	P		**Pn**		**19 09 42.3**	**+1.0**
SISI	**Saibi**	**4.42**	**312**	P		**Pn**		**19 09 42.4**	**+0.5**
BKNI	**Bangkinang**	**4.78**	**344**	P		**Pn**		**19 09 48.2**	**+1.3**
BKNI	**Bangkinang**	**4.78**	**344**			**Pn**		**19 09 47.2**	**+0.3**
BKNI	**Bangkinang**	**4.78**	**344**	P		**Pn**		**19 09 47.2**	**+0.3**
DBJI	**Dramaga**	**4.89**	**118**	P		Pn		19 09 52.9	+4.5
CBJI	**Citeko**	**4.92**	**116**	P		Pn		19 09 53.8	+5.0
	269nm,0.6s,4μm								
SKJI	**Sukabumi**	**4.95**	**123**	P		Pn		19 10 01.1	+12
CNJI	**Cibinong**	**5.59**	**123**	P		**Pn**		**19 09 57.6**	**-0.4**
	61nm,1.0s,928nm0.4nm								
TPRI	**Tanjung Pinang**	**5.60**	**23**	P		**Pn**		**19 09 59.5**	**+1.4**
	204nm,0.6s,3μm0.8nm								
LEM	**Lembang**	**5.78**	**116**	P		**Pn**		**19 10 02.8**	**+2.1**
	56nm,0.8s,baz=323,slow=13,SNR=9.1								
LEM				S		**Sn**		**19 11 11.6**	**+5.7**
	72nm,0.7s,baz=190,slow=14,SNR=3.8								
LEM				LR		LR		19 12 35.7	
	comp=Z,278nm,20.2s,baz=323,slow=42								
LEM	**Lembang**	**5.78**	**116**	P		**Pn**		**19 10 01.3**	**+0.5**
	85nm,1.0s,0.4nm								
PBSI	**Pulau Batu**	**5.88**	**316**	P		**Pn**		**19 10 01.5**	**-0.4**
	231nm,1.0s,1.7nm								
BBJI	**Bungbulang**	**6.11**	**121**	P		**Pn**		**19 10 05.2**	**0.0**
MYKOM	**Kota Tinggi**	**6.21**	**14**	Pn		**Pn**		**19 10 07.8**	**+1.2**
XMIS	**Christmas Isla**	**6.95**	**152**	P		**Pn**		**19 10 14.5**	**-2.1**
CMJI	**Cimerak**	**6.96**	**120**	P		**Pn**		**19 10 16.9**	**+0.3**
	113nm,0.7s,0.6nm								
GSI	**Gunungsitoli**	**7.35**	**319**	P		**Pn**		**19 10 21.9**	**-0.1**
GSI	**Gunungsitoli**	**7.35**	**319**	Pn		**Pn**		**19 10 21.6**	**-0.5**
GSI	**Gunungsitoli**	**7.35**	**319**	P		**Pn**		**19 10 22.0**	**-0.1**
	94nm,0.5s,0.6nm								
IPM	**Ipoh**	**8.82**	**351**	P		**Pn**		**19 10 44.6**	**+2.5**
IPM	**Ipoh**	**8.82**	**351**	Pn		**Pn**		**19 10 43.5**	**+1.3**
UGM	**Wanagama**	**8.85**	**114**	P		**Pn**		**19 10 44.0**	**+1.3**
UGM	**Wanagama**	**8.85**	**114**	Pn		**Pn**		**19 10 42.5**	**-0.1**
UGM	**Wanagama**	**8.85**	**114**	P		**Pn**		**19 10 43.2**	**+0.5**
	115nm,1.6s								
SNSI	**Sinabang, Aceh**	**9.00**	**318**	P		**Pn**		**19 10 44.6**	**0.0**
KCSI	**Kotacane, Aceh**	**9.03**	**329**	P		**Pn**		**19 10 45.2**	**+0.2**
	18nm,0.6s								
COCO	**West Island**	**9.58**	**215**	P		**Pn**		**19 10 49.9**	**-2.6**
COCO	**West Island**	**9.58**	**215**			**Pn**		**19 10 50.9**	**-1.6**
COCO	**West Island**	**9.58**	**215**	P		**Pn**		**19 10 50.9**	**-1.6**
KULM	**Kulim**	**9.67**	**350**	Pn		**Pn**		**19 10 53.5**	**-0.3**
KSM	**Kuching**	**9.77**	**54**	P		**Pn**		**19 10 56.2**	**+1.0**
KSM	**Kuching**	**9.77**	**54**	Pn		**Pn**		**19 10 55.3**	**+0.2**
PWJI	**Pagerwojo**	**10.07**	**112**	P		**Pn**		**19 10 59.5**	**+0.3**
	20nm,1.0s								
MLSI	**Meulaboh, Aceh**	**10.39**	**325**	P		**Pn**		**19 11 01.8**	**-1.8**
	78nm,0.5s								
SBUM	**Sibu**	**11.89**	**56**	Pn		**Pn**		**19 11 24.2**	**+0.1**
ABJI	**Asem Bagus**	**12.29**	**107**	P		**Pn**		**19 11 31.2**	**+1.7**
	128nm,0.5s,2μm								
JAGI	**Jajag, Banyuwa**	**12.41**	**110**	P		**Pn**		**19 11 30.1**	**-1.1**
JAGI	**Jajag, Banyuwa**	**12.41**	**110**			**Pn**		**19 11 29.6**	**-1.6**
JAGI	**Jajag, Banyuwa**	**12.41**	**110**	P		**Pn**		**19 11 29.9**	**-1.3**
	67nm,0.9s								
MTKI	**Muara Teweh, K**	**12.93**	**75**	P		**P**		**19 11 49.9**	**+3.4**
SRIT	**Nakonsritamara**	**13.10**	**348**	Pn		**Pn**		**19 11 39.7**	**-0.8**
SRBI	**Singaraja**	**13.30**	**107**	P		**Pn**		**19 11 41.2**	**-2.0**
	79nm,0.6s								
PLAI	**Plampang**	**15.94**	**107**	P		**Pn**		**19 12 17.6**	**+0.1**
PLAI	**Plampang**	**15.94**	**107**	P		**Pn**		**19 12 16.1**	**-1.4**
	61nm,0.5s,974nm								
DLV	**T Lat**	**17.23**	**21**	P		**P**		**19 12 34.3**	**-0.1**
KAPI	**Kappang**	**17.32**	**93**			**Pn**		**19 12 34.1**	**-0.7**
KAPI	**Kappang**	**17.32**	**93**	P		**P**		**19 12 35.0**	**-0.3**
	14nm,0.8s,baz=238,slow=14,SNR=6.4								
KAPI				LR		LR		19 20 07.1	
	comp=Z,41nm,18.1s,baz=282,slow=40								
KAPI	**Kappang**	**17.32**	**93**	*c i* P		**P**		**19 12 35.9**	**+0.6**
KAPI				pmax		pmax			
	comp=Z,18nm,0.9s								
TTSI	**Tana Toraja**	**17.44**	**87**	P		**P**		**19 12 38.4**	**+1.8**
	comp=Z,44nm,0.8s								
BKSI	**Bulukumba**	**17.70**	**94**	P		**P**		**19 12 39.7**	**+0.2**
	comp=Z,66nm,0.9s,comp=Z,511nm								
TOLI2	**Tolitoli**	**19.15**	**74**	P		**Pn**		**19 12 56.3**	**-0.6**
TOLI2	**Tolitoli**	**19.15**	**74**	P		**P**		**19 12 55.3**	**0.0**
EDFI	**Ende, Flores**	**19.68**	**104**	P		**P**		**19 13 00.2**	**-1.1**
	comp=Z,18nm,0.6s								
UBPT	**Khong Chiam**	**19.68**	**9**	P		**P**		**19 13 00.7**	**-0.5**
UBPT				IAmb		IAmb		19 13 02.8	
	comp=Z,57nm,0.8s								
MMRI	**Maumere**	**20.19**	**103**	P		**P**		**19 13 06.2**	**-0.5**
MMRI	**Maumere**	**20.19**	**103**	P		**P**		**19 13 04.8**	**-1.9**
MMRI				IAmb		IAmb		19 13 08.3	
	comp=Z,57nm,1.2s								
MMRI	**Maumere**	**20.19**	**103**	P		**P**		**19 13 06.0**	**-0.7**
	comp=Z,50nm,0.8s								
LUWI	**Luwuk**	**20.62**	**82**	P		**P**		**19 13 12.3**	**+1.0**
LUWI	**Luwuk**	**20.62**	**82**	P		**P**		**19 13 11.1**	**-0.2**
LUWI				IAmb		IAmb		19 13 14.2	
	comp=Z,98nm,1.1s								
GTOI	**Gorontalo**	**21.18**	**77**	P		**P**		**19 13 16.2**	**-1.2**
	comp=Z,25nm,0.8s								
BATI	**Baumata**	**21.90**	**107**	P		**P**		**19 13 24.4**	**-0.7**
	comp=Z,32nm,0.3s,baz=340,slow=2.9,SNR=13								
BATI				S		**S**		**19 17 15.5**	**-8.0**
	comp=Z,20nm,0.5s,baz=15,slow=8.7,SNR=6.8								
	comp=Z,32nm,0.3s								
BATI	**Baumata**	**21.90**	**107**	P		**P**		**19 13 26.0**	**+0.9**
	comp=Z,103nm,0.6s								
SOEI	**Soe**	**22.38**	**105**	P		**P**		**19 13 31.7**	**+1.4**
SOEI	**Soe**	**22.38**	**105**	P		**P**		**19 13 28.1**	**-2.2**
SOEI				IAmb		IAmb		19 13 39.8	
	comp=Z,42nm,1.0s								
SOEI	**Soe**	**22.38**	**105**	P		**P**		**19 13 30.9**	**+0.6**
	comp=Z,45nm,1.4s								
PHRA	**Phrae**	**22.75**	**355**	P		**P**		**19 13 33.7**	**-0.4**
CM31	**Chiang Mai Arr**	**22.86**	**352**	P		**P**		**19 13 34.4**	**-0.8**
CMAR	**Chiang Mai Arr**	**22.86**	**352**	P		**P**		**19 13 33.9**	**-1.3**
CMAR	**Chiang Mai Arr**	**22.86**	**352**	P		**P**		**19 13 34.5**	**-0.8**
	comp=Z,10nm,0.7s,baz=185,slow=8.6,SNR=130								
CMAR				PcP		**PcP**		**19 17 25.4**	**+1.3**
	comp=Z,2.2nm,0.7s,baz=210,slow=3.1,SNR=11								
CMAR				LR		LR		19 23 04.0	
	comp=Z,44nm,18.9s,baz=175,slow=38								
	comp=Z,10nm,0.7s								
CMAR	**Chiang Mai Arr**	**22.86**	**352**	*i* P		**P**		**19 13 34.2**	**-1.0**
CMAR				pmax		pmax			
	comp=Z,14nm,0.6s								
CHTO	**Chiang Mai**	**23.21**	**352**	P		**P**		**19 13 37.3**	**-1.4**
CHTO	**Chiang Mai**	**23.21**	**352**	P		**P**		**19 13 37.3**	**-1.4**
CHTO				pmax		pmax			
	comp=Z,15nm,0.8s								
QIZ	**Qiongzhong**	**24.31**	**17**	P		**P**		**19 13 50.4**	**+1.7**
QIZ				S		**S**		**19 18 06.8**	**+3.6**
QIZ				pmax		pmax			
	comp=Z,11nm,0.7s								
QIZ	**Qiongzhong**	**24.31**	**17**	P		**P**		**19 13 49.8**	**+1.1**
SGSI	**Sangihe**	**24.44**	**71**	P		**P**		**19 13 51.7**	**+1.7**
	comp=Z,68nm,0.8s								
CRAI	**Chiangrai**	**24.45**	**355**	P		**P**		**19 13 49.3**	**-0.6**
CRAI				IAmb		IAmb		19 13 51.9	
	comp=Z,31nm,0.7s								
PALK	**Pallekele**	**24.50**	**298**	LR		LR		19 22 51.7	
	comp=Z,54nm,20.7s,baz=244,slow=35								
LBMI	**Labuha**	**25.35**	**82**	P		**P**		**19 14 00.4**	**+2.1**
	comp=Z,91nm,0.9s								
SLVN	**Son La**	**25.51**	**3**	P		**P**		**19 13 58.9**	**-0.7**
DAV	**Davao City (W)**	**25.75**	**64**	LR		LR		19 25 08.4	
	comp=Z,43nm,21.9s,baz=262,slow=39								
TGY	**Tagaytay City**	**25.93**	**45**	LR		LR		19 23 58.6	
	comp=Z,108nm,21.8s,baz=296,slow=36								
FITZ	**Fitzroy Crossi**	**26.57**	**123**	P		**P**		**19 14 09.2**	**0.0**
	baz=27,SNR=11								
FITZ	**Fitzroy Crossi**	**26.57**	**123**	P		**P**		**19 14 08.2**	**-1.0**
MEEK	**Meekatharra**	**27.11**	**147**	P		**P**		**19 14 14.6**	**+0.6**
	baz=27,SNR=3.1								
KMI	**Kunming**	**29.24**	**1**	⇑P		**P**		**19 14 34.3**	**+1.1**
KMI				pmax		pmax			
	comp=Z,23nm,0.7s								
KMI				LR		LR			
	comp=Z,100nm,17.4s								
KMI				LR		LR			
	comp=Z,140nm,18.2s								
TNCH	**TengChong**	**29.39**	**353**	P		**P**		**19 14 34.5**	**0.0**
TNCH				pP		pP		19 14 50.1	-0.7
TNCH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
MTN	**Manton Dam**	**29.64**	**108**	P		**P**		**19 14 34.5**	**-2.2**
	baz=30,SNR=15								
MTN	**Manton Dam**	**29.64**	**108**	P		**P**		**19 14 34.6**	**-2.1**
MTN	**Manton Dam**	**29.64**	**108**	P		**P**		**19 14 34.5**	**-2.1**
MTN				IAmb		IAmb		19 14 47.6	
	comp=Z,97nm,1.7s								
FAKI	**Fak Fak**	**29.83**	**88**	P		**P**		**19 14 37.8**	**-0.6**
FAKI	**Fak Fak**	**29.83**	**88**	P		**P**		**19 14 37.0**	**-1.5**
FAKI				IAmb		IAmb		19 15 10.8	
	comp=Z,60nm,1.4s								
MUN	**Mundaring**	**30.45**	**156**	P		**P**		**19 14 44.3**	**+0.7**
PZH	**PanZhiHua**	**30.62**	**359**	P		**P**		**19 14 45.3**	**0.0**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,80nm,4.7s								
GYA	**Guiyang**	**30.85**	**7**	*e* P		**P**		**19 14 47.8**	**+0.5**
GYA				pmax		pmax			
	comp=Z,9.0nm,0.8s								
GYA				pmax		pmax			
	comp=Z,87nm,4.2s								
KDU	**Kakadu**	**30.87**	**108**	P		**P**		**19 14 44.8**	**-2.7**
	baz=31,SNR=6.0								
KDU	**Kakadu**	**30.87**	**108**	P		**P**		**19 14 45.0**	**-2.6**
NWAO	**Narrogin (SRO)**	**31.69**	**156**	P		**P**		**19 14 54.1**	**-0.4**
HYB	**Hyderabad**	**31.92**	**313**	*e* P		**P**		**19 14 57.3**	**+0.5**
H01W3	**Cape Leeuwin H**	**32.33**	**162**	T		T		19 48 55.5	
	baz=338,slow=76,SNR=140								
WRKA	**Warakurna**	**32.33**	**132**	P		**P**		**19 15 01.1**	**+0.8**
	baz=32,SNR=26								
WRKA	**Warakurna**	**32.33**	**132**	P		**P**		**19 15 01.2**	**+0.8**
H01W2	**Cape Leeuwin H**	**32.34**	**162**	T		T		19 48 56.5	
	baz=338,slow=76,SNR=187								
H01W1	**Cape Leeuwin H**	**32.34**	**162**	T		T		19 48 51.3	
	baz=338,slow=76,SNR=96								
KMBL	**Kambalda**	**32.58**	**148**	P		**P**		**19 15 03.6**	**+1.2**
	baz=33,SNR=5.0								
KMBL	**Kambalda**	**32.58**	**148**	P		**P**		**19 15 03.0**	**+0.6**
TPUB	**Ta-pu**	**32.70**	**32**	P		**P**		**19 15 03.1**	**-0.4**
SSLB	**Suanglung**	**33.27**	**32**	P		**P**		**19 15 08.2**	**-0.2**
WRA	**Warramunga Arr**	**34.79**	**119**	P		**P**		**19 15 20.0**	**-1.8**
WRA	**Warramunga Arr**	**34.79**	**119**	P		**P**		**19 15 21.4**	**-0.3**
	comp=Z,3.9nm,0.3s,baz=311,slow=8.9,SNR=108								
WRA				PcP		**PcP**		**19 17 54.5**	**+0.5**
	comp=Z,2.9nm,0.4s,baz=304,slow=2.1,SNR=8.2								
WRA				S		**S**		**19 20 46.3**	**-1.5**
	comp=Z,1.3nm,0.9s,baz=290,slow=17,SNR=4.3								
	comp=Z,3.9nm,0.3s								
WRA	**Warramunga Arr**	**34.79**	**119**	*i* P		**P**		**19 15 21.8**	**0.0**
WRA				pmax		pmax			
	comp=Z,5.0nm,0.3s								
WR0	**Warramunga Arr**	**34.98**	**119**	P		**P**		**19 15 23.0**	**-0.4**
WR0				IAmb		IAmb		19 15 23.9	
	comp=Z,13nm,0.8s								
CD2	**Chengdu**	**35.03**	**2**	P		**P**		**19 15 22.8**	**-0.8**
CD2				pmax		pmax			
	comp=Z,20nm,0.7s								
ENH	**Enshi**	**35.03**	**11**	P		**P**		**19 15 23.3**	**-0.4**
ENH	**Enshi**	**35.03**	**11**	P		**P**		**19 15 22.6**	**-1.0**
ENH				IAmb		IAmb		19 15 23.7	
	comp=Z,15nm,1.0s								
ENH	**Enshi**	**35.03**	**11**	P		**P**		**19 15 22.9**	**-0.8**
LSA	**Lhasa**	**35.47**	**343**	P		**P**		**19 15 28.5**	**+0.5**
LSA				pmax		pmax			
	comp=Z,13nm,0.9s								
LSA	**Lhasa**	**35.47**	**343**	P		**P**		**19 15 28.5**	**+0.5**
LSA				IAmb		IAmb		19 15 29.6	
	comp=Z,12nm,1.0s								
LSA	**Lhasa**	**35.47**	**343**	P		**P**		**19 15 28.5**	**+0.5**
LSA				pmax		pmax			
	comp=Z,13nm,1.0s								
LSA	**Lhasa**	**35.47**	**343**	P		**P**		**19 15 28.5**	**+0.5**
FORT	**Forrest**	**35.77**	**140**	P		**P**		**19 15 30.5**	**+0.5**
FORT	**Forrest**	**35.77**	**140**	P		**P**		**19 15 29.9**	**-0.1**
FORT				IAmb		IAmb		19 16 30.8	
	comp=Z,14nm,0.9s								
ASAR	**Alice Springs**	**35.99**	**125**	P		**P**		**19 15 31.7**	**-0.3**
ASAR	**Alice Springs**	**35.99**	**125**	P		**P**		**19 15 32.2**	**+0.2**
	comp=Z,3.9nm,0.3s,baz=297,slow=7.6,SNR=179								
ASAR				PcP		**PcP**		**19 17 58.5**	**+0.9**
	comp=Z,3.9nm,0.4s,baz=302,slow=2.3,SNR=16								
ASAR				S		**S**		**19 21 05.7**	**-0.5**
	comp=Z,1.0nm,0.7s,baz=292,slow=17,SNR=6.6								
ASAR				ScP		**ScP**		**19 21 39.0**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=306,slow=3.3,SNR=4.6								
ASAR				PKiKP		**PKiKP**		**19 25 16.7**	**-0.8**
	comp=Z,0.2nm,0.5s,baz=12,slow=0.5,SNR=4.8								
	comp=Z,3.9nm,0.3s								
AS01	**Alice Springs**	**36.03**	**125**	P		**P**		**19 15 32.7**	**+0.3**
WHN	**Wuhan**	**36.48**	**18**	P		**P**		**19 15 37.1**	**+1.1**
JMJ	**Miyako jima 2**	**36.51**	**36**	P		**P**		**19 15 38.6**	**+2.3**
XAN	**Xi'an**	**38.62**	**9**	⇑P		**P**		**19 15 53.5**	**-0.6**
XAN				pmax		pmax			
	comp=Z,31nm,0.8s								
XAN	**Xi'an**	**38.62**	**9**	P		**P**		**19 15 53.4**	**-0.6**
OOD	**Oodnadatta**	**39.39**	**130**	P		**P**		**19 16 01.2**	**+0.6**
NJ2	**Nanjing**	**39.39**	**22**	*e* P		**P**		**19 16 02.4**	**+1.9**
NJ2				pP		**pP**		**19 16 18.1**	**+0.7**
NJ2				sP		**sP**		**19 16 25.8**	**+0.5**
NJ2				pmax		pmax			
	comp=Z,8.0nm,0.7s								
NJ2				pmax		pmax			
	comp=Z,120nm,5.2s								
MULG	**Mulgathing**	**39.52**	**134**	P		**P**		**19 16 02.6**	**+1.0**
QIS	**Mount Isa**	**39.64**	**117**	P		**P**		**19 16 02.6**	**-0.1**
	baz=40,SNR=23								
QIS	**Mount Isa**	**39.64**	**117**	P		**P**		**19 16 02.7**	**-0.1**
LYN	**LuoYang**	**39.79**	**13**	⇓P		**P**		**19 16 04.5**	**+0.7**
LYN				pmax		pmax			
	comp=Z,110nm,0.6s								
LYN				pmax		pmax			
	comp=Z,120nm,3.6s								
JOW	**Kunigami**	**39.80**	**38**	LR		LR		19 32 37.4	
	comp=Z,20nm,18.8s,baz=241,slow=36								
LZH	**Lanzhou**	**40.19**	**2**	*e* P		**P**		**19 16 07.8**	**+0.5**
LZH				pmax		pmax			
	comp=Z,15nm,1.0s								
GOMU	**GeErMu**	**40.90**	**351**	P		**P**		**19 16 13.3**	**-0.1**
GOMU				pmax		pmax			
	comp=Z,17nm,0.6s								
COEN	**Coen**	**41.34**	**106**	P		**P**		**19 16 15.6**	**-1.3**
	baz=41,SNR=6.4								
COEN	**Coen**	**41.34**	**106**	P		**P**		**19 16 15.4**	**-1.5**
COEN	**Coen**	**41.34**	**106**	P		**P**		**19 16 14.8**	**-2.2**
COEN				IAmb		IAmb		19 17 14.3	
	comp=Z,62nm,1.6s								
BBOO	**Buckleboo**	**42.36**	**136**	P		**P**		**19 16 25.5**	**+0.6**
	baz=42,SNR=6.4								
BBOO	**Buckleboo**	**42.36**	**136**	P		**P**		**19 16 25.4**	**+0.4**
LCRK	**Leigh Creek**	**42.63**	**132**	P		**P**		**19 16 28.3**	**+1.0**
TIY	**Taiyuan**	**42.82**	**12**	*e* P		**P**		**19 16 29.0**	**+0.3**
TIY				pmax		pmax			
	comp=Z,30nm,0.6s								
HNS	**HongShan**	**43.03**	**14**	⇓P		**P**		**19 16 30.8**	**+0.5**
HNS				pmax		pmax			
	comp=Z,13nm,0.8s								
MTSU	**Mount Surprise**	**43.24**	**112**	P		**P**		**19 16 32.3**	**0.0**
	baz=43,SNR=22								
MTSU	**Mount Surprise**	**43.24**	**112**	P		**P**		**19 16 32.3**	**0.0**
INKA	**Innaminka**	**43.32**	**127**	P		**P**		**19 16 33.9**	**+1.1**
GTA	**Gaotai**	**43.55**	**357**	P		**P**		**19 16 34.5**	**-0.1**
GTA				pmax		pmax			
	comp=Z,14nm,0.7s								
HTT	**Hallett**	**44.70**	**135**	P		**P**		**19 16 45.1**	**+1.3**
	baz=45,SNR=10								
HTT	**Hallett**	**44.70**	**135**	P		**P**		**19 16 45.2**	**+1.3**
MANU	**Manus Island**	**44.96**	**89**	P		**P**		**19 16 47.9**	**+1.7**
MANU	**Manus Island**	**44.96**	**89**	P		**P**		**19 16 44.2**	**-2.0**
BTO	**Baotou**	**45.22**	**8**	*e* P		**P**		**19 16 49.0**	**+1.1**
BTO				pP		**pP**		**19 17 07.5**	**+2.4**
BTO				sP		**sP**		**19 17 16.4**	**+3.5**
BTO				PP		**PP**		**19 18 37.5**	**+2.5**

SONM PcP **PcP** **19 18 51.4 0.0**
comp=Z,2.6nm,0.4s,baz=188,slow=4.1,SNR=9.8
SONM LR LR 19 42 58.8
comp=Z,39nm,18.2s,baz=170,slow=40
comp=Z,37nm,0.8s
SONM Songino Array 52.02 3 P **P** **19 17 40.6 +0.6**
SONM pmax pmax
comp=Z,37nm,0.8s
YNG Young 52.04 131 P **P** **19 17 41.0 +0.6**
baz=52,SNR=5.9
YNG Young 52.04 131 P **P** **19 17 41.8 +1.4**
ULN Ulaanbaatar 52.10 4 P **P** **19 17 40.5 -0.1**
ULN IAmb IAmb 19 17 42.6
comp=Z,20nm,0.8s
ULN Ulaanbaatar 52.10 4*c i*P **P** **19 17 41.1 +0.5**
ULN pmax pmax
comp=Z,25nm,1.0s
ULN Ulaanbaatar 52.10 4 P **P** **19 17 41.1 +0.5**
ULN sP **sP** **19 18 03.4 -2.4**
ULN PcP **PcP** **19 18 51.6 -0.2**
CN2 Changchun 52.19 21 *e*P **P** **19 17 39.9 -1.2**
CN2 pmax pmax
comp=Z,10.0nm,1.0s
GAR Garm 52.27 328 P **P** **19 17 41.5 -0.5**
GAR IAmb IAmb 19 17 45.0
comp=Z,16nm,0.6s
BOOM Boomskoye usch 52.38 335 P **P** **19 17 42.3 -0.6**
BOOM IAmb IAmb 19 17 43.9
comp=Z,14nm,0.8s
BOOM Boomskoye usch 52.38 335 P **P** **19 17 42.3 -0.6**
BOOM pmax pmax
comp=Z,14nm,0.8s
TNSS Tian-Shan 52.43 337 *e*P **P** **19 17 42.9 -0.6**
baz=336
TNSS Tian-Shan 52.43 337 *e*P **P** **19 17 42.9 -0.6**
MDOK Medeo 52.50 337 *e*P **P** **19 17 43.4 -0.3**
baz=337
MDOK Medeo 52.50 337 *e*P **P** **19 17 43.4 -0.3**
AAA Alma-Ata 52.59 337 *e*P **P** **19 17 44.1 -0.1**
comp=Z,7.4nm,0.4s,baz=337
AAA Alma-Ata 52.59 337 *e*P **P** **19 17 44.1 -0.1**
AAA pmax pmax
comp=Z,7.0nm,0.4s
MAJO Matsushiro 52.62 36⇓ *e*P **P** **19 17 43.0 -1.5**
MAJO pmax pmax
comp=Z,31nm,2.2s
MAJO Matsushiro 52.62 36 P **P** **19 17 42.8 -1.7**
MJAR Matsushiro Arr 52.62 36 P **P** **19 17 43.1 -1.4**
comp=Z,7.3nm,0.9s,baz=204,slow=8.5,SNR=24
MJAR PcP **PcP** **19 18 53.9 +0.1**
comp=Z,1.0nm,0.8s,baz=205,slow=4.1,SNR=5.0
MJAR LR LR 19 42 06.8
comp=Z,15nm,18.2s,baz=157,slow=38
comp=Z,7.3nm,0.9s
MJB9 Matsu-Tunnel 52.62 36 P **P** **19 17 43.7 -0.8**
MJB9 IAmb IAmb 19 19 15.7
comp=Z,43nm,1.6s
CHGR Chuyangaron 52.63 327 P **P** **19 17 43.6 -1.1**
CHGR Chuyangaron 52.63 327 P **P** **19 17 43.6 -1.1**
CHGR pmax pmax
comp=Z,31nm,0.9s
SIMJ Simiganj 52.72 327 P **P** **19 17 44.4 -0.9**
SIMJ IAmb IAmb 19 17 45.9
comp=Z,12nm,0.9s
SIMJ Simiganj 52.72 327 P **P** **19 17 44.2 -1.1**
SIMJ PcP **PcP** **19 18 55.5 +1.1**
UCH Uchtor 52.77 334 P **P** **19 17 46.2 +0.1**
SNR=12
BTK Batken 52.81 330 P **P** **19 17 46.3 +0.4**
BTK IAmb IAmb 19 17 46.8
comp=Z,10nm,0.6s
BTK Batken 52.81 330 P **P** **19 17 46.3 +0.4**
BTK pmax pmax
comp=Z,11nm,0.6s
TKM2 Tokmak 2 52.88 335 P **P** **19 17 46.8 +0.2**
SNR=57
CAN Canberra 52.92 132 P **P** **19 17 48.3 +1.4**
CAN Canberra 52.92 132 P **P** **19 17 46.8 -0.1**
CAN IAmb IAmb 19 18 20.9
comp=Z,45nm,1.5s
CAN Canberra 52.92 132 P **P** **19 17 46.8 -0.1**
CAN pmax pmax
comp=Z,45nm,1.5s
CAN Canberra 52.92 132 P **P** **19 17 47.2 +0.4**
KBK Karagaybulak 52.94 335 P **P** **19 17 47.8 +0.8**
SNR=15
ARXS Arharly 53.09 338 *e*P **P** **19 17 47.5 -0.4**
CHKK Chushkaly 53.10 337 *e*P **P** **19 17 47.2 -0.7**
baz=337
CHKK Chushkaly 53.10 337 *e*P **P** **19 17 47.2 -0.7**
AAK Ala-Archa 53.11 334 P **P** **19 17 48.8 +0.5**
SNR=6.0
AAK Ala-Archa 53.11 334 P **P** **19 17 47.7 -0.5**
AAK Ala-Archa 53.11 334 LR LR 19 44 42.4
comp=Z,38nm,18.5s,baz=136,slow=41
AAK Ala-Archa 53.11 334*c i*P **P** **19 17 48.5 +0.3**
AAK pmax pmax
comp=Z,6.0nm,0.8s
AAK Ala-Archa 53.11 334 P **P** **19 17 48.6 +0.3**
AAK PcP **PcP** **19 18 57.0 +1.2**
ARMA Armidale 53.14 125 P **P** **19 17 48.6 0.0**
ARMA IAmb IAmb 19 19 08.7
comp=Z,33nm,1.6s
CHMS Chumysh 53.30 335 P **P** **19 17 49.4 -0.1**
SNR=7.0
KUU Kurty 53.39 337 *e*P **P** **19 17 49.5 -0.5**
comp=Z,9.6nm,0.6s,baz=337
KUU Kurty 53.39 337 *e*P **P** **19 17 49.5 -0.5**
KUU pmax pmax
comp=Z,10.0nm,0.6s
EKS2 Erkin-Say 53.44 334 P **P** **19 17 51.2 +0.5**
SNR=29
TDK Taldyqorghan 53.55 339 *e*P **P** **19 17 50.7 -0.6**
comp=Z,11nm,0.5s,baz=339
TDK Taldyqorghan 53.55 339 *e*P **P** **19 17 50.6 -0.6**
TDK pmax pmax
comp=Z,11nm,0.5s
JSD Sado 53.67 35 P **P** **19 17 50.7 -1.4**
ZSN Zaisan 53.78 345 *e*P **P** **19 17 52.6 -0.3**
comp=Z,9.3nm,0.6s,baz=345
ZSN Zaisan 53.78 345 *e*P **P** **19 17 52.6 -0.3**
ZSN pmax pmax
comp=Z,9.0nm,0.6s
MK31 Makanchi Array 53.88 343 P **P** **19 17 53.3 -0.3**
MK31 IAmb IAmb 19 17 54.2
comp=Z,17nm,0.7s
MK31 Makanchi Array 53.88 343*c i*P **P** **19 17 53.2 -0.4**
MKAR Makanchi Array 53.88 343 P **P** **19 17 53.3 -0.3**
MKAR Makanchi Array 53.88 343 P **P** **19 17 53.7 0.0**
comp=Z,24nm,0.6s,baz=147,slow=7.5,SNR=174
MKAR LR LR 19 43 39.7
comp=Z,32nm,19.2s,baz=110,slow=39
comp=Z,24nm,0.6s
MKAR Makanchi Array 53.88 343 *i* P **P** **19 17 53.4 -0.2**
MKAR pmax pmax
comp=Z,25nm,0.6s
MAKZ Makanchi 53.99 343 P **P** **19 17 53.8 -0.6**
MAKZ IAmb IAmb 19 17 55.4
comp=Z,19nm,1.3s
MAKZ Makanchi 53.99 343 P **P** **19 17 53.8 -0.6**
MAKZ pmax pmax
comp=Z,19nm,1.3s
MAKZ Makanchi 53.99 343 P **P** **19 17 53.8 -0.6**
BNX BinXian 54.56 21 ⇓P **P** **19 17 58.6 +0.1**
BNX pmax pmax
comp=Z,32nm,0.9s
BNX pmax pmax
comp=Z,77nm,4.9s
DZA Taraz 54.73 332 *e*P **P** **19 17 59.0 -0.8**
comp=Z,3.9nm,0.3s,baz=332
DZA Taraz 54.73 332 *e*P **P** **19 17 59.0 -0.8**
DZA pmax pmax
comp=Z,4.0nm,0.3s
JMM Marumori 55.04 37 P **P** **19 18 02.1 0.0**
comp=Z,47nm,2.1s
JMM Marumori 55.04 37 P **P** **19 18 00.7 -1.4**
USA0B Ussuriysk Arra 55.11 26 P **P** **19 18 02.3 -0.2**
USA0B Ussuriysk Arra 55.11 26*c i*P **P** **19 18 02.1 -0.4**
USRK Ussuriysk Ar. 55.11 26 P **P** **19 18 02.1 -0.5**
USRK Ussuriysk Ar. 55.11 26 P **P** **19 18 02.4 -0.1**
comp=Z,24nm,0.7s,baz=216,slow=5.3,SNR=59
comp=Z,24nm,0.7s
BTLS Baital 55.26 336 *e*P **P** **19 18 02.5 -1.1**
baz=336
BTLS Baital 55.26 336 *e*P **P** **19 18 02.5 -1.1**
KK31 Karatay Array 55.27 332 P **P** **19 18 02.9 -0.9**
KK31 pmax pmax
comp=Z,3.0nm,0.7s
KKAR Karatay Array 55.27 332 P **P** **19 18 02.9 -0.9**
KKAR Karatay Array 55.27 332 P **P** **19 18 02.9 -0.9**
KKAR Karatay Array 55.27 332 P **P** **19 18 02.9 -0.9**
KKAR pmax pmax
comp=Z,3.0nm,0.7s
BRLS Borolday 55.54 331 *e*P **P** **19 18 03.7 -2.0**
baz=331
BRLS Borolday 55.54 331 *e*P **P** **19 18 03.7 -2.0**
MOY Mondy 55.75 359 *e*P **P** **19 18 07.7 +0.5**
MOY pmax pmax
comp=Z,8.0nm,1.5s
SEM Semipalatinsk 57.73 343 *e*P **P** **19 18 20.2 -1.1**
comp=Z,7.9nm,0.7s,baz=343
SEM Semipalatinsk 57.73 343 *e*P **P** **19 18 20.2 -1.1**
SEM pmax pmax
comp=Z,8.0nm,0.7s
KURBB Kurchatov Arra 58.42 342 P **P** **19 18 25.8 0.0**
comp=Z,14nm,0.8s,baz=162,slow=6.7,SNR=4.3
KURBB PcP **PcP** **19 19 16.3 +0.4**
comp=Z,1.4nm,0.4s,baz=151,slow=3.5,SNR=4.4
comp=Z,14nm,0.8s
HEH HeiHe 58.46 19 *e*P **P** **19 18 25.6 -0.5**
HEH pmax pmax
comp=Z,25nm,1.0s
HEH pmax pmax
comp=Z,110nm,5.0s
KURK Kurchatov 58.48 343 P **P** **19 18 26.1 -0.1**
KURK Kurchatov 58.48 343*c i*P **P** **19 18 25.7 -0.5**
KURK pmax pmax
comp=Z,26nm,0.8s
KURK Kurchatov 58.48 343 P **P** **19 18 26.0 -0.3**
GEYT Alibeck 58.72 320 P **P** **19 18 28.2 -0.1**
GEYT IAmb IAmb 19 18 29.5
comp=Z,9.9nm,0.9s
GEYT Alibeck 58.72 320 P **P** **19 18 28.6 +0.3**
comp=Z,6.6nm,0.7s,baz=126,slow=11,SNR=28
GEYT LR LR 19 46 49.8
comp=Z,43nm,18.1s,baz=140,slow=39
comp=Z,6.6nm,0.7s
GEYT Alibeck 58.72 320 P **P** **19 18 28.2 -0.1**
GEYT pmax pmax
comp=Z,10.0nm,0.9s
GYA0B ALIBECK ARRAY 58.72 320 P **P** **19 18 28.1 -0.2**
GYA0B IAmb IAmb 19 18 29.5
comp=Z,8.7nm,0.9s
KLR Kul'dur 59.10 22 P **P** **19 18 30.1 -0.4**
comp=Z,16nm,0.7s,baz=208,slow=7.1,SNR=48
KLR LR LR 19 43 26.9
comp=Z,30nm,21.9s,baz=174,slow=36
comp=Z,16nm,0.7s
KLR Kul'dur 59.10 22*c i*P **P** **19 18 29.9 -0.7**
KLR pmax pmax
comp=Z,15nm,0.6s
BRZS Berezniki 59.84 338 *e*P **P** **19 18 34.7 -1.0**
baz=338
BRZS Berezniki 59.84 338 *e*P **P** **19 18 34.7 -1.0**
ZAA0 Zalesovo Array 59.87 348 P **P** **19 18 35.1 -0.7**
ZALV Zalesovo Beam 59.87 348 P **P** **19 18 35.3 -0.5**
comp=Z,33nm,0.6s,baz=165,slow=5.1,SNR=164
ZALV LR LR 19 47 50.4
comp=Z,55nm,18.5s,baz=106,slow=39
comp=Z,33nm,0.6s
ZALV Zalesovo Beam 59.87 348 *i* P **P** **19 18 35.2 -0.5**
ZALV pmax pmax
comp=Z,34nm,0.6s
ASAJ Asahikawa 60.20 32 P **P** **19 18 37.8 -0.4**
comp=Z,9.5nm,0.5s,baz=238,slow=8.3,SNR=18
ASAJ LR LR 19 44 53.6
comp=Z,40nm,20.8s,baz=192,slow=36
comp=Z,9.5nm,0.5s
ASAJ Asahikawa 60.20 32 P **P** **19 18 37.7 -0.6**
ASAJ pmax pmax
comp=Z,12nm,0.6s
JKA Kamikawa-asahi 60.20 32 P **P** **19 18 37.7 -0.5**
JKA IAmb IAmb 19 18 38.7
comp=Z,12nm,0.6s
H04N2 CROZET ISLANDS 60.43 218 T T 20 24 29.4
baz=62,slow=74,SNR=919
H04N1 CROZET ISLANDS 60.44 218 T T 20 24 29.8
baz=62,slow=74,SNR=777
H04N3 CROZET ISLANDS 60.45 218 T T 20 24 22.7
baz=62,slow=74,SNR=920
H04S1 CROZET ISLANDS 60.68 217 T T 20 24 44.8
baz=62,slow=75,SNR=35
H04S3 CROZET ISLANDS 60.69 217 T T 20 24 42.7
baz=62,slow=75,SNR=77
H04S2 CROZET ISLANDS 60.69 217 T T 20 24 48.4
baz=62,slow=75,SNR=52
ZEA Zeya 61.46 17 *e*P **P** **19 18 46.9 +0.3**
ZEA *e* 19 18 56.6
ZEA pmax pmax
comp=E,10.0nm,0.5s
ZEA pmax pmax
comp=N,10.0nm,0.6s
ZEA pmax pmax
comp=Z,20nm,0.9s
RAYN Ar Rayn 61.93 299 P **P** **19 18 50.7 +0.3**
RAYN Ar Rayn 61.93 299 P **P** **19 18 50.7 +0.3**
RAYN pmax pmax
comp=Z,9.0nm,1.4s
RAYN Ar Rayn 61.93 299 P **P** **19 18 51.2 +0.7**
YSS Yuzh-Sakhalins 62.20 30 P **P** **19 18 51.3 -0.5**
YSS Yuzh-Sakhalins 62.20 30 *e*P **P** **19 18 51.4 -0.3**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS MLR MLR
comp=Z,200nm,13.0s
YSS Yuzh-Sakhalins 62.20 30 P **P** **19 18 51.2 -0.5**
BOD Bodaibo 62.62 7 *e*P **P** **19 18 54.1 -0.2**
BOD pmax pmax
comp=Z,19nm,0.8s
BVAR Borovoye Array 63.15 339 P **P** **19 18 57.4 -0.6**
comp=Z,16nm,0.6s,baz=143,slow=8.8,SNR=73
comp=Z,16nm,0.6s
BRVK Borovoye 63.22 339 P **P** **19 18 57.8 -0.6**
BRVK IAmb IAmb 19 18 58.4
comp=Z,16nm,1.1s
BRVK Borovoye 63.22 339*c i*P **P** **19 18 57.3 -1.1**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 63.22 339 P **P** **19 18 57.6 -0.8**
ABKAR Akbulak array 64.78 331 P **P** **19 19 08.4 -0.4**
GNI Garni 68.82 316⇓ *i*P **P** **19 19 36.0 +1.2**
GNI pmax pmax
comp=Z,7.0nm,1.4s
YAK Yakutsk 69.38 13 P **P** **19 19 36.2 -1.3**
YAK Yakutsk 69.38 13 LR LR 19 52 13.3
comp=Z,40nm,19.1s,baz=242,slow=38
YAK Yakutsk 69.38 13*c i*P **P** **19 19 36.0 -1.5**
YAK *e* 19 19 59.1
YAK *e* 19 22 08.3
YAK *e*PPP PPP 19 23 50.7
YAK *e*S **S** **19 28 39.2 +0.2**
YAK *e*SSS SSS 19 36 07.4
YAK pmax pmax
comp=Z,47nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.9s
YAK pmax pmax
comp=E,4.0nm,1.1s
YAK pmax pmax
comp=Z,61nm,4.4s
YAK pmax pmax
comp=N,62nm,4.0s
YAK pmax pmax
comp=E,49nm,3.0s
YAK smax smax
comp=E,35nm,3.2s
YAK smax smax
comp=N,26nm,2.8s
YAK Yakutsk 69.38 13 P **P** **19 19 35.9 -1.7**
GROC Groznyy 69.46 319 *e*P **P** **19 19 37.0 -1.5**
GROC *e* 19 19 59.7
GROC *e**SP PcP **19 20 01.8 +0.4**
GROC pmax pmax
comp=Z,33nm,1.0s
SVE Sverdlovsk 69.70 337 *e*P **P** **19 19 39.7 0.0**
SVE pmax pmax
comp=Z,23nm,1.0s
GURO Guroymak-BITLI 70.08 314 P **P** **19 19 42.9 +0.3**
ARU Arti 70.25 336 P **P** **19 19 42.4 -0.7**
ARU IAmb IAmb 19 19 43.7
comp=Z,24nm,1.2s
ARU Arti 70.25 336*c i*P **P** **19 19 42.6 -0.5**
ARU pmax pmax
comp=Z,14nm,1.0s
ARU Arti 70.25 336 P **P** **19 19 42.6 -0.5**
ARU pP **pP** **19 19 59.2 -2.1**
ARU Arti 70.25 336 P **P** **19 19 42.8 -0.3**
comp=Z,18nm,1.1s
MARD Mardin 70.54 312 P **P** **19 19 46.0 +0.6**
MARD IAmb IAmb 19 19 47.2
comp=Z,16nm,0.7s
NCK Nalchik 71.03 319⇓ *e*P **P** **19 19 49.1 +1.0**
NCK pmax pmax
comp=Z,12nm,0.6s
KBZ Khabaz 71.59 319 P **P** **19 19 52.2 +0.8**
comp=Z,11nm,0.8s,baz=119,slow=5.6,SNR=28
comp=Z,11nm,0.8s
KBZ Khabaz 71.59 319*de*P **P** **19 19 51.8 +0.4**
KBZ pmax pmax
comp=Z,12nm,0.9s
SHA1 Shidzhatmaz 71.75 319*c i*P **P** **19 19 53.2 +0.5**
KIV Kislovodsk 71.82 319⇓ P **P** **19 19 53.5 +0.5**
KIV Kislovodsk 71.82 319 P **P** **19 19 53.0 0.0**
KIV IAmb IAmb 19 19 55.1
comp=Z,9.6nm,0.8s
KIV Kislovodsk 71.82 319 P **P** **19 19 53.5 +0.5**
KIV Kislovodsk 71.82 319 P **P** **19 19 53.1 +0.1**
comp=Z,9.8nm,0.9s
QRZ Quartz Range 72.22 131 P **P** **19 19 56.6 +1.3**
MRNZ Matariki Terra 72.48 132 P **P** **19 19 56.8 -0.1**
THZ Tophouse 72.66 132 P **P** **19 19 58.8 +0.7**
BELG Belogornoye 72.91 328*c i*P **P** **19 19 58.7 -0.4**
BELG pmax pmax
comp=Z,5.0nm,0.8s
MMAI Mount Meron Ar 73.30 306 P **P** **19 20 04.0 +2.0**
comp=Z,4.1nm,0.6s,baz=96,slow=8.5,SNR=16
comp=Z,4.1nm,0.6s
VSLR Vesyoloye 73.38 318*de*P **P** **19 20 02.8 +0.6**
VSLR pmax pmax
comp=Z,14nm,0.8s
PEA0B Petropavlovsk- 73.57 31⇓ *e*P **P** **19 20 03.3 +0.3**
PETK Petropavlovsk- 73.57 31 P **P** **19 20 01.5 -1.5**
PETK Petropavlovsk- 73.57 31 P **P** **19 20 02.1 -1.0**
comp=Z,4.7nm,0.8s,baz=271,slow=3.9,SNR=14
PETK LR LR 19 54 45.7
comp=Z,17nm,18.9s,baz=104,slow=38
comp=Z,4.7nm,0.8s
PETK Petropavlovsk- 73.57 31 P **P** **19 20 01.5 -1.5**
SOC Sochi 73.64 318 *e*P **P** **19 20 01.7 -1.9**
SOC *e* 19 22 46.9
SOC *e*PPP PPP 19 24 31.1
SOC *e*S **SKiKP** **19 29 27.2 -0.4**
SOC *e*SS **SS** **19 34 15.1 +1.5**
SOC pmax pmax
comp=Z,11nm,0.7s
LSZ Lusaka 73.65 255 LR LR 19 47 39.7
comp=Z,49nm,20.9s,baz=141,slow=32
PET Petropavlovsk 74.02 32⇑ *e*P **P** **19 20 06.6 +1.0**
PET pmax pmax
comp=Z,51nm,1.8s
PET Petropavlovsk 74.02 32 P **P** **19 20 04.9 -0.7**
comp=Z,24nm,0.8s
MA2 Magadan 74.15 23 LR LR 19 54 42.6
comp=Z,16nm,18.3s,baz=248,slow=37
MA2 Magadan 74.15 23*de*P **P** **19 20 05.6 -0.7**
MA2 pmax pmax
comp=Z,10.0nm,1.3s
MA2 Magadan 74.15 23 P **P** **19 20 06.3 0.0**
comp=Z,11nm,1.1s
BKZ Black Stump Fm 74.99 129 P **P** **19 20 12.4 +0.7**
KIRV Kirov 75.45 334*c i*P **P** **19 20 13.9 +0.2**
CSS Mathiatis 75.50 308 P **P** **19 20 15.4 +0.8**
CSS Mathiatis 75.50 308 P **P** **19 20 15.9 +1.2**
comp=Z,13nm,0.8s
VRH Novokhopyorsk 75.55 326 *e*P **P** **19 20 13.6 -0.9**
VRH pmax pmax
comp=Z,20nm,0.8s
ANN Anapa 75.62 318 *e*P P 19 20 10.1 -4.9
ANN *e**PP pP 19 20 32.1 -1.4
ANN *e*S **S** **19 29 43.7 -7.2**
ANN pmax pmax
comp=Z,8.0nm,1.0s
BR104 Keskin Array S 76.61 312 P **P** **19 20 20.9 -0.1**
comp=Z,5.7nm,0.7s,comp=Z,51nm
BR131 Keskin Array S 76.62 312 P **P** **19 20 20.7 -0.4**
BR131 Keskin Array S 76.62 312*ce*P **P** **19 20 20.8 -0.3**
BRTR Keskin Array B 76.62 312 P **P** **19 20 20.8 -0.4**
BRTR Keskin Array B 76.62 312 P **P** **19 20 21.1 0.0**
comp=Z,3.8nm,0.6s,baz=140,slow=7.3,SNR=32
comp=Z,3.8nm,0.6s
BR105 Keskin Array S 76.63 312 P **P** **19 20 21.1 0.0**
comp=Z,5.9nm,0.9s,comp=Z,53nm
BR106 Keskin Array S 76.63 312 P **P** **19 20 21.2 0.0**
comp=Z,5.3nm,0.9s,comp=Z,48nm
BOSA Boshof 76.66 242 P **P** **19 20 21.4 -0.2**
BOSA IAmb IAmb 19 21 03.2
comp=Z,30nm,1.6s
BOSA Boshof 76.66 242 P **P** **19 20 22.8 +1.2**
comp=Z,1.8nm,0.7s,baz=72,slow=3.2,SNR=3.5
BOSA LR LR 19 46 55.9
comp=Z,61nm,19.7s,baz=185,slow=30
comp=Z,1.8nm,0.7s
BOSA Boshof 76.66 242 P **P** **19 20 21.4 -0.2**
BOSA pmax pmax
comp=Z,30nm,1.7s
SEY Seymchan 76.87 21⇓ *i*P **P** **19 20 20.9 -0.9**
SEY pmax pmax
comp=Z,7.0nm,1.0s
VSR Storozhevoye 77.01 325 *e*P **P** **19 20 21.7 -1.1**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 77.17 325 *e*P **P** **19 20 23.8 +0.1**
VORR pmax pmax
comp=Z,18nm,0.9s
LPSR Galich'ya Gora 77.71 326 *e*P **P** **19 20 25.7 -1.0**
LPSR pmax pmax
comp=Z,20nm,0.9s
TIXI Tiksi 77.75 8 P **P** **19 20 24.9 -1.5**
TIXI IAmb IAmb 19 20 25.7
comp=Z,7.3nm,0.7s
TIXI Tiksi 77.75 8 LR LR 19 58 37.0
comp=Z,44nm,19.5s,baz=202,slow=39
TIXI Tiksi 77.75 8⇑ *i*P **P** **19 20 24.8 -1.7**
TIXI pmax pmax
comp=Z,12nm,1.1s
SIM Simferopol' 77.89 318 *e*P **P** **19 20 28.8 +0.9**
SIM pmax pmax
comp=Z,19nm,0.8s
ELL Elmali 78.64 309 P **P** **19 20 32.1 -0.3**
ELL IAmb IAmb 19 20 34.5
comp=Z,14nm,0.9s
ELL Elmali 78.64 309 P **P** **19 20 32.1 -0.3**
ELL pmax pmax
comp=Z,14nm,0.9s
VNDA Vanda 79.47 169 P **P** **19 20 37.6 +1.6**
VNDA Vanda 79.47 169 P **P** **19 20 37.4 +1.5**
comp=Z,1.3nm,1.0s,baz=320,slow=2.7,SNR=5.5
comp=Z,1.3nm,1.0s
VNDA Vanda 79.47 169 P **P** **19 20 37.6 +1.6**
VNDA pmax pmax
comp=Z,2.0nm,0.7s
MOS Moscow 79.68 329 *e*P **P** **19 20 36.4 -1.0**
MOS pmax pmax
comp=Z,30nm,1.2s
OBN Obninsk 79.99 328*d i*P **P** **19 20 39.6 +0.5**
OBN *e* 19 20 47.0
OBN *e**PP **pP** **19 20 57.2 -0.5**
OBN *e* 19 23 40.3
OBN *e*PPP PPP 19 25 30.9
OBN pmax pmax
comp=Z,28nm,1.7s
OBN MLR MLR
comp=Z,62nm,15.0s
KARP Karpathos 80.54 307 P **P** **19 20 42.8 +0.2**
KARP Karpathos 80.54 307 P **P** **19 20 43.9 +1.3**
comp=Z,52nm,0.8s
SBA Scott Base 80.56 169 P **P** **19 20 44.1 +2.3**
SBA IAmb IAmb 19 22 14.6
comp=Z,29nm,1.9s
SBA Scott Base 80.56 169 P **P** **19 20 44.1 +2.3**
SBA pmax pmax
comp=Z,29nm,2.0s
SUR Sutherland 80.60 238 LR LR 19 51 48.3
comp=Z,50nm,18.3s,baz=138,slow=32
KLMR Klimovskoe 80.92 334 *e*P **P** **19 20 43.3 -0.7**
KLMR pmax pmax

	comp=Z,16nm,1.0s								
MILM	**Milestii Mici**	**82.00 318**	⇓	P		**P**	**19 20 50.6**	**+0.6**
MILM	**Milestii Mici**	**82.00 318**		P		**P**	**19 20 50.6**	**+0.6**
CFR	**Carcaliu**	**82.02 317**	⇑	P		**P**	**19 20 50.6**	**+0.5**
CFR	**Carcaliu**	**82.02 317**	⇑	P		**P**	**19 20 50.6**	**+0.5**
HARR	**Harsova**	**82.04 316**	⇑	P		**P**	**19 20 51.5**	**+1.2**
HARR	**Harsova**	**82.04 316**	⇑	P		**P**	**19 20 51.5**	**+1.2**
IDI	**Anoyia**	**82.31 306**		P		**P**	**19 20 51.8**	**-0.2**
IDI				IAmb		IAmb	19 20 54.2	
	comp=Z,14nm,0.8s							
ELIB	**Princess Elisa**	**82.55 198**		*d*P		**P**	**19 20 55.3**	**+2.7**
ELIB				*d*pP		**pP**	**19 21 11.6**	**+0.6**
SORM	**Soroca**	**82.61 320**	⇓	P		**P**	**19 20 53.6**	**+0.4**
SORM	**Soroca**	**82.61 320**	⇓	P		**P**	**19 20 53.6**	**+0.4**
SORM	**Soroca**	**82.61 320**		P		**P**	**19 20 53.6**	**+0.4**
	comp=Z,13nm,0.8s							
AK09	**Malin Array Si**	**82.68 322**		P		**P**	**19 20 53.5**	**0.0**
AK10	**Malin Array Si**	**82.70 322**		P		**P**	**19 20 53.5**	**-0.1**
AK07	**Malin Array Si**	**82.71 322**		P		**P**	**19 20 53.6**	**0.0**
AKASG	**Malin Array Be**	**82.74 322**		P		**P**	**19 20 53.7**	**-0.1**
AKASG	**Malin Array Be**	**82.74 322**		P		**P**	**19 20 53.5**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=85,slow=5.2,SNR=14							
	comp=Z,1.8nm,0.6s							
AKASG	**Malin Array Be**	**82.74 322**		*i* P		**P**	**19 20 53.5**	**-0.3**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.6s							
AKBB	**Malin Array Si**	**82.74 322**	⇑	*e*P		**P**	**19 20 53.2**	**-0.6**
AKBB				pmax		pmax		
	comp=Z,5.0nm,0.9s							
AKBB	**Malin Array Si**	**82.74 322**		P		**P**	**19 20 53.5**	**-0.3**
KIEV	**Kiev**	**82.75 322**	⇑	P		**P**	**19 20 53.5**	**-0.3**
KIEV	**Kiev**	**82.75 322**		P		**P**	**19 20 53.4**	**-0.4**
KIEV	**Kiev**	**82.75 322**		P		**P**	**19 20 53.4**	**-0.4**
KIEV				pmax		pmax		
	comp=Z,5.0nm,0.7s							
KIEV	**Kiev**	**82.75 322**		P		**P**	**19 20 53.5**	**-0.3**
	comp=Z,38nm,0.8s							
ELND	**Elena**	**83.08 314**	⇑	P		**P**	**19 20 56.3**	**+0.5**
SPBR	**Spulber**	**83.10 317**	⇓	P		**P**	**19 20 57.0**	**+1.2**
VRI	**Vrincioaia**	**83.14 317**	⇑	P		**P**	**19 20 57.4**	**+1.3**
VRI	**Vrincioaia**	**83.14 317**	⇑	P		**P**	**19 20 57.4**	**+1.3**
VRI	**Vrincioaia**	**83.14 317**		P		**P**	**19 20 57.3**	**+1.3**
	comp=Z,17nm,0.9s							
PLOR5	**Plostina Array**	**83.18 317**		P		**P**	**19 20 57.3**	**+1.1**
	comp=Z,8.0nm,1.3s							
PLOR	**Plostina**	**83.19 317**	⇑	P		**P**	**19 20 57.5**	**+1.2**
PLOR	**Plostina**	**83.19 317**	⇑	P		**P**	**19 20 57.5**	**+1.2**
PLOR3	**Plostina Array**	**83.19 317**		P		**P**	**19 20 57.4**	**+1.1**
	comp=Z,4.2nm,0.9s							
SULR		**83.20 316**	⇓	P		**P**	**19 20 57.6**	**+1.3**
NEHR	**Nehoiu**	**83.34 317**	⇑	P		**P**	**19 20 58.5**	**+1.4**
TESR	**Tescani**	**83.34 318**	⇑	P		**P**	**19 20 58.2**	**+1.1**
TESR	**Tescani**	**83.34 318**		P		**P**	**19 20 57.9**	**+0.9**
	comp=Z,19nm,0.9s							
MI30	**MI30,Zelenitsa**	**83.39 322**		P		**P**	**19 20 58.1**	**+1.0**
LUBAR	**Lubar, Ukraine**	**83.44 321**		P		**P**	**19 20 57.7**	**+0.2**
MI29	**MI29, Kamyanyy**	**83.51 322**		P		**P**	**19 20 58.1**	**+0.3**
MLR	**Muntele Rosu**	**83.59 317**	⇑	P		**P**	**19 20 59.4**	**+0.9**
MLR	**Muntele Rosu**	**83.59 317**		P		**P**	**19 20 59.1**	**+0.6**
MLR				IAmb		IAmb	19 21 01.1	
	comp=Z,11nm,0.9s							
MLR	**Muntele Rosu**	**83.59 317**		P		**P**	**19 20 59.1**	**+0.6**
MLR				pmax		pmax		
	comp=Z,11nm,0.9s							
MLR	**Muntele Rosu**	**83.59 317**		P		**P**	**19 20 59.6**	**+1.1**
	comp=Z,15nm,1.0s							
TURR	**Turia**	**83.67 317**	⇑	P		**P**	**19 20 59.1**	**+0.4**
TSUM	**Tsumeb**	**83.70 251**		LR		LR	19 53 52.0	
	comp=Z,44nm,19.5s,baz=152,slow=32							
MI28	**MI28,Pidlybu**	**83.75 322**		P		**P**	**19 20 59.2**	**+0.2**
PRAR	**RASCA**	**83.82 318**	⇑	P		**P**	**19 20 59.7**	**+0.2**
KMPD	**K-Podol'skiy**	**83.94 320**		P		**P**	**19 20 00.4**	**+0.4**
KMPD				P		**P**	**19 20 59.6**	**-0.4**
DOPR	**Dopca**	**84.07 317**	⇓	P		**P**	**19 21 02.0**	**+1.2**
BILL	**Bilibino**	**84.48 20**		P		**P**	**19 21 01.7**	**-0.6**
BILL	**Bilibino**	**84.48 20**		*e*P		**P**	**19 21 01.7**	**-0.6**
BURAR	**Bucovina Array**	**84.54 318**	⇑	P		**P**	**19 21 04.4**	**+1.2**
BURAR	**Bucovina Array**	**84.54 318**		P		**P**	**19 21 04.8**	**+1.6**
BURAR				IAmb		IAmb	19 21 06.0	
	comp=Z,9.1nm,0.8s							
BURAR	**Bucovina Array**	**84.54 318**	⇑	P		**P**	**19 21 04.4**	**+1.2**
MNK	**Minsk**	**84.55 326**		*i* P		**P**	**19 21 02.2**	**-0.7**
MNK				*i* *PP		**pP**	**19 21 21.8**	**+0.1**
MNK				*i*			19 24 17.2	
MNK				*i* PPP		PPP	19 26 10.2	
MNK				*i* S		**SKSac**	**19 31 18.9**	**-2.0**
MNK				*i* SS		**SS**	**19 36 56.2**	**-0.4**
MNK				*i* SSS		SSS	19 40 25.9	
MNK				pmax		pmax		
	comp=N,6.0nm,0.8s							
MNK				pmax		pmax		
	comp=Z,18nm,0.9s							
MNK				pmax		pmax		
	comp=E,6.0nm,0.9s							
MNK				MLR		MLR		
	comp=E,48nm,15.0s							
MNK				MLR		MLR		
	comp=N,43nm,15.0s							
MNK				MLR		MLR		
	comp=Z,187nm,21.0s							
BUR08	**Bucovina Ar. S**	**84.56 319**		P		**P**	**19 21 04.5**	**+1.2**
KSV	**Kosov**	**84.79 319**		P		**P**	**19 21 02.9**	**-1.5**
RNPP5	**Staryi Chortor**	**84.92 322**		P		**P**	**19 21 05.1**	**+0.2**
RNPP9	**Sopachiv**	**84.96 322**		P		**P**	**19 21 05.4**	**+0.3**
VALR	**Valaam**	**84.99 333**	*ce*	P		**P**	**19 21 05.1**	**+0.1**
VALR				pmax		pmax		
	comp=Z,12nm,0.9s							
STNU	**Starunia**	**85.24 319**		P		**P**	**19 21 07.3**	**+0.7**
JOF	**Joensuu**	**85.30 334**		*e*P		**P**	**19 21 07.0**	**+0.4**
IDID	**Didziasalis**	**85.39 326**		*e*P		**P**	**19 21 08.8**	**+1.7**
BLKB	**Belogradchik**	**85.51 314**	⇑	P		**P**	**19 21 08.9**	**+0.8**
QSPA	**South Pole Qui**	**85.68 180**		P		**P**	**19 21 09.8**	**+1.2**
QSPA				IAmb		IAmb	19 21 41.7	
	comp=Z,29nm,2.0s							
QSPA	**South Pole Qui**	**85.68 180**		P		**P**	**19 21 10.2**	**+1.5**
	comp=Z,2.0nm,1.0s,baz=114,slow=0.2,SNR=19							
QSPA				LR		LR	19 55 37.2	
	comp=Z,27nm,19.9s,baz=230,slow=33							
	comp=Z,2.0nm,1.0s							
MORS	**Morshin**	**85.72 320**		P		**P**	**19 21 10.2**	**+1.3**
LVZ	**Lovozero**	**85.75 339**		P		**P**	**19 21 08.4**	**-0.3**
LVZ	**Lovozero**	**85.75 339**		P		**P**	**19 21 08.4**	**-0.3**
LVZ				pmax		pmax		
	comp=Z,73nm,1.6s							
MARR	**Marisel-Cluj**	**85.76 317**	⇑	P		**P**	**19 21 10.4**	**+1.1**
HERR	**Herculane**	**85.92 315**	⇑	P		**P**	**19 21 11.0**	**+1.0**
APA	**Apatity**	**86.06 339**	⇓	*i* P		P	19 21 03.2	-7.0
APA				pmax		pmax		
	comp=Z,5.0nm,1.0s							
VSU	**Vasula**	**86.18 329**	*ce*	P		**P**	**19 21 12.1**	**+1.1**
VSU				pmax		pmax		
	comp=Z,11nm,1.0s							
MDVR	**Moldovita**	**86.39 315**	⇑	P		**P**	**19 21 13.5**	**+1.0**
BZS	**Buzias**	**86.60 316**	⇑	P		**P**	**19 21 13.7**	**+0.3**
BZS	**Buzias**	**86.60 316**	⇑	P		**P**	**19 21 13.7**	**+0.3**
KOLS	**Kolonicke sedl**	**86.73 319**		*e*P		**P**	**19 21 16.1**	**+2.1**
KOLS	**Kolonicke sedl**	**86.73 319**		*e*P		**P**	**19 21 16.1**	**+2.1**
KOLS				pmax		pmax		
	comp=Z,17nm,0.8s							
PABE	**Paberze**	**86.97 326**		*e*P		**P**	**19 21 16.2**	**+1.3**
VSVD	**Vaisvydziai**	**87.09 327**		*e*P		**P**	**19 21 17.0**	**+1.5**
FIA1	**FINESS Array S**	**87.23 332**		P		**P**	**19 21 16.5**	**+0.4**
FINES	**FINESS Array B**	**87.23 332**		P		**P**	**19 21 16.4**	**+0.4**
	comp=Z,6.3nm,0.6s,baz=106,slow=5.0,SNR=77							
	comp=Z,6.3nm,0.6s							
STHS	**Stebnicka Huta**	**87.48 320**		*e*P		**P**	**19 21 18.5**	**+0.9**
STHS	**Stebnicka Huta**	**87.48 320**		*e*P		**P**	**19 21 18.5**	**+0.9**
STHS				pmax		pmax		
	comp=Z,7.0nm,0.8s							
MTSE	**Matsula**	**87.72 329**		*e*P		**P**	**19 21 19.6**	**+1.1**
MEF	**Metsahovi**	**87.75 331**		*e*P		**P**	**19 21 19.3**	**+0.7**
KEF	**Keuruu**	**87.96 333**		*e*P		**P**	**19 21 19.8**	**+0.2**
NIE	**Niedzica**	**88.09 320**		P		**P**	**19 21 21.8**	**+1.3**
	comp=Z,2.4nm,0.8s							
PBUR	**Paburge**	**88.20 326**		*e*P		**P**	**19 21 20.6**	**-0.2**
MORH	**Mrgy, Hungar**	**88.74 316**	⇑	P		**P**	**19 21 24.6**	**+1.1**
MORH	**Mrgy, Hungar**	**88.74 316**		P		**P**	**19 21 24.5**	**+0.9**
	comp=Z,5.3nm,0.9s							
VYHS	**Vyhne**	**88.91 319**		*e*P		**P**	**19 21 25.7**	**+1.3**
VYHS	**Vyhne**	**88.91 319**		*e*P		**P**	**19 21 25.7**	**+1.3**
VYHS				pmax		pmax		
	comp=Z,4.0nm,1.1s							
VAF	**Ylistaro**	**89.14 333**		*e*P		**P**	**19 21 26.0**	**+1.0**
SRO	**Srobarova**	**89.17 318**		*e*P		**P**	**19 21 27.4**	**+1.9**
SRO	**Srobarova**	**89.17 318**		*e*P		**P**	**19 21 27.4**	**+1.9**
SRO				pmax		pmax		
	comp=Z,12nm,1.3s							
RAF	**Rauma**	**89.19 331**		*e*P		**P**	**19 21 25.9**	**+0.6**
ARCES	**ARCESS Array B**	**89.42 340**		P		**P**	**19 21 26.4**	**+0.1**
	comp=Z,3.6nm,0.6s,baz=100,slow=4.5,SNR=13							
	comp=Z,3.6nm,0.6s							
MATE	**Matera**	**89.49 311**	⇑	P		**P**	**19 21 28.5**	**+1.3**
MPLH	**Magyarpolny**	**89.61 317**		P		**P**	**19 21 29.0**	**+1.3**
	comp=Z,34nm,1.2s							
AAL	**Aland**	**89.91 330**		*e*P		**P**	**19 21 28.9**	**+0.2**
MORC	**Moravsky Berou**	**89.91 320**	⇑	P		**P**	**19 21 30.0**	**+0.9**
MORC	**Moravsky Berou**	**89.91 320**	⇑	P		**P**	**19 21 30.0**	**+0.9**
MODS	**Modra-Piesok**	**89.92 318**		*e*P		**P**	**19 21 31.2**	**+2.1**
MODS	**Modra-Piesok**	**89.92 318**		*e*P		**P**	**19 21 31.2**	**+2.1**
MODS				pmax		pmax		
	comp=Z,18nm,1.3s							
DPC	**Dobruska-Polom**	**90.76 320**		P		**P**	**19 21 34.7**	**+1.7**
GOLS	**Golise**	**90.80 316**		*i* P		**P**	**19 21 34.7**	**+1.4**
BOJS	**Bojanci**	**91.02 315**		*i* P		**P**	**19 21 35.4**	**+1.1**
LJU	**Ljubljana**	**91.57 316**		*e*P		**P**	**19 21 38.1**	**+1.3**
BRG	**Berggiesshubel**	**92.31 321**		*e*P		**P**	**19 21 41.2**	**+1.1**
BRG				Amp			19 21 43.1	
	comp=Z,2.3nm,0.7s							
GERES	**GERESS Array B**	**92.33 319**		P		**P**	**19 21 41.2**	**+0.8**
	comp=Z,0.9nm,0.6s,baz=92,slow=4.5,SNR=3.6							
	comp=Z,0.9nm,0.6s							
CLL	**Collm**	**92.93 321**		*e*P		**P**	**19 21 41.0**	**-1.9**
CLL	**Collm**	**92.93 321**		*e*P		**P**	**19 21 41.0**	**-1.9**
HFS	**Hagfors**	**93.03 330**		P		**P**	**19 21 43.6**	**+0.4**
	comp=Z,3.4nm,0.6s,baz=126,slow=4.2,SNR=10							
	comp=Z,3.4nm,0.6s							
SPITS	**Spitsbergen Ar**	**93.35 348**		P		**P**	**19 21 44.1**	**-0.3**
	comp=Z,1.3nm,0.4s,baz=106,slow=8.8,SNR=14							
SPITS				LR		LR	20 09 05.7	
	comp=Z,38nm,18.8s,baz=128,slow=39							
	comp=Z,1.3nm,0.4s							
KBS	**Kingsbay**	**94.27 349**	⇓	*e*P		**P**	**19 21 48.8**	**+0.2**
KBS				pmax		pmax		
	comp=Z,36nm,1.7s							
NB2	**NORSAR Subarra**	**94.29 331**		P		**P**	**19 21 48.7**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=93,slow=5.3							
NOA	**NORSAR Array B**	**94.29 331**		P		**P**	**19 21 49.1**	**0.0**
	comp=Z,1.0nm,0.7s,baz=93,slow=4.7,SNR=8.4							
	comp=Z,1.0nm,0.7s							
DAVOX	**Davos/Dischmat**	**94.82 316**		LR		LR	20 13 41.4	
	comp=Z,24nm,18.6s,baz=266,slow=41							
D19K	**Kuna River**	**97.46 22**		P		**P**	**19 22 03.0**	**-0.3**
	baz=277							
D20K	**Etiluk River**	**97.97 21**		P		**P**	**19 22 05.5**	**-0.1**
	baz=279							
G19K	**Purcell Mounta**	**98.16 24**		P		**P**	**19 22 06.4**	**-0.1**
	baz=278							
E20K	**Nigu River**	**98.20 22**		P		**P**	**19 22 06.4**	**-0.2**
	baz=279							
B21K	**Ikpikpuk River**	**98.52 20**		P		Pdif	19 22 08.1	+0.1
	baz=281							
F20K	**Avaraart Lake**	**98.57 23**		P		**P**	**19 22 08.2**	**0.0**
	baz=279							
E21K	**Killik River**	**98.97 21**		P		**P**	**19 22 09.9**	**-0.2**
	baz=281							
H20K	**Anotleneega Mo**	**99.16 24**		P		**Pdif**	**19 22 12.2**	**+1.2**
	baz=280							
G21K	**Allakaket**	**99.53 23**		P		**Pdif**	**19 22 12.3**	**-0.3**
	baz=281							
F22K	**John River**	**99.83 22**		P		**Pdif**	**19 22 14.2**	**+0.3**
	baz=283							
TOLK	**Tcolik Lake Re**	**100.50 21**		P		**Pdif**	**19 22 16.8**	**-0.2**
	baz=285							
TBI	**Tubuai**	**104.85 115**		*e*LR		LR	19 57 12.5	
	comp=Z,312nm,28.2s							
PPT2	**Papeete2**	**105.80 110**		*e*LR		LR	19 57 31.6	
	comp=Z,95nm,33.2s							
YKA	**Yellowknife Ar**	**115.83 18**		PKP		**PKiKP**	**19 27 11.1**	**-0.7**
	comp=Z,0.4nm,0.8s,baz=323,slow=2.7,SNR=3.8							
MSO	**Missoula**	**127.28 31**		P		**PKiKP**	**19 27 35.1**	**+0.1**
	baz=312							
BOZ	**Bozeman (W)**	**129.29 30**		P		**PKiKP**	**19 27 39.4**	**+0.2**
	baz=314							
NVAR	**Mina Array Bea**	**129.78 42**		PKP		**PKiKP**	**19 27 41.3**	**+0.9**
	comp=Z,0.4nm,0.5s,baz=274,slow=3.5,SNR=3.9							
ULM	**Lac du Bonnet**	**131.68 16**		PKP		**PKPdf**	**19 27 42.6**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=172,slow=0.7,SNR=5.9							
PDAR	**Pinedale Array**	**132.33 32**		PKP		**PKPdf**	**19 27 44.5**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=56,slow=1.9,SNR=5.4							
RSSD	**Black Hills**	**134.01 26**		PKPdf		**PKPdf**	**19 27 47.5**	**0.0**
RSSD	**Black Hills**	**134.01 26**		P		**PKiKP**	**19 27 48.8**	**0.0**
	baz=322							
RSSD	**Black Hills**	**134.01 26**		PKIKP		**PKPdf**	**19 27 47.5**	**0.0**
O20A	**White River Ci**	**134.88 33**		P		**PKiKP**	**19 27 50.2**	**-0.5**
	baz=314							
VHRN	**Van Horn**	**143.13 41**				PKPbc	19 28 01.9	+0.4
DKNS	**Dickens**	**143.59 34**				PKPbc	19 28 03.0	+0.4
WMOK	**Wichita Mounta**	**143.90 30**		P		PKPab	19 28 02.8	0.0
	baz=322							
CCM	**Cathedral Cave**	**144.16 19**		P		**PKPab**	**19 28 03.5**	**-0.1**
	baz=336							
APMT	**Aspermont**	**144.29 33**				PKPbc	19 28 04.5	-0.1
P49A	**Miami Univ. Ec**	**144.33 9**		P		**PKPab**	**19 28 04.0**	**-0.2**
	baz=348							
TUL3	**Leonard**	**144.35 26**		P		**PKPab**	**19 28 04.1**	**-0.2**
	baz=328							
BDFB	**Brasilia**	**144.63 235**		PKP		**PKPdf**	**19 28 08.1**	**+0.6**
	comp=Z,6.2nm,0.5s,baz=97,slow=2.6,SNR=6.9							
MCWV	**Mont Chateau**	**144.74 3**		P		**PKPab**	**19 28 05.7**	**0.0**
	baz=356							
TX31	**Lajitas Ar. Si**	**144.94 42**				PKPbc	19 28 07.2	+0.3
TXAR	**Lajitas Array**	**144.94 42**				PKPbc	19 28 07.2	+0.3
TXAR	**Lajitas Array**	**144.94 42**		PKP		**PKPdf**	**19 28 07.4**	**-0.2**
	comp=Z,9.9nm,0.7s,baz=278,slow=1.3,SNR=112							
ABTX	**Abilene, Hawle**	**145.08 34**		P		**PKPbc**	**19 28 07.1**	**-0.1**
	baz=319							
WCI	**Wyandotte Cave**	**145.30 12**		P		**PKPbc**	**19 28 07.3**	**-0.4**
	baz=345							
MIAR	**Mount Ida**	**146.45 24**		P		**PKPbc**	**19 28 10.9**	**-0.4**
	baz=330							
JCT	**Junction City**	**146.58 36**		P		**PKPbc**	**19 28 11.9**	**0.0**
	baz=317							
WVT	**Waverly**	**146.95 15**		P		**PKPbc**	**19 28 12.3**	**-0.3**
	baz=341							
TZTN	**Tazewell**	**147.44 9**		P		**PKPbc**	**19 28 13.8**	**-0.2**
	baz=349							
OXF	**Oxford**	**148.00 19**		P		**PKPbc**	**19 28 15.7**	**+0.1**
	baz=337							
KMSC	**Kings Mountain**	**149.11 6**		P		**PKPbc**	**19 28 18.2**	**-0.3**
	baz=353							
LRAL	**Lakeview Retre**	**150.09 16**		P		**PKPbc**	**19 28 20.4**	**-0.6**
	baz=341							
GOGA	**Godfrey**	**150.52 10**		P		**PKPbc**	**19 28 22.0**	**0.0**
	baz=348							
LVC	**Limon Verde**	**151.94 197**		PKPbc		**PKiKP**	**19 28 27.7**	**+1.3**
	comp=Z,6.6nm,0.7s,baz=268,slow=3.2,SNR=6.9							

*SOME **19** 19:10:19.2, 42°.15N×80°.50E, h20km*
*NNC **19** 19:10:21.2± 1.2, 42°.29N×80°.46E, h0km, mb3.8, mpv3.7,*
Error ellipse: s-maj=7.5km s-min=5.2km az=137.0
*KRNET **19** 19:10:22.2± 0.1, 42°.58N×80°.40E, mb3.1*

ISC 19 19:10:21.6±1.6, 42°.31N±0°.07×80°.46E±0°.05, h10km, n61,
σ2s 07/94, 21C-14D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHLS	**Shalkode**	**1.12**	**319**	P	**Pb**	**19 10 39.8**	**-3.3**
	30nm,0.1s						
SHLS				S	**Sg**	**19 10 54.9**	**-2.8**
	511nm,0.3s						
SHLS	**Shalkode**	**1.12**	**319**	*e*P	**Pb**	**19 10 39.8**	**-3.3**
	30nm,0.1s						
SHLS				*e*S	**Sg**	**19 10 54.9**	**-2.8**
	511nm,0.3s						
KTMS	**Ketmen**	**1.14**	**356**	P	**Pb**	**19 10 42.3**	**-1.1**
	8.5nm,0.2s						
KTMS				S	**Sg**	**19 10 58.8**	**+0.6**
	39nm,0.2s						
KTMS	**Ketmen**	**1.14**	**356**	*e*P	**Pb**	**19 10 42.4**	**-1.1**
	8.5nm,0.2s						
KTMS				*e*S	**Sg**	**19 10 58.8**	**+0.6**
	39nm,0.2s						
PDGK	**Podgornoye**	**1.24**	**325**	P	**Pn**	**19 10 44.7**	**-0.4**
	8.9nm,0.3s						
PDGK				S	**Sn**	**19 11 02.9**	**+0.8**
	33nm,0.2s						
PDGK	**Podgornoye**	**1.24**	**325**	⇑P	**Pn**	**19 10 44.7**	**-0.4**
	7.3nm,0.4s						
PDGK				⇑S	**Sn**	**19 11 02.8**	**+0.7**
	20nm,0.3s						
UZB	**Uzynbulak**	**1.35**	**309**	P	**Pn**	**19 10 46.4**	**-0.2**
	21nm,0.2s						
UZB				S	**Sg**	**19 11 05.9**	**+0.9**
	47nm,0.2s						
UZB	**Uzynbulak**	**1.35**	**309**	*e*P	**Pn**	**19 10 46.4**	**-0.2**
	21nm,0.2s						
UZB				*e*S	**Sg**	**19 11 05.9**	**+0.9**
	47nm,0.2s						
PRZ	**Przheval'sk**	**1.54**	**277**	⇓*e*P	**Pb**	**19 10 50.0**	**-0.3**
	baz=67						
PRZ				⇓*e*S	**Sg**	**19 11 10.8**	**-0.2**
	baz=67						
SATY	**Saty**	**1.69**	**297**	P	**Pg**	**19 10 53.3**	**-0.6**
	40nm,0.4s						
SATY				S	**Sg**	**19 11 18.2**	**+2.3**
	172nm,0.2s						
SATY	**Saty**	**1.69**	**297**	*e*P	**Pg**	**19 10 53.4**	**-0.6**
	40nm,0.4s						
SATY				*e*S	**Sg**	**19 11 18.2**	**+2.3**
	172nm,0.2s						
KURS	**Kuram**	**2.05**	**306**	Pg	**Pb**	**19 10 59.5**	**+0.5**
	45nm,0.4s						
KURS				Lg	Lg	19 11 28.6	
	46nm,0.4s						
KURS	**Kuram**	**2.05**	**306**	*e*P	**Pb**	**19 10 59.5**	**+0.5**
	45nm,0.4s						
KURS				*e*S	**Sg**	**19 11 28.6**	**+1.0**
	46nm,0.4s						
DJR	**Jarkent**	**2.08**	**347**	Pg	**Pb**	**19 10 59.3**	**-0.1**
	8.2nm,0.3s						
DJR				Lg	Lg	19 11 28.1	
	104nm,0.4s						
DJR	**Jarkent**	**2.08**	**347**	*e*P	**Pb**	**19 10 59.3**	**-0.1**
	8.2nm,0.3s						
DJR				*e*S	**Sg**	**19 11 28.1**	**-0.3**
	104nm,0.4s						
ANVS	**Anan'yevo**	**2.12**	**284**	⇑*e*P	**Pb**	**19 10 59.9**	**-0.3**
	baz=77						
ANVS				⇑*i*S	**Sb**	**19 11 27.2**	**+0.6**
	baz=77						
KNOS	**Konyrlen**	**2.25**	**336**	Pg	**Pb**	**19 11 02.7**	**+0.3**
	22nm,0.2s						
KNOS				Lg	Lg	19 11 33.8	
	153nm,0.5s						
BLB	**Baldybastay**	**2.30**	**322**	Pg	**Pb**	**19 11 03.1**	**-0.1**
	157nm,0.2s						
BLB				Lg	Lg	19 11 35.1	
	199nm,0.5s						
KDJ	**Kajisay**	**2.44**	**267**	⇓*e*P	**Pb**	**19 11 05.6**	**-0.1**
	baz=60						
KDJ				⇓*e*S	**Sb**	**19 11 36.5**	**+0.5**
	baz=60						
KOTS	**Kotyrbulak**	**2.63**	**292**	Pg	**Pb**	**19 11 09.1**	**+0.2**
	32nm,0.2s						
KOTS				Lg	Lg	19 11 45.5	
	123nm,0.6s						
KOTS	**Kotyrbulak**	**2.63**	**292**	*e*P	**Pb**	**19 11 09.1**	**+0.2**
	32nm,0.2s						
KOTS				*e*S	**Sg**	**19 11 45.5**	**-0.7**
	123nm,0.6s						
MDOK	**Medeo**	**2.66**	**290**	Pg	**Pb**	**19 11 09.1**	**-0.2**
	31nm,0.5s						
MDOK				Pg	**Pg**	**19 11 09.3**	**-3.1**
	14nm,0.5s						
MDOK				Lg	Lg	19 11 45.2	
	47nm,0.5s						
MDOK				⇑Lg	Lg	19 11 46.3	
	34nm,0.5s						
MDOK	**Medeo**	**2.66**	**290**	*e*P	**Pb**	**19 11 09.1**	**-0.2**
	31nm,0.5s						
MDOK				*e*S	**Sg**	**19 11 45.2**	**-1.7**
	47nm,0.5s						
TNSS	**Tian-Shan**	**2.69**	**287**	Pg	**Pb**	**19 11 09.8**	**-0.3**
	24nm,0.3s						
TNSS				Lg	Lg	19 11 46.1	
	30nm,0.4s						
TNSS	**Tian-Shan**	**2.69**	**287**	*e*P	**Pb**	**19 11 09.8**	**-0.3**
	24nm,0.3s						
TNSS				*e*S	**Sg**	**19 11 46.1**	**-2.0**
	30nm,0.4s						
ARXS	**Arharly**	**2.70**	**316**	Pg	**Pb**	**19 11 09.9**	**-0.2**
	9.0nm,0.2s						
ARXS				Lg	Lg	19 11 46.6

TKM2	**Tokmak 2**	**3.64**	**281**	⇑Pn		**Pb**	**19 11 23.2**	**-2.9**
	2.2nm,0.3s							
TKM2				⇑Lg		Lg	19 12 15.1	
	9.5nm,0.5s							
TKM2	**Tokmak 2**	**3.64**	**281**	⇓*e*P		**Pn**	**19 11 21.0**	**+2.8**
	baz=77							
TKM2				⇓*e*S		**Sn**	**19 12 03.9**	**+2.6**
	baz=77							
KRBS	**Karabastau**	**3.77**	**293**	*e*P		**Pb**	**19 11 28.5**	**+0.2**
	2.8nm,0.1s							
KRBS				*e*S		**Sb**	**19 12 18.3**	**+4.2**
	15nm,0.2s							
CHMS	**Chumysh**	**4.27**	**281**	⇓Pg		**Pb**	**19 11 39.0**	**+2.3**
	3.4nm,0.6s							
CHMS				⇑Lg		Lg	19 12 35.2	
	5.3nm,0.6s							
AAK	**Ala-Archa**	**4.43**	**276**	⇓Pg		**Pg**	**19 11 43.8**	**-2.5**
	2.3nm,0.5s							
AAK				⇑Lg		Lg	19 12 39.9	
	9.7nm,0.6s							
MAKZ	**Makanchi**	**4.62**	**13**	⇑Pn		**Pn**	**19 11 35.4**	**+3.9**
	4.0nm,0.5s							
MAKZ				⇓Sn		**Sn**	**19 12 31.3**	**+6.1**
	0.9nm,0.5s							
MAKZ				⇓Lg		Lg	19 12 43.9	
	3.3nm,0.5s							
MK31	**Makanchi Array**	**4.67**	**16**	⇑Pn		Pn	19 11 37.1	+5.0
	0.5nm,0.2s,baz=199,slow=14,SNR=8.7							
MK31				⇑Sn		**Sb**	**19 12 34.0**	**-5.7**
	0.9nm,0.3s,baz=180,slow=22,SNR=4.3							
MK31				⇑Lg		Lg	19 12 46.0	
	5.9nm,0.5s							
MRKS	**Merke**	**5.37**	**277**	Pg		**Pb**	**19 11 58.6**	**+3.2**
	4.0nm,0.3s							
MRKS				Lg		Lg	19 13 10.4	
	7.0nm,0.6s							
MRKS	**Merke**	**5.37**	**277**	*e*P		**Pb**	**19 11 58.6**	**+3.2**
	4.0nm,0.3s							
MRKS				*e*S		**Sg**	**19 13 10.4**	**-3.4**
	7.0nm,0.6s							
ZSN	**Zaisan**	**6.01**	**30**	*e*P		**Pb**	**19 12 09.8**	**+3.3**
	1.2nm,0.3s							
ZSN				*e*S		**Sg**	**19 13 28.8**	**-5.8**
	6.9nm,0.6s							
KK31	**Karatay Array**	**7.37**	**280**	⇑Pg		Pg	19 12 37.3	-5.4
	0.8nm,0.7s,baz=89,slow=16,SNR=6.2							
KK31				⇓Lg		Lg	19 14 13.7	
	1.1nm,0.5s,baz=94,slow=27,SNR=5.8							
OTUK	**Ortayu**	**8.24**	**319**	⇓Pn		**Pn**	**19 12 22.7**	**+1.5**
	1.5nm,0.8s							
OTUK				⇑Lg		Lg	19 14 38.0	
	5.2nm,1.1s							
KURBB	**Kurchatov Arra**	**8.42**	**352**	⇑Lg		Lg	19 14 43.8	
	8.9nm,0.7s							
KURK	**Kurchatov**	**8.50**	**352**	⇑Lg		Lg	19 14 48.8	
	4.0nm,0.7s							

VAO 19 19:19:39.3±0.8, 22°59S×63°72W, h7km±6km, mb4.3, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LVC	**Limon Verde**	**4.79**	**269**	*e*P		Pn	19 20 52.3	-0.1
TICA	**Tres Isletas**	**4.85**	**142**	*e*P		Pn	19 20 53.1	+0.2
BBRB	**Robore, Bolivi**	**5.65**	**41**	*e*P		Pn	19 21 04.2	+0.4
BBRB				*e*S		Sn	19 22 09.9	+1.0
MURT	**Porto Murtinho**	**5.74**	**82**	*e*P		Pn	19 21 05.2	+0.1
MURT				*e*S		Sn	19 22 12.2	+0.9
BBSD	**Serra de San D**	**6.12**	**29**	*e*P		Pn	19 21 10.8	+0.5
BBSD				*e*S		Sn	19 22 22.0	+1.3
BDQN	**Bodoquena, MS**	**6.83**	**73**	*e*P		Pn	19 21 20.4	+0.3
BDQN				*e*S		Sn	19 22 38.8	+0.6
CPUP	**Villa Florida**	**6.91**	**124**	*e*P		Pn	19 21 17.7	-3.5
CPUP				*e*S		Sn	19 22 41.4	+1.3
LPAZ	**La Paz**	**7.52**	**326**	*e*P		Pn	19 21 30.4	+0.3
AQDB	**Aquidauana**	**7.76**	**76**	*e*P		Pn	19 21 33.2	+0.4
AQDB				*e*S		Sn	19 23 01.9	+0.9
AMBA	**Amambai (Brazi**	**8.07**	**94**	*e*P		Pn	19 21 36.6	-0.4
PTLB	**Pontes e Lacer**	**8.32**	**32**	*e*P		Pn	19 21 41.4	+0.9
RVDE	**Rio Verde (Bra**	**8.95**	**68**	*e*P		Pn	19 21 49.8	+0.7
ITQB	**Itaqui**	**9.51**	**139**	*e*P		Pn	19 21 57.4	+0.7
ITQB				*e*S		Sn	19 23 45.1	+1.2
PSAL	**Palomas, Salto**	**10.06**	**148**	*e*P		Pn	19 22 04.9	+0.6
SALV	**Santo Antonio**	**10.09**	**50**	*e*P		Pn	19 22 05.0	+0.2
UNIS	**Unistalda (Bra**	**10.11**	**131**	*e*P		Pn	19 22 05.1	+0.1
UNIS				*e*S		Sn	19 24 00.4	+1.5
VILB	**Vilhena**	**10.15**	**20**	*e*P		Pn	19 22 06.6	+0.9
PDRB	**Porto dos Gac**	**12.80**	**33**	*e*P		Pn	19 22 41.9	0.0
ETMB	**Extrema**	**12.93**	**349**	*e*P		Pn	19 22 40.2	-3.3

IDC 19 19:19:42.6±4.3, 37°37N×144°40E, h0km, mb3.8/4, mbtmp4.0/6, ML4.4/2, Error ellipse: s-maj=133.2km s-min=35.5km az=13.0, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
USRK	**Ussuriysk Ar.**	**11.61**	**310**	Pn		Pn	19 22 30.5	+1.0
	2.3nm,0.3s,baz=118,slow=8.2,SNR=52							
	7.1nm,0.5s							
KLR	**Kul'dur**	**14.98**	**326**	Pn		Pn	19 23 15.1	-0.5
	1.5nm,0.3s,baz=156,slow=11,SNR=21							
	4.0nm,0.3s							
ZALV	**Zalesovo Beam**	**43.45**	**312**	P		P	19 27 45.9	-1.2
	0.8nm,0.3s,baz=97,slow=9.9,SNR=4.8							
	0.8nm,0.3s							
KURBB	**Kurchatov Arra**	**47.67**	**308**	P		P	19 28 20.0	-0.6
	1.2nm,0.6s,baz=82,slow=8.6,SNR=9.4							
	1.2nm,0.6s							
BVAR	**Borovoye Array**	**52.10**	**313**	P		P	19 28 55.8	+1.5
	0.5nm,0.5s,baz=76,slow=7.5,SNR=3.5							
	0.5nm,0.5s							
PDAR	**Pinedale Array**	**75.71**	**47**	P		P	19 31 30.3	+0.1
	0.3nm,0.6s,baz=0.0,slow=2.2,SNR=3.9							
	0.3nm,0.6s							

*NEIC **19** 19:24:14.0±1.0, 33°49N±0°01×116°800W±0°010, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=21.0*
*ANF **19** 19:24:13.6±0.2, 33°50N×116°81W, h7km±1km, ML2.9/28, Error ellipse: s-maj=1.3km s-min=1.2km az=46.0*
*PAS **19** 19:24:14.4±1.2, 33°50N±0°01×116°809W±0°010, h2km±4km, ML3.0/175, ML2.9/40(NEIC), Error ellipse: s-maj=1.7km s-min=1.1km az=177.0*

ISC 19 19:24:14.2±0.8, 33°50N±0°01×116°81W±0°01, h17km±5km, n113, σ0s95/166, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRY	**Cary Ranch**	**0.09**	**42**			**Pg**	**19 24 16.4**	**-1.4**
BZNA	**Buzz No.'s Pla**	**0.12**	**92**			**Pg**	**19 24 18.9**	**+0.8**
DNR	**Dunn Ranch,Anz**	**0.17**	**65**			**Pg**	**19 24 18.0**	**-0.8**
DNR						**Sg**	**19 24 20.4**	**-1.4**
FRD	**Ford Ranch, An**	**0.17**	**90**			**Pg**	**19 24 20.2**	**+1.4**
SNDA	**J Saunders Pla**	**0.17**	**71**			**Pg**	**19 24 18.1**	**-0.7**
SNDA						**Sg**	**19 24 20.6**	**-1.4**
GVDA	**Garner Valley**	**0.21**	**34**			**Pg**	**19 24 18.4**	**-0.9**
GVDA						**Sg**	**19 24 21.5**	**-1.2**
POB	**Polly Butte**	**0.21**	**334**			**Pg**	**19 24 18.8**	**-0.6**
POB						**Sg**	**19 24 21.7**	**-1.1**
DGR	**Domenigoni Val**	**0.23**	**313**			**Pg**	**19 24 22.1**	**+2.6**
HMTC	**Hemet**	**0.27**	**323**			**Pg**	**19 24 19.7**	**-0.5**
HMTC						**Sg**	**19 24 23.2**	**-1.0**
PFO	**Pinyon Flats O**	**0.32**	**68**			**Pg**	**19 24 20.6**	**-0.4**
PFO				IAML			19 24 25.0	
	2μm,0.5s							
PFO				IAML			19 24 25.3	
	1μm,0.3s							
PFO	**Pinyon Flats O**	**0.32**	**68**	P		**Pg**	**19 24 20.6**	**-0.4**
	baz=248,SNR=989							
PFO				S		**Sg**	**19 24 24.5**	**-1.2**
	baz=248							
XPFO	**Pion Flat**	**0.32**	**69**			**Sg**	**19 24 24.6**	**-1.2**
MATG	**Mataguay Scout**	**0.33**	**155**			**Pb**	**19 24 21.2**	**-0.5**
MATG						**Sb**	**19 24 25.9**	**-0.8**
MURC	**Murrieta**	**0.34**	**288**			**Pb**	**19 24 21.3**	**-0.5**
MURC						**Sb**	**19 24 26.6**	**-0.3**
MURC	**Murrieta**	**0.34**	**288**	P		**Pb**	**19 24 21.3**	**-0.5**
	baz=108,SNR=197							
MURC				S		**Sg**	**19 24 26.1**	**-0.1**
	baz=108							
PMD	**Palm Desert**	**0.39**	**67**	Pg		**Pg**	**19 24 21.9**	**-0.5**
PMD				IAML			19 24 27.1	
	comp=N,1μm,0.2s							
BORC	**Borrego Spring**	**0.40**	**124**			**Pb**	**19 24 22.4**	**-0.5**
BORC						**Sg**	**19 24 27.4**	**-0.6**
BBSC	**Beaumont Base**	**0.45**	**342**			**Pg**	**19 24 23.1**	**-0.3**
BBSC						**Sb**	**19 24 29.9**	**-0.3**
JUEM	**Julian Eagle M**	**0.45**	**157**			**Pb**	**19 24 23.4**	**-0.4**
JUEM						**Sg**	**19 24 29.4**	**-0.2**
DEVC	**Devers**	**0.48**	**24**			**Sg**	**19 24 30.3**	**-0.1**
GORC	**Green Oak Ranc**	**0.49**	**226**			**Pb**	**19 24 23.9**	**-0.5**
GORC						**Sg**	**19 24 30.3**	**-0.4**
PEC	**Perris**	**0.49**	**324**			**Sg**	**19 24 30.6**	**-0.2**
DPP	**Dos Picos Cty**	**0.51**	**192**			**Pg**	**19 24 24.2**	**-0.2**
DPP						**Sg**	**19 24 31.0**	**-0.5**
ELS	**Elsinore Mount**	**0.54**	**287**			**Pb**	**19 24 24.8**	**-0.5**
ELS						**Sb**	**19 24 32.8**	**+0.1**
ELS	**Elsinore Mount**	**0.54**	**287**	IAML			19 24 33.5	
	comp=E,197nm,0.2s							
ELS				IAML			19 24 34.9	
	comp=N,185nm,0.3s							
SLH	**Sleepy Hollow**	**0.56**	**123**			**Pb**	**19 24 25.5**	**0.0**
SLH						**Sb**	**19 24 33.6**	**+0.3**
EW2	**E Wide Canyon**	**0.56**	**37**			**Sg**	**19 24 32.4**	**-0.4**
CFT	**Crafton Hills**	**0.59**	**335**			**Pb**	**19 24 26.2**	**-0.1**
CFT						**Sb**	**19 24 34.4**	**+0.1**
EML	**El Monte Cty P**	**0.60**	**183**			**Sg**	**19 24 33.7**	**-0.5**
RSBC	**Riverside Bore**	**0.64**	**318**			**Pg**	**19 24 26.2**	**-0.7**
RSBC						**Sg**	**19 24 34.9**	**-0.6**
RSBC	**Riverside Bore**	**0.64**	**318**			**Pg**	**19 24 26.5**	**-0.4**
RSBC						**Sg**	**19 24 34.9**	**-0.6**
109C	**Camp Elliot, M**	**0.65**	**202**			**Pg**	**19 24 26.7**	**-0.4**
109C				IAML			19 24 35.8	
	comp=E,594nm,0.2s							
109C	**Camp Elliot, M**	**0.65**	**202**	P		**Pg**	**19 24 26.7**	**-0.4**
	baz=22,SNR=27							
109C				S		**Sg**	**19 24 35.3**	**-0.5**
	baz=22							
SVD	**Seven Oaks Dam**	**0.65**	**339**			**Pb**	**19 24 27.2**	**-0.1**
SVD						**Sg**	**19 24 35.7**	**-0.2**
BLAC	**Blackrock camp**	**0.67**	**31**			**Sg**	**19 24 35.9**	**-0.6**
RVR	**Riverside**	**0.68**	**317**			**Sg**	**19 24 35.8**	**-1.0**
MONP2	**Monument Peak**	**0.69**	**151**			**Sg**	**19 24 36.5**	**-0.4**
MONP2	**Monument Peak**	**0.69**	**151**	P		**Pb**	**19 24 27.7**	**-0.2**
	baz=332,SNR=52							
MONP2				S		**Sg**	**19 24 36.5**	**-0.4**
	baz=332							
CTCC	**Cactus City**	**0.70**	**77**			**Pb**	**19 24 28.1**	**0.0**
CTCC						**Sb**	**19 24 37.8**	**+0.3**
MTRP	**Mission Trails**	**0.70**	**197**			**Pg**	**19 24 27.5**	**-0.6**
MTRP						**Sg**	**19 24 36.9**	**-0.5**
HLNC	**Highland**	**0.71**	**332**			**Pb**	**19 24 28.1**	**-0.1**
HLNC						**Sb**	**19 24 37.5**	**-0.2**
CFSC	**Central Fire S**	**0.72**	**327**			**Sb**	**19 24 38.5**	**+0.4**
CFSC	**Central Fire S**	**0.72**	**327**			**Pb**	**19 24 28.4**	**-0.1**
SALN	**Salton City**	**0.72**	**107**			**Pb**	**19 24 28.6**	**+0.2**
SALN						**Sb**	**19 24 39.0**	**+1.0**
CLTC	**Calectric**	**0.73**	**325**			**Sb**	**19 24 38.4**	**+0.1**
CRNC	**Corona**	**0.73**	**301**			**Pg**	**19 24 27.6**	**-0.9**
CRNC						**Sg**	**19 24 37.5**	**-0.7**
SDMC	**San Diego Miss**	**0.76**	**201**			**Pg**	**19 24 28.4**	**-0.7**
SDMC						**Sb**	**19 24 39.1**	**0.0**
SDRC	**San Diego Road**	**0.77**	**188**			**Sg**	**19 24 38.4**	**-0.9**
BBRC	**Big Bear Solar**	**0.77**	**353**	P		**Pb**	**19 24 29.2**	**-0.1**
	baz=173,SNR=6.2							
BBRC				S		**Sb**	**19 24 39.4**	**-0.2**
	baz=173							
CTW	**Cottonwood Mou**	**0.81**	**77**			**Pb**	**19 24 29.7**	**-0.1**
CTW						**Sb**	**19 24 40.3**	**-0.1**
MLSC	**Mira Loma**	**0.81**	**309**			**Sg**	**19 24 39.6**	**-1.0**
BAR	**Barrett**	**0.82**	**172**			**Pg**	**19 24 29.7**	**-0.6**
BAR				IAML			19 24 41.0	
	comp=E,490nm,0.3s							
BAR				IAML			19 24 41.4	
	comp=N,516nm,0.2s							
BAR	**Barrett**	**0.82**	**172**			**Sg**	**19 24 40.1**	**-1.0**
BELC	**Belle Mtn. Jos**	**0.84**	**53**			**Sg**	**19 24 41.4**	**-0.5**
BELC	**Belle Mtn. Jos**	**0.84**	**53**	P		**Pb**	**19 24 30.3**	**-0.2**
	baz=233,SNR=95							
BELC				S		**Sg**	**19 24 41.3**	**-0.5**
	baz=233							
TPC	**Twentynine Pal**	**0.88**	**46**			**Sg**	**19 24 42.1**	**-0.9**
CHNC	**Chino**	**0.88**	**305**			**Pb**	**19 24 31.0**	**-0.1**
CHNC						**Sb**	**19 24 43.3**	**+0.7**
GTM	**Goat Mountain**	**0.88**	**25**			**Pg**	**19 24 30.8**	**-0.6**
GTM						**Sg**	**19 24 41.7**	**-1.4**
DUZA	**Dulzura**	**0.89**	**178**			**Pg**	**19 24 30.7**	**-0.8**
DUZA						**Sg**	**19 24 42.3**	**-0.9**
OLP	**Otay Lakes Par**	**0.89**	**186**			**Sg**	**19 24 42.3**	**-1.0**
ERRC	**Elmore Ranch**	**0.91**	**114**			**Pn**	**19 24 32.7**	**+0.4**
ERRC						**Sn**	**19 24 45.1**	**+0.2**
SS2	**San Sevaine**	**0.91**	**321**			**Pg**	**19 24 31.4**	**-0.6**
BOMB	**Bombay Beach**	**0.91**	**98**			**Pb**	**19 24 32.1**	**+0.4**
BOMB						**Sb**	**19 24 44.7**	**+1.2**
CSP	**Cedar Springs**	**0.92**	**331**			**Pb**	**19 24 31.9**	**+0.1**
TKX	**Tecate**	**0.94**	**169**			**Pg**	**19 24 31.7**	**-0.8**
TJX	**Tijuana**	**1.00**	**192**	Pg		**Pg**	**19 24 32.8**	**-0.9**
TJX				IAML			19 24 48.7	
	comp=N,345nm,0.5s							
SWSC	**Sam W. Stewart**	**1.01**	**123**	P		**Pg**	**19 24 33.0**	**-0.8**
	baz=303,SNR=69							
SWSC				S		**Sb**	**19 24 46.8**	**+0.5**
	baz=303							
BFSC	**Mount Baldy Ra**	**1.02**	**317**	P		**Pg**	**19 24 33.1**	**-1.0**
	baz=136,SNR=62							
BFSC				S		**Sg**	**19 24 46.5**	**-1.1**
	baz=136							
IKP	**In-Ko-Pah, Jac**	**1.03**	**145**	P		**Pb**	**19 24 34.1**	**+0.4**
	baz=326,SNR=27							
IKP				S		**Sg**	**19 24 47.1**	**-0.6**
	baz=326							
RMX	**La Rumorosa**	**1.08**	**145**			**Pn**	**19 24 36.0**	**+1.2**
RMX				IAML			19 24 51.8	
	comp=N,186nm,0.4s							
RMX				IAML			19 24 52.4	
	comp=E,233nm,0.2s							
COK2	**Cook Ranch 2**	**1.11**	**125**			**Pn**	**19 24 36.0**	**+1.0**
YUH	**Yuha Desert**	**1.13**	**138**			**Pg**	**19 24 35.2**	**-0.9**
YUH				IAML			19 24 51.4	
	comp=E,204nm,0.1s							
BC3	**Big Chuckawall**	**1.15**	**82**	P		**Pg**	**19 24 35.5**	**-0.9**
	baz=262,SNR=77							
BC3				S		**Sb**	**19 24 50.7**	**+0.4**
	baz=262							
CBX	**Cerro Bola**	**1.19**	**174**			**Pg**	**19 24 36.0**	**-1.2**
FMP	**Fort Macarthur**	**1.26**	**280**	P		**Pn**	**19 24 37.2**	**+0.2**
	baz=100							
PASC	**Pasadena Art C**	**1.33**	**301**			**Pn**	**19 24 38.2**	**+0.2**
JNH	**Juniper Hills**	**1.34**	**315**			**Pn**	**19 24 38.7**	**+0.3**
CIS	**Catalina Islan**	**1.34**	**266**	P		**Pn**	**19 24 38.3**	**0.0**
	baz=86							
CIS				S		**Sb**	**19 24 56.2**	**+0.3**
	baz=86							
RRX	**Edison Barstow**	**1.39**	**354**	Pg		**Pg**	**19 24 40.4**	**-0.6**
	baz=174,SNR=6.9							
RRX				S		**Sg**	**19 24 58.5**	**-0.5**
	baz=174							
HEC	**Hector,Ludlow**	**1.39**	**16**	P		**Pb**	**19 24 39.8**	**0.0**
	baz=196,SNR=43							
HEC				S		**Sg**	**19 24 58.7**	**-0.5**
	baz=196							
DECC	**Green Verdugo**	**1.48**	**301**	P		**Pn**	**19 24 40.6**	**+0.5**
	baz=120							
DECC				S		**Sg**	**19 25 01.0**	**-0.9**
	baz=120							
IRM	**Iron Mountain**	**1.54**	**64**	P		**Pn**	**19 24 41.3**	**+0.3**
	baz=245,SNR=41							
IRM				S		**Sg**	**19 25 02.6**	**-1.3**
	baz=245							
SCI2	**San Clemente I**	**1.54**	**251**	P		**Pn**	**19 24 41.5**	**+0.6**
	baz=70							
SCI2				S		**Sn**	**19 25 01.4**	**+0.7**
	baz=70							
GMRC	**Granite Mounta**	**1.60**	**36**	P		**Pn**	**19 24 42.4**	**+0.5**
	baz=217,SNR=49							
GMRC				S		**Sb**	**19 25 04.4**	**+0.9**
	baz=217							
CCX	**Cicese**	**1.63**	**176**			**Pn**	**19 24 43.3**	**+1.1**
CCX				IAML			19 25 05.4	
	comp=E,154nm,0.4s							
CCX				IAML			19 25 07.2	
	comp=N,139nm,0.3s							
ESJX	**Sierra Juarez**	**1.66**	**154**			**Pb**	**19 24 44.6**	**+0.2**
ESJX				IAML			19 25 08.3	
	comp=N,118nm,0.2s							
EDW2	**Edwards Air Fo**	**1.69**	**325**	P		**Pb**	**19 24 44.5**	**-0.5**
	baz=144,SNR=28							
EDW2				S		**Sb**	**19 25 07.0**	**+0.9**
	baz=144							
GLA	**Glamis**	**1.72**	**104**			**Pn**	**19 24 43.3**	**-0.2**
GLA	**Glamis**	**1.72**	**104**	P		**Pn**	**19 24 43.2**	**-0.2**
	baz=286							
GLA				S		**Sb**	**19 25 07.4**	**+0.6**
	baz=286							
GSC	**Goldstone, Bar**	**1.80**	**0**			**Pn**	**19 24 45.9**	**+1.2**
GSC				IAML			19 25 18.4	
	comp=E,114nm,0.5s							
GSC	**Goldstone, Bar**	**1.80**	**0**	P		**Pn**	**19 24 46.0**	**+1.3**
	baz=180,SNR=57							
GSC				Sb		**Sg**	**19 25 11.4**	**-0.9**
	baz=180							
BLYC	**Blythe**	**1.93**	**82**			**Pn**	**19 24 47.9**	**+1.6**
BLYC				IAML			19 25 15.7	
	comp=N,74nm,0.6s							
BLYC				IAML			19 25 20.5	
	comp=E,78nm,0.5s							
CCAC	**Calif City Air**	**1.93**	**329**			**Pn**	**19 24 48.0**	**+1.6**
CCAC				IAML			19 25 17.7	
	comp=E,86nm,0.3s							
OSI	**Osito Audit: C**	**1.94**	**306**	P		**Pn**	**19 24 47.8**	**+1.3**
	baz=125							
OSI				S		**Sb**	**19 25 12.9**	**-0.2**
	baz=125							
TUQ	**Turquoise Moun**	**2.07**	**21**	P		**Pn**	**19 24 49.3**	**+0.9**
	baz=201,SNR=32							
TUQ				Sb		**Sg**	**19 25 19.5**	**-1.4**
	baz=201							
LRMC	**Laurel Mtn Rad**	**2.11**	**340**	Sb		**Sg**	**19 25 20.5**	**-1.6**
	baz=160							
NEE2	**Needles Airpor**	**2.22**	**54**	Pg		**Pg**	**19 24 55.5**	**-1.3**
	baz=236							
NEE2				Sb		**Sg**	**19 25 23.7**	**-1.9**
	baz=236							
ARVC	**Arvin**	**2.33**	**315**	Sb		**Sg**	**19 25 27.0**	**-2.3**
	baz=134							
PDMCI	**Parker Dam,Lak**	**2.36**	**69**	Sb		**Sg**	**19 25 28.1**	**-2.1**
	baz=251							
SHOC	**Shoshone, Teco**	**2.44**	**10**	P		**Pn**	**19 24 54.6**	**+1.2**
	baz=190,SNR=10							
SHOC				Sb		**Sg**	**19 25 31.0**	**-1.7**
	baz=190							
QSM	**Queen of Sheba**	**2.46**	**359**			**Pn**	**19 24 55.0**	**+1.3**
QSM				IAML			19 25 33.6	
	comp=N,53nm,0.4s							
QSM				IAML			19 25 33.6	
	comp=E,49nm,0.3s							
BCW	**Bitter Crk WRg**	**2.59**	**304**			**Pn**	**19 24 57.0**	**+1.4**
BCW				IAML			19 25 40.4	
	comp=N,55nm,0.6s							
113A	**Mohawk Valley,**	**2.66**	**105**	Pn		**Pn**	**19 24 57.0**	**+0.7**
GWY	**Greenwater Val**	**2.69**	**2**			**Pn**	**19 24 58.3**	**+1.4**
V12A	**Nelson**	**2.75**	**35**			**Pn**	**19 24 58.4**	**+0.7**
W13A	**Hualapai Mount**	**2.90**	**56**	Pn		**Pn**	**19 25 01.4**	**+1.5**
Y14A	**Wickenburg**	**3.20**	**81**			**Pn**	**19 25 05.5**	**+1.6**
WCT	**Wildcat Mounta**	**3.29**	**3**			**Pn**	**19 25 06.5**	**+1.4**
SHPR	**Sheep Range**	**3.29**	**24**			**Pn**	**19 25 07.7**	**+2.5**
GMN	**Gold Mountain**	**3.81**	**355**			**Pn**	**19 25 14.7**	**+2.2**
DSP	**Deep Springs**	**3.98**	**347**	Pn		**Pn**	**19 25 16.9**	**+2.5**
PRN	**Pahroc Range**	**4.16**	**20**	Pn		**Pn**	**19 25 19.3**	**+2.2**
MZP	**Montezuma Peak**	**4.22**	**354**			**Pn**	**19 25 20.4**	**+2.3**

*NEIC **19** 19:26:49.9±2.4, 33°46N±0°01×116°791W±0°010, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.4km az=5.0*
*ANF **19** 19:26:50.3±0.2, 33°49N×116°80W, h9km±1km, ML3.5/32, Error ellipse: s-maj=1.4km s-min=1.2km az=43.0*
*PAS **19** 19:26:51.1±1.9, 33°50N±0°02×116°81W±0°01, h3km±6km, ML3.5/340, ML3.4/54(NEIC), Error ellipse: s-maj=2.6km s-min=1.5km az=204.0*

ISC 19 19:26:50.8±0.8, 33°49N±0°01×116°81W±0°01, h13km±4km, n128, σ0s82/183, Southern California

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CRY	**Cary Ranch**	**0.09**	**38**			**Pg**	**19 26 53.0**	**-0.9**
BZNA	**Buzz No.'s Pla**	**0.12**	**91**			**Pg**	**19 26 53.7**	**-0.5**
PLM	**Palomar**	**0.15**	**199**			**Sg**	**19 26 57.3**	**-0.1**
DNR	**Dunn Ranch,Anz**	**0.16**	**63**			**Pg**	**19 26 54.6**	**-0.3**
DNR						**Sg**	**19 26 57.0**	**-0.6**
FRD	**Ford Ranch, An**	**0.17**	**90**			**Pg**	**19 26 56.8**	**+1.9**
SNDA	**J Saunders Pla**	**0.17**	**70**			**Pg**	**19 26 54.7**	**-0.3**
SNDA						**Sg**	**19 26 57.2**	**-0.6**
GVDA	**Garner Valley**	**0.21**	**32**			**Pg**	**19 26 55.1**	**-0.4**
GVDA						**Sg**	**19 26 57.9**	**-0.9**
POB	**Polly Butte**	**0.22**	**333**			**Pg**	**19 26 55.4**	**-0.3**
POB						**Sg**	**19 26 58.2**	**-0.8**
DGR	**Domenigoni Val**	**0.23**	**312**			**Pg**	**19 26 55.6**	**-0.2**
DGR						**Sg**	**19 26 58.7**	**-0.6**
HMTC	**Hemet**	**0.27**	**322**			**Pg**	**19 26 56.3**	**-0.3**
HMTC						**Sg**	**19 26 59.8**	**-0.7**
PFO	**Pinyon Flats O**	**0.31**	**68**			**Pg**	**19 26 57.2**	**-0.1**
PFO				IAML			19

CFSC					Sb	19 27 15.3	0.0	
CLTC	**Calectric**	0.73	325		Pb	19 27 05.0	-0.5	
CLTC					Sb	19 27 15.2	-0.3	
CRNC	**Corona**	0.74	301		Pg	19 27 04.6	-0.6	
CRNC					Sg	19 27 14.2	-0.7	
SDMC	**San Diego Miss**	0.76	202		Sg	19 27 15.7	+0.1	
SDRC	**San Diego Road**	0.77	189		Sg	19 27 14.9	-0.8	
BBRC	**Big Bear Solar**	0.77	353	P	Pg	19 27 05.8	-0.1	
	baz=173,SNR=14							
BBRC				S	Sg	19 27 16.1	0.0	
	baz=173							
CTW	**Cottonwood Mou**	0.80	77		Pb	19 27 06.3	-0.3	
CTW					Sg	19 27 16.9	0.0	
FON	**Fontana**	0.80	319		Pg	19 27 05.8	-0.7	
FON					Sg	19 27 16.7	-0.3	
MLSC	**Mira Loma**	0.81	309		Pg	19 27 06.0	-0.6	
MLSC					Sg	19 27 16.1	-1.1	
BAR	**Barrett**	0.82	172	Pg	Pg	19 27 06.2	-0.5	
BAR				IAML		19 27 18.0		
	comp=N,2µm,0.2s							
BAR	**Barrett**	0.82	172		Sg	19 27 16.7	-0.7	
BELC	**Belle Mtn. Jos**	0.84	53		Sg	19 27 17.4	-0.8	
BELC	**Belle Mtn. Jos**	0.84	53	P	Pg	19 27 06.9	-0.2	
	baz=233,SNR=354							
BELC				S	Sg	19 27 17.9	-0.3	
	baz=233							
GTM	**Goat Mountain**	0.88	25		Pg	19 27 07.4	-0.5	
GTM					Sg	19 27 18.6	-0.9	
DUZA	**Dulzura**	0.89	178		Pg	19 27 07.3	-0.7	
DUZA					Sg	19 27 19.0	-0.6	
CHNC	**Chino**	0.89	305		Pg	19 27 07.4	-0.6	
CHNC					Sg	19 27 19.1	-0.6	
OLP	**Otay Lakes Par**	0.89	187		Pg	19 27 07.3	-0.7	
OLP					Sg	19 27 19.0	-0.7	
ERRC	**Elmore Ranch**	0.91	114		Pn	19 27 09.1	-0.1	
ERRC					Sn	19 27 22.5	+0.4	
BOMB	**Bombay Beach**	0.91	98		Pb	19 27 08.4	0.0	
BOMB					Sb	19 27 21.7	+1.3	
TKX	**Tecate**	0.94	170		Pg	19 27 08.2	-0.8	
TJX	**Tijuana**	1.00	192	Pg	Pg	19 27 09.5	-0.7	
TJX				IAML		19 27 27.0		
	comp=E,1µm,0.6s							
SWSC	**Sam W. Stewart**	1.00	123	P	Pg	19 27 09.6	-0.7	
	baz=303,SNR=200							
SWSC				S	Sb	19 27 23.3	+0.1	
	baz=303							
IKP	**In-Ko-Pah, Jac**	1.02	145	P	Pb	19 27 10.6	+0.1	
	baz=326,SNR=87							
IKP				S	Sg	19 27 23.7	-0.3	
	baz=326							
BFSC	**Mount Baldy Ra**	1.03	317	P	Pg	19 27 09.7	-1.0	
	baz=136,SNR=215							
BFSC				S	Sg	19 27 23.0	-1.1	
	baz=136							
RMX	**La Rumorosa**	1.08	145		Pn	19 27 12.5	+0.7	
RMX				IAML		19 27 30.0		
	comp=N,523nm,0.3s							
RMX				IAML		19 27 31.5		
	comp=E,748nm,0.7s							
YUH	**Yuha Desert**	1.12	138		Pg	19 27 11.7	-0.8	
YUH				IAML		19 27 28.1		
	comp=E,588nm,0.2s							
BC3	**Big Chuckawall**	1.14	82	P	Pg	19 27 11.7	-1.1	
	baz=262,SNR=176							
BC3				S	Sg	19 27 27.1	-0.6	
	baz=262							
CBX	**Cerro Bola**	1.18	174		Pg	19 27 12.6	-1.1	
FMP	**Fort Macarthur**	1.26	280	P	Pg	19 27 13.6	-1.5	
	baz=100,SNR=9.1							
FMP				S	Sb	19 27 31.3	+0.7	
	baz=100							
PASC	**Pasadena Art C**	1.33	301		Pn	19 27 14.8	-0.3	
CIS	**Catalina Islan**	1.35	267	P	Pn	19 27 14.8	-0.6	
	baz=86,SNR=16							
CIS				S	Sb	19 27 32.7	-0.5	
	baz=86							
RRX	**Edison Barstow**	1.39	353	Pg	Pg	19 27 17.0	-0.5	
	baz=174							
RRX				S	Sg	19 27 35.0	-0.6	
	baz=174							
HEC	**Hector,Ludlow**	1.39	16	P	Pn	19 27 16.4	+0.4	
	baz=196,SNR=161							
HEC				S	Sn	19 27 35.4	+1.1	
	baz=196							
DECC	**Green Verdugo**	1.48	301	P	Pn	19 27 17.0	-0.2	
	baz=120,SNR=25							
DECC				S	Sn	19 27 37.1	+0.7	
	baz=120							
IRM	**Iron Mountain**	1.53	64	P	Pn	19 27 17.7	-0.2	
	baz=245,SNR=86							
IRM				S	Sn	19 27 38.0	+0.3	
	baz=245							
SCI2	**San Clemente I**	1.55	251	P	Pn	19 27 18.0	-0.1	
	baz=70,SNR=15							
SCI2				S	Sn	19 27 37.8	-0.3	
	baz=70							
GMRC	**Granite Mounta**	1.60	36	P	Pn	19 27 19.0	+0.1	
	baz=217,SNR=134							
GMRC				S	Sb	19 27 40.8	+0.3	
	baz=217							
CCX	**Cicese**	1.63	176		Pn	19 27 19.9	+0.8	
CCX				IAML		19 27 43.9		
	comp=N,568nm,0.3s							
ESJX	**Sierra Juarez**	1.65	154		Pb	19 27 20.8	-0.4	
ESJX				IAML		19 27 44.9		
	comp=N,409nm,0.2s							
CPBX	**Cerro Prieto**	1.66	130		Pn	19 27 20.2	+0.6	
EDW2	**Edwards Air Fo**	1.70	325	P	Pn	19 27 21.2	+1.0	
	baz=144,SNR=114							
EDW2				S	Sn	19 27 43.1	+1.3	
	baz=144							
GLA	**Glamis**	1.71	104		Pn	19 27 19.9	-0.5	
GLA				IAML		19 27 55.3		
	comp=N,268nm,0.7s							
GLA				IAML		19 27 59.2		
	comp=E,413nm,0.6s							
GLA	**Glamis**	1.71	104	P	Pn	19 27 19.8	-0.7	
	baz=286							
GLA				S	Sb	19 27 43.8	+0.1	
	baz=286							
GSC	**Goldstone, Bar**	1.80	360		Pn	19 27 22.7	+1.0	
GSC				IAML		19 27 50.3		
	comp=N,334nm,0.5s							
GSC				IAML		19 27 55.0		
	comp=E,472nm,0.5s							
GSC	**Goldstone, Bar**	1.80	360	P	Pn	19 27 22.5	+0.8	
	baz=180,SNR=163							
GSC				S	Sn	19 27 46.1	+1.6	
	baz=180							
BLYC	**Blythe**	1.92	82		Pn	19 27 24.0	+0.8	
BLYC				IAML		19 27 52.3		
	comp=N,296nm,0.6s							
BLYC				IAML		19 27 53.8		
	comp=E,353nm,0.5s							
CCAC	**Calif City Air**	1.94	329		Pn	19 27 24.2	+0.8	
CCAC				IAML		19 27 54.6		
	comp=E,319nm,0.6s							
OSI	**Osito Audit: C**	1.95	306	P	Pn	19 27 24.2	+0.6	
	baz=125,SNR=20							
OSI				S	Sn	19 27 49.2	+1.2	
	baz=125							
TUQ	**Turquoise Moun**	2.07	20	P	Pn	19 27 25.8	+0.4	
	baz=201,SNR=30							
TUQ				Sb	Sg	19 27 56.2	-1.2	
	baz=201							
LRMC	**Laurel Mtn Rad**	2.11	340	P	Pn	19 27 26.9	+1.0	
	baz=160,SNR=46							
LRMC				Sb	Sg	19 27 57.2	-1.5	
	baz=160							
NEE2	**Needles Airpor**	2.21	54	Pb	Pg	19 27 31.9	-1.4	
	baz=236,SNR=9.9							
NEE2				Sb	Sg	19 28 00.2	-1.8	
	baz=236							
SNCC	**San Nicolas Is**	2.29	265	Pn	Pn	19 27 28.9	+0.6	
ARVC	**Arvin**	2.34	315	P	Pn	19 27 30.0	+1.0	
	baz=134,SNR=29							
ARVC				Sb	Sb	19 28 03.7	+2.1	
	baz=134							
PDMCI	**Parker Dam,Lak**	2.36	69	Sb	Sg	19 28 04.3	-2.3	
	baz=251							
SCZ2	**Santa Cruz Isl**	2.41	283	P	Pn	19 27 30.2	+0.2	
	baz=101,SNR=5.5							
SHOC	**Shoshone, Teco**	2.44	10	P	Pn	19 27 31.2	+0.8	
	baz=190,SNR=31							
SHOC				Sb	Sg	19 28 07.9	-1.4	
	baz=190							
QSM	**Queen of Sheba**	2.47	359		Pn	19 27 31.8	+1.0	
QSM				IAML		19 28 10.1		
	comp=N,242nm,0.4s							
QSM				IAML		19 28 11.6		
	comp=E,214nm,0.5s							
BCW	**Bitter Crk WRg**	2.60	304		Pn	19 27 33.1	+0.5	
BCW				IAML		19 28 21.7		
	comp=N,179nm,0.7s							
MPMC	**Manual Prospec**	2.62	348	P	Pn	19 27 34.1	+1.0	
	baz=168,SNR=19							
MPMC				Sb	Sg	19 28 13.5	-1.6	
	baz=168							
113A	**Mohawk Valley,**	2.65	105		Pn	19 27 32.9	-0.4	
GWY	**Greenwater Val**	2.69	2		Pn	19 27 34.7	+0.7	
V12A	**Nelson**	2.75	35		Pn	19 27 35.3	+0.6	
PKM	**Mcpherson Peak**	2.85	300	P	Pn	19 27 37.1	+0.9	
	baz=118							
W13A	**Hualapai Mount**	2.90	56		Pn	19 27 37.5	+0.6	
FURC	**Furnace Creek,**	2.97	359	Pg	Pg	19 27 46.2	-1.5	
	baz=179,SNR=18							
FURC				Sg	Sg	19 28 27.3	+1.1	
	baz=179							
WTNK	**Soaring Height**	3.07	28		Pn	19 27 39.7	+0.6	
Y14A	**Wickenburg**	3.20	81		Pn	19 27 41.3	+0.4	
SHPR	**Sheep Range**	3.29	24		Pn	19 27 43.4	+1.1	
WCT	**Wildcat Mounta**	3.29	3		Pn	19 27 42.7	+0.5	
PIX	**Pinacate**	3.42	123		Pn	19 27 43.8	-0.1	
214A	**Organ Pipe Nat**	3.70	113		Pn	19 27 48.2	+0.5	
GMN	**Gold Mountain**	3.82	355		Pn	19 27 50.4	+0.8	
DSP	**Deep Springs**	3.98	347		Pn	19 27 53.3	+1.8	
MZP	**Montezuma Peak**	4.22	354		Pn	19 27 56.2	+1.0	
S11A	**Rachel**	4.23	11		Pn	19 27 55.8	+0.6	
PMPB	**Monarch Peak**	4.26	311	Pn	Pn	19 27 55.4	-0.1	
MDPB	**Devils Postpil**	4.53	336		Pn	19 28 00.8	+1.5	
X16A	**Lo Mia Camp, P**	4.55	77	Pn	Pn	19 28 00.2	+0.7	
LCMT	**Little Creek M**	4.56	39		Pn	19 28 01.1	+1.4	
U15A	**North Rim**	4.72	50	Pn	Pn	19 28 03.3	+1.3	
KNB	**Kanab**	4.79	42		Pn	19 28 04.3	+1.5	
WUAZ	**Wupatki**	4.92	64		Pn	19 28 06.2	+1.6	
WUAZ				IAML		19 29 32.9		
	comp=N,24nm,0.6s							
WUAZ				IAML		19 29 33.0		
	comp=N,24nm,0.8s							
LHV	**Little Huntoon**	4.94	344		Pn	19 28 06.7	+2.0	
NV11	**Mina Array Sit**	5.05	348	Pn	Pn	19 28 07.7	+1.3	
NVAR	**Mina Array Bea**	5.07	347	Pn	Pn	19 28 09.7	+2.9	
RYN	**Ryan**	5.31	345	Pn	Pn	19 28 10.1	+0.1	

*NOU **19** 19:28:33.0, 40˚.57S × 177˚.03E, h39km, MLv4.1/10, Off E. Coast of N. Island, N.Z.*

*WEL **19** 19:28:35.7, 40˚.34S × 176˚.70E, h14km, ML4.0, Mw4.0, Moment Tensor Solution. s4 Moment tensor: M_{rr}44.12; $M_{\theta\theta}$24.99; $M_{\phi\phi}$-69.11; $M_{r\theta}$64.49; $M_{\theta\phi}$44.96; $M_{\phi r}$-48.86; Fault plane solution: NP1:ϕ_s165.00000°, δ33.00000°, λ28.00000°. NP2:ϕ_s51.00000°, δ75.00000°, λ120.00000°. Principal axes: T -118.7500, Plg51.0000°, Azm355.0000°; N 100.1800, Plg29.0000°, Azm222.0000°; P 18.5700, Plg24.0000°, Azm118.0000°; NORTH ISLAND*

*WEL **19** 19:28:35.1±0.5, 40˚.5S×17˚.7E±˚, h19km±2km, M4.0/24, ML4.4/24, MLv4.0/24 Error ellipse: s-maj=0.0km s-min=0.0km az=116.2, confirmed*

ISC 19 19:28:32.1±1.1, **40˚.45S**±0˚.03×**176˚.85E**±0˚.04, **h12**km±7km, **n132**, σ0°.89/152, **North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRHZ	**Porangahau**	0.25	318	P	Pb	19 28 38.9	+0.4
PRHZ				S	Sb	19 28 41.8	+1.1
ANWZ	**Angora Road**	0.29	268	P	Pn	19 28 41.3	-0.8
PXZ	**Pawanui**	0.42	1	P	Pn	19 28 43.2	-0.8
PXZ				S	Sb	19 28 50.3	+2.7
WPHZ	**Waipukurau**	0.50	320	P	Pb	19 28 42.6	-0.1
WPHZ				S	Sg	19 28 48.8	+0.4
BFZ	**Birch Farm**	0.52	243	P	Pn	19 28 46.0	+0.7
BFZ	**Birch Farm**	0.52	243	P	Pn	19 28 46.1	+0.8
BFZ				S	Sn	19 28 54.8	+0.7
DVHZ	**Dannevirke**	0.54	286	P	Pb	19 28 44.0	+0.4
DVHZ				S	Sb	19 28 51.0	-0.4
KAHZ	**Kahuranaki**	0.65	2	P	Pn	19 28 47.4	+0.1
KAHZ				S	Sn	19 28 57.7	+0.2
CPWZ	**Castlepoint**	0.68	227	P	Pn	19 28 49.7	+2.2
PRWZ	**Pori Road**	0.68	261	P	Pn	19 28 48.0	+0.4
PRWZ				S	Sn	19 28 58.4	+0.3
PNHZ	**Pukenui**	0.73	317	P	Pb	19 28 46.7	-0.1
PNHZ				S	Sg	19 28 55.5	-0.4
TSZ	**Takapari Road**	0.79	299	P	Pb	19 28 47.6	-0.1
TSZ				S	Sg	19 28 57.4	-0.1
TIWZ	**Tintock**	0.81	246	P	Pn	19 28 50.4	+1.0
TIWZ				S	Sn	19 29 02.2	+0.9
CKHZ	**Cape Kidnapper**	0.81	12	P	Pn	19 28 49.7	+0.4
POWZ	**Post Office Ro**	0.83	274	P	Pn	19 28 49.6	-0.1
POWZ				S	Sn	19 29 01.1	-0.7
KRHZ	**Kereru**	0.89	335	P	Pb	19 28 49.6	+0.2
KRHZ				S	Sg	19 29 01.0	+0.2
TMWZ	**Te Maipa**	0.98	228	P	Pn	19 28 53.0	+1.2
TMWZ				S	Sn	19 29 07.4	+1.8
MRZ	**Mangatainoka R**	0.99	257	P	Pn	19 28 52.1	+0.2
MRZ				S	Sb	19 29 02.5	+0.9
MCHZ	**McNeill Hill**	1.01	353	P	Pn	19 28 52.5	+0.4
KWHZ	**Kaweka Forest**	1.07	342	P	Pb	19 28 52.9	+0.2
KWHZ				S	Sb	19 29 07.0	+0.3
HOWZ	**Holdsworth Sta**	1.11	246	P	Pn	19 28 54.1	+0.6
HOWZ				S	Sn	19 29 08.6	-0.2
BHHZ	**Black Hill Sta**	1.13	327	P	Pg	19 28 53.1	-0.8
BHHZ				S	Sg	19 29 07.2	-1.5
ARHZ	**Aropaoanui**	1.19	5	P	Pn	19 28 55.1	+0.6
OHWZ	**Ohakea**	1.20	281	P	Pn	19 28 56.1	+1.4
MTW	**Mount Morrison**	1.25	235	P	Pg	19 28 55.7	-0.3
MTW				S	Sn	19 29 12.1	0.0
TRWZ	**Traveller**	1.30	223	P	Pg	19 28 56.9	-0.1
BKZ	**Black Stump Fm**	1.31	348	P	Pn	19 28 55.9	-0.4
BKZ	**Black Stump Fm**	1.31	348	P	Pn	19 28 56.1	-0.2
BKZ				S	Sb	19 29 11.7	-1.8
OGWZ	**Otaki Gorge**	1.33	253	P	Pb	19 28 56.7	-0.3
MOHZ	**Moawhango**	1.34	321	P	Pn	19 28 56.6	-0.1
MOVZ				S	Sb	19 29 13.5	-0.8
NMHZ	**Naumai**	1.35	358	P	Pb	19 28 57.5	+0.1
WHHZ	**Waihua**	1.40	12	P	Pb	19 28 58.1	-0.1
PAWZ	**Paruwai Farm**	1.43	229	P	Pb	19 28 58.4	-0.2
WNVZ	**Wahianoa**	1.48	319	P	Pn	19 28 59.2	+0.5
TUVZ	**Tukino**	1.50	322	P	Pn	19 28 59.4	+0.5
MTVZ	**Mangateitei**	1.50	315	P	Pb	19 28 59.9	0.0
CAW	**Cannon Point**	1.51	244	P	Pn	19 28 59.1	+0.1
WHVZ	**Whangaehu Hut**	1.52	320	P	Pb	19 28 60.0	-0.3
TRVZ	**Turoa**	1.52	318	P	Pn	19 28 59.7	+0.4
MHGZ	**Mahia Peninsul**	1.53	32	P	Pb	19 28 59.9	-0.5
KIW	**Kapiti Island**	1.53	254	P	Pn	19 28 59.6	+0.3
MAVZ	**Matarangi**	1.54	319	P	Pb	19 29 00.4	-0.4
RAHZ	**Arahi**	1.54	7	P	Pn	19 28 59.9	+0.5
FWVZ	**Far West T-bar**	1.56	320	P	Pn	19 29 00.1	+0.3
KNZ	**Kokohu**	1.56	24	P	Pn	19 28 59.7	+0.1
SNVZ	**South Ngauruho**	1.57	323	P	Pb	19 29 01.1	-0.1
OTVZ	**Oturere**	1.58	324	P	Pb	19 29 01.3	0.0
ETVZ	**East Tongariro**	1.58	326	P	Pn	19 29 00.7	+0.6
WAZ	**Wanganui**	1.59	295	P	Pb	19 29 01.1	-0.4
MTHZ	**Maungataniwha**	1.59	360	P	Pn	19 29 00.4	+0.3
NGZ	**Ngauruhoe**	1.59	322	P	Pn	19 29 00.9	+0.6
TMVZ	**Te Maari**	1.60	326	P	Pn	19 29 00.9	+0.7
COVZ	**Chateau Observ**	1.60	321	P	Pb	19 29 01.2	-0.5
NNVZ	**North Ngauruho**	1.62	324	P	Pb	19 29 01.8	-0.3
NTVZ	**North Tongarir**	1.62	326	P	Pb	19 29 02.1	0.0
PKVZ	**Pokaka**	1.64	314	P	Pn	19 29 01.6	+0.8
MRHZ	**Matea Rd**	1.65	348	P	Pn	19 29 01.4	+0.5
PLWZ	**Palliser**	1.65	227	P	Pn	19 29 01.1	+0.2
WTVZ	**West Tongariro**	1.65	323	P	Pb	19 29 01.9	-0.6
HATZ	**Hinemaiaia**	1.66	339	P	Pg	19 29 03.5	-0.5
SNGZ	**Shannon Statio**	1.71	13	P	Pn	19 29 02.4	+0.7
PRGZ	**Paritu Road**	1.72	28	P	Pn	19 29 02.0	+0.1
KATZ	**Kakaramea**	1.72	328	P	Pg	19 29 05.0	-0.1
TWVZ	**Taurewa**	1.75	321	P	Pb	19 29 03.6	-0.7
BHW	**Baring Head**	1.78	237	P	Pn	19 29 02.7	0.0
RATZ	**Rangitukua**	1.79	332	P	Pb	19 29 05.0	+0.3
WEL	**Wellington**	1.79	241	P	Pn	19 29 02.9	+0.1
RTZ	**Ruatahuna**	1.83	3	P	Pn	19 29 03.7	+0.2
SNZO	**South Karori**	1.84	241	P	Pn	19 29 03.4	-0.1
RIGZ	**Rimuhau**	1.88	22	P	Pn	19 29 04.1	+0.1
WHTZ	**Whakaora**	1.91	338	P	Pg	19 29 08.8	+0.1
ALRZ	**Allen Road**	1.92	348	P	Pn	19 29 05.5	+0.8
MUGZ	**Murupara**	1.97	358	P	Pn	19 29 05.3	0.0
PRRZ	**Plateau Road**	1.98	350	P	Pn	19 29 05.4	0.0
RAGZ	**Rawiri**	2.00	13	P	Pn	19 29 06.3	+0.6
WPRZ	**Whakapapatarin**	2.00	344	P	Pn	19 29 05.9	+0.2
VRZ	**Vera Road**	2.09	309	P	Pb	19 29 08.8	-1.1
TCW	**Tory Channel**	2.10	248	P	Pn	19 29 06.7	-0.3
RRRZ	**Republican Roa**	2.12	353	P	Pn	19 29 07.8	+0.3
LREZ	**Lake Rotokare**	2.13	297	P	Pb	19 29 09.8	-0.7
MWZ	**Matawai**	2.17	14	P	Pn	19 29 08.0	-0.2
URZ	**Urewera**	2.19	5	P	Pn	19 29 07.9	-0.5
URZ	**Urewera**	2.19	5	P	Pn	19 29 08.1	-0.2
CNGZ	**Carnagh Statio**	2.23	29	P	Pn	19 29 09.0	+0.2
TARZ	**Mount Tarawera**	2.23	353	P	Pn	19 29 09.1	+0.2
DUVZ	**D'Urville Isla**	2.26	260	P	Pn	19 29 09.8	+0.5
PREZ	**Palmer Road**	2.35	297	P	Pn	19 29 12.3	+1.7
TLZ	**Tolley Road**	2.35	334	P	Pb	19 29 14.8	+0.4
CMWZ	**Cape Campbell**	2.38	236	P	Pg	19 29 17.9	+0.1
MHEZ	**Mangahewa**	2.38	304	P	Pg	19 29 17.8	+0.1
DREZ	**Durham Road**	2.40	301	P	Pb	19 29 13.8	-1.4
TUWZ	**Tuamarina**	2.41	245	P	Pn	19 29 10.6	-0.7
NEZ	**North Egmont**	2.43	298	P	Pn	19 29 13.4	+1.7
TWGZ	**Tauwhareparae**	2.43	21	P	Pn	19 29 12.0	+0.4
KHEZ	**Kahui Hut**	2.47	297	P	Pn	19 29 13.6	+1.4
KHEZ	**Kahui Hut**	2.47	297	P	Pn	19 29 14.1	+1.9
HIZ	**Hauiti**	2.47	321	P	Pn	19 29 14.0	+1.8
HIZ	**Hauiti**	2.47	321	P	Pn	19 29 13.7	+1.5
NMEZ	**Namu Road**	2.51	293	P	Pn	19 29 14.3	+1.6
PKE	**Pukeiti**	2.54	299	P	Pn	19 29 15.1	+2.0
RUGZ	**Raukumara Rang**	2.56	15	P	Pn	19 29 13.2	-0.3
BSWZ	**Blackbirch Sta**	2.58	240	P	Pn	19 29 13.2	-0.5
NBEZ	**Newall Road No**	2.58	296	P	Pn	19 29 15.3	+1.6
PKGZ	**Pakihiroa**	2.73	21	P	Pn	19 29 15.5	-0.3
NNZ	**Nelson**	2.74	353	P	Pn	19 29 15.9	0.0
HAZ	**Te Kaha**	2.78	15	P	Pn	19 29 16.3	-0.1
WMGZ	**Waiomatatini S**	2.89	25	P	Pn	19 29 17.9	-0.1
TOZ	**Tahuroa Road**	2.91	338	P	Pn	19 29 18.7	+0.5
TKNZ	**Takaka Hill**	3.01	258	P	Pn	19 29 20.5	+0.8
MXZ	**Matakaoa Point**	3.10	22	P	Pn	19 29 21.2	+0.4
KHZ	**Kahutara**	3.17	231	P	Pn	19 29 20.4	-1.4
KHZ	**Kahutara**	3.17	231	P	Pn	19 29 20.7	-1.1
MRNZ	**Matariki Terra**	3.24	252	P	Pn	19 29 23.0	+0.1
THZ	**Tophouse**	3.26	245	P	Pn	19 29 22.0	-1.1
QRZ	**Quartz Range**	3.31	262	P	Pn	19 29 23.6	-0.1
QRZ	**Quartz Range**	3.31	262	P	Pn	19 29 23.6	-0.1
MKAZ	**Moumakai**	3.59	338	P	Pn	19 29 27.8	+0.2
KUZ	**Kuaotunu**	3.80	346	P	Pn	19 29 30.8	+0.3
GVZ	**Greta Valley S**	3.81	227	P	Pn	19 29 31.3	+0.8
MBAZ	**Motutapu North**	3.98	337	P	Pn	19 29 35.2	+2.3
DSZ	**Denniston Nort**	4.03	250	P	Pn	19 29 33.1	-0.5
LTZ	**Lake Taylor**	4.15	234	P	Pn	19 29 33.7	-1.6
OKCZ	**Okains Bay**	4.32	220	P	Pn	19 29 37.6	0.0
AKCZ	**Akaroa Harbour**	4.50	219	P	Pn	19 29 41.0	+0.8
MQZ	**McQueen's Vall**	4.51	222	P	Pn	19 29 38.5	-1.7
INZ	**Inchbonnie**	4.65	239	P	Pn	19 29 40.6	-1.5
MHCZ	**Mount Hutt**	5.00	230	P	Pn	19 29 45.8	-1.2
WACZ	**Wakanui South**	5.10	225	P	Pn	19 29 47.0	-1.3
ARCZ	**Arundel**	5.48	228	P	Pn	19 29 52.8	-0.7
TMZ	**Timaru**	5.85	226	P	Pn	19 29 57.5	-1.1
CTZ	**Chatham Island**	5.86	126	P	Pn	19 30 02.8	+4.0
ODZ	**Otahua Downs**	6.48	223	P	Pn	19 30 06.2	-1.1

*IDC **19** 19:30:35.6±1.1, 55˚.53S×26˚.65W, h0km, mb4.0/3, mbtmp3.8/4, ML3.2/1, Error ellipse: s-maj=48.2km s-min=25.6km az=82.0*

*NEIC **19** 19:30:36.6±0.6, 55˚.58S±0˚.1×26˚.8W±0˚.3, h10km±2km, mb4.2/6, Error ellipse: s-maj=27.7km s-min=12.6km az=64.0*

ISC 19 19:30:36.9±0.9, **55˚.6S**±0˚.1×**26˚.8W**±0˚.2, **h10**km, **n16**, σ1°.18/16, **mb4.0/5, 4C, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	5.73	279	Pn	Pn	19 32 01.8

1.1nm,0.3s
PALK Pallekele 17.39 227 LR LR 20 06 44.1
comp=Z,42nm,18.8s,baz=199,slow=36
MKAR Makanchi Array 28.66 344 P P 20 02 21.6 +0.3
0.5nm,0.8s,baz=163,slow=8.9,SNR=3.5
0.5nm,0.8s
KURBB Kurchatov Arra 33.18 343 P P 20 03 01.2 +0.1
0.4nm,0.7s,baz=148,slow=8.0,SNR=4.2
0.4nm,0.7s
ZALV Zalesovo Beam 34.96 351 P P 20 03 16.0 -0.6
0.7nm,0.5s,baz=170,slow=9.9,SNR=2.6
0.7nm,0.5s

*IDC **19** 20:06:43.5±1.6,29.°72N×138.°92E, h335km±33km, mb2.8/6, mbtmp3.6/8, Error ellipse: s-maj=74.5km s-min=12.1km az=71.0*
*JMA **19** 20:06:46.0±0.1,30.°1N±0.°8×140.°0E±0.°1, h400km, MV3.4/25, NEAR TORISHIMA IS*
ISC 19 20:06:45.2±0.8, 30.°14N±0.°08×140.°2E±0.°2, h400km, n15, σ2§17/19, mb2.9/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.50**	**150**	P	**Pn**	**20 07 54.7**	**+2.0**
CBIJ				S	**S**	**20 08 48.6**	**+1.3**
JCJ	**Chichijima**	**3.50**	**150**	P	**Pn**	**20 07 50.5**	**-2.2**
	33nm,0.4s,baz=301,slow=22,SNR=39						
JCJ				S	**S**	**20 08 44.2**	**-3.1**
	75nm,0.3s,baz=266,slow=20,SNR=18						
BSO3	**Boso 3**	**4.66**	**3**	S	**S**	**20 09 08.5**	**+1.6**
JHU	**Hanno**	**5.75**	**353**	P	**Pn**	**20 08 15.8**	**+0.8**
JHU				S	**S**	**20 09 24.9**	**-3.3**
JRY	**Ryogami san**	**5.96**	**350**	S	**S**	**20 09 29.4**	**-3.0**
JYT	**Yasato**	**6.07**	**360**	S	**S**	**20 09 33.2**	**-1.3**
JAG	**Ashikaga**	**6.30**	**354**	P	**Pn**	**20 08 22.0**	**+1.1**
JAG				S	**S**	**20 09 36.0**	**-3.1**
JHO	**Hitachi**	**6.46**	**3**	S	**S**	**20 09 41.2**	**-1.2**
MJAR	**Matsushiro Arr**	**6.60**	**346**	P	**Pn**	**20 08 24.6**	**+0.3**
	0.7nm,0.3s,baz=166,slow=10.0,SNR=10						
KLR	**Kul'dur**	**20.12**	**344**	P	**P**	**20 10 54.2**	**+3.8**
	0.8nm,0.4s,baz=160,slow=6.9,SNR=6.7						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**47.22**	**308**	P	**P**	**20 14 38.5**	**-1.3**
	0.3nm,0.7s,baz=100,slow=7.9,SNR=1.8						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**49.69**	**313**	P	**P**	**20 14 57.8**	**-0.5**
	0.3nm,0.4s,baz=90,slow=6.8,SNR=8.4						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**50.11**	**187**	P	**P**	**20 15 02.2**	**+0.5**
	0.4nm,0.4s,baz=0.5,slow=7.6,SNR=5.9						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**53.84**	**187**	P	**P**	**20 15 30.0**	**+1.2**
	0.2nm,0.5s,baz=16,slow=12,SNR=5.6						
	0.2nm,0.5s						
STKA	**Stephens Creek**	**61.69**	**179**	P	**P**	**20 16 22.5**	**+0.1**
	1.3nm,0.6s,baz=321,slow=6.5,SNR=3.0						
	1.3nm,0.6s						

*IDC **19** 20:20:56.5±1.2, 12.°03N×85.°70W, h0km, mb3.7/5, mbtmp3.7/6, ML1.9/1, MS3.2/2, Error ellipse: s-maj=50.8km s-min=17.9km az=59.0*
*CATAC **19** 20:20:59.3±0.7, 11.°13N×86.°58W, h16km±7km, ML4.0*
*SNET **19** 20:21:02.4±0.8, 11.°31N×86.°72W, h17km±7km, ML3.9*
ISC 19 20:20:58.0±1.5, 11.°15N±0.°05×86.°62W±0.°04, h16km±9km, n56, σ1§70/83, mb3.7/5, 2C, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RB213	**Mirador 2 Volc**	**0.94**	**28**	*i* P	**Pn**	**20 21 19.0**	**+2.4**
RB213				IAML		20 21 19.6	
	comp=Z,8μm,1.0s						
MASN	**Masaya**	**0.95**	**29**	*i* P	**Pn**	**20 21 17.8**	**+1.0**
MASN				*i* S	**Sn**	**20 21 31.6**	**+1.6**
MASN				IAML		20 21 46.6	
	comp=Z,860nm,1.0s						
MAS3	**Al N del Volca**	**0.97**	**27**	*i* P	**Pn**	**20 21 17.8**	**+0.8**
MAS3				*i* S	**Sn**	**20 21 31.8**	**+1.3**
MAS3				IAML		20 21 35.7	
	comp=Z,6μm,1.0s						
JAPN	**Al SSO del Vol**	**1.00**	**68**	*i* P	**Pn**	**20 21 17.9**	**+0.5**
JAPN				IAML		20 21 29.3	
	comp=Z,2μm,1.0s						
USIM	**UNAN**	**1.02**	**19**	*i* P	**Pn**	**20 21 18.9**	**+1.2**
USIM				*i* S	**Sn**	**20 21 33.4**	**+1.8**
USIM				IAML		20 21 53.1	
	comp=Z,9μm,1.0s						
ENAN	**Enatrel Managu**	**1.02**	**20**	*i* P	**Pn**	**20 21 19.2**	**+1.5**
ENAN				IAML		20 21 20.6	
	comp=Z,10μm,1.0s						
ENAN				*i* S	**Sn**	**20 21 33.6**	**+1.9**
RE6B4	**Centro civico**	**1.02**	**18**	*i* P	**Pn**	**20 21 18.6**	**+0.9**
RE6B4				IAML		20 21 19.3	
	comp=Z,5μm,1.0s						
RE6B4				*i* S	**Sn**	**20 21 32.6**	**+0.9**
COPN	**Copaltepe**	**1.02**	**2**	*i* P	**Pn**	**20 21 19.0**	**+1.3**
COPN				IAML		20 21 34.2	
	comp=Z,4μm,1.0s						
RB28C	**Hialeah**	**1.02**	**19**	*i* P	**Pn**	**20 21 18.7**	**+1.0**
RB28C				IAML		20 21 19.5	
	comp=Z,7μm,1.0s						
MORN	**Al O del Volca**	**1.03**	**67**	*i* P	**Pb**	**20 21 18.1**	**+0.5**
MORN				IAML		20 21 33.8	
	comp=Z,4μm,1.0s						
SAPS	**Ciudad Sandino**	**1.03**	**12**	*i* P	**Pn**	**20 21 18.8**	**+0.9**
SAPS				*i* S	**Sn**	**20 21 34.1**	**+2.1**
SAPS				IAML		20 21 46.2	
	comp=Z,4μm,1.0s						
OMEN	**Al SSO del Vol**	**1.04**	**70**	*i* P	**Pg**	**20 21 17.9**	**-0.3**
OMEN				IAML		20 21 25.9	
	comp=Z,2μm,1.0s						
TISN	**Laguna Tiscapa**	**1.04**	**19**	*i* P	**Pb**	**20 21 18.0**	**+0.2**
TISN				IAML		20 21 18.7	
	comp=Z,870nm,1.0s						
R4DEC	**Barrio San Lui**	**1.06**	**20**	*i* P	**Pb**	**20 21 21.5**	**+3.5**
R4DEC				*i* P	**Pn**	**20 21 19.1**	**+0.9**
R4DEC				IAML		20 21 19.7	
	comp=Z,7μm,1.0s						
R4DEC				*i* S	**Sn**	**20 21 34.2**	**+1.6**
CONN	**Concepcion**	**1.06**	**67**	*i* P	**Pg**	**20 21 18.3**	**-0.3**
CONN				IAML		20 21 25.9	
	comp=Z,15μm,1.0s						
WILN	**Americas 2**	**1.09**	**23**	*i* P	**Pn**	**20 21 19.9**	**+1.3**
WILN				*i* S	**Sn**	**20 21 35.3**	**+1.9**
WILN				IAML		20 21 44.5	
	comp=Z,3μm,1.0s						
APQ3	**Volcan Apoyequ**	**1.14**	**12**	*i* P	**Pn**	**20 21 20.7**	**+1.3**
APQ3				IAML		20 21 20.9	
	comp=Z,4μm,1.0s						
APQ3				*i* S	**Sn**	**20 21 36.6**	**+1.9**
LEVN	**Ruinas Leon Vi**	**1.24**	**0**	*i* P	**Pg**	**20 21 21.8**	**-0.3**
LEVN				*i* S	**Sn**	**20 21 39.0**	**+1.8**
LEVN				IAML		20 21 42.7	
	comp=Z,3μm,1.0s						
MOMN	**Momotombo**	**1.25**	**4**	*i* P	**Pg**	**20 21 21.8**	**-0.5**
MOMN				IAML		20 21 22.7	
	comp=Z,70nm,1.0s						
MOMN				*i* S	**Sn**	**20 21 38.5**	**+1.0**
MOM2	**El Cardon**	**1.29**	**6**	*i* P	**Pb**	**20 21 22.2**	**+0.3**
MOM2				*i* S	**Sn**	**20 21 39.8**	**+1.6**
MOM2				IAML		20 21 41.7	
	comp=Z,1μm,1.0s						
MACN	**El Madrono**	**1.31**	**358**	*i* P	**Pg**	**20 21 23.0**	**-0.3**
MACN				IAML		20 21 23.4	
	comp=Z,2μm,1.0s						
MACN				*i* S	**Sn**	**20 21 40.6**	**+1.8**
CNGA	**Al SSO del Vol**	**1.34**	**357**	*i* P	**Pn**	**20 21 21.4**	**-0.7**
CNGA				*i* S	**Sn**	**20 21 40.1**	**+0.5**
CNGN	**Cerro Negro**	**1.34**	**357**	*e*P	**Pb**	**20 21 23.1**	**+0.3**
CNGN				*e*S	**Sb**	**20 21 39.9**	**0.0**
CNGN	**Cerro Negro**	**1.34**	**357**	*i* P	**Pb**	**20 21 23.2**	**+0.3**
CNGN				*i* S	**Sg**	**20 21 41.9**	**+0.3**
CNGN				IAML		20 21 44.8	
	comp=Z,2μm,1.0s						
PACN	**Al O del Volca**	**1.35**	**353**	*i* P	**Pg**	**20 21 23.8**	**-0.4**
PACN				IAML		20 21 24.2	
	comp=Z,2μm,1.0s						
PACN				*i* S	**Sg**	**20 21 42.3**	**+0.5**
ROCN	**Rota Cerro Neg**	**1.37**	**355**	*i* P	**Pn**	**20 21 23.3**	**+0.8**
ROCN				IAML		20 21 24.0	
	comp=Z,1μm,1.0s						
ROCN				*i* S	**Sg**	**20 21 42.1**	**-0.2**
TEL3	**Telica 3**	**1.43**	**351**	*i* P	**Pn**	**20 21 23.9**	**+0.6**
TEL3				IAML		20 21 26.7	
	comp=Z,5μm,1.0s						
QUEN	**Al S del Volca**	**1.45**	**351**	*i* P	**Pb**	**20 21 25.1**	**+0.4**
QUEN				IAML		20 21 26.1	
	comp=Z,2μm,1.0s						
BRAN	**Las Pilas**	**1.58**	**10**	*i* P	Pn	20 21 19.4	-6.0
BRAN				*i* S	Sn	20 21 34.5	-11
BRAN				IAML		20 21 37.0	
	comp=Z,3μm,1.0s						
CRIN	**San Cristobal**	**1.60**	**345**	*e*P	**Pn**	**20 21 26.7**	**+1.1**
CRIN				*e*S	**Sn**	**20 21 46.7**	**+0.7**
CRIN	**San Cristobal**	**1.60**	**345**	*i* P	**Pn**	**20 21 26.8**	**+1.1**
CRIN				*i* S	**Sg**	**20 21 48.6**	**-1.0**
CRIN				IAML		20 22 05.0	
	comp=Z,3μm,1.0s						
ACON	**Acoyapa**	**1.64**	**60**	*i* P	**Pn**	**20 21 26.2**	**+0.1**
ACON				*i* S	**Sn**	**20 21 47.7**	**+0.9**
ACON				IAML		20 21 52.5	
	comp=Z,530nm,1.0s						
JTS	**Las Juntas de**	**1.85**	**117**	Pn	**Pn**	**20 21 30.0**	**+0.9**
	comp=Z,25nm,0.3s,baz=295,slow=14,SNR=40						
JTS				Sn	**Sb**	**20 21 55.8**	**+1.4**
	comp=Z,36nm,0.3s,baz=219,slow=20,SNR=13						
JTS				LR	LR	20 22 28.9	
	comp=Z,159nm,20.9s,baz=22,slow=49						
SOCE	**Pocosol**	**2.11**	**111**	*i* P	**Pn**	**20 21 34.3**	**+1.6**
SOCE				IAML		20 22 15.3	
	comp=Z,270nm,1.0s						
AMPH	**Amapala**	**2.35**	**335**	*e*P	**Pn**	**20 21 37.1**	**+1.1**
AMPH				*e*S	**Sn**	**20 22 04.6**	**0.0**
CNCH	**Conchagua**	**2.42**	**331**	*e*P	**Pn**	**20 21 39.1**	**+2.1**
INTP	**Intipuca**	**2.47**	**326**	*e*P	**Pn**	**20 21 38.9**	**+1.3**
ESPN	**Las Esperanzas**	**2.50**	**65**	*i* P	**Pb**	**20 21 43.8**	**+1.2**
BLLM	**Bellamira**	**2.77**	**325**	*e*P	**Pn**	**20 21 43.4**	**+1.6**
VSM	**San Miguel**	**2.78**	**325**	*e*P	**Pn**	**20 21 44.9**	**+2.7**
RANC	**El Ranchito**	**2.79**	**325**	*e*P	**Pn**	**20 21 43.9**	**+1.7**
RANC				IAML		20 22 25.2	
	comp=Z,188nm,0.4s						
RANC	**El Ranchito**	**2.79**	**325**	*i* P	**Pn**	**20 21 44.3**	**+2.1**
RANC				*i* S	**Sb**	**20 22 22.1**	**+0.4**
RANC				IAML		20 22 27.9	
	comp=Z,220nm,1.0s						
PACA	**Pacayal**	**2.84**	**324**	*e*P	**Pn**	**20 21 45.1**	**+2.2**
PACA				*e*S	**Sn**	**20 22 17.7**	**+0.8**
PACA				IAML		20 22 30.5	
	comp=Z,1μm,0.5s						
PACA	**Pacayal**	**2.84**	**324**	*i* P	**Pn**	**20 21 45.8**	**+2.9**
PACA				*i* S	**Sb**	**20 22 22.2**	**-0.9**
PACA				IAML		20 22 30.0	
	comp=Z,2μm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.96**	**348**	*e*P	**Pn**	**20 21 46.4**	**+1.9**
TECA	**Tecapa**	**2.97**	**322**	*e*P	**Pn**	**20 21 47.2**	**+2.5**
TECA				*e*S	**Sn**	**20 22 21.4**	**+1.4**
SCLA	**Alcaldia de Sa**	**3.27**	**321**	*e*P	**Pn**	**20 21 50.9**	**+2.2**
NUBE	**Las Nubes**	**4.12**	**312**	*i* P	**Pn**	**20 22 03.8**	**+3.3**
NUBE				*i* S	**Sn**	**20 22 47.7**	**-0.8**
NUBE				IAML		20 22 48.9	
	comp=Z,130nm,1.0s						
APG	**El Apazote**	**5.36**	**316**	Pn	**Pn**	**20 22 20.7**	**+3.1**
	baz=328,slow=16,SNR=1.7						
APG				Sn	**Sn**	**20 23 25.3**	**+6.2**
	baz=72,slow=20,SNR=1.7						
CMIG	**Matias Romero**	**9.95**	**307**	Pn	**Pn**	**20 23 23.6**	**+3.1**
	comp=Z,2.5nm,0.3s,baz=128,slow=10.0,SNR=9.9						
TXAR	**Lajitas Array**	**24.09**	**321**	P	**P**	**20 26 13.2**	**+0.2**
	comp=Z,1.4nm,0.6s,baz=139,slow=9.6,SNR=20						
	comp=Z,1.4nm,0.6s						
LPAZ	**La Paz**	**32.83**	**146**	LR	LR	20 41 19.2	
	comp=Z,54nm,18.2s,baz=198,slow=37						
PDAR	**Pinedale Array**	**37.30**	**332**	P	**P**	**20 28 08.2**	**-1.4**
	comp=Z,0.4nm,0.6s,baz=128,slow=12,SNR=3.7						
PDAR				LR	LR	20 44 41.7	
	comp=Z,27nm,18.4s,baz=116,slow=39						
	comp=Z,0.4nm,0.6s						
ULM	**Lac du Bonnet**	**39.72**	**351**	P	P	20 28 25.2	-4.4
	comp=Z,1.8nm,0.5s,baz=176,slow=9.3,SNR=2.8						
	comp=Z,1.8nm,0.5s						
YKA	**Yellowknife Ar**	**55.07**	**345**	P	**P**	**20 30 25.4**	**-3.4**
	comp=Z,0.4nm,0.7s,baz=136,slow=6.9,SNR=9.1						
	comp=Z,0.4nm,0.7s						
ILAR	**Eielson Array**	**67.53**	**336**	P	**P**	**20 31 51.0**	**-2.2**
	comp=Z,0.4nm,0.6s,baz=133,slow=4.5,SNR=6.2						
	comp=Z,0.4nm,0.6s						

*NOU **19** 20:37:20.1, 37.°36S×177.°52E, h199km, MLv3.7/9, Off E. Coast of N. Island, N.Z.*
*IDC **19** 20:37:24.5±1.7, 37.°59S×177.°25E, h160km±21km, mb2.9/2, mbtmp3.4/2, Error ellipse: s-maj=86.1km s-min=35.2km az=2.0*
*WEL **19** 20:37:25.7±0.9, 37.°5±5.°×17.°7E±.°, h142km±7km, M3.3/46, MLv3.3/46, Error ellipse: s-maj=0.0km s-min=0.0km az=48.6, confirmed*
ISC 19 20:37:24.0±0.9, 37.°41S±0.°05×177.°30E±0.°06, h164km±6km, n114, σ0§90/124, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HAZ	**Te Kaha**	**0.52**	**133**	P	**Pn**	**20 37 46.6**	**-0.3**
WHRZ	**Whale Island**	**0.52**	**210**	P	**Pn**	**20 37 47.4**	**+0.3**
RUGZ	**Raukumara Rang**	**0.63**	**152**	P	**Pn**	**20 37 47.1**	**-0.6**
RUGZ				S	**Sn**	**20 38 03.8**	**-2.3**
OPRZ	**Ohinepanea**	**0.74**	**234**	P	**Pn**	**20 37 48.1**	**-0.1**
MARZ	**Manawahe**	**0.76**	**221**	P	**Pn**	**20 37 48.6**	**+0.2**
PKGZ	**Pakihiroa**	**0.78**	**128**	P	**Pn**	**20 37 48.9**	**+0.4**
PKGZ				S	**Sn**	**20 38 06.7**	**-0.7**
MXZ	**Matakaoa Point**	**0.81**	**101**	P	**Pn**	**20 37 48.6**	**-0.1**
MXZ	**Matakaoa Point**	**0.81**	**101**	P	**Pn**	**20 37 48.6**	**-0.1**
MXZ				S	**Sn**	**20 38 06.7**	**-1.0**
EDRZ	**Edgecumbe**	**0.83**	**213**	P	**Pn**	**20 37 49.3**	**+0.4**
MYRZ	**Mayor Island**	**0.86**	**278**	P	**Pn**	**20 37 48.9**	**-0.1**
URZ	**Urewera**	**0.86**	**190**	P	**Pn**	**20 37 49.1**	**+0.1**
URZ	**Urewera**	**0.86**	**190**	P	**Pn**	**20 37 49.1**	**+0.1**
	155nm,0.5s,baz=350,slow=4.9,SNR=362						
URZ				S	**Sn**	**20 38 06.7**	**-1.7**
	170nm,0.3s,baz=79,slow=14,SNR=24						
URZ	**Urewera**	**0.86**	**190**	P	**Pn**	**20 37 49.1**	**+0.1**
URZ				S	**Sn**	**20 38 06.5**	**-1.9**
TGRZ	**Tauranga**	**0.89**	**249**	P	**Pn**	**20 37 49.3**	**+0.1**
TWGZ	**Tauwhareparae**	**0.94**	**145**	P	**Pn**	**20 37 50.6**	**+1.0**
TWGZ				S	**Sn**	**20 38 07.7**	**+1.2**
MWZ	**Matawai**	**0.94**	**169**	P	**Pn**	**20 37 50.0**	**+0.4**
MWZ				S	**Sn**	**20 38 09.6**	**0.0**
WMGZ	**Waiomatatini S**	**0.97**	**115**	P	**Pn**	**20 37 50.3**	**+0.5**
WMGZ				S	**Sn**	**20 38 09.5**	**-0.2**
MKRZ	**Makatiti**	**0.98**	**222**	P	**Pn**	**20 37 50.3**	**+0.3**
PUZ	**Puketiti**	**1.00**	**131**	P	**Pn**	**20 37 50.6**	**+0.5**
PUZ				S	**Sn**	**20 38 09.4**	**-1.0**
OMRZ	**Omania**	**1.01**	**226**	P	**Pn**	**20 37 50.7**	**+0.5**
KARZ	**Kaharoa**	**1.04**	**234**	P	**Pn**	**20 37 50.8**	**+0.4**
TARZ	**Mount Tarawera**	**1.04**	**217**	P	**Pn**	**20 37 51.4**	**+0.9**
RAGZ	**Rawiri**	**1.09**	**175**	P	**Pn**	**20 37 51.7**	**+0.8**
RRRZ	**Republican Roa**	**1.12**	**214**	P	**Pn**	**20 37 51.7**	**+0.6**
NGRZ	**Ngongotaha**	**1.12**	**232**	P	**Pn**	**20 37 52.0**	**+0.9**
HLRZ	**Highlands Stat**	**1.13**	**222**	P	**Pn**	**20 37 52.0**	**+0.8**
MUGZ	**Murupara**	**1.15**	**201**	P	**Pn**	**20 37 51.7**	**+0.4**
KMRZ	**Kaimai**	**1.17**	**248**	P	**Pn**	**20 37 52.1**	**+0.6**
UTU	**Utuhina**	**1.17**	**229**	P	**Pn**	**20 37 52.8**	**+1.3**
HSRZ	**Hossack Road**	**1.23**	**223**	P	**Pn**	**20 37 53.4**	**+1.3**
RTZ	**Ruatahuna**	**1.23**	**192**	P	**Pn**	**20 37 52.2**	**+0.1**
HRRZ	**Handcock Road**	**1.27**	**219**	P	**Pn**	**20 37 53.3**	**+0.8**
CNGZ	**Carnagh Statio**	**1.29**	**147**	P	**Pn**	**20 37 53.9**	**+1.3**
PRRZ	**Plateau Road**	**1.30**	**213**	P	**Pn**	**20 37 53.4**	**+0.7**
GRRZ	**Galatos Road**	**1.33**	**225**	P	**Pn**	**20 37 54.1**	**+1.1**
RIGZ	**Rimuhau**	**1.34**	**165**	P	**Pn**	**20 37 54.0**	**+0.9**
SNGZ	**Shannon Statio**	**1.37**	**179**	P	**Pn**	**20 37 54.2**	**+0.9**
ALRZ	**Allen Road**	**1.38**	**213**	P	**Pn**	**20 37 54.2**	**+0.8**
KUZ	**Kuaotunu**	**1.43**	**297**	P	**Pn**	**20 37 53.2**	**-0.7**
KUZ	**Kuaotunu**	**1.43**	**297**	P	**Pn**	**20 37 53.2**	**-0.7**
TOZ	**Tahuroa Road**	**1.47**	**257**	P	**Pn**	**20 37 55.0**	**+0.8**
MTHZ	**Maungataniwha**	**1.49**	**194**	P	**Pn**	**20 37 55.2**	**+0.7**
RAHZ	**Arahi**	**1.52**	**186**	P	**Pn**	**20 37 55.7**	**+1.0**
PRGZ	**Paritu Road**	**1.58**	**163**	P	**Pn**	**20 37 56.3**	**+0.8**
MRHZ	**Matea Rd**	**1.58**	**206**	P	**Pn**	**20 37 55.8**	**+0.3**
KUTZ	**Kaahu Road**	**1.59**	**227**	P	**Pn**	**20 37 56.8**	**+1.3**
KNZ	**Kokohu**	**1.64**	**170**	P	**Pn**	**20 37 56.8**	**+0.8**
WHHZ	**Waihua**	**1.67**	**182**	P	**Pn**	**20 37 57.2**	**+1.0**
TLZ	**Tolley Road**	**1.67**	**236**	P	**Pn**	**20 37 57.5**	**+1.1**
NMHZ	**Naumai**	**1.73**	**193**	P	**Pn**	**20 37 58.5**	**+1.4**
MKAZ	**Moumakai**	**1.74**	**279**	P	**Pn**	**20 37 57.5**	**+0.5**
WATZ	**Wairara**	**1.79**	**223**	P	**Pn**	**20 37 58.8**	**+1.1**
MHGZ	**Mahia Peninsul**	**1.80**	**165**	P	**Pn**	**20 37 58.8**	**+1.0**
WIAZ	**Waiheke Island**	**1.84**	**289**	P	**Pn**	**20 37 58.4**	**+0.2**
ARHZ	**Aropaoanui**	**1.87**	**187**	P	**Pn**	**20 37 59.3**	**+0.9**
BKZ	**Black Stump Fm**	**1.87**	**200**	P	**Pn**	**20 37 58.8**	**+0.3**
BKZ	**Black Stump Fm**	**1.87**	**200**	P	**Pn**	**20 37 58.7**	**+0.2**
GRZ	**Great Barrier**	**1.88**	**307**	P	**Pn**	**20 37 58.1**	**-0.6**
RATZ	**Rangitukua**	**1.89**	**219**	P	**Pn**	**20 37 59.7**	**+0.9**
ETAZ	**East Tamaki Re**	**1.95**	**283**	P	**Pn**	**20 38 00.1**	**+0.7**
KBAZ	**Karaka Road Bo**	**1.95**	**279**	P	**Pn**	**20 38 00.5**	**+1.1**
MBAZ	**Motutapu North**	**2.03**	**288**	P	**Pn**	**20 38 00.8**	**+0.5**
MCHZ	**McNeill Hill**	**2.09**	**193**	P	**Pn**	**20 38 02.1**	**+1.2**
EPAZ	**Eden Park BICE**	**2.11**	**284**	P	**Pn**	**20 38 02.0**	**+0.8**
NTVZ	**North Tongarir**	**2.12**	**217**	P	**Pn**	**20 38 02.4**	**+1.0**
TMVZ	**Te Maari**	**2.12**	**216**	P	**Pn**	**20 38 02.1**	**+0.7**
HBAZ	**Herne Bay Bore**	**2.13**	**284**	P	**Pn**	**20 38 02.2**	**+0.8**
ETVZ	**East Tongariro**	**2.13**	**216**	P	**Pn**	**20 38 02.2**	**+0.6**
ABAZ	**Army Bay**	**2.14**	**291**	P	**Pn**	**20 38 02.0**	**+0.5**
AWAZ	**Awhitu Peninsu**	**2.15**	**278**	P	**Pn**	**20 38 02.4**	**+0.8**
WTVZ	**West Tongariro**	**2.17**	**218**	P	**Pn**	**20 38 02.7**	**+0.6**
NNVZ	**North Ngauruho**	**2.17**	**217**	P	**Pn**	**20 38 02.8**	**+0.7**
SNVZ	**South Ngauruho**	**2.21**	**216**	P	**Pn**	**20 38 03.2**	**+0.7**
NGZ	**Ngauruhoe**	**2.21**	**217**	P	**Pn**	**20 38 03.4**	**+0.8**
TWVZ	**Taurewa**	**2.22**	**221**	P	**Pn**	**20 38 03.2**	**+0.6**
HIZ	**Hauiti**	**2.23**	**240**	P	**Pn**	**20 38 04.0**	**+1.5**
HIZ	**Hauiti**	**2.23**	**240**	P	**Pn**	**20 38 04.1**	**+1.5**
WTAZ	**Waiatarua**	**2.23**	**281**	P	**Pn**	**20 38 03.5**	**+0.9**
CKHZ	**Cape Kidnapper**	**2.25**	**184**	P	**Pn**	**20 38 03.4**	**+0.6**
TUVZ	**Tukino**	**2.26**	**214**	P	**Pn**	**20 38 03.5**	**+0.4**
RVAZ	**Riverhead Bore**	**2.27**	**285**	P	**Pn**	**20 38 03.6**	**+0.6**
BHHZ	**Black Hill Sta**	**2.29**	**205**	P	**Pn**	**20 38 03.4**	**0.0**
FWVZ	**Far West T-bar**	**2.30**	**216**	P	**Pn**	**20 38 04.1**	**+0.4**
WHVZ	**Whangaehu Hut**	**2.31**	**215**	P	**Pn**	**20 38 04.0**	**+0.3**
MAVZ	**Mataranga i**	**2.31**	**216**	P	**Pn**	**20 38 04.2**	**+0.4**
MOVZ	**Moawhango**	**2.34**	**211**	P	**Pn**	**20 38 03.6**	**-0.3**
TRVZ	**Turoa**	**2.34**	**216**	P	**Pn**	**20 38 04.3**	**+0.3**
WNVZ	**Wahianoa**	**2.34**	**214**	P	**Pn**	**20 38 04.1**	**+0.1**
KRHZ	**Kereru**	**2.35**	**198**	P	**Pn**	**20 38 03.9**	**-0.1**
KAHZ	**Kahuranaki**	**2.41**	**188**	P	**Pn**	**20 38 05.3**	**+0.6**
PKVZ	**Pokaka**	**2.43**	**219**	P	**Pn**	**20 38 06.5**	**+1.6**
PXZ	**Pawanui**	**2.64**	**187**	P	**Pn**	**20 38 07.6**	**+0.2**
WPHZ	**Waipukurau**	**2.74**	**194**	P	**Pn**	**20 38 09.9**	**+1.3**
WCZ	**Waipu Caves**	**2.79**	**301**	P	**Pn**	**20 38 09.3**	**-0.1**
WAZ	**Wanganui**	**2.96**	**217**	P	**Pn**	**20 38 13.0**	**+1.6**
ANWZ	**Angora Road**	**3.11**	**192**	P	**Pn**	**20 38 13.0**	**-0.2**
BFZ	**Birch Farm**	**3.37**	**194**	P	**Pn**	**20 38 15.6**	**-0.9**
BFZ	**Birch Farm**	**3.37**	**194**	P	**Pn**	**20 38 15.9**	**-0.5**
MRZ	**Mangatainoka R**	**3.51**	**202**	P	**Pn**	**20 38 17.1**	**-1.2**
TIWZ	**Tintock**	**3.54**	**198**	P	**Pn**	**20 38 17.8**	**-0.9**
CPWZ	**Castlepoint**	**3.60**	**193**	P	**Pn**	**20 38 19.0**	**-0.4**
OUZ	**Omahuta**	**3.71**	**305**	P	**Pn**	**20 38 20.7**	**-0.4**
OUZ	**Omahuta**	**3.71**	**305**	P	**Pn**	**20 38 20.7**	**-0.1**
OGWZ	**Otaki Gorge**	**3.79**	**205**	P	**Pn**	**20 38 20.4**	**-1.3**
TMWZ	**Te Maipa**	**3.85**	**196**	P	**Pn**	**20 38 21.3**	**-1.3**
KIW	**Kapiti Island**	**3.92**	**208**	P	**Pn**	**20 38 21.8**	**-1.6**
TRWZ	**Traveller**	**4.18**	**197**	P	**Pn**	**20 38 25.2**	**-1.6**
DUWZ	**D'Urville Isla**	**4.29**	**217**	P	**Pn**	**20 38 27.0**	**-1.2**
SNZO	**South Karori**	**4.39**	**207**	P	**Pn**	**20 38 27.4**	**-2.1**
QRZ	**Quartz Range**	**5.04**	**226**	P	**Pn**	**20 38 36.0**	**-2.1**
ASAR	**Alice Springs**	**39.47**	**278**	P	**P**	**20 44 39.6**	**+1.2**
	0.3nm,0.6s,baz=126,slow=8.6,SNR=6.5						
ASAR				PcP	**PcP**	**20 46 42.1**	**-0.8**
	0.4nm,0.9s,baz=120,slow=4.3,SNR=4.4						
	0.3

CTI	**Castel Tesino**	**66.19**	**335**	P	**P**	**20 49 42.1**	**+0.2**
GERES	**GERESS Array B**	**67.67**	**338**	P	**P**	**20 49 50.9**	**-0.4**
	comp=Z,1.0nm,0.8s,baz=141,slow=4.5,SNR=5.7						
	comp=Z,1.0nm,0.8s						
MKAR	**Makanchi Array**	**67.85**	**26**	P	**P**	**20 49 52.5**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=222,slow=3.9,SNR=2.5						
	comp=Z,0.5nm,0.8s						
BVAR	**Borovoye Array**	**68.98**	**16**	P	**P**	**20 49 59.6**	**+0.3**
	comp=Z,0.2nm,0.4s,baz=194,slow=4.3,SNR=2.1						
	comp=Z,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**69.44**	**22**	P	**P**	**20 50 03.6**	**+1.5**
	comp=Z,0.2nm,0.8s,baz=216,slow=6.9,SNR=4.9						
	comp=Z,0.2nm,0.8s						
ESDC	**Sonseca Array**	**69.74**	**321**	P	**P**	**20 50 04.8**	**+0.4**
	comp=Z,1.0nm,0.8s,baz=128,slow=5.2,SNR=12						
	comp=Z,1.0nm,0.8s						
BELA	**Belgrano 2**	**75.45**	**192**	P	**P**	**20 50 38.6**	**+0.9**
BELA				IAmb	IAmb	20 50 50.9	
	comp=Z,5.2nm,1.2s						
FINES	**FINESS Array B**	**75.69**	**350**	P	**P**	**20 50 39.2**	**0.0**
	comp=Z,1.8nm,0.9s,baz=168,slow=7.1,SNR=4.0						
	comp=Z,1.8nm,0.9s						
HFS	**Hagfors**	**77.17**	**344**	P	**P**	**20 50 47.6**	**0.0**
	comp=Z,1.4nm,0.7s,baz=100,slow=8.1,SNR=4.5						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**77.21**	**180**	P	**P**	**20 50 48.9**	**+0.8**
QSPA				IAmb	IAmb	20 51 05.5	
	comp=Z,3.3nm,1.1s						
QSPA	**South Pole Qui**	**77.21**	**180**	P	**P**	**20 50 49.4**	**+1.3**
	comp=Z,3.2nm,0.9s,baz=248,slow=1.9,SNR=13						
	comp=Z,3.2nm,0.9s						
NOA	**NORSAR Array B**	**78.60**	**344**	P	**P**	**20 50 55.9**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=133,slow=5.9,SNR=3.7						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**83.31**	**113**	P	**P**	**20 51 22.8**	**+1.1**
	comp=Z,1.2nm,0.8s,baz=264,slow=4.8,SNR=24						
	comp=Z,1.2nm,0.8s						
WRA	**Warramunga Arr**	**84.44**	**109**	P	**P**	**20 51 28.8**	**+1.3**
	comp=Z,2.0nm,1.1s,baz=263,slow=3.7,SNR=4.5						
	comp=Z,2.0nm,1.1s						
TXAR	**Lajitas Array**	**147.21**	**305**	PKPbc	**PKPbc**	**20 58 38.2**	**0.0**
	comp=Z,0.3nm,0.7s,baz=66,slow=3.1,SNR=3.1						

IDC ***19*** *20:50:29.7±0.9,25.69N×126.22E,h0km,mb3.5/9, mbtmp3.5/11,ML3.5/2,MS3.4/3,Error ellipse: s-maj=28.9km s-min=20.0km az=69.0*

NIED ***19*** *20:50:31.9,25.66N×126.42E,h14km,MW3.9,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr=7.94; Mθθ2.66; Mϕϕ5.28; Mrθ-0.16; Mθϕ-2.94; Mϕr-3.53; Fault plane solution: M₀8.32000×10¹⁴ NP1: ϕs340.00000°,δ57.00000°,λ-77.00000°. NP2: ϕs136.00000°,δ36.00000°,λ-109.00000°.*

JMA ***19*** *20:50:31.9±0.3,26.1°N×12.6°E±°,h14km±4km,MD4.2/23, MV4.1/23,NEAR OKINAWAJIMA ISLAND*

ISC 19 20:50:31.5±1.3,25.65N±0.06×126.42E±0.06,h15km±9km, n47,σ1§00/46,mb3.5/9,MS3.2/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.75**	**26**	P	**Pg**	**20 50 46.0**	**-0.2**
JKE				S	**Sb**	**20 50 56.2**	**-0.2**
JKE	**Kume jima 2**	**0.75**	**26**	A	A	20 50 46.0	
	comp=E,5.0nm,1.8s,comp=N,6.0nm,1.0s						
JAGN	**Aguni-jima**	**1.19**	**38**	P	**Pb**	**20 50 53.7**	**-0.2**
JOGS	**Gusukube**	**1.28**	**226**	P	**Pb**	**20 50 55.6**	**+0.3**
JOGS	**Gusukube**	**1.28**	**226**	A	A	20 50 55.6	
	comp=E,11nm,2.2s,comp=N,18nm,1.8s						
JIKM	**Ikemajima**	**1.28**	**236**	P	**Pb**	**20 50 55.5**	**0.0**
JIKM				S	**Sn**	**20 51 12.7**	**+0.8**
JIKM	**Ikemajima**	**1.28**	**236**	A	A	20 50 55.5	
	comp=E,8.0nm,1.3s,comp=N,14nm,0.9s						
JMJ	**Miyako jima 2**	**1.32**	**231**	P	**Pg**	**20 50 56.8**	**-0.1**
JJT3	**Tamagusuku3**	**1.32**	**68**	A	A	20 50 55.8	
	comp=E,12nm,1.7s,comp=N,13nm,1.6s						
JMJ2	**Miyako jima3**	**1.34**	**228**	P	**Pb**	**20 50 56.5**	**0.0**
JMJ2				S	**Sg**	**20 51 14.6**	**-0.3**
JMJ2	**Miyako jima3**	**1.34**	**228**	A	A	20 50 56.5	
	comp=E,11nm,1.5s,comp=N,11nm,1.0s						
JIRB	**Irabujima**	**1.40**	**234**	P	**Pn**	**20 50 56.5**	**0.0**
JNTH	**Nagotoyohara**	**1.68**	**59**	*eP*	**Pn**	**20 51 01.9**	**+1.5**
JTJ	**Tarama**	**1.85**	**238**	P	**Pn**	**20 51 03.3**	**+0.5**
JTJ	**Tarama**	**1.85**	**238**	A	A	20 51 03.3	
	comp=E,5.0nm,1.3s,comp=N,5.0nm,1.1s						
JIH	**Iheya**	**1.96**	**45**	P	**Pn**	**20 51 05.2**	**+0.9**
JOW	**Kunigami**	**2.04**	**54**	Pn	**Pn**	**20 51 06.9**	**+1.5**
	comp=N,39nm,0.3s,baz=238,slow=13,SNR=65						
JOW				Sn	**Sn**	**20 51 31.9**	**+1.2**
	comp=N,62nm,0.3s,baz=210,slow=27,SNR=6.9						
JOW				LR	LR	20 51 33.7	
	comp=N,89nm,21.0s,baz=279,slow=30						
	comp=N,154nm,0.3s						
JISG	**Ishigakijimahi**	**2.19**	**241**	P	**Pn**	**20 51 07.5**	**+0.1**
JISG				S	**Sn**	**20 51 33.4**	**-0.8**
JYRO	**Yoronjima**	**2.28**	**53**	P	**Pn**	**20 51 09.6**	**+0.9**
JIJ	**Ishigaki jima**	**2.43**	**239**	P	**Pn**	**20 51 11.1**	**+0.3**
JOKE	**Okinoerabujima**	**2.57**	**48**	P	**Pn**	**20 51 13.5**	**+0.8**
JOKE				*eS*	**Sn**	**20 51 43.5**	**-0.3**
JKRS	**Kuro-shima**	**2.60**	**238**	P	**Pn**	**20 51 13.7**	**+0.5**
JKRS				S	**Sn**	**20 51 45.0**	**+0.4**
JTK	**Tokunoshima**	**3.10**	**46**	P	**Pn**	**20 51 21.1**	**+1.1**
YOJ	**Yonaguni jima**	**3.31**	**250**	P	**Pn**	**20 51 24.0**	**+1.1**
JYNG	**Yonaguni jimaku**	**3.37**	**250**	P	**Pn**	**20 51 24.5**	**+0.8**
JAMN	**Amaminishikomi**	**3.57**	**43**	P	**Pn**	**20 51 27.4**	**+1.0**
JAMN				S	**Sn**	**20 52 07.1**	**-1.2**
JMZ	**Minamidaito 2**	**4.34**	**87**	P	**Pn**	**20 51 36.0**	**-1.0**
JKDJ	**Kitadaitoujima**	**4.41**	**85**	P	**Pn**	**20 51 37.5**	**-0.5**
JKDJ				*eS*	**Sn**	**20 52 27.2**	**-1.8**
YHNB	**Yeheng**	**4.67**	**259**	P	**Pn**	**20 51 44.9**	**+3.2**
YULB	**Yu-li**	**5.18**	**245**	P	**Pn**	**20 51 47.8**	**-0.8**
SSLB	**Suanglung**	**5.30**	**251**	P	**Pn**	**20 51 51.7**	**+1.3**
TWGBT	**Beinan**	**5.63**	**241**	P	**Pn**	**20 51 53.9**	**-0.9**
TPUB	**Ta-pu**	**5.77**	**247**	P	**Pn**	**20 51 57.9**	**+1.1**
KSRS	**Korea Array**	**11.84**	**6**	Pn	**Pn**	**20 53 19.7**	**-0.1**
	comp=N,0.1nm,0.3s,baz=191,slow=12,SNR=1.5						
	comp=N,0.6nm,0.8s						
SONM	**Songino Array**	**27.19**	**330**	P	**P**	**20 56 15.2**	**+0.5**
	comp=N,0.9nm,0.9s,baz=113,slow=11,SNR=3.9						
SONM				LR	LR	21 07 45.2	
	comp=N,41nm,18.9s,baz=246,slow=38						
	comp=N,0.9nm,0.9s						
H11S3	**WAKE ISLAND Hy**	**37.88**	**93**	T	T	21 37 50.1	
	baz=289,slow=76,SNR=4.4						
H11S1	**WAKE ISLAND Hy**	**37.89**	**93**	T	T	21 37 50.1	
	baz=289,slow=76,SNR=4.8						
H11S2	**WAKE ISLAND Hy**	**37.90**	**93**	T	T	21 37 49.3	
	baz=289,slow=76,SNR=4.5						
MKAR	**Makanchi Array**	**40.72**	**313**	P	**P**	**20 58 10.3**	**-1.4**
	comp=N,0.2nm,0.4s,baz=91,slow=8.1,SNR=4.2						
MKAR				LR	LR	21 16 08.2	
	comp=N,35nm,18.6s,baz=154,slow=38						
	comp=N,0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**44.16**	**317**	P	**P**	**20 58 39.0**	**-0.6**
	comp=N,0.2nm,0.3s,baz=110,slow=8.0,SNR=6.1						
	comp=N,0.2nm,0.3s						
WRA	**Warramunga Arr**	**45.97**	**170**	P	**P**	**20 58 55.5**	**+1.2**
	comp=N,1.6nm,0.9s,baz=349,slow=8.1,SNR=4.8						
	comp=N,1.6nm,0.9s						
ASAR	**Alice Springs**	**49.56**	**171**	P	**P**	**20 59 22.8**	**+0.7**
	comp=N,0.5nm,0.8s,baz=356,slow=10.0,SNR=4.8						
	comp=N,0.5nm,0.8s						
FINES	**FINESS Array B**	**72.56**	**330**	P	**P**	**21 01 57.2**	**-0.7**
	comp=N,0.6nm,0.7s,baz=132,slow=2.8,SNR=4.5						
	comp=N,0.6nm,0.7s						
BRTR	**Keskin Array B**	**76.10**	**307**	P	**P**	**21 02 18.2**	**-0.9**
	comp=N,0.4nm,0.7s,baz=102,slow=12,SNR=4.3						
	comp=N,0.4nm,0.7s						
MLR	**Muntele Rosu**	**79.01**	**315**	LR	LR	21 39 09.8	
	comp=N,65nm,18.1s,baz=176,slow=37						
NOA	**NORSAR Array B**	**79.10**	**333**	P	**P**	**21 02 35.1**	**-0.2**
	comp=N,0.2nm,0.7s,baz=52,slow=4.4,SNR=1.2						
	comp=N,0.2nm,0.7s						
YKA	**Yellowknife Ar**	**79.73**	**24**	P	**P**	**21 02 39.4**	**+0.8**
	comp=N,0.5nm,0.8s,baz=301,slow=5.1,SNR=5.2						
	comp=N,0.5nm,0.8s						

IDC ***19*** *20:50:37.6±5.3,36.32N×71.79E,h116km±35km,mb3.3/4, mbtmp3.6/9,MS3.6/1,Error ellipse: s-maj=62.4km s-min=26.0km az=140.0*

NNC ***19*** *20:50:40.4±8.9,37.04N×71.14E,h0km,mb3.8,mpv3.5, Error ellipse: s-maj=90.6km s-min=56.9km az=142.0*

ISC 19 20:50:39.1±1.9,36.6N±0.1×71.5E±0.1,h100km,n14, σ1§67/16,mb3.7/4,3C-2D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**6.48**	**20**	⇓P	**Pn**	**20 52 13.2**	**+1.2**
	1.4nm,0.4s						
AAK				⇓S	**Sn**	**20 53 23.9**	**-0.7**
	0.8nm,0.4s						
AAK	**Ala-Archa**	**6.48**	**20**	P	**Pn**	**20 52 13.4**	**+1.3**
	2.5nm,0.4s,baz=187,slow=6.6,SNR=13						
AAK				S	**Sn**	**20 53 25.7**	**+1.1**
	1.1nm,0.5s,baz=332,slow=22,SNR=1.8						
KK31	**Karatay Array**	**6.56**	**354**	⇑P	**Pn**	**20 52 12.9**	**0.0**
	2.7nm,0.4s,baz=182,slow=13,SNR=32						
KK31				⇑S	**Sn**	**20 53 24.7**	**-1.5**
	1.0nm,0.3s,baz=181,slow=24,SNR=6.6						
GEYT	**Alibeck**	**10.73**	**281**	P	**Pn**	**20 53 12.5**	**+2.8**
	1.4nm,0.5s,baz=96,slow=15,SNR=3.0						
GEYT				S	Sn	20 55 00.3	-7.5
	1.7nm,0.5s,baz=82,slow=22,SNR=4.6						
KURBB	**Kurchatov Arra**	**14.93**	**18**	P	**Pn**	**20 54 06.6**	**+1.9**
	0.2nm,0.7s,baz=204,slow=11,SNR=3.4						
AB31	**Akbulak array**	**15.20**	**330**	⇑P	**Pn**	**20 54 05.4**	**-2.8**
	0.3nm,0.3s,baz=145,slow=11,SNR=22						
AKTO	**Aktyubinsk**	**16.90**	**329**	P	**P**	**20 54 31.5**	**+1.8**
	1.5nm,0.5s,baz=143,slow=10,SNR=3.8						
ZALV	**Zalesovo Beam**	**19.69**	**24**	P	**P**	**20 54 59.3**	**-0.9**
	0.8nm,0.4s,baz=212,slow=9.8,SNR=5.6						
FINES	**FINESS Array B**	**37.63**	**326**	P	**P**	**20 57 43.9**	**+0.1**
	1.7nm,0.9s,baz=126,slow=7.1,SNR=5.7						
	1.7nm,0.9s						
VRAC	**Vranov**	**41.26**	**306**	LR	LR	21 17 48.9	
	comp=Z,74nm,18.2s,baz=234,slow=39						
HFS	**Hagfors**	**43.24**	**322**	P	**P**	**20 58 30.0**	**-0.1**
	1.0nm,0.5s,baz=93,slow=10,SNR=7.4						
	1.0nm,0.5s						
NB2	**NORSAR Subarra**	**44.55**	**323**	P	**P**	**20 58 40.2**	**-0.4**
	comp=Z,0.3nm,0.5s,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**44.55**	**323**	P	**P**	**20 58 40.3**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.8,SNR=4.4						
	comp=Z,0.4nm,0.5s						
TORD	**Torodi Ar. Bea**	**66.10**	**269**	P	**P**	**21 01 13.4**	**-2.5**
	comp=Z,0.3nm,0.5s,baz=51,slow=7.2,SNR=2.5						
	comp=Z,0.3nm,0.5s						

IDC ***19*** *20:54:01.1±0.8,12.87S×45.58E,h0km,mb3.7/12, mbtmp3.8/14,ML5.0/2,Error ellipse: s-maj=24.8km s-min=18.3km az=92.0*

NEIC ***19*** *20:54:02.6±1.5,12.89S±0.04×45.6E±0.1,h10km±1km, mb4.3/9,Error ellipse: s-maj=24.3km s-min=7.0km az=274.0*

ISC 19 20:54:02.2±0.5,12.92S±0.06×45.59E±0.09,h10km,n33, σ1§04/34,mb3.9/15,Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.82**	**165**	Pn	**Pn**	**20 55 29.9**	**+1.1**
	4.6nm,0.3s,baz=339,slow=13,SNR=217						
OPO				Sn	**Sn**	**20 56 31.8**	**-4.0**
	16nm,0.3s,baz=98,slow=22,SNR=12						
ABPO	**Ambohimpanom**	**6.26**	**166**		**Pn**	**20 55 36.0**	**+1.1**
VOI	**Vohitsoka**	**9.01**	**173**	Pn	**Pn**	**20 56 13.0**	**+0.5**
ZOMB	**Zomba**	**10.23**	**255**	*e*Pn	**Pn**	**20 56 28.8**	**-0.5**
ZOMB				*e*Sn	Sn	20 58 13.4	-11
ZOMB	**Zomba**	**10.23**	**255**	*e*Pn	**Pn**	**20 56 28.8**	**-0.5**
ZOMB				*e*Sn	Sn	20 58 13.4	-11
FOMA	**Nahampoana Res**	**12.06**	**174**	Pn	**Pn**	**20 56 54.1**	**-0.1**
RER	**Riviere de l'E**	**12.70**	**132**	Pn	**Pn**	**20 57 02.6**	**-0.4**
KIBK	**Kibwezi**	**12.90**	**324**	Pn	**Pn**	**20 57 03.2**	**-2.6**
LSZ	**Lusaka**	**17.04**	**260**	P	**Pn**	**20 58 01.1**	**+0.2**
	0.8nm,0.3s,baz=89,slow=10,SNR=8.3						
	2.2nm,0.3s						
MATP	**Matopo**	**17.98**	**243**	P	**Pn**	**20 58 13.0**	**+0.4**
	1.0nm,0.6s,baz=272,slow=20,SNR=2.9						
MBAR	**Mbarara**	**19.15**	**309**	P	**P**	**20 58 25.5**	**-0.5**
POGA	**Pongola**	**19.36**	**220**	P	**P**	**20 58 28.6**	**+0.5**
POGA				IAmb	IAmb	20 58 28.6	
	comp=Z,35nm,1.4s						
BOSA	**Boshof**	**24.54**	**227**	P	**P**	**20 59 22.6**	**+0.2**
BOSA				IAmb	IAmb	20 59 48.7	
	comp=Z,6.5nm,1.1s						
BOSA	**Boshof**	**24.54**	**227**	P	**P**	**20 59 22.6**	**+0.2**
	comp=Z,2.0nm,0.7s,baz=60,slow=8.0,SNR=8.1						
	comp=Z,2.0nm,0.7s						
SUR	**Sutherland**	**29.84**	**225**	P	**P**	**21 00 10.8**	**+0.9**
TORD	**Torodi Ar. Bea**	**50.64**	**299**	P	**P**	**21 03 02.4**	**+0.5**
TORD	**Torodi Ar. Bea**	**50.64**	**299**	P	**P**	**21 03 02.5**	**+0.5**
	comp=Z,0.4nm,0.6s,baz=132,slow=6.5,SNR=2.9						
	comp=Z,0.4nm,0.6s						
BRTR	**Keskin Array B**	**53.55**	**349**	P	**P**	**21 03 23.0**	**-0.3**
BRTR	**Keskin Array B**	**53.55**	**349**	P	**P**	**21 03 23.6**	**+0.2**
	comp=Z,0.6nm,0.6s,baz=176,slow=11,SNR=5.6						
	comp=Z,0.6nm,0.6s						
SIMJ	**Simiganj**	**55.79**	**22**	P	**P**	**21 03 40.3**	**+0.6**
SIMJ				IAmb	IAmb	21 03 57.4	
	comp=Z,2.5nm,0.6s						
VSL	**Villasalto**	**62.10**	**329**	P	**P**	**21 04 23.8**	**+0.5**
VSL				IAmb	IAmb	21 04 41.9	
	comp=Z,3.6nm,1.1s						
BURAR	**Bucovina Array**	**62.95**	**345**	P	**P**	**21 04 28.6**	**-0.3**
BURAR				IAmb	IAmb	21 04 29.6	
	comp=Z,1.9nm,1.4s						
ABKAR	**Akbulak array**	**63.19**	**10**	P	**P**	**21 04 29.9**	**-0.4**
ABKAR	**Akbulak array**	**63.19**	**10**	P	**P**	**21 04 29.6**	**-0.7**
GERES	**GERESS Array B**	**67.66**	**338**	P	**P**	**21 04 59.4**	**-0.2**
	comp=Z,1.6nm,1.0s,baz=169,slow=8.8,SNR=5.4						
	comp=Z,1.6nm,1.0s						
MKAR	**Makanchi Array**	**67.94**	**26**	P	**P**	**21 05 00.7**	**-0.5**
	comp=Z,0.4nm,0.9s,baz=230,slow=3.6,SNR=1.9						
	comp=Z,0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**69.52**	**22**	P	**P**	**21 05 12.2**	**+1.3**
	comp=Z,0.2nm,0.9s,baz=225,slow=6.9,SNR=1.8						
	comp=Z,0.2nm,0.9s						
ESDC	**Sonseca Array**	**69.70**	**321**	P	**P**	**21 05 13.3**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=135,slow=5.6,SNR=9.1						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**75.72**	**350**	P	**P**	**21 05 47.7**	**+0.1**
	comp=Z,0.7nm,0.9s,baz=134,slow=10.0,SNR=0.9						
	comp=Z,0.7nm,0.9s						
QSPA	**South Pole Qui**	**77.17**	**180**	P	**P**	**21 05 57.2**	**+1.0**
	comp=Z,1.8nm,1.0s,baz=243,slow=3.0,SNR=6.1						
	comp=Z,1.8nm,1.0s						
HFS	**Hagfors**	**77.18**	**344**	P	**P**	**21 05 55.5**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=141,slow=9.6,SNR=3.9						
	comp=Z,1.4nm,0.7s						
NOA	**NORSAR Array B**	**78.61**	**344**	P	**P**	**21 06 03.9**	**-0.1**
	comp=Z,0.7nm,0.8s,baz=142,slow=7.4,SNR=3.6						
	comp=Z,0.7nm,0.8s						
ASAR	**Alice Springs**	**83.39**	**113**	P	**P**	**21 06 31.1**	**+0.7**
	comp=Z,0.5nm,0.6s,baz=264,slow=4.3,SNR=10						
	comp=Z,0.5nm,0.6s						

GUC ***19*** *20:58:28.1±0.7,30.68S×71.59W,h33km±1km,ML3.9*

NEIC ***19*** *20:58:29.2±3.3,30.63S±0.03×71.74W±0.08,h33km±6km, mb4.2/4,Error ellipse: s-maj=9.4km s-min=4.6km az=86.0*

ISC 19 20:58:28.7±0.8,30.66S±0.03×71.68W±0.06,h32km±5km, n54,σ1§31/65,4C-1D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CO06	**Fray Jorge**	**0.04**	**116**	Pg	**Pb**	**20 58 34.1**	**0.0**
CO06				Sg	**Sb**	**20 58 37.7**	**-0.2**
CO06	**Fray Jorge**	**0.04**	**116**	⇑*i*P	**Pb**	**20 58 34.2**	**0.0**
CO06				*e*S	**Sb**	**20 58 38.2**	**+0.2**
CO06				IAML		20 58 38.5	
	comp=E,33μm,0.3s						
CO02	**Combarbal**	**0.80**	**133**		**Pn**	**20 58 43.2**	**-0.6**
CO02					**Sn**	**20 58 53.8**	**-0.9**
CO02	**Combarbal**	**0.80**	**133**	*e*P	**Pn**	**20 58 42.9**	**-1.0**
CO02				*e*S	**Sn**	**20 58 53.9**	**-0.8**
CO02				IAML		20 58 58.0	
	comp=N,9μm,0.4s						
CO05	**La Serena**	**0.83**	**28**		**Pn**	**20 58 43.5**	**-0.6**
CO05					**Sb**	**20 58 55.3**	**-0.2**
CO05	**La Serena**	**0.83**	**28**	*e*P	**Pn**	**20 58 43.8**	**-0.3**
CO05				*e*S	**Sb**	**20 58 56.2**	**+0.7**
CO05				IAML		20 58 58.2	
	comp=E,5μm,0.2s						
CO05				⇓*e*		20 59 19.8	
CO03	**El Pedregal**	**0.87**	**102**		**Pn**	**20 58 44.2**	**-0.6**
CO03	**El Pedregal**	**0.87**	**102**	*e*P	**Pn**	**20 58 44.2**	**-0.6**
CO03				*e*S	**Sn**	**20 58 56.0**	**-0.5**
CO03				IAML		20 58 58.0	
	comp=E,4μm,0.2s						
GO04	**Tololo Observa**	**0.90**	**58**		**Pn**	**20 58 45.2**	**-0.2**
GO04					**Sb**	**20 58 57.7**	**-0.2**
GO04	**Tololo Observa**	**0.90**	**58**	*e*P	**Pn**	**20 58 45.2**	**-0.2**
GO04				*e*S	**Sb**	**20 58 57.9**	**+0.1**
LCO	**Las Campanas**	**1.85**	**28**		**Pn**	**20 58 58.8**	**+0.4**
LCO	**Las Campanas**	**1.85**	**28**	⇑*e*P	**Pn**	**20 58 58.7**	**+0.3**
AC05	**El Transito**	**2.19**	**34**		**Pn**	**20 59 04.2**	**+1.2**
AC05	**El Transito**	**2.19**	**34**	⇑*e*P	**Pn**	**20 59 04.5**	**+1.5**
VA03	**San Esteban**	**2.31**	**156**		**Pn**	**20 59 06.5**	**+1.8**
VA03	**San Esteban**	**2.31**	**156**	*e*P	**Pn**	**20 59 06.4**	**+1.8**
VA03				*e*S	**Sb**	**20 59 35.5**	**-2.6**
VA03				IAML		20 59 45.9	
	comp=N,1μm,0.3s						
VA01	**Torpederas**	**2.36**	**179**	Pn	**Pn**	**20 59 05.7**	**+0.4**
AC04	**Llanos de Chal**	**2.50**	**12**		**Pn**	**20 59 07.0**	**-0.1**
AC04	**Llanos de Chal**	**2.50**	**12**	⇑*e*P	**Pn**	**20 59 07.0**	**-0.1**
PEL	**Peldehue**	**2.62**	**161**		**Pn**	**20 59 10.0**	**+1.2**
PEL	**Peldehue**	**2.62**	**161**	*e*P	**Pn**	**20 59 10.1**	**+1.2**
ZON	**Zonda**	**2.72**	**110**		**Pn**	**20 59 13.1**	**+2.8**
MT05	**Renca**	**2.84**	**164**		**Pn**	**20 59 13.4**	**+1.5**
MT05	**Renca**	**2.84**	**164**	*e*P	**Pn**	**20 59 13.9**	**+1.9**
MT14	**Cerro Cal¡n**	**2.90**	**161**	*e*P	**Pn**	**20 59 14.8**	**+2.1**
MT14				IAML		20 59 59.9	
	comp=E,698nm,0.6s						
FCH	**Farellones**	**2.91**	**156**	*e*P	**Pn**	**20 59 15.2**	**+2.0**
FCH				IAML		21 00 01.5	
	comp=N,241nm,0.3s						
MT16	**CCHEN**	**2.93**	**161**	Pn	**Pn**	**20 59 14.8**	**+1.6**
VA05	**Santo Domingo**	**2.99**	**179**		**Pn**	**20 59 15.1**	**+1.2**
VA05	**Santo Domingo**	**2.99**	**179**	*e*P	**Pn**	**20 59 15.8**	**+1.9**
VA05				IAML		21 00 05.9	
	comp=E,498nm,0.4s						
MT04	**Ro Olivares**	**3.04**	**155**	*e*P	**Pn**	**20 59 16.8**	**+2.0**
MT04				IAML		21 00 02.6	
	comp=N,277nm,0.6s						
MT08	**Bocatoma Ro**	**3.12**	**154**		**Pn**	**20 59 17.4**	**+1.5**
MT09	**Talagante**	**3.17**	**170**	Pn	**Pn**	**20 59 17.4**	**+1.0**
MT12	**Pirque**	**3.21**	**163**	*e*P	**Pn**	**20 59 18.6**	**+1.6**
MT12				IAML		21 00 09.4	
	comp=E,589nm,0.7s						
MT01	**Popeta**	**3.22**	**174**		**Pn**	**20 59 17.5**	**+0.4**
MT13	**San Alfonso**	**3.30**	**159**		**Pn**	**20 59 19.7**	**+1.5**
MT13	**San Alfonso**	**3.30**	**159**	*e*P	**Pn**	**20 59 20.4**	**+2.2**
MT13				IAML		21 00 15.3	
	comp=E,319nm,0.5s						
LMEL	**Las Melosas**	**3.42**	**159**		**Pn**	**20 59 21.8**	**+1.8**
LMEL	**Las Melosas**	**3.42**	**159**	*e*P	**Pn**	**20 59 21.9**	**+2.0**
LMEL				*e*S	**Sn**	**21 00 02.9**	**+3.4**
BO04	**La Punta**	**3.45**	**165**		**Pn**	**20 59 21.2**	**+1.0**
AC06	**Mina Casimiro**	**3.48**	**20**	Pn	**Pn**	**20 59 20.1**	**-0.6**
BO01	**Tunca**	**3.76**	**172**	Pn	**Pn**	**20 59 25.0**	**+0.6**
BO02	**Sierra Bellavi**	**4.20**	**170**		**Pn**	**20 59 31.4**	**+0.9**
GO05	**Huala**	**4.35**	**183**	Pn	**Pn**	**20 59 31.4**	**-1.2**
GO02	**Mina Guanaco**	**5.78**	**19**		**Pn**	**20 59 51.7**	**-0.8**
PB14	**IPOC Station P**	**6.11**	**11**		**Pn**	**20 59 57.0**	**-0.1**
VA04	**Juan Fernndez**	**6.75**	**242**	Pn	**Pn**	**21 00 03.8**	**-1.8**
TRQA	**Tornquist**	**10.89**	**135**	Pn	**Pn**	**21 01 04.2**	**+1.9**
ITQB	**Itaqui**	**13.07**	**90**	Pn	**Pn**	**21 01 31.9**	**-0.2**
CPUP	**Villa Florida**	**13.33**	**75**	Pn	**Pn**	**21 01 36.9**	**+1.2**
LPAZ	**La Paz**	**14.67**	**14**	Pn	**Pn**	**21 01 54.8**	**+0.2**
PLTB	**Pedras Altas**	**15.51**	**99**	Pn	**Pn**	**21 02 04.7**	**-0.4**
SNAA	**Sanae**	**54.57**	**159**	P	**P**	**21 07 53.6**	**+0.1**
QSPA	**South Pole Qui**	**59.57**	**180**	P	**P

PMBG IAmb IAmb 21 04 56.4
comp=Z,36nm,1.0s
FURI Furi 22.67 342 P **P** **21 05 01.6 -1.0**
FURI IAmb IAmb 21 05 22.3
comp=Z,23nm,0.7s
ATD Arta Tunnel 24.36 353 LR LR 21 14 05.4
comp=Z,17nm,19.6s,baz=168,slow=35
BOSA Boshof 24.65 227 P **P** **21 05 19.9 -1.7**
BOSA IAmb IAmb 21 05 21.9
comp=Z,23nm,1.2s
BOSA Boshof 24.65 227 *i* P **P** **21 05 21.5 -0.1**
BOSA Boshof 24.65 227 *eP* **P** **21 05 20.7 -1.0**
BOSA IAmb IAmb 21 05 21.1
comp=Z,12nm,0.9s
BOSA Boshof 24.65 227 P **P** **21 05 20.9 -0.7**
comp=Z,9.5nm,0.9s,baz=54,slow=8.6,SNR=16
BOSA LR LR 21 15 05.7
comp=Z,323nm,20.0s,baz=44,slow=37
comp=Z,9.5nm,0.9s
BOSA Boshof 24.65 227 *i* P **P** **21 05 19.9 -1.7**
GRHM Grahamstown, E 26.91 218 P **P** **21 05 41.3 -0.6**
GRHM IAmb IAmb 21 05 51.2
comp=Z,22nm,0.9s
TSUM Tsumeb 27.69 253 P **P** **21 05 48.8 -0.5**
TSUM Tsumeb 27.69 253 LR LR 21 16 00.3
comp=Z,110nm,18.9s,baz=82,slow=35
SUR Sutherland 29.95 225 P **P** **21 06 09.1 -0.2**
SUR Sutherland 29.95 225 LR LR 21 17 43.4
comp=Z,247nm,19.8s,baz=48,slow=36
RAYN Ar Rayn 36.13 360 P **P** **21 07 02.8 -0.2**
WSAR Wadi Sarin 38.03 20 LR LR 21 20 10.5
comp=Z,302nm,20.8s,baz=212,slow=32
UOSS Minazif 38.93 15 P **P** **21 07 26.6 -0.1**
EIL Elat 43.49 346 LR LR 21 24 13.6
comp=Z,120nm,22.0s,baz=202,slow=33
MMAI Mount Meron Ar 46.63 348 P **P** **21 08 29.8 +0.7**
comp=Z,1.9nm,0.5s,baz=150,slow=10,SNR=7.1
MMAI LR LR 21 28 47.6
comp=Z,237nm,18.3s,baz=110,slow=37
comp=Z,1.9nm,0.5s
HRA Herat 49.53 18 P **P** **21 08 51.7 -0.1**
GAZ Gaziantep 50.37 351 P **P** **21 08 58.5 +0.6**
GAZ IAmb IAmb 21 09 00.8
comp=Z,15nm,1.3s
TOA0 Torodi Ar. Sit 50.65 299 P **P** **21 09 00.1 -0.3**
TORD Torodi Ar. Bea 50.65 299 P **P** **21 09 00.0 -0.3**
TORD Torodi Ar. Bea 50.65 299 P **P** **21 09 00.7 +0.4**
comp=Z,5.6nm,1.1s,baz=128,slow=7.1,SNR=17
TORD PP **PP** **21 10 55.0 -1.5**
comp=Z,1.8nm,1.1s,baz=110,slow=8.5,SNR=3.6
TORD LR LR 21 31 39.1
comp=Z,389nm,18.2s,baz=131,slow=38
comp=Z,5.6nm,1.1s
KARP Karpathos 51.20 341 P **P** **21 09 05.1 +0.9**
KARP IAmb IAmb 21 09 07.2
comp=Z,20nm,1.0s
KARP Karpathos 51.20 341 P **P** **21 09 05.4 +1.2**
comp=Z,23nm,1.3s
GURO Guroymak-BITLI 51.22 356 P **P** **21 09 05.1 +0.7**
ELL Elmali 51.50 344 P **P** **21 09 07.0 +0.5**
IDI Anoyia 51.74 338 P **P** **21 09 08.6 +0.3**
IDI IAmb IAmb 21 09 10.4
comp=Z,8.3nm,0.9s
GEYT Alibeck 51.83 13 P **P** **21 09 08.9 +0.1**
GEYT Alibeck 51.83 13 P **P** **21 09 09.3 +0.5**
comp=Z,1.6nm,0.7s,baz=240,slow=12,SNR=7.0
GEYT LR LR 21 30 18.8
comp=Z,128nm,21.5s,baz=176,slow=35
comp=Z,1.6nm,0.7s
GYA0B ALIBECK ARRAY 51.83 13 P **P** **21 09 09.5 +0.6**
KBL Kabul 52.09 25 P **P** **21 09 11.2 +0.1**
KBL IAmb IAmb 21 09 26.0
comp=Z,10nm,1.0s
ARPR Arapgir-MALATY 52.10 353 P **P** **21 09 11.2 +0.2**
ARPR IAmb IAmb 21 09 13.8
comp=Z,21nm,1.2s
BNN Bunyan 52.22 350 P **P** **21 09 11.8 -0.1**
BNN IAmb IAmb 21 09 14.3
comp=Z,33nm,1.3s
ISP Isparta 52.35 345 P **P** **21 09 12.0 -0.8**
GNI Garni 52.71 359 P **P** **21 09 16.1 +0.6**
GNI IAmb IAmb 21 09 25.8
comp=Z,18nm,1.0s
GNI Garni 52.71 359 P **P** **21 09 17.2 +1.7**
comp=Z,19nm,1.0s
TAM Tamanrasset 52.90 312 P **P** **21 09 17.5 +0.3**
BR104 Keskin Array S 53.45 348 P **P** **21 09 21.7 +0.8**
comp=Z,5.0nm,0.9s,comp=Z,54nm
BR105 Keskin Array S 53.46 348 P **P** **21 09 22.0 +1.0**
comp=Z,7.5nm,1.1s,comp=Z,71nm
BR131 Keskin Array S 53.47 348 P **P** **21 09 21.1 +0.1**
BR131 IAmb IAmb 21 09 22.8
comp=Z,17nm,1.4s
BRTR Keskin Array B 53.47 348 P **P** **21 09 21.2 +0.1**
BRTR Keskin Array B 53.47 348 P **P** **21 09 21.9 +0.8**
comp=Z,4.4nm,0.8s,baz=170,slow=10,SNR=32
BRTR LR LR 21 33 17.0
comp=Z,103nm,18.3s,baz=163,slow=37
comp=Z,4.4nm,0.8s
BR106 Keskin Array S 53.48 348 P **P** **21 09 22.0 +0.8**
comp=Z,7.7nm,1.0s,comp=Z,72nm
ANTO Ankara 53.78 348 P **P** **21 09 23.4 +0.2**
ANTO IAmb IAmb 21 10 59.9
comp=Z,7.6nm,0.6s
DBIC Dimbokro 53.80 288 P **P** **21 09 23.8 -0.1**
DBIC IAmb IAmb 21 10 46.6
comp=Z,38nm,1.6s
DBIC Dimbokro 53.80 288 P **P** **21 09 24.7 +0.9**
comp=Z,3.3nm,0.7s,baz=95,slow=8.3,SNR=5.2
DBIC LR LR 21 32 20.6
comp=Z,253nm,18.6s,baz=92,slow=36
comp=Z,3.3nm,0.7s
ITM Ithomi 54.52 337 P **P** **21 09 28.8 +0.2**
MDUB Mudurnu 54.70 347 P **P** **21 09 30.3 +0.3**
BALB Balikesir 54.76 343 P **P** **21 09 31.1 +0.7**
BALB IAmb IAmb 21 09 32.8
comp=Z,17nm,0.9s
ONI Oni 55.18 358 P **P** **21 09 33.4 0.0**
EZN Ezine 55.39 342 P **P** **21 09 35.3 +0.5**
comp=Z,17nm,0.9s
SIMJ Simiganj 55.68 22 P **P** **21 09 37.5 +0.3**
SIMJ IAmb IAmb 21 09 51.3
comp=Z,19nm,0.9s
CHGR Chuyangaron 55.73 22 P **P** **21 09 37.2 -0.3**
MAW Mawson 55.89 172 P **P** **21 09 39.4 +1.4**
comp=Z,3.2nm,0.6s,baz=336,slow=11
comp=Z,3.2nm,0.6s
AGG Agios Georgios 55.99 338 P **P** **21 09 38.9 -0.4**
AGG IAmb IAmb 21 09 40.5
comp=Z,13nm,0.9s
KBZ Khabaz 56.34 358 P **P** **21 09 42.9 +1.3**
comp=Z,5.6nm,0.8s,baz=187,slow=5.0,SNR=16
comp=Z,5.6nm,0.8s
GAR Garm 56.47 23 P **P** **21 09 42.5 -0.3**
KIV Kislovodsk 56.57 357 ⇑P **P** **21 09 44.6 +1.2**
KIV Kislovodsk 56.57 357 P **P** **21 09 43.7 +0.3**
KIV Kislovodsk 56.57 357 P **P** **21 09 44.3 +0.9**
comp=Z,13nm,1.2s
KULM Kulim 57.52 75 P **P** **21 09 50.5 -0.1**
KULM IAmb IAmb 21 10 58.5
comp=Z,11nm,1.1s
FNA Florina 57.89 338 P **P** **21 09 53.1 +0.4**
VAE Valguarnera 58.01 331 LR LR 21 33 36.3
comp=Z,100nm,21.8s,baz=130,slow=35
TIP Timpagrande 58.34 334 P **P** **21 09 57.1 +1.1**
TIP Timpagrande 58.34 334 P **P** **21 09 56.9 +1.0**
comp=Z,5.3nm,1.4s
ELND Elena 58.37 343 ⇑P **P** **21 09 56.2 +0.2**
TIR Tirane 58.94 338 P **P** **21 10 01.3 +1.4**
comp=Z,47nm,1.4s
KSH Kashi 59.24 27 P **P** **21 10 03.1 +0.8**
KSH pP **pwP** **21 10 08.9 0.0**
KEST Kesra 59.26 326 P **P** **21 10 03.8 +1.4**
comp=Z,8.9nm,0.9s,baz=132,slow=2.4,SNR=7.6
KEST LR LR 21 36 44.7
comp=Z,203nm,19.5s,baz=160,slow=37
comp=Z,8.9nm,0.9s
HARR Harsova 59.47 345 ⇑P **P** **21 10 04.0 +0.5**
PUK Puka 59.53 338 P **P** **21 10 04.8 +0.7**
MYKOM Kota Tinggi 59.54 80 P **P** **21 10 04.5 -0.1**
CFR Carcaliu 59.88 346 ⇑P **P** **21 10 06.7 +0.4**
SBJI Serang 59.91 90 P P 21 10 23.5 +16
BLKB Belogradchik 59.97 341 ⇑P **P** **21 10 07.4 +0.3**
PDG Podgorica 60.10 338 ⇑P **P** **21 10 08.9 +1.0**
PDG Podgorica 60.10 338 P **P** **21 10 08.2 +0.2**
PDG IAmb IAmb 21 10 10.4
comp=Z,15nm,1.0s
KK31 Karatay Array 60.13 21 P **P** **21 10 08.7 +0.4**
KK31 IAmb IAmb 21 10 17.0
comp=Z,8.7nm,0.9s
KKAR Karatay Array 60.13 21 P **P** **21 10 07.8 -0.4**
KKAR Karatay Array 60.13 21 P **P** **21 10 08.6 +0.4**
KKAR IAmb IAmb 21 10 17.0
comp=Z,8.7nm,0.9s
ISR Istrita 60.22 345 P **P** **21 10 10.1 +1.3**
comp=Z,9.8nm,1.1s
BOVS Bovan 60.30 340 ⇑P **P** **21 10 09.3 0.0**
BISRR Bisoca 60.58 345 P **P** **21 10 12.6 +1.4**
comp=Z,48nm,0.9s
ELIB Princess Elisa 60.60 188 *dP* **P** **21 10 12.4 +1.2**
comp=Z,8.0nm,1.0s
ODBI Odobesti 60.69 345 P **P** **21 10 12.4 +0.5**
comp=Z,11nm,0.9s,comp=Z,364nm
NE56 Odesa 60.70 348 P **P** **21 10 12.3 +0.4**
MLR Muntele Rosu 60.72 344 ⇑P **P** **21 10 12.7 +0.3**
MLR Muntele Rosu 60.72 344 P **P** **21 10 12.6 +0.3**
MLR IAmb IAmb 21 10 17.1
comp=Z,22nm,2.0s
MLR Muntele Rosu 60.72 344 P **P** **21 10 12.9 +0.6**
comp=Z,4.6nm,1.0s
PLOR5 Plostina Array 60.87 345 P **P** **21 10 13.8 +0.6**
comp=Z,7.7nm,1.9s
VRI Vrincioaia 60.87 345 ⇑P **P** **21 10 13.6 +0.5**
VRI Vrincioaia 60.87 345 P **P** **21 10 13.8 +0.6**
comp=Z,12nm,1.4s
PLOR Plostina 60.87 345 ⇑P **P** **21 10 13.4 +0.2**
PLOR3 Plostina Array 60.88 345 P **P** **21 10 13.9 +0.6**
comp=Z,9.1nm,1.3s
VOIR 60.91 344 ⇑P **P** **21 10 13.9 +0.3**
VOIR 60.91 344 P **P** **21 10 13.6 0.0**
comp=Z,8.1nm,1.4s
COVR Voineasa-Covas 60.98 345 ⇑P **P** **21 10 14.2 +0.2**
CM31 Chiang Mai Arr 61.05 60 P **P** **21 10 15.5 +0.6**
CMAR Chiang Mai Arr 61.05 60 P **P** **21 10 15.5 +0.6**
CMAR Chiang Mai Arr 61.05 60 P **P** **21 10 16.3 +1.4**
comp=Z,1.3nm,0.7s,baz=251,slow=9.0,SNR=11
CMAR LR LR 21 32 38.6
comp=Z,20nm,20.4s,baz=230,slow=32
comp=Z,1.3nm,0.7s
HERR Herculane 61.19 341 ⇑P **P** **21 10 16.0 +0.7**
AAK Ala-Archa 61.21 24 LR LR 21 37 04.7
comp=Z,39nm,19.1s,baz=226,slow=36
CHTO Chiang Mai 61.21 60 P **P** **21 10 16.0 -0.1**
LEM Lembang 61.23 91 LR LR 21 32 17.6
comp=Z,70nm,21.0s,baz=195,slow=32
LOT Lotru 61.29 343 ⇑P **P** **21 10 16.1 -0.1**
MDVR Moldovita 61.32 341 ⇑P **P** **21 10 16.5 +0.2**
OZUR 61.32 344 ⇓P **P** **21 10 15.7 -0.6**
GZR Gura Zlata 61.53 342 ⇑P **P** **21 10 18.8 +1.0**
INTR Introdacqua 61.90 334 P **P** **21 10 20.0 -0.4**
INTR IAmb IAmb 21 10 21.5
comp=Z,13nm,1.1s
BZS Buzias 62.09 341 ⇑P **P** **21 10 22.1 +0.7**
FRGS Fruska Gora 62.28 340 ⇓P **P** **21 10 22.5 -0.2**
FRGS Fruska Gora 62.28 340 P **P** **21 10 23.2 +0.5**
comp=Z,19nm,1.3s
MARR Marisel-Cluj 62.59 343 ⇑P **P** **21 10 25.5 +0.6**
SORM Soroca 62.62 347 ⇓P **P** **21 10 24.2 -0.6**
SORM Soroca 62.62 347 P **P** **21 10 23.6 -1.2**
comp=Z,13nm,1.3s
DRGR 62.82 342 ⇑P **P** **21 10 27.5 +1.2**
BURAR Bucovina Array 62.88 345 ⇑P **P** **21 10 28.0 +1.2**
BURAR Bucovina Array 62.88 345 P **P** **21 10 27.1 +0.3**
BURAR IAmb IAmb 21 10 28.8
comp=Z,17nm,1.7s
BUR08 Bucovina Ar. S 62.91 345 P **P** **21 10 26.9 -0.1**
BUR08 IAmb IAmb 21 10 29.5
comp=Z,12nm,1.4s
ABKAR Akbulak array 63.09 10 P **P** **21 10 28.0 0.0**
ABKAR Akbulak array 63.09 10 P **P** **21 10 27.9 0.0**
NDNU Novodnistrovsk 63.27 347 P **P** **21 10 28.4 -0.8**
KMPD K-Podol'skiy 63.45 346 P **P** **21 10 29.8 -0.6**
KMPD P **pP** **21 10 30.1 -2.6**
MORH Mrgy, Hungar 63.60 339 ⇑P **P** **21 10 32.4 +1.0**
MORH Mrgy, Hungar 63.60 339 P **P** **21 10 32.0 +0.6**
comp=Z,13nm,1.2s
AKTO Aktyubinsk 63.92 9 LR LR 21 41 11.1
comp=Z,128nm,19.5s,baz=124,slow=39
TRSU Trosnyk 63.93 343 P **P** **21 10 34.5 +0.9**
KORU Korolevo 63.94 343 P **P** **21 10 33.9 +0.3**
HORU Horodok 64.07 346 P **P** **21 10 34.0 -0.5**
STNU Starunia 64.07 345 P **P** **21 10 34.6 +0.1**
MEZ Mezhgor'ye 64.16 344 P **P** **21 10 35.9 +0.8**
MUKU Mukachevo 64.33 343 P **P** **21 10 36.6 +0.4**
LUBAR Lubar, Ukraine 64.43 347 P **P** **21 10 36.1 -0.7**
TROLL Troll, Antarti 64.47 194 ⇑P **P** **21 10 39.0 +1.9**
comp=Z,1µm,0.8s
HOLU Holmets 64.48 343 P **P** **21 10 37.5 +0.3**
LEGS Legarje 64.58 337 *i* P **P** **21 10 38.2 +0.3**
DOBS Dobrina 64.69 337 *i* P **P** **21 10 39.2 +0.6**
AK07 Malin Array Si 64.73 348 P **P** **21 10 38.6 -0.2**
AK10 Malin Array Si 64.77 349 P **P** **21 10 38.6 -0.4**
AK09 Malin Array Si 64.78 349 P **P** **21 10 38.9 -0.2**
AK09 pP **sP** **21 10 42.8 +0.5**
PDKS Podkum 64.80 337 *eP* **P** **21 10 40.1 +0.8**
AK05 Malin Array Si 64.80 348 P **P** **21 10 39.1 -0.1**
AK08 Malin Array Si 64.80 349 P **P** **21 10 38.9 -0.3**
MPLH Magyarpolny 64.81 339 P **P** **21 10 39.8 +0.4**
comp=Z,38nm,1.2s
AK13 Malin Array Si 64.82 348 P **P** **21 10 39.2 -0.1**
AK14 Malin Array Si 64.83 348 P **P** **21 10 39.4 0.0**
AK12 Malin Array Si 64.83 348 P **P** **21 10 39.4 0.0**
AK02 Malin Array Si 64.83 349 P **P** **21 10 38.9 -0.5**
AK11 Malin Array Si 64.86 348 P **P** **21 10 39.0 -0.6**
AK01 Malin Array Si 64.86 349 P **P** **21 10 39.3 -0.3**
KIEV Kiev 64.87 349 ⇓P **P** **21 10 39.5 -0.2**
KIEV Kiev 64.87 349 P **P** **21 10 39.2 -0.4**
KIEV IAmb IAmb 21 10 52.5
comp=Z,9.2nm,1.2s
KIEV Kiev 64.87 349 P **P** **21 10 39.5 -0.2**
comp=Z,27nm,1.1s
AKASG Malin Array Be 64.87 349 P **P** **21 10 39.5 -0.2**
comp=Z,2.3nm,0.7s,baz=169,slow=5.4,SNR=15
AKASG LR LR 21 38 10.3
comp=Z,83nm,20.7s,baz=151,slow=35
comp=Z,2.3nm,0.7s
AKBB Malin Array Si 64.87 349 P **P** **21 10 39.4 -0.3**
KOLS Kolonicke sedl 64.88 343 *eP* **P** **21 10 42.2 +2.4**
MI29 MI29, Kamyanyy 64.88 348 P **P** **21 10 40.0 +0.2**
AK03 Malin Array Si 64.90 349 P **P** **21 10 39.6 -0.2**
BELG Belogornoye 64.98 1 LR LR 21 41 08.1
comp=Z,179nm,20.5s,baz=203,slow=38
CRVS Cervenica-Dubn 65.08 343 *eP* **P** **21 10 41.5 +0.3**
SRO Srobarova 65.10 340 *eP* **P** **21 10 41.7 +0.4**
MI30 MI30,Zelenitsa 65.12 348 P **P** **21 10 41.1 -0.2**
SOKA Soboth 65.30 337 *i* P **P** **21 10 43.1 +0.4**
comp=Z,6.8nm,0.8s,SNR=5.5
OBKA Obir 65.34 337 *i* P **P** **21 10 43.5 +0.5**
comp=Z,17nm,1.3s
KWP Kalwaria Pacla 65.39 344 P **P** **21 10 43.1 -0.1**
KWP Kalwaria Pacla 65.39 344 P **P** **21 10 43.2 +0.1**
comp=Z,8.0nm,1.9s
UBPT Khong Chiam 65.45 67 P **P** **21 10 43.8 -0.3**
VYHS Vyhne 65.53 341 *eP* **P** **21 10 44.4 +0.4**
SNAA Sanae 65.56 195 P **P** **21 10 44.0 0.0**
SNAA IAmb IAmb 21 10 47.0
comp=Z,27nm,1.9s
SNAA Sanae 65.56 195 ⇑P **P** **21 10 45.2 +1.2**
comp=Z,67nm,0.8s
SNAA Sanae 65.56 195 P **P** **21 10 44.3 +0.3**
comp=Z,3.2nm,0.9s,baz=92,slow=6.8,SNR=4.6
SNAA LR LR 21 37 21.7
comp=Z,157nm,18.1s,baz=99,slow=34
comp=Z,3.2nm,0.9s
ARSA Arzberg 65.60 338 *i* P **P** **21 10 45.0 +0.5**
comp=Z,10nm,0.8s,SNR=11
STHS Stebnicka Huta 65.61 343 *eP* **P** **21 10 43.9 -0.7**
RONA Rosalia, Austr 65.70 339 *i* P **P** **21 10 45.6 +0.4**
comp=Z,16nm,0.7s,SNR=12
MYKA Terra Mystica 65.79 336 *i* P **P** **21 10 46.2 +0.4**
comp=Z,11nm,1.3s
ZST Bratislava 65.84 339 *eP* **P** **21 10 46.3 +0.2**
NIE Niedzica 65.89 342 P **P** **21 10 46.9 +0.5**
comp=Z,2.7nm,1.8s
LANS Liptovska Anna 65.91 341 *eP* **P** **21 10 47.1 +0.6**
MODS Modra-Piesok 65.94 340 *eP* **P** **21 10 47.0 +0.3**
MDT Midelt 66.04 315 LR LR 21 41 00.4
comp=Z,269nm,18.1s,baz=130,slow=37
CONA Conrad Observa 66.05 339 *i* P **P** **21 10 47.8 +0.3**
comp=Z,10nm,0.9s,SNR=8.8
RNPP5 Staryi Chortor 66.07 347 P **P** **21 10 47.2 -0.3**
JAVC Velka Javorina 66.22 340 *eP* **P** **21 10 49.2 +0.6**
KBA Koelnbreinsper 66.28 336 *i* P **P** **21 10 49.0 -0.1**
comp=Z,9.0nm,0.9s,SNR=5.3
ABTA Abfaltersbach 66.33 336 *i* P **P** **21 10 49.5 +0.2**
comp=Z,11nm,1.4s
VNA2 Neumayer--Watz 66.35 197 ⇑P **P** **21 10 49.7 +0.6**
comp=Z,4.6nm,0.6s,baz=49,slow=5.5
VNA1 Neumayer--Stat 66.45 197 ⇑P **P** **21 10 50.4 +0.7**
comp=Z,11nm,1.0s
MOA Molln 66.56 338 *i* P **P** **21 10 50.8 0.0**
comp=Z,11nm,0.9s,SNR=9.9
MAUC Maruska 66.61 341 *eP* **P** **21 10 51.5 +0.5**
BIOA Bad Ischl, Aus 66.67 337 *i* P **P** **21 10 51.0 -0.4**
comp=Z,7.9nm,0.8s,SNR=5.9
LESA Schwarzleotal 66.82 336 *i* P **P** **21 10 52.0 -0.5**
comp=Z,6.2nm,0.9s
KRUC Moravsky 66.83 340 *eP* **P** **21 10 51.9 -0.5**
MORW Morawa 66.84 116 P **P** **21 10 53.0 0.0**
VRAC Vranov 66.97 340 ⇑P **P** **21 10 52.8 -0.5**
VRAC Vranov 66.97 340 *eP* **P** **21 10 53.0 -0.3**
PZH PanZhiHua 67.06 54 P **P** **21 10 55.5 +1.0**
MORC Moravsky Berou 67.06 341 ⇑P **P** **21 10 54.4 +0.5**
MORC Moravsky Berou 67.06 341 P **P** **21 10 53.7 -0.2**
MORC IAmb IAmb 21 10 54.9
comp=Z,11nm,0.8s
MORC Moravsky Berou 67.06 341 *eP* **P** **21 10 53.9 0.0**
WTTA Wattenberg 67.11 336 *i* P **P** **21 10 54.0 -0.4**
comp=Z,8.7nm,1.1s,SNR=5.2
VNA3 Neumayer Olymp 67.15 197 ⇑P **P** **21 10 55.0 +0.7**
comp=Z,15nm,0.7s
FUORN Ofenpass-Fuorn 67.16 334 P **P** **21 10 54.5 -0.4**
FUORN IAmb IAmb 21 10 56.0
comp=Z,5.3nm,0.9s
WATA Walderalm 67.19 336 *i* P **P** **21 10 54.2 -0.6**
comp=Z,6.9nm,1.0s,SNR=5.6
SQTA Sankt Quirin 67.24 335 *i* P **P** **21 10 54.7 -0.5**
comp=Z,6.0nm,0.9s
GOMU GeErMu 67.28 42 P P 21 11 04.8 +8.8
GOMU pP pwP 21 11 10.1 +7.4
GOMU sP PcP 21 11 12.3 -11
FETA Feichten 67.28 335 *i* P **P** **21 10 55.5 0.0**
comp=Z,16nm,1.0s,SNR=10
CKRC Cesky Krumlov 67.36 338 *eP* **P** **21 10 55.8 0.0**
MOTA Moosalm 67.39 335 *i* P **P** **21 10 55.6 -0.6**
comp=Z,10nm,1.0s
TUE Stuetta 67.43 334 P **P** **21 10 56.2 -0.3**
comp=Z,25nm,1.1s
BNI Bardonecchia 67.55 331 P **P** **21 10 56.9 -0.3**
BNI IAmb IAmb 21 11 02.8
comp=Z,8.9nm,1.4s
KRLC Kraliky 67.57 340 *eP* **P** **21 10 57.0 -0.1**
GEC2 GERESS Array S 67.60 338 P **P** **21 10 56.7 -0.7**
GEC2 IAmb IAmb 21 10 57.8
comp=Z,11nm,1.1s
GERES GERESS Array B 67.60 338 P **P** **21 10 56.6 -0.7**
GERES GERESS Array B 67.60 338 P **P** **21 10 57.0 -0.4**
comp=Z,5.1nm,0.8s,baz=145,slow=4.9,SNR=24
comp=Z,5.1nm,0.8s
RETA Reutte 67.64 335 *i* P **P** **21 10 57.0 -0.6**
comp=Z,10.0nm,1.0s,SNR=7.2
NWAO Narrogin (SRO) 67.75 120 LR LR 21 34 44.0
comp=Z,107nm,19.2s,baz=171,slow=31
MK31 Makanchi Array 67.82 26 P **P** **21 10 58.7 0.0**
MK31 IAmb IAmb 21 11 13.4
comp=Z,5.5nm,0.9s
MKAR Makanchi Array 67.82 26 P **P** **21 10 58.6 -0.1**
MKAR Makanchi Array 67.82 26 P **P** **21 10 58.8 0.0**
comp=Z,0.8nm,0.8s,baz=215,slow=5.9,SNR=5.2
MKAR LR LR 21 41 46.7
comp=Z,37nm,18.1s,baz=235,slow=37
comp=Z,0.8nm,0.8s
DAVA Damuels 67.85 335 *i* P **P** **21 10 58.5 -0.5**
comp=Z,14nm,1.3s
KHC Kasperske Hory 67.88 338 *eP* **P** **21 10 58.9 -0.2**
KHC Kasperske Hory 67.88 338 P **P** **21 10 58.6 -0.5**
comp=Z,5.8nm,1.9s
ZVC Zvikov 67.92 338 *eP* **P** **21 10 58.6 -0.7**
DPC Dobruska-Polom 67.96 340 *eP* **P** **21 10 59.8 +0.3**
DPC Dobruska-Polom 67.96 340 P **P** **21 10 59.4 -0.1**
comp=Z,7.0nm,0.9s
WMQ Urumqi 68.15 31 *eP* P 21 11 08.1 +7.1
OSTC Ostas 68.17 340 *eP* **P** **21 11 01.0 +0.2**
CHVC Chvalec 68.25 340 *eP* **P** **21 11 01.2 -0.2**
MNK Minsk 68.75 349 *i* P **P** **21 11 01.7 -2.6**
comp=E,6.0nm,0.7s
MNK *i* P **P** **21 11 01.7 -2.6**
comp=N,11nm,0.5s
MNK *i* P **P** **21 11 01.7 -2.6**
comp=Z,12nm,0.6s,baz=161
MNK *i* PP **PP** **21 13 34.1 -2.2**
MNK *i* PPP PPP 21 15 12.9
MNK *i* S **S** **21 20 06.3 -1.3**
MNK *i* SS **SS** **21 24 33.2 +0.4**
MNK *i* SSS SSS 21 27 46.4
MNK *i* LQ LQ 21 36 29.6
MNK *i* LR LR 21 40 27.2
MNK *i* LRM MLR 21 42 02.6
comp=Z,58nm,12.8s
MNK *i* LRM MLR 21 42 32.7
comp=N,100nm,13.6s
MNK *i* LRM MLR 21 42 52.0
comp=E,53nm,14.1s
BVAR Borovoye Array 68.94 16 P **P** **21 11 05.8 +0.1**
comp=E,1.1nm,0.7s,baz=211,slow=4.9,SNR=5.4
comp=E,1.1nm,0.7s
BRG Berggiesshubel 69.21 339 *eP* **P** **21 11 07.1 -0.2**
BRG Amp 21 11 08.7
comp=Z,5.8nm,1.0s
NACGM Naroch 69.33 348 *eP* **P** **21 11 08.0 0.0**
comp=Z,19nm,0.8s,baz=160
KURBB Kurchatov Arra 69.41 22 P **P** **21 11 08.5 0.0**
comp=Z,0.4nm,0.7s,baz=223,slow=6.4,SNR=6.1
KURBB LR LR 21 39 32.5
comp=Z,62nm,21.9s,baz=179,slow=34
comp=Z,0.4nm,0.7s
ESBB Sonseca Array 69.67 321 P **P** **21 11 11.0 +0.5**
ESBB IAmb IAmb 21 11 12.7
comp=Z,6.6nm,1.0s
ESDC Sonseca Array 69.67 321 P **P** **21 11 11.1 +0.6**
ESDC IAmb IAmb 21 11 12.6
comp=Z,7.2nm,1.1s
ESDC Sonseca Array 69.67 321 P **P** **21 11 11.1 +0.6**
comp=Z,4.2nm,0.8s,baz=129,slow=5.8,SNR=48
ESDC LR LR 21 43 55.9
comp=Z,181nm,18.1s,baz=128,slow=38
comp=Z,4.2nm,0.8s
IDID Didziasalis 69.73 349 *eP* **P** **21 11 11.1 +0.7**
PAB San Pablo 69.83 321 P **P** **21 11 12.0 +0.5**
PAB IAmb IAmb 21 11 13.7
comp=Z,13nm,1.2s
ARU Arti 69.83 8 P **P** **21 11 10.6 -0.4**
ARU Arti 69.83 8 LR LR 21 45 41.8
comp=Z,107nm,18.9s,baz=206,slow=39
ARU Arti 69.83 8 P **P** **21 11 11.1 +0.1**
comp=Z,28nm,1.0s
CLL Collm 69.90 339 *i* P **P** **21 11 11.2 -0.3**
comp=Z,7.0nm,1.2s
CLL Collm 69.90 339 P **P** **21 11 11.3 -0.3**
comp=Z,6.9nm,1.1s
PABE Paberze 70.48 347 *eP* **P** **21 11 15.7 +0.7**
PBEJ Beja 71.18 318 *eP* **P** **21 11 18.8 -0.9**
comp=Z,28nm,1.7s
KIRV Kirov 71.23 2 LR LR 21 44 43.8
comp=Z,138nm,19.8s,baz=197,slow=38
WLF Walferdange 71.26 334 *dP* **P** **21 11 20.2 +0.4**
comp=Z,6.2nm,1.1s
MORF Marmelete 71.30 317 *eP* **P** **21 11 20.3 -0.2**
PFVI Vila Bisbo 71.33 317 *eP* **P** **21 11 21.3 +0.7**
comp=Z,164nm,1.8s
PESTR Estremoz 71.47 319 *eP* **P** **21 11 22.8 +1.3**
comp=Z,23nm,1.8s
CLF Chambon-Foret 71.81 331 P **P** **21 11 23.6 +0.3**
BTNL Ternell 71.97 335 *dP* **P** **21 11 24.8 +0.6**
comp=Z,4.7nm,0.9s
RCHB Rochefort 72.02 334 *dP* **P** **21 11 24.4 -0.1**
MEM Membach 72.03 335 *dPcP* **PcP** **21 11 41.2 -1.8**
BCLA Clavier 72.19 334 *dP* **P** **21 11 26.1 +0.7**
comp=Z,4.8nm,1.2s
BCLA *dPcP* **PcP** **21 11 43.6 0.0**
DOU Dourbes 72.25 334 *dP* **P** **21 11 26.2 +0.4**
BGES Gesves 72.25 334 *dP* **P** **21 11 25.8 -0.1**
comp=Z,5.1nm,1.1s
BMRD Maredsous 72.33 334 *dP* **P** **21 11 26.8 +0.5**
comp=Z,5.1nm,1.1s
GTA Gaotai 72.36 41 *eP* P 21 11 35.0 +8.0

GTA				pP	pwP	21 11 39.3	+5.6	
BSD	**Bornholm Skovb**	**72.48**	**342**	*eP*	**P**	**21 11 27.3**	**+0.3**	
PSBE	**So Bento**	**72.61**	**319**	*eP*	**P**	**21 11 29.9**	**+1.6**	
PBRG	**Braganca**	**72.64**	**322**	*eP*	**P**	**21 11 29.4**	**+1.0**	
	comp=Z,20nm,1.6s							
PCAS	**Casmilo, Conde**	**72.72**	**319**	*eP*	**P**	**21 11 29.9**	**+1.0**	
POLO	**Lamas de Olo**	**73.03**	**321**	*eP*	**P**	**21 11 32.7**	**+1.9**	
	comp=Z,10nm,1.5s							
KAPI	**Kappang**	**73.41**	**91**	LR	LR	21 38 58.5		
	comp=Z,74nm,20.9s,baz=275,slow=32							
ARBE	**Arbavere**	**73.76**	**350**	*eP*	**P**	**21 11 35.8**	**+1.3**	
ZALV	**Zalesovo Beam**	**74.39**	**23**	P	**P**	**21 11 37.6**	**-0.7**	
ZALV	**Zalesovo Beam**	**74.39**	**23**	P	**P**	**21 11 38.5**	**+0.1**	
	comp=Z,0.7nm,0.6s,baz=224,slow=4.1,SNR=5.0							
	comp=Z,0.7nm,0.6s							
MEF	**Metsahovi**	**74.78**	**349**	*eP*	**P**	**21 11 41.3**	**+0.9**	
VIKU	**Vikbolandet**	**74.91**	**345**	*eP*	**P**	**21 11 41.9**	**+0.6**	
BELA	**Belgrano 2**	**75.50**	**192**	P	**P**	**21 11 45.5**	**+0.9**	
BELA				lAmb	lAmb	21 11 46.9		
	comp=Z,9.5nm,0.9s							
AAL	**Aland**	**75.62**	**347**	*eP*	**P**	**21 11 45.6**	**+0.3**	
FINES	**FINESS Array B**	**75.64**	**350**	P	**P**	**21 11 45.6**	**+0.2**	
	comp=Z,3.8nm,0.7s,baz=143,slow=7.7,SNR=14							
FINES				LR	LR	21 45 43.2		
	comp=Z,68nm,18.0s,baz=168,slow=36							
	comp=Z,3.8nm,0.7s							
TOLI2	**Tolitoli**	**75.75**	**86**	P	**P**	**21 11 46.8**	**-0.4**	
UPP	**Uppsala**	**75.88**	**346**	*eP*	**P**	**21 11 47.4**	**+0.6**	
JOF	**Joensuu**	**76.33**	**353**	*eP*	**P**	**21 11 50.2**	**+0.9**	
KEF	**Keuruu**	**76.52**	**350**	*eP*	**P**	**21 11 50.8**	**+0.4**	
FITZ	**Fitzroy Crossi**	**76.73**	**106**	P	**P**	**21 11 52.4**	**-0.2**	
FORT	**Forrest**	**77.09**	**119**	P	**P**	**21 11 55.2**	**+0.7**	
HFS	**Hagfors**	**77.11**	**344**	P	**P**	**21 11 53.9**	**+0.1**	
	comp=Z,5.7nm,0.7s,baz=123,slow=5.5,SNR=16							
HFS				LR	LR	21 46 53.7		
	comp=Z,66nm,19.7s,baz=144,slow=36							
	comp=Z,5.7nm,0.7s							
QSPA	**South Pole Qui**	**77.27**	**180**	P	**P**	**21 11 55.6**	**+0.6**	
QSPA	**South Pole Qui**	**77.27**	**180**	P	**P**	**21 11 55.5**	**+0.6**	
	comp=Z,19nm,0.9s,baz=252,slow=2.4,SNR=58							
QSPA				LR	LR	21 43 57.6		
	comp=Z,210nm,18.1s,baz=264,slow=34							
	comp=Z,19nm,0.9s							
VAF	**Ylistaro**	**77.71**	**350**	*eP*	**P**	**21 11 57.6**	**+0.5**	
KONO	**Kongsberg**	**77.86**	**342**	P	**P**	**21 11 57.8**	**-0.2**	
KONO				lAmb	lAmb	21 11 59.1		
	comp=Z,10nm,0.9s							
NB2	**NORSAR Subarra**	**78.54**	**344**	P	**P**	**21 12 01.8**	**0.0**	
	comp=Z,9.2nm,1.1s,baz=146,slow=5.6							
NOA	**NORSAR Array B**	**78.54**	**344**	P	**P**	**21 12 02.1**	**+0.3**	
	comp=Z,2.5nm,0.9s,baz=136,slow=5.9,SNR=11							
NOA				LR	LR	21 52 04.4		
	comp=Z,53nm,18.2s,baz=110,slow=40							
	comp=Z,2.5nm,0.9s							
EKA	**Eskdalemuir Ar**	**79.29**	**334**	P	**P**	**21 12 06.3**	**+0.3**	
	comp=Z,3.1nm,0.8s,baz=130,slow=6.3,SNR=8.6							
	comp=Z,3.1nm,0.8s							
RCBR	**Riachuelo**	**80.52**	**266**	LR	LR	21 44 29.6		
	comp=Z,73nm,19.3s,baz=124,slow=33							
HHC	**Hu-ho-hao-te**	**80.89**	**45**	*eP*	**P**	**21 12 16.3**	**+1.1**	
SONM	**Songino Array**	**80.98**	**37**	P	**P**	**21 12 16.3**	**+1.3**	
	comp=Z,0.6nm,0.6s,baz=274,slow=7.1,SNR=2.0							
	comp=Z,0.6nm,0.6s							
DAV	**Davao City (W)**	**81.81**	**81**	LR	LR	21 45 46.0		
	comp=Z,51nm,20.0s,baz=231,slow=34							
NJ2	**Nanjing**	**82.94**	**55**	*eP*	**P**	**21 12 27.4**	**+1.4**	
NJ2				pP	**pwP**	**21 12 31.8**	**-0.9**	
VNDA	**Vanda**	**83.01**	**169**	P	**P**	**21 12 26.7**	**+1.1**	
VNDA	**Vanda**	**83.01**	**169**	P	**P**	**21 12 27.0**	**+1.4**	
	comp=Z,2.0nm,0.6s,baz=270,slow=6.4,SNR=21							
VNDA				LR	LR	21 46 31.5		
	comp=Z,261nm,19.2s,baz=236,slow=34							
	comp=Z,2.0nm,0.6s							
ARCES	**ARCESS Array B**	**83.37**	**353**	P	**P**	**21 12 27.9**	**+0.5**	
	comp=Z,3.1nm,0.8s,baz=180,slow=0.5,SNR=3.9							
ARCES				LR	LR	21 52 46.6		
	comp=Z,90nm,18.3s,baz=164,slow=38							
	comp=Z,3.1nm,0.8s							
ASAR	**Alice Springs**	**83.37**	**113**	P	**P**	**21 12 28.3**	**-0.2**	
ASAR	**Alice Springs**	**83.37**	**113**	P	**P**	**21 12 28.9**	**+0.3**	
	comp=Z,7.1nm,0.6s,baz=264,slow=4.9,SNR=125							
	comp=Z,7.1nm,0.6s							
BBOO	**Buckleboo**	**83.50**	**122**	P	**P**	**21 12 28.5**	**-0.5**	
SBA	**Scott Base**	**83.75**	**169**	P	**P**	**21 12 31.4**	**+2.0**	
SBA				lAmb	lAmb	21 12 36.6		
	comp=Z,24nm,1.9s							
WRA	**Warramunga Arr**	**84.50**	**109**	P	**P**	**21 12 34.4**	**+0.1**	
WRA	**Warramunga Arr**	**84.50**	**109**	P	**P**	**21 12 35.1**	**+0.8**	
	comp=Z,8.1nm,0.9s,baz=263,slow=3.8,SNR=32							
	comp=Z,8.1nm,0.9s							
WB0	**Warramunga Arr**	**84.58**	**109**	P	**P**	**21 12 34.5**	**-0.3**	
XLT	**XiLinHaoTe**	**85.19**	**43**	*eP*	P	21 12 25.9	-11	
XLT				pP	pP	21 12 28.8	-11	
XLT				sP	sP	21 12 32.3	-8.0	
PMSA	**Palmer Station**	**86.65**	**204**	LR	LR	21 46 08.6		
	comp=Z,83nm,18.6s,baz=109,slow=32							
STKA	**Stephens Creek**	**88.28**	**122**	P	**P**	**21 12 52.7**	**0.0**	
STKA	**Stephens Creek**	**88.28**	**122**	P	**P**	**21 12 53.2**	**+0.5**	
	comp=Z,6.6nm,0.7s,baz=298,slow=4.5,SNR=20							
STKA				LR	LR	21 46 30.0		
	comp=Z,110nm,19.3s,baz=20,slow=32							
	comp=Z,6.6nm,0.7s							
BDFB	**Brasilia**	**90.06**	**254**	LR	LR	21 51 05.7		
	comp=Z,110nm,18.6s,baz=128,slow=34							
JMIC	**Jan Mayen**	**91.22**	**345**	LR	LR	21 56 32.0		
	comp=Z,44nm,18.1s,baz=76,slow=37							
KSRS	**Korea Array**	**91.67**	**52**	LR	LR	21 54 44.4		
	comp=Z,16nm,19.8s,baz=340,slow=36							
SPITS	**Spitsbergen Ar**	**92.32**	**354**	LR	LR	21 56 10.8		
	comp=Z,58nm,19.7s,baz=142,slow=36							
JNU	**Nakatsue**	**92.97**	**57**	LR	LR	21 56 06.2		
	comp=Z,19nm,18.1s,baz=20,slow=36							
CPUP	**Villa Florida**	**95.70**	**242**	LR	LR	21 51 12.2		
	comp=Z,75nm,21.4s,baz=127,slow=32							
KLR	**Kul'dur**	**97.07**	**41**	LR	LR	21 55 53.3		
	comp=Z,28nm,20.9s,baz=302,slow=35							
PMG	**Port Moresby**	**98.98**	**102**	LR	LR	21 54 32.3		
	comp=Z,56nm,19.2s,baz=111,slow=33							
YKA	**Yellowknife Ar**	**128.44**	**348**	PP	**PP**	**21 21 09.9**	**-1.5**	
	comp=Z,0.5nm,0.9s,baz=25,slow=7.6,SNR=4.2							
TBI	**Tubuai**	**141.12**	**158**	*e*LR	LR	22 05 21.6		
	comp=Z,299nm,23.0s							
TBI				*e*LR	LR	22 05 24.6		
	comp=Z,1μm,26.2s							
PDAR	**Pinedale Array**	**143.26**	**329**	PKP	**PKPdf**	**21 19 35.9**	**+0.2**	
	comp=Z,0.2nm,0.4s,baz=318,slow=2.0,SNR=3.8							
PPT2	**Papeete2**	**146.24**	**153**	*e*LR	LR	22 07 49.1		
	comp=Z,65nm,21.5s							
TXAR	**Lajitas Array**	**147.14**	**305**	PKPbc	**PKPbc**	**21 19 45.0**	**+0.3**	
	comp=Z,1.6nm,0.8s,baz=104,slow=4.1,SNR=12							
NVAR	**Mina Array Bea**	**150.78**	**334**	PKPbc	**PKiKP**	**21 19 54.4**	**-0.1**	
	comp=Z,0.3nm,0.4s,baz=33,slow=3.5,SNR=3.4							

TIR 19 21:08:25.5, 40.31N×19.81E, h9km±1km, Md2.3, Ml1.8, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
VLO	**Vlora**	**0.29**	**304**	P		Pg	21 08 32.0	+0.8
	baz=304							
VLO				S		Sg	21 08 36.4	+1.3
	baz=304							
VLO				AMP				
	comp=N,3.7nm,0.1s,baz=304							
SRN	**Sarande**	**0.45**	**161**	P		Pg	21 08 34.9	+0.5
	baz=160							
SRN				S		Sb	21 08 42.0	-0.5
	baz=160							
LSK	**Leskovik**	**0.63**	**104**	P		Pg	21 08 36.9	-0.8
	baz=104							
LSK				S		Sb	21 08 47.2	-0.4
	baz=104							
LSK				AMP				
	comp=E,0.2nm,0.6s,baz=104							
SCTE	**Santa Cesarea**	**1.05**	**257**	P		Pg	21 08 45.8	0.0
	baz=258							
SCTE				S		Sn	21 09 01.8	+0.5
	baz=258							
SCTE				AMP				
	comp=E,0.1nm,0.4s,baz=258							
FNA	**Florina**	**1.29**	**68**	P		Pg	21 08 50.8	+0.6
	baz=68							
FNA				S		Sn	21 09 09.6	+2.5
	baz=68							
FNA				AMP				
	comp=N,0.1nm,0.9s,baz=68							
LKD2	**Lefkada island**	**1.65**	**156**	P		Pg	21 08 58.1	+0.9
	baz=156							
LKD2				S		Sg	21 09 20.7	+2.0
	baz=156							
PUK	**Puka**	**1.73**	**2**	P		Pb	21 08 58.1	+0.5
	baz=2.0							

*JMA **19** 21:27:26.5±0.2, 25°N±1°×122°4E±0°5, h46km±4km, MV2.3/11, TAIWAN REGION*
*TAP **19** 21:27:27.1, 24°93N×122°28E, h12km±1km, ML3.1, D*
ISC 19 21:27:25.5±1.1, 24°96N±0°03×122°39E±0°03, h12km±9km, n71, σ0°47/103, 1C-4D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TWB1	**Santiao Chiao**	**0.37**	**278**	⇓*i*	P	**Pg**	**21 27 33.2**	**+0.2**
	baz=286							
TWB1				*i*	S	**Sg**	**21 27 38.3**	**+0.4**
	baz=286							
EGS		**0.43**	**255**	*i*	P	**Pg**	**21 27 34.4**	**+0.4**
	baz=254							
EGS				*i*	S	**Sg**	**21 27 38.8**	**-1.0**
	baz=254							
SXI1	**Grass Mountain**	**0.49**	**287**	*i*	P	**Pb**	**21 27 35.9**	**-0.3**
	baz=294							
SXI1				*i*	S	**Sg**	**21 27 42.2**	**+0.5**
	baz=294							
TIPB	**Shuangxi**	**0.52**	**272**	*i*	P	**Pb**	**21 27 36.0**	**-0.5**
	baz=275							
TIPB					S	**Sg**	**21 27 42.1**	**-0.4**
	baz=275							
EOS2	**EOS2**	**0.55**	**195**	⇓*i*	P	**Pb**	**21 27 37.9**	**+0.8**
	baz=184							
EOS2				*i*	S	**Sb**	**21 27 45.9**	**+1.0**
	baz=184							
NWF	**Wu-fen Shan**	**0.57**	**282**	⇑*i*	P	**Pb**	**21 27 37.4**	**-0.1**
	baz=287							
NWF				*i*	S	**Sg**	**21 27 44.6**	**+0.4**
	baz=287							
WFSB	**Wu-fen Shan**	**0.57**	**282**	⇓*i*	P	**Pb**	**21 27 37.3**	**-0.1**
	baz=287							
WFSB				*i*	S	**Sg**	**21 27 44.4**	**+0.3**
	baz=287							
TNOU	**National Taiwa**	**0.60**	**289**	⇓*i*	P	**Pb**	**21 27 37.8**	**-0.1**
	baz=295							
TNOU				*i*	S	**Sg**	**21 27 44.9**	**-0.1**
	baz=295							
TWC	**Suao**	**0.60**	**235**	*i*	P	**Pg**	**21 27 37.1**	**-0.1**
	baz=229							
TWC				*i*	S	**Sg**	**21 27 44.7**	**-0.5**
	baz=229							
ESAO	**Su ao**	**0.63**	**233**	P		**Pg**	**21 27 37.9**	**+0.2**
	baz=228							
ESAO				S		**Sg**	**21 27 45.5**	**-0.4**
	baz=228							
EOS3	**EOS3**	**0.67**	**186**	P		**Pb**	**21 27 39.8**	**+0.7**
	baz=176							
EOS3				S		**Sb**	**21 27 49.7**	**+1.5**
	baz=176							
NDS	**Dongshan**	**0.69**	**243**	P		**Pg**	**21 27 39.3**	**+0.3**
	baz=240							
NDS				S		**Sb**	**21 27 49.0**	**-0.1**
	baz=240							
TWE	**Neicheng**	**0.70**	**251**	*i*	P	**Pg**	**21 27 38.6**	**-0.5**
	baz=248							
TWE				*i*	S	**Sg**	**21 27 48.1**	**-0.2**
	baz=248							
JYNG	**Yonagunijimaku**	**0.71**	**135**	P		**Pb**	**21 27 40.1**	**+0.2**
JYNG				S		**Sb**	**21 27 50.4**	**+0.8**
PCYT	**Pengchaiyu**	**0.73**	**337**	*i*	P	**Pb**	**21 27 40.5**	**+0.2**
	baz=345							
PCYT					S	**Sb**	**21 27 50.6**	**+0.4**
	baz=345							
TWA	**Mucha**	**0.74**	**272**	*i*	P	**Pb**	**21 27 40.2**	**-0.1**
	baz=274							
TWA					S	**Sb**	**21 27 49.8**	**-0.6**
	baz=274							
YOJ	**Yonaguni jima**	**0.75**	**131**	P		**Pb**	**21 27 40.6**	**+0.2**
YOJ	**Yonaguni jima**	**0.75**	**131**	P		**Pb**	**21 27 40.6**	**+0.2**
YOJ				S		**Sb**	**21 27 51.1**	**+0.5**
NHY	**Taipei**	**0.75**	**277**	*eP*		**Pb**	**21 27 41.0**	**+0.4**
	baz=279							
EWUT	**Wuta**	**0.76**	**228**	P		**Pb**	**21 27 41.1**	**+0.5**
	baz=223							
FUSB	**Fushanzhiwuyua**	**0.76**	**255**	*eP*		**Pg**	**21 27 40.0**	**-0.2**
	baz=254							
YM08	**YM08**	**0.77**	**288**	*i*	P	**Pb**	**21 27 40.8**	**0.0**
	baz=292							
YM01	**YM01**	**0.77**	**284**	*i*	P	**Pb**	**21 27 41.1**	**+0.2**
	baz=288							
TWY	**Chenhua**	**0.79**	**294**	P		**Pb**	**21 27 41.4**	**+0.2**
	baz=299							
TWY				S		**Sb**	**21 27 51.9**	**0.0**
	baz=299							
NHDH	**Xindian Distri**	**0.79**	**271**	P		**Pb**	**21 27 41.3**	**+0.1**
	baz=272							
ENA	**Nanau**	**0.79**	**229**	*eP*		**Pb**	**21 27 41.2**	**-0.1**
	baz=223							
ENA				S		**Sb**	**21 27 52.1**	**+0.2**
	baz=223							
TAP	**Taipei**	**0.81**	**276**	P		**Pn**	**21 27 42.2**	**-0.6**
	baz=278							
TAP				S		**Sb**	**21 27 52.1**	**-0.3**
	baz=278							
ENTT	**Nioudou**	**0.81**	**248**	P		**Pb**	**21 27 41.7**	**0.0**
	baz=245							
ENTT				*e*S		**Sb**	**21 27 53.3**	**+0.6**
	baz=245							
TATO	**Taipei**	**0.82**	**272**	P		**Pb**	**21 27 42.1**	**+0.3**
ANP	**Anpu**	**0.83**	**286**	*eP*		**Pb**	**21 27 42.2**	**+0.3**
	baz=290							
ANP				*e*S		**Sb**	**21 27 53.2**	**+0.1**
	baz=290							
NWLT	**Wulai**	**0.83**	**258**	*i*	P	**Pb**	**21 27 41.7**	**-0.2**
	baz=257							
NWLT				*e*S		**Sg**	**21 27 51.8**	**-0.6**
	baz=257							
EOS4	**EOS4**	**0.83**	**185**	*eP*		**Pb**	**21 27 42.3**	**+0.5**
	baz=177							
EOS4				*e*S		**Sn**	**21 27 54.6**	**-0.2**
	baz=177							
EAHA	**Aohua**	**0.86**	**224**	*eP*		**Pb**	**21 27 42.4**	**0.0**
	baz=219							
EAHA				S		**Sb**	**21 27 54.0**	**0.0**
	baz=219							
NDT	**Datong Townshi**	**0.88**	**247**	P		**Pb**	**21 27 42.9**	**+0.2**
	baz=244							
NDT				*e*S		**Sg**	**21 27 53.9**	**+0.1**
	baz=244							
NTST	**Danshui**	**0.88**	**284**	*eP*		**Pn**	**21 27 44.0**	**+0.2**
	baz=287							
NTST				*e*S		**Sb**	**21 27 55.4**	**+0.8**
	baz=287							
LATG	**Datong**	**0.89**	**242**	*eP*		**Pb**	**21 27 43.0**	**0.0**
	baz=240							
LATG				*e*S		**Sg**	**21 27 53.9**	**-0.5**
	baz=240							
TWS1	**Kuangyinshan**	**0.90**	**280**	*i*	P	**Pb**	**21 27 43.5**	**+0.5**
	baz=282							
YHNB	**Yeheng**	**0.97**	**253**	P		**Pg**	**21 27 44.1**	**-0.1**
YHNB	**Yeheng**	**0.97**	**253**	*eP*		**Pg**	**21 27 44.0**	**-0.2**
	baz=252							
NSK	**Sanguang**	**0.98**	**254**	*eP*		**Pb**	**21 27 44.8**	**+0.3**
	baz=252							
ETL	**Fush Village**	**1.06**	**222**	*eP*		**Pb**	**21 27 45.6**	**-0.2**
	baz=217							
NNSB	**Datong**	**1.06**	**241**	*eP*		**Pg**	**21 27 45.8**	**-0.1**
	baz=238							
NNSB				*e*S		**Sg**	**21 27 59.1**	**-0.6**
	baz=238							
NNS	**Nan Shan**	**1.06**	**241**	*eP*		**Pn**	**21 27 46.7**	**+0.3**
	baz=239							
NNS				*e*S		**Sg**	**21 27 59.3**	**-0.5**
	baz=239							
NACB	**Ninganchiao**	**1.06**	**223**	P		**Pb**	**21 27 45.8**	**-0.1**
NACB	**Ninganchiao**	**1.06**	**223**	*i*	P	**Pb**	**21 27 45.8**	**-0.1**
	baz=219							
NACB				S		**Sg**	**21 27 59.0**	**-0.9**
	baz=219							
NCUH	**Zhongli**	**1.10**	**271**	*eP*		**Pn**	**21 27 47.9**	**+1.2**
	baz=272							
TWD	**Chiawan**	**1.14**	**220**	P		**Pg**	**21 27 47.4**	**0.0**
	baz=216							
TWD				S		**Sb**	**21 28 02.0**	**+0.2**
	baz=216							
NFF	**Wufeng Townshi**	**1.20**	**255**	*eP*		**Pn**	**21 27 48.4**	**+0.1**
	baz=254							
FUSS	**Fushou**	**1.26**	**236**	P		**Pb**	**21 27 49.6**	**+0.2**
	baz=234							
ETM	**Tongmen**	**1.28**	**220**	*eP*		**Pb**	**21 27 49.8**	**+0.2**
	baz=216							
LIOB	**Emei**	**1.29**	**256**	*eP*		**Pn**	**21 27 49.3**	**-0.1**
	baz=256							
LXIB	**Xiulin Townshi**	**1.29**	**224**	*i* P		**Pb**	**21 27 50.0**	**+0.1**
	baz=221							
NSTT	**Nanjuang**	**1.31**	**256**	*eP*		**Pb**	**21 27 50.2**	**+0.2**
	baz=255							
WHF	**Hehuan Shan**	**1.31**	**232**	*eP*		**Pn**	**21 27 49.9**	**-0.1**
	baz=229							
TWT	**Tachien**	**1.31**	**238**	*eP*		**Pg**	**21 27 51.0**	**+0.3**
	baz=236							
TDCB	**Techi**	**1.32**	**238**	*eP*		**Pg**	**21 27 51.8**	**+0.9**
	baz=236							
IRIF	**Iriomote-Funau**	**1.36**	**117**	*eP*		**Pn**	**21 27 49.1**	**-1.3**
CHGB	**Renai**	**1.42**	**232**	*eP*		**Pg**	**21 27 53.0**	**+0.1**
	baz=229							
ESL	**Shilin**	**1.44**	**218**	*eP*		**Pb**	**21 27 52.0**	**-0.2**
	baz=214							
OWD	**Renai**	**1.49**	**228**	*eP*		**Pg**	**21 27 54.0**	**-0.1**
	baz=225							
WUSB	**Renai**	**1.51**	**231**	*eP*		**Pb**	**21 27 53.9**	**+0.4**
	baz=228							
WARBT	**Fenglin Townsh**	**1.54**	**217**	*eP*		**Pn**	**21 27 52.2**	**-0.6**
	baz=214							
HATJ	**Hateruma jima**	**1.57**	**125**	*eP*		**Pn**	**21 27 52.8**	**-0.4**
JKRS	**Kuro-shima**	**1.63**	**116**	*eP*		**Pn**	**21 27 53.6**	**-0.5**
VWDT	**VWDT**	**1.65**	**224**	*eP*		**Pb**	**21 27 56.1**	**+0.2**
	baz=221							
JIJ	**Ishigaki jima**	**1.70**	**110**	*eP*		**Pn**	**21 27 54.2**	**-0.8**
HGSD	**Ruisui**	**1.71**	**212**	*eP*		**Pb**	**21 27 56.6**	**-0.3**
	baz=208							
EHY	**Hungye**	**1.74**	**214**	*eP*		**Pb**	**21 27 56.9**	**-0.6**
	baz=211							
SSLB	**Suanglung**	**1.75**	**229**	P		**Pb**	**21 27 57.8**	**+0.1**
SSLB	**Suanglung**	**1.75**	**229**	*eP*		**Pb**	**21 27 58.0**	**+0.4**
	baz=226							
YULB	**Yu-li**	**1.85**	**213**	P		**Pb**	**21 28 00.2**	**+0.9**

*SJA **19** 21:45:24.5±0.6, 33°73S×70°42W, h113km±3km, ML3.9, MW3.9*
*IDC **19** 21:45:25.6±3.0, 33°69S×70°16W, h95km±27km, mb3.7/8, mbtmp4.0/12, Error ellipse: s-maj=26.8km s-min=15.7km az=94.0*
*GUC **19** 21:45:25.8±0.7, 33°72S×70°40W, h110km±3km, ML4.2*
*NEIC **19** 21:45:25.4±1.2, 33°73S±0°05×70°37W±0°10, h107km±3km, mb4.2/7, Error ellipse: s-maj=11.8km s-min=6.8km az=100.0*
ISC 19 21:45:25.7±0.6, 33°76S±0°03×70°33W±0°03, h103km±4km, n112, σ1°07/149, mb4.0/10, 7C-11D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
MT13	**San Alfonso**	**0.04**	**71**			**Pn**	**21 45 40.3**	**+0.2**
MT13				Sn		**Sn**	**21 45 51.5**	**+0.6**
MT13	**San Alfonso**	**0.04**	**71**	⇓*i*	P	**Pn**	**21 45 40.3**	**+0.2**
MT13				*i*	S	**Sn**	**21 45 51.7**	**+0.8**
MT13				lAML			21 45 53.3	
	comp=N,18μm,0.2s							
LMEL	**Las Melosas**	**0.14**	**130**			**Pn**	**21 45 40.3**	**0.0**
LMEL				Sn		**Sn**	**21 45 51.6**	**+0.3**
LMEL	**Las Melosas**	**0.14**	**130**	⇓*i*	P	**Pn**	**21 45 40.3**	**0.0**
LMEL				*i*	S	**Sn**	**21 45 52.5**	**+1.2**
LMEL				lAML			21 45 55.5	
	comp=N,14μm,0.2s							
MT12	**Pirque**	**0.18**	**278**	⇓*i*	P	**Pn**	**21 45 40.3**	**+0.1**
MT12				*i*	S	**Sn**	**21 45 51.3**	**+0.1**
MT12				lAML			21 45 53.3	
	comp=E,24μm,0.4s							
MT15	**Las Vizcachas**	**0.21**	**318**	⇓*i*	P	**Pn**	**21 45 40.5**	**+0.1**
MT15				*i*	S	**Sn**	**21 45 51.5**	**+0.1**
BO04	**La Punta**	**0.33**	**225**			**Pn**	**21 45 40.9**	**0.0**
BO04				Sn		**Sn**	**21 45 52.5**	**+0.3**
BO04	**La Punta**	**0.33**	**225**	⇓*i*	P	**Pn**	**21 45 40.9**	**0.0**
BO04				*i*	S	**Sn**	**21 45 52.5**	**+0.3**
BO04				lAML			21 45 53.8	
	comp=N,25μm,0.3s							
MT16	**CCHEN**	**0.36**	**334**			**Pn**	**21 45 41.0**	**-0.1**
MT16	**CCHEN**	**0.36**	**334**	⇓*i*	P	**Pn**	**21 45 41.0**	**-0.1**
MT16				*i*	S	**Sn**	**21 45 52.5**	**-0.1**
MT16				lAML			21 45 53.7	
	comp=N,6μm,0.2s							
MT14	**Cerro Cal¡n**	**0.40**	**335**	⇓*i*	P	**Pn**	**21 45 41.4**	**+0.1**
MT14				*i*	S	**Sn**	**21 45 53.2**	**+0.3**
FCH	**Farellones**	**0.43**	**5**	⇓*i*	P	**Pn**	**21 45 41.7**	**-0.1**
FCH				*i*	S	**Sn**	**21 45 54.2**	**+0.4**
FCH				lAML			21 45 55.3	
	comp=E,6μm,0.2s							
MT05	**Renca**	**0.50**	**317**			**Pn**	**21 45 42.2**	**+0.3**
MT05	**Renca**	**0.50**	**317**	*eP*		**Pn**	**21 45 42.3**	**+0.4**
MT05				*e*S		**Sn**	**21 45 54.8**	**+0.8**
MT05				lAML			21 45 56.5	
	comp=Z,6μm,0.2s							
MT05	**Renca**	**0.50**	**317**	⇓*i*	P	**Pn**	**21 45 42.2**	**+0.3**
MT05				*i*	S	**Sn**	**21 45 54.1**	**+0.1**
MT05				lAML			21 45 56.7	
	comp=E,13μm,0.2s							
MT10	**Hacienda Santa**	**0.51**	**340**	⇓*i*	P	**Pn**	**21 45 42.0**	**-0.1**
MT10				*i*	S	**Sn**	**21 45 54.2**	**-0.2**
MT10				lAML			21 45 58.8	
	comp=N,8μm,0.5s							
MT09	**Talagante**	**0.55**	**268**	Pn		**Pn**	**21 45 42.1**	**-0.2**
MT09	**Talagante**	**0.55**	**268**	⇑*i*	P	**Pn**	**21 45 42.2**

ARCO	**CERRO ARCO**	**1.49**	**52**	*eP*		**Pn**	21 45 52.9	**+0.8**
ARCO				IAML			21 46 15.6	
	comp=Z,399nm,0.5s							
AVIZ	**Vizcacheras**	**1.54**	**80**	*eP*		Pn	21 45 48.0	-4.7
AVIZ				*eS*		**Sn**	**21 46 11.5**	**-1.7**
ASAL	**Salagasta**	**1.71**	**48**	*eP*		**Pn**	**21 45 55.8**	**+1.0**
ASAL				*eS*		**Sn**	**21 46 15.0**	**-1.9**
GO05	**Huala**	**1.82**	**226**	Pn		**Pn**	**21 45 55.5**	**-0.6**
GO05	**Huala**	**1.82**	**226**	*eP*		**Pn**	**21 45 55.6**	**-0.4**
GO05				*eS*		**Sn**	**21 46 19.5**	**+0.2**
GO05	**Huala**	**1.82**	**226**	*eP*		**Pn**	**21 45 55.4**	**-0.6**
GO05				*eS*		**Sn**	**21 46 18.8**	**-0.5**
RFA	**San Rafael**	**1.85**	**124**	*eP*		Pn	21 45 52.5	-4.0
RFA				*eS*		**Sn**	**21 46 16.1**	**-3.9**
RTLS	**Leoncito**	**2.14**	**24**	*eP*		**Pn**	**21 46 01.9**	**+1.5**
RTLS				*eS*		**Sn**	**21 46 30.5**	**+3.5**
RTLS				IAML			21 46 30.9	
	comp=Z,1μm,0.4s							
EDS3	**Malargue**	**2.15**	**159**	*eP*		Pn	21 45 45.6	-15
ML02	**Panimavida**	**2.19**	**204**			**Pn**	**21 46 01.1**	**+0.3**
ML02	**Panimavida**	**2.19**	**204**	*eP*		**Pn**	**21 46 01.4**	**+0.6**
ML02				*i* S		**Sn**	**21 46 28.8**	**+1.1**
RTCV	**Cerro Valdivia**	**2.42**	**39**	*eP*		**Pn**	**21 46 04.5**	**+0.6**
RTCV				*eS*		**Sn**	**21 46 35.0**	**+1.8**
CO02	**Combarbal**	**2.61**	**347**			**Pn**	**21 46 05.8**	**-0.6**
CO02	**Combarbal**	**2.61**	**347**	*eP*		**Pn**	**21 46 05.9**	**-0.6**
CO02				IAML			21 46 46.8	
	comp=Z,328nm,0.2s							
ZON	**Zonda**	**2.61**	**33**	Pn		**Pn**	**21 46 06.9**	**+0.5**
ZON	**Zonda**	**2.61**	**33**	*eP*		**Pn**	**21 46 06.9**	**+0.5**
ZON				*eS*		**Sn**	**21 46 39.1**	**+1.5**
ZON				IAML			21 46 45.8	
	comp=Z,144nm,0.8s							
CO03	**El Pedregal**	**2.93**	**354**	Pn		**Pn**	**21 46 10.6**	**0.0**
CO03	**El Pedregal**	**2.93**	**354**	*eP*		**Pn**	**21 46 10.7**	**+0.1**
CO03				IAML			21 46 47.6	
	comp=Z,281nm,0.3s							
DOCA	**Reserva Natura**	**2.99**	**21**	*eP*		**Pn**	**21 46 12.0**	**+0.3**
DOCA				IAML			21 47 04.0	
	comp=Z,996nm,0.8s							
CO06	**Fray Jorge**	**3.27**	**340**			**Pn**	**21 46 14.2**	**-0.9**
ACCO	**Cerro Coronel**	**3.34**	**19**	*eP*		**Pn**	**21 46 16.6**	**+0.3**
ACCO				*eS*		**Sn**	**21 46 56.1**	**+0.7**
GO04	**Tololo Observa**	**3.60**	**354**			**Pn**	**21 46 18.9**	**-0.8**
GO04	**Tololo Observa**	**3.60**	**354**	*eP*		**Pn**	**21 46 19.6**	**-0.1**
AROD	**Rodeo**	**3.65**	**12**	*eP*		**Pn**	**21 46 21.4**	**+0.8**
ACDV	**Cuesta del Vie**	**3.72**	**16**	*eP*		**Pn**	**21 46 21.8**	**+0.5**
ACDV				*eS*		**Sn**	**21 47 05.2**	**+0.8**
ACDV				IAML			21 47 08.7	
	comp=Z,109nm,0.5s							
BI05	**Punta Hualpn**	**3.79**	**217**	Pn		**Pn**	**21 46 20.5**	**-1.5**
CO05	**La Serena**	**3.90**	**348**	Pn		**Pn**	**21 46 22.9**	**-0.7**
AVFE	**Valle Fertil**	**3.94**	**39**	*eP*		**Pn**	**21 46 23.8**	**-0.4**
AVFE				*eS*		**Sn**	**21 47 07.6**	**-1.8**
AVFE				IAML			21 47 10.1	
	comp=Z,114nm,0.7s							
ACHE	**Chepes**	**4.04**	**51**	*eP*		**Pn**	**21 46 25.1**	**-0.5**
ACHE				*eS*		**Sn**	**21 47 10.4**	**-1.6**
MRA	**San Martin**	**4.10**	**72**	*eP*		**Pn**	**21 46 26.3**	**0.0**
MRA				IAML			21 47 47.3	
	comp=Z,42nm,0.7s							
LCO	**Las Campanas**	**4.74**	**356**	Pn		**Pn**	**21 46 32.5**	**-2.7**
VCA	**Vinchina**	**5.33**	**21**	*eS*		**Sn**	**21 47 45.0**	**+1.8**
VCA				IAML			21 47 45.7	
	comp=Z,84nm,0.5s							
LC02	**Puerto Saavedr**	**5.59**	**205**	Pn		**Pn**	**21 46 43.2**	**-3.2**
GO06	**Curarrehue**	**5.89**	**189**			**Pn**	**21 46 48.1**	**-2.4**
LR04	**Corral**	**6.59**	**201**			**Pn**	**21 46 57.3**	**-2.7**
LR05	**Currie**	**6.60**	**191**	Pn		**Pn**	**21 46 59.2**	**-0.8**
PLCA	**Paso Flores**	**6.96**	**181**	Pn		**Pn**	**21 47 05.5**	**+0.4**
PLCA	**Paso Flores**	**6.96**	**181**	P		**Pn**	**21 47 05.8**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=1.2,slow=9.7,SNR=7.7							
VA04	**Juan Fernndez**	**7.08**	**269**			**Pn**	**21 47 06.2**	**-0.4**
H03S1	**Juan Fernandez**	**7.14**	**267**	P		**Pn**	**21 47 06.4**	**-0.8**
	baz=253,slow=13,SNR=6.8							
H03S1				T		T	21 53 34.3	
	baz=86,slow=75,SNR=35							
H03S3	**Juan Fernandez**	**7.14**	**267**	P		**Pn**	**21 47 06.9**	**-0.3**
	baz=253,slow=13,SNR=9.4							
H03S3				T		T	21 53 21.4	
	baz=86,slow=75,SNR=27							
H03S2	**Juan Fernandez**	**7.16**	**267**	P		**Pn**	**21 47 08.2**	**+0.9**
	baz=253,slow=13,SNR=15							
H03S2				T		T	21 53 40.2	
	baz=86,slow=75,SNR=65							
H03N1	**Juan Fernandez**	**7.17**	**270**	P		**Pn**	**21 47 07.7**	**+0.2**
	baz=276,slow=24,SNR=54							
H03N1				T		T	21 54 23.9	
	baz=87,slow=73,SNR=26							
H03N3	**Juan Fernandez**	**7.17**	**270**	P		**Pn**	**21 47 08.5**	**+0.9**
	baz=276,slow=24,SNR=14							
H03N3				T		T	21 54 03.4	
	baz=87,slow=73,SNR=17							
H03N2	**Juan Fernandez**	**7.18**	**270**	P		**Pn**	**21 47 07.9**	**+0.2**
	baz=276,slow=24,SNR=21							
H03N2				T		T	21 54 14.5	
	baz=87,slow=73,SNR=17							
LL04	**Puerto Octay**	**7.33**	**192**	Pn		**Pn**	**21 47 06.8**	**-3.2**
AC01	**Pan de Azucar**	**7.59**	**358**	Pn		**Pn**	**21 47 14.6**	**+1.0**
TRQA	**Tornquist**	**8.02**	**125**			**Pn**	**21 47 19.3**	**-0.1**
GO02	**Mina Guanaco**	**8.59**	**5**	Pn		**Pn**	**21 47 24.7**	**-2.7**
ITQB	**Itaqui**	**12.36**	**74**	Pn		**Pn**	**21 48 17.8**	**-0.2**
CPUP	**Villa Florida**	**13.47**	**60**	P		**Pn**	**21 48 31.5**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=343,slow=12,SNR=2.3							
LPAZ	**La Paz**	**17.51**	**7**	P		**P**	**21 49 22.0**	**-1.6**
LPAZ	**La Paz**	**17.51**	**7**	P		**Pn**	**21 49 22.9**	**-1.0**
	comp=Z,1.5nm,0.7s,baz=179,slow=6.7,SNR=7.7							
SIV	**San Ignacio**	**19.56**	**28**	P		**P**	**21 49 44.7**	**-0.8**
	comp=Z,2.4nm,0.5s,baz=206,slow=10,SNR=12							
SPB	**Sao Paulo**	**22.46**	**69**	P		**P**	**21 50 13.5**	**-2.7**
SPB				IAmb		IAmb	21 50 26.4	
	comp=Z,25nm,1.5s							
ETMB	**Extrema**	**24.13**	**10**	P		**P**	**21 50 31.9**	**-0.1**
ETMB				IAmb		IAmb	21 50 34.4	
	comp=Z,4.7nm,0.9s							
BDFB	**Brasilia**	**27.04**	**54**	P		**P**	**21 50 56.6**	**-1.9**
BDFB				IAmb		IAmb	21 50 58.1	
	comp=Z,7.4nm,0.9s							
BDFB	**Brasilia**	**27.04**	**54**	P		**P**	**21 50 57.6**	**-0.8**
	comp=Z,5.7nm,0.8s,baz=213,slow=10,SNR=5.9							
	comp=Z,5.7nm,0.8s							
SNAA	**Sanae**	**51.27**	**158**	P		**P**	**21 54 19.1**	**+0.5**
SNAA	**Sanae**	**51.27**	**158**	P		**P**	**21 54 19.4**	**+0.8**
	comp=Z,1.3nm,0.8s,baz=270,slow=10,SNR=6.4							
	comp=Z,1.3nm,0.8s							
QSPA	**South Pole Qui**	**56.48**	**180**	P		**P**	**21 54 57.9**	**+1.3**
QSPA				IAmb		IAmb	21 55 10.8	
	comp=Z,3.5nm,1.4s							
QSPA	**South Pole Qui**	**56.48**	**180**	P		**P**	**21 54 58.0**	**+1.4**
	comp=Z,3.5nm,1.0s,baz=323,slow=1.5,SNR=18							
	comp=Z,3.5nm,1.0s							
TXAR	**Lajitas Array**	**70.23**	**329**	P		**P**	**21 56 28.5**	**+0.9**
	comp=Z,0.6nm,0.5s,baz=153,slow=9.3,SNR=7.9							
	comp=Z,0.6nm,0.5s							
BOSA	**Boshof**	**78.92**	**117**	P		**P**	**21 57 18.7**	**+0.5**
	comp=Z,2.7nm,0.9s,baz=244,slow=12,SNR=3.6							
	comp=Z,2.7nm,0.9s							
TORD	**Torodi Ar. Bea**	**82.80**	**69**	P		**P**	**21 57 38.4**	**-0.3**
TORD				IAmb		IAmb	21 57 39.2	
	comp=Z,3.7nm,1.2s							
TORD	**Torodi Ar. Bea**	**82.80**	**69**	P		**P**	**21 57 38.6**	**0.0**
	comp=Z,1.0nm,1.0s,baz=229,slow=3.3,SNR=4.1							
	comp=Z,1.0nm,1.0s							
PDAR	**Pinedale Array**	**84.20**	**332**	P		**P**	**21 57 46.6**	**+1.1**
	comp=Z,0.4nm,0.6s,baz=145,slow=5.4,SNR=4.7							
	comp=Z,0.4nm,0.6s							
NVAR	**Mina Array Bea**	**84.51**	**324**	P		**P**	**21 57 48.6**	**+1.4**
	comp=Z,0.6nm,0.7s,baz=140,slow=4.7,SNR=2.6							
	comp=Z,0.6nm,0.7s							
BVAR	**Borovoye Array**	**146.13**	**43**	PKPbc		**PKPab**	**22 04 53.4**	**-0.7**
	comp=Z,1.4nm,0.8s,baz=273,slow=2.7,SNR=7.4							
KURBB	**Kurchatov Arra**	**151.71**	**44**	PKPbc		**PKiKP**	**22 05 07.9**	**0.0**
	comp=Z,0.7nm,0.5s,baz=298,slow=3.0,SNR=12							
ZALV	**Zalesovo Beam**	**153.25**	**33**	PKPbc		**PKiKP**	**22 05 11.1**	**+0.1**
	comp=Z,1.0nm,0.6s,baz=327,slow=1.8,SNR=5.9							

*IDC **19** 22:06:30.6±9.4, 22.°16S×177.°47W, h127km±82km, mb3.4/7, mbtmp3.9/8, Error ellipse: s-maj=31.2km s-min=26.6km az=170.0*
*NEIC **19** 22:06:46.0±2.9, 22.°8S±0.°2×177.°49W±0.°09, h252km±5km, mb4.1/8, Error ellipse: s-maj=22.7km s-min=12.1km az=176.0*
ISC 19 22:06:44.5±0.6, **22.°8S**±0.°1×**177.°5W**±0.°1, **h250**km, **n34,**
σ1§41/31, mb3.6/11, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.53**	**319**			**Pn**	**22 08 21.1**	**+1.6**
NIUE	**Niue**	**7.93**	**64**	Pn		**Pn**	**22 08 37.1**	**+0.2**
AFI	**Afiamalu**	**10.31**	**32**	Pn		Pn	22 09 02.4	-4.8
URZ	**Urewera**	**16.15**	**196**	P		**P**	**22 10 17.2**	**+0.4**
	4.3nm,0.3s,baz=2.9,slow=2.1,SNR=14							
URZ				S		**S**	**22 13 10.3**	**-2.9**
	7.9nm,0.3s,baz=282,slow=23,SNR=8.5							
QRZ	**Quartz Range**	**19.91**	**203**	P		**P**	**22 10 59.4**	**+2.0**
CTAO	**Charters Tower**	**33.84**	**268**	P		**P**	**22 13 04.0**	**+0.2**
ASAR	**Alice Springs**	**44.54**	**259**	P		**P**	**22 14 31.4**	**-0.6**
ASAR	**Alice Springs**	**44.54**	**259**	P		**P**	**22 14 30.6**	**-1.5**
	0.8nm,0.7s,baz=94,slow=8.4,SNR=7.4							
	0.8nm,0.7s							
WB0	**Warramunga Arr**	**44.82**	**264**	P		**P**	**22 14 32.8**	**-1.5**
WB0				IAmb		IAmb	22 14 44.6	
	comp=Z,7.6nm,1.1s							
WRA	**Warramunga Arr**	**44.83**	**264**	P		**P**	**22 14 33.3**	**-1.1**
WRA	**Warramunga Arr**	**44.83**	**264**	P		**P**	**22 14 32.6**	**-1.7**
	comp=Z,0.4nm,0.5s,baz=96,slow=7.8,SNR=5.3							
	comp=Z,0.4nm,0.5s							
FORT	**Forrest**	**48.90**	**248**	P		**P**	**22 15 04.3**	**-1.3**
FORT				IAmb		IAmb	22 15 18.7	
	comp=Z,9.6nm,0.8s							
QSPA	**South Pole Qui**	**67.33**	**180**	P		**P**	**22 17 14.3**	**+1.8**
QSPA	**South Pole Qui**	**67.33**	**180**	P		**P**	**22 17 15.5**	**+3.0**
	comp=Z,1.3nm,0.6s,baz=310,slow=1.0,SNR=13							
	comp=Z,1.3nm,0.6s							
NVAR	**Mina Array Bea**	**82.31**	**43**	P		**P**	**22 18 37.9**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=224,slow=8.2,SNR=4.6							
	comp=Z,0.6nm,0.6s							
K05A	**Summer Lake**	**83.40**	**38**	P		**P**	**22 18 44.5**	**+0.5**
K05A				IAmb		IAmb	22 18 45.4	
	comp=Z,3.8nm,1.0s							
J05D	**Fort Rock, OR**	**83.56**	**38**			**P**	**22 18 45.2**	**+0.4**
J05D				IAmb		IAmb	22 18 45.8	
	comp=Z,2.8nm,0.6s							
MTPU	**Mount Pierson**	**86.05**	**46**	P		**P**	**22 18 57.7**	**+0.1**
TXAR	**Lajitas Array**	**87.84**	**57**	P		**P**	**22 19 07.0**	**+0.9**
TXAR	**Lajitas Array**	**87.84**	**57**	P		**P**	**22 19 04.8**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=237,slow=4.3,SNR=5.2							
	comp=Z,0.6nm,0.8s							
PDAR	**Pinedale Array**	**90.25**	**43**	P		P	22 19 13.3	-3.8
	comp=Z,0.5nm,0.7s,baz=259,slow=5.3,SNR=4.1							
	comp=Z,0.5nm,0.7s							
ILAR	**Eielson Array**	**90.39**	**13**	P		**P**	**22 19 14.2**	**-2.7**
	comp=Z,0.1nm,0.3s,baz=216,slow=5.6,SNR=2.0							
	comp=Z,0.1nm,0.3s							
SPITS	**Spitsbergen Ar**	**124.13**	**357**	PKP		**PKPdf**	**22 25 10.4**	**-1.9**
	comp=Z,12nm,1.0s,baz=66,slow=12,SNR=2.7							
FINES	**FINESS Array B**	**138.06**	**343**	PKhKP		PKPpre	22 25 33.9	
	comp=Z,1.8nm,0.9s,baz=76,slow=5.9,SNR=1.9							
HFS	**Hagfors**	**141.83**	**351**	PKhKP		PKPpre	22 25 42.3	
	comp=Z,0.4nm,0.3s,baz=61,slow=4.2,SNR=9.4							
AKASG	**Malin Array Be**	**145.21**	**330**	PKP		**PKPdf**	**22 25 51.9**	**-0.2**
	comp=Z,1.7nm,0.5s,baz=42,slow=4.4,SNR=11							
AKBB	**Malin Array Si**	**145.21**	**330**			**PKPdf**	**22 25 52.5**	**+0.4**
KIEV	**Kiev**	**145.22**	**330**			**PKPdf**	**22 25 52.5**	**+0.4**
EKA	**Eskdalemuir Ar**	**147.18**	**6**	PKPbc		**PKPdf**	**22 25 55.3**	**+0.1**
	comp=Z,1.4nm,0.7s,baz=28,slow=3.2,SNR=2.9							
BRTR	**Keskin Array B**	**148.69**	**310**	PKPbc		**PKPbc**	**22 26 03.5**	**+0.9**
BRTR	**Keskin Array B**	**148.69**	**310**	PKPbc		**PKPbc**	**22 26 03.4**	**+0.8**
	comp=Z,0.4nm,0.6s,baz=152,slow=5.4,SNR=4.1							
BUR08	**Bucovina Ar. S**	**149.24**	**329**	PKPbc		**PKPbc**	**22 26 04.6**	**+1.0**
BURAR	**Bucovina Array**	**149.25**	**329**	PKPbc		**PKPbc**	**22 26 04.3**	**+0.7**
MMAI	**Mount Meron Ar**	**149.32**	**297**	PKPbc		**PKPbc**	**22 26 03.5**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=76,slow=7.0,SNR=12							

*IDC **19** 22:20:02.5±13.0, 15.°34S×165.°65E, h0km, mb3.7/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=237.1km s-min=36.7km az=55.0*
*NOU **19** 22:20:07.6, 15.°55S×167.°31E, h18km, MLv4.5/9, Vanuatu Islands*
ISC 19 22:19:49.8±3.8, **14.°1S**±0.°3×**167.°4E**±0.°3, **h35**km, **n11,**
σ1§09/11, mb3.7/3, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
DVP	**Devils Point**	**3.66**	**168**	P		**Pn**	**22 20 45.5**	**+1.5**
LIFNC	**LIFOU**	**6.62**	**181**	P		**Pn**	**22 21 24.5**	**-0.2**
KOUNC	**Koumac, New Ca**	**7.05**	**205**	P		**Pn**	**22 21 32.0**	**+1.4**
YATNC	**Mamie plateau,**	**7.91**	**183**	P		**Pn**	**22 21 41.1**	**-1.3**
DZM	**Mont Dzumac**	**7.96**	**186**	P		**Pn**	**22 21 42.7**	**-0.4**
DZM	**Mont Dzumac**	**7.96**	**186**	Pn		**Pn**	**22 21 42.9**	**-0.3**
	2.5nm,0.3s,baz=347,slow=4.4,SNR=21							
DZM				Sn		Sn	22 23 02.0	-10
	3.6nm,0.3s,baz=127,slow=23,SNR=8.3							
	11nm,0.5s							
NOUC	**Port Laguerre**	**8.00**	**187**	P		**Pn**	**22 21 44.4**	**+0.7**
OUENC	**Ouen Island, N**	**8.27**	**184**	P		**Pn**	**22 21 47.7**	**+0.4**
STKA	**Stephens Creek**	**29.48**	**229**	P		**P**	**22 25 49.4**	**-1.4**
	1.7nm,0.6s,baz=46,slow=8.8,SNR=5.1							
	1.7nm,0.6s							
WRA	**Warramunga Arr**	**32.10**	**255**	P		**P**	**22 26 14.8**	**+0.8**
	0.2nm,0.6s,baz=78,slow=6.9,SNR=1.4							
	0.2nm,0.6s							
ASAR	**Alice Springs**	**33.01**	**248**	P		**P**	**22 26 22.2**	**+0.2**
	0.6nm,0.6s,baz=74,slow=9.8,SNR=7.3							
	0.6nm,0.6s							

IDC 19 22:27:36.1±1.6, **0.°49N**×**125.°97E, h0**km, **mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=169.9km s-min=21.6km az=65.0, Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.90**	**158**	P		P	22 32 30.5	-0.6
	1.3nm,0.5s,baz=337,slow=11,SNR=9.4							
	1.3nm,0.5s							
ASAR	**Alice Springs**	**25.22**	**163**	P		P	22 33 04.3	+0.4
	0.4nm,0.3s,baz=345,slow=12,SNR=8.4							
	0.4nm,0.3s							
MKAR	**Makanchi Array**	**59.80**	**327**	P		P	22 37 43.7	+0.5
	0.4nm,0.4s,baz=121,slow=8.1,SNR=8.2							
	0.4nm,0.4s							
KURBB	**Kurchatov Arra**	**64.06**	**329**	P		P	22 38 11.2	-0.6
	0.3nm,0.4s,baz=127,slow=5.9,SNR=5.0							
	0.3nm,0.4s							

*TAP **19** 22:32:49.1, 24.°93N×122.°49E, h16km, ML2.5, D*
*JMA **19** 22:32:50.7±0.2, 24.°N±2.°×122.°5E±0.°8, h47km±3km, MV1.5/5, NW OFF ISHIGAKIJIMA IS*
ISC 19 22:32:48.6±1.3, **24.°89N**±0.°04×**122.°54E**±0.°04, **h25**km±13km, **n49,** σ0§87/70, **Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.51**	**283**	*eP*		**Pb**	**22 32 58.6**	**-0.4**
	baz=279							
TWB1				*eS*		**Sb**	**22 33 05.2**	**-0.8**
	baz=279							
EOS2	**EOS2**	**0.55**	**210**	*eP*		**Pn**	**22 33 00.5**	**-0.1**
	baz=202							
EOS2				*eS*		**Sn**	**22 33 08.7**	**-0.1**
	baz=202							
EGS		**0.55**	**265**	P		**Pb**	**22 32 59.6**	**0.0**
	baz=259							
EGS				S		**Sb**	**22 33 06.4**	**-0.8**
	baz=259							
JYNG	**Yonagunijimaku**	**0.58**	**139**	P		**Pn**	**22 33 01.2**	**0.0**
JYNG				S		**Sn**	**22 33 08.8**	**-1.0**
YOJ	**Yonaguni jima**	**0.61**	**135**	P		**Pn**	**22 33 01.9**	**+0.3**
YOJ				*eS*		**Sn**	**22 33 09.6**	**-1.0**
YOJ	**Yonaguni jima**	**0.61**	**135**	*i* P		**Pn**	**22 33 02.0**	**+0.4**
	baz=125							
YOJ				*i* S		**Sn**	**22 33 10.1**	**-0.5**
	baz=125							
SXI1	**Grass Mountain**	**0.63**	**289**	*eP*		**Pn**	**22 33 01.6**	**-0.4**
	baz=286							
SXI1				*eS*		**Sb**	**22 33 10.1**	**+0.5**
	baz=286							
EOS3	**EOS3**	**0.63**	**198**	*i* P		**Pn**	**22 33 02.3**	**+0.5**
	baz=191							
EOS3				*eS*		**Sn**	**22 33 10.7**	**-0.4**
	baz=191							
TIPB	**Shuangxi**	**0.65**	**277**	*eP*		**Pb**	**22 33 01.9**	**+0.5**
	baz=274							
TWC	**Suao**	**0.68**	**246**	*eP*		**Pn**	**22 33 01.8**	**-0.8**
	baz=240							
TWC				S		**Sn**	**22 33 11.2**	**-1.2**
	baz=240							
ESAO	**Su ao**	**0.70**	**244**	*eP*		**Pn**	**22 33 02.7**	**-0.2**
	baz=239							
NWF	**Wu-fen Shan**	**0.71**	**285**	*eP*		**Pn**	**22 33 03.1**	**+0.1**
	baz=282							
TNOU	**National Taiwa**	**0.74**	**291**	*eP*		**Pn**	**22 33 03.6**	**+0.2**
	baz=289							
EOS4	**EOS4**	**0.79**	**194**	P		**Pb**	**22 33 04.9**	**+1.1**
	baz=178							
EOS4				*eS*		**Sn**	**22 33 14.1**	**-0.6**
	baz=178							
TWE	**Neicheng**	**0.81**	**258**	*eP*		**Pn**	**22 33 04.2**	**-0.2**
	baz=244							
TWE				*eS*		**Sb**	**22 33 13.5**	**-0.9**
	baz=244							
EWUT	**Wuta**	**0.82**	**237**	*i* P		**Pn**	**22 33 04.7**	**+0.2**
	baz=233							
EWUT				*eS*		**Sn**	**22 33 14.5**	**-1.3**
	baz=233							
PCYT	**Pengchaiyu**	**0.85**	**330**	*eP*		**Pn**	**22 33 04.9**	**0.0**
	baz=332							
ENA	**Nanau**	**0.86**	**238**	*eP*		**Pb**	**22 33 05.0**	**+0.1**
	baz=233							
ENA				*eS*		**Sn**	**22 33 15.7**	**-1.1**
	baz=233							
FUSB	**Fushanzhiwuyua**	**0.87**	**262**	*eP*		**Pn**	**22 33 05.3**	**0.0**
	baz=258							
FUSB				*eS*		**Sn**	**22 33 16.1**	**-1.1**
	baz=258							
YM08	**YM08**	**0.91**	**289**	*eP*		**Pn**	**22 33 06.9**	**+1.1**
	baz=288							
YM01	**YM01**	**0.91**	**286**	*eP*		**Pn**	**22 33 06.8**	**+1.0**
	baz=285							
EAHA	**Aohua**	**0.92**	**232**	*eP*		**Pb**	**22 33 06.2**	**+0.3**
	baz=228							
ENTT	**Nioudou**	**0.92**	**254**	*eP*		**Pb**	**22 33 06.5**	**+0.6**
	baz=251							
TWY	**Chenhua**	**0.93**	**295**	*eP*		**Pn**	**22 33 07.5**	**+1.5**
	baz=293							
NWLT	**Wulai**	**0.94**	**263**	*eP*		**Pb**	**22 33 06.9**	**+0.5**
	baz=260							
NWLT				*eS*		**Sn**	**22 33 18.2**	**-0.8**
	baz=260							
NDT	**Datong Townshi**	**0.97**	**253**	*eP*		**Pb**	**22 33 07.5**	**+0.7**
	baz=250							
LATG	**Datong**	**0.98**	**249**	*eP*		**Pb**	**22 33 07.6**	**+0.6**
	baz=232							
LATG				*eS*		**Sb**	**22 33 18.8**	**-0.9**
	baz=232							
YHNB	**Yeheng**	**1.08**	**258**	*eP*		**Pb**	**22 33 09.8**	**+1.1**
	baz=270							
YHNB				*eS*		**Sb**	**22 33 21.9**	**-0.4**
	baz=270							
NSK	**Sanguang**	**1.09**	**259**	*eP*		**Pb**	**22 33 09.4**	**+0.5**
	baz=256							
NACB	**Ninganchiao**	**1.11**	**230**	P		**Pb**	**22 33 09.7**	**+0.5**
	baz=237							
NACB				*i* S		**Sb**	**22 33 24.0**	**+0.7**
	baz=237							
NNSB	**Datong**	**1.15**	**247**	*eP*		**Pb**	**22 33 09.9**	**+0.1**
	baz=243							
NNSB				*eS*		**Sb**	**22 33 24.7**	**+0.3**
	baz=243							
NNS	**Nan Shan**	**1.15**	**247**	*eP*		**Pb**	**22 33 11.1**	**+1.2**
	baz=234							
NFF	**Wufeng Townshi**	**1.31**	**259**	*eP*		**Pb**	**22 33 13.4**	**+0.7**
	baz=256							
FUSS	**Fushou**	**1.34**	**242**	*i* P		**Pb**	**22 33 14.4**	**+1.2**
	baz=238							
FUSS				*eS*		**Sb**	**22 33 31.0**	**+1.0**
	baz=238							
LXIB	**Xiulin Townshi**	**1.34**	**230**	*eP*		**Pb**	**22 33 13.3**	**+0.1**
	baz=227							
WHF	**Hehuan Shan**	**1.37**	**238**	*eP*		**Pb**	**22 33 15.1**	**+1.2**
	baz=234							
TWT	**Tachien**	**1.39**	**243**	*eP*		**Pb**	**22 33 16.5**	**+2.5**
	baz=232							
LIOB	**Emei**	**1.40**	**260**	*eP*		**Pb**	**22 33 14.3**	**+0.2**
	baz=258							
CHGB	**Renai**	**1.49**	**237**	*eP*		**Pb**	**22 33 16

MAVZ S S 22 41 00.5 -2.6
COVZ Chateau Observ 1.01 69 P Pn 22 40 37.9 -0.5
COVZ S S 22 41 00.5 -2.3
WNVZ Wahianoa 1.01 77 P Pn 22 40 38.1 -0.3
WNVZ S S 22 41 00.8 -2.2
WHVZ Whangaehu Hut 1.02 74 P Pn 22 40 38.2 -0.4
NGZ Ngauruhoe 1.06 69 P Pn 22 40 38.3 -0.5
TUVZ Tukino 1.07 74 P Pn 22 40 38.7 -0.1
WTVZ West Tongariro 1.08 66 P Pn 22 40 38.4 -0.5
SNVZ South Ngauruho 1.09 70 P Pn 22 40 38.7 -0.2
NNVZ North Ngauruho 1.09 67 P Pn 22 40 38.5 -0.4
OTVZ Oturere 1.11 69 P Pn 22 40 38.8 -0.3
OTVZ S S 22 41 02.0 -2.1
MOVZ Moawhango 1.12 82 P Pn 22 40 38.4 -0.7
MOVZ S S 22 41 00.5 -3.5
KRVZ Karewarewa 1.12 66 P Pn 22 40 38.7 -0.5
KRVZ S S 22 41 01.9 -2.3
HIZ Hauiti 1.13 22 P Pn 22 40 38.0 -1.1
HIZ Hauiti 1.13 22 Pn Pn 22 40 38.0 -1.1
HIZ Sn S 22 41 01.5 -2.5
HIZ Hauiti 1.13 22 P Pn 22 40 38.0 -1.1
HIZ S S 22 41 01.5 -2.5
NTVZ North Tongarir 1.15 67 P Pn 22 40 38.9 -0.4
ETVZ East Tongariro 1.16 69 P Pn 22 40 39.0 -0.4
TMVZ Te Maari 1.16 68 P Pn 22 40 39.0 -0.4
KATZ Kakaramea 1.22 62 P Pn 22 40 39.5 -0.3
KATZ S S 22 41 03.3 -2.0
DUWZ D'Urville Isla 1.27 194 P Pn 22 40 40.0 -0.1
DUWZ S S 22 41 04.0 -2.0
RATZ Rangitukua 1.32 59 P Pn 22 40 39.9 -0.6
RITZ Rihia Road 1.33 64 P Pn 22 40 40.2 -0.3
BHHZ Black Hill Sta 1.35 87 P Pn 22 40 40.4 -0.7
BHHZ S S 22 41 03.5 -3.4
TSZ Takapari Road 1.35 112 P Pn 22 40 40.7 0.0
TSZ S S 22 41 05.0 -2.1
KIW Kapiti Island 1.37 161 P Pn 22 40 40.6 -0.2
POWZ Post Office Ro 1.38 127 P Pn 22 40 40.8 -0.1
WATZ Wairara 1.39 53 P Pn 22 40 40.6 -0.5
OGWZ Otaki Gorge 1.41 153 P Pn 22 40 41.1 +0.1
MRZ Mangatainoka R 1.46 139 Pn Pn 22 40 41.3 -0.2
MRZ Sn S 22 41 05.8 -2.7
MRZ Mangatainoka R 1.46 139 P Pn 22 40 41.3 -0.2
PNHZ Pukenui 1.49 104 P Pn 22 40 41.7 -0.1
HATZ Hinemaiaia 1.53 65 P Pn 22 40 41.3 -0.8
TLZ Tolley Road 1.55 38 P Pn 22 40 41.3 -1.1
WHTZ Whakaora 1.55 55 P Pn 22 40 42.0 -0.4
KRHZ Kereru 1.58 94 P Pn 22 40 42.4 -0.2
KUTZ Kaahu Road 1.58 48 P Pn 22 40 42.2 -0.5
DVHZ Dannevirke 1.60 118 P Pn 22 40 42.6 -0.1
PRHZ Pori Road 1.61 129 P Pn 22 40 42.9 +0.1
HOWZ Holdsworth Sta 1.61 146 P Pn 22 40 42.5 -0.3
KWHZ Kaweka Forest 1.63 86 P Pn 22 40 43.1 +0.1
CAW Cannon Point 1.64 160 P Pn 22 40 42.9 -0.2
TCW Tory Channel 1.65 181 P Pn 22 40 43.1 +0.1
TCW Sn S 22 41 09.3 -2.0
TCW Tory Channel 1.65 181 P Pn 22 40 43.2 +0.1
TIWZ Tintock 1.70 136 P Pn 22 40 43.5 -0.1
WPHZ Waipukurau 1.71 108 P Pn 22 40 43.7 +0.1
BKZ Black Stump Fm 1.73 77 P Pn 22 40 43.4 -0.6
BKZ Black Stump Fm 1.73 77 Pn Pn 22 40 43.3 -0.6
BKZ Black Stump Fm 1.73 77 P Pn 22 40 43.3 -0.6
WEL Wellington 1.75 169 P Pn 22 40 43.7 -0.3
SNZO South Karori 1.77 171 P Pn 22 40 43.9 -0.3
SNZO South Karori 1.77 171 Pn 22 40 43.9 -0.3
WPRZ Whakapapatarin 1.77 55 P Pn 22 40 43.4 -0.9
MRHZ Matea Rd 1.78 67 P Pn 22 40 43.3 -1.1
TKNZ Takaka Hill 1.80 215 Pn Pn 22 40 43.7 -0.8
TKNZ Takaka Hill 1.80 215 P Pn 22 40 43.9 -0.6
NNZ Nelson 1.80 203 Pn Pn 22 40 44.3 -0.2
NNZ Nelson 1.80 203 P Pn 22 40 44.3 -0.2
MTW Mount Morrison 1.83 151 P Pn 22 40 44.4 -0.4
MCHZ McNeill Hill 1.84 87 P Pn 22 40 45.4 +0.5
GRRZ Galatos Road 1.84 50 P Pn 22 40 44.4 -0.6
BFZ Birch Farm 1.85 128 P Pn 22 40 44.8 -0.2
BFZ Birch Farm 1.85 128 Pn Pn 22 40 44.7 -0.2
BFZ Birch Farm 1.85 128 P Pn 22 40 44.8 -0.2
ALRZ Allen Road 1.86 58 P Pn 22 40 44.1 -1.0
QRZ Quartz Range 1.87 227 P Pn 22 40 44.2 -0.9
QRZ Quartz Range 1.87 227 Pn Pn 22 40 44.0 -1.1
QRZ Quartz Range 1.87 227 P Pn 22 40 44.2 -0.9
ANWZ Angora Road 1.88 119 P Pn 22 40 45.5 +0.3
TUWZ Tuamarina 1.89 189 Pn Pn 22 40 45.0 -0.2
TUWZ Tuamarina 1.89 189 P Pn 22 40 45.0 -0.2
BHW Baring Head 1.89 167 Pn Pn 22 40 44.8 -0.5
BHW Baring Head 1.89 167 P Pn 22 40 44.9 -0.5
PRHZ Porangahau 1.91 112 P Pn 22 40 45.8 +0.2
HRRZ Handcock Road 1.92 53 P Pn 22 40 45.0 -0.8
PRRZ Plateau Road 1.93 57 P Pn 22 40 44.6 -1.2
HSRZ Hossack Road 1.95 51 P Pn 22 40 45.4 -0.6
TMWZ Te Maipa 1.95 143 P Pn 22 40 45.8 -0.2
CPWZ Castlepoint 1.97 134 P Pn 22 40 46.5 +0.4
NMHZ Naumai 1.98 77 P Pn 22 40 46.6 +0.3
MSWZ Moikau Station 1.98 159 Pn Pn 22 40 45.6 -0.6
MSWZ Moikau Station 1.98 159 P Pn 22 40 45.8 -0.4
KAHZ Kahuranaki 1.98 98 P Pn 22 40 46.6 +0.3
PAWZ Paruwai Farm 2.00 156 P Pn 22 40 46.1 -0.4
PXZ Pawanui 2.01 104 P Pn 22 40 46.6 +0.1
UTU Utuhina 2.01 47 P Pn 22 40 46.1 -0.5
TOZ Tahuroa Road 2.05 27 Pn Pn 22 40 45.8 -1.1
TOZ Tahuroa Road 2.05 27 P Pn 22 40 46.0 -1.0
HLRZ Highlands Stat 2.05 51 P Pn 22 40 46.7 -0.3
NGRZ Ngongotaha 2.06 46 P Pn 22 40 46.8 -0.4
MTHZ Maungataniwha 2.08 71 P Pn 22 40 46.9 -0.6
ARHZ Aropaoanui 2.09 83 P Pn 22 40 47.4 +0.1
RRRZ Republican Roa 2.10 55 P Pn 22 40 46.5 -1.0
TRWZ Traveller 2.11 151 P Pn 22 40 47.2 -0.3
PLWZ Palliser 2.13 161 Pn Pn 22 40 47.1 -0.6
PLWZ Palliser 2.13 161 P Pn 22 40 47.1 -0.6
CKHZ Cape Kidnapper 2.13 93 P Pn 22 40 48.0 +0.3
KMRZ Kaimai 2.13 37 P Pn 22 40 47.2 -0.6
KARZ Kaharoa 2.15 45 P Pn 22 40 47.3 -0.7
TARZ Mount Tarawera 2.16 53 P Pn 22 40 47.4 -0.8
OMRZ Omania 2.16 48 P Pn 22 40 47.3 -0.8
BSWZ Blackbirch Sta 2.18 189 Pn Pn 22 40 47.8 -0.3
BSWZ Blackbirch Sta 2.18 189 P Pn 22 40 47.9 -0.3
CMWZ Cape Campbell 2.19 182 Pn Pn 22 40 48.2 0.0
CMWZ Cape Campbell 2.19 182 P Pn 22 40 48.4 +0.1
MRNZ Matariki Terra 2.19 213 Pn Pn 22 40 47.6 -0.7
MRNZ Matariki Terra 2.19 213 P Pn 22 40 47.6 -0.7
MURZ Murupara 2.19 61 P Pn 22 40 47.0 -1.4
RAHZ Arahi 2.24 74 P Pn 22 40 48.7 -0.2
RTZ Ruatahuna 2.27 66 Pn Pn 22 40 48.3 -1.0
RTZ Ruatahuna 2.27 66 P Pn 22 40 48.3 -1.0
WHHZ Waihua 2.31 79 P Pn 22 40 49.5 -0.1
TGRZ Tauranga 2.38 40 P Pn 22 40 49.6 -0.7
EDRZ Edgecumbe 2.38 53 P Pn 22 40 49.2 -1.2
MARZ Manawahe 2.42 50 P Pn 22 40 50.0 -0.9
OPRZ Ohinepanea 2.45 46 P Pn 22 40 50.1 -0.9
THZ Tophouse 2.45 206 Pn Pn 22 40 50.6 -0.5
THZ Tophouse 2.45 206 P Pn 22 40 50.6 -0.5
SNGZ Shannon Statio 2.47 73 P Pn 22 40 51.0 -0.3
KBAZ Karaka Road Bo 2.50 10 P Pn 22 40 51.5 -0.2
AWAZ Awhitu Peninsu 2.51 6 P Pn 22 40 51.4 -0.4
URZ Urewera 2.53 60 P Pn 22 40 50.4 -1.6
URZ Urewera 2.53 60 P Pn 22 40 50.3 -1.7
331nm,0.6s,baz=334,slow=6.7,SNR=290
URZ S S 22 41 21.4 -5.7
1µm,0.4s,baz=305,slow=9.9,SNR=74
URZ Urewera 2.53 60 P Pn 22 40 50.3 -1.7
MKAZ Moumakai 2.54 15 P Pn 22 40 51.6 -0.5
RAGZ Rawiri 2.63 67 P Pn 22 40 52.2 -1.0
WTAZ Waiatarua 2.63 4 P Pn 22 40 53.0 -0.1
ETAZ East Tamaki Re 2.65 11 P Pn 22 40 52.9 -0.4
KNZ Kokohu 2.66 79 P Pn 22 40 52.8 -0.5
WHRZ Whale Island 2.68 51 P Pn 22 40 54.2 +0.6
EPAZ Eden Park BICE 2.70 7 P Pn 22 40 53.7 -0.2
HBAZ Herne Bay Bore 2.73 7 P Pn 22 40 53.9 -0.3
MWZ Matawai 2.78 65 P Pn 22 40 53.4 -1.4
RVAZ Riverhead Bore 2.79 4 P Pn 22 40 54.6 -0.3
MHGZ Mahia Peninsul 2.81 83 P Pn 22 40 54.9 -0.1
RIGZ Rimuhau 2.81 73 P Pn 22 40 54.6 -0.5
MBAZ Motutapu North 2.83 9 P Pn 22 40 54.9 -0.4
PRGZ Paritu Road 2.84 78 P Pn 22 40 55.0 -0.4
WIAZ Waiheke Island 2.84 13 P Pn 22 40 55.0 -0.4
DSZ Denniston Nort 2.90 221 Pn Pn 22 40 55.2 -0.8
DSZ Denniston Nort 2.90 221 P Pn 22 40 55.3 -0.8
KHZ Kahutara 2.91 192 P Pn 22 40 55.5 -0.6
KHZ Kahutara 2.91 192 Pn Pn 22 40 55.4 -0.6
KHZ Kahutara 2.91 192 P Pn 22 40 55.4 -0.6

ABAZ Army Bay 2.98 8 P Pn 22 40 57.0 -0.1
KUZ Kuaotunu 3.02 22 P Pn 22 40 56.7 -0.8
KUZ Kuaotunu 3.02 22 P Pn 22 40 56.8 -0.7
TWGZ Tauwhareparae 3.17 65 P Pn 22 40 58.3 -0.9
CNGZ Carnagh Statio 3.21 72 P Pn 22 40 59.2 -0.4
HAZ Te Kaha 3.25 57 P Pn 22 40 57.8 -2.4
PKGZ Pakihiroa 3.38 62 P Pn 22 41 00.2 -1.5
PUZ Puketiti 3.41 65 P Pn 22 41 00.5 -1.6
GRZ Great Barrier 3.43 16 P Pn 22 41 01.7 -0.5
GVZ Greta Valley S 3.54 196 Pn Pn 22 41 02.3 -1.1
GVZ Greta Valley S 3.54 196 P Pn 22 41 02.4 -1.1
LTZ Lake Taylor 3.57 205 Pn Pn 22 41 02.9 -0.9
LTZ Lake Taylor 3.57 205 P Pn 22 41 02.9 -0.9
WCZ Waipu Caves 3.62 0 P Pn 22 41 04.1 -0.4
WMGZ Waiomatatini S 3.64 63 P Pn 22 41 03.1 -1.6
MXZ Matakaoa Point 3.71 59 Pn Pn 22 41 04.0 -1.5
MXZ Matakaoa Point 3.71 59 P Pn 22 41 03.8 -1.7
MXZ Matakaoa Point 3.71 59 P Pn 22 41 04.0 -1.5
AMCZ Amberley 3.82 199 Pn Pn 22 41 05.3 -1.5
AMCZ Amberley 3.82 199 P Pn 22 41 05.6 -1.2
INZ Inchbonnie 3.83 214 Pn Pn 22 41 05.9 -1.1
INZ Inchbonnie 3.83 214 P Pn 22 41 05.6 -1.4
OXZ Oxford 4.13 204 Pn Pn 22 41 08.8 -1.8
OXZ Oxford 4.13 204 P Pn 22 41 09.1 -1.6
OKCZ Okains Bay 4.26 192 P Pn 22 41 10.7 -1.6
MQZ McQueen's Vall 4.33 196 Pn Pn 22 41 10.7 -2.3
MQZ McQueen's Vall 4.33 196 P Pn 22 41 10.6 -2.3
OUZ Omahuta 4.37 352 P Pn 22 41 13.5 -0.2
OUZ Omahuta 4.37 352 Pn Pn 22 41 13.7 -0.1
WVZ Waitaha Valley 4.43 216 P Pn 22 41 12.7 -1.6
AKCZ Akaroa Harbour 4.43 193 P Pn 22 41 12.4 -1.9
RACZ Rakaia 4.47 201 P Pn 22 41 13.1 -1.7
MHCZ Mount Hutt 4.47 207 P Pn 22 41 13.3 -1.6
WACZ Wakanui South 4.75 202 P Pn 22 41 16.8 -1.5
GCSZ Gaunt Creek Bo 4.80 217 P Pn 22 41 17.4 -1.6
RPZ Rata Peaks 4.82 210 P Pn 22 41 17.7 -1.5
RPZ Rata Peaks 4.82 210 Pn Pn 22 41 17.5 -1.7
RPZ Rata Peaks 4.82 210 P Pn 22 41 17.6 -1.5
234nm,0.3s,baz=284,slow=1.8,SNR=78
RPZ S S 22 42 10.2 -6.1
540nm,0.4s,baz=75,slow=2.2,SNR=25
RPZ Rata Peaks 4.82 210 P Pn 22 41 17.7 -1.5
ARCZ Arundel 4.97 207 P Pn 22 41 19.2 -1.9
FOZ Fox Glacier 5.21 219 Pn Pn 22 41 22.1 -2.0
FOZ Fox Glacier 5.21 219 P Pn 22 41 21.8 -2.3
TMZ Timaru 5.41 206 P Pn 22 41 25.2 -1.5
LBZ Lake Benmore 5.72 211 Pn Pn 22 41 28.5 -2.1
LBZ Lake Benmore 5.72 211 P Pn 22 41 28.6 -2.0
JCZ Jackson Bay 6.12 221 P Pn 22 41 34.3 -1.4
JCZ Jackson Bay 6.12 221 P Pn 22 41 34.4 -1.4
ODZ Otahua Downs 6.12 205 P Pn 22 41 34.7 -0.9
ODZ Otahua Downs 6.12 205 Pn Pn 22 41 34.5 -1.1
ODZ Otahua Downs 6.12 205 P Pn 22 41 34.5 -1.1
WKZ Wanaka 6.57 215 Pn Pn 22 41 38.5 -3.0
WKZ Wanaka 6.57 215 P Pn 22 41 38.6 -2.9
EAZ Earnscleugh 6.77 212 P Pn 22 41 41.7 -2.3
HHSZ Highcliff Hill 6.89 202 P Pn 22 41 45.5 0.0
TUZ Tuapeka 7.26 207 P Pn 22 41 49.4 -0.9
MLZ Mavora Lakes 7.39 216 Pn Pn 22 41 49.8 -2.3
MLZ Mavora Lakes 7.39 216 P Pn 22 41 50.0 -2.1
WHZ Wether Hill Ro 7.88 214 Pn Pn 22 41 55.6 -2.6
WHZ Wether Hill Ro 7.88 214 P Pn 22 41 55.7 -2.6
SYZ Scrubby Hill 7.94 207 P Pn 22 41 58.0 -1.0
SYZ Scrubby Hill 7.94 207 Pn Pn 22 41 57.8 -1.1
CTZ Chatham Island 7.96 125 P Pn 22 42 00.5 +1.2
CTZ Chatham Island 7.96 125 Pn Pn 22 42 00.9 +1.5
CTZ Chatham Island 7.96 125 P Pn 22 42 01.2 +1.9
APZ The Paps 8.61 210 P Pn 22 42 06.1 -1.7
PYZ Puysegur Point 8.66 218 Pn Pn 22 42 07.5 -0.9
DZM Mont Dzumac 18.69 337 P Pn 22 44 10.9 -1.3
DZM Mont Dzumac 18.69 337 P Pn 22 44 10.7 -1.5
DZM IAmb IAmb 22 44 15.6
comp=Z,20nm,0.9s
DZM Mont Dzumac 18.69 337 P **P** **22 44 09.7 +0.6**
comp=Z,9.0nm,1.0s,baz=156,slow=17,SNR=5.4
KOUNC **Koumac, New Ca 20.82 333** P **P** **22 44 32.5 +0.8**
KOUNC IAmb IAmb 22 44 35.3
comp=Z,16nm,0.9s
MSVF Nonsavu 21.99 10 P **P** **22 44 43.9 +0.2**
MSVF Nonsavu 21.99 10 P **P** **22 44 43.9 +0.2**
MSVF IAmb IAmb 22 44 45.1
comp=Z,21nm,0.8s
TOO Toolangi 22.59 266 P **P** **22 44 51.2 +2.2**
BRAT Ballarat 23.80 265 P **P** **22 45 01.7 +1.8**
EIDS Eidsvold 24.09 299 P **P** **22 45 03.6 +0.9**
EIDS IAmb IAmb 22 45 08.8
comp=Z,19nm,1.4s
STKA Stephens Creek 27.55 276 P **P** **22 45 35.6 +2.0**
STKA Stephens Creek 27.55 276 P **P** **22 45 35.9 +2.3**
comp=Z,1.8nm,0.6s,baz=108,slow=8.9,SNR=4.5
comp=Z,1.8nm,0.6s
LCRK Leigh Creek 30.77 276 P **P** **22 46 03.6 +1.5**
BBOO Buckleboo 31.43 270 P **P** **22 46 08.6 +0.7**
BBOO IAmb IAmb 22 46 21.3
comp=Z,19nm,1.5s
MULG Mulgathing 34.05 273 P **P** **22 46 31.8 +1.2**
AS01 Alice Springs 37.52 283 P **P** **22 47 01.2 +1.1**
ASAR Alice Springs 37.55 283 P **P** **22 47 00.2 -0.1**
ASAR Alice Springs 37.55 283 P **P** **22 47 01.0 +0.6**
comp=Z,4.5nm,0.8s,baz=128,slow=8.8,SNR=41
ASAR PcP **PcP** **22 49 12.6 -1.0**
comp=Z,0.4nm,0.4s,baz=129,slow=5.8,SNR=1.5
ASAR S S **22 52 32.5 -0.8**
comp=Z,0.4nm,0.9s,baz=141,slow=15,SNR=6.0
comp=Z,4.5nm,0.8s
VNDA Vanda 38.43 184 P **P** **22 47 09.4 +2.5**
VNDA Vanda 38.43 184 P **P** **22 47 09.2 +2.2**
comp=Z,2.3nm,0.7s,baz=3.6,slow=8.6,SNR=18
comp=Z,2.3nm,0.7s
FORT Forrest 38.47 269 P **P** **22 47 09.2 +1.3**
FORT Forrest 38.47 269 P **P** **22 47 07.3 -0.6**
FORT IAmb IAmb 22 47 36.6
comp=Z,12nm,1.0s
SBA Scott Base 38.53 183 P **P** **22 47 11.0 +3.2**
WR0 Warramunga Arr 39.28 288 P **P** **22 47 14.6 -0.2**
WR0 IAmb IAmb 22 47 27.0
comp=Z,11nm,1.2s
WRA Warramunga Arr 39.44 288 P **P** **22 47 15.7 -0.4**
WRA Warramunga Arr 39.44 288 P **P** **22 47 16.6 +0.5**
comp=Z,3.3nm,0.7s,baz=126,slow=8.0,SNR=22
comp=Z,3.3nm,0.7s
WRKA Warakurna 41.07 276 P **P** **22 47 29.2 -0.3**
FITZ Fitzroy Crossi 47.05 283 P **P** **22 48 17.4 +0.5**
MEEK Meekatharra 47.73 268 P **P** **22 48 22.0 0.0**
MORW Morawa 48.52 264 P **P** **22 48 28.0 0.0**
MORW IAmb IAmb 22 48 45.9
comp=Z,21nm,1.5s
MBWA Marble Bar 49.78 275 P **P** **22 48 37.0 -0.6**
QSPA South Pole Qui 50.56 180 P **P** **22 48 45.7 +2.6**
QSPA South Pole Qui 50.56 180 P **P** **22 48 45.7 +2.6**
comp=Z,20nm,0.6s,baz=9.5,slow=2.0,SNR=272
comp=Z,20nm,0.6s
BELA Belgrano 2 61.51 173 P **P** **22 50 01.3 +1.2**
BELA IAmb IAmb 22 50 03.0
comp=Z,10.0nm,0.7s
TROLL Troll, Antarti 68.58 183 ⇑P **P** **22 50 46.2 +0.4**
comp=Z,109nm,0.5s
SNAA Sanae 69.05 181 P **P** **22 50 49.4 +0.7**
SNAA Sanae 69.05 181 ⇑P **P** **22 50 49.2 +0.5**
comp=Z,13nm,0.3s
SNAA Sanae 69.05 181 P **P** **22 50 49.2 +0.5**
comp=Z,1.2nm,0.3s,baz=205,slow=7.6,SNR=30
comp=Z,1.2nm,0.3s
VNA3 Neumayer Olymp 69.46 179 ⇑P **P** **22 50 51.9 +0.8**
comp=Z,10nm,0.8s
VNA2 Neumayer--Watz 69.81 179 ⇑P **P** **22 50 53.9 +0.7**
comp=Z,3.6nm,0.4s,baz=176,slow=6.9
VNA1 Neumayer--Stat 70.08 179 ⇑P **P** **22 50 55.5 +0.8**
comp=Z,2.1nm,0.4s
MG05 Puerto Natales 72.12 143 P **P** **22 51 08.6 +1.2**
IPM Ipoh 80.08 284 P **P** **22 51 52.9 0.0**
IPM IAmb IAmb 22 51 54.3
comp=Z,6.0nm,0.7s
KULM Kulim 80.89 285 P **P** **22 51 57.0 -0.1**
KULM IAmb IAmb 22 52 05.2
comp=Z,17nm,1.4s
MJAR Matsushiro Arr 82.71 331 P **P** **22 52 05.5 -0.5**
comp=Z,1.9nm,0.8s,baz=141,slow=7.9,SNR=3.2
comp=Z,1.9nm,0.8s
MT01 Popeta 85.07 130 P **P** **22 52 18.5 +0.2**
MT01 IAmb IAmb 22 52 59.4
comp=Z,18nm,1.2s
KSRS Korea Array 87.70 325 P **P** **22 52 31.5 +0.9**
comp=Z,2.6nm,0.7s,baz=143,slow=5.8,SNR=9.5
comp=Z,2.6nm,0.7s
NJ2 Nanjing 87.88 316 *e*P P 22 52 35.8 +4.2
NJ2 pP pP 22 53 25.4 +1.1
NJ2 pmax pmax
comp=Z,11nm,1.2s
NJ2 pmax pmax
comp=Z,250nm,5.0s
CMAR Chiang Mai Arr 90.83 293 P **P** **22 52 44.8 -0.9**
comp=Z,1.3nm,0.3s,baz=134,slow=3.9,SNR=1.6
comp=Z,1.3nm,0.3s
PZH PanZhiHua 94.26 301 P **P** **22 53 03.6 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,6.5s
YKA Yellowknife Ar 116.45 29 PKP **PKPdf** **22 58 22.1 -1.6**
comp=Z,0.3nm,0.9s,baz=257,slow=1.4,SNR=3.8
MKAR Makanchi Array 118.67 309 PKP **PKPdf** **22 58 26.3 -2.2**
comp=Z,0.2nm,0.5s,baz=134,slow=4.2,SNR=1.6
KBZ Khabaz 143.88 293 PKP PKPbc 22 59 13.5 -0.6
comp=Z,3.2nm,0.9s,baz=139,slow=3.0,SNR=7.1
ARCES ARCESS Array B 145.74 341 PKPbc **PKPdf** **22 59 17.8 -0.5**
comp=Z,5.0nm,0.7s,baz=54,slow=2.8,SNR=13
MMAI Mount Meron Ar 146.47 272 PKPbc **PKPbc** **22 59 21.9 -0.5**
comp=Z,0.7nm,0.4s,baz=98,slow=6.0,SNR=6.6
DBIC Dimbokro 147.24 182 PKPbc **PKPdf** **22 59 22.9 +0.4**
comp=Z,3.3nm,0.6s,baz=195,slow=3.4,SNR=5.6
DBIC pPKPbc **pPKPbc** **23 00 19.1 -0.8**
comp=Z,4.8nm,0.8s,baz=181,slow=12.1,SNR=2.7
BRTR Keskin Array B 149.89 283 PKPbc **PKPbc** **22 59 30.2 -1.0**
comp=Z,1.2nm,0.8s,baz=162,slow=5.9,SNR=9.6
BRTR pPKPbc **pPKPbc** **23 00 27.2 +0.7**
comp=Z,0.6nm,0.5s,baz=136,slow=5.4,SNR=3.0
FINES FINESS Array B 150.71 329 PKPbc **PKPbc** **22 59 31.2 -1.0**
comp=Z,2.1nm,0.8s,baz=34,slow=3.5,SNR=13
FINES pPKPbc **pPKPbc** **23 00 26.8 -1.0**
comp=Z,0.7nm,0.6s,baz=54,slow=7.1,SNR=1.3
TORD Torodi Ar. Bea 152.90 196 PKPbc **PKPbc** **22 59 37.2 -1.4**
comp=Z,0.6nm,0.7s,baz=171,slow=5.5,SNR=9.4
TORD PKPab **PKPab** **22 59 48.1 -2.3**
comp=Z,1.4nm,0.7s,baz=132,slow=3.6,SNR=8.0
TORD pPKPbc **pPKPbc** **23 00 34.0 +0.1**
comp=Z,2.0nm,0.6s,baz=78,slow=1.5,SNR=7.4
AKASG Malin Array Be 153.22 306 PKPab **PKPab** **22 59 50.3 -0.8**
comp=Z,1.0nm,0.5s,baz=68,slow=3.6,SNR=5.0
NB2 NORSAR Subarra156.09 340 PKP **PKPab** **23 00 02.5 -0.5**
comp=Z,3.8nm,0.9s,baz=33,slow=4.4
NOA NORSAR Array B156.09 340 PKPab **PKPab** **23 00 02.2 -0.8**
comp=Z,1.0nm,0.7s,baz=30,slow=3.2,SNR=6.2
HFS Hagfors 156.09 336 PKPab **PKPab** **23 00 02.3 -0.7**
comp=Z,1.1nm,0.6s,baz=97,slow=4.6,SNR=7.1

JMA 19 22:48:08.2±0.2, 33.7N±0.5×140.9E±0.9, h61km±3km, MV3.5/38, E OFF HACHIJOJIMA ISLAND, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	**Boso 1**	**0.99**	**4**	P	Pn	22 48 26.4	+0.7
BSO1				S	Sn	22 48 40.6	+1.9
JHJ2	**Mitsune**	**1.05**	**239**	P	Pn	22 48 27.1	+0.1
JHJ2	**Mitsune**	**1.05**	**239**	P	Pn	22 48 27.3	+0.3
JHJ2				S	Sn	22 48 41.5	+0.7
JHCJ	**Hachijojimakas**	**1.08**	**237**	P	Pn	22 48 27.5	+0.1
JHCJ				S	Sn	22 48 41.0	-0.7
JMKN	**Mikurajimanish**	**1.10**	**282**	P	Pn	22 48 28.1	+0.5
JMKN				S	Sn	22 48 43.0	+0.9
BSO3	**Boso 3**	**1.18**	**345**	*e*P	Pn	22 48 29.1	+0.7
BSO3				*e*S	Sn	22 48 44.0	+0.5
JMYK	**Miyake Tsubota**	**1.18**	**290**	P	Pn	22 48 29.2	+0.6
JMYK				S	Sn	22 48 44.5	+0.6
BSO4	**Boso 4**	**1.40**	**341**	*e*P	Pn	22 48 32.5	+1.0
JKO	**Kozu shima**	**1.54**	**290**	*e*P	Pn	22 48 34.2	+0.7
JKO				*e*S	Sn	22 48 53.0	+0.4
JTHY	**Toshimahigashi**	**1.58**	**303**	*e*P	Pn	22 48 34.8	+0.8
JTHY				*e*S	Sn	22 48 53.9	+0.4
JIM2	**Oshima 3**	**1.60**	**311**	P	Pn	22 48 34.6	+0.3
JIM2				*e*S	Sn	22 48 54.1	+0.1
JIZS	**Izushimoda**	**1.97**	**303**	P	Pn	22 48 40.4	+1.1
JIZS				*e*S	Sn	22 49 03.8	+0.9
JOD2	**Odawara 2**	**2.18**	**318**	*e*P	Pn	22 48 42.7	+0.5
JOD2				*e*S	Sn	22 49 08.0	-0.1
JHU	**Hanno**	**2.55**	**329**	*e*P	Pn	22 48 48.3	+1.1
JHU				*e*S	Sn	22 49 17.6	+0.5
JGF	**Kuroka**	**3.49**	**305**	P	Pn	22 49 03.3	+3.2
INU	**Inuyama**	**3.61**	**299**	P	Pn	22 49 04.5	+2.8
MAJO	**Matsushiro**	**3.62**	**323**	P	Pn	22 49 04.5	+2.7
JMM	**Marumori**	**4.19**	**359**	P	Pn	22 49 10.6	+1.0

*IDC **19** 23:03:35.2±0.8, 4.26S×101.98E, h0km, mb4.1/15, mbtmp4.1/16, ML3.8/1, Error ellipse: s-maj=33.4km s-min=13.7km az=54.0*
*NEIC **19** 23:03:43.4±0.8, 4.20S±0.09×102.06E±0.08, h61km±7km, mb4.5/20, Error ellipse: s-maj=15.7km s-min=8.4km az=214.0*
*DJA **19** 23:03:43.8±0.5, 4°S×4°×10°2E°, h40km±11km, M4.7/13, mb4.8/6, mB5.4/4, MLv4.6/13, Mw(mB)4.8/4*
ISC 19 23:03:42.0±0.5, 4.32S±0.07×102.03E±0.06, h50km, n84, σ1°38/77, mb4.3/23, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**0.93**	**93**	P	**Pn**	**23 04 00.6**	**+1.8**
MNAI	**Manna**	**0.93**	**93**		**Pn**	**23 04 00.4**	**+1.6**
MNAI				Sn	**Sn**	**23 04 12.5**	**+1.4**
MNAI	**Manna**	**0.93**	**93**	P	**Pn**	**23 04 00.8**	**+2.0**
MNAI				S	**Sn**	**23 04 13.7**	**+2.6**
LWLI	**Liwa**	**2.14**	**109**	P	**Pn**	**23 04 18.2**	**+2.8**
LWLI				S	**Sn**	**23 04 43.1**	**+2.2**
PPSI	**Pulau Pagai**	**2.54**	**307**	P	**Pn**	**23 04 23.3**	**+2.6**
PPSI				S	**Sn**	**23 04 53.2**	**+2.8**
KASI	**Kota Agung**	**2.74**	**116**	P	**Pn**	**23 04 25.6**	**+2.1**
PDSI	**Padang**	**3.73**	**335**	P	**Pn**	**23 04 39.4**	**+2.4**
SISI	**Saibi**	**4.17**	**315**	P	**Pn**	**23 04 45.3**	**+2.1**
DSRI	**Dabo**	**4.59**	**34**	P	**Pn**	**23 04 51.1**	**+2.3**
PPBI	**Pangkal Pinang**	**4.63**	**63**	P	**Pn**	**23 04 52.7**	**+3.3**
BKNI	**Bangkinang**	**4.72**	**348**	Pn	**Pn**	**23 04 50.2**	**-0.4**
PBSI	**Pulau Batu** 77nm,0.5s,0.7nm	**5.65**	**318**	P	**Pn**	**23 05 04.7**	**+1.3**
CNJI	**Cibinong** 32nm,1.3s,1µm0.1nm	**5.88**	**121**	P	**Pn**	**23 05 07.4**	**+0.7**
LEM	**Lembang** 2.1nm,0.3s,baz=319,slow=19,SNR=1.5 6.3nm,0.4s	**6.10**	**114**	Pn	**Pn**	**23 05 08.0**	**-1.8**
BBJI	**Bungbulang**	**6.41**	**119**	P	**Pn**	**23 05 14.9**	**+1.0**
XMIS	**Christmas Isla**	**7.10**	**150**	P	**Pn**	**23 05 21.8**	**-1.6**
GSI	**Gunungsitoli**	**7.14**	**321**	P	**Pn**	**23 05 24.4**	**+0.5**
GSI	**Gunungsitoli**	**7.14**	**321**		**Pn**	**23 05 24.0**	**+0.1**
GSI	**Gunungsitoli** 42nm,0.6s,3µm0.4nm	**7.14**	**321**	P	**Pn**	**23 05 24.3**	**+0.4**
CMJI	**Cimerak** 62nm,1.0s,0.4nm	**7.26**	**119**	P	**Pn**	**23 05 26.4**	**+0.9**
SNSI	**Sinabang, Aceh** 73nm,0.5s,3µm	**8.78**	**319**	P	**Pn**	**23 05 48.0**	**+1.7**
UGM	**Wanagama**	**9.17**	**113**	P	**Pn**	**23 05 53.7**	**

baz=338,slow=76,SNR=5.8
WB0 Warramunga Arr 35.08 119 P **P** **23 10 30.0 -0.6**
WRA Warramunga Arr 35.10 119 P **P** **23 10 30.8 0.0**
comp=Z,0.7nm,0.5s,baz=301,slow=9.0,SNR=11
comp=Z,0.7nm,0.5s
WR0 Warramunga Arr 35.28 119 P **P** **23 10 31.6 -0.7**
WR0 IAmb IAmb 23 10 43.9
comp=Z,3.4nm,0.9s
ASAR Alice Springs 36.27 125 P **P** **23 10 41.2 +0.4**
comp=Z,1.1nm,0.7s,baz=299,slow=7.7,SNR=14
ASAR PcP **PcP** **23 13 04.8 -0.4**
comp=Z,0.2nm,0.6s,baz=303,slow=2.5,SNR=1.7
comp=Z,1.1nm,0.7s
AS31 Alice Springs 36.27 125 P **P** **23 10 38.9 -1.9**
BBOO Buckleboo 42.59 136 P **P** **23 11 33.2 -0.1**
STKA Stephens Creek 46.11 131 P **P** **23 12 02.5 +1.0**
STKA Stephens Creek 46.11 131 P **P** **23 12 02.5 +1.0**
comp=Z,4.2nm,0.6s,baz=304,slow=8.3,SNR=15
comp=Z,4.2nm,0.6s
NIL Nilore 46.54 326 P **P** **23 12 03.8 -1.0**
NIL IAmb IAmb 23 12 05.3
comp=Z,4.6nm,0.5s
KSRS Korea Array 48.04 28 P **P** **23 12 16.2 -0.1**
comp=Z,0.7nm,0.5s,baz=222,slow=5.9,SNR=2.7
comp=Z,0.7nm,0.5s
EIDS Eidsvold 51.46 119 P **P** **23 12 42.6 -0.1**
EIDS IAmb IAmb 23 12 55.6
comp=Z,7.2nm,1.1s
SONM Songino Array 52.07 4 P **P** **23 12 46.4 -0.5**
SONM IAmb IAmb 23 12 48.0
comp=Z,1.9nm,0.7s
SONM Songino Array 52.07 4 P **P** **23 12 47.1 +0.2**
comp=Z,2.2nm,0.6s,baz=187,slow=9.7,SNR=8.6
comp=Z,2.2nm,0.6s
BOOM Boomskoye usch 52.26 336 P **P** **23 12 48.1 -0.4**
MK31 Makanchi Array 53.80 343 P **P** **23 12 59.2 -0.4**
MK31 IAmb IAmb 23 12 59.9
comp=Z,1.7nm,0.6s
MKAR Makanchi Array 53.80 343 P **P** **23 12 59.1 -0.5**
MKAR Makanchi Array 53.80 343 P **P** **23 12 59.3 -0.3**
comp=Z,2.6nm,0.6s,baz=150,slow=7.9,SNR=27
comp=Z,2.6nm,0.6s
JMM Marumori 55.27 37 P **P** **23 13 08.9 -1.5**
USA0B Ussuriysk Arra 55.29 26 P **P** **23 13 08.8 -1.5**
USA0B IAmb IAmb 23 13 18.8
comp=Z,9.8nm,1.5s
USRK Ussuriysk Ar. 55.29 26 P **P** **23 13 09.2 -1.2**
USRK Ussuriysk Ar. 55.29 26 P **P** **23 13 09.5 -0.9**
comp=Z,1.8nm,0.6s,baz=222,slow=4.7,SNR=4.2
comp=Z,1.8nm,0.6s
KURBB Kurchatov Arra 58.34 343 P **P** **23 13 31.3 -0.6**
comp=Z,0.8nm,0.6s,baz=164,slow=6.8,SNR=7.7
comp=Z,0.8nm,0.6s
ZAA0 Zalesovo Array 59.82 348 P **P** **23 13 41.0 -1.0**
ZAA0 IAmb IAmb 23 13 42.0
comp=Z,3.5nm,0.6s
ZALV Zalesovo Beam 59.82 348 P **P** **23 13 41.1 -1.0**
ZALV Zalesovo Beam 59.82 348 P **P** **23 13 41.2 -0.8**
comp=Z,3.5nm,0.4s,baz=165,slow=5.5,SNR=21
comp=Z,3.5nm,0.4s
H04N2 CROZET ISLANDS 60.19 218 T T 00 18 36.5
baz=62,slow=75,SNR=65
H04N1 CROZET ISLANDS 60.20 218 T T 00 18 36.9
baz=62,slow=75,SNR=108
H04N3 CROZET ISLANDS 60.20 218 T T 00 18 35.6
baz=62,slow=75,SNR=82
H04S1 CROZET ISLANDS 60.44 217 T T 00 18 56.8
baz=61,slow=75,SNR=16
H04S3 CROZET ISLANDS 60.45 217 T T 00 18 56.0
baz=61,slow=75,SNR=16
H04S2 CROZET ISLANDS 60.46 217 T T 00 18 57.4
baz=61,slow=75,SNR=11
BVAR Borovoye Array 63.05 339 P **P** **23 14 02.5 -1.4**
comp=Z,0.7nm,0.4s,baz=139,slow=8.9,SNR=7.1
comp=Z,0.7nm,0.4s
ABKAR Akbulak array 64.63 331 P **P** **23 14 13.5 -0.9**
MMAI Mount Meron Ar 73.03 306 P **P** **23 15 08.7 +1.7**
comp=Z,1.0nm,0.8s,baz=86,slow=11,SNR=3.5
comp=Z,1.0nm,0.8s
BRTR Keskin Array B 76.37 312 P **P** **23 15 25.6 -0.8**
comp=Z,0.5nm,0.6s,baz=133,slow=6.1,SNR=5.0
comp=Z,0.5nm,0.6s
TIXI Tiksi 77.82 8 P **P** **23 15 31.8 -1.8**
TIXI IAmb IAmb 23 15 32.3
comp=Z,4.7nm,1.4s
SBA Scott Base 80.61 169 P **P** **23 15 49.7 +0.9**
BURAR Bucovina Array 84.32 319 P **P** **23 16 09.7 +0.8**
BUR08 Bucovina Ar. S 84.34 319 P **P** **23 16 09.8 +0.8**
BUR08 IAmb IAmb 23 16 18.8
comp=Z,5.8nm,1.5s
LVZ Lovozero 85.64 339 P **P** **23 16 13.4 -1.5**
QSPA South Pole Qui 85.66 180 P **P** **23 16 15.6 +0.3**
QSPA South Pole Qui 85.66 180 P **P** **23 16 16.4 +1.2**
comp=Z,0.8nm,0.9s,baz=258,slow=1.7,SNR=1.6
comp=Z,0.8nm,0.9s
FINES FINESS Array B 87.09 332 P **P** **23 16 21.9 -0.2**
FINES FINESS Array B 87.09 332 P **P** **23 16 22.3 +0.1**
comp=Z,2.3nm,1.0s,baz=92,slow=5.7,SNR=5.8
comp=Z,2.3nm,1.0s
TXAR Lajitas Array 145.19 42 PKPbc **PKPbc** **23 23 14.8 +0.2**
comp=Z,5.0nm,0.4s,baz=288,slow=0.7,SNR=134

*BJI **19** 23:12:36.4±0.0,21°.97N×100°.76E,h10km,mb4.2/22, mB4.4/9,ML4.1/6,Ms4.1/23,Ms7 3.7/18*
*IDC **19** 23:12:37.1±0.9,21°.70N×101°.01E,h0km,mb3.9/10, mbtmp3.8/11,ML4.2/1,MS3.4/10,Error ellipse: s-maj=24.4km s-min=14.6km az=90.0*
*NEIC **19** 23:12:37.8±1.6,21°.80N±0°.04×100°.81E±0°.05,h10km±1km, mb4.2/8,Error ellipse: s-maj=8.7km s-min=5.7km az=235.0*
ISC 19 23:12:38.3±0.5,**21°.82N**±0°.03×**100°.82E**±0°.05,**h10**km,**n57, σ2s37/61,mb3.9**/18,**MS3.4**/12,**1D,Myanmar-China border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CRAI	**Chiangrai**	**1.64**	**195**			**Pn**	**Pn**	**23 13 06.3**	**-0.9**
CRAI						**Sn**	**Sn**	**23 13 26.9**	**-1.5**
SLVN	**Son La**	**2.91**	**99**	Pn		**Pn**	**Pn**	**23 13 23.6**	**-1.1**
PHRA	**Phrae**	**3.35**	**190**	Pn		**Pn**	**Pn**	**23 13 31.0**	**+0.2**
CHTO	**Chiang Mai**	**3.47**	**211**	Pn		**Pn**	**Pn**	**23 13 31.7**	**-0.8**
KMI	**Kunming**	**3.73**	**28**	⇓Pg		**Pg**	**Pg**	**23 13 48.3**	**-1.5**
KMI				Sg		**Sg**	**Sg**	**23 14 38.8**	**+0.7**
KMI				smax		smax	smax		
	comp=N,150nm,1.0s								
KMI				smax		smax	smax		
	comp=E,130nm,1.3s								
KMI				LR		LR	LR		
	comp=N,1μm,7.0s								
KMI				LR		LR	LR		
	comp=E,1μm,6.2s								
KMI				LR		LR	LR		
	comp=Z,890nm,6.2s								
CM31	**Chiang Mai Arr**	**3.78**	**208**			**Pn**	**Pn**	**23 13 36.2**	**-0.5**
CMAR	**Chiang Mai Arr**	**3.78**	**208**			**Pn**	**Pn**	**23 13 35.9**	**-0.8**
CMAR	**Chiang Mai Arr**	**3.78**	**208**	Pn		**Pn**	**Pn**	**23 13 36.3**	**-0.4**
	comp=Z,4.6nm,0.3s,baz=21,slow=13,SNR=23								
CMAR				Pg		**Pb**	**Pb**	**23 13 46.8**	**+1.5**
	comp=Z,53nm,0.3s,baz=20,slow=16,SNR=37								
CMAR				Lg		Lg	Lg	23 14 37.8	
	comp=Z,36nm,0.3s,baz=27,slow=32,SNR=15								
	comp=Z,2.9nm,0.3s								
TNCH	**TengChong**	**3.83**	**327**	Pn		**Pn**	**Pn**	**23 13 34.3**	**-3.2**
TNCH				Pg		**Pb**	**Pb**	**23 13 46.5**	**+0.4**
TNCH				Sg		**Sb**	**Sb**	**23 14 34.6**	**+2.0**
TNCH				smax		smax	smax		
	comp=Z,2μm,0.6s								
TNCH				smax		smax	smax		
	comp=Z,3μm,0.9s								
PZH	**PanZhiHua**	**4.74**	**10**	Pg		**Pb**	**Pb**	**23 14 00.3**	**-1.2**
PZH				Sg		**Sb**	**Sb**	**23 14 59.9**	**+1.3**
PZH				smax		smax	smax		
	comp=Z,170nm,0.8s								
PZH				smax		smax	smax		
	comp=Z,280nm,1.0s								
PZH				LR		LR	LR		
	comp=Z,670nm,9.4s								
PZH				LR		LR	LR		
	comp=Z,1μm,10.2s								
PZH				LR		LR	LR		
	comp=Z,560nm,10.1s								
GYA	**Guiyang**	**7.05**	**48**	Pn		**Pn**	**Pn**	**23 14 25.5**	**+3.7**
GYA				Sn		**Sn**	**Sn**	**23 15 37.0**	**-5.1**
GYA				smax		smax	smax		
	comp=N,110nm,1.1s								
GYA				smax		smax	smax		
	comp=E,91nm,1.1s								
UBPT	**Khong Chiam**	**7.86**	**145**			**Pn**	**Pn**	**23 14 32.8**	**+0.1**
QIZ	**Qiongzhong**	**8.90**	**107**	P		**Pn**	**Pn**	**23 14 47.0**	**-0.1**
QIZ				S		**Sn**	**Sn**	**23 16 31.1**	**+3.6**
QIZ				pmax		pmax	pmax		
	comp=E,15nm,0.7s								
QIZ				LR		LR	LR		
	comp=E,280nm,11.6s								
QIZ				LR		LR	LR		
	comp=E,200nm,9.6s								
QIZ				LR		LR	LR		
	comp=E,140nm,8.3s								
QIZ	**Qiongzhong**	**8.90**	**107**			**Pn**	**Pn**	**23 14 46.2**	**-0.9**
CD2	**Chengdu**	**9.43**	**16**	P		**Pn**	**Pn**	**23 14 51.8**	**-2.4**
CD2				pmax		pmax	pmax		
	comp=E,10.0nm,0.4s								
CD2				LR		LR	LR		
	comp=E,510nm,8.3s								
CD2				LR		LR	LR		
	comp=E,820nm,8.4s								
CD2				LR		LR	LR		
	comp=E,590nm,12.1s								
DLV	**T Lat**	**12.26**	**142**	Pn		**Pn**	**Pn**	**23 15 32.0**	**-1.2**
XAN	**Xi'an**	**14.11**	**29**	P		**Pn**	**Pn**	**23 15 53.9**	**-4.4**
XAN				pmax		pmax	pmax		
	comp=E,4.0nm,0.8s								
XAN				LR		LR	LR		
	comp=E,470nm,9.8s								
XAN				LR		LR	LR		
	comp=E,450nm,8.3s								
XAN				LR		LR	LR		
	comp=E,510nm,8.9s								
LZH	**Lanzhou**	**14.46**	**10**	*e*P		**Pn**	**Pn**	**23 16 06.3**	**+3.1**
LZH				sP		P	P	23 16 13.8	+3.8
LZH				pmax		pmax	pmax		
	comp=E,12nm,1.1s								
LZH				LR		LR	LR		
	comp=E,210nm,7.9s								
LZH				LR		LR	LR		
	comp=E,440nm,9.3s								
LZH				LR		LR	LR		
	comp=E,220nm,12.4s								
GOMU	**GeErMu**	**15.25**	**341**	P		**P**		**23 16 18.8**	**-0.3**
GOMU				S		S		23 17 50.9	-89
GOMU				sS		Sn		23 18 06.0	-57
GOMU				pmax		pmax	pmax		
	comp=Z,3.0nm,0.6s								
GOMU				LR		LR	LR		
	comp=N,310nm,14.6s								
GOMU				LR		LR	LR		
	comp=E,750nm,14.0s								
GOMU				LR		LR	LR		
	comp=E,130nm,12.5s								
LYN	**LuoYang**	**16.30**	**36**	*e*P		**Pn**	**Pn**	**23 16 26.3**	**-1.0**
LYN				pP		P	P	23 16 29.3	-1.0
LYN				pmax		pmax	pmax		
	comp=E,12nm,0.5s								
LYN				pmax		pmax	pmax		
	comp=E,71nm,3.6s								
LYN				LR		LR	LR		
	comp=E,630nm,13.1s								
LYN				LR		LR	LR		
	comp=E,620nm,12.7s								
LYN				LR		LR	LR		
	comp=E,460nm,11.0s								
GTA	**Gaotai**	**17.55**	**357**	*e*P		**P**	**P**	**23 16 44.0**	**-0.3**
GTA				pP		sP		23 16 48.3	-0.5
GTA				pmax		pmax	pmax		
	comp=Z,3.0nm,1.0s								
GTA				LR		LR	LR		
	comp=Z,190nm,12.7s								
GTA				LR		LR	LR		
	comp=Z,730nm,13.9s								
GTA				LR		LR	LR		
	comp=Z,140nm,10.0s								
HNS	**HongShan**	**19.63**	**35**	*e*P		**Pn**	**P**	**23 17 09.1**	**+0.8**
HNS				*e*S		**Sn**	**Sn**	**23 20 50.0**	**+1.2**
HNS				LR		LR	LR		
	comp=Z,290nm,13.1s								
HNS				LR		LR	LR		
	comp=Z,370nm,13.1s								
HNS				LR		LR	LR		
	comp=Z,140nm,10.4s								
BTO	**Baotou**	**20.29**	**21**	*e*P		**P**	**P**	**23 17 14.6**	**+0.3**
BTO				pP		**sP**	**sP**	**23 17 18.5**	**-0.2**
BTO				sP		**pP**	**pP**	**23 17 22.0**	**+4.7**
BTO				PP		**PnPn**	**PnPn**	**23 17 35.5**	**+4.4**
BTO				S		Sn	Sn	23 21 04.6	-0.2
BTO				sS		**sS**	**sS**	**23 21 08.1**	**+1.4**
BTO				SS		**SnSn**	**SnSn**	**23 21 27.6**	**+8.0**
BTO				pmax		pmax	pmax		
	comp=Z,28nm,0.8s								
BTO				LR		LR	LR		
	comp=Z,340nm,12.6s								
BTO				LR		LR	LR		
	comp=Z,660nm,14.8s								
BTO				LR		LR	LR		
	comp=Z,610nm,10.9s								
HHC	**Hu-ho-hao-te**	**21.04**	**23**	*e*P		**P**	**P**	**23 17 17.4**	**-5.0**
HHC				pmax		pmax	pmax		
	comp=Z,4.0nm,0.7s								
HHC				pmax		pmax	pmax		
	comp=Z,52nm,3.7s								
HHC				LR		LR	LR		
	comp=Z,130nm,10.0s								
SMLA	**Simla**	**23.07**	**299**	*e*P		**P**	**P**	**23 17 41.9**	**-2.2**
SMLA				IAmb		IAmb	IAmb	23 17 52.4	
	comp=Z,8.9nm,0.8s								
DHRM	**DHARAMSHALA**	**24.13**	**301**	*e*P		**P**	**P**	**23 17 51.8**	**-3.0**
DHRM				IAmb		IAmb	IAmb	23 17 57.5	
	comp=Z,31nm,0.7s								
WMQ	**Urumqi**	**24.49**	**337**	*e*P		P	P	23 17 50.3	-7.5
WMQ				pmax		pmax	pmax		
	comp=Z,7.0nm,0.7s								
SONM	**Songino Array**	**26.34**	**8**	P		**P**	**P**	**23 18 16.5**	**+2.0**
	comp=Z,1.1nm,0.6s,baz=186,slow=9.0,SNR=4.8								
	comp=Z,1.1nm,0.6s								
ULN	**Ulaanbaatar**	**26.46**	**9**	P		**P**	**P**	**23 18 12.8**	**-2.8**
ULN				IAmb		IAmb	IAmb	23 18 22.1	
	comp=Z,3.5nm,1.1s								
NIL	**Nilore**	**27.01**	**302**	P		**P**	**P**	**23 18 18.4**	**-2.3**
NIL				IAmb		IAmb	IAmb	23 18 24.2	
	comp=Z,15nm,1.0s								
DAV	**Davao City (W)**	**28.04**	**118**	LR		LR	LR	23 29 08.5	
	comp=Z,38nm,21.3s,baz=196,slow=36								
KSRS	**Korea Array**	**28.11**	**50**	LR		LR	LR	23 29 52.2	
	comp=Z,27nm,18.2s,baz=110,slow=37								
MK31	**Makanchi Array**	**29.09**	**333**	P		**P**	**P**	**23 18 39.7**	**+0.7**
MKAR	**Makanchi Array**	**29.09**	**333**	P		**P**	**P**	**23 18 38.9**	**-0.2**
MKAR	**Makanchi Array**	**29.09**	**333**	P		**P**	**P**	**23 18 40.7**	**+1.6**
	comp=Z,1.8nm,0.6s,baz=138,slow=8.7,SNR=12								
	comp=Z,1.8nm,0.6s								
MAKZ	**Makanchi**	**29.23**	**333**	P		**P**	**P**	**23 18 38.9**	**-1.4**
MAKZ				IAmb		IAmb	IAmb	23 18 50.6	
	comp=Z,4.2nm,1.4s								
AAK	**Ala-Archa**	**30.23**	**319**	LR		LR		23 32 36.0	
	comp=Z,42nm,19.5s,baz=132,slow=39								
KAPI	**Kappang**	**32.48**	**143**	LR		LR		23 34 46.3	
	comp=Z,61nm,19.8s,baz=292,slow=41								
KURBB	**Kurchatov Arra**	**33.64**	**334**	P		**P**		**23 19 21.9**	**+3.0**
	comp=Z,0.8nm,0.6s,baz=145,slow=9.5,SNR=5.0								
	comp=Z,0.8nm,0.6s								
ZALV	**Zalesovo Beam**	**34.30**	**343**	LR		LR		23 33 29.2	
	comp=Z,65nm,18.5s,baz=114,slow=36								
HEH	**HeiHe**	**35.24**	**30**	*e*P		**P**		**23 19 31.9**	**-0.9**
HEH				pmax		pmax			
	comp=Z,4.0nm,0.9s								
KLR	**Kul'dur**	**36.72**	**34**	LR		LR		23 36 40.4	
	comp=Z,33nm,19.5s,baz=204,slow=39								
BVAR	**Borovoye Array**	**38.88**	**331**	P		**P**		**23 20 05.7**	**+1.9**
	comp=Z,0.9nm,0.5s,baz=128,slow=8.9,SNR=5.5								
	comp=Z,0.9nm,0.5s								
GEYT	**Alibeck**	**39.99**	**303**	P		**P**		**23 20 14.7**	**+1.4**
	comp=Z,1.9nm,0.7s,baz=175,slow=3.7,SNR=6.0								
	comp=Z,1.9nm,0.7s								
ABKAR	**Akbulak array**	**42.31**	**320**	P		**P**		**23 20 30.8**	**-1.4**
ABKAR	**Akbulak array**	**42.31**	**320**	P		**P**		**23 20 31.2**	**-1.0**
ABKAR				IAmb		IAmb		23 20 36.0	
	comp=Z,1.5nm,0.8s								
MBWA	**Marble Bar**	**46.54**	**155**	P		**P**		**23 21 05.4**	**-0.9**
KIRV	**Kirov**	**51.80**	**329**	LR		LR		23 44 38.4	
	comp=Z,53nm,19.7s,baz=333,slow=37								
WRA	**Warramunga Arr**	**52.88**	**139**	P		**P**		**23 21 52.8**	**-1.9**
	comp=Z,1.2nm,0.7s,baz=329,slow=8.0,SNR=5.0								
	comp=Z,1.2nm,0.7s								
SEY	**Seymchan**	**53.64**	**26**	LR		LR		23 44 48.8	
	comp=E,34nm,18.6s,baz=185,slow=36								
ASAR	**Alice Springs**	**55.51**	**143**	P		**P**		**23 22 12.4**	**-1.4**
	comp=Z,1.0nm,0.8s,baz=325,slow=6.4,SNR=6.2								
	comp=Z,1.0nm,0.8s								
NWAO	**Narrogin (SRO)**	**56.65**	**163**	LR		LR		23 48 15.1	
	comp=Z,70nm,19.1s,baz=246,slow=38								
HFS	**Hagfors**	**69.92**	**328**	P		**P**		**23 23 50.5**	**+1.1**
	comp=Z,1.6nm,0.8s,baz=99,slow=7.7,SNR=3.0								
HFS				LR		LR		23 58 55.3	
	comp=Z,110nm,18.9s,baz=350,slow=40								
	comp=Z,1.6nm,0.8s								
NOA	**NORSAR Array B**	**70.98**	**329**	P		**P**		**23 23 56.9**	**+0.9**
	comp=Z,0.7nm,0.8s,baz=79,slow=6.1,SNR=3.4								
	comp=Z,0.7nm,0.8s								
NAO01	**NORSAR Array S**	**71.17**	**329**	P		**P**		**23 23 57.4**	**+0.4**
BMAR	**Burnt Mountain**	**78.95**	**21**			**P**		**23 24 40.9**	**-1.0**
YKA	**Yellowknife Ar**	**91.39**	**16**	P		**P**		**23 25 46.7**	**+2.4**
	comp=Z,0.2nm,0.8s,baz=328,slow=5.8,SNR=2.6								
	comp=Z,0.2nm,0.8s								

*IDC **19** 23:59:37.4±0.9,19°.76S×65°.77E,h0km,mb3.9/8, mbtmp3.9/8,MS3.3/3,Error ellipse: s-maj=29.7km s-min=23.6km az=101.0*
*NEIC **19** 23:59:41.0±1.3,19°.85S±0°.1×65°.9E±0°.1,h10km±1km, mb4.5/10,Error ellipse: s-maj=23.6km s-min=15.7km az=168.0*
ISC 19 23:59:40.0±0.7,**19°.85S**±0°.1×**65°.9E**±0°.1,**h10**km,**n28, σ1s22**/19,**mb4.2**/11,**MS3.2**/3,**Mauritius-Reunion region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ROCAM	**Rodrigues Isla**	**2.40**	**271**			**Pn**	**Pn**	**00 00 19.2**	**-0.1**
RER	**Riviere de l'E**	**9.62**	**260**	Pn		**Pn**	**Pn**	**00 01 58.6**	**-0.2**
H08S1	**Diego Carcia H**	**13.67**	**29**	T		T	T	00 17 01.4	
	baz=204,slow=75,SNR=239								
H08S2	**Diego Garcia H**	**13.68**	**29**	T		T	T	00 17 03.9	
	baz=204,slow=75,SNR=142								
H08S3	**Diego Garcia H**	**13.69**	**29**	T		T	T	00 17 04.4	
	baz=204,slow=75,SNR=276								
VOI	**Vohitsoka**	**17.99**	**260**			**P**		**00 03 50.2**	**-0.8**
VOI				IAmb		IAmb	IAmb	00 03 56.1	
	comp=Z,45nm,1.5s								
FOMA	**Nahampoana Res**	**18.24**	**250**			**P**		**00 03 54.6**	**+1.0**
FOMA				IAmb		IAmb	IAmb	00 04 03.5	
	comp=Z,46nm,1.2s								
H04N2	**CROZET ISLANDS**	**28.73**	**201**	T		T	T	00 35 26.5	
	baz=30,slow=75,SNR=534								
H04N1	**CROZET ISLANDS**	**28.74**	**201**	T		T	T	00 35 25.4	
	baz=30,slow=75,SNR=589								
H04N3	**CROZET ISLANDS**	**28.75**	**201**	T		T	T	00 35 27.6	
	baz=30,slow=75,SNR=552								
BOSA	**Boshof**	**37.95**	**249**	P		**P**		**00 06 59.5**	**+1.3**
BOSA				IAmb		IAmb	IAmb	00 07 03.8	
	comp=Z,11nm,1.4s								
BOSA	**Boshof**	**37.95**	**249**	P		**P**		**00 06 57.2**	**-1.0**
	comp=Z,2.8nm,0.9s,baz=93,slow=5.5,SNR=4.0								
	comp=Z,2.8nm,0.9s								
MBAR	**Mbarara**	**39.37**	**295**	LR		LR	LR	00 21 28.6	
	comp=Z,37nm,21.3s,baz=110,slow=33								
SUR	**Sutherland**	**42.11**	**243**	P		**P**		**00 07 34.4**	**+1.7**
SUR				IAmb		IAmb	IAmb	00 07 38.2	
	comp=Z,19nm,1.4s								
MAW	**Mawson**	**47.82**	**182**	P		**P**		**00 08 15.9**	**-1.5**
	comp=Z,2.1nm,0.6s,baz=315,slow=8.6,SNR=4.1								
	comp=Z,2.1nm,0.6s								
CMAR	**Chiang Mai Arr**	**49.97**	**43**	LR		LR	LR	00 26 55.5	
	comp=Z,24nm,20.4s,baz=190,slow=33								
SLVN	**Son La**	**55.26**	**44**	P		**P**		**00 09 14.9**	**+1.1**
SLVN				IAmb		IAmb	IAmb	00 09 25.2	
	comp=Z,9.3nm,1.5s								
AAK	**Ala-Archa**	**62.64**	**7**	LR		LR	LR	00 33 49.6	
	comp=Z,39nm,18.9s,baz=186,slow=33								
ASAR	**Alice Springs**	**62.74**	**107**	P		**P**		**00 10 06.1**	**+0.2**
	comp=Z,0.8nm,0.7s,baz=267,slow=5.5,SNR=9.8								
	comp=Z,0.8nm,0.7s								
WRA	**Warramunga Arr**	**63.90**	**103**	P		**P**		**00 10 14.1**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=266,slow=5.9,SNR=4.8								
	comp=Z,1.1nm,0.8s								
MKAR	**Makanchi Array**	**67.92**	**12**	P		**P**		**00 10 38.8**	**0.0**
	comp=Z,0.5nm,0.8s,baz=187,slow=8.6,SNR=4.3								
	comp=Z,0.5nm,0.8s								
ABKAR	**Akbulak array**	**68.96**	**356**	P		**P**		**00 10 45.6**	**+0.4**
ABKAR	**Akbulak array**	**68.96**	**356**	P		**P**		**00 10 45.8**	**+0.6**
ABKAR				IAmb		IAmb	IAmb	00 10 46.2	
	comp=Z,0.9nm,0.7s								
QSPA	**South Pole Qui**	**70.30**	**180**	P		**P**		**00 10 53.8**	**+0.2**
QSPA	**South Pole Qui**	**70.30**	**180**	P		**P**		**00 10 52.2**	**-1.3**
	comp=Z,2.4nm,0.9s,baz=308,slow=12,SNR=3.3								
	comp=Z,2.4nm,0.9s								
KURBB	**Kurchatov Arra**	**71.00**	**8**	P		**P**		**00 10 55.1**	**-2.7**
	comp=Z,0.5nm,0.9s,baz=204,slow=6.7,SNR=4.4								
	comp=Z,0.5nm,0.9s								
BELA	**Belgrano 2**	**72.97**	**193**	P		**P**		**00 11 10.4**	**+1.1**
BELA				IAmb		IAmb	IAmb	00 11 21.2	
	comp=Z,5.1nm,1.4s								
ZALV	**Zalesovo Beam**	**75.24**	**11**	P		**P**		**00 11 21.2**	**-1.6**
	comp=Z,0.7nm,0.6s,baz=180,slow=6.5,SNR=3.9								
	comp=Z,0.7nm,0.6s								

*NSSP **20** 00:02:23.0,38°.38N×45°.30E,h10km,Ms3.1*
*TEH **20** 00:02:23.0,38°.39N×45°.22E,h6km±65km,ML3.2*
*AZER **20** 00:02:23.7,38°.53N×45°.24E,h3km,ml2.9*
ISC 20 00:02:23.4±1.3,**38.41N**±0°.03×**45°.28E**±0°.03,**h1**km±12km, **n39,σ1s37/65,Iran-Armenia-Azerbaijan border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.30**	**116**	Pg		**Pg**	**Pg**	**00 02 28.8**	**-0.4**
IMRD	**Marand**	**0.45**	**48**	Pg		**Pg**	**Pg**	**00 02 33.0**	**+0.9**
IMRD				Sg		**Sb**	**Sb**	**00 02 40.3**	**-1.2**
ITBZ	**Tabriz**	**0.71**	**105**	Pg		**Pg**	**Pg**	**00 02 36.3**	**-0.7**
ORD	**Ordubad**	**0.76**	**47**	P		**Pb**	**Pb**	**00 02 39.2**	**-0.3**
ORD				S		**Sb**	**Sb**	**00 02 51.2**	**+0.7**
NAX	**Nakhchivan**	**0.78**	**13**	P		**Pb**	**Pb**	**00 02 39.5**	**-0.4**
NAX				S		**Sb**	**Sb**	**00 02 51.6**	**+0.6**
IAZR	**Azarshahr**	**0.92**	**143**	Pg		**Pg**	**Pg**	**00 02 40.7**	**-0.3**
SBZ	**Shahbuz**	**1.00**	**12**	P		**Pg**	**Pg**	**00 02 43.1**	**+0.4**
SBZ				S		**Sb**	**Sb**	**00 02 58.3**	**+0.7**
MAKU	**Maku**	**1.05**	**334**	Pg		**Pg**	**Pg**	**00 02 42.5**	**-1.1**
HYR	**Heyderabad**	**1.34**	**346**	P		**Pn**	**Pn**	**00 02 48.3**	**-1.2**
HYR				S		**Sn**	**Sn**	**00 03 07.8**	**-0.2**
**I

QBL	**Gabala**	3.21	37	Pn	**Pb**	00 03 20.4	-0.9
QBL				Sn	**Sb**	00 04 01.6	+0.8
PQL	**Pirkuli**	3.49	46	Pn	**Pb**	00 03 22.7	-3.5
PQL				Sn	**Sb**	00 04 05.6	-3.5
XNQ	**Khinaliq**	3.53	38	Pn	**Pb**	00 03 23.8	-3.0
XNQ				Sn	**Sb**	00 04 07.5	-2.7
IDHR	**Dehrash**	3.81	166	Pn	**Pn**	00 03 24.5	+0.9
QUBA	**Quba, Azerbaij**	3.84	39	Pn	**Pn**	00 03 27.1	+3.3
QUBA				Sn	**Sb**	00 04 15.4	-3.7
ILBA	**Ilam Banvizeh**	4.84	171	Pn	**Pn**	00 03 38.3	+0.8

HVO ***20*** *00:05:42.5±1.0, 19°.36N±0°.02×154°.993W±0°.009, h-1km,9km, ML3.0/24, ML3.2/62(NEIC), Error ellipse: s-maj=2.9km s-min=0.8km az=156.0*

NEIC 20 00:05:43.6±0.9, 19°.39N±0°.01×155°.01W±0°.01, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.5km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.04**	**4**		Pg	00 05 45.4	+0.5
JCUZ	**Jacuzzi**	**0.09**	**267**		Pg	00 05 45.7	+0.1
NPOC	**North of Pu'u**	**0.10**	**273**		Pg	00 05 45.9	+0.2
STCH	**Steam Cracks**	**0.11**	**269**		Pg	00 05 46.0	+0.1
PAH	**Pahoa**	**0.12**	**28**		Pg	00 05 46.0	-0.1
PHO	**Puu Honuaula**	**0.14**	**50**		Pg	00 05 46.9	+0.4
PHO	**Puu Honuaula**	**0.14**	**50**		Pg	00 05 46.3	-0.2
KNHH	**Kane Nui o Ham**	**0.15**	**267**		Pg	00 05 46.7	0.0
PUH	**Pauahi**	**0.20**	**266**		Pg	00 05 47.3	-0.2
BYL	**Byron's Ledge**	**0.24**	**276**	Pg	Pg	00 05 48.3	0.0
BYL				Sg	Sg	00 05 52.7	+1.3
BYL	comp=E,5µm,0.2s			IAML		00 05 53.9	
BYL	comp=N,4µm,0.2s			IAML		00 05 54.0	
HATHI	**Halema'uma'u T**	**0.24**	**278**		Pg	00 05 48.0	-0.3
HATHI					Sg	00 05 53.2	+1.6
HATHI	comp=N,4µm,0.4s			IAML		00 05 53.6	
HATHI	comp=E,3µm,0.3s			IAML		00 05 56.5	
KKO	**Keanakako`i**	**0.24**	**272**		Pg	00 05 48.4	0.0
KKO					Sg	00 05 53.2	+1.6
KKO	comp=N,3µm,0.5s			IAML		00 05 54.0	
KKO	comp=E,4µm,0.2s			IAML		00 05 55.0	
SBLHI	**Steaming Bluff**	**0.25**	**279**	Pg	Pg	00 05 48.4	0.0
SBLHI					Sg	00 05 53.1	+1.3
SBLHI	comp=N,6µm,0.2s			IAML		00 05 54.0	
SBLHI	comp=E,4µm,0.3s			IAML		00 05 54.6	
RIM	**Rim**	**0.25**	**272**		Pg	00 05 48.2	-0.3
RIM					Sg	00 05 53.3	+1.4
RIM	comp=E,5µm,0.3s			IAML		00 05 53.9	
RIM	comp=N,5µm,0.5s			IAML		00 05 57.0	
UWB	**Uwekahuna B**	**0.26**	**278**		Pg	00 05 48.9	+0.3
UWB					Sg	00 05 53.3	+1.2
RSD	**Rainshed**	**0.27**	**286**		Pg	00 05 49.3	+0.5
SDHHI	**Sand Hill**	**0.27**	**270**		Pg	00 05 48.8	-0.1
SDHHI					Sg	00 05 53.8	+1.3
SDHHI	comp=E,5µm,0.6s			IAML		00 05 54.7	
SDHHI	comp=N,6µm,0.3s			IAML		00 05 57.4	
UWE	**Uwekahuna**	**0.27**	**277**	Pg	Pg	00 05 48.8	-0.1
UWE					Sg	00 05 53.9	+1.4
UWE	comp=N,6µm,0.4s			IAML		00 05 54.9	
WRMHI	**West Rim**	**0.28**	**274**	Pg	Pg	00 05 48.8	-0.2
WRMHI					Sg	00 05 54.1	+1.4
WRMHI	comp=N,5µm,0.5s			IAML		00 05 55.0	
HLP	**Hilina Pali**	**0.30**	**252**		Pg	00 05 49.5	+0.1
MLH	**Mauna Loa**	**0.37**	**287**	Pg	Pg	00 05 50.9	+0.1
MLH	comp=N,4µm,0.3s			IAML		00 05 58.1	
HMH	**Humu'ula Sheep**	**0.50**	**296**		Pg	00 05 53.1	0.0
HMH					Sg	00 06 00.9	+1.2
MLOA	**Mauna Loa Obse**	**0.56**	**285**		Pg	00 05 53.7	-0.6
MLOA					Sg	00 06 01.9	+0.3
MLOA	comp=N,3µm,0.4s			IAML		00 06 04.0	
MLOA	**Mauna Loa Obse**	**0.56**	**285**		Pg	00 05 54.1	-0.3
MWH	**Moku'aweowe**	**0.56**	**280**		Pg	00 05 53.7	-0.8
MWH					Sg	00 06 02.0	+0.1
KHU	**Kahuku**	**0.59**	**256**		Pg	00 05 53.4	-1.6
KHU	comp=E,2µm,0.3s			IAML		00 06 05.3	
KHU	comp=N,2µm,0.3s			IAML		00 06 06.0	
POHA	**Pohakuloa**	**0.62**	**307**		Pg	00 05 54.4	-1.0
POHA	**Pohakuloa**	**0.62**	**307**		Sg	00 06 03.3	-0.2

NEIC ***20*** *00:08:14.6±1.6, 18°.73S±0°.1×177°.9W±0°.1, h586km±7km, mb4.5/33, Error ellipse: s-maj=18.5km s-min=15.0km az=156.0*

IDC ***20*** *00:08:16.0±2.6, 18°.62S×177°.90W, h611km±29km, mb3.4/15, mbtmp4.3/15, Error ellipse: s-maj=15.9km s-min=12.1km az=136.0*

ISC 20 00:08:14.5±0.4, 18°.73S±0°.08×177°.82W±0°.08, h600km, n106, σ1§10/108, mb4.3/30, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.05**	**284**	P	**P**	00 09 41.3	+0.8
AFI	**Afiamalu**	**7.53**	**51**	P	**P**	00 10 06.8	-2.8
PINNC	**Pines Island,**	**14.32**	**252**	P	**P**	00 11 16.0	-0.4
DZM	**Mont Dzumac**	**15.12**	**255**	P	**P**	00 11 25.0	+1.0
DZM	comp=Z,22nm,1.2s			IAmb	IAmb	00 11 31.3	
KOUNC	**Koumac, New Ca**	**16.95**	**261**	P	**P**	00 11 42.4	+1.7
TOZ	**Tahuroa Road**	**19.81**	**196**	P	**P**	00 12 07.7	+1.4
TOZ	comp=Z,12nm,1.0s			IAmb	IAmb	00 12 08.1	
URZ	**Urewera**	**19.95**	**192**	P	**P**	00 12 04.9	-2.8
URZ	comp=Z,9.6nm,0.4s,baz=14,slow=4.2,SNR=17			S	**S**	00 15 08.8	-7.2
TCW	**Tory Channel**	**23.40**	**195**	P	**P**	00 12 38.3	-0.1
EIDS	**Eidsvold**	**29.52**	**251**	P	**P**	00 13 31.3	-1.0
EIDS	comp=Z,14nm,1.4s			IAmb	IAmb	00 13 43.9	
ARMA	**Armidale**	**30.02**	**241**	P	**P**	00 13 37.8	+1.1
ARMA	comp=Z,6.8nm,1.1s			IAmb	IAmb	00 13 44.8	
CAN	**Canberra**	**33.66**	**234**	P	**P**	00 14 07.6	+0.3
CTAO	**Charters Tower**	**33.87**	**262**	P	**P**	00 14 09.4	+0.2
CTAO	comp=Z,12nm,0.8s			IAmb	IAmb	00 14 10.7	
TOO	**Toolangi**	**37.09**	**232**	P	**P**	00 14 35.9	+0.3
COEN	**Coen**	**37.68**	**271**	P	**P**	00 14 41.2	+0.7
COEN	comp=Z,19nm,0.8s			IAmb	IAmb	00 14 42.5	
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	00 14 49.8	+0.9
STKA	**Stephens Creek**	**38.73**	**242**	P	**P**	00 14 49.9	+0.9
BBOO	**Buckleboo**	**43.50**	**242**	P	**P**	00 15 26.9	+0.4
BBOO	comp=Z,13nm,0.6s			IAmb	IAmb	00 15 27.5	
PTCN	**Pitcairn Islan**	**44.55**	**107**	P	**P**	00 15 36.5	+1.8
WR0	**Warramunga Arr**	**44.85**	**260**	P	**P**	00 15 36.8	-0.2
WR0	comp=Z,13nm,1.2s			IAmb	IAmb	00 15 38.6	
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	00 15 38.6	+0.1
WRA	**Warramunga Arr**	**45.04**	**260**	P	**P**	00 15 38.2	-0.2
WRA	comp=Z,10.0nm,0.6s,baz=98,slow=7.3,SNR=77			PcP	**PcP**	00 17 06.6	+0.3
ASAR	**Alice Springs**	**45.11**	**255**	P	**P**	00 15 39.4	+0.3
ASAR	comp=Z,19nm,0.8s,baz=92,slow=7.2,SNR=194			PcP	**PcP**	00 17 06.8	+0.3
ASAR	comp=Z,2.7nm,0.6s,baz=100,slow=4.1,SNR=10			S	**S**	00 21 35.8	-0.2
	comp=Z,1.0nm,0.8s,baz=87,slow=15,SNR=8.0						
	comp=Z,19nm,0.8s						

FORT	**Forrest**	**50.16**	**245**	P	**P**	00 16 15.9	-0.6
FORT	comp=Z,17nm,0.8s			IAmb	IAmb	00 16 17.4	
FAKI	**Fak Fak**	**51.29**	**282**	P	**P**	00 16 24.9	0.0
FAKI	comp=Z,39nm,1.3s			IAmb	IAmb	00 16 25.6	
FITZ	**Fitzroy Crossi**	**53.45**	**261**	P	**P**	00 16 40.6	+0.5
SOEI	**Soe**	**56.63**	**271**	P	**P**	00 17 03.0	+0.5
PSA00	**Pilbara Seismi**	**58.25**	**256**	P	**P**	00 17 12.8	-0.4
SBA	**Scott Base**	**59.63**	**184**	P	**P**	00 17 23.9	+2.4
VNDA	**Vanda**	**59.67**	**185**	P	**P**	00 17 23.1	+1.4
VNDA	**Vanda**	**59.67**	**185**	P	**P**	00 17 23.6	+1.8
	comp=Z,0.4nm,0.6s,baz=0.0,slow=5.1,SNR=5.2						
	comp=Z,0.4nm,0.6s						
MORW	**Morawa**	**60.67**	**247**	P	**P**	00 17 28.9	-0.3
JAGI	**Jajag, Banyuwa**	**66.58**	**269**	P	**P**	00 18 06.0	-1.0
MJAR	**Matsushiro Arr**	**68.90**	**323**	P	**P**	00 18 20.3	-0.3
	comp=Z,1.5nm,0.6s,baz=164,slow=6.1,SNR=3.6						
	comp=Z,1.5nm,0.6s						
UGM	**Wanagama**	**70.18**	**268**	P	**P**	00 18 28.8	+0.1
QSPA	**South Pole Qui**	**71.33**	**180**	P	**P**	00 18 35.6	+1.0
QSPA	**South Pole Qui**	**71.33**	**180**	P	**P**	00 18 35.6	+1.0
	comp=Z,2.2nm,0.6s,baz=15,slow=20,SNR=28						
	comp=Z,2.2nm,0.6s						
SSLB	**Suanglung**	**73.15**	**303**	P	**P**	00 18 44.9	-0.8
SSLB				IAmb	IAmb	00 18 45.7	
	comp=Z,5.7nm,0.4s						
TPUB	**Ta-pu**	**73.17**	**302**	P	**P**	00 18 44.7	-1.1
TPUB				IAmb	IAmb	00 18 46.0	
	comp=Z,12nm,0.8s						
PEA0B	**Petropavlovsk-**	**74.62**	**345**	P	**P**	00 18 53.3	0.0
PEA0B				IAmb	IAmb	00 19 08.9	
	comp=Z,20nm,1.2s						
PETK	**Petropavlovsk-**	**74.62**	**345**	P	**P**	00 18 52.7	-0.6
	comp=Z,2.2nm,0.6s,baz=130,slow=7.5,SNR=19						
	comp=Z,2.2nm,0.6s						
YBH	**Yreka Blue Hor**	**78.81**	**39**	P	**P**	00 19 17.2	+0.7
PNTR	**Pine Nut**	**79.17**	**42**	P	**P**	00 19 19.6	+1.0
PNTR				IAmb	IAmb	00 19 20.8	
	comp=Z,7.1nm,0.7s						
NVAR	**Mina Array Bea**	**79.63**	**43**	P	**P**	00 19 21.2	+0.2
NVAR	**Mina Array Bea**	**79.63**	**43**	P	**P**	00 19 21.9	+0.8
	comp=Z,1.2nm,0.7s,baz=225,slow=7.5,SNR=7.7						
	comp=Z,1.2nm,0.7s						
J05D	**Fort Rock, OR**	**80.62**	**38**	P	**P**	00 19 26.4	+0.4
J05D				IAmb	IAmb	00 19 27.6	
	comp=Z,4.4nm,0.6s						
M16K	**Timber Creek**	**80.92**	**9**	P	**P**	00 19 27.9	+1.0
M16K				IAmb	IAmb	00 19 28.8	
	comp=Z,29nm,1.4s						
K15K	**Wolf Creek Mou**	**81.78**	**8**	P	**P**	00 19 32.1	+0.8
K15K				IAmb	IAmb	00 19 33.0	
	comp=Z,8.3nm,0.8s						
U15A	**North Rim**	**82.66**	**48**	P	**P**	00 19 37.5	+0.9
MAW	**Mawson**	**83.28**	**200**	P	**P**	00 19 39.5	+0.6
	comp=Z,1.8nm,0.7s,baz=90,slow=2.0						
	comp=Z,1.8nm,0.7s						
TX31	**Lajitas Ar. Si**	**85.97**	**57**	P	**P**	00 19 53.7	+1.0
TXAR	**Lajitas Array**	**85.97**	**57**	P	**P**	00 19 53.8	+1.1
	comp=Z,2.2nm,0.7s,baz=220,slow=5.5,SNR=28						
	comp=Z,2.2nm,0.7s						
ILAR	**Eielson Array**	**86.56**	**13**	P	**P**	00 19 53.9	-0.7
	comp=Z,0.9nm,0.5s,baz=219,slow=4.9,SNR=20						
	comp=Z,0.9nm,0.5s						
PDAR	**Pinedale Array**	**87.57**	**43**	P	**P**	00 20 00.8	+0.6
	comp=Z,0.9nm,0.7s,baz=211,slow=3.2,SNR=8.1						
	comp=Z,0.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**89.69**	**290**	P	**P**	00 20 11.4	+1.1
	comp=Z,1.4nm,0.3s,baz=114,slow=3.9,SNR=9.5						
	comp=Z,1.4nm,0.3s						
SNAA	**Sanae**	**89.76**	**178**	P	**P**	00 20 10.1	+0.4
	comp=Z,0.7nm,0.6s,baz=174,slow=22,SNR=1.3						
	comp=Z,0.7nm,0.6s						
YKA	**Yellowknife Ar**	**94.84**	**25**	P	**P**	00 20 32.6	-0.3
	comp=Z,0.3nm,0.7s,baz=251,slow=4.3,SNR=4.5						
	comp=Z,0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**109.22**	**322**	PKiKP	**PKiKP**	00 25 36.0	-1.0
	comp=Z,0.3nm,0.3s,baz=149,slow=3.4,SNR=1.9						
MKAR	**Makanchi Array**	**110.11**	**314**	PKiKP	**PKiKP**	00 25 38.0	-1.0
	comp=Z,0.5nm,0.4s,baz=167,slow=0.1,SNR=11						
KURBB	**Kurchatov Arra**	**112.86**	**318**	PKiKP	**PKiKP**	00 25 43.1	-0.9
	comp=Z,0.7nm,0.6s,baz=98,slow=1.9,SNR=7.8						
BVAR	**Borovoye Array**	**117.83**	**321**	PKP	**PKPdf**	00 25 52.9	-0.6
	comp=Z,1.3nm,0.4s,baz=90,slow=1.4,SNR=10						
SPITS	**Spitsbergen Ar**	**120.12**	**357**	PKP	**PKPdf**	00 25 57.0	-0.3
	comp=Z,0.3nm,1.0s,baz=45,slow=2.7,SNR=6.0						
ARCES	**ARCESS Array B**	**127.22**	**350**	PKP	**PKPdf**	00 26 10.7	-0.4
	comp=Z,0.8nm,0.4s,baz=38,slow=1.6,SNR=18						
FINES	**FINESS Array B**	**134.13**	**344**	PKhKP	PKPpre	00 26 21.0	
	comp=Z,0.7nm,0.5s,baz=48,slow=2.1,SNR=7.4						
FINES				PKP	**PKiKP**	00 26 25.1	-0.7
	comp=Z,0.7nm,0.5s,baz=29,slow=3.2,SNR=2.5						
NOA	**NORSAR Array B**	**137.26**	**354**	PKP	**PKiKP**	00 26 31.4	-0.9
	comp=Z,0.4nm,0.6s,baz=11,slow=4.1,SNR=4.3						
HFS	**Hagfors**	**137.83**	**351**	PKiKP	PKPpre	00 26 22.6	
	comp=Z,0.7nm,0.4s,baz=46,slow=4.2,SNR=11						
HFS				PKP	**PKiKP**	00 26 32.8	-0.6
	comp=Z,0.8nm,0.8s,baz=354,slow=1.4,SNR=4.6						
AKASG	**Malin Array Be**	**141.55**	**332**	PKhKP	PKPpre	00 26 33.0	
	comp=Z,0.9nm,0.4s,baz=42,slow=4.1,SNR=7.0						
ARPR	**Arapgir-MALATY**	**142.74**	**311**		**PKPdf**	00 26 39.8	-1.2
EKA	**Eskdalemuir Ar**	**143.24**	**5**	PKP	PKPab	00 26 38.9	-0.4
	comp=Z,2.0nm,0.5s,baz=330,slow=2.9,SNR=15						
BNN	**Bunyan**	**144.62**	**312**		PKPbc	00 26 44.4	-0.2
BUR08	**Bucovina Ar. S**	**145.59**	**332**		**PKPab**	00 26 47.8	-1.0
BR131	**Keskin Array S**	**145.76**	**314**		**PKPbc**	00 26 47.7	-0.2
BRTR	**Keskin Array B**	**145.76**	**314**		**PKPbc**	00 26 48.0	+0.1
BRTR	**Keskin Array B**	**145.76**	**314**	PKPbc	**PKPbc**	00 26 47.8	-0.1
	comp=Z,2.6nm,0.7s,baz=132,slow=3.7,SNR=21						
OSTC	**Ostas**	**146.34**	**344**	*e*PKP	**PKPbc**	00 26 49.4	+0.4
UPC	**Upice**	**146.43**	**344**	*e*PKP	**PKPbc**	00 26 49.7	+0.5
DPC	**Dobruska-Polom**	**146.50**	**344**	*e*PKP	**PKPbc**	00 26 50.1	+0.6
KRLC	**Kraliky**	**146.62**	**343**	*e*PKP	**PKPbc**	00 26 50.2	+0.4
MLR	**Muntele Rosu**	**146.82**	**329**		**PKPbc**	00 26 50.3	-0.3
MAUC	**Maruska**	**146.95**	**341**	*e*PKP	**PKPbc**	00 26 51.4	+0.7
MMAI	**Mount Meron Ar**	**147.06**	**302**	PKPbc	**PKPbc**	00 26 52.0	+0.5
	comp=Z,2.6nm,0.4s,baz=66,slow=5.6,SNR=42						
PRU	**Pruhonice**	**147.28**	**345**	*e*PKP	**PKPbc**	00 26 51.8	+0.3
ZVC	**Zvikov**	**147.88**	**345**	*e*PKP	**PKiKP**	00 26 53.7	-0.7
KHC	**Kasperske Hory**	**148.31**	**346**		**PKPbc**	00 26 54.1	-0.1
KHC	**Kasperske Hory**	**148.31**	**346**	*e*PKP	**PKPbc**	00 26 53.4	-0.8
CKRC	**Cesky Krumlov**	**148.42**	**345**	*e*PKP	**PKPbc**	00 26 54.8	+0.4
GERES	**GERESS Array B**	**148.55**	**345**		**PKPdf**	00 26 50.6	+0.2
GERES	**GERESS Array B**	**148.55**	**345**	PKPbc	**PKPbc**	00 26 55.1	+0.3
	comp=Z,2.0nm,0.8s,baz=3.5,slow=3.2,SNR=8.8						
CONA	**Conrad Observa**	**148.82**	**342**	*i* PKP	**PKiKP**	00 26 55.9	-0.5
	comp=Z,2.0nm,0.6s						
RONA	**Rosalia, Austr**	**148.89**	**341**	*i* PKP	**PKPbc**	00 26 56.0	+0.3
	comp=Z,2.7nm,0.5s,SNR=5.4						
MOA	**Molln**	**149.33**	**344**	*i* PKP	**PKPbc**	00 26 56.7	+0.1
	comp=Z,1.7nm,0.8s						
BFO	**Black Forest**	**150.06**	**352**		**PKPbc**	00 26 58.1	-0.2
LESA	**Schwarzleotal**	**150.12**	**346**	*i* PKP	**PKPbc**	00 26 58.7	+0.1
	comp=Z,3.9nm,0.5s						
SOKA	**Soboth**	**150.19**	**342**	*i* PKP	**PKPbc**	00 26 58.4	-0.4
	comp=Z,1.3nm,0.5s						
WATA	**Walderalm**	**150.45**	**347**	*i* PKP	**PKPbc**	00 26 59.2	-0.2
	comp=Z,2.8nm,0.5s						
RETA	**Reutte**	**150.47**	**348**	*i* PKP	**PKPbc**	00 26 59.3	-0.2
	comp=Z,1.8nm,0.5s,SNR=4.1						
WTTA	**Wattenberg**	**150.51**	**347**	*i* PKP	**PKPbc**	00 26 59.6	0.0
	comp=Z,5.6nm,0.5s						
MOTA	**Moosalm**	**150.54**	**348**	*i* PKP	**PKPbc**	00 26 59.5	-0.2
	comp=Z,7.1nm,1.0s,SNR=6.2						
MYKA	**Terra Mystica**	**150.62**	**344**	*i* PKP	**PKPbc**	00 26 59.1	-0.7
	comp=Z,4.9nm,0.5s,SNR=4.6						
SQTA	**Sankt Quirin**	**150.64**	**347**	*i* PKP	**PKPbc**	00 26 59.9	0.0
	comp=Z,5.0nm,0.5s,SNR=5.9						
ABTA	**Abfaltersbach**	**150.80**	**345**	*i* PKP	**PKPbc**	00 26 59.6	-0.6
	comp=Z,8.4nm,0.5s,SNR=14						
DAVA	**Damuels**	**150.83**	**349**	*i* PKP	**PKPbc**	00 27 00.4	+0.1
	comp=Z,3.4nm,0.5s						
FETA	**Feichten**	**150.93**	**348**	*i* PKP	**PKPbc**	00 27 00.7	+0.1
	comp=Z,4.6nm,0.6s						
STAL	**STALIGIAL**	**151.20**	**345**		**PKPbc**	00 26 59.9	-1.2
CIMO	**Cimolais**	**151.22**	**345**		**PKPbc**	00 27 00.4	-0.7
FUORN	**Ofenpass-Fuorn**	**151.40**	**348**		**PKiKP**	00 27 02.0	-0.1
TORD	**Torodi Ar. Bea**	**174.43**	**175**	PKP	**PKPdf**	00 27 16.2	-1.0
	comp=Z,0.2nm,0.5s,baz=67,slow=3.7,SNR=1.9						
TORD				PKPab	**PKPab**	00 28 54.9	+0.8
	comp=Z,0.2nm,0.6s,baz=188,slow=2.9,SNR=1.7						

NOU 20 00:24:08.5, 18°.91S×169°.35E, h174km, MLv3.8/8, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.61**	**317**	P	Pn	00 24 42.5	+1.4
LIFNC	**LIFOU**	**2.72**	**227**	P	Pn	00 24 53.1	-0.3
MARNC	**Mare, Loyalty**	**2.84**	**206**	P	Pn	00 24 55.2	+0.3
YATNC	**Mamie plateau,**	**3.89**	**216**	P	Pn	00 25 07.8	-0.2
DZM	**Mont Dzumac**	**4.16**	**220**	P	Pn	00 25 11.7	+0.1
OUENC	**Ouen Island, N**	**4.21**	**214**	P	Pn	00 25 12.1	0.0
NOUC	**Port Laguerre**	**4.27**	**221**	P	Pn	00 25 13.0	+0.1

IDC ***20*** *00:35:48.8±8.7, 35°.86N×72°.13E, h0km, mb3.5/4, mbtmp3.5/6, ML3.2/2, MS3.9/1, Error ellipse: s-maj=152.3km s-min=42.5km az=153.0*

ISC 20 00:36:08.6±2.3, 36°.9N±0°.2×71°.0E±0°.1, h100km, n9, σ2§53/11, mb3.7/3, 2C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.23**	**356**	⇑P	**Pn**	00 37 39.2	+1.3
KK31	2.9nm,0.5s,baz=182,slow=14,SNR=26			⇑S	**Sn**	00 38 47.5	-0.2
AAK	**Ala-Archa**	**6.34**	**24**	⇓P	**Pn**	00 37 40.3	+0.7
AAK	0.7nm,0.5s,baz=172,slow=30,SNR=4.1 1.5nm,0.4s			⇓S	**Sn**	00 38 48.9	-1.6
GEYT	**Alibeck**	**10.33**	**280**	Pn	**Pn**	00 38 32.5	-1.3
GEYT	0.4nm,0.3s,baz=96,slow=12,SNR=6.7 0.5nm,0.3s,baz=116,slow=20,SNR=2.8			Sn	**Sn**	00 40 25.6	-2.0
BVAR	**Borovoye Array**	**16.15**	**359**	P	**Pn**	00 39 50.5	+0.9
	0.5nm,0.3s baz=163,slow=12,SNR=4.9 0.6nm,0.6s						
ZALV	**Zalesovo Beam**	**19.56**	**25**	P	**P**	00 40 24.1	-4.2
	0.5nm,0.3s,baz=226,slow=10,SNR=3.6 0.5nm,0.3s						
FINES	**FINESS Array B**	**37.18**	**326**	P	**P**	00 43 12.7	+3.1
	0.8nm,0.9s,baz=98,slow=8.7,SNR=3.9 0.8nm,0.9s						
GERES	**GERESS Array B**	**42.73**	**305**	LR	LR	01 06 08.0	
	comp=Z,148nm,20.8s,baz=268,slow=41						
HFS	**Hagfors**	**42.78**	**322**	P	**P**	00 43 58.5	+2.5
	1.3nm,0.8s,baz=102,slow=12,SNR=4.1 1.3nm,0.8s						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	00 44 09.1	+2.6
	0.3nm,0.7s,baz=92,slow=8.1,SNR=1.7 0.3nm,0.7s						

BJI ***20*** *00:42:12.8±0.0, 20°.87S×174°.01W, h7km, mb5.4/57, mB5.9/62, Ms5.5/74, Ms7 5.2/72*

IDC ***20*** *00:42:13.0±0.4, 21°.01S×174°.37W, h0km, mb5.0/24, mbtmp5.0/27, ML5.3/3, MS5.1/59, Error ellipse: s-maj=15.3km s-min=12.9km az=111.0*

MOS ***20*** *00:42:13.3±1.2, 21°.06S×174°.33W, h10km, mb5.5/54, MS5.3/29, Error ellipse: s-maj=8.3km s-min=7.4km az=94.4*

IPGP ***20*** *00:42:14.0, 20°.98S×174°.00W, h15km, Mw5.6, Fault plane solution: NP1:ϕs11.00000°, δ64.00000°, λ89.00000°. NP2:ϕs193.00000°, δ26.00000°, λ92.00000°.*

NEIC ***20*** *00:42:14.5, 21°.02S×173°.84W, h10km*

NEIC ***20*** *00:42:14.7, 21°.28S×173°.82W, h26km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17Nm; Mrr3.50; Mθθ-0.16; Mϕϕ-3.34; Mrθ0.93; Mθϕ-1.11; Mϕr-0.14; Fault plane solution: Ms3.72000×10^17 NP1:ϕs31.65000°, δ47.97000°, λ109.90000°. NP2:ϕs183.25000°, δ45.70000°, λ69.31000°. Principal axes: T 3.7469, Plg75.0000°, Azm13.0000°; N -0.0539, Plg15.0000°, Azm198.0000°; P -3.6930, Plg1.0000°, Azm108.0000°:*

NEIC ***20*** *00:42:14.6±1.6, 21°.07S±0°.07×173°.98W±0°.07, h10km±1km, mb5.4/175, Ms_20 5.4/463, Mwb5.7/50, Mww5.6/23 Error ellipse: s-maj=12.5km s-min=10.9km az=145.0, Moment Tensor Solution. Moment tensor: Scale 10^17Nm; Mrr3.69; Mθθ-0.40; Mϕϕ-3.29; Mrθ0.30; Mθϕ-1.52; Mϕr0.16; Fault plane solution: Ms3.84000×10^17 NP1: ϕs199.69000°, δ43.12000°, λ84.88000°. NP2:ϕs26.68000°, δ47.09000°, λ94.78000°. Principal axes: T 3.7141, Plg86.0000°, Azm354.0000°; N 0.2397, Plg3.0000°, Azm203.0000°; P -3.9539, Plg2.0000°, Azm113.0000°;*

NEIC ***20*** *00:42:14.7, 20°.98S×173°.82W, h26km*

NOU ***20*** *00:42:16.7, 21°.02S×173°.70W, h33km, mb5.3/31, Tonga Islands*

GCMT ***20*** *00:42:19.6±0.1, 21°.25S±0°.01×173°.82W, h18km, MW5.7/170, Moment Tensor Solution. s144,c296; s170,c358; Duration: 1s7 Moment tensor: Scale 10^17 Nm; Mrr3.28±.04; Mθθ-0.20±.03; Mϕϕ-3.07±.03; Mrθ0.89±.07; Mθϕ-1.16±.02; Mϕr1.75±.07; Best double couple: Ms3.90900×10^17 NP1:ϕs23.00000°, δ60.00000°, λ94.00000°. NP2:ϕs195.00000°, δ30.00000°, λ83.00000°. Principal axes: T 3.8170, Plg75.0000°, Azm304.0000°; N 0.1910, Plg4.0000°, Azm201.0000°; P -4.0020, Plg15.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular

DZM	**Mont Dzumac**	**18.22 264**	P	**Pn**	**00 46 25.2**	**-2.0**		
	comp=Z,4.4nm,0.3s,baz=87,slow=19,SNR=33							
DZM			LR	LR	00 52 17.7			
	comp=Z,12µm,19.6s,baz=94,slow=34							
	comp=Z,35nm,0.6s							
RUGZ	**Raukumara Rang**	**18.25 201**	P	**P**	**00 46 29.2**	**+1.7**		
TWGZ	**Tauwhareparae**	**18.34 200**	P	**Pn**	**00 46 32.2**	**+3.8**		
NOUC	**Port Laguerre**	**18.35 263**	P	**Pn**	**00 46 30.6**	**+1.9**		
CNGZ	**Carnagh Statio**	**18.55 200**	P	**Pn**	**00 46 34.8**	**+3.8**		
MWZ	**Matawai**	**18.63 201**	P	**Pn**	**00 46 34.1**	**+2.0**		
URZ	**Urewera**	**18.71 202**	P	**Pn**	**00 46 34.3**	**+1.4**		
URZ	**Urewera**	**18.71 202**	P	**Pn**	**00 46 33.9**	**+0.9**		
	comp=Z,5.6nm,0.3s,baz=32,slow=2.3,SNR=24							
URZ			S	Sn	00 49 46.3	-15		
	comp=Z,14nm,0.5s,baz=115,slow=14,SNR=9.6							
	comp=Z,19nm,0.4s							
URZ	**Urewera**	**18.71 202**	P	**P**	**00 46 30.7**	**-1.8**		
TOZ	**Tahuroa Road**	**18.87 207**	P	**Pn**	**00 46 35.9**	**+1.0**		
RIGZ	**Rimuhau**	**18.89 200**	P	**Pn**	**00 46 37.7**	**+2.6**		
PRGZ	**Paritu Road**	**19.05 200**	P	**Pn**	**00 46 39.4**	**+2.3**		
RTZ	**Ruatahuna**	**19.07 202**	P	**Pn**	**00 46 37.9**	**+0.5**		
RAHZ	**Arahi**	**19.31 201**	P	**Pn**	**00 46 40.9**	**+0.7**		
BKZ	**Black Stump Fm**	**19.74 202**	P	**Pn**	**00 46 47.0**	**+1.7**		
BKZ	**Black Stump Fm**	**19.74 202**	P	**P**	**00 46 44.9**	**+1.1**		
HIZ	**Hauiti**	**19.80 207**	P	**Pn**	**00 46 47.7**	**+1.6**		
KWHZ	**Kaweka Forest**	**19.99 202**	P	Pn	00 46 52.1	+3.8		
ETVZ	**East Tongariro**	**20.00 204**	P	Pn	00 46 51.0	+2.5		
KOUNC	**Koumac, New Ca**	**20.31 268**	P	Pn	00 46 53.1	+0.9		
KOUNC	**Koumac, New Ca**	**20.31 268**	P	**P**	**00 46 49.7**	**-0.5**		
KOUNC			IAMs_20	IAMs_20	00 53 12.4			
	comp=Z,14µm,21.0s							
BFZ	**Birch Farm**	**21.18 201**	P	**P**	**00 47 01.6**	**+2.3**		
BFZ	**Birch Farm**	**21.18 201**	P	**P**	**00 47 00.1**	**+0.8**		
BFZ			IAmb	IAmb	00 47 08.6			
	comp=Z,89nm,0.8s							
QRZ	**Quartz Range**	**22.72 207**	P	**P**	**00 47 18.2**	**+2.3**		
QRZ	**Quartz Range**	**22.72 207**	IAMs_20	IAMs_20	00 56 42.5			
	comp=Z,11µm,18.0s							
PPT	**Papeete**	**23.30 85**	P	**P**	**00 47 23.7**	**+1.6**		
	comp=Z,50nm,0.7s,baz=255,slow=20,SNR=4.6							
PPT			LR	LR	00 56 16.5			
	comp=Z,5µm,18.1s,baz=262,slow=36							
PPTF	**Pamatai, Papee**	**23.30 85**	P	**P**	**00 47 19.6**	**-2.6**		
PPTF	**Pamatai, Papee**	**23.30 85**	P	**P**	**00 47 22.2**	**0.0**		
INZ	**Inchbonnie**	**24.75 206**	IAMs_20	IAMs_20	00 56 48.1			
	comp=Z,10µm,19.0s							
RPZ	**Rata Peaks**	**25.73 206**	IAMs_20	IAMs_20	00 58 14.1			
	comp=Z,11µm,18.0s							
RPZ	**Rata Peaks**	**25.73 206**	LR	LR	00 57 41.9			
	comp=Z,9µm,19.1s,baz=22,slow=36							
TARA	**Tarawa**	**25.77 329**	IAMs_20	IAMs_20	00 55 56.5			
	comp=Z,10µm,18.0s							
LHI	**Lord Howe Isla**	**26.21 241**	P	**P**	**00 47 49.4**	**+0.6**		
LHI			IAmb	IAmb	00 48 21.6			
	comp=Z,186nm,1.4s							
LBZ	**Lake Benmore**	**26.63 206**	IAMs_20	IAMs_20	00 59 08.2			
	comp=Z,13µm,18.0s							
JCZ	**Jackson Bay**	**26.97 208**	P	**P**	**00 47 57.4**	**+1.7**		
WKZ	**Wanaka**	**27.48 207**	IAMs_20	IAMs_20	00 59 13.5			
	comp=Z,8µm,19.0s							
HNR	**Honiara**	**27.66 291**	P	**P**	**00 48 00.4**	**-1.6**		
HNR	**Honiara**	**27.66 291**	LR	LR	00 57 23.9			
	comp=Z,57µm,19.6s,baz=126,slow=33							
HNR	**Honiara**	**27.66 291**	P	**P**	**00 48 00.4**	**-1.6**		
HNR			pmax	pmax				
	comp=Z,133nm,0.9s							
HNR			MLR	MLR				
	comp=Z,5µm,19.0s							
XMAS	**Kiritimati**	**28.17 37**	IAMs_20	IAMs_20	00 58 47.4			
	comp=Z,7µm,18.0s							
MLZ	**Mavora Lakes**	**28.29 207**	IAMs_20	IAMs_20	00 59 24.9			
	comp=Z,8µm,19.0s							
ARMA	**Armidale**	**32.20 246**	P	**P**	**00 48 41.4**	**-0.9**		
EIDS	**Eidsvold**	**32.31 256**	P	**P**	**00 48 41.1**	**-2.1**		
	baz=32,SNR=7.1							
EIDS	**Eidsvold**	**32.31 256**	P	**P**	**00 48 40.8**	**-2.4**		
MGCD	**Mangrove Creek**	**33.14 241**	P	**P**	**00 48 48.9**	**-1.5**		
	baz=33,SNR=5.2							
MGCD	**Mangrove Creek**	**33.14 241**	P	**P**	**00 48 53.0**	**+2.6**		
CNB	**Canberra Magne**	**35.03 238**	P	**P**	**00 49 06.0**	**-0.8**		
	baz=35,SNR=7.0							
CAN	**Canberra**	**35.32 238**	P	**P**	**00 49 11.8**	**+2.5**		
CAN	**Canberra**	**35.32 238**	P	**P**	**00 49 08.0**	**-1.3**		
CAN			IAmb	IAmb	00 49 10.1			
	comp=Z,30nm,0.9s							
CAN	**Canberra**	**35.32 238**	P	**P**	**00 49 08.0**	**-1.3**		
CAN			pmax	pmax				
	comp=Z,31nm,0.9s							
CAN			MLR	MLR				
	comp=Z,3µm,18.0s							
CTAO	**Charters Tower**	**37.16 264**	P	**P**	**00 49 22.5**	**-2.7**		
CTAO	**Charters Tower**	**37.16 264**	IAMs_20	IAMs_20	01 03 20.7			
	comp=Z,5µm,18.0s							
CTAO	**Charters Tower**	**37.16 264**	P	**P**	**00 49 22.5**	**-2.7**		
CTAO			pmax	pmax				
	comp=Z,22nm,0.7s							
CTAO			MLR	MLR				
	comp=Z,5µm,18.0s							
CMSA	**Cobar Meteorol**	**37.40 245**	P	**P**	**00 49 25.5**	**-1.6**		
	baz=38,SNR=5.2							
QLP	**Quilpie**	**38.46 254**	P	**P**	**00 49 33.3**	**-2.8**		
	baz=38,SNR=6.4							
TOO	**Toolangi**	**38.60 236**	P	**P**	**00 49 36.5**	**-0.6**		
	baz=39,SNR=6.2							
TOO	**Toolangi**	**38.60 236**	P	**P**	**00 49 36.1**	**-1.0**		
TOO	**Toolangi**	**38.60 236**	P	**P**	**00 49 36.1**	**-1.0**		
TOO			pmax	pmax				
	comp=Z,23nm,0.9s							
TAU	**Tasmania Unive**	**38.87 227**	P	**P**	**00 49 38.3**	**-1.0**		
TAU			IAmb	IAmb	00 49 43.2			
	comp=Z,145nm,1.4s							
TAU	**Tasmania Unive**	**38.87 227**	P	**P**	**00 49 38.3**	**-1.0**		
TAU			pmax	pmax				
	comp=Z,145nm,1.5s							
PATS	**Pohnpei**	**38.89 313**	P	**P**	**00 49 37.7**	**-2.0**		
PATS			IAmb	IAmb	00 50 12.2			
	comp=Z,91nm,1.1s							
PATS			IAMs_20	IAMs_20	01 01 12.9			
	comp=Z,5µm,22.0s							
PMG	**Port Moresby**	**39.15 281**	P	**P**	**00 49 39.2**	**-2.7**		
	comp=Z,58nm,0.9s,baz=110,slow=7.3,SNR=12							
PMG			LR	LR	01 03 57.9			
	comp=Z,3µm,18.3s,baz=155,slow=34							
	comp=Z,58nm,0.9s							
MTSU	**Mount Surprise**	**39.30 267**	P	**P**	**00 49 40.8**	**-2.5**		
	baz=39,SNR=11							
STKA	**Stephens Creek**	**40.91 245**	P	**P**	**00 49 54.2**	**-2.2**		
	baz=41,SNR=26							
STKA	**Stephens Creek**	**40.91 245**	P	**P**	**00 49 54.2**	**-2.2**		
STKA	**Stephens Creek**	**40.91 245**	P	**P**	**00 49 54.6**	**-1.9**		
	comp=Z,19nm,0.8s,baz=88,slow=11,SNR=26							
STKA			LR	LR	01 05 29.6			
	comp=Z,3µm,18.4s,baz=77,slow=34							
	comp=Z,19nm,0.8s							
ARPS	**Mount Arapiles**	**41.29 238**	P	**P**	**00 49 58.5**	**-1.0**		
	baz=41,SNR=5.8							
COEN	**Coen**	**41.36 273**	P	**P**	**00 49 58.4**	**-2.0**		
	baz=41,SNR=12							
COEN	**Coen**	**41.36 273**	P	**P**	**00 49 58.2**	**-2.2**		
MANU	**Manus Island**	**42.16 292**	P	**P**	**00 50 05.4**	**-1.4**		
QIS	**Mount Isa**	**43.25 262**	P	**P**	**00 50 13.3**	**-2.4**		
	baz=43,SNR=4.0							
HTT	**Hallett**	**43.27 243**	P	**P**	**00 50 13.8**	**-2.0**		
	baz=43,SNR=21							
WAKE	**Wake Island**	**44.42 333**	IAMs_20	IAMs_20	01 05 56.4			
	comp=Z,4µm,19.0s							
BBOO	**Buckleboo**	**45.64 244**	P	**P**	**00 50 31.9**	**-2.7**		
	baz=46,SNR=25							
BBOO	**Buckleboo**	**45.64 244**	P	**P**	**00 50 31.8**	**-2.9**		
BBOO			IAmb	IAmb	00 50 33.7			
	comp=Z,20nm,0.7s							
JAY	**Jayapura**	**47.81 287**	P	**P**	**00 50 49.1**	**-2.8**		
	comp=Z,96nm,1.0s,comp=Z,1µm							
ASAR	**Alice Springs**	**48.02 257**	P	**P**	**00 50 50.2**	**-3.3**		
	comp=Z,87nm,0.9s,baz=99,slow=7.2,SNR=227							
ASAR			PcP	**PcP**	**00 52 21.7**	**+0.3**		
	comp=Z,9.9nm,0.8s,baz=105,slow=4.2,SNR=4.9							
ASAR			S	**S**	**00 57 43.2**	**-8.0**		
	comp=Z,1.6nm,0.9s,baz=97,slow=13,SNR=5.0							
	comp=Z,87nm,0.9s							
WR0	**Warramunga Arr**	**48.04 262**	P	**P**	**00 50 51.1**	**-2.5**		
WR0			IAmb	IAmb	00 51 00.4			
	comp=Z,26nm,1.1s							
WRAB	**Tennant Creek**	**48.22 262**	*iP*	**P**	**00 50 52.0**	**-3.0**		
WRAB			pmax	pmax				
	comp=Z,42nm,0.9s							
WRA	**Warramunga Arr**	**48.23 262**	P	**P**	**00 50 51.8**	**-3.3**		
WRA	**Warramunga Arr**	**48.23 262**	P	**P**	**00 50 51.4**	**-3.6**		
	comp=Z,30nm,0.9s,baz=97,slow=8.1,SNR=85							
WRA			PcP	**PcP**	**00 52 23.3**	**+1.1**		
	comp=Z,17nm,1.1s,baz=99,slow=3.7,SNR=5.2							
WRA			S	**S**	**00 57 46.7**	**-7.3**		
	comp=Z,1.1nm,0.9s,baz=103,slow=14,SNR=3.2							
WRA			LR	LR	01 10 52.9			
	comp=Z,4µm,18.4s,baz=84,slow=36							
	comp=Z,30nm,0.9s							
WRA	**Warramunga Arr**	**48.23 262**	P	**P**	**00 50 51.8**	**-3.3**		
WRA			pmax	pmax				
	comp=Z,3.0nm,0.9s							
GENI	**Genyem**	**48.26 286**	P	**P**	**00 50 53.8**	**-1.5**		
	comp=Z,93nm,0.9s,comp=Z,5µm							
MIDW	**Midway**	**49.18 356**	IAMs_20	IAMs_20	01 09 24.7			
	comp=Z,4µm,20.0s							
KDU	**Kakadu**	**51.71 270**	P	**P**	**00 51 18.9**	**-2.6**		
	baz=52,SNR=8.8							
FORT	**Forrest**	**52.49 247**	P	**P**	**00 51 25.8**	**-1.4**		
	baz=52,SNR=8.2							
FORT	**Forrest**	**52.49 247**	P	**P**	**00 51 24.7**	**-2.4**		
FORT			IAmb	IAmb	00 51 38.6			
	comp=Z,60nm,0.8s							
WRKA	**Warakurna**	**52.90 254**	P	**P**	**00 51 27.1**	**-3.2**		
	baz=53,SNR=95							
MTN	**Manton Dam**	**52.92 270**	P	**P**	**00 51 27.5**	**-3.0**		
	baz=53,SNR=6.8							
MTN	**Manton Dam**	**52.92 270**	P	**P**	**00 51 27.3**	**-3.2**		
MTN			IAmb	IAmb	00 51 29.5			
	comp=Z,71nm,1.4s							
GUMO	**Guam**	**53.14 307**	P	**P**	**00 51 29.7**	**-2.4**		
GUMO	**Guam**	**53.14 307**	P	**P**	**00 51 30.6**	**-1.5**		
	comp=Z,58nm,0.8s,baz=126,slow=6.1,SNR=6.9							
GUMO			LR	LR	01 10 53.4			
	comp=Z,2µm,21.8s,baz=122,slow=33							
	comp=Z,58nm,0.8s							
GUMO	**Guam**	**53.14 307**	P	**P**	**00 51 29.7**	**-2.4**		
GUMO			pmax	pmax				
	comp=Z,158nm,1.3s							
GUMO			MLR	MLR				
	comp=Z,2µm,18.0s							
FAKI	**Fak Fak**	**55.30 282**	P	**P**	**00 51 45.5**	**-2.5**		
FAKI			IAmb	IAmb	00 51 58.8			
	comp=Z,35nm,1.0s							
FITZ	**Fitzroy Crossi**	**56.66 262**	P	**P**	**00 51 56.0**	**-1.6**		
	baz=57,SNR=17							
FITZ	**Fitzroy Crossi**	**56.66 262**	P	**P**	**00 51 55.3**	**-2.3**		
SWI	**Sorong**	**57.04 283**	P	**P**	**00 51 58.4**	**-2.0**		
	comp=Z,151nm,1.0s,comp=Z,2µm							
SBA	**Scott Base**	**57.51 185**	P	**P**	**00 52 05.6**	**+2.9**		
SBA			IAmb	IAmb	00 52 18.9			
	comp=Z,29nm,1.0s							
SBA	**Scott Base**	**57.51 185**	P	**P**	**00 52 05.6**	**+2.9**		
SBA			pmax	pmax				
	comp=Z,29nm,1.0s							
VNDA	**Vanda**	**57.64 186**	P	**P**	**00 52 06.8**	**+3.2**		
VNDA	**Vanda**	**57.64 186**	P	**P**	**00 52 06.0**	**+2.4**		
	comp=Z,5.1nm,0.8s,baz=32,slow=7.2,SNR=24							
VNDA			LR	LR	01 16 58.7			
	comp=Z,694nm,18.5s,baz=20,slow=36							
	comp=Z,5.1nm,0.8s							
VNDA	**Vanda**	**57.64 186**	P	**P**	**00 52 06.8**	**+3.2**		
VNDA			pmax	pmax				
	comp=Z,9.0nm,0.9s							
KMBL	**Kambalda**	**57.71 246**	P	**P**	**00 52 03.8**	**-1.2**		
	baz=58,SNR=6.7							
RPN	**Rapa Nui**	**58.75 110**	LR	LR	01 13 18.8			
	comp=Z,3µm,18.2s,baz=276,slow=32							
SOEI	**Soe**	**60.27 271**	P	**P**	**00 52 22.2**	**-0.8**		
SOEI			IAMs_20	IAMs_20	01 21 50.9			
	comp=Z,2µm,18.0s							
SOEI	**Soe**	**60.27 271**	P	**P**	**00 52 22.8**	**-0.2**		
	comp=Z,120nm,0.7s,comp=Z,2µm							
LBMI	**Labuha**	**60.56 282**	P	**P**	**00 52 24.1**	**-0.8**		
	comp=Z,74nm,0.6s,comp=Z,2µm							
BATI	**Baumata**	**60.69 270**	LR	LR	01 18 45.6			
	comp=Z,2µm,18.3s,baz=130,slow=36							
PSA00	**Pilbara Seismi**	**61.17 256**	P	**P**	**00 52 26.8**	**-2.2**		
PSA00			IAmb	IAmb	00 52 28.9			
	comp=Z,30nm,0.8s							
KLBR	**Kellerberrin**	**61.18 245**	P	**P**	**00 52 27.7**	**-1.2**		
	baz=61,SNR=30							
MEEK	**Meekatharra**	**61.25 250**	P	**P**	**00 52 27.6**	**-1.9**		
	baz=61,SNR=6.3							
TNTI	**Ternate**	**61.26 283**	P	**P**	**00 52 27.7**	**-1.8**		
TNTI	**Ternate**	**61.26 283**	P	**P**	**00 52 27.8**	**-1.8**		
	comp=Z,85nm,1.0s							
MBWA	**Marble Bar**	**61.37 257**	P	**P**	**00 52 28.1**	**-2.2**		
MBWA			IAmb	IAmb	00 52 29.7			
	comp=Z,32nm,0.7s							
MBWA	**Marble Bar**	**61.37 257**	IAMs_20	IAMs_20	01 18 01.3			
	comp=Z,3µm,20.0s							
NWAO	**Narrogin (SRO)**	**61.43 243**	P	**P**	**00 52 30.6**	**0.0**		
	baz=62,SNR=6.2							
NWAO			P	**P**	**00 52 30.6**	**0.0**		
	baz=62,SNR=6.2							
NWAO	**Narrogin (SRO)**	**61.43 243**	P	**P**	**00 52 30.1**	**-0.5**		
NWAO			IAmb	IAmb	00 52 32.6			
	comp=Z,43nm,1.1s							
NWAO	**Narrogin (SRO)**	**61.43 243**	IAMs_20	IAMs_20	01 17 55.9			
	comp=Z,2µm,19.0s							
NWAO	**Narrogin (SRO)**	**61.43 243**	LR	LR	01 18 07.5			
	comp=Z,2µm,18.7s,baz=70,slow=35							
NWAO	**Narrogin (SRO)**	**61.43 243**	P	**P**	**00 52 30.1**	**-0.5**		
NWAO			pmax	pmax				
	comp=Z,43nm,1.2s							
BLDU	**Ballidu**	**62.22 246**	P	**P**	**00 52 34.7**	**-1.2**		
	baz=62,SNR=19							
MUN	**Mundaring**	**62.43 244**	P	**P**	**00 52 37.2**	**0.0**		
	baz=62,SNR=8.0							
MORW	**Morawa**	**63.05 247**	P	**P**	**00 52 40.3**	**-1.2**		
	baz=63,SNR=9.3							
MORW	**Morawa**	**63.05 247**	P	**P**	**00 52 39.9**	**-1.5**		
JCJ	**Chichijima**	**64.03 317**	P	**P**	**00 52 47.0**	**-0.8**		
JCJ			IAMs_20	IAMs_20	01 16 18.2			
	comp=Z,2µm,21.0s							
JCJ	**Chichijima**	**64.03 317**	LR	LR	01 16 35.3			
	comp=Z,1µm,20.2s,baz=120,slow=32							
SGSI	**Sangihe**	**64.15 285**	P	**P**	**00 52 47.3**	**-1.6**		
	comp=Z,196nm,1.0s							
LUWI	**Luwuk**	**64.74 279**	P	**P**	**00 52 51.8**	**-1.0**		
CASY	**Casey**	**65.00 206**	P	**P**	**00 52 55.1**	**+1.5**		
CASY			IAmb	IAmb	00 52 57.1			
	comp=Z,36nm,0.9s							
DAV	**Davao City (W)**	**65.59 289**	IAMs_20	IAMs_20	01 21 12.8			
	comp=Z,2µm,18.0s							
DAV	**Davao City (W)**	**65.59 289**	LR	LR	01 19 49.4			
	comp=Z,1µm,19.1s,baz=91,slow=35							
GIRL	**Giralia**	**65.99 254**	P	**P**	**00 53 00.9**	**+0.2**		
	baz=66,SNR=4.1							
GIRL	**Giralia**	**65.99 254**	P	**P**	**00 53 00.1**	**-0.6**		
KAPI	**Kappang**	**66.08 274**	P	**P**	**00 52 59.9**	**-1.6**		
KAPI			IAmb	IAmb	00 53 04.1			
	comp=Z,62nm,1.6s							
KAPI	**Kappang**	**66.08 274**	LR	LR	01 21 37.6			
	comp=Z,1µm,19.7s,baz=108,slow=36							
KAPI	**Kappang**	**66.08 274**	*eP*	**P**	**00 52 59.6**	**-1.8**		
KAPI			pmax	pmax				
	comp=Z,37nm,1.5s							
PLAI	**Plampang**	**66.62 269**	P	**P**	**00 53 04.1**	**-0.9**		
	comp=Z,54nm,0.9s,comp=Z,998nm							
TOLI2	**Tolitoli**	**67.41 280**	P	**P**	**00 53 08.1**	**-1.8**		
TOLI2			IAmb	IAmb	00 53 10.4			
	comp=Z,26nm,1.0s							
TWSI	**Taliwang, Sumb**	**67.49 269**	P	**P**	**00 53 09.0**	**-1.5**		
	comp=Z,52nm,1.2s							
QSPA	**South Pole Qui**	**68.93 180**	P	**P**	**00 53 20.4**	**+1.5**		
QSPA			IAmb	IAmb	00 53 33.4			
	comp=Z,40nm,1.1s							
QSPA	**South Pole Qui**	**68.93 180**	P	**P**	**00 53 21.0**	**+2.1**		
	comp=Z,22nm,1.1s,baz=43,slow=2.9,SNR=36							
QSPA			LR	LR	01 22 49.0			
	comp=Z,946nm,18.1s,baz=42,slow=35							
	comp=Z,22nm,1.1s							
JHJ	**Hachijo jima 2**	**69.70 320**	LR	LR	01 22 36.4			
	comp=Z,555nm,18.0s,baz=250,slow=35							
JAGI	**Jajag, Banyuwa**	**70.12 268**	P	**P**	**00 53 26.7**	**-0.2**		
MYLDM	**Lahad Datu**	**71.13 283**	P	**P**	**00 53 32.9**	**-0.1**		
MYLDM			IAmb	IAmb	00 53 55.9			
	comp=Z,50nm,1.0s							
PWJI	**Pagerwojo**	**72.46 268**	P	**P**	**00 53 42.2**	**+1.2**		
	comp=Z,26nm,0.7s							
TGY	**Tagaytay City**	**72.85 293**	LR	LR	01 24 46.3			
	comp=Z,790nm,18.9s,baz=116,slow=35							
JGF	**Kuroka**	**72.86 320**	P	**P**	**00 53 41.7**	**-1.3**		
INU	**Inuyama**	**72.89 320**	P	**P**	**00 53 42.8**	**-0.3**		
INU			IAmb	IAmb	00 53 44.2			
	comp=Z,34nm,1.1s							
INU			IAMs_20	IAMs_20	01 24 48.7			
	comp=Z,1µm,20.0s							
MJAR	**Matsushiro Arr**	**73.00 321**	P	**P**	**00 53 42.7**	**-1.0**		
	comp=Z,48nm,0.9s,baz=152,slow=5.9,SNR=67							
MJAR			LR	LR	01 24 40.0			
	comp=Z,726nm,18.1s,baz=123,slow=35							
	comp=Z,48nm,0.9s							
MAJO	**Matsushiro**	**73.00 321**	P	**P**	**00 53 41.5**	**-2.2**		
MAJO	**Matsushiro**	**73.00 321**	*de*P	**P**	**00 53 43.2**	**-0.5**		
MAJO			pmax	pmax				
	comp=Z,50nm,0.8s							
MJB9	**Matsu-Tunnel**	**73.01 321**	P	**P**	**00 53 42.3**	**-1.5**		
JOW	**Kunigami**	**73.48 308**	P	**P**	**00 53 45.5**	**-1.3**		
JOW			IAmb	IAmb	00 53 58.8			
	comp=Z,35nm,1.2s							
JOW	**Kunigami**	**73.48 308**	LR	LR	01 20 41.2			
	comp=Z,1µm,21.9s,baz=135,slow=32							
UGM	**Wanagama**	**73.69 268**	P	**P**	**00 53 48.4**	**0.0**		
UGM			IAMs_20	IAMs_20	01 24 10.9			
	comp=Z,2µm,20.0s							
JMN	**Monobe**	**73.78 317**	P	**P**	**00 53 47.1**	**-1.3**		
NIKH	**Nikolski High**	**73.94 3**	P	**P**	**00 53 49.0**	**+0.2**		
	baz=185							
JSD	**Sado**	**74.00 323**	P	**P**	**00 53 49.5**	**0.0**		
SHEM	**Shemya Is, Ala**	**74.29 353**	LR	LR	01 22 10.2			
	comp=Z,2µm,19.9s,baz=142,slow=32							
UNV	**Unalaska Valle**	**74.95 5**	P	**P**	**00 53 54.0**	**-0.7**		
	baz=187							
SNCC	**San Nicolas Is**	**74.99 45**	P	**P**	**00 53 53.5**	**-1.9**		
	baz=232							
JNU	**Nakatsue**	**75.36 315**	P	**P**	**00 53 57.1**	**-0.5**		
JNU			IAmb	IAmb	00 53 59.1			
	comp=Z,28nm,1.0s							
JNU	**Nakatsue**	**75.36 315**	LR	LR	01 22 32.1			
	comp=Z,455nm,21.9s,baz=129,slow=32							
SCZ2	**Santa Cruz Isl**	**75.38 44**	P	**P**	**00 53 56.4**	**-1.3**		
	baz=232							
SCI2	**San Clemente I**	**75.47 46**	P	**P**	**00 53 57.2**	**-1.0**		
	baz=232							
SBC	**Santa Barbara**	**75.61 44**	P	**P**	**00 53 57.7**	**-1.2**		
	baz=231							
SBUM	**Sibu**	**75.81 278**	P	**P**	**00 53 59.4**	**-1.2**		
CIS	**Catalina Islan**	**75.82 45**	P	**P**	**00 53 59.4**	**-0.8**		
	baz=232							
PKM	**Mcpherson Peak**	**75.82 43**	P	**P**	**00 53 58.9**	**-1.5**		
	baz=231							
SMMC	**Simmler**	**75.97 43**	P	**P**	**00 54 00.3**	**-0.7**		
	baz=231							
MCCM	**Marconi Confer**	**76.02 39**	IAMs_20	IAMs_20	01 23 39.2			
	comp=Z,2µm,18.0s							
FMP	**Fort Macarthur**	**76.09 45**	P	**P**	**00 54 01.0**	**-0.7**		
	baz=232							
JKA	**Kamikawa-asahi**	**76.13 329**	P	**P**	**00 54 01.6**	**-0.1**		
JKA			IAmb	IAmb	00 54 21.9			
	comp=Z,30nm,1.1s							
JKA			IAMs_20	IAMs_20	01 26 09.3			
	comp=Z,2µm,19.0s							
ASAJ	**Asahikawa**	**76.14 329**	LR	LR	01 26 19.3			
	comp=Z,1µm,18.2s,baz=148,slow=35							
ASAJ	**Asahikawa**	**76.14 329**	P	**P**	**00 54 01.6**	**-0.1**		
ASAJ			pmax	pmax				
	comp=Z,31nm,1.1s							
YOJ	**Yonaguni jima**	**76.20 303**	P	**P**	**00 54 01.6**	**-0.9**		
YOJ	**Yonaguni jima**	**76.20 303**	P	**P**	**00 54 01.6**	**-0.9**		
YOJ			pmax	pmax				
	comp=Z,115nm,1.0s							
SKR	**Severo-Kuril's**	**76.22 341**	*eP*	**P**	**00 53 59.9**	**-2.1**		
SKR			*e*PPP	PPP	00 58 41.8			
SKR			*eS*	**S**	**01 03 50.0**	**+4.7**		
SKR			*e*PS	**PnS**	**01 04 14.7**	**-9.2**		
SKR			pmax	pmax				
	comp=Z,400nm,8.7s							
SKR			MLR	MLR				
	comp=Z,700nm,17.0s							
FALS	**False Pass**	**76.23 6**	P	**P**	**00 54 02.2**	**+0.2**		
	baz=190							
OSI	**Osito Audit: C**	**76.35 44**	P	**P**	**00 54 03.5**	**+0.3**		
	baz=232							
DECC	**Green Verdugo**	**76.39 45**	P	**P**	**00 54 02.7**	**-0.8**		
	baz=232							
109C	**Camp Elliot, M**	**76.39 46**	P	**P**	**00 54 04.1**	**+0.7**		
	baz=234							
PASC	**Pasadena Art C**	**76.44 45**	IAMs_20	IAMs_20	01 22 55.5			
	comp=Z,2µm,18.0s							
LPIG	**La Paz**	**76.55 57**	LR	LR	01 21 45.4			
	comp=Z,1µm,18.4s,baz=218,slow=31							
ARVC	**Arvin**	**76.60 44**	P	**P**	**00 54 04.4**	**-0.2**		
	baz=232							
CNBA	**Chernabura Isl**	**76.65 9**	IAMs_20	IAMs_20	01 23 02.4			
	comp=Z,1µm,20.0s							
CHNA	**Chernabura Isl**	**76.66 9**	P	**P**	**00 54 04.7**	**+0.2**		
	baz=194							
MURC	**Murrieta**	**76.75 46**	P	**P**	**00 54 06.5**	**+0.9**		
	baz

PET ePS PnS 01 05 03.8 +23
PET pmax pmax
comp=Z,300nm,14.3s
PET MLR MLR
comp=Z,1μm,17.0s
YHNB Yeheng 77.59 303 P **P** **00 54 09.4 -1.1**
YHNB IAmb IAmb 00 54 15.6
comp=Z,32nm,1.1s
RRX Edison Barstow 77.64 45 P **P** **00 54 09.5 -1.0**
baz=233
TATO Taipei 77.65 303 IAMs_20 IAMs_20 01 25 14.1
comp=Z,2μm,19.0s
ORV Oroville 77.76 39 IAMs_20 IAMs_20 01 26 38.2
comp=Z,1μm,18.0s
BELC Belle Mtn. Jos 77.79 46 P **P** **00 54 10.9 -0.6**
baz=234
CWC Cottonwood Cre 77.89 43 P **P** **00 54 11.4 -0.6**
baz=232
PEA0B Petropavlovsk- 77.92 343 P **P** **00 54 11.1 -0.4**
PEA0B Petropavlovsk- 77.92 343 *c i* P **P** **00 54 11.5 0.0**
PETK Petropavlovsk- 77.92 343 P **P** **00 54 11.4 -0.1**
PETK Petropavlovsk- 77.92 343 P **P** **00 54 11.6 +0.1**
comp=Z,19nm,0.9s,baz=119,slow=7.5,SNR=25
PETK LR LR 01 25 32.2
comp=Z,738nm,19.1s,baz=169,slow=34
comp=Z,19nm,0.9s
BC3 Big Chuckawall 77.96 47 P **P** **00 54 12.1 -0.3**
baz=234,SNR=9.0
GSC Goldstone, Bar 78.02 45 P **P** **00 54 12.2 -0.5**
baz=233
MPMC Manual Prospec 78.03 44 P **P** **00 54 11.8 -1.0**
baz=233,SNR=17
HEC Hector,Ludlow 78.05 45 P **P** **00 54 12.1 -0.7**
baz=234
SPIA Saint Paul Isl 78.08 2 P **P** **00 54 12.2 -0.1**
baz=184
S14K Fog Glacier 78.08 8 P **P** **00 54 13.4 +0.9**
baz=194
MLAC Mammoth, Mammo 78.14 42 P **P** **00 54 14.3 +0.8**
baz=231
TIN Tinemaha, Big 78.17 43 P **P** **00 54 13.0 -0.5**
baz=232
YSS Yuzh-Sakhalins 78.20 331 P **P** **00 54 12.9 -0.3**
YSS IAmb IAmb 00 54 25.2
comp=Z,51nm,0.9s
YSS IAMs_20 IAMs_20 01 24 31.7
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 78.20 331 *eP* **P** **00 54 14.2 +1.0**
YSS *e* 00 57 04.2
YSS *eS* **S** **01 04 05.3 -1.7**
YSS *ePS* **PnS** **01 04 52.6 +3.2**
YSS *eSS* **SS** **01 09 15.5 +5.6**
YSS pmax pmax
comp=Z,40nm,0.9s
YSS pmax pmax
comp=Z,200nm,4.0s
CHIR Chirikof Islan 78.23 10 IAMs_20 IAMs_20 01 23 47.9
comp=Z,2μm,20.0s
CHIR Chirikof Islan 78.23 10 P **P** **00 54 14.0 +0.8**
baz=198
CHGN Chignik 78.26 9 P **P** **00 54 14.1 +0.8**
baz=195
BELA Belgrano 2 78.42 172 P **P** **00 54 15.1 +1.0**
BELA IAmb IAmb 00 54 36.1
comp=Z,61nm,1.7s
IRM Iron Mountain 78.46 46 P **P** **00 54 16.6 +1.5**
baz=235,SNR=11
GMRC Granite Mounta 78.48 46 P **P** **00 54 15.6 +0.3**
baz=234,SNR=7.0
YBH Yreka Blue Hor 78.51 37 P **P** **00 54 14.5 -0.7**
YBH IAMs_20 IAMs_20 01 24 40.9
comp=Z,2μm,19.0s
YBH Yreka Blue Hor 78.51 37 LR LR 01 24 33.2
comp=Z,2μm,18.3s,baz=233,slow=32
YBH Yreka Blue Hor 78.51 37 P **P** **00 54 14.5 -0.7**
YBH pmax pmax
comp=Z,15nm,1.2s
DSP Deep Springs 78.52 42 P **P** **00 54 15.1 -0.2**
DSP IAmb IAmb 00 54 38.5
comp=Z,34nm,1.1s
HSIG 78.60 53 P **P** **00 54 15.1 -0.8**
GRAC Grapevine Rang 78.68 43 P **P** **00 54 17.3 +1.1**
baz=233
FURC Furnace Creek, 78.68 44 P **P** **00 54 16.9 +0.8**
baz=233
TUQ Turquoise Moun 78.68 45 P **P** **00 54 17.0 +0.6**
baz=234
SHOC Shoshone, Teco 78.73 44 P **P** **00 54 16.3 -0.1**
baz=234
214A Organ Pipe Nat 78.83 49 P **P** **00 54 17.4 +0.2**
baz=236
HUMO Hull Mountain 78.96 36 IAMs_20 IAMs_20 01 25 02.8
comp=Z,2μm,19.0s
NVAR Mina Array Bea 78.97 41 P **P** **00 54 18.3 +0.3**
NVAR Mina Array Bea 78.97 41 P **P** **00 54 20.1 +2.1**
comp=Z,11nm,0.7s,baz=225,slow=8.6,SNR=48
NVAR LR LR 01 24 51.9
comp=Z,2μm,18.2s,baz=246,slow=32
comp=Z,11nm,0.7s
NEE2 Needles Airpor 79.16 46 P **P** **00 54 18.4 -0.5**
baz=235
SII Sitkinak Islan 79.19 11 IAMs_20 IAMs_20 01 33 08.1
comp=Z,2μm,19.0s
SII Sitkinak Islan 79.19 11 P **P** **00 54 19.0 +0.5**
baz=199
PMSA Palmer Station 79.19 156 LR LR 01 26 12.5
comp=Z,792nm,18.2s,baz=236,slow=33
PDMCI Parker Dam,Lak 79.22 47 P **P** **00 54 19.3 +0.1**
baz=235
TPH Tonopah 79.42 42 P **P** **00 54 20.7 +0.2**
TPH Tonopah 79.42 42 P **P** **00 54 20.7 +0.2**
TPH pmax pmax
comp=Z,84nm,0.9s
V12A Nelson 79.56 45 P **P** **00 54 21.4 +0.3**
TJN Taejon 79.62 316 ⇑ *eP* **P** **00 54 23.0 +1.7**
KSRS Korea Array 79.89 317 P **P** **00 54 23.0 +0.3**
comp=Z,24nm,1.0s,baz=128,slow=5.9,SNR=48
KSRS LR LR 01 24 18.8
comp=Z,496nm,20.7s,baz=115,slow=32
comp=Z,24nm,1.0s
KSAR Wonju Array Be 79.91 317 P **P** **00 54 22.7 -0.1**
KSAR Wonju Array Be 79.91 317 P **P** **00 54 22.7 -0.1**
QZH Quanzhou 79.92 302 ⇑ *iP* **P** **00 54 22.3 -0.9**
QZH sP **sP** **00 54 29.6 +0.3**
QZH S **S** **01 04 29.0 +2.7**
QZH pmax pmax
comp=Z,710nm,8.0s
QZH LR LR
comp=Z,890nm,19.6s
QZH LR LR
comp=Z,1μm,18.2s
QZH LR LR
comp=Z,2μm,18.5s
KS19 Wonju Array Si 79.95 317 P **P** **00 54 23.0 -0.1**
KS19 IAmb IAmb 00 54 25.4
comp=Z,37nm,1.1s
OHAK Old Harbor 79.97 11 P **P** **00 54 23.2 +0.5**
baz=200
UGL Uglegorsk 80.11 332 *eP* **P** **00 54 21.3 -2.3**
UGL *eS* **S** **01 04 20.6 -6.6**
UGL pmax pmax
comp=Z,380nm,3.5s
UGL pmax pmax
comp=Z,50nm,0.7s
TUC Tucson 80.47 50 IAMs_20 IAMs_20 01 25 52.4
comp=Z,2μm,18.0s
TUC Tucson 80.47 50 P **P** **00 54 26.8 +0.7**
baz=238
R11B Troy Canyon, C 80.62 43 IAMs_20 IAMs_20 01 26 10.1
comp=Z,2μm,19.0s
R11B Troy Canyon, C 80.62 43 P **P** **00 54 28.2 +1.3**
baz=234,SNR=12
KDAK Kodiak Island 80.63 11 P **P** **00 54 26.8 +0.5**
baz=200
KDAK Kodiak Island 80.63 11 P **P** **00 54 28.3 +2.1**
comp=Z,14nm,1.1s,baz=259,slow=16,SNR=2.7
KDAK LR LR 01 28 10.8
comp=Z,540nm,18.1s,baz=224,slow=34
comp=Z,14nm,1.1s
INCN Inchon 80.74 316 P **P** **00 54 26.7 -0.6**
INCN IAmb IAmb 00 54 31.2
comp=Z,52nm,0.9s
INCN Inchon 80.74 316 P **P** **00 54 26.7 -0.6**
INCN pmax pmax
comp=Z,52nm,0.9s
O14K Tigyukauivet M 80.78 7 IAMs_20 IAMs_20 01 33 16.3
comp=Z,1μm,19.0s
O14K Tigyukauivet M 80.78 7 P **P** **00 54 26.5 -0.5**
baz=192
Q16K King Salmon 80.81 9 P **P** **00 54 27.1 0.0**
baz=196
PINE Pine Mountain 80.85 36 P **P** **00 54 28.1 +0.1**
PINE IAmb IAmb 00 54 43.8
comp=Z,31nm,1.0s
O15K Ungalikthiuk R 80.87 7 P **P** **00 54 27.5 0.0**
baz=193
P16K Nushagak River 80.96 8 P **P** **00 54 28.5 +0.5**
baz=195
SSE Sheshan 81.00 308 P **P** **00 54 28.9 0.0**
SSE S **S** **01 04 40.3 +2.9**
SSE pmax pmax
comp=Z,15nm,0.8s
SSE pmax pmax
comp=Z,190nm,4.1s
SSE LR LR
comp=Z,230nm,20.0s
SSE LR LR
comp=Z,280nm,20.6s
319A Douglas 81.06 52 P **P** **00 54 29.3 -0.1**
MSHR Mys Shultsa 81.07 322 *c i* P **P** **00 54 30.3 +1.3**
MSHR pmax pmax
comp=Z,30nm,1.4s
TYV Tymovskoe 81.21 334 *eP* **P** **00 54 30.0 +0.5**
TYV *eS* **S** **01 04 37.5 -1.3**
TYV pmax pmax
comp=Z,11nm,1.0s
TYV pmax pmax
comp=Z,300nm,6.7s
TYV smax smax
comp=N,300nm,9.9s
TYV smax smax
comp=E,400nm,9.9s
WVOR Wild Horse Val 81.27 38 P **P** **00 54 30.5 +0.3**
WVOR Wild Horse Val 81.27 38 P **P** **00 54 30.5 +0.3**
WVOR pmax pmax
comp=Z,14nm,1.0s
P17K Kvichak River 81.34 9 P **P** **00 54 30.4 +0.4**
baz=196
N14K Kuskokwak Cree 81.40 6 P **P** **00 54 31.1 +0.9**
baz=192,SNR=5.0
Q20K Shuyak Island 81.44 11 P **P** **00 54 31.1 +0.5**
baz=200
SYI Shuyak Island 81.45 11 IAMs_20 IAMs_20 01 30 15.8
comp=Z,2μm,19.0s
M11K Mekoryuk 81.48 4 P **P** **00 54 31.1 +0.4**
baz=187
O16K Kokwok River B 81.49 8 P **P** **00 54 30.5 -0.3**
O16K IAmb IAmb 00 54 44.5
comp=Z,31nm,1.1s
O16K Kokwok River B 81.49 8 P **P** **00 54 31.1 +0.3**
baz=195
Q19K Cape Douglas, 81.53 11 IAMs_20 IAMs_20 01 27 07.0
comp=Z,1μm,20.0s
Q19K Cape Douglas, 81.53 11 P **P** **00 54 30.7 -0.3**
baz=199
HPIG 81.59 57 P **P** **00 54 32.4 0.0**
USRK Ussuriysk Ar. 81.64 324 P **P** **00 54 32.0 0.0**
USRK Ussuriysk Ar. 81.64 324 P **P** **00 54 30.2 -1.7**
comp=Z,2.7nm,0.8s,baz=112,slow=4.6,SNR=3.3
USRK LR LR 01 26 42.1
comp=Z,834nm,19.9s,baz=132,slow=33
comp=Z,2.7nm,0.8s
USRK Ussuriysk Ar. 81.64 324 P **P** **00 54 32.0 0.0**
USA0B Ussuriysk Arra 81.65 324 P **P** **00 54 31.8 -0.1**
USA0B IAmb IAmb 00 54 38.1
comp=Z,49nm,1.6s
USA0B Ussuriysk Arra 81.65 324 *c iP* **P** **00 54 32.4 +0.4**
GO08 Villa O'Higgin 81.69 139 P **P** **00 54 33.1 +0.7**
GO08 IAMs_20 IAMs_20 01 31 49.9
comp=Z,2μm,19.0s
P18K Big Mountain, 81.71 10 P **P** **00 54 32.0 0.0**
baz=198
M13K Dall Lake 81.72 5 P **P** **00 54 32.0 +0.1**
baz=190
WUAZ Wupatki 81.78 47 P **P** **00 54 33.1 -0.1**
WUAZ Wupatki 81.78 47 P **P** **00 54 32.0 -1.2**
baz=202
O17K Koliganek Bris 81.80 9 P **P** **00 54 32.1 -0.3**
baz=196
N15K Kwethluk River 81.81 7 IAMs_20 IAMs_20 01 26 26.4
comp=Z,1μm,20.0s
N15K Kwethluk River 81.81 7 P **P** **00 54 32.5 0.0**
baz=193
ZAIG Zacatecas 82.15 62 P **P** **00 54 35.2 -0.3**
O18K Koktuh Hills 82.15 9 P **P** **00 54 34.5 +0.2**
baz=198
M14K Bethel 82.18 6 P **P** **00 54 35.2 +0.9**
M14K IAmb IAmb 00 54 48.6
comp=Z,45nm,0.9s
M14K Bethel 82.18 6 P **P** **00 54 35.4 +1.1**
baz=191,SNR=10
MAW Mawson 82.20 199 P **P** **00 54 36.0 +1.4**
comp=Z,9.2nm,0.8s,baz=136,slow=7.5
comp=Z,9.2nm,0.8s
MAW Mawson 82.20 199 P **P** **00 54 36.0 +1.4**
M15K Kasigluk River 82.26 7 P **P** **00 54 36.0 +1.2**
baz=192,SNR=18
N16K Nishlik Lake 82.26 8 P **P** **00 54 36.0 +1.1**
baz=194
P19K Oil Pt 82.28 10 IAMs_20 IAMs_20 01 27 09.9
comp=Z,1μm,21.0s
P19K Oil Pt 82.28 10 P **P** **00 54 36.0 +1.0**
baz=200
HKPS Hong Kong Po S 82.31 297 IAMs_20 IAMs_20 01 26 22.6
comp=Z,2μm,20.0s
CNPM China Poot 82.52 11 IAMs_20 IAMs_20 01 30 49.1
comp=Z,2μm,19.0s
N17K Nushagak Hills 82.52 8 P **P** **00 54 36.5 +0.4**
baz=196
H03S2 Juan Fernandez 82.52 123 T T 02 27 12.9
baz=248,slow=74
H03S1 Juan Fernandez 82.53 123 T T 02 27 15.6
baz=248,slow=74
H03S3 Juan Fernandez 82.54 123 T T 02 27 14.4
baz=248,slow=74
HOM Homer 82.57 11 IAMs_20 IAMs_20 01 31 47.4
comp=Z,2μm,19.0s
HOM Homer 82.57 11 P **P** **00 54 36.8 +0.4**
baz=201
O19K Port Alsworth 82.62 10 P **P** **00 54 37.1 +0.4**
O19K IAMs_20 IAMs_20 01 26 59.8
comp=Z,1μm,21.0s
O19K Port Alsworth 82.62 10 P **P** **00 54 37.2 +0.4**
baz=198
L14K Kuka Creek 82.70 5 P **P** **00 54 36.5 -0.5**
baz=191
W18A Petrified Fore 82.70 48 P **P** **00 54 36.6 -1.4**
baz=238
121A Cookes Peak, D 82.75 51 P **P** **00 54 39.4 +1.1**
121A IAmb IAmb 00 55 18.0
comp=Z,20nm,1.2s
121A Cookes Peak, D 82.75 51 P **P** **00 54 37.2 -1.1**
baz=239
M16K Timber Creek 82.77 7 P **P** **00 54 38.3 +0.8**
M16K Timber Creek 82.77 7 P **P** **00 54 37.9 +0.4**
baz=194,SNR=15
O20K Slope Mountain 82.79 11 P **P** **00 54 37.1 -0.6**
baz=200
BRLK Bradley Lake 82.80 12 IAMs_20 IAMs_20 01 30 58.4
comp=Z,1μm,19.0s
BRSE Bradley Lake S 82.81 12 P **P** **00 54 37.3 -0.4**
baz=202
N18K Kilae Creek 82.84 9 P **P** **00 54 37.2 -0.7**
baz=197
DLV T Lat 82.90 286 P **P** **00 54 39.4 -0.1**
DLV IAmb IAmb 00 54 51.4
comp=Z,41nm,1.1s
JRQG Juriquilla Cam 83.02 65 P **P** **00 54 39.7 -0.3**
COYC Coyhaique 83.11 136 IAMs_20 IAMs_20 01 34 45.4
comp=Z,2μm,18.0s
K13K Kusilvak Mount 83.12 4 P **P** **00 54 39.2 0.0**
baz=189
L15K Ungalak Mounta 83.14 6 P **P** **00 54 39.5 +0.1**
baz=192,SNR=20
N19K Bonanza Creek 83.18 9 IAMs_20 IAMs_20 01 34 32.7
comp=Z,1μm,18.0s
N19K Bonanza Creek 83.18 9 P **P** **00 54 39.7 -0.1**
baz=198
NJ2 Nanjing 83.20 308 ⇑ P **P** **00 54 41.3 +0.9**
NJ2 pP **sP** **00 54 46.5 0.0**
NJ2 pmax pmax
comp=Z,31nm,0.8s
NJ2 pmax pmax
comp=Z,590nm,6.3s
NJ2 LR LR
comp=Z,580nm,17.5s
NJ2 LR LR
comp=Z,510nm,16.1s
NJ2 LR LR
comp=Z,960nm,19.9s
MDJ Mudanjiang 83.24 323 P **P** **00 54 41.8 +1.5**
MDJ pP pP 00 54 44.3 -0.4
MDJ sP sP 00 54 46.1 +0.3
MDJ S **SKSac** **01 05 04.0 +2.5**
MDJ sS sS 01 05 08.8 +1.6
MDJ pmax pmax
comp=Z,25nm,1.4s
MDJ pmax pmax
comp=Z,820nm,3.9s
MDJ LR LR
comp=Z,400nm,15.9s
MDJ LR LR
comp=Z,750nm,17.7s
MDJ LR LR
comp=Z,1μm,20.4s
MDJ Mudanjiang 83.24 323 P **P** **00 54 40.5 +0.2**
MDJ IAmb IAmb 00 54 52.1
comp=Z,50nm,1.3s
MDJ IAMs_20 IAMs_20 01 27 43.9
comp=Z,1μm,20.0s
BBB Bella Bella 83.25 26 LR LR 01 28 31.8
comp=Z,723nm,18.0s,baz=213,slow=33
EPT El Paso 83.30 52 P **P** **00 54 41.3 +0.2**
EPT IAmb IAmb 00 55 06.1
comp=Z,46nm,1.9s
M17K Holitna River 83.33 8 P **P** **00 54 41.6 +1.2**
M17K IAmb IAmb 00 54 55.5
comp=Z,45nm,1.4s
M17K IAMs_20 IAMs_20 01 27 22.6
comp=Z,1μm,20.0s
M17K Holitna River 83.33 8 P **P** **00 54 40.8 +0.4**
baz=196,SNR=7.4
MYKOM Kota Tinggi 83.33 274 P **P** **00 54 41.5 0.0**
MYKOM IAMs_20 IAMs_20 01 29 35.8
comp=Z,1μm,22.0s
L16K Owhat River 83.38 7 IAMs_20 IAMs_20 01 27 36.0
comp=Z,1μm,20.0s
L16K Owhat River 83.38 7 P **P** **00 54 41.0 +0.4**
baz=194,SNR=13
SEW Seward 83.39 12 P **P** **00 54 41.8 +1.1**
baz=203
Q23K Middleton Isla 83.43 14 P **P** **00 54 40.8 -0.1**
baz=206
DUG Dugway, Tooele 83.44 42 P **P** **00 54 42.4 +0.7**
DUG IAMs_20 IAMs_20 01 30 11.8
comp=Z,2μm,18.0s
DUG Dugway, Tooele 83.44 42 P **P** **00 54 41.7 0.0**
baz=235
DUG Dugway, Tooele 83.44 42 P **P** **00 54 42.4 +0.7**
DUG pmax pmax
comp=Z,8.0nm,1.0s
MFID Camas Ranch 83.50 39 IAMs_20 IAMs_20 01 26 40.0
comp=Z,1μm,18.0s
BMO Blue Mountains 83.53 37 P **P** **00 54 42.3 +0.3**
BMO IAMs_20 IAMs_20 01 28 04.8
comp=Z,2μm,19.0s
BMO Blue Mountains 83.53 37 P **P** **00 54 42.3 +0.3**
BMO pmax pmax
comp=Z,14nm,1.0s
M18K Stony River 83.63 9 P **P** **00 54 41.6 -0.3**
baz=197
O22K Cooper Landing 83.69 12 IAMs_20 IAMs_20 01 34 27.2
comp=Z,1μm,18.0s
O22K Cooper Landing 83.69 12 P **P** **00 54 41.9 -0.3**
baz=203
CAPN Captain Cook N 83.69 11 IAMs_20 IAMs_20 01 34 18.7
comp=Z,2μm,18.0s
CAPN Captain Cook N 83.69 11 P **P** **00 54 42.4 +0.2**
baz=201
P23K Montague Islan 83.71 13 P **P** **00 54 42.7 +0.3**
baz=205
BGU Big Grassy Mou 83.72 42 P **P** **00 54 43.8 +0.7**
K15K Wolf Creek Mou 83.74 6 IAMs_20 IAMs_20 01 35 44.5
comp=Z,1μm,18.0s
K15K Wolf Creek Mou 83.74 6 P **P** **00 54 44.0 +1.5**
baz=192,SNR=33
NLU North Lily Min 83.77 43 P **P** **00 54 43.0 -0.5**
GRNR Gornyy 83.84 331 ⇑ *iP* **P** **00 54 44.3 +1.0**
GRNR pmax pmax
comp=Z,9.0nm,0.9s
CRAG Craig 83.84 22 P **P** **00 54 43.2 +0.1**
baz=218
N20K Mount Spurr 83.91 10 P **P** **00 54 43.9 +0.4**
baz=200
L17K Donlin 83.93 7 P **P** **00 54 44.1 +0.6**
baz=195,SNR=9.4
VHRN Van Horn 83.96 54 P **P** **00 54 44.4 -0.1**
VHRN IAmb IAmb 00 54 48.7
comp=Z,20nm,1.3s
J14K Nanvaranak Lak 84.02 5 IAMs_20 IAMs_20 01 25 38.8
comp=Z,1μm,21.0s
J14K Nanvaranak Lak 84.02 5 P **P** **00 54 45.0 +1.2**
baz=190
MNTX Cornudas Mount 84.10 53 P **P** **00 54 44.9 -0.2**
baz=241
Y22D IRIS PASSCAL I 84.15 50 IAMs_20 IAMs_20 01 28 03.9
comp=Z,2μm,18.0s
Y22D IRIS PASSCAL I 84.15 50 P **P** **00 54 45.7 +0.2**
baz=240
L18K Granite Mounta 84.22 8 P **P** **00 54 44.8 -0.1**
baz=196,SNR=10.0
M19K Big River Lodg 84.23 9 IAMs_20 IAMs_20 01 36 26.0
comp=Z,1μm,18.0s
M19K Big River Lodg 84.23 9 P **P** **00 54 45.3 +0.3**
baz=198
RC01 Rabbit Creek A 84.25 12 P **P** **00 54 45.6 +0.5**
RC01 IAmb IAmb 00 55 09.2
comp=Z,61nm,1.4s
RC01 Rabbit Creek A 84.25 12 P **P** **00 54 45.5 +0.5**
baz=203
HIN Hinchinbrook I 84.27 13 IAMs_20 IAMs_20 01 34 04.5
comp=Z,2μm,18.0s
F10A Beach Ranch, E 84.27 36 P **P** **00 54 46.1 +0.5**
V35K Ketchikan 84.27 23 P **P** **00 54 46.0 +0.7**
baz=219
TX31 Lajitas Ar. Si 84.28 56 P **P** **00 54 47.1 +1.0**
TX31 IAmb IAmb 00 54 50.5
comp=Z,20nm,1.4s
TXAR Lajitas Array 84.28 56 P **P** **00 54 46.8 +0.7**
TXAR Lajitas Array 84.28 56 P **P** **00 54 48.2 +2.1**
comp=Z,10nm,1.2s,baz=212,slow=5.0,SNR=28
TXAR LR LR 01 26 47.9
comp=Z,668nm,18.4s,baz=236,slow=32
comp=Z,10nm,1.2s
SRU San Rafael Swe 84.31 44 P **P** **00 54 47.4 +1.2**
SRU IAmb IAmb 00 54 59.8
comp=Z,34nm,1.1s
SRU San Rafael Swe 84.31 44 P **P** **00 54 47.4 +1.2**
SRU pmax pmax
comp=Z,34nm,1.1s
KAIM Kayak Island 84.31 14 P **P** **00 54 46.2 +0.8**
baz=208
U33K Whale Pass 84.36 22 P **P** **00 54 46.8 +1.1**
baz=218
SIT Sitka 84.38 20 P **P** **00 54 46.6 +0.8**
baz=216
CTU Camp Tracy 84.39 43 P **P** **00 54 46.8 +0.2**
CTU IAmb IAmb 00 55 08.9
comp=Z,19nm,1.2s
M20K Styx River 84.41 10 IAMs_20 IAMs_20 01 35 02.6
comp=Z,1μm,18.0s
M20K Styx River 84.41 10 P **P** **00 54 46.5 +0.6**
baz=200
PLID Pearl Lake 84.41 37 P **P** **00 54 47.2 +0.6**
PLID IAmb IAmb 00 55 12.7
comp=Z,27nm,1.2s
HLID Hailey 84.41 39 P **P** **00 54 47.0 +0.4**
baz=234,SNR=46
SUA Susitna One 84.41 11 P **P** **00 54 47.0 +1.0**
SUA IAmb IAmb 00 55 01.3
comp=Z,36nm,1.0s
SUA IAMs_20 IAMs_20 01 28 39.3
comp=Z,1μm,20.0s
SUA Susitna One 84.41 11 P **P** **00 54 46.2 +0.2**
baz=202
L19K White Mountain 84.43 9 IAMs_20 IAMs_20 01 35 21.8
comp=Z,1μm,18.0s
L19K White Mountain 84.43 9 P **P** **00 54 46.9 +0.9**
baz=198
K17K Iditarod 84.50 7 P **P** **00 54 46.6 +0.3**
K17K IAmb IAmb 00 55 16.8

K17K IAMs_20 IAMs_20 01 28 41.5
comp=Z,22nm,1.1s
comp=Z,1µm,20.0s
K17K Iditarod 84.50 7 P **P** **00 54 47.7 +1.4**
baz=195,SNR=6.6
QIZ Qiongzhong 84.55 293 P **P** **00 54 47.1 -0.5**
QIZ S **S** **01 05 17.4 +3.2**
QIZ pmax pmax
comp=Z,440nm,7.9s
QIZ LR LR
comp=Z,250nm,15.4s
QIZ LR LR
comp=Z,380nm,17.6s
QIZ LR LR
comp=Z,610nm,24.0s
EYAK Cordova Ski Ar 84.57 14 P **P** **00 54 47.0 +0.3**
baz=206
GLI Glacier Island 84.58 13 P **P** **00 54 47.5 +0.8**
GLI IAmb IAmb 00 55 01.3
comp=Z,38nm,1.0s
GLI IAMs_20 IAMs_20 01 28 26.7
comp=Z,1µm,20.0s
GLI Glacier Island 84.58 13 P **P** **00 54 46.6 -0.2**
baz=205
FID Port Fidalgo 84.59 13 IAMs_20 IAMs_20 01 28 42.8
comp=Z,1µm,20.0s
SUCK Suckling Hills 84.59 15 IAMs_20 IAMs_20 01 28 39.1
comp=Z,2µm,19.0s
MVCO Mesa Verde 84.65 47 P **P** **00 54 48.1 +0.1**
MVCO IAmb IAmb 00 55 03.8
comp=Z,18nm,1.2s
MVCO IAMs_20 IAMs_20 01 29 47.9
comp=Z,1µm,18.0s
MVCO Mesa Verde 84.65 47 P **P** **00 54 47.5 -0.5**
baz=238
GAMB Gambell 84.66 1 P **P** **00 54 48.1 +1.0**
baz=182
BGLC Bering Glacier 84.75 15 P **P** **00 54 47.6 0.0**
baz=209
SKT Skwentna 84.76 10 IAMs_20 IAMs_20 01 28 19.5
comp=Z,1µm,20.0s
SKT Skwentna 84.76 10 P **P** **00 54 47.2 -0.5**
baz=201
KNK Knik Glacier 84.79 12 IAMs_20 IAMs_20 01 34 42.4
comp=Z,1µm,18.0s
KNK Knik Glacier 84.79 12 P **P** **00 54 47.7 -0.2**
baz=204
M22K Willow 84.80 11 P **P** **00 54 48.6 +0.8**
M22K IAMs_20 IAMs_20 01 36 14.4
comp=Z,1µm,18.0s
M22K Willow 84.80 11 P **P** **00 54 48.0 +0.2**
baz=202
DL2 Dalian 84.80 315 P **P** **00 54 49.3 +0.9**
DL2 S **S** **01 05 15.3 -0.5**
DL2 pmax pmax
comp=Z,31nm,1.0s
DL2 pmax pmax
comp=Z,700nm,8.3s
DL2 LR LR
comp=Z,820nm,19.8s
DL2 LR LR
comp=Z,540nm,15.3s
DL2 LR LR
comp=Z,890nm,19.3s
J16K Anvik River 84.80 6 P **P** **00 54 48.8 +1.0**
baz=192,SNR=6.0
PMR Palmer 84.83 12 P **P** **00 54 48.9 +0.9**
PMR IAmb IAmb 00 55 14.7
comp=Z,39nm,1.4s
PMR Palmer 84.83 12 P **P** **00 54 48.1 +0.2**
baz=203
PMR Palmer 84.83 12 P **P** **00 54 48.9 +0.9**
PMR pmax pmax
comp=Z,39nm,1.4s
S31K Pelican 84.84 19 P **P** **00 54 47.3 -0.7**
baz=215
L20K Farewell, AK 84.86 9 P **P** **00 54 48.9 +0.7**
baz=199
WRAK Wrangell Islan 84.86 22 P **P** **00 54 49.0 +0.7**
baz=218
ANMO Albuquerque 84.92 50 P **P** **00 54 49.7 +0.3**
ANMO IAmb IAmb 00 55 06.0
comp=Z,13nm,0.9s
ANMO Albuquerque 84.92 50 IAMs_20 IAMs_20 01 29 30.2
comp=Z,1µm,20.0s
ANMO Albuquerque 84.92 50 P **P** **00 54 49.4 0.0**
baz=240
ANMO Albuquerque 84.92 50 LR LR 01 27 09.8
comp=Z,1µm,18.8s,baz=336,slow=32
ANMO Albuquerque 84.92 50*d i* P **P** **00 54 51.7 +2.3**
ANMO pmax pmax
comp=Z,24nm,1.3s
S32K Killisnoo 84.95 20 P **P** **00 54 49.8 +1.1**
baz=216
T33K Petersburg 84.97 21 P **P** **00 54 49.1 +0.3**
baz=218
KLR Kul'dur 85.03 328 LR LR 01 28 38.7
comp=Z,1µm,20.4s,baz=138,slow=33
KLR Kul'dur 85.03 328*c i* P **P** **00 54 49.6 +0.3**
KLR pmax pmax
comp=Z,26nm,2.5s
GHO Glory Hole Cre 85.03 12 P **P** **00 54 50.4 +1.3**
GHO IAmb IAmb 00 54 57.7
comp=Z,26nm,0.8s
J17K VABM Dome 85.07 7 IAMs_20 IAMs_20 01 29 08.7
comp=Z,1µm,20.0s
J17K VABM Dome 85.07 7 P **P** **00 54 49.5 +0.3**
baz=194,SNR=10
MESA MESA 85.13 15 P **P** **00 54 48.9 -0.9**
baz=210
CN2 Changchun 85.13 321*e* P **P** **00 54 51.0 +1.0**
CN2 *e*S **S** **01 05 20.8 +1.9**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
CN2 pmax pmax
comp=Z,600nm,4.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,200nm,17.0s
CN2 LR LR
comp=Z,500nm,16.0s
SNY Shenyang 85.15 318 ⇓P **P** **00 54 51.1 +1.1**
SNY S **SKSac** **01 05 15.8 +1.8**
SNY pmax pmax
comp=Z,18nm,1.7s
SNY pmax pmax
comp=Z,540nm,3.6s
SNY LR LR
comp=Z,510nm,18.5s
SNY LR LR
comp=Z,660nm,18.0s
SNY LR LR
comp=Z,1µm,16.6s
BNX BinXian 85.15 323 ⇓P **P** **00 54 51.0 +1.0**
BNX PP **PP** **00 58 06.6 -1.2**
BNX S **S** **01 05 21.0 +2.1**
BNX pmax pmax
comp=Z,23nm,0.9s
BNX pmax pmax
comp=Z,490nm,4.1s
BNX LR LR
comp=Z,400nm,18.4s
BNX LR LR
comp=Z,650nm,17.9s
BNX LR LR
comp=Z,990nm,19.5s
SML Sawmill 85.18 12 IAMs_20 IAMs_20 01 35 22.6
comp=Z,1µm,19.0s
SML Sawmill 85.18 12 P **P** **00 54 49.9 0.0**
baz=204
BMRM Bremner River 85.20 14 P **P** **00 54 50.2 +0.3**
baz=207
LR05 Currie 85.28 131 P **P** **00 54 50.8 -0.1**
M23K Glacier View 85.28 12 P **P** **00 54 50.4 +0.1**
baz=204
U35K Hyder 85.30 23 IAMs_20 IAMs_20 01 33 18.5
comp=Z,1µm,18.0s
U35K Hyder 85.30 23 P **P** **00 54 50.9 +0.4**
baz=220
PNL Peninsula 85.35 17 P **P** **00 54 51.2 +0.5**
baz=212
R31K City Hall, Gus 85.36 19 P **P** **00 54 51.1 +0.4**
baz=215,SNR=6.4
CUT Chulitna 85.38 11 P **P** **00 54 51.7 +1.0**
CUT IAMs_20 IAMs_20 01 29 09.8
comp=Z,1µm,20.0s
CUT Chulitna 85.38 11 P **P** **00 54 50.9 +0.2**
baz=202
KLU Klutina 85.38 13 IAMs_20 IAMs_20 01 28 50.9
comp=Z,1µm,20.0s
KLU Klutina 85.38 13 P **P** **00 54 51.0 +0.1**
baz=206
I17K Unalakleet 85.38 6 P **P** **00 54 51.3 +0.6**
baz=192
SCM Sheep Creek Mo 85.40 12 P **P** **00 54 51.6 +0.6**
SCM IAmb IAmb 00 55 03.7
comp=Z,31nm,0.9s
SCM Sheep Creek Mo 85.40 12 P **P** **00 54 50.8 -0.2**
baz=205
SCM Sheep Creek Mo 85.40 12 P **P** **00 54 51.6 +0.6**
SCM pmax pmax
comp=Z,31nm,0.9s
SCM MLR MLR
comp=Z,1µm,20.0s
ISLE Juniper Island 85.40 15 IAMs_20 IAMs_20 01 28 46.5
comp=Z,2µm,19.0s
J18K Innoko River 85.41 8 P **P** **00 54 50.8 -0.2**
baz=196,SNR=21
BKNI Bangkinang 85.42 272 P **P** **00 54 51.5 -0.7**
BKNI IAMs_20 IAMs_20 01 34 37.2
comp=Z,1µm,19.0s
MA2 Magadan 85.45 343 P **P** **00 54 51.4 +0.2**
MA2 IAmb IAmb 00 55 02.5
comp=Z,32nm,1.4s
MA2 IAMs_20 IAMs_20 01 28 58.0
comp=Z,1µm,20.0s
MA2 Magadan 85.45 343 LR LR 01 29 29.5
comp=Z,1µm,19.9s,baz=154,slow=33
MA2 Magadan 85.45 343*c i* P **P** **00 54 50.8 -0.4**
MA2 pmax pmax
comp=Z,27nm,1.5s
PPLA Purkeypile 85.51 10 P **P** **00 54 51.3 -0.3**
baz=200
PDSI Padang 85.52 271 P **P** **00 54 52.4 -0.3**
BCPM Banks Point 85.53 17 IAMs_20 IAMs_20 01 28 10.9
comp=Z,1µm,20.0s
R32K Eaglecrest 85.62 20 P **P** **00 54 52.1 +0.1**
baz=216
K20K Telida 85.66 9 P **P** **00 54 52.0 -0.1**
baz=199
VRDI Verde Repeater 85.69 14 P **P** **00 54 53.0 +0.4**
VRDI IAmb IAmb 00 55 09.7
comp=Z,29nm,1.1s
VRDI IAMs_20 IAMs_20 01 31 52.1
comp=Z,1µm,19.0s
ANM Nome 85.69 4 P **P** **00 54 51.9 -0.3**
baz=188
NEW Newport 85.75 34 P **P** **00 54 53.2 +0.2**
baz=232
NEW Newport 85.75 34 LR LR 01 28 57.0
comp=Z,2µm,18.4s,baz=231,slow=33
N25K Chitina, Valde 85.77 14 IAMs_20 IAMs_20 01 32 07.1
comp=Z,1µm,19.0s
N25K Chitina, Valde 85.77 14 P **P** **00 54 53.3 +0.5**
baz=207
P29M Windy Craggy 85.78 18 P **P** **00 54 53.2 +0.3**
baz=214
GLB Gilahina Butte 85.80 14 IAMs_20 IAMs_20 01 31 46.9
comp=Z,1µm,18.0s
WHN Wuhan 85.87 305 ⇑P **P** **00 54 54.8 +0.9**
WHN SKS **SKSac** **01 05 17.1 -2.0**
WHN S **SKKSac** **01 05 24.3 -2.0**
WHN pmax pmax
comp=Z,2µm,11.3s
WHN LR LR
comp=Z,2µm,14.9s
WHN LR LR
comp=Z,2µm,17.0s
WHN LR LR
comp=Z,3µm,18.4s
M24K Tolsona, Glenn 85.88 13 P **P** **00 54 53.0 -0.4**
baz=206
GO06 Curarrehue 85.91 131 P **P** **00 54 55.0 +0.6**
GO06 IAmb IAmb 00 55 14.2
comp=Z,18nm,1.1s
LOGN Logan Glacier 85.92 16 IAMs_20 IAMs_20 01 29 20.7
comp=Z,2µm,19.0s
MCARA McCarthy VSAT 85.92 14 P **P** **00 54 53.7 +0.2**
MCARA IAmb IAmb 00 55 10.4
comp=Z,27nm,1.0s
MCARA IAMs_20 IAMs_20 01 29 04.3
comp=Z,1µm,20.0s
MCARA McCarthy VSAT 85.92 14 P **P** **00 54 52.4 -1.1**
baz=209
AHID Auburn Hatcher 85.95 41 P **P** **00 54 55.3 +1.0**
CTG Chitna Glacier 85.96 15 P **P** **00 54 52.9 -0.9**
baz=210
CTGM Chitina Glacie 85.96 15 IAMs_20 IAMs_20 01 28 44.3
comp=Z,1µm,19.0s
BARN Barnard Glacie 85.97 15 IAMs_20 IAMs_20 01 29 02.8
comp=Z,1µm,19.0s
H16K Elim 85.99 5 P **P** **00 54 53.1 -0.6**
baz=191
WAT6 Susitna Watana 86.00 12 P **P** **00 54 54.0 0.0**
baz=204,SNR=18
CAST Castle Rocks 86.02 10 P **P** **00 54 53.4 -0.6**
CAST IAmb IAmb 00 55 07.3
comp=Z,24nm,1.0s
CAST IAMs_20 IAMs_20 01 28 56.8
comp=Z,1µm,20.0s
CAST Castle Rocks 86.02 10 P **P** **00 54 53.3 -0.6**
baz=200,SNR=8.0
PLBC Pleasant Camp 86.03 18 P **P** **00 54 53.9 -0.1**
baz=215
T35M Bob Quinn 86.03 22 P **P** **00 54 53.5 -0.6**
baz=220
J19K Poorman 86.06 8 P **P** **00 54 55.0 +0.9**
J19K IAmb IAmb 00 55 08.9
comp=Z,25nm,1.1s
J19K IAMs_20 IAMs_20 01 29 28.8
comp=Z,1µm,20.0s
J19K Poorman 86.06 8 P **P** **00 54 54.7 +0.6**
baz=197,SNR=7.2
O28M Mount Upton 86.08 16 P **P** **00 54 54.3 -0.4**
baz=211
PLCA Paso Flores 86.09 132 P **P** **00 54 55.6 +0.5**
PLCA IAmb IAmb 00 55 01.0
comp=Z,35nm,1.4s
PLCA Paso Flores 86.09 132 P **P** **00 54 56.6 +1.5**
comp=Z,14nm,1.2s,baz=251,slow=12,SNR=5.0
PLCA LR LR 01 29 25.0
comp=Z,756nm,18.1s,baz=240,slow=33
comp=Z,14nm,1.2s
PLCA Paso Flores 86.09 132*e* P **P** **00 54 55.6 +0.5**
G15K Niukluk 86.20 4 P **P** **00 54 54.2 -0.6**
baz=189
CMIG Matias Romero 86.33 70 LR LR 01 26 40.6
comp=Z,1µm,18.6s,baz=185,slow=31
KTH Kantishna Hill 86.33 10 P **P** **00 54 55.7 +0.1**
KTH IAmb IAmb 00 55 08.7
comp=Z,29nm,1.0s
KTH IAMs_20 IAMs_20 01 30 01.1
comp=Z,1µm,20.0s
SKAG Skagway 86.33 19 P **P** **00 54 54.9 -0.6**
baz=216
TRF Thorofare Moun 86.34 10 IAMs_20 IAMs_20 01 33 08.3
comp=Z,2µm,19.0s
TRF Thorofare Moun 86.34 10 P **P** **00 54 55.0 -0.8**
baz=202,SNR=13
O20A White River Ci 86.34 44 P **P** **00 54 54.6 -1.8**
baz=238
HARP HAARP 86.36 13 P **P** **00 54 55.2 -0.4**
baz=207
ELIB Princess Elisa 86.39 185*d* P **P** **00 54 57.5 +1.4**
comp=Z,21nm,0.9s
ELIB *d*PP **PP** **00 58 18.2 +1.6**
P30M Million Dollar 86.40 18 P **P** **00 54 55.8 -0.2**
baz=214
CHUM Lake Minchumin 86.42 9 P **P** **00 54 55.5 -0.4**
baz=200
REDW Red Top Meadow 86.43 41 P **P** **00 54 56.5 -0.2**
J20K Nowinta River 86.43 9 P **P** **00 54 56.2 +0.3**
baz=198,SNR=18
S34M Telegraph Cree 86.44 21 P **P** **00 54 57.0 +0.9**
baz=220
H17K Granite Mounta 86.49 6 IAMs_20 IAMs_20 01 36 45.1
comp=Z,1µm,18.0s
H17K Granite Mounta 86.49 6 P **P** **00 54 56.1 -0.1**
baz=193
TIA Tai'an 86.50 311 ⇑P **P** **00 54 57.6 +0.6**
TIA S **SKSac** **01 05 27.3 +4.5**
TIA pmax pmax
comp=Z,21nm,1.1s
TIA pmax pmax
comp=Z,350nm,9.3s
TIA LR LR
comp=Z,270nm,19.1s
TIA LR LR
comp=Z,190nm,18.6s
TIA LR LR
comp=Z,340nm,22.6s
DLMT Dillon 86.51 38 IAMs_20 IAMs_20 01 27 20.9
comp=Z,2µm,20.0s
DHY Denali Highway 86.52 12 P **P** **00 54 56.3 -0.3**
DHY IAmb IAmb 00 55 10.7
comp=Z,20nm,1.0s
DHY IAMs_20 IAMs_20 01 35 55.1
comp=Z,1µm,18.0s
DHY Denali Highway 86.52 12 P **P** **00 54 56.8 +0.2**
baz=205
F14K Arctic Creek 86.54 3 P **P** **00 54 56.7 +0.3**
baz=187
RND Reindeer 86.55 11 P **P** **00 54 56.8 +0.2**
RND Reindeer 86.55 11 P **P** **00 54 56.8 +0.2**
RND pmax pmax
comp=Z,72nm,1.0s
TNA Tin City 86.55 3 P **P** **00 54 56.8 +0.3**
baz=186
MSO Missoula 86.60 37 IAMs_20 IAMs_20 01 27 00.0
comp=Z,2µm,20.0s
MSO Missoula 86.60 37 P **P** **00 54 56.2 -1.2**
baz=234
GCSA Galena City Sc 86.63 7 P **P** **00 54 56.6 -0.3**
baz=196
YUK8 Steele Glacier 86.63 16 P **P** **00 54 56.4 -0.9**
baz=212
BPMT Black Pine Rid 86.65 37 P **P** **00 54 57.9 +0.2**
IMW Indian Meadow 86.67 40 IAMs_20 IAMs_20 01 30 47.0
comp=Z,1µm,19.0s
YUK6 Outpost Mounta 86.71 17 P **P** **00 54 56.7 -0.9**
baz=213
LOHW Long Hollow 86.72 41 P **P** **00 54 57.4 -0.7**
G16K Koyuk River 86.72 5 IAMs_20 IAMs_20 01 39 00.7
comp=Z,1µm,18.0s
G16K Koyuk River 86.72 5 P **P** **00 54 56.7 -0.6**
baz=191
PAX Paxson 86.80 13 P **P** **00 54 57.5 -0.4**
baz=206
M26K Nabesna, AK 86.83 14 IAMs_20 IAMs_20 01 32 23.2
comp=Z,1µm,18.0s
M26K Nabesna, AK 86.83 14 P **P** **00 54 58.5 +0.5**
baz=209
BPAW Bear Paw Mtn. 86.83 10 P **P** **00 54 57.7 -0.3**
BPAW IAMs_20 IAMs_20 01 36 40.3
comp=Z,1µm,18.0s
BPAW Bear Paw Mtn. 86.83 10 P **P** **00 54 57.4 -0.6**
baz=201,SNR=5.8
HYT Haines Junctio 86.84 17 P **P** **00 54 59.1 +0.9**
HYT IAmb IAmb 00 55 32.2
comp=Z,22nm,1.3s
HYT Haines Junctio 86.84 17 P **P** **00 54 58.7 +0.6**
baz=214
MCK McKinley 86.84 11 P **P** **00 54 58.7 +0.8**
baz=203,SNR=13
H18K Honhosa River 86.86 7 P **P** **00 54 58.6 +0.6**
baz=195
F15K North Star Dit 86.87 4 IAMs_20 IAMs_20 01 27 30.2
comp=Z,1µm,20.0s
F15K North Star Dit 86.87 4 P **P** **00 54 58.6 +0.5**
baz=189
YUK3 Moose Creek 86.88 15 P **P** **00 54 58.5 0.0**
baz=211
UBPT Khong Chiam 86.90 288 P **P** **00 54 59.4 +0.1**
UBPT IAmb IAmb 00 55 02.3
comp=Z,37nm,1.2s
PD31 Pinedale Array 86.90 42 P **P** **00 54 59.6 +0.6**
PDAR Pinedale Array 86.90 42 P **P** **00 54 59.4 +0.4**
PDAR Pinedale Array 86.90 42 P **P** **00 54 59.6 +0.6**
comp=Z,1.6nm,0.6s,baz=194,slow=3.3,SNR=16
PDAR LR LR 01 29 45.9
comp=Z,1µm,18.5s,baz=244,slow=33
comp=Z,1.6nm,0.6s
FLWY Flagg Ranch 86.92 40 IAMs_20 IAMs_20 01 31 55.6
comp=Z,2µm,18.0s
P32M Atlin 86.93 19 P **P** **00 54 58.6 +0.1**
baz=217
IPM Ipoh 86.93 276 P **P** **00 54 59.7 +0.1**
YUK4 Talbot Arm 86.97 16 P **P** **00 54 59.7 +0.8**
baz=213
G17K Kiwalik Mounta 86.97 6 P **P** **00 54 58.4 -0.1**
baz=192
SDCO Great Sand Dun 86.97 48 IAMs_20 IAMs_20 01 28 33.6
comp=Z,945nm,18.0s
SDCO Great Sand Dun 86.97 48 P **P** **00 54 57.8 -1.8**
baz=240
I20K Naaghedeneel 86.98 8 P **P** **00 54 59.0 +0.4**
baz=198,SNR=5.8
M27K Edge Creek, AK 87.04 14 IAMs_20 IAMs_20 01 29 59.9
comp=Z,1µm,19.0s
M27K Edge Creek, AK 87.04 14 P **P** **00 54 59.7 +0.6**
baz=210
TROLL Troll, Antarti 87.06 179 ⇑P **P** **00 55 00.1 +0.8**
comp=Z,482nm,0.9s
MSTX Muleshoe 87.11 52 P **P** **00 54 59.8 -0.4**
MSTX IAmb IAmb 00 55 15.0
comp=Z,22nm,1.0s
MSTX Muleshoe 87.11 52 P **P** **00 54 59.4 -0.7**
baz=242
BWN Browne 87.15 10 IAMs_20 IAMs_20 01 30 06.5
comp=Z,2µm,20.0s
H17A Grant Village 87.16 40 P **P** **00 55 00.1 -0.2**
baz=237
833A Chaparral WMA, 87.17 58 P **P** **00 54 59.4 -1.0**
baz=244
O30N Mendenhall 87.19 18 P **P** **00 55 00.3 +0.5**
baz=215
BOZ Bozeman (W) 87.21 39 P **P** **00 55 01.0 +0.6**
BOZ IAMs_20 IAMs_20 01 28 42.2
comp=Z,2µm,19.0s
BOZ Bozeman (W) 87.21 39 P **P** **00 55 00.5 +0.1**
baz=236,SNR=12
BOZ Bozeman (W) 87.21 39 P **P** **00 55 01.0 +0.6**
BOZ pmax pmax
comp=Z,14nm,1.2s
VNA3 Neumayer Olymp 87.22 175 ⇑P **P** **00 55 02.1 +2.1**
comp=Z,12nm,0.8s
DLBC Dease Lake 87.22 21 P **P** **00 55 00.9 +0.9**
baz=220
DLBC Dease Lake 87.22 21 LR LR 01 26 47.9
comp=Z,521nm,21.5s,baz=244,slow=31
SNAA Sanae 87.23 177 P **P** **00 55 01.2 +1.1**
SNAA IAmb IAmb 00 55 08.9
comp=Z,15nm,1.0s
SNAA IAMs_20 IAMs_20 01 33 30.5
comp=Z,1µm,20.0s
SNAA Sanae 87.23 177 ⇑P **P** **00 55 02.4 +2.3**
comp=Z,225nm,0.9s
SNAA Sanae 87.23 177 P **P** **00 55 01.2 +1.1**
comp=Z,8.1nm,1.1s,baz=192,slow=8.0,SNR=8.4
SNAA LR LR 01 29 08.6
comp=Z,718nm,21.9s,baz=180,slow=32
comp=Z,8.1nm,1.1s
SNAA Sanae 87.23 177⇑*e* P **P** **00 55 01.4 +1.3**
SNAA pmax pmax
comp=Z,24nm,1.4s
L26K Log Cabin Wild 87.30 13 IAMs_20 IAMs_20 01 29 53.6
comp=Z,1µm,20.0s
L26K Log Cabin Wild 87.30 13 P **P** **00 55 00.8 +0.6**
baz=208
H19K Roundabout Mou 87.43 7 P **P** **00 55 01.6 +0.9**
H19K IAmb IAmb 00 55 16.2
comp=Z,42nm,1.2s
H19K IAMs_20 IAMs_20 01 30 22.1
comp=Z,1µm,20.0s
H19K Roundabout Mou 87.43 7 P **P** **00 55 01.8 +1.0**
baz=196,SNR=11
T25A Trinidad 87.44 49 P **P** **00 55 01.6 -0.1**
baz=241
WHY Whitehorse 87.44 18 P **P** **00 55 01.0 -0.1**
WHY Whitehorse 87.44 18 P **P** **00 55 01.5 +0.4**
baz=216
N30M Aishikik Lake 87.48 17 P **P** **00 55 02.0 +0.8**
baz=214
K24K Donnelly Dome 87.49 12 P **P** **00 55 01.9 +0.7**
baz=206,SNR=5.7
G18K Tagagawik 87.55 6 P **P** **00 55 01.9 +0.5**
baz=194,SNR=6.6
KULM Kulim 87.57 277 P **P** **00 55 02.5 -0.2**
KULM IAmb IAmb 00 55 04.7
comp=Z,23nm,1.0s

H20K Anotleneega Mo 87.59 8 P P 00 55 02.6 +1.0
baz=198,SNR=11
NEA2 Nenana 87.61 10 IAMs_20 IAMs_20 01 30 28.8
comp=Z,2µm,20.0s
NEA2 Nenana 87.61 10 P P 00 55 02.1 +0.4
baz=203
R33M Jennings River 87.64 20 P P 00 55 03.3 +1.2
R33M IAmb IAmb 00 55 27.6
comp=Z,24nm,1.3s
R33M Jennings River 87.64 20 P P 00 55 02.1 0.0
baz=220
L27K Beaver Creek, 87.67 14 IAMs_20 IAMs_20 01 35 28.4
comp=Z,1µm,19.0s
L27K Beaver Creek, 87.67 14 P P 00 55 02.4 +0.4
baz=210,SNR=10
BCAR Beaver Creek A 87.68 14 P P 00 55 02.9 +0.8
P33M Teslin, Yukon 87.70 19 P P 00 55 02.9 +0.6
baz=218
VNA2 Neumayer--Watz 87.70 176 ⇑P P 00 55 04.8 +2.6
comp=Z,13nm,0.7s,baz=193,slow=3.8
MLY Manley 87.74 10 P P 00 55 02.6 +0.3
MLY IAmb IAmb 00 55 16.4
comp=Z,14nm,1.1s
MLY Manley 87.74 10 P P 00 55 02.8 +0.4
baz=202,SNR=11
JCT Junction City 87.79 56 IAMs_20 IAMs_20 01 32 00.6
comp=Z,2µm,18.0s
JCT Junction City 87.79 56 P P 00 55 02.8 -0.6
baz=244
Q24A Divide 87.81 47 P P 00 55 03.0 -0.7
baz=241
HDA Harding Lake 87.82 11 P P 00 55 02.6 0.0
HDA IAmb IAmb 00 55 18.1
comp=Z,28nm,1.1s
HDA Harding Lake 87.82 11 P P 00 55 03.1 +0.5
baz=205,SNR=10.0
F17K Baldwin Pennin 87.84 5 P P 00 55 03.4 +0.7
baz=192
N31M Braeburn, Yuko 87.86 17 P P 00 55 04.0 +1.0
baz=215
HEH HeiHe 87.86 327 *e*P P 00 55 03.8 +0.6
HEH S S 01 05 39.4 -5.7
HEH pmax pmax
comp=Z,12nm,1.3s
HEH pmax pmax
comp=Z,620nm,6.3s
HEH LR LR
comp=Z,820nm,17.9s
HEH LR LR
comp=Z,630nm,17.8s
HEH LR LR
comp=Z,2µm,20.0s
CCB Clear Creek Bu 87.88 11 P P 00 55 03.3 +0.4
CCB IAmb IAmb 00 55 17.5
comp=Z,39nm,1.1s
CCB IAMs_20 IAMs_20 01 30 26.9
comp=Z,1µm,20.0s
SEY Seymchan 87.90 345 LR LR 01 30 12.0
comp=Z,1µm,19.8s,baz=152,slow=33
SEY Seymchan 87.90 345⇑ *e*P P 00 55 03.5 +0.5
SEY pmax pmax
comp=Z,25nm,1.3s
VNA1 Neumayer--Stat 87.91 175 ⇑P P 00 55 04.8 +1.6
comp=Z,25nm,1.0s
ISCO Idaho Springs 87.91 46 P P 00 55 03.9 -0.2
baz=240
M29M Somme Creek 87.94 16 IAMs_20 IAMs_20 01 29 59.7
comp=Z,1µm,19.0s
M29M Somme Creek 87.94 16 P P 00 55 03.8 +0.4
baz=213,SNR=10.0
G19K Purcell Mounta 87.95 7 P P 00 55 04.1 +0.8
baz=196,SNR=8.1
SCRK Sand Creek 88.01 13 P P 00 55 04.4 +0.7
SCRK IAmb IAmb 00 55 20.4
comp=Z,18nm,1.1s
SCRK Sand Creek 88.01 13 P P 00 55 05.1 +1.4
baz=208,SNR=8.9
H21K Melozitna Rive 88.03 9 IAMs_20 IAMs_20 01 38 03.8
comp=Z,1µm,18.0s
H21K Melozitna Rive 88.03 9 P P 00 55 04.7 +1.0
baz=200,SNR=7.9
KVTX Kingsville 88.04 60 IAMs_20 IAMs_20 01 36 34.5
comp=Z,2µm,18.0s
I23K Minto, Yukon-K 88.07 10 P P 00 55 04.2 +0.4
baz=203
COLA College 88.08 11 P P 00 55 04.6 +0.8
COLA College 88.08 11 IAMs_20 IAMs_20 01 30 23.1
comp=Z,1µm,20.0s
COLA College 88.08 11 P P 00 55 04.2 +0.4
baz=204
COLA College 88.08 11 *c i*P P 00 55 04.8 +1.0
COLA pmax pmax
comp=Z,30nm,1.4s
MDM Murphy Dome 88.09 11 IAMs_20 IAMs_20 01 30 23.5
comp=Z,1µm,21.0s
F18K Selawik 88.14 6 P P 00 55 04.9 +0.8
baz=193
IL31 88.16 11 P P 00 55 04.8 +0.6
IL31 IAmb IAmb 00 55 21.2
comp=Z,23nm,1.1s
ILAR Eielson Array 88.16 11 P P 00 55 04.8 +0.6
ILAR Eielson Array 88.16 11 P P 00 55 04.3 0.0
comp=Z,4.2nm,1.0s,baz=211,slow=5.9,SNR=21
ILAR LR LR 01 32 05.5
comp=Z,458nm,18.3s,baz=198,slow=34
comp=Z,4.2nm,1.0s
ILAR Eielson Array 88.16 11 P P 00 55 04.8 +0.6
N23A Red Feather La 88.24 45 P P 00 55 05.6 +0.1
baz=240
RPSI Rantau Prapat 88.25 274 P P 00 55 05.6 -0.2
RPSI IAMs_20 IAMs_20 01 36 27.4
comp=Z,1µm,20.0s
NVL N'lazarevskaya 88.25 182 *e*P P 00 55 15.0 +10
NVL *e*S **SKSac** **01 05 34.7 +2.2**
NVL pmax pmax
comp=Z,7.0nm,0.9s
NVL MLR MLR
comp=Z,1µm,18.0s
PSI Prapat 88.28 274 P P 00 55 05.6 -0.6
PSI pmax pmax
comp=Z,42nm,1.0s
PSI MLR MLR
comp=Z,1µm,20.0s
J25K Salcha River, 88.30 12 IAMs_20 IAMs_20 01 36 33.0
comp=Z,1µm,18.0s
J25K Salcha River, 88.30 12 P P 00 55 06.2 +1.2
baz=207,SNR=12
AMTX Amarillo 88.33 52 P P 00 55 05.4 -0.6
baz=243
RLMT Red Lodge 88.34 40 IAMs_20 IAMs_20 01 32 54.3
comp=Z,1µm,18.0s
N32M Quiet Lake 88.36 19 P P 00 55 06.9 +1.5
baz=218
POKR Poker Plat Res 88.37 11 IAMs_20 IAMs_20 01 30 32.0
comp=Z,1µm,20.0s
POKR Poker Plat Res 88.37 11 P P 00 55 06.3 +1.0
baz=205
MT01 Popeta 88.42 126 P P 00 55 07.3 +0.9
E17K Hotham Inlet 88.43 5 P P 00 55 06.8 +1.4
baz=191
H22K Ishtalitna Cre 88.45 9 P P 00 55 06.7 +1.0
baz=201,SNR=7.0
K27K Chicken 88.46 13 IAMs_20 IAMs_20 01 30 29.7
comp=Z,1µm,20.0s
K27K Chicken 88.46 13 P P 00 55 07.7 +2.0
baz=210,SNR=14
M30M Minto, Yukon 88.48 16 IAMs_20 IAMs_20 01 30 26.5
comp=Z,1µm,19.0s
M30M Minto, Yukon 88.48 16 P P 00 55 07.2 +1.3
baz=214
F19K Shaleruckik Mo 88.55 6 P P 00 55 07.5 +1.4
baz=195
J26L Joseph Creek 88.56 13 P P 00 55 07.8 +1.5
baz=208,SNR=29
L29M L29M 88.59 15 IAMs_20 IAMs_20 01 30 48.8
comp=Z,1µm,19.0s
L29M L29M 88.59 15 P P 00 55 08.2 +1.8
baz=213,SNR=21
H23K Yukon River 88.67 10 IAMs_20 IAMs_20 01 35 08.8
comp=Z,2µm,18.0s
H23K Yukon River 88.67 10 P P 00 55 07.6 +0.9
baz=203
G21K Allakaket 88.74 8 P P 00 55 08.7 +1.7
baz=199,SNR=7.9
K22A Casper 88.75 43 P P 00 55 08.3 +0.5
baz=240
HNS HongShan 88.77 311 ⇑P P 00 55 08.4 +0.6
HNS SKS **SKSac** **01 05 34.3 -2.2**
HNS S **SKKSac** **01 05 50.3 +2.5**
HNS pmax pmax
comp=Z,24nm,1.3s
HNS pmax pmax
comp=Z,610nm,7.6s
HNS LR LR
comp=Z,630nm,19.1s
HNS LR LR
comp=Z,400nm,19.1s
HNS LR LR
comp=Z,880nm,23.7s
M31M Drury Creek, Y 88.83 17 P P 00 55 08.2 +0.7
baz=216
ABTX Abilene, Hawle 88.84 54 P P 00 55 08.8 +0.5
baz=244
E18K Tukpahlearik C 88.86 5 P P 00 55 08.7 +1.2
baz=192
WTLY Watson Lake, Y 88.91 21 P P 00 55 08.7 +0.7
baz=222
H24K Noodor Dome 88.95 10 IAMs_20 IAMs_20 01 31 00.4
comp=Z,2µm,20.0s
H24K Noodor Dome 88.95 10 P P 00 55 08.4 +0.3
baz=204
F20K Avaraart Lake 88.98 7 IAMs_20 IAMs_20 01 30 40.0
comp=Z,1µm,21.0s
F20K Avaraart Lake 88.98 7 P P 00 55 09.3 +1.3
baz=197,SNR=8.0
GSI Gunungsitoli 89.00 272 P P 00 55 09.9 +0.5
GSI IAMs_20 IAMs_20 01 34 33.6
comp=Z,2µm,21.0s
GSI Gunungsitoli 89.00 272 P P 00 55 11.1 +1.6
BJT Baijiatuau 89.01 314 P P 00 55 08.7 -0.1
BJT IAmb IAmb 00 55 23.3
comp=Z,17nm,1.2s
BJT Baijiatuau 89.01 314 P P 00 55 08.7 -0.1
BJT pmax pmax
comp=Z,17nm,1.2s
BJI Beijing 89.01 314 P P 00 55 09.6 +0.8
BJI SKS **SKSac** **01 05 40.3 +2.5**
BJI S **ScS** **01 06 03.3 +1.7**
BJI pmax pmax
comp=Z,10.0nm,2.0s
BJI pmax pmax
comp=Z,270nm,3.8s
BJI LR LR
comp=Z,210nm,16.5s
BJI LR LR
comp=Z,320nm,18.0s
BJI LR LR
comp=Z,420nm,16.9s
PRP Porcupine Dome 89.08 11 P P 00 55 09.8 +1.0
baz=206,SNR=12
DAWY Dawson 89.09 14 P P 00 55 09.5 +0.8
DAWY IAmb IAmb 00 55 26.5
comp=Z,17nm,1.0s
DAWY Dawson 89.09 14 P P 00 55 10.1 +1.3
baz=212,SNR=16
LYN LuoYang 89.09 308 ⇓P P 00 55 11.3 +1.9
LYN SKS **SKSac** **01 05 39.0 +0.4**
LYN S **S** **01 06 00.0 +2.5**
LYN pmax pmax
comp=Z,75nm,1.0s
LYN pmax pmax
comp=Z,710nm,5.3s
LYN LR LR
comp=Z,1µm,18.5s
LYN LR LR
comp=Z,910nm,18.9s
LYN LR LR
comp=Z,2µm,18.9s
FARO Faro, Yukon 89.14 18 P P 00 55 10.3 +1.3
baz=217
PEL Peldehue 89.14 125 IAMs_20 IAMs_20 01 29 10.8
comp=Z,1µm,19.0s
E19K Redstone River 89.21 6 IAMs_20 IAMs_20 01 38 39.1
comp=Z,1µm,18.0s
E19K Redstone River 89.21 6 P P 00 55 10.6 +1.4
baz=196,SNR=11
TOAD Toad River Com 89.22 23 P P 00 55 10.6 +1.1
baz=225,SNR=27
EGAK Eagle 89.31 13 P P 00 55 10.4 +0.8
EGAK IAmb IAmb 00 55 16.4
comp=Z,18nm,1.1s
EGAK IAMs_20 IAMs_20 01 31 15.1
comp=Z,1µm,20.0s
EGAK Eagle 89.31 13 P P 00 55 10.8 +1.2
baz=209,SNR=16
RDOG Red Dog Mine 89.31 4 IAMs_20 IAMs_20 01 28 45.7
comp=Z,1µm,21.0s
RDOG Red Dog Mine 89.31 4 P P 00 55 11.2 +1.6
baz=190
LIRD Liard River Hi 89.31 22 P P 00 55 11.5 +1.7
baz=224
I26K Coal Creek Min 89.35 12 IAMs_20 IAMs_20 01 31 29.3
comp=Z,1µm,20.0s
I26K Coal Creek Min 89.35 12 P P 00 55 11.4 +1.5
baz=209,SNR=7.2
K29M Barlow Dome 89.35 15 IAMs_20 IAMs_20 01 31 13.0
comp=Z,1µm,20.0s
K29M Barlow Dome 89.35 15 P P 00 55 12.0 +2.0
baz=214,SNR=13
C16K Lisburne Hills 89.38 3 IAMs_20 IAMs_20 01 28 58.6
comp=Z,1µm,21.0s
C16K Lisburne Hills 89.38 3 P P 00 55 11.0 +1.1
baz=188
G22K Bettles 89.40 9 P P 00 55 11.1 +1.1
baz=201
F21K Alatna River 89.42 8 IAMs_20 IAMs_20 01 31 43.6
comp=Z,998nm,20.0s
F21K Alatna River 89.42 8 P P 00 55 10.8 +0.7
baz=199
G23K Bananza Creek 89.42 9 P P 00 55 11.3 +1.1
baz=202
APG El Apazote 89.46 74 LR LR 01 26 14.7
comp=Z,43nm,21.9s,baz=240,slow=29
ENH Enshi 89.52 303 P P 00 55 12.1 +0.5
ENH IAMs_20 IAMs_20 01 34 35.4
comp=Z,1µm,19.0s
MAYO Mayo, Yukon 89.56 16 P P 00 55 12.0 +1.1
baz=215
KSCO Kaye Shedlock' 89.56 48 P P 00 55 10.9 -0.8
baz=242
EGMT Eagleton 89.62 37 P P 00 55 12.2 +0.6
baz=237
435B 89.64 57 P P 00 55 12.5 +0.4
baz=245
J29N Klondike Camp 89.70 15 IAMs_20 IAMs_20 01 31 25.0
comp=Z,1µm,19.0s
J29N Klondike Camp 89.70 15 P P 00 55 12.6 +1.0
baz=213
H25L Birch Creek 89.70 11 P P 00 55 12.1 +0.6
baz=206
C17K DeLong Mountai 89.71 4 P P 00 55 12.5 +1.0
baz=190
SRIT Nakonsritamara 89.74 279 P P 00 55 13.1 +0.2
G24K Hadweenzic Riv 89.81 10 P P 00 55 12.9 +0.9
baz=205
F22K John River 89.86 8 P P 00 55 13.2 +0.9
baz=200
COLD Coldfoot 89.87 9 P P 00 55 13.6 +1.3
baz=202
I27K Kandik River 89.93 13 P P 00 55 13.9 +1.3
baz=210,SNR=5.6
C18K Utukok River 90.02 5 IAMs_20 IAMs_20 01 29 41.4
comp=Z,1µm,21.0s
C18K Utukok River 90.02 5 P P 00 55 14.1 +1.0
baz=192
ZEA Zeya 90.05 329 *e*P P 00 55 15.0 +1.6
ZEA *e* 01 05 45.4
ZEA *e*S **S** **01 06 07.6 +2.0**
ZEA *e* 01 07 17.1
ZEA pmax pmax
comp=Z,200nm,8.4s
ZEA pmax pmax
comp=N,10.0nm,1.4s
ZEA pmax pmax
comp=Z,30nm,1.1s
ZEA smax smax
comp=N,300nm,15.6s
MMPY Sheldon Lake, 90.05 18 P P 00 55 13.2 -0.1
MMPY IAmb IAmb 00 55 38.6
comp=Z,21nm,1.3s
MMPY Sheldon Lake, 90.05 18 P P 00 55 15.1 +1.8
baz=219,SNR=9.7
SNET Serv Nac Est T 90.08 75 IAMs_20 IAMs_20 01 31 01.4
comp=Z,1µm,18.0s
E20K Nigu River 90.09 7 P P 00 55 14.3 +0.9
baz=197,SNR=11
BILL Bilibino 90.10 353 P P 00 55 13.8 +0.5
BILL IAMs_20 IAMs_20 01 31 40.3
comp=Z,2µm,20.0s
BILL Bilibino 90.10 353 *e*P P 00 55 13.9 +0.6
G25K Bearman Lake 90.10 11 P P 00 55 14.6 +1.2
baz=206
D19K Kuna River 90.13 6 P P 00 55 14.4 +0.9
baz=195,SNR=6.4
TGTN Hyland Airport 90.14 20 P P 00 55 14.9 +1.2
baz=222
I28M Miner Creek 90.15 14 IAMs_20 IAMs_20 01 32 02.0
comp=Z,1µm,20.0s
I28M Miner Creek 90.15 14 P P 00 55 15.4 +1.7
baz=212,SNR=8.7
GYA Guiyang 90.24 298 P P 00 55 15.5 +0.4
GYA pP pP 00 55 19.1 -0.5
GYA pmax pmax
comp=Z,20nm,0.7s
GYA pmax pmax
comp=Z,500nm,8.8s
GYA LR LR
comp=Z,530nm,20.5s
GYA LR LR
comp=Z,580nm,20.6s
GYA LR LR
comp=Z,870nm,17.9s
WHTX Lake Whitney, 90.25 56 P P 00 55 15.5 +0.7
baz=245
J30M Hart River 90.25 15 IAMs_20 IAMs_20 01 32 01.8
comp=Z,2µm,19.0s
J30M Hart River 90.25 15 P P 00 55 15.7 +1.4
baz=215,SNR=10
WMOK Wichita Mounta 90.41 53 P P 00 55 15.7 +0.2
baz=244
I29M Ogilvie Camp, 90.44 14 IAMs_20 IAMs_20 01 31 29.7
comp=Z,1µm,20.0s
I29M Ogilvie Camp, 90.44 14 P P 00 55 16.3 +1.3
baz=213
D20K Etivluk River 90.49 6 P P 00 55 16.3 +1.2
baz=196,SNR=6.0
H27K Steamboat Moun 90.49 13 P P 00 55 16.4 +1.2
baz=210,SNR=16
F24K Squaw Lake 90.49 10 P P 00 55 15.8 +0.6
baz=204
E22K Anaktuvuk Pass 90.50 8 IAMs_20 IAMs_20 01 40 27.1
comp=Z,1µm,18.0s
E22K Anaktuvuk Pass 90.50 8 P P 00 55 16.1 +0.9
baz=201
E21K Killik River 90.52 7 IAMs_20 IAMs_20 01 32 00.0
comp=Z,994nm,20.0s
E21K Killik River 90.52 7 P P 00 55 15.9 +0.6
baz=199
TIY Taiyuan 90.52 310 ⇓P P 00 55 18.9 +2.8
TIY SKS **SKSac** **01 05 48.8 +1.8**
TIY S **ScS** **01 06 12.8 -1.6**
TIY SS **SS** **01 12 13.4 +0.9**
TIY pmax pmax
comp=Z,410nm,6.3s
TIY LR LR
comp=Z,690nm,18.5s
TIY LR LR
comp=Z,430nm,20.6s
TIY LR LR
comp=Z,670nm,19.2s
KOTAN Kotaneelee Air 90.56 23 P P 00 55 16.1 +0.5
baz=226
SLVN Son La 90.58 293 P P 00 55 17.6 +0.8
SLVN IAmb IAmb 00 55 20.4
comp=Z,19nm,1.0s
C19K Lookout Ridge 90.59 5 IAMs_20 IAMs_20 01 39 48.6
comp=Z,1µm,19.0s
C19K Lookout Ridge 90.59 5 P P 00 55 16.3 +0.7
baz=193
HKT Hockley 90.68 58 IAMs_20 IAMs_20 01 32 37.3
comp=Z,1µm,18.0s
B18K Kokolik River 90.68 4 P P 00 55 16.7 +0.8
baz=191
G26K Porcupine Rive 90.68 11 P P 00 55 17.2 +1.2
baz=208
I30M Mount Dempster 90.78 15 IAMs_20 IAMs_20 01 32 27.6
comp=Z,1µm,20.0s
I30M Mount Dempster 90.78 15 P P 00 55 17.3 +0.6
baz=215,SNR=22
OGNE Ogallala 90.86 46 IAMs_20 IAMs_20 01 34 56.4
comp=Z,2µm,18.0s
OGNE Ogallala 90.86 46 P P 00 55 17.3 -0.4
baz=242
E24K Your Creek 90.91 9 IAMs_20 IAMs_20 01 39 56.1
comp=Z,1µm,18.0s
E24K Your Creek 90.91 9 P P 00 55 18.3 +1.1
baz=204
XLT XiLinHaoTe 90.93 317 *e*P P 00 55 15.0 -2.9
XLT pP PcP 00 55 19.3 +0.4
XLT sP pwP 00 55 26.5 -1.6
XLT SKS **SKSac** **01 05 47.6 -1.4**
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,420nm,5.9s
XLT LR LR
comp=Z,530nm,19.0s
XLT LR LR
comp=Z,710nm,20.8s
F25K Christian Rive 90.93 10 P P 00 55 18.1 +0.8
baz=206
BMAR Burnt Mountain 90.97 11 P P 00 55 19.1 +1.7
G27K Doyon Strip 90.97 12 IAMs_20 IAMs_20 01 32 31.6
comp=Z,1µm,20.0s
G27K Doyon Strip 90.97 12 P P 00 55 18.5 +1.1
baz=210
RSSD Black Hills 91.05 43 P P 00 55 18.8 +0.2
RSSD IAmb IAmb 00 55 46.0
comp=Z,14nm,1.1s
RSSD Black Hills 91.05 43 P P 00 55 18.5 -0.1
baz=241
RSSD Black Hills 91.05 43 P P 00 55 18.8 +0.2
RSSD pmax pmax
comp=Z,14nm,1.2s
RSSD MLR MLR
comp=Z,2µm,18.0s
D22K Ayikyak River 91.09 8 IAMs_20 IAMs_20 01 30 07.7
comp=Z,1µm,22.0s
D22K Ayikyak River 91.09 8 P P 00 55 18.6 +0.6
baz=200
C21K Knifeblade Rid 91.11 7 P P 00 55 18.9 +0.9
baz=198
H29M Whitestone 91.15 14 IAMs_20 IAMs_20 01 32 22.4
comp=Z,1µm,19.0s
H29M Whitestone 91.15 14 P P 00 55 19.0 +0.8
baz=213,SNR=11
MLSI Meulaboh, Aceh 91.15 274 P P 00 55 20.6 +1.1
TOLK Toolik Lake Re 91.28 9 P P 00 55 19.1 +0.2
baz=203
F26K Sheenjek River 91.28 11 P P 00 55 19.9 +1.0
baz=208,SNR=6.9
E25K Arctic Village 91.42 10 IAMs_20 IAMs_20 01 33 18.4
comp=Z,1µm,20.0s
E25K Arctic Village 91.42 10 P P 00 55 21.1 +1.6
baz=206,SNR=6.5
HIA Hailar 91.42 323 IAMs_20 IAMs_20 01 32 36.6
comp=Z,1µm,20.0s
D23K Nanushuk River 91.43 8 P P 00 55 20.7 +1.2
baz=202
CBKS Cedar Bluff 91.48 49 IAMs_20 IAMs_20 01 34 58.0
comp=Z,1µm,18.0s
CBKS Cedar Bluff 91.48 49 P P 00 55 20.9 +0.4
baz=244
XAN Xi'an 91.53 306 ⇑P P 00 55 22.0 +1.2
XAN pP sP 00 55 25.6 -1.4
XAN SKS **SKSac** **01 05 52.6 -0.2**
XAN S **ScS** **01 06 25.8 +2.9**
XAN sS sS 01 06 31.8 +4.3
XAN SS **SS** **01 12 30.9 +3.9**
XAN pmax pmax
comp=Z,93nm,1.1s
XAN pmax pmax
comp=Z,610nm,7.0s
XAN LR LR
comp=Z,570nm,18.8s
XAN LR LR
comp=Z,600nm,16.5s
XAN LR LR
comp=Z,1µm,19.6s
A19K Wainwright 91.56 4 P P 00 55 20.6 +0.6
baz=192

B21K Ikpikpuk River 91.57 7 IAMs_20 IAMs_20 01 32 57.9
comp=Z,1μm,20.0s
B21K Ikpikpuk River 91.57 7 P P 00 55 21.1 +1.0
baz=198
EPYK Eagle Plains 91.65 14 IAMs_20 IAMs_20 01 32 46.6
comp=Z,978nm,18.0s
EPYK Eagle Plains 91.65 14 P P 00 55 21.2 +0.6
baz=214,SNR=8.2
B20K Meade River 91.69 6 IAMs_20 IAMs_20 01 41 43.5
comp=Z,1μm,18.0s
B20K Meade River 91.69 6 P P 00 55 21.0 +0.4
baz=196
H31M Peel River 91.75 15 IAMs_20 IAMs_20 01 33 17.2
comp=Z,1μm,19.0s
H31M Peel River 91.75 15 P P 00 55 21.7 +0.6
baz=217
G29M Pine Creek 91.81 13 IAMs_20 IAMs_20 01 35 29.8
comp=Z,1μm,19.0s
G29M Pine Creek 91.81 13 P P 00 55 22.2 +0.9
baz=213,SNR=8.0
D24K Happy Valley 91.86 9 IAMs_20 IAMs_20 01 37 10.0
comp=Z,915nm,19.0s
D24K Happy Valley 91.86 9 P P 00 55 22.3 +0.8
baz=203
F28M Old Crow 92.02 12 IAMs_20 IAMs_20 01 33 15.3
comp=Z,1μm,20.0s
F28M Old Crow 92.02 12 P P 00 55 23.4 +1.1
baz=212,SNR=6.8
E27K Coleen River 92.18 12 P P 00 55 24.5 +1.5
baz=210,SNR=9.6
C23K Itkillik River 92.25 8 IAMs_20 IAMs_20 01 33 18.4
comp=Z,1μm,20.0s
C23K Itkillik River 92.25 8 P P 00 55 24.4 +1.2
baz=202
G30M tAoh Zraii Nji 92.26 14 P P 00 55 24.9 +1.5
baz=215,SNR=9.1
NNA Nana 92.27 104 LR LR 01 29 16.8
comp=Z,716nm,18.3s,baz=244,slow=30
NATX Nacogdoches 92.33 57 P P 00 55 23.5 -1.0
baz=247
D25K Kavik River 92.37 9 IAMs_20 IAMs_20 01 40 24.7
comp=Z,2μm,18.0s
D25K Kavik River 92.37 9 P P 00 55 24.7 +0.8
baz=206
B22K Teshekpuk Lake 92.39 7 P P 00 55 25.1 +1.3
baz=199
C24K Franklin Bluff 92.40 9 P P 00 55 24.9 +1.0
baz=204
HHC Hu-ho-hao-te 92.51 313 eP P 00 55 25.9 +0.6
HHC SKS SKSac 01 05 59.1 +0.9
HHC S S 01 06 27.3 -1.5
HHC sS sS 01 06 38.3 +2.1
HHC pmax pmax
comp=Z,7.0nm,0.8s
HHC pmax pmax
comp=Z,55nm,4.2s
HHC LR LR
comp=Z,310nm,15.9s
HHC LR LR
comp=Z,580nm,17.3s
HHC LR LR
comp=Z,310nm,15.3s
ATAH Atahualpa 92.64 99 LR LR 01 29 57.7
comp=Z,721nm,18.2s,baz=247,slow=31
G31M Satah River 92.67 15 IAMs_20 IAMs_20 01 33 09.5
comp=Z,1μm,20.0s
G31M Satah River 92.67 15 P P 00 55 26.3 +1.1
baz=217
PHRA Phrae 92.75 289 P P 00 55 27.3 +0.5
JTS Las Juntas de 92.76 80 LR LR 01 29 17.1
comp=Z,405nm,18.6s,baz=254,slow=30
A22K Sinclair Lake 92.86 6 P P 00 55 27.0 +1.0
baz=198
F30M Barrier River 92.88 14 P P 00 55 26.9 +0.7
baz=215
WRGLY Wrigley 92.92 20 P P 00 55 27.4 +0.9
baz=226
E28M Babbage River 92.93 12 IAMs_20 IAMs_20 01 34 22.5
comp=Z,1μm,20.0s
E28M Babbage River 92.93 12 P P 00 55 27.5 +1.1
baz=212,SNR=7.5
KMI Kunming 93.00 296 ⇑P P 00 55 29.4 +1.3
KMI PP PP 00 59 08.5 -2.8
KMI SKS SKSac 01 05 57.8 -4.0
KMI S ScS 01 06 40.0 +4.1
KMI pmax pmax
comp=Z,31nm,0.9s
KMI pmax pmax
comp=Z,290nm,5.5s
KMI LR LR
comp=Z,820nm,19.8s
KMI LR LR
comp=Z,1μm,20.6s
KMI LR LR
comp=Z,2μm,20.4s
DGMT Dagmar 93.04 39 IAMs_20 IAMs_20 01 33 24.6
comp=Z,2μm,19.0s
DGMT Dagmar 93.04 39 P P 00 55 27.8 +0.4
baz=241
C27K Jago River 93.07 10 P P 00 55 27.2 +0.1
baz=208
E29M Blow River 93.08 13 IAMs_20 IAMs_20 01 33 38.3
comp=Z,2μm,20.0s
E29M Blow River 93.08 13 P P 00 55 28.1 +1.0
baz=213,SNR=7.7
TUL3 Leonard 93.12 53 P P 00 55 28.1 +0.1
baz=246
C26K Camden Bay 93.14 10 P P 00 55 27.6 +0.3
baz=207
F31M Tsiigehtchic 93.20 14 IAMs_20 IAMs_20 01 33 34.8
comp=Z,1μm,20.0s
F31M Tsiigehtchic 93.20 14 P P 00 55 28.5 +0.8
baz=217
D27M Malcolm River 93.21 11 P P 00 55 28.3 +0.4
baz=211
TRQA Tornquist 93.21 133 IAMs_20 IAMs_20 01 35 51.2
comp=Z,2μm,18.0s
CRAI Chiangrai 93.24 290 P P 00 55 29.4 +0.4
CRAI IAmb IAmb 00 55 31.5
comp=Z,21nm,1.0s
PB10 IPOC Station P 93.26 117 IAMs_20 IAMs_20 01 33 35.8
comp=Z,1μm,19.0s
TEIG Tepich 93.31 70 LR LR 01 32 41.5
comp=Z,5μm,18.6s,slow=32
BTO Baotou 93.47 312 eP P 00 55 31.8 +2.1
BTO pP sP 00 55 36.6 +0.8
BTO sP pwP 00 55 38.8 -1.2
BTO SKS SKSac 01 06 06.8 +3.3
BTO S ScS 01 06 42.3 +3.5
BTO sS sS 01 06 48.6 +3.9
BTO pmax pmax
comp=Z,19nm,1.0s
BTO pmax pmax
comp=Z,840nm,8.4s
BTO LR LR
comp=Z,1μm,21.0s
BTO LR LR
comp=Z,820nm,19.8s
BTO LR LR
comp=Z,1μm,24.9s
BGNE Belgrade 93.70 47 P P 00 55 30.0 -0.7
baz=245
D28M Stokes Point 93.70 12 P P 00 55 30.5 +0.6
baz=213
KSU1 Kansas State U 93.81 50 P P 00 55 31.1 -0.1
baz=246
CMAR Chiang Mai Arr 93.87 288 P P 00 55 32.7 +0.8
CMAR Chiang Mai Arr 93.87 288 P P 00 55 31.6 -0.3
comp=Z,25nm,0.9s,baz=116,slow=2.9,SNR=109
CMAR LR LR 01 33 30.7
comp=Z,294nm,21.9s,baz=110,slow=33
comp=Z,25nm,0.9s
CMAR Chiang Mai Arr 93.87 288 i P P 00 55 33.5 +1.5
CMAR pmax pmax
comp=Z,28nm,0.9s
INK Inuvik 93.95 14 P P 00 55 31.6 +0.5
INK IAmb IAmb 00 55 47.5
comp=Z,13nm,1.1s
INK Inuvik 93.95 14 P P 00 55 31.8 +0.7
baz=217
INK Inuvik 93.95 14 LR LR 01 35 25.5
comp=Z,780nm,18.6s,baz=184,slow=34
INK Inuvik 93.95 14 P P 00 55 31.6 +0.5
INK pmax pmax
comp=Z,13nm,1.1s
CHTO Chiang Mai 94.00 289 P P 00 55 32.9 +0.4
CHTO Chiang Mai 94.00 289 P P 00 55 32.9 +0.4
CHTO pmax pmax
comp=Z,30nm,0.9s
YAK Yakutsk 94.14 337 LR LR 01 36 43.1
comp=Z,439nm,18.7s,baz=134,slow=35
YAK Yakutsk 94.14 337 eP P 00 55 32.4 +0.3
YAK e 00 55 35.0
YAK e 00 59 20.4
YAK e*SS S 01 06 30.8 -11
YAK eSS SS 01 13 09.1 +5.9
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=Z,12nm,0.3s
MIAR Mount Ida 94.25 55 IAMs_20 IAMs_20 01 34 25.6
comp=Z,1μm,18.0s
MIAR Mount Ida 94.25 55 P P 00 55 33.6 +0.3
baz=247
PB15 IPOC Station P 94.29 117 IAMs_20 IAMs_20 01 26 55.1
comp=Z,1μm,20.0s
CD2 Chengdu 94.31 301 P P 00 55 34.5 +0.7
CD2 SKS SKSac 01 06 08.5 +0.1
CD2 S ScS 01 06 47.0 +0.8
CD2 sS sS 01 06 54.4 +2.0
CD2 pmax pmax
comp=Z,350nm,7.6s
CD2 LR LR
comp=Z,250nm,14.6s
CD2 LR LR
comp=Z,210nm,17.1s
CD2 LR LR
comp=Z,770nm,19.7s
PZH PanZhiHua 94.34 297 P P 00 55 34.8 +0.7
PZH PP PP 00 59 28.5 +6.9
PZH SKS SKSac 01 06 08.6 -0.3
PZH S ScS 01 06 48.5 +1.7
PZH pmax pmax
comp=Z,40nm,0.8s
PZH pmax pmax
comp=Z,320nm,5.5s
PZH LR LR
comp=Z,560nm,19.6s
PZH LR LR
comp=Z,650nm,19.2s
PZH LR LR
comp=Z,820nm,20.6s
SUSD Miller 94.45 44 P P 00 55 34.6 +0.6
baz=245
LVC Limon Verde 95.01 116 IAMs_20 IAMs_20 01 27 41.2
comp=Z,2μm,19.0s
LVC Limon Verde 95.01 116 LR LR 01 31 25.3
comp=Z,850nm,18.6s,baz=244,slow=31
AF01 San Pedro de A 95.47 117 IAMs_20 IAMs_20 01 27 35.5
comp=Z,1μm,22.0s
YKA Yellowknife Ar 95.56 24 P P 00 55 39.0 +0.4
comp=Z,2.0nm,0.8s,baz=244,slow=4.3,SNR=25
YKA LR LR 01 33 51.2
comp=Z,523nm,19.4s,baz=241,slow=32
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 95.56 24 P P 00 55 39.0 +0.4
ECSD EROS Data Cent 95.69 45 P P 00 55 39.3 -0.4
ECSD IAmb IAmb 00 56 10.7
comp=Z,11nm,1.1s
ECSD EROS Data Cent 95.69 45 IAMs_20 IAMs_20 01 35 45.1
comp=Z,1μm,18.0s
ECSD EROS Data Cent 95.69 45 P P 00 55 40.8 +1.1
baz=246
VBMS Vicksburg 95.76 58 IAMs_20 IAMs_20 01 36 04.7
comp=Z,1μm,18.0s
VBMS Vicksburg 95.76 58 P P 00 55 40.6 +0.4
baz=249
LZH Lanzhou 96.16 306 eP P 00 55 43.4 +1.2
LZH sP pwP 00 55 53.8 +1.3
LZH SKS SKSac 01 06 18.1 -0.2
LZH S ScS 01 07 05.3 +3.7
LZH pmax pmax
comp=Z,22nm,1.3s
LZH pmax pmax
comp=Z,270nm,4.5s
LZH LR LR
comp=Z,410nm,16.1s
LZH LR LR
comp=Z,600nm,16.8s
LZH LR LR
comp=Z,650nm,17.5s
TNCH TengChong 96.53 294 P P 00 55 45.4 +1.2
TNCH SKS SKSac 01 06 16.5 -4.3
TNCH S SKKSac 01 06 53.8 +7.4
TNCH SS SS 01 13 33.0 -6.2
TNCH pmax pmax
comp=Z,250nm,3.8s
TNCH LR LR
comp=Z,650nm,17.9s
TNCH LR LR
comp=Z,810nm,19.3s
TNCH LR LR
comp=Z,1μm,20.9s
C36M Paulatuk 97.01 16 P P 00 55 45.4 +0.4
C36M IAmb IAmb 00 56 01.6
comp=Z,8.5nm,1.1s
C36M IAMs_20 IAMs_20 01 35 58.3
comp=Z,1μm,20.0s
C36M Paulatuk 97.01 16 P P 00 55 46.5 +1.5
baz=226
SCIA State Center 97.29 48 IAMs_20 IAMs_20 01 38 25.6
comp=Z,1μm,18.0s
SCIA State Center 97.29 48 P Pdif 00 55 47.4 +0.3
baz=248
CCM Cathedral Cave 97.30 52 P Pdif 00 55 47.5 +0.3
baz=249
OXF Oxford 97.44 56 P Pdif 00 55 48.6 +0.7
baz=250
AGMN Agassiz Nation 97.97 41 P Pdif 00 55 50.5 +0.6
baz=247
BRAL Brewton 98.16 60 IAMs_20 IAMs_20 01 38 27.5
comp=Z,856nm,18.0s
BRAL Brewton 98.16 60 P Pdif 00 55 51.3 +0.1
baz=250
ULN Ulaanbaatar 98.32 318⇓eP Pdif 00 55 52.3 +0.6
ULN pmax pmax
comp=Z,11nm,1.4s
LPAZ La Paz 98.34 111 P Pdif 00 55 55.5 +2.4
comp=Z,4.6nm,1.3s,baz=239,slow=10.0,SNR=2.9
LPAZ LR LR 01 33 41.2
comp=Z,1μm,18.1s,baz=262,slow=31
comp=Z,4.6nm,1.3s
A36M Sachs Harbour 98.58 14 IAMs_20 IAMs_20 01 36 59.9
comp=Z,1μm,20.0s
A36M Sachs Harbour 98.58 14 P Pdif 00 55 53.0 +0.9
baz=225
ULM Lac du Bonnet 98.71 39 P Pdif 00 55 53.3 +0.1
comp=Z,1.0nm,0.5s,baz=239,slow=5.9,SNR=2.1
ULM LR LR 01 37 01.9
comp=Z,2μm,18.3s,baz=250,slow=33
comp=Z,1.0nm,0.5s
SONM Songino Array 98.72 318 P Pdif 00 55 54.2 +0.7
comp=Z,0.4nm,0.4s,baz=134,slow=4.2,SNR=4.0
SONM LR LR 01 36 56.9
comp=Z,434nm,21.1s,baz=110,slow=33
comp=Z,0.4nm,0.4s
SPMN Marine on St. 98.78 45 P Pdif 00 55 53.8 +0.2
baz=249
LRAL Lakeview Retre 98.82 58 IAMs_20 IAMs_20 01 39 13.0
comp=Z,1μm,18.0s
LRAL Lakeview Retre 98.82 58 P Pdif 00 55 54.4 +0.3
baz=251
WVT Waverly 99.20 55 P Pdif 00 55 55.9 +0.2
baz=251
HDIL Hopedale 99.58 50 P Pdif 00 55 57.3 0.0
baz=250
JFWS Jewell Farm 99.70 48 IAMs_20 IAMs_20 01 37 48.4
comp=Z,1μm,19.0s
JFWS Jewell Farm 99.70 48 P Pdif 00 55 57.8 0.0
baz=250
GTA Gaotai 100.30 308 eP Pdif 00 56 01.6 +0.9
GTA pP sP 00 56 06.6 -0.3
GTA PP PP 01 00 06.5 -0.7
GTA SKS SKSac 01 06 39.0 0.0
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,320nm,18.3s
GTA LR LR
comp=Z,520nm,19.5s
GTA LR LR
comp=Z,440nm,18.7s
TIXI Tiksi 100.35 344 IAMs_20 IAMs_20 01 34 30.5
comp=Z,1μm,22.0s
TIXI Tiksi 100.35 344⇓eP Pdif 00 56 03.3 +3.3
TIXI pmax pmax
comp=Z,3.0nm,0.4s
EYMN Ely 100.57 43 IAMs_20 IAMs_20 01 40 08.1
comp=Z,1μm,18.0s
EYMN Ely 100.57 43 P Pdif 00 56 01.9 +0.3
baz=250
HQIL Hanson Quary C 101.02 49 IAMs_20 IAMs_20 01 37 13.3
comp=Z,1μm,19.0s
WCI Wyandotte Cave 101.03 53 P Pdif 00 56 03.7 -0.2
baz=252
TIGA Tifton 101.05 61 P Pdif 00 56 03.7 -0.4
baz=252
L44A Lake County Fo 101.09 49 IAMs_20 IAMs_20 01 41 05.4
comp=Z,1μm,18.0s
COWI Conover 101.49 45 IAMs_20 IAMs_20 01 41 05.6
comp=Z,1μm,18.0s
DWPF Disney Wildern 101.82 64 IAMs_20 IAMs_20 01 43 26.8
comp=Z,801nm,18.0s
P49A Miami Univ. Ec 102.60 52 P Pdif 00 56 10.5 -0.3
baz=253
TZTN Tazewell 102.61 56 IAMs_20 IAMs_20 01 39 16.1
comp=Z,1μm,18.0s
KMSC Kings Mountain 103.94 58 P Pdif 00 56 16.8 0.0
baz=254
GLMI Grayling 104.16 47 IAMs_20 IAMs_20 01 39 15.4
comp=Z,1μm,19.0s
GLMI Grayling 104.16 47 P Pdif 00 56 17.6 0.0
baz=254
BLA Blacksburg 105.21 56 P PKiKP 01 00 36.3 -0.4
baz=255
O53A New Philadelph 105.39 52 P PKiKP 01 00 36.7 -0.3
baz=255
SAML Samuel 105.79 106 IAMs_20 IAMs_20 01 37 58.3
comp=Z,1μm,18.0s
M53A WI Miller and 106.08 51 P PKiKP 01 00 37.8 -0.4
baz=256
MCWV Mont Chateau 106.26 53 P PKiKP 01 00 38.5 0.0
baz=256
ERPA Erie 106.74 51 P PKiKP 01 00 39.3 -0.1
baz=256
SSPA Standing Stone 107.95 53 P PKiKP 01 00 41.8 +0.1
baz=257
SDDR Presa de Saban 108.07 76 IAMs_20 IAMs_20 01 35 33.0
comp=Z,868nm,22.0s
BINY Binghamton 109.67 51 P PKiKP 01 00 44.9 0.0
baz=259
WMQ Urumqi 110.19 310 ePKP PKiKP 01 00 46.0 +0.1
WMQ LR LR
comp=Z,470nm,18.5s
WMQ LR LR
comp=Z,480nm,15.5s
WMQ LR LR
comp=Z,580nm,18.1s
PAL Palisades 110.98 53 P PKiKP 01 00 47.5 +0.2
baz=260
LONY Lake Ozonia 111.10 49 IAMs_20 IAMs_20 01 44 53.1
comp=Z,997nm,19.0s
LONY Lake Ozonia 111.10 49 P PKiKP 01 00 47.9 +0.4
baz=261
L61B Northampton 112.12 52 P PKiKP 01 00 49.9 +0.4
baz=261
ZSN Zaisan 112.69 314 ePKiKP PKiKP 01 00 50.3 -0.1
baz=314
ZSN ePP PP 01 01 36.9 -1.2
baz=314
ZSN Zaisan 112.69 314 i PKIKP PKiKP 01 00 50.3 -0.1
ZSN e 01 01 36.9
LBNH Lisbon 112.92 50 P PKiKP 01 00 51.2 +0.2
baz=262
HRV Adam Dziewonsk 112.95 52 P PKiKP 01 00 51.2 +0.1
baz=262
ZALV Zalesovo Beam 113.35 321 PKiKP PKiKP 01 00 50.4 -1.0
comp=Z,2.9nm,0.6s,baz=121,slow=1.3,SNR=18
M65A Busby, Falmout 113.49 53 P PKiKP 01 00 52.1 0.0
baz=262
TULEG Thule 113.94 14 IAMs_20 IAMs_20 01 46 18.7
comp=Z,1μm,21.0s
MK31 Makanchi Array 114.37 313 d i PKIKP PKiKP 01 00 53.9 +0.2
MKAR Makanchi Array 114.37 313 PKiKP PKPdf 01 00 53.2 -0.5
comp=Z,2.5nm,0.8s,baz=101,slow=1.8,SNR=11
PKME Peaks-Kenny Pk 114.91 49 P PKiKP 01 00 55.1 +0.4
baz=265
SHLS Shalkode 116.04 309 ePKP PKPdf 01 00 56.3 -0.9
baz=309
SHLS ePP PP 01 01 58.4 -3.6
baz=309
SHLS Shalkode 116.04 309 ePKIKP PKPdf 01 00 56.2 -0.9
SHLS e 01 01 58.4
UZB Uzynbulak 116.36 309 ePKP PKPdf 01 00 57.0 -0.9
baz=309
UZB ePP PP 01 02 02.3 -2.0
baz=309
UZB Uzynbulak 116.36 309 ePKIKP PKPdf 01 00 56.9 -0.9
UZB e 01 02 02.3
SATY Saty 116.80 308 ePKP PKPdf 01 00 58.3 -0.3
baz=308
SATY Saty 116.80 308 ePKIKP PKPdf 01 00 58.3 -0.3
TDK Taldyqorghan 116.94 311 ePKP PKPdf 01 00 58.1 -0.6
baz=311
TDK Taldyqorghan 116.94 311 ePKIKP PKPdf 01 00 58.1 -0.6
KURK Kurchatov 117.01 317 PKPdf PKPdf 01 00 58.5 -0.1
KURK Kurchatov 117.01 317 IAMs_20 IAMs_20 01 49 37.8
comp=Z,943nm,20.0s
KURK Kurchatov 117.01 317 d i PKIKP PKiKP 01 00 58.7 +0.1
KURK pmax pmax
comp=Z,6.0nm,1.0s
KURBB Kurchatov Arra 117.07 317 PKP PKPdf 01 00 57.9 -0.8
comp=Z,3.8nm,0.8s,baz=96,slow=1.9,SNR=31
KURBB PKKPbc PKKPab 01 11 26.7 +0.5
comp=Z,0.3nm,0.7s,baz=273,slow=4.3,SNR=3.2
NEEM North Greenlan 117.44 12 i P PKiKP 01 01 03.5 +4.3
MDOK Medeo 117.80 309 ePKP PKPdf 01 01 00.3 -0.4
baz=309
MDOK Medeo 117.80 309 ePKIKP PKPdf 01 01 00.2 -0.4
TNSS Tian-Shan 117.87 308 ePKP PKPdf 01 01 00.1 -0.9
baz=308
TNSS Tian-Shan 117.87 308 ePKIKP PKPdf 01 01 00.1 -0.9
KSH Kashi 118.34 304 PKP PKiKP 01 01 03.6 +1.9
KSH LR LR
comp=Z,380nm,18.4s
KSH LR LR
comp=Z,600nm,19.1s
KSH LR LR
comp=Z,820nm,21.1s
KUU Kurty 118.36 309 ePKP PKPdf 01 01 00.7 -0.7
baz=309
KUU Kurty 118.36 309 ePKIKP PKPdf 01 01 00.7 -0.7
SGDS Sogindy 119.58 309 ePKP PKPdf 01 01 03.2 -0.8
baz=309
SGDS Sogindy 119.58 309 ePKIKP PKPdf 01 01 03.1 -0.8
AAK Ala-Archa 119.65 308⇓i PKIKP PKiKP 01 01 04.9 +0.7
AAK pmax pmax
comp=Z,3.0nm,1.3s
BTLS Baital 120.03 311 ePKP PKPdf 01 01 04.9 +0.2
baz=311
BTLS Baital 120.03 311 ePKIKP PKPdf 01 01 04.9 +0.2
BRZS Berezniki 120.83 316 ePKP PKPdf 01 01 05.4 -0.7
baz=316
BRZS Berezniki 120.83 316 ePKIKP PKPdf 01 01 05.3 -0.7
BVAR Borovoye Array 121.98 320 PKP PKPdf 01 01 07.7 -0.4
comp=Z,16nm,1.0s,baz=111,slow=2.0,SNR=39
DZA Taraz 121.98 308 ePKP PKPdf 01 01 08.0 -0.6
baz=308
DZA Taraz 121.98 308 ePKIKP PKPdf 01 01 07.9 -0.6
BRVK Borovoye 122.04 320 PKPdf PKPdf 01 01 08.4 +0.1
BRVK Borovoye 122.04 320 IAMs_20 IAMs_20 01 51 36.7
comp=Z,766nm,21.0s
BRVK Borovoye 122.04 320 d i PKIKP PKiKP 01 01 08.9 +0.5
BRVK pmax pmax
comp=Z,12nm,1.0s
KK31 Karatay Array 122.58 308 PKPdf PKPdf 01 01 09.4 -0.2
KK31 Karatay Array 122.58 308 PKPdf PKPdf 01 01 09.4 -0.2
KKAR Karatay Array 122.58 308 PKPdf PKPdf 01 01 09.3 -0.3
KKAR Karatay Array 122.58 308 PKPdf PKPdf 01 01 09.3 -0.3
SPITS Spitsbergen Ar 122.70 357 PKP PKiKP 01 01 09.0 -0.1
comp=Z,3.1nm,0.7s,baz=36,slow=2.7,SNR=2.1
SPITS Spitsbergen Ar 122.70 357 PKIKP PKiKP 01 01 09.0 -0.1
BRLS Borolday 123.08 308 ePKP PKPdf 01 01 10.5 -0.1
baz=308
BRLS Borolday 123.08 308 ePKIKP PKPdf 01 01 10.4 -0.1
SIMJ Simiganj 123.71 303 PKPdf PKPdf 01 01 12.1 0.0
DY2G Dye2 123.90 22 i P PKiKP 01 01 21.4 +9.4
SVE Sverdlovsk 126.63 326 ePKIKP PKiKP 01 01 18.0 +0.7
SVE pmax pmax
comp=Z,17nm,1.1s

BOSA Boshof 127.16 201 PKP **PKiKP 01 01 21.0 +1.4**
comp=Z,9.2nm,1.0s,baz=165,slow=4.6,SNR=9.0
ARU Arti 127.84 326 PKPdf **PKiKP 01 01 19.5 -0.3**
ARU IAMs_20 IAMs_20 02 00 59.1
comp=Z,858nm,20.0s
ARU Arti 127.84 326 *i* PKIKP **PKiKP 01 01 20.3 +0.5**
ARU 01 03 19.2
ARU 01 08 28.6
ARU SP SP 01 13 27.5 +2.8
ARU SS **SS 01 20 25.4 -7.7**
ARU MLR MLR
comp=Z,607nm,20.0s
ARU Arti 127.84 326 PKP **PKiKP 01 01 20.3 +0.5**
ABKAR Akbulak array 129.12 317 PKPdf **PKiKP 01 01 22.3 -0.2**
ABKAR Akbulak array 129.12 317 PKPdf **PKiKP 01 01 22.6 +0.1**
ARCES ARCESS Array B 130.18 351 PKP **PKiKP 01 01 24.1 0.0**
comp=Z,3.8nm,0.8s,baz=333,slow=0.4,SNR=7.7
APA Apatity 130.48 347⇓ *i* PKIKP **PKPdf 01 01 23.4 -0.5**
APA pmax pmax
comp=Z,7.0nm,1.0s
KIRV Kirov 131.35 331 *d i* PKIKP **PKiKP 01 01 27.2 +0.5**
GEYT Alibeck 132.29 302 PKP **PKPdf 01 01 28.2 -0.2**
comp=Z,3.8nm,1.0s,baz=86,slow=4.5,SNR=5.6
KLMR Klimovskoe 133.93 338 *e* PKIKP **PKPdf 01 01 25.1 -5.5**
JOF Joensuu 134.84 344 *e*P **PKPdf 01 01 31.7 -0.6**
BELG Belogornoye 135.32 325 *de* PKIKP **PKiKP 01 01 34.6 -0.4**
VALR Valaam 136.24 343⇓ *e* PKIKP **PKPdf 01 01 35.2 +0.3**
KEF Keuruu 136.99 347 *e*P **PKPdf 01 01 36.6 +0.4**
FINES FINESS Array B 137.38 346 PKhKP PKPpre 01 01 28.4
comp=Z,3.3nm,1.0s,baz=28,slow=3.3,SNR=7.4
FINES PKP **PKPdf 01 01 37.2 +0.2**
comp=Z,6.3nm,1.0s,baz=26,slow=3.5,SNR=5.8
LSZ Lusaka 137.76 213 IAMs_20 IAMs_20 02 00 05.4
comp=Z,794nm,19.0s
MEF Metsahovi 138.85 346 *e*P **PKPdf 01 01 38.5 -1.2**
OBN Obninsk 139.06 334⇑ *i* PKIKP **PKiKP 01 01 41.5 -1.0**
OBN *e* 01 04 32.3
OBN *e*PPP PPP 01 07 32.4
OBN pmax pmax
comp=Z,24nm,1.4s
VRH Novokhopyorsk 139.08 326 *e* PKIKP **PKPdf 01 01 40.4 0.0**
VRH pmax pmax
comp=Z,4.0nm,0.5s
ARBE Arbavere 139.16 345 *e*P **PKPdf 01 01 38.8 -1.5**
MAK Makhachkala 139.18 312 *e*P **Pdif 00 58 52.7 -0.6**
MAK *i* 01 01 41.0
MAK *e* 01 04 32.8
MAK *e*PPP PPP 01 07 35.7
MAK *e* 01 08 53.8
MAK *e*SS SS 01 22 50.6 -0.4
MAK pmax pmax
comp=Z,75nm,1.2s
AAL Aland 139.76 349 *e*P **PKPdf 01 01 40.8 -0.5**
VSU Vasula 139.82 343⇑ *e* PKIKP **PKPdf 01 01 42.3 +0.8**
NB2 NORSAR Subarra 139.97 356 PKP **PKPdf 01 01 35.8 -6.1**
comp=Z,5.2nm,1.1s,baz=18,slow=4.4
NOA NORSAR Array B 139.97 356 PKhKP PKPpre 01 01 34.3
comp=Z,3.2nm,1.1s,baz=14,slow=5.2,SNR=5.1
VORR Voronezh 140.09 328 *e* PKIKP **PKPdf 01 01 42.9 +0.6**
VORR pmax pmax
comp=Z,20nm,0.4s
GROC Groznyy 140.28 313 *e* PKHKP PKPpre 01 01 34.5
GROC pmax pmax
comp=Z,8.0nm,0.4s
MTSE Matsula 140.33 346 *e*P **PKPdf 01 01 40.6 -1.9**
VSR Storozhevoye 140.38 327 *e* PKIKP **PKPdf 01 01 43.8 +1.0**
VSR pmax pmax
comp=Z,8.0nm,0.8s
VORD Divnogorie 140.47 327 *e* PKIKP **PKPdf 01 01 44.2 +1.2**
VORD pmax pmax
comp=Z,10.0nm,0.6s
HFS Hagfors 140.67 354 PKhKP PKPpre 01 01 37.0
comp=Z,4.4nm,0.7s,baz=58,slow=5.4,SNR=10
HFS PKP **PKPdf 01 01 43.4 +0.4**
comp=Z,4.4nm,0.7s,baz=42,slow=2.3,SNR=7.9
KIBK Kibwezi 140.91 237 IAMs_20 IAMs_20 02 03 44.9
comp=Z,682nm,19.0s
NCK Nalchik 141.66 314⇓ *e* PKIKP **PKPdf 01 01 46.3 +0.9**
KBZ Khabaz 142.02 315 PKhKP PKPpre 01 01 43.4
comp=Z,2.0nm,0.9s,baz=45,slow=1.4,SNR=4.6
KBZ Khabaz 142.02 315 *i* PKIKP **PKPdf 01 01 47.2 +1.2**
GNI Garni 142.04 309 IAMs_20 IAMs_20 02 16 46.5
comp=Z,526nm,19.0s
GNI Garni 142.04 309⇓ *i* PKIKP **PKiKP 01 01 49.8 +0.4**
KIV Kislovodsk 142.07 315 IAMs_20 IAMs_20 02 09 11.5
comp=Z,554nm,20.0s
KIV Kislovodsk 142.07 315⇓ *e* PKIKP **PKPdf 01 01 42.7 -3.5**
KIV *e* 01 04 47.3
KIV pmax pmax
comp=Z,7.0nm,1.2s
ISAL Salakas 142.47 341 *e*P **PKPdf 01 01 45.9 -0.5**
IDID Didziasalis 142.50 341 *e*P **PKPdf 01 01 44.8 -1.7**
ERBR Yeremizino-Bor 142.66 319 *e* PKIKP **PKPdf 01 01 46.2 -0.9**
ERBR *i* 01 01 49.7
ERBR pmax pmax
comp=Z,25nm,0.8s
ERBR pmax pmax
comp=Z,26nm,1.0s
MNK Minsk 142.80 339 *i* PKIKP **PKPdf 01 01 45.2 -1.9**
MNK *i* 01 04 54.1
MNK *i* PPP PPP 01 08 02.8
MNK *i* 01 08 52.2
MNK *i* SS SS 01 23 30.0 -1.6
MNK *i* SSS SSS 01 28 50.5
MNK pmax pmax
comp=Z,27nm,1.0s
MNK pmax pmax
comp=N,16nm,1.1s
MNK pmax pmax
comp=E,4.0nm,0.9s
LABN Labinsk 143.03 317 PKIKP PKPbc 01 01 45.3 +0.7
LABN pmax pmax
comp=Z,10.0nm,0.5s
LABN MLR MLR
comp=Z,939nm,21.0s
PABE Paberze 143.14 343 PKPbc 01 01 45.4 +0.9
PABE Paberze 143.14 343 *e*P **PKPdf 01 01 46.2 -1.4**
PBUR Paburge 143.20 345 *e*P **PKPdf 01 01 46.4 -1.3**
ATD Arta Tunnel 143.46 261 IAMs_20 IAMs_20 02 02 11.0
comp=Z,570nm,20.0s
RAYN Ar Rayn 143.47 281 PKPbc 01 01 47.1 +0.6
RAYN Ar Rayn 143.47 281 PKIKP PKPbc 01 01 47.1 +0.6
BCA Borcka 143.81 312⇑ P **PKPdf 01 01 48.4 -0.9**
GOET G??ttrup 144.08 357 *i* P PKPbc 01 01 48.0 +0.8
SOC Sochi 144.16 316 *e* PKIKP PKPbc 01 01 47.7 -0.2
SOC *e* 01 04 58.9
SOC *e*PPP PPP 01 08 13.6
SOC *e*SS SS 01 23 43.8 -4.9
SOC *e*SSS SSS 01 29 13.8
SOC pmax pmax
comp=Z,7.0nm,0.8s
DEL Delary 144.24 353 *e*P **PKPdf 01 01 49.0 -0.5**
GURO Guroymak-BITLI 144.54 307 PKPdf PKPbc 01 01 50.1 +0.6
MUD Monsted U'grnd 144.66 357 *i* P PKPbc 01 01 49.1 +0.1
SUW Suwalki 144.67 342 *e* PKP **PKPdf 01 01 50.4 0.0**
SUW Suwalki 144.67 342 **PKPdf 01 01 49.9 -0.4**
SUW Suwalki 144.67 342 *e*P **PKPdf 01 01 51.1 +0.7**
SUW Suwalki 144.67 342 PKIKP **PKPdf 01 01 49.9 -0.4**
SUW MLR MLR
comp=Z,900nm,20.0s
KLNR Kaliningrad 144.90 346 *de* PKIKP PKPbc 01 01 50.0 +0.1
ANN Anapa 144.98 320 *c i* PKIKP **PKPab 01 01 50.0 -0.4**
ANN *i* 01 01 55.8
ANN *e* 01 05 10.5
ANN pmax pmax
comp=Z,97nm,1.0s
ANN pmax pmax
comp=Z,76nm,1.3s
ANN MLR MLR
comp=Z,638nm,19.0s
EKA Eskdalemuir Ar 145.17 9 PKPbc **PKPdf 01 01 51.5 +0.3**
comp=Z,16nm,0.7s,baz=341,slow=3.0,SNR=29
COP Copenhagen 145.17 354 *i* P **PKPdf 01 01 51.8 +0.7**
AK03 Malin Array Si 145.30 334 PKP **PKPbc 01 01 51.0 -0.3**
AKASG Malin Array Be 145.32 334 **PKPbc 01 01 50.7 -0.6**
AKASG Malin Array Be 145.32 334 PKPbc **PKPbc 01 01 50.6 -0.7**
comp=Z,34nm,0.7s,baz=36,slow=3.9,SNR=84
AKBB Malin Array Si 145.32 334 **PKPbc 01 01 50.3 -1.1**
AKBB Malin Array Si 145.32 334 *c* PKIKP **PKPbc 01 01 51.3 -0.1**
KIEV Kiev 145.33 334⇑ P **PKPbc 01 01 51.0 -0.4**
KIEV Kiev 145.33 334 **PKPbc 01 01 50.6 -0.7**
KIEV Kiev 145.33 334 IAMs_20 IAMs_20 02 08 51.7
comp=Z,816nm,20.0s
KIEV Kiev 145.33 334 PKIKP **PKPbc 01 01 50.7 -0.7**
KIEV MLR MLR
comp=Z,800nm,20.0s
BSD Bornholm Skovb 145.42 351 *e*P **PKPab 01 01 52.6 +0.9**
BSD Bornholm Skovb 145.42 351 *i* P **PKPab 01 01 51.8 +0.1**
LLD Lille Linde 145.54 354 *i* P **PKPab 01 01 53.0 +0.8**
SSRD Sdr. Stenderup 145.61 356 *i* P **PKPab 01 01 53.0 +0.6**
MI30 MI30,Zelenitsa 145.70 335 PKP **PKPbc 01 01 52.6 0.0**
MI28 Mi28,Pidlybu 145.76 335 PKP **PKPbc 01 01 52.8 0.0**
RNPP9 Sopachiv 146.03 338 PKP **PKPbc 01 01 53.6 0.0**
MI29 MI29, Kamyanyy 146.09 335 PKP **PKPab 01 01 54.3 -0.1**
RNPP8 Varash 146.11 338 PKP **PKPbc 01 01 53.9 +0.1**
FURI Furi 146.26 254 IAMs_20 IAMs_20 02 06 30.1
comp=Z,662nm,19.0s
LODK Lodwar 146.46 242 IAMs_20 IAMs_20 02 08 39.7
comp=Z,512nm,18.0s
LUBAR Lubar, Ukraine 146.52 334 PKP **PKPbc 01 01 55.0 -0.1**
GKP Gorka Klasztor 146.79 348 *e* PKP **PKPab 01 01 56.9 -0.1**
GKP Gorka Klasztor 146.79 348 *e*P **PKiKP 01 01 57.8 -0.7**
SIM Simferopol' 146.85 322 *e* PKP2 **PKPbc 01 01 55.9 -0.3**
SIM pmax pmax
comp=Z,144nm,1.1s
BEL Belsk 147.28 343 *e* PKP **PKPab 01 01 58.6 -0.3**
MBAR Mbarara 147.58 231 *c* PKP2 **PKPbc 01 02 00.5 +1.1**
SORM Soroca 147.63 332⇑ P **PKPbc 01 01 59.0 +0.7**
SORM Soroca 147.63 332⇑ P **PKiKP 01 01 59.0 +0.7**
DIKM Dikmen 147.98 316⇑ P **PKPab 01 02 02.0 -0.1**
LVV L'vov 148.02 338⇓ *i* PKP2 **PKiKP 01 02 00.3 -0.8**
PURM Purcari 148.08 328⇑ P **PKiKP 01 02 01.3 0.0**
KMPD K-Podol'skiy 148.11 334 PKP **PKPbc 01 01 59.1 -0.4**
RUE Ruedersdorf 148.15 351 *e*P **PKiKP 01 02 01.3 0.0**
KIS Kishinev 148.26 330⇑ P **PKiKP 01 02 01.3 -0.4**
KIS Kishinev 148.26 330⇑ P **PKP2 PKiKP 01 02 01.3 -0.4**
MILM Milestii Mici 148.32 330⇓ P **PKPbc 01 02 00.6 +0.5**
MILM Milestii Mici 148.32 330⇓ P **PKP2 PKPbc 01 02 00.6 +0.5**
GAZ Gaziantep 148.60 307 **PKPdf 01 01 57.5 -0.2**
KWP Kalwaria Pacla 148.63 339 *e* PKP **PKiKP 01 02 02.5 +0.1**
BNN Bunyan 148.91 311 **PKPbc 01 02 02.4 +0.2**
VASR Vaslui 149.00 330⇑ P **PKiKP 01 02 04.0 +0.7**
OJC Ojcow 149.00 343 *e* PKP **PKiKP 01 02 02.8 -0.3**
OJC Ojcow 149.00 343 **PKPdf 01 01 58.5 +0.7**
OJC Ojcow 149.00 343 PKIKP **PKPdf 01 01 58.5 +0.7**
PRA1 RASCA 149.15 333⇑ P **PKiKP 01 02 04.1 +0.6**
STHS Stebnicka Huta 149.29 340 *e* PKP **PKiKP 01 02 03.2 -0.6**
STHS Stebnicka Huta 149.29 340 *e* PKP2 **PKiKP 01 02 03.2 -0.6**
BURAR Bucovina Array 149.37 334⇑ P **PKiKP 01 02 05.1 +1.0**
BURAR Bucovina Array 149.37 334 **PKiKP 01 02 03.8 -0.3**
BURAR Bucovina Array 149.37 334⇑ PKP2 **PKiKP 01 02 05.1 +1.0**
KOLS Kolonicke sedl 149.38 339 *e* PKP **PKiKP 01 02 05.2 +1.2**
KOLS Kolonicke sedl 149.38 339 *e* PKP2 **PKiKP 01 02 05.2 +1.2**
CLL Collm 149.40 351 **PKPdf 01 01 57.8 -0.5**
CLL IAMs_20 IAMs_20 02 11 31.3
comp=Z,813nm,20.0s
CLL Collm 149.40 351 *e* PKIKP **PKPdf 01 01 59.0 +0.6**
CLL *i* 01 02 03.4
CLL *i* 01 02 07.7
CLL *e* 01 05 35.0
CLL pmax pmax
comp=Z,43nm,1.0s
CLL MLR MLR
comp=Z,700nm,19.3s
VLDR Vladesti 149.45 329⇑ P **PKiKP 01 02 04.5 +0.3**
TLCR 149.55 327⇑ P **PKiKP 01 02 05.5 +1.1**
TLCR 149.55 327⇑ PKP2 **PKiKP 01 02 05.5 +1.1**
OSTC Ostas 149.56 347 *e* PKPDF **PKPbc 01 02 01.1 -2.1**
OSTC ⇑ *e* PKP **PKiKP 01 02 05.2 +0.9**
OSTC AMS AMS 02 20 20.0
comp=Z,700nm,16.6s
OSTC Ostas 149.56 347 *e* PKHKP PKPpre 01 02 01.1
OSTC *e* 01 02 05.2
OSTC MLR MLR
comp=Z,700nm,16.6s
CHVC Chvalec 149.57 347⇑ *e* PKP **PKiKP 01 02 05.3 +1.0**
CHVC AMS AMS 02 13 30.0
comp=Z,800nm,18.7s
CHVC Chvalec 149.57 347 *e* PKP2 **PKiKP 01 02 05.3 +1.0**
CHVC MLR MLR
comp=Z,800nm,18.7s
NIE Niedzica 149.58 341 *e* PKP **PKiKP 01 02 05.0 +0.6**
GHRR 149.61 330⇑ P **PKiKP 01 02 06.0 +1.5**
SCTR Scanteiesti 149.61 329⇑ P **PKiKP 01 02 04.3 -0.3**
TESR Tescani 149.62 331⇑ P **PKiKP 01 02 05.0 +0.5**
UPC Upice 149.65 347⇑ *e* PKP **PKiKP 01 02 05.4 +0.9**
UPC AMS AMS 02 13 50.0
comp=Z,800nm,16.5s
UPC Upice 149.65 347 *e* PKP2 **PKiKP 01 02 05.4 +0.9**
UPC MLR MLR
comp=Z,800nm,16.5s
CRVS Cervenica-Dubn 149.67 340 *e* PKP **PKiKP 01 02 05.0 +0.4**
CRVS Cervenica-Dubn 149.67 340 *e* PKP2 **PKiKP 01 02 05.0 +0.4**
BRG Berggiesshubel 149.68 350 *e* PKP **PKPdf 01 02 00.5 +1.7**
BRG Amp 01 02 02.2
comp=Z,2.9nm,0.9s
BRG Berggiesshubel 149.68 350 P **PKiKP 01 02 05.0 +0.5**
BRG Amp 01 02 06.5
comp=Z,28nm,0.9s
BRG Berggiesshubel 149.68 350 P **PKPab 01 02 15.1 +6.4**
BRG Amp 01 02 16.1
comp=Z,22nm,0.9s
DPC Dobruska-Polom 149.74 347⇑ *e* PKP **PKiKP 01 02 05.0 +0.3**
DPC AMS AMS 02 20 40.0
comp=Z,700nm,19.0s
DPC Dobruska-Polom 149.74 347 *e* PKP2 **PKiKP 01 02 05.0 +0.3**
DPC MLR MLR
comp=Z,700nm,19.0s
OKC Ostrava-Krasne 149.79 344⇑ *e* PKP **PKiKP 01 02 06.0 +1.2**
OKC AMS AMS 02 11 30.0
comp=Z,700nm,18.8s
OKC Ostrava-Krasne 149.79 344 *e* PKP2 **PKiKP 01 02 06.0 +1.2**
OKC MLR MLR
comp=Z,700nm,18.8s
IZVR Izvoarele 149.81 329⇑ P **PKiKP 01 02 06.5 +1.6**
KRLC Kraliky 149.90 346⇑ *e* PKP **PKiKP 01 02 05.5 +0.5**
KRLC Kraliky 149.90 346 *e* PKP2 **PKiKP 01 02 05.5 +0.5**
CFR Carcaliu 149.90 328⇑ P **PKiKP 01 02 04.7 -0.4**
CFR Carcaliu 149.90 328⇑ P **PKP2 PKiKP 01 02 04.7 -0.4**
PVCC Panska Ves 149.91 349⇑ *e* PKP **PKiKP 01 02 06.0 +1.0**
PVCC AMS AMS 02 17 50.0
comp=Z,800nm,19.5s
PVCC Panska Ves 149.91 349 *e* PKP2 **PKiKP 01 02 06.0 +1.0**
PVCC MLR MLR
comp=Z,800nm,19.5s
RICC Richard 149.97 350⇑ *e* PKP **PKiKP 01 02 07.1 +2.0**
MORC Moravsky Berou 150.00 345⇓ P **PKiKP 01 02 06.7 +1.4**
MORC Moravsky Berou 150.00 345 **PKPbc 01 02 03.7 -0.7**
MORC Moravsky Berou 150.00 345 *e* PKP **PKiKP 01 02 05.8 +0.5**
MORC Moravsky Berou 150.00 345 PKP2 **PKPbc 01 02 03.7 -0.7**
MORC MLR MLR
comp=Z,900nm,20.0s
BMR Baia Mare 150.00 336⇑ P **PKiKP 01 02 05.9 +0.6**
BMR Baia Mare 150.00 336⇑ P **PKP2 PKiKP 01 02 05.9 +0.6**
BR131 Keskin Array S 150.01 314 **PKPdf 01 01 59.2 -0.7**
BR131 PKPbc **PKPbc 01 02 04.7 -0.1**
BR131 Keskin Array S 150.01 314⇓ *e* PKHKP PKPpre 01 02 00.4
BRTR Keskin Array B 150.01 314 PKPdf **PKPdf 01 01 59.5 -0.4**
BRTR Keskin Array B 150.01 314 PKPbc **PKPbc 01 02 05.1 +0.3**
comp=Z,17nm,0.9s,baz=127,slow=2.2,SNR=26
HSKC Hora Svate Kat 150.02 351⇑ *e* PKP **PKiKP 01 02 06.6 +1.3**
HSKC AMS AMS 02 11 50.0
comp=Z,1μm,20.0s
VRI Vrincioaia 150.07 330⇑ P **PKiKP 01 02 05.6 +0.1**
VRI Vrincioaia 150.07 330⇑ P **PKP2 PKiKP 01 02 05.6 +0.1**
PLOR Plostina 150.12 330⇑ P **PKiKP 01 02 05.7 +0.1**
PLOR Plostina 150.12 330⇑ P **PKP2 PKiKP 01 02 05.7 +0.1**
ARCR ARCALIA 150.15 334⇑ P **PKiKP 01 02 07.1 +1.5**
TURR Turia 150.25 331⇑ P **PKiKP 01 02 06.6 +0.7**
MAUC Maruska 150.31 344⇑ *e* PKP **PKiKP 01 02 06.8 +0.9**
OZUR 150.32 332⇑ P **PKiKP 01 02 07.8 +1.7**
COVR Voineasa-Covas 150.32 331⇑ P **PKiKP 01 02 06.0 0.0**
HARR Harsova 150.35 327⇓ P **PKiKP 01 02 07.8 +1.7**
HARR Harsova 150.35 327⇓ P **PKIKP PKiKP 01 02 07.8 +1.7**
KECS Kecovo 150.35 340 *e* PKP **PKiKP 01 02 07.8 +1.8**
KECS Kecovo 150.35 340 *e* PKIKP **PKiKP 01 02 07.8 +1.8**
PRA Prague 150.37 349 AMS AMS 02 24 00.0
comp=Z,700nm,17.8s
TLBR Topalu 150.39 327⇓ P **PKiKP 01 02 06.2 +0.1**
BOSR Bodos 150.39 332⇑ P **PKiKP 01 02 07.3 +1.1**
PRU Pruhonice 150.43 349⇑ *e* PKP **PKiKP 01 02 06.4 +0.3**
PRU AMS AMS 02 14 40.0
comp=Z,600nm,16.6s
PRU Pruhonice 150.43 349 *e* PKIKP **PKiKP 01 02 06.4 +0.3**
PRU MLR MLR
comp=Z,600nm,16.6s
MFTR Murfatlar 150.46 326⇑ P **PKiKP 01 02 07.9 +1.6**
GOPC GO Pecny, Ondr 150.46 348 AMS AMS 02 16 00.0
comp=Z,700nm,17.9s
ANTO Ankara 150.50 315⇑ P **PKiKP 01 02 07.3 +0.7**
ANTO Ankara 150.50 315 IAMs_20 IAMs_20 02 14 45.6
comp=Z,423nm,20.0s
ANTO Ankara 150.50 315⇑ PKIKP **PKiKP 01 02 07.3 +0.7**
NKC Novy Kostel 150.53 352 AMS AMS 02 18 00.0
comp=Z,700nm,19.1s
HWQ Hawqa 150.56 303 *e*P **PKiKP 01 02 07.0 0.0**
MEM Membach 150.59 0 *d* PKP **PKiKP 01 02 06.8 +0.4**
DOPR Dopca 150.60 332⇑ P **PKiKP 01 02 07.6 +1.0**
NEHR Nehoiu 150.60 330⇑ P **PKiKP 01 02 07.4 +0.8**
BTNL Ternell 150.62 360 *d* PKP **PKiKP 01 02 06.9 +0.5**
BSTI Sart Tilman 150.62 1 *d* PKP **PKPbc 01 02 06.0 +0.2**
MANR Mangalia 150.62 326⇑ P **PKiKP 01 02 07.5 +0.9**
MESR Meseseni 150.64 336⇑ P **PKiKP 01 02 07.2 +0.6**
VRAC Vranov 150.66 346⇓ P **PKiKP 01 02 07.1 +0.5**
VRAC Vranov 150.66 346 *e* PKP **PKiKP 01 02 07.1 +0.5**
VRAC Vranov 150.66 346⇓ *e* PKIKP **PKiKP 01 02 07.1 +0.5**
MLR Muntele Rosu 150.71 331⇑ P **PKiKP 01 02 08.1 +1.1**
MLR Muntele Rosu 150.71 331 PKPdf **PKPdf 01 02 00.9 +0.1**
MLR Muntele Rosu 150.71 331 PKIKP **PKPdf 01 02 00.9 +0.1**
ISR Istrita 150.71 329⇑ P **PKiKP 01 02 08.7 +1.8**
ISR Istrita 150.71 329⇑ PKIKP **PKiKP 01 02 08.7 +1.8**
CBBR Cluj-Babes-Bol 150.72 335⇑ P **PKPbc 01 02 04.7 -1.5**
CJR Cluj-Napoca 150.75 335⇑ P **PKiKP 01 02 08.3 +1.4**
CJR Cluj-Napoca 150.75 335⇑ PKIKP **PKiKP 01 02 08.3 +1.4**
BCLA Clavier 150.78 1 *d* PKP **PKiKP 01 02 07.4 +0.6**
BGES Gesves 150.81 1 *d* PKP **PKiKP 01 02 07.2 +0.3**
JAVC Velka Javorina 150.81 344 *e* PKP **PKiKP 01 02 08.7 +1.7**
ICOR Ion Corvin 150.82 327⇑ P **PKiKP 01 02 09.5 +2.5**
VYHS Vyhne 150.83 342 *e* PKP **PKiKP 01 02 08.0 +1.0**
VYHS Vyhne 150.83 342 *e* PKIKP **PKiKP 01 02 08.0 +1.0**
BHOU Houvegnez 150.85 0 *d* PKP **PKiKP 01 02 08.4 +1.4**
BMRD Maredsous 150.88 2 *d* PKP **PKiKP 01 02 07.5 +0.6**
TREC Trest 150.91 347 AMS AMS 02 09 30.0
comp=Z,1μm,22.1s
BHL Bhannes 150.91 302 *e*P **PKiKP 01 02 08.1 +0.4**
KRUC Moravsky 150.93 346 *e* PKP **PKiKP 01 02 07.8 +0.6**
MARR Marisel-Cluj 150.97 335⇑ P **PKiKP 01 02 08.8 +1.3**
ZVC Zvikov 151.02 349⇑ *e* PKP **PKiKP 01 02 08.4 +1.1**
ZVC AMS AMS 02 16 30.0
comp=Z,500nm,19.0s
DRGR 151.03 336⇑ P **PKiKP 01 02 08.2 +0.6**
DRGR 151.03 336⇑ PKIKP **PKiKP 01 02 08.2 +0.6**
PSZ Piszkesteto 151.04 341⇑ P **PKiKP 01 02 08.3 +0.8**
PSZ Piszkesteto 151.04 341 **PKPbc 01 02 06.9 0.0**
PSZ IAMs_20 IAMs_20 02 10 15.8
comp=Z,782nm,20.0s
PSZ Piszkesteto 151.04 341 PKIKP **PKPbc 01 02 06.9 0.0**
RCHB Rochefort 151.04 1 *d* PKP **PKiKP 01 02 07.9 +0.6**
DOU Dourbes 151.09 2 *d* PKP **PKiKP 01 02 08.5 +1.1**
VOIR 151.16 332⇓ P **PKiKP 01 02 08.7 +0.9**
VOIR 151.16 332⇓ PKIKP **PKiKP 01 02 08.7 +0.9**
SULR 151.18 329⇓ P **PKPbc 01 02 07.4 +0.1**
GRA1 Grafenberg Arr 151.21 353 **PKiKP 01 02 07.5 -0.2**
GRF Grafenberg Arr 151.21 353 PKIKP **PKiKP 01 02 07.5 -0.2**
MODS Modra-Piesok 151.36 344 *e* PKP **PKiKP 01 02 09.5 +1.5**
MODS Modra-Piesok 151.36 344 *e* PKIKP **PKiKP 01 02 09.6 +1.5**
MMAI Mount Meron Ar 151.38 301 PKPbc **PKiKP 01 02 09.1 +0.4**
comp=Z,33nm,0.9s,baz=62,slow=3.4,SNR=46
ARR Arges 151.40 332⇑ P **PKiKP 01 02 10.1 +1.7**
KHC Kasperske Hory 151.43 350 *e* PKPDF **PKPdf 01 02 02.4 +0.7**
KHC ⇑ *e* PKP **PKiKP 01 02 09.0 +0.8**
KHC *e* PKPAB **PKPab 01 02 16.6 +0.6**
KHC AMS AMS 02 22 30.0
comp=Z,800nm,18.1s
KHC Kasperske Hory 151.43 350 *e* PKIKP **PKPdf 01 02 02.4 +0.7**
KHC *e* 01 02 09.0
KHC *e* 01 02 16.6
KHC MLR MLR
comp=Z,800nm,18.1s
BSZH Besenyszg 151.46 339⇑ P **PKiKP 01 02 10.5 +2.2**
WLF Walferdange 151.54 360 *d* PKP **PKiKP 01 02 10.1 +1.7**
ZST Bratislava 151.57 344 *e* PKP **PKiKP 01 02 10.3 +1.8**
ZST Bratislava 151.57 344 *e* PKIKP **PKiKP 01 02 10.3 +1.8**
CKRC Cesky Krumlov 151.60 348 *e* PKPDF **PKPdf 01 02 03.6 +1.7**
CKRC ⇑ *e* PKP **PKiKP 01 02 09.1 +0.5**
CKRC AMS AMS 02 23 40.0
comp=Z,800nm,17.5s
CKRC Cesky Krumlov 151.60 348 *e* PKIKP **PKPdf 01 02 03.6 +1.7**
CKRC *e* 01 02 09.1
CKRC MLR MLR
comp=Z,800nm,17.5s
SRO Srobarova 151.60 342 *e* PKP **PKiKP 01 02 10.4 +1.9**
SRO Srobarova 151.60 342 *e* PKIKP **PKiKP 01 02 10.4 +1.9**
GERES GERESS Array B 151.68 349 PKPbc **PKiKP 01 02 09.7 +0.8**
comp=Z,13nm,0.9s,baz=25,slow=2.6,SNR=38
GERES PKPab **PKPab 01 02 17.3 +0.2**
comp=Z,5.6nm,0.8s,baz=31,slow=5.9,SNR=10
LOT Lotru 151.70 333⇑ P **PKiKP 01 02 09.0 0.0**
DEV Deva 151.71 335⇑ P **PKiKP 01 02 09.6 +0.8**
DEV Deva 151.71 335⇑ PKIKP **PKiKP 01 02 09.6 +0.8**
HUMR Humele 151.89 330⇑ P **PKiKP 01 02 09.5 +0.2**
CONA Conrad Observa 152.12 346 *i* PKiKP **PKiKP 01 02 10.6 +0.9**
comp=Z,23nm,1.0s,SNR=11
AMBH Ambrzfalva 152.13 338⇑ P **PKiKP 01 02 12.3 +2.6**
GZR Gura Zlata 152.16 334⇑ P **PKiKP 01 02 10.4 +0.5**
GZR Gura Zlata 152.16 334⇑ PKIKP **PKiKP 01 02 10.4 +0.5**
RONA Rosalia, Austr 152.23 345 *i* PKiKP **PKiKP 01 02 10.9 +0.9**
comp=Z,16nm,1.0s,SNR=14
STU Stuttgart 152.31 355 IAMs_20 IAMs_20 02 11 24.3
comp=Z,733nm,21.0s
CSS Mathiatis 152.34 306 **PKPbc 01 02 10.1 -0.1**
CSS IAMs_20 IAMs_20 02 14 46.6
comp=Z,519nm,20.0s
BZS Buzias 152.43 336⇑ P **PKiKP 01 02 11.2 +0.9**
BZS Buzias 152.43 336⇑ PKIKP **PKiKP 01 02 11.2 +0.9**
MOA Molln 152.53 348 *i* PKiKP **PKiKP 01 02 11.1 +0.6**
comp=Z,8.1nm,1.1s
VLAD Vladila 152.56 330⇓ P **PKiKP 01 02 12.8 +2.2**
ELND Elena 152.65 327⇑ P **PKiKP 01 02 12.4 +1.5**
HERR Herculane 152.73 334⇑ P **PKiKP 01 02 11.7 +0.7**
BIOA Bad Ischl, Aus 152.81 349 *i* PKiKP **PKiKP 01 02 11.5 +0.4**
comp=Z,10nm,1.2s,SNR=5.8
BANR Banloc 152.81 336⇑ P **PKiKP 01 02 13.4 +2.3**
BFO Black Forest 152.81 357 **PKPbc 01 02 11.0 +0.1**
BFO Black Forest 152.81 357 PKIKP **PKPbc 01 02 11.0 +0.1**
ARSA Arzberg 152.84 346 *i* PKiKP **PKiKP 01 02 11.7 +0.6**
comp=Z,5.8nm,1.1s
MORH Mrgy, Hungar 152.94 340⇓ P **PKiKP 01 02 11.7 +0.3**
ECH Echery 152.97 358 PKPbc **PKPbc 01 02 09.9 -1.4**
ECH Echery 152.97 358 PKIKP **PKPbc 01 02 09.9 -1.4**
ISP Isparta 153.07 313 **PKPbc 01 02 11.0 -0.9**
ISP Isparta 153.07 313 PKIKP **PKPbc 01 02 11.0 -0.9**
MDVR Moldovita 153.09 335⇑ P **PKiKP 01 02 13.4 +1.6**
LESA Schwarzleotal 153.23 350 *e* PKiKP **PKiKP 01 02 12.8 +0.7**
comp=Z,8.4nm,1.3s
RETA Reutte 153.44 353 *e* PKiKP **PKiKP 01 02 12.9 +0.4**
comp=Z,8.3nm,1.1s
KBA Koelnbreinsper 153.45 349 *i* PKiKP **PKiKP 01 02 12.9 +0.3**
comp=Z,14nm,1.0s
WATA Walderalm 153.48 352 *i* PKiKP **PKiKP 01 02 13.2 +0.6**
comp=Z,16nm,1.1s,SNR=6.4
FRGS Fruska Gora 153.49 338⇑ P **PKiKP 01 02 13.6 +1.0**
SOKA Soboth 153.49 346 *e* PKP **PKiKP 01 02 12.7 +0.1**
comp=Z,9.6nm,1.2s
MOTA Moosalm 153.54 352 *i* PKiKP **PKiKP 01 02 13.5 +0.7**
comp=Z,18nm,1.1s,SNR=9.6
WTTA Wattenberg 153.54 351 *i* PKiKP **PKiKP 01 02 13.6 +0.7**
comp=Z,19nm,1.0s,SNR=7.5
BLKB Belogradchik 153.63 332⇑ P **PKiKP 01 02 13.5 +0.5**
SQTA Sankt Quirin 153.65 352 *i* PKiKP **PKiKP 01 02 13.7 +0.7**
comp=Z,12nm,1.3s,SNR=6.6
DAVA Damuels 153.73 354 *e* PKiKP **PKiKP 01 02 14.0 +0.8**
comp=Z,13nm,1.2s,SNR=7.5
OBKA Obir 153.75 347 *e*PKP **PKPbc 01 02 12.9 -0.2**
comp=Z,9.4nm,1.5s
FETA Feichten 153.90 353 *i* PKiKP **PKiKP 01 02 14.5 +1.0**
comp=Z,11nm,1.2s,SNR=6.3
ABTA Abfaltersbach 153.91 350 *e* PKP **PKiKP 01 02 13.9 +0.3**
comp=Z,19nm,1.0s,SNR=6.7
BOVS Bovan 154.04 333⇓ P **PKiKP 01 02 14.8 +1.1**
ELL Elmali 154.04 312 PKPdf **PKPdf 01 02 06.5 +0.5**
ELL Elmali 154.04 312 PKIKP **PKPdf 01 02 06.5

TUE	Stuetta	154.59	355			PKiKP	01 02 15.4	+0.3	
CTI	Castel Tesino	154.73	351			PKPbc	01 02 13.3	-1.9	
CTI	Castel Tesino	154.73	351		PKIKP	PKPbc	01 02 13.3	-1.9	
SENIN	Lac Senin/Sane	154.82	358			PKiKP	01 02 15.9	+0.3	
SSB	Saint Sauveur	155.90	3	IAMs_20	IAMs_20		02 15 52.5		
	comp=Z,649nm,19.0s								
PGAV	Gavieira, Arco	156.00	27	*e*LR	LR		02 04 07.9		
	comp=Z,876nm,18.0s								
PDG	Podgorica	156.03	335	IAMs_20	IAMs_20		02 20 23.9		
	comp=Z,674nm,19.0s								
PUK	Puka	156.10	334	IAMs_20	IAMs_20		02 19 58.5		
	comp=Z,567nm,20.0s								
PMOZ	Porto Moniz, M	156.33	56	*e*LR	LR		01 56 36.0		
	comp=Z,390nm,20.0s								
KARP	Karpathos	156.57	312	IAMs_20	IAMs_20		02 20 23.2		
	comp=Z,487nm,22.0s								
PBRG	Braganca	156.76	25	*e*PKPab	PKPab		01 02 40.7	+1.9	
PBRG				*i* LQ	LQ		01 02 46.5		
MVO	Moncorvo	157.18	26	*e*PKPab	PKPab		01 02 43.1	+2.4	
MVO				*i* LQ	LQ		01 02 48.8		
MVO	Moncorvo	157.18	26	*e*LR	LR		02 00 59.2		
	comp=Z,824nm,20.0s								
PVIS	Viseu	157.19	28	*e*PKPab	PKPab		01 02 39.8	-0.9	
PVIS				*i* LQ	LQ		01 02 49.4		
GUMA	Gualdo di Mace	157.30	346	IAMs_20	IAMs_20		02 23 31.7		
	comp=Z,525nm,20.0s								
FDMO	Fiordimonte	157.38	346	IAMs_20	IAMs_20		02 26 44.8		
	comp=Z,654nm,18.0s								
NRCA	Norcia	157.57	346	IAMs_20	IAMs_20		02 13 25.8		
	comp=Z,613nm,21.0s								
MTE	Manteigas	157.60	28	*e*LR	LR		02 03 03.1		
	comp=Z,773nm,18.0s								
CESX	Cesi	157.90	347	IAMs_20	IAMs_20		02 18 01.4		
	comp=Z,716nm,20.0s								
INTR	Introdacqua	158.16	344	IAMs_20	IAMs_20		02 16 28.6		
	comp=Z,686nm,19.0s								
PMRV	Marv??o	158.46	29	*e*PKPab	PKPab		01 02 48.9	+2.7	
PMRV				*i* LQ	LQ		01 02 52.9		
PMRV	Marv??o	158.46	29	*e*LR	LR		02 03 36.1		
ITM	Ithomi	158.87	323	IAMs_20	IAMs_20		02 21 06.7		
	comp=Z,584nm,20.0s								
MESJ	Messejana	159.30	33	*e*PKPdf	PKPdf		01 02 12.4	-0.2	
MESJ				IAMs_20	IAMs_20		02 12 08.6		
	comp=Z,904nm,18.1s								
ESDC	Sonseca Array	159.65	23	PKP	PKPdf		01 02 14.4	+1.4	
	comp=Z,0.6nm,1.0s,baz=336,slow=3.2,SNR=4.9								
ESDC				PKPab	PKPab		01 02 51.9	+0.5	
	comp=Z,1.3nm,0.8s,baz=321,slow=3.9,SNR=13								
PVAQ	Vaqueiros	159.89	33	*e*LR	LR		02 00 55.0		
DBIC	Dimbokro	162.18	142	PKP	PKPdf		01 02 14.8	-1.6	
	comp=Z,5.9nm,1.0s,baz=207,slow=2.3,SNR=3.0								
DBIC				PKPab	PKPab		01 03 05.0	+2.0	
	comp=Z,5.4nm,0.9s,baz=237,slow=2.9,SNR=4.3								
TORD	Torodi Ar. Bea	171.04	152	PKP	PKPdf		01 02 23.6	+0.4	
	comp=Z,2.7nm,1.1s,baz=253,slow=1.5,SNR=7.2								
TORD				PKPab	pPKPab		01 03 44.2	-1.9	
	comp=Z,2.5nm,0.9s,baz=198,slow=3.6,SNR=5.5								

IDC 20 01:12:35.1±4.4, 2°58S×101°32E, h0km, **mb3.7**/4, **mbtmp3.7**/4, **Error ellipse: s-maj=201.6km s-min=27.7km az=57.0, Southern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	37.85	126	P	P	01 19 53.9	-0.1
	0.4nm,0.4s,baz=302,slow=8.2,SNR=8.0 0.4nm,0.4s						
SONM	Songino Array	50.40	4	P	P	01 21 34.4	0.0
	0.5nm,0.3s,baz=177,slow=7.2,SNR=2.7 0.5nm,0.3s						
MKAR	Makanchi Array	51.95	343	P	P	01 21 46.4	+0.5
	0.4nm,0.6s,baz=148,slow=8.5,SNR=3.7 0.4nm,0.6s						
ZALV	Zalesovo Beam	57.99	349	P	P	01 22 28.6	-0.8
	0.5nm,0.3s,baz=166,slow=5.8,SNR=3.2 0.5nm,0.3s						
H04S1	CROZET ISLANDS	61.39	216	T	T	02 30 15.8	
	baz=61,slow=73,SNR=7.6						
H04S3	CROZET ISLANDS	61.41	216	T	T	02 30 16.0	
	baz=61,slow=73,SNR=5.5						
H04S2	CROZET ISLANDS	61.41	216	T	T	02 30 11.0	
	baz=61,slow=73,SNR=5.7						

*AZER **20** 01:14:21.7, 41°.70N×46°.45E, h7km, ml2.3*
*MOS **20** 01:14:23.4, 41°.70N×46°.61E, h17km, MPVA3.3*
*NORS **20** 01:14:24.3, 41°.75N×46°.52E, h9km, MPVA3.4*
*DRS **20** 01:14:24.0, 41°.58N×46°.51E, h16km*
ISC 20 01:14:24.3±0.9, 41°.70N±0°.02×46°.55E±0°.02, h9km±6km, n40, σ1§07/80, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKTA	Zakatala	0.09	140	P	Pg	01 14 26.8	+0.2
ZKTA				S	Sg	01 14 28.9	+0.6
KMKR	Kumukh	0.59	44	*i* Pg	Pb	01 14 36.1	-0.9
KMKR				*e*Sg	Sb	01 14 45.2	-0.3
SEKA	Sheki	0.69	135	P	Pg	01 14 37.2	-0.5
SEKA				S	Sb	01 14 49.0	+0.7
GNBR	Gunib	0.75	24	*e*Pg	Pb	01 14 39.3	-0.3
GNBR				*e*Sg	Sb	01 14 50.8	+0.9
XNZR	Khunzakh	0.84	8	*i* Pg	Pb	01 14 41.5	+0.2
XNZR				*e*Sg	Sn	01 14 54.3	-0.9
URKR	Urkarakh	0.93	60	*e*Pg	Pb	01 14 42.0	-0.7
URKR				*e*Sg	Sn	01 14 55.8	-1.4
ARKR	Arakani	0.96	20	*i* Pg	Pb	01 14 43.0	-0.1
ARKR				*e*Sg	Sn	01 14 57.2	-0.5
BTLR	Botlikh	0.99	346	*e*Pg	Pn	01 14 44.0	-0.4
BTLR				*e*Sg	Sn	01 14 58.6	+0.1
MNGR	Mingechevir, A	1.01	156	P	Pb	01 14 44.0	0.0
MNGR				S	Sn	01 14 59.7	+0.7
UNCR	Uncukul	1.02	10	*e*Pg	Pn	01 14 44.4	-0.5
UNCR				*e*Sg	Sn	01 14 59.7	+0.3
GANJ	Ganja	1.07	189	P	Pg	01 14 43.5	-1.3
GANJ				S	Sg	01 14 58.5	-0.3
QZX	Qazax, Azerbai	1.10	234	P	Pg	01 14 44.4	-0.9
QZX				S	Sb	01 15 00.7	+0.9
SGKR	Sergokala	1.12	47	*e*Pg	Pn	01 14 45.6	-0.6
SGKR				*e*Sg	Sn	01 15 01.8	+0.1
GDB	GEDABAY	1.15	212	P	Pg	01 14 44.6	-1.8
GDB				S	Sg	01 15 00.5	-0.8
KRNR	Karanay	1.15	13	*e*Pg	Pn	01 14 46.4	-0.3
KRNR				*e*Sg	Sn	01 15 02.9	+0.2
BUJR	Buynaksk	1.20	20	*i* Pg	Pn	01 14 47.4	+0.2
BUJR				*e*Sg	Sn	01 15 04.5	+1.0
QBL	Gabala	1.23	128	P	Pb	01 14 47.1	-0.6
QBL				S	Sn	01 15 05.2	+0.8
DVE	Vedeno	1.29	346	*e*Pg	Pn	01 14 49.7	+1.1
DVE				*e*Sg	Sn	01 15 07.7	+1.7
QSAR	Qusar	1.30	98	Pn	Pn	01 14 48.8	+0.2
QSAR				Sn	Sn	01 15 08.7	+2.5
XNQ	Khinaliq	1.31	113	Pn	Pg	01 14 48.3	-1.2
XNQ				Sn	Sn	01 15 09.8	+3.2
DBC	Dubki	1.33	9	*e*Pg	Pb	01 14 49.6	+0.1
DBC				*e*Sg	Sn	01 15 08.8	+1.8
DLMR	Dylym	1.37	2	*e*Pg	Pb	01 14 50.1	+0.1
DLMR				*e*Sg	Sn	01 15 10.0	+2.2
DRN	Derbent	1.37	76	*e*Pg	Pb	01 14 49.2	-0.8
DRN				*e*Sg	Sn	01 15 08.2	+0.4
QUBA	Quba, Azerbaij	1.50	103	Pn	Pg	01 14 52.4	-0.6
QUBA				Sn	Sn	01 15 14.2	+3.1
BRDA	Brd	1.52	161	Pn	Pb	01 14 52.1	-0.4
BRDA				Sn	Sg	01 15 13.4	+0.4
IML	Ismayilli	1.53	126	Pn	Pg	01 14 52.5	-1.2
IML				Sn	Sg	01 15 14.9	+1.4
AGDM	Agdam	1.65	165	Pn	Pn	01 14 53.3	-0.2
AGDM				Sn	Sg	01 15 17.1	-0.2
ZRD	Zardab	1.66	149	Pn	Pb	01 14 54.3	-0.7
ZRD				Sn	Sg	01 15 17.4	-0.3
GUDG	Gudauri	1.72	297	*e*Pg	Pb	01 14 56.2	+0.1
GUDG				*e*Sg	Sg	01 15 19.6	0.0
PQL	Pirkuli	1.79	120	Pn	Pb	01 14 56.9	-0.4
PQL				Sn	Sg	01 15 23.6	+1.7
SIZA	Siyzn	1.88	109	Pn	Pn	01 14 57.0	+0.4
SIZA				Sn	Sg	01 15 24.4	-0.2
ATGJ	Altiaghaj	1.99	114	Pn	Pn	01 14 57.9	-0.3
ATGJ				Sn	Sg	01 15 26.2	-1.9
LACR	Lac	2.01	305	*e*Pg	Pb	01 15 00.8	-0.3
LACR				*e*Sg	Sg	01 15 29.5	+0.5
BLQ	Beylaqan	2.12	158	Pn	Pn	01 15 00.6	+0.6
BLQ				Sn	Sn	01 15 27.8	+1.3
QRD	Qoradiz	2.32	165	Pn	Pn	01 15 01.5	-1.1
QRD				Sn	Sb	01 15 33.8	-1.1
SBZ	Shahbuz	2.43	199	Pn	Pn	01 15 05.0	+0.8
SBZ				Sn	Sb	01 15 39.5	+1.3
NAX	Nakhchivan	2.65	198	Pn	Pb	01 15 11.5	-0.5
NAX				Sn	Sn	01 15 40.1	+0.6
ORD	Ordubad	2.81	189	Pn	Pn	01 15 08.2	-1.2
ORD				Sn	Sn	01 15 46.2	+2.8
YRD	Yardimli	3.07	155	Pn	Pn	01 15 12.7	-0.4
YRD				Sn	Sn	01 15 50.7	+0.6
LRK	Lerik	3.35	155	Pn	Pn	01 15 16.9	-0.1
LRK				Sn	Sn	01 15 57.3	+0.3

*IDC **20** 01:14:33.3±0.4, 21°.07S×174°.38W, h0km, mb4.6/18, mbtmp4.6/19, ML5.2/2, MS4.2/20, Error ellipse: s-maj=18.3km s-min=14.3km az=109.0*
*MOS **20** 01:14:33.9±1.9, 21°.04S×174°.00W, h10km, mb5.1/26, Error ellipse: s-maj=11.2km s-min=8.2km az=68.8*
*NEIC **20** 01:14:35.1±2.0, 20°.98S±0°.09×173°.88W±0°.08, h10km±1km, mb5.0/165, Error ellipse: s-maj=15.5km s-min=11.9km az=175.0*
*NOU **20** 01:14:43.8, 18°.76S×173°.19W, h240km, mb4.6/7, Tonga Islands*
ISC 20 01:14:35.2±0.5, 21°.14S±0°.06×173°.83W±0°.05, h14km±2km, h14km:pP-P, n511, σ1§68/487, mb5.0/127, **MS4.3**/21, **35C-48D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.20	61	P	Pn	01 15 36.6	-2.3
	baz=3.9,SNR=46						
NIUE	Niue	4.20	61	P	Pn	01 15 37.1	-1.8
NIUE	Niue	4.20	61		Pn	01 15 36.5	-2.3
AFI	Afiamalu	7.45	16	Pn	Pn	01 16 19.9	-3.8
AFI	Afiamalu	7.45	16	P	Pn	01 16 19.9	-3.8
MSVF	Nonsavu	8.38	292	Pn	Pn	01 16 37.3	+0.9
MSVF	Nonsavu	8.38	292	*c* iP	Pn	01 16 37.8	+1.4
RAO	Raoul Island	8.88	204	Pn	Pn	01 16 41.6	-1.6
	96nm,0.3s,baz=66,slow=19,SNR=2.7						
RAO				Sn	Sn	01 18 15.1	-8.0
	98nm,0.3s,baz=18,slow=20,SNR=9.9						
RAO				LR	LR	01 19 20.7	
	comp=Z,350nm,20.2s,baz=88,slow=33						
YSA	Yasawairara	9.26	297	P	Pn	01 16 50.0	+1.6
	100nm,1.0s						
RAR	Rarotonga	13.11	93	P	Pn	01 17 38.1	-3.0
	54nm,1.5s						
RAR	Rarotonga	13.11	93	Pn	Pn	01 17 37.0	-4.1
RAR	Rarotonga	13.11	93	Pn	Pn	01 17 37.6	-3.5
	5.4nm,0.3s,baz=275,slow=11,SNR=4.5						
RAR				Sn	Sn	01 20 02.7	-4.1
	1.7nm,0.3s,baz=353,slow=17,SNR=1.6						
RAR	Rarotonga	13.11	93	P	Pn	01 17 37.0	-4.1
PINNC	Pines Island,	17.45	262		Pn	01 18 38.2	-0.1
LIFNC	LIFOU	17.69	268	P	P	01 18 43.3	+1.1
	116nm,1.2s						
OUZ	Omahuta	17.86	216	P	P	01 18 59.8	+16
YATNC	Mamie plateau,	17.96	264	P	P	01 18 48.2	+3.1
	30nm,1.2s						
DZM	Mont Dzumac	18.37	263	*e*P	Pn	01 18 48.5	-1.3
	121nm,1.4s						
DZM				*e*LR	LR	01 23 41.9	
	2µm,21.8s						
DZM	Mont Dzumac	18.37	263		Pn	01 18 47.5	-2.3
DZM	Mont Dzumac	18.37	263	P	Pn	01 18 47.7	-2.1
	23nm,0.8s,baz=86,slow=18,SNR=9.8						
DZM				LR	LR	01 24 36.1	
	comp=Z,2µm,19.5s,baz=94,slow=34						
URZ	Urewera	18.77	203	P	P	01 18 53.4	-0.5
	2.0nm,0.3s,baz=56,slow=3.6,SNR=13						
URZ				S	Sn	01 22 06.9	-17
	17nm,0.8s,baz=356,slow=19,SNR=7.0 18nm,0.6s						
TOZ	Tahuroa Road	18.94	207	P	P	01 18 56.2	+0.4
BKZ	Black Stump Fm	19.80	203	P	Pn	01 19 08.4	+1.6
HIZ	Hauiti	19.87	207	P	P	01 19 05.9	-0.2
TBI	Tubuai	22.65	100	*e*S	S	01 23 35.3	-8.6
	3µm,27.8s						
TBI				*e*LR	LR	01 25 04.6	
	5µm,26.5s						
TBI				*e*LR	LR	01 25 08.8	
	2µm,27.0s						
QRZ	Quartz Range	22.79	208	P	P	01 19 37.8	+0.3
QRZ				IAmb	IAmb	01 19 44.1	
	comp=Z,61nm,1.0s						
PPT2	Papeete2	23.14	85	*e*S	S	01 23 48.6	-4.1
	comp=Z,654nm,26.8s						
PPT2				*e*LR	LR	01 25 14.8	
	comp=Z,1µm,25.0s						
PPT2				*e*LR	LR	01 25 22.0	
	comp=Z,738nm,24.2s						
PPT	Papeete	23.15	85	P	P	01 19 44.0	+2.7
	comp=Z,20nm,0.7s,baz=253,slow=19,SNR=1.7						
PPT				LR	LR	01 26 13.0	
	comp=Z,431nm,21.9s,baz=284,slow=30						
PPTF	Pamatai, Papee	23.15	85		P	01 19 42.3	+0.8
MRNZ	Matariki Terra	23.17	206	P	P	01 19 43.1	+1.7
THZ	Tophouse	23.41	206	P	P	01 19 41.6	-2.2
THZ				IAmb	IAmb	01 19 55.5	
	comp=Z,20nm,0.7s						
INZ	Inchbonnie	24.82	207	P	P	01 19 56.4	-0.5
OXZ	Oxford	25.08	205	P	P	01 20 00.3	+1.0
MQZ	McQueen's Vall	25.16	204	P	P	01 20 00.7	+0.7
RPZ	Rata Peaks	25.79	206	P	P	01 20 07.7	+1.9
	comp=Z,22nm,0.6s,baz=31,slow=3.0,SNR=9.1						
FOZ	Fox Glacier	26.16	208	P	P	01 20 10.8	+1.7
ODZ	Otahua Downs	27.06	205	P	P	01 20 18.7	+1.5
HNR	Honiara	27.80	291	LR	LR	01 29 42.0	
	comp=Z,9µm,19.7s,baz=134,slow=33						
MLZ	Mavora Lakes	28.36	207	P	P	01 20 32.5	+3.6
ARMA	Armidale	32.34	246	P	P	01 21 02.6	-1.8
	baz=33						
EIDS	Eidsvold	32.46	256	P	P	01 21 00.4	-4.9
EIDS				IAmb	IAmb	01 21 19.9	
	comp=Z,30nm,1.6s						
CTAO	Charters Tower	37.31	264	P	P	01 21 43.7	-3.6
CTAO				IAmb	IAmb	01 21 53.6	
	comp=Z,55nm,1.6s						
CTAO	Charters Tower	37.31	264	P	P	01 21 43.7	-3.6
CTAO				pmax	pmax		
	comp=Z,55nm,1.6s						
TOO	Toolangi	38.72	236	P	P	01 21 57.4	-1.7
TOO				IAmb	IAmb	01 22 55.0	
	comp=Z,48nm,1.6s						
TOO	Toolangi	38.72	236	P	P	01 21 57.4	-1.7
TOO				pmax	pmax		
	comp=Z,48nm,1.6s						
TAU	Tasmania Unive	38.98	227	P	P	01 22 00.2	-0.9
TAU	Tasmania Unive	38.98	227	P	P	01 22 00.2	-0.9
TAU				pmax	pmax		
	comp=Z,144nm,1.6s						
MCQ	Macquarie Isla	39.15	205	P	P	01 22 03.5	+1.3
MCQ	Macquarie Isla	39.15	205	P	P	01 22 03.6	+1.3
MCQ				pmax	pmax		
	comp=Z,599nm,2.0s						
PMG	Port Moresby	39.29	281	LR	LR	01 37 25.7	
	comp=Z,661nm,18.0s,baz=200,slow=35						
STKA	Stephens Creek	41.05	245	P	P	01 22 15.1	-3.3
	baz=41,SNR=4.4						
STKA	Stephens Creek	41.05	245	P	P	01 22 15.8	-2.6
STKA	Stephens Creek	41.05	245	P	P	01 22 14.0	-4.5
	comp=Z,2.5nm,0.6s,baz=86,slow=14,SNR=6.1						
STKA				LR	LR	01 37 21.0	
	comp=Z,792nm,18.3s,baz=20,slow=34						
	comp=Z,2.5nm,0.6s						
STKA	Stephens Creek	41.05	245	P	P	01 22 15.8	-2.6
STKA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
COEN	Coen	41.52	273	P	P	01 22 18.7	-3.7
	baz=42,SNR=4.0						
COEN	Coen	41.52	273	P	P	01 22 19.8	-2.6
COEN				IAmb	IAmb	01 23 15.8	
	comp=Z,46nm,1.6s						
QIS	Mount Isa	43.40	262	P	P	01 22 33.6	-4.2
	baz=44,SNR=3.2						
HTT	Hallett	43.41	243	P	P	01 22 35.6	-2.1
	baz=44,SNR=3.8						
BBOO	Buckleboo	45.78	244	P	P	01 22 51.0	-5.6
	baz=46,SNR=6.7						
ASAR	Alice Springs	48.17	257	P	P	01 23 09.1	-6.3
ASAR	Alice Springs	48.17	257	P	P	01 23 10.0	-5.5
	comp=Z,9.3nm,0.8s,baz=99,slow=7.2,SNR=55						
ASAR				PcP	PcP	01 24 43.4	+0.5
	comp=Z,2.5nm,0.8s,baz=103,slow=4.1,SNR=4.8						
	comp=Z,9.3nm,0.8s						
WB0	Warramunga Arr	48.36	262	P	P	01 23 11.0	-5.9
WB0				IAmb	IAmb	01 23 15.4	
	comp=Z,12nm,0.8s						
WB2	Warramunga Arr	48.37	262	P	P	01 23 13.0	-4.0
	baz=48						
WRA	Warramunga Arr	48.38	262	P	P	01 23 11.5	-5.5
WRA	Warramunga Arr	48.38	262	P	P	01 23 11.6	-5.5
	comp=Z,5.2nm,0.7s,baz=102,slow=8.3,SNR=22						
WRA				PcP	PcP	01 24 43.4	-0.2
	comp=Z,2.1nm,0.9s,baz=98,slow=3.5,SNR=2.3 comp=Z,5.2nm,0.7s						
WRA	Warramunga Arr	48.38	262	P	P	01 23 11.5	-5.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FORT	Forrest	52.63	247	P	P	01 23 46.7	-2.3
	baz=53,SNR=14						
FORT	Forrest	52.63	247	P	P	01 23 45.9	-3.2
WRKA	Warakurna	53.05	254	P	P	01 23 47.5	-4.8
	baz=53,SNR=15						
GUMO	Guam	53.26	307	LR	LR	01 42 59.9	
	comp=Z,222nm,21.4s,baz=115,slow=32						
FITZ	Fitzroy Crossi	56.81	262	P	P	01 24 15.8	-3.8
	baz=57,SNR=5.0						
SBA	Scott Base	57.53	185	P	P	01 24 26.4	+2.7
SBA				IAmb	IAmb	01 24 27.7	
	comp=Z,14nm,0.8s						
SBA	Scott Base	57.53	185	P	P	01 24 26.4	+2.7
SBA				pmax	pmax		
	comp=Z,14nm,0.9s						
VNDA	Vanda	57.66	186	P	P	01 24 26.7	+2.1
VNDA	Vanda	57.66	186	P	P	01 24 26.9	+2.2
	comp=Z,5.8nm,0.9s,baz=25,slow=2.3,SNR=32 comp=Z,5.8nm,0.9s						
VNDA	Vanda	57.66	186	P	P	01 24 26.7	+2.1
VNDA				pmax	pmax		
	comp=Z,6.0nm,0.9s						
RPN	Rapa Nui	58.61	110	LR	LR	01 43 01.9	
	comp=Z,253nm,21.1s,baz=295,slow=29						
SOEI	Soe	60.42	271	P	P	01 24 42.2	-2.7
BATI	Baumata	60.84	270	LR	LR	01 48 33.1	
	comp=Z,272nm,20.8s,baz=137,slow=34						
KLBR	Kellerberrin	61.32	245	P	P	01 24 47.9	-2.8
	baz=62,SNR=7.9						
JCJ	Chichijima	64.13	317	LR	LR	01 51 21.3	
	comp=Z,142nm,18.1s,baz=126,slow=35						
KAPI	Kappang	66.23	274	LR	LR	01 53 26.0	
	comp=Z,151nm,19.0s,baz=74,slow=36						
QSPA	South Pole Qui	68.93	180	P	P	01 25 40.9	+1.2
QSPA	South Pole Qui	68.93	180	P	P	01 25 41.0	+1.2
	comp=Z,9.4nm,0.9s,baz=49,slow=2.7,SNR=19 comp=Z,9.4nm,0.9s						
MJAR	Matsushiro Arr	73.09	321	P	P	01 26 02.4	-2.7
	comp=Z,8.9nm,0.9s,baz=154,slow=5.4,SNR=14 comp=Z,8.9nm,0.9s						
MAJO	Matsushiro	73.09	321	P	P	01 26 04.5	-0.6
MAJO				IAmb	IAmb	01 26 19.4	
	comp=Z,26nm,1.3s						
MAJO	Matsushiro	73.09	321	⇑*e*P	P	01 26 04.7	-0.5
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MJB9	Matsu-Tunnel	73.10	321	P	P	01 26 04.8	-0.4
MJB9				IAmb	IAmb	01 26 20.4	
	comp=Z,22nm,1.2s						
JOW	Kunigami	73.60	308	LR	LR	01 52 59.7	
	comp=Z,113nm,21.8s,baz=118,slow=32						
EDW2	Edwards Air Fo	76.88	44	P	P	01 26 29.4	+2.3
	baz=232						
PFO	Pinyon Flats O	77.14	46	P	P	01 26 31.0	+2.3
	baz=234						
PFO	Pinyon Flats O	77.14	46	⇓*e*P	P	01 26 30.3	+1.6
PFO				pmax	pmax		
	comp=Z,13nm,1.1s						
TPFO	Pinon Flats	77.14	46	P	P	01 26 30.9	+2.2
	baz=234						
LRMC	Laurel Mtn Rad	77.45	44	P	P	01 26 32.9	+2.4
	baz=233						
AFDM	Forest Hills D	77.58	40	P	P	01 26 30.8	-0.2
BELC	Belle Mtn. Jos	77.68	46	P	P	01 26 34.4	+2.7
	baz=234						
CWC	Cottonwood Cre	77.78	43	P	P	01 26 34.5	+2.2
	baz=232						
BC3	Big Chuckawall	77.85	47	P	P	01 26 35.6	+3.0
	baz=234						
MDPB	Devils Postpil	77.89	42	P	P	01 26 33.0	+0.1
MDPB				IAmb	IAmb	01 26 36.0	
	comp=Z,9.6nm,0.9s						
GSC	Goldstone, Bar	77.91	45	P	P	01 26 35.0	+2.0
	baz=233						
MPMC	Manual Prospec	77.93	44	P	P	01 26 35.5	+2.4
	baz=233						
HEC	Hector,Ludlow	77.94	45	P	P	01 26 35.2	+2.0
	baz=234						
PEA0B	Petropavlovsk-	77.96	343	⇓*e*P	P	01 26 34.5	+1.9
PETK	Petropavlovsk-	77.96	343	P	P	01 26 31.5	-1.2
PETK	Petropavlovsk-	77.96	343	P	P	01 26 33.1	+0.4
	comp=Z,12nm,0.8s,baz=126,slow=7.3,SNR=10 comp=Z,5.2nm,0.8s						
PETK	Petropavlovsk-	77.96	343	P	P	01 26 31.5	-1.2
MLAC	Mammoth, Mammo	78.04	42	P	P	01 26 36.7	+2.9
	baz=231						
WAKR	Walker	78.22	41	P	P	01 26 34.5	-0.3
WAKR				IAmb	IAmb	01 26 37.9	
	comp=Z,13nm,1.0s						
YSS	Yuzh-Sakhalins	78.27	331	*c*⇓*e*P	P	01 26 34.5	0.0
YSS				pmax	pmax		
	comp=Z,21nm,1.0s						
IRM	Iron Mountain	78.35	46	P	P	01 26 38.3	+3.0
	baz=235						
GMRC	Granite Mounta	78.37	46	P	P	01 26 37.7	+2.2
	baz=234						
BELA	Belgrano 2	78.40	172	P	P	01 26 35.2	+0.2
BELA				IAmb	IAmb	01 26 36.3	
	comp=Z,10.0nm,0.9s						
YBH	Yreka Blue Hor	78.41	36	LR	LR	01 54 58.2	
	comp=

comp=Z,7.0nm,1.0s
V12A Nelson 79.45 45 P **P** **01 26 40.6 -0.8**
Y14A Wickenburg 79.68 48 P **P** **01 26 43.0 +0.3**
SHPR Sheep Range 79.70 44 P **P** **01 26 42.0 -0.9**
W13A Hualapai Mount 79.74 46 P **P** **01 26 42.3 -0.8**
KSRS Korea Array 79.99 317 P **P** **01 26 43.1 -1.1**
comp=Z,5.1nm,1.0s,baz=133,slow=5.2,SNR=8.0
comp=Z,5.1nm,1.0s
S11A Rachel 79.99 43 P **P** **01 26 44.1 -0.3**
S11A IAmb IAmb 01 27 42.4
comp=Z,14nm,1.2s
KSAR Wonju Array Be 80.01 317 P **P** **01 26 43.2 -1.1**
KSAR Wonju Array Be 80.01 317 P **P** **01 26 43.2 -1.1**
K05A Summer Lake 80.08 37 P **P** **01 26 43.9 -0.9**
K05A IAmb IAmb 01 26 47.8
comp=Z,25nm,1.4s
J05D Fort Rock, OR 80.26 36 P **P** **01 26 44.6 -1.1**
PRN Pahroc Range 80.30 44 P **P** **01 26 44.9 -1.1**
PRN IAmb IAmb 01 26 49.6
comp=Z,12nm,1.1s
TUC Tucson 80.35 50 P **P** **01 26 49.0 +2.6**
baz=238
R11B Troy Canyon, C 80.51 43 P **P** **01 26 47.0 -0.2**
R11B Troy Canyon, C 80.51 43 P **P** **01 26 49.0 +1.8**
baz=234
PINE Pine Mountain 80.75 36 P **P** **01 26 46.7 -1.7**
BMN Battle Mountai 80.76 40 P **P** **01 26 46.6 -1.8**
BMN Battle Mountai 80.76 40 P **P** **01 26 46.7 -1.8**
BMN pmax pmax
comp=Z,8.0nm,1.1s
X16A Lo Mia Camp, P 81.03 48 P **P** **01 26 49.8 -0.3**
X16A **pwP** **01 26 59.7 -2.2**
WVOR Wild Horse Val 81.17 38 P **P** **01 26 48.7 -1.9**
WVOR Wild Horse Val 81.17 38 P **P** **01 26 48.7 -1.9**
WVOR pmax pmax
comp=Z,7.0nm,1.1s
TYV Tymovskoe 81.28 334 *e*P **P** **01 26 54.1 +3.4**
TYV pmax pmax
comp=Z,5.0nm,0.9s
Q12A Willow Creek R 81.40 42 P **P** **01 26 51.6 -0.3**
Q12A IAmb IAmb 01 26 54.8
comp=Z,6.1nm,0.7s
CCUT Cedar City 81.48 44 P **P** **01 26 52.0 -0.4**
KNB Kanab 81.53 45 P **P** **01 26 52.4 -0.3**
KNB Kanab 81.53 45 P **P** **01 26 52.4 -0.3**
KNB pmax pmax
comp=Z,7.0nm,1.1s
U15A North Rim 81.56 46 P **P** **01 26 52.2 -0.8**
U15A IAmb IAmb 01 26 56.6
comp=Z,8.8nm,1.0s
WUAZ Wupatki 81.67 47 P **P** **01 26 52.8 -0.6**
WUAZ Wupatki 81.67 47 P **P** **01 26 55.9 +2.5**
baz=237
SZCU Shurtz Canyon 81.68 44 P **P** **01 26 53.8 +0.2**
SPR3 Spring Creek 3 81.69 43 P **P** **01 26 52.3 -1.4**
DUN6 Lazy B Ranch 81.69 51 P **P** **01 26 53.8 +0.2**
PSUT Pine Spring 81.72 43 P **P** **01 26 53.2 -0.4**
I07A Izee 81.73 36 P **P** **01 26 53.2 -0.2**
I07A **pwP** **01 27 06.1 +0.7**
USRK Ussuriysk Ar. 81.73 324 P **P** **01 26 53.3 0.0**
comp=Z,1.4nm,0.6s,baz=122,slow=5.3,SNR=1.6
comp=Z,1.4nm,0.6s
J08A Circle Bar Ran 81.85 37 P **P** **01 26 54.0 -0.1**
J08A IAmb IAmb 01 26 56.9
comp=Z,10nm,1.3s
PKCU Pink Cliffs 82.11 45 P **P** **01 26 56.3 +0.4**
ELK Elko 82.15 41 LR LR 01 56 10.1
comp=Z,207nm,20.4s,baz=293,slow=30
M14K Bethel 82.17 6 P **P** **01 26 54.5 -0.7**
M15K Kasigluk River 82.24 6 P **P** **01 26 57.2 +1.7**
baz=192
H03S2 Juan Fernandez 82.39 123 T T 02 58 51.3
baz=248,slow=74
H03S1 Juan Fernandez 82.41 123 T T 02 59 45.4
baz=248
H03S3 Juan Fernandez 82.41 123 T T 02 58 46.5
baz=248,slow=74
D05A Enumclaw 82.46 33 pwP 01 27 10.8 +1.7
MTPU Mount Pierson 82.53 44 P **P** **01 26 58.0 -0.1**
MTPU IAmb IAmb 01 27 02.3
comp=Z,14nm,0.9s
121A Cookes Peak, D 82.63 51 P **P** **01 26 57.4 -1.1**
M16K Timber Creek 82.75 7 P **P** **01 26 57.4 -0.9**
MSU Marysvale 82.79 44 P **P** **01 27 00.2 +0.9**
MSU Marysvale 82.79 44 P **P** **01 27 00.3 +0.9**
N19K Bonanza Creek 83.15 9 P **P** **01 27 00.5 0.0**
baz=198
NJ2 Nanjing 83.32 308 *e*P **P** **01 27 03.9 +2.0**
NJ2 pP **pwP** **01 27 13.0 +0.7**
NJ2 pmax pmax
comp=Z,18nm,0.8s
MDJ Mudanjiang 83.33 323 P **P** **01 27 00.9 -0.7**
MDJ pmax pmax
comp=Z,10.0nm,1.1s
MDJ pmax pmax
comp=Z,1μm,10.2s
DUG Dugway, Tooele 83.34 42 P **P** **01 27 00.8 -1.2**
DUG Dugway, Tooele 83.34 42 P **P** **01 27 03.7 +1.7**
baz=235
DUG Dugway, Tooele 83.34 42 P **P** **01 27 00.8 -1.2**
DUG pmax pmax
comp=Z,5.0nm,1.0s
L16K Owhat River 83.36 7 P **P** **01 27 01.5 +0.1**
L16K IAmb IAmb 01 27 16.1
comp=Z,14nm,1.3s
L16K Owhat River 83.36 7 P P 01 27 06.1 +4.7
baz=194
MFID Camas Ranch 83.40 38 P **P** **01 27 02.6 +0.4**
MFID IAmb IAmb 01 27 04.8
comp=Z,14nm,1.1s
HMU Henry Mountain 83.42 45 P **P** **01 27 02.8 +0.2**
HMU IAmb IAmb 01 27 05.5
comp=Z,14nm,1.3s
BMO Blue Mountains 83.44 37 P **P** **01 27 02.8 +0.5**
BMO IAmb IAmb 01 27 04.6
comp=Z,5.8nm,0.9s
BMO Blue Mountains 83.44 37 P **P** **01 27 02.8 +0.5**
BMO pmax pmax
comp=Z,6.0nm,1.0s
K15K Wolf Creek Mou 83.72 6 P **P** **01 27 03.9 +0.6**
K15K Wolf Creek Mou 83.72 6 P **P** **01 27 05.3 +2.0**
baz=192
VHRN Van Horn 83.84 54 P **P** **01 27 03.6 -1.2**
VHRN IAmb IAmb 01 27 07.8
comp=Z,5.3nm,0.9s
MNTX Cornudas Mount 83.98 53 P **P** **01 27 07.4 +2.1**
baz=241
TX31 Lajitas Ar. Si 84.15 56 P **P** **01 27 05.7 -0.6**
TX31 IAmb IAmb 01 27 09.5
comp=Z,7.7nm,1.1s
TXAR Lajitas Array 84.15 56 P **P** **01 27 05.9 -0.5**
TXAR Lajitas Array 84.15 56 P **P** **01 27 08.0 +1.7**
comp=Z,4.4nm,1.0s,baz=216,slow=4.5,SNR=25
TXAR LR LR 01 58 48.3
comp=Z,100nm,18.2s,baz=275,slow=31
comp=Z,4.4nm,1.0s
F10A Beach Ranch, E 84.18 36 P **P** **01 27 06.3 +0.2**
SPUT South Promonto 84.20 42 P **P** **01 27 06.9 +0.5**
SPUT IAmb IAmb 01 27 09.1
comp=Z,10nm,1.0s
SRU San Rafael Swe 84.20 44 P **P** **01 27 06.5 0.0**
SRU IAmb IAmb 01 27 09.4
comp=Z,14nm,0.9s
SRU San Rafael Swe 84.20 44 P **P** **01 27 06.5 0.0**
SRU pmax pmax
comp=Z,14nm,0.9s
P17A Butcher Ranch, 84.26 44 P **P** **01 27 06.1 -0.6**
P17A IAmb IAmb 01 27 10.6
comp=Z,11nm,1.0s
HVU Hansel Valley 84.26 41 P **P** **01 27 06.5 -0.2**
HVU IAmb IAmb 01 27 09.3
comp=Z,8.5nm,0.8s
HVU Hansel Valley 84.26 41 P **P** **01 27 06.5 -0.2**
HVU pmax pmax
comp=Z,8.0nm,0.8s
CTU Camp Tracy 84.29 42 P **P** **01 27 07.2 +0.3**
CTU IAmb IAmb 01 27 09.4
comp=Z,8.2nm,0.9s
HLID Hailey 84.31 39 P **P** **01 27 06.4 -0.6**
HLID IAmb IAmb 01 27 09.8
comp=Z,11nm,0.9s
HLID Hailey 84.31 39 P **P** **01 27 09.2 +2.3**
baz=234
PLID Pearl Lake 84.31 37 P **P** **01 27 06.7 -0.3**
PLID IAmb IAmb 01 27 09.2
comp=Z,14nm,1.4s
ALPN Alpine 84.66 55 P **P** **01 27 08.3 -0.7**
ALPN IAmb IAmb 01 27 11.8
comp=Z,8.4nm,1.1s
P18A Preston Nutter 84.66 44 P **P** **01 27 09.2 +0.2**
P18A IAmb IAmb 01 27 21.7
comp=Z,10nm,1.0s
TCUT Toone Canyon 84.74 42 P **P** **01 27 08.2 -1.1**
ANMO Albuquerque 84.80 50 P **P** **01 27 08.4 -1.2**
ANMO IAmb IAmb 01 27 12.9
comp=Z,14nm,1.1s
ANMO Albuquerque 84.80 50 P **P** **01 27 12.1 +2.5**
baz=240
ANMO Albuquerque 84.80 50 *de*P **P** **01 27 10.9 +1.3**
ANMO pmax pmax
comp=Z,14nm,1.0s
BSUT Blindstream Ca 84.83 43 P **P** **01 27 08.6 -1.2**
BSUT IAmb IAmb 01 27 12.7
comp=Z,12nm,1.0s
HWUT Hardware Ranch 84.91 42 P **P** **01 27 09.5 -0.6**
GHO Glory Hole Cre 85.00 12 P **P** **01 27 09.3 -0.6**
KLR Kul'dur 85.11 328 LR LR 02 01 39.3
comp=Z,116nm,19.8s,baz=186,slow=33
KLR Kul'dur 85.11 328 *e*P **P** **01 27 11.0 +0.4**
KLR pmax pmax
comp=Z,3.0nm,1.0s
BNX BinXian 85.24 323 ⇑P **P** **01 27 14.0 +2.7**
BNX pmax pmax
comp=Z,10.0nm,0.9s
BNX pmax pmax
comp=Z,96nm,4.3s
J18K Innoko River 85.39 8 P **P** **01 27 11.4 -0.3**
J18K Innoko River 85.39 8 P **P** **01 27 15.6 +3.9**
baz=196
SAND Sanderson 85.63 56 P **P** **01 27 12.9 -0.8**
SAND IAmb IAmb 01 27 16.0
comp=Z,6.1nm,1.0s
MNHN Monahans 85.78 54 P **P** **01 27 14.7 +0.3**
MNHN IAmb IAmb 01 27 16.7
comp=Z,5.8nm,1.0s
PLCA Paso Flores 85.98 132 P **P** **01 27 17.9 +2.5**
comp=Z,5.4nm,1.1s,baz=241,slow=13,SNR=3.4
PLCA LR LR 01 56 40.1
comp=Z,95nm,21.5s,baz=224,slow=29
comp=Z,5.4nm,1.1s
CAST Castle Rocks 85.99 10 P **P** **01 27 14.5 -0.2**
CAST IAmb IAmb 01 27 28.4
comp=Z,17nm,1.5s
J19K Poorman 86.04 8 P **P** **01 27 18.7 +3.9**
baz=197
WAT1 Susitna Watana 86.04 11 P **P** **01 27 18.8 +3.9**
baz=204
TRF Thorofare Moun 86.31 10 P **P** **01 27 16.3 -0.2**
TRF Thorofare Moun 86.31 10 P **P** **01 27 19.8 +3.3**
baz=202
S34M Telegraph Cree 86.39 21 P **P** **01 27 17.7 +1.0**
S34M IAmb IAmb 01 27 28.9
comp=Z,10nm,1.1s
S34M Telegraph Cree 86.39 21 P **P** **01 27 19.4 +2.7**
baz=219
CHUM Lake Minchumin 86.39 9 P **P** **01 27 19.8 +3.2**
baz=200
J20K Nowinta River 86.41 8 P **P** **01 27 17.1 +0.4**
J20K IAmb IAmb 01 27 30.8
comp=Z,9.7nm,1.0s
J20K Nowinta River 86.41 8 P **P** **01 27 20.6 +3.9**
baz=198
ELIB Princess Elisa 86.41 185 *d*P **P** **01 27 16.9 -0.2**
comp=Z,7.4nm,1.0s
SNOW Snow King Moun 86.44 41 P **P** **01 27 16.0 -1.7**
SNOW IAmb IAmb 01 27 21.5
comp=Z,7.0nm,1.1s
RND Reindeer 86.52 11 P **P** **01 27 17.0 -0.4**
RND IAmb IAmb 01 27 31.8
comp=Z,13nm,0.9s
RND Reindeer 86.52 11 P **P** **01 27 17.0 -0.4**
RND pmax pmax
comp=Z,13nm,0.9s
BPMT Black Pine Rid 86.55 37 P **P** **01 27 16.6 -1.5**
DRIO Del Rio 86.56 57 P **P** **01 27 17.5 -0.8**
DRIO IAmb IAmb 01 27 20.6
comp=Z,12nm,0.9s
SMCO Snowmass 86.58 46 P **P** **01 27 16.4 -2.2**
PD31 Pinedale Array 86.80 42 P **P** **01 27 17.7 -1.7**
PDAR Pinedale Array 86.80 42 P **P** **01 27 18.5 -0.9**
PDAR Pinedale Array 86.80 42 P **P** **01 27 20.2 +0.7**
comp=Z,3.3nm,0.8s,baz=224,slow=2.5,SNR=24
comp=Z,3.3nm,0.8s
MCK McKinley 86.81 11 P **P** **01 27 21.9 +3.2**
baz=203
MSTX Muleshoe 86.99 52 P **P** **01 27 19.9 -0.6**
MSTX Muleshoe 86.99 52 P **P** **01 27 22.3 +1.8**
baz=242
M27K Edge Creek, AK 87.00 14 P **P** **01 27 19.1 -0.7**
M27K IAmb IAmb 01 27 32.8
comp=Z,13nm,1.1s
M27K Edge Creek, AK 87.00 14 P **P** **01 27 21.6 +1.8**
baz=210
833A Chaparral WMA, 87.04 58 P **P** **01 27 22.3 +1.7**
baz=244
UBPT Khong Chiam 87.04 288 P **P** **01 27 19.5 -1.4**
TROLL Troll, Antarti 87.06 179 ⇑P **P** **01 27 19.8 -0.5**
comp=Z,226nm,0.9s
BOZ Bozeman (W) 87.11 38 P **P** **01 27 21.2 +0.4**
BOZ Bozeman (W) 87.11 38 P **P** **01 27 22.4 +1.6**
baz=236
BOZ Bozeman (W) 87.11 38 P **P** **01 27 21.2 +0.4**
BOZ pmax pmax
comp=Z,4.0nm,1.0s
DLBC Dease Lake 87.17 21 P **P** **01 27 19.6 -1.0**
DLBC IAmb IAmb 01 28 00.9
comp=Z,15nm,1.6s
DLBC Dease Lake 87.17 21 P **P** **01 27 22.7 +2.1**
baz=220
VNA3 Neumayer Olymp 87.21 175 ⇑P **P** **01 27 21.1 +0.3**
comp=Z,8.0nm,0.8s
SNAA Sanae 87.22 177 P **P** **01 27 23.0 +2.1**
SNAA IAmb IAmb 01 27 36.2
comp=Z,17nm,1.5s
SNAA Sanae 87.22 177 ⇑P **P** **01 27 19.4 -1.5**
comp=Z,89nm,1.2s
SNAA Sanae 87.22 177 P **P** **01 27 20.1 -0.9**
comp=Z,4.5nm,1.1s,baz=184,slow=10.0,SNR=7.2
comp=Z,4.5nm,1.1s
SNAA Sanae 87.22 177 P **P** **01 27 23.0 +2.1**
SNAA pmax pmax
comp=Z,17nm,1.5s
H19K Roundabout Mou 87.41 7 P **P** **01 27 20.4 -1.1**
H19K IAmb IAmb 01 27 37.3
comp=Z,20nm,1.4s
G18K Tagagawik 87.53 6 P **P** **01 27 26.2 +4.1**
baz=194
H20K Anotleneega Mo 87.57 8 P **P** **01 27 26.3 +3.9**
baz=198
WRH Wood River Hil 87.64 11 P **P** **01 27 23.1 +0.4**
HNDO Hondo 87.65 57 P **P** **01 27 25.2 +1.6**
HNDO IAmb IAmb 01 27 26.2
comp=Z,11nm,1.1s
VNA2 Neumayer--Watz 87.69 176 ⇑P **P** **01 27 23.1 0.0**
comp=Z,4.8nm,0.7s,baz=196,slow=3.5
MLY Manley 87.72 10 P **P** **01 27 25.0 +1.9**
baz=202
CCB Clear Creek Bu 87.85 11 P **P** **01 27 24.2 +0.6**
CCB IAmb IAmb 01 27 37.3
comp=Z,13nm,1.1s
VNA1 Neumayer--Stat 87.90 175 ⇑P **P** **01 27 24.9 +0.9**
comp=Z,16nm,0.9s
SEY Seymchan 87.93 345 ⇓*e*P **P** **01 27 24.7 +0.6**
SEY pmax pmax
comp=Z,5.0nm,0.9s
G19K Purcell Mounta 87.94 7 P **P** **01 27 24.7 +0.6**
G19K **pwP** **01 27 38.1 +1.8**
G19K IAmb IAmb 01 27 38.9
comp=Z,10nm,1.1s
HEH HeiHe 87.95 327 *e*P **P** **01 27 28.1 +3.7**
HEH pmax pmax
comp=Z,10.0nm,1.2s
H21K Melozitna Rive 88.00 9 pwP 01 27 38.5 +1.9
I23K Minto, Yukon-K 88.04 10 P **P** **01 27 25.0 +0.4**
COLA College 88.05 11 ⇑*e*P **P** **01 27 24.5 -0.1**
COLA pmax pmax
comp=Z,11nm,0.9s
MDM Murphy Dome 88.06 11 P **P** **01 27 23.8 -0.9**
ILAR Eielson Array 88.12 11 P **P** **01 27 24.8 -0.2**
comp=Z,1.0nm,1.0s,baz=208,slow=5.7,SNR=8.2
comp=Z,1.0nm,1.0s
J25K Salcha River, 88.27 12 P **P** **01 27 25.7 0.0**
J25K IAmb IAmb 01 27 37.2
comp=Z,14nm,1.6s
J25K Salcha River, 88.27 12 P **P** **01 27 26.3 +0.5**
baz=206
MT01 Popeta 88.29 126 P **P** **01 27 27.5 +0.8**
K27K Chicken 88.42 13 P **P** **01 27 28.9 +2.5**
baz=210
H22K Ishtalitna Cre 88.43 9 P **P** **01 27 30.2 +3.8**
baz=201
J26L Joseph Creek 88.52 13 P **P** **01 27 26.7 -0.3**
J26L IAmb IAmb 01 27 39.9
comp=Z,11nm,1.0s
J26L Joseph Creek 88.52 13 P **P** **01 27 29.2 +2.2**
baz=208
F19K Shaleruckik Mo 88.53 6 P **P** **01 27 30.1 +3.3**
baz=195
L29M L29M 88.55 15 P **P** **01 27 27.6 +0.5**
L29M IAmb IAmb 01 27 39.5
comp=Z,12nm,1.1s
L29M L29M 88.55 15 P **P** **01 27 29.2 +2.1**
baz=213
K22A Casper 88.64 43 P **P** **01 27 29.2 +1.0**
baz=240
ABTX Abilene, Hawle 88.72 54 P **P** **01 27 31.1 +2.5**
baz=244
HNS HongShan 88.89 311 ⇑P **P** **01 27 29.4 +0.2**
HNS pmax pmax
comp=Z,7.0nm,0.9s
F20K Avaraart Lake 88.96 7 P **P** **01 27 32.6 +3.8**
baz=197
PRP Porcupine Dome 89.05 11 P **P** **01 27 28.6 -0.9**
PRP IAmb IAmb 01 27 44.2
comp=Z,21nm,1.7s
DAWY Dawson 89.05 14 P **P** **01 27 28.5 -0.9**
DAWY IAmb IAmb 01 27 41.4
comp=Z,16nm,1.5s
TOAD Toad River Com 89.16 23 P **P** **01 27 31.8 +1.8**
baz=224
E19K Redstone River 89.19 6 P **P** **01 27 29.5 -0.4**
E19K IAmb IAmb 01 27 37.6
comp=Z,13nm,1.4s
LYN LuoYang 89.21 308 ⇓P **P** **01 27 30.5 -0.3**
LYN pmax pmax
comp=Z,19nm,0.6s
EGAK Eagle 89.27 13 P **P** **01 27 29.6 -0.7**
EGAK IAmb IAmb 01 27 48.9
comp=Z,6.8nm,1.1s
APG El Apazote 89.31 74 LR LR 02 01 55.8
comp=Z,8.6nm,18.2s,baz=174,slow=32
K29M Barlow Dome 89.31 15 P P 01 27 25.4 -5.4
K29M IAmb IAmb 01 27 43.1
comp=Z,11nm,1.1s
K29M Barlow Dome 89.31 15 P **P** **01 27 32.4 +1.7**
baz=214
PLPT Palo Pinto 89.81 55 P **P** **01 27 32.1 -1.6**
PLPT IAmb IAmb 01 27 37.0
comp=Z,5.2nm,0.9s
MMPY Sheldon Lake, 90.00 18 P **P** **01 27 33.9 0.0**
MMPY IAmb IAmb 01 27 52.3
comp=Z,27nm,1.9s
MMPY Sheldon Lake, 90.00 18 P **P** **01 27 35.8 +1.9**
baz=219
TGTN Hyland Airport 90.08 20 P **P** **01 27 36.7 +2.3**
baz=222
I28M Miner Creek 90.11 13 P **P** **01 27 34.4 0.0**
I28M IAmb IAmb 01 27 41.5
comp=Z,10nm,1.5s
BILL Bilibino 90.12 353 *e*P **P** **01 27 38.0 +3.7**
ZEA Zeya 90.12 329 *e*P P 01 27 43.6 +9.0
ZEA pmax pmax
comp=Z,10.0nm,1.3s
J30M Hart River 90.21 15 P **P** **01 27 33.9 -1.0**
I29M Ogilvie Camp, 90.40 14 P **P** **01 27 35.3 -0.4**
D20K Etivluk River 90.47 6 P **P** **01 27 39.5 +3.5**
baz=196
I30M Mount Dempster 90.74 15 P **P** **01 27 37.0 -0.4**
I30M IAmb IAmb 01 27 50.0
comp=Z,10.0nm,1.1s
I30M Mount Dempster 90.74 15 P **P** **01 27 38.7 +1.3**
baz=215
RSSD Black Hills 90.94 43 P **P** **01 27 39.2 +0.3**
RSSD IAmb IAmb 01 27 40.7
comp=Z,7.3nm,1.1s
RSSD Black Hills 90.94 43 P **P** **01 27 39.9 +0.9**
baz=241
RSSD Black Hills 90.94 43 P **P** **01 27 39.3 +0.3**
RSSD pmax pmax
comp=Z,7.0nm,1.2s
FNO Franklin 91.53 53 P **P** **01 27 41.8 +0.1**
EPYK Eagle Plains 91.61 14 P **P** **01 27 41.9 +0.6**
EPYK IAmb IAmb 01 27 53.0
comp=Z,13nm,1.3s
EPYK Eagle Plains 91.61 14 P **P** **01 27 43.0 +1.7**
baz=214
XAN Xi'an 91.65 306 ⇓P **P** **01 27 40.8 -1.5**
XAN pP pwP 01 27 50.6 -2.1
XAN pmax pmax
comp=Z,14nm,1.0s
G29M Pine Creek 91.77 13 P **P** **01 27 42.1 +0.1**
G29M IAmb IAmb 01 27 49.1
comp=Z,6.9nm,1.1s
R32A Long Quarter, 91.92 49 P **P** **01 27 44.4 +1.0**
KAN17 Caldwell West 92.01 51 P **P** **01 27 43.6 -0.2**
G30M tAoh Zraii Nji 92.22 14 P **P** **01 27 43.7 -0.5**
OK031 S. Brethren Rd 92.24 52 P **P** **01 27 44.5 -0.4**
OK052 Battle Ridge R 92.28 52 P **P** **01 27 43.8 -1.3**
OK052 IAmb IAmb 01 27 47.1
comp=Z,9.3nm,0.9s
ATAH Atahualpa 92.49 99 LR LR 01 59 43.7
comp=Z,111nm,21.2s,baz=249,slow=29
HHC Hu-ho-hao-te 92.62 313 *e*P **P** **01 27 51.0 +4.3**
HHC pmax pmax
comp=Z,10.0nm,0.5s
HHC pmax pmax
comp=Z,140nm,5.1s
T35A Sooner Cattle 92.87 52 P **P** **01 27 47.2 -0.6**
PHRA Phrae 92.89 289 P **P** **01 27 47.2 -1.1**
DGMT Dagmar 92.94 39 P **P** **01 27 47.1 -0.8**
CMAR Chiang Mai Arr 94.02 288 P **P** **01 27 52.2 -1.3**
comp=Z,1.7nm,0.3s,baz=110,slow=3.0,SNR=10.0
comp=Z,1.7nm,0.3s
CMAR Chiang Mai Arr 94.02 288 *i* P **P** **01 27 55.5 +2.0**
CMAR pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 94.14 288 P **P** **01 27 50.5 -3.6**
CHTO IAmb IAmb 01 28 03.8
comp=Z,5.5nm,0.8s
CHTO Chiang Mai 94.14 288 P **P** **01 27 50.5 -3.6**
CHTO pmax pmax
comp=Z,6.0nm,0.9s
PZH PanZhiHua 94.47 297 P **P** **01 27 55.8 +0.2**
PZH pmax pmax
comp=Z,20nm,0.6s
LVC Limon Verde 94.87 116 LR LR 02 00 35.6
comp=Z,158nm,21.0s,baz=262,slow=29
MDND Maddock 95.40 41 P **P** **01 27 58.5 -0.6**
YKA Yellowknife Ar 95.50 24 P **P** **01 27 59.2 0.0**
comp=Z,1.3nm,0.9s,baz=242,slow=4.1,SNR=16
comp=Z,1.3nm,0.9s
ECSD EROS Data Cent 95.58 45 P **P** **01 27 59.8 -0.3**
ECSD EROS Data Cent 95.58 45 P **P** **01 28 01.1 +1.0**
baz=246
LZH Lanzhou 96.28 306 *e*P **P** **01 28 05.5 +1.8**
LZH sP pwP 01 28 20.1 +6.0
LZH pmax pmax
comp=Z,13nm,1.2s
LPAZ La Paz 98.20 111 P Pdif 01 28 14.7 +1.2
comp=Z,0.8nm,0.7s,baz=255,slow=16,SNR=4.1
LPAZ LR LR 02 02 55.6
comp=Z,109nm,22.0s,baz=244,slow=29
comp=Z,0.8nm,0.7s
ZALV Zalesovo Beam 113.44 321 PKiKP **PKiKP** **01 33 12.0 -0.5**
comp=Z,0.9nm,0.6s,baz=40,slow=2.5,SNR=4.5
ZALV Zalesovo Beam 113.44 321 *i* PKiKP **PKiKP** **01 33 12.0 -0.5**
MK31 Makanchi Array 114.48 313 ⇓*i* PKiKP **PKiKP** **01 33 16.9 +2.1**
MKAR Makanchi Array 114.48 313 PKiKP PKPdf 01 33 13.7 -1.1
comp=Z,0.7nm,0.8s,baz=130,slow=2.3,SNR=2.4
KURK Kurchatov 117.11 317 *i* PKiKP **PKiKP** **01 33 23.2 +3.5**
KURBB Kurchatov Arra 117.17 317 PKP **PKPdf** **01 33 19.8 0.0**
comp=Z,0.9nm,0.7s,baz=81,slow=1.9,SNR=7.5
BVAR Borovoye Array 122.08 320 PKP **PKPdf** **01 33 28.7 -0.5**
comp=Z,1.4nm,0.6s,baz=111,slow=2.2,SNR=8.9
BRVK Borovoye 122.14 320 ⇓*i* PKiKP **PKiKP** **01 33 31.4 +1.9**
ARU Arti 127.93 326 PKP **PKPdf** **01 33 40.4 +0.1**
comp=Z,1.4nm,0.5s,baz=86,slow=19,SNR=4.2

ARU	**Arti**	**127.93**	**326**	*i* PKIKP	**PKiKP**	**01 33 41.9**	**+1.1**
ARU						01 35 43.7	
ARU						01 40 50.3	
ARCES	**ARCESS Array B**	**130.20**	**351**	PKP	**PKPdf**	**01 33 44.7**	**+0.4**
	comp=Z,3.3nm,0.8s,baz=13,slow=1.2,SNR=6.9						
BELG	**Belogornoye**	**135.41**	**325**	*i* PKIKP	**PKiKP**	**01 33 56.5**	**+0.5**
FINES	**FINESS Array B**	**137.41**	**346**	PKP	**PKPdf**	**01 33 58.0**	**0.0**
	comp=Z,1.5nm,0.8s,baz=27,slow=3.4,SNR=5.7						
FINES	**FINESS Array B**	**137.41**	**346**	PKIKP	**PKPdf**	**01 33 58.0**	**0.0**
MAK	**Makhachkala**	**139.29**	**312**	*eP*	**Pdif**	**01 31 08.0**	**-6.7**
MAK				*i*		01 34 03.8	
MAK				*e*		01 36 55.1	
MAK				*e*PPP	PPP	01 39 58.3	
MAK				*e*		01 41 12.6	
MAK				*e*SS	SS	01 55 15.3	+1.7
MAK				*e*SSS	SSS	02 00 19.7	
MAK				pmax	pmax		
	comp=Z,70nm,1.1s						
GNI	**Garni**	**142.16**	**309**	*e*PKIKP	**PKPdf**	**01 34 06.3**	**-1.2**
KIV	**Kislovodsk**	**142.17**	**316**	*i* PKIKP	**PKiKP**	**01 34 11.3**	**+1.0**
KIV				*e*		01 37 20.9	
KIV				*e*PPP	PPP	01 40 22.6	
KIV				*e*SS	SS	01 55 41.6	-5.7
KIV				pmax	pmax		
	comp=Z,7.0nm,1.3s						
SHA1	**Shidzhatmaz**	**142.28**	**315**	*e*PKIKP	**PKPdf**	**01 34 07.1**	**-0.6**
MNK	**Minsk**	**142.85**	**339**	*i* PKIKP	**PKPdf**	**01 34 06.7**	**-1.3**
MNK				*i*		01 37 15.8	
MNK				*i* PPP	PPP	01 40 24.4	
MNK				*i*		01 41 13.8	
MNK				*i* SS	SS	01 55 51.7	-1.8
MNK				*i* SSS	SSS	02 01 12.2	
MNK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MNK				pmax	pmax		
	comp=N,6.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,6.0nm,1.0s						
MNK				MLR	MLR		
	comp=E,106nm,17.0s						
MNK				MLR	MLR		
	comp=N,159nm,19.0s						
MNK				MLR	MLR		
	comp=Z,152nm,18.0s						
GURO	**Guroymak-BITLI**	**144.66**	**307**	PKPdf	**PKPdf**	**01 34 11.9**	**0.0**
EKA	**Eskdalemuir Ar**	**145.14**	**9**	PKPbc	**PKPab**	**01 34 11.3**	**-0.3**
	comp=Z,7.2nm,0.8s,baz=343,slow=3.9,SNR=11						
AK03	**Malin Array Si**	**145.36**	**334**	PKP	**PKPbc**	**01 34 11.1**	**-1.3**
AKASG	**Malin Array Be**	**145.38**	**334**	PKPbc	**PKPbc**	**01 34 11.1**	**-1.4**
	comp=Z,5.5nm,0.6s,baz=39,slow=3.9,SNR=28						
AKBB	**Malin Array Si**	**145.38**	**334**		**PKPbc**	**01 34 11.8**	**-0.7**
AKBB	**Malin Array Si**	**145.38**	**334**	*d* iPKIKP	**PKPbc**	**01 34 12.4**	**0.0**
AKBB	**Malin Array Si**	**145.38**	**334**	PKP	**PKPbc**	**01 34 11.1**	**-1.3**
KIEV	**Kiev**	**145.39**	**334**	↑P	**PKPbc**	**01 34 12.1**	**-0.4**
KIEV	**Kiev**	**145.39**	**334**		**PKPbc**	**01 34 11.7**	**-0.8**
KIEV	**Kiev**	**145.39**	**334**	PKIKP	**PKPbc**	**01 34 11.7**	**-0.8**
MI30	**MI30,Zelenitsa**	**145.76**	**335**	PKP	**PKPdf**	**01 34 12.5**	**-0.7**
MI28	**MI28,Pidlybu**	**145.82**	**336**	PKP	**PKPdf**	**01 34 12.9**	**-0.4**
RNPP9	**Sopachiv**	**146.09**	**338**	PKP	**PKPdf**	**01 34 13.2**	**-0.6**
LUBAR	**Lubar, Ukraine**	**146.58**	**334**	PKP	**PKPdf**	**01 34 15.3**	**+0.6**
LODK	**Lodwar**	**146.60**	**242**		**PKPbc**	**01 34 18.0**	**+0.6**
SIM	**Simferopol'**	**146.94**	**322**	*e*PKP2	**PKPbc**	**01 34 17.4**	**0.0**
SIM				pmax	pmax		
	comp=Z,32nm,0.8s						
ARPR	**Arapgir-MALATY**	**147.16**	**310**		**PKPbc**	**01 34 18.4**	**0.0**
SORM	**Soroca**	**147.70**	**332**	↓P	**PKPdf**	**01 34 17.1**	**+0.5**
SORM	**Soroca**	**147.70**	**332**	↓PKIKP	**PKPdf**	**01 34 17.1**	**+0.5**
LVV	**L'vov**	**148.07**	**338**	*e*PKP2	**PKiKP**	**01 34 22.3**	**+0.2**
DIKM	**Dikmen**	**148.08**	**316**	↓P	**PKiKP**	**01 34 21.8**	**-0.6**
PURM	**Purcari**	**148.16**	**328**	↑P	**PKPbc**	**01 34 20.3**	**-0.4**
MILM	**Milestii Mici**	**148.39**	**330**	↑P	**PKPbc**	**01 34 20.8**	**-0.4**
MILM	**Milestii Mici**	**148.39**	**330**	↑PKP2	**PKPbc**	**01 34 20.8**	**-0.4**
KWP	**Kalwaria Pacla**	**148.68**	**339**	*e*PKP	**PKiKP**	**01 34 23.2**	**-0.2**
GAZ	**Gaziantep**	**148.72**	**308**	PKPab	**PKiKP**	**01 34 24.1**	**+0.2**
BNN	**Bunyan**	**149.02**	**311**	PKPab	**PKiKP**	**01 34 24.5**	**-0.2**
OJC	**Ojcow**	**149.05**	**343**		**PKPdf**	**01 34 18.6**	**-0.2**
OJC	**Ojcow**	**149.05**	**343**	PKIKP	**PKPdf**	**01 34 18.6**	**-0.2**
STHS	**Stebnicka Huta**	**149.34**	**341**	*e*PKP	**PKiKP**	**01 34 25.2**	**+0.4**
STHS				*e*		01 34 34.5	
STHS	**Stebnicka Huta**	**149.34**	**341**	*e*PKP2	**PKiKP**	**01 34 25.2**	**+0.4**
BUR08	**Bucovina Ar. S**	**149.42**	**334**	PKPdf	**PKPdf**	**01 34 19.6**	**0.0**
CLL	**Collm**	**149.42**	**352**		**PKPbc**	**01 34 24.0**	**+0.3**
CLL	**Collm**	**149.42**	**352**	*i* PKPbc	**PKPbc**	**01 34 24.0**	**+0.3**
	comp=Z,10.0nm,1.2s						
CLL				*i* pPKPbc	**sPKPbc**	**01 34 26.8**	**+0.1**
CLL				*i* PKPab	**PKPab**	**01 34 28.2**	**-0.2**
CLL				*i* pPKPab	**sPKPab**	**01 34 30.3**	**-1.1**
	comp=Z,21nm,1.3s						
CLL				*ex*	x	01 34 33.0	
	comp=Z,14nm,0.9s						
CLL				*e*SKPdf	**SKPdf**	**01 37 54.0**	**+1.3**
CLL	**Collm**	**149.42**	**352**	PKP2	**PKPbc**	**01 34 24.0**	**+0.3**
KOLS	**Kolonicke sedl**	**149.43**	**339**	*e*PKP	**PKPab**	**01 34 34.0**	**+5.4**
KOLS	**Kolonicke sedl**	**149.43**	**339**	*e*PKP2	**PKPab**	**01 34 34.0**	**+5.4**
BURAR	**Bucovina Array**	**149.44**	**334**	↓P	**PKiKP**	**01 34 25.3**	**+0.1**
BURAR	**Bucovina Array**	**149.44**	**334**	PKPab	**PKiKP**	**01 34 26.1**	**+0.9**
BURAR	**Bucovina Array**	**149.44**	**334**	↓PKP2	**PKiKP**	**01 34 25.3**	**+0.1**
CHVC	**Chvalec**	**149.60**	**348**	↑*e*PKP	**PKPab**	**01 34 29.5**	**+0.3**
CHVC	**Chvalec**	**149.60**	**348**	*e*PKP2	**PKPab**	**01 34 29.5**	**+0.3**
GHRR		**149.68**	**330**	↓P	**PKPab**	**01 34 29.6**	**-0.1**
TESR	**Tescani**	**149.69**	**331**	↓P	**PKiKP**	**01 34 25.9**	**+0.3**
BRG	**Berggiesshubel**	**149.70**	**350**	*e*PKP	**PKPbc**	**01 34 24.9**	**+0.4**
BRG				Amp		01 34 25.5	
	comp=Z,4.9nm,1.0s						
BRG	**Berggiesshubel**	**149.70**	**350**	P	**PKPab**	**01 34 27.9**	**-1.7**
BRG				Amp		01 34 28.6	
	comp=Z,5.6nm,0.7s						
BRG	**Berggiesshubel**	**149.70**	**350**	P	**PKPab**	**01 34 32.4**	**+2.8**
BRG				Amp		01 34 36.5	
	comp=Z,9.2nm,0.9s						
CRVS	**Cervenica-Dubn**	**149.72**	**340**	*e*PKP	**PKPbc**	**01 34 25.0**	**+0.4**
CRVS				*e*		01 34 33.9	
CRVS	**Cervenica-Dubn**	**149.72**	**340**	*e*PKP2	**PKPbc**	**01 34 25.0**	**+0.4**
DPC	**Dobruska-Polom**	**149.77**	**347**	↑*e*PKP	**PKiKP**	**01 34 25.5**	**-0.2**
DPC				*ep*PKP	**sPKPab**	**01 34 34.5**	**+1.6**
DPC	**Dobruska-Polom**	**149.77**	**347**	*e*PKP2	**PKiKP**	**01 34 25.5**	**-0.2**
KRLC	**Kraliky**	**149.93**	**346**	↑*e*PKP	**PKiKP**	**01 34 27.2**	**+1.2**
KRLC				*e*PKPAB	**sPKPab**	**01 34 34.7**	**+1.1**
KRLC	**Kraliky**	**149.93**	**346**	*e*PKP2	**PKiKP**	**01 34 27.2**	**+1.2**
PVCC	**Panska Ves**	**149.93**	**349**	*e*PKP	**PKPab**	**01 34 28.4**	**-2.2**
PVCC	**Panska Ves**	**149.93**	**349**	*e*PKP2	**PKPab**	**01 34 28.4**	**-2.2**
CFR	**Carcaliu**	**149.98**	**328**	↑P	**PKiKP**	**01 34 26.2**	**+0.1**
CFR	**Carcaliu**	**149.98**	**328**	↑PKP2	**PKiKP**	**01 34 26.2**	**+0.1**
MORC	**Moravsky Berou**	**150.03**	**345**		**PKPbc**	**01 34 25.9**	**+0.6**
MORC	**Moravsky Berou**	**150.03**	**345**	*e*PKP	**PKiKP**	**01 34 26.5**	**+0.3**
MORC	**Moravsky Berou**	**150.03**	**345**	PKP2	**PKPbc**	**01 34 25.9**	**+0.6**
LANS	**Liptovska Anna**	**150.11**	**342**	*e*PKP	**PKiKP**	**01 34 26.3**	**-0.1**
LANS	**Liptovska Anna**	**150.11**	**342**	*e*PKP2	**PKiKP**	**01 34 26.3**	**-0.1**
BR131	**Keskin Array S**	**150.12**	**314**		**PKPbc**	**01 34 25.8**	**-0.2**
BR131	**Keskin Array S**	**150.12**	**314**	*d* iPKP2	**PKPbc**	**01 34 25.6**	**-0.5**
BRTR	**Keskin Array B**	**150.12**	**314**		**PKPbc**	**01 34 25.5**	**-0.5**
BRTR	**Keskin Array B**	**150.12**	**314**	PKPbc	**PKPbc**	**01 34 25.4**	**-0.7**
	comp=Z,3.2nm,0.7s,baz=106,slow=3.1,SNR=27						
BRTR	**Keskin Array B**	**150.12**	**314**	PKP2	**PKPbc**	**01 34 25.5**	**-0.5**
VRI	**Vrincioaia**	**150.14**	**330**	↓P	**PKPbc**	**01 34 24.5**	**-1.2**
VRI	**Vrincioaia**	**150.14**	**330**	↓PKHKP	PKPpre	01 34 24.5	
PLOR	**Plostina**	**150.19**	**331**	↓P	**PKPbc**	**01 34 25.8**	**0.0**
PLOR	**Plostina**	**150.19**	**331**	↓PKIKP	**PKPbc**	**01 34 25.8**	**0.0**
TURR	**Turia**	**150.32**	**331**	↓P	**PKiKP**	**01 34 27.5**	**+0.5**
MAUC	**Maruska**	**150.34**	**345**	↑*e*PKP	**PKiKP**	**01 34 27.0**	**+0.1**
BISRR	**Bisoca**	**150.39**	**330**	↑P	PKPab	01 34 41.6	+8.9
PRU	**Pruhonice**	**150.46**	**349**	↑*e*PKP	**PKPbc**	**01 34 26.8**	**+0.5**
PRU	**Pruhonice**	**150.46**	**349**	*e*PKIKP	**PKPbc**	**01 34 26.8**	**+0.5**
MEM	**Membach**	**150.59**	**0**	*d*PKP	**PKPbc**	**01 34 26.3**	**-0.3**
BSTI	**Sart Tilman**	**150.61**	**1**	*d*PKP	**PKPab**	**01 34 31.7**	**-1.7**
BTNL	**Ternell**	**150.61**	**0**	*d*PKiKP	**PKPbc**	**01 34 26.4**	**-0.2**
BTNL				*d*PKP	**PKPab**	**01 34 32.7**	**-0.7**
VRAC	**Vranov**	**150.69**	**346**	*e*PKP	**PKPbc**	**01 34 26.3**	**-0.6**
BCLA	**Clavier**	**150.77**	**1**	*d*PKP	**PKPab**	**01 34 31.5**	**-2.5**
MLR	**Muntele Rosu**	**150.78**	**331**	↑P	**PKPbc**	**01 34 27.6**	**+0.2**
MLR	**Muntele Rosu**	**150.78**	**331**		**PKPbc**	**01 34 27.2**	**-0.2**
MLR	**Muntele Rosu**	**150.78**	**331**	↑PKIKP	**PKPbc**	**01 34 27.6**	**+0.2**
BGES	**Geges**	**150.80**	**1**	*d*PKP	**PKPab**	**01 34 32.3**	**-1.8**
JAVC	**Velka Javorina**	**150.85**	**344**	*e*PKP	**PKiKP**	**01 34 28.5**	**+0.5**
BMRD	**Maredsous**	**150.88**	**2**	*d*PKP	**PKiKP**	**01 34 27.8**	**-0.1**
VYHS	**Vyhne**	**150.88**	**343**	*e*PKP	**PKiKP**	**01 34 27.9**	**-0.1**
VYHS	**Vyhne**	**150.88**	**343**	*e*PKIKP	**PKiKP**	**01 34 27.9**	**-0.1**
ICOR	**Ion Corvin**	**150.90**	**327**	↓P	**PKPab**	**01 34 38.8**	**+4.0**
KRUC	**Moravsky**	**150.97**	**346**	*e*PKP	**PKPbc**	**01 34 27.5**	**0.0**
MARR	**Marisel-Cluj**	**151.03**	**336**	↑P	**PKPbc**	**01 34 27.5**	**-0.4**
RCHB	**Rochefort**	**151.03**	**1**	*d*PKP	**PKPbc**	**01 34 27.9**	**+0.2**
DRGR		**151.09**	**336**	↓P	**PKPbc**	**01 34 28.4**	**+0.4**
DRGR		**151.09**	**336**	↓PKIKP	**PKPbc**	**01 34 28.4**	**+0.4**
VOIR		**151.23**	**332**	↓P	**PKiKP**	**01 34 29.2**	**+0.3**
VOIR		**151.23**	**332**	↓PKIKP	**PKiKP**	**01 34 29.2**	**+0.3**
MDUB	**Mudurnu**	**151.30**	**318**	PKPab	**PKiKP**	**01 34 31.4**	**+2.2**
MODS	**Modra-Piesok**	**151.40**	**344**	*e*PKP	**PKiKP**	**01 34 30.0**	**+0.9**
MODS				*e*		01 34 39.4	
MODS	**Modra-Piesok**	**151.40**	**344**	*e*PKIKP	**PKiKP**	**01 34 30.0**	**+0.9**
KHC	**Kasperske Hory**	**151.45**	**350**		**PKPbc**	**01 34 29.0**	**+0.3**
KHC	**Kasperske Hory**	**151.45**	**350**	↑*e*PKP	**PKPbc**	**01 34 29.0**	**+0.3**
KHC				*e*PKPAB	**pPKPab**	**01 34 38.5**	**-0.6**
KHC	**Kasperske Hory**	**151.45**	**350**	*d* iPKIKP	**PKPbc**	**01 34 28.3**	**-0.4**
ARR	**Arges**	**151.47**	**332**	↓P	**PKiKP**	**01 34 30.0**	**+0.7**
MMAI	**Mount Meron Ar**	**151.51**	**301**	PKPbc	**PKPbc**	**01 34 29.3**	**-0.1**
	comp=Z,4.6nm,0.7s,baz=72,slow=4.7,SNR=15						
WLF	**Walferdange**	**151.54**	**0**	*d*PKP	**PKPbc**	**01 34 26.4**	**-2.4**
CKRC	**Cesky Krumlov**	**151.62**	**349**	↑*e*PKP	**PKiKP**	**01 34 29.7**	**+0.2**
CKRC	**Cesky Krumlov**	**151.62**	**349**	*e*PKIKP	**PKiKP**	**01 34 29.7**	**+0.2**
GEC2	**GERESS Array S**	**151.71**	**349**		**PKiKP**	**01 34 29.9**	**+0.1**
GERES	**GERESS Array B**	**151.71**	**349**	PKPbc	**PKPbc**	**01 34 29.6**	**+0.2**
	comp=Z,3.0nm,0.8s,baz=33,slow=2.3,SNR=9.6						
DEV	**Deva**	**151.77**	**335**	↑P	**PKPab**	**01 34 37.2**	**-1.1**
CONA	**Conrad Observa**	**152.16**	**346**	*e*PKiKP	**PKPbc**	**01 34 30.6**	**+0.2**
	comp=Z,1.7nm,0.7s						
GZR	**Gura Zlata**	**152.22**	**334**	↓P	**PKPbc**	**01 34 29.9**	**-0.7**
GZR	**Gura Zlata**	**152.22**	**334**	↓PKIKP	**PKPbc**	**01 34 29.9**	**-0.7**
RONA	**Rosalia, Austr**	**152.27**	**345**	*e*PKiKP	**PKPbc**	**01 34 30.8**	**+0.2**
	comp=Z,1.3nm,0.5s						
CSS	**Mathiatis**	**152.47**	**306**		**PKiKP**	**01 34 33.6**	**+1.9**
BZS	**Buzias**	**152.49**	**336**	↑P	**PKPdf**	**01 34 27.7**	**+3.5**
BZS	**Buzias**	**152.49**	**336**	↑PKIKP	**PKPdf**	**01 34 27.7**	**+3.5**
MOA	**Molln**	**152.56**	**348**	*e*PKP	**PKPdf**	**01 34 22.8**	**-1.5**
	comp=Z,3.0nm,1.3s						
ELND	**Elena**	**152.73**	**327**	↓P	**PKPab**	**01 34 41.3**	**-1.2**
HERR	**Herculane**	**152.79**	**334**	↓P	**PKPbc**	**01 34 31.7**	**-0.1**
BFO	**Black Forest**	**152.82**	**357**		**PKPbc**	**01 34 32.0**	**+0.2**
BFO	**Black Forest**	**152.82**	**357**	PKIKP	**PKPbc**	**01 34 32.0**	**+0.2**
BIOA	**Bad Ischl, Aus**	**152.83**	**349**	*e*PKP	**PKPbc**	**01 34 31.4**	**-0.4**
	comp=Z,4.7nm,1.2s						
MORH	**Mrgy, Hungar**	**152.99**	**341**	↓P	**PKPbc**	**01 34 32.3**	**+0.1**
MDVR	**Moldovita**	**153.15**	**335**	↑P	**PKPbc**	**01 34 32.2**	**-0.4**
ISP	**Isparta**	**153.18**	**314**	PKPab	**PKiKP**	**01 34 37.6**	**+4.4**
RETA	**Reutte**	**153.46**	**353**	*e*PKiKP	**PKiKP**	**01 34 34.1**	**+0.6**
	comp=Z,2.4nm,1.1s						
WATA	**Walderalm**	**153.50**	**352**	*e*PKiKP	**PKiKP**	**01 34 33.8**	**+0.2**
	comp=Z,0.7nm,0.6s						
SOKA	**Soboth**	**153.52**	**346**	*e*PKP	**PKPbc**	**01 34 33.1**	**-0.4**
	comp=Z,2.3nm,0.8s						
FRGS	**Fruska Gora**	**153.54**	**338**	↓P	**PKPab**	**01 34 43.0**	**-2.8**
MOTA	**Moosalm**	**153.56**	**352**	*e*PKP	**PKPbc**	**01 34 32.3**	**-1.4**
	comp=Z,1.9nm,0.9s						
WTTA	**Wattenberg**	**153.56**	**352**	*e*PKP	**PKPbc**	**01 34 33.1**	**-0.6**
	comp=Z,5.0nm,1.2s						
BLKB	**Belogradchik**	**153.70**	**332**	↑P	**PKPdf**	**01 34 27.5**	**+1.4**
DAVA	**Damuels**	**153.74**	**354**	*e*PKiKP	**PKiKP**	**01 34 34.4**	**+0.2**
	comp=Z,0.4nm,0.3s						
FETA	**Feichten**	**153.92**	**353**	*e*PKP	**PKPbc**	**01 34 33.7**	**-0.7**
	comp=Z,2.1nm,0.9s						
ABTA	**Abfaltersbach**	**153.94**	**350**	*e*PKiKP	**PKPbc**	**01 34 34.3**	**0.0**
	comp=Z,2.4nm,0.8s						
ELL	**Ellmau**	**154.15**	**312**	PKPab	**PKPab**	**01 34 43.3**	**-5.6**
ITM	**Ithomi**	**158.96**	**323**	PKPab	**PKPab**	**01 35 13.3**	**+3.9**
ESDC	**Sonseca Array**	**159.59**	**23**	PKPab	**PKPab**	**01 35 12.9**	**+0.9**
	comp=Z,1.0nm,0.9s,baz=333,slow=4.5,SNR=8.5						
DBIC	**Dimbokro**	**162.09**	**142**	PKPab	**PKPab**	**01 35 24.4**	**+1.0**
	comp=Z,5.9nm,0.9s,baz=203,slow=7.2,SNR=3.8						
TORD	**Torodi Ar. Bea**	**170.97**	**151**	PKPab	**PKPab**	**01 36 04.0**	**+1.4**
TORD	**Torodi Ar. Bea**	**170.97**	**151**	PKP	**PKPdf**	**01 34 43.0**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=188,slow=2.1,SNR=3.6						
TORD				PKPab	**PKPab**	**01 36 03.4**	**+0.8**
	comp=Z,2.2nm,1.0s,baz=195,slow=2.7,SNR=7.9						

*IDC **20** 01:24:06.9±4.7, 17.71S×178.54W, h482km±52km, mb3.2/11, mbtmp4.0/12, Error ellipse: s-maj=25.7km s-min=17.6km az=71.0*
*NEIC **20** 01:24:08.0±1.4, 17.4S±0.2×177.9W±0.2, h571km±18km, mb4.3/11, Error ellipse: s-maj=31.7km s-min=13.3km az=224.0*

ISC 20 01:24:12.5±0.7, 17.8S±0.1×178.7W±0.1, h550km, n33, σ1.9 20/31, mb3.7/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.09**	**270**	P	**P**	**01 25 30.3**	**+2.1**
NIUE	**Niue**	**8.43**	**100**	P	P	01 26 03.4	-11
DZM	**Mont Dzumac**	**14.61**	**251**	P	**P**	**01 27 20.5**	**+2.4**
DZM				IAmb	IAmb	01 27 38.3	
	comp=Z,8.7nm,1.1s						
DZM	**Mont Dzumac**	**14.61**	**251**	P	**P**	**01 27 15.8**	**-2.3**
	comp=Z,6.6nm,1.0s,baz=77,slow=19,SNR=2.0						
KOUNC	**Koumac, New Ca**	**16.31**	**258**	P	**P**	**01 27 35.7**	**+0.7**
KOUNC				IAmb	IAmb	01 27 49.9	
	comp=Z,16nm,1.0s						
URZ	**Urewera**	**20.74**	**189**	P	**P**	**01 28 13.0**	**-2.1**
	comp=Z,2.1nm,0.3s,baz=6.2,slow=2.2,SNR=6.2						
	comp=Z,2.1nm,0.3s						
THZ	**Touse**	**24.97**	**195**	P	**P**	**01 28 52.1**	**-0.9**
FOZ	**Fox Glacier**	**27.46**	**198**	P	**P**	**01 29 13.3**	**-1.4**
MLZ	**Mavora Lakes**	**29.64**	**199**	P	**P**	**01 29 33.5**	**-0.1**
ARMA	**Armidale**	**29.77**	**239**	P	**P**	**01 29 36.0**	**+0.9**
ARMA				IAmb	IAmb	01 29 47.7	
	comp=Z,7.1nm,1.1s						
WHZ	**Wether Hill Ro**	**30.16**	**199**	P	**P**	**01 29 37.5**	**-0.7**
TOO	**Toolangi**	**37.04**	**231**	P	**P**	**01 30 37.2**	**+1.0**
TOO				IAmb	IAmb	01 30 41.4	
	comp=Z,7.9nm,0.9s						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**01 30 48.5**	**+0.8**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**01 30 48.3**	**+0.6**
	comp=Z,2.2nm,0.4s,baz=81,slow=11,SNR=9.6						
	comp=Z,2.2nm,0.4s						
BBOO	**Buckleboo**	**43.23**	**241**	P	**P**	**01 31 26.2**	**+0.5**
BBOO				IAmb	IAmb	01 31 26.5	
	comp=Z,5.9nm,0.4s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**01 31 34.7**	**-0.1**
	comp=Z,0.7nm,0.5s,baz=96,slow=7.4,SNR=6.7						
	comp=Z,0.7nm,0.5s						
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**01 31 35.2**	**-1.0**
ASAR	**Alice Springs**	**44.56**	**254**	P	**P**	**01 31 36.4**	**+0.2**
	comp=Z,8.4nm,0.5s,baz=89,slow=8.1,SNR=142						
	comp=Z,8.4nm,0.5s						
FORT	**Forrest**	**49.81**	**244**	P	**P**	**01 32 14.9**	**-0.6**
FORT				IAmb	IAmb	01 32 23.8	
	comp=Z,9.5nm,0.9s						
SOEI	**Soe**	**55.79**	**270**	P	**P**	**01 32 56.6**	**-1.8**
SOEI				IAmb	IAmb	01 33 09.5	
	comp=Z,27nm,0.8s						
SBA	**Scott Base**	**60.54**	**184**	P	P	01 33 20.9	-8.4
VNDA	**Vanda**	**60.56**	**185**	P	**P**	**01 33 30.7**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=21,slow=1.8,SNR=2.0						
	comp=Z,0.3nm,0.6s						
MJAR	**Matsushiro Arr**	**67.63**	**323**	P	**P**	**01 34 15.1**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=129,slow=4.4,SNR=4.5						
	comp=Z,0.9nm,0.6s						
QSPA	**South Pole Qui**	**72.28**	**180**	P	**P**	**01 34 42.4**	**+0.1**
QSPA	**South Pole Qui**	**72.28**	**180**	P	**P**	**01 34 42.8**	**+0.5**
	comp=Z,1.7nm,0.7s,baz=24,slow=19,SNR=11						
	comp=Z,1.7nm,0.7s						
PETK	**Petropavlovsk-**	**73.47**	**345**	P	**P**	**01 34 49.3**	**+0.2**
	comp=Z,1.6nm,0.7s,baz=130,slow=8.3,SNR=4.0						
	comp=Z,1.6nm,0.7s						
ILAR	**Eielson Array**	**85.81**	**13**	P	**P**	**01 35 52.6**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=224,slow=5.2,SNR=9.4						
	comp=Z,0.3nm,0.3s						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**01 35 57.0**	**+0.8**
	comp=Z,2.2nm,0.6s,baz=219,slow=7.0,SNR=3.6						
	comp=Z,0.2nm,0.6s						
PDAR	**Pinedale Array**	**87.44**	**44**	P	**P**	**01 36 02.8**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=199,slow=1.9,SNR=2.0						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**144.49**	**315**	PKP	**PKPab**	**01 42 47.3**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=106,slow=2.9,SNR=4.6						
MMAI	**Mount Meron Ar**	**145.83**	**303**	PKPbc	**PKiKP**	**01 42 51.9**	**-1.8**
	comp=Z,0.3nm,0.5s,baz=76,slow=6.1,SNR=3.8						
GERES	**GERESS Array B**	**147.40**	**345**	PKPbc	**PKiKP**	**01 42 55.2**	**-1.3**
	comp=Z,0.6nm,0.4s,baz=33,slow=2.3,SNR=5.8						
TORD	**Torodi Ar. Bea**	**175.39**	**185**	PKPab	**PKPab**	**01 45 01.1**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=162,slow=2.6,SNR=2.3						

IDC 20 01:49:46.4±4.5, 6.51S×155.06E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=133.1km s-min=41.1km az=114.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.15**	**234**	P	P	01 55 05.6	+1.2
	2.5nm,0.8s,baz=61,slow=9.7,SNR=7.3						
	2.5nm,0.8s						
ASAR	**Alice Springs**	**26.54**	**228**	P	P	01 55 25.5	-0.7
	0.6nm,0.8s,baz=60,slow=9.5,SNR=7.0						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**83.09**	**319**	P	P	02 02 13.7	-0.4
	0.3nm,0.7s,baz=90,slow=4.3,SNR=3.6						
	0.3nm,0.7s						

*NEIC **20** 01:58:11.1, 19.40N×155.27W, h12km*
*NEIC **20** 01:58:11.1, 19.40N×154.74W, h12km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr=0.88; Mθθ=1.23; Mφφ=-0.34; Mrθ=-0.19; Mθφ=1.76; Mrφ=-2.39; Fault plane solution: Mo3.16000×10^16 NP1:φs17.15000°, δ79.42000°, λ=-128.23000°. NP2:φs274.03000°, δ39.45000°, λ=-16.80000°. Principal axes: T 3.0490, Plg25.0000°, Azm136.0000°; N 0.2312, Plg37.0000°, Azm25.0000°; P -3.2802, Plg43.0000°, Azm251.0000°;*
*NEIC **20** 01:58:12.9±1.9, 19.42N±0.01×155.253W±0.007, h5km±1km Error ellipse: s-maj=2.7km s-min=2.0km az=10.0*
*GCMT **20** 01:58:32.3±0.4, 19.29N±0.03×155.25W±0.04, h12km, MW4.8/77, Moment Tensor Solution. s15,c17; s77,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.15±.08; Mθθ=1.51±.08; Mφφ=0.64±.08; Mrθ=-0.57±.35; Mφθ=0.73±.07; Mφr=0.13±.37; Best double couple: Mo2.11600×10^16 NP1:φs70.00000°, δ52.00000°, λ=-79.00000°. NP2: φs232.00000°, δ40.00000°, λ=-104.00000°. Principal axes: T 1.9720, Plg6.0000°, Azm152.0000°; N 0.2930, Plg9.0000°, Azm243.0000°; P -2.2590, Plg79.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
HVO 20 01:58:13.3±2.0, 19.405N±0.008×155.281W±0.008, h0km±1km, Md3.1/3, ML2.0/37(NEIC), Mww4.9/6(NEIC) Error ellipse: s-maj=2.7km s-min=1.5km az=145.0, Hawaiian Islands

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

COEN	**Coen**	**28.15**	**139**	P		**P**		**02 27 44.8**	**-1.1**
COEN				IAmb		IAmb		02 27 58.6	
	comp=Z,14nm,1.1s								
WB0	**Warramunga Arr**	**28.75**	**161**	P		**P**		**02 27 50.1**	**-1.1**
WB0				IAmb		IAmb		02 27 53.5	
	comp=Z,5.1nm,1.0s								
WRA	**Warramunga Arr**	**28.90**	**161**	P		**P**		**02 27 52.8**	**+0.3**
WRA	**Warramunga Arr**	**28.90**	**161**	P		**P**		**02 27 51.8**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=332,slow=11,SNR=4.2								
	comp=Z,1.0nm,0.8s								
WB2	**Warramunga Arr**	**28.90**	**161**	P		**P**		**02 27 51.7**	**-0.8**
WB2				IAmb		IAmb		02 28 06.5	
	comp=Z,2.9nm,0.8s								
ASAR	**Alice Springs**	**32.28**	**164**	P		**P**		**02 28 22.5**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=343,slow=7.2,SNR=13								
	comp=Z,0.8nm,0.6s								
USRK	**Ussuriysk Ar.**	**37.09**	**9**	P		**P**		**02 29 03.2**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=199,slow=4.0,SNR=4.4								
	comp=Z,1.4nm,0.7s								
ASAJ	**Asahikawa**	**39.68**	**20**	LR		LR		02 44 22.0	
	comp=Z,59nm,21.6s,baz=310,slow=34								
STKA	**Stephens Creek**	**42.38**	**158**	P		**P**		**02 29 47.3**	**-0.5**
	comp=Z,1.3nm,0.7s,baz=304,slow=7.3,SNR=1.8								
	comp=Z,1.3nm,0.7s								
SONM	**Songino Array**	**43.08**	**342**	P		**P**		**02 29 54.5**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=161,slow=9.2,SNR=2.4								
	comp=Z,0.3nm,0.4s								
PETK	**Petropavlovsk-**	**52.78**	**24**	P		**P**		**02 31 09.6**	**+1.3**
	comp=Z,1.8nm,0.9s,baz=202,slow=6.2,SNR=2.7								
	comp=Z,1.8nm,0.9s								
MK31	**Makanchi Array**	**53.30**	**325**	P		**P**		**02 31 11.4**	**-1.0**
MKAR	**Makanchi Array**	**53.30**	**325**	P		**P**		**02 31 10.6**	**-1.8**
MKAR	**Makanchi Array**	**53.30**	**325**	P		**P**		**02 31 13.4**	**+1.1**
	comp=Z,1.6nm,0.9s,baz=127,slow=8.1,SNR=9.2								
	comp=Z,1.6nm,0.9s								
ZALV	**Zalesovo Beam**	**56.30**	**333**	P		**P**		**02 31 34.1**	**+0.2**
	comp=Z,1.0nm,0.6s,baz=96,slow=7.2,SNR=4.9								
	comp=Z,1.0nm,0.6s								
KURBB	**Kurchatov Arra**	**57.47**	**327**	P		**P**		**02 31 43.0**	**+0.8**
	comp=Z,1.7nm,0.9s,baz=131,slow=5.8,SNR=15								
	comp=Z,1.7nm,0.9s								
KURK	**Kurchatov**	**57.47**	**327**	P		**P**		**02 31 42.2**	**-0.1**
KKAR	**Karatay Array**	**59.09**	**316**	P		**P**		**02 31 52.5**	**-1.3**
BVAR	**Borovoye Array**	**63.05**	**327**	P		**P**		**02 32 20.6**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=140,slow=9.1,SNR=3.3								
	comp=Z,0.5nm,0.4s								
GEYT	**Alibeck**	**66.95**	**308**	P		**P**		**02 32 46.6**	**+0.4**
	comp=Z,0.3nm,0.3s,baz=75,slow=7.8,SNR=1.4								
	comp=Z,0.3nm,0.3s								
ILAR	**Eielson Array**	**82.59**	**26**	P		**P**		**02 34 17.8**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=252,slow=4.6,SNR=2.2								
	comp=Z,0.2nm,0.5s								
I28M	**Miner Creek**	**85.46**	**25**	P		**P**		**02 34 29.6**	**-1.3**
I28M				IAmb		IAmb		02 34 38.4	
	comp=Z,3.7nm,1.1s								
I30M	**Mount Dempster**	**86.97**	**25**	P		**P**		**02 34 38.8**	**+0.3**
I30M				IAmb		IAmb		02 34 57.6	
	comp=Z,1.0nm,0.9s								
NOA	**NORSAR Array B**	**94.50**	**333**	LR		LR		03 20 48.8	
	comp=Z,41nm,18.5s,baz=180,slow=37								
TXAR	**Lajitas Array**	**120.81**	**49**	PKP		**PKiKP**		**02 40 46.4**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=316,slow=3.8,SNR=2.9								

*IDC **20** 02:47:31.1±0.6,5°.88S×151°.66E,h0km,mb4.0/19, mbtmp4.1/19,MS3.9/32,Error ellipse: s-maj=24.2km s-min=14.7km az=92.0*

*NEIC **20** 02:47:34.2±1.2,5°.78S±0°.08×151°.4E±0°.1,h10km±1km, mb5.0/112,Error ellipse: s-maj=20.7km s-min=11.9km az=115.0*

*DJA **20** 02:47:34.2±0.6,6°S±6°×15°2E±1°2,h20km±3km,M5.0/6, mB5.3/1,mb4.7/6,MLv5.2/1,Mw(mB)4.8/1*

*BJI **20** 02:47:37.4±0.0,5°.37S×151°.18E,h10km,mb4.5/19, mB5.0/12,Ms4.5/6,Ms7 4.3/6*

ISC 20 02:47:38.5±0.3,5°.84S±0°.05×151°.53E±0°.06,h41km,n284,
σ1°29/260,mb4.9/81,MS4.0/34,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.75**	**21**		**Pn**	**02 48 04.5**	**-1.9**
PMG	**Port Moresby**	**5.60**	**230**	Pn	**Pn**	**02 48 59.5**	**+0.2**
	14nm,0.3s,baz=59,slow=8.9,SNR=20						
PMG				Sn	**Sn**	**02 50 05.5**	**+3.1**
	32nm,0.3s,baz=97,slow=19,SNR=6.0						
MANU	**Manus Island**	**5.61**	**312**		Pn	02 49 04.5	+5.0
HNR	**Honiara**	**9.07**	**114**	LR	LR	02 52 57.9	
	comp=Z,10μm,18.3s,baz=316,slow=37						
COEN	**Coen**	**11.53**	**225**	Pn	**Pn**	**02 50 18.0**	**-2.6**
PATS	**Pohnpei**	**14.29**	**28**	P	**Pn**	**02 50 57.6**	**-0.7**
	baz=14,SNR=3.1						
CTAO	**Charters Tower**	**15.07**	**199**	Pn	**Pn**	**02 51 09.6**	**+0.9**
QIS	**Mount Isa**	**18.66**	**217**	P	**Pn**	**02 51 53.2**	**-0.6**
	baz=19,SNR=4.1						
EIDS	**Eidsvold**	**19.43**	**181**	P	**Pn**	**02 52 05.3**	**+2.4**
	baz=20,SNR=4.8						
EIDS	**Eidsvold**	**19.43**	**181**	P	**P**	**02 51 59.8**	**-1.6**
EIDS	**Eidsvold**	**19.43**	**181**	P	**P**	**02 51 59.5**	**-2.0**
KDU	**Kakadu**	**20.00**	**249**	P	**Pn**	**02 52 08.5**	**-1.2**
	baz=20,SNR=9.6						
KDU	**Kakadu**	**20.00**	**249**	P	**Pn**	**02 52 07.9**	**-1.8**
GUMO	**Guam**	**20.40**	**341**	P	**P**	**02 52 11.0**	**-1.1**
	37nm,0.9s,baz=150,slow=12,SNR=2.8						
	37nm,0.9s						
MTN	**Manton Dam**	**21.29**	**249**	P	**P**	**02 52 21.9**	**+0.2**
	baz=21,SNR=8.0						
MTN	**Manton Dam**	**21.29**	**249**	P	**P**	**02 52 20.4**	**-1.3**
MTN				IAmb	IAmb	02 52 36.0	
	comp=Z,70nm,1.3s						
DRS	**Darwin Rock St**	**21.39**	**251**	P	**P**	**02 52 23.7**	**+0.9**
AUWSH	**Wavell State H**	**21.49**	**176**	P	**P**	**02 52 23.7**	**-0.1**
DZM	**Mont Dzumac**	**21.64**	**140**	*e*LR	LR	02 57 35.1	
	comp=Z,777nm,23.7s						
DZM	**Mont Dzumac**	**21.64**	**140**	P	**P**	**02 52 28.6**	**+3.1**
DZM	**Mont Dzumac**	**21.64**	**140**	P	**P**	**02 52 21.7**	**-3.8**
	comp=Z,3.7nm,0.6s,baz=331,slow=13,SNR=1.9						
DZM				LR	LR	02 59 49.0	
	comp=Z,621nm,18.7s,baz=292,slow=34						
	comp=Z,3.7nm,0.6s						
WB0	**Warramunga Arr**	**21.67**	**229**	P	**P**	**02 52 25.8**	**0.0**
WR0	**Warramunga Arr**	**21.68**	**228**	P	**P**	**02 52 25.2**	**-0.6**
QLP	**Quilpie**	**21.77**	**198**	P	**P**	**02 52 24.7**	**-2.1**
WC3	**Warramunga Arr**	**21.80**	**228**	P	**P**	**02 52 28.5**	**+1.3**
	baz=22						
WB2	**Warramunga Arr**	**21.81**	**228**	P	**P**	**02 52 26.7**	**-0.6**
WB2				IAmb	IAmb	02 52 37.8	
	comp=Z,118nm,1.8s						
WRA	**Warramunga Arr**	**21.82**	**228**	P	**P**	**02 52 27.3**	**-0.1**
WRA	**Warramunga Arr**	**21.82**	**228**	P	**P**	**02 52 26.2**	**-1.2**
	comp=Z,6.8nm,0.7s,baz=54,slow=10.0,SNR=30						
WRA				PcP	**PcP**	**02 56 26.7**	**+0.1**
	comp=Z,1.1nm,0.7s,baz=44,slow=2.3,SNR=3.8						
WRA				LR	LR	03 01 34.8	
	comp=Z,391nm,18.7s,baz=36,slow=39						
	comp=Z,6.8nm,0.7s						
INKA	**Innaminka**	**24.08**	**204**	P	**P**	**02 52 48.7**	**-1.4**
ASAR	**Alice Springs**	**24.54**	**222**	P	**P**	**02 52 54.6**	**+0.1**
ASAR	**Alice Springs**	**24.54**	**222**	P	**P**	**02 52 53.4**	**-1.1**
	comp=Z,20nm,1.1s,baz=58,slow=8.8,SNR=91						
	comp=Z,20nm,1.1s						
OOD	**Oodnadatta**	**26.52**	**213**	P	**P**	**02 53 11.1**	**-1.3**
SOEI	**Soe**	**27.29**	**260**	P	**P**	**02 53 19.7**	**+0.2**
SOEI				IAmb	IAmb	02 53 52.5	
	comp=Z,32nm,0.8s						
LCRK	**Leigh Creek**	**27.50**	**206**	P	**P**	**02 53 20.1**	**-1.0**
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**02 53 21.9**	**+0.6**
	baz=28						
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**02 53 20.6**	**-0.7**
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**02 53 21.2**	**-0.1**
STKA	**Stephens Creek**	**27.52**	**199**	P	**P**	**02 53 19.3**	**-2.0**
	comp=Z,5.0nm,0.9s,baz=3.8,slow=12,SNR=5.9						
STKA				LR	LR	03 04 24.2	
	comp=Z,158nm,18.3s,baz=14,slow=37						
	comp=Z,5.0nm,0.9s						
BATI	**Baumata**	**27.93**	**259**	LR	LR	03 06 27.1	
	comp=Z,446nm,21.9s,baz=114,slow=40						
FITZ	**Fitzroy Crossi**	**28.06**	**242**	P	**P**	**02 53 25.8**	**-0.5**
	baz=28,SNR=6.7						
FITZ	**Fitzroy Crossi**	**28.06**	**242**	P	**P**	**02 53 25.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**28.06**	**242**	P	**P**	**02 53 25.6**	**-0.7**
MSVF	**Nonsavu**	**28.47**	**117**	P	**P**	**02 53 30.3**	**+0.2**
MSVF				IAmb	IAmb	02 53 50.8	
	comp=Z,31nm,1.2s						
WRKA	**Warakurna**	**29.33**	**227**	P	**P**	**02 53 35.9**	**-1.7**
	baz=30,SNR=13						
WRKA	**Warakurna**	**29.33**	**227**	P	**P**	**02 53 36.1**	**-1.5**
MULG	**Mulgathing**	**29.36**	**212**	P	**P**	**02 53 35.4**	**-2.3**
BBOO	**Buckleboo**	**30.47**	**206**	P	**P**	**02 53 50.2**	**+2.7**
	baz=31						
BBOO	**Buckleboo**	**30.47**	**206**	P	**P**	**02 53 45.0**	**-2.5**
KAPI	**Kappang**	**31.65**	**270**	LR	LR	03 09 52.2	
	comp=Z,97nm,18.3s,baz=90,slow=42						
ARPS	**Mount Arapiles**	**32.04**	**195**	P	**P**	**02 54 03.8**	**+2.5**
	baz=32						
TOO	**Toolangi**	**32.06**	**189**	P	**P**	**02 54 02.5**	**+1.0**
FORT	**Forrest**	**33.19**	**219**	P	**P**	**02 54 15.5**	**+4.0**
	baz=33						
FORT	**Forrest**	**33.19**	**219**	P	**P**	**02 54 09.7**	**-1.8**
FORT	**Forrest**	**33.19**	**219**	P	**P**	**02 54 08.8**	**-2.7**
JCJ	**Chichijima**	**33.97**	**345**	LR	LR	03 06 44.7	
	comp=Z,111nm,21.7s,baz=128,slow=34						
MBWA	**Marble Bar**	**34.37**	**241**	P	**P**	**02 54 20.8**	**-1.0**
PSA00	**Pilbara Seismi**	**34.42**	**240**	P	**P**	**02 54 21.2**	**-1.1**
RAO	**Raoul Island**	**37.07**	**133**	LR	LR	03 05 32.3	
	comp=Z,76nm,20.8s,baz=206,slow=29						
MEEK	**Meekatharra**	**37.58**	**233**	P	**P**	**02 54 48.3**	**-1.0**
	baz=38,SNR=11						
JOW	**Kunigami**	**39.52**	**326**	LR	LR	03 09 34.6	
	comp=Z,156nm,19.1s,baz=185,slow=33						
TCW	**Tory Channel**	**40.66**	**153**	P	**P**	**02 55 15.5**	**+0.8**
NWAO	**Narrogin (SRO)**	**41.77**	**225**	LR	LR	03 13 25.5	
	comp=Z,194nm,20.4s,baz=338,slow=37						
LEM	**Lembang**	**43.65**	**266**	LR	LR	03 16 25.8	
	comp=Z,129nm,21.0s,baz=358,slow=40						
MJAR	**Matsushiro Arr**	**43.97**	**344**	LR	LR	03 13 06.1	
	comp=Z,150nm,18.3s,baz=182,slow=35						
QIZ	**Qiongzhong**	**47.93**	**302**	P	**P**	**02 56 14.9**	**+1.7**
QIZ				S	**S**	**03 03 12.9**	**+4.6**
QIZ				LR	LR		
	comp=Z,100nm,14.6s						
QIZ				LR	LR		
	comp=Z,120nm,21.8s						
QIZ				LR	LR		
	comp=Z,150nm,23.0s						
KSRS	**Korea Array**	**48.37**	**335**	P	**P**	**02 56 15.2**	**-1.2**
	comp=Z,0.4nm,0.5s,baz=149,slow=7.7,SNR=1.8						
	comp=Z,0.4nm,0.5s						
NJ2	**Nanjing**	**48.87**	**323**	*e*P	**P**	**02 56 20.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.5s						
GYA	**Guiyang**	**54.03**	**309**	*e*P	**P**	**02 56 56.6**	**-2.6**
GYA				pmax	pmax		
	comp=Z,28nm,0.8s						
GYA				pmax	pmax		
	comp=Z,190nm,5.1s						
CN2	**Changchun**	**54.74**	**337**	*e*P	**P**	**02 57 05.9**	**+2.1**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HNS	**HongShan**	**55.03**	**324**	*e*P	P	02 57 12.6	+6.5
HNS				LR	LR		
	comp=Z,200nm,16.7s						
HNS				LR	LR		
	comp=Z,240nm,17.7s						
BNX	**BinXian**	**55.69**	**340**	⇓P	P	02 57 15.8	+5.2
BNX				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BNX				pmax	pmax		
	comp=Z,140nm,6.5s						
CMAR	**Chiang Mai Arr**	**57.19**	**296**	P	**P**	**02 57 22.1**	**+0.3**
	comp=Z,0.5nm,0.3s,baz=130,slow=11,SNR=1.3						
CMAR				LR	LR	03 21 52.3	
	comp=Z,34nm,19.0s,baz=140,slow=36						
	comp=Z,0.5nm,0.3s						
KLR	**Kul'dur**	**57.49**	**345**	LR	LR	03 21 21.3	
	comp=Z,69nm,19.3s,baz=264,slow=35						
PZH	**PanZhiHua**	**57.95**	**306**	P	**P**	**02 57 28.0**	**+0.8**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.1s						
PPT2	**Papeete2**	**58.62**	**107**	*e*P	**P**	**02 57 31.1**	**-0.9**
	comp=Z,19nm,18.8s						
PPT2				*e*S	**S**	**03 05 40.1**	**+6.2**
	comp=Z,71nm,23.0s						
PPT2				*e*LR	LR	03 14 52.8	
	comp=Z,58nm,24.0s						
XLT	**XiLinHaoTe**	**58.93**	**331**	*e*P	**P**	**02 57 32.8**	**-0.9**
XLT				pmax	pmax		
	comp=Z,13nm,0.8s						
XLT				pmax	pmax		
	comp=Z,130nm,6.9s						
PETK	**Petropavlovsk-**	**58.95**	**4**	P	**P**	**02 57 32.8**	**-0.7**
	comp=Z,1.9nm,1.0s,baz=175,slow=5.7,SNR=4.1						
PETK				LR	LR	03 23 43.8	
	comp=Z,79nm,18.5s,baz=215,slow=37						
	comp=Z,1.9nm,1.0s						
HHC	**Hu-ho-hao-te**	**59.16**	**325**	*e*P	**P**	**02 57 37.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,6.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,110nm,4.9s						
TBI	**Tubuai**	**59.29**	**114**	*e*LR	LR	03 15 03.1	
	comp=Z,340nm,32.0s						
SHEM	**Shemya Is, Ala**	**61.41**	**15**	LR	LR	03 20 02.6	
	comp=Z,140nm,21.7s,baz=230,slow=32						
MA2	**Magadan**	**65.21**	**360**	LR	LR	03 23 20.4	
	comp=Z,51nm,21.7s,baz=272,slow=33						
SONM	**Songino Array**	**66.54**	**329**	P	**P**	**02 58 24.1**	**-0.2**
	comp=Z,0.4nm,0.6s,baz=144,slow=5.3,SNR=5.6						
SONM				LR	LR	03 26 52.4	
	comp=Z,112nm,19.9s,baz=228,slow=35						
	comp=Z,0.4nm,0.6s						
VNDA	**Vanda**	**71.85**	**178**	P	**P**	**02 58 54.5**	**-2.1**
VNDA	**Vanda**	**71.85**	**178**	P	**P**	**02 58 55.0**	**-1.6**
	comp=Z,0.8nm,0.8s,baz=316,slow=7.8,SNR=4.6						
	comp=Z,0.8nm,0.8s						
SBA	**Scott Base**	**72.42**	**177**	P	**P**	**02 58 59.4**	**-0.6**
SBA				IAmb	IAmb	02 59 33.6	
	comp=Z,16nm,1.7s						
O14K	**Tigyukauivet M**	**74.89**	**23**	P	**P**	**02 59 14.7**	**-0.1**
O15K	**Ungalikthiuk R**	**75.41**	**24**	P	**P**	**02 59 17.9**	**+0.2**
	baz=231						
M14K	**Bethel**	**75.62**	**22**	P	**P**	**02 59 18.7**	**-0.2**
M14K	**Bethel**	**75.62**	**22**	P	**P**	**02 59 19.5**	**+0.6**
	baz=228						
WMQ	**Urumqi**	**75.65**	**318**	*e*P	**P**	**02 59 20.3**	**+0.7**
L14K	**Kuka Creek**	**75.76**	**21**	P	**P**	**02 59 20.4**	**+0.7**
L14K				IAmb	IAmb	02 59 27.3	
	comp=Z,12nm,0.8s						
L14K	**Kuka Creek**	**75.76**	**21**	P	**P**	**02 59 20.8**	**+1.1**
	baz=227						
N15K	**Kwethluk River**	**75.94**	**23**	P	**P**	**02 59 21.3**	**+0.5**
	baz=230						
K15K	**Wolf Creek Mou**	**76.81**	**21**	P	**P**	**02 59 26.2**	**+0.5**
K15K				IAmb	IAmb	02 59 35.9	
	comp=Z,12nm,0.8s						
K15K	**Wolf Creek Mou**	**76.81**	**21**	P	**P**	**02 59 26.5**	**+0.8**
	baz=228						
M16K	**Timber Creek**	**76.92**	**22**	P	**P**	**02 59 26.0**	**-0.3**
M16K				IAmb	IAmb	02 59 34.0	
	comp=Z,12nm,0.8s						
M16K	**Timber Creek**	**76.92**	**22**	P	**P**	**02 59 27.0**	**+0.7**
	baz=231						
L16K	**Owhat River**	**77.16**	**22**	P	**P**	**02 59 27.6**	**0.0**
L16K	**Owhat River**	**77.16**	**22**	P	**P**	**02 59 28.0**	**+0.3**
	baz=230						
KDAK	**Kodiak Island**	**77.67**	**27**	LR	LR	03 28 10.6	
	comp=Z,66nm,19.4s,baz=246,slow=31						
M17K	**Holitna River**	**77.73**	**23**	P	**P**	**02 59 31.2**	**+0.3**
M17K				IAmb	IAmb	02 59 46.4	
	comp=Z,30nm,1.6s						
Q19K	**Cape Douglas,**	**77.83**	**26**	P	**P**	**02 59 31.7**	**+0.3**
N18K	**Kilae Creek**	**77.90**	**24**	P	**P**	**02 59 32.5**	**+0.6**
N18K				IAmb	IAmb	02 59 46.1	
	comp=Z,9.6nm,0.9s						
I17K	**Unalakleet**	**78.15**	**20**	P	**P**	**02 59 34.7**	**+1.6**
K17K	**Iditarod**	**78.23**	**21**	P	**P**	**02 59 34.0**	**+0.4**
K17K				IAmb	IAmb	02 59 44.6	
	comp=Z,23nm,1.1s						
J17K	**VABM Dome**	**78.38**	**20**	P	**P**	**02 59 35.1**	**+0.7**
J17K				IAmb	IAmb	02 59 44.9	
	comp=Z,13nm,0.8s						
J17K	**VABM Dome**	**78.38**	**20**	P	**P**	**02 59 35.4**	**+1.0**
	baz=230						
L18K	**Granite Mounta**	**78.51**	**22**	P	**P**	**02 59 35.8**	**+0.7**
L18K				IAmb	IAmb	02 59 45.7	
	comp=Z,13nm,0.9s						
L18K	**Granite Mounta**	**78.51**	**22**	P	**P**	**02 59 36.2**	**+1.1**
	baz=233						
N19K	**Bonanza Creek**	**78.54**	**24**	P	**P**	**02 59 35.2**	**-0.3**
N19K				IAmb	IAmb	02 59 45.0	
	comp=Z,7.1nm,0.6s						
TIXI	**Tiksi**	**78.76**	**353**	LR	LR	03 31 04.9	
	comp=Z,37nm,21.7s,baz=149,slow=33						
L19K	**White Mountain**	**79.18**	**23**	P	**P**	**02 59 39.0**	**+0.1**
L19K				IAmb	IAmb	02 59 46.4	
	comp=Z,9.8nm,0.9s						
L19K	**White Mountain**	**79.18**	**23**	P	**P**	**02 59 39.5**	**+0.6**
	baz=235						
CNPM	**China Poot**	**79.19**	**26**	P	**P**	**02 59 38.6**	**-0.4**
M19K	**Big River Lodg**	**79.20**	**23**	P	**P**	**02 59 39.6**	**+0.6**
	baz=235						
M20K	**Styx River**	**79.68**	**23**	P	**P**	**02 59 41.9**	**+0.2**
	baz=236						
L20K	**Farewell, AK**	**79.73**	**23**	P	**P**	**02 59 42.4**	**+0.6**
	baz=236						
E17K	**Hotham Inlet**	**79.95**	**17**	P	**P**	**02 59 43.6**	**+0.8**
	baz=227						
J19K	**Poorman**	**79.97**	**21**	P	**P**	**02 59 43.4**	**+0.3**
J19K	**Poorman**	**79.97**	**21**	P	**P**	**02 59 43.6**	**+0.5**
	baz=234						
G18K	**Tagagawik**	**80.12**	**19**	P	**P**	**02 59 43.8**	**-0.1**
G18K	**Tagagawik**	**80.12**	**19**	P	**P**	**02 59 44.1**	**+0.3**
	baz=231						
MKAR	**Makanchi Array**	**80.28**	**319**	P	**P**	**02 59 44.3**	**-0.8**
MKAR	**Makanchi Array**	**80.28**	**319**	P	**P**	**02 59 44.0**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=111,slow=5.2,SNR=4.2						
MKAR				LR	LR	03 34 30.7	
	comp=Z,39nm,20.9s,baz=52,slow=35						
	comp=Z,0.1nm,0.4s						
E18K	**Tukpahlearik C**	**80.53**	**17**	P	**P**	**02 59 46.3**	**+0.3**
J20K	**Nowinta River**	**80.60**	**21**	P	**P**	**02 59 46.5**	**+0.1**
J20K				IAmb	IAmb	02 59 57.5	
	comp=Z,37nm,1.6s						
J20K	**Nowinta River**	**80.60**	**21**	P	**P**	**02 59 47.2**	**+0.7**
	baz=235						
H19K	**Roundabout Mou**	**80.61**	**19**	P	**P**	**02 59 46.5**	**+0.1**
H19K				IAmb	IAmb	02 59 56.4	
	comp=Z,16nm,1.2s						
H19K	**Roundabout Mou**	**80.61**	**19**	P	**P**	**02 59 47.0**	**+0.6**
	baz=233						
G19K	**Purcell Mounta**	**80.78**	**19**	P	**P**	**02 59 46.6**	**-0.8**
CAST	**Castle Rocks**	**80.93**	**22**	P	**P**	**02 59 48.0**	**-0.3**
F19K	**Shaleruckik Mo**	**80.99**	**18**	P	**P**	**02 59 48.3**	**-0.2**
F19K	**Shaleruckik Mo**	**80.99**	**18**	P	**P**	**02 59 48.5**	**+0.1**
	baz=231						
CHUM	**Lake Minchumin**	**81.10**	**22**	P	**P**	**02 59 49.4**	**+0.3**
	baz=237						
ZALV	**Zalesovo Beam**	**81.32**	**327**	P	**P**	**02 59 48.6**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=109,slow=7.6,SNR=3.7						
ZALV				LR	LR	03 35 49.7	
	comp=Z,61nm,21.1s,baz=112,slow=36						
	comp=Z,0.7nm,0.4s						
E19K	**Redstone River**	**81.55**	**18**	P	**P**	**02 59 51.8**	**+0.3**
E19K				IAmb	IAmb	03 00 01.6	
	comp=Z,17nm,0.8s						
E19K	**Redstone River**	**81.55**	**18**	P	**P**	**02 59 52.1**	**+0.6**
	baz=232						
SML	**Sawmill**	**81.58**	**25**	P	**P**	**02 59 51.6**	**-0.2**
SML				IAmb	IAmb	02 59 58.5	
	comp=Z,14nm,0.7s						
SML	**Sawmill**	**81.58**	**25**	P	**P**	**02 59 51.7**	**-0.1**
	baz=241						
BPAW	**Bear Paw Mtn.**	**81.71**	**22**	P	**P**	**02 59 52.0**	**-0.4**
H21K	**Melozitna Rive**	**81.91**	**20**	P	**P**	**02 59 53.4**	**0.0**
H21K	**Melozitna Rive**	**81.91**	**20**	P	**P**	**02 59 53.6**	**+0.2**
	baz=236						
G21K	**Allakaket**	**82.16**	**19**	P	**P**	**02 59 54.4**	**-0.4**
G21K	**Allakaket**	**82.16**	**19**	P	**P**	**02 59 55.1**	**+0.4**
	baz=235						
RND	**Reindeer**	**82.17**	**23**	P	**P**	**02 59 53.7**	**-1.2**
RND				IAmb	IAmb	03 00 03.4	
	comp=Z,14nm,1.1s						
MCK	**McKinley**	**82.30**	**23**	P	**P**	**02 59 54.6**	**-0.9**
	baz=240						
MLY	**Manley**	**82.30**	**21**	P	**P**	**02 59 55.2**	**-0.3**
MLY				IAmb	IAmb	03 00 04.8	
	comp=Z,8.2nm,0.6s						
MLY	**Manley**	**82.30**	**21**	P	**P**	**02 59 55.0**	**-0.5**
	baz=238						
NEA2	**Nenana**	**82.68**	**22**	P	**P**	**02 59 55.9**	**-1.6**
NEA2				IAmb	IAmb	03 00 05.9	
	comp=Z,9.8nm,0.9s						
I23K	**Minto, Yukon-K**	**82.86**	**21**	P	**P**	**02 59 57.7**	**-0.6**
I23K				IAmb	IAmb	03 00 08.8	
	comp=Z,12nm,1.3s						
I23K	**Minto, Yukon-K**	**82.86**	**21**	P	**P**	**02 59 57.9**	**-0.4**
	baz=239						
WRH	**Wood River Hil**	**82.99**	**22**	P	**P**	**02 59 57.5**	**-1.6**
G22K	**Bettles**	**83.05**	**19**	P	**P**	**02 59 59.7**	**+0.4**
	baz=237						
H23K	**Yukon River**	**83.14**	**21**	P	**P**	**02 59 59.0**	**-0.8**
H23K				IAmb	IAmb	03 00 09.5	
	comp=Z,21nm,1.6s						
H23K	**Yukon River**	**83.14**	**21**	P	**P**

baz=247
BCAR Beaver Creek A 84.87 25 P P 03 00 08.9 +0.2
C23K Itkillik River 84.91 17 P 03 00 08.9 +0.2
C23K IAmb IAmb 03 00 18.9
comp=Z,13nm,1.1s
FYU Fort Yukon 85.03 21 P 03 00 09.8 +0.5
YUK8 Steele Glacier 85.06 27 P P 03 00 10.8 +0.8
baz=249
D24K Happy Valley 85.09 18 P P 03 00 09.4 -0.3
D24K IAmb IAmb 03 00 19.7
comp=Z,8.2nm,0.8s
D24K Happy Valley 85.09 18 P P 03 00 10.2 +0.6
baz=240
K27K Chicken 85.14 24 P P 03 00 09.5 -0.5
K27K IAmb IAmb 03 00 20.3
comp=Z,12nm,1.2s
K27K Chicken 85.14 24 P P 03 00 10.8 +0.8
baz=246
ARSB Arslanbob 85.28 312 P P 03 00 10.6 -0.9
E25K Arctic Village 85.63 20 P 03 00 10.8 -1.6
BMAR Burnt Mountain 85.65 20 P P 03 00 13.0 +0.4
EGAK Eagle 85.80 23 P P 03 00 13.5 +0.2
EGAK IAmb IAmb 03 00 23.1
comp=Z,13nm,1.1s
EGAK Eagle 85.80 23 P P 03 00 13.6 +0.3
baz=247
F26K Sheenjek River 85.92 20 P P 03 00 14.7 +0.8
baz=244
D25K Kavik River 85.93 18 P P 03 00 13.6 -0.3
D25K IAmb IAmb 03 00 24.0
comp=Z,9.9nm,1.1s
D25K Kavik River 85.93 18 P P 03 00 13.4 -0.5
baz=242
HYT Haines Junctio 85.93 28 P P 03 00 14.3 +0.1
I27K Kandik River 85.95 23 P P 03 00 14.6 +0.5
baz=247
M29M Somme Creek 86.06 26 P P 03 00 14.8 +0.1
M29M Somme Creek 86.06 26 P P 03 00 15.5 +0.8
baz=250
H27K Steamboat Moun 86.24 22 P P 03 00 16.2 +0.7
baz=247
DAWY Dawson 86.24 24 P P 03 00 15.9 +0.4
DAWY IAmb IAmb 03 00 25.7
comp=Z,22nm,1.4s
DAWY Dawson 86.24 24 P P 03 00 16.2 +0.7
baz=249
N30M Aishikik Lake 86.33 27 P P 03 00 16.8 +0.7
baz=251
G27K Doyon Strip 86.42 21 P P 03 00 16.7 +0.3
G27K Doyon Strip 86.42 21 P P 03 00 16.9 +0.6
baz=246
L29M L29M 86.43 25 P P 03 00 16.9 +0.4
L29M L29M 86.43 25 P P 03 00 17.5 +1.0
baz=250
I28M Miner Creek 86.54 23 P P 03 00 16.8 -0.2
I28M IAmb IAmb 03 00 24.1
comp=Z,5.0nm,0.6s
I28M Miner Creek 86.54 23 P P 03 00 17.3 +0.2
baz=248
O30N Mendenhall 86.57 28 P P 03 00 17.9 +0.6
O30N IAmb IAmb 03 00 28.1
comp=Z,15nm,1.2s
M30M Minto, Yukon 86.83 26 P P 03 00 19.1 +0.7
baz=251
C27K Jago River 86.91 18 P P 03 00 19.3 +0.7
baz=244
K29M Barlow Dome 86.94 25 P P 03 00 19.3 +0.2
K29M Barlow Dome 86.94 25 P P 03 00 19.4 +0.4
baz=250
E27K Coleen River 87.00 20 P P 03 00 19.6 +0.4
E27K IAmb IAmb 03 00 26.7
comp=Z,8.6nm,0.7s
E27K Coleen River 87.00 20 P P 03 00 19.9 +0.7
baz=246
WHY Whitehorse 87.10 28 P P 03 00 18.7 -1.2
WHY IAmb IAmb 03 00 30.0
comp=Z,9.5nm,1.1s
I29M Ogilvie Camp, 87.14 23 P P 03 00 19.8 -0.1
I29M IAmb IAmb 03 00 29.5
comp=Z,10.0nm,0.8s
I29M Ogilvie Camp, 87.14 23 P P 03 00 20.1 +0.2
baz=250
F28M Old Crow 87.38 21 P P 03 00 21.3 +0.3
F28M IAmb IAmb 03 00 31.0
comp=Z,6.7nm,0.9s
F28M Old Crow 87.38 21 P P 03 00 21.4 +0.5
baz=248
KK31 Karatay Array 87.43 314 P P 03 00 21.8 +0.1
KKAR Karatay Array 87.43 314 P P 03 00 21.8 +0.1
J30M Hart River 87.67 24 P P 03 00 22.1 -0.5
J30M Hart River 87.67 24 P P 03 00 23.4 +0.9
baz=252
M31M Drury Creek, Y 87.78 27 P P 03 00 22.3 -0.7
M31M IAmb IAmb 03 00 32.7
comp=Z,9.4nm,1.1s
M31M Drury Creek, Y 87.78 27 P P 03 00 23.3 +0.3
baz=253
G29M Pine Creek 87.79 22 P P 03 00 22.8 -0.2
G29M Pine Creek 87.79 22 P P 03 00 23.1 +0.1
baz=250
I30M Mount Dempster 87.86 24 P P 03 00 23.2 -0.2
I30M IAmb IAmb 03 00 33.2
comp=Z,5.3nm,0.8s
I30M Mount Dempster 87.86 24 P P 03 00 23.3 -0.2
baz=251
E28M Babbage River 87.86 20 P P 03 00 23.7 +0.4
E28M Babbage River 87.86 20 P P 03 00 23.9 +0.6
baz=248
P33M Teslin, Yukon 87.96 29 P P 03 00 25.3 +1.3
P33M IAmb IAmb 03 00 33.9
comp=Z,10nm,1.2s
N32M Quiet Lake 88.09 28 P P 03 00 24.9 +0.3
N32M Quiet Lake 88.09 28 P P 03 00 25.4 +0.8
baz=254
EPYK Eagle Plains 88.10 23 P P 03 00 25.0 +0.5
EPYK Eagle Plains 88.10 23 P P 03 00 24.7 +0.2
baz=251
S34M Telegraph Cree 88.22 31 P P 03 00 25.1 -0.1
S34M IAmb IAmb 03 00 36.5
comp=Z,8.5nm,1.1s
E29M Blow River 88.35 20 P 03 00 25.7 +0.1
E29M IAmb IAmb 03 00 36.2
comp=Z,21nm,1.8s
G30M tAoh Zrail Nji 88.49 22 P P 03 00 25.6 -0.7
R33M Jennings River 88.66 30 P P 03 00 26.5 -0.9
BBB Bella Bella 88.68 37 LR LR 03 31 14.8
comp=Z,62nm,21.9s,baz=236,slow=30
H31M Peel River 88.85 23 P P 03 00 27.9 -0.1
H31M IAmb IAmb 03 00 36.7
comp=Z,14nm,1.5s
DLBC Dease Lake 88.91 31 P P 03 00 29.5 +1.0
DLBC IAmb IAmb 03 00 39.1
comp=Z,18nm,1.6s
DLBC Dease Lake 88.91 31 LR LR 03 34 31.6
comp=Z,141nm,20.2s,baz=268,slow=32
G31M Satah River 89.20 22 P P 03 00 29.6 +0.1
G31M IAmb IAmb 03 00 39.1
comp=Z,11nm,0.9s
MMPY Sheldon Lake, 89.30 27 P P 03 00 30.2 0.0
MMPY IAmb IAmb 03 00 40.4
comp=Z,10nm,1.4s
BVAR Borovoye Array 89.31 323 P P 03 00 29.9 -0.5
comp=Z,0.4nm,0.5s,baz=123,slow=5.3,SNR=2.5
comp=Z,0.4nm,0.5s
INK Inuvik 89.87 21 LR LR 03 38 35.6
comp=Z,54nm,21.6s,baz=329,slow=34
YBH Yreka Blue Hor 90.68 48 LR LR 03 37 03.8
comp=Z,121nm,18.8s,baz=250,slow=33
J05D Fort Rock, OR 91.94 47 P P 03 00 43.0 -0.1
A36M Sachs Harbour 93.41 18 P P 03 00 48.6 -0.4
A36M IAmb IAmb 03 00 57.8
comp=Z,10.0nm,1.1s
C36M Paulatuk 93.44 21 P P 03 00 48.1 -1.1
C36M IAmb IAmb 03 00 58.4
comp=Z,13nm,1.4s
C36M Paulatuk 93.44 21 P P 03 00 48.3 -0.9
baz=263
NVAR Mina Array Bea 93.71 52 P P 03 00 49.9 -1.6
comp=Z,0.2nm,0.3s,baz=236,slow=7.5,SNR=4.1
NVAR LR LR 03 37 23.9
comp=Z,136nm,19.7s,baz=278,slow=32
comp=Z,0.2nm,0.3s
PFO Pinyon Flats O 94.86 57 LR LR 03 38 52.8
comp=Z,58nm,18.5s,baz=246,slow=32
NEW Newport 95.21 42 LR LR 03 39 14.4
comp=Z,107nm,18.9s,baz=334,slow=33
ELK Elko 96.21 50 LR LR 03 40 33.8
comp=Z,134nm,19.0s,baz=293,slow=33
ARU Arti 96.47 326 LR LR 03 46 09.1
comp=Z,70nm,19.9s,baz=160,slow=36
YKA Yellowknife Ar 96.93 28 P P 03 01 04.8 -0.5
comp=Z,0.3nm,0.6s,baz=278,slow=5.2,SNR=6.3
YKA LR LR 03 39 01.7
comp=Z,62nm,21.9s,baz=264,slow=32
comp=Z,0.3nm,0.6s
PDAR Pinedale Array 100.47 48 P Pdif 03 01 21.4 -0.5
comp=Z,0.1nm,0.3s,baz=208,slow=1.7,SNR=1.7
WMOK Wichita Mounta 109.47 55 Pdif Pdif 03 01 59.7 -2.2
CLL Collm 123.13 330 *e*PKPdf **PKPdf 03 06 30.0 -0.7**
CLL *ex* x 03 06 34.0
ZVC Zvikov 123.65 328 *e*PKP **PKiKP 03 06 38.0 +6.0**
CKRC Cesky Krumlov 123.95 327 *e*PKP **PKiKP 03 06 38.4 +5.7**
KHC Kasperske Hory 124.16 328 *e*PKP **PKiKP 03 06 38.2 +5.1**
GERES GERESS Array B 124.26 328 PKP **PKPdf 03 06 32.1 -0.9**
comp=Z,0.3nm,0.5s,baz=97,slow=2.3,SNR=1.9
EKA Eskdalemuir Ar 126.64 342 PKP **PKPdf 03 06 37.3 0.0**
comp=Z,1.0nm,0.8s,baz=351,slow=3.6,SNR=2.0
LPAZ La Paz 135.02 120 PKP **PKPdf 03 06 55.5 +0.4**
comp=Z,0.6nm,0.8s,baz=214,slow=3.6,SNR=1.2
ESDC Sonseca Array 139.72 330 PKP **PKPdf 03 07 01.9 -0.5**
comp=Z,0.3nm,0.8s,baz=33,slow=3.1,SNR=2.0
TORD Torodi Ar. Bea 149.40 286 PKPbc **PKPbc 03 07 22.9 -1.3**
comp=Z,1.6nm,0.7s,baz=93,slow=2.2,SNR=18
BDFB Brasilia 151.19 138 PKPbc **PKPbc 03 07 26.8 -1.8**
comp=Z,1.8nm,1.0s,baz=190,slow=6.1,SNR=1.5

*JMA **20** 03:00:24.4±0.1, 36°.3N±0°.3×140°.1E±0°.4, h71km, MV2.7/37, SW IBARAKI PREF*
*IDC **20** 03:00:25.4±4.2, 36°.65N×140°.00E, h64km±40km, mb3.1/3, mbtmp3.4/3, MS3.4/1, Error ellipse: s-maj=38.5km s-min=25.6km az=94.0*
ISC 20 03:00:25.1±1.0, 36°.39N±0°.06×140°.04E±0°.05, h68km±7km, n16, σ0°.79/21, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
JYT	**Yasato**	**0.20**	**142**	P		**Pn**	**03 00 35.2**	**-0.3**
JYT				S		**Sn**	**03 00 43.1**	**+0.2**
JAG	**Ashikaga**	**0.48**	**275**	*i* P		**Pn**	**03 00 37.4**	**-0.1**
JAG				S		**Sn**	**03 00 46.9**	**+0.3**
JKT	**Katashina**	**0.74**	**301**	*i* P		**Pn**	**03 00 40.5**	**+0.1**
JKT				S		**Sn**	**03 00 52.3**	**+0.6**
JRY	**Ryogami san**	**0.99**	**249**	*i* P		**Pn**	**03 00 43.3**	**-0.1**
JRY				S		**Sn**	**03 00 57.0**	**-0.1**
JFY	**Yanaizu**	**1.05**	**345**	P		**Pn**	**03 00 44.1**	**-0.1**
JUON	**Uonuma**	**1.14**	**316**	P		**Pn**	**03 00 45.3**	**0.0**
JFK	**Kawauchi**	**1.19**	**34**	P		**Pn**	**03 00 45.5**	**-0.4**
JFK				*e*S		**Sn**	**03 01 01.4**	**-0.1**
JOTO	**OTAMA OYAMA**	**1.20**	**11**	P		**Pn**	**03 00 46.1**	**+0.1**
JOD2	**Odawara 2**	**1.36**	**215**	P		**Pn**	**03 00 47.5**	**-0.8**
MJAR	**Matsushiro Arr**	**1.49**	**277**	P		**Pn**	**03 00 49.8**	**-0.1**
	14nm,0.3s,baz=89,slow=9.3,SNR=68							
MJAR				S		**Sn**	**03 01 06.6**	**-1.9**
	7.2nm,0.3s,baz=81,slow=27,SNR=5.6							
MAT	**Matsushiro**	**1.49**	**277**	P		**Pn**	**03 00 50.2**	**+0.3**
JNS	**Sasagawa**	**1.54**	**338**	P		**Pn**	**03 00 50.6**	**0.0**
KAPI	**Kappang**	**45.35**	**209**	LR		LR	03 28 06.1	
	comp=Z,37nm,18.6s,baz=288,slow=36							
KURBB	**Kurchatov Arra**	**45.53**	**308**	P		**P**	**03 08 37.5**	**-0.3**
	0.4nm,0.6s,baz=84,slow=8.5,SNR=1.7							
	0.4nm,0.6s							
ILAR	**Eielson Array**	**50.63**	**32**	P		**P**	**03 09 15.7**	**-1.2**
	0.4nm,0.8s,baz=267,slow=6.2,SNR=4.4							
	0.4nm,0.8s							
WRA	**Warramunga Arr**	**56.28**	**186**	P		**P**	**03 10 00.8**	**+2.0**
	0.7nm,1.0s,baz=21,slow=7.3,SNR=2.1							
	0.7nm,1.0s							

*CATAC **20** 03:05:00.1±0.2, 13°.13N×87°.71W, h2km±2km, ML3.2*
*SNET **20** 03:05:01.2±1.3, 13°.19N×87°.78W, h5km, ML3.3*
ISC 20 03:05:00.4±1.0, 13°.12N±0°.04×87°.72W±0°.03, h11km±7km, n34, σ0°.95/51, 1D, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
AMPH	**Amapala**	**0.17**	**20**	*i* P		**Pg**	**03 05 04.2**	**-0.1**
AMPH				*e*S		**Sg**	**03 05 07.6**	**+0.7**
CNCH	**Conchagua**	**0.19**	**324**	*i* P		**Pg**	**03 05 04.3**	**-0.4**
CNCH				*e*S		**Sg**	**03 05 08.1**	**+0.5**
CNCH	**Conchagua**	**0.19**	**324**	*i* P		**Pg**	**03 05 04.2**	**-0.4**
CNCH				*i* S		**Sg**	**03 05 06.5**	**-1.1**
CNCH				IAML			03 05 09.3	
	comp=Z,22μm,1.0s							
LCND	**La Caada**	**0.25**	**318**	*i* P		**Pg**	**03 05 05.2**	**-0.4**
LCND				*i* P		**Pg**	**03 05 05.2**	**-0.4**
LCND				*i* S		**Sg**	**03 05 09.0**	**-0.1**
LCND				IAML			03 05 10.5	
	comp=Z,9μm,1.0s							
LCND				IAML			03 05 33.6	
	comp=Z,20μm,1.0s							
INTP	**Intipuca**	**0.34**	**283**	*e*P		**Pg**	**03 05 06.9**	**-0.3**
INTP				*e*S		**Sg**	**03 05 12.1**	**+0.4**
BLLM	**Bellamira**	**0.60**	**302**	*i* P		**Pg**	**03 05 11.6**	**-0.5**
RANC	**El Ranchito**	**0.64**	**299**	*i* P		**Pg**	**03 05 12.5**	**-0.3**
RANC				IAML			03 05 30.6	
	comp=Z,790nm,1.0s							
PACA	**Pacayal**	**0.68**	**300**	*i* P		**Pg**	**03 05 13.2**	**-0.5**
PACA				*i* S		**Sg**	**03 05 22.0**	**-0.7**
PACA				IAML			03 05 27.6	
	comp=Z,5μm,1.0s							
CRIN	**San Cristobal**	**0.78**	**123**	*i* P		**Pg**	**03 05 16.6**	**+1.1**
CRIN				IAML			03 05 39.9	
	comp=Z,1μm,1.0s							
COEB	**Comit de Eme**	**0.87**	**295**	*e*P		**Pg**	**03 05 16.5**	**-0.8**
COEB	**Comit de Eme**	**0.87**	**295**	*i* P		**Pg**	**03 05 16.2**	**-1.1**
COEB				*i* S		**Sg**	**03 05 28.3**	**-0.5**
COEB				IAML			03 05 33.5	
	comp=Z,320nm,1.0s							
TEL3	**Telica 3**	**1.01**	**123**	*i* P		**Pg**	**03 05 21.1**	**+1.1**
TGUH	**Tegucigalpa,Un**	**1.02**	**25**	*i* P		**Pg**	**03 05 19.0**	**-1.2**
TGUH				IAML			03 05 19.5	
	comp=Z,1μm,1.0s							
TGUH				*i* S		**Sg**	**03 05 32.8**	**-0.8**
PACN	**Al O del Volca**	**1.09**	**124**	*i* P		**Pg**	**03 05 20.9**	**-0.6**
PACN				IAML			03 05 21.7	
	comp=Z,640nm,1.0s							
TECO	**Alcaldia de Te**	**1.11**	**292**	*i* P		**Pg**	**03 05 20.1**	**-1.8**
TECO				*i* S		**Sg**	**03 05 35.7**	**-0.7**
TECO				IAML			03 05 39.2	
	comp=Z,200nm,1.0s							
ROCN	**Rota Cerro Neg**	**1.12**	**122**	*i* P		**Pg**	**03 05 21.5**	**-0.6**
ROCN				*i* S		**Sg**	**03 05 37.4**	**+0.7**
ROCN				IAML			03 05 52.4	
	comp=Z,190nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.14**	**301**	*i* P		**Pg**	**03 05 21.1**	**-1.3**
SCLA				*i* S		**Sn**	**03 05 38.2**	**+0.2**
SCLA				IAML			03 05 42.7	
	comp=Z,240nm,1.0s							
UESV	**Universidad de**	**1.16**	**296**	*i* P		**Pg**	**03 05 21.5**	**-1.2**
UESV				IAML			03 05 22.2	
	comp=Z,340nm,1.0s							
UESV				*i* S		**Sb**	**03 05 37.8**	**+0.3**
CNGA	**Al SSO del Vol**	**1.17**	**122**	*i* P		**Pg**	**03 05 20.4**	**-2.6**
CNGA				IAML			03 05 26.3	
	comp=Z,310nm,1.0s							
CNGN	**Cerro Negro**	**1.17**	**122**	*i* P		**Pg**	**03 05 22.0**	**-1.0**
CNGN				IAML			03 05 58.7	
	comp=Z,370nm,1.0s							
MACN	**El Madrono**	**1.21**	**123**	*i* P		**Pg**	**03 05 22.5**	**-1.2**
MACN				IAML			03 05 57.6	
	comp=Z,170nm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.29**	**124**	*i* P		**Pn**	**03 05 24.1**	**-0.3**
LEVN				IAML			03 05 58.3	
	comp=Z,390nm,1.0s							
PAVA	**Las Pavas**	**1.32**	**296**	*i* P		**Pg**	**03 05 24.2**	**-1.7**
PAVA				IAML			03 05 33.3	
	comp=Z,670nm,1.0s							
MOMN	**Momotombo**	**1.35**	**122**	*i* P		**Pn**	**03 05 24.7**	**-0.5**
MOMN				*i* S		**Sg**	**03 05 42.9**	**-1.1**
MOMN				IAML			03 05 51.8	
	comp=Z,9.9nm,1.0s							
MOM2	**El Cardon**	**1.38**	**119**	*i* P		**Pn**	**03 05 25.4**	**-0.2**
MOM2				IAML			03 05 28.9	
	comp=Z,260nm,1.0s							
COPN	**Copaltepe**	**1.45**	**130**	*i* P		**Pn**	**03 05 26.8**	**+0.3**
COPN				IAML			03 05 50.0	
	comp=Z,280nm,1.0s							
SAPS Ciudad Sandino 1.59 126 *i* P **Pn 03 05 29.4 +0.8**
SAPS IAML 03 06 03.4
comp=Z,380nm,1.0s
PMON Piamonte 1.66 291 *i* P **Pn 03 05 30.1 +0.6**
PMON IAML 03 05 54.9
comp=Z,360nm,1.0s
TISN Laguna Tiscapa 1.72 124 *i* P **Pn 03 05 30.0 -0.3**
TISN IAML 03 06 00.6
comp=Z,21nm,1.0s
JAYA Jayaque - finc 1.77 288 *i* P **Pn 03 05 31.2 +0.2**
JAYA *i* S **Sn 03 05 54.2 +0.6**
JAYA IAML 03 06 00.5
comp=Z,610nm,1.0s
CEVE Cerro Verde 1.98 291 *i* P **Pn 03 05 35.4 +1.3**
CEVE IAML 03 06 14.6
comp=Z,220nm,1.0s
MTO3 Montecristo 2.04 309 *i* P **Pn 03 05 35.7 +0.8**
MTO3 *i* S **Sb 03 06 02.9 -0.2**
MTO3 IAML 03 06 05.0
comp=Z,120nm,1.0s
ESQI Esquipulas 2.13 312 *i* P **Pn 03 05 37.8 +1.8**
ESQI IAML 03 06 16.5
comp=Z,180nm,1.0s
NUBE Las Nubes 2.15 291 *i* P **Pn 03 05 36.8 +0.5**
NUBE *i* S **Sn 03 06 04.7 +1.6**
NUBE IAML 03 06 16.8
comp=Z,140nm,1.0s

*CATAC **20** 03:24:41.2±0.2, 13°.13N×87°.71W, h2km±2km, ML3.0*
*SNET **20** 03:24:42.2±2.0, 13°.19N×87°.79W, h4km, ML3.2*
ISC 20 03:24:40.7±1.0, 13°.10N±0°.05×87°.74W±0°.03, h14km±7km, n29, σ0°.93/40, Honduras

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CNCH	**Conchagua**	**0.19**	**333**	*i* P		**Pg**	**03 24 45.4**	**+0.1**
CNCH				*e*S		**Sg**	**03 24 49.3**	**+0.9**
CNCH	**Conchagua**	**0.19**	**333**	*i* P		**Pg**	**03 24 45.2**	**-0.1**
CNCH				*i* S		**Sg**	**03 24 47.6**	**-0.8**
CNCH				IAML			03 24 50.5	
	comp=Z,15μm,1.0s							
AMPH	**Amapala**	**0.20**	**24**	*e*P		**Pg**	**03 24 45.3**	**0.0**
AMPH				*e*S		**Sg**	**03 24 48.7**	**+0.4**
LCND	**La Caada**	**0.25**	**325**	*i* P		**Pg**	**03 24 46.3**	**+0.2**
LCND				*i* P		**Pg**	**03 24 46.3**	**+0.2**
LCND				*i* S		**Sg**	**03 24 48.7**	**-1.1**
LCND				IAML			03 24 53.9	
	comp=Z,5μm,1.0s							
INTP	**Intipuca**	**0.32**	**287**	*e*P		**Pb**	**03 24 48.1**	**-0.1**
INTP				*e*S		**Sb**	**03 24 53.5**	**+0.2**
RANC	**El Ranchito**	**0.63**	**302**	*i* P		**Pb**	**03 24 53.5**	**0.0**
RANC				IAML			03 25 06.6	
	comp=Z,720nm,1.0s							
PACA	**Pacayal**	**0.67**	**303**	*i* P		**Pb**	**03 24 54.4**	**+0.1**
PACA				*i* S		**Sb**	**03 25 03.4**	**-0.2**
PACA				IAML			03 25 25.4	
	comp=Z,3μm,1.0s							
CRIN	**San Cristobal**	**0.79**	**121**	*e*P		**Pn**	**03 24 57.8**	**+0.4**
CRIN	**San Cristobal**	**0.79**	**121**	*i* P		**Pn**	**03 24 57.4**	**0.0**
CRIN				IAML			03 24 59.6	
	comp=Z,1μm,1.0s							
COEB	**Comit de Eme**	**0.86**	**297**	*e*P		**Pb**	**03 24 57.7**	**+0.1**
COEB	**Comit de Eme**	**0.86**	**297**	*i* P		**Pb**	**03 24 57.6**	**+0.1**
COEB				*i* S		**Sb**	**03 25 09.5**	**+0.5**
COEB				IAML			03 25 14.7	
	comp=Z,200nm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.05**	**26**	*i* P		**Pg**	**03 25 00.1**	**-1.0**
TGUH				IAML			03 25 00.6	
	comp=Z,780nm,1.0s							
TGUH				*i* S		**Sb**	**03 25 14.5**	**0.0**
TECO	**Alcaldia de Te**	**1.10**	**293**	*i* P		**Pg**	**03 25 01.4**	**-0.5**
TECO				IAML			03 25 20.3	
	comp=Z,140nm,1.0s							
PACN	**Al O del Volca**	**1.10**	**123**	*i* P		**Pn**	**03 25 02.3**	**+0.6**
PACN				IAML			03 25 02.8	
	comp=Z,500nm,1.0s							
SCLA	**Alcaldia de Sa**	**1.13**	**302**	*i* P		**Pn**	**03 25 02.5**	**+0.4**
SCLA				IAML			03 25 25.9	
	comp=Z,100nm,1.0s							
ROCN	**Rota Cerro Neg**	**1.13**	**121**	*i* P		**Pb**	**03 25 02.2**	**+0.1**
ROCN				IAML			03 25 05.4	
	comp=Z,170nm,1.0s							
CNGA	**Al SSO del Vol**	**1.18**	**121**	*i* P		**Pg**	**03 25 01.5**	**-2.0**
CNGA				IAML			03 25 26.2	
	comp=Z,260nm,1.0s							
CNGN	**Cerro Negro**	**1.18**	**120**	*i* P		**Pb**	**03 25 03.1**	**+0.2**
CNGN				IAML			03 25 39.8	
	comp=Z,340nm,1.0s							
MACN	**El Madrono**	**1.22**	**121**	*i* P		**Pn**	**03 25 04.0**	**+0.6**
MACN				IAML			03 25 07.4	
	comp=Z,140nm,1.0s							
COEG	**Centro de Oper**	**1.22**	**295**	*i* P		**Pb**	**03 25 03.7**	**+0.1**
COEG				IAML			03 25 33.4	
	comp=Z,130nm,1.0s							
PAVA	**Las Pavas**	**1.31**	**298**	*i* P		**Pb**	**03 25 05.5**	**+0.3**
PAVA				IAML			03 25 12.7	
	comp=Z,430nm,1.0s							
PAVA				*i* S		**Sn**	**03 25 24.8**	**+2.7**
MOMN	**Momotombo**	**1.36**	**120**	*i* P		**Pn**	**03 25 05.9**	**+0.6**
MOMN				IAML			03 25 11.2	
	comp=Z,9.4nm,1.0s							
MOM2	**El Cardon**	**1.39**	**118**	*i* P		**Pb**	**03 25 06.8**	**+0.3**
MOM2				IAML			03 25 07.1	
	comp=Z,150nm,1.0s							
COPN	**Copaltepe**	**1.45**	**129**	*i* P		**Pb**	**03 25 07.7**	**+0.2**
COPN				IAML			03 25 31.0	
	comp=Z,230nm,1.0s							
SAPS	**Ciudad Sandino**	**1.60**	**125**	*i* P		**Pb**	**03 25 10.2**	**+0.1**
SAPS				IAML			03 25 46.0	
	comp=Z,290nm,1.0s							
PMON	**Piamonte**	**1.65**	**292**	*i* P		**Pb**	**03 25 11.2**	**+0.3**
PMON				IAML			03 25 42.8	
	comp=Z,230nm,1.0s							
JAYA	**Jayaque - finc**	**1.75**	**288**	*i* P		**Pb**	**03 25 13.1**	**+0.4**
JAYA				*i* S		**Sb**	**03 25 35.4**	**+0.8**
JAYA				IAML			03 25 45.4	
	comp=Z,330nm,1.0s							
MTO3	**Montecristo**	**2.03**	**310**	*i* P		**Pb**	**03 25 16.9**	**-0.7**
MTO3				IAML			03 25 17.5	
	comp=Z,76nm,1.0s							
HUEH	**Huehuetenango**	**4.26**	**302**	*i* P		**Pn**	**03 25 41.9**	**-3.5**

NNC 20 03:33:23.0±2.9, 39°.03N×84°.91E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=63.6km s-min=19.0km az=48.0, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SHLS	**Shalkode**	**5.82**	**317**	Pg		Pb	03 35 05.4	-0.1
	6.0nm,0.4s							
SHLS				Lg		Lg	03 36 21.5	
	21nm,0.6s							
PDGK	**Podgornoye**	**5.93**	**318**	Pg		Pb	03 35 10.6	+3.4
	0.7nm,0.7s							
PDGK				Lg		Lg	03 36 30.7	
	1.8nm,0.3s							
UZB	**Uzynbulak**	**6.05**	**315**	Pg		Pb	03 35 13.8	+4.3
	2.0nm,0.8s							
UZB				Lg		Lg	03 36 36.1	
	3.2nm,0.2s							
SATY	**Saty**	**6.35**	**311**	Pg		Pg	03 35 19.6	-5.0
	1.0nm,0.2s							
SATY				Lg		Lg	03 36 46.4	
	4.2nm,0.1s							
DJR	**Jarkent**	**6.54**	**326**	Pg		Pg	03 35 23.6	-4.7
DJR				Lg		Lg	03 36 52.9	
	2.9nm,0.2s							
KNOS	**Konyrlen**	**6.83**	**323**	Pg		Pb	03 35 27.2	+4.5
	2.0nm,0.8s							
KNOS				Lg		Lg	03 36 59.2	
	2.7nm,0.3s							
BLB	**Baldybastay**	**6.99**	**318**	Pg		Pb	03 35 28.6	+3.2
	3.9nm,0.5s							
BLB				Lg		Lg	03 37 01.8	
	5.1nm,0.5s							

*PNSN **20** 03:35:59.5, 47°.55N×122°.70W, h53km, MD2.7, Fault plane solution: NP1:ϕ♭65.00000°, δ40.00000°, λ-40.00000°.*
*NEIC **20** 03:35:59.1±1.5, 47°.54N±0°.02×122°.73W±0°.03, h61km±3km, Error ellipse: s-maj=3.4km s-min=3.3km az=170.0*
SEA 20 03:35:59.5±1.3, 47°.55N±0°.02×122°.695W±0°.008,

h53km±3km, **ML2.7**/40, **ML2.7**/46(NEIC), **Error ellipse: s-maj=3.2km s-min=0.8km az=181.0, Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GMW	**Gold Mountain**	**0.06**	**273**		Pn	03 36 07.0	-0.6
GMW					Sn	03 36 12.8	-0.6
GNW	**Green Mountain**	**0.09**	**283**		Pn	03 36 07.0	-0.6
GNW					Sn	03 36 12.6	-0.8
BABE	**Bainbridge Sch**	**0.12**	**60**		Pn	03 36 08.3	+0.6
BABE					Sn	03 36 15.7	+2.1
KITP	**Kitsap County**	**0.14**	**19**		Sn	03 36 15.2	+1.5
ALKI	**Alki Wastewate**	**0.19**	**81**		Pn	03 36 08.6	+0.6
VVHS	**Vashon High Sc**	**0.20**	**127**		Pn	03 36 07.9	-0.2
KINR	**Kitsap County**	**0.21**	**10**		Sn	03 36 15.4	+1.0
LAWT	**Lawton Element**	**0.23**	**61**		Pn	03 36 09.0	+0.6
C04A	**Brinnon**	**0.26**	**313**		Pn	03 36 08.0	-0.5
C04A					Sn	03 36 14.7	-0.3
SEA	**Seattle**	**0.28**	**67**		Pn	03 36 09.5	+0.8
SP2	**Seward Park 2**	**0.30**	**88**		Pn	03 36 09.2	+0.3
SP2					Sn	03 36 17.0	+1.5
SCCW	**Shoreline CC**	**0.30**	**48**		Pn	03 36 09.4	+0.5
SCCW					Sn	03 36 17.4	+1.7
B013	**Quilcene**	**0.31**	**332**		Pn	03 36 08.6	-0.3
B013					Sn	03 36 15.6	0.0
B013	**Quilcene**	**0.31**	**332**		Pn	03 36 08.6	-0.3
B013					Sn	03 36 15.6	0.0
HICC	**Highline Commu**	**0.31**	**120**		Pn	03 36 08.9	0.0
BRKS	**Brookside Elem**	**0.35**	**52**		Pn	03 36 09.7	+0.5
BRKS					Sn	03 36 17.9	+1.7
MPL	**Maple valley S**	**0.35**	**102**		Pn	03 36 09.3	0.0
FINN	**Finn Hill Juni**	**0.36**	**61**		Pn	03 36 10.1	+0.7
FINN					Sn	03 36 18.7	+2.2
NIHS	**Ingelmoor High**	**0.38**	**58**		Pn	03 36 10.2	+0.6
LYNC	**Lynnwood City**	**0.39**	**44**		Sn	03 36 18.2	+1.2
MARYW	**Marymoor Park**	**0.41**	**73**		Pn	03 36 10.6	+0.8
PAYL	**Puyallup Schoo**	**0.44**	**144**		Pn	03 36 10.1	0.0
PAYL					Sn	03 36 18.9	+1.1
PNLK	**Pine Lake Midd**	**0.45**	**85**		Pn	03 36 10.7	+0.3
PNLK					Sn	03 36 19.2	+1.0
ALCT	**Alcott Element**	**0.46**	**77**		Pn	03 36 10.9	+0.5
EVGW	**Everett Gatewa**	**0.48**	**49**		Pn	03 36 10.9	+0.3
EVGW					Sn	03 36 19.8	+1.1
SMW	**South Mountain**	**0.49**	**243**		Pn	03 36 11.0	+0.1
EGRN	**Evergreen Coll**	**0.51**	**202**		Pn	03 36 10.9	-0.1
EGRN					Sn	03 36 19.9	+0.6
BLH	**Bald Hill**	**0.54**	**57**		Pn	03 36 11.2	-0.1
RAW	**Raver**	**0.56**	**112**		Pn	03 36 11.6	0.0
GHW	**Garrison Hill**	**0.58**	**150**		Pn	03 36 11.6	-0.2
PCFR	**Pierce County**	**0.58**	**163**		Pn	03 36 11.6	-0.2
SQM	**Sequim**	**0.58**	**336**		Pn	03 36 12.7	+0.9
D05A	**Enumclaw**	**0.60**	**126**	Pn	Pn	03 36 12.2	+0.2
D05A				Sn	Sn	03 36 21.8	+0.6
D05A				IAML		03 36 22.7	
	comp=N,421nm,0.4s						
RATT	**Rattlesnake La**	**0.62**	**101**		Pn	03 36 12.1	-0.2
RATT					Sn	03 36 21.7	+0.1
B941	**Kapowsin**	**0.65**	**150**		Pn	03 36 12.3	-0.3
B941					Sn	03 36 21.8	-0.3
CPW	**Capitol Peak**	**0.65**	**208**		Pn	03 36 12.7	0.0
CPW					Sn	03 36 23.0	+0.7
CDMR	**Cedar Moraine**	**0.65**	**101**		Pn	03 36 12.6	-0.1
C05A	**Tolt Reservoir**	**0.70**	**77**		Pn	03 36 13.2	-0.1
C05A					Sn	03 36 23.4	0.0
TTW	**Tolt Reservoir**	**0.70**	**77**		Pn	03 36 13.2	0.0
GSM	**Grass Mountain**	**0.70**	**119**		Pn	03 36 13.4	0.0
SVOH	**Skagit Valley**	**0.75**	**3**		Pn	03 36 14.8	+1.0
B04A	**Port Angeles**	**0.75**	**314**		Pn	03 36 14.1	+0.2
B04A	**Port Angeles**	**0.75**	**314**	Pn	Pn	03 36 14.0	+0.1
B04A				IAML		03 36 30.1	
	comp=N,200nm,0.5s						
B04A				IAML		03 36 30.1	
	comp=E,152nm,0.5s						
OLQ	**Olympics--Lake**	**0.76**	**268**		Pn	03 36 13.9	-0.1
RVC	**Mount Rainier-**	**0.78**	**140**		Pn	03 36 14.4	0.0
RRHS	**Rochester High**	**0.78**	**198**		Pn	03 36 14.9	+0.5
B017	**Montesano**	**0.80**	**227**		Pn	03 36 15.0	+0.4
NLWA	**Neilton Lookou**	**0.81**	**260**	Sn	Sn	03 36 25.9	-0.1
JCW	**Jim Creek**	**0.83**	**38**		Pn	03 36 15.3	+0.3
WISH	**Wishkah**	**0.85**	**240**	Pn	Pn	03 36 14.9	-0.3
LCW	**Lucas Creek**	**0.87**	**180**		Pn	03 36 15.6	0.0
OBSR	**Observation Ro**	**0.88**	**137**		Pn	03 36 16.0	0.0
FMW	**Mount Fremont**	**0.93**	**131**		Pn	03 36 16.5	0.0
REMR	**Mount Rainier-**	**0.93**	**141**		Pn	03 36 16.5	0.0
RCS	**Mount Rainier-**	**0.94**	**135**		Pn	03 36 17.0	+0.3
RCM	**Mount Rainier-**	**0.97**	**137**		Pn	03 36 17.3	+0.1
VGZ	**Gonzales**	**0.97**	**334**		Pn	03 36 16.5	-0.3
LON	**Longmire**	**1.00**	**142**		Pn	03 36 17.4	+0.1
UWFH	**University of**	**1.02**	**348**		Pn	03 36 17.9	+0.4
P403	**Sandy Floe Qua**	**1.10**	**299**		Pn	03 36 18.4	-0.2
B019	**Raymond**	**1.11**	**217**		Pn	03 36 18.9	+0.2
KOSW	**Kosmos**	**1.14**	**162**		Pn	03 36 19.0	-0.2
MCW	**Mount Constitu**	**1.14**	**355**		Pn	03 36 19.6	+0.5
E03A	**Lebam**	**1.16**	**211**	Pn	Pn	03 36 19.1	-0.3
E03A				IAML		03 36 38.3	
	comp=E,153nm,0.4s						
E03A				IAML		03 36 38.4	
	comp=N,107nm,0.5s						
RPW	**Rockport**	**1.20**	**41**		Pn	03 36 20.6	+0.5
B011	**North Saanich**	**1.22**	**336**		Pn	03 36 19.9	-0.2
TDL	**Tradedollar La**	**1.24**	**164**		Pn	03 36 21.2	+0.6
SYMB	**Survey Mountai**	**1.26**	**324**		Pn	03 36 20.1	-0.7
ERK	**Elk Rock**	**1.26**	**169**		Pn	03 36 21.4	+0.5
WRW	**Wenatchee Ridg**	**1.26**	**75**		Pn	03 36 21.4	+0.5
SNB	**Saturna Island**	**1.27**	**346**		Pn	03 36 21.3	+0.4
JRO	**Jston Ridge Ob**	**1.31**	**165**	Pn	Pn	03 36 22.2	+0.6
JRO				IAML		03 36 40.5	
	comp=N,216nm,0.6s						
C03A	**Quillayute Air**	**1.33**	**288**	Pn	Pn	03 36 21.3	-0.3
C03A				IAML		03 36 38.5	
	comp=E,66nm,0.3s						
STD	**Studebaker Rid**	**1.35**	**166**		Pn	03 36 22.9	+0.9
MBW	**Mount Baker**	**1.35**	**23**		Pn	03 36 22.9	+0.8
RADR	**Rader Ridge**	**1.35**	**214**	Pn	Pn	03 36 21.5	-0.5
RADR				IAML		03 36 46.4	
	comp=E,67nm,0.5s						
BOLM	**Sugar Bowl**	**1.38**	**165**		Pn	03 36 23.8	+1.3
SEPW	**September Lobe**	**1.39**	**165**		Pn	03 36 23.9	+1.2
SHW	**Mount Saint He**	**1.39**	**167**		Pn	03 36 23.8	+1.1
B203	**Quarry, Mount**	**1.40**	**170**		Pn	03 36 23.6	+0.9
ESD	**East Dome**	**1.40**	**164**		Pn	03 36 24.4	+1.6
LTY	**Liberty**	**1.41**	**101**	Pn	Pn	03 36 23.2	+0.5
LTY				IAML		03 36 42.9	
	comp=N,177nm,0.3s						
SWF2	**Southwest Flan**	**1.41**	**166**		Pn	03 36 23.9	+1.0
HSR	**South Ridge**	**1.42**	**165**		Pn	03 36 24.4	+1.4
JLK	**June Lake**	**1.45**	**165**		Pn	03 36 24.6	+1.3
B023	**Clatskanie**	**1.46**	**191**		Pn	03 36 23.9	+0.6
TBM	**Table Mountain**	**1.47**	**104**		Pn	03 36 25.0	+1.3
F04D	**Rainier, OR**	**1.48**	**189**	Pn	Pn	03 36 24.1	+0.4
CDFW	**Cedar Flats**	**1.50**	**162**		Pn	03 36 25.7	+1.7
GOBB	**Galiano Island**	**1.51**	**339**		Pn	03 36 24.3	+0.2
NAC	**Naches**	**1.51**	**122**		Pn	03 36 25.4	+1.2
EBG	**Ellensburg**	**1.58**	**113**		Pn	03 36 27.3	+2.2
ASR	**Mount Adams--S**	**1.59**	**151**		Pn	03 36 26.8	+1.5
B926	**Mesachie Lake**	**1.60**	**324**		Pn	03 36 26.9	+1.6
CLRS	**Cowichan Lake**	**1.60**	**324**	Pn	Pn	03 36 24.6	-0.7
CLRS				IAML		03 36 43.9	
	comp=N,52nm,0.3s						
F04A	**Amboy**	**1.62**	**173**	Pn	Pn	03 36 27.0	+1.3
F04A				IAML		03 36 48.9	
	comp=N,57nm,0.7s						
F04A				IAML		03 36 49.3	
	comp=E,116nm,0.6s						
F03A	**Seaside**	**1.72**	**201**	Pn	Pn	03 36 26.6	-0.4
HNBB	**Haney**	**1.75**	**3**		Pn	03 36 27.8	+0.4
B022	**Seaside**	**1.80**	**209**		Pn	03 36 27.6	-0.4
MXC	**Moxie City**	**1.91**	**120**		Pn	03 36 32.8	+3.2
BIB	**Bowen Island**	**1.91**	**348**		Pn	03 36 30.1	+0.6
KMOR	**Kings Mountain**	**1.99**	**196**		Pn	03 36 30.6	-0.1
WPB	**Watts Point**	**2.14**	**351**		Pn	03 36 32.9	+0.2
SHB	**Sechelt**	**2.20**	**340**		Pn	03 36 33.8	+0.2
OZB	**Mount Ozzard**	**2.35**	**308**	Pn	Pn	03 36 34.6	-0.9
OZB				IAML		03 37 00.8	
	comp=E,33nm,0.3s						
OZB				IAML		03 37 00.8	
	comp=N,53nm,0.2s						
G03D	**McMinnville, O**	**2.37**	**190**	Pn	Pn	03 36 35.2	-0.6
G03D				IAML		03 37 13.6	
	comp=E,23nm,0.3s						
G03D				IAML		03 37 21.3	
	comp=N,23nm,0.7s						
B08A	**Colville Reser**	**2.40**	**69**	Pn	Pn	03 36 35.1	-1.2
HEBO	**Mount Hebo**	**2.44**	**198**	Pn	Pn	03 36 34.0	-2.9
HEBO				IAML		03 37 34.5	
	comp=N,25nm,1.7s						
HEBO				IAML		03 37 37.4	
	comp=E,36nm,1.9s						
F07A	**Phinny Hill Vi**	**2.52**	**130**	Pn	Pn	03 36 36.0	-1.9
F07A				IAML		03 37 23.6	
	comp=E,30nm,0.9s						
F07A				IAML		03 37 25.6	
	comp=N,45nm,0.8s						
C09A	**Chrisman Ranch**	**3.00**	**83**	Pn	Pn	03 36 43.3	-1.2
H04D	**Lebanon**	**3.02**	**181**	Pn	Pn	03 36 47.0	+2.2
H04D				IAML		03 37 44.8	
	comp=N,13nm,0.9s						
H04D				IAML		03 38 03.7	
	comp=E,13nm,2.5s						
TCBUT	**Trout Creek Bu**	**3.38**	**167**		Pn	03 36 50.2	+0.4
NEW	**Newport**	**3.82**	**77**	Pn	Pn	03 36 54.1	-1.6
F10A	**Beach Ranch, E**	**4.07**	**111**	Pn	Pn	03 36 56.8	-2.5
F10A				IAML		03 38 13.9	
	comp=N,11nm,0.8s						
F10A				IAML		03 38 14.1	
	comp=E,14nm,0.8s						
I07A	**Izee**	**4.12**	**146**	Pn	Pn	03 37 00.5	+0.6
HOLB	**Holberg**	**4.73**	**313**	Pn	Pn	03 37 09.6	+1.4

*JMA **20** 03:41:01.1±0.1,24°.3N±0°.6×122°.1E±0°.4, h26km±2km, MV3.1/14, TAIWAN REGION*
*TAP **20** 03:41:01.9,24°.36N×121°.97E, h21km, ML3.5, B*
*ASIES **20** 03:41:01.9,24°.36N×121°.97E, h21km, ML3.5, Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; M_{rr}=0.09; $M_{\theta\theta}$=0.08; $M_{\phi\phi}$=0.01; $M_{r\theta}$=0.07; $M_{r\phi}$=-0.53; $M_{\theta\phi}$=1.06; Fault plane solution: M_0=1.19421×10^{21} NP1: ϕ_s=179.56000°, δ=88.18000°, λ=-63.18000°. NP2: ϕ_s=273.15000°, δ=26.88000°, λ=-175.98000°. Principal axes: T Plg=37.4660°, Azm=245.8600°; N Plg=26.8090°, Azm=358.6450°; P Plg=40.7770°, Azm=114.4830°;*

ISC 20 03:41:00.8±0.9, 24°.35N±0°.02×122°.12E±0°.02, h27km±5km, **n147, σ1=22/242, 9C-18D, Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2** baz=77	**0.13**	**57**	⇑*iP*	**Pb**	**03 41 06.8**	**+1.0**
EOS2				*e*S	**Sb**	**03 41 11.2**	**+2.1**
	baz=77						
EOS3	**EOS3** baz=102	**0.20**	**109**	⇑*iP*	**Pb**	**03 41 07.8**	**+1.3**
EOS3				*i* S	**Sb**	**03 41 12.7**	**+2.4**
	baz=102						
EOS4	**EOS4** baz=123	**0.29**	**141**	⇓*e*P	**Pn**	**03 41 08.4**	**-0.6**
EWUT	**Wuta** baz=302	**0.32**	**287**	⇓*i*P	**Pb**	**03 41 07.2**	**-1.1**
EWUT				*e*S	**Sb**	**03 41 11.2**	**-2.2**
	baz=302						
ESAO	**Su ao** baz=332	**0.33**	**313**	⇓*i*P	**Pb**	**03 41 07.8**	**-0.7**
ESAO				*i* S	**Sb**	**03 41 11.9**	**-1.8**
	baz=332						
EAHA	**Aohua** baz=261	**0.34**	**267**	⇓*i*P	**Pb**	**03 41 07.4**	**-1.2**
EAHA				*e*S	**Sb**	**03 41 12.0**	**-2.0**
	baz=261						
EHP	**Heping Village** baz=254	**0.34**	**264**	⇓*i*P	**Pb**	**03 41 07.4**	**-1.2**
EHP				*e*S	**Sb**	**03 41 11.8**	**-2.2**
	baz=254						
ENA	**Nanau** baz=293	**0.35**	**283**	⇓*i*P	**Pb**	**03 41 07.6**	**-1.2**
ENA				*e*S	**Sb**	**03 41 11.6**	**-2.6**
	baz=293						
TWC	**Suao** baz=343	**0.35**	**317**	⇓*i*P	**Pb**	**03 41 08.2**	**-0.7**
TWC				*i* S	**Sb**	**03 41 12.4**	**-1.9**
	baz=343						
NDS	**Dongshan** baz=320	**0.46**	**308**	⇓*i*P	**Pb**	**03 41 10.0**	**-0.5**
NDS				*e*S	**Sb**	**03 41 14.8**	**-2.2**
	baz=320						
ETL	**Fush Village** baz=240	**0.49**	**247**	*e*P	**Pb**	**03 41 09.9**	**-1.0**
ETL				*e*S	**Sb**	**03 41 17.4**	**-0.3**
	baz=240						
NACB	**Ninganchiao**	**0.51**	**250**	P	**Pb**	**03 41 10.0**	**-1.2**
NACB	**Ninganchiao** baz=240	**0.51**	**250**	⇓*i*P	**Pb**	**03 41 10.0**	**-1.2**
NACB				*e*S	**Sb**	**03 41 16.6**	**-1.7**
	baz=240						
EGS		**0.52**	**341**	*e*P	**Pn**	**03 41 11.9**	**-0.6**
EGS	baz=357			*e*S	**Sb**	**03 41 18.4**	**-0.3**
	baz=357						
ILA	**Ilan** baz=333	**0.53**	**321**	*e*P	**Pn**	**03 41 11.8**	**-0.9**
ILA				S	**Sb**	**03 41 19.0**	**0.0**
	baz=333						
TWD	**Chiawan** baz=232	**0.54**	**241**	*e*P	**Pb**	**03 41 11.0**	**-0.8**
TWD				*e*S	**Sb**	**03 41 18.4**	**-1.0**
	baz=232						
TWE	**Neicheng** baz=325	**0.55**	**312**	⇓*i*P	**Pn**	**03 41 11.6**	**-1.3**
TWE				*e*S	**Sb**	**03 41 18.1**	**-1.5**
	baz=325						
NTC	**Toucheng** baz=352	**0.57**	**333**	*e*P	**Pn**	**03 41 12.6**	**-0.5**
LATG	**Datong** baz=297	**0.57**	**289**	⇓*i*P	**Pb**	**03 41 11.6**	**-0.7**
LATG				S	**Sb**	**03 41 18.1**	**-2.1**
	baz=297						
ENTT	**Nioudou** baz=308	**0.58**	**300**	⇓*i*P	**Pb**	**03 41 11.9**	**-0.6**
ENTT				*e*S	**Sb**	**03 41 18.3**	**-2.0**
	baz=308						
HWA	**Hwalien** baz=218	**0.59**	**232**	*e*P	**Pn**	**03 41 13.4**	**-0.1**
HWA				*e*S	**Sn**	**03 41 21.6**	**-0.7**
	baz=218						
NDT	**Datong Townshi** baz=301	**0.60**	**295**	⇓*i*P	**Pb**	**03 41 12.4**	**-0.4**
NDT				*e*S	**Sb**	**03 41 19.2**	**-1.8**
	baz=301						
FUSB	**Fushanzhiwuyua** baz=320	**0.63**	**311**	⇓*i*P	**Pn**	**03 41 13.2**	**-0.9**
FUSB				*e*S	**Sb**	**03 41 20.4**	**-1.5**
	baz=320						
TWB1	**Santiao Chiao** baz=357	**0.67**	**350**	*e*P	**Pn**	**03 41 14.0**	**-0.5**
TWB1				*e*S	**Sn**	**03 41 22.4**	**-1.7**
	baz=357						
NNSB	**Datong** baz=282	**0.67**	**277**	⇓*i*P	**Pb**	**03 41 13.3**	**-0.7**
NNSB				*e*S	**Sb**	**03 41 21.4**	**-1.7**
	baz=282						
TEYL	**Yanliau Villag** baz=215	**0.67**	**225**	*e*P	**Pn**	**03 41 14.3**	**-0.3**
TEYL				*e*S	**Sn**	**03 41 25.6**	**+1.4**
	baz=215						
TIPB	**Shuangxi** baz=349	**0.67**	**337**	⇑*iP*	**Pn**	**03 41 14.4**	**-0.2**
TIPB				*i* S	**Sb**	**03 41 22.6**	**-0.5**
	baz=349						
NNS	**Nan Shan** baz=283	**0.68**	**278**	*e*P	**Pb**	**03 41 13.5**	**-0.8**
NNS				*e*S	**Sb**	**03 41 21.7**	**-1.7**
	baz=283						
ETM	**Tongmen** baz=238	**0.68**	**236**	*e*P	**Pb**	**03 41 13.7**	**-0.5**
ETM				*e*S	**Sn**	**03 41 24.1**	**-0.4**
	baz=238						
NWLT	**Wulai** baz=312	**0.70**	**308**	⇓*e*P	**Pn**	**03 41 14.3**	**-0.8**
NWLT				S	**Sb**	**03 41 22.2**	**-1.7**
	baz=312						
LXIB	**Xiulin Townshi** baz=235	**0.72**	**243**	*e*P	**Pb**	**03 41 14.0**	**-0.8**
LXIB				*e*S	**Sb**	**03 41 25.0**	**+0.5**
	baz=235						
YHNB	**Yeheng**	**0.74**	**296**	P	**Pn**	**03 41 14.9**	**-0.7**
YHNB	**Yeheng** baz=303	**0.74**	**296**	⇓*i*P	**Pn**	**03 41 14.9**	**-0.7**
YHNB				*e*S	**Sb**	**03 41 23.1**	**-2.0**
	baz=303						
SHUL	**Shoufeng** baz=211	**0.75**	**222**	⇑*e*P	**Pn**	**03 41 16.1**	**+0.4**
SHUL				*e*S	**Sn**	**03 41 27.8**	**+1.7**
	baz=211						
NSK	**Sanguang** baz=300	**0.76**	**295**	⇓*i*P	**Pn**	**03 41 15.1**	**-0.8**
NSK				*e*S	**Sb**	**03 41 24.0**	**-1.6**
	baz=300						
JYNG	**Yonagunijimaku**	**0.76**	**82**	P	**Pn**	**03 41 16.7**	**+0.8**
JYNG				*e*S	**Sn**	**03 41 27.9**	**+1.4**
SXI1	**Grass Mountain** baz=359	**0.77**	**344**	⇑*iP*	**Pn**	**03 41 16.4**	**+0.4**
SXI1				S	**Sn**	**03 41 26.2**	**-0.7**
	baz=359						
NWF	**Wu-fen Shan** baz=340	**0.78**	**337**	*e*P	**Pn**	**03 41 17.1**	**+0.9**
NWF				*i* S	**Sn**	**03 41 27.0**	**-0.1**
	baz=340						
WFSB	**Wu-fen Shan** baz=340	**0.78**	**337**	⇑P	**Pn**	**03 41 16.6**	**+0.5**
WFSB				*i* S	**Sn**	**03 41 26.7**	**-0.2**
	baz=340						
TWA	**Mucha** baz=322	**0.79**	**323**	*e*P	**Pn**	**03 41 16.5**	**+0.2**
TWA				*e*S	**Sb**	**03 41 25.8**	**-0.7**
	baz=322						
FUSS	**Fushou** baz=264	**0.80**	**263**	*e*P	**Pn**	**03 41 15.9**	**-0.6**
FUSS				*e*S	**Sb**	**03 41 25.5**	**-1.4**
	baz=264						
WHF	**Hehuan Shan** baz=257	**0.80**	**255**	*i* P	**Pb**	**03 41 15.7**	**-0.8**
WHF				*e*S	**Sn**	**03 41 27.9**	**-0.2**
	baz=257						
NHDH	**Xindian Distri** baz=319	**0.81**	**319**	*e*P	**Pn**	**03 41 16.7**	**+0.2**
NHDH				*i* S	**Sn**	**03 41 26.8**	**-0.9**
	baz=319						
ESL	**Shilin** baz=236	**0.82**	**230**	⇑*iP*	**Pn**	**03 41 16.3**	**-0.3**
ESL				*e*S	**Sn**	**03 41 29.9**	**+2.1**
	baz=236						
YOJ	**Yonaguni jima**	**0.82**	**82**	P	**Pn**	**03 41 17.8**	**+1.1**
YOJ	**Yonaguni jima**	**0.82**	**82**	P	**Pn**	**03 41 17.6**	**+1.0**
YOJ				S	**Sn**	**03 41 29.1**	**+1.2**
YOJ	**Yonaguni jima** baz=75	**0.82**	**82**	*e*P	**Pn**	**03 41 17.6**	**+1.0**
TATO	**Taipei**	**0.84**	**318**	P	**Pn**	**03 41 17.3**	**+0.3**
NHY	**Taipei** baz=325	**0.85**	**324**	*e*P	**Pn**	**03 41 19.0**	**+2.0**
NHY				*e*S	**Sn**	**03 41 28.5**	**-0.1**
	baz=325						
TNOU	**National Taiwa** baz=349	**0.86**	**339**	*i* P	**Pn**	**03 41 17.9**	**+0.7**
TNOU				*i* S	**Sn**	**03 41 28.5**	**-0.3**
	baz=349						
TWT	**Tachien** baz=265	**0.86**	**264**	*e*P	**Pn**	**03 41 17.1**	**-0.3**
TWT				*e*S	**Sb**	**03 41 27.1**	**-1.4**
	baz=265						
TDCB	**Techi** baz=265	**0.88**	**264**	*e*P	**Pn**	**03 41 17.2**	**-0.3**
TDCB				*e*S	**Sb**	**03 41 28.1**	**-0.8**
	baz=265						
TAP	**Taipei** baz=330	**0.88**	**321**	*e*P	**Pn**	**03 41 18.6**	**+1.1**
TAP				*e*S	**Sn**	**03 41 28.5**	**-0.9**
	baz=330						
CHGB	**Renai** baz=247	**0.91**	**252**	*i* P	**Pn**	**03 41 17.6**	**-0.4**
CHGB				*e*S	**Sn**	**03 41 31.3**	**+1.0**
	baz=247						
WARBT	**Fenglin Townsh** baz=218	**0.92**	**227**	⇑*iP*	**Pn**	**03 41 17.5**	**-0.4**
WARBT				*e*S	**Sn**	**03 41 32.4**	**+2.1**
	baz=218						
EGFH	**Guangfu** baz=232	**0.92**	**223**	*e*P	**Pn**	**03 41 17.9**	**-0.1**
EGFH				*e*S	**Sn**	**03 41 30.6**	**+0.2**
	baz=232						
YM01	**YM01** baz=353	**0.94**	**328**	*e*P	**Pn**	**03 41 19.4**	**+1.1**
YM01				S	**Sn**	**03 41 30.5**	**-0.3**
	baz=353						
OWD	**Renai** baz=241	**0.94**	**246**	*e*P	**Pn**	**03 41 18.5**	**0.0**
NFF	**Wufeng Townshi** baz=295	**0.95**	**287**	*e*P	**Pn**	**03 41 18.7**	**+0.2**
NFF				*e*S	**Sb**	**03 41 29.3**	**-1.7**
	baz=295						
YM08	**YM08** baz=339	**0.96**	**330**	*e*P	**Pn**	**03 41 19.5**	**+0.9**
YM08				*e*S	**Sn**	**03 41 32.0**	**+0.6**
	baz=339						
WUSB	**Renai** baz=235	**0.98**	**249**	*e*P	**Pn**	**03 41 19.1**	**+0.2**
WUSB				*e*S	**Sb**	**03 41 31.8**	**0.0**
	baz=235						
TWS1	**Kuangyinshan** baz=341	**0.98**	**320**	*e*P	**Pn**	**03 41 20.2**	**+1.4**
TWS1				*e*S	**Sn**	**03 41 33.1**	**+1.3**
	baz=341						
ANP	**Anpu** baz=334	**0.99**	**327**	*e*P	**Pn**	**03 41 20.5**	**+1.4**
NTST	**Danshui** baz=344	**1.01**	**323**	*e*P	**Pb**	**03 41 21.2**	**+1.5**
NTST				*e*S	**Sn**	**03 41 33.8**	**+1.2**
	baz=344						
TWY	**Chenhua** baz=342	**1.03**	**333**	*e*P	**Pb**	**03 41 21.4**	**+1.3**
TWY				*e*S	**Sn**	**03 41 34.1**	**+0.9**
	baz=342						
LIOB	**Emei** baz=289	**1.04**	**287**	*e*P	**Pb**	**03 41 20.9**	**+0.7**
NCUH	**Zhongli** baz=312	**1.05**	**306**	*e*P	**Pb**	**03 41 21.1**	**+0.8**
NCUH				*e*S	**Sn**	**03 41 35.2**	**+1.7**
	baz=312						
NSTT	**Nanjuang** baz=280	**1.05**	**286**	*e*P	**Pb**	**03 41 20.8**	**+0.3**
NSTT				*e*S	**Sn**	**03 41 33.7**	**+0.1**
	baz=280						
HGSD	**Ruisui** baz=208	**1.06**	**217**	*e*P	**Pb**	**03 41 19.7**	**-0.9**
HGSD				*e*S	**Sn**	**03 41 36.6**	**+2.8**
	baz=208						
VWDT	**VWDT** baz=231	**1.07**	**237**	⇑*iP*	**Pb**	**03 41 20.6**	**-0.1**
VWDT				*e*S	**Sn**	**03 41 35.1**	**+1.1**
	baz=231						
WHP	**Taichung City** baz=271	**1.07**	**266**	*e*P	**Pb**	**03 41 21.1**	**+0.4**
WHP				*e*S	**Sn**	**03 41 35.2**	**+1.1**
	baz=271						
EHYH	**Wanrong** baz=227	**1.10**	**220**	*e*P	**Pb**	**03 41 20.5**	**-0.8**
EHY	**Hungye** baz=214	**1.11**	**221**	P	**Pn**	**03 41 20.1**	**-0.5**
SBCB	**Hsinchu** baz=297	**1.12**	**293**	*e*P	**Pb**	**03 41 22.6**	**+1.1**
SBCB				*e*S	**Sn**	**03 41 36.3**	**+1.0**
	baz=297						
HSN	**Hsinchu** baz=299	**1.14**	**294**	*e*P	**Pb**	**03 41 22.6**	**+0.8**
WCS	**Beigang Elemen

NSY	**Sanyi** baz=274	**1.24 273**	*e*P	**Pb**	**03 41 25.0**	**+1.5**
TWF1	**Yuli** baz=225	**1.24 217**	*e*P	**Pn**	**03 41 22.0**	**-0.4**
TWF1	baz=225		*e*S	**Sb**	**03 41 38.7**	**-0.5**
PCYT	**Pengchaiyu** baz=7.0	**1.28 358**	P	**Pb**	**03 41 24.1**	**-0.1**
PCYT	baz=7.0		S	**Sb**	**03 41 40.8**	**+0.6**
WHYT	**Xinyi Township** baz=241	**1.32 241**	*e*P	**Pb**	**03 41 25.3**	**+0.2**
WHYT	baz=241		*e*S	**Sb**	**03 41 42.2**	**+0.6**
CHKH	**Chenggong** baz=190	**1.33 210**	*e*P	**Pb**	**03 41 25.5**	**+0.4**
TCU	**Taichung** baz=260	**1.33 262**	*e*P	**Pb**	**03 41 26.4**	**+1.3**
WDJ	**Dajia District** baz=270	**1.34 270**	*e*P	**Pb**	**03 41 26.8**	**+1.5**
FULB	**Fuli** baz=193	**1.37 213**	*e*P	**Pb**	**03 41 25.2**	**-0.6**
WJS	**Zhushan** baz=244	**1.37 248**	*e*P	**Pb**	**03 41 27.1**	**+1.3**
WJS	baz=244		*e*S	**Sb**	**03 41 46.6**	**+3.7**
WNT	**Mingjian** baz=247	**1.39 251**	P	**Pb**	**03 41 26.9**	**+0.8**
WNT	baz=247		*e*S	**Sb**	**03 41 44.4**	**+1.0**
CHKT	**Chengkung** baz=186	**1.42 209**	*e*P	**Pb**	**03 41 25.3**	**-1.4**
EHD	**Haiduan** baz=209	**1.46 215**	*e*P	**Pb**	**03 41 26.5**	**-0.8**
ALS	**Alishan** baz=231	**1.46 235**	*e*P	**Pb**	**03 41 27.6**	**+0.1**
IRIF	**Iriomote-Funau**	**1.47 90**	P	**Pb**	**03 41 26.9**	**-0.6**
IRIF			*e*S	**Sb**	**03 41 46.4**	**+0.5**
ECS	**Chishang** baz=222	**1.49 214**	*e*P	**Pb**	**03 41 26.5**	**-1.4**
CHN5	**Tsauling** baz=220	**1.51 241**	P	**Pb**	**03 41 28.5**	**+0.2**
CHN5	baz=220		*e*S	**Sb**	**03 41 48.2**	**+1.1**
ELDTW	**Lidau** baz=203	**1.53 221**	*e*P	**Pb**	**03 41 27.9**	**-0.7**
WGK	**Gukeng** baz=243	**1.57 245**	*e*P	**Pb**	**03 41 29.4**	**+0.3**
HATJ	**Hateruma jima**	**1.57 100**	P	**Pb**	**03 41 29.8**	**+0.6**
WDLH	**Douliu** baz=243	**1.58 246**	*e*P	**Pb**	**03 41 29.8**	**+0.3**
WDLH	baz=243		*e*S	**Sb**	**03 41 50.6**	**+1.6**
WRL	**Guolierlin Hig** baz=253	**1.65 255**	*e*P	**Pb**	**03 41 30.2**	**-0.3**
WRL	baz=253		*e*S	**Sb**	**03 41 51.7**	**+0.8**
WCKO	**Fanlu** baz=233	**1.65 237**	*e*P	**Pb**	**03 41 29.8**	**-0.8**
WCKO	baz=233		*e*S	**Sb**	**03 41 52.7**	**+1.6**
LONT	**Longtian** baz=207	**1.70 212**	*e*P	**Pb**	**03 41 30.3**	**-1.0**
STYH	**Taoyuan** baz=221	**1.70 227**	*e*P	**Pb**	**03 41 31.6**	**+0.3**
STYH	baz=221		*e*S	**Sb**	**03 41 51.7**	**-0.6**
WTK	**Tuku** baz=245	**1.71 248**	*e*P	**Pb**	**03 41 31.7**	**+0.2**
WTK	baz=245		*e*S	**Sb**	**03 41 53.9**	**+1.2**
CHN4	**Tsaushan** baz=215	**1.71 235**	*e*P	**Pb**	**03 41 31.5**	**-0.1**
CHN4	baz=215		*e*S	**Sb**	**03 41 53.0**	**+0.2**
TPUB	**Ta-pu**	**1.71 233**	P	**Pb**	**03 41 31.4**	**-0.3**
TPUB	**Ta-pu** baz=214	**1.71 233**	*e*P	**Pb**	**03 41 31.0**	**-0.7**
JKRS	**Kuro-shima**	**1.73 93**	P	**Pb**	**03 41 31.3**	**-0.7**
JKRS			*e*S	**Sb**	**03 41 53.3**	**0.0**
WTP	**Ta-pu** baz=228	**1.76 232**	*e*P	**Pb**	**03 41 31.5**	**-0.9**
LDUT	**Ludao** baz=192	**1.77 200**	*e*P	**Pn**	**03 41 28.6**	**-1.1**
LDUT	baz=192		*e*S	**Sn**	**03 41 50.4**	**-1.0**
TWGBT	**Beinan**	**1.80 212**	P	**Pb**	**03 41 31.6**	**-1.5**
TWGBT	**Beinan** baz=195	**1.80 212**	*e*P	**Pn**	**03 41 28.6**	**-1.5**
TWG	**Pinlang** baz=195	**1.80 212**	*e*P	**Pn**	**03 41 28.8**	**-1.3**
TWK	**Hsinying** baz=231	**1.84 234**	*e*P	**Pb**	**03 41 33.3**	**-0.5**
JIJ	**Ishigaki jima**	**1.85 89**	P	**Pb**	**03 41 32.6**	**-1.4**
JIJ			*e*S	**Sb**	**03 41 54.5**	**-2.2**
CHN1	**Nanshi** baz=227	**1.86 232**	*e*P	**Pb**	**03 41 34.0**	**-0.2**
CHN1	baz=227		*e*S	**Sb**	**03 41 57.6**	**+0.7**
SNST	**Tainan City** baz=214	**1.86 233**	*e*P	**Pb**	**03 41 33.3**	**-0.8**
SNST	baz=214		*e*S	**Sb**	**03 41 58.1**	**+1.1**
SGST	**Jiashian** baz=210	**1.89 228**	*e*P	**Pb**	**03 41 32.9**	**-1.7**
SLGT	**Liugui** baz=220	**1.91 225**	*e*P	**Pb**	**03 41 33.9**	**-1.0**
SLGT	baz=220		*e*S	**Sb**	**03 41 59.1**	**+0.8**
WSL	**Shuilin Townsh** baz=242	**1.91 245**	*e*P	**Pb**	**03 41 34.5**	**-0.5**
WSL	baz=242		*e*S	**Sb**	**03 42 00.3**	**+1.9**
ICHU	**Yijhu** baz=220	**1.95 240**	*e*P	**Pb**	**03 41 35.1**	**-0.5**
ICHU	baz=220		*e*S	**Sb**	**03 41 59.7**	**+0.2**
JISG	**Ishigakijimahi**	**2.02 83**	P	**Pb**	**03 41 34.6**	**-2.2**
JISG			S	**Sb**	**03 41 59.4**	**-2.0**
ECL	**Taimali** baz=196	**2.04 212**	*e*P	**Pb**	**03 41 35.3**	**-2.0**
SCST	**Cishan** baz=223	**2.08 226**	*e*P	**Pb**	**03 41 37.7**	**-0.2**
SSD	**Sandimen** baz=216	**2.10 221**	*e*P	**Pb**	**03 41 36.9**	**-1.3**
TSMG	**Majia** baz=216	**2.12 220**	*e*P	**Pb**	**03 41 37.2**	**-1.3**
MASBT	**Mashibuluo** baz=214	**2.20 218**	*e*P	**Pb**	**03 41 37.9**	**-2.0**
TAW	**Tawu** baz=205	**2.28 210**	*e*P	**Pb**	**03 41 38.9**	**-2.4**
LAY	**Lan-yu** baz=188	**2.36 193**	*e*P	**Pn**	**03 41 37.1**	**-0.7**
JTJ	**Tarama**	**2.38 82**	P	**Pb**	**03 41 40.3**	**-2.6**
JTJ			*e*S	**Sb**	**03 42 08.6**	**-3.2**
LYUB	**Lan-yu** baz=187	**2.39 192**	*e*P	**Pn**	**03 41 36.4**	**-1.8**
SCZT	**Fangliau** baz=198	**2.40 215**	*e*P	**Pb**	**03 41 41.1**	**-2.2**
SLIU	**Shizi** baz=195	**2.44 210**	*e*P	**Pn**	**03 41 40.7**	**+1.8**
PNG	**Penghu** baz=251	**2.47 252**	*e*P	**Pn**	**03 41 41.1**	**+1.8**
PNG	baz=251		*i* S	**Sn**	**03 42 10.8**	**+2.2**
PHUB	**P'eng-hu** baz=250	**2.47 251**	*e*P	**Pn**	**03 41 40.3**	**+1.0**
PHUB	baz=250		*e*S	**Sn**	**03 42 10.3**	**+1.7**
WDGT	**Dungji** baz=244	**2.50 245**	P	**Pn**	**03 41 41.4**	**+1.8**
WDGT	baz=244		*e*S	**Sn**	**03 42 12.0**	**+2.8**
VWUC	**VWUC** baz=288	**2.51 285**	*e*P	**Pn**	**03 41 40.4**	**+0.5**
VWUC	baz=288		*e*S	**Sn**	**03 42 10.7**	**+1.2**
TWKBT	**Hengchun** baz=192	**2.68 207**	*e*P	**Pn**	**03 41 42.0**	**-0.3**
TWK1	**Hengchun** baz=192	**2.68 207**	*e*P	**Pb**	**03 41 45.4**	**-2.7**
VCHM	**Qimei** baz=245	**2.71 246**	*e*P	**Pn**	**03 41 43.9**	**+1.3**
VCHM	baz=245		*e*S	**Sn**	**03 42 17.3**	**+2.8**
PTMZ	**Houxiangcun** baz=287	**2.81 285**	*e*P	**Pn**	**03 41 44.6**	**+0.6**
PTMZ			*e*S	**Sn**	**03 42 17.4**	**+0.4**
XPSS	**Dashiqiu** baz=330	**3.10 326**	*e*P	**Pn**	**03 41 48.9**	**+0.9**

NEIC ***20*** *03:45:41.3±0.9, 19°.28N±0°.01×155°.227W±0°.005, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.8km az=356.0*

HVO 20 03:45:41.3±1.1, 19°.312N±0°.009×155°.214W±0°.007, h1km±5km, ML2.7/30, ML2.8/66(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**358**	Pg	Pg	03 45 43.2	+0.6
PUH				Sg	Sg	03 45 44.7	+1.2
KNHH	**Kane Nui o Ham**	**0.08**	**32**	Pg	Pg	03 45 43.5	+0.6
HLP	**Hilina Pali**	**0.09**	**260**	Pg	Pg	03 45 44.2	+1.1
HLP				Sg	Sg	03 45 46.5	+2.2
KKO	**Keanakako`i**	**0.10**	**330**	Pg	Pg	03 45 44.2	+0.9
KKO				Sg	Sg	03 45 46.2	+1.6
KKO				IAML		03 45 46.5	
	comp=E,7μm,0.3s						
RIM	**Rim**	**0.10**	**326**	Pg	Pg	03 45 44.1	+0.8
SDHHI	**Sand Hill**	**0.11**	**316**	Pg	Pg	03 45 44.2	+0.7
SDHHI				IAML		03 45 46.8	
	comp=E,7μm,0.3s						
SDHHI				IAML		03 45 46.9	
	comp=N,4μm,0.3s						
BYL	**Byron's Ledge**	**0.11**	**336**	Pg	Pg	03 45 44.0	+0.5
BYL				Sg	Sg	03 45 46.1	+1.2
BYL				IAML		03 45 46.7	
	comp=E,5μm,0.3s						
BYL				IAML		03 45 46.7	
	comp=N,6μm,0.7s						
STCH	**Steam Cracks**	**0.11**	**49**	Pg	Pg	03 45 44.0	+0.5
STCH				Sg	Sg	03 45 45.8	+0.8
STCH				IAML		03 45 46.5	
	comp=E,3μm,0.1s						
STCH				IAML		03 45 46.6	
	comp=N,3μm,0.2s						
NPH	**North Pit**	**0.12**	**328**	Pg	Pg	03 45 44.0	+0.3
NPH				Sg	Sg	03 45 45.8	+0.5
HATHI	**Halema'uma'u T**	**0.12**	**338**	Pg	Pg	03 45 44.1	+0.5
HATHI				Sg	Sg	03 45 46.3	+1.0
HATHI				IAML		03 45 47.0	
	comp=N,5μm,0.2s						
HATHI				IAML		03 45 47.2	
	comp=E,6μm,0.2s						
OBL	**Observatory Le**	**0.12**	**328**	Pg	Pg	03 45 44.3	+0.5
OBL				Sg	Sg	03 45 46.2	+0.8
OBL				IAML		03 45 47.3	
	comp=N,4μm,0.3s						
WRMHI	**West Rim**	**0.12**	**319**	Pg	Pg	03 45 44.2	+0.5
WRMHI				IAML		03 45 47.4	
	comp=E,5μm,0.8s						
WRMHI				IAML		03 45 47.8	
	comp=N,3μm,0.6s						
SBLHI	**Steaming Bluff**	**0.13**	**336**	Pg	Pg	03 45 44.3	+0.5
SBLHI				Sg	Sg	03 45 46.6	+1.1
SBLHI				IAML		03 45 47.1	
	comp=E,6μm,0.3s						
SBLHI				IAML		03 45 47.3	
	comp=N,6μm,0.2s						
NPOC	**North of Pu'u**	**0.13**	**51**	Pg	Pg	03 45 44.3	+0.5
NPOC				Sg	Sg	03 45 46.3	+0.8
NPOC				IAML		03 45 47.1	
	comp=N,2μm,0.5s						
JCUZ	**Jacuzzi**	**0.13**	**56**	Pg	Pg	03 45 44.4	+0.6
JCUZ				Sg	Sg	03 45 46.3	+0.8
UWB	**Uwekahuna B**	**0.13**	**332**	Pg	Pg	03 45 44.3	+0.4
UWB				Sg	Sg	03 45 46.5	+1.0
UWB				IAML		03 45 47.2	
	comp=N,3μm,1.2s						
UWE	**Uwekahuna**	**0.13**	**326**	Pg	Pg	03 45 44.5	+0.6
UWE				IAML		03 45 46.0	
	comp=N,2μm,0.9s						
UWE				IAML		03 45 47.8	
	comp=E,3μm,0.4s						
RSD	**Rainshed**	**0.16**	**338**	Pg	Pg	03 45 44.7	+0.2
RSD				Sg	Sg	03 45 47.5	+0.9
RSD				IAML		03 45 48.0	
	comp=N,1μm,0.8s						
HTC	**Hot Caves**	**0.19**	**247**		Pg	03 45 46.0	+1.1
JOKA	**Jonika Flow**	**0.23**	**58**	Pg	Pg	03 45 45.9	+0.1
JOKA				Sg	Sg	03 45 50.5	+1.7
JOKA				IAML		03 45 52.7	
	comp=N,1μm,0.2s						
MLH	**Mauna Loa**	**0.24**	**318**	Pg	Pg	03 45 46.2	+0.1
MLH				Sg	Sg	03 45 50.2	+1.0
MLH				IAML		03 45 52.6	
	comp=N,3μm,0.2s						
MLH				IAML		03 45 52.7	
	comp=E,2μm,0.2s						
PAH	**Pahoa**	**0.31**	**54**	Pg	Pg	03 45 47.7	+0.4
HMH	**Humu'ula Sheep**	**0.39**	**319**	Pg	Pg	03 45 48.9	+0.1
KHU	**Kahuku**	**0.39**	**260**	Pg	Pg	03 45 48.7	0.0
KHU				Sg	Sg	03 45 54.8	+1.1
KHU				IAML		03 45 55.5	
	comp=E,1μm,0.5s						
KHU				IAML		03 46 01.7	
	comp=N,838nm,0.6s						
MWH	**Moku'aweowe**	**0.40**	**296**	Pg	Pg	03 45 49.3	+0.2
MLOA	**Mauna Loa Obse**	**0.41**	**303**	Pg	Pg	03 45 49.2	0.0
MLOA	**Mauna Loa Obse**	**0.41**	**303**	Pg	Pg	03 45 49.5	+0.2
ALEP	**Alea Permanent**	**0.47**	**299**		Pg	03 45 50.1	-0.2
ALEP					Sg	03 45 57.6	+1.2
POHA	**Pohakuloa**	**0.54**	**326**	Pg	Pg	03 45 51.3	-0.3
POHA	**Pohakuloa**	**0.54**	**326**	Sg	Sg	03 45 58.7	+0.1
CPH	**Captain Cook**	**0.69**	**285**		Pg	03 45 53.9	-0.6
HUH	**Hualalai**	**0.69**	**302**	Pg	Pg	03 45 53.9	-0.8
HPAH	**Hawaii Prepara**	**0.85**	**328**	Pg	Pg	03 45 55.3	-2.3
HPAH				Sg	Sg	03 46 08.4	-0.2
HLK	**Haleakala**	**1.74**	**326**	Pn	Pn	03 46 07.5	-5.3

DNK ***20*** *04:04:57.2±1.6, 51°.51N×16°.00E, h19km±60km, ML2.4*

VIE ***20*** *04:04:58.0±0.6, 51°.64N×16°.05E, h0km, mb2.7/14, ml3.2/14, ms3.5/1, Error ellipse: s-maj=7.1km s-min=3.6km az=32.0, Suspected Mining induced.*

IPEC ***20*** *04:04:58.7±0.2, 51°.61N×16°.07E, h1km, ML3.0/4, Error ellipse: s-maj=2.0km s-min=1.2km az=35.0*

IDC ***20*** *04:04:59.1±0.7, 51°.59N×15°.86E, h0km, mbtmp3.1/8, ML2.8/8, Error ellipse: s-maj=10.6km s-min=6.2km az=105.0*

UPP ***20*** *04:04:59.1±3.1, 51°.64N×15°.48E, h0km, ML2.3*

BGR ***20*** *04:05:00.4±0.5, 51°.54N×15°.99E, h1km, ML3.2/12, Error ellipse: s-maj=4.4km s-min=2.2km az=15.0*

LDG ***20*** *04:05:00.3±0.2, 51°.60N×15°.90E, h1km, Ml3.2/19, Error ellipse: s-maj=5.2km s-min=3.0km az=3.0, Suspected Mining induced.*

PRU ***20*** *04:05:02.0, 51°.50N×15°.97E, h1km*

ISC 20 04:04:56.1±0.6, 51°.66N±0°.03×15°.97E±0°.02, h0km, n100, σ1.198/172, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**1.08**	**177**	*e*PG	**Pn**	**04 05 19.0**	**+0.5**
CHVC				*e*SG	**Sg**	**04 05 31.8**	**+1.1**
OSTC	**Ostas**	**1.12**	**172**	*e*PG	**Pn**	**04 05 19.7**	**+0.6**
OSTC				*e*SG	**Sb**	**04 05 33.7**	**+0.2**
	comp=Z,150nm,0.3s						
UPC	**Upice**	**1.16**	**179**	*e*PG	**Pn**	**04 05 20.1**	**+0.5**
UPC				*e*SG	**Sg**	**04 05 33.1**	**-0.2**
	comp=Z,255nm,0.3s						
DPC	**Dobruska-Polom**	**1.33**	**170**	*e*PG	**Pb**	**04 05 23.0**	**+1.0**
DPC				*e*SG	**Sg**	**04 05 39.4**	**+0.5**
	comp=Z,101nm,0.4s						
DPC	**Dobruska-Polom**	**1.33**	**170**	*e*Pg	**Pb**	**04 05 23.0**	**+1.0**
DPC				*e*Sg	**Sg**	**04 05 39.6**	**+0.6**
PVCC	**Panska Ves**	**1.44**	**218**	*e*PG	**Pb**	**04 05 25.4**	**+1.6**
PVCC				*e*SG	**Sn**	**04 05 44.6**	**+1.5**
	comp=Z,388nm,0.2s						
BRG	**Berggiesshubel**	**1.50**	**239**	Pn	**Pb**	**04 05 25.3**	**+0.5**
BRG				Pg	**Pg**	**04 05 27.1**	**+2.3**
BRG				Sg	**Sn**	**04 05 46.6**	**+2.0**
BRG				Amp		04 05 49.0	
	comp=Z,248nm,0.4s						
BRG	**Berggiesshubel**	**1.50**	**239**	*e*Pn	**Pg**	**04 05 27.1**	**+2.3**
BRG				*e*Sg	**Sn**	**04 05 46.6**	**+2.0**
KRLC	**Kraliky**	**1.67**	**162**	*e*PG	**Pb**	**04 05 28.2**	**+0.4**
KRLC				*e*SG	**Sg**	**04 05 50.5**	**+0.7**
	comp=Z,198nm,0.3s						
FBE	**Freiberg**	**1.80**	**247**	*e*Pn	**Pg**	**04 05 31.5**	**+0.9**
FBE				*e*Sg	**Sg**	**04 05 56.7**	**+2.6**
PRA	**Prague**	**1.87**	**212**	*e*Pn	**Pb**	**04 05 30.7**	**-0.4**
CLL	**Collm**	**1.89**	**260**	*i* Pn	**Pb**	**04 05 31.3**	**-0.2**
	comp=Z,23nm,0.5s						
CLL				*i* Pg	**Pg**	**04 05 34.4**	**+2.1**
CLL				*i* x	x	04 05 38.2	
CLL				*i* x	x	04 05 49.8	
CLL				*e*Sg	**Sg**	**04 06 00.0**	**+3.2**
	comp=Z,74nm,0.5s						
PRU	**Pruhonice**	**1.91**	**209**	*e*PN	**Pb**	**04 05 31.5**	**-0.3**
PRU				*e*PG	**Pg**	**04 05 33.4**	**+0.7**
PRU				*e*SG	**Sg**	**04 05 57.9**	**+0.6**
	comp=Z,110nm,0.5s						
HSKC	**Hora Svate Kat**	**1.92**	**238**	*e*SG	**Sg**	**04 05 58.9**	**+1.2**
	comp=Z,92nm,0.3s						
RAC	**Raciborz**	**2.12**	**137**	*e*PG	**Pg**	**04 05 37.4**	**+0.7**
RAC				*e*SG	**Sg**	**04 06 05.4**	**+1.3**
MORC	**Moravsky Berou** baz=334	**2.14**	**152**	*e*Pn	**Pn**	**04 05 34.3**	**+1.2**
MORC				*e*Sg	**Sb**	**04 06 03.2**	**+0.4**
	comp=Z,80nm,0.5s,baz=334						
MORC	**Moravsky Berou**	**2.14**	**152**	*e*Pn	**Pn**	**04 05 34.4**	**+1.3**
MORC				*e*Sg	**Sg**	**04 06 04.6**	**-0.1**
OKC	**Ostrava-Krasne**	**2.29**	**142**	*e*Pn	**Pn**	**04 05 36.1**	**+0.9**
OKC				*e*Sg	**Sg**	**04 06 10.3**	**+0.6**
TREC	**Trest**	**2.39**	**188**	*e*SG	**Sg**	**04 06 12.7**	**-0.2**
	comp=Z,54nm,0.2s						
VRAC	**Vranov**	**2.39**	**170**	*e*PN	**Pn**	**04 05 38.2**	**+1.6**
VRAC				*e*SG	**Sb**	**04 06 11.7**	**+1.6**
VRAC	**Vranov**	**2.39**	**170**	Pn	**Pn**	**04 05 38.5**	**+2.0**
	comp=Z,2.3nm,0.3s,baz=344,slow=16,SNR=51						
VRAC				Lg	Lg	04 06 12.4	
	comp=Z,14nm,0.3s,baz=82,slow=20,SNR=22						
	comp=Z,5.8nm,0.3s						
VRAC	**Vranov** baz=352	**2.39**	**170**	*e*Pn	**Pn**	**04 05 38.1**	**+1.5**
VRAC				*e*Sg	**Sb**	**04 06 11.6**	**+1.5**
	comp=Z,76nm,0.5s,baz=352						
TANN	**Tannenbergstha**	**2.54**	**242**	*e*Pn	**Pn**	**04 05 40.9**	**+2.2**
TANN				*e*Sg	**Sg**	**04 06 19.3**	**+1.5**
WERD	**Werda**	**2.61**	**244**	*e*Pn	**Pn**	**04 05 41.6**	**+2.0**
WERD				*e*Sg	**Sg**	**04 06 21.7**	**+1.7**
KRUC	**Moravsky** baz=355	**2.62**	**174**	*e*Pn	**Pn**	**04 05 41.5**	**+1.8**
KRUC	**Moravsky** baz=355	**2.62**	**174**	*e*Pg	**Pg**	**04 05 45.6**	**-0.7**
KRUC				*e*Sg	**Sb**	**04 06 18.8**	**+2.2**
	comp=Z,68nm,0.7s,baz=355						
NKC	**Novy Kostel**	**2.65**	**239**	*e*PN	**Pn**	**04 05 42.6**	**+2.5**
NKC				*e*PG	**Pg**	**04 05 49.0**	**+2.1**
NKC				*e*SG	**Sg**	**04 06 22.8**	**+1.6**
	comp=Z,91nm,0.4s						
OJC	**Ojcow**	**2.82**	**119**	*e*Pn	**Pn**	**04 05 42.4**	**0.0**
OJC				*e*Pg	**Pg**	**04 05 50.9**	**+0.8**
OJC				*e*Sg	**Sg**	**04 06 28.1**	**+1.4**
MOX	**Moxa**	**2.93**	**251**	*e*Pn	**Pn**	**04 05 45.9**	**+2.0**
MOX				*e*Sg	**Sg**	**04 06 32.6**	**+2.5**
KHC	**Kasperske Hory**	**2.96**	**212**	*e*PN	**Pn**	**04 05 46.0**	**+1.6**
KHC				*e*PG	**Pg**	**04 05 52.2**	**-0.7**
KHC				*e*SN	**Sn**	**04 06 21.3**	**+0.6**
KHC				*e*SG	**Sg**	**04 06 31.4**	**+0.2**
	comp=Z,40nm,0.4s						
MANZ	**Manzenberg**	**2.97**	**237**	*e*Pn	**Pn**	**04 05 46.6**	**+2.1**
MANZ				*e*Sg	**Sg**	**04 06 33.1**	**+1.6**
JAVC	**Velka Javorina** baz=340	**3.01**	**158**	*e*Pn	**Pn**	**04 05 46.8**	**+1.7**
CKRC	**Cesky Krumlov**	**3.04**	**201**	*e*PG	**Pg**	**04 05 53.9**	**-0.5**
CKRC				*e*SG	**Sg**	**04 06 33.0**	**-0.8**
	comp=Z,51nm,0.4s						
ROTZ	**Rotzenmuhle**	**3.06**	**233**	*e*Pn	**Pn**	**04 05 47.9**	**+2.2**
ROTZ				*e*Sg	**Sg**	**04 06 34.6**	**+0.4**
GEC2	**GERESS Array S**	**3.18**	**208**	*e*Pn	**Pn**	**04 05 49.7**	**+2.3**
GEC2				*e*Sg	**Sg**	**04 06 37.6**	**-0.5**
GERES	**GERESS Array B**	**3.18**	**208**	Pn	**Pn**	**04 05 49.2**	**+1.8**
	comp=Z,1.1nm,0.3s,baz=33,slow=13,SNR=25						
GERES				Pg	**Pb**	**04 05 55.1**	**+1.6**
	comp=Z,3.3nm,0.3s,baz=25,slow=17,SNR=25						
GERES				Lg	Lg	04 06 36.3	
	comp=Z,11nm,0.3s,baz=27,slow=32,SNR=9.9						
	comp=Z,1.8nm,0.4s						
WET	**Wettzell**	**3.21**	**219**	*e*Pn	**Pn**	**04 05 49.8**	**+2.0**
LANS	**Liptovska Anna**	**3.37**	**137**	*e*PN	**Pn**	**04 05 51.9**	**+1.9**
LANS				*e*PG	**Pg**	**04 06 01.5**	**+0.9**
LANS				*e*SG	**Sg**	**04 06 44.0**	**-0.2**
MODS	**Modra-Piesok**	**3.40**	**165**	*e*PN	**Pn**	**04 05 52.5**	**+2.1**
MODS				*e*PG	**Pg**	**04 06 03.6**	**+2.3**
MODS				*e*SG	**Sg**	**04 06 44.2**	**-1.1**
CLZ	**Clausthal**	**3.48**	**275**	*e*Pn	**Pn**	**04 05 54.8**	**+3.2**
BSD	**Bornholm Skovb**	**3.51**	**350**	*i* P	**Pn**	**04 05 53.5**	**+1.6**
BSD				*i* S	**Sn**	**04 06 32.8**	**-1.4**
BSD				IAML		04 06 39.1	
	comp=Z,3.9nm,0.6s						
ZST	**Bratislava**	**3.55**	**168**	*e*SG	**Sg**	**04 06 49.4**	**-0.6**
NIE	**Niedzica**	**3.56**	**127**	*e*Pg	**Pg**	**04 06 04.9**	**+0.5**
NIE				*e*Sg	**Sg**	**04 06 49.6**	**-0.9**
GRF	**Grafenberg Arr**	**3.61**	**239**	*e*Pn	**Pn**	**04 05 55.9**	**+2.6**
GRF				*e*Sg	**Sg**	**04 06 54.1**	**+2.1**
VYHS	**Vyhne**	**3.67**	**149**	*e*PN	**Pn**	**04 05 55.3**	**+1.2**
VYHS				*e*PG	**Pg**	**04 06 07.9**	**+1.5**
CONA	**Conrad Observa**	**3.74**	**181**	*i* Pn	**Pn**	**04 05 57.1**	**+2.0**
	comp=Z,1.8nm,0.2s,SNR=10.0						
RONA	**Rosalia, Austr**	**3.97**	**177**	*i* Pn	**Pn**	**04 06 00.6**	**+2.3**
	comp=Z,0.5nm,0.2s						
MOA	**Molln**	**3.98**	**197**	*i* Pn	**Pn**	**04 06 00.4**	**+2.1**
	comp=Z,4.3nm,0.2s,SNR=24						
STHS	**Stebnicka Huta**	**4.04**	**122**	*e*PN	**Pn**	**04 06 00.7**	**+1.4**
STHS				*e*PG	**Pg**	**04 06 14.5**	**+0.9**
STHS				*e*SG	**Sg**	**04 07 11.5**	**+5.5**
LUNU	**Lund**	**4.25**	**340**	P	**Pn**	**04 06 03.5**	**+1.5**
LUNU				S	**Sn**	**04 06 52.6**	**+0.3**
LUNU	**Lund**	**4.25**	**340**	P	**Pn**	**04 06 03.5**	**+1.5**
LUNU				*i* P	**Pn**	**04 06 03.6**	**+1.5**
LUNU				S	**Sn**	**04 06 52.6**	**+0.3**
LUNU				*i* S	**Sn**	**04 06 52.8**	**+0.5**
BIOA	**Bad Ischl, Aus**	**4.25**	**202**	*e*Pn	**Pn**	**04 06 04.0**	**+1.8**
	comp=Z,1.4nm,0.2s						
ARSA	**Arzberg**	**4.43**	**184**	*e*Pn	**Pn**	**04 06 06.7**	**+2.2**
	comp=Z,0.8nm,0.2s						
CRVS	**Cervenica-Dubn**	**4.47**	**126**	*e*PG	**Pg**	**04 06 24.7**	**+2.8**
BLEU	**Blekinge**	**4.65**	**359**	P	**Pn**	**04 06 10.2**	**+2.6**
BLEU	**Blekinge**	**4.65**	**359**	*i* P	**Pn**	**04 06 09.4**	**+1.9**
BLEU				P	**Pn**	**04 06 10.2**	**+2.6**
BJUU	**Bjuv**	**4.75**	**340**	P	**Pn**	**04 06 10.2**	**+1.3**
BJUU				S	**Sn**	**04 07 04.0**	**-0.7**
BJUU	**Bjuv**	**4.75**	**340**	*i* P	**Pn**	**04 06 09.8**	**+0.9**
BJUU				P	**Pn**	**04 06 10.2**	**+1.3**
BJUU				S	**Sn**	**04 07 04.0**	**-0.7**
LESA	**Schwarzleotal**	**4.75**	**208**	*e*Pn	**Pn**	**04 06 11.1**	**+2.0**
	comp=Z,1.4nm,0.3s						
KOLS	**Kolonicke sedl**	**4.88**	**122**	*e*PN	**Pn**	**04 06 12.3**	**+1.6**
KOLS				*e*PG	**Pg**	**04 06 32.7**	**+3.2**
KOLS				*e*SN	**Sn**	**04 07 07.6**	**-0.2**
DEL	**Delary

CDF	**Champ du Feu**	**6.48**	**243**	*e*Pn		**Pn**	**04 06 32.9**	**+0.2**
CDF				*e*Sg		**Sg**	**04 08 21.0**	**-3.1**
	comp=Z,1.1nm,0.3s							
HINF	**Hinteralfeld**	**7.05**	**240**	*e*Pn		**Pn**	**04 06 41.1**	**+0.5**
HINF	**Hinteralfeld**	**7.05**	**240**	*e*Pg		**Pg**	**04 07 09.0**	**-2.2**
HINF				*e*Sg		**Sg**	**04 08 38.7**	**-3.8**
	comp=Z,8.5nm,0.7s							
HAU	**Haudompre**	**7.22**	**243**	*e*Pn		**Pn**	**04 06 43.0**	**+0.1**
HAU	**Haudompre**	**7.22**	**243**	*e*Pg		**Pg**	**04 07 11.7**	**-2.7**
HAU				*e*Sg		**Sg**	**04 08 44.1**	**-3.7**
	comp=Z,3.5nm,0.3s							
GIVF	**Givet**	**7.22**	**262**	*e*Pn		**Pn**	**04 06 43.0**	**+0.1**
GIVF				*e*Sg		**Sg**	**04 08 44.9**	**-3.1**
	comp=Z,6.5nm,0.6s							
NACGM	**Naroch**	**7.25**	**59**	*e*P		Pn	04 06 48.7	+5.5
	comp=Z,6.0nm,0.8s,baz=248							
PAGF	**Fort de Pagny**	**7.29**	**249**	*e*Pn		**Pn**	**04 06 44.1**	**+0.3**
PAGF				*e*Sg		**Sg**	**04 08 46.2**	**-3.8**
	comp=Z,4.0nm,0.5s							
SAVF	**Savonnieres en**	**7.61**	**251**	*e*Pn		**Pn**	**04 06 48.1**	**-0.1**
SAVF				*e*Sg		**Sg**	**04 08 56.9**	**-3.4**
	comp=Z,5.7nm,0.8s							
BAIF	**Baives**	**7.62**	**262**	*e*Pn		**Pn**	**04 06 48.3**	**0.0**
BAIF				*e*Sg		**Sg**	**04 08 56.9**	**-3.7**
	comp=Z,15nm,1.1s							
MEZF	**Maizieres J'vi**	**7.70**	**250**	*e*Pn		**Pn**	**04 06 49.9**	**+0.4**
MEZF				*e*Sg		**Sg**	**04 09 00.1**	**-3.3**
	comp=Z,12nm,0.9s							
SFTF	**Sexfontaines**	**7.86**	**248**	*e*Pn		**Pn**	**04 06 51.9**	**+0.3**
SFTF				*e*Sg		**Sg**	**04 09 04.4**	**-3.9**
	comp=Z,7.1nm,0.7s							
CABF	**La Chapelle**	**8.22**	**236**	*e*Pn		**Pn**	**04 06 56.6**	**0.0**
CABF				*e*Sg		**Sg**	**04 09 15.1**	**-4.7**
	comp=Z,0.1nm,0.1s							
AKASG	**Malin Array Be**	**8.38**	**91**	Pn		**Pn**	**04 06 59.2**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=278,slow=12,SNR=4.8							
AKASG				Sn		**Sn**	**04 08 30.6**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=283,slow=22,SNR=1.8							
AKASG				Lg		Lg	04 09 29.9	
	baz=278,slow=28							
	comp=Z,0.3nm,0.5s							
HFS	**Hagfors**	**8.59**	**352**	Pn		**Pn**	**04 07 02.7**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=164,slow=15,SNR=8.7							
HFS				Sn		**Sn**	**04 08 37.9**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=177,slow=28,SNR=1.5							
HFS				Lg		Lg	04 09 32.8	
	comp=Z,0.1nm,0.3s,baz=165,slow=29,SNR=2.1							
	comp=Z,0.7nm,0.6s							
LPL	**La Plagne**	**8.68**	**228**	*e*Pg		**Pg**	**04 07 38.9**	**-3.3**
LPL				*e*Sg		**Sg**	**04 09 29.5**	**-5.0**
	comp=Z,1.4nm,0.4s							
LPG	**La Plagne**	**8.68**	**228**	*e*Pg		**Pg**	**04 07 39.0**	**-3.3**
LPG				*e*Sg		**Sg**	**04 09 29.6**	**-5.1**
	comp=Z,5.7nm,0.9s							
LOR	**Lormes**	**9.03**	**246**	*e*Pn		**Pn**	**04 07 07.8**	**+0.1**
	baz=57							
LOR	**Lormes**	**9.03**	**246**	*e*Pg		Pn	04 07 45.4	+38
	baz=56							
LOR				*e*Sg		Sn	04 09 40.5	+51
	comp=Z,0.1nm,0.2s							
SSF	**Saint Saulge**	**9.34**	**245**	*e*Pn		**Pn**	**04 07 12.1**	**+0.1**
SSF	**Saint Saulge**	**9.34**	**245**	*e*Pg		Pn	04 07 51.1	+39
SSF				*e*Sg		Sn	04 09 50.9	+53
	comp=Z,3.7nm,0.6s							
SMF	**Signal de Mont**	**9.40**	**242**	*e*Pn		**Pn**	**04 07 13.0**	**+0.3**
SMF				*e*Sg		Sn	04 09 52.2	+53
	comp=Z,12nm,1.0s							
AVF	**Avril sur Loir**	**9.59**	**244**	*e*Pn		**Pn**	**04 07 14.8**	**-0.5**
AVF				*e*Sn		**Sn**	**04 08 57.8**	**-5.8**
AVF				*e*Sg			04 09 58.1	
	comp=Z,9.3nm,1.1s							
NOA	**NORSAR Array B**	**9.76**	**346**	Pn		**Pn**	**04 07 19.1**	**+1.4**
	baz=169,slow=12,SNR=2.1							
	comp=Z,0.4nm,0.7s							
BGF	**Bois d'Agland**	**10.00**	**244**	*e*Pn		**Pn**	**04 07 21.0**	**0.0**
BGF				*e*Sg		Sn	04 10 11.2	+57
	comp=Z,3.0nm,0.4s							
TCF	**Toulx Ste Croi**	**10.52**	**245**	*e*Pg		Pn	04 08 12.7	+45
TCF				*e*Sg		Sn	04 10 26.8	+60
	comp=Z,1.9nm,0.5s							
FINES	**FINESS Array B**	**11.26**	**26**	Pn		**Pn**	**04 07 37.9**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=220,slow=12,SNR=6.3							
FINES				Sn		**Sn**	**04 09 38.4**	**-6.1**
	comp=Z,0.3nm,0.3s,baz=215,slow=21,SNR=6.1							
	comp=Z,0.7nm,0.6s							
EKA	**Eskdalemuir Ar**	**11.96**	**295**	Pn		**Pn**	**04 07 48.1**	**+0.4**
	baz=102,slow=13							
	comp=Z,0.4nm,0.5s							

OTT ***20*** *04:25:42.0±0.6, 72.45N×66.90W, h18km, ML3.2/4, 229km northeast from Clyde River, Nu Baffin Bay Seismic Zone.*
DNK ***20*** *04:25:43.6±2.2, 72.55N×66.46W, h36km±49km, ML2.1*
ISC 20 04:25:36.6±0.8, 72.56N±0.05×66.54W±0.05, h10km, n14, σ3s25/20, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CLRN	**Clyde River**	**2.20**	**198**	PN		**Pb**	**04 26 15.8**	**-0.5**
CLRN				SN		**Sn**	**04 26 39.7**	**-0.5**
CLRN				Trac			04 26 42.3	
	comp=Z,43nm,0.1s							
UPNV	**Upernavik**	**3.12**	**81**	*i* P		**Pn**	**04 26 29.0**	**+3.3**
UPNV				*i* S		**Sn**	**04 27 02.5**	**-0.5**
UPNV				IAML			04 27 03.8	
	comp=Z,29nm,0.3s							
NUUG	**Nuugaatsiaq**	**4.25**	**98**	*i* P		**Pn**	**04 26 44.5**	**+3.2**
NUUG				*e*S		**Sn**	**04 27 28.7**	**-2.2**
UMMG	**Uummannaq**	**4.94**	**106**	*i* P		**Pn**	**04 26 53.6**	**+2.9**
UMMG				*i* S		**Sn**	**04 27 45.9**	**-1.7**
UMMG				IAML			04 27 48.5	
	comp=Z,5.0nm,0.3s							
ILON	**Igloolik, Nuna**	**5.93**	**245**	PN		**Pn**	**04 27 06.5**	**+2.3**
ILON	**Igloolik, Nuna**	**5.93**	**245**	SN		**Sn**	**04 28 09.2**	**-2.9**
ILON				Trac			04 28 23.9	
	comp=Z,2.3nm,0.2s							
ILULI	**Ilulissat**	**6.07**	**116**	*e*P		**Pn**	**04 27 09.4**	**+3.2**
NEEM	**North Greenlan**	**6.31**	**32**	*i* P		**Pn**	**04 27 12.6**	**+2.8**
NEEM				*i* S		**Sn**	**04 28 18.7**	**-3.3**
NEEM				IAML			04 28 22.6	
	comp=Z,3.2nm,0.3s							
RES	**Resolute Bay**	**8.23**	**298**	PN		**Pn**	**04 27 39.1**	**+3.2**
RES	**Resolute Bay**	**8.23**	**298**	SN		**Sn**	**04 29 04.9**	**-3.9**
RES				Trac			04 29 09.9	
	comp=Z,3.1nm,0.8s							
SUMG	**Summit**	**8.39**	**76**	*i* P		**Pn**	**04 27 41.5**	**+3.1**
SUMG				*i* S		**Sn**	**04 29 07.9**	**-5.2**
SUMG				IAML			04 29 10.0	
	comp=Z,9.1nm,0.2s							
FRB	**Frobisher Bay**	**8.89**	**186**	PN		**Pn**	**04 27 46.7**	**+1.8**
FRB	**Frobisher Bay**	**8.89**	**186**	SN		**Sn**	**04 29 19.1**	**-5.7**
FRB				Trac			04 29 49.7	
	comp=Z,3.3nm,0.2s							
SAKN	**Sanikiluaq**	**16.92**	**205**	PN		**Pn**	**04 29 33.0**	**0.0**
SAKN				SN		Sn	04 32 27.0	-14

IDC 20 04:49:51.3±2.5, 6.66S×131.15E, h0km, mb3.5/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=137.8km s-min=33.6km az=72.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
WRA	**Warramunga Arr**	**13.56**	**167**	Pn		Pn	04 53 04.5	-0.6
	0.1nm,0.3s,baz=350,slow=13,SNR=2.9							
WRA				Sn		Sn	04 55 26.9	-10
	0.2nm,0.3s,baz=357,slow=24,SNR=1.8							
	0.5nm,0.5s							
ASAR	**Alice Springs**	**17.12**	**171**	P		Pn	04 53 52.7	+0.5
	0.1nm,0.3s,baz=358,slow=13,SNR=5.2							
	0.2nm,0.4s							
MKAR	**Makanchi Array**	**68.57**	**326**	P		P	05 00 56.0	0.0
	0.2nm,0.4s,baz=119,slow=6.7,SNR=4.4							
	0.2nm,0.4s							

JMA ***20*** *04:52:43.2±0.6, 22°N×2°×12°1E±°, h50km, MV4.1/14, TAIWAN REGION*
ASIES ***20*** *04:52:44.1, 21.90N×121.12E, h29km, ML3.8, Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10^{21}Nm; Mrr=4.86; Mθθ1.22; Mφφ3.63; Mrθ=4.19; Mθφ=1.99; Mφr3.12; Fault plane solution: $M_0$7.09843×10^{21} NP1: φs133.86000°, δ69.10000°, λ=101.68000°. NP2: φs343.94000°, δ23.81000°, λ=62.08000°. Principal axes:*

T Plg23.2470°, Azm232.8180°; N Plg10.8960°, Azm138.0750°; P Plg64.0480°, Azm24.7760°;
TAP ***20*** *04:52:44.1, 21.90N×121.12E, h29km, ML3.8, C*
ISC 20 04:52:44.2±1.1, 21.91N±0.05×121.19E±0.03, h25km±10km, n128, σ1s28/167, 10C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMST	**Manzhou Townsh**	**0.34**	**288**	P		**Pb**	**04 52 51.8**	**0.0**
	baz=300							
SMST				*i* S		**Sb**	**04 52 57.1**	**0.0**
	baz=300							
TWKBT	**Hengchun**	**0.35**	**274**	⇓ *i* P		**Pb**	**04 52 51.8**	**-0.1**
	baz=284							
TWKBT				*i* S		**Sb**	**04 52 56.9**	**-0.3**
	baz=284							
TWK1	**Hengchun**	**0.36**	**275**	⇓ *i* P		**Pb**	**04 52 51.8**	**-0.3**
	baz=284							
TWK1				*i* S		**Sb**	**04 52 57.2**	**-0.2**
	baz=284							
LAY	**Lan-yu**	**0.36**	**70**	*i* P		Pn	04 52 53.7	-0.1
	baz=70							
LAY				S		Sn	04 52 60.0	-0.1
	baz=70							
LYUB	**Lan-yu**	**0.38**	**77**	*i* P		Pn	04 52 53.3	-0.7
	baz=76							
LYUB				S		Sn	04 52 59.6	-0.9
	baz=76							
HEN	**Hengchun**	**0.43**	**282**	⇓ *i* P		**Pb**	**04 52 53.1**	**0.0**
	baz=287							
HEN				*i* S		**Sb**	**04 52 59.5**	**+0.2**
	baz=287							
SLIU	**Shizi**	**0.47**	**310**	⇑ *i* P		**Pb**	**04 52 53.9**	**0.0**
	baz=324							
SLIU				S		**Sb**	**04 53 00.8**	**+0.3**
	baz=324							
TAWH	**Dawu Township**	**0.51**	**327**	⇑ *i* P		**Pb**	**04 52 54.5**	**0.0**
	baz=345							
TAWH				S		**Sb**	**04 53 01.9**	**+0.4**
	baz=345							
TAW	**Tawu**	**0.52**	**329**	⇑ *i* P		**Pb**	**04 52 54.6**	**-0.1**
	baz=347							
TAW				*i* S		**Sb**	**04 53 02.1**	**+0.2**
	baz=347							
EAST	**Anshuo**	**0.56**	**326**	⇑ *i* P		**Pb**	**04 52 55.3**	**-0.2**
	baz=341							
EAST				*e*S		**Sb**	**04 53 03.3**	**+0.1**
	baz=341							
SCZT	**Fangliau**	**0.70**	**311**	⇑ *i* P		**Pb**	**04 52 57.7**	**0.0**
	baz=321							
SCZT				S		Sn	04 53 08.6	+0.3
	baz=321							
ECL	**Taimali**	**0.71**	**342**	⇑ *i* P		**Pb**	**04 52 57.0**	**-1.0**
	baz=359							
ECL				S		**Sb**	**04 53 06.5**	**-0.9**
	baz=359							
LDUT	**Ludao**	**0.80**	**19**	*e*P		Pb	04 52 59.0	-0.5
	baz=31							
LDUT				*e*S		**Sb**	**04 53 10.3**	**+0.4**
	baz=31							
TTN	**Taitung**	**0.84**	**357**	*e*P		Pn	04 53 00.3	0.0
	baz=350							
TTN				*e*S		Sn	04 53 13.2	+1.4
	baz=350							
MASBT	**Mashibuluo**	**0.86**	**324**	⇑ P		**Pb**	**04 53 00.1**	**-0.4**
	baz=337							
MASBT				*e*S		Sn	04 53 12.7	+0.1
	baz=337							
TWP	**Hsiaoliuchiu**	**0.88**	**299**	*e*P		Pn	04 53 01.4	+0.6
	baz=304							
TWP				*e*S		Sn	04 53 15.6	+2.7
	baz=304							
TWGBT	**Beinan**	**0.91**	**354**	P		**Pb**	**04 53 00.1**	**-1.1**
TWGBT	**Beinan**	**0.91**	**354**	P		**Pb**	**04 52 59.8**	**-1.4**
TWGBT	**Beinan**	**0.91**	**354**	⇑ P		**Pb**	**04 52 59.8**	**-1.4**
	baz=358							
TWG	**Pinlang**	**0.91**	**353**	⇑ *i* P		**Pb**	**04 52 59.8**	**-1.5**
	baz=358							
TSMG	**Majia**	**0.93**	**328**	*e*P		**Pb**	**04 53 01.0**	**-0.8**
	baz=340							
SSD	**Sandimen**	**0.97**	**328**	⇑ P		**Pb**	**04 53 01.6**	**-0.8**
	baz=339							
LONT	**Longtian**	**0.99**	**357**	*e*P		**Pb**	**04 53 01.1**	**-1.5**
	baz=352							
SGLT	**Jiouru**	**1.03**	**322**	*e*P		**Pb**	**04 53 04.5**	**+1.1**
	baz=338							
EDH	**Donghe**	**1.06**	**6**	*e*P		Pn	04 53 02.7	-0.7
	baz=9.0							
EDH				*e*S		Sn	04 53 17.6	+0.3
	baz=9.0							
SNJT	**Kaohsiung City**	**1.15**	**317**	*e*P		**Pb**	**04 53 07.6**	**+2.2**
	baz=321							
TWM1	**Shoushan**	**1.15**	**322**	P		**Pb**	**04 53 06.9**	**+1.5**
	baz=327							
SCST	**Cishan**	**1.16**	**327**	*e*P		**Pb**	**04 53 06.1**	**+0.6**
	baz=344							
SCST				*e*S		**Sb**	**04 53 24.7**	**+4.5**
	baz=344							
ECS	**Chishang**	**1.18**	**1**	*e*P		Pn	04 53 04.3	-0.7
	baz=4.0							
ECS				*e*S		Sn	04 53 19.5	-0.7
	baz=4.0							
SLGT	**Liugui**	**1.19**	**335**	*e*P		Pn	04 53 05.3	+0.2
	baz=339							
CHKT	**Chengkung**	**1.19**	**8**	P		Pn	04 53 04.4	-0.8
	baz=360							
CHKT				S		Sn	04 53 20.2	-0.4
	baz=360							
EHD	**Haiduan**	**1.23**	**1**	P		Pn	04 53 04.3	-1.5
	baz=4.0							
ELDTW	**Lidau**	**1.28**	**353**	*e*P		Pn	04 53 05.5	-1.1
	baz=2.0							
FULB	**Fuli**	**1.28**	**4**	*e*P		Pn	04 53 06.0	-0.5
	baz=7.0							
FULB				*e*S		Sn	04 53 22.9	0.0
	baz=7.0							
CHKH	**Chenggong**	**1.29**	**9**	*e*P		Pn	04 53 05.7	-0.8
	baz=359							
CHKH				*e*S		Sn	04 53 22.8	-0.1
	baz=359							
SGST	**Jiashian**	**1.29**	**334**	P		Pn	04 53 06.5	-0.1
	baz=339							
STYT	**Tauyuan**	**1.30**	**342**	*e*P		Pn	04 53 07.1	+0.2
	baz=346							
STYH	**Taoyuan**	**1.31**	**343**	*e*P		Pb	04 53 07.5	-0.5
	baz=347							
SHHT	**Tainan City**	**1.35**	**325**	*e*P		Pb	04 53 08.9	+0.1
	baz=329							
CHN1	**Nanshi**	**1.40**	**334**	*e*P		Pb	04 53 09.1	-0.6
	baz=338							
ECBN	**Changbin**	**1.42**	**10**	*e*P		Pn	04 53 08.5	+0.2
	baz=2.0							
ECBN				*e*S		Sn	04 53 26.2	+0.1
	baz=2.0							
WTP	**Ta-pu**	**1.43**	**338**	*e*P		Pb	04 53 09.7	-0.4
	baz=342							
EYUL	**Yuli**	**1.43**	**5**	*e*P		Pn	04 53 08.2	-0.3
	baz=7.0							
TWF1	**Yuli**	**1.44**	**4**	*e*P		Pn	04 53 07.1	-1.5
	baz=7.0							
SNST	**Tainan City**	**1.45**	**334**	*e*P		Pb	04 53 09.8	-0.6
	baz=338							
TPUB	**Ta-pu**	**1.47**	**340**	P		Pb	04 53 10.5	-0.4
TPUB	**Ta-pu**	**1.47**	**340**	P		Pn	04 53 09.9	+0.8
TPUB	**Ta-pu**	**1.47**	**340**	*e*P		Pn	04 53 09.9	+0.8
	baz=343							
YULB	**Yu-li**	**1.48**	**4**	P		Pn	04 53 08.1	-1.0
YULB	**Yu-li**	**1.48**	**4**	P		Pn	04 53 07.6	-1.5
YULB	**Yu-li**	**1.48**	**4**	*e*P		Pn	04 53 07.6	-1.5
	baz=6.0							
TWK	**Hsinying**	**1.49**	**334**	*e*P		Pn	04 53 10.3	+0.9
	baz=339							
CHN4	**Tsaushan**	**1.53**	**339**	*e*P		Pn	04 53 10.9	+1.0
	baz=343							
SCLT	**Jiali**	**1.56**	**324**	*e*S		Sn	04 53 30.6	+1.0
	baz=328							
HGSD	**Ruisui**	**1.59**	**8**	*e*P		Pn	04 53 10.3	-0.3
	baz=10.0							
EHY	**Hungye**	**1.59**	**4**	*e*P		Pn	04 53 09.5	-1.2
	baz=7.0							
TSCK	**Chigu Township**	**1.59**	**321**	*e*P		Pn	04 53 10.6	-0.2
	baz=310							
TSCK				*e*S		Sn	04 53 30.4	-0.2
	baz=310							
WCKO	**Fanlu**	**1.61**	**341**	*e*P		Pn	04 53 11.5	+0.5
	baz=344							
ALS	**Alishan**	**1.63**	**348**	P		Pn	04 53 12.5	+1.1
	baz=351							
ICHU	**Yijhu**	**1.67**	**330**	*e*P		Pn	04 53 12.0	+0.3
	baz=334							
EGFH	**Guangfu**	**1.76**	**7**	*e*P		Pn	04 53 13.3	+0.2
	baz=9.0							
WHYT	**Xinyi Township**	**1.80**	**350**	*e*P		Pn	04 53 15.0	+1.4
	baz=360							
WARBT	**Fenglin Townsh**	**1.81**	**6**	*e*P		Pn	04 53 11.9	-1.8
	baz=7.0							
VWDT	**VWDT**	**1.83**	**359**	*e*P		Pn	04 53 14.2	+0.2
	baz=4.0							
WDLH	**Douliu**	**1.86**	**341**	*e*P		Pn	04 53 15.2	+0.7
	baz=345							
SSLB	**Suanglung**	**1.88**	**353**	P		Pn	04 53 15.9	+1.2
SSLB	**Suanglung**	**1.88**	**353**	P		Pn	04 53 15.8	+1.1
SSLB	**Suanglung**	**1.88**	**353**	*e*P		Pn	04 53 15.6	+0.9
	baz=7.0							
SHUL	**Shoufeng**	**1.90**	**10**	*e*P		Pn	04 53 15.1	+0.2
	baz=1.0							
SHUL				*e*S		Sn	04 53 39.3	+1.3
	baz=1.0							
ESL	**Shilin**	**1.91**	**7**	*e*P		Pn	04 53 15.3	+0.2
	baz=8.0							
WTK	**Tuku**	**1.91**	**337**	*e*P		Pn	04 53 14.9	-0.2
	baz=341							
WDGT	**Dungji**	**1.95**	**314**	*e*P		Pn	04 53 14.1	-1.5
	baz=318							
WDGT				*e*S		Sn	04 53 36.4	-2.8
	baz=318							
SMLT	**Sun Moon Lake**	**1.98**	**352**	P		Pb	04 53 18.0	-1.6
	baz=7.0							
SMLT				*e*S		Sb	04 53 43.6	-0.2
	baz=7.0							
TEYL	**Yanliau Villag**	**1.98**	**11**	*e*P		Pn	04 53 16.4	+0.3
	baz=4.0							
TYC	**Yuchr**	**2.00**	**351**	*e*P		Pn	04 53 18.1	+1.8
	baz=7.0							
TYC				*e*S		Sb	04 53 43.6	-0.9
	baz=7.0							
WNT	**Mingjian**	**2.01**	**347**	*e*P		Pn	04 53 18.0	+1.5
	baz=337							
WUSB	**Renai**	**2.07**	**358**	*e*P		Pn	04 53 18.3	+0.9
	baz=1.0							
WUSB				*e*S		Sn	04 53 42.8	+0.4
	baz=1.0							
VCHM	**Qimei**	**2.07**	**309**	*e*P		Pn	04 53 15.5	-1.8
	baz=313							
VCHM				*e*S		Sn	04 53 39.0	-3.4
	baz=313							
LXIB	**Xiulin Townshi**	**2.11**	**6**	*e*P		Pn	04 53 17.0	-1.0
	baz=15							
WRL	**Guolierlin Hig**	**2.11**	**339**	*e*P		Pn	04 53 17.9	0.0
	baz=343							
CHGB	**Renai**	**2.14**	**360**	*e*P		Pn	04 53 18.8	+0.4
	baz=2.0							
WCS	**Beigang Elemen**	**2.15**	**353**	*e*P		Pn	04 53 20.1	+1.8
	baz=356							
PHUB	**P'eng-hu**	**2.18**	**317**	*e*P		Pn	04 53 16.8	-2.0
	baz=322							
PHUB				*e*S		Sn	04 53 41.4	-3.6
	baz=322							
TWD	**Chiawan**	**2.19**	**10**	*e*P		Pn	04 53 18.5	-0.4
	baz=11							
WHF	**Hehuan Shan**	**2.22**	**2**	*e*P		Pn	04 53 20.0	+0.2
	baz=10.0							
PNG	**Penghu**	**2.23**	**318**	*e*P		Pn	04 53 18.2	-1.3
	baz=322							
PNG				*e*S		Sn	04 53 44.2	-2.0
	baz=322							
NACB	**Ninganchiao**	**2.28**	**9**	P		Pn	04 53 19.3	-0.9
NACB	**Ninganchiao**	**2.28**	**9**	P		Pb	04 53 23.1	-1.5
NACB	**Ninganchiao**	**2.28**	**9**	*e*P		Pn	04 53 19.2	-0.9
	baz=11							
NACB				*e*S		Sn	04 53 49.3	+1.8
	baz=11							
TDCB	**Techi**	**2.33**	**359**	*e*P		Pn	04 53 22.1	+1.1
	baz=1.0							
TWT	**Tachien**	**2.33**	**360**	*e*P		Pn	04 53 22.6	+1.6
	baz=1.0							
WHP	**Taichung City**	**2.36**	**355**	*e*P		Pn	04 53 23.6	+2.1
	baz=357							
EOS4	**EOS4**	**2.43**	**25**	*e*P		Pn	04 53 23.8	+1.9
	baz=35							
TWQ1	**Liyutan**	**2.45**	**351**	*e*P		Pn	04 53 24.1	+1.5
	baz=343							
EAHA	**Aohua**	**2.46**	**12**	*e*P		Pn	04 53 22.7	+0.1
	baz=6.0							
NNSB	**Datong**	**2.51**	**4**	*e*P		Pn	04 53 24.0	+0.5
	baz=13							
EWUT	**Wuta**	**2.58**	**12**	*e*P		Pn	04 53 25.3	+1.0
	baz=5.0							
EOS3	**EOS3**	**2.58**	**24**	*e*P		Pn	04 53 26.3	+2.1
	baz=12							
LATG	**Datong**	**2.63**	**7**	*e*P		Pn	04 53 25.4	+0.3
	baz=16							
EOS2	**EOS2**	**2.67**	**21**	*e*P		Pn	04 53 27.8	+2.4
	baz=19							
NDT	**Datong Townshi**	**2.69**	**6**	*e*P		Pn	04 53 26.7	+0.8
	baz=13							
NFF	**Wufeng Townshi**	**2.71**	**359**	*e*P		Pn	04 53 28.6	+2.5
	baz=1.0							
NSTT	**Nanjuang**	**2.71**	**356**	*e*P		Pb	04 53 29.6	-2.4
	baz=359							
ESAO	**Su ao**	**2.72**	**13**	*e*P		Pb	04 53 29.2	-2.9
	baz=6.0							
LIOB	**Emei**	**2.72**	**357**	*e*P		Pn	04 53 28.6	+2.2
	baz=359							
ENTT	**Nioudou**	**2.74**	**7**	*e*P		Pn	04 53 27.0	+0.5
	baz=8.0							
YHNB	**Yeheng**	**2.75**	**4**	P		Pn	04 53 27.8	+1.1
YHNB	**Yeheng**	**2.75**	**4**	P		Pn	04 53 28.3	+1.6
YHNB	**Yeheng**	**2.75**	**4**	*e*P		Pn	04 53 27.8	+1.1
	baz=352							
TWC	**Suao**	**2.75**	**13**	*e*P		Pn	04 53 27.5	+0.9
	baz=6.0							
NSK	**Sanguang**	**2.75**	**3**	*e*P		Pn	04 53 27.9	+1.1
	baz=352							
TWE	**Neicheng**	**2.83**	**9**	*e*P		Pn	04 53 28.6	+0.9
	baz=10.0							
FUSB	**Fushanzhiwuyua**	**2.86**	**7**	*e*P		Pn	04 53 29.1	+0.9
	baz=15							
NWLT	**Wulai

mbtmp4.0/15,MS2.8/1,Error ellipse: s-maj=25.5km s-min=20.0km az=87.0
*NEIC **20** 05:13:20.1±1.4, 14°.38N±0°.02×147°.2E±0°.1, h10km±1km, mb4.5/10,Error ellipse: s-maj=16.6km s-min=4.3km az=86.0*

ISC 20 05:13:22.8±0.6,**14°.40N**±0°.09×**147°.2E**±0°.1,**h33**km,**n35**, σ1§**06**/32,**mb4.3**/20,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.37**	**250**		**Pn**	**05 13 59.1**	**-0.1**
PATS	**Pohnpei**	**13.29**	**123**	Pn	**Pn**	**05 16 28.0**	**-1.2**
H11N1	**WAKE ISLAND Hy**	**19.59**	**72**	T	T	05 38 07.0	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**19.59**	**72**	T	T	05 38 06.4	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**19.60**	**72**	T	T	05 38 08.4	
	baz=257						
MJAR	**Matsushiro Arr**	**23.46**	**342**	P	**P**	**05 18 26.4**	**-2.9**
	1.2nm,0.7s,baz=166,slow=10,SNR=2.5						
	1.2nm,0.7s						
MAJO	**Matsushiro**	**23.46**	**342**	P	**P**	**05 18 28.4**	**-1.0**
JNU	**Nakatsue**	**23.80**	**324**	P	**P**	**05 18 32.4**	**-0.3**
JNU				IAmb	IAmb	05 18 55.2	
	comp=Z,12nm,1.0s						
KSRS	**Korea Array**	**28.63**	**327**	P	**P**	**05 19 15.4**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=147,slow=9.2,SNR=2.2						
	comp=Z,2.1nm,0.8s						
MDJ	**Mudanjiang**	**33.62**	**337**	P	**P**	**05 19 59.4**	**-0.8**
MDJ				IAmb	IAmb	05 20 25.1	
	comp=Z,6.1nm,0.6s						
CTAO	**Charters Tower**	**34.28**	**182**	P	**P**	**05 20 06.1**	**0.0**
CTAO				IAmb	IAmb	05 20 17.0	
	comp=Z,6.6nm,0.9s						
WB2	**Warramunga Arr**	**36.38**	**201**	P	**P**	**05 20 23.3**	**-0.9**
WRA	**Warramunga Arr**	**36.38**	**201**	P	**P**	**05 20 25.7**	**+1.5**
	comp=Z,1.8nm,0.8s,baz=24,slow=9.7,SNR=5.6						
	comp=Z,1.8nm,0.8s						
ASAR	**Alice Springs**	**39.99**	**199**	P	**P**	**05 20 54.9**	**+0.3**
	comp=Z,0.4nm,0.5s,baz=21,slow=8.0,SNR=3.0						
	comp=Z,0.4nm,0.5s						
UBPT	**Khong Chiam**	**40.26**	**277**	P	**P**	**05 20 55.5**	**-1.6**
CMAR	**Chiang Mai Arr**	**46.32**	**282**	P	**P**	**05 21 47.0**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=69,slow=6.5,SNR=11						
CMAR				LR	LR	05 42 13.9	
	comp=Z,9.8nm,18.3s,baz=75,slow=38						
	comp=Z,0.7nm,0.3s						
SONM	**Songino Array**	**47.38**	**323**	P	**P**	**05 21 52.9**	**-1.1**
	comp=Z,0.9nm,0.6s,baz=140,slow=5.7,SNR=1.9						
	comp=Z,0.9nm,0.6s						
BBOO	**Buckleboo**	**48.13**	**193**	P	**P**	**05 21 59.2**	**-0.5**
BBOO				IAmb	IAmb	05 22 19.3	
	comp=Z,5.6nm,0.9s						
ZALV	**Zalesovo Beam**	**62.27**	**324**	P	**P**	**05 23 41.8**	**+0.3**
	comp=Z,1.7nm,0.7s,baz=114,slow=6.9,SNR=5.4						
	comp=Z,1.7nm,0.7s						
MK31	**Makanchi Array**	**62.46**	**315**	P	**P**	**05 23 43.8**	**+0.9**
MK31				IAmb	IAmb	05 23 44.6	
	comp=Z,2.2nm,0.6s						
MKAR	**Makanchi Array**	**62.46**	**315**	P	**P**	**05 23 43.7**	**+0.7**
MKAR	**Makanchi Array**	**62.46**	**315**	P	**P**	**05 23 44.0**	**+1.1**
	comp=Z,2.9nm,0.5s,baz=90,slow=8.3,SNR=36						
	comp=Z,2.9nm,0.5s						
MAKZ	**Makanchi**	**62.68**	**315**	P	**P**	**05 23 44.7**	**+0.4**
KURK	**Kurchatov**	**65.41**	**319**	P	**P**	**05 24 03.2**	**+1.0**
KURBB	**Kurchatov Arra**	**65.45**	**319**	P	**P**	**05 24 03.1**	**+0.6**
	comp=Z,10nm,0.7s,baz=98,slow=6.7,SNR=63						
	comp=Z,10nm,0.7s						
ILAR	**Eielson Array**	**66.89**	**25**	P	**P**	**05 24 12.0**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=244,slow=6.0,SNR=6.9						
	comp=Z,0.3nm,0.6s						
KKAR	**Karatay Array**	**70.60**	**311**	P	**P**	**05 24 35.7**	**+0.7**
BVAR	**Borovoye Array**	**70.67**	**321**	P	**P**	**05 24 36.0**	**+0.7**
	comp=Z,3.3nm,0.7s,baz=92,slow=7.7,SNR=11						
	comp=Z,3.3nm,0.7s						
ABKAR	**Akbulak array**	**77.43**	**318**	P	**P**	**05 25 15.3**	**+0.6**
YKA	**Yellowknife Ar**	**81.11**	**28**	P	**P**	**05 25 34.6**	**0.0**
	comp=Z,0.2nm,0.7s,baz=288,slow=5.8,SNR=5.8						
	comp=Z,0.2nm,0.7s						
NVAR	**Mina Array Bea**	**84.68**	**52**	P	**P**	**05 25 54.4**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=260,slow=5.4,SNR=3.0						
	comp=Z,0.3nm,0.7s						
ARCES	**ARCESS Array B**	**86.99**	**343**	P	**P**	**05 26 06.2**	**+1.7**
	comp=Z,3.2nm,0.8s,baz=354,slow=5.4,SNR=3.5						
	comp=Z,3.2nm,0.8s						
FINES	**FINESS Array B**	**91.35**	**336**	P	**P**	**05 26 24.4**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=90,slow=2.5,SNR=3.9						
	comp=Z,1.1nm,0.8s						
DBIC	**Dimbokro**	**145.23**	**305**	PKPbc	**PKPdf**	**05 32 58.6**	**+0.5**
	comp=Z,5.2nm,0.6s,baz=19,slow=2.9,SNR=10						
LPAZ	**La Paz**	**145.94**	**98**	PKPbc	**PKPab**	**05 33 02.8**	**+1.6**
	comp=Z,1.1nm,0.6s,baz=244,slow=2.6,SNR=6.4						

*CATAC **20** 05:13:40.2±0.2, 13°.15N×87°.71W, h3km±2km, ML3.0*
*SNET **20** 05:13:41.4±2.2, 13°.28N×87°.75W, h5km, ML3.0*

ISC 20 05:13:40.4±1.0,**13°.13N**±0°.05×**87°.72W**±0°.03,**h11**km±7km, **n25**,σ1§**01**/36,**1C**,**Honduras**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AMPH	**Amapala**	**0.17**	**20**	⇑*i* P	**Pg**	**05 13 44.2**	**0.0**
AMPH				*e* S	**Sg**	**05 13 47.7**	**+0.9**
CNCH	**Conchagua**	**0.18**	**322**	*e* P	**Pg**	**05 13 44.2**	**-0.3**
CNCH	**Conchagua**	**0.18**	**322**	*i* P	**Pg**	**05 13 44.1**	**-0.4**
CNCH				*i* S	**Sg**	**05 13 46.6**	**-0.8**
CNCH				IAML		05 13 51.8	
	comp=Z,10μm,1.0s						
LCND	**La Caada**	**0.25**	**317**	*i* P	**Pg**	**05 13 45.2**	**-0.3**
LCND				*i* P	**Pg**	**05 13 45.2**	**-0.3**
LCND				IAML		05 13 45.4	
	comp=Z,3μm,1.0s						
LCND				*i* S	**Sg**	**05 13 48.1**	**-0.9**
LCND				IAML		05 15 20.1	
	comp=Z,14μm,1.0s						
INTP	**Intipuca**	**0.34**	**282**	*e* P	**Pg**	**05 13 47.0**	**-0.1**
INTP				*e* S	**Sg**	**05 13 52.2**	**+0.6**
BLLM	**Bellamira**	**0.59**	**302**	*e* P	**Pg**	**05 13 51.6**	**-0.4**
RANC	**El Ranchito**	**0.63**	**299**	*i* P	**Pg**	**05 13 52.2**	**-0.6**
RANC				IAML		05 14 05.8	
	comp=Z,360nm,1.0s						
PACA	**Pacayal**	**0.68**	**300**	*i* P	**Pg**	**05 13 53.2**	**-0.4**
PACA				IAML		05 14 04.3	
	comp=Z,2μm,1.0s						
CRIN	**San Cristobal**	**0.78**	**123**	*i* P	**Pg**	**05 13 56.7**	**+1.2**
CRIN				IAML		05 14 18.8	
	comp=Z,930nm,1.0s						
COEB	**Comit de Eme**	**0.87**	**295**	*i* P	**Pg**	**05 13 56.4**	**-0.9**
COEB				*i* S	**Sg**	**05 14 08.3**	**-0.4**
COEB				IAML		05 14 11.0	
	comp=Z,180nm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.02**	**25**	*i* P	**Pg**	**05 13 59.1**	**-1.0**
TGUH				IAML		05 13 59.3	
	comp=Z,530nm,1.0s						
TGUH				*i* S	**Sb**	**05 14 12.8**	**-0.9**
PACN	**Al O del Volca**	**1.10**	**125**	*i* P	**Pg**	**05 14 01.2**	**-0.3**
PACN				IAML		05 14 18.7	
	comp=Z,370nm,1.0s						
TECO	**Alcaldia de Te**	**1.11**	**292**	*i* P	**Pg**	**05 14 00.4**	**-1.4**
TECO				*i* S	**Sb**	**05 14 16.0**	**-0.2**
TECO				IAML		05 14 16.8	
	comp=Z,110nm,1.0s						
ROCN	**Rota Cerro Neg**	**1.13**	**122**	*i* P	**Pg**	**05 14 01.3**	**-0.8**
ROCN				IAML		05 14 26.7	
	comp=Z,110nm,1.0s						
CNGN	**Cerro Negro**	**1.17**	**122**	*i* P	**Pg**	**05 14 02.1**	**-0.9**
CNGN				IAML		05 14 32.4	
	comp=Z,350nm,1.0s						
CNGA	**Al SSO del Vol**	**1.18**	**122**	*i* P	**Pg**	**05 14 00.5**	**-2.5**
CNGA				IAML		05 14 21.6	
	comp=Z,340nm,1.0s						
MACN	**El Madrono**	**1.21**	**123**	*i* P	**Pg**	**05 14 02.7**	**-1.0**
MACN				IAML		05 14 37.0	
	comp=Z,140nm,1.0s						
COEG	**Centro de Oper**	**1.23**	**293**	*i* P	**Pg**	**05 14 02.3**	**-1.8**
COEG				IAML		05 14 24.4	
	comp=Z,130nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.29**	**124**	*i* P	**Pn**	**05 14 03.9**	**-0.6**
LEVN				IAML		05 14 30.7	
	comp=Z,250nm,1.0s						
PAVA	**Las Pavas**	**1.32**	**296**	*i* P	**Pg**	**05 14 04.2**	**-1.6**
PAVA				*i* S	**Sn**	**05 14 23.6**	**+1.0**
PAVA				IAML		05 14 25.6	
	comp=Z,260nm,1.0s						
MOMN	**Momotombo**	**1.35**	**122**	*i* P	**Pn**	**05 14 06.0**	**+0.7**
MOMN				IAML		05 14 33.9	
	comp=Z,5.9nm,1.0s						
COPN	**Copaltepe**	**1.45**	**131**	*i* P	**Pn**	**05 14 07.2**	**+0.6**
COPN				IAML		05 14 29.5	
	comp=Z,140nm,1.0s						
PMON	**Piamonte**	**1.66**	**291**	*i* P	**Pn**	**05 14 10.3**	**+0.7**
PMON				*i* S	**Sn**	**05 14 31.6**	**+0.7**
PMON				IAML		05 14 41.8	
	comp=Z,200nm,1.0s						
JAYA	**Jayaque - finc**	**1.76**	**287**	*i* P	**Pn**	**05 14 11.5**	**+0.4**
JAYA				*i* S	**Sn**	**05 14 34.4**	**+0.8**
JAYA				IAML		05 14 39.3	
	comp=Z,350nm,1.0s						
NUBE	**Las Nubes**	**2.15**	**291**	*i* P	**Pn**	**05 14 18.3**	**+1.9**
NUBE				IAML		05 14 51.8	
	comp=Z,82nm,1.0s						

*NAO **20** 05:28:42.6±1.3, 77°.23N×18°.87E, h10km±13km, ML2.1*
*KOLA **20** 05:28:43.0, 77°.29N×18°.64E, h0km, ML2.5,Error ellipse: s-maj=16.4km s-min=6.9km az=110.0,Storfjorden zone*
*BER **20** 05:28:45.4±2.9, 77°.18N×18°.89E, h19km±11km, ML2.2, ML2.1(NAO),Confirmed Earthquake*
*FCIAR **20** 05:28:49.0, 77°.36N×20°.36E, h10km, station ZFI2 has station magnitude of 3.50*

ISC 20 05:28:42.2±1.2,**77°.26N**±0°.04×**18°.98E**±0°.03,**h12**km±10km, **n22**,σ1§**85**/40,**1D**,**Svalbard region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**0.81**	**253**	P	**Pg**	**05 28 57.8**	**-0.1**
HSPB				S	**Sg**	**05 29 08.3**	**-0.3**
HSPB	**Hornsund (broa**	**0.81**	**253**	*e* P	**Pg**	**05 28 57.9**	**0.0**
HSPB				*e* Pg	**Pb**	**05 28 59.2**	**+1.0**
HSPB				*i*		05 28 59.8	
HSPB				*e*		05 29 07.9	
HSPB				*e* Sg	**Sn**	**05 29 11.5**	**+0.1**
HSPB				IAML		05 29 12.0	
	comp=Z,30nm,0.1s						
HSPB	**Hornsund (broa**	**0.81**	**253**	Pg	**Pg**	**05 28 58.0**	**+0.1**
HSPB				Lg	Lg	05 29 07.7	
SPA0	**Spitsbergen Ar**	**1.08**	**330**	*e* P	**Pn**	**05 29 04.0**	**+0.8**
SPA0				*e* S	**Sn**	**05 29 18.9**	**+0.8**
SPA0				IAML		05 29 22.8	
	comp=Z,54nm,0.2s						
SPA0	**Spitsbergen Ar**	**1.08**	**330**	Pn	**Pn**	**05 29 03.8**	**+0.7**
	baz=147,slow=22						
SPA0				Lg	Lg	05 29 19.4	
	baz=154,slow=37						
SPA0	**Spitsbergen Ar**	**1.08**	**330**	⇓*i* P	**Pn**	**05 29 03.8**	**+0.7**
SPA0				*e* S	**Sn**	**05 29 18.9**	**+0.8**
BRBA	**Barentsburg A**	**1.30**	**311**	*e* P	**Pn**	**05 29 07.2**	**+1.0**
BRBA				*e* S	**Sn**	**05 29 24.7**	**+1.2**
BRBA				IAML		05 29 27.1	
	comp=Z,102nm,0.2s						
BRBA	**Barentsburg A**	**1.30**	**311**	Pn	**Pn**	**05 29 07.2**	**+1.0**
BRBA				Lg	Lg	05 29 24.8	
BRBB	**Barentsburg B**	**1.33**	**312**	P	**Pb**	**05 29 07.4**	**+0.4**
BRBB				S	**Sg**	**05 29 23.2**	**-1.7**
BRBB	**Barentsburg B**	**1.33**	**312**	*e* P	**Pb**	**05 29 07.6**	**+0.6**
BRBB				*e* S	**Sn**	**05 29 26.1**	**+2.1**
BRBB	**Barentsburg B**	**1.33**	**312**	Pn	**Pb**	**05 29 07.6**	**+0.6**
BRBB				Lg	Lg	05 29 25.3	
HOPEN	**Hopen**	**1.57**	**116**	*e* P	**Pn**	**05 29 10.7**	**+0.9**
HOPEN				*e* S	**Sn**	**05 29 30.4**	**+0.4**
HOPEN				*e* Sg	**Sg**	**05 29 33.2**	**+0.7**
HOPEN				IAML		05 29 35.7	
	comp=Z,53nm,0.3s						
HOPEN	**Hopen**	**1.57**	**116**	Pn	**Pb**	**05 29 12.1**	**+1.1**
HOPEN				Sn	**Sn**	**05 29 30.3**	**+0.3**
HOPEN				Lg	Lg	05 29 33.1	
KBS	**Kingsbay**	**2.22**	**322**	P	**Pn**	**05 29 19.3**	**+0.5**
KBS				S	**Sb**	**05 29 48.9**	**-0.8**
KBS	**Kingsbay**	**2.22**	**322**	*e* P	**Pn**	**05 29 19.4**	**+0.5**
KBS				*e* Sg	**Sg**	**05 29 51.8**	**-1.8**
KBS				IAML		05 30 02.3	
	comp=Z,50nm,0.2s						
KBS	**Kingsbay**	**2.22**	**322**	Pn	**Pn**	**05 29 19.2**	**+0.4**
KBS				Pg	**Pg**	**05 29 24.2**	**-0.6**
KBS				Lg	Lg	05 29 52.0	
KBS	**Kingsbay**	**2.22**	**322**	*e* P	**Pn**	**05 29 19.2**	**+0.5**
KBS				*e* S	**Sn**	**05 29 47.7**	**+1.5**
ZFI2	**Zemlya Franca-**	**6.45**	**43**	P	**Pn**	**05 30 18.7**	**+2.0**
ZFI2				*e* S	**Sn**	**05 31 25.9**	**-4.2**
	comp=Z,17nm,1.6s						
OMEGA	**Omega**	**6.45**	**44**	P	**Pn**	**05 30 20.8**	**+4.0**
OMEGA				*e* S	**Sn**	**05 31 26.0**	**-4.1**
VADS	**Vadso**	**7.73**	**153**	Pn	**Pn**	**05 30 33.9**	**-0.4**
VADS				Sn	**Sn**	**05 31 55.0**	**-6.5**
KEV	**Kevo**	**7.87**	**159**	Pn	**Pn**	**05 30 35.5**	**-0.7**
KEV				Sn	Sn	05 31 57.1	-7.9
KEV	**Kevo**	**7.87**	**159**	Pn	**Pn**	**05 30 35.5**	**-0.7**
KEV				Sn	Sn	05 31 57.1	-7.9

*SFS **20** 05:33:41.2, 37°.88N×1°.10W, h36km, ML1.2/4, ML1.4/4, MLv1.1/4*

MDD 20 05:33:39.4±0.9,**38°.03N**×**0°.77W**,**h9**km±6km,**mb_Lg1.6**/4, **1C**,**Error ellipse: s-maj=6.1km s-min=3.4km az=117.0**, **Spain**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETRV	**Los Montesinos**	**0.01**	**158**	⇑Pg	Pg	05 33 40.7	-0.2
ETRV				Sg	Sg	05 33 42.1	+0.2
ETRV				*i* Vmb_Lg		05 33 42.2	
EMUR	**La Murta**	**0.42**	**243**	Pg	Pg	05 33 47.1	-0.5
EMUR	**La Murta**	**0.42**	**243**	Pg	Pg	05 33 46.9	-0.6
EMUR				Sg	Sg	05 33 52.5	-0.6
EMUR				*i* Vmb_Lg		05 33 54.8	
CART	**Cartagena**	**0.48**	**203**	Sg	Sg	05 33 54.5	-0.5
CART				Pg	Pg	05 33 48.6	-0.1
E001A	**Albudeite (Mur**	**0.49**	**268**	Pg	Pg	05 33 38.8	-10
E001A				Sg	Sg	05 33 47.5	-7.9
E1002	**Yechar (Murcia**	**0.53**	**275**	Pg	Pg	05 33 49.9	+0.3
E1002				Sg	Sg	05 33 56.7	+0.1
AFON	**Font Roja**	**0.66**	**16**	Pg	Pg	05 33 51.3	-0.8
AFON				Sg	Sg	05 34 00.3	-0.4
AFON				*i* Vmb_Lg		05 34 10.5	
ETOB	**Tobarra**	**0.87**	**315**	Pg	Pg	05 33 55.9	-0.1
ETOB				Sg	Sg	05 34 06.8	-0.5
ETOB				*i* Vmb_Lg		05 34 12.3	
EVIV	**Cofrentes, Val**	**1.26**	**348**	Sg	Sb	05 34 18.8	-0.9

*NEIC **20** 05:38:31.7±0.8, 22°.1S±0°.2×176°.9W±0°.1, h175km±9km, mb4.2/20,Error ellipse: s-maj=24.8km s-min=15.9km az=185.0*
*IDC **20** 05:38:41.1±6.6, 21°.84S×177°.20W, h268km±60km, mb3.5/8, mbtmp4.2/9,Error ellipse: s-maj=23.5km s-min=20.1km az=86.0*

ISC 20 05:38:33.0±0.5,**22°.04S**±0°.10×**176°.93W**±0°.09,**h200**km, **n44**,σ1§**84**/43,**mb4.1**/17,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.38**	**311**	Pn	**Pn**	**05 40 03.8**	**-1.4**
NIUE	**Niue**	**7.19**	**67**		**Pn**	**05 40 14.5**	**-1.3**
DZM	**Mont Dzumac**	**15.42**	**267**		**P**	**05 42 00.9**	**+0.3**
DZM	**Mont Dzumac**	**15.42**	**267**	P	**P**	**05 42 03.3**	**+2.6**
	20nm,0.8s,baz=81,slow=17,SNR=14						
URZ	**Urewera**	**16.96**	**196**	S	**S**	**05 45 14.9**	**-9.0**
	3.6nm,0.6s,baz=284,slow=19,SNR=1.6						
CAN	**Canberra**	**32.52**	**238**	P	**P**	**05 44 44.4**	**-0.7**
CAN				IAmb	IAmb	05 45 05.7	
	comp=Z,9.7nm,1.1s						
CTAO	**Charters Tower**	**34.36**	**266**	P	**P**	**05 45 02.4**	**+1.3**
STKA	**Stephens Creek**	**38.05**	**246**	P	**P**	**05 45 32.8**	**+0.6**
STKA	**Stephens Creek**	**38.05**	**246**	P	**P**	**05 45 32.5**	**+0.2**
	comp=Z,3.3nm,0.7s,baz=102,slow=12,SNR=7.8						
	comp=Z,3.3nm,0.7s						
COEN	**Coen**	**38.69**	**275**	P	**P**	**05 45 38.2**	**+0.4**
COEN				IAmb	IAmb	05 45 55.5	
	comp=Z,10nm,1.1s						
BBOO	**Buckleboo**	**42.78**	**245**	P	**P**	**05 46 10.5**	**-0.5**
BBOO				IAmb	IAmb	05 46 37.2	
	comp=Z,6.7nm,1.1s						
ASAR	**Alice Springs**	**45.16**	**258**	P	**P**	**05 46 30.7**	**+0.6**
ASAR	**Alice Springs**	**45.16**	**258**	P	**P**	**05 46 30.2**	**+0.1**
	comp=Z,6.1nm,0.8s,baz=90,slow=8.1,SNR=46						
ASAR				PcP	**PcP**	**05 48 06.8**	**-0.2**
	comp=Z,1.1nm,1.0s,baz=105,slow=3.8,SNR=2.8						
	comp=Z,6.1nm,0.8s						
WR0	**Warramunga Arr**	**45.20**	**263**	P	**P**	**05 46 30.5**	**+0.1**
WB0	**Warramunga Arr**	**45.38**	**264**	P	**P**	**05 46 31.8**	**-0.1**
WB0				IAmb	IAmb	05 46 56.0	
	comp=Z,5.3nm,1.1s						
WB2	**Warramunga Arr**	**45.38**	**263**	P	**P**	**05 46 31.9**	**+0.1**
WB2				IAmb	IAmb	05 46 32.3	
	comp=Z,6.7nm,1.1s						
WRA	**Warramunga Arr**	**45.39**	**263**	P	**P**	**05 46 32.0**	**+0.1**
WRA	**Warramunga Arr**	**45.39**	**263**	P	**P**	**05 46 31.6**	**-0.4**
	comp=Z,3.8nm,1.0s,baz=96,slow=8.3,SNR=29						
	comp=Z,3.8nm,1.0s						
FORT	**Forrest**	**49.62**	**248**	P	**P**	**05 47 04.0**	**-0.3**
FORT				IAmb	IAmb	05 47 12.0	
	comp=Z,13nm,0.8s						
MTN	**Manton Dam**	**50.19**	**271**	P	**P**	**05 47 09.0**	**+0.2**
SBA	**Scott Base**	**56.41**	**184**	P	**P**	**05 47 57.6**	**+4.5**
VNDA	**Vanda**	**56.48**	**185**	P	**P**	**05 47 53.9**	**+0.3**
VNDA	**Vanda**	**56.48**	**185**	P	**P**	**05 47 56.2**	**+2.6**
	comp=Z,0.7nm,0.9s,baz=30,slow=5.5,SNR=2.8						
	comp=Z,0.7nm,0.9s						
PSA00	**Pilbara Seismi**	**58.30**	**258**	P	**P**	**05 48 08.6**	**+1.3**
MBWA	**Marble Bar**	**58.50**	**258**	P	**P**	**05 48 08.9**	**+0.3**
QSPA	**South Pole Qui**	**68.04**	**180**	P	**P**	**05 49 12.9**	**+2.2**
QSPA				IAmb	IAmb	05 49 13.8	
	comp=Z,4.7nm,0.8s						
QSPA	**South Pole Qui**	**68.04**	**180**	P	**P**	**05 49 12.9**	**+2.2**
	comp=Z,3.7nm,0.7s,baz=348,slow=1.0,SNR=31						
	comp=Z,3.7nm,0.7s						
BELA	**Belgrano 2**	**77.91**	**172**	P	**P**	**05 50 09.4**	**+1.2**
BELA				IAmb	IAmb	05 50 10.1	
	comp=Z,3.6nm,0.8s						
MAW	**Mawson**	**80.46**	**200**	P	**P**	**05 50 23.9**	**+1.8**
	baz=148,slow=13						
NVAR	**Mina Array Bea**	**81.46**	**43**	P	**P**	**05 50 29.1**	**+1.0**
	comp=Z,0.6nm,0.7s,baz=221,slow=9.0,SNR=5.8						
	comp=Z,0.6nm,0.7s						
TUC	**Tucson**	**83.15**	**51**	P	**P**	**05 50 38.1**	**+1.2**
TUC				IAmb	IAmb	05 50 39.7	
	comp=Z,3.0nm,0.8s						
TX31	**Lajitas Ar. Si**	**87.05**	**57**	P	**P**	**05 50 57.1**	**+0.8**
TX31				IAmb	IAmb	05 50 59.1	
	comp=Z,2.2nm,1.0s						
TXAR	**Lajitas Array**	**87.05**	**57**	P	**P**	**05 50 57.3**	**+1.0**
TXAR	**Lajitas Array**	**87.05**	**57**	P	**P**	**05 50 57.1**	**+0.8**
	comp=Z,1.4nm,0.9s,baz=205,slow=5.5,SNR=12						
	comp=Z,1.4nm,0.9s						
ILAR	**Eielson Array**	**89.59**	**12**	P	**P**	**05 51 06.7**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=227,slow=5.9,SNR=11						
	comp=Z,0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**115.85**	**317**	PKP	**PKPdf**	**05 56 49.9**	**-1.6**
	comp=Z,0.3nm,0.6s,baz=111,slow=2.1,SNR=2.9						
BVAR	**Borovoye Array**	**120.89**	**319**	PKP	**PKiKP**	**05 57 00.1**	**-1.2**
	comp=Z,0.8nm,0.5s,baz=132,slow=2.2,SNR=3.6						
ARCES	**ARCESS Array B**	**130.61**	**350**	PKP	**PKiKP**	**05 57 18.8**	**-1.3**
	comp=Z,3.5nm,0.9s,baz=34,slow=3.2,SNR=5.4						
FINES	**FINESS Array B**	**137.52**	**344**	PKP	**PKiKP**	**05 57 33.3**	**-1.0**
	comp=Z,0.9nm,0.6s,baz=39,slow=5.3,SNR=1.8						
AKASG	**Matin Array Be**	**144.84**	**331**	PKP	PKPbc	05 57 43.3	-2.1
	comp=Z,1.5nm,0.7s,baz=40,slow=4.2,SNR=7.5						
EKA	**Eskdalemuir Ar**	**146.43**	**6**	PKPbc	**PKPab**	**05 57 50.0**	**-1.4**
	comp=Z,0.7nm,0.5s,baz=328,slow=2.5,SNR=4.1						
BRTR	**Keskin Array B**	**148.60**	**311**	PKPbc	**PKPbc**	**05 57 55.6**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=134,slow=5.3,SNR=5.2						
MMAI	**Mount Meron Ar**	**149.43**	**298**	PKPbc	**PKiKP**	**05 57 58.3**	**-1.6**
	comp=Z,0.9nm,0.5s,baz=76,slow=6.1,SNR=2.1						
GERES	**GERESS Array B**	**151.94**	**345**	PKPbc	**PKiKP**	**05 58 04.2**	**-0.3**
	comp=Z,0.6nm,0.6s,baz=39,slow=6.4,SNR=0.7						

*TEH **20** 05:48:47.5, 31°.29N×56°.50E, h8km±23km, ML4.0*
*IDC **20** 05:48:48.6±1.1, 31°.33N×56°.45E, h0km, mb3.7/9, mbtmp3.8/11, ML3.2/2, MS3.0/4, Error ellipse: s-maj=23.7km s-min=22.7km az=85.0*
*DSN **20** 05:48:49.1±2.5, 31°.31N×56°.19E, h10km, ML3.4/6, Error ellipse: s-maj=152.1km s-min=22.0km az=89.0*

ISC 20 05:48:50.0±0.6,**31°.24N**±0°.04×**56°.52E**±0°.04,**h11**km,**n69**, σ1§**10**/67,**mb3.8**/10,**1C**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZRDN	**Zarand Kerman**	**0.28**	**178**	Pg	**Pb**	**05 48 55.2**	**-2.0**
KHGB	**Koh Gabri**	**0.87**	**183**	Pg	**Pb**	**05 49 05.9**	**-1.3**
IBAF	**Bafgh**	**0.89**	**293**	Pg	**Pg**	**05 49 04.7**	**-2.5**
KRM1	**Kerman Provinc**	**0.98**	**139**	Pg	**Pn**	**05 49 08.8**	**-1.2**
TVBK	**TV Kerman**	**1.27**	**171**	Pg	**Pg**	**05 49 13.7**	**-0.8**
NGRK	**Negar Kerman**	**1.60**	**174**	Pg	**Pg**	**05 49 19.9**	**-1.0**
CHMN	**Cheshme madani**	**1.63**	**147

comp=Z,4.0nm,1.0s
CMAR Chiang Mai Arr 40.31 98 P **P** **05 56 27.6 -0.1**
comp=Z,2.0nm,0.3s,baz=290,slow=8.6,SNR=9.5
comp=Z,2.0nm,0.3s
LYN LuoYang 46.59 70 ⇑P **P** **05 57 19.6 +1.5**
LYN pmax pmax
comp=Z,14nm,0.8s
TORD Torodi Ar. Bea 53.33 263 P **P** **05 58 08.9 -0.7**
comp=Z,0.4nm,0.5s,baz=61,slow=9.4,SNR=2.8
comp=Z,0.4nm,0.5s
YKA Yellowknife Ar 86.32 356 P **P** **06 01 31.2 -0.5**
comp=Z,0.2nm,0.7s,baz=355,slow=5.2,SNR=5.3
comp=Z,0.2nm,0.7s
WRA Warramunga Arr 90.28 113 P **P** **06 01 53.0 +1.7**
comp=Z,0.5nm,0.7s,baz=316,slow=4.7,SNR=2.5
comp=Z,0.5nm,0.7s
ASAR Alice Springs 91.97 116 P **P** **06 02 00.7 +1.6**
comp=Z,0.2nm,0.6s,baz=309,slow=5.9,SNR=1.6
comp=Z,0.2nm,0.6s

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*KOLA **20** 05:49:53.0, 67.°62N×33.°83E, h0km, ML2.2, Error ellipse: s-maj=5.2km s-min=1.4km az=150.0, Khibiny, mines Rasvumchorr, Central*
*BER **20** 05:49:53.3±3.0, 67.°60N×34.°33E, h0km, ML2.3, Suspected explosion*
*HEL **20** 05:49:53.4±0.1, 67.°70N×33.°72E, h0km, ML2.2, Explosion*
*IDC **20** 05:49:55.2±1.8, 67.°70N×33.°36E, h0km, mbtmp3.5/5, ML2.5/5, Error ellipse: s-maj=19.0km s-min=9.8km az=82.0*
ISC 20 05:49:51.8±0.9, 67.°57N±0.°04×33.°88E±0.°03, h0km, n30, σ1§70/46, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
APA	**Apatity**	**0.18**	**269**	P		**Pg**	**05 49 55.9**	**+0.6**
APA				S		**Sg**	**05 49 58.5**	**+1.0**
APA0	**Apatity Array**	**0.34**	**276**	P		**Pg**	**05 49 58.1**	**-0.2**
APA0				S		**Sg**	**05 50 02.9**	**+0.1**
LVZ	**Lovozero**	**0.44**	**42**	P		**Pg**	**05 50 00.8**	**+0.6**
LVZ				S		**Sg**	**05 50 06.5**	**+0.5**
LVZ	**Lovozero**	**0.44**	**42**	*e*P		**Pg**	**05 50 00.9**	**+0.6**
LVZ				*e*S		**Sg**	**05 50 06.2**	**+0.2**
VRF	**Varrio**	**1.64**	**278**	*e*P		**Pn**	**05 50 21.3**	**-0.6**
VRF				*e*S		**Sn**	**05 50 42.3**	**-1.3**
VRF				MSG			05 50 49.3	
	comp=Z,23nm,0.2s							
TERR	**Teriberka**	**1.70**	**15**	P		**Pn**	**05 50 22.4**	**-0.3**
TERR				S		**Sn**	**05 50 43.3**	**-1.8**
OLKF	**Oulanka, Finla**	**2.16**	**237**	*e*PB		**Pb**	**05 50 31.5**	**-0.3**
OLKF				*e*SG		**Sb**	**05 51 00.6**	**+1.4**
OLKF				MSG			05 51 08.7	
	comp=Z,11nm,0.2s							
KU6	**Riekki**	**2.21**	**227**	*e*P		**Pn**	**05 50 31.6**	**+1.9**
KU6				*e*SB		**Sb**	**05 51 01.4**	**+0.8**
RAJF	**Raja-Jooseppi**	**2.28**	**296**	*e*P		**Pn**	**05 50 30.7**	**0.0**
RAJF				*e*SB		**Sn**	**05 50 58.7**	**-0.8**
MSF	**Maaselka**	**2.54**	**231**	*e*PB		**Pb**	**05 50 38.8**	**+0.5**
MSF				*e*SG		**Sg**	**05 51 12.8**	**-0.6**
SGF	**Sodankyl**	**2.83**	**271**	*e*P		**Pn**	**05 50 38.1**	**-0.1**
SGF				*e*SB		**Sb**	**05 51 17.1**	**-1.2**
VADS	**Vadso**	**3.04**	**329**	S		**Sn**	**05 51 18.1**	**0.0**
VADS	**Vadso**	**3.04**	**329**	*e*P		**Pn**	**05 50 42.9**	**+1.8**
VADS				IAML			05 51 26.6	
	comp=Z,28nm,0.6s							
RANF	**Ranua**	**3.21**	**244**	*e*P		**Pn**	**05 50 45.2**	**+1.8**
RNF	**Rovaniemi**	**3.22**	**256**	*e*P		**Pn**	**05 50 44.4**	**+0.8**
RNF				MSG			05 51 31.7	
	comp=Z,6.5nm,0.2s							
KEV	**Kevo**	**3.33**	**314**	*e*P		**Pn**	**05 50 45.7**	**+0.6**
KEV				*e*S		**Sn**	**05 51 25.0**	**-0.3**
KEV	**Kevo**	**3.33**	**314**	*e*P		**Pn**	**05 50 45.7**	**+0.6**
ARA0	**ARCESS Array S**	**3.65**	**307**	*e*P		**Pn**	**05 50 49.4**	**-0.2**
ARA0				IAML			05 51 47.6	
	comp=Z,16nm,0.5s							
ARA0	**ARCESS Array S**	**3.65**	**307**	*e*P		**Pn**	**05 50 49.2**	**-0.3**
ARCES	**ARCESS Array B**	**3.65**	**307**	Pn		**Pn**	**05 50 49.3**	**-0.2**
	comp=Z,1.2nm,0.3s,baz=122,slow=14,SNR=63							
ARCES				Sn		**Sn**	**05 51 30.2**	**-3.0**
	comp=Z,1.4nm,0.3s,baz=119,slow=25,SNR=3.9							
ARCES				Lg	Lg		05 51 41.5	
	comp=Z,1.8nm,0.3s,baz=120,slow=36,SNR=8.0							
	comp=Z,3.6nm,0.2s							
RMF	**Romuvaara**	**3.74**	**207**	*e*P		**Pn**	**05 50 51.9**	**+1.2**
HEF	**Hetta**	**3.94**	**287**	*e*P		**Pn**	**05 50 53.5**	**+0.1**
HEF				*e*S		**Sn**	**05 51 41.9**	**+1.6**
HAMF	**Hammerfest**	**4.77**	**315**	*e*P		**Pn**	**05 51 07.6**	**+2.7**
KIF	**Kilpisjarvi**	**5.06**	**292**	*e*P		**Pn**	**05 51 09.0**	**+0.2**
KIF				*e*Pg		**Pg**	**05 51 31.1**	**+2.4**
SALU	**Saltoluokta**	**5.91**	**275**	*e*P		**Pn**	**05 51 23.7**	**+3.2**
FINES	**FINESS Array B**	**7.01**	**212**	Pn		**Pn**	**05 51 37.0**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=30,slow=14,SNR=7.0							
FINES				Sn		**Sn**	**05 52 52.0**	**-3.7**
	comp=Z,0.1nm,0.3s,baz=29,slow=24,SNR=2.3							
FINES				Lg	Lg		05 53 28.8	
	comp=Z,0.3nm,0.3s,baz=27,slow=25,SNR=11							
	comp=Z,0.3nm,0.3s							
FAUS	**Fauske**	**7.14**	**277**	S		**Sn**	**05 52 53.1**	**-5.8**
HFS	**Hagfors**	**11.56**	**240**	Pn		**Pn**	**05 52 36.7**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=40,slow=11,SNR=3.7							
HFS				Lg	Lg		05 55 55.0	
	comp=Z,0.1nm,0.3s,baz=47,slow=30,SNR=2.9							
	comp=Z,3.6nm,1.0s							
SPITS	**Spitsbergen Ar**	**11.74**	**342**	Pn		**Pn**	**05 52 36.9**	**-3.4**
	baz=140,slow=18							
	comp=Z,8.5nm,1.0s							
NOA	**NORSAR Array B**	**11.75**	**247**	Pn		**Pn**	**05 52 39.4**	**-1.2**
	baz=46,slow=11,SNR=1.3							
NOA				Lg	Lg		05 55 59.8	
	baz=45,slow=24,SNR=6.2							
	comp=Z,0.5nm,0.9s							

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*IDC **20** 05:58:28.5±1.6, 31.°94N×60.°32E, h0km, mb3.5/7, mbtmp3.5/9, ML3.0/2, MS2.9/1, Error ellipse: s-maj=35.2km s-min=21.7km az=138.0*
*TEH **20** 05:58:29.0, 32.°13N×60.°26E, h6km, ML3.6*
ISC 20 05:58:30.6±0.9, 32.°10N±0.°06×60.°23E±0.°06, h10km, n31, σ1§67/30, mb3.5/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IDAH	**Dahanechah**	**0.71**	**334**	Pg		**Pg**	**05 58 42.8**	**-1.6**
BSRN	**Basiran**	**0.95**	**262**	Pg		**Pb**	**05 58 48.0**	**-1.3**
IKOO	**Kooshah**	**1.09**	**288**	Pg		**Pb**	**05 58 50.5**	**-1.3**
BAGH	**Bagheran - Bir**	**1.11**	**308**	Pg		**Pn**	**05 58 50.7**	**-1.8**
ITEG	**Tejag**	**1.49**	**303**	Pg		**Pg**	**05 58 58.3**	**-0.9**
SHRT	**Shahrakht**	**1.55**	**2**	Pg		**Pg**	**05 58 58.2**	**-2.1**
AFRZ	**Afriz**	**1.68**	**323**	Pg		**Pg**	**05 59 00.8**	**-2.0**
ZHDN	**Zahedan**	**2.73**	**169**	Pn		**Pn**	**05 59 15.6**	**+0.9**
TKDS	**Koohdasht(Taba**	**3.02**	**301**	Pn		**Pn**	**05 59 19.9**	**+1.2**
TPRV	**Parvadeh(Tabas**	**3.14**	**288**	Pn		**Pn**	**05 59 21.8**	**+1.5**
TBJM	**Torbat-e-JAM**	**3.16**	**1**	Pn		**Pn**	**05 59 21.4**	**+0.7**
CHMN	**Cheshme madani**	**3.21**	**227**	Pn		**Pn**	**05 59 22.8**	**+1.3**
KBAM	**BAM**	**3.33**	**208**	Pn		**Pn**	**05 59 24.0**	**+1.2**
TNSJ	**Nastanj**	**3.57**	**302**	Pn		**Pn**	**05 59 27.4**	**+1.2**
KHGB	**Koh Gabri**	**3.65**	**243**	Pn		**Pn**	**05 59 29.3**	**+2.0**
TVBK	**TV Kerman**	**3.65**	**236**	Pn		**Pn**	**05 59 29.8**	**+2.3**
NGRK	**Negar Kerman**	**3.88**	**232**	Pn		**Pn**	**05 59 32.9**	**+2.2**
IBAF	**Bafgh**	**4.00**	**264**	Pn		**Pn**	**05 59 34.1**	**+1.9**
IMEH	**Mehriz**	**4.84**	**263**	Pn		**Pn**	**05 59 46.3**	**+2.5**
SRVN	**Saravan**	**5.04**	**158**	Pn		**Pn**	**05 59 49.0**	**+2.5**
ANAR	**Anarak**	**5.59**	**283**	Pn		**Pn**	**05 59 54.7**	**+0.6**
GEYT	**Alibeck**	**6.07**	**344**	Pn		**Pn**	**06 00 03.0**	**+2.5**
	0.2nm,0.3s,baz=168,slow=16,SNR=2.1							
	1.2nm,0.7s							
WSAR	**Wadi Sarin**	**8.94**	**190**	Pn		**Pn**	**06 00 38.0**	**-1.9**
	0.3nm,0.3s,baz=31,slow=12,SNR=2.1							
	1.6nm,0.5s							
EIL	**Elat**	**21.82**	**270**	LR		LR	06 14 04.2	
	comp=Z,29nm,18.9s,baz=66,slow=43							
BVAR	**Borovoye Array**	**22.17**	**16**	P		**P**	**06 03 28.0**	**+1.4**
	2.0nm,0.8s,baz=201,slow=7.9,SNR=7.9							
	2.0nm,0.8s							
MKAR	**Makanchi Array**	**22.38**	**43**	P		**P**	**06 03 29.9**	**+0.9**
	0.5nm,0.8s,baz=232,slow=7.1,SNR=3.3							
	0.5nm,0.8s							
BRTR	**Keskin Array B**	**22.79**	**297**	P		**P**	**06 03 34.1**	**+0.5**
	1.3nm,0.9s,baz=99,slow=7.6,SNR=7.2							
	1.3nm,0.9s							
KURBB	**Kurchatov Arra**	**22.94**	**31**	P		**P**	**06 03 34.8**	**0.0**
	0.8nm,0.8s,baz=226,slow=11,SNR=5.9							
	0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**28.03**	**32**	P		**P**	**06 04 20.6**	**-1.1**
	0.6nm,0.6s,baz=226,slow=8.7,SNR=1.7							
	0.6nm,0.6s							
FINES	**FINESS Array B**	**36.75**	**333**	P		**P**	**06 05 38.9**	**+1.0**
	0.4nm,0.5s,baz=134,slow=12,SNR=3.3							
	0.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**56.56**	**265**	P		**P**	**06 08 13.1**	**-0.6**
	0.8nm,0.7s,baz=47,slow=7.7,SNR=3.6							
	0.8nm,0.7s							

IDC 20 06:05:26.1±4.2, 53.°54N×89.°72E, h0km, mbtmp2.6/3, ML2.0/3, Error ellipse: s-maj=40.8km s-min=25.3km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.94**	**280**	I		I	06 24 46.7	
	0.2nm,0.9s,baz=92,slow=331,SNR=6.5							
ZALV	**Zalesovo Beam**	**2.94**	**280**	Pn		Pn	06 06 15.4	+1.4
	0.4nm,0.3s,baz=100,slow=12,SNR=9.3							
ZALV				Lg		Lg	06 06 58.2	
	0.7nm,0.3s,baz=97,slow=27,SNR=7.3							
	1.8nm,0.5s							
KURBB	**Kurchatov Arra**	**7.49**	**252**	Pn		Pn	06 07 16.9	+0.5
	baz=62,slow=14,SNR=2.8							
KURBB				Lg		Lg	06 09 24.7	
	baz=65,slow=33,SNR=2.5							
	0.4nm,0.4s							
MKAR	**Makanchi Array**	**8.26**	**218**	Pn		Pn	06 07 27.5	+0.4
	baz=34,slow=10,SNR=1.7							
	0.1nm,0.5s							

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*IDC **20** 06:07:35.6±1.3, 12.°40N×87.°23W, h0km, mb3.8/6, mbtmp3.8/7, ML2.1/3, MS3.4/6, Error ellipse: s-maj=51.1km s-min=16.6km az=49.0*
*SNET **20** 06:07:38.4±1.2, 12.°04N×87.°89W, h3km±11km, ML3.9*
*CATAC **20** 06:07:39.2±0.5, 11.°99N×87.°81W, h18km±5km, ML4.1*
ISC 20 06:07:36.8±1.5, 11.°97N±0.°05×87.°83W±0.°03, h7km±9km, n87, σ0§98/106, mb3.8/6, MS3.5/4, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CRIN	**San Cristobal**	**1.06**	**46**	*e*P		**Pb**	**06 07 58.2**	**+0.7**
CRIN				*e*S		**Sn**	**06 08 15.1**	**+1.9**
CRIN	**San Cristobal**	**1.06**	**46**	*i* P		**Pb**	**06 07 58.5**	**+1.0**
CRIN				IAML			06 08 23.0	
	comp=Z,10μm,1.0s							
QUEN	**Al S del Volca**	**1.14**	**57**	*i* P		**Pg**	**06 07 59.2**	**+0.4**
QUEN				IAML			06 08 19.9	
	comp=Z,4μm,1.0s							
PACN	**Al O del Volca**	**1.15**	**62**	*i* P		**Pg**	**06 07 59.4**	**+0.5**
PACN				*i* S		**Sn**	**06 08 15.8**	**+0.5**
PACN				IAML			06 08 16.3	
	comp=Z,3μm,1.0s							
ROCN	**Rota Cerro Neg**	**1.20**	**63**	*i* P		**Pg**	**06 08 00.3**	**+0.4**
ROCN				*i* S		**Sb**	**06 08 16.9**	**+1.3**
ROCN				IAML			06 08 18.7	
	comp=Z,2μm,1.0s							
CNGA	**Al SSO del Vol**	**1.22**	**65**	*i* P		**Pg**	**06 07 59.2**	**-1.2**
CNGN	**Cerro Negro**	**1.23**	**64**	*e*P		**Pg**	**06 08 00.5**	**+0.1**
CNGN	**Cerro Negro**	**1.23**	**64**	*i* P		**Pg**	**06 08 00.8**	**+0.3**
CNGN				*i* S		**Sb**	**06 08 17.0**	**+0.5**
CNGN				IAML			06 08 23.8	
	comp=Z,4μm,1.0s							
COPN	**Copaltepe**	**1.23**	**80**	*i* P		**Pg**	**06 08 00.9**	**+0.4**
COPN				IAML			06 08 01.8	
	comp=Z,3μm,1.0s							
MACN	**El Madrono**	**1.24**	**66**	*i* P		**Pg**	**06 08 00.9**	**+0.3**
MACN				IAML			06 08 26.4	
	comp=Z,2μm,1.0s							
INTP	**Intipuca**	**1.24**	**350**	*e*P		**Pg**	**06 08 00.7**	**0.0**
INTP				*e*S		**Sg**	**06 08 15.9**	**-0.8**
LEVN	**Ruinas Leon Vi**	**1.27**	**70**	*i* P		**Pg**	**06 08 01.0**	**-0.2**
LEVN				IAML			06 08 26.2	
	comp=Z,3μm,1.0s							
BC86	**Nagarote**	**1.28**	**77**	*i* P		**Pg**	**06 08 01.6**	**+0.2**
BC86				IAML			06 08 21.0	
	comp=Z,6μm,1.0s							
CNCH	**Conchagua**	**1.30**	**0**	*e*P		**Pg**	**06 08 01.4**	**-0.4**
CNCH	**Conchagua**	**1.30**	**0**	*i* P		**Pg**	**06 08 01.8**	**0.0**
CNCH				*i* S		**Sb**	**06 08 18.9**	**+0.3**
CNCH				IAML			06 08 22.6	
	comp=Z,10μm,1.0s							
AMPH	**Amapala**	**1.32**	**7**	*e*P		**Pg**	**06 08 01.5**	**-0.7**
AMPH				*e*S		**Sb**	**06 08 19.4**	**+0.3**
AMPH	**Amapala**	**1.32**	**7**	*i* P		**Pg**	**06 08 01.7**	**-0.5**
AMPH				*i* S		**Sb**	**06 08 19.5**	**+0.4**
LCND	**La Caada**	**1.33**	**358**	*e*P		**Pg**	**06 08 01.9**	**-0.6**
LCND				IAML			06 08 22.1	
	comp=Z,3μm,0.3s							
LCND	**La Caada**	**1.33**	**358**	*i* P		**Pg**	**06 08 02.4**	**-0.1**
LCND				*i* P		**Pb**	**06 08 02.6**	**+0.4**
LCND				*i* S		**Sb**	**06 08 19.9**	**+0.4**
LCND				IAML			06 08 21.9	
	comp=Z,4μm,1.0s							
LCND				IAML			06 09 03.1	
	comp=Z,22μm,1.0s							
MOMN	**Momotombo**	**1.34**	**71**	*i* P		**Pg**	**06 08 02.0**	**-0.6**
MOMN				IAML			06 08 03.3	
	comp=Z,160nm,1.0s							
MOMN				*i* S		**Sg**	**06 08 19.6**	**-0.3**
MOM2	**El Cardon**	**1.40**	**70**	*i* P		**Pn**	**06 08 03.1**	**+0.3**
MOM2				*i* S		**Sg**	**06 08 21.3**	**-0.6**
MOM2				IAML			06 08 32.0	
	comp=Z,2μm,1.0s							
SAPS	**Ciudad Sandino**	**1.41**	**82**	*i* P		**Pn**	**06 08 03.6**	**+0.6**
SAPS				*i* S		**Sg**	**06 08 21.4**	**-0.9**
SAPS				IAML			06 08 28.2	
	comp=Z,4μm,1.0s							
APQ3	**Volcan Apoyequ**	**1.47**	**78**	*i* P		**Pn**	**06 08 04.2**	**+0.5**
APQ3				*i* S		**Sb**	**06 08 23.2**	**0.0**
APQ3				IAML			06 08 28.8	
	comp=Z,3μm,1.0s							
APYN	**Apoyeque**	**1.48**	**80**	*i* P		**Pn**	**06 08 04.3**	**+0.4**
APYN				IAML			06 08 28.8	
	comp=Z,2μm,1.0s							
RE6B4	**Centro civico**	**1.51**	**84**	*i* P		**Pn**	**06 08 04.8**	**+0.5**
RE6B4				IAML			06 08 29.7	
	comp=Z,2μm,1.0s							
LCY	**Lacayo**	**1.51**	**343**	*e*P		**Pn**	**06 08 05.2**	**+0.8**
BLLM	**Bellamira**	**1.52**	**345**	*e*P		**Pn**	**06 08 04.8**	**+0.3**
RANC	**El Ranchito**	**1.52**	**343**	*e*P		**Pn**	**06 08 04.7**	**+0.1**
RANC	**El Ranchito**	**1.52**	**343**	*i* P		**Pn**	**06 08 05.3**	**+0.7**
RANC				*i* S		**Sb**	**06 08 24.8**	**-0.3**
RANC				IAML			06 08 32.0	
	comp=Z,2μm,1.0s							
RB28C	**Hialeah**	**1.53**	**84**	*i* P		**Pn**	**06 08 05.4**	**+0.8**
RB28C				IAML			06 08 08.4	
	comp=Z,2μm,1.0s							
USIM	**UNAN**	**1.53**	**84**	*i* P		**Pn**	**06 08 05.7**	**+1.1**
USIM				IAML			06 08 38.1	
	comp=Z,8μm,1.0s							
ALLN	**Telcor Managua**	**1.54**	**83**	*i* P		**Pn**	**06 08 05.3**	**+0.6**
ALLN				IAML			06 08 28.1	
	comp=Z,8μm,1.0s							
TISN	**Laguna Tiscapa**	**1.54**	**83**	*i* P		**Pn**	**06 08 04.5**	**-0.2**
TISN				IAML			06 08 29.9	
	comp=Z,150nm,1.0s							
MGA1	**Managua**	**1.56**	**83**	*i* P		**Pn**	**06 08 04.9**	**-0.1**
MGA1				IAML			06 09 02.3	
	comp=Z,8μm,1.0s							
R4DEC	**Barrio San Lui**	**1.56**	**83**	*i* P		**Pg**	**06 08 07.9**	**+1.1**
R4DEC				*i* P		**Pn**	**06 08 05.9**	**+0.9**
R4DEC				IAML			06 08 07.3	
	comp=Z,2μm,1.0s							
PACA	**Pacayal**	**1.57**	**342**	*e*P		**Pn**	**06 08 05.7**	**+0.5**
PACA	**Pacayal**	**1.57**	**342**	*i* S		**Sn**	**06 08 25.5**	**-0.3**
R0529	**La Mascota**	**1.57**	**84**	*i* P		**Pn**	**06 08 06.1**	**+1.0**
R0529				IAML			06 08 37.7	
	comp=Z,2μm,1.0s							
WILN	**Americas 2**	**1.62**	**83**	*i* P		**Pn**	**06 08 06.4**	**+0.6**
WILN				*i* S		**Sn**	**06 08 27.4**	**+0.4**
WILN				IAML			06 08 33.6	
	comp=Z,1μm,1.0s							
MAS3	**Al N del Volca**	**1.62**	**88**	*i* P		**Pn**	**06 08 06.6**	**+0.7**
MAS3				IAML			06 08 08.8	
	comp=Z,2μm,1.0s							
MAS3				*i* S		**Sn**	**06 08 28.2**	**+1.1**
RB213	**Mirador 2 Volc**	**1.63**	**89**	*i* P		**Pn**	**06 08 05.2**	**-0.8**
RB213				IAML			06 08 07.3	
	comp=Z,2μm,1.0s							
BRAN	**Las Pilas**	**1.63**	**63**	*i* P		**Pn**	**06 08 03.9**	**-2.1**
BRAN				IAML			06 08 07.1	
	comp=Z,2μm,1.0s							
MASN	**Masaya**	**1.65**	**89**	*i* P		**Pn**	**06 08 07.5**	**+1.3**
MASN				IAML			06 08 36.0	
	comp=Z,430nm,1.0s							
COEB	**Comit de Eme**	**1.67**	**336**	*e*P		**Pn**	**06 08 07.2**	**+0.7**
COEB				IAML			06 08 31.6	
	comp=Z,825nm,0.4s							
COEB	**Comit de Eme**	**1.67**	**336**	*i* P		**Pn**	**06 08 07.7**	**+1.1**
COEB				*i* S		**Sn**	**06 08 28.6**	**+0.4**
COEB				IAML			06 08 31.1	
	comp=Z,890nm,1.0s							
NADN	**Granada**	**1.78**	**97**	*i* P		**Pn**	**06 08 08.6**	**+0.6**
NADN				IAML			06 08 37.9	
	comp=Z,3μm,1.0s							
TECO	**Alcaldia de Te**	**1.81**	**329**	*e*P		**Pn**	**06 08 08.8**	**+0.3**
TECO	**Alcaldia de Te**	**1.81**	**329**	*i* P		**Pn**	**06 08 09.3**	**+0.8**
TECO				*i* S		**Sn**	**06 08 31.9**	**+0.1**
TECO				IAML			06 08 36.4	
	comp=Z,520nm,1.0s							
UESV	**Universidad de**	**1.90**	**331**	*i* P		**Pn**	**06 08 11.0**	**+1.3**
UESV				*i* S		**Sn**	**06 08 33.9**	**-0.1**
UESV				IAML			06 08 44.2	
	comp=Z,1μm,1.0s							
SCLA	**Alcaldia de Sa**	**1.93**	**333**	*e*P		**Pn**	**06 08 11.0**	**+0.8**
SCLA	**Alcaldia de Sa**	**1.93**	**333**	*i* P		**Pn**	**06 08 11.8**	**+1.6**
SCLA				*i* S		**Sn**	**06 08 35.6**	**+0.9**
SCLA				IAML			06 08 41.2	
	comp=Z,700nm,1.0s							
COEG	**Centro de Oper**	**1.93**	**328**	*e*P		**Pn**	**06 08 11.4**	**+1.2**
PAVA	**Las Pavas**	**2.04**	**328**	*e*P		**Pn**	**06 08 12.7**	**+0.9**
PAVA	**Las Pavas**	**2.04**	**328**	*i* P		**Pn**	**06 08 13.0**	**+1.3**
PAVA				IAML			06 08 45.5	
	comp=Z,1μm,1.0s							
PANCS	**Alcalda de**	**2.10**	**321**	*i* P		**Pn**	**06 08 13.6**	**+1.2**
PANCS				IAML			06 08 41.2	
	comp=Z,2μm,1.0s							
LOMA	**Loma Larga**	**2.12**	**322**	*e*P		**Pn**	**06 08 13.6**	**+0.8**
LOMA	**Loma Larga**	**2.12**	**322**	*i* P		**Pb**	**06 08 16.4**	**+0.8**
LOMA				*i* S		**Sn**	**06 08 39.9**	**+0.5**
TGUH	**Tegucigalpa,Un**	**2.15**	**15**	*e*P		**Pn**	**06 08 13.6**	**+0.4**
TGUH	**Tegucigalpa,Un**	**2.15**	**15**	*i* P		**Pn**	**06 08 13.9**	**+0.7**
TGUH				*i* S		**Sn**	**06 08 40.6**	**+0.4**
TGUH				IAML			06 09 00.7	
	comp=Z,920nm,1.0s							
JAPN	**Al SSO del Vol**	**2.16**	**102**	*i* P		**Pn**	**06 08 14.1**	**+0.9**
JAPN				IAML			06 08 53.1	
	comp=Z,740nm,1.0s							
UDBS	**Universidad Do**	**2.16**	**324**	*i* P		**Pb**	**06 08 16.4**	**0.0**
MORN	**Al O del Volca**	**2.18**	**101**	*i* P		**Pn**	**06 08 13.9**	**+0.3**
MORN				IAML			06 08 47.1	
	comp=Z,2μm,1.0s							
CONN	**Concepcion**	**2.20**	**100**	*i* P		**Pn**	**06 08 15.3**	**+1.5**
CONN				*i* S		**Sn**	**06 08 41.8**	**+0.5**
CONN				IAML			06 08 48.0	
	comp=Z,5μm,1.0s							
OMEN	**Al SSO del Vol**	**2.21**	**102**	*i* P		**Pn**	**06 08 14.3**	**+0.4**
OMEN				IAML			06 08 44.4	
	comp=Z,1μm,1.0s							
UEES	**Universidad Ev**	**2.21**	**322**	*i* P		**Pn**	**06 08 14.2**	**+0.1**
UEES				IAML			06 08 54.3	
	comp=Z,460nm,1.0s							
BOQS	**Boqueron**	**2.25**	**321**	*e*P		**Pn**	**06 08 15.9**	**+1.2**
PMON	**Piamonte**	**2.26**	**320**	*i* P		**Pn**	**06 08 16.4**	**+1.7**
PMON				IAML			06 08 54.7	
	comp=Z,830nm,1.0s							
JAYA	**Jayaque - finc**	**2.30**	**317**	*e*P		**Pn**	**06 08 15.8**	**+0.4**
JAYA	**Jayaque - finc**	**2.30**	**317**	*i* P		**Pn**	**06 08 15.6**	**+0.3**
JAYA				IAML			06 08 46.1	
	comp=Z,1μm,1.0s							
CEVE	**Cerro Verde**	**2.54**	**317**	*i* P		**Pn**	**06 08 19.7**	**+1.0**
CEVE				*i* S		**Sn**	**06 08 51.5**	**+1.4**
CEVE				IAML			06 09 10.0	
	comp=Z,510nm,1.0s							
NUBE	**Las Nubes**	**2.70**	**316**	*i* P		**Pn**	**06 08 21.8**	**+1.0**
NUBE				IAML			06 08 58.4	
	comp=Z,540nm,1.0s							
ESQI	**Esquipulas**	**2.96**	**330**	*i* P		**Pn**	**06 08 24.7**	**+0.3**
ESQI				IAML			06 09 18.3	
	comp=Z,440nm,1.0s							
JTS	**Las Juntas de**	**3.28**	**120**	Pn		Pn	06 08 25.5	-3.3
	comp=Z,0.1nm,0.3s,baz=287,slow=19,SNR=6.4							
JTS				Sn		**Sn**	**06 09 04.4**	**-3.6**
	comp=Z,7.5nm,0.3s,baz=315,slow=16,SNR=4.4							
APG	**El Apazote**	**3.96**	**320**	Pn		**Pn**	**06 08 41.1**	**+3.0**
	baz=186,slow=19,SNR=2.2							
TEIG	**Tepich**	**8.22**	**357**	LR		LR	06 13 01.1	
	comp=Z,581nm,19.8s,sl

USIM	**UNAN**	**0.79**	**2**	*i* P	**Pn**	**06 10 13.2**	**+0.1**
USIM				*i* S	**Sn**	**06 10 22.4**	**-1.8**
USIM				IAML		06 10 26.3	
	comp=Z,11μm,1.0s						
RB28C	**Hialeah**	**0.80**	**2**	*i* P	**Pn**	**06 10 13.1**	**0.0**
RB28C				IAML		06 10 27.4	
	comp=Z,5μm,1.0s						
R0529	**La Mascota**	**0.80**	**4**	*i* P	**Pn**	**06 10 13.1**	**-0.1**
R0529				IAML		06 10 25.7	
	comp=Z,4μm,1.0s						
RE6B4	**Centro civico**	**0.80**	**0**	*i* P	**Pn**	**06 10 13.2**	**0.0**
RE6B4				IAML		06 10 25.3	
	comp=Z,4μm,1.0s						
TISN	**Laguna Tiscapa**	**0.82**	**2**	*i* P	**Pn**	**06 10 12.5**	**-0.9**
TISN				IAML		06 10 25.0	
	comp=Z,610nm,1.0s						
MGA1	**Managua**	**0.83**	**3**	*i* P	**Pn**	**06 10 13.4**	**-0.1**
MGA1				IAML		06 10 27.4	
	comp=Z,8μm,1.0s						
R4DEC	**Barrio San Lui**	**0.83**	**3**	*i* P	**Pn**	**06 10 15.6**	**+2.1**
R4DEC				*i* P	**Pn**	**06 10 13.3**	**-0.2**
R4DEC				*i* S	**Sn**	**06 10 24.9**	**-0.1**
R4DEC				IAML		06 10 26.8	
	comp=Z,4μm,1.0s						
R4DEC				IAML		06 10 29.1	
	comp=Z,4μm,1.0s						
AERN	**Aeropuerto Man**	**0.83**	**9**	*i* P	**Pn**	**06 10 12.9**	**-0.6**
AERN				*i* S	**Sn**	**06 10 25.6**	**+0.6**
AERN				IAML		06 10 42.2	
	comp=Z,6μm,1.0s						
ALLN	**Telcor Managua**	**0.83**	**2**	*i* P	**Pn**	**06 10 13.6**	**0.0**
ALLN				IAML		06 10 15.3	
	comp=Z,9μm,1.0s						
WILN	**Americas 2**	**0.84**	**7**	*i* P	**Sn**	**06 10 25.3**	**0.0**
SAPS	**Ciudad Sandino**	**0.85**	**353**	*i* P	**Pn**	**06 10 14.0**	**+0.2**
SAPS				*i* S	**Sn**	**06 10 25.6**	**+0.1**
SAPS				IAML		06 10 30.0	
	comp=Z,6μm,1.0s						
COPN	**Copaltepe**	**0.90**	**342**	*i* P	**Pn**	**06 10 14.2**	**-0.3**
COPN				IAML		06 10 27.7	
	comp=Z,2μm,1.0s						
APYN	**Apoyeque**	**0.91**	**357**	*i* P	**Pn**	**06 10 14.5**	**-0.1**
APYN				*i* S	**Sn**	**06 10 27.4**	**+0.5**
APYN				IAML		06 10 30.8	
	comp=Z,3μm,1.0s						
HZTE	**Horizontes, Gu**	**0.92**	**131**	*eP*	**Pn**	**06 10 15.0**	**+0.3**
APQ3	**Volcan Apoyequ**	**0.95**	**356**	*i* P	**Sn**	**06 10 27.8**	**0.0**
BC86	**Nagarote**	**0.97**	**345**	*i* P	**Pn**	**06 10 15.2**	**-0.2**
BC86				*i* S	**Sn**	**06 10 28.4**	**0.0**
BC86				IAML		06 10 43.0	
	comp=Z,5μm,1.0s						
BC84	**Volcan Momotom**	**1.09**	**348**	*i* P	**Pn**	**06 10 16.8**	**-0.2**
BC84				*i* S	**Sn**	**06 10 30.8**	**-0.4**
BC84				IAML		06 10 36.0	
	comp=Z,7μm,1.0s						
MOMN	**Momotombo**	**1.11**	**348**	*i* P	**Pn**	**06 10 17.1**	**-0.1**
MOMN				*i* S	**Sn**	**06 10 30.7**	**-0.9**
MOMN				IAML		06 10 33.3	
	comp=Z,160nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.12**	**344**	*i* P	**Pn**	**06 10 17.2**	**-0.1**
LEVN				*i* S	**Sn**	**06 10 32.3**	**+0.5**
LEVN				IAML		06 10 35.5	
	comp=Z,3μm,1.0s						
MOM2	**El Cardon**	**1.13**	**351**	*i* P	**Pn**	**06 10 17.3**	**-0.1**
MOM2				*i* S	**Sn**	**06 10 31.7**	**-0.3**
MOM2				IAML		06 10 36.6	
	comp=Z,2μm,1.0s						
MACN	**El Madrono**	**1.20**	**342**	*i* P	**Pn**	**06 10 18.4**	**0.0**
MACN				IAML		06 10 38.0	
	comp=Z,2μm,1.0s						
CNGA	**Al SSO del Vol**	**1.23**	**341**	*i* P	**Pn**	**06 10 17.1**	**-1.8**
CNGA				*i* S	**Sn**	**06 10 32.9**	**-1.7**
CNGA				IAML		06 10 34.8	
	comp=Z,2μm,1.0s						
ORTG	**Ortega, Santa**	**1.26**	**139**	*eP*	**Pn**	**06 10 19.2**	**-0.1**
VMAR	**Armenia, Volca**	**1.27**	**113**	*eP*	**Pn**	**06 10 19.0**	**-0.4**
VMAR				*eS*	**Sn**	**06 10 35.9**	**+0.5**
ACON	**Acoyapa**	**1.28**	**60**	*i* P	**Pn**	**06 10 18.8**	**-0.6**
ACON				IAML		06 10 36.7	
	comp=Z,490nm,1.0s						
BRAN	**Las Pilas**	**1.39**	**358**	*i* S	**Pn**	**06 10 24.8**	**+3.8**
DUNO	**Dulce Nombre,**	**1.46**	**147**	*eP*	**Pn**	**06 10 21.0**	**-1.0**
LCHIL	**Los Chiles**	**1.58**	**100**	*eP*	**Pn**	**06 10 22.8**	**-0.7**
JTS	**Las Juntas de**	**1.67**	**128**	*eP*	**Pn**	**06 10 24.5**	**-0.3**
SOCE	**Pocosol**	**1.90**	**119**	*i* P	**Pn**	**06 10 27.7**	**-0.1**
SOCE				IAML		06 10 58.3	
	comp=Z,230nm,1.0s						
SOCE	**Pocosol**	**1.90**	**119**	*eP*	**Pn**	**06 10 27.7**	**-0.1**
COVE	**Coope Vega, Sa**	**1.96**	**108**	*i* P	**Pn**	**06 10 28.6**	**0.0**
COVE				IAML		06 10 59.5	
	comp=Z,230nm,1.0s						
LAFE	**Finca La Fe, P**	**2.03**	**138**	*eP*	**Pn**	**06 10 29.1**	**-0.6**
ESPN	**Las Esperanzas**	**2.14**	**66**	*i* P	**Pn**	**06 10 31.1**	**-0.1**
ESPN				IAML		06 10 31.5	
	comp=Z,450nm,1.0s						
ABE2	**San Pablo**	**2.73**	**126**	*eP*	**Pn**	**06 10 39.7**	**+0.3**
LCR2	**La Lucha 2**	**2.75**	**125**	*eP*	**Pn**	**06 10 40.0**	**+0.3**
OCHAL	**Ojochal**	**3.42**	**130**	*i* P	**Pn**	**06 10 50.5**	**+1.8**
OCHAL				IAML		06 11 03.9	
	comp=Z,92nm,1.0s						
SRBA	**San Rafael, Bu**	**3.56**	**125**	*eP*	**Pn**	**06 10 51.1**	**+0.4**

*IDC **20** 06:16:58.7±0.8, 12°.03N×143°.24E, h0km, mb4.0/12, mbtmp4.0/12, MS3.0/3, Error ellipse: s-maj=31.7km s-min=19.3km az=91.0*
*NEIC **20** 06:17:06.2±1.0, 12°.2N±0°.1×143°.2E±0°.2, h35km±2km, mb4.3/29, Error ellipse: s-maj=28.8km s-min=18.9km az=120.0*

ISC 20 06:17:04.3±0.7, 12°.1N±0°.1×143°.2E±0°.1, h31km, n49, σ1s02/37, mb4.3/27, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
GUMO	**Guam**	**2.26**	**48**			**Pn**	**06 17 39.1**	**-0.4**
GUMO	**Guam**	**2.26**	**48**	LR		LR	06 18 39.2	
	comp=Z,207nm,19.0s,baz=214,slow=45							
JCJ	**Chichijima**	**14.98**	**357**	LR		LR	06 24 54.9	
	comp=Z,48nm,19.4s,baz=124,slow=32							
JOW	**Kunigami**	**20.28**	**319**	P		**P**	**06 21 38.3**	**+0.8**
H11S3	**WAKE ISLAND Hy**	**23.57**	**71**	T		T	06 46 32.0	
	baz=257,slow=75,SNR=8.5							
H11S1	**WAKE ISLAND Hy**	**23.59**	**71**	T		T	06 46 32.0	
	baz=257,slow=75,SNR=7.7							
H11S2	**WAKE ISLAND Hy**	**23.59**	**71**	T		T	06 46 30.9	
	baz=257,slow=75,SNR=10							
H11N1	**WAKE ISLAND Hy**	**24.04**	**69**	T		T	06 47 11.1	
	baz=255,slow=75,SNR=13							
H11N2	**WAKE ISLAND Hy**	**24.05**	**69**	T		T	06 47 09.9	
	baz=255,slow=75,SNR=15							
H11N3	**WAKE ISLAND Hy**	**24.06**	**69**	T		T	06 47 08.8	
	baz=255,slow=75,SNR=15							
MJAR	**Matsushiro Arr**	**24.77**	**350**	P		**P**	**06 22 22.2**	**-1.2**
	0.9nm,0.7s,baz=185,slow=12,SNR=2.8 0.9nm,0.7s							
COEN	**Coen**	**25.86**	**180**	P		**P**	**06 22 34.6**	**+1.3**
COEN				IAmb		IAmb	06 22 37.3	
	comp=Z,8.9nm,0.9s							
WRA	**Warramunga Arr**	**32.97**	**195**	P		**P**	**06 23 35.1**	**-1.4**
	comp=Z,1.6nm,0.8s,baz=20,slow=9.7,SNR=10.0 comp=Z,1.6nm,0.8s							
ASAR	**Alice Springs**	**36.65**	**194**	P		**P**	**06 24 06.8**	**-1.5**
	comp=Z,0.3nm,0.6s,baz=22,slow=12,SNR=6.2 comp=Z,0.3nm,0.6s							
MA2	**Magadan**	**47.76**	**5**	LR		LR	06 42 31.8	
	comp=Z,25nm,20.6s,baz=111,slow=32							
MKAR	**Makanchi Array**	**61.43**	**317**	P		**P**	**06 27 18.9**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=92,slow=8.5,SNR=4.4 comp=Z,0.6nm,0.8s							
ZALV	**Zalesovo Beam**	**61.90**	**325**	P		**P**	**06 27 19.7**	**-1.1**
	comp=Z,0.7nm,0.4s,baz=116,slow=7.9,SNR=2.9 comp=Z,0.7nm,0.4s							
KURK	**Kurchatov**	**64.68**	**321**	P		**P**	**06 27 39.3**	**0.0**
KURK				IAmb		IAmb	06 27 41.2	
	comp=Z,2.9nm,0.9s							
KURBB	**Kurchatov Arra**	**64.71**	**320**	P		**P**	**06 27 39.5**	**0.0**
	comp=Z,1.3nm,0.8s,baz=104,slow=6.5,SNR=13 comp=Z,1.3nm,0.8s							
E19K	**Redstone River**	**67.52**	**21**	P		**P**	**06 27 58.3**	**+1.1**
D19K	**Kuna River**	**67.65**	**20**	P		**P**	**06 27 58.5**	**+0.4**
CAST	**Castle Rocks**	**68.09**	**26**	P		**P**	**06 28 01.1**	**+0.2**
CAST				IAmb		IAmb	06 28 01.2	
	comp=Z,2.3nm,0.8s							
H21K	**Melozitna Rive**	**68.50**	**24**	P		**P**	**06 28 04.0**	**+0.5**
G21K	**Allakaket**	**68.52**	**23**	P		**P**	**06 28 03.7**	**+0.2**
I21K	**Tanana**	**68.67**	**24**	P		**P**	**06 28 05.1**	**+0.6**
I21K				IAmb		IAmb	06 28 06.7	
	comp=Z,3.1nm,1.1s							
BPAW	**Bear Paw Mtn.**	**68.76**	**25**	P		**P**	**06 28 05.0**	**-0.1**
BPAW				IAmb		IAmb	06 28 05.7	
	comp=Z,2.8nm,0.8s							
F21K	**Alatna River**	**68.77**	**22**	P		**P**	**06 28 05.7**	**+0.6**
MLY	**Manley**	**69.13**	**25**	P		**P**	**06 28 07.6**	**+0.2**
MLY				IAmb		IAmb	06 28 08.2	
	comp=Z,2.0nm,0.7s							
B21K	**Ikpikpuk River**	**69.26**	**19**	P		**P**	**06 28 08.8**	**+0.8**
SML	**Sawmill**	**69.33**	**28**	P		**P**	**06 28 08.6**	**-0.1**
E22K	**Anaktuvuk Pass**	**69.68**	**21**	P		**P**	**06 28 11.7**	**+1.0**
I23K	**Minto, Yukon-K**	**69.72**	**25**	P		**P**	**06 28 11.7**	**+0.7**
I23K				IAmb		IAmb	06 28 12.0	
	comp=Z,2.0nm,0.6s							
B22K	**Teshekpuk Lake**	**69.91**	**19**	P		**P**	**06 28 12.7**	**+0.7**
B22K				IAmb		IAmb	06 28 22.8	
	comp=Z,2.5nm,0.9s							
WRH	**Wood River Hil**	**70.08**	**25**	P		**P**	**06 28 12.5**	**-0.7**
WRH				IAmb		IAmb	06 28 12.9	
	comp=Z,2.2nm,0.7s							
BVAR	**Borovoye Array**	**70.09**	**322**	P		**P**	**06 28 13.7**	**+0.2**
	comp=Z,1.5nm,0.4s,baz=100,slow=8.9,SNR=8.6 comp=Z,1.5nm,0.4s							
H24K	**Noodor Dome**	**70.50**	**24**	P		**P**	**06 28 16.2**	**+0.4**
H24K				IAmb		IAmb	06 28 16.9	
	comp=Z,3.2nm,1.0s							
IL31		**70.65**	**25**	P		**P**	**06 28 15.4**	**-1.3**
IL31				IAmb		IAmb	06 28 15.8	
	comp=Z,4.0nm,0.9s							
ILAR	**Eielson Array**	**70.65**	**25**	P		**P**	**06 28 15.2**	**-1.5**
	comp=Z,1.9nm,0.5s,baz=251,slow=6.0,SNR=45 comp=Z,1.9nm,0.5s							
E24K	**Your Creek**	**70.86**	**22**	P		**P**	**06 28 18.8**	**+0.8**
E24K				IAmb		IAmb	06 28 19.3	
	comp=Z,2.5nm,0.6s							
D24K	**Happy Valley**	**71.04**	**21**	P		**P**	**06 28 20.2**	**+1.2**
J26L	**Joseph Creek**	**72.00**	**26**	IAmb		IAmb	06 28 24.9	
	comp=Z,2.3nm,0.7s							
I29M	**Ogilvie Camp,**	**74.33**	**25**	IAmb		IAmb	06 28 39.5	
	comp=Z,3.9nm,1.1s							
K29M	**Barlow Dome**	**74.55**	**27**	IAmb		IAmb	06 28 41.5	
	comp=Z,3.7nm,0.9s							
ABKAR	**Akbulak array**	**76.54**	**318**	P		**P**	**06 28 52.0**	**+0.3**
YKA	**Yellowknife Ar**	**84.97**	**27**	P		**P**	**06 29 35.6**	**-0.7**
	comp=Z,0.2nm,0.6s,baz=287,slow=5.5,SNR=4.6 comp=Z,0.2nm,0.6s							
ARCES	**ARCESS Array B**	**88.01**	**342**	P		**P**	**06 29 50.7**	**-0.5**
	comp=Z,5.4nm,0.9s,baz=68,slow=5.5,SNR=6.5 comp=Z,5.4nm,0.9s							
NVAR	**Mina Array Bea**	**89.17**	**51**	P		**P**	**06 29 58.3**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=273,slow=4.6,SNR=9.6 comp=Z,1.1nm,0.6s							
FINES	**FINESS Array B**	**91.82**	**335**	P		**P**	**06 30 07.6**	**-1.5**
	comp=Z,0.6nm,0.4s,baz=47,slow=4.2,SNR=8.9 comp=Z,0.6nm,0.4s							
LPAZ	**La Paz**	**149.40**	**102**	PKPbc		**PKPdf**	**06 36 50.8**	**+3.1**
	comp=Z,0.9nm,0.8s,baz=308,slow=6.1,SNR=2.7							

*UCR **20** 06:41:08.1±0.4, 10°.52N×86°.82W, h21km±5km, MW3.6*
*CATAC **20** 06:41:09.5±0.9, 10°.64N×86°.89W, h24km±13km, ML3.5*

ISC 20 06:41:08.0±2.0, 10°.54N±0°.06×86°.87W±0°.06, h24km±17km, n53, σ0s72/66, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
HZTE	**Horizontes, Gu**	**1.26**	**82**	*eP*		**Pn**	**06 41 30.3**	**+0.2**
HZTE				*eS*		**Sn**	**06 41 47.0**	**+0.6**
ALIBA	**Liberia Airpor**	**1.30**	**88**	*eP*		**Pb**	**06 41 32.0**	**+0.3**
LCRUZ	**La Cruz**	**1.33**	**66**	*eP*		**Pn**	**06 41 32.0**	**+1.0**
ORTG	**Ortega, Santa**	**1.40**	**97**	*eP*		**Pn**	**06 41 31.7**	**-0.4**
DUNO	**Dulce Nombre,**	**1.43**	**109**	*eP*		**Pn**	**06 41 31.9**	**-0.4**
NADN	**Granada**	**1.46**	**34**	*i* P		**Pn**	**06 41 33.5**	**+0.7**
NADN				*i* S		**Sb**	**06 41 51.8**	**-0.7**
NADN				IAML			06 42 00.7	
	comp=Z,1μm,1.0s							
GB1A	**Borinquen Arri**	**1.47**	**79**	*eP*		**Pn**	**06 41 33.1**	**0.0**
VRLE	**La Escondida,**	**1.50**	**80**	*eP*		**Pn**	**06 41 33.3**	**-0.1**
JAPN	**Al SSO del Vol**	**1.52**	**50**	*i* P		**Pn**	**06 41 34.5**	**+0.8**
JAPN				IAML			06 41 36.9	
	comp=Z,500nm,1.0s							
OMEN	**Al SSO del Vol**	**1.55**	**52**	*i* P		**Pn**	**06 41 34.4**	**+0.3**
OMEN				IAML			06 42 02.9	
	comp=Z,1μm,1.0s							
MORN	**Al O del Volca**	**1.56**	**50**	*i* P		**Pn**	**06 41 35.0**	**+0.8**
MORN				IAML			06 42 01.0	
	comp=Z,1μm,1.0s							
CONN	**Concepcion**	**1.59**	**50**	*i* P		**Pb**	**06 41 36.2**	**-0.5**
CONN				*i* S		**Sb**	**06 41 56.9**	**+0.5**
CONN				IAML			06 42 04.2	
	comp=Z,5μm,1.0s							
COLC	**Colonia**	**1.64**	**85**	*eP*		**Pn**	**06 41 35.8**	**+0.4**
COPN	**Copaltepe**	**1.65**	**9**	*i* P		**Pn**	**06 41 35.3**	**-0.2**
COPN				IAML			06 41 58.6	
	comp=Z,340nm,1.0s							
NYURE	**Nandayure**	**1.68**	**109**	*eP*		**Pn**	**06 41 35.2**	**-0.6**
CUI	**Cuipilapa**	**1.68**	**86**	*eP*		**Pn**	**06 41 36.2**	**+0.3**
SAPS	**Ciudad Sandino**	**1.68**	**16**	*i* P		**Pn**	**06 41 36.6**	**+0.7**
SAPS				*i* S		**Sn**	**06 41 56.7**	**0.0**
SAPS				IAML			06 42 03.2	
	comp=Z,410nm,1.0s							
R0529	**La Mascota**	**1.69**	**21**	*i* P		**Pn**	**06 41 34.5**	**-1.5**
R0529				IAML			06 41 53.6	
	comp=Z,320nm,1.0s							
TISN	**Laguna Tiscapa**	**1.70**	**20**	*i* P		**Pn**	**06 41 36.1**	**0.0**
TISN				IAML			06 42 02.0	
	comp=Z,23nm,1.0s							
VMAR	**Armenia, Volca**	**1.75**	**81**	*eP*		**Pn**	**06 41 37.4**	**+0.6**
LEVN	**Ruinas Leon Vi**	**1.87**	**8**	*i* P		**Pn**	**06 41 38.5**	**+0.1**
LEVN				*i* S		**Sn**	**06 42 01.5**	**+0.3**
LEVN				IAML			06 42 03.9	
	comp=Z,420nm,1.0s							
TENO	**El Achiote**	**1.87**	**85**	*eP*		**Pn**	**06 41 38.6**	**+0.1**
MOMN	**Momotombo**	**1.89**	**10**	*i* P		**Pn**	**06 41 39.4**	**+0.7**
MOMN				*i* S		**Sn**	**06 42 01.1**	**-0.7**
MOMN				IAML			06 42 07.7	
	comp=Z,12nm,1.0s							
JTS	**Las Juntas de**	**1.90**	**97**	*eP*		**Pn**	**06 41 39.0**	**+0.1**
MOM2	**El Cardon**	**1.92**	**11**	*i* P		**Pn**	**06 41 39.4**	**+0.2**
MOM2				*i* S		**Sn**	**06 42 02.5**	**-0.1**
MOM2				IAML			06 42 05.3	
	comp=Z,210nm,1.0s							
MACN	**El Madrono**	**1.92**	**6**	*i* P		**Pn**	**06 41 39.8**	**+0.5**
MACN				IAML			06 42 10.1	
	comp=Z,210nm,1.0s							
CNGA	**Al SSO del Vol**	**1.95**	**5**	*i* P		**Pn**	**06 41 38.2**	**-1.4**
CNGA				*i* S		**Sn**	**06 42 03.5**	**+0.1**
CNGA				IAML			06 42 05.4	
	comp=Z,440nm,1.0s							
PACN	**Al O del Volca**	**1.95**	**2**	*i* P		**Pn**	**06 41 39.8**	**+0.2**
PACN				*i* S		**Sn**	**06 42 03.0**	**-0.3**
PACN				IAML			06 42 08.1	
	comp=Z,350nm,1.0s							
CNGN	**Cerro Negro**	**1.96**	**5**	*i* P		**Pn**	**06 41 40.0**	**+0.3**
CNGN				*i* S		**Sn**	**06 42 03.2**	**-0.3**
CNGN				IAML			06 42 06.2	
	comp=Z,370nm,1.0s							
CNGN	**Cerro Negro**	**1.96**	**5**	*eP*		**Pn**	**06 41 40.0**	**+0.3**
ROCN	**Rota Cerro Neg**	**1.97**	**4**	*i* P		**Pn**	**06 41 40.8**	**+0.9**
ROCN				*i* S		**Sn**	**06 42 03.3**	**-0.6**
ROCN				IAML			06 42 08.9	
	comp=Z,190nm,1.0s							
ARE1	**Arenal 1**	**2.12**	**92**	*eP*		**Pn**	**06 41 43.0**	**+1.1**
CRIN	**San Cristobal**	**2.15**	**355**	*i* P		**Pn**	**06 41 42.8**	**+0.3**
CRIN				*i* S		**Sn**	**06 42 07.2**	**-1.3**
CRIN				IAML			06 42 13.9	
	comp=Z,830nm,1.0s							
CRIN	**San Cristobal**	**2.15**	**355**	*eP*		**Pn**	**06 41 43.3**	**+0.8**
SOCE	**Pocosol**	**2.22**	**94**	*i* P		**Pn**	**06 41 44.5**	**+1.2**
SOCE				IAML			06 42 19.0	
	comp=Z,81nm,1.0s							
CPMI	**Catarata Coope**	**2.46**	**96**	*eP*		**Pn**	**06 41 46.6**	**-0.2**
AMPA	**Desamparados**	**2.84**	**103**	*eP*		**Pn**	**06 41 51.3**	**-0.6**
CNCH	**Conchagua**	**2.88**	**341**	*i* P		**Pn**	**06 41 52.5**	**0.0**
CNCH				IAML			06 42 29.8	
	comp=Z,280nm,1.0s							
ABE2	**San Pablo**	**2.89**	**106**	*eP*		**Pn**	**06 41 54.4**	**+1.6**
TRIO	**Tres Rios**	**2.90**	**102**	*eP*		**Pn**	**06 41 52.7**	**-0.1**
LCND	**La Caada**	**2.93**	**340**	*i* P		**Pn**	**06 41 53.2**	**+0.2**
LCND				IAML			06 42 29.8	
	comp=Z,140nm,1.0s							
OCM	**Ochomogo**	**2.93**	**102**	*eP*		**Pn**	**06 41 53.2**	**-0.1**
RAFA	**San Farael, Vo**	**3.06**	**101**	*eP*		**Pn**	**06 41 55.4**	**+0.2**
CVTQ	**Turrialba Volc**	**3.10**	**100**	*eP*		**Pn**	**06 41 57.6**	**+1.9**
VTCV	**VTCV, Calle Va**	**3.14**	**100**	*eP*		**Pn**	**06 41 56.4**	**+0.3**
CDM	**Cerro de Muert**	**3.21**	**107**	*eP*		**Pn**	**06 41 58.6**	**+1.3**
BUS1	**Rivas**	**3.23**	**107**	*eP*		**Pn**	**06 41 56.8**	**-0.7**
PEZE	**Perez Zeledon,**	**3.35**	**110**	*eP*		**Pn**	**06 41 58.2**	**-0.6**
SCLA	**Alcaldia de Sa**	**3.63**	**330**	*i* P		**Pn**	**06 42 03.8**	**+1.0**
SCLA				IAML			06 42 51.4	
	comp=Z,35nm,1.0s							
COEG	**Centro de Oper**	**3.64**	**327**	*i* P		**Pn**	**06 42 03.6**	**+0.7**
COEG				*i* S		**Sn**	**06 42 44.4**	**-0.7**
COEG				IAML			06 42 49.1	
	comp=Z,49nm,1.0s							
SRBA	**San Rafael, Bu**	**3.69**	**110**	*eP*		**Pn**	**06 42 04.5**	**+0.8**
DRK0	**Durika**	**3.79**	**109**	*eP*		**Pn**	**06 42 04.1**	**-1.0**
JAYA	**Jayaque - finc**	**3.99**	**321**	*i* P		**Pn**	**06 42 08.9**	**+1.1**
JAYA				IAML			06 42 54.6	
	comp=Z,230nm,1.0s							

*JMA **20** 06:44:53.9±0.1, 24°.2N±0°.6×12°.2E±°, h16km, MV2.8/13, TAIWAN REGION*
*TAP **20** 06:44:54.3, 24°.21N×121°.63E, h19km, ML3.5, B*
*ASIES **20** 06:44:54.3, 24°.21N×121°.63E, h19km, ML3.5, Mw3.2, Moment Tensor Solution. Moment tensor: Scale 10^20^Nm; Mrr8.54; Mθθ-3.36; Mφφ-5.18; Mrθ0.28; Mrφ-3.93; Mθφ-3.15; Fault plane solution: M0 9.00044×10^20^ NP1: φs205.58000°, δ54.05000°, λ74.70000°. NP2: φs50.56000°, δ38.66000°, λ109.99000°. Principal axes: T Plg75.3010°, Azm68.2640°; N Plg12.3310°, Azm214.7020°; P Plg7.8770°, Azm306.4350°;*

ISC 20 06:44:54.2±0.8, 24°.20N±0°.01×121°.65E±0°.01, h19km±1km, n146, σ0s58/243, 14C-18D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
					Op		h m s	ISC
ETL	**Fush Village**	**0.04**	**206**	⇑	*i* P	**Pg**	**06 44 57.8**	**+0.1**
	baz=189							
ETL					S	**Sg**	**06 45 00.1**	**+0.1**
	baz=189							
NACB	**Ninganchiao**	**0.05**	**241**		P	**Pg**	**06 44 57.5**	**-0.2**
NACB	**Ninganchiao**	**0.05**	**241**	⇑	*i* P	**Pg**	**06 44 57.7**	**0.0**
	baz=227							
NACB					S	**Sg**	**06 45 00.0**	**0.0**
	baz=227							
TWD	**Chiawan**	**0.13**	**201**	⇑	*i* P	**Pg**	**06 44 58.4**	**+0.1**
	baz=191							
TWD					*i* S	**Sg**	**06 45 01.2**	**+0.1**
	baz=191							
EHP	**Heping Village**	**0.14**	**39**	⇑	*i* P	**Pg**	**06 44 58.7**	**+0.2**
	baz=46							
EHP					S	**Sg**	**06 45 01.7**	**+0.3**
	baz=46							
EAHA	**Aohua**	**0.15**	**34**	⇑	*i* P	**Pg**	**06 44 58.8**	**+0.1**
	baz=38							
EAHA					*e*S	**Sg**	**06 45 01.8**	**+0.1**
	baz=38							
HWA	**Hwalien**	**0.22**	**189**	⇑	*i* P	**Pg**	**06 45 00.2**	**+0.5**
	baz=190							
HWA					*e*S	**Sg**	**06 45 04.7**	**+1.4**
	baz=190							
ENA	**Nanau**	**0.24**	**21**	⇓	*i* P	**Pb**	**06 45 00.1**	**+0.2**
	baz=26							
ENA					S	**Sg**	**06 45 03.8**	**-0.1**
	baz=26							
ETM	**Tongmen**	**0.27**	**211**	⇑	P	**Pg**	**06 45 00.2**	**-0.2**
	baz=202							
ETM					*e*S	**Sb**	**06 45 03.9**	**-0.6**
	baz=202							
EWUT	**Wuta**	**0.27**	**26**	⇓	P	**Pb**	**06 45 00.6**	**+0.1**
	baz=29							
EWUT					S	**Sg**	**06 45 04.7**	**+0.1**
	baz=29							
LXIB	**Xiulin Townshi**	**0.28**	**230**	⇑	*i* P	**Pg**	**06 45 00.4**	**-0.2**
	baz=218							
LXIB					*e*S	**Sg**	**06 45 04.7**	**-0.2**
	baz=218							
NNSB	**Datong**	**0.33**	**314**	⇓	*i* P	**Pb**	**06 45 01.5**	**-0.2**
	baz=314							
NNSB					S	**Sg**	**06 45 06.0**	**-0.3**
	baz=314							
TEYL	**Yanliau Villag**	**0.33**	**187**		P	**Pg**	**06 45 00.9**	**-0.5**
	baz=185							
TEYL					*e*S	**Sb**	**06 45 07.0**	**+0.4**
	baz=185							
NNS	**Nan Shan**	**0.34**	**314**	⇓	*i* P	**Pb**	**06 45 01.7**	**-0.3**
	baz=315							
NNS					*e*S	**Sb**	**06 45 06.7**	**-0.4**
	baz=315							
LATG	**Datong**	**0.35**	**342**	⇓	*i* P	**Pg

FUSB	**Fushanzhiwuyua**	**0.56**	**355**	⇓	*i* P	**Pg**	**06 45 05.4**	**-0.1**
	baz=356								
FUSB					S	**Sb**	**06 45 12.6**	**-0.5**
	baz=356								
EGFH	**Guangfu**	**0.56**	**201**		*e* P	**Pb**	**06 45 05.2**	**-0.3**
EGFH	baz=199				*e* S	**Sg**	**06 45 13.2**	**+0.1**
	baz=199								
ILA	**Ilan**	**0.57**	**9**		*e* P	**Pg**	**06 45 05.9**	**+0.2**
ILA	baz=12				*e* S	**Sg**	**06 45 13.7**	**+0.3**
	baz=12								
EOS2	**EOS2**	**0.58**	**68**		*e* P	**Pn**	**06 45 07.5**	**+0.2**
	baz=56								
NWLT	**Wulai**	**0.59**	**347**	⇓	P	**Pg**	**06 45 06.0**	**-0.1**
NWLT	baz=341				S	**Sb**	**06 45 13.6**	**-0.3**
	baz=341								
EOS3	**EOS3**	**0.62**	**82**		*e* P	**Pn**	**06 45 08.4**	**+0.5**
	baz=82								
EOS4	**EOS4**	**0.62**	**97**		*e* P	**Pn**	**06 45 07.7**	**0.0**
	baz=98								
VWDT	**VWDT**	**0.64**	**226**	⇑	*i* P	**Pg**	**06 45 06.8**	**-0.2**
VWDT	baz=219				*e* S	**Sg**	**06 45 15.6**	**0.0**
	baz=219								
WHP	**Taichung City**	**0.64**	**277**		*e* P	**Pg**	**06 45 07.1**	**+0.1**
	baz=276								
WHP					*e* S	**Sg**	**06 45 15.5**	**-0.2**
	baz=276								
NFF	**Wufeng Townshi**	**0.65**	**312**	⇓	P	**Pg**	**06 45 07.0**	**-0.1**
	baz=319								
NFF					*e* S	**Sb**	**06 45 14.7**	**-0.8**
	baz=319								
NTC	**Toucheng**	**0.67**	**14**		*e* P	**Pg**	**06 45 07.9**	**+0.3**
	baz=16								
WCS	**Beigang Elemen**	**0.69**	**258**		*e* P	**Pg**	**06 45 07.7**	**0.0**
	baz=257								
WCS					*e* S	**Sb**	**06 45 16.1**	**-0.5**
	baz=257								
EGS		**0.69**	**22**	⇑	P	**Pg**	**06 45 08.1**	**+0.2**
	baz=24								
LIOB	**Emei**	**0.72**	**308**	⇓	P	**Pg**	**06 45 08.8**	**+0.3**
	baz=308								
LIOB					*e* S	**Sg**	**06 45 17.7**	**-0.5**
	baz=308								
NSTT	**Nanjuang**	**0.73**	**306**	⇓	*i* P	**Pg**	**06 45 08.6**	**0.0**
	baz=306								
NSTT					*e* S	**Sg**	**06 45 17.8**	**-0.5**
	baz=306								
HGSD	**Ruisui**	**0.73**	**196**		*e* P	**Pg**	**06 45 08.7**	**0.0**
	baz=204								
HGSD					*e* S	**Sn**	**06 45 20.3**	**+0.1**
	baz=204								
SMLT	**Sun Moon Lake**	**0.75**	**245**		*e* P	**Pg**	**06 45 09.0**	**0.0**
	baz=237								
SMLT					*e* S	**Sg**	**06 45 18.9**	**-0.2**
	baz=237								
EHY	**Hungye**	**0.75**	**203**		*e* P	**Pb**	**06 45 07.1**	**-1.7**
	baz=201								
EHY					*e* S	**Sb**	**06 45 18.3**	**-0.3**
	baz=201								
SSLB	**Suanglung**	**0.75**	**237**		P	**Pg**	**06 45 08.9**	**-0.2**
SSLB	**Suanglung**	**0.75**	**237**		*e* P	**Pg**	**06 45 08.9**	**-0.2**
	baz=235								
SSLB					*e* S	**Sb**	**06 45 17.9**	**-0.8**
	baz=235								
EHYH	**Wanrong**	**0.75**	**201**		*e* P	**Pb**	**06 45 08.5**	**-0.3**
	baz=200								
NHDH	**Xindian Distri**	**0.77**	**352**		*e* P	**Pg**	**06 45 09.5**	**+0.2**
	baz=346								
NHDH					*e* S	**Sg**	**06 45 19.2**	**-0.4**
	baz=346								
TYC	**Yuchr**	**0.78**	**248**		*e* P	**Pg**	**06 45 09.3**	**-0.2**
	baz=240								
TYC					*e* S	**Sb**	**06 45 18.7**	**-0.6**
	baz=240								
TWA	**Mucha**	**0.78**	**356**		*e* P	**Pg**	**06 45 09.6**	**0.0**
	baz=7.0								
TWA					*e* S	**Sb**	**06 45 19.1**	**-0.4**
	baz=7.0								
TATO	**Taipei**	**0.79**	**350**		P	**Pg**	**06 45 09.6**	**-0.1**
TIPB	**Shuangxi**	**0.79**	**12**		*i* P	**Pg**	**06 45 09.5**	**-0.2**
	baz=4.0								
TIPB					*e* S	**Sg**	**06 45 19.9**	**-0.3**
	baz=4.0								
TWQ1	**Liyutan**	**0.81**	**281**		*e* P	**Pn**	**06 45 10.6**	**0.0**
	baz=287								
TWQ1					*e* S	**Sn**	**06 45 22.2**	**0.0**
	baz=287								
NHY	**Taipei**	**0.84**	**355**		*e* P	**Pb**	**06 45 09.2**	**-1.0**
	baz=3.0								
SBCB	**Hsinchu**	**0.84**	**315**		P	**Pn**	**06 45 11.8**	**+0.6**
	baz=314								
SBCB					*e* S	**Sn**	**06 45 22.9**	**-0.1**
	baz=314								
TAP	**Taipei**	**0.85**	**351**		*e* P	**Pn**	**06 45 11.2**	**0.0**
	baz=347								
TAP					S	**Sg**	**06 45 22.2**	**+0.2**
	baz=347								
NMLH	**Miaoli**	**0.85**	**294**		*i* P	**Pn**	**06 45 11.8**	**+0.6**
	baz=293								
NMLH					*e* S	**Sn**	**06 45 23.1**	**0.0**
	baz=293								
HSN	**Hsinchu**	**0.86**	**314**		*e* P	**Pn**	**06 45 11.2**	**-0.2**
	baz=317								
HSN					*e* S	**Sn**	**06 45 22.6**	**-0.8**
	baz=317								
TWB1	**Santiao Chiao**	**0.86**	**21**		P	**Pg**	**06 45 11.1**	**0.0**
	baz=16								
TWB1					*i* S	**Sg**	**06 45 22.5**	**-0.1**
	baz=16								
YULB	**Yu-li**	**0.86**	**202**		P	**Pb**	**06 45 10.5**	**-0.2**
YULB	**Yu-li**	**0.86**	**202**		*e* P	**Pb**	**06 45 08.9**	**-1.7**
	baz=200								
YULB					*e* S	**Sb**	**06 45 21.3**	**-0.6**
	baz=200								
NCUH	**Zhongli**	**0.87**	**331**		P	**Pn**	**06 45 12.0**	**+0.4**
	baz=331								
NCUH					*i* S	**Sn**	**06 45 24.3**	**+0.5**
	baz=331								
NWF	**Wu-fen Shan**	**0.88**	**8**		P	**Pg**	**06 45 11.4**	**0.0**
	baz=9.0								
NWF					*e* S	**Sb**	**06 45 22.4**	**+0.1**
	baz=9.0								
WFSB	**Wu-fen Shan**	**0.88**	**8**		P	**Pg**	**06 45 11.3**	**0.0**
	baz=9.0								
WFSB					*e* S	**Sb**	**06 45 21.1**	**-1.1**
	baz=9.0								
WHYT	**Xinyi Township**	**0.88**	**235**		*e* P	**Pn**	**06 45 12.1**	**+0.5**
	baz=237								
WHYT					*e* S	**Sg**	**06 45 22.7**	**-0.5**
	baz=237								
TCU	**Taichung**	**0.89**	**267**		*e* P	**Pn**	**06 45 12.6**	**+0.9**
	baz=265								
TCU					*e* S	**Sn**	**06 45 25.4**	**+1.4**
	baz=265								
ECBN	**Changbin**	**0.90**	**191**		*e* P	**Pb**	**06 45 10.6**	**-0.6**
	baz=191								
EYUL	**Yuli**	**0.90**	**199**		*e* P	**Pb**	**06 45 11.6**	**+0.3**
	baz=206								
TWF1	**Yuli**	**0.90**	**201**		*e* P	**Pb**	**06 45 11.2**	**-0.1**
	baz=205								
TWF1					*e* S	**Sb**	**06 45 22.9**	**-0.1**
	baz=205								
SXI1	**Grass Mountain**	**0.92**	**13**		*i* P	**Pg**	**06 45 12.0**	**-0.1**
	baz=6.0								
SXI1					*e* S	**Sg**	**06 45 24.0**	**-0.3**
	baz=6.0								
WJS	**Zhushan**	**0.92**	**246**		*e* P	**Pn**	**06 45 13.2**	**+1.0**
	baz=241								
WJS					*e* S	**Sn**	**06 45 26.1**	**+1.2**
	baz=241								
TWS1	**Kuangyinshan**	**0.92**	**347**		*i* P	**Pn**	**06 45 12.7**	**+0.5**
	baz=353								
TWS1					*e* S	**Sn**	**06 45 25.5**	**+0.6**
	baz=353								
WDJ	**Dajia District**	**0.93**	**279**		*e* P	**Pn**	**06 45 13.4**	**+1.1**
	baz=285								
WDJ					*e* S	**Sn**	**06 45 25.8**	**+0.7**
	baz=285								
WNT	**Mingjian**	**0.94**	**250**		*e* P	**Pg**	**06 45 13.2**	**+0.7**
	baz=246								
WNT					*e* S	**Sn**	**06 45 26.4**	**+1.1**
	baz=246								
YM01	**YM01**	**0.94**	**356**		*i* P	**Pg**	**06 45 12.9**	**+0.2**
	baz=357								
YM01					*i* S	**Sn**	**06 45 25.6**	**0.0**
	baz=357								
TNOU	**National Taiwa**	**0.95**	**7**		*e* P	**Pg**	**06 45 13.0**	**+0.1**
	baz=8.0								
TNOU					*e* S	**Sb**	**06 45 24.6**	**+0.2**
	baz=8.0								
NTST	**Danshui**	**0.98**	**350**		*i* P	**Pg**	**06 45 13.8**	**+0.5**
	baz=359								
NTST					*i* S	**Sn**	**06 45 27.4**	**+1.1**
	baz=359								
YM08	**YM08**	**0.98**	**357**		*e* P	**Pg**	**06 45 13.3**	**-0.2**
	baz=346								
YM08					*e* S	**Sb**	**06 45 24.2**	**-1.2**
	baz=346								
ANP	**Anpu**	**0.99**	**353**		*e* P	**Pg**	**06 45 13.3**	**-0.2**
	baz=354								
ANP					*e* S	**Sg**	**06 45 26.4**	**-0.3**
	baz=354								
CHKH	**Chenggong**	**1.03**	**193**		*e* P	**Pb**	**06 45 12.2**	**-1.3**
	baz=192								
ALS	**Alishan**	**1.03**	**228**		*e* P	**Pg**	**06 45 14.1**	**-0.2**
	baz=212								
ALS					*e* S	**Sn**	**06 45 28.1**	**0.0**
	baz=212								
FULB	**Fuli**	**1.05**	**198**		*e* P	**Pg**	**06 45 15.1**	**+0.5**
	baz=206								
CHN5	**Tsauling**	**1.07**	**236**		P	**Pg**	**06 45 15.4**	**+0.4**
	baz=234								
CHN5					*e* S	**Sg**	**06 45 29.8**	**+0.7**
	baz=234								
TWY	**Chenhua**	**1.07**	**358**		*e* P	**Pg**	**06 45 15.0**	**-0.1**
	baz=347								
WGK	**Gukeng**	**1.11**	**243**		*e* P	**Pg**	**06 45 16.4**	**+0.6**
	baz=241								
EHD	**Haiduan**	**1.12**	**201**		*e* P	**Pn**	**06 45 14.2**	**-0.7**
	baz=199								
EHD					*e* S	**Sb**	**06 45 28.1**	**-1.1**
	baz=199								
CHKT	**Chengkung**	**1.12**	**193**		*e* P	**Pn**	**06 45 13.8**	**-1.1**
	baz=192								
WDLH	**Douliu**	**1.13**	**244**		*e* P	**Pg**	**06 45 16.2**	**0.0**
	baz=229								
WDLH					*e* S	**Sg**	**06 45 32.7**	**+1.6**
	baz=229								
ELDTW	**Lidau**	**1.16**	**210**		*e* P	**Pn**	**06 45 15.2**	**-0.4**
	baz=196								
ELDTW					*e* S	**Sb**	**06 45 30.6**	**+0.2**
	baz=196								
WRL	**Guolierlin Hig**	**1.20**	**256**		*e* P	**Pg**	**06 45 16.9**	**-0.6**
	baz=254								
WRL					*e* S	**Sg**	**06 45 34.1**	**+1.0**
	baz=254								
JYNG	**Yonaguni jima**	**1.21**	**78**		P	**Pb**	**06 45 16.7**	**+0.1**
JYNG					*e* S	**Sg**	**06 45 33.3**	**-0.3**
WCKO	**Fanlu**	**1.22**	**232**		*e* P	**Pg**	**06 45 18.4**	**+0.5**
	baz=216								
WCKO					S	**Sg**	**06 45 34.3**	**+0.5**
	baz=216								
WTK	**Tuku**	**1.26**	**246**		*e* P	**Pg**	**06 45 18.8**	**+0.2**
	baz=244								
WTK					*e* S	**Sg**	**06 45 35.9**	**+0.8**
	baz=244								
CHN2	**Minshiung**	**1.26**	**238**		*e* P	**Pg**	**06 45 19.6**	**+1.0**
	baz=237								
EDH	**Dahe**	**1.26**	**194**		*e* P	**Pn**	**06 45 16.8**	**-0.1**
	baz=194								
YOJ	**Yonaguni jima**	**1.27**	**78**		P	**Pn**	**06 45 17.3**	**+0.3**
YOJ	**Yonaguni jima**	**1.27**	**78**		P	**Pb**	**06 45 17.6**	**0.0**
YOJ					S	**Sg**	**06 45 35.0**	**-0.5**
YOJ	**Yonaguni jima**	**1.27**	**78**		*i* P	**Pb**	**06 45 17.6**	**0.0**
	baz=77								
YOJ					*i* S	**Sg**	**06 45 35.5**	**0.0**
	baz=77								
CHN4	**Tsaushan**	**1.28**	**229**		*e* P	**Pg**	**06 45 19.1**	**+0.1**
	baz=214								
CHN4					*e* S	**Sg**	**06 45 37.8**	**+2.0**
	baz=214								
TPUB	**Ta-pu**	**1.29**	**226**		P	**Pg**	**06 45 18.8**	**-0.4**
TPUB	**Ta-pu**	**1.29**	**226**		*e* P	**Pg**	**06 45 18.5**	**-0.7**
	baz=210								
STYH	**Taoyuan**	**1.30**	**218**		*e* P	**Pg**	**06 45 19.1**	**-0.2**
	baz=204								
WTP	**Ta-pu**	**1.34**	**225**		*e* P	**Pg**	**06 45 19.8**	**-0.3**
	baz=209								
TWK	**Hsinying**	**1.41**	**229**		*e* P	**Pg**	**06 45 20.9**	**-0.6**
	baz=212								
WSF	**Szhu**	**1.42**	**247**		*e* P	**Pb**	**06 45 20.4**	**+0.3**
	baz=254								
WSF					*e* S	**Sg**	**06 45 39.7**	**-0.4**
	baz=254								
SNST	**Tainan City**	**1.43**	**227**		*e* P	**Pg**	**06 45 21.5**	**-0.4**
	baz=211								
SNST					*e* S	**Sg**	**06 45 41.1**	**+0.4**
	baz=211								
CHN1	**Nanshi**	**1.44**	**226**		*e* P	**Pg**	**06 45 21.4**	**-0.7**
	baz=209								
CHN1					*e* S	**Sg**	**06 45 41.0**	**+0.2**
	baz=209								
WSL	**Shuilin Townsh**	**1.46**	**243**		*e* P	**Pg**	**06 45 21.8**	**-0.7**
	baz=240								
WSL					*e* S	**Sg**	**06 45 42.4**	**+0.9**
	baz=240								
TWG	**Pinlang**	**1.47**	**201**		*e* P	**Pn**	**06 45 20.4**	**+0.6**
	baz=186								
TWGBT	**Beinan**	**1.47**	**201**		P	**Pg**	**06 45 22.1**	**-0.5**
TWGBT	**Beinan**	**1.47**	**201**		*e* P	**Pn**	**06 45 19.6**	**-0.1**
	baz=186								
PCYT	**Pengchaiyu**	**1.48**	**15**		*e* P	**Pb**	**06 45 21.1**	**0.0**
	baz=16								
SGST	**Jiashian**	**1.48**	**221**		*e* P	**Pg**	**06 45 22.1**	**-0.7**
	baz=206								
SGST					*e* S	**Sg**	**06 45 41.7**	**-0.3**
	baz=206								
ICHU	**Yijhu**	**1.50**	**237**		*e* P	**Pb**	**06 45 22.0**	**+0.4**
	baz=217								
ICHU					*e* S	**Sg**	**06 45 42.6**	**-0.3**
	baz=217								
SLGT	**Liugui**	**1.51**	**218**		*e* P	**Pb**	**06 45 21.6**	**-0.1**
	baz=208								
SLGT					*e* S	**Sg**	**06 45 42.7**	**-0.4**
	baz=208								
LDUT	**Ludao**	**1.53**	**186**		*e* P	**Pn**	**06 45 18.3**	**-2.3**
	baz=199								
SHHT	**Tainan City**	**1.67**	**226**		*e* P	**Pg**	**06 45 25.9**	**-0.5**
	baz=223								
SCST	**Cishan**	**1.68**	**219**		*e* P	**Pb**	**06 45 25.2**	**+0.6**
	baz=217								
SSD	**Sandimen**	**1.72**	**213**		*e* P	**Pb**	**06 45 25.6**	**+0.4**
	baz=211								
TSMG	**Majia**	**1.75**	**212**		*e* P	**Pb**	**06 45 25.3**	**-0.5**
	baz=210								
TSCK	**Chigu Township**	**1.77**	**234**		*e* P	**Pb**	**06 45 26.3**	**+0.1**
	baz=214								
TSCK					*i* S	**Sb**	**06 45 49.4**	**+1.5**
	baz=214								
MASBT	**Mashibuluo**	**1.83**	**211**		*e* P	**Pb**	**06 45 26.4**	**-0.8**
	baz=209								
IRIF	**Iriomote-Funau**	**1.91**	**86**		*e* P	**Pn**	**06 45 25.9**	**+0.1**
IRIF					*e* S	**Sn**	**06 45 49.8**	**+0.5**
PNG	**Penghu**	**2.01**	**252**		*e* P	**Pn**	**06 45 28.0**	**+0.8**
	baz=249								
PHUB	**P'eng-hu**	**2.02**	**251**		*e* P	**Pn**	**06 45 27.7**	**+0.4**
	baz=247								
PHUB					*e* S	**Sb**	**06 45 53.6**	**-1.5**
	baz=247								
WDGT	**Dungji**	**2.04**	**243**		*e* P	**Pn**	**06 45 28.9**	**+1.3**
	baz=240								
SCZT	**Fangliau**	**2.05**	**208**		*e* P	**Pb**	**06 45 30.6**	**-0.2**
	baz=198								
VWUC	**VWUC**	**2.15**	**292**		*e* P	**Pn**	**06 45 28.4**	**-0.6**
	baz=291								
JKRS	**Kuro-shima**	**2.16**	**89**		*e* P	**Pn**	**06 45 30.7**	**+1.5**
JKRS					*e* S	**Sb**	**06 45 58.6**	**-0.6**
JIJ	**Ishigaki jima**	**2.29**	**85**		P	**Pn**	**06 45 31.4**	**+0.5**
JIJ					S	**Sn**	**06 45 59.1**	**+0.5**
PTMZ	**Houxiangcun**	**2.45**	**291**		*e* P	**Pn**	**06 45 32.8**	**-0.4**
	baz=289								
JISG	**Ishigakijimahi**	**2.46**	**80**		P	**Pn**	**06 45 34.0**	**+0.6**
MATB	**Ma-tsu**	**2.48**	**322**		*e* P	**Pn**	**06 45 33.3**	**-0.3**
	baz=321								
KNM	**Kinmen**	**2.94**	**275**		*e* P	**Pn**	**06 45 41.7**	**+1.8**
	baz=272								
KNMB	**Chin-men Tao**	**2.98**	**276**		*e* P	**Pn**	**06 45 40.5**	**0.0**
	baz=273								
MHZQ	**Yeshan**	**3.03**	**309**		*e* P	**Pn**	**06 45 40.9**	**-0.3**
	baz=309								
ZPLA	**Ao Xicun**	**3.57**	**266**		*e* P	**Pn**	**06 45 48.3**	**-0.3**
	baz=261								
SXFK	**Yanhouchang**	**4.23**	**302**		*e* P	**Pn**	**06 45 57.8**	**0.0**
	baz=302								

UPP ***20*** *06:48:35.8±1.9,57.72N×22.12E, h0km, ML2.7*
DNK ***20*** *06:48:36.1±0.9,57.61N×22.51E, h35km±22km, ML2.2*
HEL ***20*** *06:48:37.9±0.1,57.80N×21.85E, h0km, ML2.2, Explosion*
EST ***20*** *06:48:37.9±0.1,57.80N×21.84E, h0km, ML2.2(HEL), Explosion*
LVSN ***20*** *06:48:39.4±4.5,57.66N×21.80E, h0km±26km, ML2.7*
IDC ***20*** *06:48:40.3±2.9,58.03N×21.79E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=32.8km s-min=12.4km az=159.0*

ISC 20 06:48:37.3±0.8, 57.76N±0.03×21.88E±0.02, h0km, n68, σ1°01/95, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.26**	**121**		*e* P	**Pg**	**06 48 42.1**		**0.0**
SLIT	**Slitere, Latvi**	**0.26**	**121**		*e* P	**Pg**	**06 48 42.7**		**+0.5**
SLIT					*e* S	**Sg**	**06 48 46.5**		**+1.0**
SLIT					AML	AML	06 49 01.6		
	comp=Z,4μm,0.6s								
SLIT					AML	AML	06 49 01.8		
	comp=N,5μm,0.6s								
SLIT					AML	AML	06 49 02.1		
	comp=E,6μm,0.6s								
SLIT	**Slitere, Latvi**	**0.26**	**121**		*e* P	**Pg**	**06 48 42.7**		**+0.5**
SLIT					*e* S	**Sg**	**06 48 46.5**		**+1.0**
MTSE	**Matsula**	**1.40**	**46**		*e* P	**Pn**	**06 49 03.7**		**-0.4**
MTSE	**Matsula**	**1.40**	**46**		*e* P	**Pn**	**06 49 03.9**		**-0.2**
MTSE					*e* S	**Sn**	**06 49 23.9**		**+0.7**
MTSE	**Matsula**	**1.40**	**46**		*e* P	**Pn**	**06 49 02.7**		**-1.4**
MTSE					*e* SB	**Sg**	**06 49 20.9**		**-1.3**
EE01	**Perakula, Nova**	**1.72**	**32**		*e* P	**Pn**	**06 49 08.0**		**-0.4**
EE01					*e* SN	**Sn**	**06 49 31.6**		**+0.6**
PBUR	**Paburge**	**1.74**	**179**		*e* P	**Pn**	**06 49 08.4**		**-0.3**
PBUR	**Paburge**	**1.74**	**179**		*e* P	**Pn**	**06 49 08.6**		**-0.1**
PBUR					AML	AML	06 49 10.2		
	comp=Z,47nm,0.1s								
PBUR					AML	AML	06 49 36.3		
	comp=E,68nm,0.1s								
PBUR					AML	AML	06 49 37.0		
	comp=N,63nm,0.1s								
PBUR	**Paburge**	**1.74**	**179**		*e* P	**Pn**	**06 49 08.6**		**-0.1**
PBUR					*e* SN	**Sg**	**06 49 33.5**		**+0.3**
GOTU	**Gotland**	**1.78**	**269**		*e* P	**Pn**	**06 49 09.1**		**-0.1**
GOTU					*e* SN	**Sb**	**06 49 33.8**		**+0.2**
GOTU	**Gotland**	**1.78**	**269**		P	**Pn**	**06 49 09.1**		**-0.1**
GOTU					S	**Sb**	**06 49 33.7**		**+0.2**
GOTU	**Gotland**	**1.78**	**269**		P	**Pn**	**06 49 09.1**		**-0.1**
GOTU					S	**Sb**	**06 49 33.7**		**+0.2**
EE08	**Sarghaua, Vand**	**1.99**	**62**		*e* P	**Pn**	**06 49 12.5**		**+0.3**
EE08					*e* SB	**Sn**	**06 49 38.6**		**+0.8**
EE02	**Kiisa, Saku**	**2.06**	**45**		*e* P	**Pn**	**06 49 14.1**		**+1.0**
EE02					*e* SG	**Sb**	**06 49 41.5**		**-0.2**
EE02					*e* SB	**Sn**	**06 49 41.8**		**+2.3**
VSVD	**Vaisvydziai**	**2.11**	**147**		*e* P	**Pn**	**06 49 14.3**		**+0.5**
PABE	**Paberze**	**2.54**	**152**		*e* P	**Pn**	**06 49 20.6**		**+0.9**
PABE	**Paberze**	**2.54**	**152**		*e* P	**Pn**	**06 49 21.2**		**+1.5**
PABE	**Paberze**	**2.54**	**152**		*e* P	**Pn**	**06 49 21.1**		**+1.4**
NRTU	**Norrtaelje**	**2.56**	**320**		*e* P	**Pn**	**06 49 20.1**		**+0.1**
NRTU					*e* SG	**Sb**	**06 49 56.8**		**+0.7**
NRTU	**Norrtaelje**	**2.56**	**320**		P	**Pn**	**06 49 20.2**		**+0.2**
NRTU					S	**Sn**	**06 49 53.0**		**+1.2**
NRTU	**Norrtaelje**	**2.56**	**320**		P	**Pn**	**06 49 20.2**		**+0.2**
NRTU					S	**Sn**	**06 49 53.0**		**+1.2**
EE03	**Tooma soojaam,**	**2.57**	**62**		*e* P	**Pn**	**06 49 20.4**		**+0.3**
EE03					*e* PB	**Pb**	**06 49 22.3**		**-2.0**
EE03					*e* SB	**Sb**	**06 49 55.6**		**-0.8**
AAL	**Aland**	**2.62**	**339**		*e* P	**Pn**	**06 49 19.8**		**-0.9**
AAL	**Aland**	**2.62**	**339**		*e* P	**Pn**	**06 49 20.1**		**-0.5**
AAL					*e* SG	**Sb**	**06 49 57.0**		**-0.6**
AAL	**Aland**	**2.62**	**339**		P	**Pn**	**06 49 20.2**		**-0.5**
AAL	**Aland**	**2.62**	**339**		P	**Pn**	**06 49 20.2**		**-0.5**
BYXU	**Byxelkrok**	**2.67**	**262**		P	**Pn**	**06 49 22.1**		**+0.7**
BYXU	**Byxelkrok**	**2.67**	**262**		P	**Pn**	**06 49 22.1**		**+0.7**
VSU	**Vasula**	**2.67**	**73**		*e* P	**Pn**	**06 49 22.0**		**+0.5**
VSU					AML	AML	06 49 24.4		
	comp=Z,37nm,0.2s								
VSU					*e* S	**Sb**	**06 49 58.0**		**-1.2**
VSU					AML	AML	06 50 01.7		
	comp=N,41nm,0.2s								
VSU					AML	AML	06 50 06.4		
	comp=E,47nm,0.3s								
VSU	**Vasula**	**2.67**	**73**		*e* P	**Pn**	**06 49 21.9**		**+0.4**
ARBE	**Arbavere**	**2.73**	**50**		*e* P	**Pn**	**06 49 24.4**		**+2.1**
ARBE	**Arbavere**	**2.73**	**50**		*e* P	**Pn**	**06 49 24.7**		**+2.4**
ARBE					*e* S	**Sb**	**06 49 59.4**		**-1.4**
ARBE	**Arbavere**	**2.73**	**50**		*e* P	**Pn**	**06 49 23.3**		**+1.0**
ARBE					*e* SB	**Sb**	**06 49 59.5**		**-1.4**
MEF	**Metsahovi**	**2.79**	**27**		*e* P	**Pn**	**06 49 23.9**		**+0.8**
MEF	**Metsahovi**	**2.79**	**27**		*e* P	**Pb**	**06 49 26.4**		**-1.6**
MEF					*e* S	**Sb**	**06 50 01.4**		**-1.2**
MEF	**Metsahovi**	**2.79**	**27**		*e* PB	**Pn**	**06 49 24.6**		**+1.5**
MEF					*e* SG	**Sb**	**06 50 02.2**		**-0.3**
MEF					MSG		06 50 03.4		
	comp=Z,11nm,0.1s								
VIKU	**Vikbolandet**	**2.85**	**287**		*e* P	**Pn**	**06 49 24.1**		**+0.2**
VIKU	**Vikbolandet**	**2.85**	**287**		P	**Pn**	**06 49 24.6**		**+0.7**
VIKU	**Vikbolandet**	**2.85**	**287**		P	**Pn**	**06 49 24.6**		**+0.7**
VSTU	**Vaestervik**	**2.87**	**270**		P	**Pn**	**06 49 25.1**		**+0.9**
VSTU	**Vaestervik**	**2.87**	**270**		P	**Pn**	**06 49 25.1**		**+0.9**
HEL1	**Helsinki**	**2.88**	**31**		*e* PB	**Pn**	**06 49 26.9**		**+2.6**
HEL1					*e* SG	**Sb**	**06 50 05.4**		**+0.2**
NUR	**Nurmijrvi**	**3.10**	**26**		*e* PB	**Pn**	**06 49 30.3**		**+2.9**
NUR					MSG		06

DZM	**Mont Dzumac**	**13.77**	**250**	P		**P**	06 52 29.3	-0.8
	2.6nm,0.5s,baz=85,slow=20,SNR=2.2							
STKA	**Stephens Creek**	**37.66**	**241**	P		**P**	06 55 59.5	+1.1
	2.9nm,0.4s,baz=99,slow=11,SNR=12							
	2.9nm,0.4s							
WRA	**Warramunga Arr**	**43.52**	**260**	P		**P**	06 56 44.7	-0.2
	2.7nm,0.6s,baz=93,slow=6.8,SNR=28							
WRA				PcP		**PcP**	06 58 18.0	-0.3
	0.4nm,0.5s,baz=89,slow=4.0,SNR=2.0							
	2.7nm,0.6s							
ASAR	**Alice Springs**	**43.71**	**254**	P		**P**	06 56 47.0	+0.6
	23nm,0.5s,baz=88,slow=8.2,SNR=368							
ASAR				PcP		**PcP**	06 58 19.5	+0.5
	0.6nm,0.6s,baz=101,slow=4.3,SNR=2.8							
ASAR				ScP		**ScP**	07 01 13.9	+1.5
	0.3nm,0.7s,baz=106,slow=4.9,SNR=2.1							
VNDA	**Vanda**	**60.41**	**185**	P		**P**	06 58 44.4	0.0
	0.4nm,0.5s,baz=8.7,slow=9.1,SNR=3.1							
	0.4nm,0.5s							
QSPA	**South Pole Qui**	**72.21**	**180**	P		**P**	06 59 57.4	+0.1
	3.0nm,0.6s,baz=59,slow=15,SNR=23							
	3.0nm,0.6s							
NVAR	**Mina Array Bea**	**80.17**	**44**	P		**P**	07 00 40.9	-0.6
	0.4nm,0.7s,baz=230,slow=6.3,SNR=3.9							
	0.4nm,0.7s							
ILAR	**Eielson Array**	**86.09**	**13**	P		**P**	07 01 09.2	-0.6
	0.5nm,0.8s,baz=247,slow=6.1,SNR=6.5							
	0.5nm,0.8s							
TXAR	**Lajitas Array**	**86.93**	**58**	P		**P**	07 01 16.4	+1.6
	1.2nm,0.9s,baz=224,slow=5.2,SNR=9.9							
	1.2nm,0.9s							
PDAR	**Pinedale Array**	**88.09**	**44**	P		**P**	07 01 20.7	+0.6
	0.2nm,0.4s,baz=221,slow=5.4,SNR=3.1							
	0.2nm,0.4s							
SNAA	**Sanae**	**90.68**	**179**	P		**P**	07 01 30.3	-1.2
	1.8nm,0.9s,baz=238,slow=13,SNR=2.3							
	1.8nm,0.9s							
YKA	**Yellowknife Ar**	**94.75**	**25**	P		**P**	07 01 49.7	-0.2
	0.3nm,0.9s,baz=241,slow=4.7,SNR=2.5							
	0.3nm,0.9s							
SPITS	**Spitsbergen Ar**	**119.13**	**356**	PKP		**PKPdf**	07 07 10.8	-1.9
	11nm,1.1s,baz=57,slow=5.3,SNR=4.5							
ARCES	**ARCESS Array B**	**126.05**	**349**	PKP		**PKiKP**	07 07 26.5	-0.1
	3.2nm,0.9s,baz=19,slow=1.7,SNR=8.1							
FINES	**FINESS Array B**	**132.81**	**344**	PKP		**PKPdf**	07 07 39.7	+0.5
	0.4nm,0.4s,baz=66,slow=1.7,SNR=8.0							
BRTR	**Keskin Array B**	**143.93**	**314**	PKP		**PKPdf**	07 08 00.4	+0.1
	1.1nm,0.6s,baz=46,slow=3.1,SNR=6.4							
MMAI	**Mount Meron Ar**	**145.15**	**302**	PKPbc		**PKPab**	07 08 04.7	-0.3
	1.1nm,0.4s,baz=74,slow=4.4,SNR=4.6							
MLR	**Muntele Rosu**	**145.18**	**328**	PKPbc		**PKPbc**	07 08 04.0	+0.6
	1.6nm,0.7s,baz=328,slow=12,SNR=4.0							
GERES	**GERESS Array B**	**147.24**	**344**	PKPbc		**PKPbc**	07 08 09.3	+0.5
	1.1nm,0.5s,baz=72,slow=2.2,SNR=5.5							
CONA	**Conrad Observa**	**147.44**	**341**	*e*PKP		**PKiKP**	07 08 10.4	-0.5
	1.4nm,0.6s							
RONA	**Rosalia, Austr**	**147.50**	**340**	*e*PKP		**PKiKP**	07 08 10.4	-0.6
	3.5nm,0.8s							
SOKA	**Soboth**	**148.81**	**340**	*i* PKP		**PKiKP**	07 08 13.3	-0.5
	0.5nm,0.4s							
LESA	**Schwarzleotal**	**148.82**	**344**	*i* PKP		**PKiKP**	07 08 13.7	-0.1
	1.2nm,0.4s							
WTTA	**Wattenberg**	**149.24**	**345**	*i* PKP		**PKiKP**	07 08 14.7	0.0
	2.4nm,0.4s							
MOTA	**Moosalm**	**149.29**	**346**	*i* PKP		**PKiKP**	07 08 15.0	+0.1
	1.5nm,0.4s							
SQTA	**Sankt Quirin**	**149.38**	**345**	*e*PKP		**PKiKP**	07 08 14.9	-0.1
	3.2nm,0.7s							
ABTA	**Abfaltersbach**	**149.49**	**343**	*i* PKP		**PKiKP**	07 08 14.8	-0.3
	1.8nm,0.6s							
FETA	**Feichten**	**149.68**	**346**	*e*PKP		**PKiKP**	07 08 16.0	+0.3
	1.9nm,0.7s							

*NOU **20** 06:52:36.6,38°.71S×175°.11E,h259km,MLv3.6/9, North Island, New Zealand*
*WEL **20** 06:52:41.7±0.7,39°.5±6°×17°.5E±°, h214km±5km, M2.8/33, ML2.3/6,MLv2.8/33,Error ellipse: s-maj=0.0km s-min=0.0km az=136.1,confirmed*
ISC 20 06:52:35.9±2.0, 38°.76S±0°.08×175°.09E±0°.07, h254km±10km, n95, σ1$79/105, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIZ	**Hauiti**	**0.31**	**323**	P	**Pn**	**06 53 10.8**	**+1.9**
TWVZ	**Taurewa**	**0.41**	**139**	P	**Pn**	**06 53 10.8**	**+1.7**
VRZ	**Vera Road**	**0.45**	**215**	P	**Pn**	**06 53 10.8**	**+1.8**
WTVZ	**West Tongariro**	**0.53**	**133**	P	**Pn**	**06 53 11.3**	**+1.8**
WTVZ				S	**S**	**06 53 34.8**	**-1.1**
KRVZ	**Karewarewa**	**0.55**	**128**	P	**Pn**	**06 53 11.3**	**+1.8**
NNVZ	**North Ngauruho**	**0.55**	**132**	P	**Pn**	**06 53 11.5**	**+1.9**
NNVZ				S	**S**	**06 53 35.6**	**-0.5**
COVZ	**Chateau Observ**	**0.56**	**141**	P	**Pn**	**06 53 11.4**	**+1.8**
COVZ				S	**S**	**06 53 34.1**	**-2.0**
PKVZ	**Pokaka**	**0.57**	**159**	P	**Pn**	**06 53 11.3**	**+1.8**
NTVZ	**North Tongariro**	**0.57**	**127**	P	**Pn**	**06 53 11.6**	**+2.0**
NGZ	**Ngauruhoe**	**0.58**	**136**	P	**Pn**	**06 53 11.5**	**+1.9**
TMVZ	**Te Maari**	**0.60**	**127**	P	**Pn**	**06 53 11.7**	**+2.0**
TMVZ				S	**S**	**06 53 35.0**	**-1.3**
ETVZ	**East Tongariro**	**0.61**	**128**	P	**Pn**	**06 53 11.7**	**+2.0**
ETVZ				S	**S**	**06 53 34.1**	**-2.3**
FWVZ	**Far West T-bar**	**0.61**	**144**	P	**Pn**	**06 53 11.6**	**+1.8**
FWVZ				S	**S**	**06 53 34.3**	**-2.3**
MAVZ	**Matarangi**	**0.63**	**144**	P	**Pn**	**06 53 11.9**	**+1.9**
MAVZ				S	**S**	**06 53 34.6**	**-2.3**
RITZ	**Rihia Road**	**0.64**	**110**	P	**Pn**	**06 53 11.3**	**+1.6**
TRVZ	**Turoa**	**0.65**	**147**	P	**Pn**	**06 53 11.8**	**+1.9**
WHVZ	**Whangaehu Hut**	**0.65**	**144**	P	**Pn**	**06 53 12.0**	**+2.0**
WHVZ				S	**S**	**06 53 34.4**	**-2.5**
WNVZ	**Wahianoa**	**0.69**	**145**	P	**Pn**	**06 53 12.1**	**+2.0**
WNVZ				S	**S**	**06 53 33.9**	**-3.1**
MOVZ	**Moawhango**	**0.83**	**142**	P	**Pn**	**06 53 11.9**	**+1.4**
MOVZ				S	**S**	**06 53 35.2**	**-2.7**
LREZ	**Lake Rotokare**	**0.88**	**217**	P	**Pn**	**06 53 12.9**	**+2.3**
NEZ	**North Egmont**	**0.93**	**236**	P	**Pn**	**06 53 13.6**	**+2.6**
PREZ	**Palmer Road**	**0.93**	**231**	P	**Pn**	**06 53 13.3**	**+2.4**
WAZ	**Wanganui**	**1.00**	**185**	P	**Pn**	**06 53 13.5**	**+2.2**
MRHZ	**Matea Rd**	**1.04**	**95**	P	**Pn**	**06 53 12.8**	**+1.2**
BHHZ	**Black Hill Sta**	**1.05**	**134**	P	**Pn**	**06 53 13.2**	**+1.6**
TOZ	**Tahuroa Road**	**1.08**	**18**	P	**Pn**	**06 53 13.5**	**+1.7**
BKZ	**Black Stump Fm**	**1.17**	**111**	P	**Pn**	**06 53 14.0**	**+1.7**
BKZ	**Black Stump Fm**	**1.17**	**111**	P	**Pn**	**06 53 13.9**	**+1.5**
KWHZ	**Kaweka Forest**	**1.23**	**123**	P	**Pn**	**06 53 14.9**	**+2.1**
KRHZ	**Kereru**	**1.33**	**132**	P	**Pn**	**06 53 15.4**	**+2.0**
MUGZ	**Murupara**	**1.35**	**78**	P	**Pn**	**06 53 15.7**	**+2.2**
MTHZ	**Maungataniwha**	**1.37**	**94**	P	**Pn**	**06 53 15.4**	**+1.7**
MCHZ	**McNeill Hill**	**1.43**	**119**	P	**Pn**	**06 53 16.6**	**+2.6**
PNHZ	**Pukenui**	**1.44**	**144**	P	**Pn**	**06 53 16.2**	**+2.1**
OHWZ	**Ohakea**	**1.46**	**173**	P	**Pn**	**06 53 15.6**	**+1.5**
TSZ	**Takapari Road**	**1.46**	**153**	P	**Pn**	**06 53 16.4**	**+2.1**
ARHZ	**Aropaoanui**	**1.57**	**109**	P	**Pn**	**06 53 17.4**	**+2.3**
URZ	**Urewera**	**1.66**	**73**	P	**Pn**	**06 53 16.6**	**+0.8**
URZ	**Urewera**	**1.66**	**73**	P	**Pn**	**06 53 16.6**	**+0.8**
WPHZ	**Waipukurau**	**1.67**	**142**	P	**Pn**	**06 53 18.0**	**+2.1**
POWZ	**Post Office Ro**	**1.71**	**162**	P	**Pn**	**06 53 18.1**	**+2.0**
KAHZ	**Kahuranaki**	**1.73**	**127**	P	**Pn**	**06 53 18.7**	**+2.4**
DVHZ	**Dannevirke**	**1.75**	**152**	P	**Pn**	**06 53 18.3**	**+1.8**
PXZ	**Pawanui**	**1.87**	**133**	P	**Pn**	**06 53 19.5**	**+2.0**
PRWZ	**Pori Road**	**1.92**	**160**	P	**Pn**	**06 53 20.0**	**+2.1**
PRHZ	**Porangahau**	**1.92**	**142**	P	**Pn**	**06 53 20.0**	**+2.1**
MRZ	**Mangatainoka R**	**1.94**	**169**	P	**Pn**	**06 53 19.8**	**+1.8**
MWZ	**Matawai**	**1.96**	**78**	P	**Pn**	**06 53 19.6**	**+1.2**
ANWZ	**Angora Road**	**2.01**	**148**	P	**Pn**	**06 53 20.7**	**+2.1**
OGWZ	**Otaki Gorge**	**2.06**	**178**	P	**Pn**	**06 53 21.1**	**+2.0**
RIGZ	**Rimuhau**	**2.09**	**89**	P	**Pn**	**06 53 21.4**	**+1.8**
KIW	**Kapiti Island**	**2.10**	**184**	P	**Pn**	**06 53 21.3**	**+1.7**
BFZ	**Birch Farm**	**2.12**	**155**	P	**Pn**	**06 53 21.2**	**+1.5**
BFZ	**Birch Farm**	**2.12**	**155**	P	**Pn**	**06 53 21.4**	**+1.7**
HOWZ	**Holdsworth Sta**	**2.16**	**171**	P	**Pn**	**06 53 20.4**	**+0.3**
RUGZ	**Raukumara Rang**	**2.18**	**70**	P	**Pn**	**06 53 20.8**	**+0.3**
PRGZ	**Paritu Road**	**2.19**	**95**	P	**Pn**	**06 53 22.4**	**+2.0**
DUWZ	**D'Urville Isla**	**2.23**	**203**	P	**Pn**	**06 53 22.7**	**+1.9**
HAZ	**Te Kaha**	**2.34**	**66**	P	**Pn**	**06 53 22.5**	**+0.6**
CAW	**Cannon Point**	**2.35**	**180**	P	**Pn**	**06 53 23.6**	**+1.7**
MTW	**Mount Morrison**	**2.42**	**173**	P	**Pn**	**06 53 23.8**	**+1.3**
TMWZ	**Te Maipa**	**2.42**	**166**	P	**Pn**	**06 53 24.1**	**+1.5**
CNGZ	**Carnagh Statio**	**2.46**	**85**	P	**Pn**	**06 53 24.8**	**+1.9**
PKGZ	**Pakihiroa**	**2.50**	**71**	P	**Pn**	**06 53 24.9**	**+1.3**
TCW	**Tory Channel**	**2.53**	**194**	P	**Pn**	**06 53 25.6**	**+2.0**
SNZO	**South Karori**	**2.56**	**186**	P	**Pn**	**06 53 25.6**	**+1.7**
PUZ	**Puketiti**	**2.58**	**76**	P	**Pn**	**06 53 25.5**	**+1.2**
BHW	**Baring Head**	**2.65**	**184**	P	**Pn**	**06 53 26.4**	**+1.5**
WMGZ	**Waiomatatini S**	**2.78**	**71**	P	**Pn**	**06 53 27.6**	**+1.4**
NNZ	**Nelson**	**2.79**	**208**	P	**Pn**	**06 53 27.8**	**+1.5**
TKNZ	**Takaka Hill**	**2.80**	**215**	P	**Pn**	**06 53 27.7**	**+1.3**
TUWZ	**Tuamarina**	**2.81**	**198**	P	**Pn**	**06 53 28.4**	**+1.9**
PLWZ	**Palliser**	**2.81**	**177**	P	**Pn**	**06 53 27.9**	**+1.4**
QRZ	**Quartz Range**	**2.85**	**223**	P	**Pn**	**06 53 28.2**	**+1.2**
QRZ	**Quartz Range**	**2.85**	**223**	P	**Pn**	**06 53 28.0**	**+1.1**
CMWZ	**Cape Campbell**	**3.06**	**192**	P	**Pn**	**06 53 31.5**	**+2.3**
BSWZ	**Blackbirch Sta**	**3.10**	**197**	P	**Pn**	**06 53 31.6**	**+2.0**
MRNZ	**Matariki Terra**	**3.19**	**213**	P	**Pn**	**06 53 31.5**	**+1.0**
THZ	**Tophouse**	**3.43**	**208**	P	**Pn**	**06 53 34.6**	**+1.3**
KHZ	**Kahutara**	**3.84**	**197**	P	**Pn**	**06 53 39.4**	**+1.6**
KHZ	**Kahutara**	**3.84**	**197**	P	**Pn**	**06 53 39.6**	**+1.7**
GVZ	**Greta Valley S**	**4.48**	**200**	P	**Pn**	**06 53 46.9**	**+1.5**
INZ	**Inchbonnie**	**4.83**	**214**	P	**Pn**	**06 53 50.9**	**+1.2**
OXZ	**Oxford**	**5.11**	**206**	P	**Pn**	**06 53 53.8**	**+0.7**
MQZ	**McQueen's Vall**	**5.27**	**200**	P	**Pn**	**06 53 55.3**	**+0.3**
AKCZ	**Akaroa Harbour**	**5.37**	**197**	P	**Pn**	**06 53 57.1**	**+1.0**
RACZ	**Rakaia**	**5.44**	**203**	P	**Pn**	**06 53 57.6**	**+0.6**
MHCZ	**Mount Hutt**	**5.46**	**208**	P	**Pn**	**06 53 58.1**	**+0.8**
WACZ	**Wakanui South**	**5.73**	**204**	P	**Pn**	**06 54 01.4**	**+0.9**
RPZ	**Rata Peaks**	**5.81**	**210**	P	**Pn**	**06 54 03.1**	**+1.5**
RPZ	**Rata Peaks**	**5.81**	**210**	P	**Pn**	**06 54 02.2**	**+0.5**
ARCZ	**Arundel**	**5.96**	**208**	P	**Pn**	**06 54 04.2**	**+0.7**
TMZ	**Timaru**	**6.40**	**207**	P	**Pn**	**06 54 10.1**	**+1.2**
ODZ	**Otahua Downs**	**7.10**	**206**	P	**Pn**	**06 54 19.4**	**+1.7**
ODZ	**Otahua Downs**	**7.10**	**206**	P	**Pn**	**06 54 19.7**	**+2.0**

*SJA **20** 07:13:13.9±0.6,24°.24S×67°.24W,h197km±4km, ML3.7, MW3.7*
*NEIC **20** 07:13:14.8±1.8,24°.27S±0°.06×67°.42W±0°.09, h202km±7km, mb4.5/11,Error ellipse: s-maj=13.0km s-min=6.7km az=117.0*
*GUC **20** 07:13:15.7±0.8,24°.28S×67°.29W, h181km±6km, ML4.1*
*IDC **20** 07:13:15.3±1.4,24°.17S×67°.07W, h162km±17km, mb3.6/4, mbtmp4.1/9,Error ellipse: s-maj=22.5km s-min=16.5km az=158.0*
*VAO **20** 07:13:17.5±0.5,23°.91S×67°.13W, h184km±5km, mb4.1*
ISC 20 07:13:14.5±0.6, 24°.22S±0°.03×67°.30W±0°.03, h189km±6km, n121, σ1$57/155, mb4.1/7, 7C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.49**	**327**		**Pn**	**07 13 48.8**	**+1.2**
AF01				Sn	**Sn**	**07 14 15.3**	**+2.3**
AF01	**San Pedro de A**	**1.49**	**327**	*e*P	**Pn**	**07 13 48.7**	**+1.2**
AF01				*e*S	**Sn**	**07 14 13.4**	**+0.3**
AF01				IAML		07 14 15.8	
	comp=E,800nm,0.5s						
SLA	**San Lorenzo**	**1.71**	**107**	*e*P	**Pn**	**07 13 49.5**	**0.0**
SLA				*e*S	**Sn**	**07 14 16.0**	**-0.5**
SLA				IAML		07 14 16.2	
	comp=Z,200nm,1.8s						
SLA	**San Lorenzo**	**1.71**	**107**	⇓*i*P	**Pn**	**07 13 49.5**	**0.0**
SLA				*e*S	**Sn**	**07 14 14.8**	**-1.7**
HJA	**Humahuaca**	**2.00**	**60**	*e*P	**Pn**	**07 13 53.2**	**+0.5**
HJA				*e*S	**Sn**	**07 14 26.5**	**+4.2**
AZAP	**Zapla**	**2.04**	**91**	*e*P	**Pn**	**07 13 52.7**	**-0.3**
AZAP				*e*S	**Sn**	**07 14 22.2**	**-0.5**
AZAP				IAML		07 14 23.6	
	comp=Z,263nm,1.0s						
LVC	**Limon Verde**	**2.18**	**317**	Pn	**Pn**	**07 13 55.6**	**+1.0**
LVC				Sn	**Sn**	**07 14 26.3**	**+0.7**
LVC	**Limon Verde**	**2.18**	**317**	*e*P	**Pn**	**07 13 55.7**	**+1.2**
LVC				*e*S	**Sn**	**07 14 26.6**	**+1.0**
LVC				IAML		07 14 26.8	
	comp=Z,119nm,0.7s						
LVC	**Limon Verde**	**2.18**	**317**	P	**Pn**	**07 13 55.8**	**+1.2**
	comp=Z,47nm,0.3s,baz=121,slow=7.4,SNR=198						
LVC				S	**Sn**	**07 14 25.5**	**-0.1**
	comp=Z,235nm,0.5s,baz=198,slow=20,SNR=67						
LVC	**Limon Verde**	**2.18**	**317**	⇑*i*P	**Pn**	**07 13 55.6**	**+1.0**
LVC				*e*S	**Sn**	**07 14 25.4**	**-0.1**
LVC				IAML		07 14 27.5	
	comp=Z,2μm,0.6s						
LVC	**Limon Verde**	**2.18**	**317**	*e*P	**Pn**	**07 13 55.5**	**+1.0**
LVC				*e*S	**Sn**	**07 14 25.9**	**+0.3**
PB15	**IPOC Station P**	**2.23**	**296**		**Pn**	**07 13 56.1**	**+1.2**
PB15	**IPOC Station P**	**2.23**	**296**	*e*P	**Pn**	**07 13 56.2**	**+1.2**
PB15				*e*S	**Sn**	**07 14 27.3**	**+1.0**
PB15	**IPOC Station P**	**2.23**	**296**	⇑*i*P	**Pn**	**07 13 56.2**	**+1.2**
PB15				*e*S	**Sn**	**07 14 26.3**	**+0.1**
FSA	**Cafayete**	**2.24**	**148**	*e*P	**Pn**	**07 13 55.1**	**+0.1**
GO02	**Mina Guanaco**	**2.29**	**245**	Pn	**Pn**	**07 13 56.2**	**+0.5**
GO02	**Mina Guanaco**	**2.29**	**245**	*e*P	**Pn**	**07 13 56.5**	**+0.8**
GO02				*e*S	**Sn**	**07 14 28.4**	**+0.8**
GO02	**Mina Guanaco**	**2.29**	**245**	⇑*i*P	**Pn**	**07 13 56.5**	**+0.8**
GO02				*e*S	**Sn**	**07 14 27.2**	**-0.3**
GO02				IAML		07 14 28.4	
	comp=N,444nm,0.1s						
PB06	**IPOC Station P**	**2.57**	**305**		**Pn**	**07 13 59.5**	**+0.7**
PB06	**IPOC Station P**	**2.57**	**305**	*e*P	**Pn**	**07 14 00.0**	**+1.2**
PB06				*e*S	**Sn**	**07 14 33.1**	**0.0**
PB06				IAML		07 14 35.8	
	comp=Z,247nm,0.5s						
PB06	**IPOC Station P**	**2.57**	**305**	⇑*i*P	**Pn**	**07 13 60.0**	**+1.2**
PB06				*e*S	**Sn**	**07 14 32.7**	**-0.4**
PB06				IAML		07 14 34.3	
	comp=N,712nm,0.4s						
YJA	**Yavi**	**2.61**	**39**	*e*P	**Pn**	**07 14 00.6**	**+1.1**
YJA				*e*S	**Sn**	**07 14 34.8**	**+0.3**
YJA	**Yavi**	**2.61**	**39**	*e*P	**Pn**	**07 14 00.5**	**+1.0**
PB14	**IPOC Station P**	**2.86**	**261**	Pn	**Pn**	**07 14 02.3**	**+0.1**
PB14	**IPOC Station P**	**2.86**	**261**	*e*P	**Pn**	**07 14 02.7**	**+0.5**
PB14				*e*S	**Sn**	**07 14 39.9**	**+0.6**
PB14				IAML		07 14 43.4	
	comp=Z,180nm,0.5s						
PB14	**IPOC Station P**	**2.86**	**261**	⇑*i*P	**Pn**	**07 14 02.7**	**+0.5**
PB14				*e*S	**Sn**	**07 14 37.9**	**-1.4**
PB09	**IPOC Station P**	**3.00**	**323**		**Pn**	**07 14 05.2**	**+1.4**
PB09	**IPOC Station P**	**3.00**	**323**	*e*P	**Pn**	**07 14 05.6**	**+1.7**
PB09				*e*S	**Sn**	**07 14 43.3**	**+1.0**
PB09				IAML		07 14 46.7	
	comp=Z,217nm,0.5s						
PB09	**IPOC Station P**	**3.00**	**323**	⇑*i*P	**Pn**	**07 14 05.4**	**+1.6**
PB09				*e*S	**Sn**	**07 14 42.4**	**+0.1**
PB10	**IPOC Station P**	**3.06**	**283**	Pn	**Pn**	**07 14 05.4**	**+1.1**
PB10	**IPOC Station P**	**3.06**	**283**	*e*P	**Pn**	**07 14 05.5**	**+1.1**
PB10				*e*S	**Sn**	**07 14 42.4**	**-0.7**
PB10				IAML		07 14 47.7	
	comp=Z,134nm,0.5s						
PB10	**IPOC Station P**	**3.06**	**283**	⇑*i*P	**Pn**	**07 14 05.3**	**+1.1**
ALOL	**LOMAS DE OLMED**	**3.06**	**83**	*e*P	**Pn**	**07 14 06.0**	**+1.6**
AHML	**Horco Molle**	**3.12**	**146**	*e*P	**Pn**	**07 14 04.8**	**-0.3**
AHML				*e*S	**Sn**	**07 14 45.1**	**+0.5**
PB04	**IPOC Station P**	**3.22**	**305**		**Pn**	**07 14 07.0**	**+0.7**
PB04	**IPOC Station P**	**3.22**	**305**	*e*P	**Pn**	**07 14 07.5**	**+1.0**
PB04				*e*S	**Sn**	**07 14 46.5**	**-0.5**
PB04				IAML		07 14 53.0	
	comp=Z,370nm,0.3s						
AC01	**Pan de Azucar**	**3.55**	**237**		**Pn**	**07 14 10.1**	**-0.2**
AC01	**Pan de Azucar**	**3.55**	**237**	*e*P	**Pn**	**07 14 10.1**	**-0.2**
AC01				*e*S	**Sn**	**07 14 52.9**	**-1.2**
AC01				IAML		07 15 01.3	
	comp=Z,77nm,0.8s						
AC06	**Mina Casimiro**	**4.17**	**221**	Pn	**Pn**	**07 14 17.1**	**-0.9**
PATCX	**Punta Patache**	**4.29**	**321**		**Pn**	**07 14 20.0**	**+0.3**
PATCX	**Punta Patache**	**4.29**	**321**	*e*P	**Pn**	**07 14 20.6**	**+0.9**
PATCX				*e*S	**Sn**	**07 15 09.0**	**-1.8**
PATCX				IAML		07 15 29.1	
	comp=Z,67nm,0.6s						
PB08	**IPOC Station P**	**4.40**	**337**		**Pn**	**07 14 22.6**	**+1.2**
PB08	**IPOC Station P**	**4.40**	**337**	*e*P	**Pn**	**07 14 22.6**	**+1.2**
PB08				*e*S	**Sn**	**07 15 14.1**	**+0.1**
PB08				IAML		07 15 18.5	
	comp=Z,48nm,0.5s						
CYA	**Choya**	**4.42**	**163**	*e*P	**Pn**	**07 14 21.9**	**+0.6**
CYA				*e*S	Sn	07 14 57.9	-16
VCA	**Vinchina**	**4.58**	**190**	*e*P	**Pn**	**07 14 24.8**	**+1.4**
VCA				*e*S	Sn	07 15 27.2	+10
VCA				IAML		07 15 34.6	
	comp=Z,28nm,3.0s						
HMBC	**Humberstone**	**4.59**	**328**		**Pn**	**07 14 23.5**	**-0.2**
HMBC	**Humberstone**	**4.59**	**328**	*e*P	**Pn**	**07 14 23.1**	**-0.6**
HMBC				*e*S	**Sn**	**07 15 16.4**	**-1.5**
HMBC				IAML		07 15 22.6	
	comp=Z,95nm,0.6s						
GO01	**Chusmiza**	**4.85**	**338**		**Pn**	**07 14 28.1**	**+0.8**
GO01	**Chusmiza**	**4.85**	**338**	*e*P	**Pn**	**07 14 28.4**	**+1.1**
GO01				*e*S	**Sn**	**07 15 26.1**	**+1.6**
PB11	**IPOC Station P**	**4.94**	**333**	Pn	**Pn**	**07 14 27.8**	**-0.4**
PB11	**IPOC Station P**	**4.94**	**333**	*e*P	**Pn**	**07 14 28.0**	**-0.2**
PB11				*e*S	**Sn**	**07 15 25.2**	**-0.8**
PB11				IAML		07 15 27.9	
	comp=Z,46nm,0.5s						
AC04	**Llanos de Chal**	**5.22**	**220**		**Pn**	**07 14 30.3**	**-1.2**
AC04	**Llanos de Chal**	**5.22**	**220**	*e*P	**Pn**	**07 14 30.0**	**-1.5**
AC04				*e*S	**Sn**	**07 15 29.5**	**-2.7**
AC04				IAML		07 15 31.8	
	comp=Z,49nm,0.7s						
AC05	**El Transito**	**5.32**	**209**	Pn	**Pn**	**07 14 32.5**	**-0.4**
AC05	**El Transito**	**5.32**	**209**	*e*P	**Pn**	**07 14 32.2**	**-0.7**
AC05				*e*S	**Sn**	**07 15 32.4**	**-2.3**
AC05				IAML		07 15 35.8	
	comp=Z,36nm,0.2s						
AGUA	**GUANDACOL**	**5.36**	**191**	*e*P	**Pn**	**07 14 34.0**	**+0.6**
AGUA				IAML		07 15 48.0	
	comp=Z,35nm,2.7s						
LCO	**Las Campanas**	**5.66**	**212**	Pn	**Pn**	**07 14 36.1**	**-1.4**
PB12	**IPOC Station P**	**6.25**	**333**		**Pn**	**07 14 44.4**	**-0.6**
TICA	**Tres Isletas**	**6.62**	**111**	*e*P	**Pn**	**07 14 53.4**	**+3.6**
CO05	**La Serena**	**6.68**	**211**	Pn	**Pn**	**07 14 49.1**	**-1.3**
GO04	**Tololo Observa**	**6.70**	**207**	Pn	**Pn**	**07 14 50.6**	**-0.4**
CO03	**El Pedregal**	**7.25**	**204**	Pn	**Pn**	**07 14 56.3**	**-1.7**
CO06	**Fray Jorge**	**7.50**	**210**	Pn	**Pn**	**07 14 58.9**	**-2.3**
CO02	**Combarbal**	**7.69**	**204**	Pn	**Pn**	**07 15 02.5**	**-1.4**
LPAZ	**La Paz**	**7.92**	**354**	P	**Pn**	**07 15 08.6**	**+1.1**
	comp=Z,5.0nm,0.5s,baz=155,slow=6.5,SNR=30						
LPAZ				S	**Sn**	**07 16 32.3**	**-4.7**
	comp=Z,1.3nm,0.7s,baz=159,slow=6.4,SNR=1.4						
LPAZ	**La Paz**	**7.92**	**354**	*e*P	**Pn**	**07 15 06.8**	**-0.7**
VA03	**San Esteban**	**8.98**	**198**	Pn	**Pn**	**07 15 19.2**	**-1.6**
BBRB	**Robore, Bolivi**	**9.15**	**51**	*e*P	**Pn**	**07 15 19.6**	**-3.4**
CPUP	**Villa Florida**	**9.27**	**105**	P	**Pn**	**07 15 22.9**	**-1.5**
	comp=Z,1.6nm,0.9s,baz=288,slow=15,SNR=1.9						
MURT	**Porto Murtinho**	**9.29**	**76**	*e*P	**Pn**	**07 15 23.6**	**-1.1**
BBSD	**Serra de San D**	**9.38**	**43**	*e*P	**Pn**	**07 15 24.9**	**-1.2**
MT09	**Talagante**	**10.06**	**198**	Pn	**Pn**	**07 15 33.2**	**-1.6**
SIV	**San Ignacio**	**10.06**	**37**	P	**Pn**	**07 15 33.3**	**-1.5**
	comp=Z,4.9nm,0.5s,baz=208,slow=12,SNR=47						
SIV				S	**Sn**	**07 17 19.0**	**-8.1**
	comp=Z,1.0nm,0.

OMRZ	**Omania**	**1.65 241**	P		**Pn**	**07 22 31.0**	**-0.3**
RRRZ	**Republican Roa**	**1.68 232**	P		**Pn**	**07 22 31.3**	**-0.4**
KARZ	**Kaharoa**	**1.71 245**	P		**Pn**	**07 22 31.4**	**-0.6**
HLRZ	**Highlands Stat**	**1.74 237**	P		**Pn**	**07 22 32.7**	**+0.2**
KNZ	**Kokohu**	**1.75 194**	P		**Pn**	**07 22 31.0**	**-1.6**
NGRZ	**Ngongotaha**	**1.78 243**	P		**Pn**	**07 22 33.6**	**+0.5**
UTU	**Utuhina**	**1.81 241**	P		**Pn**	**07 22 34.3**	**+0.9**
RAHZ	**Arahi**	**1.82 209**	P		**Pn**	**07 22 34.2**	**+0.5**
HSRZ	**Hossack Road**	**1.84 237**	P		**Pn**	**07 22 34.4**	**+0.5**
MHGZ	**Mahia Peninsul**	**1.85 187**	P		**Pn**	**07 22 32.6**	**-1.4**
PRRZ	**Plateau Road**	**1.86 230**	P		**Pn**	**07 22 33.5**	**-0.6**
HRRZ	**Handcock Road**	**1.86 234**	P		**Pn**	**07 22 34.2**	**+0.1**
MTHZ	**Maungataniwha**	**1.87 215**	P		**Pn**	**07 22 34.1**	**-0.3**
KMRZ	**Kaimai**	**1.87 253**	P		**Pn**	**07 22 33.5**	**-0.8**
WHHZ	**Waihua**	**1.92 203**	P		**Pn**	**07 22 34.6**	**-0.3**
ALRZ	**Allen Road**	**1.93 229**	P		**Pn**	**07 22 35.0**	**0.0**
GRRZ	**Galatos Road**	**1.95 237**	P		**Pn**	**07 22 35.7**	**+0.3**
WPRZ	**Whakapapatarin**	**2.01 233**	P		**Pn**	**07 22 36.6**	**+0.3**
KUZ	**Kuaotunu**	**2.07 285**	P		**Pn**	**07 22 36.1**	**-0.8**
KUZ	**Kuaotunu**	**2.07 285**	P		**Pn**	**07 22 35.9**	**-1.0**
KUZ			S		**Sn**	**07 23 00.4**	**-1.9**
MRHZ	**Matea Rd**	**2.07 222**	P		**Pn**	**07 22 36.8**	**-0.2**
NMHZ	**Naumai**	**2.09 211**	P		**Pn**	**07 22 37.5**	**+0.1**
ARHZ	**Aropaoanui**	**2.16 206**	P		**Pn**	**07 22 37.7**	**-0.5**
TOZ	**Tahuroa Road**	**2.19 258**	P		**Pn**	**07 22 37.8**	**-0.8**
KUTZ	**Kaahu Road**	**2.22 237**	P		**Pn**	**07 22 38.9**	**-0.1**
BKZ	**Black Stump Fm**	**2.29 216**	P		**Pn**	**07 22 39.8**	**-0.2**
BKZ	**Black Stump Fm**	**2.29 216**	P		**Pn**	**07 22 39.7**	**-0.2**
HATZ	**Hinemaiaia**	**2.29 226**	P		**Pn**	**07 22 40.4**	**+0.3**
TLZ	**Tolley Road**	**2.34 244**	P		**Pn**	**07 22 40.6**	**-0.2**
MCHZ	**McNeill Hill**	**2.43 209**	P		**Pn**	**07 22 41.2**	**-0.8**
MKAZ	**Moumakai**	**2.44 274**	P		**Pn**	**07 22 41.6**	**-0.4**
GRZ	**Great Barrier**	**2.45 295**	P		**Pn**	**07 22 41.7**	**-0.5**
RATZ	**Rangitukua**	**2.46 230**	P		**Pn**	**07 22 43.1**	**+0.6**
RITZ	**Rihia Road**	**2.48 227**	P		**Pn**	**07 22 43.1**	**+0.4**
CKHZ	**Cape Kidnapper**	**2.50 200**	P		**Pn**	**07 22 41.0**	**-1.9**
WIAZ	**Waiheke Island**	**2.51 281**	P		**Pn**	**07 22 42.7**	**-0.4**
KWHZ	**Kaweka Forest**	**2.53 213**	P		**Pn**	**07 22 42.5**	**-0.9**
ETAZ	**East Tamaki Re**	**2.64 277**	P		**Pn**	**07 22 44.8**	**-0.1**
KBAZ	**Karaka Road Bo**	**2.66 274**	P		**Pn**	**07 22 45.3**	**+0.2**
TMVZ	**Te Maari**	**2.67 227**	P		**Pn**	**07 22 45.4**	**+0.1**
NTVZ	**North Tongarir**	**2.67 227**	P		**Pn**	**07 22 45.7**	**+0.3**
ETVZ	**East Tongariro**	**2.67 226**	P		**Pn**	**07 22 45.5**	**+0.1**
KAHZ	**Kahuranaki**	**2.68 202**	P		**Pn**	**07 22 43.8**	**-1.7**
KRVZ	**Karewarewa**	**2.69 228**	P		**Pn**	**07 22 46.0**	**+0.3**
MBAZ	**Motutapu North**	**2.70 281**	P		**Pn**	**07 22 45.6**	**0.0**
OTVZ	**Oturere**	**2.72 227**	P		**Pn**	**07 22 46.7**	**+0.7**
NNVZ	**North Ngauruho**	**2.73 228**	P		**Pn**	**07 22 46.7**	**+0.5**
KRHZ	**Kereru**	**2.73 211**	P		**Pn**	**07 22 44.3**	**-1.8**
WTVZ	**West Tongariro**	**2.73 228**	P		**Pn**	**07 22 46.8**	**+0.5**
BHHZ	**Black Hill Sta**	**2.75 217**	P		**Pn**	**07 22 45.6**	**-0.7**
SNVZ	**South Ngauruho**	**2.75 226**	P		**Pn**	**07 22 46.6**	**+0.1**
NGZ	**Ngauruhoe**	**2.76 227**	P		**Pn**	**07 22 46.9**	**+0.2**
ABAZ	**Army Bay**	**2.79 284**	P		**Pn**	**07 22 47.1**	**+0.2**
TWVZ	**Taurewa**	**2.80 230**	P		**Pn**	**07 22 47.9**	**+0.8**
EPAZ	**Eden Park BICE**	**2.80 278**	P		**Pn**	**07 22 47.4**	**+0.4**
COVZ	**Chateau Observ**	**2.81 227**	P		**Pn**	**07 22 47.6**	**+0.2**
HBAZ	**Herne Bay Bore**	**2.82 278**	P		**Pn**	**07 22 47.7**	**+0.5**
MOVZ	**Moawhango**	**2.84 222**	P		**Pn**	**07 22 46.8**	**-0.8**
WHVZ	**Whangaehu Hut**	**2.84 226**	P		**Pn**	**07 22 47.7**	**-0.1**
FWVZ	**Far West T-bar**	**2.84 226**	P		**Pn**	**07 22 48.0**	**+0.1**
MAVZ	**Matarangi**	**2.85 226**	P		**Pn**	**07 22 48.0**	**0.0**
AWAZ	**Awhitu Peninsu**	**2.85 274**	P		**Pn**	**07 22 48.0**	**+0.2**
WNVZ	**Wahianoa**	**2.87 225**	P		**Pn**	**07 22 47.9**	**-0.3**
TRVZ	**Turoa**	**2.88 226**	P		**Pn**	**07 22 48.3**	**-0.1**
HIZ	**Hauiti**	**2.91 245**	P		**Pn**	**07 22 48.8**	**+0.3**
HIZ	**Hauiti**	**2.91 245**	P		**Pn**	**07 22 48.5**	**+0.1**
PXZ	**Pawanui**	**2.91 201**	P		**Pn**	**07 22 45.9**	**-2.6**
WTAZ	**Waiatarua**	**2.93 276**	P		**Pn**	**07 22 49.2**	**+0.4**
RVAZ	**Riverhead Bore**	**2.95 280**	P		**Pn**	**07 22 49.3**	**+0.2**
MTVZ	**Mangateitei**	**2.98 225**	P		**Pn**	**07 22 49.5**	**0.0**
PKVZ	**Pokaka**	**2.99 228**	P		**Pn**	**07 22 51.6**	**+1.9**
WPHZ	**Waipukurau**	**3.07 206**	P		**Pn**	**07 22 48.2**	**-2.5**
PRHZ	**Porangahau**	**3.19 202**	P		**Pn**	**07 22 49.7**	**-2.7**
TSZ	**Takapari Road**	**3.25 212**	P		**Pn**	**07 22 50.7**	**-2.6**
VRZ	**Vera Road**	**3.26 235**	P		**Pn**	**07 22 54.6**	**+1.3**
WCZ	**Waipu Caves**	**3.40 293**	P		**Pn**	**07 22 55.0**	**-0.2**
ANWZ	**Angora Road**	**3.42 203**	P		**Pn**	**07 22 52.6**	**-2.9**
WAZ	**Wanganui**	**3.51 225**	P		**Pn**	**07 22 56.6**	**-0.2**
POWZ	**Post Office Ro**	**3.61 211**	P		**Pn**	**07 22 55.6**	**-2.6**
OHWZ	**Ohakea**	**3.66 217**	P		**Pn**	**07 22 57.7**	**-1.2**
LREZ	**Lake Rotokare**	**3.67 233**	P		**Pn**	**07 23 01.3**	**+2.3**
BFZ	**Birch Farm**	**3.69 204**	P		**Pn**	**07 22 55.7**	**-3.6**
PREZ	**Palmer Road**	**3.77 236**	P		**Pn**	**07 23 03.9**	**+3.5**
NEZ	**North Egmont**	**3.77 238**	P		**Pn**	**07 23 03.4**	**+2.9**
PKE	**Pukeiti**	**3.81 239**	P		**Pn**	**07 23 03.9**	**+2.9**
KHEZ	**Kahui Hut**	**3.84 238**	P		**Pn**	**07 23 03.0**	**+1.6**
KHEZ	**Kahui Hut**	**3.84 238**	P		**Pn**	**07 23 04.3**	**+2.9**
NBEZ	**Newall Road No**	**3.93 239**	P		**Pn**	**07 23 05.2**	**+2.6**
OUZ	**Omahuta**	**4.27 298**	P		**Pn**	**07 23 07.7**	**+0.5**
KHZ	**Kahutara**	**6.23 214**	P		**Pn**	**07 23 30.4**	**-3.7**
CTZ	**Chatham Island**	**7.53 150**	P		**Pn**	**07 23 50.4**	**-1.5**

NEIC ***20*** *07:28:38.0±0.9, 5.°31N±0.°07×127.°74E±0.°06, h99km±10km, mb4.3/19, Error ellipse: s-maj=11.5km s-min=6.1km az=146.0*

IDC ***20*** *07:28:44.5±1.7, 5.°60N×127.°17E, h132km±13km, mb3.7/17, mbtmp4.1/19, Error ellipse: s-maj=31.4km s-min=11.5km az=71.0*

DJA ***20*** *07:28:45.3±0.6, 6.°N×4.°×12.°7E±.°, h106km×7.°km, M4.3/9, mb4.3/6, mB4.7/2, MLv4.3/9, Mw(mB)3.9/2*

ISC 20 07:28:41.6±0.7, 5.°62N±0.°05×127.°27E±0.°09, h100km, n47, σ1§90/39, mb4.2/25, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**2.21 311**			Pn	**Pn**	**07 29 20.7**	**+3.7**
DAV	**Davao City (W)**	**2.21 311**			P	**Pn**	**07 29 19.5**	**+2.6**
	168nm,0.5s,baz=73,slow=6.4,SNR=2.1							
DAV					S	**Sn**	**07 29 48.7**	**+4.7**
	329nm,0.3s,baz=78,slow=17,SNR=8.0							
SGSI	**Sangihe**	**2.58 222**			P	**Pn**	**07 29 23.8**	**+2.0**
SGSI					S	**Sn**	**07 29 53.6**	**+0.9**
TNTI	**Ternate**	**4.81 179**			Pn	Pn	07 29 44.0	-7.8
TNTI	**Ternate**	**4.81 179**			P	**Pn**	**07 29 55.4**	**+3.6**
LBMI	**Labuha**	**6.22 178**			P	**Pn**	**07 30 14.4**	**+3.5**
	41nm,0.9s,2µm0.3nm							
GTOI	**Gorontalo**	**6.52 221**			P	**Pn**	**07 30 16.0**	**+1.0**
	25nm,0.5s,305nm0.1nm							
TOLI2	**Tolitoli**	**7.87 236**			Pn	**Pn**	**07 30 32.4**	**-0.9**
KAPI	**Kappang**	**12.95 216**			P	**Pn**	**07 31 41.7**	**-0.2**
	20nm,0.8s,baz=10,slow=8.0,SNR=5.0							
EDFI	**Ende, Flores**	**15.31 201**			P	**Pn**	**07 32 15.3**	**+2.8**
SBUM	**Sibu**	**15.33 259**			P	**P**	**07 32 15.7**	**+0.5**
KSM	**Kuching**	**17.41 257**			P	**Pn**	**07 32 38.6**	**+0.2**
KSM					IAmb	IAmb	07 33 08.0	
	comp=Z,12nm,0.8s							
YULB	**Yu-li**	**18.59 343**			P	**P**	**07 32 51.0**	**0.0**
COEN	**Coen**	**25.05 141**			P	P	07 33 46.9	-10
COEN					IAmb	IAmb	07 34 02.1	
	comp=Z,10nm,1.1s							
JCJ	**Chichijima**	**25.66 32**			P	P	07 33 58.0	-4.1
WB0	**Warramunga Arr**	**26.18 165**			P	P	07 33 59.4	-7.6
WB0					IAmb	IAmb	07 34 05.8	
	comp=Z,4.1nm,1.0s							
WRA	**Warramunga Arr**	**26.33 165**			P	P	07 34 01.4	-6.9
WRA	**Warramunga Arr**	**26.33 165**			P	**P**	**07 34 08.8**	**+0.5**
	comp=Z,0.6nm,0.3s,baz=345,slow=10,SNR=17							
WRA					ScP	**ScP**	**07 40 59.5**	**-3.6**
	comp=Z,0.9nm,0.8s,baz=342,slow=2.8,SNR=3.9							
	comp=Z,0.6nm,0.3s							
WB2	**Warramunga Arr**	**26.34 165**			P	P	07 34 00.2	-8.1
ASAR	**Alice Springs**	**29.82 168**			P	**P**	**07 34 39.8**	**+0.5**
	comp=Z,0.5nm,0.5s,baz=341,slow=7.1,SNR=13							
ASAR					ScP	**ScP**	**07 41 10.7**	**-3.1**
	comp=Z,0.7nm,0.6s,baz=341,slow=3.2,SNR=7.0							
	comp=Z,0.5nm,0.5s							
KSRS	**Korea Array**	**31.70 1**			P	**P**	**07 34 56.9**	**+1.2**
	comp=Z,0.4nm,0.4s,baz=182,slow=10,SNR=2.2							
	comp=Z,0.4nm,0.4s							
USRK	**Ussuriysk Ar.**	**38.65 5**			P	P	07 35 54.3	-0.9
	comp=Z,0.9nm,0.5s,baz=196,slow=10.0,SNR=3.1							
	comp=Z,0.9nm,0.5s							
SONM	**Songino Array**	**45.70 340**			P	**P**	**07 36 53.0**	**+0.3**
SONM					IAmb	IAmb	07 36 53.8	
	comp=Z,2.9nm,1.0s							
SONM	**Songino Array**	**45.70 340**			P	**P**	**07 36 52.6**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=162,slow=7.4,SNR=8.3							
	comp=Z,1.4nm,0.6s							
MK31	**Makanchi Array**	**56.33 324**			P	**P**	**07 38 12.1**	**-0.1**
MK31					IAmb	IAmb	07 38 12.8	
	comp=Z,2.2nm,0.8s							
MKAR	**Makanchi Array**	**56.33 324**			P	**P**	**07 38 12.1**	**-0.1**
	comp=Z,2.3nm,0.4s,baz=113,slow=7.8,SNR=46							
	comp=Z,2.3nm,0.4s							
MAKZ	**Makanchi**	**56.52 324**			P	**P**	**07 38 13.6**	**0.0**
MAKZ					IAmb	IAmb	07 38 14.1	
	comp=Z,3.0nm,0.8s							
NIL	**Nilore**	**57.22 307**			P	**P**	**07 38 17.9**	**-0.9**
ZAA0	**Zalesovo Array**	**59.17 332**			P	**P**	**07 38 31.2**	**-0.6**
ZAA0					IAmb	IAmb	07 38 31.7	
	comp=Z,2.6nm,0.7s							
ZALV	**Zalesovo Beam**	**59.17 332**			P	**P**	**07 38 31.1**	**-0.7**
ZALV	**Zalesovo Beam**	**59.17 332**			P	**P**	**07 38 30.8**	**-1.0**
	comp=Z,1.7nm,0.3s,baz=112,slow=6.6,SNR=8.6							
	comp=Z,1.7nm,0.3s							
KURK	**Kurchatov**	**60.46 327**			P	**P**	**07 38 40.7**	**-0.1**
KURBB	**Kurchatov Arra**	**60.46 327**			P	**P**	**07 38 40.5**	**-0.2**
	comp=Z,5.5nm,0.6s,baz=126,slow=6.7,SNR=87							
	comp=Z,5.5nm,0.6s							
KBL	**Kabul**	**60.82 307**			P	**P**	**07 38 42.7**	**-1.1**
KBL					IAmb	IAmb	07 38 43.2	
	comp=Z,4.9nm,1.0s							
KK31	**Karatay Array**	**62.24 316**			P	**P**	**07 38 52.1**	**-0.9**
KK31					IAmb	IAmb	07 38 53.4	
	comp=Z,3.1nm,0.8s							
KKAR	**Karatay Array**	**62.24 316**			P	**P**	**07 38 52.4**	**-0.6**
BVAR	**Borovoye Array**	**66.05 326**			P	**P**	**07 39 17.3**	**-0.4**
	comp=Z,5.2nm,0.5s,baz=128,slow=7.5,SNR=28							
	comp=Z,5.2nm,0.5s							
BRVK	**Borovoye**	**66.12 326**			P	**P**	**07 39 17.8**	**-0.3**
BRVK					IAmb	IAmb	07 39 19.2	
	comp=Z,9.8nm,1.1s							
GEYT	**Alibeck**	**70.15 308**			P	**P**	**07 39 42.0**	**-1.6**
	comp=Z,1.8nm,0.6s,baz=104,slow=6.3,SNR=3.9							
	comp=Z,1.8nm,0.6s							
ILAR	**Eielson Array**	**83.18 25**			P	P	07 40 55.6	-0.8
	comp=Z,0.4nm,0.6s,baz=250,slow=3.4,SNR=5.1							
	comp=Z,0.4nm,0.6s							
VNDA	**Vanda**	**85.22 173**			P	**P**	**07 41 06.0**	**-0.4**
	comp=Z,0.5nm,0.8s,baz=320,slow=5.0,SNR=3.1							
	comp=Z,0.5nm,0.8s							
ARCES	**ARCESS Array B**	**88.87 340**			P	P	07 41 22.7	-1.6
	comp=Z,0.7nm,0.4s,baz=80,slow=6.7,SNR=7.8							
	comp=Z,0.7nm,0.4s							
BRTR	**Keskin Array B**	**89.24 310**			P	P	07 41 24.8	-2.0
	comp=Z,0.5nm,0.6s,baz=127,slow=5.4,SNR=3.7							
	comp=Z,0.5nm,0.6s							
FINES	**FINESS Array B**	**90.43 332**			P	**P**	**07 41 30.2**	**-1.5**
	comp=Z,0.9nm,0.6s,baz=67,slow=5.2,SNR=12							
	comp=Z,0.9nm,0.6s							
AKASG	**Malin Array Be**	**90.78 321**			P	P	07 41 31.1	-2.5
	comp=Z,0.1nm,0.2s,baz=63,slow=4.3,SNR=3.5							
	comp=Z,0.1nm,0.2s							
HFS	**Hagfors**	**96.61 332**			P	P	07 41 58.2	-1.9
	comp=Z,0.7nm,0.5s,baz=82,slow=11,SNR=7.3							
	comp=Z,0.7nm,0.5s							
TORD	**Torodi Ar. Bea**	**122.82 289**		PKP		**PKPdf**	**07 47 23.5**	**-3.5**
	comp=Z,0.4nm,0.6s,baz=78,slow=2.0,SNR=2.7							

IDC 20 07:33:15.2±6.0, 6.°20S×141.°81E, h0km, mb3.7/2, mbtmp3.5/4, ML2.8/2, Error ellipse: s-maj=228.9km s-min=33.7km az=96.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**15.47 207**			Pn	Pn	07 36 53.5	-1.4
	baz=28,slow=13,SNR=2.1							
	0.4nm,0.7s							
ASAR	**Alice Springs**	**18.96 203**			P	Pn	07 37 38.6	-0.1
	0.1nm,0.3s,baz=34,slow=9.8,SNR=8.7							
	1.4nm,0.8s							
MKAR	**Makanchi Array**	**74.42 322**			P	P	07 44 55.2	0.0
	0.4nm,0.8s,baz=125,slow=4.6,SNR=3.0							
	0.4nm,0.8s							
BVAR	**Borovoye Array**	**83.92 325**			P	P	07 45 47.1	+0.1
	0.7nm,0.8s,baz=110,slow=8.4,SNR=3.6							
	0.7nm,0.8s							

IDC ***20*** *07:55:37.6±1.2, 53.°92S×21.°52W, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=102.4km s-min=33.6km az=101.0*

ISC 20 07:55:39.1±1.2, 53.°9S±0.°2×21.°4W±0.°5, h10km, n9, σ1§41/9, 5C, Southwestern Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**17.83 166**		⇑P		**P**	**07 59 50.2**	**+2.6**
	comp=Z,8.1nm,0.8s							
VNA3	**Neumayer Olymp**	**18.18 168**		⇑P		**P**	**07 59 52.0**	**+0.5**
	comp=Z,1.5nm,0.3s							
VNA2	**Neumayer--Watz**	**18.20 165**		⇑P		**P**	**07 59 52.5**	**+0.7**
	comp=Z,2.2nm,0.4s,baz=338,slow=7.3							
SNAA	**Sanae**	**19.60 162**		⇑P		**P**	**08 00 05.7**	**-1.5**
	comp=Z,55nm,0.3s							
TROLL	**Troll, Antarti**	**20.91 159**		⇑P		**P**	**08 00 20.3**	**-1.2**
	comp=Z,368nm,0.7s							
VNDA	**Vanda**	**48.84 181**			P	**P**	**08 04 23.8**	**-0.3**
	comp=Z,1.2nm,1.0s,baz=173,slow=6.7,SNR=5.2							
	comp=Z,1.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**69.63 24**			P	**P**	**08 06 48.9**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=200,slow=5.3,SNR=11							
	comp=Z,0.9nm,0.5s							
YKA	**Yellowknife Ar**	**136.80 317**		PKP		**PKPdf**	**08 14 59.7**	**-0.7**
	comp=Z,0.3nm,0.8s,baz=124,slow=2.2,SNR=4.0							
ILAR	**Eielson Array**	**151.08 314**		PKPbc		**PKPbc**	**08 15 30.9**	**0.0**
	comp=Z,1.5nm,0.8s,baz=98,slow=1.1,SNR=18							

MOS ***20*** *08:01:24.3±0.8, 12.°74S×45.°70E, h10km, mb5.4/62, MS4.8/25, Error ellipse: s-maj=8.3km s-min=4.2km az=92.7*

IDC ***20*** *08:01:24.7±0.4, 12.°80S×45.°68E, h0km, mb4.6/30, mbtmp4.6/32, ML4.6/2, MS4.8/16, Error ellipse: s-maj=15.2km s-min=11.5km az=85.0*

NEIC ***20*** *08:01:27.0±1.2, 12.°80S×45.°67E±0.°09, h10km±1km, mb5.3/131, Ms_20 5.0/283, Mww5.4/19, Error ellipse: s-maj=15.3km s-min=8.1km az=93.0*

NEIC ***20*** *08:01:27, 12.°80S×45.°66E, h36km*

NEIC ***20*** *08:01:27, 12.°80S×45.°66E, h36km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10^17 Nm; Mrr=0.05; Mθθ=0.49; Mφφ=-0.44; Mrθ=-1.25; Mθφ=-0.95; Mφr=0.15; Fault plane solution: M0=1.64000×10^17 NP1: φs=79.21000°, δ89.19000°, λ=-130.03000°. NP2: φs=348.25000°, δ40.03000°, λ=-1.25000°. Principal axes: T 1.7097, Plg32.0000°, Azm202.0000°; N -0.1384, Plg40.0000°, Azm80.0000°; P -1.5713, Plg33.0000°, Azm316.0000°;*

GCMT ***20*** *08:01:30.0±0.1, 12.°82S±0.°01×45.°69E±0.°01, h36km, MW5.4/151, Moment Tensor Solution. s112,c172; s151,c279; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr=0.14±.02; Mθθ=0.63±.02; Mφφ=-0.49±.02; Mrθ=-1.17±.04; Mθφ=-1.16±.02; Mφr=-0.26±.03; Best double couple: M0=1.76300×10^17 NP1:φs=79.00000°, δ87.00000°, λ=-137.00000°. NP2:φs=346.00000°, δ47.00000°, λ=-4.00000°. Principal axes: T 1.7890, Plg27.0000°, Azm204.0000°; N -0.0510, Plg47.0000°, Azm82.0000°; P -1.7380, Plg31.0000°, Azm312.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 20 08:01:26.2±0.3, 12.°89S±0.°04×45.°69E±0.°04, h10km, n831, σ1§43/707, mb5.2/203, MS5.0/200, 39C-36D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.83 166**			Pn	**Pn**	**08 02 53.7**	**+0.8**
	85nm,0.3s,baz=344,slow=12,SNR=289							
OPO					Sn	**Sn**	**08 03 55.0**	**-5.0**
	68nm,0.3s,baz=6.1,slow=16,SNR=6.6							
OPO					LR	LR	08 05 24.3	
	comp=Z,18µm,19.8s,baz=191,slow=40							
ABPO	**Ambohimpanom**	**6.27 167**				**Pn**	**08 02 59.9**	**+0.9**
ABPO	**Ambohimpanom**	**6.27 167**		*e*P		**Pn**	**08 02 59.4**	**+0.5**
ABPO	**Ambohimpanom**	**6.27 167**		P		**Pn**	**08 02 59.9**	**+0.9**
VOI	**Vohitsoka**	**9.03 173**		P		**Pn**	**08 03 38.2**	**+1.5**
VOI	**Vohitsoka**	**9.03 173**		Pn		**Pn**	**08 03 37.1**	**+0.4**
VOI	**Vohitsoka**	**9.03 173**		*e*P		**Pn**	**08 03 36.0**	**-0.8**
ZOMB	**Zomba**	**10.33 255**		*i* PN		**Pn**	**08 03 52.0**	**-2.6**
ZOMB				*i* SN		Sn	08 05 35.3	-15
ZOMB	**Zomba**	**10.33 255**		*i* PN		**Pn**	**08 03 52.0**	**-2.6**
ZOMB				*i* SN		Sn	08 05 35.3	-15
FOMA	**Nahampoana Res**	**12.08 174**				Pn	**08 04 18.6**	**+0.1**
RER	**Riviere de l'E**	**12.65 132**				Pn	**08 04 25.6**	**-0.7**
RER	**Riviere de l'E**	**12.65 132**				P	**08 04 25.9**	**-0.5**
	SNR=6.2							
MSEY	**Mahe Island**	**12.66 51**				Pn	**08 04 24.0**	**-2.4**
MSEY	**Mahe Island**	**12.66 51**		*i* P		**Pn**	**08 04 24.5**	**-2.0**
	SNR=12							
MSEY	**Mahe Island**	**12.66 51**		*e*P		**Pn**	**08 04 23.5**	**-2.9**
MSEY	**Mahe Island**	**12.66 51**		P		**Pn**	**08 04 24.2**	**-2.2**
MSEY				P		**Pn**	**08 04 24.2**	**-2.2**
MSEY	**Mahe Island**	**12.66 51**		P		**Pn**	**08 04 24.0**	**-2.4**
PDHT	**Panda Hill**	**12.82 286**		*i* P		Pn	08 04 20.8	-8.0
PDHT				*i* S		**Sn**	**08 06 56.4**	**+4.6**
KIBK	**Kibwezi**	**12.93 324**				Pn	**08 04 27.0**	**-3.2**
KIBK	**Kibwezi**	**12.93 324**		P		**Pn**	**08 04 26.6**	**-3.6**
	SNR=14							
KIBK	**Kibwezi**	**12.93 324**		*e*P		**Pn**	**08 04 26.5**	**-3.7**
KIBK				*e*S		Sn	08 06 40.4	-14
CHIPN	**CHIPINGE**	**14.47 238**		*i* P		**Pn**	**08 04 47.1**	**-4.2**
CHIPN	**CHIPINGE**	**14.47 238**		*i* P		**Pn**	**08 04 46.9**	**-4.4**
LSZ	**Lusaka**	**17.14 260**		P		**Pn**	**08 05 24.8**	**-1.3**
LSZ						IAmb	IAmb	08 05 30.3
	comp=Z,445nm,1.9s							
LSZ	**Lusaka**	**17.14 260**		*i* P		**Pn**	**08 05 22.5**	**-3.6**
LSZ	**Lusaka**	**17.14 260**		P		**Pn**	**08 05 23.0**	**-3.1**
	comp=Z,14nm,0.5s,baz=84,slow=9.3,SNR=25							
LSZ					S	Sn	08 08 22.0	-15
	comp=Z,10nm,0.3s,baz=66,slow=6.4,SNR=3.1							
LSZ					LR	LR	08 11 31.0	
	comp=Z,3µm,19.8s,baz=87,slow=35							
LSZ	**Lusaka**	**17.14 260**		*i* P		**Pn**	**08 05 23.8**	**-2.3**
LSZ	**Lusaka**	**17.14 260**		P		**Pn**	**08 05 24.8**	**-1.3**
LSZ					pmax	pmax		
	comp=Z,445nm,1.9s							
MOPA	**Mopani**	**17.19 230**		*i* P		**Pn**	**08 05 23.9**	**-2.6**
MOPA	**Mopani**	**17.19 230**		*e*P		**Pn**	**08 05 24.1**	**-2.5**
MOPA	**Mopani**	**17.19 230**		*i* P		**Pn**	**08 05 26.4**	**-0.1**
MUSN	**Musina, Limpop**	**17.73 236**		*i* P		**Pn**	**08 05 32.9**	**-0.5**
MUSN	**Musina, Limpop**	**17.73 236**		*e*P		**Pn**	**08 05 32.1**	**-1.3**
MUSN	**Musina, Limpop**	**17.73 236**		*i* P		**P**	**08 05 34.0**	**-0.3**
MPHEP	**Siloam, Limpop**	**17.79 234**		*e*P		**Pn**	**08 05 32.0**	**-2.2**
HOED	**Hoedspruit, Li**	**18.06 229**		*e*P		**Pn**	**08 05 35.5**	**-1.9**
MATP	**Matopo**	**18.08 243**		*i* P		**P**	**08 05 38.3**	**+0.1**
MATP	**Matopo**	**18.08 243**		P		**Pn**	**08 05 37.3**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=84,slow=13,SNR=21							
MATP					S	Sn	08 08 46.4	-13
	comp=Z,10nm,0.9s,baz=350,slow=22,SNR=2.7							
MATP					LR	LR	08 12 29.6	
	comp=Z,828nm,18.1s,baz=70,slow=37							
	comp=Z,8.0nm,0.5s							
MATP	**Matopo**	**18.08 243**		*i* P		**P**	**08 05 38.1**	**-0.1**

KEIM IAmb IAmb 08 07 17.2
comp=Z,194nm,1.6s
ROOI Rooidraai Farm 28.14 222 *e*P **P 08 07 18.5 -0.1**
ROOI IAmb IAmb 08 07 19.6
comp=Z,72nm,1.2s
BRAK Brakfontein 28.14 224 *e*P **P 08 07 18.6 -0.1**
WIN Windhoek 28.83 247 P **P 08 07 24.6 -0.5**
WIN Windhoek 28.83 247 P **P 08 07 24.6 -0.5**
WIN pmax pmax
comp=Z,36nm,1.3s
WIN MLR MLR
comp=Z,2µm,21.0s
GRAN Grantham 28.94 224 *e*P **P 08 07 26.1 +0.3**
GRAN IAmb IAmb 08 07 27.3
comp=Z,12nm,0.7s
FRAZ Fraserburg 29.25 226 *e*P **P 08 07 28.6 -0.1**
FRAZ IAmb IAmb 08 07 29.8
comp=Z,159nm,1.6s
MERW Merweville 29.60 224 *e*P **P 08 07 32.3 +0.5**
MERW IAmb IAmb 08 07 32.7
comp=Z,442nm,2.4s
SUR Sutherland 29.92 226 P **P 08 07 34.6 -0.1**
SUR Sutherland 29.92 226 LR LR 08 19 09.9
comp=Z,2µm,21.1s,baz=47,slow=36
SUR Sutherland 29.92 226 P **P 08 07 35.0 +0.3**
SUR P **P 08 07 35.0 +0.3**
ABTO Aybut 30.98 14 P **P 08 07 45.1 +1.2**
ABTO P **P 08 07 45.1 +1.2**
ABTO P **P 08 07 45.1 +1.2**
CER Ceres 31.53 225 *e*P **P 08 07 48.6 -0.1**
CER IAmb IAmb 08 07 51.9
comp=Z,53nm,1.3s
WHFO Wadi Hawf 31.64 15 P **P 08 07 50.5 +0.8**
WHFO P **P 08 07 50.5 +0.8**
DOK Doka 32.40 15 P **P 08 07 56.9 +0.6**
SNR=7.0
DOK P **P 08 07 56.9 +0.6**
SNR=7.0
MHTO MHTO 35.76 20 P **P 08 08 25.1 -0.5**
MHTO P **P 08 08 25.1 -0.5**
MHTO P **P 08 08 25.1 -0.5**
RAYN Ar Rayn 36.19 360 P **P 08 08 29.4 +0.2**
RAYN Ar Rayn 36.19 360 P **P 08 08 29.4 +0.2**
RAYN pmax pmax
comp=Z,38nm,1.4s
MZR Muzera 36.48 12 *i*P **P 08 08 32.9 +1.3**
SNR=7.1
MZR Muzera 36.48 12 P **P 08 08 32.5 +0.8**
SNR=5.8
MZR P **P 08 08 32.5 +0.8**
SNR=5.8
UMZA Um Al Zommool 36.58 15 P **P 08 08 32.6 0.0**
UMZA P **P 08 08 32.6 0.0**
JMDO Jabal Madar 37.10 19 P **P 08 08 36.9 0.0**
JMDO P **P 08 08 36.9 0.0**
BSY Bisya 37.17 18 P **P 08 08 37.9 +0.3**
SNR=11
BSY P **P 08 08 37.9 +0.3**
SNR=11
BSY P **P 08 08 37.9 +0.3**
SNR=11
GHWR Ruwais 37.30 11 P **P 08 08 39.2 +0.6**
GHWR P **P 08 08 39.2 +0.6**
JLN Jalan Bani Buh 37.34 21 P **P 08 08 39.0 0.0**
JLN P **P 08 08 39.0 0.0**
ARQ Araqi 37.53 16 P **P 08 08 41.1 +0.4**
SNR=9.6
ARQ P **P 08 08 41.1 +0.4**
SNR=9.6
WBK Wadi Bani Khal 37.61 20 P **P 08 08 42.5 +1.2**
WBK P **P 08 08 42.5 +1.2**
SMDO Samad 37.72 19 P **P 08 08 42.3 0.0**
SNR=6.4
SMDO P **P 08 08 42.3 0.0**
SNR=6.4
SMDO P **P 08 08 42.3 0.0**
SNR=6.4
SMRA Abu-Samra 37.74 8 P **P 08 08 42.3 0.0**
SNR=5.2
TRNA Turayna 37.78 8 P **P 08 08 42.7 0.0**
SNR=6.1
HOQ Hoqain 37.99 17 P **P 08 08 44.8 +0.2**
SNR=10
HOQ P **P 08 08 44.8 +0.2**
SNR=10
ALNE Al Ain 38.02 15 *i*P **P 08 08 46.0 +1.3**
SNR=6.5
ALNE Al Ain 38.02 15 P **P 08 08 45.6 +0.9**
SNR=8.3
ALNE P **P 08 08 45.6 +0.9**
SNR=8.3
WSAR Wadi Sarin 38.08 20 LR LR 08 21 36.2
comp=Z,3µm,20.2s,baz=208,slow=32
SOHO SOHO 38.29 16 *i*P **P 08 08 47.2 +0.2**
SNR=7.0
SOHO SOHO 38.29 16 P **P 08 08 47.5 +0.5**
SOHO P **P 08 08 47.5 +0.5**
ASUD Al Ashush, Dub 38.46 14 P **P 08 08 49.0 +0.6**
ASUD Al Ashush, Dub 38.46 14 P **P 08 08 49.5 +1.1**
ASUD P **P 08 08 49.5 +1.1**
FAQ Al Faqa, Dubai 38.64 15 *i*P **P 08 08 50.9 +1.0**
SNR=6.7
FAQ Al Faqa, Dubai 38.64 15 P **P 08 08 50.4 +0.5**
SNR=6.0
FAQ P **P 08 08 50.4 +0.5**
SNR=6.0
ASHO Ashiyiah 38.69 15 *i*P **P 08 08 50.8 +0.4**
SNR=10
ASHO Ashiyiah 38.69 15 P **P 08 08 51.0 +0.5**
SNR=6.9
ASHO P **P 08 08 51.0 +0.5**
SNR=6.9
HATD Hatta, Dubai 38.85 15 *i*P **P 08 08 52.1 +0.4**
SNR=5.4
HATD Hatta, Dubai 38.85 15 P **P 08 08 52.3 +0.5**
SNR=6.1
HATD P **P 08 08 52.3 +0.5**
SNR=6.1
SHMA Al-Shehemyia 38.85 8 P **P 08 08 52.7 +1.0**
NAZ Nazwa, Dubai 38.89 15 P **P 08 08 52.4 +0.4**
UOSS Minazif 38.98 15 P **P 08 08 52.4 -0.4**
UOSS Minazif 38.98 15 *i*P **P 08 08 53.2 +0.4**
SNR=7.5
UOSS Minazif 38.98 15 P **P 08 08 53.1 +0.3**
UOSS P **P 08 08 53.1 +0.3**
MDH Madha 39.34 15 *i*P **P 08 08 56.4 +0.6**
SNR=7.7
MDH Madha 39.34 15 P **P 08 08 56.0 +0.2**
SNR=5.7
MDH P **P 08 08 56.0 +0.2**
SNR=5.7
MSFE Esma-Masafi 39.37 15 *i*P **P 08 08 56.8 +0.7**
SNR=13
MASF Masafi 39.38 15 P **P 08 08 56.9 +0.7**
SNR=16
MASF P **P 08 08 56.9 +0.7**
SNR=16
SHME Shamm 40.02 15 P **P 08 09 01.7 +0.2**
PALK Pallekele 40.15 62 LR LR 08 22 03.8
comp=Z,1µm,18.6s,baz=346,slow=31
EIL Elat 43.56 346 LR LR 08 25 51.1
comp=Z,802nm,21.5s,baz=177,slow=34
HYB Hyderabad 44.27 48 *e*P **P 08 09 37.1 +0.7**
GHAJ Ghor Haditha 45.00 348 P **P 08 09 41.2 -0.6**
GHAJ IAMs_20 IAMs_20 08 28 42.9
comp=Z,2µm,19.0s
MMAI Mount Meron Ar 46.69 348 P **P 08 09 55.0 -0.4**
comp=Z,3.0nm,0.5s,baz=148,slow=13,SNR=10
MMAI LR LR 08 30 23.3
comp=Z,2µm,18.1s,baz=112,slow=37
comp=Z,3.0nm,0.5s
CSS Mathiatis 49.01 347 P **P 08 10 12.5 -0.8**
HRA Herat 49.58 18 P **P 08 10 17.5 -0.3**
GAZ Gaziantep 50.43 351 P **P 08 10 25.1 +1.0**
TOA0 Torodi Ar. Sit 50.71 299 P **P 08 10 25.6 -0.9**
TORD Torodi Ar. Bea 50.71 299 P **P 08 10 25.9 -0.6**
TORD Torodi Ar. Bea 50.71 299 P **P 08 10 26.4 0.0**
comp=Z,3.0nm,0.6s,baz=126,slow=7.3,SNR=20
TORD PcP **PcP 08 11 42.4 -1.4**
comp=Z,0.5nm,0.6s,baz=110,slow=5.4,SNR=1.0
comp=Z,3.0nm,0.6s
KARP Karpathos 51.27 341 P **P 08 10 29.8 -0.5**
KARP IAmb IAmb 08 10 32.7
comp=Z,41nm,1.1s
KARP IAMs_20 IAMs_20 08 33 27.9
comp=Z,3µm,21.0s

GURO Guroymak-BITLI 51.28 356 P **P 08 10 31.8 +1.2**
ELL Elmali 51.56 344 P **P 08 10 33.1 +0.4**
ELL Elmali 51.56 344 P **P 08 10 33.1 +0.4**
ELL pmax pmax
comp=Z,63nm,0.8s
IDI Anoyia 51.81 338 P **P 08 10 34.7 +0.3**
IDI Anoyia 51.81 338 LR LR 08 33 26.9
comp=Z,15nm,19.2s,baz=126,slow=37
GEYT Alibeck 51.88 12 P **P 08 10 34.5 -0.4**
GEYT Alibeck 51.88 12 P **P 08 10 34.4 -0.4**
comp=Z,5.2nm,0.6s,baz=227,slow=10.0,SNR=13
GEYT LR LR 08 31 56.1
comp=Z,1µm,21.6s,baz=198,slow=35
comp=Z,5.2nm,0.6s
GEYT Alibeck 51.88 12 P **P 08 10 34.5 -0.4**
GEYT pmax pmax
comp=Z,18nm,1.1s
GYA0B ALIBECK ARRAY 51.88 12 P **P 08 10 34.8 -0.1**
KBL Kabul 52.13 24 P **P 08 10 38.1 +1.1**
SNR=15
KBL P **P 08 10 38.1 +1.1**
SNR=15
ARPR Arapgir-MALATY 52.16 353 IAmb IAmb 08 10 39.8
comp=Z,99nm,1.5s
ISP Isparta 52.41 345 P **P 08 10 38.5 -0.4**
ISP Isparta 52.41 345 *ce*P **P 08 10 38.5 -0.4**
ISP pmax pmax
comp=Z,36nm,2.5s
GNI Garni 52.77 359 P **P 08 10 41.2 -0.4**
GNI Garni 52.77 359 IAMs_20 IAMs_20 08 33 48.7
comp=Z,2µm,20.0s
GNI Garni 52.77 359 *i*P **P 08 10 39.4 -2.3**
GNI pmax pmax
comp=Z,19nm,0.9s
TAM Tamanrasset 52.96 312 P **P 08 10 43.3 -0.1**
TAM IAMs_20 IAMs_20 08 34 05.4
comp=Z,2µm,18.0s
TAM Tamanrasset 52.96 312 P **P 08 10 43.3 -0.1**
TAM pmax pmax
comp=Z,33nm,1.4s
TAM MLR MLR
comp=Z,2µm,18.0s
APE Apeiranthos 53.19 340 ⇑P **P 08 10 43.9 -0.8**
APE Apeiranthos 53.19 340 *i*P **P 08 10 44.7 0.0**
APE pmax pmax
comp=Z,40nm,0.8s
GSI Gunungsitoli 53.37 79 IAMs_20 IAMs_20 08 28 50.6
comp=Z,1µm,20.0s
BR131 Keskin Array S 53.53 348 P **P 08 10 47.0 -0.3**
BR131 Keskin Array S 53.53 348 *d*P **P 08 10 46.8 -0.5**
BRTR Keskin Array B 53.53 348 P **P 08 10 46.7 -0.5**
BRTR Keskin Array B 53.53 348 P **P 08 10 47.3 0.0**
comp=Z,7.2nm,0.6s,baz=168,slow=10,SNR=46
comp=Z,7.2nm,0.6s
BRTR Keskin Array B 53.53 348 *ce*P **P 08 10 47.2 0.0**
BRTR pmax pmax
comp=Z,8.0nm,0.6s
ANTO Ankara 53.84 348 P **P 08 10 49.0 -0.4**
ANTO IAmb IAmb 08 10 51.1
comp=Z,80nm,1.9s
ANTO Ankara 53.84 348 IAMs_20 IAMs_20 08 34 54.9
comp=Z,1µm,20.0s
ANTO Ankara 53.84 348 P **P 08 10 49.0 -0.4**
ANTO pmax pmax
comp=Z,80nm,1.9s
ANTO MLR MLR
comp=Z,1µm,20.0s
DBIC Dimbokro 53.84 288 P **P 08 10 49.4 -0.5**
comp=Z,8.2nm,0.6s,baz=100,slow=8.2,SNR=13
comp=Z,8.2nm,0.6s
DBIC Dimbokro 53.84 288 P **P 08 10 49.9 +0.1**
BCA Borcka 54.19 356 ⇓P **P 08 10 52.2 +0.3**
ITM Ithomi 54.59 337 P **P 08 10 54.9 +0.1**
ITM IAmb IAmb 08 10 56.2
comp=Z,30nm,0.6s
BALB Balikesir 54.83 343 P **P 08 10 56.8 +0.3**
BALB IAmb IAmb 08 10 59.0
comp=Z,30nm,0.9s
RPSI Rantau Prapat 55.07 77 IAMs_20 IAMs_20 08 30 40.5
comp=Z,1µm,20.0s
DIKM Dikmen 55.11 350 ⇑P **P 08 10 58.7 +0.2**
ONI Oni 55.24 358 IAmb IAmb 08 11 01.7
comp=Z,58nm,1.7s
MAK Makhachkala 55.60 2 *e*P **P 08 10 57.8 -4.2**
MAK *e* 08 13 03.6
MAK *e*PPP PPP 08 14 15.0
MAK *e*S **S 08 18 40.6 -7.2**
MAK *e*SS **SS 08 22 26.9 -6.4**
MAK pmax pmax
comp=Z,55nm,0.4s
MAK MLR MLR
comp=Z,1µm,15.0s
SIMJ Simiganj 55.73 22 P **P 08 11 02.7 -0.5**
CHGR Chuyangaron 55.78 22 P **P 08 11 03.5 0.0**
CHGR Chuyangaron 55.78 22 P **P 08 11 03.5 0.0**
CHGR pmax pmax
comp=Z,375nm,1.8s
GROC Groznyy 55.82 0 *e*P **P 08 11 02.7 -0.9**
GROC *e* 08 13 07.2
GROC pmax pmax
comp=Z,25nm,0.5s
AGG Agios Georgios 56.06 338 P **P 08 11 05.1 -0.3**
AGG Agios Georgios 56.06 338 P **P 08 11 05.1 -0.3**
AGG pmax pmax
comp=Z,16nm,0.9s
VSLR Vesyoloye 56.31 355 *i*P **P 08 11 07.0 -0.1**
VSLR pmax pmax
comp=Z,34nm,1.3s
KBZ Khabaz 56.40 358 P **P 08 11 08.2 +0.5**
comp=Z,6.1nm,0.7s,baz=193,slow=6.5,SNR=18
comp=Z,6.1nm,0.7s
KBZ Khabaz 56.40 358 *de*P **P 08 11 07.8 +0.1**
KBZ pmax pmax
comp=Z,32nm,2.0s
SHA1 Shidzhatmaz 56.42 357 *de*P **P 08 11 08.3 +0.1**
SOC Sochi 56.46 355 *e*P **P 08 11 06.5 -1.7**
SOC *e* 08 13 07.0
SOC *e*PPP PPP 08 14 24.8
SOC *e*S **S 08 18 58.9 -0.4**
SOC *e*SS **SS 08 22 39.9 -7.0**
SOC *e*SSS SSS 08 24 58.2
SOC pmax pmax
comp=Z,18nm,1.0s
SOC MLR MLR
comp=Z,919nm,18.0s
GAR Garm 56.51 23 P **P 08 11 08.4 -0.4**
ALN Alexandroupoli 56.52 342 IAmb IAmb 08 11 10.9
comp=Z,14nm,0.7s
KIV Kislovodsk 56.64 357 ⇓P **P 08 11 09.1 -0.4**
KIV Kislovodsk 56.64 357 P **P 08 11 09.6 0.0**
KIV Kislovodsk 56.64 357 *i*P **P 08 11 09.8 +0.2**
SNR=9.3
KIV Kislovodsk 56.64 357 *d*P **P 08 11 09.5 0.0**
KIV *e*PPP PPP 08 14 32.6
KIV *i*S **S 08 19 09.4 +7.6**
KIV pmax pmax
comp=Z,72nm,1.7s
KIV MLR MLR
comp=Z,2µm,19.0s
KIV Kislovodsk 56.64 357 P **P 08 11 09.4 -0.1**
comp=Z,30nm,1.4s,comp=Z,493nm
WDD Wied Dalam 56.72 330 IAMs_20 IAMs_20 08 36 34.3
comp=Z,925nm,18.0s
KDZ Kurdzhali 57.41 342 P **P 08 11 15.9 +1.0**
LABN Labinsk 57.43 356 *e*P **P 08 11 13.6 -1.4**
LABN *e*S **S 08 19 11.4 -0.7**
LABN pmax pmax
comp=Z,57nm,0.7s
LABN MLR MLR
comp=Z,602nm,15.0s
GOF Gofitskoye 57.72 358 *ce*P **P 08 11 17.3 +0.2**
MMB Musomishta 57.83 341 P **P 08 11 18.2 +0.3**
JMB Yambol 57.85 343 P **P 08 11 18.5 +0.5**
ANN Anapa 57.90 353 *e*P **P 08 11 15.7 -2.6**
ANN *e* 08 13 24.1
ANN *e*S **S 08 19 15.2 -2.9**
ANN pmax pmax
comp=Z,44nm,1.7s
ANN MLR MLR
comp=Z,1µm,19.0s
FNA Florina 57.96 338 IAmb IAmb 08 11 20.1
comp=Z,26nm,0.7s
PLD Plovdiv 58.06 342 P **P 08 11 20.3 +0.8**
VAE Valguarnera 58.08 331 LR LR 08 37 40.0
comp=Z,1µm,18.0s,baz=108,slow=38

KKB Krupnik 58.29 340 P **P 08 11 21.6 +0.4**
TIP Timpagrande 58.41 334 ⇑P **P 08 11 22.1 0.0**
TIP Timpagrande 58.41 334 IAmb IAmb 08 11 24.1
comp=Z,73nm,1.9s
TIP Timpagrande 58.41 334 P **P 08 11 22.4 +0.3**
comp=Z,15nm,1.4s,comp=Z,276nm
ELND Elena 58.44 343 ⇑P **P 08 11 22.3 +0.2**
SIM Simferopol' 58.51 350 *e*P **P 08 11 19.4 -3.2**
SIM pmax pmax
comp=Z,59nm,1.2s
ERBR Yeremizino-Bor 58.52 356 *e*P **P 08 11 20.3 -2.3**
ERBR pmax pmax
comp=Z,180nm,1.6s
ERBR MLR MLR
comp=Z,685nm,14.0s
SZH Strazhitsa 58.72 343 P **P 08 11 24.7 +0.6**
VTS Vitosha 58.96 341 P **P 08 11 26.5 +0.5**
SHL Shillong 59.04 49 P **P 08 11 26.7 -0.2**
SHL IAmb IAmb 08 11 35.6
comp=Z,55nm,1.7s
SHL Shillong 59.04 49 P **P 08 11 26.7 -0.2**
SHL pmax pmax
comp=Z,55nm,1.7s
KSH Kashi 59.28 27 P **P 08 11 26.6 -1.6**
KSH LR LR
comp=Z,480nm,16.3s
KSH LR LR
comp=Z,360nm,14.9s
KSH LR LR
comp=Z,580nm,17.7s
KEST Kesra 59.32 326 IAmb IAmb 08 11 31.4
comp=Z,36nm,1.3s
KEST Kesra 59.32 326 P **P 08 11 29.6 +1.1**
comp=Z,6.9nm,0.8s,baz=83,slow=4.9,SNR=6.4
comp=Z,6.9nm,0.8s
MPEP Malo Peshtene 59.46 342 P **P 08 11 29.3 0.0**
PUK Puka 59.60 338 IAmb IAmb 08 11 34.5
comp=Z,24nm,0.6s
BRLS Borolday 59.88 20 *e*P **P 08 11 29.0 -3.3**
baz=20
BRLS Borolday 59.88 20 *e*P **P 08 11 28.9 -3.3**
CFR Carcaliu 59.94 346 ⇓P **P 08 11 32.2 -0.3**
CFR Carcaliu 59.94 346 P **P 08 11 32.2 -0.3**
BLKB Belogradchik 60.04 341 ⇓P **P 08 11 32.8 -0.5**
PDG Podgorica 60.17 338 ⇓P **P 08 11 34.4 +0.2**
PDG Podgorica 60.17 338 *e*P **P 08 11 34.3 +0.2**
KK31 Karatay Array 60.18 21 P **P 08 11 33.9 -0.3**
KK31 Karatay Array 60.18 21 P **P 08 11 33.9 -0.3**
KK31 pmax pmax
comp=Z,80nm,1.8s
KKAR Karatay Array 60.18 21 P **P 08 11 33.7 -0.5**
KKAR Karatay Array 60.18 21 P **P 08 11 33.7 -0.5**
DZA Taraz 60.28 21 *e*P **P 08 11 34.3 -0.7**
baz=22
DZA Taraz 60.28 21 *e*P **P 08 11 34.2 -0.7**
BOVS Bovan 60.37 340 ⇓P **P 08 11 34.3 -1.1**
ELIB Princess Elisa 60.54 188 *d*P **P 08 11 37.8 +1.3**
comp=Z,24nm,1.4s
ELIB *d*PcP **PcP 08 12 19.4 -1.6**
SJES Sjenica 60.63 339 *e*P **P 08 11 37.7 +0.3**
NEHR Nehoiu 60.64 344 P **P 08 11 37.6 +0.3**
MLR Muntele Rosu 60.79 344 ⇑P **P 08 11 38.0 -0.5**
MLR Muntele Rosu 60.79 344 P **P 08 11 38.2 -0.3**
MLR Muntele Rosu 60.79 344 P **P 08 11 38.2 -0.3**
MLR pmax pmax
comp=Z,85nm,1.9s
MLR MLR MLR
comp=Z,700nm,21.0s
BRY Bratogost 60.84 337 *e*P **P 08 11 39.4 +0.5**
VRI Vrincioaia 60.93 345 ⇓P **P 08 11 39.3 -0.1**
VRI Vrincioaia 60.93 345 P **P 08 11 39.2 -0.1**
VRI Vrincioaia 60.93 345 P **P 08 11 39.2 -0.1**
comp=Z,47nm,1.8s,comp=Z,809nm
LSA Lhasa 60.94 45 P **P 08 11 39.9 -0.3**
LSA IAmb IAmb 08 11 49.9
comp=Z,75nm,2.0s
LSA Lhasa 60.94 45 P **P 08 11 39.9 -0.3**
LSA pmax pmax
comp=Z,75nm,2.0s
PLOR Plostina 60.94 345 ⇑P **P 08 11 38.6 -0.8**
PLOR Plostina 60.94 345 P **P 08 11 38.6 -0.8**
UPM Unac-Piva 60.97 338 *e*P **P 08 11 40.5 +0.7**
VOIR 60.98 344 ⇑P **P 08 11 38.1 -1.6**
VOIR 60.98 344 P **P 08 11 38.1 -1.6**
ARR Arges 61.03 343 ⇓P **P 08 11 39.1 -1.0**
COVR Voineasa-Covas 61.05 345 ⇑P **P 08 11 39.6 -0.6**
CMAR Chiang Mai Arr 61.06 60 P **P 08 11 40.7 0.0**
CMAR Chiang Mai Arr 61.06 60 P **P 08 11 41.4 +0.7**
comp=Z,0.9nm,0.3s,baz=251,slow=8.6,SNR=11
comp=Z,0.9nm,0.3s
CHTO Chiang Mai 61.22 60 P **P 08 11 41.8 0.0**
CHTO IAmb IAmb 08 11 51.3
comp=Z,27nm,1.2s
CHTO Chiang Mai 61.22 60 P **P 08 11 41.8 0.0**
CHTO pmax pmax
comp=Z,27nm,1.3s
HERR Herculane 61.25 341 ⇓P **P 08 11 41.1 -0.4**
AAK Ala-Archa 61.26 24 P **P 08 11 42.0 +0.2**
AAK IAmb IAmb 08 11 51.2
comp=Z,46nm,1.8s
AAK Ala-Archa 61.26 24 *i*P **P 08 11 42.6 +0.9**
SNR=5.2
AAK Ala-Archa 61.26 24 *ce*P **P 08 11 42.4 +0.6**
AAK pmax pmax
comp=Z,11nm,1.7s
NEVS Nevesinje 61.35 337 *e*P **P 08 11 42.8 +0.6**
LOT Lotru 61.35 343 P **P 08 11 42.5 +0.2**
BBLS Lazi&#263i 61.36 339 *e*P **P 08 11 41.5 -0.8**
DOPR Dopca 61.38 344 ⇓P **P 08 11 41.2 -1.1**
MDVR Moldovita 61.38 341 ⇑P **P 08 11 41.6 -0.8**
OZUR 61.39 344 ⇑P **P 08 11 41.8 -0.6**
BOSR Bodos 61.40 344 ⇓P **P 08 11 41.4 -1.1**
MILM Milestii Mici 61.43 347 ⇓P **P 08 11 41.6 -1.1**
MILM Milestii Mici 61.43 347 *i*P **P 08 11 41.5 -1.1**
comp=Z,970nm,5.0s
MILM *e*S **S 08 20 00.0 -3.6**
MILM *e*L L 08 34 26.0
MILM LRM MLR 08 44 29.0
comp=Z,500nm,17.5s
MILM Milestii Mici 61.43 347 *i*P **P 08 11 41.5 -1.1**
MILM *e*S **S 08 20 00.0 -3.6**
MILM pmax pmax
comp=Z,270nm,5.0s
NVL N'lazarevskaya 61.48 192 *e*P **P 08 11 42.4 -0.3**
NVL *e*S **S 08 20 04.0 +0.3**
NVL pmax pmax
comp=Z,54nm,1.0s
NVL MLR MLR
comp=Z,311nm,17.0s
KIS Kishinev 61.50 347 *e*P **P 08 11 42.0 -1.1**
KIS *e*L L 08 34 37.0
KIS LRM MLR 08 44 30.0
comp=Z,200nm,18.0s
KIS Kishinev 61.50 347 *e*P **P 08 11 42.0 -1.1**
TESR Tescani 61.55 345 P **P 08 11 43.3 -0.2**
GZR Gura Zlata 61.60 342 ⇓P **P 08 11 43.9 0.0**
GZR Gura Zlata 61.60 342 P **P 08 11 43.9 0.0**
HAPS Han Pijesak,BI 61.71 338 *e*P **P 08 11 45.1 +0.3**
BOOM Boomskoye usch 61.72 25 P **P 08 11 44.3 -0.6**
BOOM IAmb IAmb 08 11 57.9
comp=Z,19nm,1.2s
BOOM Boomskoye usch 61.72 25 P **P 08 11 44.3 -0.6**
BOOM pmax pmax
comp=Z,19nm,1.2s
TEKS Tekeris 61.91 339 *e*P **P 08 11 45.7 -0.3**
INTR Introdacqua 61.97 334 IAmb IAmb 08 11 47.6
comp=Z,19nm,0.9s
SGDS Sogindy 62.00 24 *e*P **P 08 11 45.0 -1.6**
comp=Z,14nm,1.1s,baz=24
SGDS Sogindy 62.00 24 *e*P **P 08 11 45.0 -1.6**
SGDS pmax pmax
comp=Z,14nm,1.1s
VSL Villasalto 62.12 329 IAmb IAmb 08 11 50.1
comp=Z,18nm,0.6s
BZS Buzias 62.16 341 ⇓P **P 08 11 47.4 -0.2**
BZS Buzias 62.16 341 P **P 08 11 47.4 -0.2**
PHRA Phrae 62.17 61 P **P 08 11 48.2 +0.1**
FRGS Fruska Gora 62.35 340 ⇑P **P 08 11 49.5 +0.7**
FRGS Fruska Gora 62.35 340 *e*P **P 08 11 48.8 -0.1**
FRGS Fruska Gora 62.35 340 P **P 08 11 48.8 -0.1**
comp=Z,41nm,1.9s,comp=Z,696nm
MARR Marisel-Cluj 62.66 343 ⇓P **P 08 11 51.2 +0.2**
SORM Soroca 62.68 347 ⇑P **P 08 11 50.0 -1.0**
SORM Soroca 62.68 347 P **P 08 11 49.9 -1.0**

MDOK Medeo 62.73 25 *e*P P 08 11 50.8 -0.9
baz=25
MDOK Medeo 62.73 25 *e*P P 08 11 50.7 -0.9
BLY Banja Luka 62.93 338 *e*P P 08 11 52.5 -0.2
BURAR Bucovina Array 62.94 345 ⇓P P 08 11 53.3 +0.3
BURAR Bucovina Array 62.94 345 P P 08 11 52.4 -0.5
BURAR IAmb IAmb 08 11 54.4
comp=Z,10nm,0.7s
BURAR Bucovina Array 62.94 345 P P 08 11 53.2 +0.3
NRCA Norcia 62.98 334 IAmb IAmb 08 11 54.1
comp=Z,38nm,1.4s
KUU Kurty 63.04 24 *e*P P 08 11 53.0 -0.6
comp=Z,8.2nm,0.7s,baz=24
KUU Kurty 63.04 24 *e*P P 08 11 52.9 -0.6
KUU pmax pmax
comp=Z,8.0nm,0.7s
BTLS Baital 63.12 22 *e*P P 08 11 52.7 -1.3
baz=22
BTLS Baital 63.12 22 *e*P P 08 11 52.7 -1.3
ABKAR Akbulak array 63.14 10 P P 08 11 53.4 -0.7
ABKAR Akbulak array 63.14 10 IAmb IAmb 08 12 02.6
comp=Z,193nm,1.8s
SATY Saty 63.22 26 *e*P P 08 11 53.7 -1.3
baz=26
SATY Saty 63.22 26 *e*P P 08 11 53.6 -1.3
CHKK Chushkaly 63.27 25 *e*P P 08 11 53.9 -1.2
baz=25
CHKK Chushkaly 63.27 25 *e*P P 08 11 53.9 -1.2
NDNU Novodnistrovsk 63.33 346 P P 08 11 54.0 -1.3
BORR Bors 63.43 342 ⇓P P 08 11 56.3 +0.3
BMR Baia Mare 63.46 343 ⇑P P 08 11 56.2 0.0
BMR Baia Mare 63.46 343 P P 08 11 56.2 0.0
KMPD K-Podol'skiy 63.52 346 P P 08 11 54.3 -2.3
KMPD P P 08 11 54.2 -2.3
KSV Kosov 63.63 345 P P 08 11 56.1 -1.2
MORH Mrgy, Hungar 63.67 339 ⇓P P 08 11 57.5 -0.1
MORH Mrgy, Hungar 63.67 339 P P 08 11 56.7 -0.9
comp=Z,19nm,1.3s,comp=Z,430nm
SHLS Shalkode 63.77 27 *e*P P 08 11 58.9 +0.4
baz=27
SHLS Shalkode 63.77 27 *e*P P 08 11 58.8 +0.3
TNCH TengChong 63.82 54 *e*P P 08 12 01.4 +2.1
TNCH PP PP 08 14 25.4 +5.5
TNCH S S 08 20 35.6 +0.6
TNCH pmax pmax
comp=Z,170nm,3.2s
TNCH LR LR
comp=Z,1μm,23.9s
TNCH LR LR
comp=Z,1μm,19.8s
TNCH LR LR
comp=Z,590nm,22.8s
VORD Divnogorie 63.83 356 *e*P P 08 11 57.2 -1.3
VORD pmax pmax
comp=Z,20nm,0.6s
VRH Novokhopyorsk 63.91 357 *e*P P 08 11 56.6 -2.5
VRH pmax pmax
comp=Z,40nm,0.6s
VSR Storozhevoye 64.09 355 *e*P P 08 11 58.8 -1.4
VSR pmax pmax
comp=Z,70nm,2.0s
STNU Starunia 64.14 345 P P 08 11 59.6 -1.1
TROLL Troll, Antarti 64.42 194 ⇑P P 08 12 04.2 +1.7
comp=Z,2μm,1.0s
CRES Cresnjev 64.49 337 *i* P P 08 12 03.3 +0.2
CRES Cresnjev 64.49 337 *e*P P 08 12 02.8 -0.2
LUBAR Lubar, Ukraine 64.50 347 P P 08 12 01.3 -1.7
VORR Voronezh 64.54 356 *e*P P 08 12 01.8 -1.4
VORR pmax pmax
comp=Z,68nm,1.8s
MORS Morshin 64.69 344 P P 08 12 03.9 -0.3
KOGS Kog 64.72 338 *i* P P 08 12 04.5 0.0
PSZ Piszkesteto 64.75 341 ⇑P P 08 12 04.1 -0.7
PSZ Piszkesteto 64.75 341 IAmb IAmb 08 12 05.6
comp=Z,9.7nm,0.7s
PSZ Piszkesteto 64.75 341 P P 08 12 04.0 -0.7
AK07 Malin Array Si 64.80 348 P P 08 12 04.0 -0.9
TDK Taldyqorghan 64.80 25 *e*P P 08 12 04.2 -0.9
comp=Z,8.0nm,0.6s,baz=25
TDK Taldyqorghan 64.80 25 *e*P P 08 12 04.2 -0.9
TDK pmax pmax
comp=Z,8.0nm,0.6s
AK10 Malin Array Si 64.83 349 P P 08 12 03.8 -1.3
AK09 Malin Array Si 64.84 349 P P 08 12 03.9 -1.3
MPLH Magyarpolny 64.88 339 P P 08 12 04.9 -0.6
comp=Z,68nm,1.8s,comp=Z,1μm
KIEV Kiev 64.93 349 ⇑P P 08 12 05.0 -0.8
KIEV Kiev 64.93 349 P P 08 12 04.5 -1.3
KIEV Kiev 64.93 349 *i* P P 08 12 04.7 -1.1
SNR=6.6
KIEV Kiev 64.93 349 P P 08 12 04.5 -1.3
KIEV pmax pmax
comp=Z,79nm,2.0s
KIEV MLR MLR
comp=Z,500nm,20.0s
KIEV Kiev 64.93 349 P P 08 12 04.5 -1.3
comp=Z,60nm,2.0s
AKASG Malin Array Be 64.94 349 P P 08 12 04.8 -1.1
comp=Z,3.2nm,0.7s,baz=176,slow=5.6,SNR=28
comp=Z,3.2nm,0.7s
AKBB Malin Array Si 64.94 349 *de*P P 08 12 04.5 -1.3
AKBB pmax pmax
comp=Z,17nm,1.8s
AKBB Malin Array Si 64.94 349 P P 08 12 04.2 -1.6
KOLS Kolonicke sedl 64.95 343 *e*P P 08 12 06.6 +0.6
KOLS Kolonicke sedl 64.95 343 *e*P P 08 12 06.6 +0.6
KOLS pmax pmax
comp=Z,22nm,1.8s
MI29 MI29, Kamyanyy 64.95 348 P P 08 12 04.7 -1.2
LJU Ljubljana 65.03 337 *e*P P 08 12 06.3 -0.2
BELG Belogornoye 65.04 1 *i* P P 08 12 05.5 -0.9
BELG pmax pmax
comp=Z,4.0nm,0.9s
MAHO Mahon 65.11 326 IAmb IAmb 08 12 09.9
comp=Z,21nm,0.9s
CRVS Cervenica-Dubn 65.15 343 *e*P P 08 12 07.2 -0.1
CRVS Cervenica-Dubn 65.15 343 *e*P P 08 12 07.2 -0.1
CRVS pmax pmax
comp=Z,66nm,1.8s
SRO Srobarova 65.17 340 *e*P P 08 12 07.6 +0.2
SRO Srobarova 65.17 340 *e*P P 08 12 07.6 +0.2
SRO pmax pmax
comp=Z,65nm,1.6s
MI30 MI30,Zelenitsa 65.19 348 P P 08 12 06.1 -1.3
PERS Pernice 65.30 337 *e*P P 08 12 08.1 -0.3
SOKA Soboth 65.36 337 *e*P P 08 12 08.6 -0.2
comp=Z,15nm,0.8s,SNR=10
OBKA Obir 65.41 337 *i* P P 08 12 09.1 0.0
comp=Z,42nm,1.7s,SNR=12
OBKA Obir 65.41 337 *e*P P 08 12 08.6 -0.5
KWP Kalwaria Pacla 65.46 344 IAMs_20 IAMs_20 08 40 22.4
comp=Z,786nm,21.0s
MI28 Mi28,Pidlybu 65.47 348 P P 08 12 08.3 -1.0
LPSR Galich'ya Gora 65.48 355 *e*P P 08 12 07.6 -1.7
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SNAA Sanae 65.50 195 P P 08 12 10.5 +1.0
SNAA IAmb IAmb 08 12 12.2
comp=Z,37nm,1.4s
SNAA IAMs_20 IAMs_20 08 39 20.7
comp=Z,1μm,18.0s
SNAA Sanae 65.50 195 ⇑P P 08 12 10.4 +1.0
comp=Z,162nm,1.0s
SNAA Sanae 65.50 195 P P 08 12 10.4 +1.0
comp=Z,9.8nm,1.1s,baz=99,slow=11,SNR=11
comp=Z,9.8nm,1.1s
SNAA Sanae 65.50 195 *ce*P P 08 12 10.8 +1.4
SNAA pmax pmax
comp=Z,16nm,1.3s
VYHS Vyhne 65.59 341 *e*P P 08 12 09.7 -0.5
VYHS Vyhne 65.59 341 *e*P P 08 12 09.7 -0.5
VYHS pmax pmax
comp=Z,57nm,1.8s
ARSA Arzberg 65.66 338 *e*P P 08 12 10.5 -0.2
comp=Z,10nm,0.7s,SNR=14
STHS Stebnicka Huta 65.68 343 *e*P P 08 12 10.1 -0.6
STHS Stebnicka Huta 65.68 343 *e*P P 08 12 10.1 -0.6
PRED Cave del Predi 65.73 336 P P 08 12 10.9 -0.3
PRED IAmb IAmb 08 12 12.3
comp=Z,64nm,1.8s
RONA Rosalia, Austr 65.77 339 *e*P P 08 12 11.1 -0.2
comp=Z,12nm,0.6s,SNR=24
MYKA Terra Mystica 65.86 336 *i* P P 08 12 11.4 -0.6
comp=Z,12nm,1.0s,SNR=5.6
ZST Bratislava 65.91 339 *e*P P 08 12 11.8 -0.4
ZST pmax pmax
comp=Z,109nm,1.4s
STAL STALIGIAL 65.93 336 IAmb IAmb 08 12 13.3
comp=Z,15nm,0.9s
NIE Niedzica 65.96 342 *e*P P 08 12 12.2 -0.3
NIE Niedzica 65.96 342 P P 08 12 11.7 -0.8
comp=Z,6.6nm,1.9s
LANS Liptovska Anna 65.97 341 *e*P P 08 12 13.2 +0.6
LANS Liptovska Anna 65.97 341 *e*P P 08 12 13.2 +0.6
LANS pmax pmax
comp=Z,6.0nm,0.7s
MODS Modra-Piesok 66.00 340 *e*P P 08 12 12.6 -0.2
MODS Modra-Piesok 66.00 340 *e*P P 08 12 12.6 -0.2
MODS pmax pmax
comp=Z,170nm,1.8s
SMOL Smolenice 66.07 340 *e*P P 08 12 13.0 -0.3
CIMO Cimolais 66.08 335 IAmb IAmb 08 12 14.3
comp=Z,15nm,0.7s
CONA Conrad Observa 66.11 339 *e*P P 08 12 13.2 -0.4
comp=Z,8.6nm,0.7s,SNR=18
RNPP5 Staryi Chortor 66.14 347 P P 08 12 12.4 -1.2
CTI Castel Tesino 66.19 335 IAmb IAmb 08 12 15.5
comp=Z,24nm,0.8s
RNPP8 Varash 66.25 347 P P 08 12 12.8 -1.5
JAVC Velka Javorina 66.29 340 *e*P P 08 12 14.6 -0.1
VNA2 Neumayer--Watz 66.30 197 ⇑P P 08 12 15.6 +1.2
comp=Z,6.4nm,0.7s,baz=51,slow=6.3
KBA Koelnbreinsper 66.34 336 *i* P P 08 12 14.5 -0.7
comp=Z,15nm,0.8s
ABTA Abfaltersbach 66.40 336 *e*P P 08 12 15.1 -0.4
comp=Z,12nm,0.8s,SNR=6.5
VNA1 Neumayer--Stat 66.41 197 ⇑P P 08 12 16.9 +1.8
comp=Z,37nm,1.0s
CART Cartagena 66.62 321 IAMs_20 IAMs_20 08 41 46.0
comp=Z,1μm,19.0s
MOA Molln 66.63 338 *e*P P 08 12 16.2 -0.6
comp=Z,5.9nm,0.5s,SNR=14
MAUC Maruska 66.68 341 *e*P P 08 12 17.2 0.0
BIOA Bad Ischl, Aus 66.74 337 *e*P P 08 12 16.2 -1.4
comp=Z,5.8nm,0.7s,SNR=11
OJC Ojcow 66.82 342 *e*P P 08 12 14.0 -4.0
OJC Ojcow 66.82 342 IAmb IAmb 08 12 18.5
comp=Z,43nm,1.5s
OJC Ojcow 66.82 342 P P 08 12 16.3 -1.7
comp=Z,23nm,1.9s
LESA Schwarzleotal 66.89 336 *e*P P 08 12 17.4 -1.2
comp=Z,12nm,0.9s
KRUC Moravsky 66.89 340 *e*P P 08 12 17.5 -1.0
BRZS Berezniki 66.94 19 *e*P P 08 12 18.1 -0.8
baz=19
BRZS Berezniki 66.94 19 *e*P P 08 12 18.0 -0.8
OKC Ostrava-Krasne 66.99 341 AMS AMS 08 45 20.0
comp=Z,500nm,21.5s
VRAC Vranov 67.04 340 ⇑P P 08 12 19.1 -0.3
VRAC Vranov 67.04 340 *e*P P 08 12 18.9 -0.5
VRAC Vranov 67.04 340 P P 08 12 19.1 -0.3
PZH PanZhiHua 67.08 54 P P 08 12 23.0 +2.7
PZH S S 08 21 16.4 +1.7
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,130nm,4.8s
PZH LR LR
comp=Z,290nm,19.4s
PZH LR LR
comp=Z,270nm,18.2s
PZH LR LR
comp=Z,350nm,21.1s
VNA3 Neumayer Olymp 67.10 197 ⇑P P 08 12 20.7 +1.1
comp=Z,24nm,0.8s
MORC Moravsky Berou 67.13 341 ⇑P P 08 12 19.3 -0.7
MORC Moravsky Berou 67.13 341 IAmb IAmb 08 12 21.1
comp=Z,21nm,0.8s
MORC Moravsky Berou 67.13 341 *e*P P 08 12 18.6 -1.4
MORC Moravsky Berou 67.13 341 P P 08 12 19.3 -0.7
WTTA Wattenberg 67.17 336 *e*P P 08 12 19.5 -1.0
comp=Z,23nm,1.4s,SNR=6.6
WATA Walderalm 67.25 336 *i* P P 08 12 19.2 -1.8
comp=Z,5.5nm,0.7s
GOMU GeErMu 67.31 42 P P 08 12 22.8 +0.9
GOMU S S 08 21 18.4 +0.8
GOMU pmax pmax
comp=Z,7.0nm,0.7s
GOMU pmax pmax
comp=Z,350nm,5.5s
GOMU LR LR
comp=Z,610nm,18.6s
GOMU LR LR
comp=Z,560nm,18.7s
GOMU LR LR
comp=Z,1μm,18.4s
SQTA Sankt Quirin 67.31 335 *i* P P 08 12 20.3 -1.0
comp=Z,5.8nm,0.6s
FETA Feichten 67.35 335 *i* P P 08 12 21.0 -0.6
comp=Z,26nm,1.3s,SNR=13
CKRC Cesky Krumlov 67.42 338 *e*P P 08 12 21.7 -0.2
CKRC AMS AMS 08 46 50.0
comp=Z,500nm,18.2s
CKRC Cesky Krumlov 67.42 338 *e*P P 08 12 21.7 -0.2
CKRC MLR MLR
comp=Z,500nm,18.2s
MOTA Moosalm 67.45 335 *e*P P 08 12 20.8 -1.5
comp=Z,11nm,1.1s,SNR=6.1
TUE Stuetta 67.50 334 IAmb IAmb 08 12 23.3
comp=Z,38nm,1.6s
TUE Stuetta 67.50 334 P P 08 12 21.3 -1.4
comp=Z,54nm,1.8s
BNI Bardonecchia 67.62 331 IAmb IAmb 08 12 24.0
comp=Z,34nm,1.9s
BNI IAMs_20 IAMs_20 08 46 36.9
comp=Z,659nm,19.0s
KRLC Kraliky 67.64 340 *e*P P 08 12 22.5 -0.7
KRLC Kraliky 67.64 340 *e*P P 08 12 22.5 -0.7
GEC2 GERESS Array S 67.67 338 IAmb IAmb 08 12 23.9
comp=Z,20nm,1.2s
GERES GERESS Array B 67.67 338 P P 08 12 21.9 -1.6
GERES GERESS Array B 67.67 338 P P 08 12 22.3 -1.2
comp=Z,4.9nm,0.6s,baz=130,slow=4.2,SNR=11
comp=Z,4.9nm,0.6s
NWAO Narrogin (SRO) 67.70 120 LR LR 08 34 54.1
comp=Z,531nm,21.7s,baz=234,slow=30
RETA Reute 67.71 335 *e*P P 08 12 22.8 -1.0
comp=Z,37nm,1.9s,SNR=7.8
MAKZ Makanchi 67.74 26 P P 08 12 23.6 -0.4
MAKZ IAmb IAmb 08 12 32.9
comp=Z,22nm,1.1s
MAKZ Makanchi 67.74 26 P P 08 12 23.6 -0.4
MAKZ pmax pmax
comp=Z,22nm,1.1s
MK31 Makanchi Array 67.87 26 P P 08 12 24.2 -0.5
MK31 Makanchi Array 67.87 26 *ce*P P 08 12 24.3 -0.5
MKAR Makanchi Array 67.87 26 P P 08 12 23.8 -0.9
MKAR Makanchi Array 67.87 26 P P 08 12 24.2 -0.5
comp=Z,13nm,0.5s,baz=208,slow=7.1,SNR=16
comp=Z,1.3nm,0.5s
DAVA Damuels 67.91 335 *i* P P 08 12 24.0 -1.2
comp=Z,17nm,0.9s,SNR=16
KHC Kasperske Hory 67.95 338 P P 08 12 24.1 -1.2
KHC Kasperske Hory 67.95 338 *e*P P 08 12 24.0 -1.2
KHC AMS AMS 08 49 30.0
comp=Z,600nm,20.0s
KHC Kasperske Hory 67.95 338 *ce*P P 08 12 24.1 -1.2
KHC pmax pmax
comp=Z,37nm,1.7s
KHC Kasperske Hory 67.95 338 P P 08 12 23.2 -2.0
comp=Z,9.5nm,1.9s
DPC Dobruska-Polom 68.02 340 *e*P P 08 12 24.9 -0.8
DPC AMS AMS 08 48 50.0
comp=Z,400nm,16.3s
DPC Dobruska-Polom 68.02 340 *e*P P 08 12 24.9 -0.8
DPC MLR MLR
comp=Z,400nm,16.3s
DPC Dobruska-Polom 68.02 340 P P 08 12 24.9 -0.8
comp=Z,16nm,1.9s
GOPC GO Pecny, Ondr 68.17 339 AMS AMS 08 47 30.0
comp=Z,500nm,22.9s
OBN Obninsk 68.18 354 P P 08 12 26.2 -0.3
OBN Obninsk 68.18 354 ⇑*e*P P 08 12 26.1 -0.3
OBN *e* 08 14 58.6
OBN *e*PPP PPP 08 16 39.3
OBN *i* S S 08 21 15.4 -11
OBN pmax pmax
comp=Z,41nm,1.7s
OBN MLR MLR
comp=Z,1μm,20.0s
WMQ Urumqi 68.19 31 *e*P P 08 12 26.9 0.0
WMQ pmax pmax
comp=Z,23nm,0.7s
WMQ LR LR
comp=Z,580nm,18.1s
WMQ LR LR
comp=Z,570nm,16.7s
WMQ LR LR
comp=Z,470nm,21.1s
OSTC Ostas 68.23 340 *e*P P 08 12 26.4 -0.6
OSTC AMS AMS 08 46 30.0
comp=Z,500nm,20.1s
OSTC Ostas 68.23 340 *e*P P 08 12 26.4 -0.6
OSTC MLR MLR
comp=Z,500nm,20.1s
UPC Upice 68.26 340 AMS AMS 08 46 00.0
comp=Z,500nm,18.5s
CHVC Chvalec 68.31 340 *e*P P 08 12 26.6 -0.9
CHVC AMS AMS 08 46 10.0
comp=Z,500nm,18.4s
CHVC Chvalec 68.31 340 *e*P P 08 12 26.6 -0.9
CHVC MLR MLR
comp=Z,500nm,18.4s
PRU Pruhonice 68.32 339 AMS AMS 08 47 20.0
comp=Z,400nm,20.8s
PRA Prague 68.43 339 AMS AMS 08 47 10.0
comp=Z,400nm,16.1s
CEST Esterri de Car 68.61 326 IAmb IAmb 08 12 32.5
comp=Z,44nm,1.5s
MOS Moscow 68.70 355 *e*P P 08 12 27.2 -2.5
MOS pmax pmax
comp=Z,36nm,0.9s
MOS MLR MLR
comp=Z,1μm,20.0s
PVCC Panska Ves 68.77 339 *e*P P 08 12 29.7 -0.5
PVCC Panska Ves 68.77 339 *e*P P 08 12 29.7 -0.5
MNK Minsk 68.81 349 *i* P P 08 12 28.5 -1.9
MNK *i* 08 12 53.1
MNK *i* 08 14 59.9
MNK *i* PPP PPP 08 16 39.1
MNK *i* S S 08 21 32.2 -1.8
MNK *i* 08 22 28.5
MNK *i* SS SS 08 25 57.7 -1.8
MNK pmax pmax
comp=Z,18nm,0.7s
MNK pmax pmax
comp=N,16nm,0.8s
MNK pmax pmax
comp=E,15nm,0.8s
MNK MLR MLR
comp=N,2μm,19.0s
MNK MLR MLR
comp=E,403nm,21.0s
MNK MLR MLR
comp=Z,660nm,20.0s
BVAR Borovoye Array 68.99 16 P P 08 12 31.4 -0.2
comp=Z,2.3nm,0.6s,baz=224,slow=5.6,SNR=12
comp=Z,2.3nm,0.6s
BRVK Borovoye 69.00 16 P P 08 12 31.5 -0.1
BRVK IAmb IAmb 08 12 40.5
comp=Z,53nm,1.7s
BRVK Borovoye 69.00 16 *ce*P P 08 12 31.5 -0.1
BRVK pmax pmax
comp=Z,7.0nm,1.7s
HSKC Hora Svate Kat 69.23 339 AMS AMS 08 52 30.0
comp=Z,500nm,16.5s
BRG Berggiesshubel 69.27 339 *i* P P 08 12 32.6 -0.7
BRG Amp 08 12 34.2
comp=Z,27nm,1.6s
BRG Berggiesshubel 69.27 339 S S 08 21 42.0 +2.3
BRG Amp 08 53 05.0
comp=Z,0.4nm,16.4s
BRG Amp 08 53 09.0
comp=E,0.1nm,14.9s
BRG Amp 08 53 09.0
comp=N,0.4nm,14.7s
NKC Novy Kostel 69.28 338 AMS AMS 08 48 00.0
comp=N,600nm,17.6s
SUW Suwalki 69.34 346 P P 08 12 32.8 -1.0
SUW Suwalki 69.34 346 *e*P P 08 12 33.4 -0.3
SUW Suwalki 69.34 346 P P 08 12 32.8 -1.0
SUW pmax pmax
comp=Z,64nm,1.3s
SUW MLR MLR
comp=Z,700nm,21.0s
STU Stuttgart 69.37 335 P P 08 12 33.2 -0.8
STU IAmb IAmb 08 12 35.1
comp=Z,12nm,0.8s
STU Stuttgart 69.37 335 P P 08 12 33.2 -0.8
STU pmax pmax
comp=Z,12nm,0.8s
STU MLR MLR
comp=Z,500nm,20.0s
BFO Black Forest 69.38 334 P P 08 12 33.4 -0.8
BFO IAmb IAmb 08 12 35.1
comp=Z,34nm,1.5s
BFO Black Forest 69.38 334 P P 08 12 33.4 -0.8
BFO pmax pmax
comp=Z,33nm,1.5s
KURBB Kurchatov Arra 69.45 22 P P 08 12 34.0 -0.5
comp=Z,1.0nm,0.6s,baz=217,slow=7.2,SNR=10.0
comp=Z,1.0nm,0.6s
KURK Kurchatov 69.56 22 P P 08 12 34.5 -0.6
KURK Kurchatov 69.56 22 *ce*P P 08 12 33.8 -1.4
KURK pmax pmax
comp=Z,3.0nm,1.3s
ESDC Sonseca Array 69.74 321 P P 08 12 36.3 -0.3
ESDC Sonseca Array 69.74 321 P P 08 12 37.2 +0.6
comp=Z,5.4nm,0.7s,baz=124,slow=5.3,SNR=58
comp=Z,5.4nm,0.7s
ARU Arti 69.89 8 P P 08 12 36.6 -0.5
ARU Arti 69.89 8 *ce*P P 08 12 36.1 -1.0
ARU pmax pmax
comp=Z,51nm,1.7s
ARU Arti 69.89 8 P P 08 12 36.5 -0.6
comp=Z,39nm,1.1s,comp=Z,635nm
PAB San Pablo 69.90 321 P P 08 12 37.5 -0.1
PAB San Pablo 69.90 321 IAMs_20 IAMs_20 08 45 16.6
comp=Z,1μm,18.0s
PAB San Pablo 69.90 321 P P 08 12 37.5 -0.1
PAB pmax pmax
comp=Z,69nm,1.7s
PAB MLR MLR
comp=Z,1μm,18.0s
SEM Semipalatinsk 69.91 23 *e*P P 08 12 36.8 -0.9
baz=23
SEM Semipalatinsk 69.91 23 *e*P P 08 12 36.7 -0.9
CLL Collm 69.96 339 P P 08 12 36.7 -0.9
CLL IAmb IAmb 08 12 38.5
comp=Z,35nm,1.6s
CLL Collm 69.96 339 P P 08 12 36.7 -0.9
CLL pmax pmax
comp=Z,35nm,1.6s
CLL Collm 69.96 339 P P 08 12 37.2 -0.4
comp=Z,16nm,2.0s
PABE Paberze 70.54 347 P P 08 12 40.6 -0.5
PABE IAmb IAmb 08 12 42.0
comp=Z,36nm,1.0s
PABE Paberze 70.54 347 *e*P P 08 12 41.0 0.0
SVE Sverdlovsk 70.56 9 *e*P P 08 12 41.0 -0.2
SVE *e*S S 08 21 54.5 -0.1
SVE pmax pmax
comp=Z,53nm,1.9s
QIZ Qiongzhong 70.71 64 P P 08 12 43.4 +0.5
QIZ PP PP 08 15 20.6 +0.8
QIZ S S 08 21 58.3 +0.5
QIZ SS SS 08 26 30.5 +0.3
QIZ LR LR
comp=Z,100nm,17.8s
QIZ LR LR
comp=Z,200nm,18.4s
QIZ LR LR
comp=Z,310nm,16.1s
CD2 Chengdu 70.73 51 P P 08 12 49.8 +6.9
CD2 S S 08 22 00.8 +3.0
CD2 sS sS 08 22 12.5 +11
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,200nm,5.7s
CD2 LR LR
comp=Z,160nm,10.8s
CD2 LR LR
comp=Z,170nm,12.1s
CD2 LR LR
comp=Z,510nm,18.4s

PVAQ **Vaqueiros** 70.80 317 *e*P **P** **08 12 44.1 +1.0**
PVAQ *e*S **S** **08 22 05.4 +7.3**
PVAQ Vaqueiros 70.80 317 *e*LR LR 08 38 19.4
comp=Z,830nm,18.0s
PBDV Barranco-do-Ve 70.85 317 *e*P **P** **08 12 43.5 +0.1**
GYA Guiyang 70.98 56 P **P** **08 12 46.9 +2.3**
GYA S **S** **08 22 05.8 +4.8**
GYA pmax pmax
comp=Z,15nm,0.5s
GYA pmax pmax
comp=Z,170nm,5.6s
GYA LR LR
comp=Z,290nm,21.0s
GYA LR LR
comp=Z,440nm,18.4s
GYA LR LR
comp=Z,400nm,16.4s
PCVE Castro Verde 71.14 317 *e*P **P** **08 12 46.2 +1.1**
PBEJ Beja 71.25 318 *e*P **P** **08 12 46.5 +0.7**
comp=Z,20nm,2.1s
KIRV Kirov 71.29 2*ce*P **P** **08 12 45.0 -0.5**
WLF Walferdange 71.33 334 *d*P **P** **08 12 45.7 -0.3**
MORF Marmelete 71.36 317 *e*P **P** **08 12 48.0 +1.4**
comp=Z,63nm,1.8s
MESJ Messejana 71.37 318 *e*P **P** **08 12 47.6 +1.1**
MESJ Messejana 71.37 318 *e*P **P** **08 12 46.8 +0.2**
MESJ IAMs_20 IAMs_20 08 46 03.7
comp=Z,2µm,21.7s
MESJ Messejana 71.37 318 *e*P **P** **08 12 46.8 +0.2**
PFVI Vila Bisbo 71.39 317 *e*P **P** **08 12 48.2 +1.6**
PESTR Estremoz 71.54 319 *e*P **P** **08 12 48.1 +0.5**
comp=Z,27nm,1.6s
PESTR *e*S S 08 22 16.1 +9.4
PESTR Estremoz 71.54 319 P **P** **08 12 47.5 -0.1**
PESTR IAmb IAmb 08 12 49.6
comp=Z,15nm,0.9s
PTEO Sao Teotonio 71.55 317 *e*P **P** **08 12 49.6 +2.0**
EVO Evora 71.62 318 *e*P **P** **08 12 48.6 +0.6**
comp=Z,19nm,1.5s
PNCL Nicolau / Gran 71.73 318 *e*P **P** **08 12 50.1 +1.4**
comp=Z,25nm,1.8s
PMRV Marv??o 71.73 319 *e*LR LR 08 41 36.3
comp=Z,946nm,18.0s
BHOU Houvegnez 71.91 335 *d*P **P** **08 12 50.3 +0.8**
PCBR Castelo Branco 72.02 320 *e*P **P** **08 12 50.7 +0.3**
comp=Z,23nm,1.9s
BTNL Ternell 72.03 335 *d*P **P** **08 12 50.3 0.0**
RCHB Rochefort 72.09 334 *d*P **P** **08 12 50.3 -0.3**
MEM Membach 72.10 335 *d*P **P** **08 12 51.5 +0.9**
BCLA Clavier 72.25 334 *d*P **P** **08 12 51.6 0.0**
DOU Dourbes 72.32 334 *d*P **P** **08 12 52.3 +0.3**
BGES Gesves 72.32 334 *d*P **P** **08 12 52.0 0.0**
comp=Z,8.8nm,1.7s
MTE Manteigas 72.38 320 *e*S **SKiKP** **08 22 24.3 -4.4**
MTE Manteigas 72.38 320 *e*LR LR 08 41 39.7
comp=Z,1µm,18.0s
GTA Gaotai 72.39 41 *e*P **P** **08 12 53.4 +0.6**
GTA S **S** **08 22 17.6 +0.8**
GTA pmax pmax
comp=Z,5.0nm,1.4s
GTA LR LR
comp=Z,370nm,21.1s
GTA LR LR
comp=Z,380nm,21.1s
GTA LR LR
comp=Z,600nm,22.7s
BMRD Maredsous 72.40 334 *d*P **P** **08 12 52.2 -0.2**
MVO Moncorvo 72.50 321 *e*P **P** **08 12 54.3 +0.9**
comp=Z,34nm,1.7s
MVO *e*S **S** **08 22 21.9 +4.1**
MVO Moncorvo 72.50 321 *e*LR LR 08 42 05.4
comp=Z,1µm,18.0s
BSD Bornholm Skovb 72.55 342 *e*P **P** **08 12 52.2 -1.0**
RGN Rugen 72.56 341 IAMs_20 IAMs_20 08 49 33.3
comp=Z,830nm,20.0s
PSBE So Bento 72.68 319 *e*P **P** **08 12 55.4 +1.0**
PMAFR Mafra 72.69 318 *e*P **P** **08 12 54.5 +0.1**
PBRG Braganca 72.70 322 *e*P **P** **08 12 55.8 +1.3**
comp=Z,30nm,1.8s
VSU Vasula 72.77 350*ce*P **P** **08 12 54.4 0.0**
VSU pmax pmax
comp=Z,97nm,1.7s
PVIS Viseu 72.78 320 *e*P **P** **08 12 55.5 +0.5**
PCAS Casmilo, Conde 72.79 319 *e*P **P** **08 12 56.3 +1.3**
comp=Z,41nm,1.8s
COI Coimbra 72.82 320 IAMs_20 IAMs_20 08 45 57.0
comp=Z,1µm,21.0s
PVRL Vila Real 72.99 321 *e*P **P** **08 12 57.2 +1.0**
comp=Z,27nm,1.9s
POLO Lamas de Olo 73.10 321 *e*P **P** **08 12 57.7 +0.8**
comp=Z,24nm,1.7s
LZH Lanzhou 73.34 46 *e*P **P** **08 13 00.6 +2.1**
LZH S **SKiKP** **08 22 31.8 +1.4**
LZH pmax pmax
comp=Z,22nm,1.2s
LZH pmax pmax
comp=Z,260nm,4.5s
LZH LR LR
comp=Z,400nm,15.5s
LZH LR LR
comp=Z,400nm,15.5s
LZH LR LR
comp=Z,620nm,15.5s
PCAB Cabril 73.43 321 *e*P **P** **08 13 00.2 +1.4**
comp=Z,44nm,1.6s
MTSE Matsula 73.55 348 *e*P **P** **08 12 58.8 -0.2**
KLMR Klimovskoe 73.66 357 *e*P **P** **08 12 57.4 -2.2**
KLMR pmax pmax
comp=Z,67nm,1.5s
KLMR MLR MLR
comp=Z,1µm,21.0s
PGAV Gavieira, Arco 73.73 321 *e*P **P** **08 13 02.2 +1.6**
comp=Z,40nm,1.7s
PGAV *e*S **S** **08 22 39.6 +7.8**
PGAV Gavieira, Arco 73.73 321 *e*LQ LQ 08 39 04.5
PGAV *e*LR LR 08 43 46.9
comp=Z,896nm,18.0s
DEL Delary 74.01 342 *e*P **P** **08 13 02.1 +0.3**
ZAA0 Zalesovo Array 74.44 23 P **P** **08 13 02.9 -1.4**
ZALV Zalesovo Beam 74.44 23 P **P** **08 13 03.4 -1.0**
ZALV Zalesovo Beam 74.44 23 P **P** **08 13 02.9 -1.4**
comp=Z,1.5nm,0.5s,baz=220,slow=7.1,SNR=8.3
comp=Z,1.5nm,0.5s
MEF Metsahovi 74.84 349 *e*P **P** **08 13 06.6 +0.1**
ENH Enshi 74.86 54 P **P** **08 13 06.6 -0.7**
ENH IAmb IAmb 08 13 16.7
comp=Z,82nm,1.8s
VIKU Vikbolandet 74.98 345 *e*P **P** **08 13 07.2 -0.1**
PMOZ Porto Moniz, M 75.25 309 *e*LR LR 08 44 11.1
comp=Z,736nm,18.0s
BELA Belgrano 2 75.44 192 P **P** **08 13 11.5 +1.5**
AAL Aland 75.69 347 *e*P **P** **08 13 10.7 -0.6**
FINES FINESS Array B 75.70 350 P **P** **08 13 11.2 -0.3**
FINES FINESS Array B 75.70 350 P **P** **08 13 10.9 -0.6**
comp=Z,5.0nm,0.6s,baz=145,slow=7.1,SNR=41
comp=Z,5.0nm,0.6s
FINES FINESS Array B 75.70 350 *i* P **P** **08 13 10.8 -0.7**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FIA1 FINESS Array S 75.70 350 P **P** **08 13 11.1 -0.3**
FIA1 IAmb IAmb 08 13 12.5
comp=Z,40nm,0.9s
UPP Uppsala 75.94 346 *e*P **P** **08 13 12.8 0.0**
XAN Xi'an 76.05 50 ⇓P **P** **08 13 14.1 -0.1**
XAN S **S** **08 22 58.6 +0.7**
XAN pmax pmax
comp=Z,10.0nm,1.3s
XAN pmax pmax
comp=Z,220nm,11.6s
XAN LR LR
comp=Z,310nm,18.1s
XAN LR LR
comp=Z,420nm,19.1s
XAN LR LR
comp=Z,320nm,16.6s
RAF Rauma 76.09 348 *e*P **P** **08 13 13.0 -0.7**
JOF Joensuu 76.39 353 *e*P **P** **08 13 14.7 -0.7**
KEF Keuruu 76.58 350 *e*P **P** **08 13 15.7 -0.8**
FORT Forrest 77.04 119 IAmb IAmb 08 13 22.2
comp=Z,35nm,1.1s
HFS Hagfors 77.17 344 P **P** **08 13 19.5 -0.4**
comp=Z,8.0nm,0.6s,baz=147,slow=6.3,SNR=28
comp=Z,8.0nm,0.6s
QSPA South Pole Qui 77.20 180 P **P** **08 13 21.2 +0.9**
QSPA South Pole Qui 77.20 180 P **P** **08 13 21.2 +0.9**
comp=Z,51nm,1.1s,baz=258,slow=2.9,SNR=53
comp=Z,51nm,1.1s
VAF Ylistaro 77.78 349 *e*P **P** **08 13 23.5 +0.4**
KONO Kongsberg 77.92 342 P **P** **08 13 24.1 +0.1**
KONO Kongsberg 77.92 342 IAMs_20 IAMs_20 08 49 15.1
comp=Z,767nm,22.0s
KONO Kongsberg 77.92 342*ce*P **P** **08 13 24.1 +0.1**
KONO pmax pmax
comp=Z,44nm,1.3s
NC602 NORSAR Array S 78.26 344 IAmb IAmb 08 13 27.1
comp=Z,39nm,1.3s
NAO01 NORSAR Array S 78.53 343 IAmb IAmb 08 13 28.8
comp=Z,52nm,1.4s
NB2 NORSAR Subarra 78.60 344 P **P** **08 13 27.4 -0.5**
comp=Z,75nm,1.7s,baz=146,slow=5.6
NB2 NORSAR Subarra 78.60 344 P **P** **08 13 27.4 -0.5**
baz=146,slow=5.6
NOA NORSAR Array B 78.60 344 P **P** **08 13 27.4 -0.5**
comp=Z,1.8nm,0.6s,baz=133,slow=5.4,SNR=13
comp=Z,1.8nm,0.6s
NC303 NORSAR Array S 78.71 344 IAmb IAmb 08 13 29.6
comp=Z,27nm,1.2s
LYN LuoYang 78.92 51 *e*P **P** **08 13 33.0 +2.8**
LYN S **S** **08 23 31.6 +2.7**
LYN SKS **SKSac** **08 23 41.5 -4.6**
LYN pmax pmax
comp=Z,11nm,0.6s
LYN pmax pmax
comp=Z,180nm,4.8s
LYN LR LR
comp=Z,330nm,18.2s
LYN LR LR
comp=Z,440nm,17.9s
LYN LR LR
comp=Z,720nm,20.6s
NC204 NORSAR Array S 78.92 344 IAmb IAmb 08 13 31.1
comp=Z,54nm,1.5s
EKA Eskdalemuir Ar 79.35 334 P **P** **08 13 31.9 -0.1**
comp=Z,2.9nm,0.5s,baz=137,slow=6.4,SNR=21
comp=Z,2.9nm,0.5s
EKA Eskdalemuir Ar 79.35 334 P **P** **08 13 32.0 -0.1**
BTO Baotou 79.76 44 *e*P **P** **08 13 35.3 +0.6**
BTO pP **PcP** **08 13 45.6 +3.2**
BTO sP pwP 08 13 49.6 +8.3
BTO S **S** **08 23 34.9 -2.9**
BTO sS **SKKSac** **08 23 52.9 -0.8**
BTO SS **SS** **08 28 47.4 +0.4**
BTO pmax pmax
comp=Z,13nm,1.0s
BTO pmax pmax
comp=Z,110nm,5.7s
BTO LR LR
comp=Z,620nm,16.7s
BTO LR LR
comp=Z,520nm,16.5s
BTO LR LR
comp=Z,900nm,17.0s
RCBR Riachuelo 80.54 266 LR LR 08 45 54.9
comp=Z,505nm,19.0s,baz=336,slow=33
ZAK Zakamensk 80.55 33 *e*P P 08 13 46.3 +7.5
ZAK pmax pmax
comp=Z,9.0nm,1.9s
HHC Hu-ho-hao-te 80.92 45 *e*P **P** **08 13 42.0 +1.0**
HHC *e*S **S** **08 23 50.1 +0.1**
HHC sS ScS 08 24 06.9 -1.8
HHC pmax pmax
comp=Z,4.0nm,0.7s
HHC pmax pmax
comp=Z,59nm,3.5s
HHC LR LR
comp=Z,280nm,13.5s
HHC LR LR
comp=Z,220nm,16.4s
HHC LR LR
comp=Z,300nm,14.5s
SONM Songino Array 80.93 37 P **P** **08 13 41.0 +0.1**
SONM Songino Array 80.93 37 P **P** **08 13 40.5 -0.4**
comp=Z,1.5nm,0.6s,baz=224,slow=6.3,SNR=7.5
comp=Z,1.5nm,0.6s
SONM Songino Array 80.93 37 P **P** **08 13 41.0 +0.1**
SONM pmax pmax
comp=Z,10.0nm,1.2s
LVZ Lovozero 80.97 356 P **P** **08 13 40.7 +0.2**
ULN Ulaanbaatar 81.33 37*ce*P **P** **08 13 43.2 +0.1**
ULN pmax pmax
comp=Z,6.0nm,1.7s
HNS HongShan 81.72 49 ⇑P **P** **08 13 46.5 +1.3**
HNS S **S** **08 23 59.9 +1.7**
HNS pmax pmax
comp=Z,8.0nm,1.5s
HNS LR LR
comp=Z,230nm,19.1s
HNS LR LR
comp=Z,360nm,19.1s
HNS LR LR
comp=Z,500nm,19.6s
VNDA Vanda 82.95 169 P **P** **08 13 52.2 +1.3**
VNDA Vanda 82.95 169 P **P** **08 13 52.4 +1.5**
comp=Z,5.0nm,1.0s,baz=263,slow=6.2,SNR=15
comp=Z,5.0nm,1.0s
VNDA Vanda 82.95 169 P **P** **08 13 52.3 +1.3**
VNDA pmax pmax
comp=Z,16nm,1.4s
NJ2 Nanjing 82.95 55 *e*P **P** **08 13 53.0 +1.3**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
ASAR Alice Springs 83.32 113 P **P** **08 13 54.0 0.0**
ASAR Alice Springs 83.32 113 P **P** **08 13 54.5 +0.5**
comp=Z,4.1nm,0.5s,baz=261,slow=4.8,SNR=112
comp=Z,4.1nm,0.5s
ASAR Alice Springs 83.32 113 P **P** **08 13 54.0 0.0**
ARCES ARCESS Array B 83.43 353 P **P** **08 13 52.5 -0.9**
comp=Z,2.6nm,0.7s,baz=152,slow=5.5,SNR=12
comp=Z,2.6nm,0.7s
BBOO Buckleboo 83.44 122 P **P** **08 13 55.4 +1.0**
BBOO IAmb IAmb 08 13 56.2
comp=Z,33nm,1.2s
SBA Scott Base 83.68 169 P **P** **08 13 56.7 +2.0**
SBA IAmb IAmb 08 13 58.8
comp=Z,57nm,1.6s
SBA Scott Base 83.68 169 P **P** **08 13 56.7 +2.0**
SBA pmax pmax
comp=Z,57nm,1.7s
WRA Warramunga Arr 84.45 109 P **P** **08 13 59.7 -0.1**
WRA Warramunga Arr 84.45 109 P **P** **08 14 00.3 +0.5**
comp=Z,10.0nm,1.0s,baz=265,slow=3.8,SNR=27
comp=Z,10.0nm,1.0s
WRA Warramunga Arr 84.45 109 P **P** **08 13 59.7 -0.1**
WRA pmax pmax
comp=Z,4.0nm,1.4s
WB2 Warramunga Arr 84.46 109 IAmb IAmb 08 14 01.7
comp=Z,40nm,1.3s
WRAB Tennant Creek 84.46 109 P **P** **08 13 59.5 -0.4**
WRAB IAmb IAmb 08 14 08.8
comp=Z,21nm,0.9s
WRAB Tennant Creek 84.46 109 P **P** **08 13 59.5 -0.4**
WRAB pmax pmax
comp=Z,21nm,0.9s
WB0 Warramunga Arr 84.53 109 IAmb IAmb 08 14 01.9
comp=Z,41nm,1.4s
WR0 Warramunga Arr 84.63 109 IAmb IAmb 08 14 03.0
comp=Z,49nm,1.8s
XLT XiLinHaoTe 85.22 43 *e*P P 08 14 12.6 +9.4
XLT XiLinHaoTe 85.22 43 SKS **SKSac** **08 24 29.5 +1.2**
SDBA SAO DESIDERIO 87.85 258 *e*P **P** **08 14 17.3 +0.6**
STKA Stephens Creek 88.22 122 P **P** **08 14 17.9 -0.1**
STKA Stephens Creek 88.22 122 P **P** **08 14 18.4 +0.3**
comp=Z,6.6nm,0.9s,baz=234,slow=7.1,SNR=7.9
comp=Z,6.6nm,0.9s
STKA Stephens Creek 88.22 122 P **P** **08 14 18.0 -0.1**
STKA pmax pmax
comp=Z,4.0nm,1.3s
BDFB Brasilia 90.07 254 P **P** **08 14 28.5 +1.3**
comp=Z,2.3nm,0.7s,baz=87,slow=4.4,SNR=4.2
comp=Z,2.3nm,0.7s
CN2 Changchun 91.57 45 *e*P **P** **08 14 34.6 +1.2**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
SPITS Spitsbergen Ar 92.38 354 P **P** **08 14 36.8 +0.3**
comp=Z,3.4nm,0.8s,baz=157,slow=19,SNR=1.2
comp=Z,3.4nm,0.8s
HEH HeiHe 94.58 40 *e*P **P** **08 14 44.4 -2.7**
HEH pmax pmax
comp=Z,99nm,5.8s
HEH LR LR
comp=Z,340nm,20.9s
HEH LR LR
comp=Z,320nm,20.3s
HEH LR LR
comp=Z,550nm,21.7s
YAK Yakutsk 98.48 28 LR LR 08 59 13.7
comp=Z,264nm,20.0s,baz=264,slow=35
TIXI Tiksi 100.00 19 IAMs_20 IAMs_20 09 07 12.8
comp=Z,400nm,20.0s
YSS Yuzh-Sakhalins 104.10 45 *e*P **Pdif** **08 15 30.2 +0.3**
YSS pmax pmax
comp=Z,10.0nm,1.2s
MA2 Magadan 108.66 31 IAMs_20 IAMs_20 09 14 12.0
comp=Z,334nm,20.0s
DZM Mont Dzumac 112.32 120 *e*LR LR 08 53 28.7
comp=Z,749nm,23.3s
BILL Bilibino 113.08 21 IAMs_20 IAMs_20 09 15 40.1
comp=Z,314nm,20.0s
EMMW East Machias 115.39 313 IAMs_20 IAMs_20 09 07 49.8
comp=Z,562nm,20.0s
PKME Peaks-Kenny Pk 116.60 314 IAMs_20 IAMs_20 09 11 18.8
comp=Z,421nm,19.0s
LBNH Lisbon 118.62 313 IAMs_20 IAMs_20 09 10 59.3
comp=Z,410nm,20.0s
HRV Adam Dziewonsk 118.64 311 IAMs_20 IAMs_20 09 09 43.2
comp=Z,478nm,20.0s
HNH Hanover 118.97 313 IAMs_20 IAMs_20 09 11 18.7
comp=Z,612nm,21.0s
VT1 Waterbury 119.19 314 IAMs_20 IAMs_20 09 06 31.3
comp=Z,348nm,19.0s
L61B Northampton 119.47 312 IAMs_20 IAMs_20 09 10 09.1
comp=Z,580nm,20.0s
A36M Sachs Harbour 120.68 357 IAMs_20 IAMs_20 09 18 03.6
comp=Z,445nm,20.0s
A36M Sachs Harbour 120.68 357 P **PKPdf** **08 20 17.4 -0.3**
baz=10
B22K Teshekpuk Lake 121.36 7 IAMs_20 IAMs_20 09 15 18.8
comp=Z,416nm,20.0s
C19K Lookout Ridge 121.55 10 IAMs_20 IAMs_20 09 14 06.9
comp=Z,350nm,22.0s
C18K Utukok River 121.65 11 IAMs_20 IAMs_20 09 19 04.7
comp=Z,461nm,21.0s
RDOG Red Dog Mine 121.82 12 IAMs_20 IAMs_20 09 15 46.1
comp=Z,349nm,21.0s
B21K Ikpikpuk River 121.87 8 IAMs_20 IAMs_20 09 20 18.2
comp=Z,294nm,21.0s
D19K Kuna River 122.34 10 IAMs_20 IAMs_20 09 17 34.9
comp=Z,294nm,20.0s
C24K Franklin Bluff 122.48 6 P **PKiKP** **08 20 21.6 +0.1**
baz=343
C26K Camden Bay 122.62 4 P **PKiKP** **08 20 22.1 +0.3**
baz=348
D22K Ayikyak River 122.82 8 IAMs_20 IAMs_20 09 16 18.3
comp=Z,330nm,21.0s
E18K Tukpahlearik C 122.83 12 IAMs_20 IAMs_20 09 16 38.7
comp=Z,439nm,21.0s
E20K Nigu River 122.88 10 P **PKiKP** **08 20 22.6 +0.1**
baz=334
E21K Killik River 123.05 9 IAMs_20 IAMs_20 09 17 47.4
comp=Z,281nm,20.0s
D25K Kavik River 123.09 5 **PKPdf** **08 20 22.5 -0.1**
D25K IAMs_20 IAMs_20 09 15 10.3
comp=Z,338nm,21.0s
D25K Kavik River 123.09 5 P **PKPdf** **08 20 22.4 -0.1**
baz=346
C36M Paulatuk 123.21 356 P **PKPdf** **08 20 21.5 -1.2**
baz=12
F15K North Star Dit 123.36 14 IAMs_20 IAMs_20 09 22 52.1
comp=Z,299nm,20.0s
E19K Redstone River 123.42 10 IAMs_20 IAMs_20 09 19 20.4
comp=Z,293nm,19.0s
TOLK Toolik Lake Re 123.43 7 IAMs_20 IAMs_20 09 16 25.3
comp=Z,368nm,21.0s
F17K Baldwin Pennin 123.53 13 IAMs_20 IAMs_20 09 19 27.4
comp=Z,302nm,20.0s
E22K Anaktuvuk Pass 123.63 8 IAMs_20 IAMs_20 09 20 30.8
comp=Z,273nm,20.0s
F19K Shaleruckik Mo 123.88 11 IAMs_20 IAMs_20 09 18 38.6
comp=Z,315nm,20.0s
F19K Shaleruckik Mo 123.88 11 P **PKPdf** **08 20 24.0 -0.1**
baz=332
F20K Avaraart Lake 124.05 10 IAMs_20 IAMs_20 09 18 55.0
comp=Z,372nm,20.0s
E24K Your Creek 124.09 6 IAMs_20 IAMs_20 09 17 28.9
comp=Z,270nm,20.0s
E24K Your Creek 124.09 6 P **PKPdf** **08 20 24.3 -0.2**
baz=343
ANM Nome 124.10 16 IAMs_20 IAMs_20 09 18 35.7
comp=Z,421nm,21.0s
G16K Koyuk River 124.17 14 IAMs_20 IAMs_20 09 20 23.3
comp=Z,361nm,19.0s
F21K Alatna River 124.25 9 P **PKiKP** **08 20 25.1 0.0**
baz=337
E25K Arctic Village 124.33 5 IAMs_20 IAMs_20 09 16 57.1
comp=Z,391nm,21.0s
G17K Kiwalik Mounta 124.46 13 P **PKiKP** **08 20 25.5 0.0**
baz=328
E29M Blow River 124.50 2 P **PKPdf** **08 20 24.5 -0.7**
baz=356
G18K Tagagawik 124.54 12 IAMs_20 IAMs_20 09 20 15.0
comp=Z,314nm,20.0s
E27K Coleen River 124.55 3 IAMs_20 IAMs_20 09 16 58.9
comp=Z,304nm,21.0s
INK Inuvik 124.63 360 P **PKPdf** **08 20 25.2 -0.2**
baz=1.0
F24K Squaw Lake 124.69 6 IAMs_20 IAMs_20 09 17 47.7
comp=Z,292nm,20.0s
ERPA Erie 124.83 313 IAMs_20 IAMs_20 09 13 22.0
comp=Z,481nm,20.0s
H17K Granite Mounta 125.11 13 IAMs_20 IAMs_20 09 19 58.1
comp=Z,307nm,20.0s
F28M Old Crow 125.21 3 P **PKPdf** **08 20 26.4 -0.2**
baz=353
G23K Bananza Creek 125.21 8 IAMs_20 IAMs_20 09 21 19.6
comp=Z,283nm,20.0s
MCWV Mont Chateau 125.34 310 IAMs_20 IAMs_20 09 12 01.6
comp=Z,513nm,21.0s
H21K Melozitna Rive 125.81 9 IAMs_20 IAMs_20 09 19 40.3
comp=Z,351nm,21.0s
I17K Unalakleet 125.83 14 IAMs_20 IAMs_20 09 21 45.2
comp=Z,343nm,20.0s
FYU Fort Yukon 125.88 5 IAMs_20 IAMs_20 09 17 31.1
comp=Z,346nm,20.0s
G27K Doyon Strip 125.91 4 P **PKPdf** **08 20 28.2 +0.2**
baz=351
G30M tAoh Zraii Nji 125.95 1 IAMs_20 IAMs_20 09 21 45.8
comp=Z,294nm,20.0s
G29M Pine Creek 125.98 2 P **PKPdf** **08 20 27.4 -0.7**
baz=356
G31M Satah River 126.02 360 IAMs_20 IAMs_20 09 20 03.8
comp=Z,265nm,19.0s
G31M Satah River 126.02 360 P **PKPdf** **08 20 27.7 -0.4**
baz=0.1
J14K Nanvaranak Lak 126.05 16 IAMs_20 IAMs_20 09 18 15.1
comp=Z,332nm,22.0s
H23K Yukon River 126.12 8 IAMs_20 IAMs_20 09 18 15.5
comp=Z,306nm,21.0s
H24K Noodor Dome 126.31 7 IAMs_20 IAMs_20 09 18 26.6
comp=Z,399nm,22.0s
BLA Blacksburg 126.32 307 IAMs_20 IAMs_20 09 13 33.9
comp=Z,517nm,19.0s
J16K Anvik River 126.36 14 IAMs_20 IAMs_20 09 22 12.3
comp=Z,264nm,21.0s
I21K Tanana 126.38 9 IAMs_20 IAMs_20 09 20 06.5
comp=Z,302nm,20.0s
K13K Kusilvak Mount 126.39 17 IAMs_20 IAMs_20 09 18 19.4
comp=Z,290nm,21.0s
EPYK Eagle Plains 126.55 1 P **PKPdf** **08 20 29.0 -0.3**
baz=357
I23K Minto, Yukon-K 126.79 8 IAMs_20 IAMs_20 09 18 24.2
comp=Z,385nm,22.0s
PRP Porcupine Dome 126.88 6 IAMs_20 IAMs_20 09 18 29.5
comp=Z,267nm,21.0s
K15K Wolf Creek Mou 126.96 16 IAMs_20 IAMs_20 09 20 15.2
comp=Z,358nm,20.0s
P52A Corning 127.05 310 IAMs_20 IAMs_20 09 15 28.0
comp=Z,513nm,20.0s
POKR Poker Plat Res 127.06 7 IAMs_20 IAMs_20 09 18 28.3
comp=Z,360nm,21.0s
MDM Murphy Dome 127.11 7 IAMs_20 IAMs_20 09 19 03.8
comp=Z,290nm,21.0s
H31M Peel River 127.15 0 IAMs_20 IAMs_20 09 18 42.4
comp=Z,326nm,22.0s
GLMI Grayling 127.20 317 IAMs_20 IAMs_20 09 17 59.0
comp=Z,498nm,20.0s
COLA College 127.24 7 IAMs_20 IAMs_20 09 19 19.2
comp=Z,308nm,21.0s
I26K Coal Creek Min 127.30 5 IAMs_20 IAMs_20 09 18 16.5
comp=Z,315nm,22.0s
I26K Coal Creek Min 127.30 5 P **PKiKP** **08 20 31.0 -0.2**

baz=349
AAM Ann Arbor 127.39 314 IAMs_20 IAMs_20 09 14 16.4
comp=Z,545nm,21.0s
K17K Iditarod 127.39 14 IAMs_20 IAMs_20 09 20 02.5
comp=Z,284nm,21.0s
ILAR Eielson Array 127.46 7 PKP PKPdf 08 20 29.6 -1.4
comp=Z,0.6nm,0.6s,baz=320,slow=3.3,SNR=11
CCB Clear Creek Bu 127.47 7 IAMs_20 IAMs_20 09 19 57.2
comp=Z,348nm,20.0s
ACSO Alum Creek Sta 127.52 311 IAMs_20 IAMs_20 09 16 38.2
comp=Z,476nm,20.0s
BPAW Bear Paw Mtn. 127.55 9 IAMs_20 IAMs_20 09 24 02.3
comp=Z,306nm,19.0s
WRH Wood River Hil 127.60 7 IAMs_20 IAMs_20 09 18 24.7
comp=Z,355nm,22.0s
K20K Telida 127.71 11 IAMs_20 IAMs_20 09 25 58.6
comp=Z,321nm,20.0s
I30M Mount Dempster 127.71 1 PKPdf PKPdf 08 20 31.6 0.0
I30M Mount Dempster 127.71 1 P PKPdf 08 20 31.6 0.0
baz=358
J25K Salcha River, 127.78 6 IAMs_20 IAMs_20 09 18 25.2
comp=Z,364nm,22.0s
HDA Harding Lake 127.80 7 IAMs_20 IAMs_20 09 19 34.9
comp=Z,407nm,21.0s
L16K Owhat River 127.98 15 IAMs_20 IAMs_20 09 23 46.1
comp=Z,306nm,21.0s
J26L Joseph Creek 128.06 5 IAMs_20 IAMs_20 09 18 50.6
comp=Z,270nm,21.0s
J30M Hart River 128.36 1 PKPdf PKiKP 08 20 33.3 -0.2
J30M IAMs_20 IAMs_20 09 19 36.6
comp=Z,317nm,21.0s
J30M Hart River 128.36 1 P PKiKP 08 20 33.4 -0.2
baz=358
YKA Yellowknife Ar 128.50 348 PKPdf PKPdf 08 20 32.7 -0.3
YKA Yellowknife Ar 128.50 348 PKP PKPdf 08 20 32.3 -0.7
comp=Z,0.5nm,0.5s,baz=14,slow=1.8,SNR=14
YKA PP PP 08 22 36.0 -1.6
comp=Z,0.3nm,0.6s,baz=27,slow=7.7,SNR=6.4
RND Reindeer 128.52 8 IAMs_20 IAMs_20 09 23 53.9
comp=Z,360nm,18.0s
M17K Holitna River 128.74 14 IAMs_20 IAMs_20 09 20 32.2
comp=Z,351nm,21.0s
TZTN Tazewell 128.91 307 IAMs_20 IAMs_20 09 20 05.6
comp=Z,353nm,19.0s
M19K Big River Lodg 128.96 12 IAMs_20 IAMs_20 09 22 41.0
comp=Z,306nm,21.0s
DHY Denali Highway 129.03 8 IAMs_20 IAMs_20 09 20 04.6
comp=Z,364nm,22.0s
O48B Farmland 129.10 312 IAMs_20 IAMs_20 09 16 00.0
comp=Z,469nm,21.0s
N15K Kwethluk River 129.12 16 IAMs_20 IAMs_20 09 21 34.4
comp=Z,350nm,20.0s
M20K Styx River 129.23 11 IAMs_20 IAMs_20 09 19 25.0
comp=Z,251nm,20.0s
CUT Chulitna 129.25 10 IAMs_20 IAMs_20 09 20 50.5
comp=Z,276nm,20.0s
L26K Log Cabin Wild 129.53 5 IAMs_20 IAMs_20 09 29 19.5
comp=Z,278nm,19.0s
N17K Nushagak Hills 129.57 14 IAMs_20 IAMs_20 09 22 40.0
comp=Z,281nm,20.0s
COWI Conover 129.60 320 IAMs_20 IAMs_20 09 15 10.2
comp=Z,507nm,21.0s
L27K Beaver Creek, 129.62 4 IAMs_20 IAMs_20 09 27 38.8
comp=Z,284nm,19.0s
N18K Kilae Creek 129.74 14 IAMs_20 IAMs_20 09 23 34.5
comp=Z,242nm,19.0s
N19K Bonanza Creek 129.93 13 IAMs_20 IAMs_20 09 23 53.5
comp=Z,261nm,20.0s
GHO Glory Hole Cre 130.06 9 IAMs_20 IAMs_20 09 20 22.9
comp=Z,325nm,22.0s
O16K Kokwok River B 130.15 16 IAMs_20 IAMs_20 09 21 18.4
comp=Z,379nm,22.0s
SCM Sheep Creek Mo 130.24 8 IAMs_20 IAMs_20 09 20 58.4
comp=Z,278nm,19.0s
M27K Edge Creek, AK 130.31 5 IAMs_20 IAMs_20 09 24 21.2
comp=Z,326nm,19.0s
M29M Somme Creek 130.43 3 IAMs_20 IAMs_20 09 26 32.3
comp=Z,296nm,19.0s
M31M Drury Creek, Y 130.76 0 IAMs_20 IAMs_20 09 24 51.1
comp=Z,314nm,20.0s
GLB Gilahina Butte 131.04 6 IAMs_20 IAMs_20 09 19 49.4
comp=Z,269nm,22.0s
VRDI Verde Repeater 131.28 6 IAMs_20 IAMs_20 09 20 37.0
comp=Z,303nm,20.0s
FID Port Fidalgo 131.39 8 IAMs_20 IAMs_20 09 21 22.1
comp=Z,369nm,20.0s
N32M Quiet Lake 131.81 359 IAMs_20 IAMs_20 09 23 36.7
comp=Z,312nm,18.0s
LOGN Logan Glacier 131.90 4 IAMs_20 IAMs_20 09 25 15.1
comp=Z,277nm,21.0s
HDIL Hopedale 131.97 314 IAMs_20 IAMs_20 09 19 48.7
comp=Z,529nm,20.0s
WVT Waverly 132.35 307 IAMs_20 IAMs_20 09 19 48.6
comp=Z,362nm,20.0s
R33M Jennings River 133.51 358 IAMs_20 IAMs_20 09 25 51.8
comp=Z,369nm,20.0s
CCM Cathedral Cave 134.30 311 P PKiKP 08 20 45.9 -0.2
baz=68
TEIG Tepich 135.39 286 IAMs_20 IAMs_20 09 21 31.0
comp=Z,441nm,20.0s
T35M Bob Quinn 135.89 357 IAMs_20 IAMs_20 09 26 57.6
comp=Z,350nm,19.0s
U35K Hyder 136.94 356 IAMs_20 IAMs_20 09 28 04.4
comp=Z,474nm,21.0s
TUL3 Leonard 138.48 310 IAMs_20 IAMs_20 09 23 53.5
comp=Z,446nm,18.0s
OK052 Battle Ridge R 139.20 311 IAMs_20 IAMs_20 09 04 34.4
comp=Z,221nm,20.0s
EGMT Eagleton 139.44 335 IAMs_20 IAMs_20 09 22 00.6
comp=Z,381nm,22.0s
EGMT Eagleton 139.44 335 P PKPdf 08 20 54.6 +0.6
baz=38
CBKS Cedar Bluff 139.96 316 IAMs_20 IAMs_20 09 26 05.8
comp=Z,405nm,20.0s
HKT Hockley 140.59 302 IAMs_20 IAMs_20 09 28 18.5
comp=Z,469nm,20.0s
TBI Tubuai 141.05 158 eLR LR 09 06 32.2
comp=Z,2μm,22.8s
TBI eLR LR 09 06 47.9
comp=Z,934nm,27.2s
WMOK Wichita Mounta 141.19 310 P PKPdf 08 20 57.9 +0.3
baz=64
RLMT Red Lodge 141.44 331 IAMs_20 IAMs_20 09 30 24.1
comp=Z,425nm,20.0s
NEW Newport 141.94 341 IAMs_20 IAMs_20 09 26 20.3
comp=Z,460nm,21.0s
MSO Missoula 142.07 337 IAMs_20 IAMs_20 09 23 35.2
comp=Z,460nm,20.0s
MOOW Moose Ponds 143.17 331 IAMs_20 IAMs_20 09 28 54.9
comp=Z,490nm,21.0s
LOHW Long Hollow 143.21 331 IAMs_20 IAMs_20 09 27 19.9
comp=Z,445nm,20.0s
PDAR Pinedale Array 143.33 329 PKP PKPdf 08 21 00.1 -1.3
comp=Z,1.0nm,0.8s,baz=106,slow=3.2,SNR=8.2
JCT Junction City 143.66 304 IAMs_20 IAMs_20 09 23 44.5
comp=Z,438nm,21.0s
JCT Junction City 143.66 304 P PKPab 08 20 58.8 +0.1
baz=69
T25A Trinidad 143.97 317 P PKPbc 08 21 00.7 +0.2
baz=56
833A Chaparral WMA, 144.05 301 P PKPbc 08 21 01.2 +0.5
baz=72
SDCO Great Sand Dun 144.33 319 PKPbc 08 21 02.4 +0.7
SDCO Great Sand Dun 144.33 319 P PKPbc 08 21 01.8 0.0
baz=54
HLID Hailey 144.96 334 IAMs_20 IAMs_20 09 28 00.7
comp=Z,428nm,21.0s
BSUT Blindstream Ca 145.57 327 PKPdf PKPbc 08 21 05.7 0.0
MFID Camas Ranch 145.66 336 IAMs_20 IAMs_20 09 32 10.2
comp=Z,374nm,20.0s
P18A Preston Nutter 145.94 326 PKPab 08 21 07.3 +0.1
PPT2 Papeete2 146.17 153 eLR LR 09 08 59.5
comp=Z,549nm,23.2s
PPT2 eLR LR 09 09 11.6
comp=Z,446nm,23.8s
MVCO Mesa Verde 146.54 321 IAMs_20 IAMs_20 09 25 55.4
comp=Z,418nm,22.0s
MVCO Mesa Verde 146.54 321 P PKPbc 08 21 08.9 +0.3
baz=50
ANMO Albuquerque 146.58 316 P PKPbc 08 21 08.4 -0.3
baz=56
ANMO Albuquerque 146.58 316 *c i* PKP2 PKPdf 08 21 07.9 +0.7
ANMO pmax pmax
comp=Z,6.0nm,2.5s
TXAR Lajitas Array 147.20 305 PKPdf 08 21 08.5 +0.2
TXAR Lajitas Array 147.20 305 PKPbc PKPdf 08 21 08.7 +0.4
comp=Z,1.6nm,0.6s,baz=163,slow=1.4,SNR=21
TXAR Lajitas Array 147.20 305 PKP2 PKPdf 08 21 08.5 +0.2
MNTX Cornudas Mount 147.50 310 P PKPdf 08 21 09.2 +0.6
baz=61
WVOR Wild Horse Val 147.57 338 IAMs_20 IAMs_20 09 28 50.5
comp=Z,387nm,20.0s
EPT El Paso 148.30 311 IAMs_20 IAMs_20 09 27 27.2
comp=Z,386nm,19.0s
HUMO Hull Mountain 148.80 344 PKPbc 08 21 14.5 +0.2
121A Cookes Peak, D 148.83 313 P PKPdf 08 21 12.2 +1.2
baz=57
WUAZ Wupatki 149.40 321 IAMs_20 IAMs_20 09 27 07.0
comp=Z,454nm,21.0s
YBH Yreka Blue Hor 149.54 343 IAMs_20 IAMs_20 09 34 51.1
comp=Z,340nm,18.0s
NVAR Mina Array Bea 150.85 334 PKP PKPdf 08 21 15.0 +0.9
comp=Z,2.0nm,0.6s,baz=79,slow=1.0,SNR=17
NVAR PKPbc PKPbc 08 21 19.8 0.0
comp=Z,1.9nm,0.6s,baz=59,slow=2.0,SNR=15
TUC Tucson 151.04 316 P PKiKP 08 21 21.1 +0.3
baz=53
FURC Furnace Creek, 151.77 329 P PKiKP 08 21 23.0 +1.0
baz=38
PDMCI Parker Dam,Lak 151.89 323 P PKiKP 08 21 22.9 +0.6
baz=45
SHOC Shoshone, Teco 151.91 328 P PKiKP 08 21 22.9 +0.5
baz=40
CMB Columbia Colle 152.05 336 IAMs_20 IAMs_20 09 31 21.3
comp=Z,374nm,20.0s
TUQ Turquoise Moun 152.07 327 P PKiKP 08 21 23.6 +0.7
baz=41
MPMC Manual Prospec 152.40 330 P PKiKP 08 21 24.3 +0.7
baz=37
GMRC Granite Mounta 152.42 325 P PKiKP 08 21 24.3 +0.7
baz=42
IRM Iron Mountain 152.58 324 P PKiKP 08 21 24.7 +0.9
baz=44
GSC Goldstone, Bar 152.64 328 P PKiKP 08 21 24.6 +0.7
baz=40
HEC Hector,Ludlow 152.75 326 P PKiKP 08 21 25.3 +1.1
baz=41
LRMC Laurel Mtn Rad 152.95 329 P PKiKP 08 21 25.5 +0.8
baz=38
SLBS Sierra La Lagu 154.53 298 IAMs_20 IAMs_20 09 26 17.3
comp=Z,289nm,20.0s

*IDC **20** 08:03:11.7±1.1, 13°.10S×46°.47E, h0km, mb4.3/12, mbtmp4.3/12, Error ellipse: s-maj=30.8km s-min=30.0km az=167.0*

ISC 20 08:03:12.2±0.7, 13°.35S±0°.09×46°.5E±0°.2, h10km, n36, σ0.93/32, mb4.7/27, 4C, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	Ambohidratompo	5.24	173	Sn	Sb	08 05 46.1	-1.1
	143nm,0.3s,baz=269,slow=23,SNR=6.2						
BOSA	Boshof	24.90	229	P	P	08 08 38.0	+2.4
	7.3nm,0.5s,baz=65,slow=12,SNR=1.7						
	7.3nm,0.5s						
TORD	Torodi Ar. Bea	51.60	299	P	P	08 12 17.6	-1.7
	3.6nm,1.0s,baz=109,slow=7.5,SNR=5.1						
	3.6nm,1.0s						
BRTR	Keskin Array B	54.13	348	P	P	08 12 37.5	-0.2
	3.4nm,0.8s,baz=171,slow=8.6,SNR=4.7						
	3.4nm,0.8s						
CMAR	Chiang Mai Arr	60.62	60	P	P	08 13 23.2	-0.5
	1.0nm,0.3s,baz=264,slow=8.1,SNR=1.6						
	1.0nm,0.3s						
TROLL	Troll, Antarti	64.16	194	⇑P	P	08 13 55.9	+9.1
	comp=Z,686nm,0.8s						
AKASG	Malin Array Be	65.54	348	P	P	08 13 56.5	+0.7
	comp=Z,0.3nm,0.3s,baz=171,slow=5.9,SNR=2.8						
	comp=Z,0.3nm,0.3s						
SOKA	Soboth	66.08	337	*e*P	P	08 14 00.1	+0.5
	comp=Z,7.4nm,0.8s						
VNA2	Neumayer--Watz	66.09	197	⇑P	P	08 14 06.3	+7.2
	comp=Z,3.2nm,0.7s,baz=83,slow=5.1						
OBKA	Obir	66.13	336	*e*P	P	08 14 00.5	+0.6
	comp=Z,9.1nm,1.0s						
VNA1	Neumayer--Stat	66.20	197	⇑P	P	08 14 10.1	+10
	comp=Z,7.0nm,0.8s						
ARSA	Arzberg	66.38	338	*e*P	P	08 14 02.0	+0.7
	comp=Z,7.9nm,0.9s,SNR=5.6						
RONA	Rosalia, Austr	66.47	338	*e*P	P	08 14 02.6	+0.7
	comp=Z,13nm,0.8s,SNR=10						
CONA	Conrad Observa	66.82	338	*i* P	P	08 14 04.7	+0.5
	comp=Z,8.4nm,0.9s						
VNA3	Neumayer Olymp	66.89	197	⇑P	P	08 14 12.0	+7.7
	comp=Z,11nm,0.8s						
KBA	Koelnbreinsper	67.07	336	*e*P	P	08 14 06.0	+0.1
	comp=Z,11nm,1.1s						
ABTA	Abfaltersbach	67.13	335	*e*P	P	08 14 06.6	+0.3
	comp=Z,5.8nm,0.9s,SNR=4.5						
MOA	Molln	67.35	337	*e*P	P	08 14 07.8	+0.4
	comp=Z,7.4nm,0.8s						
BIOA	Bad Ischl, Aus	67.46	337	*e*P	P	08 14 08.3	+0.2
	comp=Z,5.4nm,0.7s						
KRUC	Moravsky	67.59	339	*e*P	P	08 14 09.2	+0.2
VRAC	Vranov	67.73	339	*e*P	P	08 14 10.2	+0.3
MORC	Moravsky Berou	67.81	340	*e*P	P	08 14 11.1	+0.7
SQTA	Sankt Quirin	68.05	335	*e*P	P	08 14 11.9	-0.1
	comp=Z,3.5nm,0.7s						
FETA	Feichten	68.09	334	*e*P	P	08 14 12.6	+0.2
	comp=Z,9.4nm,1.0s						
MOTA	Moosalm	68.19	335	*e*P	P	08 14 12.6	-0.4
	comp=Z,6.0nm,1.1s						
GERES	GERESS Array B	68.38	337	P	P	08 14 13.4	-0.6
	comp=Z,4.3nm,0.9s,baz=134,slow=5.8,SNR=5.7						
	comp=Z,4.3nm,0.9s						
BRG	Berggiesshubel	69.97	339	P	P	08 14 24.4	+0.6
BRG				Amp		08 14 25.2	
	comp=Z,6.8nm,1.1s						
ESDC	Sonseca Array	70.57	321	P	P	08 14 27.9	+0.1
	comp=Z,3.8nm,0.9s,baz=128,slow=6.0,SNR=7.3						
	comp=Z,3.8nm,0.9s						
FINES	FINESS Array B	76.28	350	P	P	08 14 59.5	-1.4
	comp=Z,4.5nm,0.8s,baz=108,slow=4.2,SNR=4.3						
	comp=Z,4.5nm,0.8s						
HFS	Hagfors	77.82	344	P	P	08 15 08.7	-0.8
	comp=Z,5.7nm,0.7s,baz=140,slow=9.4,SNR=7.4						
	comp=Z,5.7nm,0.7s						
NB2	NORSAR Subarra	79.25	343	P	P	08 15 18.8	+1.3
	comp=Z,10nm,1.4s,baz=146,slow=5.6						
NOA	NORSAR Array B	79.25	343	P	P	08 15 17.8	+0.3
	comp=Z,2.0nm,0.9s,baz=115,slow=6.7,SNR=4.6						
	comp=Z,2.0nm,0.9s						
EKA	Eskdalemuir Ar	80.10	334	P	P	08 15 23.2	+1.1
	comp=Z,1.9nm,0.6s,baz=132,slow=5.8,SNR=4.7						
	comp=Z,1.9nm,0.6s						
WRA	Warramunga Arr	83.57	109	P	P	08 15 42.8	+1.4
	comp=Z,1.5nm,0.8s,baz=263,slow=3.5,SNR=2.8						
	comp=Z,1.5nm,0.8s						
PDAR	Pinedale Array	144.11	329	PKP	PKiKP	08 22 50.8	-1.6
	comp=Z,0.5nm,0.5s,baz=63,slow=4.2,SNR=1.6						
TXAR	Lajitas Array	148.09	305	PKPbc	PKPab	08 23 00.9	-0.9
	comp=Z,1.3nm,0.7s,baz=94,slow=3.6,SNR=2.1						

NNC 20 08:17:25.0±7.5, 36°.88N×70°.14E, h193km±140km, mb2.9, mpv3.9,6C-3D, Error ellipse: s-maj=71.6km s-min=42.1km az=20.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KK31	Karatay Array	6.22	2	P	Pn	08 18 56.3	+1.3
	2.4nm,0.3s,baz=180,slow=11,SNR=63						
KK31				⇑S	Sn	08 20 07.9	+1.8
	3.3nm,0.5s,baz=190,slow=23,SNR=6.1						
AAK	Ala-Archa	6.65	29	⇓P	Pn	08 19 01.0	+0.2
	2.9nm,0.4s						
AAK				⇑S	Sn	08 20 16.6	0.0
	12nm,0.7s						
CHMS	Chumysh	7.06	29	⇑P	Pn	08 19 05.4	-0.5
	3.9nm,0.4s						
CHMS				⇓S	Sn	08 20 25.9	-0.1
	12nm,1.0s						
TKM2	Tokmak 2	7.34	33	⇓P	Pn	08 19 08.7	-1.0
	8.0nm,0.5s						
TKM2				⇑S	Sn	08 20 32.1	-0.8
	4.0nm,0.7s						
AB31	Akbulak array	14.42	332	⇑P	P	08 20 41.4	-0.3
	0.7nm,0.5s,baz=146,slow=13,SNR=19						
AB31				⇑S	Sn	08 23 20.3	-0.8
	0.4nm,0.5s						

*TRN **20** 08:20:47.6, 10°.75N×62°.40W, h51km, MD3.0, North of the Paria peninsula.*
*FUNV **20** 08:20:47.2, 10°.70N×62°.34W, h26km, MW3.4*

ISC 20 08:20:45.6±1.4, 10°.68N±0°.05×62°.38W±0°.04, h81km±14km, n14, σ1.926/24, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	Carupano	0.84	270	*e*P	Pn	08 21 03.0	+0.1
CRUV				*e*S	Sn	08 21 14.8	-1.0
CRUV	Carupano	0.84	270	*e*P	Pn	08 21 03.0	+0.1
CRUV				*e*S	Sn	08 21 14.7	-1.0
TRN	Trinidad (W)	0.96	92	*e*P	Pn	08 21 06.0	+1.7
TRN				*e*S	Sn	08 21 18.0	-0.3
GRFF	Grenada Fort F	1.50	25	*e*P	Pn	08 21 11.4	+0.3
GRFF				*e*S	Sn	08 21 29.4	-0.9
GRGR	Grenville	1.61	26	*e*P	Pn	08 21 12.7	+0.2
GRGR				*e*S	Sn	08 21 32.7	-0.1
GRHS	Sauteurs	1.70	25	*e*S	Sn	08 21 33.8	-1.1
GRSS	Sisters	1.78	25	*e*S	Sn	08 21 35.8	-0.9
GCMP	Grenada, Carri	2.03	27	*e*P	Pn	08 21 18.4	+0.5
GCMP				*e*S	Sn	08 21 42.0	-0.6
PCRV	Puerto La Cruz	2.27	258	*e*P	Pn	08 21 22.6	+1.4
PCRV				*e*S	Sn	08 21 49.0	+0.5
PCRV	Puerto La Cruz	2.27	258	*e*P	Pn	08 21 23.1	+1.8
PCRV				*e*S	Sn	08 21 49.7	+1.2
LUEV	Luepa	4.89	169	*e*P	Pn	08 21 57.5	+0.6
LUEV				*e*S	Sn	08 22 49.8	-2.5
CACV	CAICARA DEL OR	5.14	233	*e*P	Pn	08 21 55.6	-4.5
CACV				*e*S	Sn	08 22 47.8	-10
BENV	Beln	5.18	263	*e*P	Pn	08 22 02.1	+1.4
BENV				*e*S	Sn	08 22 57.7	-1.7
BAUV	El Baul	5.84	253	*e*P	Pn	08 22 10.2	+0.5
BAUV				*e*S	Sn	08 23 13.1	-2.1

RSNC 20 08:35:35.2±0.0, 7°N±1°×7°5W±°, h27km±2km, M3.5, mB6.1, mb3.9, ML2.9, Mw(mB)5.8, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UREC	San Jos de Ur	0.37	330	P	Pb	08 35 42.4	-1.0
UREC				S	Sb	08 35 49.8	+0.8
ZARC	Zaragoza, Cauc	0.49	83	P	Pb	08 35 43.7	-1.7
ZARC				S	Sb	08 35 51.6	-0.7
DBBC	Dabeiba	0.95	244	P	Pn	08 35 50.1	-2.7
DBBC				S	Sb	08 36 03.0	-2.3
PTBC	PUERTO BERRIO,	1.25	135	P	Pn	08 35 54.0	-3.0
PTBC				S	Sn	08 36 09.5	-3.5
APAC	Apartado, Choc	1.31	291	P	Pn	08 35 56.0	-1.7
APAC				S	Sn	08 36 13.2	-1.1
NORC	Norcasia	1.92	166	P	Pn	08 36 03.7	-2.4
NORC				S	Sn	08 36 25.9	-3.5
OCAC	Ocana	2.17	68	P	Pn	08 36 06.7	-3.0
OCAC				S	Sn	08 36 32.5	-3.2
SPBC	San Pablo de B	2.17	144	P	Pn	08 36 07.0	-2.8
SPBC				S	Sn	08 36 31.8	-4.1
BARC	Barichara	2.31	111	P	Pn	08 36 09.8	-1.9
BARC				S	Sn	08 36 37.5	-1.8
CAPC	Capurgana	2.32	301	P	Pn	08 36 07.5	-4.1
CAPC				S	Sn	08 36 32.5	-6.7
SOLC	Bahia Solano	2.37	240	P	Pn	08 36 12.4	+0.1
SOLC				S	Sn	08 36 38.1	-2.4
PTAC	Punta Ardita,	2.46	264	P	Pn	08 36 10.8	-2.7
PTAC				S	Sn	08 36 38.3	-4.3
SJCC	San Jacinto, C	2.46	4	P	Pn	08 36 10.9	-2.7
SJCC				S	Sn	08 36 38.6	-4.2
PAMC	Pamplona, Colo	2.63	92	P	Pn	08 36 14.3	-2.1
PAMC				S	Sn	08 36 46.0	-1.6
PLMC	San Jos del P	2.67	200	P	Pn	08 36 14.7	-1.9
PLMC				S	Sn	08 36 47.8	-0.4
RUSC	La Rusia	2.72	124	P	Pn	08 36 15.0	-2.6
RUSC				S	Sn	08 36 46.6	-3.3
ROSC	El Rosal	2.77	158	P	Pn	08 36 16.6	-1.6
ROSC				S	Sn	08 36 49.3	-1.7
CVER	Cruz Verde, Cu	3.16	156	P	Pn	08 36 22.1	-1.5
CVER				S	Sn	08 37 00.7	+0.1
CHIC	Chingaza	3.21	150	P	Pn	08 36 22.6	-1.7
CHIC				S	Sn	08 36 59.3	-2.7
YOTC	Yotoco, Valle	3.56	196	P	Pn	08 36 26.5	-2.4
YOTC				S	Sn	08 37 09.0	-1.2
TAMC	Tame, Arauca	3.67	105	P	Pn	08 36 28.5	-1.8
TAMC				S	Sn	08 37 10.3	-2.4
VILC	Villavicencio,	3.69	153	P	Pn	08 36 28.6	-2.0
VILC				S	Sn	08 37 12.5	-0.7
PRAC	Prado	3.72	173	P	Pn	08 36 30.2	-0.8
PRAC				S	Sb	08 37 20.6	-4.4
CRJC	Cerrejon, Guaj	4.32	34	P	Pn	08 36 38.5	-0.8
CRJC				S	Sn	08 37 24.1	-4.7
JAMC	Jamundi, Valle	4.39	198	P	Pn	08 36 38.1	-2.2
JAMC				S	Sn	08 37 32.2	+1.5
PTGC	Puerto Gaitan,	4.53	135	P	Pn	08 36 39.0	-3.1
PTGC				S	Sn	08 37 30.3	-3.7
SDV	Santo Domingo	4.89	72	P	Pn	08 36 45.0	-2.2
SDV				S	Sn	08 37 37.6	-5.4
AZU	Azuero	4.89	275	P	Pn	08 36 44.0	-3.1
AZU				S	Sn	08 37 34.5	-8.4
POPC	Popayan, Colom	5.03	195	P	Pn	08 36 47.0	-2.2
	7.4nm,0.8s						
POPC				S	Sn	08 37 44.8	-1.9
	7.4nm,0.8s						
URIC	Uribia, Colomb	5.38	38	P	Pn	08 36 52.1	-1.7
	12nm,1.0s						
URIC				S	Sn	08 37 46.3	-8.6
	12nm,1.0s						
MACC	Macarena, Meta	5.46	164	P	Pn	08 36 51.9	-3.0
	15nm,0.5s						
MACC				S	Sn	08 37 51.3	-5.6
	15nm,0.5s						
CACAO	El Cacao, Vera	5.47	269	P	Pn	08 36 50.8	-4.1
	26nm,1.3s						
GUVC	San Jose del G	5.56	151	P	Pn	08 36 52.2	-4.0
GUVC				S	Sn	08 37 52.1	-7.2
FLOC	Florencia	5.82	183	P	Pn	08 36 57.6	-2.2
	5.9nm,0.8s						
GMAL	Guarumal, Vera	5.84	274	P	Pn	08 36 57.6	-2.5
GMAL				S	Sn	08 38 00.0	-6.3

IDC 20 08:36:14.4±1.9, 34°.60S×178°.65W, h0km, mb4.2/3, mbtmp4.2/4, ML3.9/1, Error ellipse: s-maj=41.0km s-min=34.9km az=91.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	5.00	222	Pn	Pn	08 37 30.8	0.0
	5.0nm,0.3s,baz=47,slow=3.0,SNR=19						
URZ				Sn	Sn	08 38 29.3	0.0
	5.0nm,0.3s,baz=56,slow=22,SNR=7.3						
	31nm,0.6s						
ASAR	Alice Springs	42.52	272	P	P	08 44 11.9	+0.1
	2.1nm,0.5s,baz=113,slow=8.0,SNR=32						
	2.1nm,0.5s						
WRA	Warramunga Arr	43.88	277	P	P	08 44 22.6	-0.3
	2.9nm,0.6s,baz=119,slow=7.4,SNR=20						
	2.9nm,0.6s						
QSPA	South Pole Qui	55.52	180	P	P	08 45 51.2	+0.1
	1.7nm,1.0s,baz=2.4,slow=0.8,SNR=3.1						
	1.7nm,1.0s						
FINES	FINESS Array B	148.84	337	PKPbc	PKPbc	08 56 02.5	-0.7
	1.0nm,0.7s,baz=51,slow=4.4,SNR=4.3						

IDC 20 08:46:27.2±2.0, 5°.57S×142°.05E, h0km, mb3.5/1, mbtmp3.7/3, ML3.2/2, Error ellipse: s-maj=190.6km s-min=34.1km az=114.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	16.14	207	Pn	Pn	08 50 13.4	-2.1
	0.1nm,0.3s,baz=31,slow=13,SNR=3.0						
	0.6nm,0.7s						
ASAR	Alice Springs	19.63	203	P	Pn	08 50 58.3	-0.5
	0.2nm,0.3s,baz=32,slow=9.3,SNR=20						
	6.2nm,0.9s						
ILAR	Eielson Array	87.06	24	P	P	08 59 14.4	0.0
	0.3nm,0.8s,baz=250,slow=5.4,SNR=4.1						
	0.3nm,0.8s						

*IDC **20** 08:47:21.4±2.2, 36°.71N×140°.65E, h0km, mb3.4/3, mbtmp3.4/3, Error ellipse: s-maj=42.4km s-min=31.5km az=46.0*
*JMA **20** 08:47:23.4±0.0, 36°.8N±0°.1×140°.6E±0°.2, h7km, MV3.4/20, NORTHERN IBARAKI PREF*
JMA Felt I J1 at NORTHERN IBARAKI PREF .

ISC 20 08:47:23.1±0.9, 36°82N±0°03×140°59E±0°05, h12km±7km, n19, σ0s51/23, mb3.5/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
JHO	**Hitachi**	**0.21**	**184**	*i* P		**Pg**	**08 47 27.6**	**+0.1**
JHO				S		**Sg**	**08 47 30.6**	**+0.1**
JFFD	**Fukushimafurud**	**0.27**	**356**	*i* P		**Pg**	**08 47 28.8**	**0.0**
JFFD				*e*S		**Sg**	**08 47 32.5**	**0.0**
ONAJ	**Iwakimizuishiy**	**0.33**	**31**	*i* P		**Pg**	**08 47 29.8**	**0.0**
ONAJ				*e*S		**Sg**	**08 47 34.6**	**+0.3**
JSB	**Shiboa**	**0.56**	**286**	*i* P		**Pb**	**08 47 34.8**	**0.0**
JSB				S		**Sb**	**08 47 43.0**	**+0.3**
JFK	**Kawauchi**	**0.59**	**23**	*i* P		**Pg**	**08 47 34.5**	**-0.2**
JFK				S		**Sg**	**08 47 42.6**	**0.0**
JYT	**Yasato**	**0.67**	**208**	*i* P		**Pg**	**08 47 36.1**	**0.0**
JYT				S		**Sg**	**08 47 45.1**	**+0.3**
JOTO	**OTAMA OYAMA**	**0.77**	**345**	*i* P		**Pb**	**08 47 38.0**	**-0.4**
JOTO				S		**Sb**	**08 47 48.4**	**-0.4**
JFY	**Yanaizu**	**0.92**	**310**	*i* P		**Pg**	**08 47 40.8**	**0.0**
JFY				S		**Sg**	**08 47 52.8**	**0.0**
JAG	**Ashikaga**	**0.99**	**247**	*i* P		**Pb**	**08 47 41.5**	**-0.7**
JAG				S		**Sb**	**08 47 54.5**	**-0.7**
MJAR	**Matsushiro Arr**	**1.93**	**263**	Pn		**Pn**	**08 47 56.1**	**+0.4**
	2.5nm,0.3s,baz=86,slow=15,SNR=133							
MJAR				Sn		**Sb**	**08 48 21.4**	**-0.9**
	2.5nm,0.3s,baz=65,slow=18,SNR=6.8							
H11N2	**WAKE ISLAND Hy 28.61**	**119**		T		T	09 23 05.5	
	baz=312,slow=75,SNR=105							
H11N1	**WAKE ISLAND Hy 28.62**	**119**		T		T	09 23 05.5	
	baz=312,slow=75,SNR=87							
H11N3	**WAKE ISLAND Hy 28.63**	**119**		T		T	09 23 06.6	
	baz=312,slow=75,SNR=79							
H11S1	**WAKE ISLAND Hy 29.31**	**121**		T		T	09 23 55.1	
	baz=314,slow=76,SNR=315							
H11S3	**WAKE ISLAND Hy 29.31**	**121**		T		T	09 23 54.1	
	baz=314,slow=76,SNR=374							
H11S2	**WAKE ISLAND Hy 29.32**	**121**		T		T	09 23 54.5	
	baz=314,slow=76,SNR=186							
MKAR	**Makanchi Array**	**43.67**	**302**	P		**P**	**08 55 29.1**	**+1.4**
	0.2nm,0.5s,baz=80,slow=10,SNR=1.6							
	0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**45.61**	**308**	P		**P**	**08 55 43.2**	**+0.1**
	0.2nm,0.3s,baz=84,slow=8.2,SNR=2.1							
	0.2nm,0.3s							
WRA	**Warramunga Arr**	**56.76**	**187**	P		**P**	**08 57 06.4**	**-0.5**
	0.8nm,0.9s,baz=3.1,slow=7.5,SNR=3.3							
	0.8nm,0.9s							

*IDC **20** 08:47:35.5±2.1, 0°.32N×126°.00E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=179.2km s-min=28.4km az=65.0*
*DJA **20** 08:47:42.4±2.0, 0°N±8°×12°6E±°, h20km±20km, M3.5/5, MLv3.5/5*

ISC 20 08:47:43.0±1.4, 0°.4N±0°.2×126°.0E±0°.1, h44km, n6, σ2s90/7, mb3.1/3, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
LBMI	**Labuha**	**1.82**	**123**	P		**Pn**	**08 48 14.0**	**+2.1**
KMSI	**Cibinong**	**2.00**	**276**	P		**Pn**	**08 48 13.1**	**-1.2**
GTOI	**Gorontalo**	**2.97**	**275**	P		**Pn**	**08 48 29.6**	**+1.9**
GTOI				S		**Sn**	**08 49 05.4**	**+3.3**
WRA	**Warramunga Arr**	**21.78**	**158**	P		**P**	**08 52 28.2**	**-3.0**
	0.5nm,0.8s,baz=337,slow=11,SNR=1.1							
	0.5nm,0.8s							
ASAR	**Alice Springs**	**25.09**	**163**	P		**P**	**08 53 02.0**	**-1.7**
	0.5nm,0.7s,baz=346,slow=8.8,SNR=5.3							
	0.5nm,0.7s							
MKAR	**Makanchi Array**	**59.91**	**327**	P		**P**	**08 57 43.7**	**-0.8**
	0.4nm,0.6s,baz=122,slow=7.0,SNR=3.8							
	0.4nm,0.6s							

*DNK **20** 08:50:12.4±1.5, 57°.67N×22°.21E, h10km±25km, ML2.2*
*EST **20** 08:50:14.5±0.1, 57°.77N×21°.85E, h0km, ML2.1(HEL), Explosion*
*HEL **20** 08:50:14.5±0.1, 57°.78N×21°.85E, h0km, ML2.1, Explosion*
*UPP **20** 08:50:15.7±1.5, 57°.82N×21°.63E, h0km, ML2.6*
*BER **20** 08:50:15.9±3.0, 57°.76N×21°.90E, h0km, ML2.1(HEL), Suspected explosion*
*LVSN **20** 08:50:16.3±3.9, 57°.76N×21°.97E, h0km±44km, ML2.5*
*IDC **20** 08:50:18.2±2.2, 58°.11N×21°.74E, h0km, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=23.1km s-min=8.1km az=167.0*

ISC 20 08:50:13.0±0.7, 57°.79N±0°.02×21°.82E±0°.02, h0km, n85, σ1s38/124, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**0.30**	**123**	*e*P		**Pg**	**08 50 19.1**	**+0.4**
SLIT				*e*S		**Sg**	**08 50 22.6**	**0.0**
SLIT	**Slitere, Latvi**	**0.30**	**123**	*e*P		**Pg**	**08 50 18.5**	**-0.2**
SLIT	**Slitere, Latvi**	**0.30**	**123**	*e*P		**Pg**	**08 50 19.1**	**+0.4**
SLIT				*e*S		**Sg**	**08 50 22.6**	**0.0**
SLIT				AML		AML	08 50 37.9	
	comp=Z,4μm,0.6s							
SLIT				AML		AML	08 50 38.1	
	comp=N,5μm,0.8s							
SLIT				AML		AML	08 50 38.5	
	comp=E,5μm,0.6s							
SLIT	**Slitere, Latvi**	**0.30**	**123**	*e*P		**Pg**	**08 50 19.1**	**+0.4**
SLIT				*e*S		**Sg**	**08 50 22.6**	**0.0**
MTSE	**Matsula**	**1.40**	**48**	*e*P		**Pn**	**08 50 39.0**	**-0.7**
MTSE				*e*S		**Sg**	**08 50 57.6**	**-0.3**
MTSE	**Matsula**	**1.40**	**48**	*e*P		**Pb**	**08 50 40.3**	**+0.4**
MTSE	**Matsula**	**1.40**	**48**	*e*P		**Pb**	**08 50 40.5**	**+0.5**
MTSE				*e*S		**Sg**	**08 50 57.6**	**-0.3**
MTSE	**Matsula**	**1.40**	**48**	*e*P		**Pn**	**08 50 39.0**	**-0.7**
MTSE				*e*S		**Sg**	**08 50 57.6**	**-0.3**
EE01	**Perakula, Nova**	**1.70**	**33**	*e*P		**Pn**	**08 50 44.5**	**+0.6**
EE01				*e*S		**Sn**	**08 51 06.6**	**+0.3**
EE01				*e*SN		**Sg**	**08 51 08.0**	**+0.3**
GOTU	**Gotland**	**1.75**	**268**	*e*P		**Pn**	**08 50 45.5**	**+1.0**
GOTU				*e*SN		**Sg**	**08 51 09.9**	**+0.9**
GOTU	**Gotland**	**1.75**	**268**	*e*P		**Pn**	**08 50 45.5**	**+1.0**
GOTU				*e*SN		**Sg**	**08 51 09.9**	**+0.9**
GOTU	**Gotland**	**1.75**	**268**	P		**Pn**	**08 50 45.6**	**+1.1**
GOTU				S		**Sg**	**08 51 10.7**	**+1.6**
GOTU	**Gotland**	**1.75**	**268**	P		**Pn**	**08 50 45.6**	**+1.1**
GOTU				S		**Sg**	**08 51 10.7**	**+1.6**
PBUR	**Paburge**	**1.78**	**178**	*e*P		**Pn**	**08 50 45.1**	**+0.2**
PBUR	**Paburge**	**1.78**	**178**	*e*P		**Pn**	**08 50 45.2**	**+0.3**
PBUR				AML		AML	08 50 45.3	
	comp=Z,40nm,0.1s							
PBUR				*e*S		**Sb**	**08 51 09.4**	**+0.3**
PBUR				AML		AML	08 51 14.2	
	comp=E,70nm,0.1s							
PBUR				AML		AML	08 51 14.8	
	comp=N,48nm,0.3s							
PBUR	**Paburge**	**1.78**	**178**	*e*P		**Pn**	**08 50 44.9**	**0.0**
EE08	**Sarghaua, Vand**	**2.00**	**63**	*e*P		**Pn**	**08 50 49.0**	**+1.0**
EE08				*e*SG		**Sb**	**08 51 16.0**	**+0.3**
EE02	**Kiisa, Saku**	**2.06**	**46**	*e*P		**Pb**	**08 50 50.6**	**-0.6**
EE02				*e*SG		**Sg**	**08 51 18.6**	**-0.5**
VSVD	**Vaisvydziai**	**2.15**	**147**	*e*P		**Pn**	**08 50 50.5**	**+0.5**
NRTU	**Norrtaelje**	**2.52**	**320**	*e*P		**Pn**	**08 50 56.7**	**+1.7**
NRTU	**Norrtaelje**	**2.52**	**320**	*e*P		**Pn**	**08 50 56.7**	**+1.7**
NRTU	**Norrtaelje**	**2.52**	**320**	P		**Pn**	**08 50 56.8**	**+1.7**
NRTU	**Norrtaelje**	**2.52**	**320**	P		**Pn**	**08 50 56.8**	**+1.7**
AAL	**Aland**	**2.57**	**339**	*e*P		**Pn**	**08 50 56.6**	**+0.8**
AAL				*e*SG		**Sg**	**08 51 34.9**	**-0.6**
AAL	**Aland**	**2.57**	**339**	*e*P		**Pn**	**08 50 57.0**	**+1.2**
AAL	**Aland**	**2.57**	**339**	*e*P		**Pn**	**08 50 56.6**	**+0.8**
AAL				*e*SG		**Sg**	**08 51 34.9**	**-0.6**
PABE	**Paberze**	**2.58**	**152**	*e*P		**Pn**	**08 50 56.9**	**+1.0**
PABE	**Paberze**	**2.58**	**152**	*e*P		**Pn**	**08 50 57.5**	**+1.5**
PABE				*e*S		**Sn**	**08 51 29.2**	**+1.2**
EE03	**Tooma soojaam,**	**2.58**	**63**	*e*P		**Pn**	**08 50 57.1**	**+1.1**
EE03				*e*PB		**Pb**	**08 50 58.9**	**-1.2**
EE03				*e*SB		**Sb**	**08 51 32.5**	**+0.1**
BYXU	**Byxelkrok**	**2.64**	**261**	P		**Pn**	**08 50 58.5**	**+1.7**
BYXU	**Byxelkrok**	**2.64**	**261**	P		**Pn**	**08 50 58.5**	**+1.7**
VSU	**Vasula**	**2.69**	**74**	*e*P		**Pn**	**08 50 58.4**	**+0.9**
VSU				*e*SB		**Sb**	**08 51 35.4**	**0.0**
VSU	**Vasula**	**2.69**	**74**	*e*P		**Pn**	**08 50 58.5**	**+1.1**
VSU				AML		AML	08 51 38.1	
	comp=N,47nm,0.2s							
VSU				AML		AML	08 51 38.9	
	comp=Z,21nm,0.2s							
VSU				AML		AML	08 51 42.4	
	comp=E,39nm,0.6s							
VSU	**Vasula**	**2.69**	**74**	*e*P		**Pn**	**08 50 58.4**	**+0.9**
VSU				*e*SB		**Sb**	**08 51 35.4**	**0.0**
ARBE	**Arbavere**	**2.73**	**51**	*e*P		**Pn**	**08 50 59.9**	**+1.9**
ARBE				*e*SB		**Sb**	**08 51 35.3**	**-1.3**
ARBE	**Arbavere**	**2.73**	**51**	*e*P		**Pb**	**08 51 01.2**	**-1.4**
ARBE	**Arbavere**	**2.73**	**51**	*e*P		**Pb**	**08 51 01.3**	**-1.3**
ARBE	**Arbavere**	**2.73**	**51**	*e*P		**Pn**	**08 50 59.9**	**+1.9**
ARBE				*e*SB		**Sb**	**08 51 35.3**	**-1.3**
MEF	**Metsahovi**	**2.77**	**28**	*e*P		**Pn**	**08 51 00.7**	**+2.1**
MEF				*e*SB		**Sb**	**08 51 38.1**	**+0.3**
MEF				MSG			08 51 40.0	
	comp=Z,9.0nm,0.1s							
MEF	**Metsahovi**	**2.77**	**28**	*e*P		**Pb**	**08 51 02.1**	**-1.2**
MEF	**Metsahovi**	**2.77**	**28**	*e*P		**Pn**	**08 51 00.7**	**+2.1**
MEF				*e*SB		**Sb**	**08 51 38.1**	**+0.3**
MEF				MSG			08 51 40.0	
	comp=Z,9.0nm,0.1s							
VIKU	**Vikbolandet**	**2.81**	**287**	*e*P		**Pb**	**08 51 02.5**	**-1.4**
VIKU	**Vikbolandet**	**2.81**	**287**	P		**Pn**	**08 51 00.6**	**+1.5**
VIKU	**Vikbolandet**	**2.81**	**287**	P		**Pn**	**08 51 00.6**	**+1.5**
VSTU	**Vaestervik**	**2.84**	**270**	P		**Pn**	**08 51 01.2**	**+1.7**
VSTU	**Vaestervik**	**2.84**	**270**	P		**Pn**	**08 51 01.2**	**+1.7**
HEL1	**Helsinki**	**2.87**	**32**	*e*P		**Pb**	**08 51 02.8**	**-2.2**
HEL1				*e*SB		**Sb**	**08 51 39.9**	**-0.6**
HEL1	**Helsinki**	**2.87**	**32**	*e*P		**Pb**	**08 51 02.8**	**-2.2**
HEL1				*e*SB		**Sb**	**08 51 39.9**	**-0.6**
UPP	**Uppsala**	**3.01**	**315**	*e*P		**Pn**	**08 51 04.2**	**+2.4**
GRAU	**Graesoe**	**3.06**	**328**	P		**Pn**	**08 51 03.7**	**+1.2**
GRAU	**Graesoe**	**3.06**	**328**	P		**Pn**	**08 51 03.7**	**+1.2**
NUR	**Nurmijrvi**	**3.09**	**27**	*e*P		**Pn**	**08 51 05.7**	**+2.8**
NUR				MSG			08 51 49.0	
	comp=Z,4.6nm,0.1s							
NUR	**Nurmijrvi**	**3.09**	**27**	*e*P		**Pn**	**08 51 05.7**	**+2.8**
NUR				MSG			08 51 49.0	
	comp=Z,4.6nm,0.1s							
FLYU	**Flymyra**	**3.10**	**321**	P		**Pn**	**08 51 05.2**	**+2.0**
FLYU	**Flymyra**	**3.10**	**321**	P		**Pn**	**08 51 05.2**	**+2.0**
RAF	**Rauma**	**3.24**	**359**	*e*P		**Pn**	**08 51 06.4**	**+1.5**
RAF				*e*SB		**Sb**	**08 51 51.8**	**+0.5**
RAF				MSG			08 52 03.6	
	comp=Z,3.6nm,0.1s							
RAF	**Rauma**	**3.24**	**359**	*e*P		**Pn**	**08 51 07.1**	**+2.1**
RAF	**Rauma**	**3.24**	**359**	*e*P		**Pn**	**08 51 06.6**	**+1.6**
RAF				AML		AML	08 51 59.0	
	comp=E,17nm,0.5s							
RAF				AML		AML	08 52 02.6	
	comp=N,7.6nm,0.2s							
RAF				AML		AML	08 52 03.8	
	comp=Z,6.2nm,0.2s							
RAF	**Rauma**	**3.24**	**359**	*e*P		**Pn**	**08 51 06.4**	**+1.5**
RAF				*e*SB		**Sb**	**08 51 51.8**	**+0.5**
RAF				MSG			08 52 03.6	
	comp=Z,3.6nm,0.1s							
PVF	**Pernaja**	**3.46**	**35**	*e*P		**Pn**	**08 51 10.2**	**+2.2**
PVF				*e*SG		**Sb**	**08 52 00.5**	**+3.1**
PVF				MSG			08 52 08.2	
	comp=Z,4.8nm,0.1s							
PVF	**Pernaja**	**3.46**	**35**	*e*P		**Pn**	**08 51 10.2**	**+2.2**
PVF				*e*SG		**Sb**	**08 52 00.5**	**+3.1**
PVF				MSG			08 52 08.2	
	comp=Z,4.8nm,0.1s							
BLEU	**Blekinge**	**3.61**	**248**	*e*P		**Pn**	**08 51 10.8**	**+0.8**
KPF	**Kankaanpaa**	**4.05**	**2**	*e*P		**Pn**	**08 51 17.8**	**+1.6**
FINES	**FINESS Array B**	**4.25**	**29**	Pn		**Pn**	**08 51 20.5**	**+1.6**
	comp=Z,0.2nm,0.3s,baz=210,slow=12,SNR=15							
FINES				Pg		**Pb**	**08 51 29.6**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=217,slow=16,SNR=10							
FINES				Sn		**Sn**	**08 52 09.8**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=216,slow=21,SNR=5.9							
FINES				Lg		Lg	08 52 22.3	
	comp=Z,1.5nm,0.3s,baz=213,slow=31,SNR=12							
	comp=Z,0.5nm,0.2s							
DEL	**Delary**	**4.53**	**256**	*e*P		**Pn**	**08 51 23.0**	**+0.2**
DEL	**Delary**	**4.53**	**256**	*i* P		**Pn**	**08 51 23.0**	**+0.2**
DEL				*i* S		**Sn**	**08 52 15.9**	**-0.1**
KEF	**Keuruu**	**4.65**	**18**	*e*P		**Pn**	**08 51 27.0**	**+2.7**
BSD	**Bornholm Skovb**	**4.68**	**238**	*e*P		**Pn**	**08 51 24.1**	**-0.7**
BSD	**Bornholm Skovb**	**4.68**	**238**	*i* P		**Pn**	**08 51 24.5**	**-0.3**
BSD				*i* S		**Sn**	**08 52 18.4**	**-1.3**
BSD				IAML			08 52 25.3	
	comp=Z,1.7nm,0.5s							
HFS	**Hagfors**	**4.82**	**303**	Pn		**Pn**	**08 51 27.6**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=112,slow=16,SNR=52							
HFS				Sn		**Sn**	**08 52 22.2**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=112,slow=26,SNR=6.4							
HFS				Lg		Lg	08 52 41.7	
	comp=Z,0.9nm,0.3s,baz=112,slow=30,SNR=7.4							
	comp=Z,1.6nm,0.2s							
BORU	**Boraas**	**4.86**	**272**	*e*P		**Pn**	**08 51 28.9**	**+1.7**
LUNU	**Lund**	**5.10**	**248**	*i* P		**Pn**	**08 51 33.0**	**+2.5**
LUNU				*i* S		**Sn**	**08 52 28.6**	**-1.4**
VAF	**Ylistaro**	**5.28**	**4**	*e*P		**Pn**	**08 51 34.6**	**+1.6**
ONAU	**Onsala**	**5.34**	**270**	*e*P		**Pn**	**08 51 35.8**	**+1.9**
NB201	**NORSAR Array S**	**6.29**	**306**	*e*P		**Pn**	**08 51 47.6**	**+0.8**
NOA	**NORSAR Array B**	**6.32**	**305**	Pn		**Pn**	**08 51 47.2**	**-0.1**
	baz=115,slow=14,SNR=8.6							
NOA				Sn		**Sn**	**08 52 56.5**	**-3.6**
	baz=111,slow=19,SNR=1.1							
NOA				Lg		Lg	08 53 28.9	
	comp=Z,0.1nm,0.3s,baz=111,slow=20,SNR=4.9							
	comp=Z,0.1nm,0.2s							
NC303	**NORSAR Array S**	**6.33**	**307**	*e*P		**Pn**	**08 51 48.2**	**+0.7**
NAO01	**NORSAR Array S**	**6.38**	**303**	*e*P		**Pn**	**08 51 47.9**	**-0.2**
KONO	**Kongsberg**	**6.63**	**291**	*e*P		**Pn**	**08 51 51.5**	**-0.1**
JOF	**Joensuu**	**6.96**	**38**	*e*P		**Pn**	**08 51 57.0**	**+0.9**
SKAR	**Skarsila**	**7.51**	**298**	*e*P		**Pn**	**08 52 03.6**	**-0.1**
DOMB	**Dombas**	**7.69**	**309**	*e*P		**Pn**	**08 52 07.1**	**+1.0**
MOR8	**Moi Rana**	**9.09**	**341**	*e*P		**Pn**	**08 52 26.6**	**+1.3**
SALU	**Saltoluokta**	**9.74**	**352**	*e*P		**Pn**	**08 52 33.3**	**-0.9**
ARCES	**ARCESS Array B**	**11.90**	**6**	Pn		**Pn**	**08 53 00.4**	**-3.2**
	comp=Z,0.1nm,0.3s,baz=185,slow=13,SNR=8.6							
	comp=Z,1.8nm,0.9s							

RSNC 20 09:22:52.7±0.0, 5°N±1°×7°4W±°, h140km±3km, M2.4, mB4.8, mb4.0, ML2.4, Mw(mB)4.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
SPBC	**San Pablo de B**	**0.49**	**317**	P		Pn	09 23 12.2	-0.8
SPBC				S		Sn	09 23 28.3	0.0
CHIC	**Chingaza**	**0.66**	**179**	P		Pn	09 23 13.2	-1.2
CHIC				S		Sn	09 23 29.8	-1.0
RUSC	**La Rusia**	**0.89**	**47**	P		Pn	09 23 15.6	-0.5
RUSC				S		Sn	09 23 34.2	+0.3
NORC	**Norcasia**	**1.16**	**284**	P		Pn	09 23 16.8	-1.2
NORC				S		Sn	09 23 36.5	-0.8
VILC	**Villavicencio,**	**1.17**	**178**	P		Pn	09 23 16.7	-1.6
VILC				S		Sn	09 23 36.7	-1.1
BARC	**Barichara**	**1.41**	**23**	P		Pn	09 23 19.8	-1.0
BARC				S		Sn	09 23 40.0	-2.2
PTBC	**PUERTO BERRIO,**	**1.43**	**330**	P		Pn	09 23 18.9	-1.9
PTBC				S		Sn	09 23 41.3	-1.0
PTGC	**Puerto Gaitan,**	**1.93**	**124**	P		Pn	09 23 24.4	-2.1
PTGC				S		Sn	09 23 48.4	-3.9
PRAC	**Prado**	**1.94**	**216**	P		Pn	09 23 25.0	-1.6
PRAC				S		Sn	09 23 51.0	-1.5
URMC	**La Uribe, Meta**	**2.13**	**197**	P		Pn	09 23 27.5	-1.4
URMC				S		Sn	09 23 55.7	-0.9
TAMC	**Tame, Arauca**	**2.25**	**59**	P		Pn	09 23 29.2	-1.1
TAMC				S		Sn	09 23 56.9	-2.3
PAMC	**Pamplona, Colo**	**2.28**	**27**	P		Pn	09 23 30.2	-1.0
PAMC				S		Sn	09 23 59.9	-0.8
ZARC	**Zaragoza, Cauc**	**2.45**	**333**	P		Pn	09 23 29.7	-3.1
ZARC				S		Sn	09 24 01.4	-2.3
PLMC	**San Jos del P**	**2.56**	**262**	P		Pn	09 23 33.8	-0.4
PLMC				S		Sn	09 24 06.2	+0.1
YOTC	**Yotoco, Valle**	**2.90**	**244**	P		Pn	09 23 36.6	-2.0
GUVC	**San Jose del G**	**2.94**	**158**	P		Pn	09 23 37.2	-1.8
GUVC				S		Sn	09 24 10.9	-3.9
OCAC	**Ocana**	**2.96**	**8**	P		Pn	09 23 37.8	-1.5
OCAC				S		Sn	09 24 14.4	-0.9
DBBC	**Dabeiba**	**3.00**	**305**	P		Pn	09 23 38.2	-1.5
DBBC				S		Sn	09 24 15.3	-0.7
URCC	**San Jos de Ur**	**3.02**	**324**	P		Pn	09 23 36.6	-3.4
URCC				S		Sn	09 24 12.7	-3.9
MACC	**Macarena, Meta**	**3.13**	**182**	P		Pn	09 23 38.3	-3.1
MACC				S		Sn	09 24 14.4	-4.6
APAC	**Apartado, Choc**	**3.83**	**313**	P		Pn	09 23 48.6	-1.9
APAC				S		Sn	09 24 31.3	-4.1
ARGC	**Ariguani, Magd**	**4.57**	**354**	P		Pn	09 23 57.4	-2.8
ARGC				S		Sn	09 24 49.1	-3.7
SJCC	**San Jacinto, C**	**4.79**	**343**	P		Pn	09 23 58.9	-4.4
SJCC				S		Sn	09 24 51.5	-6.8
CAPC	**Capurgana**	**4.89**	**313**	P		Pn	09 24 00.3	-4.2
CAPC				S		Sn	09 24 53.8	-6.6
CRJC	**Cerrejon, Guaj**	**5.76**	**8**	P		Pn	09 24 13.9	-2.3
CRJC				S		Sn	09 25 13.8	-7.5
URIC	**Uribia, Colomb**	**6.60**	**15**	P		Pn	09 24 22.2	-5.2
URIC				S		Sn	09 25 33.2	-8.3

*SOME **20** 09:38:57.6, 43°.73N×86°.52E, h10km*
*NNC **20** 09:39:00.1±1.9, 43°.23N×87°.42E, h4km±6km, mb3.8, mpv3.5, Error ellipse: s-maj=13.1km s-min=9.7km az=121.0*

ISC 20 09:38:59.6±3.5, 43°.2N±0°.1×87°.6E±0°.2, h10km, n18, σ2s39/26, 11C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
						ISC	h m s	ISC
ZSN	**Zaisan**	**4.66**	**337**	Pg		**Pg**	**09 40 26.9**	**-1.9**
	4.8nm,0.5s							
ZSN				Lg		Lg	09 41 31.7	
	13nm,0.7s							
ZSN	**Zaisan**	**4.66**	**337**	*e*P		**Pn**	**09 40 11.7**	**+1.6**
	8.3nm,0.2s							
ZSN				*e*S		**Sn**	**09 41 05.3**	**+1.1**
	25nm,0.6s							
MK31	**Makanchi Array**	**5.19**	**316**	⇑Pn		**Pn**	**09 40 18.3**	**+1.1**
	1.4nm,0.2s,baz=137,slow=14,SNR=129							
MK31				⇓Sn		**Sn**	**09 41 18.6**	**+1.4**
	1.9nm,0.3s,baz=140,slow=28,SNR=4.5							
MK31				⇑Lg		Lg	09 41 43.0	
	6.4nm,0.6s,baz=138,slow=26,SNR=4.0							
KTMS	**Ketmen**	**5.26**	**275**	Pg		**Pb**	**09 40 33.3**	**+1.5**
	1.9nm,0.6s							
KTMS				Lg		Lg	09 41 43.1	
	11nm,1.1s							
KTMS	**Ketmen**	**5.26**	**275**	*e*P		**Pn**	**09 40 21.1**	**+2.6**
	0.6nm,0.1s							
KTMS				*e*S		**Sn**	**09 41 21.1**	**+1.8**
	4.8nm,0.2s							
MAKZ	**Makanchi**	**5.36**	**314**	⇑Pn		**Pn**	**09 40 20.2**	**+0.6**
	6.7nm,0.3s							
MAKZ				⇑Sn		**Sn**	**09 41 20.2**	**-1.1**
	3.2nm,0.5s							
MAKZ				⇑Lg		Lg	09 41 44.3	
	8.7nm,0.8s							
DJR	**Jarkent**	**5.74**	**284**	Pg		**Pb**	**09 40 43.0**	**+3.1**
	1.2nm,0.2s							
DJR				Lg		Lg	09 41 59.4	
	11nm,0.7s							
DJR	**Jarkent**	**5.74**	**284**	*e*P		**Pn**	**09 40 27.5**	**+2.5**
	0.8nm,0.1s							
DJR				*e*S		**Sn**	**09 41 32.2**	**+1.3**
	1.8nm,0.1s							
PDGK	**Podgornoye**	**5.89**	**274**	Pg		**Pb**	**09 40 45.3**	**+2.8**
	0.9nm,0.3s							
PDGK				Lg		Lg	09 42 03.6	
	5.4nm,0.9s							
PDGK	**Podgornoye**	**5.89**	**274**	⇑Pn		**Pn**	**09 40 27.2**	**+0.1**
	1.4nm,0.5s							
PDGK				⇑Sn		**Sn**	**09 41 35.3**	**+0.5**
	4.8nm,0.4s							
SHLS	**Shalkode**	**5.92**	**272**	Pg		**Pb**	**09 40 40.6**	**-2.4**
	3.7nm,0.3s							
SHLS				Lg		Lg	09 41 55.0	
	22nm,0.9s							
SHLS	**Shalkode**	**5.92**	**272**	*e*P		**Pn**	**09 40 27.0**	**-0.5**
	1.3nm,0.1s							
SHLS				*e*S		**Sn**	**09 41 31.1**	**-4.4**
	12nm,0.2s							
UZB	**Uzynbulak**	**6.24**	**272**	Pg		**Pb**	**09 40 51.7**	**+3.2**
	1.6nm,0.3s							
UZB				Lg		Lg	09 42 14.2	
	5.4nm,0.7s							
KAPS	**Kapalarasan**	**6.25**	**292**	Pg		**Pg**	**09 40 54.9**	**-4.3**
	0.9nm,0

NJ2					pP	pP	09 53 53.4	-0.8
NJ2					pmax	pmax		
	comp=Z,9.0nm,0.5s							
KSRS	Korea Array	45.29	343		P	P	09 54 00.0	-0.1
	comp=Z,0.7nm,0.6s,baz=153,slow=8.2,SNR=2.0							
	comp=Z,0.7nm,0.6s							
CMAR	Chiang Mai Arr	49.46	300		P	P	09 54 33.4	+0.5
	comp=Z,0.4nm,0.3s,baz=116,slow=6.1,SNR=1.4							
	comp=Z,0.4nm,0.3s							
USRK	Ussuriysk Ar.	50.81	350		P	P	09 54 41.2	-1.6
	comp=Z,0.7nm,0.5s,baz=148,slow=8.5,SNR=1.7							
USRK					LR	LR	10 14 11.4	
	comp=Z,47nm,22.0s,baz=158,slow=34							
	comp=Z,0.7nm,0.5s							
PZH	PanZhiHua	51.10	311		P	P	09 54 44.4	-1.0
PZH					pmax	pmax		
	comp=Z,10.0nm,0.6s							
PZH					pmax	pmax		
	comp=Z,100nm,5.5s							
HHC	Hu-ho-hao-te	54.60	331		eP	P	09 55 11.4	+0.4
HHC					sP	sP	09 55 17.8	+1.4
HHC					pmax	pmax		
	comp=Z,6.0nm,0.6s							
HHC					pmax	pmax		
	comp=Z,46nm,4.7s							
PEA0B	Petropavlovsk-	60.16	10		P	P	09 55 50.7	+0.7
PETK	Petropavlovsk-	60.16	10		P	P	09 55 50.5	+0.5
VNDA	Vanda	72.28	176		P	P	09 57 10.2	+2.8
SBA	Scott Base	73.00	175		P	P	09 57 17.0	+5.4
MK31	Makanchi Array	74.73	322		P	P	09 57 21.5	-0.9
MKAR	Makanchi Array	74.73	322		P	P	09 57 20.9	-1.4
MKAR	Makanchi Array	74.73	322		P	P	09 57 23.6	+1.3
	comp=Z,1.6nm,0.9s,baz=111,slow=6.6,SNR=7.9							
	comp=Z,1.6nm,0.9s							
KURBB	Kurchatov Arra	78.62	324		P	P	09 57 44.0	-0.2
	comp=Z,0.5nm,0.7s,baz=118,slow=4.7,SNR=1.9							
	comp=Z,0.5nm,0.7s							
QSPA	South Pole Qui	84.05	180		P	P	09 58 13.1	+0.1
QSPA					IAmb	IAmb	09 58 39.2	
	comp=Z,5.0nm,1.2s							
QSPA	South Pole Qui	84.05	180		P	P	09 58 13.0	+0.1
	comp=Z,1.3nm,0.9s,baz=9.8,slow=5.0,SNR=3.3							
	comp=Z,1.3nm,0.9s							
BVAR	Borovoye Array	84.19	325		P	P	09 58 15.0	+1.2
	comp=Z,4.6nm,0.8s,baz=101,slow=4.6,SNR=11							
	comp=Z,4.6nm,0.8s							
D19K	Kuna River	84.69	19		P	P	09 58 16.8	+0.9
RND	Reindeer	85.82	25		P	P	09 58 22.6	+0.8
DHY	Denali Highway	86.32	25		P	P	09 58 26.3	+2.0
DHY					IAmb	IAmb	09 58 30.8	
	comp=Z,3.1nm,0.8s							
E22K	Anaktuvuk Pass	86.59	20		P	P	09 58 27.1	+1.7
E22K					IAmb	IAmb	09 58 41.4	
	comp=Z,3.8nm,1.2s							
CCB	Clear Creek Bu	86.71	24		P	P	09 58 26.5	+0.5
CCB					IAmb	IAmb	09 58 26.8	
	comp=Z,3.3nm,0.9s							
ILAR	Eielson Array	87.12	24		P	P	09 58 27.8	-0.2
	comp=Z,1.1nm,0.7s,baz=257,slow=4.9,SNR=17							
	comp=Z,1.1nm,0.7s							
C23K	Itkillik River	87.69	19		P	P	09 58 32.7	+2.0
BARN	Barnard Glacie	88.26	28		P	P	09 58 35.6	+1.8
BARN					IAmb	IAmb	09 58 36.6	
	comp=Z,3.2nm,0.8s							
J26L	Joseph Creek	88.39	25		P	P	09 58 35.9	+1.7
J26L					IAmb	IAmb	09 58 40.2	
	comp=Z,3.2nm,1.4s							
M27K	Edge Creek, AK	88.51	27		P	P	09 58 37.1	+2.2
M27K					IAmb	IAmb	09 58 57.7	
	comp=Z,4.6nm,1.2s							
LOGN	Logan Glacier	88.51	28		P	P	09 58 37.0	+2.0
BMAR	Burnt Mountain	88.89	22		P	P	09 58 38.5	+2.0
EGAK	Eagle	89.46	25		P	P	09 58 41.0	+1.8
EGAK					IAmb	IAmb	09 58 56.3	
	comp=Z,3.2nm,1.0s							

TRN 20 09:57:37.8, 15.68N×61.32W, h143km, MD4.0, North-east of Dominica., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAGL	Barre de l'ile	0.27	8	eP	Pn	09 57 58.8	+1.4
TDBA	Terre de Bas,	0.35	299	eP	Pn	09 57 58.8	+1.2
TBG	Guadaloupe-3	0.36	299	eP	Pn	09 57 58.5	+0.9
TBG				eS	Sn	09 58 13.3	+0.6
CBE	Ff, Capester	0.48	325	eP	Pn	09 58 01.7	+3.5
CBE				eS	Sn	09 58 18.1	+4.3
ABD	La Joyeuse, An	0.81	349	eP	Pn	09 58 05.8	+5.6
ABD				eS	Sn	09 58 26.3	+8.8
PCM	Pelee Case Pet	0.86	173	eP	Pn	09 58 01.6	+0.8
PCM	Pelee Case Pet	0.86	173	eP	Pn	09 58 02.2	+1.4
BAMF	Morne Balai	0.87	169	eP	Pn	09 58 02.1	+1.2
CXM	Morne La Croix	0.88	170	eP	Pn	09 58 02.7	+1.7
GBMF	Grand Be	0.89	170	eP	Pn	09 58 02.1	+1.1
FDF	Fort de France	0.95	170	eP	Pn	09 58 02.6	+1.0
ILAM	Ilet Lapin Mar	1.00	154	eP	Pn	09 58 03.1	+1.2
ILAM				eS	Sn	09 58 20.6	+0.5
ZAM	Aeronautique	1.14	165	eP	Pn	09 58 04.1	+1.0
LPMF	Morne Lapointe	1.15	163	eP	Pn	09 58 03.9	+0.7
TRMF	Trois Ilets	1.17	167	eP	Pn	09 58 04.5	+1.1
BIM	Bigot	1.18	168	eP	Pn	09 58 04.8	+1.2
BIM				eS	Sn	09 58 25.5	+2.2
MVM	Montagne Vaucl	1.19	160	eP	Pn	09 58 04.8	+1.1
MPOM	Morne Pois Mar	1.31	160	eP	Pn	09 57 58.9	-5.9
MPOM				eS	Sn	09 58 13.4	-12
MBFL	Flemmings, Mon	1.36	321	eP	Pn	09 58 06.6	+1.2
MBFL				eS	Sn	09 58 27.1	+0.6
ANBD	Bethesda, Anti	1.43	343	eP	Pn	09 58 07.5	+1.5
ANBD				eS	Sn	09 58 27.9	+0.3
ANDO	Antigua, Disas	1.51	341	eP	Pn	09 58 08.2	+1.3
ANDO				eS	Sn	09 58 29.4	+0.3
SLBI	Saint Lucia, B	1.68	168	eP	Pn	09 58 09.7	+0.9
SLBI				eS	Sn	09 58 32.4	-0.1
SLCP	Castries, St.	1.69	169	eP	Pn	09 58 09.7	+0.8
SLCP	Castries, St.	1.69	169	ex	x	09 58 31.4	
SLB	Belfond	1.86	172	eP	Pn	09 58 12.7	+1.7
SVB	Belmont	2.39	178	eP	Pn	09 58 18.6	+1.3
SVB				eS	Sn	09 58 47.7	+0.1
SVT	Saint Vincent	2.50	178	eP	Pn	09 58 18.4	-0.1
SVT				eS	Sn	09 58 51.6	+1.7
SVOC	Richmond Hill,	2.51	178	eP	Pn	09 58 18.6	-0.1
SVOC	Richmond Hill,	2.51	178	eP	Pn	09 58 18.7	0.0
SVOC				ex	x	09 58 47.0	
BCHC	Barbados, Cave	3.01	147	ex	x	09 58 17.7	
BCHC				ex	x	09 58 54.9	
BBGH	Gun Hill	3.04	146	eP	Pn	09 58 26.7	+1.2
BBGH				eS	Sn	09 59 02.8	+0.5
GCMP	Grenada, Carri	3.17	182	eS	Sn	09 59 09.6	+4.3
GRGR	Grenville	3.54	185	ex	x	09 58 57.5	
AOPR	Arecibo Observ	5.83	298	eP	Pn	09 59 03.6	+1.4

*UCR **20** 09:57:38.5±0.9, 10.27N×86.33W, h17km±10km, MW3.7*
*CATAC **20** 09:57:41.4±2.4, 10.35N×86.25W, h31km±54km, ML3.1*
ISC 20 09:57:39.8±2.1, 10.30N±0.08×86.27W±0.10, h21km±6km, n31, σ9.71/38, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DELF	Filadelfia	0.72	78	eP	Pb	09 57 53.4	-0.3
DELF				eS	Sb	09 58 04.0	+0.8
JUD3	Juan Diaz 3	0.73	100	eP	Pb	09 57 53.5	-0.5
ALIBA	Liberia Airpor	0.77	68	eP	Pn	09 57 55.8	+0.3
HZTE	Horizontes, Gu	0.78	58	eP	Pb	09 57 54.9	+0.1
HZTE				eS	Sn	09 58 06.8	+0.1
ORTG	Ortega, Santa	0.80	85	eP	Pb	09 57 54.6	-0.5
ORTG				eS	Sn	09 58 07.2	-0.1
LCRUZ	La Cruz	1.00	39	eP	Pb	09 57 59.1	+0.6
LCRUZ				eS	Sn	09 58 14.0	+1.9
GPS3	Bodega del ICE	1.00	63	eP	Pn	09 57 58.6	-0.1
GPS3				eS	Sn	09 58 13.3	+1.1
GB1A	Borinquen Arri	1.00	59	eP	Pn	09 57 57.7	-1.0
VRLE	La Escondida,	1.02	61	eP	Pn	09 57 57.8	-1.1
COLC	Colonia	1.11	71	eP	Pn	09 57 59.4	-0.8
CUI	Cuipilapa	1.15	72	eP	Pn	09 58 00.0	-0.7
VMAR	Armenia, Volca	1.25	66	eP	Pn	09 58 01.7	-0.4
JUNT	Juntas	1.29	91	eP	Pn	09 58 01.9	-0.7
JTS	Las Juntas de	1.30	90	eP	Pn	09 58 01.9	-0.8
TENO	El Achiote	1.34	72	eP	Pn	09 58 02.1	-1.1
JAPN	Al SSO del Vol	1.35	26	*i* P	Pb	09 58 04.1	-0.4
JAPN				IAML		09 58 10.9	
	comp=Z,410nm,1.0s						
OMEN	Al SSO del Vol	1.36	28	*i* P	Pn	09 58 02.9	-0.7
OMEN				IAML		09 58 09.7	
	comp=Z,400nm,1.0s						
OMEN				*i* S	Sb	09 58 21.4	-0.2
MORN	Al O del Volca	1.39	26	*i* P	Pn	09 58 04.0	+0.1
MORN				IAML		09 58 10.6	
	comp=Z,510nm,1.0s						
CONN	Concepcion	1.41	27	*i* P	Pn	09 58 03.9	-0.4
CONN				IAML		09 58 10.7	
	comp=Z,2μm,1.0s						
CONN				*i* S	Sn	09 58 20.8	-1.4
VERA	Finca Concepci	1.49	68	eP	Pn	09 58 05.4	+0.2
ARE1	Arenal 1	1.54	84	eP	Pn	09 58 06.4	+0.4
CEDE	Laguna Cedeo	1.56	83	eP	Pn	09 58 06.9	+0.6
VACR	Volcan Arenal	1.58	84	eP	Pn	09 58 07.2	+0.6
SOCE	Pocosol	1.63	87	*i* P	Pn	09 58 07.7	+0.4
SOCE				IAML		09 58 40.2	
	comp=Z,170nm,1.0s						
CPMI	Catarata Coope	1.86	90	eP	Pn	09 58 11.2	+0.6
SAPS	Ciudad Sandino	1.86	356	*i* P	Pn	09 58 11.0	+0.5
SAPS				IAML		09 58 40.8	
	comp=Z,100nm,1.0s						
COPN	Copaltepe	1.90	351	*i* P	Pn	09 58 10.7	-0.2
COPN				IAML		09 59 00.5	
	comp=Z,73nm,1.0s						
ACON	Acoyapa	1.98	33	eP	Pn	09 58 11.7	-0.3
MOM2	El Cardon	2.14	354	*i* P	Pn	09 58 14.4	+0.2
MOM2				IAML		09 58 29.5	
	comp=Z,74nm,1.0s						
RIMA	Rio Macho	2.43	102	eP	Pn	09 58 18.8	+0.3
BUS1	Rivas	2.60	106	eP	Pn	09 58 21.1	+0.2

IDC 20 10:26:09.4±250.0, 76.17N×73.75E, h0km, Error ellipse: s-maj=183.6km s-min=84.5km az=77.0, Kara Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I37NO	I37NO	17.21	275	I	I	12 13 50.0	
	baz=44,slow=337,SNR=1.0						
I46RU	ZALESOVO INFRA	22.71	163	I	I	12 43 50.0	
	baz=355,slow=328,SNR=0.8						
I18DK	QAANAAQ INFRAS	25.13	342	I	I	12 56 38.6	
	baz=20,slow=334,SNR=4.1						
I53US	FAIRBANKS INFR	36.78	28	I	I	14 14 00.0	
	baz=347,slow=328,SNR=1.6						

*IDC **20** 10:47:10.5±0.7, 43.43N×126.71W, h0km, mb4.1/19, mbtmp4.2/27, ML3.9/8, MS3.9/67, Error ellipse: s-maj=16.7km s-min=8.0km az=41.0*
*GCMT **20** 10:47:12.4±0.2, 43.27N±0.01×127.11W±0.02, h16km±1km, MW4.8/112, Moment Tensor Solution. s23,c24; s112,c159; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.62±.09; Mθθ-1.28±.07; Mφφ1.90±.07; Mrθ-0.62±.21; Mφθ-1.58±.07; Mrφ0.09±.17; Best double couple: M₀2.35500×10^16 NP1:φs115.00000°, δ80.00000°, λ-162.00000°. NP2:φs21.00000°, δ72.00000°, λ-10.00000°. Principal axes: T 2.5830, Plg6.0000°, Azm247.0000°; N -0.4610, Plg69.0000°, Azm142.0000°; P -2.1260, Plg20.0000°, Azm339.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **20** 10:47:12.4±2.1, 43.30N±0.06×126.76W±0.1, h10km±1km, mb4.6/112, ML3.9/90 Error ellipse: s-maj=12.9km s-min=9.3km az=245.0*
ISC 20 10:47:11.5±0.5, 43.32N±0.07×126.70W±0.06, h10km, n744, σ1$40/691, mb4.6/81, MS3.9/61, 1D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	Myrtle Point	2.03	94	Pn	Pn	10 47 45.1	-0.7
J01E				IAML		10 48 19.9	
	comp=E,974nm,0.7s						
J01E				IAML		10 48 20.1	
	comp=N,547nm,0.6s						
KBO	Bosley Butte	2.14	120		Pn	10 47 45.9	-1.4
KBO				IAML		10 48 16.4	
	comp=E,534nm,2.3s						
KBO				IAML		10 48 32.0	
	comp=N,479nm,2.0s						
K02D	Willamette Mer	2.31	105		Pn	10 47 48.9	-0.9
K02D				IAML		10 48 24.4	
	comp=E,444nm,0.5s						
I03D	Drain, OR	2.47	80		Pn	10 47 51.5	-0.3
I03D				IAML		10 48 24.5	
	comp=E,701nm,0.6s						
I03D				IAML		10 48 26.6	
	comp=N,560nm,0.6s						
DBO	Dodson Butte	2.54	93		Pn	10 47 52.7	-0.1
DBO				IAML		10 48 29.8	
	comp=E,660nm,1.0s						
DBO				IAML		10 48 39.3	
	comp=N,392nm,1.4s						
KSXB	Camp Six Broad	2.57	125		Pn	10 47 52.1	-1.1
L02F	Cave Junction	2.60	116		Pn	10 47 52.8	-0.8
L02F				IAML		10 48 29.6	
	comp=E,294nm,1.8s						
KRMB	Red Mountain	2.74	130		Pn	10 47 54.6	-1.1
COR	Corvallis	2.76	62		Pn	10 47 56.3	+0.5
COR				IAML		10 48 34.0	
	comp=E,433nm,0.7s						
COR				IAML		10 48 39.2	
	comp=E,526nm,1.2s						
BUCK	Buck Mountain	2.83	71		Pn	10 47 57.5	+0.6
BUCK				IAML		10 48 39.3	
	comp=E,339nm,0.8s						
BUCK				IAML		10 48 47.5	
	comp=N,465nm,0.8s						
HEBO	Mount Hebo	2.84	47		Pn	10 47 56.7	-0.2
HEBO				IAML		10 48 35.5	
	comp=E,378nm,0.7s						
HEBO				IAML		10 48 38.4	
	comp=N,423nm,1.2s						
HUMO	Hull Mountain	2.84	103		Pn	10 47 56.5	-0.5
KRPM	Rodgers	2.94	136		Pn	10 47 57.2	-1.1
H04D	Lebanon	3.11	66		Pn	10 48 01.0	+0.4
H04D				IAML		10 48 44.9	
	comp=N,462nm,0.7s						
G03D	McMinnville, O	3.11	51		Pn	10 48 00.5	-0.1
G03D				IAML		10 48 51.0	
	comp=E,466nm,0.6s						
I04A	Tendick Farm,	3.16	80		Pn	10 48 01.9	+0.6
I04A				IAML		10 48 45.1	
	comp=E,403nm,0.6s						
I04A				IAML		10 48 45.5	
	comp=N,387nm,0.8s						
JCC	Jacoby Creek,	3.20	141	Pn	Pn	10 48 02.3	+0.5
KHMM	Horse Mountain	3.30	137		Pn	10 48 03.7	+0.3
YBH	Yreka Blue Hor	3.35	117		Pn	10 48 04.7	+0.6
YBH	Yreka Blue Hor	3.35	117	Pn	Pn	10 48 05.1	+1.1
	comp=N,10nm,0.3s,baz=290,slow=10,SNR=64						
YBH				Sn	Sn	10 48 44.8	+0.9
	comp=N,3.7nm,0.3s,baz=272,slow=13,SNR=3.0						
	comp=N,41nm,0.4s						
L04D	Klamath Falls	3.42	107		Pn	10 48 05.5	+0.4
L04D				IAML		10 48 53.8	
	comp=N,275nm,1.6s						
L04D				IAML		10 48 57.2	
	comp=E,424nm,1.3s						
F03A	Seaside	3.44	40		Pn	10 48 04.4	-0.8
KMPM	Mount Pierce	3.49	146	Pn	Pn	10 48 05.0	-0.9
H04A	Detroit Lake	3.53	66		Pn	10 48 07.1	+0.7
H04A				IAML		10 48 33.4	
	comp=N,314nm,0.5s						
K04D	Chiloquin, OR	3.70	99		Pn	10 48 08.4	-0.5
RADR	Rader Ridge	3.72	33		Pn	10 48 08.4	-0.6
RADR				IAML		10 49 05.9	
	comp=E,254nm,1.2s						
RADR				IAML		10 49 06.6	
	comp=N,235nm,1.1s						
F04D	Rainier, OR	3.81	42		Pn	10 48 10.8	+0.6
KMRM	Mail Ridge	3.82	143	Pn	Pn	10 48 10.9	+0.4
E03A	Lebam	3.92	34	Pn	Pn	10 48 11.7	0.0
J05D	Fort Rock, OR	3.99	89	Pn	Pn	10 48 13.8	+0.9
J05D				IAML		10 48 41.5	
	comp=N,102nm,1.0s						
J05D				IAML		10 49 04.7	
	comp=E,118nm,2.0s						
I05D	Terrebonne, OR	4.01	73		Pn	10 48 14.2	+1.1
I05D				IAML		10 48 46.0	
	comp=E,236nm,0.8s						
I05D				IAML		10 48 53.4	
	comp=N,161nm,0.9s						
F04A	Amboy	4.02	48		Pn	10 48 14.3	+1.2
F04A				IAML		10 49 10.4	
	comp=N,269nm,0.5s						
HOOD	Mount Hood Mea	4.14	59		Pn	10 48 16.3	+1.4
PINE	Pine Mountain	4.21	82		Pn	10 48 16.8	+0.8
PINE				IAML		10 48 47.2	
	comp=N,114nm,0.7s						
PINE				IAML		10 48 55.8	
	comp=E,143nm,0.9s						
K05A	Summer Lake	4.30	96		Pn	10 48 17.5	+0.3
K05A				IAML		10 49 37.0	
	comp=E,89nm,1.6s						
K05A				IAML		10 50 54.8	
	comp=N,125nm,4.3s						
G05A	Wamic	4.32	62		Pn	10 48 18.8	+1.6
G05A				IAML		10 48 50.0	
	comp=E,240nm,0.9s						
KCPM	Cahto Peak	4.32	146		Pn	10 48 17.5	0.0
WISH	Wishkah	4.32	28		Pn	10 48 17.6	+0.3
G06A	Carlson Farm,	4.76	64		Pn	10 48 24.0	+0.7
G06A				IAML		10 49 03.5	
	comp=N,74nm,1.0s						
G06A				IAML		10 49 38.6	
	comp=E,64nm,1.5s						
C03A	Quillayute Air	4.86	17		Pn	10 48 24.3	-0.3
C03A				IAML		10 49 23.9	
	comp=E,117nm,1.2s						
C03A				IAML		10 49 24.8	
	comp=N,140nm,1.0s						
GNW	Green Mountain	5.04	31	Pn	Pn	10 48 27.3	+0.2
GNW				IAML		10 49 27.9	
	comp=E,104nm,0.6s						
D05A	Enumclaw	5.10	39		Pn	10 48 29.0	+1.0
HOPS	Hopland Field	5.12	146		Pn	10 48 29.4	+1.1
HOPS				IAML		10 49 38.3	
	comp=N,63nm,2.9s						
HOPS				IAML		10 51 11.9	
	comp=E,46nm,4.1s						
B04A	Port Angeles	5.24	24		Pn	10 48 30.0	+0.2
I07A	Izee	5.28	79	Pn	Pn	10 48 31.6	+1.1
I07A				IAML		10 49 12.1	
	comp=E,51nm,1.8s						
I07A				IAML		10 49 12.3	
	comp=N,40nm,1.1s						
F07A	Phinny Hill Vi	5.48	60		Pn	10 48 33.7	+0.6
OZB	Mount Ozzard	5.70	8	Pn	Pn	10 48 36.0	-0.3
CLRS	Cowichan Lake	5.78	17		Pn	10 48 37.3	0.0
PGC	Sidney	5.79	22		Pn	10 48 37.3	-0.1
LTY	Liberty	5.80	45		Pn	10 48 39.1	+1.6
E07A	Sunnyside	5.84	54	Pn	Pn	10 48 39.6	+1.5
G08A	Pilot Rock	5.89	68	Pn	Pn	10 48 40.4	+1.4
MCCM	Marconi Confer	5.93	149		Pn	10 48 39.7	+0.4
HAWA	Hanford	5.95	56		Pn	10 48 41.1	+1.4
WVOR	Wild Horse Val	5.99	96		Pn	10 48 40.9	+0.5
J08A	Circle Bar Ran	6.00	87	Pn	Pn	10 48 40.9	+0.5
AFDM	Forest Hills D	6.15	133	Pn	Pn	10 48 43.9	+1.5
E08A	Dider Farm, El	6.29	57		Pn	10 48 45.8	+1.5
MPK	Martis Peak	6.44	126	Pn	Pn	10 48 48.9	+2.3
PAHR	Pah Rah Range	6.57	121		Pn	10 48 51.4	+3.1
EMB	Emerald Bay	6.61	129		Pn	10 48 51.3	+2.4
D08A	Wollman Farm,	6.65	53	Pn	Pn	10 48 50.5	+1.3
PNTR	Pine Nut	6.82	126	Pn	Pn	10 48 54.0	+2.1
E09A	Wood Farm, Sta	6.86	59		Pn	10 48 52.3	+0.1
BMO	Blue Mountains	6.94	74	Pn	Pn	10 48 54.1	+0.8
YERR	Yerington	7.10	125		Pn	10 48 57.5	+1.8
B08A	Colville Reser	7.20	43	Pn	Pn	10 48 58.3	+1.5
F10A	Beach Ranch, E	7.26	65	Pn	Pn	10 48 58.1	+0.4
WAKR	Walker	7.31	129		Pn	10 49 01.2	+2.7
C09A	Chrisman Ranch	7.42	50		Pn	10 49 00.5	+0.7
SAO	San Andreas Ge	7.69	147	Pn	Pn	10 49 03.9	+0.3
RYN	Ryan	7.76	124		Pn	10 49 07.0	+2.4
KVN	Kaiserville	7.76	120	Pn	Pn	10 49 06.4	+1.7
PLID	Pearl Lake	7.89	73	Pn	Pn	10 49 07.6	+1.1
MFID	Camas Ranch	7.93	86	Pn	Pn	10 49 08.1	+1.2
LHV	Little Huntoon	8.02	126		Pn	10 49 10.9	+2.9
NVAR	Mina Array Bea	8.02	125	Pn	Pn	10 49 10.2	+1.9
NVAR	Mina Array Bea	8.02	125	Pn	Pn	10 49 11.5	+3.2
	comp=N,0.9nm,0.3s,baz=297,slow=14,SNR=52						
NVAR				LR	LR	10 52 16.8	
	comp=N,426nm,18.0s,baz=303,slow=38						
	comp=N,9.5nm,0.8s						
NV11	Mina Array Sit	8.11	124	Pn	Pn	10 49 11.4	+1.9
MLAC	Mammoth, Mammo	8.26	131	P	Pn	10 49 12.2	+0.6
	baz=316						
NEW	Newport	8.32	50	P	Pn	10 49 13.3	+1.1
	baz=237,SNR=26						
NEW	Newport	8.32	50	Pn	Pn	10 49 13.1	+0.9
	comp=N,3.9nm,0.3s,baz=218,slow=11,SNR=36						
NEW				LR	LR	10 52 31.5	
	comp=N,2μm,21.0s,baz=240,slow=39						
	comp=N,44nm,0.8s						
PMPB	Monarch Peak	8.43	145		Pn	10 49 15.3	+1.6
ELK	Elko	8.91	103	Pn	Pn	10 49 24.7	+4.2
	comp=N,0.4nm,0.3s,baz=296,slow=13,SNR=28						
ELK				LR	LR	10 53 07.7	
	comp=N,298nm,21.4s,baz=284,slow=40						
	comp=N,5.8nm,0.7s						
BBB	Bella Bella	8.92	354		Pn	10 49 21.2	+0.9
BBB	Bella Bella	8.92	354	Pn	Pn	10 49 21.7	+1.4
	comp=N,1.4nm,0.3s,baz=189,slow=8.9,SNR=16						
BBB				LR	LR	10 52 07.5	
	comp=N,807nm,19.3s,baz=174,slow=34						
DSP	Deep Springs	8.93	129	Pn	Pn	10 49 23.4	+2.9
HLID	Hailey	8.95	84	Pn	Pn	10 49 22.2	+1.3
HLID	Hailey	8.95	84	P	Pn	10 49 21.5	+0.6
	baz=273,SNR=50						
VOG	Valley Oaks Go	8.97	139	P	Pn	10 49 23.2	+2.0
	baz=323						
TIN	Tinemaha, Big	9.01	131	P	Pn	10 49 22.1	+0.4
	baz=317						
MZP	Montezuma Peak	9.05	125		Pn	10 49 23.8	+1.4
GMN	Gold Mountain	9.39	127	Pn	Pn	10 49 28.6	+1.5
HG4B	Hotspring	9.47	343	Pn	Pn	10 49 31.2	+3.3
VES	Vestal, Richgr	9.50	139	P	Pn	10 49 29.4	+1.0
	baz=324,SNR=38						
SMMC	Simmler	9.53	145	P	Pn	10 49 30.3	+1.4
	baz=329						
GRAC	Grapevine Rang	9.54	128	P	Pn	10 49 31.1	+2.2
	baz=314						
CWC	Cottonwood Cre	9.54	133	P	Pn	10 49 30.6	+1.5
	baz=319						
MSO	Missoula	9.69	64	Pn	Pn	10 49 32.3	+1.4
MSO	Missoula

baz=291,SNR=21
SHOC Shoshone, Teco 10.93 129 P Pn 10 49 50.5 +2.5
baz=316
BOZ Bozeman (W) 11.01 73 Pn Pn 10 49 50.6 +1.4
BOZ Bozeman (W) 11.01 73 P Pn 10 49 50.0 +0.8
baz=263,SNR=51
GSC Goldstone, Bar 11.08 133 Pn Pn 10 49 55.3 +5.2
GSC Goldstone, Bar 11.08 133 P Pn 10 49 50.3 +0.2
baz=319,SNR=12
DECC Green Verdugo 11.16 141 P Pn 10 49 52.6 +1.5
baz=327
SHPR Sheep Range 11.17 124 Pn Pn 10 49 55.7 +4.3
RUBB Prince Rupert 11.26 349 Pn 10 49 54.1 +1.9
PASC Pasadena Art C 11.29 141 Pn Pn 10 49 56.4 +3.5
HWUT Hardware Ranch 11.32 94 Pn Pn 10 49 55.9 +2.5
FXWY Fox Creek 11.40 83 Pn 10 49 57.1 +2.5
AHID Auburn Hatcher 11.44 87 Pn 10 49 58.6 +3.6
IMW Indian Meadow 11.45 82 Pn Pn 10 49 58.6 +3.3
NLU North Lily Min 11.45 102 Pn Pn 10 49 57.3 +2.0
TUQ Turquoise Moun 11.46 130 P Pn 10 49 58.4 +3.0
baz=317,SNR=21
TPAW Teton Pass 11.46 84 Pn Pn 10 49 59.2 +3.7
BFSC Mount Baldy Ra 11.48 139 P Pn 10 49 59.2 +3.6
baz=325,SNR=29
YHH Holmes Hill 11.51 77 Pn Pn 10 49 58.6 +2.5
YFT Old Faithful 11.51 79 Pn 10 50 00.3 +4.3
SNCC San Nicolas Is 11.53 148 P Pn 10 49 57.2 +1.1
baz=333
REDW Red Top Meadow 11.55 84 Pn 10 50 00.4 +3.8
TCUT Toone Canyon 11.56 96 Pn 10 50 00.0 +3.3
MOOW Moose Ponds 11.60 82 Pn Pn 10 50 00.6 +3.4
SNOW Snow King Moun 11.61 84 Pn 10 50 00.8 +3.4
FLWY Flagg Ranch 11.61 81 Pn Pn 10 49 59.8 +2.3
YNR Norris Junctio 11.62 78 Pn 10 50 01.5 +3.8
FMP Fort Macarthur 11.63 143 P Pn 10 49 58.7 +1.2
baz=328
CCUT Cedar City 11.68 115 Pn Pn 10 50 01.8 +3.3
HEC Hector,Ludlow 11.69 133 P Pn 10 50 01.0 +2.6
baz=320,SNR=14
H17A Grant Village 11.70 79 Pn 10 50 02.5 +3.8
H17A Grant Village 11.70 79 P Pn 10 49 59.9 +1.2
baz=270,SNR=42
LOHW Long Hollow 11.71 83 Pn 10 50 02.8 +4.0
MPU Maple Canyon 11.75 101 Pn 10 50 01.8 +2.5
LKWY Lake 11.82 78 Pn 10 50 04.6 +4.2
BBRC Big Bear Solar 11.83 137 P Pn 10 50 03.3 +2.9
baz=323
SZCU Shurtz Canyon 11.84 114 Pn 10 50 03.9 +3.3
CIS Catalina Islan 11.84 144 P Pn 10 50 02.6 +2.1
baz=329
V12A Nelson 11.88 126 Pn Pn 10 50 06.0 +5.0
MVU Marysvale 11.97 109 Pn 10 50 06.8 +4.4
MSU Marysvale 11.99 109 Pn Pn 10 50 06.2 +3.5
YMP Mirror Lake Pl 12.00 78 Pn 10 50 06.2 +3.3
LCMT Little Creek M 12.07 117 Pn 10 50 07.4 +3.8
ELS Elsinore Mount 12.08 140 Pn Pn 10 50 05.8 +2.1
GMRC Granite Mounta 12.09 131 P Pn 10 50 06.8 +2.9
baz=318
SCI2 San Clemente I 12.15 145 P Pn 10 50 06.6 +2.0
baz=330
MURC Murrieta 12.23 139 P Pn 10 50 06.9 +1.2
baz=325
V35K Ketchikan 12.43 347 P Pn 10 50 10.4 +2.1
baz=163
BELC Belle Mtn. Jos 12.50 135 P Pn 10 50 12.7 +3.0
baz=321,SNR=8.7
PD31 Pinedale Array 12.56 87 Pn 10 50 13.7 +3.2
PDAR Pinedale Array 12.56 87 Pn Pn 10 50 13.3 +2.8
PDAR Pinedale Array 12.56 87 Pn Pn 10 50 13.6 +3.2
comp=N,0.2nm,0.3s,baz=278,slow=12,SNR=84
PDAR LR LR 10 55 29.1
comp=N,1µm,19.3s,baz=282,slow=40
comp=N,13nm,0.9s
PFO Pinyon Flats O 12.58 137 P Pn 10 50 10.8 +0.3
baz=323
PFO Pinyon Flats O 12.58 137 Pn Pn 10 50 14.3 +3.7
comp=N,0.1nm,0.3s,baz=321,slow=12,SNR=7.1
PFO LR LR 10 55 09.6
comp=N,742nm,18.9s,baz=317,slow=38
comp=N,5.2nm,0.9s
TPFO Pinon Flats 12.58 137 P Pn 10 50 10.5 -0.2
baz=323
NEE2 Needles Airpor 12.69 128 P Pn 10 50 13.2 +1.2
baz=316
EGMT Eagleton 12.75 62 Pn Pn 10 50 13.8 +1.0
EGMT Eagleton 12.75 62 P Pn 10 50 12.5 -0.3
baz=254,SNR=12
U35K Hyder 12.79 352 P Pn 10 50 13.4 +0.3
baz=169
IRM Iron Mountain 12.84 132 P Pn 10 50 15.7 +1.6
baz=319,SNR=13
CRAG Craig 12.85 343 Pn Pn 10 50 15.8 +1.8
CRAG Craig 12.85 343 P Pn 10 50 15.6 +1.6
baz=159
109C Camp Elliot, M 12.86 141 P Pn 10 50 14.8 +0.5
baz=327
BC3 Big Chuckawall 13.06 134 P Pn 10 50 17.7 +0.6
baz=321,SNR=10
MONP2 Monument Peak 13.18 139 P Pn 10 50 19.7 +0.8
baz=325,SNR=7.5
EDM Edmonton 13.29 37 Pn Pn 10 50 20.1 0.0
PDMCI Parker Dam,Lak 13.29 128 P Pn 10 50 20.3 0.0
baz=316,SNR=7.6
SWSC Sam W. Stewart 13.44 137 P Pn 10 50 22.4 +0.2
baz=324
U33K Whale Pass 13.45 344 P Pn 10 50 22.5 +0.3
baz=160
IKP In-Ko-Pah, Jac 13.53 138 P Pn 10 50 23.0 -0.5
baz=325
WRAK Wrangell Islan 13.60 347 P Pn 10 50 23.3 -1.0
baz=162
GLA Glamis 13.86 134 P Pn 10 50 26.5 -1.4
baz=321
T35M Bob Quinn 13.86 352 P Pn 10 50 29.0 +1.2
baz=169
T33K Petersburg 14.08 346 P Pn 10 50 32.3 +1.5
baz=161
O20A White River Ci 14.15 97 P Pn 10 50 31.4 -0.7
baz=289,SNR=17
WUAZ Wupatki 14.17 118 P Pn 10 50 32.3 -0.1
baz=308,SNR=5.9
Y14A Wickenburg 14.21 127 Pn 10 50 34.6 +1.7
RWWY Rawlins 14.47 90 Pn 10 50 34.7 -1.9
K22A Casper 14.79 86 Pn 10 50 40.3 -0.5
K22A Casper 14.79 86 P Pn 10 50 39.8 -1.0
baz=279,SNR=5.8
SIT Sitka 14.80 341 P Pn 10 50 42.3 +1.7
baz=155
X16A Lo Mia Camp, P 14.83 122 P P 10 50 45.3 -2.0
S34M Telegraph Cree 14.87 351 P Pn 10 50 42.8 +1.2
baz=167,SNR=11
S32K Killisnoo 15.01 343 P Pn 10 50 45.0 +1.5
baz=157
MVCO Mesa Verde 15.17 108 P Pn 10 50 46.3 +0.3
baz=299,SNR=6.1
DLBC Dease Lake 15.28 353 Pn 10 50 47.6 +0.6
DLBC IAmb IAmb 10 50 55.4
comp=Z,20nm,0.8s
DLBC Dease Lake 15.28 353 P Pn 10 50 47.7 +0.6
baz=171,SNR=12
DLBC Dease Lake 15.28 353 Pn Pn 10 50 46.7 -0.4
comp=Z,0.1nm,0.3s,baz=183,slow=12,SNR=2.5
DLBC LR LR 10 55 48.9
comp=Z,415nm,20.1s,baz=173,slow=34
comp=Z,1.4nm,0.7s
W18A Petrified Fore 15.47 116 P Pn 10 50 50.4 +0.4
baz=307
TOAD Toad River Com 15.57 3 P Pn 10 50 51.7 +0.7
baz=184,SNR=12
N23A Red Feather La 15.60 92 P Pn 10 50 50.4 -1.3
baz=286,SNR=14
JIS Juneau Island 15.72 345 Pn 10 50 54.2 +1.4
JIS IAmb IAmb 10 51 01.1
comp=Z,43nm,0.9s
R32K Eaglecrest 15.75 345 P Pn 10 50 53.7 +0.5
baz=159
214A Organ Pipe Nat 15.78 131 P Pn 10 50 52.9 -0.9
baz=320,SNR=11
S31K Pelican 15.83 341 P Pn 10 50 55.3 +1.1
baz=154
LIRD Liard River Hi 16.11 1 P Pn 10 50 58.9 +1.0
baz=182
R31K City Hall, Gus 16.12 343 P Pn 10 50 58.6 +0.6
baz=156
ISCO Idaho Springs 16.17 95 P Pn 10 50 57.8 -1.3
baz=289,SNR=37

R33M Jennings River 16.31 352 P Pn 10 51 01.1 +0.5
baz=169,SNR=8.0
RSSD Black Hills 16.40 79 P Pn 10 51 02.1 +0.1
baz=275
DGMT Dagmar 16.47 64 P Pn 10 51 03.6 +1.0
baz=260,SNR=7.1
TUC Tucson 16.68 126 P Pn 10 51 04.3 -1.1
baz=316
Q24A Divide 16.80 98 P Pn 10 51 05.8 -1.3
baz=292,SNR=5.9
P32M Atlin 16.85 348 P P 10 51 09.0 -0.4
baz=162,SNR=12
WTLY Watson Lake, Y 16.86 356 P P 10 51 09.9 +0.3
baz=175,SNR=11
KOTAN Kotaneelee Air 16.91 5 P Pn 10 51 09.6 +1.6
baz=187
SKAG Skagway 17.01 345 P Pn 10 51 10.0 +0.7
baz=158,SNR=9.5
SDCO Great Sand Dun 17.04 102 P Pn 10 51 10.2 +0.1
baz=296,SNR=73
PLBC Pleasant Camp 17.21 343 P P 10 51 13.8 +0.4
baz=156,SNR=6.9
P33M Teslin, Yukon 17.32 350 P Pn 10 51 13.8 +0.5
P33M Teslin, Yukon 17.32 350 P Pn 10 51 13.5 +0.3
baz=165,SNR=12
P29M Windy Craggy 17.68 341 P Pn 10 51 18.3 +0.7
baz=153
ANMO Albuquerque 17.77 111 P 10 51 21.2 +1.3
ANMO Albuquerque 17.77 111 P Pn 10 51 19.1 +0.1
baz=304
ANMO Albuquerque 17.77 111 P P 10 51 21.1 +1.3
comp=Z,0.2nm,0.3s,baz=37,slow=12,SNR=41
ANMO LR LR 10 57 41.7
comp=Z,146nm,19.5s,baz=32,slow=35
comp=Z,13nm,0.9s
P30M Million Dollar 17.94 343 P Pn 10 51 21.2 +0.2
baz=155
Y22D IRIS PASSCAL I 17.96 114 P Pn 10 51 21.2 -0.2
baz=307
WHY Whitehorse 18.05 347 Pn 10 51 22.9 +0.6
WHY Whitehorse 18.05 347 P P 10 51 24.0 +1.2
baz=160,SNR=13
T25A Trinidad 18.08 102 P Pn 10 51 24.3 +1.3
T25A Trinidad 18.08 102 P Pn 10 51 23.3 +0.3
baz=297,SNR=10
PNL Peninsula 18.12 339 P P 10 51 23.6 +0.2
baz=153
TGTN Hyland Airport 18.26 358 P P 10 51 25.9 +0.9
baz=176,SNR=6.9
N32M Quiet Lake 18.26 350 P P 10 51 26.3 +1.3
N32M Quiet Lake 18.26 350 P P 10 51 25.7 +0.7
baz=165
121A Cookes Peak, D 18.36 120 P Pn 10 51 27.5 +1.1
baz=311,SNR=9.7
O30N Mendenhall 18.37 345 P P 10 51 27.1 +1.0
baz=158,SNR=16
OGNE Ogallala 18.44 89 P P 10 51 27.1 0.0
baz=286,SNR=6.5
KSCO Kaye Shedlock' 18.61 95 P P 10 51 29.3 +0.2
baz=291,SNR=19
HYT Haines Junctio 18.70 343 P P 10 51 30.1 +0.3
baz=155,SNR=13
N31M Braeburn, Yuko 18.98 347 P Pn 10 51 34.5 +1.0
baz=159,SNR=11
YUK6 Outpost Mounta 18.99 342 P P 10 51 33.9 +0.7
baz=153,SNR=5.9
N30M Aishikik Lake 19.19 345 P P 10 51 36.0 +0.7
baz=156,SNR=13
MESA MESA 19.25 337 P Pn 10 51 36.8 -0.2
baz=144
O28M Mount Upton 19.27 340 P P 10 51 36.6 +0.2
baz=149,SNR=5.9
FARO Faro, Yukon 19.34 351 P P 10 51 37.6 +0.8
baz=165,SNR=14
YUK4 Talbot Arm 19.41 343 P P 10 51 38.7 +0.9
baz=153
M31M Drury Creek, Y 19.45 349 P P 10 51 39.0 +1.0
baz=163,SNR=12
MDND Maddock 19.45 67 P P 10 51 38.5 +0.4
baz=267
BGLC Bering Glacier 19.61 335 P P 10 51 40.4 +0.7
baz=142
YUK8 Steele Glacier 19.61 341 P P 10 51 40.7 +0.6
baz=151,SNR=8.0
FFC Flin Flon 19.71 46 P P 10 51 41.4 +0.5
FFC IAmb IAmb 10 51 45.8
comp=Z,57nm,1.0s
ISLE Juniper Island 19.71 337 P P 10 51 41.1 +0.1
ISLE IAmb IAmb 10 51 47.2
comp=Z,27nm,1.1s
CTGM Chitina Glacie 19.73 339 P P 10 51 41.3 +0.1
CTG Chitna Glacier 19.73 339 P P 10 51 41.9 +0.6
baz=147,SNR=6.5
K30B Basset 19.80 83 P P 10 51 43.7 +1.7
KAIM Kayak Island 19.82 333 P Pn 10 51 43.2 -0.4
baz=139
BARN Barnard Glacie 19.90 338 P P 10 51 43.1 0.0
SUSD Miller 20.00 77 P P 10 51 45.4 +1.2
SUSD IAmb IAmb 10 51 49.4
comp=Z,58nm,0.9s
SUSD Miller 20.00 77 P P 10 51 43.7 -0.4
baz=276
WRGLY Wrigley 20.03 4 P P 10 51 45.7 +1.5
baz=167,SNR=7.2
Q23K Middleton Isla 20.13 330 P P 10 51 45.7 +0.3
baz=135
M30M Minto, Yukon 20.18 346 P P 10 51 46.5 +0.5
M30M Minto, Yukon 20.18 346 P P 10 51 46.1 +0.2
baz=158,SNR=18
YUK3 Moose Creek 20.20 341 P P 10 51 46.2 -0.3
baz=150,SNR=7.1
M29M Somme Creek 20.36 344 P P 10 51 48.7 +0.6
M29M Somme Creek 20.36 344 P P 10 51 48.4 +0.4
baz=155,SNR=7.2
MNTX Cornudas Mount 20.45 117 P P 10 51 48.6 -0.5
baz=311,SNR=7.0
YKA Yellowknife Ar 20.48 16 P P 10 51 49.6 +0.5
comp=Z,11nm,0.8s,baz=207,slow=10,SNR=32
YKA LR LR 10 58 45.6
comp=Z,91nm,19.6s,baz=228,slow=34
comp=Z,11nm,0.8s
VRDI Verde Repeater 20.54 337 P P 10 51 51.0 +0.9
MCARA McCarthy VSAT 20.54 337 P P 10 51 50.5 +0.6
baz=144,SNR=8.2
BMRM Bremner River 20.68 335 P P 10 51 51.0 -0.4
baz=141
EYAK Cordova Ski Ar 20.73 333 P P 10 51 52.2 +0.3
baz=138
CBKS Cedar Bluff 20.79 93 P P 10 51 52.5 -0.2
baz=291
GLB Gilahina Butte 20.82 337 P P 10 51 53.2 +0.3
MSTX Muleshoe 20.84 109 P P 10 51 52.5 -0.9
baz=304,SNR=9.6
BVCY Beaver Creek 20.86 341 P P 10 51 53.5 +0.2
baz=150
L29M L29M 20.91 345 P P 10 51 54.3 +0.4
L29M L29M 20.91 345 P P 10 51 53.1 -0.7
baz=156,SNR=13
P23K Montague Islan 20.91 330 P P 10 51 53.7 -0.1
baz=134
MAYO Mayo, Yukon 20.99 349 P P 10 51 56.7 +1.9
MAYO IAmb IAmb 10 52 09.7
comp=Z,24nm,1.0s
MAYO Mayo, Yukon 20.99 349 P P 10 51 55.3 +0.6
baz=161
M27K Edge Creek, AK 21.05 340 P P 10 51 55.8 +0.2
M27K Edge Creek, AK 21.05 340 P P 10 51 56.2 +0.7
baz=148,SNR=14
AMTX Amarillo 21.11 105 P P 10 51 55.1 -1.2
baz=301
FID Port Fidalgo 21.12 333 P P 10 51 55.6 -0.5
FID IAmb IAmb 10 52 01.0
comp=Z,28nm,0.8s
BGNE Belgrade 21.14 85 P P 10 51 57.9 +1.3
BGNE Belgrade 21.14 85 P P 10 51 55.8 -0.8
baz=285,SNR=10
N25K Chitina, Valde 21.18 336 P P 10 51 57.5 +0.6
N25K Chitina, Valde 21.18 336 P P 10 51 57.1 +0.3
baz=142,SNR=8.0
D32A Dogwood Acres, 21.19 69 P P 10 51 58.7 +1.7
M26K Nabesna, AK 21.37 339 P P 10 51 59.7 +0.8
baz=146
GLI Glacier Island 21.43 332 P P 10 51 59.5 +0.1
GLI IAmb IAmb 10 52 03.8
comp=Z,24nm,1.0s
GLI Glacier Island 21.43 332 P P 10 51 59.9 +0.5
baz=136

K29M Barlow Dome 21.48 347 P P 10 52 00.9 +0.8
K29M IAmb IAmb 10 52 08.6
comp=Z,26nm,1.1s
K29M Barlow Dome 21.48 347 P P 10 52 00.4 +0.3
baz=158,SNR=19
KLU Klutina 21.49 334 P P 10 52 00.9 +0.6
KLU IAmb IAmb 10 52 02.3
comp=Z,26nm,1.0s
KLU Klutina 21.49 334 P P 10 52 00.6 +0.4
baz=139,SNR=11
BCAR Beaver Creek A 21.63 341 P P 10 52 02.5 +0.9
L27K Beaver Creek, 21.64 341 P P 10 52 02.7 +1.0
L27K IAmb IAmb 10 52 04.0
comp=Z,22nm,0.9s
L27K Beaver Creek, 21.64 341 P P 10 52 02.7 +1.0
baz=149,SNR=33
KDAK Kodiak Island 21.71 321 P P 10 52 03.7 +1.2
baz=121
KDAK Kodiak Island 21.71 321 P P 10 52 02.7 +0.2
comp=Z,12nm,0.9s,baz=356,slow=11,SNR=3.0
KDAK LR LR 10 58 13.6
comp=Z,638nm,21.2s,baz=142,slow=31
comp=Z,12nm,0.9s
SEW Seward 21.75 328 P P 10 52 02.7 -0.1
baz=130
ECSD EROS Data Cent 21.77 78 P P 10 52 04.5 +1.2
ECSD IAmb IAmb 10 52 09.7
comp=Z,34nm,1.0s
ECSD EROS Data Cent 21.77 78 P P 10 52 03.5 +0.2
baz=279,SNR=32
OHAK Old Harbor 21.77 319 P P 10 52 03.8 +0.7
baz=118
SII Sitkinak Islan 21.91 317 P P 10 52 05.0 +0.4
baz=116
HARP HAARP 21.96 337 P P 10 52 05.4 +0.2
baz=142
AGMN Agassiz Nation 21.98 66 P P 10 52 07.3 +1.8
AGMN Agassiz Nation 21.98 66 P P 10 52 05.4 0.0
baz=268,SNR=38
L26K Log Cabin Wild 21.98 340 P P 10 52 06.1 +0.7
baz=146,SNR=14
J30M Hart River 21.98 349 P P 10 52 06.5 +1.0
J30M IAmb IAmb 10 52 12.2
comp=Z,20nm,0.9s
J30M Hart River 21.98 349 P P 10 52 06.2 +0.6
baz=161,SNR=28
MENT Mentasta 22.01 339 P P 10 52 06.9 +1.3
MENT IAmb IAmb 10 52 09.9
comp=Z,22nm,0.8s
DAWY Dawson 22.01 345 P P 10 52 06.4 +0.7
DAWY IAmb IAmb 10 52 11.9
comp=Z,50nm,1.5s
DAWY Dawson 22.01 345 P P 10 52 06.6 +0.9
baz=155,SNR=20
BRSE Bradley Lake S 22.02 327 P P 10 52 05.6 -0.2
baz=128
M24K Tolsona, Glenn 22.04 335 P P 10 52 06.4 +0.4
baz=140
Q20K Shuyak Island 22.06 323 P P 10 52 07.0 +0.7
baz=123
O22K Cooper Landing 22.09 329 P P 10 52 07.6 +1.0
baz=131
J29N Klondike Camp 22.16 347 P P 10 52 07.9 +0.6
baz=157
SCM Sheep Creek Mo 22.20 334 P P 10 52 09.8 +2.0
SCM Sheep Creek Mo 22.20 334 P P 10 52 08.5 +0.8
baz=137,SNR=12
KNK Knik Glacier 22.27 332 P P 10 52 08.5 0.0
baz=135,SNR=6.8
M23K Glacier View 22.30 333 P P 10 52 09.1 +0.3
baz=136,SNR=12
HOM Homer 22.34 326 P P 10 52 10.1 +0.9
baz=126
CHIR Chirikof Islan 22.35 314 P P 10 52 08.6 -0.7
baz=112
RC01 Rabbit Creek A 22.50 330 P P 10 52 10.5 -0.5
baz=132
PAX Paxson 22.50 337 P P 10 52 11.5 +0.4
baz=142,SNR=6.6
SML Sawmill 22.51 333 P P 10 52 10.5 -0.5
baz=136,SNR=9.1
K27K Chicken 22.53 342 P P 10 52 11.4 +0.1
K27K IAmb IAmb 10 52 16.4
comp=Z,25nm,1.1s
K27K Chicken 22.53 342 P P 10 52 11.0 -0.3
baz=150
I30M Mount Dempster 22.61 349 P P 10 52 13.0 +0.8
I30M IAmb IAmb 10 52 16.1
comp=Z,12nm,0.9s
I30M Mount Dempster 22.61 349 P P 10 52 12.0 -0.2
baz=162,SNR=22
PMR Palmer 22.63 332 P P 10 52 12.2 0.0
baz=134,SNR=8.9
GHO Glory Hole Cre 22.68 332 P P 10 52 12.3 -0.7
GHO IAmb IAmb 10 52 20.1
comp=Z,40nm,1.2s
Q19K Cape Douglas, 22.79 323 P P 10 52 13.5 -0.5
baz=122
CAPN Captain Cook N 22.82 328 P P 10 52 14.3 0.0
baz=129
WAT6 Susitna Watana 22.88 335 P P 10 52 14.7 -0.4
baz=138,SNR=10
H31M Peel River 22.93 352 P P 10 52 15.8 +0.4
H31M IAmb IAmb 10 52 29.8
comp=Z,15nm,0.8s
H31M Peel River 22.93 352 P P 10 52 16.2 +0.8
baz=166,SNR=9.6
SCRK Sand Creek 22.93 340 P P 10 52 15.8 +0.2
SCRK Sand Creek 22.93 340 P P 10 52 16.5 +0.9
baz=146,SNR=10
KSU1 Kansas State U 22.96 90 P P 10 52 15.8 -0.3
baz=290,SNR=16
O20K Slope Mountain 22.99 326 P P 10 52 16.3 +0.1
baz=125
EGAK Eagle 23.00 344 P P 10 52 16.8 +0.7
EGAK IAmb IAmb 10 52 19.1
comp=Z,12nm,1.0s
EGAK Eagle 23.00 344 P P 10 52 16.5 +0.4
baz=152,SNR=12
P19K Oil Pt 23.00 325 P P 10 52 15.7 -0.5
baz=124
I29M Ogilvie Camp, 23.02 348 P P 10 52 16.3 -0.1
baz=158
M22K Willow 23.08 331 P P 10 52 16.4 -0.6
baz=132
SUA Susitna One 23.11 330 P P 10 52 17.0 -0.5
baz=131
TX31 Lajitas Ar. Si 23.12 120 P P 10 52 20.0 +2.1
TX31 IAmb IAmb 10 52 24.5
comp=Z,25nm,1.2s
TXAR Lajitas Array 23.13 120 P P 10 52 20.0 +2.1
TXAR Lajitas Array 23.13 120 P P 10 52 20.4 +2.5
comp=Z,4.3nm,0.8s,baz=298,slow=8.2,SNR=35
TXAR LR LR 11 01 09.4
comp=Z,87nm,19.3s,baz=303,slow=36
comp=Z,4.3nm,0.8s
DHY Denali Highway 23.14 336 P P 10 52 17.8 0.0
baz=139,SNR=22
WMOK Wichita Mounta 23.24 102 P P 10 52 20.1 +1.2
baz=300,SNR=115
K24K Donnelly Dome 23.25 338 P P 10 52 19.7 +0.9
baz=143
J26L Joseph Creek 23.28 341 P P 10 52 19.4 +0.3
J26L IAmb IAmb 10 52 26.4
comp=Z,15nm,1.2s
J26L Joseph Creek 23.28 341 P P 10 52 19.9 +0.8
baz=148,SNR=8.8
I28M Miner Creek 23.37 346 P P 10 52 20.4 +0.3
I28M IAmb IAmb 10 52 25.4
comp=Z,23nm,1.5s
I28M Miner Creek 23.37 346 P P 10 52 20.2 +0.1
baz=155,SNR=6.6
B35A Bob, Littlefor 23.41 66 P P 10 52 20.9 +0.4
LPIG La Paz 23.45 140 LR LR 11 00 51.4
comp=Z,336nm,19.6s,baz=309,slow=35
N20K Mount Spurr 23.49 328 P P 10 52 22.5 +1.2
baz=128,SNR=8.5
CUT Chulitna 23.58 332 P P 10 52 22.5 +0.6
baz=133
F36A Milaca 23.67 72 P P 10 52 24.0 +0.9
F36A IAmb IAmb 10 52 29.9
comp=Z,33nm,0.9s
OK029 Liberty Lake 23.68 99 P P 10 52 24.3 +1.0
P18K Big Mountain, 23.73 323 P P 10 52 23.8 +0.3
baz=120
SKT Skwentna 23.73 330 P P 10 52 22.9 -0.6
baz=130,SNR=5.3

EPYK **Eagle Plains** 23.74 350 P P 10 52 23.9 +0.2
EPYK IAmb IAmb 10 52 28.0
comp=Z,22nm,0.8s
EPYK **Eagle Plains** 23.74 350 P P 10 52 24.3 +0.7
baz=162,SNR=20
O19K **Port Alsworth** 23.75 325 P P 10 52 23.8 +0.1
baz=123
ABTX **Abilene, Hawle** 23.76 108 P P 10 52 24.0 0.0
baz=305
J25K **Salcha River,** 23.80 340 P P 10 52 25.2 +0.9
J25K **Salcha River,** 23.80 340 P P 10 52 25.5 +1.2
baz=145,SNR=13
I27K **Kandik River** 23.82 345 P P 10 52 24.9 +0.5
baz=152,SNR=9.1
H29M **Whitestone** 23.83 348 P P 10 52 24.7 +0.3
H29M IAmb IAmb 10 52 28.5
comp=Z,26nm,0.8s
H29M **Whitestone** 23.83 348 P P 10 52 24.7 +0.3
baz=159,SNR=31
RND **Reindeer** 23.83 335 P P 10 52 24.8 +0.3
RND IAmb IAmb 10 52 27.8
comp=Z,16nm,1.0s
I26K **Coal Creek Min** 23.87 343 P P 10 52 26.2 +1.4
I26K IAmb IAmb 10 52 29.8
comp=Z,20nm,1.1s
I26K **Coal Creek Min** 23.87 343 P P 10 52 25.3 +0.4
baz=149
T35A **Sooner Cattle** 23.88 95 P P 10 52 25.4 +0.3
O18K **Koktuh Hills** 23.95 324 P P 10 52 25.4 -0.2
baz=121
WTFS **Witchita Falls** 23.96 104 P 10 52 27.3 +1.3
FNO **Franklin** 23.98 100 P 10 52 28.1 +2.0
CHGN **Chignik** 23.98 314 P P 10 52 26.6 +0.7
baz=109
G31M **Satah River** 24.01 353 P P 10 52 26.4 +0.4
baz=166
R16K **Pilot Point** 24.01 317 P P 10 52 27.0 +0.9
baz=113
Q16K **King Salmon** 24.04 320 P P 10 52 25.7 -0.7
baz=117
HDA **Harding Lake** 24.05 338 P P 10 52 26.2 -0.3
baz=142,SNR=8.3
MCK **McKinley** 24.10 336 P P 10 52 26.7 -0.3
baz=138,SNR=8.2
N19K **Bonanza Creek** 24.16 326 P P 10 52 27.5 -0.2
baz=124
P17K **Kvichak River** 24.17 321 P P 10 52 26.9 -0.7
baz=118
CHNA **Chernabura Isl** 24.19 310 P P 10 52 27.6 -0.2
baz=105
SPMN **Marine on St.** 24.25 74 P P 10 52 27.0 -1.6
baz=278,SNR=15
M20K **Styx River** 24.26 329 P P 10 52 28.4 -0.2
baz=128
G30M **tAoh Zraii Nji** 24.27 351 P P 10 52 28.1 -0.4
baz=163
TRF **Thorofare Moun** 24.31 334 P P 10 52 28.5 -0.7
baz=135,SNR=6.9
IL31 24.32 339 P P 10 52 28.6 -0.4
ILAR **Eielson Array** 24.32 339 P P 10 52 29.1 +0.1
ILAR **Eielson Array** 24.32 339 P P 10 52 29.4 +0.4
comp=Z,6.0nm,0.8s,baz=151,slow=8.6,SNR=67
ILAR LR LR 11 00 31.8
comp=Z,244nm,20.1s,baz=132,slow=33
comp=Z,6.0nm,0.8s
H27K **Steamboat Moun** 24.36 345 P P 10 52 29.1 -0.4
baz=153,SNR=6.3
WRH **Wood River Hil** 24.41 338 P P 10 52 30.1 +0.3
WRH IAmb IAmb 10 52 33.7
comp=Z,11nm,0.9s
G29M **Pine Creek** 24.43 349 P P 10 52 30.6 +0.6
G29M **Pine Creek** 24.43 349 P P 10 52 30.2 +0.2
baz=160,SNR=31
CCB **Clear Creek Bu** 24.47 338 P P 10 52 29.7 -0.6
CCB IAmb IAmb 10 52 46.3
comp=Z,19nm,1.2s
F31M **Tsiigehtchic** 24.47 353 P P 10 52 31.1 +0.8
F31M IAmb IAmb 10 52 34.4
comp=Z,16nm,1.1s
F31M **Tsiigehtchic** 24.47 353 P P 10 52 30.4 +0.1
baz=168,SNR=11
PPLA **Purkeypile** 24.57 332 P P 10 52 31.1 -0.3
baz=131,SNR=21
S14K **Fog Glacier** 24.58 313 P P 10 52 31.4 -0.2
baz=108
BWN **Browne** 24.58 336 P P 10 52 31.6 +0.2
BWN IAmb IAmb 10 52 34.0
comp=Z,29nm,1.0s
PRP **Porcupine Dome** 24.59 341 P P 10 52 30.6 -1.0
baz=146
SCIA **State Center** 24.60 82 P P 10 52 30.3 -1.4
baz=285
COLA **College** 24.66 338 P P 10 52 31.7 -0.3
baz=141
N18K **Kilae Creek** 24.67 325 P P 10 52 32.5 +0.2
N18K **Kilae Creek** 24.67 325 P P 10 52 32.2 -0.1
baz=122
POKR **Poker Plat Res** 24.74 339 P P 10 52 32.9 +0.1
baz=142
O17K **Koliganek Bris** 24.74 322 P P 10 52 33.2 +0.4
baz=118
M19K **Big River Lodg** 24.75 328 P P 10 52 33.6 +0.6
M19K **Big River Lodg** 24.75 328 P P 10 52 33.1 +0.1
baz=126
NEA2 **Nenana** 24.78 337 P P 10 52 33.6 +0.5
NEA2 **Nenana** 24.78 337 P P 10 52 33.6 +0.5
baz=139,SNR=34
P16K **Nushagak River** 24.82 320 P P 10 52 34.6 +1.1
baz=116
SDPT **Sand Point** 24.82 311 P P 10 52 34.6 +1.0
baz=105
F30M **Barrier River** 24.83 352 P P 10 52 34.3 +0.7
baz=164,SNR=8.8
TUL3 **Leonard** 24.84 97 P P 10 52 32.4 -1.5
baz=297,SNR=8.4
CAST **Castle Rocks** 24.88 333 P P 10 52 33.1 -1.0
CAST IAmb IAmb 10 52 35.9
comp=Z,8.8nm,0.8s
CAST **Castle Rocks** 24.88 333 P P 10 52 34.0 -0.1
baz=132
G27K **Doyon Strip** 24.91 346 P P 10 52 34.5 +0.2
G27K **Doyon Strip** 24.91 346 P P 10 52 35.3 +1.0
baz=154,SNR=13
L20K **Farewell, AK** 24.91 330 P P 10 52 34.1 -0.3
baz=128,SNR=14
EYMN **Ely** 24.91 67 P P 10 52 36.7 +2.2
EYMN **Ely** 24.91 67 P P 10 52 34.6 0.0
baz=272,SNR=15
JCT **Junction City** 24.92 112 P P 10 52 34.5 -0.3
baz=308,SNR=5.2
BPAW **Bear Paw Mtn.** 24.99 335 P P 10 52 35.0 -0.1
BPAW **Bear Paw Mtn.** 24.99 335 P P 10 52 35.1 -0.1
baz=135,SNR=23
FW06 **Azle** 25.03 105 P P 10 52 36.4 +0.7
Z35A **Perchaven, San** 25.05 104 P P 10 52 36.6 +0.7
M18K **Stony River** 25.08 327 P P 10 52 36.2 +0.3
baz=123,SNR=7.9
L19K **White Mountain** 25.09 329 P P 10 52 36.7 +0.7
L19K **White Mountain** 25.09 329 P P 10 52 37.0 +0.9
baz=126,SNR=22
O16K **Kokwok River B** 25.11 321 P P 10 52 36.4 +0.2
baz=116
N17K **Nushagak Hills** 25.14 324 P P 10 52 37.1 +0.6
baz=120,SNR=8.6
CHUM **Lake Minchumin** 25.27 333 P P 10 52 37.1 -0.5
baz=132,SNR=10
H25L **Birch Creek** 25.28 342 P P 10 52 36.9 -0.7
baz=146,SNR=28
I23K **Minto, Yukon-K** 25.28 338 P P 10 52 38.0 +0.4
I23K IAmb IAmb 10 52 42.5
comp=Z,29nm,1.2s
I23K **Minto, Yukon-K** 25.28 338 P P 10 52 37.7 +0.1
baz=139,SNR=13
INK **Inuvik** 25.30 354 P P 10 52 39.0 +1.2
INK IAmb IAmb 10 52 42.1
comp=Z,9.0nm,1.0s
INK **Inuvik** 25.30 354 P P 10 52 38.2 +0.4
baz=168,SNR=7.9
INK **Inuvik** 25.30 354 LR LR 11 02 13.4
comp=Z,505nm,18.8s,baz=180,slow=36
F28M **Old Crow** 25.35 348 P P 10 52 38.1 -0.2
F28M IAmb IAmb 10 52 46.1
comp=Z,8.6nm,0.8s
F28M **Old Crow** 25.35 348 P P 10 52 37.9 -0.4
baz=157,SNR=15
H24K **Noodor Dome** 25.42 340 P P 10 52 39.1 +0.1
baz=142,SNR=25

G26K **Porcupine Rive** 25.43 344 P P 10 52 39.6 +0.7
baz=150,SNR=5.0
K20K **Telida** 25.52 331 P P 10 52 40.0 +0.2
K20K **Telida** 25.52 331 P P 10 52 39.0 -0.9
baz=129
MLY **Manley** 25.59 336 P P 10 52 40.4 -0.2
baz=137,SNR=12
WHTX **Lake Whitney,** 25.64 106 P P 10 52 39.7 -1.6
baz=305
M17K **Holitna River** 25.69 325 P P 10 52 41.3 -0.1
M17K IAmb IAmb 10 52 52.2
comp=Z,18nm,1.1s
M17K **Holitna River** 25.69 325 P P 10 52 41.0 -0.5
baz=121
O15K **Ungalikthiuk R** 25.74 320 P P 10 52 42.5 +0.6
baz=113
G25K **Bearman Lake** 25.75 342 P P 10 52 41.7 -0.2
baz=146,SNR=10
S12K **Black Hills** 25.78 311 P P 10 52 42.2 -0.1
baz=104
N16K **Nishlik Lake** 25.81 323 P P 10 52 42.3 -0.3
baz=117
E29M **Blow River** 25.81 350 P P 10 52 43.6 +1.2
E29M IAmb IAmb 10 52 46.4
comp=Z,17nm,1.1s
E29M **Blow River** 25.81 350 P P 10 52 42.9 +0.5
baz=161,SNR=17
L18K **Granite Mounta** 25.82 327 P P 10 52 43.1 +0.5
L18K IAmb IAmb 10 52 53.5
comp=Z,27nm,1.1s
L18K **Granite Mounta** 25.82 327 P P 10 52 42.5 -0.1
baz=123,SNR=12
H23K **Yukon River** 25.84 338 P P 10 52 43.5 +0.6
H23K IAmb IAmb 10 52 47.9
comp=Z,10nm,0.9s
H23K **Yukon River** 25.84 338 P P 10 52 43.1 +0.2
baz=140,SNR=12
BMAR **Burnt Mountain** 26.00 344 P P 10 52 45.6 +1.4
G24K **Haenezie Riv** 26.02 341 P P 10 52 44.4 +0.1
baz=144,SNR=12
I21K **Tanana** 26.06 336 P P 10 52 45.7 +1.0
I21K **Tanana** 26.06 336 P P 10 52 45.1 +0.4
baz=135
J20K **Nowinta River** 26.07 333 P P 10 52 44.7 -0.1
J20K IAmb IAmb 10 52 45.9
comp=Z,15nm,0.8s
J20K **Nowinta River** 26.07 333 P P 10 52 44.4 -0.4
baz=130,SNR=19
C36M **Paulatuk** 26.12 2 P P 10 52 46.8 +1.6
C36M **Paulatuk** 26.12 2 P P 10 52 46.0 +0.8
baz=184,SNR=5.5
E27K **Coleen River** 26.14 347 P P 10 52 45.7 +0.2
baz=155,SNR=10
F26K **Sheenjek River** 26.15 345 P P 10 52 45.7 +0.2
baz=150,SNR=8.2
M16K **Timber Creek** 26.15 324 P P 10 52 46.7 +1.1
M16K IAmb IAmb 10 52 49.8
comp=Z,32nm,1.4s
M16K **Timber Creek** 26.15 324 P P 10 52 45.1 -0.5
baz=118
E28M **Babbage River** 26.22 349 P P 10 52 46.3 +0.1
E28M **Babbage River** 26.22 349 P P 10 52 45.2 -1.0
baz=158
435B **Jarrell** 26.25 109 P P 10 52 46.1 -0.7
baz=307
N15K **Kwethluk River** 26.27 322 P P 10 52 46.2 -0.5
baz=115
F25K **Christian Rive** 26.35 344 P P 10 52 47.1 -0.4
baz=148,SNR=18
FALS **False Pass** 26.36 309 P P 10 52 47.0 -0.5
baz=101
H22K **Ishtalitna Cre** 26.40 337 P P 10 52 48.1 +0.2
baz=137,SNR=15
L17K **Donlin** 26.42 326 P P 10 52 48.6 +0.6
baz=121,SNR=9.8
O14K **Tigyukauivet M** 26.45 319 P P 10 52 48.3 -0.1
baz=112
J19K **Poorman** 26.46 331 P P 10 52 48.7 +0.4
J19K IAmb IAmb 10 52 51.9
comp=Z,23nm,0.9s
J19K **Poorman** 26.46 331 P P 10 52 48.8 +0.4
baz=128,SNR=20
JFWS **Jewell Farm** 26.48 78 P P 10 52 45.8 -3.0
baz=284
J18K **Innoko River** 26.54 330 P P 10 52 49.1 0.0
baz=125,SNR=16
833A **Chaparral WMA,** 26.57 115 P P 10 52 48.1 -1.6
baz=312
I20K **Naaghedeneel** 26.58 334 P P 10 52 49.4 0.0
baz=131,SNR=14
H21K **Melozitna Rive** 26.64 336 P P 10 52 50.6 +0.6
H21K IAmb IAmb 10 52 54.0
comp=Z,28nm,1.1s
H21K **Melozitna Rive** 26.64 336 P P 10 52 49.9 -0.2
baz=134,SNR=21
G23K **Bananza Creek** 26.65 339 P P 10 52 51.5 +1.3
G23K IAmb IAmb 10 52 58.0
comp=Z,16nm,0.9s
G23K **Bananza Creek** 26.65 339 P P 10 52 50.9 +0.8
baz=140,SNR=15
L16K **Owhat River** 26.69 325 P P 10 52 51.0 +0.5
L16K IAmb IAmb 10 52 59.3
comp=Z,14nm,0.9s
L16K **Owhat River** 26.69 325 P P 10 52 50.9 +0.4
baz=118,SNR=8.4
K17K **Iditarod** 26.72 328 P P 10 52 51.2 +0.5
K17K **Iditarod** 26.72 328 P P 10 52 50.1 -0.7
baz=122,SNR=15
M15K **Kasigluk River** 26.76 322 P P 10 52 50.4 -0.7
baz=115
F24K **Squaw Lake** 26.77 342 P P 10 52 50.2 -1.0
baz=144
E25K **Arctic Village** 26.79 344 P P 10 52 50.3 -1.0
baz=148
D28M **Stokes Point** 26.80 351 P P 10 52 50.2 -1.2
baz=160
N14K **Kuskokwak Cree** 26.90 320 P P 10 52 51.7 -0.7
baz=112
D27M **Malcolm River** 27.01 349 P P 10 52 52.3 -1.1
baz=157
MIAR **Mount Ida** 27.08 98 P P 10 52 51.8 -2.4
baz=299
COLD **Coldfoot** 27.09 340 P P 10 52 52.8 -1.2
baz=140
H20K **Anotleneega Mo** 27.17 334 P P 10 52 54.0 -0.7
baz=131,SNR=26
G22K **Bettles** 27.19 339 P P 10 52 54.1 -0.8
baz=138
CCM **Cathedral Cave** 27.26 89 P P 10 52 53.7 -2.1
baz=292
GCSA **Galena City Sc** 27.35 332 P P 10 52 55.2 -1.2
baz=127
M14K **Bethel** 27.35 322 P P 10 52 56.1 -0.3
baz=114
E24K **Your Creek** 27.36 342 P P 10 52 57.8 +1.3
E24K **Your Creek** 27.36 342 P P 10 52 55.7 -0.8
baz=144
J17K **VABM Dome** 27.38 328 P P 10 52 56.4 -0.3
baz=122
G21K **Allakaket** 27.45 337 P P 10 52 57.8 +0.6
G21K IAmb IAmb 10 53 10.1
comp=Z,17nm,1.1s
G21K **Allakaket** 27.45 337 P P 10 52 56.0 -1.2
baz=134,SNR=11
L15K **Ungalak Mounta** 27.53 324 P P 10 52 57.5 -0.5
baz=116
H19K **Roundabout Mou** 27.69 334 P P 10 52 59.6 +0.3
H19K **Roundabout Mou** 27.69 334 P P 10 52 58.3 -1.1
baz=129,SNR=15
NATX **Nacogdoches** 27.74 104 P P 10 52 58.8 -1.4
baz=304
C27K **Jago River** 27.78 347 P P 10 52 59.5 -0.6
baz=153
F22K **John River** 27.81 339 P P 10 52 59.2 -1.3
baz=138
HDIL **Hopedale** 27.82 83 P P 10 52 59.0 -1.7
K15K **Wolf Creek Mou** 27.82 325 P P 10 52 59.7 -1.0
baz=117
M13K **Dall Lake** 27.86 321 P P 10 53 00.4 -0.5
baz=111
L14K **Kuka Creek** 27.91 323 P P 10 53 01.3 -0.1
baz=114
J16K **Anvik River** 27.92 327 P P 10 53 01.3 -0.2
baz=120
F21K **Alatna River** 27.95 338 P P 10 53 01.7 0.0
baz=136,SNR=6.5

D25K **Kavik River** 27.97 345 P P 10 53 02.4 +0.4
D25K IAmb IAmb 10 53 10.1
comp=Z,7.7nm,0.9s
D25K **Kavik River** 27.97 345 P P 10 53 01.7 -0.3
baz=148
UNV **Unalaska Valle** 28.00 306 P P 10 53 01.9 -0.3
baz=96
TOLK **Toolik Lake Re** 28.06 342 P P 10 53 03.3 +0.5
TOLK IAmb IAmb 10 53 06.9
comp=Z,12nm,1.0s
TOLK **Toolik Lake Re** 28.06 342 P P 10 53 02.7 0.0
baz=143,SNR=6.1
H18K **Honhosa River** 28.10 332 P P 10 53 02.5 -0.6
baz=126
E22K **Anaktuvuk Pass** 28.18 340 P P 10 53 03.5 -0.4
baz=139,SNR=15
C26K **Camden Bay** 28.23 347 P P 10 53 03.0 -1.1
baz=151
I17K **Unalakleet** 28.25 328 P P 10 53 02.6 -1.8
baz=121
G19K **Purcell Mounta** 28.28 334 P P 10 53 02.8 -1.9
baz=129
D24K **Happy Valley** 28.31 343 P P 10 53 03.1 -1.9
baz=145
F20K **Avaraart Lake** 28.46 336 P P 10 53 06.5 +0.3
F20K **Avaraart Lake** 28.46 336 P P 10 53 04.4 -1.8
baz=132
H17K **Granite Mounta** 28.52 331 P P 10 53 05.0 -1.9
baz=123
D23K **Nanushuk River** 28.56 342 P P 10 53 05.5 -1.7
baz=142
G18K **Tagagawik** 28.64 333 P P 10 53 07.1 -0.8
baz=126
A36M **Sachs Harbour** 28.75 1 P P 10 53 09.2 +0.5
A36M IAmb IAmb 10 53 17.1
comp=Z,8.0nm,1.1s
A36M **Sachs Harbour** 28.75 1 P P 10 53 07.4 -1.3
baz=182
C24K **Franklin Bluff** 28.75 344 P P 10 53 07.6 -1.2
baz=145
J14K **Nanvaranak Lak** 28.87 325 P P 10 53 08.7 -1.2
baz=115
F19K **Shaleruckik Mo** 28.93 335 P P 10 53 10.4 0.0
F19K **Shaleruckik Mo** 28.93 335 P P 10 53 08.2 -2.3
baz=129
E21K **Killik River** 28.95 340 P P 10 53 11.2 +0.6
E21K **Killik River** 28.95 340 P P 10 53 09.8 -0.9
baz=136
D22K **Ayikyak River** 28.96 341 P P 10 53 09.9 -0.8
baz=139
K13K **Kusilvak Mount** 29.01 323 P P 10 53 09.5 -1.6
baz=112
G17K **Kiwalik Mounta** 29.09 331 P P 10 53 10.2 -1.7
baz=123
E19K **Redstone River** 29.17 336 P P 10 53 12.9 +0.3
E19K IAmb IAmb 10 53 16.0
comp=Z,12nm,0.9s
E19K **Redstone River** 29.17 336 P P 10 53 12.5 -0.1
baz=131,SNR=8.2
M11K **Mekoryuk** 29.18 320 P P 10 53 11.7 -1.0
baz=108
H16K **Elim** 29.22 329 P P 10 53 12.4 -0.6
baz=120
C23K **Itkillik River** 29.24 343 P P 10 53 14.2 +1.1
C23K IAmb IAmb 10 53 16.9
comp=Z,9.7nm,1.1s
C23K **Itkillik River** 29.24 343 P P 10 53 13.4 +0.3
baz=143
NIKH **Nikolski High** 29.34 304 P P 10 53 13.7 -0.5
baz=92
F18K **Selawik** 29.38 334 P P 10 53 13.9 -0.6
baz=126
E20K **Nigu River** 29.41 338 P P 10 53 14.0 -0.7
baz=133,SNR=12
SFIN **Lafayette** 29.46 82 P P 10 53 14.4 -1.0
baz=289
G16K **Koyuk River** 29.64 330 P P 10 53 15.7 -1.0
baz=121
C21K **Knifeblade Rid** 29.68 340 P P 10 53 16.2 -0.8
baz=136
F17K **Baldwin Pennin** 29.82 333 P P 10 53 18.3 0.0
F17K **Baldwin Pennin** 29.82 333 P P 10 53 17.5 -0.8
baz=124
D20K **Etivluk River** 29.84 339 P P 10 53 17.0 -1.5
baz=133
B21K **Ikpikpuk River** 29.97 341 P P 10 53 19.2 -0.4
baz=137
P08K **Saint George I** 30.06 311 P P 10 53 19.7 -0.8
baz=98
G15K **Niukluk** 30.06 329 P P 10 53 20.1 -0.4
baz=118
D19K **Kuna River** 30.10 337 P P 10 53 21.1 +0.3
D19K **Kuna River** 30.10 337 P P 10 53 20.3 -0.6
baz=131,SNR=7.8
OXF **Oxford** 30.12 94 P P 10 53 19.7 -1.6
baz=298
E18K **Tukpahlearik C** 30.17 335 P P 10 53 21.6 +0.2
baz=126
B22K **Teshekpuk Lake** 30.24 342 P P 10 53 22.0 0.0
baz=139
E17K **Hotham Inlet** 30.36 334 P P 10 53 23.1 0.0
baz=124
ANM **Nome** 30.38 328 P P 10 53 22.4 -0.8
baz=116
SPIA **Saint Paul Isl** 30.52 312 P P 10 53 23.7 -0.8
baz=98
WVT **Waverly** 30.54 90 P P 10 53 22.9 -2.0
baz=296
F15K **North Star Dit** 30.63 330 P P 10 53 24.4 -1.1
baz=118
WCI **Wyandotte Cave** 30.80 86 P P 10 53 24.8 -2.5
baz=292
B20K **Meade River** 30.87 340 P P 10 53 26.7 -0.8
baz=134
O48B **Farmland** 30.90 81 P P 10 53 25.2 -3.0
baz=290
C19K **Lookout Ridge** 30.91 338 P P 10 53 27.3 -0.6
baz=130
C18K **Utukok River** 31.08 336 P P 10 53 29.0 -0.5
baz=127
A22K **Sinclair Lake** 31.08 343 P P 10 53 28.5 -0.9
baz=138
D17K **Noatak River** 31.11 334 P P 10 53 29.7 0.0
baz=123
F14K **Arctic Creek** 31.14 329 P P 10 53 29.2 -0.8
baz=116
RDOG **Red Dog Mine** 31.25 335 P P 10 53 29.7 -1.2
baz=124
AAM **Ann Arbor** 31.34 77 P P 10 53 29.6 -2.5
baz=287
P49A **Miami Univ. Ec** 31.47 82 P P 10 53 30.4 -2.7
baz=291
C17K **DeLong Mountai** 31.57 335 P P 10 53 32.7 -1.1
baz=124
B18K **Kokolik River** 31.69 337 P P 10 53 33.1 -1.6
baz=127
TNA **Tin City** 31.78 329 P P 10 53 33.7 -1.9
baz=114
A19K **Wainwright** 32.01 339 P P 10 53 35.8 -1.7
baz=129
C16K **Lisburne Hills** 32.14 334 P P 10 53 37.5 -1.2
baz=121
ACSO **Alum Creek Sta** 32.48 80 P P 10 53 37.9 -4.1
baz=290
LRAL **Lakeview Retre** 32.59 95 P P 10 53 41.2 -1.8
baz=300
GAMB **Gambell** 32.67 324 P P 10 53 42.7 -0.7
baz=107
P52A **Corning** 33.30 81 P P 10 53 47.2 -2.0
baz=291
TZTN **Tazewell** 33.48 87 P P 10 53 48.9 -2.0
baz=295
BRAL **Brewton** 33.52 98 P P 10 53 49.0 -2.2
baz=303
TKL **Tuckaleechee C** 33.70 88 LR LR 11 08 18.0
comp=Z,742nm,19.6s,baz=297,slow=38
M53A **WI Miller and** 33.72 77 P P 10 53 50.5 -2.4
baz=289
O53A **New Philadelph** 33.74 79 P P 10 53 51.3 -1.8
baz=290
SADO **Sadowa** 33.84 71 LR LR 11 07 37.0
comp=Z,372nm,20.3s,baz=50,slow=36
ERPA **Erie** 33.99 76 P P 10 53 53.5 -1.8
baz=288
RES **Resolute Bay** 34.52 14 P P 10 54 01.3 +1.9
MCWV **Mont Chateau** 34.93 80 P P 10 54 01.4 -2.0
baz=292
GOGA **Godfrey** 34.98 92 P P 10 54 01.9 -1.9

baz=299,SNR=6.0
BLA **Blacksburg** **35.48 84** P **P** **10 54 06.1 -2.1**
baz=295
KMSC **Kings Mountain** **35.72 88** P **P** **10 54 08.2 -2.0**
baz=297
TIGA **Tifton** **35.88 95** P **P** **10 54 10.0 -1.7**
baz=302
SSPA **Standing Stone** **35.98 77** P **P** **10 54 10.7 -1.7**
baz=291
BINY **Binghamton** **36.79 74** P **P** **10 54 17.4 -1.9**
baz=289
LONY **Lake Ozonia** **37.01 69** P **P** **10 54 18.6 -2.5**
baz=287
CBN **Corbin Frederi** **37.27 81** P **P** **10 54 21.7 -1.7**
baz=294
CMIG **Matias Romero** **37.55 124** LR LR 11 10 40.1
comp=Z,178nm,18.4s,baz=316,slow=38
CNNC **Cliffs of the** **38.18 85** P **P** **10 54 28.4 -2.7**
baz=297
FRB **Frobisher Bay** **38.41 37** LR LR 11 10 43.4
comp=Z,284nm,18.6s,baz=240,slow=37
PAL **Palisades** **38.66 75** P **P** **10 54 31.7 -3.4**
baz=292
LBNH **Lisbon** **38.94 69** P **P** **10 54 34.8 -2.6**
baz=288
L61B **Northampton** **39.01 72** P **P** **10 54 34.9 -3.1**
baz=290
DWPF **Disney Wildern** **39.27 98** P **P** **10 54 36.7 -3.7**
baz=305
TEIG **Tepich** **39.48 113** LR LR 11 12 42.5
comp=Z,993nm,21.5s,slow=39
EUNU **Eureka** **39.64 10** P **P** **10 54 44.2 +1.3**
EUNU IAmb IAmb 10 54 53.8
comp=Z,7.0nm,0.8s
SCHQ **Schefferville** **39.69 52** P **P** **10 54 42.8 -0.8**
comp=Z,2.3nm,0.8s,baz=270,slow=13,SNR=2.6
SCHQ LR LR 11 11 19.8
comp=Z,626nm,18.6s,baz=276,slow=37
comp=Z,2.3nm,0.8s
HRV **Adam Dziewonsk** **39.77 72** P **P** **10 54 41.3 -3.0**
baz=291
PKME **Peaks-Kenny Pk** **40.39 67** P **P** **10 54 46.9 -2.6**
baz=288
M65A **Busby, Falmout** **40.74 73** P **P** **10 54 50.0 -2.4**
baz=292
APG **El Apazote** **41.87 121** LR LR 11 14 17.6
comp=Z,9.0nm,18.6s,baz=244,slow=39
NEEM **North Greenlan** **45.03 17** *i* P **P** **10 55 27.8 +0.7**
NEEM IAmb IAmb 10 55 36.1
comp=Z,7.0nm,0.8s
SFJD **Kangerlussuaq** **45.76 32** LR LR 11 15 16.8
comp=Z,236nm,18.0s,baz=278,slow=37
DY2G **Dye2** **47.56 32** *i* P **P** **10 55 47.9 +0.9**
SEY **Seymchan** **48.65 323** LR LR 11 16 06.5
comp=Z,221nm,18.0s,baz=74,slow=36
SUMG **Summit** **48.81 24** P **P** **10 55 57.5 +0.7**
SUMG **Summit** **48.81 24** *i* P **P** **10 55 57.3 +0.6**
SUMG IAmb IAmb 10 56 00.8
comp=Z,7.4nm,0.7s
JTS **Las Juntas de** **48.92 120** LR LR 11 19 18.7
comp=Z,90nm,20.3s,baz=310,slow=39
PETK **Petropavlovsk-** **49.09 309** P **P** **10 55 56.7 -2.0**
comp=Z,3.7nm,0.9s,baz=74,slow=10,SNR=6.3
comp=Z,3.7nm,0.9s
ICESG **Greenland Ices** **49.34 28** *i* P **P** **10 56 01.3 +0.4**
ICESG IAmb IAmb 10 56 02.9
comp=Z,8.2nm,0.7s
NOR **Nord** **50.25 10** *i* P **P** **10 56 10.2 +3.0**
NOR IAmb IAmb 10 56 15.9
comp=Z,1.6nm,0.7s
MA2 **Magadan** **50.45 319** LR LR 11 16 09.4
comp=Z,120nm,19.4s,baz=80,slow=34
DAG **Danmarks Havn** **52.18 16** *i* P **P** **10 56 22.1 +0.4**
DAG IAmb IAmb 10 56 23.6
comp=Z,2.7nm,0.7s
DBG **Daneborg** **53.02 19** *i* P **P** **10 56 28.4 +0.4**
DBG IAmb IAmb 10 56 36.4
comp=Z,6.3nm,0.8s
TIXI **Tiksi** **53.78 338** P **P** **10 56 34.4 +0.8**
TIXI **Tiksi** **53.78 338** LR LR 11 20 18.8
comp=Z,143nm,18.9s,baz=60,slow=37
SPITS **Spitsbergen Ar** **56.72 9** P **P** **10 56 54.7 -0.1**
comp=Z,10nm,1.0s,baz=53,slow=3.2,SNR=5.1
SPITS LR LR 11 20 20.7
comp=Z,53nm,19.6s,baz=290,slow=35
comp=Z,10nm,1.0s
BORG **Borgarnes** **57.69 29** LR LR 11 20 50.2
comp=Z,119nm,19.0s,baz=313,slow=35
YAK **Yakutsk** **58.54 328** LR LR 11 22 06.6
comp=Z,92nm,18.1s,baz=56,slow=36
SDV **Santo Domingo** **59.51 108** LR LR 11 26 41.2
comp=Z,97nm,18.5s,baz=294,slow=40
H11N3 **WAKE ISLAND Hy** **59.69 269** T T 12 01 40.7
baz=50,slow=75,SNR=251
H11N2 **WAKE ISLAND Hy** **59.69 269** T T 12 01 39.7
baz=50,slow=75,SNR=173
H11N1 **WAKE ISLAND Hy** **59.70 269** T T 12 01 42.4
baz=50,slow=75,SNR=191
H11S1 **WAKE ISLAND Hy** **60.61 268** T T 12 02 48.3
baz=50,slow=75,SNR=2719
H11S2 **WAKE ISLAND Hy** **60.62 268** T T 12 02 51.2
baz=50,slow=75,SNR=2375
H11S3 **WAKE ISLAND Hy** **60.62 268** T T 12 02 45.5
baz=50,slow=75,SNR=1557
BAUV **El Baul** **61.28 106** P **P** **10 57 27.5 +0.4**
PCRV **Puerto La Cruz** **62.84 102** LR LR 11 27 38.6
comp=Z,112nm,20.1s,slow=39
KLR **Kul'dur** **65.13 315** LR LR 11 26 29.0
comp=Z,32nm,18.2s,baz=90,slow=36
ARCES **ARCESS Array B** **65.61 10** P **P** **10 57 55.3 +0.2**
comp=Z,2.7nm,0.9s,baz=342,slow=5.7,SNR=1.4
ARCES LR LR 11 27 01.0
comp=Z,80nm,19.3s,baz=336,slow=36
comp=Z,2.7nm,0.9s
ATAH **Atahualpa** **66.59 126** LR LR 11 26 21.7
comp=Z,43nm,21.6s,baz=334,slow=35
HEH **HeiHe** **66.67 318** *eP* **P** **10 58 00.9 -1.3**
HEH pmax pmax
comp=Z,4.0nm,0.8s
HEH pmax pmax
comp=Z,78nm,5.0s
NB2 **NORSAR Subarra** **70.51 20** P **P** **10 58 28.5 +2.5**
comp=Z,1.4nm,0.7s,baz=328,slow=5.9
NOA **NORSAR Array B** **70.51 20** P **P** **10 58 26.4 +0.3**
comp=Z,0.9nm,0.6s,baz=331,slow=5.7,SNR=4.3
NOA LR LR 11 27 47.5
comp=Z,44nm,20.8s,baz=350,slow=35
comp=Z,0.9nm,0.6s
RPN **Rapa Nui** **71.90 164** LR LR 11 20 19.9
comp=Z,17nm,19.1s,baz=298,slow=28
HFS **Hagfors** **71.91 20** P **P** **10 58 34.6 +0.1**
comp=Z,2.5nm,0.6s,baz=331,slow=5.8,SNR=7.2
HFS LR LR 11 28 33.2
comp=Z,59nm,18.1s,baz=355,slow=35
comp=Z,2.5nm,0.6s
JCJ **Chichijima** **72.72 291** LR LR 11 22 34.0
comp=Z,43nm,21.0s,baz=76,slow=29
FINES **FINESS Array B** **73.28 13** P **P** **10 58 42.5 -0.1**
comp=Z,2.1nm,0.7s,baz=336,slow=4.2,SNR=7.5
FINES LR LR 11 29 10.3
comp=Z,61nm,19.9s,baz=342,slow=34
comp=Z,2.1nm,0.7s
KSRS **Korea Array** **74.93 307** P **P** **10 58 51.8 -0.8**
comp=Z,1.8nm,0.7s,baz=43,slow=5.7,SNR=7.4
KSRS LR LR 11 30 14.0
comp=Z,9.9nm,19.4s,baz=65,slow=34
comp=Z,1.8nm,0.7s
MDP **Montagnes des** **74.93 97** LR LR 11 35 28.0
comp=Z,87nm,19.9s,baz=336,slow=39
ETMB **Extrema** **76.20 118** P **P** **10 59 00.1 0.0**
ETMB IAmb IAmb 10 59 00.6
comp=Z,5.1nm,1.0s
SONM **Songino Array** **77.88 327** LR LR 11 33 25.2
comp=Z,78nm,18.7s,baz=105,slow=36
KIRV **Kirov** **78.41 2** LR LR 11 35 40.9
comp=Z,37nm,21.9s,baz=6.4,slow=37
ZALV **Zalesovo Beam** **79.41 342** P **P** **10 59 17.9 +0.4**
comp=Z,0.5nm,0.5s,baz=35,slow=5.3,SNR=2.4
ZALV LR LR 11 36 36.7
comp=Z,33nm,19.0s,baz=32,slow=37
comp=Z,0.5nm,0.5s
CLL **Collm** **79.47 24** *eP* **P** **10 59 18.0 +0.1**
CLL *i* PcP **PcP** **10 59 27.8 +1.9**
CLL *i* x x 10 59 45.3
LPAZ **La Paz** **79.93 124** P **P** **10 59 21.6 +0.1**
LPAZ **La Paz** **79.93 124** P **P** **10 59 21.2 -0.3**
comp=Z,2.1nm,0.9s,baz=24,slow=4.9,SNR=7.1
LPAZ LR LR 11 35 30.6
comp=Z,39nm,18.6s,baz=297,slow=36
comp=Z,2.1nm,0.9s
BRG **Berggiesshubel** **80.13 24** *eP* **P** **10 59 24.6 +3.1**
BRG Amp 10 59 25.2
comp=Z,2.7nm,0.7s
BRG **Berggiesshubel** **80.13 24** P P 10 59 29.1 +7.7
BRG Amp 10 59 32.9
comp=Z,4.6nm,0.9s
ARU **Arti** **80.52 357** LR LR 11 36 31.8
comp=Z,48nm,21.8s,baz=170,slow=37
OBN **Obninsk** **80.91 10** LR LR 11 37 23.2
comp=Z,34nm,18.7s,baz=270,slow=37
HHC **Hu-ho-hao-te** **81.13 319** *eP* **P** **10 59 26.3 -0.9**
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,170nm,4.8s
GERES **GERESS Array B** **81.85 25** P **P** **10 59 29.9 -0.9**
comp=Z,0.2nm,0.3s,baz=286,slow=7.6,SNR=1.5
GERES LR LR 11 37 45.8
comp=Z,100nm,18.0s,baz=311,slow=37
comp=Z,0.2nm,0.3s
JOW **Kunigami** **82.07 299** LR LR 11 30 08.2
comp=Z,14nm,21.3s,baz=154,slow=31
VRAC **Vranov** **82.30 23** LR LR 11 35 48.9
comp=Z,40nm,20.5s,baz=326,slow=36
DAVOX **Davos/Dischmat** **82.40 28** LR LR 11 38 19.6
comp=Z,87nm,18.2s,baz=266,slow=37
ESDC **Sonseca Array** **82.53 41** P **P** **10 59 34.8 +0.3**
comp=Z,0.7nm,0.8s,baz=307,slow=3.7,SNR=5.7
ESDC LR LR 11 33 15.4
comp=Z,101nm,19.7s,baz=321,slow=34
comp=Z,0.7nm,0.8s
BVAR **Borovoye Array** **82.91 350** P **P** **10 59 36.8 +0.7**
comp=Z,1.4nm,0.6s,baz=27,slow=0.7,SNR=8.6
BVAR LR LR 11 41 13.9
comp=Z,76nm,18.4s,baz=13,slow=39
comp=Z,1.4nm,0.6s
ABTA **Abfaltersbach** **83.32 27** *eP* **P** **10 59 38.4 -0.1**
comp=Z,4.9nm,1.5s
CONA **Conrad Observa** **83.33 24** *eP* **P** **10 59 37.9 -0.6**
comp=Z,1.2nm,0.9s
RONA **Rosalia, Austr** **83.66 24** *eP* **P** **10 59 39.7 -0.5**
comp=Z,4.0nm,1.6s
KURBB **Kurchatov Arra** **83.89 344** P **P** **10 59 41.5 +0.3**
comp=Z,1.2nm,0.8s,baz=19,slow=4.9,SNR=13
comp=Z,1.2nm,0.8s
NJ2 **Nanjing** **83.99 309** *eP* **P** **10 59 41.8 -0.3**
NJ2 pP **pP** **10 59 44.8 +0.4**
NJ2 pmax pmax
comp=Z,3.0nm,0.5s
AKASG **Malin Array Be** **84.04 15** P **P** **10 59 41.4 -0.6**
comp=Z,0.7nm,0.6s,baz=349,slow=4.7,SNR=4.8
AKASG LR LR 11 38 31.6
comp=Z,42nm,18.4s,baz=41,slow=37
comp=Z,0.7nm,0.6s
SIV **San Ignacio** **84.12 118** LR LR 11 41 59.9
comp=Z,20nm,18.5s,baz=24,slow=39
SOKA **Soboth** **84.19 25** *eP* **P** **10 59 43.0 +0.1**
comp=Z,6.2nm,1.2s
HNR **Honiara** **84.55 252** LR LR 11 31 36.7
comp=Z,2um,18.9s,baz=60,slow=32
AKTO **Aktyubinsk** **86.53 357** LR LR 11 40 43.5
comp=Z,38nm,20.5s,baz=195,slow=37
MKAR **Makanchi Array** **86.67 341** LR LR 11 40 28.2
comp=Z,34nm,19.8s,baz=38,slow=37
MDT **Midelt** **87.58 46** LR LR 11 37 36.5
comp=Z,54nm,18.5s,baz=331,slow=35
ABKAR **Akbulak array** **87.62 356** P **P** **11 00 00.7 +0.9**
ABKAR IAmb IAmb 11 00 09.8
comp=Z,3.9nm,1.1s
ABKAR **Akbulak array** **87.62 356** P **P** **11 00 00.4 +0.6**
MLR **Muntele Rosu** **88.28 19** LR LR 11 40 44.7
comp=Z,96nm,18.9s,baz=353,slow=36
DZM **Mont Dzumac** **89.39 239** LR LR 11 30 15.7
comp=Z,121nm,21.4s,baz=42,slow=29
KEST **Kesra** **91.72 34** LR LR 11 40 35.4
comp=Z,77nm,19.3s,baz=279,slow=35
AAK **Ala-Archa** **92.33 345** LR LR 11 48 05.5
comp=Z,33nm,18.5s,baz=50,slow=40
BDFB **Brasilia** **92.59 109** LR LR 11 45 47.1
comp=Z,94nm,19.6s,baz=319,slow=38
PMG **Port Moresby** **93.58 261** LR LR 11 35 55.6
comp=Z,75nm,19.3s,baz=88,slow=31
URZ **Urewera** **95.85 221** LR LR 11 34 03.4
comp=Z,95nm,21.6s,baz=56,slow=29
GNI **Garni** **96.55 7** LR LR 11 47 25.3
comp=Z,24nm,19.1s,baz=5.0,slow=38
PZH **PanZhiHua** **97.49 317** P Pdif 11 00 47.1 +1.0
PZH pmax pmax
comp=Z,14nm,0.5s
DAV **Davao City (W)** **97.86 287** LR LR 11 38 11.5
comp=Z,60nm,20.6s,baz=74,slow=31
GEYT **Alibeck** **99.01 356** LR LR 11 51 43.8
comp=Z,34nm,18.3s,baz=20,slow=39
VNDA **Vanda** **128.08 195** PKP **PKiKP** **11 06 17.6 +0.7**
comp=Z,0.6nm,0.8s,baz=106,slow=3.2,SNR=4.1
QSPA **South Pole Qui** **133.13 180** PKP **PKiKP** **11 06 28.8 +1.4**
comp=Z,1.4nm,0.7s,baz=174,slow=1.3,SNR=9.4
ELIB **Princess Elisa** **147.86 163** *d*PKPdf **PKPbc** **11 06 55.4 -0.2**

TRN 20 10:52:21.1, 16°.13N×60°.95W, h39km, MD4.0, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
MAGL	**Barre de l'ile**	**0.36**	**241**	*eP*		Pn	10 52 31.8	+1.8
ABD	**La Joyeuse, An**	**0.62**	**304**	*eP*		Pn	10 52 34.5	+1.0
CBE	**Ff, Capester**	**0.63**	**265**	*eP*		Pn	10 52 34.5	+0.8
CBE				*eS*		Sn	10 52 43.7	+1.0
TDBA	**Terre de Bas,**	**0.71**	**247**	*eP*		Pn	10 52 36.9	+2.1
TBG	**Guadaloupe-3**	**0.72**	**248**	*eP*		Pn	10 52 36.6	+1.7
TBG				*eS*		Sn	10 52 47.3	+2.5
ANBD	**Bethesda, Anti**	**1.20**	**320**	*eP*		Pn	10 52 43.3	+1.8
ANBD				*eS*		Sn	10 52 58.6	+2.0
ANDO	**Antigua, Disas**	**1.29**	**319**	*eP*		Pn	10 52 44.8	+2.1
ANDO				*eS*		Sn	10 53 00.6	+1.8
SVN	**Savane Anatole**	**1.29**	**189**	*eP*		Pn	10 52 44.5	+1.6
SVN				*eS*		Sn	10 53 00.7	+1.7
BAMF	**Morne Balai**	**1.32**	**188**	*eP*		Pn	10 52 44.6	+1.5
CXM	**Morne La Croix**	**1.32**	**189**	*eP*		Pn	10 52 45.2	+1.9
PCM	**Pelee Case Pet**	**1.33**	**191**	*eP*		Pn	10 52 44.3	+1.1
PCM	**Pelee Case Pet**	**1.33**	**191**	*eP*		Pn	10 52 44.6	+1.4
GBMF	**Grand Be**	**1.34**	**189**	*eP*		Pn	10 52 44.7	+1.2
ILAM	**Ilet Lapin Mar**	**1.35**	**177**	*eP*		Pn	10 52 44.9	+1.4
ILAM				*eS*		Sn	10 53 01.5	+1.4
MBFL	**Flemmings, Mon**	**1.36**	**297**	*eP*		Pn	10 52 45.3	+1.6
MBFL				*eS*		Sn	10 53 02.5	+2.1
FDF	**Fort de France**	**1.40**	**188**	*eP*		Pn	10 52 45.6	+1.4
LPMF	**Morne Lapointe**	**1.54**	**181**	*eP*		Pn	10 52 47.4	+1.2
ZAM	**Aeronautique**	**1.55**	**183**	*eP*		Pn	10 52 47.6	+1.3
MVM	**Montagne Vaucl**	**1.56**	**178**	*eP*		Pn	10 52 48.2	+1.7
TRMF	**Trois Ilets**	**1.58**	**183**	*eP*		Pn	10 52 48.1	+1.4
BIM	**Bigot**	**1.61**	**184**	*eP*		Pn	10 52 48.8	+1.7
BIM				*eS*		Sn	10 53 08.2	+1.6
MPOM	**Morne Pois Mar**	**1.68**	**177**	*ex*		x	10 52 36.7	
MPOM	**Morne Pois Mar**	**1.68**	**177**	*ex*		x	10 52 48.2	
SLBI	**Saint Lucia, B**	**2.09**	**181**	*eP*		Pn	10 52 55.6	+1.9
SLBI				*eS*		Sn	10 53 20.8	+2.2
SVB	**Belmont**	**2.85**	**186**	*eP*		Pn	10 53 07.5	+3.2
SVB				*eS*		Sn	10 53 38.8	+1.4
SVT	**Saint Vincent**	**2.95**	**185**	*eP*		Pn	10 53 08.0	+2.5
SVT				*eS*		Sn	10 53 41.7	+1.9
SVOC	**Richmond Hill,**	**2.97**	**185**	*eP*		Pn	10 53 08.3	+2.6
SVOC				*eS*		Sn	10 53 41.8	+1.7
GRGR	**Grenville**	**4.03**	**190**	*eP*		Pn	10 53 22.1	+1.8
CRUV	**Carupano**	**5.86**	**203**	*eP*		Pn	10 53 49.2	+3.7
CRUV				*eS*		Sn	10 54 55.3	+3.8
AOPR	**Arecibo Observ**	**5.97**	**293**	*eP*		Pn	10 53 49.2	+2.2
AOPR				*eS*		Sn	10 54 53.8	-0.3

NEIC ***20*** *11:05:45.6±2.5, 16°.98S±0°.07×70°.5W±0°.1, h117km±9km, mb4.3/11, Error ellipse: s-maj=14.3km s-min=9.2km az=110.0*
IDC ***20*** *11:05:47.9±0.9, 16°.93S×70°.35W, h136km±7km, mb3.6/8, mbtmp4.1/10, MS3.0/2, Error ellipse: s-maj=18.0km s-min=11.6km az=168.0*
VAO ***20*** *11:05:48.5±0.6, 16°.97S×70°.12W, h139km±4km, mb4.3*
ISC 20 11:05:46.4±0.6, **16°.99S**±0°.06×**70°.42W**±0°.06, **h150**km, **n73, s208/76, mb4.1/11, Southern Peru**

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

PB18 **Visviri** **1.08 124** **Pn** **11 06 11.9 -0.6**
AP01 **Chacalluta** **1.38 177** Pn **Pn** **11 06 12.5 -2.2**
PB12 **IPOC Station P** **1.62 177** **Pn** **11 06 14.6 -2.9**
LPAZ **La Paz** **2.31 73** **Pn** **11 06 26.3 +0.5**
LPAZ **La Paz** **2.31 73** P **Pn** **11 06 26.6 +0.9**
84nm,0.3s,baz=310,slow=6.4,SNR=1385
LPAZ S **Sn** **11 06 55.0 -1.0**
91nm,0.6s,baz=347,slow=24,SNR=15
LPAZ LR LR 11 07 25.6
comp=Z,98nm,20.2s,baz=124,slow=44
LPAZ **La Paz** **2.31 73** *eP* **Pn** **11 06 25.5 -0.3**
LPAZ *eS* **Sn** **11 06 50.1 -5.8**
PB11 **IPOC Station P** **2.86 165** **Pn** **11 06 30.9 -1.2**
GO01 **Chusmiza** **2.91 157** **Pn** **11 06 33.7 +0.5**
TA02 **Huaiquique** **3.28 175** **Pn** **11 06 35.8 -1.5**
PB08 **IPOC Station P** **3.36 159** **Pn** **11 06 38.9 +0.1**
TA01 **Diego Aracena** **3.57 176** Pn **Pn** **11 06 39.3 -1.8**
PATCX **Punta Patache** **3.82 176** **Pn** **11 06 43.0 -1.5**
PB09 **IPOC Station P** **4.92 167** **Pn** **11 06 58.3 -0.6**
PB04 **IPOC Station P** **5.33 177** **Pn** **11 07 03.0 -1.3**
PB06 **IPOC Station P** **5.75 172** **Pn** **11 07 08.4 -1.6**
LVC **Limon Verde** **5.78 166** Pn **Pn** **11 07 09.9 -0.6**
LVC **Limon Verde** **5.78 166** P **Pn** **11 07 10.5 0.0**
27nm,0.3s,baz=351,slow=8.7,SNR=172
LVC S **Sn** **11 08 11.8 -4.4**
22nm,0.3s,baz=59,slow=23,SNR=19
LVC **Limon Verde** **5.78 166** *eP* **Pn** **11 07 10.5 0.0**
PB15 **IPOC Station P** **6.26 172** **Pn** **11 07 15.4 -1.4**
PB10 **IPOC Station P** **6.50 181** Pn **Pn** **11 07 18.0 -1.8**
PB14 **IPOC Station P** **7.60 180** Pn **Pn** **11 07 32.5 -2.4**
NNA **Nana** **7.96 308** Pn **Pn** **11 07 38.0 -1.4**
NNA **Nana** **7.96 308** P **Pn** **11 07 37.3 -2.1**
3.9nm,0.3s,baz=128,slow=10,SNR=2.3
NNA S **Sn** **11 09 03.3 -4.8**
8.1nm,0.6s,baz=53,slow=7.9,SNR=2.2
GO02 **Mina Guanaco** **8.18 175** Pn **Pn** **11 07 40.4 -2.0**
ETMB **Extrema** **8.22 30** Pn **Pn** **11 07 42.0 -0.8**
ETMB **Extrema** **8.22 30** *eP* **Pn** **11 07 42.0 -0.8**
SIV **San Ignacio** **9.03 85** P **Pn** **11 07 51.7 -1.8**
23nm,0.4s,baz=280,slow=8.1,SNR=72
AC01 **Pan de Azucar** **9.12 181** Pn **Pn** **11 07 52.1 -2.6**
BBSD **Serra de San D** **9.39 93** *eP* **Pn** **11 07 56.8 -1.6**
BBRB **Robore, Bolivi** **10.20 99** *eP* **Pn** **11 08 07.6 -1.6**
AC06 **Mina Casimiro** **10.32 180** Pn **Pn** **11 08 08.1 -2.7**
SAML **Samuel** **10.65 42** Pn **Pn** **11 08 12.9 -2.3**
SAML **Samuel** **10.65 42** *eP* **Pn** **11 08 12.2 -2.9**
VILB **Vilhena** **10.66 69** Pn **Pn** **11 08 14.6 -0.6**
VILB **Vilhena** **10.66 69** *eP* **Pn** **11 08 13.6 -1.7**
PTLB **Pontes e Lacer** **10.95 84** Pn **Pn** **11 08 17.8 -1.3**
PTLB **Pontes e Lacer** **10.95 84** *eP* **Pn** **11 08 16.9 -2.1**
AC04 **Llanos de Chal** **11.18 183** **Pn** **11 08 18.1 -3.9**
AC05 **El Transito** **11.80 179** Pn **Pn** **11 08 27.9 -2.3**
LCO **Las Campanas** **11.97 181** Pn **Pn** **11 08 30.8 -1.8**
SALV **Santo Antonio** **14.17 88** *eP* **Pn** **11 08 60.0 -0.6**
PDRB **Porto dos Gac** **14.30 70** *eP* **Pn** **11 09 00.6 -1.7**
PDRB *eS* **Sn** **11 11 37.7 -3.3**
AQDB **Aquidauana** **14.37 106** *eP* **Pn** **11 09 02.0 -1.1**
RVDE **Rio Verde (Bra** **14.87 100** *eP* **Pn** **11 09 08.4 -1.0**
MT01 **Popeta** **16.82 182** P **Pn** **11 09 34.7 +1.5**
MT01 IAmb IAmb 11 09 45.1
comp=Z,22nm,1.2s
NPGB **Novo Progresso** **17.73 58** *eP* **P** **11 09 43.2 +0.4**
H03N1 **Juan Fernandez** **18.08 203** T T 11 27 42.8
baz=27,slow=73,SNR=16
H03N2 **Juan Fernandez** **18.09 203** T T 11 27 42.5
baz=27,slow=73,SNR=16
H03N3 **Juan Fernandez** **18.10 203** T T 11 27 41.7
baz=27,slow=73,SNR=21
ITTB **Itaituba** **19.10 51** *eP* **P** **11 09 58.9 +1.1**
SNDB **Serra Nova Dou** **19.18 77** *eP* **P** **11 09 58.8 +0.2**
SNDB *eS* **S** **11 13 25.3 -2.8**
ITAB **Concordia** **19.76 124** P **Pn** **11 10 06.8 -1.0**
PLTB **Pedras Altas** **21.20 137** P **P** **11 10 22.4 +2.1**
PLTB IAmb IAmb 11 10 35.5
comp=Z,36nm,1.4s
BDFB **Brasilia** **21.55 90** P **P** **11 10 24.0 -0.3**
BDFB **Brasilia** **21.55 90** P **P** **11 10 24.3 0.0**
comp=Z,1.7nm,0.4s,baz=238,slow=17,SNR=3.8
comp=Z,1.7nm,0.4s
BOAV **Boa Vista** **21.59 28** P **P** **11 10 26.5 +2.0**
BOAV IAmb IAmb 11 10 28.7
comp=Z,7.6nm,0.8s
BOAV **Boa Vista** **21.59 28** *eP* **P** **11 10 26.2 +1.6**
VAO **Valinhos** **22.83 109** P **P** **11 10 37.7 +0.9**
SMTB **Santa Maria do** **23.66 73** *eP* **P** **11 10 45.2 +0.9**
PLCA **Paso Flores** **23.67 180** P **P** **11 10 47.1 +2.8**
PLCA IAmb IAmb 11 10 50.3
comp=Z,17nm,1.4s
PLCA **Paso Flores** **23.67 180** P **P** **11 10 47.5 +3.2**
comp=Z,3.5nm,0.9s,baz=359,slow=11,SNR=5.3
comp=Z,3.5nm,0.9s
MCPB **Macapa, AP** **24.50 49** *eP* **P** **11 10 53.9 +1.9**
TXAR **Lajitas Array** **56.13 325** P **P** **11 15 12.4 +1.9**
comp=Z,0.2nm,0.7s,baz=147,slow=8.6,SNR=2.3
TXAR pP **pP** **11 15 45.5 -1.5**
comp=Z,0.2nm,0.6s,baz=146,slow=9.8,SNR=2.1
comp=Z,0.2nm,0.7s
DBIC **Dimbokro** **68.92 76** P **P** **11 16 37.8 +2.1**
comp=Z,3.0nm,0.4s,baz=234,slow=6.4,SNR=8.8
comp=Z,3.0nm,0.4s
ELK **Elko** **70.91 325** LR LR 11 47 34.9
comp=Z,34nm,19.4s,baz=228,slow=35
QSPA **South Pole Qui** **73.18 180** P P 11 17 05.3 +4.7
QSPA **South Pole Qui** **73.18 180** P P 11 17 05.6 +5.0
comp=Z,0.7nm,0.9s,baz=300,slow=4.4,SNR=5.6
comp=Z,0.7nm,0.9s
TOA0 **Torodi Ar. Sit** **77.25 72** P **P** **11 17 26.8 +2.2**
TOA0 IAmb IAmb 11 17 27.2
comp=Z,5.0nm,0.8s
TORD **Torodi Ar. Bea** **77.25 72** P **P** **11 17 26.8 +2.1**
TORD IAmb IAmb 11 17 27.6
comp=Z,4.3nm,0.7s
TORD **Torodi Ar. Bea** **77.25 72** P **P** **11 17 26.8 +2.1**
comp=Z,4.8nm,0.6s,baz=252,slow=5.8,SNR=33
TORD pP **pP** **11 18 01.6 -1.6**
comp=Z,0.9nm,0.6s,baz=254,slow=4.9,SNR=2.8
comp=Z,4.8nm,0.6s
ESDC **Sonseca Array** **83.67 45** P **P** **11 18 01.8 +3.4**
comp=Z,1.6nm,0.9s,baz=252,slow=5.6,SNR=7.8
comp=Z,1.6nm,0.9s
YKA **Yellowknife Ar** **86.47 341** P **P** **11 18 15.3 +3.6**
comp=Z,0.6nm,0.8s,baz=130,slow=4.5,SNR=9.0
YKA pP **pP** **11 18 48.7 -2.3**
comp=Z,0.7nm,1.0s,baz=123,slow=5.1,SNR=3.8
comp=Z,0.6nm,0.8s
MKAR **Makanchi Array** **142.68 31** PKP **PKPdf** **11 25 02.0 +0.1**
comp=Z,0.1nm,0.4s,baz=352,slow=3.4,SNR=2.3

JMA ***20*** *11:11:10.9±0.2, 33°.5N±0°.6×14°.1E±°, h57km, MV3.6/59, E OFF HACHIJOJIMA ISLAND*
NIED ***20*** *11:11:10.9, 33°.47N×141°.04E, h57km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.97; $M_{\theta\theta}$1.60; $M_{\phi\phi}$-0.64; $M_{r\theta}$0.64; $M_{r\phi}$-1.15; $M_{\theta\phi}$2.62; Fault plane solution: $M_0$2.99000×10^{14} NP1: ϕ_s159.00000°, δ76.00000°, λ-50.00000°. NP2: ϕ_s265.00000°, δ42.00000°, λ-158.00000°.*
IDC ***20*** *11:11:13.2±3.0, 33°.38N×140°.91E, h62km±25km, mb3.5/5, mbtmp3.7/6, ML2.9/1 Error ellipse: s-maj=38.4km s-min=12.9km az=85.0*
ISC 20 11:11:11.3±1.7, **33°.40N**±0°.07×**141°.09E**±0°.10, **h47**km±16km, **n32**, σ1s**17**/36, **mb3.7/5, Off east coast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.10**	**255**	P		Pn	11 11 30.5	+0.1
JHJ2				S		Sn	11 11 44.5	+0.1
JHJ	**Hachijo jima 2**	**1.13**	**256**	P		Pn	11 11 30.5	-0.2
566nm,0.2s,baz=339,slow=17,SNR=114								
JHJ				S		Sn	11 11 44.3	-0.8
1um,0.2s,baz=88,slow=23,SNR=37								
JHCJ	**Hachijojimakas**	**1.13**	**253**	P		Pn	11 11 30.5	-0.2
JHCJ				S		Sn	11 11 44.4	-0.7
BSO1	**Boso 1**	**1.25**	**356**	P		Pn	11 11 31.8	-0.1
BSO1				*eS*		Sn	11 11 49.8	+2.5
JMKN	**Mikurajimanish**	**1.34**	**292**	P		Pn	11 11 33.1	-0.5
JMKN				S		Sn	11 11 50.3	+0.1
JMYK	**Miyake Tsubota**	**1.44**	**298**	P		Pn	11 11 34.5	-0.5
JMYK				*eS*		Sn	11 11 51.9	-0.8
BSO3	**Boso 3**	**1.48**	**341**	P		Pn	11 11 34.7	-0.5
BSO4	**Boso 4**	**1.70**	**339**	P		Pn	11 11 38.4	-0.1
JIM2	**Oshima 3**	**1.90**	**314**	P		Pn	11 11 40.2	-1.0
JIZS	**Izushimoda**	**2.25**	**306**	P		Pn	11 11 45.8	-0.3

JOD2	Odawara 2	2.49	319	P		Pn	11 11 48.5	-0.8
JHU	Hanno	2.86	329	P		Pn	11 11 54.3	-0.2
SHZ3	Shizuoka 3	2.90	306	P		Pn	11 11 55.8	+0.7
JYT	Yasato	2.91	346	P		Pn	11 11 55.9	+0.8
JYN	Shimob	2.96	316	P		Pn	11 11 56.5	+0.6
HMMJ	Hamamatsu 2	3.15	298	P		Pn	11 11 58.8	+0.4
JHO	Hitachi	3.23	353	P		Pn	11 11 58.9	-0.6
JAG	Ashikaga	3.30	336	P		Pn	11 12 00.4	0.0
JNY	Yasuok	3.30	307	P		Pn	11 12 02.1	+1.6
MJAR	Matsushiro Arr	3.92	324	P		Pn	11 12 09.8	+0.7
	0.8nm,0.3s,baz=155,slow=11,SNR=37							
MJAR				S		Sn	11 12 54.0	+0.2
	4.5nm,0.4s,baz=139,slow=22,SNR=4.4							
	9.1nm,0.6s							
JFK	Kawauchi	3.96	358	S		Sn	11 12 50.9	-3.9
JCJ	Chichijima	6.36	171	P		Pn	11 12 37.2	-5.2
	11nm,0.3s,baz=360,slow=21,SNR=8.2							
JCJ				S		Sn	11 13 44.0	-10
	9.5nm,0.3s,baz=113,slow=24,SNR=1.4							
ASAJ	Asahikawa	10.76	6	P		Pn	11 13 40.1	-2.6
	3.0nm,0.9s,baz=319,slow=32,SNR=0.9							
ASAJ				S		Sn	11 15 43.6	+1.9
	4.2nm,1.0s,baz=68,slow=15,SNR=1.6							
H11N2	WAKE ISLAND Hy	26.71	114	T		T	11 45 49.2	
	baz=306,slow=75,SNR=12							
H11N1	WAKE ISLAND Hy	26.72	114	T		T	11 45 47.9	
	baz=306,slow=75,SNR=10							
H11N3	WAKE ISLAND Hy	26.73	114	T		T	11 45 48.4	
	baz=306,slow=75,SNR=9.2							
MKAR	Makanchi Array	45.90	305	P		P	11 19 28.3	-0.9
	0.4nm,0.6s,baz=92,slow=9.6,SNR=1.9							
	0.4nm,0.6s							
KURBB	Kurchatov Arra	48.09	311	P		P	11 19 45.5	-0.6
	0.3nm,0.4s,baz=87,slow=7.3,SNR=2.9							
	0.3nm,0.4s							
WRA	Warramunga Arr	53.44	188	P		P	11 20 26.6	-0.1
	1.4nm,0.3s,baz=5.9,slow=7.6,SNR=40							
	1.4nm,0.3s							
ASAR	Alice Springs	57.16	188	P		P	11 20 53.7	+0.3
	0.6nm,0.6s,baz=0.5,slow=6.2,SNR=5.6							
	0.6nm,0.6s							
TXAR	Lajitas Array	92.55	52	P		P	11 24 19.3	+1.3
	0.1nm,0.5s,baz=297,slow=6.9,SNR=3.6							
	0.1nm,0.5s							
PLCA	Paso Flores	153.82	115	PKPbc		PKPbc	11 31 04.5	-0.7
	2.3nm,0.9s,baz=285,slow=4.1,SNR=3.2							

BER ***20*** *11:11:23.5±2.5, 79.°0N×2.°52E, h10km, mb(Pn)3.2, Confirmed Earthquake*
DNK ***20*** *11:11:24.2±2.9, 79.°07N×2.°86E, h33km±32km, ML1.4*
ISC 20 11:11:17.8±0.9, 79.°00N±0.°07×2.°86E±0.°05, h10km, n11, σ2°34/16, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KBS	Kingsbay	1.75	88	eP		Pg	11 11 52.1	+0.8
KBS				IAML			11 12 12.1	
	comp=Z,17nm,0.4s							
KBS	Kingsbay	1.75	88	i P		Pg	11 11 52.0	+0.7
BRBB	Barentsburg B	2.44	106	eP		Pg	11 12 03.5	-1.0
BRBB				eS		Sb	11 12 30.6	-1.2
BRBA	Barentsburg A	2.46	107	eP		Pg	11 12 03.9	-0.9
SPA0	Spitsbergen Ar	2.81	100	eP		Pb	11 12 08.0	+0.1
SPA0				IAML			11 12 47.6	
	comp=Z,8.2nm,0.9s							
NOR	Nord	4.19	318	eP		Pn	11 12 23.8	+2.2
NOR				eS		Sn	11 13 08.6	-1.9
NOR	Nord	4.19	318	i P		Pn	11 12 22.9	+1.3
NOR				i S		Sn	11 13 08.5	-2.0
NOR				IAML			11 13 09.2	
	comp=Z,2.0nm,0.3s							
DAG	Danmarks Havn	5.03	255	eP		Pn	11 12 38.5	+5.4
DAG				eS		Sn	11 13 28.4	-2.7
DAG	Danmarks Havn	5.03	255	i P		Pn	11 12 37.9	+4.8
DAG				i S		Sn	11 13 28.2	-2.9
DAG				IAML			11 13 33.4	
	comp=Z,3.2nm,0.1s							
DBG	Daneborg	7.06	240	i P		Pn	11 13 03.2	+2.3
DBG				i S		Sn	11 14 18.2	-2.8
DBG				IAML			11 14 19.9	
	comp=Z,0.7nm,0.1s							
NEEM	North Greenlan	10.78	289	i P		Pn	11 13 53.0	+0.8
NEEM				i S		Sn	11 15 42.9	-10

JMA ***20*** *11:11:28.8±0.2, 43.°6N±0.°6×14.°6E±.°, h128km±1km, MV2.6/36, NEAR KUNASHIRI ISLAND*
SKHL ***20*** *11:11:29.7±0.7, 43.°50N×145.°70E, h114km±5km, mb3.8/2, msha4.7/2*
ISC 20 11:11:28.4±2.6, 43.°62N±0.°09×145.°70E±0.°07, h128km±15km, n15, σ0°80/27, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NMR	Nemuro--Hokkai	0.25	176	eP		Pn	11 11 46.4	+0.2
NMR				eS		Sn	11 11 59.2	-0.3
NEM2	Nemuro 2	0.26	173	i P		Pn	11 11 46.6	+0.4
NEM2				i S		Sn	11 11 59.5	0.0
YUK	Yuzh-Kuril'sk	0.43	15	eP		Pn	11 11 47.1	+0.2
YUK				AMB	AMB	AMB	11 11 48.1	
	20nm,0.2s							
YUK				eS		Sn	11 11 59.4	-1.5
YUK				A		A	11 12 04.8	
	200nm,0.6s							
YUK				A		A	11 12 04.8	
	240nm,0.6s							
JRA	Rausu	0.53	307	P		Pn	11 11 47.5	+0.2
JNSB	Nemuroshibetsu	0.53	287	P		Pn	11 11 47.9	+0.4
JNSB				S		Sn	11 12 03.0	+1.2
JKHN	Kushirohamanak	0.67	217	P		Pn	11 11 49.1	+0.7
JKHN				S		Sn	11 12 03.8	+0.4
JNK	Nakash	0.72	268	i P		Pn	11 11 48.9	+0.2
JNK				S		Sn	11 12 04.2	+0.1
SHO	Shikotan	0.85	73	eP		Pn	11 11 50.2	+0.4
SHO				AMB		AMB	11 11 50.5	
	10.0nm,0.1s							
SHO				eS		Sn	11 12 05.8	-0.2
SHO				A		A	11 12 07.1	
	80nm,0.2s							
SHO				A		A	11 12 07.1	
	120nm,0.2s							
AKK	Akkeshi	0.87	227	eP		Pn	11 11 49.0	-1.0
AKK				eS		Sn	11 12 03.7	-2.6
JAK	Akkeshi	0.96	230	P		Pn	11 11 51.3	+0.5
JAK				S		Sn	11 12 08.0	+0.3
JTKR	Abashiri--Toko	1.35	286	P		Pn	11 11 54.5	-0.1
JAR	Ashorobuto	1.44	258	i P		Pn	11 11 56.3	+0.6
JAR				S		Sn	11 12 16.8	+0.3
JOB	Onbets	1.54	243	P		Pn	11 11 57.4	+0.6
JOB				S		Sn	11 12 18.3	-0.1
JMP	Maruseppu	1.74	284	P		Pn	11 11 58.9	-0.2
JCH	Churui	1.99	240	P		Pn	11 12 02.4	+0.3
JCH				S		Sn	11 12 27.1	-0.8

IDC ***20*** *11:14:27.4±7.8, 19.°17S×169.°16E, h128km±50km, mb3.8/4, mbtmp4.1/5, MS3.3/1, Error ellipse: s-maj=64.7km s-min=39.5km az=36.0*
NOU ***20*** *11:14:30.3, 19.°32S×169.°31E, h71km, MLv4.0/10, Vanuatu Islands*
NEIC ***20*** *11:14:30.5±1.6, 19.°4S±0.°1×169.°2E±0.°1, h144km±11km, mb4.5/10, Error ellipse: s-maj=15.4km s-min=15.0km az=140.0*
ISC 20 11:14:29.8±1.3, 19.°35S±0.°07×169.°2E±0.°1, h150km, n33, σ1°11/37, mb4.4/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DVP	Devils Point	1.88	329	P		Pn	11 15 02.1	-1.4
LIFNC	LIFOU	2.33	232	P		Pn	11 15 07.4	-1.4
LIFNC	LIFOU	2.33	232			Pn	11 15 07.1	-1.7
LIFNC				Sn		Sn	11 15 35.7	-3.1
MARNC	Mare, Loyalty	2.39	207	P		Pn	11 15 08.6	-1.0
YATNC	Mamie plateau,	3.46	218	P		Pn	11 15 21.4	-1.6
PINNC	Pines Island,	3.64	206	P		Pn	11 15 25.3	-0.1
PINNC	Pines Island,	3.64	206			Pn	11 15 25.1	-0.3
PINNC				Sn		Sn	11 16 08.2	-0.4
DZM	Mont Dzumac	3.74	223			Pn	11 15 26.7	-0.1
DZM				Sn		Sn	11 16 08.9	-2.2
DZM	Mont Dzumac	3.74	223	P		Pn	11 15 26.7	-0.1
	19nm,0.5s,baz=232,slow=24,SNR=36							
DZM				S		Sn	11 16 09.5	-1.5
	29nm,0.4s,baz=330,slow=22,SNR=12							
OUENC	Ouen Island, N	3.77	215	P		Pn	11 15 27.7	+0.6
OUENC	Ouen Island, N	3.77	215			Pn	11 15 27.2	+0.1
NOUC	Port Laguerre	3.85	224	P		Pn	11 15 28.6	+0.4
ONTNC	Ouen Toro	3.91	221	P		Pn	11 15 29.1	+0.2
ONTNC	Ouen Toro	3.91	221			Pn	11 15 29.0	+0.2
ONTNC				Sn		Sn	11 16 14.7	-0.1
KOUNC	Koumac, New Ca	4.77	255	P		Pn	11 15 41.4	+1.1
KOUNC	Koumac, New Ca	4.77	255			Pn	11 15 40.8	+0.5
HNR	Honiara	13.31	316	Pn		Pn	11 17 34.1	+0.9
EIDS	Eidsvold	17.79	247	P		Pn	11 18 29.6	+1.4
ARMA	Armidale	19.35	232	P		P	11 18 44.7	+0.8
ARMA				IAmb		IAmb	11 18 57.7	
	comp=Z,13nm,1.3s							
CAN	Canberra	23.91	224	P		P	11 19 31.5	+1.6
CAN				IAmb		IAmb	11 19 55.0	
	comp=Z,21nm,1.4s							
STKA	Stephens Creek	27.75	238	P		P	11 20 05.9	+1.4
STKA	Stephens Creek	27.75	238	P		P	11 20 05.7	+1.1
	comp=Z,2.3nm,0.6s,baz=73,slow=7.0,SNR=5.8							
	comp=Z,2.3nm,0.6s							
BBOO	Buckleboo	32.50	239	P		P	11 20 46.5	+0.1
WRA	Warramunga Arr	32.80	263	P		P	11 20 48.0	-1.2
	comp=Z,0.7nm,0.5s,baz=88,slow=8.4,SNR=8.2							
	comp=Z,0.7nm,0.5s							
ASAR	Alice Springs	33.06	256	P		P	11 20 50.6	-0.9
ASAR	Alice Springs	33.06	256	P		P	11 20 51.2	-0.2
	comp=Z,3.0nm,0.4s,baz=82,slow=8.7,SNR=102							
	comp=Z,3.0nm,0.4s							
FORT	Forrest	38.77	245	P		P	11 21 39.6	-0.3
FORT				IAmb		IAmb	11 22 11.2	
	comp=Z,20nm,1.4s							
FITZ	Fitzroy Crossi	41.19	264	P		P	11 22 00.2	+0.3
PSA00	Pilbara Seismi	46.14	258	P		P	11 22 39.6	+0.1
PSA00				IAmb		IAmb	11 23 22.1	
	comp=Z,26nm,1.3s							
MBWA	Marble Bar	46.30	259	P		P	11 22 41.0	+0.3
MBWA				IAmb		IAmb	11 22 46.0	
	comp=Z,19nm,1.2s							
KAPI	Kappang	50.20	280	LR		LR	11 47 18.2	
	comp=Z,29nm,18.4s,baz=106,slow=39							
QSPA	South Pole Qui	70.71	180	P		P	11 25 29.0	-0.3
QSPA				IAmb		IAmb	11 25 47.0	
	comp=Z,5.5nm,1.4s							
QSPA	South Pole Qui	70.71	180	P		P	11 25 29.6	+0.3
	comp=Z,1.7nm,1.0s,baz=29,slow=3.1,SNR=2.8							
	comp=Z,1.7nm,1.0s							

UPA ***20*** *11:17:38.9±1.6, 7.°20N×72.°93W, h165km±23km, MW4.7*
IDC ***20*** *11:17:41.0±0.5, 6.°74N×72.°94W, h162km±4km, mb3.9/16, mbtmp4.4/22, Error ellipse: s-maj=11.1km s-min=6.5km az=133.0*
NEIC ***20*** *11:17:41.6±2.0, 6.°76N±0.°02×72.°97W±0.°08, h160km±6km, mb4.5/151, Error ellipse: s-maj=11.2km s-min=1.0km az=100.0*
RSNC ***20*** *11:17:41.8±0.0, 7.°1N±.°1×7.°3W±.°, h150km±2km, M5.0, mb5.3, mB5.4, ML4.6, Mw(mB)4.9*
VAO ***20*** *11:17:41.2±0.3, 6.°75N×73.°04W, h154km±3km, mb4.7*
ISC 20 11:17:40.7±0.5, 6.°82N±0.°03×73.°06W±0.°03, h157km±4km, h157km:pP-P, n629, σ1°12/687, mb4.5/100, 3C-3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BARC	Barichara	0.26	207	P		Pn	11 18 02.2	-0.1
BARC				S		Sn	11 18 17.0	-1.7
PAMC	Pamplona, Colo	0.63	35	P		Pn	11 18 05.0	+0.9
PAMC				S		Sn	11 18 22.2	+0.3
RUSC	La Rusia	0.93	181	P		Pn	11 18 06.0	-0.1
RUSC				S		Sn	11 18 24.7	-0.9
TAMC	Tame, Arauca	1.32	107	P		Pn	11 18 10.6	+1.6
TAMC				S		Sn	11 18 32.1	+1.4
PTBC	PUERTO BERRIO,	1.41	259	P		Pn	11 18 08.6	-1.3
PTBC				S		Sn	11 18 29.9	-2.4
OCAC	Ocana	1.43	350	P		Pn	11 18 10.3	+0.1
OCAC				S		Sn	11 18 32.1	-0.9
SPBC	San Pablo de B	1.54	221	P		Pn	11 18 10.9	-0.4
SPBC				S		Sn	11 18 32.9	-1.9
ZARC	Zaragoza, Cauc	1.90	291	P		Pn	11 18 14.3	-0.8
ZARC				S		Sn	11 18 39.8	-1.8
CHIC	Chingaza	2.28	197	P		Pn	11 18 20.0	+0.1
CHIC				S		Sn	11 18 49.7	-0.5
ROSC	El Rosal	2.33	212	P		Pn	11 18 21.6	+1.0
ROSC	El Rosal	2.33	212	P		Pn	11 18 21.9	+1.3
	4μm,0.3s,baz=262,slow=2.9,SNR=3030							
ROSC				S		Sn	11 18 52.2	+1.0
	6μm,0.3s,baz=17,slow=22,SNR=14							
CVER	Cruz Verde, Cu	2.50	204	P		Pn	11 18 23.6	+1.0
CVER				S		Sn	11 18 55.5	+0.5
HELC	Santa Helena	2.53	256	P		Pn	11 18 23.5	+0.6
HELC				S		Sn	11 18 53.1	-2.3
UREC	San Jos de Ur	2.62	291	eP		Pn	11 18 22.0	-1.6
UREC				eS		Sn	11 18 55.0	-1.8
UREC	San Jos de Ur	2.62	291	P		Pn	11 18 22.0	-1.6
UREC				S		Sn	11 18 54.1	-2.7
PTGC	Puerto Gaitan,	2.77	160	P		Pn	11 18 25.4	0.0
PTGC				S		Sn	11 18 56.6	-1.5
VILC	Villavicencio,	2.77	193	P		Pn	11 18 25.5	-0.1
VILC				S		Sn	11 19 00.0	-0.3
DBBC	Dabeiba	3.13	274	P		Pn	11 18 29.7	-0.3
DBBC				S		Sn	11 19 04.4	-3.9
SDV	Santo Domingo	3.16	49	Pn		Pn	11 18 31.4	+0.9
SDV	Santo Domingo	3.16	49	P		Pn	11 18 32.3	+1.8
	294nm,0.3s,baz=171,slow=2.4,SNR=216							
SDV				S		Sn	11 19 09.1	-0.1
	3μm,0.4s,baz=54,slow=21,SNR=55							
SDV	Santo Domingo	3.16	49	P		Pn	11 18 31.9	+1.4
SDV				S		Sn	11 19 08.7	-0.5
SDV	Santo Domingo	3.16	49	eP		Pn	11 18 31.6	+1.0
ARGC	Ariguani, Magd	3.23	339	P		Pn	11 18 32.1	+0.8
ARGC				S		Sn	11 19 09.2	-1.4
PRAC	Prado	3.58	211	P		Pn	11 18 35.3	-0.5
PRAC				S		Sn	11 19 17.4	-1.3
APAC	Apartado, Choc	3.65	287	P		Pn	11 18 36.1	-0.5
APAC				S		Sn	11 19 16.4	-3.6
SJCC	San Jacinto, C	3.70	326	P		Pn	11 18 35.8	-1.5
SJCC				S		Sn	11 19 17.4	-4.0
PLMC	San Jos del P	3.73	239	P		Pn	11 18 37.6	-0.1
URMC	La Uribe, Meta	3.79	200	P		Pn	11 18 39.2	+0.7
URMC				S		Sn	11 19 22.9	-0.5
CRJC	Cerrejon, Guaj	4.17	2	P		Pn	11 18 42.7	-0.8
CRJC				S		Sn	11 19 29.7	-2.7
GUVC	San Jose del G	4.27	174	P		Pn	11 18 44.4	-0.3
GUVC				S		Sn	11 19 32.3	-2.3
YOTC	Yotoco, Valle	4.32	229	P		Pn	11 18 45.1	-0.3
YOTC				S		Sn	11 19 35.6	-0.2
SOLC	Bahia Solano	4.36	262	P		Pn	11 18 46.4	+0.6
SMRC	Santa Marta, M	4.46	345	P		Pn	11 18 47.1	-0.1
SMRC				S		Sn	11 19 35.5	-3.6
CAPC	Capurgana	4.62	293	P		Pn	11 18 46.2	-3.0
CAPC				S		Sn	11 19 32.6	-10
PIZC	Pizarro, Choco	4.66	247	P		Pn	11 18 50.8	+1.1
PIZC				S		Sn	11 19 44.6	+1.0
MACC	Macarena, Meta	4.71	190	P		Pn	11 18 49.2	-1.3
MACC				S		Sn	11 19 42.3	-2.7
PTAC	Punta Ardita,	4.72	274	eP		Pn	11 18 49.2	-1.4
PTAC	Punta Ardita,	4.72	274	P		Pn	11 18 49.2	-1.4
PTAC				S		Sn	11 19 43.7	-1.4
BETC	Betania	4.75	210	P		Pn	11 18 50.2	-0.8
BETC				S		Sn	11 19 44.5	-1.4
URIC	Uribia, Colomb	4.96	12	P		Pn	11 18 52.9	-0.8
	441nm,0.4s,11μm							
URIC				S		Sn	11 19 50.1	-0.7
	441nm,0.4s,11μm							
JAMC	Jamundi, Valle	5.08	225	P		Pn	11 18 55.1	-0.4
	363nm,0.8s,6μm							
MALC	Bahia Malaga	5.09	237	P		Pn	11 18 56.8	+1.4
MALC				S		Sn	11 19 55.3	+1.5
UPD2	Meteti	5.20	290	eP		Pn	11 18 55.0	-1.8
UPD2				eS		Sn	11 19 52.0	-4.4
GARC	Garzon, Huila	5.20	208	P		Pn	11 18 56.2	-1.0
GARC				S		Sn	11 19 54.2	-2.7
BAUV	El Baul	5.40	67	Pn		Pn	11 18 58.2	-1.4
BAUV	El Baul	5.40	67	eP		Pn	11 18 58.4	-1.1
POPC	Popayan, Colom	5.57	220	P		Pn	11 19 01.9	-0.2
	373nm,1.1s,4μm							
POPC				S		Sn	11 20 03.8	-1.9
	373nm,1.1s,4μm							
TOTI	Torti	5.61	292	eP		Pn	11 19 00.1	-2.1
TOTI				eS		Sn	11 20 01.9	-4.2

FLOC	Florencia	5.81	206	P		Pn	11 19 04.9	-0.1
	575nm,1.0s,7μm							
BBAC	Balboa, Cauca	6.34	221	P		Pn	11 19 12.0	-0.2
	357nm,0.8s,6μm							
BBAC				S		Sn	11 20 21.5	-2.4
	357nm,0.8s,6μm							
GR1C	Gorgona, Isla	6.34	234	P		Pn	11 19 10.6	-1.5
GR1C				S		Sn	11 20 23.0	-0.7
CHPO	Chepo, Panama	6.43	292	eP		Pn	11 19 10.9	-2.3
CHPO				eS		Sn	11 20 20.7	-5.0
CRUC	La Cruz	6.50	217	P		Pn	11 19 16.5	+2.0
HATO	Hato, Curacao	6.69	37			Pn	11 19 16.1	-0.5
UPA	Univ. de Panam	6.76	289	eP		Pn	11 19 15.1	-2.5
UPA				eS		Sn	11 20 27.6	-6.0
GCUF	Volcan Galeras	7.01	218	P		Pn	11 19 22.5	+1.1
	142nm,0.8s,2μm							
GCUF				S		Sn	11 20 40.8	+0.4
	142nm,0.8s,2μm							
ZANG	Zanguenga, Cho	7.07	288	eP		Pn	11 19 19.5	-2.2
BCIP	Isla Barro Col	7.10	290	Pn		Pn	11 19 19.2	-2.9
BCIP	Isla Barro Col	7.10	290	eP		Pn	11 19 19.7	-2.4
BCIP				eS		Sn	11 20 42.8	+1.0
BCIP	Isla Barro Col	7.10	290	P		Pn	11 19 20.0	-2.1
	149nm,0.9s,1μm							
AZU	Azuero	7.22	278	eP		Pn	11 19 22.5	-1.2
AZU				eS		Sn	11 20 40.6	-4.0
AZU	Azuero	7.22	278	P		Pn	11 19 22.5	-1.2
	125nm,0.5s,2μm							
PNME	Penonome	7.39	283	eP		Pn	11 19 24.8	-1.2
CMBC	Cumbal	7.53	219	P		Pn	11 19 29.5	+1.2
TULM	Tulcn-Chalpat	7.68	218			Pn	11 19 30.5	+0.1
CACAO	El Cacao, Vera	7.76	274	eP		Pn	11 19 29.2	-1.6
CACAO	El Cacao, Vera	7.76	274	P		Pn	11 19 29.6	-1.3
GMAL	Guarumal, Vera	8.16	277	eP		Pn	11 19 36.8	+0.6
GMAL				eS		Sn	11 21 04.5	-2.8
IMBA	Imbabura, San	8.28	218			Pn	11 19 38.1	-0.1
PULU	Pululahua	8.67	219			Pn	11 19 42.6	-0.7
PCRV	Puerto La Cruz	8.97	68	P		Pn	11 19 46.9	-0.2
	15nm,0.3s,baz=274,slow=3.9,SNR=43							
PCRV				S		Sn	11 21 25.1	-1.8
	44nm,0.4s,baz=107,slow=19,SNR=2.1							
PCRV	Puerto La Cruz	8.97	68	eP		Pn	11 19 45.6	-1.5
SLOR	San Lorenzo -	9.26	216			Pn	11 19 49.9	-1.4
BRU2	Volcan	9.74	282			Pn	11 19 57.0	-0.4
CDITO	Canoas	9.88	281			Pn	11 19 58.4	-0.6
CHSH	Refugio Sur-Vo	10.09	215			Pn	11 20 00.8	-1.6
CRUV	Carupano	10.44	68	eP		Pn	11 19 57.2	-9.2
SRBA	San Rafael, Bu	10.47	284	Pn		Pn	11 20 06.8	-0.3
BATAN	Batan	10.71	288			Pn	11 20 08.9	-1.0
PEZE	Perez Zeledon,	10.81	284			Pn	11 20 12.0	+0.6
RIMA	Rio Macho	11.08	286			Pn	11 20 15.1	+0.1
LCR2	La Lucha 2	11.21	286			Pn	11 20 17.1	+0.3
HDC	Heredia	11.38	287	Pn		Pn	11 20 19.5	+0.6
HDC	Heredia	11.38	287	eP		Pn	11 20 20.2	+1.3
HDC				eS		Sn	11 22 26.6	+1.6
TBTG	Tabatinga, AM	11.38	164			Pn	11 20 16.6	-2.2
TBTG	Tabatinga, AM	11.38	164	eP		Pn	11 20 18.2	-0.5
PAPH	Port-au-Prince	11.65	4	Pn		Pn	11 20 24.6	+2.3
HOJ	Hope	11.68	342	i P		Pn	11 20 25.8	+3.1
STH	Stony Hill	11.77	342	i P		Pn	11 20 28.0	+4.2
STH				i S		Sn	11 22 23.0	-11
COVE	Coope Vega, Sa	11.86	290	Pn		Pn	11 20 24.6	-0.4
SOCE	Pocosol	11.96	288			Pn	11 20 26.3	-0.1
ARE1	Arenal 1	12.08	288			Pn	11 20 28.8	+0.9
TRN	Trinidad (W)	12.13	71	eP		P	11 20 35.4	+0.8
MTDJ	Mount Denham	12.14	339	Pn		Pn	11 20 30.2	+1.4
MTDJ	Mount Denham	12.14	339	eP		Pn	11 20 31.8	+3.1
SDDR	Presa de Saban	12.21	8	Pn		Pn	11 20 30.0	+0.5
SDDR	Presa de Saban	12.21	8	i P		Pn	11 20 29.0	-0.5
JTS	Las Juntas de	12.25	287			Pn	11 20 31.0	+0.9
JTS	Las Juntas de	12.25	287	P		Pn	11 20 31.6	+1.5
	20nm,0.7s,baz=64,slow=10,SNR=16							
ESPN	Las Esperanzas	12.30	297			Pn	11 20 29.2	-1.5
GRGR	Grenville	12.43	64	Pn		Pn	11 20 32.1	-0.3
ORTG	Ortega, Santa	12.75	287	Pn		Pn	11 20 37.7	+1.1
CELP	Cerrillos	12.85	29			Pn	11 20 35.7	-2.0
HZTE	Horizontes, Gu	12.97	288	Pn		Pn	11 20 40.2	+0.8
IGPR	InterUniversit	12.99	31			Pn	11 20 38.4	-1.1
ACON	Acoyapa	12.99	294			Pn	11 20 38.8	-0.8
AOPR	Arecibo Observ	13.00	28	Pn		Pn	11 20 37.3	-2.4
BOAV	Boa Vista	13.25	109	Pn		Pn	11 20 41.0	-1.9
BOAV	Boa Vista	13.25	109	eP		Pn	11 20 39.6	-3.3
BOAV				eS		Sn	11 23 10.1	+0.4
HUMP	Col San Antoni	13.27	31	Pn		Pn	11 20 42.3	-0.7
TEFE	Tefe	13.27	140	eP		Pn	11 20 43.4	+0.2
GCPR	Guaynabo City	13.29	30			Pn	11 20 42.1	-1.3
FDF	Fort de France	14.09	55	Pn		Pn	11 20 52.6	-0.9
CZSB	Cruzeiro do Su	14.46	179	Pn		Pn	11 20 57.3	-0.9
CZSB	Cruzeiro do Su	14.46	179	eP		P

baz=163
V58A Windy Hill, Pi 29.36 350 P P 11 23 30.4 +1.5
V58A IAmb IAmb 11 23 46.3
comp=Z,27nm,1.4s
Y49A Blount Mountai 29.61 337 P P 11 23 32.5 +1.4
Y49A IAmb IAmb 11 23 34.5
comp=Z,6.9nm,0.7s
VBMS Vicksburg 30.05 329 P P 11 23 35.8 +0.8
baz=144
V53A Saluda 30.07 344 P P 11 23 37.1 +1.8
V53A IAmb IAmb 11 24 20.8
comp=Z,12nm,1.3s
CPCT Cooper Cave 30.38 341 P P 11 23 39.9 +2.0
CPCT IAmb IAmb 11 23 41.6
comp=Z,7.2nm,1.0s
U54A Nelsons Funny 30.62 346 P P 11 23 41.8 +1.6
BLA Blacksburg 30.98 349 P P 11 23 44.4 +1.2
baz=166
TZTN Tazewell 31.10 344 P P 11 23 45.2 +1.0
baz=159
PLAL Pickwick Lake 31.25 336 P P 11 23 46.8 +1.2
PLAL IAmb IAmb 11 23 48.9
comp=Z,9.3nm,0.9s
S57A Dark Hollow, R 31.26 351 P P 11 23 47.2 +1.6
S57A IAmb IAmb 11 23 49.1
comp=Z,14nm,1.1s
OXF Oxford 31.41 334 P P 11 23 47.9 +0.9
baz=148
V48A Smith Brothers 31.43 338 P P 11 23 48.6 +1.5
V48A IAmb IAmb 11 23 50.7
comp=Z,13nm,0.8s
CBN Corbin Frederi 31.48 353 P P 11 23 49.2 +1.6
baz=172
HBVL Hebbronville 31.58 313 P P 11 23 49.4 +0.8
S54A Dingess, Beckl 31.73 348 P P 11 23 50.7 +0.9
S54A IAmb IAmb 11 23 53.5
comp=Z,9.1nm,0.8s
NATX Nacogdoches 31.97 324 P P 11 23 52.6 +0.6
baz=136
WVT Waverly 32.15 337 P P 11 23 54.4 +0.9
WVT Waverly 32.15 337 P P 11 23 55.0 +1.6
baz=152
T47A Sharon Grove 32.64 339 P P 11 23 58.9 +1.2
T47A IAmb IAmb 11 24 00.3
comp=Z,12nm,0.9s
833A Chaparral WMA, 32.83 314 P P 11 23 59.4 0.0
baz=126
R50A Paris 32.94 344 P P 11 24 01.3 +1.1
R50A IAmb IAmb 11 24 04.2
comp=Z,17nm,1.1s
435B Jarrell 33.11 319 P P 11 24 02.6 +0.8
435B IAmb IAmb 11 24 03.6
comp=Z,12nm,0.7s
435B Jarrell 33.11 319 P P 11 24 02.5 +0.6
baz=131
MCWV Mont Chateau 33.26 350 P P 11 24 03.3 +0.3
baz=168
Q51A Peebles 33.38 345 P P 11 24 05.4 +1.3
Q51A IAmb IAmb 11 24 07.2
comp=Z,8.3nm,0.8s
WHAR Wooly Hollow 33.39 331 P P 11 24 04.9 +0.7
WHAR IAmb IAmb 11 24 06.6
comp=Z,8.1nm,0.7s
MIAR Mount Ida 33.45 328 P P 11 24 04.8 0.0
baz=141
WCI Wyandotte Cave 33.49 341 P P 11 24 06.4 +1.4
WCI IAmb IAmb 11 24 08.0
comp=Z,11nm,1.1s
WCI Wyandotte Cave 33.49 341 P P 11 24 05.8 +0.8
baz=156
P52A Corning 33.67 347 P P 11 24 08.8 +2.2
P52A Corning 33.67 347 P P 11 24 07.6 +1.0
baz=164,SNR=8.3
FCAR Ozark Folk Cen 33.80 332 P P 11 24 08.0 +0.3
FCAR IAmb IAmb 11 24 09.1
comp=Z,6.4nm,0.7s
WHTX Lake Whitney, 33.83 321 P P 11 24 09.3 +1.2
baz=133
CGM3 Cape Girardeau 33.89 336 P P 11 24 09.2 +0.7
CGM3 IAmb IAmb 11 24 10.4
comp=Z,9.5nm,0.6s
SSPA Standing Stone 33.94 353 P P 11 24 10.6 +1.7
baz=171
PAL Palisades 34.05 359 P P 11 24 10.8 +1.0
baz=178
O52A Adamsville 34.07 348 P P 11 24 11.8 +1.8
O52A IAmb IAmb 11 24 14.0
comp=Z,13nm,0.6s
O53A New Philadelph 34.08 349 P P 11 24 12.3 +2.2
O53A IAmb IAmb 11 24 14.2
comp=Z,24nm,1.2s
O53A New Philadelph 34.08 349 P P 11 24 11.4 +1.3
baz=165,SNR=6.2
SIUC Southern Illin 34.08 337 P P 11 24 10.8 +0.7
SIUC IAmb IAmb 11 24 12.8
comp=Z,12nm,0.7s
TRNY Table Rock, Ra 34.19 358 P P 11 24 12.8 +1.8
P49A Miami Univ. Ec 34.22 344 P P 11 24 13.0 +1.7
baz=159
JCT Junction City 34.40 317 P P 11 24 12.9 -0.1
baz=128
ACSO Alum Creek Sta 34.43 347 P P 11 24 14.0 +0.9
baz=162
M65A Busby, Falmout 34.66 3 P P 11 24 15.4 +0.3
baz=184
KSCT Kent School, K 34.76 359 P P 11 24 17.5 +1.5
M55A Ridgway 34.87 352 P P 11 24 18.6 +1.6
M55A IAmb IAmb 11 24 21.0
comp=Z,9.9nm,0.7s
O48B Farmland 35.01 344 P P 11 24 19.3 +1.2
baz=159
M53A WI Miller and 35.13 350 P P 11 24 20.6 +1.5
baz=167
CCM Cathedral Cave 35.19 335 P P 11 24 20.6 +0.8
baz=148
BINY Binghamton 35.33 356 P P 11 24 22.4 +1.5
baz=175,SNR=6.5
L56A Greenwood 35.39 354 P P 11 24 23.3 +1.8
L56A IAmb IAmb 11 24 24.3
comp=Z,19nm,1.0s
RLO Rose Lookout 35.45 329 P P 11 24 22.2 +0.2
RLO IAmb IAmb 11 24 22.9
comp=Z,13nm,0.7s
L61B Northampton 35.48 0 P P 11 24 24.0 +1.9
baz=180
HRV Adam Dziewonsk 35.56 2 P P 11 24 24.7 +1.9
baz=182
ABTX Abilene, Hawle 35.64 320 P P 11 24 24.3 +0.6
ABTX IAmb IAmb 11 24 25.3
comp=Z,8.8nm,0.7s
ABTX Abilene, Hawle 35.64 320 P P 11 24 24.1 +0.4
baz=130,SNR=8.0
TUL3 Leonard 35.66 327 P P 11 24 24.1 +0.3
baz=139
ERPA Erie 35.68 351 P P 11 24 24.7 +0.9
baz=168
SFIN Lafayette 35.70 341 P P 11 24 25.5 +1.5
SFIN Lafayette 35.70 341 P P 11 24 24.8 +0.8
baz=156,SNR=8.7
WVNY West Valley, N 35.77 353 P P 11 24 26.5 +1.8
S39A Bolivar 35.82 332 P P 11 24 25.5 +0.4
S39A IAmb IAmb 11 24 27.3
comp=Z,4.2nm,0.6s
R40A Maddies Statio 35.83 334 P P 11 24 25.4 +0.2
R40A IAmb IAmb 11 24 26.4
comp=Z,6.5nm,0.5s
P43A Skaggs, Pawnee 35.87 338 P P 11 24 26.1 +0.6
P43A IAmb IAmb 11 24 27.6
comp=Z,13nm,0.8s
K57A Scipio Center 35.89 356 P P 11 24 27.2 +1.6
J58A Remsen 36.44 357 P P 11 24 32.1 +1.8
J58A IAmb IAmb 11 24 33.9
comp=Z,24nm,1.2s
TXAR Lajitas Array 36.50 312 P P 11 24 32.2 +1.0
TXAR Lajitas Array 36.50 312 P P 11 24 31.9 +0.7
comp=Z,4.9nm,0.6s,baz=127,slow=9.1,SNR=79
TXAR PcP PcP 11 26 53.4 +1.8
comp=Z,1.1nm,0.6s,baz=146,slow=4.6,SNR=7.3
comp=Z,4.9nm,0.6s
TX31 Lajitas Ar. Si 36.51 312 P P 11 24 31.6 +0.4
TX31 IAmb IAmb 11 24 32.8
comp=Z,5.7nm,0.7s
WMOK Wichita Mounta 36.51 323 P P 11 24 30.6 -0.5
WMOK IAmb IAmb 11 24 31.7
comp=Z,4.8nm,0.7s
WMOK Wichita Mounta 36.51 323 P P 11 24 31.2 +0.2
baz=134,SNR=8.3
AAM Ann Arbor 36.56 347 P P 11 24 31.9 +0.7
baz=162
HDIL Hopedale 36.59 339 P P 11 24 31.8 +0.2
HDIL Hopedale 36.59 339 P P 11 24 32.3 +0.7
baz=152
NCB Newcomb 37.01 359 P P 11 24 37.3 +2.1
NCB IAmb IAmb 11 24 40.2
comp=Z,15nm,1.0s
ALPN Alpine 37.04 313 P P 11 24 36.1 +0.4
LBNH Lisbon 37.28 1 P P 11 24 38.6 +1.2
baz=182
L44A Lake County Fo 37.59 342 P P 11 24 41.5 +1.5
baz=155
LONY Lake Ozonia 37.67 358 P P 11 24 42.1 +1.4
baz=177
EMMW East Machias 38.05 6 P P 11 24 45.4 +1.6
WBO Williamsburg 38.08 357 P P 11 24 45.5 +1.5
SADO Sadowa 38.17 353 P P 11 24 45.9 +1.1
SADO IAmb IAmb 11 24 47.8
comp=Z,11nm,0.6s
AMTX Amarillo 38.39 321 P P 11 24 48.2 +1.2
baz=130
PKME Peaks-Kenny Pk 38.43 4 P P 11 24 48.6 +1.6
baz=186
KSU1 Kansas State U 38.51 330 P P 11 24 48.0 +0.2
baz=140
MSTX Muleshoe 38.52 319 P P 11 24 48.5 +0.5
baz=128,SNR=5.1
JFWS Jewell Farm 39.01 340 P P 11 24 52.9 +1.0
baz=152,SNR=5.3
MNTX Cornudas Mount 39.01 314 P P 11 24 52.6 +0.5
baz=123,SNR=15
F62A Pittston Farm, 39.02 3 P P 11 24 53.5 +1.6
F62A IAmb IAmb 11 24 54.3
comp=Z,19nm,1.0s
F64A Sherman 39.11 5 P P 11 24 54.2 +1.6
TRQ Mont Tremblant 39.27 358 P P 11 24 55.6 +1.5
TRQ IAmb IAmb 11 24 56.6
comp=Z,10nm,1.0s
LMN Caledonia Moun 39.53 9 P P 11 24 57.1 +1.0
GBN Guysborough 39.73 13 P P 11 24 58.5 +0.8
RTBA Rita Blanca 40.05 322 P P 11 25 01.2 +0.5
RTBA IAmb IAmb 11 25 02.3
comp=Z,5.9nm,0.8s
D62A Allapoint, All 40.26 4 P P 11 25 04.0 +1.9
LDAQ Lac Daran 41.02 2 P P 11 25 10.1 +1.6
G40A Rib Lake 41.09 342 P P 11 25 09.7 +0.7
121A Cookes Peak, D 41.18 313 P P 11 25 10.8 +0.6
baz=121,SNR=5.9
Y22D IRIS PASSCAL I 41.38 316 P P 11 25 11.8 +0.1
baz=123
T25A Trinidad 41.53 321 P P 11 25 14.0 +1.1
baz=129
ANMO Albuquerque 41.55 317 P P 11 25 13.5 +0.4
ANMO Albuquerque 41.55 317 P P 11 25 13.7 +0.5
baz=125
KSCO Kaye Shedlock' 41.68 325 P P 11 25 15.2 +1.2
baz=133
SPMN Marine on St. 41.92 339 P P 11 25 16.5 +0.7
baz=150
ECSD EROS Data Cent 42.17 334 P P 11 25 18.0 +0.2
ECSD EROS Data Cent 42.17 334 P P 11 25 18.4 +0.6
baz=144,SNR=7.2
SDCO Great Sand Dun 42.58 321 P P 11 25 22.2 +0.6
baz=128,SNR=14
OGNE Ogallala 42.68 327 P P 11 25 22.5 +0.5
baz=135
Q24A Divide 43.13 323 P P 11 25 26.2 +0.2
baz=130
TUC Tucson 43.29 311 P P 11 25 28.0 +0.9
TUC Tucson 43.29 311 P P 11 25 27.0 -0.1
baz=118
X18A Snowflake 43.75 314 P P 11 25 32.3 +1.4
SUSD Miller 43.76 333 P P 11 25 30.7 +0.1
baz=141
EYMN Ely 43.89 342 P P 11 25 32.3 +0.7
EYMN Ely 43.89 342 P P 11 25 32.2 +0.7
baz=153,SNR=13
W18A Petrified Fore 43.90 315 P P 11 25 31.4 -0.7
baz=121
ISCO Idaho Springs 43.94 323 P P 11 25 33.8 +1.4
ISCO Idaho Springs 43.94 323 P P 11 25 33.1 +0.7
baz=130,SNR=7.8
MVCO Mesa Verde 44.19 318 P P 11 25 34.8 +0.4
baz=124
DRLN Deer Lake 44.28 15 P P 11 25 34.7 +0.1
214A Organ Pipe Nat 44.67 309 P P 11 25 38.6 +0.6
baz=116
X16A Lo Mia Camp, P 44.77 313 P P 11 25 40.4 +1.4
N23A Red Feather La 44.83 324 P P 11 25 40.5 +1.1
baz=130
B35A Bob, Littlefor 44.96 341 P P 11 25 40.6 +0.6
B35A IAmb IAmb 11 25 41.2
comp=Z,8.0nm,0.7s
WUAZ Wupatki 45.26 315 P P 11 25 43.1 +0.3
baz=120,SNR=14
AGMN Agassiz Nation 45.64 339 P P 11 25 46.1 +0.8
baz=147,SNR=6.0
Y14A Wickenburg 45.69 312 P P 11 25 46.8 +0.7
Y14A IAmb IAmb 11 25 48.2
comp=Z,9.5nm,0.7s
O20A White River Ci 45.73 322 P P 11 25 47.6 +1.1
O20A White River Ci 45.73 322 P P 11 25 46.9 +0.4
baz=127
RSSD Black Hills 45.97 329 P P 11 25 49.0 +0.7
baz=135
K22A Casper 46.30 326 P P 11 25 52.0 +1.1
baz=131
U15A North Rim 46.36 315 P P 11 25 53.1 +1.5
U15A IAmb IAmb 11 25 54.2
comp=Z,9.1nm,1.0s
GLA Glamis 46.68 310 P P 11 25 54.1 +0.3
baz=115
MDND Maddock 46.72 336 P P 11 25 55.0 +1.2
baz=142
MVU Marysvale 47.36 318 P P 11 26 00.4 +1.2
SWSC Sam W. Stewart 47.38 309 P P 11 25 59.6 +0.5
baz=114
IRM Iron Mountain 47.38 311 P P 11 25 59.2 0.0
baz=115
BC3 Big Chuckawall 47.40 310 P P 11 26 00.3 +0.8
baz=115
IKP In-Ko-Pah, Jac 47.50 309 P P 11 25 60.0 -0.2
baz=113
MONP2 Monument Peak 47.84 309 P P 11 26 02.3 -0.7
baz=113
BELC Belle Mtn. Jos 47.96 310 P P 11 26 04.1 +0.3
baz=114
GMRC Granite Mounta 48.03 311 P P 11 26 03.9 -0.4
baz=115
PD31 Pinedale Array 48.11 324 P P 11 26 05.5 +0.6
PDAR Pinedale Array 48.11 324 P P 11 26 05.8 +0.8
PDAR Pinedale Array 48.11 324 P P 11 26 05.5 +0.6
comp=Z,1.9nm,0.6s,baz=133,slow=8.7,SNR=12
PDAR PcP PcP 11 27 30.1 0.0
comp=Z,0.5nm,0.5s,baz=134,slow=5.2,SNR=1.6
comp=Z,1.9nm,0.6s
SCHQ Schefferville 48.13 5 P P 11 26 05.7 +1.1
SCHQ Schefferville 48.13 5 P P 11 26 05.6 +1.0
comp=Z,49nm,0.6s,baz=193,slow=6.3,SNR=137
TPFO Pinon Flats 48.15 310 P P 11 26 04.7 -0.5
baz=114
PFO Pinyon Flats O 48.15 310 P P 11 26 04.7 -0.6
baz=114
109C Camp Elliot, M 48.37 309 P P 11 26 06.1 -0.7
baz=113
TUQ Turquoise Moun 48.51 312 P P 11 26 07.2 -0.8
baz=116
HWUT Hardware Ranch 48.63 322 P P 11 26 09.1 +0.2
DUG Dugway, Tooele 48.65 319 P P 11 26 10.3 +1.3
DUG Dugway, Tooele 48.65 319 P P 11 26 09.0 0.0
baz=122,SNR=7.3
MURC Murrieta 48.71 309 P P 11 26 09.3 -0.2
baz=113
BBRC Big Bear Solar 48.76 310 P P 11 26 09.7 -0.4
baz=114
SHOC Shoshone, Teco 48.97 313 P P 11 26 10.9 -0.4
baz=116
AHID Auburn Hatcher 49.02 323 P P 11 26 12.0 +0.1
AHID IAmb IAmb 11 26 17.8
comp=Z,4.2nm,0.7s
GSC Goldstone, Bar 49.10 312 P P 11 26 11.9 -0.6
baz=115
DGMT Dagmar 49.17 333 P P 11 26 14.1 +1.4
DGMT Dagmar 49.17 333 P P 11 26 13.2 +0.5
baz=137
TPAW Teton Pass 49.36 324 P P 11 26 15.4 +0.9
TPAW IAmb IAmb 11 26 16.9
comp=Z,4.6nm,0.7s
R11B Troy Canyon, C 49.58 316 P P 11 26 16.8 +0.6
R11B Troy Canyon, C 49.58 316 P P 11 26 16.4 +0.2
baz=118,SNR=8.1
FURC Furnace Creek, 49.64 313 P P 11 26 17.2 +0.8
baz=116,SNR=5.2
H17A Grant Village 49.69 325 P P 11 26 17.1 +0.1
baz=128
EDW2 Edwards Air Fo 49.82 311 P P 11 26 17.8 -0.1
baz=114
LRMC Laurel Mtn Rad 49.83 311 P P 11 26 17.9 -0.1
baz=114
MPMC Manual Prospec 49.92 312 P P 11 26 19.0 +0.2
baz=115
OSI Osito Audit: C 50.27 310 P P 11 26 20.5 -0.8
baz=113
SNCC San Nicolas Is 50.39 308 P P 11 26 21.0 -1.1
baz=111
CWC Cottonwood Cre 50.52 312 P P 11 26 22.6 -0.6
baz=115
DSP Deep Springs 50.83 313 P P 11 26 27.0 +1.7
DSP IAmb IAmb 11 26 27.9
comp=Z,6.9nm,0.9s
SBC Santa Barbara 50.97 309 P P 11 26 26.0 -0.3
baz=112
BOZ Bozeman (W) 51.01 326 P P 11 26 27.6 +0.9
BOZ Bozeman (W) 51.01 326 P P 11 26 26.8 0.0
baz=127,SNR=6.6
VES Vestal, Richgr 51.02 311 P P 11 26 26.9 +0.2
baz=113
PKM Mcpherson Peak 51.21 310 P P 11 26 27.5 -0.9
baz=112
HLID Hailey 51.47 322 P P 11 26 30.9 +0.7
baz=123,SNR=7.9
NVAR Mina Array Bea 51.52 315 P P 11 26 31.5 +0.8
NVAR Mina Array Bea 51.52 315 P P 11 26 31.9 +1.1
comp=Z,1.8nm,0.7s,baz=124,slow=7.2,SNR=21
NVAR PcP PcP 11 27 42.6 -0.2
comp=Z,1.4nm,0.6s,baz=124,slow=4.9,SNR=6.2
comp=Z,1.8nm,0.7s
EGMT Eagleton 51.54 329 P P 11 26 31.4 +0.9
baz=131
MLAC Mammoth, Mammo 51.56 313 P P 11 26 30.8 -0.3
baz=115
KVN Kaiserville 51.65 315 P P 11 26 32.3 +0.6
BPMT Black Pine Rid 52.53 326 P P 11 26 38.7 +0.6
MSO Missoula 53.03 326 P P 11 26 42.7 +1.1
baz=126
FFC Flin Flon 53.10 339 P P 11 26 41.9 +0.1
FFC IAmb IAmb 11 26 42.6
comp=Z,3.2nm,0.5s
PLID Pearl Lake 53.25 323 P P 11 26 43.7 +0.2
WVOR Wild Horse Val 53.56 319 P P 11 26 45.9 +0.3
WVOR IAmb IAmb 11 26 49.9
comp=Z,4.8nm,0.7s
F10A Beach Ranch, E 54.45 323 P P 11 26 52.3 +0.4
F10A IAmb IAmb 11 26 57.2
comp=Z,4.6nm,0.8s
I07A Izee 54.90 320 P P 11 26 55.7 +0.4
I07A IAmb IAmb 11 26 57.0
comp=Z,3.3nm,0.6s
NEW Newport 55.62 326 P P 11 27 01.4 +1.1
baz=123
NRS Narsarsuaq 58.01 15 *i* P P 11 27 17.9 +1.1
NRS IAmb IAmb 11 27 20.3
comp=Z,15nm,0.8s
NUUK Nuuk 59.26 11 *i* P P 11 27 25.6 +0.4
NUUK IAmb IAmb 11 27 29.4
comp=Z,16nm,0.8s
DY2G Dye2 62.36 12 *i* P P 11 27 46.1 -0.4
DY2G IAmb IAmb 11 27 48.1
comp=Z,21nm,0.6s
ISOG Isortoq, Green 63.28 15 *i* P P 11 27 52.1 -0.2
ISOG IAmb IAmb 11 27 54.4
comp=Z,13nm,0.9s
YKA Yellowknife Ar 63.28 340 P P 11 27 52.9 +0.5
comp=Z,7.4nm,0.8s,baz=128,slow=6.4,SNR=104
comp=Z,7.4nm,0.8s
ANGG Ammassalik, Gr 63.69 16 *i* P P 11 27 54.2 -0.7
ANGG IAmb IAmb 11 27 55.9
comp=Z,4.4nm,0.7s
TOAD Toad River Com 65.33 333 P P 11 28 07.4 +1.5
baz=120
ICESG Greenland Ices 65.94 13 *i* P P 11 28 09.1 -0.9
ICESG IAmb IAmb 11 28 11.7
comp=Z,38nm,1.1s
WRGLY Wrigley 66.93 338 P P 11 28 17.2 +1.3
baz=124
DLBC Dease Lake 67.35 331 P P 11 28 19.7 +0.9
DLBC Dease Lake 67.35 331 P P 11 28 19.8 +1.1
baz=116
TIC Toumodi 67.52 86 *eP* P 11 28 19.9 -0.7
comp=Z,10nm,0.7s
WTLY Watson Lake, Y 67.53 333 P P 11 28 21.2 +1.4
baz=117,SNR=8.0
LIC Lamto 67.54 86 *eP* P 11 28 19.6 -1.1
comp=Z,32nm,0.6s
S34M Telegraph Cree 67.66 331 P P 11 28 22.1 +1.5
baz=114
WRAK Wrangell Islan 67.67 329 P P 11 28 21.9 +1.3
baz=113
DBIC Dimbokro 67.68 86 P P 11 28 20.3 -1.3
DBIC IAmb IAmb 11 28 21.4
comp=Z,11nm,0.8s
DBIC Dimbokro 67.68 86 P P 11 28 20.8 -0.7
comp=Z,11nm,0.8s,baz=276,slow=7.3,SNR=11
comp=Z,11nm,0.8s
CRAG Craig 67.71 328 P P 11 28 21.7 +0.8
baz=112
KIC Kosan Boka 67.82 86 *eP* P 11 28 21.5 -0.9
comp=Z,36nm,0.6s
U33K Whale Pass 67.95 328 P P 11 28 23.4 +1.0
baz=112
R33M Jennings River 68.20 332 P P 11 28 25.6 +1.4
baz=115
SUMG Summit 68.97 11 P P 11 28 29.4 +0.4
SUMG Summit 68.97 11 *i* P P 11 28 28.9 -0.2
SUMG IAmb IAmb 11 28 30.7
comp=Z,37nm,0.6s
RES Resolute Bay 68.98 354 P P 11 28 27.9 -0.5
S32K Killisnoo 69.19 329 P P 11 28 31.7 +1.6
baz=111
P33M Teslin, Yukon 69.39 333 P P 11 28 33.0 +1.5
P33M Teslin, Yukon 69.39 333 P P 11 28 32.9 +1.5
baz=114
SIT Sitka 69.43 329 P P 11 28 32.3 +0.8
baz=110
P32M Atlin 69.56 332 P P 11 28 33.4 +0.9
baz=112
ESDC Sonseca Array 69.61 50 P P 11 28 31.0 -2.2
comp=Z,0.4nm,0.6s,baz=266,slow=7.7,SNR=4.6
comp=Z,0.4nm,0.6s
N32M Quiet Lake 69.89 333 P P 11 28 35.0 +0.6
baz=114
R31K City Hall, Gus 70.11 330 P P 11 28 36.5 +0.8
baz=110
SKAG Skagway 70.28 331 P P 11 28 37.5 +0.8
baz=111
FARO Faro, Yukon 70.44 334 P P 11 28 38.8 +1.1
baz=114
WHY Whitehorse 70.51 333 P P 11 28 38.9 +0.6
baz=112
C36M Paulatuk 70.61 343 P P 11 28 38.8 +0.3
baz=125
PLBC Pleasant Camp 70.77 331 P P 11 28 39.6 -0.2
baz=110
M31M Drury Creek, Y 70.88 334 P P 11 28 41.3 +1.0
M31M Drury Creek, Y 70.88 334 P P 11 28 41.4 +1.1
baz=113,SNR=5.2
O30N Mendenhall 71.10 332 P P 11 28 42.3 +0.6
baz=111,SNR=8.7
N31M Braeburn, Yuko 71.22 333 P P 11 28 44.5 +2.1
N31M IAmb IAmb 11 28 45.5
comp=Z,7.1nm,0.6s
N31M Braeburn, Yuko 71.22 333 P P 11 28 43.3 +0.8
baz=111,SNR=6.8
P30M Million Dollar 71.28 332 P P 11 28 44.1 +1.2
baz=110
P29M Windy Craggy 71.49 331 P P 11 28 44.8 +0.7
baz=109
NEEM North Greenlan 71.54 5 *i* P P 11 28 44.7 +0.3
NEEM IAmb IAmb 11 28 46.6
comp=Z,31nm,0.6s
HYT Haines Junctio 71.77 332 P P 11 28 47.5 +1.6
baz=109

N30M	Aishikik Lake	71.80	333	P		P	11 28 46.9	+1.0
	baz=110,SNR=6.0								
MAYO	Mayo, Yukon	72.04	335	P		P	11 28 48.3	+1.0
	baz=112								
M30M	Minto, Yukon	72.06	334	P		P	11 28 48.4	+0.9
	baz=111,SNR=14								
YUK6	Outpost Mounta	72.21	332	P		P	11 28 49.8	+1.2
	baz=109								
H31M	Peel River	72.29	338	P		P	11 28 49.9	+1.2
	baz=114,SNR=6.0								
PNL	Peninsula	72.30	331	P		P	11 28 49.1	+0.2
	baz=107								
A36M	Sachs Harbour	72.45	345	P		P	11 28 50.1	+0.7
A36M	Sachs Harbour	72.45	345	P		P	11 28 50.2	+0.7
	baz=125,SNR=39								
YUK4	Talbot Arm	72.47	333	P		P	11 28 50.1	0.0
	baz=109								
J30M	Hart River	72.59	336	P		P	11 28 51.6	+0.9
	baz=112								
G31M	Satah River	72.72	339	P		P	11 28 52.5	+1.3
G31M				IAmb		IAmb	11 28 53.1		
	comp=Z,6.0nm,0.9s								
G31M	Satah River	72.72	339	P		P	11 28 52.5	+1.3
	baz=114,SNR=6.2								
M29M	Somme Creek	72.74	334	P		P	11 28 52.2	+0.6
	baz=109								
F31M	Tsiigehtchic	72.75	339	P		P	11 28 52.5	+1.1
	baz=115,SNR=7.4								
K29M	Barlow Dome	72.81	335	P		P	11 28 53.0	+1.1
	baz=110,SNR=7.4								
L29M	L29M	72.81	334	P		P	11 28 53.6	+1.7
	baz=110								
I30M	Mount Dempster	72.84	337	P		P	11 28 52.9	+0.7
	baz=112,SNR=5.7								
YUK8	Steele Glacier	72.96	332	P		P	11 28 53.6	+0.5
	baz=107								
O28M	Mount Upton	73.01	332	P		P	11 28 54.0	+0.6
	baz=107								
INK	Inuvik	73.05	340	P		P	11 28 54.0	+0.9
INK				IAmb		IAmb	11 28 54.7		
	comp=Z,4.6nm,0.8s								
INK	Inuvik	73.05	340	P		P	11 28 54.1	+1.0
	baz=115,SNR=6.8								
EPYK	Eagle Plains	73.40	338	P		P	11 28 55.8	+0.5
	baz=112,SNR=5.1								
YUK3	Moose Creek	73.42	333	P		P	11 28 56.4	+0.7
	baz=107,SNR=6.5								
G30M	tAoh Zraii Nji	73.45	339	P		P	11 28 57.0	+1.4
	baz=112								
EUNU	Eureka	73.49	358	P		P	11 28 57.1	+1.5
EUNU				IAmb		IAmb	11 28 57.1		
	comp=Z,6.6nm,1.1s								
F30M	Barrier River	73.54	339	P		P	11 28 57.1	+1.1
	baz=113,SNR=9.6								
CTGM	Chitina Glacie	73.60	332	P		P	11 28 58.2	+1.5
CTG	Chitna Glacier	73.60	332	P		P	11 28 57.9	+1.2
	baz=106								
I29M	Ogilvie Camp,	73.65	337	P		P	11 28 58.2	+1.4
	baz=110								
DAWY	Dawson	73.66	335	P		P	11 28 57.5	+0.6
DAWY	Dawson	73.66	335	P		P	11 28 57.5	+0.6
	baz=109								
TOA0	Torodi Ar. Sit	73.68	78	P		P	11 28 56.2	-1.6
TORD	Torodi Ar. Bea	73.68	78	P		P	11 28 56.5	-1.4
TORD	Torodi Ar. Bea	73.68	78	P		P	11 28 56.4	-1.5
	comp=Z,0.8nm,0.6s,baz=287,slow=6.1,SNR=13								
	comp=Z,0.8nm,0.6s								
H29M	Whitestone	73.97	337	P		P	11 28 59.5	+0.9
H29M	Whitestone	73.97	337	P		P	11 28 59.3	+0.8
	baz=110,SNR=6.0								
G29M	Pine Creek	74.08	338	P		P	11 28 59.6	+0.4
	baz=111								
M27K	Edge Creek, AK	74.23	333	P		P	11 29 02.6	+2.2
M27K				IAmb		IAmb	11 29 03.1		
	comp=Z,8.4nm,1.0s								
M27K	Edge Creek, AK	74.23	333	P		P	11 29 01.2	+0.8
	baz=106,SNR=6.5								
I28M	Miner Creek	74.32	336	P		P	11 29 00.9	+0.2
I28M	Miner Creek	74.32	336	P		P	11 29 01.4	+0.6
	baz=108,SNR=6.0								
BCAR	Beaver Creek A	74.39	334	P		P	11 29 02.5	+1.4
L27K	Beaver Creek,	74.40	334	P		P	11 29 02.6	+1.4
L27K	Beaver Creek,	74.40	334	P		P	11 29 01.6	+0.4
	baz=106,SNR=7.0								
MCARA	McCarthy VSAT	74.50	332	P		P	11 29 02.7	+1.0
	baz=104								
E29M	Blow River	74.57	340	P		P	11 29 02.8	+0.8
E29M				IAmb		IAmb	11 29 03.8		
	comp=Z,7.9nm,0.8s								
E29M	Blow River	74.57	340	P		P	11 29 02.8	+0.8
	baz=111,SNR=11								
EGAK	Eagle	74.61	336	P		P	11 29 02.5	+0.2
EGAK	Eagle	74.61	336	P		P	11 29 02.7	+0.4
	baz=107								
M26K	Nabesna, AK	74.75	333	P		P	11 29 03.6	+0.4
	baz=105								
K27K	Chicken	74.78	335	P		P	11 29 04.1	+0.8
	baz=106								
KAIM	Kayak Island	74.82	330	P		P	11 29 03.8	+0.2
	baz=103								
F28M	Old Crow	75.00	339	P		P	11 29 04.6	+0.1
	baz=109								
I27K	Kandik River	75.04	336	P		P	11 29 05.8	+1.0
	baz=107								
L26K	Log Cabin Wild	75.06	334	P		P	11 29 04.8	-0.1
L26K				IAmb		IAmb	11 29 07.6		
	comp=Z,5.0nm,0.8s								
L26K	Log Cabin Wild	75.06	334	P		P	11 29 05.6	+0.6
	baz=105								
BMRM	Bremner River	75.14	331	P		P	11 29 06.5	+1.0
BMRM				IAmb		IAmb	11 29 08.6		
	comp=Z,8.9nm,1.1s								
BMRM	Bremner River	75.14	331	P		P	11 29 06.7	+1.2
	baz=103								
H27K	Steamboat Moun	75.19	337	P		P	11 29 06.2	+0.6
	baz=107								
D28M	Stokes Point	75.19	340	P		P	11 29 06.3	+0.8
	baz=111								
E28M	Babbage River	75.21	340	P		P	11 29 06.1	+0.4
	baz=110								
N25K	Chitina, Valde	75.29	332	P		P	11 29 06.6	+0.3
	baz=103								
G27K	Doyon Strip	75.41	338	P		P	11 29 07.0	+0.1
	baz=107								
J26L	Joseph Creek	75.53	335	P		P	11 29 08.5	+0.8
	baz=105								
I26K	Coal Creek Min	75.57	336	P		P	11 29 08.9	+1.2
	baz=105								
SCRK	Sand Creek	75.58	335	P		P	11 29 09.5	+1.5
SCRK	Sand Creek	75.58	335	P		P	11 29 09.1	+1.1
	baz=104								
DAG	Danmarks Havn	75.64	11	*i* P		P	11 29 07.0	-1.0
DAG				IAmb		IAmb	11 29 09.2		
	comp=Z,10.0nm,0.8s								
Q23K	Middleton Isla	75.68	330	P		P	11 29 09.4	+1.0
	baz=101								
HARP	HAARP	75.72	333	P		P	11 29 10.0	+1.3
	baz=103								
E27K	Coleen River	75.80	339	P		P	11 29 10.5	+1.4
	baz=108								
PAX	Paxson	75.99	333	P		P	11 29 11.1	+0.8
	baz=103								
M24K	Tolsona, Glenn	76.12	332	P		P	11 29 12.2	+1.1
	baz=102								
P23K	Montague Islan	76.31	330	P		P	11 29 12.9	+0.9
	baz=100								
K24K	Donnelly Dome	76.31	334	P		P	11 29 12.7	+0.7
	baz=103								
J25K	Salcha River,	76.31	335	P		P	11 29 13.3	+1.2
	baz=103								
GLI	Glacier Island	76.32	331	P		P	11 29 12.6	+0.5
	baz=101								
PRP	Porcupine Dome	76.59	336	P		P	11 29 13.7	0.0
PRP				IAmb		IAmb	11 29 15.4		
	comp=Z,4.2nm,0.6s								
PRP	Porcupine Dome	76.59	336	P		P	11 29 14.9	+1.2
	baz=103,SNR=6.3								
F26K	Sheenjek River	76.59	338	P		P	11 29 14.0	+0.4
	baz=105								
SCM	Sheep Creek Mo	76.61	332	P		P	11 29 14.1	+0.3
	baz=101								
BMAR	Burnt Mountain	76.68	338	P		P	11 29 14.2	+0.2
M23K	Glacier View	76.78	332	P		P	11 29 14.6	-0.1
	baz=100								
DHY	Denali Highway	76.86	333	P		P	11 29 14.7	-0.6
	baz=101								
H25L	Birch Creek	76.88	337	P		P	11 29 15.8	+0.7
	baz=103								
DOU	Dourbes	76.88	40	*d* P		P	11 29 15.1	-0.3
WAT6	Susitna Watana	76.93	333	P		P	11 29 15.3	-0.4
	baz=100								
HDA	Harding Lake	76.94	335	P		P	11 29 16.1	+0.6
	baz=102								
C27K	Jago River	76.95	340	P		P	11 29 15.9	+0.4
	baz=106								
ILAR	Eielson Array	76.99	335	P		P	11 29 15.9	+0.1
	comp=Z,1.2nm,0.7s,baz=112,slow=4.5,SNR=18								
ILAR					pP	pP	11 29 56.5	+2.0	
	comp=Z,0.8nm,0.6s,baz=105,slow=5.3,SNR=3.8								
	comp=Z,1.2nm,0.7s								
KNK	Knik Glacier	77.06	331	P		P	11 29 16.6	+0.3	
	baz=100								
SML	Sawmill	77.07	332	P		P	11 29 16.8	+0.4	
	baz=100								
G25K	Bearman Lake	77.10	337	P		P	11 29 16.6	+0.3	
	baz=103								
F25K	Christian Rive	77.12	338	P		P	11 29 16.5	-0.1	
	baz=104								
E25K	Arctic Village	77.21	338	P		P	11 29 17.3	+0.3	
	baz=104								
POKR	Poker Plat Res	77.28	335	P		P	11 29 18.1	+0.6	
	baz=101								
SEW	Seward	77.34	330	P		P	11 29 18.1	+0.4	
	baz=98								
BCLA	Clavier	77.36	40	*d* P		P	11 29 18.4	+0.3	
PMR	Palmer	77.41	332	P		P	11 29 18.8	+0.6	
	baz=99								
C26K	Camden Bay	77.43	340	P		P	11 29 18.7	+0.5	
	baz=105								
O22K	Cooper Landing	77.53	330	P		P	11 29 18.8	0.0	
	baz=98								
RND	Reindeer	77.58	333	P		P	11 29 20.5	+1.3	
RND				IAmb		IAmb	11 29 21.6		
	comp=Z,10nm,0.8s								
H24K	Noodor Dome	77.61	336	P		P	11 29 19.6	+0.4	
H24K	Noodor Dome	77.61	336	P		P	11 29 19.5	+0.2	
	baz=101								
G24K	Hadweenzic Riv	77.62	337	P		P	11 29 19.7	+0.4	
	baz=102								
MCK	McKinley	77.67	334	P		P	11 29 20.5	+0.9	
	baz=100								
D25K	Kavik River	77.78	340	P		P	11 29 21.4	+1.2	
	baz=103,SNR=6.5								
MEM	Membach	77.82	40	*d* P		P	11 29 21.2	+0.5	
NEA2	Nenana	77.87	335	P		P	11 29 21.2	+0.5	
	baz=100,SNR=5.4								
M22K	Willow	77.90	332	P		P	11 29 21.8	+0.9	
	baz=98								
F24K	Squaw Lake	77.94	338	P		P	11 29 22.0	+0.9	
	baz=101								
I23K	Minto, Yukon-K	78.09	335	P		P	11 29 22.8	+1.0	
	baz=100								
SUA	Susitna One	78.16	331	P		P	11 29 22.6	+0.2	
	baz=98								
TRF	Thorofare Moun	78.22	333	P		P	11 29 23.2	+0.4	
	baz=98								
E24K	Your Creek	78.27	338	P		P	11 29 23.4	+0.5	
	baz=101								
H23K	Yukon River	78.28	336	P		P	11 29 23.1	+0.1	
	baz=100								
HOM	Homer	78.38	329	P		P	11 29 23.7	+0.2	
	baz=96								
SKT	Skwentna	78.59	332	P		P	11 29 24.7	-0.1	
	baz=97								
D24K	Happy Valley	78.60	339	P		P	11 29 24.9	+0.3	
	baz=101								
NOR	Nord	78.60	7	*i* P		P	11 29 24.3	-0.1	
NOR				IAmb		IAmb	11 29 26.2		
	comp=Z,2.1nm,0.9s								
G23K	Bananza Creek	78.62	337	P		P	11 29 25.0	+0.1	
G23K	Bananza Creek	78.62	337	P		P	11 29 24.9	+0.1	
	baz=99								
BPAW	Bear Paw Mtn.	78.62	334	P		P	11 29 25.0	+0.2	
	baz=98								
MLY	Manley	78.65	335	P		P	11 29 25.2	+0.1	
	baz=98								
Q20K	Shuyak Island	78.65	328	P		P	11 29 25.9	+0.8	
	baz=96								
C24K	Franklin Bluff	78.67	340	P		P	11 29 25.5	+0.6	
	baz=101								
KDAK	Kodak Island	78.67	328	P		P	11 29 25.5	+0.3	
	baz=95								
COLD	Coldfoot	78.77	337	P		P	11 29 25.6	+0.1	
	baz=99								
TOLK	Toolik Lake Re	78.77	339	P		P	11 29 25.4	-0.2	
	baz=100								
N20K	Mount Spurr	78.83	331	P		P	11 29 26.1	0.0	
	baz=96								
OHAK	Old Harbor	79.00	327	P		P	11 29 26.9	-0.1	
	baz=94								
PPLA	Purkeypile	79.01	333	P		P	11 29 27.5	+0.3	
	baz=96								
CAST	Castle Rocks	79.02	333	P		P	11 29 26.9	-0.1	
CAST				IAmb		IAmb	11 29 28.4		
	comp=Z,4.9nm,0.8s								
CAST	Castle Rocks	79.02	333	P		P	11 29 27.3	+0.3	
	baz=97,SNR=6.2								
H22K	Ishtalitna Cre	79.03	336	P		P	11 29 27.5	+0.5	
	baz=98								
CHUM	Lake Minchumin	79.18	334	P		P	11 29 28.1	+0.2	
	baz=97								
D23K	Nanushuk River	79.23	339	P		P	11 29 28.3	+0.3	
	baz=99								
G22K	Bettles	79.23	337	P		P	11 29 28.3	+0.3	
	baz=98								
M20K	Styx River	79.33	332	P		P	11 29 28.4	-0.5	
	baz=96								
C23K	Itkillik River	79.34	340	P		P	11 29 28.5	-0.1	
	baz=96								
E22K	Anaktuvuk Pass	79.51	338	P		P	11 29 29.7	0.0	
	baz=98								
F22K	John River	79.57	337	P		P	11 29 29.8	-0.1	
	baz=97								
H21K	Melozitna Rive	79.59	336	P		P	11 29 29.9	-0.1	
	baz=96								
L20K	Farewell, AK	79.74	332	P		P	11 29 30.5	-0.4	
	baz=95								
O19K	Port Alsworth	79.77	330	P		P	11 29 30.8	-0.3	
	baz=94								
K20K	Telida	79.90	333	P		P	11 29 32.1	+0.3	
	baz=95								
D22K	Ayikyak River	79.93	339	P		P	11 29 32.2	+0.4	
	baz=97								
M19K	Big River Lodg	79.93	332	P		P	11 29 31.3	-0.7	
	baz=94								
G21K	Allakaket	79.97	336	P		P	11 29 32.1	0.0	
	baz=96								
J20K	Nowinta River	80.01	334	P		P	11 29 33.0	+0.7	
J20K				IAmb		IAmb	11 29 33.8		
	comp=Z,6.7nm,1.0s								
J20K	Nowinta River	80.01	334	P		P	11 29 32.2	-0.1	
	baz=95,SNR=7.7								
F21K	Alatna River	80.03	337	P		P	11 29 33.5	+1.0	
F21K	Alatna River	80.03	337	P		P	11 29 32.3	-0.1	
	baz=96,SNR=5.1								
L19K	White Mountain	80.17	332	P		P	11 29 33.2	-0.1	
	baz=94								
O18K	Koktuh Hills	80.19	330	P		P	11 29 33.8	+0.4	
	baz=93								
CHIR	Chirikof Islan	80.21	325	P		P	11 29 33.6	0.0	
	baz=92								
B22K	Teshekpuk Lake	80.37	340	P		P	11 29 34.7	+0.6	
	baz=97								
H20K	Anotleneega Mo	80.43	335	P		P	11 29 35.1	+0.5	
	baz=94								
N18K	Kilae Creek	80.58	330	P		P	11 29 35.4	0.0	
	baz=93								
M18K	Stony River	80.58	331	P		P	11 29 35.7	+0.2	
	baz=93								
J19K	Poorman	80.64	334	P		P	11 29 35.9	+0.2	
	baz=94								
B21K	Ikpikpuk River	80.70	339	P		P	11 29 36.4	+0.5	
	baz=96								
C21K	Knifeblade Rid	80.71	339	P		P	11 29 36.4	+0.3	
	baz=95								
P17K	Kvichak River	80.78	329	P		P	11 29 36.1	-0.5	
	baz=92								
Q16K	King Salmon	80.88	328	P		P	11 29 36.5	-0.6	
	baz=92								
F20K	Avaraart Lake	80.89	337	P		P	11 29 36.5	-0.4	
	baz=94								
L18K	Granite Mounta	81.03	332	P		P	11 29 37.5	-0.3	
	baz=92								
H19K	Roundabout Mou	81.09	335	P		P	11 29 37.8	-0.2	
	baz=93								
J18K	Innoko River	81.10	333	P		P	11 29 38.3	+0.1	
	baz=93								
O17K	Koliganek Bris	81.14	329	P		P	11 29 38.2	-0.2	
	baz=92								
E20K	Nigu River	81.15	338	P		P	11 29 39.0	+0.6	
	baz=94,SNR=7.2								
N17K	Nushagak Hills	81.21	330	P		P	11 29 38.8	0.0	
	baz=92								
NB2	NORSAR Subarra	81.30	29	P		P	11 29 39.6	+0.3	
	comp=Z,1.5nm,0.6s,baz=267,slow=5.6								
NOA	NORSAR Array B	81.30	29	P		P	11 29 39.8	+0.5	
	comp=Z,3.3nm,0.8s,baz=267,slow=5.4,SNR=9.5								
	comp=Z,3.3nm,0.8s								
D20K	Etivluk River	81.34	338	P		P	11 29 39.8	+0.5	
	baz=94								
G19K	Purcell Mounta	81.38	336	P		P	11 29 39.4	-0.2	
	baz=93								
E19K	Redstone River	81.50	337	P		P	11 29 40.6	+0.4	
	baz=93								
O16K	Kokwok River B	81.64	329	P		P	11 29 41.4	+0.3	
	baz=91								
L17K	Donlin	81.78	332	P		P	11 29 42.2	+0.4	
	baz=91								
K17K	Iditarod	81.79	332	P		P	11 29 41.1	-0.7	
	baz=91								
D19K	Kuna River	81.88	338	P		P	11 29 43.4	+1.2	
D19K				IAmb		IAmb	11 30 28.0		
	comp=Z,11nm,1.1s								
D19K	Kuna River	81.88	338	P		P	11 29 41.4	-0.8	
	baz=92								
N16K	Nishlik Lake	81.99	330	P		P	11 29 42.4	-0.6	
	baz=90								
G18K	Tagagawik	82.01	336	P		P	11 29 43.2	+0.2	
	baz=91								
J17K	VABM Dome	82.16	333	P		P	11 29 45.4	+1.7	
J17K				IAmb		IAmb	11 30 06.4		
	comp=Z,8.6nm,1.2s								
J17K	VABM Dome	82.16	333	P		P	11 29 44.3	+0.6	
	baz=90								
L16K	Owhat River	82.34	331	P		P	11 29 44.7	+0.1	
	baz=90								
F18K	Selawik	82.43	336	P		P	11 29 44.6	-0.4	
	baz=90								
C19K	Lookout Ridge	82.43	339	P		P	11 29 44.4	-0.7	
	baz=91								
CHNA	Chernabura Isl	82.47	324	P		P	11 29 45.0	-0.4	
	baz=89								
HFS	Hagfors	82.51	30	P		P	11 29 44.8	-0.8	
	comp=Z,1.1nm,0.6s,baz=230,slow=3.7,SNR=7.0								
	comp=Z,1.1nm,0.6s								
O15K	Ungalikthiuk R	82.53	329	P		P	11 29 44.0	-1.7	
	baz=89								
H17K	Granite Mounta	82.53	335	P		P	11 29 44.8	-0.8	
	baz=90								
GERES	GERESS Array B	82.78	42	P		P	11 29 46.6	-0.8	
GERES	GERESS Array B	82.78	42	P		P	11 29 46.8	-0.6	
	comp=Z,1.3nm,0.7s,baz=270,slow=3.9,SNR=4.3								
	comp=Z,1.3nm,0.7s								
E18K	Tukpahlearik C	82.80	337	P		P	11 29 46.2	-0.8	
	baz=90								
G17K	Kiwalik Mounta	82.84	335	P		P	11 29 46.8	-0.3	
	baz=89								
J16K	Anvik River	82.84	333	P		P	11 29 47.4	+0.2	
J16K				IAmb		IAmb	11 30 07.6		
	comp=Z,8.5nm,1.4s								
I17K	Unalakleet	82.88	334	P		P	11 29 46.9	-0.4	
	baz=89								
M15K	Kasigluk River	82.94	330	P		P	11 29 47.4	-0.4	
	baz=89								
A19K	Wainwright	82.95	340	P		P	11 29 48.2	+0.6	
	baz=90								
C18K	Utukok River	83.01	338	P		P	11 29 49.1	+1.0	
C18K				IAmb		IAmb	11 29 54.5		
	comp=Z,11nm,1.1s								
F17K	Baldwin Pennin	83.07	336	P		P	11 29 48.4	0.0	
	baz=89								
SPB4	Spitsbergen Ar	83.25	12	P		P	11 29 49.2	+0.1	
SPITS	Spitsbergen Ar	83.25	12	P		P	11 29 49.7	+0.6	
	comp=Z,11nm,1.0s,baz=170,slow=5.1,SNR=9.0								
	comp=Z,11nm,1.0s								
O14K	Tigyukauivet M	83.27	329	P		P	11 29 49.2	-0.3	
	baz=88								
E17K	Hotham Inlet	83.28	337	P		P	11 29 49.1	-0.3	
	baz=88								
L15K	Ungalak Mounta	83.30	331	P		P	11 29 48.8	-0.7	
	baz=88								
K15K	Wolf Creek Mou	83.30	332	P		P	11 29 50.6	+1.0	
K15K				IAmb		IAmb	11 29 52.3		
	comp=Z,9.7nm,1.1s								
K15K	Wolf Creek Mou	83.30	332	P		P	11 29 49.3	-0.3	
	baz=88								
N14K	Kuskokwak Cree	83.45	330	P		P	11 29 50.9	+0.5	
	baz=88								
H16K	Elim	83.53	334	P		P	11 29 50.3	-0.5	
	baz=88								
L14K	Kuka Creek	83.88	331	P		P	11 29 51.9	-0.7	
	baz=87								
F15K	North Star Dit	84.49	335	P		P	11 29 54.9	-0.7	
	baz=86								
C16K	Lisburne Hills	84.56	338	P		P	11 29 57.0	+1.1	
C16K	Lisburne Hills	84.56	338	P		P	11 29 55.2	-0.7	
	baz=85								
K13K	Kusilvak Mount	84.78	332	P		P	11 29 58.1	+1.0	
K13K				IAmb		IAmb	11 30 02.6		
	comp=Z,16nm,1.2s								
K13K	Kusilvak Mount	84.78	332	P		P	11 29 56.5	-0.6	
	baz=85								
MODS	Modra-Piesok	85.18	42	*e* P		P	11 30 00.2	+0.8	
F14K	Arctic Creek	85.20	335	P		P	11 29 58.7	-0.4	
	baz=84								
ARCES	ARCESS Array B	86.65	20	P		P	11 30 05.5	-0.8	
ARCES	ARCESS Array B	86.65	20	P		P	11 30 06.3	+0.1	
	comp=Z,2.3nm,0.6s,baz=294,slow=3.9,SNR=10								
	comp=Z,2.3nm,0.6s								
FINES	FINESS Array B	88.41	28	P		P	11 30 14.9	+0.2	
	comp=Z,2.2nm,0.9s,baz=266,slow=4.0,SNR=4.7								
	comp=Z,2.2nm,0.9s								
SNAA	Sanae	90.33	163	P		P	11 30 22.1	-1.4	
SNAA				IAmb		IAmb	11 30 31.4		
	comp=Z,5.2nm,1.1s								
SNAA	Sanae	90.33	163	P		P	11 30 22.5	-1.0	
	comp=Z,2.1nm,1.0s,baz=333,slow=9.4,SNR=2.1								
	comp=Z,2.1nm,1.0s								
ZALV	Zalesovo Beam	116.65	14	PKP		PKPdf	11 36 05.9	-0.3	
	comp=Z,2.5nm,0.6s,baz=307,slow=1.7,SNR=8.2								
KURBB	Kurchatov Arra	117.73	20	PKP		PKPdf	11 36 07.8	-0.5	
	comp=Z,1.2nm,0.5s,baz=323,slow=2.3,SNR=12								
MK31	Makanchi Array	122.30	20	PKPdf		PKPdf	11 36 16.5	-0.8	
MKAR	Makanchi Array	122.30	20	PKP		PKPdf	11 36 17.0	-0.3	
	comp=Z,1.3nm,0.5s,baz=301,slow=2.5,SNR=18								
KSRS	Korea Array	131.79	338	PKP		PKPdf	11 36 35.6	+0.1	
	comp=Z,0.6nm,0.6s,baz=31,slow=2.4,SNR=2.3								
HHC	Hu-ho-hao-te	132.37	355	*eP*		PKiKP	11 36 38.1	+0.2	
NJ2	Nanjing	139.71	344	*eP*		PKPdf	11 36 51.0	+0.5

*MOS **20** 11:22:53.4±1.4,32.°68N×48.°46E,h13km,mb4.3/16, Error ellipse: s-maj=9.5km s-min=6.3km az=85.3*
*DSN **20** 11:22:58.5±1.1,31.°65N×48.°95E,h15km,ML3.7/4, Error ellipse: s-maj=16.5km s-min=9.7km az=30.0*
*OMAN **20** 11:23:05.1±0.3,31.°06N×48.°75E,h8km±16km, mb4.5/24, Error ellipse: s-maj=31.4km s-min=2.1km az=323.0*

ISC 20 11:22:49.6±0.4,32.°14N±0.°04×48.°42E±0.°04,h10km,n173,
σ2.°35/177,mb4.0/27,MS3.4/4,7C-1D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.83**	**167**	Pg		**Pb**	**11 23 08.2**	**+2.2**
IKFM	**Kafar-mosalman**	**1.47**	**341**	Pg		**Pg**	**11 23 16.8**	**-1.0**
IDOB	**Doab**	**1.66**	**353**	Pg		**Pg**	**11 23 20.2**	**-1.3**
JHBN	**Jahan bin**	**1.91**	**87**	Pn		**Pb**	**11 23 24.7**	**0.0**
ZNGN	**Zangian**	**2.06**	**90**	Pn		**Pb**	**11 23 27.1**	**-0.3**
HSAM	**Samen**	**2.08**	**4**	Pn		**Pb**	**11 23 26.1**	**-1.5**
IPIR	**Pirpir**	**2.16**	**75**	Pn		**Pb**	**11 23 28.3**	**-0.7**
ABEH	**Behbahan**	**2.19**	**134**	Pn		**Pb**	**11 23 30.2**	**+0.8**
IBZA	**Bozab**	**2.37**	**349**	Pn		**Pn**	**11 23 29.9**	**+1.0**
ILBA	**Ilam Banvizeh**	**2.38**	**309**	Pn		**Pn**	**11 23 30.5**	**+1.7**
IBRJ	**Brojen**	**2.42**	**95**	Pn		**Pn**	**11 23 31.7**	**+2.2**
IGHG	**Ghaleghazi**	**2.68**	**325**	Pn		**Pb**	**11 23 35.6**	**-2.3**
HAGD	**Aghdareh**	**2.75**	**12**	Pn		**Pn**	**11 23 35.5**	**+1.5**
SNQR	**Sonqor, Kerman**	**2.79**	**346**	Pn		**Pn**	**11 23 36.1**	**+1.4**
GLG1	**Gilan-e-Gharb**	**2.89**	**314**	Pn		**Pn**	**11 23 38.3**	**+2.5**
IKLH	**Kolahrood**	**2.91**	**65**	Pn		**Pn**	**11 23 38.8**	**+2.5**
KLNJ	**Kolanjah**	**2.93**	**112**	Pn		**Pn**	**11 23 39.3**	**+2.7**
QAMS	**Qamsar**	**2.97**	**57**	Pn		**Pn**	**11 23 39.4**	**+2.3**
KBD	**Kabd**	**3.02**	**192**	P		**Pn**	**11 23 41.2**	**+3.8**
ILIN	**Lien**	**3.03**	**337**	Pn		**Pn**	**11 23 40.0**	**+2.1**
IDHR	**Dehrash**	**3.07**	**327**	Pn		**Pn**	**11 23 39.7**	**+1.3**
IGAR	**Gharneh**	**3.08**	**84**	Pn		**Pn**	**11 23 41.0**	**+2.5**
IRAM	**Ramesheh**	**3.38**	**94**	Pn		**Pn**	**11 23 44.5**	**+1.8**
IZEF	**Zefreh**	**3.39**	**76**	Pn		**Pn**	**11 23 45.1**	**+2.3**
IQOM	**Qom**	**3.49**	**39**	Pn		**Pn**	**11 23 45.9**	**+1.7**
IRAZ	**Razeghan**	**3.49**	**21**	Pn		**Pn**	**11 23 46.2**	**+2.0**
KRSH	**Karshahi**	**3.61**	**59**	Pn		**Pn**	**11 23 48.3**	**+2.4**
QABG	**Abgarm-Qazvin**	**3.69**	**15**	Pn		**Pn**	**11 23 48.6**	**+1.7**
ISFB	**Sefidab**	**3.89**	**54**	Pn		**Pn**	**11 23 50.6**	**+1.0**
IVRN	**Varamin**	**3.97**	**43**	Pn		**Pn**	**11 23 52.4**	**+1.7**
IMHD	**Mahdasht**	**4.00**	**27**	Pn		**Pn**	**11 23 52.0**	**+0.9**
IHSB	**Hasanabad**	**4.06**	**35**	Pn		**Pn**	**11 23 53.4**	**+1.5**
AHBU	**AHRAM**	**4.10**	**142**	Pn		**Pn**	**11 23 55.6**	**+3.2**
ISAD	**Sadrabad**	**4.48**	**91**	Pn		**Pn**	**11 24 00.2**	**+2.4**
DSBU	**Dashti - Bushe**	**4.49**	**146**	Pn		**Pn**	**11 24 00.6**	**+2.8**
IDMV	**Damavand**	**4.56**	**40**	Pn		**Pn**	**11 24 00.5**	**+1.6**
ANAR	**Anarak**	**4.60**	**75**	Pn		**Pn**	**11 24 01.1**	**+1.7**
KLST	**Kelardasht - M**	**4.88**	**26**	Pn		**Pn**	**11 24 05.5**	**+2.0**
TAFT	**Taft - Yazd**	**4.91**	**93**	Pn		**Pn**	**11 24 07.3**	**+3.6**
IFIR	**Firoozkooh**	**5.02**	**45**	Pn		**Pn**	**11 24 06.8**	**+1.5**
MZPU	**Pul - Mazandar**	**5.02**	**30**	Pn		**Pn**	**11 24 07.3**	**+2.1**
IPRN	**Peran**	**5.22**	**37**	Pn		**Pn**	**11 24 10.3**	**+2.4**
IMEH	**Mehriz**	**5.33**	**96**	Pn		**Pn**	**11 24 11.5**	**+2.1**
IANJ	**Anjilo**	**5.65**	**53**	Pn		**Pn**	**11 24 15.7**	**+1.8**
IBAF	**Bafgh**	**6.10**	**93**	Pn		**Pn**	**11 24 21.9**	**+1.8**
IGLO	**Ghaloghah**	**6.24**	**44**	Pn		**Pn**	**11 24 24.2**	**+2.1**
SHMA	**Al-Shehemyia**	**6.64**	**160**	P		**Pn**	**11 24 28.5**	**+1.2**
TPRV	**Parvadeh(Tabas**	**7.03**	**81**	Pn		**Pn**	**11 24 34.7**	**+1.9**
TNSJ	**Nastanj**	**7.11**	**73**	Pn		**Pn**	**11 24 36.2**	**+2.4**
TKDS	**Koohdasht(Taba**	**7.47**	**76**	Pn		**Pn**	**11 24 40.9**	**+2.1**
SMRA	**Abu-Samra**	**7.66**	**163**	P		**Pn**	**11 24 43.0**	**+1.7**
TRNA	**Turayna**	**7.77**	**161**	P		**Pn**	**11 24 45.2**	**+2.4**
JRN	**Qarnain Island**	**8.15**	**150**	P		**Pn**	**11 24 49.0**	**+0.9**
GNI	**Garni**	**8.53**	**341**	Pg			11 25 19.6	
	baz=9.7,slow=24,SNR=1.2							
GNI				Lg		Lg	11 27 17.7	
	0.9nm,0.3s,baz=176,slow=23,SNR=1.3							
GNI				LR		LR	11 28 58.6	
	comp=Z,96nm,21.1s,baz=150,slow=43							
GNI	**Garni**	**8.53**	**341**	*i* P		**Pn**	**11 24 51.3**	**-2.1**
SLWR	**Sila**	**8.54**	**159**	P		**Pn**	**11 24 54.7**	**+1.3**
SBZV	**Sabzevar**	**8.71**	**58**	Pn		**Pn**	**11 24 57.8**	**+1.9**
RAYN	**Ar Rayn**	**8.96**	**197**			**Pn**	**11 24 59.2**	**0.0**
AFRZ	**Afriz**	**9.01**	**79**	Pn		**Pn**	**11 25 02.0**	**+2.0**
GHWR	**Ruwais**	**9.04**	**153**	P		**Pn**	**11 25 01.6**	**+1.4**
SHME	**Shamm**	**9.07**	**130**	P		**Pn**	**11 25 00.1**	**-0.6**
SHME	**Shamm**	**9.07**	**130**	P		**Pn**	**11 25 03.7**	**+3.0**
SHME				S		**Sn**	**11 26 39.4**	**-3.5**
BSRN	**Basiran**	**9.09**	**88**	Pn		**Pn**	**11 25 02.5**	**+1.5**
AJN	**Ajban**	**9.50**	**141**	P		**Pn**	**11 25 08.6**	**+2.1**
AJN				S		**Sn**	**11 26 47.4**	**-6.1**
MASF	**Masafi**	**9.56**	**133**	P		**Pn**	**11 25 08.1**	**+0.6**
MASF				S		**Sn**	**11 26 49.0**	**-6.1**
MSFE	**Esma-Masafi**	**9.57**	**133**	P		**Pn**	**11 25 06.4**	**-1.2**
ASUD	**Al Ashush, Dub**	**9.64**	**139**	P		**Pn**	**11 25 08.3**	**-0.2**
ASUD	**Al Ashush, Dub**	**9.64**	**139**	P		**Pn**	**11 25 10.0**	**+1.6**
ASUD				S		**Sn**	**11 26 52.3**	**-4.6**
FAQ	**Al Faqa, Dubai**	**9.70**	**138**	P		**Pn**	**11 25 09.0**	**-0.2**
FAQ	**Al Faqa, Dubai**	**9.70**	**138**	P		**Pn**	**11 25 10.6**	**+1.4**
FAQ				S		**Sn**	**11 26 52.8**	**-5.4**
MDH	**Madha**	**9.70**	**133**	P		**Pn**	**11 25 12.2**	**+2.9**
MDH				S		**Sn**	**11 26 51.8**	**-6.6**
GEYT	**Alibeck**	**9.82**	**51**	Pn		**Pn**	**11 25 12.7**	**+1.7**
GEYT	**Alibeck**	**9.82**	**51**	Pn		**Pn**	**11 25 09.8**	**-1.1**
	0.2nm,0.3s,baz=251,slow=13,SNR=1.5							
GEYT				Lg		Lg	11 27 59.2	
	0.2nm,0.3s,baz=212,slow=28,SNR=1.3							
	1.1nm,0.5s							
GEYT	**Alibeck**	**9.82**	**51**	P		**Pn**	**11 25 12.7**	**+1.7**
UOSS	**Minazif**	**9.90**	**134**	Pn		**Pn**	**11 25 13.4**	**+1.4**
UOSS	**Minazif**	**9.90**	**134**	P		**Pn**	**11 25 13.6**	**+1.5**
UOSS				S		Sn	11 26 56.1	-7.3
HATD	**Hatta, Dubai**	**9.95**	**135**	P		**Pn**	**11 25 16.3**	**+3.6**
HATD				S		**Sn**	**11 26 59.9**	**-4.6**
ASHO	**Ashiyiah**	**10.01**	**136**	P		**Pn**	**11 25 13.4**	**-0.2**
ASHO				S		**Sn**	**11 26 59.2**	**-6.9**
ASHO	**Ashiyiah**	**10.01**	**136**	P		**Pn**	**11 25 14.1**	**+0.5**
	SNR=6.4							
MZR	**Muzera**	**10.14**	**153**	P		**Pn**	**11 25 15.9**	**+0.5**
MZR	**Muzera**	**10.14**	**153**	P		**Pn**	**11 25 16.6**	**+1.2**
ALNE	**Al Ain**	**10.32**	**139**	P		**Pn**	**11 25 16.7**	**-1.1**
ALNE	**Al Ain**	**10.32**	**139**	P		**Pn**	**11 25 19.2**	**+1.4**
	SNR=10.0							
ALNE				S		**Sn**	**11 27 08.2**	**-5.5**
SOHO	**SOHO**	**10.71**	**136**	P		**Pn**	**11 25 26.0**	**+2.9**
SOHO				S		**Sn**	**11 27 16.3**	**-6.8**
ARQ	**Araqi**	**11.32**	**139**	P		**Pn**	**11 25 33.0**	**+1.5**
ARQ				S		**Sn**	**11 27 33.0**	**-5.2**
HOQ	**Hoqain**	**11.59**	**135**	P		**Pn**	**11 25 38.4**	**+3.2**
HOQ				S		**Sn**	**11 27 37.6**	**-7.1**
EIL	**Elat**	**11.83**	**262**	Pn		**Pn**	**11 25 36.2**	**-2.2**
	0.1nm,0.3s,baz=256,slow=15,SNR=1.3							
EIL				Lg		Lg	11 29 06.4	
	0.1nm,0.3s,baz=194,slow=21,SNR=1.8							
EIL				LR		LR	11 30 57.1	
	comp=Z,42nm,19.9s,baz=67,slow=41							
BSY	**Bisya**	**12.17**	**138**	P		**Pn**	**11 25 43.2**	**+0.1**
	SNR=8.7							
BSY				S		Sn	11 27 51.8	-7.1
KBZ	**Khabaz**	**12.36**	**341**	LR		LR	11 31 40.4	
	comp=Z,26nm,20.5s,baz=175,slow=43							
KBZ	**Khabaz**	**12.36**	**341**	*i* P		**Pn**	**11 25 45.0**	**-0.6**
KBZ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
SMDO	**Samad**	**12.43**	**134**	P		**Pn**	**11 25 46.7**	**0.0**
SMDO				S		Sn	11 27 57.9	-7.5
KIV	**Kislovodsk**	**12.63**	**341**	*e*P		**Pn**	**11 25 46.9**	**-2.5**
KIV				*e*S		**Sn**	**11 28 10.5**	**+0.4**
KIV				pmax		pmax		
	comp=Z,8.0nm,1.4s							
KIV				MLR		MLR		
	comp=Z,67nm,15.0s							
WSAR	**Wadi Sarin**	**12.66**	**132**	Pn		**Pn**	**11 25 47.0**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=16,slow=13,SNR=1.7							
WSAR				Sn		Sn	11 27 59.2	-12
	comp=Z,0.2nm,0.3s,baz=2.2,slow=22,SNR=1.6							
JMDO	**Jabal Madar**	**12.98**	**136**	P		**Pn**	**11 25 52.7**	**-1.5**
JMDO				S		Sn	11 28 11.5	-7.3
SOC	**Sochi**	**13.33**	**332**	*e*P		Pn	11 25 53.7	-5.1
SOC				*e*			11 28 18.5	
SOC				MLR		MLR		
	comp=Z,84nm,17.0s							
MHTO	**MHTO**	**14.00**	**140**	P		**Pn**	**11 26 06.7**	**-1.4**
BRTR	**Keskin Array B**	**14.16**	**306**	Pn		**Pn**	**11 26 09.3**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=118,slow=12,SNR=1.4							
DOK	**Doka**	**14.41**	**158**	P		**Pn**	**11 26 12.1**	**-1.7**
	SNR=8.6							
WHFO	**Wadi Hawf**	**14.96**	**160**	P		**Pn**	**11 26 18.8**	**-2.5**
ABTO	**Aybut**	**15.37**	**162**	P		**Pn**	**11 26 26.0**	**-0.7**
RBK	**Rabkut**	**15.48**	**159**	P		**Pn**	**11 26 26.6**	**-1.6**
DMTO	**DMTO**	**15.52**	**156**	P		**Pn**	**11 26 26.8**	**-1.9**
	SNR=13							
KBL	**Kabul**	**17.40**	**76**			**P**	**11 26 55.8**	**+1.8**
KBL	**Kabul**	**17.40**	**76**	P		**P**	**11 26 55.8**	**+1.8**
KBL				pmax		pmax		
	comp=Z,6.0nm,1.1s							
SIMJ	**Simiganj**	**17.98**	**63**	P		**P**	**11 27 02.4**	**+2.0**
CHGR	**Chuyangaron**	**18.10**	**63**	P		**P**	**11 27 03.0**	**+1.4**
CHGR				IAmb		IAmb	11 27 05.8	
	comp=Z,8.3nm,0.5s							
CHGR	**Chuyangaron**	**18.10**	**63**	P		**P**	**11 27 03.0**	**+1.4**
CHGR				pmax		pmax		
	comp=Z,8.0nm,0.5s							
GAR	**Garm**	**19.06**	**63**	P		**Pn**	**11 27 14.7**	**+1.7**
GAR				IAmb		IAmb	11 27 17.6	
	comp=Z,12nm,1.1s							
ABKAR	**Akbulak array**	**19.16**	**23**	P		**Pn**	**11 27 13.6**	**-0.4**
ABKAR	**Akbulak array**	**19.16**	**23**	P		**P**	**11 27 12.9**	**-0.2**
ABKAR				IAmb		IAmb	11 27 41.8	
	comp=Z,2.4nm,0.9s							
AKTO	**Aktyubinsk**	**19.62**	**19**	P		**P**	**11 27 18.1**	**0.0**
	comp=Z,0.1nm,0.3s,baz=216,slow=12,SNR=2.1							
	comp=Z,1.1nm,0.5s							
VRH	**Novokhopyorsk**	**19.68**	**347**	*e*P		**Pn**	**11 27 20.0**	**-0.1**
VRH				pmax		pmax		
	comp=Z,14nm,1.4s							
IDI	**Anoyia**	**19.82**	**286**	P		**P**	**11 27 20.5**	**0.0**
	comp=Z,0.2nm,0.3s,baz=132,slow=8.7,SNR=3.5							
RDO	**Rodhopi**	**20.40**	**303**	P		Pn	11 27 29.0	+0.2
RDO				IAmb		IAmb	11 27 34.0	
	comp=Z,8.8nm,1.2s							
KK31	**Karatay Array**	**20.58**	**52**			Pn	11 27 31.0	+0.1
KK31				IAmb		IAmb	11 27 38.1	
	comp=Z,12nm,1.0s							
KK31	**Karatay Array**	**20.58**	**52**	P		Pn	11 27 31.0	+0.1
KK31				pmax		pmax		
	comp=Z,13nm,1.0s							
KKAR	**Karatay Array**	**20.58**	**52**			Pn	11 27 30.5	-0.4
KKAR	**Karatay Array**	**20.58**	**52**			Pn	11 27 31.0	+0.1
KKAR				IAmb		IAmb	11 27 38.1	
	comp=Z,12nm,1.0s							
KKAR	**Karatay Array**	**20.58**	**52**	P		Pn	11 27 31.0	+0.1
KKAR				pmax		pmax		
	comp=Z,12nm,1.0s							
VORR	**Voronezh**	**20.66**	**344**	*e*P		Pn	11 27 32.8	+1.1
VORR				pmax		pmax		
	comp=Z,14nm,1.3s							
NIL	**Nilore**	**20.89**	**79**	P		Pn	11 27 34.3	-0.3
NIL				IAmb		IAmb	11 27 42.4	
	comp=Z,10nm,0.7s							
NIL	**Nilore**	**20.89**	**79**	P		Pn	11 27 34.3	-0.4
NIL				pmax		pmax		
	comp=Z,10.0nm,0.7s							
ARSB	**Arslanbob**	**21.66**	**58**	P		**P**	**11 27 41.1**	**+0.7**
ARSB	**Arslanbob**	**21.66**	**58**	P		**P**	**11 27 41.1**	**+0.7**
ARSB				pmax		pmax		
	comp=Z,2.0nm,0.8s							
MLR	**Muntele Rosu**	**21.92**	**314**	P		**P**	**11 27 43.7**	**+0.5**
MLR				IAmb		IAmb	11 27 49.8	
	comp=Z,8.0nm,1.1s							
MLR	**Muntele Rosu**	**21.92**	**314**	P		**P**	**11 27 45.0**	**+1.8**
	comp=Z,3.1nm,0.8s,baz=94,slow=3.3,SNR=6.8							
	comp=Z,3.1nm,0.8s							
MLR	**Muntele Rosu**	**21.92**	**314**	P		**P**	**11 27 43.7**	**+0.5**
MLR				pmax		pmax		
	comp=Z,8.0nm,1.1s							
AAK	**Ala-Archa**	**23.13**	**56**	P		**P**	**11 27 57.4**	**+1.2**
AAK	**Ala-Archa**	**23.13**	**56**	P		**P**	**11 27 57.5**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=234,slow=21,SNR=2.3							
	comp=Z,1.4nm,0.7s							
AAK	**Ala-Archa**	**23.13**	**56**	*ce*P		**P**	**11 27 57.3**	**+1.2**
AAK				pmax		pmax		
	comp=Z,3.0nm,1.1s							
AKASG	**Malin Array Be**	**23.36**	**328**	P		**P**	**11 27 57.7**	**-0.4**
	comp=Z,0.2nm,0.2s,baz=327,slow=8.4,SNR=4.2							
	comp=Z,0.2nm,0.2s							
BURAR	**Bucovina Array**	**23.45**	**318**	P		**P**	**11 28 01.6**	**+2.4**
BURAR				IAmb		IAmb	11 28 04.5	
	comp=Z,3.0nm,1.1s							
BOOM	**Boomskoye usch**	**24.11**	**57**	P		**P**	**11 28 08.4**	**+2.7**
BOOM	**Boomskoye usch**	**24.11**	**57**	P		**P**	**11 28 08.4**	**+2.7**
BOOM				pmax		pmax		
	comp=Z,14nm,1.1s							
OBN	**Obninsk**	**24.45**	**343**	P		**P**	**11 28 08.2**	**-0.2**
OBN				*e*			11 28 37.0	
OBN				*e*S		**S**	**11 32 27.6**	**-0.6**
OBN				pmax		pmax		
	comp=Z,8.0nm,0.7s							
OBN				MLR		MLR		
	comp=Z,50nm,17.0s							
ARU	**Arti**	**25.29**	**13**	*c i* P		**P**	**11 28 18.1**	**+2.1**
ARU							11 28 51.3	
ARU				SS		**SnSn**	**11 33 35.5**	**+2.7**
ARU				pmax		pmax		
	comp=Z,5.0nm,1.0s							
KOLS	**Kolonicke sedl**	**25.82**	**318**	*e*P		**P**	**11 28 25.1**	**+4.1**
KOLS	**Kolonicke sedl**	**25.82**	**318**	*e*P		**P**	**11 28 25.1**	**+4.1**
BRVK	**Borovoye**	**26.19**	**31**	*ce*P		**P**	**11 28 25.0**	**+0.8**
BRVK				pmax		pmax		
	comp=Z,3.0nm,1.1s							
BVAR	**Borovoye Array**	**26.21**	**31**	P		**P**	**11 28 23.3**	**-1.2**
	comp=Z,1.0nm,0.6s,baz=236,slow=6.2,SNR=5.5							
BVAR				ScP		**ScP**	**11 35 26.8**	**-4.0**
	comp=Z,0.8nm,0.7s,baz=219,slow=3.8,SNR=4.3							
	comp=Z,1.0nm,0.6s							
CRVS	**Cervenica-Dubn**	**26.27**	**317**	*e*P		**P**	**11 28 28.5**	**+3.5**
CRVS	**Cervenica-Dubn**	**26.27**	**317**	*e*P		**P**	**11 28 28.5**	**+3.5**
KURBB	**Kurchatov Arra**	**28.89**	**41**	P		**P**	**11 28 48.7**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=246,slow=9.4,SNR=8.0							
KURBB				ScP		**ScP**	**11 35 35.4**	**-3.6**
	comp=Z,0.3nm,0.3s,baz=246,slow=3.7,SNR=5.1							
	comp=Z,1.5nm,0.8s							
KURK	**Kurchatov**	**28.98**	**41**	P		**P**	**11 28 50.8**	**+1.6**
KURK				IAmb		IAmb	11 28 54.2	
	comp=Z,2.7nm,0.8s							
KURK	**Kurchatov**	**28.98**	**41**	*ce*P		**P**	**11 28 52.2**	**+3.0**
KURK				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KLMR	**Klimovskoe**	**29.32**	**351**	*e*P		**P**	**11 28 51.0**	**-1.1**
KLMR				pmax		pmax		
	comp=Z,18nm,1.1s							
MK31	**Makanchi Array**	**29.70**	**51**	P		**P**	**11 28 57.1**	**+1.4**
MK31				IAmb		IAmb	11 29 00.2	
	comp=Z,2.6nm,1.0s							
MK31	**Makanchi Array**	**29.70**	**51**	*ce*P		**P**	**11 28 57.4**	**+1.7**
MKAR	**Makanchi Array**	**29.70**	**51**	P		**P**	**11 28 57.0**	**+1.2**
MKAR	**Makanchi Array**	**29.70**	**51**	P		**P**	**11 28 56.2**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=242,slow=7.8,SNR=15							
	comp=Z,2.5nm,0.8s							
MKAR	**Makanchi Array**	**29.70**	**51**	P		**P**	**11 28 57.0**	**+1.2**
VSU	**Vasula**	**30.15**	**337**	*ce*P		**P**	**11 29 01.6**	**+2.1**
VSU				pmax		pmax		
	comp=Z,17nm,2.5s							
VALR	**Valaam**	**31.39**	**344**	*i* P		**P**	**11 29 09.9**	**-0.5**
VALR				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**32.21**	**317**	*e*P		**P**	**11 29 20.0**	**+2.2**
CLL				*e*PP		**PP**	**11 30 31.0**	**+0.5**
CLL				*e*PPP		PPP	11 30 35.0	
CLL	**Collm**	**32.21**	**317**	*e*P		**P**	**11 29 20.0**	**+2.2**
KEST	**Kesra**	**32.47**	**287**	P		**P**	**11 29 21.6**	**+1.2**
FINES	**FINESS Array B**	**32.72**	**340**	P		**P**	**11 29 20.6**	**-1.5**
	comp=Z,1.3nm,0.7s,baz=142,slow=7.1,SNR=5.6							
	comp=Z,1.3nm,0.7s							
FINES	**FINESS Array B**	**32.72**	**340**	*i* P		**P**	**11 29 22.5**	**+0.4**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.8s							
ZALV	**Zalesovo Beam**	**33.83**	**39**	P		**P**	**11 29 32.8**	**+0.9**
ZALV	**Zalesovo Beam**	**33.83**	**39**	P		**P**	**11 29 31.4**	**-0.6**
	comp=Z,2.4nm,0.8s,baz=262,slow=10,SNR=8.4							
	comp=Z,2.4nm,0.8s							
ZALV	**Zalesovo Beam**	**33.83**	**39**	*i* P		**P**	**11 29 34.2**	**+2.3**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**36.17**	**331**	P		**P**	**11 29 51.1**	**-0.9**
	comp=Z,7.2nm,0.9s,baz=108,slow=9.4,SNR=14							
HFS				LR		LR	11 46 47.7	
	comp=Z,42nm,18.1s,baz=14,slow=40							
	comp=Z,7.2nm,0.9s							
ESDC	**Sonseca Array**	**42.59**	**295**	P		**P**	**11 30 46.5**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=81,slow=8.4,SNR=4.1							
	comp=Z,0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**46.67**	**257**	P		**P**	**11 31 18.3**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=51,slow=9.0,SNR=3.7							
	comp=Z,0.5nm,0.7s							
CMAR	**Chiang Mai Arr**	**47.27**	**94**	P		**P**	**11 31 23.6**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=293,slow=7.7,SNR=9.5							
	comp=Z,0.9nm,0.5s							
SPITS	**Spitsbergen Ar**	**48.22**	**352**	P		**P**	**11 31 29.2**	**-0.8**
	comp=Z,4.5nm,0.7s,baz=138,slow=11,SNR=5.1							
	comp=Z,4.5nm,0.7s							
HHC	**Hu-ho-hao-te**	**50.53**	**61**	*e*P		**P**	**11 31 46.8**	**-1.5**
HHC				pmax		pmax		
	comp=Z,5.0nm,0.6s							
HHC				pmax		pmax		
	comp=Z,150nm,7.7s							
SFJD	**Kangerlussuaq**	**64.25**	**334**	LR		LR	12 03 46.1	
	comp=Z,35nm,20.4s,baz=300,slow=38							
SUR	**Sutherland**	**69.27**	**205**	LR		LR	12 06 46.7	
	comp=Z,107nm,19.9s,baz=324,slow=38							
BILL	**Bilibino**	**70.04**	**21**	*i* P		**P**	**11 34 03.3**	**+2.1**
ILAR	**Eielson Array**	**82.67**	**7**	P		**P**	**11 35 14.6**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=330,slow=3.4,SNR=4.6							
	comp=Z,0.4nm,0.8s							
YKA	**Yellowknife Ar**	**84.72**	**352**	P		**P**	**11 35 24.1**	**+0.6**
	comp=Z,0.5nm,0.9s,baz=10,slow=5.3,SNR=4.8							
	comp=Z,0.5nm,0.9s							
YKA	**Yellowknife Ar**	**84.72**	**352**	*i* P		**P**	**11 35 25.6**	**+2.1**
YKA				pmax		pmax		
	comp=Z,1.0nm,1.0s							

IDC 20 11:49:34.3±2.3,6.°48S×129.°22E,h0km,mb3.6/1,
mbtmp3.2/3,ML3.0/2,Error ellipse: s-maj=135.7km
s-min=32.9km az=68.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.28**	**160**	Pn		Pn	11 52 57.5	-0.4
	0.1nm,0.3s,baz=339,slow=12,SNR=0.9							
WRA				Sn		Sn	11 55 23.7	-14
	0.2nm,0.3s,baz=337,slow=25,SNR=10							
	0.3nm,0.8s							
ASAR	**Alice Springs**	**17.67**	**166**	P		Pn	11 53 42.5	+0.3
	baz=343,slow=9.5,SNR=5.5							
ASAR				S		Sn	11 56 47.9	-12
	0.8nm,1.2s,baz=349,slow=27,SNR=4.2							
	0.2nm,0.6s							
MKAR	**Makanchi Array**	**67.37**	**327**	P		P	12 00 31.5	0.0
	0.2nm,0.4s,baz=112,slow=6.0,SNR=4.2							
	0.2nm,0.4s							

*MDD **20** 11:51:06.4±0.3,34.°79N×14.°91W,h30km,Mb4.6/25, M_mb4.1/25, Error ellipse: s-maj=5.1km s-min=1.6km az=126.0*
*IGIL **20** 11:51:09.2,34.°79N×14.°91W,h31km,ML2.7*
*INMG **20** 11:51:10.8±2.5,34.°81N×14.°87W,h12km±17km,ML3.1, Error ellipse: s-maj=6.6km s-min=6.3km az=125.0*

ISC 20 11:51:03.7±0.3,34.°68N±0.°02×14.°64W±0.°02,h35km,n102,
σ3.°01/120,26C,Madeira Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMPST	**Porto Santo, M**	**2.13**	**222**	⇑*i* P		**Pn**	**11 51 40.6**	**+3.8**
PMPST				*e*S		**Sn**	**11 52 02.4**	**+0.4**
PMPST				A		A	11 52 02.9	
	270nm,0.3s						

CGUI	**Guimar, Teneri**	**6.52**	**194**	S	**Sn**	**11 53 49.7**	**-0.8**
CGOR	**Puntagorda, La**	**6.54**	**207**	P	**Pn**	**11 52 42.2**	**+4.7**
CGOR				S	**Sn**	**11 53 47.2**	**-3.6**
CMIR	**El Paso, La Pa**	**6.56**	**206**	P	**Pn**	**11 52 41.2**	**+3.3**
CMIR				S	**Sn**	**11 53 46.1**	**-5.5**
EVO	**Evora**	**6.57**	**52**	*eP*	Pn	11 52 42.8	+5.0
EVO				*eS*	**Sn**	**11 53 50.3**	**-1.2**
EVO				A	A	11 53 53.8	
	comp=E,12nm,0.1s						
CNOR	**Icod de los Vi**	**6.58**	**196**	S	**Sn**	**11 53 50.1**	**-1.9**
GGC	**Guia, Gran Can**	**6.60**	**188**	S	**Sn**	**11 53 50.0**	**-2.2**
TBT	**Taburiente**	**6.60**	**206**	P	**Pn**	**11 52 40.4**	**+2.1**
TBT				⇑*iVmb_V*		11 52 49.8	
	comp=E,289nm,SNR=1.5						
TBT				S	Sn	11 53 46.0	-6.2
MACI	**Morro de la Ar**	**6.61**	**194**	S	**Sn**	**11 53 51.1**	**-1.6**
CBOL	**Buenavista del**	**6.62**	**197**	S	**Sn**	**11 53 49.2**	**-3.6**
EOSO	**Osorio**	**6.63**	**187**	S	**Sn**	**11 53 52.3**	**-1.0**
CCAN	**Las Canadas**	**6.65**	**195**	S	**Sn**	**11 53 49.7**	**-4.2**
GUIA	**Guia de Isora,**	**6.66**	**196**	S	**Sn**	**11 53 51.7**	**-2.2**
EHIG	**Higuera**	**6.67**	**205**	S	**Sn**	**11 53 51.1**	**-3.1**
CJED	**Jedey, El Paso**	**6.68**	**205**	S	**Sn**	**11 53 50.6**	**-3.7**
PSBE	**So Bento**	**6.71**	**42**	*eP*	**Pn**	**11 52 44.3**	**+4.5**
PSBE				*eS*	**Sn**	**11 53 52.9**	**-2.2**
PSBE				A	A	11 54 03.2	
	comp=E,9.5nm,0.3s						
CADE	**Adeje, Tenerif**	**6.74**	**196**	S	**Sn**	**11 53 51.9**	**-4.0**
PMTG	**Montargil**	**6.75**	**48**⇑	*eP*	**Pn**	**11 52 44.3**	**+4.0**
PMTG				*eS*	**Sn**	**11 53 52.2**	**-3.8**
PMTG				A	A	11 53 55.8	
	comp=E,4.3nm,0.2s						
EGOM	**La Gomera**	**6.86**	**199**	S	**Sn**	**11 53 54.1**	**-4.5**
PESTR	**Estremoz**	**7.03**	**52**	*eP*	Pn	11 52 49.0	+4.8
PESTR				*eS*	**Sn**	**11 54 01.2**	**-1.7**
PESTR				A	A	11 54 14.5	
	comp=E,3.3nm,0.2s						
PESTR	**Estremoz**	**7.03**	**52**	P	**Pn**	**11 52 47.9**	**+3.8**
PESTR				S	**Sn**	**11 53 59.7**	**-3.2**
PBAR	**Barrancos**	**7.05**	**58**	*eP*	Pn	11 52 50.4	+6.0
PBAR				*eS*	**Sn**	**11 54 03.0**	**-0.3**
PBAR				A	A	11 54 08.9	
	comp=E,4.8nm,0.3s						
PBAR	**Barrancos**	**7.05**	**58**	P	Pn	11 52 49.5	+5.1
PBAR				S	**Sn**	**11 54 02.3**	**-1.0**
EMIN	**Mina Concepcio**	**7.14**	**62**	P	Pn	11 52 50.9	+5.3
EMIN				S	**Sn**	**11 54 03.9**	**-1.6**
EMIN	**Mina Concepcio**	**7.14**	**62**	P	Pn	11 52 50.9	+5.3
EMIN				⇑*iVmb_V*		11 52 52.2	
	comp=E,339nm,SNR=6.7						
EMIN				S	**Sn**	**11 54 03.7**	**-1.8**
TIO	**Tiouine**	**7.25**	**119**	P	Pn	11 52 57.5	+10
TIO				S	**Sn**	**11 54 16.5**	**+8.0**
PCAS	**Casmilo, Conde**	**7.26**	**41**	*eP*	**Pn**	**11 52 51.0**	**+3.8**
PCAS				*eS*	**Sn**	**11 54 03.8**	**-4.6**
PCAS				A	A	11 54 17.7	
	comp=E,4.5nm,0.4s						
EBAD	**Badajoz**	**7.35**	**54**	P	**Pn**	**11 52 52.6**	**+4.1**
EBAD				S	**Sn**	**11 54 07.8**	**-2.9**
EBAD	**Badajoz**	**7.35**	**54**	P	**Pn**	**11 52 53.1**	**+4.5**
EBAD				⇑*iVmb_V*		11 52 56.0	
	comp=E,173nm,SNR=3.9						
EBAD				S	Sn	11 54 06.8	-3.9
ESPR	**Espera**	**7.47**	**70**	P	Pn	11 52 56.0	+5.9
ESPR				S	**Sn**	**11 54 13.1**	**-0.4**
ESPR	**Espera**	**7.47**	**70**	P	Pn	11 52 56.2	+6.1
ESPR				⇑*iVmb_V*		11 52 57.5	
	comp=E,443nm,SNR=8.9						
ESPR				S	**Sn**	**11 54 12.9**	**-0.7**
PMRV	**Marv??o**	**7.49**	**49**	*eP*	**Pn**	**11 52 54.2**	**+3.8**
PMRV				*eS*	**Sn**	**11 54 10.7**	**-3.3**
PMRV				A	A	11 54 12.2	
	comp=E,4.7nm,0.5s						
CMCL	**Mercadel, El H**	**7.52**	**204**	S	**Sn**	**11 54 12.9**	**-2.3**
CJUL	**El Julan, El H**	**7.53**	**204**	S	**Sn**	**11 54 11.2**	**-4.2**
CEU	**Ceuta**	**7.68**	**78**	P	Pn	11 52 59.6	+6.6
CEU				S	**Sn**	**11 54 21.2**	**+2.5**
PCBR	**Castelo Branco**	**7.69**	**46**	*eP*	**Pn**	**11 52 57.3**	**+4.2**
PCBR				*eS*	**Sn**	**11 54 16.0**	**-3.0**
PCBR				A	A	11 54 25.8	
	comp=E,3.0nm,0.5s						
IFR	**Ifrane**	**7.98**	**96**	P	Pn	11 53 04.9	+7.6
IFR				S	**Sn**	**11 54 28.1**	**+1.7**
MTE	**Manteigas**	**8.02**	**43**	*eP*	**Pn**	**11 53 02.0**	**+4.2**
MTE				*eS*	**Sn**	**11 54 23.4**	**-3.8**
MTE				A	A	11 54 28.0	
	comp=E,8.1nm,0.3s						
PVIS	**Viseu**	**8.05**	**40**	*eP*	**Pn**	**11 53 01.7**	**+3.5**
PVIS				*eS*	Sn	11 54 21.4	-6.6
PVIS				A	A	11 54 26.3	
	comp=E,6.0nm,0.1s						
ECAB	**El Cabril**	**8.17**	**63**	P	Pn	11 53 05.1	+5.3
ECAB				S	**Sn**	**11 54 28.7**	**-2.3**
ECAB	**El Cabril**	**8.17**	**63**	P	Pn	11 53 04.8	+5.0
ECAB				⇑*iVmb_V*		11 53 07.2	
	comp=E,196nm,SNR=4.9						
ECAB				S	**Sn**	**11 54 28.3**	**-2.7**
EMIJ	**Mijas**	**8.25**	**74**	P	Pn	11 53 07.7	+6.8
EMIJ				S	**Sn**	**11 54 32.4**	**-0.5**
PVRL	**Vila Real**	**8.56**	**38**⇑	*eP*	**Pn**	**11 53 08.1**	**+3.0**
PVRL				*eS*	**Sn**	**11 54 35.5**	**-4.8**
PVRL				A	A	11 54 39.8	
	comp=E,4.3nm,0.3s						
POLO	**Lamas de Olo**	**8.59**	**37**	*eP*	**Pn**	**11 53 08.0**	**+2.4**
POLO				*eS*	Sn	11 54 35.1	-6.2
POLO				A	A	11 54 40.0	
	comp=E,1.7nm,0.3s						
EPLA	**Plasencia**	**8.68**	**49**	P	**Pn**	**11 53 10.5**	**+3.8**
EPLA				⇑*iVmb_V*		11 53 12.5	
	comp=E,165nm,SNR=3.5						
EPLA				S	Sn	11 54 38.5	-4.8
PCAB	**Cabril**	**8.74**	**35**	*eP*	Pn	11 53 11.7	+4.2
PCAB				*eS*	Sn	11 54 39.1	-5.6
PCAB				A	A	11 54 42.0	
	comp=E,4.9nm,0.4s						
EZAM	**Zamans**	**8.79**	**30**	P	**Pn**	**11 53 08.5**	**+0.2**
EZAM				⇑*iVmb_V*		11 53 13.4	
	comp=E,285nm,SNR=1.9						
EZAM				S	Sn	11 54 35.9	-10
VPORT	**Vila do Porto,**	**8.82**	**288**	P	**Pn**	**11 53 05.3**	**-3.3**
VPORT				⇑*iVmb_V*		11 53 06.6	
	comp=E,389nm,SNR=1.7						
EADA	**Adamuz**	**8.83**	**64**	P	Pn	11 53 14.6	+5.9
EADA				S	**Sn**	**11 54 45.2**	**-1.8**
EADA	**Adamuz**	**8.83**	**64**	P	Pn	11 53 14.3	+5.6
EADA				⇑*iVmb_V*		11 53 16.1	
	comp=E,228nm,SNR=5.4						
EADA				S	**Sn**	**11 54 44.6**	**-2.4**
PGAV	**Gavieira, Arco**	**8.83**	**33**	*eP*	**Pn**	**11 53 11.9**	**+3.1**
PGAV				*eS*	Sn	11 54 39.9	-7.2
PGAV				A	A	11 54 55.7	
	comp=E,5.3nm,0.5s						
MVO	**Moncorvo**	**8.83**	**41**	*eP*	**Pn**	**11 53 12.0**	**+3.1**
MVO				*eS*	Sn	11 54 40.7	-6.5
MVO				A	A	11 54 47.4	
	comp=E,7.0nm,0.3s						
ELOB	**Lobios**	**8.84**	**34**	P	**Pn**	**11 53 11.8**	**+2.7**
ELOB				⇑*iVmb_V*		11 53 14.6	
	comp=E,187nm,SNR=2.6						
ELOB				S	Sn	11 54 39.2	-8.3
EGOR	**Sierra Gorda,**	**8.88**	**71**	P	Pn	11 53 16.6	+7.0
EGOR				S	**Sn**	**11 54 49.1**	**+0.5**
ELGU	**Los Guajares,**	**9.21**	**73**	S	**Sn**	**11 54 58.8**	**+2.2**
EMAZ	**Mazaricos**	**9.36**	**26**	P	**Pn**	**11 53 17.9**	**+1.9**
EMAZ				⇑*iVmb_V*		11 53 26.7	
	comp=E,240nm,SNR=1.8						
EMAZ				S	Sn	11 54 48.1	-12
PBRG	**Braganca**	**9.44**	**39**	*eP*	**Pn**	**11 53 20.1**	**+2.9**
ECAL	**Calabor**	**9.54**	**38**	P	**Pn**	**11 53 21.5**	**+2.9**
ECAL				S	Sn	11 54 59.0	-5.6
ECAL	**Calabor**	**9.54**	**38**	P	**Pn**	**11 53 21.5**	**+2.9**
ECAL				⇑*iVmb_V*		11 53 23.8	
	comp=E,183nm,SNR=3.9						
PAB	**San Pablo**	**9.55**	**56**	P	**Pn**	**11 53 22.8**	**+4.1**
PAB				S	Sn	11 55 00.2	-4.6
EAGO	**Agolada(Pontev**	**9.59**	**30**	P	**Pn**	**11 53 20.9**	**+1.7**
EAGO				⇑*iVmb_V*		11 53 24.7	
	comp=E,140nm,SNR=1.9						
EAGO				S	Sn	11 54 54.6	-11
PSIM	**Granatula de C**	**9.66**	**62**	P	Pn	11 53 25.2	+5.0
PSIM				S	**Sn**	**11 55 05.1**	**-2.4**
EQES	**Quesada**	**9.85**	**68**	S	**Sn**	**11 55 11.6**	**-0.7**
ESDC	**Sonseca Array**	**9.87**	**57**	P	Pn	11 53 28.2	+5.1
ESDC				⇑*iVmb_V*		11 53 30.5	
	comp=E,89nm,SNR=2.4						
EPON	**Pontenova**	**10.41**	**32**	P	**Pn**	**11 53 32.2**	**+1.7**
EPON				⇑*iVmb_V*		11 53 36.4	
	comp=E,269nm,SNR=2.6						
EPON				S	Sn	11 55 15.0	-11
UCM	**Universidad Co**	**10.65**	**55**	P	**Pn**	**11 53 38.1**	**+4.3**
UCM				S	Sn	11 55 27.8	-4.0
ETOB	**Tobarra**	**11.23**	**66**	P	Pn	11 53 47.1	+5.3
ETOB				S	Sn	11 55 42.9	-3.2
ETOR	**Torete**	**11.69**	**55**	P	**Pn**	**11 53 52.3**	**+4.3**
ETOR				⇑*iVmb_V*		11 53 53.6	
	comp=E,109nm,SNR=2.5						

IDC 20 12:11:10.2±4.6, 19°19S×175°.62W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=320.3km s-min=31.6km az=153.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**47.01**	**255**	P	P	12 19 43.0	-0.6
	1.1nm,0.7s,baz=94,slow=8.8,SNR=19						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**47.01**	**260**	P	P	12 19 44.3	+0.6
	0.4nm,0.7s,baz=96,slow=7.7,SNR=5.4						
	0.4nm,0.7s						
NVAR	**Mina Array Bea**	**78.55**	**42**	P	P	12 23 13.9	0.0
	0.8nm,0.9s,baz=223,slow=7.4,SNR=4.8						
	0.8nm,0.9s						

*IDC **20** 12:23:53.5±2.1,21°.59N×143°.22E, h292km±20km, mb3.5/21, mbtmp4.2/24, Error ellipse: s-maj=15.4km s-min=10.1km az=85.0*
*JMA **20** 12:23:55.8±0.3,22°N±2°×14°4E±°, h331km, MV4.4/17, MARIANA ISLANDS REGION*
*NEIC **20** 12:23:56.6±1.5,21°.60N±0°.09×143°.3E±0°.2, h318km±9km, mb4.0/38, Error ellipse: s-maj=24.3km s-min=12.6km az=86.0*

ISC 20 12:23:54.6±0.5, 21°.62N±0°.06×143°.2E±0°.1, h300km, n85, σ1°39/90, mb3.9/37, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHH2	**Haha-jima-NKT2**	**5.08**	**349**	*eP*	**Pn**	**12 25 15.0**	**+2.1**
JHH2				*eS*	**S**	**12 26 17.3**	**+1.3**
CBIJ	**Chichi jima**	**5.53**	**350**	*eP*	**Pn**	**12 25 19.8**	**+1.5**
CBIJ				*eS*	**S**	**12 26 25.3**	**-0.3**
JCJ	**Chichijima**	**5.53**	**350**		**Pn**	**12 25 19.3**	**+1.0**
JCJ	**Chichijima**	**5.53**	**350**	P	Pn	12 25 15.7	-2.6
	76nm,0.3s,baz=98,slow=12,SNR=54						
JCJ				S	**S**	**12 26 20.3**	**-5.4**
	81nm,0.4s,baz=232,slow=21,SNR=9.4						
GUMO	**Guam**	**8.14**	**169**		**Pn**	**12 25 52.6**	**+2.6**
BSO1	**Boso 1**	**13.13**	**352**	*eP*	**Pn**	**12 26 51.7**	**+1.6**
JTNC	**Tanabenakahech**	**13.89**	**333**	*eP*	**Pn**	**12 27 02.9**	**+3.1**
JIE	**Ise**	**13.96**	**337**	*eP*	**P**	**12 27 02.5**	**+2.4**
JOD2	**Odawara 2**	**14.07**	**346**	*eP*	**P**	**12 27 02.9**	**+1.6**
JTO	**Tosashimizu**	**14.52**	**323**	*eP*	**Pn**	**12 27 11.1**	**+3.8**
JMN	**Monobe**	**14.62**	**328**	P	**Pn**	**12 27 10.3**	**+1.8**
JRY	**Ryogami san**	**14.83**	**346**	*eP*	**P**	**12 27 11.1**	**+1.3**
JGF	**Kuroka**	**14.84**	**341**	P	**P**	**12 27 12.2**	**+2.3**
JHO	**Hitachi**	**15.12**	**352**	*eP*	**P**	**12 27 14.3**	**+1.4**
MJAR	**Matsushiro Arr**	**15.49**	**345**	P	**P**	**12 27 17.4**	**+0.3**
	2.9nm,0.3s,baz=166,slow=12,SNR=18						
MJAR				S	**S**	**12 30 01.4**	**-3.7**
	0.7nm,0.5s,baz=142,slow=6.0,SNR=2.7						
MAJO	**Matsushiro**	**15.50**	**345**	P	**P**	**12 27 17.9**	**+0.8**
MAJO				IAmb	IAmb	12 27 22.0	
	comp=Z,11nm,1.0s						
MJB9	**Matsu-Tunnel**	**15.50**	**345**	P	**P**	**12 27 18.9**	**+1.8**
MJB9				IAmb	IAmb	12 27 23.4	
	comp=Z,10nm,1.0s						
JSJ	**Shimokoshiki**	**15.67**	**313**	*eP*	**Pn**	**12 27 23.7**	**+2.9**
JNU	**Nakatsue**	**15.84**	**319**	P	**P**	**12 27 21.5**	**+0.6**
	comp=Z,10.0nm,1.0s,baz=170,slow=11,SNR=2.4						
JMM	**Marumori**	**16.33**	**353**	P	**P**	**12 27 28.0**	**+2.0**
JSD	**Sado**	**16.91**	**346**	P	**P**	**12 27 32.8**	**+0.4**
KSRS	**Korea Array**	**20.60**	**323**	P	**P**	**12 28 12.4**	**+1.0**
	comp=Z,0.8nm,0.5s,baz=149,slow=8.9,SNR=7.1						
	comp=Z,0.8nm,0.5s						
KLR	**Kul'dur**	**29.02**	**344**	P	**P**	**12 29 26.9**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=166,slow=7.5,SNR=4.0						
	comp=Z,1.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.62**	**274**	P	**P**	**12 31 14.3**	**0.0**
	comp=Z,0.4nm,0.4s,baz=62,slow=5.8,SNR=4.6						
	comp=Z,0.4nm,0.4s						
WB0	**Warramunga Arr**	**42.03**	**192**	P	**P**	**12 31 16.8**	**-0.7**
WR0	**Warramunga Arr**	**42.19**	**192**	P	**P**	**12 31 18.1**	**-0.7**
WR0				IAmb	IAmb	12 31 28.4	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**42.21**	**192**	P	**P**	**12 31 17.8**	**-1.1**
WRA	**Warramunga Arr**	**42.21**	**192**	P	**P**	**12 31 17.6**	**-1.3**
WRA	**Warramunga Arr**	**42.21**	**192**	P	**P**	**12 31 18.4**	**-0.5**
	comp=Z,1.1nm,0.3s,baz=13,slow=9.5,SNR=89						
	comp=Z,1.1nm,0.3s						
FITZ	**Fitzroy Crossi**	**43.07**	**205**	P	**P**	**12 31 25.2**	**-0.5**
KULM	**Kulim**	**44.28**	**255**	P	**P**	**12 31 36.0**	**+0.5**
ASAR	**Alice Springs**	**45.92**	**192**	P	**P**	**12 31 47.3**	**-0.9**
	comp=Z,0.3nm,0.3s,baz=13,slow=7.0,SNR=21						
	comp=Z,0.3nm,0.3s						
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**12 32 41.9**	**-0.8**
STKA	**Stephens Creek**	**53.22**	**182**	P	**P**	**12 32 41.5**	**-1.2**
	comp=Z,1.2nm,0.5s,baz=347,slow=13,SNR=3.7						
	comp=Z,1.2nm,0.5s						
FORT	**Forrest**	**54.10**	**196**	P	**P**	**12 32 48.6**	**-0.5**
ZALV	**Zalesovo Beam**	**54.29**	**322**	P	**P**	**12 32 49.9**	**-0.3**
	comp=Z,2.1nm,0.6s,baz=103,slow=7.4,SNR=7.6						
ZALV				PcP	**PcP**	**12 33 48.6**	**-1.5**
	comp=Z,1.3nm,0.4s,baz=129,slow=5.5,SNR=5.1						
	comp=Z,2.1nm,0.6s						
MK31	**Makanchi Array**	**54.77**	**313**	P	**P**	**12 32 53.8**	**-0.1**
MKAR	**Makanchi Array**	**54.77**	**313**	P	**P**	**12 32 54.0**	**+0.1**
MKAR	**Makanchi Array**	**54.77**	**313**	P	**P**	**12 32 54.4**	**+0.5**
	comp=Z,1.5nm,0.5s,baz=91,slow=8.6,SNR=19						
MKAR				PcP	**PcP**	**12 33 51.3**	**-1.0**
	comp=Z,0.7nm,0.4s,baz=77,slow=4.1,SNR=8.1						
	comp=Z,1.5nm,0.5s						
MAKZ	**Makanchi**	**54.99**	**313**	P	**P**	**12 32 55.7**	**+0.3**
N15K	**Kwethluk River**	**55.06**	**31**	P	**P**	**12 32 56.2**	**+0.6**
N15K				IAmb	IAmb	12 33 28.2	
	comp=Z,10nm,1.3s						
K15K	**Wolf Creek Mou**	**55.13**	**28**	P	**P**	**12 32 56.9**	**+0.9**
K15K				IAmb	IAmb	12 33 40.2	
	comp=Z,14nm,1.4s						
KURK	**Kurchatov**	**57.55**	**317**	P	**P**	**12 33 13.3**	**+0.1**
KURBB	**Kurchatov Arra**	**57.60**	**317**	P	**P**	**12 33 13.7**	**+0.1**
	comp=Z,4.0nm,0.5s,baz=94,slow=7.5,SNR=67						
	comp=Z,4.0nm,0.5s						
CAST	**Castle Rocks**	**59.60**	**28**	P	**P**	**12 33 27.1**	**0.0**
CAST				IAmb	IAmb	12 33 28.9	
	comp=Z,3.2nm,0.8s						
B20K	**Meade River**	**59.61**	**20**	P	**P**	**12 33 28.0**	**+1.0**
ILAR	**Eielson Array**	**62.09**	**27**	P	**P**	**12 33 43.0**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=258,slow=5.5,SNR=18						
	comp=Z,1.1nm,0.6s						
BVAR	**Borovoye Array**	**62.75**	**320**	P	**P**	**12 33 48.6**	**+0.3**
	comp=Z,6.5nm,0.5s,baz=89,slow=7.1,SNR=32						
	comp=Z,6.5nm,0.5s						
D25K	**Kavik River**	**63.05**	**22**	P	**P**	**12 33 51.1**	**+1.1**
D25K				IAmb	IAmb	12 33 51.9	
	comp=Z,3.4nm,0.6s						
KK31	**Karatay Array**	**63.13**	**308**	P	**P**	**12 33 50.9**	**-0.1**
KK31				IAmb	IAmb	12 33 52.2	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**63.13**	**308**	P	**P**	**12 33 50.9**	**-0.1**
KKAR				IAmb	IAmb	12 33 52.2	
	comp=Z,2.6nm,0.8s						
KKAR	**Karatay Array**	**63.13**	**308**	P	**P**	**12 33 51.3**	**+0.3**
E25K	**Arctic Village**	**63.13**	**23**	P	**P**	**12 33 51.7**	**+1.1**
SCRK	**Sand Creek**	**63.24**	**28**	P	**P**	**12 33 51.3**	**-0.1**
SCRK				IAmb	IAmb	12 33 52.5	
	comp=Z,2.5nm,0.7s						
BMAR	**Burnt Mountain**	**63.40**	**24**	P	**P**	**12 33 53.0**	**+0.7**
BCAR	**Beaver Creek A**	**64.16**	**29**	P	**P**	**12 33 57.1**	**-0.3**
EGAK	**Eagle**	**64.53**	**27**	P	**P**	**12 33 59.9**	**+0.3**
EGAK				IAmb	IAmb	12 34 02.5	
	comp=Z,4.6nm,1.3s						
I28M	**Miner Creek**	**65.08**	**27**	P	**P**	**12 34 03.9**	**+0.6**
I28M				IAmb	IAmb	12 34 05.2	
	comp=Z,2.5nm,0.9s						
F28M	**Old Crow**	**65.22**	**24**	P	**P**	**12 34 04.3**	**+0.3**
F28M				IAmb	IAmb	12 34 06.2	
	comp=Z,2.3nm,0.8s						
DAWY	**Dawson**	**65.27**	**28**	P	**P**	**12 34 04.6**	**+0.1**
DAWY				IAmb	IAmb	12 34 48.6	
	comp=Z,3.6nm,1.4s						
E28M	**Babbage River**	**65.41**	**23**	P	**P**	**12 34 06.8**	**+1.6**
E28M				IAmb	IAmb	12 34 36.5	
	comp=Z,6.1nm,1.4s						
H29M	**Whitestone**	**65.75**	**26**	P	**P**	**12 34 08.3**	**+0.9**
L29M	**L29M**	**65.82**	**29**	P	**P**	**12 34 09.2**	**+1.2**
L29M				IAmb	IAmb	12 34 10.4	
	comp=Z,3.3nm,0.9s						
G29M	**Pine Creek**	**65.91**	**25**	P	**P**	**12 34 10.0**	**+1.5**
G29M				IAmb	IAmb	12 34 10.3	
	comp=Z,7.3nm,1.4s						
EPYK	**Eagle Plains**	**66.42**	**26**	P	**P**	**12 34 12.1**	**+0.4**
G31M	**Satah River**	**67.39**	**25**	P	**P**	**12 34 18.3**	**+0.7**
INK	**Inuvik**	**67.62**	**24**	P	**P**	**12 34 18.8**	**-0.3**
INK				IAmb	IAmb	12 34 39.9	
	comp=Z,4.3nm,1.4s						
INK	**Inuvik**	**67.62**	**24**	P	**P**	**12 34 19.2**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=271,slow=9.6,SNR=6.9						
	comp=Z,0.9nm,0.6s						
ABKAR	**Akbulak array**	**69.63**	**316**	P	**P**	**12 34 31.0**	**-0.8**
ABKAR	**Akbulak array**	**69.63**	**316**	P	**P**	**12 34 31.3**	**-0.5**
ABKAR				IAmb	IAmb	12 34 32.4	
	comp=Z,4.2nm,0.7s						
A36M	**Sachs Harbour**	**70.10**	**19**	P	**P**	**12 34 34.1**	**-0.1**
A36M				IAmb	IAmb	12 34 36.2	
	comp=Z,4.1nm,0.9s						
C36M	**Paulatuk**	**70.92**	**22**	P	**P**	**12 34 38.6**	**-0.5**
C36M				IAmb	IAmb	12 34 39.8	
	comp=Z,2.3nm,0.7s						
SPITS	**Spitsbergen Ar**	**75.91**	**350**	P	**P**	**12 35 08.6**	**+0.5**
	comp=Z,1.6nm,0.6s,baz=28,slow=13,SNR=6.0						
	comp=Z,1.6nm,0.6s						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	**P**	**12 35 11.9**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=294,slow=6.2,SNR=25						
	comp=Z,1.5nm,0.6s						
ARCES	**ARCESS Array B**	**79.00**	**342**	P	**P**	**12 35 25.4**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=71,slow=8.6,SNR=20						
	comp=Z,2.3nm,0.5s						
KBZ	**Khabaz**	**82.45**	**314**	P	**P**	**12 35 43.7**	**-0.1**
	comp=Z,2.1nm,0.6s,baz=79,slow=5.7,SNR=6.9						
	comp=Z,2.1nm,0.6s						
NVAR	**Mina Array Bea**	**83.16**	**51**	P	**P**	**12 35 48.7**	**+0.8**
	comp=Z,1.3nm,0.7s,baz=275,slow=5.2,SNR=13						
	comp=Z,1.3nm,0.7s						
FINES	**FINESS Array B**	**83.26**	**334**	P	**P**	**12 35 46.7**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=64,slow=4.8,SNR=22						
	comp=Z,1.2nm,0.3s						
AKASG	**Malin Array Be**	**87.59**	**324**	P	**P**	**12 36 07.2**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=58,slow=4.1,SNR=1.5						
	comp=Z,0.3nm,0.4s						
HFS	**Hagfors**	**88.81**	**337**	P	**P**	**12 36 12.7**	**-1.9**
	comp=Z,0.7nm,0.3s,baz=69,slow=4.9,SNR=5.5						
	comp=Z,0.7nm,0.3s						
BRTR	**Keskin Array B**	**90.42**	**313**	P	**P**	**12 36 21.4**	**-1.3**
	comp=Z,0.4nm,0.5s,baz=5.2,slow=5.0,SNR=2.8						
	comp=Z,0.4nm,0.5s						
QSPA	**South Pole Qui**	**111.42**	**180**	PKiKP	**PKiKP**	**12 41 51.0**	**-1.5**
	comp=Z,6.5nm,1.4s,baz=168,slow=1.9,SNR=7.2						
TORD	**Torodi Ar. Bea**	**128.82**	**309**	PKP	**PKPdf**	**12 42 25.1**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=36,slow=2.1,SNR=7.4						
PLCA	**Paso Flores**	**145.68**	**131**	PKPbc	**PKPdf**	**12 42 58.6**	**+1.0**
	comp=Z,2.0nm,0.5s,baz=253,slow=4.7,SNR=9.1						
LPAZ	**La Paz**	**149.91**	**85**	PKPbc	**PKPbc**	**12 43 11.6**	**+0.5**
	comp=Z,2.1nm,0.6s,baz=321,slow=1.3,SNR=9.4						

TAP 20 12:50:50.3, 24°.47N×121°.93E, h7km, ML1.8, 1D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.14**	**323**	*i* P	Pg	12 50 53.2	+0.1
	baz=323						
ESAO				*eS*	Sg	12 50 55.1	0.0
	baz=323						
EWUT	**Wuta**	**0.14**	**262**	*i* P	Pg	12 50 53.2	0.0
	baz=261						
EWUT				*eS*	Sg	12 50 56.9	+1.6
	baz=261						
TWC	**Suao**	**0.16**	**332**	*i* P	Pg	12 50 53.4	-0.2
	baz=334						
TWC				*eS*	Sg	12

ETM				*e*S		Sg	12 51 11.0	+0.1
	baz=218							
LXIB	**Xiulin Townshi**	**0.65**	**227**	P		Pg	12 51 02.4	-0.4
	baz=227							
LXIB				S		Sg	12 51 11.6	+0.3
	baz=227							
FUSS	**Fushou**	**0.67**	**251**	*e*P		Pg	12 51 03.2	0.0
	baz=250							
FUSS				S		Sg	12 51 12.1	+0.3
	baz=250							
WHF	**Hehuan Shan**	**0.69**	**243**	*e*P		Pg	12 51 03.3	-0.3
	baz=242							
WHF				S		Sg	12 51 13.0	+0.4
	baz=242							
YM01	**YM01**	**0.75**	**334**	*e*P		Pg	12 51 05.2	+0.4
	baz=333							
YM01				*e*S		Sg	12 51 14.8	+0.2
	baz=333							
SHUL	**Shoufeng**	**0.76**	**207**	*e*P		Pn	12 51 06.6	-0.7
	baz=206							
SHUL				*e*S		Sn	12 51 18.0	-1.0
	baz=206							
CHGB	**Renai**	**0.80**	**240**	*e*P		Pg	12 51 05.8	+0.1
	baz=239							
CHGB				S		Sg	12 51 16.8	+0.6
	baz=239							
LIOB	**Emei**	**0.85**	**282**	*e*P		Pb	12 51 07.4	-0.1
	baz=282							
LIOB				*e*S		Sb	12 51 19.0	-0.1
	baz=282							
OWD	**Renai**	**0.86**	**234**	*e*P		Pg	12 51 05.1	-1.7
	baz=233							
OWD				S		Sg	12 51 17.9	-0.1
	baz=233							
WUSB	**Renai**	**0.88**	**238**	*e*P		Pg	12 51 07.3	+0.1
	baz=237							
WUSB				S		Sg	12 51 19.1	+0.4
	baz=237							
WARBT	**Fenglin Townsh**	**0.90**	**214**	P		Pg	12 51 07.3	-0.2
	baz=213							
WARBT				S		Sg	12 51 19.1	-0.1
	baz=213							
VWDT	**VWDT**	**1.01**	**226**	*e*P		Pn	12 51 10.7	-0.2
	baz=225							
VWDT				*e*S		Sb	12 51 23.7	+0.1
	baz=225							
EHY	**Hungye**	**1.11**	**210**	P		Pg	12 51 11.6	+0.1
	baz=209							
EHY				*e*S		Sn	12 51 27.5	-0.3
	baz=209							
SSLB	**Suanglung**	**1.12**	**233**	*e*P		Pg	12 51 11.2	-0.6
	baz=232							
SSLB				*e*S		Sg	12 51 25.1	-1.2
	baz=232							
YULB	**Yu-li**	**1.22**	**209**	*e*P		Pn	12 51 13.9	+0.2
	baz=208							
YULB				*e*S		Sb	12 51 29.7	+0.2
	baz=208							

JMA 20 12:51:21.4±0.2, 24°N±1°×12°4E±°, h20km±2km, MV0.8/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKRS	**Kuro-shima**	**0.13**	**76**	*i* P	Pb	12 51 25.7	-0.7
JKRS				*e*S	Sb	12 51 28.9	-0.9
HATJ	**Hateruma jima**	**0.16**	**201**	P	Pb	12 51 25.8	-0.6
HATJ				*e*S	Sb	12 51 29.1	-0.9
JIJ	**Ishigaki jima**	**0.30**	**58**	P	Pb	12 51 27.8	-0.3
JIJ				*e*S	Sb	12 51 32.2	-0.3
JISG	**Ishigakijimahi**	**0.56**	**47**	P	Pb	12 51 32.5	0.0
JISG				*e*S	Sb	12 51 40.5	+0.5
JYNG	**Yonagunijimaku**	**0.88**	**286**	*e*S	Sb	12 51 49.5	+0.3

*IDC **20** 12:52:29.2±0.9, 1°.02S×137°.14E, h0km, mb3.8/10, mbtmp3.8/11, ML4.0/1, MS3.3/11, Error ellipse: s-maj=47.6km s-min=17.5km az=75.0*

ISC 20 12:52:33.9±0.8, 1°.05S±0°.10×137°.1E±0°.1, h29km, n33, σ1°04/21, mb3.8/10, MS3.4/8, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FAKI	**Fak Fak**	**5.15**	**249**	P	**Pn**	**12 53 49.8**	**+0.6**
KDU	**Kakadu**	**12.42**	**201**	P	**Pn**	**12 55 27.5**	**-1.4**
MTN	**Manton Dam**	**13.10**	**206**	P	**Pn**	**12 55 37.8**	**-0.4**
DAV	**Davao City (W)**	**14.01**	**305**	LR	LR	13 01 59.4	
	comp=Z,54nm,18.2s,baz=120,slow=41						
GUMO	**Guam**	**16.48**	**28**	LR	LR	13 02 39.8	
	comp=Z,47nm,19.4s,baz=190,slow=37						
WRA	**Warramunga Arr**	**18.96**	**188**	P	**P**	**12 56 52.6**	**-0.4**
	0.5nm,0.3s,baz=9.6,slow=12,SNR=8.7						
WRA				S	Sn	13 00 10.1	-15
	2.0nm,0.9s,baz=0.9,slow=23,SNR=5.7						
WRA				LR	LR	13 04 05.9	
	comp=Z,113nm,18.0s,baz=326,slow=37 1.7nm,0.4s						
QIS	**Mount Isa**	**19.54**	**173**	P	**Pn**	**12 57 00.8**	**0.0**
AS01	**Alice Springs**	**22.68**	**187**	P	**P**	**12 57 34.5**	**+1.3**
ASAR	**Alice Springs**	**22.69**	**188**	P	**P**	**12 57 33.6**	**+0.3**
	5.0nm,0.7s,baz=13,slow=12,SNR=53 5.0nm,0.7s						
WRKA	**Warakurna**	**25.30**	**199**	P	**P**	**12 57 58.5**	**+0.3**
QLP	**Quilpie**	**26.30**	**165**	P	**P**	**12 58 10.6**	**+3.4**
OOD	**Oodnadatta**	**26.62**	**183**	P	**P**	**12 58 11.0**	**+1.0**
JOW	**Kunigami**	**28.99**	**344**	LR	LR	13 09 28.1	
	comp=Z,35nm,18.9s,baz=304,slow=35						
STKA	**Stephens Creek**	**30.96**	**172**	P	**P**	**12 58 48.0**	**-0.6**
	1.6nm,0.6s,baz=337,slow=9.0,SNR=4.8 1.6nm,0.6s						
JNU	**Nakatsue**	**34.49**	**351**	LR	LR	13 10 07.0	
	comp=Z,32nm,21.0s,baz=167,slow=31						
H11S3	**WAKE ISLAND Hy**	**35.01**	**55**	T	T	13 36 35.4	
	baz=240						
H11S2	**WAKE ISLAND Hy**	**35.03**	**55**	T	T	13 36 30.3	
	baz=240						
H11S1	**WAKE ISLAND Hy**	**35.03**	**55**	T	T	13 36 30.4	
	baz=240						
KSRS	**Korea Array**	**39.24**	**348**	LR	LR	13 15 22.4	
	comp=Z,26nm,19.9s,baz=135,slow=35						
CMAR	**Chiang Mai Arr**	**42.19**	**299**	P	**P**	**13 00 24.7**	**+0.1**
	0.2nm,0.3s,baz=119,slow=7.3,SNR=1.6 0.2nm,0.3s						
KLR	**Kul'dur**	**50.30**	**355**	LR	LR	13 18 41.9	
	comp=Z,43nm,21.8s,baz=156,slow=31						
YAK	**Yakutsk**	**63.17**	**356**	LR	LR	13 26 57.6	
	comp=Z,29nm,21.9s,baz=150,slow=33						
MKAR	**Makanchi Array**	**67.48**	**323**	P	**P**	**13 03 27.7**	**+0.5**
	0.4nm,0.7s,baz=113,slow=8.0,SNR=4.0 0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**69.69**	**330**	P	**P**	**13 03 39.9**	**-0.9**
	0.2nm,0.2s,baz=128,slow=9.3,SNR=1.7 0.2nm,0.2s						
KURBB	**Kurchatov Arra**	**71.43**	**325**	P	**P**	**13 03 51.8**	**+0.3**
	0.1nm,0.3s,baz=114,slow=5.3,SNR=1.5 0.1nm,0.3s						
BVAR	**Borovoye Array**	**77.02**	**325**	P	**P**	**13 04 23.7**	**-0.4**
	0.6nm,0.6s,baz=121,slow=5.4,SNR=2.1 0.6nm,0.6s						
VNDA	**Vanda**	**77.57**	**175**	P	**P**	**13 04 27.0**	**+0.3**
	0.8nm,1.0s,baz=306,slow=3.5,SNR=2.9						
VNDA				LR	LR	13 37 54.2	
	comp=Z,34nm,19.6s,baz=5.0,slow=35 0.8nm,1.0s						
MAW	**Mawson**	**83.03**	**202**	LR	LR	13 40 24.9	
	comp=Z,24nm,18.0s,baz=78,slow=35						
AKTO	**Aktyubinsk**	**83.83**	**321**	LR	LR	13 42 08.3	
	comp=Z,26nm,22.0s,baz=261,slow=36						
ILAR	**Eielson Array**	**85.02**	**25**	P	**P**	**13 05 06.4**	**-0.1**
	0.3nm,0.7s,baz=288,slow=5.6,SNR=2.4 0.3nm,0.7s						
QSPA	**South Pole Qui**	**88.88**	**180**	P	**P**	**13 05 24.8**	**-0.5**
	2.6nm,1.1s,baz=321,slow=0.9,SNR=5.1 2.6nm,1.1s						
CPUP	**Villa Florida**	**149.44**	**154**	PKPbc	**PKPbc**	**13 12 20.4**	**-0.7**
	2.2nm,0.7s,baz=296,slow=1.9,SNR=3.3						
LPAZ	**La Paz**	**149.75**	**126**	PKPbc	**PKPbc**	**13 12 22.9**	**+0.1**
	0.5nm,0.6s,baz=178,slow=3.0,SNR=1.8						

*DNK **20** 13:05:02.4±0.5, 59°.60N×24°.93E, h0km, ML2.3(UPP), Suspected explosion*
*UPP **20** 13:05:04.4±2.8, 59°.60N×24°.71E, h0km, ML2.3*
*HEL **20** 13:05:05.2±0.1, 59°.51N×24°.57E, h0km, ML2.1, Explosion*

*EST **20** 13:05:05.5±0.0, 59°.52N×24°.51E, h0km, ML2.2(HEL), Explosion*
*IDC **20** 13:05:06.7±2.4, 59°.60N×24°.61E, h0km, mbtmp3.2/3, ML2.5/3, Error ellipse: s-maj=30.0km s-min=9.8km az=154.0*
*LVSN **20** 13:05:06.5±2.6, 59°.53N×24°.49E, h0km±3.3km, ML2.3*

ISC 20 13:05:04.9±0.7, 59°.50N±0°.02×24°.55E±0°.02, h0km, n62, σ1°05/88, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE02	**Kiisa, Saku**	**0.32**	**166**	*e*P	**Pg**	**13 05 11.5**	**+0.4**
EE02				*e*S	**Sg**	**13 05 15.9**	**+0.7**
EE01	**Perakula, Nova**	**0.56**	**238**	*e*P	**Pg**	**13 05 15.5**	**-0.1**
EE01				*e*S	**Sg**	**13 05 22.5**	**-0.3**
HEL1	**Helsinki**	**0.70**	**14**	*e*P	**Pg**	**13 05 18.0**	**-0.3**
HEL1				*e*S	**Sg**	**13 05 26.9**	**-0.4**
MEF	**Metsahovi**	**0.72**	**354**	*e*P	**Pg**	**13 05 18.4**	**-0.2**
MEF	**Metsahovi**	**0.72**	**354**	*e*P	**Pg**	**13 05 18.5**	**-0.2**
MEF				*e*S	**Sg**	**13 05 27.6**	**-0.4**
MEF				AML	AML	13 05 35.3	
	comp=Z,40nm,0.5s						
MEF				AML	AML	13 05 38.1	
	comp=E,27nm,0.3s						
MEF				AML	AML	13 05 38.5	
	comp=N,34nm,0.2s						
MEF	**Metsahovi**	**0.72**	**354**	*e*P	**Pg**	**13 05 18.1**	**-0.6**
ARBE	**Arbavere**	**0.74**	**95**	*e*P	**Pg**	**13 05 18.7**	**-0.4**
ARBE	**Arbavere**	**0.74**	**95**	*e*P	**Pg**	**13 05 19.0**	**-0.1**
ARBE				*e*S	**Sg**	**13 05 29.4**	**+0.8**
MTSE	**Matsula**	**0.88**	**206**	*e*P	**Pg**	**13 05 19.0**	**-2.7**
MTSE	**Matsula**	**0.88**	**206**	*e*P	**Pg**	**13 05 21.7**	**0.0**
MTSE				*e*S	**Sg**	**13 05 32.8**	**-0.3**
MTSE	**Matsula**	**0.88**	**206**	*e*P	**Pg**	**13 05 21.4**	**-0.3**
MTSE				*e*SB	**Sg**	**13 05 34.3**	**+1.2**
EE08	**Sarghaua, Vand**	**0.92**	**157**	*e*P	**Pg**	**13 05 22.6**	**0.0**
EE08				*e*S	**Sg**	**13 05 34.5**	**0.0**
NUR	**Nurmijrvi**	**1.01**	**3**	*e*PB	**Pg**	**13 05 23.7**	**-0.6**
NUR				MSG		13 05 35.8	
	comp=Z,15nm,0.2s						
EE03	**Tooma soojaam,**	**1.09**	**125**	*e*P	**Pg**	**13 05 25.5**	**-0.3**
EE03				*e*S	**Sg**	**13 05 40.1**	**+0.2**
PVF	**Pernaja**	**1.24**	**32**	*e*PB	**Pg**	**13 05 27.7**	**-0.9**
PVF				MSG		13 05 42.3	
	comp=Z,19nm,0.2s						
VSU	**Vasula**	**1.54**	**132**	*e*P	**Pn**	**13 05 33.8**	**+0.1**
VSU				*e*S	**Sn**	**13 05 53.4**	**-0.9**
VSU				AML	AML	13 05 58.5	
	comp=E,77nm,0.7s						
VSU				AML	AML	13 05 59.7	
	comp=Z,46nm,0.3s						
VSU				AML	AML	13 06 00.0	
	comp=N,97nm,0.4s						
VSU	**Vasula**	**1.54**	**132**	*e*PG	**Pn**	**13 05 33.5**	**-0.1**
VSU				*e*SN	**Sg**	**13 05 55.2**	**+0.8**
VJF	**Virojoki**	**1.83**	**54**	*e*P	**Pn**	**13 05 37.8**	**+0.2**
VJF				MSG		13 05 59.4	
	comp=Z,22nm,0.2s						
VJF				*e*SN	**Sb**	**13 06 02.6**	**-0.2**
RAF	**Rauma**	**2.06**	**319**	*e*P	**Pb**	**13 05 42.1**	**-1.0**
RAF	**Rauma**	**2.06**	**319**	*e*P	**Pn**	**13 05 41.9**	**+1.2**
RAF				AML	AML	13 06 11.6	
	comp=N,35nm,0.4s						
RAF				AML	AML	13 06 11.9	
	comp=Z,26nm,0.4s						
RAF				AML	AML	13 06 12.0	
	comp=E,40nm,0.2s						
RAF	**Rauma**	**2.06**	**319**	*e*PG	**Pn**	**13 05 41.7**	**+0.9**
RAF				MSG		13 06 06.4	
	comp=Z,20nm,0.2s						
RAF				*e*SG	**Sb**	**13 06 09.1**	**-0.2**
FIA0	**FINESS Array S**	**2.09**	**21**	*e*PB	**Pn**	**13 05 42.0**	**+0.8**
FIA0				MSG		13 06 06.9	
	comp=Z,12nm,0.2s						
FIA0				*e*SG	**Sb**	**13 06 09.0**	**-1.1**
FINES	**FINESS Array B**	**2.09**	**21**	Pn	**Pb**	**13 05 42.9**	**-0.8**
	comp=Z,6.3nm,0.3s,baz=202,slow=16,SNR=375						
FINES				Sn	**Sb**	**13 06 09.1**	**-1.1**
	comp=Z,4.0nm,0.3s,baz=206,slow=27,SNR=22						
SLIT	**Slitere, Latvi**	**2.22**	**213**	*e*P	**Pn**	**13 05 40.6**	**-2.4**
SLIT	**Slitere, Latvi**	**2.22**	**213**	*e*P	**Pb**	**13 05 44.9**	**-1.0**
SLIT				AML	AML	13 05 45.5	
	comp=Z,232nm,0.3s						
SLIT				AML	AML	13 06 16.8	
	comp=N,194nm,0.3s						
SLIT				AML	AML	13 06 17.5	
	comp=E,229nm,0.4s						
SLIT	**Slitere, Latvi**	**2.22**	**213**	*e*PG	**Pn**	**13 05 44.7**	**+1.7**
AAL	**Aland**	**2.40**	**288**	*e*P	**Pn**	**13 05 46.1**	**+0.7**
AAL	**Aland**	**2.40**	**288**	*e*P	**Pn**	**13 05 45.7**	**+0.4**
AAL				*e*SG	**Sb**	**13 06 17.9**	**-1.0**
KPF	**Kankaanpaa**	**2.64**	**334**	*e*PB	**Pn**	**13 05 50.6**	**+1.9**
KPF				*e*SG	**Sb**	**13 06 25.4**	**-0.5**
KEF	**Keuruu**	**2.68**	**3**	*e*P	**Pn**	**13 05 50.0**	**+0.7**
KEF	**Keuruu**	**2.68**	**3**	*e*PB	**Pn**	**13 05 51.0**	**+1.8**
KEF				MSG		13 06 23.7	
	comp=Z,7.5nm,0.2s						
KEF				*e*SB	**Sb**	**13 06 25.6**	**-1.5**
KAF	**Kangasniemi**	**2.76**	**17**	*e*PB	**Pn**	**13 05 51.8**	**+1.5**
KAF				MSG		13 06 26.1	
	comp=Z,10nm,0.2s						
KAF				*e*SG	**Sb**	**13 06 29.4**	**0.0**
RUF	**Ruokolahti**	**2.91**	**47**	*e*P	**Pn**	**13 05 52.8**	**+0.3**
RUF				MSG		13 06 30.4	
	comp=Z,5.6nm,0.2s						
NRTU	**Norrtaelje**	**3.01**	**276**	P	**Pn**	**13 05 54.1**	**+0.3**
NRTU				S	**Sn**	**13 06 31.9**	**+1.3**
NRTU	**Norrtaelje**	**3.01**	**276**	P	**Pn**	**13 05 54.1**	**+0.3**
NRTU				S	**Sn**	**13 06 31.9**	**+1.3**
GRAU	**Graesoe**	**3.14**	**288**	P	**Pn**	**13 05 55.0**	**-0.5**
GRAU	**Graesoe**	**3.14**	**288**	P	**Pn**	**13 05 55.0**	**-0.5**
SUF	**Sumiainen**	**3.32**	**13**	*e*P	**Pn**	**13 05 59.3**	**+1.2**
NYNU	**Nynaeshamn**	**3.40**	**264**	P	**Pn**	**13 05 59.7**	**+0.6**
NYNU				S	**Sn**	**13 06 41.6**	**+1.6**
NYNU	**Nynaeshamn**	**3.40**	**264**	P	**Pn**	**13 05 59.7**	**+0.6**
NYNU				S	**Sn**	**13 06 41.6**	**+1.6**
FLYU	**Flymyra**	**3.42**	**283**	P	**Pn**	**13 05 59.6**	**+0.2**
FLYU	**Flymyra**	**3.42**	**283**	P	**Pn**	**13 05 59.6**	**+0.2**
UPP	**Uppsala**	**3.53**	**279**	P	**Pn**	**13 06 01.3**	**+0.4**
UPP	**Uppsala**	**3.53**	**279**	P	**Pn**	**13 06 01.3**	**+0.4**
VAF	**Ylistaro**	**3.67**	**347**	*e*P	**Pn**	**13 06 05.1**	**+2.3**
FIBU	**Brunna**	**3.67**	**279**	P	**Pn**	**13 06 03.1**	**+0.3**
FIBU	**Brunna**	**3.67**	**279**	P	**Pn**	**13 06 03.1**	**+0.3**
BACU	**Backbrunna**	**3.79**	**279**	P	**Pn**	**13 06 04.7**	**+0.2**
BACU	**Backbrunna**	**3.79**	**279**	P	**Pn**	**13 06 04.7**	**+0.2**
OSTU	**Oestervaala**	**3.81**	**284**	P	**Pn**	**13 06 05.0**	**+0.2**
OSTU	**Oestervaala**	**3.81**	**284**	P	**Pn**	**13 06 05.0**	**+0.2**
IGGU	**Iggoen**	**3.86**	**294**	P	**Pn**	**13 06 05.6**	**+0.1**
IGGU	**Iggoen**	**3.86**	**294**	P	**Pn**	**13 06 05.6**	**+0.1**
VIKU	**Vikbolandet**	**4.18**	**259**	*e*P	**Pn**	**13 06 10.2**	**+0.3**
NIF	**Nilsia**	**4.20**	**20**	*e*PG	**Pb**	**13 06 20.4**	**+0.8**
HEMU	**Hemsoen**	**4.48**	**318**	*e*P	**Pn**	**13 06 15.0**	**+0.9**
JOF	**Joensuu**	**4.74**	**41**	*e*P	**Pn**	**13 06 17.4**	**-0.1**
JOF	**Joensuu**	**4.74**	**41**	*e*P	**Pn**	**13 06 17.1**	**-0.4**
UMAU	**Umeaa**	**4.76**	**339**	*e*P	**Pn**	**13 06 19.0**	**+1.1**
UMAU				*e*SG	**Sb**	**13 07 31.6**	**+4.6**
HFS	**Hagfors**	**5.51**	**281**	Pn	**Pn**	**13 06 28.0**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=106,slow=14,SNR=25						
HFS				Sn	**Sn**	**13 07 31.5**	**-0.7**
	comp=Z,0.6nm,0.3s,baz=95,slow=26,SNR=8.5						
HFS				Lg	Lg	13 07 54.0	
	comp=Z,0.8nm,0.3s,baz=89,slow=33,SNR=5.8 comp=Z,0.8nm,0.2s						
NOA	**NORSAR Array B**	**6.81**	**289**	Pn	**Pn**	**13 06 45.1**	**-0.9**
	baz=95,slow=9.0,SNR=7.6						
NOA				Sn	**Sn**	**13 08 03.8**	**-0.3**
	baz=130,slow=20,SNR=2.0						
NOA				Lg	Lg	13 08 40.8	
	comp=Z,0.1nm,0.3s,baz=36,slow=24,SNR=4.8 comp=Z,0.5nm,0.7s						
ARCES	**ARCESS Array B**	**10.08**	**2**	Pn	**Pn**	**13 07 28.2**	**-2.6**
	comp=Z,0.1nm,0.3s,baz=176,slow=13,SNR=12 comp=Z,1.7nm,0.7s						

*UCR **20** 13:44:25.8±0.8, 8°.28N×82°.80W, h19km±4km, MW3.8*
*UPA **20** 13:44:26.6±1.6, 8°.31N×82°.80W, h13km±3km, MW3.6*

ISC 20 13:44:24.8±1.2, 8°32N±0°.03×82°74W±0°.03, h14km±10km, n31, σ0°75/45, 1C-3D, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**	**0.17**	**231**	⇑*i*P	**Pb**	**13 44 30.0**	**+0.2**
PTPM				*e*S	**Sb**	**13 44 33.9**	**+0.7**
LIMO3	**Limones**	**0.24**	**210**	*e*P	**Pb**	**13 44 31.0**	**0.0**
LIMO3				*e*S	**Sb**	**13 44 35.9**	**+0.8**
CDITO	**Canoas**	**0.29**	**333**	*e*P	**Pb**	**13 44 32.5**	**+0.8**
CDITO				*i* S	**Sb**	**13 44 37.3**	**+0.9**
DVD	**David**	**0.31**	**67**	⇓*i*P	**Pn**	**13 44 34.5**	**-0.4**
DVD				*e*S	**Sn**	**13 44 41.2**	**-0.1**
PEDE3	**Pedregal, Chir**	**0.32**	**78**	*e*P	**Pn**	**13 44 34.5**	**-0.6**
PEDE3				*e*S	**Sn**	**13 44 40.8**	**-0.7**
BCO2	**Palmira**	**0.45**	**28**	⇓*i*P	**Pn**	**13 44 36.7**	**-0.3**
BCO2				*e*S	**Sn**	**13 44 45.5**	**+0.5**
BRU2	**Volcan**	**0.48**	**6**	⇓*i*P	**Pn**	**13 44 36.7**	**-0.6**
BRU2				*e*S	**Sn**	**13 44 45.3**	**-0.3**
BRU2	**Volcan**	**0.48**	**6**	*e*P	**Pn**	**13 44 36.5**	**-0.8**
MLIR3	**Monte Lirio, C**	**0.48**	**350**	*e*P	**Pn**	**13 44 37.3**	**-0.1**
MLIR3				*e*S	**Sn**	**13 44 46.5**	**+0.8**
GUAL3	**Gualaca, Chiri**	**0.49**	**64**	*e*P	**Pn**	**13 44 37.2**	**-0.2**
GUAL3				*e*S	**Sn**	**13 44 45.0**	**-0.6**
EDAD	**Golfito**	**0.54**	**309**	*e*P	**Pg**	**13 44 34.9**	**-0.6**
PSOM3	**Paja de Sombre**	**0.56**	**48**	*e*P	**Pn**	**13 44 38.0**	**-0.3**
PSOM3				*e*S	**Sn**	**13 44 47.3**	**0.0**
PIRO	**Carate, Puerto**	**0.59**	**279**	*e*P	**Pg**	**13 44 35.6**	**-0.9**
JIME	**Puerto Jimenez**	**0.62**	**291**	*e*P	**Pg**	**13 44 36.7**	**-0.2**
JIME				*e*S	**Sb**	**13 44 45.9**	**+0.1**
EDPN	**Palmar Norte**	**0.95**	**312**	*e*P	**Pb**	**13 44 42.5**	**-0.6**
DRK0	**Durika**	**1.06**	**332**	*e*P	**Pb**	**13 44 44.8**	**-0.3**
SRBA	**San Rafael, Bu**	**1.10**	**326**	*e*P	**Pb**	**13 44 45.0**	**-0.7**
CNI2	**El Empalme, Bo**	**1.13**	**14**	*e*P	**Pg**	**13 44 47.0**	**+0.2**
CNI2				*i* S	**Sg**	**13 45 03.5**	**+2.0**
PEZE	**Perez Zeledon,**	**1.41**	**319**	*e*P	**Pn**	**13 44 49.8**	**-0.3**
MESA3	**La Mesa, Verag**	**1.55**	**96**	*e*P	**Pb**	**13 44 53.5**	**+0.2**
MESA3				*e*S	**Sg**	**13 45 14.8**	**0.0**
BUS1	**Rivas**	**1.58**	**321**	*e*P	**Pn**	**13 44 52.5**	**-0.3**
CDM	**Cerro de Muert**	**1.59**	**321**	*e*P	**Pn**	**13 44 52.7**	**-0.3**
LCR2	**La Lucha 2**	**1.89**	**319**	*e*P	**Pn**	**13 44 56.4**	**-0.5**
VTCV	**VTCV, Calle Va**	**1.92**	**330**	*e*P	**Pb**	**13 44 58.5**	**-1.2**
CVTV	**Tajo**	**1.95**	**329**	*e*P	**Pb**	**13 44 58.9**	**-1.4**
CVTQ	**Turrialba Volc**	**1.96**	**329**	*e*P	**Pb**	**13 44 59.3**	**-1.2**
VTLA	**Turrialba Volc**	**1.96**	**329**	*e*P	**Pb**	**13 44 59.2**	**-1.3**
VTLO	**VTLO**	**1.97**	**331**	*e*P	**Pb**	**13 44 59.3**	**-1.4**
VICA	**Volcano Irazu**	**1.98**	**327**	*e*P	**Pn**	**13 44 59.1**	**+0.8**
JTS	**Las Juntas de**	**2.94**	**312**	*e*P	**Pn**	**13 45 11.9**	**+0.8**
JTS				*e*S	**Sn**	**13 45 46.1**	**0.0**
JTS	**Las Juntas de**	**2.94**	**312**	*e*P	**Pn**	**13 45 11.3**	**+0.2**

*IDC **20** 13:46:16.9±1.2, 24°.85N×123°.96E, h0km, mb3.4/4, mbtmp3.5/6, ML2.5/2, MS3.0/4, Error ellipse: s-maj=34.9km s-min=25.5km az=125.0*
*NIED **20** 13:46:17.7, 24°.92N×123°.96E, h10km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^{14}Nm; M_{rr}=5.77; $M_{\theta\theta}$=0.23; $M_{\phi\phi}$=5.54; $M_{r\theta}$=-2.07; $M_{\theta\phi}$=0.49; $M_{\phi r}$=2.59; Fault plane solution: M_0=6.53000×10^{14} NP1: ϕ_s=167.00000°, δ=59.00000°, λ=109.00000°. NP2: ϕ_s=21.00000°, δ=36.00000°, λ=61.00000°.*
*JMA **20** 13:46:17.7±0.3, 24°.9N±0°.7×124°.0E±0°.5, h10km±4km, MV3.5/14, NW OFF ISHIGAKIJIMA IS*

ISC 20 13:46:17.4±1.5, 24°.88N±0°.06×123°.98E±0°.04, h5km±10km, n21, σ0°52/26, mb3.4/4, MS2.6/3, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.42**	**133**	P	**Pb**	**13 46 26.7**	**-0.6**
JISG				S	**Sb**	**13 46 33.2**	**-0.7**
JIJ	**Ishigaki jima**	**0.53**	**163**	P	**Pb**	**13 46 28.6**	**-0.6**
JIJ				S	**Sg**	**13 46 36.0**	**+1.5**
IRIF	**Iriomote-Funau**	**0.58**	**203**	P	**Pb**	**13 46 29.9**	**-0.2**
IRIF				S	**Sb**	**13 46 38.4**	**-0.3**
JKRS	**Kuro-shima**	**0.64**	**177**	P	**Pb**	**13 46 30.9**	**-0.1**
JTJ	**Tarama**	**0.70**	**109**	P	**Pb**	**13 46 31.9**	**-0.2**
JTJ				S	**Sb**	**13 46 42.5**	**+0.4**
HATJ	**Hateruma jima**	**0.83**	**191**	P	**Pb**	**13 46 34.4**	**+0.1**
HATJ				*e*S	**Sb**	**13 46 45.9**	**+0.2**
YOJ	**Yonaguni jima**	**0.97**	**245**	P	**Pg**	**13 46 35.6**	**-0.4**
JYNG	**Yonagunijimaku**	**1.03**	**246**	P	**Pg**	**13 46 36.5**	**-0.6**
JIRB	**Irabujima**	**1.09**	**92**	P	**Pg**	**13 46 38.0**	**-0.3**
JIKM	**Ikemajima**	**1.16**	**87**	P	**Pg**	**13 46 39.7**	**+0.1**
JIKM				*e*S	**Sg**	**13 46 55.0**	**+0.3**
JMJ2	**Miyako jima3**	**1.24**	**96**	P	**Pg**	**13 46 40.9**	**-0.3**
JMJ2				*e*S	**Sg**	**13 46 56.8**	**-0.4**
JOGS	**Gusukube**	**1.31**	**95**	P	**Pn**	**13 46 42.0**	**-0.3**
JOGS				*e*S	**Sn**	**13 47 00.1**	**0.0**
JOW	**Kunigami**	**4.34**	**62**	Pn	**Pn**	**13 47 24.7**	**+0.7**
	0.5nm,0.3s,baz=84,slow=27,SNR=1.3 9.5nm,0.7s						
JNU	**Nakatsue**	**10.20**	**35**	LR	LR	13 53 06.4	
	comp=Z,70nm,18.2s,baz=193,slow=40		

ISC 20 14:05:48.9±5.2, 12°91N±0°05×88°88W±0°03, h38km±6km, n84, σ0°73/121, 13C-18D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
TECO	**Alcaldia de Te**	**0.63**	**9**	*eP*		**Pn**	**14 06 00.9**	**-0.5**
TECO	**Alcaldia de Te**	**0.63**	**9**	*iP*		**Pn**	**14 06 00.9**	**-0.5**
TECO				*i*	S	**Sn**	**14 06 09.9**	**-0.4**
TECO					IAML		14 06 11.3	
	comp=Z,10μm,1.0s							
COEB	**Comit de Eme**	**0.68**	**30**	*eP*		**Pn**	**14 06 01.8**	**-0.3**
COEB	**Comit de Eme**	**0.68**	**30**	*iP*		**Pn**	**14 06 01.8**	**-0.3**
COEB				*i*	S	**Sn**	**14 06 12.1**	**+0.6**
COEB					IAML		14 06 14.9	
	comp=Z,8μm,1.0s							
TECA	**Tecapa**	**0.69**	**32**	*iP*		**Pn**	**14 06 02.1**	**-0.2**
SNVI	**San Vicente**	**0.70**	**3**	*eP*		**Pn**	**14 06 02.1**	**-0.3**
COEG	**Centro de Oper**	**0.70**	**0**	*eP*		**Pn**	**14 06 01.9**	**-0.5**
COEG				*eS*		**Sn**	**14 06 12.3**	**+0.2**
COEG	**Centro de Oper**	**0.70**	**0**	*iP*		**Pn**	**14 06 01.9**	**-0.5**
COEG				*i*	S	**Sn**	**14 06 12.1**	**0.0**
COEG					IAML		14 06 16.7	
	comp=Z,8μm,1.0s							
LALI	**Alcalda de L**	**0.72**	**323**	*eP*		**Pn**	**14 06 01.8**	**-0.7**
LALI				*eS*		**Sn**	**14 06 11.4**	**-0.8**
LALI	**Alcalda de L**	**0.72**	**323**	*iP*		**Pn**	**14 06 01.8**	**-0.7**
LALI				*i*	S	**Sn**	**14 06 11.4**	**-0.8**
LALI					IAML		14 06 11.8	
	comp=Z,2μm,1.0s							
UESV	**Universidad de**	**0.73**	**7**	*iP*		**Pn**	**14 06 02.3**	**-0.4**
UESV				*i*	S	**Sn**	**14 06 12.7**	**+0.1**
UESV					IAML		14 06 16.0	
	comp=Z,10μm,1.0s							
PANCS	**Alcalda de**	**0.76**	**337**	*iP*		**Pn**	**14 06 02.2**	**-0.9**
PANCS				*i*	S	**Sn**	**14 06 12.5**	**-0.8**
PANCS					IAML		14 06 14.3	
	comp=Z,9μm,1.0s							
PQSS	**Presa 15 de Se**	**0.77**	**24**	*eP*		**Pn**	**14 06 03.3**	**+0.1**
PQSS	**Presa 15 de Se**	**0.77**	**24**	*iP*		**Pn**	**14 06 03.1**	**-0.2**
PQSS				*i*	S	**Sn**	**14 06 14.6**	**+0.9**
PQSS					IAML		14 06 16.5	
	comp=Z,17μm,1.0s							
PACA	**Pacayal**	**0.78**	**44**	*eP*		**Pn**	**14 06 03.4**	**-0.1**
PACA	**Pacayal**	**0.78**	**44**	*iP*		**Pn**	**14 06 03.3**	**-0.1**
PACA				*i*	S	**Sn**	**14 06 14.8**	**+0.9**
PACA					IAML		14 06 17.3	
	comp=Z,53μm,1.0s							
RANC	**El Ranchito**	**0.78**	**48**	*eP*		**Pn**	**14 06 03.2**	**-0.3**
RANC	**El Ranchito**	**0.78**	**48**	*iP*		**Pn**	**14 06 03.0**	**-0.4**
RANC				*i*	S	**Sn**	**14 06 14.8**	**+0.8**
RANC					IAML		14 06 19.3	
	comp=Z,4μm,1.0s							
LOMA	**Loma Larga**	**0.78**	**339**	*eP*		**Pn**	**14 06 02.8**	**-0.8**
LOMA	**Loma Larga**	**0.78**	**339**	*iP*		**Pn**	**14 06 02.7**	**-0.8**
LOMA				*i*	S	**Sn**	**14 06 14.1**	**0.0**
LOMA					IAML		14 06 16.6	
	comp=Z,9μm,1.0s							
VSM	**San Miguel**	**0.78**	**49**	*iP*		**Pn**	**14 06 03.4**	**-0.2**
PAVA	**Las Pavas**	**0.80**	**356**	*eP*		**Pn**	**14 06 03.6**	**-0.1**
PAVA	**Las Pavas**	**0.80**	**356**	*iP*		**Pn**	**14 06 03.5**	**-0.2**
PAVA				*i*	S	**Sn**	**14 06 15.0**	**+0.5**
PAVA					IAML		14 06 15.7	
	comp=Z,22μm,1.0s							
SCLA	**Alcaldia de Sa**	**0.80**	**11**	*eP*		**Pn**	**14 06 03.5**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.80**	**11**	*iP*		**Pn**	**14 06 03.5**	**-0.2**
SCLA				*i*	S	**Sn**	**14 06 15.5**	**+1.1**
SCLA					IAML		14 06 16.6	
	comp=Z,3μm,1.0s							
AEIL	**Aeropuerto Ilo**	**0.81**	**344**	*eP*		**Pn**	**14 06 03.6**	**-0.3**
BLLM	**Bellamira**	**0.82**	**50**	*iP*		**Pn**	**14 06 03.7**	**-0.3**
SNET	**Serv Nac Est T**	**0.84**	**336**	*iP*		**Pn**	**14 06 03.6**	**-0.8**
SNET	**Serv Nac Est T**	**0.84**	**336**	*iP*		**Pn**	**14 06 03.5**	**-0.8**
SNET				*i*	S	**Sn**	**14 06 15.0**	**-0.6**
SNET					IAML		14 06 16.5	
	comp=Z,7μm,1.0s							
UDBS	**Universidad Do**	**0.84**	**342**	*eP*		**Pn**	**14 06 03.7**	**-0.6**
UDBS	**Universidad Do**	**0.84**	**342**	*iP*		**Pn**	**14 06 03.7**	**-0.6**
UDBS				*i*	S	**Sn**	**14 06 15.8**	**+0.3**
UDBS					IAML		14 06 20.0	
	comp=Z,7μm,1.0s							
UTEC	**Universidad Te**	**0.84**	**338**	*iP*		**Pn**	**14 06 04.1**	**-0.2**
UTEC				*i*	S	**Sn**	**14 06 15.2**	**-0.4**
UTEC					IAML		14 06 17.3	
	comp=Z,4μm,1.0s							
IGN	**Direccin Gen**	**0.85**	**341**	*iP*		**Pn**	**14 06 03.8**	**-0.5**
IGN				*i*	S	**Sn**	**14 06 15.5**	**-0.1**
IGN					IAML		14 06 18.2	
	comp=Z,24μm,1.0s							
ITCA	**Escuela Especi**	**0.85**	**333**	*eP*		**Pn**	**14 06 03.8**	**-0.7**
ITCA	**Escuela Especi**	**0.85**	**333**	*iP*		**Pn**	**14 06 03.7**	**-0.7**
ITCA					IAML		14 06 27.5	
	comp=Z,7μm,1.0s							
INTP	**Intipuca**	**0.85**	**70**	*eP*		**Pn**	**14 06 03.9**	**-0.5**
LFU	**La Fuente**	**0.86**	**345**	*eP*		**Pn**	**14 06 04.2**	**-0.4**
UEES	**Universidad Ev**	**0.87**	**336**	*eP*		**Pn**	**14 06 04.0**	**-0.7**
UEES	**Universidad Ev**	**0.87**	**336**	*iP*		**Pn**	**14 06 04.0**	**-0.7**
UEES				*i*	S	**Sn**	**14 06 16.0**	**-0.3**
UEES					IAML		14 06 20.2	
	comp=Z,3μm,1.0s							
PMON	**Piamonte**	**0.90**	**332**	*iP*		**Pn**	**14 06 04.4**	**-0.7**
PMON	**Piamonte**	**0.90**	**332**	*iP*		**Pn**	**14 06 04.4**	**-0.7**
PMON				*i*	S	**Sn**	**14 06 16.3**	**-0.7**
PMON					IAML		14 06 22.3	
	comp=Z,6μm,1.0s							
PIC2	**El Picacho**	**0.91**	**336**	*eP*		**Pn**	**14 06 05.0**	**-0.3**
BOQS	**Boqueron**	**0.91**	**335**	*eP*		**Pn**	**14 06 04.8**	**-0.5**
JAYA	**Jayaque - finc**	**0.92**	**323**	*eP*		**Pn**	**14 06 04.5**	**-1.0**
JAYA				*eS*		**Sn**	**14 06 17.5**	**-0.2**
JAYA	**Jayaque - finc**	**0.92**	**323**	*iP*		**Pn**	**14 06 04.5**	**-1.0**
JAYA				*i*	S	**Sn**	**14 06 17.3**	**-0.3**
JAYA					IAML		14 06 19.7	
	comp=Z,21μm,1.0s							
QUEZ	**Alcaldia de Qu**	**0.99**	**337**	*iP*		**Pn**	**14 06 06.5**	**+0.2**
QUEZ				*i*	S	**Sn**	**14 06 19.3**	**+0.1**
QUEZ					IAML		14 06 29.1	
	comp=Z,7μm,1.0s							
CEDA	**San Andres**	**1.02**	**331**	*iP*		**Pn**	**14 06 06.0**	**-0.7**
CEDA	**San Andres**	**1.02**	**331**	*iP*		**Pn**	**14 06 05.9**	**-0.7**
CEDA				*i*	S	**Sn**	**14 06 19.6**	**-0.1**
CEDA					IAML		14 06 23.5	
	comp=Z,8μm,1.0s							
LCND	**La Caada**	**1.04**	**68**	*eP*		**Pn**	**14 06 06.6**	**-0.4**
LCND	**La Caada**	**1.04**	**68**	*iP*		**Pn**	**14 06 06.5**	**-0.4**
LCND				*i*	P	**Pn**	**14 06 06.8**	**-0.2**
LCND				*i*	S	**Sn**	**14 06 20.6**	**+0.3**
LCND				*i*	S	**Sn**	**14 06 20.9**	**+0.6**
LCND					IAML		14 06 24.9	
	comp=Z,5μm,1.0s							
LCND					IAML		14 07 06.8	
	comp=Z,16μm,1.0s							
CNCH	**Conchagua**	**1.08**	**70**	*eP*		**Pn**	**14 06 07.0**	**-0.6**
CNCH	**Conchagua**	**1.08**	**70**	*iP*		**Pn**	**14 06 06.9**	**-0.7**
CNCH				*i*	S	**Sn**	**14 06 21.5**	**+0.1**
CNCH					IAML		14 06 27.3	
	comp=Z,4μm,1.0s							
CEVE	**Cerro Verde**	**1.16**	**322**	*iP*		**Pn**	**14 06 08.3**	**-0.5**
CEVE				*i*	S	**Sn**	**14 06 23.6**	**0.0**
CEVE					IAML		14 06 27.3	
	comp=Z,4μm,1.0s							
SBLS	**San Blas**	**1.17**	**322**	*eP*		**Pn**	**14 06 08.5**	**-0.5**
SNJE	**San Jose**	**1.18**	**324**	*eP*		**Pn**	**14 06 08.5**	**-0.6**
RTR	**El Retiro**	**1.23**	**323**	*eP*		**Pn**	**14 06 09.5**	**-0.2**
AMPH	**Amapala**	**1.25**	**72**	*eP*		**Pn**	**14 06 09.2**	**-0.5**
AMPH	**Amapala**	**1.25**	**72**	*iP*		**Pn**	**14 06 09.1**	**-0.7**
AMPH				*i*	S	**Sn**	**14 06 25.9**	**+0.6**
UNIC	**Universidad Ca**	**1.25**	**329**	*eP*		**Pn**	**14 06 09.5**	**-0.4**
UNIC	**Universidad Ca**	**1.25**	**329**	*iP*		**Pn**	**14 06 09.4**	**-0.4**
UNIC					IAML		14 06 09.6	
	comp=Z,2μm,1.0s							
UNIC				*i*	S	**Sn**	**14 06 25.0**	**-0.4**
NUBE	**Las Nubes**	**1.32**	**318**	*iP*		**Pn**	**14 06 10.2**	**-0.7**
NUBE	**Las Nubes**	**1.32**	**318**	*iP*		**Pn**	**14 06 10.2**	**-0.7**
NUBE				*i*	S	**Sn**	**14 06 26.6**	**-0.7**
NUBE					IAML		14 06 30.8	
	comp=Z,3μm,1.0s							
LOAL	**Lomas de Alarc**	**1.39**	**321**	*iP*		**Pn**	**14 06 11.9**	**+0.1**
LOAL					IAML		14 06 41.2	
	comp=Z,2μm,1.0s							
SLOZ	**Alcaldia de Sa**	**1.41**	**322**	*eP*		**Pn**	**14 06 11.7**	**-0.4**
MTO3	**Montecristo**	**1.55**	**343**	*iP*		**Pn**	**14 06 13.5**	**-0.7**
MTO3				*i*	S	**Sn**	**14 06 32.2**	**-0.9**
MTO3					IAML		14 06 35.5	
	comp=Z,390nm,1.0s							
ESQI	**Esquipulas**	**1.70**	**345**	*eP*		**Pn**	**14 06 16.0**	**-0.1**
ESQI	**Esquipulas**	**1.70**	**345**	*iP*		**Pn**	**14 06 15.9**	**-0.1**
ESQI					IAML		14 06 40.4	
	comp=Z,700nm,1.0s							
CRIN	**San Cristobal**	**1.80**	**97**	*eP*		**Pn**	**14 06 17.3**	**-0.2**
CRIN	**San Cristobal**	**1.80**	**97**	*iP*		**Pn**	**14 06 17.2**	**-0.2**
CRIN				*i*	S	**Sn**	**14 06 39.6**	**+0.6**
CRIN					IAML		14 06 46.6	
	comp=Z,3μm,1.0s							
TGUH	**Tegucigalpa,Un**	**1.94**	**54**	*iP*		**Pn**	**14 06 18.9**	**-0.5**
TGUH	**Tegucigalpa,Un**	**1.94**	**54**	*iP*		**Pn**	**14 06 18.8**	**-0.5**
TGUH					IAML		14 06 26.1	
	comp=Z,420nm,1.0s							
QUEN	**Al S del Volca**	**2.00**	**99**	*iP*		**Pn**	**14 06 19.8**	**-0.4**
QUEN					IAML		14 06 46.1	
	comp=Z,2μm,1.0s							
PACN	**Al O del Volca**	**2.08**	**101**	*iP*		**Pn**	**14 06 20.8**	**-0.4**
PACN				*i*	S	**Sn**	**14 06 46.9**	**+1.0**
PACN					IAML		14 06 50.6	
	comp=Z,960nm,1.0s							
CNGN	**Cerro Negro**	**2.17**	**101**	*eP*		**Pn**	**14 06 21.6**	**-0.8**
CNGN	**Cerro Negro**	**2.17**	**101**	*iP*		**Pn**	**14 06 21.7**	**-0.8**
CNGN					IAML		14 06 53.4	
	comp=Z,690nm,1.0s							
NBG	**Las Nubes**	**2.19**	**320**	*eP*		**Pn**	**14 06 26.5**	**+3.5**
GUNB	**GUNB**	**2.20**	**320**	*iP*		**Pn**	**14 06 22.1**	**-1.0**
GUNB					IAML		14 06 53.8	
	comp=Z,250nm,1.0s							
MACN	**El Madrono**	**2.20**	**101**	*iP*		**Pn**	**14 06 21.9**	**-1.0**
MACN					IAML		14 07 03.3	
	comp=Z,460nm,1.0s							
MRL	**Marmol**	**2.29**	**340**	*eP*		**Pn**	**14 06 25.6**	**+1.2**
MRL				*eS*		Sn	14 07 00.7	+9.2
MOMN	**Momotombo**	**2.34**	**102**	*iP*		**Pn**	**14 06 23.8**	**-1.0**
MOMN					IAML		14 07 01.7	
	comp=Z,25nm,1.0s							
COPN	**Copaltepe**	**2.35**	**108**	*iP*		**Pn**	**14 06 23.8**	**-1.1**
COPN					IAML		14 07 06.0	
	comp=Z,220nm,1.0s							
MOM2	**El Cardon**	**2.38**	**101**	*iP*		**Pn**	**14 06 24.3**	**-1.1**
MOM2					IAML		14 06 58.4	
	comp=Z,300nm,1.0s							
FUG	**Fuego 3**	**2.44**	**309**	*eP*		**Pn**	**14 06 27.2**	**+0.8**
FUG				*eS*		**Sn**	**14 06 57.4**	**+2.3**
STG3	**Santiaguito 3,**	**3.17**	**305**	*eP*		**Pn**	**14 06 37.0**	**+0.7**
STG3				*eS*		**Sn**	**14 07 15.0**	**+2.1**

IDC 20 14:12:27.0±2.0, 5°63S×152°93E, h0km, mb3.4/4, mbtmp3.5/5, ML1.3/1, MS3.3/1, Error ellipse: s-maj=50.6km s-min=34.2km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
PMG	**Port Moresby**	**6.85**	**236**	Pn		Pn	14 14 08.6	-0.2
	0.4nm,0.3s,baz=140,slow=17,SNR=1.4							
PMG				Sn		Sn	14 15 26.2	-1.3
	1.7nm,0.3s,baz=59,slow=18,SNR=3.0							
	8.7nm,0.8s							
WRA	**Warramunga Arr**	**23.01**	**230**	P		P	14 17 32.8	-1.0
	0.7nm,0.4s,baz=57,slow=9.1,SNR=11							
	0.7nm,0.4s							
ASAR	**Alice Springs**	**25.64**	**224**	P		P	14 17 59.4	+0.8
	0.2nm,0.4s,baz=54,slow=9.8,SNR=13							
	0.2nm,0.4s							
KLR	**Kul'dur**	**57.67**	**344**	LR		LR	14 43 49.3	
	comp=Z,31nm,21.2s,baz=173,slow=33							
VNDA	**Vanda**	**72.00**	**178**	P		P	14 23 52.2	+0.1
	0.2nm,0.3s,baz=323,slow=5.5,SNR=2.7							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**81.03**	**319**	P		P	14 24 44.1	+0.1
	0.1nm,0.4s,baz=120,slow=5.7,SNR=1.6							
	0.1nm,0.4s							

TAP 20 14:16:48.5, 24°36N×121°76E, h15km, ML1.1, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
EAHA	**Aohua**	**0.03**	**210**	*iP*		Pg	14 16 51.3	+0.1
	baz=210							
EAHA				*eS*		Sg	14 16 53.1	+0.2
	baz=210							
ENA	**Nanau**	**0.07**	**347**	*iP*		Pg	14 16 51.5	+0.1
	baz=353							
ENA				*i*	S	Sg	14 16 53.5	+0.2
	baz=353							
EWUT	**Wuta**	**0.09**	**12**	*iP*		Pg	14 16 51.6	+0.1
	baz=12							
EWUT				*i*	S	Sg	14 16 53.8	+0.2
	baz=12							
ETL	**Fush Village**	**0.23**	**212**	*iP*		Pg	14 16 53.9	+0.2
	baz=212							
ETL				*i*	S	Sg	14 16 57.6	+0.5
	baz=212							
NACB	**Ninganchiao**	**0.24**	**219**	*iP*		Pg	14 16 53.8	+0.1
	baz=214							
NACB				*i*	S	Sg	14 16 57.7	+0.5
	baz=214							
TWC	**Suao**	**0.26**	**18**	*iP*		Pg	14 16 54.3	+0.2
	baz=15							
TWC				*i*	S	Sg	14 16 58.0	+0.1
	baz=15							
LATG	**Datong**	**0.28**	**310**	*iP*		Pg	14 16 54.7	+0.3
	baz=310							
LATG				S		Sg	14 16 58.7	+0.2
	baz=310							
NDS	**Dongshan**	**0.28**	**352**	*iP*		Pb	14 16 55.4	+0.2
	baz=357							
NDS				*i*	S	Sg	14 16 58.8	+0.4
	baz=357							
TWD	**Chiawan**	**0.32**	**208**	*iP*		Pg	14 16 55.2	+0.2
	baz=207							
TWD				*i*	S	Sg	14 16 59.5	+0.1
	baz=207							
ENTT	**Nioudou**	**0.33**	**328**	*iP*		Pb	14 16 55.8	-0.3
	baz=329							
ENTT				*i*	S	Sg	14 17 00.3	+0.4
	baz=329							
NDT	**Datong Townshi**	**0.33**	**317**	*iP*		Pb	14 16 55.8	-0.3
	baz=317							
NDT				*i*	S	Sg	14 17 00.4	+0.5
	baz=317							
NNSB	**Datong**	**0.35**	**281**	*iP*		Pb	14 16 56.1	-0.3
	baz=281							
NNSB				*i*	S	Sg	14 17 00.6	0.0
	baz=281							
NNS	**Nan Shan**	**0.36**	**283**	*iP*		Pg	14 16 56.2	+0.4
	baz=283							
NNS				*i*	S	Sg	14 17 01.2	+0.2
	baz=283							
TWE	**Neicheng**	**0.37**	**347**	P		Pb	14 16 56.8	0.0
	baz=349							
TWE				S		Sb	14 17 02.1	-0.3
	baz=349							
FUSB	**Fushanzhiwuyua**	**0.43**	**339**	P		Pb	14 16 57.8	0.0
	baz=332							
FUSB				S		Sg	14 17 03.2	+0.2
	baz=332							
EOS2	**EOS2**	**0.44**	**82**	*eP*		Pb	14 16 58.7	+0.9
	baz=75							
EOS2				*eS*		Sb	14 17 05.7	+1.6
	baz=75							
ETM	**Tongmen**	**0.46**	**212**	*eP*		Pg	14 16 57.8	+0.1
	baz=212							
ETM				*eS*		Sg	14 17 04.2	+0.4
	baz=212							
LXIB	**Xiulin Townshi**	**0.46**	**223**	*iP*		Pg	14 16 57.6	-0.1
	baz=224							
LXIB				*i*	S	Sb	14 17 04.6	-0.5
	baz=224							
YHNB	**Yeheng**	**0.47**	**312**	*eP*		Pb	14 16 58.3	-0.2
	baz=311							
YHNB				S		Sb	14 17 04.7	-0.5
	baz=311							
NWLT	**Wulai**	**0.48**	**331**	*iP*		Pg	14 16 58.1	+0.1
	baz=331							
NWLT				*i*	S	Sg	14 17 04.4	0.0
	baz=331							
FUSS	**Fushou**	**0.48**	**257**	*iP*		Pg	14 16 58.5	+0.3
	baz=257							
FUSS				*i*	S	Sg	14 17 05.0	+0.4
	baz=257							
NSK	**Sanguang**	**0.48**	**311**	*iP*		Pb	14 16 58.4	-0.3
	baz=311							
NSK				*i*	S	Sg	14 17 05.0	+0.4
	baz=311							
WHF	**Hehuan Shan**	**0.50**	**245**	*eP*		Pb	14 16 59.0	-0.2
	baz=245							
TIPB	**Shuangxi**	**0.61**	**6**	P		Pb	14 17 00.8	-0.1
	baz=6.0							
TIPB				*i*	S	Sg	14 17 08.9	+0.2
	baz=6.0							
WARBT	**Fenglin Townsh**	**0.72**	**208**	P		Pg	14 17 02.0	-0.5
	baz=215							
WARBT				*eS*		Sg	14 17 11.6	-0.5
	baz=215							

TAP 20 14:16:53.1, 23°97N×120°95E, h19km, ML0.9, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
WCS	**Beigang Elemen**	**0.09**	**339**	*iP*		Pg	14 16 57.1	+0.2
	baz=339							
WCS				S		Sg	14 17 00.0	+0.6
	baz=339							
SMLT	**Sun Moon Lake**	**0.10**	**207**	P		Pg	14 16 57.3	+0.2
	baz=201							
SMLT				*eS*		Sg	14 17 00.6	+0.9
	baz=201							
WUSB	**Renai**	**0.16**	**82**	*iP*		Pg	14 16 57.8	+0.1
	baz=90							
WUSB				S		Sg	14 17 01.1	+0.3
	baz=90							
SSLB	**Suanglung**	**0.18**	**178**	*iP*		Pg	14 16 58.0	0.0
	baz=172							
SSLB				S		Sg	14 17 01.6	+0.3
	baz=172							
OWD	**Renai**	**0.21**	**94**	*iP*		Pg	14 16 58.6	+0.1
	baz=95							
OWD				*i*	S	Sg	14 17 02.5	+0.5
	baz=95							
VWDT	**VWDT**	**0.28**	**141**	*iP*		Pb	14 16 60.0	+0.6
	baz=141							
VWDT				S		Sg	14 17 04.4	+0.8
	baz=141							
WHYT	**Xinyi Township**	**0.29**	**198**	*iP*		Pb	14 16 60.0	+0.4
	baz=192							
WHYT				*i*	S	Sg	14 17 05.4	+1.4
	baz=192							
WHP	**Taichung City**	**0.30**	**360**	*iP*		Pb	14 17 01.0	+1.0
	baz=4.0							
WHP				*i*	S	Sb	14 17 06.6	+2.0
	baz=4.0							
WHF	**Hehuan Shan**	**0.34**	**59**	*eP*		Pb	14 17 01.1	+0.3
	baz=68							
WHF				*i*	S	Sb	14 17 06.0	+0.2
	baz=68							
WHF	**Hehuan Shan**	**0.34**	**59**	*iP*		Sb	14 17 06.1	+0.3
	baz=245							
CHN5	**Tsauling**	**0.45**	**214**	*eP*		Pn	14 17 04.2	-0.3
	baz=213							
CHN5				*i*	S	Sb	14 17 10.0	+1.2
	baz=213							

IDC 20 14:26:58.4±6.9, 19°11S×177°79W, h558km±78km, mb2.6/5, mbtmp3.5/5, Error ellipse: s-maj=129.0km s-min=28.4km az=155.0

ISC 20 14:26:56.1±2.1, 19°0S±0°9×177°8W±0°5, h532km, n8, σ0°56/9, mb3.0/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
WRA	**Warramunga Arr**	**45.00**	**261**	P		**P**	**14 34 24.4**	**0.0**
	0.3nm,0.5s,baz=98,slow=8.2,SNR=5.7							
	0.3nm,0.5s							
ASAR	**Alice Springs**	**45.05**	**255**	P		**P**	**14 34 25.3**	**+0.6**
	0.2nm,0.5s,baz=87,slow=7.7,SNR=16							
ASAR				PcP		**PcP**	**14 35 53.5**	**-0.8**
	0.2nm,0.5s,baz=107,slow=3.6,SNR=5.8							
	0.2nm,0.5s							
NVAR	**Mina Array Bea**	**79.84**	**43**	P		**P**	**14 38 09.5**	**-0.2**
	0.2nm,0.5s,baz=234,slow=6.2,SNR=2.3							
	0.2nm,0.5s							
TXAR	**Lajitas Array**	**86.11**	**57**	P		**P**	**14 38 41.3**	**+0.2**
	0.3nm,0.6s,baz=219,slow=5.8,SNR=4.0							
	0.3nm,0.6s							
YKA	**Yellowknife Ar**	**95.11**	**25**	P		**P**	**14 39 22.1**	**+0.3**
	0.2nm,0.7s,baz=198,slow=17,SNR=2.0							
	0.2nm,0.7s							
BRTR	**Keskin Array B**	**145.98**	**314**	PKPbc		**PKPdf**	**14 45 35.4**	**+0.6**
	0.2nm,0.4s,baz=89,slow=28,SNR=2.9							
MMAI	**Mount Meron Ar**	**147.23**	**302**	PKPbc		**PKPbc**	**14 45 39.9**	**-0.4**
	0.8nm,0.5s,baz=90,slow=3.3,SNR=3.7							
GERES	**GERESS Array B**	**148.84**	**345**	PKPbc		**PKPbc**	**14 45 43.3**	**-0.5**
	0.5nm,0.5s,baz=330,slow=3.7,SNR=2.4							

NEIC 20 14:30:43.7±1.3, 19°35N±0°02×155°131W±0°007, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.5km az=166.0

HVO 20 14:30:43±1.0, 19°34N±0°01×155°097W±0°006, h2km±7km, ML2.3/5, ML2.4/38(NEIC), Error ellipse: s-maj=2.1km s-min=0.8km az=169.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
JCUZ	**Jacuzzi**	**0.05**	**355**			Pg	14 30 44.8	+0.7
STCH	**Steam Cracks**	**0.06**	**332**			Pg	14 30 44.8	+0.7
NPOC	**North of Pu'u**	**0.06**	**348**			Pg	14 30 44.9	+0.7
KNHH	**Kane Nui o Ham**	**0.08**	**302**			Pg	14 30 45.2	+0.6
PUH	**Pauahi**	**0.12**	**288**			Pg	14 30 45.9	+0.6
JOKA	**Jonika Flow**	**0.13**	**42**			Sg	14 30 48.5	+1.2
JOKA	**Jonika Flow**	**0.13**	**42**			Pg	14 30 45.9	+0.4
JOKA					IAML		14 30 46.1	
	comp=N,724nm,1.2s							
JOKA					IAML		14 30 46.2	
	comp=E,252nm,1.2s							
BYL	**Byron's Ledge**	**0.17**	**296**			Pg	14 30 45.8	-0.5
HATHI	**Halema'uma'u T**	**0.18**	**299**			Pg	14 30 44.8	-1.6
RIM	**Rim**	**0.18**	**289**			Pg	14 30 44.9	-1.6
SBLHI	**Steaming Bluff**	**0.18**	**299**			Pg

*IDC **20** 14:48:01.3±2.0,52°.83N×172°.04E,h0km,mb3.5/6, mbtmp3.5/7, ML2.4/1, MS3.3/1, Error ellipse: s-maj=55.7km s-min=20.0km az=9.0*
*NEIC **20** 14:48:05.9±1.0,52°.8N±0°.2×171°.98E±0°.08,h35km±8km, mb3.9/28, Error ellipse: s-maj=25.3km s-min=4.6km az=192.0*

ISC 20 14:48:04.2±1.0,52°.8N±0°.2×171°.94E±0°.06,h22km,n42, σ0s98/41,mb3.9/17,Near Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHEM	**Shemya Is, Ala**	**1.31**	**91**	Pn	**Pn**	**14 48 24.8**	**-2.3**
	152nm,0.3s,baz=208,slow=4.4,SNR=180						
SHEM				Sn	**Sn**	**14 48 41.8**	**-2.2**
	173nm,0.3s,baz=262,slow=19,SNR=28						
AMKA	**Amchitka**	**4.75**	**104**	Pn	**Pn**	**14 49 15.5**	**+1.1**
PET	**Petropavlovsk**	**8.04**	**277**	Pn	**Pn**	**14 49 59.1**	**-0.4**
PEA0B	**Petropavlovsk-**	**8.61**	**278**	Pn	**Pn**	**14 50 08.1**	**+0.7**
PETK	**Petropavlovsk-**	**8.61**	**278**	Pn	**Pn**	**14 50 08.3**	**+0.9**
PETK	**Petropavlovsk-**	**8.61**	**278**	Pn	**Pn**	**14 50 09.0**	**+1.6**
	0.2nm,0.3s,baz=90,slow=19,SNR=12						
PETK				Sn	**Sn**	**14 51 40.6**	**-3.1**
	0.2nm,0.3s,baz=110,slow=25,SNR=1.1						
	1.7nm,0.9s						
K13K	**Kusilvak Mount**	**15.52**	**45**	P	**P**	**14 51 45.3**	**-0.2**
M14K	**Bethel**	**16.29**	**50**	P	**P**	**14 51 53.5**	**-0.6**
M14K				IAmb	IAmb	14 52 07.1	
	comp=Z,11nm,1.1s						
K15K	**Wolf Creek Mou**	**17.01**	**46**	P	**P**	**14 52 02.5**	**+0.5**
K15K				IAmb	IAmb	14 52 29.2	
	comp=Z,14nm,1.4s						
M17K	**Holitna River**	**18.58**	**50**	P	**Pn**	**14 52 19.2**	**-0.5**
K20K	**Telida**	**20.59**	**46**	Pn	Pn	14 52 42.9	-0.8
K20K				IAmb	IAmb	14 52 46.4	
	comp=Z,5.8nm,1.3s						
J20K	**Nowinta River**	**20.79**	**44**		Pn	14 52 44.5	-1.4
G21K	**Allakaket**	**21.83**	**38**	P	**P**	**14 52 55.7**	**+1.0**
TRF	**Thorofare Moun**	**22.27**	**47**	P	**P**	**14 53 00.7**	**+1.1**
TRF				IAmb	IAmb	14 53 01.7	
	comp=Z,4.5nm,1.1s						
B20K	**Meade River**	**22.31**	**28**	P	**P**	**14 53 00.9**	**+1.2**
RND	**Reindeer**	**22.90**	**47**	P	**P**	**14 53 05.8**	**-0.3**
RND				IAmb	IAmb	14 53 37.4	
	comp=Z,7.0nm,1.5s						
SML	**Sawmill**	**22.94**	**51**	P	**P**	**14 53 06.2**	**-0.3**
SML				IAmb	IAmb	14 53 17.3	
	comp=Z,5.7nm,1.1s						
SCM	**Sheep Creek Mo**	**23.41**	**51**	P	**P**	**14 53 11.0**	**-0.3**
MDM	**Murphy Dome**	**23.46**	**43**	P	**P**	**14 53 11.6**	**-0.1**
MDM				IAmb	IAmb	14 53 14.2	
	comp=Z,2.2nm,0.7s						
CCB	**Clear Creek Bu**	**23.57**	**44**	P	**P**	**14 53 12.8**	**+0.1**
CCB				IAmb	IAmb	14 53 15.4	
	comp=Z,2.3nm,0.6s						
HDA	**Harding Lake**	**23.89**	**45**	P	**P**	**14 53 15.8**	**-0.1**
HDA				IAmb	IAmb	14 53 21.2	
	comp=Z,3.8nm,1.2s						
IL31		**23.98**	**44**	P	**P**	**14 53 16.6**	**0.0**
ILAR	**Eielson Array**	**23.98**	**44**	P	**P**	**14 53 16.1**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=250,slow=8.5,SNR=18						
	comp=Z,1.3nm,0.8s						
C23K	**Itkillik River**	**24.18**	**31**	P	**P**	**14 53 18.3**	**-0.1**
J25K	**Salcha River,**	**24.60**	**45**	P	**P**	**14 53 21.5**	**-0.9**
GLB	**Gilahina Butte**	**25.08**	**52**	P	**P**	**14 53 27.4**	**+0.6**
SCRK	**Sand Creek**	**25.12**	**46**	P	**P**	**14 53 27.1**	**-0.1**
SCRK				IAmb	IAmb	14 53 29.7	
	comp=Z,2.2nm,0.6s						
VRDI	**Verde Repeater**	**25.25**	**53**	P	**P**	**14 53 28.7**	**+0.2**
VRDI				IAmb	IAmb	14 53 45.9	
	comp=Z,4.7nm,1.3s						
J26L	**Joseph Creek**	**25.36**	**45**	P	**P**	**14 53 28.6**	**-0.7**
K27K	**Chicken**	**25.96**	**46**	P	**P**	**14 53 34.9**	**+0.2**
K27K				IAmb	IAmb	14 53 38.6	
	comp=Z,2.9nm,1.2s						
EGAK	**Eagle**	**26.42**	**45**	P	**P**	**14 53 38.4**	**-0.4**
EGAK				IAmb	IAmb	14 53 40.6	
	comp=Z,2.4nm,0.7s						
I28M	**Miner Creek**	**26.99**	**43**	P	**P**	**14 53 43.4**	**-0.6**
G29M	**Pine Creek**	**27.89**	**40**	P	**P**	**14 53 51.9**	**-0.1**
G31M	**Satah River**	**29.37**	**40**	P	**P**	**14 54 05.2**	**+0.1**
G31M				IAmb	IAmb	14 54 10.7	
	comp=Z,2.3nm,1.1s						
INK	**Inuvik**	**29.72**	**38**	P	**P**	**14 54 08.3**	**+0.2**
YKA	**Yellowknife Ar**	**38.38**	**46**	P	**P**	**14 55 23.8**	**+0.5**
	comp=Z,0.5nm,0.6s,baz=293,slow=8.7,SNR=5.4						
	comp=Z,0.5nm,0.6s						
MKAR	**Makanchi Array**	**54.57**	**303**	P	**P**	**14 57 30.0**	**-0.4**
	comp=Z,0.4nm,1.0s,baz=70,slow=2.1,SNR=1.5						
	comp=Z,0.4nm,1.0s						
JMIC	**Jan Mayen**	**56.54**	**0**	LR	LR	15 24 21.4	
	comp=Z,24nm,18.2s,baz=240,slow=39						
ABKAR	**Akbulak array**	**63.19**	**317**	P	**P**	**14 58 30.6**	**+0.5**
TXAR	**Lajitas Array**	**63.96**	**75**	P	**P**	**14 58 37.5**	**+1.8**
	comp=Z,0.1nm,0.5s,baz=300,slow=4.1,SNR=3.8						
	comp=Z,0.1nm,0.5s						
NOA	**NORSAR Array B**	**65.49**	**350**	P	**P**	**14 58 45.4**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=353,slow=8.5,SNR=1.8						
	comp=Z,0.7nm,0.8s						
HFS	**Hagfors**	**66.09**	**348**	P	**P**	**14 58 49.0**	**+0.1**
	comp=Z,0.7nm,0.4s,baz=24,slow=1.7,SNR=1.6						
	comp=Z,0.7nm,0.4s						

*IDC **20** 14:49:29.8±1.9,7°.06S×143°.55E,h0km,mb3.6/1, mbtmp3.8/4, ML3.6/2, Error ellipse: s-maj=40.5km s-min=30.3km az=43.0*
*NEIC **20** 14:49:30.9±1.3,6°.6S±0°.1×143°.05E±0°.09,h16km±9km, mb4.2/7, Error ellipse: s-maj=20.1km s-min=12.2km az=170.0*

ISC 20 14:49:29.9±1.0,7°.1S±0°.1×143°.47E±0°.10,h10km,n14, σ1s71/14,mb4.6/3,Near south coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.34**	**123**	Pn	**Pn**	**14 50 36.0**	**+0.1**
	14nm,0.6s,baz=336,slow=12,SNR=8.0						
PMG				Sn	**Sn**	**14 51 25.8**	**-0.8**
	2.3nm,0.3s,baz=315,slow=20,SNR=1.6						
COEN	**Coen**	**6.88**	**182**	Pn	Pn	14 51 16.5	+5.7
MTN	**Manton Dam**	**13.45**	**244**	Pn	**Pn**	**14 52 37.9**	**-3.0**
WB0	**Warramunga Arr**	**15.41**	**214**	Pn	**Pn**	**14 53 08.5**	**+0.9**
WB0				IAmb	IAmb	14 53 22.6	
	comp=Z,8.5nm,1.1s						
WR0	**Warramunga Arr**	**15.49**	**213**	Pn	**Pn**	**14 53 08.9**	**+0.3**
WR0				IAmb	IAmb	14 53 36.4	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**15.58**	**214**	Pn	**Pn**	**14 53 10.2**	**+0.4**
WB2				IAmb	IAmb	14 53 15.2	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**15.59**	**214**	Pn	**Pn**	**14 53 09.7**	**-0.1**
WRA	**Warramunga Arr**	**15.59**	**214**	Pn	**Pn**	**14 53 09.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=32,slow=13,SNR=7.9						
	comp=Z,1.1nm,0.6s						
ASAR	**Alice Springs**	**18.91**	**208**	Pn	**Pn**	**14 53 54.5**	**+3.0**
ASAR	**Alice Springs**	**18.91**	**208**	P	**Pn**	**14 53 53.8**	**+2.3**
	comp=Z,3.3nm,0.3s,baz=33,slow=12,SNR=59						
	comp=Z,3.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.56**	**236**	P	**P**	**14 54 07.5**	**-1.4**
MKAR	**Makanchi Array**	**76.10**	**322**	P	**P**	**15 01 19.8**	**+1.9**
	comp=Z,0.6nm,0.9s,baz=116,slow=6.6,SNR=2.7						
	comp=Z,0.6nm,0.9s						
H17K	**Granite Mounta**	**82.97**	**21**	P	**P**	**15 01 53.9**	**-1.0**
H17K				IAmb	IAmb	15 02 02.4	
	comp=Z,6.8nm,1.2s						
E19K	**Redstone River**	**85.24**	**19**	P	**P**	**15 02 05.6**	**-0.8**
E19K				IAmb	IAmb	15 02 13.9	
	comp=Z,5.6nm,1.4s						

TAP 20 14:49:41.7,24°.57N×121°.99E,h12km±1km,ML0.8,B, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.13**	**274**	*i* P	Pb	14 49 45.7	-0.3
	baz=273						
ESAO				*e*S	Sg	14 49 48.1	+0.8
	baz=273						
TWC	**Suao**	**0.13**	**289**	*i* P	Pb	14 49 46.0	-0.1
	baz=289						
TWC				*i* S	Sg	14 49 47.6	+0.2
	baz=289						
EWUT	**Wuta**	**0.22**	**237**	P	Pb	14 49 47.1	-0.6
	baz=237						
EWUT				S	Sg	14 49 51.7	+1.9
	baz=237						
EOS2	**EOS2**	**0.27**	**123**	*i* S	Sb	14 49 52.5	-0.3
	baz=123						
EGS		**0.28**	**350**	*eP*	Pb	14 49 48.1	-0.6
	baz=352						
EGS				S	Sb	14 49 53.1	-0.3
	baz=352						
TWE	**Neicheng**	**0.33**	**298**	P	Pb	14 49 49.9	+0.4
	baz=298						
TWE				*i* S	Sb	14 49 54.3	-0.4
	baz=298						
ENTT	**Nioudou**	**0.39**	**281**	P	Pb	14 49 50.1	-0.4
	baz=280						
ENTT				*i* S	Sb	14 49 55.9	-0.5
	baz=280						
FUSB	**Fushanzhiwuyua**	**0.41**	**298**	*eP*	Pb	14 49 51.1	+0.2
	baz=297						
FUSB				S	Sb	14 49 56.6	-0.5
	baz=297						
LATG	**Datong**	**0.42**	**266**	P	Pb	14 49 50.8	-0.3
	baz=265						
LATG				*eS*	Sb	14 49 57.6	+0.2
	baz=265						
TIPB	**Shuangxi**	**0.43**	**340**	*eP*	Pg	14 49 50.5	+0.3
	baz=340						
TIPB				*eS*	Sg	14 49 56.6	+0.7
	baz=340						
NDT	**Datong Townshi**	**0.43**	**275**	*eP*	Pb	14 49 51.5	+0.3
	baz=274						
NDT				*eS*	Sb	14 49 58.0	+0.4
	baz=274						
NWLT	**Wulai**	**0.49**	**296**	*eP*	Pb	14 49 52.4	+0.2
	baz=295						
NWLT				*eS*	Sb	14 49 58.6	-0.7
	baz=295						
NACB	**Ninganchiao**	**0.53**	**222**	*eP*	Pb	14 49 53.0	+0.1
	baz=222						
NACB				*eS*	Sb	14 50 00.4	0.0
	baz=222						
NWF	**Wu-fen Shan**	**0.54**	**340**	*eP*	Pb	14 49 53.6	+0.6
	baz=339						
NWF				*eS*	Sn	14 50 03.0	-1.2
	baz=339						
YHNB	**Yeheng**	**0.56**	**281**	P	Pb	14 49 53.4	-0.2
	baz=280						
YHNB				S	Sb	14 50 01.1	-0.5
	baz=280						
NNSB	**Datong**	**0.57**	**256**	*eP*	Pg	14 49 53.1	+0.3
	baz=255						
NNSB				*eS*	Sb	14 50 02.7	+1.0
	baz=255						

*TEH **20** 14:49:54.8,28°.98N×51°.22E,h8km±29km,ML3.2*
*OMAN **20** 14:49:59.3±1.4,28°.67N×51°.52E,h10km,mb4.0/15, ml3.5/7, Error ellipse: s-maj=16.2km s-min=6.3km az=166.0*

ISC 20 14:49:55.9±0.9,28°.91N±0°.04×51°.33E±0°.05,h17km,n47, σ1s32/64,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHBU	**AHRAM**	**0.05**	**218**	Pg	**Pg**	**14 49 57.8**	**-1.3**
AHBU				Sg	**Sg**	**14 50 00.0**	**-1.1**
DSBU	**Dashti - Bushe**	**0.54**	**187**	Pg	**Pg**	**14 50 07.0**	**+0.2**
DSBU				Sg	**Sb**	**14 50 16.7**	**+2.1**
SHI	**Shiraz**	**1.27**	**54**	Pg	**Pg**	**14 50 20.1**	**-0.3**
SHI				Sg	**Sg**	**14 50 39.2**	**+2.2**
QIR1	**Qir**	**1.56**	**105**	Pg	**Pg**	**14 50 25.4**	**-0.7**
KLNJ	**Kolanjah**	**2.11**	**6**	Pn	**Pn**	**14 50 31.7**	**+0.9**
IBRJ	**Brojen**	**2.99**	**359**	Pn	**Pn**	**14 50 43.6**	**+0.8**
SAKB	**Bahrain**	**3.00**	**194**	P	**Pn**	**14 50 45.2**	**+2.5**
IRAM	**Ramesheh**	**3.03**	**17**	Pn	**Pn**	**14 50 44.9**	**+1.5**
SHMA	**Al-Shehemyia**	**3.05**	**186**	P	**Pn**	**14 50 46.0**	**+2.5**
	SNR=13						
ZNGN	**Zangian**	**3.23**	**353**	Pn	**Pn**	**14 50 47.1**	**+1.0**
JHBN	**Jahan bin**	**3.36**	**350**	Pn	**Pn**	**14 50 49.1**	**+1.1**
IGAR	**Gharneh**	**3.54**	**10**	Pn	**Pn**	**14 50 51.5**	**+1.2**
IMEH	**Mehriz**	**3.77**	**48**	Pn	**Pn**	**14 50 56.2**	**+2.6**
IZEF	**Zefreh**	**4.07**	**12**	Pn	**Pn**	**14 50 58.8**	**+1.1**
TRNA	**Turayna**	**4.15**	**181**	P	**Pn**	**14 51 00.5**	**+2.0**
	SNR=6.4						
SMRA	**Abu-Samra**	**4.17**	**186**	P	**Pn**	**14 51 00.7**	**+1.9**
JRN	**Qarnain Island**	**4.17**	**161**	P	**Pn**	**14 51 01.1**	**+2.2**
IKLH	**Kolahrood**	**4.41**	**3**	Pn	**Pn**	**14 51 03.3**	**+1.0**
QAMS	**Qamsar**	**4.82**	**1**	Pn	**Pn**	**14 51 09.3**	**+1.3**
SLWR	**Sila**	**4.83**	**176**	P	**Pn**	**14 51 10.2**	**+2.4**
KRSH	**Karshahi**	**5.09**	**8**	Pn	**Pn**	**14 51 12.9**	**+1.2**
SHME	**Shamm**	**5.13**	**123**	P	**Pn**	**14 51 12.6**	**+0.5**
SHME				S	**Sn**	**14 52 10.2**	**-0.7**
NAZ	**Nazwa, Dubai**	**5.49**	**134**	P	**Pn**	**14 51 18.3**	**+1.4**
MASF	**Masafi**	**5.56**	**128**	P	**Pn**	**14 51 18.4**	**+0.4**
MASF				S	**Sn**	**14 52 20.6**	**-0.9**
ASUD	**Al Ashush, Dub**	**5.56**	**139**	P	**Pn**	**14 51 19.7**	**+1.8**
ASUD				S	**Sn**	**14 52 22.0**	**+0.5**
MZWR	**Madinat Zayed**	**5.61**	**155**	P	**Pn**	**14 51 20.7**	**+2.1**
MDH	**Madha**	**5.70**	**128**	P	**Pn**	**14 51 20.7**	**+0.8**
MDH				S	**Sn**	**14 52 23.9**	**-1.0**
UOSS	**Minazif**	**5.87**	**131**	P	**Pn**	**14 51 22.8**	**+0.6**
UOSS				S	**Sn**	**14 52 27.8**	**-1.4**
HATD	**Hatta, Dubai**	**5.91**	**132**	P	**Pn**	**14 51 24.1**	**+1.4**
HATD				S	**Sn**	**14 52 29.0**	**-1.0**
IQOM	**Qom**	**5.92**	**358**	Pn	**Pn**	**14 51 23.7**	**+0.6**
ASHO	**Ashiyiah**	**5.96**	**134**	P	**Pn**	**14 51 24.9**	**+1.4**
ASHO				S	**Sn**	**14 52 29.7**	**-1.6**
IVRN	**Varamin**	**6.08**	**3**	Pn	**Pn**	**14 51 25.4**	**+0.2**
MZR	**Muzera**	**6.19**	**161**	P	**Pn**	**14 51 28.2**	**+1.6**
	SNR=24						
ALNE	**Al Ain**	**6.25**	**140**	P	**Pn**	**14 51 28.9**	**+1.5**
	SNR=6.1						
ALNE				S	**Sn**	**14 52 37.7**	**-0.6**
ILBA	**Ilam Banvizeh**	**6.43**	**318**	Pn	**Pn**	**14 51 29.8**	**-0.2**
JASK	**Jask - Hormozg**	**6.55**	**116**	P	**Pn**	**14 51 30.7**	**-0.8**
JASK				S	**Sn**	**14 52 45.0**	**-0.9**
SOHO	**SOHO**	**6.65**	**134**	P	**Pn**	**14 51 32.1**	**+0.1**
SOHO				S	**Sn**	**14 52 47.5**	**-0.9**
UMZA	**Um Al Zommool**	**7.07**	**150**	P	**Pn**	**14 51 39.5**	**+0.9**
UMZA				S	**Sn**	**14 52 58.0**	**-0.5**
IDHR	**Dehrash**	**7.15**	**325**	Pn	**Pn**	**14 51 41.0**	**+1.1**
ARQ	**Araqi**	**7.25**	**139**	P	**Pn**	**14 51 41.4**	**+0.3**
ARQ				S	**Sn**	**14 53 02.1**	**-1.0**
BSY	**Bisya**	**8.10**	**138**	P	**Pn**	**14 51 53.3**	**+0.5**
BSY				S	**Sn**	**14 53 22.8**	**-1.2**
SMDO	**Samad**	**8.39**	**132**	P	**Pn**	**14 51 56.8**	**-0.1**
SMDO				S	**Sn**	**14 53 29.4**	**-1.9**
MHTO	**MHTO**	**9.92**	**141**	P	**Pn**	**14 52 17.9**	**+0.2**
DOK	**Doka**	**10.55**	**165**	P	**Pn**	**14 52 26.0**	**-0.5**
WHFO	**Wadi Hawf**	**11.16**	**168**	P	**Pn**	**14 52 34.0**	**-0.9**
	SNR=8.8						
DMTO	**DMTO**	**11.62**	**163**	P	**Pn**	**14 52 40.0**	**-1.1**
	SNR=26						
ABTO	**Aybut**	**11.64**	**171**	P	**Pn**	**14 52 40.1**	**-1.3**

JMA 20 14:50:01.0±0.7,25°.N×2°.×12°.4E±°,h8km,MV1.2/6,NW OFF ISHIGAKIJIMA IS,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.44**	**135**	P	Pg	14 50 09.8	+0.2
JISG				*e*S	Sg	14 50 16.0	+0.5
JIJ	**Ishigaki jima**	**0.56**	**164**	P	Pg	14 50 11.6	-0.3
IRIF	**Iriomote-Funau**	**0.61**	**201**	P	Pg	14 50 12.7	-0.1
IRIF				*e*S	Sg	14 50 20.9	+0.2
JKRS	**Kuro-shima**	**0.66**	**177**	*eP*	Pb	14 50 14.6	-0.3
JKRS				*e*S	Sg	14 50 22.8	+0.3
JTJ	**Tarama**	**0.72**	**111**	*e*S	Sg	14 50 24.3	+0.1

NOU 20 15:20:58.3,21°.74S×169°.78E,h0km,MLv3.5/10, Southeast of Loyalty Islands,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**1.65**	**279**	P	Pn	15 21 28.5	0.0
PINNC	**Pines Island,**	**2.33**	**248**	P	Pn	15 21 37.3	-0.6
LIFNC	**LIFOU**	**2.56**	**292**	P	Pn	15 21 39.5	-1.5
YATNC	**Mamie plateau,**	**2.70**	**263**	P	Pn	15 21 42.2	-0.8
OUENC	**Ouen Island, N**	**2.81**	**256**	P	Pn	15 21 44.5	0.0
DZM	**Mont Dzumac**	**3.12**	**263**	P	Pn	15 21 49.2	+0.4
ONTNC	**Ouen Toro**	**3.14**	**259**	P	Pn	15 21 49.5	+0.5
NOUC	**Port Laguerre**	**3.25**	**263**	P	Pn	15 21 50.3	-0.2
DVP	**Devils Point**	**4.27**	**339**	P	Pn	15 22 04.7	+0.2
KOUNC	**Koumac, New Ca**	**5.26**	**282**	P	Pn	15 22 18.7	+0.4

*NEIC **20** 15:47:43.9±1.4,20°.9S±0°.1×178°.6W±0°.1,h538km±8km, mb4.3/49, Error ellipse: s-maj=18.9km s-min=16.2km az=138.0*
*IDC **20** 15:47:45.1±5.4,20°.89S×178°.69W,h557km±54km,mb3.2/6, mbtmp4.2/7, Error ellipse: s-maj=36.4km s-min=26.6km az=87.0*

ISC 20 15:47:44.4±0.5,20°.86S±0°.10×178°.67W±0°.09,h550km, n80,σ0s94/79,mb4.1/31,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.39**	**315**	P	**P**	**15 49 09.7**	**+0.3**
NIUE	**Niue**	**8.41**	**79**	P	**P**	**15 49 46.7**	**+0.5**
AFI	**Afiamalu**	**9.54**	**45**	P	**P**	**15 49 56.0**	**-1.8**
PINNC	**Pines Island,**	**13.02**	**260**	P	**P**	**15 50 33.0**	**-0.4**
LIFNC	**LIFOU**	**13.17**	**268**	P	**P**	**15 50 34.6**	**-0.4**
DZM	**Mont Dzumac**	**13.91**	**262**	P	**P**	**15 50 42.2**	**-0.6**
DZM	**Mont Dzumac**	**13.91**	**262**	P	**P**	**15 50 44.9**	**+2.1**
	6.6nm,0.7s,baz=78,slow=18,SNR=7.2						
KOUNC	**Koumac, New Ca**	**15.95**	**268**	P	**P**	**15 51 04.4**	**+0.9**
KOUNC				IAmb	IAmb	15 51 19.6	
	comp=Z,18nm,1.1s						
TCW	**Tory Channel**	**21.15**	**195**	P	**P**	**15 51 50.2**	**-0.5**
MRNZ	**Matariki Terra**	**21.73**	**198**	P	**P**	**15 51 54.8**	**-1.0**
THZ	**Tophouse**	**22.02**	**197**	P	**P**	**15 51 56.9**	**-1.6**
INZ	**Inchbonnie**	**23.33**	**199**	P	**P**	**15 52 09.8**	**-0.3**
EIDS	**Eidsvold**	**28.14**	**255**	P	**P**	**15 52 53.0**	**+0.1**
EIDS				IAmb	IAmb	15 53 06.0	
	comp=Z,19nm,1.4s						
ARMA	**Armidale**	**28.34**	**244**	P	**P**	**15 52 55.0**	**+0.4**
ARMA				IAmb	IAmb	15 53 25.3	
	comp=Z,19nm,1.4s						
CTAO	**Charters Tower**	**32.83**	**265**	P	**P**	**15 53 33.6**	**+0.4**
TOO	**Toolangi**	**35.18**	**234**	P	**P**	**15 53 52.6**	**-0.1**
COEN	**Coen**	**36.98**	**274**	P	**P**	**15 54 08.4**	**+0.7**
STKA	**Stephens Creek**	**37.07**	**244**	P	**P**	**15 54 08.2**	**-0.1**
STKA	**Stephens Creek**	**37.07**	**244**	P	**P**	**15 54 08.2**	**-0.1**
	comp=Z,1.2nm,0.5s,baz=95,slow=12,SNR=6.5						
	comp=Z,1.2nm,0.5s						
BBOO	**Buckleboo**	**41.82**	**244**	P	**P**	**15 54 45.9**	**-0.6**
BBOO				IAmb	IAmb	15 54 46.6	
	comp=Z,5.8nm,0.8s						
WR0	**Warramunga Arr**	**43.74**	**263**	P	**P**	**15 55 00.9**	**-0.7**
ASAR	**Alice Springs**	**43.82**	**257**	P	**P**	**15 55 01.5**	**-0.8**
ASAR	**Alice Springs**	**43.82**	**257**	P	**P**	**15 55 02.1**	**-0.2**
	comp=Z,3.3nm,0.5s,baz=89,slow=8.3,SNR=140						
ASAR				PcP	**PcP**	**15 56 36.9**	**+0.3**
	comp=Z,0.5nm,0.7s,baz=107,slow=4.0,SNR=7.6						
	comp=Z,3.3nm,0.5s						
WB0	**Warramunga Arr**	**43.91**	**263**	P	**P**	**15 55 02.4**	**-0.6**
WB0				IAmb	IAmb	15 55 03.1	
	comp=Z,6.5nm,0.6s						
WB2	**Warramunga Arr**	**43.92**	**263**	P	**P**	**15 55 02.5**	**-0.5**
WRA	**Warramunga Arr**	**43.93**	**263**	P	**P**	**15 55 02.5**	**-0.6**
WRA	**Warramunga Arr**	**43.93**	**263**	P	**P**	**15 55 02.5**	**-0.6**
	comp=Z,2.9nm,0.5s,baz=96,slow=7.6,SNR=83						
	comp=Z,2.9nm,0.5s						
MTN	**Manton Dam**	**48.54**	**271**	P	**P**	**15 55 37.4**	**-0.7**
FORT	**Forrest**	**48.58**	**247**	P	**P**	**15 55 37.0**	**-1.1**
FORT				IAmb	IAmb	15 55 39.6	
	comp=Z,12nm,0.9s						
FITZ	**Fitzroy Crossi**	**52.36**	**263**	P	**P**	**15 56 05.8**	**-0.1**
MBWA	**Marble Bar**	**57.16**	**258**	P	**P**	**15 56 39.0**	**-0.5**
SBA	**Scott Base**	**57.48**	**184**	P	**P**	**15 56 42.2**	**+1.6**
VNDA	**Vanda**	**57.50**	**185**	P	**P**	**15 56 41.5**	**+0.7**
MMRI	**Maumere**	**58.14**	**273**	P	**P**	**15 56 45.8**	**-0.4**
MORW	**Morawa**	**59.11**	**248**	P	**P**	**15 56 51.9**	**-0.7**
MORW				IAmb	IAmb	15 57 33.3	
	comp=Z,15nm,1.2s						
GIRL	**Giralia**	**61.85**	**255**	P	**P**	**15 57 11.6**	**+0.9**
TOLI2	**Tolitoli**	**63.06**	**282**	P	**P**	**15 57 19.7**	**+1.1**
TOLI2				IAmb	IAmb	15 57 23.6	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**15 57 55.9**	**-0.2**
QSPA	**South Pole Qui**	**69.21**	**180**	P	**P**	**15 57 55.9**	**-0.2**
	comp=Z,1.1nm,0.8s,baz=63,slow=0.8,SNR=6.0						
	comp=Z,1.1nm,0.8s						
MJAR	**Matsushiro Arr**	**70.13**	**324**	P	**P**	**15 58 01.3**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=171,slow=7.0,SNR=3.2						
	comp=Z,1.2nm,0.7s						
TPUB	**Ta-pu**	**73.64**	**303**	P	**P**	**15 58 22.4**	**0.0**
TPUB				IAmb	IAmb	15 58 23.5	
	comp=Z,11nm,0.8s						
SSLB	**Suanglung**	**73.65**	**304**	P	**P**	**15 58 22.3**	**-0.2**
SSLB				IAmb	IAmb	15 58 46.5	
	comp=Z,4.9nm,0.8s						
JKA	**Kamikawa-asahi**	**73.74**	**332**	P	**P**	**15 58 22.6**	**+0.1**
JKA				IAmb	IAmb	15 58 39.2	
	comp=Z,22nm,1.4s						
O16K	**Kokwok River B**	**81.92**	**10**	P	**P**	**15 59 06.5**	**+0.3**
O16K				IAmb	IAmb	15 59 35.8	
	comp=Z,6.9nm,1.2s						
N15K	**Kwethluk River**	**82.14**	**9**	P	**P**	**15 59 09.1**	**+1.7**
N15K				IAmb	IAmb	15 59 18.2	
	comp=Z,7.8nm,1.1s						
**M

comp=Z,1.1nm,0.7s,baz=336,slow=1.8,SNR=1.9

BR131	**Keskin Array S**	**146.61**	**311**	PKPbc	**PKPbc**	**16 06 25.1**	**+0.2**
BRTR	**Keskin Array B**	**146.61**	**311**	PKPbc	**PKPbc**	**16 06 24.8**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=136,slow=5.0,SNR=7.7						
MMAI	**Mount Meron Ar**	**147.44**	**299**	PKPbc	**PKiKP**	**16 06 28.0**	**-0.8**
	comp=Z,1.4nm,0.4s,baz=66,slow=6.5,SNR=7.6						
GERES	**GERESS Array B**	**150.37**	**343**	PKPbc	**PKPbc**	**16 06 33.6**	**-0.3**
	comp=Z,0.7nm,0.6s,baz=34,slow=48,SNR=3.7						

*IDC **20** 16:10:23.1±1.3,6°.57S×143°.13E,h0km,mb3.7/3, mbtmp3.5/6, ML3.3/2, MS3.2/2, Error ellipse: s-maj=34.6km s-min=24.5km az=74.0*

ISC 20 16:10:28.4±1.2, 6.7S±0.2×143.1E±0.1, h35km, n8, σ0≤90/7, mb3.5/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.85**	**124**	Pn		**Pn**		**16 11 38.5**	**-0.5**
	7.2nm,0.7s,baz=304,slow=11,SNR=1.8								
PMG				Sn		**Sn**		**16 12 34.3**	**+0.4**
	1.2nm,0.3s,baz=308,slow=18,SNR=1.7								
WRA	**Warramunga Arr**	**15.71**	**212**	Pn		**Pn**		**16 14 06.4**	**-0.8**
	0.1nm,0.3s,baz=28,slow=14,SNR=2.6								
WRA				Lg		Lg		16 18 43.5	
	baz=39,slow=25,SNR=1.0								
	0.6nm,0.8s								
ASAR	**Alice Springs**	**19.08**	**207**	P		**P**		**16 14 49.1**	**+0.9**
	0.2nm,0.3s,baz=31,slow=11,SNR=32								
	0.6nm,0.8s								
KAPI	**Kappang**	**23.29**	**273**	LR		LR		16 26 39.3	
	comp=Z,37nm,18.8s,baz=292,slow=42								
JCJ	**Chichijima**	**33.57**	**359**	LR		LR		16 29 37.4	
	comp=Z,48nm,19.6s,baz=110,slow=34								
MKAR	**Makanchi Array**	**75.58**	**322**	P		**P**		**16 22 09.1**	**-0.5**
	0.4nm,0.8s,baz=114,slow=6.5,SNR=4.5								
	0.4nm,0.8s								
KURBB	**Kurchatov Arra**	**79.47**	**324**	P		**P**		**16 22 30.6**	**-0.7**
	0.4nm,0.9s,baz=114,slow=5.8,SNR=1.6								
	0.4nm,0.9s								
BVAR	**Borovoye Array**	**85.05**	**325**	P		**P**		**16 23 01.1**	**+0.7**
	1.0nm,0.8s,baz=106,slow=5.3,SNR=5.3								
	1.0nm,0.8s								

*KOLA **20** 16:31:58.0, 76°.94N×19°.16E, h0km, ML2.2, Error ellipse: s-maj=19.5km s-min=10.7km az=130.0, Storfjorden zone*
*NAO **20** 16:31:59.5±1.5, 76°.97N×18°.76E, h8km±14km, ML2.5*
*FCIAR **20** 16:31:59.0, 77°.00N×19°.83E, h10km, station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.40*
*BER **20** 16:32:02.2±2.8, 76°.89N×18°.50E, h14km±13km, ML2.2, ML2.5(NAO), Confirmed Earthquake*

ISC 20 16:31:59.1±1.6, 76.94N±0.04×19.04E±0.05, h9km±12km, n23, σ2≤07/39, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**0.80**	**276**	P		**Pg**		**16 32 13.8**	**-0.7**
HSPB				S		**Sb**		**16 32 25.8**	**-0.2**
HSPB	**Hornsund (broa**	**0.80**	**276**	*e*P		**Pg**		**16 32 13.9**	**-0.5**
HSPB				*e*S		**Sg**		**16 32 23.1**	**-1.7**
HSPB				IAML				16 32 27.6	
	comp=Z,57nm,0.2s								
HSPB	**Hornsund (broa**	**0.80**	**276**	Pg		**Pg**		**16 32 13.9**	**-0.5**
HSPB				Lg		Lg		16 32 22.9	
SPA0	**Spitsbergen Ar**	**1.37**	**336**	*e*P		**Pn**		**16 32 24.2**	**-0.2**
SPA0				*e*S		**Sn**		**16 32 42.1**	**-0.5**
SPA0				IAML				16 32 46.0	
	comp=Z,29nm,0.4s								
SPA0	**Spitsbergen Ar**	**1.37**	**336**	Pn		**Pn**		**16 32 24.2**	**-0.2**
	baz=153,slow=22								
SPA0				Lg		Lg		16 32 43.2	
	baz=156,slow=37								
SPA0	**Spitsbergen Ar**	**1.37**	**336**	*e*P		**Pn**		**16 32 24.1**	**-0.3**
SPA0				*e*S		**Sn**		**16 32 41.8**	**-0.9**
HOPEN	**Hopen**	**1.45**	**105**	*e*P		**Pn**		**16 32 28.4**	**+3.0**
HOPEN				*e*S		**Sn**		**16 32 46.4**	**+1.9**
HOPEN				IAML				16 32 50.9	
	comp=Z,59nm,0.2s								
HOPEN	**Hopen**	**1.45**	**105**	Pn		**Pn**		**16 32 26.9**	**+1.4**
HOPEN				Sn		**Sn**		**16 32 46.8**	**+2.3**
BRBA	**Barentsburg A**	**1.54**	**319**	*e*P		**Pn**		**16 32 26.5**	**-0.2**
BRBA				*e*S		**Sn**		**16 32 46.8**	**+0.1**
BRBA				IAML				16 32 48.7	
	comp=Z,65nm,0.4s								
BRBA	**Barentsburg A**	**1.54**	**319**	Pn		**Pn**		**16 32 26.4**	**-0.2**
BRBA				Lg		Lg		16 32 46.5	
BRBB	**Barentsburg B**	**1.56**	**320**	P		**Pn**		**16 32 26.6**	**-0.5**
BRBB				S		**Sn**		**16 32 47.4**	**0.0**
BRBB	**Barentsburg B**	**1.56**	**320**	*e*P		**Pn**		**16 32 26.8**	**-0.2**
BRBB				*e*S		**Sn**		**16 32 47.1**	**-0.3**
BRBB	**Barentsburg B**	**1.56**	**320**	Pn		**Pn**		**16 32 26.9**	**-0.2**
BRBB				Lg		Lg		16 32 47.7	
BJO1	**Bjornoya**	**2.46**	**180**	*e*Pg		**Pb**		**16 32 45.4**	**+2.1**
BJO1	**Bjornoya**	**2.46**	**180**	Pg		**Pb**		**16 32 45.2**	**+1.9**
BJO1				Lg		Lg		16 33 18.2	
KBS	**Kingsbay**	**2.49**	**327**	S		**Sn**		**16 33 12.8**	**+2.6**
KBS	**Kingsbay**	**2.49**	**327**	*e*P		**Pn**		**16 32 39.5**	**-0.2**
KBS				*e*Pg		**Pb**		**16 32 44.6**	**+0.7**
KBS				*e*Sg		**Sb**		**16 33 14.2**	**-0.4**
KBS				IAML				16 33 20.2	
	comp=Z,38nm,0.6s								
KBS	**Kingsbay**	**2.49**	**327**	Pn		**Pn**		**16 32 39.1**	**-0.6**
KBS				Pg		**Pb**		**16 32 44.5**	**+0.6**
KBS				Lg		Lg		16 33 15.7	
KBS	**Kingsbay**	**2.49**	**327**	P		**Pn**		**16 32 39.7**	**-0.1**
KBS				*e*S		**Sn**		**16 33 10.3**	**+0.1**
ZFI2	**Zemlya Franca-**	**6.67**	**42**	*e*P		**Pn**		**16 33 37.8**	**+0.7**
ZFI2				*e*S		Sn		16 34 48.3	-4.7
	comp=Z,25nm,1.8s								
OMEGA	**Omega**	**6.67**	**42**	*e*P		**Pn**		**16 33 38.4**	**+1.3**
OMEGA				*e*S		**Sn**		**16 34 49.5**	**-3.6**
	comp=Z,13nm,1.4s								
ARA0	**ARCESS Array S**	**7.67**	**163**	Pn		**Pn**		**16 33 52.3**	**+1.4**
	baz=355,slow=11								
ARA0				Sn		**Sn**		**16 35 11.1**	**-6.7**
	slow=22								
ARA0	**ARCESS Array S**	**7.67**	**163**	Pn		**Pn**		**16 33 52.3**	**+1.4**
	baz=355,slow=11								
ARA0				Sn		**Sn**		**16 35 11.1**	**-6.7**
	slow=22								

*NOU **20** 16:43:33.2, 38°.61S×175°.96E, h147km, MLv3.6/11, North Island, New Zealand*
*WEL **20** 16:43:35.7±0.6, 39°.3°.17°.6E±°, h121km±5km, M3.3/31, ML3.1/6, MLv3.3/31, Error ellipse: s-maj=0.0km s-min=0.0km az=128.8, confirmed*

ISC 20 16:43:30.7±1.5, 38.52S±0.04×175.88E±0.04, h165km±8km, n83, σ1≤81/149, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
TLZ	**Tolley Road**	**0.33**	**306**	P		**Pn**		**16 43 53.6**	**+0.4**
MRHZ	**Matea Rd**	**0.52**	**127**	P		**Pn**		**16 43 54.2**	**+0.2**
MRHZ				S		**Sn**		**16 44 09.5**	**-2.3**
KMRZ	**Kaimai**	**0.68**	**4**	P		**Pn**		**16 43 55.1**	**+0.3**
MUGZ	**Murupara**	**0.70**	**87**	P		**Pn**		**16 43 55.0**	**+0.1**
MUGZ				S		**Sn**		**16 44 11.4**	**-1.9**
BKZ	**Black Stump Fm**	**0.80**	**143**	P		**Pn**		**16 43 56.2**	**+0.7**
BKZ	**Black Stump Fm**	**0.80**	**143**	P		**Pn**		**16 43 56.4**	**+0.9**
BKZ				S		**Sn**		**16 44 12.7**	**-2.0**
HIZ	**Hauiti**	**0.80**	**270**	P		**Pn**		**16 43 56.3**	**+0.8**
HIZ	**Hauiti**	**0.80**	**270**	P		**Pn**		**16 43 56.5**	**+1.0**
HIZ				S		**Sn**		**16 44 13.0**	**-1.5**
MTHZ	**Maungataniwha**	**0.82**	**114**	P		**Pn**		**16 43 56.5**	**+0.9**
MTHZ				S		**Sn**		**16 44 12.4**	**-2.5**
TOZ	**Tahuroa Road**	**0.84**	**339**	P		**Pn**		**16 43 56.6**	**+0.8**
OPRZ	**Ohinepanea**	**0.86**	**38**	P		**Pn**		**16 43 56.4**	**+0.5**
OPRZ				S		**Sn**		**16 44 13.3**	**-1.9**
RTZ	**Ruatahuna**	**0.87**	**96**	P		**Pn**		**16 43 56.8**	**+0.7**
RTZ				S		**Sn**		**16 44 12.9**	**-2.5**
MOVZ	**Moawhango**	**0.89**	**186**	P		**Pn**		**16 43 57.3**	**+1.1**
MOVZ				S		**Sn**		**16 44 14.1**	**-1.7**
NMHZ	**Naumai**	**0.93**	**129**	P		**Pn**		**16 43 58.8**	**+2.4**
NMHZ				S		**Sn**		**16 44 13.9**	**-2.3**
BHHZ	**Black Hill Sta**	**0.98**	**172**	P		**Pn**		**16 43 58.1**	**+1.3**
BHHZ				S		**Sn**		**16 44 15.6**	**-1.4**
KWHZ	**Kaweka Forest**	**0.99**	**155**	P		**Pn**		**16 43 58.8**	**+1.8**
KWHZ				S		**Sn**		**16 44 16.2**	**-1.0**
URZ	**Urewera**	**1.00**	**75**	P		**Pn**		**16 43 57.2**	**+0.3**
URZ	**Urewera**	**1.00**	**75**	P		**Pn**		**16 43 57.3**	**+0.3**
URZ				S		**Sn**		**16 44 14.7**	**-2.3**
RAHZ	**Arahi**	**1.02**	**113**	P		**Pn**		**16 43 58.7**	**+1.6**
RAHZ				S		**Sn**		**16 44 16.8**	**-0.7**
MCHZ	**McNeill Hill**	**1.12**	**146**	P		**Pn**		**16 44 00.4**	**+2.5**
MCHZ				S		**Sn**		**16 44 18.5**	**-0.4**
ARHZ	**Aropaoanui**	**1.14**	**131**	P		**Pn**		**16 44 00.1**	**+2.1**
ARHZ				S		**Sn**		**16 44 18.2**	**-1.0**
SNGZ	**Shannon Statio**	**1.17**	**103**	P		**Pn**		**16 44 00.5**	**+2.1**
SNGZ				S		**Sn**		**16 44 18.5**	**-1.1**
KRHZ	**Kereru**	**1.18**	**161**	P		**Pn**		**16 44 00.6**	**+2.1**
WHHZ	**Waihua**	**1.20**	**118**	P		**Pn**		**16 44 00.4**	**+1.8**
WHHZ				S		**Sn**		**16 44 19.1**	**-0.9**
RAGZ	**Rawiri**	**1.21**	**89**	P		**Pn**		**16 44 00.9**	**+2.2**
RAGZ				S		**Sn**		**16 44 18.6**	**-1.7**
MWZ	**Matawai**	**1.31**	**82**	P		**Pn**		**16 44 00.7**	**+1.1**
MWZ				S		**Sn**		**16 44 20.8**	**-1.0**
PNHZ	**Pukenui**	**1.41**	**170**	P		**Pn**		**16 44 03.3**	**+2.7**
PNHZ				S		**Sn**		**16 44 22.9**	**-0.8**
WAZ	**Wanganui**	**1.41**	**209**	P		**Pn**		**16 44 03.4**	**+2.8**
WAZ				S		**Sn**		**16 44 24.1**	**+0.4**
CKHZ	**Cape Kidnapper**	**1.47**	**141**	P		**Pn**		**16 44 03.5**	**+2.4**
CKHZ				S		**Sn**		**16 44 24.3**	**-0.3**
LREZ	**Lake Rotokare**	**1.48**	**230**	P		**Pn**		**16 44 04.3**	**+3.0**
LREZ				S		**Sn**		**16 44 28.8**	**+4.0**
RIGZ	**Rimuhau**	**1.49**	**98**	P		**Pn**		**16 44 03.4**	**+2.1**
RIGZ				S		**Sn**		**16 44 24.1**	**-0.8**
KAHZ	**Kahuranaki**	**1.49**	**149**	P		**Pn**		**16 44 03.7**	**+2.4**
KAHZ				S		**Sn**		**16 44 24.9**	**-0.2**
KNZ	**Kokohu**	**1.49**	**110**	P		**Pn**		**16 44 03.2**	**+1.9**
KNZ				S		**Sn**		**16 44 23.7**	**-1.2**
RUGZ	**Raukumara Rang**	**1.52**	**69**	P		**Pn**		**16 44 02.2**	**+0.4**
RUGZ				S		**Sn**		**16 44 23.4**	**-2.0**
TSZ	**Takapari Road**	**1.54**	**178**	P		**Pn**		**16 44 03.7**	**+1.9**
TSZ				S		**Sn**		**16 44 25.4**	**-0.5**
WPHZ	**Waipukurau**	**1.60**	**164**	P		**Pn**		**16 44 04.5**	**+2.1**
WPHZ				S		**Sn**		**16 44 25.4**	**-1.6**
PRGZ	**Paritu Road**	**1.62**	**105**	P		**Pn**		**16 44 04.6**	**+1.9**
PRGZ				S		**Sn**		**16 44 26.1**	**-1.2**
KHEZ	**Kahui Hut**	**1.65**	**241**	P		**Pn**		**16 44 05.8**	**+2.8**
HAZ	**Te Kaha**	**1.69**	**64**	P		**Pn**		**16 44 04.1**	**+0.8**
HAZ				S		**Sn**		**16 44 28.8**	**+0.4**
TWGZ	**Tauwhareparae**	**1.69**	**79**	P		**Pn**		**16 44 05.6**	**+2.2**
TWGZ				S		**Sn**		**16 44 28.7**	**+0.1**
PXZ	**Pawanui**	**1.69**	**153**	P		**Pn**		**16 44 05.5**	**+2.2**
PXZ				S		**Sn**		**16 44 28.4**	**-0.2**
MHGZ	**Mahia Peninsul**	**1.70**	**112**	P		**Pn**		**16 44 05.9**	**+2.3**
MHGZ				S		**Sn**		**16 44 28.0**	**-0.9**
KUZ	**Kuaotunu**	**1.78**	**356**	P		**Pn**		**16 44 05.7**	**+1.3**
DVHZ	**Dannevirke**	**1.79**	**173**	P		**Pn**		**16 44 06.5**	**+2.1**
DVHZ				S		**Sn**		**16 44 29.1**	**-1.5**
PRHZ	**Porangahau**	**1.84**	**162**	P		**Pn**		**16 44 07.3**	**+2.3**
PRHZ				S		**Sn**		**16 44 29.7**	**-1.8**
POWZ	**Post Office Ro**	**1.87**	**183**	P		**Pn**		**16 44 07.8**	**+2.5**
POWZ				S		**Sn**		**16 44 31.2**	**-0.9**
PUZ	**Puketiti**	**1.93**	**77**	P		**Pn**		**16 44 07.5**	**+1.5**
PUZ				S		**Sn**		**16 44 32.1**	**-1.0**
ANWZ	**Angora Road**	**1.99**	**167**	P		**Pn**		**16 44 09.0**	**+2.4**
ANWZ				S		**Sn**		**16 44 31.0**	**-3.4**
WMGZ	**Waiomatatini S**	**2.12**	**71**	P		**Pn**		**16 44 09.8**	**+1.7**
WMGZ				S		**Sn**		**16 44 36.2**	**-0.8**
MXZ	**Matakaoa Point**	**2.14**	**64**	P		**Pn**		**16 44 10.5**	**+2.1**
MXZ	**Matakaoa Point**	**2.14**	**64**	P		**Pn**		**16 44 10.5**	**+2.1**
MXZ				S		**Sn**		**16 44 39.7**	**+2.2**
MRZ	**Mangatainoka R**	**2.15**	**186**	P		**Pn**		**16 44 10.1**	**+1.7**
MRZ				S		**Sn**		**16 44 36.7**	**-1.0**
TIWZ	**Tintock**	**2.25**	**180**	P		**Pn**		**16 44 12.1**	**+2.4**
TIWZ				S		**Sn**		**16 44 38.6**	**-1.3**
OGWZ	**Otaki Gorge**	**2.36**	**193**	P		**Pn**		**16 44 12.6**	**+1.8**
OGWZ				S		**Sn**		**16 44 40.6**	**-1.4**
CPWZ	**Castlepoint**	**2.40**	**174**	P		**Pn**		**16 44 13.9**	**+2.6**
CPWZ				S		**Sn**		**16 44 42.3**	**-0.6**
KIW	**Kapiti Island**	**2.45**	**197**	P		**Pn**		**16 44 13.6**	**+1.6**
KIW				S		**Sn**		**16 44 42.7**	**-1.3**
TMWZ	**Te Maipa**	**2.58**	**180**	P		**Pn**		**16 44 15.4**	**+1.9**
TMWZ				S		**Sn**		**16 44 43.7**	**-3.1**
MTW	**Mount Morrison**	**2.65**	**186**	P		**Pn**		**16 44 16.1**	**+1.8**
MTW				S		**Sn**		**16 44 46.4**	**-1.8**
CAW	**Cannon Point**	**2.66**	**193**	P		**Pn**		**16 44 16.3**	**+1.9**
CAW				S		**Sn**		**16 44 46.8**	**-1.6**
DUWZ	**D'Urville Isla**	**2.73**	**213**	P		**Pn**		**16 44 17.5**	**+2.1**
DUWZ				S		**Sn**		**16 44 50.9**	**+0.8**
TRWZ	**Traveller**	**2.88**	**183**	P		**Pn**		**16 44 19.1**	**+2.0**
TRWZ				S		**Sn**		**16 44 52.4**	**-0.8**
PAWZ	**Paruwai Farm**	**2.88**	**187**	P		**Pn**		**16 44 19.0**	**+1.9**
PAWZ				S		**Sn**		**16 44 51.3**	**-2.0**
SNZO	**South Karori**	**2.93**	**198**	P		**Pn**		**16 44 18.7**	**+1.0**
TCW	**Tory Channel**	**2.95**	**204**	P		**Pn**		**16 44 19.6**	**+1.5**
TCW				S		**Sn**		**16 44 54.5**	**-0.4**
PLWZ	**Palliser**	**3.08**	**189**	P		**Pn**		**16 44 20.9**	**+1.2**
PLWZ				S		**Sn**		**16 44 55.7**	**-2.1**
TUWZ	**Tuamarina**	**3.26**	**207**	P		**Pn**		**16 44 23.1**	**+1.2**
TUWZ				S		**Sn**		**16 45 00.7**	**-1.1**
NNZ	**Nelson**	**3.31**	**215**	P		**Pn**		**16 44 24.0**	**+1.6**
NNZ				S		**Sn**		**16 45 03.7**	**+0.9**
TKNZ	**Takaka Hill**	**3.37**	**221**	P		**Pn**		**16 44 24.6**	**+1.3**
TKNZ				S		**Sn**		**16 45 04.8**	**+0.6**
QRZ	**Quartz Range**	**3.46**	**227**	P		**Pn**		**16 44 26.3**	**+1.9**
QRZ	**Quartz Range**	**3.46**	**227**	P		**Pn**		**16 44 25.8**	**+1.3**
BSWZ	**Blackbirch Sta**	**3.54**	**205**	P		**Pn**		**16 44 27.5**	**+2.0**
BSWZ				S		**Sn**		**16 45 07.2**	**-0.9**
MRNZ	**Matariki Terra**	**3.74**	**219**	P		**Pn**		**16 44 29.1**	**+1.1**
MRNZ				S		**Sn**		**16 45 12.9**	**+0.2**
OUZ	**Omahuta**	**3.77**	**330**	P		**Pn**		**16 44 32.2**	**+3.8**
THZ	**Tophouse**	**3.96**	**214**	P		**Pn**		**16 44 32.1**	**+1.3**
THZ				S		**Sn**		**16 45 17.4**	**-0.4**
KHZ	**Kahutara**	**4.28**	**204**	P		**Pn**		**16 44 35.7**	**+0.8**
DSZ	**Denniston Nort**	**4.48**	**223**	P		**Pn**		**16 44 39.1**	**+1.4**
DSZ				S		**Sn**		**16 45 27.7**	**-2.3**
GVZ	**Greta Valley S**	**4.94**	**205**	P		**Pn**		**16 44 44.4**	**+0.9**
GVZ				S		**Sn**		**16 45 38.0**	**-2.5**
LTZ	**Lake Taylor**	**5.06**	**212**	P		**Pn**		**16 44 47.4**	**+2.2**
LTZ				S		**Sn**		**16 45 40.4**	**-3.1**
OXZ	**Oxford**	**5.61**	**210**	P		**Pn**		**16 44 52.4**	**+0.1**
OXZ				S		**Sn**		**16 45 52.4**	**-4.0**
MQZ	**McQueen's Vall**	**5.72**	**204**	P		**Pn**		**16 44 53.0**	**-0.8**
MQZ				S		**Sn**		**16 45 53.5**	**-5.5**
TMZ	**Timaru**	**6.90**	**210**	P		**Pn**		**16 45 09.8**	**+0.4**
ODZ	**Otahua Downs**	**7.60**	**209**	P		**Pn**		**16 45 20.0**	**+1.4**
ODZ	**Otahua Downs**	**7.60**	**209**	P		**Pn**		**16 45 18.8**	**+0.1**
ODZ				S		**Sn**		**16 46 40.1**	**-3.6**

*IDC **20** 17:06:52.7±1.2, 17°.68N×145°.72E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=109.9km s-min=21.5km az=109.0*
*NEIC **20** 17:07:11.6±1.9, 17°.6N±0°.1×145°.4E±0°.2, h160km±10km, ML3.7/4, Error ellipse: s-maj=24.9km s-min=14.4km az=100.0*

ISC 20 17:07:10.7±0.7, 17.61N±0.09×145.3E±0.2, h150km, n22, σ1≤90/22, mb3.3/6, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**4.02**	**186**	Pn		**Pn**		**17 08 11.7**	**+0.4**
GUMO				Sn		**Sn**		**17 08 57.9**	**-0.3**
GUMO				IAML				17 09 07.3	
	56nm,1.5s								
PATS	**Pohnpei**	**16.59**	**129**				**Pn**	**17 10 56.1**	**+1.3**
NACB	**Ninganchiao**	**23.09**	**290**	P		**P**		**17 12 05.2**	**+1.8**
PETK	**Petropavlovsk-**	**36.73**	**12**	P		P		17 13 59.7	-3.6
	0.9nm,0.5s,baz=236,slow=26,SNR=5.9								
	0.9nm,0.5s								
WB0	**Warramunga Arr**	**38.66**	**197**	P		**P**		**17 14 18.7**	**-1.2**
WB2	**Warramunga Arr**	**38.84**	**197**	P		**P**		**17 14 20.1**	**-1.2**
WRA	**Warramunga Arr**	**38.84**	**197**	P		**P**		**17 14 21.3**	**0.0**
	0.3nm,0.5s,baz=15,slow=8.0,SNR=2.0								
	0.3nm,0.5s								
ASAR	**Alice Springs**	**42.51**	**196**	P		**P**		**17 14 51.4**	**0.0**
	0.3nm,0.8s,baz=10,slow=5.6,SNR=5.9								
	0.3nm,0.8s								
NWAO	**Narrogin (SRO)**	**56.97**	**208**	P		**P**		**17 16 39.5**	**-1.1**
CAST	**Castle Rocks**	**62.23**	**27**	P		**P**		**17 17 15.4**	**-0.8**
B22K	**Teshekpuk Lake**	**64.02**	**19**	P		**P**		**17 17 28.0**	**+0.2**
ILAR	**Eielson Array**	**64.78**	**26**	P		**P**		**17 17 31.8**	**-1.1**
	0.2nm,0.4s,baz=245,slow=6.3,SNR=5.8								
	0.2nm,0.4s								
BMAR	**Burnt Mountain**	**66.26**	**23**	P		**P**		**17 17 43.1**	**+0.6**
BCAR	**Beaver Creek A**	**66.71**	**28**	P		**P**		**17 17 44.9**	**-0.5**
I28M	**Miner Creek**	**67.79**	**26**	P		**P**		**17 17 51.5**	**-0.7**
HYT	**Haines Junctio**	**68.55**	**31**	P		**P**		**17 17 57.8**	**+0.7**

INK	**Inuvik**	**70.51**	**23**	P		**P**		**17 18 08.5**	**-0.2**
A36M	**Sachs Harbour**	**73.22**	**19**	P		**P**		**17 18 24.8**	**0.0**
C36M	**Paulatuk**	**73.89**	**22**	P		**P**		**17 18 28.3**	**-0.5**
YKA	**Yellowknife Ar**	**79.12**	**28**	P		**P**		**17 18 58.0**	**-0.3**
	0.4nm,0.8s,baz=289,slow=6.2,SNR=3.8								
	0.4nm,0.8s								
NVAR	**Mina Array Bea**	**84.09**	**52**	P		**P**		**17 19 24.7**	**-0.6**
	0.3nm,0.5s,baz=272,slow=5.6,SNR=4.2								
	0.3nm,0.5s								
LPAZ	**La Paz**	**148.00**	**93**	PKPbc		**PKPdf**		**17 26 39.1**	**+2.3**
	0.7nm,0.5s,baz=274,slow=2.0,SNR=3.8								

*NEIC **20** 17:13:02.6±1.8, 20°.6S±0°.1×178°.2W±0°.2, h525km±12km, mb4.3/20, Error ellipse: s-maj=30.1km s-min=11.6km az=50.0*
*IDC **20** 17:13:02.8±7.6, 20°.40S×178°.23W, h527km±72km, mb3.4/4, mbtmp4.3/6, Error ellipse: s-maj=59.9km s-min=27.8km az=44.0*

ISC 20 17:13:02.4±1.0, 20.4S±0.1×178.2W±0.2, h534km, n37, σ1≤15/39, mb4.3/12, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.46**	**306**	P		**P**		**17 14 25.6**	**-1.4**
PINNC	**Pines Island,**	**13.59**	**258**	P		**P**		**17 16 00.2**	**+2.7**
DZM	**Mont Dzumac**	**14.46**	**261**	P		**P**		**17 16 06.1**	**-0.7**
DZM	**Mont Dzumac**	**14.46**	**261**	P		**P**		**17 16 07.8**	**+1.1**
	4.3nm,0.6s,baz=116,slow=16,SNR=7.5								
TOZ	**Tahuroa Road**	**18.14**	**196**	P		**P**		**17 16 45.1**	**+2.9**
TOZ				IAmb		IAmb		17 16 55.0	
	comp=Z,17nm,1.1s								
URZ	**Urewera**	**18.28**	**192**	P		**P**		**17 16 43.1**	**-0.3**
	comp=Z,3.5nm,0.3s,baz=306,slow=4.4,SNR=11								
RTZ	**Ruatahuna**	**18.65**	**192**	P		**P**		**17 16 46.3**	**-0.6**
RTZ				IAmb		IAmb		17 16 53.0	
	comp=Z,16nm,1.0s								
TKNZ	**Takaka Hill**	**21.93**	**198**	P		**P**		**17 17 15.7**	**-0.9**
GVZ	**Greta Valley S**	**23.70**	**196**	P		**P**		**17 17 31.6**	**-0.8**
LTZ	**Lake Taylor**	**23.74**	**198**	P		**P**		**17 17 31.5**	**-1.2**
EIDS	**Eidsvold**	**28.74**	**254**	P		**P**		**17 18 15.4**	**-1.5**
EIDS				IAmb		IAmb		17 18 18.1	
	comp=Z,5.9nm,0.7s								
ARMA	**Armidale**	**28.99**	**244**	P		**P**		**17 18 20.4**	**+1.1**
ARMA				IAmb		IAmb		17 18 21.2	
	comp=Z,11nm,1.1s								
CTAO	**Charters Tower**	**33.36**	**264**	P		**P**		**17 18 57.3**	**+0.6**
COEN	**Coen**	**37.44**	**274**	P		**P**		**17 19 31.6**	**+1.0**
COEN				IAmb		IAmb		17 19 32.2	
	comp=Z,6.0nm,0.7s								
STKA	**Stephens Creek**	**37.71**	**244**	P		**P**		**17 19 32.9**	**+0.3**
STKA	**Stephens Creek**	**37.71**	**244**	P		**P**		**17 19 32.9**	**+0.3**
	comp=Z,1.3nm,0.5s,baz=98,slow=11,SNR=4.0								
	comp=Z,1.3nm,0.5s								
BBOO	**Buckleboo**	**42.47**	**243**	P		**P**		**17 20 10.8**	**0.0**
BBOO				IAmb		IAmb		17 20 23.8	
	comp=Z,7.3nm,1.1s								
ASAR	**Alice Springs**	**44.41**	**257**	P		**P**		**

SCLA				IAML			17 32 43.3	
	comp=Z,390nm,1.0s							
UESV	**Universidad de**	**1.13 294**	*i* P		**Pn**	**17 32 07.3**	**-0.4**	
UESV				IAML		17 32 12.2		
	comp=Z,710nm,1.0s							
UESV			*i* S		**Sg**	**17 32 23.8**	**+1.1**	
PACN	**Al O del Volca**	**1.14 126**	*i* P		**Pb**	**17 32 06.8**	**-0.9**	
PACN				IAML		17 32 07.4		
	comp=Z,1µm,1.0s							
PACN			*i* S		**Sg**	**17 32 23.1**	**+0.1**	
ROCN	**Rota Cerro Neg**	**1.16 124**	*i* P		**Pn**	**17 32 06.6**	**-1.6**	
ROCN				IAML		17 32 07.4		
	comp=Z,440nm,1.0s							
ROCN			*i* S		**Sg**	**17 32 23.5**	**-0.4**	
COEG	**Centro de Oper**	**1.20 291**	*i* P		**Pn**	**17 32 08.3**	**-0.5**	
COEG			*i* S		**Sg**	**17 32 25.7**	**+0.5**	
COEG				IAML		17 32 27.9		
	comp=Z,420nm,1.0s							
CNGN	**Cerro Negro**	**1.21 124**	*i* P		**Pn**	**17 32 07.5**	**-1.4**	
CNGN			*i* S		**Sn**	**17 32 24.5**	**-0.6**	
CNGN				IAML		17 32 31.3		
	comp=Z,1µm,1.0s							
MACN	**El Madrono**	**1.25 125**	*i* P		**Pn**	**17 32 08.1**	**-1.3**	
MACN			*i* S		**Sg**	**17 32 26.4**	**-0.3**	
MACN				IAML		17 32 31.4		
	comp=Z,440nm,1.0s							
PAVA	**Las Pavas**	**1.29 294**	*i* P		**Pb**	**17 32 10.4**	**0.0**	
PAVA			*i* S		**Sg**	**17 32 28.3**	**+0.3**	
PAVA				IAML		17 32 34.0		
	comp=Z,1µm,1.0s							
LIMN	**Finca el Limon**	**1.33 95**	*i* P		**Pb**	**17 32 10.1**	**-1.0**	
LEVN	**Ruinas Leon Vi**	**1.33 125**	*i* P		**Pn**	**17 32 09.4**	**-1.1**	
LEVN			*i* S		**Sg**	**17 32 29.2**	**-0.1**	
LEVN				IAML		17 32 37.3		
	comp=Z,880nm,1.0s							
MOMN	**Momotombo**	**1.39 123**	*i* P		**Pn**	**17 32 10.4**	**-0.9**	
MOMN				IAML		17 32 12.9		
	comp=Z,29nm,1.0s							
MOMN			*i* S		**Sg**	**17 32 30.4**	**-0.8**	
BRAN	**Las Pilas**	**1.42 109**	*i* P		**Pg**	**17 32 15.2**	**+1.6**	
BRAN			*i* S		**Sg**	**17 32 39.2**	**+7.1**	
BRAN				IAML		17 33 43.5		
	comp=Z,680nm,1.0s							
MOM2	**El Cardon**	**1.42 121**	*i* P		**Pn**	**17 32 11.0**	**-0.7**	
MOM2			*i* S		**Sg**	**17 32 32.1**	**0.0**	
MOM2				IAML		17 32 36.6		
	comp=Z,530nm,1.0s							
PANCS	**Alcalda de**	**1.48 287**	*i* P		**Pn**	**17 32 12.5**	**0.0**	
PANCS				IAML		17 32 15.7		
	comp=Z,3µm,1.0s							
PANCS			*i* S		**Sb**	**17 32 32.8**	**+0.6**	
LOMA	**Loma Larga**	**1.48 288**	*i* P		**Pb**	**17 32 13.2**	**-0.4**	
LOMA				IAML		17 32 16.6		
	comp=Z,800nm,1.0s							
LOMA			*i* S		**Sb**	**17 32 33.5**	**+1.1**	
UDBS	**Universidad Do**	**1.49 291**	*i* P		**Pb**	**17 32 13.4**	**-0.3**	
UDBS				IAML		17 32 16.7		
	comp=Z,700nm,1.0s							
UDBS			*i* S		**Sg**	**17 32 34.8**	**+0.6**	
COPN	**Copaltepe**	**1.49 132**	*i* P		**Pn**	**17 32 12.7**	**0.0**	
COPN				IAML		17 32 35.7		
	comp=Z,750nm,1.0s							
UTEC	**Universidad Te**	**1.52 290**	*i* P		**Pn**	**17 32 13.8**	**+0.6**	
UTEC			*i* S		**Sb**	**17 32 34.8**	**+1.2**	
UTEC				IAML		17 32 58.4		
	comp=Z,970nm,1.0s							
SNET	**Serv Nac Est T**	**1.55 289**	*i* P		**Pn**	**17 32 13.6**	**+0.1**	
SNET				IAML		17 33 02.1		
	comp=Z,1µm,1.0s							
UEES	**Universidad Ev**	**1.56 290**	*i* P		**Pb**	**17 32 14.8**	**-0.3**	
UEES				IAML		17 32 17.8		
	comp=Z,410nm,1.0s							
LALI	**Alcalda de L**	**1.58 281**	*i* P		**Pb**	**17 32 15.0**	**-0.3**	
LALI			*i* S		**Sb**	**17 32 35.5**	**+0.3**	
LALI				IAML		17 32 36.8		
	comp=Z,160nm,1.0s							
ITCA	**Escuela Especi**	**1.59 288**	*i* P		**Pb**	**17 32 15.1**	**-0.4**	
ITCA			*i* S		**Sb**	**17 32 36.1**	**+0.7**	
ITCA				IAML		17 33 10.2		
	comp=Z,2µm,1.0s							
APQ3	**Volcan Apoyequ**	**1.60 124**	*i* P		**Pn**	**17 32 13.9**	**-0.3**	
APQ3			*i* S		**Sb**	**17 32 36.1**	**+0.2**	
APQ3				IAML		17 32 37.3		
	comp=Z,700nm,1.0s							
PMON	**Piamonte**	**1.63 289**	*i* P		**Pb**	**17 32 15.8**	**-0.4**	
PMON				IAML		17 32 18.8		
	comp=Z,870nm,1.0s							
PMON			*i* S		**Sb**	**17 32 37.5**	**+0.7**	
SAPS	**Ciudad Sandino**	**1.64 128**	*i* P		**Pn**	**17 32 14.3**	**-0.4**	
SAPS			*i* S		**Sb**	**17 32 37.0**	**+0.2**	
SAPS				IAML		17 32 37.4		
	comp=Z,1µm,1.0s							
CEDA	**San Andres**	**1.73 291**	*i* P		**Pb**	**17 32 17.6**	**-0.4**	
CEDA				IAML		17 32 53.9		
	comp=Z,1µm,1.0s							
JAYA	**Jayaque - finc**	**1.74 286**	*i* P		**Pn**	**17 32 17.0**	**+0.7**	
JAYA			*i* S		**Sb**	**17 32 40.4**	**+0.5**	
JAYA				IAML		17 32 44.5		
	comp=Z,2µm,1.0s							
RE6B4	**Centro civico**	**1.75 127**	*i* P		**Pn**	**17 32 16.5**	**+0.3**	
RE6B4				IAML		17 33 02.3		
	comp=Z,2µm,1.0s							
TISN	**Laguna Tiscapa**	**1.76 126**	*i* P		**Pn**	**17 32 15.5**	**-0.9**	
TISN				IAML		17 32 16.4		
	comp=Z,42nm,1.0s							
RB28C	**Hialeah**	**1.76 126**	*i* P		**Pn**	**17 32 16.8**	**+0.4**	
RB28C				IAML		17 33 33.5		
	comp=Z,2µm,1.0s							
R4DEC	**Barrio San Lui**	**1.77 125**	*i* P		**Pb**	**17 32 18.3**	**-0.3**	
R4DEC			*i* P		**Pn**	**17 32 16.5**	**0.0**	
R4DEC			*i* S		**Sb**	**17 32 40.9**	**+0.2**	
R4DEC				IAML		17 32 46.5		
	comp=Z,500nm,1.0s							
R4DEC				IAML		17 32 59.2		
	comp=Z,660nm,1.0s							
R0529	**La Mascota**	**1.79 126**	*i* P		**Pn**	**17 32 17.0**	**+0.1**	
R0529				IAML		17 32 24.2		
	comp=Z,600nm,1.0s							
MAS3	**Al N del Volca**	**1.90 127**	*i* P		**Pn**	**17 32 18.4**	**0.0**	
MAS3			*i* S		**Sb**	**17 32 44.6**	**+0.1**	
MAS3				IAML		17 33 06.1		
	comp=Z,370nm,1.0s							
RB213	**Mirador 2 Volc**	**1.93 128**	*i* P		**Pn**	**17 32 16.5**	**-2.3**	
RB213				IAML		17 33 14.9		
	comp=Z,1µm,1.0s							
MTO3	**Montecristo**	**2.00 308**	*i* P		**Pb**	**17 32 21.3**	**-1.2**	
MTO3				IAML		17 32 24.8		
	comp=Z,240nm,1.0s							
MTO3			*i* S		**Sb**	**17 32 48.8**	**+1.4**	
NUBE	**Las Nubes**	**2.12 290**	*i* P		**Pn**	**17 32 22.4**	**+0.9**	
NUBE			*i* S		**Sb**	**17 32 51.7**	**+0.8**	
NUBE				IAML		17 32 54.1		
	comp=Z,270nm,1.0s							
OMEN	**Al SSO del Vol**	**2.64 129**	*i* P		**Pn**	**17 32 28.3**	**-0.2**	
OMEN				IAML		17 33 11.2		
	comp=Z,100nm,1.0s							
ACON	**Acoyapa**	**2.77 116**	*i* P		**Pn**	**17 32 32.2**	**+1.9**	
ACON				IAML		17 33 24.4		
	comp=Z,120nm,1.0s							

*IDC **20** 17:38:18.2±2.5, 17.°68S×179.°02W, h527km±29km, mb3.2/12, mbtmp4.1/13, Error ellipse: s-maj=20.8km s-min=13.5km az=145.0*

ISC 20 17:38:19.0±0.7, 17.°7S±0.°1×179.°1W±0.°1, h539km, n16, σ0°96/18, mb3.3/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**14.33 250**		P	**P**	**17 41 21.3**	**-0.6**
	6.3nm,0.9s,baz=68,slow=23,SNR=3.5						
URZ	**Urewera**	**20.79 189**		P	**P**	**17 42 20.8**	**-1.9**
	6.5nm,0.6s,baz=326,slow=3.8,SNR=9.4						
	6.5nm,0.6s						
STKA	**Stephens Creek**	**38.21 241**		P	**P**	**17 44 53.6**	**+0.6**
	5.7nm,0.6s,baz=94,slow=10,SNR=13						
	5.7nm,0.6s						
WRA	**Warramunga Arr**	**44.07 259**		P	**P**	**17 45 39.5**	**-0.2**
	1.2nm,0.6s,baz=96,slow=6.9,SNR=12						
	1.2nm,0.6s						
ASAR	**Alice Springs**	**44.27 254**		P	**P**	**17 45 41.9**	**+0.7**
	13nm,0.7s,baz=89,slow=7.9,SNR=107						
ASAR				PcP	**PcP**	**17 47 14.8**	**+0.8**
	0.3nm,0.4s,baz=103,slow=4.1,SNR=4.4						
ASAR				S	**S**	**17 51 35.6**	**-0.4**
	1.3nm,0.9s,baz=85,slow=17,SNR=6.8						
	13nm,0.7s						
MJAR	**Matsushiro Arr**	**67.35 324**		P	**P**	**17 48 20.1**	**-0.6**
	2.1nm,0.6s,baz=153,slow=5.7,SNR=10						
	2.1nm,0.6s						
QSPA	**South Pole Qui**	**72.39 180**		P	**P**	**17 48 51.1**	**+0.7**
	0.3nm,0.6s,baz=315,slow=2.9,SNR=1.1						
	0.3nm,0.6s						
PETK	**Petropavlovsk-**	**73.29 346**		P	**P**	**17 48 55.0**	**-0.4**
	4.2nm,0.9s,baz=137,slow=7.3,SNR=3.9						
	4.2nm,0.9s						
NVAR	**Mina Array Bea**	**79.67 44**		P	**P**	**17 49 31.5**	**+0.4**
	0.6nm,0.7s,baz=229,slow=8.9,SNR=5.0						
	0.6nm,0.7s						
ILAR	**Eielson Array**	**85.79 13**		P	**P**	**17 49 59.9**	**-1.1**
	0.3nm,0.5s,baz=232,slow=4.4,SNR=4.6						
	0.3nm,0.5s						
TXAR	**Lajitas Array**	**86.38 58**		P	**P**	**17 50 05.3**	**+0.6**
	0.4nm,0.7s,baz=205,slow=8.3,SNR=4.2						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**87.60 44**		P	**P**	**17 50 10.2**	**-0.1**
	0.3nm,0.5s,baz=191,slow=4.5,SNR=2.4						
	0.3nm,0.5s						
CMAR	**Chiang Mai Arr**	**88.23 290**		P	**P**	**17 50 15.7**	**+2.2**
	0.3nm,0.8s,baz=146,slow=7.2,SNR=2.5						
	0.3nm,0.8s						
BRTR	**Keskin Array B**	**144.18 315**		PKP	**PKPdf**	**17 56 53.8**	**-0.3**
	0.6nm,0.5s,baz=66,slow=4.9,SNR=9.2						
MMAI	**Mount Meron Ar**	**145.50 303**		PKPbc	**PKPab**	**17 56 58.2**	**-0.9**
	1.5nm,0.5s,baz=72,slow=6.3,SNR=7.3						
GERES	**GERESS Array B**	**147.22 344**		PKPbc	**PKPbc**	**17 57 01.8**	**-0.2**
	0.7nm,0.5s,baz=26,slow=2.5,SNR=2.7						

NEIC 20 17:41:35.4±1.0, 29.°10N±0.°03×97.°82W±0.°02, h5km±2km, mb_Lg2.4/20, ML2.5/6, Error ellipse: s-maj=5.8km s-min=3.1km az=148.0, Central Texas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
735A	**Kenedy**	**0.24 178**		Pg	Pg	17 41 39.8	-0.4
735A				Sg	Sg	17 41 44.7	+1.3
735A				IAML		17 41 45.3	
	comp=E,685nm,0.1s						
735A				IAML		17 41 45.8	
	comp=N,1µm,0.2s						
EF01	**Eagle Ford 01**	**0.49 273**		Pg	Pg	17 41 45.2	+0.2
EF01				IAML		17 41 54.7	
	comp=N,575nm,0.3s						
MLDN	**Muldoon**	**0.94 44**		Pg	Pg	17 41 52.9	-0.6
MLDN				IAML		17 42 09.8	
	comp=N,133nm,0.5s						
HNDO	**Hondo**	**1.35 289**		Pg	Pn	17 41 59.4	-1.6
833A	**Chaparral WMA,**	**1.59 241**			Pn	17 42 03.5	-0.7
435B	**Jarrell**	**1.69 7**		Pn	Pn	17 42 05.4	-0.3
435B				IAmb_Lg		17 42 31.5	
	comp=Z,24nm,0.8s						
HBVL	**Hebbronville**	**2.16 201**		Pn	Pn	17 42 11.7	-0.4
JCT	**Junction City**	**2.21 309**		Pn	Pn	17 42 11.8	-1.0
BRDY	**Brady**	**2.41 335**		Pn	Pn	17 42 15.6	+0.1
BRDY				IAmb_Lg		17 42 52.5	
	comp=Z,11nm,0.8s						
DRIO	**Del Rio**	**2.47 278**		Pn	Pn	17 42 15.8	-0.6
WHTX	**Lake Whitney,**	**2.90 6**		Pn	Pn	17 42 22.1	-0.2
OZNA	**Ozona**	**3.40 303**		Pn	Pn	17 42 28.6	-0.6
PLPT	**Palo Pinto**	**3.73 354**		Pn	Pn	17 42 32.8	-0.9
ABTX	**Abilene, Hawle**	**3.85 336**		Pn	Pn	17 42 34.7	-0.6
ABTX				IAmb_Lg		17 43 44.2	
	comp=Z,5.7nm,0.9s						
FW03	**Perrin-Whitt E**	**3.93 357**		IAmb_Lg		17 43 44.0	
	comp=Z,8.5nm,1.0s						
SGCY	**Sterling City**	**4.00 315**		Pn	Pn	17 42 37.1	-0.4
SGCY				IAmb_Lg		17 43 51.0	
	comp=Z,9.4nm,0.8s						
APMT	**Aspermont**	**4.65 335**		Pn	Pn	17 42 46.2	-0.2
SN07	**Snyder 07**	**4.77 327**		Pn	Pn	17 42 46.1	-2.0
MNHN	**Monahans**	**4.83 299**		IAmb_Lg		17 44 15.2	
	comp=Z,6.6nm,0.7s						
POST	**Post**	**5.06 322**		Pn	Pn	17 42 52.3	+0.2
TX31	**Lajitas Ar. Si**	**5.12 274**		Pn	Pn	17 42 52.9	-0.1
DKNS	**Dickens**	**5.27 331**		Pn	Pn	17 42 52.5	-2.4
WMOK	**Wichita Mounta**	**5.68 352**		Pn	Pn	17 42 60.0	-0.6
WMOK				IAmb_Lg		17 44 47.6	
	comp=Z,5.1nm,0.9s						
X37A	**Clayton**	**5.86 20**		Pn	Pn	17 43 01.6	-1.3
AMTX	**Amarillo**	**6.63 331**		IAmb_Lg		17 45 21.4	
	comp=Z,5.5nm,0.7s						

*IDC **20** 17:55:02.7±1.0, 29.°92S×176.°93W, h0km, mb4.3/4, mbtmp4.3/6, ML3.5/2, MS3.6/5, Error ellipse: s-maj=29.1km s-min=23.8km az=128.0*

*NEIC **20** 17:55:10.6±1.5, 29.°8S±0.°2×177.°3W±0.°2, h35km±2km, mb4.6/15, Error ellipse: s-maj=32.4km s-min=16.6km az=41.0*

ISC 20 17:55:07.7±0.8, 29.°85S±0.°07×177.°1W±0.°1, h24km, n37, σ1°45/37, mb4.5/11, MS3.7/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91 311**			**Pn**	**17 55 24.9**	**0.0**
RAO	**Raoul Island**	**0.91 311**		Pn	**Pn**	**17 55 24.8**	**-0.2**
	368nm,0.3s,baz=119,slow=7.6,SNR=24						
RAO				Sn	**Sn**	**17 55 39.6**	**+2.4**
	1µm,0.3s,baz=107,slow=19,SNR=9.3						
URZ	**Urewera**	**9.64 208**		Pn	**Pn**	**17 57 22.2**	**-2.8**
	0.2nm,0.3s,baz=87,slow=1.7,SNR=2.1						
URZ				Sn	**Sn**	**17 59 13.1**	**+0.6**
	1.8nm,0.3s,baz=46,slow=24,SNR=6.1						
	18nm,1.1s						
THZ	**Tophouse**	**14.35 211**		Pn	**Pn**	**17 58 28.1**	**-1.3**
GVZ	**Greta Valley S**	**15.28 208**		Pn	**Pn**	**17 58 38.1**	**-3.7**
OXZ	**Oxford**	**15.99 210**		P	**P**	**17 58 54.1**	**-0.2**
OXZ				IAmb	IAmb	17 58 55.9	
	comp=Z,28nm,1.0s						
DZM	**Mont Dzumac**	**16.66 294**		Pn	P	17 59 11.0	+9.0
	comp=Z,0.4nm,0.3s,baz=143,slow=20,SNR=2.6						
DZM				LR	LR	18 04 07.0	
	comp=Z,273nm,18.8s,baz=83,slow=32						
RPZ	**Rata Peaks**	**16.73 211**		Pn	**Pn**	**17 58 58.2**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=50,slow=17,SNR=1.1						
	comp=Z,8.6nm,0.9s						
RAR	**Rarotonga**	**17.86 65**		LR	LR	18 04 15.6	
	comp=Z,210nm,20.3s,baz=279,slow=31						
ODZ	**Otahua Downs**	**17.97 209**		P	**P**	**17 59 17.3**	**+1.1**
ODZ				IAmb	IAmb	17 59 35.0	
	comp=Z,94nm,1.4s						
EIDS	**Eidsvold**	**28.46 271**		P	**P**	**18 00 59.8**	**-1.2**
CTAO	**Charters Tower**	**34.45 278**		P	**P**	**18 01 52.5**	**-1.3**
STKA	**Stephens Creek**	**35.33 256**		P	**P**	**18 02 02.1**	**+0.9**
STKA	**Stephens Creek**	**35.33 256**		P	**P**	**18 02 02.1**	**+0.9**
	comp=Z,3.9nm,0.8s,baz=99,slow=10.0,SNR=6.9						
STKA				LR	LR	18 15 09.7	
	comp=Z,140nm,18.2s,baz=29,slow=34						
	comp=Z,3.9nm,0.8s						
PMG	**Port Moresby**	**39.06 294**		LR	LR	18 15 46.2	
	comp=Z,116nm,19.0s,baz=90,slow=32						
BBOO	**Buckleboo**	**39.84 253**		P	**P**	**18 02 39.8**	**+0.4**
BBOO				IAmb	IAmb	18 03 15.1	
	comp=Z,22nm,1.4s						
ASAR	**Alice Springs**	**43.89 266**		P	**P**	**18 03 11.8**	**-0.8**
ASAR	**Alice Springs**	**43.89 266**		P	**P**	**18 03 12.1**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=97,slow=6.4,SNR=31						
ASAR				PcP	**PcP**	**18 05 00.6**	**+2.0**
	comp=Z,0.4nm,0.6s,baz=122,slow=4.1,SNR=2.5						
	comp=Z,1.7nm,0.7s						
WR0	**Warramunga Arr**	**44.65 271**		P	**P**	**18 03 18.7**	**0.0**
WR0				IAmb	IAmb	18 03 21.9	
	comp=Z,5.5nm,0.9s						
WB2	**Warramunga Arr**	**44.82 271**		P	**P**	**18 03 19.6**	**-0.5**
WB2				IAmb	IAmb	18 03 21.1	
	comp=Z,5.5nm,0.7s						
WRA	**Warramunga Arr**	**44.83 271**		P	**P**	**18 03 20.7**	**+0.6**
WRA	**Warramunga Arr**	**44.83 271**		P	**P**	**18 03 19.3**	**-0.8**
	comp=Z,5.4nm,0.8s,baz=110,slow=7.5,SNR=32						
	comp=Z,5.4nm,0.8s						
WB0	**Warramunga Arr**	**44.85 271**		P	**P**	**18 03 20.6**	**+0.3**
WB0				IAmb	IAmb	18 03 21.2	
	comp=Z,5.8nm,0.7s						
FORT	**Forrest**	**46.91 254**		P	**P**	**18 03 36.2**	**-0.3**
SBA	**Scott Base**	**48.64 184**		P	**P**	**18 03 50.9**	**+1.8**
SBA				IAmb	IAmb	18 04 24.3	
	comp=Z,7.1nm,1.4s						
CASY	**Casey**	**55.97 208**		P	**P**	**18 04 44.7**	**+1.0**
CASY				IAmb	IAmb	18 04 51.9	
	comp=Z,10nm,1.3s						
GUMO	**Guam**	**56.63 314**		LR	LR	18 25 50.3	
	comp=Z,27nm,21.7s,baz=175,slow=32						
QSPA	**South Pole Qui**	**60.26 180**		P	**P**	**18 05 16.5**	**+2.6**
QSPA				IAmb	IAmb	18 05 41.2	
	comp=Z,4.7nm,0.8s						
PETK	**Petropavlovsk-**	**85.47 345**		P	**P**	**18 07 42.4**	**-0.6**
	comp=Z,2.0nm,0.9s,baz=159,slow=3.9,SNR=1.5						
	comp=Z,2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**121.25 314**		PKP	**PKPdf**	**18 13 57.4**	**-0.9**
	comp=Z,0.4nm,0.2s,baz=98,slow=2.1,SNR=4.9						
BVAR	**Borovoye Array**	**126.53 316**		PKP	**PKPdf**	**18 14 07.4**	**-0.9**
	comp=Z,1.0nm,0.7s,baz=102,slow=5.0,SNR=5.2						
FINES	**FINESS Array B**	**144.88 341**		PKPbc	**PKPab**	**18 14 39.6**	**-1.5**
	comp=Z,4.1nm,0.7s,baz=46,slow=2.7,SNR=13						
NOA	**NORSAR Array B**	**148.32 352**		PKPbc	**PKPdf**	**18 14 48.9**	**+1.0**
	comp=Z,0.3nm,0.7s,baz=5.5,slow=4.0,SNR=1.6						
HFS	**Hagfors**	**148.85 350**		PKPbc	**PKPbc**	**18 14 51.2**	**-1.5**
	comp=Z,3.2nm,0.9s,baz=79,slow=7.7,SNR=3.3						
AKASG	**Malin Array Be**	**151.31 324**		PKPbc	**PKPbc**	**18 14 56.8**	**-2.1**
	comp=Z,0.5nm,0.3s,baz=46,slow=2.7,SNR=9.1						
MMAI	**Mount Meron Ar**	**152.12 285**		PKPbc	**PKiKP**	**18 15 02.1**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=85,slow=5.1,SNR=7.9						
BRTR	**Keskin Array B**	**152.99 300**		PKPbc	**PKiKP**	**18 15 03.1**	**-0.4**
	comp=Z,0.3nm,0.6s,baz=20,slow=3.9,SNR=2.0						
BRTR				PKPab	**sPKPbc**	**18 15 12.9**	**+1.0**
	comp=Z,0.6nm,0.8s,baz=146,slow=5.2,SNR=4.2						

*DJA **20** 18:05:44.8±0.5, 5.°N±2.°×9.°6E±.°, h10km, M4.8/11, mb4.6/9, mB5.3/2, MLv4.8/11, Mw4.5/8, Mw(mB)4.7/2*

*BJI **20** 18:05:46.5±0.0, 4.°44N×95.°97E, h15km, mb4.3/40, mB4.7/16, Ms4.1/14, Ms7 3.8/14*

*NEIC **20** 18:05:46.7±2.3, 4.°80N±0.°09×96.°11E±0.°10, h10km±1km, mb4.6/32, Error ellipse: s-maj=17.2km s-min=13.9km az=238.0*

*IDC **20** 18:05:51.6±5.3, 4.°65N×96.°06E, h57km±49km, mb3.7/18, mbtmp4.0/20, ML3.6/2, MS3.5/19, Error ellipse: s-maj=30.0km s-min=13.4km az=48.0*

ISC 20 18:05:49.0±0.4, 4.°75N±0.°05×96.°06E±0.°05, h29km, n121, σ2°23/96, mb4.5/47, MS3.7/22, 3C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MLSI	**Meulaboh, Aceh**	**0.59 145**		P	**Pb**	**18 05 59.0**	**-1.9**
MLSI				S	**Sn**	**18 06 10.6**	**+0.5**
KCSI	**Kotacane, Aceh**	**2.10 126**		P	**Pn**	**18 06 23.6**	**+1.4**
KCSI				S	**Sb**	**18 06 52.0**	**0.0**
SNSI	**Sinabang, Aceh**	**2.34 174**		P	**Pn**	**18 06 26.6**	**+1.1**
RPSI	**Rantau Prapat**	**3.51 125**		Pn	**Pn**	**18 06 42.3**	**+0.7**
GSI	**Gunungsitoli**	**3.74 156**		Pn	**Pn**	**18 06 45.5**	**+0.7**
GSI	**Gunungsitoli**	**3.74 156**		P	**Pn**	**18 06 45.3**	**+0.5**
GSI				S	**Sn**	**18 07 32.5**	**+4.5**
KULM	**Kulim**	**4.60 83**			**Pn**	**18 06 56.1**	**-0.5**
IPM	**Ipoh**	**4.95 93**			**Pn**	**18 07 00.3**	**-1.2**
SRIT	**Nakonsritamara**	**5.19 42**		Pn	**Pn**	**18 07 04.1**	**-0.7**
PBSI	**Pulau Batu**	**5.26 155**		P	**Pn**	**18 07 06.5**	**+0.8**
	68nm,0.7s,0.5nm						
SISI	**Saibi**	**6.75 153**		P	**Pn**	**18 07 25.7**	**-0.5**
	34nm,1.0s,0.2nm						
PDSI	**Padang**	**7.14 142**		P	**Pn**	**18 07 33.7**	**+2.1**
	41nm,0.9s,0.2nm						
MYKOM	**Kota Tinggi**	**8.31 110**		Pn	**Pn**	**18 07 46.0**	**-1.6**
MYKOM				Sn	**Sn**	**18 09 15.6**	**-5.0**
PPSI	**Pulau Pagai**	**8.44 152**		P	**Pn**	**18 07 50.6**	**+1.2**
	93nm,1.0s						
TPRI	**Tanjung Pinang**	**9.27 114**		P	**Pn**	**18 08 01.0**	**+0.2**
DSRI	**Dabo**	**9.97 121**		P	**Pn**	**18 08 10.6**	**+0.2**
	7.7nm,0.7s						
MNAI	**Manna**	**11.37 143**		Pn	**Pn**	**18 08 27.9**	**-1.8**
CMAR	**Chiang Mai Arr**	**13.91 11**		P	**P**	**18 09 08.1**	**-4.1**
	0.1nm,0.3s,baz=200,slow=13,SNR=9.5						
CMAR				LR	LR	18 14 56.5	
	comp=Z,101nm,18.5s,baz=195,slow=39						
	0.8nm,0.7s						
CHTO	**Chiang Mai**	**14.26 11**			**P**	**18 09 13.9**	**-2.1**
KSM	**Kuching**	**14.59 102**			**P**	**18 09 18.4**	**-1.3**
PALK	**Pallekele**	**15.48 280**		P	**Pn**	**18 09 26.5**	**+1.0**
	0.3nm,0.3s,baz=8.0,slow=11,SNR=1.3						
PALK				S	**Sn**	**18 12 06.5**	**-10**
	9.9nm,0.9s,baz=24,slow=18,SNR=2.0						
PALK				LR	LR	18 14 37.4	
	comp=Z,78nm,21.0s,baz=216,slow=34						
	8.7nm,1.0s						
STKI	**Sintang**	**16.09 106**		P	**P**	**18 09 38.6**	**+2.3**
SBUM	**Sibu**	**16.29 98**			**Pn**	**18 09 35.5**	**-0.3**
LEM	**Lembang**	**16.29 135**		LR	LR	18 15 31.0	
	comp=Z,153nm,20.5s,baz=304,slow=36						
QIZ	**Qiongzhong**	**19.55 42**		P	**Pn**	**18 10 15.3**	**-0.7**
QIZ				S	**Sn**	**18 13 54.3**	**-0.5**
QIZ				pmax	pmax		
	comp=Z,8.0nm,1.2s						
QIZ

XAN					pmax	pmax		
	comp=Z,130nm,4.5s							
SMLA	**Simla**	**31.69**	**328**	*eP*	**P**	**18 12 10.5 +0.3**		
SMLA					IAmb	IAmb	18 12 11.3	
	comp=Z,4.4nm,0.4s							
LZH	**Lanzhou**	**32.00**	**12**	*eP*	P	P	18 12 21.4 +8.4	
LZH					pP	sP	18 12 24.8 -0.7	
LZH					pmax	pmax		
	comp=Z,20nm,1.3s							
DHRM	**DHARAMSHALA**	**33.03**	**328**	*eP*	**P**	**18 12 22.5 +0.3**		
DHRM					IAmb	IAmb	18 12 27.1	
	comp=Z,6.3nm,0.7s							
LYN	**LuoYang**	**33.33**	**25**	⇑P	P	P	18 12 31.1 +6.6	
LYN					pmax	pmax		
	comp=Z,20nm,0.8s							
LYN					LR	LR		
	comp=Z,220nm,17.9s							
LYN					LR	LR		
	comp=Z,220nm,11.6s							
NJ2	**Nanjing**	**34.55**	**35**	*eP*	**P**	**18 12 37.6 +2.5**		
NJ2					sP	**sP**	**18 12 46.4 -1.2**	
NJ2					pmax	pmax		
	comp=Z,8.0nm,0.5s							
GTA	**Gaotai**	**34.67**	**5**	*eP*	P	P	18 12 41.8 +5.6	
GTA					pP	sP	18 12 48.1 -0.5	
GTA					pmax	pmax		
	comp=Z,8.0nm,1.0s							
NIL	**Nilore**	**35.74**	**326**		P	**P**	**18 12 44.5 -0.9**	
HNS	**HongShan**	**36.70**	**25**	⇑P	P	P	18 13 00.6 +7.1	
HNS					pmax	pmax		
	comp=Z,23nm,0.9s							
FITZ	**Fitzroy Crossi**	**36.97**	**129**		P	**P**	**18 12 55.0 -1.0**	
BTO	**Baotou**	**37.84**	**17**	*eP*	P	P	18 13 08.8 +5.5	
BTO					pP	sP	18 13 13.3 -2.5	
BTO					sP	pP	18 13 15.8 +3.6	
BTO					PP	**PnPn**	**18 14 39.6 +8.2**	
BTO					pmax	pmax		
	comp=Z,13nm,0.4s							
BTO					pmax	pmax		
	comp=Z,220nm,5.7s							
BTO					LR	LR		
	comp=Z,390nm,14.7s							
BTO					LR	LR		
	comp=Z,290nm,12.9s							
BTO					LR	LR		
	comp=Z,450nm,14.4s							
HHC	**Hu-ho-hao-te**	**38.55**	**19**	*eP*	**P**	**18 13 12.0 +2.8**		
HHC					pmax	pmax		
	comp=Z,10.0nm,0.8s							
HHC					pmax	pmax		
	comp=Z,55nm,5.7s							
HHC					LR	LR		
	comp=Z,150nm,13.5s							
HHC					LR	LR		
	comp=Z,150nm,13.7s							
MTN	**Manton Dam**	**38.98**	**117**		P	**P**	**18 13 14.0 +0.9**	
WMQ	**Urumqi**	**39.61**	**350**	*eP*	P	**P**	**18 13 17.8 -0.2**	
WMQ					pP	pP	18 13 24.5 -2.3	
WMQ					pmax	pmax		
	comp=Z,31nm,0.9s							
WMQ					pmax	pmax		
	comp=Z,57nm,3.7s							
GAR	**Garm**	**41.32**	**329**		P	**P**	**18 13 29.1 -3.2**	
GAR					IAmb	IAmb	18 13 33.6	
	comp=Z,7.3nm,0.5s							
CHGR	**Chuyangaron**	**41.67**	**328**		P	**P**	**18 13 33.3 -1.9**	
CHGR					IAmb	IAmb	18 14 03.1	
	comp=Z,8.1nm,0.6s							
SIMJ	**Simiganj**	**41.75**	**328**		P	**P**	**18 13 34.3 -1.6**	
SIMJ					IAmb	IAmb	18 13 43.8	
	comp=Z,4.2nm,0.8s							
ARSB	**Arslanbob**	**41.87**	**334**		P	**P**	**18 13 36.5 -0.3**	
BTK	**Batken**	**41.88**	**331**		P	**P**	**18 13 36.5 -0.4**	
BTK					IAmb	IAmb	18 14 19.1	
	comp=Z,8.5nm,1.2s							
AAK	**Ala-Archa**	**42.32**	**336**		LR	LR	18 32 32.9	
	comp=Z,97nm,21.5s,baz=155,slow=38							
NWAO	**Narrogin (SRO)**	**42.52**	**153**		LR	LR	18 30 21.7	
	comp=Z,74nm,19.5s,baz=251,slow=35							
MK31	**Makanchi Array**	**43.55**	**346**		P	**P**	**18 13 48.9 -1.3**	
MKAR	**Makanchi Array**	**43.55**	**346**		P	**P**	**18 13 49.8 -0.4**	
MKAR					LR	LR	18 34 48.3	
	comp=Z,37nm,21.2s,baz=157,slow=40							
	comp=Z,0.7nm,0.6s,baz=154,slow=6.7,SNR=14							
KS19	**Wonju Array Si**	**43.66**	**37**		P	**P**	**18 13 49.9 -1.4**	
KS19					IAmb	IAmb	18 14 29.3	
	comp=Z,31nm,1.4s							
KSRS	**Korea Array**	**43.66**	**37**		P	**P**	**18 13 52.2 +1.0**	
	comp=Z,0.3nm,0.4s,baz=223,slow=9.2,SNR=3.2							
	comp=Z,0.3nm,0.4s							
SONM	**Songino Array**	**43.83**	**10**		P	**P**	**18 13 53.9 +1.2**	
	comp=Z,1.5nm,0.3s,baz=226,slow=14,SNR=1.7							
	comp=Z,1.5nm,0.3s							
KKAR	**Karatay Array**	**44.39**	**333**		P	**P**	**18 13 57.2 +0.1**	
WB0	**Warramunga Arr**	**44.88**	**124**		P	**P**	**18 14 00.8 -0.4**	
WB0					IAmb	IAmb	18 14 10.4	
	comp=Z,21nm,1.4s							
WRA	**Warramunga Arr**	**44.92**	**124**		P	**P**	**18 13 59.9 -1.6**	
WRA	**Warramunga Arr**	**44.92**	**124**		P	**P**	**18 14 00.5 -1.0**	
	comp=Z,2.0nm,0.6s,baz=301,slow=9.3,SNR=16							
	comp=Z,2.0nm,0.6s							
WB2	**Warramunga Arr**	**44.93**	**124**		P	**P**	**18 14 01.2 -0.5**	
WB2					IAmb	IAmb	18 14 18.3	
	comp=Z,6.6nm,1.0s							
WR0	**Warramunga Arr**	**45.09**	**124**		P	**P**	**18 14 02.5 -0.5**	
WR0					IAmb	IAmb	18 14 06.9	
	comp=Z,6.0nm,0.8s							
ASAR	**Alice Springs**	**46.47**	**129**		P	**P**	**18 14 14.0 +0.2**	
ASAR	**Alice Springs**	**46.47**	**129**		P	**P**	**18 14 13.2 -0.6**	
	comp=Z,3.9nm,0.7s,baz=298,slow=8.2,SNR=73							
	comp=Z,3.9nm,0.7s							
FORT	**Forrest**	**46.72**	**141**		P	**P**	**18 14 16.6 +0.9**	
GEYT	**Alibeck**	**47.79**	**319**		P	**P**	**18 14 22.6 -1.3**	
GEYT					IAmb	IAmb	18 14 29.7	
	comp=Z,3.6nm,0.7s							
GEYT	**Alibeck**	**47.79**	**319**		P	**P**	**18 14 24.7 +0.8**	
	comp=Z,3.2nm,0.8s,baz=156,slow=7.4,SNR=10							
GEYT					LR	LR	18 36 11.0	
	comp=Z,82nm,20.1s,baz=156,slow=38							
	comp=Z,3.2nm,0.8s							
GYA0B	**ALIBECK ARRAY**	**47.79**	**319**		P	**P**	**18 14 23.0 -0.9**	
GYA0B					IAmb	IAmb	18 14 25.9	
	comp=Z,5.1nm,1.0s							
KURBB	**Kurchatov Arra**	**48.03**	**345**		P	**P**	**18 14 25.4 -0.1**	
	comp=Z,0.2nm,0.3s,baz=164,slow=7.6,SNR=2.3							
	comp=Z,0.2nm,0.3s							
ZAA0	**Zalesovo Array**	**49.90**	**351**		P	**P**	**18 14 39.0 -0.8**	
ZALV	**Zalesovo Beam**	**49.90**	**351**		P	**P**	**18 14 38.9 -0.9**	
ZALV	**Zalesovo Beam**	**49.90**	**351**		P	**P**	**18 14 39.0 -0.8**	
	comp=Z,0.7nm,0.5s,baz=165,slow=7.7,SNR=4.8							
	comp=Z,0.7nm,0.5s							
COEN	**Coen**	**50.30**	**112**		P	**P**	**18 14 41.0 -2.5**	
COEN					IAmb	IAmb	18 15 07.9	
	comp=Z,13nm,1.1s							
RAYN	**Ar Rayn**	**52.14**	**296**		P	**P**	**18 14 58.9 +1.7**	
BVAR	**Borovoye Array**	**52.55**	**341**		P	**P**	**18 14 58.9 -0.8**	
	comp=Z,1.1nm,0.7s,baz=128,slow=6.1,SNR=2.3							
BVAR					LR	LR	18 39 59.4	
	comp=Z,31nm,18.1s,baz=146,slow=39							
	comp=Z,1.1nm,0.7s							
BBOO	**Buckleboo**	**53.23**	**137**		P	**P**	**18 15 02.9 -2.1**	
BBOO					IAmb	IAmb	18 15 47.5	
	comp=Z,12nm,1.2s							
ABKAR	**Akbulak array**	**53.87**	**331**		P	**P**	**18 15 07.9 -1.6**	
AKTO	**Aktyubinsk**	**55.59**	**331**		P	**P**	**18 15 20.1 -1.8**	
	comp=Z,1.3nm,0.5s,baz=108,slow=8.1,SNR=2.8							
	comp=Z,1.3nm,0.5s							
STKA	**Stephens Creek**	**56.58**	**133**		P	**P**	**18 15 28.4 -1.0**	
STKA	**Stephens Creek**	**56.58**	**133**		P	**P**	**18 15 27.3 -2.1**	
	comp=Z,3.0nm,0.7s,baz=299,slow=9.7,SNR=7.0							
STKA					LR	LR	18 40 36.7	
	comp=Z,59nm,20.4s,baz=30,slow=37							
	comp=Z,3.0nm,0.7s							
ARU	**Arti**	**59.49**	**337**		LR	LR	18 43 42.7	
	comp=Z,85nm,18.3s,baz=122,slow=38							
YAK	**Yakutsk**	**62.37**	**17**		LR	LR	18 46 03.2	
	comp=Z,44nm,19.2s,baz=210,slow=39							
MMAI	**Mount Meron Ar**	**62.94**	**305**		P	**P**	**18 16 14.7 +1.5**	
	comp=Z,0.8nm,0.6s,baz=123,slow=7.7,SNR=1.4							
	comp=Z,0.8nm,0.6s							
CAN	**Canberra**	**63.65**	**133**		P	**P**	**18 16 17.7 -0.1**	
H04N2	**CROZET ISLANDS**	**64.09**	**213**		T	T	19 25 38.3	
	baz=50,slow=75,SNR=91							
H04N1	**CROZET ISLANDS**	**64.10**	**213**		T	T	19 25 38.1	
	baz=50,slow=75,SNR=111							
H04N3	**CROZET ISLANDS**	**64.11**	**213**		T	T	19 25 37.6	
	baz=50,slow=75,SNR=104							
H04S1	**CROZET ISLANDS**	**64.46**	**212**		T	T	19 26 03.2	
	baz=50,slow=76,SNR=7.0							
H04S3	**CROZET ISLANDS**	**64.47**	**212**		T	T	19 26 02.8	
	baz=50,slow=76,SNR=12							
H04S2	**CROZET ISLANDS**	**64.48**	**212**		T	T	19 26 04.1	
	baz=50,slow=76,SNR=15							
MBAR	**Mbarara**	**65.47**	**267**		LR	LR	18 40 57.1	
	comp=Z,35nm,21.1s,baz=74,slow=32							
BR131	**Keskin Array S**	**65.91**	**312**		P	**P**	**18 16 31.7 -1.0**	
BR131					IAmb	IAmb	18 16 38.2	
	comp=Z,2.9nm,1.1s							
BRTR	**Keskin Array B**	**65.91**	**312**		P	**P**	**18 16 31.8 -0.8**	
BRTR	**Keskin Array B**	**65.91**	**312**		P	**P**	**18 16 31.9 -0.7**	
	comp=Z,1.0nm,0.7s,baz=136,slow=8.3,SNR=7.5							
	comp=Z,1.0nm,0.7s							
TIXI	**Tiksi**	**69.92**	**11**		P	**P**	**18 16 59.7 +2.7**	
TIXI					IAmb	IAmb	18 17 03.4	
	comp=Z,5.5nm,1.4s							
AKASG	**Malin Array Be**	**71.77**	**322**		P	**P**	**18 17 07.3 -1.4**	
	comp=Z,0.2nm,0.3s,baz=185,slow=9.1,SNR=1.6							
	comp=Z,0.2nm,0.3s							
MLR	**Muntele Rosu**	**72.73**	**316**		LR	LR	18 53 45.9	
	comp=Z,24nm,20.1s,baz=14,slow=40							
FINES	**FINESS Array B**	**76.35**	**332**		P	**P**	**18 17 36.5 +1.3**	
FINES	**FINESS Array B**	**76.35**	**332**		P	**P**	**18 17 35.2 0.0**	
	comp=Z,1.9nm,0.9s,baz=98,slow=7.3,SNR=2.6							
	comp=Z,1.9nm,0.9s							
VYHS	**Vyhne**	**78.00**	**318**	*e*	P	P	18 17 49.5 +4.7	
ARCES	**ARCESS Array B**	**78.83**	**340**		LR	LR	18 55 20.9	
	comp=Z,74nm,20.9s,baz=282,slow=38							
GERES	**GERESS Array B**	**81.42**	**319**		P	**P**	**18 18 04.3 +0.9**	
	comp=Z,1.1nm,0.6s,baz=138,slow=10,SNR=3.4							
	comp=Z,1.1nm,0.6s							
HFS	**Hagfors**	**82.10**	**330**		LR	LR	19 00 06.4	
	comp=Z,48nm,19.0s,baz=47,slow=40							
SPITS	**Spitsbergen Ar**	**83.27**	**348**		LR	LR	19 01 12.7	
	comp=Z,40nm,19.2s,baz=2.0,slow=40							
NOA	**NORSAR Array B**	**83.37**	**331**		LR	LR	18 59 10.4	
	comp=Z,40nm,20.0s,baz=105,slow=38							
DAVOX	**Davos/Dischmat**	**83.95**	**316**		P	**P**	**18 18 15.8 -1.0**	
	comp=Z,1.1nm,0.5s,baz=97,slow=7.6,SNR=3.5							
	comp=Z,1.1nm,0.5s							
TORD	**Torodi Ar. Bea**	**93.17**	**283**		P	**P**	**18 19 01.9 +0.6**	
	comp=Z,0.7nm,0.6s,baz=87,slow=6.8,SNR=1.8							
	comp=Z,0.7nm,0.6s							
PPT2	**Papeete2**	**114.63**	**107**	*e*	LR	LR	18 58 46.4	
	comp=Z,116nm,24.2s							
PPT2				*e*	LR	LR	18 58 48.3	
	comp=Z,82nm,23.0s							
LPAZ	**La Paz**	**160.71**	**232**		PKP	**PKPdf**	**18 25 45.4 -2.7**	
	comp=Z,1.4nm,0.4s,baz=168,slow=12,SNR=7.1							

IDC 20 18:10:57.0±4.5, **28°.56S**×**177°.20W**, **h0**km, **mb3.7**/2, **mbtmp3.7**/2, **Error ellipse: s-maj=98.8km s-min=29.7km az=115.0, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.93**	**223**	LR	LR	18 11 12.9	
	comp=Z,56nm,21.1s,baz=118,slow=17						
RAO				Pn	Pn	18 11 17.9	+0.6
	79nm,0.3s,baz=53,slow=20,SNR=1.6						
RAO				Sn	Sn	18 11 32.0	+0.6
	294nm,0.3s,baz=90,slow=20,SNR=6.3						
ASAR	**Alice Springs**	**43.94**	**265**	P	P	18 19 05.2	-0.8
	0.4nm,0.7s,baz=98,slow=6.3,SNR=8.0						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**44.77**	**270**	P	P	18 19 12.7	+0.1
	1.5nm,0.8s,baz=112,slow=7.2,SNR=13						
	1.5nm,0.6s						
FINES	**FINESS Array B**	**143.65**	**341**	PKP	PKPdf	18 30 33.1	-0.1
	1.1nm,0.7s,baz=48,slow=2.8,SNR=4.4						

*DNK **20** 18:19:37.6±2.3, 80°.91N×1°.95W, h16km±20km, ML1.4*
*BER **20** 18:19:39.9±2.6, 81°.01N×1°.44W, h10km, mb(Pn)3.0, Confirmed Earthquake*

ISC 20 18:19:36.3±2.4, **81°.1N**±0°.7×**1°.4W**±0°.4, **h10**km, **n9**, **σ2°39**/11, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.37**	**290**	*eP*	**Pn**	**18 20 16.2**	**+1.1**
NOR	**Nord**	**2.37**	**290**	*i* P	**Pn**	**18 20 16.0**	**+0.9**
NOR				*i* S	**Sn**	**18 20 42.4**	**-1.7**
NOR				IAML		18 20 44.2	
	comp=Z,1.0nm,0.2s						
KBS	**Kingsbay**	**3.17**	**126**	*eP*	**Pn**	**18 20 27.3**	**+1.2**
KBS				*eS*	**Sn**	**18 21 00.6**	**-3.3**
KBS				IAML		18 21 06.2	
	comp=Z,6.2nm,0.3s						
KBS	**Kingsbay**	**3.17**	**126**	*i* P	**Pn**	**18 20 26.9**	**+0.8**
KBS				*i* S	**Sn**	**18 21 01.6**	**-2.3**
BRBB	**Barentsburg B**	**4.11**	**129**	*eP*	**Pn**	**18 20 41.4**	**+2.4**
SPA0	**Spitsbergen Ar**	**4.32**	**123**	*eP*	**Pn**	**18 20 44.1**	**+2.2**
SPA0				*eS*	**Sn**	**18 21 29.7**	**-2.4**
HSPB	**Hornsund (broa**	**5.19**	**133**	*eP*	**Pn**	**18 20 56.3**	**+2.5**
DAG	**Danmarks Havn**	**5.43**	**226**	*i* P	Pn	18 20 53.4	-3.7
DAG				*i* S	Sn	18 21 50.4	-9.1
DAG				IAML		18 21 52.5	
	comp=Z,2.8nm,0.2s						
DBG	**Daneborg**	**7.84**	**220**	*i* P	Pn	18 21 25.6	-4.5
DBG				*i* S	Sn	18 22 47.7	-11
DBG				IAML		18 22 49.9	
	comp=Z,2.0nm,0.3s						

*IDC **20** 18:23:05.9±3.1, 18°.81N×45°.73W, h0km, mb3.7/6, mbtmp3.7/6, MS3.6/2, Error ellipse: s-maj=100.2km s-min=28.4km az=16.0*

ISC 20 18:23:07.3±2.8, **18°.8N**±0°.6×**45°.8W**±0°.2, **h10**km, **n13**, **σ1°41/6**, **mb3.8/6, Northern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10N3	**ASCENSION HYDR**	**40.61**	**128**	T	T	19 15 13.4	
	baz=312,slow=75,SNR=33						
H10N2	**ASCENSION HYDR**	**40.61**	**128**	T	T	19 15 12.5	
	baz=312,slow=75,SNR=30						
H10N1	**ASCENSION HYDR**	**40.63**	**128**	T	T	19 15 14.0	
	baz=312,slow=75,SNR=38						
H10S3	**ASCENSION HYDR**	**41.22**	**129**	T	T	19 15 42.8	
	baz=312,slow=74,SNR=26						
H10S2	**ASCENSION HYDR**	**41.24**	**129**	T	T	19 15 43.0	
	baz=268,slow=74,SNR=13						
TORD	**Torodi Ar. Bea**	**45.85**	**90**	P	**P**	**18 31 30.8**	**+0.7**
	1.3nm,1.0s,baz=294,slow=8.9,SNR=5.4						
	1.3nm,1.0s						
LVC	**Limon Verde**	**46.95**	**210**	LR	LR	18 51 37.8	
	comp=Z,45nm,19.5s,baz=278,slow=36						
PDAR	**Pinedale Array**	**58.38**	**309**	P	**P**	**18 33 02.4**	**-0.9**
	0.5nm,0.8s,baz=74,slow=9.5,SNR=4.4						
	0.5nm,0.8s						
HFS	**Hagfors**	**58.80**	**30**	P	**P**	**18 33 06.1**	**+0.4**
	1.1nm,0.8s,baz=235,slow=5.1,SNR=1.6						
	1.1nm,0.8s						
YKA	**Yellowknife Ar**	**63.77**	**331**	P	**P**	**18 33 39.4**	**+0.1**
	0.6nm,1.0s,baz=100,slow=7.2,SNR=3.7						
	0.6nm,1.0s						
BRTR	**Keskin Array B**	**70.23**	**54**	P	**P**	**18 34 19.4**	**-1.6**
	0.4nm,0.5s,baz=286,slow=5.8,SNR=4.7						
	0.4nm,0.5s						
ILAR	**Eielson Array**	**77.84**	**335**	P	**P**	**18 35 06.2**	**+1.3**
	0.4nm,0.8s,baz=82,slow=6.5,SNR=5.1						
	0.4nm,0.8s						
KDAK	**Kodiak Island**	**82.93**	**329**	LR	LR	19 11 52.9	
	comp=Z,56nm,19.4s,baz=215,slow=35						

*NEIC **20** 18:33:58.0±0.6, 19°.40N±0°.02×154°.85W±0°.03, h5km±1km, Error ellipse: s-maj=5.0km s-min=2.9km az=299.0*

HVO 20 18:33:58.3±1.2, **19°.45N**±0°.02×**154°.88W**±0°.03, **h4**km±3km, **ML3.2**/5, **ML2.7**/38(NEIC), **Error ellipse: s-maj=4.0km s-min=1.5km az=119.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.03**	**342**		Pg	18 33 59.7	+0.4
PHO	**Puu Honuaula**	**0.03**	**342**		Pg	18 33 59.8	+0.6
PAH	**Pahoa**	**0.08**	**305**	Pg	Pg	18 34 00.4	+0.4
JOKA	**Jonika Flow**	**0.12**	**262**		Pg	18 34 00.9	+0.2
JOKA					Sg	18 34 03.1	+0.8
JOKA	**Jonika Flow**	**0.12**	**262**	IAML		18 34 03.5	
	comp=E,1μm,0.9s						
JOKA				IAML		18 34 04.0	
	comp=N,931nm,1.0s						
JCUZ	**Jacuzzi**	**0.22**	**253**	Pg	Pg	18 34 03.0	+0.4
NPOC	**North of Pu'u**	**0.23**	**255**	Pg	Pg	18 34 03.8	+1.1
STCH	**Steam Cracks**	**0.24**	**254**		Pg	18 34 03.1	+0.2
KNHH	**Kane Nui o Ham**	**0.28**	**256**		Pg	18 34 04.3	+0.5
PUH	**Pauahi**	**0.33**	**257**		Pg	18 34 04.7	+0.1
PUH	**Pauahi**	**0.33**	**257**	IAML		18 34 11.8	
	comp=N,1μm,1.2s						
PUH				IAML		18 34 13.1	
	comp=E,590nm,0.9s						
RSD	**Rainshed**	**0.38**	**272**	IAML		18 34 12.5	
	comp=E,1μm,0.9s						
RSD				IAML		18 34 12.7	
	comp=N,1μm,0.7s						
HLP	**Hilina Pali**	**0.43**	**249**	IAML		18 34 14.0	
	comp=E,977nm,0.6s						
MLH	**Mauna Loa**	**0.48**	**275**	IAML		18 34 15.4	
	comp=E,544nm,0.9s						
MLH				IAML		18 34 15.6	
	comp=N,722nm,0.8s						
HMH	**Humu'ula Sheep**	**0.59**	**285**	Pg	Pg	18 34 09.2	-0.5
MWH	**Moku'aweowe**	**0.68**	**273**	IAML		18 34 35.6	
	comp=N,434nm,0.9s						
KHU	**Kahuku**	**0.72**	**254**	Pg	Pg	18 34 10.5	-1.7
KHU				IAML		18 34 27.0	
	comp=E,468nm,3.2s						
KHU				IAML		18 34 33.2	
	comp=N,254nm,1.9s						
HUH	**Hualalai**	**0.93**	**285**		Pn	18 34 17.8	-0.6

*IDC **20** 18:50:24.0±9.1, 17°.09S×174°.51W, h570km±105km, mb3.0/6, mbtmp3.9/6, Error ellipse: s-maj=51.8km s-min=30.6km az=31.0*

ISC 20 18:50:22.6±1.3, **17°.1S**±0°.2×**174°.5W**±0°.3, **h550**km, **n7**, **σ1°05/7**, **mb3.5/6, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**22.34**	**198**	P	**P**	**18 54 39.9**	**+0.3**
	4.4nm,0.3s,baz=69,slow=14,SNR=9.6						
	4.4nm,0.3s						
STKA	**Stephens Creek**	**42.29**	**241**	P	**P**	**18 57 28.9**	**+0.4**
	2.3nm,0.6s,baz=70,slow=8.0,SNR=6.1						
	2.3nm,0.6s						
WRA	**Warramunga Arr**	**48.45**	**258**	P	**P**	**18 58 14.8**	**-1.0**
	0.4nm,0.5s,baz=94,slow=6.7,SNR=12						
	0.4nm,0.5s						
ASAR	**Alice Springs**	**48.60**	**253**	P	**P**	**18 58 16.9**	**0.0**
	3.1nm,0.5s,baz=87,slow=7.8,SNR=74						
	3.1nm,0.5s						
VNDA	**Vanda**	**61.60**	**186**	P	**P**	**18 59 45.8**	**-0.6**
	0.3nm,0.8s,baz=0.0,slow=6.1,SNR=1.5						
	0.3nm,0.8s						
ILAR	**Eielson Array**	**84.30**	**12**	P	**P**	**19 01 55.9**	**-0.5**
	0.4nm,0.8s,baz=211,slow=6.3,SNR=1.7						
	0.4nm,0.8s						
BRTR	**Keskin Array B**	**146.75**	**318**	PKPbc	**PKPdf**	**19 09 02.5**	**+1.6**
	0.5nm,0.6s,baz=119,slow=4.4,SNR=4.8						

NNC 20 19:23:39.3±4.4, **37°.50N**×**70°.94E**, **h206**km±79km, **mb2.6, mpv3.7, 6C-4D, Error ellipse: s-maj=44.6km s-min=25.5km az=15.0, Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.60**	**357**	⇑P	Pn	19 25 01.6	+0.1
	3.4nm,0.2s,baz=176,slow=12,SNR=196						
KK31				⇑S	S	19 26 08.1	+1.9
	5.7nm,0.5s,baz=180,slow=22,SNR=5.3						
AAK	**Ala-Archa**	**5.81**	**27**	⇓P	Pn	19 25 04.4	+0.2
	1.1nm,0.3s						
AAK				⇑S	S	19 26 11.4	+0.1
	4.2nm,0.7s						
CHMS	**Chumysh**	**6.22**	**27**	⇓P	Pn	19 25 09.0	-0.4
	4.4nm,0.5s						
CHMS				⇑S	S	19 26 19.5	-1.1
	2.5nm,0.7s						
TKM2	**Tokmak 2**	**6.48**	**32**	⇓P	Pn	19 25 12.2	-0.8
	3.0nm,0.6s						
TKM2				⇑S	S	19 26 29.5	+2.4
	1.9nm,0.9s						
AB31	**Akbulak array**	**14.19**	**329**	⇑P	P	19 26 54.0	+1.4
	0.7nm,0.5s,baz=140,slow=13,SNR=29						
AB31				⇓S	S	19 29 26.3	-2.1
	0.7nm,0.8s,baz=150,slow=24,SNR=3.4						

NEIC 20 19:34:15±1.4, **31°.64N**±0°.04×**104°.53W**±0°.02, **h5**km±2km, **mb_Lg2.7**/44, **ML2.8**/22, **Error ellipse: s-maj=5.9km s-min=3.3km az=356.0, Western Texas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.63**	**115**		Pg	19 34 27.5	+0.4
PECS				Sg	Sg	19 34 36.1	+0.8
VHRN	**Van Horn**	**0.93**	**205**		Pb	19 34 33.7	0.0
VHRN				IAML		19 34 53.1	
	239nm,0.4s						
VHRN				IAML		19 34 53.1	
	162nm,0.3s						
ALPN	**Alpine**	**1.47**	**148**	Pg	Pn	19 34 42.3	-0.1
MNHN	**Monahans**	**1.54**	**101**		Pb	19 34 43.6	-0.4
EPT	**El Paso**	**1.69**	**275**		Pb	19 34 46.3	-0.3
ODSA	**Odessa**	**1.75**	**74**	Pn	Pn	19 34 46.8	+0.7
TX31	**Lajitas Ar. Si**	**2.41**	**162**		Pn	19 34 55.8	+0.5
TXAR	**Lajitas Array**	**2.42**	**162**		Pn	19 34 55.5	+0.3
SAND	**Sanderson**	**2.67**	**128**		Pn	19 35 00.7	+2.1
MSTX	**Muleshoe**	**2.76**	**32**	Pn	Pn	19 35 01.3	+1.3
121A	**Cookes Peak, D**	**2.90**	**289**		Pn	19 35 03.3	+1.3
121A				IAML		19 35 52.1	
	comp=N,28nm,0.6s						
121

comp=Z,8.9nm,0.8s

DJA 20 19:40:05.8±0.4,6°S±3°×10°0E±°,h92km±21km,M4.8/18, mB5.2/5,mb4.6/13,MLv4.9/18,Mw(mB)4.6/5,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PPSI	**Pulau Pagai**	**3.20**	**4**	P	Pn	19 40 54.4	+0.2
PPSI				S	Sn	19 41 32.4	+1.0
MNAI	**Manna**	**3.55**	**63**	P	Pn	19 41 00.2	+1.4
MNAI				S	Sn	19 41 40.4	+0.6
LWLI	**Liwa**	**4.37**	**78**	P	Pn	19 41 09.4	-0.6
LWLI				S	Sn	19 41 59.9	+0.1
SISI	**Saibi**	**4.67**	**351**	P	Pn	19 41 13.2	-0.9
SISI				S	Sn	19 42 07.4	+0.3
KASI	**Kota Agung**	**4.71**	**85**	P	Pn	19 41 15.5	+0.9
KASI				S	Sn	19 42 06.4	-1.7
PDSI	**Padang** 62nm,0.5s,8µm1.7nm	**5.08**	**8**	P	Pn	19 41 20.1	+0.5
PDSI				S	Sn	19 42 17.1	0.0
	62nm,0.5s,8µm1.7nm						
PBSI	**Pulau Batu** 71nm,1.4s,0.7nm	**6.07**	**346**	P	Pn	19 41 32.0	-1.1
SBJI	**Serang** 111nm,0.6s,4µm1.0nm	**6.32**	**92**	P	Pn	19 41 35.6	-0.8
SKJI	**Sukabumi** 85nm,1.1s,0.6nm	**6.81**	**99**	P	Pn	19 41 43.2	+0.1
CBJI	**Citeko** 91nm,0.6s,2µm1.0nm	**7.04**	**94**	P	Pn	19 41 47.9	+1.6
DSRI	**Dabo** 25nm,0.7s,0.1nm	**7.26**	**41**	P	Pn	19 41 49.9	+0.5
PPBI	**Pangkal Pinang** 12nm,0.6s,912nm0.2nm	**7.39**	**59**	P	Pn	19 41 52.2	+1.2
CNJI	**Cibinong** 22nm,0.8s,0.2nm	**7.42**	**101**	P	Pn	19 41 50.1	-1.3
GSI	**Gunungsitoli** 12nm,0.7s,0.1nm	**7.56**	**343**	P	Pn	19 41 54.2	+0.8
LEM	**Lembang** 37nm,0.8s,0.1nm	**7.83**	**97**	P	Pn	19 41 56.9	-0.4

IDC 20 19:42:34.6±4.7,2°55S×140°02E,h0km,mb3.2/2, mbtmp3.4/3,ML3.5/1,Error ellipse: s-maj=177.4km s-min=31.5km az=89.0,Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.16**	**197**	P	Pn	19 46 47.3	-1.1
	0.2nm,0.3s,baz=17,slow=12,SNR=8.8						
	1.0nm,0.6s						
ASAR	**Alice Springs**	**21.82**	**195**	P	P	19 47 28.9	+0.2
	0.6nm,0.8s,baz=28,slow=8.8,SNR=8.0						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**70.46**	**322**	P	P	19 53 51.4	+0.3
	0.3nm,0.7s,baz=109,slow=7.8,SNR=2.9						
	0.3nm,0.7s						

*JMA **20** 19:47:22.4±0.1,38°7N±0°3×140°4E±0°5,h122km, MV3.2/38,NORTHERN YAMAGATA PREF*
*IDC **20** 19:47:23.2±1.7,38°68N×140°31E,h134km±16km, mb3.3/11,mbtmp3.7/17,Error ellipse: s-maj=18.2km s-min=13.3km az=113.0*

ISC 20 19:47:22.5±0.7,38°72N±0°05×140°38E±0°06,h125km±5km, n38,σ1s05/43,mb3.6/11,2C,Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JYK	**Kaneyama**	**0.20**	**355**	*i* P	**Pn**	**19 47 39.3**	**-0.4**
JYK				*eS*	**Sn**	**19 47 52.1**	**-0.7**
JOU	**Okura**	**0.42**	**148**	P	**Pn**	**19 47 40.4**	**-0.2**
JOU				S	**Sn**	**19 47 53.9**	**-0.2**
JYA	**Atsumi**	**0.54**	**257**	*i* P	**Pn**	**19 47 40.9**	**-0.3**
JYS	**Shirataka**	**0.56**	**207**	*e*P	**Pn**	**19 47 41.0**	**-0.3**
JYS				*eS*	**Sn**	**19 47 55.1**	**-0.4**
JMK	**Ichinoseki**	**0.69**	**70**	*i* P	**Pn**	**19 47 42.0**	**-0.2**
JRG	**Rokugo**	**0.70**	**16**	P	**Pn**	**19 47 42.4**	**+0.1**
JRG				*eS*	**Sn**	**19 47 57.5**	**+0.1**
JIO	**Ouri**	**0.80**	**109**	*i* P	**Pn**	**19 47 42.6**	**-0.5**
JIO				*eS*	**Sn**	**19 47 57.9**	**-0.8**
JMM	**Marumori**	**0.91**	**159**	P	**Pn**	**19 47 43.8**	**-0.3**
JMM				*eS*	**Sn**	**19 48 00.0**	**-0.4**
JAW	**Awa shima**	**0.93**	**254**	P	**Pn**	**19 47 43.9**	**-0.3**
JAW				*eS*	**Sn**	**19 47 59.9**	**-0.8**
JOM	**Ohasama**	**1.03**	**43**	P	**Pn**	**19 47 45.5**	**+0.3**
JOM				*eS*	**Sn**	**19 48 02.8**	**+0.3**
JOTO	**OTAMA OYAMA**	**1.16**	**182**	P	**Pn**	**19 47 46.4**	**-0.1**
JOTO				*eS*	**Sn**	**19 48 05.0**	**+0.2**
JNS	**Sasagawa**	**1.23**	**223**	P	**Pn**	**19 47 46.8**	**-0.5**
JNS				*eS*	**Sn**	**19 48 05.3**	**-0.8**
JANG	**Nango**	**1.87**	**28**	P	**Pn**	**19 47 55.0**	**+0.5**
MJAR	**Matsushiro Arr**	**2.78**	**219**	P	**Pn**	**19 48 06.2**	**+0.2**
	3.8nm,0.6s,baz=27,slow=16,SNR=25						
ASAJ	**Asahikawa**	**5.64**	**16**	P	**Pn**	**19 48 44.0**	**0.0**
	3.1nm,0.3s,baz=209,slow=14,SNR=8.5						
ASAJ				S	**Sn**	**19 49 44.8**	**-2.9**
	2.6nm,0.5s,baz=341,slow=29,SNR=1.6						
USRK	**Ussuriysk Ar.**	**8.35**	**314**	P	**Pn**	**19 49 21.7**	**+1.2**
	3.0nm,0.6s,baz=127,slow=14,SNR=6.5						
KSRS	**Korea Array**	**9.90**	**267**	P	**Pn**	**19 49 43.6**	**+2.1**
	1.4nm,0.6s,baz=82,slow=14,SNR=5.1						
KLR	**Kul'dur**	**12.20**	**332**	P	**Pn**	**19 50 13.4**	**+1.4**
	0.4nm,0.3s,baz=347,slow=22,SNR=3.1						
PETK	**Petropavlovsk-**	**18.69**	**34**	P	**P**	**19 51 30.7**	**-0.2**
	1.3nm,0.7s,baz=215,slow=9.8,SNR=1.6						
MA2	**Magadan**	**21.90**	**14**	P	**P**	**19 52 05.5**	**+0.2**
	2.1nm,0.6s,baz=188,slow=10,SNR=4.1						
	2.1nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**29.72**	**122**	T	T	20 23 55.9	
	baz=316,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hy**	**29.73**	**122**	T	T	20 23 57.7	
	baz=316,slow=75,SNR=8.8						
H11N3	**WAKE ISLAND Hy**	**29.74**	**122**	T	T	20 23 54.3	
	baz=316,slow=75,SNR=8.8						
H11S1	**WAKE ISLAND Hy**	**30.47**	**124**	T	T	20 24 52.7	
	baz=318,slow=76,SNR=5.0						
H11S3	**WAKE ISLAND Hy**	**30.47**	**124**	T	T	20 24 52.8	
	baz=318,slow=76,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**30.48**	**124**	T	T	20 24 54.3	
	baz=318,slow=76,SNR=5.2						
MKAR	**Makanchi Array**	**42.55**	**300**	P	**P**	**19 55 04.6**	**-1.1**
	0.1nm,0.4s,baz=88,slow=10,SNR=1.9						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**44.33**	**307**	P	**P**	**19 55 19.2**	**-0.7**
	1.7nm,0.6s,baz=81,slow=8.3,SNR=16						
	1.7nm,0.6s						
ILAR	**Eielson Array**	**48.52**	**33**	P	**P**	**19 55 52.9**	**+0.4**
	0.6nm,0.6s,baz=268,slow=5.6,SNR=16						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**48.84**	**311**	P	**P**	**19 55 54.7**	**-0.3**
	0.9nm,0.5s,baz=86,slow=8.6,SNR=6.4						
	0.9nm,0.5s						
WRA	**Warramunga Arr**	**58.63**	**187**	P	**P**	**19 57 05.4**	**-1.1**
	0.5nm,0.6s,baz=3.2,slow=7.7,SNR=6.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**62.35**	**187**	P	**P**	**19 57 31.1**	**-0.7**
	0.5nm,0.7s,baz=354,slow=5.7,SNR=5.9						
	0.5nm,0.7s						
YKA	**Yellowknife Ar**	**62.76**	**30**	P	**P**	**19 57 34.6**	**+0.5**
	0.3nm,0.6s,baz=306,slow=7.4,SNR=4.5						
	0.3nm,0.6s						
HFS	**Hagfors**	**72.22**	**335**	P	**P**	**19 58 32.1**	**-1.5**
	2.4nm,0.9s,baz=54,slow=7.5,SNR=4.5						
	2.4nm,0.9s						
NVAR	**Mina Array Bea**	**74.63**	**53**	P	**P**	**19 58 48.8**	**+0.4**
	0.6nm,0.6s,baz=296,slow=5.4,SNR=5.5						
	0.6nm,0.6s						
PDAR	**Pinedale Array**	**77.06**	**45**	P	**P**	**19 59 02.5**	**+0.4**
	0.5nm,0.6s,baz=297,slow=10.0,SNR=5.3						
	0.5nm,0.6s						
VNA2	**Neumayer--Watz**	**143.70**	**197**	⇑P	**Pdif**	**20 04 10.1**	**+3.3**
	comp=Z,0.3nm,0.2s,baz=336,slow=16						
VNA3	**Neumayer Olymp**	**143.97**	**196**	⇑P	**Pdif**	**20 04 10.4**	**+2.4**
	comp=Z,0.8nm,0.2s						

*CATAC **20** 19:51:15.2±0.2,13°12N×87°75W,h3km±2km,ML3.6*
*SNET **20** 19:51:15.0±0.5,13°18N×87°73W,h4km±5km,ML3.7*

ISC 20 19:51:14.9±0.8,13°15N±0°05×87°73W±0°03,h16km±6km, n34,σ0s62/59,1C-4D,Honduras

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMPH	**Amapala**	**0.15**	**27**	*i*P	**Pg**	**19 51 18.9**	**-0.1**
AMPH				*eS*	**Sg**	**19 51 21.8**	**+0.1**
AMPH	**Amapala**	**0.15**	**27**	*i* P	**Pg**	**19 51 18.9**	**-0.1**
AMPH				*i* S	**Sg**	**19 51 22.4**	**+0.7**
CNCH	**Conchagua**	**0.16**	**321**	⇓*i*P	**Pg**	**19 51 19.1**	**-0.2**
CNCH				*eS*	**Sg**	**19 51 22.2**	**+0.1**
CNCH	**Conchagua**	**0.16**	**321**	*i* P	**Pg**	**19 51 18.9**	**-0.4**
CNCH				*i* S	**Sg**	**19 51 22.3**	**+0.1**
CNCH				IAML		19 51 27.4	
	comp=Z,33µm,1.0s						
LCND	**La Caada**	**0.22**	**315**	⇓*i*P	**Pg**	**19 51 20.0**	**0.0**
LCND				*eS*	**Sg**	**19 51 23.8**	**+0.2**
LCND	**La Caada**	**0.22**	**315**	*i* P	**Pg**	**19 51 19.9**	**-0.2**
LCND				*i* S	**Sg**	**19 51 23.9**	**+0.4**
LCND				IAML		19 51 26.3	
	comp=Z,17µm,1.0s						
INTP	**Intipuca**	**0.32**	**278**	*e*S	**Sg**	**19 51 26.8**	**+0.5**
CNRM	**Centro Naciona**	**0.54**	**307**	*i* P	**Pb**	**19 51 25.4**	**-0.6**
CNRM				*i* S	**Sb**	**19 51 33.6**	**0.0**
CNRM				IAML		19 51 51.1	
	comp=Z,9µm,1.0s						
RANC	**El Ranchito**	**0.61**	**297**	*e*P	**Pb**	**19 51 27.2**	**-0.1**
RANC	**El Ranchito**	**0.61**	**297**	*i* P	**Pb**	**19 51 27.3**	**-0.1**
RANC				*i* S	**Sb**	**19 51 36.6**	**+0.7**
RANC				IAML		19 51 40.0	
	comp=Z,2µm,1.0s						
PACA	**Pacayal**	**0.66**	**299**	*i* P	**Pb**	**19 51 27.9**	**-0.3**
PACA				*i* S	**Sg**	**19 51 37.2**	**+0.4**
PACA				IAML		19 51 42.2	
	comp=Z,15µm,1.0s						
CRIN	**San Cristobal**	**0.80**	**124**	⇓*i*P	**Pn**	**19 51 31.1**	**-0.5**
COEB	**Comit de Eme**	**0.85**	**294**	*i* P	**Pb**	**19 51 31.2**	**-0.3**
COEB				*i* S	**Sg**	**19 51 43.4**	**+0.5**
COEB				IAML		19 51 50.9	
	comp=Z,890nm,1.0s						
PQSS	**Presa 15 de Se**	**0.94**	**300**	*i* P	**Pn**	**19 51 33.1**	**-0.4**
PQSS				IAML		19 51 38.5	
	comp=Z,500nm,1.0s						
PQSS				*i* S	**Sn**	**19 51 45.9**	**-0.7**
QUEN	**Al S del Volca**	**1.02**	**123**	*i* P	**Pg**	**19 51 34.7**	**0.0**
QUEN				*i* S	**Sn**	**19 51 48.8**	**+0.1**
QUEN				IAML		19 51 50.1	
	comp=Z,2µm,1.0s						
TECO	**Alcaldia de Te**	**1.09**	**291**	*i* P	**Pn**	**19 51 34.8**	**-0.9**
TECO				*i* S	**Sn**	**19 51 50.5**	**0.0**
TECO				IAML		19 51 54.1	
	comp=Z,490nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.12**	**300**	*i* P	**Pg**	**19 51 35.9**	**-0.7**
SCLA				*i* S	**Sg**	**19 51 52.6**	**+1.4**
SCLA				IAML		19 52 12.1	
	comp=Z,470nm,1.0s						
PACN	**Al O del Volca**	**1.12**	**125**	*i* P	**Pg**	**19 51 36.1**	**-0.5**
PACN				*i* S	**Sg**	**19 51 52.6**	**+1.4**
PACN				IAML		19 51 56.7	
	comp=Z,2µm,1.0s						
UESV	**Universidad de**	**1.14**	**295**	*i* P	**Pb**	**19 51 36.2**	**-0.1**
UESV				IAML		19 51 41.5	
	comp=Z,760nm,1.0s						
UESV				*i* S	**Sg**	**19 51 53.0**	**+1.1**
ROCN	**Rota Cerro Neg**	**1.15**	**123**	*i* P	**Pb**	**19 51 35.9**	**-0.5**
ROCN				*i* S	**Sg**	**19 51 52.2**	**+0.1**
ROCN				IAML		19 52 07.9	
	comp=Z,630nm,1.0s						
CNGN	**Cerro Negro**	**1.19**	**123**	⇓*i*P	**Pb**	**19 51 36.8**	**-0.4**
CNGN	**Cerro Negro**	**1.19**	**123**	*i* P	**Pb**	**19 51 36.8**	**-0.4**
CNGN				*i* S	**Sg**	**19 51 54.5**	**+0.8**
CNGN				IAML		19 52 13.7	
	comp=Z,2µm,1.0s						
INTHN	**La Esperanza I**	**1.21**	**343**	*i* P	**Pg**	**19 51 38.0**	**-0.4**
INTHN				*i* S	**Sn**	**19 51 54.5**	**+0.7**
COEG	**Centro de Oper**	**1.22**	**293**	*i* P	**Pb**	**19 51 37.6**	**0.0**
COEG				*i* S	**Sg**	**19 51 54.5**	**+0.2**
COEG				IAML		19 52 03.1	
	comp=Z,610nm,1.0s						
MACN	**El Madrono**	**1.23**	**123**	*i* P	**Pb**	**19 51 37.5**	**-0.4**
MACN				IAML		19 52 02.8	
	comp=Z,500nm,1.0s						
PAVA	**Las Pavas**	**1.30**	**296**	*i* P	**Pb**	**19 51 39.0**	**-0.2**
PAVA				*i* S	**Sg**	**19 51 57.8**	**+0.7**
PAVA				IAML		19 52 10.5	
	comp=Z,2µm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.31**	**124**	*i* P	**Pb**	**19 51 39.0**	**-0.3**
LEVN				*i* S	**Sg**	**19 51 58.4**	**+0.9**
LEVN				IAML		19 52 03.9	
	comp=Z,1µm,1.0s						
MOMN	**Momotombo**	**1.37**	**122**	*i* P	**Pb**	**19 51 39.7**	**-0.6**
MOMN				*i* S	**Sg**	**19 51 59.6**	**+0.2**
MOMN				IAML		19 52 13.6	
	comp=Z,48nm,1.0s						
MOM2	**El Cardon**	**1.41**	**120**	*i* P	**Pb**	**19 51 40.1**	**-0.7**
MOM2				*i* S	**Sg**	**19 52 01.8**	**+1.5**
MOM2				IAML		19 52 06.0	
	comp=Z,1µm,1.0s						
COPN	**Copaltepe**	**1.47**	**131**	*i* P	**Pb**	**19 51 41.2**	**-0.7**
COPN				IAML		19 52 05.0	
	comp=Z,1µm,1.0s						
PANCS	**Alcalda de**	**1.48**	**288**	*i* S	**Sb**	**19 52 01.7**	**+0.8**
LOMA	**Loma Larga**	**1.49**	**289**	*i* P	**Pb**	**19 51 42.2**	**-0.1**
LOMA				IAML		19 51 45.5	
	comp=Z,710nm,1.0s						
LOMA				*i* S	**Sg**	**19 52 02.9**	**-0.1**
SNET	**Serv Nac Est T**	**1.56**	**290**	*i* S	**Sb**	**19 52 04.2**	**+1.2**
PMON	**Piamonte**	**1.64**	**290**	*i* S	**Sb**	**19 52 06.6**	**+1.1**

*IDC **20** 19:58:09.8±2.3,1°35N×126°85E,h0km,mb3.3/3, mbtmp3.3/3,Error ellipse: s-maj=177.1km s-min=28.4km az=66.0*
*DJA **20** 19:58:15.2±0.4,1°N±2°×12°8E±°,h168km±4km,M3.7/12, mb3.7/1,MLv3.7/12*

ISC 20 19:58:18.9±1.1,1°49N±0°07×127°67E±0°07,h100km,n11, σ2s75/14,mb3.3/3,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TNTI	**Ternate**	**0.78**	**203**	P	**Pn**	**19 58 40.3**	**+3.2**
TNTI				S	Sn	19 59 00.1	+9.4
LBMI	**Labuha**	**2.12**	**185**	P	**Pn**	**19 58 52.4**	**-0.7**
LBMI				S	**Sn**	**19 59 21.9**	**+2.7**
SGSI	**Sangihe**	**3.06**	**316**	P	**Pn**	**19 59 04.6**	**-0.9**
KMSI	**Cibinong**	**3.80**	**256**	P	**Pn**	**19 59 11.8**	**-3.7**
SANI	**Sanana**	**3.90**	**206**	P	**Pn**	**19 59 14.3**	**-2.5**
SWI	**Sorong**	**4.28**	**123**	P	**Pn**	**19 59 18.1**	**-3.9**
SWI				S	**Sn**	**20 00 11.2**	**+0.3**
NLAI	**Namlea**	**4.73**	**187**	P	**Pn**	**19 59 25.6**	**-2.5**
NLAI				S	**Sn**	**20 00 19.1**	**-2.7**
GTOI	**Gorontalo**	**4.74**	**260**	P	**Pn**	**19 59 25.7**	**-2.4**
WRA	**Warramunga Arr**	**22.28**	**163**	P	**P**	**20 03 10.4**	**+2.2**
	0.8nm,0.4s,baz=340,slow=11,SNR=13						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**25.73**	**167**	P	**P**	**20 03 42.5**	**+2.2**
	0.2nm,0.6s,baz=347,slow=7.7,SNR=4.1						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**59.92**	**326**	P	**P**	**20 08 15.4**	**+0.8**
	0.1nm,0.4s,baz=114,slow=8.3,SNR=2.0						
	0.1nm,0.4s						

IDC 20 19:59:40.1±9.1,6°24S×146°82E,h75km±81km,mb2.7/1, mbtmp3.1/3,ML3.1/1,Error ellipse: s-maj=77.7km s-min=63.6km az=121.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.16**	**174**	P	Pn	20 00 27.2	-0.4
	3.5nm,0.3s,baz=297,slow=14,SNR=1.3						
PMG				S	Sn	20 01 05.2	+0.9
	23nm,0.8s,baz=0.0,slow=16,SNR=1.7						
WRA	**Warramunga Arr**	**18.23**	**221**	P	P	20 03 46.2	-1.3
	0.1nm,0.3s,baz=48,slow=12,SNR=1.7						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**21.32**	**214**	P	P	20 04 21.6	+0.6
	0.6nm,1.0s,baz=53,slow=8.5,SNR=5.5						
	0.6nm,1.0s						
TORD	**Torodi Ar. Bea**	**144.97**	**284**	PKP	PKPab	20 19 09.2	0.0
	0.2nm,0.3s,baz=71,slow=2.5,SNR=4.4						

*IDC **20** 20:07:08.7±2.2,4°60S×153°21E,h56km±18km,mb3.8/12, mbtmp4.1/13,ML2.3/1,MS3.4/17,Error ellipse: s-maj=21.1km s-min=14.2km az=97.0*
*DJA **20** 20:07:09.2±0.4,5°S±4°×15°3E±°,h68km±5km,M4.8/13, mB5.1/1,mb4.5/13,MLv4.9/2,Mw(mB)4.4/1*
*NEIC **20** 20:07:09.8±1.7,4°7S±0°1×153°2E±0°1,h65km±6km, mb4.7/20,Error ellipse: s-maj=21.3km s-min=14.3km az=198.0*

ISC 20 20:07:08.7±0.5,4°67S±0°07×153°21E±0°07,h55km,n65, σ1s32/61,mb4.5/24,MS3.5/15,New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.15**	**295**	P	**Pn**	**20 07 30.5**	**+2.0**
RABL	**Rabaul**	**1.15**	**295**	Pn	**Pn**	**20 07 29.9**	**+1.4**
MANU	**Manus Island**	**6.39**	**294**	P	**Pn**	**20 08 43.7**	**+3.4**
MANU	**Manus Island**	**6.39**	**294**	Pn	**Pn**	**20 08 43.7**	**+3.4**
PMG	**Port Moresby**	**7.63**	**232**	P	**Pn**	**20 08 59.2**	**+2.0**
	2.5nm,0.3s,baz=39,slow=8.3,SNR=11						
PMG				S	**Sn**	**20 10 20.7**	**-1.5**
	69nm,0.7s,baz=41,slow=7.3,SNR=4.1						
PMG				LR	LR	20 12 10.3	
	comp=Z,201nm,20.0s,baz=46,slow=39						
	25nm,0.6s						
PATS	**Pohnpei**	**12.52**	**24**	Pn	**Pn**	**20 10 04.8**	**+0.7**
JAY	**Jayapura**	**12.66**	**279**	P	**Pn**	**20 10 06.3**	**+0.1**
	16nm,0.9s						
GENI	**Genyem**	**13.18**	**279**	P	**Pn**	**20 10 13.2**	**0.0**
	33nm,1.1s						
MMPI	**Merauke**	**13.29**	**253**	P	**Pn**	**20 10 16.1**	**+1.5**
	308nm,1.3s						
GUMO	**Guam**	**19.94**	**336**	LR	LR	20 19 21.0	
	comp=Z,25nm,18.6s,baz=156,slow=37						
LIFNC	**LIFOU**	**21.03**	**141**	P	**P**	**20 11 46.8**	**-1.1**
LIFNC				IAmb	IAmb	20 11 51.9	
	comp=Z,63nm,0.9s						
NOUC	**Port Laguerre**	**21.47**	**145**	P	**P**	**20 11 53.9**	**+1.2**
DZM	**Mont Dzumac**	**21.53**	**145**	P	**P**	**20 11 54.5**	**+1.1**
DZM	**Mont Dzumac**	**21.53**	**145**	P	**P**	**20 11 54.0**	**+0.6**
DZM				IAmb	IAmb	20 11 56.5	
	comp=Z,44nm,1.2s						
DZM	**Mont Dzumac**	**21.53**	**145**	P	**P**	**20 11 54.4**	**+0.9**
	comp=Z,17nm,0.6s,baz=340,slow=15,SNR=21						
DZM				LR	LR	20 18 48.0	
	comp=Z,262nm,19.0s,baz=346,slow=32						
	comp=Z,17nm,0.6s						
YATNC	**Mamie plateau,**	**21.78**	**144**	P	**P**	**20 11 58.8**	**+2.8**
KDU	**Kakadu**	**21.98**	**247**	P	**P**	**20 11 57.5**	**-0.7**
OUENC	**Ouen Island, N**	**22.03**	**144**	P	**P**	**20 11 57.1**	**-1.6**
OUENC				IAmb	IAmb	20 12 21.2	
	comp=Z,17nm,0.8s						
SWI	**Sorong**	**22.25**	**279**	P	**P**	**20 12 01.2**	**+0.1**
	comp=Z,22nm,1.1s						
AUWSH	**Wavell State H**	**22.60**	**180**	P	**P**	**20 12 06.3**	**+1.5**
DRS	**Darwin Rock St**	**23.35**	**249**	P	**P**	**20 12 13.7**	**+1.2**
QLP	**Quilpie**	**23.41**	**201**	P	**P**	**20 12 13.6**	**+0.6**
	comp=Z,41nm,1.2s						
WB0	**Warramunga Arr**	**23.69**	**229**	P	**P**	**20 12 15.6**	**0.0**
WB0				IAmb	IAmb	20 12 46.1	
	comp=Z,16nm,0.9s						
WR0	**Warramunga Arr**	**23.69**	**229**	P	**P**	**20 12 15.4**	**-0.3**
WR0				IAmb	IAmb	20 12 46.7	
	comp=Z,18nm,1.1s						
WB2	**Warramunga Arr**	**23.82**	**229**	P	**P**	**20 12 16.7**	**-0.2**
WRA	**Warramunga Arr**	**23.83**	**229**	P	**P**	**20 12 16.3**	**-0.6**
WRA	**Warramunga Arr**	**23.83**	**229**	P	**P**	**20 12 16.9**	**0.0**
	comp=Z,3.5nm,0.4s,baz=50,slow=9.9,SNR=32						
WRA				S	**S**	**20 16 28.1**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=52,slow=15,SNR=3.0						
WRA				ScP	**ScP**	**20 19 32.8**	**-0.2**
	comp=Z,1.3nm,1.1s,baz=60,slow=3.0,SNR=2.6						
	comp=Z,3.5nm,0.4s						
AULRC	**Lightning Ridg**	**25.12**	**191**	P	**P**	**20 12 30.6**	**+2.1**
LBMI	**Labuha**	**25.99**	**278**	P	**P**	**20 12 35.5**	**-1.1**
	comp=Z,28nm,1.4s						
ASAR	**Alice Springs**	**26.52**	**223**	P	**P**	**20 12 40.9**	**-0.5**
	comp=Z,0.6nm,0.6s,baz=54,slow=9.0,SNR=12						
ASAR				PcP	**PcP**	**20 16 05.2**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=37,slow=3.8,SNR=1.6						
ASAR				S	**S**	**20 17 13.5**	**+1.6**
	comp=Z,0.2nm,0.7s,baz=38,slow=20,SNR=1.3						
ASAR				ScP	**ScP**	**20 19 40.6**	**-0.1**
	comp=Z,0.4nm,0.9s,baz=46,slow=3.3,SNR=1.8						
	comp=Z,0.6nm,0.6s						
STKA	**Stephens Creek**	**29.17**	**201**	P	**P**	**20 13 04.6**	**-0.3**
	comp=Z,4.4nm,0.9s,baz=359,slow=9.8,SNR=5.2						
STKA				LR	LR	20 25 35.3	
	comp=Z,79nm,18.6s,baz=24,slow=38						
	comp=Z,4.4nm,0.9s						
DAV	**Davao City (W)**	**29.94**	**293**	LR	LR	20 23 58.9	
	comp=Z,22nm,21.4s,baz=64,slow=34						
FITZ	**Fitzroy Crossi**	**30.08**	**241**	P	**P**	**20 13 12.4**	**-0.6**
BBOO	**Buckleboo**	**32.26**	**208**	P	**P**	**20 13 30.2**	**-1.9**
BBOO				IAmb	IAmb	20 13 43.4	
	comp=Z,20nm,1.5s						
FORT	**Forrest**	**35.14**	**219**	P	**P**	**20 13 55.0**	**-2.2**
FORT				IAmb	IAmb	20 14 16.1	
	comp=Z,13nm,0.8s						
MBWA	**Marble Bar**	**36.39**	**240**	P	**P**	**20 14 06.9**	**-1.1**
PSA00	**Pilbara Seismi**	**36.45**	**240**	P	**P**	**20 14 06.5**	**-2.0**
PSA00				IAmb	IAmb	20 14 36.8	
	comp=Z,26nm,1.2s						
MXZ	**Matakaoa Point**	**39.97**	**148**	P	**P**	**20 14 36.1**	**-1.8**
THZ	**Tophouse**	**40.91**	**157**	P	**P**	**20 14 45.7**	**0.0**
TCW	**Tory Channel**	**40.99**	**156**	P	**P**	**20 14 45.9**	**-0.4**
MLZ	**Mavora Lakes**	**42.58**	**164**	P	**P**	**20 14 59.0**	**-0.2**
MJAR	**Matsushiro Arr**	**43.34**	**342**	LR	LR	20 31 18.4	
	comp=Z,58nm,19.3s,baz=175,slow=34						

s-min=171.8km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**24.02**	**206**	LR	LR	20 29 46.8	
	comp=Z,155nm,21.1s,baz=340,slow=36						
STKA	**Stephens Creek**	**39.69**	**247**	P	P	20 23 06.9	-1.4
	1.2nm,0.3s,baz=111,slow=8.6,SNR=4.7						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**47.06**	**258**	P	P	20 24 08.0	0.0
	0.8nm,0.4s,baz=94,slow=7.2,SNR=30						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**47.38**	**263**	P	P	20 24 11.2	+0.7
	2.7nm,0.4s,baz=100,slow=7.2,SNR=50						
	2.7nm,0.4s						
JTS	**Las Juntas de**	**93.66**	**80**	LR	LR	21 00 31.9	
	comp=Z,43nm,19.5s,baz=63,slow=29						

IDC 20 20:27:48.3±2.3, 2°.38S×128°.36E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=147.5km s-min=28.3km az=68.0, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.41**	**162**	P	Pn	20 32 04.7	-0.4
	0.1nm,0.3s,baz=341,slow=12,SNR=6.0						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**21.84**	**166**	P	P	20 32 42.5	0.0
	0.4nm,0.4s,baz=346,slow=11,SNR=16						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**63.49**	**326**	P	P	20 38 20.4	+0.1
	0.2nm,0.8s,baz=120,slow=5.7,SNR=2.5						
	0.2nm,0.8s						

*IDC **20** 20:29:15.3±0.5, 15°.38S×173°.46W, h0km, mb4.2/13, mbtmp4.2/13, MS3.6/5, Error ellipse: s-maj=27.6km s-min=15.6km az=132.0*
*NEIC **20** 20:29:21.2±1.4, 15°.46S±0°.09×173°.4W±0°.1, h35km±8km, mb4.5/40, Error ellipse: s-maj=18.9km s-min=10.4km az=118.0*
ISC 20 20:29:21.4±0.4, 15°.48S±0°.08×173°.36W±0°.09, h42km, n113, σ0.98/99, mb4.5/39, MS3.6/5, 13C-16D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.19**	**45**		**Pn**	**20 29 55.5**	**+0.2**
AFI				Sn	**Sn**	**20 30 17.1**	**-4.0**
NIUE	**Niue**	**4.85**	**138**		**Pn**	**20 30 31.3**	**-0.5**
DZM	**Mont Dzumac**	**20.21**	**248**	P	**P**	**20 33 51.1**	**-1.8**
	3.0nm,0.6s,baz=75,slow=7.0,SNR=0.9						
DZM				LR	LR	20 40 11.1	
	comp=Z,118nm,19.6s,baz=65,slow=32						
	3.0nm,0.6s						
BHW	**Baring Head**	**27.77**	**199**	P	**P**	**20 35 04.4**	**-1.8**
COEN	**Coen**	**42.02**	**266**	P	**P**	**20 37 06.3**	**-2.8**
STKA	**Stephens Creek**	**44.03**	**240**	P	**P**	**20 37 24.4**	**-0.7**
STKA	**Stephens Creek**	**44.03**	**240**	P	**P**	**20 37 24.6**	**-0.7**
	2.0nm,0.4s,baz=81,slow=9.8,SNR=6.8						
	2.0nm,0.4s						
BBOO	**Buckleboo**	**48.81**	**240**	P	**P**	**20 38 01.8**	**-0.9**
WB0	**Warramunga Arr**	**49.83**	**257**	P	**P**	**20 38 10.1**	**-0.5**
WB0				IAmb	IAmb	20 38 47.6	
	comp=Z,8.7nm,1.2s						
WB2	**Warramunga Arr**	**49.86**	**257**	P	**P**	**20 38 10.1**	**-0.8**
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**20 38 09.2**	**-1.8**
WRA				PcP	**PcP**	**20 39 31.1**	**-0.1**
WRA	**Warramunga Arr**	**49.87**	**257**	P	**P**	**20 38 09.4**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=94,slow=6.7,SNR=27						
WRA				PcP	**PcP**	**20 39 30.9**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=93,slow=3.6,SNR=11						
	comp=Z,3.0nm,0.7s						
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**20 38 11.3**	**-1.6**
ASAR	**Alice Springs**	**50.13**	**252**	P	**P**	**20 38 12.0**	**-0.9**
	comp=Z,11nm,0.7s,baz=87,slow=8.0,SNR=174						
ASAR				PcP	**PcP**	**20 39 31.9**	**-0.1**
	comp=Z,1.4nm,0.7s,baz=94,slow=4.4,SNR=5.3						
	comp=Z,11nm,0.7s						
FORT	**Forrest**	**55.42**	**243**	P	**P**	**20 38 50.8**	**-1.1**
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**20 39 46.6**	**+1.2**
VNDA				PcP	**PcP**	**20 40 24.2**	**+1.9**
VNDA	**Vanda**	**63.30**	**186**	P	**P**	**20 39 46.8**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=9.8,slow=6.4,SNR=7.3						
VNDA				PcP	**PcP**	**20 40 23.4**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=346,slow=4.6,SNR=5.1						
	comp=Z,0.8nm,0.8s						
SHEM	**Shemya Is, Ala**	**68.79**	**352**	LR	LR	21 04 14.3	
	comp=Z,56nm,19.8s,baz=104,slow=31						
PETK	**Petropavlovsk-**	**72.72**	**342**	LR	LR	21 08 17.5	
	comp=Z,26nm,19.2s,baz=163,slow=32						
YBH	**Yreka Blue Hor**	**73.64**	**37**	P	**P**	**20 40 51.8**	**+1.2**
YBH				IAmb	IAmb	20 40 53.0	
	comp=Z,6.2nm,0.9s						
QSM	**Queen of Sheba**	**73.93**	**45**	P	**P**	**20 40 52.8**	**+0.4**
QSM				IAmb	IAmb	20 40 54.4	
	comp=Z,4.2nm,0.9s						
HUMO	**Hull Mountain**	**74.05**	**36**	P	**P**	**20 40 53.9**	**+0.9**
HUMO				IAmb	IAmb	20 40 55.5	
	comp=Z,5.7nm,1.1s						
NVAR	**Mina Array Bea**	**74.36**	**42**	P	**P**	**20 40 55.3**	**+0.2**
NVAR	**Mina Array Bea**	**74.36**	**42**	P	**P**	**20 40 55.9**	**+0.8**
	comp=Z,1.9nm,0.9s,baz=228,slow=9.8,SNR=12						
	comp=Z,1.9nm,0.9s						
GMN	**Gold Mountain**	**74.41**	**43**	P	**P**	**20 40 55.4**	**-0.1**
NV11	**Mina Array Sit**	**74.46**	**42**	P	**P**	**20 40 55.9**	**+0.3**
NV11				IAmb	IAmb	20 40 57.5	
	comp=Z,4.1nm,1.1s						
QSPA	**South Pole Qui**	**74.56**	**180**	P	**P**	**20 40 56.9**	**+1.1**
QSPA	**South Pole Qui**	**74.56**	**180**	P	**P**	**20 40 56.9**	**+1.1**
	comp=Z,5.8nm,0.7s,baz=44,slow=1.5,SNR=32						
	comp=Z,5.8nm,0.7s						
KVN	**Kaiserville**	**74.85**	**42**	P	**P**	**20 40 58.5**	**+0.7**
KDAK	**Kodiak Island**	**74.99**	**11**	LR	LR	21 07 09.6	
	comp=Z,44nm,20.1s,baz=214,slow=30						
SHPR	**Sheep Range**	**75.39**	**45**	P	**P**	**20 41 01.1**	**+0.1**
J05D	**Fort Rock, OR**	**75.46**	**37**	P	**P**	**20 41 00.7**	**-0.6**
J05D				IAmb	IAmb	20 41 03.5	
	comp=Z,7.1nm,0.9s						
WVOR	**Wild Horse Val**	**76.47**	**38**	IAmb	IAmb	20 41 08.9	
	comp=Z,6.3nm,1.1s						
X16A	**Lo Mia Camp, P**	**76.94**	**48**	P	**P**	**20 41 09.8**	**-0.1**
X16A				IAmb	IAmb	20 41 12.0	
	comp=Z,4.4nm,1.0s						
J08A	**Circle Bar Ran**	**77.11**	**38**	P	**P**	**20 41 09.8**	**-0.8**
J08A				IAmb	IAmb	20 41 12.4	
	comp=Z,5.8nm,1.0s						
U15A	**North Rim**	**77.33**	**46**	IAmb	IAmb	20 41 14.4	
	comp=Z,5.4nm,1.2s						
ELK	**Elko**	**77.62**	**41**	LR	LR	21 09 28.1	
	comp=Z,34nm,21.0s,baz=229,slow=31						
MFID	**Camas Ranch**	**78.72**	**39**	IAmb	IAmb	20 41 21.0	
	comp=Z,4.3nm,0.9s						
HLID	**Hailey**	**79.66**	**39**	P	**P**	**20 41 24.8**	**0.0**
HLID				IAmb	IAmb	20 41 26.7	
	comp=Z,4.0nm,0.9s						
VHRN	**Van Horn**	**80.17**	**54**	IAmb	IAmb	20 41 29.4	
	comp=Z,3.1nm,0.8s						
NJ2	**Nanjing**	**80.25**	**307**	*e*P	**P**	**20 41 29.0**	**+1.1**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
TXAR	**Lajitas Array**	**80.62**	**56**	P	**P**	**20 41 29.6**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=255,slow=4.8,SNR=4.8						
	comp=Z,0.8nm,0.7s						
PDAR	**Pinedale Array**	**82.30**	**42**	P	**P**	**20 41 38.6**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=201,slow=2.5,SNR=7.8						
	comp=Z,1.0nm,0.7s						
ILAR	**Eielson Array**	**82.52**	**11**	P	**P**	**20 41 38.9**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=226,slow=6.4,SNR=16						
	comp=Z,0.9nm,0.7s						
E19K	**Redstone River**	**83.55**	**6**	IAmb	IAmb	20 41 46.5	
	comp=Z,6.1nm,1.1s						
K29M	**Barlow Dome**	**83.76**	**15**	IAmb	IAmb	20 41 47.0	
	comp=Z,2.8nm,0.9s						
E22K	**Anaktuvuk Pass**	**84.84**	**8**	IAmb	IAmb	20 41 52.8	
	comp=Z,5.1nm,1.0s						
I30M	**Mount Dempster**	**85.18**	**15**	IAmb	IAmb	20 41 53.8	
	comp=Z,2.7nm,0.8s						
G31M	**Satah River**	**87.06**	**14**	IAmb	IAmb	20 42 03.1	
	comp=Z,4.5nm,1.0s						
XLT	**XiLinHaoTe**	**87.21**	**317**	*e*P	P	20 41 55.3	-8.2
XLT				pmax	pmax		
	comp=Z,11nm,0.8s						
XLT				pmax	pmax		
	comp=Z,82nm,4.1s						
MAW	**Mawson**	**87.73**	**199**	P	**P**	**20 42 05.5**	**0.0**
	comp=Z,2.5nm,0.8s,baz=116,slow=4.8						
	comp=Z,2.5nm,0.8s						
HHC	**Hu-ho-hao-te**	**89.11**	**313**	*e*P	**P**	**20 42 14.3**	**+1.7**
HHC				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HHC				pmax	pmax		
	comp=Z,81nm,4.7s						
YKA	**Yellowknife Ar**	**90.16**	**23**	P	**P**	**20 42 16.9**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=241,slow=4.5,SNR=7.9						
	comp=Z,0.6nm,0.8s						
ELIB	**Princess Elisa**	**92.06**	**185**	*d*P	**P**	**20 42 25.8**	**0.0**
	comp=Z,5.1nm,0.9s						
PZH	**PanZhiHua**	**92.35**	**297**	P	**P**	**20 42 30.5**	**+2.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,100nm,4.8s						
TROLL	**Troll, Antarti**	**92.68**	**179**	⇑P	**P**	**20 42 28.1**	**-0.6**
	comp=Z,114nm,0.6s						
CMAR	**Chiang Mai Arr**	**92.68**	**288**	P	**P**	**20 42 30.7**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=90,slow=2.5,SNR=4.7						
	comp=Z,0.5nm,0.7s						
VNA3	**Neumayer Olymp**	**92.77**	**175**	⇑P	**P**	**20 42 29.2**	**+0.3**
	comp=Z,3.6nm,0.8s						
A36M	**Sachs Harbour**	**92.97**	**13**	P	**P**	**20 42 30.1**	**+0.5**
VNA2	**Neumayer--Watz**	**93.27**	**175**	⇑P	**P**	**20 42 31.8**	**+0.6**
	comp=Z,3.5nm,0.7s,baz=187,slow=1.6						
LZH	**Lanzhou**	**93.31**	**306**	*e*P	**P**	**20 42 32.3**	**0.0**
LZH				pP	pP	20 42 40.4	-4.1
LZH				pmax	pmax		
	comp=Z,19nm,1.2s						
VNA1	**Neumayer--Stat**	**93.47**	**175**	⇑P	**P**	**20 42 31.7**	**-0.4**
	comp=Z,7.2nm,0.9s						
ARCES	**ARCESS Array B**	**124.70**	**352**	PKP	**PKPdf**	**20 48 14.6**	**-1.2**
	comp=Z,3.3nm,0.7s,baz=8.7,slow=1.6,SNR=7.5						
FINES	**FINESS Array B**	**132.03**	**348**	PKP	**PKPdf**	**20 48 28.7**	**-1.3**
	comp=Z,2.3nm,0.9s,baz=7.4,slow=4.4,SNR=6.3						
KOLS	**Kolonicke sedl**	**144.27**	**342**	*e*PKP	PKPbc	20 48 52.0	+0.9
DPC	**Dobruska-Polom**	**144.35**	**349**	*e*PKP	PKPbc	20 48 52.0	+0.6
CRVS	**Cervenica-Dubn**	**144.53**	**343**	*e*PKP	PKPbc	20 48 53.0	+1.1
KRLC	**Kraliky**	**144.53**	**349**	*e*PKP	PKPbc	20 48 52.4	+0.5
GHRR		**144.90**	**335**	⇓P	**PKPdf**	**20 48 54.6**	**+0.6**
BSTI	**Sart Tilman**	**144.98**	**1**	*d*PKPdf	**PKPab**	**20 48 53.5**	**+0.3**
BMR	**Baia Mare**	**145.00**	**340**	⇓P	PKPbc	20 48 54.2	+0.7
KECS	**Kecovo**	**145.18**	**344**	*e*PKP	**PKPdf**	**20 48 55.1**	**+0.7**
CFR	**Carcaliu**	**145.29**	**333**	⇓P	**PKPab**	**20 48 55.0**	**+0.4**
VRI	**Vrincioaia**	**145.34**	**335**	⇓P	**PKPdf**	**20 48 55.3**	**+0.5**
PLOR	**Plostina**	**145.38**	**335**	⇑P	**PKPbc**	**20 48 54.9**	**+0.1**
TURR	**Turia**	**145.47**	**336**	⇑P	**PKPab**	**20 48 56.0**	**+0.7**
JAVC	**Velka Javorina**	**145.51**	**347**	*e*PKP	**PKPab**	**20 48 56.7**	**+1.3**
OZUR		**145.52**	**336**	⇓P	**PKPab**	**20 48 56.3**	**+0.8**
COVR	**Voineasa-Covas**	**145.57**	**336**	⇓P	**PKPbc**	**20 48 55.8**	**+0.4**
VYHS	**Vyhne**	**145.59**	**346**	*e*PKP	**PKPbc**	**20 48 55.8**	**+0.5**
HARR	**Harsova**	**145.77**	**333**	⇑P	**PKPab**	**20 48 56.6**	**+0.2**
DOPR	**Dopca**	**145.78**	**337**	⇓P	**PKPab**	**20 48 57.5**	**+1.0**
NEHR	**Nehoiu**	**145.87**	**335**	⇓P	**PKPab**	**20 48 57.3**	**+0.5**
MLR	**Muntele Rosu**	**145.96**	**335**	⇑P	**PKPab**	**20 48 57.8**	**+0.5**
KHC	**Kasperske Hory**	**145.97**	**352**	*e*PKP	**PKPbc**	**20 48 56.7**	**+0.2**
MARR	**Marisel-Cluj**	**146.00**	**340**	⇑P	**PKPbc**	**20 48 56.9**	**+0.1**
DRGR		**146.03**	**340**	⇓P	**PKPdf**	**20 48 56.1**	**+0.1**
MODS	**Modra-Piesok**	**146.05**	**347**	*e*PKP	**PKPbc**	**20 48 57.4**	**+0.6**
MANR	**Mangalia**	**146.14**	**331**	⇓P	PKiKP	20 49 21.3	+21
CKRC	**Cesky Krumlov**	**146.16**	**351**	*e*PKP	**PKPdf**	**20 48 56.5**	**+0.4**
GERES	**GERESS Array B**	**146.23**	**352**	PKPbc	**PKPdf**	**20 48 56.8**	**+0.5**
	comp=Z,2.3nm,1.0s,baz=26,slow=2.5,SNR=6.0						
BRTR	**Keskin Array B**	**146.25**	**321**	PKPbc	**PKPbc**	**20 48 58.1**	**+0.3**
	comp=Z,3.9nm,0.7s,baz=42,slow=2.0,SNR=33						
VOIR		**146.36**	**336**	⇓P	**PKPab**	**20 48 59.0**	**+0.2**
CONA	**Conrad Observa**	**146.76**	**349**	*i* PKP	**PKPbc**	**20 48 59.6**	**+0.6**
	comp=Z,2.5nm,0.7s						
RONA	**Rosalia, Austr**	**146.90**	**348**	*i* PKP	**PKPbc**	**20 48 59.7**	**+0.4**
	comp=Z,1.5nm,0.5s						
MOA	**Molln**	**147.12**	**351**	*i* PKP	**PKPbc**	**20 49 00.3**	**+0.4**
	comp=Z,1.8nm,0.6s						
GZR	**Gura Zlata**	**147.23**	**339**	⇓P	**PKPbc**	**20 49 00.6**	**+0.2**
BIOA	**Bad Ischl, Aus**	**147.37**	**351**	*i* PKiKP	**PKPab**	**20 49 02.8**	**+0.3**
	comp=Z,1.9nm,0.6s						
BZS	**Buzias**	**147.43**	**340**	⇑P	**PKPbc**	**20 49 01.2**	**+0.4**
MORH	**Mrgy, Hungar**	**147.75**	**344**	⇓P	**PKPbc**	**20 49 01.9**	**+0.3**
HERR	**Herculane**	**147.80**	**339**	⇑P	**PKPbc**	**20 49 01.8**	**-0.1**
KBA	**Koelnbreinsper**	**148.01**	**351**	*i* PKP	**PKPbc**	**20 49 02.0**	**-0.6**
	comp=Z,0.3nm,0.2s						
MOTA	**Moosalm**	**148.02**	**354**	*e*PKP	**PKPbc**	**20 49 02.4**	**-0.1**
	comp=Z,2.1nm,0.7s						
WTTA	**Wattenberg**	**148.04**	**354**	*e*PKP	**PKPbc**	**20 49 02.9**	**+0.2**
	comp=Z,3.4nm,0.5s						
ELND	**Elena**	**148.07**	**333**	⇑P	**PKPbc**	**20 49 03.2**	**+0.6**
SOKA	**Soboth**	**148.12**	**349**	*i* PKP	**PKPdf**	**20 49 01.5**	**+1.9**
	comp=Z,1.9nm,0.7s						
DAVA	**Damuels**	**148.18**	**356**	*i* PKP	**PKPbc**	**20 49 03.4**	**+0.4**
	comp=Z,0.4nm,0.2s						
FRGS	**Fruska Gora**	**148.40**	**342**	⇓P	**PKPbc**	**20 49 04.1**	**+0.6**
MYKA	**Terra Mystica**	**148.40**	**351**	*i* PKP	**PKPdf**	**20 49 01.9**	**+1.9**
	comp=Z,0.8nm,0.3s						
ABTA	**Abfaltersbach**	**148.45**	**352**	*e*PKP	**PKPbc**	**20 49 03.0**	**-0.6**
	comp=Z,2.7nm,0.7s						
MMAI	**Mount Meron Ar**	**148.65**	**309**	PKPbc	**PKPbc**	**20 49 05.1**	**+0.5**
	comp=Z,7.7nm,0.8s,baz=23,slow=4.5,SNR=12						
BLKB	**Beogradchik**	**148.80**	**337**	⇑P	**PKPbc**	**20 49 04.3**	**-0.2**
ESDC	**Sonseca Array**	**154.17**	**19**	PKPab	**PKPab**	**20 49 31.2**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=336,slow=3.3,SNR=4.3						

*IDC **20** 21:19:28.6±1.4, 43°.43S×74°.35W, h0km, mb4.0/5, mbtmp4.1/7, ML4.1/2, MS3.5/5, Error ellipse: s-maj=42.4km s-min=28.1km az=90.0*
*GUC **20** 21:19:34.0±0.8, 43°.22S×74°.25W, h29km±7km, ML3.8*
*NEIC **20** 21:19:36.9±1.7, 43°.08S±0°.04×74°.14W±0°.07, h35km±2km, mb4.4/18, ML4.1/28, Mwr3.8/24, Error ellipse: s-maj=8.6km s-min=7.1km az=80.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}2.65; $M_{\theta\theta}$-4.09; $M_{\phi\phi}$ 1.44; $M_{r\theta}$4.18; $M_{\theta\phi}$1.39; $M_{\phi r}$-4.68; Fault plane solution: M_o7.36000×10^{14} NP1,φs250.75000°,δ24.74000°, λ29.01000°. NP2,φs134.03000°,δ78.29000°,λ111.95000°. Principal axes: T 7.2597, Plg52.0000°, Azm69.0000°; N 0.1972, Plg21.0000°, Azm309.0000°; P -7.4569, Plg30.0000°, Azm206.0000°;*
*NEIC **20** 21:19:37.2, 43°.09S×74°.10W, h35km*
ISC 20 21:19:35.1±1.3, 43°.15S±0°.03×74°.16W±0°.06, h30km±8km, n78, σ1.23/84, mb4.3/12, MS3.8/4, 4C-4D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GO07	**Milladeo Hill,**	**0.37**	**84**		**Pb**	**21 19 43.2**	**-0.3**
GO07				Sg	**Sn**	**21 19 49.6**	**-0.8**
GO07				IAML		21 19 50.8	
	comp=N,21μm,0.9s						
GO07				IAML		21 19 57.5	
	comp=E,18μm,0.5s						
GO07	**Milladeo Hill,**	**0.37**	**84**	⇓*i*P	**Pb**	**21 19 43.2**	**-0.3**
GO07				*i* S	**Sn**	**21 19 49.9**	**-0.6**
GO07				IAML		21 19 57.6	
	comp=E,14μm,0.4s						
LL07	**Hotel Espejo d**	**0.59**	**58**		**Pn**	**21 19 47.1**	**-0.3**
LL07					**Sn**	**21 19 56.8**	**+0.8**
LL07				IAML		21 19 58.0	
	comp=E,17μm,0.6s						
LL07				IAML		21 19 58.2	
	comp=N,12μm,0.9s						
LL07	**Hotel Espejo d**	**0.59**	**58**	⇓*i*P	**Pn**	**21 19 47.2**	**-0.2**
LL07				*i* S	**Sn**	**21 19 57.1**	**+1.0**
LL07				IAML		21 19 58.6	
	comp=E,16μm,0.3s						
LL06	**Loncomilla**	**1.01**	**23**		**Pb**	**21 19 53.3**	**-0.8**
LL06				Sn	**Sn**	**21 20 07.1**	**+0.6**
LL06				IAML		21 20 12.1	
	comp=N,9μm,0.5s						
LL06				IAML		21 20 14.4	
	comp=E,9μm,0.7s						
LL06	**Loncomilla**	**1.01**	**23**	⇓*i*P	**Pb**	**21 19 53.3**	**-0.8**
LL06				*i* S	**Sn**	**21 20 08.0**	**+1.5**
LL06				IAML		21 20 14.5	
	comp=E,8μm,0.4s						
LOPS	**Lodge Patagoni**	**1.23**	**142**	*e*P	**Pn**	**21 19 55.0**	**-1.1**
LOPS				*i* S	**Sn**	**21 20 11.6**	**-0.1**
GLCR	**Glacier**	**1.27**	**74**	⇑*i*P	**Pb**	**21 19 57.8**	**-0.7**
GLCR				*i* S	**Sb**	**21 20 15.3**	**+0.9**
GLCR				IAML		21 20 22.6	
	comp=N,3μm,0.5s						
VNTQ	**Ventisquero**	**1.28**	**78**	*e*P	**Pb**	**21 19 57.6**	**-1.0**
VNTQ				*i* S	**Sb**	**21 20 15.3**	**+0.5**
PDRA	**Piedra**	**1.37**	**78**	*e*P	**Pb**	**21 19 58.9**	**-1.3**
PDRA				*i* S	**Sb**	**21 20 18.1**	**+0.8**
PDRA				IAML		21 20 20.4	
	comp=N,1μm,0.2s						
LJUN	**La Junta**	**1.50**	**125**	⇓*i*P	**Pn**	**21 19 59.9**	**+0.1**
LJUN				*i* S	**Sn**	**21 20 19.2**	**+0.8**
LJUN				IAML		21 20 24.6	
	comp=N,2μm,0.6s						
LL01	**San Ignacio de**	**1.50**	**60**		**Pn**	**21 20 00.5**	**+0.6**
LL01					**Sn**	**21 20 16.8**	**-1.7**
LL01	**San Ignacio de**	**1.50**	**60**	⇑*i*P	**Pb**	**21 20 00.9**	**-1.4**
LL01				*i* S	**Sb**	**21 20 22.1**	**+1.1**
PHPI	**Puyuhuapi**	**1.64**	**136**	⇑*i*P	**Pb**	**21 20 03.1**	**-1.7**
LL02	**Futaleuf**	**1.69**	**92**		**Pn**	**21 20 03.4**	**+0.8**
LL02	**Futaleuf**	**1.69**	**92**	⇑*i*P	**Pb**	**21 20 04.2**	**-1.4**
LL02				*i* S	**Sb**	**21 20 26.4**	**-0.1**
MGDN	**Magdalena**	**1.73**	**149**	*e*P	**Pn**	**21 20 02.5**	**-0.6**
MGDN				*e*S	**Sn**	**21 20 24.6**	**+0.5**
MGDN				IAML		21 20 27.7	
	comp=E,1μm,0.3s						
LL05	**Los Muermos**	**1.82**	**17**		**Pn**	**21 20 04.2**	**0.0**
LL05	**Los Muermos**	**1.82**	**17**	*e*P	**Pb**	**21 20 05.7**	**-2.0**
LL05				*i* S	**Sb**	**21 20 29.0**	**-1.1**
LL05				IAML		21 20 39.0	
	comp=N,3μm,0.6s						
CUEV	**Cuervo**	**2.16**	**160**	*e*P	**Pn**	**21 20 09.1**	**0.0**
CUEV				*i* S	**Sb**	**21 20 37.5**	**-2.5**
CUEV				IAML		21 20 46.7	
	comp=E,2μm,0.6s						
LL03	**Petrohue**	**2.40**	**34**		**Pn**	**21 20 14.0**	**+1.7**
LL03	**Petrohue**	**2.40**	**34**	*e*P	**Pn**	**21 20 13.9**	**+1.7**
LL03				*i* S	**Sn**	**21 20 43.4**	**+2.7**
LL03				IAML		21 20 49.4	
	comp=E,2μm,0.4s						
LL04	**Puerto Octay**	**2.59**	**31**		**Pn**	**21 20 15.1**	**+0.1**
LL04				IAML		21 20 49.3	
	comp=E,745nm,0.2s						
LL04				IAML		21 20 51.6	
	comp=N,618nm,0.6s						
LL04	**Puerto Octay**	**2.59**	**31**	*e*P	**Pn**	**21 20 15.5**	**+0.5**
COYC	**Coyhaique**	**2.84**	**149**	Pn	**Pn**	**21 20 20.8**	**+2.4**
COYC				IAML		21 21 06.0	
	comp=N,494nm,1.4s						
COYC				IAML		21 21 06.0	
	comp=E,480nm,1.1s						
LR04	**Corral**	**3.31**	**10**		**Pn**	**21 20 26.9**	**+2.1**
LR04				IAML		21 21 19.4	
	comp=N,666nm,0.3s						
LR05	**Currie**	**3.34**	**30**	Pn	**Pn**	**21 20 26.2**	**+1.0**
LR05				IAML		21 21 20.8	
	comp=E,323nm,0.4s						
PLCA	**Paso Flores**	**3.62**	**49**	Pn	**Pn**	**21 20 29.8**	**+0.7**
PLCA	**Paso Flores**	**3.62**	**49**	Pn	**Pn**	**21 20 31.2**	**+2.0**
	comp=E,1.7nm,0.3s,baz=232,slow=11,SNR=48						
PLCA				Lg	Lg	21 21 26.2	
	comp=E,3.7nm,0.3s,baz=166,slow=4.2,SNR=3.0						
PLCA				LR	LR	21 21 26.4	
	comp=E,87nm,21.9s,baz=202,slow=30						
	comp=E,13nm,0.6s						
LR03	**Panguipulli**	**3.77**	**22**		**Pn**	**21 20 31.5**	**+0.3**
GO06	**Curarrehue**	**4.10**	**31**	Pn	**Pn**	**21 20 37.4**	**+1.6**
AY03	**Cochrane**	**4.25**	**165**		**Pn**	**21 20 39.8**	**+2.1**
AY03				IAML		21 21 49.8	
	comp=N,110nm,0.9s						
AY03				IAML		21 21 49.8	
	comp=E,155nm,1.3s						
GO08	**Villa O'Higgin**	**5.43**	**169**	Pn	**Pn**	**21 20 55.1**	**+1.2**
BO02	**Sierra Bellavi**	**8.75**	**19**	Pn	**Pn**	**21 21 39.4**	**-0.2**
BO01	**Tunca**	**9.07**	**16**	Pn	**Pn**	**21 21 43.5**	**-0.4**
MT01	**Popeta**	**9.55**	**15**	Pn	**Pn**	**21 21 49.1**	**-1.4**
MT09	**Talagante**	**9.69**	**16**	Pn	**Pn**	**21 21 51.0**	**-1.5**
H03S1	**Juan Fernandez**	**10.01**	**337**	T	T	21 31 54.3	
	baz=159,slow=75,SNR=22						
H03S2	**Juan Fernandez**	**10.02**	**337**	T	T	21 31 54.3	
	baz=159,slow=75,SNR=21						
H03S3	**Juan Fernandez**	**10.02**	**337**	T	T	21 31 54.5	
	baz=159,slow=75,SNR=32						
USHA	**Ushuaia**	**12.28**	**164**	Pn	Pn	21 22 19.7	-8.0
	comp=E,5.6nm,0.3s,baz=

az=344.0
NEIC ***20*** *21:50:07, 18.61N×154.33W, h12km, Moment Tensor Solution. Duration: 1s4 Moment tensor: Scale 1016Nm; Mrr-1.70; Mθθ 1.85; Mφφ-0.15; Mrθ-0.02; Mrφ 1.43; Mθφ 0.92; Fault plane solution: M0 2.44000×1016 NP1: φs215.48000°, δ57.84000°, λ-127.66000°. NP2: φs90.88000°, δ47.92000°, λ-45.82000°. Principal axes: T 2.6345, Plg6.0000°, Azm331.0000°; N -0.3887, Plg31.0000°, Azm238.0000°; P -2.2459, Plg58.0000°, Azm70.0000°;*
NEIC ***20*** *21:50:07, 19.41N×155.28W, h12km*
GCMT ***20*** *21:50:35.3±0.4, 19.32N±0.04×155.20W±0.03, h12km, MW4.8/106, Moment Tensor Solution. s22,c25; s106,c129; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-2.07±.06; Mθθ 0.87±.08; Mφφ 1.20±.07; Mrθ 0.68±.34; Mθφ 0.72±.05; Mφr-0.59±.27; Best double couple: M0 2.07400×1016 NP1:φs21.00000°, δ49.00000°, λ-115.00000°. NP2:φs236.00000°, δ47.00000°, λ-64.00000°. Principal axes: T 1.7770, Plg1.0000°, Azm128.0000°; N 0.5910, Plg19.0000°, Azm38.0000°; P -2.3710, Plg71.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
HVO 20 21:50:07.3±1.2**, 19.41N**±0.01**×155.281W**±0.008**, h0**km±2km**, Md3.4/5, ML2.5/10, ML1.9/33**(NEIC)**, Mww4.9/6**(NEIC) **Error ellipse: s-maj=3.1km s-min=2.3km az=344.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**0**	Pg	Pg	21 50 07.2	-0.3
RIM	**Rim**	**0.01**	**146**	Pg	Pg	21 50 07.1	-0.4
OBL	**Observatory Le**	**0.01**	**347**	Pg	Pg	21 50 07.4	-0.2
SDHHI	**Sand Hill**	**0.02**	**219**	Pg	Pg	21 50 03.5	-4.2
UWB	**Uwekahuna B**	**0.02**	**8**	Pg	Pg	21 50 07.1	-0.6
UWE	**Uwekahuna**	**0.02**	**325**	Pg	Pg	21 50 07.1	-0.6
BYL	**Byron's Ledge**	**0.02**	**71**	Pg	Pg	21 50 03.4	-4.4
SBLHI	**Steaming Bluff**	**0.03**	**29**	Pg	Pg	21 50 08.2	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**47**	Pg	Pg	21 50 04.7	-3.1
HATHI	comp=N,2μm,1.1s			IAML		21 50 07.9	
RSD	**Rainshed**	**0.06**	**3**	Pg	Pg	21 50 08.6	+0.1
RSD	comp=E,803nm,0.7s			IAML		21 50 09.8	
PUH	**Pauahi**	**0.07**	**117**	IAML		21 50 10.0	
	comp=N,814nm,1.2s						
PUH	**Pauahi**	**0.07**	**117**		Pg	21 50 09.8	+1.2
KNHH	**Kane Nui o Ham**	**0.11**	**104**		Pg	21 50 10.6	+1.2
HLP	**Hilina Pali**	**0.11**	**193**	Pg	Pg	21 50 09.3	-0.2
HLP	comp=E,501nm,0.9s			IAML		21 50 11.7	
HLP	comp=N,596nm,1.9s			IAML		21 50 12.2	
MLH	**Mauna Loa**	**0.13**	**312**		Pg	21 50 09.6	-0.3
MLH	comp=E,285nm,1.3s			IAML		21 50 12.8	
MLH	comp=N,290nm,0.8s			IAML		21 50 13.3	
JOKA	**Jonika Flow**	**0.26**	**84**		Pg	21 50 12.6	+0.2
JOKA	comp=E,210nm,1.7s			IAML		21 50 13.5	
HMH	**Humu'ula Sheep**	**0.27**	**316**	Pg	Pg	21 50 12.8	+0.2
HMH	comp=E,242nm,3.3s			IAML		21 50 18.9	
HMH	comp=N,170nm,1.0s			IAML		21 50 20.2	
MLOA	**Mauna Loa Obse**	**0.31**	**295**		Pg	21 50 12.9	-0.3
MLOA	comp=N,177nm,1.4s			IAML		21 50 14.2	
MLOA	comp=E,203nm,1.2s			IAML		21 50 19.0	
MWH	**Moku'aweowe**	**0.31**	**285**		Pg	21 50 12.9	-0.3
KHU	**Kahuku**	**0.35**	**243**		Pg	21 50 13.4	-0.6
POHA	**Pohakuloa**	**0.42**	**326**		Pg	21 50 15.2	-0.3
POHA	comp=E,164nm,0.9s			IAML		21 50 24.7	
POHA	comp=E,167nm,1.6s			IAML		21 50 29.0	
HUH	**Hualalai**	**0.59**	**298**		Pg	21 50 18.4	-0.3
HPAH	**Hawaii Prepara**	**0.73**	**328**	Pg	Pg	21 50 19.9	-1.5
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	21 50 24.5	-1.5
PPT2	**Papeete2**	**37.19**	**171**	*e*LR	LR	22 07 15.7	
PPT2	comp=E,220nm,28.2s			*e*LR	LR	22 07 23.2	
	comp=E,106nm,34.2s						
TBI	**Tubuai**	**42.87**	**172**	*e*LR	LR	22 10 04.3	
	comp=E,732nm,29.2s						

IDC ***20*** *21:50:10.0±2.4, 21.22S×174.39W, h0km, mb4.1/5, mbtmp4.1/5, MS3.6/1, Error ellipse: s-maj=95.1km s-min=33.1km az=141.0*
NEIC ***20*** *21:50:14.0±1.6, 21.34S±0.10×174.02W±0.09, h35km±2km, mb4.7/9, Error ellipse: s-maj=16.8km s-min=14.0km az=17.0*
ISC 20 21:50:12.0±0.7**, 21.35S**±0.1×**173.97W**±0.08**, h25km, n24,** σ1**9**24**/24, mb4.5/10, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.41**	**60**	Pn	**Pn**	**21 51 17.2**	**-0.2**
AFI	**Afiamalu**	**7.67**	**16**	Pn	**Pn**	**21 52 02.8**	**+0.5**
MSVF	**Nonsavu**	**8.34**	**294**		**Pn**	**21 52 09.9**	**-1.5**
RAR	**Rarotonga**	**13.23**	**92**	Pn	**Pn**	**21 53 16.9**	**-1.5**
DZM	**Mont Dzumac**	**18.22**	**264**	P	**P**	**21 54 24.3**	**+0.9**
DZM	**Mont Dzumac**	**18.22**	**264**	P	**P**	**21 54 23.9**	**+0.5**
DZM	2.0nm,0.5s,baz=54,slow=19,SNR=1.5			LR	LR	22 00 01.5	
STKA	comp=Z,188nm,18.2s,baz=74,slow=33 **Stephens Creek**	**40.85**	**246**	P	**P**	**21 57 51.2**	**-0.7**
	1.2nm,0.5s,baz=93,slow=9.5,SNR=3.4 1.2nm,0.5s						
BBOO	**Buckleboo**	**45.57**	**245**	P	**P**	**21 58 29.8**	**-0.3**
BBOO	comp=Z,17nm,1.4s			IAmb	IAmb	21 59 12.5	
ASAR	**Alice Springs**	**48.00**	**257**	P	**P**	**21 58 48.1**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=101,slow=7.5,SNR=22 comp=Z,1.6nm,0.7s						
WB0	**Warramunga Arr**	**48.20**	**262**	P	**P**	**21 58 50.2**	**-0.7**
WB0	comp=Z,10nm,1.1s			IAmb	IAmb	21 59 21.3	
WB2	**Warramunga Arr**	**48.21**	**262**	P	**P**	**21 58 48.0**	**-2.9**
WB2	comp=Z,7.7nm,1.1s			IAmb	IAmb	21 59 29.9	
WRA	**Warramunga Arr**	**48.22**	**262**	P	**P**	**21 58 49.8**	**-1.2**
WRA	**Warramunga Arr**	**48.22**	**262**	P	**P**	**21 58 49.4**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=99,slow=8.3,SNR=4.8 comp=Z,0.5nm,0.5s						
FORT	**Forrest**	**52.43**	**247**	P	**P**	**21 59 23.0**	**+0.3**
FORT	comp=Z,12nm,1.2s			IAmb	IAmb	21 59 41.9	
FITZ	**Fitzroy Crossi**	**56.65**	**262**	P	**P**	**21 59 52.8**	**-0.7**
MBWA	**Marble Bar**	**61.34**	**257**	P	**P**	**22 00 25.8**	**-0.3**
QSPA	**South Pole Qui**	**68.74**	**180**	P	**P**	**22 01 14.7**	**+1.2**
QSPA	comp=Z,5.0nm,1.5s			IAmb	IAmb	22 01 50.9	
MJAR	**Matsushiro Arr**	**73.16**	**321**	P	**P**	**22 01 40.4**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=154,slow=4.9,SNR=4.7 comp=Z,1.1nm,0.7s						
CMAR	**Chiang Mai Arr**	**93.95**	**288**	P	**P**	**22 03 29.9**	**+1.7**
	comp=Z,1.7nm,0.3s,baz=122,slow=3.4,SNR=1.8 comp=Z,1.7nm,0.3s						
BVAR	**Borovoye Array**	**122.14**	**320**	PKP	**PKiKP**	**22 09 05.2**	**+0.7**
	comp=Z,0.2nm,0.5s,baz=71,slow=14,SNR=1.9						
EKA	**Eskdalemuir Ar**	**145.35**	**9**	PKPbc	**PKPdf**	**22 09 48.5**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=347,slow=2.6,SNR=3.7						
AKASG	**Malin Array Be**	**145.50**	**334**	PKPbc	**PKPab**	**22 09 48.5**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=38,slow=4.0,SNR=9.7						
BRTR	**Keskin Array B**	**150.16**	**314**	PKPbc	**PKPbc**	**22 10 00.1**	**-0.9**
	comp=Z,0.6nm,1.0s,baz=73,slow=2.0,SNR=3.7						
MMAI	**Mount Meron Ar**	**151.49**	**300**	PKPbc	**PKiKP**	**22 10 06.8**	**+2.1**
	comp=Z,0.2nm,0.4s,baz=83,slow=4.5,SNR=1.9						

VAO ***20*** *21:50:10.5±1.3, 11.06N×61.88W, h10km, mb4.6*
TRN ***20*** *21:50:18.7, 11.12N×62.12W, h113km, MD4.3, North of the Paria peninsula. Felt in Trinidad, MMI III, IV.*
IDC ***20*** *21:50:18.4±0.6, 11.25N×62.28W, h129km±5km, mb3.6/14, mbtmp4.0/17, MS2.7/1, Error ellipse: s-maj=14.3km s-min=7.8km az=141.0*

NEIC ***20*** *21:50:18.3±1.5, 11.11N±0.07×62.20W±0.08, h114km±7km, mb4.5/27, Error ellipse: s-maj=11.9km s-min=9.4km az=108.0*
FUNV ***20*** *21:50:19.0, 11.10N×62.07W, h113km, MW4.6*
ISC 20 21:50:17.7±0.5**, 11.14N**±0.03×**62.23W**±0.04**, h120**km±4km**, n147,** σ1**8**81**/189, mb4.3/26, 9C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.65**	**133**	*e*P	**Pn**	**21 50 37.9**	**+1.3**
TRN	**Trinidad (W)**	**0.95**	**121**	⇑*i*P	**Pn**	**21 50 39.2**	**0.0**
TRN				*e*S	**Sn**	**21 50 52.8**	**-2.6**
GRFF	**Grenada Fort F**	**1.02**	**28**	*e*P	**Pn**	**21 50 39.9**	**0.0**
GRFF				*e*S	**Sn**	**21 50 55.8**	**-1.0**
CRUV	**Carupano**	**1.09**	**245**	⇑*i*P	**Pn**	**21 50 42.6**	**+2.0**
CRUV				*e*S	**Sn**	**21 50 59.6**	**+1.6**
CRUV	**Carupano**	**1.09**	**245**	*e*P	**Pn**	**21 50 42.6**	**+2.0**
CRUV				*e*S	**Sn**	**21 50 60.0**	**+2.0**
TPP	**Pointe-a-Pierr**	**1.12**	**137**	*e*P	**Pn**	**21 50 42.7**	**+1.7**
GRGR	**Grenville**	**1.13**	**30**		**Pn**	**21 50 41.2**	**+0.2**
GRGR				Sn	**Sn**	**21 50 58.0**	**-0.8**
GRGR	**Grenville**	**1.13**	**30**	*e*P	**Pn**	**21 50 41.1**	**0.0**
GRGR				*e*S	**Sn**	**21 50 58.0**	**-0.8**
GRW	**Mount Saint Ca**	**1.15**	**29**	*e*P	**Pn**	**21 50 41.5**	**+0.1**
GRW				*e*S	**Sn**	**21 50 59.0**	**-0.3**
GRHS	**Sauteurs**	**1.22**	**28**	*e*P	**Pn**	**21 50 41.9**	**0.0**
GRHS				*e*S	**Sn**	**21 50 59.1**	**-1.2**
GRSS	**Sisters**	**1.30**	**28**	*e*P	**Pn**	**21 50 43.0**	**+0.2**
GRSS				*e*S	**Sn**	**21 51 00.6**	**-1.2**
GRIC	**Isle de Caille**	**1.30**	**29**	*e*P	**Pn**	**21 50 44.0**	**+1.2**
GRIC				*e*S	**Sn**	**21 51 02.0**	**+0.1**
TBH	**Brigand Hill**	**1.32**	**120**	*e*P	**Pn**	**21 50 44.1**	**+1.1**
TPR	**Prospect**	**1.43**	**88**	*i* P	**Pn**	**21 50 44.3**	**+0.1**
TPR				*e*S	**Sn**	**21 51 03.2**	**-1.2**
GCMP	**Grenada, Carri**	**1.55**	**311**	⇑*i*P	**Pn**	**21 50 45.2**	**-0.5**
GCMP				*e*S	**Sn**	**21 51 05.0**	**-2.0**
SVOC	**Richmond Hill,**	**2.23**	**26**	*e*P	**Pn**	**21 50 53.8**	**-0.1**
SVOC				*e*S	**Sn**	**21 51 21.2**	**-0.7**
SVT	**Saint Vincent**	**2.23**	**26**	*e*P	**Pn**	**21 50 53.7**	**-0.3**
SVT				*e*S	**Sn**	**21 51 20.6**	**-1.3**
SVB	**Belmont**	**2.32**	**24**	*e*P	**Pn**	**21 50 54.8**	**-0.4**
SVB				*e*S	**Sn**	**21 51 23.4**	**-0.6**
PCRV	**Puerto La Cruz**	**2.55**	**248**	⇑*i*P	**Pn**	**21 51 00.4**	**+2.3**
PCRV				*e*S	**Sn**	**21 51 29.3**	**0.0**
PCRV	**Puerto La Cruz**	**2.55**	**248**	P	**Pn**	**21 51 00.3**	**+2.2**
PCRV	110nm,0.4s,baz=66,slow=2.7,SNR=162 108nm,0.3s,baz=231,slow=17,SNR=20			S	**Sn**	**21 51 31.0**	**+1.7**
PCRV	**Puerto La Cruz**	**2.55**	**248**	⇑*i*P	**Pn**	**21 51 00.6**	**+2.4**
PCRV				*e*S	**Sn**	**21 51 30.9**	**+1.5**
SLB	**Belfond**	**2.91**	**23**	*e*P	**Pn**	**21 51 04.1**	**+1.2**
SLB				*e*S	**Sn**	**21 51 37.9**	**+0.2**
SLCP	**Castries, St.**	**3.10**	**23**	*e*P	**Pn**	**21 51 05.8**	**+0.6**
SLCP				*e*S	**Sn**	**21 51 40.7**	**-1.2**
SLBI	**Saint Lucia, B**	**3.11**	**23**	*e*P	**Pn**	**21 51 05.4**	**-0.1**
SLBI				*e*S	**Sn**	**21 51 39.9**	**-2.4**
BCHC	**Barbados, Cave**	**3.22**	**52**	*e*P	Pn	21 51 00.3	-6.6
BCHC				*e*S	**Sn**	**21 51 38.5**	**-6.4**
BBGH	**Gun Hill**	**3.28**	**52**	Pn	**Pn**	**21 51 08.2**	**+0.5**
BBGH	**Gun Hill**	**3.28**	**52**	*e*P	**Pn**	**21 51 08.2**	**+0.5**
BBGH				*e*S	**Sn**	**21 51 44.7**	**-1.6**
H05S1	**Guadeloupe/Mar**	**3.53**	**22**	P	**Pn**	**21 51 10.8**	**-0.2**
H05S1	SNR=140			S	**Sn**	**21 51 48.7**	**-3.5**
BIM	**Bigot**	**3.54**	**19**		**Pn**	**21 51 09.2**	**-1.9**
BIM	**Bigot**	**3.54**	**19**	*e*P	**Pn**	**21 51 11.4**	**+0.3**
BIM				*e*S	**Sn**	**21 51 52.2**	**-1.3**
MPOM	**Morne Pois Mar**	**3.54**	**22**		**Pn**	**21 51 11.1**	**0.0**
MPOM	**Morne Pois Mar**	**3.54**	**22**	*e*P	**Pn**	**21 51 11.3**	**+0.2**
TRMF	**Trois Ilets**	**3.56**	**19**	*e*P	**Pn**	**21 51 12.3**	**+0.9**
ZAM	**Aeronautique**	**3.60**	**19**	*e*P	**Pn**	**21 51 12.8**	**+0.9**
LPMF	**Morne Lapointe**	**3.62**	**20**	*e*P	**Pn**	**21 51 12.5**	**+0.3**
MVM	**Montagne Vaucl**	**3.63**	**21**	*e*P	**Pn**	**21 51 13.2**	**+0.9**
FDF	**Fort de France**	**3.72**	**16**		**Pn**	**21 51 13.9**	**+0.4**
FDF	**Fort de France**	**3.72**	**16**	*e*P	**Pn**	**21 51 14.1**	**+0.6**
GBMF	**Grand Be**	**3.78**	**16**	*e*P	**Pn**	**21 51 15.7**	**+1.3**
CXM	**Morne La Croix**	**3.79**	**16**	*e*P	**Pn**	**21 51 15.9**	**+1.4**
BAMF	**Morne Balai**	**3.80**	**16**	*e*P	**Pn**	**21 51 15.6**	**+1.0**
SVN	**Savane Anatole**	**3.82**	**16**	Pn	**Pn**	**21 51 15.5**	**+0.7**
SVN	**Savane Anatole**	**3.82**	**16**	*e*P	**Pn**	**21 51 15.3**	**+0.5**
SVN				*e*S	**Sn**	**21 51 57.8**	**-1.3**
ILAM	**Ilet Lapin Mar**	**3.84**	**20**	Pn	**Pn**	**21 51 15.2**	**+0.1**
ILAM	**Ilet Lapin Mar**	**3.84**	**20**	*e*P	**Pn**	**21 51 15.4**	**+0.3**
ILAM				*e*S	**Sn**	**21 51 58.1**	**-1.6**
MERV	**Las Mercedes**	**4.42**	**245**	⇑*e*P	**Pn**	**21 51 23.9**	**+1.0**
MERV				*e*S	**Sn**	**21 52 13.0**	**-0.6**
FUNV	**FUNVISIS**	**4.55**	**262**	*e*P	**Pn**	**21 51 26.8**	**+2.1**
FUNV				*e*S	**Sn**	**21 52 16.4**	**-0.3**
TBG	**Guadaloupe-3**	**4.71**	**7**	*e*P	**Pn**	**21 51 28.1**	**+1.3**
TBG	**Guadaloupe-3**	**4.71**	**7**	*e*S	**Sn**	**21 52 23.8**	**+3.3**
TACV	**Tcata**	**4.82**	**258**	*e*P	**Pn**	**21 51 30.1**	**+1.8**
TACV				*e*S	**Sn**	**21 52 22.2**	**-1.0**
MAGL	**Barre de l'ile**	**4.87**	**11**	Pn	**Pn**	**21 51 30.9**	**+2.1**
CBE	**Ff, Capester**	**4.93**	**7**		**Pn**	**21 51 31.5**	**+1.7**
GDHS	**Morne Mazeau,**	**5.12**	**5**		**Pn**	**21 51 33.9**	**+1.6**
GDSD	**La Dsirade Is**	**5.26**	**12**	Pn	**Pn**	**21 51 33.4**	**-0.8**
H05N1	**Guadeloupe/Mar**	**5.27**	**12**	P	**Pn**	**21 51 33.0**	**-1.2**
H05N1	SNR=22			S	**Sn**	**21 52 29.7**	**-4.2**
LUEV	**Luepa**	**5.32**	**172**	⇓*i*P	**Pn**	**21 51 33.2**	**-2.0**
LUEV				*e*S	**Sn**	**21 52 28.7**	**-6.8**
ABD	**La Joyeuse, An**	**5.35**	**8**	Pn	**Pn**	**21 51 36.1**	**+0.8**
BENV	**Beln**	**5.41**	**258**	*e*P	**Pn**	**21 51 37.8**	**+1.5**
BENV				*e*S	**Sn**	**21 52 36.2**	**-1.2**
CACV	**CAICARA DEL OR**	**5.54**	**230**	⇑*i*P	Pn	21 51 33.2	-4.8
CACV				*e*S	Sn	21 52 28.2	-12
TURV	**Turiamo**	**5.55**	**263**	⇑*e*P	**Pn**	**21 51 39.1**	**+1.5**
TURV				*e*S	**Sn**	**21 52 38.8**	**-2.0**
MBFL	**Flemmings, Mon**	**5.57**	**0**	*e*P	**Pn**	**21 51 40.0**	**+1.6**
MBFL				*e*S	**Sn**	**21 52 38.6**	**-2.7**
ANBD	**Bethesda, Anti**	**5.89**	**4**	*e*P	**Pn**	**21 51 44.5**	**+2.0**
BAUV	**El Baul**	**6.13**	**250**	Pn	**Pn**	**21 51 46.1**	**+0.3**
BAUV	**El Baul**	**6.13**	**250**	⇑*e*P	**Pn**	**21 51 46.1**	**+0.3**
BAUV				*e*S	**Sn**	**21 52 50.9**	**-3.8**
BAUV	**El Baul**	**6.13**	**250**	*e*S	**Sn**	**21 52 53.1**	**-1.6**
BAUV	**El Baul**	**6.13**	**250**	*e*P	**Pn**	**21 51 46.0**	**+0.2**
MAPV	**Macapo**	**6.26**	**259**	*e*P	**Pn**	**21 51 49.1**	**+1.5**
MAPV				*e*S	**Sn**	**21 52 55.2**	**-2.8**
JACV	**Jacura**	**6.48**	**270**	*e*P	**Pn**	**21 51 52.3**	**+1.7**
JACV				*e*S	**Sn**	**21 52 58.6**	**-4.6**
TEPV	**Terepaima**	**6.94**	**261**	*e*P	**Pn**	**21 51 57.7**	**+0.8**
TEPV				*e*S	**Sn**	**21 53 10.8**	**-3.8**
SIQV	**Siquisique**	**7.46**	**267**	*e*P	**Pn**	**21 52 04.3**	**+0.4**
SIQV				*e*S	**Sn**	**21 53 22.1**	**-4.9**
HUMP	**Col San Antoni**	**7.79**	**334**	Pn	**Pn**	**21 52 09.8**	**+1.5**
GCPR	**Guaynabo City**	**8.04**	**333**	Pn	**Pn**	**21 52 13.1**	**+1.4**
OBIP	**Obispado Ponce**	**8.06**	**329**	Pn	**Pn**	**21 52 13.3**	**+1.4**
CELP	**Cerrillos**	**8.07**	**329**	Pn	**Pn**	**21 52 13.6**	**+1.5**
CRPR	**Cabo Rojo, PR**	**8.30**	**326**	Pn	**Pn**	**21 52 16.9**	**+1.7**
AOPR	**Arecibo Observ**	**8.39**	**329**		**Pn**	**21 52 17.4**	**+0.9**
SDV	**Santo Domingo**	**8.57**	**256**	P	**Pn**	**21 52 18.9**	**-0.2**
SDV	5.8nm,0.5s,baz=88,slow=11,SNR=12 22nm,0.5s,baz=50,slow=15,SNR=11			S	**Sn**	**21 53 51.4**	**-2.9**
SDV	comp=Z,42nm,19.0s,baz=286,slow=42			LR	LR	21 56 20.7	
SDV	**Santo Domingo**	**8.57**	**256**	*e*P	**Pn**	**21 52 19.8**	**+0.7**
BOAV	**Boa Vista**	**8.86**	**169**	Pn	**Pn**	**21 52 20.7**	**-2.1**
BOAV	**Boa Vista**	**8.86**	**169**	*e*P	Pn	21 52 17.5	-5.3
SOCV	**Socops**	**8.96**	**252**	*e*P	**Pn**	**21 52 24.2**	**-0.1**
SOCV				*e*S	Sn	21 53 56.0	-7.6
CAPV	**Capacho**	**10.46**	**253**	*e*P	**Pn**	**21 52 43.8**	**-1.0**
MDP	**Montagnes des**	**11.23**	**122**	P	Pn	21 52 49.3	-5.5
MDP	23nm,0.5s,baz=312,slow=16,SNR=56 108nm,0.5s,baz=36,slow=20,SNR=23			S	Sn	21 54 46.6	-12
SDDR	**Presa de Saban**	**11.71**	**313**	Pn	**Pn**	**21 53 03.9**	**+2.8**
RUSC	**La Rusia**	**11.93**	**245**	Pn	**Pn**	**21 53 04.4**	**-0.1**
ROSC	**El Rosal**	**13.51**	**243**	Pn	**Pn**	**21 53 22.9**	**-2.1**
ROSC	**El Rosal**	**13.51**	**243**	P	**Pn**	**21 53 25.0**	**0.0**
	5.6nm,0.6s,baz=108,slow=20,SNR=2.2						
MACA	**Manacapuru-AM**	**14.29**	**174**	Pn	**Pn**	**21 53 33.7**	**-1.0**
MACA	**Manacapuru-AM**	**14.29**	**174**	*e*P	**Pn**	**21 53 32.4**	**-2.3**
MCPB	**Macapa, AP**	**15.26**	**138**	*e*P	**Pn**	**21 53 42.3**	**-4.6**
ITTB	**Itaituba**	**16.71**	**157**	*e*P	**Pn**	**21 54 02.1**	**-2.7**
BCIP	**Isla Barro Col**	**17.44**	**265**	P	**P**	**21 54 14.0**	**+0.8**
NPGB	**Novo Progresso**	**19.32**	**159**	*e*P	**P**	**21 54 33.9**	**+0.2**
SAML	**Samuel**	**19.98**	**183**	P	**P**	**21 54 41.0**	**+0.1**
SAML	**Samuel**	**19.98**	**183**	*e*P	**P**	**21 54 42.3**	**+1.5**
ETMB	**Extrema**	**21.20**	**191**	P	**P**	**21 54 54.2**	**+0.3**
ETMB	**Extrema**	**21.20**	**191**	*e*P	**P**	**21 54 57.1**	**+3.3**
CZSB	**Cruzeiro do Su**	**21.45**	**210**	P	**P**	**21 54 58.0**	**+1.4**
CZSB	comp=Z,29nm,0.9s			IAmb	IAmb	21 55 00.5	
CZSB	**Cruzeiro do Su**	**21.45**	**210**	*e*P	**P**	**21 54 59.3**	**+2.7**
PDRB	**Porto dos Gac**	**23.26**	**166**	*e*P	**P**	**21 55 16.2**	**+1.5**
SMTB	**Santa Maria do**	**24.64**	**143**	*e*P	**P**	**21 55 30.2**	**+2.9**
SMTB				*e*S	**S**	**21 59 49.3**	**+9.1**
LPAZ	**La Paz**	**27.87**	**192**	P	**P**	**21 55 57.9**	**+0.9**
LPAZ	**La Paz**	**27.87**	**192**	P	**P**	**21 55 57.0**	**0.0**
	comp=Z,5.1nm,0.8s,baz=1.3,slow=8.8,SNR=26 comp=Z,5.1nm,0.8s						
LPAZ	**La Paz**	**27.87**	**192**	*e*P	**P**	**21 55 58.4**	**+1.3**
PB11	**IPOC Station P**	**31.57**	**193**	P	**P**	**21 56 28.4**	**-0.8**
PB08	**IPOC Station P**	**31.83**	**192**	P	**P**	**21 56 31.5**	**-0.1**
PB08	comp=Z,8.2nm,0.8s			IAmb	IAmb	21 56 32.5	
HMBC	**Humberstone**	**32.12**	**194**	P	**P**	**21 56 33.6**	**-0.3**
HMBC	comp=Z,10nm,1.0s			IAmb	IAmb	21 56 34.1	
PB01	**IPOC Station P**	**32.77**	**193**	P	**P**	**21 56 39.1**	**-0.5**
PB01	comp=Z,8.0nm,0.7s			IAmb	IAmb	21 56 40.3	
LVC	**Limon Verde**	**34.18**	**191**	P	**P**	**21 56 52.6**	**+0.6**
LVC	comp=Z,4.0nm,0.8s			IAmb	IAmb	21 56 53.3	
CPUP	**Villa Florida**	**37.55**	**173**	P	**P**	**21 57 20.7**	**+0.2**
CPUP	comp=Z,6.3nm,1.1s			IAmb	IAmb	21 57 30.3	
CPUP	**Villa Florida**	**37.55**	**173**	P	**P**	**21 57 20.6**	**+0.2**
CPUP	comp=Z,2.6nm,0.7s,baz=352,slow=8.2,SNR=5.9 comp=Z,2.5nm,0.9s,baz=324,slow=4.9,SNR=3.8 comp=Z,2.6nm,0.7s			PcP	**PcP**	**21 59 36.0**	**0.0**
HBVL	**Hebbronville**	**37.73**	**300**	P	**P**	**21 57 22.8**	**+0.8**
BRDY	**Brady**	**39.44**	**306**	P	**P**	**21 57 36.1**	**-0.2**
BRDY	comp=Z,8.2nm,1.1s			IAmb	IAmb	21 58 08.5	
LCO	**Las Campanas**	**40.75**	**191**	P	**P**	**21 57 47.4**	**+0.1**
TXAR	**Lajitas Array**	**42.60**	**301**	P	**P**	**21 58 01.6**	**-0.7**
TXAR	comp=Z,0.6nm,0.7s,baz=102,slow=12,SNR=4.5 comp=Z,1.3nm,0.6s,baz=118,slow=5.1,SNR=5.2 comp=Z,0.6nm,0.7s			PcP	**PcP**	**21 59 52.4**	**-0.2**
VA03	**San Esteban**	**44.38**	**190**	P	**P**	**21 58 16.8**	**+0.4**
VA03	comp=Z,16nm,1.1s			IAmb	IAmb	21 59 00.2	
MT09	**Talagante**	**45.44**	**190**	P	**P**	**21 58 25.0**	**+0.1**
BO04	**La Punta**	**45.59**	**190**	P	**P**	**21 58 26.2**	**+0.3**
BO01	**Tunca**	**46.06**	**190**	P	**P**	**21 58 29.7**	**+0.2**
BO01	comp=Z,19nm,1.4s			IAmb	IAmb	21 59 01.4	
BO02	**Sierra Bellavi**	**46.40**	**190**	P	**P**	**21 58 32.9**	**+0.6**
BO02	comp=Z,11nm,0.8s			IAmb	IAmb	21 58 33.6	
H10N3	**ASCENSION HYDR** baz=292,slow=75,SNR=12	**51.10**	**110**	T	T	22 54 27.7	
H10N2	**ASCENSION HYDR** baz=292,slow=75,SNR=15	**51.11**	**110**	T	T	22 54 28.3	
H10N1	**ASCENSION HYDR** baz=292,slow=75,SNR=11	**51.12**	**110**	T	T	22 54 29.3	
GO06	**Curarrehue**	**51.19**	**189**	P	**P**	**21 59 09.6**	**+0.7**
GO06	comp=Z,6.6nm,0.8s			IAmb	IAmb	21 59 10.2	
H10S3	**ASCENSION HYDR** baz=286,slow=75,SNR=18	**51.35**	**111**	T	T	22 54 49.7	
H10S2	**ASCENSION HYDR** baz=294,slow=75,SNR=4.9	**51.37**	**111**	T	T	22 54 48.1	
PDAR	**Pinedale Array**	**51.70**	**316**	P	**P**	**21 59 11.5**	**-1.4**
PDAR	comp=Z,0.5nm,0.6s,baz=119,slow=8.6,SNR=5.1 comp=Z,0.7nm,0.7s,baz=127,slow=6.1,SNR=4.2 comp=Z,0.5nm,0.6s			PcP	**PcP**	**22 00 22.4**	**-2.4**
PLCA	**Paso Flores**	**52.19**	**188**	P	**P**	**21 59 16.6**	**+0.5**
PLCA	comp=Z,5.8nm,0.7s			IAmb	IAmb	21 59 17.4	
PLCA	**Paso Flores**	**52.19**	**188**	P	**P**	**21 59 17.0**	**+0.8**
PLCA	comp=Z,4.2nm,0.5s,baz=0.8,slow=7.8,SNR=16 comp=Z,2.5nm,0.8s,baz=17,slow=5.0,SNR=3.4 comp=Z,4.2nm,0.5s			PcP	**PcP**	**22 00 26.3**	**0.0**
**TC

KKO					IAML			21 52 31.5	
	comp=E,2µm,1.2s								
HATHI	**Halema'uma'u T**	**0.05**	**80**			Pg		21 52 31.6	+0.7
HATHI					IAML			21 52 32.7	
	comp=E,3µm,0.2s								
HATHI					IAML			21 52 32.9	
	comp=N,3µm,0.3s								
RSD	**Rainshed**	**0.06**	**34**			Pg		21 52 31.7	+0.6
RSD					IAML			21 52 32.6	
	comp=N,3µm,0.4s								
RSD					IAML			21 52 33.1	
	comp=E,6µm,0.3s								
PUH	**Pauahi**	**0.10**	**114**		IAML			21 52 33.0	
	comp=N,1µm,1.1s								
PUH	**Pauahi**	**0.10**	**114**			Pg		21 52 32.4	+0.6
MLH	**Mauna Loa**	**0.10**	**319**			Pg		21 52 32.5	+0.6
MLH						Sg		21 52 34.7	+1.2
MLH	**Mauna Loa**	**0.10**	**319**		IAML			21 52 35.2	
	comp=E,1µm,0.1s								
MLH					IAML			21 52 35.4	
	comp=N,5µm,0.4s								
HLP	**Hilina Pali**	**0.12**	**178**		IAML			21 52 35.1	
	comp=N,1µm,1.2s								
HLP	**Hilina Pali**	**0.12**	**178**			Pg		21 52 32.9	+0.7
HLP	**Hilina Pali**	**0.12**	**178**			Sg		21 52 35.4	+1.7
KNHH	**Kane Nui o Ham**	**0.14**	**105**			Pg		21 52 33.2	+0.6
STCH	**Steam Cracks**	**0.18**	**99**			Sg		21 52 36.8	+1.1
STCH	**Steam Cracks**	**0.18**	**99**			Pg		21 52 33.8	+0.4
STCH					IAML			21 52 37.4	
	comp=N,717nm,1.2s								
STCH	**Steam Cracks**	**0.18**	**99**		IAML			21 52 35.4	
	comp=E,474nm,1.8s								
NPOC	**North of Pu'u**	**0.19**	**96**			Pg		21 52 31.6	-2.0
NPOC					IAML			21 52 37.5	
	comp=N,712nm,1.0s								
NPOC					IAML			21 52 37.7	
	comp=E,816nm,1.3s								
JCUZ	**Jacuzzi**	**0.20**	**99**			Pg		21 52 31.3	-2.4
JCUZ					IAML			21 52 34.4	
	comp=N,787nm,1.3s								
JCUZ					IAML			21 52 35.8	
	comp=E,600nm,1.2s								
HMH	**Humu'ula Sheep**	**0.25**	**319**		IAML			21 52 39.4	
	comp=N,1µm,0.7s								
HMH	**Humu'ula Sheep**	**0.25**	**319**			Pg		21 52 35.2	+0.6
HMH	**Humu'ula Sheep**	**0.25**	**319**			Sg		21 52 39.5	+1.6
MLOA	**Mauna Loa Obse**	**0.28**	**296**			Pg		21 52 35.7	+0.4
MLOA	**Mauna Loa Obse**	**0.28**	**296**		IAML			21 52 38.9	
	comp=N,1µm,1.4s								
MLOA					IAML			21 52 39.1	
	comp=E,1µm,1.2s								
MWH	**Moku'aweowe**	**0.28**	**285**			Pg		21 52 36.0	+0.7
MWH	**Moku'aweowe**	**0.28**	**285**		IAML			21 52 41.6	
	comp=E,2µm,1.2s								
MWH					IAML			21 52 42.0	
	comp=N,2µm,1.0s								
KHU	**Kahuku**	**0.33**	**240**			Pg		21 52 36.3	+0.1
KHU	**Kahuku**	**0.33**	**240**			Sg		21 52 41.5	+0.9
KHU	**Kahuku**	**0.33**	**240**		IAML			21 52 38.4	
	comp=E,1µm,1.7s								
ALEP	**Alea Permanent**	**0.34**	**292**			Pg		21 52 36.6	+0.2
ALEP						Sg		21 52 41.8	+0.9

BER 20 21:54:26.2±1.6, 73°65N×9°48E, h10km, mb(Pn)3.8, Confirmed Earthquake, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HSPB	**Hornsund (broa**	**3.70**	**22**	*e*P	Pn	21 55 21.4	-1.9
BRBA	**Barentsburg A**	**4.58**	**12**	*e*P	Pn	21 55 33.1	-2.2
BRBB	**Barentsburg B**	**4.61**	**12**	*e*P	Pn	21 55 33.3	-2.5
BRBB				*e*S	Sn	21 56 24.5	-4.7
SPA0	**Spitsbergen Ar**	**4.85**	**17**	*e*P	Pn	21 55 37.9	-1.2
SPA0				*e*S	Sn	21 56 30.6	-4.5
HOPEN	**Hopen**	**4.92**	**47**	*e*P	Pn	21 55 39.2	-0.9
HOPEN				*e*S	Sn	21 56 30.2	-6.6
HOPEN				IAML		21 56 38.3	
	comp=Z,12nm,0.6s						
KBS	**Kingsbay**	**5.33**	**5**	*e*P	Pn	21 55 42.8	-2.9
KBS				*e*S	Sn	21 56 39.5	-7.6
KBS				IAML		21 56 43.3	
	comp=Z,1.8nm,0.5s						
ZFI2	**Zemlya Franca-**	**10.77**	**32**	*e*P	Pn	21 56 58.4	-1.8
ZFI2				S	Sn	21 58 49.7	-11
OMEGA	**Omega**	**10.78**	**32**	P	Pn	21 56 57.8	-2.4

*IDC **20** 21:55:12.8±1.2, 1°37S×120°45E, h0km, mb3.4/5, mbtmp3.4/6, ML3.1/1, Error ellipse: s-maj=76.7km s-min=20.9km az=65.0*

ISC 20 21:55:16.5±1.3, 1°4S±0°1×120°4E±0°3, h23km, n6, σ0§70/6, mb3.6/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**3.61**	**191**	Pn	**Pn**	**21 56 11.0**	**-0.1**
	1.4nm,0.3s,baz=281,slow=21,SNR=2.9 7.8nm,0.4s						
WRA	**Warramunga Arr**	**22.88**	**144**	P	**P**	**22 00 18.4**	**-0.2**
	0.8nm,0.9s,baz=318,slow=12,SNR=1.5 0.8nm,0.9s						
ASAR	**Alice Springs**	**25.67**	**150**	P	**P**	**22 00 45.4**	**+0.4**
	0.4nm,0.8s,baz=341,slow=8.1,SNR=2.8 0.4nm,0.8s						
MKAR	**Makanchi Array**	**58.52**	**330**	P	**P**	**22 05 10.9**	**-0.2**
	0.4nm,0.8s,baz=131,slow=7.9,SNR=4.9 0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**62.95**	**331**	P	**P**	**22 05 40.1**	**-1.1**
	0.4nm,0.9s,baz=145,slow=5.8,SNR=4.3 0.4nm,0.9s						
BVAR	**Borovoye Array**	**68.41**	**330**	P	**P**	**22 06 16.6**	**+0.3**
	0.4nm,0.7s,baz=124,slow=7.7,SNR=2.0 0.4nm,0.7s						

*IDC **20** 21:55:37.8±0.6, 1°34S×120°36E, h0km, mb4.1/16, mbtmp4.1/17, ML4.0/1, MS3.1/5, Error ellipse: s-maj=29.0km s-min=12.4km az=69.0*
*DJA **20** 21:55:40.5±0.8, 2°S±2°×12°0E±°, h12km±6km, M4.7/18, mB5.5/5, mb4.6/13, MLv4.6/18, Mw(mB)5.0/5*
*NEIC **20** 21:55:45.5±1.3, 1°42S±0°05×120°37E±0°06, h50km±7km, mb4.5/35, Error ellipse: s-maj=9.4km s-min=6.6km az=115.0*

ISC 20 21:55:41.6±0.4, 1°41S±0°05×120°44E±0°04, h23km, n88, σ1§40/89, mb4.4/32, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.82**	**343**	P	**Pn**	**21 56 12.6**	**+1.1**
LUWI	**Luwuk**	**2.36**	**81**	P	**Pb**	**21 56 22.2**	**-1.2**
LUWI	**Luwuk**	**2.36**	**81**	Pn	**Pb**	**21 56 23.1**	**-0.3**
LUWI				Sn	**Sb**	**21 56 51.7**	**-0.3**
LUWI	**Luwuk**	**2.36**	**81**	P	**Pn**	**21 56 19.1**	**+0.2**
LUWI				S	**Sb**	**21 56 49.6**	**-2.4**
TOLI2	**Tolitoli**	**2.53**	**8**	P	**Pn**	**21 56 22.6**	**+1.4**
TOLI2	**Tolitoli**	**2.53**	**8**	Pn	**Pn**	**21 56 22.3**	**+1.1**
GTOI	**Gorontalo**	**3.27**	**52**	P	**Pn**	**21 56 33.6**	**+2.1**
SMKI	**Samarinda**	**3.37**	**286**	P	**Pn**	**21 56 34.4**	**+1.5**
BKB	**Balikpapan**	**3.55**	**272**	P	**Pb**	**21 56 40.4**	**-3.3**
BKB	**Balikpapan**	**3.55**	**272**		**Pn**	**21 56 37.0**	**+1.7**
BKB	**Balikpapan**	**3.55**	**272**	P	**Pn**	**21 56 36.8**	**+1.5**
KAPI	**Kappang**	**3.65**	**191**	P	**Pn**	**21 56 39.4**	**+2.8**
KAPI	**Kappang**	**3.65**	**191**	Pn	**Pn**	**21 56 38.0**	**+1.3**
KAPI	**Kappang**	**3.65**	**191**	Pn	**Pn**	**21 56 36.6**	**0.0**
	11nm,0.3s,baz=333,slow=6.5,SNR=10						
KAPI				Sn	**Sn**	**21 57 21.6**	**+2.6**
	2.8nm,0.3s,baz=49,slow=19,SNR=1.2						
KAPI				LR	LR	21 58 02.4	
	comp=Z,223nm,18.7s,baz=21,slow=39 33nm,0.4s						
KMSI	**Cibinong**	**4.05**	**61**	P	**Pn**	**21 56 45.5**	**+3.3**
BBSI	**Bau Bau**	**4.57**	**152**	P	**Pn**	**21 56 45.5**	**-3.9**
MTKI	**Muara Teweh, K**	**5.57**	**275**	P	**Pn**	**21 57 03.4**	**+0.3**
	60nm,0.4s,3µm0.6nm						
SANI	**Sanana**	**5.58**	**97**	P	**Pn**	**21 57 03.1**	**-0.1**
	45nm,0.8s,0.2nm						
MYLDM	**Lahad Datu**	**6.83**	**343**	Pn	**Pn**	**21 57 22.5**	**+2.1**
NLAI	**Namlea**	**6.89**	**105**	P	**Pn**	**21 57 19.0**	**-2.3**
	187nm,1.0s,6µm0.9nm						
LBMI	**Labuha**	**7.10**	**84**	P	**Pn**	**21 57 23.5**	**-0.6**
	63nm,0.9s,1µm0.3nm						
EDFI	**Ende, Flores**	**7.40**	**170**	P	**Pn**	**21 57 27.3**	**-1.0**
	15nm,2.0s,0.1nm						
MMRI	**Maumere**	**7.40**	**166**	P	**Pn**	**21 57 25.7**	**-2.5**
	31nm,1.0s,0.2nm						
BATI	**Baumata**	**9.31**	**160**	LR	LR	22 01 25.7	
	comp=Z,143nm,21.5s,baz=220,slow=37						
DAV	**Davao City (W)**	**9.86**	**31**	LR	LR	22 03 09.6	
	comp=Z,108nm,18.0s,baz=188,slow=46						
DLV	**T Lat**	**17.81**	**318**	P	**P**	**21 59 51.6**	**+2.7**
PDSI	**Padang**	**19.98**	**271**	P	**P**	**22 00 13.9**	**+1.2**
	14nm,1.2s						
IPM	**Ipoh**	**20.27**	**287**	P	Pn	22 00 20.7	+2.9
IPM	**Ipoh**	**20.27**	**287**	P	**P**	**22 00 15.9**	**+0.1**
IPM				IAmb	IAmb	22 00 21.7	
	comp=Z,17nm,0.9s						
PPSI	**Pulau Pagai**	**20.46**	**266**	P	**P**	**22 00 17.9**	**0.0**
	comp=Z,75nm,1.6s						
KULM	**Kulim**	**20.86**	**289**	P	**P**	**22 00 21.0**	**-1.2**
KULM				IAmb	IAmb	22 00 27.7	
	comp=Z,46nm,1.5s						
RPSI	**Rantau Prapat**	**21.90**	**281**	P	**P**	**22 00 33.2**	**-0.1**
PSI	**Prapat**	**21.92**	**281**	P	**P**	**22 00 35.3**	**+1.6**
UBPT	**Khong Chiam**	**22.23**	**319**	P	**P**	**22 00 40.0**	**+3.1**
UBPT	**Khong Chiam**	**22.23**	**319**	P	**P**	**22 00 36.5**	**-0.4**
UBPT				IAmb	IAmb	22 00 46.8	
	comp=Z,13nm,1.3s						
WB0	**Warramunga Arr**	**22.79**	**144**	P	**P**	**22 00 43.1**	**+0.3**
WB0				IAmb	IAmb	22 00 59.5	
	comp=Z,22nm,1.4s						
WRA	**Warramunga Arr**	**22.89**	**144**	P	**P**	**22 00 43.1**	**-0.8**
	comp=Z,5.2nm,0.9s,baz=310,slow=13,SNR=19 comp=Z,5.2nm,0.9s						
WB2	**Warramunga Arr**	**22.90**	**144**	P	**P**	**22 00 43.9**	**0.0**
WR0	**Warramunga Arr**	**23.02**	**144**	P	**P**	**22 00 46.3**	**+1.1**
TWGBT	**Beinan**	**24.09**	**1**	P	**P**	**22 00 56.7**	**+1.2**
TWG	**Pinlang**	**24.09**	**1**	P	**P**	**22 00 56.0**	**+0.4**
TWG				IAmb	IAmb	22 00 58.9	
	comp=Z,22nm,1.1s						
TPUB	**Ta-pu**	**24.56**	**0**	P	**P**	**22 01 01.3**	**+1.4**
YULB	**Yu-li**	**24.67**	**2**	P	**P**	**22 01 02.4**	**+1.6**
YULB	**Yu-li**	**24.67**	**2**	P	**P**	**22 01 00.9**	**+0.1**
YULB				IAmb	IAmb	22 01 06.5	
	comp=Z,17nm,0.7s						
SSLB	**Suanglung**	**25.05**	**1**	P	**P**	**22 01 05.1**	**+0.7**
SSLB				IAmb	IAmb	22 01 10.4	
	comp=Z,19nm,0.7s						
ASAR	**Alice Springs**	**25.68**	**151**	P	**P**	**22 01 11.3**	**+1.2**
	comp=Z,3.3nm,0.8s,baz=324,slow=7.4,SNR=21						
ASAR				PcP	**PcP**	**22 04 41.6**	**+1.2**
	comp=Z,0.6nm,0.6s,baz=326,slow=2.1,SNR=6.8 comp=Z,3.3nm,0.8s						
AS01	**Alice Springs**	**25.71**	**150**	P	**P**	**22 01 11.6**	**+1.3**
YHNB	**Yeheng**	**25.94**	**2**	P	**P**	**22 01 14.7**	**+2.3**
CMAR	**Chiang Mai Arr**	**28.93**	**314**	P	**P**	**22 01 39.4**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=139,slow=7.0,SNR=8.3						
CMAR				LR	LR	22 12 52.8	
	comp=Z,33nm,21.5s,baz=205,slow=36 comp=Z,1.3nm,0.3s						
CRAI	**Chiangrai**	**29.15**	**319**	P	**P**	**22 01 40.1**	**-1.1**
CHTO	**Chiang Mai**	**29.16**	**315**	P	**P**	**22 01 40.9**	**-0.4**
FORT	**Forrest**	**30.09**	**167**	P	**P**	**22 01 50.1**	**+0.7**
FORT				IAmb	IAmb	22 02 33.7	
	comp=Z,16nm,1.3s						
NWAO	**Narrogin (SRO)**	**31.50**	**185**	P	**P**	**22 02 01.0**	**-0.8**
NWAO				IAmb	IAmb	22 02 08.8	
	comp=Z,15nm,1.1s						
BBOO	**Buckleboo**	**34.52**	**156**	P	**P**	**22 02 28.9**	**+0.7**
JCJ	**Chichijima**	**35.24**	**35**	P	**P**	**22 02 34.4**	**-0.1**
STKA	**Stephens Creek**	**36.29**	**149**	P	**P**	**22 02 44.1**	**+0.6**
	comp=Z,3.6nm,0.8s,baz=323,slow=7.9,SNR=6.7 comp=Z,3.6nm,0.8s						
SHL	**Shillong**	**38.50**	**316**	P	**P**	**22 03 02.2**	**-0.4**
SHL				IAmb	IAmb	22 03 07.9	
	comp=Z,6.1nm,0.9s						
KSRS	**Korea Array**	**39.29**	**9**	P	**P**	**22 03 09.0**	**+0.3**
	comp=Z,1.2nm,0.5s,baz=193,slow=9.4,SNR=5.0 comp=Z,1.2nm,0.5s						
MJAR	**Matsushiro Arr**	**41.22**	**22**	P	**P**	**22 03 23.9**	**-0.8**
	comp=Z,1.4nm,0.7s,baz=198,slow=7.7,SNR=5.0 comp=Z,1.4nm,0.7s						
USRK	**Ussuriysk Ar.**	**46.57**	**11**	P	**P**	**22 04 06.8**	**-0.7**
USRK	**Ussuriysk Ar.**	**46.57**	**11**	P	**P**	**22 04 07.2**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=179,slow=4.7,SNR=5.3						
USRK				LR	LR	22 24 45.9	
	comp=Z,29nm,19.1s,baz=167,slow=38 comp=Z,1.6nm,0.5s						
ULN	**Ulaanbaatar**	**50.45**	**348**	P	**P**	**22 04 39.0**	**+1.3**
ULN				IAmb	IAmb	22 04 42.5	
	comp=Z,3.4nm,0.6s						
SONM	**Songino Array**	**50.55**	**348**	P	**P**	**22 04 38.9**	**+0.5**
	comp=Z,1.2nm,0.5s,baz=181,slow=8.2,SNR=4.5 comp=Z,1.2nm,0.5s						
HEH	**HeiHe**	**51.81**	**6**	*e*P	**P**	**22 04 47.5**	**-0.1**
HEH				pmax	pmax		
	comp=Z,11nm,0.7s						
HEH				pmax	pmax		
	comp=Z,130nm,5.6s						
MK31	**Makanchi Array**	**58.51**	**330**		**P**	**22 05 35.2**	**-0.9**
MK31				IAmb	IAmb	22 05 39.3	
	comp=Z,3.3nm,1.0s						
MKAR	**Makanchi Array**	**58.51**	**330**		**P**	**22 05 35.4**	**-0.7**
MKAR	**Makanchi Array**	**58.51**	**330**	P	**P**	**22 05 35.1**	**-1.0**
	comp=Z,3.1nm,0.8s,baz=136,slow=8.0,SNR=20 comp=Z,3.1nm,0.8s						
MAKZ	**Makanchi**	**58.68**	**330**	P	**P**	**22 05 37.4**	**+0.2**
MAKZ				IAmb	IAmb	22 05 40.4	
	comp=Z,3.5nm,1.1s						
KBL	**Kabul**	**59.93**	**312**		**P**	**22 05 45.6**	**-0.8**
AAK	**Ala-Archa**	**60.24**	**322**	P	**P**	**22 05 47.0**	**-1.3**
AAK				IAmb	IAmb	22 05 52.2	
	comp=Z,5.9nm,1.2s						
ARSB	**Arslanbob**	**60.46**	**320**	P	**P**	**22 05 49.1**	**-0.8**
GAR	**Garm**	**61.05**	**317**	P	**P**	**22 05 52.8**	**-1.1**
SIMJ	**Simiganj**	**61.79**	**316**	P	**P**	**22 05 57.7**	**-1.2**
SIMJ				IAmb	IAmb	22 06 02.1	
	comp=Z,7.7nm,1.2s						
ZALV	**Zalesovo Beam**	**62.57**	**337**	P	**P**	**22 06 01.4**	**-2.2**
	comp=Z,1.0nm,0.7s,baz=134,slow=6.4,SNR=4.8 comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**62.93**	**331**	P	**P**	**22 06 04.2**	**-1.9**
	comp=Z,2.0nm,0.8s,baz=142,slow=6.3,SNR=16 comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**62.95**	**332**	P	**P**	**22 06 04.7**	**-1.5**
KKAR	**Karatay Array**	**62.96**	**321**	P	**P**	**22 06 05.6**	**-0.9**
CASY	**Casey**	**65.12**	**184**	P	**P**	**22 06 20.6**	**+0.4**
CASY				IAmb	IAmb	22 06 49.9	
	comp=Z,4.0nm,1.1s						
BVAR	**Borovoye Array**	**68.39**	**330**	P	**P**	**22 06 39.2**	**-2.1**
	comp=Z,1.7nm,0.9s,baz=126,slow=7.5,SNR=6.2 comp=Z,1.7nm,0.9s						
GEYT	**Alibeck**	**69.38**	**312**	P	**P**	**22 06 47.4**	**-0.5**
	comp=Z,0.9nm,0.4s,baz=191,slow=7.1,SNR=6.6 comp=Z,0.9nm,0.4s						
ABKAR	**Akbulak array**	**72.30**	**323**		**P**	**22 07 05.0**	**-0.3**
ABKAR	**Akbulak array**	**72.30**	**323**		**P**	**22 07 05.1**	**-0.2**
TIXI	**Tiksi**	**73.14**	**3**	P	**P**	**22 07 10.7**	**+0.9**
VNDA	**Vanda**	**79.22**	**172**	P	**P**	**22 07 44.9**	**+0.5**
VNDA	**Vanda**	**79.22**	**172**	P	**P**	**22 07 44.9**	**+0.5**
	comp=Z,0.8nm,0.9s,baz=288,slow=7.1,SNR=3.7 comp=Z,0.8nm,0.9s						
GURO	**Guroymak-BITLI**	**81.82**	**309**	P	**P**	**22 07 59.6**	**+0.3**
GURO				IAmb	IAmb	22 08 03.1	
	comp=Z,4.6nm,1.1s						
MMAI	**Mount Meron Ar**	**86.60**	**303**	P	**P**	**22 08 23.7**	**0.0**
	comp=Z,1.8nm,0.7s,baz=104,slow=7.0,SNR=6.9 comp=Z,1.8nm,0.7s						
BRTR	**Keskin Array B**	**88.43**	**310**	P	**P**	**22 08 32.1**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=117,slow=7.4,SNR=2.8 comp=Z,0.6nm,0.8s						

*IDC **20** 22:17:27.9±0.6, 15°31S×173°32W, h0km, mb4.2/11, mbtmp4.2/11, MS3.7/18, Error ellipse: s-maj=31.0km s-min=17.0km az=133.0*
*NEIC **20** 22:17:32.0±1.4, 15°38S±0°06×172°63W±0°09, h10km±1km, mb4.7/80, Error ellipse: s-maj=15.8km s-min=9.1km az=114.0*

ISC 20 22:17:33.2±0.5, 15°39S±0°07×172°79W±0°09, h29km, n124, σ1§01/100, mb4.6/44, MS3.8/18, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AFI	**Afiamalu**	**1.77**	**34**	Pn	**Pn**	**22 18 01.8**	**-0.1**
AFI				Sn	**Sn**	**22 18 22.0**	**-1.5**
NIUE	**Niue**	**4.58**	**144**	Pn	**Pn**	**22 18 40.5**	**-0.1**
MSVF	**Nonsavu**	**9.09**	**254**	Pn	**Pn**	**22 19 46.0**	**+3.5**
RAR	**Rarotonga**	**13.65**	**117**	Pn	**Pn**	**22 20 45.1**	**+0.1**
	0.7nm,0.3s,baz=248,slow=19,SNR=1.6						
RAR				Sn	Sn	22 23 05.7	-10
	0.7nm,0.3s,baz=72,slow=14,SNR=2.1						
OUENC	**Ouen Island, N**	**20.48**	**247**	P	**P**	**22 22 09.6**	**+0.7**
OUENC				IAmb	IAmb	22 22 11.2	
	comp=Z,43nm,0.8s						
DZM	**Mont Dzumac**	**20.75**	**248**	P	**P**	**22 22 11.2**	**-0.6**
DZM				IAmb	IAmb	22 22 14.4	
	comp=Z,34nm,1.0s						
DZM	**Mont Dzumac**	**20.75**	**248**	P	**P**	**22 22 10.4**	**-1.4**
	comp=Z,20nm,0.8s,baz=80,slow=14,SNR=13						
ONTNC	**Ouen Toro**	**20.80**	**248**	P	Pn	22 22 14.0	-0.8
PPT	**Papeete**	**22.37**	**99**	LR	LR	22 28 37.2	
	comp=Z,102nm,21.0s,baz=4.0,slow=29						
URZ	**Urewera**	**24.47**	**199**	LR	LR	22 31 05.1	
	comp=Z,156nm,18.8s,baz=33,slow=34						
HNR	**Honiara**	**27.26**	**279**	LR	LR	22 32 11.5	
	comp=Z,1µm,20.4s,baz=120,slow=33						
PLWZ	**Palliser**	**28.07**	**199**	P	**P**	**22 23 24.7**	**+2.5**
TCW	**Tory Channel**	**28.07**	**201**	P	**P**	**22 23 22.9**	**+0.8**
WHZ	**Wether Hill Ro**	**34.44**	**204**	P	**P**	**22 24 17.8**	**-0.5**
MHA	**Mahukona**	**39.05**	**26**	P	**P**	**22 24 59.1**	**+1.4**
H11S2	**WAKE ISLAND Hy**	**39.26**	**328**	T	T	23 05 21.2	
	baz=146,slow=76,SNR=7.6						
H11S3	**WAKE ISLAND Hy**	**39.27**	**328**	T	T	23 05 21.1	
	baz=146,slow=76,SNR=14						
H11S1	**WAKE ISLAND Hy**	**39.27**	**328**	T	T	23 05 22.6	
	baz=146,slow=76,SNR=15						
H11N3	**WAKE ISLAND Hy**	**40.19**	**330**	T	T	23 07 17.8	
	baz=149						
H11N1	**WAKE ISLAND Hy**	**40.20**	**330**	T	T	23 07 20.8	
	baz=149						
H11N2	**WAKE ISLAND Hy**	**40.21**	**330**	T	T	23 07 17.8	
	baz=149						
STKA	**Stephens Creek**	**44.55**	**240**	P	**P**	**22 25 38.1**	**-4.5**
	comp=Z,4.1nm,0.8s,baz=77,slow=12,SNR=4.8						
STKA				LR	LR	22 41 09.4	
	comp=Z,56nm,20.6s,baz=30,slow=32 comp=Z,4.1nm,0.8s						
WRA	**Warramunga Arr**	**50.42**	**257**	P	P	22 26 23.3	-5.2
	comp=Z,1.0nm,0.4s,baz=93,slow=6.6,SNR=18						
WRA				PcP	**PcP**	**22 27 44.1**	**-2.6**
	comp=Z,0.7nm,0.6s,baz=95,slow=3.1,SNR=2.6 comp=Z,1.0nm,0.4s						
ASAR	**Alice Springs**	**50.67**	**252**	P	P	22 26 25.4	-5.0
	comp=Z,2.8nm,0.4s,baz=88,slow=7.8,SNR=37 comp=Z,2.8nm,0.4s						
SBA	**Scott Base**	**63.31**	**185**	P	**P**	**22 28 00.0**	**+1.1**
SBA				IAmb	IAmb	22 28 17.7	
	comp=Z,4.9nm,1.1s						
VNDA	**Vanda**	**63.45**	**186**	P	**P**	**22 27 59.9**	**0.0**
	comp=Z,2.2nm,0.9s,baz=358,slow=6.4,SNR=7.2 comp=Z,2.2nm,0.9s						
NWAO	**Narrogin (SRO)**	**65.14**	**241**	LR	LR	22 54 37.9	
	comp=Z,5.3nm,19.4s,baz=211,slow=34						
SHEM	**Shemya Is, Ala**	**68.77**	**351**	LR	LR	22 52 34.9	
	comp=Z,41nm,20.7s,baz=275,slow=31						
PFO	**Pinyon Flats O**	**72.48**	**47**	LR	LR	22 52 56.6	
	comp=Z,55nm,21.8s,baz=235,slow=29						
LPIG	**La Paz**	**72.53**	**58**	LR	LR	22 51 59.7	
	comp=Z,75nm,20.7s,baz=216,slow=28						
GSC	**Goldstone, Bar**	**73.16**	**45**	P	**P**	**22 29 01.9**	**+0.4**
GSC				IAmb	IAmb	22 29 03.4	
	comp=Z,4.9nm,0.9s						
YBH	**Yreka Blue Hor**	**73.24**	**37**	LR	LR	22 53 23.6	
	comp=Z,64nm,19.3s,baz=216,slow=29						
QSM	**Queen of Sheba**	**73.48**	**44**	P	**P**	**22 29 04.0**	**+0.8**
QSM				IAmb	IAmb	22 29 05.2	
	comp=Z,8.7nm,1.0s						
NVAR	**Mina Array Bea**	**73.93**	**42**	P	**P**	**22 29 07.0**	**+1.0**
	comp=Z,1.8nm,0.9s,baz=228,slow=9.5,SNR=11						
NVAR				LR	LR	22 54 11.7	
	comp=Z,43nm,19.1s,baz=249,slow=30 comp=Z,1.8nm,0.9s						
GMN	**Gold Mountain**	**73.97**	**43**	P	**P**	**22 29 07.1**	**+0.8**
WCT	**Wildcat Mounta**	**74.11**	**44**	P	**P**	**22 29 07.7**	**+0.7**
KVN	**Kaiserville**	**74.42**	**41**	P	**P**	**22 29 08.1**	**-0.7**
TPH	**Tonopah**	**74.42**	**43**	P	**P**	**22 29 08.6**	**-0.4**
QSPA	**South Pole Qui**	**74.66**	**180**	P	**P**	**22 29 09.8**	**0.0**
QSPA				IAmb	IAmb	22 29 11.3	
	comp=Z,9.8nm,1.0s						
QSPA	**South Pole Qui**	**74.66**	**180**	P	**P**	**22 29 09.4**	**-0.4**
	comp=Z,6.6nm,0.9s,baz=61,slow=1.9,SNR=17 comp=Z,6.6nm,0.9s						
I04A	**Tendick Farm,**	**74.72**	**35**	P	**P**	**22 29 10.8**	**+0.5**
I04A				IAmb	IAmb	22 29 12.1	
	comp=Z,9.3nm,1.0s						
V12A	**Nelson**	**74.73**	**46**	P	**P**	**22 29 11.3**	**+0.7**
KDAK	**Kodiak Island**	**74.79**	**11**	LR	LR	22 55 09.4	
	comp=Z,65nm,19.9s,baz=208,slow=30						
K05A	**Summer Lake**	**74.91**	**37**	P	**P**	**22 29 13.1**	**+1.5**
SHPR	**Sheep Range**	**74.94**	**45**	P	**P**	**22 29 13.0**	**+1.1**
J05D	**Fort Rock, OR**	**75.06**	**36**	P	**P**	**22 29 13.4**	**+0.9**
J05D				IAmb	IAmb	22 29 14.8	
	comp=Z,11nm,1.0s						
Y14A	**Wickenburg

ANMO	**Albuquerque**	**80.34**	**50**	P	**P**	**22 29 42.9**	**+0.7**	
ANMO	**Albuquerque**	**80.34**	**50**	LR	LR	22 58 58.7		
	comp=Z,34nm,19.9s,baz=326,slow=31							
NEW	**Newport**	**80.37**	**34**	LR	LR	22 58 55.7		
	comp=Z,34nm,18.7s,baz=193,slow=31							
ALPN	**Alpine**	**80.56**	**55**	P	**P**	**22 29 43.5**	**+0.2**	
DLMT	**Dillon**	**81.31**	**38**	P	**P**	**22 29 48.0**	**+1.0**	
DLMT				IAmb	IAmb	22 29 49.0		
	comp=Z,6.8nm,0.9s							
MSO	**Missoula**	**81.32**	**36**	P	**P**	**22 29 47.0**	**0.0**	
MSO				IAmb	IAmb	22 29 48.0		
	comp=Z,12nm,1.2s							
REDW	**Red Top Meadow**	**81.34**	**41**	P	**P**	**22 29 47.6**	**+0.2**	
TPAW	**Teton Pass**	**81.35**	**40**	P	**P**	**22 29 48.0**	**+0.6**	
TPAW				IAmb	IAmb	22 29 49.4		
	comp=Z,6.5nm,1.0s							
FXWY	**Fox Creek**	**81.37**	**40**	P	**P**	**22 29 47.5**	**0.0**	
BPMT	**Black Pine Rid**	**81.39**	**37**	P	**P**	**22 29 47.8**	**+0.2**	
IMW	**Indian Meadow**	**81.56**	**40**	P	**P**	**22 29 49.0**	**+0.4**	
IMW				IAmb	IAmb	22 29 50.6		
	comp=Z,9.7nm,1.2s							
MOOW	**Moose Ponds**	**81.61**	**40**	P	**P**	**22 29 49.5**	**+0.8**	
FLWY	**Flagg Ranch**	**81.80**	**40**	P	**P**	**22 29 50.8**	**+1.0**	
PD31	**Pinedale Array**	**81.87**	**42**	P	**P**	**22 29 50.3**	**+0.1**	
PDAR	**Pinedale Array**	**81.87**	**42**	P	**P**	**22 29 50.1**	**0.0**	
	comp=Z,1.6nm,0.9s,baz=231,slow=4.2,SNR=13							
PDAR				LR	LR	22 59 23.9		
	comp=Z,44nm,20.0s,baz=232,slow=31							
	comp=Z,1.6nm,0.9s							
SMCO	**Snowmass**	**81.88**	**46**	P	**P**	**22 29 50.7**	**+0.2**	
SMCO				IAmb	IAmb	22 29 52.7		
	comp=Z,5.9nm,1.1s							
OVMT	**Ovando**	**81.99**	**37**	P	**P**	**22 29 50.6**	**0.0**	
BOZ	**Bozeman (W)**	**82.02**	**38**	P	**P**	**22 29 51.5**	**+0.7**	
BOZ				IAmb	IAmb	22 29 52.7		
	comp=Z,11nm,1.4s							
H17A	**Grant Village**	**82.04**	**40**	P	**P**	**22 29 51.6**	**+0.5**	
H17A				IAmb	IAmb	22 29 54.1		
	comp=Z,5.9nm,1.1s							
YHH	**Holmes Hill**	**82.07**	**39**	P	**P**	**22 29 52.1**	**+0.9**	
H21K	**Melozitna Rive**	**82.19**	**8**	P	**P**	**22 29 52.0**	**+0.9**	
H21K				IAmb	IAmb	22 30 05.0		
	comp=Z,8.5nm,1.4s							
SDCO	**Great Sand Dun**	**82.27**	**48**	P	**P**	**22 29 53.2**	**+0.7**	
ILAR	**Eielson Array**	**82.32**	**11**	P	**P**	**22 29 51.0**	**-0.7**	
	comp=Z,0.6nm,0.8s,baz=224,slow=6.5,SNR=6.1							
ILAR				LR	LR	22 59 39.9		
	comp=Z,43nm,20.6s,baz=216,slow=31							
	comp=Z,0.6nm,0.8s							
LYMT	**Lyon Mountain**	**82.35**	**37**	P	**P**	**22 29 52.9**	**+0.3**	
T25A	**Trinidad**	**82.79**	**48**	P	**P**	**22 29 54.9**	**-0.2**	
T25A				IAmb	IAmb	22 29 56.8		
	comp=Z,4.2nm,0.9s							
RWWY	**Rawlins**	**82.88**	**43**	P	**P**	**22 29 55.2**	**-0.3**	
ISCO	**Idaho Springs**	**83.10**	**46**	P	**P**	**22 29 57.3**	**+0.5**	
CMIG	**Matias Romero**	**83.33**	**70**	LR	LR	22 59 38.2		
	comp=Z,32nm,20.5s,baz=190,slow=30							
N23A	**Red Feather La**	**83.36**	**45**	P	**P**	**22 29 58.8**	**+0.7**	
N23A				IAmb	IAmb	22 30 00.0		
	comp=Z,6.5nm,0.9s							
BRLDA	**Berland Lookou**	**83.70**	**29**	P	**P**	**22 29 59.7**	**+0.5**	
RTBA	**Rita Blanca**	**83.72**	**50**	P	**P**	**22 29 59.9**	**+0.1**	
HNDO	**Hondo**	**83.72**	**57**	P	**P**	**22 29 59.9**	**+0.1**	
J30M	**Hart River**	**84.43**	**15**	P	**P**	**22 30 02.4**	**-0.4**	
J30M				IAmb	IAmb	22 30 20.1		
	comp=Z,7.5nm,1.1s							
APMT	**Aspermont**	**84.47**	**53**	P	**P**	**22 30 03.9**	**+0.3**	
ABTX	**Abilene, Hawle**	**84.58**	**54**	P	**P**	**22 30 04.6**	**+0.5**	
H03S2	**Juan Fernandez**	**84.72**	**123**	T	T	00 04 07.2		
	baz=252							
H03S1	**Juan Fernandez**	**84.74**	**124**	T	T	00 04 30.5		
	baz=252							
H03S3	**Juan Fernandez**	**84.74**	**123**	T	T	00 04 37.2		
	baz=252							
PLPT	**Palo Pinto**	**85.69**	**54**	P	**P**	**22 30 09.5**	**-0.2**	
MAW	**Mawson**	**87.99**	**198**	P	**P**	**22 30 18.9**	**-1.3**	
	comp=Z,1.9nm,0.8s,baz=120,slow=9.2,SNR=3.3							
	comp=Z,1.9nm,0.8s							
YKA	**Yellowknife Ar**	**89.85**	**23**	P	**P**	**22 30 28.7**	**-0.2**	
	comp=Z,0.4nm,0.8s,baz=231,slow=3.9,SNR=5.8							
	comp=Z,0.4nm,0.8s							
UTMT	**University of**	**94.20**	**54**	P	**P**	**22 30 49.6**	**0.0**	
TKL	**Tuckaleechee C**	**98.02**	**55**	LR	LR	23 10 08.8		
	comp=Z,51nm,18.8s,baz=220,slow=32							
BRTR	**Keskin Array B**	**146.51**	**322**	PKPbc	**PKPdf**	**22 37 11.1**	**+0.3**	
	comp=Z,3.6nm,0.8s,baz=88,slow=2.3,SNR=29							
MMAI	**Mount Meron Ar**	**149.01**	**310**	PKPbc	**PKPbc**	**22 37 18.0**	**-1.1**	
	comp=Z,2.1nm,0.7s,baz=74,slow=6.4,SNR=12							

*MCSM **20** 22:17:51.9±0.8,35°N±6°×2°4E±°, h9km±4km, mb4.4, mB4.5, Mjma3.9, MLv4.7, Mw(mB)3.6*
*ISK **20** 22:17:54.7, 34°69N×23°84E, h28km, ML4.4/5*
*NEIC **20** 22:17:56.6±1.7, 34°74N±0°09×23°93E±0°07, h34km±3km, mb4.4/52, Error ellipse: s-maj=13.1km s-min=8.6km az=190.0*
*THE **20** 22:17:56.3, 34°74N×23°81E, h12km±1km, ML4.3/5, Error ellipse: s-maj=2.2km s-min=0.9km az=39.0*
*AFAD **20** 22:17:56.9±0.0, 34°92N×24°08E, h7km±5km, MW4.1*
*IDC **20** 22:17:56.2±1.6, 34°88N×23°91E, h35km±10km, mb4.0/21, mbtmp4.2/28, ML4.0/8, MS3.5/25, Error ellipse: s-maj=16.7km s-min=10.9km az=174.0*
*NAO **20** 22:17:56.7, 35°08N×24°47E, h33km, mb4.0*
*ATH **20** 22:17:58.4, 34°89N×23°97E, h17km, Mw4.1, Moment Tensor Solution. s8 Moment tensor: Mrr=1.87; Mθθ=0.03; Mφφ 1.89; Mrθ=-0.19; Mrφ=0.26; Mθφ 0.15; Fault plane solution: NP1:φs167.00000°, δ48.00000°, λ-97.00000°. NP2:φs358.00000°, δ43.00000°, λ-82.00000°.*
*GII **20** 22:17:59.8±0.4, 34°48N±0°03×24°654E±0°008, h1km, Mws4.4, confirmed*
*MED_RC **20** 22:17:59.0±0.9, 35°03N×24°15E, h23km±4km, MW4.5/14, Moment Tensor Solution.Mantle waves: s14,c15; Duration: 1st0 Moment tensor: Scale 10¹⁵Nm; Mrr-2.97±1.39; Mθθ-0.89±.66; Mφφ3.86±.84; Mrθ3.41±.69; Mrφ-2.16±.59; Mθφ-3.57±.72; Best double couple: M≥6.36000×10¹⁵ NP1:φs318.00000°, δ73.00000°, λ-109.00000°. NP2:φs188.00000°, δ25.00000°, λ-43.00000°. Principal axes: T 6.8900, Plg26.0000°, Azm63.0000°; N -1.0800, Plg18.0000°, Azm324.0000°; P -5.8200, Plg58.0000°, Azm202.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*PDG **20** 22:18:01.5±0.2, 35°37N×23°48E, h8km±7km, ML4.4/11 Error ellipse: s-maj=7.3km s-min=4.7km az=90.0*

ISC 20 22:17:54.7±0.6, **34°66N**±0°04×**23°86E**±0°03, **h32**km±3km, **n461**, σ**2**§**17**/515, **mb4.4**/42, **MS3.4**/21, **28C-22D**, **Crete**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.26**	**47**	Pg		**Pb**		**22 18 01.6**	**-0.2**
GVD				Sg		**Sb**		**22 18 07.2**	**+0.6**
GVD	**Gavdhos**	**0.26**	**47**	P		**Pb**		**22 18 01.8**	**0.0**
GVD				S		**Sb**		**22 18 05.6**	**-1.0**
	203µm,0.3s								
GVD	**Gavdhos**	**0.26**	**47**	P		**Pb**		**22 18 01.8**	**0.0**
GVD				S		**Sb**		**22 18 05.0**	**-1.6**
GVD				AML		AML		22 18 09.5	
GVD				AML		AML		22 18 11.6	
GVDS	**Gavdos**	**0.26**	**47**	Pg		**Pb**		**22 18 01.5**	**-0.3**
GVDS				Sg		**Sb**		**22 18 06.4**	**-0.3**
GVDS	**Gavdos**	**0.26**	**47**	P		**Pb**		**22 18 01.6**	**-0.3**
GVDS				S		**Sb**		**22 18 05.7**	**-1.0**
	101µm,0.2s								
KNDR	**Palaiochora Ch**	**0.59**	**346**	Pg		**Pb**		**22 18 06.8**	**+0.2**
KNDR				Sg		**Sn**		**22 18 16.1**	**+0.7**
KNDR	**Palaiochora Ch**	**0.59**	**346**	P		**Pb**		**22 18 07.0**	**+0.4**
KNDR				S		**Sb**		**22 18 13.4**	**-1.3**
KNDR				AML		AML		22 18 16.9	
KNDR				AML		AML		22 18 19.3	
IMMV	**Iera Moni Meta**	**0.80**	**7**	Pg		**Pn**		**22 18 09.8**	**0.0**
IMMV				Sg		**Sn**		**22 18 21.2**	**+0.5**
IMMV	**Iera Moni Meta**	**0.80**	**7**	P		**Pn**		**22 18 09.8**	**0.0**
IMMV				S		**Sb**		**22 18 20.9**	**+0.2**
	56µm,0.4s								
IMMV	**Iera Moni Meta**	**0.80**	**7**	P		**Pn**		**22 18 09.2**	**-0.6**
IMMV				S		**Sb**		**22 18 17.6**	**-3.2**
IMMV				AML		AML		22 18 23.3	
IMMV				AML		AML		22 18 26.0	
TMBK	**Timbaki Herakl**	**0.85**	**61**	P		**Pn**		**22 18 11.3**	**+0.8**
TMBK				S		**Sb**		**22 18 24.9**	**+2.8**
TMBK	**Timbaki Herakl**	**0.85**	**61**	P		**Pn**		**22 18 11.3**	**+0.8**
CHAN	**Chania**	**0.87**	**10**	P		**Pn**		**22 18 10.4**	**-0.3**
CHAN				S		**Sn**		**22 18 19.7**	**-2.6**
CHAN				AML		AML		22 18 24.5	
	comp=E,96964µm,0.5s								
CHAN				AML		AML		22 18 30.2	
RODP	**Rodopos**	**0.90**	**355**	Pg		**Pn**		**22 18 11.7**	**+0.5**
RODP				Sg		**Sn**		**22 18 23.4**	**+0.3**
RODP	**Rodopos**	**0.90**	**355**	P		**Pn**		**22 18 12.3**	**+1.1**
RODP				S		**Sb**		**22 18 24.3**	**+0.8**
	comp=E,8µm,0.4s								
IDI	**Anoyia**	**1.05**	**53**	Pg		**Pn**		**22 18 13.9**	**+0.6**
IDI	**Anoyia**	**1.05**	**53**	Pn		**Pn**		**22 18 13.7**	**+0.3**
IDI	**Anoyia**	**1.05**	**53**	Pg		**Pn**		**22 18 13.9**	**+0.6**
	comp=E,486nm,0.3s,baz=235,slow=17,SNR=728								
IDI				Lg		Lg		22 18 26.8	
	comp=E,421nm,0.3s,baz=302,slow=23,SNR=16								
IDI	**Anoyia**	**1.05**	**53**	P		**Pn**		**22 18 13.8**	**+0.4**
IDI				S		**Sn**		**22 18 25.3**	**-1.7**
IDI				AML		AML		22 18 30.8	
	comp=N,58155µm,0.6s								
IDI				AML		AML		22 18 31.5	
	comp=E,30147µm,0.6s								
KSTL	**Kastelli Herak**	**1.18**	**57**	P		**Pb**		**22 18 19.6**	**+3.0**
KSTL	**Kastelli Herak**	**1.18**	**57**	P		**Pb**		**22 18 19.7**	**+3.2**
IACM	**Heraklion**	**1.18**	**57**	P		**Pb**		**22 18 17.6**	**+1.0**
IACM	**Heraklion**	**1.18**	**57**	P		**Pb**		**22 18 16.8**	**+0.2**
IACM				S		**Sn**		**22 18 29.5**	**-0.6**
IACM				AML		AML		22 18 41.8	
IACM				AML		AML		22 18 43.7	
ANKY	**Antikythira Is**	**1.28**	**339**	P		**Pb**		**22 18 19.1**	**+0.8**
ANKY				S		**Sb**		**22 18 35.3**	**+0.8**
	comp=E,7µm,0.6s								
ANKY	**Antikythira Is**	**1.28**	**339**	P		**Pb**		**22 18 18.8**	**+0.5**
ANKY				S		**Sn**		**22 18 33.1**	**+0.5**
ANKY				AML		AML		22 18 48.5	
	comp=N,13086µm,0.6s								
ANKY				AML		AML		22 18 48.9	
	comp=E,14052µm,0.7s								
FRMA	**Ierapetra Chan**	**1.58**	**77**	P		**Pb**		**22 18 24.5**	**+1.2**
FRMA	**Ierapetra Chan**	**1.58**	**77**	P		**Pb**		**22 18 24.5**	**+1.2**
FRMA				S		**Sb**		**22 18 43.5**	**+0.6**
FRMA				AML		AML		22 19 02.2	
	comp=E,6983µm,0.6s								
FRMA				AML		AML		22 19 05.6	
	comp=N,6302µm,0.5s								
ZKR	**Zakros**	**1.99**	**76**	Pn		**Pn**		**22 18 27.7**	**+1.5**
ZKR	**Zakros**	**1.99**	**76**	P		**Pn**		**22 18 28.9**	**+2.7**
ZKR				S		**Sb**		**22 18 54.2**	**-0.4**
ZKR	**Zakros**	**1.99**	**76**	P		**Pn**		**22 18 29.1**	**+2.9**
ZKR				S		**Sn**		**22 18 51.1**	**+1.1**
ZKR				AML		AML		22 19 14.2	
	comp=N,1980µm,0.7s								
ZKR				AML		AML		22 19 16.9	
	comp=E,2676µm,0.5s								
MHLO	**Agia Marina, M**	**2.07**	**12**	P		**Pn**		**22 18 28.1**	**+0.8**
MHLO	**Agia Marina, M**	**2.07**	**12**	P		**Pn**		**22 18 28.1**	**+0.8**
THR9	**Santorini-Faro**	**2.08**	**35**	P		**Pn**		**22 18 28.8**	**+1.3**
THR9	**Santorini-Faro**	**2.08**	**35**	P		**Pn**		**22 18 29.0**	**+1.5**
THR6	**Thira Island,**	**2.10**	**36**	P		**Pn**		**22 18 29.4**	**+1.7**
THR5	**Thira Island,**	**2.13**	**34**	P		**Pn**		**22 18 29.4**	**+1.3**
VLI	**Veliai**	**2.18**	**340**	P		**Pn**		**22 18 31.0**	**+2.2**
VLI	**Veliai**	**2.18**	**340**	P		**Pn**		**22 18 31.1**	**+2.2**
VLI				S		**Sn**		**22 18 54.8**	**0.0**
THR8	**Santorini-Mono**	**2.18**	**37**	P		**Pn**		**22 18 29.9**	**+1.1**
THR2	**Thira island,**	**2.19**	**35**	P		**Pn**		**22 18 29.5**	**+0.5**
CMBO	**Columbo, Santo**	**2.20**	**35**	P		**Pn**		**22 18 30.3**	**+1.2**
CMBO				S		**Sn**		**22 18 54.5**	**-0.7**
CMBO				AML		AML		22 19 10.3	
	comp=E,12548µm,0.5s								
CMBO				AML		AML		22 19 11.2	
	comp=N,15582µm,0.7s								
APE	**Apeiranthos**	**2.76**	**29**	⇓P		**Pn**		**22 18 37.5**	**+0.7**
APE				⇑S		**Sn**		**22 19 08.6**	**-0.4**
APE	**Apeiranthos**	**2.76**	**29**	P		**Pn**		**22 18 37.0**	**+0.3**
KRND	**KRANIDI**	**2.77**	**348**	P		**Pn**		**22 18 38.9**	**+1.9**
KRND	**KRANIDI**	**2.77**	**348**	P		**Pn**		**22 18 38.8**	**+1.9**
KRND				S		**Sn**		**22 19 09.2**	**-0.1**
KRND				AML		AML		22 19 29.8	
	comp=N,1752µm,0.8s								
KRND				AML		AML		22 19 29.8	
	comp=E,2179µm,0.8s								
PYL	**PYLOS**	**2.81**	**323**	P		**Pn**		**22 18 39.1**	**+1.6**
PYL	**PYLOS**	**2.81**	**323**	P		**Pn**		**22 18 39.6**	**+2.1**
KARP	**Karpathos**	**2.85**	**71**	P		**Pn**		**22 18 40.3**	**+2.3**
KARP	**Karpathos**	**2.85**	**71**	Pn		**Pn**		**22 18 39.9**	**+1.9**
KARP	**Karpathos**	**2.85**	**71**	P		**Pn**		**22 18 40.7**	**+2.7**
KARP	**Karpathos**	**2.85**	**71**	P		**Pn**		**22 18 40.4**	**+2.4**
KARP				S		**Sn**		**22 19 11.1**	**-0.1**
KARP				AML		AML		22 19 22.2	
	comp=E,1950µm,0.5s								
KARP				AML		AML		22 19 33.7	
	comp=N,2570µm,0.6s								
ITM	**Ithomi**	**2.96**	**329**	P		**Pn**		**22 18 41.4**	**+1.9**
ITM	**Ithomi**	**2.96**	**329**			**Pn**		**22 18 41.8**	**+2.2**
ITM	**Ithomi**	**2.96**	**329**	P		**Pn**		**22 18 41.9**	**+2.3**
ITM				S		**Sn**		**22 19 14.7**	**+0.7**
ITM				AML		AML		22 19 46.6	
	comp=N,1139µm,0.8s								
ITM				AML		AML		22 19 48.9	
	comp=E,943µm,0.7s								
NISR	**Nisiros**	**3.30**	**53**	P		**Pn**		**22 18 45.4**	**+1.3**
PTL	**Penteli**	**3.38**	**0**	P		**Pn**		**22 18 46.8**	**+1.5**
LOUT	**Loutraki**	**3.39**	**348**	P		**Pn**		**22 18 47.0**	**+1.5**
DION	**Dionisos Attik**	**3.41**	**1**	P		**Pn**		**22 18 47.4**	**+1.7**
THAL	**Thalero**	**3.50**	**344**	P		**Pn**		**22 18 48.8**	**+1.8**
YAZI	**Mula-Dat§a-**	**3.55**	**54**	P		**Pn**		**22 18 46.6**	**-1.1**
YAZI				S		**Sn**		**22 19 28.7**	**+0.2**
KLV	**Kalavryta, Ach**	**3.64**	**338**	P		**Pn**		**22 18 51.1**	**+2.1**
DAT	**Datca**	**3.66**	**55**	P		**Pn**		**22 18 49.7**	**+0.4**
DAT				S		**Sn**		**22 19 28.7**	**-2.7**
BDRM	**Kayabasi**	**3.77**	**50**	P		**Pn**		**22 18 50.4**	**-0.3**
BDRM				S		**Sb**		**22 19 53.9**	**+8.1**
ARG	**Arkhangelos**	**3.81**	**65**			**Pn**		**22 18 52.5**	**+1.3**
ALIK	**Aliki, Aigiali**	**3.86**	**339**	P		**Pn**		**22 18 54.1**	**+2.3**
DDIM	**Aydin, Didim**	**3.91**	**44**	P		**Pn**		**22 18 52.9**	**+0.3**
DDIM				S		**Sn**		**22 19 37.1**	**-0.2**
KYMI	**Kymi, Euboea I**	**3.97**	**3**	P		**Pn**		**22 18 54.6**	**+1.2**
EFP	**Efpalio**	**4.07**	**338**	P		**Pn**		**22 18 57.1**	**+2.3**
GCAM	**G?zelcaml?**	**4.08**	**41**	P		**Pn**		**22 18 55.7**	**+0.8**
GCAM				S		Sb		22 20 07.4	+13
TURN	**Turunc**	**4.14**	**58**	P		**Pn**		**22 18 56.9**	**+1.2**
TURN				S		**Sn**		**22 19 41.0**	**-2.1**
ZEYE	**Izmir, Urla-Ze**	**4.16**	**30**	P		**Pn**		**22 18 55.2**	**-0.8**
ZEYE				S		**Sb**		**22 19 59.6**	**+2.8**
DGB	**zmir**	**4.17**	**35**	P		**Pn**		**22 18 56.2**	**+0.1**
DGB				S		**Sb**		**22 19 54.0**	**-3.2**
ANX	**Ano Chora**	**4.22**	**339**	P		**Pn**		**22 18 59.1**	**+2.2**
URLA	**Izmir**	**4.30**	**30**	P		**Pn**		**22 18 57.0**	**-1.0**
MULA	**Mugla, Merkez-**	**4.45**	**53**	P		**Pn**		**22 19 02.4**	**+2.3**
MULA				S		**Sn**		**22 19 48.8**	**-1.9**
KARB	**zmir-Karabur**	**4.49**	**26**	P		**Pn**		**22 18 60.0**	**-0.5**
AGG	**Agios Georgios**	**4.52**	**345**	Pn		**Pn**		**22 19 01.9**	**+0.9**
SABU	**Mula-Dalaman**	**4.68**	**61**	P		**Pn**		**22 19 04.9**	**+1.7**
SABU				S		**Sn**		**22 19 55.4**	**-1.0**
FETY	**Fethiye**	**4.69**	**64**	P		**Pn**		**22 19 05.7**	**+2.5**
FETY				S		**Sn**		**22 19 53.7**	**-2.9**
IZZE	**Mula-Seydike**	**4.72**	**66**	P		**Pn**		**22 19 04.2**	**+0.5**
IZZE				S		**Sn**		**22 19 52.0**	**-5.3**
IZMR	**zmir-demi**	**4.79**	**42**	P		**Pn**		**22 19 05.9**	**+1.3**
ESEN	**Aydn-Nazilli**	**4.79**	**48**	P		**Pn**		**22 19 06.0**	**+1.3**
ESEN				S		**Sn**		**22 19 56.4**	**-2.7**
DNZT	**Denizli-Tavas-**	**4.94**	**57**	P		**Pn**		**22 19 08.2**	**+1.5**
DNZT				S		**Sn**		**22 20 00.3**	**-2.5**
AKAS	**Kas**	**4.94**	**70**	P		**Pn**		**22 19 06.9**	**0.0**
TAVA	**DENIZLI_Tavas**	**4.96**	**54**	P		**Pn**		**22 19 08.6**	**+1.6**
TAVA				S		**Sn**		**22 20 00.5**	**-2.8**
CAEL	**Denizli, Camel**	**5.07**	**59**	P		**Pn**		**22 19 09.9**	**+1.3**
CAEL				S		**Sn**		**22 20 05.0**	**-1.1**
KIRA	**zmir-Kiraz**	**5.08**	**45**	P		**Pn**		**22 19 10.2**	**+1.4**
KIRA				S		**Sb**		**22 20 23.2**	**-0.4**
DNIZ	**Denizli-Tavas-**	**5.13**	**53**	P		**Pn**		**22 19 10.8**	**+1.4**
DNIZ				S		**Sn**		**22 20 05.4**	**-2.2**
KNIK	**Mula-Seydike**	**5.13**	**63**	P		**Pn**		**22 19 10.3**	**+0.9**
KNIK				S		**Sn**		**22 20 02.1**	**-5.6**
GOLH	**Golhisar**	**5.29**	**59**	P		**Pn**		**22 19 12.8**	**+1.2**
ELL	**Elmali**	**5.34**	**65**	Pn		**Pn**		**22 19 13.4**	**+1.0**
MANT	**Manisa**	**5.37**	**43**	P		**Pn**		**22 19 14.5**	**+1.6**
MANT				S		**Sb**		**22 20 38.0**	**+5.9**
EZN	**Ezine**	**5.51**	**20**	Pn		**Pn**		**22 19 14.7**	**+0.1**
	comp=E,49nm,0.8s,comp=E,447nm								
INCE	**Denizli-Bozkur**	**5.53**	**55**	P		**Pn**		**22 19 15.8**	**+0.9**
INCE				S		**Sn**		**22 20 14.1**	**-3.4**
AKUM	**Antalya-Kumluc**	**5.54**	**71**	P		**Pn**		**22 19 15.4**	**+0.4**
USAK	**Uak-Merkez**	**5.79**	**44**	P		**Pn**		**22 19 20.2**	**+1.8**
BRDR	**BURDUR-Merkez**	**5.86**	**57**	P		**Pn**		**22 19 20.1**	**+0.7**
KZIL	**AFYON_Kizioren**	**6.20**	**53**	P		**Pn**		**22 19 24.9**	**+0.7**
ISP	**Isparta**	**6.24**	**58**	Pn		**Pn**		**22 19 25.2**	**+0.6**
FNA	**Florina**	**6.42**	**343**	Pn		**Pn**		**22 19 26.8**	**-0.3**
RDO	**Rodhopi**	**6.61**	**11**	Pn		**Pn**		**22 19 29.4**	**-0.2**
VAY	**Valandovo**	**6.72**	**352**	*i* Pn		**Pn**		**22 19 33.1**	**+1.9**
MMB	**Musomishta**	**6.87**	**359**	P		**Pn**		**22 19 33.3**	**0.0**
OHR	**Ohrid**	**6.88**	**340**	*i* Pn		**Pn**		**22 19 35.5**	**+2.2**
KDZ	**Kurdzhali**	**7.05**	**9**	P		**Pn**		**22 19 35.4**	**-0.3**
KRUP	**Krupnik**	**7.19**	**356**	P		**Pn**		**22 19 38.5**	**+0.9**
TIP	**Timpagrande**	**7.25**	**310**	⇓S		**Sn**		**22 20 54.0**	**-5.9**
TIP	**Timpagrande**	**7.25**	**310**	Pn		**Pn**		**22 19 38.9**	**+0.3**
TIP	**Timpagrande**	**7.25**	**310**	P		**Pn**		**22 19 39.3**	**+0.7**
	comp=E,13nm,0.5s,comp=E,256nmcomp=Ecomp=E,0.1nm								
TIP	**Timpagrande**	**7.25**	**310**	⇑P		**Pn**		**22 19 36.9**	**-1.7**
CEL	**Celeste**	**7.35**	**302**	Pn		**Pn**		**22 19 40.0**	**+0.1**
CEL	**Celeste**	**7.35**	**302**	P		**Pn**		**22 19 39.7**	**-0.2**
	comp=E,24nm,0.8s,comp=E,465nmcomp=Ecomp=E,0.3nm								
TIR	**Tirane**	**7.38**	**336**	⇓P		**Pn**		**22 19 38.6**	**-1.6**
TIR				⇑S		**Sn**		**22 20 55.4**	**-7.5**
PLD	**Plovdiv**	**7.50**	**5**	P		**Pn**		**22 19 40.0**	**-1.9**
CSS	**Mathiatis**	**7.79**	**85**	Pn		**Pn**		**22 19 44.8**	**-1.2**
CSS	**Mathiatis**	**7.79**	**85**	P		**Pn**		**22 19 44.5**	**-1.5**
VTS	**Vitosha**	**7.96**	**357**	P		**Pn**		**22 19 49.1**	**+0.8**
PUK	**Puka**	**8.00**	**338**	Pn		**Pn**		**22 19 48.0**	**-0.8**
ULC	**Ulcinj**	**8.14**	**335**	⇓*i* Pn		**Pn**		**22 19 50.0**	**-0.7**
ULC				*e*Sn		Sn		22 21 09.5	-12
VAE	**Valguarnera**	**8.15**	**293**	Pn		**Pn**		**22 19 55.2**	**+4.4**
	comp=E,1.1nm,0.3s,baz=120,slow=16,SNR=6.7								
VAE				Sn		**Sn**		**22 21 15.9**	**-6.0**
	comp=E,6.0nm,0.3s,baz=329,slow=19,SNR=10								
MDUB	**Mudurnu**	**8.22**	**43**	Pn		**Pn**		**22 19 54.4**	**+2.6**
MATE	**Matera**	**8.24**	**319**	⇑P		**Pn**		**22 19 50.1**	**-1.8**
MATE				⇓S		**Sn**		**22 21 17.5**	**-6.4**
CUC	**Castrocucco**	**8.32**	**312**	Pn		**Pn**		**22 19 54.2**	**+1.0**
DRME	**Dracevica, Mon**	**8.36**	**335**	*e*Pn		**Pn**		**22 19 52.0**	**-1.6**
DRME	**Dracevica, Mon**	**8.36**	**335**	⇑*i* Pn		**Pn**		**22 19 52.5**	**-1.1**
DRME				*e*Sn		Sn		22 21 14.8	-12
ELND	**Elena**	**8.40**	**10**	⇑P		**Pn**		**22 19 52.7**	**-1.5**
PVY	**Plav**	**8.48**	**340**	⇓*i* Pn		**Pn**		**22 19 54.7**	**-0.8**
PVY				*i* Sn		Sn		22 21 17.3	-13
PDG	**Podgorica**	**8.55**	**336**	⇓P		**Pn**		**22 19 53.7**	**-2.5**
PDG				⇑S		**Sn**		**22 21 24.1**	**-7.5**
PDG	**Podgorica**	**8.55**	**336**			**Pn**		**22 19 54.7**	**-1.5**
PDG	**Podgorica**	**8.55**	**336**	*e*Pn		**Pn**		**22 19 54.1**	**-2.2**
PDG	**Podgorica**	**8.55**	**336**	⇑*i* Pn		**Pn**		**22

MSBI **Mazada** 10.22 106 P Pn 22 20 18.1 -1.0
MSBI **Mazada** 10.22 106 S Sn 22 22 06.3 -6.2
MDVR **Moldovita** 10.24 351 ⇓P Pn 22 20 17.5 -2.0
KRMI **Paran Flat** 10.24 113 P Pn 22 20 18.6 -0.9
KRMI **Paran Flat** 10.24 113 S Sn 22 22 06.3 -6.9
HERR **Herculane** 10.27 354 ⇑P Pn 22 20 18.5 -1.2
LISJ **El Lisan** 10.34 106 P Pn 22 20 20.9 +0.1
PRNI **Paran** 10.34 111 P Pn 22 20 20.7 -0.2
PRNI **Paran** 10.34 111 S Sn 22 22 09.7 -6.1
PRNI **Paran** 10.34 111 P Pn 22 20 20.1 -0.8
FKH **Fakeheh** 10.37 89 *e*P Pn 22 20 18.9 -2.5
ZFRI **Zfri** 10.39 110 P Pn 22 20 20.1 -1.4
ZFRI **Zfri** 10.39 110 P Pn 22 20 20.4 -1.1
ZFRI **Zfri** 10.39 110 S Sn 22 22 10.7 -6.1
GHAJ **Ghor Haditha** 10.39 106 Pn Pn 22 20 21.0 -0.5
GHAJ **Ghor Haditha** 10.39 106 P Pn 22 20 20.4 -1.0
GHAJ **Ghor Haditha** 10.39 106 S Sn 22 22 10.5 -6.2
TEKS **Tekeris** 10.42 343 *e*Pn Pn 22 20 18.5 -3.4
BNN **Bunyan** 10.48 63 Pn Pn 22 20 23.8 +0.9
HRFI **Mount Harif** 10.52 113 P Pn 22 20 23.5 +0.2
HRFI **Mount Harif** 10.52 113 S Sn 22 22 13.8 -6.2
HRFI **Mount Harif** 10.52 113 P Pn 22 20 22.5 -0.8
KARJ **KARJ** 10.53 106 P Pn 22 20 17.3 -6.1
MBRI **Mt Berech** 10.54 114 P Pn 22 20 23.7 0.0
MBRI **Mt Berech** 10.54 114 P Pn 22 20 23.1 -0.6
MBRI **Mt Berech** 10.54 114 S Sn 22 22 15.0 -5.8
EIL **Elat** 10.63 115 Pn Pn 22 20 24.0 -0.9
comp=E,4.5nm,0.3s,baz=315,slow=10.0,SNR=46
EIL Sn Sn 22 22 08.4 -14
comp=E,0.8nm,0.3s,baz=279,slow=19,SNR=1.7
EIL **Elat** 10.63 115 P Pn 22 20 24.4 -0.5
EIL **Elat** 10.63 115 P Pn 22 20 24.2 -0.7
EIL **Elat** 10.63 115 S Sn 22 22 16.3 -6.6
AQBJ **Aqaba** 10.68 114 P Pn 22 20 25.9 +0.4
INTR **Introdacqua** 10.71 316 Pn Pn 22 20 26.8 +0.7
SRKY **Kupres RS** 10.72 333 *e*Pn Pn 22 20 24.6 -1.5
GZR **Gura Zlata** 10.75 356 ⇓P Pn 22 20 25.2 -1.2
LOT **Lotru** 10.77 360 ⇓P Pn 22 20 25.9 -0.9
VOIR 10.80 4 ⇓P Pn 22 20 25.6 -1.6
NEHR **Nehoiu** 10.91 9 ⇓P Pn 22 20 27.8 -0.8
FRGS **Fruska Gora** 10.93 345 ⇑P Pn 22 20 26.8 -2.1
FRGS **Fruska Gora** 10.93 345 *e*Pn Pn 22 20 26.6 -2.3
MLR **Muntele Rosu** 10.93 8 ⇑P Pn 22 20 28.4 -0.6
MLR **Muntele Rosu** 10.93 8 Pn Pn 22 20 29.2 +0.2
MLR **Muntele Rosu** 10.93 8 Pn Pn 22 20 28.2 -0.8
comp=E,0.2nm,0.3s,baz=153,slow=11,SNR=7.3
MLR LR LR 22 25 02.0
comp=E,129nm,21.3s,baz=194,slow=40
comp=E,3.3nm,0.9s
KIJV **Kijevo** 10.96 331 *i* Pn Pn 22 20 27.4 -1.9
CFR **Carcaliu** 11.00 16 ⇑P Pn 22 20 29.1 -0.7
MGRS **Mrkonjic Grad** 11.05 334 *e*Pn Pn 22 20 29.6 -0.9
BZS **Buzias** 11.07 352 ⇑P Pn 22 20 29.7 -1.1
GAZ **Gaziantep** 11.11 73 Pn Pn 22 20 31.3 -0.2
MORI **Morici** 11.14 328 *e*Pn Pn 22 20 30.0 -1.8
SPBR **Spulber** 11.29 10 ⇓P Pn 22 20 33.7 -0.1
BLY **Banja Luka** 11.30 335 *e*Pn Pn 22 20 30.0 -4.0
TATN **Tataouine** 11.31 263 Pn Pn 22 20 36.7 +2.5
COVR **Voinesasa-Covas** 11.31 8 ⇑P Pn 22 20 33.9 -0.2
A050A **Klekovaca** 11.31 332 *e*Pn Pn 22 20 32.6 -1.6
DOPR **Dopca** 11.35 5 ⇑P Pn 22 20 34.0 -0.7
PLOR **Plostina** 11.38 10 ⇑P Pn 22 20 34.1 -0.9
VRI **Vrincioaia** 11.40 10 ⇑P Pn 22 20 34.0 -1.3
TURR **Turia** 11.50 8 ⇑P Pn 22 20 36.5 -0.2
DUGI **Dugi Otok** 11.53 326 *e*Pn Pn 22 20 36.3 -0.8
UDBI **Udbina** 11.66 330 *e*Pn Pn 22 20 37.6 -1.3
NRCA **Norcia** 11.69 317 Pn 22 20 40.6 +1.3
VIRC **Vir** 11.77 327 *e*Pn Pn 22 20 40.1 -0.2
FDMO **Fiordimonte** 11.84 318 Pn 22 20 44.0 +2.6
KEST **Kesra** 11.92 279 Pn Pn 22 20 44.5 +1.9
comp=E,0.1nm,0.3s,baz=120,slow=16,SNR=3.1
KEST Sn Sn 22 22 49.9 -4.6
comp=E,0.2nm,0.3s,baz=287,slow=19,SNR=1.7
comp=E,4.1nm,1.1s
PLIT **Plitvice** 12.00 331 *e*Pn Pn 22 20 41.9 -1.7
MARR **Marisel-Cluj** 12.01 358 ⇑P Pn 22 20 42.5 -1.3
TESR **Tescani** 12.02 9 ⇑P Pn 22 20 42.3 -1.5
NVLJ **Novalja** 12.06 328 *e*Pn Pn 22 20 42.9 -1.4
DRGR 12.15 356 ⇓P Pn 22 20 45.0 -0.6
MORH **Mrgy, Hungar** 12.20 343 ⇑P Pn 22 20 43.7 -2.5
MOSL **Moslavina** 12.21 336 *e*Pn Pn 22 20 42.9 -3.4
ARPR **Arapgir-MALATY** 12.40 65 Pn Pn 22 20 48.6 -0.5
ARCR **ARCALIA** 12.41 2 ⇑P Pn 22 20 47.6 -1.5
BOJS **Bojanci** 12.66 331 *e*Pn Pn 22 20 49.9 -2.7
BRJN **Brijuni** 12.84 326 *e*Pn Pn 22 20 54.0 -0.9
CRES **Cresnjev** 12.86 333 *e*Pn Pn 22 20 52.5 -2.7
BURAR **Bucovina Array** 12.98 4 ⇓P Pn 22 20 57.7 +0.8
BUR08 **Bucovina Ar. S** 13.01 4 Pn Pn 22 20 57.4 +0.4
CEY **Cerknica** 13.19 330 *e*Pn Pn 22 20 57.4 -2.4
OBKA **Obir** 13.77 332 *e*Pn Pn 22 21 09.4 +1.6
comp=E,1.2nm,0.3s
OBKA *e*Sn Sn 22 23 31.7 -7.9
comp=E,5.0nm,0.6s
OBKA **Obir** 13.77 332 *e*Pn Pn 22 21 06.0 -1.8
SORM **Soroca** 13.87 13 ⇓P Pn 22 21 10.4 +1.5
SORM **Soroca** 13.87 13 P Pn 22 21 10.1 +1.1
comp=E,8.2nm,0.6s,comp=E
KMPD **K-Podol'skiy** 14.02 7 P P 22 21 11.9 -6.6
KMPD P Pn 22 21 11.6 +0.6
VYHS **Vyhne** 14.31 346 *e*PN P 22 21 27.9 +0.1
MODS **Modra-Piesok** 14.55 342 *e*PN P 22 21 25.4 +1.0
CTI **Castel Tesino** 14.67 324 Pn Pn 22 21 21.0 +0.9
ABTA **Abfaltersbach** 14.80 328 *e*Pn Pn 22 21 22.8 +1.0
comp=E,1.3nm,0.3s
ABTA Sn Sn 22 23 54.0 -11
comp=E,6.8nm,0.7s
STHS **Stebnicka Huta** 14.87 353 *e*PN P 22 21 26.5 -1.5
MOA **Molln** 15.00 334 *e*Pn Pn 22 21 24.8 +0.4
comp=E,0.4nm,0.3s
MOA *e*Sn Sn 22 24 00.3 -9.1
comp=E,1.3nm,0.5s
GURO **Guroymak-BITLI** 15.10 70 Pn Pn 22 21 26.2 +0.4
BIOA **Bad Ischl, Aus** 15.10 333 *e*Pn Pn 22 21 26.6 +0.9
comp=E,0.6nm,0.3s
LESA **Schwarzleotal** 15.26 330 *e*Pn Pn 22 21 29.3 +1.4
comp=E,2.4nm,0.6s
LESA *e*Sn Sn 22 24 05.4 -11
comp=E,2.9nm,0.6s
KRUC **Moravsky** 15.41 341 *e*PN P 22 21 35.7 +1.7
LUBAR **Lubar, Ukraine** 15.51 9 P Pn 22 21 31.6 +0.6
WTTA **Wattenberg** 15.59 328 *e*Pn Pn 22 21 33.5 +1.3
comp=E,1.0nm,0.3s
WTTA *e*Sn Sn 22 24 11.2 -13
comp=E,2.9nm,0.6s
VRAC **Vranov** 15.59 342 *e*PN P 22 21 36.1 +0.2
VRAC **Vranov** 15.59 342 Pn Pn 22 21 31.9 -0.1
comp=E,0.3nm,0.3s,baz=153,slow=11,SNR=1.9
comp=E,1.6nm,0.6s
WATA **Walderalm** 15.67 328 *e*Pn Pn 22 21 34.0 +0.8
comp=E,1.5nm,0.5s
WATA *e*Sn Sn 22 24 19.2 -6.5
comp=E,4.5nm,0.7s
SQTA **Sankt Quirin** 15.74 327 *e*Pn Pn 22 21 35.1 +1.0
comp=E,1.6nm,0.4s
FUORN **Ofenpass-Fuorn** 15.76 323 Pn Pn 22 21 36.7 +2.2
MORC **Moravsky Berou** 15.80 345 ⇓P Pn 22 21 31.4 -3.4
MORC **Moravsky Berou** 15.80 345 Pn Pn 22 21 36.4 +1.6
MORC **Moravsky Berou** 15.80 345 *e*PN P 22 21 39.0 +0.6
FETA **Feichten** 15.82 325 *e*Pn Pn 22 21 36.4 +1.2
comp=E,2.6nm,0.6s
CKRC **Cesky Krumlov** 15.82 336 *e*P Pn 22 21 36.5 +1.5
MOTA **Moosalm** 15.88 327 *e*Pn Pn 22 21 37.4 +1.4
comp=E,1.7nm,0.4s
MOTA *e*Sn Sn 22 24 21.1 -10
comp=E,1.6nm,0.6s
GEC2 **GERESS Array S** 16.05 335 Pn Pn 22 21 39.5 +1.5
GERES **GERESS Array B** 16.05 335 Pn Pn 22 21 39.2 +1.2
GERES **GERESS Array B** 16.05 335 Pn Pn 22 21 38.8 +0.7
comp=E,0.3nm,0.3s,baz=138,slow=10,SNR=4.7
comp=E,1.5nm,0.6s
DAVOX **Davos/Dischmat** 16.06 323 Pn P 22 21 41.7 +0.4
comp=E,0.3nm,0.3s,baz=135,slow=8.6,SNR=8.8
DAVOX Sn Sn 22 24 22.7 -13
comp=E,0.1nm,0.3s,baz=125,slow=18,SNR=1.6
DAVOX LR LR 22 29 07.2
comp=E,126nm,21.2s,baz=103,slow=42
TUE **Stuetta** 16.11 321 Pn Pn 22 21 40.4 +1.4
RETA **Reutte** 16.14 326 *e*Pn Pn 22 21 40.9 +1.7
comp=E,2.1nm,0.4s
KRLC **Kraliky** 16.25 344 *e*P P 22 21 44.7 +1.3
KHC **Kasperske Hory** 16.33 335 Pn Pn 22 21 42.8 +1.2
KHC **Kasperske Hory** 16.33 335 *e*P Pn 22 21 41.4 -0.2
KHC *ex* x 22 21 54.5

AK07 **Malin Array Si** 16.35 12 P Pn 22 21 41.9 +0.2
ZVC **Zvikov** 16.39 337 *e*P P 22 21 44.7 -0.2
DAVA **Damuels** 16.41 324 *e*Pn Pn 22 21 44.7 +1.9
comp=E,4.4nm,0.6s
AK05 **Malin Array Si** 16.42 12 P Pn 22 21 42.9 +0.3
KIEV **Kiev** 16.49 12 ⇓P Pn 22 21 40.7 -2.8
KIEV **Kiev** 16.49 12 Pn Pn 22 21 43.9 +0.4
AKASG **Malin Array Be** 16.50 12 Pn Pn 22 21 43.5 -0.1
AKASG **Malin Array Be** 16.50 12 Pn Pn 22 21 39.8 -3.8
comp=E,2.6nm,0.3s,baz=202,slow=11,SNR=17
AKASG LR LR 22 29 02.0
comp=E,7.7nm,18.9s,baz=182,slow=41
comp=E,0.7nm,0.3s
AKBB **Malin Array Si** 16.50 12 Pn Pn 22 21 43.2 -0.5
AKBB IAmb IAmb 22 22 03.8
comp=Z,11nm,0.7s
CHVC **Chvalec** 16.90 343 *e*P P 22 21 51.0 +0.5
SENIN **Lac Senin/Sane** 17.14 318 Pn 22 21 53.5 +1.6
SENIN IAmb IAmb 22 22 26.9
comp=Z,16nm,0.8s
ONI **Oni** 17.21 57 Pn 22 21 53.1 +0.4
KIV **Kislovodsk** 17.24 52 ⇑P P 22 21 55.1 +0.6
KIV **Kislovodsk** 17.24 52 Pn Pn 22 21 53.1 -0.1
KIV IAmb IAmb 22 21 56.1
comp=Z,40nm,0.7s
KVAR **Kislovodsk Arr** 17.25 52 P P 22 21 55.1 +0.6
comp=Z,10nm,0.8s,baz=270,slow=20,SNR=11
KBZ **Khabaz** 17.28 53 P Pn 22 21 53.9 +0.4
comp=Z,0.9nm,0.3s,baz=257,slow=8.4,SNR=42
KBZ LR LR 22 30 23.2
comp=Z,139nm,18.6s,baz=268,slow=44
GNI **Garni** 17.46 66 Pn Pn 22 21 55.7 -0.2
GNI IAmb IAmb 22 22 10.3
comp=Z,24nm,1.3s
GNI **Garni** 17.46 66 P Pn 22 21 57.1 +1.2
comp=Z,0.3nm,0.3s,baz=190,slow=12,SNR=5.7
GNI LR LR 22 29 58.4
comp=Z,334nm,19.4s,baz=266,slow=42
comp=Z,6.7nm,0.7s
BRG **Berggiesshubel** 17.73 339 *e*P P 22 22 02.4 +2.8
BRG Amp 22 22 03.1
comp=Z,2.2nm,0.8s
CLL **Collm** 18.40 338 P Pn 22 22 08.1 +0.9
CLL **Collm** 18.40 338 *i* P P 22 22 06.7 -0.3
comp=Z,5.0nm,0.8s
CLL *i* pP **pP** 22 22 13.4 -1.7
CLL *es*P **sP** 22 22 19.0 +0.5
CLL *e*PP **PnPn** 22 22 25.0 +6.0
CLL *e*PPP PPP 22 22 31.0
CLL *e*S **S** 22 25 36.0 +0.6
CLL AMS AMS 22 30 00.0
comp=Z,100nm,19.5s
CEST **Esterri de Car** 19.32 301 P Pn 22 22 19.4 +0.9
CEST IAmb IAmb 22 22 36.4
comp=Z,16nm,1.2s
SUW **Suwalki** 19.35 359 P P 22 22 16.9 -0.4
SUW IAmb IAmb 22 22 24.1
comp=Z,37nm,0.9s
SUW **Suwalki** 19.35 359 *e*P P 22 22 16.8 -0.6
WLF **Walferdange** 19.85 324 P 22 22 24.6 +1.7
WLF IAmb IAmb 22 22 30.2
comp=Z,9.9nm,0.8s
MNK **Minsk** 20.04 7 *i* P P 22 22 22.1 -2.7
comp=E,5.0nm,1.0s,baz=190
MNK *i* P P 22 22 22.1 -2.7
comp=N,9.0nm,0.8s,baz=190
MNK *i* P P 22 22 22.1 -2.7
comp=Z,13nm,0.8s,baz=190
MNK *i* PP **sP** 22 22 38.0 +1.4
baz=190
MNK *i* PPP PPP 22 22 45.8
baz=190
MNK *i* S **S** 22 26 08.0 -0.3
baz=190
MNK *i* SS **SnSn** 22 26 25.7 0.0
baz=190
MNK *i* SSS SSS 22 26 38.6
baz=190
MNK *i* LQ LQ 22 27 56.2
baz=190
MNK *i* LR LR 22 29 56.3
baz=190
MNK *i* LRM MLR 22 31 07.7
comp=E,60nm,17.6s,baz=190
MNK *i* LRM MLR 22 31 33.4
comp=N,31nm,15.1s,baz=190
MNK *i* LRM MLR 22 31 36.0
comp=Z,52nm,16.6s,baz=190
NACGM **Naroch** 20.34 5 *e*P P 22 22 25.4 -2.7
IDID **Didziasalis** 20.75 5 *e*P P 22 22 31.8 -0.7
PABE **Paberze** 20.84 0 P P 22 22 31.6 -1.9
PABE **Paberze** 20.84 0 *e*P P 22 22 31.5 -2.0
ISAL **Salakas** 20.97 4 *e*P P 22 22 35.1 +0.2
VSVD **Vaisvydziai** 21.32 0 *e*P P 22 22 37.6 -1.1
BSD **Bornholm Skovb** 21.37 346 *e*P P 22 22 36.9 -2.4
BSD **Bornholm Skovb** 21.37 346 *i* P P 22 22 36.0 -3.3
PBUR **Paburge** 21.40 357 *e*P P 22 22 37.1 -2.5
RAYN **Ar Rayn** 21.88 115 P P 22 22 46.2 +1.1
OBN **Obninsk** 22.27 19 LR LR 22 31 43.2
comp=Z,60nm,20.1s,baz=188,slow=38
BLEU **Blekinge** 22.33 348 *e*P P 22 22 46.4 -3.2
ESBB **Sonseca Array** 22.68 291 P P 22 22 55.5 +1.9
ESDC **Sonseca Array** 22.68 291 P P 22 22 55.4 +1.8
ESDC **Sonseca Array** 22.68 291 P P 22 22 54.0 +0.4
comp=Z,3.1nm,0.8s,baz=82,slow=10,SNR=32
ESDC LR LR 22 32 56.3
comp=Z,48nm,18.0s,baz=94,slow=40
comp=Z,3.1nm,0.8s
DEL **Delary** 22.85 346 *e*P P 22 22 52.7 -2.4
DEL **Delary** 22.85 346 *e*P P 22 22 54.2 -0.9
PAB **San Pablo** 22.97 291 P P 22 22 57.5 +0.9
PAB IAmb IAmb 22 23 00.0
comp=Z,18nm,1.4s
SLIT **Slitere, Latvi** 23.00 358 *e*P P 22 22 55.5 -1.0
MDT **Midelt** 23.71 274 LR LR 22 34 23.6
comp=Z,130nm,20.7s,baz=87,slow=42
MTSE **Matsula** 24.06 360 *e*P P 22 23 05.0 -1.9
VIKU **Vikbolandet** 24.32 351 *e*P P 22 23 07.9 -1.3
ARBE **Arbavere** 24.82 3 *e*P P 22 23 14.4 +0.6
MEF **Metsahovi** 25.57 1 *e*P P 22 23 18.8 -1.8
AAL **Aland** 25.65 356 *e*P P 22 23 19.9 -1.3
HFS **Hagfors** 26.33 349 P P 22 23 26.4 -1.1
comp=Z,4.9nm,0.5s,baz=149,slow=12,SNR=51
HFS LR LR 22 34 06.8
comp=Z,76nm,20.2s,baz=186,slow=37
comp=Z,4.9nm,0.5s
FINES **FINESS Array B** 26.84 2 P P 22 23 30.1 -1.9
comp=Z,1.0nm,0.3s,baz=160,slow=13,SNR=20
FINES PcP PcP 22 26 53.9 +0.1
comp=Z,1.3nm,0.7s,baz=151,slow=3.2,SNR=2.3
FINES LR LR 22 34 35.1
comp=Z,83nm,21.2s,baz=175,slow=38
comp=Z,1.0nm,0.3s
KEF **Keuruu** 27.53 1 *e*P P 22 23 36.0 -2.3
NB2 **NORSAR Subarra** 27.62 347 P P 22 23 38.0 -1.1
comp=Z,1.5nm,0.6s,baz=156,slow=9.3
NOA **NORSAR Array B** 27.62 347 P P 22 23 37.7 -1.4
comp=Z,1.4nm,0.8s,baz=151,slow=7.7,SNR=13
NOA LR LR 22 35 35.2
comp=Z,47nm,20.7s,baz=165,slow=39
comp=Z,1.4nm,0.8s
GEYT **Alibeck** 27.71 73 P P 22 23 40.6 +0.4
comp=Z,1.4nm,0.5s,baz=266,slow=8.7,SNR=4.5
comp=Z,1.4nm,0.5s
EKA **Eskdalemuir Ar** 27.84 326 P P 22 23 41.7 +0.6
comp=Z,0.7nm,0.5s,baz=124,slow=8.3,SNR=2.1
comp=Z,0.7nm,0.5s
VAF **Ylistaro** 28.41 359 *e*P P 22 23 44.8 -1.3
JOF **Joensuu** 28.66 7 *e*P P 22 23 46.1 -2.2
KIRV **Kirov** 29.33 27 LR LR 22 36 27.6
comp=Z,46nm,20.9s,baz=247,slow=38
TOA0 **Torodi Ar. Sit** 29.36 229 P P 22 23 56.9 +2.0
TOA0 IAmb IAmb 22 23 58.2
comp=Z,5.7nm,0.8s
TORD **Torodi Ar. Bea** 29.36 229 P P 22 23 57.3 +2.3
comp=Z,4.5nm,0.7s,baz=36,slow=9.9,SNR=27
comp=Z,4.5nm,0.7s
UOSS **Minazif** 29.58 100 P P 22 23 57.3 +0.4
UOSS IAmb IAmb 22 23 59.2
comp=Z,8.9nm,1.1s
ABKAR **Akbulak array** 30.21 50 P P 22 24 01.4 -0.7
ABKAR **Akbulak array** 30.21 50 P P 22 24 01.9 -0.3
ABKAR IAmb IAmb 22 24 02.3
comp=Z,4.1nm,0.7s
ARU **Arti** 32.09 37 P P 22 24 16.9 -1.7
ARU IAmb IAmb 22 24 19.0
comp=Z,5.6nm,0.6s
WSAR **Wadi Sarin** 32.33 101 LR LR 22 42 53.5
comp=Z,30nm,18.0s,baz=300,slow=46
ARCES **ARCESS Array B** 34.94 1 P P 22 24 41.4 -1.9
comp=Z,2.6nm,0.6s,baz=174,slow=9.1,SNR=16
ARCES LR LR 22 39 39.0
comp=Z,113nm,20.5s,baz=154,slow=38
comp=Z,2.6nm,0.6s
SIMJ **Simiganj** 36.16 70 P P 22 24 55.0 +0.6
SIMJ IAmb IAmb 22 24 57.0
comp=Z,5.1nm,0.9s
CHGR **Chuyangaron** 36.28 70 P P 22 24 55.9 +0.6
KK31 **Karatay Array** 36.88 63 P P 22 25 01.4 +1.1
KKAR **Karatay Array** 36.88 63 P P 22 25 00.9 +0.6
KKAR **Karatay Array** 36.88 63 P P 22 25 01.2 +0.9
KKAR IAmb IAmb 22 25 02.2
comp=Z,15nm,0.7s
GAR **Garm** 37.12 69 P P 22 25 03.5 +0.9
BRVK **Borovoye** 37.40 46 P P 22 25 04.8 +0.2
BRVK IAmb IAmb 22 25 05.6
comp=Z,7.9nm,0.9s
BVAR **Borovoye Array** 37.46 46 P P 22 25 04.4 -0.7
comp=Z,6.4nm,0.8s,baz=266,slow=5.2,SNR=29
BVAR LR LR 22 42 50.2
comp=Z,64nm,21.3s,baz=294,slow=40
comp=Z,6.4nm,0.8s
DBIC **Dimbokro** 38.43 230 P P 22 25 15.3 +1.8
comp=Z,1.4nm,0.5s,baz=30,slow=7.6,SNR=1.2
DBIC LR LR 22 42 07.0
comp=Z,52nm,19.5s,baz=164,slow=38
comp=Z,1.4nm,0.5s
ARSB **Arslanbob** 38.85 65 P P 22 25 18.2 +1.1
ARSB IAmb IAmb 22 25 19.1
comp=Z,2.8nm,0.6s
EKS2 **Erkin-Say** 39.30 63 P P 22 25 22.2 +1.4
SNR=20
AAK **Ala-Archa** 39.83 63 P P 22 25 26.5 +1.1
SNR=12
AAK **Ala-Archa** 39.83 63 P P 22 25 26.4 +1.1
AAK IAmb IAmb 22 25 27.3
comp=Z,8.3nm,0.7s
AAK **Ala-Archa** 39.83 63 LR LR 22 43 59.9
comp=Z,39nm,19.3s,baz=232,slow=39
UCH **Uchtor** 39.89 64 P P 22 25 27.4 +1.2
SNR=6.4
FRU1 **Bishkek** 39.92 63 P P 22 25 27.1 +1.3
CHMS **Chumysh** 39.99 62 P P 22 25 27.6 +1.1
SNR=11
KBK **Karagaybulak** 40.16 63 P P 22 25 29.5 +1.4
SNR=9.0
BORG **Borgarnes** 40.48 332 LR LR 22 44 34.1
comp=Z,61nm,18.6s,baz=344,slow=40
NIL **Nilore** 40.55 77 P P 22 25 32.3 +1.0
TKM2 **Tokmak 2** 40.61 62 P P 22 25 32.7 +0.9
SNR=12
BOOM **Boomskoye usch** 40.91 63 P P 22 25 35.2 +1.0
BOOM IAmb IAmb 22 25 37.4
comp=Z,5.0nm,0.7s
ULHL **Ulahol** 41.16 63 P P 22 25 38.0 +1.6
SNR=6.6
KSH **Kashi** 41.38 67 P P 22 25 37.3 -0.8
KSH pmax pmax
comp=Z,5.0nm,0.9s
KURBB **Kurchatov Arra** 42.26 51 P P 22 25 44.6 -0.4
comp=Z,20nm,0.5s,baz=276,slow=8.6,SNR=339
KURBB S S 22 31 59.2 -4.2
comp=Z,1.0nm,0.9s,baz=283,slow=17,SNR=4.8
comp=Z,20nm,0.5s
KURK **Kurchatov** 42.32 50 P P 22 25 45.3 -0.1
PRZ **Przheval'sk** 42.72 63 P P 22 25 49.1 0.0
PRZ IAmb IAmb 22 26 00.2
comp=Z,5.5nm,0.8s
SPITS **Spitsbergen Ar** 43.74 358 P P 22 25 56.8 +0.3
comp=Z,0.7nm,0.3s,baz=164,slow=12,SNR=8.7
comp=Z,0.7nm,0.3s
MAKZ **Makanchi** 44.72 56 P P 22 26 04.7 -0.2
MAKZ IAmb IAmb 22 26 05.9
comp=Z,5.8nm,0.7s
MK31 **Makanchi Array** 44.94 56 P P 22 26 06.8 +0.2
MKAR **Makanchi Array** 44.94 56 P P 22 26 07.0 +0.4
MKAR **Makanchi Array** 44.94 56 P P 22 26 06.6 0.0
comp=Z,12nm,0.6s,baz=277,slow=7.1,SNR=144
MKAR ScP ScP 22 31 36.9 -0.8
comp=Z,0.4nm,0.7s,baz=275,slow=4.1,SNR=3.5
comp=Z,12nm,0.6s
ZAA0 **Zalesovo Array** 46.12 46 P P 22 26 15.0 -0.7
ZALV **Zalesovo Beam** 46.12 46 P P 22 26 14.9 -0.9
ZALV **Zalesovo Beam** 46.12 46 P P 22 26 15.1 -0.7
comp=Z,6.7nm,0.5s,baz=267,slow=9.1,SNR=45
ZALV LR LR 22 47 37.6
comp=Z,38nm,19.7s,baz=316,slow=39
comp=Z,6.7nm,0.5s
TSUM **Tsumeb** 53.90 187 LR LR 22 51 18.0
comp=Z,60nm,22.0s,baz=352,slow=37
LSA **Lhasa** 56.22 75 P P 22 27 33.4 +0.8
LSA pmax pmax
comp=Z,6.0nm,0.7s
LSA **Lhasa** 56.22 75 P P 22 27 32.5 -0.1
LSA IAmb IAmb 22 27 34.2
comp=Z,4.4nm,0.7s
SHL **Shillong** 58.56 79 P P 22 27 47.6 -1.2
SHL IAmb IAmb 22 28 15.2
comp=Z,6.0nm,1.0s
GTA **Gaotai** 59.14 61 *e*P P 22 27 52.8 +0.3
GTA pP pP 22 27 58.3 -3.4
GTA sP sP 22 28 01.8 -3.5
GTA pmax pmax
comp=Z,3.0nm,1.0s
SONM **Songino Array** 60.62 50 P P 22 28 03.0 +0.4
comp=Z,2.1nm,0.7s,baz=284,slow=8.5,SNR=6.3
comp=Z,2.1nm,0.7s
ULN **Ulaanbaatar** 61.03 50 P P 22 28 05.5 +0.2
ULN IAmb IAmb 22 28 06.4
comp=Z,3.3nm,0.7s
TIXI **Tiksi** 62.00 20 IAmb IAmb 22 28 11.5
comp=Z,1.9nm,0.8s
TIXI P P 22 28 11.6 +0.3
TIXI **Tiksi** 62.00 20 LR LR 22 58 27.7
comp=Z,55nm,18.0s,baz=196,slow=39
SCHQ **Schefferville** 62.87 319 P P 22 28 18.4 +0.9
comp=Z,2.6nm,0.8s,baz=45,slow=5.1,SNR=8.7
comp=Z,2.6nm,0.8s
PZH **PanZhiHua** 66.02 74 P P 22 28 38.8 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.9s
PZH pmax pmax
comp=Z,100nm,4.9s
SUR **Sutherland** 66.75 183 LR LR 22 58 50.3
comp=Z,84nm,21.0s,baz=340,slow=37
CMAR **Chiang Mai Arr** 67.69 82 P P 22 28 49.5 +0.2
comp=Z,2.0nm,0.8s,baz=300,slow=8.4,SNR=7.8
comp=Z,2.0nm,0.8s
A36M **Sachs Harbour** 71.46 350 P P 22 29 12.7 +1.1
A36M IAmb IAmb 22 29 33.8
comp=Z,4.6nm,0.8s
HEH **HeiHe** 71.93 41 *e*P P 22 29 14.3 -0.5
HEH pmax pmax
comp=Z,5.0nm,1.0s
HEH pmax pmax
comp=Z,62nm,4.8s
YKA **Yellowknife Ar** 77.59 342 P P 22 29 47.3 0.0
comp=Z,0.2nm,0.5s,baz=32,slow=5.1,SNR=2.6
comp=Z,0.2nm,0.5s
USRK **Ussuriysk Ar.** 77.94 44 P P 22 29 49.1 -0.6
comp=Z,2.2nm,0.8s,baz=272,slow=5.5,SNR=5.4
comp=Z,2.2nm,0.8s
KSRS **Korea Array** 79.43 52 P P 22 29 57.8 -0.1
comp=Z,0.8nm,0.4s,baz=313,slow=4.7,SNR=2.1
KSRS LR LR 23 10 06.0
comp=Z,24nm,18.4s,baz=295,slow=40
comp=Z,0.8nm,0.4s
ILAR **Eielson Array** 80.63 356 P P 22 30 04.8 +0.9
comp=Z,0.3nm,0.7s,baz=344,slow=4.2,SNR=4.9
comp=Z,0.3nm,0.7s
BDFB **Brasilia** 84.53 247 LR LR 23 09 06.5
comp=Z,68nm,18.6s,baz=287,slow=36
CPUP **Villa Florida** 97.84 244 LR LR 23 17 16.7
comp=Z,53nm,19.9s,baz=46,slow=36
ASAR **Alice Springs** 119.01 100 PKP PKiKP 22 36 42.1 +1.5
comp=Z,0.3nm,0.7s,baz=305,slow=1.6,SNR=2.4

WBNET 20 22:17:59.0, 50°.26N×12°.45E, h9km, MI0.4, 6C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	0.02	179	⇓P	Pg	22 18 00.9	+0.1

NKC				S	Sg	22 18 02.0	+0.1		
LBCW	**Luby**	**0.02**	**293**	⇓P	Pg	22 18 00.9	+0.1		
LBCW				S	Sg	22 18 02.2	+0.2		
STCW	**Studenec**	**0.05**	**86**	⇑P	Pg	22 18 01.0	+0.1		
STCW				S	Sg	22 18 02.2	-0.1		
VAC	**Vackov**	**0.05**	**245**	⇑P	Pg	22 18 01.0	+0.1		
VAC				S	Sg	22 18 02.3	0.0		
POCW	**Potky**	**0.07**	**349**	⇓P	Pg	22 18 01.3	+0.1		
POCW				S	Sg	22 18 02.8	+0.1		
KVC	**Kvetna**	**0.07**	**139**	⇓P	Pg	22 18 01.2	+0.1		
KVC				S	Sg	22 18 02.6	0.0		
KRCW	**Kraslice**	**0.09**	**35**	⇓P	Pg	22 18 01.5	0.0		
KRCW				S	Sg	22 18 03.1	-0.1		
SKC	**Skalna**	**0.10**	**213**	⇑P	Pg	22 18 01.7	+0.1		
SKC				S	Sg	22 18 03.4	+0.1		
KOCW	**Kopaniny**	**0.14**	**274**	⇑P	Pg	22 18 02.1	0.0		
KOCW				S	Sg	22 18 04.2	-0.1		
TRCW	**Trojmez**	**0.20**	**284**	⇑P	Pg	22 18 03.2	0.0		
TRCW				S	Sg	22 18 06.0	0.0		
ZHC	**Zelena Hora**	**0.21**	**206**	⇑P	Pg	22 18 03.4	+0.1		
ZHC				S	Sg	22 18 06.2	0.0		

WBNET 20 22:18:11.1, 50°26N × 12°45E, h9km, MI0.6, 4C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**284**	⇓P	Pg	22 18 13.0	+0.1
LBCW				S	Sg	22 18 14.3	+0.2
NKC	**Novy Kostel**	**0.03**	**179**	⇓P	Pg	22 18 13.0	+0.1
NKC				S	Sg	22 18 14.3	+0.1
STCW	**Studenec**	**0.05**	**91**	⇓P	Pg	22 18 13.1	+0.1
STCW				S	Sg	22 18 14.4	-0.1
VAC	**Vackov**	**0.05**	**241**	⇓P	Pg	22 18 13.2	+0.1
VAC				S	Sg	22 18 14.4	-0.1
POCW	**Potky**	**0.06**	**348**	⇓P	Pg	22 18 13.4	+0.1
POCW				S	Sg	22 18 14.9	+0.1
KVC	**Kvetna**	**0.07**	**141**	⇑P	Pg	22 18 13.4	+0.1
KVC				S	Sg	22 18 14.8	0.0
KRCW	**Kraslice**	**0.09**	**37**	⇑P	Pg	22 18 13.6	0.0
KRCW				S	Sg	22 18 15.2	-0.1
SKC	**Skalna**	**0.11**	**211**	⇑P	Pg	22 18 13.8	+0.1
SKC				S	Sg	22 18 15.6	0.0
KOCW	**Kopaniny**	**0.14**	**272**	⇓P	Pg	22 18 14.3	0.0
KOCW				S	Sg	22 18 16.3	-0.1
TRCW	**Trojmez**	**0.20**	**283**	⇓P	Pg	22 18 15.3	0.0
TRCW				S	Sg	22 18 18.0	-0.1
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P	Pg	22 18 15.5	+0.1
ZHC				S	Sg	22 18 18.4	0.0

ROM 20 22:18:14.9±0.1, 43°010N±0°003×13°007E±0°004, h7km, ML1.1/20, 7C-5D, Error ellipse: s-maj=0.3km s-min=0.2km az=44.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.07**	**66**	⇑P	Pg	22 18 16.9	+0.2
FDMO				S	Sg	22 18 18.3	+0.4
FDMO				AML	AML		
	comp=E,303µm,0.2s						
FDMO				AML	AML		
	comp=N,286µm,0.3s						
CESI	**CESI - Serrava**	**0.07**	**266**	⇑P	Pg	22 18 17.1	+0.3
CESI				S	Sg	22 18 18.6	+0.5
CESI				AML	AML		
	comp=E,396µm,0.7s						
CESI				AML	AML		
	comp=N,400µm,0.2s						
CESI				AML	AML		
	comp=E,396µm,1.3s						
CSP1	**Cessapalombo**	**0.17**	**61**	⇑P	Pg	22 18 19.1	+0.7
CSP1				AML	AML		
	comp=N,26µm,0.1s						
CSP1				AML	AML		
	comp=E,64µm,0.6s						
CSP1				AML	AML		
	comp=N,26µm,0.1s						
T1221	**Campello sul C**	**0.19**	**218**	⇑P	Pg	22 18 19.4	+0.7
T1221				S	Sg	22 18 22.8	+1.6
NRCA	**Norcia**	**0.19**	**156**	P	Pg	22 18 19.2	+0.5
NRCA				S	Sg	22 18 22.8	+1.4
NRCA				AML	AML		
	comp=N,196µm,0.2s						
NRCA				AML	AML		
	comp=E,118µm,0.4s						
SNTG	**Esanatoglia**	**0.25**	**349**	P	Pg	22 18 20.8	+1.0
SNTG				AML	AML		
	comp=N,46µm,0.1s						
SNTG				AML	AML		
	comp=E,44µm,0.1s						
ASSB	**Assisi San Ben**	**0.26**	**277**	⇑P	Pg	22 18 20.6	+0.7
ASSB				S	Sg	22 18 25.0	+1.6
ASSB				AML	AML		
	comp=E,89µm,0.3s						
ASSB				AML	AML		
	comp=N,186µm,0.2s						
MMO1	**Montemonaco**	**0.26**	**115**	⇑P	Pg	22 18 20.6	+0.6
ATCC	**AVT- Casa Cast**	**0.32**	**303**	P	Pg	22 18 21.4	+0.2
EL6	**Elcito**	**0.33**	**12**	⇑P	Pg	22 18 22.0	+0.7
MF5	**Montefalcone A**	**0.33**	**93**	⇓P	Pb	22 18 22.6	-0.6
FOSV	**Fossato di Vic**	**0.34**	**328**	⇓P	Pg	22 18 22.1	+0.6
FOSV				AML	AML		
	comp=N,30µm,1.0s						
FOSV				AML	AML		
	comp=E,45µm,1.0s						
CING	**Cingoli**	**0.39**	**21**	P	Pb	22 18 23.4	-0.8
CING				AML	AML		
	comp=E,62µm,0.1s						
CING				AML	AML		
	comp=N,71µm,0.3s						
SSFR	**Montelago di S**	**0.46**	**339**	⇓P	Pg	22 18 24.5	+0.8
SSFR				AML	AML		
	comp=E,79µm,0.2s						
SSFR				AML	AML		
	comp=N,60µm,0.2s						
ARRO	**Arrone**	**0.47**	**202**	P	Pg	22 18 24.4	+0.6
ARRO				S	Sb	22 18 31.7	-0.8
ARRO				AML	AML		
	comp=E,28µm,0.3s						
ARRO				AML	AML		
	comp=N,26µm,1.6s						
ARRO				AML	AML		
	comp=N,26µm,0.4s						
ARVD	**Arcevia**	**0.49**	**354**	⇓P	Pb	22 18 25.2	-0.7
ARVD				S	Sb	22 18 33.3	0.0
TERO	**Teramo**	**0.58**	**131**	P	Pg	22 18 26.0	-0.1
TERO				S	Sb	22 18 35.9	-0.2
TERO				AML	AML		
	comp=E,11µm,0.4s						
TERO				AML	AML		
	comp=N,15µm,1.6s						
TERO				AML	AML		
	comp=E,11µm,1.6s						
PIEI	**Pieia**	**0.63**	**327**	⇓P	Pb	22 18 27.7	-0.6
PIEI				S	Sb	22 18 37.3	0.0

*PRU **20** 22:18:31.4, 50°28N × 12°45E, h10km, West Bohemia Swarm*

WBNET 20 22:18:32.0, 50°26N × 12°45E, h9km, MI1.1, 6C-5D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBCW	**Luby**	**0.02**	**287**	⇓P	Pg	22 18 33.9	+0.1
LBCW				S	Sg	22 18 35.2	+0.2
NKC	**Novy Kostel**	**0.03**	**177**	*e*SG	Sg	22 18 34.9	-0.1
	comp=Z,30nm,0.2s						
NKC	**Novy Kostel**	**0.03**	**177**	⇓P	Pg	22 18 33.9	+0.1
NKC				S	Sg	22 18 35.1	+0.1
STCW	**Studenec**	**0.05**	**90**	⇑P	Pg	22 18 34.0	0.0
STCW				S	Sg	22 18 35.3	-0.1
VAC	**Vackov**	**0.05**	**241**	⇓P	Pg	22 18 34.0	+0.1
VAC				S	Sg	22 18 35.3	0.0
POCW	**Potky**	**0.06**	**349**	⇑P	Pg	22 18 34.2	+0.1
POCW				S	Sg	22 18 35.7	+0.1
KVC	**Kvetna**	**0.07**	**140**	⇑P	Pg	22 18 34.2	+0.1
KVC				S	Sg	22 18 35.7	0.0
KRCW	**Kraslice**	**0.09**	**37**	⇑P	Pg	22 18 34.5	0.0
KRCW				S	Sg	22 18 36.1	-0.1
SKC	**Skalna**	**0.10**	**211**	⇑P	Pg	22 18 34.7	+0.1
SKC				S	Sg	22 18 36.5	+0.1
KOCW	**Kopaniny**	**0.14**	**273**	⇓P	Pg	22 18 35.1	0.0
KOCW				S	Sg	22 18 37.2	-0.1
TRCW	**Trojmez**	**0.20**	**283**	⇓P	Pg	22 18 36.1	0.0
TRCW				S	Sg	22 18 38.9	0.0
ZHC	**Zelena Hora**	**0.21**	**205**	⇑P	Pg	22 18 36.4	+0.1
ZHC				S	Sg	22 18 39.3	+0.1
HSKC	**Hora Svate Kat**	**0.72**	**61**	*e*SG	Sg	22 18 54.8	-0.5
	comp=Z,2.8nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**57**	Sg	Sg	22 19 08.3	-0.3
BRG				Amp		22 19 08.6	
	comp=Z,1.3nm,0.2s						

ROM 20 22:19:23.3±0.1, 43°040N±0°003×13°047E±0°004, h8km, ML1.0/10, 6C-2D, Error ellipse: s-maj=0.3km s-min=0.3km az=131.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FDMO	**Fiordimonte**	**0.03**	**96**	P	Pg	22 19 25.1	+0.2
FDMO				S	Sg	22 19 26.0	0.0
T1219	**Muccia, Frazio**	**0.03**	**299**	⇓P	Pg	22 19 25.2	+0.3
T1219				S	Sg	22 19 26.2	+0.1
FEMA	**Monte Fema**	**0.08**	**179**	P	Pg	22 19 25.9	+0.4
MML1	**Montelago di S**	**0.09**	**323**	⇓P	Pg	22 19 26.1	+0.4
MML1				S	Sg	22 19 27.9	+0.6
CESI	**CESI - Serrava**	**0.11**	**252**	⇑P	Pg	22 19 26.5	+0.6
CESI				S	Sg	22 19 28.6	+0.9
CESI				AML	AML		
	comp=N,126µm,0.2s						
CESI				AML	AML		
	comp=E,104µm,0.2s						
CSP1	**Cessapalombo**	**0.13**	**66**	⇑P	Pg	22 19 26.8	+0.6
CSP1				S	Sg	22 19 29.1	+0.9
PF6	**Pievefavera**	**0.15**	**44**	⇑P	Pg	22 19 27.0	+0.5
PF6				S	Sg	22 19 29.6	+0.8
NRCA	**Norcia**	**0.21**	**167**	P	Pg	22 19 28.2	+0.6
NRCA				S	Sg	22 19 31.7	+1.2
NRCA				AML	AML		
	comp=N,141µm,0.2s						
NRCA				AML	AML		
	comp=E,157µm,0.7s						
SNTG	**Esanatoglia**	**0.23**	**340**	P	Pg	22 19 28.7	+0.8
SNTG				S	Sg	22 19 32.6	+1.5
SNTG				AML	AML		
	comp=E,26µm,0.1s						
SNTG				AML	AML		
	comp=N,30µm,0.7s						
SNTG				AML	AML		
	comp=N,30µm,1.3s						
T1221	**Campello sul C**	**0.23**	**219**	⇑P	Pg	22 19 28.6	+0.7
T1221				S	Sg	22 19 32.5	+1.4
MMO1	**Montemonaco**	**0.25**	**124**	P	Pg	22 19 28.9	+0.6
EL6	**Elcito**	**0.29**	**8**	⇑P	Pg	22 19 29.7	+0.6
EL6				S	Sb	22 19 34.7	-1.2
EL6				AML	AML		
	comp=E,89µm,0.2s						
EL6				AML	AML		
	comp=N,111µm,0.3s						
MF5	**Montefalcone A**	**0.31**	**99**	P	Pb	22 19 30.4	-0.6
MF5				S	Sb	22 19 35.8	-0.5
CING	**Cingoli**	**0.35**	**18**	⇑P	Pg	22 19 30.8	+0.5
CING				S	Sb	22 19 36.7	-0.9
CING				AML	AML		
	comp=E,21µm,1.6s						
CING				AML	AML		
	comp=N,32µm,0.1s						
CING				AML	AML		
	comp=E,21µm,0.4s						
ARVD	**Arcevia**	**0.47**	**350**	P	Pg	22 19 32.3	0.0
ARVD				S	Sb	22 19 40.5	-0.3

*IDC **20** 22:29:41.6±1.1, 5°.89S×142°.68E, h0km, mb3.7/4, mbtmp3.7/6, ML1.5/1, MS3.1/2, Error ellipse: s-maj=41.5km s-min=25.4km az=65.0*

ISC 20 22:29:45.8±0.9, 6°.0S±0°.1×142°.6E±0°.1, h28km, n9, σ1s 52/8, mb3.9/4, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.66**	**126**	Pn	**Pn**	**22 31 08.2**	**0.0**
	0.9nm,0.3s,baz=331,slow=23,SNR=1.5						
PMG				Sn	**Sn**	**22 32 12.2**	**-0.1**
	2.7nm,0.3s,baz=218,slow=20,SNR=2.3						
	8.0nm,0.6s						
WRA	**Warramunga Arr**	**15.95**	**209**	Pn	**Pn**	**22 33 26.1**	**-2.4**
	0.1nm,0.3s,baz=30,slow=13,SNR=2.2						
WRA				Sn	Sn	22 36 16.2	-8.4
	baz=25,slow=24,SNR=1.4						
WRA				Lg	Lg	22 38 08.2	
	0.1nm,0.3s,baz=32,slow=30,SNR=1.9						
ASAR	**Alice Springs**	**19.39**	**205**	P	**P**	**22 34 11.7**	**+1.8**
	0.8nm,0.5s,baz=31,slow=10.0,SNR=15						
GUMO	**Guam**	**19.64**	**7**	LR	LR	22 42 00.7	
	comp=Z,24nm,18.2s,baz=176,slow=38						
MKAR	**Makanchi Array**	**74.75**	**322**	P	**P**	**22 41 23.8**	**+0.4**
	0.2nm,0.6s,baz=126,slow=6.1,SNR=2.8						
	0.2nm,0.6s						
QSPA	**South Pole Qui**	**83.92**	**180**	P	**P**	**22 42 14.1**	**+0.9**
	0.5nm,0.5s,baz=285,slow=1.8,SNR=7.0						
	0.5nm,0.5s						
BVAR	**Borovoye Array**	**84.22**	**325**	P	**P**	**22 42 14.9**	**+0.2**
	0.6nm,0.6s,baz=120,slow=5.7,SNR=5.1						
	0.6nm,0.6s						
ILAR	**Eielson Array**	**87.29**	**24**	P	**P**	**22 42 28.6**	**-1.1**
	0.5nm,0.9s,baz=254,slow=5.5,SNR=3.1						
	0.5nm,0.9s						
ARU	**Arti**	**91.67**	**326**	LR	LR	23 24 16.2	
	comp=Z,24nm,21.2s,baz=6.5,slow=36						

NEIC 20 22:57:33.8±1.8, 36°78N±0°03×104°86W±0°05, h7km±4km, mb_Lg2.9/77, ML2.6/14, Error ellipse: s-maj=5.9km s-min=4.7km az=69.0, New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T25A	**Trinidad**	**0.51**	**45**	Pg	Pg	22 57 44.4	+0.7
T25A				IAmb_Lg		22 57 50.1	
	comp=Z,154nm,0.9s						
T25A				Sg	Sg	22 57 50.8	+0.4
SDCO	**Great Sand Dun**	**1.09**	**332**	Pg	Pg	22 57 54.9	+0.1
SDCO				IAML		22 58 14.6	
	comp=Z,95nm,0.2s						
SDCO				IAML		22 58 14.7	
	comp=Z,101nm,0.2s						
RTBA	**Rita Blanca**	**1.74**	**101**	Pn	Pg	22 58 07.0	-0.2
Q24A	**Divide**	**2.20**	**354**	Pn	Pn	22 58 11.9	+0.8
Q24A				IAML		22 58 44.1	
	comp=N,43nm,0.3s						
Q24A				IAML		22 58 51.3	
	comp=E,52nm,0.7s						
ANMO	**Albuquerque**	**2.24**	**216**	Pn	Pb	22 58 13.4	-1.3
KSCO	**Kaye Shedlock'**	**2.84**	**38**	Pn	Pn	22 58 20.5	+0.7
SMCO	**Snowmass**	**2.92**	**326**	Pn	Pn	22 58 22.0	+0.9
MVCO	**Mesa Verde**	**2.95**	**280**	Pn	Pn	22 58 23.1	+1.8
ISCO	**Idaho Springs**	**3.08**	**349**	Pn	Pn	22 58 25.1	+2.0
AMTX	**Amarillo**	**3.20**	**125**	Pn	Pn	22 58 25.7	+1.1
AMTX				IAmb_Lg		22 59 23.3	
	comp=Z,32nm,0.7s						
MSTX	**Muleshoe**	**3.28**	**148**	Pn	Pn	22 58 26.2	+0.5
N23A	**Red Feather La**	**4.20**	**349**	Pn	Pn	22 58 40.1	+1.6
DKNS	**Dickens**	**4.47**	**133**	IAmb_Lg		23 00 05.0	
	comp=Z,27nm,0.7s						
CBKS	**Cedar Bluff**	**4.54**	**62**	IAmb_Lg		23 00 01.7	
	comp=Z,40nm,1.0s						
POST	**Post**	**4.62**	**142**	IAmb_Lg		23 00 07.5	
	comp=Z,29nm,0.9s						
OGNE	**Ogallala**	**4.71**	**27**	Pn	Pn	22 58 45.9	+0.5
OGNE				IAmb_Lg		23 00 05.6	
	comp=Z,38nm,0.8s						
U32A	**Winter Ranch,**	**4.73**	**93**	IAmb_Lg		23 00 06.4	
	comp=Z,20nm,0.7s						
NOKA	**Waynoka**	**4.76**	**90**	IAmb_Lg		23 00 10.0	
	comp=Z,38nm,1.0s						
OK038	**West end E0370**	**4.93**	**92**	IAmb_Lg		23 00 22.0	
	comp=Z,21nm,0.7s						
ODSA	**Odessa**	**5.02**	**157**	IAmb_Lg		23 00 18.0	
	comp=Z,22nm,1.2s						
R32A	**Long Quarter,**	**5.15**	**70**	IAmb_Lg		23 00 27.0	
	comp=Z,26nm,0.9s						
SGCY	**Sterling City**	**5.75**	**146**	IAmb_Lg		23 00 49.2	
	comp=Z,30nm,1.0s						
ABTX	**Abilene, Hawle**	**5.97**	**132**	Pn	Pn	22 59 02.7	+0.1
ABTX				IAmb_Lg		23 00 54.2	
	comp=Z,20nm,0.8s						
FNO	**Franklin**	**6.23**	**102**	IAmb_Lg		23 01 08.3	
	comp=Z,15nm,0.8s						
KSU1	**Kansas State U**	**6.92**	**68**	IAmb_Lg		23 01 26.1	
	comp=Z,12nm,0.8s						
SAND	**Sanderson**	**7.18**	**161**	IAmb_Lg		23 01 34.2	
	comp=Z,14nm,1.0s						
BRDY	**Brady**	**7.32**	**137**	IAmb_Lg		23 01 37.6	
	comp=Z,13nm,0.9s						
TUL3	**Leonard**	**7.37**	**94**	IAmb_Lg		23 01 36.1	
	comp=Z,17nm,1.0s						
JCT	**Junction City**	**7.56**	**145**	IAmb_Lg		23 01 53.6	
	comp=Z,16nm,0.8s						

*NEIC **20** 22:58:00.4±0.8, 35°.520N±0°.007×97°.16W±0°.01, h7km±4km, Error ellipse: s-maj=1.7km s-min=0.9km az=112.0*

TUL 20 22:58:00.6±0.9, 35°.526N±0°.008×97°.155W±0°.010, h5km±3km, ML2.5, mb_Lg2.4/46(NEIC), ML2.5/47(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=222.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADOK	**Arcadia Dam**	**0.22**	**306**	Pg	Pg	22 58 05.3	+0.5
ADOK				Sg	Sg	22 58 08.8	+1.1
OKCSW	**OKLAHOMA CITY**	**0.26**	**243**	Pg	Pg	22 58 06.0	+0.3
OKCSW				Sg	Sg	22 58 09.9	+0.8
OKCSW				IAML		22 58 12.2	
	comp=N,740nm,0.1s						
OKCSW				IAML		22 58 12.9	
	comp=E,887nm,0.4s						
FNO	**Franklin**	**0.34**	**217**	Pg	Pg	22 58 07.4	+0.3
FNO				Sg	Sg	22 58 12.2	+0.7
FNO				IAML		22 58 12.6	
	comp=E,734nm,0.2s						
OK029	**Liberty Lake**	**0.36**	**318**	Pg	Pg	22 58 08.1	+0.4
OK029				Sg	Sg	22 58 13.4	+0.9
OK029				IAML		22 58 13.7	
	comp=E,352nm,0.3s						
OK031	**S. Brethren Rd**	**0.50**	**31**	Pg	Pg	22 58 10.4	+0.2
OK031				Sg	Sg	22 58 17.7	+1.0
OK031				IAML		22 58 17.9	
	comp=E,249nm,0.3s						
OK031				IAML		22 58 17.9	
	comp=E,305nm,0.2s						
OK052	**Battle Ridge R**	**0.55**	**31**	Pg	Pg	22 58 11.3	+0.1
OK052				Sg	Sg	22 58 19.2	+0.9
OK052				IAML		22 58 19.7	
	comp=E,364nm,0.4s						
OK052				IAML		22 58 19.7	
	comp=E,225nm,0.3s						
DEOK	**Depew**	**0.62**	**59**	Pg	Pg	22 58 12.9	+0.4
DEOK				Sg	Sg	22 58 21.5	+0.9
DEOK				IAML		22 58 21.9	
	comp=N,366nm,0.3s						
DEOK				IAML		22 58 22.6	
	comp=E,163nm,0.2s						
QUOK	**Quay**	**0.74**	**29**	Pg	Pg	22 58 14.4	-0.4
QUOK				Sg	Sg	22 58 24.8	+0.3
OK048	**Pawnee Station**	**0.90**	**11**	Pg	Pg	22 58 18.3	+0.3
OK048				Sg	Sg	22 58 29.8	+0.1
OK048				IAML		22 58 33.0	
	comp=E,176nm,0.4s						
OK051	**E0350 and S346**	**1.01**	**15**	Pg	Pg	22 58 20.1	0.0
OK051				Sg	Sg	22 58 33.0	-0.1
TUL3	**Leonard**	**1.17**	**71**	Pg	Pg	22 58 22.1	-1.0
TUL3				Sg	Sg	22 58 37.8	-0.6
TUL3				IAML		22 58 43.1	
	comp=N,88nm,0.3s						
TUL3				IAML		22 58 44.0	
	comp=E,65nm,0.2s						
CROK	**Carrier**	**1.19**	**326**	Pg	Pg	22 58 22.6	-0.8
CROK				Sg	Sg	22 58 38.5	-0.2
BLOK	**Blackwell**	**1.23**	**358**	Pg	Pb	22 58 24.3	0.0
CSTR	**Hydro, Custer**	**1.26**	**276**	Pg	Pg	22 58 24.0	-0.7
GC02	**Grant County #**	**1.44**	**337**		Pn	22 58 27.1	-0.2
T35A	**Sooner Cattle**	**1.48**	**20**		Pn	22 58 27.3	-0.6
LOOK	**Love County**	**1.53**	**181**		Pn	22 58 28.9	+0.3
OK032	**Salt Plains WL**	**1.54**	**326**		Pn	22 58 27.9	-0.8
KAN14	**Manchester OK**	**1.57**	**336**		Pn	22 58 28.6	-0.5
KAN17	**Caldwell West**	**1.59**	**342**		Pn	22 58 29.6	+0.2
OK038	**West end E0370**	**1.60**	**307**		Pn	22 58 29.5	-0.1
U32A	**Winter Ranch,**	**1.72**	**300**		Pn	22 58 31.3	+0.1
X37A	**Clayton**	**1.74**	**122**	Pn	Pn	22 58 32.0	+0.6
X37A				IAmb_Lg		22 58 55.7	
	comp=Z,11nm,1.0s						
RLO	**Rose Lookout**	**1.85**	**69**	Pn	Pn	22 58 33.1	+0.2
WTFS	**Witchita Falls**	**2.06**	**212**	Pn	Pn	22 58 35.3	-0.5
U38A	**Gravette**	**2.42**	**67**	Pn	Pn	22 58 42.2	+1.3
SMWD	**Samnorwood**	**2.56**	**261**	Pn	Pn	22 58 42.7	-0.1
SMWD				IAmb_Lg		22 59 28.3	
	comp=Z,11nm,0.9s						
HHAR	**Hobbs**	**2.72**	**73**	Pn	Pn	22 58 44.7	-0.2
PLPT	**Palo Pinto**	**2.87**	**200**	Pn	Pn	22 58 46.8	-0.2
MIAR	**Mount Ida**	**3.10**	**107**	Pn	Pn	22 58 50.7	+0.7
R32A	**Long Quarter,**	**3.15**	**337**	IAmb_Lg		22 59 43.4	
	comp=Z,8.0nm,0.8s						
KSU1	**Kansas State U**	**3.59**	**7**	IAmb_Lg		23 00 03.3	
	comp=Z,7.0nm,0.7s						
DKNS	**Dickens**	**3.62**	**240**	Pn	Pn	22 58 54.5	-2.9
X40A	**Basin Creek Fa**	**3.69**	**105**	IAmb_Lg		23 00 01.3	
	comp=Z,7.0nm,0.8s						
S39A	**Bolivar**	**3.77**	**54**	Pn	Pn	22 58 59.3	0.0
CBKS	**Cedar Bluff**	**3.88**	**329**	IAmb_Lg		23 00 00.6	
	comp=Z,31nm,0.7s						
WHAR	**Wooly Hollow**	**3.98**	**92**	IAmb_Lg		23 00 09.5	
	comp=Z,6.8nm,0.9s						
SN05	**Snyder 5**	**4.07**	**231**	IAmb_Lg		23 00 19.6	
	comp=Z,16nm,0.9s						
FCAR	**Ozark Folk Cen**	**4.11**	**83**	IAmb_Lg		23 00 08.9	
	comp=Z,6.3nm,1.1s						
MGMO	**Mountain Grove**	**4.27**	**66**	IAmb_Lg		23 00 16.8	
	comp=Z,5.6nm,0.8s						
BRDY	**Brady**	**4.50**	**201**	IAmb_Lg		23 00 27.4	
	comp=Z,4.7nm,0.7s						
435B	**Jarrell**	**4.74**	**184**	IAmb_Lg		23 00 28.8	
	comp=Z,7.3nm,0.8s						
R40A	**Maddies Statio**	**4.79**	**53**	IAmb_Lg		23 00 46.6	
	comp=Z,5.7nm,0.7s						
SGCY	**Sterling City**	**4.89**	**224**	IAmb_Lg		23 00 48.6	
	comp=Z,34nm,1.1s						
LCAR	**Lake Charles**	**4.91**	**82**	IAmb_Lg		23 00 43.1	
	comp=Z,4.2nm,0.9s						
P38A	**Dawn**	**5.00**	**34**	IAmb_Lg		23 00 36.3	
	comp=Z,9.2nm,0.8s						
T42A	**Van Buren**	**5.12**	**71**	IAmb_Lg		23 00 45.1	
	comp=Z,5.3nm,0.9s						
CCM	**Cathedral Cave**	**5.37**	**60**	IAmb_Lg		23 00 59.5	
	comp=Z,6.2nm,0.9s						
N35A	**Tabor**	**5.46**	**12**	IAmb_Lg		23 01 07.6	
	comp=Z,14nm,0.8s						
JCT	**Junction City**	**5.50**	**205**	IAmb_Lg		23 01 02.1	
	comp=Z,7.9nm,0.7s						
PBMO	**Poplar Bluff**	**5.58**	**75**	IAmb_Lg		23 01 00.8	
	comp=Z,10.0nm,0.8s						
OZNA	**Ozona**	**5.67**	**217**	IAmb_Lg		23 01 10.5	
	comp=Z,11nm,0.8s						
BGNE	**Belgrade**	**5.92**	**353**	IAmb_Lg		23 01 22.7	

MVCO	**Mesa Verde**	**2.95**	**280**		Pn		23 05 15.2	+1.7
MVCO				IAML			23 06 01.6	
	comp=E,28nm,0.6s							
MVCO				IAML			23 06 03.9	
	comp=E,39nm,0.7s							
SMCO	**Snowmass**	**2.95**	**326**	Pn	Pn		23 05 14.7	+1.1
SMCO				IAML			23 06 01.8	
	comp=E,38nm,0.3s							
AMTX	**Amarillo**	**3.18**	**125**	Pn	Pn		23 05 18.3	+1.8
AMTX				IAmb_Lg			23 06 16.3	
	comp=Z,15nm,0.7s							
MSTX	**Muleshoe**	**3.25**	**148**	Pn	Pn		23 05 19.6	+2.2
SMWD	**Samnorwood**	**4.09**	**112**	IAmb_Lg			23 06 47.0	
	comp=Z,21nm,1.0s							
N23A	**Red Feather La**	**4.24**	**349**	Pn	Pn		23 05 32.3	+1.1
N23A				IAML			23 06 36.1	
	comp=N,8.5nm,3.2s							
N23A				IAML			23 06 56.1	
	comp=E,8.1nm,2.3s							
ELIS	**Ellis County**	**4.44**	**97**	Pn	Pn		23 05 35.8	+2.0
DKNS	**Dickens**	**4.45**	**132**	Pn	Pn		23 05 35.9	+2.0
DKNS				IAmb_Lg			23 06 59.4	
	comp=Z,12nm,0.8s							
CBKS	**Cedar Bluff**	**4.56**	**61**	Pn	Pn		23 05 36.3	+1.0
CBKS				IAmb_Lg			23 06 54.2	
	comp=Z,16nm,0.8s							
POST	**Post**	**4.59**	**142**	IAmb_Lg			23 07 00.1	
	comp=Z,11nm,0.9s							
SN07	**Snyder 07**	**4.89**	**137**	Pn	Pn		23 05 41.2	+1.3
SN07				IAmb_Lg			23 07 09.6	
	comp=Z,14nm,0.7s							
SN05	**Snyder 5**	**5.05**	**138**	IAmb_Lg			23 07 18.7	
	comp=Z,7.8nm,0.9s							
SRU	**San Rafael Swe**	**5.06**	**300**	Pn	Pn		23 05 44.1	+1.7
P18A	**Preston Nutter**	**5.13**	**306**	Pn	Pn		23 05 44.3	+0.9
P18A				IAML			23 07 15.4	
	comp=N,5.1nm,0.7s							
P18A				IAML			23 07 15.6	
	comp=E,5.1nm,1.3s							
APMT	**Aspermont**	**5.17**	**130**	Pn	Pn		23 05 45.0	+1.2
APMT				IAmb_Lg			23 07 20.0	
	comp=Z,16nm,1.1s							
R32A	**Long Quarter,**	**5.17**	**69**	Pn	Pn		23 05 45.2	+1.5
R32A				IAmb_Lg			23 07 20.7	
	comp=Z,17nm,1.2s							
WMOK	**Wichita Mounta**	**5.33**	**110**	IAML			23 07 27.2	
	comp=Z,5.4nm,0.8s							
WMOK	**Wichita Mounta**	**5.33**	**110**	Pn	Pn		23 05 49.8	+3.8
PECS	**Pecos**	**5.42**	**171**	IAmb_Lg			23 07 26.3	
	comp=Z,8.4nm,1.2s							
MNHN	**Monahans**	**5.66**	**161**	IAmb_Lg			23 07 37.5	
	comp=Z,7.2nm,0.8s							
SGCY	**Sterling City**	**5.72**	**146**	IAmb_Lg			23 07 42.2	
	comp=Z,15nm,1.0s							
ABTX	**Abilene, Hawle**	**5.94**	**132**	Pn	Pn		23 05 54.5	+0.2
ABTX				IAmb_Lg			23 07 46.9	
	comp=Z,9.2nm,1.0s							
MTPU	**Mount Pierson**	**5.97**	**285**	Pn	Pn		23 05 55.5	+0.5
PKCU	**Pink Cliffs**	**6.00**	**279**	Pn	Pn		23 05 56.3	+0.9
MSU	**Marysvale**	**6.07**	**289**	Pn	Pn		23 05 58.3	+2.0
MVU	**Marysvale**	**6.09**	**289**	Pn	Pn		23 05 57.4	+0.8
KNB	**Kanab**	**6.39**	**275**	IAmb_Lg			23 07 54.7	
	comp=Z,6.2nm,1.2s							
T35A	**Sooner Cattle**	**6.70**	**86**	Pn	Pn		23 06 06.7	+2.0
TUL3	**Leonard**	**7.37**	**94**	IAmb_Lg			23 08 29.2	
	comp=Z,6.9nm,0.9s							
JCT	**Junction City**	**7.53**	**144**	IAmb_Lg			23 08 45.3	
	comp=Z,5.8nm,0.7s							
HNDO	**Hondo**	**8.58**	**145**	IAmb_Lg			23 09 15.1	
	comp=Z,7.6nm,0.9s							
ECSD	**EROS Data Cent**	**9.41**	**40**	IAmb_Lg			23 09 28.1	
	comp=Z,3.8nm,0.8s							

*HEL **20** 23:25:10.9±0.3, 67.°86N×20.°05E, h0km, ML1.8, Suspected explosion*
*UPP **20** 23:25:11.8±0.1, 67.°82N×20.°20E, h0km, ML1.8, Unknown*
*IDC **20** 23:25:12.3±1.3, 67.°73N×20.°54E, h0km, mbtmp2.8/3, ML1.9/3, Error ellipse: s-maj=20.1km s-min=9.3km az=110.0*

ISC 20 23:25:12.0±0.8, **67.80N**±0.°03×**20.23E**±0.°03, **h0km, n29, σ1s23/44, Sweden**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.16**	**14**	P	**Pg**	**23 25 14.7**	**-0.4**
KUA				S	**Sg**	**23 25 16.9**	**-0.2**
RATU	**Laukkuluspa**	**0.24**	**276**	P	**Pg**	**23 25 16.4**	**-0.3**
RATU				S	**Sg**	**23 25 19.5**	**-0.3**
KOVU	**Salmi**	**0.43**	**356**	P	**Pg**	**23 25 19.5**	**-0.7**
LANU	**Lannavaara**	**0.71**	**69**	PG	**Pg**	**23 25 25.3**	**-0.3**
LANU				SG	**Sg**	**23 25 34.3**	**-0.5**
LANU	**Lannavaara**	**0.71**	**69**	P	**Pg**	**23 25 25.3**	**-0.3**
MASU	**Masugnsbyn**	**0.76**	**116**	P	**Pg**	**23 25 26.4**	**-0.1**
SALU	**Saltoluokta**	**0.78**	**238**	*eP*	**Pg**	**23 25 26.6**	**-0.4**
SALU	**Saltoluokta**	**0.78**	**238**	P	**Pg**	**23 25 26.4**	**-0.6**
KIF	**Kilpisjarvi**	**1.23**	**10**	*eP*	**Pg**	**23 25 35.3**	**-0.3**
KIF	**Kilpisjarvi**	**1.23**	**10**	PN	**Pg**	**23 25 35.0**	**-0.5**
KIF				MSG		23 25 48.0	
	comp=Z,14nm,0.2s						
KIF				SN	**Sg**	**23 25 51.0**	**-0.4**
HEF	**Hetta**	**1.42**	**63**	PN	**Pn**	**23 25 37.8**	**-1.3**
HEF				MSG		23 25 54.7	
	comp=Z,9.2nm,0.2s						
HEF				SN	**Sg**	**23 25 57.4**	**-0.2**
ERTU	**Ertsjaerv**	**1.47**	**148**	PG	**Pn**	**23 25 38.7**	**-0.9**
ERTU				SN	**Sg**	**23 25 59.7**	**+0.7**
KLF	**Kolari**	**1.54**	**110**	PG	**Pn**	**23 25 40.2**	**-0.5**
	baz=298						
KLF				MSG		23 25 59.6	
	comp=Z,4.4nm,0.2s						
KLF				SG	**Sn**	**23 26 01.2**	**-0.2**
KALU	**Kalix**	**2.31**	**146**	PB	**Pn**	**23 25 52.2**	**+1.0**
KALU				SG	**Sb**	**23 26 24.3**	**+0.9**
TOF	**Tornio**	**2.36**	**135**	PB	**Pn**	**23 25 53.4**	**+1.5**
TOF				MSG		23 26 23.5	
	comp=Z,3.4nm,0.2s						
TOF				SB	**Sb**	**23 26 25.4**	**+0.4**
RNF	**Rovaniemi**	**2.55**	**115**	PB	**Pn**	**23 25 56.1**	**+1.6**
	baz=305						
RNF				SB	**Sb**	**23 26 29.3**	**-1.1**
ARCES	**ARCESS Array B**	**2.60**	**45**	Pn	**Pn**	**23 25 55.4**	**+0.1**
	comp=Z,0.3nm,0.3s,baz=226,slow=14,SNR=34						
ARCES				Sn	**Sn**	**23 26 28.0**	**+0.6**
	comp=Z,1.5nm,0.3s,baz=228,slow=25,SNR=19 comp=Z,0.7nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.10**	**74**	PN	**Pn**	**23 26 02.2**	**+0.1**
RAJF				SG	**Sb**	**23 26 46.6**	**+0.4**
RANF	**Ranua**	**3.14**	**122**	PB	**Pn**	**23 26 04.9**	**+2.2**
KEV	**Kevo**	**3.15**	**48**	PB	**Pn**	**23 26 03.6**	**+0.8**
KEV				SN	**Sn**	**23 26 41.5**	**+0.5**
OUL	**Oulu**	**3.55**	**138**	PG	**Pb**	**23 26 15.9**	**+0.3**
OBF4	**Vikkela, Lumij**	**3.58**	**144**	PB	**Pn**	**23 26 12.1**	**+3.4**
OLKF	**Oulanka, Finla**	**3.88**	**108**	PN	**Pn**	**23 26 14.3**	**+1.4**
OUF	**Merijarvi**	**3.90**	**150**	PG	**Pb**	**23 26 22.6**	**+1.0**
	baz=335						
UMAU	**Umeaa**	**3.94**	**177**	PG	**Pb**	**23 26 23.2**	**+1.0**
MSF	**Maaselka**	**3.96**	**114**	PN	**Pn**	**23 26 15.6**	**+1.7**
KU6	**Riekki**	**4.20**	**111**	PG	**Pb**	**23 26 27.3**	**+0.7**
KU6				SG	**Sg**	**23 27 23.8**	**-3.0**
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**23 26 53.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=348,slow=13,SNR=5.3						
FINES				Sn	**Sn**	**23 28 08.6**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=342,slow=26,SNR=2.3						
FINES				Lg	Lg	23 28 42.0	
	comp=Z,0.1nm,0.3s,baz=337,slow=27,SNR=1.6 comp=Z,1.3nm,0.9s						
NOA	**NORSAR Array B**	**7.82**	**214**	Pn	**Pn**	**23 27 05.5**	**-1.3**
	baz=24,slow=12,SNR=2.2						
NOA				Lg	Lg	23 29 18.1	
	baz=38,slow=24,SNR=3.3 comp=Z,0.6nm,0.8s						

IDC 20 23:28:35.9±2.3, **17.°00S**×**178.°06W**, **h0km, mb3.7**/4, **mbtmp3.7**/4, **Error ellipse: s-maj=139.8km s-min=30.0km az=152.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**45.13**	**259**	P	P	23 36 54.5	0.0
	0.5nm,0.6s,baz=97,slow=6.8,SNR=2.3 0.5nm,0.6s						
ASAR	**Alice Springs**	**45.36**	**253**	P	P	23 36 56.2	-0.2
	1.0nm,0.5s,baz=87,slow=8.5,SNR=12						
	1.0nm,0.5s						
ILAR	**Eielson Array**	**84.93**	**13**	P	P	23 41 12.1	-0.4
	0.3nm,0.6s,baz=220,slow=5.4,SNR=4.1 0.3nm,0.6s						
TXAR	**Lajitas Array**	**85.23**	**58**	P	P	23 41 15.2	+0.3
	0.4nm,0.9s,baz=225,slow=7.3,SNR=4.2 0.4nm,0.9s						

*SJA **20** 23:29:52.1±0.7, 21.°25S×68.°60W, h144km±4km, ML3.6, MW3.6*
*IDC **20** 23:29:53.9±0.9, 21.°28S×68.°20W, h112km±14km, mb3.7/2, mbtmp4.0/4, Error ellipse: s-maj=40.1km s-min=10.9km az=103.0*
*GUC **20** 23:29:54.4±0.6, 21.°26S×68.°57W, h126km±4km, ML3.9*

ISC 20 23:29:53.9±0.8, **21.°27S**±0.°03×**68.°60W**±0.°04, **h135**km±7km, **n40, σ1s43/74, 7C-3D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.80**	**229**	*eP*	**Pn**	**23 30 15.6**	**-0.1**
PB09				IAML		23 30 32.8	
	comp=Z,413nm,0.4s						
PB09				*eS*	**Sn**	**23 30 32.8**	**+0.4**
PB09	**IPOC Station P**	**0.80**	**229**	↑*iP*	**Pn**	**23 30 15.6**	**-0.1**
PB09				*i* S	**Sn**	**23 30 32.1**	**-0.2**
PB01	**IPOC Station P**	**0.86**	**285**	*eP*	**Pn**	**23 30 15.2**	**-0.9**
PB01				*eS*	**Sn**	**23 30 32.1**	**-0.9**
PB01				IAML		23 30 33.5	
	comp=Z,1μm,0.2s						
PB01	**IPOC Station P**	**0.86**	**285**	↑*iP*	**Pn**	**23 30 15.3**	**-0.9**
PB01				*i* S	**Sn**	**23 30 31.6**	**-1.4**
PB01				IAML		23 30 32.5	
	comp=N,2μm,0.3s						
PB08	**IPOC Station P**	**1.23**	**335**	*eP*	**Pn**	**23 30 19.7**	**-0.2**
PB08				*eS*	**Sn**	**23 30 39.8**	**+0.1**
PB08				IAML		23 30 42.9	
	comp=Z,443nm,0.6s						
PB08	**IPOC Station P**	**1.23**	**335**	↓*iP*	**Pn**	**23 30 19.8**	**-0.2**
PB08				*i* S	**Sn**	**23 30 39.0**	**-0.7**
LVC	**Limon Verde**	**1.37**	**192**	*eP*	**Pn**	**23 30 21.1**	**-0.1**
LVC				*eS*	**Sn**	**23 30 42.3**	**+0.1**
LVC				IAML		23 30 42.3	
	comp=Z,224nm,0.3s						
LVC	**Limon Verde**	**1.37**	**192**	P	**Pn**	**23 30 21.2**	**-0.1**
	comp=Z,214nm,0.4s,baz=17,slow=9.9,SNR=572						
LVC				S	**Sn**	**23 30 41.1**	**-1.1**
	comp=Z,156nm,0.3s,baz=114,slow=22,SNR=14						
LVC	**Limon Verde**	**1.37**	**192**	*eP*	**Pn**	**23 30 21.0**	**-0.3**
LVC				*eS*	**Sn**	**23 30 41.4**	**-0.8**
LVC				IAML		23 30 42.9	
	comp=Z,3μm,0.6s						
PATCX	**Punta Patache**	**1.52**	**287**	*eP*	**Pn**	**23 30 22.5**	**-0.1**
PATCX				*eS*	**Sn**	**23 30 44.7**	**+0.1**
PATCX				IAML		23 30 45.8	
	comp=Z,1μm,0.3s						
PATCX	**Punta Patache**	**1.52**	**287**	↑*iP*	**Pn**	**23 30 22.6**	**-0.1**
PATCX				*eS*	**Sn**	**23 30 43.9**	**-0.7**
TA01	**Diego Aracena**	**1.64**	**295**	*eP*	**Pn**	**23 30 22.8**	**-1.1**
TA01				*eS*	**Sn**	**23 30 46.0**	**-0.8**
TA01				IAML		23 30 46.9	
	comp=Z,590nm,0.2s						
TA01	**Diego Aracena**	**1.64**	**295**	↑*iP*	**Pn**	**23 30 23.3**	**-0.5**
TA01				*eS*	**Sn**	**23 30 45.1**	**-1.6**
TA01				IAML		23 30 46.3	
	comp=N,1μm,0.3s						
GO01	**Chusmiza**	**1.69**	**340**	*eP*	**Pn**	**23 30 24.0**	**-1.0**
GO01				*eS*	**Sn**	**23 30 49.7**	**+1.1**
GO01	**Chusmiza**	**1.69**	**340**	↓*iP*	**Pn**	**23 30 24.6**	**-0.3**
GO01				*i* S	**Sn**	**23 30 48.5**	**-0.1**
GO01				IAML		23 30 50.4	
	comp=N,2μm,0.2s						
PB06	**IPOC Station P**	**1.70**	**212**	*eP*	**Pn**	**23 30 24.6**	**-0.1**
PB06				*eS*	**Sn**	**23 30 48.3**	**+0.1**
PB06				IAML		23 30 50.0	
	comp=Z,606nm,0.1s						
PB06	**IPOC Station P**	**1.70**	**212**	↑*iP*	**Pn**	**23 30 24.6**	**-0.1**
PB06				*i* S	**Sn**	**23 30 47.9**	**-0.4**
PB06				IAML		23 30 48.5	
	comp=E,1μm,0.2s						
TA02	**Huaiquique**	**1.75**	**304**	*eP*	**Pn**	**23 30 24.7**	**-0.5**
TA02				*eS*	**Sn**	**23 30 49.1**	**+0.1**
TA02				IAML		23 30 50.5	
	comp=Z,1μm,0.1s						
TA02	**Huaiquique**	**1.75**	**304**	*eP*	**Pn**	**23 30 24.6**	**-0.5**
TA02				*eS*	**Sn**	**23 30 47.5**	**-1.5**
PB04	**IPOC Station P**	**1.79**	**233**	*eP*	**Pn**	**23 30 25.4**	**-0.4**
PB04				*eS*	**Sn**	**23 30 52.2**	**+2.0**
PB04				IAML		23 30 58.7	
	comp=Z,332nm,0.4s						
PB04	**IPOC Station P**	**1.79**	**233**	↑*iP*	**Pn**	**23 30 25.4**	**-0.4**
PB04				*i* S	**Sn**	**23 30 49.8**	**-0.5**
PB11	**IPOC Station P**	**1.80**	**326**	*eP*	**Pn**	**23 30 25.2**	**-0.7**
PB11				*eS*	**Sn**	**23 30 49.9**	**-0.5**
PB11				IAML		23 30 51.3	
	comp=Z,412nm,0.2s						
PB11	**IPOC Station P**	**1.80**	**326**	↓*iP*	**Pn**	**23 30 25.2**	**-0.7**
PB11				*i* S	**Sn**	**23 30 48.9**	**-1.4**
PB11				IAML		23 30 52.4	
	comp=N,2μm,0.3s						
PB15	**IPOC Station P**	**2.10**	**203**	*eP*	**Pn**	**23 30 29.6**	**+0.1**
PB15				*eS*	**Sn**	**23 30 57.5**	**+0.6**
PB15	**IPOC Station P**	**2.10**	**203**	↑*iP*	**Pn**	**23 30 29.5**	**0.0**
PB15				*i* S	**Sn**	**23 30 56.2**	**-0.7**
PB10	**IPOC Station P**	**2.88**	**219**	*eP*	**Pn**	**23 30 38.8**	**-0.3**
PB10				*eS*	Sn	23 31 04.9	-9.1
PB10				IAML		23 31 29.3	
	comp=Z,64nm,0.4s						
PB10	**IPOC Station P**	**2.88**	**219**	*eP*	**Pn**	**23 30 38.8**	**-0.3**
PB10				*i* S	**Sn**	**23 31 09.9**	**-4.1**
YJA	**Yavi**	**3.00**	**108**	*eP*	**Pn**	**23 30 41.7**	**+0.6**
YJA				*eS*	**Sn**	**23 31 13.1**	**-4.5**
PB12	**IPOC Station P**	**3.10**	**328**	*eP*	**Pn**	**23 30 40.8**	**-1.3**
PB12				*eS*	**Sn**	**23 31 15.0**	**-4.3**
PB12				IAML		23 31 25.2	
	comp=Z,108nm,0.2s						
PB12	**IPOC Station P**	**3.10**	**328**	*eP*	**Pn**	**23 30 40.5**	**-1.6**
PB12				*i* S	**Sn**	**23 31 17.0**	**-2.3**
PB12				IAML		23 31 25.6	
	comp=N,246nm,0.4s						
PB14	**IPOC Station P**	**3.74**	**206**	*eP*	**Pn**	**23 30 50.1**	**-0.5**
PB14				*eS*	**Sn**	**23 31 32.2**	**-2.3**
PB14				IAML		23 31 44.2	
	comp=Z,87nm,0.2s						
GO02	**Mina Guanaco**	**3.98**	**193**	*eP*	**Pn**	**23 30 53.4**	**-0.4**
GO02				*eS*	**Sn**	**23 31 39.1**	**-1.3**
ALOL	**LOMAS DE OLMED**	**4.96**	**122**	*eP*	**Pn**	**23 31 06.1**	**-0.5**
ALOL				*eS*	**Sn**	**23 32 02.3**	**-0.9**
LPAZ	**La Paz**	**4.97**	**5**	*eP*	**Pn**	**23 31 09.3**	**+2.1**
LPAZ	**La Paz**	**4.97**	**5**	P	**Pn**	**23 31 08.1**	**+0.8**
	comp=Z,3.4nm,0.3s,baz=188,slow=6.8,SNR=37						
LPAZ				S	**Sn**	**23 32 03.6**	**-0.6**
	comp=Z,2.5nm,0.6s,baz=106,slow=2.5,SNR=1.9						
AC01	**Pan de Azucar**	**5.20**	**200**	*eP*	**Pn**	**23 31 07.6**	**-2.0**
AC01				*eS*	**Sn**	**23 32 04.1**	**-4.6**
AC01				IAML		23 32 04.7	
	comp=Z,32nm,0.9s						
BDFB	**Brasilia**	**20.30**	**77**	P	**P**	**23 34 18.0**	**-1.4**
	comp=Z,2.2nm,0.4s,baz=238,slow=9.9,SNR=8.8						
QSPA	**South Pole Qui**	**68.92**	**180**	P	**P**	**23 40 47.0**	**+2.9**
	comp=Z,0.7nm,0.5s,baz=244,slow=6.3,SNR=12 comp=Z,0.7nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.00**	**70**	P	**P**	**23 41 32.3**	**0.0**
	comp=Z,1.2nm,0.5s,baz=259,slow=4.9,SNR=21 comp=Z,1.2nm,0.5s						
MKAR	**Makanchi Array**	**145.27**	**36**	PKPbc	**PKPab**	**23 49 17.3**	**+1.4**
	comp=Z,0.4nm,0.6s,baz=322,slow=4.4,SNR=4.8						

*IDC **21** 00:12:32.5±2.2, 30.°45N×137.°66E, h478km±28km, mb2.9/8, mbtmp3.7/10, Error ellipse: s-maj=41.0km s-min=17.0km az=77.0*

ISC 21 00:12:33.5±1.3, **30.°5N**±0.°1×**137.°8E**±0.°3, **h500**km, **n10, σ0s99/10, mb3.2/8, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MJAR	**Matsushiro Arr**	**6.02**	**3**	P	**P**	**00 14 08.3**	**-1.5**
	1.7nm,0.4s,baz=183,slow=9.7,SNR=6.5						
USRK	**Ussuriysk Ar.**	**14.41**	**343**	P	**P**	**00 15 37.8**	**+0.5**
	2.5nm,0.6s,baz=171,slow=11,SNR=6.6						
CMAR	**Chiang Mai Arr**	**37.16**	**260**	P	**P**	**00 19 00.2**	**-1.3**
	1.4nm,0.3s,baz=41,slow=8.4,SNR=2.1 1.4nm,0.3s						

MKAR	**Makanchi Array**	**45.34**	**307**	P	**P**	**00 20 06.6**	**+0.5**
	0.1nm,0.3s,baz=90,slow=7.9,SNR=2.3 0.1nm,0.3s						
KURBB	**Kurchatov Arra**	**47.90**	**312**	P	**P**	**00 20 25.8**	**+0.4**
	0.4nm,0.4s,baz=102,slow=8.1,SNR=7.3 0.4nm,0.4s						
WRA	**Warramunga Arr**	**50.27**	**184**	P	**P**	**00 20 43.3**	**-0.1**
	0.3nm,0.3s,baz=1.0,slow=7.7,SNR=2.3 0.3nm,0.3s						
BVAR	**Borovoye Array**	**52.92**	**316**	P	**P**	**00 21 03.0**	**+0.8**
	0.4nm,0.4s,baz=88,slow=7.6,SNR=4.7 0.4nm,0.4s						
ASAR	**Alice Springs**	**54.00**	**184**	P	**P**	**00 21 10.7**	**+0.5**
	0.5nm,0.9s,baz=353,slow=6.5,SNR=4.7 0.5nm,0.9s						
FINES	**FINESS Array B**	**73.17**	**332**	P	**P**	**00 23 13.4**	**+1.0**
	2.2nm,0.9s,baz=84,slow=5.9,SNR=5.0 2.2nm,0.9s						
HFS	**Hagfors**	**78.74**	**335**	P	**P**	**00 23 43.9**	**+0.6**
	0.8nm,0.8s,baz=45,slow=4.3,SNR=4.5 0.8nm,0.8s						

*BJI **21** 00:18:30.8±0.0, 34.°10N×9.°34E, h10km, mb4.8/45, mB5.2/25, Ms4.8/20, Ms7 4.5/21*
*IDC **21** 00:18:33.9±0.5, 34.°36N×9.°74E, h0km, mb4.5/30, mbtmp4.6/37, ML4.0/6, MS4.3/65, Error ellipse: s-maj=11.5km s-min=9.7km az=101.0*
*MOS **21** 00:18:34.2±1.1, 34.°32N×9.°70E, h14km, mb5.1/63, MS4.3/16, Error ellipse: s-maj=5.3km s-min=2.8km az=69.2*
*IGIL **21** 00:18:34.4, 34.°23N×9.°73E, h10km, Ms4.6*
*MED_RC **21** 00:18:34.0±0.4, 34.°17N×9.°70E, h10km, MW4.9/72, Moment Tensor Solution. Body waves: s2,c2;Mantle waves: s72,c138; Duration: 1s4 Moment tensor: Scale 10^16Nm; Mrr0.04±.06; Mθθ-2.56±.06; Mϕϕ2.52±.07; Mrθ0.70±.14; Mrϕ-1.37±.04; Mθϕ0.55±.17; Best double couple: Ms3.02000×10^16 NP1:ϕs210.00000°, δ85.00000°, λ-16.00000°. NP2:ϕs302.00000°, δ74.00000°, λ-175.00000°. Principal axes: T 2.9100, Plg7.0000°, Azm257.0000°; N 0.2100, Plg74.0000°, Azm13.0000°; P -3.1200, Plg15.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=35s.*
*CRAAG **21** 00:18:34.9, 34.°23N×9.°73E, Mb4.9, Tunisie*
*GCMT **21** 00:18:34.1±0.3, 34.°19N±0.°01×9.°69E±0.°02, h12km, MW5.0/113, Moment Tensor Solution. s30,c32; s113,c171; Duration: 0 Moment tensor: Scale 1016Nm; Mrr0.94±.09; Mθθ-3.23±.08; Mϕϕ2.29±.09; Mrθ0.73±.25; Mθϕ-2.04±.08; Mrϕ-0.82±.24; Best double couple: Ms3.66100×1016 NP1:ϕs114.00000°, δ78.00000°, λ160.00000°. NP2:ϕs209.00000°, δ70.00000°, λ13.00000°. Principal axes: T 3.3790, Plg23.0000°, Azm70.0000°; N 0.5620, Plg67.0000°, Azm265.0000°; P -3.9430, Plg5.0000°, Azm163.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*TUN **21** 00:18:35.9, 34.°26N×9.°83E, h25km±6km, MD5.1*
*LDG **21** 00:18:35.3±0.2, 34.°23N×9.°74E, h10km, Ml4.4/28, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
*NAO **21** 00:18:35.8, 34.°36N×9.°74E, h0km, mb4.6*
*NEIC **21** 00:18:36.1±1.6, 34.°40N±0.°06×9.°71E±0.°08, h10km±1km, mb5.1/370, Error ellipse: s-maj=10.5km s-min=10.1km az=257.0*
*MCSM **21** 00:18:36.3±0.6, 34.°N±4.°×1.°0E±.°, h10km±3km, mb4.9, mB4.8, MLv4.8, Mw(mB)4.1*

ISC 21 00:18:35.6±0.2, **34.°38N**±0.°03×**9.°73E**±0.°03, **h10**km, **n1267, σ1s46/1214, mb5.0**/273, **MS4.4**/73, **44C-34D, Tunisia**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MEDT	**Meda**	**0.31**	**149**	*i* P	**Pg**	**00 18 42.0**	**+0.2**
BERT	**Berda**	**0.61**	**257**	*i* P	**Pn**	**00 18 49.3**	**-1.0**
SGNT	**Sidi Gnaou**	**0.72**	**171**	*i* P	**Pb**	**00 18 50.0**	**-0.3**
TROT	**Trozza**	**1.19**	**355**	*i* P	**Pg**	**00 18 58.6**	**+0.1**
KEST	**Kesra**	**1.39**	**347**	Pn	**Pn**	**00 19 00.8**	**-0.4**
KEST	**Kesra**	**1.39**	**347**	Pg	**Pn**	**00 19 01.2**	**0.0**
	449nm,0.3s,baz=30,slow=5.2,SNR=1402						
KEST				Lg	Lg	00 19 19.2	
	592nm,0.3s,baz=122,slow=19,SNR=9.1						
I48TN	**KESRA INFRASON**	**1.47**	**347**	Pg	**Pn**	**00 19 00.0**	**-2.2**
	baz=166,slow=25						
I48TN				I	I	00 23 20.0	
	baz=173,slow=322,SNR=2.5						
HANT	**Hania**	**1.54**	**20**	*i* P	**Pb**	**00 19 04.0**	**-0.4**
BKLT	**Bekalta**	**1.62**	**40**	*i* P	**Pn**	**00 19 04.3**	**+0.1**
TATN	**Tataouine**	**1.91**	**159**	Pn	Pn	00 19 03.0	-5.3
TATN	**Tataouine**	**1.91**	**159**	*i* P	**Pn**	**00 19 03.8**	**-4.5**
KRIT	**Krib**	**2.03**	**345**	*i* P	**Pn**	**00 19 10.3**	**+0.4**
GHAT	**Ghardimaou**	**2.41**	**332**	*i* P	**Pn**	**00 19 14.8**	**-0.4**
BLIT	**Baltah**	**2.42**	**345**	*i* P	**Pn**	**00 19 15.5**	**+0.3**
ABSA	**Djebel Ababsia**	**2.64**	**316**	P	**Pn**	**00 19 19.5**	**+1.1**
CMAH	**Djebel Manchou**	**2.93**	**321**	P	**Pn**	**00 19 22.4**	**+0.1**
CKFL	**Kef-Lekhel**	**3.18**	**310**	P	**Pn**	**00 19 26.3**	**+0.5**
CASM	**Ain Smara**	**3.25**	**306**	P	**Pn**	**00 19 27.1**	**+0.4**
CAEH	**'Ain El Ouahch**	**3.35**	**316**	P	**Pn**	**00 19 29.1**	**+1.0**
DFRA	**Djebel Bou Aff**	**3.82**	**306**	P	**Pn**	**00 19 34.9**	**+0.3**
SET	**Setif**	**3.98**	**298**	P	**Pn**	**00 19 38.0

ENIJ Nijar 10.05 288 Pn Pn 00 20 58.3 -1.7
ENIJ Sn Sn 00 22 45.5 -7.4
SMRF Simiane la Rot 10.11 343 *e*Pn Pn 00 21 01.6 +0.7
SMRF *e*Sn Sn 00 22 52.2 -2.2
34nm,0.9s
JBK JBK 10.16 273 P Pn 00 21 01.6 -0.2
JBK JBK 10.16 273 S Sn 00 22 57.3 +1.3
GOG Mont Gurugu 10.50 278 P Pn 00 21 05.0 -1.2
GOG Mont Gurugu 10.50 278 S Sn 00 23 03.8 -0.1
STON Ston 10.52 34 *e*P Pn 00 21 07.9 +1.5
CEST Esterri de Car 10.55 324 Pn Pn 00 21 06.9 -0.1
EBER Berja 10.57 287 Pn Pn 00 21 06.2 -1.1
EBER Sn Sn 00 22 59.8 -6.1
MBDF Montbardon 10.59 348 *e*Pn Pn 00 21 09.6 +2.1
MBDF *e*Sn Sn 00 23 03.6 -2.5
32nm,0.8s
MTLF Montolieu 10.69 329 *e*Pn Pn 00 21 07.9 -0.9
MTLF *e*Sn Sn 00 23 05.4 -3.1
35nm,0.7s
LASF Ste Croix 10.70 337 *e*Pn Pn 00 21 08.8 -0.1
LASF *e*Sn Sn 00 23 06.1 -2.6
28nm,0.8s
TREB Trebinje 10.71 36 *e*P Pn 00 21 12.4 +3.3
BNI Bardonecchia 10.92 349 Pn Pn 00 21 13.1 +1.1
BNI Bardonecchia 10.92 349 P Pn 00 21 13.1 +1.1
ORIF Oris-en-Rattie 10.94 345 *e*Pn Pn 00 21 12.2 0.0
ORIF *e*Sn Sn 00 23 11.9 -2.8
49nm,1.2s
BRY Bratogost 10.95 36 *e*P Pn 00 21 15.5 +3.1
PDG Podgorica 10.97 40 *e*P Pn 00 21 15.0 +2.4
NEVS Nevesinje 11.04 34 *e*P Pn 00 21 18.1 +4.5
AGG Agios Georgios 11.13 62 Pn Pn 00 21 13.0 -1.8
AGG Agios Georgios 11.13 62 P Pn 00 21 13.0 -1.8
ELGU Los Guajares, 11.15 287 Pn Pn 00 21 14.6 -0.6
VIVF Saint-Julien-l 11.17 341 *e*Pn Pn 00 21 14.9 -0.4
VIVF *e*Sn Sn 00 23 17.5 -2.7
13nm,0.6s
AKLM AKL 11.22 275 P Pn 00 21 17.3 +1.1
AKLM AKL 11.22 275 S Sn 00 23 24.0 +2.3
FNA Florina 11.23 52 Pn Pn 00 21 17.9 +1.6
FNA Florina 11.23 52 P Pn 00 21 17.9 +1.6
SRKY Kupres RS 11.26 29 *e*P Pn 00 21 20.5 +3.8
PALE Palemas 11.27 278 P Pn 00 21 16.5 -0.2
PALE Palemas 11.27 278 S Sn 00 23 21.2 -1.6
EPF Esparros 11.33 322 *e*Pn Pn 00 21 18.5 +1.0
EPF *e*Sn Sn 00 23 20.6 -3.6
31nm,1.0s
LPG La Plagne 11.34 349 *e*Pn Pn 00 21 21.1 +3.2
LPG *e*Sn Sn 00 23 21.7 -3.1
23nm,1.0s
LPL La Plagne 11.36 349 *e*Pn Pn 00 21 21.3 +3.2
LPL *e*Sn Sn 00 23 22.2 -3.0
14nm,0.9s
LPL La Plagne 11.36 349 *e*P Pn 00 21 21.4 +3.3
A050A Klekovaca 11.38 25 *e*P Pn 00 21 23.7 +5.5
MGRS Mrkonjic Grad 11.52 27 *e*P Pn 00 21 25.1 +4.9
EGOR Sierra Gorda, 11.57 288 Pn Pn 00 21 21.2 +0.2
SSB Saint Sauveur 11.59 341 Pn Pn 00 21 19.9 -1.3
SSB Saint Sauveur 11.59 341 P Pn 00 21 19.9 -1.3
ETSF Etsaut 11.70 320 *e*Pn Pn 00 21 25.1 +2.4
ETSF *e*Sn Sn 00 23 30.3 -3.1
9.1nm,0.5s
CTI Castel Tesino 11.75 7 Pn Pn 00 21 27.1 +3.7
CTI Castel Tesino 11.75 7 P Pn 00 21 27.1 +3.7
BLY Banja Luka 11.84 27 *e*P Pn 00 21 29.1 +4.6
RUDO Rudo 11.88 36 *e*P Pn 00 21 28.3 +3.2
BOJS Bojanci 11.89 19 *e*P Pn 00 21 32.0 +6.8
CEY Cerknica 11.90 16 *e*P Pn 00 21 25.2 -0.2
SKO Skopje 11.93 47 *i* P Pn 00 21 28.4 +2.7
SJES Sjenica 11.93 39 *e*P Pn 00 21 27.1 +1.3
A051A Mrakovica 11.97 25 *e*P Pn 00 21 35.4 +9.1
EMIJ Mijas 12.02 285 Pn Pn 00 21 24.3 -2.8
HAPS Han Pijesak,BI 12.04 34 *e*P Pn 00 21 29.8 +2.5
MDT Midelt 12.05 267 Pn Pn 00 21 27.0 -0.6
0.5nm,0.3s,baz=95,slow=13,SNR=23
MDT Sn Sn 00 23 37.6 -4.5
0.2nm,0.3s,baz=162,slow=20,SNR=0.9
MDT LR LR 00 27 15.4
comp=Z,4µm,18.8s,baz=46,slow=43
18nm,1.0s
CAF Calviac 12.07 333 *e*Pn Pn 00 21 27.8 +0.1
CAF *e*Sn Sn 00 23 38.8 -3.5
51nm,1.3s
CAF Calviac 12.07 333 *e*P Pn 00 21 28.1 +0.4
ARF Arif 12.08 260 P Pn 00 21 27.1 -0.9
ARF Arif 12.08 260 S Sn 00 23 40.7 -2.2
BBLS Lazi&#263i 12.09 36 *e*P Pn 00 21 28.6 +0.7
STAL STALIGIAL 12.09 10 Pn Pn 00 21 30.8 +2.9
TUE Stuetta 12.09 359 Pn Pn 00 21 30.4 +2.3
CIMO Cimolais 12.10 9 Pn Pn 00 21 31.8 +3.7
SENIN Lac Senin/Sane 12.12 352 Pn Pn 00 21 30.2 +1.8
TAM Tamanrasset 12.12 199 Pn Pn 00 21 27.3 -1.2
TAM Tamanrasset 12.12 199 P Pn 00 21 27.3 -1.2
LCRM LCR 12.12 271 P Pn 00 21 29.2 +0.6
LCRM LCR 12.12 271 S Sn 00 23 45.1 +1.2
ESBB Sonseca Array 12.15 300 Pn Pn 00 21 28.1 -0.7
ESDC Sonseca Array 12.15 300 Pn Pn 00 21 29.3 +0.5
0.4nm,0.3s,baz=112,slow=12,SNR=57
ESDC LR LR 00 25 45.0
comp=Z,749nm,19.6s,baz=102,slow=35
18nm,1.0s
MD31 MD31 12.17 267 P Pn 00 21 29.1 -0.1
MD31 MD31 12.17 267 S Sn 00 23 44.8 -0.2
SJPF Ste Jean 12.21 319 *e*Pn Pn 00 21 31.4 +1.9
SJPF *e*Sn Sn 00 23 41.6 -4.0
32nm,0.9s
FUORN Ofenpass-Fuorn 12.24 2 Pn Pn 00 21 32.5 +2.3
CRES Cresnjev 12.24 19 *e*P Pn 00 21 29.8 -0.2
VAY Valandovo 12.29 52 *i* P Pn 00 21 31.1 +0.5
IFR Ifrane 12.37 270 Pn Pn 00 21 31.8 -0.1
PAB San Pablo 12.38 299 Pn Pn 00 21 32.2 +0.2
PAB San Pablo 12.38 299 ⇓P Pn 00 21 34.0 +2.0
DAVOX Davos/Dischmat 12.39 0 Pn Pn 00 21 34.9 +2.7
1.1nm,0.3s,baz=167,slow=9.8,SNR=43
DAVOX LR LR 00 26 35.5
comp=Z,3µm,21.2s,baz=198,slow=39
CHEFC Chefchaouen 12.42 278 P Pn 00 21 31.8 -0.8
CHEFC Chefchaouen 12.42 278 S Sn 00 23 50.5 -0.5
SMIR Smir Dam 12.46 280 P Pn 00 21 31.5 -1.4
SMIR Smir Dam 12.46 280 S Sn 00 23 53.2 +1.5
IDI Anoyia 12.49 82 Pn Pn 00 21 35.2 +1.7
IDI Anoyia 12.49 82 Pn Pn 00 21 32.3 -1.2
0.6nm,0.3s,baz=295,slow=14,SNR=5.9
IDI Sn Sn 00 23 45.3 -7.5
0.3nm,0.3s,baz=75,slow=19,SNR=0.8
IDI LR LR 00 27 46.9
comp=Z,29nm,18.9s,baz=281,slow=44
CABF La Chapelle 12.53 348 *e*Pn Pn 00 21 36.1 +2.1
ABTA Abfaltersbach 12.54 9 *i* Pn Pn 00 21 36.8 +2.7
10nm,1.0s
MYKA Terra Mystica 12.60 12 *i* Pn Pn 00 21 41.4 +6.6
10nm,0.8s
RJF Les Rejaudoux 12.60 332 *e*Pn Pn 00 21 35.0 +0.1
RJF *e*Sn Sn 00 23 51.1 -4.1
17nm,1.0s
LFF La Frestale 12.61 329 *e*Pn Pn 00 21 34.6 -0.4
LFF *e*Sn Sn 00 23 51.4 -4.0
11nm,0.7s
LFF La Frestale 12.61 329 *e*P Pn 00 21 33.9 -1.1
FETA Feichten 12.66 3 *i* Pn Pn 00 21 41.3 +5.5
12nm,0.9s,SNR=8.2
OBKA Obir 12.66 15 *i* Pn Pn 00 21 41.0 +5.2
12nm,1.4s
OBKA Obir 12.66 15 *e*P Pn 00 21 36.6 +0.8
TEKS Tekeris 12.66 34 *e*P Pn 00 21 33.1 -2.6
ECAB El Cabril 12.77 291 Pn 00 21 36.8 -0.6
ECAB El Cabril 12.77 291 Pn Pn 00 21 36.5 -0.8
RSA Sarsar 12.82 277 P Pn 00 21 37.3 -0.7
RSA Sarsar 12.82 277 S Sn 00 24 01.8 +1.1
SQTA Sankt Quirin 12.88 5 *i* Pn Pn 00 21 44.4 +5.6
17nm,0.8s,SNR=10
DAVA Damuels 12.90 0 *i* Pn Pn 00 21 43.2 +4.1
27nm,1.1s,SNR=20
KKB Krupnik 12.91 51 P Pn 00 21 40.2 +1.1
SOKA Soboth 12.93 17 *i* Pn Pn 00 21 45.1 +5.6
3.7nm,0.8s
WTTA Wattenberg 12.96 6 *e*Pn Pn 00 21 44.5 +4.6
11nm,1.0s
KBA Koelnbreinsper 12.98 11 *e*Pn Pn 00 21 44.5 +4.2
19nm,0.8s
MOTA Moosalm 13.00 4 *i* Pn Pn 00 21 44.6 +4.1
28nm,0.8s,SNR=21
WATA Walderalm 13.02 6 *e*Pn Pn 00 21 43.6 +2.8
13nm,1.2s
SMF Signal de Mont 13.04 342 *e*Pn Pn 00 21 41.8 +0.9
SMF *e*Sn Sn 00 24 02.2 -3.9
16nm,1.0s
RETA Reutte 13.12 3 *e*Pn Pn 00 21 43.9 +1.8
11nm,1.1s
SFS San Fernando 13.16 284 Pn Pn 00 21 42.9 +0.3
SFS San Fernando 13.16 284 P Pn 00 21 42.9 +0.3
MMB Musomishta 13.17 53 P Pn 00 21 43.6 +0.9
TCF Toulx Ste Croi 13.20 337 *e*Pn Pn 00 21 42.5 -0.6
TCF *e*Sn Sn 00 24 05.6 -4.3
12nm,1.1s
LESA Schwarzleotal 13.22 9 *i* Pn Pn 00 21 47.8 +4.3
7.8nm,1.0s
BGF Bois d'Agland 13.24 339 *e*Pn Pn 00 21 43.7 +0.1
BGF *e*Sn Sn 00 24 07.0 -3.9
33nm,1.2s
FRGS Fruska Gora 13.26 33 ⇑P Pn 00 21 45.1 +1.2
FRGS Fruska Gora 13.26 33 *e*P Pn 00 21 44.9 +1.0
AVF Avril sur Loir 13.31 341 *e*Pn Pn 00 21 45.6 +1.1
AVF *e*Sn Sn 00 24 08.4 -4.1
10nm,1.0s
AVF Avril sur Loir 13.31 341 *e*P Pn 00 21 45.0 +0.5
VTS Vitosha 13.39 48 P Pn 00 21 46.7 +0.9
SSF Saint Saulge 13.52 342 *e*Pn Pn 00 21 48.1 +0.7
SSF *e*Sn Sn 00 24 13.5 -4.1
27nm,1.5s
ARSA Arzberg 13.58 17 *e*Pn Pn 00 21 51.9 +3.6
12nm,1.2s
HINF Hinteralfeld 13.60 352 *e*Pn Pn 00 21 49.9 +1.3
LOR Lormes 13.62 343 *e*Pn Pn 00 21 49.9 +1.1
baz=159
BIOA Bad Ischl, Aus 13.62 11 *e*Pn Pn 00 21 49.4 +0.5
8.9nm,1.1s
ZHG ZHG 13.63 271 P Pn 00 21 50.0 +0.9
ZHG ZHG 13.63 271 S Sn 00 24 23.1 +2.5
MORH Mrgy, Hungar 13.63 27 ⇑P Pn 00 21 50.8 +1.9
BLKB Belogradchik 13.65 44 ⇑P Pn 00 21 50.3 +1.1
ZGR Zagora 13.66 256 P Pn 00 21 47.6 -2.0
ZGR Zagora 13.66 256 S Sn 00 24 21.6 +0.1
TISM Timmit 13.82 263 P Pn 00 21 51.2 -0.4
TISM Timmit 13.82 263 S Sn 00 24 25.2 +0.1
HAU Haudompre 13.85 350 *e*Pn Pn 00 21 52.6 +0.6
MOA Molln 13.88 13 *e*Pn Pn 00 21 54.5 +2.0
14nm,0.9s
MDVR Moldovita 13.89 38 ⇓P Pn 00 21 54.6 +2.1
ECH Echery 13.96 353 Pn Pn 00 21 53.7 +0.2
ECH Echery 13.96 353 P Pn 00 21 53.7 +0.2
BFO Black Forest 13.98 356 Pn Pn 00 21 52.9 -0.8
BFO Black Forest 13.98 356 P Pn 00 21 52.9 -0.8
BANR Banloc 14.04 35 ⇓P Pn 00 21 57.7 +3.2
PBAR Barrancos 14.05 290 *e*P Pn 00 21 52.9 -1.8
75nm,1.3s
PLD Plovdiv 14.11 52 P Pn 00 21 56.2 +0.7
MPEP Malo Peshtene 14.11 46 P Pn 00 21 55.4 -0.1
VALD Valchedram 14.13 45 P Pn 00 21 59.1 +3.4
CDF Champ du Feu 14.14 353 *e*Pn Pn 00 21 56.5 +0.5
RONA Rosalia, Austr 14.20 18 *e*Pn Pn 00 21 58.2 +1.5
9.2nm,0.9s,SNR=8.0
SFTF Senftenfaines 14.26 347 *e*Pn Pn 00 21 58.1 +0.6
KDZ Kurdzhali 14.27 55 P Pn 00 21 55.7 -2.0
AVE Averroes 14.29 270 Pn Pn 00 21 57.9 -0.1
CONA Conrad Observa 14.30 17 *i* Pn Pn 00 21 58.8 +0.6
7.3nm,0.8s
OUZM OUZ 14.31 261 P Pn 00 21 58.0 -0.5
HERR Herculane 14.32 39 ⇑P Pn 00 21 58.7 +0.3
MFF Saint Martin d 14.32 331 *e*Pn Pn 00 21 58.0 -0.4
KARP Karpathos 14.35 80 Pn Pn 00 21 56.6 -2.2
KARP Karpathos 14.35 80 P Pn 00 21 59.9 +1.1
120nm,0.9s,1µm
BZS Buzias 14.44 35 ⇑P Pn 00 22 01.0 +1.0
BZS Buzias 14.44 35 ⇑P Pn 00 22 01.0 +1.0
PVAQ Vaqueiros 14.46 287 *e*P Pn 00 21 59.7 -0.7
84nm,1.2s
PVAQ *e*LQ LQ 00 25 43.3
PVAQ *e*LR LR 00 26 36.4
2µm,18.0s
PVAQ Vaqueiros 14.46 287 Pn Pn 00 21 59.0 -1.3
PVAQ Vaqueiros 14.46 287 P Pn 00 21 59.4 -0.9
ALN Alexandroupoli 14.47 58 Pn Pn 00 21 59.6 -0.7
ALN Alexandroupoli 14.47 58 P Pn 00 21 59.7 -0.7
PAGF Fort de Pagny 14.48 349 *e*Pn Pn 00 22 01.5 +1.0
MEZF Maizieres J'vi 14.54 348 *e*Pn Pn 00 22 01.4 +0.1
PMRV Marv??o 14.59 295 *e*P Pn 00 22 01.4 -0.7
26nm,1.2s
PMRV *e*LQ LQ 00 25 58.0
PMRV *e*LR LR 00 27 06.6
2µm,18.0s
PESTR Estremoz 14.61 293 *e*P Pn 00 22 02.2 -0.2
55nm,1.3s
PESTR Estremoz 14.61 293 Pn Pn 00 22 00.2 -2.1
PESTR Estremoz 14.61 293 P Pn 00 22 01.9 -0.4
PESTR Estremoz 14.61 293 S Sn 00 24 44.7 +0.4
DIM Dimitrovgrad 14.61 54 P P 00 22 10.7 +1.9
PBDV Barranco-do-Ve 14.61 286 *e*P Pn 00 22 01.4 -1.1
98nm,1.1s
SAVF Savonnieres en 14.63 348 *e*Pn Pn 00 22 04.8 +2.1
TIO Tiouine 14.72 261 P Pn 00 22 03.4 -0.6
TIO Tiouine 14.72 261 S Sn 00 24 47.2 -0.1
CLF Chambon-Foret 14.74 340 Pn Pn 00 22 05.1 +1.1
PCVE Castro Verde 14.74 288 *e*P Pn 00 22 03.3 -0.9
70nm,1.0s
GEC2 GERESS Array S 14.76 10 Pn Pn 00 22 04.5 +0.1
GERES GERESS Array B 14.76 10 Pn Pn 00 22 04.1 -0.3
GERES GERESS Array B 14.76 10 Pn Pn 00 22 04.8 +0.4
0.1nm,0.3s,baz=190,slow=14,SNR=8.9
GERES LR LR 00 28 48.5
comp=Z,2µm,18.2s,baz=191,slow=42
6.4nm,0.9s
CKRC Cesky Krumlov 14.83 12 *e*P Pn 00 22 07.3 +2.0
CKRC *ex* x 00 22 12.5
CKRC AMS AMS 00 28 10.0
comp=Z,2µm,17.4s
CKRC Cesky Krumlov 14.83 12 *e*P Pn 00 22 07.3 +2.0
CKRC MLR MLR
comp=Z,2µm,17.4s
SRHM Skhour des Reh 14.84 268 P P 00 22 11.0 -0.5
GZR Gura Zlata 14.86 38 ⇓P Pn 00 22 07.2 +1.5
MVO Moncorvo 14.87 302 *e*P Pn 00 22 04.9 -1.1
comp=Z,105nm,1.5s
MVO *e*LQ LQ 00 25 58.8
MVO *e*LR LR 00 27 42.1
comp=Z,2µm,16.0s
SRO Srobarova 14.89 23 *e*P P 00 22 13.8 +2.0
SRO Srobarova 14.89 23 *e*P P 00 22 13.8 +2.0
SRO pmax pmax
comp=Z,111nm,2.6s
MESJ Messejana 14.91 289 *e*P Pn 00 22 05.7 -0.8
comp=Z,64nm,1.7s
MESJ Messejana 14.91 289 Pn Pn 00 22 05.3 -1.2
MESJ Messejana 14.91 289 *e*P Pn 00 22 06.0 -0.6
MESJ IAMs_20 IAMs_20 00 29 16.1
comp=Z,4µm,13.0s
MESJ Messejana 14.91 289 *e*P Pn 00 22 05.9 -0.6
PBRG Braganca 14.93 305 *e*P Pn 00 22 07.4 +0.7
comp=Z,40nm,1.5s
ECAL Calabor 14.98 305 Pn P 00 22 10.2 -2.8
MTE Manteigas 14.98 299 *e*P Pn 00 22 07.4 0.0
comp=Z,70nm,1.5s
MTE *e*LQ LQ 00 25 45.9
MTE *e*LR LR 00 27 14.4
comp=Z,2µm,16.0s
MTE Manteigas 14.98 299 Pn Pn 00 22 05.5 -2.0
KHC Kasperske Hory 15.02 10 Pn Pn 00 22 08.2 +0.3
KHC Kasperske Hory 15.02 10 *e*P Pn 00 22 07.8 -0.1
KHC *e*pP P 00 22 14.7 +1.4
KHC AMS AMS 00 29 10.0
comp=Z,2µm,13.5s
KHC Kasperske Hory 15.02 10 *e*P Pn 00 22 07.8 -0.1
KHC MLR MLR
comp=Z,2µm,13.5s
KHC Kasperske Hory 15.02 10 P Pn 00 22 07.8 -0.1
comp=Z,21nm,0.9s
MODS Modra-Piesok 15.08 20 *e*P P 00 22 14.3 +0.3
MODS Modra-Piesok 15.08 20 P P 00 22 12.9 -1.1
PMTG Montargil 15.14 293 *e*P Pn 00 22 08.2 -1.3
comp=Z,44nm,1.6s
ARG Arkhangelos 15.14 78 Pn Pn 00 22 08.0 -1.5
ARG IAmb IAmb 00 22 16.1
comp=Z,82nm,0.9s
ARG Arkhangelos 15.14 78 P Pn 00 22 08.0 -1.5
ARG pmax pmax
comp=Z,82nm,0.9s
MORF Marmelete 15.19 286 *e*P Pn 00 22 09.4 -0.9
comp=Z,70nm,1.7s
MORF Marmelete 15.19 286 Pn Pn 00 22 09.3 -0.9
MORF Marmelete 15.19 286 *e*P Pn 00 22 09.6 -0.7
MORF IAMs_20 IAMs_20 00 29 08.2
comp=E,3µm,16.9s
MORF Marmelete 15.19 286 *e*P Pn 00 22 09.6 -0.7
PNCL Nicolau / Gran 15.20 289 *e*P Pn 00 22 10.9 +0.7
comp=E,56nm,1.3s
ELND Elena 15.22 51 ⇓P P 00 22 16.7 +1.1
SMOL Smolenice 15.25 20 *e*P P 00 22 19.0 +3.2
DEV Deva 15.26 37 ⇓P Pn 00 22 12.3 +1.2
DEV Deva 15.26 37 ⇓P Pn 00 22 12.3 +1.2
PFVI Vila Bisbo 15.31 286 *e*P Pn 00 22 11.3 -0.5
PFVI Vila Bisbo 15.31 286 Pn Pn 00 22 09.7 -2.1
PFVI IAmb IAmb 00 22 17.3
comp=Z,97nm,0.9s
PFVI Vila Bisbo 15.31 286 P P 00 22 16.5 -0.1
PFVI Vila Bisbo 15.31 286 S Sn 00 24 59.2 -2.3
GRFO Grafenberg 15.34 4 Pn Pn 00 22 10.1 -2.0
GRFO Grafenberg 15.34 4 P Pn 00 22 10.1 -2.0
GRFO pmax pmax
comp=Z,16nm,0.8s
GRA1 Grafenberg Arr 15.35 4 Pn Pn 00 22 11.7 -0.5
GRF Grafenberg Arr 15.35 4 P Pn 00 22 11.7 -0.5
GRF pmax pmax
comp=Z,18nm,0.8s
ZVC Zvikov 15.41 11 *e*P P 00 22 15.7 -1.9
ZVC AMS AMS 00 28 40.0
comp=Z,800nm,17.2s
LOT Lotru 15.41 40 ⇑P P 00 22 19.1 +1.3
BALB Balikesir 15.42 65 Pn Pn 00 22 10.5 -2.7
JMB Yambol 15.44 53 P Pn 00 22 14.1 +0.6
SZH Strazhitsa 15.45 50 P Pn 00 22 13.5 0.0
KRUC Moravsky 15.49 17 *e*P P 00 22 17.4 -1.1
POLO Lamas de Olo 15.49 302 *e*P P 00 22 18.5 -0.1
comp=Z,52nm,1.3s
WLF Walferdange 15.50 351 Pn Pn 00 22 13.7 -0.5
WLF Walferdange 15.50 351 *d*P Pn 00 22 16.3 +2.1
comp=Z,27nm,1.1s
WLF Walferdange 15.50 351 P Pn 00 22 13.7 -0.5
WLF pmax pmax
comp=Z,40nm,0.9s
TREC Trest 15.51 14 AMS AMS 00 31 00.0
comp=Z,2µm,11.6s
HUMR Humele 15.52 45 ⇑P Pn 00 22 14.8 +0.3
PSZ Piszkesteto 15.53 26 ⇓P Pn 00 22 15.8 +1.2
PSZ Piszkesteto 15.53 26 Pn Pn 00 22 14.1 -0.6
PSZ Piszkesteto 15.53 26 ⇓P Pn 00 22 15.8 +1.2
COI Coimbra 15.56 297 *e*P P 00 22 17.4 -1.9
COI Coimbra 15.56 297 Pn Pn 00 22 13.2 -1.8
COI IAmb IAmb 00 22 20.2
comp=Z,76nm,1.0s
COI Coimbra 15.56 297 P Pn 00 22 13.2 -1.8
COI pmax pmax
comp=Z,76nm,1.0s
PCAS Casmilo, Conde 15.58 297 *e*P P 00 22 17.5 -2.1
comp=Z,107nm,1.4s
JAVC Velka Javorina 15.63 20 *e*P P 00 22 19.9 -0.2
VYHS Vyhne 15.65 23 *e*P P 00 22 20.0 -0.4
VYHS Vyhne 15.65 23 *e*P P 00 22 20.0 -0.4
VRAC Vranov 15.76 17 ⇓P P 00 22 20.4 -1.1
VRAC Vranov 15.76 17 *e*P P 00 22 19.7 -1.9
VRAC Vranov 15.76 17 Pn Pn 00 22 18.8 +1.2
comp=Z,0.3nm,0.3s,baz=193,slow=10,SNR=14
VRAC LR LR 00 29 00.3
comp=Z,519nm,18.3s,baz=208,slow=40
comp=Z,13nm,1.0s
DRGR 15.82 34 ⇓P Pn 00 22 20.3 +1.9
DRGR 15.82 34 ⇓P Pn 00 22 20.3 +1.9
MARR Marisel-Cluj 15.93 36 ⇑P Pn 00 22 20.6 +0.8
GOPC GO Pecny, Ondr 15.97 12 *e*P P 00 22 23.5 -0.3
GOPC AMS AMS 00 30 30.0
comp=Z,1µm,12.4s
GOPC GO Pecny, Ondr 15.97 12 *e*P P 00 22 23.5 -0.3
GOPC MLR MLR
comp=Z,1µm,12.4s
NKC Novy Kostel 15.97 6 *e*P Pn 00 22 20.4 +0.1
NKC *ex* x 00 22 26.0
NKC AMS AMS 00 29 40.0
comp=Z,3µm,15.0s
NKC Novy Kostel 15.97 6 *e*P Pn 00 22 20.4 +0.1
NKC MLR MLR
comp=Z,3µm,15.0s
LDF La Druitiere 15.99 336 *e*Pn Pn 00 22 20.8 +0.3
PRU Pruhonice 16.00 11 *e*P P 00 22 22.5 -1.7
PRU AMS AMS 00 30 00.0
comp=Z,1µm,14.8s
PRU Pruhonice 16.00 11 *e*P P 00 22 22.5 -1.7
PRU MLR MLR
comp=Z,1µm,14.8s
PGAV Gavieira, Arco 16.04 303 *e*P Pn 00 22 22.1 +0.8
comp=Z,80nm,1.8s
PGAV *e*LQ LQ 00 26 20.9
PGAV *e*LR LR 00 28 16.1
comp=Z,3µm,16.0s
PRA Prague 16.06 11 AMS AMS 00 30 00.0
comp=Z,2µm,15.0s
GRR Gorron 16.07 334 *e*Pn Pn 00 22 21.1 -0.5
VOIR 16.10 42 ⇓P P 00 22 26.5 +1.0
VOIR 16.10 42 ⇓P P 00 22 26.5 +1.0
RCHB Rochefort 16.11 350 *d*P Pn 00 22 22.3 +0.2
comp=Z,28nm,0.8s
GIVF Givet 16.12 349 *e*Pn P 00 22 24.9 -0.6
MAUC Maruska 16.13 19 *e*P P 00 22 25.3 -0.4
DOU Dourbes 16.16 348 *d*P Pn 00 22 22.2 -0.4
comp=Z,49nm,1.0s
BAIF Baives 16.19 347 *e*Pn P 00 22 25.0 -1.3
BHOU Houvegnez 16.20 351 *d*P Pn 00 22 23.2 0.0
comp=Z,13nm,1.1s
KECS Kecovo 16.22 26 *e*P P 00 22 27.2 +0.6
KECS Kecovo 16.22 26 *e*P P 00 22 27.2 +0.6
KECS pmax pmax
comp=Z,25nm,0.9s
FLN La Foliniere 16.25 335 *e*Pn Pn 00 22 24.3 +0.4
baz=150
NEF NEVSHA 16.28 52 P P 00 22 28.0 +0.7
MOX Moxa 16.32 4 P Pn 00 22 25.5 +0.8
PRD Provadia 16.32 52 P Pn 00 22 24.1 -0.7
BMRD Maredsous 16.33 349 *d*P Pn 00 22 25.8 +0.9
comp=Z,32nm,1.1s
BGES Gesves 16.36 349 *d*P Pn 00 22 25.6 +0.4
comp=Z,18nm,0.8s
BCLA Clavier 16.36 350 *d*P Pn 00 22 25.6 +0.4
comp=Z,23nm,1.0s
BTNL Ternell 16.41 352 *d*P P 00 22 29.4 +0.7
comp=Z,9.4nm,1.1s
LANS Liptovska Anna 16.43 23 *e*P P 00 22 33.8 +4.8
LANS Liptovska Anna 16.43 23 *e*P P 00 22 33.8 +4.8
LANS pmax pmax
comp=Z,8.0nm,1.2s
MORC Moravsky Berou 16.43 18 ⇓P P 00 22 28.9 -0.1
MORC Moravsky Berou 16.43 18 Pn Pn 00 22 26.6 +0.3
MORC Moravsky Berou 16.43 18 *e*P P 00 22 28.0 -1.0
MORC Moravsky Berou 16.43 18 P Pn 00 22 26.6 +0.3
MORC pmax pmax
comp=Z,39nm,1.1s
HSKC Hora Svate Kat 16.45 8 *e*P P 00 22 30.8 +1.6
HSKC AMS AMS 00 30 40.0
comp=Z,2µm,12.3s
MEM Membach 16.45 352 *d*P Pn 00 22 26.2 -0.3
comp=Z,14nm,1.1s
RICC Richard 16.47 10 *e*P P 00 22 30.8 +1.4
RICC AMS AMS 00 30 10.0
comp=Z,2µm,14.0s
BSTI Sart Tilman 16.48 351 *d*P Pn 00 22 27.9 +1.1
comp=Z,7.4nm,1.0s
KRLC Kraliky 16.52 16 AMS AMS 00 31 20.0
comp=Z,1µm,13.3s
PVCC Panska Ves 16.53 11 AMS AMS 00 30 20.0
comp=Z,2µm,14.2s
ELL Elmali 16.59 76 Pn Pn 00 22 25.4 -3.0
ELL IAmb IAmb 00 22 31.2
comp=Z,180nm,1.0s
ELL Elmali 16.59 76 P Pn 00 22 25.4 -3.0
ELL pmax pmax
comp=Z,180nm,1.0s
DOPR Dopca 16.62 41 ⇓P P 00 22 32.7 +1.6
QUIF Quistinic 16.62 328 *e*Pn Pn 00 22 29.0 +0.4
SGMF Saint Gilles 16.62 330 *e*Pn Pn 00 22 29.9 +1.3
MLR Muntele Rosu 16.64 43 ⇑P P 00 22 31.1 -0.4
MLR Muntele Rosu 16.64 43 P P 00 22 30.3 -1.1
MLR Muntele Rosu 16.64 43 Pn P 00 22 30.8 -0.7
comp=Z,0.2nm,0.3s,baz=290,slow=4.0,SNR=29
MLR LR LR 00 30 02.9

comp=Z,1µm,19.4s,baz=254,slow=41
comp=Z,61nm,1.1s
OKC Ostrava-Krasne 16.65 19 AMS AMS 00 31 50.0
comp=Z,1µm,12.5s
BEBN Eben Emael 16.68 351 *d*P **Pn 00 22 27.6 -1.6**
DPC Dobruska-Polom 16.68 15 *e*P **P 00 22 30.7 -1.1**
DPC AMS AMS 00 29 20.0
comp=Z,2µm,17.2s
DPC Dobruska-Polom 16.68 15 *e*P **P 00 22 30.7 -1.1**
DPC MLR MLR
comp=Z,2µm,17.2s
DPC Dobruska-Polom 16.68 15 P **Pn 00 22 30.5 +1.1**
comp=Z,21nm,0.9s
UPC Upice 16.77 14 *e*P **Pn 00 22 31.4 +1.0**
UPC AMS AMS 00 29 30.0
comp=Z,2µm,17.7s
UPC Upice 16.77 14 *e*P **Pn 00 22 31.4 +1.0**
UPC MLR MLR
comp=Z,2µm,17.7s
BRG Berggiesshubel 16.77 9 *e*P **Pn 00 22 31.0 +0.5**
BRG Amp 00 22 32.5
comp=Z,3.7nm,1.1s
BRG Berggiesshubel 16.77 9 P **P 00 22 35.1 +2.4**
BRG Amp 00 22 36.8
comp=Z,45nm,1.0s
BRG Berggiesshubel 16.77 9 P P 00 22 42.2 +9.5
BRG Amp 00 22 45.5
comp=Z,41nm,1.1s
BRG Berggiesshubel 16.77 9 S **S 00 25 43.0 -4.7**
NEHR Nehoiu 16.80 44 ⇑P **P 00 22 32.6 -0.5**
CHVC Chvalec 16.85 14 *e*P **P 00 22 32.7 -0.9**
CHVC AMS AMS 00 29 30.0
comp=Z,2µm,18.3s
CHVC Chvalec 16.85 14 *e*P **P 00 22 32.7 -0.9**
CHVC MLR MLR
comp=Z,2µm,18.3s
OSTC Ostas 16.85 14 *e*P **P 00 22 32.9 -0.7**
OSTC AMS AMS 00 29 20.0
comp=Z,2µm,17.6s
OSTC Ostas 16.85 14 *e*P **P 00 22 32.9 -0.7**
OSTC MLR MLR
comp=Z,2µm,17.6s
OZUR 16.91 41 ⇓P **P 00 22 36.5 +2.1**
CRVS Cervenica-Dubn 16.93 27 *e*P **P 00 22 36.8 +2.3**
CRVS Cervenica-Dubn 16.93 27 *e*P **P 00 22 36.8 +2.3**
CRVS pmax pmax
comp=Z,109nm,1.7s
NIE Niedzica 16.94 24 *e*P **P 00 22 36.5 +1.8**
ROSF Rostrenen 16.99 329 *e*Pn **Pn 00 22 33.7 +0.5**
COVR Voineasa-Covas 17.00 43 ⇑P **P 00 22 34.8 -0.5**
PSN Preselentsi 17.01 52 P **P 00 22 35.0 -0.4**
ICOR Ion Corvin 17.02 50 ⇑P **P 00 22 39.0 +3.5**
TURR Turia 17.02 42 ⇑P **P 00 22 38.1 +2.6**
CLL Collm 17.09 7 Pn **Pn 00 22 33.4 -1.1**
CLL Collm 17.09 7 *i* P **P 00 22 36.1 -0.1**
comp=Z,19nm,1.0s
CLL *i* x x 00 22 42.4
CLL *ex* x 00 24 21.0
CLL *e*S **Sn 00 25 48.0 +3.6**
CLL AMS AMS 00 30 00.0
CLL Collm 17.09 7 *i* P **P 00 22 36.1 -0.1**
CLL pmax pmax
comp=Z,19nm,1.0s
CLL Collm 17.09 7 P **P 00 22 35.9 -0.3**
comp=Z,20nm,0.9s
ISP Isparta 17.15 72 Pn **Pn 00 22 33.4 -2.1**
ISP Isparta 17.15 72 P **Pn 00 22 33.4 -2.1**
ISP pmax pmax
comp=Z,57nm,1.1s
PLOR Plostina 17.25 43 ⇑P **Pn 00 22 36.9 +0.3**
PLOR Plostina 17.25 43 ⇑P **Pn 00 22 36.9 +0.3**
KOLS Kolonicke sedl 17.27 29 *e*P **P 00 22 39.4 +1.1**
KOLS Kolonicke sedl 17.27 29 *e*P **P 00 22 39.4 +1.1**
STHS Stebnicka Huta 17.27 26 *e*P **P 00 22 39.7 +1.4**
STHS Stebnicka Huta 17.27 26 *e*P **P 00 22 39.7 +1.4**
STHS pmax pmax
comp=Z,69nm,1.8s
VRI Vrincioaia 17.30 43 ⇓P **P 00 22 39.0 +0.3**
VRI Vrincioaia 17.30 43 ⇓P **P 00 22 39.0 +0.3**
MFTR Murfatlar 17.44 50 ⇓P **P 00 22 40.4 +0.3**
OJC Ojcow 17.47 22 *e*P **P 00 22 42.0 +1.5**
OJC Ojcow 17.47 22 P **P 00 22 41.2 +0.7**
OJC Ojcow 17.47 22 P **P 00 22 41.2 +0.7**
OJC pmax pmax
comp=Z,52nm,1.7s
BURAR Bucovina Array 17.61 37 ⇑P **P 00 22 42.9 +0.8**
BURAR Bucovina Array 17.61 37 **Pn 00 22 41.0 -0.1**
BURAR Bucovina Array 17.61 37 P **Pn 00 22 41.0 -0.1**
BUR08 Bucovina Ar. S 17.62 37 **P 00 22 41.8 -0.4**
TESR Tescani 17.64 42 ⇑P **P 00 22 44.5 +2.1**
CFR Carcaliu 17.75 47 ⇑P **Pn 00 22 41.1 -1.7**
CFR Carcaliu 17.75 47 ⇑P **Pn 00 22 41.1 -1.7**
KWP Kalwaria Pacla 18.00 28 *e*P **P 00 22 49.7 +3.4**
KWP Kalwaria Pacla 18.00 28 **P 00 22 47.2 +0.9**
KWP Kalwaria Pacla 18.00 28 P **P 00 22 47.2 +0.9**
KWP pmax pmax
comp=Z,61nm,1.1s
MDUB Mudurnu 18.09 64 **Pn 00 22 46.1 -0.9**
MDUB IAmb IAmb 00 22 55.7
comp=Z,263nm,1.7s
RUE Ruedersdorf 18.33 8 *e*P **P 00 22 51.7 +1.9**
LVV L'vov 18.68 30 *e*P **P 00 22 53.9 +0.1**
LVV *e*S **Sn 00 26 18.9 -4.0**
LVV MLR MLR
comp=E,700nm,14.2s
LVV MLR MLR
comp=N,900nm,15.0s
LVV MLR MLR
comp=Z,800nm,13.4s
KMPD K-Podol'skiy 18.86 36 P **Pn 00 22 56.7 +0.4**
KMPD P **Pn 00 22 56.7 +0.4**
MILM Milestii Mici 19.09 43 ⇑P **P 00 22 58.2 0.0**
MILM Milestii Mici 19.09 43 *e*P **P 00 22 57.7 -0.6**
comp=Z,40nm,0.9s
MILM Milestii Mici 19.09 43 ⇑P **P 00 22 58.2 0.0**
ANTO Ankara 19.17 67 P **Pn 00 23 00.1 -0.1**
ANTO Ankara 19.17 67 P **Pn 00 23 00.2 -0.1**
ANTO pmax pmax
comp=Z,34nm,1.3s
ANTO Ankara 19.17 67 P **Pn 00 23 00.8 +0.5**
comp=Z,15nm,1.2s,comp=Z,227nm
HORU Horodok 19.30 35 P **P 00 23 00.6 +0.1**
NDNU Novodnistrovsk 19.34 37 P **P 00 23 01.2 +0.2**
CSS Mathiatis 19.42 82 P **P 00 23 00.4 -1.6**
CSS Mathiatis 19.42 82 P **P 00 23 01.0 -1.0**
comp=Z,37nm,1.0s,comp=Z,388nm
PURM Purcari 19.49 45 P **Pn 00 23 04.1 +0.2**
comp=Z,30nm,1.3s
SORM Soroca 19.55 40 P **P 00 23 02.9 -0.4**
comp=Z,30nm,1.2s
GKP Gorka Klasztor 19.63 14 *e*P **P 00 23 04.4 +0.3**
BR105 Keskin Array S 19.78 67 P **Pn 00 23 07.4 -0.2**
comp=Z,25nm,0.8s,comp=Z,164nm
BR106 Keskin Array S 19.78 67 P **Pn 00 23 07.1 -0.5**
comp=Z,19nm,0.9s,comp=Z,145nm
BR104 Keskin Array S 19.79 67 P **Pn 00 23 07.3 -0.5**
comp=Z,21nm,0.9s,comp=Z,162nm
BR131 Keskin Array S 19.80 67 P **Pn 00 23 07.4 -0.4**
BR131 Keskin Array S 19.80 67 P **Pn 00 23 07.4 -0.4**
BR131 pmax pmax
comp=Z,22nm,1.0s
BRTR Keskin Array B 19.80 67 P **P 00 23 06.1 -0.1**
BRTR Keskin Array B 19.80 67 P **Pn 00 23 07.2 -0.6**
comp=Z,0.3nm,0.3s,baz=254,slow=6.2,SNR=81
BRTR LR LR 00 31 55.2
comp=Z,590nm,21.3s,baz=266,slow=40
comp=Z,13nm,0.8s
BRTR Keskin Array B 19.80 67 *i* P **Pn 00 23 07.1 -0.7**
BRTR pmax pmax
comp=Z,13nm,0.9s
RNPP5 Staryi Chortor 20.52 30 P **P 00 23 12.8 -1.1**
RNPP8 Varash 20.59 30 P **P 00 23 13.9 -0.7**
RNPP9 Sopachiv 20.66 30 P **P 00 23 14.7 -0.7**
BSD Bornholm Skovb 21.05 8 *e*P **P 00 23 19.6 0.0**
BSD Bornholm Skovb 21.05 8 *i* P **P 00 23 18.9 -0.6**
BSD IAmb IAmb 00 23 25.2
comp=Z,43nm,1.0s
MI28 Mi28,Pidlybu 21.07 33 P **P 00 23 18.8 -1.0**
DIKM Dikmen 21.34 63 ⇑P **P 00 23 24.5 +1.7**
DIKM Dikmen 21.34 63 P **P 00 23 22.4 -0.4**
comp=Z,23nm,0.8s,comp=Z,498nm
COP Copenhagen 21.39 4 *i* P **P 00 23 25.6 +2.4**
COP IAmb IAmb 00 23 26.9
comp=Z,93nm,1.1s

MMAI Mount Meron Ar 21.39 86 P **P 00 23 23.2 -0.3**
comp=Z,5.2nm,0.8s,baz=270,slow=11,SNR=26
comp=Z,5.2nm,0.8s
BNN Bunyan 21.41 70 P **P 00 23 23.6 -0.1**
LUNU Lund 21.41 6 *i* P **P 00 23 23.9 +0.5**
SIM Simferopol' 21.46 53 *e*P **P 00 23 25.2 +1.1**
SIM *e*S **S 00 27 19.7 -2.4**
SIM pmax pmax
comp=Z,34nm,0.9s
AK13 Malin Array Si 21.50 35 P **P 00 23 26.0 +1.6**
KLNR Kaliningrad 21.52 17 *i* P **P 00 23 25.1 +0.6**
KLNR pmax pmax
comp=Z,344nm,1.1s
IWEX Carrickbyrne, 21.53 332 P **P 00 23 25.0 +0.3**
KIEV Kiev 21.62 35 P **P 00 23 23.6 -2.0**
KIEV Kiev 21.62 35 P **P 00 23 23.7 -2.0**
KIEV pmax pmax
comp=Z,38nm,1.1s
KIEV Kiev 21.62 35 P **P 00 23 24.5 -1.2**
comp=Z,155nm,1.0s
AKASG Malin Array Be 21.63 35 P **P 00 23 23.4 -2.5**
AKASG Malin Array Be 21.63 35 P **P 00 23 24.1 -1.8**
comp=Z,15nm,0.9s,baz=233,slow=10,SNR=21
comp=Z,15nm,0.9s
AKASG Malin Array Be 21.63 35 P **P 00 23 23.4 -2.5**
AKASG pmax pmax
comp=Z,13nm,1.1s
AKBB Malin Array Si 21.63 35 P **P 00 23 23.1 -2.7**
AKBB Malin Array Si 21.63 35*ce*P **P 00 23 25.2 -0.6**
AKBB pmax pmax
comp=Z,18nm,0.9s
AKBB Malin Array Si 21.63 35 P **P 00 23 24.7 -1.1**
SUW Suwalki 21.80 22 *e*P **P 00 23 27.6 -0.1**
SUW Suwalki 21.80 22 P **P 00 23 26.1 -1.5**
SUW Suwalki 21.80 22 *e*P **P 00 23 27.6 -0.1**
SUW Suwalki 21.80 22 P **P 00 23 26.2 -1.5**
SUW pmax pmax
comp=Z,147nm,1.0s
EIL Elat 21.87 95 P **P 00 23 28.6 0.0**
comp=Z,27nm,1.0s,baz=309,slow=6.5,SNR=8.4
EIL LR LR 00 33 41.2
comp=Z,1µm,19.4s,baz=288,slow=42
comp=Z,27nm,1.0s
GHAJ Ghor Haditha 21.91 91 P **P 00 23 27.9 -1.1**
GHAJ IAmb IAmb 00 23 49.4
comp=Z,116nm,1.3s
DSB Dublin 22.06 334 P **P 00 23 31.7 +1.3**
MUD Monsted U'grnd 22.09 359 *i* P **P 00 23 31.5 +0.9**
MUD IAmb IAmb 00 23 33.6
comp=Z,30nm,0.9s
DEL Delary 22.28 6 *e*P **P 00 23 34.0 +1.3**
DEL Delary 22.28 6 *i* P **P 00 23 33.1 +0.4**
BLEU Blekinge 22.32 9 *i* P **P 00 23 32.6 -0.6**
TOA0 Torodi Ar. Sit 22.36 201 P **P 00 23 32.8 -1.1**
TOA0 IAmb IAmb 00 23 37.3
comp=Z,90nm,1.0s
TORD Torodi Ar. Bea 22.36 201 P **P 00 23 32.7 -1.2**
TORD IAmb IAmb 00 23 37.8
comp=Z,88nm,1.0s
TORD Torodi Ar. Bea 22.36 201 P **P 00 23 33.0 -0.8**
comp=Z,96nm,1.1s,baz=18,slow=11,SNR=28
TORD Lg Lg 00 30 25.2
comp=Z,0.3nm,0.3s,baz=9.2,slow=28,SNR=3.7
comp=Z,96nm,1.1s
GAZ Gaziantep 22.44 75 P **P 00 23 35.0 +0.2**
GAZ IAmb IAmb 00 23 41.2
comp=Z,113nm,1.1s
PMOZ Porto Moniz, M 22.46 274 *e*P **P 00 23 39.7 +4.7**
comp=Z,218nm,1.2s
PMOZ Porto Moniz, M 22.46 274 P **P 00 23 34.6 -0.5**
ILTH Belurgan, Co L 22.67 335 P **P 00 23 39.3 +2.4**
VAL Valentia 22.69 327 P **P 00 23 39.5 +2.4**
FABU Falkenberg 22.72 4 *i* P **P 00 23 38.0 +0.5**
EKA Eskdalemuir Ar 22.79 341 P **P 00 23 37.6 -0.5**
comp=Z,14nm,0.8s,baz=162,slow=11,SNR=34
comp=Z,14nm,0.8s
ONAU Onsala 23.07 3 *i* P **P 00 23 41.5 +0.4**
PBUR Paburge 23.22 18 *e*P **P 00 23 43.7 +1.0**
PABE Paberze 23.32 21 P **P 00 23 42.2 -1.4**
PABE Paberze 23.32 21 *e*P **P 00 23 44.3 +0.7**
BORU Boraas 23.36 4 *i* P **P 00 23 43.5 -0.5**
ARPR Arapgir-MALATY 23.36 70 P **P 00 23 44.3 -0.1**
ANN Anapa 23.65 56 *e*P **P 00 23 45.5 -1.5**
ANN *e**PP **pP 00 23 49.4 -0.6**
ANN *e* 00 24 12.4
ANN *e*S **S 00 27 59.6 -2.0**
ANN pmax pmax
comp=Z,42nm,1.2s
ANN MLR MLR
comp=Z,391nm,16.0s
ANN MLR MLR
comp=N,142nm,17.0s
ANN MLR MLR
comp=E,138nm,14.0s
TJOU Tjoern 23.70 3 *i* P **P 00 23 48.1 +0.8**
VSVD Vaisvydziai 23.72 20 *e*P **P 00 23 47.8 +0.3**
NACGM Naroch 23.72 25 *e*P **P 00 23 46.7 -0.9**
comp=Z,32nm,0.8s,baz=218
MNK Minsk 23.80 27 *i* P **P 00 23 46.4 -2.1**
comp=E,13nm,0.9s
MNK *i* P **P 00 23 46.4 -2.1**
comp=N,23nm,0.9s
MNK *i* P **P 00 23 46.4 -2.1**
comp=Z,46nm,0.9s,baz=220
MNK *i* PP **PnPn 00 24 14.1 -2.0**
MNK *i* SS SnSn 00 29 06.0 +24
MNK *i* LQ LQ 00 30 27.6
MNK *i* LR LR 00 31 10.7
MNK *i* LRM MLR 00 32 51.6
comp=N,1µm,16.8s
MNK *i* LRM MLR 00 32 59.9
comp=E,662nm,16.9s
MNK *i* LRM MLR 00 36 06.4
comp=Z,545nm,15.7s
MNK Minsk 23.80 27 *i* P **P 00 23 46.3 -2.1**
MNK *i* 00 24 14.0
MNK *i* SS SnSn 00 29 06.0 +24
MNK pmax pmax
comp=N,23nm,0.9s
MNK pmax pmax
comp=E,13nm,0.9s
MNK pmax pmax
comp=Z,46nm,0.9s
MNK MLR MLR
comp=N,1µm,17.0s
MNK MLR MLR
comp=E,662nm,17.0s
MNK MLR MLR
comp=Z,545nm,16.0s
HOMB Homborsund 23.92 358 *e*P **P 00 23 49.5 +0.1**
HOMB Homborsund 23.92 358 *i* P **P 00 23 48.9 -0.5**
IDID Didziasalis 24.04 24 *e*P **P 00 23 51.4 +0.8**
ISAL Salakas 24.04 23 *e*P **P 00 23 52.4 +1.7**
VIKU Vikbolandet 24.58 9 *e*P **P 00 23 56.1 +0.5**
STRU Stroemstad 24.69 2 *i* P **P 00 23 55.9 -0.6**
SLIT Slitere, Latvi 24.76 16 *e*P **P 00 23 58.1 +1.0**
SOC Sochi 24.95 59 *e*P **P 00 23 59.4 +0.3**
SOC *e**PP **sP 00 24 03.1 -0.3**
SOC *e*PPP PPP 00 24 40.7
SOC *e*S **S 00 28 26.6 +4.1**
SOC *e*SS **SnSn 00 29 15.6 +5.1**
SOC *e*SSS SSS 00 29 31.3
SOC pmax pmax
comp=Z,16nm,0.7s
SOC MLR MLR
comp=Z,132nm,16.0s
VSLR Vesyoloye 25.15 60 *i* P **P 00 24 01.5 +0.6**
VSLR pmax pmax
comp=Z,11nm,0.8s
KONO Kongsberg 25.29 360 *e*P **P 00 24 00.5 -1.4**
OSL Oslo 25.58 1 *e*P **P 00 24 04.8 +0.2**
ODD1 Odda 25.63 356 *e*P **P 00 24 05.1 0.0**
LABN Labinsk 25.88 57 *e*P **P 00 24 10.5 +3.0**
LABN *e**PP **sP 00 24 13.6 +1.8**
LABN *e* 00 24 41.5
LABN pmax pmax
comp=Z,66nm,0.9s
HFS Hagfors 25.90 5 P **P 00 24 06.6 -0.9**
comp=Z,14nm,0.7s,baz=188,slow=7.2,SNR=30
HFS LR LR 00 35 29.5
comp=Z,1µm,18.1s,baz=192,slow=39
comp=Z,14nm,0.7s
ERBR Yeremizino-Bor 25.97 55 *e*P **P 00 24 09.1 +0.8**
ERBR *e**PP **sP 00 24 12.1 -0.5**
ERBR *e*S **S 00 28 45.8 +7.1**
ERBR pmax pmax
comp=Z,93nm,1.4s
UPP Uppsala 26.02 9 *e*P **P 00 24 09.2 +0.7**
MTSE Matsula 26.09 17 *e*P **P 00 24 10.9 +1.6**
BATM Batumi 26.10 64 P **P 00 24 08.7 -0.8**
GURO Guroymak-BITLI 26.24 71 P **P 00 24 10.4 -0.6**
SKAR Skarslia 26.34 358 *e*P **P 00 24 11.6 +0.1**
NC602 NORSAR Array S 26.40 2 P **P 00 24 11.0 -1.1**
NC602 IAmb IAmb 00 24 15.8
comp=Z,79nm,1.8s
NC602 NORSAR Array S 26.40 2 *e*P **P 00 24 12.2 +0.1**
NAO01 NORSAR Array S 26.50 1 P **P 00 24 12.3 -0.5**
VSU Vasula 26.64 20*ce*P **P 00 24 15.4 +1.3**
VSU pmax pmax
comp=Z,66nm,1.0s
AAL Aland 26.67 11 *e*P **P 00 24 15.2 +0.8**
NBO00 NORSAR Array S 26.68 1 P **P 00 24 14.0 -0.6**
NB2 NORSAR Subarra 26.70 2 P **P 00 24 15.6 +0.8**
comp=Z,8.7nm,1.0s,baz=183,slow=9.3
NB2 NORSAR Subarra 26.70 2 P **P 00 24 15.6 +0.8**
baz=183,slow=9.3
NOA NORSAR Array B 26.70 2 P **P 00 24 14.3 -0.5**
comp=Z,4.9nm,0.9s,baz=185,slow=9.3,SNR=16
NOA LR LR 00 36 02.8
comp=Z,504nm,18.3s,baz=180,slow=39
comp=Z,4.9nm,0.9s
NC405 NORSAR Array S 26.78 2 P **P 00 24 15.6 +0.1**
NC405 IAmb IAmb 00 24 28.2
comp=Z,84nm,1.8s
NC303 NORSAR Array S 26.89 2 P **P 00 24 16.6 +0.2**
NC204 NORSAR Array S 26.93 1 P **P 00 24 16.1 -0.7**
KARS Kars 27.08 67 P **P 00 24 18.7 +0.2**
KARS Kars 27.08 67 P **P 00 24 18.7 +0.2**
KARS pmax pmax
comp=Z,89nm,1.0s
SHA1 Shidzhatmaz 27.08 60*ce*P **P 00 24 21.3 +2.7**
VSR Storozhevoye 27.13 43 *e*P **P 00 24 18.9 +0.2**
VSR pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 27.13 59 P **P 00 24 19.9 +0.9**
KIV IAmb IAmb 00 24 46.2
comp=Z,26nm,1.0s
KIV Kislovodsk 27.13 59*c i* P **P 00 24 21.3 +2.4**
KIV *i* 00 25 12.6
KIV pmax pmax
comp=Z,34nm,1.3s
KBZ Khabaz 27.25 60 P **P 00 24 20.4 +0.6**
comp=Z,7.4nm,1.0s,baz=295,slow=13,SNR=8.2
KBZ LR LR 00 37 15.3
comp=Z,214nm,21.5s,baz=264,slow=41
comp=Z,7.4nm,1.0s
KBZ Khabaz 27.25 60*ce*P **P 00 24 21.0 +1.2**
KBZ pmax pmax
comp=Z,22nm,1.1s
ARBE Arbavere 27.27 18 *e*P **P 00 24 22.2 +2.4**
VORR Voronezh 27.36 42 *e*P **P 00 24 21.4 +0.7**
VORR pmax pmax
comp=Z,19nm,0.6s
ONI Oni 27.50 63 P **P 00 24 23.1 +0.8**
ONI Oni 27.50 63 P **P 00 24 23.1 +0.8**
ONI pmax pmax
comp=Z,18nm,1.0s
MEF Metsahovi 27.57 16 *e*P **P 00 24 23.5 +0.9**
GOF Gofitskoye 27.58 57*ce*P **P 00 24 26.6 +3.8**
LPSR Galich'ya Gora 27.66 40 *e*P **P 00 24 23.0 -0.4**
LPSR pmax pmax
comp=Z,30nm,0.9s
DOMB Dombas 27.69 359 *e*P **P 00 24 26.7 +3.0**
RAF Rauma 27.77 13 *e*P **P 00 24 25.5 +1.2**
OBN Obninsk 27.87 34 *i* P **P 00 24 25.5 +0.3**
OBN *i* 00 25 10.0
OBN *i* S **S 00 29 08.2 -0.2**
OBN *i* SS **SnSn 00 30 22.9 +1.4**
OBN pmax pmax
comp=Z,25nm,1.3s
OBN MLR MLR
comp=Z,580nm,16.0s
GNI Garni 28.33 68 LR LR 00 37 10.0
comp=Z,610nm,21.1s,baz=262,slow=39
GNI Garni 28.33 68*ce*P **P 00 24 31.1 +1.3**
GNI pmax pmax
comp=Z,7.0nm,1.3s
VRH Novokhopyorsk 28.58 44 *e*P **P 00 24 32.0 +0.4**
VRH pmax pmax
comp=Z,17nm,1.0s
MOS Moscow 28.73 33 *e*P **P 00 24 32.8 -0.1**
MOS pmax pmax
comp=Z,24nm,0.8s
NAX Nakhchivan 28.93 70 P **P 00 24 34.2 -0.8**
FINES FINESS Array B 29.04 16 P **P 00 24 35.0 -0.6**
FINES FINESS Array B 29.04 16 P **P 00 24 35.5 -0.1**
comp=Z,19nm,0.8s,baz=194,slow=7.2,SNR=33
FINES LR LR 00 37 38.7
comp=Z,833nm,19.1s,baz=208,slow=39
comp=Z,19nm,0.8s
FIA1 FINESS Array S 29.04 16 P **P 00 24 35.1 -0.6**
GROC Groznyy 29.28 62 *e*P **P 00 24 38.8 +0.8**
GROC *e* 00 27 43.8
GROC pmax pmax
comp=Z,26nm,1.4s
KEF Keuruu 29.42 14 *e*P **P 00 24 40.2 +1.2**
GANJ Ganja 29.54 67 P **P 00 24 39.7 -0.7**
ZKTA Zakatala 29.79 65 P **P 00 24 41.9 -0.7**
MNGR Mingechevir, A 30.12 67 P **P 00 24 44.8 -0.7**
SEKA Sheki 30.21 66 P **P 00 24 46.2 -0.2**
VALR Valaam 30.21 20 *i* P **P 00 24 46.7 +0.7**
VALR pmax pmax
comp=Z,13nm,1.0s
MAK Makhachkala 30.51 62 *e*P P 00 24 43.3 -5.5
MAK *e*S **S 00 29 42.9 -7.2**
MAK pmax pmax
comp=Z,53nm,0.6s
DBIC Dimbokro 30.69 209 P **P 00 24 50.5 -0.1**
DBIC IAmb IAmb 00 25 22.3
comp=Z,16nm,0.8s
DBIC Dimbokro 30.69 209 P **P 00 24 50.5 -0.1**
comp=Z,8.6nm,0.7s,baz=12,slow=10,SNR=9.4
DBIC LR LR 00 37 57.0
comp=Z,250nm,19.8s,baz=13,slow=38
comp=Z,8.6nm,0.7s
TIC Toumodi 30.78 210⇑*e*PKP1 **P 00 24 54.5 +3.1**
comp=Z,16nm,0.6s
KIC Kosan Boka 30.92 209⇑*e*PKP1 **P 00 24 54.0 +1.3**
comp=Z,34nm,1.1s
LIC Lamto 31.16 209⇑*e*PKP1 **P 00 24 55.0 +0.2**
comp=Z,50nm,0.7s
MBO M'Bour 31.25 237 P **P 00 24 55.5 -0.1**
LKRN Lenkeran, Azer 31.51 71 P **P 00 24 57.0 -0.7**
BELG Belogornoye 32.42 45 LR LR 00 40 07.5
comp=Z,266nm,18.2s,baz=252,slow=40
BELG Belogornoye 32.42 45 *i* P **P 00 25 06.2 +0.6**
BELG pmax pmax
comp=Z,7.0nm,1.1s
KLMR Klimovskoe 32.70 27 *e*P **P 00 25 06.7 -1.2**
KLMR pmax pmax
comp=Z,17nm,1.1s
KLMR MLR MLR
comp=Z,619nm,12.0s
RAYN Ar Rayn 32.97 100 P **P 00 25 11.6 +0.9**
RAYN Ar Rayn 32.97 100 P **P 00 25 11.6 +0.9**
RAYN pmax pmax
comp=Z,3.0nm,0.9s
KIRV Kirov 35.69 35 LR LR 00 43 05.3
comp=Z,220nm,18.0s,baz=249,slow=41
KIRV Kirov 35.69 35*ce*P **P 00 25 34.4 +0.5**
BORG Borgarnes 35.74 338 LR LR 00 41 15.2
comp=Z,410nm,18.8s,baz=151,slow=38
APA Apatity 35.93 15⇓*i*P **P 00 25 38.7 +2.9**
APA *i* 00 27 02.0
APA *i* S **S 00 31 18.0 +4.2**
APA pmax pmax
comp=Z,7.0nm,1.0s
APA MLR MLR
comp=Z,1µm,13.0s
ARCES ARCESS Array B 36.29 9 P **P 00 25 37.3 -1.5**
comp=Z,8.1nm,0.8s,baz=197,slow=8.5,SNR=4.0
ARCES LR LR 00 42 09.6
comp=Z,487nm,18.2s,baz=206,slow=39
comp=Z,8.1nm,0.8s
ATD Arta Tunnel 37.76 119 LR LR 00 42 47.8
comp=Z,40nm,18.6s,baz=318,slow=38
JMIC Jan Mayen 37.96 350 LR LR 00 41 56.1
comp=Z,280nm,19.5s,baz=120,slow=37
AKTO Aktyubinsk 38.37 50 LR LR 00 44 10.4
comp=Z,209nm,18.9s,baz=278,slow=40

GEYT Alibeck 38.89 70 P **P** **00 26 01.8 +0.5**
GEYT Alibeck 38.89 70 P **P** **00 26 01.1 -0.2**
comp=Z,1.7nm,0.7s,baz=260,slow=13,SNR=3.2
comp=Z,1.7nm,0.7s
GEYT Alibeck 38.89 70 P **P** **00 26 01.8 +0.5**
GEYT pmax pmax
comp=Z,35nm,1.7s
GYA0 ALIBECK ARRAY 38.89 70 P **P** **00 26 00.7 -0.6**
GYA0B ALIBECK ARRAY 38.89 70 P **P** **00 26 00.7 -0.7**
ABKAR Akbulak array 39.52 52 P **P** **00 26 05.9 -0.5**
ABKAR Akbulak array 39.52 52 P **P** **00 26 06.0 -0.4**
ARU Arti 39.67 41 P **P** **00 26 07.0 -0.5**
ARU Arti 39.67 41 LR LR 00 43 18.4
comp=Z,352nm,20.3s,baz=256,slow=37
ARU Arti 39.67 41 *d* iP **P** **00 26 07.3 -0.2**
ARU 00 28 08.6
ARU S **S** **00 32 12.9 +2.3**
ARU SS **SS** **00 34 57.8 -7.8**
ARU pmax pmax
comp=Z,11nm,0.9s
ARU MLR MLR
comp=Z,342nm,15.0s
ARU Arti 39.67 41 P **P** **00 26 07.0 -0.5**
comp=Z,10nm,1.0s
SVE Sverdlovsk 40.87 41 *e*P **P** **00 26 17.9 +0.4**
SVE pmax pmax
comp=Z,29nm,1.1s
UOSS Minazif 41.17 90 P **P** **00 26 19.4 -0.9**
ANGG Ammassalik, Gr 41.94 333 *i* P **P** **00 26 26.5 +0.4**
ANGG IAmb IAmb 00 26 27.7
comp=Z,9.4nm,0.7s
HRA Herat 42.93 74 P **P** **00 26 33.8 -1.1**
NRS Narsarsuaq 43.88 325 *i* P **P** **00 26 42.2 +0.3**
NRS IAmb IAmb 00 26 45.5
comp=Z,13nm,0.8s
WSAR Wadi Sarin 43.90 91 LR LR 00 48 52.3
comp=Z,526nm,20.3s,baz=308,slow=41
SPITS Spitsbergen Ar 44.00 2 P **P** **00 26 43.2 +0.5**
comp=Z,4.9nm,0.7s,baz=187,slow=10,SNR=2.2
SPITS LR LR 00 45 01.5
comp=Z,277nm,21.3s,baz=149,slow=36
comp=Z,4.9nm,0.7s
ICESG Greenland Ices 44.12 337 *i* P **P** **00 26 42.5 -1.7**
ICESG IAmb IAmb 00 26 46.2
comp=Z,11nm,0.9s
SUMG Summit 45.41 342 P **P** **00 26 54.5 0.0**
SUMG IAmb IAmb 00 26 56.7
comp=Z,24nm,1.1s
SUMG Summit 45.41 342 P **P** **00 26 54.5 0.0**
SUMG pmax pmax
comp=Z,24nm,1.1s
SUMG Summit 45.41 342 *i* P **P** **00 26 54.1 -0.3**
SUMG IAmb IAmb 00 26 54.5
comp=Z,0.7nm,0.5s
DY2G Dye2 45.54 332 *i* P **P** **00 26 54.4 -0.9**
DY2G IAmb IAmb 00 26 57.5
comp=Z,8.3nm,0.9s
BRVK Borovoye 46.09 47 P **P** **00 26 59.3 -0.3**
BRVK IAmb IAmb 00 27 06.1
comp=Z,23nm,1.1s
BRVK Borovoye 46.09 47 *ce*P **P** **00 27 00.2 +0.6**
BRVK pmax pmax
comp=Z,34nm,1.7s
BVAR Borovoye Array 46.16 47 P **P** **00 27 00.1 0.0**
comp=Z,7.8nm,0.9s,baz=267,slow=5.8,SNR=28
BVAR LR LR 00 50 26.9
comp=Z,246nm,19.2s,baz=275,slow=41
comp=Z,7.8nm,0.9s
SIMJ Simiganj 47.12 67 P **P** **00 27 08.6 +0.5**
SIMJ IAmb IAmb 00 27 27.1
comp=Z,17nm,1.4s
CHGR Chuyangaron 47.24 67 P **P** **00 27 07.8 -1.1**
CHGR IAmb IAmb 00 27 10.7
comp=Z,15nm,0.8s
CHGR Chuyangaron 47.24 67 P **P** **00 27 07.8 -1.1**
CHGR pmax pmax
comp=Z,15nm,0.8s
KK31 Karatay Array 47.28 60 P **P** **00 27 08.6 -0.6**
KK31 Karatay Array 47.28 60 P **P** **00 27 08.6 -0.6**
KK31 pmax pmax
comp=Z,4.0nm,1.0s
KKAR Karatay Array 47.28 60 P **P** **00 27 09.1 -0.1**
KKAR Karatay Array 47.28 60 P **P** **00 27 08.8 -0.4**
KKAR Karatay Array 47.28 60 P **P** **00 27 08.8 -0.4**
KKAR 00 27 09.1
NUUK Nuuk 47.29 328 *i* P **P** **00 27 09.1 +0.2**
SFJD Kangerlussuaq 47.34 332 LR LR 00 45 55.4
comp=Z,418nm,19.5s,baz=105,slow=35
SFJD Kangerlussuaq 47.34 332 *i* P **P** **00 27 08.5 -0.7**
SFJD IAmb IAmb 00 27 10.6
comp=Z,8.6nm,0.9s
ILULI Ilulissat 48.02 335 P **P** **00 27 13.7 -0.7**
ILULI IAmb IAmb 00 27 15.5
comp=Z,19nm,0.9s
ILULI Ilulissat 48.02 335 P **P** **00 27 13.7 -0.7**
ILULI pmax pmax
comp=Z,19nm,0.9s
ILULI Ilulissat 48.02 335 *i* P **P** **00 27 13.7 -0.7**
ILULI IAmb IAmb 00 27 16.2
comp=Z,13nm,0.8s
GAR Garm 48.03 66 P **P** **00 27 15.1 -0.1**
BTK Batken 48.15 64 P **P** **00 27 15.1 -1.0**
BTK Batken 48.15 64 P **P** **00 27 15.1 -1.0**
BTK pmax pmax
comp=Z,11nm,1.1s
NOR Nord 48.33 355 *i* P **P** **00 27 18.4 +1.6**
NOR IAmb IAmb 00 27 19.8
comp=Z,1.3nm,0.7s
UMMG Ummannaq 48.71 337 *i* P **P** **00 27 19.2 -0.5**
UMMG IAmb IAmb 00 27 21.4
comp=Z,14nm,0.7s
ARSB Arslanbob 49.45 62 P **P** **00 27 26.1 0.0**
ARSB Arslanbob 49.45 62 P **P** **00 27 26.1 0.0**
ARSB pmax pmax
comp=Z,4.0nm,1.1s
AAK Ala-Archa 50.24 60 P **P** **00 27 31.1 -1.0**
AAK Ala-Archa 50.24 60 LR LR 00 53 22.8
comp=Z,154nm,19.0s,baz=288,slow=42
AAK Ala-Archa 50.24 60 *ce*P **P** **00 27 32.4 +0.3**
AAK pmax pmax
comp=Z,6.0nm,2.5s
NEEM North Greenlan 50.45 346 *i* P **P** **00 27 33.3 -0.1**
NEEM IAmb IAmb 00 27 37.0
comp=Z,16nm,0.8s
KURBB Kurchatov Arra 51.41 49 P **P** **00 27 40.2 -0.3**
comp=Z,5.2nm,0.9s,baz=282,slow=8.5,SNR=39
KURBB LR LR 00 53 40.1
comp=Z,296nm,18.3s,baz=169,slow=41
comp=Z,5.2nm,0.9s
KURK Kurchatov 51.45 49 P **P** **00 27 40.1 -0.8**
KURK IAmb IAmb 00 27 46.8
comp=Z,21nm,1.1s
KURK Kurchatov 51.45 49 *ce*P **P** **00 27 41.1 +0.3**
KURK pmax pmax
comp=Z,31nm,1.7s
NIL Nilore 51.86 72 P **P** **00 27 44.5 +0.3**
NIL IAmb IAmb 00 27 51.6
comp=Z,20nm,0.8s
NIL Nilore 51.86 72 P **P** **00 27 44.6 +0.3**
NIL pmax pmax
comp=Z,20nm,0.9s
KSH Kashi 52.13 64 P **P** **00 27 46.3 0.0**
KSH pP sP 00 27 51.0 +0.3
KSH S **S** **00 35 11.1 +0.5**
KSH pmax pmax
comp=Z,5.0nm,1.0s
KSH LR LR
comp=Z,310nm,16.3s
KSH LR LR
comp=Z,220nm,16.8s
LSZ Lusaka 52.41 157 P **P** **00 27 47.7 -0.7**
LSZ Lusaka 52.41 157 P **P** **00 27 47.7 -0.7**
LSZ pmax pmax
comp=Z,11nm,1.2s
TSUM Tsumeb 53.80 171 P **P** **00 27 58.6 0.0**
ZAA0 Zalesovo Array 54.61 44 P **P** **00 28 03.4 -0.7**
ZAA0 IAmb IAmb 00 28 09.4
comp=Z,13nm,1.1s
ZALV Zalesovo Beam 54.61 44 P **P** **00 28 04.0 -0.1**
ZALV Zalesovo Beam 54.61 44 P **P** **00 28 03.6 -0.5**
comp=Z,4.7nm,0.7s,baz=292,slow=7.8,SNR=26
ZALV LR LR 00 53 26.3
comp=Z,236nm,18.8s,baz=284,slow=38
comp=Z,4.7nm,0.7s
ZALV Zalesovo Beam 54.61 44 *i* P **P** **00 28 04.0 -0.1**
ZALV pmax pmax
comp=Z,7.0nm,0.8s
MK31 Makanchi Array 54.64 53 P **P** **00 28 04.3 -0.2**
MK31 Makanchi Array 54.64 53 P **P** **00 28 04.3 -0.2**
MK31 pmax pmax
comp=Z,4.0nm,1.1s
MKAR Makanchi Array 54.64 53 P **P** **00 28 03.3 -1.2**
MKAR Makanchi Array 54.64 53 P **P** **00 28 04.2 -0.3**
comp=Z,2.7nm,0.7s,baz=288,slow=5.8,SNR=24
comp=Z,2.7nm,0.7s
FRB Frobisher Bay 54.68 328 LR LR 00 50 00.2
comp=Z,395nm,19.2s,baz=98,slow=34
SCHQ Schefferville 55.28 317 P **P** **00 28 08.3 -0.6**
SCHQ Schefferville 55.28 317 P **P** **00 28 07.9 -1.0**
comp=Z,27nm,0.9s,baz=75,slow=7.7,SNR=20
SCHQ LR LR 00 49 06.2
comp=Z,153nm,20.0s,baz=75,slow=33
comp=Z,27nm,0.9s
WIN Windhoek 57.06 172 P **P** **00 28 25.1 +2.9**
WIN Windhoek 57.06 172 P **P** **00 28 25.1 +2.9**
WIN pmax pmax
comp=Z,73nm,2.0s
EUNU Eureka 57.45 348 P **P** **00 28 24.4 +0.3**
RCBR Riachuelo 58.75 236 LR LR 00 52 26.8
comp=Z,536nm,20.7s,baz=2.5,slow=35
WMQ Urumqi 59.16 56 *e*P **P** **00 28 40.1 +3.4**
WMQ LR LR
comp=Z,380nm,20.1s
WMQ LR LR
comp=Z,260nm,20.1s
NBCA Caruaru-PE 60.56 234 *e*P **P** **00 28 47.6 +1.1**
RES Resolute Bay 60.90 343 LR LR 00 56 07.9
comp=Z,352nm,18.6s,baz=47,slow=37
LBNH Lisbon 61.51 306 P **P** **00 28 53.4 +0.7**
baz=68
M65A Busby, Falmout 61.62 303 P **P** **00 28 54.1 +0.7**
baz=68
NBAN Anadia - AL 61.79 234 *e*P **P** **00 28 56.0 +1.1**
L61B Northampton 62.69 304 P **P** **00 29 01.4 +0.9**
baz=67
HYB Hyderabad 63.10 87 *e*P **P** **00 29 04.9 +1.2**
LONY Lake Ozonia 63.13 307 P **P** **00 29 05.0 +1.5**
baz=67
NBLA Lagarto - SE 63.77 234 *e*P **P** **00 29 08.9 +0.9**
PAL Palisades 64.10 303 P **P** **00 29 11.4 +1.4**
baz=66
BOSA Boshof 64.35 165 P **P** **00 29 11.2 -0.4**
BOSA IAmb IAmb 00 29 13.7
comp=Z,12nm,0.9s
BOSA Boshof 64.35 165 P **P** **00 29 11.3 -0.4**
comp=Z,11nm,0.9s,baz=349,slow=6.9,SNR=12
comp=Z,11nm,0.9s
BOSA Boshof 64.35 165 P **P** **00 29 11.2 -0.4**
BOSA pmax pmax
comp=Z,12nm,0.9s
MDP Montagnes des 64.42 258 LR LR 00 55 33.0
comp=Z,521nm,19.0s,baz=79,slow=34
BINY Binghamton 65.03 305 P **P** **00 29 17.1 +1.0**
baz=65
SADO Sadowa 66.04 309 P **P** **00 29 22.2 -0.2**
SADO IAmb IAmb 00 29 33.7
comp=Z,8.0nm,0.8s
SADO Sadowa 66.04 309 LR LR 00 55 26.5
comp=Z,295nm,21.2s,baz=92,slow=34
TIXI Tiksi 66.08 18 P **P** **00 29 21.9 -0.3**
TIXI Tiksi 66.08 18 LR LR 01 00 42.2
comp=Z,256nm,21.0s,baz=333,slow=38
TIXI Tiksi 66.08 18 *ce*P **P** **00 29 22.4 +0.2**
TIXI pmax pmax
comp=Z,7.0nm,0.8s
SSPA Standing Stone 67.00 304 P **P** **00 29 29.3 +0.6**
SSPA IAmb IAmb 00 29 32.7
comp=Z,17nm,0.9s
SSPA Standing Stone 67.00 304 P **P** **00 29 30.0 +1.3**
baz=64
M55A Ridgway 67.22 305 P **P** **00 29 30.5 +0.3**
M55A IAmb IAmb 00 29 34.1
comp=Z,14nm,0.9s
P57A Homestead Farm 67.59 303 P **P** **00 29 33.5 +1.0**
ERPA Erie 67.75 307 P **P** **00 29 34.2 +0.7**
baz=63
FCC Fort Churchill 67.87 327 P **P** **00 29 35.0 +1.2**
FCC Fort Churchill 67.87 327 P **P** **00 29 35.0 +1.2**
FCC pmax pmax
comp=Z,27nm,0.9s
M53A WI Miller and 68.52 306 P **P** **00 29 39.3 +1.0**
baz=63
BOD Bodaibo 68.55 34 *e*P **P** **00 29 37.5 -0.7**
BOD pmax pmax
comp=Z,11nm,1.6s
E46A Sault Ste Mari 68.58 312 IAmb IAmb 00 29 40.6
comp=Z,9.3nm,0.9s
MCWV Mont Chateau 68.78 304 P **P** **00 29 41.3 +1.4**
baz=62
AGPR Aguadilla, PR 69.16 279 P **P** **00 29 43.3 +0.7**
GUA01 Guaratinga, BA 69.19 231 *e*P **P** **00 29 43.2 +0.6**
GTA Gaotai 69.24 56 P **P** **00 29 44.1 +1.1**
GTA pmax pmax
comp=Z,6.0nm,1.1s
GTA LR LR
comp=Z,120nm,16.4s
GTA LR LR
comp=Z,120nm,17.5s
GTA LR LR
comp=Z,130nm,17.1s
A36M Sachs Harbour 69.38 346 P **P** **00 29 43.5 +0.5**
A36M Sachs Harbour 69.38 346 P **P** **00 29 44.3 +1.2**
baz=39,SNR=20
O53A New Philadelph 69.43 305 P **P** **00 29 44.0 0.0**
O53A IAmb IAmb 00 30 23.1
comp=Z,18nm,1.1s
O53A New Philadelph 69.43 305 P **P** **00 29 44.8 +0.8**
baz=62
SONM Songino Array 69.47 46 P **P** **00 29 44.1 -0.2**
SONM Songino Array 69.47 46 P **P** **00 29 43.0 -1.2**
comp=Z,5.8nm,1.0s,baz=283,slow=6.4,SNR=10
comp=Z,5.8nm,1.0s
SONM Songino Array 69.47 46 P **P** **00 29 44.1 -0.2**
SONM pmax pmax
comp=Z,9.0nm,1.2s
GLMI Grayling 69.50 311 P **P** **00 29 45.3 +1.0**
baz=62
T57A Hurt 69.60 301 P **P** **00 29 44.6 -0.4**
T57A IAmb IAmb 00 29 48.8
comp=Z,11nm,1.1s
SDBA SAO DESIDERIO 69.65 238 *e*P **P** **00 29 46.3 +0.7**
ULN Ulaanbaatar 69.85 45 P **P** **00 29 46.2 -0.4**
ULN Ulaanbaatar 69.85 45 *ce*P **P** **00 29 46.9 +0.3**
ULN pmax pmax
comp=Z,12nm,1.7s
N51A Ashland 69.90 306 P **P** **00 29 47.0 +0.2**
P53A Whipple 69.91 305 P **P** **00 29 46.1 -0.8**
P53A IAmb IAmb 00 29 50.1
comp=Z,28nm,1.4s
O52A Adamsville 69.92 305 P **P** **00 29 46.4 -0.5**
O52A IAmb IAmb 00 29 49.2
comp=Z,22nm,1.2s
SHL Shillong 69.93 72 P **P** **00 29 46.5 -1.0**
SHL Shillong 69.93 72 P **P** **00 29 46.5 -1.0**
SHL pmax pmax
comp=Z,57nm,1.7s
AAM Ann Arbor 70.08 308 P **P** **00 29 49.5 +1.5**
baz=61
E43A Lone Tree Farm 70.22 313 IAmb IAmb 00 29 51.0
comp=Z,9.8nm,0.8s
BLA Blacksburg 70.32 302 P **P** **00 29 50.9 +1.3**
baz=61
P52A Corning 70.35 305 P **P** **00 29 49.6 0.0**
P52A IAmb IAmb 00 29 52.9
comp=Z,21nm,1.1s
P52A Corning 70.35 305 P **P** **00 29 50.6 +1.0**
baz=61
ACSO Alum Creek Sta 70.63 306 P **P** **00 29 50.5 -0.8**
ACSO IAmb IAmb 00 30 16.7
comp=Z,13nm,0.8s
ACSO Alum Creek Sta 70.63 306 P **P** **00 29 52.4 +1.1**
baz=61
Q52A Bidwell 70.76 304 P **P** **00 29 50.5 -1.7**
Q52A IAmb IAmb 00 30 31.4
comp=Z,22nm,1.1s
L48A N Adams 70.76 308 P **P** **00 29 52.0 -0.1**
L48A IAmb IAmb 00 29 56.1
comp=Z,31nm,1.4s
JANB Januaria 71.09 236 *e*P **P** **00 29 55.3 +1.0**
C36M Paulatuk 71.19 344 P **P** **00 29 54.6 +0.4**
baz=39,SNR=11
PCRV Puerto La Cruz 71.45 270 LR LR 01 00 25.2
comp=Z,85nm,20.0s,slow=35
Q51A Peebles 71.46 305 P **P** **00 29 55.3 -1.1**
Q51A IAmb IAmb 00 30 00.0
comp=Z,14nm,1.0s
O49A Covington 71.56 306 P **P** **00 29 56.9 -0.1**
O49A IAmb IAmb 00 30 00.2
comp=Z,15nm,0.9s
U54A Nelsons Funny 71.64 302 P **P** **00 29 55.7 -1.9**
U54A IAmb IAmb 00 30 00.8
comp=Z,22nm,1.2s
COWI Conover 71.64 314 IAmb IAmb 00 29 59.9
comp=Z,12nm,0.9s
KMSC Kings Mountain 71.97 300 P **P** **00 29 59.4 -0.2**
KMSC IAmb IAmb 00 32 17.5
comp=Z,8.3nm,0.8s
KMSC Kings Mountain 71.97 300 P **P** **00 30 00.2 +0.7**
baz=60
O48B Farmland 72.07 307 P **P** **00 30 00.9 +0.9**
baz=60
EYMN Ely 72.07 316 P **P** **00 29 59.9 0.0**
EYMN IAmb IAmb 00 30 10.8
comp=Z,18nm,1.1s
EYMN Ely 72.07 316 P **P** **00 30 00.2 +0.3**
baz=58
N47A Urbana 72.11 308 P **P** **00 29 59.9 -0.4**
SDDR Presa de Saban 72.31 281 P **P** **00 30 01.5 -0.3**
BOAV Boa Vista 72.39 261 P **P** **00 30 02.5 +0.2**
BOAV IAmb IAmb 00 30 06.7
comp=Z,20nm,1.2s
BOAV Boa Vista 72.39 261 *e*P **P** **00 30 03.2 +0.9**
PAULI Pauline 72.47 300 P **P** **00 30 01.9 -0.6**
PAULI IAmb IAmb 00 30 05.0
comp=Z,11nm,0.9s
YAK Yakutsk 72.48 25 LR LR 01 05 42.7
comp=Z,380nm,20.7s,baz=302,slow=39
YAK Yakutsk 72.48 25 *e*P **P** **00 30 02.2 +0.1**
YAK *e**PP **sP** **00 30 09.9 +3.3**
YAK *e* 00 30 17.1
YAK *e* 00 32 42.0
YAK *e*PPP PPP 00 34 26.1
YAK *e*S **S** **00 39 27.7 +1.8**
YAK *e* 00 40 03.2
YAK *e*SS **SS** **00 44 07.8 +4.3**
YAK pmax pmax
comp=Z,11nm,0.9s
YAK pmax pmax
comp=N,4.0nm,1.3s
YAK pmax pmax
comp=E,2.0nm,1.4s
YAK pmax pmax
comp=Z,124nm,4.7s
YAK pmax pmax
comp=N,37nm,3.3s
YAK pmax pmax
comp=E,48nm,2.5s
YAK smax smax
comp=N,76nm,4.6s
YAK smax smax
comp=E,56nm,3.7s
R50A Paris 72.50 305 P **P** **00 29 59.4 -3.2**
R50A IAmb IAmb 00 30 04.3
comp=Z,15nm,1.4s
G40A Rib Lake 72.71 313 P **P** **00 30 03.8 0.0**
G40A IAmb IAmb 00 30 35.0
comp=Z,22nm,1.8s
V53A Saluda 72.76 302 P **P** **00 30 03.2 -1.1**
V53A IAmb IAmb 00 30 20.2
comp=Z,23nm,1.2s
E38A The Farm, Brul 72.81 315 P **P** **00 30 03.5 -0.8**
E38A IAmb IAmb 00 30 20.7
comp=Z,26nm,1.4s
TZTN Tazewell 72.83 303 P **P** **00 30 05.2 +0.6**
baz=60
L44A Lake County Fo 72.89 310 P **P** **00 30 05.5 +0.7**
baz=59
DIAM Diamantina, MG 72.95 233 *e*P **P** **00 30 06.8 +1.1**
R49A Shelbyville 73.07 305 P **P** **00 30 05.3 -0.7**
R49A IAmb IAmb 00 30 09.3
comp=Z,19nm,1.3s
HODGE Hodges 73.08 300 P **P** **00 30 06.3 +0.1**
HODGE IAmb IAmb 00 30 09.2
comp=Z,30nm,1.6s
TKL Tuckaleechee C 73.44 302 LR LR 01 00 27.9
comp=Z,188nm,20.0s,baz=69,slow=34
LZH Lanzhou 73.65 57 *e*P **P** **00 30 05.5 -4.2**
LZH pmax pmax
comp=Z,12nm,1.2s
YKA Yellowknife Ar 73.67 336 P **P** **00 30 09.8 +0.8**
YKA Yellowknife Ar 73.67 336 P **P** **00 30 09.4 +0.4**
comp=Z,14nm,0.8s,baz=43,slow=5.9,SNR=109
YKA LR LR 01 02 55.2
comp=Z,365nm,18.6s,baz=12,slow=36
comp=Z,14nm,0.8s
YKA Yellowknife Ar 73.67 336 *i* P **P** **00 30 09.6 +0.5**
YKA pmax pmax
comp=Z,14nm,0.8s
FFC Flin Flon 73.72 326 P **P** **00 30 10.1 +0.6**
FFC IAmb IAmb 00 30 12.6
comp=Z,11nm,0.9s
FFC Flin Flon 73.72 326 P **P** **00 30 10.1 +0.6**
FFC pmax pmax
comp=Z,11nm,0.9s
WCI Wyandotte Cave 73.86 305 P **P** **00 30 09.3 -1.4**
WCI IAmb IAmb 00 30 21.7
comp=Z,40nm,1.8s
WCI Wyandotte Cave 73.86 305 P **P** **00 30 11.0 +0.3**
baz=59
WCI Wyandotte Cave 73.86 305 P **P** **00 30 09.3 -1.4**
WCI pmax pmax
comp=Z,40nm,1.8s
SNDB Serra Nova Dou 73.96 243 *e*P **P** **00 30 12.3 +0.8**
INK Inuvik 74.02 347 IAmb IAmb 00 30 13.7
comp=Z,14nm,1.0s
INK Inuvik 74.02 347 P **P** **00 30 12.0 +1.0**
baz=31,SNR=18
INK Inuvik 74.02 347 LR LR 01 04 52.6
comp=Z,205nm,18.8s,baz=8.5,slow=38
INK Inuvik 74.02 347 P **P** **00 30 11.7 +0.7**
D28M Stokes Point 74.03 349 P **P** **00 30 12.2 +1.1**
baz=27,SNR=5.1
BDFB Brasilia 74.05 238 P **P** **00 30 12.0 -0.1**
BDFB IAmb IAmb 00 30 14.1
comp=Z,24nm,1.2s
BDFB Brasilia 74.05 238 P **P** **00 30 12.4 +0.3**
comp=Z,15nm,1.0s,baz=43,slow=8.8,SNR=8.8
BDFB LR LR 01 01 15.4
comp=Z,754nm,19.5s,baz=51,slow=35
comp=Z,15nm,1.0s
BDFB Brasilia 74.05 238 P **P** **00 30 12.0 -0.1**
BDFB pmax pmax
comp=Z,24nm,1.2s
SPMN Marine on St. 74.29 314 P **P** **00 30 14.0 +1.0**
baz=57
AGMN Agassiz Nation 74.34 318 P **P** **00 30 14.5 +1.2**
baz=56
A22K Sinclair Lake 74.35 355 P **P** **00 30 13.6 +0.7**
baz=13
GOGA Godfrey 74.37 300 P **P** **00 30 15.0 +1.3**
baz=59
C26K Camden Bay 74.38 351 P **P** **00 30 14.3 +1.2**
baz=22,SNR=29
U49A Red Boiling Sp 74.39 304 P **P** **00 30 13.7 -0.1**
U49A IAmb IAmb 00 30 16.2
comp=Z,28nm,1.6s
D27M Malcolm River 74.46 350 P **P** **00 30 13.8 +0.1**
D27M IAmb IAmb 00 30 26.1
comp=Z,33nm,1.4s
D27M Malcolm River 74.46 350 P **P** **00 30 14.4 +0.7**
baz=25
C27K Jago River 74.49 351 P **P** **00 30 14.8 +0.9**
baz=23,SNR=26
154A Montrose 74.52 299 **P** **00 30 13.3 -1.3**
HDIL Hopedale 74.62 309 P **P** **00 30 15.5 +0.4**
baz=58
E29M Blow River 74.74 348 P **P** **00 30 15.9 +0.7**
baz=27,SNR=69
F31M Tsiigehtchic 74.81 346 P **P** **00 30 16.4 +0.7**
baz=31,SNR=49
E28M Babbage River 74.81 349 IAmb IAmb 00 30 19.3
comp=Z,13nm,0.9s
E28M Babbage River 74.81 349 P **P** **00 30 16.4 +0.7**
baz=26,SNR=8.8
B22K Teshekpuk Lake 74.87 354 IAmb IAmb 00 30 19.3
comp=Z,27nm,1.2s
B22K Teshekpuk Lake 74.87 354 P **P** **00 30 16.6 +0.6**

baz=14,SNR=6.3
BAUV El Baul 74.93 271 IAmb IAmb 00 30 22.4
comp=Z,22nm,0.9s
C24K Franklin Bluff 75.01 352 P **P** **00 30 17.4 +0.6**
baz=18
L40A Anamosa 75.04 311 IAmb IAmb 00 30 18.7
comp=Z,39nm,1.7s
F30M Barrier River 75.05 347 P **P** **00 30 17.8 +0.7**
baz=29,SNR=14
T47A Sharon Grove 75.06 305 IAmb IAmb 00 30 31.4
comp=Z,30nm,1.2s
C23K Itkillik River 75.10 353 P **P** **00 30 18.5 +1.2**
baz=17,SNR=26
D25K Kavik River 75.12 351 P **P** **00 30 18.0 +0.5**
D25K IAmb IAmb 00 30 21.5
comp=Z,20nm,0.8s
D25K Kavik River 75.12 351 P **P** **00 30 18.4 +0.9**
baz=20,SNR=35
P43A Skaggs, Pawnee 75.26 308 IAmb IAmb 00 30 22.1
comp=Z,16nm,1.1s
G31M Satah River 75.36 346 IAmb IAmb 00 30 21.3
comp=Z,21nm,0.9s
G31M Satah River 75.36 346 P **P** **00 30 19.5 +0.7**
baz=30,SNR=22
TNCH TengChong 75.39 70 *e*P **P** **00 30 17.8 -2.2**
TNCH pmax pmax
comp=Z,300nm,5.3s
B20K Meade River 75.48 355 P **P** **00 30 20.2 +0.7**
baz=11
E27K Coleen River 75.52 349 IAmb IAmb 00 30 23.2
comp=Z,22nm,1.1s
E27K Coleen River 75.52 349 P **P** **00 30 20.3 +0.5**
baz=24,SNR=18
D24K Happy Valley 75.57 352 P **P** **00 30 21.2 +1.2**
D24K IAmb IAmb 00 30 23.8
comp=Z,18nm,0.9s
D24K Happy Valley 75.57 352 P **P** **00 30 20.5 +0.5**
baz=18,SNR=14
DWPF Disney Wildern 75.60 294 P **P** **00 30 21.8 +0.9**
baz=58
BSCB Bom Sucesso 75.61 232 *e*P **P** **00 30 21.5 +0.5**
B21K Ikpikpuk River 75.67 354 IAmb IAmb 00 30 25.1
comp=Z,22nm,0.8s
B21K Ikpikpuk River 75.67 354 P **P** **00 30 21.8 +1.2**
baz=13,SNR=9.4
G30M tAoh Zraii Nji 75.69 347 P **P** **00 30 21.1 +0.4**
G30M IAmb IAmb 00 30 28.8
comp=Z,7.9nm,0.7s
G30M tAoh Zraii Nji 75.69 347 P **P** **00 30 21.5 +0.7**
baz=28
F28M Old Crow 75.77 348 P **P** **00 30 21.7 +0.5**
F28M IAmb IAmb 00 30 24.5
comp=Z,22nm,0.9s
F28M Old Crow 75.77 348 P **P** **00 30 22.3 +1.1**
baz=26,SNR=23
WRGLY Wrigley 75.83 340 P **P** **00 30 22.6 +1.0**
WRGLY Wrigley 75.83 340 P **P** **00 30 23.4 +1.9**
baz=38,SNR=8.9
D23K Nanushuk River 75.95 353 P **P** **00 30 23.5 +1.2**
baz=17
G29M Pine Creek 76.08 347 P **P** **00 30 23.8 +0.7**
baz=27,SNR=13
C21K Knifeblade Rid 76.14 354 P **P** **00 30 24.6 +1.2**
baz=13,SNR=10
TOLK Toolik Lake Re 76.14 352 P **P** **00 30 24.7 +1.3**
baz=18,SNR=43
E25K Arctic Village 76.15 351 P **P** **00 30 24.6 +1.2**
baz=21,SNR=36
D22K Ayikyak River 76.23 354 P **P** **00 30 24.4 +0.6**
D22K Ayikyak River 76.23 354 P **P** **00 30 25.3 +1.4**
baz=15,SNR=18
HHC Hu-ho-hao-te 76.26 50 *e*P **P** **00 30 23.6 -1.0**
HHC pmax pmax
comp=Z,12nm,0.8s
HHC pmax pmax
comp=Z,300nm,7.5s
HHC LR LR
comp=Z,140nm,16.8s
HHC LR LR
comp=Z,150nm,16.8s
HHC LR LR
comp=Z,440nm,17.1s
EPYK Eagle Plains 76.32 347 P **P** **00 30 25.4 +1.0**
baz=28,SNR=14
H31M Peel River 76.35 346 P **P** **00 30 24.9 +0.4**
H31M IAmb IAmb 00 30 31.3
comp=Z,18nm,1.0s
H31M Peel River 76.35 346 P **P** **00 30 26.1 +1.5**
baz=30,SNR=13
F26K Sheenjek River 76.35 350 P **P** **00 30 26.0 +1.4**
baz=22,SNR=34
X48A Hartselle 76.36 302 P **P** **00 30 25.6 +0.4**
X48A IAmb IAmb 00 30 30.9
comp=Z,8.7nm,0.7s
B18K Kokolik River 76.38 357 P **P** **00 30 24.4 -0.2**
baz=7.2
BILL Bilibino 76.39 9 P **P** **00 30 22.3 -2.4**
BILL IAmb IAmb 00 30 27.2
comp=Z,13nm,1.2s
BILL Bilibino 76.39 9 *e*P **P** **00 30 25.2 +0.5**
BILL pmax pmax
comp=Z,17nm,1.7s
C19K Lookout Ridge 76.53 356 P **P** **00 30 26.2 +0.6**
baz=9.1
E24K Your Creek 76.56 352 P **P** **00 30 26.7 +0.9**
E24K Your Creek 76.56 352 P **P** **00 30 26.4 +0.6**
baz=18,SNR=7.8
MDND Maddock 76.64 319 P **P** **00 30 27.2 +0.6**
baz=53
F25K Christian Rive 76.65 351 P **P** **00 30 27.1 +0.8**
baz=21,SNR=18
BMAR Burnt Mountain 76.66 350 P **P** **00 30 27.2 +0.9**
D20K Etivluk River 76.72 355 P **P** **00 30 27.4 +0.8**
baz=12,SNR=14
FVM French Village 76.75 307 P **P** **00 30 26.5 -0.8**
FVM IAmb IAmb 00 30 45.9
comp=Z,11nm,0.9s
FVM French Village 76.75 307 P **P** **00 30 26.5 -0.8**
FVM pmax pmax
comp=Z,11nm,0.9s
H29M Whitestone 76.76 347 P **P** **00 30 27.5 +0.7**
baz=27,SNR=33
E21K Killik River 76.77 354 IAmb IAmb 00 30 30.6
comp=Z,12nm,0.9s
E21K Killik River 76.77 354 P **P** **00 30 27.3 +0.4**
baz=14,SNR=11
PLAL Pickwick Lake 76.79 303 P **P** **00 30 27.0 -0.6**
G27K Doyon Strip 76.79 349 P **P** **00 30 27.6 +0.5**
G27K Doyon Strip 76.79 349 P **P** **00 30 27.6 +0.5**
baz=24,SNR=12
ARAG Araguaiana, MT 76.80 240 *e*P **P** **00 30 29.1 +1.3**
E22K Anaktuvuk Pass 76.87 353 P **P** **00 30 28.0 +0.5**
E22K IAmb IAmb 00 30 31.0
comp=Z,11nm,0.9s
E22K Anaktuvuk Pass 76.87 353 P **P** **00 30 28.2 +0.7**
baz=16
G26K Porcupine Rive 76.99 350 P **P** **00 30 29.3 +1.2**
baz=22,SNR=9.3
ZEA Zeya 76.99 33 *i* P **P** **00 30 29.1 +0.7**
F24K Squaw Lake 77.02 351 P **P** **00 30 29.4 +1.1**
F24K IAmb IAmb 00 30 33.0
comp=Z,15nm,0.8s
F24K Squaw Lake 77.02 351 P **P** **00 30 29.9 +1.5**
baz=19,SNR=26
D19K Kuna River 77.04 355 P **P** **00 30 29.7 +1.3**
D19K Kuna River 77.04 355 P **P** **00 30 29.7 +1.3**
baz=10,SNR=13
C18K Utukok River 77.06 357 P **P** **00 30 29.7 +1.1**
C18K IAmb IAmb 00 30 32.3
comp=Z,23nm,1.0s
C18K Utukok River 77.06 357 P **P** **00 30 29.1 +0.5**
baz=7.7
LRAL Lakeview Retre 77.08 301 IAmb IAmb 00 30 29.6
comp=Z,23nm,1.5s
LRAL Lakeview Retre 77.08 301 P **P** **00 30 29.2 -0.1**
baz=57
PZH PanZhiHua 77.09 67 P **P** **00 30 29.8 +0.2**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.6s
SDV Santo Domingo 77.11 272 P **P** **00 30 29.0 -0.9**
SDV IAmb IAmb 00 30 33.3
comp=Z,23nm,0.9s
SDV Santo Domingo 77.11 272 LR LR 01 00 42.0
comp=Z,105nm,21.7s,baz=96,slow=33
SDV Santo Domingo 77.11 272 *e*P **P** **00 30 30.4 +0.5**

E20K Nigu River 77.14 355 P **P** **00 30 29.4 +0.4**
baz=12,SNR=15
CCM Cathedral Cave 77.25 307 P **P** **00 30 30.0 -0.1**
baz=56
CCM Cathedral Cave 77.25 307 P **P** **00 30 28.5 -1.6**
CCM *PP **pP** **00 30 29.3 -4.1**
I30M Mount Dempster 77.27 346 P **P** **00 30 30.4 +0.5**
baz=28,SNR=69
H27K Steamboat Moun 77.30 348 P **P** **00 30 30.7 +0.7**
baz=24,SNR=40
C17K DeLong Mountai 77.32 357 P **P** **00 30 30.2 +0.2**
baz=6.0,SNR=6.5
HILA High Level 77.34 334 P **P** **00 30 30.4 +0.2**
ECSD EROS Data Cent 77.38 315 P **P** **00 30 29.2 -1.6**
ECSD IAmb IAmb 00 30 35.5
comp=Z,13nm,1.1s
ECSD EROS Data Cent 77.38 315 P **P** **00 30 30.8 0.0**
baz=54
PBMO Poplar Bluff 77.41 306 P **P** **00 30 30.2 -0.8**
PBMO IAmb IAmb 00 31 09.6
comp=Z,17nm,1.2s
G25K Bearman Lake 77.50 350 P **P** **00 30 31.3 +0.4**
baz=20,SNR=7.5
F22K John River 77.51 353 P **P** **00 30 31.5 +0.4**
baz=15,SNR=25
I29M Ogilvie Camp, 77.52 347 P **P** **00 30 32.0 +0.8**
I29M Ogilvie Camp, 77.52 347 P **P** **00 30 31.7 +0.5**
baz=27,SNR=32
FYU Fort Yukon 77.56 350 P **P** **00 30 31.9 +0.6**
COLD Coldfoot 77.57 352 P **P** **00 30 32.0 +0.7**
baz=17,SNR=24
C16K Lisburne Hills 77.59 358 P **P** **00 30 32.1 +0.6**
baz=4.2
T42A Van Buren 77.72 306 IAmb IAmb 00 30 57.8
comp=Z,26nm,1.8s
RDOG Red Dog Mine 77.73 357 P **P** **00 30 33.0 +0.7**
RDOG IAmb IAmb 00 31 01.4
comp=Z,16nm,0.7s
RDOG Red Dog Mine 77.73 357 P **P** **00 30 33.4 +1.1**
baz=6.2
I28M Miner Creek 77.74 348 P **P** **00 30 31.7 -0.8**
I28M IAmb IAmb 00 30 36.0
comp=Z,17nm,0.8s
I28M Miner Creek 77.74 348 P **P** **00 30 32.9 +0.4**
baz=25,SNR=28
G24K Hadweenzic Riv 77.74 351 P **P** **00 30 33.8 +1.4**
G24K Hadweenzic Riv 77.74 351 P **P** **00 30 32.8 +0.4**
baz=19,SNR=13
PDRB Porto dos Gac 77.80 247 *e*P **P** **00 30 34.2 +0.8**
J30M Hart River 77.83 346 P **P** **00 30 33.3 +0.2**
J30M IAmb IAmb 00 30 36.6
comp=Z,14nm,1.0s
J30M Hart River 77.83 346 P **P** **00 30 33.2 +0.2**
baz=28,SNR=10
I27K Kandik River 77.89 348 P **P** **00 30 34.0 +0.7**
baz=24,SNR=34
F21K Alatna River 77.92 353 P **P** **00 30 33.8 +0.4**
F21K Alatna River 77.92 353 P **P** **00 30 34.1 +0.7**
baz=14,SNR=61
H25L Birch Creek 77.92 350 P **P** **00 30 34.4 +1.0**
baz=20,SNR=8.5
E19K Redstone River 78.00 355 P **P** **00 30 34.4 +0.6**
baz=11,SNR=32
G22K Bettles 78.01 353 P **P** **00 30 34.7 +0.9**
baz=16
G23K Bananza Creek 78.05 352 P **P** **00 30 34.7 +0.6**
baz=17,SNR=45
D17K Noatak River 78.09 357 P **P** **00 30 35.1 +0.8**
baz=6.1,SNR=10
E18K Tukpahlearik C 78.25 356 IAmb IAmb 00 30 38.6
comp=Z,20nm,0.9s
E18K Tukpahlearik C 78.25 356 P **P** **00 30 36.4 +1.2**
baz=8.2,SNR=11
XAN Xi'an 78.26 57 ⇑P **P** **00 30 37.0 +1.1**
XAN pP sP 00 30 40.1 -0.3
XAN S **S** **00 40 35.0 +3.9**
XAN pmax pmax
comp=Z,15nm,1.2s
XAN pmax pmax
comp=Z,130nm,4.7s
XAN LR LR
comp=Z,500nm,11.1s
XAN LR LR
comp=Z,480nm,11.8s
XAN LR LR
comp=Z,850nm,22.6s
L34A Svendsen Farm, 78.27 313 IAmb IAmb 00 30 42.3
comp=Z,15nm,0.8s
LCAR Lake Charles 78.29 306 IAmb IAmb 00 30 40.4
comp=Z,33nm,2.0s
SUSD Miller 78.32 316 P **P** **00 30 36.7 +0.7**
baz=53
MMPY Sheldon Lake, 78.39 343 IAmb IAmb 00 30 40.7
comp=Z,16nm,0.8s
MMPY Sheldon Lake, 78.39 343 P **P** **00 30 37.2 +1.1**
baz=32,SNR=17
I26K Coal Creek Min 78.42 349 IAmb IAmb 00 30 39.9
comp=Z,16nm,0.8s
I26K Coal Creek Min 78.42 349 P **P** **00 30 37.7 +1.6**
baz=23
KOTAN Kotaneelee Air 78.46 338 P **P** **00 30 36.8 +0.4**
baz=38
SEY Seymchan 78.52 16 LR LR 01 12 34.8
comp=Z,150nm,18.5s,baz=331,slow=41
SEY Seymchan 78.52 16 *ce*P **P** **00 30 38.4 +1.7**
SEY pmax pmax
comp=Z,10.0nm,1.5s
TGTN Hyland Airport 78.54 341 P **P** **00 30 36.9 0.0**
baz=34
EGAK Eagle 78.57 348 IAmb IAmb 00 30 40.2
comp=Z,20nm,1.0s
EGAK Eagle 78.57 348 P **P** **00 30 37.4 +0.4**
baz=24,SNR=16
PRP Porcupine Dome 78.59 350 P **P** **00 30 37.9 +0.7**
baz=21,SNR=17
G21K Allakaket 78.61 353 P **P** **00 30 38.1 +1.0**
baz=14,SNR=19
MAYO Mayo, Yukon 78.61 345 P **P** **00 30 38.5 +1.3**
baz=28
H24K Noodor Dome 78.61 351 P **P** **00 30 38.3 +1.0**
H24K IAmb IAmb 00 30 41.3
comp=Z,16nm,0.9s
H24K Noodor Dome 78.61 351 P **P** **00 30 38.6 +1.4**
baz=19,SNR=20
E17K Hotham Inlet 78.66 357 P **P** **00 30 38.0 +0.7**
baz=7.1,SNR=5.4
F19K Shalauckik Mo 78.66 355 P **P** **00 30 38.3 +0.9**
baz=10
DGMT Dagmar 78.68 322 P **P** **00 30 39.1 +1.1**
baz=50
K29M Barlow Dome 78.73 346 P **P** **00 30 38.7 +0.7**
baz=27,SNR=9.2
S39A Bolivar 78.81 308 IAmb IAmb 00 30 55.8
comp=Z,9.8nm,0.8s
H23K Yukon River 78.84 351 P **P** **00 30 39.5 +1.0**
baz=17,SNR=32
DAWY Dawson 78.89 347 P **P** **00 30 39.7 +0.9**
baz=26,SNR=26
H22K Ishtalitna Cre 78.99 352 P **P** **00 30 40.2 +0.9**
baz=16,SNR=20
F18K Selawik 79.01 356 P **P** **00 30 40.7 +1.4**
baz=8.9,SNR=6.9
CMAR Chiang Mai Arr 79.19 75 P **P** **00 30 40.9 -0.3**
comp=Z,1.3nm,0.3s,baz=310,slow=7.9,SNR=11
comp=Z,1.3nm,0.3s
CMAR Chiang Mai Arr 79.19 75 *i* P **P** **00 30 41.5 +0.3**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
FARO Faro, Yukon 79.23 343 P **P** **00 30 41.7 +1.0**
baz=30,SNR=16
J26L Joseph Creek 79.23 349 P **P** **00 30 42.0 +1.3**
baz=22,SNR=45
POKR Poker Plat Res 79.24 350 P **P** **00 30 41.7 +1.1**
POKR Poker Plat Res 79.24 350 P **P** **00 30 41.8 +1.1**
baz=19,SNR=7.0
F17K Baldwin Pennin 79.26 356 P **P** **00 30 41.6 +0.9**
F17K IAmb IAmb 00 31 59.1
comp=Z,35nm,1.6s
F17K Baldwin Pennin 79.26 356 P **P** **00 30 41.7 +1.0**
baz=7.6
G19K Purcell Mounta 79.29 355 P **P** **00 30 42.3 +1.4**
G19K IAmb IAmb 00 30 44.6
comp=Z,15nm,1.0s
G19K Purcell Mounta 79.29 355 P **P** **00 30 41.7 +0.8**
baz=11,SNR=7.7
H21K Melozitna Rive 79.37 353 P **P** **00 30 43.3 +1.9**
H21K Melozitna Rive 79.37 353 P **P** **00 30 41.9 +0.5**

baz=15,SNR=34
HEH HeiHe 79.38 35 *e*P **P** **00 30 42.8 +1.1**
HEH pmax pmax
comp=Z,5.0nm,0.7s
HEH LR LR
comp=Z,180nm,17.7s
HEH LR LR
comp=Z,320nm,17.2s
HEH LR LR
comp=Z,410nm,17.1s
J25K Salcha River, 79.41 349 P **P** **00 30 42.4 +0.7**
baz=21,SNR=6.7
K27K Chicken 79.42 348 IAmb IAmb 00 30 45.6
comp=Z,25nm,1.0s
K27K Chicken 79.42 348 P **P** **00 30 42.2 +0.6**
baz=23
I23K Minto, Yukon-K 79.46 351 IAmb IAmb 00 30 45.3
comp=Z,13nm,0.8s
I23K Minto, Yukon-K 79.46 351 P **P** **00 30 42.9 +1.1**
baz=18,SNR=6.3
ILAR Eielson Array 79.49 350 P **P** **00 30 43.0 +1.0**
comp=Z,6.1nm,1.0s,baz=15,slow=3.4,SNR=36
ILAR LR LR 01 10 10.8
comp=Z,155nm,19.4s,baz=51,slow=39
comp=Z,6.1nm,1.0s
ILAR Eielson Array 79.49 350 P **P** **00 30 43.0 +1.0**
MDM Murphy Dome 79.50 351 IAmb IAmb 00 30 45.9
comp=Z,22nm,1.0s
M31M Drury Creek, Y 79.50 344 IAmb IAmb 00 30 46.9
comp=Z,16nm,0.9s
M31M Drury Creek, Y 79.50 344 P **P** **00 30 42.9 +0.8**
baz=30,SNR=17
L29M L29M 79.51 346 IAmb IAmb 00 30 45.9
comp=Z,14nm,0.8s
L29M L29M 79.51 346 P **P** **00 30 43.4 +1.2**
baz=27,SNR=12
COLA College 79.53 350 P **P** **00 30 43.4 +1.2**
baz=19
COLA College 79.53 350 *i* P **P** **00 30 42.9 +0.7**
COLA pmax pmax
comp=Z,16nm,0.9s
G18K Tagagawik 79.65 355 IAmb IAmb 00 30 46.5
comp=Z,26nm,1.0s
G18K Tagagawik 79.65 355 P **P** **00 30 43.7 +0.8**
baz=9.8,SNR=16
LIRD Liard River Hi 79.66 339 P **P** **00 30 44.2 +1.2**
baz=36
M30M Minto, Yukon 79.70 345 P **P** **00 30 44.6 +1.3**
baz=28
CCB Clear Creek Bu 79.74 350 IAmb IAmb 00 30 46.6
comp=Z,18nm,1.0s
H20K Anotleneega Mo 79.74 354 P **P** **00 30 44.4 +1.0**
baz=13,SNR=27
MLY Manley 79.75 352 P **P** **00 30 43.2 -0.3**
MLY IAmb IAmb 00 30 47.0
comp=Z,19nm,1.0s
MLY Manley 79.75 352 P **P** **00 30 44.2 +0.8**
baz=16,SNR=32
EDM Edmonton 79.77 329 IAmb IAmb 00 30 46.1
comp=Z,12nm,0.8s
K30B Basset 79.77 315 P **P** **00 30 44.4 +0.3**
K30B IAmb IAmb 00 30 49.4
comp=Z,27nm,1.0s
SCRK Sand Creek 79.79 349 P **P** **00 30 44.8 +0.9**
SCRK IAmb IAmb 00 30 47.7
comp=Z,24nm,0.9s
SCRK Sand Creek 79.79 349 P **P** **00 30 44.6 +0.8**
baz=22,SNR=30
HDA Harding Lake 79.84 350 P **P** **00 30 44.5 +0.6**
baz=19,SNR=39
H19K Roundabout Mou 79.84 354 P **P** **00 30 44.8 +0.9**
H19K Roundabout Mou 79.84 354 P **P** **00 30 44.4 +0.5**
baz=12,SNR=27
TOAD Toad River Com 79.84 338 P **P** **00 30 45.1 +1.0**
baz=36,SNR=17
WTLY Watson Lake, Y 79.86 340 P **P** **00 30 45.2 +1.1**
NEA2 Nenana 79.96 351 P **P** **00 30 45.0 +0.4**
NEA2 IAmb IAmb 00 30 47.5
comp=Z,14nm,1.0s
NEA2 Nenana 79.96 351 P **P** **00 30 45.3 +0.7**
baz=18,SNR=14
HHAR Hobbs 80.03 307 IAmb IAmb 00 30 47.6
comp=Z,20nm,1.3s
KSU1 Kansas State U 80.10 311 P **P** **00 30 45.0 -0.8**
KSU1 Kansas State U 80.10 311 P **P** **00 30 46.6 +0.8**
baz=54
N32M Quiet Lake 80.10 343 P **P** **00 30 46.0 +0.5**
N32M Quiet Lake 80.10 343 P **P** **00 30 46.2 +0.8**
baz=30
F15K North Star Dit 80.14 358 P **P** **00 30 45.6 0.0**
baz=4.7
M29M Somme Creek 80.17 346 P **P** **00 30 46.8 +0.9**
M29M IAmb IAmb 00 30 50.3
comp=Z,22nm,0.8s
M29M Somme Creek 80.17 346 P **P** **00 30 46.0 +0.1**
baz=26,SNR=17
PHRA Phrae 80.19 74 P **P** **00 30 46.0 -0.6**
PHRA IAmb IAmb 00 31 12.2
comp=Z,32nm,1.0s
HNS HongShan 80.23 51 ⇑P **P** **00 30 47.8 +1.3**
HNS LR LR
comp=Z,240nm,19.1s
HNS LR LR
comp=Z,230nm,19.1s
HNS LR LR
comp=Z,200nm,16.7s
K24K Donnelly Dome 80.24 349 P **P** **00 30 46.8 +0.7**
baz=20,SNR=16
BCAR Beaver Creek A 80.25 347 P **P** **00 30 47.1 +0.9**
L27K Beaver Creek, 80.26 347 P **P** **00 30 47.6 +1.3**
L27K IAmb IAmb 00 30 50.3
comp=Z,18nm,0.9s
L27K Beaver Creek, 80.26 347 P **P** **00 30 47.2 +0.9**
baz=24,SNR=21
X40A Basin Creek Fa 80.32 305 P **P** **00 30 47.2 +0.1**
PCMB Pacaembu 80.36 236 *e*P **P** **00 30 48.6 +1.3**
H18K Honhosa River 80.36 355 P **P** **00 30 48.1 +1.4**
H18K IAmb IAmb 00 30 51.3
comp=Z,36nm,1.2s
H18K Honhosa River 80.36 355 P **P** **00 30 47.4 +0.7**
baz=10.0,SNR=13
G16K Koyuk River 80.36 357 P **P** **00 30 47.3 +0.6**
baz=6.7
I20K Naaghedeneel 80.38 353 P **P** **00 30 48.5 +1.7**
I20K Naaghedeneel 80.38 353 P **P** **00 30 47.7 +0.9**
baz=13,SNR=21
LYN LuoYang 80.40 55 *e*P **P** **00 30 45.3 -2.2**
LYN pmax pmax
comp=Z,12nm,0.9s
N31M Braeburn, Yuko 80.45 344 P **P** **00 30 49.1 +1.8**
N31M IAmb IAmb 00 30 51.1
comp=Z,18nm,0.8s
N31M Braeburn, Yuko 80.45 344 P **P** **00 30 48.4 +1.1**
baz=28
L26K Log Cabin Wild 80.57 348 P **P** **00 30 48.5 +0.6**
L26K IAmb IAmb 00 30 52.5
comp=Z,20nm,0.8s
L26K Log Cabin Wild 80.57 348 P **P** **00 30 49.1 +1.2**
baz=22,SNR=6.5
GCSA Galena City Sc 80.65 354 P **P** **00 30 49.2 +1.0**
baz=11
BPAW Bear Paw Mtn. 80.67 352 P **P** **00 30 48.2 -0.3**
BPAW Bear Paw Mtn. 80.67 352 P **P** **00 30 48.9 +0.4**
baz=16,SNR=12
H17K Granite Mounta 80.68 356 P **P** **00 30 49.8 +1.4**
H17K IAmb IAmb 00 30 52.7
comp=Z,22nm,1.0s
H17K Granite Mounta 80.68 356 P **P** **00 30 49.1 +0.7**
baz=8.7,SNR=8.7
MENT Mentasta 80.71 348 P **P** **00 30 50.0 +1.3**
MENT IAmb IAmb 00 30 52.5
comp=Z,12nm,0.9s
MCK McKinley 80.76 351 P **P** **00 30 49.6 +0.7**
baz=18,SNR=12
N30M Aishikik Lake 80.76 345 P **P** **00 30 50.3 +1.2**
N30M IAmb IAmb 00 30 52.8
comp=Z,15nm,0.9s
N30M Aishikik Lake 80.76 345 P **P** **00 30 49.3 +0.3**
baz=27,SNR=9.8
MIAR Mount Ida 80.78 306 P **P** **00 30 50.0 +0.4**
baz=54
BRLDA Berland Lookou 80.79 332 P **P** **00 30 49.6 +0.2**
G15K Niukluk 80.84 357 P **P** **00 30 50.1 +0.8**
baz=5.2
P33M Teslin, Yukon 80.84 342 P **P** **00 30 50.4 +0.9**
P33M IAmb IAmb 00 30 53.7
comp=Z,20nm,0.9s

P33M Teslin, Yukon 80.84 342 P P 00 30 49.3 -0.2
baz=31,SNR=16
M27K Edge Creek, AK 80.92 347 P P 00 30 50.3 +0.3
M27K IAmb IAmb 00 30 54.2
comp=Z,28nm,1.1s
M27K Edge Creek, AK 80.92 347 P P 00 30 50.6 +0.6
baz=23,SNR=19
J20K Nowinta River 80.95 353 P P 00 30 50.6 +0.7
J20K IAmb IAmb 00 30 53.4
comp=Z,20nm,0.9s
J20K Nowinta River 80.95 353 P P 00 30 50.8 +0.9
baz=13,SNR=16
WHY Whitehorse 80.96 343 P P 00 30 51.6 +1.4
WHY IAmb IAmb 00 30 54.0
comp=Z,12nm,1.0s
WHY Whitehorse 80.96 343 P P 00 30 50.6 +0.4
baz=29,SNR=8.0
PAX Paxson 80.97 349 P P 00 30 51.5 +1.4
baz=21,SNR=8.7
MA2 Magadan 81.00 19 P P 00 30 50.1 -0.1
MA2 IAmb IAmb 00 30 57.1
comp=Z,12nm,1.0s
MA2 Magadan 81.00 19 LR LR 01 11 21.2
comp=Z,264nm,20.6s,baz=330,slow=39
MA2 Magadan 81.00 19 *ce*P P 00 30 51.7 +1.5
MA2 pmax pmax
comp=Z,10.0nm,0.8s
CHUM Lake Minchumin 81.04 352 P P 00 30 51.3 +0.9
baz=15,SNR=39
R33M Jennings River 81.06 341 P P 00 30 51.4 +0.6
baz=32,SNR=17
RND Reindeer 81.06 350 IAmb IAmb 00 30 53.3
comp=Z,22nm,1.0s
M26K Nabesna, AK 81.08 348 IAmb IAmb 00 30 55.1
comp=Z,26nm,0.9s
M26K Nabesna, AK 81.08 348 P P 00 30 51.8 +1.1
baz=23,SNR=19
H16K Elim 81.11 357 P P 00 30 51.4 +0.7
baz=6.7
O30N Mendenhall 81.15 344 P P 00 30 51.6 +0.5
baz=28,SNR=5.7
DHY Denali Highway 81.17 350 P P 00 30 51.8 +0.5
baz=19,SNR=74
SAML Samuel 81.18 253 P P 00 30 51.3 -0.6
SAML Samuel 81.18 253 P P 00 30 51.3 -0.6
SAML pmax pmax
comp=Z,13nm,1.2s
YUK3 Moose Creek 81.18 346 P P 00 30 52.0 +0.5
baz=25,SNR=15
KTH Kantishna Hill 81.19 351 IAmb IAmb 00 30 54.5
comp=Z,22nm,1.0s
YUK4 Talbot Arm 81.20 345 P P 00 30 51.5 0.0
baz=26,SNR=11
TRF Thorofare Moun 81.21 351 IAmb IAmb 00 30 54.0
comp=Z,19nm,0.9s
TRF Thorofare Moun 81.21 351 P P 00 30 51.4 -0.1
baz=17,SNR=11
J19K Poorman 81.28 354 P P 00 30 53.1 +1.4
J19K IAmb IAmb 00 30 55.9
comp=Z,31nm,1.1s
J19K Poorman 81.28 354 P P 00 30 51.6 0.0
baz=12,SNR=17
VILB Vilhena 81.28 248 P P 00 30 52.7 +0.3
VILB IAmb IAmb 00 30 56.5
comp=Z,26nm,1.2s
VILB Vilhena 81.28 248 *e*P P 00 30 53.5 +1.0
T35A Sooner Cattle 81.33 309 IAmb IAmb 00 30 55.0
comp=Z,15nm,0.9s
RSSD Black Hills 81.38 318 P P 00 30 52.8 -0.1
RSSD Black Hills 81.38 318 P P 00 30 52.8 -0.1
baz=50
RSSD Black Hills 81.38 318 P P 00 30 52.8 -0.1
RSSD pmax pmax
comp=Z,10.0nm,1.3s
HYT Haines Junctio 81.42 344 IAmb IAmb 00 30 57.1
comp=Z,25nm,1.2s
HYT Haines Junctio 81.42 344 P P 00 30 52.8 +0.2
baz=27,SNR=9.4
HARP HAARP 81.46 348 P P 00 30 52.9 +0.2
baz=21
TUL3 Leonard 81.46 308 P P 00 30 53.4 +0.3
baz=54
CAST Castle Rocks 81.46 352 IAmb IAmb 00 30 57.0
comp=Z,12nm,0.9s
CAST Castle Rocks 81.46 352 P P 00 30 52.6 0.0
baz=15,SNR=13
YUK8 Steele Glacier 81.49 346 P P 00 30 53.8 +0.7
baz=25
YUK6 Outpost Mounta 81.50 345 P P 00 30 53.9 +0.7
baz=26,SNR=8.4
WAT1 Susitna Watana 81.57 350 P P 00 30 54.0 +0.7
baz=18
DLBC Dease Lake 81.61 340 P P 00 30 54.3 +0.7
baz=33
DLBC Dease Lake 81.61 340 LR LR 01 07 16.0
comp=Z,203nm,19.8s,baz=326,slow=36
P32M Atlin 81.61 342 P P 00 30 53.8 +0.3
baz=30
WAT6 Susitna Watana 81.69 350 P P 00 30 54.8 +0.7
baz=19,SNR=6.9
K20K Telida 81.75 353 P P 00 30 55.1 +1.0
baz=14,SNR=30
EGMT Eagleton 81.76 324 IAmb IAmb 00 30 58.6
comp=Z,15nm,1.1s
EGMT Eagleton 81.76 324 P P 00 30 55.2 +0.6
baz=47
I17K Unalakleet 81.78 356 P P 00 30 55.5 +1.3
baz=8.0,SNR=6.6
R32A Long Quarter, 81.82 311 IAmb IAmb 00 30 57.6
comp=Z,20nm,1.1s
KAN13 South Haven SW 81.89 309 P P 00 30 55.4 -0.1
KAN13 IAmb IAmb 00 30 58.4
comp=Z,26nm,1.1s
J18K Innoko River 81.89 354 IAmb IAmb 00 30 58.7
comp=Z,15nm,0.9s
J18K Innoko River 81.89 354 P P 00 30 56.2 +1.2
baz=11,SNR=16
M24K Tolsona, Glenn 81.90 349 P P 00 30 55.7 +0.6
baz=20
KAN09 Caldwell North 81.91 310 IAmb IAmb 00 30 58.5
comp=Z,20nm,0.9s
P30M Million Dollar 81.93 344 P P 00 30 56.1 +0.8
baz=27
X37A Clayton 81.96 306 P P 00 30 55.6 -0.2
X37A IAmb IAmb 00 30 58.2
comp=Z,13nm,1.1s
PPLA Purkeypile 81.98 352 P P 00 30 56.5 +0.9
baz=15,SNR=8.9
KAN01 Argonia South 81.99 310 P P 00 30 55.9 0.0
PTLB Pontes e Lacer 82.02 245 IAmb IAmb 00 30 60.0
comp=Z,22nm,1.3s
PTLB Pontes e Lacer 82.02 245 *e*P P 00 30 57.3 +1.0
MCARA McCarthy VSAT 82.03 347 P P 00 30 54.7 -1.0
MCARA McCarthy VSAT 82.03 347 P P 00 30 57.1 +1.5
baz=22,SNR=8.3
O28M Mount Upton 82.04 346 P P 00 30 57.0 +0.9
baz=25,SNR=7.7
KAN17 Caldwell West 82.06 310 P P 00 30 56.0 -0.3
OK052 Battle Ridge R 82.07 308 P P 00 30 55.8 -0.6
OK052 IAmb IAmb 00 30 59.0
comp=Z,13nm,0.8s
BARN Barnard Glacie 82.07 346 P P 00 30 56.7 +0.5
BARN IAmb IAmb 00 31 01.9
comp=Z,10nm,1.0s
KAN08 Anthony NE Sta 82.08 310 P P 00 30 56.8 +0.4
CTGM Chitina Glacie 82.10 346 P P 00 30 56.7 +0.5
CTGM IAmb IAmb 00 31 00.1
comp=Z,16nm,0.8s
CTG Chitna Glacier 82.10 346 P P 00 30 56.7 +0.5
baz=24,SNR=5.3
N25K Chitina, Valde 82.11 348 P P 00 30 57.4 +1.2
N25K IAmb IAmb 00 31 00.1
comp=Z,18nm,1.1s
N25K Chitina, Valde 82.11 348 P P 00 30 57.4 +1.2
baz=21,SNR=5.6
OK031 S. Brethren Rd 82.11 308 P P 00 30 55.5 -1.1
OK031 IAmb IAmb 00 30 59.3
comp=Z,13nm,0.8s
GLB Gilahina Butte 82.12 348 P P 00 30 56.1 -0.1
GLB IAmb IAmb 00 31 00.1
comp=Z,11nm,1.0s
KLR Kul'dur 82.13 34 LR LR 01 12 17.2
comp=Z,210nm,18.2s,baz=322,slow=39
KLR Kul'dur 82.13 34 *ce*P P 00 30 56.6 +0.2
KLR pmax pmax
comp=Z,3.0nm,1.0s
J17K VABM Dome 82.15 355 P P 00 30 56.2 0.0
J17K IAmb IAmb 00 31 00.1
comp=Z,19nm,0.9s
J17K VABM Dome 82.15 355 P P 00 30 57.5 +1.2
baz=9.3,SNR=9.6
LOGN Logan Glacier 82.16 346 P P 00 30 56.1 -0.4
LOGN IAmb IAmb 00 31 00.5
comp=Z,18nm,1.0s
CBKS Cedar Bluff 82.21 312 P P 00 30 55.3 -1.8
CBKS IAmb IAmb 00 30 59.2
comp=Z,11nm,0.8s
CBKS Cedar Bluff 82.21 312 P P 00 30 56.9 -0.3
baz=52
CBKS Cedar Bluff 82.21 312 P P 00 30 55.3 -1.8
CBKS pmax pmax
comp=Z,11nm,0.8s
CUT Chulitna 82.22 351 P P 00 30 56.1 -0.4
baz=17
VRDI Verde Repeater 82.26 347 IAmb IAmb 00 31 05.7
comp=Z,15nm,1.1s
SCM Sheep Creek Mo 82.34 349 P P 00 30 57.0 -0.3
baz=19
S34M Telegraph Cree 82.37 340 P P 00 30 57.7 +0.2
S34M IAmb IAmb 00 31 02.4
comp=Z,17nm,1.1s
S34M Telegraph Cree 82.37 340 P P 00 30 57.6 +0.2
baz=32
J16K Anvik River 82.37 356 P P 00 30 57.7 +0.3
J16K IAmb IAmb 00 31 01.6
comp=Z,16nm,1.1s
J16K Anvik River 82.37 356 P P 00 30 57.7 +0.3
baz=8.1,SNR=5.3
PLBC Pleasant Camp 82.38 343 P P 00 30 57.6 +0.1
baz=28
ROSC El Rosal 82.38 271 P P 00 30 58.3 -0.5
ROSC El Rosal 82.38 271 LR LR 01 07 37.0
comp=Z,179nm,18.7s,baz=70,slow=36
ROSC El Rosal 82.38 271 P P 00 30 58.3 -0.5
ROSC pmax pmax
comp=Z,38nm,1.7s
BNX BinXian 82.41 39 JP P 00 30 58.3 +0.4
BNX pmax pmax
comp=Z,11nm,0.9s
BNX pmax pmax
comp=Z,31nm,4.1s
KLU Klutina 82.44 348 P P 00 30 58.1 +0.2
KLU Klutina 82.44 348 P P 00 30 57.9 0.0
baz=20,SNR=11
M23K Glacier View 82.44 349 P P 00 30 57.9 +0.1
baz=19
SML Sawmill 82.52 350 P P 00 30 57.8 -0.4
baz=18,SNR=7.8
P29M Windy Craggy 82.54 344 P P 00 30 59.7 +1.3
P29M Windy Craggy 82.54 344 P P 00 30 58.4 -0.1
baz=27,SNR=6.7
L20K Farewell, AK 82.58 352 P P 00 30 59.1 +0.5
baz=14,SNR=8.4
GHO Glory Hole Cre 82.64 350 P P 00 30 59.4 +0.5
GHO IAmb IAmb 00 31 07.6
comp=Z,15nm,0.9s
BMRM Bremner River 82.70 348 P P 00 30 59.5 +0.2
baz=21,SNR=8.4
K17K Iditarod 82.77 354 P P 00 30 59.8 +0.3
K17K IAmb IAmb 00 31 03.2
comp=Z,20nm,1.2s
K17K Iditarod 82.77 354 P P 00 30 59.9 +0.4
baz=10.0
SKT Skwentna 82.79 351 P P 00 30 59.7 +0.1
SKT IAmb IAmb 00 31 02.3
comp=Z,14nm,0.8s
SKT Skwentna 82.79 351 P P 00 31 00.0 +0.4
baz=16,SNR=6.4
M22K Willow 82.82 350 P P 00 31 01.0 +1.3
M22K Willow 82.82 350 P P 00 31 00.8 +1.1
baz=17,SNR=8.3
PMR Palmer 82.84 350 P P 00 31 01.1 +1.3
PMR IAmb IAmb 00 31 02.8
comp=Z,13nm,1.0s
PMR Palmer 82.84 350 P P 00 31 00.3 +0.5
baz=18
PMR Palmer 82.84 350 P P 00 31 01.1 +1.3
PMR pmax pmax
comp=Z,13nm,1.0s
PNL Peninsula 82.88 345 P P 00 31 01.0 +0.9
baz=25
T35M Bob Quinn 82.90 339 P P 00 31 00.7 +0.4
baz=32
KNK Knik Glacier 82.91 350 P P 00 31 00.6 +0.3
baz=18
MESA MESA 82.94 346 P P 00 31 01.0 +0.3
baz=23
L19K White Mountain 82.98 353 P P 00 31 00.9 +0.3
baz=13
J14K Nanvaranak Lak 83.06 357 P P 00 31 00.4 -0.5
baz=5.6
M20K Styx River 83.08 352 P P 00 31 01.1 -0.2
baz=14
L18K Granite Mounta 83.12 354 IAmb IAmb 00 31 05.3
comp=Z,12nm,1.0s
L18K Granite Mounta 83.12 354 P P 00 31 02.5 +1.2
baz=11,SNR=5.5
NATX Nacogdoches 83.15 304 P P 00 31 02.6 +0.5
baz=54
SUA Susitna One 83.19 351 P P 00 31 02.1 +0.3
baz=16,SNR=7.7
M19K Big River Lodg 83.20 353 IAmb IAmb 00 31 05.8
comp=Z,17nm,1.0s
M19K Big River Lodg 83.20 353 P P 00 31 02.2 +0.4
baz=13
GLI Glacier Island 83.21 349 P P 00 31 02.1 +0.3
baz=19
EYAK Cordova Ski Ar 83.30 348 P P 00 31 03.1 +0.9
baz=20
L17K Donlin 83.34 354 P P 00 31 03.0 +0.5
baz=9.9
RC01 Rabbit Creek A 83.41 350 P P 00 31 03.0 +0.2
baz=17
K15K Wolf Creek Mou 83.41 356 P P 00 31 03.5 +0.6
baz=7.3
N20K Mount Spurr 83.63 351 P P 00 31 04.3 +0.2
baz=15
S31K Pelican 83.67 343 P P 00 31 05.1 +0.9
baz=28
S32K Killisnoo 83.69 342 P P 00 31 05.4 +1.1
baz=29
K22A Casper 83.71 318 P P 00 31 05.5 +0.5
baz=48
M18K Stony River 83.75 353 P P 00 31 05.2 +0.6
baz=12,SNR=7.4
TBTG Tabatinga, AM 83.82 261 P P 00 31 05.5 -0.2
TBTG Tabatinga, AM 83.82 261 *e*P P 00 31 06.2 +0.5
KSCO Kaye Shedlock' 83.84 314 P P 00 31 05.2 -0.5
baz=50
L16K Owhat River 83.85 355 IAmb IAmb 00 31 08.4
comp=Z,15nm,1.3s
L16K Owhat River 83.85 355 P P 00 31 05.8 +0.8
baz=3.0,SNR=5.8
K13K Kusilvak Mount 83.92 357 P P 00 31 05.5 +0.1
baz=4.7
M17K Holitna River 83.99 354 P P 00 31 06.6 +0.7
baz=11,SNR=8.5
PHWY Pilot Hill 84.01 317 IAmb IAmb 00 31 11.1
comp=Z,10nm,0.9s
L15K Ungalak Mounta 84.02 356 P P 00 31 06.1 +0.2
baz=7.3,SNR=5.8
ETMB Extrema 84.10 254 IAmb IAmb 00 31 10.1
comp=Z,15nm,1.0s
ETMB Extrema 84.10 254 *e*P P 00 31 07.6 +0.5
WMOK Wichita Mounta 84.11 308 P P 00 31 06.5 -0.5
WMOK Wichita Mounta 84.11 308 P P 00 31 07.9 +0.9
baz=52
WMOK Wichita Mounta 84.11 308 P P 00 31 06.5 -0.5
WMOK pmax pmax
comp=Z,6.0nm,1.0s
BBSD Serra de San D 84.20 245 *e*P P 00 31 08.4 +0.8
N19K Bonanza Creek 84.28 352 P P 00 31 07.6 +0.2
baz=13
MDJ Mudanjiang 84.30 38 P P 00 31 06.8 -0.9
MDJ pP pP 00 31 09.5 -1.6
MDJ sP sP 00 31 12.0 -0.3
MDJ PP PP 00 34 23.8 +2.1
MDJ S S 00 41 37.3 +3.9
MDJ pmax pmax
comp=Z,8.0nm,0.7s
MDJ pmax pmax
comp=Z,80nm,5.5s
MDJ LR LR
comp=Z,280nm,21.0s
MDJ LR LR
comp=Z,270nm,17.9s
MDJ LR LR
comp=Z,340nm,18.9s
SEW Seward 84.31 350 P P 00 31 07.5 +0.1
baz=17
BOZ Bozeman (W) 84.38 323 P P 00 31 09.1 +0.8
BOZ IAmb IAmb 00 31 12.9
comp=Z,10nm,1.1s
BOZ Bozeman (W) 84.38 323 P P 00 31 08.6 +0.3
baz=45
BOZ Bozeman (W) 84.38 323 P P 00 31 09.1 +0.8
BOZ pmax pmax
comp=Z,11nm,1.1s
L14K Kuka Creek 84.42 356 P P 00 31 08.4 +0.4
L14K IAmb IAmb 00 31 11.3
comp=Z,13nm,1.1s
L14K Kuka Creek 84.42 356 P P 00 31 07.4 -0.6
baz=6.3
M16K Timber Creek 84.50 354 P P 00 31 09.0 +0.6
M16K Timber Creek 84.50 354 P P 00 31 08.8 +0.4
baz=9.4,SNR=6.9
YHH Holmes Hill 84.55 322 P P 00 31 09.7 +0.3
N18K Kilae Creek 84.55 353 P P 00 31 09.0 +0.2
baz=12,SNR=9.4
N23A Red Feather La 84.56 317 IAmb IAmb 00 31 25.6
comp=Z,8.7nm,0.9s
N23A Red Feather La 84.56 317 P P 00 31 09.4 0.0
baz=48
MSO Missoula 84.62 325 P P 00 31 09.7 +0.2
baz=44
H17A Grant Village 84.68 322 P P 00 31 10.2 +0.2
baz=46
RWWY Rawlins 84.74 318 IAmb IAmb 00 31 32.7
comp=Z,8.0nm,0.9s
O20K Slope Mountain 84.77 351 P P 00 31 09.3 -0.6
baz=15
SMWD Samnorwood 84.83 309 P P 00 31 10.9 +0.2
SMWD IAmb IAmb 00 31 14.2
comp=Z,9.5nm,1.1s
N17K Nushagak Hills 84.83 354 IAmb IAmb 00 31 14.1
comp=Z,10nm,0.9s
N17K Nushagak Hills 84.83 354 P P 00 31 10.0 -0.1
baz=11,SNR=6.0
BRSE Bradley Lake S 84.84 350 P P 00 31 10.0 -0.2
baz=16
O19K Port Alsworth 84.86 352 P P 00 31 10.1 -0.1
baz=19
M15K Kasigluk River 84.95 355 P P 00 31 10.3 -0.4
baz=8.0,SNR=8.9
M14K Bethel 84.97 356 P P 00 31 09.8 -1.0
baz=6.9,SNR=5.4
PLPT Palo Pinto 84.99 307 IAmb IAmb 00 31 13.9
comp=Z,9.0nm,0.9s
DLMT Dillon 85.02 323 IAmb IAmb 00 31 16.9
comp=Z,16nm,1.1s
N16K Nishlik Lake 85.02 354 P P 00 31 11.1 0.0
baz=9.5
NEW Newport 85.03 328 LR LR 01 07 59.4
comp=Z,283nm,20.0s,baz=40,slow=35
CRAG Craig 85.03 340 P P 00 31 11.7 +0.5
baz=30
HOM Homer 85.05 351 P P 00 31 11.1 0.0
baz=15
ISCO Idaho Springs 85.09 316 P P 00 31 12.8 +0.6
ISCO IAmb IAmb 00 31 17.1
comp=Z,6.3nm,0.8s
ISCO Idaho Springs 85.09 316 P P 00 31 12.5 +0.2
baz=48
ISCO Idaho Springs 85.09 316 P P 00 31 12.8 +0.6
ISCO pmax pmax
comp=Z,6.0nm,0.8s
IMW Indian Meadow 85.22 321 P P 00 31 12.7 -0.1
IMW IAmb IAmb 00 34 20.7
comp=Z,8.9nm,1.1s
MOOW Moose Ponds 85.22 321 P P 00 31 13.6 +0.9
LOHW Long Hllow 85.24 321 P P 00 31 13.2 +0.4
PDAR Pinedale Array 85.28 320 P P 00 31 12.7 -0.3
comp=Z,2.5nm,1.0s,baz=57,slow=5.5,SNR=12
PDAR LR LR 01 07 08.4
comp=Z,123nm,19.2s,baz=51,slow=34
comp=Z,2.5nm,1.0s
O18K Koktuh Hills 85.29 352 P P 00 31 13.1 +0.7
baz=12
Q24A Divide 85.37 315 P P 00 31 14.0 +0.4
baz=49
N15K Kwethluk River 85.43 355 P P 00 31 13.2 +0.1
baz=8.4
M11K Mekoryuk 85.53 358 P P 00 31 14.0 +0.5
baz=3.4
REDW Red Top Meadow 85.55 321 P P 00 31 14.3 0.0
RTBA Rita Blanca 85.56 312 P P 00 31 13.8 -0.6
O17K Koliganek Bris 85.56 353 P P 00 31 13.5 -0.3
baz=11
435B Jarrell 85.73 305 P P 00 31 15.2 0.0
435B IAmb IAmb 00 31 18.1
comp=Z,13nm,0.9s
P18K Big Mountain, 85.75 352 P P 00 31 14.6 -0.1
baz=12
N14K Kuskokwak Cree 85.78 356 P P 00 31 14.3 -0.5
baz=7.1
USRK Ussuriysk Ar. 85.82 38 P P 00 31 15.2 -0.1
comp=Z,4.8nm,1.0s,baz=304,slow=3.2,SNR=5.7
USRK LR LR 01 13 53.8
comp=Z,160nm,19.7s,baz=306,slow=39
comp=Z,4.8nm,1.0s
O16K Kokwok River B 85.83 354 P P 00 31 14.9 -0.2
O16K IAmb IAmb 00 31 21.5
comp=Z,7.8nm,0.9s
O16K Kokwok River B 85.83 354 P P 00 31 15.0 -0.1
baz=10
APMT Aspermont 85.86 308 P P 00 31 15.5 -0.3
ABTX Abilene, Hawle 85.98 307 P P 00 31 16.7 +0.3
ABTX IAmb IAmb 00 31 19.2
comp=Z,15nm,1.1s
ABTX Abilene, Hawle 85.98 307 P P 00 31 16.7 +0.3
baz=51
T25A Trinidad 86.12 313 P P 00 31 17.1 -0.2
baz=49
Q20K Shuyak Island 86.17 351 P P 00 31 16.6 -0.2
baz=15
DKNS Dickens 86.17 309 P P 00 31 16.7 -0.7
DKNS IAmb IAmb 00 33 05.6
comp=Z,23nm,2.0s
NJ2 Nanjing 86.18 54 *e*P P 00 31 15.4 -1.9
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
NJ2 pmax pmax
comp=Z,280nm,5.7s
BBB Bella Bella 86.25 336 LR LR 01 08 50.5
comp=Z,122nm,21.9s,baz=52,slow=35
SMCO Snowmass 86.29 316 P P 00 31 17.5 -0.8
SDCO Great Sand Dun 86.38 314 P P 00 31 18.0 -0.6
SDCO IAmb IAmb 00 31 22.6
comp=Z,29nm,1.9s
SDCO Great Sand Dun 86.38 314 P P 00 31 18.3 -0.3
baz=48
BRDY Brady 86.38 306 P P 00 31 18.2 -0.2
O15K Ungalikthiuk R 86.39 355 P P 00 31 17.9 0.0
baz=8.6
SN05 Snyder 5 86.64 308 P P 00 31 20.4 +0.7
SN05 IAmb IAmb 00 31 23.2
comp=Z,20nm,1.3s
POST Post 86.92 308 P P 00 31 21.0 -0.1
KDAK Kodiak Island 86.99 351 LR LR 01 13 04.2
comp=Z,116nm,20.8s,baz=56,slow=38
HLID Hailey 87.22 323 P P 00 31 21.6 -0.9
BMO Blue Mountains 87.67 325 P P 00 31 23.1 -1.4
BMO IAmb IAmb 00 32 10.2
comp=Z,10nm,1.4s
BMO Blue Mountains 87.67 325 P P 00 31 23.1 -1.4
BMO pmax pmax
comp=Z,10.0nm,1.5s
JTS Las Juntas de 88.09 281 LR LR 01 09 33.0
comp=Z,142nm,18.4s,baz=10.0,slow=35
CZSB Cruzeiro do Su 88.12 259 P P 00 31 25.9 -1.0
JACO JACO, Garabito 88.20 280 P P 00 31 26.6 -0.9
KSRS Korea Array 88.32 45 P P 00 31 26.6 -0.6
comp=Z,2.5nm,0.8s,baz=307,slow=4.7,SNR=6.5
comp=Z,2.5nm,0.8s
PETK Petropavlovsk- 88.53 19 LR LR 01 14 58.5
comp=Z,192nm,18.6s,baz=333,slow=38
YSS Yuzh-Sakhalins 88.69 30 *e*P P 00 31 29.3 +0.1
ANMO Albuquerque 88.82 312 LR LR 01 09 29.3
comp=Z,140nm,18.7s,baz=167,slow=34
LPAZ La Paz 89.40 250 P P 00 31 33.3 -0.4
comp=Z,2.1nm,1.0s,baz=358,slow=10,SNR=5.1

comp=Z,2.1nm,1.0s
ELK Elko 89.70 321 LR LR 01 10 51.1
comp=Z,223nm,19.0s,baz=48,slow=35
PSUT Pine Spring 90.58 319 P **P** **00 31 38.6 +0.1**
TXAR Lajitas Array 90.73 307 P **P** **00 31 39.2 0.0**
comp=Z,0.2nm,0.5s,baz=46,slow=5.2,SNR=2.1
TXAR LR LR 01 11 41.5
comp=Z,119nm,19.5s,baz=44,slow=35
comp=Z,0.2nm,0.5s
121A Cookes Peak, D 91.26 311 P **P** **00 31 41.7 0.0**
baz=47
R11B Troy Canyon, C 91.64 320 P **P** **00 31 42.7 -0.7**
R11B Troy Canyon, C 91.64 320 P **P** **00 31 41.5 -1.9**
baz=42
CMIG Matias Romero 92.03 292 LR LR 01 09 47.2
comp=Z,141nm,18.9s,baz=0,slow=33
SHEM Shemya Is, Ala 92.19 9 LR LR 01 14 25.0
comp=Z,80nm,21.1s,baz=302,slow=36
ATAH Atahualpa 92.43 263 LR LR 01 12 09.8
comp=Z,168nm,21.1s,baz=96,slow=35
YBH Yreka Blue Hor 92.58 326 LR LR 01 12 10.4
comp=Z,195nm,19.9s,baz=40,slow=35
NVAR Mina Array Bea 93.00 322 P **P** **00 31 49.7 0.0**
comp=Z,0.6nm,0.7s,baz=64,slow=3.4,SNR=4.7
NVAR LR LR 01 11 52.8
comp=Z,130nm,19.5s,baz=89,slow=34
comp=Z,0.6nm,0.7s
PB01 IPOC Station P 93.21 247 P **P** **00 31 50.2 -0.4**
TUC Tucson 93.25 313 P **P** **00 31 50.5 -0.3**
TUC Tucson 93.25 313 P **P** **00 31 49.2 -1.5**
baz=45
TUC Tucson 93.25 313 P **P** **00 31 50.5 -0.3**
TUC pmax pmax
comp=Z,5.0nm,1.1s
PB09 IPOC Station P 93.46 246 P **P** **00 31 53.1 +1.3**
LVC Limon Verde 93.68 245 P **P** **00 31 51.2 -1.9**
LVC Limon Verde 93.68 245 P **P** **00 31 51.2 -1.9**
LVC pmax pmax
comp=Z,24nm,1.6s
NNA Nana 93.87 258 LR LR 01 13 27.4
comp=Z,167nm,20.8s,baz=76,slow=35
GMRC Granite Mounta 94.31 318 P **P** **00 31 54.9 -0.7**
baz=42
MPMC Manual Prospec 94.36 320 P **P** **00 31 55.3 -0.7**
baz=41
SCZ2 Santa Cruz Isl 97.07 320 P **P** **00 32 07.7 -0.4**
baz=40
LPIG La Paz 98.63 307 LR LR 01 16 23.0
comp=Z,94nm,19.6s,baz=21,slow=35
QSPA South Pole Qui 124.25 180 PKP **PKiKP** **00 37 34.3 +0.3**
comp=Z,1.1nm,0.7s,baz=206,slow=2.8,SNR=8.6
ASAR Alice Springs 130.57 93 PKP **PKPdf** **00 37 47.0 -0.1**
comp=Z,0.5nm,0.7s,baz=296,slow=1.6,SNR=3.7
ASAR PP **PP** **00 40 03.0 +0.8**
comp=Z,0.2nm,0.4s,baz=279,slow=8.2,SNR=4.1
ASAR Alice Springs 130.57 93 PKIKP **PKPdf** **00 37 47.0 -0.1**

*ISK **21** 00:34:38.8, 37.˚65N×31.˚97E, h6km, ML3.5/22*
*AFAD **21** 00:34:38.8±0.0, 37.˚66N×31.˚96E, h6km±2km, MW3.6*
ISC 21 00:34:39.3±0.9, 37.˚64N±0.˚02×31.˚97E±0.˚02, h9km±8km, n65, σ88/98, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SEDI	**Konya, Seydise**	**0.26**	**222**	P	**Pg**	**00 34 44.8**	**+0.3**
SEDI				S	**Sg**	**00 34 48.2**	**+0.2**
SEYD	**Seydisehir-KON**	**0.26**	**204**	Pg	**Pg**	**00 34 44.8**	**+0.2**
SEYD				Sg	**Sg**	**00 34 48.6**	**+0.5**
KMER	**Konya-Meram**	**0.34**	**68**	P	**Pg**	**00 34 46.0**	**-0.1**
KMER				S	**Sg**	**00 34 50.7**	**+0.1**
KONT	**Konya--Tatoy**	**0.43**	**46**	Pg	**Pg**	**00 34 47.8**	**0.0**
KONT				Sg	**Sb**	**00 34 54.4**	**-1.4**
KONT	**Konya--Tatoy**	**0.43**	**46**	P	**Pg**	**00 34 47.9**	**+0.1**
KONT				S	**Sg**	**00 34 53.9**	**+0.4**
DOGA	**KONYA_Doganhis**	**0.52**	**333**	P	**Pg**	**00 34 48.7**	**-0.7**
DOGA				S	**Sg**	**00 34 56.4**	**+0.1**
LADK	**Ladik-KONYA**	**0.64**	**29**	Pg	**Pg**	**00 34 51.5**	**-0.2**
LADK				Sg	**Sg**	**00 34 59.9**	**-0.2**
HDMB	**Hadim**	**0.79**	**149**	Pg	**Pg**	**00 34 53.9**	**-0.7**
YVAC	**Isparta, Yalva**	**0.85**	**318**	P	**Pg**	**00 34 55.0**	**-0.7**
YVAC				S	**Sb**	**00 35 06.8**	**-1.2**
KKBE	**Karaman, Kazim**	**0.88**	**118**	P	**Pg**	**00 34 56.1**	**-0.2**
KKBE				S	**Sg**	**00 35 07.2**	**-0.5**
KDHN	**Kadinhani**	**0.89**	**7**	P	**Pg**	**00 34 55.7**	**-0.6**
KDHN				S	**Sg**	**00 35 07.6**	**-0.3**
ALIN	**Konya, Altinte**	**0.97**	**47**	P	**Pg**	**00 34 56.8**	**-1.2**
ALIN				S	**Sg**	**00 35 10.2**	**-0.5**
UCKU	**Afyonkarahisar**	**1.08**	**337**	P	**Pg**	**00 34 58.8**	**-1.3**
UCKU				S	**Sb**	**00 35 14.8**	**+0.2**
BCK	**Bucak**	**1.11**	**261**	Pn	**Pb**	**00 35 00.5**	**-0.3**
KRMN	**Karaman**	**1.13**	**114**	Pn	**Pb**	**00 35 01.0**	**-0.1**
ISP	**Isparta**	**1.16**	**279**	Pn	**Pb**	**00 35 01.3**	**-0.3**
ISP				Sn	**Sn**	**00 35 17.9**	**0.0**
BUCA	**Burdur, Bucak-**	**1.17**	**255**	P	**Pb**	**00 35 01.4**	**-0.2**
BUCA				S	**Sn**	**00 35 18.6**	**+0.7**
CHBY	**Cihanbeyli**	**1.19**	**37**	Pn	**Pb**	**00 35 01.7**	**-0.4**
CHBY				Sn	**Sn**	**00 35 18.6**	**+0.1**
CBEY	**Konya-Cihanbey**	**1.23**	**31**	P	**Pn**	**00 35 02.7**	**-0.1**
CBEY				S	**Sg**	**00 35 18.2**	**-0.6**
KIZT	**Kizilcal**	**1.24**	**357**	Pn	**Pn**	**00 35 02.8**	**-0.1**
KIZT				Sn	**Sn**	**00 35 20.7**	**+0.9**
ANTB	**Antalya**	**1.28**	**235**	Pn	**Pg**	**00 35 03.9**	**-0.1**
AFYN	**Afyon-Dinar-K**	**1.32**	**299**	P	**Pn**	**00 35 03.8**	**-0.3**
AFYN				P	**Pg**	**00 35 03.9**	**-0.7**
AFYN				S	**Sn**	**00 35 23.5**	**+1.7**
AFYN				S	**Sn**	**00 35 23.5**	**+1.7**
SULT	**Sultanhani-AKS**	**1.34**	**65**	Pn	**Pg**	**00 35 04.8**	**-0.3**
KURO	**Afyon-Bolvadin**	**1.36**	**323**	P	**Pn**	**00 35 02.9**	**-1.7**
KURO				S	**Sb**	**00 35 21.4**	**-1.2**
GAZI	**Gazipasa**	**1.43**	**169**	Pn	**Pn**	**00 35 05.6**	**+0.1**
GAZI	**Gazipasa**	**1.43**	**169**	P	**Pn**	**00 35 05.6**	**+0.1**
GAZI				S	**Sb**	**00 35 23.0**	**-1.5**
KORT	**Korkueli**	**1.44**	**244**	Pn	**Pb**	**00 35 06.2**	**-0.2**
KORT	**Korkueli**	**1.44**	**244**	P	**Pg**	**00 35 06.5**	**-0.5**
KORT				S	**Sg**	**00 35 27.0**	**+1.3**
SHUT	**Suhut-Afyon**	**1.44**	**310**	Pn	**Pb**	**00 35 05.8**	**-0.6**
SHUT				Sn	**Sg**	**00 35 25.9**	**+0.2**
BRDR	**BURDUR-Merkez**	**1.52**	**273**	P	**Pb**	**00 35 07.4**	**-0.2**
BRDR				S	**Sg**	**00 35 29.5**	**+1.4**
BASM	**Basmaki-Afyon**	**1.55**	**281**	Pn	**Pb**	**00 35 07.7**	**-0.5**
KZIL	**AFYON_Kizioren**	**1.57**	**294**	P	**Pb**	**00 35 08.1**	**-0.5**
KZIL				S	**Sg**	**00 35 29.3**	**-0.5**
BERE	**Bereket-Mersin**	**1.64**	**142**	Pn	**Pb**	**00 35 09.4**	**-0.3**
TEVE	**Tevekalti-Mers**	**1.69**	**135**	Pn	**Pn**	**00 35 09.6**	**+0.6**
KKUL	**Konya-Kulu**	**1.70**	**26**	P	**Pb**	**00 35 10.2**	**-0.6**
KKUL				S	**Sg**	**00 35 35.0**	**+1.1**
KERG	**Konya-Eregli**	**1.73**	**97**	P	**Pn**	**00 35 09.7**	**0.0**
KERG				S	**Sg**	**00 35 35.0**	**+0.2**
AKSY	**AKSARAY - Alti**	**1.73**	**54**	P	**Pb**	**00 35 10.3**	**-1.0**
AKSY				S	**Sg**	**00 35 37.4**	**+2.4**
TEKE	**Tekeli-Mersin**	**1.76**	**148**	Pn	**Pn**	**00 35 10.5**	**+0.6**
AUSIV	**SIVRIHISAR**	**1.82**	**349**	P	**Pn**	**00 35 11.0**	**0.0**
AUSIV				S	**Sn**	**00 35 34.6**	**+0.3**
KEBE	**Keben-Mersin**	**1.84**	**130**	Pn	**Pn**	**00 35 11.7**	**+0.6**
OREN	**Orenkoy-Mersin**	**1.86**	**140**	Pn	**Pn**	**00 35 12.3**	**+0.9**
ELL	**Elmali**	**1.87**	**242**	Pn	**Pb**	**00 35 12.5**	**-1.3**
YORU	**Yoruktepe-Mers**	**1.88**	**142**	Pn	**Pn**	**00 35 12.2**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.93**	**139**	P	**Pb**	**00 35 13.5**	**-1.1**
GULN				S	**Sb**	**00 35 38.4**	**-0.3**
BSIR	**Belisirma, Guz**	**1.94**	**70**	P	**Pn**	**00 35 13.3**	**+0.8**
BSIR				S	**Sg**	**00 35 43.4**	**+1.8**
BBAL	**Bala**	**2.10**	**25**	P	**Pn**	**00 35 15.2**	**+0.4**
BBAL				S	**Sb**	**00 35 44.3**	**+0.4**
KIRS	**Kirsehir-Merke**	**2.13**	**45**	P	**Pn**	**00 35 15.6**	**+0.4**
KIRS				S	**Sb**	**00 35 45.7**	**+0.9**
CSS	**Mathiatis**	**2.89**	**157**	P	**Pn**	**00 35 25.3**	**-0.3**
NATI	**Neve Ativ**	**5.34**	**144**	P	**Pn**	**00 35 59.3**	**+0.1**
GEM	**Giv'at Ha'Em**	**5.35**	**145**	P	**Pn**	**00 36 00.1**	**+0.7**
MMA0	**Mount Meron ar**	**5.40**	**148**	P	**Pn**	**00 36 00.5**	**+0.4**
MMA0				S	**Sn**	**00 37 00.8**	**-1.7**
SHMJ	**Saham**	**5.80**	**147**	P	**Pn**	**00 36 06.1**	**+0.5**
QRNJ	**Al-Qirein**	**6.07**	**150**	P	**Pn**	**00 36 09.6**	**+0.5**
HMDT	**Nahal Hemdat**	**6.12**	**150**	P	**Pn**	**00 36 10.6**	**+0.7**
SALP	**Salfit**	**6.16**	**154**	P	**Pn**	**00 36 10.0**	**-0.5**
DSJ	**Dead Sea**	**6.68**	**154**	P	**Pn**	**00 36 18.2**	**+0.6**
GHAJ	**Ghor Haditha**	**6.99**	**154**	P	Pn	00 36 29.9	+8.1
LISJ	**El Lisan**	**7.01**	**155**	P	**Pn**	**00 36 23.8**	**+1.7**
ELND	**Elena**	**7.04**	**320**	⇓P	**Pn**	**00 36 23.7**	**+1.2**
ZFRI	**Zfri**	**7.55**	**158**	P	**Pn**	**00 36 28.9**	**-0.7**
CFR	**Carcaliu**	**8.06**	**340**	⇓P	**Pn**	**00 36 36.6**	**+0.1**
NEHR	**Nehoiu**	**8.86**	**333**	⇑⇑P	Pn	00 36 52.3	+4.7
MLR	**Muntele Rosu**	**9.04**	**332**	⇓P	**Pn**	**00 36 51.3**	**+1.1**
PLOR	**Plostina**	**9.11**	**336**	⇓P	**Pn**	**00 36 54.3**	**+3.3**
COVR	**Voineasa-Covas**	**9.26**	**334**	⇑⇑P	**Pn**	**00 36 54.4**	**+1.4**

*MEX **21** 00:46:23.3±0.9, 14.˚32N×93.˚86W, h11km±16km, MD4.3*
*IDC **21** 00:46:24.4±2.6, 14.˚79N×93.˚58W, h0km, mb3.6/4, mbtmp3.5/7, ML3.1/4, MS4.0/1, Error ellipse: s-maj=63.1km s-min=20.0km az=29.0*
ISC 21 00:46:21.4±2.5, 14.˚53N±0.˚08×93.˚80W±0.˚04, h1km±13km, n20, σ1§64/31, mb3.7/4, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCIG		**1.30**	**25**	*eP*	**Pg**	**00 46 46.8**	**+0.5**
PCIG				*eS*	**Sg**	**00 47 04.2**	**+1.1**
THIG		**1.53**	**76**	*eP*	**Pn**	**00 46 48.0**	**-1.9**
THIG				*eS*	**Sn**	**00 47 07.9**	**-2.5**
PATR	**El Naranjo**	**1.62**	**69**	*eP*	**Pn**	**00 46 49.8**	**-1.6**
PATR				*eS*	**Sn**	**00 47 11.7**	**-1.4**
PAVE	**Pavencul**	**1.70**	**67**	*eP*	**Pn**	**00 46 51.4**	**-1.1**
PAVE				*eS*	**Sb**	**00 47 14.4**	**-1.3**
CHUJ	**Union Juarez**	**1.73**	**71**	*eP*	**Pn**	**00 46 51.3**	**-1.5**
CHUJ				*eS*	**Sb**	**00 47 15.3**	**-1.2**
TGIG		**2.33**	**16**	*eP*	**Pb**	**00 47 03.5**	**-0.7**
TGIG				*eS*	**Sb**	**00 47 32.5**	**-1.1**
CCIG	**Comitan**	**2.37**	**42**	*eP*	**Pb**	**00 47 03.8**	**-1.2**
CCIG				*eS*	**Sb**	**00 47 33.7**	**-1.1**
HUIG	**Huatulco**	**2.55**	**299**	*eP*	**Pn**	**00 47 03.2**	**-0.7**
HUIG				*eS*	**Sn**	**00 47 32.4**	**-3.2**
CMIG	**Matias Romero**	**2.75**	**338**	Pn	**Pb**	**00 47 08.6**	**-2.9**
	4.4nm,0.3s,baz=155,slow=10,SNR=33						
CMIG				Sn	**Sn**	**00 47 41.1**	**+0.5**
	11nm,0.3s,baz=307,slow=20,SNR=9.7						
	22nm,0.5s						
UXUV	**UXUV**	**2.79**	**353**	*eP*	**Pb**	**00 47 10.9**	**-1.2**
UXUV				*eS*	**Sb**	**00 47 45.2**	**-1.7**
APG	**El Apazote**	**3.26**	**81**	Pn	**Pn**	**00 47 14.0**	**+0.1**
	0.3nm,0.3s,baz=176,slow=11,SNR=14						
APG				Sn	**Sn**	**00 47 52.6**	**-0.8**
	0.6nm,0.3s,baz=125,slow=12,SNR=2.2						
NEUV	**Arroyo Zacate**	**3.71**	**329**	*eP*	**Pn**	**00 47 21.4**	**+1.6**
NEUV				*eS*	**Sn**	**00 48 04.7**	**+0.5**
TOIG	**Toxpalan**	**4.74**	**319**	*eP*	**Pn**	**00 47 36.0**	**+1.9**
TOIG				*eS*	**Sn**	**00 48 28.4**	**-1.3**
TEIG	**Tepich**	**7.74**	**42**	LR	LR	00 51 35.8	
	comp=Z,1μm,21.9s,slow=42						
JTS	**Las Juntas de**	**9.61**	**115**	Pn	**Pn**	**00 48 43.6**	**+2.6**
	0.4nm,0.3s,baz=330,slow=20,SNR=1.4						
	1.5nm,0.5s						
TXAR	**Lajitas Array**	**17.33**	**330**	P	**P**	**00 50 27.9**	**+1.7**
	baz=150,slow=13,SNR=4.9						
	0.6nm,1.0s						
PDAR	**Pinedale Array**	**31.24**	**337**	P	**P**	**00 52 43.3**	**+0.5**
	0.2nm,0.6s,baz=137,slow=11,SNR=2.5						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**32.18**	**322**	P	P	00 52 55.1	+3.9
	0.7nm,0.7s,baz=142,slow=9.5,SNR=4.5						
	0.7nm,0.7s						
YKA	**Yellowknife Ar**	**50.13**	**348**	P	**P**	**00 55 19.0**	**+1.0**
	1.0nm,0.7s,baz=153,slow=6.8,SNR=13						
	1.0nm,0.7s						
ILAR	**Eielson Array**	**61.67**	**337**	P	**P**	**00 56 42.6**	**+1.8**
	0.5nm,0.8s,baz=150,slow=6.4,SNR=6.5						
	0.5nm,0.8s						

*IDC **21** 00:47:11.3±0.4, 12.˚83S×45.˚61E, h0km, mb5.0/30, mbtmp5.0/33, ML5.4/4, MS4.9/61, Error ellipse: s-maj=14.3km s-min=11.3km az=89.0*
*MOS **21** 00:47:12.8±0.9, 12.˚78S×45.˚59E, h21km, mb5.6/80, MS4.9/40, Error ellipse: s-maj=8.5km s-min=3.6km az=94.6*
*NEIC **21** 00:47:13.9, 12.˚98S×45.˚57E, h30km, Moment Tensor Solution. Duration: 2§1.0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.06; $M_{\theta\theta}$=0.43; $M_{\phi\phi}$=0.37; $M_{r\theta}$=1.45; $M_{\theta\phi}$=1.41; $M_{\phi r}$=0.18; Fault plane solution: M_o=2.06000×10^{17} NP1: ϕ_s=82.84000°, δ=89.03000°, λ=-135.01000°. NP2: ϕ_s=351.88000°, δ=45.01000°, λ=-1.37000°. Principal axes: T 2.0843, Plg29.0000°, Azm208.0000°; N -0.0395, Plg45.0000°, Azm84.0000°; P -2.0448, Plg31.0000°, Azm317.0000°;*
*NEIC **21** 00:47:13.9, 12.˚88S×45.˚68E, h30km*
*NEIC **21** 00:47:14.1±1.4, 12.˚85S±0.˚08×45.˚65E±0.˚07, h10km±1km, mb5.5/163, Ms_20 5.2/761, Mww5.5/24, Error ellipse: s-maj=15.3km s-min=9.4km az=206.0*
*GCMT **21** 00:47:17.1±0.1, 12.˚84S±0.˚01×45.˚66E±0.˚01, h38km, MW5.5/152, Moment Tensor Solution. s104,c161; s152,c309; Duration: 1§4 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.08±.04; $M_{\theta\theta}$=0.61±.03; $M_{\phi\phi}$=0.53±.03; $M_{r\theta}$=1.40±.05; $M_{\theta\phi}$=1.78±.02; $M_{\phi r}$=0.18±.04; Best double couple: M_o=2.34300×10^{17} NP1:ϕ_s=82.00000°, δ=89.00000°, λ=-143.00000°. NP2:ϕ_s=351.00000°, δ=53.00000°, λ=-1.00000°. Principal axes: T 2.3800, Plg25.0000°, Azm210.0000°; N -0.0740, Plg53.0000°, Azm83.0000°; P -2.3060, Plg26.0000°, Azm313.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 21 00:47:12.8±0.3, 12.˚85S±0.˚04×45.˚58E±0.˚04, h10km, n1227, σ1§36/949, mb5.4/288, MS5.2/468, 57C-86D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.90**	**165**	*i* P	**Pn**	**00 48 38.8**	**-1.7**
OPO	**Ambohidratompo**	**5.90**	**165**	Pn	**Pn**	**00 48 40.1**	**-0.3**
	87nm,0.3s,baz=340,slow=12,SNR=4038						
OPO				Sn	**Sn**	**00 49 41.4**	**-6.8**
	412nm,0.3s,baz=311,slow=17,SNR=30						
OPO				LR	LR	00 51 11.0	
	comp=Z,21μm,19.7s,baz=196,slow=40						
ABPO	**Ambohimpanom**	**6.33**	**166**	Pn	**Pn**	**00 48 46.1**	**-0.4**
ABPO	**Ambohimpanom**	**6.33**	**166**	⇓P	**Pn**	**00 48 46.0**	**-0.5**
ABPO	**Ambohimpanom**	**6.33**	**166**	P	**Pn**	**00 48 46.1**	**-0.4**
VOI	**Vohitsoka**	**9.08**	**173**	P	**Pn**	**00 49 26.6**	**+2.5**
VOI	**Vohitsoka**	**9.08**	**173**	Pn	**Pn**	**00 49 23.6**	**-0.6**
VOI	**Vohitsoka**	**9.08**	**173**	*e*P	**Pn**	**00 49 23.1**	**-1.0**
ZOMB	**Zomba**	**10.24**	**255**	*i* PN	**Pn**	**00 49 37.9**	**-2.1**
ZOMB				*i* SN	Sn	00 51 18.7	-16
ZOMB	**Zomba**	**10.24**	**255**	*i* PN	**Pn**	**00 49 37.9**	**-2.1**
ZOMB				*i* SN	Sn	00 51 18.7	-16
FOMA	**Nahampoana Res**	**12.13**	**174**	Pn	**Pn**	**00 50 04.4**	**-1.4**
MSEY	**Mahe Island**	**12.71**	**51**	Pn	**Pn**	**00 50 10.4**	**-3.5**
MSEY	**Mahe Island**	**12.71**	**51**	*i* P	**Pn**	**00 50 10.6**	**-3.2**
SNR=12							
MSEY	**Mahe Island**	**12.71**	**51**	⇑*i*P	**Pn**	**00 50 10.2**	**-3.6**
MSEY	**Mahe Island**	**12.71**	**51**	P	**Pn**	**00 50 11.0**	**-2.9**
MSEY				P	**Pn**	**00 50 11.0**	**-2.9**
MSEY	**Mahe Island**	**12.71**	**51**	P	**Pn**	**00 50 10.4**	**-3.5**
RER	**Riviere de l'E**	**12.76**	**132**	Pn	**Pn**	**00 50 11.7**	**-2.7**
KIBK	**Kibwezi**	**12.83**	**324**	Pn	**Pn**	**00 50 12.7**	**-2.8**
KIBK	**Kibwezi**	**12.83**	**324**	P	**Pn**	**00 50 14.0**	**-1.5**
KIBK	**Kibwezi**	**12.83**	**324**	*e*P	**Pn**	**00 50 11.8**	**-3.7**
KIBK				*e*S	Sn	00 52 25.8	-13
KSMZ	**Kasama**	**14.31**	**279**	⇓*i*P	**Pn**	**00 50 32.8**	**-3.0**
KSMZ				⇓*i*P	P	00 50 33.0	-10
KSMZ				⇑⇑P	P	00 50 33.0	-10
KSMZ				*i*		00 50 33.4	
	baz=114,slow=14						
KSMZ				Lg	Lg	00 53 02.0	
LSZ	**Lusaka**	**17.04**	**260**	Pn	**Pn**	**00 51 10.8**	**-0.7**
LSZ				lAmb	lAmb	00 51 16.3	
	comp=Z,202nm,0.8s						
LSZ	**Lusaka**	**17.04**	**260**	*i* P	**Pn**	**00 51 10.8**	**-0.7**
LSZ	**Lusaka**	**17.04**	**260**	P	**Pn**	**00 51 10.2**	**-1.3**
	comp=Z,4.4nm,0.3s,baz=88,slow=11,SNR=112						
LSZ				S	Sn	00 54 07.5	-14
	comp=Z,83nm,0.8s,baz=0.4,slow=15,SNR=3.8						
LSZ				LR	LR	00 57 16.8	
	comp=Z,3μm,19.3s,baz=87,slow=36						
	comp=Z,118nm,0.7s						
LSZ	**Lusaka**	**17.04**	**260**	*i* P	**Pn**	**00 51 10.2**	**-1.3**
LSZ	**Lusaka**	**17.04**	**260**	P	**Pn**	**00 51 10.8**	**-0.7**
LSZ				pmax	pmax		
	comp=Z,202nm,0.8s						
MOPA	**Mopani**	**17.13**	**230**	*i* P	**Pn**	**00 51 11.1**	**-1.5**
MOPA	**Mopani**	**17.13**	**230**	⇑*i*P	**Pn**	**00 51 09.0**	**-3.5**
MOPA	**Mopani**	**17.13**	**230**	*i* P	**Pn**	**00 51 10.6**	**-1.9**
MUSN	**Musina, Limpop**	**17.67**	**236**	*i* P	**Pn**	**00 51 18.9**	**-0.4**
MUSN	**Musina, Limpop**	**17.67**	**236**	⇑*i*P	**Pn**	**00 51 17.9**	**-1.3**
MUSN	**Musina, Limpop**	**17.67**	**236**	*i* P	**Pn**	**00 51 14.9**	**-4.3**
MPHEP	**Siloam, Limpop**	**17.73**	**234**	⇑*i*P	**Pn**	**00 51 18.8**	**-1.2**
HOED	**Hoedspruit, Li**	**18.00**	**228**	⇑*i*P	**Pn**	**00 51 21.1**	**-2.2**
MATP	**Matopo**	**18.00**	**243**	*i* P	**P**	**00 51 24.6**	**+0.7**
MATP	**Matopo**	**18.00**	**243**	P	**Pn**	**00 51 22.8**	**-0.7**
	comp=Z,2.6nm,0.3s,baz=72,slow=13,SNR=74						
MATP				S	Sn	00 54 32.1	-12
	comp=Z,21nm,0.8s,baz=334,slow=18,SNR=3.0						
MATP				LR	LR	00 58 06.9	
	comp=Z,1μm,21.1s,baz=68,slow=36						
	comp=Z,71nm,0.8s						
MATP	**Matopo**	**18.00**	**243**	*i* P	**Pn**	**00 51 18.4**	**-5.1**
ROCAM	**Rodrigues Isla**	**18.40**	**114**	Pn	**P**	**00 51 26.0**	**-2.2**
ROCAM				lAmb	lAmb	00 51 37.9	
	comp=Z,242nm,0.9s						
PILG	**Pilgrimsrest,**	**18.48**	**227**	*e*P	**P**	**00 51 27.5**	**-1.8**
LODK	**Lodwar**	**19.09**	**327**	P	**Pn**	**00 51 37.8**	**+1.1**
LODK	**Lodwar**	**19.09**	**327**	P	**Pn**	**00 51 38.0**	**+1.4**
MBAR	**Mbarara**	**19.09**	**308**	P	**Pn**	**00 51 37.5**	**+0.7**
MBAR				lAmb	lAmb	00 51 42.6	
	comp=Z,470nm,1.5s						
MBAR	**Mbarara**	**19.09**	**308**	*e*P	**P**	**00 51 36.3**	**+0.3**
MBAR	**Mbarara**	**19.09**	**308**	P	**P**	**00 51 36.1**	**+0.1**
	comp=Z,3.8nm,0.3s,baz=106,slow=14,SNR=24						
MBAR				S	Sn	00 54 58.3	-13
	comp=Z,5.4nm,0.3s,baz=252,slow=20,SNR=2.4						
MBAR				LR	LR	00 58 54.0	
	comp=Z,5μm,18.2s,baz=122,slow=37						
	comp=Z,9.0nm,0.3s						
MBAR	**Mbarara**	**19.09**	**308**	P	**Pn**	**00 51 36.6**	**-0.2**
MBAR				P	Pn	00 51 36.6	-0.2
MBAR	**Mbarara**	**19.09**	**308**	*i* P	P	00 51 24.9	-11
MBAR	**Mbarara**	**19.09**	**308**	*d* P	**Pn**	**00 51 37.7**	**+0.9**
MBAR				pmax	pmax		
	comp=Z,107nm,1.1s						
DULL	**Dullstroom, Mp**	**19.13**	**227**	⇑*i*P	**P**	**00 51 36.4**	**0.0**
POGA	**Pongola**	**19.41**	**220**		**P**	**00 51 39.4**	**+0.2**
POGA				lAmb	lAmb	00 51 44.2	
	comp=Z,318nm,1.0s						
POGA	**Pongola**	**19.41**	**220**	*e*P	**P**	**00 51 38.9**	**-0.3**
WTBG	**Waterberg Wild**	**19.43**	**232**	*e*P	**P**	**00 51 39.1**	**-0.5**
CRLN	**Carolina, Mapu**	**19.62**	**226**	*e*P	**P**	**00 51 42.0**	**+0.2**
LEPH	**Lephalale, Lim**	**20.09**	**234**	⇑*i*P	**P**	**00 51 46.5**	**-0.3**
LEPH				lAmb	lAmb	00 51 55.2	
	comp=Z,176nm,0.9s						
RUST	**Rust De Winter**	**20.26**	**230**	⇑*i*P	**P**	**00 51 49.1**	**+0.4**
RUST				lAmb	lAmb	00 51 51.9	
	comp=Z,137nm,0.8s						
MTLB	**Matlabas, Limp**	**20.66**	**236**	⇑*i*P	**P**	**00 51 52.0**	**-1.1**
TSWA	**Tswaing Meteor**	**20.70**	**230**	*e*P	**P**	**00 51 53.3**	**-0.1**
TSWA				lAmb	lAmb	00 51 58.2	
	comp=Z,133nm,0.8s						
NWCL	**Newcastle**	**20.84**	**222**	⇑*i*P	**P**	**00 51 55.1**	**+0.1**
NWCL				lAmb	lAmb	00 51 56.5	
	comp=Z,317nm,0.8s						
NHAM	**Northam, North**	**21.01**	**233**	⇑*i*P	**P**	**00 51 56.7**	**-0.1**
NYAT	**Nyati, Northwe**	**21.05**	**231**	⇑*i*P	**P**	**00 51 56.6**	**-0.7**
HRAO	**HartRAO**	**21.25**	**230**	⇑*i*P	**P**	**00 51 58.8**	**-0.7**
PMBG	**Pietermaritzbu**	**21.69**	**218**	*e*P	**P**	**00 52 04.6**	**+0.6**
PMBG				lAmb	lAmb	00 52 10.1	
	comp=Z,256nm,0.8s						
PRYS	**Parys**	**22.08**	**228**	*e*P	**P**	**00 52 06.4**	**-2.0**
PRYS				lAmb	lAmb	00 52 13.9	
	comp=Z,263nm,0.8s						
SNKL	**Senekal, Frees**	**22.61**	**225**	*e*P	**P**	**00 52 12.6**	**-1.4**
SNKL				lAmb	lAmb	00 52 17.0	
	comp=Z,312nm,0.9s						
FURI	**Furi**	**22.67**	**342**	P	**P**	**00 52 15.2**	**+0.4**
FURI				lAmb	lAmb	00 52 33.4	
	comp=Z,129nm,0.9s						
FURI	**Furi**	**22.67**	**342**	lAMs_20	lAMs_20	01 01 24.1	
	comp=Z,7μm,19.0s						
KSTD	**Kokstad**	**23.21**	**218**	*e*P	**P**	**00 52 19.7**	**-0.5**
KSTD				lAmb	lAmb	00 52 28.9	
	comp=Z,161nm,0.8s						
ATD	**Arta Tunn

DQM **DQM** 34.63 20 P P 00 54 03.4 +1.0
DQM P P 00 54 03.4 +1.0
MHTO **MHTO** 35.76 20 P P 00 54 12.1 0.0
SNR=5.7
MHTO P P 00 54 12.1 0.0
SNR=5.7
MZR **Muzera** 36.46 12 *i* P P 00 54 18.9 +0.7
SNR=58
MZR **Muzera** 36.46 12 P P 00 54 18.9 +0.7
SNR=15
MZR P P 00 54 18.9 +0.7
SNR=15
UMZA **Um Al Zommool** 36.57 15 P P 00 54 19.6 +0.6
UMZA P P 00 54 19.6 +0.6
JMDO **Jabal Madar** 37.09 19 P P 00 54 23.8 +0.2
SNR=7.9
JMDO P P 00 54 23.8 +0.2
SNR=7.9
BSY **Bisya** 37.16 18 P P 00 54 24.6 +0.5
SNR=28
BSY P P 00 54 24.6 +0.5
SNR=28
SLWR **Sila** 37.18 9 P P 00 54 24.9 +0.7
SLWR P P 00 54 24.9 +0.7
GHWR **Ruwais** 37.28 11 P P 00 54 26.2 +1.2
GHWR P P 00 54 26.2 +1.2
MZWR **Madinat Zayed** 37.28 13 P P 00 54 26.6 +1.5
JLN **Jalan Bani Buh** 37.34 21 P P 00 54 25.9 +0.3
SNR=8.0
JLN P P 00 54 25.9 +0.3
SNR=8.0
ARQ **Araqi** 37.52 17 P P 00 54 28.1 +0.8
SNR=23
ARQ P P 00 54 28.1 +0.8
SNR=23
WBK **Wadi Bani Khal** 37.61 21 P P 00 54 28.7 +0.8
SNR=7.4
WBK P P 00 54 28.7 +0.8
SNR=7.4
SMRA **Abu-Samra** 37.72 8 P P 00 54 28.8 +0.1
SNR=20
SMDO **Samad** 37.72 19 P P 00 54 29.2 +0.2
SNR=21
SMDO P P 00 54 29.2 +0.2
SNR=21
TRNA **Turayna** 37.76 8 P P 00 54 29.7 +0.6
SNR=16
HOQ **Hoqain** 37.98 18 P P 00 54 31.8 +0.7
SNR=22
HOQ P P 00 54 31.8 +0.7
SNR=22
ALNE **Al Ain** 38.00 15 *i* P P 00 54 32.5 +1.2
SNR=19
ALNE **Al Ain** 38.00 15 P P 00 54 32.6 +1.3
SNR=20
ALNE P P 00 54 32.6 +1.3
SNR=20
WSAR **Wadi Sarin** 38.08 20 LR LR 01 07 23.0
comp=Z,3μm,20.2s,baz=206,slow=32
BIDO **Bidbid** 38.18 19 P P 00 54 33.6 +0.9
SNR=8.3
BIDO P P 00 54 33.6 +0.9
SNR=8.3
JRN **Qarnain Island** 38.23 11 P P 00 54 33.9 +0.8
SNR=9.1
JRN P P 00 54 33.9 +0.8
SNR=9.1
SOHO **SOHO** 38.28 16 *i* P P 00 54 34.0 +0.4
SNR=17
SOHO **SOHO** 38.28 16 P P 00 54 34.6 +1.0
SOHO P P 00 54 34.6 +1.0
AJN **Ajban** 38.30 14 *i* P P 00 54 35.0 +1.3
SNR=9.6
AJN **Ajban** 38.30 14 P P 00 54 35.8 +2.0
SNR=9.5
AJN P P 00 54 35.8 +2.0
SNR=9.5
ASUD **Al Ashush, Dub** 38.45 14 *i* P P 00 54 36.3 +1.3
SNR=12
ASUD **Al Ashush, Dub** 38.45 14 P P 00 54 36.9 +2.0
SNR=5.7
ASUD P P 00 54 36.9 +2.0
SNR=5.7
FAQ **Al Faqa, Dubai** 38.62 15 *i* P P 00 54 37.5 +1.0
SNR=6.2
FAQ **Al Faqa, Dubai** 38.62 15 P P 00 54 38.0 +1.5
SNR=12
FAQ P P 00 54 38.0 +1.5
SNR=12
ASHO **Ashiyiah** 38.68 15 *i* P P 00 54 38.0 +0.9
SNR=37
ASHO **Ashiyiah** 38.68 15 P P 00 54 37.9 +0.9
SNR=14
ASHO P P 00 54 37.9 +0.9
SNR=14
SHMA **Al-Shehemyia** 38.83 8 P P 00 54 39.0 +0.8
SNR=12
HATD **Hatta, Dubai** 38.84 15 *i* P P 00 54 39.1 +0.8
SNR=16
HATD **Hatta, Dubai** 38.84 15 P P 00 54 39.4 +1.1
SNR=13
HATD P P 00 54 39.4 +1.1
SNR=13
NAZ **Nazwa, Dubai** 38.87 15 *i* P P 00 54 39.5 +1.0
SNR=19
NAZ **Nazwa, Dubai** 38.87 15 P P 00 54 39.9 +1.3
SNR=11
NAZ P P 00 54 39.9 +1.3
SNR=11
SAKB **Bahrain** 38.90 7 P P 00 54 39.7 +1.1
UOSS **Minazif** 38.97 15 P P 00 54 40.0 +0.6
UOSS **Minazif** 38.97 15 IAMs_20 IAMs_20 01 09 29.8
comp=Z,3μm,19.0s
UOSS **Minazif** 38.97 15 *i* P P 00 54 39.8 +0.4
SNR=39
UOSS **Minazif** 38.97 15 P P 00 54 39.9 +0.5
UOSS P P 00 54 39.9 +0.5
MDH **Madha** 39.33 15 *i* P P 00 54 42.6 +0.2
SNR=12
MDH **Madha** 39.33 15 P P 00 54 43.6 +1.3
SNR=16
MDH P P 00 54 43.6 +1.3
SNR=16
MSFE **Esma-Masafi** 39.35 15 *i* P P 00 54 43.5 +0.9
SNR=66
MASF **Masafi** 39.37 15 P P 00 54 43.5 +0.8
SNR=49
MASF P P 00 54 43.5 +0.8
SNR=49
SHME **Shamm** 40.01 15 *i* P P 00 54 47.9 -0.1
SNR=14
SHME **Shamm** 40.01 15 P P 00 54 48.5 +0.5
SNR=10
SHME P P 00 54 48.5 +0.5
SNR=10
JASK **Jask - Hormozg** 40.30 17 P P 00 54 52.2 +1.8
SNR=6.6
KBD **Kabd** 41.83 3 P P 00 55 04.2 +1.3
EIL **Elat** 43.50 347 LR LR 01 11 37.5
comp=Z,769nm,21.3s,baz=168,slow=34
HYB **Hyderabad** 44.33 48 *e* P P 00 55 23.9 +0.5
GHAJ **Ghor Haditha** 44.94 348 P P 00 55 28.7 +0.6
GHAJ IAMs_20 IAMs_20 01 14 29.4
comp=Z,2μm,19.0s
MMAI **Mount Meron Ar** 46.63 348 P P 00 55 42.3 +0.8
comp=Z,16nm,0.8s,baz=163,slow=9.4,SNR=47
MMAI LR LR 01 16 09.5
comp=Z,2μm,18.0s,baz=112,slow=37
comp=Z,16nm,0.8s
CSS **Mathiatis** 48.95 347 P P 00 56 00.4 +1.0
CSS **Mathiatis** 48.95 347 P P 00 55 59.8 +0.4
comp=Z,14nm,1.4s,comp=Z,318nm
HRA **Herat** 49.58 18 P P 00 56 04.5 +0.1
GAZ **Gaziantep** 50.37 351 P P 00 56 11.0 +0.7
GAZ IAmb IAmb 00 56 13.7
comp=Z,99nm,1.4s
GAZ IAMs_20 IAMs_20 01 16 37.7
comp=Z,2μm,21.0s
TOC3 **Torodi Ar. Sit** 50.57 299 IAMs_20 IAMs_20 01 18 48.9
comp=Z,3μm,18.0s
TOC4 **Torodi Ar. Sit** 50.58 299 IAMs_20 IAMs_20 01 18 31.1
comp=Z,2μm,19.0s
TOB3 **Torodi Ar. Sit** 50.58 299 IAMs_20 IAMs_20 01 18 30.2
comp=Z,2μm,19.0s
TOB2 **Torodi Ar. Sit** 50.59 299 IAMs_20 IAMs_20 01 18 46.4
comp=Z,3μm,18.0s
TOA2 **Torodi Ar. Sit** 50.59 299 IAMs_20 IAMs_20 01 18 30.5
comp=Z,3μm,19.0s
TOA3 **Torodi Ar. Sit** 50.59 299 IAMs_20 IAMs_20 01 18 30.5
comp=Z,2μm,19.0s
TOA0 **Torodi Ar. Sit** 50.59 299 P P 00 56 13.3 +1.1
TOA0 IAMs_20 IAMs_20 01 18 49.6
comp=Z,3μm,18.0s
TORD **Torodi Ar. Bea** 50.59 299 P P 00 56 13.6 +1.3
TORD IAMs_20 IAMs_20 01 18 49.6
comp=Z,3μm,18.0s
TORD **Torodi Ar. Bea** 50.59 299 P P 00 56 12.2 0.0
comp=Z,9.9nm,0.9s,baz=120,slow=7.4,SNR=37
TORD PP PP 00 58 06.2 -2.1
comp=Z,3.8nm,0.9s,baz=110,slow=7.7,SNR=4.0
TORD LR LR 01 18 51.3
comp=Z,2μm,18.5s,baz=121,slow=38
comp=Z,9.9nm,0.9s
TOB4 **Torodi Ar. Sit** 50.60 299 IAMs_20 IAMs_20 01 18 49.7
comp=Z,3μm,18.0s
TOB1 **Torodi Ar. Sit** 50.60 299 IAMs_20 IAMs_20 01 18 49.8
comp=Z,3μm,18.0s
TOB5 **Torodi Ar. Sit** 50.61 299 IAMs_20 IAMs_20 01 18 51.0
comp=Z,3μm,18.0s
TOC7 **Torodi Ar. Sit** 50.62 299 IAMs_20 IAMs_20 01 18 32.2
comp=Z,2μm,19.0s
TOC6 **Torodi Ar. Sit** 50.62 299 IAMs_20 IAMs_20 01 18 41.3
comp=Z,2μm,19.0s
KARP **Karpathos** 51.19 341 P P 00 56 18.0 +1.5
KARP IAmb IAmb 00 56 19.5
comp=Z,93nm,1.0s
KARP IAMs_20 IAMs_20 01 19 14.0
comp=Z,3μm,21.0s
KARP **Karpathos** 51.19 341 P P 00 56 18.0 +1.5
comp=Z,116nm,1.2s,comp=Z,1μm
GURO **Guroymak-BITLI** 51.24 356 P P 00 56 18.2 +1.3
LKRN **Lenkeran, Azer** 51.38 3 P P 00 56 20.1 +2.4
ARG **Arkhangelos** 51.51 342 P P 00 56 20.6 +1.8
ARG IAmb IAmb 00 56 21.8
comp=Z,68nm,1.4s
ARG **Arkhangelos** 51.51 342 P P 00 56 20.6 +1.8
ARG pmax pmax
comp=Z,68nm,1.4s
IDI **Anoyia** 51.73 338 P P 00 56 21.4 +0.9
IDI IAmb IAmb 00 56 23.3
comp=Z,41nm,0.9s
IDI **Anoyia** 51.73 338 P P 00 56 21.3 +0.7
IDI **Anoyia** 51.73 338 LR LR 01 20 06.6
comp=Z,16nm,18.8s,baz=122,slow=38
NAX **Nakhchivan** 51.75 360 P P 00 56 23.0 +2.4
GEYT **Alibeck** 51.86 13 P P 00 56 21.6 +0.2
GEYT **Alibeck** 51.86 13 P P 00 56 21.7 +0.2
comp=Z,6.5nm,0.5s,baz=228,slow=7.8,SNR=25
GEYT LR LR 01 17 42.7
comp=Z,1μm,21.6s,baz=200,slow=35
comp=Z,6.5nm,0.5s
GEYT **Alibeck** 51.86 13 P P 00 56 21.6 +0.2
GEYT pmax pmax
comp=Z,37nm,1.0s
GYA0 **ALIBECK ARRAY** 51.86 13 P P 00 56 21.4 0.0
GYA0 pmax pmax
comp=Z,35nm,1.0s
GYA0B **ALIBECK ARRAY** 51.86 13 P P 00 56 21.4 0.0
ARPR **Arapgir-MALATY** 52.11 353 P P 00 56 24.8 +1.4
ARPR IAmb IAmb 00 56 26.7
comp=Z,102nm,1.2s
KBL **Kabul** 52.14 25 P P 00 56 24.0 +0.3
KBL IAmb IAmb 00 56 33.0
comp=Z,55nm,1.0s
KBL **Kabul** 52.14 25 P P 00 56 24.0 +0.3
KBL pmax pmax
comp=Z,55nm,1.0s
KBL MLR MLR
comp=Z,500nm,20.0s
BNN **Bunyan** 52.23 350 P P 00 56 24.9 +0.6
ISP **Isparta** 52.35 345 P P 00 56 25.7 +0.6
ISP **Isparta** 52.35 345 P P 00 56 25.7 +0.6
ISP pmax pmax
comp=Z,23nm,0.7s
ISP MLR MLR
comp=Z,700nm,20.0s
GNI **Garni** 52.73 359 P P 00 56 29.1 +1.1
GNI IAmb IAmb 00 56 38.0
comp=Z,77nm,0.9s
GNI **Garni** 52.73 359 IAMs_20 IAMs_20 01 19 35.7
comp=Z,2μm,20.0s
GNI **Garni** 52.73 359 P P 00 56 29.0 +1.1
GNI **Garni** 52.73 359 LR LR 01 19 37.5
comp=Z,2μm,20.7s,baz=168,slow=37
GNI **Garni** 52.73 359 P P 00 56 29.4 +1.4
GNI P P 00 56 29.4 +1.4
GNI **Garni** 52.73 359 P P 00 56 29.1 +1.1
GNI pmax pmax
comp=Z,77nm,0.9s
GNI MLR MLR
comp=Z,2μm,20.0s
TAM **Tamanrasset** 52.86 312 P P 00 56 30.6 +1.4
TAM IAMs_20 IAMs_20 01 19 51.1
comp=Z,2μm,18.0s
TAM **Tamanrasset** 52.86 312 P P 00 56 30.6 +1.4
TAM pmax pmax
comp=Z,34nm,1.2s
TAM MLR MLR
comp=Z,2μm,18.0s
APE **Apeiranthos** 53.12 340 ⇓P P 00 56 30.8 0.0
APE **Apeiranthos** 53.12 340 *i* P P 00 56 31.6 +0.8
APE pmax pmax
comp=Z,45nm,0.7s
GANJ **Ganja** 53.23 1 P P 00 56 34.0 +2.5
KARS **Kars** 53.26 358 P P 00 56 32.2 +0.3
KARS **Kars** 53.26 358 P P 00 56 32.2 +0.3
KARS pmax pmax
comp=Z,119nm,1.1s
KARS MLR MLR
comp=Z,4μm,19.0s
MNGR **Mingechevir, A** 53.37 1 P P 00 56 34.9 +2.5
GSI **Gunungsitoli** 53.47 79 P P 00 56 34.1 +0.4
comp=Z,22nm,0.8s,comp=Z,3μm
BR105 **Keskin Array S** 53.47 349 P P 00 56 34.0 +0.6
comp=Z,30nm,1.1s,comp=Z,328nm
BR131 **Keskin Array S** 53.47 349 P P 00 56 33.9 +0.5
BR131 IAmb IAmb 00 56 35.7
comp=Z,105nm,1.4s
BR131 **Keskin Array S** 53.47 349 P P 00 56 33.9 +0.5
BR131 pmax pmax
comp=Z,105nm,1.5s
BRTR **Keskin Array B** 53.47 349 P P 00 56 33.9 +0.4
comp=Z,14nm,0.7s,baz=169,slow=9.6,SNR=120
BRTR LR LR 01 19 40.4
comp=Z,1μm,19.5s,baz=162,slow=36
comp=Z,14nm,0.7s
BR106 **Keskin Array S** 53.48 349 P P 00 56 33.6 +0.1
comp=Z,30nm,1.0s,comp=Z,316nm
DBIC **Dimbokro** 53.73 288 IAMs_20 IAMs_20 01 19 12.8
comp=Z,1μm,19.0s
DBIC **Dimbokro** 53.73 288 P P 00 56 36.0 +0.4
comp=Z,6.3nm,0.6s,baz=106,slow=6.9,SNR=13
DBIC LR LR 01 19 51.6
comp=Z,1μm,18.1s,baz=107,slow=36
comp=Z,6.3nm,0.6s
BR231 **Keskin MP Arra** 53.76 348 P P 00 56 35.6 +0.1
BR231 IAmb IAmb 00 56 37.8
comp=Z,148nm,1.9s
PBSI **Pulau Batu** 53.76 81 P P 00 56 35.8 -0.1
comp=Z,79nm,1.1s
ANTO **Ankara** 53.78 348 ⇓P P 00 56 35.2 -0.4
ANTO **Ankara** 53.78 348 P P 00 56 36.6 +1.0
ANTO IAmb IAmb 00 56 38.0
comp=Z,113nm,1.9s
ANTO **Ankara** 53.78 348 P P 00 56 35.8 +0.2
ANTO P P 00 56 35.8 +0.2
ANTO **Ankara** 53.78 348 P P 00 56 36.6 +1.0
ANTO pmax pmax
comp=Z,113nm,1.9s
ANTO MLR MLR
comp=Z,1μm,20.0s
ANTO **Ankara** 53.78 348 P P 00 56 36.3 +0.7
comp=Z,15nm,1.3s,comp=Z,305nm
SEKA **Sheki** 53.81 2 P P 00 56 38.2 +2.4
BCA **Borcka** 54.14 356 ⇓P P 00 56 38.9 +0.7
SISI **Saibi** 54.20 82 P P 00 56 39.1 -0.1
comp=Z,25nm,1.2s
ZKTA **Zakatala** 54.22 1 P P 00 56 41.2 +2.5
KCSI **Kotacane, Aceh** 54.32 76 P P 00 56 40.4 +0.4
comp=Z,32nm,0.6s,comp=Z,4μm
ITM **Ithomi** 54.51 337 P P 00 56 41.3 +0.4
ITM IAmb IAmb 00 56 42.6
comp=Z,36nm,0.6s
MDUB **Mudurnu** 54.70 347 P P 00 56 43.0 +0.6
BALB **Balikesir** 54.76 343 P P 00 56 43.7 +1.0
DIKM **Dikmen** 55.06 351 ⇓P P 00 56 45.2 +0.4
RPSI **Rantau Prapat** 55.16 78 IAMs_20 IAMs_20 01 16 38.3
comp=Z,2μm,20.0s
ONI **Oni** 55.20 358 P P 00 56 46.0 +0.2
ONI IAMs_20 IAMs_20 01 21 34.1
comp=Z,2μm,19.0s
ONI **Oni** 55.20 358 P P 00 56 46.1 +0.2
ONI pmax pmax
comp=Z,26nm,0.9s
ONI MLR MLR
comp=Z,2μm,19.0s
EZN **Ezine** 55.38 342 P P 00 56 48.4 +1.3
comp=Z,78nm,0.9s,comp=Z,876nm
MAK **Makhachkala** 55.56 2 *e* P P 00 56 44.1 -4.3
MAK *e* 00 58 53.3
MAK *e* S S 01 04 27.8 -6.1
MAK *e* SS SS 01 08 15.3 -4.1
MAK *e* SSS SSS 01 10 24.7
MAK pmax pmax
comp=Z,98nm,1.0s
MAK MLR MLR
comp=Z,1μm,17.0s
SIMJ **Simiganj** 55.73 22 P P 00 56 50.7 +0.8
GROC **Groznyy** 55.78 0 *e* P P 00 56 50.8 +0.9
GROC *e* 00 57 48.5
GROC *e* 00 58 55.9
GROC pmax pmax
comp=Z,125nm,1.2s
GROC MLR MLR
comp=Z,2μm,16.0s
CHGR **Chuyangaron** 55.78 22 P P 00 56 51.4 +1.2
CHGR IAMs_20 IAMs_20 01 19 23.5
comp=Z,1μm,20.0s
CHGR **Chuyangaron** 55.78 22 P P 00 56 51.4 +1.2
CHGR pmax pmax
comp=Z,286nm,0.9s
MAW **Mawson** 55.88 172 LR LR 01 18 15.2
comp=Z,3μm,18.0s,baz=337,slow=33
AGG **Agios Georgios** 55.98 338 P P 00 56 51.4 -0.1
AGG IAmb IAmb 00 56 53.4
comp=Z,58nm,0.9s
AGG **Agios Georgios** 55.98 338 P P 00 56 51.4 -0.1
AGG pmax pmax
comp=Z,58nm,0.9s
NCK **Nalchik** 56.10 358 *d* P P 00 56 52.3 0.0
NCK pmax pmax
comp=Z,24nm,1.0s
TATN **Tataouine** 56.24 324 P P 00 56 54.8 +1.3
TATN IAmb IAmb 00 56 58.2
comp=Z,66nm,1.5s
TATN IAMs_20 IAMs_20 01 22 30.4
comp=Z,1μm,18.0s
VSLR **Vesyoloye** 56.27 355 *i* P P 00 56 54.2 +0.8
VSLR pmax pmax
comp=Z,65nm,1.2s
KBZ **Khabaz** 56.36 358 P P 00 56 54.7 +0.7
comp=Z,28nm,0.8s,baz=181,slow=6.3,SNR=62
KBZ LR LR 01 22 44.9
comp=Z,2μm,19.7s,baz=152,slow=38
comp=Z,28nm,0.8s
SHA1 **Shidzhatmaz** 56.38 357 *ce* P P 00 56 54.6 +0.1
SOC **Sochi** 56.41 355 *e* P P 00 56 53.1 -1.4
SOC *e* S S 01 04 45.8 +0.6
SOC *e* 01 06 39.4
SOC *e* SS SS 01 08 29.0 -3.8
SOC pmax pmax
comp=Z,45nm,1.2s
SOC MLR MLR
comp=Z,1μm,17.0s
ALN **Alexandroupoli** 56.45 342 P P 00 56 55.5 +0.7
ALN IAmb IAmb 00 56 57.1
comp=Z,28nm,0.8s
ALN **Alexandroupoli** 56.45 342 P P 00 56 55.5 +0.7
ALN pmax pmax
comp=Z,28nm,0.8s
GAR **Garm** 56.52 23 P P 00 56 56.0 +0.5
GAR IAMs_20 IAMs_20 01 19 39.9
comp=Z,2μm,20.0s
BKNI **Bangkinang** 56.52 81 P P 00 56 47.0 -8.9
KIV **Kislovodsk** 56.59 357 ⇓P P 00 56 56.4 +0.5
KIV **Kislovodsk** 56.59 357 P P 00 56 56.4 +0.5
KIV IAMs_20 IAMs_20 01 22 60.0
comp=Z,2μm,19.0s
KIV **Kislovodsk** 56.59 357 *i* P P 00 56 56.8 +0.9
SNR=19
KIV **Kislovodsk** 56.59 357 P P 00 56 56.4 +0.5
KIV P P 00 56 56.4 +0.5
KIV **Kislovodsk** 56.59 357 *d* P P 00 56 56.3 +0.5
KIV *i* 00 57 02.7
KIV *i* 00 59 02.9
KIV *i* S S 01 04 40.0 -7.8
KIV *i* SS SS 01 08 25.7 -10
KIV pmax pmax
comp=Z,93nm,1.1s
KIV MLR MLR
comp=Z,2μm,19.0s
KIV **Kislovodsk** 56.59 357 P P 00 56 56.7 +0.9
comp=Z,104nm,1.1s,comp=Z,895nm
KVAR **Kislovodsk Arr** 56.59 358 LR LR 01 23 00.0
comp=Z,1μm,18.7s,baz=59,slow=38
KDZ **Kurdzhali** 57.33 342 P P 00 57 02.1 +1.0
LABN **Labinsk** 57.39 356 *e* P P 00 57 02.1 +0.7
LABN *e* *PP sP 00 57 04.9 +0.1
LABN *e* 00 59 15.6
LABN *e* S S 01 05 01.4 +3.3
LABN pmax pmax
comp=Z,130nm,0.9s
LABN MLR MLR
comp=N,1μm,15.0s
LABN MLR MLR
comp=Z,630nm,15.0s
BTK **Batken** 57.63 23 P P 00 57 04.1 +0.8
BTK IAmb IAmb 00 57 13.7
comp=Z,32nm,0.9s
BTK **Batken** 57.63 23 P P 00 57 04.1 +0.8
BTK pmax pmax
comp=Z,32nm,0.9s
GOF **Gofitskoye** 57.68 358 *ce* P P 00 57 03.9 +0.5
SRIT **Nakonsritamara** 57.74 71 P P 00 57 03.4 -1.1
SRIT IAmb IAmb 00 57 21.2
comp=Z,36nm,1.0s
MMB **Musomishta** 57.75 341 P P 00 57 03.9 -0.2
JMB **Yambol** 57.78 343 P P 00 57 04.4 +0.2
RAFF **Raffo Rosso** 57.81 331 P P 00 57 06.0 +1.5
RAFF IAmb IAmb 00 57 27.9
comp=Z,107nm,1.4s
ANN **Anapa** 57.85 353 *e* P P 00 57 04.8 +0.2
ANN *e* *PP sP 00 57 08.2 +0.2
ANN *e* 00 57 57.2
ANN *e* PPP PPP 01 00 40.2
ANN *e* S S 01 05 08.4 +4.3
ANN pmax pmax
comp=Z,42nm,0.9s
ANN MLR MLR
comp=Z,1μm,19.0s
ANN MLR MLR
comp=N,809nm,18.0s
FNA **Florina** 57.88 338 P P 00 57 05.5 +0.5
FNA IAmb IAmb 00 57 07.7
comp=Z,40nm,0.8s
FNA **Florina** 57.88 338 P P 00 57 05.5 +0.5
FNA pmax pmax
comp=Z,40nm,0.8s
VAY **Valandovo** 57.94 340 *i* P P 00 57 05.6 +0.3
CEL **Celeste** 57.94 333 P P 00 57 06.7 +1.1
VAE **Valguarnera** 57.99 331 LR LR 01 23 17.6
comp=Z,2μm,18.1s,baz=102,slow=37
PRD **Provadia** 58.17 344 P P 00 57 06.2 -0.7
NEF **NEVSHA** 58.30 344 P P 00 57 09.1 +1.3
VLO **Vlora** 58.30 337 P P 00 57 09.3 +1.4
VLO IAmb IAmb 00 57 11.7
comp=Z,61nm,1.0s
VLO **Vlora** 58.30 337 P P 00 57 09.3 +1.4
VLO pmax pmax
comp=Z,61nm,1.0s
TIP **Timpagrande** 58.32 334 ⇓P P 00 57 09.0 +0.9
TIP **Timpagrande** 58.32 334 P P 00 57 08.3 +0.1
TIP **Timpagrande** 58.32 334 P P 00 57 09.2 +1.0
comp=Z,29nm,1.2s,comp=Z,442nm
SCTE **Santa Cesarea** 58.37 336 P P 00 57 09.0 +0.7
ELND **Elena** 58.37 343 ⇑P P 00 57 08.8 +0.4
OHR **Ohrid** 58.38 338 *i* P P 00 57 09.6 +1.1

PSN Preselentsi 58.43 345 P P 00 57 09.1 +0.4
SIM Simferopol' 58.46 350 *de*P P 00 57 10.1 +1.2
SIM *e*S S 01 05 11.0 -1.1
SIM pmax pmax
comp=Z,157nm,1.2s
ERBR Yeremizino-Bor 58.47 356 *e*P P 00 57 08.7 -0.3
ERBR *e**PP sP 00 57 12.3 -0.1
ERBR *e*S S 01 05 11.2 -1.1
ERBR pmax pmax
comp=Z,334nm,1.1s
ERBR MLR MLR
comp=E,893nm,16.0s
ERBR MLR MLR
comp=Z,1μm,19.0s
ERBR MLR MLR
comp=N,3μm,19.0s
PGB Panagyurishte 58.49 342 P P 00 57 07.5 -1.7
CLTB Caltabellotta 58.65 330 P P 00 57 11.6 +1.1
SZH Strazhitsa 58.65 343 P P 00 57 10.9 +0.6
VTS Vitosha 58.88 341 P P 00 57 12.4 +0.3
SKO Skopje 58.91 339 *i* P P 00 57 12.8 +0.7
TIR Tirane 58.92 338 ⇓P P 00 57 13.1 +0.9
TIR Tirane 58.92 338 ⇓P P 00 57 13.1 +0.9
TIR Tirane 58.92 338 P P 00 57 13.7 +1.5
comp=N,112nm,1.2s,comp=N,1μm
KEST Kesra 59.23 326 P P 00 57 15.7 +1.1
KEST IAmb IAmb 00 57 18.2
comp=Z,56nm,1.1s
KEST IAMs_20 IAMs_20 01 23 46.4
comp=Z,2μm,19.0s
KEST Kesra 59.23 326 P P 00 57 16.0 +1.4
comp=Z,29nm,0.9s,baz=359,slow=0.4,SNR=33
comp=Z,29nm,0.9s
KSH Kashi 59.29 27 P P 00 57 12.3 -2.7
KSH pmax pmax
comp=Z,6.0nm,0.8s
KSH LR LR
comp=Z,540nm,23.2s
KSH LR LR
comp=Z,470nm,21.1s
KSH LR LR
comp=Z,1μm,23.7s
MPEP Malo Peshtene 59.39 342 P P 00 57 16.3 +0.9
PUK Puka 59.52 338 P P 00 57 17.7 +1.3
MATE Matera 59.57 335 ⇓P P 00 57 17.4 +0.7
VLAD Vladila 59.78 342 ⇓P P 00 57 18.0 0.0
VALD Valchedram 59.79 342 P P 00 57 19.7 +1.6
CFR Carcaliu 59.88 346 ⇓P P 00 57 18.4 -0.3
CFR Carcaliu 59.88 346 ⇓P P 00 57 18.4 -0.3
BRLS Borolday 59.88 20 *e*P P 00 57 16.5 -2.4
baz=20
BRLS Borolday 59.88 20 *e*P P 00 57 22.6 +3.7
BRLS pmax pmax
comp=Z,19nm,1.9s
DRME Dracevica, Mon 59.91 338 ⇓*i*P P 00 57 20.6 +1.6
BLKB Belogradchik 59.97 341 ⇓P P 00 57 19.1 -0.3
SBJI Serang 59.99 90 P P 00 57 20.7 +0.6
comp=Z,148nm,0.6s
TPRI Tanjung Pinang 60.03 81 P P 00 57 20.5 0.0
PDG Podgorica 60.09 338 ⇓P P 00 57 20.6 +0.4
PDG Podgorica 60.09 338 P P 00 57 20.9 +0.7
PDG Podgorica 60.09 338 ⇓*i*P P 00 57 20.6 +0.4
KK31 Karatay Array 60.18 21 P P 00 57 21.1 +0.2
KK31 IAmb IAmb 00 57 29.5
comp=Z,56nm,0.9s
KK31 Karatay Array 60.18 21 P P 00 57 21.1 +0.2
KK31 pmax pmax
comp=Z,56nm,1.0s
KKAR Karatay Array 60.18 21 P P 00 57 20.7 -0.2
KKAR Karatay Array 60.18 21 IAmb IAmb 00 57 29.5
comp=Z,56nm,0.9s
KKAR Karatay Array 60.18 21 P P 00 57 20.7 -0.2
DZA Taraz 60.28 22 *e*P P 00 57 20.9 -0.7
comp=Z,9.8nm,0.7s,baz=22
DZA Taraz 60.28 22 *e*P P 00 57 20.9 -0.7
DZA pmax pmax
comp=Z,10.0nm,0.7s
HCY Herceg Novi 60.39 337 *e*P P 00 57 22.9 +0.6
PUNG Punghina 60.48 341 ⇓P P 00 57 23.0 +0.2
SJES Sjenica 60.55 339 ⇓*i*P P 00 57 23.9 +0.4
ELIB Princess Elisa 60.56 188 *d*P P 00 57 24.5 +1.2
comp=Z,34nm,1.2s
TREB Trebinje 60.68 337 *e*P P 00 57 24.8 +0.6
ODBI Odobesti 60.69 345 ⇑P P 00 57 24.4 +0.2
MLR Muntele Rosu 60.72 344 ⇓P P 00 57 24.7 +0.1
MLR Muntele Rosu 60.72 344 P P 00 57 24.9 +0.3
MLR Muntele Rosu 60.72 344 LR LR 01 27 34.8
comp=Z,685nm,18.1s,baz=169,slow=40
MLR Muntele Rosu 60.72 344 P P 00 57 25.0 +0.3
MLR pmax pmax
comp=Z,19nm,0.9s
MLR MLR MLR
comp=Z,800nm,19.0s
MLR Muntele Rosu 60.72 344 P P 00 57 24.7 +0.1
comp=Z,34nm,1.5s,comp=Z,677nm
BRY Bratogost 60.76 337 *e*P P 00 57 25.8 +0.8
PURM Purcari 60.77 348 ⇑P P 00 57 24.3 -0.4
PLOR5 Plostina Array 60.86 345 P P 00 57 25.5 0.0
comp=Z,30nm,1.9s,comp=Z,1μm
VRI Vrincioaia 60.87 345 ⇓P P 00 57 25.4 -0.1
VRI Vrincioaia 60.87 345 ⇓P P 00 57 25.4 -0.1
VRI Vrincioaia 60.87 345 P P 00 57 26.0 +0.5
comp=Z,81nm,1.6s,comp=Z,1μm
PLOR Plostina 60.87 345 ⇓P P 00 57 25.8 +0.2
PLOR Plostina 60.87 345 ⇓P P 00 57 25.8 +0.2
PLOR3 Plostina Array 60.88 345 P P 00 57 25.4 -0.2
comp=Z,55nm,1.6s,comp=Z,1μm
GHRR 60.88 346 ⇓P P 00 57 26.2 +0.6
UPM Unac-Piva 60.89 338 *e*P P 00 57 26.7 +0.8
VOIR 60.91 344 ⇑P P 00 57 25.5 -0.4
VOIR 60.91 344 ⇑P P 00 57 25.5 -0.4
VOIR 60.91 344 P P 00 57 25.2 -0.7
comp=Z,44nm,1.0s,comp=Z,672nm
ARR Arges 60.96 343 ⇓P P 00 57 25.5 -0.7
COVR Voineasa-Covas 60.98 345 ⇓P P 00 57 26.2 -0.1
STON Ston 61.05 337 *e*P P 00 57 26.7 -0.1
RUDO Rudo 61.08 339 *e*P P 00 57 26.5 -0.5
CMAR Chiang Mai Arr 61.13 60 P P 00 57 27.4 -0.4
CMAR Chiang Mai Arr 61.13 60 P P 00 57 28.2 +0.4
comp=Z,3.4nm,0.4s,baz=250,slow=8.4,SNR=26
CMAR LR LR 01 21 46.5
comp=Z,606nm,18.1s,baz=255,slow=34
comp=Z,3.4nm,0.4s
CMAR Chiang Mai Arr 61.13 60 *i* P P 00 57 29.0 +1.2
CMAR pmax pmax
comp=Z,7.0nm,0.9s
HERR Herculane 61.18 341 ⇓P P 00 57 27.7 +0.1
TURR Turia 61.23 345 ⇓P P 00 57 27.5 -0.5
AAK Ala-Archa 61.26 24 P P 00 57 28.7 +0.3
AAK IAmb IAmb 00 57 37.2
comp=Z,24nm,0.9s
AAK Ala-Archa 61.26 24 *i* P P 00 57 27.4 -1.1
SNR=11
AAK Ala-Archa 61.26 24 LR LR 01 22 23.4
comp=Z,506nm,21.0s,baz=236,slow=34
AAK Ala-Archa 61.26 24 P P 00 57 28.2 -0.3
AAK Ala-Archa 61.26 24 *de*P P 00 57 26.7 -1.7
AAK pmax pmax
comp=Z,4.0nm,1.0s
NEVS Nevesinje 61.27 337 *e*P P 00 57 29.9 +1.5
BBLS Lazi&#263i 61.28 339 ⇓*i*P P 00 57 29.3 +0.9
LOT Lotru 61.28 343 ⇓P P 00 57 28.1 -0.4
CHTO Chiang Mai 61.29 60 P P 00 57 29.2 +0.3
CHTO IAmb IAmb 00 57 37.4
comp=Z,25nm,0.9s
CHTO Chiang Mai 61.29 60 P P 00 57 29.2 +0.3
CHTO pmax pmax
comp=Z,25nm,0.9s
MDVR Moldovita 61.31 341 ⇓P P 00 57 28.5 -0.1
OZUR 61.32 344 ⇑P P 00 57 28.0 -0.7
VASR Vaslui 61.34 346 ⇓P P 00 57 28.3 -0.4
BOSR Bodos 61.34 344 ⇑P P 00 57 28.3 -0.5
MILM Milestii Mici 61.37 347 ⇑P P 00 57 28.3 -0.5
MILM Milestii Mici 61.37 347 ⇓*i*P P 00 57 28.0 -0.8
comp=Z,260nm,2.4s
MILM *e*L L 01 20 14.0
MILM LRM MLR 01 30 16.0
comp=Z,500nm,18.0s
MILM Milestii Mici 61.37 347 ⇑P P 00 57 28.3 -0.5
KIS Kishinev 61.44 347 ⇓*i*P P 00 57 28.7 -0.6
comp=Z,120nm,2.5s
KIS *e*L L 01 20 39.0
comp=Z,300nm,18.0s
KIS Kishinev 61.44 347 *i* P P 00 57 28.7 -0.6
KIS *e* 00 57 37.0
KIS pmax pmax
comp=Z,120nm,2.5s
TESR Tescani 61.49 345 ⇑P P 00 57 29.0 -0.7
NVL N'lazarevskaya 61.49 192 ⇓*e*P P 00 57 30.1 +0.7
NVL *e*S S 01 05 52.5 +1.9
NVL pmax pmax
comp=Z,98nm,0.8s
NVL MLR MLR
comp=Z,804nm,20.0s
GZR Gura Zlata 61.53 342 ⇓P P 00 57 30.5 +0.4
GZR Gura Zlata 61.53 342 ⇓P P 00 57 30.5 +0.4
HAPS Han Pijesak,Bl 61.64 338 ⇓*i*P P 00 57 32.0 +1.1
TEKS Tekeris 61.84 339 *e*P P 00 57 32.7 +0.6
INTR Introdacqua 61.89 334 P P 00 57 32.7 +0.1
DEV Deva 61.94 342 ⇓P P 00 57 33.0 +0.3
DEV Deva 61.94 342 ⇓P P 00 57 33.0 +0.3
TKM2 Tokmak 2 61.94 25 P P 00 57 33.2 +0.1
SGDS Sogindy 62.00 24 *e*P P 00 57 32.8 -0.5
comp=Z,8.8nm,1.0s,baz=24
SGDS Sogindy 62.00 24 *e*P P 00 57 32.8 -0.5
SGDS pmax pmax
comp=Z,9.0nm,1.0s
VSL Villasalto 62.03 329 P P 00 57 34.9 +1.4
VSL IAmb IAmb 00 57 36.9
comp=Z,38nm,0.8s
BZS Buzias 62.09 341 ⇑P P 00 57 34.2 +0.5
BZS Buzias 62.09 341 ⇑P P 00 57 34.2 +0.5
FRGS Fruska Gora 62.27 340 ⇑P P 00 57 35.7 +0.7
FRGS Fruska Gora 62.27 340 *e*P P 00 57 35.3 +0.3
FRGS Fruska Gora 62.27 340 P P 00 57 35.4 +0.4
comp=Z,77nm,1.0s,comp=Z,936nm
SRKY Kupres RS 62.28 337 *e*P P 00 57 35.5 +0.3
PRAR RASCA 62.39 345 ⇓P P 00 57 35.1 -0.7
CJR Cluj-Napoca 62.49 343 ⇑P P 00 57 37.0 +0.6
CJR Cluj-Napoca 62.49 343 ⇑P P 00 57 37.0 +0.6
CAMP Campotosto 62.53 334 IAmb IAmb 00 57 39.6
comp=Z,44nm,0.9s
CBBR Cluj-Babes-Bol 62.55 343 ⇓P P 00 57 34.4 -2.4
MARR Marisel-Cluj 62.59 343 ⇓P P 00 57 37.7 +0.5
TNSS Tian-Shan 62.59 25 *e*P P 00 57 36.9 -0.8
baz=26
TNSS Tian-Shan 62.59 25 *e*P P 00 57 36.9 -0.8
MGRS Mrkonjic Grad 62.61 337 *e*P P 00 57 32.5 -4.8
ARCR ARCALIA 62.62 344 ⇓P P 00 57 37.6 +0.3
SORM Soroca 62.62 347 ⇑P P 00 57 36.3 -0.9
SORM Soroca 62.62 347 ⇑P P 00 57 36.3 -0.9
SORM Soroca 62.62 347 P P 00 57 36.3 -0.9
comp=Z,49nm,1.5s
MDOK Medeo 62.74 25 *e*P P 00 57 38.3 -0.1
baz=26
MDOK Medeo 62.74 25 *e*P P 00 57 38.2 -0.1
DRGR 62.81 343 ⇓P P 00 57 39.2 +0.5
DRGR 62.81 343 ⇓P P 00 57 39.2 +0.5
BLY Banja Luka 62.85 338 ⇓*i*P P 00 57 39.1 +0.2
A050A Klekovaca 62.87 337 ⇓*i*P P 00 57 39.4 +0.3
BURAR Bucovina Array 62.88 345 ⇑P P 00 57 39.7 +0.6
BURAR Bucovina Array 62.88 345 P P 00 57 39.6 +0.6
BURAR IAmb IAmb 00 57 41.2
comp=Z,20nm,0.7s
BURAR Bucovina Array 62.88 345 P P 00 57 39.7 +0.6
BURAR pmax pmax
comp=Z,20nm,0.7s
NRCA Norcia 62.90 334 IAmb IAmb 00 57 48.3
comp=Z,28nm,1.0s
PLTM Poltava 62.94 352 P P 00 57 40.1 +0.8
CESX Cesi 62.95 333 IAmb IAmb 00 57 41.2
comp=Z,23nm,1.0s
GUMA Gualdo di Mace 62.99 334 IAmb IAmb 00 57 47.6
comp=Z,399nm,0.8s
GUMA IAMs_20 IAMs_20 01 26 25.4
comp=Z,751nm,21.0s
AMBH Ambrzfalva 63.02 341 ⇑P P 00 57 41.3 +1.4
FDMO Fiordimonte 63.07 334 IAmb IAmb 00 57 41.7
comp=Z,86nm,1.9s
KHAM Kharkiv 63.11 353 P P 00 57 40.5 0.0
AB31 Akbulak array 63.12 11 *i* P P 00 57 40.3 -0.3
ABKAR Akbulak array 63.12 11 P P 00 57 40.8 +0.2
ABKAR Akbulak array 63.12 11 IAmb IAmb 00 57 48.7
comp=Z,124nm,0.8s
CRAI Chiangrai 63.13 59 P P 00 57 42.1 +0.9
CRAI IAmb IAmb 00 57 49.9
comp=Z,24nm,0.9s
BTLS Baital 63.13 22 *e*P P 00 57 40.6 -0.2
comp=Z,8.9nm,0.9s,baz=22
BTLS Baital 63.13 22 *e*P P 00 57 40.5 -0.2
BTLS pmax pmax
comp=Z,9.0nm,0.9s
A051A Mrakovica 63.18 338 ⇓*i*P P 00 57 41.3 +0.2
SATY Saty 63.24 26 *e*P P 00 57 41.5 -0.1
comp=Z,14nm,1.0s,baz=26
SATY Saty 63.24 26 *e*P P 00 57 41.5 -0.1
SATY pmax pmax
comp=Z,14nm,1.0s
CHKK Chushkaly 63.28 25 *e*P P 00 57 41.8 -0.1
baz=25
CHKK Chushkaly 63.28 25 *e*P P 00 57 41.7 -0.1
ZHN Zhinishke 63.34 26 *e*P P 00 57 42.5 +0.1
comp=Z,7.8nm,1.0s,baz=26
ZHN Zhinishke 63.34 26 *e*P P 00 57 42.4 +0.1
ZHN pmax pmax
comp=Z,8.0nm,1.0s
BORR Bors 63.36 342 ⇓P P 00 57 43.5 +1.3
BMR Baia Mare 63.39 343 ⇓P P 00 57 42.3 -0.1
BMR Baia Mare 63.39 343 ⇓P P 00 57 42.3 -0.1
KMPD K-Podol'skiy 63.45 346 P P 00 57 41.6 -1.1
KMPD P P 00 57 41.4 -1.3
RAKU Rahkiv 63.53 344 P P 00 57 43.0 -0.3
KSV Kosov 63.56 345 P P 00 57 42.7 -0.8
UZB Uzynbulak 63.58 27 *e*P P 00 57 44.0 +0.1
comp=Z,14nm,0.9s,baz=27
UZB Uzynbulak 63.58 27 *e*P P 00 57 44.0 +0.1
UZB pmax pmax
comp=Z,14nm,0.9s
MORH Mrgy, Hungar 63.59 339 ⇓P P 00 57 44.0 +0.3
MORH Mrgy, Hungar 63.59 339 P P 00 57 43.8 +0.1
comp=Z,57nm,0.9s,comp=Z,578nm
SHLS Shalkode 63.78 27 *e*P P 00 57 46.6 +1.4
comp=Z,10.0nm,1.0s,baz=27
SHLS Shalkode 63.78 27 *e*P P 00 57 46.6 +1.4
SHLS pmax pmax
comp=Z,10.0nm,1.0s
VORD Divnogorie 63.78 356 *e*P P 00 57 43.1 -1.8
VORD pmax pmax
comp=Z,40nm,0.8s
CASP Castiglione de 63.86 332 IAmb IAmb 00 57 47.3
comp=Z,33nm,0.8s
VRH Novokhopyorsk 63.87 357 *e*P P 00 57 43.7 -1.7
VRH pmax pmax
comp=Z,120nm,0.7s
ARXS Arharly 63.92 25 *e*P P 00 57 50.9 +4.8
PDGK Podgornoye 63.93 27 P P 00 57 45.1 -1.1
AKTO Aktyubinsk 63.95 9 LR LR 01 26 23.0
comp=Z,1μm,20.9s,baz=198,slow=37
VSR Storozhevoye 64.04 356 *e*P P 00 57 44.3 -2.3
VSR pmax pmax
comp=Z,100nm,1.8s
BRIU Brid 64.13 343 P P 00 57 47.2 0.0
BOJS Bojanci 64.22 337 *i* P P 00 57 48.2 +0.4
BOJS Bojanci 64.22 337 *e*P P 00 57 48.1 +0.2
CRES Cresnjev 64.41 337 ⇓*i*P P 00 57 49.7 +0.5
TROLL Troll, Antarti 64.44 194 ⇑P P 00 57 51.0 +1.9
comp=Z,5μm,0.8s
VORR Voronezh 64.49 356 *e*P P 00 57 49.8 +0.3
VORR pmax pmax
comp=Z,57nm,0.7s
MORS Morshin 64.62 344 P P 00 57 50.2 -0.2
PSZ Piszkesteto 64.68 341 ⇓P P 00 57 50.5 -0.4
PSZ Piszkesteto 64.68 341 IAmb IAmb 00 57 52.4
comp=Z,22nm,0.8s
PSZ Piszkesteto 64.68 341 ⇓P P 00 57 50.6 -0.4
CEY Cerknica 64.74 336 ⇓*i*P P 00 57 50.6 -0.7
AK07 Malin Array Si 64.74 349 P P 00 57 50.8 -0.4
AK10 Malin Array Si 64.78 349 P P 00 57 50.7 -0.7
AK09 Malin Array Si 64.78 349 P P 00 57 50.7 -0.8
MPLH Magyarpolny 64.80 339 P P 00 57 51.6 -0.1
comp=Z,138nm,0.9s,comp=Z,1μm
AK05 Malin Array Si 64.80 349 P P 00 57 51.0 -0.6
AK08 Malin Array Si 64.81 349 P P 00 57 50.9 -0.7
TDK Taldyqorghan 64.81 25 *e*P P 00 57 51.6 -0.3
comp=Z,19nm,0.9s,baz=25
TDK Taldyqorghan 64.81 25 *e*P P 00 57 51.5 -0.3
TDK pmax pmax
comp=Z,19nm,0.9s
AK13 Malin Array Si 64.83 348 P P 00 57 51.2 -0.5
AK14 Malin Array Si 64.83 348 P P 00 57 51.0 -0.8
AK12 Malin Array Si 64.84 349 P P 00 57 50.7 -1.1
AK02 Malin Array Si 64.84 349 P P 00 57 51.3 -0.5
KIEV Kiev 64.87 349 ⇑P P 00 57 51.3 -0.8
KIEV Kiev 64.87 349 P P 00 57 51.6 -0.4
KIEV IAmb IAmb 00 57 53.2
comp=Z,36nm,1.1s
KIEV Kiev 64.87 349 *i* P P 00 57 51.6 -0.4
SNR=15
KIEV Kiev 64.87 349 P P 00 57 51.6 -0.4
KIEV pmax pmax
comp=Z,36nm,1.1s
KIEV MLR MLR
comp=Z,600nm,21.0s
KIEV Kiev 64.87 349 P P 00 57 51.1 -0.9
comp=Z,170nm,1.4s
AKASG Malin Array Be 64.88 349 P P 00 57 51.4 -0.6
comp=Z,11nm,0.7s,baz=174,slow=5.7,SNR=58
AKASG LR LR 01 27 28.8
comp=Z,515nm,19.8s,baz=154,slow=37
comp=Z,11nm,0.7s
AKBB Malin Array Si 64.88 349 IAmb IAmb 00 57 53.2
comp=Z,37nm,1.0s
AKBB Malin Array Si 64.88 349 *ce*P P 00 57 51.7 -0.4
AKBB pmax pmax
comp=Z,17nm,0.9s
AKBB Malin Array Si 64.88 349 P P 00 57 51.3 -0.8
KOLS Kolonicke sedl 64.88 343 *e*P P 00 57 52.6 +0.4
KOLS Kolonicke sedl 64.88 343 *e*P P 00 57 52.7 +0.5
KOLS pmax pmax
comp=Z,20nm,0.7s
MI29 MI29, Kamyanyy 64.89 348 P P 00 57 51.8 -0.3
AK03 Malin Array Si 64.90 349 P P 00 57 51.3 -0.9
GROS Grobnik 64.93 338 *i* P P 00 57 53.0 +0.3
KECS Kecovo 65.00 342 *e*P P 00 57 53.5 +0.6
KECS Kecovo 65.00 342 *e*P P 00 57 53.5 +0.6
KECS pmax pmax
comp=Z,54nm,0.7s
BELG Belogornoye 65.00 1 LR LR 01 29 21.0
comp=Z,2μm,19.1s,baz=164,slow=39
BELG Belogornoye 65.00 1 *d**i*P P 00 57 51.3 -1.5
BELG pmax pmax
comp=Z,24nm,0.8s
MAHO Mahon 65.01 326 IAmb IAmb 00 57 56.6
comp=Z,45nm,1.0s
MAHO IAMs_20 IAMs_20 01 28 40.5
comp=Z,2μm,18.0s
MAHO Mahon 65.01 326 P P 00 57 54.4 +1.2
ZCCA Zocca 65.04 333 IAMs_20 IAMs_20 01 28 56.8
comp=Z,1μm,21.0s
CRVS Cervenica-Dubn 65.08 343 *e*P P 00 57 53.9 +0.4
CRVS Cervenica-Dubn 65.08 343 *e*P P 00 57 53.9 +0.4
CRVS pmax pmax
comp=Z,95nm,1.7s
SRO Srobarova 65.10 340 *e*P P 00 57 54.9 +1.3
SRO Srobarova 65.10 340 *e*P P 00 57 54.9 +1.3
MI30 MI30,Zelenitsa 65.13 348 P P 00 57 52.8 -0.9
LVV L'vov 65.22 345 *e*P P 00 57 54.2 -0.1
LVV *e* 01 00 19.6
LVV *e*S S 01 06 34.2 -3.3
SABO M.te Sabotino 65.26 336 IAmb IAmb 00 57 56.4
comp=Z,54nm,0.9s
SOKA Soboth 65.29 337 *e*P P 00 57 55.7 +0.7
comp=Z,42nm,1.0s,SNR=14
OBKA Obir 65.33 337 *e*P P 00 57 55.7 +0.5
comp=Z,46nm,1.1s,SNR=13
OBKA Obir 65.33 337 ⇓*i*P P 00 57 55.1 -0.1
KWP Kalwaria Pacla 65.39 344 *e*P P 00 57 56.3 +0.8
KWP Kalwaria Pacla 65.39 344 IAmb IAmb 00 57 57.6
comp=Z,71nm,1.4s
KWP Kalwaria Pacla 65.39 344 P P 00 57 55.6 +0.1
comp=Z,36nm,1.2s
MI28 Mi28,Pidlybu 65.41 348 P P 00 57 54.2 -1.3
CADS Cadrg 65.41 336 *i* P P 00 57 55.4 -0.3
LPSR Galich'ya Gora 65.43 356 *e*P P 00 57 54.3 -1.3
LPSR pmax pmax
comp=Z,20nm,0.7s
SNAA Sanae 65.52 195 P P 00 57 57.1 +1.0
SNAA IAMs_20 IAMs_20 01 25 49.7
comp=Z,2μm,18.0s
SNAA Sanae 65.52 195 ⇑*i*P P 00 57 57.5 +1.3
SNAA Sanae 65.52 195 ⇑P P 00 57 57.1 +1.0
comp=Z,277nm,0.7s
SNAA Sanae 65.52 195 P P 00 57 57.1 +1.0
comp=Z,12nm,0.7s,baz=123,slow=4.6,SNR=35
SNAA LR LR 01 24 41.2
comp=Z,2μm,18.0s,baz=82,slow=34
comp=Z,12nm,0.7s
SNAA Sanae 65.52 195 P P 00 57 57.2 +1.0
SNAA pmax pmax
comp=Z,17nm,0.8s
VYHS Vyhne 65.52 341 *e*P P 00 57 56.5 +0.2
VYHS Vyhne 65.52 341 *e*P P 00 57 56.5 +0.2
VYHS pmax pmax
comp=Z,55nm,1.4s
ARSA Arzberg 65.59 338 *i* P P 00 57 57.4 +0.5
comp=Z,20nm,0.7s,SNR=24
STHS Stebnicka Huta 65.61 343 *e*P P 00 57 56.2 -0.7
STHS Stebnicka Huta 65.61 343 *e*P P 00 57 56.2 -0.7
STHS pmax pmax
comp=Z,14nm,0.8s
PRED Cave del Predi 65.66 336 IAmb IAmb 00 57 59.7
comp=Z,28nm,0.8s
RONA Rosalia, Austr 65.69 339 *e*P P 00 57 57.8 +0.3
comp=Z,85nm,0.9s,SNR=60
MYKA Terra Mystica 65.78 336 *e*P P 00 57 58.4 +0.2
comp=Z,32nm,1.3s,SNR=9.6
ZST Bratislava 65.84 340 *e*P P 00 57 59.3 +1.0
ZST Bratislava 65.84 340 *e*P P 00 57 59.3 +1.0
ZST pmax pmax
comp=Z,155nm,1.2s
STAL STALIGIAL 65.84 336 IAmb IAmb 00 58 00.1
comp=Z,42nm,1.0s
NIE Niedzica 65.89 342 *e*P P 00 57 59.1 +0.4
LANS Liptovska Anna 65.90 342 *e*P P 00 57 59.5 +0.7
LANS Liptovska Anna 65.90 342 *e*P P 00 57 59.5 +0.7
LANS pmax pmax
comp=Z,38nm,1.9s
MODS Modra-Piesok 65.93 340 *e*P P 00 57 59.0 0.0
MODS Modra-Piesok 65.93 340 *e*P P 00 57 59.0 0.0
MODS pmax pmax
comp=Z,179nm,1.4s
CHAS Isla Isabel II 65.94 318 P P 00 58 00.8 +1.5
CIMO Cimolais 66.00 335 IAmb IAmb 00 58 01.1
comp=Z,34nm,0.8s
CIMO IAMs_20 IAMs_20 01 29 50.0
comp=Z,653nm,19.0s
SMOL Smolenice 66.00 340 *e*P P 00 58 00.3 +0.9
SMOL pmax pmax
comp=Z,11nm,0.9s
MDT Midelt 66.00 315 LR LR 01 28 04.1
comp=Z,2μm,18.4s,baz=130,slow=37
CONA Conrad Observa 66.04 339 *e*P P 00 58 00.0 +0.2
comp=Z,25nm,0.8s,SNR=25
EIBI Ibiza 66.06 324 P P 00 58 01.5 +1.5
RNPP5 Staryi Chortor 66.08 347 P P 00 57 59.1 -0.7
RNPP8 Varash 66.18 347 P P 00 57 59.8 -0.7
JAVC Velka Javorina 66.22 340 *e*P P 00 58 01.4 +0.5
RNPP9 Sopachiv 66.25 347 P P 00 58 00.5 -0.4
KBA Koelnbreinsper 66.27 337 *e*P P 00 58 01.2 -0.1
comp=Z,38nm,0.9s,SNR=16
VNA2 Neumayer--Watz 66.31 197 ⇑P P 00 58 02.4 +1.2
comp=Z,39nm,0.6s,baz=44,slow=6.3
ABTA Abfaltersbach 66.32 336 *e*P P 00 58 01.8 +0.2
comp=Z,29nm,1.2s,SNR=12
VNA1 Neumayer--Stat 66.41 197 ⇑P P 00 58 03.2 +1.4
comp=Z,42nm,0.9s
CART Cartagena 66.53 321 IAMs_20 IAMs_20 01 27 23.8
comp=Z,2μm,19.0s
CART Cartagena 66.53 321 P P 00 58 03.8 +0.8
MOA Molln 66.55 338 *e*P P 00 58 03.1 +0.1
comp=Z,30nm,0.7s,SNR=40
MAUC Maruska 66.61 341 *e*P P 00 58 03.8 +0.5
BIOA Bad Ischl, Aus 66.66 337 *e*P P 00 58 03.3 -0.4
comp=Z,47nm,1.1s,SNR=21
OJC Ojcow 66.75 342 *e*P P 00 58 04.2 0.0
OJC Ojcow 66.75 342 IAmb IAmb 00 58 05.3
comp=Z,28nm,0.9s
OJC Ojcow 66.75 342 P P 00 58 03.6 -0.6
OJC Ojcow 66.75 342 P P 00 58 03.3 -0.9
comp=Z,47nm,1.0s,comp=Z,759nm
IFR Ifrane 66.76 315 P P 00 58 05.9 +1.0
LESA Schwarzleotal 66.81 336 *e*P P 00 58 04.2 -0.6
comp=Z,16nm,0.7s

KRUC	Moravsky	66.82	340	eP	P	P	00 58 04.0	-0.7			
EMUR	La Murta	66.83	321	P	P	P	00 58 05.0	0.0			
TIO	Tiouine	66.84	312	P	P	P	00 58 04.5	-0.9			
ENIJ	Nijar	66.89	320	P	P	P	00 58 06.7	+1.3			
MORW	Morawa	66.90	116	P	P	P	00 58 06.0	+0.3			
MORW				IAmb	IAmb		00 58 13.5				
	comp=Z,26nm,1.1s										
MORW				IAMs_20	IAMs_20		01 22 07.3				
	comp=Z,996nm,18.0s										
OKC	Ostrava-Krasne	66.92	341	eP	P	P	00 58 05.2	0.0			
OKC				AMS	AMS		01 31 40.0				
	comp=Z,500nm,19.6s										
OKC	Ostrava-Krasne	66.92	341	eP	P	P	00 58 05.2	0.0			
OKC				MLR	MLR						
	comp=Z,500nm,19.6s										
BRZS	Berezniki	66.94	19	eP	P	P	00 58 05.5	+0.1			
	baz=19										
BRZS	Berezniki	66.94	19	eP	P	P	00 58 11.0	+5.6			
BRZS				pmax	pmax						
	comp=Z,31nm,2.0s										
VRAC	Vranov	66.97	340	⇓P	P	P	00 58 05.1	-0.4			
VRAC	Vranov	66.97	340	eP	P	P	00 58 05.2	-0.4			
VRAC	Vranov	66.97	340	LR	LR		01 29 34.7				
	comp=Z,476nm,21.5s,baz=156,slow=38										
VRAC	Vranov	66.97	340	⇓P	P	P	00 58 05.1	-0.4			
TLOR	Lorca, Murcia	66.99	321	P	P	P	00 58 07.7	+1.7			
MORC	Moravsky Berou	67.06	341	⇓P	P	P	00 58 06.1	-0.1			
MORC	Moravsky Berou	67.06	341	eP	P	P	00 58 05.9	-0.3			
MORC	Moravsky Berou	67.06	341	⇓P	P	P	00 58 06.1	-0.1			
WTTA	Wattenberg	67.09	336	eP	P	P	00 58 06.1	-0.5			
	comp=Z,36nm,1.2s,SNR=14										
VNA3	Neumayer Olymp	67.11	197	⇑P	P	P	00 58 07.6	+1.3			
	comp=Z,82nm,0.7s										
PZH	PanZhiHua	67.14	54	P	P	P	00 58 11.9	+4.6			
PZH				S	S	S	01 07 03.6	+1.5			
PZH				pmax	pmax						
	comp=Z,20nm,0.5s										
PZH				pmax	pmax						
	comp=Z,220nm,3.9s										
PZH				LR	LR						
	comp=Z,390nm,19.4s										
PZH				LR	LR						
	comp=Z,270nm,20.0s										
PZH				LR	LR						
	comp=Z,560nm,26.5s										
FUORN	Ofenpass-Fuorn	67.14	334	IAmb	IAmb		00 58 08.9				
	comp=Z,24nm,1.0s										
WATA	Walderalm	67.17	336	eP	P	P	00 58 06.5	-0.6			
	comp=Z,24nm,0.9s,SNR=15										
SQTA	Sankt Quirin	67.23	335	eP	P	P	00 58 07.0	-0.5			
	comp=Z,28nm,1.0s,SNR=14										
FETA	Feichten	67.27	335	eP	P	P	00 58 07.7	0.0			
	comp=Z,66nm,1.0s,SNR=40										
EBER	Berja	67.28	319	P	P	P	00 58 09.6	+1.5			
KMI	Kunming	67.29	56	⇑P	P	P	00 58 09.3	+0.9			
KMI				S	S	S	01 07 10.1	+6.0			
KMI				pmax	pmax						
	comp=Z,20nm,0.9s										
KMI				pmax	pmax						
	comp=Z,120nm,4.1s										
KMI				LR	LR						
	comp=Z,190nm,21.8s										
KMI				LR	LR						
	comp=Z,440nm,18.3s										
KMI				LR	LR						
	comp=Z,540nm,20.1s										
TREC	Trest	67.33	339	eP	P	P	00 58 07.8	-0.1			
TREC	Trest	67.33	339	eP	P	P	00 58 07.8	-0.1			
CKRC	Cesky Krumlov	67.35	338	eP	P	P	00 58 07.9	-0.2			
CKRC				eS	S	S	01 06 56.8	-6.7			
CKRC				AMS	AMS		01 32 30.0				
	comp=Z,400nm,15.4s										
CKRC	Cesky Krumlov	67.35	338	eP	P	P	00 58 07.9	-0.2			
CKRC				eS	S	S	01 06 56.8	-6.7			
CKRC				MLR	MLR						
	comp=Z,400nm,15.4s										
MOTA	Moosalm	67.37	335	eP	P	P	00 58 07.9	-0.5			
	comp=Z,36nm,0.9s,SNR=15										
TUE	Stuetta	67.42	334	P	P	P	00 58 08.4	-0.4			
	comp=Z,105nm,2.0s										
ETOB	Tobarra	67.53	322	P	P	P	00 58 09.9	+0.4			
BNI	Bardonecchia	67.53	331	IAMs_20	IAMs_20		01 32 31.9				
	comp=Z,972nm,18.0s										
EJON	La Jonquera	67.54	327	P	P	P	00 58 09.9	+0.4			
KRLC	Kraliky	67.56	340	eP	P	P	00 58 09.4	0.0			
KRLC	Kraliky	67.56	340	eP	P	P	00 58 09.4	0.0			
MBO	M'Bour	67.58	292	IAMs_20	IAMs_20		01 27 45.9				
	comp=Z,2µm,20.0s										
GEC2	GERESS Array S	67.59	338	IAmb	IAmb		00 58 10.8				
	comp=Z,39nm,1.0s										
GERES	GERESS Array B	67.59	338	P	P	P	00 58 09.0	-0.7			
	comp=Z,21nm,0.8s,baz=141,slow=4.8,SNR=37										
GERES				LR	LR		01 31 11.0				
	comp=Z,370nm,18.3s,baz=140,slow=39										
	comp=Z,21nm,0.8s										
RETA	Reutte	67.62	335	eP	P	P	00 58 09.5	-0.4			
	comp=Z,40nm,1.0s,SNR=29										
ELGU	Los Guajares,	67.73	319	P	P	P	00 58 11.6	+0.8			
MAKZ	Makanchi	67.75	26	P	P	P	00 58 10.5	-0.1			
MAKZ	Makanchi	67.75	26	P	P	P	00 58 10.5	-0.1			
MAKZ				pmax	pmax						
	comp=Z,106nm,1.6s										
ECHE	Chera	67.79	323	P	P	P	00 58 12.6	+1.5			
NWAO	Narrogin (SRO)	67.81	120	LR	LR		01 21 14.1				
	comp=Z,506nm,21.3s,baz=240,slow=30										
EQTA	Presa de Quent	67.82	319	P	P	P	00 58 13.1	+1.8			
DAVA	Damuels	67.83	335	eP	P	P	00 58 10.7	-0.6			
	comp=Z,73nm,1.4s,SNR=16										
LPL	La Plagne	67.86	332	eP	P	P	00 58 11.2	-0.4			
LPL				pmax	pmax						
	comp=Z,19nm,0.7s										
KHC	Kasperske Hory	67.87	338	eP	P	P	00 58 10.6	-0.8			
KHC				eS	S	S	01 07 09.7	-0.2			
KHC				AMS	AMS		01 35 10.0				
	comp=Z,600nm,17.9s										
KHC	Kasperske Hory	67.87	338	eP	P	P	00 58 10.6	-0.8			
KHC				eS	S	S	01 07 09.7	-0.2			
KHC				MLR	MLR						
	comp=Z,600nm,17.9s										
KHC	Kasperske Hory	67.87	338	P	P	P	00 58 10.4	-1.0			
	comp=Z,27nm,1.1s										
MK31	Makanchi Array	67.88	26	ceP	P	P	00 58 11.3	-0.1			
MKAR	Makanchi Array	67.88	26	P	P	P	00 58 11.4	0.0			
MKAR	Makanchi Array	67.88	26	P	P	P	00 58 10.8	-0.6			
	comp=Z,3.6nm,0.6s,baz=214,slow=7.1,SNR=31										
	comp=Z,3.6nm,0.6s										
MKAR	Makanchi Array	67.88	26	iP	P	P	00 58 11.1	-0.4			
MKAR				pmax	pmax						
	comp=Z,4.0nm,0.6s										
ZVC	Zvikov	67.91	338	eP	P	P	00 58 10.8	-0.8			
DPC	Dobruska-Polom	67.95	340	eP	P	P	00 58 11.8	0.0			
DPC				AMS	AMS		01 34 30.0				
	comp=Z,500nm,17.2s										
DPC	Dobruska-Polom	67.95	340	eP	P	P	00 58 11.8	0.0			
DPC				MLR	MLR						
	comp=Z,500nm,17.2s										
DPC	Dobruska-Polom	67.95	340	P	P	P	00 58 11.5	-0.3			
	comp=Z,32nm,0.8s										
GOPC	GO Pecny, Ondr	68.10	339	eP	P	P	00 58 12.3	-0.5			
GOPC	GO Pecny, Ondr	68.10	339	eP	P	P	00 58 12.3	-0.5			
OBN	Obninsk	68.13	354	P	P	P	00 58 12.7	-0.1			
OBN				IAmb	IAmb		00 58 14.0				
	comp=Z,75nm,1.4s										
OBN				IAMs_20	IAMs_20		01 29 58.3				
	comp=Z,2µm,20.0s										
OBN	Obninsk	68.13	354	LR	LR		01 30 29.6				
	comp=Z,1µm,19.4s,baz=170,slow=38										
OBN	Obninsk	68.13	354	eP	P	P	00 58 13.3	+0.6			
OBN				pmax	pmax						
	comp=Z,19nm,1.0s										
OBN				MLR	MLR						
	comp=Z,1µm,20.0s										
OSTC	Ostas	68.16	340	eP	P	P	00 58 13.2	+0.1			
OSTC				AMS	AMS		01 32 20.0				
	comp=Z,500nm,23.6s										
OSTC	Ostas	68.16	340	eP	P	P	00 58 13.2	+0.1			
OSTC				MLR	MLR						
	comp=Z,500nm,23.6s										
EMAL	Malaga-Limoner	68.18	318	P	P	P	00 58 13.7	+0.2			
UPC	Upice	68.19	340	eP	P	P	00 58 13.2	-0.1			
UPC				eS	S	S	01 07 12.2	-1.3			
UPC				AMS	AMS		01 31 40.0				
	comp=Z,400nm,17.0s										
UPC	Upice	68.19	340	eP	P	P	00 58 13.2	-0.1			
UPC				eS	S	S	01 07 12.2	-1.3			
UPC				MLR	MLR						
	comp=Z,400nm,17.0s										
WMQ	Urumqi	68.21	32	eP	P		00 58 19.8	+6.1			
WMQ				S	S	S	01 07 18.6	+4.4			
WMQ				pmax	pmax						
	comp=Z,30nm,2.3s										
WMQ				pmax	pmax						
	comp=Z,260nm,5.3s										
WMQ				LR	LR						
	comp=Z,760nm,18.7s										
WMQ				LR	LR						
	comp=Z,900nm,20.5s										
WMQ				LR	LR						
	comp=Z,540nm,18.7s										
AVE	Averroes	68.23	314	IAMs_20	IAMs_20		01 29 25.2				
	comp=Z,2µm,18.0s										
CHVC	Chvalec	68.24	340	eP	P	P	00 58 13.7	0.0			
CHVC				AMS	AMS		01 31 40.0				
	comp=Z,500nm,20.6s										
CHVC	Chvalec	68.24	340	eP	P	P	00 58 13.7	0.0			
CHVC				MLR	MLR						
	comp=Z,500nm,20.6s										
PRU	Pruhonice	68.25	339	eS	S		01 07 27.0	+13			
PRU				AMS	AMS		01 28 50.0				
	comp=Z,400nm,17.5s										
PRA	Prague	68.35	339	AMS	AMS		01 33 00.0				
	comp=Z,400nm,16.0s										
CEST	Esterri de Car	68.52	326	IAmb	IAmb		00 58 19.1				
	comp=Z,46nm,1.2s										
CEST				IAMs_20	IAMs_20		01 28 13.3				
	comp=Z,777nm,20.0s										
MOS	Moscow	68.65	355	eP	P	P	00 58 13.3	-2.7			
MOS				e			00 58 22.5				
MOS				e			00 58 38.9				
MOS				eS	S	S	01 07 13.9	-4.8			
MOS				pmax	pmax						
	comp=Z,200nm,1.8s										
MOS				pmax	pmax						
	comp=Z,88nm,1.4s										
MOS				MLR	MLR						
	comp=N,700nm,19.0s										
MOS				MLR	MLR						
	comp=Z,800nm,19.0s										
PVCC	Panska Ves	68.69	339	AMS	AMS		01 32 00.0				
	comp=Z,500nm,17.6s										
MNK	Minsk	68.75	349	iP	P		00 58 15.0	-1.7			
	comp=E,5.0nm,0.9s										
MNK				iP	P		00 58 15.0	-1.7			
	comp=N,26nm,0.9s										
MNK				iP	P		00 58 15.0	-1.7			
	comp=Z,69nm,0.8s,baz=161										
MNK				iPcP	PcP		00 58 39.6	-1.7			
MNK				iPP	PP		01 00 31.9	-17			
MNK				iPPP	PPP		01 02 13.8				
MNK				iS	S		01 07 18.6	-1.4			
MNK				iScS	SKSac		01 08 14.9	-1.0			
MNK				iSS	SS		01 11 11.6	-34			
MNK				iSSS	SSS		01 15 00.4				
MNK				iLQ	LQ		01 23 41.8				
MNK				iLR	LR		01 27 01.0				
MNK				iLRM	MLR		01 31 00.8				
	comp=E,260nm,19.1s										
MNK				iLRM	MLR		01 31 54.9				
	comp=Z,745nm,19.3s										
MNK				iLRM	MLR		01 31 56.2				
	comp=N,473nm,19.4s										
MNK	Minsk	68.75	349	iP	P		00 58 14.9	-1.7			
MNK				i			00 58 39.6				
MNK				iS	S		01 07 18.5	-1.4			
MNK				i			01 08 14.9				
MNK				pmax	pmax						
	comp=N,26nm,0.9s										
MNK				pmax	pmax						
	comp=E,5.0nm,0.9s										
MNK				pmax	pmax						
	comp=Z,69nm,0.9s										
MNK				MLR	MLR						
	comp=E,260nm,19.0s										
MNK				MLR	MLR						
	comp=Z,745nm,19.0s										
MNK				MLR	MLR						
	comp=N,473nm,19.0s										
BVA0	Borovoye Array	68.98	16	iP	P		00 58 17.4	-0.8			
BVAR	Borovoye Array	68.98	16	P	P		00 58 18.2	0.0			
	comp=N,6.5nm,0.7s,baz=228,slow=6.3,SNR=39										
BVAR				LR	LR		01 29 25.2				
	comp=N,491nm,20.0s,baz=222,slow=37										
	comp=N,6.5nm,0.7s										
BRVK	Borovoye	68.99	16	P	P		00 58 18.9	+0.7			
BRVK	Borovoye	68.99	16	P	P		00 58 18.0	-0.2			
BRVK				P	P		00 58 18.0	-0.2			
BRVK	Borovoye	68.99	16	P	P		00 58 18.9	+0.7			
BRVK				pmax	pmax						
	comp=Z,103nm,1.9s										
BRVK				MLR	MLR						
	comp=Z,600nm,19.0s										
HSKC	Hora Svate Kat	69.16	339	eP	P		00 58 19.4	0.0			
HSKC				eS	S		01 07 22.3	-2.7			
HSKC				AMS	AMS		01 33 10.0				
	comp=Z,500nm,16.2s										
BRG	Berggiesshubel	69.20	339	eP	P		00 58 19.2	-0.3			
BRG				Amp			00 58 21.6				
	comp=Z,28nm,1.1s										
BRG	Berggiesshubel	69.20	339	S	S		01 07 30.0	+4.6			
NKC	Novy Kostel	69.20	338	AMS	AMS		01 33 40.0				
	comp=Z,600nm,16.4s										
GRFO	Grafenberg	69.22	337	P	P		00 58 19.4	-0.3			
GRFO				IAmb	IAmb		00 58 21.0				
	comp=Z,48nm,1.1s										
GRFO	Grafenberg	69.22	337	P	P		00 58 19.4	-0.3			
GRFO				pmax	pmax						
	comp=Z,48nm,1.1s										
GRFO				MLR	MLR						
	comp=Z,500nm,19.0s										
GRA1	Grafenberg Arr	69.22	337	IAmb	IAmb		00 58 21.0				
	comp=Z,48nm,1.1s										
SUW	Suwalki	69.28	346	eP	P		00 58 19.4	-0.6			
SUW	Suwalki	69.28	346	eP	P		00 58 20.4	+0.4			
STU	Stuttgart	69.28	335	IAmb	IAmb		00 58 21.8				
	comp=Z,33nm,1.1s										
BFO	Black Forest	69.30	334	P	P		00 58 19.7	-0.6			
BFO				IAmb	IAmb		00 58 21.9				
	comp=Z,47nm,1.3s										
BFO	Black Forest	69.30	334	P	P		00 58 19.7	-0.6			
BFO				pmax	pmax						
	comp=Z,47nm,1.3s										
BFO				MLR	MLR						
	comp=Z,500nm,19.0s										
NACGM	Naroch	69.34	349	⇓iP	P		00 58 20.8	+0.5			
	comp=Z,88nm,0.8s,baz=161										
KURBB	Kurchatov Arra	69.46	22	P	P		00 58 20.6	-0.6			
	comp=Z,2.8nm,0.8s,baz=220,slow=7.3,SNR=21										
KURBB				LR	LR		01 26 46.3				
	comp=Z,815nm,21.8s,baz=198,slow=34										
	comp=Z,2.8nm,0.8s										
KURBB	Kurchatov Arra	69.46	22	P	P		00 58 19.7	-1.5			
ZSN	Zaisan	69.51	27	eP	P		00 58 21.6	-0.1			
	comp=Z,14nm,1.1s,baz=27										
ZSN	Zaisan	69.51	27	eP	P		00 58 21.5	-0.1			
ZSN				pmax	pmax						
	comp=Z,14nm,1.1s										
KURK	Kurchatov	69.56	22	P	P		00 58 22.1	+0.3			
KURK	Kurchatov	69.56	22	P	P		00 58 21.6	-0.2			
KURK				P	P		00 58 21.6	-0.2			
KURK	Kurchatov	69.56	22	P	P		00 58 22.1	+0.3			
KURK				pmax	pmax						
	comp=Z,22nm,1.0s										
ESDC	Sonseca Array	69.64	321	P	P		00 58 23.5	+0.8			
ESDC				IAmb	IAmb		00 58 25.5				
	comp=Z,37nm,1.1s										
ESDC	Sonseca Array	69.64	321	P	P		00 58 23.4	+0.8			
	comp=Z,16nm,0.9s,baz=126,slow=5.5,SNR=95										
ESDC				LR	LR		01 31 08.3				
	comp=Z,964nm,18.5s,baz=123,slow=38										
	comp=Z,16nm,0.9s										
CAF	Calviac	69.70	329	eP	P		00 58 23.6	+0.7			
CAF				pmax	pmax						
	comp=Z,64nm,1.2s										
ECH	Echery	69.71	334	IAmb	IAmb		00 58 24.3				
	comp=Z,26nm,1.0s										
IDID	Didziasalis	69.74	349	eP	P		00 58 23.7	+0.9			
PAB	San Pablo	69.80	321	P	P		00 58 22.6	-1.0			
PAB				IAmb	IAmb		00 58 26.6				
	comp=Z,52nm,1.2s										
PAB	San Pablo	69.80	321	IAMs_20	IAMs_20		01 31 11.4				
	comp=Z,1µm,19.0s										
PAB	San Pablo	69.80	321	P	P		00 58 22.6	-1.0			
PAB				pmax	pmax						
	comp=Z,52nm,1.2s										
PAB				MLR	MLR						
	comp=Z,1µm,19.0s										
ARU	Arti	69.87	8	P	P		00 58 23.6	0.0			
ARU				IAMs_20	IAMs_20		01 30 46.7				
	comp=Z,1µm,22.0s										
ARU	Arti	69.87	8	LR	LR		01 33 23.0				
	comp=Z,726nm,18.1s,baz=192,slow=40										
ARU	Arti	69.87	8	diP	P		00 58 23.2	-0.4			
ARU							00 58 45.7				
ARU				S	S		01 07 32.4	-0.7			
ARU				SS	SS		01 11 57.3	-5.1			
ARU				pmax	pmax						
	comp=Z,108nm,1.4s										
ARU				MLR	MLR						
	comp=Z,766nm,19.0s										
CLL	Collm	69.89	339	IAmb	IAmb		00 58 25.2				
	comp=Z,39nm,1.3s										
CLL	Collm	69.89	339	iP	P		00 58 23.4	-0.4			
	comp=Z,48nm,1.4s										
CLL				ix	x		00 58 29.9				
CLL				ePPIp			01 00 41.0				
CLL				ePP	PP		01 00 59.0	+0.3			
CLL				eS	S		01 07 34.0	+0.5			
CLL				ePPS	PPS		01 08 18.0				
CLL				eSS	SS		01 12 06.0	+3.1			
CLL				eSSS	SSS		01 15 24.0				
CLL				eSSSS			01 16 42.0				
CLL				AMS	AMS		01 31 00.0				
	comp=Z,500nm,21.9s										
CLL	Collm	69.89	339	iP	P		00 58 23.4	-0.4			
CLL				eS	S		01 07 34.0	+0.5			
CLL				pmax	pmax						
	comp=Z,48nm,1.4s										
CLL				MLR	MLR						
	comp=Z,500nm,21.9s										
CLL	Collm	69.89	339	P	P		00 58 23.3	-0.5			
	comp=Z,26nm,1.1s										
SMF	Signal de Mont	70.05	331	eP	P		00 58 24.6	-0.3			
SMF				pmax	pmax						
	comp=Z,32nm,1.0s										
GKP	Gorka Klasztor	70.19	342	eP	P		00 58 26.0	+0.4			
GKP	Gorka Klasztor	70.19	342	eP	P		00 58 26.8	+1.2			
LFF	La Frestale	70.39	328	eP	P		00 58 27.7	+0.7			
LFF				pmax	pmax						
	comp=Z,98nm,1.6s										
PABE	Paberze	70.48	347	eP	P		00 58 27.3	0.0			
SVE	Sverdlovsk	70.54	9	eP	P		00 58 28.0	+0.3			
SVE				eS	S		01 07 39.4	-1.6			
SVE				pmax	pmax						
	comp=Z,63nm,1.4s										
KLNR	Kaliningrad	70.55	345	ciP	P		00 58 28.6	+0.8			
KLNR				pmax	pmax						
	comp=Z,121nm,1.1s										
RUE	Ruedersdorf	70.60	340	eP	P		00 58 29.1	+1.0			
PBAR	Barrancos	70.69	318	eP	P		00 58 29.3	+0.3			
	comp=Z,21nm,1.9s										
PVAQ	Vaqueiros	70.70	317	eP	P		00 58 29.9	+0.8			
	comp=Z,27nm,1.8s										
PVAQ	Vaqueiros	70.70	317	eLQ	LQ		01 25 15.2				
PVAQ				eLR	LR		01 28 04.6				
	comp=Z,966nm,18.0s										
PVAQ	Vaqueiros	70.70	317	IAMs_20	IAMs_20		01 31 30.5				
	comp=Z,854nm,19.0s										
PBDV	Barranco-do-Ve	70.75	317	eP	P		00 58 31.2	+1.7			
	comp=Z,45nm,1.7s										
CD2	Chengdu	70.79	51	P	P		00 58 30.4	+0.5			
CD2				S	S		01 07 49.9	+4.8			
CD2				pmax	pmax						
	comp=Z,10.0nm,0.4s										
CD2				pmax	pmax						
	comp=Z,190nm,5.0s										
CD2				LR	LR						
	comp=Z,580nm,20.6s										
CD2				LR	LR						
	comp=Z,400nm,22.0s										
CD2				LR	LR						
	comp=Z,570nm,17.2s										
QIZ	Qiongzhong	70.79	64	P	P		00 58 30.0	0.0			
QIZ				PP	PP		01 01 07.3	+0.2			
QIZ				S	S		01 07 45.8	+0.4			
QIZ				pmax	pmax						
	comp=Z,120nm,5.3s										
QIZ				LR	LR						
	comp=Z,260nm,15.5s										
QIZ				LR	LR						
	comp=Z,190nm,17.2s										
QIZ				LR	LR						
	comp=Z,420nm,16.8s										
VSVD	Vaisvydziai	70.93	347	eP	P		00 58 30.9	+0.9			
GYA	Guiyang	71.05	56	⇓P	P		00 58 35.6	+4.0			
GYA				S	S		01 07 46.4	-2.0			
GYA				pmax	pmax						
	comp=Z,15nm,1.0s										
GYA				pmax	pmax						
	comp=Z,200nm,6.1s										
GYA				LR	LR						
	comp=Z,490nm,22.2s										
GYA				LR	LR						
	comp=Z,250nm,16.7s										
GYA				LR	LR						
	comp=Z,370nm,22.9s										
PBEJ	Beja	71.14	318	eP	P		00 58 33.0	+1.2			
	comp=Z,44nm,1.5s										
WLF	Walferdange	71.24	334	IAmb	IAmb		00 58 34.5				
	comp=Z,30nm,1.0s										
WLF	Walferdange	71.24	334	dP	P		00 58 32.3	+0.2			
	comp=Z,20nm,1.0s										
KIRV	Kirov	71.25	2	LR	LR		01 32 48.6				
	comp=Z,1µm,19.7s,baz=190,slow=38										
KIRV	Kirov	71.25	2	ceP	P		00 58 31.7	-0.2			
MORF	Marmelete	71.26	317	eP	P		00 58 33.7	+1.1			
	comp=Z,51nm,1.8s										
MESJ	Messejana	71.27	318	eP	P		00 58 33.8	+1.2			
	comp=Z,31nm,1.4s										
MESJ	Messejana	71.27	318	P	P		00 58 33.7	+1.2			

comp=Z,32nm,1.4s
MTE Manteigas 72.28 320 eLQ LQ 01 23 55.7
MTE eLR LR 01 26 54.5
comp=Z,1μm,18.0s
MTE Manteigas 72.28 320 IAMs_20 IAMs_20 01 32 17.3
comp=Z,2μm,19.0s
BMRD Maredsous 72.31 334 dP **P** **00 58 38.6 0.0**
comp=Z,19nm,1.2s
MVO Moncorvo 72.41 321 eP **P** **00 58 40.9 +1.5**
comp=Z,49nm,1.6s
MVO Moncorvo 72.41 321 eLQ LQ 01 23 54.8
MVO eLR LR 01 27 51.8
comp=Z,1μm,20.0s
GTA Gaotai 72.43 41 eP **P** **00 58 40.6 +0.9**
GTA pmax pmax
comp=Z,10.0nm,1.0s
GTA LR LR
comp=Z,430nm,22.5s
GTA LR LR
comp=Z,450nm,22.2s
GTA LR LR
comp=Z,780nm,22.5s
BSD Bornholm Skovb 72.47 342 eP **P** **00 58 40.1 +0.7**
BSD Bornholm Skovb 72.47 342 *i* P **P** **00 58 38.4 -0.9**
BSD IAmb IAmb 00 58 40.1
comp=Z,54nm,1.0s
PSBE So Bento 72.58 319 eP **P** **00 58 41.4 +1.0**
PBRG Braganca 72.61 322 eP **P** **00 58 42.0 +1.4**
comp=Z,32nm,1.9s
PVIS Viseu 72.68 320 eP **P** **00 58 43.0 +1.9**
comp=Z,44nm,1.5s
PCAS Casmilo, Conde 72.69 319 eP **P** **00 58 42.2 +1.2**
comp=Z,38nm,1.4s
VSU Vasula 72.71 350*ce*P **P** **00 58 41.0 +0.3**
VSU pmax pmax
comp=Z,115nm,0.7s
COI Coimbra 72.72 320 P **P** **00 58 41.6 +0.4**
COI IAmb IAmb 00 58 44.0
comp=Z,34nm,1.0s
COI IAMs_20 IAMs_20 01 31 49.9
comp=Z,2μm,20.0s
COI Coimbra 72.72 320 P **P** **00 58 41.6 +0.4**
COI pmax pmax
comp=Z,34nm,1.0s
COI MLR MLR
comp=Z,2μm,20.0s
SLIT Slitere, Latvi 72.80 347 eP **P** **00 58 41.7 +0.4**
PVRL Vila Real 72.89 321 eP **P** **00 58 44.1 +1.8**
comp=Z,49nm,1.9s
POLO Lamas de Olo 73.00 321 eP **P** **00 58 44.7 +1.7**
comp=Z,29nm,1.4s
BLEU Blekinge 73.24 343 *i* P **P** **00 58 42.6 -1.3**
PCAB Cabril 73.33 321 eP **P** **00 58 46.9 +2.0**
comp=Z,41nm,1.4s
LUNU Lund 73.36 342 *i* P **P** **00 58 44.3 -0.3**
LZH Lanzhou 73.39 46 eP **P** **00 58 46.4 +0.9**
LZH pP pwP 00 58 52.6 +0.7
LZH S **S** **01 08 16.0 +1.1**
LZH SS **SS** **01 12 55.8 -1.8**
LZH pmax pmax
comp=Z,16nm,1.2s
LZH LR LR
comp=Z,460nm,17.2s
LZH LR LR
comp=Z,480nm,17.5s
LZH LR LR
comp=Z,830nm,18.2s
MTSE Matsula 73.49 348 eP **P** **00 58 45.8 +0.5**
KAPI Kappang 73.49 91 LR LR 01 25 37.5
comp=Z,288nm,21.6s,baz=244,slow=31
LLD Lille Linde 73.50 341 *i* P **P** **00 58 44.5 -0.9**
LLD IAmb IAmb 00 58 47.4
comp=Z,33nm,0.7s
KLMR Klimovskoe 73.62 357*d* *i*P **P** **00 58 45.3 -0.7**
KLMR *e**SP **pwP** **00 58 52.7 +1.2**
KLMR pmax pmax
comp=Z,116nm,1.2s
KLMR MLR MLR
comp=Z,1μm,16.0s
PGAV Gavieira, Arco 73.63 321 eP **P** **00 58 47.0 +0.3**
comp=Z,57nm,1.9s
PGAV Gavieira, Arco 73.63 321 eLQ LQ 01 24 58.1
PGAV eLR LR 01 28 46.1
comp=Z,1μm,18.0s
ARBE Arbavere 73.76 350 eP **P** **00 58 47.8 +0.9**
DEL Delary 73.94 342 eP **P** **00 58 49.2 +1.2**
DEL Delary 73.94 342 *i* P **P** **00 58 47.5 -0.5**
ZALV Zalesovo Beam 74.44 23 P **P** **00 58 50.3 -0.8**
ZALV Zalesovo Beam 74.44 23 P **P** **00 58 50.0 -1.0**
comp=Z,4.4nm,0.7s,baz=227,slow=5.9,SNR=25
comp=Z,4.4nm,0.7s
ZALV Zalesovo Beam 74.44 23 *i* P **P** **00 58 50.2 -0.8**
ZALV pmax pmax
comp=Z,4.0nm,0.7s
FABU Falkenberg 74.73 342 *i* P **P** **00 58 52.5 -0.1**
MEF Metsahovi 74.78 349 eP **P** **00 58 53.4 +0.5**
MPSI Mapaga 74.80 86 P P 00 58 59.9 +5.9
VALR Valaam 74.88 353*c* *i*P **P** **00 58 53.4 +0.1**
VALR pmax pmax
comp=Z,46nm,0.9s
VIKU Vikbolandet 74.91 345 eP **P** **00 58 54.2 +0.6**
BORU Boraas 75.25 342 *i* P **P** **00 58 55.1 -0.5**
ELMS Elmsett, Ipswi 75.25 333 eP **P** **00 58 56.4 +0.7**
ELMS IAmb IAmb 00 58 57.5
comp=Z,56nm,1.0s
ONAU Onsala 75.30 342 *i* P **P** **00 58 55.8 -0.1**
MUD Monsted U'grnd 75.41 340 *i* P **P** **00 58 57.0 +0.5**
MUD IAmb IAmb 00 58 58.7
comp=Z,87nm,1.1s
BELA Belgrano 2 75.46 192 IAmb IAmb 00 58 59.5
comp=Z,53nm,1.0s
BELA IAMs_20 IAMs_20 01 28 05.2
comp=Z,1μm,20.0s
AAL Aland 75.62 347 eP **P** **00 58 58.9 +1.3**
FINES FINESS Array B 75.64 350 P **P** **00 58 57.2 -0.6**
FINES FINESS Array B 75.64 350 P **P** **00 58 57.7 -0.1**
comp=Z,18nm,0.7s,baz=139,slow=5.3,SNR=58
comp=Z,18nm,0.7s
UPP Uppsala 75.88 346 eP **P** **00 58 59.5 +0.3**
RAF Rauma 76.03 348 eP **P** **00 59 00.6 +0.6**
XAN Xi'an 76.10 50 ⇑P **P** **00 59 01.6 +0.5**
XAN S **S** **01 08 47.3 +2.2**
XAN sS sS 01 08 57.0 +8.1
XAN pmax pmax
comp=Z,13nm,1.1s
XAN pmax pmax
comp=Z,170nm,3.9s
XAN LR LR
comp=Z,470nm,17.1s
XAN LR LR
comp=Z,290nm,13.3s
XAN LR LR
comp=Z,760nm,24.0s
JOF Joensuu 76.34 353 eP **P** **00 59 01.9 +0.2**
KEF Keuruu 76.52 350 eP **P** **00 59 03.3 +0.5**
MONM Monmouth 76.79 332 eP **P** **00 59 04.9 +0.4**
MONM IAmb IAmb 00 59 06.1
comp=Z,67nm,1.1s
FITZ Fitzroy Crossi 76.80 106 P **P** **00 59 05.4 0.0**
MCH1 Michaelchurch 76.98 332 eP **P** **00 59 06.1 +0.5**
MCH1 IAmb IAmb 00 59 07.2
comp=Z,67nm,0.8s
HOMB Homborsund 77.08 341 eP **P** **00 59 06.3 +0.4**
HOMB Homborsund 77.08 341 *i* P **P** **00 59 05.5 -0.5**
HFS Hagfors 77.11 344 P **P** **00 59 05.8 -0.4**
comp=Z,30nm,0.7s,baz=141,slow=7.3,SNR=62
HFS LR LR 01 37 00.4
comp=Z,412nm,19.9s,baz=138,slow=39
comp=Z,30nm,0.7s
FORT Forrest 77.15 119 P **P** **00 59 07.4 +0.2**
FORT IAmb IAmb 00 59 09.0
comp=Z,27nm,0.8s
FORT IAMs_20 IAMs_20 01 26 14.7
comp=Z,857nm,21.0s
QSPA South Pole Qui 77.25 180 P **P** **00 59 08.1 +1.0**
QSPA South Pole Qui 77.25 180 P **P** **00 59 07.8 +0.6**
comp=Z,50nm,0.8s,baz=257,slow=3.0,SNR=152
QSPA LR LR 01 30 59.6
comp=Z,3μm,18.7s,baz=266,slow=34
comp=Z,50nm,0.8s
HLM1 Long Mynd 77.27 332 eP **P** **00 59 08.3 +1.1**
LBWR Ladybower, Pea 77.35 333 eP **P** **00 59 07.3 -0.3**
LBWR IAmb IAmb 00 59 09.5
comp=Z,50nm,1.1s
SNART Snartemo 77.55 340 eP **P** **00 59 09.4 +0.8**
SNART Snartemo 77.55 340 *i* P **P** **00 59 08.6 0.0**

FOEL Foel Wylfa 77.67 332 eP **P** **00 59 10.4 +1.0**
FOEL IAmb IAmb 00 59 11.6
comp=Z,43nm,1.0s
HPK Haverah Park 77.68 334 eP **P** **00 59 10.6 +1.1**
HPK IAmb IAmb 00 59 11.5
comp=Z,84nm,1.2s
VAF Ylistaro 77.72 350 eP **P** **00 59 10.9 +1.5**
OSL Oslo 77.76 343 eP **P** **00 59 10.4 +0.6**
KONO Kongsberg 77.85 342 P **P** **00 59 11.1 +0.8**
KONO IAmb IAmb 00 59 12.6
comp=Z,83nm,1.2s
KONO Kongsberg 77.85 342 eP **P** **00 59 10.5 +0.2**
KONO Kongsberg 77.85 342 P **P** **00 59 11.1 +0.8**
KONO pmax pmax
comp=Z,83nm,1.2s
NC602 NORSAR Array S 78.19 344 IAmb IAmb 00 59 13.9
comp=Z,40nm,0.9s
NC602 NORSAR Array S 78.19 344 eP **P** **00 59 12.4 +0.2**
YLL Llanberis 78.27 332 eP **P** **00 59 13.6 +0.8**
EDMD Edmundbyers 78.42 334 eP **P** **00 59 13.8 +0.2**
EDMD IAmb IAmb 00 59 15.6
comp=Z,79nm,1.4s
NAO01 NORSAR Array S 78.46 343 IAmb IAmb 00 59 15.7
comp=Z,65nm,1.1s
WLF1 Llynfaes 78.47 332 eP **P** **00 59 14.3 +0.4**
WLF1 IAmb IAmb 00 59 16.0
comp=Z,152nm,1.4s
WME Myndd Eilian 78.50 332 eP **P** **00 59 14.5 +0.5**
NB201 NORSAR Array S 78.52 344 IAmb IAmb 00 59 15.8
comp=Z,60nm,0.9s
NB2 NORSAR Subarra 78.53 344 P **P** **00 59 14.0 -0.1**
comp=Z,47nm,1.2s,baz=146,slow=5.6
NB2 NORSAR Subarra 78.53 344 P **P** **00 59 14.0 -0.1**
baz=146,slow=5.6
NOA NORSAR Array B 78.53 344 P **P** **00 59 14.2 +0.1**
comp=Z,9.6nm,0.8s,baz=118,slow=6.5,SNR=35
NOA LR LR 01 38 47.6
comp=Z,402nm,19.3s,baz=120,slow=39
comp=Z,9.6nm,0.8s
BLS5 Blasjo 78.64 341 eP **P** **00 59 16.7 +2.0**
NC303 NORSAR Array S 78.65 344 IAmb IAmb 00 59 16.4
comp=Z,33nm,0.9s
NBO00 NORSAR Array S 78.65 344 IAmb IAmb 00 59 17.6
comp=Z,77nm,1.4s
KESW Keswick, Cumbr 78.75 334 eP **P** **00 59 15.3 -0.1**
KESW IAmb IAmb 00 59 17.6
comp=Z,84nm,1.3s
NC204 NORSAR Array S 78.85 344 IAmb IAmb 00 59 17.9
comp=Z,39nm,1.1s
KMY Karmoy 78.88 340 eP **P** **00 59 17.1 +1.2**
WHN Wuhan 78.88 55 P P 00 59 22.8 +6.2
WHN S **S** **01 09 18.3 +3.1**
WHN LR LR
comp=Z,2μm,19.4s
ODD1 Odda 78.97 341 eP **P** **00 59 18.6 +2.0**
LYN LuoYang 78.98 51 eP **P** **00 59 18.8 +1.7**
LYN S **S** **01 09 21.0 +4.8**
LYN pmax pmax
comp=Z,150nm,4.3s
LYN LR LR
comp=Z,370nm,18.4s
LYN LR LR
comp=Z,580nm,15.1s
LYN LR LR
comp=Z,590nm,17.5s
SKAR Skarslia 79.07 342 eP **P** **00 59 18.7 +1.6**
EKA Eskdalemuir Ar 79.27 334 P **P** **00 59 18.3 0.0**
comp=Z,12nm,0.8s,baz=133,slow=6.0,SNR=34
comp=Z,12nm,0.8s
NEWG New Galloway 79.59 334 eP **P** **00 59 20.8 +0.9**
BER Bergen 79.75 341 eP **P** **00 59 23.0 +2.3**
BTO Baotou 79.80 44 eP **P** **00 59 23.1 +1.5**
BTO PP **PP** **01 02 26.0 +2.9**
BTO S **S** **01 09 26.4 +1.5**
BTO SS **SS** **01 14 38.4 +4.1**
BTO pmax pmax
comp=Z,20nm,1.6s
BTO pmax pmax
comp=Z,160nm,5.6s
BTO LR LR
comp=Z,810nm,20.2s
BTO LR LR
comp=Z,1μm,21.8s
BTO LR LR
comp=Z,2μm,21.6s
DOMB Dombas 79.95 343 eP **P** **00 59 23.7 +1.9**
HYA Hoyanger 80.09 342 eP **P** **00 59 24.2 +1.6**
MOY Mondy 80.10 31 eP P 00 59 34.9 +12
TIY Taiyuan 80.25 48 P P 00 59 31.8 +7.7
TIY S **S** **01 09 28.0 -1.7**
INVG Invergeldie, C 80.37 335 eP **P** **00 59 24.8 +0.6**
INVG IAmb IAmb 00 59 26.1
comp=Z,9.5nm,0.7s
RCBR Riachuelo 80.44 266 LR LR 01 31 30.9
comp=Z,408nm,19.4s,baz=142,slow=33
ZAK Zakamensk 80.57 33 eP **P** **00 59 25.9 +0.4**
ZAK pmax pmax
comp=Z,9.0nm,1.8s
TBLU Trondheim 80.62 345 eP **P** **00 59 26.5 +1.2**
AKN Aaknes 80.64 343 eP **P** **00 59 26.9 +1.4**
APA Apatity 80.69 355⇓*i*P **P** **00 59 25.1 -0.5**
APA pmax pmax
comp=Z,14nm,1.0s
MCD Coleburn Disti 80.81 336 eP **P** **00 59 26.3 -0.3**
LVZ Lovozero 80.92 356 eP **P** **00 59 27.9 +1.0**
LVZ IAmb IAmb 00 59 36.0
comp=Z,51nm,0.9s
LVZ Lovozero 80.92 356*ce*P **P** **00 59 28.3 +1.4**
LVZ pmax pmax
comp=Z,32nm,1.0s
HHC Hu-ho-hao-te 80.96 45 eP **P** **00 59 27.8 -0.1**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,110nm,6.3s
HHC LR LR
comp=Z,330nm,19.1s
HHC LR LR
comp=Z,460nm,19.1s
HHC LR LR
comp=Z,300nm,19.9s
SONM Songino Array 80.96 37 P **P** **00 59 28.4 +0.6**
SONM Songino Array 80.96 37 P **P** **00 59 28.1 +0.4**
comp=Z,5.8nm,0.8s,baz=235,slow=5.5,SNR=15
SONM LR LR 01 34 30.5
comp=Z,413nm,19.5s,baz=250,slow=35
comp=Z,5.8nm,0.8s
SONM Songino Array 80.96 37 P **P** **00 59 28.4 +0.6**
SONM pmax pmax
comp=Z,11nm,1.0s
ULN Ulaanbaatar 81.36 37 P **P** **00 59 30.4 +0.5**
ULN Ulaanbaatar 81.36 37 P **P** **00 59 30.4 +0.5**
ULN pmax pmax
comp=Z,15nm,1.2s
HNS HongShan 81.78 49 ⇑P **P** **00 59 33.6 +1.5**
HNS S **SKSac** **01 09 49.8 -2.6**
HNS pmax pmax
comp=Z,16nm,1.3s
HNS LR LR
comp=Z,310nm,19.1s
HNS LR LR
comp=Z,480nm,19.1s
HNS LR LR
comp=Z,660nm,19.6s
DAV Davao City (W) 81.89 81 LR LR 01 32 11.2
comp=Z,195nm,22.0s,baz=311,slow=33
MOR8 Moi Rana 82.11 348 eP **P** **00 59 34.4 +1.1**
VNDA Vanda 83.01 169 P **P** **00 59 39.0 +1.1**
comp=Z,8.2nm,0.6s,baz=264,slow=5.6,SNR=106
VNDA LR LR 01 33 43.4
comp=Z,2μm,19.3s,baz=240,slow=34
comp=Z,8.2nm,0.6s
VNDA Vanda 83.01 169 P **P** **00 59 39.0 +1.1**
NJ2 Nanjing 83.02 55 eP **P** **00 59 39.3 +0.6**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
TIA Tai'an 83.13 51 P **P** **00 59 39.6 +0.4**
TIA S **S** **01 09 58.8 -0.5**
TIA pmax pmax
comp=Z,8.0nm,1.3s
TIA LR LR
comp=Z,170nm,22.6s
TIA LR LR
comp=Z,160nm,20.6s
TIA LR LR
comp=Z,310nm,23.0s

ARCES ARCESS Array B 83.38 353 P **P** **00 59 40.0 +0.2**
ARCES ARCESS Array B 83.38 353 P **P** **00 59 39.7 -0.1**
comp=Z,11nm,0.9s,baz=152,slow=5.4,SNR=14
ARCES LR LR 01 39 59.1
comp=Z,626nm,18.8s,baz=160,slow=38
comp=Z,11nm,0.9s
ARCES ARCESS Array B 83.38 353 P **P** **00 59 40.0 +0.2**
ARCES pmax pmax
comp=Z,152nm,2.0s
ASAR Alice Springs 83.44 113 P **P** **00 59 41.7 +0.5**
ASAR Alice Springs 83.44 113 P **P** **00 59 41.5 +0.3**
comp=Z,14nm,0.6s,baz=262,slow=4.8,SNR=5.1
comp=Z,14nm,0.6s
ASAR Alice Springs 83.44 113 P **P** **00 59 41.7 +0.5**
BBOO Buckleboo 83.55 122 P **P** **00 59 42.0 +0.3**
BBOO IAmb IAmb 00 59 43.0
comp=Z,29nm,1.1s
SBA Scott Base 83.74 169 P **P** **00 59 43.3 +1.6**
SBA IAmb IAmb 00 59 45.5
comp=Z,27nm,1.1s
SBA Scott Base 83.74 169 P **P** **00 59 43.3 +1.6**
SBA pmax pmax
comp=Z,27nm,1.2s
BJI Beijing 83.85 47 P **P** **00 59 44.0 +1.2**
BJI pmax pmax
comp=Z,5.0nm,1.0s
BJI LR LR
comp=Z,120nm,16.5s
BJI LR LR
comp=Z,140nm,20.9s
BJI LR LR
comp=Z,200nm,19.6s
WRA Warramunga Arr 84.56 109 P **P** **00 59 47.4 +0.4**
WRA Warramunga Arr 84.56 109 P **P** **00 59 47.0 -0.1**
comp=Z,14nm,0.8s,baz=264,slow=3.8,SNR=56
WRA LR LR 01 34 50.6
comp=Z,352nm,18.1s,baz=294,slow=34
comp=Z,14nm,0.8s
WRA Warramunga Arr 84.56 109 P **P** **00 59 47.4 +0.4**
WRA pmax pmax
comp=Z,2.0nm,0.8s
WB2 Warramunga Arr 84.57 109 IAmb IAmb 00 59 55.5
comp=Z,33nm,0.8s
WB3 Warramunga Arr 84.58 109 IAMs_20 IAMs_20 01 27 36.5
comp=Z,820nm,22.0s
WB8 Warramunga Arr 84.63 109 IAMs_20 IAMs_20 01 37 45.7
comp=Z,670nm,18.0s
WB0 Warramunga Arr 84.65 109 IAmb IAmb 00 59 55.3
comp=Z,30nm,0.8s
XLT XiLinHaoTe 85.26 43 eP **P** **00 59 51.3 +1.3**
XLT pP pwP 00 59 59.1 +2.7
XLT sP sP 01 00 03.6 +10
XLT S **SKSac** **01 10 18.4 +3.2**
XLT sS ScS 01 10 33.8 +2.9
XLT pmax pmax
comp=Z,16nm,0.8s
XLT pmax pmax
comp=Z,160nm,5.3s
XLT LR LR
comp=Z,470nm,20.0s
XLT LR LR
comp=Z,680nm,20.0s
PMSA Palmer Station 86.60 204 LR LR 01 33 39.1
comp=Z,622nm,18.6s,baz=112,slow=32
STKA Stephens Creek 88.33 122 P **P** **01 00 05.3 0.0**
STKA Stephens Creek 88.33 122 P **P** **01 00 05.0 -0.3**
comp=Z,14nm,0.7s,baz=288,slow=4.7,SNR=21
STKA LR LR 01 33 43.2
comp=Z,380nm,20.8s,baz=231,slow=32
comp=Z,14nm,0.7s
STKA Stephens Creek 88.33 122 P **P** **01 00 05.3 0.0**
STKA pmax pmax
comp=Z,4.0nm,0.8s
JOW Kunigami 89.34 62 LR LR 01 37 43.4
comp=Z,255nm,20.8s,baz=301,slow=34
BOD Bodaibo 89.70 30 eP **P** **01 00 10.3 -0.7**
BOD pmax pmax
comp=Z,9.0nm,1.8s
BDFB Brasilia 89.98 254 P **P** **01 00 14.5 +1.0**
BDFB Brasilia 89.98 254 P **P** **01 00 14.4 +1.0**
comp=Z,8.7nm,0.7s,baz=122,slow=3.2,SNR=13
BDFB LR LR 01 38 16.2
comp=Z,747nm,19.1s,baz=130,slow=34
comp=Z,8.7nm,0.7s
BDFB Brasilia 89.98 254 P **P** **01 00 14.5 +1.0**
BDFB pmax pmax
comp=Z,11nm,0.8s
JMIC Jan Mayen 91.22 345 LR LR 01 43 21.9
comp=Z,193nm,19.5s,baz=110,slow=37
JMZ Minamidaito 2 91.66 64 IAMs_20 IAMs_20 01 40 16.2
comp=Z,1μm,21.0s
KSAR Wonju Array Be 91.71 52 P **P** **01 00 21.0 +0.2**
KSAR Wonju Array Be 91.71 52 P **P** **01 00 21.0 +0.2**
KSRS Korea Array 91.74 52 P **P** **01 00 20.9 0.0**
comp=Z,2.0nm,1.0s,baz=237,slow=4.3,SNR=5.8
KSRS LR LR 01 41 56.7
comp=Z,290nm,19.3s,baz=230,slow=36
comp=Z,2.0nm,1.0s
KSRS Korea Array 91.74 52 P **P** **01 00 21.0 0.0**
BORG Borgarnes 92.03 337 LR LR 01 46 56.9
comp=Z,510nm,18.7s,baz=132,slow=39
SPITS Spitsbergen Ar 92.33 354 LR LR 01 44 43.5
comp=Z,280nm,20.4s,baz=130,slow=37
JNU Nakatsue 93.05 57 LR LR 01 41 36.2
comp=Z,237nm,19.1s,baz=330,slow=35
MDJ Mudanjiang 94.71 45 P **P** **01 00 35.0 +0.5**
MDJ pmax pmax
comp=Z,6.0nm,0.7s
MDJ pmax pmax
comp=Z,110nm,5.5s
MDJ LR LR
comp=Z,350nm,18.6s
MDJ LR LR
comp=Z,420nm,16.8s
MDJ LR LR
comp=Z,470nm,20.6s
ZEA Zeya 95.39 36 eP **P** **01 00 39.6 +2.3**
CTAO Charters Tower 95.42 112 IAMs_20 IAMs_20 01 37 50.4
comp=Z,1μm,21.0s
CPUP Villa Florida 95.62 242 LR LR 01 38 44.0
comp=Z,1μm,21.8s,baz=120,slow=32
USRK Ussuriysk Ar. 96.29 46 PP **PP** **01 04 38.1 +2.8**
comp=Z,2.6nm,0.8s,baz=237,slow=7.9,SNR=4.2
USRK LR LR 01 43 06.5
comp=Z,369nm,21.6s,baz=271,slow=35
KLR Kul'dur 97.14 41 LR LR 01 43 34.8
comp=Z,260nm,20.8s,baz=260,slow=35
KLR Kul'dur 97.14 41 *i* P **P** **01 00 44.7 -0.7**
KLR pmax pmax
comp=Z,2.0nm,1.0s
YAK Yakutsk 98.49 28 LR LR 01 45 01.0
comp=Z,344nm,20.2s,baz=268,slow=35
PMG Port Moresby 99.05 102 LR LR 01 41 55.2
comp=Z,235nm,19.7s,baz=166,slow=33
MJAR Matsushiro Arr 99.62 55 LR LR 01 47 26.7
comp=Z,110nm,18.1s,baz=265,slow=36
TIXI Tiksi 99.99 19*ce*P **Pdif** **01 00 58.5 +0.8**
TIXI pmax pmax
comp=Z,2.0nm,0.6s
LL01 San Ignacio de 101.00 222 IAMs_20 IAMs_20 01 49 55.1
comp=Z,903nm,20.0s
MT05 Renca 103.93 231 IAMs_20 IAMs_20 01 39 54.8
comp=Z,640nm,22.0s
VA03 San Esteban 104.06 231 IAMs_20 IAMs_20 01 43 16.3
comp=Z,758nm,18.0s
YSS Yuzh-Sakhalins 104.15 45 eP **Pdif** **01 01 15.3 -1.4**
YSS *e*S **Sdif** **01 13 04.5 -3.2**
YSS MLR MLR
comp=Z,400nm,24.0s
AC05 El Transito 105.49 235 IAMs_20 IAMs_20 01 35 44.8
comp=Z,629nm,20.0s
DZM Mont Dzumac 112.43 121 *e*SS SS 01 22 12.7 -3.7
comp=Z,192nm,27.9s
DZM Mont Dzumac 112.43 121 *e*LR LR 01 39 19.3
comp=Z,667nm,24.6s
GGN Saint George 114.80 314 IAMs_20 IAMs_20 01 54 21.7
comp=Z,722nm,19.0s
EMMW East Machias 115.28 313 IAMs_20 IAMs_20 01 56 14.5
comp=Z,713nm,20.0s
G65A Princeton 115.29 314 IAMs_20 IAMs_20 01 54 42.8
comp=Z,691nm,20.0s
F64A Sherman 115.75 315 IAMs_20 IAMs_20 01 54 26.8
comp=Z,808nm,19.0s
F63A Nahmakanta, Br 116.30 315 IAMs_20 IAMs_20 01 54 22.2
comp=Z,564nm,19.0s
E62A Clayton Lake 116.44 316 IAMs_20 IAMs_20 01 53 31.9
comp=Z,631nm,20.0s

LMQ **La Malbaie** 116.82 317 IAMs_20 IAMs_20 01 58 03.8
comp=Z,691nm,19.0s
F62A **Pittston Farm,** 116.86 315 IAMs_20 IAMs_20 01 52 24.2
comp=Z,672nm,20.0s
LDAQ **Lac Daran** 117.35 318 IAMs_20 IAMs_20 01 57 47.7
comp=Z,690nm,20.0s
G62A **West of Eustis** 117.37 314 IAMs_20 IAMs_20 01 55 02.6
comp=Z,589nm,20.0s
I63A **Otisfield** 117.59 313 IAMs_20 IAMs_20 01 56 06.6
comp=Z,700nm,19.0s
H62A **Milan** 117.91 314 IAMs_20 IAMs_20 01 55 09.1
comp=Z,531nm,20.0s
M65A **Busby, Falmout** 118.00 310 IAMs_20 IAMs_20 01 56 49.8
comp=Z,828nm,20.0s
I62A **Tamworth** 118.16 313 IAMs_20 IAMs_20 01 56 32.6
comp=Z,614nm,20.0s
WES **Weston** 118.38 311 IAMs_20 IAMs_20 01 55 24.8
comp=Z,813nm,21.0s
HRV **Adam Dziewonsk** 118.53 311 IAMs_20 IAMs_20 01 55 29.8
comp=Z,534nm,20.0s
HNH **Hanover** 118.86 313 IAMs_20 IAMs_20 01 57 44.4
comp=Z,677nm,19.0s
K62A **Royalston** 119.00 312 IAMs_20 IAMs_20 01 57 06.2
comp=Z,767nm,20.0s
VT1 **Waterbury** 119.08 314 IAMs_20 IAMs_20 01 53 58.0
comp=Z,431nm,22.0s
J61A **Chester** 119.12 313 IAMs_20 IAMs_20 02 00 18.1
comp=Z,567nm,19.0s
UCCT **U. Connecticut** 119.14 311 IAMs_20 IAMs_20 01 55 43.8
comp=Z,840nm,21.0s
L61B **Northampton** 119.36 312 IAMs_20 IAMs_20 01 56 15.7
comp=Z,623nm,20.0s
MNTQ **Montreal, Queb** 119.45 315 IAMs_20 IAMs_20 01 53 27.7
comp=Z,716nm,22.0s
FRNY **Flat Rock** 119.57 314 IAMs_20 IAMs_20 01 53 02.8
comp=Z,453nm,20.0s
TRQ **Mont Tremblant** 119.93 316 IAMs_20 IAMs_20 01 56 31.2
comp=Z,662nm,21.0s
WSPT **Westport, CT** 120.06 310 IAMs_20 IAMs_20 01 59 57.2
comp=Z,626nm,19.0s
NCB **Newcomb** 120.19 314 IAMs_20 IAMs_20 01 59 14.3
comp=Z,616nm,19.0s
J59A **Piesco** 120.49 313 IAMs_20 IAMs_20 01 58 12.2
comp=Z,775nm,21.0s
PAL **Palisades** 120.51 310 IAMs_20 IAMs_20 01 55 17.4
comp=Z,752nm,22.0s
A36M **Sachs Harbour** 120.63 357 IAMs_20 IAMs_20 02 03 30.6
comp=Z,461nm,20.0s
WBO **Williamsburg** 120.70 315 IAMs_20 IAMs_20 01 59 22.8
comp=Z,501nm,19.0s
TRNY **Table Rock, Ra** 120.72 310 IAMs_20 IAMs_20 01 54 07.9
comp=Z,629nm,22.0s
ODNJ **Ogdensburg** 121.02 310 IAMs_20 IAMs_20 01 56 15.7
comp=Z,522nm,20.0s
J58A **Remsen** 121.07 313 IAMs_20 IAMs_20 01 58 27.7
comp=Z,685nm,21.0s
B20K **Meade River** 121.12 9 IAMs_20 IAMs_20 02 02 54.0
comp=Z,484nm,20.0s
B22K **Teshekpuk Lake** 121.33 7 IAMs_20 IAMs_20 02 00 55.7
comp=Z,401nm,20.0s
P61A **Hammonton** 121.40 309 IAMs_20 IAMs_20 01 57 26.1
comp=Z,640nm,20.0s
C18K **Utukok River** 121.64 11 IAMs_20 IAMs_20 02 04 50.5
comp=Z,507nm,20.0s
KSPA **Keystone Colle** 121.79 311 IAMs_20 IAMs_20 01 54 57.0
comp=Z,713nm,22.0s
RDOG **Red Dog Mine** 121.80 12 IAMs_20 IAMs_20 02 01 33.0
comp=Z,424nm,21.0s
BINY **Binghamton** 121.82 312 IAMs_20 IAMs_20 01 57 36.7
comp=Z,779nm,20.0s
K57A **Scipio Center** 122.09 313 IAMs_20 IAMs_20 01 58 11.7
comp=Z,772nm,20.0s
C24K **Franklin Bluff** 122.46 6 P PKiKP 01 06 08.8 +0.7
baz=343
N58A **Sunbury** 122.63 310 IAMs_20 IAMs_20 01 56 50.5
comp=Z,649nm,20.0s
D22K **Ayikyak River** 122.80 8 IAMs_20 IAMs_20 02 10 49.2
comp=Z,359nm,19.0s
E18K **Tukpahlearik C** 122.81 12 IAMs_20 IAMs_20 02 02 38.5
comp=Z,458nm,21.0s
M57A **Sunshine Farm,** 122.83 311 IAMs_20 IAMs_20 01 56 34.7
comp=Z,658nm,19.0s
E20K **Nigu River** 122.86 9 P PKiKP 01 06 09.6 +0.6
baz=334
L56A **Greenwood** 122.97 312 IAMs_20 IAMs_20 01 57 52.2
comp=Z,719nm,20.0s
D24K **Happy Valley** 122.99 6 IAMs_20 IAMs_20 02 01 55.4
comp=Z,396nm,22.0s
D25K **Kavik River** 123.06 5 P PKPdf 01 06 09.0 -0.2
baz=346
TOLK **Toolik Lake Re** 123.40 7 IAMs_20 IAMs_20 02 02 33.3
comp=Z,414nm,20.0s
SADO **Sadowa** 123.42 315 IAMs_20 IAMs_20 01 55 18.6
comp=Z,565nm,22.0s
F17K **Baldwin Pennin** 123.52 13 IAMs_20 IAMs_20 02 05 13.2
comp=Z,373nm,19.0s
SSPA **Standing Stone** 123.55 310 IAMs_20 IAMs_20 01 56 45.6
comp=Z,682nm,20.0s
CBN **Corbin Frederi** 123.64 307 IAMs_20 IAMs_20 01 56 14.3
comp=Z,777nm,21.0s
WVNY **West Valley, N** 123.66 313 IAMs_20 IAMs_20 01 58 28.4
comp=Z,660nm,20.0s
P57A **Homestead Farm** 123.89 309 IAMs_20 IAMs_20 01 57 08.7
comp=Z,469nm,21.0s
T59A **Double "B" Far** 124.00 306 IAMs_20 IAMs_20 02 00 09.2
comp=Z,432nm,21.0s
F20K **Avaraart Lake** 124.03 10 IAMs_20 IAMs_20 02 04 42.9
comp=Z,438nm,19.0s
F20K **Avaraart Lake** 124.03 10 P PKiKP 01 06 11.5 +0.2
baz=335
R58B **Mineral** 124.08 307 IAMs_20 IAMs_20 01 58 05.1
comp=Z,678nm,20.0s
ANM **Nome** 124.09 16 IAMs_20 IAMs_20 02 04 23.5
comp=Z,520nm,22.0s
G16K **Koyuk River** 124.16 14 IAMs_20 IAMs_20 02 06 10.2
comp=Z,442nm,21.0s
F21K **Alatna River** 124.23 9 P PKiKP 01 06 13.2 +1.5
baz=337
E25K **Arctic Village** 124.30 5 IAMs_20 IAMs_20 02 01 25.1
comp=Z,407nm,22.0s
E25K **Arctic Village** 124.30 5 P PKiKP 01 06 12.0 +0.2
baz=347
G17K **Kiwalik Mounta** 124.45 13 P PKiKP 01 06 12.2 +0.1
baz=328
E29M **Blow River** 124.46 2 P PKPdf 01 06 11.6 -0.2
baz=356
G18K **Tagagawik** 124.52 12 P PKiKP 01 06 12.7 +0.4
baz=351
INK **Inuvik** 124.59 360 PKPdf 01 06 12.1 +0.1
INK **Inuvik** 124.59 360 P PKPdf 01 06 12.0 0.0
baz=1.0
INK **Inuvik** 124.59 360 PKP PKPdf 01 06 11.0 -1.0
comp=Z,2.2nm,0.7s,baz=200,slow=32,SNR=8.7
INK **Inuvik** 124.59 360 PKIKP PKPdf 01 06 12.1 +0.1
G19K **Purcell Mounta** 124.61 11 P PKiKP 01 06 13.2 +0.7
baz=333
F24K **Squaw Lake** 124.66 6 P PKiKP 01 06 13.4 +0.8
baz=344
ERPA **Erie** 124.73 313 IAMs_20 IAMs_20 01 57 07.5
comp=Z,539nm,20.0s
Q56A **Snyder Ridge,** 124.87 309 IAMs_20 IAMs_20 01 57 00.8
comp=Z,483nm,21.0s
S57A **Dark Hollow, R** 124.95 307 IAMs_20 IAMs_20 01 58 42.2
comp=Z,594nm,20.0s
H17K **Granite Mounta** 125.09 13 IAMs_20 IAMs_20 02 05 44.9
comp=Z,380nm,20.0s
F28M **Old Crow** 125.17 3 P PKiKP 01 06 13.9 +0.3
baz=353
FCC **Fort Churchill** 125.17 336 IAMs_20 IAMs_20 02 02 31.4
comp=Z,559nm,19.0s
G23K **Bananza Creek** 125.19 8 IAMs_20 IAMs_20 02 06 57.5
comp=Z,335nm,19.0s
MCWV **Mont Chateau** 125.23 310 IAMs_20 IAMs_20 01 59 32.0
comp=Z,484nm,21.0s
T57A **Hurt** 125.34 306 IAMs_20 IAMs_20 01 59 32.5
comp=Z,384nm,18.0s
M53A **WI Miller and** 125.40 312 IAMs_20 IAMs_20 01 57 55.5
comp=Z,813nm,22.0s
V58A **Windy Hill, Pi** 125.45 305 IAMs_20 IAMs_20 02 04 16.6
comp=Z,614nm,18.0s
O54A **Avella** 125.50 310 IAMs_20 IAMs_20 02 01 07.4
comp=Z,586nm,20.0s
R55A **Marlinton** 125.75 308 IAMs_20 IAMs_20 01 56 28.1
comp=Z,766nm,22.0s
H21K **Melozitna Rive** 125.78 9 IAMs_20 IAMs_20 02 05 26.2
comp=Z,396nm,20.0s
FYU **Fort Yukon** 125.85 5 IAMs_20 IAMs_20 02 03 20.1
comp=Z,484nm,21.0s

G27K **Doyon Strip** 125.88 4 P PKiKP 01 06 15.2 +0.2
baz=351
O53A **New Philadelph** 126.11 311 IAMs_20 IAMs_20 02 01 45.3
comp=Z,683nm,20.0s
Q54A **Coxs Mills** 126.13 309 IAMs_20 IAMs_20 01 57 41.2
comp=Z,755nm,21.0s
BLA **Blacksburg** 126.21 307 IAMs_20 IAMs_20 01 59 21.3
comp=Z,417nm,20.0s
H24K **Noodor Dome** 126.29 7 IAMs_20 IAMs_20 02 04 35.5
comp=Z,375nm,20.0s
I20K **Naaghedeneel** 126.30 10 IAMs_20 IAMs_20 02 08 49.8
comp=Z,368nm,19.0s
U56A **King** 126.35 306 IAMs_20 IAMs_20 02 01 47.5
comp=Z,482nm,19.0s
K50A **Casco** 126.41 314 IAMs_20 IAMs_20 01 59 39.0
comp=Z,753nm,21.0s
P53A **Whipple** 126.43 310 IAMs_20 IAMs_20 02 00 38.0
comp=Z,554nm,20.0s
H27K **Steamboat Moun** 126.46 4 P PKiKP 01 06 16.8 +0.5
baz=351
EPYK **Eagle Plains** 126.52 1 P PKiKP 01 06 16.1 -0.2
baz=357
O52A **Adamsville** 126.60 311 IAMs_20 IAMs_20 02 01 59.4
comp=Z,596nm,20.0s
I23K **Minto, Yukon-K** 126.76 8 IAMs_20 IAMs_20 02 04 11.1
comp=Z,485nm,21.0s
S54A **Dingess, Beckl** 126.77 308 IAMs_20 IAMs_20 02 00 09.3
comp=Z,599nm,21.0s
N51A **Ashland** 126.78 312 IAMs_20 IAMs_20 01 57 49.0
comp=Z,541nm,20.0s
P52A **Corning** 126.95 310 IAMs_20 IAMs_20 02 01 13.6
comp=Z,531nm,19.0s
K15K **Wolf Creek Mou** 126.95 15 IAMs_20 IAMs_20 02 06 13.0
comp=Z,359nm,21.0s
POKR **Poker Plat Res** 127.03 7 IAMs_20 IAMs_20 02 04 04.3
comp=Z,377nm,20.0s
COLA **College** 127.22 7 IAMs_20 IAMs_20 02 05 04.1
comp=Z,391nm,20.0s
COLA **College** 127.22 7 P PKiKP 01 06 17.7 0.0
baz=343
Q52A **Bidwell** 127.22 309 IAMs_20 IAMs_20 01 58 14.0
comp=Z,718nm,21.0s
I26K **Coal Creek Min** 127.26 5 P PKiKP 01 06 18.0 +0.3
baz=349
AAM **Ann Arbor** 127.29 314 IAMs_20 IAMs_20 01 58 32.0
comp=Z,576nm,22.0s
I28M **Miner Creek** 127.33 3 P PKiKP 01 06 18.2 +0.2
baz=353
ACSO **Alum Creek Sta** 127.41 311 IAMs_20 IAMs_20 02 02 24.7
comp=Z,510nm,18.0s
L14K **Kuka Creek** 127.42 17 IAMs_20 IAMs_20 02 03 45.6
comp=Z,382nm,22.0s
ILAR **Eielson Array** 127.43 7 PKP PKPdf 01 06 16.4 -1.2
comp=Z,1.0nm,0.8s,baz=326,slow=3.0,SNR=10
ILAR PP PP 01 08 17.4 +0.3
comp=Z,1.6nm,1.0s,baz=341,slow=7.3,SNR=6.9
CCB **Clear Creek Bu** 127.44 7 IAMs_20 IAMs_20 02 03 55.1
comp=Z,455nm,22.0s
U54A **Nelsons Funny** 127.45 306 IAMs_20 IAMs_20 02 00 36.5
comp=Z,449nm,21.0s
I29M **Ogilvie Camp,** 127.48 2 P PKiKP 01 06 18.1 -0.2
baz=355
BPAW **Bear Paw Mtn.** 127.52 9 IAMs_20 IAMs_20 02 10 00.2
comp=Z,378nm,20.0s
I30M **Mount Dempster** 127.67 1 PKiKP 01 06 18.6 -0.2
I30M **Mount Dempster** 127.67 1 P PKiKP 01 06 18.6 -0.2
baz=358
P51A **Williamsport** 127.68 310 IAMs_20 IAMs_20 02 01 35.0
comp=Z,419nm,19.0s
BWN **Browne** 127.68 8 IAMs_20 IAMs_20 02 05 34.9
comp=Z,427nm,22.0s
K20K **Telida** 127.69 11 IAMs_20 IAMs_20 02 11 46.5
comp=Z,356nm,19.0s
K20K **Telida** 127.69 11 P PKiKP 01 06 19.9 +1.2
baz=336
G45A **Suttons Bay** 127.71 318 IAMs_20 IAMs_20 01 58 12.7
comp=Z,774nm,22.0s
J25K **Salcha River,** 127.75 6 IAMs_20 IAMs_20 02 05 27.2
comp=Z,360nm,21.0s
HDA **Harding Lake** 127.77 7 IAMs_20 IAMs_20 02 05 10.8
comp=Z,430nm,22.0s
L48A **N Adams** 127.95 314 IAMs_20 IAMs_20 01 59 32.7
comp=Z,585nm,20.0s
L16K **Owhat River** 127.97 15 IAMs_20 IAMs_20 02 09 01.9
comp=Z,373nm,21.0s
Q51A **Peebles** 128.01 310 IAMs_20 IAMs_20 01 59 11.9
comp=Z,613nm,21.0s
J26L **Joseph Creek** 128.02 5 IAMs_20 IAMs_20 02 04 38.5
comp=Z,354nm,21.0s
E43A **Lone Tree Farm** 128.04 320 IAMs_20 IAMs_20 02 00 01.4
comp=Z,585nm,20.0s
N49A **Columbus Grove** 128.09 312 IAMs_20 IAMs_20 01 59 24.5
comp=Z,758nm,21.0s
J30M **Hart River** 128.32 1 PKPdf 01 06 19.6 +0.1
J30M **Hart River** 128.32 1 P PKiKP 01 06 20.2 +0.1
baz=358
YKAW3 **Yellowknife Wh** 128.38 348 IAMs_20 IAMs_20 02 04 15.9
comp=Z,448nm,20.0s
O49A **Covington** 128.42 311 IAMs_20 IAMs_20 02 01 19.4
comp=Z,368nm,20.0s
V53A **Salida** 128.42 305 IAMs_20 IAMs_20 01 59 53.0
comp=Z,561nm,20.0s
YKAW1 **Yellowknife Wh** 128.43 348 IAMs_20 IAMs_20 02 09 32.2
comp=Z,473nm,18.0s
YKA **Yellowknife Ar** 128.44 348 PKP PKPdf 01 06 18.3 -1.2
comp=Z,0.8nm,0.6s,baz=16,slow=2.0,SNR=10
YKA PP PP 01 08 23.0 -0.8
comp=Z,1.4nm,0.8s,baz=15,slow=6.9,SNR=11
RND **Reindeer** 128.49 8 IAMs_20 IAMs_20 02 09 52.9
comp=Z,586nm,21.0s
S51A **Beattyville** 128.57 308 IAMs_20 IAMs_20 02 01 05.5
comp=Z,564nm,20.0s
L19K **White Mountain** 128.60 12 IAMs_20 IAMs_20 02 08 06.7
comp=Z,332nm,20.0s
M17K **Holitna River** 128.73 14 IAMs_20 IAMs_20 02 06 19.1
comp=Z,447nm,21.0s
D41A **Chassel** 128.73 321 IAMs_20 IAMs_20 02 03 23.2
comp=Z,588nm,20.0s
TZTN **Tazewell** 128.80 307 IAMs_20 IAMs_20 02 07 32.9
comp=Z,558nm,20.0s
P49A **Miami Univ. Ec** 128.89 311 IAMs_20 IAMs_20 02 03 28.1
comp=Z,635nm,19.0s
M19K **Big River Lodg** 128.95 12 IAMs_20 IAMs_20 02 08 46.8
comp=Z,373nm,21.0s
O48B **Farmland** 129.00 312 IAMs_20 IAMs_20 02 01 57.5
comp=Z,434nm,20.0s
V52A **Sevierville** 129.00 306 IAMs_20 IAMs_20 01 59 24.4
comp=Z,605nm,20.0s
DHY **Denali Highway** 129.01 8 IAMs_20 IAMs_20 02 06 04.5
comp=Z,423nm,22.0s
F42A **Maple Grove Fa** 129.02 319 IAMs_20 IAMs_20 02 04 15.2
comp=Z,394nm,20.0s
WRGLY **Wrigley** 129.10 354 IAMs_20 IAMs_20 02 06 56.4
comp=Z,409nm,22.0s
N15K **Kwethluk River** 129.11 16 IAMs_20 IAMs_20 02 07 21.3
comp=Z,393nm,20.0s
TKL **Tuckaleechee C** 129.19 306 IAMs_20 IAMs_20 01 59 27.3
comp=Z,589nm,20.0s
N47A **Urbana** 129.19 313 IAMs_20 IAMs_20 01 59 37.4
comp=Z,694nm,22.0s
GOGA **Godfrey** 129.42 303 IAMs_20 IAMs_20 02 01 57.7
comp=Z,622nm,20.0s
P48A **Milroy** 129.44 311 IAMs_20 IAMs_20 02 03 45.3
comp=Z,512nm,20.0s
COWI **Conover** 129.51 320 IAMs_20 IAMs_20 01 59 47.9
comp=Z,596nm,22.0s
O14K **Tigyukauivet M** 129.54 18 IAMs_20 IAMs_20 02 06 53.7
comp=Z,426nm,20.0s
N17K **Nushagak Hills** 129.55 14 IAMs_20 IAMs_20 02 08 26.9
comp=Z,347nm,20.0s
BCAR **Beaver Creek A** 129.58 4 PKiKP 01 06 22.3 -0.2
R49A **Shelbyville** 129.59 309 IAMs_20 IAMs_20 01 59 34.5
comp=Z,698nm,20.0s
T50A **Nancy** 129.68 308 IAMs_20 IAMs_20 02 01 50.2
comp=Z,485nm,20.0s
CPCT **Cooper Cave** 129.83 306 IAMs_20 IAMs_20 02 01 06.3
comp=Z,608nm,20.0s
M22K **Willow** 129.87 10 IAMs_20 IAMs_20 02 12 00.2
comp=Z,362nm,19.0s
EYMN **Ely** 130.07 323 IAMs_20 IAMs_20 02 03 16.3
comp=Z,547nm,21.0s
O16K **Kokwok River B** 130.14 15 IAMs_20 IAMs_20 02 07 14.3
comp=Z,399nm,21.0s
M27K **Edge Creek, AK** 130.28 5 IAMs_20 IAMs_20 02 09 58.1
comp=Z,454nm,21.0s
L44A **Lake County Fo** 130.30 315 IAMs_20 IAMs_20 02 01 02.4
comp=Z,680nm,21.0s
BLO **Bloomington** 130.34 311 IAMs_20 IAMs_20 02 04 32.1
comp=Z,603nm,19.0s
SFIN **Lafayette** 130.36 313 IAMs_20 IAMs_20 02 09 09.5
comp=Z,570nm,18.0s
K43A **Burlington** 130.38 316 IAMs_20 IAMs_20 02 03 26.7
comp=Z,472nm,20.0s
HQIL **Hanson Quary C** 130.40 315 IAMs_20 IAMs_20 02 00 33.1
comp=Z,548nm,20.0s
M29M **Somme Creek** 130.40 2 IAMs_20 IAMs_20 02 07 25.3
comp=Z,354nm,21.0s
WCI **Wyandotte Cave** 130.46 310 IAMs_20 IAMs_20 01 59 52.4
comp=Z,741nm,21.0s
G40A **Rib Lake** 130.54 320 IAMs_20 IAMs_20 02 07 28.4
comp=Z,597nm,18.0s
U49A **Red Boiling Sp** 130.55 307 IAMs_20 IAMs_20 02 02 42.1
comp=Z,360nm,22.0s
O18K **Koktuh Hills** 130.62 14 IAMs_20 IAMs_20 02 07 43.9
comp=Z,338nm,19.0s
P46A **Rosedale** 130.69 312 IAMs_20 IAMs_20 02 05 39.5
comp=Z,459nm,18.0s
N25K **Chitina, Valde** 130.76 6 IAMs_20 IAMs_20 02 06 19.9
comp=Z,434nm,22.0s
352A **Blakely** 131.00 301 IAMs_20 IAMs_20 01 59 36.8
comp=Z,643nm,21.0s
GLB **Gilahina Butte** 131.01 6 IAMs_20 IAMs_20 02 06 06.4
comp=Z,376nm,22.0s
CLTN **Cedars of Leba** 131.09 307 IAMs_20 IAMs_20 02 01 14.5
comp=Z,381nm,20.0s
FFC **Flin Flon** 131.10 336 IAMs_20 IAMs_20 02 02 57.2
comp=Z,389nm,19.0s
GLI **Glacier Island** 131.16 8 IAMs_20 IAMs_20 02 07 15.4
comp=Z,444nm,22.0s
N30M **Aishikik Lake** 131.43 2 IAMs_20 IAMs_20 02 10 42.7
comp=Z,375nm,20.0s
T47A **Sharon Grove** 131.44 308 IAMs_20 IAMs_20 02 02 17.5
comp=Z,475nm,21.0s
USIN **University of** 131.57 310 IAMs_20 IAMs_20 02 00 23.8
comp=Z,579nm,21.0s
V48A **Smith Brothers** 131.57 307 IAMs_20 IAMs_20 02 01 16.2
comp=Z,701nm,22.0s
OLIL **Olney** 131.64 311 IAMs_20 IAMs_20 02 00 24.6
comp=Z,688nm,22.0s
Y49A **Blount Mountai** 131.72 304 IAMs_20 IAMs_20 02 01 07.5
comp=Z,693nm,21.0s
HDIL **Hopedale** 131.87 314 IAMs_20 IAMs_20 02 05 36.2
comp=Z,567nm,20.0s
250A **Grady** 132.02 302 IAMs_20 IAMs_20 01 58 47.8
comp=Z,735nm,22.0s
SPMN **Marine on St.** 132.19 321 IAMs_20 IAMs_20 02 04 21.8
comp=Z,525nm,20.0s
WVT **Waverly** 132.24 307 IAMs_20 IAMs_20 02 01 34.0
comp=Z,360nm,21.0s
Q44A **Meyer Farm, Va** 132.26 311 IAMs_20 IAMs_20 02 00 55.9
comp=Z,589nm,22.0s
WHY **Whitehorse** 132.27 0 IAMs_20 IAMs_20 02 10 28.9
comp=Z,322nm,19.0s
F36A **Milaca** 132.32 322 IAMs_20 IAMs_20 02 07 25.0
comp=Z,439nm,20.0s
AGMN **Agassiz Nation** 132.36 326 IAMs_20 IAMs_20 02 05 52.5
comp=Z,632nm,19.0s
P43A **Skaggs, Pawnee** 132.36 312 IAMs_20 IAMs_20 02 06 52.5
comp=Z,534nm,18.0s
LRAL **Lakeview Retre** 132.39 303 IAMs_20 IAMs_20 02 01 59.3
comp=Z,617nm,20.0s
L40A **Anamosa** 132.60 316 IAMs_20 IAMs_20 02 02 36.3
comp=Z,549nm,21.0s
T45A **Paducah** 132.60 309 IAMs_20 IAMs_20 02 02 43.3
comp=Z,549nm,21.0s
BRAL **Brewton** 132.84 301 IAMs_20 IAMs_20 02 01 50.6
comp=Z,650nm,20.0s
N41A **Harden Midland** 132.90 314 IAMs_20 IAMs_20 02 06 27.6
comp=Z,620nm,20.0s
UTMT **University of** 132.98 308 IAMs_20 IAMs_20 02 11 11.3
comp=Z,506nm,19.0s
I37A **Lemond, Waseca** 133.15 320 IAMs_20 IAMs_20 02 06 40.3
comp=Z,623nm,20.0s
HICK **Hickman** 133.20 308 IAMs_20 IAMs_20 02 02 51.1
comp=Z,476nm,20.0s
SLM **Saint Louis** 133.25 311 IAMs_20 IAMs_20 02 01 48.0
comp=Z,693nm,21.0s
CGM3 **Cape Girardeau** 133.28 310 IAMs_20 IAMs_20 02 00 06.1
comp=Z,660nm,22.0s
GLAT **Glass** 133.33 308 IAMs_20 IAMs_20 02 05 45.6
comp=Z,424nm,20.0s
R33M **Jennings River** 133.47 358 IAMs_20 IAMs_20 02 11 37.8
comp=Z,431nm,21.0s
HALT **Halls** 133.48 308 IAMs_20 IAMs_20 02 07 51.6
comp=Z,443nm,19.0s
LNXT **Lenox** 133.53 308 IAMs_20 IAMs_20 02 10 54.1
comp=Z,596nm,18.0s
PARMO **Parma** 133.56 309 IAMs_20 IAMs_20 02 03 21.6
comp=Z,612nm,20.0s
PVMO **Portageville** 133.60 308 IAMs_20 IAMs_20 02 03 01.7
comp=Z,617nm,22.0s
FVM **French Village** 133.62 311 IAMs_20 IAMs_20 02 04 50.9
comp=Z,611nm,20.0s
D32A **Dogwood Acres,** 133.66 325 IAMs_20 IAMs_20 02 05 19.1
comp=Z,650nm,22.0s
PEBM **Pemiscott Bayo** 133.82 308 IAMs_20 IAMs_20 02 10 54.5
comp=Z,482nm,18.0s
SCIA **State Center** 134.01 317 IAMs_20 IAMs_20 02 09 02.4
comp=Z,423nm,19.0s
PBMO **Poplar Bluff** 134.03 309 IAMs_20 IAMs_20 02 06 52.1
comp=Z,638nm,20.0s
CCM **Cathedral Cave** 134.19 311 IAMs_20 IAMs_20 02 01 30.1
comp=Z,720nm,22.0s
P40A **Paris** 134.21 313 IAMs_20 IAMs_20 02 06 56.3
comp=Z,540nm,20.0s
DLBC **Dease Lake** 134.38 357 IAMs_20 IAMs_20 02 12 41.9
comp=Z,495nm,20.0s
T42A **Van Buren** 134.45 310 PKPdf 01 06 32.3 +0.6
T42A IAMs_20 IAMs_20 02 04 52.0
comp=Z,507nm,20.0s
N38A **Joes South For** 134.51 315 IAMs_20 IAMs_20 02 02 53.0
comp=Z,704nm,22.0s
MDND **Maddock** 134.64 327 IAMs_20 IAMs_20 02 05 11.7
comp=Z,397nm,21.0s
JIS **Juneau Island** 134.66 360 IAMs_20 IAMs_20 02 10 38.2
comp=Z,387nm,21.0s
346A **Big Creek Wild** 134.81 302 IAMs_20 IAMs_20 02 05 16.6
comp=Z,439nm,20.0s
LCAR **Lake Charles** 134.82 308 IAMs_20 IAMs_20 02 07 18.0
comp=Z,612nm,20.0s
S34M **Telegraph Cree** 134.96 358 IAMs_20 IAMs_20 02 10 17.1
comp=Z,413nm,20.0s
MGMO **Mountain Grove** 135.28 310 IAMs_20 IAMs_20 02 03 33.0
comp=Z,713nm,22.0s
ECSD **EROS Data Cent** 135.30 321 IAMs_20 IAMs_20 02 08 56.0
comp=Z,631nm,19.0s
S32K **Killisnoo** 135.47 0 IAMs_20 IAMs_20 02 10 21.6
comp=Z,463nm,21.0s
T35M **Bob Quinn** 135.84 357 IAMs_20 IAMs_20 02 14 49.6
comp=Z,447nm,21.0s
WHAR **Wooly Hollow** 135.95 308 IAMs_20 IAMs_20 02 03 19.1
comp=Z,599nm,22.0s
CCAR **Cane Creek** 135.99 306 IAMs_20 IAMs_20 02 03 03.4
comp=Z,614nm,21.0s
E28A **Huff** 136.01 327 IAMs_20 IAMs_20 02 08 03.2
comp=Z,584nm,22.0s
N35A **Tabor** 136.11 317 IAMs_20 IAMs_20 02 04 11.1
comp=Z,701nm,22.0s
ESQI **Esquipulas** 136.22 278 IAMs_20 IAMs_20 02 04 05.7
comp=Z,397nm,19.0s
EDM **Edmonton** 136.37 342 IAMs_20 IAMs_20 02 09 41.6
comp=Z,571nm,20.0s
X40A **Basin Creek Fa** 136.64 307 IAMs_20 IAMs_20 02 04 57.5
comp=Z,612nm,21.0s
HHAR **Hobbs** 136.85 310 IAMs_20 IAMs_20 02 06 03.6
comp=Z,521nm,20.0s
U35K **Hyder** 136.89 356 IAMs_20 IAMs_20 02 16 18.4
comp=Z,442nm,20.0s
Z41A **Richland Creek** 137.01 305 IAMs_20 IAMs_20 02 05 28.5
comp=Z,493nm,20.0s
U38A **Gravette** 137.12 310 IAMs_20 IAMs_20 02 04 46.8
comp=Z,477nm,20.0s
MIAR **Mount Ida** 137.20 307 IAMs_20 IAMs_20 02 03 58.2
comp=Z,433nm,20.0s
BGNE **Belgrade** 137.48 319 IAMs_20 IAMs_20 02 05 07.1
comp=Z,681nm,22.0s
KSU1 **Kansas State U** 137.59 315 IAMs_20 IAMs_20 02 09 59.5
comp=Z,580nm,20.0s
K30B **Basset** 137.71 321 IAMs_20 IAMs_20 02 07 20.9
comp=Z,523nm,20.0s
TUL3 **Leonard** 138.38 310 IAMs_20 IAMs_20 02 09 49.0
comp=Z,500nm,20.0s
T35A **Sooner Cattle** 138.49 312 IAMs_20 IAMs_20 02 09 41.7
comp=Z,530nm,20.0s
CCIG **Comitan** 138.98 280 IAMs_20 IAMs_20 02 05 31.8
comp=Z,405nm,20.0s

OK052	**Battle Ridge R**	**139.09 311**	IAMs_20	IAMs_20	02 08 35.8	
	comp=Z,534nm,22.0s					
EGMT	**Eagleton**	**139.35 335**	IAMs_20	IAMs_20	02 11 23.5	
	comp=Z,440nm,22.0s					
R32A	**Long Quarter,**	**139.36 315**	IAMs_20	IAMs_20	02 06 14.2	
	comp=Z,526nm,21.0s					
CROK	**Carrier**	**139.73 312**	IAMs_20	IAMs_20	02 08 03.6	
	comp=Z,649nm,21.0s					
OK032	**Salt Plains WL**	**139.76 313**	IAMs_20	IAMs_20	02 05 36.3	
	comp=Z,618nm,20.0s					
FNO	**Franklin**	**139.84 310**	IAMs_20	IAMs_20	02 11 19.7	
	comp=Z,446nm,20.0s					
CBKS	**Cedar Bluff**	**139.86 316**	IAMs_20	IAMs_20	02 11 37.4	
	comp=Z,454nm,19.0s					
HKT	**Hockley**	**140.48 302**	IAMs_20	IAMs_20	02 14 03.7	
	comp=Z,504nm,19.0s					
Z35A	**Perchaven, San**	**140.49 307**	IAMs_20	IAMs_20	02 10 29.2	
	comp=Z,416nm,21.0s					
U32A	**Winter Ranch,**	**140.52 313**	IAMs_20	IAMs_20	02 11 33.5	
	comp=Z,572nm,19.0s					
WMOK	**Wichita Mounta**	**141.09 310**		**PKPdf**	**01 06 44.6**	**+0.5**
WMOK	**Wichita Mounta**	**141.09 310**	P	**PKPdf**	**01 06 45.3**	**+1.2**
	baz=65					
WMOK	**Wichita Mounta**	**141.09 310**	PKIKP	**PKPdf**	**01 06 44.6**	**+0.5**
WMOK			MLR	MLR		
	comp=Z,700nm,19.0s					
TBI	**Tubuai**	**141.13 158**	*e*PP	**PP**	**01 09 47.1**	**+2.8**
	comp=Z,627nm,25.8s					
TBI	**Tubuai**	**141.13 158**	*e*LR	LR	01 52 32.0	
	comp=Z,2µm,23.0s					
FW03	**Perrin-Whitt E**	**141.23 307**	IAMs_20	IAMs_20	02 11 06.8	
	comp=Z,323nm,19.0s					
RLMT	**Red Lodge**	**141.36 331**	IAMs_20	IAMs_20	02 18 43.6	
	comp=Z,460nm,20.0s					
K22A	**Casper**	**141.73 326**	IAMs_20	IAMs_20	02 11 05.4	
	comp=Z,464nm,20.0s					
BRIGG	**Briggsdale**	**141.80 322**	IAMs_20	IAMs_20	02 08 04.9	
	comp=Z,606nm,22.0s					
NEW	**Newport**	**141.87 341**	IAMs_20	IAMs_20	02 12 05.2	
	comp=Z,571nm,22.0s					
MSO	**Missoula**	**142.00 337**	IAMs_20	IAMs_20	02 14 11.1	
	comp=Z,519nm,20.0s					
PHWY	**Pilot Hill**	**142.02 324**	IAMs_20	IAMs_20	02 09 23.5	
	comp=Z,593nm,20.0s					
YMP	**Mirror Lake Pl**	**142.06 332**	IAMs_20	IAMs_20	02 15 15.5	
	comp=Z,570nm,20.0s					
YNR	**Norris Junctio**	**142.32 332**	IAMs_20	IAMs_20	02 13 08.3	
	comp=Z,537nm,19.0s					
YNM	**Yellowstone No**	**142.32 332**	IAMs_20	IAMs_20	02 13 01.4	
	comp=Z,546nm,18.0s					
H17A	**Grant Village**	**142.52 332**	IAMs_20	IAMs_20	02 18 12.6	
	comp=Z,523nm,19.0s					
N23A	**Red Feather La**	**142.56 324**	IAMs_20	IAMs_20	02 09 39.8	
	comp=Z,613nm,21.0s					
C09A	**Chrisman Ranch**	**142.63 342**	IAMs_20	IAMs_20	02 16 44.4	
	comp=Z,482nm,20.0s					
FLWY	**Flagg Ranch**	**142.81 331**	IAMs_20	IAMs_20	02 11 55.4	
	comp=Z,592nm,22.0s					
ISCO	**Idaho Springs**	**143.06 322**	IAMs_20	IAMs_20	02 08 57.2	
	comp=Z,524nm,20.0s					
IMW	**Indian Meadow**	**143.07 331**	IAMs_20	IAMs_20	02 15 00.3	
	comp=Z,574nm,21.0s					
MOOW	**Moose Ponds**	**143.09 331**	IAMs_20	IAMs_20	02 14 40.7	
	comp=Z,567nm,20.0s					
LOHW	**Long Hollow**	**143.12 331**	IAMs_20	IAMs_20	02 13 47.7	
	comp=Z,489nm,20.0s					
CLRS	**Cowichan Lake**	**143.13 349**	IAMs_20	IAMs_20	02 14 48.0	
	comp=Z,544nm,20.0s					
PDAR	**Pinedale Array**	**143.24 329**	PKPdf	**PKPdf**	**01 06 48.5**	**+0.5**
PDAR	**Pinedale Array**	**143.24 329**	PKP	**PKPdf**	**01 06 48.0**	**+0.1**
	comp=Z,2.1nm,0.9s,baz=108,slow=1.9,SNR=12					
Q24A	**Divide**	**143.29 320**	IAMs_20	IAMs_20	02 12 11.5	
	comp=Z,574nm,20.0s					
FXWY	**Fox Creek**	**143.31 331**	IAMs_20	IAMs_20	02 14 55.5	
	comp=Z,532nm,21.0s					
SNOW	**Snow King Moun**	**143.31 331**	IAMs_20	IAMs_20	02 13 53.7	
	comp=Z,534nm,19.0s					
D08A	**Wollman Farm,**	**143.50 342**	IAMs_20	IAMs_20	02 11 17.2	
	comp=Z,432nm,21.0s					
JCT	**Junction City**	**143.55 304**	IAMs_20	IAMs_20	02 23 58.8	
	comp=Z,543nm,19.0s					
JCT	**Junction City**	**143.55 304**	P	PKPbc	01 06 46.3	+0.5
	baz=69					
E09A	**Wood Farm, Sta**	**143.74 341**	IAMs_20	IAMs_20	02 11 45.8	
	comp=Z,358nm,20.0s					
T25A	**Trinidad**	**143.87 317**	IAMs_20	IAMs_20	02 09 34.5	
	comp=Z,559nm,22.0s					
T25A	**Trinidad**	**143.87 317**	P	**PKPdf**	**01 06 48.1**	**-1.1**
	baz=56					
GNW	**Green Mountain**	**144.06 347**	IAMs_20	IAMs_20	02 15 43.6	
	comp=Z,426nm,20.0s					
SDCO	**Great Sand Dun**	**144.23 319**	IAMs_20	IAMs_20	02 12 01.8	
	comp=Z,501nm,20.0s					
SDCO	**Great Sand Dun**	**144.23 319**	P	PKPbc	01 06 48.7	+0.7
	baz=54					
MSTX	**Muleshoe**	**144.38 312**	IAMs_20	IAMs_20	02 09 09.7	
	comp=Z,557nm,21.0s					
MSTX	**Muleshoe**	**144.38 312**	P	**PKPdf**	**01 06 49.3**	**-0.7**
	baz=61					
HLID	**Hailey**	**144.88 334**	P	**PKPdf**	**01 06 51.4**	**+0.7**
	baz=35					
TLIG	**Tlapa**	**145.12 282**	IAMs_20	IAMs_20	02 11 22.3	
	comp=Z,359nm,18.0s					
F04A	**Amboy**	**145.49 345**	IAMs_20	IAMs_20	02 14 49.7	
	comp=Z,469nm,21.0s					
UNM	**Universidad Na**	**145.57 285**	IAMs_20	IAMs_20	02 26 10.2	
	comp=Z,438nm,18.0s					
MFID	**Camas Ranch**	**145.58 336**	IAMs_20	IAMs_20	02 13 18.2	
	comp=Z,404nm,19.0s					
G06A	**Carlson Farm,**	**145.65 343**	IAMs_20	IAMs_20	02 17 00.2	
	comp=Z,467nm,20.0s					
HOOD	**Mount Hood Mea**	**145.86 344**	IAMs_20	IAMs_20	02 22 40.5	
	comp=Z,438nm,18.0s					
CTU	**Camp Tracy**	**145.87 329**	IAMs_20	IAMs_20	02 11 30.8	
	comp=Z,535nm,21.0s					
PPT2	**Papeete2**	**146.26 153**	*e*PKP1	**PKPdf**	**01 06 46.1**	**-7.5**
	comp=Z,138nm,22.8s					
PPT2	**Papeete2**	**146.26 153**	*e*PP	**PP**	**01 10 09.0**	**-6.4**
	comp=Z,187nm,24.0s					
PPT2	**Papeete2**	**146.26 153**	*e*LR	LR	01 55 03.4	
	comp=Z,740nm,23.2s					
BGU	**Big Grassy Mou**	**146.34 330**	IAMs_20	IAMs_20	02 15 03.9	
	comp=Z,509nm,20.0s					
I07A	**Izee**	**146.34 340**	IAMs_20	IAMs_20	02 17 55.7	
	comp=Z,434nm,19.0s					
SRU	**San Rafael Swe**	**146.36 325**	IAMs_20	IAMs_20	02 15 36.2	
	comp=Z,440nm,20.0s					
MVCO	**Mesa Verde**	**146.44 321**	IAMs_20	IAMs_20	02 08 08.3	
	comp=Z,546nm,22.0s					
MVCO	**Mesa Verde**	**146.44 321**	P	**PKPab**	**01 06 55.7**	**-0.1**
	baz=50					
ANMO	**Albuquerque**	**146.47 316**		**PKPbc**	**01 06 55.3**	**+0.3**
ANMO	**Albuquerque**	**146.47 316**	PKP2	**PKPbc**	**01 06 55.3**	**+0.3**
H04A	**Detroit Lake**	**146.59 344**	IAMs_20	IAMs_20	02 19 49.9	
	comp=Z,401nm,18.0s					
I05D	**Terrebonne, OR**	**146.68 343**	IAMs_20	IAMs_20	02 12 49.2	
	comp=Z,391nm,22.0s					
DUG	**Dugway, Tooele**	**146.78 329**	IAMs_20	IAMs_20	02 13 21.0	
	comp=Z,478nm,20.0s					
Q16A	**Castle Valley**	**146.85 326**	IAMs_20	IAMs_20	02 12 05.2	
	comp=Z,623nm,22.0s					
TXAR	**Lajitas Array**	**147.09 305**		**PKPbc**	**01 06 56.6**	**-0.3**
TXAR	**Lajitas Array**	**147.09 305**	PKPbc	**PKPbc**	**01 06 56.4**	**-0.5**
	comp=Z,4.9nm,0.8s,baz=102,slow=3.4,SNR=30					
TXAR	**Lajitas Array**	**147.09 305**	PKP2	**PKPbc**	**01 06 56.6**	**-0.3**
MNTX	**Cornudas Mount**	**147.39 310**	P	**PKPbc**	**01 06 57.3**	**-0.2**
	baz=61					
MOIG	**Morelia**	**147.42 286**	IAMs_20	IAMs_20	02 13 06.2	
	comp=Z,308nm,22.0s					
WVOR	**Wild Horse Val**	**147.49 338**	IAMs_20	IAMs_20	02 18 10.6	
	comp=Z,461nm,19.0s					
VHRN	**Van Horn**	**147.51 308**		**PKPbc**	**01 06 57.7**	**-0.4**
TCRU	**Three Creeks R**	**147.77 327**	IAMs_20	IAMs_20	02 16 29.2	
	comp=Z,557nm,20.0s					
K04D	**Chiloquin, OR**	**148.36 342**	IAMs_20	IAMs_20	02 23 15.0	
	comp=Z,417nm,18.0s					
PKCU	**Pink Cliffs**	**148.53 325**	IAMs_20	IAMs_20	02 16 15.7	
	comp=Z,517nm,21.0s					
PSUT	**Pine Spring**	**148.56 328**	IAMs_20	IAMs_20	02 14 40.1	
	comp=Z,510nm,21.0s					
121A	**Cookes Peak, D**	**148.72 313**	P	**PKPbc**	**01 06 59.7**	**-1.6**
	baz=57					
HUMO	**Hull Mountain**	**148.73 344**		**PKPbc**	**01 07 01.2**	**+0.5**
SZCU	**Shurtz Canyon**	**148.85 326**	IAMs_20	IAMs_20	02 18 50.0	
	comp=Z,539nm,19.0s					
CCUT	**Cedar City**	**149.03 326**	IAMs_20	IAMs_20	02 20 35.8	
	comp=Z,467nm,18.0s					
KNB	**Kanab**	**149.12 325**	IAMs_20	IAMs_20	02 16 43.3	
	comp=Z,507nm,21.0s					
U15A	**North Rim**	**149.23 324**	IAMs_20	IAMs_20	02 17 05.5	
	comp=Z,560nm,20.0s					
LCMT	**Little Creek M**	**149.36 325**	IAMs_20	IAMs_20	02 14 56.5	
	comp=Z,500nm,21.0s					
R11B	**Troy Canyon, C**	**149.58 330**	IAMs_20	IAMs_20	02 14 03.6	
	comp=Z,536nm,21.0s					
PAHR	**Pah Rah Range**	**150.14 336**	IAMs_20	IAMs_20	02 18 29.5	
	comp=Z,534nm,20.0s					
S11A	**Rachel**	**150.21 329**	IAMs_20	IAMs_20	02 13 14.3	
	comp=Z,477nm,20.0s					
YERR	**Yerington**	**150.70 335**	IAMs_20	IAMs_20	02 15 21.5	
	comp=Z,492nm,21.0s					
PNTR	**Pine Nut**	**150.75 336**	IAMs_20	IAMs_20	02 19 47.9	
	comp=Z,481nm,19.0s					
NVAR	**Mina Array Bea**	**150.77 333**	PKPdf	**PKPdf**	**01 07 02.4**	**+1.7**
NVAR	**Mina Array Bea**	**150.77 333**	PKP	**PKPdf**	**01 07 02.2**	**+1.6**
	comp=Z,2.8nm,0.6s,baz=84,slow=0.7,SNR=14					
NVAR			PKPbc	**PKiKP**	**01 07 07.5**	**+0.7**
	comp=Z,3.4nm,0.7s,baz=56,slow=2.5,SNR=17					
SHPR	**Sheep Range**	**150.77 327**	IAMs_20	IAMs_20	02 17 33.7	
	comp=Z,382nm,19.0s					
TUC	**Tucson**	**150.94 316**	P	**PKiKP**	**01 07 07.8**	**+0.6**
	baz=53					
LHV	**Little Huntoon**	**151.00 334**	IAMs_20	IAMs_20	02 20 53.9	
	comp=Z,452nm,19.0s					
ORV	**Orrville**	**151.05 339**	IAMs_20	IAMs_20	02 19 10.5	
	comp=Z,454nm,20.0s					
AFDM	**Forest Hills D**	**151.40 338**		**PKiKP**	**01 07 08.2**	**+0.4**
AFDM			IAMs_20	IAMs_20	02 20 10.9	
	comp=Z,490nm,20.0s					
DSP	**Deep Springs**	**151.49 332**	IAMs_20	IAMs_20	02 14 27.1	
	comp=Z,496nm,21.0s					
PDMCI	**Parker Dam,Lak**	**151.80 323**	P	**PKiKP**	**01 07 09.7**	**+0.9**
	baz=45					
GWY	**Greenwater Val**	**151.80 329**	IAMs_20	IAMs_20	02 14 26.7	
	comp=Z,301nm,22.0s					
CMB	**Columbia Colle**	**151.97 336**	IAMs_20	IAMs_20	02 18 38.4	
	comp=Z,482nm,20.0s					
CWC	**Cottonwood Cre**	**152.30 331**	P	**PKiKP**	**01 07 10.9**	**+0.9**
	baz=36					
MPMC	**Manual Prospec**	**152.31 329**	P	**PKiKP**	**01 07 11.0**	**+0.9**
	baz=37					
GMRC	**Granite Mounta**	**152.32 325**	P	**PKiKP**	**01 07 11.0**	**+0.9**
	baz=42					
IRM	**Iron Mountain**	**152.49 324**	P	**PKiKP**	**01 07 11.4**	**+1.2**
	baz=44					
GSC	**Goldstone, Bar**	**152.55 328**	P	**PKiKP**	**01 07 11.5**	**+1.0**
	baz=40					
113A	**Mohawk Valley,**	**152.61 320**	IAMs_20	IAMs_20	02 30 06.7	
	comp=Z,501nm,20.0s					
HEC	**Hector,Ludlow**	**152.66 326**	P	**PKiKP**	**01 07 11.8**	**+1.2**
	baz=41					
RMX	**La Rumorosa**	**154.14 322**	IAMs_20	IAMs_20	01 58 20.9	
	comp=Z,306nm,19.0s					
CBX	**Cerro Bola**	**154.69 323**	IAMs_20	IAMs_20	02 05 15.3	
	comp=Z,395nm,20.0s					

*IDC **21** 00:54:49.8±0.8, 12°.97S×45°.00E, h0km, mb3.9/13, mbtmp4.0/14, ML5.0/1, Error ellipse: s-maj=26.7km s-min=20.0km az=92.0*
*NEIC **21** 00:54:50.7±1.9, 12°.89S±0°.08×45°.6E±0°.1, h10km±1km, mb4.6/7, Error ellipse: s-maj=23.5km s-min=13.8km az=78.0*

ISC 21 00:54:50.6±0.6, **13°.07S**±0°.06×**45°.22E**±0°.09, **h10**km, **n38, σ1s98/39, mb4.2/22, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.79**	**161**	Pn	**Pn**	**00 56 18.0**	**+1.2**
	4.1nm,0.3s,baz=322,slow=16,SNR=8.7						
OPO				Sn	**Sn**	**00 57 19.1**	**-4.3**
	25nm,0.3s,baz=240,slow=21,SNR=24						
ABPO	**Ambohimpanom**	**6.22**	**162**	Pn	**Pn**	**00 56 23.7**	**+1.0**
ABPO				Sn	**Sn**	**00 57 29.4**	**-4.6**
ZOMB	**Zomba**	**9.84**	**255**	*e*PN	**Pn**	**00 57 16.4**	**+4.1**
ZOMB				*e*SN	Sn	00 58 53.9	-9.1
ZOMB	**Zomba**	**9.84**	**255**	*e*PN	**Pn**	**00 57 16.4**	**+4.1**
ZOMB				*e*SN	Sn	00 58 53.9	-9.1
FOMA	**Nahampoana Res**	**11.96**	**172**	Pn	**Pn**	**00 57 42.7**	**+1.4**
KIBK	**Kibwezi**	**12.80**	**326**	Pn	**Pn**	**00 57 50.5**	**-2.4**
MSEY	**Mahe Island**	**13.12**	**51**	Pn	Pn	00 57 50.0	-7.2
LSZ	**Lusaka**	**16.66**	**260**	Pn	**P**	**00 58 47.8**	**+0.9**
LSZ				IAmb	IAmb	00 58 48.3	
	comp=Z,22nm,0.9s						
LSZ	**Lusaka**	**16.66**	**260**	Pn	**Pn**	**00 58 41.9**	**-2.5**
	comp=Z,20nm,1.1s,baz=66,slow=13,SNR=0.9						
LSZ				Sn	Sn	01 01 41.2	-8.5
	comp=Z,0.3nm,0.3s,baz=66,slow=18,SNR=1.8						
MATP	**Matopo**	**17.59**	**243**	S	**Sn**	**01 02 08.0**	**-4.4**
	comp=Z,0.9nm,0.4s,baz=120,slow=17,SNR=1.0						
BOSA	**Boshof**	**24.18**	**227**	P	**P**	**01 00 08.3**	**+1.0**
	comp=Z,6.0nm,0.6s,baz=64,slow=12,SNR=1.0						
	comp=Z,6.0nm,0.6s						
TORD	**Torodi Ar. Bea**	**50.39**	**299**	P	**P**	**01 03 47.6**	**-0.9**
	comp=Z,0.9nm,0.9s,baz=136,slow=8.2,SNR=3.7						
	comp=Z,0.9nm,0.9s						
BRTR	**Keskin Array B**	**53.62**	**349**	P	**P**	**01 04 11.3**	**-1.0**
	comp=Z,0.6nm,0.6s,baz=172,slow=10.0,SNR=5.6						
	comp=Z,0.6nm,0.6s						
KBZ	**Khabaz**	**56.56**	**358**	P	**P**	**01 04 32.9**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=214,slow=7.3,SNR=2.2						
	comp=Z,0.7nm,0.5s						
PUK	**Puka**	**59.59**	**338**	P	**P**	**01 04 54.9**	**+0.2**
VSL	**Villasalto**	**62.04**	**329**	P	**P**	**01 05 11.7**	**+0.4**
VSL				IAmb	IAmb	01 05 30.9	
	comp=Z,4.0nm,1.1s						
BURAR	**Bucovina Array**	**62.99**	**345**	P	**P**	**01 05 17.5**	**-0.2**
ABKAR	**Akbulak array**	**63.40**	**11**	P	**P**	**01 05 18.2**	**-1.9**
ABKAR	**Akbulak array**	**63.40**	**11**	P	**P**	**01 05 18.1**	**-2.1**
ABKAR				IAmb	IAmb	01 05 25.7	
	comp=Z,5.9nm,0.8s						
ARSA	**Arzberg**	**65.66**	**338**	*e*P	**P**	**01 05 34.9**	**-0.1**
	comp=Z,0.8nm,0.4s						
RONA	**Rosalia, Austr**	**65.77**	**339**	*i* P	**P**	**01 05 35.6**	**-0.1**
	comp=Z,3.6nm,0.8s						
CONA	**Conrad Observa**	**66.11**	**339**	*i* P	**P**	**01 05 37.7**	**-0.3**
	comp=Z,1.5nm,0.7s						
MOA	**Molln**	**66.62**	**338**	*i* P	**P**	**01 05 41.1**	**-0.1**
	comp=Z,1.4nm,0.5s						
WATA	**Walderalm**	**67.23**	**336**	*e*P	**P**	**01 05 44.6**	**-0.6**
	comp=Z,0.2nm,0.2s						
FETA	**Feichten**	**67.31**	**335**	*i* P	**P**	**01 05 45.3**	**-0.5**
	comp=Z,2.0nm,0.7s						
GERES	**GERESS Array B**	**67.66**	**338**	P	**P**	**01 05 46.7**	**-1.1**
	comp=Z,1.2nm,0.8s,baz=101,slow=5.1,SNR=3.4						
	comp=Z,1.2nm,0.8s						
MKAR	**Makanchi Array**	**68.23**	**26**	P	**P**	**01 05 52.3**	**+0.9**
	comp=Z,0.7nm,0.9s,baz=198,slow=7.0,SNR=2.8						
	comp=Z,0.7nm,0.9s						
BVAR	**Borovoye Array**	**69.29**	**16**	P	**P**	**01 05 59.4**	**+1.5**
	comp=Z,1.6nm,0.9s,baz=168,slow=7.4,SNR=5.0						
	comp=Z,1.6nm,0.9s						
ESDC	**Sonseca Array**	**69.59**	**321**	P	**P**	**01 06 00.2**	**+0.1**
	comp=Z,1.1nm,0.9s,baz=124,slow=5.8,SNR=8.6						
	comp=Z,1.1nm,0.9s						
KURBB	**Kurchatov Arra**	**69.79**	**22**	P	**P**	**01 06 02.1**	**+1.1**
	comp=Z,0.3nm,0.7s,baz=222,slow=7.4,SNR=3.0						
	comp=Z,0.3nm,0.7s						
CLL	**Collm**	**69.96**	**339**	*e*P	**P**	**01 06 02.0**	**0.0**
ZALV	**Zalesovo Beam**	**74.78**	**23**	P	**P**	**01 06 32.3**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=216,slow=4.6,SNR=2.6						
	comp=Z,0.6nm,0.5s						
QSPA	**South Pole Qui**	**77.03**	**180**	P	**P**	**01 06 45.8**	**+2.0**
QSPA				IAmb	IAmb	01 06 46.6	
	comp=Z,3.3nm,1.1s						
QSPA	**South Pole Qui**	**77.03**	**180**	P	**P**	**01 06 45.0**	**+1.3**
	comp=Z,1.7nm,0.9s,baz=220,slow=2.4,SNR=2.9						
	comp=Z,1.7nm,0.9s						
HFS	**Hagfors**	**77.22**	**344**	P	**P**	**01 06 44.1**	**-0.4**
	comp=Z,2.7nm,0.8s,baz=108,slow=4.7,SNR=6.0						
	comp=Z,2.7nm,0.8s						
NC602	**NORSAR Array S**	**78.30**	**344**	P	**P**	**01 06 50.2**	**-0.3**
NC602				IAmb	IAmb	01 06 58.3	
	comp=Z,9.9nm,1.1s						
WRA	**Warramunga Arr**	**84.82**	**109**	P	**P**	**01 07 28.4**	**+2.3**
	comp=Z,1.1nm,0.8s,baz=265,slow=3.6,SNR=4.0						
	comp=Z,1.1nm,0.8s						
TXAR	**Lajitas Array**	**146.92**	**304**	PKPbc	**PKPbc**	**01 14 33.8**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=90,slow=3.6,SNR=3.5						

*IDC **21** 01:00:12.4±4.6, 6°.20N×94°.41E, h0km, mb3.7/5, mbtmp3.7/6, ML4.4/1, Error ellipse: s-maj=104.3km s-min=70.4km az=129.0*

ISC 21 01:00:22.9±4.4, **6°.6N**±0°.5×**94°.6E**±0°.6, **h64**km, **n12**, **σ0s39/7, mb3.9/5, Nicobar Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**12.55**	**19**	Pn	**Pn**	**01 03 18.5**	**-0.2**
	0.6nm,0.3s,baz=204,slow=15,SNR=2.2						
	1.0nm,0.3s						
H08S3	**Diego Garcia H**	**26.18**	**238**	T	T	01 33 02.3	
	baz=58,slow=76,SNR=20						
H08S2	**Diego Garcia H**	**26.18**	**238**	T	T	01 33 04.0	
	baz=58,slow=76,SNR=21						
H08S1	**Diego Garcia H**	**26.20**	**238**	T	T	01 33 04.6	
	baz=58,slow=76,SNR=18						
MKAR	**Makanchi Array**	**41.45**	**347**	P	**P**	**01 08 03.7**	**+0.3**
	0.3nm,0.7s,baz=168,slow=9.4,SNR=2.6						
	0.3nm,0.7s						
SONM	**Songino Array**	**42.34**	**12**	P	**P**	**01 08 11.2**	**+0.5**
	2.0nm,0.8s,baz=194,slow=6.7,SNR=5.4						
	2.0nm,0.8s						
KURBB	**Kurchatov Arra**	**45.92**	**346**	P	**P**	**01 08 39.0**	**-0.2**
	0.4nm,0.8s,baz=170,slow=6.7,SNR=6.4						
KURBB				PcP	**PcP**	**01 10 14.9**	**-0.3**
	0.1nm,0.3s,baz=148,slow=3.2,SNR=4.6						
	0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**47.90**	**352**	P	**P**	**01 08 54.5**	**-0.1**
	1.0nm,0.6s,baz=174,slow=5.8,SNR=5.2						
	1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.37**	**341**	P	**P**	**01 09 13.1**	**-0.3**
	0.9nm,0.8s,baz=134,slow=6.2,SNR=4.2						
	0.9nm,0.8s						
H04N2	**CROZET ISLANDS**	**64.85**	**211**	T	T	02 21 15.1	
	baz=48,slow=75,SNR=11						
H04N1	**CROZET ISLANDS**	**64.86**	**211**	T	T	02 21 15.8	
	baz=48,slow=75,SNR=9.3						
H04N3	**CROZET ISLANDS**	**64.87**	**211**	T	T	02 21 14.5	
	baz=48,slow=75,SNR=5.1						

*IDC **21** 01:03:58.3±2.1, 29°.74S×68°.59W, h85km±18km, mb4.0/9, mbtmp4.3/14, Error ellipse: s-maj=22.6km s-min=13.3km az=91.0*
*SJA **21** 01:03:59.8±0.8, 29°.71S×68°.59W, h118km±4km, ML4.1, MW4.1*
*NEIC **21** 01:04:00.2±1.9, 29°.73S±0°.06×68°.56W±0°.08, h105km±7km, mb4.4/37, Error ellipse: s-maj=10.8km s-min=8.0km az=80.0*

ISC 21 01:04:00.2±0.6, **29°.71S**±0°.03×**68°.62W**±0°.05, **h108**km±6km, **n143, σ1s57/161, mb4.4/26, 4C, San Juan Province**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGUA	**GUANDACOL**	**0.25**	**27**	*e*P	**Pn**	**01 04 17.6**	**+1.8**
AGUA				*e*S	**Sn**	**01 04 29.2**	**+1.9**
DOCA	**Reserva Natura**	**1.30**	**198**	*e*P	**Pn**	**01 04 26.0**	**+1.0**
DOCA				*e*S	**Sn**	**01 04 44.7**	**+1.0**
CO01	**Juntas del Tor**	**1.31**	**258**	Pn	**Pn**	**01 04 26.9**	**+1.9**
RTLL	**Cerro Villicun**	**1.62**	**176**	*e*P	**Pn**	**01 04 29.5**	**+1.0**
RTLL				*e*S	**Sn**	**01 04 51.5**	**+1.5**
RTLL				IAML		01 04 52.7	
	comp=Z,2µm,0.5s						
AC05	**El Transito**	**1.69**	**301**		**Pn**	**01 04 31.6**	**+2.3**
AC05	**El Transito**	**1.69**	**301**	*e*P	**Pn**	**01 04 31.0**	**+1.7**
AC05				*e*S	**Sn**	**01 04 53.7**	**+2.2**
AC05				IAML		01 04 56.6	
	comp=Z,1µm,0.2s						
SJA	**San Juan**	**1.81**	**178**	*e*P	**Pn**	**01 04 32.1**	**+1.2**
SJA				*e*S	**Sn**	**01 04 55.8**	**+1.6**
SJA				IAML		01 04 57.4	
	comp=Z,816nm,0.2s						
ZON	**Zonda**	**1.83**	**182**	Pn	**Pn**	**01 04 31.7**	**+0.6**
ZON	**Zonda**	**1.83**	**182**	*e*P	**Pn**	**01 04 31.9**	**+0.9**
ZON				*e*S	**Sn**	**01 04 55.9**	**+1.3**
ZON				IAML		01 05 01.2	
	comp=Z,544nm,0.5s						
LCO	**Las Campanas**	**1.95**	**290**	Pn	**Pn**	**01 04 34.0**	**+1.2**
LCO	**Las Campanas**	**1.95**	**290**	*e*P	**Pn**	**01 04 34.2**	**+1.5**
LCO				*e*S	**Sn**	**01 04 59.0**	**+1.5**
GO04	**Tololo Observa**	**1.95**	**256**	Pn	**Pn**	**01 04 34.0**	**+1.3**
GO04	**Tololo Observa**	**1.95**	**256**	*e*P	**Pn**	**01 04 34.4**	**+1.7**
CO03	**El Pedregal**	**2.12**	**237**	Pn	**Pn**	**01 04 36.0**	**+1.3**
CO03	**El Pedregal**	**2.12**	**237**	*e*P	**Pn**	**01 04 36.0**	**+1.3**
CO03				*e*S	**Sn**	**01

LVC	**Limon Verde**	**7.07**	**358**	P		**Pn**	**01 05 41.2**	**-0.3**
	comp=Z,66nm,0.3s,baz=188,slow=8.7,SNR=163							
LVC				S		**Sn**	**01 06 58.6**	**-2.0**
	comp=Z,16nm,0.4s,baz=13,slow=19,SNR=1.6							
PB04	**IPOC Station P**	**7.47**	**349**	Pn		**Pn**	**01 05 44.6**	**-2.1**
PB09	**IPOC Station P**	**7.90**	**356**	Pn		**Pn**	**01 05 52.1**	**-0.4**
PB01	**IPOC Station P**	**8.66**	**355**	Pn		**Pn**	**01 06 00.1**	**-2.7**
PATCX	**Punta Patache**	**8.96**	**351**	Pn		**Pn**	**01 06 03.5**	**-3.3**
TA01	**Diego Aracena**	**9.21**	**351**	Pn		**Pn**	**01 06 06.0**	**-4.2**
HMBC	**Humberstone**	**9.46**	**353**	Pn		**Pn**	**01 06 09.7**	**-4.0**
H03N1	**Juan Fernandez**	**9.54**	**244**	T		T	01 13 38.4	
	baz=73,slow=72,SNR=179							
PB08	**IPOC Station P**	**9.54**	**357**	Pn		**Pn**	**01 06 11.7**	**-3.3**
H03N3	**Juan Fernandez**	**9.55**	**244**	T		T	01 13 35.2	
	baz=73,slow=72,SNR=156							
H03N2	**Juan Fernandez**	**9.55**	**244**	T		T	01 13 53.1	
	baz=73,slow=72,SNR=150							
PB11	**IPOC Station P**	**9.95**	**354**	Pn		**Pn**	**01 06 16.3**	**-4.0**
TRQA	**Tornquist**	**9.98**	**148**	Pn		**Pn**	**01 06 18.5**	**-2.1**
GO01	**Chusmiza**	**10.01**	**357**	Pn		**Pn**	**01 06 18.5**	**-3.0**
GO06	**Curarrehue**	**10.13**	**193**	Pn		**Pn**	**01 06 18.8**	**-3.8**
ITQB	**Itaqui**	**10.43**	**93**	Pn		**Pn**	**01 06 24.8**	**-1.9**
CPUP	**Villa Florida**	**10.53**	**74**	Pn		**Pn**	**01 06 25.8**	**-2.2**
CPUP	**Villa Florida**	**10.53**	**74**	P		**Pn**	**01 06 26.4**	**-1.6**
	comp=Z,1.2nm,0.3s,baz=253,slow=12,SNR=8.5							
PLCA	**Paso Flores**	**11.11**	**188**	Pn		**Pn**	**01 06 32.8**	**-3.1**
PLCA	**Paso Flores**	**11.11**	**188**	P		**Pn**	**01 06 33.8**	**-2.0**
	comp=Z,3.4nm,0.8s,baz=2.2,slow=12,SNR=8.6							
PB12	**IPOC Station P**	**11.15**	**352**	Pn		**Pn**	**01 06 32.9**	**-3.7**
LL04	**Puerto Octay**	**11.60**	**194**	Pn		Pn	01 06 36.5	-5.8
PLTB	**Pedras Altas**	**13.08**	**103**	Pn		**Pn**	**01 06 59.0**	**-2.8**
LL06	**Loncomilla**	**13.12**	**197**	Pn		**Pn**	**01 06 58.4**	**-3.9**
LPAZ	**La Paz**	**13.37**	**2**	Pn		**Pn**	**01 07 04.6**	**-1.7**
LPAZ	**La Paz**	**13.37**	**2**	P		**Pn**	**01 07 05.1**	**-1.1**
	comp=Z,4.3nm,0.6s,baz=184,slow=4.5,SNR=21							
ITAB	**Concordia**	**14.71**	**84**	Pn		**Pn**	**01 07 20.5**	**-2.4**
AQDB	**Aquidauana**	**14.87**	**55**	P		**P**	**01 07 27.9**	**-0.1**
SIV	**San Ignacio**	**15.31**	**29**	P		**Pn**	**01 07 29.5**	**-1.1**
	comp=Z,0.8nm,0.5s,baz=188,slow=12,SNR=4.4							
GO08	**Villa O'Higgin**	**18.97**	**188**	P		**P**	**01 08 12.8**	**-0.2**
ETMB	**Extrema**	**19.92**	**7**	P		**Pn**	**01 08 25.5**	**-0.6**
VAO	**Valinhos**	**20.50**	**76**	P		**P**	**01 08 29.5**	**-0.3**
SAML	**Samuel**	**21.27**	**15**	P		**P**	**01 08 40.5**	**+2.5**
BDFB	**Brasilia**	**23.55**	**58**	P		**P**	**01 08 59.6**	**-1.5**
BDFB	**Brasilia**	**23.55**	**58**	P		**P**	**01 09 00.4**	**-0.7**
	comp=Z,4.9nm,0.6s,baz=232,slow=6.1,SNR=10.0							
	comp=Z,4.9nm,0.6s							
OBIP	**Obispado Ponce**	**47.51**	**3**	P		**P**	**01 12 24.9**	**+0.3**
CELP	**Cerrillos**	**47.55**	**3**	P		**P**	**01 12 24.6**	**-0.2**
HUMP	**Col San Antoni**	**47.65**	**4**	P		**P**	**01 12 26.4**	**+0.8**
BELA	**Belgrano 2**	**50.62**	**171**	P		**P**	**01 12 48.2**	**+0.5**
VNA3	**Neumayer Olymp**	**52.28**	**159**	⇑P		**P**	**01 12 59.6**	**-0.6**
	comp=Z,2.8nm,0.7s							
VNA2	**Neumayer--Watz**	**52.89**	**159**	⇑P		**P**	**01 13 05.2**	**+0.6**
	comp=Z,3.3nm,0.5s,baz=286,slow=7.8							
TEIG	**Tepich**	**53.14**	**337**	P		**P**	**01 13 07.6**	**+0.7**
SNAA	**Sanae**	**54.50**	**159**	P		**P**	**01 13 16.8**	**+0.5**
SNAA				IAmb		IAmb	01 13 17.3	
	comp=Z,2.6nm,0.7s							
SNAA	**Sanae**	**54.50**	**159**	⇑P		**P**	**01 13 15.8**	**-0.6**
	comp=Z,39nm,0.4s							
SNAA	**Sanae**	**54.50**	**159**	P		**P**	**01 13 16.6**	**+0.3**
	comp=Z,2.5nm,0.7s,baz=301,slow=6.7,SNR=14							
	comp=Z,2.5nm,0.7s							
TROLL	**Troll, Antarti**	**56.22**	**159**	⇑P		**P**	**01 13 29.3**	**+0.6**
	comp=Z,86nm,0.3s							
QSPA	**South Pole Qui**	**60.52**	**180**	P		**P**	**01 13 59.4**	**+0.7**
QSPA	**South Pole Qui**	**60.52**	**180**	P		**P**	**01 13 59.4**	**+0.7**
	comp=Z,6.6nm,0.6s,baz=170,slow=1.0,SNR=56							
	comp=Z,6.6nm,0.6s							
X58A	**Rowland**	**64.72**	**350**	P		**P**	**01 14 27.2**	**+0.6**
V58A	**Windy Hill, Pi**	**65.90**	**351**	P		**P**	**01 14 34.9**	**+0.6**
V58A				IAmb		IAmb	01 15 14.8	
	comp=Z,4.9nm,0.8s							
V53A	**Saluda**	**66.39**	**347**	P		**P**	**01 14 37.2**	**-0.3**
TKL	**Tuckaleechee C**	**66.57**	**347**	P		**P**	**01 14 38.2**	**-0.4**
TKL				IAmb		IAmb	01 14 49.3	
	comp=Z,4.8nm,1.1s							
SWET	**Sewanee**	**66.61**	**345**	P		**P**	**01 14 38.7**	**-0.2**
SWET				IAmb		IAmb	01 14 40.0	
	comp=Z,3.3nm,0.5s							
V52A	**Sevierville**	**66.71**	**347**	P		**P**	**01 14 39.5**	**0.0**
V52A				IAmb		IAmb	01 14 40.3	
	comp=Z,3.8nm,0.8s							
V48A	**Smith Brothers**	**67.32**	**344**	P		**P**	**01 14 42.2**	**-1.1**
V48A				IAmb		IAmb	01 14 44.4	
	comp=Z,3.4nm,0.6s							
TZTN	**Tazewell**	**67.38**	**347**	P		**P**	**01 14 44.1**	**+0.4**
TZTN				IAmb		IAmb	01 15 07.0	
	comp=Z,5.6nm,1.1s							
CLTN	**Cedars of Leba**	**67.54**	**345**	P		**P**	**01 14 45.0**	**+0.3**
CLTN				IAmb		IAmb	01 14 46.0	
	comp=Z,4.4nm,1.0s							
TXAR	**Lajitas Array**	**67.57**	**327**	P		**P**	**01 14 46.5**	**+1.3**
	comp=Z,0.3nm,0.6s,baz=139,slow=4.7,SNR=2.3							
	comp=Z,0.3nm,0.6s							
WVT	**Waverly**	**67.94**	**343**	P		**P**	**01 14 46.8**	**-0.4**
LCAR	**Lake Charles**	**68.78**	**341**	P		**P**	**01 14 52.9**	**+0.4**
LCAR				IAmb		IAmb	01 14 53.8	
	comp=Z,3.9nm,0.6s							
PBMO	**Poplar Bluff**	**69.23**	**341**	P		**P**	**01 14 55.3**	**0.0**
DBIC	**Dimbokro**	**71.03**	**70**	P		**P**	**01 15 06.8**	**+0.1**
DBIC				IAmb		IAmb	01 15 26.9	
	comp=Z,11nm,1.1s							
DBIC	**Dimbokro**	**71.03**	**70**	P		**P**	**01 15 07.4**	**+0.7**
	comp=Z,5.7nm,0.5s,baz=209,slow=6.4,SNR=9.5							
	comp=Z,5.7nm,0.5s							
R40A	**Maddies Statio**	**71.17**	**341**	P		**P**	**01 15 06.5**	**-0.5**
R40A				IAmb		IAmb	01 15 08.4	
	comp=Z,3.6nm,0.7s							
M55A	**Ridgway**	**71.44**	**352**	P		**P**	**01 15 09.0**	**+0.4**
N49A	**Columbus Grove**	**71.74**	**348**	P		**P**	**01 15 09.8**	**-0.6**
N47A	**Urbana**	**71.99**	**346**	P		**P**	**01 15 11.3**	**-0.6**
N47A				IAmb		IAmb	01 15 52.2	
	comp=Z,8.2nm,1.1s							
SUR	**Sutherland**	**74.33**	**119**	P		**P**	**01 15 27.3**	**+0.9**
SUR				IAmb		IAmb	01 15 39.9	
	comp=Z,7.2nm,1.1s							
LMN	**Caledonia Moun**	**75.28**	**3**	P		**P**	**01 15 31.2**	**+0.1**
LMN				IAmb		IAmb	01 15 32.8	
	comp=Z,9.3nm,0.7s							
E62A	**Clayton Lake**	**75.97**	**359**	P		**P**	**01 15 36.4**	**+1.4**
E62A				IAmb		IAmb	01 16 09.5	
	comp=Z,10nm,1.1s							
MAW	**Mawson**	**76.43**	**163**	P		**P**	**01 15 38.1**	**+0.6**
	comp=Z,2.2nm,0.8s,baz=239,slow=9.6							
	comp=Z,2.2nm,0.8s							
D62A	**Allapoint, All**	**76.43**	**360**	P		**P**	**01 15 38.7**	**+1.1**
D62A				IAmb		IAmb	01 16 20.7	
	comp=Z,6.4nm,1.1s							
BOSA	**Boshof**	**79.44**	**117**	P		**P**	**01 15 55.1**	**+0.1**
BOSA				IAmb		IAmb	01 15 55.6	
	comp=Z,4.5nm,0.6s							
BOSA	**Boshof**	**79.44**	**117**	P		**P**	**01 15 55.4**	**+0.3**
	comp=Z,2.7nm,0.4s,baz=245,slow=3.8,SNR=12							
	comp=Z,2.7nm,0.4s							
TOA0	**Torodi Ar. Sit**	**79.98**	**69**	P		**P**	**01 15 58.1**	**+0.2**
TOA0				IAmb		IAmb	01 15 58.8	
	comp=Z,4.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**79.98**	**69**	P		**P**	**01 15 57.8**	**0.0**
TORD				IAmb		IAmb	01 15 59.2	
	comp=Z,4.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**79.98**	**69**	P		**P**	**01 15 58.5**	**+0.7**
	comp=Z,3.5nm,0.6s,baz=281,slow=6.0,SNR=26							
	comp=Z,3.5nm,0.6s							
PDAR	**Pinedale Array**	**81.35**	**331**	P		**P**	**01 16 05.3**	**+0.5**
PDAR	**Pinedale Array**	**81.35**	**331**	P		**P**	**01 16 05.7**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=129,slow=7.1,SNR=4.5							
	comp=Z,0.4nm,0.5s							
ASAR	**Alice Springs**	**122.69**	**205**	PKP		**PKPdf**	**01 22 43.1**	**-0.8**
	comp=Z,0.7nm,0.6s,baz=144,slow=2.0,SNR=4.6							
WRA	**Warramunga Arr**	**125.91**	**207**	PKP		**PKPdf**	**01 22 49.5**	**-0.5**
	comp=Z,1.4nm,0.4s,baz=157,slow=1.8,SNR=16							
KURBB	**Kurchatov Arra**	**147.74**	**40**	PKP		**PKPdf**	**01 23 30.0**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=305,slow=3.2,SNR=24							
KURBB				PKPbc		**PKPbc**	**01 23 32.5**	**+0.6**
	comp=Z,2.8nm,0.6s,baz=303,slow=3.1,SNR=40							
AAK	**Ala-Archa**	**147.81**	**56**	PKPbc		**PKiKP**	**01 23 34.1**	**-0.4**
	comp=Z,1.6nm,0.4s,baz=209,slow=2.1,SNR=7.9							
ZALV	**Zalesovo Beam**	**149.06**	**31**	PKPbc		**PKiKP**	**01 23 36.0**	**-0.4**
	comp=Z,6.8nm,0.5s,baz=309,slow=3.3,SNR=41							
MKAR	**Makanchi Array**	**151.72**	**45**	PKPbc		**PKiKP**	**01 23 42.3**	**+0.1**
	comp=Z,2.5nm,0.6s,baz=291,slow=2.1,SNR=23							
MKAR				PKPab		**PKPab**	**01 23 51.9**	**+0.8**
	comp=Z,1.5nm,0.6s,baz=291,slow=4.3,SNR=8.2							

*NEIC **21** 01:04:16.8±2.5, 12°.84S±0°.08×45°.38E±0°.08, h10km±1km, mb4.5/18, Error ellipse: s-maj=15.1km s-min=12.5km az=141.0*
*IDC **21** 01:04:17.3±0.9, 13°.01S×45°.22E, h0km, mb3.9/10, mbtmp4.0/13, ML4.6/4, MS3.8/1, Error ellipse: s-maj=24.3km s-min=19.6km az=127.0*
ISC 21 01:04:16.9±0.6, 13°.03S±0°.06×45°.20E±0°.07, h10km, n39, σ2.965/44, mb4.2/17, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
OPO	**Ambohidratompo**	**5.83**	**161**	Pn	**Pn**	**01**	**05**	**44.2**	**+0.5**
	10.0nm,0.3s,baz=337,slow=12,SNR=473								
OPO				Sn	**Sn**	**01**	**06**	**45.6**	**-5.2**
	26nm,0.3s,baz=240,slow=20,SNR=28								
OPO				LR	LR	01	08	15.1	
	comp=Z,747nm,18.0s,baz=180,slow=41								
ABPO	**Ambohimpanom**	**6.27**	**162**		**Pn**	**01**	**05**	**49.7**	**0.0**
VOI	**Vohitsoka**	**8.96**	**170**	Pn	**Pn**	**01**	**06**	**26.8**	**+0.2**
ZOMB	**Zomba**	**9.84**	**255**	*i* PN	**Pn**	**01**	**06**	**42.0**	**+3.4**
ZOMB				*i* SN	**Sn**	**01**	**08**	**27.0**	**-2.2**
ZOMB	**Zomba**	**9.84**	**255**	*i* PN	**Pn**	**01**	**06**	**42.0**	**+3.4**
ZOMB				*i* SN	**Sn**	**01**	**08**	**27.0**	**-2.2**
KIBK	**Kibwezi**	**12.76**	**326**	Pn	**Pn**	**01**	**07**	**16.2**	**-2.5**
LSZ	**Lusaka**	**16.65**	**260**	Pn	**Pn**	**01**	**08**	**12.1**	**+1.4**
LSZ	**Lusaka**	**16.65**	**260**	Pn	**Pn**	**01**	**08**	**13.1**	**+2.4**
	0.5nm,0.3s,baz=86,slow=9.8,SNR=8.3								
LSZ				Sn	**Sn**	**01**	**11**	**08.7**	**-7.1**
	0.6nm,0.3s,baz=0.6,slow=14,SNR=4.0								
	6.6nm,0.8s								
MATP	**Matopo**	**17.60**	**243**	P	**P**	**01**	**08**	**25.7**	**+2.1**
	0.4nm,0.3s,baz=59,slow=12,SNR=11								
MATP				S	**Sn**	**01**	**11**	**33.4**	**-5.4**
	1.0nm,0.7s,baz=163,slow=19,SNR=1.6								
	3.7nm,0.7s								
MBAR	**Mbarara**	**18.92**	**310**	P	**P**	**01**	**08**	**36.1**	**-2.1**
MBAR	**Mbarara**	**18.92**	**310**	P	**Pn**	**01**	**08**	**40.8**	**+2.0**
	1.2nm,0.3s,baz=108,slow=13,SNR=5.1								
	3.2nm,0.2s								
POGA	**Pongola**	**19.04**	**220**	P	**P**	**01**	**08**	**41.1**	**+1.8**
POGA				IAmb	IAmb	01	08	46.8	
	comp=Z,37nm,1.3s								
LODK	**Lodwar**	**19.04**	**328**	P	**P**	**01**	**08**	**37.7**	**-1.8**
BOSA	**Boshof**	**24.19**	**227**	P	**P**	**01**	**09**	**36.6**	**+2.7**
BOSA				IAmb	IAmb	01	10	07.0	
	comp=Z,6.5nm,0.8s								
BOSA	**Boshof**	**24.19**	**227**	P	**P**	**01**	**09**	**36.6**	**+2.7**
	comp=Z,4.8nm,0.6s,baz=54,slow=8.9,SNR=18								
	comp=Z,4.8nm,0.6s								
GRHM	**Grahamstown, E**	**26.48**	**217**	P	**P**	**01**	**09**	**56.0**	**+1.4**
SUR	**Sutherland**	**29.49**	**225**	P	**P**	**01**	**10**	**23.8**	**+2.2**
TORD	**Torodi Ar. Bea**	**50.36**	**299**	P	**P**	**01**	**13**	**16.5**	**+1.9**
	comp=Z,0.9nm,1.0s,baz=130,slow=4.6,SNR=3.9								
	comp=Z,0.9nm,1.0s								
AGG	**Agios Georgios**	**56.01**	**339**	P	**P**	**01**	**13**	**54.6**	**-1.2**
AGG				IAmb	IAmb	01	14	13.9	
	comp=Z,8.3nm,1.3s								
SIMJ	**Simiganj**	**56.03**	**22**	P	**P**	**01**	**13**	**55.8**	**-0.3**
SIMJ				IAmb	IAmb	01	14	01.6	
	comp=Z,7.1nm,0.8s								
CHGR	**Chuyangaron**	**56.08**	**23**	P	**P**	**01**	**13**	**54.8**	**-1.6**
KBZ	**Khabaz**	**56.52**	**358**	P	**P**	**01**	**14**	**01.9**	**+2.6**
	comp=Z,1.7nm,0.7s,baz=93,slow=7.4,SNR=3.7								
	comp=Z,1.7nm,0.7s								
GAR	**Garm**	**56.82**	**23**	P	**P**	**01**	**13**	**60.0**	**-1.8**
GAR				IAmb	IAmb	01	14	07.2	
	comp=Z,12nm,1.1s								
KK31	**Karatay Array**	**60.48**	**21**	P	**P**	**01**	**14**	**22.9**	**-4.1**
KK31				IAmb	IAmb	01	14	32.3	
	comp=Z,4.0nm,0.9s								
KKAR	**Karatay Array**	**60.48**	**21**	P	**P**	**01**	**14**	**25.5**	**-1.5**
BOOM	**Boomskoye usch**	**62.04**	**25**	P	**P**	**01**	**14**	**35.8**	**-2.0**
BOOM				IAmb	IAmb	01	14	46.5	
	comp=Z,3.6nm,1.0s								
ABKAR	**Akbulak array**	**63.36**	**11**	P	**P**	**01**	**14**	**43.9**	**-2.4**
MK31	**Makanchi Array**	**68.20**	**27**	P	**P**	**01**	**15**	**16.5**	**-1.0**
MK31				IAmb	IAmb	01	15	28.0	
	comp=Z,1.7nm,1.0s								
MKAR	**Makanchi Array**	**68.20**	**27**	P	**P**	**01**	**15**	**14.5**	**-3.1**
MKAR	**Makanchi Array**	**68.20**	**27**	P	**P**	**01**	**15**	**20.2**	**+2.6**
	comp=Z,0.7nm,0.8s,baz=219,slow=8.9,SNR=5.0								
	comp=Z,0.7nm,0.8s								
BVAR	**Borovoye Array**	**69.25**	**16**	P	**P**	**01**	**15**	**26.0**	**+2.0**
	comp=Z,1.0nm,0.6s,baz=226,slow=7.6,SNR=5.4								
	comp=Z,1.0nm,0.6s								
ESDC	**Sonseca Array**	**69.55**	**321**	P	**P**	**01**	**15**	**27.1**	**+1.0**
	comp=Z,0.9nm,0.9s,baz=126,slow=6.7,SNR=7.7								
	comp=Z,0.9nm,0.9s								
KURBB	**Kurchatov Arra**	**69.75**	**22**	P	**P**	**01**	**15**	**29.1**	**+2.0**
	comp=Z,0.5nm,0.9s,baz=218,slow=7.2,SNR=5.8								
	comp=Z,0.5nm,0.9s								
ARU	**Arti**	**70.09**	**8**	P	**P**	**01**	**15**	**28.1**	**-0.9**
ARU				IAmb	IAmb	01	15	35.0	
	comp=Z,6.5nm,1.0s								
ZAA0	**Zalesovo Array**	**74.75**	**23**	P	**P**	**01**	**15**	**56.0**	**-0.8**
ZALV	**Zalesovo Beam**	**74.75**	**23**	P	**P**	**01**	**15**	**54.8**	**-2.1**
ZALV	**Zalesovo Beam**	**74.75**	**23**	P	**P**	**01**	**15**	**59.6**	**+2.8**
	comp=Z,0.4nm,0.4s,baz=224,slow=8.1,SNR=4.3								
	comp=Z,0.4nm,0.4s								
HFS	**Hagfors**	**77.17**	**344**	P	**P**	**01**	**16**	**10.8**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=101,slow=7.5,SNR=2.0								
	comp=Z,0.9nm,0.6s								
WRA	**Warramunga Arr**	**84.85**	**109**	P	**P**	**01**	**16**	**54.6**	**+2.1**
	comp=Z,1.1nm,0.8s,baz=261,slow=3.2,SNR=5.4								
	comp=Z,1.1nm,0.8s								

*AFAD **21** 01:09:24.3±0.0, 37°.46N×38°.60E, h10km±1km, MW4.0*
*ISK **21** 01:09:24.0, 37°.44N×38°.61E, h8km, ML4.2/12*
*IDC **21** 01:09:25.2±1.2, 37°.59N×38°.54E, h0km, mb3.5/4, mbtmp3.4/8, ML3.1/3, Error ellipse: s-maj=15.7km s-min=13.1km az=166.0*
*GII **21** 01:09:28.9±0.8, 37°.28N×38°.64E, h5km, Mws4.0, confirmed*
ISC 21 01:09:25.3±1.0, 37°.47N±0°.02×38°.61E±0°.01, h5km±7km, n86, σ1.936/133, mb3.6/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID		Time			Res
				Op	ISC	h	m	s	ISC
URFA	**Urfa**	**0.17**	**99**	Pg	**Pg**	**01**	**09**	**27.9**	**-0.8**
URFA				Sg	**Sg**	**01**	**09**	**30.8**	**-0.2**
HANM	**anlurfa/Hi**	**0.24**	**62**	P	**Pg**	**01**	**09**	**29.7**	**-0.3**
HANM				S	**Sg**	**01**	**09**	**33.6**	**+0.3**
ATAB	**Bozova**	**0.25**	**270**	P	**Pg**	**01**	**09**	**29.8**	**-0.4**
ATAB				S	**Sg**	**01**	**09**	**33.6**	**0.0**
SANL	**SANLIURFA_Merk**	**0.42**	**134**	P	**Pg**	**01**	**09**	**33.1**	**-0.3**
SANL				S	**Sg**	**01**	**09**	**39.1**	**+0.1**
NARI	**Adyaman-Kaht**	**0.43**	**16**	P	**Pg**	**01**	**09**	**33.3**	**-0.4**
NARI				S	**Sg**	**01**	**09**	**39.3**	**0.0**
AZEY	**Adyaman-Merk**	**0.45**	**320**	P	**Pg**	**01**	**09**	**33.5**	**-0.4**
AZEY				S	**Sg**	**01**	**09**	**40.5**	**+0.7**
SURC	**SANLIURFA_SURC**	**0.59**	**180**	P	**Pg**	**01**	**09**	**36.2**	**-0.4**
SURC				S	**Sg**	**01**	**09**	**44.4**	**+0.2**
AKCA	**Adyaman/G¶l**	**0.80**	**294**	P	**Pg**	**01**	**09**	**39.9**	**-0.8**
AKCA				S	**Sg**	**01**	**09**	**50.7**	**-0.4**
NZIP	**Nizip/Gaziante**	**0.86**	**241**	P	**Pg**	**01**	**09**	**41.1**	**-0.6**
NZIP				S	**Sb**	**01**	**09**	**55.0**	**+0.5**
MAYA	**Malatya/Merkez**	**0.87**	**350**	P	**Pg**	**01**	**09**	**41.2**	**-0.8**
MAYA				S	**Sn**	**01**	**09**	**56.4**	**-1.0**
AKCD	**Akcadag**	**0.99**	**327**	P	**Pg**	**01**	**09**	**43.4**	**-0.9**
AKCD				S	**Sb**	**01**	**09**	**59.0**	**+0.6**
ELZG	**Elazig**	**1.07**	**16**	P	**Pg**	**01**	**09**	**44.7**	**-1.1**
ELZG				S	**Sb**	**01**	**10**	**00.9**	**+0.2**
GAZ	**Gaziantep**	**1.15**	**256**	Pn	**Pg**	**01**	**09**	**46.4**	**-1.0**
GAZ				Sn	**Sb**	**01**	**10**	**02.9**	**-0.1**
DIYA	**Diyarbakir**	**1.28**	**69**	P	**Pn**	**01**	**09**	**48.8**	**-1.1**
DIYA				S	**Sn**	**01**	**10**	**08.1**	**+0.6**
KAHM	**Kahramanmaras,**	**1.29**	**273**	P	**Pn**	**01**	**09**	**47.8**	**-2.2**
KAHM				S	**Sb**	**01**	**10**	**05.2**	**-1.8**
DYBB	**Diyarbakir**	**1.30**	**68**	Pn	**Pn**	**01**	**09**	**49.1**	**-1.1**
DYBB				Sn	**Sn**	**01**	**10**	**07.5**	**-0.6**
HCB	**Kahramanmara**	**1.36**	**265**	P	**Pn**	**01**	**09**	**49.0**	**-2.0**
HCB				S	**Sb**	**01**	**10**	**07.1**	**-1.8**
KHMR	**Kahramanmara**	**1.36**	**265**	P	**Pn**	**01**	**09**	**49.0**	**-1.9**
KHMR				S	**Sb**	**01**	**10**	**07.0**	**-1.9**
KMRS	**Kahramanmaras**	**1.36**	**272**	Pn	**Pn**	**01**	**09**	**49.0**	**-2.0**
KUZU	**Kuzuini**	**1.41**	**241**	P	**Pn**	**01**	**09**	**49.9**	**-1.8**
KUZU				S	**Sn**	**01**	**10**	**10.1**	**-0.5**
DARE	**Darende-Malaty**	**1.42**	**321**	Pn	**Pn**	**01**	**09**	**51.0**	**-0.8**
DARE				Sn	**Sn**	**01**	**10**	**10.6**	**-0.3**
ELBS	**KAHRAMANMARAS**	**1.45**	**307**	P	**Pn**	**01**	**09**	**51.4**	**-0.9**
ELBS				S	**Sg**	**01**	**10**	**12.1**	**+0.2**

MAZI	**Mazidag**	**1.46**	**90**	Pn	**Pn**	**01 09 51.2**	**-1.2**
MAZI				Sn	**Sb**	**01 10 11.4**	**-0.5**
PTK	**Pertek**	**1.55**	**23**	Pn	**Pn**	**01 09 52.9**	**-0.8**
KAMA	**Osmaniye**	**1.57**	**260**	P	**Pn**	**01 09 52.0**	**-1.9**
KAMA				S	**Sn**	**01 10 12.4**	**-2.3**
ARPR	**Arapgir-MALATY**	**1.64**	**352**	Pn	**Pn**	**01 09 54.4**	**-0.5**
CUGUR	**Gurin_SVAS**	**1.64**	**320**	P	**Pn**	**01 09 54.3**	**-0.6**
CUGUR				S	**Sg**	**01 10 20.5**	**+2.4**
HANI	**Diyarbakir_Han**	**1.70**	**56**	P	**Pn**	**01 09 54.4**	**-1.3**
HANI				S	**Sn**	**01 10 17.2**	**-0.7**
MARD	**Mardin**	**1.73**	**94**	P	**Pn**	**01 09 54.3**	**-1.8**
MARD				S	**Sn**	**01 10 18.2**	**-0.5**
TNCL	**Tunceli-Merkez**	**1.80**	**24**	P	**Pn**	**01 09 56.3**	**-0.8**
TNCL				S	**Sb**	**01 10 21.5**	**-0.2**
KEMA	**Kemaliye**	**1.80**	**357**	P	**Pn**	**01 09 56.6**	**-0.4**
KEMA				S	**Sb**	**01 10 21.4**	**-0.2**
ANDN	**Andirin**	**1.81**	**274**	P	**Pn**	**01 09 55.4**	**-1.7**
ANDN				S	**Sn**	**01 10 18.2**	**-2.2**
HASA	**Hatay-Hassa-Ha**	**1.84**	**248**	P	**Pn**	**01 09 55.5**	**-2.0**
HASA				S	**Sb**	**01 10 22.9**	**+0.1**
SARI	**SarD1z-Kayseri**	**1.97**	**299**	Pn	**Pn**	**01 09 58.9**	**-0.6**
ILIC	**ilic-Erzincan**	**1.98**	**359**	Pn	**Pn**	**01 09 59.1**	**-0.5**
RHAN	**Hatay/Reyhanl**	**2.01**	**234**	P	**Pn**	**01 09 59.9**	**0.0**
RHAN				S	**Sb**	**01 10 28.3**	**+0.7**
CUKAN	**kangal_SIVAS**	**2.05**	**334**	P	**Pn**	**01 10 00.1**	**-0.5**
CUKAN				S	**Sb**	**01 10 28.3**	**-0.7**
SAIM	**ADANA**	**2.07**	**285**	P	**Pn**	**01 09 59.2**	**-1.5**
SAIM				S	**Sn**	**01 10 26.1**	**-0.8**
BTMN	**Batman**	**2.15**	**78**	P	**Pn**	**01 10 00.7**	**-1.2**
BTMN				S	**Sb**	**01 10 31.1**	**-0.6**
SVAN	**Silvan-Diyarba**	**2.16**	**71**	Pn	**Pn**	**01 10 00.6**	**-1.3**
SVAN	**Silvan-Diyarba**	**2.16**	**71**	P	**Pn**	**01 09 60.0**	**-2.0**
SVAN				S	**Sn**	**01 10 28.9**	**-0.2**
MIDY	**Mardin/Midyat-**	**2.22**	**91**	P	**Pn**	**01 10 01.6**	**-1.2**
MIDY				S	**Sb**	**01 10 33.0**	**-0.7**

NEUV					*e*S		**Sb**	**01 15 31.9**	**-2.7**
TEIG	**Tepich**	**7.63**	**42**	LR	LR			01 19 08.0	
	comp=Z,1μm,19.4s,slow=41								
JTS	**Las Juntas de**	**9.62**	**116**	Pn	**Pn**		**01 16 05.7**	**+1.1**
	0.2nm,0.3s,baz=323,slow=20,SNR=1.7								
	2.4nm,0.7s								
TXAR	**Lajitas Array**	**17.26**	**330**	P	**P**		**01 17 48.4**	**-0.3**
	baz=138,slow=6.9,SNR=2.0								
	0.2nm,0.5s								
YKA	**Yellowknife Ar**	**50.03**	**348**	P	**P**		**01 22 42.0**	**+1.8**
	0.8nm,0.8s,baz=153,slow=6.9,SNR=10								
	0.8nm,0.8s								
SFJD	**Kangerlussuaq**	**59.44**	**18**	LR	LR			01 48 57.0	
	comp=Z,295nm,20.7s,baz=84,slow=35								
ILAR	**Eielson Array**	**61.59**	**337**	P	**P**		**01 24 03.3**	**+0.1**
	0.8nm,1.0s,baz=127,slow=6.2,SNR=5.2								
	0.8nm,1.0s								

*IDC **21** 01:30:31.4±2.6,23°.36S×115°.44W,h0km,mb3.7/3, mbtmp3.7/3,MS3.5/1,Error ellipse: s-maj=99.9km s-min=45.0km az=34.0*

ISC 21 01:30:32.6±2.5,23°.4S±0°.6×115°.5W±0°.4,h10km,n16, σ0s41/6,mb3.7/3,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**6.66**	**125**	LR	LR	01 34 06.1	
	comp=Z,408nm,18.6s,baz=303,slow=32						
H03N2	**Juan Fernandez**	**33.50**	**116**	T	T	02 12 19.0	
	baz=282,slow=75,SNR=10						
H03N3	**Juan Fernandez**	**33.51**	**116**	T	T	02 12 26.4	
	baz=282,slow=75,SNR=9.4						
H03N1	**Juan Fernandez**	**33.51**	**116**	T	T	02 12 24.2	
	baz=282,slow=75,SNR=14						
LPAZ	**La Paz**	**44.93**	**90**	P	**P**	**01 38 48.8**	**+0.1**
	0.8nm,0.8s,baz=279,slow=4.8,SNR=1.9						
	0.8nm,0.8s						
NVAR	**Mina Arroyo Bea**	**61.59**	**357**	P	**P**	**01 40 50.7**	**+0.3**
	0.7nm,0.8s,baz=174,slow=9.0,SNR=4.4						
	0.7nm,0.8s						
YKA	**Yellowknife Ar**	**85.63**	**0**	P	**P**	**01 43 10.3**	**-0.5**
	0.6nm,1.0s,baz=188,slow=3.7,SNR=5.1						
	0.6nm,1.0s						
H11S2	**WAKE ISLAND Hy**	**86.60**	**292**	T	T	03 19 11.9	
	baz=117,slow=75,SNR=66						
H11S1	**WAKE ISLAND Hy**	**86.61**	**292**	T	T	03 19 12.9	
	baz=117,slow=75,SNR=52						
H11S3	**WAKE ISLAND Hy**	**86.62**	**292**	T	T	03 19 08.7	
	baz=117,slow=75,SNR=34						
H11N3	**WAKE ISLAND Hy**	**86.96**	**293**	T	T	03 19 32.7	
	baz=117,slow=75,SNR=22						
H11N1	**WAKE ISLAND Hy**	**86.98**	**293**	T	T	03 19 38.6	
	baz=117,slow=75,SNR=11						
H11N2	**WAKE ISLAND Hy**	**86.98**	**293**	T	T	03 19 39.5	
	baz=117,slow=75,SNR=40						
BRTR	**Keskin Array B**	**149.27**	**51**	PKPbc	**PKPbc**	**01 50 21.7**	**-0.2**
	0.6nm,0.9s,baz=274,slow=1.9,SNR=3.8						
BVAR	**Borovoye Array**	**150.12**	**353**	PKPbc	**PKPbc**	**01 50 23.7**	**+0.3**
	0.3nm,0.5s,baz=342,slow=1.8,SNR=1.7						
MKAR	**Makanchi Array**	**152.66**	**333**	PKPbc	**PKiKP**	**01 50 29.8**	**+0.1**
	0.3nm,0.8s,baz=66,slow=3.5,SNR=2.5						

*NEIC **21** 01:38:26.2±1.5,14°.80N±0°.09×92°.02W±0°.07,h113km±6km, mb4.1/20,Md4.5/53(MEX),Error ellipse: s-maj=13.7km s-min=7.5km az=211.0*

*CATAC **21** 01:38:26.1±0.6,14°.82N×92°.04W,h111km±4km,ML3.7*

*MEX **21** 01:38:26.9±0.9,14°.77N×92°.07W,h119km±6km,MD4.6*

*GCG **21** 01:38:29.2±0.8,15°.07N×91°.96W,h58km±13km,MD3.9*

ISC 21 01:38:25.1±0.8,14°.76N±0°.05×92°.12W±0°.03,h125km±5km, n101,σ2s04/144,mb4.1/8,1C-1D,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
THIG		**0.20**	**315**		**Pn**	**01 38 42.4**	**0.0**
THIG					**Sn**	**01 38 53.6**	**-1.7**
THIG		**0.20**	**315**	*e*P	**Pn**	**01 38 42.4**	**0.0**
THIG				*e*S	**Sn**	**01 38 54.8**	**-0.6**
CHUJ	**Union Juarez**	**0.33**	**1**	*e*P	**Pn**	**01 38 42.4**	**-0.8**
CHUJ				*e*S	**Sn**	**01 38 54.6**	**-2.1**
PATR	**El Naranjo**	**0.37**	**342**	*e*P	**Pn**	**01 38 42.4**	**-0.8**
PATR				*e*S	**Sn**	**01 38 54.9**	**-2.1**
SMSP	**San Marcos**	**0.39**	**57**	*e*P	**Pn**	**01 38 42.8**	**-0.7**
SMSP				*e*S	**Sn**	**01 38 55.9**	**-1.3**
SMSP	**San Marcos**	**0.39**	**57**	*i*P	**Pn**	**01 38 42.7**	**-0.7**
SMSP				IAML		01 39 01.9	
	comp=Z,10μm,1.0s						
PAVE	**Pavencul**	**0.43**	**352**	*e*P	**Pn**	**01 38 43.1**	**-0.5**
PAVE				*e*S	**Sn**	**01 38 55.6**	**-1.9**
RTAL	**Retalhuleu**	**0.47**	**120**		**Pn**	**01 38 42.7**	**-0.8**
RTAL				Sn	**Sn**	**01 38 55.0**	**-2.3**
RTAL	**Retalhuleu**	**0.47**	**120**	*e*P	**Pn**	**01 38 42.7**	**-0.8**
RTAL				*e*S	**Sn**	**01 38 54.2**	**-3.2**
RTAL	**Retalhuleu**	**0.47**	**120**	*i*P	**Pn**	**01 38 42.8**	**-0.7**
RTAL				*i*S	**Sn**	**01 38 55.7**	**-1.6**
RTAL				IAML		01 38 57.0	
	comp=Z,5μm,1.0s						
STG3	**Santiaguito 3,**	**0.53**	**96⇓**	*i*P	**Pn**	**01 38 43.5**	**-0.5**
STG3				*e*S	**Sn**	**01 38 51.5**	**-6.8**
SULM	**Suchitepequez,**	**0.70**	**130**	*e*P	**Pn**	**01 38 45.7**	**+0.7**
SULM				*e*S	**Sn**	**01 38 57.4**	**-2.6**
HUEH	**Huehuetenango**	**0.81**	**47**	Pn	**Pn**	**01 38 45.1**	**-1.0**
HUEH	**Huehuetenango**	**0.81**	**47**	*e*P	**Pn**	**01 38 45.2**	**-1.0**
HUEH				*e*S	**Sn**	**01 39 00.2**	**-1.9**
HUEH	**Huehuetenango**	**0.81**	**47**	*i*P	**Pn**	**01 38 45.2**	**-1.0**
HUEH				IAML		01 38 45.5	
	comp=Z,6μm,1.0s						
HUEH				*i*S	**Sn**	**01 38 59.9**	**-2.1**
CHTG	**Tecpan**	**1.09**	**90**	*i*P	**Pn**	**01 38 47.9**	**-0.9**
CHTG				*i*S	**Sn**	**01 39 08.9**	**+2.1**
CHTG				IAML		01 39 14.7	
	comp=Z,3μm,1.0s						
QUIS	**Sacapulas**	**1.12**	**62**	*i*P	**Pn**	**01 38 48.2**	**-0.7**
QUIS				IAML		01 38 49.1	
	comp=Z,2μm,1.0s						
QUIS				*i*S	**Sn**	**01 39 04.8**	**-2.2**
FUG	**Fuego 3**	**1.27**	**104⇑**	*e*P	**Pn**	**01 38 50.7**	**+0.1**
FUG				*e*S	**Sn**	**01 39 11.6**	**+1.8**
PCIG		**1.42**	**311**		**Pn**	**01 38 52.9**	**+1.0**
PCIG					**Sn**	**01 39 12.8**	**+0.4**
PCIG		**1.42**	**311**	*e*P	**Pn**	**01 38 52.9**	**+1.0**
PCIG				*e*S	**Sn**	**01 39 12.8**	**+0.4**
GUMI	**Mixco**	**1.46**	**95**	*i*P	**Pn**	**01 38 52.2**	**-0.5**
GUMI				IAML		01 38 52.4	
	comp=Z,2μm,1.0s						
GUMI				*i*S	**Sn**	**01 39 12.1**	**-1.5**
CCIG	**Comitan**	**1.51**	**359**	Pn	**Pn**	**01 38 53.7**	**+0.5**
CCIG	**Comitan**	**1.51**	**359**	*e*P	**Pn**	**01 38 54.0**	**+0.8**
CCIG				*e*S	**Sn**	**01 39 14.8**	**+0.2**
CCIG	**Comitan**	**1.51**	**359**	*i*P	**Pn**	**01 38 54.1**	**+0.8**
CCIG				*i*S	**Sn**	**01 39 14.3**	**-0.3**
CCIG				IAML		01 39 16.8	
	comp=Z,860nm,1.0s						
GCG4	**OSOP**	**1.54**	**96**	*i*P	**Pn**	**01 38 52.7**	**-0.9**
GCG4				IAML		01 39 04.8	
	comp=Z,720nm,1.0s						
GUNB	**GUNB**	**1.72**	**95**	*i*P	**Pn**	**01 38 55.6**	**-0.2**
GUNB				*i*S	**Sn**	**01 39 17.9**	**-1.2**
GUNB				IAML		01 39 28.2	
	comp=Z,360nm,1.0s						
NBG	**Las Nubes**	**1.72**	**96**	*e*P	**Pn**	**01 38 56.3**	**+0.6**
AVCB	**Coban**	**1.80**	**67**	*i*P	**Pn**	**01 38 56.2**	**-0.3**
AVCB				*i*S	**Sn**	**01 39 18.5**	**-2.0**
AVCB				IAML		01 40 02.2	
	comp=Z,5μm,1.0s						
TGIG		**2.23**	**334**		**Pn**	**01 39 02.2**	**+0.5**
TGIG		**2.23**	**334**	*e*P	**Pn**	**01 39 02.2**	**+0.5**
TGIG				*e*S	**Sn**	**01 39 27.4**	**-2.3**
CARR	**Arriaga**	**2.27**	**311**	*e*P	**Pn**	**01 39 04.0**	**+1.8**
CARR				*i*S	**Sn**	**01 39 32.4**	**+1.7**
MRL	**Marmol**	**2.37**	**82**	*e*P	**Pn**	**01 39 04.1**	**+0.4**
MRL				*e*S	**Sn**	**01 39 32.0**	**-1.3**
NUBE	**Las Nubes**	**2.42**	**110**	*i*P	**Pn**	**01 39 03.8**	**-0.5**
NUBE				IAML		01 39 41.9	
	comp=Z,190nm,1.0s						
CEVE	**Cerro Verde**	**2.59**	**111**	*i*P	**Pn**	**01 39 07.5**	**+1.0**
CEVE				IAML		01 39 58.9	
	comp=Z,280nm,1.0s						
MTO3	**Montecristo**	**2.69**	**97**	Pn	**Pn**	**01 39 07.3**	**-0.5**
MTO3	**Montecristo**	**2.69**	**97**	*i*P	**Pn**	**01 39 07.3**	**-0.5**
MTO3				*i*S	**Sn**	**01 39 38.3**	**-2.3**
MTO3				IAML		01 40 03.8	
	comp=Z,66nm,1.0s						
ESQI	**Esquipulas**	**2.69**	**94**	Pn	**Pn**	**01 39 07.2**	**-0.5**
ESQI	**Esquipulas**	**2.69**	**94**	*i*P	**Pn**	**01 39 08.1**	**+0.4**
ESQI				*i*S	**Sn**	**01 39 38.2**	**-2.3**
ESQI				IAML		01 40 06.4	
	comp=Z,140nm,1.0s						
JAYA	**Jayaque - finc**	**2.81**	**113**	*i*P	**Pn**	**01 39 08.7**	**-0.6**
JAYA				IAML		01 39 50.9	
	comp=Z,500nm,1.0s						
PMON	**Piamonte**	**2.91**	**111**	*i*P	**Pn**	**01 39 10.8**	**+0.3**
PMON				IAML		01 40 06.6	
	comp=Z,200nm,1.0s						
PETF	**Flores**	**3.04**	**45**	Pn	**Pn**	**01 39 11.0**	**-1.2**
PETF	**Flores**	**3.04**	**45**	*e*P	**Pn**	**01 39 11.0**	**-1.2**
PETF	**Flores**	**3.04**	**45**	*i*P	**Pn**	**01 39 10.8**	**-1.4**
PETF				*i*S	**Sn**	**01 39 44.4**	**-4.1**
PETF				IAML		01 39 48.9	
	comp=Z,700nm,1.0s						
UXUV	**UXUV**	**3.20**	**323**	*e*P	**Pn**	**01 39 15.2**	**+0.9**
UXUV				*e*S	**Sn**	**01 39 51.4**	**-0.8**
SCLA	**Alcaldia de Sa**	**3.45**	**107**	*i*P	**Pn**	**01 39 17.7**	**+0.1**
SCLA				IAML		01 40 11.9	
	comp=Z,28nm,1.0s						
CMIG	**Matias Romero**	**3.53**	**311**	*e*P	**Pn**	**01 39 19.8**	**+1.3**
CMIG				*e*S	**Sn**	**01 40 01.2**	**+1.3**
HUIG	**Huatulco**	**3.98**	**285**		**Pn**	**01 39 25.4**	**+0.9**
HUIG	**Huatulco**	**3.98**	**285**	*e*P	**Pn**	**01 39 25.2**	**+0.7**
HUIG				*e*S	**Sn**	**01 40 06.2**	**-4.3**
SCIG	**Sabancuy**	**4.27**	**12**	*e*P	**Pn**	**01 39 28.4**	**0.0**
SCIG				*e*S	**Sn**	**01 40 13.1**	**-4.5**
NEUV	**Arroyo Zacate**	**4.60**	**310**	*e*P	**Pn**	**01 39 33.4**	**+0.6**
NEUV				*e*S	**Sn**	**01 40 25.8**	**+0.5**
OXIG	**Oaxaca**	**5.00**	**298**		**Pn**	**01 39 39.2**	**+0.9**
VHO	**Vista Hermosa**	**5.00**	**298**	*e*P	**Pn**	**01 39 39.2**	**+0.9**
VHO				*e*S	**Sn**	**01 40 29.2**	**-6.1**
PEIG	**Puerto Escondi**	**5.00**	**285**		**Pn**	**01 39 39.8**	**+1.5**
PEIG	**Puerto Escondi**	**5.00**	**285**	*e*P	**Pn**	**01 39 39.5**	**+1.2**
PEIG				*e*S	**Sn**	**01 40 30.0**	**-5.1**
CRIN	**San Cristobal**	**5.33**	**112**	Pn	**Pn**	**01 39 42.4**	**-0.3**
YOIG	**Yosondua**	**5.62**	**292**	*e*P	**Pn**	**01 39 50.1**	**+3.3**
YOIG				*e*S	**Sn**	**01 40 47.8**	**-2.7**
CNGN	**Cerro Negro**	**5.73**	**112**	Pn	**Pn**	**01 39 47.3**	**-0.7**
TOIG	**Toxpalan**	**5.79**	**306**		**Pn**	**01 39 51.2**	**+2.3**
TOIG					**Sn**	**01 40 54.0**	**-0.2**
TOIG	**Toxpalan**	**5.79**	**306**	*e*P	**Pn**	**01 39 51.2**	**+2.3**
TOIG				*e*S	**Sn**	**01 40 54.0**	**-0.2**
TXIG	**Tlaxiaco**	**5.97**	**295**		**Pn**	**01 39 54.9**	**+3.4**
TXIG	**Tlaxiaco**	**5.97**	**295**	*e*P	**Pn**	**01 39 54.2**	**+2.7**
TXIG				*e*S	Sn	01 40 50.2	-8.6
PNIG	**Pinotepa**	**6.01**	**286**		**Pn**	**01 39 53.6**	**+1.8**
PNIG	**Pinotepa**	**6.01**	**286**	*e*P	**Pn**	**01 39 53.6**	**+1.8**
PNIG				*e*S	**Sn**	**01 40 53.0**	**-6.5**
HLIG	**Huajuapan de L**	**6.25**	**300**		**Pn**	**01 39 58.9**	**+3.6**
HLIG					**Sn**	**01 41 03.1**	**-2.5**
HLIG	**Huajuapan de L**	**6.25**	**300**	*e*P	**Pn**	**01 39 58.4**	**+3.2**
HLIG				*e*S	**Sn**	**01 41 03.1**	**-2.5**
JAUV	**Jalcomulco**	**6.41**	**316**	*e*P	**Pn**	**01 39 56.6**	**-0.5**
JAUV				*e*S	**Sn**	**01 41 07.0**	**-2.0**
TEIG	**Tepich**	**6.55**	**33**	Pn	**Pn**	**01 39 57.3**	**-1.8**
FTIG	**Fresnillo de T**	**6.57**	**299**	*e*P	**Pn**	**01 40 00.7**	**+1.3**
FTIG				*e*S	**Sn**	**01 41 12.9**	**-0.2**
MGIG	**Malinaltepec**	**6.73**	**292**		**Pn**	**01 40 05.4**	**+3.8**
MGIG					**Sn**	**01 41 13.5**	**-3.6**
MGIG	**Malinaltepec**	**6.73**	**292**	*e*P	**Pn**	**01 40 05.4**	**+3.8**
MGIG				*e*S	**Sn**	**01 41 13.5**	**-3.6**
CRIG	**Cruz Grande**	**7.03**	**287**		**Pn**	**01 40 08.3**	**+2.7**
CRIG	**Cruz Grande**	**7.03**	**287**	*e*P	**Pn**	**01 40 07.2**	**+1.6**
CRIG				*e*S	**Sn**	**01 41 17.9**	**-6.2**
HZTE	**Horizontes, Gu**	**7.53**	**122**	Pn	**Pn**	**01 40 13.6**	**+1.4**
PPM	**Popocatepetl**	**7.56**	**305**	*e*P	Pn	01 40 18.5	+5.4
YAIG	**Yautepec**	**7.80**	**302**	*e*P	Pn	01 40 20.7	+4.6
ORTG	**Ortega, Santa**	**7.83**	**123**	Pn	**Pn**	**01 40 17.5**	**+1.0**
MEIG	**Mezcala**	**7.86**	**295**	*e*P	**Pn**	**01 40 18.0**	**+1.2**
PLIG	**Platanillo**	**7.95**	**298**	*e*P	Pn	01 40 22.7	+4.7
DUNO	**Dulce Nombre,**	**7.97**	**125**	Pn	**Pn**	**01 40 20.0**	**+1.8**
JTS	**Las Juntas de**	**8.29**	**122**	Pn	**Pn**	**01 40 23.0**	**+0.4**
ARE1	**Arenal 1**	**8.39**	**120**	Pn	**Pn**	**01 40 26.6**	**+2.6**
ARIG	**Puente Sto Nin**	**8.63**	**295**	*e*P	Pn	01 40 31.9	+4.7
SOR	**Soroa**	**11.75**	**46**	Pn	**Pn**	**01 41 06.2**	**-2.7**
Z47A	**Carrollton**	**18.72**	**11**	P	**Pn**	**01 42 36.9**	**+1.0**
Y49A	**Blount Mountai**	**19.70**	**14**	P	**Pn**	**01 42 47.1**	**-0.2**
Y49A				IAmb	IAmb	01 43 14.2	
	comp=Z,14nm,1.4s						
GOGA	**Godfrey**	**20.16**	**21**	P	**P**	**01 42 51.7**	**+2.1**
GOGA				IAmb	IAmb	01 43 09.7	
	comp=Z,12nm,1.4s						
SWET	**Sewanee**	**21.11**	**14**	P	**P**	**01 43 00.8**	**+0.9**
SWET				IAmb	IAmb	01 43 38.6	
	comp=Z,11nm,1.4s						
HODGE	**Hodges**	**21.33**	**23**	P	**P**	**01 43 04.0**	**+1.8**
HODGE				IAmb	IAmb	01 43 19.7	
	comp=Z,11nm,1.4s						
WVT	**Waverly**	**21.62**	**9**	P	**P**	**01 43 05.1**	**-0.2**
CPCT	**Cooper Cave**	**21.70**	**17**	P	**P**	**01 43 08.2**	**+2.1**
CPCT				IAmb	IAmb	01 43 51.5	
	comp=Z,5.5nm,1.2s						
PBMO	**Poplar Bluff**	**21.98**	**4**	P	**P**	**01 43 09.4**	**+0.4**
T42A	**Van Buren**	**22.20**	**2**	P	**P**	**01 43 11.1**	**-0.1**
T45A	**Paducah**	**22.38**	**7**	P	**P**	**01 43 15.2**	**+2.2**
U49A	**Red Boiling Sp**	**22.39**	**14**	P	**P**	**01 43 13.1**	**0.0**
U49A				IAmb	IAmb	01 43 15.2	
	comp=Z,4.7nm,0.8s						
S39A	**Bolivar**	**22.86**	**358**	P	**P**	**01 43 16.9**	**-0.9**
S44A	**Carbondale**	**22.98**	**6**	P	**P**	**01 43 19.7**	**+0.9**
TZTN	**Tazewell**	**23.00**	**18**	P	**P**	**01 43 20.1**	**+0.9**
TZTN				IAmb	IAmb	01 43 52.6	
	comp=Z,17nm,1.4s						
V58A	**Windy Hill, Pi**	**23.97**	**27**	P	**P**	**01 43 28.8**	**+0.9**
V58A				IAmb	IAmb	01 43 28.9	
	comp=Z,12nm,1.2s						
S51A	**Beattyville**	**24.01**	**17**	P	**P**	**01 43 28.7**	**+0.4**
S51A				IAmb	IAmb	01 43 55.1	
	comp=Z,11nm,1.4s						
Q51A	**Peebles**	**25.37**	**16**	P	**P**	**01 43 41.6**	**+0.9**
Q51A				IAmb	IAmb	01 43 41.8	
	comp=Z,5.8nm,0.8s						
O53A	**New Philadelph**	**27.12**	**19**	P	**P**	**01 43 56.4**	**0.0**

IDC 21 01:41:07.4±3.0,54°.15N×87°.04E,h0km,mbtmp2.9/2, ML2.2/2,Error ellipse: s-maj=24.5km s-min=19.5km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**262**	I	I	01 50 10.0	
	baz=80,slow=322,SNR=3.1						
ZALV	**Zalesovo Beam**	**1.32**	**262**	Pg	Pg	01 41 32.1	-0.6
	1.3nm,0.3s,baz=79,slow=17,SNR=11						
ZALV				Lg	Lg	01 41 50.0	
	1.4nm,0.3s,baz=87,slow=26,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.29**	**239**	Pn	Pn	01 42 41.8	+0.5
	0.1nm,0.3s,baz=55,slow=14,SNR=8.4						
KURBB				Sn	Sn	01 43 53.0	-0.8
	baz=28,slow=18,SNR=1.6						
KURBB				Lg	Lg	01 44 27.4	
	baz=61,slow=32						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.96**	**204**	Pn	Pn	01 43 05.7	+1.4
	baz=26,slow=7.0,SNR=2.6						
MKAR				Lg	Lg	01 45 19.3	
	baz=176,slow=16,SNR=2.9						
	0.7nm,0.9s						

*IDC **21** 01:48:52.4±1.7,10°.80S×74°.84W,h118km±20km,mb3.2/5, mbtmp3.6/9,Error ellipse: s-maj=21.4km s-min=14.9km az=55.0*

ISC 21 01:48:51.1±0.7,10°.73S±0°.08×74°.70W±0°.07,h100km,n10, σ1s31/13,mb3.4/5,Central Peru

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NNA	**Nana**	**2.45**	**239**	P	**Pn**	**01 49 29.7**	**+0.2**
	57nm,0.3s,baz=65,slow=9.5,SNR=50						
NNA				S	**Sn**	**01 49 58.4**	**-0.6**
	297nm,0.4s,baz=204,slow=14,SNR=23						
ATAH	**Atahualpa**	**5.11**	**314**	P	**Pn**	**01 50 06.6**	**+0.9**
	29nm,0.6s,baz=154,slow=9.8,SNR=24						
ATAH				S	**Sn**	**01 51 04.6**	**+0.9**
	21nm,0.8s,baz=288,slow=16,SNR=4.9						
LPAZ	**La Paz**	**8.44**	**132**	P	**Pn**	**01 50 54.1**	**+2.9**
	0.6nm,0.5s,baz=296,slow=7.2,SNR=5.8						
SIV	**San Ignacio**	**14.25**	**113**	P	**Pn**	**01 52 09.1**	**+0.7**
	0.5nm,0.4s,baz=280,slow=11,SNR=5.2						
SIV				S	**Sn**	**01 54 43.4**	**-2.0**
	1.0nm,0.5s,baz=335,slow=19,SNR=2.2						
TXAR	**Lajitas Array**	**48.66**	**326**	P	**P**	**01 57 24.7**	**-0.6**
	0.2nm,0.4s,baz=154,slow=8.6,SNR=6.8						
	0.2nm,0.4s						
PDAR	**Pinedale Array**	**62.05**	**332**	P	**P**	**01 59 00.7**	**-0.7**
	0.2nm,0.3s,baz=127,slow=12,SNR=2.2						
	0.2nm,0.3s						
YKA	**Yellowknife Ar**	**79.27**	**342**	P	**P**	**02 00 44.2**	**-0.9**
	0.5nm,0.8s,baz=134,slow=5.7,SNR=7.1						
	0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**79.43**	**74**	P	**P**	**02 00 46.6**	**-0.4**
	0.5nm,0.8s,baz=255,slow=4.3,SNR=4.1						
	0.5nm,0.8s						
ESDC	**Sonseca Array**	**82.38**	**47**	P	**P**	**02 01 02.8**	**+0.5**
	0.4nm,0.9s,baz=232,slow=3.7,SNR=4.0						
	0.4nm,0.9s						
KURBB	**Kurchatov Arra**	**134.54**	**24**	PKP	**PKPdf**	**02 07 57.4**	**-0.3**
	0.3nm,0.7s,baz=314,slow=3.3,SNR=2.5						

*IDC **21** 01:55:59.2±7.0,11°.84S×166°.68E,h182km±69km,mb3.4/5, mbtmp3.9/6,MS3.6/1,Error ellipse: s-maj=62.5km s-min=26.2km az=155.0*

*NEIC **21** 01:56:01.0±1.7,11°.9S±0°.1×166°.7E±0°.2,h201km±9km, mb4.2/18,Error ellipse: s-maj=23.1km s-min=17.7km az=82.0*

ISC 21 01:56:00.8±0.6,11°.99S±0°.08×166°.7E±0°.1,h200km,n33, σ0s97/35,mb4.1/15,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.07**	**290**	Pn	**Pn**	**01 57 41.6**	**-0.4**
DZM	**Mont Dzumac**	**10.02**	**181**	Pn	**Pn**	**01 58 22.4**	**+1.9**
DZM	**Mont Dzumac**	**10.02**	**181**	P	**Pn**	**01 58 21.8**	**+1.3**
	5.0nm,0.9s,baz=26,slow=17,SNR=2.6						
DZM				S	**Sn**	**02 00 11.4**	**-1.2**
	3.0nm,0.8s,baz=119,slow=19,SNR=1.8						
CTAO	**Charters Tower**	**21.18**	**245**	P	**P**	**02 00 31.4**	**+0.5**
URZ	**Urewera**	**27.77**	**162**	LR	LR	02 11 11.5	
	comp=Z,132nm,19.5s,baz=62,slow=33						
BKZ	**Black Stump Fm**	**28.44**	**164**	P	**P**	**02 01 37.1**	**+0.1**
TCW	**Tory Channel**	**29.86**	**168**	P	**P**	**02 01 47.1**	**-2.4**
WB0	**Warramunga Arr**	**31.94**	**252**	P	**P**	**02 02 09.3**	**+1.2**
WB0				IAmb	IAmb	02 02 21.7	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**32.02**	**252**	P	**P**	**02 02 09.1**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=84,slow=9.8,SNR=2.2						
WRA				PcP	**PcP**	**02 04 54.0**	**+0.2**
	comp=Z,0.7nm,0.8s,baz=78,slow=4.0,SNR=2.9						
	comp=Z,0.4nm,0.7s						
ASAR	**Alice Springs**	**33.19**	**245**	P	**P**	**02 02 19.2**	**+0.3**
	comp=Z,0.4nm,0.6s,baz=73,slow=9.2,SNR=5.9						
	comp=Z,0.4nm,0.6s						
BBOO	**Buckleboo**	**34.86**	**229**	P	**P**	**02 02 31.4**	**-1.8**
VNDA	**Vanda**	**65.57**	**181**	P	**P**	**02 06 23.0**	**+0.4**
SBA	**Scott Base**	**65.86**	**180**	P	**P**	**02 06 25.9**	**+1.5**
M16K	**Timber Creek**	**77.71**	**16**	P	**P**	**02 07 34.8**	**-0.3**
M16K				IAmb	IAmb	02 07 56.2	
	comp=Z,15nm,1.5s						
QSPA	**South Pole Qui**	**78.02**	**180**	P	**P**	**02 07 37.0**	**0.0**
K15K	**Wolf Creek Mou**	**78.11**	**15**	P	**P**	**02 07 37.7**	**+0.4**
J18K	**Innoko River**	**80.31**	**16**	P	**P**	**02 07 49.4**	**+0.2**
J18K				IAmb	IAmb	02 08 00.6	
	comp=Z,4.6nm,1.2s						
CAST	**Castle Rocks**	**81.58**	**17**	P	**P**	**02 07 55.3**	**-0.6**
CAST				IAmb	IAmb	02 07 57.4	
	comp=Z,2.3nm,0.8s						
J20K	**Nowinta River**	**81.58**	**16**	P	**P**	**02 07 57.5**	**+1.7**
DHY	**Denali Highway**	**82.77**	**19**	P	**P**	**02 08 02.1**	**-0.2**
DHY				IAmb	IAmb	02 08 25.1	
	comp=Z,8.2nm,1.5s						
E19K	**Redstone River**	**83.44**	**13**	P	**P**	**02 08 05.9**	**+0.4**
E19K				IAmb	IAmb	02 08 12.5	
	comp=Z,5.8nm,1.4s						
HDA	**Harding Lake**	**83.85**	**18**	P	**P**	**02 08 06.4**	**-1.1**
HDA				IAmb	IAmb	02 08 08.0	
	comp=Z,5.2nm,0.8s						
IL31		**84.12**	**18**	P	**P**	**02 08 08.2**

TXIG				eS	Sn	02 15 46.3	-0.7
DAIG	Los Arroyos	0.93	268		Pn	02 15 34.7	-0.5
DAIG					Sn	02 15 46.8	-0.7
DAIG	Los Arroyos	0.93	268	eP	Pn	02 15 34.7	-0.5
DAIG				eS	Sn	02 15 46.8	-0.7
FTIG	Fresnillo de T	0.99	32		Pn	02 15 35.4	-0.8
FTIG					Sn	02 15 48.3	-0.8
FTIG	Fresnillo de T	0.99	32⇑	eP	Pn	02 15 35.4	-0.8
FTIG				eS	Sn	02 15 48.3	-0.8
YOIG	Yosondua	1.10	101		Pn	02 15 38.0	+0.1
YOIG					Sn	02 15 51.8	-0.4
YOIG	Yosondua	1.10	101⇑	eP	Pn	02 15 38.0	+0.1
YOIG				eS	Sn	02 15 51.8	-0.4
HLIG	Huajuapan de L	1.13	48		Pn	02 15 37.5	-0.7
HLIG					Sn	02 15 52.2	-0.6
HLIG	Huajuapan de L	1.13	48⇑	eP	Pn	02 15 37.7	-0.5
HLIG				eS	Sn	02 15 52.2	-0.6
ACP2	Acapulco	1.17	261		Pn	02 15 37.7	-0.8
ACP2					Sn	02 15 49.1	-4.3
ACP2	Acapulco	1.17	261	eP	Pn	02 15 37.7	-0.8
ACP2				eS	Sn	02 15 53.2	-0.2
MEIG	Mezcala	1.24	314		Pn	02 15 39.4	-0.2
MEIG					Sn	02 15 54.7	-0.5
MEIG	Mezcala	1.24	314⇓	eP	Pn	02 15 39.4	-0.2
MEIG				eS	Sn	02 15 54.7	-0.5
CAIG	El Cayaco	1.52	270		Pn	02 15 42.5	-0.8
CAIG					Sn	02 15 56.3	-5.6
CAIG	El Cayaco	1.52	270	eP	Pn	02 15 42.5	-0.8
CAIG				eS	Sn	02 16 00.9	-1.0
PLIG	Platanillo	1.54	329		Pn	02 15 43.8	+0.1
PLIG					Sn	02 16 03.7	+1.2
PLIG	Platanillo	1.54	329⇓	eP	Pn	02 15 43.8	+0.1
PLIG				eS	Sn	02 16 03.7	+1.2
ATYC	Atoyac	1.68	275	eP	Pn	02 15 44.9	-0.6
ATYC				eS	Sn	02 16 04.1	-1.8
PEIG	Puerto Escondi	1.81	126		Pn	02 15 47.0	-0.3
PEIG					Sn	02 16 08.2	-0.9
PEIG	Puerto Escondi	1.81	126⇓	eP	Pn	02 15 47.0	-0.3
PEIG				eS	Sn	02 16 08.2	-0.9
YAIG	Yautepec	1.83	348		Pn	02 15 47.3	-0.3
YAIG					Sn	02 16 12.6	+2.9
YAIG	Yautepec	1.83	348⇓	eP	Pn	02 15 47.3	-0.3
YAIG				eS	Sn	02 16 10.2	+0.5
TPIG	Tehuac#an	1.84	43		Pn	02 15 47.9	0.0
TPIG					Sn	02 16 11.6	+1.5
TPIG	Tehuac#an	1.84	43	eP	Pn	02 15 47.8	-0.2
TPIG				eS	Sn	02 16 11.6	+1.5
TOIG	Toxpalan	1.85	56		Pn	02 15 47.4	-0.6
TOIG					Sn	02 16 09.4	-0.8
TOIG	Toxpalan	1.85	56⇑	eP	Pn	02 15 47.8	-0.2
TOIG				eS	Sn	02 16 09.4	-0.8
VHO	Vista Hermosa	1.86	89⇑	eP	Pn	02 15 48.5	+0.3
VHO				eS	Sn	02 16 12.6	+2.0
OXIG	Oaxaca	1.86	89		Pn	02 15 48.5	+0.3
OXIG					Sn	02 16 12.6	+2.0
OXBJ	Oaxaca	1.87	90		Pn	02 15 49.3	+1.0
OXBJ					Sn	02 16 09.3	-1.6
OXBJ	Oaxaca	1.87	90	eP	Pn	02 15 49.3	+1.0
OXBJ				eS	Sn	02 16 09.3	-1.6
OXLC	Oaxaca	1.89	90	eP	Pn	02 15 49.4	+0.8
OXLC				eS	Sn	02 16 13.2	+1.8
PPIG	Popocatepetl	1.99	1		Pn	02 15 50.0	-0.3
PPIG					Sn	02 16 15.9	+1.6
PPM	Popocatepetl	1.99	1⇓	eP	Pn	02 15 50.0	-0.3
PPM				eS	Sn	02 16 15.9	+1.6
ARIG	Puente Sto Nin	2.00	308		Pn	02 15 49.9	0.0
ARIG					Sn	02 16 12.7	-1.0
ARIG	Puente Sto Nin	2.00	308⇓	eP	Pn	02 15 50.4	+0.5
ARIG				eS	Sn	02 16 12.7	-1.0
PHPU	Puebla	2.03	14		Pn	02 15 50.5	0.0
PHPU					Sn	02 16 16.5	+1.7
PHPU	Puebla	2.03	14	eP	Pn	02 15 50.5	0.0
PHPU				eS	Sn	02 16 14.6	-0.3
MAVM	Malinalco, Edo	2.04	338		Pn	02 15 50.7	+0.1
MAVM					Sn	02 16 16.8	+1.9
MAVM	Malinalco, Edo	2.04	338	eP	Pn	02 15 50.7	+0.1
MAVM				eS	Sn	02 16 14.7	-0.2
AMVM	AMECAMECA	2.06	357		Pn	02 15 51.1	0.0
AMVM					Sn	02 16 12.3	-3.4
AMVM	AMECAMECA	2.06	357	eP	Pn	02 15 51.1	0.0
AMVM				eS	Sn	02 16 15.7	0.0
MZVM		2.18	346		Pn	02 15 53.3	+0.9
MZVM					Sn	02 16 22.2	+4.1
MZVM		2.18	346	eP	Pn	02 15 53.3	+0.9
MZVM				eS	Sn	02 16 18.9	+0.8
TLVM	San Miguel Top	2.18	348	eP	Pn	02 15 53.0	+0.2
TLVM				eS	Sn	02 16 16.0	-2.8
XCVM	Xochimilco	2.22	349	eP	Pn	02 15 53.3	+0.2
XCVM				eS	Sn	02 16 19.9	+0.4
THVM	De Xico	2.25	353	eP	Pn	02 15 54.0	+0.4
THVM				eS	Sn	02 16 19.9	-0.5
AOVM	Tlapan	2.28	345	eP	Pn	02 15 54.5	+0.4
AOVM				eS	Sn	02 16 18.7	-2.5
UNM	Universidad Na	2.30	348		Pn	02 15 54.3	0.0
UNM	Universidad Na	2.30	348⇓	eP	Pn	02 15 55.0	+0.6
UNM				eS	Sn	02 16 23.1	+1.5
UNM	Universidad Na	2.30	348	P	Pn	02 15 54.3	0.0
CUP5	Mexico City	2.31	348	eP	Pn	02 15 55.5	+1.2
CUP5				eS	Sn	02 16 21.6	-0.1
TEJU	Tejupilco	2.31	323	eP	Pn	02 15 55.0	+0.7
TEJU				eS	Sn	02 16 20.5	-1.1
INVM	La Marquesa	2.31	343	eP	Pn	02 15 55.1	+0.5
INVM				eS	Sn	02 16 21.4	-0.6
OZST	Orizaba	2.34	40	eP	Pn	02 15 55.7	+1.0
OZST				eS	Sn	02 16 22.0	-0.3
BJVM	Benito Juarez	2.35	349	eP	Pn	02 15 55.4	+0.5
BJVM				eS	Sn	02 16 22.1	-0.6
CJVM	Cuajimalpa	2.36	346	eP	Pn	02 15 55.5	+0.5
CJVM				eS	Sn	02 16 23.5	+0.6
SCT2	Benito Juarez	2.36	349	eP	Pn	02 15 57.9	+2.8
SCT2				eS	Sn	02 16 23.2	+0.2
TXVM	Universitario	2.37	355	eP	Pn	02 15 56.2	+1.0
TXVM				eS	Sn	02 16 22.7	-0.5
VRVM	Mexico City	2.38	350	eP	Pn	02 15 56.4	+1.0
VRVM				eS	Sn	02 16 21.9	-1.6
MHVM	Bosque de Chap	2.39	348	eP	Pn	02 15 56.1	+0.6
MHVM				eS	Sn	02 16 24.4	+0.7
PBVM	Pinon	2.40	351		Pn	02 15 55.0	-0.3
PBVM					Sn	02 16 23.1	-0.4
PBVM	Pinon	2.40	351	eP	Pn	02 15 55.0	-0.3
PBVM				eS	Sn	02 16 23.1	-0.4
APVM	Azcapotzalco	2.46	348	eP	Pn	02 15 56.1	-0.5
APVM				eS	Sn	02 16 26.7	+1.2
PET2	Petatlan	2.51	281	eP	Pn	02 15 58.6	+1.7
PET2				eS	Sn	02 16 24.0	-2.3
VTVM	Tizayuca	2.69	358		Pn	02 15 59.7	-0.1
VTVM					Sn	02 16 31.7	+0.4
VTVM	Tizayuca	2.69	358	eP	Pn	02 15 59.7	-0.1
VTVM				eS	Sn	02 16 31.7	+0.4
ZIIG	Zihuatanejo	2.71	282		Pn	02 15 59.7	0.0
ZIIG					Sn	02 16 28.4	-3.0
ZIIG	Zihuatanejo	2.71	282⇑	eP	Pn	02 15 59.7	0.0
ZIIG				eS	Sn	02 16 28.4	-3.0
ZUVM	ZUMPANGO	2.77	352		Pn	02 16 02.4	+1.6
ZUVM					Sn	02 16 36.9	+3.7
ZUVM	ZUMPANGO	2.77	352	eP	Pn	02 16 01.6	+0.8
ZUVM				eS	Sn	02 16 33.2	0.0
HUIG	Huatulco	2.78	117		Pn	02 16 01.2	+0.5
HUIG					Sn	02 16 29.4	-3.6
HUIG	Huatulco	2.78	117⇑	eP	Pn	02 16 01.2	+0.5
HUIG				eS	Sn	02 16 29.4	-3.6
NEUV	Arroyo Zacate	2.82	76	eP	Pn	02 16 01.2	0.0
NEUV				eS	Sn	02 16 34.2	+0.2
JAUV	Jalcomulco	2.90	38	eP	Pn	02 16 03.0	+0.6
JAUV				eS	Sn	02 16 35.9	-0.1
ACIG	Acambay	3.12	339		Pn	02 16 05.6	+0.2
ACIG					Sn	02 16 49.6	+8.1
ACIG	Acambay	3.12	339	eP	Pn	02 16 05.6	+0.2
ACIG				eS	Sn	02 16 44.2	+2.7
UON	La Union	3.12	287	eP	Pn	02 16 06.2	+0.9
UON				eS	Sn	02 16 43.2	+1.8
DHIG	Demacu	3.24	354		Pn	02 16 06.7	-0.4
DHIG					Sn	02 16 46.3	+1.7
DEIG	Demacu	3.24	354	eP	Pn	02 16 06.4	-0.7
DEIG				eS	Sn	02 16 46.3	+1.7
LVIG	Laguna Verde	3.41	39	eP	Pn	02 16 07.0	-2.3
LVIG				eS	Sn	02 16 50.1	+1.7
MOIG	Morelia	3.53	318	Pn	Pn	02 16 12.1	+1.0
MOIG	Morelia	3.53	318⇓	eP	Pn	02 16 12.3	+1.2
MOIG				eS	Sn	02 16 53.3	+1.6
MOIG	Morelia	3.53	318	iP	Pn	02 16 12.1	+1.0
MOIG				IAML		02 17 16.8	
	comp=Z,38µm,1.0s						
CMIG	Matias Romero	3.63	89		Pn	02 16 11.7	-0.6
CMIG					Sn	02 16 51.7	-2.3
CMIG	Matias Romero	3.63	89	P	Pn	02 16 12.8	+0.5
	comp=Z,144nm,0.4s,baz=267,slow=12,SNR=210						
CMIG				S	Sn	02 16 52.7	-1.3
	comp=Z,1µm,0.6s,baz=128,slow=20,SNR=5.7						
CMIG				LR	LR	02 17 57.3	
	comp=Z,2µm,18.4s,baz=270,slow=46						
CMIG	Matias Romero	3.63	89⇑	eP	Pn	02 16 11.7	-0.6
CMIG				eS	Sn	02 16 51.7	-2.3
PMUV	Sontecomapan	3.70	66⇑	eP	Pn	02 16 11.4	-1.9
PMUV				eS	Sn	02 16 54.0	-1.7
JRQG	Juriquilla Cam	3.99	335	Pn	Pn	02 16 17.6	+0.1
JRQG	Juriquilla Cam	3.99	335	eP	Pn	02 16 17.6	+0.1
JRQG				eS	Sn	02 17 05.8	+2.7
MIHL	Minatitlan	4.05	76	eP	Pn	02 16 17.4	-0.7
MIHL				eS	Sn	02 16 59.2	-5.1
TUIG	Tuzandepetl	4.17	76	eP	Pn	02 16 18.8	-1.0
TUIG				eS	Sn	02 17 06.3	-1.0
UXUV	UXUV	4.34	86⇑	eP	Pn	02 16 21.5	-0.6
UXUV				eS	Sn	02 17 05.4	-6.0
CTUV	Llano Grande	4.40	4	eP	Pn	02 16 22.2	-0.7
CTUV				eS	Sn	02 17 13.4	+0.6
MMIG	Aquila	4.61	286		Pn	02 16 25.6	-0.2
MMIG					Sn	02 17 13.7	-4.4
MMIG	Aquila	4.61	286	eP	Pn	02 16 26.1	+0.3
MMIG				eS	Sn	02 17 13.7	-4.4
CARR	Arriaga	4.64	99	eP	Pn	02 16 26.5	+0.3
CARR				eS	Sn	02 17 06.5	-12
RPIG	Rio Verde	4.95	346		Pn	02 16 30.6	+0.1
RPIG					Sn	02 17 32.7	+6.1
RPIG	Rio Verde	4.95	346	eP	Pn	02 16 30.6	+0.1
RPIG				eS	Sn	02 17 29.7	+3.1
JUBC	Volcan de Coli	5.25	298	eP	Pn	02 16 37.4	+2.6
JUBC				eS	Sn	02 17 34.9	+0.7
EZ5V		5.26	298		Pn	02 16 37.8	+2.9
EZ5V		5.26	298	eP	Pn	02 16 37.8	+2.9
EZ5V				eS	Sn	02 17 29.5	-4.9
MNGA	Volcan de Coli	5.27	298	eP	Pn	02 16 37.9	+2.9
MNGA				eS	Sn	02 17 35.5	+0.8
INCO	Volcan de Coli	5.28	298	eP	Pn	02 16 37.9	+2.6
INCO				eS	Sn	02 17 35.5	+0.3
SOMAC	Volcano de Col	5.30	298	eP	Pn	02 16 38.1	+2.5
SOMAC				eS	Sn	02 17 35.2	-0.4
COMA	Comala	5.33	296	eP	Pn	02 16 41.5	+5.9
COMA				eS	Sn	02 17 36.4	+0.6
TGIG		5.33	92		Pn	02 16 35.7	+0.1
TGIG					Sn	02 17 32.3	-3.6
TGIG		5.33	92	eP	Pn	02 16 35.5	-0.2
TGIG				eS	Sn	02 17 38.3	+2.5
CDAR	Ciudad de Arme	5.41	291	eP	Pn	02 16 38.3	+1.7
CDAR				eS	Sn	02 17 32.6	-5.0
PCIG		5.41	104		Pn	02 16 37.6	+0.8
PCIG					Sn	02 17 34.4	-3.4
PCIG		5.41	104⇓	eP	Pn	02 16 37.6	+0.8
PCIG				eS	Sn	02 17 34.4	-3.4
CEGR	Campo Tres	5.44	296	eP	Pn	02 16 39.7	+2.4
CEGR				eS	Sn	02 17 36.4	-2.3
R15V		5.46	293		Pn	02 16 39.6	+2.1
R15V		5.46	293	eP	Pn	02 16 39.6	+2.1
R15V				eS	Sn	02 17 38.0	-1.1
GTIG	Gomez Farias	5.99	356		Pn	02 16 44.9	+0.2
GTIG					Sn	02 18 02.8	+11
GTIG	Gomez Farias	5.99	356⇑	eP	Pn	02 16 44.9	+0.2
GTIG				eS	Sn	02 17 54.7	+2.6
CCIG	Comitan	6.32	96	Pn	Pn	02 16 49.8	+0.4
CCIG	Comitan	6.32	96	eP	Pn	02 16 50.3	+0.9
CCIG				eS	Sn	02 18 02.3	+1.9
CCIG	Comitan	6.32	96	iP	Pn	02 16 50.0	+0.6
CCIG				IAmb	IAmb	02 17 19.2	
	comp=Z,360nm,0.6s						
CCIG				IVmB_BB		02 17 38.9	
	comp=Z,5µm,1.0s						
CCIG				IAML		02 18 44.9	
	comp=Z,5µm,1.0s						
CJM	Chamela	6.51	293	eP	Pn	02 16 53.8	+1.9
CJM				eS	Sn	02 17 59.4	-5.5
THIG		6.53	108		Pn	02 16 52.9	+0.8
THIG					Sn	02 18 03.2	-2.1
THIG		6.53	108	eP	Pn	02 16 52.9	+0.8
THIG				eS	Sn	02 18 03.2	-2.1
ZAIG	Zacatecas	6.75	328	Pn	Pn	02 16 56.8	+1.3
ZAIG	Zacatecas	6.75	328	eP	Pn	02 16 57.3	+1.9
ZAIG				eS	Sn	02 18 15.4	+4.2
ZAIG	Zacatecas	6.75	328	iP	Pn	02 16 57.3	+1.9
ZAIG				IAmb	IAmb	02 16 59.7	
	comp=Z,250nm,0.8s						
ZAIG				IVmB_BB		02 17 44.1	
	comp=Z,3µm,1.0s						
ZAIG				IAML		02 19 20.3	
	comp=Z,750nm,1.0s						
ANIG	Ahuacatlan	6.80	307		Pn	02 16 59.6	+3.7
ANIG					Sn	02 18 27.0	+15
ANIG	Ahuacatlan	6.80	307	eP	Pn	02 16 59.6	+3.7
ANIG				eS	Sn	02 18 17.9	+5.8
SMSP	San Marcos	6.95	106	iP	Pn	02 17 00.5	+2.3
SMSP				IVmB_BB		02 17 14.3	
	comp=Z,62µm,1.0s						
SMSP				IAML		02 17 18.6	
	comp=Z,3µm,1.0s						
HUEH	Huehuetenango	7.11	103	Pn	Pn	02 17 01.4	+1.1
HUEH	Huehuetenango	7.11	103	iP	Pn	02 17 03.3	+3.0
HUEH				IAmb	IAmb	02 17 18.3	
	comp=Z,510nm,0.6s						
HUEH				IAML		02 19 29.4	
	comp=Z,5µm,1.0s						
RTAL	Retalhuleu	7.18	110	Pn	Pn	02 17 02.8	+1.7
RTAL	Retalhuleu	7.18	110	iP	Pn	02 17 03.0	+1.9
RTAL				IAmb	IAmb	02 17 14.3	
	comp=Z,230nm,0.7s						
RTAL				IAML		02 19 25.3	
	comp=Z,1µm,1.0s						
SCIG	Sabancuy	7.38	74	eP	Pn	02 17 04.5	+0.8
SCIG				eS	Sn	02 18 20.5	-5.6
CHTG	Tecpan	7.75	106	iP	Pn	02 17 11.5	+2.4
CHTG				IAmb	IAmb	02 17 30.7	
	comp=Z,670nm,0.8s						
CHTG				IVmB_BB		02 17 51.8	
	comp=Z,23µm,1.0s						
CHTG				IAML		02 19 32.2	
	comp=Z,2µm,1.0s						
LNIG	Linares	7.83	355	eP	Pn	02 17 09.6	-0.4
LNIG				eS	Sn	02 18 41.2	+3.9
APG	El Apazote	8.16	103	P	Pn	02 17 16.3	+1.6
	comp=Z,1.3nm,0.5s,baz=216,slow=18,SNR=16						
APG				S	Sn	02 18 45.8	0.0
	comp=Z,9.4nm,0.8s,baz=81,slow=17,SNR=4.2						
GCG4	OSOP	8.22	106	iP	Pn	02 17 18.0	+2.5
GCG4				IAmb	IAmb	02 17 45.8	
	comp=Z,260nm,0.6s						
GUNB	GUNB	8.39	106	iP	Pn	02 17 22.6	+4.7
GUNB				IAmb	IAmb	02 17 48.8	
	comp=Z,210nm,0.8s						
GUNB				IVmB_BB		02 17 56.8	
	comp=Z,3µm,1.0s						
PETF	Flores	8.43	90	Pn	Pn	02 17 16.8	-1.4
PETF	Flores	8.43	90	iP	Pn	02 17 16.6	-1.6
PETF				IVmB_BB		02 17 43.1	
	comp=Z,3µm,1.0s						
PETF				IAmb	IAmb	02 17 46.1	
	comp=Z,290nm,0.7s						
PETF				IAML		02 19 12.8	
	comp=Z,670nm,1.0s						
MNIG	Monterrey	8.64	350	eP	Pn	02 17 20.1	-0.9
NUBE	Las Nubes	9.14	109	iP	Pn	02 17 29.8	+1.8
NUBE				IAmb	IAmb	02 17 50.1	
	comp=Z,110nm,1.3s						
MYIG	Mrida	9.30	64	eP	Pn	02 17 31.0	+0.9
MYIG				eS	Sn	02 19 15.1	+1.6
CEVE	Cerro Verde	9.30	109	iP	Pn	02 17 34.1	+3.7
CEVE				IAmb	IAmb	02 17 55.3	
	comp=Z,150nm,0.6s						
CEVE				IVmB_BB		02 18 15.2	
	comp=Z,4µm,1.0s						
ESQI	Esquipulas	9.33	104	Pn	Pn	02 17 31.5	+1.0
MTO3	Montecristo	9.36	105	Pn	Pn	02 17 31.1	0.0
MTO3	Montecristo	9.36	105	iP	Pn	02 17 32.1	+1.0
MTO3				IAmb	IAmb	02 18 00.2	
	comp=Z,62nm,1.0s						
MTO3				IVmB_BB		02 18 08.7	
	comp=Z,850nm,1.0s						
JAYA	Jayaque - finc	9.53	110	iP	Pn	02 17 33.9	+0.5
JAYA				IAmb	IAmb	02 17 53.6	
	comp=Z,160nm,0.7s						
PMON	Piamonte	9.63	109	iP	Pn	02 17 38.0	+3.3
PMON				IVmB_BB		02 17 45.5	
	comp=Z,2µm,1.0s						
PMON				IAmb	IAmb	02 17 47.9	
	comp=Z,140nm,0.6s						
PAVA	Las Pavas	9.97	108	iP	Pn	02 17 41.5	+2.1
PAVA				IAmb	IAmb	02 18 09.3	
	comp=Z,180nm,0.8s						
PAVA				IVmB_BB		02 18 11.8	
	comp=Z,3µm,1.0s						
PDIG	Papasquiaro	10.11	323		Pn	02 17 45.3	+3.9
PDIG					Sn	02 19 34.1	+0.5
PDIG	Papasquiaro	10.11	323⇓	eP	Pn	02 17 45.3	+3.9
PDIG				eS	Sn	02 19 34.1	+0.5
TEIG	Tepich	10.35	71	Pn	Pn	02 17 42.5	-2.0
TEIG	Tepich	10.35	71	LR	LR	02 22 43.1	
	comp=Z,7µm,21.4s,slow=44						
MCIG	Muzquiz	11.07	347		Pn	02 17 57.0	+2.6
MCIG					Sn	02 19 57.3	+0.5
MCIG	Muzquiz	11.07	347⇓	eP	Pn	02 17 57.0	+2.6
MCIG				eS	Sn	02 19 59.5	+2.7
833A	Chaparral WMA,	11.23	357	Pn	Pn	02 17 57.8	+1.3
833A	Chaparral WMA,	11.23	357	P	Pn	02 17 57.7	+1.3
	baz=176,SNR=53						
TGUH	Tegucigalpa,Un	11.39	104	Pn	Pn	02 17 59.6	+0.7
HPIG		11.76	328	Pn	Pn	02 18 05.8	+1.8
HPIG		11.76	328	eP	Pn	02 18 06.4	+2.4
HPIG				eS	Sn	02 20 16.1	+2.1
735A	Kenedy	11.77	4	Pn	Pn	02 18 04.0	+0.2
EF01	Eagle Ford 01	12.01	1	Pn	Pn	02 18 06.3	-0.9
CRIN	San Cristobal	12.05	110	Pn	Pn	02 18 10.2	+2.4
BCIG	La Boquilla	12.15	330	eP	Pn	02 18 09.9	+0.8
HNDO	Hondo	12.42	358	Pn	Pn	02 18 12.0	-0.8
DRIO	Del Rio	12.43	352	Pn	Pn	02 18 12.4	-0.5
CNGN	Cerro Negro	12.44	110	Pn	Pn	02 18 16.6	+3.4
MLDN	Muldoon	12.75	6	Pn	Pn	02 18 17.0	-0.2
TSIG	Topolobambo	12.85	313	eP	Pn	02 18 20.2	+1.5
TSIG				eS	Sn	02 20 41.9	+1.6
LPIG	La Paz	12.94	305	P	Pn	02 18 24.4	+4.5
	comp=Z,143nm,1.0s,baz=67,slow=1.8,SNR=6.7						
LPIG				S	Sn	02 20 42.0	-0.5
	comp=Z,14nm,0.3s,baz=244,slow=14,SNR=1.1						
TXAR	Lajitas Array	13.04	340	Pn	Pn	02 18 22.8	+1.4
TXAR	Lajitas Array	13.04	340	P	Pn	02 18 23.1	+1.8
	comp=Z,26nm,0.8s,baz=163,slow=15,SNR=152						
TXAR				LR	LR	02 23 55.3	
	comp=Z,1µm,20.5s,baz=143,slow=40						
TXAR	Lajitas Array	13.04	340	P	Pn	02 18 22.8	+1.4
TX31	Lajitas Ar. Si	13.04	340	Pn	Pn	02 18 22.0	+0.6
HKT	Hockley	13.09	11	Pn	Pn	02 18 20.1	-1.7
HKT	Hockley	13.09	11	P	Pn	02 18 20.1	-1.7
SAND	Sanderson	13.21	347	Pn	Pn	02 18 25.2	+1.6
CSIG	Choix	13.23	319	eP	Pn	02 18 22.8	-1.0
CSIG				eS	Sn	02 20 54.4	+4.7
JCT	Junction City	13.39	356	Pn	Pn	02 18 25.4	-0.6
JCT	Junction City	13.39	356	P	Pn	02 18 25.8	-0.4
	baz=175,SNR=56						
JCT	Junction City	13.39	356	P	Pn	02 18 25.5	-0.6
435B	Jarrell	13.70	4	P	Pn	02 18 28.8	-1.4
	baz=184						
HNVL	Huntsville, TX	13.94	12	Pn	Pn	02 18 31.2	-2.3
BRDY	Brady	14.16	359	Pn	Pn	02 18 34.0	-2.5
ORTG	Ortega, Santa	14.46	116		P	02 18 43.7	-2.7
VHRN	Van Horn	14.82	338	Pn	Pn	02 18 46.2	+0.7
WHTX	Lake Whitney,	14.90	4	P	Pn	02 18 45.4	-1.0
	baz=184,SNR=28						
JTS	Las Juntas de	14.94	115	Pn	Pn	02 18 48.0	+1.1
JTS	Las Juntas de	14.94	115	P	P	02 18 49.4	-2.3
	comp=Z,31nm,0.6s,baz=283,slow=9.5,SNR=17						
NATX	Nacogdoches	15.08	13	Pn	Pn	02 18 46.4	-2.3
NATX				IAmb	IAmb	02 18 54.2	
	comp=Z,168nm,0.9s						
NATX	Nacogdoches	15.08	13	P	Pn	02 18 46.3	-2.3
	baz=195,SNR=13						
237A	Washetta, Mont	15.10	9	IAmb	IAmb	02 18 54.3	
	comp=Z,237nm,1.0s						
SOCE	Pocosol	15.18	114	Pn	Pn	02 18 50.7	+0.5
SOCE				IAmb	IAmb	02 18 58.1	
	comp=Z,22nm,0.7s						
FW13	Cleburne	15.27	4	IAmb	IAmb	02 18 56.0	
	comp=Z,118nm,0.8s						
FW14	Alvarado	15.33	5	IAmb	IAmb	02 18 56.6	
	comp=Z,216nm,1.5s						
ODSA	Odessa	15.40	348	Pn	Pn	02 18 51.9	-0.9
FW16	Waxahatchie	15.44	6	IAmb	IAmb	02 18 57.9	
	comp=Z,112nm,0.7s						
ABTX	Abilene, Hawle	15.52	357	P	Pn	02 18 53.1	-1.2
	baz=177,SNR=50						
GUYB	Guaymas	15.58	316	eP	Pn	02 18 55.1	-0.1
CGIG		15.73	329	P	Pn	02 18 58.5	+1.3
CGIG		15.73	329	eP	Pn	02 18 58.5	+1.3
TREL	Terrell	15.78	8	Pn	Pn	02 18 55.8	-1.8
TREL				IAmb	IAmb	02 18 57.6	
	comp=Z,239nm,1.4s						
MNTX	Cornudas Mount	15.79	339	P	Pn	02 18 58.5	+0.6
	baz=156,SNR=95						
SOR	Soroa	15.80	66		P	02 18 60.0	-1.2
SOR	Soroa	15.80	66	P	P	02 19 00.0	-1.2
SOR				pmax	pmax		
	comp=Z,58nm,1.4s						
HDC	Heredia	15.80	115	eP	Pn	02 18 57.3	-0.9
SN05	Snyder 5	15.87	353	IAmb	IAmb	02 19 03.1	
	comp=Z,154nm,1.0s						
FW06	Azle	15.87	3	IAmb	IAmb	02 19 02.9	
	comp=Z,240nm,0.8s						
SN07	Snyder 07	16.08	353	Pn	Pn	02 18 59.4	-2.2
SN07				IAmb	IAmb	02 19 05.0	
	comp=Z,324nm,1.7s						
POST	Post	16.14	351	IAmb	IAmb	02 19 02.4	
	comp=Z,132nm,0.9s						
SRIG	Santa Rosalia	16.17	311		Pn	02 19 03.6	+0.9
APMT	Aspermont	16.25	356	IAmb	IAmb	02 19 08.0	
	comp=Z,167nm,1.0s						
Z35A	Perchaven, San	16.25	4	Pn	Pn	02 19 02.2	-1.5
HSIG		16.39	319		Pn	02 19 06.4	+1.0
HSIG		16.39	319	eP	Pn	02 19 06.2	+0.7
NZIG	Nacozari, Sono	16.56	325	eP	Pn	02 19 07.6	-0.2
NZIG				eP	P	02 19 08.3	-1.5
WTFS	Witchita Falls	16.63	1	IAmb	IAmb	02 19 11.2	
	comp=Z,491nm,1.8s						
DKNS	Dickens	16.66	353	IAmb	IAmb	02 19 13.6	
	comp=Z,143nm,0.9s						
VBMS	Vicksburg	16.80	25	P	Pn	02 19 08.7	-1.9
	baz=208						
143A	Socs Landing,	16.90	22	Pn	Pn	02 19 10.9	-1.0
143A				IAmb	IAmb	02 19 14.0	
	comp=Z,188nm,0.9s						
LOOK	Love County	16.91	4	IAmb	IAmb	02 19 17.6	
	comp=Z,135nm,1.0s						
Z41A	Richland Creek	16.97	17	IAmb	IAmb	02 19 14.7	
	comp=Z,226nm,0.9s						
319A	Douglas	17.20	328	IAmb	IAmb	02 19 18.8	
	comp=Z,303nm,1.2s						
MSTX	Muleshoe	17.23	348	IAmb	IAmb	02 19 17.2	
	comp=Z,230nm,1.1s						
MSTX	Muleshoe	17.23	348	P	Pn	02 19 15.1	-1.0
	baz=167,SNR=71						
121A	Cookes Peak, D	17.46	334		P	02 19 19.5	-0.3
121A				IAmb	IAmb	02 19 23.4	
	comp=Z,235nm,1.2s						
121A	Cookes Peak, D	17.46	334	P	P	02 19 20.6	+0.8
	baz=150,SNR=75						
WMOK	Wichita Mounta	17.60	360	P	Pn	02 19 18.4	-2.1
	baz=180,SNR=45						
WMOK	Wichita Mounta	17.60	360	P	Pn	02 19 18.5	-2.1
WMOK				pmax	pmax		
	comp=Z,53nm,0.9s						
X37A	Clayton	17.70	9	Pn	Pn	02 19 20.1	-1.7
X37A				IAmb	IAmb	02 19 22.7	
	comp=Z,200nm,1.3s						
AMTX	Amarillo	17.95	352	IAmb	IAmb	02 19 25.8	
	comp=Z,218nm,0.9s						
AMTX	Amarillo	17.95	352	P	Pn	02 19 24.3	-0.5
	baz=171						
MIAR	Mount Ida	18.00	14	P	Pn	02 19 22.8	-2.6
	baz=196,SNR=43						
MIAR	Mount Ida	18.00	14	P	Pn	02 19 21.7	-3.7
MIAR				pmax	pmax		
	comp=Z,96nm,1.0s						
DUN6	Lazy B Ranch	18.07	331	IAmb	IAmb	02 19 36.6	

comp=Z,200nm,0.7s
BAHB Baha de los 18.07 313 *e*P P **02 19 25.7 -0.6**
X40A Basin Creek Fa 18.12 16 P **02 19 25.3 -1.5**
LAPR La Primavera 18.27 320 *e*P P **02 19 28.3 -0.1**
Y22D IRIS PASSCAL I 18.48 338 P Pn **02 19 31.3 -0.2**
Y22D IRIS PASSCAL I 18.48 338 P Pn **02 19 32.2 +0.7**
baz=154
TUC Tucson 18.72 326 P Pn **02 19 35.0 +0.7**
TUC IAmb IAmb 02 19 37.3
comp=Z,420nm,2.0s
TUC Tucson 18.72 326 P Pn **02 19 35.4 +1.1**
baz=141
TUC Tucson 18.72 326 *e*P P **02 19 33.6 +0.1**
TUC Tucson 18.72 326 P Pn **02 19 35.0 +0.7**
TUC pmax pmax
comp=Z,420nm,2.0s
DEOK Depew 18.80 6 IAmb IAmb 02 19 36.5
comp=Z,290nm,1.3s
OK031 S. Brethren Rd 18.89 5 IAmb IAmb 02 19 35.6
comp=Z,209nm,0.9s
ELIS Ellis County 18.94 358 P P **02 19 35.2 -0.6**
ELIS IAmb IAmb 02 19 37.5
comp=Z,158nm,1.3s
TUL3 Leonard 18.95 7 IAmb IAmb 02 19 38.2
comp=Z,235nm,1.0s
TUL3 Leonard 18.95 7 P P **02 19 34.6 -1.2**
baz=188,SNR=86
LRAL Lakeview Retre 19.08 31 P P **02 19 35.9 -1.4**
LRAL Lakeview Retre 19.08 31 P P **02 19 35.8 -1.5**
baz=216,SNR=8.6
ANMO Albuquerque 19.12 340 P P **02 19 38.1 +0.2**
ANMO Albuquerque 19.12 340 P P **02 19 38.5 +0.5**
baz=157
ANMO Albuquerque 19.12 340 P Pn **02 19 38.8 -0.4**
comp=Z,50nm,1.0s,baz=242,slow=11,SNR=80
ANMO LR LR 02 27 50.4
comp=Z,2µm,19.1s,baz=250,slow=40
ANMO Albuquerque 19.12 340*d* P P **02 19 37.4 -0.6**
ANMO pmax pmax
comp=Z,62nm,1.1s
656A Willston 19.21 48 P P **02 19 38.3 -0.5**
U32A Winter Ranch, 19.24 359 IAmb IAmb 02 19 39.9
comp=Z,262nm,1.1s
OXF Oxford 19.26 24 P P **02 19 37.2 -2.0**
baz=208
RLO Rose Lookout 19.30 9 IAmb IAmb 02 19 42.5
comp=Z,153nm,1.4s
DWPF Disney Wildern 19.33 52 P P **02 19 37.4 -2.6**
baz=239
OK038 West end E0370 19.34 360 IAmb IAmb 02 19 40.6
comp=Z,169nm,1.0s
CROK Carrier 19.38 2 P P **02 19 38.9 -1.6**
CROK IAmb IAmb 02 19 42.9
comp=Z,123nm,0.9s
OK035 E0210 Rd and N 19.57 360 IAmb IAmb 02 19 43.1
comp=Z,202nm,1.1s
214A Organ Pipe Nat 19.59 322 P Pn **02 19 44.4 -0.3**
214A IAmb IAmb 02 19 48.0
comp=Z,165nm,1.1s
214A Organ Pipe Nat 19.59 322 P Pn **02 19 44.6 0.0**
baz=136,SNR=63
RTBA Rita Blanca 19.63 350 IAmb IAmb 02 19 46.2
comp=Z,198nm,0.9s
FCAR Ozark Folk Cen 19.64 16 IAmb IAmb 02 19 43.5
comp=Z,103nm,1.0s
OK032 Salt Plains WL 19.67 1 P P **02 19 41.9 -1.9**
PIX Pinacate 19.71 320 P Pn **02 19 45.3 -0.6**
HBAR Harrisburg 19.75 20 IAmb IAmb 02 19 45.3
comp=Z,244nm,1.2s
TIGA Tifton 19.82 41 P P **02 19 43.6 -1.8**
baz=227
KAN14 Manchester OK 19.83 2 IAmb IAmb 02 19 47.1
comp=Z,151nm,1.2s
KAN09 Caldwell North 20.02 2 IAmb IAmb 02 19 49.5
comp=Z,219nm,1.2s
X18A Snowflake 20.11 332 IAmb IAmb 02 19 55.0
comp=Z,240nm,1.2s
KAN06 Argonia West S 20.12 2 P P **02 19 47.2 -1.5**
KAN06 IAmb IAmb 02 19 48.4
comp=Z,186nm,1.2s
KAN12 Harper NE Stat 20.17 2 IAmb IAmb 02 19 48.9
comp=Z,105nm,1.0s
MTDJ Mount Denham 20.18 84 P P **02 19 49.3 -0.4**
MTDJ IAmb IAmb 02 19 52.8
comp=Z,170nm,1.1s
SFX San Felipe 20.25 316 *e*P P **02 19 50.5 +0.4**
W18A Petrified Fore 20.51 333 IAmb IAmb 02 20 00.0
comp=Z,122nm,1.0s
W18A Petrified Fore 20.51 333 P Pn 02 19 54.8 -0.9
baz=148,SNR=57
T25A Trinidad 20.63 347 P P **02 19 55.1 +0.7**
baz=164,SNR=106
SPIG San Pedro Mart 20.67 315 *e*P P **02 19 54.8 -0.2**
113A Mohawk Valley, 20.74 322 IAmb IAmb 02 19 58.4
comp=Z,90nm,1.0s
MGMO Mountain Grove 20.80 15 IAmb IAmb 02 19 59.1
comp=Z,131nm,1.1s
255A Hazlehurst 20.85 42 IAmb IAmb 02 20 13.0
comp=Z,83nm,0.9s
154A Montrose 20.92 39 IAmb IAmb 02 20 15.8
comp=Z,84nm,1.0s
PBMO Poplar Bluff 20.95 19 IAmb IAmb 02 20 14.8
comp=Z,116nm,1.1s
FPAL Fort Paine 20.97 31 P P **02 19 55.0 -2.9**
S39A Bolivar 21.08 12 IAmb IAmb 02 20 02.6
comp=Z,69nm,0.8s
HICK Hickman 21.13 22 IAmb IAmb 02 20 16.8
comp=Z,186nm,1.1s
Y14A Wickenburg 21.16 325 P P **02 20 01.2 +1.2**
Y14A IAmb IAmb 02 20 03.0
comp=Z,205nm,1.1s
GOGA Godfrey 21.27 37 IAmb IAmb 02 20 19.7
comp=Z,62nm,0.8s
GOGA Godfrey 21.27 37 P P **02 19 58.7 -2.4**
baz=224,SNR=21
GOGA Godfrey 21.27 37 P P **02 19 59.4 -1.7**
GOGA pmax pmax
comp=Z,104nm,0.7s
R32A Long Quarter, 21.28 360 IAmb IAmb 02 20 04.8
comp=Z,203nm,1.1s
WVT Waverly 21.30 25 P P **02 19 58.5 -2.8**
WVT IAmb IAmb 02 20 17.2
comp=Z,132nm,1.4s
WVT Waverly 21.30 25 P P **02 19 58.9 -2.4**
baz=210
WVT Waverly 21.30 25 P P **02 19 58.5 -2.8**
WVT pmax pmax
comp=Z,132nm,1.4s
SDCO Great Sand Dun 21.46 345 P P **02 20 03.3 -0.1**
baz=162,SNR=54
GLA Glamis 21.57 321 P P **02 20 05.9 +1.5**
baz=134
WUAZ Wupatki 21.58 331 P P **02 20 05.7 +1.1**
WUAZ Wupatki 21.58 331 P P **02 20 06.7 +2.1**
baz=145,SNR=192
ESJX Sierra Juarez 21.59 317 IAmb IAmb 02 20 10.0
comp=Z,103nm,1.3s
CBKS Cedar Bluff 21.69 358 P P **02 20 04.4 -1.2**
CBKS Cedar Bluff 21.69 358 P P **02 20 04.7 -0.9**
baz=177,SNR=45
CBKS Cedar Bluff 21.69 358 P P **02 20 04.4 -1.2**
CBKS pmax pmax
comp=Z,348nm,1.0s
MVCO Mesa Verde 21.86 339 P P **02 20 07.0 -0.7**
MVCO IAmb IAmb 02 20 12.3
comp=Z,105nm,0.8s
MVCO Mesa Verde 21.86 339 P P **02 20 08.0 +0.3**
baz=154,SNR=102
BLYC Blythe 21.88 322 IAmb IAmb 02 20 12.2
comp=Z,132nm,1.1s
R40A Maddies Statio 21.88 14 IAmb IAmb 02 20 09.4
comp=Z,114nm,0.7s
CCM Cathedral Cave 21.91 16 P P **02 20 05.7 -2.2**
baz=199
CCM Cathedral Cave 21.91 16 P P **02 20 04.5 -3.4**
CCM pmax pmax
comp=Z,37nm,0.7s
CCX Cicese 21.98 315 IAmb IAmb 02 20 11.7
comp=Z,126nm,1.3s
YUH Yuha Desert 21.98 318 IAmb IAmb 02 20 13.6
comp=Z,102nm,1.1s
KSU1 Kansas State U 22.03 4 IAmb IAmb 02 20 28.8
comp=Z,88nm,0.9s
KSU1 Kansas State U 22.03 4 P P **02 20 07.5 -1.7**
baz=185,SNR=17
RMX La Rumorosa 22.06 318 P P **02 20 11.0 +1.3**
RMX IAmb IAmb 02 20 13.8
comp=Z,120nm,1.1s
PDMCI Parker Dam,Lak 22.06 324 P P **02 20 10.6 +1.0**
baz=137,SNR=58
FVM French Village 22.07 18 IAmb IAmb 02 20 29.6
comp=Z,230nm,1.7s
SWSC Sam W. Stewart 22.10 319 P P **02 20 11.8 +1.8**
baz=132,SNR=29
IKP In-Ko-Pah, Jac 22.11 318 P P **02 20 12.0 +1.8**
baz=130,SNR=29
KSCO Kaye Shedlock' 22.14 352 P P **02 20 09.2 -1.4**
KSCO IAmb IAmb 02 20 11.2
comp=Z,107nm,0.8s
KSCO Kaye Shedlock' 22.14 352 P P **02 20 10.0 -0.5**
baz=170,SNR=12
S44A Carbondale 22.16 20 IAmb IAmb 02 20 24.3
comp=Z,93nm,0.9s
CBX Cerro Bola 22.25 316 *e*P P **02 20 12.2 +0.4**
T47A Sharon Grove 22.33 25 IAmb IAmb 02 20 32.8
comp=Z,76nm,0.8s
BC3 Big Chuckawall 22.37 321 P P **02 20 14.2 +1.2**
baz=134,SNR=55
TKX Tecate 22.38 317 IAmb IAmb 02 20 17.2
comp=Z,185nm,1.2s
MONP2 Monument Peak 22.46 318 P P **02 20 15.7 +1.6**
baz=130,SNR=35
BAR Barrett 22.49 317 P P **02 20 15.1 +0.9**
BAR IAmb IAmb 02 20 18.2
comp=Z,72nm,1.1s
W13A Hualapai Mount 22.51 326 P P **02 20 14.8 +0.1**
W13A IAmb IAmb 02 20 18.6
comp=Z,139nm,1.4s
IRM Iron Mountain 22.53 322 P P **02 20 16.1 +1.4**
baz=135,SNR=57
Q24A Divide 22.54 347 P P **02 20 14.5 -0.5**
baz=164,SNR=13
HODGE Hodges 22.56 38 IAmb IAmb 02 20 33.8
comp=Z,207nm,1.8s
NEE2 Needles Airpor 22.67 324 P P **02 20 17.2 +1.1**
baz=137
BG3 Lake Jocassee 22.73 35 IAmb IAmb 02 20 35.3
comp=Z,72nm,0.9s
SLM Saint Louis 22.73 17 IAmb IAmb 02 20 35.2
comp=Z,91nm,1.1s
TKL Tuckaleechee C 22.78 33 P P **02 20 15.2 -2.0**
comp=Z,17nm,1.0s,baz=194,slow=10,SNR=17
TKL S S **02 24 17.1 -5.9**
comp=Z,3.6nm,0.8s,baz=176,slow=19,SNR=1.4
TKL LR LR 02 33 08.2
comp=Z,145nm,18.3s,baz=224,slow=48
comp=Z,17nm,1.0s
109C Camp Elliot, M 22.90 317 IAmb IAmb 02 20 22.0
comp=Z,110nm,1.1s
109C Camp Elliot, M 22.90 317 P P **02 20 20.1 +1.6**
baz=129,SNR=15
PMD Palm Desert 22.93 319 P P **02 20 18.8 0.0**
PMD IAmb IAmb 02 20 22.9
comp=Z,126nm,1.1s
BELC Belle Mtn. Jos 22.93 321 P P **02 20 20.3 +1.3**
baz=133,SNR=51
TPFO Pinon Flats 22.95 319 P P **02 20 20.7 +1.6**
baz=132,SNR=24
PFO Pinyon Flats O 22.96 319 P P **02 20 19.6 +0.4**
PFO IAmb IAmb 02 20 22.7
comp=Z,81nm,1.1s
PFO Pinyon Flats O 22.96 319 P P **02 20 20.8 +1.6**
baz=132,SNR=14
PFO Pinyon Flats O 22.96 319 LR LR 02 28 47.2
comp=Z,716nm,20.9s,baz=174,slow=35
PFO Pinyon Flats O 22.96 319*d* P P **02 20 19.6 +0.4**
PFO pmax pmax
comp=Z,137nm,1.1s
USIN University of 22.96 23 IAmb IAmb 02 20 36.7
comp=Z,83nm,0.9s
P40A Paris 23.12 13 IAmb IAmb 02 20 21.4
comp=Z,73nm,0.8s
GMRC Granite Mounta 23.28 323 P P **02 20 23.7 +1.3**
baz=135,SNR=82
V53A Saluda 23.30 34 IAmb IAmb 02 20 40.6
comp=Z,62nm,0.9s
Q44A Meyer Farm, Va 23.34 19 IAmb IAmb 02 20 40.7
comp=Z,145nm,1.0s
MURC Murrieta 23.41 318 P P **02 20 25.3 +1.7**
baz=130,SNR=30
ISCO Idaho Springs 23.44 346 IAmb IAmb 02 20 25.9
comp=Z,67nm,1.1s
ISCO Idaho Springs 23.44 346 P P **02 20 24.0 -0.2**
baz=163,SNR=56
ISCO Idaho Springs 23.44 346 P P **02 20 24.0 -0.2**
ISCO pmax pmax
comp=Z,67nm,1.0s
KNB Kanab 23.48 331 P P **02 20 25.4 +1.0**
KNB Kanab 23.48 331 P P **02 20 25.4 +1.0**
KNB pmax pmax
comp=Z,218nm,1.0s
OLIL Olney 23.49 21 IAmb IAmb 02 20 42.0
comp=Z,88nm,0.9s
V12A Nelson 23.50 325 P P **02 20 24.5 0.0**
TZTN Tazewell 23.58 32 IAmb IAmb 02 20 45.6
comp=Z,67nm,1.1s
TZTN Tazewell 23.58 32 P P **02 20 23.7 -1.4**
baz=218
ELS Elsinore Mount 23.59 318 P P **02 20 25.7 +0.4**
ELS IAmb IAmb 02 20 29.7
comp=Z,125nm,1.5s
LCMT Little Creek M 23.67 330 IAmb IAmb 02 20 29.6
comp=Z,70nm,0.9s
BBRC Big Bear Solar 23.68 320 P P **02 20 28.0 +1.7**
baz=132
HEC Hector,Ludlow 23.70 322 P P **02 20 28.2 +1.8**
baz=134,SNR=11
WCI Wyandotte Cave 23.72 25 P P **02 20 23.3 -3.1**
WCI IAmb IAmb 02 20 44.4
comp=Z,109nm,0.9s
WCI Wyandotte Cave 23.72 25 P P **02 20 24.8 -1.6**
baz=211
WCI Wyandotte Cave 23.72 25 P P **02 20 23.3 -3.1**
WCI pmax pmax
comp=Z,109nm,1.0s
KMSC Kings Mountain 23.74 37 IAmb IAmb 02 20 44.6
comp=Z,77nm,1.1s
KMSC Kings Mountain 23.74 37 P P **02 20 25.5 -1.2**
baz=225,SNR=8.9
N35A Tabor 23.86 6 IAmb IAmb 02 20 53.1
comp=Z,80nm,0.8s
P43A Skaggs, Pawnee 23.87 18 IAmb IAmb 02 20 47.0
comp=Z,72nm,0.9s
TUQ Turquoise Moun 23.89 323 P P **02 20 29.8 +1.6**
baz=136,SNR=8.9
BIRD Birdtown, Kers 23.92 39 IAmb IAmb 02 20 46.1
comp=Z,82nm,1.3s
SCI2 San Clemente I 23.92 315 P P **02 20 29.6 +1.3**
baz=127
Y58A Scranton 23.93 42 P P **02 20 28.8 +0.4**
Y58A IAmb IAmb 02 20 46.9
comp=Z,115nm,0.9s
BRIGG Briggsdale 23.94 349 IAmb IAmb 02 20 30.8
comp=Z,88nm,0.9s
OGNE Ogallala 23.98 354 P P **02 20 29.0 +0.1**
baz=172,SNR=13
MTPU Mount Pierson 24.03 333 IAmb IAmb 02 20 33.1
comp=Z,236nm,1.0s
SZCU Shurtz Canyon 24.07 331 P P **02 20 29.4 -0.5**
SZCU IAmb IAmb 02 20 33.2
comp=Z,96nm,1.2s
CIS Catalina Islan 24.08 316 P P **02 20 31.4 +1.5**
baz=128,SNR=7.2
N38A Joes South For 24.11 10 IAmb IAmb 02 20 49.8
comp=Z,76nm,0.7s
BFSC Mount Baldy Ra 24.12 319 P P **02 20 32.1 +1.7**
baz=130,SNR=11
RRX Edison Barstow 24.13 321 P P **02 20 32.4 +2.1**
baz=133,SNR=8.5
CCUT Cedar City 24.16 331 IAmb IAmb 02 20 34.5
comp=Z,32nm,0.9s
FMP Fort Macarthur 24.19 317 P P **02 20 32.2 +1.3**
baz=128
R49A Shelbyville 24.24 27 IAmb IAmb 02 20 57.5
comp=Z,101nm,1.7s
SHPR Sheep Range 24.25 326 P P **02 20 32.0 +0.4**
BGNE Belgrade 24.27 1 P P **02 20 30.6 -0.8**
baz=181
SRU San Rafael Swe 24.28 337 IAmb IAmb 02 20 34.7
comp=Z,56nm,0.9s
GSC Goldstone, Bar 24.31 322 IAmb IAmb 02 20 35.6
comp=Z,171nm,1.6s
GSC Goldstone, Bar 24.31 322 P P **02 20 33.7 +1.7**
baz=134,SNR=26
V55A Taylorsville 24.31 36 IAmb IAmb 02 20 51.4
comp=Z,75nm,0.8s
PASC Pasadena Art C 24.41 318 IAmb IAmb 02 20 36.4
comp=Z,159nm,1.9s
SHOC Shoshone, Teco 24.42 324 P P **02 20 34.4 +1.5**
baz=136,SNR=6.4
O20A White River Ci 24.44 342 P P **02 20 32.7 -0.6**
O20A IAmb IAmb 02 20 35.6
comp=Z,111nm,1.2s
O20A White River Ci 24.44 342 P P **02 20 34.0 +0.7**
baz=158,SNR=42
BLO Bloomington 24.45 23 IAmb IAmb 02 20 33.3
comp=Z,59nm,0.7s
N41A Harden Midland 24.52 14 IAmb IAmb 02 20 33.9
comp=Z,71nm,0.9s
W57A Gilead 24.54 39 IAmb IAmb 02 20 52.6
comp=Z,166nm,1.5s
DECC Green Verdugo 24.56 318 P P **02 20 36.0 +1.8**
baz=129,SNR=9.0
N23A Red Feather La 24.56 347 P P **02 20 35.3 +0.8**
baz=163,SNR=16
R50A Paris 24.60 28 IAmb IAmb 02 20 51.7
comp=Z,162nm,2.0s
TCRU Three Creeks R 24.62 333 P P **02 20 35.0 0.0**
TCRU IAmb IAmb 02 20 39.1
comp=Z,64nm,1.1s
P18A Preston Nutter 24.63 338 IAmb IAmb 02 21 06.2
comp=Z,59nm,0.9s
TMUT Trail Mountain 24.70 336 IAmb IAmb 02 20 38.9
comp=Z,59nm,0.9s
SNCC San Nicolas Is 24.74 315 P P **02 20 37.0 +1.2**
baz=126
EDW2 Edwards Air Fo 24.75 319 P P **02 20 37.0 +1.0**
baz=131,SNR=28
HDIL Hopedale 24.78 17 IAmb IAmb 02 20 37.2
comp=Z,81nm,0.9s
HDIL Hopedale 24.78 17 P P **02 20 34.6 -1.4**
baz=202,SNR=16
QSM Queen of Sheba 24.81 323 P P **02 20 37.5 +1.1**
GWY Greenwater Val 24.85 324 IAmb IAmb 02 20 40.6
comp=Z,102nm,1.0s
CCAC Calif City Air 24.94 320 P P **02 20 39.3 +1.6**
LRMC Laurel Mtn Rad 24.95 321 P P **02 20 39.8 +1.9**
baz=132,SNR=38
OSI Osito Audit: C 25.04 318 P P **02 20 39.3 +0.8**
baz=129,SNR=5.6
FURC Furnace Creek, 25.16 324 P P **02 20 41.3 +1.7**
baz=136,SNR=12
PSUT Pine Spring 25.18 331 IAmb IAmb 02 20 42.7
comp=Z,61nm,0.9s
SCIA State Center 25.20 10 IAmb IAmb 02 20 40.8
comp=Z,67nm,1.1s
SCIA State Center 25.20 10 P P **02 20 38.9 -1.0**
baz=192
MPMC Manual Prospec 25.23 322 P P **02 20 42.0 +1.5**
baz=134,SNR=104
RDMU Red Mountain 25.25 340 IAmb IAmb 02 20 43.0
comp=Z,94nm,0.9s
SCZ2 Santa Cruz Isl 25.25 316 P P **02 20 41.9 +1.4**
baz=127
WCT Wildcat Mounta 25.26 325 IAmb IAmb 02 20 45.3
comp=Z,121nm,1.1s
SFIN Lafayette 25.31 21 IAmb IAmb 02 20 59.2
comp=Z,92nm,1.3s
SFIN Lafayette 25.31 21 P P **02 20 39.9 -0.9**
baz=207,SNR=7.3
S11A Rachel 25.42 327 IAmb IAmb 02 20 48.9
comp=Z,118nm,1.1s
ARVC Arvin 25.43 319 P P **02 20 44.5 +2.4**
baz=130,SNR=33
P49A Miami Univ. Ec 25.48 26 P P **02 20 40.5 -1.9**
P49A IAmb IAmb 02 21 00.2
comp=Z,118nm,1.0s
P49A Miami Univ. Ec 25.48 26 P P **02 20 41.1 -1.3**
baz=212,SNR=23
MPU Maple Canyon 25.49 336 P P **02 20 43.3 +0.5**
MPU IAmb IAmb 02 20 44.8
comp=Z,59nm,0.9s
SBC Santa Barbara 25.57 317 P P **02 20 44.7 +1.4**
baz=127
NLU North Lily Min 25.61 336 IAmb IAmb 02 20 46.2
comp=Z,96nm,1.0s
RWWY Rawlins 25.61 345 IAmb IAmb 02 20 46.7
comp=Z,73nm,1.1s
BSUT Blindstream Ca 25.62 338 P P **02 20 44.7 +0.5**
Q51A Peebles 25.65 28 IAmb IAmb 02 21 02.8
comp=Z,62nm,0.8s
BCW Bitter Crk WRg 25.68 318 IAmb IAmb 02 20 50.3
comp=Z,131nm,1.2s
S54A Dingess, Beckl 25.69 33 IAmb IAmb 02 21 02.9
comp=Z,46nm,0.8s
BLA Blacksburg 25.73 35 IAmb IAmb 02 21 03.6
comp=Z,78nm,1.0s
BLA Blacksburg 25.73 35 P P **02 20 44.3 -0.5**
baz=224,SNR=20
SPR3 Spring Creek 3 25.78 331 IAmb IAmb 02 20 47.5
comp=Z,80nm,1.0s
GRAC Grapevine Rang 25.82 324 P P **02 20 47.3 +1.7**
GRAC Grapevine Rang 25.82 324 P P **02 20 47.7 +2.1**
baz=135,SNR=20
CWC Cottonwood Cre 25.84 322 P P **02 20 47.5 +1.5**
baz=133
R11B Troy Canyon, C 25.87 328 P P **02 20 47.8 +1.6**
baz=140,SNR=60
CNNC Cliffs of the 25.91 42 P P **02 20 44.7 -1.6**
CNNC IAmb IAmb 02 21 05.8
comp=Z,79nm,0.9s
CNNC Cliffs of the 25.91 42 P P **02 20 45.0 -1.4**
baz=231
PKM Mcpherson Peak 25.91 317 P P **02 20 48.2 +1.5**
baz=128,SNR=17
O48B Farmland 25.92 24 P P **02 20 44.2 -2.2**
baz=211,SNR=31
GMN Gold Mountain 25.98 325 IAmb IAmb 02 20 52.3
comp=Z,81nm,1.1s
L42A Oliver, Polo 26.03 15 IAmb IAmb 02 20 48.1
comp=Z,95nm,0.8s
Q12A Willow Creek R 26.04 330 IAmb IAmb 02 20 50.4
comp=Z,78nm,1.0s
VES Vestal, Richgr 26.05 320 P P **02 20 49.9 +2.2**
baz=131,SNR=40
DUG Dugway, Tooele 26.11 335 IAmb IAmb 02 20 50.8
comp=Z,78nm,0.9s
DUG Dugway, Tooele 26.11 335 P P **02 20 49.7 +1.4**
baz=148,SNR=83
DUG Dugway, Tooele 26.11 335 P P **02 20 49.7 +1.4**
DUG pmax pmax
comp=Z,100nm,1.0s
Q52A Bidwell 26.11 30 IAmb IAmb 02 21 00.7
comp=Z,106nm,0.9s
SDDR Presa de Saban 26.11 82 P P **02 20 49.9 +1.5**
P51A Williamsport 26.15 28 IAmb IAmb 02 21 00.4
comp=Z,71nm,0.8s
O49A Covington 26.19 25 IAmb IAmb 02 21 07.0
comp=Z,126nm,1.1s
T57A Hurt 26.24 37 IAmb IAmb 02 21 09.3
comp=Z,97nm,1.1s
SMMC Simmler 26.29 318 P P **02 20 52.6 +2.7**
baz=128,SNR=37
TIN Tinemaha, Big 26.35 323 P P **02 20 52.5 +2.0**
baz=134,SNR=13
TCUT Toone Canyon 26.36 338 P P **02 20 51.3 +0.5**
K22A Casper 26.37 347 IAmb IAmb 02 20 52.2
comp=Z,76nm,1.1s
K22A Casper 26.37 347 P P **02 20 50.9 +0.2**
baz=163,SNR=15
DSP Deep Springs 26.42 324 IAmb IAmb 02 20 56.6
comp=Z,52nm,1.1s
VOG Valley Oaks Go 26.54 320 P P **02 20 52.8 +0.7**
baz=131
ECSD EROS Data Cent 26.64 3 P P **02 20 51.2 -1.7**
ECSD IAmb IAmb 02 20 56.3
comp=Z,54nm,1.1s
ECSD EROS Data Cent 26.64 3 P P **02 20 51.5 -1.5**
baz=184,SNR=36
L44A Lake County Fo 26.68 18 IAmb IAmb 02 20 54.7
comp=Z,72nm,0.9s
L44A Lake County Fo 26.68 18 P P **02 20 51.0 -2.2**
baz=203
R55A Marlinton 26.68 34 IAmb IAmb 02 21 13.5
comp=Z,45nm,0.8s
P52A Corning 26.70 29 P P **02 20 52.1 -1.4**
baz=217,SNR=5.7
JFWS Jewell Farm 26.75 14 IAmb IAmb 02 21 27.0
comp=Z,72nm,1.1s
JFWS Jewell Farm 26.75 14 P P **02 20 52.0 -1.9**
baz=198,SNR=17
ROSC El Rosal 26.78 114 P P **02 20 56.7 +1.8**
comp=Z,2.4nm,0.4s,baz=229,slow=19,SNR=1.2

ROSC LR LR 02 31 57.2
comp=Z,270nm,18.0s,baz=288,slow=37
comp=Z,2.4nm,0.4s
ACSO Alum Creek Sta 26.80 27 IAmb IAmb 02 21 06.6
comp=Z,58nm,0.9s
ACSO Alum Creek Sta 26.80 27 P **P 02 20 53.0 -1.3**
baz=215,SNR=9.6
BGU Big Grassy Mou 26.81 335 IAmb IAmb 02 20 57.0
comp=Z,78nm,1.2s
HWUT Hardware Ranch 26.85 338 IAmb IAmb 02 20 57.1
comp=Z,168nm,1.9s
S57A Dark Hollow, R 26.94 36 P **P 02 20 54.2 -1.5**
S57A IAmb IAmb 02 21 13.7
comp=Z,59nm,0.8s
K43A Burlington 27.04 17 IAmb IAmb 02 20 56.1
comp=Z,45nm,0.9s
Q09A Carvers 27.05 327 P **P 02 20 58.4 +1.5**
Q09A IAmb IAmb 02 21 03.0
comp=Z,51nm,0.8s
MLAC Mammoth, Mammc 27.10 323 P **P 02 20 59.3 +1.9**
baz=134
I37A Lemond, Waseca 27.24 8 IAmb IAmb 02 21 12.7
comp=Z,43nm,0.8s
MDPB Devils Postpil 27.24 323 IAmb IAmb 02 21 01.9
comp=Z,64nm,1.2s
PD31 Pinedale Array 27.25 342 IAmb IAmb 02 21 00.2
comp=Z,152nm,1.5s
PDAR Pinedale Array 27.25 342 P **P 02 20 58.3 -0.4**
PDAR Pinedale Array 27.25 342 P **P 02 20 58.8 +0.1**
comp=Z,26nm,0.8s,baz=134,slow=8.5,SNR=149
PDAR PcP **PcP 02 24 17.6 -0.2**
comp=Z,0.9nm,0.7s,baz=174,slow=3.6,SNR=2.0
PDAR LR LR 02 32 50.1
comp=Z,1μm,19.4s,baz=170,slow=39
comp=Z,26nm,0.8s
NV11 Mina Array Sit 27.28 325 IAmb IAmb 02 21 02.2
comp=Z,78nm,1.1s
SUSD Miller 27.30 360 P **P 02 20 57.0 -1.8**
baz=179
LHV Little Huntoon 27.34 324 IAmb IAmb 02 21 06.3
comp=Z,90nm,1.1s
RSSD Black Hills 27.35 352 P **P 02 20 58.5 -1.0**
RSSD Black Hills 27.35 352 P **P 02 20 59.5 -0.1**
baz=169
RSSD Black Hills 27.35 352 P **P 02 20 58.5 -1.0**
RSSD pmax pmax
comp=Z,14nm,0.7s
NVAR Mina Array Bea 27.36 325 P **P 02 21 01.6 +1.9**
comp=Z,57nm,0.9s,baz=146,slow=9.7,SNR=196
NVAR LR LR 02 33 32.7
comp=Z,371nm,19.0s,baz=134,slow=40
PMPB Monarch Peak 27.36 318 IAmb IAmb 02 21 02.6
comp=Z,87nm,1.1s
ELK Elko 27.60 332 LR LR 02 32 40.6
comp=Z,622nm,20.7s,baz=151,slow=38
O53A New Philadelph 27.62 30 IAmb IAmb 02 21 40.3
comp=Z,186nm,1.9s
O53A New Philadelph 27.62 30 P **P 02 21 00.2 -1.6**
baz=218
RYN Ryan 27.62 325 IAmb IAmb 02 21 08.8
comp=Z,65nm,1.2s
L48A N Adams 27.64 23 IAmb IAmb 02 21 21.4
comp=Z,53nm,0.8s
KVN Kaiserville 27.70 326 IAmb IAmb 02 21 09.6
comp=Z,48nm,1.1s
AHID Auburn Hatcher 27.72 340 IAmb IAmb 02 21 04.5
comp=Z,53nm,1.1s
Q56A Snyder Ridge, 27.73 34 IAmb IAmb 02 21 21.4
comp=Z,53nm,1.1s
MCWV Mont Chateau 27.84 32 P **P 02 21 02.6 -1.1**
MCWV IAmb IAmb 02 21 24.4
comp=Z,56nm,0.9s
MCWV Mont Chateau 27.84 32 P **P 02 21 01.4 -2.3**
baz=221,SNR=9.6
I42A Draeger Farm, 27.99 15 IAmb IAmb 02 21 04.8
comp=Z,63nm,1.1s
CBN Corbin Frederi 28.15 37 P **P 02 21 04.1 -2.5**
CBN IAmb IAmb 02 21 24.7
comp=Z,93nm,1.3s
CBN Corbin Frederi 28.15 37 P **P 02 21 04.6 -1.9**
baz=227
N53A Lisbon 28.23 29 IAmb IAmb 02 21 18.9
comp=Z,31nm,0.8s
SNOW Snow King Moun 28.24 341 P **P 02 21 07.5 -0.1**
AAM Ann Arbor 28.25 24 IAmb IAmb 02 21 24.5
comp=Z,46nm,1.0s
AAM Ann Arbor 28.25 24 P **P 02 21 04.5 -2.8**
baz=212
TPAW Teton Pass 28.33 341 IAmb IAmb 02 21 14.4
comp=Z,88nm,1.1s
SDV Santo Domingo 28.48 103 P **P 02 21 10.9 +1.0**
SDV Santo Domingo 28.48 103 LR LR 02 33 24.8
comp=Z,370nm,20.6s,baz=305,slow=38
SDV Santo Domingo 28.48 103 *eP* **P 02 21 09.6 -0.4**
FXWY Fox Creek 28.48 341 P **P 02 21 09.9 +0.2**
SPMN Marine on St. 28.51 9 IAmb IAmb 02 21 33.5
comp=Z,36nm,0.9s
SPMN Marine on St. 28.51 9 P **P 02 21 07.6 -2.0**
baz=192,SNR=11
PNTR Pine Nut 28.54 324 IAmb IAmb 02 21 13.6
comp=Z,52nm,1.0s
P57A Homestead Farm 28.68 35 IAmb IAmb 02 21 29.8
comp=Z,47nm,1.1s
EMB Emerald Bay 28.75 324 IAmb IAmb 02 21 15.7
comp=Z,96nm,1.0s
FLWY Flagg Ranch 28.79 342 P **P 02 21 11.2 -1.2**
FLWY IAmb IAmb 02 21 15.4
comp=Z,48nm,1.1s
M53A WI Miller and 28.81 29 P **P 02 21 10.1 -2.2**
baz=218,SNR=5.5
PAHR Pah Rah Range 28.86 326 IAmb IAmb 02 21 16.1
comp=Z,90nm,1.8s
H17A Grant Village 29.04 342 P **P 02 21 14.9 +0.3**
baz=156,SNR=11
LKWY Lake 29.14 343 P **P 02 21 17.3 +1.7**
SSPA Standing Stone 29.57 33 P **P 02 21 18.2 -1.0**
SSPA IAmb IAmb 02 21 37.3
comp=Z,37nm,1.1s
SSPA Standing Stone 29.57 33 P **P 02 21 17.6 -1.5**
baz=223
HLID Hailey 29.59 336 IAmb IAmb 02 21 21.6
comp=Z,38nm,1.1s
HLID Hailey 29.59 336 P **P 02 21 19.3 -0.2**
baz=148,SNR=49
ERPA Erie 29.66 29 P **P 02 21 17.9 -2.0**
baz=218
M55A Ridgway 29.74 31 IAmb IAmb 02 21 41.2
comp=Z,50nm,0.9s
F42A Maple Grove Fa 29.94 15 IAmb IAmb 02 21 21.6
comp=Z,70nm,1.5s
G45A Suttons Bay 29.96 19 IAmb IAmb 02 21 40.1
comp=Z,44nm,0.8s
I49A Point Hope 29.96 23 IAmb IAmb 02 21 34.1
comp=Z,27nm,0.8s
MFID Camas Ranch 30.03 335 IAmb IAmb 02 21 25.6
comp=Z,75nm,1.4s
E38A The Farm, Brul 30.05 10 IAmb IAmb 02 22 22.0
comp=Z,36nm,1.1s
GLMI Grayling 30.10 20 P **P 02 21 22.1 -1.6**
GLMI Grayling 30.10 20 P **P 02 21 22.4 -1.3**
baz=208
BOZ Bozeman (W) 30.44 342 IAmb IAmb 02 21 29.3
comp=Z,60nm,1.2s
BOZ Bozeman (W) 30.44 342 P **P 02 21 27.2 +0.3**
baz=155,SNR=57
WVOR Wild Horse Val 30.50 330 P **P 02 21 27.7 +0.3**
WVOR Wild Horse Val 30.50 330 P **P 02 21 27.7 +0.3**
WVOR pmax pmax
comp=Z,126nm,1.5s
HOPS Hopland Field 30.50 321 IAmb IAmb 02 21 31.0
comp=Z,70nm,1.2s
WVNY West Valley, N 30.53 30 IAmb IAmb 02 21 48.4
comp=Z,30nm,0.9s
MDND Maddock 30.71 359 IAmb IAmb 02 21 29.4
comp=Z,63nm,0.9s
MDND Maddock 30.71 359 P **P 02 21 27.8 -1.3**
baz=178,SNR=6.7
E43A Lone Tree Farm 30.80 16 IAmb IAmb 02 21 29.1
comp=Z,33nm,0.9s
AGMN Agassiz Nation 31.24 4 IAmb IAmb 02 21 48.8
comp=Z,27nm,0.8s
AGMN Agassiz Nation 31.24 4 P **P 02 21 32.1 -1.6**
baz=185,SNR=8.3
ATAH Atahualpa 31.31 139 LR LR 02 31 41.7
comp=Z,408nm,20.8s,baz=316,slow=31
EYMN Ely 31.36 9 P **P 02 21 33.5 -1.3**
baz=193,SNR=5.5
J55A Hilton 31.56 30 IAmb IAmb 02 21 36.3
comp=Z,35nm,1.1s
E46A Sault Ste Mari 31.57 19 P **P 02 21 35.2 -1.5**
E46A IAmb IAmb 02 21 36.3
comp=Z,19nm,0.7s
DGMT Dagmar 31.65 353 P **P 02 21 37.4 0.0**
baz=170
BINY Binghamton 31.69 33 IAmb IAmb 02 21 58.0
comp=Z,33nm,0.9s
BINY Binghamton 31.69 33 P **P 02 21 36.5 -1.3**
baz=224,SNR=6.0
K57A Scipio Center 31.80 32 IAmb IAmb 02 21 56.5
comp=Z,47nm,1.1s
BMO Blue Mountains 31.82 334 IAmb IAmb 02 21 40.5
comp=Z,49nm,1.1s
TRNY Table Rock, Ra 31.93 36 IAmb IAmb 02 21 58.1
comp=Z,56nm,1.1s
PAL Palisades 32.01 37 P **P 02 21 39.2 -1.5**
baz=229
J56A Wolcott 32.03 31 P **P 02 21 39.5 -1.3**
J56A IAmb IAmb 02 21 40.8
comp=Z,39nm,1.0s
KHMM Horse Mountain 32.09 323 IAmb IAmb 02 21 44.4
comp=Z,47nm,1.0s
SADO Sadowa 32.13 27 LR LR 02 38 19.2
comp=Z,136nm,19.1s,baz=244,slow=43
L59A Walton 32.18 34 IAmb IAmb 02 22 02.3
comp=Z,34nm,0.9s
EGMT Eagleton 32.19 346 P **P 02 21 42.3 +0.1**
baz=160,SNR=27
L04D Klamath Falls 32.20 326 IAmb IAmb 02 21 44.4
comp=Z,57nm,1.2s
MSO Missoula 32.26 340 IAmb IAmb 02 21 44.5
comp=Z,46nm,0.9s
MSO Missoula 32.26 340 P **P 02 21 43.4 +0.5**
baz=152,SNR=41
KRMB Red Mountain 32.61 324 IAmb IAmb 02 21 48.8
comp=Z,47nm,1.1s
PINE Pine Mountain 32.63 329 P **P 02 21 46.0 -0.3**
J58A Remsen 32.88 32 IAmb IAmb 02 22 08.5
comp=Z,23nm,0.8s
I05D Terrebonne, OR 33.23 330 IAmb IAmb 02 21 53.4
comp=Z,40nm,1.3s
J59A Piesco 33.36 33 IAmb IAmb 02 22 10.2
comp=Z,66nm,1.6s
E09A Wood Farm, Sta 33.52 335 IAmb IAmb 02 21 55.1
comp=Z,42nm,1.0s
G06A Carlson Farm, 33.57 331 IAmb IAmb 02 21 59.3
comp=Z,38nm,1.2s
L61B Northampton 33.65 36 P **P 02 21 52.8 -2.2**
baz=229
J01E Myrtle Point 33.72 326 P **P 02 21 57.0 +1.6**
PCRV Puerto La Cruz 33.75 97 LR LR 02 37 19.7
comp=Z,177nm,21.4s,slow=39
LONY Lake Ozonia 34.14 31 P **P 02 21 57.6 -1.5**
baz=224
M65A Busby, Falmout 34.27 39 P **P 02 21 58.5 -1.9**
baz=233
HRV Adam Dziewonsk 34.32 37 P **P 02 21 59.0 -1.7**
baz=231
HRV Adam Dziewonsk 34.32 37 P P 02 22 12.6 +12
COR Corvallis 34.38 328 P **P 02 22 02.0 +0.8**
COR Corvallis 34.38 328 P **P 02 22 02.0 +0.8**
COR pmax pmax
comp=Z,99nm,1.2s
COR Corvallis 34.38 328 P **P 02 22 02.3 +1.1**
COR pP **pP 02 22 13.3 -0.8**
NEW Newport 34.59 338 IAmb IAmb 02 22 04.3
comp=Z,29nm,1.2s
NEW Newport 34.59 338 P **P 02 22 02.6 -0.5**
baz=148,SNR=10.0
NEW Newport 34.59 338 LR LR 02 37 41.5
comp=Z,1μm,19.4s,baz=161,slow=39
NEW Newport 34.59 338 P **P 02 22 03.5 +0.5**
NEW pmax pmax
comp=Z,22nm,1.2s
FRNY Flat Rock 34.79 32 IAmb IAmb 02 22 22.7
comp=Z,77nm,1.9s
MNTQ Montreal, Queb 35.24 31 IAmb IAmb 02 22 26.6
comp=Z,43nm,1.2s
LBNH Lisbon 35.25 34 P **P 02 22 07.6 -1.1**
baz=228
TRQ Mont Tremblant 35.31 29 IAmb IAmb 02 22 27.3
comp=Z,72nm,1.6s
CZSB Cruzeiro do Su 35.59 132 *eP* **P 02 22 11.5 -0.5**
D05A Enumclaw 35.67 332 P **P 02 22 12.9 +0.6**
NNA Nana 36.04 142 LR LR 02 34 05.6
comp=Z,359nm,21.4s,baz=330,slow=31
NNA Nana 36.04 142 *i P* **P 02 22 18.3 +2.4**
NNA pmax pmax
comp=Z,23nm,1.2s
GNW Green Mountain 36.32 332 IAmb IAmb 02 22 19.3
comp=Z,44nm,0.8s
G62A West of Eustis 36.64 34 IAmb IAmb 02 22 35.5
comp=Z,29nm,0.8s
PKME Peaks-Kenny Pk 37.34 35 P **P 02 22 25.2 -1.4**
baz=231
PGC Sidney 37.42 333 IAmb IAmb 02 22 29.1
comp=Z,33nm,1.0s
FFC Flin Flon 37.67 357 P **P 02 22 27.7 -1.6**
FFC IAmb IAmb 02 22 29.8
comp=Z,72nm,1.6s
FFC Flin Flon 37.67 357 P **P 02 22 27.7 -1.6**
FFC pmax pmax
comp=Z,72nm,1.6s
FFC Flin Flon 37.67 357 P **P 02 22 28.2 -1.1**
CLRS Cowichan Lake 37.84 332 IAmb IAmb 02 22 34.0
comp=Z,32nm,1.0s
D62A Allpoint, All 38.64 33 IAmb IAmb 02 22 56.3
comp=Z,50nm,1.1s
CBB Campbell River 39.28 333 IAmb IAmb 02 22 45.1
comp=Z,77nm,1.4s
TEFE Tefe 39.34 118 *eP* **P 02 22 43.6 -0.2**
BOAV Boa Vista 40.22 107 *eP* **P 02 22 50.8 -0.3**
HOLB Holberg 40.96 331 P **P 02 22 57.8 +1.1**
HOLB IAmb IAmb 02 22 59.9
comp=Z,90nm,1.2s
ETMB Extrema 41.76 127 P **P 02 23 05.7 +2.0**
ETMB IAmb IAmb 02 23 16.8
comp=Z,64nm,1.7s
ETMB Extrema 41.76 127 *eP* **P 02 23 03.5 -0.2**
BBB Bella Bella 42.04 333 LR LR 02 41 13.3
comp=Z,281nm,19.3s,baz=160,slow=37
SAML Samuel 43.59 124 *eP* **P 02 23 18.3 -0.3**
RUBB Prince Rupert 44.46 334 IAmb IAmb 02 23 27.8
comp=Z,45nm,1.0s
DIB Dawson Inlet, 44.67 332 P **P 02 23 28.2 +1.4**
LPAZ La Paz 44.78 136 P **P 02 23 29.9 +1.1**
LPAZ La Paz 44.78 136 P **P 02 23 31.9 +3.2**
comp=Z,0.5nm,0.6s,baz=310,slow=8.6,SNR=2.1
LPAZ LR LR 02 40 55.0
comp=Z,246nm,21.2s,baz=311,slow=34
LPAZ La Paz 44.78 136 P **P 02 23 29.9 +1.1**
LPAZ pmax pmax
comp=Z,6.0nm,1.2s
LPAZ La Paz 44.78 136 *eP* **P 02 23 28.0 -0.8**
LPAZ La Paz 44.78 136 P P 02 23 41.5 +13
LPAZ pP sP 02 23 52.6 +5.8
SCHQ Schefferville 44.93 26 IAmb IAmb 02 23 29.0
comp=Z,31nm,0.8s
SCHQ Schefferville 44.93 26 P **P 02 23 27.9 -1.0**
comp=Z,27nm,0.7s,baz=233,slow=7.3,SNR=45
SCHQ LR LR 02 44 53.4
comp=Z,160nm,19.6s,baz=238,slow=40
comp=Z,27nm,0.7s
RPN Rapa Nui 45.13 193 LR LR 02 38 24.0
comp=Z,129nm,21.2s,baz=198,slow=30
V35K Ketchikan 45.73 334 P **P 02 23 34.8 -0.2**
baz=134
TOAD Toad River Com 46.06 341 P **P 02 23 38.0 +0.3**
baz=144,SNR=40
T35M Bob Quinn 46.35 337 IAmb IAmb 02 23 43.2
comp=Z,31nm,0.9s
T35M Bob Quinn 46.35 337 P **P 02 23 41.6 +1.6**
baz=136,SNR=10
CRAG Craig 46.45 334 P **P 02 23 41.2 +0.5**
baz=132,SNR=5.7
MDP Montagnes des 46.59 99 LR LR 02 45 26.2
comp=Z,119nm,20.6s,baz=284,slow=39
YKA Yellowknife Ar 46.74 350 P **P 02 23 42.1 -0.8**
comp=Z,45nm,0.9s,baz=158,slow=6.7,SNR=289
YKA LR LR 02 44 37.5
comp=Z,381nm,18.2s,baz=177,slow=38
comp=Z,45nm,0.9s
YKA Yellowknife Ar 46.74 350 *eP* **P 02 23 42.1 -0.8**
YKA pmax pmax
comp=Z,46nm,0.9s
KOTAN Kotaneelee Air 46.76 343 P **P 02 23 44.0 +0.8**
baz=146,SNR=14
LIRD Liard River Hi 46.78 341 P **P 02 23 43.8 +0.5**
baz=143
WRAK Wrangell Islan 46.78 335 P **P 02 23 43.6 +0.3**
baz=133
U33K Whale Pass 46.89 334 P **P 02 23 45.1 +0.9**
baz=132
T33K Petersburg 47.29 335 P **P 02 23 48.5 +1.2**
baz=133
DLBC Dease Lake 47.34 338 P **P 02 23 48.9 +1.1**
baz=137,SNR=25
DLBC Dease Lake 47.34 338 P **P 02 23 49.4 +1.7**
comp=Z,46nm,1.1s,baz=157,slow=6.7,SNR=32
comp=Z,46nm,1.1s
S34M Telegraph Cree 47.35 337 IAmb IAmb 02 23 51.3
comp=Z,40nm,1.4s
S34M Telegraph Cree 47.35 337 P **P 02 23 48.6 +0.8**
baz=136
ITTB Itaituba 47.46 113 *eP* **P 02 23 49.3 +0.1**
WTLY Watson Lake, Y 48.18 340 P **P 02 23 54.9 +0.7**
baz=140
VILB Vilhena 48.31 126 *eP* **P 02 23 55.7 -0.2**
R33M Jennings River 48.37 339 P **P 02 23 56.6 +0.8**
baz=137,SNR=29
S32K Killisnoo 48.39 335 P **P 02 23 56.4 +0.7**
baz=131
SIT Sitka 48.43 334 P **P 02 23 57.4 +1.4**
baz=130
R32K Eaglecrest 48.90 336 P **P 02 24 01.1 +1.4**
baz=132
LVC Limon Verde 49.02 143 LR LR 02 42 59.2
comp=Z,114nm,20.9s,baz=329,slow=34
LVC Limon Verde 49.02 143 *eP* **P 02 24 01.2 -0.3**
NPGB Novo Progresso 49.07 116 *eP* **P 02 24 01.2 -0.4**
NPGB *epP* **pP 02 24 12.2 -2.4**
TGTN Hyland Airport 49.11 342 P **P 02 24 02.8 +1.4**
baz=134,SNR=21
WRGLY Wrigley 49.21 345 P **P 02 24 02.8 +0.8**
baz=146,SNR=15
S31K Pelican 49.38 335 P **P 02 24 04.1 +0.7**
baz=130
P32M Atlin 49.50 337 P **P 02 24 05.7 +1.4**
baz=134,SNR=6.2
SIV San Ignacio 49.54 130 P **P 02 24 07.6 +2.4**
comp=Z,2.6nm,1.0s,baz=287,slow=12,SNR=6.2
SIV LR LR 02 43 57.4
comp=Z,236nm,19.3s,baz=298,slow=35
comp=Z,2.6nm,1.0s
P33M Teslin, Yukon 49.61 338 P **P 02 24 06.7 +1.4**
baz=135,SNR=18
SKAG Skagway 50.01 337 P **P 02 24 09.2 +1.1**
baz=132
N32M Quiet Lake 50.37 339 P **P 02 24 12.1 +1.1**
baz=136
PLBC Pleasant Camp 50.41 336 P **P 02 24 12.7 +1.5**
baz=131
BBSD Serra de San D 50.64 130 *eP* **P 02 24 13.4 -0.1**
PTLB Pontes e Lacer 50.65 127 *eP* **P 02 24 13.4 -0.1**
WHY Whitehorse 50.66 338 P **P 02 24 14.3 +1.1**
WHY IAmb IAmb 02 24 15.9
comp=Z,28nm,1.0s
WHY Whitehorse 50.66 338 P **P 02 24 13.1 -0.1**
baz=133,SNR=8.2
MMPY Sheldon Lake, 50.86 341 P **P 02 24 16.4 +1.8**
MMPY Sheldon Lake, 50.86 341 P **P 02 24 17.0 +2.3**
baz=138,SNR=94
FRB Frobisher Bay 51.02 17 LR LR 02 47 19.2
comp=Z,158nm,20.6s,baz=210,slow=38
P29M Windy Craggy 51.05 336 IAmb IAmb 02 24 19.3
comp=Z,30nm,1.1s
P29M Windy Craggy 51.05 336 P **P 02 24 18.1 +2.0**
baz=129,SNR=6.9
P30M Million Dollar 51.07 337 P **P 02 24 18.3 +2.1**
baz=130
O30N Mendenhall 51.17 337 P **P 02 24 19.1 +2.1**
baz=132,SNR=18
FARO Faro, Yukon 51.23 340 P **P 02 24 19.0 +1.6**
baz=136,SNR=44
N31M Braeburn, Yuko 51.54 338 P **P 02 24 21.6 +1.8**
baz=133,SNR=11
M31M Drury Creek, Y 51.56 340 IAmb IAmb 02 24 23.0
comp=Z,51nm,1.1s
M31M Drury Creek, Y 51.56 340 P **P 02 24 21.7 +1.8**
baz=135,SNR=27
HYT Haines Junctio 51.73 337 P **P 02 24 23.6 +2.3**
baz=130,SNR=22
PNL Peninsula 51.74 335 P **P 02 24 22.7 +1.5**
baz=127
N30M Aishikik Lake 51.99 338 IAmb IAmb 02 24 26.7
comp=Z,55nm,1.2s
N30M Aishikik Lake 51.99 338 P **P 02 24 25.4 +2.3**
baz=131,SNR=15
YUK6 Outpost Mounta 52.13 337 P **P 02 24 26.6 +2.2**
baz=129,SNR=8.0
YUK4 Talbot Arm 52.49 337 P **P 02 24 29.9 +2.9**
baz=129,SNR=12
M30M Minto, Yukon 52.63 339 IAmb IAmb 02 24 30.7
comp=Z,46nm,1.2s
M30M Minto, Yukon 52.63 339 P **P 02 24 29.4 +1.6**
baz=132,SNR=20
O28M Mount Upton 52.73 336 P **P 02 24 31.6 +2.7**
baz=127,SNR=5.3
YUK8 Steele Glacier 52.88 337 P **P 02 24 32.3 +2.4**
baz=128,SNR=15
MAYO Mayo, Yukon 53.03 340 P **P 02 24 32.8 +2.2**
baz=134,SNR=9.2
LOGN Logan Glacier 53.08 336 P **P 02 24 32.3 +1.1**
LOGN IAmb IAmb 02 24 34.7
comp=Z,55nm,1.5s
MESA MESA 53.08 335 P **P 02 24 33.4 +2.0**
baz=125
M29M Somme Creek 53.13 338 P **P 02 24 33.4 +1.9**
baz=130,SNR=27
LCO Las Campanas 53.19 149 P P 02 24 46.5 +14
CTG Chitna Glacier 53.29 336 P **P 02 24 34.8 +2.0**
baz=126
YUK3 Moose Creek 53.44 337 P **P 02 24 35.7 +1.7**
baz=128,SNR=8.0
L29M L29M 53.45 339 P **P 02 24 35.6 +1.8**
baz=131,SNR=37
BGLC Bering Glacier 53.60 334 P **P 02 24 36.0 +1.1**
baz=124
K29M Barlow Dome 53.73 340 IAmb IAmb 02 24 39.4
comp=Z,54nm,1.2s
K29M Barlow Dome 53.73 340 P **P 02 24 37.2 +1.3**
baz=132,SNR=30
J30M Hart River 53.84 341 IAmb IAmb 02 24 40.6
comp=Z,65nm,1.6s
J30M Hart River 53.84 341 P **P 02 24 38.0 +1.2**
baz=134,SNR=15
H31M Peel River 54.13 343 P **P 02 24 39.6 +0.8**
baz=136,SNR=15
MCARA McCarthy VSAT 54.20 335 P **P 02 24 41.6 +2.3**
baz=124,SNR=7.2
VRDI Verde Repeater 54.28 335 IAmb IAmb 02 24 43.2
comp=Z,68nm,1.6s
I30M Mount Dempster 54.31 342 IAmb IAmb 02 24 42.3
comp=Z,50nm,1.2s
I30M Mount Dempster 54.31 342 P **P 02 24 41.1 +0.9**
baz=134,SNR=35
M27K Edge Creek, AK 54.33 337 IAmb IAmb 02 24 43.5
comp=Z,26nm,1.1s
M27K Edge Creek, AK 54.33 337 P **P 02 24 42.2 +1.8**
baz=126,SNR=7.7
J29N Klondike Camp 54.36 340 P **P 02 24 40.3 -0.2**
baz=132
DAWY Dawson 54.50 339 IAmb IAmb 02 24 43.4
comp=Z,29nm,1.3s
DAWY Dawson 54.50 339 P **P 02 24 42.1 +0.6**
baz=130,SNR=13
GLB Gilahina Butte 54.55 335 IAmb IAmb 02 24 45.0
comp=Z,30nm,1.0s
Q23K Middleton Isla 54.56 332 P **P 02 24 42.5 +0.6**
baz=120
C36M Paulatuk 54.60 349 IAmb IAmb 02 24 43.1
comp=Z,25nm,1.2s
C36M Paulatuk 54.60 349 P **P 02 24 42.2 +0.2**
baz=150,SNR=17
BMRM Bremner River 54.61 335 P **P 02 24 43.8 +1.4**
baz=123,SNR=8.9
BCAR Beaver Creek A 54.71 338 P **P 02 24 43.9 +0.8**
L27K Beaver Creek, 54.73 338 IAmb IAmb 02 24 46.1
comp=Z,41nm,1.2s
L27K Beaver Creek, 54.73 338 P **P 02 24 44.5 +1.4**
baz=127,SNR=20
M26K Nabesna, AK 54.77 337 IAmb IAmb 02 24 46.5
comp=Z,41nm,1.1s
M26K Nabesna, AK 54.77 337 P **P 02 24 45.0 +1.5**

baz=125,SNR=17
EYAK **Cordova Ski Ar** 54.87 334 P P 02 24 44.7 +0.6
baz=121
G31M **Satah River** 54.92 344 P P 02 24 45.0 +0.5
baz=137,SNR=39
N25K **Chitina, Valde** 54.95 335 IAmb IAmb 02 24 48.3
comp=Z,46nm,1.3s
N25K **Chitina, Valde** 54.95 335 P P 02 24 46.1 +1.2
baz=123,SNR=7.8
I29M **Ogilvie Camp,** 55.00 341 IAmb IAmb 02 24 46.7
comp=Z,32nm,1.1s
I29M **Ogilvie Camp,** 55.00 341 P P 02 24 45.6 +0.5
baz=132,SNR=19
F31M **Tsiigehtchic** 55.17 344 P P 02 24 46.5 +0.3
baz=138,SNR=31
EPYK **Eagle Plains** 55.21 342 IAmb IAmb 02 24 49.9
comp=Z,35nm,1.3s
EPYK **Eagle Plains** 55.21 342 P P 02 24 47.5 +0.9
baz=134,SNR=9.7
L26K **Log Cabin Wild** 55.27 337 IAmb IAmb 02 24 49.9
comp=Z,47nm,1.4s
L26K **Log Cabin Wild** 55.27 337 P P 02 24 48.5 +1.5
baz=125,SNR=12
P23K **Montague Islan** 55.30 333 P P 02 24 48.8 +1.5
baz=119
MENT **Mentasta** 55.36 337 IAmb IAmb 02 24 50.5
comp=Z,30nm,1.3s
K27K **Chicken** 55.40 338 P P 02 24 49.6 +1.6
baz=127
KLU **Klutina** 55.43 335 IAmb IAmb 02 24 51.3
comp=Z,50nm,1.2s
KLU **Klutina** 55.43 335 P P 02 24 49.8 +1.5
baz=122,SNR=9.2
G30M **tAoh Zraii Nji** 55.50 343 P P 02 24 48.8 +0.1
G30M **tAoh Zraii Nji** 55.50 343 P P 02 24 48.4 -0.2
baz=135
BDQN **Bodoquena, MS** 55.53 131 *e*P P 02 24 49.4 0.0
BDQN *e*pP pP 02 25 00.2 -2.4
EGAK **Eagle** 55.54 339 P P 02 24 49.7 +0.7
baz=128,SNR=15
I28M **Miner Creek** 55.57 340 P P 02 24 49.4 +0.1
baz=130,SNR=8.8
H29M **Whitestone** 55.59 342 P P 02 24 49.7 +0.4
baz=132,SNR=35
GLI **Glacier Island** 55.60 334 IAmb IAmb 02 24 51.8
comp=Z,18nm,0.8s
GLI **Glacier Island** 55.60 334 P P 02 24 49.8 +0.3
baz=120
HARP **HAARP** 55.61 336 P P 02 24 49.5 +0.1
baz=123
MURT **Porto Murtinho** 55.68 132 *e*P P 02 24 50.6 +0.1
MURT *e*pP pP 02 25 01.6 -2.1
INK **Inuvik** 55.77 345 P P 02 24 50.4 0.0
INK **Inuvik** 55.77 345 P P 02 24 50.9 +0.5
baz=139,SNR=51
INK **Inuvik** 55.77 345 P P 02 24 50.6 +0.1
comp=Z,31nm,0.8s,baz=135,slow=6.1,SNR=50
INK LR LR 02 51 22.7
comp=Z,339nm,18.1s,baz=186,slow=39
comp=Z,31nm,0.8s
INK **Inuvik** 55.77 345 P P 02 24 50.4 0.0
INK pmax pmax
comp=Z,63nm,1.1s
F30M **Barrier River** 55.83 344 P P 02 24 51.7 +0.7
baz=136,SNR=29
M24K **Tolsona, Glenn** 55.85 335 P P 02 24 53.0 +1.7
baz=122
G29M **Pine Creek** 55.96 342 IAmb IAmb 02 24 53.9
comp=Z,47nm,1.4s
G29M **Pine Creek** 55.96 342 P P 02 24 52.6 +0.6
baz=133,SNR=11
PAX **Paxson** 56.04 336 P P 02 24 53.8 +1.1
baz=123,SNR=22
SCRK **Sand Creek** 56.05 338 P P 02 24 54.2 +1.5
baz=125,SNR=25
SCM **Sheep Creek Mo** 56.18 335 P P 02 24 54.2 +0.6
baz=120
J26L **Joseph Creek** 56.20 338 P P 02 24 55.6 +1.8
baz=126,SNR=83
I27K **Kandik River** 56.21 340 P P 02 24 54.7 +0.9
baz=128,SNR=12
SEW **Seward** 56.26 332 P P 02 24 55.1 +1.0
baz=117
AQDB **Aquidauana** 56.31 130 *e*P P 02 24 55.1 0.0
AQDB *e*pP pP 02 25 06.0 -2.3
M23K **Glacier View** 56.32 334 P P 02 24 55.4 +0.8
baz=120
KNK **Knik Glacier** 56.44 334 IAmb IAmb 02 24 59.2
comp=Z,31nm,1.2s
KNK **Knik Glacier** 56.44 334 P P 02 24 56.6 +1.1
baz=119,SNR=5.7
I26K **Coal Creek Min** 56.54 339 IAmb IAmb 02 24 58.1
comp=Z,31nm,1.1s
I26K **Coal Creek Min** 56.54 339 P P 02 24 56.8 +0.7
baz=127
O22K **Cooper Landing** 56.55 333 P P 02 24 56.6 +0.4
baz=117
H27K **Steamboat Moun** 56.57 341 P P 02 24 56.9 +0.5
baz=129,SNR=10
SML **Sawmill** 56.58 334 P P 02 24 56.8 +0.3
baz=119
K24K **Donnelly Dome** 56.61 337 P P 02 24 57.6 +0.9
baz=123,SNR=9.8
BRSE **Bradley Lake S** 56.68 331 P P 02 24 58.0 +0.8
baz=116
WAT6 **Susitna Watana** 56.73 335 P P 02 24 58.7 +1.1
baz=120,SNR=18
KDAK **Kodiak Island** 56.76 329 P P 02 24 58.0 +0.2
baz=112
KDAK **Kodiak Island** 56.76 329 LR LR 02 50 26.6
comp=Z,354nm,18.3s,baz=166,slow=37
GHO **Glory Hole Cre** 56.81 334 P P 02 24 58.4 +0.2
GHO IAmb IAmb 02 25 00.3
comp=Z,34nm,0.9s
PMR **Palmer** 56.81 334 IAmb IAmb 02 25 00.1
comp=Z,17nm,0.8s
PMR **Palmer** 56.81 334 P P 02 24 58.5 +0.5
baz=118,SNR=7.6
DHY **Denali Highway** 56.83 336 P P 02 24 58.4 0.0
baz=121,SNR=6.2
RC01 **Rabbit Creek A** 56.84 333 IAmb IAmb 02 24 59.8
comp=Z,20nm,0.9s
RC01 **Rabbit Creek A** 56.84 333 P P 02 24 58.8 +0.6
baz=117
OHAK **Old Harbor** 56.90 328 IAmb IAmb 02 25 00.9
comp=Z,34nm,1.0s
OHAK **Old Harbor** 56.90 328 P P 02 24 59.3 +0.6
baz=112
J25K **Salcha River,** 56.91 338 P P 02 24 60.0 +1.2
baz=124,SNR=12
E29M **Blow River** 56.95 344 P P 02 24 59.8 +0.9
baz=134,SNR=27
F28M **Old Crow** 56.97 342 P P 02 24 60.0 +0.9
baz=131,SNR=43
G27K **Doyon Strip** 56.98 341 IAmb IAmb 02 25 00.4
comp=Z,15nm,1.0s
G27K **Doyon Strip** 56.98 341 P P 02 24 59.7 +0.5
baz=129,SNR=13
G27K **Doyon Strip** 56.98 341 P P 02 25 00.1 +0.9
Q20K **Shuyak Island** 56.99 330 P P 02 25 00.3 +1.0
baz=113
HOM **Homer** 57.06 331 P P 02 24 59.5 -0.4
baz=114
A36M **Sachs Harbour** 57.09 350 P P 02 24 59.6 -0.2
baz=149,SNR=42
SII **Sitkinak Islan** 57.13 327 P P 02 25 00.4 0.0
baz=110
WAT1 **Susitna Watana** 57.17 335 P P 02 25 01.7 +1.1
baz=120
M22K **Willow** 57.30 334 P P 02 25 02.3 +0.8
baz=117,SNR=5.5
CAPN **Captain Cook N** 57.31 332 P P 02 25 03.2 +1.7
baz=116
HDA **Harding Lake** 57.37 337 P P 02 25 02.7 +0.7
baz=122,SNR=12
SUA **Susitna One** 57.44 333 P P 02 25 03.3 +0.7
baz=116,SNR=12
PRP **Porcupine Dome** 57.47 339 P P 02 25 03.8 +1.0
baz=124,SNR=29
E28M **Babbage River** 57.54 343 IAmb IAmb 02 25 05.6
comp=Z,24nm,1.1s
E28M **Babbage River** 57.54 343 P P 02 25 03.5 +0.4
baz=132,SNR=15
ILAR **Eielson Array** 57.54 338 P P 02 25 03.2 +0.1
ILAR **Eielson Array** 57.54 338 P P 02 25 03.9 +0.7
comp=Z,19nm,1.0s,baz=133,slow=4.5,SNR=13
ILAR LR LR 02 52 14.0
comp=Z,637nm,18.0s,baz=128,slow=39
comp=Z,19nm,1.0s
ILAR **Eielson Array** 57.54 338 *e*P P 02 25 02.2 -1.0
ILAR pmax pmax
comp=Z,23nm,1.0s
CHIR **Chirikof Islan** 57.64 326 P P 02 25 05.1 +1.1
baz=108
CUT **Chulitna** 57.67 334 P P 02 25 04.6 +0.6
baz=118
RES **Resolute Bay** 57.67 1 IAmb IAmb 02 25 04.5
comp=Z,31nm,1.1s
RES **Resolute Bay** 57.67 1 P P 02 25 03.3 -0.6
RES pmax pmax
comp=Z,28nm,1.7s
O20K **Slope Mountain** 57.69 331 P P 02 25 04.5 +0.2
baz=114
Q19K **Cape Douglas,** 57.71 330 P P 02 25 05.1 +0.6
baz=112
G26K **Porcupine Rive** 57.73 341 P P 02 25 04.9 +0.5
baz=127
MCK **McKinley** 57.77 336 P P 02 25 05.4 +0.6
baz=120,SNR=10
P19K **Oil Pt** 57.80 331 P P 02 25 06.1 +1.0
baz=113
CCB **Clear Creek Bu** 57.81 337 IAmb IAmb 02 25 06.9
comp=Z,17nm,0.9s
D28M **Stokes Point** 57.82 344 P P 02 25 04.7 -0.3
baz=133
WRH **Wood River Hil** 57.83 337 IAmb IAmb 02 25 08.8
comp=Z,23nm,1.0s
E27K **Coleen River** 57.84 343 P P 02 25 05.9 +0.7
baz=130,SNR=18
POKR **Poker Plat Res** 57.92 338 P P 02 25 06.7 +0.8
baz=122
COLA **College** 57.95 338 P P 02 25 06.0 0.0
COLA IAmb IAmb 02 25 08.0
comp=Z,26nm,0.8s
COLA **College** 57.95 338 P P 02 25 06.2 +0.2
baz=121
COLA **College** 57.95 338 *d* iP P 02 25 06.1 +0.2
COLA pmax pmax
comp=Z,35nm,1.0s
COLA **College** 57.95 338 P P 02 25 06.3 +0.2
COLA sP pP 02 25 21.8 +2.5
N20K **Mount Spurr** 57.96 333 P P 02 25 06.6 +0.4
baz=115,SNR=10.0
H25L **Birch Creek** 57.99 340 P P 02 25 07.2 +1.0
baz=124
SKT **Skwentna** 58.01 334 IAmb IAmb 02 25 08.0
comp=Z,29nm,1.0s
SKT **Skwentna** 58.01 334 P P 02 25 07.5 +1.0
baz=116,SNR=14
TRF **Thorofare Moun** 58.17 336 P P 02 25 08.7 +0.9
baz=118,SNR=31
NEA2 **Nenana** 58.25 337 IAmb IAmb 02 25 10.8
comp=Z,39nm,1.4s
NEA2 **Nenana** 58.25 337 P P 02 25 08.8 +0.6
baz=120,SNR=8.3
BMAR **Burnt Mountain** 58.27 341 P P 02 25 08.6 +0.4
F26K **Sheenjek River** 58.29 341 P P 02 25 09.2 +0.8
baz=127,SNR=12
D27M **Malcolm River** 58.35 344 P P 02 25 09.1 +0.3
baz=131
G25K **Bearman Lake** 58.37 340 P P 02 25 10.0 +1.2
baz=124
H24K **Noodor Dome** 58.46 339 P P 02 25 10.6 +0.9
baz=122,SNR=28
O19K **Port Alsworth** 58.51 331 P P 02 25 10.7 +0.8
baz=112
I23K **Minto, Yukon-K** 58.64 337 P P 02 25 11.9 +1.1
baz=120,SNR=18
P18K **Big Mountain,** 58.64 330 IAmb IAmb 02 25 11.8
comp=Z,25nm,1.0s
P18K **Big Mountain,** 58.64 330 P P 02 25 11.1 +0.1
baz=111,SNR=6.0
M20K **Styx River** 58.65 333 IAmb IAmb 02 25 12.9
comp=Z,26nm,0.8s
PPLA **Purkeypile** 58.68 334 P P 02 25 11.9 +0.6
baz=116,SNR=11
F25K **Christian Rive** 58.69 341 P P 02 25 11.0 -0.2
baz=125,SNR=13
SFJD **Kangerlussuaq** 58.71 20 P P 02 25 10.9 -0.2
SFJD IAmb IAmb 02 25 12.2
comp=Z,34nm,1.3s
SFJD **Kangerlussuaq** 58.71 20 LR LR 02 53 07.9
comp=Z,116nm,19.9s,baz=241,slow=39
SFJD **Kangerlussuaq** 58.71 20 P P 02 25 11.0 -0.2
SFJD pmax pmax
comp=Z,34nm,1.3s
SFJD **Kangerlussuaq** 58.71 20 P P 02 25 11.3 +0.1
SFJD **Kangerlussuaq** 58.71 20 *i* P P 02 25 10.6 -0.6
SFJD IAmb IAmb 02 25 13.0
comp=Z,6.1nm,0.9s
BPAW **Bear Paw Mtn.** 58.74 336 IAmb IAmb 02 25 13.2
comp=Z,29nm,1.0s
BPAW **Bear Paw Mtn.** 58.74 336 P P 02 25 12.1 +0.5
baz=118,SNR=15
G24K **Hadweenzic Riv** 58.79 340 P P 02 25 12.6 +0.8
baz=123,SNR=10.0
O18K **Koktuh Hills** 58.80 331 IAmb IAmb 02 25 13.6
comp=Z,25nm,1.0s
O18K **Koktuh Hills** 58.80 331 P P 02 25 11.9 -0.2
baz=111,SNR=5.4
N19K **Bonanza Creek** 58.82 332 P P 02 25 12.1 -0.2
baz=112,SNR=13
CAST **Castle Rocks** 58.87 335 P P 02 25 12.4 -0.1
baz=116,SNR=40
CPUP **Villa Florida** 58.95 136 LR LR 02 49 34.3
comp=Z,100nm,20.9s,baz=337,slow=35
CPUP **Villa Florida** 58.95 136 P P 02 25 25.5 +12
CPUP pP sP 02 25 36.3 +4.1
E25K **Arctic Village** 58.98 341 P P 02 25 14.0 +0.8
baz=125,SNR=11
H23K **Yukon River** 59.04 338 P P 02 25 14.4 +0.7
baz=120,SNR=8.2
MLY **Manley** 59.09 337 P P 02 25 14.7 +0.7
baz=118,SNR=35
Q16K **King Salmon** 59.09 329 P P 02 25 15.0 +0.9
baz=109
P17K **Kvichak River** 59.16 330 P P 02 25 15.0 +0.6
baz=110
CHUM **Lake Minchumin** 59.17 335 P P 02 25 15.0 +0.5
baz=116,SNR=7.0
M19K **Big River Lodg** 59.20 333 P P 02 25 14.2 -0.6
M19K **Big River Lodg** 59.20 333 P P 02 25 15.7 +0.9
baz=113
R16K **Pilot Point** 59.21 328 P P 02 25 15.6 +0.7
baz=108
L20K **Farewell, AK** 59.21 334 P P 02 25 15.3 +0.4
baz=114,SNR=25
CHGN **Chignik** 59.28 326 P P 02 25 16.6 +1.2
baz=106
C27K **Jago River** 59.34 343 P P 02 25 16.5 +0.8
baz=128
F24K **Squaw Lake** 59.37 340 P P 02 25 16.5 +0.6
baz=123
N18K **Kilae Creek** 59.41 331 IAmb IAmb 02 25 17.9
comp=Z,29nm,0.9s
N18K **Kilae Creek** 59.41 331 P P 02 25 16.9 +0.6
baz=111,SNR=9.7
L19K **White Mountain** 59.51 333 IAmb IAmb 02 25 18.6
comp=Z,23nm,1.0s
L19K **White Mountain** 59.51 333 P P 02 25 16.2 -0.7
baz=113,SNR=14
CHNA **Chernabura Isl** 59.54 324 P P 02 25 17.6 +0.4
baz=104
BDFB **Brasilia** 59.60 120 P P 02 25 19.9 +1.6
comp=Z,2.5nm,0.6s,baz=279,slow=7.4,SNR=4.8
BDFB LR LR 02 53 04.7
comp=Z,129nm,19.1s,baz=320,slow=38
comp=Z,2.5nm,0.6s
K20K **Telida** 59.65 335 P P 02 25 18.2 +0.4
baz=114,SNR=22
G23K **Bananza Creek** 59.66 339 IAmb IAmb 02 25 19.9
comp=Z,22nm,0.9s
G23K **Bananza Creek** 59.66 339 P P 02 25 18.3 +0.4
baz=120,SNR=17
O17K **Koliganek Bris** 59.67 330 P P 02 25 18.7 +0.7
baz=109,SNR=11
M18K **Stony River** 59.68 332 P P 02 25 17.9 -0.2
baz=112,SNR=12
H22K **Ishtalitna Cre** 59.74 338 P P 02 25 18.8 +0.4
baz=118,SNR=24
C26K **Camden Bay** 59.85 343 P P 02 25 20.0 +0.9
baz=127,SNR=5.3
E24K **Your Creek** 59.86 341 P P 02 25 20.3 +1.0
baz=122,SNR=6.4
S14K **Fog Glacier** 59.89 326 P P 02 25 20.6 +0.9
baz=105
D25K **Kavik River** 59.91 342 P P 02 25 20.3 +0.7
baz=125,SNR=6.8
DY2G **Dye2** 59.91 22 *i* P P 02 25 19.3 -0.6
DY2G IAmb IAmb 02 25 22.2
comp=Z,8.7nm,0.7s
N17K **Nushagak Hills** 59.96 331 IAmb IAmb 02 25 21.9
comp=Z,28nm,1.2s
N17K **Nushagak Hills** 59.96 331 P P 02 25 20.7 +0.7
baz=110,SNR=7.9
COLD **Coldfoot** 59.98 339 P P 02 25 21.4 +1.3
baz=120,SNR=11
J20K **Nowinta River** 60.02 335 P P 02 25 20.6 +0.2
baz=115,SNR=30
O16K **Kokwok River B** 60.09 330 IAmb IAmb 02 25 22.3
comp=Z,17nm,0.8s
O16K **Kokwok River B** 60.09 330 P P 02 25 21.3 +0.4
baz=108,SNR=6.7
H21K **Melozitna Rive** 60.15 337 IAmb IAmb 02 25 22.6
comp=Z,22nm,0.9s
H21K **Melozitna Rive** 60.15 337 P P 02 25 21.4 +0.2
baz=117,SNR=16
SDPT **Sand Point** 60.16 325 P P 02 25 22.3 +0.9
baz=104
G22K **Bettles** 60.27 339 P P 02 25 22.3 +0.3
baz=119
L18K **Granite Mounta** 60.33 333 IAmb IAmb 02 25 24.0
comp=Z,22nm,0.9s
L18K **Granite Mounta** 60.33 333 P P 02 25 22.9 +0.5
baz=111,SNR=18
M17K **Holitna River** 60.37 332 P P 02 25 23.0 +0.1
baz=110,SNR=11
I20K **Naaghedeneel** 60.41 336 P P 02 25 23.8 +0.8
baz=114,SNR=11
TOLK **Toolik Lake Re** 60.50 341 IAmb IAmb 02 25 25.6
comp=Z,18nm,0.9s
TOLK **Toolik Lake Re** 60.50 341 P P 02 25 24.0 +0.4
baz=122,SNR=9.1
J19K **Poorman** 60.54 335 P P 02 25 23.6 -0.3
J19K **Poorman** 60.54 335 P P 02 25 24.1 +0.1
baz=113,SNR=40
D24K **Happy Valley** 60.55 342 IAmb IAmb 02 25 46.2
comp=Z,13nm,0.8s
D24K **Happy Valley** 60.55 342 P P 02 25 24.6 +0.8
baz=122,SNR=5.9
N16K **Nishlik Lake** 60.69 331 P P 02 25 25.7 +0.7
baz=108,SNR=12
F22K **John River** 60.78 339 P P 02 25 26.2 +0.7
baz=118,SNR=18
PPT **Papeete** 60.79 238 LR LR 02 45 41.6
comp=Z,93nm,21.9s,baz=148,slow=30
G21K **Allakaket** 60.79 338 P P 02 25 25.6 0.0
baz=116,SNR=11
J18K **Innoko River** 60.79 334 IAmb IAmb 02 25 26.9
comp=Z,26nm,1.1s
J18K **Innoko River** 60.79 334 P P 02 25 25.8 +0.1
baz=112,SNR=14
O15K **Ungalikthiuk R** 60.81 329 P P 02 25 25.0 -0.8
baz=106,SNR=7.6
C24K **Franklin Bluff** 60.82 342 P P 02 25 26.1 +0.4
baz=123
H20K **Anotleneega Mo** 60.86 337 P P 02 25 26.2 +0.1
baz=114,SNR=23
M16K **Timber Creek** 60.95 331 IAmb IAmb 02 25 28.6
comp=Z,24nm,0.9s
M16K **Timber Creek** 60.95 331 P P 02 25 27.2 +0.5
baz=108,SNR=9.5
E22K **Anaktuvuk Pass** 60.96 340 IAmb IAmb 02 25 28.6
comp=Z,18nm,1.0s
E22K **Anaktuvuk Pass** 60.96 340 P P 02 25 26.7 -0.1
baz=119
L17K **Donlin** 61.00 332 P P 02 25 27.5 +0.4
baz=109,SNR=12
D23K **Nanushuk River** 61.02 341 P P 02 25 27.4 +0.3
baz=120
F21K **Alatna River** 61.10 339 P P 02 25 28.9 +1.2
baz=117,SNR=48
S12K **Black Hills** 61.12 325 P P 02 25 28.4 +0.4
baz=102
K17K **Iditarod** 61.20 333 P P 02 25 28.3 -0.1
baz=110,SNR=15
N15K **Kwethluk River** 61.22 330 P P 02 25 29.1 +0.5
baz=107
GCSA **Galena City Sc** 61.34 335 P P 02 25 29.1 -0.2
baz=112
L16K **Owhat River** 61.40 332 IAmb IAmb 02 25 30.9
comp=Z,15nm,1.0s
L16K **Owhat River** 61.40 332 P P 02 25 30.2 +0.5
baz=108,SNR=6.1
C23K **Itkillik River** 61.44 342 P P 02 25 30.9 +0.9
baz=121,SNR=17
H19K **Roundabout Mou** 61.47 336 IAmb IAmb 02 25 31.4
comp=Z,20nm,0.9s
H19K **Roundabout Mou** 61.47 336 P P 02 25 30.3 +0.2
baz=113,SNR=14
O14K **Tigyukauivet M** 61.54 329 P P 02 25 31.8 +1.0
baz=105
D22K **Ayikyak River** 61.60 341 P P 02 25 31.1 0.0
D22K **Ayikyak River** 61.60 341 P P 02 25 32.2 +1.1
baz=118,SNR=23
M15K **Kasigluk River** 61.66 330 P P 02 25 31.7 +0.2
baz=106
FALS **False Pass** 61.71 324 P P 02 25 32.0 +0.1
baz=101
J17K **VABM Dome** 61.76 334 P P 02 25 32.2 0.0
baz=109
F20K **Avaraart Lake** 61.81 338 IAmb IAmb 02 25 34.5
comp=Z,25nm,1.1s
F20K **Avaraart Lake** 61.81 338 P P 02 25 33.4 +0.9
baz=114,SNR=16
E21K **Killik River** 61.82 340 IAmb IAmb 02 25 34.3
comp=Z,26nm,1.3s
E21K **Killik River** 61.82 340 P P 02 25 33.2 +0.6
baz=117
N14K **Kuskokwak Cree** 61.92 329 P P 02 25 34.5 +1.1
baz=105
G19K **Purcell Mounta** 61.95 337 P P 02 25 33.9 +0.4
baz=113,SNR=27
H18K **Honhosa River** 62.07 336 IAmb IAmb 02 25 35.9
comp=Z,18nm,0.9s
H18K **Honhosa River** 62.07 336 P P 02 25 34.5 +0.2
baz=111,SNR=6.9
ISOG **Isortoq, Green** 62.22 24 *e*P P 02 25 35.0 -0.2
ISOG IAmb IAmb 02 25 36.6
comp=Z,18nm,0.8s
M14K **Bethel** 62.27 330 P P 02 25 36.0 +0.3
baz=105,SNR=7.6
L15K **Ungalak Mounta** 62.30 331 P P 02 25 36.6 +0.7
baz=106,SNR=15
J16K **Anvik River** 62.38 333 P P 02 25 36.0 -0.3
J16K **Anvik River** 62.38 333 P P 02 25 37.5 +1.1
baz=108,SNR=14
C21K **Knifeblade Rid** 62.40 340 P P 02 25 37.5 +1.1
baz=116,SNR=12
G18K **Tagagawik** 62.45 336 IAmb IAmb 02 25 38.8
comp=Z,31nm,1.4s
G18K **Tagagawik** 62.45 336 P P 02 25 37.5 +0.7
baz=111,SNR=8.8
F19K **Shaleruckik Mo** 62.47 337 IAmb IAmb 02 25 38.7
comp=Z,26nm,1.1s
F19K **Shaleruckik Mo** 62.47 337 P P 02 25 37.4 +0.5
baz=112
E20K **Nigu River** 62.48 339 P P 02 25 37.9 +0.8
baz=114,SNR=14
K15K **Wolf Creek Mou** 62.50 332 P P 02 25 37.8 +0.7
baz=106,SNR=12
E19K **Redstone River** 62.52 338 IAmb IAmb 02 25 39.0
comp=Z,19nm,0.8s
E19K **Redstone River** 62.52 338 P P 02 25 38.0 +0.8
baz=113,SNR=13
B22K **Teshekpuk Lake** 62.53 342 IAmb IAmb 02 25 58.8
comp=Z,18nm,0.9s
B22K **Teshekpuk Lake** 62.53 342 P P 02 25 37.7 +0.5
baz=118,SNR=5.7
B21K **Ikpikpuk River** 62.56 341 P P 02 25 37.8 +0.3
baz=117
I17K **Unalakleet** 62.60 334 P P 02 25 38.5 +0.7
baz=108
H17K **Granite Mounta** 62.62 335 P P 02 25 38.9 +0.9
baz=109,SNR=13
L14K **Kuka Creek** 62.77 331 IAmb IAmb 02 25 40.5
comp=Z,29nm,0.8s
L14K **Kuka Creek** 62.77 331 P P 02 25 39.6 +0.6
baz=105
ANGG **Ammassalik, Gr** 62.77 24 *i* P P 02 25 38.6 -0.3
ANGG IAmb IAmb 02 25 40.9
comp=Z,10nm,0.6s
D20K **Etivluk River** 62.81 340 P P 02 25 39.3 +0.1
baz=114,SNR=14

M13K Dall Lake 62.85 330 P **P** **02 25 39.0 -0.5**
baz=104
F18K Selawik 63.08 337 P **P** **02 25 42.1 +1.2**
baz=110,SNR=5.8
G17K Kiwalik Mounta 63.10 336 P **P** **02 25 42.4 +1.3**
baz=109,SNR=6.5
PLCA Paso Flores 63.16 156 LR LR 02 46 53.2
comp=Z,170nm,19.1s,baz=345,slow=30
PLCA Paso Flores 63.16 156 *e*P **P** **02 25 42.2 +0.3**
PLCA Paso Flores 63.16 156 P P 02 25 55.5 +14
D19K Kuna River 63.23 339 IAmb IAmb 02 25 43.5
comp=Z,28nm,1.1s
D19K Kuna River 63.23 339 P **P** **02 25 42.4 +0.4**
baz=113,SNR=12
NBCL Cascavel-CE 63.26 104 *e*P **P** **02 25 42.6 -0.4**
EUNU Eureka 63.28 2 P **P** **02 25 41.9 -0.3**
EUNU IAmb IAmb 02 25 42.9
comp=Z,21nm,1.1s
A22K Sinclair Lake 63.30 342 P **P** **02 25 43.1 +0.8**
baz=117,SNR=7.6
ICESG Greenland Ices 63.33 20 *i* P **P** **02 25 41.9 -1.1**
ICESG IAmb IAmb 02 25 44.5
comp=Z,18nm,0.9s
UNV Unalaska Valle 63.33 322 P **P** **02 25 44.5 +1.7**
baz=98
H16K Elim 63.47 334 P **P** **02 25 44.8 +1.2**
baz=107
TBOT Tacuaremb 63.48 140 *e*P **P** **02 25 44.0 -0.1**
J14K Nanvaranak Lak 63.52 332 P **P** **02 25 45.4 +1.5**
baz=105,SNR=8.3
B20K Meade River 63.52 341 P **P** **02 25 44.6 +0.8**
baz=114
F17K Baldwin Pennin 63.63 337 IAmb IAmb 02 25 46.4
comp=Z,22nm,1.0s
F17K Baldwin Pennin 63.63 337 P **P** **02 25 45.2 +0.7**
baz=109
E18K Tukpahlearik C 63.71 338 P **P** **02 25 45.7 +0.6**
baz=110,SNR=14
G16K Koyuk River 63.74 335 P **P** **02 25 46.3 +1.0**
baz=107
K13K Kusilvak Mount 63.82 331 P **P** **02 25 46.5 +0.6**
baz=103
A21K Barrow 63.92 342 P **P** **02 25 46.2 -0.1**
baz=116
C19K Lookout Ridge 63.96 340 IAmb IAmb 02 25 48.9
comp=Z,27nm,1.0s
C19K Lookout Ridge 63.96 340 P **P** **02 25 47.8 +1.1**
baz=112,SNR=5.6
E17K Hotham Inlet 64.05 337 P **P** **02 25 48.2 +0.8**
baz=108,SNR=22
M11K Mekoryuk 64.23 329 P **P** **02 25 49.8 +1.2**
baz=101
G15K Niukluk 64.31 335 P **P** **02 25 49.6 +0.5**
baz=105
C18K Utukok River 64.34 339 P **P** **02 25 49.9 +0.5**
baz=110,SNR=5.1
NIKH Nikolski High 64.63 321 P **P** **02 25 51.6 +0.2**
baz=95
D17K Noatak River 64.70 338 P **P** **02 25 52.1 +0.5**
baz=107,SNR=7.4
F15K North Star Dit 64.75 335 P **P** **02 25 52.5 +0.6**
baz=105
RDOG Red Dog Mine 64.75 338 IAmb IAmb 02 25 53.4
comp=Z,22nm,1.0s
RDOG Red Dog Mine 64.75 338 P **P** **02 25 52.5 +0.6**
baz=108,SNR=5.6
ANM Nome 64.76 334 P **P** **02 25 52.8 +0.8**
baz=104
B18K Kokolik River 64.79 340 P **P** **02 25 53.0 +0.9**
baz=109
NEEM North Greenlan 64.81 10 *i* P **P** **02 25 52.2 -0.3**
NEEM IAmb IAmb 02 25 54.9
comp=Z,22nm,0.7s
A19K Wainwright 64.84 341 P **P** **02 25 52.6 +0.2**
baz=110
C17K DeLong Mountai 64.97 338 P **P** **02 25 53.5 +0.1**
baz=106
SUMG Summit 65.09 17 IAmb IAmb 02 25 55.7
comp=Z,17nm,0.9s
SUMG Summit 65.09 17 P **P** **02 25 55.1 +0.5**
SUMG pmax pmax
comp=Z,25nm,1.0s
SUMG Summit 65.09 17 *i* P **P** **02 25 53.9 -0.6**
SUMG IAmb IAmb 02 25 56.5
comp=Z,9.9nm,0.9s
F14K Arctic Creek 65.36 335 P **P** **02 25 56.2 +0.3**
baz=103
P08K Saint George I 65.40 325 P **P** **02 25 56.4 +0.2**
baz=96
C16K Lisburne Hills 65.69 338 P **P** **02 25 57.3 -0.6**
baz=106
SPIA Saint Paul Isl 65.84 326 P **P** **02 25 59.6 +0.5**
baz=96
SOEG Soedalen 65.90 22 *e*P **P** **02 25 58.8 -0.5**
SOEG IAmb IAmb 02 26 00.5
comp=Z,26nm,1.1s
TNA Tin City 66.03 335 P **P** **02 26 00.8 +0.6**
baz=102
RCBR Riachuelo 66.05 105 LR LR 02 56 31.8
comp=Z,106nm,19.2s,baz=238,slow=38
GAMB Gambell 67.33 333 P **P** **02 26 08.9 +0.4**
baz=98
DAG Danmarks Havn 71.22 14 P **P** **02 26 32.1 -0.3**
DAG pmax pmax
comp=Z,19nm,1.0s
DAG Danmarks Havn 71.22 14 *i* P **P** **02 26 31.0 -1.4**
DAG IAmb IAmb 02 26 32.6
comp=Z,4.4nm,0.9s
NOR Nord 72.06 9 *i* P **P** **02 26 37.0 -0.4**
NOR IAmb IAmb 02 26 38.4
comp=Z,29nm,1.4s
BILL Bilibino 76.20 337 P **P** **02 27 02.1 +0.3**
BILL IAmb IAmb 02 27 03.6
comp=Z,38nm,1.2s
BILL Bilibino 76.20 337 *i* P **P** **02 27 02.0 +0.3**
BILL pmax pmax
comp=Z,20nm,1.2s
EFI East Falkland 77.06 155 *i* P **P** **02 27 11.3 +4.6**
EFI pmax pmax
comp=Z,25nm,1.1s
SPITS Spitsbergen Ar 78.36 11 P **P** **02 27 14.0 +0.3**
comp=Z,2.6nm,0.5s,baz=195,slow=4.5,SNR=5.9
SPITS LR LR 03 04 58.6
comp=Z,145nm,20.4s,baz=282,slow=38
comp=Z,2.6nm,0.5s
EKA Eskdalemuir Ar 79.24 35 P **P** **02 27 18.8 -0.1**
comp=Z,2.2nm,0.9s,baz=304,slow=5.1,SNR=4.0
comp=Z,2.2nm,0.9s
PCAS Casmilo, Conde 79.36 51 *e*P **P** **02 27 20.2 +0.3**
comp=Z,56nm,1.5s
PMTG Montargil 79.80 52 *e*P **P** **02 27 24.4 +2.1**
comp=Z,20nm,1.5s
MTE Manteigas 79.99 51 *e*P **P** **02 27 26.3 +2.9**
comp=Z,28nm,1.7s
MVO Moncorvo 80.19 50 *e*P **P** **02 27 28.9 +4.5**
comp=Z,21nm,1.7s
PESTR Estremoz 80.33 52 *e*P **P** **02 27 25.9 +0.7**
comp=Z,14nm,1.3s
PMRV Marv??o 80.34 52 *e*P **P** **02 27 25.1 -0.1**
comp=Z,24nm,1.3s
PBAR Barrancos 80.92 53 *e*P **P** **02 27 29.4 +1.1**
comp=Z,18nm,1.9s
PAB San Pablo 82.58 51 P **P** **02 27 37.2 0.0**
PAB San Pablo 82.58 51 P **P** **02 27 37.2 0.0**
PAB pmax pmax
comp=Z,10.0nm,1.1s
ESDC Sonseca Array 82.83 51 P **P** **02 27 38.2 -0.2**
comp=Z,2.1nm,1.0s,baz=303,slow=5.4,SNR=10
ESDC LR LR 02 59 59.1
comp=Z,57nm,21.2s,baz=306,slow=32
comp=Z,2.1nm,1.0s
SEY Seymchan 83.26 334 P **P** **02 27 40.8 +0.7**
comp=Z,14nm,1.1s,baz=89,slow=5.9,SNR=16
SEY LR LR 03 07 44.0
comp=Z,100nm,19.1s,baz=26,slow=38
comp=Z,14nm,1.1s
SEY Seymchan 83.26 334 *e*P **P** **02 27 38.4 -1.7**
SEY pmax pmax
comp=Z,20nm,1.1s
MDT Midelt 84.26 58 LR LR 02 59 55.5
comp=Z,151nm,21.9s,baz=304,slow=32
PETK Petropavlovsk- 84.44 324 P **P** **02 27 47.8 +1.4**
comp=Z,3.4nm,0.7s,baz=90,slow=10,SNR=4.1
comp=Z,3.4nm,0.7s
PETK Petropavlovsk- 84.44 324 *e*P **P** **02 27 48.9 +2.6**
NB2 NORSAR Subarra 84.47 27 P **P** **02 27 47.4 +1.0**
comp=Z,1.3nm,0.9s,baz=296,slow=5.1
NOA NORSAR Array B 84.47 27 P **P** **02 27 46.5 +0.1**
comp=Z,3.1nm,0.9s,baz=298,slow=5.0,SNR=5.9
comp=Z,3.1nm,0.9s
NOA NORSAR Array B 84.47 27 *e*P **P** **02 27 47.4 +1.0**
NOA pmax pmax
comp=Z,5.0nm,1.1s
ARCES ARCESS Array B 85.18 17 P **P** **02 27 49.1 -0.6**
comp=Z,3.8nm,0.9s,baz=296,slow=6.7,SNR=2.4
comp=Z,3.8nm,0.9s
BMRD Maredsous 85.35 39 *d*P **P** **02 27 51.8 +0.9**
MA2 Magadan 85.40 331 P **P** **02 27 49.5 -1.5**
MA2 IAmb IAmb 02 27 53.0
comp=Z,32nm,1.4s
MA2 Magadan 85.40 331 P **P** **02 27 51.6 +0.6**
comp=Z,5.5nm,0.8s,baz=137,slow=6.3,SNR=8.7
MA2 LR LR 03 09 43.8
comp=Z,116nm,18.2s,baz=95,slow=38
comp=Z,5.5nm,0.8s
MA2 Magadan 85.40 331 P **P** **02 27 49.5 -1.5**
MA2 pmax pmax
comp=Z,31nm,1.4s
BGES Gesves 85.51 39 *d*P **P** **02 27 52.5 +0.8**
BCLA Clavier 85.62 39 *d*P **P** **02 27 52.8 +0.5**
RCHB Rochefort 85.68 39 *d*P **P** **02 27 52.8 +0.2**
CEST Esterri de Car 85.71 47 IAmb IAmb 02 28 15.2
comp=Z,8.7nm,1.0s
PMSA Palmer Station 85.77 166 LR LR 02 58 47.5
comp=Z,86nm,19.1s,baz=300,slow=30
TIXI Tiksi 85.86 346 P **P** **02 27 52.3 -0.8**
TIXI IAmb IAmb 02 27 54.0
comp=Z,29nm,1.1s
TIXI Tiksi 85.86 346 LR LR 03 11 41.1
comp=Z,131nm,19.1s,baz=52,slow=40
TIXI Tiksi 85.86 346 *i* P **P** **02 27 52.8 -0.2**
TIXI pmax pmax
comp=Z,25nm,1.1s
MEM Membach 85.97 38 *dx* sP 02 28 12.6 -0.9
MTLF Montolieu 86.13 46 P **P** **02 27 55.5 +0.5**
MTLF pmax pmax
comp=Z,7.0nm,1.0s
FINES FINESS Array B 90.36 23 LR LR 03 09 37.9
comp=Z,94nm,21.5s,baz=310,slow=36
BRG Berggiesshubel 90.43 36 *e*P **P** **02 28 16.5 +1.3**
BRG Amp 02 28 19.6
comp=Z,1.4nm,0.7s
DBIC Dimbokro 91.70 83 LR LR 03 07 12.8
comp=Z,51nm,18.9s,baz=286,slow=34
YAK Yakutsk 92.43 339 LR LR 03 12 25.4
comp=Z,125nm,19.2s,baz=46,slow=37
YAK Yakutsk 92.43 339 *i* P **P** **02 28 25.3 +1.0**
YAK pmax pmax
comp=Z,15nm,0.9s
VRAC Vranov 92.68 36 LR LR 03 10 58.8
comp=Z,87nm,19.8s,baz=315,slow=36
KEST Kesra 94.09 51 LR LR 03 10 23.5
comp=Z,50nm,18.7s,baz=256,slow=35
KLMR Klimovskoe 95.44 19 *e*P **P** **02 28 35.8 -2.3**
KLMR *e* 02 32 22.6
KLMR pmax pmax
comp=Z,19nm,1.3s
MNK Minsk 95.48 28 *i* P **P** **02 28 38.6 +0.2**
MNK *i* *PP **pP** **02 28 53.0 +0.3**
MNK *i* *SP **sP** **02 29 02.0 +4.1**
MNK *i* 02 32 28.4
MNK *i* PPP PPP 02 34 30.4
MNK *i* S **SKSac** **02 39 09.6 -1.1**
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK pmax pmax
comp=Z,16nm,0.8s
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK MLR MLR
comp=Z,99nm,19.0s
MNK MLR MLR
comp=E,39nm,19.0s
MNK MLR MLR
comp=N,35nm,20.0s
TORD Torodi Ar. Bea 95.85 74 P **P** **02 28 41.3 +0.4**
comp=N,0.9nm,1.1s,baz=288,slow=4.5,SNR=3.6
TORD LR LR 03 07 58.9
comp=N,111nm,21.9s,baz=310,slow=33
comp=N,0.9nm,1.1s
VAE Valguarnera 96.99 48 LR LR 03 10 11.6
comp=N,138nm,19.7s,baz=323,slow=34
OBN Obninsk 98.72 24 *i* P **P** **02 28 50.4 -2.6**
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR
comp=Z,135nm,21.0s
KIRV Kirov 100.19 16 LR LR 03 17 31.4
comp=Z,38nm,19.1s,baz=334,slow=37
ZALV Zalesovo Beam 109.22 358 PP **PP** **02 34 09.6 -2.0**
comp=Z,1.2nm,0.5s,baz=353,slow=7.6,SNR=5.7
XLT XiLinHaoTe 111.50 334 *e*P **PKiKP** **02 33 48.1 -0.1**
XLT pmax pmax
comp=Z,7.0nm,0.9s
XLT pmax pmax
comp=Z,84nm,5.0s
SONM Songino Array 111.61 342 PP **PP** **02 34 31.4 +2.2**
comp=Z,0.4nm,0.3s,baz=20,slow=9.2,SNR=4.3
KURBB Kurchatov Arra 112.57 2 PP **PP** **02 34 32.6 -3.0**
comp=Z,4.1nm,1.1s,baz=2.4,slow=6.6,SNR=14
HHC Hu-ho-hao-te 115.90 335 *e*P **PKPdf** **02 33 57.8 +1.0**
WMQ Urumqi 119.14 355 *e*P **PKiKP** **02 34 04.0 +1.1**
WMQ LR LR
comp=Z,170nm,24.2s
NJ2 Nanjing 119.35 324 *e*P **PKiKP** **02 34 04.9 +1.4**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
CD2 Chengdu 127.65 336 PKP **PKiKP** **02 34 20.0 -0.1**
WRA Warramunga Arr 129.81 258 PKP **PKiKP** **02 34 24.8 +0.2**
comp=Z,1.7nm,0.9s,baz=84,slow=3.0,SNR=4.8
ASAR Alice Springs 130.49 253 PKP **PKiKP** **02 34 25.6 -0.3**
comp=Z,0.4nm,0.3s,baz=64,slow=2.2,SNR=4.5
CMAR Chiang Mai Arr 140.67 333 PKP **PKPdf** **02 34 45.3 +1.2**
comp=Z,1.3nm,0.3s,baz=339,slow=2.2,SNR=1.7
HYB Hyderabad 145.63 5 *e*PKPdf **PKPdf** **02 34 51.8 -1.1**

*BJI **21** 02:17:32.6±0.0, 46˚.49N×153˚.51E, h12km, mb4.6/41, mB4.7/17, Ms4.2/22, Ms7 4.0/22*
*NEIC **21** 02:17:35.5±1.6, 46˚.5N±0˚.1×153˚.2E±0˚.1, h10km±1km, mb4.6/75, Error ellipse: s-maj=21.1km s-min=12.3km az=141.0*
*IDC **21** 02:17:35.6±0.6, 46˚.80N×153˚.05E, h0km, mb4.2/28, mbtmp4.1/34, ML3.4/5, MS3.8/19, Error ellipse: s-maj=16.7km s-min=12.9km az=149.0*
*JMA **21** 02:17:35.9±1.2, 47˚.N±8˚.×15˚.3E±1˚.0, h30km, MV4.6/13, KURILE ISLANDS REGION*
*SKHL **21** 02:17:39.5±0.3, 46˚.30N×153˚.30E, h65km±5km, mb5.1/7, mbv5.7/4, ms4.4/6, msh5.1/4*
*MOS **21** 02:17:41.4±1.3, 46˚.57N×152˚.95E, h59km, mb4.8/36, Error ellipse: s-maj=8.3km s-min=6.2km az=111.6*

ISC 21 02:17:36.5±0.5, 46.28N±0.06×153.41E±0.05, h24km, n312, σ1°73/318, mb4.5/95, MS4.1/19, 13C-17D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**4.02**	**257**	*e*P	**Pn**	**02 18 37.8**	**+1.3**
KUR				AMB	AMB	02 18 39.4	
KUR	670nm,0.6s			*e*S	**Sn**	**02 19 21.6**	**-1.1**
KUR				A	A	02 19 27.0	
KUR	1μm,3.0s			A	A	02 19 27.0	
KUR	1μm,3.0s			A	A	02 19 37.0	
KUR	780nm,0.7s			A	A	02 19 37.0	
KUR	580nm,0.7s			AMS	AMS	02 20 00.5	
KUR	2μm,11.0s			AMS	AMS	02 20 00.5	
KUR	2μm,11.0s			AMS	AMS	02 20 00.5	
KUR	**Kuril'sk**	**4.02**	**257**	*e*PN	**Pn**	**02 18 38.6**	**+2.1**
KUR				*e*S	**Sn**	**02 19 23.9**	**+1.2**
KUR	comp=Z,668nm,0.6s			pmax	pmax		
KUR	comp=N,110nm,0.4s			pmax	pmax		
KUR	comp=E,149nm,0.4s			pmax	pmax		
KUR				smax	smax		
KUR	comp=E,481nm,0.7s			smax	smax		
SKR	**Severo-Kuril's**	**4.76**	**21**	*e*P	**Pn**	**02 18 48.3**	**+1.6**
SKR				AMB	AMB	02 18 53.2	
SKR	comp=E,1μm,3.0s			AMB	AMB	02 18 58.8	
SKR	comp=E,360nm,0.6s			*e*S	**Sn**	**02 19 40.0**	**-1.0**
SKR				A	A	02 19 43.0	
SKR	comp=E,1μm,3.0s			A	A	02 19 43.0	
SKR	comp=E,2μm,3.0s			A	A	02 19 58.0	
SKR	comp=E,1μm,0.9s			A	A	02 19 58.0	
SKR	comp=E,620nm,0.9s			AMS	AMS	02 20 14.6	
SKR	comp=E,4μm,15.0s			AMS	AMS	02 20 14.6	
SKR	**Severo-Kuril's**	**4.76**	**21**	*e*PN	**Pn**	**02 18 46.8**	**+0.1**
SKR				*e*S	**Sn**	**02 19 43.9**	**+2.9**
SKR	comp=E,75nm,0.6s			pmax	pmax		
SHO	**Shikotan**	**5.24**	**245**	*e*P	**Pn**	**02 18 54.0**	**+0.7**
SHO				AMB	AMB	02 18 56.4	
SHO	comp=E,550nm,2.0s			*e*S	**Sn**	**02 19 49.5**	**-3.5**
SHO				A	A	02 19 57.1	
SHO	comp=Z,590nm,2.0s			A	A	02 19 57.1	
SHO	comp=E,480nm,2.0s			A	A	02 20 02.4	
SHO	comp=E,140nm,0.5s			A	A	02 20 02.4	
SHO	comp=E,120nm,0.5s			A	A	02 20 02.4	
SHO	**Shikotan**	**5.24**	**245**	*e*PN	**Pn**	**02 18 51.7**	**-1.6**
PAU	**Pauzhetka**	**5.66**	**22**	*e*P	**Pn**	**02 19 00.6**	**+1.6**
PAU				AMB	AMB	02 19 03.2	
PAU	comp=Z,50nm,0.6s			AMB	AMB	02 19 03.5	
PAU	comp=Z,700nm,3.0s			*e*S	**Sn**	**02 20 01.8**	**-1.3**
PAU				A	A	02 20 06.1	
PAU	comp=E,160nm,0.3s			A	A	02 20 06.1	
PAU	comp=E,210nm,0.3s			A	A	02 20 07.1	
PAU	comp=E,1μm,2.0s			A	A	02 20 07.1	
PAU	comp=E,860nm,2.0s			A	A	02 20 07.1	
YUK	**Yuzh-Kuril'sk**	**5.79**	**250**	*e*P	**Pn**	**02 19 02.7**	**+1.9**
YUK				AMB	AMB	02 19 04.8	
YUK	comp=E,180nm,0.3s			*e*S	**Sn**	**02 20 05.1**	**-1.3**
YUK				A	A	02 20 14.8	
YUK	comp=E,400nm,0.6s			A	A	02 20 14.8	
YUK	comp=E,300nm,0.6s			A	A	02 20 14.8	
NEM2	**Nemuro 2**	**6.18**	**245**	*e*P	**Pn**	**02 19 05.0**	**-1.2**
NEM2				*e*S	**Sn**	**02 20 11.8**	**-4.3**
JRA	**Rausu**	**6.31**	**251**	*e*P	**Pn**	**02 19 09.5**	**+1.5**
JNK	**Nakash**	**6.73**	**250**	P	**Pn**	**02 19 14.4**	**+0.6**
AKK	**Akkeshi**	**6.92**	**245**	*e*P	**Pn**	**02 19 17.0**	**+0.6**
JAK	**Akkeshi**	**7.03**	**245**	*e*P	**Pn**	**02 19 16.2**	**-1.6**
JAK				*e*S	**Sn**	**02 20 32.2**	**-4.7**
JTKR	**Abashiri--Toko**	**7.11**	**254**	P	**Pn**	**02 19 20.6**	**+1.7**
YSS	**Yuzh-Sakhalins**	**7.37**	**279**	Pn	**Pn**	**02 19 21.8**	**-0.7**
YSS	**Yuzh-Sakhalins**	**7.37**	**279**	*e*P	**Pn**	**02 19 24.1**	**+1.6**
YSS				AMB	AMB	02 19 28.1	
YSS	comp=Z,30nm,0.6s			*e*S	**Sn**	**02 20 41.9**	**-3.3**
YSS				AMS	AMS	02 21 30.3	
YSS	comp=Z,620nm,14.0s			AMS	AMS	02 21 30.3	
YSS	comp=Z,650nm,14.0s			AMS	AMS	02 21 30.3	
YSS	comp=Z,710nm,14.0s			AMS	AMS	02 21 30.3	
YSS	**Yuzh-Sakhalins**	**7.37**	**279**	*e*PN	**Pn**	**02 19 25.7**	**+3.2**
YSS				*e*S	**Sn**	**02 20 49.5**	**+4.3**
YSS	comp=Z,30nm,0.6s			pmax	pmax		
YSS	comp=N,600nm,16.0s			MLR	MLR		
YSS	comp=Z,700nm,16.0s			MLR	MLR		
YSS	comp=E,600nm,17.0s			MLR	MLR		
PEA0B	**Petropavlovsk-**	**7.38**	**21**	Pn	**Pn**	**02 19 21.1**	**-1.6**
PEA0B	**Petropavlovsk-**	**7.38**	**21**	*i* PN	**Pn**	**02 19 23.2**	**+0.6**
PETK	**Petropavlovsk-**	**7.38**	**21**	Pn	**Pn**	**02 19 21.4**	**-1.3**
PETK	**Petropavlovsk-**	**7.38**	**21**	Pn	**Pn**	**02 19 20.3**	**-2.4**
PETK	comp=E,0.6nm,0.3s,baz=182,slow=16,SNR=6.9			Sn	**Sn**	**02 20 39.0**	**-6.5**
	comp=E,0.4nm,0.3s,baz=192,slow=27,SNR=1.0						
	comp=E,5.6nm,0.7s						
PETK	**Petropavlovsk-**	**7.38**	**21**	PN	**Pn**	**02 19 21.4**	**-1.3**
JAR	**Ashorobuto**	**7.48**	**250**	P	**Pn**	**02 19 24.5**	**+0.5**
JAR				*e*S	**Sn**	**02 20 48.0**	**0.0**
PET	**Petropavlovsk**	**7.56**	**25**	*e*PN	Pn	02 19 31.7	+6.6
PET	comp=Z,300nm,14.0s			MLR	MLR		
PET	comp=Z,500nm,12.0s			MLR	MLR		
JOB	**Onbets**	**7.62**	**247**	P	**Pn**	**02 19 25.9**	**-0.1**
JOB				*e*S	**Sn**	**02 20 48.2**	**-3.3**
JKK2	**Kamakawa 2**	**7.92**	**256**	*e*P	**Pn**	**02 19 32.0**	**+1.9**
JKA	**Kamikawa-asahi**	**7.93**	**258**	Pn	**Pn**	**02 19 31.0**	**+0.7**
ASAJ	**Asahikawa**	**7.94**	**258**	Pn	**Pn**	**02 19 31.5**	**+1.2**
ASAJ	comp=Z,1.3nm,0.3s,baz=93,slow=18,SNR=17			LR	LR	02 22 27.7	
	comp=Z,345nm,19.3s,baz=276,slow=37						
	comp=Z,29nm,0.8s						
JCH	**Churui**	**8.07**	**247**	*e*P	**Pn**	**02 19 31.6**	**-0.5**
JCH				*e*S	**Sn**	**02 20 55.9**	**-6.5**
UGL	**Uglegorsk**	**8.15**	**294**	*e*P	**Pn**	**02 19 34.5**	**+1.3**
UGL				AMB	AMB	02 19 38.0	
UGL	comp=Z,70nm,0.6s			*e*PN	**Pn**	**02 19 37.6**	**+4.4**
UGL	comp=Z,70nm,0.5s			pmax	pmax		
TYV	**Tymovskoe**	**8.47**	**307**	*e*P	**Pn**	**02 19 38.7**	**+1.1**
TYV				*e*S	**Sn**	**02 21 08.2**	**-4.2**
TYV	comp=Z,1μm,16.0s			AMS	AMS	02 22 43.6	
TYV	comp=Z,680nm,16.0s			AMS	AMS	02 22 43.6	
TYV	comp=Z,1μm,16.0s			AMS	AMS	02 22 43.6	
TYV	**Tymovskoe**	**8.47**	**307**	*e*PN	**Pn**	**02 19 40.8**	**+3.2**
TYV				*e*S	**Sn**	**02 21 15.1**	**+2.7**
TYV	comp=Z,7.0nm,0.8s			pmax	pmax		
TYV	comp=Z,100nm,4.2s			pmax	pmax		
TYV	comp=N,100nm,4.7s			smax	smax		
TYV	comp=E,100nm,4.7s			smax	smax		
TYV	comp=N,5.0nm,0.9s			smax	smax		
TYV	comp=E,4.0nm,0.9s			smax	smax		
TYV	comp=Z,500nm,17.0s			MLR	MLR		
TYV	comp=E,600nm,16.0s			MLR	MLR		
ERM	**Erimo**	**8.51**	**244**	Pn	**Pn**	**02 19 38.4**	**+0.2**
ERM	**Erimo**	**8.51**	**244**	*i* PN	**Pn**	**02 19 40.4**	**+2.2**
JNBK	**Urakawa-nobuka**	**8.62**	**246**	*e*P	**Pn**	**02 19 38.9**	**-0.8**
OKH	**Okha**	**9.92**	**321**	*e*P	**Pn**	**02 19 59.7**	**+2.3**
OKH				AMS	AMS	02 25 20.7	
OKH	comp=E,300nm,15.0s			AMS	AMS	02 25 20.7	
OKH	comp=E,400nm,15.0s			AMS	AMS	02 25 20.7	
	comp=E,200nm,15.0s						
JTM	**Tenmabayashi**	**10.50**	**243**	Pn	**Pn**	**02 20 03.0**	**-2.5**
MA2	**Magadan**	**13.41**	**354**		**Pn**	**02 20 45.3**	**+0.2**
MA2	**Magadan**	**13.41**	**354**	Pn	**Pn**	**02 20 40.9**	**-4.2**
MA2	comp=E,2.8nm,0.4s,baz=162,slow=16,SNR=1.7			LR	LR	02 26 11.7	
	comp=E,242nm,18.6s,baz=158,slow=40						
MA2	**Magadan**	**13.41**	**354**	*e*P	**Pn**	**02 20 45.3**	**+0.2**
MA2	**Magadan**	**13.41**	**354**	PN	**Pn**	**02 20 45.3**	**+0.2**
MA2	**Magadan**	**13.41**	**354**	P	**Pn**	**02 20 44.1**	**-1.0**
	comp=E,13nm,0.6s						

JSD Sado 13.91 239 Pn **Pn** **02 20 52.8 +0.7**
KLR Kul'dur 14.85 289 Pn **Pn** **02 21 02.1 -2.7**
comp=E,0.1nm,0.3s,baz=96,slow=14,SNR=1.8
KLR LR LR 02 26 57.6
comp=E,332nm,19.5s,baz=70,slow=39
comp=E,1.0nm,0.7s
KLR Kul'dur 14.85 289 *e*P **Pn** **02 21 03.0 -1.8**
KLR Kul'dur 14.85 289 *ce*P **Pn** **02 21 06.1 +1.3**
KLR pmax pmax
comp=Z,8.0nm,1.3s
SHEM Shemya Is, Ala 14.88 57 LR LR 02 27 01.4
comp=Z,37nm,18.8s,baz=310,slow=38
MAJO Matsushiro 14.97 235 Pn **Pn** **02 21 05.3 -1.2**
MAJO Matsushiro 14.97 235 *i* P **P** **02 21 10.6 -1.2**
MJAR Matsushiro Arr 14.97 235 Pn **Pn** **02 21 04.7 -1.8**
comp=Z,0.1nm,0.3s,baz=34,slow=12,SNR=6.2
MJB9 Matsu-Tunnel 14.97 235 Pn **Pn** **02 21 05.4 -1.0**
USA0B Ussuriysk Arra 15.23 270 Pn **Pn** **02 21 09.5 -0.3**
USA0B Ussuriysk Arra 15.23 270 *i* P **Pn** **02 21 10.1 +0.3**
USRK Ussuriysk Ar. 15.23 270 Pn **Pn** **02 21 08.1 -1.7**
USRK Ussuriysk Ar. 15.23 270 Pn **Pn** **02 21 08.6 -1.2**
comp=Z,0.5nm,0.3s,baz=168,slow=0.3,SNR=4.3
USRK LR LR 02 27 18.1
comp=Z,203nm,18.8s,baz=34,slow=39
comp=Z,2.1nm,0.6s
SEY Seymchan 16.70 358 Pn **Pn** **02 21 25.4 -3.2**
comp=Z,0.1nm,0.3s,baz=225,slow=20,SNR=1.9
SEY LR LR 02 27 02.4
comp=Z,116nm,21.0s,baz=242,slow=35
comp=Z,0.7nm,0.3s
MDJ Mudanjiang 16.78 273 P **Pn** **02 21 29.9 +0.1**
MDJ pP pP 02 21 35.6 -1.5
MDJ PP **sP** **02 21 41.1 +1.4**
MDJ S **Sn** **02 24 40.3 +4.9**
MDJ SS **SnSn** **02 24 55.9 +7.5**
MDJ pmax pmax
comp=Z,10.0nm,0.7s
MDJ pmax pmax
comp=Z,88nm,6.2s
MDJ LR LR
comp=Z,250nm,14.8s
MDJ LR LR
comp=Z,280nm,16.1s
MDJ LR LR
comp=Z,480nm,16.1s
HEH HeiHe 17.72 292 *e*P **Pn** **02 21 41.8 +0.4**
HEH pmax pmax
comp=Z,15nm,0.8s
HEH LR LR
comp=Z,440nm,17.1s
HEH LR LR
comp=Z,220nm,17.0s
HEH LR LR
comp=Z,480nm,17.7s
CN2 Changchun 19.87 273 *e*P **Pn** **02 22 07.3 -0.2**
CN2 *e*S **S** **02 25 44.3 -3.9**
CN2 LR LR
comp=Z,320nm,19.0s
CN2 LR LR
comp=Z,330nm,19.0s
CN2 LR LR
comp=Z,270nm,19.0s
YAK Yakutsk 20.83 328 LR LR 02 30 08.5
comp=Z,174nm,18.9s,baz=144,slow=37
KSRS Korea Array 20.86 254 P Pn 02 22 18.4 -0.7
comp=Z,5.1nm,0.8s,baz=60,slow=10,SNR=22
KSRS LR LR 02 29 15.9
comp=Z,117nm,21.3s,baz=60,slow=34
comp=Z,5.1nm,0.8s
KSRS Korea Array 20.86 254 *e*P Pn 02 22 18.6 -0.5
KSRS Korea Array 20.86 254 *e*P Pn 02 22 18.6 -0.5
KSRS pmax pmax
comp=Z,5.0nm,0.8s
JNU Nakatsue 21.66 241 LR LR 02 30 09.4
comp=Z,64nm,20.4s,baz=12,slow=35
BILL Bilibino 22.80 12 P **P** **02 22 36.9 -0.2**
BILL Bilibino 22.80 12 *e*P **P** **02 22 39.6 +2.5**
BILL Bilibino 22.80 12 *e*P **P** **02 22 39.6 +2.5**
BILL pmax pmax
comp=Z,6.0nm,0.6s
XLT XiLinHaoTe 26.30 278 *e*P **P** **02 23 10.5 +0.3**
XLT sP sP 02 23 17.6 -0.5
XLT PP **PnPn** **02 23 56.4 +6.8**
XLT S **S** **02 27 41.8 +0.3**
XLT pmax pmax
comp=Z,19nm,0.7s
XLT pmax pmax
comp=Z,100nm,4.5s
XLT LR LR
comp=Z,30nm,16.2s
XLT LR LR
comp=Z,210nm,18.3s
XLT LR LR
comp=Z,180nm,16.2s
BJT Baijiatuau 27.69 270 P **P** **02 23 21.6 -1.0**
BJT IAmb IAmb 02 23 28.2
comp=Z,7.0nm,0.8s
BJT Baijiatuau 27.69 270 P **P** **02 23 21.6 -1.0**
BJT pmax pmax
comp=Z,7.0nm,0.8s
TIXI Tiksi 27.98 344 LR LR 02 35 43.6
comp=Z,196nm,18.2s,baz=126,slow=40
H11N2 WAKE ISLAND Hy 28.71 153 T T 02 55 18.4
baz=340,slow=76
H11N1 WAKE ISLAND Hy 28.72 153 T T 02 55 29.6
baz=340,slow=76
H11N3 WAKE ISLAND Hy 28.73 153 T T 02 55 19.6
baz=340,slow=76
H11S1 WAKE ISLAND Hy 29.80 154 T T 02 56 49.4
baz=341,slow=76
H11S3 WAKE ISLAND Hy 29.80 154 T T 02 56 50.1
baz=341,slow=76
H11S2 WAKE ISLAND Hy 29.82 154 T T 02 56 36.4
baz=341,slow=76
HNS HongShan 29.92 267 ⇓P **P** **02 23 44.0 +1.6**
HNS pmax pmax
comp=Z,6.0nm,0.8s
HNS LR LR
comp=Z,180nm,15.1s
HNS LR LR
comp=Z,170nm,19.1s
NJ2 Nanjing 30.06 254 *e*P **P** **02 23 44.9 +1.2**
NJ2 pP **sP** **02 23 50.8 -1.0**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
HHC Hu-ho-hao-te 30.53 275 *e*P P 02 23 53.1 +5.1
RDOG Red Dog Mine 31.12 30 P **P** **02 23 54.0 +1.3**
RDOG IAmb IAmb 02 23 58.8
comp=Z,9.7nm,0.7s
K17K Iditarod 31.57 41 P **P** **02 23 58.2 +1.5**
K17K IAmb IAmb 02 24 03.1
comp=Z,9.0nm,1.2s
SONM Songino Array 31.68 290 P **P** **02 23 55.6 -2.4**
comp=Z,1.4nm,0.8s,baz=54,slow=8.8,SNR=4.3
SONM PcP **PcP** **02 26 49.6 +0.3**
comp=Z,0.7nm,0.7s,baz=84,slow=5.9,SNR=2.4
SONM LR LR 02 37 33.9
comp=Z,152nm,19.2s,baz=52,slow=38
comp=Z,1.4nm,0.8s
L18K Granite Mounta 32.25 42 P **P** **02 24 04.8 +2.1**
J18K Innoko River 32.39 40 P **P** **02 24 04.7 +0.7**
E19K Redstone River 32.98 33 P **P** **02 24 08.3 -0.7**
G21K Allakaket 34.21 35 P **P** **02 24 21.4 +1.6**
H21K Melozitna Rive 34.37 36 P **P** **02 24 21.9 +0.7**
H21K IAmb IAmb 02 24 34.3
comp=Z,12nm,1.5s
KTH Kantishna Hill 34.99 40 P **P** **02 24 27.7 +1.1**
KTH IAmb IAmb 02 24 33.0
comp=Z,5.9nm,1.1s
XAN Xi'an 35.68 266 ⇑P **P** **02 24 33.1 +0.3**
XAN pmax pmax
comp=Z,10.0nm,0.6s
H23K Yukon River 35.73 36 P **P** **02 24 33.3 +0.4**
SML Sawmill 36.17 43 P **P** **02 24 37.7 +0.9**
SML IAmb IAmb 02 24 41.3
comp=Z,8.4nm,0.9s
SML Sawmill 36.17 43 P **P** **02 24 37.7 +0.9**
SML pmax pmax
comp=Z,8.0nm,0.9s
MDM Murphy Dome 36.22 38 P **P** **02 24 37.6 +0.5**
WRH Wood River Hil 36.27 39 P **P** **02 24 37.5 0.0**
E24K Your Creek 36.36 33 P **P** **02 24 38.5 +0.2**
D24K Happy Valley 36.38 31 P **P** **02 24 39.9 +1.5**
CCB Clear Creek Bu 36.39 38 P **P** **02 24 39.0 +0.4**
DHY Denali Highway 36.58 41 P **P** **02 24 40.8 +0.5**
DHY IAmb IAmb 02 24 59.5
comp=Z,17nm,1.5s
SCM Sheep Creek Mo 36.65 43 P **P** **02 24 41.1 +0.3**
SCM IAmb IAmb 02 24 57.1
comp=Z,24nm,1.1s
SCM Sheep Creek Mo 36.65 43 P **P** **02 24 41.1 +0.3**
SCM pmax pmax
comp=Z,24nm,1.1s
HDA Harding Lake 36.76 39 P **P** **02 24 41.6 -0.1**
ILAR Eielson Array 36.79 38 P **P** **02 24 42.6 +0.7**
comp=Z,0.6nm,0.7s,baz=257,slow=7.0,SNR=9.6
comp=Z,0.6nm,0.7s
D25K Kavik River 37.27 31 P **P** **02 24 46.4 +0.4**
J25K Salcha River, 37.44 38 P **P** **02 24 48.0 +0.5**
SCRK Sand Creek 38.07 39 P **P** **02 24 52.6 -0.3**
LZH Lanzhou 38.11 273 *e*P **P** **02 24 54.6 +1.0**
LZH sP pwP 02 25 05.5 -0.5
LZH pmax pmax
comp=Z,22nm,1.2s
LZH LR LR
comp=Z,200nm,15.8s
LZH LR LR
comp=Z,340nm,15.8s
E27K Coleen River 38.94 33 P **P** **02 25 02.0 +2.0**
E27K IAmb IAmb 02 25 06.8
comp=Z,34nm,1.1s
L27K Beaver Creek, 39.10 41 P **P** **02 25 03.6 +2.1**
L27K IAmb IAmb 02 25 19.1
comp=Z,8.5nm,0.9s
BCAR Beaver Creek A 39.12 41 P **P** **02 25 01.4 -0.2**
GTA Gaotai 39.25 280 *e*P **P** **02 25 03.9 +0.8**
GTA pmax pmax
comp=Z,6.0nm,0.9s
GTA LR LR
comp=Z,89nm,12.4s
GTA LR LR
comp=Z,100nm,12.4s
GTA LR LR
comp=Z,100nm,13.1s
I30M Mount Dempster 41.22 37 P **P** **02 25 20.4 +1.3**
I30M IAmb IAmb 02 25 21.4
comp=Z,9.3nm,0.8s
ZALV Zalesovo Beam 43.05 306 P **P** **02 25 31.3 -2.7**
ZALV Zalesovo Beam 43.05 306 P **P** **02 25 31.8 -2.2**
comp=Z,1.7nm,0.7s,baz=48,slow=6.8,SNR=7.2
ZALV PcP **PcP** **02 27 24.1 +0.5**
comp=Z,1.3nm,0.6s,baz=96,slow=2.9,SNR=5.7
ZALV LR LR 02 44 51.4
comp=Z,351nm,18.1s,baz=73,slow=38
comp=Z,1.7nm,0.7s
ZALV Zalesovo Beam 43.05 306 *e*P **P** **02 25 32.1 -1.9**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
PZH PanZhiHua 45.15 262 PKP **PKiKP** **02 34 29.4 -0.3**
PZH PanZhiHua 45.15 262 P **P** **02 25 52.8 +1.5**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,50nm,5.0s
WMQ Urumqi 45.29 292 *e*P **P** **02 25 53.5 +1.4**
WMQ LR LR
comp=Z,310nm,22.5s
WMQ LR LR
comp=Z,230nm,13.5s
WMQ LR LR
comp=Z,99nm,17.9s
MK31 Makanchi Array 47.34 298 P **P** **02 26 07.1 -1.1**
MK31 IAmb IAmb 02 26 08.5
comp=Z,4.5nm,0.8s
MK31 Makanchi Array 47.34 298 P **P** **02 26 07.1 -1.1**
MK31 pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 47.34 298 P **P** **02 26 07.4 -0.8**
MKAR Makanchi Array 47.34 298 P **P** **02 26 07.0 -1.2**
comp=Z,4.3nm,0.8s,baz=67,slow=7.5,SNR=38
MKAR PcP **PcP** **02 27 39.1 +0.4**
comp=Z,0.8nm,0.7s,baz=71,slow=6.2,SNR=3.6
MKAR LR LR 02 47 17.1
comp=Z,294nm,18.1s,baz=64,slow=38
comp=Z,4.3nm,0.8s
MKAR Makanchi Array 47.34 298 *e*P **P** **02 26 07.3 -0.9**
MKAR Makanchi Array 47.34 298 *e*P **P** **02 26 07.3 -0.9**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
KURK Kurchatov 47.79 304 P **P** **02 26 10.1 -1.5**
KURK IAmb IAmb 02 26 11.4
comp=Z,6.2nm,0.8s
KURK Kurchatov 47.79 304 *e*P **P** **02 26 10.2 -1.4**
KURK Kurchatov 47.79 304 *ce*P **P** **02 26 10.2 -1.4**
KURK pmax pmax
comp=Z,6.0nm,0.7s
KURBB Kurchatov Arra 47.88 304 P **P** **02 26 10.8 -1.5**
comp=Z,5.3nm,0.8s,baz=68,slow=8.5,SNR=41
KURBB PcP **PcP** **02 27 40.8 +0.2**
comp=Z,0.6nm,0.7s,baz=64,slow=2.7,SNR=3.7
KURBB LR LR 02 47 47.2
comp=Z,178nm,18.2s,baz=169,slow=38
comp=Z,5.3nm,0.8s
CRAI Chiangrai 50.26 257 P **P** **02 26 30.9 0.0**
CRAI IAmb IAmb 02 26 33.6
comp=Z,5.2nm,0.8s
YKA Yellowknife Ar 51.18 37 P **P** **02 26 38.6 +1.3**
comp=Z,1.3nm,0.7s,baz=300,slow=7.5,SNR=4.6
comp=Z,1.3nm,0.7s
YKA Yellowknife Ar 51.18 37 *e*P **P** **02 26 38.5 +1.3**
YKA pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 51.31 310 P **P** **02 26 37.0 -1.4**
comp=Z,1.8nm,0.5s,baz=64,slow=10,SNR=11
BVAR PcP **PcP** **02 27 53.9 +0.8**
comp=Z,1.7nm,0.7s,baz=80,slow=3.5,SNR=5.8
BVAR LR LR 02 50 29.3
comp=Z,142nm,18.4s,baz=67,slow=39
comp=Z,1.8nm,0.5s
BRVK Borovoye 51.35 310 P **P** **02 26 36.8 -1.9**
BRVK IAmb IAmb 02 26 38.4
comp=Z,3.2nm,0.7s
BRVK Borovoye 51.35 310 *e*P **P** **02 26 36.8 -1.9**
BRVK Borovoye 51.35 310 P **P** **02 26 36.8 -1.9**
BRVK pmax pmax
comp=Z,3.0nm,0.7s
CHTO Chiang Mai 52.21 257 P **P** **02 26 46.4 +0.9**
CHTO IAmb IAmb 02 26 53.7
comp=Z,4.6nm,0.7s
CHTO Chiang Mai 52.21 257 P **P** **02 26 46.4 +0.9**
CHTO pmax pmax
comp=Z,5.0nm,0.7s
CMAR Chiang Mai Arr 52.46 257 P **P** **02 26 49.3 +2.0**
comp=Z,1.0nm,0.3s,baz=32,slow=7.8,SNR=8.0
comp=Z,1.0nm,0.3s
CMAR Chiang Mai Arr 52.46 257 *e*P **P** **02 26 49.5 +2.1**
CMAR pmax pmax
comp=Z,1.0nm,0.3s
BOOM Boomskoye usch 53.41 296 P **P** **02 26 53.4 -0.9**
BOOM IAmb IAmb 02 26 55.5
comp=Z,3.4nm,0.7s
BOOM Boomskoye usch 53.41 296 P **P** **02 26 53.4 -0.9**
BOOM pmax pmax
comp=Z,3.0nm,0.7s
AAK Ala-Archa 54.22 297 P **P** **02 26 59.8 -0.5**
AAK IAmb IAmb 02 27 01.9
comp=Z,5.6nm,0.7s
AAK Ala-Archa 54.22 297 LR LR 02 51 28.6
comp=Z,152nm,18.1s,baz=47,slow=38
AAK Ala-Archa 54.22 297 *e*P **P** **02 27 00.5 +0.2**
AAK Ala-Archa 54.22 297 *ce*P **P** **02 27 00.5 +0.2**
AAK pmax pmax
comp=Z,5.0nm,0.7s
KSH Kashi 55.02 293 P P 02 27 10.8 +4.8
KSH pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 55.50 318 *e*P **P** **02 27 07.8 -1.2**
ARU Arti 55.50 318 *c i*P **P** **02 27 07.8 -1.2**
ARU S **S** **02 34 49.8 -2.6**
ARU SS **SS** **02 38 27.7 -9.0**
ARU pmax pmax
comp=Z,4.0nm,0.7s
ARU Arti 55.50 318 P **P** **02 27 07.9 -1.1**
comp=Z,4.8nm,0.9s
ARSB Arslanbob 55.89 296 P **P** **02 27 11.5 -0.8**
ARSB Arslanbob 55.89 296 P **P** **02 27 11.5 -0.8**
ARSB pmax pmax
comp=Z,1.0nm,0.8s
KK31 Karatay Array 56.40 299 P **P** **02 27 14.0 -1.8**
KK31 Karatay Array 56.40 299 P **P** **02 27 14.0 -1.8**
KK31 pmax pmax
comp=Z,2.0nm,0.8s
KKAR Karatay Array 56.40 299 P **P** **02 27 13.9 -1.9**
KKAR Karatay Array 56.40 299 P **P** **02 27 13.9 -1.9**
KKAR IAmb IAmb 02 27 17.3
comp=Z,1.8nm,0.8s
KKAR Karatay Array 56.40 299 P **P** **02 27 13.9 -1.9**
KKAR pmax pmax
comp=Z,2.0nm,0.8s
DRK Karamyk 57.69 295 P **P** **02 27 24.9 -0.4**
DRK IAmb IAmb 02 27 28.4
comp=Z,8.1nm,0.9s
DRK Karamyk 57.69 295 P **P** **02 27 24.9 -0.4**
DRK pmax pmax
comp=Z,8.0nm,0.9s
BTK Batken 57.96 296 P **P** **02 27 26.3 -0.6**
BTK IAmb IAmb 02 27 29.7
comp=Z,6.3nm,0.7s
BTK Batken 57.96 296 P **P** **02 27 26.3 -0.6**
BTK pmax pmax
comp=Z,6.0nm,0.7s
ARCES ARCESS Array B 58.36 341 P **P** **02 27 28.4 -0.8**
comp=Z,3.7nm,0.9s,baz=32,slow=8.6,SNR=6.8
comp=Z,3.7nm,0.9s
ARCES ARCESS Array B 58.36 341 *e*P **P** **02 27 27.7 -1.5**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ABKAR Akbulak array 58.88 310 P **P** **02 27 32.2 -0.9**
ABKAR IAmb IAmb 02 27 33.4
comp=Z,3.0nm,0.8s
GAR Garm 58.90 295 P **P** **02 27 32.1 -1.4**
CHGR Chuyangaron 59.83 296 P **P** **02 27 39.0 -0.9**
CHGR Chuyangaron 59.83 296 P **P** **02 27 39.0 -0.9**
CHGR pmax pmax
comp=Z,31nm,0.7s
SIMJ Simiganj 59.92 296 P **P** **02 27 40.4 -0.2**
SUMG Summit 61.15 4 P **P** **02 27 48.6 -0.2**
SUMG Summit 61.15 4 P **P** **02 27 48.6 -0.2**
SUMG pmax pmax
comp=Z,10.0nm,0.8s
KBL Kabul 62.43 292 P **P** **02 27 57.0 -0.8**
KBL Kabul 62.43 292 P **P** **02 27 57.0 -0.8**
KBL pmax pmax
comp=Z,8.0nm,0.7s
NVAR Mina Array Bea 62.47 62 P **P** **02 28 02.1 +4.1**
comp=Z,0.5nm,0.7s,baz=306,slow=9.9,SNR=2.8
comp=Z,0.5nm,0.7s
FINES FINESS Array B 64.55 335 P **P** **02 28 10.5 -0.6**
comp=Z,5.1nm,0.7s,baz=39,slow=6.9,SNR=21
comp=Z,5.1nm,0.7s
FINES FINESS Array B 64.55 335 *e*P **P** **02 28 10.6 -0.4**
FINES pmax pmax
comp=Z,5.0nm,0.7s
PDAR Pinedale Array 64.86 54 P **P** **02 28 16.3 +2.6**
comp=Z,0.7nm,0.8s,baz=316,slow=5.0,SNR=3.7
comp=Z,0.7nm,0.8s
OBN Obninsk 65.81 326 *e*P **P** **02 28 18.2 -1.1**
OBN Obninsk 65.81 326 *i* P **P** **02 28 18.2 -1.1**
OBN *i* 02 30 45.1
OBN pmax pmax
comp=Z,2.0nm,0.7s
GEYT Alibeck 67.02 301 P **P** **02 28 28.1 +0.7**
comp=Z,2.1nm,0.7s,baz=339,slow=3.3,SNR=5.1
comp=Z,2.1nm,0.7s
WRA Warramunga Arr 68.14 199 P P 02 28 40.1 +5.7
comp=Z,0.8nm,0.8s,baz=18,slow=7.0,SNR=3.0
comp=Z,0.8nm,0.8s
NC204 NORSAR Array S 68.63 342 P **P** **02 28 36.1 -1.0**
NB201 NORSAR Array S 68.71 341 P **P** **02 28 38.1 +0.4**
NB2 NORSAR Subarra 68.74 341 P **P** **02 28 37.6 -0.2**
comp=Z,1.9nm,0.6s,baz=28,slow=6.5
NOA NORSAR Array B 68.74 341 P **P** **02 28 37.2 -0.6**
comp=Z,2.7nm,0.7s,baz=27,slow=6.3,SNR=15
comp=Z,2.7nm,0.7s
NOA NORSAR Array B 68.74 341 *e*P **P** **02 28 37.9 +0.1**
NOA pmax pmax
comp=Z,3.0nm,0.7s
HFS Hagfors 68.97 340 P **P** **02 28 39.3 +0.1**
comp=Z,6.1nm,0.7s,baz=57,slow=5.5,SNR=13
comp=Z,6.1nm,0.7s
MAK Makhachkala 69.53 311 *e*P P 02 28 48.0 +5.0
MAK MLR MLR
comp=Z,242nm,16.0s
KIV Kislovodsk 71.27 314 *e*P **P** **02 28 54.0 +0.2**
KIV Kislovodsk 71.27 314 *i* P **P** **02 28 54.0 +0.2**
KIV pmax pmax
comp=Z,3.0nm,0.8s
KBZ Khabaz 71.33 314 P **P** **02 28 54.9 +0.9**
comp=Z,4.0nm,0.8s,baz=253,slow=1.1,SNR=8.8
comp=Z,4.0nm,0.8s
KBZ Khabaz 71.33 314 *ce*P **P** **02 28 55.1 +1.1**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
IVI Ivigtut 71.45 11 P **P** **02 28 54.4 0.0**
ASAR Alice Springs 71.83 199 P P 02 29 03.5 +6.4
comp=Z,0.3nm,0.6s,baz=9.2,slow=5.2,SNR=4.8
comp=Z,0.3nm,0.6s
AK03 Malin Array Si 72.03 326 P **P** **02 28 57.4 -0.7**
AKASG Malin Array Be 72.05 326 P **P** **02 28 59.1 +0.9**
AKASG IAmb IAmb 02 28 59.2
comp=Z,2.1nm,0.7s
AKASG Malin Array Be 72.05 326 P **P** **02 28 58.0 -0.2**
comp=Z,10nm,1.7s,baz=33,slow=6.2,SNR=36
comp=Z,10nm,0.7s
AKASG Malin Array Be 72.05 326 P **P** **02 28 59.1 +0.9**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKBB Malin Array Si 72.05 326 P **P** **02 28 57.8 -0.4**
AKBB Malin Array Si 72.05 326 P **P** **02 28 57.8 -0.4**
AKBB pmax pmax
comp=Z,12nm,0.7s
AKBB Malin Array Si 72.05 326 P **P** **02 28 57.4 -0.8**
KIEV Kiev 72.06 326 ⇓P **P** **02 28 57.7 -0.5**
KIEV Kiev 72.06 326 P **P** **02 28 57.1 -1.1**
KIEV Kiev 72.06 326 P **P** **02 28 57.1 -1.1**
KIEV pmax pmax
comp=Z,11nm,0.7s
KIEV Kiev 72.06 326 P **P** **02 28 57.4 -0.8**
comp=Z,63nm,0.8s
MI28 Mi28,Pidlybu 72.45 327 P **P** **02 29 00.6 0.0**
GNI Garni 72.99 311 *ce*P **P** **02 29 05.5 +1.3**
GNI pmax pmax
comp=Z,4.0nm,0.7s
HORU Horodok 74.32 327 P **P** **02 29 11.8 +0.2**
HORU Horodok 74.32 327 P **P** **02 29 11.8 +0.2**
SORM Soroca 74.45 325 ⇓P **P** **02 29 12.2 -0.1**
SORM Soroca 74.45 325 P **P** **02 29 12.0 -0.4**
SORM Soroca 74.45 325 P **P** **02 29 12.0 -0.4**
NDNU Novodnistrovsk 74.46 326 P **P** **02 29 12.4 -0.1**
NDNU Novodnistrovsk 74.46 326 P **P** **02 29 12.4 -0.1**
KMPD K-Podol'skiy 74.84 327 P **P** **02 29 14.6 0.0**
KMPD P **P** **02 29 14.2 -0.4**
STNU Starunia 75.45 328 P **P** **02 29 17.4 -0.8**
KSV Kosov 75.57 327 P **P** **02 29 19.2 +0.3**
KSV Kosov 75.57 327 P **P** **02 29 19.2 +0.3**
GURO Guroymak-BITLI 75.59 311 P **P** **02 29 20.3 +0.9**
GURO IAmb IAmb 02 29 22.0
comp=Z,3.6nm,0.8s
STHS Stebnicka Huta 76.02 330 *e*P **P** **02 29 23.0 +1.5**
STHS Stebnicka Huta 76.02 330 *e*P **P** **02 29 23.0 +1.5**
KOLS Kolonicke sedl 76.07 329 *e*P **P** **02 29 22.7 +1.0**
KOLS Kolonicke sedl 76.07 329 *e*P **P** **02 29 22.7 +1.0**
KOLS pmax pmax
comp=Z,5.0nm,0.8s
BUR08 Bucovina Ar. S 76.07 327 P **P** **02 29 22.5 +0.6**
BUR08 IAmb IAmb 02 29 35.3
comp=Z,3.7nm,0.8s
BURAR Bucovina Array 76.09 327 ⇑P **P** **02 29 22.2 +0.2**
BURAR Bucovina Array 76.09 327 P **P** **02 29 21.9 -0.1**
BURAR IAmb IAmb 02 29 25.0
comp=Z,5.1nm,0.7s
BURAR Bucovina Array 76.09 327 ⇑P **P** **02 29 22.2 +0.2**
EKA Eskdalemuir Ar 76.84 347 P **P** **02 29 27.3 +1.4**
comp=Z,0.7nm,0.5s,baz=19,slow=4.5,SNR=3.9
comp=Z,0.7nm,0.5s
LANS Liptovska Anna 76.86 331 *e*P **P** **02 29 28.2 +2.0**
LANS Liptovska Anna 76.86 331 *e*P **P** **02 29 28.2 +2.0**
LANS pmax pmax
comp=Z,4.0nm,0.8s
KRLC Kraliky 76.93 333 *e*P **P** **02 29 26.6 0.0**
KRLC Kraliky 76.93 333 *e*P **P** **02 29 26.6 0.0**
MORC Moravsky Berou 76.95 332 P **P** **02 29 27.9 +1.2**
MORC IAmb IAmb 02 29 28.9
comp=Z,4.8nm,0.8s
MORC Moravsky Berou 76.95 332 *e*P **P** **02 29 27.6 +0.9**
MORC Moravsky Berou 76.95 332 P **P** **02 29 27.9 +1.2**
MORC pmax pmax

comp=Z,5.0nm,0.8s
CLL Collm 76.98 336 P **P** 02 29 27.7 +0.9
CLL IAmb IAmb 02 29 28.3
comp=Z,8.5nm,0.7s
CLL Collm 76.98 336 *i* P **P** 02 29 27.0 +0.2
comp=Z,9.0nm,0.7s
CLL *e*PcP **PcP** 02 29 38.0 +0.3
CLL Collm 76.98 336 P **P** 02 29 27.7 +0.9
CLL pmax pmax
comp=Z,8.0nm,0.7s
ARPR Arapgir-MALATY 77.07 314 P **P** 02 29 28.4 +0.7
ARPR IAmb IAmb 02 29 30.5
comp=Z,7.6nm,0.8s
TURR Turia 77.07 325 ⇓P **P** 02 29 28.9 +1.4
OZUR 77.13 326 ⇓P **P** 02 29 29.9 +2.1
TX31 Lajitas Ar. Si 77.55 61 P **P** 02 29 30.7 +0.2
TX31 IAmb IAmb 02 29 45.3
comp=Z,2.9nm,0.8s
TXAR Lajitas Array 77.55 61 P **P** 02 29 31.9 +1.4
TXAR Lajitas Array 77.55 61 P **P** 02 29 31.7 +1.2
comp=Z,1.2nm,0.6s,baz=308,slow=4.8,SNR=9.7
comp=Z,1.2nm,0.6s
TXAR Lajitas Array 77.55 61 P **P** 02 29 31.9 +1.4
MLR Muntele Rosu 77.56 325 ⇓P **P** 02 29 31.8 +1.4
MLR Muntele Rosu 77.56 325 P **P** 02 29 30.8 +0.4
MLR IAmb IAmb 02 29 32.9
comp=Z,5.6nm,0.7s
MLR Muntele Rosu 77.56 325 P **P** 02 29 31.1 +0.7
comp=Z,5.1nm,0.7s,baz=315,slow=4.3
comp=Z,5.1nm,0.7s
MLR Muntele Rosu 77.56 325 P **P** 02 29 30.8 +0.4
MLR pmax pmax
comp=Z,6.0nm,0.7s
VYHS Vyhne 77.64 331 *e*P **P** 02 29 31.6 +1.0
VYHS Vyhne 77.64 331 *e*P **P** 02 29 31.6 +1.0
VYHS pmax pmax
comp=Z,4.0nm,0.9s
VRAC Vranov 77.66 333 *e*P **P** 02 29 31.7 +1.0
VRAC Vranov 77.66 333 P **P** 02 29 31.1 +0.4
comp=Z,3.2nm,0.9s,baz=6.0,slow=8.5,SNR=3.8
comp=Z,3.2nm,0.9s
DRGR 77.72 328 ⇓P **P** 02 29 31.5 +0.4
DRGR 77.72 328 ⇓P **P** 02 29 31.5 +0.4
KRUC Moravsky 77.94 333 *e*P **P** 02 29 32.7 +0.5
VOIR 77.96 326 ⇓P **P** 02 29 33.7 +1.2
VOIR 77.96 326 ⇓P **P** 02 29 33.7 +1.2
MTUR Matau 78.13 326 ⇑P **P** 02 29 29.0 -4.5
MTUR Matau 78.13 326 ⇑P **P** 02 29 29.0 -4.5
MODS Modra-Piesok 78.26 332 *e*P **P** 02 29 34.9 +0.9
MODS Modra-Piesok 78.26 332 *e*P **P** 02 29 34.9 +0.9
BNN Bunyan 78.49 315 IAmb IAmb 02 29 52.0
comp=Z,10nm,0.9s
KHC Kasperske Hory 78.75 334 P **P** 02 29 37.0 +0.3
KHC IAmb IAmb 02 29 39.6
comp=Z,3.9nm,0.8s
KHC Kasperske Hory 78.75 334 *e*P **P** 02 29 37.5 +0.7
KHC Kasperske Hory 78.75 334 *ce*P **P** 02 29 37.7 +0.9
KHC pmax pmax
comp=Z,9.0nm,0.8s
CKRC Cesky Krumlov 78.80 334 *e*P **P** 02 29 37.4 +0.4
CKRC Cesky Krumlov 78.80 334 *e*P **P** 02 29 37.4 +0.4
BR131 Keskin Array S 78.87 317 P **P** 02 29 37.6 -0.1
BR131 Keskin Array S 78.87 317 P **P** 02 29 37.6 -0.1
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 78.87 317 P **P** 02 29 37.6 -0.1
BRTR Keskin Array B 78.87 317 P **P** 02 29 36.3 -1.4
comp=Z,0.7nm,0.9s,baz=90,slow=3.2,SNR=3.9
comp=Z,0.7nm,0.9s
BRTR Keskin Array B 78.87 317 P **P** 02 29 37.6 -0.1
GZR Gura Zlata 78.87 327 ⇓P **P** 02 29 38.0 +0.5
GZR Gura Zlata 78.87 327 ⇓P **P** 02 29 38.0 +0.5
GRA1 Grafenberg Arr 78.93 336 P **P** 02 29 38.2 +0.5
GRA1 IAmb IAmb 02 29 40.8
comp=Z,9.2nm,0.7s
GRF Grafenberg Arr 78.93 336 P **P** 02 29 38.2 +0.5
GRF pmax pmax
comp=Z,9.0nm,0.7s
GRFO Grafenberg 78.93 336 P **P** 02 29 38.5 +0.8
GRFO IAmb IAmb 02 29 40.7
comp=Z,8.5nm,0.8s
GRFO Grafenberg 78.93 336 P **P** 02 29 38.5 +0.8
GRFO pmax pmax
comp=Z,8.0nm,0.8s
GERES GERESS Array B 78.97 334 P **P** 02 29 36.8 -1.2
comp=Z,1.1nm,0.7s,baz=0.0,slow=0.3,SNR=4.1
GERES LR LR 03 08 08.8
comp=Z,134nm,18.7s,baz=320,slow=39
comp=Z,1.1nm,0.7s
CONA Conrad Observa 79.11 332 *e*P **P** 02 29 39.8 +1.0
comp=Z,2.5nm,0.8s
BZS Buzias 79.12 328 ⇓P **P** 02 29 38.4 -0.4
BZS Buzias 79.12 328 ⇓P **P** 02 29 38.4 -0.4
RONA Rosalia, Austr 79.17 332 *e*P **P** 02 29 40.6 +1.5
comp=Z,5.4nm,0.9s
HERR Herculane 79.44 327 ⇓P **P** 02 29 40.8 +0.2
BSTI Sart Tilman 79.59 340 *d*P **P** 02 29 43.6 +2.3
MOA Molln 79.68 333 *e*P **P** 02 29 42.8 +0.9
comp=Z,3.2nm,0.9s
BIOA Bad Ischl, Aus 80.01 334 *e*P **P** 02 29 44.6 +0.9
comp=Z,2.8nm,0.8s
FRGS Fruska Gora 80.17 329 ⇑P **P** 02 29 46.3 +1.7
SOKA Soboth 80.47 332 *e*P **P** 02 29 47.4 +1.2
comp=Z,3.8nm,0.9s
LESA Schwarzleotal 80.55 334 *e*PcP **P** 02 29 48.7 +2.1
comp=Z,2.6nm,0.7s
KBA Koelnbreinsper 80.65 334 *e*P **P** 02 29 48.7 +1.5
comp=Z,8.1nm,0.8s
O52A Adamsville 80.84 40 P **P** 02 29 48.9 +0.7
O52A IAmb IAmb 02 29 57.1
comp=Z,15nm,1.3s
WATA Walderalm 80.95 335 *e*P **P** 02 29 50.4 +1.6
comp=Z,3.6nm,0.6s
MYKA Terra Mystica 80.96 333 *e*P **P** 02 29 50.0 +1.2
comp=Z,0.2nm,0.2s
WTTA Wattenberg 81.00 335 *e*P **P** 02 29 50.3 +1.2
comp=Z,6.7nm,0.8s
RETA Reutte 81.05 335 *e*PcP **P** 02 29 51.8 +2.5
comp=Z,5.3nm,1.0s
MOTA Moosalm 81.08 335 *e*P **P** 02 29 51.0 +1.4
comp=Z,4.2nm,0.9s
SQTA Sankt Quirin 81.17 335 *e*P **P** 02 29 50.7 +0.7
comp=Z,4.4nm,1.3s
ISP Isparta 81.85 318 *i* P **P** 02 29 52.7 -1.0
DAVOX Davos/Dischmat 81.95 336 P **P** 02 29 54.7 +0.5
comp=Z,2.0nm,0.7s,baz=0.0,slow=17,SNR=3.3
comp=Z,2.0nm,0.7s
PDG Podgorica 82.73 328 P **P** 02 29 58.2 +0.1
PUK Puka 82.82 327 P **P** 02 29 58.2 -0.4
MMAI Mount Meron Ar 83.28 312 P **P** 02 30 01.0 -0.2
comp=Z,2.3nm,0.7s,baz=21,slow=7.2,SNR=7.8
comp=Z,2.3nm,0.7s
NRCA Norcia 84.52 332 P **P** 02 30 08.4 +1.0
EIL Elat 86.15 310 LR LR 03 13 13.7
comp=Z,67nm,18.4s,baz=28,slow=39
URZ Urewera 86.81 162 LR LR 03 04 12.5
comp=Z,136nm,19.6s,baz=48,slow=32
H03N2 Juan Fernandez 138.54 91 T T 05 11 01.4
baz=307,slow=77,SNR=6.1
H03N1 Juan Fernandez 138.56 91 T T 05 11 02.8
baz=307,slow=77,SNR=6.8
H03N3 Juan Fernandez 138.56 91 T T 05 11 04.9
baz=307,slow=77,SNR=7.5
ELIB Princess Elisa 145.45 205 *d*PKP PKiKP 02 37 26.6 +12
PLCA Paso Flores 147.96 96 PKPbc **PKiKP** 02 37 21.2 +0.1
comp=Z,2.4nm,1.0s,baz=260,slow=7.8,SNR=3.3
CPUP Villa Florida 148.52 61 PKPbc **PKiKP** 02 37 22.5 -0.2
comp=Z,2.5nm,0.7s,baz=357,slow=3.3,SNR=5.6

IDC 21 02:34:03.8±2.2,3°25S×128°98E,h0km,mb3.6/2, mbtmp3.6/3,ML3.6/1,Error ellipse: s-maj=125.5km s-min=28.8km az=68.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.40**	**163**	P	Pn	02 38 08.0	-0.2
	0.2nm,0.3s,baz=343,slow=12,SNR=6.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**20.85**	**167**	P	P	02 38 47.0	-0.4
	1.2nm,0.4s,baz=347,slow=12,SNR=20						
	1.2nm,0.4s						
MKAR	**Makanchi Array**	**64.56**	**326**	P	P	02 44 43.1	+0.3
	0.5nm,0.8s,baz=125,slow=7.2,SNR=3.8						
	0.5nm,0.8s						

IDC 21 03:08:24.5±53.0,17°00S×178°47W,h0km,mb4.2/3, mbtmp4.2/3,Error ellipse: s-maj=971.6km s-min=161.7km az=78.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.02**	**240**	P	P	03 15 53.2	+0.2
	3.2nm,0.9s,baz=83,slow=8.1,SNR=2.8						
	3.2nm,0.9s						
WRA	**Warramunga Arr**	**44.75**	**259**	P	P	03 16 40.0	-0.1
	0.7nm,0.3s,baz=94,slow=7.3,SNR=20						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**44.99**	**253**	P	P	03 16 41.7	-0.3
	2.7nm,0.4s,baz=87,slow=8.8,SNR=43						
	2.7nm,0.4s						

IDC 21 03:36:12.7±1.8,6°18S×149°09E,h0km,mb3.5/2, mbtmp3.6/4,ML3.7/1,MS2.8/2,Error ellipse: s-maj=103.2km s-min=26.1km az=121.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.73**	**211**	Pn	Pn	03 37 13.6	+2.0
	22nm,0.4s,baz=33,slow=8.9,SNR=8.1						
PMG				Sn	Sn	03 37 55.3	-1.0
	25nm,0.3s,baz=308,slow=19,SNR=9.1						
PMG				LR	LR	03 38 28.7	
	comp=Z,65nm,19.5s,baz=149,slow=36						
WRA	**Warramunga Arr**	**19.81**	**225**	P	P	03 40 44.3	-0.8
	0.3nm,0.3s,baz=51,slow=11,SNR=7.0						
	0.7nm,0.4s						
ASAR	**Alice Springs**	**22.71**	**218**	P	P	03 41 15.7	-0.6
	1.7nm,1.0s,baz=59,slow=9.2,SNR=9.7						
	1.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**55.17**	**297**	LR	LR	04 10 51.6	
	comp=Z,21nm,20.2s,baz=180,slow=38						
ILAR	**Eielson Array**	**84.84**	**23**	P	P	03 48 49.2	+0.2
	0.3nm,0.6s,baz=239,slow=4.1,SNR=6.2						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**147.15**	**285**	PKPbc	PKPbc	03 55 58.1	-0.8
	0.2nm,0.4s,baz=65,slow=3.0,SNR=5.9						

TUN 21 03:45:49.0,34°29N×9°71E,h20km±2km,MD2.7,Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEDT	**Meda**	**0.25**	**136**	*i* P	Pn	03 45 57.2	-0.4
MEDT	**Meda**	**0.25**	**136**	*i* P	Pn	03 45 57.0	-0.5
BERT	**Berda**	**0.58**	**265**	*i* P	Pn	03 46 04.9	+2.8
BERT	**Berda**	**0.58**	**265**	*i* P	Pn	03 46 04.9	+2.9
SGNT	**Sidi Gnaou**	**0.64**	**168**	*i* P	Pn	03 46 05.5	+2.6
SGNT	**Sidi Gnaou**	**0.64**	**168**	*i* P	Pn	03 46 05.6	+2.7
TROT	**Trozza**	**1.27**	**356**	*i* P	Pb	03 46 14.0	+1.7
TROT	**Trozza**	**1.27**	**356**	*i* P	Pb	03 46 14.0	+1.7
TATN	**Tataouine**	**1.84**	**158**	*i* P	Pn	03 46 18.1	-1.3

*IDC **21** 04:23:32.1±0.9,5°01S×11°60W,h0km,mb4.1/8, mbtmp4.1/9,ML3.7/1,MS3.3/18,Error ellipse: s-maj=37.5km s-min=22.5km az=119.0*
*NEIC **21** 04:23:33.5±1.8,5°2S±0°1×11°8W±0°1,h10km±1km, mb4.6/15,Error ellipse: s-maj=29.6km s-min=14.9km az=126.0*
ISC 21 04:23:32.8±0.6,5°1S±0°1×11°8W±0°1,h10km,n46, σ1°36/26,mb4.5/17,MS3.4/17,Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**3.81**	**222**	Pn	**Pn**	**04 24 29.3**	**-2.3**
H10N2	**ASCENSION HYDR**	**3.82**	**224**	T	T	04 28 29.7	
	baz=46,slow=74,SNR=205						
H10N1	**ASCENSION HYDR**	**3.83**	**224**	T	T	04 28 30.2	
	baz=46,slow=74,SNR=179						
H10N3	**ASCENSION HYDR**	**3.84**	**224**	T	T	04 28 31.1	
	baz=46,slow=74,SNR=212						
H10S2	**ASCENSION HYDR**	**4.78**	**216**	T	T	04 29 39.8	
	baz=182,slow=74,SNR=65						
H10S3	**ASCENSION HYDR**	**4.78**	**216**	T	T	04 29 40.3	
	baz=38,slow=74,SNR=196						
DBIC	**Dimbokro**	**13.57**	**31**	Pn	**Pn**	**04 26 44.9**	**-0.6**
DBIC	**Dimbokro**	**13.57**	**31**	Pn	**Pn**	**04 26 43.6**	**-1.9**
	0.4nm,0.3s,baz=193,slow=13,SNR=7.3						
DBIC				LR	LR	04 31 16.4	
	comp=Z,50nm,18.7s,baz=200,slow=35						
	5.8nm,1.1s						
TOA0	**Torodi Ar. Sit**	**22.53**	**36**	P	**P**	**04 28 31.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**22.53**	**36**	P	**P**	**04 28 31.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**22.53**	**36**	P	**P**	**04 28 30.2**	**-2.9**
	4.9nm,0.8s,baz=220,slow=11,SNR=21						
TORD				LR	LR	04 36 07.6	
	comp=Z,70nm,22.0s,baz=166,slow=34						
	4.9nm,0.8s						
TSUM	**Tsumeb**	**31.89**	**119**	LR	LR	04 40 40.0	
	comp=Z,42nm,19.0s,baz=264,slow=32						
BDFB	**Brasilia**	**37.08**	**251**	LR	LR	04 43 56.9	
	comp=Z,26nm,21.9s,baz=82,slow=33						
MDT	**Midelt**	**38.30**	**10**	LR	LR	04 45 55.6	
	comp=Z,64nm,18.2s,baz=188,slow=35						
MBAR	**Mbarara**	**42.70**	**85**	LR	LR	04 47 15.0	
	comp=Z,99nm,20.1s,baz=254,slow=34						
ESDC	**Sonseca Array**	**45.12**	**9**	LR	LR	04 52 11.5	
	comp=Z,35nm,18.3s,baz=206,slow=38						
KEST	**Kesra**	**45.19**	**24**	LR	LR	04 50 45.7	
	comp=Z,44nm,21.7s,baz=166,slow=36						
CPUP	**Villa Florida**	**48.32**	**239**	LR	LR	04 50 19.8	
	comp=Z,19nm,19.4s,baz=54,slow=33						
BOAV	**Boa Vista**	**49.24**	**278**	P	**P**	**04 32 22.1**	**0.0**
BOAV				IAmb	IAmb	04 32 25.0	
	comp=Z,4.6nm,0.8s						
SAML	**Samuel**	**51.12**	**263**	P	**P**	**04 32 34.6**	**-1.7**
DAVOX	**Davos/Dischmat**	**55.09**	**18**	LR	LR	04 56 23.7	
	comp=Z,31nm,18.8s,baz=254,slow=36						
LVC	**Linn Verde**	**57.76**	**247**	LR	LR	04 57 00.1	
	comp=Z,38nm,19.8s,baz=271,slow=35						
GERES	**GERESS Array B**	**58.14**	**20**	P	**P**	**04 33 27.4**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=206,slow=13,SNR=3.3						
GERES				LR	LR	04 58 18.9	
	comp=Z,18nm,20.2s,baz=342,slow=36						
	comp=Z,0.7nm,0.7s						
AP01	**Chacalluta**	**58.59**	**252**	P	**P**	**04 33 29.5**	**-0.8**
VRAC	**Vranov**	**59.53**	**21**	LR	LR	04 59 23.1	
	comp=Z,22nm,19.1s,baz=179,slow=36						
BRTR	**Keskin Array B**	**61.11**	**39**	P	**P**	**04 33 49.1**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=238,slow=8.2,SNR=2.0						
	comp=Z,0.2nm,0.6s						
ROSC	**El Rosal**	**63.22**	**278**	P	**P**	**04 34 04.6**	**+2.1**
	comp=Z,5.8nm,0.5s,baz=127,slow=14,SNR=4.8						
	comp=Z,5.8nm,0.5s						
AKASG	**Malin Array Be**	**65.79**	**27**	LR	LR	05 04 16.9	
	comp=Z,20nm,18.4s,baz=52,slow=37						
SNAA	**Sanae**	**66.75**	**177**	P	**P**	**04 34 24.3**	**+0.3**
SNAA				IAmb	IAmb	04 34 52.9	
	comp=Z,4.2nm,1.1s						
NOA	**NORSAR Array B**	**68.32**	**12**	LR	LR	05 05 55.6	
	comp=Z,10nm,19.7s,baz=0.0,slow=37						
D62A	**Allapoint, All**	**72.30**	**323**	P	**P**	**04 34 59.9**	**+1.3**
D62A				IAmb	IAmb	04 35 05.9	
	comp=Z,13nm,1.5s						
FINES	**FINESS Array B**	**72.50**	**18**	P	**P**	**04 34 59.4**	**-0.2**
	comp=Z,1.6nm,0.8s,baz=177,slow=7.0,SNR=3.5						
	comp=Z,1.6nm,0.8s						
MAW	**Mawson**	**79.50**	**158**	P	**P**	**04 35 39.7**	**+0.3**
	comp=Z,3.0nm,1.0s,baz=298,slow=6.8,SNR=2.7						
	comp=Z,3.0nm,1.0s						
T50A	**Nancy**	**79.64**	**309**	P	**P**	**04 35 40.3**	**-0.5**
T50A				IAmb	IAmb	04 35 42.8	
	comp=Z,4.4nm,0.8s						
LRAL	**Lakeview Retre**	**80.45**	**305**	P	**P**	**04 35 44.8**	**-0.4**
LRAL				IAmb	IAmb	04 35 46.1	
	comp=Z,7.0nm,1.4s						
N47A	**Urbana**	**81.25**	**313**	P	**P**	**04 35 50.0**	**+0.6**
N47A				IAmb	IAmb	04 36 08.2	
	comp=Z,13nm,1.3s						
T47A	**Sharon Grove**	**81.40**	**308**	P	**P**	**04 35 50.2**	**0.0**
T47A				IAmb	IAmb	04 36 16.4	
	comp=Z,12nm,1.4s						
WVT	**Waverly**	**81.78**	**307**	P	**P**	**04 35 52.6**	**+0.3**
WVT				IAmb	IAmb	04 35 52.9	
	comp=Z,2.2nm,0.7s						
FVM	**French Village**	**84.19**	**309**	P	**P**	**04 36 05.4**	**+0.7**
CCM	**Cathedral Cave**	**84.84**	**309**	P	**P**	**04 36 08.0**	**0.0**
CCM				IAmb	IAmb	04 36 09.1	
	comp=Z,3.2nm,0.8s						
QSPA South Pole Qui 85.02 180 P **P** 04 36 09.7 +1.2
QSPA South Pole Qui 85.02 180 P **P** 04 36 10.0 +1.5
comp=Z,5.2nm,1.1s,baz=203,slow=1.3,SNR=12
comp=Z,5.2nm,1.1s
PALK Pallekele 93.10 83 LR LR 05 16 48.2
comp=Z,45nm,18.1s,baz=210,slow=34
TXAR Lajitas Array 94.09 299 P **P** 04 36 53.2 +1.0
comp=Z,0.4nm,0.7s,baz=104,slow=6.5,SNR=4.4
comp=Z,0.4nm,0.7s
MKAR Makanchi Array 96.47 44 LR LR 05 23 45.2
comp=Z,28nm,20.4s,baz=348,slow=38
VNDA Vanda 97.44 179 LR LR 05 18 36.5
comp=Z,49nm,19.9s,baz=320,slow=34

IDC 21 04:36:18.1±3.5,54°22N×87°20E,h0km,mbtmp3.0/2, ML2.5/2,Error ellipse: s-maj=31.5km s-min=20.2km az=53.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**260**	I	I	04 45 20.0	
	baz=78,slow=320,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.43**	**260**	Pg	Pn	04 36 44.4	-0.9
	0.9nm,0.3s,baz=76,slow=15,SNR=7.0						
ZALV				Lg	Lg	04 37 03.5	
	1.4nm,0.3s,baz=78,slow=29,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.41**	**239**	Pn	Pn	04 37 54.4	+0.7
	0.1nm,0.3s,baz=54,slow=13,SNR=3.0						
	0.6nm,0.2s						
MKAR	**Makanchi Array**	**8.06**	**205**	Pn	Pn	04 38 17.4	+1.0
	0.1nm,0.3s,baz=22,slow=17,SNR=2.7						
	0.2nm,0.3s						

*IDC **21** 04:42:09.4±5.1,56°45N×161°76W,h178km±37km,mb2.8/4, mbtmp3.6/8,Error ellipse: s-maj=43.3km s-min=36.0km az=72.0*
*NEIC **21** 04:42:10.8±1.9,56°26N±0°07×161°75W±0°10, h207km±5km,mb4.1/14,ML3.3/6,ML3.3(AEIC),Error ellipse: s-maj=10.6km s-min=7.6km az=160.0*
*AEIC **21** 04:42:11.2±1.9,56°21N±0°07×161°7W±0°1,h216km±5km, Error ellipse: s-maj=10.6km s-min=7.4km az=155.0*
ISC 21 04:42:11.3±0.7,56°24N±0°07×161°70W±0°06, h207km±6km,n248,σ1°13/257,mb3.2/6,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
S12K	**Black Hills**	**0.57**	**201**		**Pn**	**04 42 39.3**	**-0.3**
S12K					**S**	**04 43 00.8**	**-0.6**
S12K				IAML		04 43 01.8	
	comp=E,359nm,0.7s						
S12K				IAML		04 43 01.8	
	comp=N,163nm,0.9s						
S12K	**Black Hills**	**0.57**	**201**	P	**Pn**	**04 42 39.6**	**0.0**
	baz=22						
S12K				S	**S**	**04 43 01.2**	**-0.3**
	baz=22						
PS1A	**Pavlof South-1**	**0.82**	**182**		**Pn**	**04 42 40.7**	**0.0**
PS1A					**S**	**04 43 03.6**	**+0.1**
HAG	**Hague Volcano**	**0.93**	**187**		**Pn**	**04 42 41.4**	**0.0**
SDPT	**Sand Point**	**1.13**	**142**	P	**Pn**	**04 42 42.0**	**-0.7**
SDPT	**Sand Point**	**1.13**	**142**	Pn	**Pn**	**04 42 42.9**	**+0.3**
SDPT				Sn	**S**	**04 43 05.3**	**-1.5**
SDPT				IAML		04 43 07.8	
	comp=E,136nm,0.6s						
SDPT	**Sand Point**	**1.13**	**142**	P	**Pn**	**04 42 42.0**	**-0.7**
	baz=322						
SDPT				S	**S**	**04 43 05.8**	**-1.0**
	baz=322						
S14K	**Fog Glacier**	**1.20**	**87**	P	**Pn**	**04 42 43.7**	**+0.4**
	baz=267						
S14K				S	**S**	**04 43 08.8**	**+0.9**
	baz=267						
VNFG	**Fog Glacier, M**	**1.20**	**87**		**Pn**	**04 42 43.3**	**0.0**
VNFG				Sn	**S**	**04 43 08.1**	**+0.2**
VNFG				IAML		04 43 12.6	
	comp=N,302nm,1.2s						
VNSS	**Veniaminof 8**	**1.25**	**90**		**Pn**	**04 42 44.2**	**+0.3**
FALS	**False Pass**	**1.69**	**216**	P	**Pn**	**04 42 47.0**	**-0.3**
FALS	**False Pass**	**1.69**	**216**	Pn	**Pn**	**04 42 46.7**	**-0.6**
CHGN	**Chignik**	**1.83**	**87**	Pn	**Pn**	**04 42 47.7**	**-0.9**
CHGN	**Chignik**	**1.83**	**87**	P	**Pn**	**04 42 48.4**	**-0.2**
	baz=268						
CHGN				S	**S**	**04 43 17.9**	**+0.6**
	baz=268						
ISNN	**Isanotski Nort**	**1.84**	**221**		**Pn**	**04 42 48.7**	**-0.1**
CHNA	**Chernabura Isl**	**1.85**	**139**	P	**Pn**	**04 42 47.9**	**-0.9**
	baz=320						
CNBA	**Chernabura Isl**	**1.86**	**139**	Pn	**Pn**	**04 42 47.6**	**-1.3**
ISLZ	**Isanotski Laza**	**1.90**	**218**		**Pn**	**04 42 48.8**	**-0.6**
SSLS	**Shishaldin Sou**	**2.01**	**221**		**Pn**	**04 42 49.8**	**-0.8**
WEBT	**Westdahl Beart**	**2.40**	**228**		**Pn**	**04 42 54.6**	**+0.1**
WECS	**Westdahl Cape**	**2.45**	**227**		**Pn**	**04 42 54.9**	**-0.3**
O14K	**Tigyukauivet M**	**3.03**	**4**	Pn	**Pn**	**04 43 00.6**	**-0.9**
O14K	**Tigyukauivet M**	**3.03**	**4**	P	**Pn**	**04 43 00.8**	**-0.7**
	baz=184						
AKSA	**Akutan Strait**	**3.11**	**229**		**Pn**	**04 43 02.8**	**+0.2**
O15K	**Ungalikthiuk R**	**3.11**	**18**	P	**Pn**	**04 43 02.0**	**-0.5**
	baz=199						
AKBBA	**Akutan Broad B**	**3.24**	**230**		**Pn**	**04 43 03.3**	**-0.7**
LVA	**Lava Point**	**3.24**	**232**		**Pn**	**04 43 04.2**	**0.0**
ZRO	**Akutan Zero**	**3.26**	**231**		**Pn**	**04 43 04.4**	**0.0**
CHIR	**Chirikof Islan**	**3.44**	**94**	Pn	**Pn**	**04 43 05.4**	**-1.0**
CHIR	**Chirikof Islan**	**3.44**	**94**	P	**Pn**	**04 43 05.6**	**-0.8**
	baz=279						
MTBL	**Makushin Table**	**3.65**	**234**		**Pn**	**04 43 08.5**	**-0.7**
UNV	**Unalaska Valle**	**3.66**	**231**	P	**Pn**	**04 43 08.5**	**-0.6**
UNV	**Unalaska Valle**	**3.66**	**231**	Pn	**Pn**	**04 43 08.4**	**-0.6**
UNV	**Unalaska Valle**	**3.66**	**231**	P	**Pn**	**04 43 08.3**	**-0.8**
	baz=48						
N14K	**Kuskokwak Cree**	**3.70**	**0**		**Pn**	**04 43 08.9**	**-0.5**
N14K	**Kuskokwak Cree**	**3.70**	**0**	P	**Pn**	**04 43 08.9**	**-0.5**
	baz=180						
MNAT	**Makushin Natee**	**3.71**	**233**		**Pn**	**04 43 09.1**	**-0.7**
MSW	**Makushin Switc**	**3.73**	**234**		**Pn**	**04 43 09.4**	**-0.7**
MAPS	**Pakushin South**	**3.88**	**233**		**Pn**	**04 43 11.3**	**-0.5**
O16K	**Kokwok River B**	**3.88**	**28**	Pn	**Pn**	**04 43 10.7**	**-1.0**
O16K	**Kokwok River B**	**3.88**	**28**	P	**Pn**	**04 43 11.4**	**-0.2**
	baz=211						
ANCK	**Angle Creek**	**3.91**	**57**		**Pn**	**04 43 12.7**	**+0.5**
ACHA	**Angle Creek He**	**3.99**	**58**		**Pn**	**04 43 13.6**	**+0.4**
N15K	**Kwethluk River**	**4.03**	**12**	Pn	**Pn**	**04 43 13.1**	**-0.6**
N15K	**Kwethluk River**	**4.03**	**12**	P	**Pn**	**04 43 13.2**	**-0.4**
	baz=193						
SII	**Sitkinak Islan**	**4.19**	**82**	P	**Pn**	**04 43 14.7**	**-0.9**
SII	**Sitkinak Islan**	**4.19**	**82**	Pn	**Pn**	**04 43 14.8**	**-0.8**
M13K	**Dall Lake**	**4.28**	**349**	Pn	**Pn**	**04 43 15.3**	**-1.2**
M13K	**Dall Lake**	**4.28**	**349**	P	**Pn**	**04 43 16.3**	**-0.3**
	baz=168						
O17K	**Koliganek Bris**	**4.31**	**33**		**Pn**	**04 43 16.7**	**-0.3**
O17K	**Koliganek Bris**	**4.31**	**33**	P	**Pn**	**04 43 16.7**	**-0.3**
	baz=216						
M15K	**Kasigluk River**	**4.50**	**6**		**Pn**	**04 43 18.5**	**-0.9**
M15K	**Kasigluk River**	**4.50**	**6**	P	**Pn**	**04 43 18.5**	**-0.9**
	baz=187						
N16K	**Nishlik Lake**	**4.52**	**19**		**Pn**	**04 43 19.2**	**-0.5**
N16K	**Nishlik Lake**	**4.52**	**19**	P	**Pn**	**04 43 19.2**	**-0.5**
	baz=201						
M14K	**Bethel**	**4.53**	**358**	Pn	**Pn**	**04 43 19.0**	**-0.7**
M14K	**Bethel**	**4.53**	**358**	P	**Pn**	**04 43 19.3**	**-0.4**
	baz=178					

KDAK	Kodiak Island	5.22	69	Pn		Pn	04 43 27.5	-1.0	
KDAK	Kodiak Island	5.22	69	P		Pn	04 43 27.3	-1.2	
	comp=N,36nm,0.3s,baz=265,slow=5.6,SNR=104								
KDAK				S		S	04 44 23.9	-5.3	
	comp=N,16nm,0.4s,baz=244,slow=17,SNR=8.3								
NIKH	Nikolski High	5.29	235	P		Pn	04 43 29.2	-0.3	
NIKH	Nikolski High	5.29	235	Pn		Pn	04 43 28.7	-0.8	
NIKH	Nikolski High	5.29	235	P		Pn	04 43 28.6	-0.9	
	baz=49								
N18K	Kilae Creek	5.40	32	Pn		Pn	04 43 30.1	-0.7	
N18K	Kilae Creek	5.40	32	P		Pn	04 43 30.5	-0.3	
	baz=217								
L15K	Ungalak Mounta	5.46	1	P		Pn	04 43 30.7	-0.8	
	baz=181								
Q20K	Shuyak Island	5.56	61	P		Pn	04 43 32.8	-0.1	
	baz=248								
SYI	Shuyak Island	5.56	61	Pn		Pn	04 43 31.5	-1.4	
L16K	Owhat River	5.61	11	Pn		Pn	04 43 32.3	-1.1	
L16K	Owhat River	5.61	11	P		Pn	04 43 32.7	-0.7	
	baz=193								
M17K	Holitna River	5.63	21	Pn		Pn	04 43 33.4	-0.3	
M17K	Holitna River	5.63	21	P		Pn	04 43 33.7	0.0	
	baz=205								
P19K	Oil Pt	5.66	49	Pn		Pn	04 43 35.4	+1.2	
P19K	Oil Pt	5.66	49	P		Pn	04 43 33.5	-0.7	
	baz=236								
CLCO	Concord Point,	5.81	237			Pn	04 43 35.7	-0.4	
CLES	Cleveland East	5.87	238	Pn		Pn	04 43 36.5	-0.4	
K13K	Kusilvak Mount	5.91	346	Pn		Pn	04 43 36.0	-1.3	
K13K	Kusilvak Mount	5.91	346	P		Pn	04 43 36.8	-0.5	
	baz=164								
N19K	Bonanza Creek	5.94	36	Pn		Pn	04 43 37.9	0.0	
N19K	Bonanza Creek	5.94	36	P		Pn	04 43 37.4	-0.4	
	baz=222								
IVE	Iliamna Volcan	5.96	47			Pn	04 43 37.7	-0.4	
K15K	Wolf Creek Mou	6.08	1	Pn		Pn	04 43 38.6	-0.8	
K15K	Wolf Creek Mou	6.08	1	P		Pn	04 43 39.0	-0.4	
	baz=181								
M18K	Stony River	6.08	28			Pn	04 43 39.4	-0.2	
M18K	Stony River	6.08	28	P		Pn	04 43 39.4	-0.2	
	baz=212								
O20K	Slope Mountain	6.16	48			Pn	04 43 40.5	-0.1	
O20K	Slope Mountain	6.16	48	P		Pn	04 43 40.5	-0.1	
	baz=235								
L17K	Donlin	6.17	15			Pn	04 43 40.3	-0.3	
L17K	Donlin	6.17	15	P		Pn	04 43 40.3	-0.3	
	baz=198								
HOM	Homer	6.36	53	Pn		Pn	04 43 42.7	-0.4	
HOM	Homer	6.36	53	P		Pn	04 43 43.0	-0.1	
	baz=241								
CNPM	China Poot	6.48	55	Pn		Pn	04 43 43.5	-1.2	
L18K	Granite Mounta	6.53	21	Pn		Pn	04 43 45.3	+0.1	
L18K	Granite Mounta	6.53	21	P		Pn	04 43 45.7	+0.4	
	baz=205								
RDT	Redoubt	6.54	44			Pn	04 43 46.1	+0.7	
J14K	Nanvaranak Lak	6.60	353	Pn		Pn	04 43 44.0	-2.1	
J14K	Nanvaranak Lak	6.60	353	P		Pn	04 43 45.8	-0.4	
	baz=171								
K17K	Iditarod	6.72	13	Pn		Pn	04 43 46.9	-0.9	
K17K	Iditarod	6.72	13	P		Pn	04 43 47.9	+0.1	
	baz=196								
BRLK	Bradley Lake	6.75	54	Pn		Pn	04 43 46.1	-2.1	
BRSE	Bradley Lake S	6.80	54			Pn	04 43 47.4	-1.5	
BRSE	Bradley Lake S	6.80	54	P		Pn	04 43 47.4	-1.5	
	baz=243								
M19K	Big River Lodg	6.81	31	Pn		Pn	04 43 49.3	+0.3	
L19K	White Mountain	6.92	28	Pn		Pn	04 43 49.5	-0.8	
L19K	White Mountain	6.92	28	P		Pn	04 43 50.8	+0.4	
	baz=213								
N20K	Mount Spurr	7.01	41	P		Pn	04 43 51.4	-0.1	
	baz=229								
SPCR	Spurr Chakacha	7.01	41			Pn	04 43 51.4	-0.1	
J16K	Anvik River	7.09	4	Pn		Pn	04 43 51.9	-0.6	
J16K	Anvik River	7.09	4	P		Pn	04 43 52.1	-0.4	
	baz=185								
M20K	Styx River	7.17	34	Pn		Pn	04 43 54.1	+0.3	
J17K	VABM Dome	7.30	9	Pn		Pn	04 43 53.5	-1.8	
J17K	VABM Dome	7.30	9	P		Pn	04 43 54.7	-0.5	
	baz=192								
STLK	Strandline Lak	7.34	40			Pn	04 43 56.6	+0.7	
SLKM	Skilak Lake	7.40	50			Pn	04 43 55.6	-1.0	
SEW	Seward	7.54	54	Pn		Pn	04 43 57.3	-1.1	
SEW	Seward	7.54	54	P		Pn	04 43 57.1	-1.3	
	baz=244								
O22K	Cooper Landing	7.60	51	Pn		Pn	04 43 58.3	-0.8	
O22K	Cooper Landing	7.60	51	P		Pn	04 43 57.9	-1.1	
	baz=241								
J18K	Innoko River	7.67	17	Pn		Pn	04 44 00.8	+0.7	
I17K	Unalakleet	7.69	3	Pn		Pn	04 43 59.3	-1.0	
I17K	Unalakleet	7.69	3	P		Pn	04 43 59.6	-0.7	
	baz=184								
SUA	Susitna One	7.72	43	Pn		Pn	04 44 00.3	-0.5	
SUA	Susitna One	7.72	43	P		Pn	04 44 00.1	-0.7	
	baz=232								
SKT	Skwentna	7.77	38	Pn		Pn	04 44 01.7	+0.3	
RC01	Rabbit Creek A	7.90	47	Pn		Pn	04 44 01.6	-1.5	
RC01	Rabbit Creek A	7.90	47	P		Pn	04 44 02.3	-0.8	
	baz=237								
K20K	Telida	8.11	25	Pn		Pn	04 44 06.5	+0.8	
PPLA	Purkeypile	8.23	32	Pn		Pn	04 44 08.8	+1.4	
J19K	Poorman	8.35	19	Pn		Pn	04 44 09.3	+0.5	
J19K	Poorman	8.35	19	P		Pn	04 44 09.1	+0.3	
	baz=204								
ATKA	Atka Island	8.36	246	P		Pn	04 44 09.4	+0.3	
ATKA	Atka Island	8.36	246	Pn		Pn	04 44 08.2	-0.9	
PMR	Palmer	8.43	45	P		Pn	04 44 09.5	-0.3	
PMR	Palmer	8.43	45	Pn		Pn	04 44 09.5	-0.3	
P23K	Montague Islan	8.45	58			Pn	04 44 08.6	-1.5	
P23K	Montague Islan	8.45	58	P		Pn	04 44 08.6	-1.5	
	baz=250								
KNK	Knik Glacier	8.60	47	Pn		Pn	04 44 10.8	-1.3	
GHO	Glory Hole Cre	8.61	45	Pn		Pn	04 44 10.2	-2.0	
CAST	Castle Rocks	8.67	30	Pn		Pn	04 44 14.3	+1.3	
CAST	Castle Rocks	8.67	30	P		Pn	04 44 14.0	+0.9	
	baz=218								
J20K	Nowinta River	8.80	22	Pn		Pn	04 44 14.5	-0.2	
J20K	Nowinta River	8.80	22	P		Pn	04 44 15.4	+0.7	
	baz=208								
SML	Sawmill	8.86	45	Pn		Pn	04 44 13.2	-2.3	
GLI	Glacier Island	8.93	53	Pn		Pn	04 44 13.8	-2.6	
H18K	Honhosa River	9.09	9	Pn		Pn	04 44 17.3	-1.2	
KTH	Kantishna Hill	9.11	32	Pn		Pn	04 44 18.2	-0.5	
FID	Port Fidalgo	9.15	54	Pn		Pn	04 44 17.0	-2.3	
TRF	Thorofare Moun	9.22	34	Pn		Pn	04 44 19.1	-1.2	
SCM	Sheep Creek Mo	9.28	47	Pn		Pn	04 44 18.3	-2.7	
EYAK	Cordova Ski Ar	9.41	56	P		Pn	04 44 21.0	-1.6	
EYAK	Cordova Ski Ar	9.41	56	Pn		Pn	04 44 20.4	-2.2	
BPAW	Bear Paw Mtn.	9.51	30	Pn		Pn	04 44 23.2	-0.6	
DIV	Divide	9.62	53	Pn		Pn	04 44 23.2	-2.2	
RND	Reindeer	9.65	37	Pn		Pn	04 44 22.8	-3.0	
KLU	Klutina	9.71	51	Pn		Pn	04 44 24.8	-1.8	
M24K	Tolsona, Glenn	9.89	47	Pn		Pn	04 44 27.1	-1.7	
DHY	Denali Highway	9.96	41	Pn		Pn	04 44 26.8	-3.0	
I21K	Tanana	10.14	24	Pn		Pn	04 44 31.8	-0.1	
N25K	Chitina, Valde	10.33	52	Pn		Pn	04 44 32.9	-1.7	
H21K	Melozitna Rive	10.38	21	Pn		Pn	04 44 34.9	-0.1	
GLB	Gilahina Butte	10.62	53	Pn		Pn	04 44 36.4	-1.8	
SNH	Sunshine Point	10.69	61	Pn		Pn	04 44 39.1	-0.1	
VRDI	Verde Repeater	10.70	55	Pn		Pn	04 44 38.1	-1.3	
WAX	Waxell Ridge	10.75	59	Pn		Pn	04 44 39.0	-0.9	
I23K	Minto, Yukon-K	10.77	29	Pn		Pn	04 44 39.5	-0.5	
CCB	Clear Creek Bu	10.85	33	Pn		Pn	04 44 38.6	-2.4	
MCARA	McCarthy VSAT	10.95	54	Pn		Pn	04 44 41.6	-0.8	
ISLE	Juniper Island	11.04	59	Pn		Pn	04 44 43.1	-0.5	
IL31		11.22	34	Pn		Pn	04 44 42.6	-3.1	
ILAR	Eielson Array	11.22	34	P		Pn	04 44 42.5	-3.2	
	comp=N,0.3nm,0.5s,baz=225,slow=14,SNR=2.9								
ILAR				S		S	04 46 39.7	-10	
	comp=N,0.2nm,0.6s,baz=226,slow=21,SNR=1.2								
H23K	Yukon River	11.25	26	Pn		Pn	04 44 45.5	-0.8	
M26K	Nabesna, AK	11.35	49	Pn		Pn	04 44 46.1	-1.4	
BARN	Barnard Glacie	11.48	57	Pn		Pn	04 44 48.1	-1.2	
L26K	Log Cabin Wild	11.48	46	Pn		Pn	04 44 48.4	-0.8	
J25K	Salcha River,	11.61	37	Pn		Pn	04 44 47.6	-3.2	
CTGM	Chitina Glacie	11.61	58	Pn		Pn	04 44 49.6	-1.3	
F21K	Alatna River	11.67	16	Pn		Pn	04 44 52.3	+0.7	
M27K	Edge Creek, AK	11.81	51	Pn		Pn	04 44 52.6	-0.8	
L27K	Beaver Creek,	12.12	48	Pn		Pn	04 44 55.2	-2.0	
BCAR	Beaver Creek A	12.13	48	Pn		Pn	04 44 55.3	-2.2	
PRP	Porcupine Dome	12.15	33	Pn		Pn	04 44 57.1	-0.5	
J26L	Joseph Creek	12.17	40	Pn		Pn	04 44 55.2	-2.6	
AMKA	Amchitka	12.22	255	Pn		Pn	04 44 57.0	-1.6	
PNL	Peninsula	12.31	65	P		Pn	04 44 59.6	-0.1	

F24K	Squaw Lake	13.01	24	P		P	04 45 12.0	+0.6	
P29M	Windy Craggy	13.15	65	Pn		Pn	04 45 09.3	-0.8	
M29M	Somme Creek	13.34	53	Pn		Pn	04 45 11.9	-0.6	
E24K	Your Creek	13.34	22	Pn		Pn	04 45 12.3	-0.2	
HYT	Haines Junctio	13.41	60	Pn		Pn	04 45 13.5	0.0	
DAWY	Dawson	13.53	46	Pn		Pn	04 45 13.8	-1.1	
TOLK	Toolik Lake Re	13.61	19	Pn		Pn	04 45 15.1	-0.8	
L29M	L29M	13.69	50	Pn		Pn	04 45 16.6	-0.3	
N30M	Aishikik Lake	13.72	57	Pn		Pn	04 45 16.9	-0.4	
BMAR	Burnt Mountain	13.76	29			P	04 45 19.3	-0.4	
B21K	Ikpikpuk River	13.80	10			Pn	04 45 18.0	-0.1	
S31K	Pelican	13.92	72	P		P	04 45 23.0	+1.5	
I28M	Miner Creek	13.98	40	Pn		Pn	04 45 20.1	-0.4	
E25K	Arctic Village	14.03	25			P	04 45 21.9	-0.8	
O30N	Mendenhall	14.09	61			Pn	04 45 21.7	-0.1	
M30M	Minto, Yukon	14.12	53			P	04 45 22.6	-1.1	
D24K	Happy Valley	14.19	19			P	04 45 23.1	-1.3	
K29M	Barlow Dome	14.20	48			Pn	04 45 23.0	-0.3	
N31M	Braeburn, Yuko	14.34	58			P	04 45 25.5	-0.7	
C23K	Itkillik River	14.50	15			P	04 45 27.6	-0.2	
I29M	Ogilvie Camp,	14.53	42			P	04 45 27.4	-0.8	
WHY	Whitehorse	14.66	61			P	04 45 30.9	+1.0	
D25K	Kavik River	14.81	22			P	04 45 31.2	0.0	
H29M	Whitestone	14.93	39			Pn	04 45 31.6	-0.4	
J30M	Hart River	14.96	46			P	04 45 32.9	-0.2	
M31M	Drury Creek, Y	15.12	56			P	04 45 35.2	+0.4	
M31M					IAmb	IAmb	04 45 38.9		
	comp=Z,7.4nm,0.8s								
P32M	Atlin	15.19	66			P	04 45 36.1	+0.6	
P32M					IAmb	IAmb	04 46 14.8		
	comp=Z,7.2nm,1.1s								
I30M	Mount Dempster	15.20	43			P	04 45 35.5	-0.2	
G29M	Pine Creek	15.41	37			Pn	04 45 36.3	-1.6	
G29M					IAmb	IAmb	04 45 39.8		
	comp=Z,5.4nm,0.7s								
EPYK	Eagle Plains	15.58	39			P	04 45 38.8	-1.0	
EPYK					IAmb	IAmb	04 45 44.1		
	comp=Z,6.3nm,0.8s								
N32M	Quiet Lake	15.59	60	Pn		Pn	04 45 41.9	+1.8	
N32M					IAmb	IAmb	04 45 43.9		
	comp=Z,7.2nm,0.8s								
FARO	Faro, Yukon	15.61	56	Pn		Pn	04 45 41.5	+1.3	
P33M	Teslin, Yukon	15.65	63			Pn	04 45 42.0	+1.0	
H31M	Peel River	16.21	43	P		P	04 45 46.1	-0.6	
H31M					IAmb	IAmb	04 45 48.5		
	comp=Z,4.1nm,0.8s								
E29M	Blow River	16.29	32	P		P	04 45 46.6	-1.0	
G31M	Satah River	16.71	39	P		P	04 45 50.5	-1.6	
DLBC	Dease Lake	17.15	69	P		Pn	04 45 59.8	+1.0	
DLBC					IAmb	IAmb	04 46 01.3		
	comp=Z,4.5nm,0.8s								
DLBC	Dease Lake	17.15	69	P		P	04 45 56.4	-0.8	
	comp=Z,4.3nm,0.8s,baz=278,slow=7.1,SNR=1.5								
INK	Inuvik	17.61	35	P		P	04 45 59.3	-2.6	
INK	Inuvik	17.61	35	P		P	04 45 59.5	-2.4	
	comp=Z,1.3nm,0.5s,baz=243,slow=12,SNR=8.7								
A36M	Sachs Harbour	21.85	30	P		P	04 46 45.5	-1.4	
A36M					IAmb	IAmb	04 46 50.2		
	comp=Z,5.6nm,0.8s								
YKA	Yellowknife Ar	24.32	56	P		P	04 47 10.6	+1.1	
YKA	Yellowknife Ar	24.32	56	P		P	04 47 09.7	+0.2	
	comp=Z,0.7nm,0.6s,baz=278,slow=10,SNR=12								
	comp=Z,0.7nm,0.6s								
LYMT	Lyon Mountain	31.43	86	P		P	04 48 15.5	+2.4	
NVAR	Mina Array Bea	33.68	103	P		P	04 48 34.1	+1.3	
	comp=Z,0.2nm,0.6s,baz=316,slow=10,SNR=2.5								
	comp=Z,0.2nm,0.6s								
PDAR	Pinedale Array	35.55	90	P		P	04 48 50.6	+1.9	
	comp=Z,0.2nm,0.5s,baz=292,slow=4.8,SNR=2.3								
	comp=Z,0.2nm,0.5s								
TXAR	Lajitas Array	48.51	99	P		P	04 50 34.7	+1.4	
	comp=Z,0.1nm,0.3s,baz=323,slow=7.3,SNR=2.4								
	comp=Z,0.1nm,0.3s								
HHC	Hu-ho-hao-te	55.62	293	eP		P	04 51 24.9	-0.6	
HHC					pmax	pmax			
	comp=Z,7.0nm,0.7s								
HHC					pmax	pmax			
	comp=Z,67nm,5.2s								
QSPA	South Pole Qui	146.02	180	PKPbc		PKPab	05 01 25.5	-0.7	
	comp=Z,0.7nm,0.5s,baz=72,slow=4.5,SNR=5.6								

SJA ***21*** *04:54:56.3±0.7, 24.°01S×66.°82W, h224km±4km, ML4.0, MW3.9*
IDC ***21*** *04:54:57.4±1.0, 23.°99S×66.°66W, h184km±10km, mb3.5/8, mbtmp4.0/14, Error ellipse: s-maj=15.4km s-min=13.6km az=40.0*
GUC ***21*** *04:54:57.4±0.7, 24.°06S×66.°88W, h217km±7km, ML4.1*
NEIC ***21*** *04:54:57.6±2.7, 24.°09S±0.°07×66.°85W±0.°05, h190km±13km, mb4.4/6, Error ellipse: s-maj=10.6km s-min=6.3km az=166.0*

ISC 21 04:54:58.1±0.6, 23.°99S±0.°04×66.°86W±0.°04, h202km±6km, n96, σ1s51/121, mb3.7/8, 8C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLA	San Lorenzo	1.43	121	eP		Pn		04 55 32.1	+0.6
SLA				eS		S		04 55 58.1	+1.0
SLA	San Lorenzo	1.43	121	⇑iP		Pn		04 55 32.1	+0.6
HJA	Humahuaca	1.54	60	eP		Pn		04 55 33.2	+0.4
AF01	San Pedro de A	1.60	310			Pn		04 55 34.5	+1.3
AF01	San Pedro de A	1.60	310	eP		Pn		04 55 34.4	+1.2
AF01				eS		S		04 56 01.4	+1.5
AF01				IAML				04 56 06.2	
	comp=E,514nm,0.2s								
AZAP	Zapla	1.65	98	eP		Pn		04 55 33.7	+0.1
YJA	Yavi	2.19	35	eP		Pn		04 55 39.9	+0.6
YJA				eS		S		04 56 12.2	+1.5
YJA	Yavi	2.19	35	eP		Pn		04 55 39.8	+0.5
FSA	Cafayete	2.25	160	eP		Pn		04 55 39.5	-0.1
LVC	Limon Verde	2.34	306	Pn		Pn		04 55 41.0	+0.3
LVC	Limon Verde	2.34	306	eP		Pn		04 55 41.4	+0.7
LVC				eS		S		04 56 14.5	+1.3
LVC	Limon Verde	2.34	306	P		Pn		04 55 41.5	+0.7
	comp=E,57nm,0.3s,baz=134,slow=6.0,SNR=140								
LVC				S		S		04 56 13.5	+0.3
	comp=E,165nm,0.4s,baz=210,slow=20,SNR=81								
LVC	Limon Verde	2.34	306	eP		Pn		04 55 41.2	+0.5
LVC				eS		S		04 56 13.7	+0.5
PB15	IPOC Station P	2.52	288	Pn		Pn		04 55 42.9	+0.3
PB15	IPOC Station P	2.52	288	eP		Pn		04 55 43.3	+0.7
PB15				eS		S		04 56 17.7	+1.2
PB15				IAML				04 56 19.7	
	comp=Z,1μm,0.2s								
PB15	IPOC Station P	2.52	288	⇑iP		Pn		04 55 43.2	+0.7
PB15				eS		S		04 56 16.3	-0.2
ALOL	LOMAS DE OLMED	2.64	87	eP		Pn		04 55 43.7	0.0
GO02	Mina Guanaco	2.75	244	Pn		Pn		04 55 45.4	+0.2
GO02	Mina Guanaco	2.75	244	eP		Pn		04 55 45.6	+0.4
GO02				eS		S		04 56 21.7	+0.4
GO02	Mina Guanaco	2.75	244	⇑iP		Pn		04 55 45.6	+0.4
GO02				eS		S		04 56 21.4	+0.1
GO02				IAML				04 56 23.1	
	comp=N,363nm,0.3s								
PB06	IPOC Station P	2.81	297	Pn		Pn		04 55 46.1	+0.4
PB06	IPOC Station P	2.81	297	eP		Pn		04 55 46.3	+0.6
PB06				eS		S		04 56 22.9	+0.6
PB06				IAML				04 56 25.6	
	comp=Z,228nm,0.3s								
PB06	IPOC Station P	2.81	297	⇑iP		Pn		04 55 46.3	+0.6
PB06				eS		S		04 56 21.4	-0.8
PB06				IAML				04 56 23.9	
	comp=E,576nm,0.4s								
AHML	Horco Molle	3.10	154	eP		Pn		04 55 48.0	-1.1
AHML				eS		S		04 56 27.9	-0.4
AHML	Horco Molle	3.10	154	eP		Pn		04 55 48.8	-0.2
AHML				eS		S		04 56 27.7	-0.7
PB09	IPOC Station P	3.10	314	Pn		Pn		04 55 50.6	+1.3
PB09	IPOC Station P	3.10	314	eP		Pn		04 55 50.2	+1.0
PB09				eS		S		04 56 29.2	+0.7
PB09				IAML				04 56 29.8	
	comp=Z,213nm,0.5s								
PB09	IPOC Station P	3.10	314	⇑iP		Pn		04 55 50.1	+0.9
PB14	IPOC Station P	3.30	258	Pn		Pn		04 55 51.5	-0.2
PB14	IPOC Station P	3.30	258	eP		Pn		04 55 51.7	+0.1
PB14				eS		S		04 56 31.8	-1.1
PB14				IAML				04 56 34.5	
	comp=Z,128nm,0.6s								
PB14	IPOC Station P	3.30	258	⇑iP		Pn		04 55 51.5	-0.2
PB10	IPOC Station P	3.42	277	eP		Pn		04 55 52.8	0.0
PB10	IPOC Station P	3.42	277	eP		Pn		04 55 53.1	+0.2
PB10				eS		S		04 56 35.2	+0.1

PB10				IAML			04 56 38.6		
	comp=Z,154nm,0.7s								
PB10	IPOC Station P	3.42	277	⇑iP		Pn	04 55 53.1	+0.2	
PB04	IPOC Station P	3.45	298			Pn	04 55 53.0	-0.4	
PB04	IPOC Station P	3.45	298	eP		Pn	04 55 53.2	-0.2	
PB04				eS		S	04 56 34.7	-1.4	
PB04				IAML			04 56 41.7		
	comp=Z,275nm,0.6s								
PB04	IPOC Station P	3.45	298	⇑iP		Pn	04 55 53.4	0.0	
AC01	Pan de Azucar	4.01	237			Pn	04 55 58.8	-1.3	
AC01	Pan de Azucar	4.01	237	eP		Pn	04 55 59.1	-0.9	
AC01				eS		S	04 56 45.0	-3.2	
AC01				IAML			04 56 46.4		
	comp=Z,78nm,0.7s								
PB08	IPOC Station P	4.39	331			Pn	04 56 05.2	+0.1	
PB08	IPOC Station P	4.39	331	eP		Pn	04 56 05.3	+0.1	
PB08				eS		S	04 56 57.3	-0.1	
PB08				IAML			04 57 02.0		
	comp=Z,122nm,0.7s								
PATCX	Punta Patache	4.39	315	Pn		Pn	04 56 04.4	-0.5	
PATCX	Punta Patache	4.39	315	eP		Pn	04 56 04.4	-0.5	
PATCX				eS		S	04 56 55.3	-1.7	
PATCX				IAML			04 57 00.2		
	comp=Z,127nm,0.4s								
CYA	Choya	4.53	168	eP		Pn	04 56 01.9	-4.6	
CYA				eS		S	04 56 58.3	-1.8	
TA01	Diego Aracena	4.59	317			Pn	04 56 06.4	-1.0	
TA01	Diego Aracena	4.59	317	eP		Pn	04 56 07.4	0.0	
TA01				eS		S	04 56 59.0	-2.5	
TA01				IAML			04 57 04.0		
	comp=Z,95nm,0.7s								
AC06	Mina Casimiro	4.60	223			Pn	04 56 05.7	-1.8	
HMBC	Humberstone	4.64	322	Pn		Pn	04 56 06.7	-1.5	
TA02	Huaiquique	4.79	320			Pn	04 56 09.2	-0.7	
GO01	Chusmiza	4.82	333			Pn	04 56 10.2	-0.5	
GO01	Chusmiza	4.82	333	eP		Pn	04 56 10.6	-0.2	
GO01				eS		S	04 57 07.2	-0.3	
VCA	Vinchina	4.88	194	eP		Pn	04 56 12.9	+1.9	
PB11	IPOC Station P	4.95	328	Pn		Pn	04 56 11.0	-1.1	
PB11	IPOC Station P	4.95	328	eS		S	04 57 07.2	-2.7	
PB11				IAML			04 57 10.9		
	comp=Z,166nm,0.3s								
AC04	Llanos de Chal	5.65	221			Pn	04 56 18.7	-2.2	
AC05	El Transito	5.71	212			Pn	04 56 20.2	-1.6	
LCO	Las Campanas	6.07	214			Pn	04 56 23.8	-2.7	
PB12	IPOC Station P	6.25	328			Pn	04 56 26.9	-1.9	
CO05	La Serena	7.08	213			Pn	04 56 36.0	-3.3	
CO03	El Pedregal	7.62	206			Pn	04 56 43.4	-3.1	
ZON	Zonda	7.69	192			Pn	04 56 45.9	-1.5	
LPAZ	La Paz	7.76	351			Pn	04 56 48.8	-0.1	
LPAZ	La Paz	7.76	351	P		Pn	04 56 49.5	+0.6	
	comp=Z,3.8nm,0.4s,baz=155,slow=5.3,SNR=38								
LPAZ				S		S	04 58 12.8	-4.1	
	comp=Z,3.9nm,0.6s,baz=254,slow=24,SNR=6.6								
CO02	Combarbal	8.07	206			Pn	04 56 48.6	-3.6	
CPUP	Villa Florida	8.94	107			Pn	04 57 00.7	-2.8	
CPUP	Villa Florida	8.94	107	P		Pn	04 57 01.5	-2.0	
	comp=Z,2.9nm,0.9s,baz=283,slow=11,SNR=5.4								
SIV	San Ignacio	9.64	35	P		Pn	04 57 10.4	-2.4	
	comp=Z,1.3nm,0.3s,baz=213,slow=11,SNR=18								
SIV				S		S	04 58 54.6	-6.3	

HMH	**Humu'ula Sheep**	**0.55**	**294**	Pg	Pg	04 56 18.0	-0.4
MLOA	**Mauna Loa Obse**	**0.61**	**285**	Pg	Pg	04 56 18.4	-1.2
MLOA				Sg	Sg	04 56 27.4	-0.3
MLOA				IAML		04 56 27.6	
	comp=E,313nm,0.4s						
MLOA				IAML		04 56 28.3	
	comp=N,275nm,0.3s						
MLOA	**Mauna Loa Obse**	**0.61**	**285**	Pg	Pg	04 56 18.7	-0.9
MWH	**Moku'aweowe**	**0.62**	**280**	Pg	Pg	04 56 18.6	-1.2
MWH				IAML		04 56 38.3	
	comp=N,431nm,1.0s						
KHU	**Kahuku**	**0.65**	**258**	Pg	Pg	04 56 19.1	-1.0
KHU				IAML		04 56 32.0	
	comp=E,335nm,2.1s						
KHU				IAML		04 56 38.8	
	comp=N,307nm,1.6s						
POHA	**Pohakuloa**	**0.67**	**304**	Pg	Pg	04 56 18.9	-1.7
POHA	**Pohakuloa**	**0.67**	**304**	IAML		04 56 32.9	
	comp=N,380nm,0.3s						
POHA				IAML		04 56 36.7	
	comp=N,299nm,0.5s						
ALEP	**Alea Permanent**	**0.68**	**284**		Sg	04 56 29.4	-0.3
HUH	**Hualalai**	**0.89**	**290**	Pg	Pg	04 56 24.0	-0.9

*FUNV **21** 05:02:15.5, 8.˚31N×71.˚82W, h1km, MW3.9*
*RSNC **21** 05:02:19.3±0.0, 8.˚1N±7.˚7×7.˚2W±.˚, h0km±8km, M3.8, mb4.2, mB4.8, ML3.3, ML4.4, Mw(mB)4.1*
*IDC **21** 05:02:19.7±1.2, 8.˚38N×71.˚72W, h53km±14km, mb3.4/9, mbtmp3.7/11, ML3.5/2, Error ellipse: s-maj=19.8km s-min=9.3km az=137.0*
ISC 21 05:02:14.2±1.2, 8.˚26N±0.˚04×71.˚70W±0.˚03, h12km±8km, n46, σ2s38/81, mb3.4/9, 1C-2D, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.72**	**237**	⇑*i* P		**Pg**	**05 02 27.6**	**-0.7**
CAPV				*e*S		**Sg**	**05 02 37.2**	**-0.6**
SDV	**Santo Domingo**	**1.23**	**59**	P		**Pg**	**05 02 39.2**	**+1.2**
	246nm,0.3s,baz=219,slow=5.5,SNR=85							
SDV				S		**Sn**	**05 02 55.5**	**+1.5**
	780nm,0.4s,baz=283,slow=20,SNR=15							
PAMC	**Pamplona, Colo**	**1.34**	**227**	P		**Pn**	**05 02 39.4**	**+0.2**
PAMC				S		**Sg**	**05 02 58.4**	**+0.7**
OCAC	**Ocana**	**1.60**	**270**	P		**Pn**	**05 02 42.7**	**+0.2**
OCAC				S		**Sn**	**05 03 03.0**	**-0.2**
MCQV	**Machiques**	**1.96**	**335**	*i* P		**Pn**	**05 02 48.1**	**+0.8**
MCQV				*e*S		**Sn**	**05 03 12.4**	**+0.5**
BARC	**Barichara**	**2.21**	**222**	P		**Pb**	**05 02 53.7**	**-0.6**
BARC				S		**Sg**	**05 03 24.9**	**-0.5**
RUSC	**La Rusia**	**2.72**	**210**	P		**Pb**	**05 03 01.0**	**-2.1**
RUSC				S		**Sg**	**05 03 41.3**	**-0.4**
CRJC	**Cerrejon, Guaj**	**2.98**	**337**	P		**Pn**	**05 03 01.9**	**+0.4**
TEPV	**Terepaima**	**3.00**	**55**	*e*P		**Pn**	**05 03 04.2**	**+2.5**
TEPV				*e*S		**Sn**	**05 03 40.2**	**+2.5**
SIQV	**Siquisique**	**3.02**	**38**	*e*P		**Pn**	**05 03 04.2**	**+2.2**
SIQV				*e*S		**Sn**	**05 03 40.4**	**+2.2**
URIC	**Uribia, Colomb**	**3.44**	**355**	P		**Pn**	**05 03 07.0**	**-0.6**
URIC				P		**Pn**	**05 03 07.2**	**-0.4**
BAUV	**El Baul**	**3.68**	**79**	⇓*e*P		**Pn**	**05 03 14.8**	**+3.7**
BAUV				*e*S		**Sn**	**05 03 56.9**	**+2.5**
SJCC	**San Jacinto, C**	**3.80**	**296**	P		**Pn**	**05 03 14.6**	**+1.9**
SJCC				P		**Pn**	**05 03 15.2**	**+2.5**
SJCC				S		**Sn**	**05 04 00.4**	**+3.0**
JACV	**Jacura**	**3.99**	**45**	*e*P		**Pn**	**05 03 17.0**	**+1.7**
JACV				*e*S		**Sn**	**05 04 03.0**	**+0.9**
PTGC	**Puerto Gaitan,**	**4.05**	**186**	P		**Pn**	**05 03 17.9**	**+1.8**
CHIC	**Chingaza**	**4.13**	**209**	P		**Pn**	**05 03 20.4**	**+2.9**
CHIC				P		**Pn**	**05 03 20.5**	**+2.9**
CHIC				P		**Pn**	**05 03 20.8**	**+3.3**
NORC	**Norcasia**	**4.13**	**230**	P		**Pn**	**05 03 19.6**	**+2.4**
NORC				P		**Pn**	**05 03 20.5**	**+3.3**
NORC				P		**Pn**	**05 03 20.9**	**+3.7**
ROSC	**El Rosal**	**4.28**	**218**	P		**Pn**	**05 03 24.1**	**+4.6**
	18nm,0.3s,baz=339,slow=6.1,SNR=42							
ROSC				S		**Sn**	**05 04 15.0**	**+5.5**
	19nm,0.3s,baz=337,slow=22,SNR=1.3							
	44nm,0.4s							
TURV	**Turiamo**	**4.39**	**60**	*e*P		**Pn**	**05 03 23.3**	**+2.5**
TURV				*e*S		**Sn**	**05 04 12.8**	**+1.0**
BENV	**Beln**	**4.39**	**67**	*e*P		**Pn**	**05 03 23.2**	**+2.3**
BENV				*e*S		**Sn**	**05 04 13.1**	**+1.1**
VILC	**Villavicencio,**	**4.57**	**206**	P		**Pn**	**05 03 25.8**	**+2.5**
APAC	**Apartado, Choc**	**4.84**	**266**	P		**Pn**	**05 03 30.1**	**+3.1**
APAC				S		**Sn**	**05 04 27.4**	**+4.4**
TACV	**Tcata**	**4.98**	**68**	*e*P		**Pn**	**05 03 31.3**	**+2.4**
TACV				*e*S		**Sn**	**05 04 26.5**	**-0.1**
CACV	**CAICARA DEL OR**	**5.16**	**97**	⇓*e*P		**Pb**	**05 03 42.0**	**-2.4**
CACV				*e*S		**Sb**	**05 04 44.1**	**-2.4**
FUNV	**FUNVISIS**	**5.30**	**65**	*e*P		**Pn**	**05 03 36.5**	**+3.0**
PRAC	**Prado**	**5.51**	**215**	P		**Pn**	**05 03 38.3**	**+2.1**
	23nm,0.5s,0.2nm							
PRAC				P		**Pn**	**05 03 38.3**	**+2.1**
	23nm,0.5s,0.2nm							
PRAC				P		**Pn**	**05 03 39.0**	**+2.8**
	23nm,0.5s,0.2nm							
GUVC	**San Jose del G**	**5.75**	**189**	P		**Pn**	**05 03 40.9**	**+1.5**
YOTC	**Yotoco, Valle**	**6.27**	**228**	P		**Pn**	**05 03 49.4**	**+2.7**
	15nm,0.8s,0.0nm							
YOTC				P		**Pn**	**05 03 49.5**	**+2.7**
	15nm,0.8s,0.0nm							
JAMC	**Jamundi, Valle**	**7.04**	**225**	P		**Pn**	**05 04 00.3**	**+2.9**
	11nm,0.6s,0.1nm							
GARC	**Garzon, Huila**	**7.11**	**212**	P		**Pn**	**05 04 00.0**	**+1.6**
GARC				P		**Pn**	**05 04 00.5**	**+2.1**
PCRV	**Puerto La Cruz**	**7.23**	**74**	*e*P		**Pn**	**05 04 02.8**	**+2.9**
PCRV				*e*S		**Sn**	**05 05 20.1**	**-1.9**
PCRV	**Puerto La Cruz**	**7.23**	**74**	P		**Pn**	**05 04 03.8**	**+3.9**
	3.7nm,0.3s,baz=276,slow=7.0,SNR=30							
PCRV				S		**Sn**	**05 05 25.2**	**+3.1**
	21nm,0.5s,baz=208,slow=15,SNR=7.9							
	8.9nm,0.3s							
POPC	**Popayan, Colom**	**7.53**	**221**	P		**Pn**	**05 04 07.1**	**+2.9**
	8.2nm,0.8s,0.0nm							
POPC				P		**Pn**	**05 04 07.1**	**+2.9**
	8.2nm,0.8s,0.0nm							
POPC				P		**Pn**	**05 04 07.3**	**+3.1**
	8.2nm,0.8s,0.0nm							
FLOC	**Florencia**	**7.71**	**211**	P		**Pn**	**05 04 08.4**	**+2.0**
FLOC				P		**Pn**	**05 04 08.5**	**+2.0**
LUEV	**Luepa**	**10.44**	**103**	*e*P		**Pn**	**05 04 44.2**	**+0.2**
LUEV				*e*S		**Sn**	**05 06 34.9**	**-6.3**
LPAZ	**La Paz**	**24.64**	**172**	P		**P**	**05 07 36.9**	**+1.4**
	2.3nm,0.8s,baz=331,slow=13,SNR=13							
	2.3nm,0.8s							
TXAR	**Lajitas Array**	**36.61**	**309**	P		**P**	**05 09 20.3**	**-0.4**
	0.2nm,0.4s,baz=131,slow=9.5,SNR=4.8							
TXAR				PcP		**PcP**	**05 11 44.6**	**+0.7**
	0.2nm,0.6s,baz=132,slow=5.4,SNR=3.2							
	0.2nm,0.4s							
SCHQ	**Schefferville**	**46.61**	**4**	P		**P**	**05 10 42.7**	**+0.6**
	3.0nm,0.8s,baz=226,slow=3.5,SNR=3.7							
	3.0nm,0.8s							
PDAR	**Pinedale Array**	**47.78**	**322**	P		**P**	**05 10 51.0**	**-0.8**
	0.2nm,0.5s,baz=97,slow=7.4,SNR=1.8							
	0.2nm,0.5s							
NVAR	**Mina Array Bea**	**51.51**	**313**	P		**P**	**05 11 18.3**	**-1.9**
	0.1nm,0.3s,baz=106,slow=5.7,SNR=1.8							
	0.1nm,0.3s							
YKA	**Yellowknife Ar**	**62.42**	**339**	P		**P**	**05 12 35.6**	**-1.3**
	0.2nm,0.7s,baz=125,slow=6.2,SNR=3.4							
	0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**72.08**	**79**	P		**P**	**05 13 38.3**	**-0.7**
	0.6nm,0.9s,baz=233,slow=12,SNR=2.7							
	0.6nm,0.9s							
ILAR	**Eielson Array**	**76.27**	**335**	P		**P**	**05 14 01.4**	**-1.2**
	0.2nm,0.6s,baz=101,slow=3.8,SNR=1.9							
	0.2nm,0.6s							
ARCES	**ARCESS Array B**	**84.84**	**21**	P		**P**	**05 14 48.8**	**+0.3**
	5.7nm,1.1s,baz=285,slow=4.6,SNR=1.7							
	5.7nm,1.1s							
ASAR	**Alice Springs**	**151.08**	**235**	PKPbc		**PKPbc**	**05 22 07.6**	**-0.6**
	0.4nm,0.6s,baz=107,slow=3.4,SNR=4.2							
WRA	**Warramunga Arr**	**152.25**	**242**	PKPbc		**PKPbc**	**05 22 10.4**	**-0.5**
	1.1nm,0.7s,baz=106,slow=2.1,SNR=11							

*CATAC **21** 05:18:05.4±0.1, 13.˚38N×88.˚03W, h5km±1km, ML3.7*
*SNET **21** 05:18:05.0±1.1, 13.˚35N×88.˚02W, h5km, MW3.7*
ISC 21 05:18:04.7±0.9, 13.˚38N±0.˚04×88.˚02W±0.˚02, h15km±7km, n65, σ0s59/99, 3C-1D, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.15**	**120**	*e*P		**Pb**	**05 18 08.9**	**-0.2**
LCND				⇑*e*P		**Pb**	**05 18 09.0**	**-0.2**
LCND				*e*S		**Sb**	**05 18 11.4**	**-0.8**
LCND				*e*S		**Sb**	**05 18 11.4**	**-0.8**
LCND	**La Caada**	**0.15**	**120**	*i* P		**Pb**	**05 18 08.8**	**-0.4**
LCND				*i* S		**Sb**	**05 18 11.8**	**-0.4**
LCND				IAML			05 18 16.2	
	comp=Z,120μm,1.0s							
CNRM	**Centro Naciona**	**0.17**	**302**	*e*P		**Pb**	**05 18 09.2**	**-0.3**
CNRM				*e*S		**Sg**	**05 18 12.2**	**+0.5**
CNRM	**Centro Naciona**	**0.17**	**302**	*i* P		**Pb**	**05 18 09.2**	**-0.3**
CNRM				*i* S		**Sb**	**05 18 12.6**	**-0.2**
CNRM				IAML			05 18 14.8	
	comp=Z,91μm,1.0s							
INTP	**Intipuca**	**0.19**	**189**	⇓*e*P		**Pg**	**05 18 08.9**	**-0.3**
INTP				*e*S		**Sg**	**05 18 11.7**	**-0.4**
CNCH	**Conchagua**	**0.21**	**120**	*e*P		**Pb**	**05 18 10.1**	**-0.2**
CNCH				*e*P		**Pb**	**05 18 10.2**	**-0.2**
CNCH				*e*S		**Sb**	**05 18 14.8**	**+0.6**
CNCH	**Conchagua**	**0.21**	**120**	*i* P		**Pb**	**05 18 10.2**	**-0.2**
CNCH				*i* S		**Sb**	**05 18 13.9**	**-0.3**
CNCH				IAML			05 18 16.7	
	comp=Z,150μm,1.0s							
BLLM	**Bellamira**	**0.22**	**286**	*e*P		**Pb**	**05 18 10.1**	**-0.3**
VSM	**San Miguel**	**0.25**	**280**	*e*P		**Pb**	**05 18 10.9**	**-0.1**
RANC	**El Ranchito**	**0.26**	**281**	*e*P		**Pb**	**05 18 11.0**	**-0.2**
RANC	**El Ranchito**	**0.26**	**281**	*i* P		**Pb**	**05 18 11.0**	**-0.2**
RANC				*i* S		**Sb**	**05 18 15.4**	**-0.2**
RANC				IAML			05 18 18.5	
	comp=Z,10μm,1.0s							
PACA	**Pacayal**	**0.30**	**286**	*e*P		**Pb**	**05 18 11.8**	**-0.1**
PACA				*e*S		**Sb**	**05 18 16.6**	**-0.1**
PACA	**Pacayal**	**0.30**	**286**	*i* P		**Pb**	**05 18 11.9**	**0.0**
PACA				*i* S		**Sb**	**05 18 16.3**	**-0.5**
PACA				IAML			05 18 21.7	
	comp=Z,69μm,1.0s							
TECA	**Tecapa**	**0.48**	**283**	*e*P		**Pb**	**05 18 14.8**	**-0.1**
COEB	**Comit de Eme**	**0.51**	**283**	⇑*e*P		**Pb**	**05 18 15.5**	**+0.1**
COEB	**Comit de Eme**	**0.51**	**283**	*i* P		**Pb**	**05 18 15.3**	**0.0**
COEB				*i* S		**Sb**	**05 18 22.3**	**-0.3**
COEB				IAML			05 18 27.5	
	comp=Z,1μm,1.0s							
PQSS	**Presa 15 de Se**	**0.57**	**295**	*e*P		**Pb**	**05 18 17.2**	**+0.8**
TECO	**Alcaldia de Te**	**0.75**	**282**	*e*P		**Pb**	**05 18 19.3**	**-0.2**
TECO	**Alcaldia de Te**	**0.75**	**282**	*i* P		**Pg**	**05 18 19.2**	**-0.2**
TECO				IAML			05 18 36.5	
	comp=Z,730nm,1.0s							
SCLA	**Alcaldia de Sa**	**0.76**	**295**	*e*P		**Pb**	**05 18 19.8**	**+0.2**
SCLA	**Alcaldia de Sa**	**0.76**	**295**	*i* P		**Pb**	**05 18 19.7**	**+0.2**
SCLA				*i* S		**Sb**	**05 18 30.1**	**+0.4**
SCLA				IAML			05 18 44.7	
	comp=Z,1μm,1.0s							
UESV	**Universidad de**	**0.78**	**289**	*e*P		**Pb**	**05 18 20.3**	**+0.2**
UESV	**Universidad de**	**0.78**	**289**	*i* P		**Pn**	**05 18 20.6**	**-0.6**
UESV				*i* S		**Sn**	**05 18 32.1**	**-0.6**
UESV				IAML			05 18 38.7	
	comp=Z,1μm,1.0s							
COEG	**Centro de Oper**	**0.87**	**286**	*e*P		**Pg**	**05 18 21.6**	**+0.1**
COEG	**Centro de Oper**	**0.87**	**286**	*i* P		**Pg**	**05 18 21.7**	**+0.1**
COEG				*i* S		**Sn**	**05 18 34.1**	**-0.7**
COEG				IAML			05 18 43.5	
	comp=Z,880nm,1.0s							
PAVA	**Las Pavas**	**0.95**	**290**	*e*P		**Pn**	**05 18 23.2**	**-0.3**
PAVA	**Las Pavas**	**0.95**	**290**	*i* P		**Pn**	**05 18 23.2**	**-0.3**
PAVA				*i* S		**Sn**	**05 18 36.8**	**-0.1**
PAVA				IAML			05 18 42.3	
	comp=Z,3μm,1.0s							
TGUH	**Tegucigalpa,Un**	**0.99**	**47**	*e*P		**Pn**	**05 18 24.3**	**+0.1**
TGUH	**Tegucigalpa,Un**	**0.99**	**47**	*i* P		**Pn**	**05 18 24.3**	**+0.1**
TGUH				*i* S		**Sn**	**05 18 38.2**	**+0.2**
TGUH				IAML			05 18 46.3	
	comp=Z,3μm,1.0s							
LOMA	**Loma Larga**	**1.15**	**283**	*e*P		**Pn**	**05 18 26.4**	**+0.1**
LOMA	**Loma Larga**	**1.15**	**283**	*i* P		**Pn**	**05 18 26.4**	**+0.1**
LOMA				*i* S		**Sn**	**05 18 42.6**	**+0.8**
LOMA				IAML			05 18 48.1	
	comp=Z,900nm,1.0s							
PANCS	**Alcalda de**	**1.15**	**282**	*e*P		**Pn**	**05 18 26.4**	**+0.2**
PANCS	**Alcalda de**	**1.15**	**282**	*i* P		**Pn**	**05 18 26.5**	**+0.2**
PANCS				*i* S		**Sg**	**05 18 41.9**	**+0.1**
PANCS				IAML			05 18 46.0	
	comp=Z,2μm,1.0s							
UDBS	**Universidad Do**	**1.15**	**287**	*i* P		**Pg**	**05 18 26.7**	**-0.2**
UDBS				IAML			05 18 51.8	
	comp=Z,600nm,1.0s							
CRIN	**San Cristobal**	**1.17**	**125**	*i* P		**Pg**	**05 18 27.5**	**+0.3**
CRIN				*i* S		**Sg**	**05 18 45.9**	**+3.4**
CRIN				IAML			05 18 53.7	
	comp=Z,6μm,1.0s							
UTEC	**Universidad Te**	**1.19**	**286**	*e*P		**Pg**	**05 18 27.5**	**-0.1**
UTEC	**Universidad Te**	**1.19**	**286**	*i* P		**Pg**	**05 18 27.5**	**-0.1**
UTEC				*i* S		**Sg**	**05 18 43.9**	**+0.7**
UTEC				IAML			05 18 46.9	
	comp=Z,620nm,1.0s							
UESS	**Universidad de**	**1.19**	**286**	*e*P		**Pg**	**05 18 27.8**	**+0.1**
SNET	**Serv Nac Est T**	**1.21**	**285**	*e*P		**Pb**	**05 18 27.4**	**0.0**
SNET	**Serv Nac Est T**	**1.21**	**285**	*i* P		**Pb**	**05 18 27.5**	**+0.1**
SNET				*i* S		**Sg**	**05 18 44.6**	**+0.7**
SNET				IAML			05 18 50.2	
	comp=Z,1μm,1.0s							
UEES	**Universidad Ev**	**1.23**	**286**	*e*P		**Pg**	**05 18 27.9**	**-0.5**
UEES	**Universidad Ev**	**1.23**	**286**	*i* P		**Pg**	**05 18 28.3**	**-0.1**
UEES				*i* S		**Sg**	**05 18 45.7**	**+1.3**
UEES				IAML			05 18 52.0	
	comp=Z,560nm,1.0s							
BOQS	**Boqueron**	**1.27**	**286**	*e*P		**Pg**	**05 18 29.0**	**-0.2**
BOQS				*e*S		**Sg**	**05 18 47.5**	**+1.7**
PMON	**Piamonte**	**1.30**	**285**	*e*P		**Pg**	**05 18 29.2**	**-0.6**
PMON	**Piamonte**	**1.30**	**285**	*i* P		**Pg**	**05 18 29.1**	**-0.6**
PMON				*i* S		**Sg**	**05 18 47.7**	**+1.1**
PMON				IAML			05 18 50.4	
	comp=Z,950nm,1.0s							
CEDA	**San Andres**	**1.40**	**288**	*e*P		**Pb**	**05 18 30.4**	**-0.1**
CEDA	**San Andres**	**1.40**	**288**	*i* P		**Pb**	**05 18 30.8**	**+0.3**
CEDA				IAML			05 19 07.4	
	comp=Z,2μm,1.0s							
JAYA	**Jayaque - finc**	**1.41**	**281**	⇑*e*P		**Pb**	**05 18 30.9**	**+0.1**
JAYA	**Jayaque - finc**	**1.41**	**281**	*i* P		**Pb**	**05 18 30.8**	**0.0**
JAYA				IAML			05 18 33.9	
	comp=Z,2μm,1.0s							
PACN	**Al O del Volca**	**1.49**	**126**	*i* P		**Pb**	**05 18 32.1**	**+0.1**
PACN				*i* S		**Sg**	**05 18 53.1**	**+0.4**
PACN				IAML			05 18 57.3	
	comp=Z,2μm,1.0s							
ROCN	**Rota Cerro Neg**	**1.52**	**124**	*i* P		**Pb**	**05 18 31.7**	**-0.8**
ROCN				IAML			05 19 09.2	
	comp=Z,630nm,1.0s							
CNGN	**Cerro Negro**	**1.56**	**124**	*i* P		**Pb**	**05 18 32.5**	**-0.8**
CNGN				IAML			05 19 13.0	
	comp=Z,1μm,1.0s							
CNGA	**Al SSO del Vol**	**1.56**	**124**	*i* P		**Pn**	**05 18 30.9**	**-1.1**
CNGA				IAML			05 19 00.8	
	comp=Z,1μm,1.0s							
UNIC	**Universidad Ca**	**1.60**	**292**	*i* P		**Pb**	**05 18 34.2**	**+0.3**
UNIC				IAML			05 18 36.2	
	comp=Z,410nm,1.0s							
UNIC				*i* S		**Sg**	**05 18 56.3**	**+0.1**
MACN	**El Madrono**	**1.60**	**125**	*i* P		**Pb**	**05 18 33.5**	**-0.5**
MACN				IAML			05 19 03.0	
	comp=Z,730nm,1.0s							
CEVE	**Cerro Verde**	**1.62**	**286**	*e*P		**Pb**	**05 18 34.8**	**+0.4**
CEVE	**Cerro Verde**	**1.62**	**286**	*i* P		**Pb**	**05 18 34.5**	**+0.1**
CEVE				IAML			05 19 11.2	
	comp=Z,630nm,1.0s							
MTO3	**Montecristo**	**1.64**	**308**	*i* P		**Pb**	**05 18 34.5**	**-0.3**
MTO3				*i* S		**Sg**	**05 18 57.3**	**-0.5**
MTO3				IAML			05 18 57.9	
	comp=Z,640nm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.68**	**125**	*i* P		**Pb**	**05 18 35.1**	**-0.3**
LEVN				IAML			05 19 04.1	
	comp=Z,1μm,1.0s							
ESQI	**Esquipulas**	**1.73**	**313**	*i* P		**Pb**	**05 18 36.4**	**+0.1**
ESQI				*i* S		**Sg**	**05 18 59.6**	**-1.0**
ESQI				IAML			05 19 12.3	
	comp=Z,950nm,1.0s							
MOMN	**Momotombo**	**1.74**	**124**	*i* P		**Pb**	**05 18 36.4**	**0.0**
MOMN				*i* S		**Sg**	**05 19 00.1**	**-0.7**
MOMN				IAML			05 19 03.6	
	comp=Z,29nm,1.0s							
MOM2	**El Cardon**	**1.77**	**122**	*i* P		**Pb**	**05 18 36.4**	**-0.5**
MOM2				*i* S		**Sg**	**05 19 01.9**	**+0.1**
MOM2				IAML			05 19 08.3	
	comp=Z,820nm,1.0s							
NUBE	**Las Nubes**	**1.78**	**287**	*i* P		**Pb**	**05 18 36.7**	**-0.5**
NUBE				*i* S		**Sg**	**05 19 02.3**	**+0.1**
NUBE				IAML			05 19 09.5	
	comp=Z,440nm,1.0s							
COPN	**Copaltepe**	**1.84**	**130**	*i* P		**Pn**	**05 18 36.4**	**+0.7**
COPN				IAML			05 19 13.6	
	comp=Z,470nm,1.0s							
TISN	**Laguna Tiscapa**	**2.11**	**126**	*i* P		**Pn**	**05 18 40.6**	**+1.1**
TISN				IAML			05 19 15.6	
	comp=Z,50nm,1.0s							

*FUNV **21** 05:31:09.2, 8.˚22N×71.˚78W, h5km, MW3.0*
*RSNC **21** 05:31:13.4±0.0, 8.˚1N±5.˚7×7.˚2W±.˚, h0km±5km, M2.2, ML2.2*
ISC 21 05:31:07.7±0.8, 8.˚37N±0.˚03×71.˚79W±0.˚03, h10km, n19, σ2s15/36, 1C, Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.72**	**226**	⇑*e*P		**Pg**	**05 31 20.7**	**-1.0**
CAPV				*e*S		**Sg**	**05 31 29.6**	**-1.7**
SOCV	**Socops**	**0.92**	**95**	*e*P		**Pb**	**05 31 26.1**	**+0.2**
SOCV				*e*S		**Sb**	**05 31 38.7**	**+0.5**
PAMC	**Pamplona, Colo**	**1.37**	**222**	P		**Pg**	**05 31 33.8**	**-0.2**
PAMC				S		**Sn**	**05 31 51.6**	**-0.1**
OCAC	**Ocana**	**1.52**	**265**	P		**Pb**	**05 31 35.9**	**-0.3**
OCAC				S		**Sg**	**05 31 56.4**	**-0.4**
MCQV	**Machiques**	**1.83**	**336**	*e*P		**Pb**	**05 31 41.8**	**+0.5**
MCQV				*e*S		**Sg**	**05 32 07.6**	**+1.1**
TAMC	**Tame, Arauca**	**1.92**	**180**	P		**Pg**	**05 31 44.0**	**-0.6**
TAMC				S		**Sg**	**05 32 09.8**	**+0.3**
BARC	**Barichara**	**2.24**	**218**	P		**Pb**	**05 31 47.3**	**-1.2**
BARC				S		**Sb**	**05 32 16.6**	**+0.2**
RUSC	**La Rusia**	**2.78**	**208**	P		**Pn**	**05 31 54.1**	**+1.4**
RUSC				S		**Sb**	**05 32 32.6**	**+0.6**
SIQV	**Siquisique**	**2.99**	**41**	*e*P		**Pn**	**05 31 57.5**	**+2.2**
SIQV				*e*S		**Sn**	**05 32 34.1**	**+2.9**
TEPV	**Terepaima**	**3.01**	**58**	*e*P		**Pn**	**05 31 58.3**	**+2.7**
TEPV				*e*S		**Sn**	**05 32 34.4**	**+2.7**
PTBC	**PUERTO BERRIO,**	**3.21**	**236**	P		**Pn**	**05 31 58.4**	**+0.1**
PTBC				S		**Sb**	**05 32 46.2**	**+2.1**
URIC	**Uribia, Colomb**	**3.32**	**356**	P		**Pn**	**05 31 57.7**	**-2.0**
URIC				S		**Sn**	**05 32 40.0**	**+0.7**
SJCC	**San Jacinto, C**	**3.68**	**295**	P		**Pn**	**05 32 07.6**	**+2.8**
SJCC				S		**Sb**	**05 32 52.5**	**-5.1**
BAUV	**El Baul**	**3.75**	**81**	*e*P		**Pn**	**05 32 07.2**	**+1.6**
BAUV				*e*S		**Sn**	**05 32 49.9**	**+0.1**
PTGC	**Puerto Gaitan,**	**4.16**	**185**	P		**Pn**	**05 32 10.7**	**-0.6**
PTGC				S		**Sn**	**05 33 01.0**	**+1.0**
BENV	**Beln**	**4.43**	**69**	*e*P		**Pn**	**05 32 16.5**	**+1.4**
BENV				*e*S		**Sn**	**05 33 06.5**	**-0.2**
VILC	**Villavicencio,**	**4.63**	**204**	P		**Pn**	**05 32 22.3**	**+4.3**
TACV	**Tcata**	**5.01**	**69**	*e*P		**Pn**	**05 32 23.6**	**+0.5**
TACV				*e*S		**Sn**	**05 33 19.8**	**-1.4**
CACV	**CAICARA DEL OR**	**5.26**	**98**	*e*P		Pn	05 32 33.2	+6.9
CACV				*e*S		**Sb**	**05 33 36.4**	**-6.6**

*CATAC **21** 05:32:17.2±0.4, 13.˚14N×89.˚51W, h32km±3km, ML3.5*
*SNET **21** 05:32:17.6±0.9, 13.˚18N×89.˚49W, h53km±13km, ML3.4*
ISC 21 05:32:17.1±2.0, 13.˚1N±0.˚1×89.˚53W±0.˚07, h52km±13km, n46, σ0s44/83, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.42**	**28**	*i* P		**Pn**	**05 32 27.5**	**-0.1**
LALI				*i* S		**Sn**	**05 32 35.3**	**+0.2**
LALI				IAML			05 32 37.5	
	comp=Z,330nm,1.0s							
JAYA	**Jayaque - finc**	**0.54**	**8**	*e*P		**Pn**	**05 32 29.0**	**-0.1**
JAYA				*e*S		**Sn**	**05 32 37.3**	**-0.5**
JAYA				IAML			05 32 39.1	
	comp=Z,2μm

LOAL					IAML			05 33 08.7	
	comp=Z,2μm,1.0s								
SCLA	**Alcaldia de Sa**	**0.97**	**53**	*i* P		**Pn**		**05 32 34.4**	**-0.1**
SCLA				*i* S		**Sn**		**05 32 47.7**	**+0.3**
SCLA					IAML			05 32 51.4	
	comp=Z,220nm,1.0s								
COEB	**Comit de Eme**	**1.04**	**68**	*eP*		**Pn**		**05 32 34.9**	**-0.6**
COEB					IAML			05 32 49.3	
	comp=Z,991nm,0.3s								
COEB	**Comit de Eme**	**1.04**	**68**	*i* P		**Pn**		**05 32 34.9**	**-0.6**
COEB				*i* S		**Sn**		**05 32 48.5**	**-0.6**
COEB					IAML			05 32 49.2	
	comp=Z,880nm,1.0s								
PQSS	**Presa 15 de Se**	**1.07**	**62**	*i* P		**Pn**		**05 32 35.0**	**-0.8**
PQSS				*i* S		**Sn**		**05 32 49.4**	**-0.2**
PQSS					IAML			05 32 50.4	
	comp=Z,670nm,1.0s								
PACA	**Pacayal**	**1.22**	**73**	*i* P		**Pn**		**05 32 38.7**	**+0.7**
PACA				*i* S		**Sn**		**05 32 54.0**	**+0.5**
PACA					IAML			05 32 58.2	
	comp=Z,4μm,1.0s								
RANC	**El Ranchito**	**1.25**	**75**	*i* P		**Pn**		**05 32 38.6**	**+0.3**
RANC				*i* S		**Sn**		**05 32 54.2**	**+0.1**
RANC					IAML			05 32 55.5	
	comp=Z,530nm,1.0s								
MTO3	**Montecristo**	**1.29**	**7**	*i* P		**Pn**		**05 32 38.6**	**-0.4**
MTO3					IAML			05 32 38.9	
	comp=Z,180nm,1.0s								
MTO3				*i* S		**Sn**		**05 32 54.3**	**-0.9**
BLLM	**Bellamira**	**1.30**	**75**	*eP*		**Pn**		**05 32 39.2**	**+0.3**
BLLM				*eS*		**Sn**		**05 32 55.5**	**+0.2**
CNRM	**Centro Naciona**	**1.37**	**75**	*i* P		**Pn**		**05 32 40.0**	**+0.2**
CNRM				*i* S		**Sn**		**05 32 58.1**	**+1.2**
CNRM					IAML			05 33 09.3	
	comp=Z,2μm,1.0s								
INTP	**Intipuca**	**1.44**	**87**	*eP*		**Pn**		**05 32 40.7**	**0.0**
ESQI	**Esquipulas**	**1.45**	**7**	*eP*		**Pn**		**05 32 40.9**	**-0.1**
ESQI	**Esquipulas**	**1.45**	**7**	*i* P		**Pn**		**05 32 40.9**	**-0.1**
ESQI				*i* S		**Sn**		**05 32 59.2**	**+0.2**
ESQI					IAML			05 33 56.7	
	comp=Z,450nm,1.0s								
LCND	**La Caada**	**1.60**	**83**	*eP*		**Pn**		**05 32 43.1**	**+0.1**
LCND	**La Caada**	**1.60**	**83**	*i* P		**Pn**		**05 32 43.3**	**+0.2**
LCND				*i* S		**Sn**		**05 33 02.6**	**-0.1**
LCND					IAML			05 33 54.2	
	comp=Z,500nm,1.0s								
CNCH	**Conchagua**	**1.66**	**84**	*eP*		**Pn**		**05 32 44.0**	**+0.1**
CNCH	**Conchagua**	**1.66**	**84**	*i* P		**Pn**		**05 32 43.8**	**-0.1**
CNCH				*i* S		**Sn**		**05 33 04.3**	**+0.2**
CNCH					IAML			05 33 55.9	
	comp=Z,600nm,1.0s								
GUNB	**GUNB**	**1.67**	**332**	*i* P		**Pn**		**05 32 43.6**	**-0.7**
GUNB				*i* S		**Sn**		**05 33 04.2**	**-0.6**
GUNB					IAML			05 33 07.3	
	comp=Z,110nm,1.0s								

DNK ***21*** *05:45:16.5±1.9, 59°.53N×23°.67E, h12km±157km, ML2.8*
IDC ***21*** *05:45:19.0±0.9, 59°.57N×23°.22E, h0km, mb3.2/1, mbtmp3.5/7, ML3.3/6, MS3.0/1, Error ellipse: s-maj=12.5km s-min=9.3km az=150.0*
HEL ***21*** *05:45:19.1±0.1, 59°.55N×23°.20E, h0km, ML2.7, Explosion*
EST ***21*** *05:45:19.2, 59°.55N×23°.21E, h0km, ML2.7(HEL), Explosion*
BER ***21*** *05:45:20.5±2.5, 59°.55N×23°.31E, h0km, ML2.7(HEL), Suspected explosion*
LVSN ***21*** *05:45:20.4±3.2, 59°.54N×23°.26E, h0km±44km, ML2.7*
UPP ***21*** *05:45:20.9±1.5, 59°.66N×22°.91E, h0km, ML2.0*

ISC 21 05:45:16.8±0.6**, 59°.52N**±0°.02×**23°.14E**±0°.03**, h0**km**, n73, σ1§46**/100**, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
EE01	**Perakula, Nova**	**0.40**	**141**	*eP*		**Pb**	**05 45 26.2**	**-0.5**
EE01				*eS*		**Sb**	**05 45 31.5**	**-1.8**
EE02	**Kiisa, Saku**	**0.86**	**112**	*eP*		**Pg**	**05 45 34.0**	**+0.6**
EE02				*eS*		**Sg**	**05 45 44.7**	**+0.2**
MTSE	**Matsula**	**0.88**	**156**	*eP*		**Pb**	**05 45 35.0**	**+0.2**
MTSE				*eS*		**Sb**	**05 45 47.0**	**-0.1**
MTSE	**Matsula**	**0.88**	**156**	*eP*		**Pb**	**05 45 35.8**	**+1.0**
MTSE	**Matsula**	**0.88**	**156**	*eP*		**Pb**	**05 45 35.1**	**+0.2**
MTSE				*eS*		**Sb**	**05 45 46.7**	**-0.4**
MTSE	**Matsula**	**0.88**	**156**	*eP*		**Pb**	**05 45 35.0**	**+0.2**
MTSE				*eS*		**Sb**	**05 45 47.0**	**-0.1**
MEF	**Metsahovi**	**0.95**	**42**	*eP*		**Pg**	**05 45 35.2**	**+0.2**
MEF				*eS*		**Sg**	**05 45 46.8**	**-0.4**
MEF	**Metsahovi**	**0.95**	**42**	*eP*		**Pg**	**05 45 35.6**	**+0.6**
MEF	**Metsahovi**	**0.95**	**42**	*eP*		**Pg**	**05 45 35.5**	**+0.6**
MEF				*eS*		**Sg**	**05 45 46.6**	**-0.6**
MEF					AML	AML	05 45 47.7	
	comp=E,87nm,0.3s							
MEF					AML	AML	05 45 52.7	
	comp=N,59nm,0.6s							
MEF					AML	AML	05 45 52.9	
	comp=Z,73nm,0.7s							
MEF	**Metsahovi**	**0.95**	**42**	*eP*		**Pg**	**05 45 35.2**	**+0.2**
MEF				*eS*		**Sg**	**05 45 46.8**	**-0.4**
HEL1	**Helsinki**	**1.10**	**52**	*eP*		**Pg**	**05 45 38.2**	**+0.3**
HEL1				*eS*		**Sg**	**05 45 51.6**	**-0.6**
HEL1	**Helsinki**	**1.10**	**52**	*eP*		**Pg**	**05 45 38.2**	**+0.3**
HEL1				*eS*		**Sg**	**05 45 51.6**	**-0.6**
NUR	**Nurmijrvi**	**1.25**	**37**	*eP*		**Pg**	**05 45 40.5**	**-0.3**
NUR				*eS*		**Sg**	**05 45 55.6**	**-1.4**
NUR	**Nurmijrvi**	**1.25**	**37**	*eP*		**Pg**	**05 45 40.5**	**-0.3**
NUR				*eS*		**Sg**	**05 45 55.6**	**-1.4**
ARBE	**Arbavere**	**1.46**	**92**	*eP*		**Pb**	**05 45 45.1**	**+0.4**
ARBE				*eS*		**Sg**	**05 46 02.9**	**-0.6**
ARBE	**Arbavere**	**1.46**	**92**	*eP*		**Pb**	**05 45 46.7**	**+2.0**
ARBE	**Arbavere**	**1.46**	**92**	*eP*		**Pg**	**05 45 44.6**	**-0.1**
ARBE				*eS*		**Sb**	**05 46 03.3**	**-0.5**
ARBE					AML	AML	05 46 07.4	
	comp=E,796nm,0.2s							
ARBE					AML	AML	05 46 07.5	
	comp=Z,226nm,0.3s							
ARBE					AML	AML	05 46 09.8	
	comp=N,571nm,0.2s							
ARBE	**Arbavere**	**1.46**	**92**	*eP*		**Pb**	**05 45 45.1**	**+0.4**
ARBE				*eS*		**Sg**	**05 46 02.9**	**-0.6**
RAF	**Rauma**	**1.66**	**336**	*eP*		**Pn**	**05 45 48.1**	**+1.0**
RAF				*eS*		**Sn**	**05 46 10.0**	**+0.9**
RAF					MSG		05 46 14.4	
	comp=Z,114nm,0.2s							
RAF	**Rauma**	**1.66**	**336**	*eP*		**Pn**	**05 45 48.4**	**+1.2**
RAF	**Rauma**	**1.66**	**336**	*eP*		**Pn**	**05 45 48.3**	**+1.2**
RAF				*eS*		**Sb**	**05 46 10.8**	**+1.2**
RAF					AML	AML	05 46 13.7	
	comp=E,121nm,0.3s							
RAF					AML	AML	05 46 14.0	
	comp=Z,116nm,0.2s							
RAF					AML	AML	05 46 14.8	
	comp=N,52nm,0.2s							
RAF	**Rauma**	**1.66**	**336**	*eP*		**Pn**	**05 45 48.1**	**+1.0**
RAF				*eS*		**Sn**	**05 46 10.0**	**+0.9**
RAF					MSG		05 46 14.4	
	comp=Z,114nm,0.2s							
PVF	**Pernaja**	**1.71**	**52**	*eP*		**Pb**	**05 45 48.9**	**-0.2**
PVF				*eS*		**Sn**	**05 46 10.4**	**0.0**
PVF					MSG		05 46 15.3	
	comp=Z,61nm,0.2s							
PVF	**Pernaja**	**1.71**	**52**	*eP*		**Pb**	**05 45 48.9**	**-0.2**
PVF				*eS*		**Sn**	**05 46 10.4**	**0.0**
PVF					MSG		05 46 15.3	
	comp=Z,61nm,0.2s							
AAL	**Aland**	**1.72**	**294**	P		**Pn**	**05 45 49.6**	**+1.7**
AAL				S		**Sn**	**05 46 10.9**	**+0.3**
EE03	**Tooma soojaam,**	**1.74**	**110**	*eP*		**Pb**	**05 45 49.7**	**+0.1**
EE03				*eSN*		**Sg**	**05 46 13.2**	**+0.5**
SLIT	**Slitere, Latvi**	**1.94**	**194**	*eP*		**Pb**	**05 45 54.0**	**+0.9**
SLIT	**Slitere, Latvi**	**1.94**	**194**	*eP*		**Pb**	**05 45 53.8**	**+0.8**
SLIT				*eS*		**Sg**	**05 46 19.6**	**+0.4**
SLIT					AML	AML	05 46 22.3	
	comp=E,632nm,0.3s							
SLIT					AML	AML	05 46 22.7	
	comp=N,422nm,0.3s							
SLIT					AML	AML	05 46 24.6	
	comp=Z,153nm,0.2s							
VSU	**Vasula**	**2.14**	**118**	*eP*		**Pb**	**05 45 56.8**	**+0.3**
VSU				*eSB*		**Sb**	**05 46 23.6**	**0.0**
VSU	**Vasula**	**2.14**	**118**	*eP*		**Pb**	**05 45 56.9**	**+0.5**
VSU					AML	AML	05 46 28.5	
	comp=E,70nm,0.3s							
VSU					AML	AML	05 46 28.6	
	comp=N,78nm,0.3s							
VSU					AML	AML	05 46 29.2	
	comp=Z,61nm,0.3s							
VSU	**Vasula**	**2.14**	**118**	*eP*		**Pb**	**05 45 56.8**	**+0.3**
VSU				*eSB*		**Sb**	**05 46 23.6**	**0.0**
NRTU	**Norrtaelje**	**2.30**	**276**	P		**Pn**	**05 45 58.3**	**+2.4**
KPF	**Kankaanpaa**	**2.38**	**348**	MSG			05 46 32.3	
	comp=Z,26nm,0.2s							
KPF	**Kankaanpaa**	**2.38**	**348**	MSG			05 46 32.3	
	comp=Z,26nm,0.2s							
FIA0	**FINESS Array S**	**2.42**	**36**	MSG			05 46 32.2	
	comp=Z,39nm,0.2s							
FIA0	**FINESS Array S**	**2.42**	**36**	MSG			05 46 32.2	
	comp=Z,39nm,0.2s							
FINES	**FINESS Array B**	**2.42**	**36**	Pn		**Pn**	**05 45 59.5**	**+1.9**
	comp=Z,24nm,0.3s,baz=216,slow=14,SNR=671							
FINES					Sn	**Sb**	**05 46 30.3**	**-1.2**
	comp=Z,14nm,0.3s,baz=220,slow=22,SNR=24							
	comp=Z,43nm,0.3s							
FIA1	**FINESS Array S**	**2.42**	**36**	MSG			05 46 32.3	
	comp=Z,39nm,0.2s							
FIA1	**FINESS Array S**	**2.42**	**36**	MSG			05 46 32.3	
	comp=Z,39nm,0.2s							
GRAU	**Graesoe**	**2.46**	**291**	P		**Pn**	**05 45 59.7**	**+1.6**
FORU	**Forsmark**	**2.64**	**291**	P		**Pn**	**05 46 02.9**	**+2.2**
NYNU	**Nynaeshamn**	**2.69**	**261**	P		**Pn**	**05 46 04.0**	**+2.8**
FLYU	**Flymyra**	**2.72**	**285**	P		**Pn**	**05 46 04.4**	**+2.7**
KEF	**Keuruu**	**2.79**	**17**	*eP*		**Pn**	**05 46 05.4**	**+2.7**
FIBU	**Brunna**	**2.96**	**280**	P		**Pn**	**05 46 08.0**	**+3.0**
BACU	**Backbrunnna**	**3.08**	**279**	P		**Pn**	**05 46 09.1**	**+2.5**
OSTU	**Oestervaala**	**3.11**	**286**	P		**Pn**	**05 46 09.3**	**+2.2**
VAF	**Ylistaro**	**3.54**	**357**	*eP*		**Pn**	**05 46 16.0**	**+3.0**
PABE	**Paberze**	**4.05**	**173**	*eP*		**Pn**	**05 46 22.4**	**+2.5**
HFS	**Hagfors**	**4.80**	**281**	Pn		**Pn**	**05 46 32.0**	**+1.6**
	comp=Z,1.6nm,0.3s,baz=93,slow=14,SNR=43							
HFS					Pg	**Pb**	**05 46 42.9**	**+1.1**
	comp=Z,2.1nm,0.3s,baz=98,slow=10,SNR=12							
HFS					Lg	Lg	05 47 45.2	
	comp=Z,3.2nm,0.3s,baz=87,slow=32,SNR=8.3							
	comp=Z,2.8nm,0.3s							
BLEU	**Blekinge**	**5.06**	**234**	*i* P		**Pn**	**05 46 36.1**	**+2.3**
BLEU				*i* S		**Sn**	**05 47 33.2**	**+0.3**
JOF	**Joensuu**	**5.22**	**46**	*eP*		**Pn**	**05 46 37.6**	**+1.6**
BORU	**Boraas**	**5.74**	**255**	*i* P		**Pn**	**05 46 44.1**	**+0.9**
NB201	**NORSAR Array S**	**6.09**	**290**	*eP*		**Pn**	**05 46 48.9**	**+0.9**
NB201				*eS*		**Sn**	**05 47 57.9**	**-0.4**
NOA	**NORSAR Array B**	**6.12**	**290**	Pn		**Pn**	**05 46 48.2**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=96,slow=14,SNR=31							
	comp=Z,0.4nm,0.3s							
TJOU	**Tjoern**	**6.17**	**261**	*i* P		**Pn**	**05 46 51.1**	**+2.0**
TJOU				*i* S		**Sn**	**05 47 58.9**	**-1.4**
ONAU	**Onsala**	**6.26**	**255**	*i* P		**Pn**	**05 46 51.5**	**+1.2**
BSD	**Bornholm Skovb**	**6.27**	**229**	*eP*		**Pn**	**05 46 51.7**	**+1.3**
BSD	**Bornholm Skovb**	**6.27**	**229**	*i* P		**Pn**	**05 46 51.1**	**+0.7**
BSD				*i* S		**Sn**	**05 48 00.1**	**-2.6**
BSD					IAML		05 48 36.2	
	comp=Z,4.0nm,0.3s							
NC204	**NORSAR Array S**	**6.38**	**291**	*eP*		**Pn**	**05 46 53.5**	**+1.5**
LLD	**Lille Linde**	**7.23**	**239**	*eP*		**Pn**	**05 47 04.9**	**+1.2**
HOMB	**Homborsund**	**7.68**	**267**	*eP*		**Pn**	**05 47 10.2**	**+0.5**
HOMB	**Homborsund**	**7.68**	**267**	*i* P		**Pn**	**05 47 09.6**	**-0.2**
HOMB				*i* S		**Sn**	**05 48 32.3**	**-5.1**
MUD	**Monsted U'grnd**	**8.03**	**254**	*i* P		**Pn**	**05 47 14.2**	**-0.3**
MUD				*i* S		**Sn**	**05 48 42.1**	**-3.8**
SNART	**Snartemo**	**8.32**	**269**	*eP*		**Pn**	**05 47 19.6**	**+1.0**
SNART				*eS*		**Sn**	**05 48 49.3**	**-3.9**
KONS	**Konsvik**	**8.35**	**331**	*eP*		**Pn**	**05 47 20.6**	**+1.8**
BLS5	**Blasjo**	**8.49**	**277**	*eP*		**Pn**	**05 47 21.9**	**+0.9**
HEF	**Hetta**	**8.93**	**1**	*eP*		**Pn**	**05 47 27.6**	**+0.7**
AKASG	**Malin Array Be**	**9.49**	**156**	Pn		**Pn**	**05 47 32.9**	**-1.8**
	comp=Z,1.0nm,0.3s,baz=337,slow=13,SNR=5.0							
	comp=Z,0.2nm,0.3s							
ARCES	**ARCESS Array B**	**10.11**	**5**	Pn		**Pn**	**05 47 42.2**	**-0.8**
	comp=Z,0.4nm,0.3s,baz=181,slow=14,SNR=24							
	comp=Z,0.7nm,0.3s							
SPITS	**Spitsbergen Ar**	**18.88**	**356**	P		**P**	**05 49 38.4**	**+0.1**
	baz=145,slow=14							
	comp=Z,9.5nm,1.1s							
TIXI	**Tiksi**	**39.45**	**29**	LR		LR	06 11 49.1	
	comp=Z,18nm,19.3s,baz=90,slow=40							
TORD	**Torodi Ar. Bea**	**48.95**	**208**	P		**P**	**05 54 05.2**	**+0.6**
	comp=Z,0.2nm,0.5s,baz=8.6,slow=8.2,SNR=1.9							
	comp=Z,0.2nm,0.5s							

NEIC ***21*** *05:45:05.0±1.8, 31°.19N±0°.05×142°.2E±0°.1, h10km±2km, mb4.3/7, Error ellipse: s-maj=16.0km s-min=6.8km az=106.0*
IDC ***21*** *05:45:34.5±1.0, 32°.58N×139°.34E, h0km, mb3.8/4, mbtmp3.8/5, ML3.1/1, MS3.2/13, Error ellipse: s-maj=35.5km s-min=16.0km az=111.0*
NIED ***21*** *05:45:38.3, 33°.22N×140°.53E, h58km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.98; Mϑϑ-1.05; Mφφ-0.93; Mrϑ-1.62; Mϑφ1.06; Mφr0.19; Fault plane solution: M₀2.59000×10¹⁵ NP1: φs293.00000°, δ65.00000°, λ71.00000°. NP2: φs151.00000°, δ31.00000°, λ124.00000°.*
JMA ***21*** *05:45:38.3±0.1, 33°.2N±0°.3×14°.1E±°, h58km±2km, MV3.9/35, E OFF HACHIJOJIMA ISLAND*

ISC 21 05:45:36.3±1.3**, 33°.10N**±0°.04×**140°.71E**±0°.07**, h50**km±14km**, n65, σ1§88/47, mb4.3**/8**, MS3.4**/9**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JHJ2	**Mitsune**	**0.75**	**271**	P		**Pn**	**05 45 51.6**	**+0.9**
JHJ2	**Mitsune**	**0.75**	**271**			**Pn**	**05 45 51.5**	**+0.9**
JHJ2	**Mitsune**	**0.75**	**271**	*i* P		**Pn**	**05 45 51.5**	**+0.9**
JHJ2				S		**Sn**	**05 46 00.5**	**-0.6**
JHCJ	**Hachijojimakas**	**0.77**	**268**	*i* P		**Pn**	**05 45 51.7**	**+0.8**
JHCJ				S		**Sn**	**05 46 00.4**	**-1.1**
JHJ	**Hachijo jima 2**	**0.78**	**272**			**Pn**	**05 45 51.6**	**+0.6**
JHJ	**Hachijo jima 2**	**0.78**	**272**	Pn		**Pn**	**05 45 51.6**	**+0.6**
	529nm,0.3s,baz=154,slow=23,SNR=179							
JHJ					LR	LR	05 46 00.1	
	comp=Z,127nm,21.6s,baz=239,slow=38							
JHJ					Sn	**Sn**	**05 46 00.6**	**-1.1**
	1μm,0.3s,baz=131,slow=19,SNR=21							
JAOM	**Aogashimamukai**	**1.02**	**232**	P		**Pn**	**05 45 56.2**	**+1.9**
JAOM				*eS*		**Sn**	**05 46 09.3**	**+1.8**
JMKN	**Mikurajimanish**	**1.22**	**310**	P		**Pn**	**05 45 56.8**	**-0.2**
JMKN				S		**Sn**	**05 46 10.0**	**-2.5**
JMYK	**Miyake Tsubota**	**1.36**	**315**	P		**Pn**	**05 45 59.1**	**+0.2**
JMYK				S		**Sn**	**05 46 14.1**	**-1.8**
BSO1	**Boso 1**	**1.56**	**8**	P		**Pn**	**05 46 02.2**	**+1.1**
BSO2	**Boso 2**	**1.65**	**1**	S		**Sn**	**05 46 23.7**	**+1.4**
JKO	**Kozu shima**	**1.70**	**310**	P		**Pn**	**05 46 03.8**	**+0.2**
JKO				S		**Sn**	**05 46 22.2**	**-1.9**
BSO3	**Boso 3**	**1.71**	**354**	P		**Pn**	**05 46 04.4**	**+1.0**
JTHY	**Toshimahigashi**	**1.85**	**321**	P		**Pn**	**05 46 05.9**	**+0.4**
JTHY				*eS*		**Sn**	**05 46 25.9**	**-1.8**
BSO4	**Boso 4**	**1.91**	**351**	P		**Pn**	**05 46 07.5**	**+1.2**
JIM2	**Oshima 3**	**1.93**	**327**	*i* P		**Pn**	**05 46 06.8**	**0.0**
JIM2				*eS*		**Sn**	**05 46 26.9**	**-2.9**
JIZS	**Izushimoda**	**2.22**	**317**	P		**Pn**	**05 46 11.2**	**+0.6**
KTJ3	**Kamata3**	**2.28**	**324**	*i* P		**Pn**	**05 46 11.8**	**+0.3**
KTJ3				S		**Sn**	**05 46 35.8**	**-2.6**
JOD2	**Odawara 2**	**2.54**	**329**	P		**Pn**	**05 46 15.3**	**+0.3**
JOD2				S		**Sn**	**05 46 41.8**	**-3.0**
JSG	**Sagara**	**2.62**	**307**	Pn		**Pn**	**05 46 17.5**	**+1.4**
JGF	**Kuroka**	**3.73**	**313**	P		**Pn**	**05 46 33.2**	**+1.8**
JGF	**Kuroka**	**3.73**	**313**			**Pn**	**05 46 33.2**	**+1.8**
INU	**Inuyama**	**3.79**	**307**	P		**Pn**	**05 46 33.7**	**+1.5**
INU	**Inuyama**	**3.79**	**307**			**Pn**	**05 46 33.7**	**+1.5**
MJAR	**Matsushiro Arr**	**4.00**	**330**	Pn		**Pn**	**05 46 37.1**	**+2.0**
	1.1nm,0.3s,baz=160,slow=12,SNR=39							
MJAR					Sn	**Sn**	**05 47 22.1**	**+1.4**
	0.6nm,0.3s,baz=158,slow=13,SNR=4.6							
	7.7nm,0.3s							
MAJO	**Matsushiro**	**4.00**	**330**	P		**Pn**	**05 46 38.2**	**+3.1**
MAJO	**Matsushiro**	**4.00**	**330**			**Pn**	**05 46 37.9**	**+2.8**
MJB9	**Matsu-Tunnel**	**4.01**	**330**			**Pn**	**05 46 39.1**	**+4.0**
JMM	**Marumori**	**4.75**	**1**			**Pn**	**05 46 46.6**	**+1.2**
JSD	**Sado**	**5.31**	**339**	P		Pn	05 46 59.7	+6.6
JSD	**Sado**	**5.31**	**339**			**Pn**	**05 46 55.1**	**+2.0**
JMN	**Monobe**	**5.75**	**278**	Pn		Pn	05 46 53.5	-5.6
JCJ	**Chichijima**	**6.12**	**168**	Pn		**Pn**	**05 47 01.8**	**-2.3**
	6.5nm,0.3s,baz=282,slow=22,SNR=5.9							
JCJ					Sn	**Sn**	**05 48 07.5**	**-5.4**
	3.9nm,0.3s,baz=270,slow=20,SNR=1.7							
JNU	**Nakatsue**		**8.25**	**273**	LR	LR	05 50 02.2	
	comp=Z,64nm,19.9s,baz=142,slow=38							
ERM	**Erimo**	**9.11**	**12**	Pn		Pn	05 47 40.7	-4.3
ASAJ	**Asahikawa**	**11.10**	**7**	LR		LR	05 53 19.2	
	comp=Z,84nm,19.7s,baz=186,slow=39							
KSRS	**Korea Array**	**11.32**	**296**	LR		LR	05 51 29.7	
	comp=Z,27nm,19.9s,baz=115,slow=34							
USRK	**Ussuriysk Ar.**	**13.00**	**331**	LR		LR	05 53 12.0	
	comp=Z,52nm,21.7s,baz=166,slow=35							
YULB	**Yu-li**	**19.62**	**245**	P		P	05 49 37.4	-23
SSLB	**Suanglung**	**19.67**	**247**	P		P	05 49 40.0	-21
SSLB					IAmb	IAmb	05 50 06.8	
	comp=Z,15nm,1.3s							
PEA0B	**Petropavlovsk-**	**23.42**	**26**	P		P	05 50 24.4	-16
PETK	**Petropavlovsk-**	**23.42**	**26**	P		P	05 50 23.2	-18
H11N2	**WAKE ISLAND Hy**	**26.88**	**113**	T		T	06 20 06.0	
	baz=306,slow=75,SNR=69							
H11N1	**WAKE ISLAND Hy**	**26.89**	**113**	T		T	06 20 07.1	
	baz=306,slow=75,SNR=77							
H11N3	**WAKE ISLAND Hy**	**26.90**	**113**	T		T	06 20 06.0	
	baz=306,slow=75,SNR=62							
H11S3	**WAKE ISLAND Hy**	**27.44**	**116**	T		T	06 20 44.3	
	baz=307,slow=76,SNR=18							
H11S1	**WAKE ISLAND Hy**	**27.45**	**116**	T		T	06 20 44.4	
	baz=307,slow=76,SNR=20							
H11S2	**WAKE ISLAND Hy**	**27.46**	**116**	T		T	06 20 42.7	
	baz=307,slow=76,SNR=18							
DAV	**Davao City (W)**	**29.46**	**212**	LR		LR	06 01 12.1	
	comp=Z,48nm,21.9s,baz=168,slow=33							
SHEM	**Shemya Is, Ala**	**30.94**	**41**	LR		LR	06 02 30.5	
	comp=Z,34nm,20.9s,baz=311,slow=32							
CMAR	**Chiang Mai Arr**	**40.07**	**259**	LR		LR	06 10 46.1	
	comp=Z,17nm,18.5s,baz=200,slow=39							
MKAR	**Makanchi Array**	**45.82**	**305**	P		**P**	**05 53 53.5**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=79,slow=7.5,SNR=1.3							
	comp=Z,0.2nm,0.3s							
KDAK	**Kodiak Island**	**50.45**	**40**	LR		LR	06 14 38.5	
	comp=Z,59nm,20.7s,baz=192,slow=34							
I21K	**Tanana**	**50.99**	**30**	P		P	05 54 13.9	-19
I21K					IAmb	IAmb	05 54 17.5	
	comp=Z,5.4nm,1.2s							
AAK	**Ala-Archa**	**51.93**	**301**	LR		LR	06 15 42.8	
	comp=Z,31nm,19.3s,baz=112,slow=35							
BVAR	**Borovoye Array**	**52.85**	**314**	LR		LR	06 18 34.3	
	comp=Z,33nm,19.0s,baz=111,slow=38							
WB0	**Warramunga Arr**	**52.92**	**187**	IAmb		IAmb	05 54 30.0	
	comp=Z,6.8nm,1.2s							
WB2	**Warramunga Arr**	**53.09**	**187**	IAmb		IAmb	05 54 35.2	
	comp=Z,13nm,1.5s							
WRA	**Warramunga Arr**	**53.09**	**188**	P		**P**	**05 54 49.0**	**+0.2**
	comp=Z,1.8nm,0.4s,baz=2.2,slow=7.6,SNR=41							
	comp=Z,1.8nm,0.4s							
ILAR	**Eielson Array**	**53.14**	**31**	P		P	05 55 00.1	+11
	comp=Z,0.5nm,0.9s,baz=265,slow=5.8,SNR=4.1							
	comp=Z,0.5nm,0.9s							
J25K	**Salcha River,**	**53.80**	**31**	P		P	05 54 34.3	-19
J25K					IAmb	IAmb	05 54 59.9	
	comp=Z,2.6nm,1.1s							
ASAR	**Alice Springs**	**56.82**	**187**	P		**P**	**05 55 16.0**	**+0.3**
	comp=Z,1.1nm,0.4s,baz=2.9,slow=6.4,SNR=18							
	comp=Z,1.1nm,0.4s							
SPITS	**Spitsbergen Ar**	**64.26**	**349**	LR		LR	06 25 12.2	
	comp=Z,38nm,18.4s,baz=62,slow=37							
AKASG	**Malin Array Be**	**77.06**	**323**	LR		LR	06 32 50.2	
	comp=Z,35nm,18.5s,baz=44,slow=37							
DAVOX	**Davos/Dischmat**	**88.99**	**329**	LR		LR	06 42 54.6	
	comp=Z,26nm,18.3s,baz=78,slow=39							

HEL ***21*** *06:09:05.0±0.1, 59°.55N×23°.14E, h0km, ML2.3, Explosion*

SLIT	**Slitere, Latvi**	**2.02**	**194**	*e*P	**Pn**	**06 09 39.5**	**+0.7**
SLIT	**Slitere, Latvi**	**2.02**	**194**	*e*P	**Pn**	**06 09 39.5**	**+0.7**
SLIT				*e*S	**Sn**	**06 10 06.0**	**+1.3**
SLIT				AML	AML	06 10 07.2	
	comp=N,218nm,0.3s						
SLIT				AML	AML	06 10 08.6	
	comp=E,288nm,0.2s						
SLIT				AML	AML	06 10 10.2	
	comp=Z,129nm,0.3s						
SLIT	**Slitere, Latvi**	**2.02**	**194**	*e*P	**Pn**	**06 09 39.3**	**+0.6**
SLIT				*e*SG	**Sn**	**06 10 06.1**	**+1.3**
VSU	**Vasula**	**2.16**	**120**	*e*P	**Pb**	**06 09 42.8**	**-0.6**
VSU				*e*SB	**Sb**	**06 10 10.4**	**-0.3**
VSU	**Vasula**	**2.16**	**120**	*e*P	**Pb**	**06 09 42.8**	**-0.6**
VSU				AML	AML	06 10 13.1	
	comp=N,48nm,0.2s						
VSU				AML	AML	06 10 16.0	
	comp=Z,23nm,0.3s						
VSU				AML	AML	06 10 16.7	
	comp=E,41nm,0.2s						
VSU	**Vasula**	**2.16**	**120**	*e*P	**Pb**	**06 09 42.8**	**-0.6**
VSU				*e*SB	**Sb**	**06 10 10.4**	**-0.3**
NRTU	**Norrtaelje**	**2.31**	**274**	*e*P	**Pn**	**06 09 44.2**	**+1.4**
NRTU				*e*S	**Sn**	**06 10 12.6**	**+0.8**
NRTU	**Norrtaelje**	**2.31**	**274**	*e*P	**Pn**	**06 09 44.2**	**+1.4**
NRTU				*e*S	**Sn**	**06 10 12.6**	**+0.8**
NRTU	**Norrtaelje**	**2.31**	**274**	P	**Pn**	**06 09 44.1**	**+1.4**
NRTU	**Norrtaelje**	**2.31**	**274**	P	**Pn**	**06 09 44.1**	**+1.4**
KPF	**Kankaanpaa**	**2.31**	**347**	MSG		06 10 20.2	
	comp=Z,17nm,0.2s						
KPF	**Kankaanpaa**	**2.31**	**347**	MSG		06 10 20.2	
	comp=Z,17nm,0.2s						
FINES	**FINESS Array B**	**2.34**	**36**	Pn	**Pb**	**06 09 45.8**	**-0.7**
	comp=Z,7.0nm,0.3s,baz=224,slow=14,SNR=288						
FINES				Sn	**Sb**	**06 10 16.3**	**+0.3**
	comp=Z,6.3nm,0.3s,baz=219,slow=28,SNR=5.4						
	comp=Z,14nm,0.3s						
GRAU	**Graesoe**	**2.45**	**290**	P	**Pn**	**06 09 45.5**	**+0.9**
GRAU	**Graesoe**	**2.45**	**290**	P	**Pn**	**06 09 45.5**	**+0.9**
FORU	**Forsmark**	**2.63**	**290**	P	**Pn**	**06 09 49.4**	**+2.2**
FORU	**Forsmark**	**2.63**	**290**	P	**Pn**	**06 09 49.4**	**+2.2**
KEF	**Keuruu**	**2.71**	**17**	*e*P	**Pn**	**06 09 50.6**	**+2.4**
NYNU	**Nynaeshamn**	**2.72**	**260**	P	**Pn**	**06 09 49.4**	**+1.0**
NYNU	**Nynaeshamn**	**2.72**	**260**	P	**Pn**	**06 09 49.4**	**+1.0**
FLYU	**Flymyra**	**2.72**	**284**	P	**Pn**	**06 09 49.9**	**+1.5**
FLYU	**Flymyra**	**2.72**	**284**	P	**Pn**	**06 09 49.9**	**+1.5**
FIBU	**Brunna**	**2.97**	**278**	P	**Pn**	**06 09 52.7**	**+1.0**
FIBU	**Brunna**	**2.97**	**278**	P	**Pn**	**06 09 52.7**	**+1.0**
BACU	**Backbrunna**	**3.09**	**277**	P	**Pn**	**06 09 54.2**	**+0.8**
BACU	**Backbrunna**	**3.09**	**277**	P	**Pn**	**06 09 54.2**	**+0.8**
OSTU	**Oestervaala**	**3.11**	**284**	P	**Pn**	**06 09 55.0**	**+1.3**
OSTU	**Oestervaala**	**3.11**	**284**	P	**Pn**	**06 09 55.0**	**+1.3**
VAF	**Ylistaro**	**3.47**	**356**	*e*P	**Pn**	**06 10 01.4**	**+2.7**
HFS	**Hagfors**	**4.81**	**281**	Pn	**Pn**	**06 10 17.1**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=99,slow=12,SNR=25						
HFS				Pg	**Pb**	**06 10 28.2**	**-0.3**
	comp=Z,1.5nm,0.3s,baz=90,slow=17,SNR=18						
HFS				Sn	**Sn**	**06 11 12.0**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=92,slow=28,SNR=6.6						
HFS				Lg	Lg	06 11 28.3	
	comp=Z,1.3nm,0.3s,baz=98,slow=30,SNR=8.9						
	comp=Z,1.4nm,0.2s						
JOF	**Joensuu**	**5.15**	**46**	*e*P	**Pn**	**06 10 23.3**	**+1.6**
NB201	**NORSAR Array S**	**6.08**	**289**	*e*P	**Pn**	**06 10 34.3**	**-0.3**
NB201				*e*S	**Sn**	**06 11 42.6**	**-2.2**
NOA	**NORSAR Array B**	**6.12**	**289**	Pn	**Pn**	**06 10 34.9**	**-0.2**
	baz=95,slow=12,SNR=11						
NOA				Sn	**Sn**	**06 11 40.8**	**-5.0**
	baz=118,slow=22,SNR=5.0						
NOA				Lg	Lg	06 12 09.4	
	comp=Z,0.1nm,0.3s,baz=77,slow=20,SNR=2.0						
	comp=Z,0.2nm,0.2s						
KONS	**Konsvik**	**8.29**	**331**	*e*P	**Pn**	**06 11 07.0**	**+2.3**
HEF	**Hetta**	**8.85**	**1**	*e*P	**Pn**	**06 11 12.9**	**+0.4**
ARCES	**ARCESS Array B**	**10.03**	**5**	Pn	**Pn**	**06 11 28.4**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=180,slow=15,SNR=19						
ARCES				Sn	**Sn**	**06 13 15.4**	**-6.3**
	comp=Z,0.1nm,0.3s,baz=183,slow=14,SNR=1.9						
	comp=Z,2.6nm,0.8s						
KEV	**Kevo**	**10.33**	**7**	*e*P	**Pn**	**06 11 33.1**	**+0.4**

IDC 21 06:19:43.0±2.8, 15°.61S×173°.66W, h0km, mb3.8/5, mbtmp3.8/5, Error ellipse: s-maj=175.6km s-min=24.9km az=149.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H11N3	**WAKE ISLAND Hy**	**39.97**	**331**			T	T	07 10 52.1	
	baz=153								
H11N1	**WAKE ISLAND Hy**	**39.97**	**331**			T	T	07 10 54.4	
	baz=153								
H11N2	**WAKE ISLAND Hy**	**39.98**	**331**			T	T	07 10 52.1	
	baz=153								
WRA	**Warramunga Arr**	**49.55**	**257**	P		P	P	06 28 36.9	+0.9
	0.4nm,0.7s,baz=95,slow=7.7,SNR=5.0								
	0.4nm,0.7s								
ASAR	**Alice Springs**	**49.80**	**252**	P		P	P	06 28 37.3	-0.7
	2.4nm,0.7s,baz=88,slow=8.1,SNR=24								
	2.4nm,0.7s								
NVAR	**Mina Array Bea**	**74.65**	**42**	P		P	P	06 31 25.4	+0.7
	1.1nm,0.9s,baz=222,slow=9.0,SNR=5.9								
	1.1nm,0.9s								
PDAR	**Pinedale Array**	**82.59**	**42**	P		P	P	06 32 08.0	-0.3
	0.8nm,0.7s,baz=216,slow=4.3,SNR=6.2								
	0.8nm,0.7s								
ILAR	**Eielson Array**	**82.70**	**11**	P		P	P	06 32 07.4	-0.7
	0.3nm,0.8s,baz=214,slow=6.4,SNR=1.9								
	0.3nm,0.8s								

*IDC **21** 06:28:00.5±9.2, 36°.91N×70°.75E, h207km±60km, mb3.3/3, mbtmp3.7/6, MS3.4/1, Error ellipse: s-maj=94.7km s-min=49.7km az=168.0*

ISC 21 06:27:58.4±2.2, 36°.7N±0°.2×70°.9E±0°.2, h200km, n9, σ1°.42/11, mb3.7/3, 3C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.37**	**357**	⇑P		n	**Pn**	**06 29 32.0**	**+1.7**
	1.5nm,0.4s,baz=186,slow=16,SNR=18								
KK31				⇑S		n	**Sn**	**06 30 42.3**	**-0.8**
	1.1nm,0.3s,baz=183,slow=24,SNR=7.6								
AAK	**Ala-Archa**	**6.50**	**24**	⇑P		n	**Pn**	**06 29 34.4**	**+2.2**
	1.7nm,0.4s								
AAK				⇓S		n	**Sn**	**06 30 44.4**	**-2.2**
	6.7nm,0.8s								
AAK	**Ala-Archa**	**6.50**	**24**	P		n	**Pn**	**06 29 33.1**	**+0.9**
	2.6nm,0.4s,baz=207,slow=9.9,SNR=4.7								
AAK				S		n	**Sn**	**06 30 47.2**	**+0.6**
	2.7nm,0.7s,baz=209,slow=19,SNR=2.0								
MKAR	**Makanchi Array**	**13.13**	**37**	P		P	**P**	**06 30 59.6**	**-0.9**
	0.1nm,0.4s,baz=216,slow=14,SNR=2.3								
ZALV	**Zalesovo Beam**	**19.72**	**25**	P		P	**P**	**06 32 13.0**	**+0.5**
	1.0nm,0.3s,baz=220,slow=9.1,SNR=3.6								
FINES	**FINESS Array B**	**37.25**	**326**	P		P	**P**	**06 34 50.5**	**0.0**
	2.2nm,1.0s,baz=128,slow=12,SNR=3.3								
	2.2nm,1.0s								
ARCES	**ARCESS Array B**	**40.90**	**338**	P		P	**P**	**06 35 20.2**	**-0.3**
	2.6nm,1.0s,baz=116,slow=8.5,SNR=5.3								
	2.6nm,1.0s								
HFS	**Hagfors**	**42.84**	**322**	P		P	**P**	**06 35 35.6**	**-0.8**
	0.5nm,0.5s,baz=96,slow=9.3,SNR=4.2								
	0.5nm,0.5s								
ASAJ	**Asahikawa**	**53.48**	**58**	LR		LR	LR	07 02 19.9	
	comp=Z,35nm,18.8s,baz=130,slow=38								

IDC 21 06:37:43.2±2.5, 29°.24N×139°.12E, h343km±57km, mb2.7/2, mbtmp3.5/4, Error ellipse: s-maj=135.4km s-min=23.3km az=70.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.44**	**128**	P		P	Pn	06 38 48.1	+1.8
	53nm,0.9s,baz=314,slow=21,SNR=1.8								
JCJ				S		S	S	06 39 36.8	-0.2
	54nm,0.5s,baz=287,slow=19,SNR=8.6								
MJAR	**Matsushiro Arr**	**7.32**	**354**	P		P	Pn	06 39 28.5	-0.6
	1.0nm,0.4s,baz=179,slow=13,SNR=2.1								
WRA	**Warramunga Arr**	**49.12**	**186**	P		P	P	06 45 57.0	-0.3
	0.5nm,0.7s,baz=1.6,slow=7.5,SNR=6.4								
	0.5nm,0.7s								
ASAR	**Alice Springs**	**52.84**	**186**	P		P	P	06 46 24.6	-0.1
	0.1nm,0.3s,baz=19,slow=12,SNR=5.1								
	0.1nm,0.3s								

*NEIC **21** 06:55:34.7±0.8, 18°.6N±0°.4×68°.95W±0°.09, h131km±8km, ML2.8/32, Md3.2/11(RSPR), Error ellipse: s-maj=57.1km s-min=9.2km az=188.0*

*RSPR **21** 06:55:36.4, 18°.60N×68°.91W, h126km±1km, MD3.2/11 SDD **21** 06:55:37.2±2.3, 18°.51N×68°.91W, h130km±11km, MD3.5, ML2.9, MW3.6*

ISC 21 06:55:34.5±1.7, 18°.6N±0°.1×68°.93W±0°.04, h136km±10km, n51, σ1°.00/65, 24C-5D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.21**	**78**	⇓*e*Pg		**Pn**	**Pn**	**06 55 53.3**	**+0.1**
HIDR				⇑*e*Sg		**Sn**	**Sn**	**06 56 06.3**	**-1.0**
HIDR				IAML				06 56 08.3	
	comp=E,1μm,0.2s								
HIDR				IAML				06 56 08.7	
	comp=N,780nm,0.2s								
HATOM	**Hato Mayor del**	**0.49**	**300**	⇓*e*Pg		**Pn**	**Pn**	**06 55 54.8**	**+0.5**
HATOM				⇑*e*Sg		**Sn**	**Sn**	**06 56 08.9**	**-0.4**
HATOM				IAML				06 56 10.0	
	comp=Z,144nm,0.7s								
HATOM				IAML				06 56 10.2	
	comp=N,141nm,0.2s								
PCDR	**Punta Cana, DR**	**0.53**	**93**	*e*P		**Pn**	**Pn**	**06 55 54.7**	**+0.3**
PCDR	**Punta Cana, DR**	**0.53**	**93**	*e*S		**Sn**	**Sn**	**06 56 09.4**	**-0.1**
PCDR	**Punta Cana, DR**	**0.53**	**93**			**Pn**	**Pn**	**06 55 54.5**	**+0.1**
PCDR							**Sn**	**06 56 09.5**	**-0.1**
PCDR				IAML				06 56 14.5	
	comp=E,166nm,1.9s								
PCDR				IAML				06 56 17.4	
	comp=N,287nm,1.9s								
PCDR	**Punta Cana, DR**	**0.53**	**93**	⇓*e*Pg		**Pn**	**Pn**	**06 55 54.7**	**+0.3**
PCDR				⇑*e*Sg		**Sn**	**Sn**	**06 56 09.1**	**-0.5**
PCDR				IAML				06 56 14.1	
	comp=E,158nm,1.4s								
PCDR				IAML				06 56 40.9	
	comp=N,470nm,3.5s								
SMDR	**Samana, DR**	**0.78**	**342**	*e*Pg		**Pn**	**Pn**	**06 55 55.1**	**-1.1**
SMDR				⇑*e*Sg		**Sn**	**Sn**	**06 56 13.2**	**+0.6**
SMDR				IAML				06 56 15.0	
	comp=E,35nm,0.7s								
SMDR				IAML				06 56 20.7	
	comp=N,64nm,0.3s								
SDD	**Santo Domingo**	**0.93**	**265**	*e*S		**Sn**	**Sn**	**06 56 15.7**	**+0.9**
SDD	**Santo Domingo**	**0.93**	**265**	Pn		**Pn**	**Pn**	**06 55 57.1**	**-0.3**
SDD				IAML				06 56 09.9	
	comp=E,211nm,2.0s								
NADR	**Nagua**	**1.19**	**313**	⇑*e*Pg		**Pn**	**Pn**	**06 56 01.3**	**+1.5**
NADR				IAML				06 56 26.8	
	comp=N,342nm,0.2s								
NADR				IAML				06 56 27.3	
	comp=E,312nm,0.3s								
PRSN	**Puerto Rico Se**	**1.73**	**101**	Pn		**Pn**	**Pn**	**06 56 05.7**	**+0.1**
PRSN				IAML				06 56 34.3	
	comp=E,59nm,0.3s								
PRSN				IAML				06 56 35.3	
	comp=N,49nm,0.3s								
AGPR	**Aguadilla, PR**	**1.73**	**92**	*e*P		**Pn**	**Pn**	**06 56 08.0**	**+2.3**
AGPR	**Aguadilla, PR**	**1.73**	**92**	*e*S		**Sn**	**Sn**	**06 56 29.9**	**+0.4**
AGPR	**Aguadilla, PR**	**1.73**	**92**			**Pn**	**Pn**	**06 56 06.0**	**+0.3**
AGPR							**Sn**	**06 56 29.5**	**0.0**
AGPR				IAML				06 56 56.8	
	comp=E,84nm,3.0s								
AGPR	**Aguadilla, PR**	**1.73**	**92**	⇑*e*Pg		**Pn**	**Pn**	**06 56 07.3**	**+1.6**
AGPR				⇑*e*Sg		**Sn**	**Sn**	**06 56 29.0**	**-0.5**
AGPR				IAML				06 56 34.9	
	comp=E,52nm,0.5s								
AGPR				IAML				06 56 53.4	
	comp=N,124nm,3.0s								
LSP	**Las Mesas**	**1.79**	**102**	⇑*e*P		**Pn**	**Pn**	**06 56 07.9**	**+1.4**
LSP	**Las Mesas**	**1.79**	**102**	*e*S		**Sn**	**Sn**	**06 56 30.8**	**-0.1**
LSP	**Las Mesas**	**1.79**	**102**			**Pn**	**Pn**	**06 56 07.9**	**+1.4**
LSP							**Sn**	**06 56 30.8**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.81**	**107**	⇓*e*P		**Pn**	**Pn**	**06 56 07.0**	**+0.4**
CRPR	**Cabo Rojo, PR**	**1.81**	**107**			**Pn**	**Pn**	**06 56 06.7**	**+0.1**
CRPR	**Cabo Rojo, PR**	**1.81**	**107**	⇑*e*Pg		**Pn**	**Pn**	**06 56 06.9**	**+0.2**
CRPR				⇑*e*Sg		**Sn**	**Sn**	**06 56 28.2**	**-3.0**
CRPR				IAML				06 56 47.8	
	comp=E,44nm,4.1s								
CRPR				IAML				06 56 54.1	
	comp=N,55nm,2.3s								
MLPR	**Magueyes Islan**	**1.89**	**107**	⇑*e*P		**Pn**	**Pn**	**06 56 09.2**	**+1.7**
MLPR	**Magueyes Islan**	**1.89**	**107**	*e*S		**Sn**	**Sn**	**06 56 33.9**	**+1.2**
MLPR	**Magueyes Islan**	**1.89**	**107**			**Pn**	**Pn**	**06 56 07.6**	**+0.1**
MLPR				IAML				06 56 30.5	
	comp=E,41nm,2.9s								
MLPR							**Sn**	**06 56 33.2**	**+0.5**
MLPR	**Magueyes Islan**	**1.89**	**107**	⇑*e*Pg		**Pn**	**Pn**	**06 56 07.5**	**+0.1**
MLPR				⇑*e*Sg		**Sn**	**Sn**	**06 56 30.7**	**-2.0**
MLPR				IAML				06 56 40.1	
	comp=E,39nm,1.9s								
MLPR				IAML				06 56 53.6	
	comp=N,25nm,2.5s								
AOPR	**Arecibo Observ**	**2.08**	**95**	*e*P		**Pn**	**Pn**	**06 56 11.5**	**+1.7**
AOPR	**Arecibo Observ**	**2.08**	**95**	*e*S		**Sn**	**Sn**	**06 56 35.8**	**-1.1**
AOPR	**Arecibo Observ**	**2.08**	**95**			**Pn**	**Pn**	**06 56 10.0**	**+0.1**
AOPR							**Sn**	**06 56 35.7**	**-1.2**
AOPR	**Arecibo Observ**	**2.08**	**95**	⇑*e*Pg		**Pn**	**Pn**	**06 56 11.2**	**+1.3**
AOPR				⇑*e*Sg		**Sn**	**Sn**	**06 56 35.7**	**-1.2**
AOPR				IAML				06 56 39.4	
	comp=E,116nm,0.5s								
AOPR				IAML				06 56 45.1	
	comp=N,82nm,0.2s								
LOBA2	**Hotel Casa Bon**	**2.10**	**258**	⇑*e*Sg		**Sn**	**Sn**	**06 56 37.2**	**-0.2**
LOBA2				IAML				06 56 38.1	
	comp=N,980nm,1.5s								
LOBA2				IAML				06 56 40.4	
	comp=E,12nm,2.6s								
UUPR	**Utuado, UPR, P**	**2.12**	**98**	*e*P		**Pn**	**Pn**	**06 56 10.9**	**+0.6**
UUPR	**Utuado, UPR, P**	**2.12**	**98**	*e*S		**Sn**	**Sn**	**06 56 36.0**	**-1.8**
UUPR	**Utuado, UPR, P**	**2.12**	**98**			**Pn**	**Pn**	**06 56 10.5**	**+0.2**
UUPR							**Sn**	**06 56 37.5**	**-0.3**
OBIP	**Obispado Ponce**	**2.27**	**102**	⇑*e*P		**Pn**	**Pn**	**06 56 12.9**	**+0.8**
OBIP	**Obispado Ponce**	**2.27**	**102**			**Pn**	**Pn**	**06 56 12.7**	**+0.6**
OBIP				IAML				06 57 16.0	
	comp=E,28nm,3.2s								
SDDR	**Presa de Saban**	**2.27**	**281**	Pn		**Pn**	**Pn**	**06 56 11.6**	**-0.6**
SDDR				IAML				06 56 52.6	
	comp=E,32nm,2.7s								
SDDR	**Presa de Saban**	**2.27**	**281**	IAML				06 56 51.8	
	comp=E,13nm,1.2s								
SDDR				IAML				06 56 51.9	
	comp=N,29nm,2.2s								
EMPR	**Esperanza - Ma**	**2.28**	**91**	Pn		**Pn**	**Pn**	**06 56 11.6**	**-0.7**
CELP	**Cerrillos**	**2.29**	**101**	⇑*e*P		**Pn**	**Pn**	**06 56 13.1**	**+0.8**
CELP	**Cerrillos**	**2.29**	**101**	*e*S		**Sn**	**Sn**	**06 56 42.2**	**+0.8**
CELP	**Cerrillos**	**2.29**	**101**			**Pn**	**Pn**	**06 56 12.8**	**+0.4**
CELP							**Sn**	**06 56 42.2**	**+0.8**
CELP	**Cerrillos**	**2.29**	**101**	⇑*e*Pg		**Pn**	**Pn**	**06 56 13.2**	**+0.8**
CELP				IAML				06 56 48.2	
	comp=N,26nm,2.5s								
REDR	**Restauracion**	**2.41**	**285**	*e*Pg		Pn		06 56 19.1	+5.2
REDR				*e*				06 56 19.1	
REDR				IAML				06 56 55.4	
	comp=E,36nm,0.1s								
REDR				IAML				06 56 55.5	
	comp=N,25nm,0.5s								
SJG	**San Juan**	**2.68**	**99**	Pn		**Pn**	**Pn**	**06 56 17.0**	**-0.3**
SJG				IAML				06 57 22.2	
	comp=N,28nm,0.3s								
SJG				IAML				06 57 49.6	
	comp=N,44nm,0.3s								
GCPR	**Guaynabo City**	**2.72**	**95**	Pn		**Pn**	**Pn**	**06 56 17.4**	**-0.3**
GCPR				IAML				06 57 03.2	
	comp=N,33nm,3.2s								
IGPR	**InterUniversit**	**2.75**	**102**	⇑*e*P		**Pn**	**Pn**	**06 56 19.4**	**+1.2**
IGPR	**InterUniversit**	**2.75**	**102**	*e*S		**Sn**	**Sn**	**06 56 53.2**	**+1.4**
IGPR	**InterUniversit**	**2.75**	**102**			**Pn**	**Pn**	**06 56 17.8**	**-0.4**
IGPR							**Sn**	**06 56 52.2**	**+0.5**
IGPR				IAML				06 56 58.0	
	comp=N,25nm,0.3s								
IGPR				IAML				06 57 02.7	
	comp=E,25nm,1.2s								
HUMP	**Col San Antoni**	**2.96**	**97**	⇑*e*P		**Pn**	**Pn**	**06 56 20.6**	**-0.3**
HUMP	**Col San Antoni**	**2.96**	**97**	*e*S		**Sn**	**Sn**	**06 56 54.6**	**-2.0**
HUMP	**Col San Antoni**	**2.96**	**97**			**Pn**	**Pn**	**06 56 20.9**	**0.0**
HUMP				IAML				06 56 58.8	
	comp=E,24nm,0.2s								
HUMP				IAML				06 57 52.6	
	comp=N,20nm,2.7s								

IDC 21 06:58:02.8±3.8, 48°.48S×124°.00E, h0km, mb3.6/2, mbtmp3.7/2, MS3.3/4, Error ellipse: s-maj=136.9km s-min=71.9km az=118.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
H01W1	**Cape Leeuwin H**	**15.42**	**328**			T	T	07 18 33.9	
	baz=152,slow=74								
H01W2	**Cape Leeuwin H**	**15.43**	**328**			T	T	07 18 35.4	
	baz=152								
H01W3	**Cape Leeuwin H**	**15.44**	**328**			T	T	07 18 30.1	
	baz=152,slow=74								
NWAO	**Narrogin (SRO)**	**16.35**	**339**	LR		LR	LR	07 07 05.8	
	comp=Z,59nm,18.5s,baz=96,slow=33								
STKA	**Stephens Creek**	**21.27**	**45**	P		P	P	07 02 50.5	-0.1
	2.7nm,0.8s,baz=195,slow=12,SNR=3.3								
	2.7nm,0.8s								
ASAR	**Alice Springs**	**25.98**	**21**	P		P	P	07 03 37.3	+0.1
	0.8nm,0.8s,baz=192,slow=9.4,SNR=6.3								
	0.8nm,0.8s								
VNDA	**Vanda**	**32.55**	**166**	LR		LR	LR	07 16 10.5	
	comp=Z,38nm,19.2s,baz=344,slow=33								
KAPI	**Kappang**	**43.46**	**354**	LR		LR	LR	07 26 18.7	
	comp=Z,41nm,18.2s,baz=288,slow=39								
PLCA	**Paso Flores**	**90.24**	**169**	LR		LR	LR	07 49 55.4	
	comp=Z,36nm,19.3s,baz=180,slow=34								
YKA	**Yellowknife Ar**	**145.30**	**44**	PKPbc		PKPbc	PKPbc	07 17 40.0	-0.9
	0.5nm,0.7s,baz=281,slow=3.9,SNR=7.7								

IDC 21 07:36:29.9±2.5, 6°.19S×129°.56E, h0km, mb3.6/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=156.4km s-min=32.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.44**	**162**	P		n	Pn	07 39 55.3	-0.5
	0.2nm,0.3s,baz=344,slow=13,SNR=5.6								
WRA				Sn		n	Sn	07 42 23.1	-14
	0.3nm,0.3s,baz=337,slow=21,SNR=6.9								
	0.3nm,0.4s								
ASAR	**Alice Springs**	**17.87**	**167**	P		P	Pn	07 40 40.5	+0.3
	0.1nm,0.3s,baz=350,slow=9.8,SNR=8.6								
	0.5nm,0.7s								
MKAR	**Makanchi Array**	**67.31**	**327**	P		P	P	07 47 26.7	0.0
	0.3nm,0.5s,baz=115,slow=8.0,SNR=3.7								
	0.3nm,0.5s								

*IDC **21** 07:59:57.5±0.6, 29°.30S×85°.71E, h0km, mb4.2/18, mbtmp4.2/18, MS3.6/9, Error ellipse: s-maj=24.2km s-min=15.9km az=53.0*

*NEIC **21** 07:59:60.0±1.6, 29°.3S±0°.1×85°.7E±0°.1, h10km±1km, mb4.7/43, Error ellipse: s-maj=17.8km s-min=16.2km az=134.0*

ISC 21 07:59:59.3±0.4, 29°.29S±0°.09×85°.71E±0°.08, h10km, n88, σ0°.87/72, mb4.6/37, MS3.6/9, South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
COCO	**West Island**	**19.91**	**34**	P		P	**P**	**08 04 31.2**	**+0.1**
ROCAM	**Rodrigues Isla**	**22.40**	**290**	P		P	**P**	**08 04 57.1**	**-0.9**
H01W2	**Cape Leeuwin H**	**24.67**	**110**	T		T	T	08 30 58.5	
	baz=274,slow=75,SNR=27								
H01W3	**Cape Leeuwin H**	**24.67**	**110**	T		T	T	08 30 57.7	
	baz=274,slow=75,SNR=20								
H01W1	**Cape Leeuwin H**	**24.69**	**110**	T		T	T	08 30 56.3	
	baz=274,slow=75,SNR=35								
H08S2	**Diego Garcia H**	**24.87**	**327**	T		T	T	08 31 16.0	
	baz=152,slow=75,SNR=764								
H08S1	**Diego Carcia H**	**24.88**	**327**	T		T	T	08 31 11.6	
	baz=152,slow=75,SNR=272								
H08S3	**Diego Garcia H**	**24.89**	**327**	T		T	T	08 31 10.8	
	baz=152,slow=75,SNR=605								
NWAO	**Narrogin (SRO)**	**27.18**	**106**	LR		LR	LR	08 16 12.6	
	comp=Z,104nm,18.1s,baz=300,slow=36								
H04N2	**CROZET ISLANDS**	**31.37**	**228**	T		T	T	08 39 20.1	
	baz=70,slow=75,SNR=117								
H04N1	**CROZET ISLANDS**	**31.39**	**228**	T		T	T	08 39 23.1	
	baz=70,slow=75,SNR=107								
H04N3	**CROZET ISLANDS**	**31.39**	**228**	T		T	T	08 39 19.8	
	baz=70,slow=75,SNR=108								
H04S1	**CROZET ISLANDS**	**31.55**	**227**	T		T	T	08 39 30.7	
	baz=67,slow=76,SNR=13								
**H04S3

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,3.5nm,0.7s						
UOSS	**Minazif**	**60.92**	**329**	P	**P**	**08 10 11.2**	**-1.3**
UOSS				IAmb	IAmb	08 10 12.0	
	comp=Z,3.9nm,0.8s						
SNAA	**Sanae**	**62.05**	**201**	P	**P**	**08 10 20.2**	**+0.6**
SNAA				IAmb	IAmb	08 10 59.1	
	comp=Z,8.1nm,1.3s						
TSUM	**Tsumeb**	**62.18**	**263**	P	**P**	**08 10 21.5**	**+0.1**
TSUM				IAmb	IAmb	08 10 21.8	
	comp=Z,9.9nm,0.9s						
RAYN	**Ar Rayn**	**65.22**	**319**	P	**P**	**08 10 41.6**	**+0.5**
GEYT	**Alibeck**	**71.68**	**337**	P	**P**	**08 11 22.1**	**+0.9**
GEYT				IAmb	IAmb	08 11 22.7	
	comp=Z,11nm,0.9s						
GEYT	**Alibeck**	**71.68**	**337**	P	**P**	**08 11 21.4**	**+0.2**
	comp=Z,2.2nm,0.4s,baz=193,slow=6.1,SNR=8.9						
	comp=Z,2.2nm,0.4s						
GYA0B	**ALIBECK ARRAY**	**71.68**	**337**	P	**P**	**08 11 20.9**	**-0.4**
GYA0B				IAmb	IAmb	08 11 22.7	
	comp=Z,10nm,1.0s						
DZM	**Mont Dzumac**	**71.80**	**105**	LR	LR	08 41 37.1	
	comp=Z,77nm,18.4s,baz=105,slow=35						
AAK	**Ala-Archa**	**72.31**	**351**	LR	LR	08 40 30.9	
	comp=Z,41nm,20.1s,baz=173,slow=34						
KK31	**Karatay Array**	**73.38**	**348**	P	**P**	**08 11 31.1**	**-0.1**
KK31				IAmb	IAmb	08 11 32.1	
	comp=Z,5.7nm,0.8s						
KKAR	**Karatay Array**	**73.38**	**348**	P	**P**	**08 11 31.4**	**+0.2**
MK31	**Makanchi Array**	**75.79**	**358**	P	**P**	**08 11 43.5**	**-1.7**
MKAR	**Makanchi Array**	**75.79**	**358**	P	**P**	**08 11 44.8**	**-0.4**
MKAR	**Makanchi Array**	**75.79**	**358**	P	**P**	**08 11 44.5**	**-0.7**
	comp=Z,1.0nm,0.8s,baz=164,slow=6.1,SNR=7.4						
MKAR				LR	LR	08 43 49.1	
	comp=Z,30nm,19.1s,baz=136,slow=35						
	comp=Z,1.0nm,0.8s						
MAKZ	**Makanchi**	**75.81**	**357**	P	**P**	**08 11 44.9**	**-0.4**
KSAR	**Wonju Array Be**	**77.25**	**33**	P	**P**	**08 11 55.2**	**+1.6**
KSRS	**Korea Array**	**77.28**	**33**	P	**P**	**08 11 54.4**	**+0.6**
	comp=Z,1.0nm,0.8s,baz=211,slow=4.4,SNR=4.3						
	comp=Z,1.0nm,0.8s						
MMAI	**Mount Meron Ar**	**78.18**	**319**	P	**P**	**08 11 59.8**	**+0.8**
	comp=Z,0.8nm,0.4s,baz=151,slow=6.6,SNR=1.4						
	comp=Z,0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**79.81**	**355**	P	**P**	**08 12 06.5**	**-0.8**
	comp=Z,1.6nm,0.9s,baz=186,slow=5.2,SNR=12						
	comp=Z,1.6nm,0.9s						
KURK	**Kurchatov**	**79.90**	**355**	P	**P**	**08 12 08.7**	**+0.9**
ABKAR	**Akbulak array**	**81.50**	**343**	P	**P**	**08 12 16.9**	**+0.4**
KBZ	**Khabaz**	**82.57**	**330**	P	**P**	**08 12 23.1**	**+0.9**
	comp=Z,3.6nm,0.8s,baz=172,slow=5.7,SNR=9.0						
	comp=Z,3.6nm,0.8s						
ZAA0	**Zalesovo Array**	**82.89**	**359**	P	**P**	**08 12 23.3**	**-0.3**
ZAA0				IAmb	IAmb	08 12 23.9	
	comp=Z,6.7nm,0.8s						
ZALV	**Zalesovo Beam**	**82.89**	**359**	P	**P**	**08 12 23.1**	**-0.6**
	comp=Z,5.0nm,0.6s,baz=187,slow=3.8,SNR=21						
	comp=Z,5.0nm,0.6s						
BVAR	**Borovoye Array**	**83.05**	**351**	P	**P**	**08 12 24.1**	**-0.4**
	comp=Z,1.4nm,0.7s,baz=132,slow=6.6,SNR=5.3						
BVAR				LR	LR	08 49 01.1	
	comp=Z,21nm,18.1s,baz=191,slow=35						
	comp=Z,1.4nm,0.7s						
AKTO	**Aktyubinsk**	**83.08**	**343**	P	**P**	**08 12 24.2**	**-0.5**
	comp=Z,1.3nm,0.5s,baz=184,slow=6.1,SNR=4.2						
	comp=Z,1.3nm,0.5s						
BRTR	**Keskin Array B**	**84.02**	**322**	P	**P**	**08 12 30.7**	**+0.7**
BRTR	**Keskin Array B**	**84.02**	**322**	P	**P**	**08 12 29.6**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=140,slow=6.5,SNR=9.9						
	comp=Z,2.5nm,0.6s						
KLR	**Kul'dur**	**88.28**	**28**	LR	LR	08 53 42.0	
	comp=Z,30nm,19.6s,baz=238,slow=36						
TOA0	**Torodi Ar. Sit**	**91.22**	**284**	P	**P**	**08 13 05.4**	**+0.2**
TOA0				IAmb	IAmb	08 13 11.4	
	comp=Z,3.5nm,1.2s						
TORD	**Torodi Ar. Bea**	**91.22**	**284**	P	**P**	**08 13 05.3**	**+0.1**
TORD	**Torodi Ar. Bea**	**91.22**	**284**	P	**P**	**08 13 04.4**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=98,slow=4.4,SNR=3.4						
	comp=Z,0.6nm,0.6s						
AKASG	**Malin Array Be**	**93.95**	**328**	P	**P**	**08 13 16.9**	**0.0**
	comp=Z,1.2nm,0.5s,baz=121,slow=3.5,SNR=9.6						
	comp=Z,1.2nm,0.5s						
ILAR	**Eielson Array**	**131.85**	**27**	PKP	**PKPdf**	**08 19 10.4**	**-1.6**
	comp=Z,0.6nm,0.8s,baz=315,slow=4.2,SNR=4.8						
RES	**Resolute Bay**	**134.53**	**0**	PKP	**PKPdf**	**08 19 16.6**	**-0.2**
	comp=Z,1.9nm,0.8s,baz=343,slow=3.6,SNR=4.8						
INK	**Inuvik**	**134.70**	**19**	PKP	**PKPdf**	**08 19 16.7**	**-0.5**
	comp=Z,3.0nm,0.9s,baz=297,slow=2.3,SNR=6.0						
YKA	**Yellowknife Ar**	**144.23**	**16**	PKhKP	PKPpre	08 19 31.3	
	comp=Z,1.5nm,0.8s,baz=321,slow=2.2,SNR=17						
SCHQ	**Schefferville**	**147.72**	**330**	PKPbc	**PKPbc**	**08 19 43.1**	**-0.6**
	comp=Z,7.1nm,0.7s,baz=35,slow=4.5,SNR=15						
NVAR	**Mina Array Bea**	**158.12**	**59**	PKP	**PKPdf**	**08 19 57.9**	**+1.0**
	comp=Z,0.5nm,0.8s,baz=251,slow=2.8,SNR=2.7						
NVAR				PKPab	**PKPab**	**08 20 30.6**	**0.0**
	comp=Z,0.6nm,0.7s,baz=264,slow=4.8,SNR=4.5						
TXAR	**Lajitas Array**	**171.81**	**87**	PKP	**PKPdf**	**08 20 08.1**	**-0.6**
	comp=Z,0.6nm,1.0s,baz=211,slow=0.5,SNR=3.9						

IDC 21 08:00:08.1±3.1, 53.76N×88.23E, h0km, mbtmp2.7/3, ML2.4/3, Error ellipse: s-maj=24.8km s-min=17.8km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVINFRA**	**2.03**	**277**	I	I	08 13 04.6	
	0.1nm,0.8s,baz=92,slow=325,SNR=8.0						
ZALV	**Zalesovo Beam**	**2.03**	**277**	Pn	Pn	08 00 43.2	-0.2
	1.8nm,0.3s,baz=97,slow=12,SNR=17						
ZALV				Lg	Lg	08 01 11.5	
	4.8nm,0.3s,baz=94,slow=23,SNR=21						
	2.8nm,0.3s						
KURBB	**Kurchatov Arra**	**6.74**	**246**	Pn	Pn	08 01 48.6	+0.5
	0.1nm,0.3s,baz=62,slow=14,SNR=8.2						
KURBB				Sn	Sn	08 03 07.0	+1.5
	baz=116,slow=18,SNR=2.3						
KURBB				Lg	Lg	08 03 38.5	
	baz=63,slow=32,SNR=7.3						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**7.94**	**211**	Pn	Pn	08 02 05.6	+0.9
	0.1nm,0.3s,baz=23,slow=11,SNR=2.8						
MKAR				Sn	Sn	08 03 34.9	-0.3
	0.2nm,0.3s,baz=32,slow=28,SNR=3.1						
MKAR				Lg	Lg	08 04 16.6	
	0.1nm,0.3s,baz=26,slow=27,SNR=2.4						
	0.1nm,0.3s						

IDC 21 08:05:16.7±1.8, 54.68N×83.77E, h0km, mbtmp2.7/3, ML2.3/3, Error ellipse: s-maj=16.2km s-min=10.4km az=8.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVINFRA**	**0.96**	**140**	I	I	08 10 47.9	
	0.2nm,0.9s,baz=317,slow=328,SNR=15						
ZALV	**Zalesovo Beam**	**0.96**	**140**	Pg	Pg	08 05 34.2	-0.8
	2.7nm,0.3s,baz=328,slow=19,SNR=16						
ZALV				Lg	Lg	08 05 49.2	
	7.9nm,0.3s,baz=321,slow=29,SNR=30						
KURBB	**Kurchatov Arra**	**5.17**	**220**	Pn	Pn	08 06 35.6	+0.3
	0.1nm,0.3s,baz=41,slow=14,SNR=2.1						
KURBB				Lg	Lg	08 08 04.5	
	0.1nm,0.3s,baz=41,slow=31,SNR=6.5						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.96**	**187**	Pn	Pn	08 07 13.7	+0.1
	0.1nm,0.3s,baz=8.9,slow=10,SNR=2.0						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**8.09**	**264**	Pn	Pn	08 07 13.9	-1.4
	baz=58,slow=17,SNR=2.7						
	0.4nm,0.3s						

TRN 21 08:12:32.0, 16.45N×59.92W, h35km, MD3.6, East of Guadeloupe., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBE	**Ff, Capester**	**1.66**	**257**	*e*P	Pn	08 12 58.5	-0.1
TDBA	**Terre de Bas,**	**1.75**	**250**	*e*P	Pn	08 13 00.8	+0.9
ANBD	**Bethesda, Anti**	**1.86**	**289**	*e*P	Pn	08 13 02.6	+1.2
ANBD				*e*S	Sn	08 13 26.3	+2.5
MPOM	**Morne Pois Mar**	**2.19**	**205**	*e*P	Pn	08 13 02.6	-3.3
MPOM				*e*S	Sn	08 13 25.3	-6.4
BIM	**Bigot**	**2.22**	**210**	*e*P	Pn	08 13 08.4	+2.1
BIM				*e*S	Sn	08 13 34.5	+2.0
SLBI	**Saint Lucia, B**	**2.62**	**203**	*e*S	Sn	08 13 43.8	+1.5

*IDC **21** 08:27:38.6±1.6, 5.44S×146.96E, h221km±17km, mb3.3/5, mbtmp4.0/7, Error ellipse: s-maj=36.2km s-min=11.9km az=110.0*
*NEIC **21** 08:27:42.2±1.7, 5.34S±0.09×146.8E±0.1, h238km±6km, mb4.3/42, Error ellipse: s-maj=17.6km s-min=13.3km az=103.0*
ISC 21 08:27:42.4±0.5, 5.36S±0.07×146.75E±0.08, h250km, n72, σ1§06/74, mb4.2/23, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.35**	**11**	Pn	**Pn**	**08 28 37.9**	**-0.9**
PMG	**Port Moresby**	**4.04**	**174**	P	**Pn**	**08 28 42.5**	**-4.3**
	46nm,0.4s,baz=14,slow=4.2,SNR=20						
PMG				S	S	08 29 27.8	-10
	40nm,0.3s,baz=224,slow=22,SNR=10						
COEN	**Coen**	**9.24**	**202**	P	**Pn**	**08 29 51.6**	**+0.1**
COEN	**Coen**	**9.24**	**202**	Pn	**Pn**	**08 29 51.7**	**+0.2**
HNR	**Honiara**	**13.70**	**108**		**Pn**	**08 30 48.1**	**+1.1**
CTAO	**Charters Tower**	**14.65**	**182**		**Pn**	**08 30 59.4**	**+0.9**
FAKI	**Fak Fak**	**14.67**	**279**		**Pn**	**08 30 59.7**	**+1.0**
KDU	**Kakadu**	**15.86**	**242**	P	**Pn**	**08 31 12.4**	**-0.7**
QIS	**Mount Isa**	**16.63**	**204**	P	**P**	**08 31 20.0**	**-0.3**
WB0	**Warramunga Arr**	**18.70**	**219**	P	**P**	**08 31 42.9**	**+0.1**
WB0				IAmb	IAmb	08 31 44.6	
	comp=Z,14nm,1.1s						
WR0	**Warramunga Arr**	**18.76**	**218**	P	**P**	**08 31 43.7**	**+0.4**
WR0				IAmb	IAmb	08 31 48.5	
	comp=Z,15nm,1.0s						
WRAB	**Tennant Creek**	**18.86**	**219**	P	**P**	**08 31 44.7**	**+0.3**
WB2	**Warramunga Arr**	**18.86**	**219**	P	**P**	**08 31 44.8**	**+0.4**
WB2				IAmb	IAmb	08 31 50.1	
	comp=Z,12nm,0.9s						
WRA	**Warramunga Arr**	**18.87**	**219**	P	**P**	**08 31 44.4**	**-0.2**
	comp=Z,2.9nm,0.3s,baz=44,slow=12,SNR=11						
WRA				S	**S**	**08 35 05.6**	**0.0**
	comp=Z,0.7nm,0.6s,baz=40,slow=19,SNR=2.6						
EIDS	**Eidsvold**	**20.33**	**169**	P	**P**	**08 31 59.9**	**-0.2**
EIDS				IAmb	IAmb	08 32 00.4	
	comp=Z,5.8nm,1.1s						
AS01	**Alice Springs**	**21.99**	**213**	P	**P**	**08 32 17.5**	**+1.0**
ASAR	**Alice Springs**	**22.01**	**213**	P	**P**	**08 32 17.6**	**+0.9**
	comp=Z,7.6nm,0.6s,baz=42,slow=7.5,SNR=133						
ASAR				S	**S**	**08 36 02.6**	**+1.2**
	comp=Z,1.3nm,0.9s,baz=40,slow=14,SNR=5.3						
	comp=Z,7.6nm,0.6s						
INKA	**Innaminka**	**22.98**	**194**	P	**P**	**08 32 25.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**24.20**	**237**	P	**P**	**08 32 37.7**	**+1.1**
FITZ	**Fitzroy Crossi**	**24.20**	**237**	P	**P**	**08 32 37.8**	**+1.1**
LUWI	**Luwuk**	**24.32**	**279**	P	**P**	**08 32 36.0**	**-1.8**
OOD	**Oodnadatta**	**24.67**	**204**	P	**P**	**08 32 41.0**	**+0.3**
ARMA	**Armidale**	**25.35**	**170**	P	**P**	**08 32 46.9**	**0.0**
ARMA				IAmb	IAmb	08 33 02.8	
	comp=Z,12nm,1.4s						
ONTNC	**Ouen Toro**	**25.43**	**133**	P	**P**	**08 32 45.1**	**-2.6**
LCRK	**Leigh Creek**	**26.22**	**197**	P	**P**	**08 32 54.5**	**-0.1**
WRKA	**Warakurna**	**26.39**	**220**	P	**P**	**08 32 56.5**	**+0.2**
FORT	**Forrest**	**30.80**	**213**	P	**P**	**08 33 35.3**	**+0.2**
FORT				IAmb	IAmb	08 33 36.1	
	comp=Z,8.7nm,0.8s						
MSVF	**Nonsavu**	**32.97**	**115**	P	**P**	**08 33 54.7**	**+0.4**
MSVF				IAmb	IAmb	08 34 22.0	
	comp=Z,7.5nm,1.2s						
KSRS	**Korea Array**	**46.07**	**339**	P	**P**	**08 35 40.6**	**-0.9**
	comp=Z,0.9nm,0.6s,baz=150,slow=8.8,SNR=4.9						
	comp=Z,0.9nm,0.6s						
VNDA	**Vanda**	**72.56**	**177**	P	**P**	**08 38 41.5**	**-0.3**
	comp=Z,0.6nm,0.7s,baz=316,slow=5.4,SNR=3.1						
	comp=Z,0.6nm,0.7s						
MKAR	**Makanchi Array**	**76.85**	**320**	P	**P**	**08 39 07.0**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=106,slow=8.5,SNR=2.8						
	comp=Z,0.2nm,0.4s						
K15K	**Wolf Creek Mou**	**78.09**	**22**	P	**P**	**08 39 14.9**	**+1.5**
K17K	**Iditarod**	**79.56**	**23**	P	**P**	**08 39 22.9**	**+1.5**
K17K				IAmb	IAmb	08 39 33.8	
	comp=Z,12nm,1.4s						
J17K	**VABM Dome**	**79.65**	**22**	P	**P**	**08 39 22.9**	**+1.0**
J17K				IAmb	IAmb	08 39 25.8	
	comp=Z,14nm,1.4s						
L18K	**Granite Mounta**	**79.91**	**23**	P	**P**	**08 39 22.5**	**-0.8**
J18K	**Innoko River**	**80.58**	**22**	P	**P**	**08 39 26.3**	**-0.5**
J18K				IAmb	IAmb	08 39 51.1	
	comp=Z,8.8nm,1.5s						
G18K	**Tagagawik**	**81.24**	**20**	P	**P**	**08 39 29.9**	**-0.3**
G18K				IAmb	IAmb	08 39 32.9	
	comp=Z,6.4nm,1.4s						
H19K	**Roundabout Mou**	**81.79**	**21**	P	**P**	**08 39 34.1**	**+1.0**
RC01	**Rabbit Creek A**	**82.26**	**26**	P	**P**	**08 39 35.8**	**+0.1**
CAST	**Castle Rocks**	**82.34**	**23**	P	**P**	**08 39 36.4**	**+0.3**
CAST				IAmb	IAmb	08 40 03.7	
	comp=Z,5.0nm,1.4s						
E19K	**Redstone River**	**82.59**	**19**	P	**P**	**08 39 38.1**	**+0.9**
PMR	**Palmer**	**82.74**	**26**	P	**P**	**08 39 39.1**	**+1.1**
PMR				IAmb	IAmb	08 39 59.0	
	comp=Z,5.7nm,1.2s						
C19K	**Lookout Ridge**	**82.81**	**17**	P	**P**	**08 39 40.0**	**+1.6**
F20K	**Avaraart Lake**	**82.86**	**19**	P	**P**	**08 39 39.6**	**+1.0**
D19K	**Kuna River**	**82.90**	**18**	P	**P**	**08 39 39.6**	**+0.8**
D19K				IAmb	IAmb	08 39 46.5	
	comp=Z,11nm,1.5s						
SML	**Sawmill**	**83.17**	**26**	P	**P**	**08 39 41.4**	**+0.9**
MLY	**Manley**	**83.62**	**22**	P	**P**	**08 39 43.2**	**+0.6**
I23K	**Minto, Yukon-K**	**84.19**	**22**	P	**P**	**08 39 45.9**	**+0.4**
I23K				IAmb	IAmb	08 39 52.5	
	comp=Z,5.9nm,1.4s						
B21K	**Ikpikpuk River**	**84.57**	**17**	P	**P**	**08 39 47.8**	**+0.6**
B21K				IAmb	IAmb	08 39 48.4	
	comp=Z,9.3nm,1.3s						
CCB	**Clear Creek Bu**	**84.58**	**23**	P	**P**	**08 39 46.4**	**-0.9**
E22K	**Anaktuvuk Pass**	**84.70**	**19**	P	**P**	**08 39 48.9**	**+0.9**
IL31		**84.99**	**23**	P	**P**	**08 39 48.2**	**-1.2**
IL31				IAmb	IAmb	08 40 11.9	
	comp=Z,4.3nm,1.4s						
ILAR	**Eielson Array**	**84.99**	**23**	P	**P**	**08 39 48.4**	**-1.1**
ILAR	**Eielson Array**	**84.99**	**23**	P	**P**	**08 39 47.9**	**-1.5**
	comp=Z,7.0nm,0.6s,baz=251,slow=4.6,SNR=13						
	comp=Z,0.7nm,0.6s						
IL03	**Eielson Array**	**85.00**	**23**	P	**P**	**08 39 50.4**	**+0.9**
MESA	**MESA**	**85.45**	**28**	P	**P**	**08 39 51.6**	**-0.4**
J25K	**Salcha River,**	**85.53**	**24**	P	**P**	**08 39 51.9**	**-0.3**
F24K	**Squaw Lake**	**85.75**	**21**	P	**P**	**08 39 55.0**	**+1.8**
F24K				IAmb	IAmb	08 40 07.0	
	comp=Z,6.4nm,1.5s						
BARN	**Barnard Glacie**	**85.88**	**28**	P	**P**	**08 39 56.4**	**+2.3**
C23K	**Itkillik River**	**85.89**	**18**	P	**P**	**08 39 55.0**	**+1.3**
C23K				IAmb	IAmb	08 40 23.6	
	comp=Z,3.8nm,1.1s						
M27K	**Edge Creek, AK**	**86.20**	**26**	P	**P**	**08 39 55.7**	**+0.1**
M27K				IAmb	IAmb	08 39 56.4	
	comp=Z,9.2nm,1.4s						
J26L	**Joseph Creek**	**86.21**	**24**	P	**P**	**08 39 56.1**	**+0.6**
BCAR	**Beaver Creek A**	**86.47**	**26**	P	**P**	**08 39 57.6**	**+0.8**
BMAR	**Burnt Mountain**	**86.89**	**21**	P	**P**	**08 40 00.1**	**+1.3**
D25K	**Kavik River**	**87.01**	**19**	P	**P**	**08 40 00.2**	**+1.0**
K29M	**Barlow Dome**	**88.53**	**25**	P	**P**	**08 40 07.7**	**+1.1**
K29M				IAmb	IAmb	08 40 24.4	
	comp=Z,4.6nm,1.2s						
H31M	**Peel River**	**90.32**	**24**	P	**P**	**08 40 15.1**	**+0.3**
H31M				IAmb	IAmb	08 40 39.2	
	comp=Z,3.4nm,1.1s						
NVAR	**Mina Array Bea**	**97.17**	**52**	P	**P**	**08 40 47.0**	**-0.1**
TORD	**Torodi Ar. Bea**	**144.69**	**285**	PKPbc	**PKPdf**	**08 46 50.6**	**+0.2**
BAUV	**El Baul**	**145.30**	**82**	PKPdf	**PKPdf**	**08 46 51.2**	**-0.3**
SAML	**Samuel**	**146.95**	**115**	PKPbc	**PKPdf**	**08 46 55.4**	**+1.1**
BOAV	**Boa Vista**	**152.63**	**95**	PKPbc	**PKPbc**	**08 47 10.3**	**-0.2**

*BEO **21** 08:49:08.0±1.3, 43.04N×10.38E, h182km±9km, ML4.1/6*
*IDC **21** 08:49:26.8±1.0, 43.16N×13.11E, h0km, mb3.9/7, mbtmp3.8/16, ML3.7/7, MS3.2/24, Error ellipse: s-maj=17.1km s-min=12.0km az=90.0*
*ROM **21** 08:49:26.5±0.0, 43.082N±0.001×13.016E±0.003, h8km, ML3.9/258, Mw3.9, Error ellipse: s-maj=0.2km s-min=0.1km az=63.0, Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; Mrr-5.91; Mθθ1.10; Mφφ4.81; Mrθ-0.44; Mθφ-2.74; Mφr5.10; Fault plane solution: M0 7.95855×10^{14} NP1:φs318.00000°, δ28.00000°, λ-116.00000°. NP2:φs167.00000°, δ65.00000°, λ-77.00000°.*
*MED_RC **21** 08:49:27.0±0.4, 42.81N×13.52E, h20km±1km, MW4.4/17, Moment Tensor Solution. Mantle waves: s17,c19; Duration: 1s0 Moment tensor: Scale 10^{15}Nm; Mrr-4.13±.65; Mθθ2.27±.42; Mφφ1.85±.36; Mrθ-0.52±.37; Mθφ-2.51±.18; Mφr-1.64±.30; Best double couple: M04.70000×10^{15} NP1:φs332.00000°, δ53.00000°, λ-65.00000°. NP2:φs114.00000°, δ44.00000°, λ-119.00000°. Principal axes: T 4.6400, Plg5.0000°, Azm44.0000°; N 0.1000, Plg20.0000°, Azm136.0000°; P -4.7500, Plg70.0000°, Azm300.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=30s.*
*MOS **21** 08:49:27.3±1.2, 43.14N×13.07E, h11km, mb4.6/6 Error ellipse: s-maj=9.0km s-min=4.7km az=78.8*
*LDG **21** 08:49:27.5±0.1, 42.98N×13.01E, h9km, Ml3.6/35, Error ellipse: s-maj=3.5km s-min=2.5km az=42.0*
*STR **21** 08:49:28.8±4.3, 43°N±18°×1°3E±3°5, h10km, MLv4.1/15, Error ellipse: s-maj=0.1km s-min=0.0km az=115.6, preliminary*
*PDG **21** 08:49:28.2±0.1, 43.15N×13.21E, h8km±3km, ML4.0/13, Error ellipse: s-maj=2.3km s-min=5.1km az=0.0*
*MCSM **21** 08:49:29.7±0.3, 43°N±3°×1°3E±°, h10km, mb4.3, mB4.7, MLv4.3, Mw(mB)3.9*
*PRU **21** 08:49:30.7, 43.21N×13.18E, h10km*
ISC 21 08:49:27.1±0.7, 43.09N±0.01×13.02E±0.02, h7km±4km, n362, σ2§13/459, mb4.2/12, MS3.2/16, 42C-38D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
T1219	**Muccia, Frazio**	**0.04**	**197**	⇓P	**Pg**	**08 49 28.5**	**-0.1**
T1219				S	**Sg**	**08 49 29.5**	**-0.1**
MML1	**Montelago di S**	**0.04**	**300**	⇓P	**Pg**	**08 49 28.7**	**0.0**
MML1				S	**Sg**	**08 49 29.9**	**+0.1**
FDMO	**Fiordimonte**	**0.07**	**140**	⇑P	**Pg**	**08 49 28.9**	**-0.1**
FDMO				S	**Sg**	**08 49 30.3**	**0.0**
FDMO				AML	AML		
	comp=N,75700μm,1.5s						
FDMO				AML	AML		
	comp=E,59600μm,0.2s						
FDMO				AML	AML		
	comp=N,47009μm,0.2s						
FDMO				AML	AML		
	comp=E,59574μm,0.2s						
SEF1	**Sefro**	**0.08**	**315**	⇓P	**Pg**	**08 49 29.2**	**+0.1**
SEF1				S	**Sg**	**08 49 30.8**	**+0.4**
SEF1				AML	AML		
SEF1				AML	AML		
SEF1				AML	AML		
SEF1				AML	AML		
PIO1	**Pioraco**	**0.09**	**342**	⇓P	**Pg**	**08 49 29.4**	**+0.1**
PIO1				S	**Sg**	**08 49 31.2**	**+0.5**
FIU1	**Fiuminata**	**0.12**	**325**	P	**Pg**	**08 49 29.8**	**+0.1**
FIU1				S	**Sg**	**08 49 32.0**	**+0.6**
CESI	**CESI - Serrava**	**0.12**	**225**	⇑P	**Pg**	**08 49 29.9**	**+0.2**
CESI				S	**Sg**	**08 49 32.3**	**+0.7**
CESI				AML	AML		
	comp=N,81100μm,0.9s						
CESI				AML	AML		
	comp=E,75500μm,0.5s						
CESI				AML	AML		
	comp=N,63574μm,0.4s						
CESI				AML	AML		
	comp=E,59044μm,0.3s						
FEMA	**Monte Fema**	**0.13**	**171**	⇑P	**Pg**	**08 49 30.0**	**0.0**
FEMA				S	**Sg**	**08 49 32.5**	**+0.6**
FEMA				AML	AML		
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,70550μm,0.4s						
FEMA				AML	AML		
FEMA				AML	AML		
	comp=N,70552μm,0.4s						
CSP1	**Cessapalombo**	**0.13**	**90**	⇑P	**Pg**	**08 49 30.1**	**+0.1**
CSP1				S	**Sg**	**08 49 32.5**	**+0.6**
CSP1				AML	AML		
	comp=N,35450μm,1.4s						
CSP1				AML	AML		
	comp=E,81600μm,1.5s						
CSP1				AML	AML		
	comp=N,29595μm,0.5s						
CSP1				AML	AML		
	comp=E,66697μm,0.3s						
MDAR	**Monte D'Aria**	**0.13**	**41**	⇑P	**Pg**	**08 49 30.1**	**+0.1**
MDAR				S	**Sg**	**08 49 32.6**	**+0.7**
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
MDAR				AML	AML		
PF6	**Pievefavera**	**0.14**	**66**	⇑P	**Pg**	**08 49 30.0**	**0.0**
PF6				S	**Sg**	**08 49 32.5**	**+0.5**
GAG1	**Gagliole**	**0.15**	**13**	P	**Pg**	**08 49 30.6**	**+0.4**
GAG1				S	**Sg**	**08 49 33.6**	**+1.3**
MTL1	**Matelica**	**0.17**	**357**	P	**Pg**	**08 49 30.9**	**+0.4**
MTL1				S	**Sg**	**08 49 34.1**	**+1.3**
SNTG	**Esanatoglia**	**0.17**	**340**	P	**Pg**	**08 49 30.8**	**+0.1**
SNTG				S	**Sg**	**08 49 33.8**	**+0.7**
SNTG				AML	AML		
	comp=E,76200μm,0.6s						
SNTG				AML	AML		
	comp=N,95050μm,0.6s						
SNTG				AML	AML		
	comp=N,95050μm,0.6s						
SNTG				AML	AML		
SNTG				AML	AML		
	comp=E,76200μm,0.6s						
SNTG

	comp=E,14288µm,1.6s							
T1221				AML	AML			
	comp=E,11622µm,1.7s							
T1221				AML	AML			
	comp=N,12377µm,0.5s							
T1221				AML	AML			
	comp=N,11872µm,0.5s							
NRCA	**Norcia**	**0.27**	**165**	⇓P		**Pg**	**08 49 32.3**	**-0.1**
NRCA				S		**Sg**	**08 49 36.5**	**+0.6**
NRCA				AML	AML			
	comp=N,37100µm,0.7s							
NRCA				AML	AML			
	comp=E,33200µm,0.9s							
NRCA				AML	AML			
	comp=E,35050µm,0.9s							
NRCA				AML	AML			
	comp=N,40200µm,0.7s							
NRCA				AML	AML			
	comp=E,33200µm,0.9s							
NRCA				AML	AML			
	comp=N,38968µm,0.2s							
NRCA				AML	AML			
	comp=N,36439µm,0.2s							
NRCA				AML	AML			
	comp=N,38968µm,1.8s							
NRCA				AML	AML			
	comp=N,36439µm,1.8s							
NRCA				AML	AML			
	comp=E,30431µm,0.1s							
NRCA				AML	AML			
	comp=E,29028µm,0.1s							
ASSB	**Assisi San Ben**	**0.27**	**260**	AML	AML			
	comp=N,41500µm,0.5s							
ASSB				AML	AML			
	comp=E,35900µm,0.4s							
ASSB				AML	AML			
	comp=E,26570µm,0.2s							
ASSB				AML	AML			
	comp=N,38514µm,0.2s							
FOSV	**Fossato di Vic**	**0.28**	**317**	P		**Pg**	**08 49 32.8**	**+0.2**
FOSV				S		**Sg**	**08 49 37.5**	**+1.2**
FOSV				AML	AML			
	comp=E,70150µm,0.6s							
FOSV				AML	AML			
	comp=N,70000µm,0.7s							
FOSV				AML	AML			
	comp=E,58936µm,0.3s							
FOSV				AML	AML			
	comp=E,58936µm,1.7s							
FOSV				AML	AML			
	comp=N,63322µm,0.2s							
ATCC	**AVT- Casa Cast**	**0.29**	**288**	⇑P		**Pg**	**08 49 33.2**	**+0.2**
ATCC				S		**Sg**	**08 49 38.4**	**+1.6**
ATCC				AML	AML			
	comp=E,82400µm,0.2s							
ATCC				AML	AML			
	comp=N,53150µm,0.3s							
ATCC				AML	AML			
	comp=E,82350µm,0.2s							
ATCC				AML	AML			
	comp=N,53158µm,0.3s							
ATCC				AML	AML			
	comp=E,82391µm,0.2s							
MMO1	**Montemonaco**	**0.29**	**131**	P		**Pg**	**08 49 32.8**	**-0.1**
MMO1				S		**Sg**	**08 49 37.5**	**+0.7**
CING	**Cingoli**	**0.31**	**24**	P		**Pg**	**08 49 33.4**	**+0.1**
CING				S		**Sg**	**08 49 38.7**	**+1.4**
MNTP	**Montappone**	**0.33**	**82**	⇑P		**Pb**	**08 49 34.1**	**-1.2**
MNTP				S		**Sb**	**08 49 40.5**	**-0.4**
MNTP				AML	AML			
	comp=E,97850µm,1.2s							
MNTP				AML	AML			
	comp=N,75850µm,0.9s							
MNTP				AML	AML			
	comp=N,74147µm,0.8s							
MNTP				AML	AML			
	comp=E,97533µm,0.6s							
MNTP				AML	AML			
	comp=E,97533µm,1.4s							
MF5	**Montefalcone A**	**0.34**	**108**	⇑P		**Pg**	**08 49 34.1**	**+0.4**
MF5				S		**Sb**	**08 49 39.9**	**-1.2**
MF5				AML	AML			
	comp=E,50200µm,1.4s							
MF5				AML	AML			
	comp=N,44750µm,0.9s							
MF5				AML	AML			
	comp=N,37751µm,0.7s							
MF5				AML	AML			
	comp=E,42130µm,0.8s							
MF5				AML	AML			
	comp=E,42130µm,1.2s							
MMUR	**Monte Murano**	**0.35**	**357**	P		**Pg**	**08 49 34.1**	**+0.1**
MMUR				S		**Sb**	**08 49 40.0**	**-1.5**
MMUR				AML	AML			
MMUR				AML	AML			
MMUR				AML	AML			
MMUR				AML	AML			
SSFR	**Montelago di S**	**0.39**	**333**	P		**Pg**	**08 49 34.8**	**+0.1**
SSFR				S		**Sb**	**08 49 41.5**	**-1.1**
SSFR				AML	AML			
	comp=N,68700µm,0.2s							
SSFR				AML	AML			
SSFR				AML	AML			
	comp=N,68700µm,0.3s							
SSFR				AML	AML			
	comp=E,94500µm,0.3s							
SSFR				AML	AML			
	comp=N,75650µm,0.2s							
SSFR				AML	AML			
SSFR				AML	AML			
	comp=E,94494µm,0.3s							
SSFR				AML	AML			
	comp=N,75619µm,0.2s							
SSFR				AML	AML			
	comp=N,61876µm,0.2s							
SSFR				AML	AML			
	comp=E,94494µm,1.7s							
SSFR				AML	AML			
MURB	**Monte Urbino**	**0.40**	**295**	⇑P		**Pg**	**08 49 35.1**	**+0.2**
MURB				S		**Sg**	**08 49 41.7**	**+1.4**
MURB				AML	AML			
	comp=N,59650µm,0.9s							
MURB				AML	AML			
	comp=E,65500µm,1.0s							
MURB				AML	AML			
	comp=N,63600µm,0.9s							
MURB				AML	AML			
	comp=E,63550µm,0.3s							
MURB				AML	AML			
	comp=E,63547µm,0.3s							
MURB				AML	AML			
	comp=E,64061µm,0.3s							
MURB				AML	AML			
	comp=N,61289µm,0.2s							
MURB				AML	AML			
	comp=N,52883µm,0.3s							
ARVD	**Arcevia**	**0.41**	**352**	P		**Pg**	**08 49 35.2**	**+0.1**
ARVD				S		**Sb**	**08 49 42.1**	**-1.1**
ARVD				AML	AML			
	comp=N,33850µm,0.1s							
ARVD				AML	AML			
	comp=E,47550µm,0.3s							
ARVD				AML	AML			
	comp=N,33861µm,0.1s							
ARVD				AML	AML			
	comp=E,41764µm,0.1s							
GAVE	**Gavelli**	**0.41**	**193**	AML	AML			
	comp=N,15335µm,0.3s							
GAVE				AML	AML			
	comp=E,20650µm,0.3s							
GAVE				AML	AML			
	comp=N,4320µm,1.1s							
GAVE				AML	AML			
	comp=E,20950µm,0.5s							
GAVE				AML	AML			
	comp=E,20334µm,0.3s							
GAVE				AML	AML			
	comp=N,4275µm,0.3s							
GAVE				AML	AML			
	comp=E,20611µm,0.3s							
GAVE				AML	AML			
	comp=N,15331µm,0.3s							
ATSC	**Scheggia e Pas**	**0.41**	**324**	P		**Pg**	**08 49 35.1**	**-0.1**
ATSC				S		**Sg**	**08 49 41.6**	**+1.0**
ATFO	**Monte Foce - G**	**0.43**	**310**	⇑P		**Pg**	**08 49 35.5**	**+0.1**
ATFO				S		**Sg**	**08 49 42.5**	**+1.4**
ATFO				AML	AML			
	comp=E,25500µm,1.2s							
ATFO				AML	AML			
	comp=N,22950µm,1.1s							
ATFO				AML	AML			
	comp=E,21824µm,0.6s							
ATFO				AML	AML			
	comp=N,21975µm,0.5s							
ATFO				AML	AML			
	comp=E,21824µm,1.4s							
ATFO				AML	AML			
	comp=N,21975µm,1.5s							
MTRA	**Matera**	**0.43**	**141**	⇓P		**Pg**	**08 49 35.2**	**-0.3**
MTRA				S		**Sg**	**08 49 42.0**	**+0.8**
MTRA				AML	AML			
	comp=E,13150µm,1.5s							
MTRA				AML	AML			
	comp=N,11250µm,0.6s							
MTRA				AML	AML			
	comp=N,11100µm,0.6s							
MTRA				AML	AML			
	comp=E,13150µm,1.5s							
MTRA				AML	AML			
	comp=N,11250µm,0.6s							
MTRA				AML	AML			
	comp=E,13350µm,1.3s							
MTRA				AML	AML			
	comp=N,10240µm,0.5s							
MTRA				AML	AML			
	comp=E,10322µm,0.3s							
MTRA				AML	AML			
	comp=N,10534µm,0.5s							
MTRA				AML	AML			
	comp=E,10603µm,0.2s							
MTRA				AML	AML			
	comp=N,10534µm,1.5s							
MTRA				AML	AML			
	comp=N,10240µm,1.5s							
MOMA	**Monte Martano**	**0.44**	**229**	⇑P		**Pg**	**08 49 35.4**	**-0.2**
MOMA				S		**Sg**	**08 49 42.8**	**+1.4**
MOMA				AML	AML			
	comp=E,9795µm,1.2s							
MOMA				AML	AML			
	comp=N,12075µm,1.5s							
MOMA				AML	AML			
	comp=N,12590µm,1.5s							
MOMA				AML	AML			
	comp=N,12070µm,1.5s							
MOMA				AML	AML			
	comp=E,10195µm,1.1s							
MOMA				AML	AML			
	comp=E,9770µm,0.4s							
MOMA				AML	AML			
	comp=N,11670µm,0.6s							
MOMA				AML	AML			
	comp=N,10770µm,0.6s							
MOMA				AML	AML			
	comp=E,9310µm,0.4s							
FRON	**Frontone**	**0.48**	**333**	⇑P		**Pg**	**08 49 36.3**	**-0.1**
FRON				S		**Sg**	**08 49 43.9**	**+1.3**
LNSS	**Leonessa**	**0.49**	**178**	⇑P		**Pg**	**08 49 36.2**	**-0.4**
LNSS				S		**Sg**	**08 49 43.8**	**+0.8**
LNSS				AML	AML			
	comp=E,13800µm,0.5s							
LNSS				AML	AML			
	comp=N,11650µm,0.5s							
LNSS				AML	AML			
	comp=N,9932µm,0.3s							
LNSS				AML	AML			
	comp=E,13196µm,0.3s							
ATTE	**AVT- Monte Tez**	**0.50**	**282**	⇑P		**Pg**	**08 49 36.6**	**-0.2**
ATTE				AML	AML			
	comp=E,10085µm,1.3s							
ATTE				AML	AML			
	comp=N,6740µm,1.6s							
ATTE				AML	AML			
	comp=N,6430µm,0.4s							
ATTE				AML	AML			
	comp=E,8181µm,0.4s							
ATLO	**AVT- Montelove**	**0.50**	**297**	⇑P		**Pg**	**08 49 36.7**	**-0.1**
ATLO				S		**Sg**	**08 49 44.7**	**+1.3**
OFFI	**Offida**	**0.51**	**108**	P		**Pb**	**08 49 37.7**	**-0.7**
OFFI				AML	AML			
	comp=N,48550µm,0.6s							
OFFI				AML	AML			
	comp=E,25100µm,0.6s							
OFFI				AML	AML			
	comp=N,48530µm,0.6s							
OFFI				AML	AML			
	comp=N,48530µm,1.4s							
OFFI				AML	AML			
	comp=E,30930µm,0.8s							
PP3	**Marolino**	**0.52**	**56**	⇑P		**Pb**	**08 49 37.9**	**-0.6**
SMA1	**SAN MARTINO**	**0.52**	**153**	⇓P		**Pg**	**08 49 36.5**	**-0.5**
SMA1				AML	AML			
	comp=E,10145µm,0.4s							
SMA1				AML	AML			
	comp=N,9200µm,1.3s							
SMA1				AML	AML			
	comp=N,7739µm,0.7s							
SMA1				AML	AML			
	comp=E,10132µm,0.4s							
SMA1				AML	AML			
	comp=N,7739µm,1.3s							
ATBU	**Serra di Buran**	**0.52**	**318**	⇑P		**Pg**	**08 49 37.2**	**+0.1**
CIMA	**Civitanova Mar**	**0.52**	**65**	P		**Pb**	**08 49 38.0**	**-0.6**
ATVO	**AVT- Monte Val**	**0.54**	**303**	⇑P		**Pg**	**08 49 37.3**	**-0.2**
ATVO				AML	AML			
	comp=N,12420µm,1.3s							
ATVO				AML	AML			
	comp=E,13000µm,0.5s							
ATVO				AML	AML			
	comp=E,12255µm,0.2s							
ATVO				AML	AML			
	comp=N,11726µm,0.6s							
ATVO				AML	AML			
	comp=N,11726µm,1.4s							
COR1	**Corinaldo**	**0.54**	**358**	P		**Pb**	**08 49 38.4**	**-0.5**
COR1				AML	AML			
	comp=E,42950µm,0.2s							
COR1				AML	AML			
	comp=N,44750µm,0.4s							
COR1				AML	AML			
	comp=E,22900µm,1.1s							
COR1				AML	AML			
	comp=E,42950µm,0.2s							
COR1				AML	AML			
	comp=N,44750µm,0.5s							
COR1				AML	AML			
	comp=E,22850µm,1.1s							
COR1				AML	AML			
	comp=N,45200µm,0.4s							
COR1				AML	AML			
	comp=E,22368µm,0.2s							
COR1				AML	AML			
	comp=N,44778µm,0.5s							
COR1				AML	AML			
	comp=E,42924µm,0.2s							
COR1				AML	AML			
	comp=N,44778µm,1.6s							
COR1				AML	AML			
	comp=N,45217µm,0.4s							
ARRO	**Arrone**	**0.55**	**200**	⇑P		**Pg**	**08 49 37.2**	**-0.4**
ARRO				AML	AML			
	comp=N,4415µm,1.6s							
ARRO				AML	AML			
	comp=E,4635µm,0.2s							
ARRO				AML	AML			
	comp=N,4420µm,1.6s							
ARRO				AML	AML			
	comp=N,3426µm,0.3s							
ARRO				AML	AML			
	comp=E,4633µm,0.2s							
CADA	**Capodarco di F**	**0.55**	**79**	P		**Pb**	**08 49 39.0**	**-0.1**
ATPC	**Poggio Castell**	**0.57**	**313**	P		**Pg**	**08 49 37.9**	**-0.2**
PIEI	**Pieia**	**0.57**	**321**	P		**Pg**	**08 49 37.7**	**-0.4**
PIEI				AML	AML			
	comp=N,12300µm,0.4s							
PIEI				AML	AML			
	comp=E,13000µm,1.1s							
PIEI				AML	AML			
	comp=E,12494µm,0.2s							
PIEI				AML	AML			
	comp=N,10553µm,0.3s							
MPAG	**Monte Paganucc**	**0.57**	**340**	P		**Pg**	**08 49 38.6**	**+0.5**
MPAG				AML	AML			
	comp=E,23700µm,0.4s							
MPAG				AML	AML			
	comp=E,23300µm,0.4s							
MPAG				AML	AML			
	comp=E,23650µm,0.4s							
MPAG				AML	AML			
	comp=N,21400µm,0.3s							
MPAG				AML	AML			
	comp=N,21750µm,0.3s							
MPAG				AML	AML			
	comp=N,21401µm,0.3s							
MPAG				AML	AML			
	comp=E,20524µm,0.5s							
MPAG				AML	AML			
	comp=N,21757µm,0.3s							
MPAG				AML	AML			
	comp=E,20391µm,0.4s							
ATVA	**AVT- Monte Val**	**0.57**	**289**	P		**Pg**	**08 49 37.9**	**-0.2**
ATPI	**Pietralunga -**	**0.58**	**309**	⇑P		**Pg**	**08 49 38.1**	**-0.1**
ATPI				AML	AML			
	comp=E,15250µm,0.8s							
ATPI				AML	AML			
	comp=N,12700µm,0.9s							
ATPI				AML	AML			
	comp=E,14900µm,0.7s							
ATPI				AML	AML			
	comp=N,12162µm,0.5s							
ATPI				AML	AML			
	comp=E,14900µm,1.3s							
CESX	**Cesi**	**0.58**	**214**	⇑P		**Pg**	**08 49 37.7**	**-0.6**
CESX				AML	AML			
	comp=E,9865µm,1.5s							
CESX				AML	AML			
	comp=N,7630µm,1.2s							
CESX				AML	AML			
	comp=E,9209µm,0.3s							
CESX				AML	AML			
	comp=N,7392µm,0.3s							
RM33	**Pellescritta (**	**0.60**	**166**	P		**Pg**	**08 49 38.0**	**-0.7**
RM33				AML	AML			
	comp=E,5560µm,1.4s							
RM33				AML	AML			
	comp=N,6690µm,0.4s							
RM33				AML	AML			
	comp=E,5465µm,1.4s							
RM33				AML	AML			
	comp=N,6720µm,0.4s							
RM33				AML	AML			
	comp=E,5560µm,1.4s							
RM33				AML	AML			
	comp=N,6685µm,0.4s							
RM33				AML	AML			
	comp=E,5470µm,1.4s							
RM33				AML	AML			
	comp=N,6717µm,0.4s							
RM33				AML	AML			
	comp=N,6690µm,0.4s							
RM33				AML	AML			
	comp=E,4878µm,0.4s							
RM33				AML	AML			
	comp=E,4777µm,0.4s							
ATMI	**Monte Miggiano**	**0.60**	**294**	P		**Pg**	**08 49 38.6**	**-0.1**
ATMI				AML	AML			
	comp=E,12650µm,0.7s							
ATMI				AML	AML			
	comp=N,13600µm,1.3s							
ATMI				AML	AML			
	comp=N,13198µm,0.5s							
ATMI				AML	AML			
	comp=E,11011µm,0.7s							
AOI	**Ancona**	**0.62**	**43**	P		**Pb**	**08 49 39.2**	**-1.2**
AOI				AML	AML			
	comp=E,46050µm,1.2s							
AOI				AML	AML			
	comp=N,33150µm,0.2s							
AOI				AML	AML			
	comp=N,33127µm,0.2s							
AOI				AML	AML			
	comp=E,42440µm,0.3s							
CAMP	**Campotosto**	**0.62**	**153**	⇓P		**Pg**	**08 49 38.3**	**-0.8**
CAMP				AML	AML			
	comp=E,2995µm,0.8s							
CAMP				AML	AML			
	comp=N,3605µm,1.4s							
CAMP				AML	AML			
	comp=N,3253µm,0.7s							
CAMP				AML	AML			
	comp=E,2863µm,0.6s							
CAMP				AML	AML			
	comp=E,2992µm,0.8s							
CAMP				AML	AML			
	comp=N,3583µm,1.2s							
SENI	**Senigallia**	**0.63**	**14**	P		**Pb**	**08 49 40.2**	**-0.3**
SENI				AML	AML			
SENI				AML	AML			
SENI				AML	AML			
	comp=E,29400µm,0.3s							
SENI				AML	AML			
	comp=N,24500µm,0.9s							
SENI				AML	AML			
	comp=N,22236µm,0.3s							
SENI				AML	AML			
	comp=E,29391µm,0.3s							
SENI				AML	AML			
SENI				AML	AML			
	comp=N,22236µm,1.7s							
SENI				AML	AML			
	comp=E,29391µm,1.7s							
SENI				AML	AML			
TERO	**Teramo**	**0.64**	**137**	P		**Pg**	**08 49 38.6**	**-0.7**
TERO				AML	AML			
	comp=N,3080µm,1.3s							
TERO				AML	AML			
	comp=E,3725µm,0.8s							
TERO				AML	AML			
	comp=E,5690µm,0.4s							
TERO				AML	AML			
	comp=N,5540µm,1.2s							
TERO				AML	AML			
	comp=E,5689µm,0.4s							
TERO				AML	AML			
	comp=N,4535µm,0.3s							
TERO				AML	AML			
	comp=N,2336µm,0.3s							
TERO				AML	AML			
	comp=E,3726µm,0.8s							
TERO				AML	AML			
	comp=E,5689µm,1.6s							
TERO				AML	AML			
	comp=E,3726µm,1.2s							
APEC	**Apecchio**	**0.64**	**317**	P		**Pg**	**08 49 39.5**	**+0.1**
APEC				AML	AML			
	comp=E,15750µm,1.1s							
APEC				AML	AML			
	comp=N,17200µm,0.7s							
APEC				AML	AML			
	comp=E,16550µm,1.3s							
APEC				AML	AML			
	comp=N,17100µm,0.6s							
APEC				AML	AML			
	comp=E,14360µm,0.5s							
APEC				AML	AML			
	comp=E,14461µm,0.9s							
APEC				AML	AML			
	comp=N,17084µm,0.6s							
APEC				AML	AML			
	comp=E,14360µm,1.5s							
APEC				AML	AML			
	comp=N,16637µm,0.6s							
APEC				AML	AML			
	comp=E,14461µm,1.1s							
T1247	**Pizzolo (AQ)**	**0.68**	**163**	P		**Pg**	**08 49 39.4**	**-0.8**
CDCA	**Citt' di Caste**	**0.68**	**303**	P		**Pg**	**08 49 40.4**	**+0.2**
MGAB	**Montegabbione**	**0.69**	**255**	P		**Pg**	**08 49 39.9**	**-0.5**
ATMC	**Monte Cedrone**	**0.70**	**301**	P		**Pg**	**08 49 40.2**	**-0.4**
BADI	**Badiali**	**0.70**	**307**	P		**Pg**	**08 49 40.5**	**-0.2**
BADI				AML	AML			
	comp=E,9870µm,0.8s							
BADI				AML	AML			
	comp=N,10705µm,1.0s							
BADI				AML	AML			
	comp=E,9876µm,0.8s							
BADI				AML	AML			
	comp=N,10280µm,0.6s							
BADI				AML	AML			
	comp=E,9876µm,1.2s							
TRTR	**Tortoreto Alta**	**0.71**	**113**	P		**Pb**	**08 49 41.8**	**-0.1**
TRTR				AML	AML			
	comp=E,34500µm,0.8s							

TRTR AML AML
comp=N,16650µm,1.0s
TRTR AML AML
comp=N,17550µm,1.3s
TRTR AML AML
comp=N,16463µm,0.7s
TRTR AML AML
comp=E,34512µm,0.8s
TRTR AML AML
comp=N,16463µm,1.3s
GIGS Gran Sasso 0.76 148 P **Pg** 08 49 40.4 -1.3
GIGS AML AML
comp=E,1650µm,1.1s
GIGS AML AML
comp=N,1350µm,1.3s
GIGS AML AML
comp=N,1217µm,0.7s
GIGS AML AML
comp=E,1430µm,0.7s
PARC Parchiule 0.80 314 P **Pg** 08 49 42.3 -0.1
PARC AML AML
comp=N,7515µm,0.5s
PARC AML AML
comp=E,9755µm,1.0s
PARC AML AML
comp=N,7513µm,0.5s
PARC AML AML
comp=E,7213µm,0.7s
PARC AML AML
comp=E,7213µm,1.3s
SSP9 Sansepolcro 0.81 307 P **Pg** 08 49 42.6 -0.1
SSP9 AML AML
comp=N,10060µm,0.8s
SSP9 AML AML
comp=E,6825µm,1.3s
SSP9 AML AML
comp=N,10055µm,0.8s
SSP9 AML AML
comp=N,10069µm,0.8s
SSP9 AML AML
comp=N,10069µm,1.2s
SSP9 AML AML
comp=E,6823µm,1.3s
FIAM Fiamignano 0.83 175 P **Pg** 08 49 42.0 -1.0
FIAM AML AML
comp=E,3615µm,1.0s
FIAM AML AML
comp=N,3300µm,1.0s
FIAM AML AML
comp=E,3616µm,1.0s
FIAM AML AML
comp=N,3131µm,0.8s
SACS San Casciano d 0.85 254 P **Pg** 08 49 43.9 +0.5
SACS AML AML
comp=E,3145µm,1.5s
SACS AML AML
comp=N,4205µm,1.5s
SACS AML AML
comp=E,3140µm,1.5s
SACS AML AML
comp=N,4230µm,1.5s
SACS AML AML
comp=E,3030µm,1.4s
SACS AML AML
comp=E,2870µm,1.2s
SACS AML AML
comp=N,3343µm,0.8s
SACS AML AML
comp=N,3525µm,0.8s
SACS AML AML
comp=E,3143µm,1.5s
SACS AML AML
comp=N,3343µm,1.2s
SACS AML AML
comp=N,3525µm,1.2s
SACS AML AML
comp=E,3143µm,0.5s
SACS AML AML
comp=E,2870µm,0.8s
DUGI Dugi Otok 1.73 58 *e*Pn **Pn** 08 49 57.0 -0.6
BRJN Brijuni 1.89 16 *e*Pn **Pn** 08 49 59.6 -0.2
BRJN Sn **Sb** 08 50 23.9 -1.8
VIRC Vir 1.90 50 *i* Pn **Pn** 08 49 59.6 -0.3
NVLJ Novalja 1.99 42 *e*Pn **Pn** 08 50 00.7 -0.5
ZIRJ Zirje 1.99 73 *e*Pn **Pn** 08 50 01.1 -0.1
RABC Rab 2.09 37 *e*Pn **Pn** 08 50 02.5 0.0
RABC Sn **Sb** 08 50 29.4 -2.1
MORI Morici 2.10 67 *e*Pn **Pn** 08 50 02.5 -0.2
MORI Sn **Sb** 08 50 29.6 -2.3
SMRN Sveta Marina 2.11 22 *e*Pn **Pn** 08 50 02.5 -0.3
UDBI Udbina 2.45 53 *e*Pn **Pn** 08 50 08.4 +0.8
RIY Rijeka 2.47 25 *e*Pn **Pn** 08 50 08.0 +0.2
RIY Sn **Sb** 08 50 39.7 -2.7
HVAR Hvar 2.51 87 *e*Pn **Pn** 08 50 08.3 -0.1
SKDS Skadanscina 2.56 16 *e*Pn **Pn** 08 50 08.4 -0.6
SKDS *i* Sn **Sn** 08 50 40.0 -0.4
SKDS IAML 08 50 41.3
comp=Z,478nm,0.3s
PLIT Plitvice 2.59 46 *e*Pn **Pn** 08 50 10.3 +0.8
KIJV Kijevo 2.62 68 *e*Pn **Pn** 08 50 10.5 +0.6
KIJV Sn **Sb** 08 50 43.5 -3.3
MORSI Morsiglia 2.69 268 P **Pn** 08 50 09.9 -0.9
CEY Cerknica 2.83 20 *e*Pn **Pn** 08 50 12.5 -0.3
CEY IAML 08 51 08.2
comp=Z,319nm,0.3s
CEY Cerknica 2.83 20 *e*Pn **Pn** 08 50 12.1 -0.7
LSTV Lastovo 2.86 95 *e*Pn **Pn** 08 50 12.9 -0.3
BOJS Bojanci 2.89 33 AML AML
comp=N,3260µm,0.5s
BOJS AML AML
comp=E,4595µm,1.3s
BOJS AML AML
comp=N,3430µm,1.0s
BOJS AML AML
comp=E,3996µm,1.3s
BOJS AML AML
comp=E,3996µm,0.7s
BOJS Bojanci 2.89 33 *e*Pn **Pn** 08 50 13.9 +0.3
A050A Klekovaca 2.90 60 *e*Pn **Pn** 08 50 14.0 +0.3
MAKA Makarska 2.93 85 *e*Pn **Pn** 08 50 14.5 +0.4
SMPL Sampolo 2.94 251 P **Pn** 08 50 14.1 -0.1
VISS Visnje 3.01 25 *e*Pn **Pn** 08 50 15.1 -0.1
VISS IAML 08 51 20.7
comp=Z,382nm,0.5s
PGF Pioggiola 3.01 261 *e*Pn **Pn** 08 50 14.6 -0.7
PGF Pioggiola 3.01 261 *e*P **Pn** 08 50 17.9 +2.6
PGF *e*Sn **Sn** 08 50 48.3 -3.4
comp=Z,7.7nm,0.2s
PGF Pioggiola 3.01 261 P **Pn** 08 50 15.5 +0.1
GBAS Gorenja Brezov 3.02 19 *i* Pn **Pn** 08 50 15.4 +0.1
GBAS IAML 08 50 53.2
comp=Z,407nm,0.4s
OZLJ Ozalj 3.07 34 *e*Pn **Pn** 08 50 16.8 +0.7
GORR Gorreto 3.09 301 P **Pn** 08 50 16.4 0.0
CTI Castel Tesino 3.11 342 AML AML
comp=E,1112µm,1.0s
CTI AML AML
comp=N,1185µm,0.5s
CTI AML AML
comp=N,1182µm,0.5s
CTI AML AML
comp=E,817µm,0.7s
CTI AML AML
comp=N,1182µm,1.5s
CTI AML AML
comp=E,817µm,1.3s
SRKY Kupres RS 3.16 71 *e*Pn **Pb** 08 50 19.9 -3.8
PANI Panarotta 3.19 338⇑ *e*Pn **Pn** 08 50 19.3 +1.3
MGRS Mrkonjic Grad 3.23 64 *e*Pn **Pb** 08 50 22.9 -1.9
VNDS Vrh nad Dolski 3.24 21 *i* Pn **Pn** 08 50 18.7 +0.3
VNDS IAML 08 51 23.2
comp=Z,547nm,0.6s
CRES Cresnjev 3.24 32 *e*Pn **Pn** 08 50 17.9 -0.5
A051A Mrakovica 3.40 54 *e*Pn **Pn** 08 50 22.1 +1.5
BLY Banja Luka 3.43 60 *e*Pn **Pn** 08 50 21.9 +0.9
STON Ston 3.44 92 *e*Pn **Pn** 08 50 20.9 -0.2
STON *e*Sn **Sn** 08 51 02.1 0.0
STON Ston 3.44 92 *e*Pn **Pn** 08 50 21.3 +0.2
STON Ston 3.44 92 AML AML
comp=N,310µm,1.3s
STON AML AML
comp=E,290µm,1.6s
STON AML AML
comp=N,285µm,1.1s
STON AML AML
comp=E,228µm,0.5s

STON Ston 3.44 92 *e*Pn **Pn** 08 50 20.9 -0.2
PTJ Puntijarka 3.52 36 *e*Pn **Pn** 08 50 22.8 +0.5
MYKA Terra Mystica 3.56 7 *i* Pn **Pn** 08 50 23.4 +0.5
comp=E,6.0nm,0.2s,SNR=34
MYKA *e*Sn **Sn** 08 51 06.0 +0.6
comp=E,70nm,0.4s
OBKA Obir 3.58 17 *i* Pn **Pn** 08 50 24.3 +1.1
comp=E,5.1nm,0.2s
OBKA *e*Sn **Sn** 08 51 05.9 0.0
comp=E,1.3nm,0.1s
OBKA Obir 3.58 17 *e*Pn **Pn** 08 50 23.5 +0.3
CANO Canova, Maglio 3.65 289 P **Pn** 08 50 23.8 -0.2
ABTA Abfaltersbach 3.67 355 *i* Pn **Pn** 08 50 25.4 +0.9
comp=E,38nm,0.5s,SNR=92
ABTA *i* Sn **Sn** 08 51 08.0 -0.1
comp=E,191nm,0.7s
MATE Matera 3.68 130⇑ P **Pn** 08 50 25.9 +1.5
MOSL Moslavina 3.68 45 *e*Pn **Pn** 08 50 24.3 -0.1
NEVS Nevesinje 3.72 85 *e*Pn **Pb** 08 50 28.8 -4.4
LOBO Lobor 3.76 34 *e*Pn **Pn** 08 50 25.2 -0.3
SOKA Soboth 3.86 21 *i* Pn **Pn** 08 50 28.5 +1.5
comp=E,5.1nm,0.2s
SOKA *i* Sn **Sn** 08 51 11.8 -0.8
comp=E,38nm,0.4s
KALN Kalnik 3.90 38 *e*Pn **Pn** 08 50 26.6 -1.0
TREB Trebinje 3.93 94 *e*Pn **Pn** 08 50 28.5 +0.6
KBA Koelnbreinsper 3.99 3 *i* Pn **Pn** 08 50 29.7 +0.8
comp=E,3.7nm,0.2s,SNR=44
KBA *i* Sn **Sn** 08 51 13.3 -2.7
comp=E,121nm,0.6s
BRY Bratogost 4.05 91 *e*Pn **Pn** 08 50 30.2 +0.5
BRY Bratogost 4.05 91⇑ *i*Pn **Pn** 08 50 30.2 +0.5
BRY *e*Sn **Sn** 08 51 17.3 -0.1
KOGS Kog 4.07 33 AML AML
comp=N,5589µm,0.8s
KOGS AML AML
comp=E,5950µm,1.2s
KOGS AML AML
comp=N,5590µm,0.8s
KOGS AML AML
comp=E,5948µm,1.2s
SAOF Saorge 4.07 285 P **Pn** 08 50 28.9 -1.0
HCY Herceg Novi 4.08 97 *e*Pn **Pn** 08 50 31.0 +1.1
HCY Herceg Novi 4.08 97 *e*Pn **Pn** 08 50 30.3 +0.4
HCY *i* Sn **Sn** 08 51 18.1 +0.2
SBF Sospel 4.14 283 *e*Pn **Pn** 08 50 29.7 -1.1
SBF Sospel 4.14 283 *e*P **Pn** 08 50 33.2 +2.4
SBF *e*Sn **Sn** 08 51 15.0 -4.5
comp=E,95nm,0.7s
FETA Feichten 4.25 338 *e*Pn **Pn** 08 50 35.1 +2.6
comp=E,2.2nm,0.2s,SNR=38
FETA *i* Sn **Sn** 08 51 22.4 0.0
comp=E,43nm,0.4s
TUE Stuetta 4.27 324 P **Pn** 08 50 34.5 +1.7
WTTA Wattenberg 4.29 347 *i* Pn **Pn** 08 50 35.5 +2.5
comp=E,4.5nm,0.2s,SNR=36
WTTA *e*Sn **Sn** 08 51 23.2 -0.1
comp=E,36nm,0.3s
STV Sant Anna di V 4.29 288 P **Pn** 08 50 33.6 +0.7
UPM Unac-Piva 4.31 87 *e*Pn **Pn** 08 50 34.3 +1.1
UPM Unac-Piva 4.31 87 *e*Pn **Pn** 08 50 33.1 -0.1
UPM *i* Sn **Sn** 08 51 23.0 -0.8
DAVOX Davos/Dischmat 4.31 330 Pn **Pn** 08 50 35.3 +2.0
comp=E,9.4nm,0.3s,baz=156,slow=18,SNR=87
DAVOX Sn **Sn** 08 51 23.4 -0.5
comp=E,12nm,0.3s,baz=290,slow=21,SNR=5.7
DAVOX LR LR 08 52 21.6
comp=E,66nm,21.6s,baz=268,slow=41
comp=E,54nm,0.5s
SQTA Sankt Quirin 4.32 343 *i* Pn **Pn** 08 50 37.0 +3.6
comp=E,6.1nm,0.2s,SNR=40
SQTA *e*Sn **Sn** 08 51 27.4 +3.3
comp=E,93nm,0.3s
LESA Schwarzleotal 4.34 357 *i* Pn **Pn** 08 50 35.3 +1.7
comp=E,18nm,0.4s
LESA *i* Sn **Sn** 08 51 24.7 +0.3
comp=E,56nm,0.3s
WATA Walderalm 4.37 347 *i* Pn **Pn** 08 50 36.6 +2.6
comp=E,32nm,0.3s,SNR=54
WATA *i* Sn **Sn** 08 51 28.1 +2.9
comp=E,26nm,0.3s
WATA Walderalm 4.37 347 P **Pn** 08 50 36.6 +2.6
NKME Niksic 4.37 92 *e*Pn **Pn** 08 50 34.4 +0.5
NKME *e*Sn **Sn** 08 51 24.7 -0.4
CEME Cevo 4.37 95⇓ *i*Pn **Pn** 08 50 34.5 +0.5
CEME *e*Sn **Sn** 08 51 25.1 -0.1
BUM Brajici-Budva 4.40 98⇓ *i*Pn **Pn** 08 50 34.8 +0.4
BUM *e*Sn **Sn** 08 51 25.7 -0.2
HAPS Han Pijesak,Bl 4.42 75 *e*Pn **Pn** 08 50 37.7 +3.0
MOTA Moosalm 4.46 343 *i* Pn **Pn** 08 50 37.6 +2.2
comp=E,5.4nm,0.4s,SNR=32
MOTA *e*Sn **Sn** 08 51 29.7 +2.1
comp=E,44nm,0.6s
TRAV Traversella 4.49 304 P **Pn** 08 50 35.0 -0.7
ARSA Arzberg 4.52 22 *i* Pn **Pn** 08 50 35.8 -0.2
comp=E,9.1nm,0.4s,SNR=18
ARSA *i* Sn **Sn** 08 51 25.1 -3.6
comp=E,49nm,0.6s
ARSA Arzberg 4.52 22 AML AML
comp=E,202µm,1.5s
ARSA AML AML
comp=E,202µm,1.5s
ARSA AML AML
comp=N,112µm,1.1s
ARSA AML AML
comp=N,111µm,1.1s
BIOA Bad Ischl, Aus 4.62 5 *i* Pn **Pn** 08 50 38.4 +1.0
comp=N,15nm,0.4s,SNR=30
BIOA *e*Sn **Sn** 08 51 33.4 +2.1
comp=N,166nm,0.7s
DRME Dracevica, Mon 4.63 99 *e*Pn **Pn** 08 50 38.1 +0.5
DRME Dracevica, Mon 4.63 99⇑ *i*Pn **Pn** 08 50 38.3 +0.7
DRME *e*Sn **Sn** 08 51 30.8 -0.8
PDG Podgorica 4.64 96⇓ P **Pn** 08 50 38.6 +1.0
PDG Podgorica 4.64 96 *e*Pn **Pn** 08 50 38.0 +0.4
PDG Podgorica 4.64 96 *e*Pn **Pn** 08 50 37.7 +0.1
PDG Podgorica 4.64 96⇓ *i*Pn **Pn** 08 50 38.3 +0.7
PDG *i* Sn **Sn** 08 51 31.4 -0.2
RUDO Rudo 4.66 81 *e*Pn **Pn** 08 50 38.5 +0.6
PLE Pljevlja 4.66 85⇑ *i*Pn **Pn** 08 50 38.6 +0.6
PLE *i* Sn **Sn** 08 51 32.0 -0.4
RETA Reutte 4.67 341 *i* Pn **Pn** 08 50 40.5 +2.3
comp=N,7.5nm,0.3s,SNR=8.8
RETA *e*Sn **Sn** 08 51 34.9 +2.2
comp=N,9.3nm,0.3s
BBLS Lazi&#263i 4.71 78 *e*Pn **Pn** 08 50 39.6 +1.0
BBLS Lazi&#263i 4.71 78 *e*Pn **Pn** 08 50 39.4 +0.8
ULC Ulcinj 4.73 102⇓ *i*Pn **Pn** 08 50 39.8 +0.8
ULC *i* Sn **Sn** 08 51 33.2 -0.9
DAVA Damuels 4.75 333 *i* Pn **Pn** 08 50 42.4 +3.1
comp=N,15nm,0.3s,SNR=42
DAVA *e*Sn **Sn** 08 51 37.5 +2.9
comp=N,35nm,0.5s
LMR La Mourre 4.77 275 *e*Pn **Pn** 08 50 38.5 -0.9
LMR La Mourre 4.77 275 *e*P **Pn** 08 50 42.4 +3.0
LMR *e*Sn **Sn** 08 51 30.1 -4.8
comp=N,9.3nm,0.6s
KOME Kolasin 4.77 91 *e*Pn **Pn** 08 50 39.7 +0.2
KOME *i* Sn **Sn** 08 51 34.5 -0.6
MBDF Montbardon 4.80 292 *e*Pn **Pn** 08 50 39.5 -0.5
MBDF Montbardon 4.80 292 *e*P **Pn** 08 50 43.3 +3.3
MBDF *e*Sn **Sn** 08 51 35.2 -0.8
comp=N,15nm,0.3s
TIP Timpagrande 4.82 143 P **Pn** 08 50 43.2 +3.0
MOA Molln 4.84 10 *i* Pn **Pn** 08 50 41.0 +0.7
comp=N,6.0nm,0.3s,SNR=19
MOA *i* Sn **Sn** 08 51 35.4 -1.2
comp=N,51nm,0.5s
TEKS Tekeris 4.93 71 *e*Pn **Pn** 08 50 40.6 -1.0
IVA Berane 5.04 90⇑ *i*Pn **Pn** 08 50 43.7 +0.4
IVA *i* Sn **Sn** 08 51 41.0 -0.9
MORH Mrgy, Hungar 5.08 50 P **Pn** 08 50 45.7 +2.0
SJES Sjenica 5.09 86 *e*Pn **Pn** 08 50 45.3 +1.4
SJES *e*Sn **Sn** 08 51 42.8 -0.1
SJES Sjenica 5.09 86 *e*Pn **Pn** 08 50 45.2 +1.4
LPG La Plagne 5.10 300 *e*Pn **Pn** 08 50 43.4 -0.9
LPG La Plagne 5.10 300 *e*P **Pn** 08 50 47.5 +3.2
LPG *e*Sn **Sn** 08 51 39.2 -4.4
comp=N,35nm,0.5s
LPL La Plagne 5.12 300 *e*Pn **Pn** 08 50 43.4 -1.1
LPL La Plagne 5.12 300 *e*P **Pn** 08 50 47.6 +3.1
LPL *e*Sn **Sn** 08 51 41.3 -2.7
comp=N,23nm,0.4s
LPL La Plagne 5.12 300 P **Pn** 08 50 45.2 +0.7
PVY Plav 5.12 93 *e*Pn **Pn** 08 50 45.6 +1.2

PVY *i* Sn **Sn** 08 51 43.2 -0.7
RONA Rosalia, Austr 5.15 25 *i* Pn **Pn** 08 50 45.0 +0.4
comp=N,18nm,0.3s,SNR=20
RONA *i* Sn **Sn** 08 51 42.5 -1.9
comp=N,21nm,0.3s
DIVS Divibare 5.16 76 *e*Pn **Pn** 08 50 44.2 -0.7
MPLH Magyarpolny 5.18 37 P **Pn** 08 50 45.5 +0.5
comp=N,98nm,0.9s,comp=N,1µmcomp=N,0.8nm
IVAS Ivanjica 5.22 82 *e*Pn **Pn** 08 50 45.6 -0.1
IVAS *e*Sn **Sn** 08 51 44.1 -2.1
CONA Conrad Observa 5.23 21 *i* Pn **Pn** 08 50 45.9 +0.1
comp=N,6.2nm,0.2s,SNR=23
CONA *i* Sn **Sn** 08 51 45.6 -0.8
comp=N,56nm,0.4s
CEL Celeste 5.30 155 P **Pn** 08 50 48.4 +1.7
comp=N,17nm,1.2s,comp=N,0.1nm
FRGS Fruska Gora 5.30 65 *e*Pn Pn 08 50 51.2 +4.4
FRGS Fruska Gora 5.30 65 P **Pn** 08 50 49.1 +2.3
comp=N,50nm,0.8s,comp=N,819nmcomp=N,0.3nm
TIR Tirane 5.37 107 P **Pn** 08 50 48.1 +0.4
TIR Tirane 5.37 107 P **Pn** 08 50 48.1 +0.4
comp=N,97nm,0.6s,comp=N,0.3nm
BSTF la Bastide-des 5.42 281 P **Pn** 08 50 48.8 +0.3
ORIF Oris-en-Rattie 5.47 292 *e*P **Pn** 08 50 50.3 +1.2
ORIF *e*Sn **Sn** 08 51 47.9 -4.3
comp=N,15nm,0.4s
TRUS Trudelj 5.47 76 *e*Pn **Pn** 08 50 48.3 -0.8
SMRF Simiane la Rot 5.49 282 *e*P **Pn** 08 50 51.1 +1.8
SMRF *e*Sn **Sn** 08 51 48.4 -4.3
comp=N,13nm,0.6s
SULZ Cheisacher 5.63 324 P **Pn** 08 50 52.4 +1.2
SULZ Cheisacher 5.63 324 S **Sn** 08 51 53.0 -3.1
GRUS Gruza 5.65 79 *e*Pn **Pn** 08 50 52.1 +0.6
BALST Balsthal 5.67 320 P **Pn** 08 50 53.4 +1.5
BALST Balsthal 5.67 320 S **Sn** 08 51 57.8 +0.5
GERES GERESS Array B 5.77 4 Pn **Pn** 08 50 53.0 -0.3
comp=N,2.8nm,0.3s,baz=171,slow=13,SNR=30
GERES Sn **Sn** 08 51 57.7 -2.1
comp=N,20nm,0.3s,baz=173,slow=23,SNR=16
comp=N,5.7nm,0.4s
CKRC Cesky Krumlov 5.80 8 *e*PN **Pn** 08 50 53.3 -0.3
CKRC *e*SN **Sn** 08 51 57.0 -3.3
CKRC Cesky Krumlov 5.80 8 *e*P **Pn** 08 50 53.3 -0.3
CKRC *e* 08 51 57.0
ZST Bratislava 5.85 28 *e*PN **Pn** 08 50 58.4 +4.2
ZST *e*SN **Sn** 08 51 57.4 -4.1
ZST Bratislava 5.85 28 *e*P Pn 08 50 58.4 +4.2
ZST *e* 08 51 57.4
SELS Selova 5.92 86 *e*Pn **Pn** 08 50 55.1 -0.2
SELS *e*Sn **Sn** 08 52 00.7 -2.7
ENDD Endenburg 5.93 323 P **Pn** 08 50 56.2 +0.8
ENDD Endenburg 5.93 323 S **Sn** 08 52 01.7 -1.9
KIZ Kirchzarten 6.04 325 P **Pn** 08 50 57.3 +0.4
KIZ Kirchzarten 6.04 325 S **Sn** 08 52 04.3 -2.0
KHC Kasperske Hory 6.05 3 *e*PN **Pn** 08 50 56.9 -0.2
KHC *e*PG **Pb** 08 51 08.5 -4.4
KHC *e*SN **Sn** 08 52 03.8 -2.8
KHC Kasperske Hory 6.05 3 *e*P **Pn** 08 50 56.9 -0.2
KHC *e* 08 52 03.8
KHC Kasperske Hory 6.05 3 P **Pn** 08 50 56.2 -0.9
comp=N,33nm,0.7s,comp=N,349nmcomp=N,0.2nm
CABF La Chapelle 6.06 308 *e*Pn **Pn** 08 50 55.6 -1.6
CABF La Chapelle 6.06 308 *e*P **Pn** 08 51 00.0 +2.8
CABF *e*Sn **Sn** 08 52 04.1 -2.7
comp=N,26nm,0.5s
MODS Modra-Piesok 6.06 28 *e*PN **Pn** 08 50 59.1 +1.9
MODS *e*SN **Sn** 08 52 02.7 -4.1
MODS Modra-Piesok 6.06 28 *e*P **Pn** 08 50 59.1 +1.9
MODS *e* 08 52 02.7
OHR Ohrid 6.11 106 *i* Pn **Pn** 08 51 00.6 +2.6
VIVF Saint-Julien-l 6.28 289 *e*P **Pn** 08 51 03.7 +3.5
VIVF *e*Sn **Sn** 08 52 07.2 -5.0
comp=N,3.0nm,0.3s
MOF Molkenrain 6.31 321 P **Pn** 08 51 01.8 +1.2
MOF Molkenrain 6.31 321 P **Pn** 08 51 01.0 +0.4
MOF S **Sn** 08 52 11.9 -1.1
WALT Westhalten 6.33 322 P **Pn** 08 51 01.3 +0.5
WALT S **Sn** 08 52 12.0 -1.3
BOUC Bouclans 6.33 313 P **Pn** 08 51 01.7 +0.8
BOVS Bovan 6.35 82 *e*Pn **Pn** 08 51 02.2 +1.1
OPP Oppenau 6.37 330 P **Pn** 08 51 02.1 +0.6
ZVC Zvikov 6.40 7 *e*PN **Pn** 08 51 02.7 +0.9
HINF Hinteralfeld 6.41 320 *e*Pn **Pn** 08 51 02.0 0.0
HINF Hinteralfeld 6.41 320 *e*P **Pn** 08 51 05.3 +3.3
HINF *e*Sn **Sn** 08 52 09.6 -5.9
comp=N,73nm,0.6s
KRUC Moravsky 6.41 20 *e*PN **Pn** 08 51 01.4 -0.6
KRUC *e*SN **Sn** 08 52 11.8 -3.6
BARJ Barje 6.46 89 *e*Pn **Pn** 08 51 02.8 0.0
MDVR Moldovita 6.50 72⇑ P Pn 08 51 07.2 +4.0
BABA Baden-Baden-Ne 6.56 331 P **Pn** 08 51 03.8 -0.1
BABA Baden-Baden-Ne 6.56 331 S **Sn** 08 52 15.7 -3.3
ECH Echery 6.57 323 P **Pn** 08 51 04.7 +0.6
JAVC Velka Javorina 6.61 28 *e*PN **Pn** 08 51 05.2 +0.4
BZS Buzias 6.66 65⇓ P **Pn** 08 51 07.8 +2.5
BZS Buzias 6.66 65⇓ P **Pn** 08 51 07.8 +2.5
CDF Champ du Feu 6.67 325 *e*Pn **Pn** 08 51 05.8 +0.3
CDF Champ du Feu 6.67 325 *e*P **Pn** 08 51 08.3 +2.8
CDF *e*Sn **Sn** 08 52 16.7 -5.1
comp=N,4.3nm,0.1s
PRVS Prvonek 6.69 92 *e*Pn **Pn** 08 51 06.3 +0.5
VRAC Vranov 6.69 20 *e*PN **Pn** 08 51 05.8 0.0
VRAC *e*SN **Sn** 08 52 17.7 -4.6
VRAC Vranov 6.69 20 Pn **Pn** 08 51 06.3 +0.5
comp=N,0.8nm,0.3s,baz=197,slow=17,SNR=2.1
VRAC Sn **Sn** 08 52 19.4 -2.8
comp=N,2.9nm,0.3s,baz=17,slow=6.7,SNR=5.6
VRAC Lg Lg 08 53 00.6
baz=124,slow=17
comp=N,2.1nm,0.2s
LASF Ste Croix 6.73 282 *e*P **Pn** 08 51 05.2 -1.1
LASF *e*Sn **Sn** 08 52 17.8 -5.4
comp=N,3.7nm,0.6s
ZAGS Zajecar 6.74 81 *e*Pn **Pn** 08 51 06.4 -0.1
VYHS Vyhne 6.76 35 *e*PN **Pn** 08 51 08.9 +2.2
VYHS *e*SN **Sn** 08 52 20.4 -3.5
VYHS Vyhne 6.76 35 *e*P **Pn** 08 51 08.9 +2.2
VYHS *e* 08 52 20.4
HAU Haudompre 6.79 319 *e*Pn **Pn** 08 51 07.5 +0.4
HAU Haudompre 6.79 319 *e*P **Pn** 08 51 10.8 +3.7
HAU *e*Sn **Sn** 08 52 19.0 -5.7
comp=N,44nm,0.4s
PSZ Piszkesteto 6.83 43⇑ P **Pn** 08 51 11.3 +3.6
PSZ Piszkesteto 6.83 43⇑ P **Pn** 08 51 11.3 +3.6
GOPC GO Pecny, Ondr 6.93 9 *e*PN **Pn** 08 51 09.4 +0.3
GOPC GO Pecny, Ondr 6.93 9 *e*P **Pn** 08 51 09.4 +0.3
PRU Pruhonice 6.98 8 *e*SN **Sn** 08 52 24.9 -4.4
BLKB Belogradchik 7.06 82⇓ P Pn 08 51 04.6 -6.2
COLF Collangettes 7.12 293 P **Pn** 08 51 11.8 -0.5
VAY Valandovo 7.31 101 *i* Pn **Pn** 08 51 14.5 +0.2
GZR Gura Zlata 7.37 68⇑ P **Pn** 08 51 15.3 0.0
MORC Moravsky Berou 7.38 23⇓ P **Pn** 08 51 16.1 +0.9
MORC Moravsky Berou 7.38 23 *e*PN **Pn** 08 51 15.6 +0.3
MORC *e*SN **Sn** 08 52 37.3 -1.9
MORC Moravsky Berou 7.38 23⇓ P **Pn** 08 51 16.1 +0.9
SMF Signal de Mont 7.43 302 *e*Pn **Pn** 08 51 14.4 -1.5
SMF Signal de Mont 7.43 302 *e*P **Pn** 08 51 19.7 +3.8
SMF *e*Sn **Sn** 08 52 35.3 -5.1
comp=N,21nm,0.5s
PAGF Fort de Pagny 7.47 320 *e*Pn **Pn** 08 51 14.3 -2.2
PAGF Fort de Pagny 7.47 320 *e*P **Pn** 08 51 20.6 +4.1
PAGF *e*Sn **Sn** 08 52 34.5 -6.9
comp=N,18nm,0.3s
LANS Liptovska Anna 7.53 34 *e*SN **Sn** 08 52 43.5 -0.5
SFTF Sexfontaines 7.58 315 *e*Pn **Pn** 08 51 21.3 +3.4
baz=128
SFTF Sexfontaines 7.58 315 *e*P Pn 08 51 24.6 +6.7
SFTF *e*Sn **Sn** 08 52 37.2 -6.8
comp=N,11nm,0.4s
MOX Moxa 7.62 353 P **Pn** 08 51 19.4 +0.9
LOR Lormes 7.70 306 *e*Pn **Pn** 08 51 18.1 -1.6
baz=124
LOR Lormes 7.70 306 *e*P **Pn** 08 51 23.6 +3.9
LOR *e*Sn **Sn** 08 52 41.6 -5.6
comp=N,17nm,0.5s
MEZF Maizieres J'vi 7.76 317 *e*Pn **Pn** 08 51 19.0 -1.5
MEZF Maizieres J'vi 7.76 317 *e*P Pn 08 51 27.5 +7.0
MEZF *e*Sn **Sn** 08 52 42.2 -6.4
comp=N,26nm,0.7s
AVF Avril sur Loir 7.79 302 *e*Pn **Pn** 08 51 19.2 -1.7
AVF Avril sur Loir 7.79 302 *e*P **Pn** 08 51 24.6 +3.7
AVF *e*Sn **Sn** 08 52 42.9 -6.4
comp=N,3.4nm,0.5s

DRGR			**7.80**	**58**	P		Pn	08 51 25.0	+3.9
BRG	**Berggiesshubel**		**7.81**	**4**	*e*P		**Pn**	**08 51 24.7**	**+3.6**
BRG					Amp			08 51 27.5	
	comp=Z,3.6nm,0.6s								
BRG					S		**Sn**	**08 52 44.1**	**-5.6**
BRG					Amp			08 52 46.6	
	comp=Z,15nm,0.7s								
BRG					r			08 53 46.6	
BRG					Amp			08 53 57.8	
	comp=Z,31nm,1.0s								
SSF	**Saint Saulge**		**7.82**	**304**	*e*Pn		**Pn**	**08 51 19.7**	**-1.5**
SSF	**Saint Saulge**		**7.82**	**304**	*e*P		**Pn**	**08 51 24.7**	**+3.5**
SSF					*e*Sn		**Sn**	**08 52 44.3**	**-5.6**
	comp=Z,4.1nm,0.3s								
KEST	**Kesra**		**7.88**	**202**	Pn		Pn	08 51 29.6	+7.4
	comp=Z,0.3nm,0.3s,baz=192,slow=9.2,SNR=5.2								
KEST					LR		LR	08 54 27.9	
	comp=Z,163nm,18.4s,baz=300,slow=38								
MTLF	**Montolieu**		**7.90**	**275**	*e*P		Pn	08 51 28.0	+5.6
MTLF					*e*Sn		Sn	08 52 42.4	-10
	comp=Z,0.9nm,0.2s								
MARR	**Marisel-Cluj**		**8.01**	**60**	⇑P		**Pn**	**08 51 21.8**	**-2.2**
BGF	**Bois d'Agland**		**8.02**	**299**	*e*Pn		**Pn**	**08 51 22.3**	**-1.7**
BGF	**Bois d'Agland**		**8.02**	**299**	*e*P		**Pn**	**08 51 27.8**	**+3.8**
BGF					*e*Sn		**Sn**	**08 52 52.9**	**-2.1**
	comp=Z,6.6nm,0.3s								
WLF	**Walferdange**		**8.11**	**327**	*d*P		**Pn**	**08 51 28.5**	**+3.3**
WLF					*d*S		**Sn**	**08 52 55.9**	**-1.1**
CAF	**Calviac**		**8.11**	**287**	*e*P		**Pn**	**08 51 29.7**	**+4.4**
CLL	**Collm**		**8.22**	**360**	*e*Pn		**Pn**	**08 51 28.0**	**+1.3**
CLL					*i* x		x	08 51 37.2	
CLL					*ex*		x	08 51 53.0	
CLL					*ex*		x	08 52 10.0	
CLL					*e*Sn		**Sn**	**08 52 54.0**	**-5.8**
CLL					*e*Sb		Sb	08 53 31.0	+3.3
CLL					*e*Sg		**Sg**	**08 53 48.0**	**-2.8**
CLL					*ex*		x	08 54 02.0	
	comp=Z,34nm,0.9s								
CLL					*e*AMS		AMS	08 54 46.0	
CLL	**Collm**		**8.22**	**360**	*e*P		**Pn**	**08 51 28.0**	**+1.3**
CLL					*e*			08 52 54.0	
CLL	**Collm**		**8.22**	**360**	P		**Pn**	**08 51 26.6**	**-0.1**
	comp=Z,11nm,0.7s								
TCF	**Toulx Ste Croi**		**8.34**	**296**	*e*P		**Pn**	**08 51 32.3**	**+3.9**
TCF					*e*Sn		**Sn**	**08 52 57.2**	**-5.7**
	comp=Z,4.1nm,0.5s								
HYF	**Humbligny**		**8.44**	**303**	*e*P		**Pn**	**08 51 33.3**	**+3.5**
HYF					*e*Sn		**Sn**	**08 53 00.5**	**-4.7**
	comp=Z,28nm,0.4s								
KORU	**Korolevo**		**8.71**	**51**	P		**Pn**	**08 51 32.5**	**-0.9**
BTNL	**Ternell**		**8.86**	**330**	*d*S		**Sn**	**08 53 15.2**	**-0.3**
RCHB	**Rochefort**		**8.87**	**326**	*d*P		**Pn**	**08 51 37.1**	**+1.6**
RCHB					*d*S		**Sn**	**08 53 10.1**	**-5.6**
MEM	**Membach**		**8.92**	**330**	*d*P		**Pn**	**08 51 37.4**	**+1.0**
VOIR			**8.94**	**71**	⇑P		**Pn**	**08 51 38.1**	**+1.3**
VOIR			**8.94**	**71**	⇑P		**Pn**	**08 51 38.1**	**+1.3**
VOIR			**8.94**	**71**	P		**Pn**	**08 51 38.9**	**+2.1**
	comp=Z,6.3nm,0.9s								
GIVF	**Givet**		**9.00**	**324**	*e*P		**Pn**	**08 51 40.6**	**+3.2**
GIVF					*e*Sn		**Sn**	**08 53 11.9**	**-7.0**
	comp=Z,8.4nm,0.4s								
BCLA	**Clavier**		**9.04**	**327**	*d*P		**Pn**	**08 51 36.5**	**-1.4**
BCLA					*d*S		**Sn**	**08 53 14.7**	**-5.3**
DOU	**Dourbes**		**9.09**	**323**	*d*P		**Pn**	**08 51 38.4**	**-0.2**
DOU					*d*S		**Sn**	**08 53 16.5**	**-4.7**
BGES	**Gesves**		**9.10**	**326**	*d*P		**Pn**	**08 51 38.1**	**-0.7**
BGES					*d*S		**Sn**	**08 53 16.6**	**-4.8**
BMRD	**Maredsous**		**9.17**	**325**	*d*P		**Pn**	**08 51 41.8**	**+2.1**
BMRD					*d*S		**Sn**	**08 53 23.0**	**-0.2**
BAIF	**Baives**		**9.24**	**322**	*e*Pn		**Pn**	**08 51 38.4**	**-2.3**
BAIF	**Baives**		**9.24**	**322**	*e*P		**Pn**	**08 51 43.9**	**+3.2**
BAIF					*e*Sn		**Sn**	**08 53 20.0**	**-4.8**
	comp=Z,13nm,0.7s								
RAKU	**Rahkiv**		**9.24**	**54**	P		**Pn**	**08 51 41.6**	**+0.8**
SHIU	**Shidnytsya**		**9.43**	**46**	P		**Pn**	**08 51 41.4**	**-2.0**
MLR	**Muntele Rosu**		**9.57**	**71**	Pn		**Pn**	**08 51 45.6**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=275,slow=11,SNR=1.7								
MLR					LR		LR	08 56 16.9	
	comp=Z,236nm,19.7s,baz=252,slow=43								
ETSF	**Etsaut**		**9.96**	**274**	*e*P		Pn	08 51 55.9	+5.3
MFF	**Saint Martin d**		**9.99**	**295**	*e*P		**Pn**	**08 51 53.4**	**+2.4**
LDF	**La Druitiere**		**10.69**	**306**	*e*P		**Pn**	**08 52 04.7**	**+4.1**
LDF					*e*Sn		**Sn**	**08 53 52.7**	**-7.7**
	comp=Z,2.2nm,0.5s								
FLN	**La Foliniere**		**10.98**	**306**	*e*P		**Pn**	**08 52 07.6**	**+3.1**
FLN					*e*Sn		Sn	08 53 58.3	-9.2
	comp=Z,5.4nm,0.5s								
GRR	**Gorron**		**11.05**	**303**	*e*P		**Pn**	**08 52 09.1**	**+3.6**
GRR					*e*Sn		**Sn**	**08 54 02.2**	**-7.0**
	comp=Z,2.0nm,0.4s								
QUIF	**Quistinic**		**12.33**	**299**	*e*P		**Pn**	**08 52 27.0**	**+4.0**
KLNR	**Kaliningrad**		**12.45**	**20**‖	*e*P		**Pn**	**08 52 26.4**	**+1.9**
ESDC	**Sonseca Array**		**13.20**	**261**	LR		LR	08 57 49.0	
	comp=Z,54nm,18.7s,baz=46,slow=38								
AKASG	**Malin Array Be**		**13.42**	**50**	Pn		**Pn**	**08 52 37.4**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=242,slow=14,SNR=2.7								
	comp=Z,0.2nm,0.3s								
BRTR	**Keskin Array B**		**15.83**	**95**	LR		LR	09 00 11.1	
	comp=Z,133nm,18.8s,baz=296,slow=41								
EKA	**Eskdalemuir Ar**		**16.13**	**325**	Pn		**P**	**08 53 16.3**	**-1.1**
	baz=142,slow=14								
	comp=Z,0.4nm,0.4s								
HFS	**Hagfors**		**17.07**	**1**	P		**P**	**08 53 27.8**	**-0.1**
	comp=Z,0.9nm,0.7s,baz=172,slow=14,SNR=1.8								
HFS					LR		LR	09 00 48.9	
	comp=Z,45nm,19.1s,baz=193,slow=40								
MDT	**Midelt**		**17.25**	**239**	LR		LR	08 58 59.3	
	comp=Z,48nm,20.0s,baz=60,slow=33								
NOA	**NORSAR Array B**		**18.01**	**357**	P		**P**	**08 53 38.4**	**+0.1**
	baz=170,slow=12,SNR=1.7								
NOA					LR		LR	09 01 23.8	
	comp=Z,28nm,18.2s,baz=80,slow=40								
	comp=Z,0.4nm,0.7s								
OBN	**Obninsk**		**19.44**	**44**	*i* P		**P**	**08 53 52.0**	**-1.9**
OBN					pmax		pmax		
	comp=Z,7.0nm,0.8s								
OBN					MLR		MLR		
	comp=Z,71nm,14.0s								
FINES	**FINESS Array B**		**19.97**	**19**	P		**Pn**	**08 54 00.6**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=204,slow=9.1,SNR=6.0								
FINES					LR		LR	09 02 37.3	
	comp=Z,59nm,20.4s,baz=75,slow=40								
	comp=Z,4.3nm,0.7s								
MMAI	**Mount Meron Ar**		**20.24**	**112**	LR		LR	09 03 40.1	
	comp=Z,41nm,20.3s,baz=241,slow=42								
MOS	**Moscow**		**20.27**	**43**	*e*P		**P**	**08 54 00.7**	**-2.3**
MOS					pmax		pmax		
	comp=Z,37nm,0.6s								
KIV	**Kislovodsk**		**21.48**	**77**	*i* P		**P**	**08 54 16.0**	**-0.3**
KIV					*i*			08 54 37.3	
KIV					pmax		pmax		
	comp=Z,16nm,1.0s								
KIV					MLR		MLR		
	comp=Z,42nm,16.0s								
KBZ	**Khabaz**		**21.66**	**78**	P		**P**	**08 54 18.8**	**+0.7**
	comp=Z,4.3nm,0.9s,baz=287,slow=11,SNR=7.5								
KBZ					LR		LR	09 04 20.9	
	comp=Z,47nm,18.5s,baz=318,slow=41								
	comp=Z,4.3nm,0.9s								
KBZ	**Khabaz**		**21.66**	**78**	*e*P		**P**	**08 54 20.0**	**+1.9**
KBZ					pmax		pmax		
	comp=Z,4.0nm,0.9s								
GNI	**Garni**		**23.82**	**86**	LR		LR	09 06 54.4	
	comp=Z,30nm,19.2s,baz=42,slow=44								
GNI	**Garni**		**23.82**	**86**‖	*e*P		**P**	**08 54 44.2**	**+3.4**
GNI					pmax		pmax		
	comp=Z,20nm,1.9s								
KLMR	**Klimovskoe**		**23.86**	**33**	*e*P		**P**	**08 54 38.8**	**-2.0**
KLMR					pmax		pmax		
	comp=Z,25nm,1.5s								
BELG	**Belogornoye**		**24.85**	**56**	LR		LR	09 05 18.2	
	comp=Z,52nm,18.2s,baz=284,slow=38								
ARCES	**ARCESS Array B**		**27.28**	**10**	LR		LR	09 05 07.1	
	comp=Z,30nm,20.5s,baz=108,slow=35								
KIRV	**Kirov**		**27.29**	**43**	LR		LR	09 05 41.7	
	comp=Z,64nm,19.2s,baz=251,slow=36								
KIRV	**Kirov**		**27.29**	**43**⇑	*e*P		**P**	**08 55 14.6**	**+2.7**
TORD	**Torodi Ar. Bea**		**31.40**	**202**	P		**P**	**08 55 49.3**	**+0.5**
	comp=Z,1.1nm,0.8s,baz=20,slow=11,SNR=6.0								
	comp=Z,1.1nm,0.8s								
ARU	**Arti**		**31.67**	**49**	LR		LR	09 08 20.5	
	comp=Z,38nm,18.8s,baz=314,slow=36								
ARU	**Arti**		**31.67**	**49***c*	*i* P		**P**	**08 55 50.6**	**-0.3**
ARU					S		**S**	**09 00 59.2**	**-1.1**
ARU					pmax		pmax		
	comp=Z,9.0nm,0.7s								
BRVK	**Borovoye**		**38.57**	**55***c*	*e*P		**P**	**08 56 51.3**	**+1.0**
BRVK					pmax		pmax		
	comp=Z,8.0nm,1.7s								
BVAR	**Borovoye Array**		**38.64**	**55**	P		**P**	**08 56 52.3**	**+1.4**
	comp=Z,1.7nm,0.7s,baz=287,slow=10,SNR=8.5								
	comp=Z,1.7nm,0.7s								
DBIC	**Dimbokro**		**39.55**	**209**	LR		LR	09 12 01.6	
	comp=Z,35nm,21.0s,baz=18,slow=34								
AAK	**Ala-Archa**		**44.15**	**69**	LR		LR	09 20 41.5	
	comp=Z,53nm,19.3s,baz=304,slow=42								
AAK	**Ala-Archa**		**44.15**	**69**‖	*e*P		**P**	**08 57 39.4**	**+3.0**
AAK					pmax		pmax		
	comp=Z,8.0nm,1.7s								
ZALV	**Zalesovo Beam**		**46.82**	**50**	LR		LR	09 18 18.9	
	comp=Z,31nm,18.8s,baz=247,slow=37								
MK31	**Makanchi Array**		**47.72**	**60**‖	*e*P		**P**	**08 58 05.0**	**+0.6**
MKAR	**Makanchi Array**		**47.72**	**60**	P		**P**	**08 58 04.3**	**-0.1**
	comp=Z,1.7nm,0.7s,baz=290,slow=6.8,SNR=12								
MKAR					LR		LR	09 22 13.1	
	comp=Z,51nm,18.5s,baz=230,slow=41								
	comp=Z,1.7nm,0.7s								
MKAR	**Makanchi Array**		**47.72**	**60**	*e*P		**P**	**08 58 04.7**	**+0.3**
MKAR					pmax		pmax		
	comp=Z,2.0nm,0.7s								
YAK	**Yakutsk**		**63.55**	**28**	LR		LR	09 32 10.3	
	comp=Z,45nm,18.3s,baz=18,slow=40								
YKA	**Yellowknife Ar**		**66.72**	**336**	P		**P**	**09 00 18.4**	**0.0**
	comp=Z,0.4nm,0.8s,baz=39,slow=6.4,SNR=5.0								
	comp=Z,0.4nm,0.8s								
YKA	**Yellowknife Ar**		**66.72**	**336**	*e*P		**P**	**09 00 22.3**	**+3.9**
YKA					pmax		pmax		
	comp=Z,1.0nm,0.9s								
ILAR	**Eielson Array**		**71.33**	**351**	P		**P**	**09 00 47.9**	**+0.8**
	comp=Z,0.7nm,0.9s,baz=3.1,slow=7.0,SNR=8.4								
	comp=Z,0.7nm,0.9s								
ILAR	**Eielson Array**		**71.33**	**351**	*e*P		**P**	**09 00 48.6**	**+1.6**
ILAR					pmax		pmax		
	comp=Z,1.0nm,0.9s								
KLR	**Kul'dur**		**73.55**	**37**	LR		LR	09 36 25.0	
	comp=Z,38nm,19.1s,baz=210,slow=38								
CMAR	**Chiang Mai Arr**		**74.71**	**79**	P		**P**	**09 01 07.6**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=297,slow=7.9,SNR=5.2								
CMAR					LR		LR	09 41 11.4	
	comp=Z,22nm,18.2s,baz=285,slow=42								
	comp=Z,1.1nm,0.3s								
ASAJ	**Asahikawa**		**82.18**	**34**	LR		LR	09 40 57.1	
	comp=Z,41nm,18.6s,baz=143,slow=38								

*IDC **21** 08:59:33.8±1.1,38.85N×139.06E,h190km±9km, mb3.3/2, mbtmp3.7/5, Error ellipse: s-maj=36.9km s-min=12.0km az=110.0*
*JMA **21** 08:59:34.8±0.2,38.6N±0.8×13.9E±*, h180km±1km, MV3.3/37, OFF N NIIGATA PREF*
ISC 21 08:59:34.1±1.1,38.72N±0.06×139.19E±0.06,h186km±7km, n23,σ0°94/36, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JAW	**Awa shima**	**0.27**	**170**	P		**Pn**	**Pn**	**08 59 58.1**	**-0.7**
JAW				*e*S		**Sn**	**Sn**	**09 00 16.9**	**-0.9**
JYA	**Atsumi**	**0.43**	**107**	P		**Pn**	**Pn**	**08 59 59.3**	**0.0**
JYA				S		**Sn**	**Sn**	**09 00 18.0**	**-0.6**
JTB	**Tobi-shima**	**0.56**	**31**	P		**Pn**	**Pn**	**09 00 00.3**	**+0.6**
JYYZ	**Yamagatayuza**	**0.65**	**63**	P		**Pn**	**Pn**	**09 00 01.1**	**+0.9**
JYYZ				*e*S		**Sn**	**Sn**	**09 00 22.0**	**+1.7**
JYS	**Shirataka**	**0.85**	**126**	P		**Pn**	**Pn**	**09 00 01.3**	**-0.1**
JYS				*e*S		**Sn**	**Sn**	**09 00 22.2**	**-0.2**
JNS	**Sasagawa**	**0.91**	**174**	P		**Pn**	**Pn**	**09 00 01.1**	**-0.7**
JNS				*e*S		**Sn**	**Sn**	**09 00 21.6**	**-1.5**
JYK	**Kaneyama**	**0.94**	**77**	*i* P		**Pn**	**Pn**	**09 00 02.1**	**+0.2**
JYK				S		**Sn**	**Sn**	**09 00 23.2**	**-0.2**
JSD	**Sado**	**1.00**	**227**	P		**Pn**	**Pn**	**09 00 02.1**	**-0.2**
JSD				S		**Sn**	**Sn**	**09 00 23.0**	**-1.2**
JOU	**Okura**	**1.21**	**107**	*i* P		**Pn**	**Pn**	**09 00 04.0**	**0.0**
JOU				S		**Sn**	**Sn**	**09 00 27.1**	**0.0**
JIZZ	**Izumozaki**	**1.25**	**198**	*e*P		**Pn**	**Pn**	**09 00 05.0**	**+0.7**
JIZZ				S		**Sn**	**Sn**	**09 00 28.0**	**+0.4**
JFY	**Yanaizu**	**1.37**	**163**	P		**Pn**	**Pn**	**09 00 04.8**	**-0.6**
JOTO	**OTAMA OYAMA**	**1.47**	**142**	*e*P		**Pn**	**Pn**	**09 00 06.4**	**+0.1**
JMK	**Ichinoseki**	**1.60**	**81**	P		**Pn**	**Pn**	**09 00 07.5**	**0.0**
JOM	**Ohasama**	**1.80**	**65**	*i* P		**Pn**	**Pn**	**09 00 10.0**	**+0.6**
JSZ	**Suzu**	**1.92**	**229**	P		**Pn**	**Pn**	**09 00 10.7**	**0.0**
JSZ				*e*S		**Sn**	**Sn**	**09 00 38.7**	**-0.3**
JHG	**Hegura jima**	**1.99**	**245**	P		**Pn**	**Pn**	**09 00 11.7**	**+0.3**
JHG				*e*S		**Sn**	**Sn**	**09 00 40.6**	**+0.3**
MJAR	**Matsushiro Arr**	**2.31**	**200**	P		**Pn**	**Pn**	**09 00 14.8**	**-0.2**
	16nm,0.3s,baz=11,slow=13,SNR=76								
MJAR				S			**Sn**	**09 00 49.8**	**+3.0**
	1.4nm,0.3s,baz=357,slow=19,SNR=4.0								
JANG	**Nango**	**2.44**	**47**	*i* P		**Pn**	**Pn**	**09 00 17.7**	**+1.3**
JRY	**Ryogami san**	**2.71**	**185**	P		**Pn**	**Pn**	**09 00 19.0**	**-0.6**
ASAJ	**Asahikawa**	**5.97**	**24**	P		**Pn**	**Pn**	**09 01 00.5**	**-0.2**
	5.8nm,0.4s,baz=229,slow=16,SNR=13								
ASAJ				S			**Sn**	**09 02 06.7**	**-2.3**
	2.6nm,0.3s,baz=268,slow=24,SNR=2.0								
KSRS	**Korea Array**	**8.97**	**265**	P		**Pn**	**Pn**	**09 01 40.1**	**0.0**
	0.8nm,0.6s,baz=88,slow=14,SNR=2.8								
WRA	**Warramunga Arr**	**58.53**	**185**	P		**P**	**P**	**09 09 10.9**	**-0.2**
	1.3nm,0.6s,baz=1.5,slow=7.4,SNR=21								
	1.3nm,0.6s								
ASAR	**Alice Springs**	**62.26**	**185**	P		**P**	**P**	**09 09 36.5**	**+0.2**
	0.5nm,0.7s,baz=358,slow=5.9,SNR=8.2								
	0.5nm,0.7s								

*ISN **21** 09:18:03.1±0.6,33.13N×46.49E,h13km±2km, ML2.7*
TEH 21 09:18:05.4,33.26N×46.47E,h10km±137km,ML2.5, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ILBA	**Ilam Banvizeh**	**0.42**	**328**	Pg		Pg	Pg	09 18 13.4	-0.3
IBDR	**Badra**	**0.48**	**251**	*e*Pg		Pg	Pg	09 18 12.7	-2.1
IBDR				*e*Sg		Sg	Sg	09 18 19.2	-1.9
IBDR				AML		AML		09 18 21.2	
	comp=N,279nm,0.4s								
IBDR				AML		AML		09 18 23.4	
	comp=E,726nm,0.5s								
GLG1	**Gilan-e-Gharb**	**0.97**	**331**	Pg		Pb		09 18 24.4	0.0
IGHG	**Ghaleghazi**	**1.07**	**4**	Pg		Pn		09 18 26.8	+0.2
IKFM	**Kafar-mosalman**	**1.18**	**77**	Pg		Pg		09 18 28.6	+0.5
IDHR	**Dehrash**	**1.43**	**357**	Pg		Pg		09 18 33.1	+0.1
IDOB	**Doab**	**1.52**	**69**	Pg		Pg		09 18 34.2	-0.3
RAFI	**Al-Rafai**	**1.57**	**191**	*e*Pn		Pn		09 18 31.0	-2.3
RAFI				*e*Sn		Sn		09 18 51.0	-2.6
IBZA	**Bozab**	**1.67**	**43**	Pg		Pb		09 18 36.9	+0.5
ILIN	**Lien**	**1.70**	**14**	Pg		Pb		09 18 37.4	+0.5
BHD	**Baghdad**	**1.75**	**271**	*e*Pn		Pn		09 18 35.0	-0.8
BHD				*e*Sn		Sb		09 18 59.0	-0.7

*VAO **21** 09:29:05.7±3.0,8.64S×76.09W,h10km,mb4.5*
*IDC **21** 09:29:15.8±1.4,8.61S×75.93W,h131km±17km,mb3.1/5, mbtmp3.6/9, Error ellipse: s-maj=25.0km s-min=9.0km az=60.0*
ISC 21 09:29:16.7±0.7,8.62S±0.07×75.90W±0.08,h150km,n23, σ2°01/22,mb3.3/5,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.88**	**301**	P		**Pn**		**09 30 02.2**	**-0.8**
	97nm,0.3s,baz=96,slow=2.3,SNR=657								
ATAH				S		**Sn**		**09 30 35.7**	**-2.9**
	212nm,0.7s,baz=321,slow=23,SNR=11								
CZSB	**Cruzeiro do Su**	**3.29**	**75**	*e*P		Pn		09 30 00.2	-7.6
NNA	**Nana**	**3.47**	**195**	P		**Pn**		**09 30 10.0**	**-0.2**
	13nm,0.3s,baz=2.0,slow=3.7,SNR=10								
NNA				S		**Sn**		**09 30 49.9**	**-1.8**
	73nm,0.3s,baz=306,slow=14,SNR=16								
TBTG	**Tabatinga, AM**	**7.41**	**54**	*e*P		Pn		09 30 56.1	-6.2
ETMB	**Extrema**	**9.64**	**98**	*e*P		**Pn**		**09 31 28.4**	**-3.7**
LPAZ	**La Paz**	**10.75**	**136**	P		**Pn**		**09 31 47.0**	**-0.3**
	0.8nm,0.8s,baz=285,slow=7.0,SNR=2.4								
LPAZ				S		**Sn**		**09 33 45.3**	**-1.3**
	1.2nm,0.5s,baz=209,slow=7.1,SNR=1.3								
LPAZ	**La Paz**	**10.75**	**136**	*e*P		Pn		09 31 42.3	-5.0
TEFE	**Tefe**	**12.30**	**66**	*e*P		**Pn**		**09 32 04.1**	**-2.9**
SAML	**Samuel**	**12.58**	**92**	*e*P		**Pn**		**09 32 06.4**	**-4.2**
VILB	**Vilhena**	**16.01**	**107**	*e*P		**Pn**		**09 32 52.6**	**-1.2**
MACA	**Manacapuru-AM**	**16.08**	**71**	*e*P		**Pn**		**09 32 53.7**	**-0.9**
SIV	**San Ignacio**	**16.23**	**118**	P		**Pn**		**09 32 56.4**	**-0.1**
	6.3nm,1.0s,baz=299,slow=11,SNR=17								
SIV				S		**Sn**		**09 36 00.9**	**+3.3**
	1.2nm,0.7s,baz=195,slow=21,SNR=1.7								
BBSD	**Serra de San D**	**17.16**	**121**	*e*P		**P**		**09 33 07.0**	**+0.1**
PTLB	**Pontes e Lacer**	**17.74**	**114**	*e*P		**Pn**		**09 33 14.5**	**0.0**
NPGB	**Novo Progresso**	**20.41**	**87**	*e*P		Pn		09 33 45.0	-1.2
ITTB	**Itaituba**	**20.48**	**79**	*e*P		Pn		09 33 46.2	-0.7
TXAR	**Lajitas Array**	**46.25**	**326**	P		**P**		**09 37 28.4**	**+1.1**
	0.2nm,0.6s,baz=138,slow=9.6,SNR=2.4								
	0.2nm,0.6s								
NVAR	**Mina Array Bea**	**61.23**	**323**	P		**P**		**09 39 17.4**	**+1.2**
	0.4nm,0.8s,baz=117,slow=7.2,SNR=3.5								
	0.4nm,0.8s								
YKA	**Yellowknife Ar**	**76.91**	**343**	P		**P**		**09 40 52.7**	**+0.6**
	0.2nm,0.6s,baz=144,slow=5.4,SNR=4.1								
	0.2nm,0.6s								
TORD	**Torodi Ar. Bea**	**80.03**	**75**	P		**P**		**09 41 11.1**	**+0.9**
	0.5nm,0.7s,baz=294,slow=6.1,SNR=3.8								
	0.5nm,0.7s								
ESDC	**Sonseca Array**	**81.84**	**48**	P		**P**		**09 41 21.4**	**+2.0**
	0.2nm,0.3s,baz=270,slow=3.8,SNR=1.8								
	0.2nm,0.3s								
ASAR	**Alice Springs**	**136.66**	**222**	PKP		**PKiKP**		**09 48 23.6**	**-0.3**
	0.5nm,0.8s,baz=113,slow=1.7,SNR=5.6								
WRA	**Warramunga Arr**	**138.87**	**226**	PKP		**PKPdf**		**09 48 27.6**	**+1.4**
	0.9nm,1.2s,baz=123,slow=1.7,SNR=8.9								

IDC 21 09:30:21.1±3.0,53.61N×87.79E,h0km,mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=24.2km s-min=16.1km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.79**	**282**	I		I	I	09 42 25.5	
	0.1nm,0.8s,baz=99,slow=325,SNR=4.5								
ZALV	**Zalesovo Beam**	**1.79**	**282**	Pn		Pn	Pn	09 30 52.5	-0.8
	0.9nm,0.3s,baz=103,slow=15,SNR=13								
ZALV				Lg		Lg	Lg	09 31 17.7	
	1.7nm,0.3s,baz=102,slow=31,SNR=12								
KURBB	**Kurchatov Arra**	**6.44**	**246**	Pn		Pn	Pn	09 31 58.8	+1.7
	0.1nm,0.3s,baz=62,slow=14,SNR=3.2								
KURBB				Sn		Sn	Sn	09 33 10.7	-0.5
	baz=53,slow=35,SNR=1.8								
KURBB				Lg		Lg	Lg	09 33 42.0	
	baz=63,slow=32								
	0.3nm,0.3s								
MKAR	**Makanchi Array**	**7.68**	**210**	Pn		Pn	Pn	09 32 14.6	+0.4
	0.1nm,0.3s,baz=26,slow=13,SNR=2.2								
MKAR				Sn		Sn	Sn	09 33 42.6	+0.8
	0.1nm,0.3s,baz=28,slow=18,SNR=3.0								
MKAR				Lg		Lg	Lg	09 34 24.4	
	0.1nm,0.3s,baz=32,slow=32,SNR=5.9								
	0.1nm,0.3s								

IDC 21 09:51:48.4±2.7,54.04N×86.59E,h0km,mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=22.7km s-min=13.2km az=62.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**266**	I		I	I	09 59 10.0	
	baz=84,slow=315,SNR=3.7								
ZALV	**Zalesovo Beam**	**1.05**	**266**	Pg		Pg	Pg	09 52 07.9	-0.7
	0.5nm,0.3s,baz=84,

comp=Z,1.3nm,0.6s
MKAR Makanchi Array 77.57 320 P **P** 10 23 54.4 **+0.5**
comp=Z,0.3nm,0.4s,baz=89,slow=5.7,SNR=5.8
comp=Z,0.3nm,0.4s
ZALV Zalesovo Beam 79.07 328 P P 10 24 01.0 -0.9
comp=Z,0.6nm,0.4s,baz=130,slow=4.6,SNR=3.8
comp=Z,0.6nm,0.4s
QSPA South Pole Qui 83.99 180 P **P** **10 24 26.3 -1.6**
comp=Z,2.9nm,0.5s,baz=294,slow=0.5,SNR=22
comp=Z,2.9nm,0.5s
ILAR Eielson Array 85.41 23 P P 10 24 32.4 -2.5
comp=Z,1.5nm,0.7s,baz=251,slow=4.7,SNR=18
comp=Z,1.5nm,0.7s
INK Inuvik 91.58 21 LR LR 11 02 03.6
comp=Z,88nm,20.5s,baz=189,slow=33
TORD Torodi Ar. Bea 145.22 284 PKPbc **PKPbc** **10 31 34.5 -1.6**
comp=Z,1.5nm,0.6s,baz=80,slow=5.4,SNR=10
DBIC Dimbokro 152.16 273 PKPbc **PKPdf** **10 31 51.7 +4.0**
comp=Z,2.5nm,0.7s,baz=135,slow=1.4,SNR=3.6
BDFB Brasilia 153.80 145 PKPbc **PKPdf** **10 31 56.3 +6.2**
comp=Z,1.5nm,0.4s,baz=190,slow=6.1,SNR=3.6

SJA 21 10:20:04.3±0.7, 23.49S×65.65W, h321km±5km, ML3.7, MW3.6, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
HJA	**Humahuaca**	**0.36**	**39**	*eP*		Pn		10 20 45.6	0.0
AZAP	**Zapla**	**0.91**	**144**	*eP*		Pn		10 20 46.8	-0.1
AZAP				*eS*		S		10 21 18.5	-2.2
SLA	**San Lorenzo**	**1.23**	**174**	*eP*		Pn		10 20 42.5	-5.8
YJA	**Yavi**	**1.31**	**6**	*eP*		Pn		10 20 49.9	+0.7
YJA				*eS*		S		10 21 21.9	-3.0
ALOL	**LOMAS DE OLMED**	**1.57**	**102**	*eP*		Pn		10 21 09.2	+19
FSA	**Cafayete**	**2.63**	**186**	*eP*		Pn		10 20 58.3	0.0
LVC	**Limon Verde**	**3.12**	**286**	*eP*		Pn		10 21 03.5	+0.3
LVC				*eS*		S		10 21 50.3	+0.1
AHML	**Horco Molle**	**3.29**	**175**	*eP*		Pn		10 21 05.3	+0.9
PB15	**IPOC Station P**	**3.52**	**274**	*eP*		Pn		10 21 07.5	+0.6
PB15				*eS*		S		10 21 54.2	-2.8
PB15				IAML				10 21 58.7	
	comp=Z,119nm,0.2s								
PB06	**IPOC Station P**	**3.69**	**281**	*eP*		Pn		10 21 09.1	+0.4
PB06				*eS*		S		10 21 57.8	-2.4
PB09	**IPOC Station P**	**3.72**	**296**	*eP*		Pn		10 21 09.8	+0.8
PB09				*eS*		S		10 21 58.3	-2.5
PB09				IAML				10 22 27.6	
	comp=Z,26nm,4.2s								
GO02	**Mina Guanaco**	**3.96**	**244**	*eP*		Pn		10 21 12.0	+0.4
GO02				*eS*		S		10 22 02.0	-3.5
PB04	**IPOC Station P**	**4.30**	**285**	*eP*		Pn		10 21 15.4	+0.3
PB04				*eS*		S		10 22 08.3	-3.7
PB04				IAML				10 22 11.3	
	comp=Z,30nm,2.1s								
PB14	**IPOC Station P**	**4.49**	**254**	*eP*		Pn		10 21 17.3	0.0
PB14				*eS*		S		10 22 11.8	-4.2
PB14				IAML				10 22 11.8	
	comp=Z,35nm,0.6s								
PB10	**IPOC Station P**	**4.50**	**269**	*eP*		Pn		10 21 16.9	-0.2
PB10				*eS*		S		10 22 11.8	-3.8
PB10				IAML				10 22 29.4	
	comp=Z,25nm,4.9s								
PB08	**IPOC Station P**	**4.66**	**315**	*eP*		Pn		10 21 20.0	+0.7
PB08				*eS*		S		10 22 16.9	-2.6
PB08				IAML				10 22 17.7	
	comp=Z,39nm,0.5s								
TA01	**Diego Aracena**	**5.11**	**304**	*eP*		Pn		10 21 23.9	0.0
TA01				*eS*		S		10 22 23.6	-4.6
TA01				IAML				10 22 26.4	
	comp=Z,18nm,2.0s								
AC01	**Pan de Azucar**	**5.21**	**238**	*eP*		Pn		10 21 25.1	-0.1
AC01				*eS*		S		10 22 23.9	-6.3
AC01				IAML				10 22 47.9	
	comp=Z,38nm,4.3s								
PB11	**IPOC Station P**	**5.26**	**314**	*eP*		Pn		10 21 26.5	+0.6
PB11				*eS*		S		10 22 26.8	-4.8
PB11				IAML				10 22 27.9	
	comp=Z,44nm,0.1s								

*NEIC **21** 10:22:41.1±1.9, 19.334N±0.009×155.273W±0.008, h5km±2km, Error ellipse: s-maj=1.5km s-min=0.9km az=213.0*
HVO 21 10:22:41.6±1.2, 19.404N±0.010×155.283W±0.008, h6km±1km, ML2.8/13, ML2.1/50(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=200.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
NPH	**North Pit**	**0.01**	**15**	Pg		Pg		10 22 42.2	-0.6
RIM	**Rim**	**0.01**	**134**			Pg		10 22 42.9	+0.1
RIM	**Rim**	**0.01**	**134**	IAML				10 22 43.6	
	comp=N,29μm,0.6s								
RIM				IAML				10 22 43.9	
	comp=E,24μm,0.5s								
OBL	**Observatory Le**	**0.01**	**357**	Pg		Pg		10 22 42.1	-0.7
SDHHI	**Sand Hill**	**0.02**	**215**	Pg		Pg		10 22 42.4	-0.4
SDHHI				IAML				10 22 44.2	
	comp=N,9μm,0.2s								
UWE	**Uwekahuna**	**0.02**	**332**			Pg		10 22 42.4	-0.4
UWE				IAML				10 22 44.2	
	comp=N,6μm,0.4s								
UWB	**Uwekahuna B**	**0.02**	**14**			Pg		10 22 43.3	+0.5
UWB	**Uwekahuna B**	**0.02**	**14**	IAML				10 22 43.8	
	comp=N,10μm,0.5s								
UWB				IAML				10 22 44.2	
	comp=E,5μm,0.6s								
BYL	**Byron's Ledge**	**0.02**	**70**			Pg		10 22 42.9	+0.1
BYL	**Byron's Ledge**	**0.02**	**70**	IAML				10 22 43.6	
	comp=N,12μm,0.5s								
BYL				IAML				10 22 44.0	
	comp=E,17μm,0.4s								
SBLHI	**Steaming Bluff**	**0.03**	**32**			Pg		10 22 42.1	-0.7
SBLHI				IAML				10 22 43.7	
	comp=E,6μm,0.4s								
SBLHI				IAML				10 22 44.1	
	comp=N,8μm,1.0s								
HATHI	**Halema'uma'u T**	**0.03**	**48**	Pg		Pg		10 22 42.1	-0.8
HATHI				IAML				10 22 44.3	
	comp=E,4μm,0.3s								
RSD	**Rainshed**	**0.06**	**5**			Pg		10 22 42.9	-0.3
RSD				IAML				10 22 45.4	
	comp=N,1μm,0.6s								
RSD				IAML				10 22 45.5	
	comp=E,1μm,0.6s								
PUH	**Pauahi**	**0.07**	**115**			Pg		10 22 42.6	-0.7
PUH				IAML				10 22 46.1	
	comp=E,651nm,0.2s								
HLP	**Hilina Pali**	**0.11**	**192**	Pg		Pg		10 22 44.0	0.0
HLP				IAML				10 22 45.3	
	comp=N,547nm,2.2s								
KNHH	**Kane Nui o Ham**	**0.11**	**103**			Pg		10 22 43.0	-1.0
MLH	**Mauna Loa**	**0.13**	**313**	Pg		Pg		10 22 44.1	-0.4
STCH	**Steam Cracks**	**0.15**	**97**	Pg		Pg		10 22 44.7	0.0
STCH				IAML				10 22 48.0	
	comp=N,326nm,0.6s								
STCH				IAML				10 22 49.5	
	comp=E,401nm,0.7s								
NPOC	**North of Pu'u**	**0.16**	**94**	Pg		Pg		10 22 45.1	+0.2
NPOC				IAML				10 22 50.0	
	comp=E,342nm,1.9s								
JCUZ	**Jacuzzi**	**0.17**	**96**	Pg		Pg		10 22 45.5	+0.5
JCUZ				IAML				10 22 50.3	
	comp=E,298nm,2.4s								
JOKA	**Jonika Flow**	**0.27**	**84**	Pg		Pg		10 22 45.5	-1.3
JOKA				IAML				10 22 54.9	
	comp=N,501nm,1.1s								
JOKA				IAML				10 22 54.9	
	comp=E,279nm,1.2s								
HMH	**Humu'ula Sheep**	**0.27**	**316**	Pg		Pg		10 22 47.7	+0.7
HMH				IAML				10 22 49.5	
	comp=N,232nm,4.3s								
MLOA	**Mauna Loa Obse**	**0.31**	**296**	Pg		Pg		10 22 48.2	+0.5
MLOA				IAML				10 22 54.6	
	comp=N,228nm,1.7s								
MLOA				IAML				10 22 57.4	
	comp=E,219nm,1.7s								
POHA	**Pohakuloa**	**0.42**	**326**	Pg		Pb		10 22 52.9	+1.2
POHA				IAML				10 22 55.6	
	comp=E,166nm,3.6s								
POHA				IAML				10 23 01.8	
	comp=E,141nm,1.0s								

*IDC **21** 10:27:18.7±1.7, 6.38S×149.65E, h0km, mb3.7/4, mbtmp3.9/5, ML2.5/1, MS3.6/2, Error ellipse: s-maj=98.5km s-min=21.6km az=121.0*
ISC 21 10:27:25.7±2.0, 6.4S±0.5×149.4E±0.8, h49km, n8, σ0.70/8, mb3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
PMG	**Port Moresby**	**3.75**	**217**	Pn		Pn		**10 28 21.7**	**+0.6**
	23nm,0.3s,baz=1.1,slow=5.1,SNR=47								
PMG				Sn		Sn		10 29 03.6	-0.4
	24nm,0.3s,baz=63,slow=18,SNR=13								
	59nm,0.3s								
WRA	**Warramunga Arr**	**19.91**	**226**	P		P		**10 31 53.0**	**-0.5**
	2.7nm,0.5s,baz=51,slow=11,SNR=31								
WRA				PcP		PcP		10 36 10.0	+0.8
	0.3nm,0.7s,baz=30,slow=1.8,SNR=1.6								
	2.7nm,0.5s								
DZM	**Mont Dzumac**	**22.64**	**135**	LR		LR		10 39 40.0	
	comp=Z,110nm,19.2s,baz=338,slow=33								
ASAR	**Alice Springs**	**22.76**	**219**	P		P		**10 32 23.9**	**-0.2**
	0.6nm,0.5s,baz=56,slow=8.8,SNR=13								
	0.6nm,0.5s								
PETK	**Petropavlovsk-**	**59.69**	**6**	P		P		**10 37 25.5**	**+0.5**
	1.2nm,0.6s,baz=174,slow=7.0,SNR=5.1								
	1.2nm,0.6s								
ILAR	**Eielson Array**	**84.90**	**23**	P		P		**10 39 54.2**	**-0.9**
	0.3nm,0.8s,baz=249,slow=3.9,SNR=4.6								
	0.3nm,0.8s								
PFO	**Pinyon Flats O**	**96.91**	**57**	LR		LR		11 17 23.0	
	comp=Z,45nm,20.2s,baz=237,slow=31								
TORD	**Torodi Ar. Bea**	**147.53**	**284**	PKPbc		**PKPbc**		**10 47 05.5**	**-0.2**
	0.7nm,0.6s,baz=89,slow=2.7,SNR=5.5								

*CATAC **21** 10:31:13.9±0.9, 13.06N×89.04W, h78km±9km, ML2.8*
*SNET **21** 10:31:30.0±0.7, 13.23N×87.97W, h17km±7km, ML1.6*
ISC 21 10:31:11.0±2.6, 12.9N±0.2×88.82W±0.05, h10km, n10, σ3.75/16, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
INTP	**Intipuca**	**0.79**	**69**	*eP*		Pn		10 31 34.0	+5.7
INTP				*eS*		**Sg**		**10 31 36.3**	**-0.4**
INTP				IAML				10 31 37.3	
	comp=Z,159nm,0.2s								
LOMA	**Loma Larga**	**0.80**	**335**	*i* P		**Pn**		**10 31 32.1**	**+3.6**
LOMA				*i* S		**Sn**		**10 31 45.7**	**+5.2**
LOMA				IAML				10 31 50.3	
	comp=Z,240nm,1.0s								
PMON	**Piamonte**	**0.93**	**329**	*i* P		**Pn**		**10 31 31.8**	**+1.6**
PMON				IAML				10 31 54.0	
	comp=Z,420nm,1.0s								
JAYA	**Jayaque - finc**	**0.96**	**320**	*i* P		**Pn**		**10 31 31.4**	**+0.7**
JAYA				*i* S		**Sb**		**10 31 42.7**	**+0.1**
JAYA				IAML				10 31 45.2	
	comp=Z,2μm,1.0s								
LCND	**La Caada**	**0.98**	**67**	*eP*		**Pn**		**10 31 33.9**	**+3.0**
LCND				*eS*		**Sg**		**10 31 36.7**	**-6.1**
CNCH	**Conchagua**	**1.02**	**69**	*eP*		**Pn**		**10 31 34.1**	**+2.6**
CNCH				*eS*		**Sg**		**10 31 38.4**	**-5.7**
CEVE	**Cerro Verde**	**1.20**	**319**	*i* P		**Pg**		**10 31 32.0**	**-2.1**
CEVE				*i* S		**Sg**		**10 31 44.2**	**-5.5**
CEVE				IAML				10 31 47.7	
	comp=Z,380nm,1.0s								
NUBE	**Las Nubes**	**1.35**	**316**	*i* P		Pn		10 31 31.5	-4.6
NUBE				*i* S		Sb		10 31 42.8	-11
NUBE				IAML				10 31 45.9	
	comp=Z,180nm,1.0s								
MTO3	**Montecristo**	**1.56**	**340**	*i* P		**Pg**		**10 31 40.9**	**-0.2**
MTO3				*i* S		**Sg**		**10 32 01.3**	**-0.1**
MTO3				IAML				10 32 02.1	
	comp=Z,59nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.88**	**53**	*i* P		**Pg**		**10 31 49.4**	**+2.3**
TGUH				*i* S		**Sn**		**10 32 03.3**	**-3.9**
TGUH				IAML				10 32 14.4	
	comp=Z,38nm,1.0s								

*KRSC **21** 10:40:18.1±0.8, 56.52N×161.46E, h86km±9km, Ml5.5, Felt [IV] at Kluchi; [III-IV] at Ust-Kamchatsk; [II] at Krutoberegovo, HMS cape Afrika.*
*MOS **21** 10:40:19.1±0.9, 56.55N×161.25E, h82km, mb5.0/58, Error ellipse: s-maj=6.9km s-min=3.1km az=87.2*
*IDC **21** 10:40:20.6±1.4, 56.45N×161.18E, h85km±11km, mb4.4/34, mbtmp4.7/41, MS3.8/54, Error ellipse: s-maj=10.3km s-min=8.8km az=146.0*
*BJI **21** 10:40:20.2±0.0, 56.40N×161.20E, h100km, mb5.0/48, mB4.9/26*
*GCMT **21** 10:40:22.2±0.2, 56.50N±0.02×161.39E±0.03, h85km±2km, MW5.0/111, Moment Tensor Solution. s51,c60; s111,c176; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.20±.12; Mθθ -2.62±.11; Mφφ 1.43±.12; Mrθ 0.41±.08; Mθφ -2.99±.10; Mφr 2.17±.07; Best double couple: M=4.34100×10^16 NP1=φs22.00000°, δ78.00000°, λ35.00000°. NP2=φs284.00000°, δ56.00000°, λ166.00000°. Principal axes: T 4.1220, Plg32.0000°, Azm248.0000°; N 0.4480, Plg54.0000°, Azm38.0000°; P -4.5600, Plg14.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **21** 10:40:23.2±3.0, 56.65N±0.08×158.7E±0.2, h72km±6km, mb5.1/83 Error ellipse: s-maj=15.0km s-min=10.7km az=114.0*
ISC 21 10:40:20.4±0.3, 56.50N±0.03×161.33E±0.03, h88km±2km, h87km:pP-P, n569, σ1.63/560, mb4.9/170, 42C-39D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res ISC
BDR	**Baidarnaya**	**0.10**	**315**	*eP*		**Pn**		**10 40 31.1**	**-1.8**
BDR				*eS*		**Sn**		**10 40 41.5**	**-0.7**
BDR	**Baidarnaya**	**0.10**	**315**	PN		**Pn**		**10 40 31.1**	**-1.8**
BDR				S		**Sn**		**10 40 41.5**	**-0.7**
SMKR	**Semkarok**	**0.11**	**43**	*eP*		**Pn**		**10 40 31.5**	**-1.5**
SMKR	**Semkarok**	**0.11**	**43**	PN		**Pn**		**10 40 31.5**	**-1.5**
SRKR	**Sorokina**	**0.18**	**330**	*eP*		**Pn**		**10 40 31.8**	**-1.3**
SRKR	**Sorokina**	**0.18**	**330**	PN		**Pn**		**10 40 31.8**	**-1.3**
KLY	**Klyuchi**	**0.42**	**244**	*eP*		**Pn**		**10 40 31.9**	**-2.4**
KLY	**Klyuchi**	**0.42**	**244**	PN		**Pn**		**10 40 31.9**	**-2.4**
CIRR	**Tsirk**	**0.50**	**220**	*eP*		**Pn**		**10 40 33.8**	**-1.3**
CIRR	**Tsirk**	**0.50**	**220**	PN		**Pn**		**10 40 33.8**	**-1.3**
KRSR	**Krestovskiy**	**0.51**	**237**	*eP*		**Pn**		**10 40 33.5**	**-1.6**
KRSR	**Krestovskiy**	**0.51**	**237**	PN		**Pn**		**10 40 33.5**	**-1.6**
LGNR	**Loginova**	**0.55**	**221**	*eP*		**Pn**		**10 40 34.4**	**-1.3**
LGNR	**Loginova**	**0.55**	**221**	PN		**Pn**		**10 40 34.4**	**-1.3**
ZLN	**Zelenaya**	**0.57**	**211**	*eP*		**Pn**		**10 40 34.6**	**-1.0**
ZLN	**Zelenaya**	**0.57**	**211**	PN		**Pn**		**10 40 34.6**	**-1.0**
BZGR	**Bezymyannyi-Gr**	**0.66**	**213**	*eP*		**Pn**		**10 40 35.5**	**-1.0**
BZGR				*eS*		**Sn**		**10 40 48.1**	**-0.3**
BZGR	**Bezymyannyi-Gr**	**0.66**	**213**	PN		**Pn**		**10 40 35.5**	**-1.0**
BZGR				S		**Sn**		**10 40 48.1**	**-0.3**
BZWR	**Bezymyannyi-We**	**0.71**	**221**	*eP*		**Pn**		**10 40 36.1**	**-0.9**
BZWR	**Bezymyannyi-We**	**0.71**	**221**	PN		**Pn**		**10 40 36.1**	**-0.9**
BZMR	**Bezymyannaya**	**0.74**	**220**	*eP*		**Pn**		**10 40 36.3**	**-0.9**
BZMR	**Bezymyannaya**	**0.74**	**220**	PN		**Pn**		**10 40 36.3**	**-0.9**
BZP	**Bezymyannyi-Pe**	**0.74**	**217**	*eP*		**Pn**		**10 40 36.3**	**-1.0**
KIRR	**Kirishev**	**0.78**	**226**	*eP*		**Pn**		**10 40 36.4**	**-1.3**
KIRR	**Kirishev**	**0.78**	**226**	PN		**Pn**		**10 40 36.4**	**-1.3**
KPT	**Kopyto**	**0.82**	**230**	*eP*		**Pn**		**10 40 36.8**	**-1.2**
KPT	**Kopyto**	**0.82**	**230**	PN		**Pn**		**10 40 36.8**	**-1.2**
KBTR	**Krutoberegovo**	**0.88**	**109**	*eP*		**Pn**		**10 40 37.4**	**-1.2**
KBTR	**Krutoberegovo**	**0.88**	**109**	PN		**Pn**		**10 40 37.4**	**-1.2**
SRDR	**Sredinnyy**	**0.92**	**259**	*eP*		**Pn**		**10 40 37.8**	**-1.3**
SRDR	**Sredinnyy**	**0.92**	**259**	PN		**Pn**		**10 40 37.8**	**-1.3**
KOZ	**Kozyrevsk**	**0.93**	**242**	*eP*		**Pn**		**10 40 38.0**	**-1.1**
KOZ				*eS*		**Sn**		**10 40 52.7**	**-0.4**
KOZ	**Kozyrevsk**	**0.93**	**242**	PN		**Pn**		**10 40 38.0**	**-1.1**
KOZ				S		**Sn**		**10 40 52.7**	**-0.4**
KMNR	**Kamenistaya**	**0.96**	**220**	*eP*		**Pn**		**10 40 38.5**	**-1.1**
KMNR	**Kamenistaya**	**0.96**	**220**	PN		**Pn**		**10 40 38.5**	**-1.1**
TUMR	**Tumrok**	**1.39**	**209**	*eP*		**Pn**		**10 40 44.5**	**-0.3**
TUMR	**Tumrok**	**1.39**	**209**	PN		**Pn**		**10 40 44.2**	**-0.6**
TUMR				S		**Sn**		**10 41 03.8**	**+0.7**
TUMD	**Tumrok D**	**1.40**	**202**	*eP*		**Pn**		**10 40 44.2**	**-0.7**
TUMD				*eS*		**Sn**		**10 41 03.8**	**+0.6**
TIGL	**Tigil**	**1.93**	**312**	*eP*		**Pn**		**10 40 50.5**	**-1.1**
KII	**Karymskiy**	**2.69**	**204**	*eP*		**Pn**		**10 41 01.5**	**-0.3**
KII	**Karymskiy**	**2.69**	**204**	PN		**Pn**		**10 41 01.5**	**-0.3**
PALN	**Palana**	**2.70**	**345**	*eP*		**Pn**		**10 41 01.3**	**-0.4**
PALN	**Palana**	**2.70**	**345**	PN		**Pn**		**10 41 01.3**	**-0.4**
OSSR	**Ossora**	**2.91**	**18**	*eP*		**Pn**		**10 41 04.1**	**-0.4**
OSSR	**Ossora**	**2.91**	**18**	PN		**Pn**		**10 41 04.1**	**-0.4**
BKI	**Bering**	**2.92**	**114**	*eP*		**Pn**		**10 41 03.1**	**-1.7**
BKI				*eS*		**Sn**		**10 41 36.1**	**-2.8**
BKI	**Bering**	**2.92**	**114**	PN		**Pn**		**10 41 03.1**	**-1.7**
BKI				S		**Sn**		**10 41 36.1**	**-2.8**
GNL	**Ganaly**	**3.42**	**216**	*eP*		**Pn**		**10 41 12.0**	**+0.4**
GNL	**Ganaly**	**3.42**	**216**	PN		**Pn**		**10 41 12.0**	**+0.4**
SPN	**Mys Shipunski**	**3.49**	**193**	*eP*		**Pn**		**10 41 11.1**	**-1.4**
SPN	**Mys Shipunski**	**3.49**	**193**	PN		**Pn**		**10 41 11.1**	**-1.4**
KRX	**Arik**	**3.51**	**207**	*eP*		**Pn**		**10 41 13.7**	**+0.9**
KRX	**Arik**	**3.51**	**207**	PN		**Pn**		**10 41 13.7**	**+0.9**
NLC	**Nalytchevo**	**3.53**	**200**	*eP*		**Pn**		**10 41 12.9**	**-0.1**
NLC	**Nalytchevo**	**3.53**	**200**	PN		**Pn**		**10 41 12.9**	**-0.1**
KRER	**Koryakskii**	**3.53**	**206**	*eP*		**Pn**		**10 41 14.3**	**+1.0**
KRER	**Koryakskii**	**3.53**	**206**	PN		**Pn**		**10 41 14.3**	**+1.0**
SMAR	**Somma**	**3.56**	**205**	*eP*		**Pn**		**10 41 14.4**	**+0.8**
SMAR	**Somma**	**3.56**	**205**	PN		**Pn**		**10 41 14.4**	**+0.8**
AVH	**Avacha**	**3.57**	**206**	*eP*		**Pn**		**10 41 14.8**	**+1.1**
AVH	**Avacha**	**3.57**	**206**	PN		**Pn**		**10 41 14.8**	**+1.1**
KOK	**Koryaka**	**3.57**	**207**	*eP*		**Pn**		**10 41 14.6**	**+0.9**
KOK	**Koryaka**	**3.57**	**207**	PN		**Pn**		**10 41 14.6**	**+0.9**
UGLR	**Uglovaya**	**3.60**	**205**	*eP*		**Pn**		**10 41 15.1**	**+1.0**
UGLR	**Uglovaya**	**3.60**	**205**	PN		**Pn**		**10 41 15.1**	**+1.0**
DALK	**Dalny**	**3.78**	**204**	*eP*		**Pn**		**10 41 17.2**	**+0.8**
DALK	**Dalny**	**3.78**	**204**	PN		**Pn**		**10 41 17.2**	**+0.8**
PET	**Petropavlovsk**	**3.81**	**205**			**Pn**		**10 41 17.5**	**+0.7**
PET	**Petropavlovsk**	**3.81**	**205**	*eP*		**Pn**		**10 41 17.6**	**+0.7**
PET				*eS*		**Sn**		**10 42 06.1**	**+5.6**
PET	**Petropavlovsk**	**3.81**	**205**	*ePN*		**Pn**		**10 41 17.7**	**+0.9**
PET				pmax		pmax			
	comp=Z,1μm,0.5s								
PET				MLR		MLR			
	comp=Z,800nm,8.0s								
PET	**Petropavlovsk**	**3.81**	**205**	P		**Pn**		**10 41 18.3**	**+1.5**
PEA0B	**Petropavlovsk-**	**4.00**	**213**			**Pn**		**10 41 17.2**	**-2.1**
PEA0B	**Petropavlovsk-**	**4.00**	**213**	*cPN*		**Pn**		**10 41 19.4**	**+0.1**
PETK	**Petropavlovsk-**	**4.00**	**213**			**Pn**		**10 41 17.7**	**-1.7**
PETK	**Petropavlovsk-**	**4.00**	**213**	P		**Pn**		**10 41 18.6**	**-0.7**
	comp=Z,145nm,0.8s,baz=58,slow=16,SNR=277								
PETK				LR		LR		10 43 07.8	
	comp=Z,1μm,19.6s,baz=27,slow=43								
APC	**Apacha**	**4.32**	**216**	*eP*		**Pn**		**10 41 24.5**	**+0.8**
APC				*eS*		**Sn**		**10 42 16.6**	**+3.7**
APC	**Apacha**	**4.32**	**216**	PN		**Pn**		**10 41 24.5**	**+0.8**
APC				S		**Sn**		**10 42 16.6**	**+3.7**
GRL	**Gorelyy**	**4.39**	**207**	*eP*		**Pn**		**10 41 26.1**	**+1.4**
GRL	**Gorelyy**	**4.39**	**207**	PN		**Pn**		**10 41 26.1**	**+1.4**
RUS	**Russkaya**	**4.39**	**203**	*eP*		**Pn**		**10 41 25.4**	**+0.7**
RUS	**Russkaya**	**4.39**	**203**	PN		**Pn**		**10 41 25.4**	**+0.7**
MTVR	**Mutnovka**	**4.42**	**206**	*eP*		**Pn**		**10 41 27.0**	**+1.8**
MTVR	**Mutnovka**	**4.42**	**206**	PN		**Pn**		**10 41 27.0**	**+1.8**
ASAK	**Asacha**	**4.58**	**207**	*eP*		**Pn**		**10 41 28.9**	**+1.5**
ASAK	**Asacha**	**4.58**	**207**	PN		**Pn**		**10 41 28.9**	**+1.5**
TILK	**Tilichiki**	**4.70**	**31**	*eP*		**Pn**		**10 41 29.6**	**+0.9**
TILK				*eS*		**Sn**		**10 42 22.2**	**+0.3**
TILK	**Tilichiki**	**4.70**	**31**	PN		**Pn**		**10 41 29.6**	**+0.9**
TILK				S		**Sn**		**10 42 22.2**	**+0.3**
KDTR	**Khodutka, Kamc**	**5.07**	**203**	*eP*		**Pn**		**10 41 34.7**	**+0.7**
KDTR	**Khodutka, Kamc**	**5.07**	**203**	PN		**Pn**		**10 41 34.7**	**+0.7**
PAU	**Pauzhetka**	**5.70**	**210**	*eP*		**Pn**		**10 41 45.9**	**+3.4**
PAU	**Pauzhetka**	**5.70**	**210**	PN		**Pn**		**10 41 45.9**	**+3.4**
MA2	**Magadan**	**6.40**	**303**	P		**Pn**		**10 41 51.9**	**0.0**
	comp=Z,49nm,0.8s,baz=100,slow=12,SNR=31								
MA2	**Magadan**	**6.40**	**303**	PN		**Pn**		**10 41 52.6**	**+0.6**
MA2	**Magadan**	**6.40**	**303**	P		**Pn**		**10 41 52.3**	**+0.3**
	comp=Z,80nm,0.9s,comp=Z,917nmcomp=Z,0.3nm								
KMSK	**Kamenskaya**	**6.48**	**20**	*eP*		**Pn**		**10 41 54.0**	**+1.0**
KMSK	**Kamenskaya**	**6.48**	**20**	PN		**Pn**		**10 41 54.0**	**+1.0**
SKR	**Severo-Kuril's**	**6.60**	**210**	*eP*		**Pn**		**10 41 58.8**	**+4.1**
SKR	**Severo-Kuril's**	**6.60**	**210**	PN		**Pn**		**10 41 58.8**	**+4.1**
SEY	**Seymchan**	**7.87**	**329**	P		**Pn**		**10 42 12.4**	**+0.4**
	comp=Z,4.4nm,0.4s,baz=134,slow=12,SNR=22								
SEY				LR		LR		10 45 35.8	
	comp=Z,1μm,19.8s,baz=142,slow=40				

comp=Z,29nm,1.0s,baz=57,slow=11,SNR=49
KLR LR LR 10 52 22.4
comp=Z,265nm,20.3s,baz=57,slow=38
KLR Kul'dur 19.17 260 *c i* P **Pn 10 44 37.7 -0.8**
KLR pmax pmax
comp=Z,98nm,1.7s
ZEA Zeya 19.57 276 *e* P **P 10 44 41.4 +0.4**
ZEA *e* S **S 10 48 07.2 -10**
ZEA pmax pmax
comp=E,100nm,1.9s
ZEA pmax pmax
comp=N,100nm,2.1s
ZEA pmax pmax
comp=Z,200nm,2.2s
ZEA pmax pmax
comp=E,50nm,0.8s
ZEA pmax pmax
comp=N,20nm,0.5s
ZEA pmax pmax
comp=Z,80nm,0.9s
ZEA smax smax
comp=E,100nm,1.9s
ZEA smax smax
comp=N,300nm,8.0s
ZEA MLR MLR
comp=E,200nm,15.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
TIXI Tiksi 20.36 331 P Pn 10 44 51.2 -1.0
TIXI comp=Z,70nm,0.7s,baz=131,slow=11,SNR=206 LR LR 10 53 42.3
comp=Z,447nm,18.5s,baz=134,slow=39
comp=Z,70nm,0.7s
TIXI Tiksi 20.36 331 *c i* P Pn 10 44 51.3 -0.9
TIXI pmax pmax
comp=Z,109nm,0.8s
HEH HeiHe 21.02 267 *e* P **P 10 44 55.8 -0.9**
HEH S **S 10 48 47.1 +1.5**
HEH pmax pmax
comp=Z,61nm,0.9s
HEH pmax pmax
comp=Z,250nm,5.3s
USA0B Ussuriysk Arra 22.21 249 *d i* P **P 10 45 10.0 +0.6**
USRK Ussuriysk Ar. 22.21 249 P **P 10 45 09.9 +0.6**
comp=Z,45nm,0.6s,baz=50,slow=12,SNR=67
USRK LR LR 10 53 45.0
comp=Z,274nm,21.5s,baz=46,slow=36
comp=Z,45nm,0.6s
USRK Ussuriysk Ar. 22.21 249 P **P 10 45 10.0 +0.6**
VLA Vladivostok 23.02 247 *e* P **P 10 45 20.3 +2.5**
VLA pmax pmax
comp=Z,15nm,0.7s
JMM Marumori 23.13 225 P **P 10 45 12.2 -6.7**
MDJ Mudanjiang 23.18 253 P **P 10 45 18.3 -1.0**
MDJ S **S 10 49 20.8 -3.0**
MDJ pmax pmax
comp=Z,35nm,1.0s
MDJ pmax pmax
comp=Z,170nm,5.5s
MDJ LR LR
comp=Z,200nm,15.1s
MDJ LR LR
comp=Z,190nm,19.6s
MDJ LR LR
comp=Z,430nm,19.5s
BNX BinXian 23.61 257 ⇓P **P 10 45 22.4 -0.9**
BNX pP **pP 10 45 42.1 +0.1**
BNX sP **sP 10 45 55.8 +3.1**
BNX PP **PnPn 10 45 58.5 +3.4**
BNX S **S 10 49 33.4 +2.5**
BNX sS **sS 10 50 05.5 +0.5**
BNX pmax pmax
comp=Z,50nm,0.8s
BNX pmax pmax
comp=Z,340nm,4.0s
BNX LR LR
comp=Z,150nm,10.0s
BNX LR LR
comp=Z,120nm,4.9s
BNX LR LR
comp=Z,120nm,4.7s
BOD Bodaibo 25.29 293 *e* P **P 10 45 37.7 -0.6**
BOD pmax pmax
comp=Z,76nm,1.7s
MJB9 Matsu-Tunnel 25.30 228 P **P 10 45 31.9 -6.8**
MAJO Matsushiro 25.31 228 P **P 10 45 34.0 -4.7**
MAJO Matsushiro 25.31 228 P **P 10 45 34.0 -4.7**
MAJO pmax pmax
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 25.31 228 P **P 10 45 37.5 -1.2**
comp=Z,3.6nm,0.5s,baz=19,slow=9.7,SNR=15
MJAR LR LR 10 56 30.1
comp=Z,82nm,18.0s,baz=38,slow=38
comp=Z,3.6nm,0.5s
COLA College 25.57 50⇑ *e* P **P 10 45 39.6 -1.1**
COLA pmax pmax
comp=Z,7.0nm,0.9s
CN2 Changchun 25.93 256 *e* P **P 10 45 41.3 -3.0**
CN2 *e* pP pP 10 46 04.9 +0.9
CN2 *e* S **S 10 50 00.4 -7.5**
CN2 *e* sS sS 10 50 42.1 -0.8
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,210nm,19.0s
CN2 LR LR
comp=Z,130nm,19.0s
CN2 LR LR
comp=Z,140nm,20.0s
ILAR Eielson Array 25.99 50 P **P 10 45 45.1 +0.6**
comp=Z,4.4nm,0.5s,baz=262,slow=7.7,SNR=28
ILAR PcP **PcP 10 49 09.8 -0.5**
comp=Z,0.6nm,0.4s,baz=286,slow=3.1,SNR=8.2
ILAR ScP **ScP 10 52 40.8 -0.8**
comp=Z,0.9nm,0.9s,baz=289,slow=4.4,SNR=6.3
comp=Z,4.4nm,0.5s
GLI Glacier Island 26.57 59 P P 10 46 00.5 +11
GLI lAmb lAmb 10 46 12.5
comp=Z,67nm,1.1s
KLU Klutina 26.98 57 P P 10 46 06.8 +13
KLU lAmb lAmb 10 46 18.8
comp=Z,74nm,1.1s
JHJ Hachijo jima 2 27.70 222 LR LR 10 56 16.5
comp=Z,71nm,21.8s,baz=76,slow=35
KSRS Korea Array 29.27 244 P **P 10 46 13.0 -1.1**
comp=Z,5.8nm,0.7s,baz=30,slow=9.4,SNR=20
KSRS PcP **PcP 10 49 20.0 +1.4**
comp=Z,1.8nm,0.7s,baz=5.7,slow=2.6,SNR=7.8
KSRS LR LR 10 58 09.3
comp=Z,76nm,19.2s,baz=50,slow=37
comp=Z,5.8nm,0.7s
XLT XiLinHaoTe 30.99 266 *e* P **P 10 46 28.8 -0.6**
XLT PP **PnPn 10 47 35.0 +1.3**
XLT S **S 10 51 23.8 -3.8**
XLT pmax pmax
comp=Z,32nm,0.9s
XLT pmax pmax
comp=Z,93nm,4.6s
XLT LR LR
comp=Z,390nm,20.4s
XLT LR LR
comp=Z,220nm,11.9s
M31M Drury Creek, Y 32.02 53 P 10 46 50.5 +12
M31M lAmb lAmb 10 47 01.3
comp=Z,16nm,0.9s
WHY Whitehorse 32.34 56 P P 10 46 55.3 +14
BJT Baijiatuau 33.56 260 P **P 10 46 51.6 -0.1**
ULN Ulaanbaatar 33.57 279 P P 10 46 41.7 -10
ULN Ulaanbaatar 33.57 279 *ce* P **P 10 46 51.8 -0.1**
ULN pmax pmax
comp=Z,15nm,1.3s
SONM Songino Array 33.94 279 P **P 10 46 55.5 +0.4**
comp=Z,16nm,0.8s,baz=57,slow=8.9,SNR=51
SONM PcP **PcP 10 49 31.0 -0.3**
comp=Z,2.0nm,0.7s,baz=24,slow=2.3,SNR=5.1
SONM ScP **ScP 10 53 09.2 +1.3**
comp=Z,1.2nm,0.6s,baz=75,slow=2.6,SNR=6.4
SONM LR LR 11 02 18.5
comp=Z,214nm,18.6s,baz=64,slow=39
comp=Z,16nm,0.8s
ZAK Zakamensk 34.19 285 *e* P **P 10 46 56.6 -0.6**
ZAK pmax pmax
comp=Z,8.0nm,1.2s
MOY Mondy 34.72 288 *e* P **P 10 47 02.3 +0.6**
MOY pmax pmax
comp=Z,22nm,2.0s
DLBC Dease Lake 35.51 57 LR LR 11 03 27.0

comp=Z,124nm,18.2s,baz=306,slow=39
HHC Hu-ho-hao-te 35.52 265 *e* P **P 10 47 08.4 -0.3**
HHC pmax pmax
comp=Z,18nm,0.9s
HHC pmax pmax
comp=Z,100nm,4.5s
HHC LR LR
comp=Z,220nm,17.6s
T35M Bob Quinn 36.10 60 P 10 47 27.1 +14
HNS HongShan 36.24 258 ⇑P **P 10 47 15.3 +0.6**
HNS PP **PnPn 10 48 39.8 +0.8**
HNS *e* S **S 10 52 50.9 +2.5**
HNS pmax pmax
comp=Z,8.0nm,1.3s
HNS LR LR
comp=Z,210nm,20.7s
HNS LR LR
comp=Z,230nm,20.7s
BTO Baotou 36.54 266 *e* P **P 10 47 17.3 -0.1**
BTO pP **pP 10 47 40.0 +2.2**
BTO sP **sP 10 47 51.4 +3.5**
BTO PP **PnPn 10 48 42.6 -0.1**
BTO pmax pmax
comp=Z,680nm,4.3s
JOW Kunigami 37.92 232 LR LR 11 04 20.8
comp=Z,77nm,20.8s,baz=135,slow=38
NJ2 Nanjing 38.11 248 *e* P P 10 47 24.3 -6.3
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,560nm,4.3s
ALE Alert 39.44 8 P **P 10 47 42.4 +1.2**
ALE pP **pP 10 48 01.9 +0.1**
LYN LuoYang 39.56 257 *e* P **P 10 47 43.1 +0.4**
LYN pmax pmax
comp=Z,25nm,0.7s
BBB Bella Bella 39.70 65 LR LR 11 03 26.1
comp=Z,83nm,18.8s,baz=285,slow=35
RES Resolute Bay 39.90 24 LR LR 11 05 55.7
comp=Z,83nm,19.3s,baz=26,slow=38
YKA Yellowknife Ar 40.21 46 P **P 10 47 49.0 +1.3**
comp=Z,4.1nm,0.9s,baz=302,slow=8.4,SNR=20
YKA PcP **PcP 10 49 49.9 0.0**
comp=Z,0.3nm,0.4s,baz=313,slow=4.6,SNR=6.7
YKA ScP **ScP 10 53 32.8 +1.9**
comp=Z,1.3nm,1.1s,baz=298,slow=3.7,SNR=4.9
comp=Z,4.1nm,0.9s
ZALV Zalesovo Beam 41.61 300 P P 10 47 52.6 -6.7
ZALV Zalesovo Beam 41.61 300 P **P 10 47 59.8 +0.4**
comp=Z,1.4nm,0.6s,baz=52,slow=9.6,SNR=6.0
ZALV PP **PP 10 49 34.3 -2.5**
comp=Z,2.2nm,0.8s,baz=64,slow=10,SNR=3.6
ZALV PcP **PcP 10 49 54.1 -0.6**
comp=Z,4.1nm,0.8s,baz=25,slow=4.8,SNR=4.9
ZALV LR LR 11 05 59.3
comp=Z,127nm,19.0s,baz=66,slow=37
comp=Z,1.4nm,0.6s
ZALV Zalesovo Beam 41.61 300 *i* P **P 10 48 01.7 +2.4**
ZALV pmax pmax
comp=Z,1.0nm,0.6s
WHN Wuhan 41.65 252 P **P 10 48 03.5 +3.6**
XAN Xi'an 41.88 260 ⇑P **P 10 48 01.5 -0.3**
XAN pmax pmax
comp=Z,12nm,1.0s
XAN pmax pmax
comp=Z,86nm,4.3s
XAN LR LR
comp=Z,810nm,15.2s
XAN LR LR
comp=Z,470nm,18.2s
XAN LR LR
comp=Z,390nm,19.6s
GTA Gaotai 43.02 274 ⇑P **P 10 48 11.6 +0.4**
GTA pmax pmax
comp=Z,130nm,1.0s
GTA LR LR
comp=Z,130nm,16.4s
GTA LR LR
comp=Z,180nm,16.4s
GTA LR LR
comp=Z,220nm,16.4s
LZH Lanzhou 43.16 267 ⇑P **P 10 48 13.3 +0.9**
LZH pmax pmax
comp=Z,160nm,1.2s
LZH LR LR
comp=Z,410nm,14.4s
LZH LR LR
comp=Z,210nm,15.8s
LZH LR LR
comp=Z,220nm,16.5s
TULEG Thule 43.47 15 *i* P **P 10 48 16.0 +1.9**
TULEG lAmb lAmb 10 48 18.6
comp=Z,20nm,0.9s
KBS Kingsbay 43.60 352⇑ *e* P **P 10 48 16.0 +0.9**
KBS pmax pmax
comp=Z,27nm,1.0s
SPA0 Spitsbergen Ar 43.89 350 *e* P **P 10 48 18.7 +1.1**
SPITS Spitsbergen Ar 43.89 350 P **P 10 48 18.0 +0.5**
comp=Z,22nm,0.7s,baz=58,slow=7.9,SNR=20
SPITS LR LR 11 05 18.4
comp=Z,55nm,21.8s,baz=298,slow=34
comp=Z,22nm,0.7s
SPITS Spitsbergen Ar 43.89 350 P **P 10 48 17.5 0.0**
SPITS pmax pmax
comp=Z,126nm,1.2s
SPB2 Spitsbergen Ar 43.89 350 P **P 10 48 18.2 +0.7**
NEEM North Greenlan 44.80 10 *i* P **P 10 48 25.1 0.0**
NEEM lAmb lAmb 10 48 27.4
comp=Z,7.9nm,1.0s
ZSN Zaisan 45.63 293 *e* P **P 10 48 32.0 +0.3**
baz=293
ZSN Zaisan 45.63 293 *e* P **P 10 48 32.0 +0.3**
SEM Semipalatinsk 46.01 299 *e* P **P 10 48 35.5 +0.6**
baz=299
SEM Semipalatinsk 46.01 299 *e* P **P 10 48 35.5 +0.6**
WMQ Urumqi 46.59 287 *e* P P 10 48 33.0 -6.3
WMQ pmax pmax
comp=Z,30nm,0.9s
WMQ LR LR
comp=N,560nm,24.1s
WMQ LR LR
comp=E,470nm,21.5s
WMQ LR LR
comp=Z,150nm,24.1s
KURK Kurchatov 46.60 300 *ce* P **P 10 48 38.0 -1.2**
KURK pmax pmax
comp=Z,26nm,1.7s
KURK Kurchatov 46.60 300 P **P 10 48 38.4 -0.8**
KURK pP **pP 10 48 58.9 -1.4**
KURBB Kurchatov Arra 46.70 300 P **P 10 48 39.0 -1.0**
comp=Z,5.2nm,0.5s,baz=55,slow=7.6,SNR=31
KURBB PP **PP 10 50 29.2 -1.4**
comp=Z,10nm,0.9s,baz=52,slow=9.6,SNR=7.7
KURBB LR LR 11 10 04.5
comp=Z,116nm,18.6s,baz=146,slow=38
comp=Z,5.2nm,0.5s
DAG Danmarks Havn 46.99 360 *i* P **P 10 48 40.8 -1.2**
DAG lAmb lAmb 10 48 44.1
comp=Z,7.1nm,0.8s
CD2 Chengdu 47.08 262 P P 10 48 36.0 -7.3
CD2 pmax pmax
comp=Z,10.0nm,0.6s
MK31 Makanchi Array 47.38 294 *ce* P **P 10 48 45.2 -0.2**
MKAR Makanchi Array 47.38 294 P **P 10 48 44.8 -0.7**
comp=Z,1.9nm,0.4s,baz=39,slow=6.9,SNR=28
MKAR PP **PP 10 50 36.0 -1.1**
comp=Z,4.5nm,0.9s,baz=58,slow=10,SNR=6.5
comp=Z,1.9nm,0.4s
MKAR Makanchi Array 47.38 294 *i* P **P 10 48 45.0 -0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
NEW Newport 47.66 63 LR LR 11 09 18.6
comp=Z,78nm,18.8s,baz=293,slow=36
GOMU GeErMu 48.08 274 P **P 10 48 51.5 +0.1**
GOMU pmax pmax
comp=Z,180nm,0.9s
GOMU LR LR
comp=Z,280nm,16.9s
GOMU LR LR
comp=Z,230nm,16.5s
GOMU LR LR
comp=Z,460nm,16.6s
BVAR Borovoye Array 48.88 307 P **P 10 48 56.3 -0.5**
comp=Z,5.4nm,0.6s,baz=58,slow=8.5,SNR=22
BVAR PP **PP 10 50 51.6 +1.1**
comp=Z,4.8nm,0.8s,baz=51,slow=9.7,SNR=3.7
comp=Z,5.4nm,0.6s

BRVK Borovoye 48.90 307 ⇓ *e* P **P 10 48 56.8 -0.2**
BRVK pmax pmax
comp=Z,24nm,1.7s
BRVK Borovoye 48.90 307 P **P 10 48 57.9 +0.9**
BRVK pP **pP 10 49 17.6 -0.6**
BRVK sP **sP 10 49 27.0 -1.2**
BRVK PP **PP 10 50 49.8 -0.9**
YBH Yreka Blue Hor 49.27 73 LR LR 11 06 55.1
comp=Z,37nm,20.6s,baz=304,slow=32
LVZ Lovozero 49.84 337 *de* P **P 10 49 04.1 +0.1**
LVZ pmax pmax
comp=Z,44nm,1.7s
BRZS Berezniki 49.91 302 *e* P **P 10 49 05.2 +0.4**
baz=303
BRZS Berezniki 49.91 302 *e* P **P 10 49 05.1 +0.4**
ARCES ARCESS Array B 50.27 341 P **P 10 49 07.3 +0.1**
comp=Z,11nm,0.8s,baz=27,slow=6.5,SNR=21
ARCES PcP **PcP 10 50 25.4 +0.7**
comp=Z,2.3nm,0.5s,baz=26,slow=4.0,SNR=9.8
comp=Z,11nm,0.8s
J08A Circle Bar Ran 50.34 69 lAmb lAmb 10 49 31.0
comp=Z,15nm,1.3s
APA Apatity 50.38 337 ⇓ *i* P **P 10 49 05.7 -2.3**
APA *i* 10 51 08.4
APA *i* S S 10 56 05.0 -9.0
APA *i* 10 58 45.0
PLID Pearl Lake 50.40 66 P P 10 49 19.4 +11
PLID lAmb lAmb 10 49 31.9
comp=Z,16nm,1.1s
SUMG Summit 50.48 8 P **P 10 49 11.0 +1.8**
SUMG pmax pmax
comp=Z,27nm,1.2s
SUMG Summit 50.48 8 *i* P **P 10 49 09.2 0.0**
SUMG lAmb lAmb 10 49 13.1
comp=Z,9.5nm,0.9s
TDK Taldyqorghan 50.59 294 *e* P **P 10 49 10.3 +0.3**
comp=Z,9.0nm,0.4s,baz=294
TDK Taldyqorghan 50.59 294 *e* P **P 10 49 10.2 +0.3**
TDK pmax pmax
comp=Z,9.0nm,0.4s
JETT Jettan, Norway 51.11 343 *e* P **P 10 49 14.2 +0.7**
TRO Tromso 51.27 344 *e* P **P 10 49 15.3 +0.7**
SHLS Shalkode 51.35 292 *e* P **P 10 49 13.9 -1.9**
comp=Z,11nm,0.9s,baz=292
SHLS Shalkode 51.35 292 *e* P **P 10 49 13.9 -1.9**
SHLS pmax pmax
comp=Z,11nm,0.9s
ARU Arti 51.40 316 LR LR 11 13 25.6
comp=Z,206nm,21.5s,baz=42,slow=39
ARU Arti 51.40 316 *c i* P **P 10 49 16.0 +0.2**
ARU *PP **pP 10 49 33.4 -3.8**
ARU 10 51 09.2
ARU S **S 10 56 31.3 +2.9**
ARU SS **SS 11 00 09.0 +4.7**
ARU pmax pmax
comp=Z,12nm,1.1s
ARU Arti 51.40 316 P **P 10 49 16.5 +0.7**
comp=Z,14nm,0.9s
EGMT Eagleton 51.40 59 lAmb lAmb 10 49 39.2
comp=Z,24nm,1.0s
UZB Uzynbulak 51.58 292 *e* P **P 10 49 17.7 +0.2**
baz=292
UZB Uzynbulak 51.58 292 *e* P **P 10 49 17.7 +0.2**
PZH PanZhiHua 51.62 260 P P 10 49 12.5 -5.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,4.1s
DLMT Dillon 51.91 63 lAmb lAmb 10 49 43.5
comp=Z,25nm,1.1s
SATY Saty 51.96 293 *e* P **P 10 49 20.4 +0.1**
baz=293
SATY Saty 51.96 293 *e* P **P 10 49 20.3 0.0**
KMI Kunming 52.17 258 ⇑P **P 10 49 21.8 -0.4**
KMI pmax pmax
comp=Z,11nm,1.2s
KMI LR LR
comp=Z,300nm,20.1s
KMI LR LR
comp=Z,120nm,16.9s
BOZ Bozeman (W) 52.22 63 lAmb lAmb 10 49 45.3
comp=Z,13nm,1.0s
ILULI Ilulissat 52.39 14 P P 10 49 27.8 +4.9
ILULI Ilulissat 52.39 14 P P 10 49 27.8 +4.9
ILULI pmax pmax
comp=Z,17nm,0.3s
ILULI Ilulissat 52.39 14 *i* P **P 10 49 25.3 +2.4**
ILULI lAmb lAmb 10 49 28.7
comp=Z,19nm,0.3s
MDOK Medeo 52.58 294 *e* P **P 10 49 25.0 0.0**
baz=294
MDOK Medeo 52.58 294 *e* P **P 10 49 24.9 0.0**
JMIC Jan Mayen 52.60 356 LR LR 11 12 11.0
comp=Z,35nm,18.8s,baz=258,slow=36
AAA Alma-Ata 52.61 294 *e* P **P 10 49 25.2 +0.1**
comp=Z,9.8nm,0.4s,baz=294
AAA Alma-Ata 52.61 294 *e* P **P 10 49 25.2 +0.1**
AAA pmax pmax
comp=Z,10.0nm,0.4s
TNSS Tian-Shan 52.72 294 *e* P **P 10 49 25.9 -0.4**
baz=294
TNSS Tian-Shan 52.72 294 *e* P **P 10 49 25.9 -0.4**
BTLS Baital 52.73 297 *e* P **P 10 49 26.1 +0.3**
baz=297
BTLS Baital 52.73 297 *e* P **P 10 49 26.1 +0.3**
KIRV Kirov 53.09 323 LR LR 11 15 12.7
comp=Z,170nm,18.2s,baz=83,slow=39
KIRV Kirov 53.09 323 *ce* P **P 10 49 28.8 +0.6**
QIZ Qiongzhong 53.39 247 P P 10 49 24.8 -6.1
QIZ S S 10 56 43.9 -12
QIZ pmax pmax
comp=Z,120nm,6.4s
QIZ LR LR
comp=N,150nm,14.7s
QIZ LR LR
comp=E,100nm,18.6s
QIZ LR LR
comp=Z,160nm,28.6s
LOF Lofoten 53.43 346 *e* P **P 10 49 30.7 +0.1**
SGDS Sogindy 53.59 295 *e* P **P 10 49 32.3 0.0**
baz=296
SGDS Sogindy 53.59 295 *e* P **P 10 49 32.2 0.0**
BOOM Boomskoye usch 53.63 294 P **P 10 49 32.4 -0.3**
BOOM pmax pmax
comp=Z,13nm,1.1s
FLWY Flagg Ranch 53.77 63 lAmb lAmb 10 49 57.8
comp=Z,19nm,0.9s
IMW Indian Meadow 53.78 64 lAmb lAmb 10 49 58.5
comp=Z,38nm,1.3s
ICESG Greenland Ices 53.78 9 *i* P **P 10 49 33.7 +0.1**
ICESG lAmb lAmb 10 49 37.3
comp=Z,9.1nm,0.7s
FAUS Fauske 53.88 344 *e* P **P 10 49 34.0 +0.2**
ELK Elko 53.90 69 LR LR 11 11 31.9
comp=Z,60nm,18.9s,baz=290,slow=35
NVAR Mina Array Bea 53.99 73 P **P 10 49 37.5 +2.1**
comp=Z,2.2nm,0.6s,baz=308,slow=7.5,SNR=21
comp=Z,2.2nm,0.6s
FRB Frobisher Bay 54.10 25 LR LR 11 15 14.7
comp=Z,95nm,19.9s,baz=339,slow=39
LOHW Long Hollow 54.16 64 lAmb lAmb 10 50 01.0
comp=Z,30nm,1.2s
SNOW Snow King Moun 54.19 64 lAmb lAmb 10 50 01.5
comp=Z,23nm,1.3s
AAK Ala-Archa 54.25 295 P P 10 49 30.8 -6.4
AAK lAmb lAmb 10 49 39.1
comp=Z,20nm,1.1s
AAK Ala-Archa 54.25 295 LR LR 11 16 42.4
comp=Z,58nm,18.8s,baz=40,slow=40
AAK Ala-Archa 54.25 295 *ce* P **P 10 49 36.7 -0.5**
AAK pmax pmax
comp=Z,29nm,1.7s
KLMR Klimovskoe 54.37 329 *e* P **P 10 49 35.8 -1.7**
KLMR pmax pmax
comp=Z,72nm,1.2s
SFJD Kangerlussuaq 54.53 15 LR LR 11 13 35.3
comp=Z,34nm,21.1s,baz=324,slow=36
JOF Joensuu 54.78 335 *e* P **P 10 49 41.2 +0.8**
ARLS Aral 54.91 294 P **P 10 49 42.4 +0.5**
ARLS pmax pmax
comp=Z,20nm,0.9s
DSP Deep Springs 54.95 74 P 10 49 55.9 +14
DSP lAmb lAmb 10 50 08.1
comp=Z,20nm,1.5s
LSA Lhasa 54.98 272 P **P 10 49 43.8 +0.8**
KONS Konsvik 55.02 345 *e* P **P 10 49 42.3 +0.2**

MOR8	**Moi Rana**	**55.13**	**344**	*e*P		**P**		**10 49 42.0**	**-1.0**
PDAR	**Pinedale Array**	**55.30**	**64**	P		**P**		**10 49 46.6**	**+1.8**
	comp=Z,2.0nm,0.6s,baz=326,slow=2.4,SNR=19									
PDAR				LR		LR		11 15 59.3		
	comp=Z,61nm,18.1s,baz=324,slow=39									
	comp=Z,2.0nm,0.6s									
DUG	**Dugway, Tooele**	**55.55**	**68**	P		**P**		**10 49 49.1**	**+2.5**
DUG				pmax		pmax				
	comp=Z,12nm,1.6s									
DY2G	**Dye2**	**55.60**	**13**	*i* P		**P**		**10 49 43.2**	**-3.4**
DZA	**Taraz**	**55.64**	**297**	*e*P		**P**		**10 49 47.4**	**+0.4**
	comp=Z,7.1nm,0.5s,baz=297									
DZA	**Taraz**	**55.64**	**297**	*e*P		**P**		**10 49 47.4**	**+0.4**
DZA				pmax		pmax				
	comp=Z,7.0nm,0.5s									
CTU	**Camp Tracy**	**55.73**	**67**	IAmb		IAmb		10 50 11.2		
	comp=Z,11nm,1.1s									
KSH	**Kashi**	**55.80**	**291**	P		**P**		**10 49 51.8**	**+3.5**
KSH				pP		sP		10 50 15.3	-4.5
KSH				sP		PcP		10 50 30.1	-16
KSH				pmax		pmax				
	comp=Z,13nm,1.5s									
AKTO	**Aktyubinsk**	**56.08**	**311**	LR		LR		11 16 39.2		
	comp=Z,202nm,18.8s,baz=60,slow=39									
ARK	**Arkit**	**56.14**	**296**	P		**P**		**10 49 51.1**	**+0.4**
ARK				pmax		pmax				
	comp=Z,7.0nm,0.8s									
VALR	**Valaam**	**56.23**	**334**	*d i* P		**P**		**10 49 51.6**	**+0.8**
VALR				pmax		pmax				
	comp=Z,57nm,1.2s									
BRLS	**Borolday**	**56.27**	**298**	*e*P		**P**		**10 49 53.5**	**+2.0**
	baz=298									
BRLS	**Borolday**	**56.27**	**298**	*e*P		**P**		**10 49 53.5**	**+2.0**
VAF	**Ylistaro**	**56.57**	**339**	*e*P		**P**		**10 49 54.2**	**+1.0**
KEF	**Keuruu**	**56.90**	**337**	*e*P		**P**		**10 49 56.6**	**+1.1**
CHM	**Chimkent**	**56.92**	**298**	*e*P		**P**		**10 49 56.8**	**+0.6**
	comp=Z,6.1nm,0.4s,baz=298									
CHM	**Chimkent**	**56.92**	**298**	*e*P		**P**		**10 49 56.7**	**+0.6**
CHM				pmax		pmax				
	comp=Z,6.0nm,0.4s									
NSS	**Namsos**	**57.04**	**345**	*e*P		**P**		**10 49 57.2**	**+0.6**
GSC	**Goldstone, Bar**	**57.12**	**75**			P		10 50 11.3	+14
GSC				IAmb		IAmb		10 50 20.5		
	comp=Z,12nm,1.1s									
FINES	**FINESS Array B**	**57.28**	**336**	P		**P**		**10 49 59.0**	**+0.7**
	comp=Z,23nm,0.7s,baz=34,slow=9.1,SNR=42									
FINES				LR		LR		11 19 03.6		
	comp=Z,133nm,20.0s,baz=60,slow=40									
	comp=Z,23nm,0.7s									
FINES	**FINESS Array B**	**57.28**	**336**	P		**P**		**10 49 59.0**	**+0.7**
SHL	**Shillong**	**57.79**	**268**	P		**P**		**10 50 02.0**	**-0.6**
SHL				pmax		pmax				
	comp=Z,49nm,0.6s									
RAF	**Rauma**	**58.58**	**338**	*e*P		**P**		**10 50 08.3**	**+1.0**
PFO	**Pinyon Flats O**	**58.59**	**76⇑**	*e*P		**P**		**10 50 08.5**	**+0.5**
PFO				pmax		pmax				
	comp=Z,7.0nm,1.1s									
BELG	**Belogornoye**	**58.60**	**319**	LR		LR		11 18 02.8		
	comp=Z,171nm,19.8s,baz=39,slow=39									
BELG	**Belogornoye**	**58.60**	**319**	*ce*P		**P**		**10 50 07.9**	**+0.3**
BELG				pmax		pmax				
	comp=Z,6.0nm,0.9s									
MEF	**Metsahovi**	**58.75**	**336**	*e*P		**P**		**10 50 09.8**	**+1.2**
ARBE	**Arbavere**	**59.09**	**335**	*e*P		**P**		**10 50 12.3**	**+1.5**
MOS	**Moscow**	**59.19**	**327**	*e*P		**P**		**10 50 11.4**	**-0.2**
MOS				*e**PP		**pP**		**10 50 32.6**	**-0.9**
MOS				*e**SP		**sP**		**10 50 41.5**	**-1.8**
MOS				*e*				10 52 23.2		
MOS				pmax		pmax				
	comp=Z,100nm,0.8s									
MOS				pmax		pmax				
	comp=Z,75nm,0.7s									
CMAR	**Chiang Mai Arr**	**59.61**	**257**	P		**P**		**10 50 15.2**	**0.0**
	comp=Z,3.9nm,0.7s,baz=20,slow=7.0,SNR=15									
CMAR				PcP		**PcP**		**10 51 01.2**	**-0.2**
	comp=Z,5.0nm,0.7s,baz=13,slow=2.9,SNR=14									
CMAR				LR		LR		11 16 46.1		
	comp=Z,56nm,20.3s,baz=35,slow=37									
	comp=Z,3.9nm,0.7s									
CMAR	**Chiang Mai Arr**	**59.61**	**257**	*i* P		**P**		**10 50 15.3**	**+0.2**
CMAR				pmax		pmax				
	comp=Z,4.0nm,0.7s									
AAL	**Aland**	**59.71**	**339**	*e*P		**P**		**10 50 15.9**	**+0.8**
VSU	**Vasula**	**59.78**	**334⇓**	*e*P		**P**		**10 50 16.2**	**+0.5**
DOMB	**Dombas**	**59.82**	**345**	*e*P		**P**		**10 50 16.9**	**+0.9**
CHGR	**Chuyangaron**	**59.92**	**295**	P		**P**		**10 50 16.4**	**-0.7**
CHGR				pmax		pmax				
	comp=Z,44nm,1.3s									
AKN	**Aaknes**	**59.97**	**346**	*e*P		**P**		**10 50 18.4**	**+1.3**
SIMJ	**Simiganj**	**59.99**	**295**	P		**P**		**10 50 16.7**	**-1.0**
OBN	**Obninsk**	**60.03**	**327**	LR		LR		11 18 31.7		
	comp=Z,149nm,21.7s,baz=12,slow=38									
OBN	**Obninsk**	**60.03**	**327**	*e*P		**P**		**10 50 17.1**	**-0.4**
OBN				pmax		pmax				
	comp=Z,38nm,1.0s									
OBN				MLR		MLR				
	comp=Z,129nm,17.0s									
MTSE	**Matsula**	**60.23**	**336**	*e*P		**P**		**10 50 20.5**	**+1.7**
NC303	**NORSAR Array S**	**60.26**	**344**	P		**P**		**10 50 19.6**	**+0.6**
NC204	**NORSAR Array S**	**60.31**	**344**	P		**P**		**10 50 20.4**	**+1.0**
NC405	**NORSAR Array S**	**60.32**	**344**	P		**P**		**10 50 20.0**	**+0.7**
NB201	**NORSAR Array S**	**60.44**	**344**	P		**P**		**10 50 20.9**	**+0.6**
NB2	**NORSAR Subarra**	**60.46**	**344**	P		**P**		**10 50 20.7**	**+0.3**
	comp=Z,37nm,0.8s,baz=18,slow=6.9									
NB2	**NORSAR Subarra**	**60.46**	**344**	P		**P**		**10 50 20.7**	**+0.3**
	baz=18,slow=6.9									
NOA	**NORSAR Array B**	**60.46**	**344**	P		**P**		**10 50 20.9**	**+0.5**
	comp=Z,22nm,0.8s,baz=19,slow=6.9,SNR=69									
	comp=Z,22nm,0.8s									
UPP	**Uppsala**	**60.47**	**340**	*e*P		**P**		**10 50 21.3**	**+0.9**
NBO00	**NORSAR Array S**	**60.54**	**344**	P		**P**		**10 50 20.5**	**-0.3**
NAO01	**NORSAR Array S**	**60.70**	**344**	P		**P**		**10 50 21.8**	**-0.1**
NAO01	**NORSAR Array S**	**60.70**	**344**	*e*P		**P**		**10 50 22.5**	**+0.5**
NC602	**NORSAR Array S**	**60.70**	**344**	P		**P**		**10 50 22.2**	**+0.2**
NC602				IAmb		IAmb		10 50 23.2		
	comp=Z,19nm,1.0s									
NC602	**NORSAR Array S**	**60.70**	**344**	*e*P		**P**		**10 50 22.4**	**+0.4**
HFS	**Hagfors**	**60.92**	**342**	P		**P**		**10 50 23.9**	**+0.4**
	comp=Z,18nm,0.6s,baz=33,slow=4.1,SNR=68									
	comp=Z,18nm,0.6s									
RABL	**Rabaul**	**60.95**	**190**	P		**P**		**10 50 25.2**	**+1.0**
SKAR	**Skarslia**	**61.24**	**345**	*e*P		**P**		**10 50 26.8**	**+1.1**
MYLDM	**Lahad Datu**	**61.34**	**231**	P		**P**		**10 50 25.0**	**-1.8**
MYLDM				IAmb		IAmb		10 50 29.2		
	comp=Z,40nm,1.4s									
LPSR	**Galich'ya Gora**	**61.43**	**324**	*e*P		**P**		**10 50 25.6**	**-1.4**
LPSR				pmax		pmax				
	comp=Z,70nm,0.7s									
SLIT	**Slitere, Latvi**	**61.56**	**336**	*e*P		**P**		**10 50 28.9**	**+1.1**
OSL	**Oslo**	**61.59**	**344**	*e*P		**P**		**10 50 29.3**	**+1.4**
NIL	**Nilore**	**61.67**	**289**	P		**P**		**10 50 28.7**	**-0.3**
NIL				pmax		pmax				
	comp=Z,39nm,1.0s									
VRH	**Novokhopyorsk**	**61.67**	**322**	*e*P		**P**		**10 50 27.9**	**-0.7**
VRH				pmax		pmax				
	comp=Z,42nm,0.6s									
VIKU	**Vikbolandet**	**61.91**	**340**	*e*P		**P**		**10 50 31.0**	**+0.9**
KONO	**Kongsberg**	**62.04**	**344**	P		**P**		**10 50 31.8**	**+0.8**
KONO				IAmb		IAmb		10 50 33.0		
	comp=Z,28nm,1.0s									
KONO	**Kongsberg**	**62.04**	**344**	*e*P		**P**		**10 50 32.0**	**+1.0**
KONO	**Kongsberg**	**62.04**	**344⇓**	*e*P		**P**		**10 50 31.8**	**+0.8**
KONO				pmax		pmax				
	comp=Z,40nm,1.7s									
VORR	**Voronezh**	**62.13**	**323**	*e*P		**P**		**10 50 29.5**	**-2.2**
SCHQ	**Schefferville**	**62.30**	**29**	P		**P**		**10 50 33.1**	**+0.2**
	comp=Z,3.6nm,0.7s,baz=346,slow=7.3,SNR=7.2									
SCHQ				LR		LR		11 20 09.3		
	comp=Z,41nm,18.1s,baz=258,slow=38									
	comp=Z,3.6nm,0.7s									
ISAL	**Salakas**	**62.52**	**333**	*e*P		**P**		**10 50 37.3**	**+3.1**
VSR	**Storozhevoye**	**62.53**	**323**	*e*P		**P**		**10 50 33.2**	**-1.2**
VSR				pmax		pmax				
	comp=Z,40nm,0.9s									
VORD	**Divnogorie**	**62.70**	**323**	*e*P		**P**		**10 50 34.5**	**-1.0**
VORD				pmax		pmax				
	comp=Z,20nm,0.5s									
ANMO	**Albuquerque**	**62.81**	**67⇓**	*e*P		**P**		**10 50 38.2**	**+1.4**
ANMO				pmax		pmax				
	comp=Z,9.0nm,3.0s									
MNK	**Minsk**	**63.03**	**332**	*i* P		**P**		**10 50 38.4**	**+0.8**
MNK				*i* *PP		**pP**		**10 51 03.2**	**+3.4**
MNK				*i*				10 51 15.2		
MNK				*i*				10 52 58.0		
MNK				*i* PPP		PPP		10 54 27.7		
MNK				*i* S		**S**		**10 59 01.5**	**+0.7**
MNK				pmax		pmax				
	comp=Z,42nm,0.9s									
MNK				pmax		pmax				
	comp=N,29nm,0.9s									
MNK				pmax		pmax				
	comp=E,5.0nm,0.8s									
MNK				MLR		MLR				
	comp=Z,187nm,20.0s									
MNK				MLR		MLR				
	comp=E,288nm,19.0s									
PABE	**Paberze**	**63.11**	**334**	*e*P		**P**		**10 50 39.6**	**+1.5**
PBUR	**Paburge**	**63.11**	**336**	*e*P		**P**		**10 50 39.4**	**+1.3**
KBL	**Kabul**	**63.16**	**292**	P		**P**		**10 50 35.2**	**-3.9**
KBL				IAmb		IAmb		10 50 38.1		
	comp=Z,17nm,0.8s									
KBL	**Kabul**	**63.16**	**292**	P		**P**		**10 50 35.2**	**-3.9**
KBL				pmax		pmax				
	comp=Z,17nm,0.8s									
121A	**Cookes Peak, D**	**64.01**	**70**	P		P		10 50 58.4	+14
121A				IAmb		IAmb		10 51 10.3		
	comp=Z,20nm,1.3s									
DEL	**Delary**	**64.35**	**341**	*e*P		**P**		**10 50 47.0**	**+0.8**
SUW	**Suwalki**	**64.66**	**334**	*e*P		**P**		**10 50 49.1**	**+0.8**
KLNR	**Kaliningrad**	**64.81**	**336⇓**	*e*P		**P**		**10 50 50.2**	**+1.0**
KLNR				pmax		pmax				
	comp=Z,75nm,1.4s									
BSD	**Bornholm Skovb**	**65.44**	**340**	*e*P		**P**		**10 50 54.5**	**+1.2**
HNR	**Honiara**	**65.70**	**181**	LR		LR		11 14 31.7		
	comp=Z,852nm,20.0s,baz=336,slow=31									
GEYT	**Alibeck**	**65.85**	**302**	P		**P**		**10 50 55.4**	**-0.9**
GEYT				IAmb		IAmb		10 50 57.4		
	comp=Z,44nm,1.5s									
GEYT	**Alibeck**	**65.85**	**302**	P		**P**		**10 50 55.9**	**-0.5**
	comp=Z,6.3nm,0.8s,baz=307,slow=3.2,SNR=14									
GEYT				PP		**PP**		**10 53 19.3**	**-2.4**
	comp=Z,3.6nm,0.8s,baz=32,slow=5.8,SNR=4.7									
GEYT				LR		LR		11 22 26.1		
	comp=Z,88nm,18.9s,baz=40,slow=38									
	comp=Z,6.3nm,0.8s									
GEYT	**Alibeck**	**65.85**	**302**	P		**P**		**10 50 55.4**	**-0.9**
GEYT				pmax		pmax				
	comp=Z,44nm,1.5s									
GYA0	**ALIBECK ARRAY**	**65.85**	**302**	P		**P**		**10 50 52.8**	**-3.5**
GYA0				pmax		pmax				
	comp=Z,30nm,1.5s									
GYA0B	**ALIBECK ARRAY**	**65.85**	**302**	P		**P**		**10 50 52.8**	**-3.6**
GYA0B				IAmb		IAmb		10 50 57.3		
	comp=Z,30nm,1.4s									
AKASG	**Malin Array Be**	**66.06**	**329**	P		**P**		**10 50 56.8**	**-0.6**
AKASG	**Malin Array Be**	**66.06**	**329**	P		**P**		**10 50 57.6**	**+0.1**
	comp=Z,18nm,0.5s,baz=27,slow=6.2,SNR=65									
AKASG				LR		LR		11 23 49.0		
	comp=Z,130nm,18.1s,baz=46,slow=40									
	comp=Z,18nm,0.5s									
AKASG	**Malin Array Be**	**66.06**	**329**	*i* P		**P**		**10 50 57.5**	**+0.1**
AKASG				pmax		pmax				
	comp=Z,19nm,0.5s									
AKBB	**Malin Array Si**	**66.06**	**329**	*c i* P		**P**		**10 50 57.4**	**0.0**
KIEV	**Kiev**	**66.07**	**329**	⇑P		**P**		**10 50 57.4**	**0.0**
KIEV	**Kiev**	**66.07**	**329**	P		**P**		**10 50 57.3**	**-0.2**
KIEV				IAmb		IAmb		10 50 58.5		
	comp=Z,30nm,0.8s									
KIEV	**Kiev**	**66.07**	**329**	P		**P**		**10 50 57.3**	**-0.2**
KIEV				pmax		pmax				
	comp=Z,30nm,0.8s									
KIEV	**Kiev**	**66.07**	**329**	P		**P**		**10 50 57.5**	**+0.1**
KIEV				pP		**pP**		**10 51 18.8**	**-1.0**
MI30	**MI30,Zelenitsa**	**66.31**	**330**	P		**P**		**10 50 58.8**	**-0.2**
SBUM	**Sibu**	**66.55**	**235**	P		**P**		**10 51 00.6**	**-0.4**
SBUM				IAmb		IAmb		10 51 02.7		
	comp=Z,28nm,1.1s									
MI29	**MI29, Kamyanyy**	**66.70**	**330**	P		**P**		**10 51 00.8**	**-0.7**
ERBR	**Yeremizino-Bor**	**66.76**	**319**	*e*P		**P**		**10 51 02.9**	**+0.9**
ERBR				pmax		pmax				
	comp=Z,59nm,1.8s									
KVAR	**Kislovodsk Arr**	**67.44**	**317**	LR		LR		11 24 45.4		
	comp=Z,114nm,19.4s,baz=262,slow=40									
KIV	**Kislovodsk**	**67.44**	**317**	*i* P		**P**		**10 51 06.8**	**+0.3**
KIV				*i*				10 51 34.1		
KIV				*i*				10 53 37.4		
KIV				*i* S		S		11 00 12.3	+17
KIV				pmax		pmax				
	comp=Z,13nm,1.3s									
KIV				MLR		MLR				
	comp=Z,81nm,18.0s									
KBZ	**Khabaz**	**67.55**	**316**	P		**P**		**10 51 07.8**	**+0.9**
	comp=Z,9.0nm,0.8s,baz=43,slow=3.2,SNR=18									
KBZ				LR		LR		11 24 33.6		
	comp=Z,123nm,18.9s,baz=26,slow=39									
	comp=Z,9.0nm,0.8s									
KBZ	**Khabaz**	**67.55**	**316**	*c i* P		**P**		**10 51 07.6**	**+0.6**
KBZ				pmax		pmax				
	comp=Z,12nm,0.9s									
LABN	**Labinsk**	**67.59**	**318**	*e*P		P		10 51 01.3	-6.0
LABN				pmax		pmax				
	comp=Z,36nm,0.5s									
SHA1	**Shidzhatmaz**	**67.64**	**317**	*ce*P		**P**		**10 51 09.0**	**+1.1**
EKA	**Eskdalemuir Ar**	**67.81**	**351**	P		**P**		**10 51 09.4**	**+1.0**
	comp=Z,5.2nm,0.5s,baz=17,slow=5.0,SNR=24									
	comp=Z,5.2nm,0.5s									
ESK	**Eskdalemuir**	**67.83**	**351**	P		**P**		**10 51 09.4**	**+0.8**
ESK				pP		**pP**		**10 51 30.0**	**-1.0**
ZKTA	**Zakatala**	**67.85**	**313**	P		**P**		**10 51 09.0**	**+0.1**
MGMO	**Mountain Grove**	**67.95**	**56**	IAmb		IAmb		10 51 34.6		
	comp=Z,11nm,0.8s									
SEKA	**Sheki**	**67.97**	**312**	P		**P**		**10 51 09.1**	**-0.7**
LVV	**L'vov**	**68.28**	**332**	*e*P		**P**		**10 51 11.8**	**+0.3**
LVV				*e*				10 51 34.3		
LVV				pmax		pmax				
	comp=Z,70nm,1.5s									
LVV	**L'vov**	**68.28**	**332**	P		**P**		**10 51 09.9**	**-1.6**
ONI	**Oni**	**68.31**	**315**	P		**P**		**10 51 09.6**	**-2.3**
ONI	**Oni**	**68.31**	**315**	P		**P**		**10 51 09.6**	**-2.3**
ONI				pmax		pmax				
	comp=Z,10.0nm,1.1s									
SORM	**Soroca**	**68.61**	**328**	⇑P		**P**		**10 51 13.4**	**-0.1**
SORM	**Soroca**	**68.61**	**328**	P		**P**		**10 51 13.4**	**-0.1**
ANN	**Anapa**	**68.64**	**321**	*e*P		**P**		**10 51 16.1**	**+2.3**
ANN				pmax		pmax				
	comp=Z,35nm,1.0s									
TXAR	**Lajitas Array**	**68.69**	**69**	P		**P**		**10 51 16.2**	**+1.7**
	comp=Z,5.1nm,0.8s,baz=301,slow=4.6,SNR=33									
TXAR				PcP		**PcP**		**10 51 38.6**	**-0.1**
	comp=Z,9.5nm,0.6s,baz=305,slow=4.3,SNR=24									
	comp=Z,5.1nm,0.8s									
KWP	**Kalwaria Pacla**	**68.80**	**333**	P		**P**		**10 51 16.3**	**+1.6**
KWP	**Kalwaria Pacla**	**68.80**	**333**	P		**P**		**10 51 16.3**	**+1.6**
KWP				pmax		pmax				
	comp=Z,85nm,1.0s									
GANJ	**Ganja**	**68.80**	**312**	P		**P**		**10 51 14.8**	**-0.1**
SOC	**Sochi**	**68.87**	**318**	*e*P		P		10 51 20.8	+5.5
SOC				*e*				10 53 49.4		
SOC				*e*PPP		PPP		10 55 30.5		
SOC				*e*SS		SS		11 04 37.3	-0.5
SOC				MLR		MLR				
	comp=Z,110nm,19.0s									
OJC	**Ojcow**	**68.97**	**335**	*e*P		**P**		**10 51 17.2**	**+1.4**
STHS	**Stebnicka Huta**	**69.36**	**333**	*e*P		**P**		**10 51 19.2**	**+1.0**
STHS	**Stebnicka Huta**	**69.36**	**333**	*e*P		**P**		**10 51 19.2**	**+1.0**
STHS				pmax		pmax				
	comp=Z,22nm,0.8s									
LPIG	**La Paz**	**69.36**	**77**	LR		LR		11 18 38.4		
	comp=Z,48nm,19.6s,baz=279,slow=33									
LKRN	**Lenkeran, Azer**	**69.39**	**309**	P		**P**		**10 51 18.4**	**-0.2**
CLL	**Collm**	**69.42**	**339**	IAmb		IAmb		10 51 20.4		
	comp=Z,32nm,1.1s									
CLL	**Collm**	**69.42**	**339⇑**	*i* P		**P**		**10 51 19.2**	**+0.7**
	comp=Z,38nm,1.1s									
CLL	**Collm**	**69.42**	**339⇑**	*i* P		**P**		**10 51 19.2**	**+0.7**
CLL				*e**PP		**PcP**		**10 51 45.0**	**+3.7**
CLL				pmax		pmax				
	comp=Z,38nm,1.1s									
OSTC	**Ostas**	**69.47**	**337**	*e*P		**P**		**10 51 21.1**	**+2.2**
OSTC	**Ostas**	**69.47**	**337**	*e*P		**P**		**10 51 21.1**	**+2.2**
WHAR	**Wooly Hollow**	**69.47**	**57**			P		10 51 32.7	+14
KOLS	**Kolonicke sedl**	**69.55**	**333**	*e*P		**P**		**10 51 20.5**	**+1.1**
KOLS	**Kolonicke sedl**	**69.55**	**333**	*e*P		**P**		**10 51 20.5**	**+1.1**
KOLS				pmax		pmax				
	comp=Z,18nm,0.8s									
UPC	**Upice**	**69.56**	**337**	*e*P		**P**		**10 51 21.2**	**+1.8**
UPC	**Upice**	**69.56**	**337**	*e*P		**P**		**10 51 21.2**	**+1.8**
MILM	**Milestii Mici**	**69.57**	**327**	*e*P		**P**		**10 51 19.5**	**0.0**
	comp=Z,35nm,0.8s									
DPC	**Dobruska-Polom**	**69.64**	**337**	*e*P		**P**		**10 51 21.5**	**+1.5**
DPC	**Dobruska-Polom**	**69.64**	**337**	*e*P		**P**		**10 51 21.5**	**+1.5**
BRG	**Berggiesshubel**	**69.64**	**339**	*i* P		**P**		**10 51 21.1**	**+1.2**
BRG				Amp				10 51 22.0		
	comp=Z,21nm,1.1s									
BRG	**Berggiesshubel**	**69.64**	**339**	P		**P**		**10 51 20.8**	**+0.9**
BRG				pmax		pmax				
	comp=Z,18nm,1.2s									
KULM	**Kulim**	**69.72**	**248**	P		**P**		**10 51 18.4**	**-2.5**
KULM				IAmb		IAmb		10 51 21.3		
	comp=Z,28nm,1.4s									
CRVS	**Cervenica-Dubn**	**69.78**	**333**	*e*P		**P**		**10 51 22.1**	**+1.3**
CRVS	**Cervenica-Dubn**	**69.78**	**333**	*e*P		**P**		**10 51 22.1**	**+1.3**
CRVS				pmax		pmax				
	comp=Z,18nm,1.0s									
KRLC	**Kraliky**	**69.80**	**337**	*e*P		**P**		**10 51 22.6**	**+1.7**
KRLC	**Kraliky**	**69.80**	**337**	*e*P		**P**		**10 51 22.6**	**+1.7**
GNI	**Garni**	**69.86**	**313**	LR		LR		11 25 59.2		
	comp=Z,139nm,21.8s,baz=34,slow=39									
GNI	**Garni**	**69.86**	**313**	*de*P		**P**		**10 51 23.3**	**+1.6**
GNI				pmax		pmax				
	comp=Z,15nm,1.1s									
MORC	**Moravsky Berou**	**69.91**	**336**	⇓P		**P**		**10 51 22.9**	**+1.3**
MORC	**Moravsky Berou**	**69.91**	**336**	*e*P		**P**		**10 51 22.9**	**+1.3**
MORC				*ep*P		**PcP**		**10 51 44.9**	**+1.4**
MORC	**Moravsky Berou**	**69.91**	**336**	P		**P**		**10 51 22.9**	**+1.3**
BURAR	**Bucovina Array**	**69.98**	**330**	⇓P		**P**		**10 51 23.1**	**+1.0**
BURAR	**Bucovina Array**	**69.98**	**330**	P		**P**		**10 51 22.4**	**+0.3**
BURAR				IAmb		IAmb		10 51 24.1		
	comp=Z,18nm,0.8s									
BURAR	**Bucovina Array**	**69.98**	**330**	P		**P**		**10 51 23.1**	**+1.0**
HSKC	**Hora Svate Kat**	**70.00**	**339**	*e*P		**P**		**10 51 23.4**	**+1.3**
LANS	**Liptovska Anna**	**70.04**	**334**	*e*P		**P**		**10 51 24.7**	**+2.2**
LANS	**Liptovska Anna**	**70.04**	**334**	*e*P		**P**		**10 51 24.7**	**+2.2**
LANS				pmax		pmax				
	comp=Z,20nm,0.8s									
VASR	**Vaslui**	**70.13**	**328**	⇓P		**P**		**10 51 23.9**	**+0.9**
IPM	**Ipoh**	**70.22**	**247**	P		P		10 51 19.2	-4.7
IPM				IAmb		IAmb		10 51 23.8		
	comp=Z,31nm,1.4s									
MOX	**Moxa**	**70.31**	**340**	P		**P**		**10 51 25.3**	**+1.3**
MOX				pmax		pmax				
	comp=Z,21nm,1.2s									
PRU	**Pruhonice**	**70.36**	**338**	*e*P		**P**		**10 51 26.0**	**+1.7**
PRU	**Pruhonice**	**70.36**	**338**	*e*P		**P**		**10 51 26.0**	**+1.7**
GOPC	**GO Pecny, Ondr**	**70.38**	**338**	*e*P		**P**		**10 51 26.4**	**+1.9**
GOPC	**GO Pecny, Ondr**	**70.38**	**338**	*e*P		**P**		**10 51 26.4**	**+1.9**
KECS	**Kecovo**	**70.42**	**334**	*e*P		**P**		**10 51 26.2**	**+1.5**
KECS	**Kecovo**	**70.42**	**334**	*e*P		**P**		**10 51 26.2**	**+1.5**
KECS				pmax		pmax				
	comp=Z,15nm,0.8s									
VRAC	**Vranov**	**70.56**	**336**	⇓P		**P**		**10 51 27.2**	**+1.6**
VRAC	**Vranov**	**70.56**	**336**	*e*P		**P**		**10 51 26.9**	**+1.3**
VRAC				*ep*P		**pP**		**10 51 49.0**	**+0.9**
VRAC	**Vranov**	**70.56**	**336**	P		**P**		**10 51 27.1**	**+1.6**
TESR	**Tescani**	**70.58**	**329**	⇓P		**P**		**10 51 26.4**	**+0.7**
JAVC	**Velka Javorina**	**70.74**	**336**	*e*P		**P**		**10 51 29.0**	**+2.3**
JAVC				*ep*P		**pP**		**10 51 50.8**	**+1.5**
WVT	**Waverly**	**70.80**	**53**	P		**P**		**10 51 27.7**	**+0.5**
WVT				pP		**pP**		**10 51 49.1**	**-0.9**
VYHS	**Vyhne**	**70.81**	**335**	*e*P		**P**		**10 51 28.6**	**+1.5**
VYHS	**Vyhne**	**70.81**	**335**	*e*P		**P**		**10 51 28.6**	**+1.5**
VYHS				pmax		pmax

FRGS	**Fruska Gora**	**73.68**	**333**	⇑P		**P**	**10 51 45.2**	**+0.9**
MYKA	**Terra Mystica**	**73.74**	**337**	*i* P		**P**	**10 51 46.2**	**+1.6**
	comp=Z,13nm,1.0s							
ABTA	**Abfaltersbach**	**73.86**	**338**	*e*P		**P**	**10 51 46.6**	**+1.3**
	comp=Z,18nm,1.0s,SNR=9.7							
DAVA	**Damuels**	**73.86**	**340**	*i* P		**P**	**10 51 44.6**	**-0.9**
	comp=Z,8.9nm,1.4s							
FETA	**Feichten**	**73.95**	**340**	*i* P		**P**	**10 51 47.8**	**+1.8**
	comp=Z,22nm,0.8s,SNR=13							
GCIS	**Gonji Cirnik**	**74.02**	**336**	*i* P		**P**	**10 51 47.3**	**+1.1**
BLKB	**Belogradchik**	**74.35**	**330**	⇓P		**P**	**10 51 48.5**	**+0.3**
DAVOX	**Davos/Dischmat**	**74.35**	**340**	P		**P**	**10 51 49.5**	**+1.1**
	comp=Z,9.1nm,0.7s,baz=344,slow=7.4,SNR=15							
	comp=Z,9.1nm,0.7s							
CLF	**Chambon-Foret**	**74.39**	**346**	IAmb		IAmb	10 51 50.5	
	comp=Z,21nm,1.2s							
BRTR	**Keskin Array B**	**74.44**	**321**	P		**P**	**10 51 47.4**	**-1.5**
BRTR	**Keskin Array B**	**74.44**	**321**	P		**P**	**10 51 48.9**	**0.0**
	comp=Z,3.9nm,1.0s,baz=25,slow=1.8,SNR=9.5							
BRTR				LR		LR	11 30 30.9	
	comp=Z,59nm,18.0s,baz=36,slow=40							
	comp=Z,3.9nm,1.0s							
BRTR	**Keskin Array B**	**74.44**	**321**	*i* P		**P**	**10 51 49.2**	**+0.3**
BRTR				pmax		pmax		
	comp=Z,5.0nm,1.0s							
GBRS	**Gornja Briga**	**74.53**	**336**	*i* P		**P**	**10 51 50.0**	**+0.8**
BOVS	**Bovan**	**74.60**	**331**	⇓P		**P**	**10 51 49.6**	**0.0**
GSI	**Gunungsitoli**	**74.69**	**248**	P		**P**	**10 51 47.4**	**-3.1**
GSI				IAmb		IAmb	10 51 52.5	
	comp=Z,18nm,1.0s							
CTI	**Castel Tesino**	**74.70**	**339**	IAmb		IAmb	10 51 51.9	
	comp=Z,11nm,0.6s							
MSVF	**Nonsavu**	**75.27**	**164**	⇓*e*P		**P**	**10 51 55.7**	**+2.0**
MSVF				pmax		pmax		
	comp=Z,7.0nm,1.1s							
PDG	**Podgorica**	**76.38**	**332**	⇓P		**P**	**10 52 00.1**	**+0.3**
PDG	**Podgorica**	**76.38**	**332**	IAmb		IAmb	10 52 01.0	
	comp=Z,15nm,1.0s							
CTAO	**Charters Tower**	**77.34**	**195**	P		**P**	**10 52 05.3**	**0.0**
CTAO				IAmb		IAmb	10 52 06.6	
	comp=Z,23nm,0.8s							
CTAO	**Charters Tower**	**77.34**	**195**	P		**P**	**10 52 05.3**	**0.0**
CTAO				pmax		pmax		
	comp=Z,23nm,0.8s							
UOSS	**Minazif**	**77.43**	**296**	P		**P**	**10 52 03.9**	**-2.0**
UOSS				IAmb		IAmb	10 52 04.7	
	comp=Z,8.6nm,0.6s							
WSAR	**Wadi Sarin**	**77.62**	**293**	P		**P**	**10 52 06.3**	**-0.7**
	comp=Z,4.6nm,0.8s,baz=90,slow=1.7,SNR=3.3							
	comp=Z,4.6nm,0.8s							
DZM	**Mont Dzumac**	**78.38**	**175**	*e*LR		LR	11 16 42.2	
	comp=Z,113nm,24.0s							
PALK	**Pallekele**	**78.80**	**266**	LR		LR	11 33 56.7	
	comp=Z,60nm,18.6s,baz=168,slow=41							
WRA	**Warramunga Arr**	**79.47**	**206**	P		**P**	**10 52 16.0**	**-1.0**
WRA	**Warramunga Arr**	**79.47**	**206**	P		**P**	**10 52 16.6**	**-0.5**
	comp=Z,8.8nm,0.8s,baz=13,slow=5.8,SNR=54							
WRA				LR		LR	11 26 35.3	
	comp=Z,25nm,21.9s,baz=74,slow=35							
	comp=Z,8.8nm,0.8s							
WRA	**Warramunga Arr**	**79.47**	**206**	*i* P		**P**	**10 52 17.1**	**+0.1**
WRA				pmax		pmax		
	comp=Z,9.0nm,0.8s							
MMAI	**Mount Meron Ar**	**79.75**	**316**	LR		LR	11 33 38.4	
	comp=Z,74nm,19.9s,baz=335,slow=40							
CEST	**Esterri de Car**	**79.85**	**345**	IAmb		IAmb	10 52 24.5	
	comp=Z,16nm,1.4s							
TIP	**Timpagrande**	**80.07**	**333**	⇓P		**P**	**10 52 21.4**	**+1.1**
FITZ	**Fitzroy Crossi**	**80.13**	**214**	P		**P**	**10 52 20.4**	**-0.1**
MVO	**Moncorvo**	**82.21**	**351**	*e*P		**P**	**10 52 36.2**	**+4.6**
VAE	**Valguarnera**	**82.27**	**334**	LR		LR	11 34 48.1	
	comp=Z,50nm,21.7s,baz=355,slow=40							
PVIS	**Viseu**	**82.72**	**352**	*e*P		**P**	**10 52 36.0**	**+1.7**
EIL	**Elat**	**82.90**	**315**	LR		LR	11 33 36.0	
	comp=Z,76nm,19.7s,baz=66,slow=39							
MTE	**Manteigas**	**83.01**	**351**	*e*P		**P**	**10 52 37.9**	**+2.1**
ASAR	**Alice Springs**	**83.16**	**205**	P		**P**	**10 52 36.6**	**+0.1**
	comp=Z,8.1nm,0.7s,baz=15,slow=4.9,SNR=143							
	comp=Z,8.1nm,0.7s							
CMIG	**Matias Romero**	**83.30**	**69**	LR		LR	11 31 58.8	
	comp=Z,50nm,18.9s,baz=182,slow=37							
ESDC	**Sonseca Array**	**83.38**	**349**	P		**P**	**10 52 38.4**	**+0.7**
	comp=Z,2.2nm,0.6s,baz=358,slow=4.7,SNR=18							
ESDC				LR		LR	11 33 21.0	
	comp=Z,22nm,18.7s,baz=4.5,slow=38							
	comp=Z,2.2nm,0.6s							
PCAS	**Casmilo, Conde**	**83.43**	**352**	*e*P		**P**	**10 52 39.0**	**+1.2**
PCBR	**Castelo Branco**	**83.56**	**351**	*e*P		**P**	**10 52 40.0**	**+1.5**
PMRV	**Marv?o**	**83.96**	**351**	*e*P		**P**	**10 52 41.8**	**+1.2**
TEIG	**Tepich**	**84.00**	**52**	LR		LR	11 32 50.6	
	comp=Z,399nm,20.7s,slow=38							
PMTG	**Montargil**	**84.39**	**352**	*e*P		**P**	**10 52 43.4**	**+0.7**
PPT2	**Papeete2**	**84.47**	**134**	*e*LR		LR	11 19 56.2	
	comp=Z,156nm,22.2s							
KEST	**Kesra**	**85.09**	**337**	P		**P**	**10 52 46.9**	**+0.5**
	comp=Z,3.2nm,0.4s,baz=332,slow=3.1,SNR=7.4							
KEST				LR		LR	11 35 35.5	
	comp=Z,33nm,18.4s,baz=292,slow=39							
	comp=Z,3.2nm,0.4s							
PBAR	**Barrancos**	**85.17**	**351**	*e*P		**P**	**10 52 47.6**	**+0.9**
PSA00	**Pilbara Seismi**	**85.27**	**218**	P		**P**	**10 52 45.5**	**-1.7**
PSA00				IAmb		IAmb	10 52 46.4	
	comp=Z,17nm,1.3s							
STKA	**Stephens Creek**	**89.61**	**197**	P		**P**	**10 53 08.1**	**+0.3**
STKA	**Stephens Creek**	**89.61**	**197**	P		**P**	**10 53 08.6**	**+0.8**
	comp=Z,3.9nm,0.7s,baz=8.9,slow=6.7,SNR=6.3							
	comp=Z,3.9nm,0.7s							
STKA	**Stephens Creek**	**89.61**	**197**	P		**P**	**10 53 08.1**	**+0.3**
STKA				pmax		pmax		
	comp=Z,4.0nm,1.3s							
SOCE	**Pocosol**	**94.21**	**64**	IAmb		IAmb	10 53 43.2	
	comp=Z,91nm,1.3s							
URZ	**Urewera**	**95.34**	**168**	LR		LR	11 30 56.0	
	comp=Z,41nm,19.6s,baz=202,slow=32							
TORD	**Torodi Ar. Bea**	**108.56**	**339**	PP		**PP**	**10 58 58.8**	**-5.6**
	comp=Z,1.6nm,1.0s,baz=16,slow=9.4,SNR=6.0							
VNDA	**Vanda**	**133.76**	**180**	PKP		**PKPdf**	**10 59 25.6**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=330,slow=4.8,SNR=6.4							
BOSA	**Boshof**	**138.38**	**293**	PKP		**PKPdf**	**10 59 35.2**	**-0.1**
	comp=Z,2.3nm,0.7s,baz=18,slow=1.6,SNR=4.1							
MAW	**Mawson**	**143.12**	**219**	PKhKP		PKPpre	10 59 39.0	
PLCA	**Paso Flores**	**143.23**	**87**	PKP		PKPbc	10 59 42.7	+1.8
	comp=Z,2.9nm,0.7s,baz=314,slow=3.4,SNR=9.3							
QSPA	**South Pole Qui**	**146.25**	**180**	PKPbc		**PKPdf**	**10 59 48.4**	**+0.5**
	comp=Z,19nm,0.5s,baz=311,slow=0.8,SNR=87							
ELIB	**Princess Elisa**	**156.80**	**212**	*d*PKP		**PKPab**	**11 00 33.6**	**-0.5**
TROLL	**Troll, Antarti**	**162.11**	**201**	⇑P		**PKPab**	**11 00 56.3**	**-0.9**
	comp=Z,416nm,0.8s							
SNAA	**Sanae**	**163.38**	**198**	⇑P		**PKPab**	**11 01 03.4**	**+0.7**
	comp=Z,91nm,1.1s							
SNAA	**Sanae**	**163.38**	**198**	PKPab		**PKPab**	**11 01 03.6**	**+0.9**
	comp=Z,3.3nm,0.9s,baz=159,slow=8.6,SNR=3.7							
VNA3	**Neumayer Olymp**	**164.71**	**191**	⇑P		**PKPab**	**11 01 08.1**	**-0.4**
	comp=Z,4.0nm,0.7s							
VNA2	**Neumayer--Watz**	**164.73**	**194**	⇑P		**PKPab**	**11 01 07.8**	**-0.8**
	comp=Z,5.2nm,0.7s,baz=155,slow=3.6							

CATAC ***21*** *10:44:05.6±0.5, 10°.16N×83°.97W, h94km±6km, ML3.6*
UCR ***21*** *10:44:05.3±1.0, 10°.20N×83°.96W, h98km±1km, MW4.2*
UPA ***21*** *10:44:05.4±2.1, 10°.29N×83°.78W, h6km±22km, ML3.9*

ISC 21 10:44:06.7±1.3,**10°.16N**±0°.03×**83°.94W**±0°.03,**h92**km±5km,
n120,σ1°**02**/170,**32C-44D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CVIMO	**Finca Echandi**	**0.13**	**180**	⇓*i*P		**Pn**	**10 44 19.6**	**-0.4**
CVIMO				*e*S		**Sn**	**10 44 30.5**	**+0.5**
RIFO	**Rio Frio, Sara**	**0.16**	**8**	⇓*i*P		**Pn**	**10 44 19.2**	**-0.7**
RIFO				*e*S		**Sn**	**10 44 29.3**	**-0.4**
CORON	**Coronado**	**0.19**	**198**	⇓*i*P		**Pn**	**10 44 19.8**	**-0.4**
CORON				*e*S		**Sn**	**10 44 30.9**	**+0.7**
VICA	**Volcano Irazu**	**0.20**	**150**	*e*P		**Pn**	**10 44 20.1**	**-0.5**
VTRT	**Volcan Turrial**	**0.21**	**136**	⇑*i*P		**Pn**	**10 44 20.2**	**-0.3**
HDC3	**Heredia 3**	**0.23**	**227**	*i* P		**Pn**	**10 44 19.6**	**-0.7**
HDC3				*i* S		**Sn**	**10 44 30.3**	**0.0**
HDC3				IAML			10 44 36.8	
	comp=Z,4μm,1.0s							
HDC3	**Heredia 3**	**0.23**	**227**	⇓*i*P		**Pn**	**10 44 19.7**	**-0.6**
HDC3				*e*S		**Sn**	**10 44 30.3**	**0.0**
DOMI	**Santo Domingo**	**0.23**	**220**	*e*P		**Pn**	**10 44 19.8**	**-0.5**
VTLA	**Turrialba Volc**	**0.23**	**133**	⇑*i*P		**Pn**	**10 44 20.1**	**-0.5**
VTLA				*e*S		**Sn**	**10 44 31.4**	**+0.7**
CVTR	**Volcan Turrial**	**0.23**	**127**	⇑*e*P		**Pn**	**10 44 20.1**	**-0.5**
CVTR				*e*S		**Sn**	**10 44 31.2**	**+0.4**
HDC	**Heredia**	**0.23**	**227**	⇓*e*P		**Pn**	**10 44 19.8**	**-0.5**
HDC				*e*S		**Sn**	**10 44 30.6**	**+0.3**
VTR0	**Volcan Turrial**	**0.23**	**127**	*e*P		**Pn**	**10 44 20.4**	**-0.2**
CVTQ	**Turrialba Volc**	**0.23**	**131**	⇑*e*P		**Pn**	**10 44 20.3**	**-0.2**
LUPE	**Guadalupe**	**0.23**	**208**	*e*P		**Pn**	**10 44 19.6**	**-0.7**
RAFA	**San Farael, Vo**	**0.24**	**146**	⇑*i*P		**Pn**	**10 44 20.4**	**-0.1**
RAFA				*e*S		**Sn**	**10 44 32.5**	**+1.8**
VTLO	**VTLO**	**0.24**	**118**	⇑*i*P		**Pn**	**10 44 20.0**	**-0.5**
SJS	**Escuela Geolog**	**0.24**	**207**	⇓*e*P		**Pn**	**10 44 19.7**	**-0.7**
SJS				*e*S		**Sn**	**10 44 30.4**	**0.0**
SJS3	**Mercedes San J**	**0.24**	**206**	⇓*e*P		**Pn**	**10 44 19.7**	**-0.6**
SJS3				*e*S		**Sn**	**10 44 31.0**	**+0.6**
CVTV	**Tajo**	**0.24**	**128**	⇑*i*P		**Pn**	**10 44 20.1**	**-0.5**
CVTV				*e*S		**Sn**	**10 44 31.8**	**+1.0**
MEXI	**Barrio Mexico**	**0.26**	**213**	*e*P		**Pn**	**10 44 20.7**	**+0.3**
OCM	**Ochomogo**	**0.26**	**184**	*e*P		**Pn**	**10 44 19.6**	**-0.9**
OCM				*e*S		**Sn**	**10 44 30.2**	**-0.4**
CENT	**San Jose**	**0.26**	**211**	⇓*e*P		**Pn**	**10 44 20.8**	**+0.4**
LUJA	**Lujan**	**0.26**	**209**	*e*P		**Pn**	**10 44 20.7**	**+0.3**
PCAYA	**Pacayas**	**0.27**	**151**	⇑*i*P		**Pn**	**10 44 20.2**	**-0.4**
PCAYA				*e*S		**Sn**	**10 44 31.0**	**+0.2**
VTCV	**VTCV, Calle Va**	**0.28**	**129**	⇑*i*P		**Pn**	**10 44 20.4**	**-0.2**
AMPA	**Desamparados**	**0.28**	**204**	⇑*e*P		**Pn**	**10 44 19.6**	**-0.9**
AMPA				*e*S		**Sn**	**10 44 30.6**	**-0.2**
TAGO	**Cartago**	**0.29**	**176**	*e*P		**Pn**	**10 44 20.8**	**+0.2**
CARI	**Cariari**	**0.29**	**45**	⇑*e*P		**Pn**	**10 44 21.1**	**+0.7**
CARI				*e*S		**Sn**	**10 44 32.5**	**+2.0**
BELE	**Belen**	**0.30**	**233**	⇓*i*P		**Pn**	**10 44 19.9**	**-0.6**
BELE				*e*S		**Sn**	**10 44 30.5**	**-0.3**
SARA	**Sarapiqu**	**0.30**	**346**	⇓*i*P		**Pn**	**10 44 19.7**	**-0.8**
SARA				*e*S		**Sn**	**10 44 30.3**	**-0.3**
SANTA	**Santa Ana**	**0.33**	**227**	⇓*i*P		**Pn**	**10 44 19.4**	**-1.2**
SANTA				*e*S		**Sn**	**10 44 30.1**	**-1.0**
REPA	**Paraso**	**0.34**	**167**	⇑*e*P		**Pn**	**10 44 21.1**	**+0.3**
REPA				*e*S		**Sn**	**10 44 32.6**	**+1.4**
RVLA	**Villa Bonita**	**0.35**	**98**	⇑*i*P		**Pn**	**10 44 20.7**	**0.0**
RVLA				*e*S		**Sn**	**10 44 32.5**	**+1.4**
TURIB	**Turrialba**	**0.35**	**134**	⇑*i*P		**Pn**	**10 44 20.2**	**-0.6**
TURIB				*e*S		**Sn**	**10 44 31.5**	**+0.2**
GREC	**Grecia**	**0.37**	**257**	⇓*i*P		**Pn**	**10 44 20.4**	**-0.5**
GREC				*e*S		**Sn**	**10 44 32.3**	**+0.8**
TCS1	**Tacares**	**0.37**	**252**	*e*P		**Pn**	**10 44 20.4**	**-0.5**
LCOCO	**El Coco**	**0.39**	**101**	⇑*i*P		**Pn**	**10 44 20.7**	**-0.2**
LCR2	**La Lucha 2**	**0.42**	**188**	⇑*e*P		**Pn**	**10 44 20.5**	**-0.9**
LCR2				*e*S		**Sn**	**10 44 32.0**	**-0.2**
ITAL	**Pital**	**0.44**	**312**	⇓*i*P		**Pn**	**10 44 21.4**	**+0.2**
IRES	**Siquirres**	**0.44**	**98**	⇑*i*P		**Pn**	**10 44 21.2**	**0.0**
IRES				*e*S		**Sn**	**10 44 33.1**	**+1.0**
ZARE	**Zarcero**	**0.44**	**274**	⇓*i*P		**Pn**	**10 44 21.1**	**-0.4**
CPMI	**Catarata Coope**	**0.45**	**286**	⇓*i*P		**Pn**	**10 44 20.9**	**-0.7**
ABE2	**San Pablo**	**0.46**	**194**	*e*P		**Pn**	**10 44 21.0**	**-0.7**
ABE2				*e*S		**Sn**	**10 44 32.7**	**-0.1**
RAZU	**San Marcos de**	**0.50**	**189**	⇓*i*P		**Pn**	**10 44 21.0**	**-0.9**
RAZU				*e*S		**Sn**	**10 44 33.2**	**0.0**
TRT1	**Tortuguero**	**0.50**	**29**	⇓*i*P		**Pn**	**10 44 21.0**	**-0.7**
RAMO	**San Ramon**	**0.52**	**262**	⇓*i*P		**Pn**	**10 44 21.1**	**-0.9**
RAMO				*e*S		**Sn**	**10 44 33.1**	**-0.2**
TRB2	**Turrubares**	**0.55**	**244**	⇓*e*P		**Pn**	**10 44 21.2**	**-0.9**
TRB2				*e*S		**Sn**	**10 44 33.5**	**-0.1**
BATAN	**Batan**	**0.56**	**96**	⇑*i*P		**Pn**	**10 44 22.0**	**-0.2**
BATAN				*e*S		**Sn**	**10 44 35.0**	**+1.3**
CDM	**Cerro de Muert**	**0.62**	**163**	⇑*i*P		**Pn**	**10 44 22.4**	**-0.9**
CDM				*e*S		**Sn**	**10 44 35.1**	**-0.4**
BUS1	**Rivas**	**0.63**	**162**	⇑*i*P		**Pn**	**10 44 22.4**	**-0.9**
BUS1				*e*S		**Sn**	**10 44 35.0**	**-0.6**
LLNJ	**Naranjito**	**0.70**	**193**	⇑*i*P		**Pn**	**10 44 22.8**	**-0.7**
LLNJ				*e*S		**Sn**	**10 44 35.9**	**+0.1**
SOCE	**Pocosol**	**0.70**	**289**	*i* P		**Pn**	**10 44 22.5**	**-1.0**
SOCE				IAML			10 44 22.9	
	comp=Z,5μm,1.0s							
SOCE				*i* S		**Sn**	**10 44 40.0**	**+4.0**
SOCE	**Pocosol**	**0.70**	**289**	⇓*i*P		**Pn**	**10 44 22.8**	**-0.7**
COVE	**Coope Vega, Sa**	**0.72**	**321**	*i* P		**Pn**	**10 44 22.4**	**-1.2**
COVE				IAML			10 44 22.6	
	comp=Z,1μm,1.0s							
COVE	**Coope Vega, Sa**	**0.72**	**321**	⇓*i*P		**Pn**	**10 44 22.5**	**-1.1**
RITA	**Parrita**	**0.74**	**211**	*e*P		**Pn**	**10 44 23.5**	**-0.3**
SVQ2	**Quepos**	**0.75**	**197**	*e*P		**Pn**	**10 44 23.2**	**-0.7**
TUNA	**La Fortuna**	**0.76**	**294**	⇓*i*P		**Pn**	**10 44 23.3**	**-0.7**
VACR	**Volcan Arenal**	**0.79**	**294**	⇓*i*P		**Pn**	**10 44 23.6**	**-0.8**
PEZE	**Perez Zeledon,**	**0.81**	**161**	⇑*e*P		**Pn**	**10 44 23.8**	**-0.9**
ZELE	**Perez Zeledon**	**0.81**	**163**	*e*P		**Pn**	**10 44 23.8**	**-1.2**
ZELE				*e*S		**Sn**	**10 44 38.0**	**-0.1**
CEDE	**Laguna Cedeo**	**0.82**	**294**	⇓*i*P		**Pn**	**10 44 23.9**	**-0.7**
ARE1	**Arenal 1**	**0.82**	**292**	⇓*i*P		**Pn**	**10 44 23.9**	**-0.7**
JACO	**JACO, Garabito**	**0.86**	**235**	*e*P		**Pn**	**10 44 24.2**	**-0.8**
JTS	**Las Juntas de**	**1.00**	**278**	⇓*e*P		**Pn**	**10 44 25.6**	**-0.9**
JTS				*e*S		**Sn**	**10 44 43.6**	**+2.1**
JTS	**Las Juntas de**	**1.00**	**278**	⇓*i*P		**Pn**	**10 44 25.7**	**-0.9**
JUNT	**Juntas**	**1.01**	**277**	⇓*e*P		**Pn**	**10 44 25.7**	**-0.9**
LAFE	**Finca La Fe, P**	**1.01**	**250**	*e*P		**Pn**	**10 44 26.8**	**+0.1**
SRBA	**San Rafael, Bu**	**1.08**	**148**	⇑*i*P		**Pn**	**10 44 26.8**	**-0.9**
OCHAL	**Ojochal**	**1.09**	**164**	*i* P		**Pn**	**10 44 26.9**	**-0.8**
OCHAL				*i* S		**Sn**	**10 44 43.5**	**+0.1**
OCHAL				IAML			10 44 47.6	
	comp=Z,2μm,1.0s							
OCHAL	**Ojochal**	**1.09**	**164**	⇑*i*P		**Pn**	**10 44 27.0**	**-0.7**
OCHAL				*e*S		**Sn**	**10 44 43.3**	**-0.1**
DRK0	**Durika**	**1.12**	**142**	⇑*i*P		**Pn**	**10 44 27.5**	**-0.7**
DRK0				*e*S		**Sn**	**10 44 43.9**	**-0.4**
VERA	**Finca Concepci**	**1.14**	**307**	⇓*i*P		**Pn**	**10 44 27.1**	**-1.1**
BURE	**Buenos Aires**	**1.15**	**148**	⇑*i*P		**Pn**	**10 44 27.7**	**-0.6**
TENO	**El Achiote**	**1.15**	**298**	⇓*e*P		**Pn**	**10 44 27.6**	**-0.8**
TENO				*e*S		**Sn**	**10 44 48.5**	**+3.8**
LCHIL	**Los Chiles**	**1.16**	**319**	⇓*i*P		**Pn**	**10 44 27.2**	**-1.1**
LCHIL				*e*S		**Sn**	**10 44 43.8**	**-0.9**
CNAS	**Canas**	**1.16**	**284**	⇓*i*P		**Pn**	**10 44 28.9**	**+0.4**
CBL1	**Cabuya**	**1.26**	**244**	⇑*i*P		**Pn**	**10 44 28.3**	**-1.4**
CBL1				*e*S		**Sn**	**10 44 46.6**	**-0.3**
EDPN	**Palmar Norte**	**1.28**	**158**	*e*P		**Pn**	**10 44 28.9**	**-1.0**
CUI	**Cuipilapa**	**1.30**	**293**	⇓*i*P		**Pn**	**10 44 29.2**	**-0.9**
NYURE	**Nandayure**	**1.30**	**263**	*e*P		**Pn**	**10 44 29.5**	**-0.6**
VMAR	**Armenia, Volca**	**1.32**	**300**	⇓*i*P		**Pn**	**10 44 29.6**	**-0.8**
COLC	**Colonia**	**1.34**	**292**	⇓*i*P		**Pn**	**10 44 29.8**	**-0.8**
EDP2	**Potrero Grande**	**1.36**	**146**	⇑*i*P		**Pn**	**10 44 30.5**	**-0.4**
EDP2				*e*S		**Sn**	**10 44 49.7**	**+0.6**
NICO	**Nicoya**	**1.48**	**269**	⇓*e*P		**Pn**	**10 44 31.8**	**-0.5**
ORTG	**Ortega, Santa**	**1.50**	**278**	⇓*e*P		**Pn**	**10 44 31.7**	**-1.0**
GPS3	**Bodega del ICE**	**1.52**	**293**	⇓*i*P		**Pn**	**10 44 33.8**	**+1.0**
GPS3				*e*S		**Sn**	**10 44 56.5**	**+3.8**
DUNO	**Dulce Nombre,**	**1.53**	**267**	*e*P		**Pn**	**10 44 32.1**	**-0.9**
VORI	**VORI**	**1.53**	**296**	*e*P		**Pn**	**10 44 31.6**	**-1.5**
VRLE	**La Escondida,**	**1.53**	**294**	⇓*i*P		**Pn**	**10 44 32.2**	**-0.9**
JUD3	**Juan Diaz 3**	**1.57**	**270**	*e*P		**Pn**	**10 44 32.7**	**-0.8**
GB1A	**Borinquen Arri**	**1.57**	**295**	⇓*e*P		**Pn**	**10 44 32.9**	**-0.7**
DELF	**Filadelfia**	**1.61**	**281**	*e*P		**Pn**	**10 44 33.7**	**-0.2**
SACU	**Santa Cruz**	**1.62**	**274**	*e*P		**Pn**	**10 44 33.6**	**-0.5**
ALIBA	**Liberia Airpor**	**1.63**	**286**	⇓*i*P		**Pn**	**10 44 34.6**	**+0.4**
ALIBA				*e*S		**Sn**	**10 44 57.4**	**+2.2**
ELI1	**Hacienda Flor**	**1.66**	**287**	*e*P		**Pn**	**10 44 33.5**	**-1.0**
EDAD	**Golfito**	**1.68**	**153**	*e*P		**Pn**	**10 44 33.1**	**-1.8**
FITO	**Golfito**	**1.71**	**153**	*e*P		**Pn**	**10 44 33.0**	**-2.3**
HZTE	**Horizontes, Gu**	**1.72**	**289**	⇓*i*P		**Pn**	**10 44 34.5**	**-0.8**
JIME	**Puerto Jimenez**	**1.72**	**159**	*e*P		**Pn**	**10 44 35.6**	**+0.2**
PTJ1	**Puerto Jimnez**	**1.73**	**158**	*e*P		**Pn**	**10 44 34.6**	**-0.9**
MLIR3	**Monte Lirio, C**	**1.75**	**141**	*e*P		**Pn**	**10 44 37.2**	**+1.3**
BRU2	**Volcan**	**1.83**	**137**	*i* P		**Pn**	**10 44 36.6**	**-0.4**
BRU2				*i* S		**Sn**	**10 44 59.9**	**-0.1**
BRU2				IAML			10 45 06.3	
	comp=Z,1μm,1.0s							
BRU2	**Volcan**	**1.83**	**137**	⇑*i*P		**Pn**	**10 44 36.6**	**-0.4**
PIRO	**Carate, Puerto**	**1.84**	**161**	*e*P		**Pn**	**10 44 37.0**	**+0.1**
LCRUZ	**La Cruz**	**1.89**	**299**	⇓*i*P		**Pn**	**10 44 37.7**	**+0.1**
CDITO	**Canoas**	**1.90**	**146**	⇑*i*P		**Pn**	**10 44 36.4**	**-1.2**
BCO2	**Palmira**	**2.00**	**136**	⇑*e*P		**Pn**	**10 44 38.9**	**-0.3**
BCO2				AMP			10 44 39.3	
	comp=Z,829nm,0.2s							
LNBQ3	**Los Naranjos,**	**2.01**	**132**	*e*P		**Pn**	**10 44 39.3**	**+0.1**
LNBQ3				*e*S		**Sn**	**10 45 05.4**	**+1.3**
ESPN	**Las Esperanzas**	**2.06**	**350**	*i* P		**Pn**	**10 44 38.8**	**-1.0**
ESPN				*i* S		**Sn**	**10 45 04.3**	**-0.6**
ESPN				IAML			10 45 12.7	
	comp=Z,270nm,1.0s							
ESPN	**Las Esperanzas**	**2.06**	**350**	⇑*i*P		**Pn**	**10 44 38.8**	**-1.0**
OMEN	**Al SSO del Vol**	**2.13**	**309**	*i* P		**Pn**	**10 44 38.0**	**-2.7**
OMEN				IAML			10 44 50.2	
	comp=Z,260nm,1.0s							
ACON	**Acoyapa**	**2.17**	**326**	*i* P		**Pn**	**10 44 40.0**	**-1.3**
ACON				IAML			10 44 51.1	
	comp=Z,270nm,1.0s							
ACON				*i* S		**Sn**	**10 45 06.6**	**-1.0**
ACON	**Acoyapa**	**2.17**	**326**	*e*P		**Pn**	**10 44 39.9**	**-1.3**
MORN	**Al O´del Volca**	**2.17**	**310**	*i* P		**Pn**	**10 44 39.3**	**-2.0**
MORN				IAML			10 44 51.3	
	comp=Z,380nm,1.0s							
JAPN	**Al SSO del Vol**	**2.18**	**309**	*i* P		**Pn**	**10 44 39.9**	**-1.5**
JAPN				IAML			10 44 51.6	
	comp=Z,340nm,1.0s							
PTPM	**Petroterminale**	**2.21**	**151**	⇓*e*P		**Pn**	**10 44 43.0**	**+1.3**
PTPM				*e*S		**Sn**	**10 45 11.3**	**+2.8**
COPN	**Copaltepe**	**3.29**	**308**	*i* P		**Pn**	**10 44 56.0**	**-0.1**
COPN				IAML			10 45 39.1	
	comp=Z,62nm,1.0s							
MACN	**El Madrono**	**3.53**	**311**	*i* P		**Pn**	**10 44 59.3**	**-0.1**
MACN				IAML			10 45 50.4	
	comp=Z,43nm,1.0s							
PRVC	**Isla de Provid**	**4.08**	**38**	*i* P		**Pn**	**10 45 05.9**	**-1.0**
PRVC				IAML			10 45 14.8	
	comp=Z,29nm,1.0s							

comp=Z,0.5nm,0.3s
MKAR Makanchi Array 15.44 10 P **Pn** **10 54 38.8 -1.9**
OTUK Ortayu 17.25 346 ⇓P **Pn** **10 55 02.5 -1.1**
comp=Z,21nm,1.1s
OTUK Ortayu 17.25 346 P **Pn** **10 55 02.5 -1.1**
GEYT Alibeck 17.84 296 P **Pn** **10 55 07.8 -3.3**
comp=Z,1.0nm,0.2s,baz=120,slow=10,SNR=3.6
GEYT LR LR 11 03 22.3
comp=Z,107nm,20.2s,baz=138,slow=42
GEYT Alibeck 17.84 296 *e*P **P** **10 55 12.2 +0.6**
TNCH TengChong 18.83 105 *e*P **Pn** **10 55 23.8 +0.4**
TNCH pmax pmax
comp=Z,130nm,4.0s
KURBB Kurchatov Arra 18.99 0 ⇑P **P** **10 55 20.9 -3.1**
comp=Z,15nm,1.4s
KURBB Kurchatov Arra 18.99 0 P **P** **10 55 20.6 -3.4**
comp=Z,7.1nm,1.0s,baz=189,slow=11,SNR=20
KURBB Kurchatov Arra 18.99 0 P **P** **10 55 20.9 -3.1**
GTA Gaotai 19.02 60 P **Pn** **10 55 27.3 +1.8**
GTA pmax pmax
comp=Z,7.0nm,0.9s
KURK Kurchatov 19.08 0 ⇓P **P** **10 55 21.3 -3.7**
comp=Z,19nm,1.1s
KURK Kurchatov 19.08 0 P **P** **10 55 22.5 -2.5**
KURK Kurchatov 19.08 0 P **P** **10 55 22.5 -2.5**
KURK pmax pmax
comp=Z,16nm,1.0s
WSAR Wadi Sarin 19.46 249 P **Pn** **10 55 30.6 -0.1**
comp=Z,0.1nm,0.3s,baz=31,slow=12,SNR=1.8
WSAR LR LR 11 04 03.4
comp=Z,81nm,18.6s,baz=96,slow=40
comp=Z,3.7nm,1.0s
PZH PanZhiHua 20.97 98 P **P** **10 55 48.0 +2.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
LZH Lanzhou 21.53 71 *e*P **P** **10 55 53.3 +1.4**
LZH pP pP 10 55 57.5 -4.4
LZH pmax pmax
comp=Z,16nm,1.2s
BVA0 Borovoye Array 22.18 347 ⇓P **P** **10 55 57.6 -0.9**
comp=Z,25nm,1.2s,baz=154,slow=11,SNR=49
BVA0 Borovoye Array 22.18 347 P **P** **10 55 57.6 -0.9**
BVAR Borovoye Array 22.18 347 P **P** **10 55 57.6 -1.0**
comp=Z,7.0nm,0.4s,baz=150,slow=11,SNR=32
comp=Z,7.0nm,0.4s
BRVK Borovoye 22.23 347 ⇑P **P** **10 55 57.5 -1.6**
comp=Z,29nm,1.3s
BRVK Borovoye 22.23 347 P **P** **10 55 57.6 -1.6**
BRVK IAmb IAmb 10 56 08.7
comp=Z,14nm,0.8s
BRVK Borovoye 22.23 347 *d i*P **P** **10 55 58.0 -1.1**
BRVK pmax pmax
comp=Z,13nm,1.1s
KMI Kunming 22.30 101 ⇓P **P** **10 56 03.3 +3.0**
KMI S **S** **11 00 04.8 +0.8**
KMI pmax pmax
comp=Z,17nm,0.9s
KMI pmax pmax
comp=Z,75nm,8.7s
KMI LR LR
comp=Z,300nm,21.0s
KMI LR LR
comp=Z,120nm,18.0s
KMI LR LR
comp=Z,200nm,22.9s
CHTO Chiang Mai 22.45 120 P **P** **10 56 01.7 0.0**
CHTO Chiang Mai 22.45 120 P **P** **10 56 01.7 0.0**
AB31 Akbulak array 22.46 327 P **P** **10 56 00.6 -1.0**
comp=Z,3.8nm,0.6s,baz=128,slow=10,SNR=40
AB31 Akbulak array 22.46 327 P **P** **10 56 00.6 -1.0**
ABKAR Akbulak array 22.46 327 P **P** **10 56 00.3 -1.2**
ABKAR IAmb IAmb 10 56 02.4
comp=Z,11nm,1.0s
ABKAR Akbulak array 22.46 327 P **P** **10 56 00.2 -1.3**
CMAR Chiang Mai Arr 22.67 120 P **P** **10 56 04.2 +0.1**
CMAR Chiang Mai Arr 22.67 120 P **P** **10 56 04.0 0.0**
comp=Z,4.5nm,0.8s,baz=313,slow=10,SNR=30
comp=Z,4.5nm,0.8s
CMAR Chiang Mai Arr 22.67 120 *e*P **P** **10 56 04.5 +0.4**
CMAR pmax pmax
comp=Z,5.0nm,0.9s
CRAI Chiangrai 22.70 115 P **P** **10 56 04.1 -0.2**
ZAA0 Zalesovo Array 22.78 10 P **P** **10 56 03.4 -1.6**
ZAA0 IAmb IAmb 10 56 08.5
comp=Z,9.2nm,0.9s
ZALV Zalesovo Beam 22.78 10 P **P** **10 56 03.2 -1.7**
comp=Z,4.2nm,0.5s,baz=203,slow=9.7,SNR=16
comp=Z,4.2nm,0.5s
ZALV Zalesovo Beam 22.78 10 *e*P **P** **10 56 04.1 -0.8**
ZALV pmax pmax
comp=Z,4.0nm,0.5s
PHRA Phrae 23.60 118 P **P** **10 56 13.1 -0.3**
PALK Pallekele 24.31 175 LR LR 11 04 42.4
comp=Z,172nm,19.6s,baz=99,slow=34
SONM Songino Array 26.71 45 P **P** **10 56 41.2 -0.5**
SONM IAmb IAmb 10 56 56.2
comp=Z,11nm,1.4s
SONM Songino Array 26.71 45 P **P** **10 56 42.4 +0.7**
comp=Z,5.5nm,0.9s,baz=238,slow=9.6,SNR=18
comp=Z,5.5nm,0.9s
SONM Songino Array 26.71 45 P **P** **10 56 41.2 -0.5**
SONM pmax pmax
comp=Z,11nm,1.4s
ULN Ulaanbaatar 27.12 45 P **P** **10 56 45.1 -0.3**
ULN Ulaanbaatar 27.12 45 P **P** **10 56 45.1 -0.3**
ULN pmax pmax
comp=Z,4.0nm,0.9s
HHC Hu-ho-hao-te 28.11 62 *e*P **P** **10 56 53.4 -0.9**
HHC pmax pmax
comp=Z,15nm,0.7s
HHC pmax pmax
comp=Z,100nm,5.7s
HHC LR LR
comp=Z,370nm,16.0s
HHC LR LR
comp=Z,210nm,16.0s
HHC LR LR
comp=Z,220nm,16.0s
XLT XiLinHaoTe 31.91 57 *e*P **P** **10 57 26.0 -1.8**
XLT pP pP 10 57 30.0 -8.5
XLT sP sP 10 57 32.9 -10
XLT pmax pmax
comp=Z,12nm,0.8s
XLT pmax pmax
comp=Z,94nm,5.5s
SOC Sochi 32.65 303 *e*P **P** **10 57 32.8 -1.5**
SOC *e* 10 58 42.0
SOC *e*PPP PPP 10 58 55.3
SOC *e*S **S** **11 02 50.3 +2.1**
SOC *e*SS **SnSn** **11 04 46.2 +1.8**
SOC *e*SSS SSS 11 05 03.7
SOC MLR MLR
comp=Z,88nm,19.0s
GSI Gunungsitoli 35.15 145 P **P** **10 57 57.5 +1.3**
BRTR Keskin Array B 36.98 295 P **P** **10 58 12.3 +0.4**
comp=Z,0.8nm,0.5s,baz=116,slow=6.6,SNR=2.4
comp=Z,0.8nm,0.5s
OBN Obninsk 37.64 321 *e*P **P** **10 58 17.5 +0.5**
OBN pmax pmax
comp=Z,7.0nm,0.8s
KSRS Korea Array 40.79 68 P **P** **10 58 42.8 -0.8**
comp=Z,2.2nm,0.7s,baz=273,slow=9.2,SNR=8.7
comp=Z,2.2nm,0.7s
KSRS Korea Array 40.79 68 *e*P **P** **10 58 45.4 +1.8**
KSRS pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 40.81 313 P **P** **10 58 43.2 -0.4**
comp=Z,2.8nm,0.7s,baz=78,slow=7.3,SNR=16
comp=Z,2.8nm,0.7s
AKASG Malin Array Be 40.81 313 *e*P **P** **10 58 43.1 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 40.81 313 P **P** **10 58 43.0 -0.6**
AKBB IAmb IAmb 10 58 48.0
comp=Z,10nm,0.8s
AKBB Malin Array Si 40.81 313 P **P** **10 58 43.0 -0.6**
AKBB pmax pmax
comp=Z,10.0nm,0.9s
KIEV Kiev 40.82 313 P **P** **10 58 42.9 -0.8**
KIEV IAmb IAmb 10 58 48.0
comp=Z,9.3nm,0.8s
KIEV Kiev 40.82 313 P **P** **10 58 42.9 -0.8**
KIEV pmax pmax
comp=Z,9.0nm,0.9s
MLR Muntele Rosu 42.61 304 P **P** **10 58 58.5 -0.1**
comp=Z,2.8nm,0.6s,baz=117,slow=4.5,SNR=4.9
comp=Z,2.8nm,0.6s
KLR Kul'dur 43.26 50 *e*P **P** **10 59 06.2 +2.6**
KLR pmax pmax
comp=Z,3.0nm,1.3s
USA0B Ussuriysk Arra 43.35 57 ⇓*e*P **P** **10 59 03.4 -1.0**
LVZ Lovozero 44.28 338 ⇓*e*P **P** **10 59 11.1 -0.5**
LVZ pmax pmax
comp=Z,18nm,1.4s
YAK Yakutsk 44.60 32 ⇑*e*P **P** **10 59 12.7 -1.5**
YAK pmax pmax
comp=Z,15nm,0.7s
FINES FINESS Array B 44.95 327 P **P** **10 59 16.7 -0.2**
comp=Z,1.4nm,0.6s,baz=99,slow=12,SNR=2.4
comp=Z,1.4nm,0.6s
ARCES ARCESS Array B 48.00 338 P **P** **10 59 41.4 +0.5**
comp=Z,6.0nm,1.0s,baz=119,slow=9.8,SNR=7.1
ARCES LR LR 11 21 20.5
comp=Z,74nm,18.8s,baz=92,slow=38
comp=Z,6.0nm,1.0s
TIXI Tiksi 48.16 19 P **P** **10 59 43.8 +1.8**
TIXI IAmb IAmb 10 59 50.3
comp=Z,3.4nm,0.8s
TIXI Tiksi 48.16 19 ⇑*e*P **P** **10 59 43.7 +1.7**
TIXI pmax pmax
comp=Z,4.0nm,1.1s
MJAR Matsushiro Arr 49.05 67 P **P** **10 59 47.9 -1.5**
comp=Z,1.5nm,0.8s,baz=287,slow=10,SNR=4.4
comp=Z,1.5nm,0.8s
MJA0 Matsu Arr-Jizo 49.08 67 *e*P **P** **10 59 49.6 -0.1**
MJA0 pmax pmax
comp=Z,1.0nm,0.9s
HFS Hagfors 50.68 324 P **P** **11 00 02.2 +0.9**
comp=Z,3.5nm,0.6s,baz=108,slow=9.3,SNR=7.8
HFS LR LR 11 22 31.4
comp=Z,143nm,20.6s,baz=44,slow=37
comp=Z,3.5nm,0.6s
ASAJ Asahikawa 50.96 57 LR LR 11 24 17.3
comp=Z,100nm,20.5s,baz=138,slow=39
CLL Collm 51.05 313 *e*Px Px 11 00 07.0
CLL Collm 51.05 313 *e*P **P** **11 00 07.0 +2.7**
JHJ Hachijo jima 2 51.15 71 LR LR 11 24 12.1
comp=Z,158nm,19.3s,baz=78,slow=39
NB2 NORSAR Subarra 51.95 325 P **P** **11 00 11.9 +1.0**
comp=Z,3.1nm,0.8s,baz=93,slow=6.9
NOA NORSAR Array B 51.95 325 P **P** **11 00 11.2 +0.3**
comp=Z,1.0nm,0.6s,baz=93,slow=8.9,SNR=1.9
comp=Z,1.0nm,0.6s
SPITS Spitsbergen Ar 53.64 347 LR LR 11 26 51.5
comp=Z,107nm,19.9s,baz=76,slow=40
MA2 Magadan 54.48 37 LR LR 11 24 05.7
comp=Z,96nm,21.3s,baz=138,slow=36
MA2 Magadan 54.48 37 ⇑*e*P **P** **11 00 29.7 +0.2**
MA2 pmax pmax
comp=Z,5.0nm,0.9s
SEY Seymchan 55.11 32 LR LR 11 24 52.5
comp=Z,77nm,20.8s,baz=140,slow=37
SEY Seymchan 55.11 32 ⇑*e*P **P** **11 00 32.7 -1.3**
SEY pmax pmax
comp=Z,7.0nm,1.5s
SENIN Lac Senin/Sane 55.45 307 P **P** **11 00 37.0 0.0**
EKA Eskdalemuir Ar 60.05 319 P **P** **11 01 10.2 +1.3**
comp=Z,0.7nm,0.5s,baz=88,slow=8.4,SNR=5.2
comp=Z,0.7nm,0.5s
BILL Bilibino 60.29 26 P **P** **11 01 11.9 +1.6**
BILL pmax pmax
comp=Z,8.0nm,1.0s
ESDC Sonseca Array 65.25 303 P **P** **11 01 46.0 +2.1**
comp=Z,0.7nm,0.9s,baz=61,slow=6.9,SNR=6.0
comp=Z,0.7nm,0.9s
BORG Borgarnes 65.85 332 LR LR 11 30 45.0
comp=Z,61nm,21.9s,baz=8.1,slow=36
BORG Borgarnes 65.85 332 *i* P **P** **11 01 48.3 +1.0**
MDT Midelt 68.40 296 LR LR 11 38 07.8
comp=Z,14nm,18.1s,baz=23,slow=41
TORD Torodi Ar. Bea 72.05 275 P **P** **11 02 26.1 -0.5**
comp=Z,0.9nm,0.5s,baz=47,slow=5.5,SNR=10
comp=Z,0.9nm,0.5s
TOLK Toolik Lake Re 73.95 16 IAmb IAmb 11 02 44.1
comp=Z,4.9nm,0.8s
WRA Warramunga Arr 74.14 126 P **P** **11 02 38.5 -0.3**
WRA Warramunga Arr 74.14 126 P **P** **11 02 39.5 +0.7**
comp=Z,6.2nm,1.0s,baz=322,slow=5.6,SNR=22
comp=Z,6.2nm,1.0s
WRA Warramunga Arr 74.14 126 *e*P **P** **11 02 40.1 +1.3**
WRA pmax pmax
comp=Z,7.0nm,0.9s
WB2 Warramunga Arr 74.15 126 P **P** **11 02 40.4 +1.5**
E24K Your Creek 74.65 17 IAmb IAmb 11 02 45.4
comp=Z,4.6nm,1.1s
H21K Melozitna Rive 75.32 20 P **P** **11 02 45.7 +0.7**
H21K IAmb IAmb 11 02 49.8
comp=Z,4.1nm,0.9s
A36M Sachs Harbour 75.36 7 P **P** **11 02 47.0 +1.9**
BMAR Burnt Mountain 76.08 16 P **P** **11 02 50.1 +0.7**
ASAR Alice Springs 76.38 129 P **P** **11 02 52.6 +1.0**
ASAR Alice Springs 76.38 129 P **P** **11 02 52.0 +0.3**
comp=Z,2.3nm,0.8s,baz=316,slow=6.1,SNR=23
comp=Z,2.3nm,0.8s
ASAR Alice Springs 76.38 129 P **P** **11 02 52.6 +1.0**
E29M Blow River 76.70 13 IAmb IAmb 11 02 57.6
comp=Z,3.2nm,0.8s
NEA2 Nenana 77.17 19 IAmb IAmb 11 02 59.7
comp=Z,5.0nm,0.9s
CAST Castle Rocks 77.17 21 P **P** **11 02 56.5 +0.9**
CAST IAmb IAmb 11 02 60.0
comp=Z,6.6nm,1.1s
IL31 77.62 18 P **P** **11 03 00.5 +2.6**
IL31 IAmb IAmb 11 03 06.2
comp=Z,3.5nm,1.1s
ILAR Eielson Array 77.62 18 P **P** **11 02 59.9 +1.8**
ILAR Eielson Array 77.62 18 P **P** **11 02 57.5 -0.6**
comp=Z,1.4nm,0.8s,baz=310,slow=5.0,SNR=16
ILAR PP **PP** **11 05 53.8 +1.1**
comp=Z,0.7nm,0.9s,baz=314,slow=7.9,SNR=5.8
comp=Z,1.4nm,0.8s
ILAR Eielson Array 77.62 18 *e*P **P** **11 03 00.8 +2.8**
ILAR pmax pmax
comp=Z,1.0nm,0.8s
FORT Forrest 77.86 138 P **P** **11 03 00.2 +0.4**
BOSA Boshof 78.42 226 P **P** **11 03 03.4 +0.4**
comp=Z,3.5nm,0.9s,baz=52,slow=6.5,SNR=5.2
comp=Z,3.5nm,0.9s
J26L Joseph Creek 78.70 17 IAmb IAmb 11 03 08.4
comp=Z,4.2nm,0.8s
I30M Mount Dempster 79.75 14 P **P** **11 03 09.8 -0.1**
I30M IAmb IAmb 11 03 14.2
comp=Z,3.6nm,0.8s
FRB Frobisher Bay 81.43 346 LR LR 11 44 26.6
comp=Z,37nm,18.2s,baz=345,slow=39
YKA Yellowknife Ar 85.63 6 P **P** **11 03 40.7 +0.4**
comp=Z,0.8nm,0.8s,baz=347,slow=4.8,SNR=8.4
YKA LR LR 11 45 09.8
comp=Z,43nm,18.0s,baz=290,slow=38
comp=Z,0.8nm,0.8s
YKA Yellowknife Ar 85.63 6 *e*P **P** **11 03 43.0 +2.7**
YKA pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 146.03 289 PKPbc **PKPdf** **11 10 42.4 0.0**
comp=Z,1.7nm,0.8s,baz=42,slow=7.8,SNR=4.3

*NEIC **21** 10:55:20.1±2.9, 19.°400N±0.°009×155.°301W±0.°007, h5km±2km, Error ellipse: s-maj=3.1km s-min=1.6km az=203.0*
*NEIC **21** 10:55:22, 19.°11N×155.°07W, h12km, Moment Tensor Solution. Duration: 1s8 Moment tensor: Scale 10^16^Nm; Mrr-2.60; Mθθ1.50; Mϕϕ 1.10; Mrθ-0.98; Mθϕ0.80; Mϕr1.14; Fault plane solution: Mo2.67000×10^16^ NP1:ϕs73.33000°, δ50.12000°, λ-60.52000°. NP2:ϕs211.92000°, δ48.08000°, λ-120.50000°. Principal axes: T 2.1270, Plg1.0000°, Azm143.0000°; N 1.0843, Plg22.0000°, Azm233.0000°; P -3.2114, Plg68.0000°, Azm50.0000°;*
*NEIC **21** 10:55:22, 19.°41N×155.°28W, h12km*
*GCMT **21** 10:55:43.2±0.3, 19.°41N±0.°02×155.°24W±0.°02, h12km, MW4.9/106, Moment Tensor Solution. s22,c25; s106,c137; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr-2.54±.07; Mθθ1.32±.07; Mϕϕ 1.22±.07; Mrθ1.29±.27; Mθϕ 1.07±.06; Mϕr-0.12±.27; Best double couple: Mo2.73700×10^16^ NP1:ϕs244.00000°, δ57.00000°, λ-71.00000°. NP2:ϕs32.00000°, δ37.00000°, λ-117.00000°. Principal axes: T 2.4970, Plg10.0000°, Azm321.0000°; N 0.4800, Plg16.0000°, Azm54.0000°; P -2.9770, Plg71.0000°, Azm199.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
HVO 21 10:55:19.2±3.1, 19.°405N±0.°009×155.°281W±0.°007, h0km±2km, Mwr4.9/5, Mww4.9/6(NEIC) Error ellipse: s-maj=3.1km s-min=1.5km az=224.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**0**		Pg	10 55 19.7	+0.4
RIM	**Rim**	**0.01**	**146**		Pg	10 55 19.7	+0.3
OBL	**Observatory Le**	**0.01**	**347**		Pg	10 55 18.6	-0.9
KKO	**Keanakako'i**	**0.02**	**117**		Pg	10 55 19.3	-0.2
SDHHI	**Sand Hill**	**0.02**	**219**		Pg	10 55 18.8	-0.8
UWB	**Uwekahuna B**	**0.02**	**8**		Pg	10 55 22.0	+2.4
UWE	**Uwekahuna**	**0.02**	**325**		Pg	10 55 21.7	+2.1
BYL	**Byron's Ledge**	**0.02**	**71**		Pg	10 55 19.7	+0.1
SBLHI	**Steaming Bluff**	**0.03**	**29**		Pg	10 55 22.0	+2.3
HATHI	**Halema'uma'u T**	**0.03**	**47**		Pg	10 55 22.4	+2.7
RSD	**Rainshed**	**0.06**	**3**		Pg	10 55 21.6	+1.3
PUH	**Pauahi**	**0.07**	**117**		Pg	10 55 24.3	+3.8
KNHH	**Kane Nui o Ham**	**0.11**	**104**		Pg	10 55 21.0	-0.3
HLP	**Hilina Pali**	**0.11**	**193**		Pg	10 55 22.9	+1.6
MLH	**Mauna Loa**	**0.13**	**312**		Pg	10 55 24.8	+3.0
STCH	**Steam Cracks**	**0.15**	**98**		Pg	10 55 26.1	+4.1
NPOC	**North of Pu'u**	**0.16**	**94**		Pg	10 55 24.9	+2.6
JCUZ	**Jacuzzi**	**0.17**	**97**		Pg	10 55 23.8	+1.3
JOKA	**Jonika Flow**	**0.26**	**84**		Pg	10 55 23.7	-0.5
HMH	**Humu'ula Sheep**	**0.27**	**316**		Pg	10 55 25.4	+1.0
MLOA	**Mauna Loa Obse**	**0.31**	**295**		Pg	10 55 26.3	+1.2
KHU	**Kahuku**	**0.35**	**243**	Pg	Pg	10 55 26.8	+0.8
POHA	**Pohakuloa**	**0.42**	**326**	Pg	Pg	10 55 28.1	+0.8

*NEIC **21** 11:03:15.9±2.0, 18.°6N±0.°1×70.°22W±0.°05, h69km±21km, ML3.4/32, Error ellipse: s-maj=14.6km s-min=6.1km az=188.0*
*SDD **21** 11:03:16.8±2.5, 18.°47N×70.°15W, h56km±9km, MD3.3, ML3.3, MW3.6*
ISC 21 11:03:16.2±1.4, 18.°49N±0.°04×70.°17W±0.°02, h36km±1km, n36, σ1.°67/51, 23C-6D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANI	**BANI**	**0.20**	**242**	⇑*e*Pg	**Pn**	**11 03 25.0**	**0.0**
BANI				⇑*e*Sg	**Sn**	**11 03 33.4**	**+0.1**
BANI				IAML		11 03 34.1	
	comp=E,6μm,0.3s						
BANI				IAML		11 03 35.0	
	comp=N,10μm,0.3s						
SDD	**Santo Domingo**	**0.25**	**97**	⇓*e*Pg	**Pn**	**11 03 24.6**	**+0.3**
SDD				⇑*e*Sg	**Sn**	**11 03 32.0**	**+0.3**
SDD				IAML		11 03 32.3	
	comp=E,628nm,0.1s						
SDD				IAML		11 03 32.9	
	comp=N,345nm,0.2s						
ABDR	**Alto Bandera**	**0.54**	**307**	⇑*e*Pg	**Pn**	**11 03 27.6**	**-0.2**
ABDR				⇑*e*Sg	**Sn**	**11 03 37.6**	**+1.8**
ABDR				IAML		11 03 38.6	
	comp=E,3μm,0.2s						
ABDR				IAML		11 03 39.6	
	comp=N,4μm,0.2s						
HATOM	**Hato Mayor del**	**0.81**	**68**	⇓*e*Pg	**Pn**	**11 03 29.9**	**-1.2**
HATOM				⇑*e*Sg	**Sn**	**11 03 41.2**	**-0.7**
HATOM				IAML		11 03 41.3	
	comp=N,856nm,0.7s						
HATOM				IAML		11 03 42.0	
	comp=Z,340nm,0.2s						
NADR	**Nagua**	**0.91**	**19**	⇑*e*Pg	**Pn**	**11 03 31.8**	**-0.7**
NADR				⇑*e*Sg	**Sn**	**11 03 44.8**	**+0.3**
NADR				IAML		11 03 48.7	
	comp=N,855nm,0.4s						
NADR				IAML		11 03 53.7	
	comp=E,962nm,0.2s						
LOBA2	**Hotel Casa Bon**	**0.97**	**245**	⇓*e*Pg	**Pn**	**11 03 32.8**	**-0.5**
LOBA2				⇑*e*Sg	**Sn**	**11 03 45.5**	**-0.2**
LOBA2				IAML		11 03 46.6	
	comp=N,165nm,0.7s						
LOBA2				IAML		11 03 46.8	
	comp=E,283nm,0.5s						
SC01	**Santiago de lo**	**1.07**	**331**	⇓*e*Pg	**Pn**	**11 03 34.6**	**-0.1**
SC01				⇓*e*Sg	**Sn**	**11 03 48.9**	**+0.6**
SC01				IAML		11 03 51.6	
	comp=E,557nm,0.4s						
PODR	**Polo**	**1.10**	**253**	⇑*e*Pg	**Pn**	**11 03 34.6**	**-0.7**
PODR				⇑*e*Sg	**Sn**	**11 03 50.9**	**+1.6**
PODR				IAML		11 03 54.1	
	comp=N,333nm,0.5s						
PODR				IAML		11 03 57.5	
	comp=N,289nm,0.3s						
SDDR	**Presa de Saban**	**1.17**	**295**	Pn	**Pn**	**11 03 35.6**	**-0.5**
SDDR				Sn	**Sn**	**11 03 49.4**	**-1.4**
SDDR				IAML		11 04 00.5	
	comp=N,600nm,0.7s						
SDDR				IAML		11 04 00.8	
	comp=N,531nm,0.8s						
SDDR	**Presa de Saban**	**1.17**	**295**	⇑*e*Pg	**Pn**	**11 03 35.8**	**-0.3**
SDDR				⇑*e*Sg	**Sn**	**11 03 52.1**	**+1.3**
SDDR				IAML		11 03 53.1	
	comp=N,530nm,0.3s						
SDDR				IAML		11 03 53.6	
	comp=E,285nm,0.8s						
SMDR	**Samana, DR**	**1.23**	**49**	⇑*e*Pg	**Pn**	**11 03 37.3**	**+0.5**
SMDR				IAML		11 03 57.1	
	comp=N,279nm,0.7s						
SMDR				IAML		11 03 57.3	
	comp=E,270nm,0.2s						
SODR	**Sosua Marina B**	**1.31**	**343**	*e*Pg	**Pn**	**11 03 39.5**	**+1.5**
SODR				IAML		11 04 00.3	
	comp=N,504nm,0.3s						
SODR				IAML		11 04 02.0	
	comp=E,317nm,0.5s						
REDR	**Restauracion**	**1.34**	**300**	⇑*e*Pg	**Pn**	**11 03 41.8**	**+3.4**
REDR				⇓*e*Sg	**Sn**	**11 04 02.5**	**+7.5**
REDR				IAML		11 04 06.0	
	comp=N,499nm,0.2s						
REDR				IAML		11 04 07.0	
	comp=E,473nm,0.2s						
HIDR	**Higuey Centro**	**1.38**	**85**	⇑*e*Pg	**Pn**	**11 03 38.7**	**-0.3**
HIDR				⇑*e*Sg	**Sn**	**11 03 55.3**	**-0.7**
HIDR				IAML		11 04 01.0	
	comp=E,873nm,0.2s						
HIDR				IAML		11 04 06.5	
	comp=N,1μm,0.2s						
LUDR	**Luperon**	**1.58**	**332**	⇑*e*Pg	**Pn**	**11 03 42.3**	**+0.6**
LUDR				IAML		11 04 05.1	
	comp=E,1μm,0.5s						
LUDR				IAML		11 04 06.0	
	comp=N,2μm,0.3s						
JIDR	**Jimani**	**1.59**	**270**	⇑*e*Pg	**Pn**	**11 03 42.1**	**+0.3**
JIDR				IAML		11 04 04.7	
	comp=N,237nm,0.4s						
JIDR				IAML		11 04 08.8	
	comp=E,198nm,0.3s						
PCDR	**Punta Cana, DR**	**1.70**	**89**	Pn	**Pn**	**11 03 43.6**	**+0.3**
PCDR				Sn	**Sn**	**11 04 04.9**	**+1.1**
PCDR				IAML		11 04 10.4	
	comp=N,502nm,0.5s						
PCDR	**Punta Cana, DR**	**1.70**	**89**	⇑*e*Pg	**Pn**	**11 03 43.4**	**+0.1**
PCDR				IAML		11 04 10.2	
	comp=N,368nm,0.5s						
PCDR				IAML		11 04 10.3	
	comp=N,456nm,0.5s						
MCDR	**Montecristi**	**1.98**	**315**	⇑*e*Pg	**Pn**	**11 03 47.6**	**+0.4**
MCDR				IAML		11 04 18.7	
	comp=N,315nm,0.3s						
MCDR				IAML		11 04 18.7	
	comp=N,355nm,0.3s						
PAPH	**Port-au-Prince**	**2.02**	**271**	Pn	**Pn**	**11 03 47.1**	**-0.7**
PAPH				Sn	**Sn**	**11 04 10.7**	**-1.0**
PAPH				IAML		11 04 19.1	
	comp=N,217nm,0.5s						
PAPH				IAML		11 04 23.7	
	comp=E,196nm,0.5s						
AGPR	**Aguadilla, PR**	**2.90**	**90**	Pn	**Pn**	**11 04 02.2**	**+2.3**
AGPR				IAML		11 04 42.6	
	comp=E,159nm,0.8s						
AGPR				IAML		11 05 54.0	
	comp=N,156nm,2.6s						
CRPR	**Cabo Rojo, PR**	**2.95**	**99**	Pn	**Pn**	**11 03 59.2**	**-1.2**
MLPR	**Magueyes Islan**	**3.02**	**99**	Pn	**Pn**	**11 04 02.3**	**+0.9**
MLPR	**Magueyes Islan**	**3.02**	**99**	*e*Pg	**Pn**	**11 04 02.8**	**+1.4**
MLPR				IAML		11 04 42.9	
	comp=E,47nm,2.1s						

MLPR					IAML			11 04 46.4	
	comp=N,33nm,1.4s								
GRTK	**Grand Turk**	**3.14**	**343**		Pn	**Pn**	**11 04 00.6**	**-2.6**	
GRTK					IAML		11 05 08.9		
	comp=N,126nm,3.7s								
GRTK					IAML		11 05 41.7		
	comp=N,109nm,2.7s								
GRTK	**Grand Turk**	**3.14**	**343**	⇑	*e*Pg	**Pn**	**11 04 01.7**	**-1.4**	
GRTK				⇑	*e*Sg	**Sn**	**11 04 37.9**	**-1.5**	
GRTK					IAML		11 04 40.3		
	comp=E,71nm,0.2s								
GRTK					IAML		11 04 46.1		
	comp=N,106nm,3.5s								
AOPR	**Arecibo Observ**	**3.25**	**92**		Pn	**Pn**	**11 04 05.8**	**+1.2**	
UUPR	**Utuado, UPR, P**	**3.29**	**94**		Pn	**Pn**	**11 04 07.0**	**+1.9**	
OBIP	**Obispado Ponce**	**3.42**	**97**		Pn	**Pn**	**11 04 07.7**	**+0.8**	
CELP	**Cerrillos**	**3.44**	**96**		Pn	**Pn**	**11 04 08.5**	**+1.3**	
CELP					IAML		11 05 00.3		
	comp=E,70nm,0.5s								
CELP					IAML		11 05 02.1		
	comp=N,60nm,0.6s								
EMPR	**Esperanza - Ma**	**3.46**	**90**		Pn	**Pn**	**11 04 08.4**	**+1.0**	
GCPR	**Guaynabo City**	**3.88**	**92**		Pn	**Pn**	**11 04 14.8**	**+1.5**	
GCPR					IAML		11 05 09.3		
	comp=N,35nm,1.1s								
IGPR	**InterUniversit**	**3.90**	**97**		Pn	**Pn**	**11 04 13.4**	**-0.2**	
IGPR					IAML		11 05 07.8		
	comp=N,57nm,0.2s								
IGPR					IAML		11 05 15.6		
	comp=E,56nm,0.2s								
HUMP	**Col San Antoni**	**4.12**	**94**		Pn	**Pn**	**11 04 17.9**	**+1.3**	
HUMP					IAML		11 05 10.7		
	comp=E,40nm,0.2s								
HUMP					IAML		11 05 13.2		
	comp=N,46nm,0.5s								
GTBY	**Guantanamo Bay**	**4.88**	**288**		Pn	**Pn**	**11 04 24.0**	**-3.1**	
BAUV	**El Baul**	**9.71**	**167**		Pn	**Pn**	**11 05 32.7**	**-0.7**	

*IDC **21** 11:32:01.4±1.9,25˚.26N×88˚.81E,h0km,mb3.8/5, mbtmp3.8/5,MS3.0/1,Error ellipse: s-maj=77.0km s-min=20.1km az=68.0*
*NDI **21** 11:32:07.9±3.9,25˚.91N×90˚.37E,h10km,ML3.9,MW3.6*
ISC 21 11:32:06.8±0.8,**26˚.00N**±0˚.06×**90˚.36E**±0˚.03,**h10**km,**n14,** σ1§**96**/20,**mb3.8**/5,**Northeastern India**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.44**	**107**		*e*P		**Pb**	**11 32 33.4**	**-0.5**
SHL					*e*S		**Sb**	**11 32 51.4**	**-1.0**
SHL					IAML			11 32 52.0	
	comp=N,2μm,0.3s								
SHL					IAML			11 32 52.7	
	comp=E,1μm,0.2s								
GTK	**Tadong**	**2.05**	**310**		*e*P		**Pb**	**11 32 43.8**	**-0.3**
GTK					*e*S		**Sn**	**11 33 08.2**	**+1.1**
GTK					*e*S		**Sb**	**11 33 09.0**	**-0.7**
GTK					IAML			11 33 11.7	
	comp=E,972nm,0.3s								
GTK					IAML			11 33 12.6	
	comp=N,699nm,0.3s								
SILR	**SILCHAR**	**2.52**	**118**		*ex*		**Sg**	**11 33 33.5**	**+5.5**
SILR					IAML			11 33 38.1	
	comp=N,728nm,1.0s								
SILR					IAML			11 33 38.9	
	comp=E,755nm,0.9s								
ITAN	**ITANAGAR**	**3.22**	**69**		*e*P		**Pn**	**11 32 59.8**	**+2.3**
ITAN					IAML			11 33 39.6	
	comp=E,320nm,0.3s								
ITAN					*e*S		**Sb**	**11 33 40.9**	**-2.6**
ITAN					IAML			11 33 43.8	
	comp=E,442nm,0.2s								
KOHI	**KOHIMA**	**3.39**	**94**		*ex*		**Pg**	**11 33 10.8**	**-1.0**
KOHI					*e*S		**Sn**	**11 33 39.0**	**-1.4**
KOHI					IAML			11 33 56.8	
	comp=E,456nm,0.7s								
KOHI					IAML			11 34 03.5	
	comp=E,494nm,1.0s								
ZIRO	**ZIRO**	**3.47**	**63**		*e*P		**Pn**	**11 33 03.0**	**+1.9**
ZIRO					*e*S		**Sn**	**11 33 44.4**	**+2.1**
ZIRO					IAML			11 33 57.2	
	comp=E,1μm,0.6s								
ZIRO					IAML			11 34 04.8	
	comp=E,2μm,0.4s								
MOKO	**MOKOCHONG**	**3.75**	**84**		*e*P		**Pn**	**11 33 04.3**	**-0.6**
MOKO					*e*S		**Sn**	**11 33 46.8**	**-2.5**
MOKO					IAML			11 33 47.8	
	comp=E,253nm,0.1s								
MOKO					IAML			11 33 48.6	
	comp=E,258nm,0.3s								
BOK	**Bokaro**	**4.62**	**243**		*ex*		**Pb**	**11 33 27.6**	**-0.3**
BOK					*e*S		**Sn**	**11 34 09.8**	**-0.5**
BOK					IAML			11 34 13.2	
	comp=N,2μm,0.1s								
BOK					IAML			11 34 13.4	
	comp=E,3μm,0.1s								
BHPL	**Bhopal**	**12.08**	**260**		*ex*		Pn	11 35 05.8	+6.7
BHPL					*e*S		Sn	11 37 04.3	-10
MKAR	**Makanchi Array**	**21.72**	**345**		P		**P**	**11 36 58.1**	**0.0**
	comp=E,2.4nm,0.5s,baz=161,slow=8.7,SNR=21								
MKAR					LR		LR	11 47 00.4	
	comp=E,44nm,20.8s,baz=52,slow=41								
	comp=E,2.4nm,0.5s								
SONM	**Songino Array**	**25.18**	**26**		P		P	11 37 40.7	+8.2
	comp=E,2.7nm,0.8s,baz=211,slow=9.2,SNR=11								
	comp=E,2.7nm,0.8s								
KURBB	**Kurchatov Arra**	**26.21**	**343**		P		**P**	**11 37 40.6**	**-1.0**
	comp=E,1.4nm,0.7s,baz=163,slow=8.9,SNR=14								
	comp=E,1.4nm,0.7s								
WRA	**Warramunga Arr**	**62.53**	**133**		P		**P**	**11 42 30.5**	**-0.5**
	comp=E,0.3nm,0.5s,baz=322,slow=7.3,SNR=10								
	comp=E,0.3nm,0.5s								
ASAR	**Alice Springs**	**64.91**	**136**		P		**P**	**11 42 46.2**	**-0.5**
	comp=E,0.3nm,0.5s,baz=315,slow=6.2,SNR=9.6								
	comp=E,0.3nm,0.5s								

*IDC **21** 11:49:54.8±9.4,52˚.55N×174˚.24W,h110km±85km,mb3.4/6, mbtmp3.8/8,ML4.3/2,Error ellipse: s-maj=44.8km s-min=25.3km az=13.0*
*NEIC **21** 11:50:00.9±2.3,52˚.17N±0˚.06×173˚.76W±0˚.09, h190km±5km,mb4.1/47,ML3.6(AEIC),Error ellipse: s-maj=11.9km s-min=3.4km az=219.0*
*AEIC **21** 11:50:02.9±3.0,52˚.1N±0˚.1×173˚.8W±0˚.1,h185km±5km, Error ellipse: s-maj=19.4km s-min=9.3km az=163.0*
ISC 21 11:50:01.9±0.8,**52˚.2N**±0˚.1×**173˚.74W**±0˚.06,**h200**km,**n251,** σ1§**38**/243,**mb3.7**/10,**Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KOFP	**Korovin Flat P**	**0.24**	**292**				**Pn**	**11 50 26.9**	**-1.5**
ATKA	**Atka Island**	**0.28**	**273**				**Pn**	**11 50 26.7**	**-1.7**
ATKA							**Sn**	**11 50 45.2**	**-3.5**
KOKL	**Mount Kliuchef**	**0.31**	**296**				**Pn**	**11 50 27.1**	**-1.4**
KOKL							**Sn**	**11 50 46.1**	**-3.0**
CLES	**Cleveland East**	**2.43**	**73**				**Pn**	**11 50 45.8**	**+0.8**
CLCO	**Concord Point,**	**2.53**	**75**				**Pn**	**11 50 46.3**	**+0.3**
CLCO							**Sn**	**11 51 20.1**	**-0.4**
NIKH	**Nikolski High**	**3.08**	**73**				**Pn**	**11 50 52.4**	**0.0**
NIKH							**Sn**	**11 51 30.0**	**-2.0**
NIKH	**Nikolski High**	**3.08**	**73**		P		**Pn**	**11 50 51.6**	**-0.8**
	baz=257								
CEPE	**Semis' Perret**	**4.09**	**269**				**Pn**	**11 51 03.8**	**-0.9**
CESW	**Semis' Southwe**	**4.15**	**269**				**Pn**	**11 51 04.3**	**-1.2**
CETU	**Semis' Tuman**	**4.18**	**270**				**Pn**	**11 51 05.0**	**-0.9**
AMKA	**Amchitka**	**4.40**	**262**				**Pn**	**11 51 07.2**	**-1.4**
MREP	**Makushin Rep't**	**4.53**	**66**				**Pn**	**11 51 10.2**	**0.0**
MNAT	**Makushin Natee**	**4.58**	**65**				**Pn**	**11 51 11.0**	**+0.1**
UNV	**Unalaska Valle**	**4.67**	**66**				**Pn**	**11 51 12.2**	**+0.2**
LSPA	**Little Sitkin**	**4.75**	**270**				**Pn**	**11 51 12.3**	**-0.7**
LSSE	**Little Sitkin**	**4.75**	**270**				**Pn**	**11 51 12.4**	**-0.7**
S12K	**Black Hills**	**7.74**	**58**		P		**Pn**	**11 51 52.5**	**+0.9**
	baz=248								
SDPT	**Sand Point**	**8.47**	**63**		Pn		**Pn**	**11 51 59.4**	**-1.6**
SDPT	**Sand Point**	**8.47**	**63**		P		**Pn**	**11 52 02.1**	**+1.1**
	baz=253								
S14K	**Fog Glacier**	**9.26**	**58**		P		**Pn**	**11 52 13.4**	**+1.9**
	baz=250								
CHGN	**Chignik**	**9.87**	**59**		Pn		**Pn**	**11 52 16.4**	**-2.8**
O14K	**Tigyukauivet M**	**9.97**	**40**		Pn		**Pn**	**11 52 18.7**	**-1.8**
N14K	**Kuskokwak Cree**	**10.26**	**36**		P		**P**	**11 52 28.3**	**-3.6**
	baz=226								
O15K	**Ungalikthiuk R**	**10.51**	**43**		P		**P**	**11 52 31.5**	**-3.2**
	baz=234								
M14K	**Bethel**	**10.76**	**32**		P		**P**	**11 52 36.7**	**-0.7**
	baz=222								
L14K	**Kuka Creek**	**10.98**	**29**		P		**P**	**11 52 40.2**	**+0.3**
	baz=218								
O16K	**Kokwok River B**	**11.47**	**44**		P		**P**	**11 52 46.0**	**+0.7**
	baz=236								
L15K	**Ungalak Mounta**	**11.61**	**30**		P		**P**	**11 52 47.3**	**+0.5**
	baz=220								
Q16K	**King Salmon**	**11.66**	**49**		P		**P**	**11 52 46.8**	**-0.6**
	baz=243								
J14K	**Nanvaranak Lak**	**11.90**	**23**		P		**P**	**11 52 51.1**	**+1.0**
	baz=212								
P17K	**Kvichak River**	**11.99**	**47**		P		**P**	**11 52 52.1**	**+0.9**
	baz=242								
M16K	**Timber Creek**	**12.00**	**37**		P		**P**	**11 52 50.5**	**-0.7**
M16K	**Timber Creek**	**12.00**	**37**		P		**P**	**11 52 51.3**	**+0.1**
	baz=229								
O17K	**Koliganek Bris**	**12.00**	**44**		P		**P**	**11 52 51.7**	**+0.5**
	baz=238								
K15K	**Wolf Creek Mou**	**12.07**	**28**		P		**P**	**11 52 53.5**	**+1.5**
	baz=218								
SII	**Sitkinak Islan**	**12.20**	**61**		P		**Pn**	**11 52 46.3**	**-2.8**
L16K	**Owhat River**	**12.28**	**33**		P		**P**	**11 52 53.6**	**-0.7**
L16K	**Owhat River**	**12.28**	**33**		P		**P**	**11 52 54.7**	**+0.4**
	baz=225								
N17K	**Nushagak Hills**	**12.38**	**41**		P		**P**	**11 52 56.8**	**+1.4**
	baz=235								
P18K	**Big Mountain,**	**12.64**	**48**		P		**Pn**	**11 52 55.4**	**+0.8**
P18K	**Big Mountain,**	**12.64**	**48**		P		**P**	**11 52 59.1**	**+0.7**
	baz=243								
M17K	**Holitna River**	**12.81**	**38**		P		**P**	**11 52 59.9**	**-0.3**
M17K	**Holitna River**	**12.81**	**38**		P		**P**	**11 53 00.5**	**+0.3**
	baz=231								
OHAK	**Old Harbor**	**12.83**	**59**		P		**P**	**11 53 00.7**	**+0.2**
	baz=256								
O18K	**Koktuh Hills**	**12.86**	**46**		P		**Pn**	**11 52 57.5**	**+0.1**
O18K	**Koktuh Hills**	**12.86**	**46**		P		**P**	**11 53 00.6**	**-0.2**
	baz=242								
L17K	**Donlin**	**12.98**	**34**		P		**P**	**11 53 01.4**	**-0.7**
	baz=227								
N18K	**Kilae Creek**	**12.99**	**42**		P		**Pn**	**11 53 00.1**	**+1.0**
N18K	**Kilae Creek**	**12.99**	**42**		P		**P**	**11 53 01.0**	**-1.3**
	baz=237								
J16K	**Anvik River**	**13.11**	**27**		P		**P**	**11 53 03.7**	**+0.2**
J16K	**Anvik River**	**13.11**	**27**		P		**P**	**11 53 04.5**	**+0.9**
	baz=218								
Q19K	**Cape Douglas,**	**13.19**	**51**		P		**Pn**	**11 53 00.9**	**-0.7**
KDAK	**Kodiak Island**	**13.35**	**57**		P		**P**	**11 53 07.0**	**+0.8**
	baz=254								
KDAK	**Kodiak Island**	**13.35**	**57**		P		**Pn**	**11 53 00.5**	**-3.0**
	1.9nm,0.3s,baz=273,slow=3.2,SNR=14								
	4.5nm,0.4s								
O19K	**Port Alsworth**	**13.42**	**46**		P		**Pn**	**11 53 04.8**	**+0.5**
O19K	**Port Alsworth**	**13.42**	**46**		P		**P**	**11 53 05.9**	**-1.1**
	baz=242								
M18K	**Stony River**	**13.48**	**39**		P		**P**	**11 53 07.8**	**+0.2**
	baz=234								
L18K	**Granite Mounta**	**13.60**	**36**		P		**Pn**	**11 53 06.7**	**+0.1**
L18K	**Granite Mounta**	**13.60**	**36**		P		**P**	**11 53 07.3**	**-1.7**
	baz=230								
J17K	**VABM Dome**	**13.64**	**29**		P		**P**	**11 53 09.3**	**-0.1**
J17K	**VABM Dome**	**13.64**	**29**		P		**P**	**11 53 09.6**	**+0.2**
	baz=221,SNR=5.3								
N19K	**Bonanza Creek**	**13.65**	**43**		P		**P**	**11 53 08.4**	**-1.3**
N19K	**Bonanza Creek**	**13.65**	**43**		P		**P**	**11 53 10.0**	**+0.4**
	baz=239								
P19K	**Oil Pt**	**13.67**	**49**		P		**P**	**11 53 12.3**	**+2.5**
	baz=246								
TNA	**Tin City**	**13.73**	**10**		P		**P**	**11 53 11.6**	**+1.2**
	baz=195								
L19K	**White Mountain**	**14.26**	**38**		P		**P**	**11 53 17.9**	**+1.6**
L19K	**White Mountain**	**14.26**	**38**		P		**P**	**11 53 17.3**	**+1.0**
	baz=234,SNR=9.9								
M19K	**Big River Lodg**	**14.28**	**39**		P		**P**	**11 53 16.8**	**+0.3**
M19K	**Big River Lodg**	**14.28**	**39**		P		**P**	**11 53 17.8**	**+1.4**
	baz=236								
J18K	**Innoko River**	**14.43**	**32**		P		**P**	**11 53 17.0**	**-1.1**
J18K	**Innoko River**	**14.43**	**32**		P		**P**	**11 53 18.3**	**+0.2**
	baz=226								
CNPM	**China Poot**	**14.56**	**51**		P		**Pn**	**11 53 18.0**	**-0.5**
M20K	**Styx River**	**14.76**	**41**		P		**P**	**11 53 22.8**	**+0.8**
	baz=238								
L20K	**Farewell, AK**	**14.80**	**38**		P		**P**	**11 53 22.8**	**+0.4**
	baz=235								
N20K	**Mount Spurr**	**14.81**	**44**		P		**P**	**11 53 22.6**	**+0.2**
	baz=242								
BRLK	**Bradley Lake**	**14.81**	**50**		P		**Pn**	**11 53 20.3**	**-1.3**
BRSE	**Bradley Lake S**	**14.87**	**50**		P		**P**	**11 53 22.7**	**-0.4**
	baz=250								
J19K	**Poorman**	**15.14**	**32**		P		**P**	**11 53 26.1**	**0.0**
	baz=227								
H18K	**Honhosa River**	**15.19**	**25**		P		**P**	**11 53 26.4**	**-0.2**
H18K						IAmb	IAmb	11 53 28.4	
	comp=Z,12nm,1.4s								
H18K	**Honhosa River**	**15.19**	**25**		P		**P**	**11 53 27.8**	**+1.2**
	baz=218								
SKT	**Skwentna**	**15.47**	**42**		P		**P**	**11 53 30.7**	**+1.0**
SKT						IAmb	IAmb	11 53 33.0	
	comp=Z,9.8nm,1.0s								
SKT	**Skwentna**	**15.47**	**42**		P		**P**	**11 53 31.1**	**+1.5**
	baz=241,SNR=6.0								
SUA	**Susitna One**	**15.55**	**44**		P		**P**	**11 53 31.7**	**+1.0**
	baz=244								
SEW	**Seward**	**15.61**	**50**		P		**P**	**11 53 29.6**	**-1.6**
	baz=250								
O22K	**Cooper Landing**	**15.61**	**48**		P		**Pn**	**11 53 31.6**	**+0.4**
	baz=248								
PPLA	**Purkeypile**	**15.68**	**38**		P		**Pn**	**11 53 33.0**	**+0.8**
	baz=297								
G18K	**Tagagawik**	**15.71**	**23**		P		**Pn**	**11 53 33.1**	**+0.7**
	baz=216								
J20K	**Nowinta River**	**15.75**	**33**		P		**Pn**	**11 53 32.4**	**-0.5**
	baz=230								
CAST	**Castle Rocks**	**16.01**	**37**		P		**Pn**	**11 53 35.9**	**-0.2**
	baz=235								
E17K	**Hotham Inlet**	**16.05**	**17**		P		**Pn**	**11 53 39.9**	**+3.4**
	baz=207								
CHUM	**Lake Minchumin**	**16.20**	**35**		P		**Pn**	**11 53 40.2**	**+2.0**
	baz=234								
PMR	**Palmer**	**16.31**	**45**		P		**P**	**11 53 38.5**	**-0.4**
PMR						IAmb	IAmb	11 54 14.7	
	comp=Z,16nm,1.4s								
H20K	**Anotleneega Mo**	**16.42**	**28**		P		**Pn**	**11 53 42.5**	**+1.6**
	baz=225								
GHO	**Glory Hole Cre**	**16.48**	**45**		P		**Pn**	**11 53 40.8**	**-0.9**
GHO						IAmb	IAmb	11 54 11.3	
	comp=Z,14nm,1.2s								
KNK	**Knik Glacier**	**16.54**	**46**		P		**P**	**11 53 40.7**	**-0.7**
KNK	**Knik Glacier**	**16.54**	**46**		P		**Pn**	**11 53 43.3**	**+0.9**
	baz=247								
P23K	**Montague Islan**	**16.55**	**52**		P		**Pn**	**11 53 43.5**	**+1.0**
	baz=253								
E18K	**Tukpahlearik C**	**16.58**	**18**		P		**Pn**	**11 53 43.7**	**+0.9**
	baz=209								
F19K	**Shaleruckik Mo**	**16.68**	**22**		P		**Pn**	**11 53 44.5**	**+0.5**
	baz=216								
TRF	**Thorofare Moun**	**16.71**	**38**		P		**P**	**11 53 43.2**	**-0.3**
	baz=238								
SML	**Sawmill**	**16.75**	**45**		P		**P**	**11 53 43.1**	**-0.7**
SML						IAmb	IAmb	11 53 47.1	
	comp=Z,11nm,1.1s								
BPAW	**Bear Paw Mtn.**	**16.80**	**36**		P		**Pn**	**11 53 44.4**	**-1.1**
	baz=235								
Q23K	**Middleton Isla**	**16.92**	**54**		P		**P**	**11 53 45.1**	**-0.5**
	baz=257								
GLI	**Glacier Island**	**16.96**	**49**		P		**P**	**11 53 44.4**	**-1.7**
M23K	**Glacier View**	**17.00**	**45**		P		**Pn**	**11 53 47.0**	**-0.9**
	baz=247								
WAT1	**Susitna Watana**	**17.09**	**42**		P		**P**	**11 53 47.6**	**+0.1**
	baz=243								
I21K	**Tanana**	**17.11**	**32**		P		**Pn**	**11 53 48.1**	**-1.0**
I21K	**Tanana**	**17.11**	**32**		P		**P**	**11 53 47.5**	**-0.2**
	baz=231								
H21K	**Melozitna Rive**	**17.16**	**30**		P		**Pn**	**11 53 48.5**	**-1.2**
H21K	**Melozitna Rive**	**17.16**	**30**		P		**Pn**	**11 53 48.7**	**-1.0**
	baz=228								
SCM	**Sheep Creek Mo**	**17.20**	**46**		P		**P**	**11 53 48.6**	**-0.1**
SCM	**Sheep Creek Mo**	**17.20**	**46**		P		**Pn**	**11 53 49.7**	**-0.5**
	baz=248								
FID	**Port Fidalgo**	**17.21**	**49**		P		**P**	**11 53 47.2**	**-1.6**
RND	**Reindeer**	**17.24**	**40**		P		**P**	**11 53 48.4**	**-0.8**
E19K	**Redstone River**	**17.31**	**22**		P		**Pn**	**11 53 52.7**	**+1.2**
	baz=216								
WAT6	**Susitna Watana**	**17.32**	**43**		P		**P**	**11 53 49.2**	**-0.9**
	baz=245								
F20K	**Avaraart Lake**	**17.35**	**24**		P		**Pn**	**11 53 52.0**	**+0.1**
	baz=220								
MCK	**McKinley**	**17.37**	**39**		P		**P**	**11 53 50.5**	**-0.1**
	baz=240								
MLY	**Manley**	**17.43**	**34**		P		**Pn**	**11 53 51.8**	**-1.1**
MLY						IAmb	IAmb	11 53 55.6	
	comp=Z,3.3nm,0.6s								
MLY	**Manley**	**17.43**	**34**		P		**P**	**11 53 51.2**	**-0.1**
	baz=233								
G21K	**Allakaket**	**17.55**	**27**		P		**P**	**11 53 52.3**	**-0.1**
	baz=225								
DHY	**Denali Highway**	**17.68**	**42**		P		**P**	**11 53 54.2**	**+0.1**
DHY						IAmb	IAmb	11 53 55.6	
	comp=Z,8.6nm,0.7s								
DHY	**Denali Highway**	**17.68**	**42**		P		**P**	**11 53 54.2**	**+0.1**
	baz=244,SNR=7.8								
KLU	**Klutina**	**17.70**	**47**		P		**Pn**	**11 53 54.9**	**-1.3**
KLU						IAmb	IAmb	11 54 18.6	
	comp=Z,23nm,1.4s								
KLU	**Klutina**	**17.70**	**47**		P		**Pn**	**11 53 55.6**	**-0.6**
	baz=251								
H22K	**Ishtalitna Cre**	**17.76**	**31**		P		**P**	**11 53 54.8**	**+0.1**
	baz=230								
NEA2	**Nenana**	**17.77**	**36**		P		**Pn**	**11 53 56.0**	**-0.9**
	baz=237								
M24K	**Tolsona, Glenn**	**17.80**	**45**		P		**Pn**	**11 53 56.8**	**-0.6**
M24K	**Tolsona, Glenn**	**17.80**	**45**		P		**Pn**	**11 53 57.9**	**+0.6**
	baz=249								
I23K	**Minto, Yukon-K**	**17.98**	**34**		P		**P**	**11 53 57.2**	**+0.1**
I23K						IAmb	IAmb	11 53 59.9	
	comp=Z,5.2nm,0.7s								
I23K	**Minto, Yukon-K**	**17.98**	**34**		P		**P**	**11 53 57.0**	**-0.1**
	baz=235								
D19K	**Kuna River**	**17.99**	**19**		P		**P**	**11 53 56.3**	**-0.9**
D19K						IAmb	IAmb	11 54 28.9	
	comp=Z,6.8nm,1.2s								
BMRM	**Bremner River**	**18.15**	**50**		P		**Pn**	**11 54 00.7**	**-0.7**
	baz=254								
E20K	**Nigu River**	**18.20**	**21**		P		**Pn**	**11 54 03.3**	**+1.4**
	baz=216								
CCB	**Clear Creek Bu**	**18.26**	**37**		P		**P**	**11 53 58.7**	**-1.5**
CCB						IAmb	IAmb	11 54 03.0	
	comp=Z,6.2nm,0.4s								
MDM	**Murphy Dome**	**18.27**	**36**		P		**P**	**11 54 00.4**	**0.0**
H23K	**Yukon River**	**18.31**	**32**		P		**Pn**	**11 54 01.6**	**-1.7**
H23K	**Yukon River**	**18.31**	**32**		P		**Pn**	**11 54 03.1**	**-0.1**
	baz=233								
N25K	**Chitina, Valde**	**18.34**	**48**		P		**Pn**	**11 54 02.5**	**-1.2**
N25K	**Chitina, Valde**	**18.34**	**48**		P		**Pn**	**11 54 03.4**	**-0.3**
	baz=252								
HARP	**HAARP**	**18.35**	**45**		P		**Pn**	**11 54 03.5**	**-0.3**
	baz=249								
COLA	**College**	**18.36**	**36**		P		**P**	**11 54 01.7**	**+0.4**
	baz=238								
G22K	**Bettles**	**18.40**	**28**		P		**P**	**11 54 02.1**	**+0.4**
	baz=228								
PAX	**Paxson**	**18.43**	**43**		P		**Pn**	**11 54 03.8**	**-0.9**
	baz=247								
HDA	**Harding Lake**	**18.47**	**38**		P		**P**	**11 54 03.0**	**+0.5**
HDA	**Harding Lake**	**18.47**	**38**		P		**Pn**	**11 54 03.3**	**-1.7**
	baz=241,SNR=19								
D20K	**Etivluk River**	**18.48**	**20**		P		**Pn**	**11 54 05.1**	**0.0**
	baz=215								
F22K	**John River**	**18.62**	**26**		P		**Pn**	**11 54 05.6**	**-1.2**
	baz=225								
POKR	**Poker Plat Res**	**18.64**	**36**		P		**P**	**11 54 04.5**	**+0.2**
	baz=239								
K24K	**Donnelly Dome**	**18.65**	**41**		P		**P**	**11 54 04.4**	**0.0**
	baz=244,SNR=7.9								
IL31		**18.67**	**37**		P		**P**	**11 54 04.1**	**-0.4**
IL31						IAmb	IAmb	11 54 06.9	
	comp=Z,4.4nm,0.5s								
ILAR	**Eielson Array**	**18.67**	**37**		P		**P**	**11 54 03.7**	**-0.9**
ILAR	**Eielson Array**	**18.67**	**37**		P		**P**	**11 54 02.6**	**-2.0**
	comp=Z,1.0nm,0.3s,baz=223,slow=11,SNR=51								
	comp=Z,1.9nm,0.4s								
G23K	**Bananza Creek**	**18.71**	**30**		P		**P**	**11 54 05.5**	**+0.5**
	baz=230								
VRDI	**Verde Repeater**	**18.76**	**49**		P		**Pn**	**11 54 07.8**	**-0.9**
VRDI						IAmb	IAmb	11 54 19.3	
	comp=Z,18nm,1.3s								
E21K	**Killik River**	**18.85**	**23**		P		**Pn**	**11 54 08.6**	**-0.9**
	baz=220								
H24K	**Noodor Dome**	**18.88**	**34**		P		**P**	**11 54 07.1**	**+0.2**
H24K						IAmb	IAmb	11 54 08.5	
	comp=Z,3.8nm,0.8s								
H24K	**Noodor Dome**	**18.88**	**34**		P		**Pn**	**11 54 09.7**	**-0.1**
	baz=236								
COLD	**Coldfoot**	**18.99**	**29**		P		**Pn**	**11 54 11.0**	**-0.1**
	baz=229								
MCARA	**McCarthy VSAT**	**19.00**	**49**		P		**Pn**	**11 54 09.7**	**-1.7**
	baz=255								
E22K	**Anaktuvuk Pass**	**19.16**	**25**		P		**Pn**	**11 54 13.

	baz=234								
I27K	**Kandik River**	**21.03**	**38**	P		**P**	**11 54 29.8**	**0.0**
	baz=246								
YUK4	**Talbot Arm**	**21.05**	**50**	P		**P**	**11 54 30.4**	**+0.1**
	baz=260								
YUK6	**Outpost Mounta**	**21.12**	**52**	P		**P**	**11 54 32.9**	**+1.8**
	baz=261								
F26K	**Sheenjek River**	**21.14**	**32**	P		**P**	**11 54 33.6**	**+2.6**
	baz=237								
P29M	**Windy Craggy**	**21.28**	**55**	P		**P**	**11 54 33.2**	**+0.6**
	baz=266								
H27K	**Steamboat Moun**	**21.33**	**36**	P		**P**	**11 54 35.1**	**+2.2**
	baz=244								
DAWY	**Dawson**	**21.37**	**43**	P		**P**	**11 54 33.3**	**-0.1**
DAWY				IAmb		IAmb	11 54 49.8		
	comp=Z,7.8nm,1.5s								
DAWY	**Dawson**	**21.37**	**43**	P		**P**	**11 54 34.1**	**+0.7**
	baz=252								
D25K	**Kavik River**	**21.43**	**27**	P		**P**	**11 54 32.9**	**-1.2**
D25K	**Kavik River**	**21.43**	**27**	P		**P**	**11 54 35.7**	**+1.6**
	baz=231								
HYT	**Haines Junctio**	**21.52**	**52**	P		**P**	**11 54 36.7**	**+1.6**
	baz=263								
I28M	**Miner Creek**	**21.61**	**39**	P		**P**	**11 54 35.5**	**-0.4**
I28M	**Miner Creek**	**21.61**	**39**	P		**P**	**11 54 35.7**	**-0.3**
	baz=248								
L29M	**L29M**	**21.65**	**46**	P		**P**	**11 54 37.2**	**+0.8**
	baz=256								
K29M	**Barlow Dome**	**22.10**	**44**	P		**P**	**11 54 40.2**	**-0.6**
K29M				IAmb		IAmb	11 54 42.6		
	comp=Z,3.6nm,0.7s								
K29M	**Barlow Dome**	**22.10**	**44**	P		**P**	**11 54 44.9**	**+4.1**
	baz=255								
C26K	**Camden Bay**	**22.21**	**26**	P		**P**	**11 54 44.8**	**+3.3**
	baz=232								
O30N	**Mendenhall**	**22.21**	**52**	P		**P**	**11 54 42.9**	**+1.2**
	baz=264								
E27K	**Coleen River**	**22.22**	**32**	P		**P**	**11 54 44.9**	**+3.2**
	baz=240								
H29M	**Whitestone**	**22.50**	**38**	P		**P**	**11 54 43.2**	**-1.1**
H29M	**Whitestone**	**22.50**	**38**	P		**P**	**11 54 47.7**	**+3.4**
	baz=249								
F28M	**Old Crow**	**22.52**	**34**	P		**P**	**11 54 47.2**	**+2.7**
	baz=244								
J30M	**Hart River**	**22.79**	**43**	P		**P**	**11 54 48.7**	**+1.6**
	baz=255								
I30M	**Mount Dempster**	**22.95**	**41**	P		**P**	**11 54 48.5**	**0.0**
I30M				IAmb		IAmb	11 55 31.1		
	comp=Z,5.6nm,1.4s								
I30M	**Mount Dempster**	**22.95**	**41**	P		**P**	**11 54 52.9**	**+4.3**
	baz=253								
D27M	**Malcolm River**	**22.96**	**30**	P		**P**	**11 54 53.1**	**+4.6**
	baz=239								
E28M	**Babbage River**	**23.09**	**32**	P		**P**	**11 54 49.5**	**-0.1**
	baz=242								
EPYK	**Eagle Plains**	**23.17**	**38**	P		**P**	**11 54 50.1**	**-0.3**
	baz=250								
P32M	**Atlin**	**23.32**	**56**	P		**P**	**11 54 50.6**	**-1.3**
	baz=269								
E29M	**Blow River**	**23.53**	**33**	P		**P**	**11 54 54.5**	**+0.9**
E29M				IAmb		IAmb	11 54 55.2		
	comp=Z,4.3nm,1.2s								
E29M	**Blow River**	**23.53**	**33**	P		**P**	**11 54 54.5**	**+0.9**
	baz=244								
F30M	**Barrier River**	**23.95**	**35**	P		**P**	**11 54 59.4**	**+2.0**
	baz=249								
G31M	**Satah River**	**24.28**	**38**	P		**P**	**11 55 00.8**	**+0.5**
	baz=252								
INK	**Inuvik**	**25.00**	**35**	P		**P**	**11 55 09.8**	**+3.0**
	baz=250								
NEW	**Newport**	**35.65**	**73**	P		**P**	**11 56 39.5**	**-1.0**
	baz=298								
H11N2	**WAKE ISLAND Hy**	**35.75**	**212**	T		T	12 33 36.7		
	baz=18,slow=76,SNR=8.6								
H11N3	**WAKE ISLAND Hy**	**35.76**	**212**	T		T	12 33 34.2		
	baz=18,slow=76,SNR=5.9								
H11N1	**WAKE ISLAND Hy**	**35.77**	**212**	T		T	12 33 36.1		
	baz=18,slow=76,SNR=8.0								
H11S1	**WAKE ISLAND Hy**	**36.95**	**212**	T		T	12 34 54.5		
	baz=19								
H11S2	**WAKE ISLAND Hy**	**36.97**	**212**	T		T	12 35 04.8		
	baz=19								
H11S3	**WAKE ISLAND Hy**	**36.97**	**212**	T		T	12 34 59.0		
	baz=19								
NVAR	**Mina Array Bea**	**40.35**	**87**	P		P	11 57 24.5	+4.3	
	comp=Z,0.5nm,0.8s,baz=294,slow=6.7,SNR=4.4								
	comp=Z,0.5nm,0.8s								
PDAR	**Pinedale Array**	**43.06**	**76**	P		**P**	**11 57 45.0**	**+2.9**	
	comp=Z,0.6nm,0.5s,baz=303,slow=5.7,SNR=5.3								
	comp=Z,0.6nm,0.5s								
MURC	**Murrieta**	**44.16**	**92**	P		**P**	**11 57 47.0**	**-3.8**	
	baz=313								
GMRC	**Granite Mounta**	**44.32**	**89**	P		**P**	**11 57 50.9**	**-1.2**	
	baz=312								
PFO	**Pinyon Flats O**	**44.61**	**91**	P		**P**	**11 57 51.8**	**-2.5**	
	baz=313								
TPFO	**Pinon Flats**	**44.62**	**91**	P		**P**	**11 57 50.6**	**-3.8**	
	baz=313								
TXAR	**Lajitas Array**	**55.44**	**85**	P		**P**	**11 59 19.5**	**+3.8**	
	comp=Z,0.4nm,0.7s,baz=293,slow=3.7,SNR=6.5								
	comp=Z,0.4nm,0.7s								
BVAR	**Borovoye Array**	**62.24**	**322**	P		**P**	**12 00 01.3**	**-0.7**	
	comp=Z,1.4nm,0.4s,baz=53,slow=5.1,SNR=6.2								
	comp=Z,1.4nm,0.4s								
WRA	**Warramunga Arr**	**84.84**	**228**	P		**P**	**12 02 16.5**	**+2.7**	
	comp=Z,0.2nm,0.4s,baz=30,slow=5.7,SNR=1.3								
	comp=Z,0.2nm,0.4s								
ASAR	**Alice Springs**	**88.27**	**227**	P		**P**	**12 02 33.9**	**+3.4**	
	comp=Z,0.6nm,0.8s,baz=28,slow=5.0,SNR=7.7								
	comp=Z,0.6nm,0.8s								

*TEH **21** 11:54:55.9,34˚.94N×45˚.80E,h10km±104km,ML2.9*
*ISN **21** 11:54:58.7±1.2,34˚.88N×45˚.76E,h18km±121km,ML2.8*
ISC 21 11:54:56.7±1.3**,34˚.93N**±0˚.06×**45˚.80E**±0˚.04**, h14**km±13km**, n8, σ0°96/14, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.46**	**202**	Pg	**Pg**	**11 55 05.4**	**-0.5**
IDHR	**Dehrash**	**0.54**	**116**	Pg	**Pg**	**11 55 06.4**	**-0.8**
IDHR				Sg	**Sg**	**11 55 14.6**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.82**	**174**	Pg	**Pg**	**11 55 11.7**	**-0.9**
GLG1				Sg	**Sb**	**11 55 24.2**	**+0.4**
ILIN	**Lien**	**0.95**	**91**	Pg	**Pb**	**11 55 15.5**	**+0.3**
IKRK	**Kirkuk**	**1.28**	**292**	*e*Pg	**Pb**	**11 55 21.0**	**+0.3**
IKRK				*e*Sg	**Sg**	**11 55 39.0**	**+0.9**
IKRK				AML	AML	11 55 44.2	
	comp=E,374nm,0.5s						
IKRK				AML	AML	11 55 44.6	
	comp=N,257nm,0.2s						
ILBA	**Ilam Banvizeh**	**1.35**	**165**	Pg	**Pn**	**11 55 21.1**	**-0.1**
ILBA				Sg	**Sg**	**11 55 42.4**	**+2.2**
IBDR	**Badra**	**1.82**	**177**	*e*Pn	**Pg**	**11 55 31.0**	**-0.7**
IBDR				*e*Sn	**Sb**	**11 55 53.0**	**+0.5**
IBDR				AML	AML	11 56 04.4	
	comp=E,74nm,0.7s						
IBDR				AML	AML	11 56 06.2	
	comp=N,49nm,0.4s						
BHD	**Baghdad**	**2.04**	**216**	*e*Pn	**Pb**	**11 55 33.0**	**-0.5**
BHD				*e*Sn	**Sb**	**11 55 58.0**	**-0.7**

*IDC **21** 11:57:41.7±1.2,8˚.62S×116˚.53E,h0km,mb3.8/8, mbtmp3.9/10,ML4.0/2,MS3.3/2,Error ellipse: s-maj=47.5km s-min=17.0km az=50.0*
*NEIC **21** 11:57:45.8±0.8,7˚.7S±0˚.1×117˚.0E±0˚.2,h176km±9km, mb4.3/10,Error ellipse: s-maj=25.9km s-min=16.9km az=76.0*
*DJA **21** 11:57:46.8±1.1,8˚.S±4˚×11˚.7E±˚,h18km±10km,M4.2/7, MLv4.2/7*
ISC 21 11:57:48.4±0.7**,8˚.04S**±0˚.06×**117˚.26E**±0˚.05**, h35**km**, n48, σ1°51/29, mb4.0/12, Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.80**	**208**	P	**Pn**	**11 58 02.9**	**-0.2**
TWSI				S	**Sn**	**11 58 15.1**	**+1.3**
PLAI	**Plampang**	**0.94**	**147**	P	**Pn**	**11 58 05.5**	**+0.4**
PLAI				S	**Sn**	**11 58 19.4**	**+2.1**
SRBI	**Singaraja**	**2.03**	**268**	P	**Pn**	**11 58 20.4**	**+0.3**
SRBI				S	**Sn**	**11 58 44.8**	**+0.5**
ABJI	**Asem Bagus**	**3.01**	**274**	P	**Pn**	**11 58 36.0**	**+2.5**
ABJI				Pn	**Pn**	**11 58 36.1**	**+2.5**
JAGI	**Jajag, Banyuwa**	**3.11**	**262**		**Pn**	**11 58 33.7**	**-1.3**
JAGI	**Jajag, Banyuwa**	**3.11**	**262**	P	**Pn**	**11 58 34.1**	**-0.9**
BLJI	**Banyuglugur**	**3.65**	**274**	P	**Pn**	**11 58 42.9**	**+0.6**
KAPI	**Kappang**	**3.89**	**40**	Pn	**Pn**	**11 58 44.4**	**-1.2**
KAPI	**Kappang**	**3.89**	**40**	Pn	Pn	11 58 56.3	+11
	6.9nm,0.3s,baz=212,slow=7.8,SNR=5.5						
KAPI				Sn	Sn	11 59 44.3	+14
	9.8nm,0.3s,baz=40,slow=19,SNR=6.9						
	16nm,0.2s						
BKSI	**Bulukumba**	**3.91**	**47**	P	**Pn**	**11 58 46.3**	**+0.3**
BASI	**Baing, Sumba**	**3.93**	**124**	P	**Pn**	**11 58 46.5**	**+0.3**
EDFI	**Ende, Flores**	**4.44**	**100**	P	**Pn**	**11 58 53.8**	**+0.5**
BATI	**Baumata**	**6.68**	**109**	Pn	**Pn**	**11 59 27.1**	**+3.1**
	2.4nm,0.3s,baz=286,slow=7.4,SNR=2.5						
	10nm,0.3s						
UGM	**Wanagama**	**6.68**	**271**	Pn	Pn	11 59 16.4	-7.6
LUWI	**Luwuk**	**8.85**	**39**	Pn	Pn	11 59 47.9	-6.0
FITZ	**Fitzroy Crossi**	**12.90**	**142**	Pn	**Pn**	**12 00 48.8**	**-0.6**
MBWA	**Marble Bar**	**13.26**	**170**		**Pn**	**12 00 53.8**	**-0.5**
KNRA	**Kununurra**	**13.57**	**125**		**Pn**	**12 00 58.0**	**-0.5**
PSA00	**Pilbara Seismi**	**13.69**	**170**	Pn	**Pn**	**12 00 57.2**	**-2.9**
MTN	**Manton Dam**	**14.45**	**110**		**Pn**	**12 01 07.6**	**-2.9**
GIRL	**Giralia**	**14.81**	**191**		Pn	12 01 10.6	-4.8
DAV	**Davao City (W)**	**17.14**	**29**	LR	LR	12 10 06.4	
	comp=Z,48nm,18.3s,baz=187,slow=41						
WRA	**Warramunga Arr**	**20.34**	**127**	P	**P**	**12 02 22.0**	**+0.2**
	1.5nm,0.6s,baz=302,slow=12,SNR=26						
	1.5nm,0.6s						
MORW	**Morawa**	**20.95**	**183**	P	P	12 02 18.3	-10
MORW				IAmb	IAmb	12 02 32.6	
	comp=Z,21nm,1.4s						
ASAR	**Alice Springs**	**22.27**	**136**	P	P	12 02 32.3	-10
ASAR	**Alice Springs**	**22.27**	**136**	P	**P**	**12 02 43.2**	**+0.6**
	comp=Z,4.6nm,0.9s,baz=306,slow=8.9,SNR=46						
	comp=Z,4.6nm,0.9s						
NWAO	**Narrogin (SRO)**	**24.77**	**180**	P	P	12 02 54.4	-13
NWAO				IAmb	IAmb	12 03 27.7	
	comp=Z,6.9nm,0.9s						
COEN	**Coen**	**26.09**	**105**	P	P	12 03 05.7	-13
COEN				IAmb	IAmb	12 03 20.1	
	comp=Z,12nm,0.8s						
BBOO	**Buckleboo**	**30.19**	**147**	P	P	12 03 43.2	-12
STKA	**Stephens Creek**	**32.79**	**140**	P	P	12 04 05.2	-13
STKA	**Stephens Creek**	**32.79**	**140**	P	**P**	**12 04 16.5**	**-1.9**
	comp=Z,1.5nm,0.5s,baz=313,slow=9.9,SNR=4.9						
	comp=Z,1.5nm,0.5s						
SONM	**Songino Array**	**56.45**	**351**	P	**P**	**12 07 28.7**	**+1.9**
	comp=Z,0.7nm,0.7s,baz=184,slow=8.7,SNR=1.9						
	comp=Z,0.7nm,0.7s						
MK31	**Makanchi Array**	**62.83**	**334**	P	P	12 07 48.8	-22
MK31				IAmb	IAmb	12 08 13.6	
	comp=Z,1.6nm,1.1s						
MKAR	**Makanchi Array**	**62.83**	**334**	P	P	12 07 48.1	-22
MKAR	**Makanchi Array**	**62.83**	**334**	P	**P**	**12 08 10.9**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=140,slow=7.7,SNR=6.1						
	comp=Z,1.1nm,0.9s						
H04N2	**CROZET ISLANDS**	**67.31**	**223**	T	T	13 19 49.9	
	baz=74,slow=75,SNR=39						
H04N1	**CROZET ISLANDS**	**67.33**	**223**	T	T	13 19 51.2	
	baz=74,slow=75,SNR=30						
H04N3	**CROZET ISLANDS**	**67.33**	**223**	T	T	13 19 48.8	
	baz=74,slow=75,SNR=45						
KURBB	**Kurchatov Arra**	**67.36**	**334**	P	**P**	**12 08 40.0**	**+0.2**
	comp=Z,0.5nm,0.8s,baz=150,slow=5.1,SNR=3.4						
	comp=Z,0.5nm,0.8s						
ZALV	**Zalesovo Beam**	**67.54**	**340**	P	P	12 08 19.3	-22
ZALV	**Zalesovo Beam**	**67.54**	**340**	P	**P**	**12 08 40.4**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=166,slow=7.4,SNR=2.0						
	comp=Z,0.6nm,0.5s						
PETK	**Petropavlovsk-**	**69.90**	**25**	P	P	12 08 35.9	-20
BVAR	**Borovoye Array**	**72.65**	**332**	P	**P**	**12 09 12.8**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=142,slow=7.3,SNR=4.0						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**73.20**	**171**	P	P	12 08 59.1	-16
ABKAR	**Akbulak array**	**75.79**	**325**	P	P	12 09 09.3	-21
AKTO	**Aktyubinsk**	**77.46**	**326**	LR	LR	12 48 29.5	
	comp=Z,28nm,19.6s,baz=195,slow=39						
QSPA	**South Pole Qui**	**81.95**	**180**	P	P	12 09 47.8	-17
QSPA				IAmb	IAmb	12 10 18.7	
	comp=Z,7.7nm,1.5s						
SNAA	**Sanae**	**91.46**	**196**	P	P	12 10 33.0	-18
SNAA				IAmb	IAmb	12 11 13.8	
	comp=Z,3.2nm,1.0s						

*HEL **21** 11:59:03.0,59˚.55N×23˚.12E,h0km,ML2.7,Explosion*
*EST **21** 11:59:03.0,59˚.54N×23˚.12E,h0km,ML2.7(HEL), Explosion*
*UPP **21** 11:59:03.4±1.5,59˚.71N×23˚.04E,h0km,ML2.0*
*LVSN **21** 11:59:04.3±2.4,59˚.57N×23˚.14E,h0km±35km,ML2.6*
*IDC **21** 11:59:05.2±1.9,59˚.83N×22˚.92E,h0km,mbtmp3.6/4, ML3.0/4,Error ellipse: s-maj=26.9km s-min=6.7km az=156.0*
ISC 21 11:59:01.6±0.8**,59˚.57N**±0˚.02×**23˚.17E**±0˚.03**, h0**km**, n44, σ0°82/61, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.43**	**147**	*e*P	**Pg**	**11 59 10.2**	**+0.3**
EE01				*e*S	**Sg**	**11 59 15.7**	**+0.2**
EE02	**Kiisa, Saku**	**0.87**	**115**	*e*S	**Sg**	**11 59 29.6**	**+0.1**
MEF	**Metsahovi**	**0.90**	**43**	*e*P	**Pb**	**11 59 19.9**	**-0.2**
MEF	**Metsahovi**	**0.90**	**43**	*e*P	**Pb**	**11 59 19.9**	**-0.2**
MEF				*e*S	**Sb**	**11 59 31.9**	**-0.7**
MEF				AML	AML	11 59 38.7	
	comp=N,57nm,0.3s						
MEF				AML	AML	11 59 38.8	
	comp=Z,50nm,0.7s						
MEF				AML	AML	11 59 39.7	
	comp=E,59nm,0.2s						
MEF	**Metsahovi**	**0.90**	**43**	*e*P	**Pb**	**11 59 19.8**	**-0.2**
MEF				*e*S	**Sb**	**11 59 31.6**	**-1.0**
MTSE	**Matsula**	**0.92**	**158**	*e*P	**Pg**	**11 59 19.2**	**0.0**
MTSE	**Matsula**	**0.92**	**158**	*e*P	**Pg**	**11 59 19.4**	**+0.1**
MTSE				*e*S	**Sg**	**11 59 31.1**	**0.0**
HEL1	**Helsinki**	**1.06**	**54**	*e*P	**Pb**	**11 59 22.4**	**-0.4**
HEL1				*e*S	**Sb**	**11 59 37.1**	**-0.1**
NUR	**Nurmijrvi**	**1.20**	**38**	*e*P	**Pb**	**11 59 24.9**	**-0.4**
EE08	**Sarghaua, Vand**	**1.41**	**130**	*e*P	**Pn**	**11 59 28.0**	**-0.4**
EE08				*e*S	**Sg**	**11 59 46.8**	**0.0**
ARBE	**Arbavere**	**1.44**	**94**	*e*P	**Pb**	**11 59 29.5**	**+0.2**
ARBE	**Arbavere**	**1.44**	**94**	*e*P	**Pg**	**11 59 29.1**	**-0.1**
ARBE				*e*S	**Sn**	**11 59 48.4**	**-0.2**
ARBE				AML	AML	11 59 51.2	
	comp=Z,195nm,0.2s						
ARBE				AML	AML	11 59 52.3	
	comp=N,634nm,0.2s						
ARBE				AML	AML	11 59 53.2	
	comp=E,582nm,0.2s						
ARBE	**Arbavere**	**1.44**	**94**	*e*P	**Pn**	**11 59 29.0**	**+0.1**
ARBE				*e*S	**Sb**	**11 59 47.9**	**-0.4**
RAF	**Rauma**	**1.62**	**335**	*e*P	**Pg**	**11 59 33.2**	**+0.6**
RAF	**Rauma**	**1.62**	**335**	*e*P	**Pn**	**11 59 31.9**	**+0.5**
RAF				*e*S	**Sn**	**11 59 52.9**	**0.0**
RAF				AML	AML	11 59 57.6	
	comp=E,97nm,0.3s						
RAF				AML	AML	11 59 58.1	
	comp=N,65nm,0.2s						
RAF				AML	AML	11 59 58.5	
	comp=Z,51nm,0.2s						
RAF	**Rauma**	**1.62**	**335**	*e*P	**Pn**	**11 59 31.9**	**+0.5**
RAF				*e*S	**Sn**	**11 59 53.2**	**+0.3**
RAF				MSG		11 59 58.0	
	comp=Z,64nm,0.2s						
PVF	**Pernaja**	**1.67**	**53**	*e*P	**Pg**	**11 59 33.4**	**-0.2**
PVF				*e*SN	**Sg**	**11 59 56.4**	**+1.1**
PVF				MSG		11 59 58.8	
	comp=Z,80nm,0.2s						
AAL	**Aland**	**1.71**	**292**	*e*P	**Pn**	**11 59 33.4**	**+0.7**
AAL	**Aland**	**1.71**	**292**	*e*P	**Pn**	**11 59 33.0**	**+0.3**
AAL				*e*S	**Sn**	**11 59 54.3**	**-0.9**
AAL	**Aland**	**1.71**	**292**	P	**Pn**	**11 59 33.0**	**+0.3**
AAL				S	**Sn**	**11 59 54.0**	**-1.3**
EE03	**Tooma soojaam,**	**1.74**	**112**	*e*SN	**Sg**	**11 59 57.8**	**+0.2**
SLIT	**Slitere, Latvi**	**2.00**	**194**	*e*P	**Pn**	**11 59 36.1**	**-0.5**
SLIT	**Slitere, Latvi**	**2.00**	**194**	*e*P	**Pn**	**11 59 37.2**	**+0.6**
SLIT				*e*S	**Sn**	**12 00 03.7**	**+1.5**
SLIT				AML	AML	12 00 05.0	
	comp=N,363nm,0.2s						
SLIT				AML	AML	12 00 07.5	
	comp=E,367nm,0.2s						
SLIT				AML	AML	12 00 11.1	
	comp=Z,161nm,0.2s						
SLIT	**Slitere, Latvi**	**2.00**	**194**	*e*P	**Pn**	**11 59 37.0**	**+0.4**
SLIT				*e*SG	**Sn**	**12 00 03.5**	**+1.2**
VSU	**Vasula**	**2.15**	**119**	*e*P	**Pb**	**11 59 41.0**	**-0.5**
VSU				AML	AML	11 59 44.3	
	comp=N,95nm,0.6s						
VSU				AML	AML	12 00 11.7	
	comp=E,90nm,0.2s						
VSU				AML	AML	12 00 13.8	
	comp=Z,62nm,0.3s						
VSU	**Vasula**	**2.15**	**119**	*e*P	**Pb**	**11 59 40.8**	**-0.7**
VSU				*e*SB	**Sb**	**12 00 08.1**	**-0.5**
NRTU	**Norrtaelje**	**2.31**	**275**	P	**Pn**	**11 59 41.6**	**+0.8**
NRTU				S	**Sn**	**12 00 10.4**	**+0.6**
KPF	**Kankaanpaa**	**2.34**	**347**	MSG		12 00 16.4	
	comp=Z,39nm,0.2s						
FINES	**FINESS Array B**	**2.37**	**36**	Pn	**Pb**	**11 59 44.0**	**-1.2**
	comp=Z,14nm,0.3s,baz=229,slow=14,SNR=355						
FINES				Lg	Lg	12 00 15.1	
	comp=Z,13nm,0.3s,baz=228,slow=27,SNR=25						
	comp=Z,31nm,0.2s						
GRAU	**Graesoe**	**2.45**	**290**	P	**Pn**	**11 59 42.9**	**0.0**
FLYU	**Flymyra**	**2.72**	**284**	P	**Pn**	**11 59 46.9**	**+0.3**
KEF	**Keuruu**	**2.74**	**17**	*e*P	**Pn**	**11 59 48.9**	**+2.1**
UPP	**Uppsala**	**2.82**	**278**	P	**Pn**	**11 59 48.9**	**+1.0**
FIBU	**Brunna**	**2.96**	**279**	P	**Pn**	**11 59 50.5**	**+0.7**
BACU	**Backbrunna**	**3.08**	**278**	P	**Pn**	**11 59 52.2**	**+0.7**
OSTU	**Oestervaala**	**3.11**	**285**	P	**Pn**	**11 59 53.2**	**+1.3**
VAF	**Ylistaro**	**3.49**	**356**	*e*P	**Pn**	**11 59 59.2**	**+2.0**
VIKU	**Vikbolandet**	**3.51**	**255**	*e*P	**Pn**	**11 59 57.9**	**+0.5**
HFS	**Hagfors**	**4.81**	**281**	Pn	**Pn**	**12 00 15.4**	**+0.2**
	comp=Z,2.0nm,0.3s,baz=94,slow=14,SNR=45						
HFS				Sn	**Sn**	**12 01 09.8**	**-1.8**
	comp=Z,1.2nm,0.3s,baz=86,slow=22,SNR=5.1						
HFS				Lg	Lg	12 01 27.2	
	comp=Z,2.7nm,0.3s,baz=87,slow=30,SNR=5.9						
	comp=Z,3.8nm,0.3s						
JOF	**Joensuu**	**5.17**	**46**	*e*P	**Pn**	**12 00 21.8**	**+1.7**
DEL	**Delary**	**5.83**	**242**	*e*P	**Pn**	**12 00 28.9**	**-0.4**
NOA	**NORSAR Array B**	**6.12**	**289**	Pn	**Pn**	**12 00 32.1**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=98,slow=12,SNR=22						
	comp=Z,0.4nm,0.3s						
BSD	**Bornholm Skovb**	**6.31**	**229**	*e*P	**Pn**	**12 00 34.5**	**-1.4**
ARCES	**ARCESS Array B**	**10.06**	**5**	Pn	**Pn**	**12 01 26.2**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=183,slow=13,SNR=30						
	comp=Z,1.1nm,0.2s						

*CRAAG **21** 12:11:39.1,35˚.70N×4˚.43E,Ml3.3,Algerie 11km SW M"sila*
*MDD **21** 12:11:39.9±1.5,35˚.83N×4˚.71E,h0km,Mb4.2/6, M_mb3.6/6,Error ellipse: s-maj=16.5km s-min=11.6km az=32.0*
ISC 21 12:11:41.2±1.1**,35˚.70N**±0˚.05×**4˚.43E**±0˚.04**, h25**km**, n22, σ1°65/30, 5C, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAF	**Djebel Tarf**	**0.22**	**325**	P	**Pb**	**12 11 44.3**	**-3.0**
ABSD	**Ouled Sidi Bra**	**0.32**	**216**	P	**Pb**	**12 11 47.1**	**-1.5**
AKET	**Djebel Ketaf**	**0.57**	**308**	P	**Pb**	**12 11 51.5**	**-1.2**
CTCHA	**Tamcha**	**0.76**	**13**	P	**Pb**	**12 11 55.4**	**-0.3**
CAZD	**Ain Tagrout**	**0.76**	**51**	P	**Pb**	**12 11 54.7**	**-1.2**
ATKJ	**Tikjda**	**0.79**	**341**	P	**Pb**	**12 11 55.7**	**-0.7**
ADJB	**Djebel Djouab**	**0.93**	**300**	P	**Pb**	**12 11 58.3**	**-0.5**
AKED	**El Kharrouba**	**1.26**	**319**	P	**Pb**	**12 12 03.7**	**-0.6**
CTGD	**Timgad**	**1.72**	**95**	P	**Pb**	**12 12 13.1**	**+0.9**
EDDR	**Deurdeur**	**1.83**	**280**	P	**Pn**	**12 12 12.6**	**+1.5**
CKFL	**Kef-Lekhel**	**1.98**	**69**	P	**Pn**	**12 12 12.8**	**-0.5**
EIBI	**Ibiza**	**4.14**	**324**	Pn	**Pn**	**12 12 43.9**	**+1.0**
EIBI				Sn	**Sn**	**12 13 28.7**	**-1.6**
EIBI	**Ibiza**	**4.14**	**324**	Pn	**Pn**	**12 12 44.0**	**+1.2**
EIBI				⇑*i*Vmb_V		12 12 45.0	
	154nm,SNR=2.0						
EIBI				Sn	**Sn**	**12 13 29.2**	**-1.2**
CART	**Cartagena**	**4.76**	**295**	Pn	**Pn**	**12 12 52.3**	**+1.0**
CART				Sn	**Sn**	**12 13 43.3**	**-2.4**
EMUR	**La Murta**	**5.03**	**297**	Pn	**Pn**	**12 12 56.6**	**+1.5**
EZAR	**Zarzadilla de**	**5.38**	**296**	Pn	**Pn**	**12 13 01.6**	**+1.7**
EZAR				⇑*i*Vmb_V		12 13 05.1	
	196nm,SNR=3.0						
EZAR				Sn	**Sn**	**12 14 01.8**	**+0.7**
ETOB	**Tobarra**	**5.61**	**303**	Pn	**Pn**	**12 13 05.4**	**+2.3**
ETOB	**Tobarra**	**5.61**	**303**	Pn	**Pn**	**12 13 05.4**	**+2.3**
ETOB				⇑*i*Vmb_V		12 13 06.6	
	123nm,SNR=2.7						
ETOB				Sn	**Sn**	**12 14 08.2**	**+1.4**
EVIV	**Cofrentes, Val**	**5.67**	**311**	Pn	**Pn**	**12 13 05.9**	**+2.0**
EVIV				⇑*i*Vmb_V		12 13 07.6	
	67nm,SNR=1.9						
EVIV				Sn	**Sn**	**

comp=Z,0.5nm,0.6s,baz=66,slow=4.8
NOA NORSAR Array B 84.67 333 P **P** **12 31 09.7 +0.8**
comp=Z,0.7nm,0.7s,baz=66,slow=4.7,SNR=3.9
comp=Z,0.7nm,0.7s
TXAR Lajitas Array 116.53 44 PKP **PKPdf** **12 37 18.6 -1.3**
comp=Z,0.2nm,0.6s,baz=211,slow=1.1,SNR=3.8

TEH ***21*** *12:21:30.8, 34˚.90N×45˚.84E, h8km±68km, ML3.0*
ISN ***21*** *12:21:30.8±0.8, 34˚.92N×45˚.81E, h27km, ML3.1*
ISC 21 12:21:30.8±1.4**, 34˚.89N**±0˚.03×**45˚.82E**±0˚.03**, h12**km±12km**, n17**, σ0**s99**/24**, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.43**	**207**	Pg		**Pg**	**12 21 39.3**	**0.0**
KGS1				Sg		**Sb**	**12 21 46.8**	**+0.1**
IDHR	**Dehrash**	**0.50**	**112**	Pg		**Pg**	**12 21 40.2**	**-0.4**
IDHR				Sg		**Sb**	**12 21 48.4**	**-0.6**
GLG1	**Gilan-e-Gharb**	**0.78**	**175**	Pg		**Pb**	**12 21 45.5**	**-0.8**
IGHG	**Ghaleghazi**	**0.83**	**132**	Pg		**Pg**	**12 21 47.3**	**+0.5**
IGHG				Sg		**Sn**	**12 22 00.4**	**-0.4**
ILIN	**Lien**	**0.94**	**88**	Pg		**Pb**	**12 21 48.8**	**-0.4**
ILIN				Sg		**Sn**	**12 22 02.2**	**-1.3**
KCHF	**Cheshme Sefid,**	**1.18**	**121**	Pg		**Pb**	**12 21 53.1**	**-0.1**
SDS1	**Sardasht. Az.**	**1.29**	**348**	Pg		**Pg**	**12 21 56.0**	**+0.4**
ILBA	**Ilam Banvizeh**	**1.30**	**166**	Pg		**Pb**	**12 21 55.2**	**0.0**
IKRK	**Kirkuk**	**1.32**	**293**	*e*Pg		**Pb**	**12 21 55.0**	**-0.4**
IKRK				*e*Sg		**Sn**	**12 22 11.0**	**-1.5**
IKRK				AML		AML	12 22 18.3	
	comp=N,426nm,0.4s							
IKRK				AML		AML	12 22 18.4	
	comp=E,389nm,0.4s							
SNQR	**Sonqor, Kerman**	**1.49**	**91**	Pg		**Pb**	**12 21 58.8**	**+0.3**
IBZA	**Bozab**	**1.73**	**103**	Pg		**Pb**	**12 22 03.2**	**+0.5**
IBDR	**Badra**	**1.78**	**177**	*e*Pn		**Pn**	**12 22 02.0**	**+0.7**
IBDR				*e*Sn		**Sb**	**12 22 25.0**	**-0.5**
MAHB	**Mahabad**	**1.88**	**357**	Pn		**Pg**	**12 22 05.4**	**-1.4**
BHD	**Baghdad**	**2.01**	**217**	*e*Pn		**Pn**	**12 22 05.0**	**+0.5**
BHD				*e*Sn		**Sn**	**12 22 30.5**	**+1.0**
IKFM	**Kafar-mosalman**	**2.16**	**128**	Pn		**Pb**	**12 22 09.3**	**-0.5**
HSAM	**Samen**	**2.39**	**106**	Pn		**Pb**	**12 22 12.2**	**-1.7**
GRMI	**Germi**	**4.25**	**22**	Pn		**Pn**	**12 22 37.9**	**+2.5**

IDC ***21*** *12:21:29.9±1.0, 36˚.02N×13˚.13E, h0km, mb3.8/14, mbtmp3.8/19, ML3.9/5, MS3.1/7, Error ellipse: s-maj=21.3km s-min=15.1km az=148.0*
ROM ***21*** *12:21:30.4±0.1, 36˚.005N±0˚.005×13˚.098E±0˚.008, h8km, ML3.9/95, Error ellipse: s-maj=0.7km s-min=0.5km az=146.0*
LDG ***21*** *12:21:32.2±0.6, 35˚.94N×13˚.05E, h10km, Ml3.8/6, Error ellipse: s-maj=9999.9km s-min=9999.9km az=99.0*
TUN ***21*** *12:21:33.2, 35˚.89N×12˚.93E, h127km±1km, MD4.1*
NAO ***21*** *12:21:51.0, 38˚.68N±0˚.22˚.47E, h33km, mb3.1*
ISC 21 12:21:31.8±0.9**, 35˚.97N**±0˚.04×**13˚.09E**±0˚.04**, h16**km±7km**, n87, σ1s74/94, mb3.7/15, MS3.1/4, 5C, Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
LINA	**Linosa Island**	**0.21**	**242**	⇑P		**Pg**	**12 21 35.8**	**-0.8**
LINA				S		**Sg**	**12 21 39.7**	**-0.1**
LINA				AML		AML		
	comp=E,66550μm,0.6s							
LINA				AML		AML		
	comp=N,64350μm,0.5s							
LINA				AML		AML		
	comp=E,66528μm,0.6s							
LINA				AML		AML		
	comp=N,64353μm,0.5s							
LPDG	**Lampedusa Capo**	**0.58**	**220**	⇑P		**Pg**	**12 21 42.6**	**-0.6**
LPDG				S		**Sg**	**12 21 51.9**	**+0.8**
LPDG				AML		AML		
	comp=E,21050μm,1.1s							
LPDG				AML		AML		
	comp=N,27850μm,0.6s							
LPDG				AML		AML		
	comp=E,21031μm,1.1s							
LPDG				AML		AML		
	comp=N,27858μm,0.6s							
LPDG				AML		AML		
	comp=E,21031μm,0.9s							
LPDG				AML		AML		
	comp=N,27858μm,1.4s							
WDD	**Wied Dalam**	**1.17**	**96**	P		**Pb**	**12 21 52.3**	**-1.3**
WDD				S		**Sb**	**12 22 07.8**	**-0.8**
FAVR	**Favara**	**1.38**	**20**	P		**Pn**	**12 21 55.9**	**-0.5**
FAVR				S		**Sb**	**12 22 12.9**	**-1.6**
CMDO	**Montedoro**	**1.61**	**21**	P		**Pb**	**12 22 00.8**	**-0.2**
CMDO				AML		AML		
	comp=E,950μm,0.9s							
CMDO				AML		AML		
	comp=N,1605μm,1.5s							
CMDO				AML		AML		
	comp=E,1182μm,1.1s							
CMDO				AML		AML		
	comp=N,2160μm,1.1s							
CMDO				AML		AML		
	comp=E,1182μm,1.1s							
CMDO				AML		AML		
	comp=N,2163μm,1.1s							
CLTB	**Caltabellotta**	**1.61**	**4**	P		**Pn**	**12 21 58.5**	**-1.1**
CLTB				AML		AML		
	comp=E,10375μm,0.5s							
CLTB				AML		AML		
	comp=N,17650μm,0.4s							
CLTB				AML		AML		
	comp=E,15450μm,0.5s							
CLTB				AML		AML		
	comp=N,27250μm,0.6s							
CLTB				AML		AML		
	comp=N,27228μm,0.6s							
CLTB				AML		AML		
	comp=E,15478μm,0.5s							
RAFF	**Raffo Rosso**	**1.62**	**39**	P		**Pn**	**12 21 59.3**	**-0.4**
RAFF				AML		AML		
	comp=E,4635μm,0.4s							
RAFF				AML		AML		
	comp=N,4660μm,0.6s							
RAFF				AML		AML		
	comp=E,4637μm,0.4s							
RAFF				AML		AML		
	comp=N,4660μm,0.6s							
HMDC	**Modica**	**1.69**	**54**	P		**Pn**	**12 21 59.7**	**-0.9**
HMDC				AML		AML		
	comp=E,6295μm,0.4s							
HMDC				AML		AML		
	comp=N,7455μm,0.4s							
HMDC				AML		AML		
	comp=E,6297μm,0.4s							
HMDC				AML		AML		
	comp=E,6297μm,1.6s							
HMDC				AML		AML		
	comp=N,7455μm,0.4s							
MMGO	**Monte Magaggia**	**1.69**	**357**	P		**Pn**	**12 21 59.5**	**-1.2**
MMGO				AML		AML		
	comp=N,1610μm,0.7s							
MMGO				AML		AML		
	comp=E,1625μm,0.5s							
MMGO				AML		AML		
	comp=N,1606μm,0.7s							
MMGO				AML		AML		
	comp=E,1621μm,0.5s							
MMGO				AML		AML		
	comp=E,1315μm,0.4s							
MCT	**Mte Cammarata**	**1.72**	**15**	AML		AML		
MCT	comp=E,1953μm,0.6s			AML		AML		
	comp=E,1158μm,1.5s							
MCT				AML		AML		
	comp=N,1675μm,0.7s							
MCT				AML		AML		
	comp=E,1470μm,1.2s							
MCT				AML		AML		
	comp=N,2310μm,0.8s							
MCT				AML		AML		
	comp=E,1953μm,1.4s							
MCT				AML		AML		
	comp=N,2307μm,0.8s							
CAVT	**Castelvetrano**	**1.73**	**351**	P		**Pn**	**12 22 01.0**	**-0.1**
HVZN	**Vizzini**	**1.78**	**47**	P		**Pn**	**12 22 01.1**	**-0.8**
HPAC	**Pachino**	**1.79**	**65**	P		**Pn**	**12 22 01.1**	**-0.9**
MFNL	**Monte Finestre**	**1.82**	**356**	P		**Pn**	**12 22 02.6**	**+0.1**
CRJA	**Costa Raja**	**1.83**	**358**	P		**Pn**	**12 22 01.9**	**-0.7**
CRJA				AML		AML		
	comp=E,4840μm,0.9s							
CRJA				AML		AML		
	comp=N,1380μm,0.6s							
CRJA				AML		AML		
	comp=N,1378μm,0.6s							
CRJA				AML		AML		
	comp=E,4839μm,0.9s							
CRJA				AML		AML		
	comp=N,1378μm,1.4s							
MARS	**Marsala (TP) I**	**1.83**	**347**	P		**Pn**	**12 22 02.5**	**-0.1**
MARS				AML		AML		
	comp=E,2310μm,0.6s							
MARS				AML		AML		
	comp=N,1995μm,1.0s							
MARS				AML		AML		
	comp=N,1995μm,1.0s							
MARS				AML		AML		
	comp=E,2308μm,0.6s							
VAE	**Valguarnera**	**1.84**	**35**	Pn		**Pn**	**12 22 03.9**	**+1.0**
	comp=E,43nm,0.3s,baz=355,slow=11,SNR=28							
VAE				Sn		**Sn**	**12 22 26.8**	**+0.9**
	comp=E,132nm,0.3s,baz=15,slow=19,SNR=7.9							
RESU	**Resuttano**	**1.85**	**25**	⇑P		**Pn**	**12 22 04.1**	**+1.2**
RESU				AML		AML		
	comp=E,1475μm,0.6s							
RESU				AML		AML		
	comp=N,2230μm,0.8s							
RESU				AML		AML		
	comp=N,2232μm,0.8s							
RESU				AML		AML		
	comp=E,1471μm,0.6s							
ALJA	**Alia**	**1.86**	**17**	P		**Pn**	**12 22 03.8**	**+0.8**
ALJA				AML		AML		
	comp=E,1062μm,1.0s							
ALJA				AML		AML		
	comp=N,1255μm,0.7s							
ALJA				AML		AML		
	comp=E,1060μm,1.0s							
ALJA				AML		AML		
	comp=N,1254μm,0.7s							
ALJA				AML		AML		
	comp=E,1060μm,1.0s							
ALJA				AML		AML		
	comp=N,1254μm,1.3s							
MEU	**Monte Lauro**	**1.86**	**52**	P		**Pn**	**12 22 01.8**	**-1.3**
MEU				AML		AML		
	comp=E,7640μm,1.6s							
MEU				AML		AML		
	comp=N,7725μm,0.3s							
MEU				AML		AML		
	comp=E,7623μm,0.6s							
MEU				AML		AML		
	comp=N,7722μm,0.3s							
CORL	**Corleone**	**1.93**	**5**	P		**Pn**	**12 22 03.6**	**-0.4**
CORL				AML		AML		
	comp=E,1825μm,0.7s							
CORL				AML		AML		
	comp=N,2015μm,0.9s							
CORL				AML		AML		
	comp=N,2013μm,0.9s							
CORL				AML		AML		
	comp=E,1824μm,0.7s							
MTGR	**Montagna Grand**	**1.94**	**352**	P		**Pn**	**12 22 03.3**	**-0.8**
MTGR				AML		AML		
	comp=E,59250μm,0.6s							
MTGR				AML		AML		
	comp=N,55350μm,1.3s							
MTGR				AML		AML		
	comp=N,55259μm,0.8s							
MTGR				AML		AML		
	comp=N,55259μm,1.2s							
MTGR				AML		AML		
	comp=E,59249μm,0.6s							
MBFT	**Monte Bonifato**	**1.98**	**357**	P		**Pn**	**12 22 03.8**	**-0.9**
MBFT				AML		AML		
	comp=E,887μm,0.4s							
MBFT				AML		AML		
	comp=N,736μm,0.7s							
MBFT				AML		AML		
	comp=E,887μm,0.4s							
MBFT				AML		AML		
	comp=E,904μm,0.4s							
MBFT				AML		AML		
	comp=N,736μm,0.7s							
MBFT				AML		AML		
	comp=N,150μm,1.1s							
SSY	**Sortino**	**1.99**	**53**	P		**Pn**	**12 22 04.8**	**+0.1**
SSY				AML		AML		
	comp=E,10025μm,0.6s							
SSY				AML		AML		
	comp=N,8720μm,0.4s							
SSY				AML		AML		
	comp=E,10011μm,0.6s							
SSY				AML		AML		
	comp=N,8719μm,0.4s							
SSY				AML		AML		
	comp=E,10011μm,1.4s							
HLNI	**Lentini**	**1.99**	**46**	P		**Pn**	**12 22 04.2**	**-0.6**
HLNI				AML		AML		
	comp=E,2955μm,0.5s							
HLNI				AML		AML		
	comp=N,5195μm,0.4s							
HLNI				AML		AML		
	comp=E,2955μm,0.5s							
HLNI				AML		AML		
	comp=N,5196μm,0.4s							
HLNI				AML		AML		
	comp=E,2955μm,1.6s							
CAGR	**Agira**	**2.00**	**34**	P		**Pn**	**12 22 06.6**	**+1.6**
CAGR				AML		AML		
	comp=E,2505μm,1.2s							
CAGR				AML		AML		
	comp=N,3330μm,0.7s							
CAGR				AML		AML		
	comp=E,2388μm,0.7s							
CAGR				AML		AML		
	comp=N,3328μm,0.7s							
PETRA	**Petralia Sopra**	**2.04**	**24**	⇑P		**Pn**	**12 22 06.6**	**+1.0**
PETRA				AML		AML		
	comp=E,1950μm,0.7s							
PETRA				AML		AML		
	comp=N,2405μm,0.5s							
PETRA				AML		AML		
	comp=E,1950μm,0.7s							
PETRA				AML		AML		
	comp=E,1950μm,1.3s							
PETRA				AML		AML		
	comp=N,2407μm,0.5s							
ERC	**Erice**	**2.10**	**349**	P		**Pn**	**12 22 06.2**	**-0.3**
ERC				AML		AML		
	comp=E,827μm,0.5s							
ERC				AML		AML		
	comp=N,978μm,1.1s							
ERC				AML		AML		
	comp=N,922μm,0.5s							
ERC				AML		AML		
	comp=E,827μm,0.5s							
GALF	**Gagliano Caste**	**2.10**	**34**	⇑P		**Pn**	**12 22 07.7**	**+1.3**
GALF				AML		AML		
	comp=E,610μm,0.7s							
GALF				AML		AML		
	comp=N,793μm,0.5s							
GALF				AML		AML		
	comp=E,2085μm,0.6s							
GALF				AML		AML		
	comp=N,2320μm,0.5s							
GALF				AML		AML		
	comp=E,610μm,0.7s							
GALF				AML		AML		
	comp=E,2085μm,0.6s							
GALF				AML		AML		
	comp=N,2323μm,0.5s							
GALF				AML		AML		
	comp=N,793μm,0.6s							
GALF				AML		AML		
	comp=E,2085μm,1.4s							
CSLB	**Castelbuono**	**2.11**	**21**	P		**Pn**	**12 22 06.7**	**+0.2**
CSLB				AML		AML		
	comp=E,1165μm,0.6s							
CSLB				AML		AML		
	comp=N,1090μm,0.6s							
CSLB				AML		AML		
	comp=E,1164μm,0.6s							
CSLB				AML		AML		
	comp=N,1089μm,0.6s							
CSLB				AML		AML		
	comp=E,1164μm,1.4s							
HAGA	**Augusta**	**2.12**	**51**	P		**Pn**	**12 22 06.0**	**-0.6**
HAGA				AML		AML		
	comp=E,5170μm,0.5s							
HAGA				AML		AML		
	comp=N,3350μm,1.1s							
HAGA				AML		AML		
	comp=E,5169μm,0.5s							
HAGA				AML		AML		
	comp=N,3350μm,1.1s							
HAGA				AML		AML		
	comp=N,2939μm,0.9s							
HAGA				AML		AML		
	comp=E,5169μm,1.5s							
AGST	**Augusta-Monte**	**2.15**	**53**	P		**Pn**	**12 22 07.3**	**+0.4**
SOLUN	**Solunto**	**2.15**	**9**	P		**Pn**	**12 22 06.7**	**-0.3**
SOLUN				AML		AML		
	comp=E,908μm,0.5s							
SOLUN				AML		AML		
	comp=N,732μm,0.4s							
SOLUN				AML		AML		
	comp=E,908μm,0.5s							
SOLUN				AML		AML		
	comp=N,732μm,0.4s							
ESML	**S. M. di Licod**	**2.19**	**41**	P		**Pn**	**12 22 08.0**	**+0.6**
ESML				AML		AML		
	comp=E,2045μm,0.8s							
ESML				AML		AML		
	comp=N,2360μm,0.7s							
ESML				AML		AML		
	comp=E,2043μm,0.8s							
ESML				AML		AML		
	comp=N,2238μm,0.7s							
PLLN	**Pollina**	**2.19**	**22**	P		**Pn**	**12 22 08.3**	**+0.7**
PLLN				AML		AML		
	comp=E,3490μm,0.9s							
PLLN				AML		AML		
	comp=N,7270μm,0.5s							
PLLN				AML		AML		
	comp=N,7273μm,0.5s							
PLLN				AML		AML		
	comp=E,3489μm,0.9s							
MPG	**Monte Pellegri**	**2.20**	**6**	P		**Pn**	**12 22 07.7**	**0.0**
MPG				AML		AML		
	comp=E,602μm,0.3s							
MPG				AML		AML		
	comp=N,746μm,0.3s							
MPG				AML		AML		
	comp=N,746μm,0.3s							
MPG				AML		AML		
	comp=E,602μm,0.3s							
MPG				AML		AML		
	comp=N,746μm,1.7s							
TROT	**Trozza**	**2.87**	**263**	*i* P		**Pn**	**12 22 16.8**	**-0.1**
KEST	**Kesra**	**3.05**	**267**	Pn		**Pn**	**12 22 19.8**	**+0.4**
	comp=N,4.4nm,0.3s,baz=68,slow=11,SNR=96							
KEST				Sn		**Sn**	**12 22 56.7**	**+1.1**
	comp=N,52nm,0.3s,baz=82,slow=23,SNR=30							
	comp=N,25nm,0.3s							
GMB	**Gambarie**	**3.10**	**44**	AML		AML		
GMB	comp=E,1870μm,1.5s			AML		AML		
	comp=N,1970μm,0.7s							
GMB				AML		AML		
	comp=N,1972μm,0.7s							
GMB				AML		AML		
	comp=E,1811μm,0.6s							
MEDT	**Meda**	**3.19**	**235**	*i* P		**Pn**	**12 22 21.7**	**+0.4**
KRIT	**Krib**	**3.27**	**278**	*i* P		**Pn**	**12 22 22.8**	**+0.4**
BLIT	**Baltah**	**3.42**	**284**	*i* P		**Pn**	**12 22 22.0**	**-2.5**
SGNT	**Sidi Gnaou**	**3.51**	**230**	*i* P		**Pn**	**12 22 26.1**	**+0.5**
BERT	**Berda**	**3.76**	**244**	*i* P		**Pn**	**12 22 29.5**	**+0.4**
GHAT	**Ghardimaou**	**3.90**	**279**	*i* P		**Pn**	**12 22 31.1**	**+0.1**
TATN	**Tataouine**	**3.99**	**213**	*i* P		**Pn**	**12 22 29.6**	**-2.7**
TATN				*i* S		**Pn**	**12 22 29.6**	**-2.7**
MATE	**Matera**	**5.47**	**30**	*i* P		**Pn**	**12 22 54.4**	**+1.9**
PGF	**Pioggiola**	**7.30**	**335**	*e*Pn		**Pn**	**12 23 20.0**	**+2.2**
PGF				*e*Sn		**Sn**	**12 24 38.7**	**-1.6**
	comp=E,32nm,0.7s							
LMR	**La Mourre**	**8.93**	**327**	*e*Pn		**Pn**	**12 23 39.1**	**-1.0**
LMR				*e*Sn		**Sn**	**12 25 14.8**	**-5.6**
	comp=E,2.6nm,0.5s							
SBF	**Sospel**	**9.00**	**333**	*e*Pn		**Pn**	**12 23 41.6**	**+0.5**
SBF				*e*Sn		**Sn**	**12 25 17.1**	**-5.0**
	comp=E,42nm,0.9s							
IDI	**Anoyia**	**9.63**	**91**	Pn		**Pn**	**12 23 49.3**	**-0.5**
	comp=E,0.4nm,0.3s,baz=318,slow=18,SNR=1.2							
IDI				Sn		**Sn**	**12 25 33.6**	**-4.1**
	comp=E,0.9nm,0.3s,baz=315,slow=20,SNR=1.8							
SMRF	**Simiane la Rot**	**9.86**	**327**	*e*Pn		**Pn**	**12 23 53.8**	**+1.0**
SMRF				*e*Sn		Sn	12 25 34.6	-8.5
	comp=E,2.4nm,0.4s							
MBDF	**Montbardon**	**9.98**	**333**	*e*P		**Pn**	**12 23 58.6**	**+3.9**
MBDF				*e*Sn		**Sn**	**12 25 42.1**	**-4.3**
	comp=E,6.6nm,0.6s							
ORIF	**Oris-en-Rattie**	**10.49**	**331**	*e*P		**Pn**	**12 24 03.6**	**+2.1**
LASF	**Ste Croix**	**10.75**	**322**	*e*Pn		**Pn**	**12 24 03.4**	**-1.6**
ABTA	**Abfaltersbach**	**10.78**	**358**	*e*Pn		**Pn**	**12 24 08.8**	**+3.3**
	comp=E,3.0nm,0.7s							
DAVOX	**Davos/Dischmat**	**11.07**	**348**	Pn		Pn	12 24 16.3	+6.8
	comp=E,1.2nm,0.3s,baz=162,slow=11,SNR=14							
MTLF	**Montolieu**	**11.15**	**315**	*e*Pn		**Pn**	**12 24 08.2**	**-2.3**
FETA	**Feichten**	**11.18**	**352**	*e*Pn		**Pn**	**12 24 15.1**	**+4.1**
	comp=E,2.0nm,0.7s							
WTTA	**Wattenberg**	**11.34**	**355**	Pn		**Pn**	**12 24 16.0**	**+2.7**
	comp=E,1.5nm,0.9s							
ARSA	**Arzberg**	**11.42**	**8**	*e*Pn		**Pn**	**12 24 17.3**	**+3.1**
	comp=E,3.0nm,0.8s							
MOTA	**Moosalm**	**11.46**	**353**	*e*Pn		**Pn**	**12 24 15.9**	**+1.0**
	comp=E,2.7nm,1.2s							
DAVA	**Damuels**	**11.56**	**349**	*e*Pn		**Pn**	**12 24 17.9**	**+1.7**
	comp=E,1.0nm,0.5s							
MOA	**Molln**	**11.90**	**4**	*e*Pn		**Pn**	**12 24 22.8**	**+2.0**
	comp=E,2.7nm,0.8s							
VRAC	**Vranov**	**13.58**	**10**	Pn		**Pn**	**12 24 43.7**	**+0.1**
	comp=E,0.8nm,0.3s,baz=182,slow=17,SNR=2.3							
VRAC				LR		LR	12 29 56.7	
	comp=E,36nm,18.8s,baz=206,slow=38							
	comp=E,2.7nm,0.4s							
MLR	**Muntele Rosu**	**13.61**	**42**	Pn		**P**	**12 24 55.3**	**+2.2**
	comp=E,0.2nm,0.3s,baz=302,slow=7.0,SNR=3.6							
MLR				LR		LR	12 30 45.3	
	comp=E,50nm,18.4s,baz=244,slow=41							
ESDC	**Sonseca Array**	**13.98**	**290**	Pn		**Pn**	**12 24 51.6**	**+2.5**
	comp=E,0.1nm,0.3s,baz=104,slow=15,SNR=7.1							
	comp=E,0.4nm,0.4s							
MDT	**Midelt**	**14.95**	**263**	Pn		**Pn**	**12 25 02.8**	**+0.3**
	comp=E,0.2nm,0.3s,baz=95,slow=18,SNR=6.5							
MDT				LR		LR	12 31 45.4	
	comp=E,60nm,18.8s,baz=4.5,slow=41							
	comp=E,1.0nm,0.4s							
AKASG	**Malin Array Be**	**18.77**	**33**	P		**P**	**12 25 50.4**	**+0.3**
	comp=E,0.4nm,0.3s,baz=227,slow=8.6,SNR=5.4							
	comp=E,0.7nm,0.5s							
EKA	**Eskdalemuir Ar**	**22.35**	**335**	P		**P**	**12 26 29.8**	**+1.0**
	comp=E,3.0nm,1.0s,baz=153,slow=8.0,SNR=4.2							
	comp=E,3.0nm,1.0s							
HFS	**Hagfors**	**24.18**	**1**	P		**P**	**12 26 46.0**	**-1.1**
	comp=E,3.0nm,0.6s,baz=179,slow=11,SNR=8.6							
	comp=E,3.0nm,0.6s							
TORD	**Torodi Ar. Bea**	**24.93**	**207**	P		**P**	**12 26 56.2**	**+1.9**
	comp=E,1.1nm,0.9s,baz=20,slow=8.9,SNR=5.0							
TORD				LR		LR	12 38 30.6	
	comp=E,74nm,19.5s,baz=124,slow=41							
	comp=E,1.1nm,0.9s							
NB2	**NORSAR Subarra**	**25.12**	**358**	P		**P**	**12 26 56.4**	**+0.7**
	comp=Z,0.3nm,0.4s,baz=157,slow=10							
NOA	**NORSAR Array B**	**25.12**	**358**	P		**P**	**12 26 56.5**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=170,slow=10.0,SNR=3.5							
	comp=Z,0.4nm,0.5s							
FINES	**FINESS Array B**	**26.79**	**14**	P		**P**	**12 27 09.8**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=184,slow=9.2,SNR=3.7							
	comp=Z,1.0nm,0.6s							
DBIC	**Dimbokro**	**33.48**	**214**	LR		LR	12 41 12.7	
	comp=Z,28nm,18.8s,baz=150,slow=35							
ARCES	**ARCESS Array B**	**34.31**	**8**	P		**P**	**12 28 16.7**	**-0.4**
	comp=Z,2.6nm,0.8s,baz=179,slow=6.3,SNR=4.4							
	comp=Z,2.6nm,0.8s							
AKTO	**Aktyubinsk**	**35.23**	**52**	P		**P**	**12 28 23.9**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=303,slow=3.2,SNR=1.5							
	comp=Z,0.6nm,0.4s							
ARU	**Arti**	**36.66**	**42**	P		**P**	**12 28 38.7**	**+1.3**
	comp=Z,2.3nm,0.3s,baz=98,slow=15,SNR=1.9							
ARU				LR		LR	12 44 10.3	
	comp=Z,29nm,19.5s,baz=182,slow=37							
	comp=Z,2.3nm,0.3s							
SPITS	**Spitsbergen Ar**	**42.34**	**1**	P		**P**	**12 29 24.6**	**+0.1**
	comp=Z,1.4nm,0.5s,baz=198,slow=8.7,SNR=6.5							

comp=Z,1.4nm,0.5s
BVAR Borovoye Array 43.05 48 P P 12 29 34.2 +3.6
comp=Z,0.9nm,0.7s,baz=263,slow=7.1,SNR=4.3
KURBB Kurchatov Arra 48.28 51 P P 12 30 11.4 -0.5
comp=Z,0.4nm,0.5s,baz=281,slow=9.1,SNR=2.3
comp=Z,0.4nm,0.5s
MKAR Makanchi Array 51.48 55 P P 12 30 36.9 +0.5
comp=Z,0.5nm,0.5s,baz=286,slow=6.8,SNR=6.2
comp=Z,0.5nm,0.5s
ZALV Zalesovo Beam 51.54 46 P P 12 30 36.7 0.0
comp=Z,0.3nm,0.4s,baz=309,slow=9.1,SNR=1.6
comp=Z,0.3nm,0.4s
SONM Songino Array 66.39 47 P P 12 32 20.7 +0.7
comp=Z,0.5nm,0.5s,baz=311,slow=12,SNR=2.0
comp=Z,0.5nm,0.5s
CMAR Chiang Mai Arr 76.13 77 P P 12 33 19.3 +0.1
comp=Z,0.3nm,0.4s,baz=192,slow=2.7,SNR=2.1
comp=Z,0.3nm,0.4s
CPUP Villa Florida 90.80 238 LR LR 13 18 55.3
comp=Z,18nm,18.2s,baz=71,slow=38

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*DNK **21** 12:30:04.5±0.6,59.47N×25.28E,h0km,ML2.3(UPP), Suspected explosion*
*UPP **21** 12:30:07.7±2.8,59.50N×24.90E,h0km,ML2.3*
*EST **21** 12:30:08.7±0.0,59.47N×24.74E,h0km,ML2.1(HEL), Explosion*
*HEL **21** 12:30:09.0±0.1,59.49N×24.77E,h0km,ML2.1,Explosion*
*LVSN **21** 12:30:10.0±2.0,59.51N×24.86E,h0km±106km,ML2.1*
*IDC **21** 12:30:11.2±2.2,59.65N×24.48E,h0km, mbtmp3.1/3, ML2.4/3,Error ellipse: s-maj=26.6km s-min=7.8km az=143.0*

ISC 21 12:30:07.5±0.7,59.46N±0.02×24.84E±0.03,h0km,n58, σ0s80/72,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EE02	**Kiisa, Saku**	**0.28**	**195**	*eP*		**Pg**		**12 30 13.7**	**+0.9**
EE02				*eS*		**Sg**		**12 30 17.1**	**+0.7**
ARBE	**Arbavere**	**0.58**	**92**	*eP*		**Pb**		**12 30 20.0**	**-0.6**
ARBE	**Arbavere**	**0.58**	**92**	*eP*		**Pb**		**12 30 20.1**	**-0.5**
ARBE				*eS*		**Sb**		**12 30 28.6**	**-0.8**
HEL5	**Espoo, Suvisaa**	**0.66**	**356**	*eP*		**Pg**		**12 30 20.4**	**+0.2**
EE01	**Perakula, Nova**	**0.67**	**248**	*eP*		**Pg**		**12 30 20.1**	**-0.3**
EE01				*eS*		**Sg**		**12 30 28.2**	**-0.9**
HEL3	**Helsinki**	**0.72**	**359**	*eP*		**Pg**		**12 30 21.3**	**+0.2**
HEL3				*eS*		**Sg**		**12 30 30.2**	**-0.3**
HEL1	**Helsinki**	**0.72**	**2**	*eP*		**Pg**		**12 30 21.6**	**+0.3**
HEL2	**Helsinki**	**0.73**	**360**	*eS*		**Sg**		**12 30 31.1**	**+0.1**
HEL4	**Helsinki**	**0.79**	**359**	*eP*		**Pg**		**12 30 22.6**	**+0.1**
HEL4				*eS*		**Sg**		**12 30 32.3**	**-0.5**
MEF	**Metsahovi**	**0.79**	**344**	*eP*		**Pg**		**12 30 22.7**	**+0.1**
MEF	**Metsahovi**	**0.79**	**344**	*eP*		**Pg**		**12 30 22.8**	**+0.1**
MEF					AML	AML		12 30 33.9	
	comp=E,24nm,0.2s								
MEF					AML	AML		12 30 40.3	
	comp=N,24nm,0.4s								
MEF					AML	AML		12 30 40.5	
	comp=Z,34nm,0.6s								
MEF	**Metsahovi**	**0.79**	**344**	*eP*		**Pg**		**12 30 22.6**	**-0.1**
MEF				*eS*		**Sg**		**12 30 32.1**	**-0.8**
EE08	**Sarghaua, Vand**	**0.83**	**165**	*eP*		**Pb**		**12 30 24.2**	**-0.6**
EE08				*eS*		**Sb**		**12 30 35.4**	**-1.0**
MTSE	**Matsula**	**0.92**	**216**	*eP*		**Pg**		**12 30 25.1**	**+0.1**
MTSE	**Matsula**	**0.92**	**216**	*eP*		**Pg**		**12 30 24.8**	**-0.2**
MTSE				*eS*		**Sg**		**12 30 37.4**	**+0.5**
EE03	**Tooma soojaam,**	**0.94**	**128**	*eP*		**Pb**		**12 30 26.4**	**-0.2**
EE03				*eSB*		**Sn**		**12 30 40.8**	**-1.3**
NUR	**Nurmijrvi**	**1.06**	**355**	*eP*		**Pg**		**12 30 27.5**	**-0.3**
PVF	**Pernaja**	**1.20**	**25**	*eP*		**Pg**		**12 30 30.4**	**-0.1**
PVF				*eS*		**Sg**		**12 30 45.8**	**-0.3**
VSU	**Vasula**	**1.40**	**135**	*eP*		**Pb**		**12 30 34.8**	**+0.3**
VSU					AML	AML		12 31 18.8	
	comp=Z,32nm,0.4s								
VSU					AML	AML		12 31 19.0	
	comp=N,40nm,0.2s								
VSU					AML	AML		12 31 19.4	
	comp=E,56nm,0.5s								
VSU	**Vasula**	**1.40**	**135**	*eP*		**Pn**		**12 30 33.8**	**-0.4**
VJF	**Virojoki**	**1.74**	**50**	*eP*		**Pb**		**12 30 40.0**	**-0.3**
VJF				*eSN*		**Sg**		**12 31 05.0**	**+1.7**
VJF					MSG			12 31 07.0	
	comp=Z,17nm,0.1s								
FINES	**FINESS Array B**	**2.08**	**17**	Pn		**Pb**		**12 30 45.5**	**-0.6**
	comp=Z,3.3nm,0.3s,baz=191,slow=14,SNR=123								
FINES					Lg	Lg		12 31 13.7	
	comp=Z,3.9nm,0.3s,baz=195,slow=25,SNR=12								
FIA1	**FINESS Array S**	**2.08**	**17**	*ePG*		**Pb**		**12 30 46.0**	**-0.1**
FIA1					MSG			12 31 14.8	
	comp=Z,9.6nm,0.1s								
RAF	**Rauma**	**2.19**	**317**	*eP*		**Pb**		**12 30 46.7**	**-1.2**
RAF	**Rauma**	**2.19**	**317**	*eP*		**Pb**		**12 30 47.0**	**-1.0**
RAF					AML	AML		12 31 17.7	
	comp=Z,19nm,0.8s								
RAF					AML	AML		12 31 17.8	
	comp=E,18nm,0.2s								
RAF					AML	AML		12 31 18.3	
	comp=N,16nm,0.2s								
RAF	**Rauma**	**2.19**	**317**		MSG			12 31 16.8	
	comp=Z,10nm,0.1s								
SLIT	**Slitere, Latvi**	**2.27**	**217**	*eP*		**Pb**		**12 30 48.1**	**-1.2**
SLIT	**Slitere, Latvi**	**2.27**	**217**	*eP*		**Pb**		**12 30 48.3**	**-1.0**
SLIT					AML	AML		12 31 20.4	
	comp=E,118nm,0.2s								
SLIT					AML	AML		12 31 21.2	
	comp=N,133nm,0.2s								
SLIT					AML	AML		12 31 21.5	
	comp=Z,121nm,0.2s								
SLIT	**Slitere, Latvi**	**2.27**	**217**	*eP*		**Pb**		**12 30 48.1**	**-1.2**
SLIT				*eSG*		**Sb**		**12 31 18.6**	**+0.7**
AAL	**Aland**	**2.55**	**288**	*eP*		**Pn**		**12 30 51.9**	**+1.8**
AAL	**Aland**	**2.55**	**288**	*eP*		**Pn**		**12 30 51.8**	**+1.8**
AAL				*eSB*		**Sn**		**12 31 23.8**	**+2.1**
AAL	**Aland**	**2.55**	**288**	P		**Pn**		**12 30 50.4**	**+0.4**
AAL				S		**Sn**		**12 31 23.6**	**+1.8**
AAL	**Aland**	**2.55**	**288**	P		**Pn**		**12 30 50.4**	**+0.4**
AAL				S		**Sn**		**12 31 23.6**	**+1.8**
KEF	**Keuruu**	**2.72**	**0**	*eP*		**Pn**		**12 30 53.2**	**+0.9**
NRTU	**Norrtaelje**	**3.17**	**277**	P		**Pn**		**12 30 58.7**	**+0.2**
NRTU	**Norrtaelje**	**3.17**	**277**	P		**Pn**		**12 30 58.7**	**+0.2**
GRAU	**Graesoe**	**3.29**	**288**	P		**Pn**		**12 31 00.1**	**-0.1**
GRAU	**Graesoe**	**3.29**	**288**	P		**Pn**		**12 31 00.1**	**-0.1**
FORU	**Forsmark**	**3.48**	**288**	P		**Pn**		**12 31 02.9**	**+0.1**
FORU	**Forsmark**	**3.48**	**288**	P		**Pn**		**12 31 02.9**	**+0.1**
NYNU	**Nynaeshamn**	**3.54**	**266**	P		**Pn**		**12 31 04.1**	**+0.5**
NYNU	**Nynaeshamn**	**3.54**	**266**	P		**Pn**		**12 31 04.1**	**+0.5**
FLYU	**Flymyra**	**3.58**	**284**	P		**Pn**		**12 31 04.4**	**+0.3**
FLYU	**Flymyra**	**3.58**	**284**	P		**Pn**		**12 31 04.4**	**+0.3**
FIBU	**Brunna**	**3.82**	**280**	P		**Pn**		**12 31 07.6**	**+0.1**
FIBU	**Brunna**	**3.82**	**280**	P		**Pn**		**12 31 07.6**	**+0.1**
OSTU	**Oestervaala**	**3.96**	**285**	P		**Pn**		**12 31 09.4**	**-0.1**
OSTU	**Oestervaala**	**3.96**	**285**	P		**Pn**		**12 31 09.4**	**-0.1**
IGGU	**Iggoen**	**4.02**	**294**	P		**Pn**		**12 31 10.7**	**+0.5**
IGGU	**Iggoen**	**4.02**	**294**	P		**Pn**		**12 31 10.7**	**+0.5**
ARNU	**Arnoeviken**	**4.31**	**305**	P		**Pn**		**12 31 14.2**	**0.0**
ARNU	**Arnoeviken**	**4.31**	**305**	P		**Pn**		**12 31 14.2**	**0.0**
ESKU	**Eskilstuna**	**4.33**	**271**	P		**Pn**		**12 31 15.4**	**+0.9**
ESKU	**Eskilstuna**	**4.33**	**271**	P		**Pn**		**12 31 15.4**	**+0.9**
JOF	**Joensuu**	**4.67**	**39**	*eP*		**Pn**		**12 31 20.0**	**+0.8**
HFS	**Hagfors**	**5.67**	**282**	Pn		**Pn**		**12 31 33.0**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=114,slow=12,SNR=17								
HFS					Lg	Lg		12 32 59.2	
	comp=Z,0.7nm,0.3s,baz=92,slow=35,SNR=4.9								
	comp=Z,0.7nm,0.2s								
NOA	**NORSAR Array B**	**6.96**	**289**	Pn		**Pn**		**12 31 49.4**	**-1.3**
	baz=100,slow=12,SNR=6.4								
NOA					Lg	Lg		12 33 39.0	
	baz=122,slow=20,SNR=2.3								
	comp=Z,0.2nm,0.5s								
ARCES	**ARCESS Array B**	**10.12**	**1**	Pn		**Pn**		**12 32 32.9**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=178,slow=13,SNR=7.1								
	comp=Z,0.7nm,0.4s								

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*LDG **21** 12:38:35.4±0.1,42.62N×13.32E,h13km,Ml3.4/5,Error ellipse: s-maj=3.1km s-min=2.0km az=40.0*
*ROM **21** 12:38:35.5±0.0,42.618N±0.002×13.315E±0.002, h13km,ML3.4/251,Mw3.3,Error ellipse: s-maj=0.2km s-min=0.0km az=64.0,Moment Tensor Solution. Moment tensor: Scale 10^{14}Nm; M_{rr}=0.80; $M_{\theta\theta}$=0.41; $M_{\phi\phi}$=1.21; $M_{r\theta}$=0.40; $M_{\theta\phi}$=0.02; $M_{\phi r}$=0.27; Fault plane solution: M_o=1.16108×10^{14} NP1:ϕ_s=209.00000°,δ=46.00000°, λ=-45.00000°. NP2:ϕ_s=334.00000°,δ=59.00000°, λ=-126.00000°.*
*PDG **21** 12:38:36.4±0.1,42.71N×13.38E,h13km±1km,ML3.5/11 Error ellipse: s-maj=0.4km s-min=1.1km az=0.0*
*STR **21** 12:38:37.7±1.7,43.14×1.1,h10km,MLv3.4/9, Error ellipse: s-maj=0.0km s-min=0.0km az=158.0, preliminary*
*PRU **21** 12:38:37.9,42.69N×13.78E,h10km*

ISC 21 12:38:35.9±0.8,42.63N±0.02×13.33E±0.02,h14km±4km, n175,σ1s66/231,28C-12D,Central Italy

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.01**	**89**		⇓P		**Pg**	**12 38 38.1**	**-0.4**
SMA1					S		**Sg**	**12 38 39.7**	**-0.6**
SMA1					AML	AML			
	comp=E,84450μm,1.6s								
SMA1					AML	AML			
SMA1					AML	AML			
	comp=E,74285μm,0.2s								
SMA1					AML	AML			
SMA1					AML	AML			
CAMP	**Campotosto**	**0.11**	**147**		P	**Pg**		**12 38 38.9**	**-0.4**
CAMP					S	**Sg**		**12 38 41.1**	**-0.5**
CAMP					AML	AML			
	comp=E,37150μm,0.4s								
CAMP					AML	AML			
	comp=N,43000μm,0.2s								
MTRA	**Matera**	**0.14**	**22**		⇓P	**Pg**		**12 38 39.3**	**-0.3**
MTRA					S	**Sg**		**12 38 41.8**	**-0.3**
MTRA					AML	AML			
MTRA					AML	AML			
MTRA					AML	AML			
MTRA					AML	AML			
MTRA					AML	AML			
MTRA					AML	AML			
MTRA					AML	AML			
RM33	**Pellescritta (**	**0.15**	**214**		⇑P	**Pg**		**12 38 39.4**	**-0.3**
RM33					S	**Sg**		**12 38 42.1**	**-0.2**
RM33					AML	AML			
	comp=N,51900μm,0.3s								
RM33					AML	AML			
	comp=E,53550μm,0.9s								
RM33					AML	AML			
	comp=E,54800μm,0.9s								
RM33					AML	AML			
	comp=N,52600μm,0.5s								
T1247	**Pizzolo (AQ)**	**0.19**	**186**		⇑P	**Pg**		**12 38 40.1**	**-0.2**
T1247					S	**Sg**		**12 38 43.4**	**+0.1**
TERO	**Teramo**	**0.20**	**92**		⇑P	**Pg**		**12 38 40.2**	**-0.4**
TERO					S	**Sg**		**12 38 43.6**	**-0.1**
TERO					AML	AML			
	comp=N,12820μm,1.1s								
TERO					AML	AML			
	comp=E,20700μm,0.3s								
TERO					AML	AML			
	comp=N,12825μm,1.1s								
TERO					AML	AML			
	comp=N,31200μm,0.4s								
TERO					AML	AML			
	comp=N,12820μm,1.2s								
TERO					AML	AML			
	comp=E,43900μm,0.3s								
TERO					AML	AML			
	comp=E,20700μm,0.3s								
TERO					AML	AML			
	comp=N,12820μm,0.8s								
LNSS	**Leonessa**	**0.21**	**263**		⇑P	**Pg**		**12 38 40.5**	**-0.2**
LNSS					S	**Sg**		**12 38 44.2**	**+0.2**
LNSS					AML	AML			
	comp=N,28150μm,0.2s								
LNSS					AML	AML			
	comp=E,36200μm,0.5s								
GIGS	**Gran Sasso**	**0.25**	**135**		P	**Pg**		**12 38 40.9**	**-0.5**
GIGS					S	**Sg**		**12 38 45.0**	**-0.1**
GIGS					AML	AML			
	comp=N,4340μm,0.4s								
GIGS					AML	AML			
	comp=E,6970μm,0.5s								
NRCA	**Norcia**	**0.26**	**322**		⇑P	**Pg**		**12 38 41.2**	**-0.2**
NRCA					S	**Sg**		**12 38 45.3**	**+0.1**
NRCA					AML	AML			
	comp=E,90450μm,0.1s								
NRCA					AML	AML			
	comp=N,65300μm,0.1s								
NRCA					AML	AML			
	comp=N,69950μm,0.1s								
NRCA					AML	AML			
	comp=E,90450μm,0.1s								
NRCA					AML	AML			
	comp=E,98250μm,0.1s								
NRCA					AML	AML			
	comp=N,65300μm,0.1s								
MMO1	**Montemonaco**	**0.27**	**0**		⇓P	**Pg**		**12 38 41.5**	**-0.1**
MMO1					S	**Sg**		**12 38 45.9**	**+0.3**
MC2	**Monte Cornacci**	**0.30**	**341**		⇓P	**Pg**		**12 38 42.1**	**-0.2**
MC2					S	**Sg**		**12 38 47.0**	**+0.4**
GAVE	**Gavelli**	**0.33**	**281**		AML	AML			
	comp=N,21450μm,1.5s								
GAVE					AML	AML			
	comp=E,90500μm,1.6s								
GAVE					AML	AML			
	comp=N,13815μm,1.6s								
GAVE					AML	AML			
	comp=E,29500μm,0.7s								
GAVE					AML	AML			
	comp=N,21450μm,0.5s								
GAVE					AML	AML			
	comp=E,29500μm,1.3s								
MF5	**Montefalcone A**	**0.37**	**15**		⇑P	**Pg**		**12 38 43.8**	**+0.3**
MF5					S	**Sb**		**12 38 50.0**	**0.0**
MF5					AML	AML			
	comp=E,19850μm,0.5s								
MF5					AML	AML			
	comp=N,33900μm,0.5s								
FEMA	**Monte Fema**	**0.39**	**329**		P	**Pg**		**12 38 43.6**	**-0.2**
FEMA					S	**Sg**		**12 38 49.8**	**+0.6**
FEMA					AML	AML			
	comp=N,18350μm,1.0s								
FEMA					AML	AML			
	comp=E,17950μm,1.2s								
FEMA					AML	AML			
	comp=N,18350μm,1.0s								
FEMA					AML	AML			
	comp=N,18350μm,1.0s								
FEMA					AML	AML			
	comp=E,17950μm,0.8s								
FIAM	**Fiamignano**	**0.39**	**203**		⇑P	**Pg**		**12 38 43.4**	**-0.5**
FIAM					S	**Sg**		**12 38 49.2**	**0.0**
FIAM					AML	AML			
	comp=E,8620μm,0.6s								
FIAM					AML	AML			
	comp=E,8620μm,1.4s								
FIAM					AML	AML			
	comp=N,4705μm,0.8s								
OFFI	**Offida**	**0.40**	**41**		⇑P	**Pb**		**12 38 44.6**	**-0.3**
OFFI					AML	AML			
	comp=E,43150μm,0.5s								
OFFI					AML	AML			
	comp=N,50200μm,0.5s								
FAGN	**Fagnano**	**0.41**	**152**		⇑P	**Pg**		**12 38 43.5**	**-0.6**
FAGN					S	**Sg**		**12 38 49.4**	**-0.3**
FAGN					AML	AML			
	comp=E,13800μm,0.5s								
FAGN					AML	AML			
	comp=N,15400μm,0.4s								
ARRO	**Arrone**	**0.42**	**263**		⇑P	**Pg**		**12 38 43.8**	**-0.4**
ARRO					AML	AML			
	comp=E,3985μm,0.2s								
ARRO					AML	AML			
	comp=N,5290μm,0.2s								
T1221	**Campello sul C**	**0.42**	**303**		⇑P	**Pg**		**12 38 44.1**	**-0.3**
T1221					S	**Sg**		**12 38 50.6**	**+0.5**
T1221					AML	AML			
	comp=E,10530μm,0.9s								
T1221					AML	AML			
	comp=N,7925μm,0.7s								
T1221					AML	AML			
	comp=E,10530μm,0.8s								
T1221					AML	AML			
	comp=E,10275μm,0.6s								
T1221					AML	AML			
	comp=E,10530μm,1.2s								
T1221					AML	AML			
	comp=N,7930μm,0.7s								
T1221					AML	AML			
	comp=N,7665μm,0.2s								
GUMA	**Gualdo di Mace**	**0.43**	**1**		⇓P	**Pg**		**12 38 44.6**	**+0.1**
GUMA					S	**Sb**		**12 38 52.0**	**+0.2**
GUMA					AML	AML			
	comp=E,18550μm,0.5s								
GUMA					AML	AML			
	comp=N,23500μm,0.4s								
GUMA					AML	AML			
	comp=E,30650μm,0.3s								
GUMA					AML	AML			
	comp=N,31250μm,0.5s								
FDMO	**Fiordimonte**	**0.44**	**337**		⇓P	**Pg**		**12 38 44.4**	**-0.4**
FDMO					S	**Sg**		**12 38 51.2**	**+0.5**
FDMO					AML	AML			
	comp=N,6690μm,1.2s								
FDMO					AML	AML			
	comp=E,8180μm,0.2s								
FDMO					AML	AML			
	comp=N,6690μm,0.8s								
VCEL	**Villa Celiera**	**0.45**	**122**		⇑P	**Pg**		**12 38 44.5**	**-0.3**
VCEL					S	**Sb**		**12 38 52.2**	**0.0**
VCEL					AML	AML			
	comp=E,23550μm,0.5s								
VCEL					AML	AML			
	comp=N,15500μm,1.3s								
TRTR	**Tortoreto Alta**	**0.47**	**67**		⇑P	**Pb**		**12 38 46.0**	**0.0**
TRTR					AML	AML			
	comp=E,21950μm,0.6s								
TRTR					AML	AML			
	comp=N,27250μm,0.5s								
CSP1	**Cessapalombo**	**0.47**	**349**		⇓P	**Pg**		**12 38 44.9**	**-0.3**
CSP1					S	**Sg**		**12 38 52.1**	**+0.5**
CSP1					AML	AML			
	comp=E,3930μm,0.6s								
CSP1					AML	AML			
	comp=N,2680μm,0.3s								
CESI	**CESI - Serrava**	**0.49**	**320**		⇑P	**Pg**		**12 38 45.1**	**-0.4**
CESI					S	**Sb**		**12 38 52.7**	**-0.7**
CESI					AML	AML			
	comp=E,12450μm,0.2s								
CESI					AML	AML			
	comp=N,16000μm,0.5s								
T1219	**Muccia, Frazio**	**0.49**	**331**		P	**Pg**		**12 38 45.1**	**-0.4**
T1219					S	**Sg**		**12 38 52.6**	**+0.5**
MNTP	**Montappone**	**0.52**	**12**		P	**Pb**		**12 38 46.5**	**-0.3**
MNTP					AML	AML			
	comp=E,8995μm,1.1s								
MNTP					AML	AML			
	comp=N,9435μm,0.5s								
MNTP					AML	AML			
	comp=E,8990μm,1.1s								
MNTP					AML	AML			
	comp=E,8990μm,0.9s								
T0110	**Collepietro**	**0.53**	**140**		⇑P	**Pg**		**12 38 45.5**	**-0.8**
T0110					S	**Sg**		**12 38 53.8**	**+0.5**
T0110					AML	AML			
	comp=N,8140μm,0.5s								
T0110					AML	AML			
	comp=E,15050μm,0.5s								
PF6	**Pievefavera**	**0.53**	**349**		⇓P	**Pg**		**12 38 45.6**	**-0.7**
MM61	**Montelago di S**	**0.55**	**332**		⇑P	**Pg**		**12 38 46.4**	**-0.4**
CESX	**Cesi**	**0.55**	**268**		⇑P	**Pg**		**12 38 45.9**	**-0.8**
CESX					AML	AML			
	comp=E,3995μm,1.4s								
CESX					AML	AML			
	comp=N,3790μm,0.6s								
CESX					AML	AML			
	comp=E,3995μm,0.6s								
MDAR	**Monte D'Aria**	**0.58**	**347**		⇑P	**Pg**		**12 38 46.8**	**-0.5**
MOMA	**Monte Martano**	**0.58**	**288**		⇑P	**Pg**		**12 38 46.8**	**-0.6**
MOMA					AML	AML			
	comp=N,7405μm,1.2s								
MOMA					AML	AML			
	comp=N,7205μm,1.3s								
MOMA					AML	AML			
	comp=E,7160μm,0.5s								
MOMA					AML	AML			
	comp=E,6880μm,0.6s								
MOMA					AML	AML			
	comp=N,7405μm,0.8s								
SEF1	**Sefro**	**0.59**	**332**		P	**Pg**		**12 38 46.9**	**-0.5**
PIO1	**Pioraco**	**0.60**	**335**		P	**Pg**		**12 38 47.4**	**-0.3**
SSM1	**San Severino M**	**0.61**	**350**		P	**Pg**		**12 38 47.4**	**-0.5**
FIU1	**Fiuminata**	**0.63**	**333**		P	**Pg**		**12 38 47.6**	**-0.6**
CADA	**Capodarco di F**	**0.65**	**29**		P	**Pb**		**12 38 49.4**	**+0.4**
MTL1	**Matelica**	**0.67**	**340**		P	**Pg**		**12 38 48.7**	**-0.3**
SNTG	**Esanatoglia**	**0.69**	**336**		⇑P	**Pg**		**12 38 48.6**	**-0.7**
SNTG					AML	AML			
	comp=E,2355μm,0.5s								
SNTG					AML	AML			
	comp=N,2125μm,0.4s								
SNTG					AML	AML			
	comp=E,2440μm,0.5s								
SNTG					AML	AML			
	comp=N,2240μm,0.4s								
EL6	**Elcito**	**0.72**	**347**		P	**Pg**		**12 38 49.2**	**-0.7**
EL6					AML	AML			
	comp=N,4685μm,0.8s								
EL6					AML	AML			
	comp=N,4690μm,0.8s								
EL6					AML	AML			
	comp=E,5940μm,0.3s								
EL6					AML	AML			
	comp=N,4690μm,1.2s								
CIMA	**Civitanova Mar**	**0.72**	**20**		P	**Pb**		**12 38 50.8**	**+0.6**
SRES	**S.Oreste - Sor**	**0.72**	**237**		P	**Pg**		**12 38 48.8**	**-1.2**
SRES					AML	AML			
	comp=E,2095μm,0.5s								
SRES					AML	AML			
	comp=N,2950μm,0.5s								
CERT	**Cerreto**	**0.73**	**201**		⇑P	**Pg**		**12 38 48.9**	**-1.2**
CERT					AML	AML			
	comp=E,3510μm,0.5s								
CERT					AML	AML			
	comp=N,2785μm,0.6s								
MTCE	**Montecelio**	**0.75**	**216**		P	**Pg**		**12 38 49.1**	**-1.3**
MTCE					AML	AML			
	comp=E,3435μm,0.9s								
MTCE					AML	AML			
	comp=E,3435μm,1.1s								
MTCE					AML	AML			
	comp=N,1970μm,0.4s								
ATCC	**AVT- Casa Cast**	**0.75**	**318**		⇑P	**Pg**		**12 38 49.8**	**-0.7**
ATCC					AML	AML			
	comp=N,5075μm,0.3s								
ATCC					AML	AML			
	comp=E,6020μm,0.6s								
ATCC					AML	AML			
	comp=E,6020μm,1.4s								
CING	**Cingoli**	**0.75**	**353**		P	**Pg**		**12 38 50.0**	**-0.6**
CING					AML	AML			
	comp=E,4095μm,0.6s								
CING					AML	AML			
	comp=N,3040μm,1.3s								
CING					AML	AML			
	comp=E,4095μm,1.4s								
INTR	**Introdacqua**	**0.75**	**145**		⇑P	**Pg**		**12 38 49.1**	**-1.5**
INTR					AML	AML			
	comp=E,4415μm,0.5s								
INTR					AML	AML			
	comp=N,4965μm,0.7s								
INTR					AML	AML			
	comp=N,4935μm,0.7s								
INTR					AML	AML			
	comp=N,4965μm,1.3s								
INTR					AML	AML			
	comp=E,4415μm,0.5s								
INTR					AML	AML			
	comp=N,4935μm,1.3s								
INTR					AML	AML			
	comp=E,2985μm,0.5s								
PP3	**Marolino**	**0.78**	**15**		P	**Pb**		**12 38 51.1**	**-0.1**
FOSV	**Fossato di Vic**	**0.78**	**328**		P	**Pg**		**12 38 50.4**	**-0.7**
FOSV					AML	AML			
	comp=N,2925μm,0.3s								
FOSV					AML	AML			
	comp=E,2275μm,0.3s								

comp=E,2065µm,1.2s
MURB Monte Urbino 0.86 317 P Pg 12 38 51.8 -0.8
MURB AML AML
comp=E,6965µm,0.3s
MURB AML AML
comp=N,8300µm,1.4s
MURB AML AML
comp=E,6965µm,0.3s
MURB AML AML
comp=N,8300µm,1.3s
MURB AML AML
comp=N,8570µm,0.3s
MURB AML AML
comp=N,8570µm,1.7s
MURB AML AML
comp=N,8300µm,0.7s
MURB AML AML
comp=E,7510µm,0.3s
DUGI Dugi Otok 1.86 42 ePn Pn 12 39 07.3 -0.1
DUGI Sn **Sn 12 39 28.7 -1.9**
ZIRJ Zirje 1.98 58 ePg Pn 12 39 09.3 +0.3
VIRC Vir 2.08 37 ePn Pn 12 39 10.6 +0.2
VIRC Sn **Sn 12 39 36.8 +0.6**
MORI Morici 2.13 54 ePn Pn 12 39 11.4 +0.3
NVLJ Novalja 2.23 30 ePn Pn 12 39 12.7 +0.2
HVAR Hvar 2.36 76 ePn Pn 12 39 14.3 +0.1
RABC Rab 2.37 26 ePn Pn 12 39 14.7 +0.4
SMRN Sveta Marina 2.48 14 ePn Pn 12 39 16.1 +0.3
UDBI Udbina 2.59 42 ePn Pn 12 39 18.9 +1.4
LSTV Lastovo 2.63 86 ePn Pn 12 39 18.4 +0.4
KIJV Kijevo 2.63 58 ePn Pn 12 39 19.5 +1.5
KIJV Sn **Sn 12 39 50.3 +0.5**
MAKA Makarska 2.79 75 ePn Pn 12 39 20.3 +0.2
PLIT Plitvice 2.80 36 ePn Pn 12 39 22.0 +1.7
RIY Rijeka 2.82 17 ePn Pn 12 39 21.3 +0.7
MORSI Morsiglia 2.94 278 P Pn 12 39 23.0 +0.9
MORSI S **Sn 12 39 58.3 +1.1**
A050A Klekovaca 2.98 50 ePn Pn 12 39 24.5 +1.7
SMPL Sampolo 3.04 261 P Pn 12 39 25.4 +1.8
SRKY Kupres RS 3.15 62 ePn Pn 12 39 26.9 +1.7
BOJS Bojanci 3.19 25 AML AML
comp=E,310µm,0.8s
BOJS AML AML
comp=N,215µm,0.4s
BOJS Bojanci 3.19 25 ePn Pn 12 39 26.4 +0.8
PGF Pioggiola 3.20 270 ePn Pn 12 39 24.1 -1.7
PGF Pioggiola 3.20 270 eP Pn 12 39 26.9 +1.1
PGF eSn **Sn 12 40 05.7 +1.9**
comp=N,29nm,0.7s
PGF Pioggiola 3.20 270 P Pn 12 39 27.6 +1.8
CEY Cerknica 3.21 14 ePn Pn 12 39 26.6 +0.7
STON Ston 3.23 84 ePn Pn 12 39 26.4 +0.2
STON Sn **Sn 12 40 03.4 -1.0**
STON Ston 3.23 84 AML AML
comp=N,118µm,1.0s
STON AML AML
comp=E,106µm,0.4s
STON AML AML
comp=N,118µm,1.0s
STON Ston 3.23 84 ePn Pn 12 39 26.6 +0.4
MGRS Mrkonjic Grad 3.26 56 ePn Pn 12 39 29.0 +2.3
OZLJ Ozalj 3.36 27 ePn Pn 12 39 28.9 +1.0
AJAC Base Areonaval 3.46 260 P Pn 12 39 30.6 +1.3
AJAC S **Sn 12 40 12.3 +2.2**
BLY Banja Luka 3.51 52 ePn Pn 12 39 32.6 +2.6
A051A Mrakovica 3.52 46 ePn Pn 12 39 30.4 +0.2
CRES Cresnjev 3.54 25 ePn Pn 12 39 31.5 +1.0
TREB Trebinje 3.71 87 ePn Pn 12 39 34.2 +1.5
PTJ Puntijarka 3.79 29 ePn Pn 12 39 34.0 +0.1
HCY Herceg Novi 3.82 91 ePn Pn 12 39 35.1 +0.8
HCY Herceg Novi 3.82 91 ⇑iPn Pn 12 39 35.3 +1.0
HCY eSn **Sn 12 40 20.0 +0.9**
BRY Bratogost 3.85 84 ePn Pn 12 39 35.1 +0.3
BRY Bratogost 3.85 84 ⇑iPn Pn 12 39 35.8 +1.0
BRY iSn **Sn 12 40 21.6 +1.7**
MOSL Moslavina 3.87 38 ePn Pn 12 39 34.9 -0.1
OBKA Obir 3.98 12 ePn Pn 12 39 36.7 +0.2
comp=N,1.7nm,0.3s
OBKA Obir 3.98 12 ePn Pn 12 39 39.0 +2.5
MYKA Terra Mystica 4.00 3 ePn Pn 12 39 37.1 +0.2
comp=N,3.1nm,0.4s
MYKA eSn **Sn 12 40 25.1 +1.4**
comp=N,7.4nm,0.4s
LOBO Lobor 4.04 28 ePn Pn 12 39 37.2 0.0
SPS2 Spezzano della 4.04 145 AML AML
comp=E,20µm,0.3s
SPS2 AML AML
comp=N,25µm,1.5s
IST3 Stromboli F 4.09 159 AML AML
comp=E,237µm,1.4s
IST3 AML AML
comp=E,237µm,0.6s
IST3 AML AML
comp=N,290µm,1.4s
CEME Cevo 4.13 89 ⇓iPn Pn 12 39 39.9 +1.3
CEME iSn **Sn 12 40 28.2 +1.5**
BUM Brajici-Budva 4.13 93 ⇑iPn Pn 12 39 40.4 +1.7
BUM iSn **Sn 12 40 28.6 +1.8**
NKME Niksic 4.15 86 ⇓iPn Pn 12 39 40.5 +1.6
NKME eSn **Sn 12 40 28.5 +1.3**
ABTA Abfaltersbach 4.16 352 ePn Pn 12 39 39.9 +0.9
comp=N,11nm,0.5s,SNR=20
ABTA eSn **Sn 12 40 29.3 +1.8**
comp=N,30nm,0.9s
KALN Kalnik 4.16 32 ePn Pn 12 39 38.7 -0.3
BRES Bressanone 4.22 345 AML AML
comp=N,111µm,0.2s
BRES AML AML
comp=E,123µm,0.8s
GBOS Grotte di Boss 4.31 294 P Pn 12 39 43.4 +2.3
HAPS Han Pijesak,Bl 4.35 69 ePn Pn 12 39 43.3 +1.6
DRME Dracevica, Mon 4.36 94 ePn Pn 12 39 43.3 +1.6
DRME Dracevica, Mon 4.36 94 ⇑iPn Pn 12 39 43.4 +1.7
DRME iSn **Sn 12 40 33.4 +1.1**
PDG Podgorica 4.39 91 ePn Pn 12 39 43.7 +1.6
PDG Podgorica 4.39 91 ⇑iPn Pn 12 39 43.6 +1.5
PDG iSn **Sn 12 40 35.1 +2.2**
ULC Ulcinj 4.44 97 ⇓iPn Pn 12 39 44.3 +1.4
ULC iSn **Sn 12 40 35.9 +1.6**
KBA Koelnbreinsper 4.45 0 ePn Pn 12 39 44.7 +1.6
comp=E,7.5nm,0.6s
KBA eSn **Sn 12 40 34.3 -0.4**
comp=E,9.0nm,0.5s
SBF Sospel 4.48 288 ePn Pn 12 39 43.4 0.0
SBF Sospel 4.48 288 eP Pn 12 39 47.3 +3.9
SBF eSn **Sn 12 40 30.2 -5.1**
PLE Pljevlja 4.50 79 ⇓iPn Pn 12 39 45.0 +1.2
PLE eSn **Sn 12 40 37.0 +1.0**
RUDO Rudo 4.53 75 ePn Pn 12 39 45.3 +1.2
TURF col de Turini 4.54 289 P Pn 12 39 45.0 +0.7
KOME Kolasin 4.56 85 ePn Pn 12 39 45.9 +1.3
KOME eSn **Sn 12 40 38.5 +1.0**
BBLS Lazi&#263i 4.61 72 ePn Pn 12 39 46.6 +1.4
SPIF crte de Spivo 4.66 290 P Pn 12 39 47.6 +1.5
FETA Feichten 4.76 338 ePn Pn 12 39 46.9 -0.5
comp=E,7.0nm,0.8s,SNR=4.6
FETA eSn **Sn 12 40 44.9 +2.4**
comp=E,12nm,0.6s
WTTA Wattenberg 4.79 346 ePn Pn 12 39 50.4 +2.6
comp=E,8.4nm,1.0s,SNR=7.1
WTTA eSn **Sn 12 40 43.0 -0.1**
comp=E,22nm,0.6s
CALF Calern 4.81 286 P Pn 12 39 48.6 +0.5
LESA Schwarzleotal 4.82 355 ePn Pn 12 39 49.5 +1.5
comp=E,5.0nm,0.8s
LESA eSn **Sn 12 40 42.8 -0.9**
comp=E,9.9nm,0.4s
SQTA Sankt Quirin 4.83 343 ePn Pn 12 39 48.6 +0.4
comp=E,2.1nm,0.3s,SNR=8.1
SQTA eSn **Sn 12 40 44.9 +0.9**
comp=E,11nm,0.6s
IVA Berane 4.84 85 ePn Pn 12 39 49.9 +1.5
IVA iSn **Sn 12 40 45.8 +1.5**
WATA Walderalm 4.87 346 ePn Pn 12 39 48.0 -0.8
comp=E,3.8nm,0.5s
WATA eSn **Sn 12 40 45.5 +0.5**
comp=E,17nm,0.6s
ARSA Arzberg 4.88 18 ePn Pn 12 39 48.4 -0.4
comp=E,1.0nm,0.4s
SJES Sjenica 4.92 80 ePn Pn 12 39 51.5 +2.0
TRAV Traversella 4.95 308 P Pn 12 39 51.0 +1.1
MOTA Moosalm 4.97 342 ePn Pn 12 39 50.3 0.0
comp=E,7.9nm,0.7s,SNR=6.5
MOTA eSn **Sn 12 40 48.7 +1.1**
comp=E,5.5nm,0.5s
LMR La Mourre 5.05 280 ePn Pn 12 39 49.1 -2.1
LMR La Mourre 5.05 280 eP Pn 12 39 53.1 +1.9
LMR eSn **Sn 12 40 43.5 -5.8**
BIOA Bad Ischl, Aus 5.07 2 ePn Pn 12 39 50.9 -0.5
comp=E,1.1nm,0.4s
BIOA eSn **Sn 12 40 52.0 +2.2**
comp=E,12nm,0.6s
JAUF Jausiers 5.11 293 P Pn 12 39 54.0 +1.9
TRIGF Trigance 5.18 285 P Pn 12 39 54.0 +0.9
TRIGF S **Sn 12 40 55.2 +2.5**
RETA Reutte 5.18 340 ePn Pn 12 39 53.7 +0.5
comp=E,2.8nm,0.6s
RETA eSn **Sn 12 40 54.0 +1.3**
comp=E,7.6nm,0.5s
MBDF Montbardon 5.20 296 ePn Pn 12 39 50.9 -2.4
MBDF Montbardon 5.20 296 eP Pn 12 39 54.8 +1.5
MBDF eSn **Sn 12 40 46.1 -7.0**
comp=E,2.9nm,0.3s
DAVA Damuels 5.26 333 ePn Pn 12 39 56.7 +2.5
comp=E,4.7nm,0.5s
DAVA Sn **Sn 12 40 55.8 +1.1**
comp=E,11nm,0.5s
MOA Molln 5.26 7 ePn Pn 12 39 54.8 +0.7
comp=E,1.0nm,0.4s
MOA eSn **Sn 12 40 55.4 +0.8**
comp=E,3.6nm,0.4s
RONA Rosalia, Austr 5.49 21 ePn Pn 12 39 57.2 -0.1
comp=E,1.0nm,0.6s
LPG La Plagne 5.54 303 ePn Pn 12 39 56.4 -1.8
LPG La Plagne 5.54 303 eP Pn 12 40 00.9 +2.7
LPL La Plagne 5.56 304 ePn Pn 12 39 56.4 -2.0
LPL La Plagne 5.56 304 eP Pn 12 40 01.1 +2.7
CONA Conrad Observa 5.59 18 ePn Pn 12 39 59.3 +0.6
comp=E,0.7nm,0.4s
CONA eSn **Sn 12 41 02.3 -0.5**
comp=E,2.8nm,0.4s
SMRF Simiane la Rot 5.81 286 ePn Pn 12 39 59.4 -2.3
SMRF Simiane la Rot 5.81 286 eP Pn 12 40 03.5 +1.8
ORIF Oris-en-Rattie 5.86 296 ePn Pn 12 39 59.7 -2.7
ORIF Oris-en-Rattie 5.86 296 eP Pn 12 40 04.3 +1.9
CKRC Cesky Krumlov 6.23 6 eSN Sn 12 41 15.6 -2.8
KHC Kasperske Hory 6.50 1 ePN Pn 12 40 10.4 -0.8
KHC eSN **Sn 12 41 22.1 -3.1**
CABF La Chapelle 6.52 310 ePn Pn 12 40 09.1 -2.4
CABF La Chapelle 6.52 310 eP Pn 12 40 13.4 +1.9
VIVF Saint-Julien-l 6.65 292 eP Pn 12 40 15.9 +2.7
HINF Hinteralfeld 6.91 321 ePn Pn 12 40 14.0 -2.8
HINF Hinteralfeld 6.91 321 eP Pn 12 40 17.9 +1.1
HINF eSn **Sn 12 41 28.5 -6.7**
comp=E,7.6nm,0.4s
LASF Ste Croix 7.05 285 ePn Pn 12 40 16.1 -2.6
LASF Ste Croix 7.05 285 eP Pn 12 40 20.1 +1.4
CDF Champ du Feu 7.17 326 ePn Pn 12 40 18.7 -1.7
CDF Champ du Feu 7.17 326 eP Pn 12 40 22.4 +2.0
CDF eSn **Sn 12 41 38.5 -3.2**
comp=E,5.6nm,0.4s
HAU Haudompre 7.28 320 ePn Pn 12 40 18.0 -3.9
HAU Haudompre 7.28 320 eP Pn 12 40 22.5 +0.6
HAU eSn **Sn 12 41 37.4 -6.9**
comp=E,15nm,0.4s
SMF Signal de Mont 7.86 304 ePn Pn 12 40 27.5 -2.3
SMF Signal de Mont 7.86 304 eP Pn 12 40 32.6 +2.8
PAGF Fort de Pagny 7.97 321 ePn Pn 12 40 28.6 -2.6
PAGF Fort de Pagny 7.97 321 eP Pn 12 40 33.0 +1.8
SFTF Sexfontaines 8.06 317 ePn Pn 12 40 29.9 -2.7
SFTF Sexfontaines 8.06 317 eP Pn 12 40 34.4 +1.8
LOR Lormes 8.16 308 ePn Pn 12 40 31.0 -2.9
LOR Lormes 8.16 308 eP Pn 12 40 36.9 +3.0
CLL Collm 8.68 359 e(Sg) Sg 12 43 25.0 +11

*IDC **21** 13:07:23.8±0.5, 46°.04N×81°.82E, h0km, mb4.0/20, mbtmp4.1/26, ML3.8/6, MS3.5/29, Error ellipse: s-maj=9.0km s-min=7.2km az=117.0*
*NNC **21** 13:07:26.8±0.3, 46°.14N×81°.71E, h0km, mb5.2, mpv4.8, Error ellipse: s-maj=4.7km s-min=1.1km az=123.0*
*BJI **21** 13:07:27.5±0.0, 46°.18N×81°.94E, h29km, mb4.5/39, mB4.6/23, ML4.6/11, Ms4.1/16, Ms7 3.8/18*
*MOS **21** 13:07:27.9±1.0, 46°.28N×81°.77E, h33km, mb4.7/15, Error ellipse: s-maj=6.4km s-min=4.3km az=61.4*
*SOME **21** 13:07:28.0, 46°.10N×81°.58E, h10km, MS3.7*
*NEIC **21** 13:07:30.0±1.1, 46°.23N±0°.04×81°.84E±0°.10, h37km±5km, mb4.6/63, Error ellipse: s-maj=10.1km s-min=5.9km az=109.0*
*ASRS **21** 13:07:32.3±0.4, 46°N±2°×8°2E±°, h10km, MLh5.6/8, Error ellipse: s-maj=4.6km s-min=3.5km az=167.6, confirmed*
ISC 21 13:07:25.8±0.7, 46°21N±0°.02×81°.73E±0°.02, h13km±4km, n582, σ2s09/665, mb4.6/74, MS3.5/27, 35C-21D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
					Op	ISC	h	m	s	ISC
MAKZ	**Makanchi**	**0.63**	**16**	**⇑P**		**Pn**	**13**	**07**	**40.7**	**+0.3**
	2µm,0.2s									
MAKZ				⇓S		**Sn**	**13**	**07**	**50.1**	**-0.3**
	3µm,0.2s									
MAKZ	**Makanchi**	**0.63**	**16**			**Pn**	**13**	**07**	**40.8**	**+0.3**
MAKZ					Sn	**Sn**	**13**	**07**	**50.0**	**-0.3**
MAKZ	**Makanchi**	**0.63**	**16**	**⇓Pg**		**Pn**	**13**	**07**	**40.9**	**+0.4**
MAKZ					Sg	**Sn**	**13**	**07**	**50.1**	**-0.3**
MAKZ	**Makanchi**	**0.63**	**16**	**PG**		**Pn**	**13**	**07**	**40.8**	**+0.4**
MAKZ							13	07	50.0	
MK31	**Makanchi Array**	**0.70**	**33**	**⇓P**		**Pn**	**13**	**07**	**42.0**	**+0.4**
	2µm,0.3s,baz=206,slow=15									
MK31				⇑S		**Sn**	**13**	**07**	**52.2**	**-0.1**
	4µm,0.3s,baz=199,slow=17,SNR=47									
MK31	**Makanchi Array**	**0.70**	**33**			**Pn**	**13**	**07**	**41.9**	**+0.4**
MK31	**Makanchi Array**	**0.70**	**33**	**PG**		**Pn**	**13**	**07**	**41.0**	**-0.5**
MK31					S	**Sn**	**13**	**07**	**52.0**	**-0.3**
MKAR	**Makanchi Array**	**0.70**	**33**			**Pn**	**13**	**07**	**41.8**	**+0.3**
MKAR					Sn	**Sn**	**13**	**07**	**51.5**	**-0.8**
MKAR	**Makanchi Array**	**0.70**	**33**	**Pg**		**Pn**	**13**	**07**	**41.9**	**+0.3**
	1µm,0.3s,baz=205,slow=16									
MKAR				Lg		Lg	13	07	51.1	
	5µm,0.3s,baz=267,slow=29,SNR=61									
MKAR	**Makanchi Array**	**0.70**	**33**	**⇓Pg**		**Pn**	**13**	**07**	**42.0**	**+0.5**
MKAR					Sg	**Sn**	**13**	**07**	**52.2**	**-0.1**
MKAR	**Makanchi Array**	**0.70**	**33**	*i* PG		**Pn**	**13**	**07**	**41.7**	**+0.2**
MKAR					SN	**Sn**	**13**	**07**	**51.5**	**-0.8**
KAPS	**Kapalarasan**	**1.90**	**242**	*eP*		**Pg**	**13**	**08**	**00.7**	**-1.6**
	1µm,0.5s									
KAPS				*eS*		**Sb**	**13**	**08**	**24.5**	**+0.5**
	4µm,0.4s									
DJR	**Jarkent**	**2.32**	**217**	Pg		**Pb**	**13**	**08**	**07.8**	**+0.2**
	772nm,0.4s									
DJR				Lg		Lg	13	08	36.6	
	2µm,0.4s									
DJR	**Jarkent**	**2.32**	**217**	*eP*		**Pb**	**13**	**08**	**07.8**	**+0.2**
	772nm,0.4s									
DJR				*eS*		**Sb**	**13**	**08**	**36.6**	**+0.4**
	2µm,0.4s									
ZSN	**Zaisan**	**2.48**	**59**	*ePn*		**Pb**	**13**	**08**	**08.3**	**-2.1**
	baz=59									
ZSN				*ePg*		**Pg**	**13**	**08**	**12.6**	**-0.9**
	baz=59									
ZSN				*eLg*		Lg	13	08	45.4	
	baz=59									
ZSN	**Zaisan**	**2.48**	**59**	*eP*		**Pg**	**13**	**08**	**12.4**	**-1.0**
	363nm,0.3s									
ZSN				*eS*		**Sg**	**13**	**08**	**44.4**	**-1.3**
	1µm,0.3s									
ZSN	**Zaisan**	**2.48**	**59**	*ePN*		**Pb**	**13**	**08**	**08.2**	**-2.1**
ZSN				*e*			13	08	12.5	
KNOS	**Konyrlen**	**2.58**	**225**	Pg		**Pg**	**13**	**08**	**13.3**	**-2.1**
	520nm,0.3s									
KNOS				Lg		Lg	13	08	45.9	
	2µm,0.5s									
TDK	**Taldyqorghan**	**2.63**	**244**	Pg		**Pg**	**13**	**08**	**14.8**	**-1.3**
	543nm,0.4s									
TDK				Lg		Lg	13	08	48.8	
	7µm,0.6s									
TDK	**Taldyqorghan**	**2.63**	**244**	*ePn*		**Pb**	**13**	**08**	**13.5**	**+0.8**
	baz=244									
TDK				*ePg*		**Pg**	**13**	**08**	**16.4**	**+0.2**
	baz=244									
TDK	**Taldyqorghan**	**2.63**	**244**	*eP*		**Pg**	**13**	**08**	**14.8**	**-1.3**
	543nm,0.4s									
TDK				*eS*		**Sg**	**13**	**08**	**48.8**	**-1.4**
	7µm,0.6s									
TDK	**Taldyqorghan**	**2.63**	**244**	*ePN*		**Pb**	**13**	**08**	**13.5**	**+0.8**
TDK				*e*			13	08	16.3	

KTMS Ketmen 2.93 200 Pg Pb 13 08 18.7 +0.7
33nm,0.3s
KTMS Lg Lg 13 08 55.2
1µm,0.5s
KTMS Ketmen 2.93 200 eP Pb 13 08 18.7 +0.7
33nm,0.3s
KTMS eS **Sb 13 08 55.2 +1.5**
1µm,0.5s
BLB Baldybastay 3.12 229 Pg Pg 13 08 23.2 -2.5
939nm,0.7s
BLB Lg Lg 13 09 03.4
2µm,0.7s
PDGK Podgornoye 3.29 210 Pg Pg 13 08 25.9 -2.9
92nm,0.5s
PDGK Lg Lg 13 09 07.8
1µm,0.6s
PDGK Podgornoye 3.29 210 ⇑Pg Pb 13 08 25.4 +1.3
164nm,0.4s
PDGK ⇑Lg Lg 13 09 10.9
2µm,0.7s
PDGK Podgornoye 3.29 210 PN Pb 13 08 25.4 +1.3
ARXS Arharly 3.40 236 Pg Pb 13 08 27.7 +1.7
246nm,0.5s
ARXS Lg Lg 13 09 10.6
2µm,0.6s
ARXS Arharly 3.40 236 eP Pb 13 08 27.7 +1.7
246nm,0.5s
ARXS eS **Sg 13 09 10.6 -4.5**
2µm,0.6s
ARXS Arharly 3.40 236 ePN Pb 13 08 23.4 -2.6
SHLS Shalkode 3.45 209 Pg Pb 13 08 25.7 -1.1
363nm,0.4s
SHLS Lg Lg 13 09 07.3
3µm,0.7s
SHLS Shalkode 3.45 209 ePn Pn 13 08 22.4 +2.9
baz=204
SHLS ePg **Pg 13 08 29.0 -3.0**
baz=204
SHLS Shalkode 3.45 209 eP Pb 13 08 25.9 -0.9
363nm,0.4s
SHLS eS **Sb 13 09 07.3 -1.5**
3µm,0.7s
SHLS Shalkode 3.45 209 ePN Pn 13 08 22.3 +2.9
SHLS e 13 08 28.9
UZB Uzunbulak 3.62 213 Pg Pb 13 08 30.9 +1.2
111nm,0.5s
UZB Lg Lg 13 09 16.1
954nm,0.4s
UZB Uzunbulak 3.62 213 ePn Pn 13 08 23.8 +2.1
baz=214
UZB ePg **Pg 13 08 34.4 -0.8**
baz=214
UZB Uzunbulak 3.62 213 eP Pb 13 08 30.9 +1.2
111nm,0.5s
UZB eS **Sb 13 09 16.1 +2.5**
954nm,0.4s
UZB Uzunbulak 3.62 213 ePN Pn 13 08 23.8 +2.1
UZB e 13 08 34.3
KURS Kuram 3.71 224 Pg Pg 13 08 34.2 -2.8
67nm,0.3s
KURS Lg Lg 13 09 21.8
690nm,0.9s
KURS Kuram 3.71 224 eP Pg 13 08 34.2 -2.8
67nm,0.3s
KURS eS **Sg 13 09 21.8 -3.3**
690nm,0.9s
ZHN Zhinishke 3.84 219 Pg Pb 13 08 35.3 +1.7
109nm,0.4s
ZHN Lg Lg 13 09 23.7
1µm,0.5s
ZHN Zhinishke 3.84 219 ePn Pn 13 08 27.1 +2.3
baz=219
ZHN ePg **Pg 13 08 38.4 -1.0**
baz=219
ZHN Zhinishke 3.84 219 eP Pb 13 08 35.2 +1.7
109nm,0.4s
ZHN eS **Sb 13 09 23.7 +3.7**
1µm,0.5s
ZHN Zhinishke 3.84 219 ePN Pn 13 08 27.0 +2.3
ZHN e 13 08 38.4
SATY Saty 3.94 218 Pg Pg 13 08 38.3 -3.1
80nm,0.2s
SATY Lg Lg 13 09 28.9
2µm,0.4s
SATY Saty 3.94 218 ePn Pn 13 08 28.5 +2.4
baz=218
SATY ePg **Pg 13 08 40.3 -1.1**
baz=218
SATY Saty 3.94 218 eP Pg 13 08 38.3 -3.1
80nm,0.2s
SATY eS **Sg 13 09 28.9 -3.5**
2µm,0.4s
SATY Saty 3.94 218 ePN Pn 13 08 28.5 +2.4
SATY e 13 08 40.2
CHKK Chushkaly 4.10 237 Pg Pg 13 08 40.8 -3.7
146nm,0.6s
CHKK Lg Lg 13 09 33.0
662nm,0.5s
CHKK Chushkaly 4.10 237 ePn Pn 13 08 31.0 +2.7
baz=237
CHKK ePg **Pg 13 08 43.4 -1.0**
baz=237
CHKK Chushkaly 4.10 237 eP Pg 13 08 40.8 -3.7
146nm,0.6s
CHKK eS **Sg 13 09 33.0 -4.5**
662nm,0.5s
CHKK Chushkaly 4.10 237 ePN Pn 13 08 30.9 +2.7
CHKK e 13 08 43.4
SEM Semipalatinsk 4.32 347 eP Pg 13 08 50.4 +1.8
216nm,0.2s
SEM eS **Sg 13 09 51.0 +6.5**
2µm,0.6s
KTBS Karatobe 4.37 237 Pg Pg 13 08 45.8 -3.7
299nm,0.9s
KTBS Lg Lg 13 09 41.5
1µm,0.7s
KTBS Karatobe 4.37 237 eP Pg 13 08 45.8 -3.7
299nm,0.9s
KTBS eS **Sg 13 09 41.5 -4.5**
1µm,0.7s
PRZ Przheval'sk 4.42 214 Pn 13 08 36.4 +3.6
PRZ Przheval'sk 4.42 214 PN Pn 13 08 36.4 +3.6
KOTS Kotyrbulak 4.43 230 Pg Pg 13 08 48.0 -2.7
152nm,0.7s
KOTS Lg Lg 13 09 45.5
2µm,0.6s
KOTS Kotyrbulak 4.43 230 eP Pg 13 08 48.0 -2.7
152nm,0.7s
KOTS eS **Sg 13 09 45.5 -2.7**
2µm,0.6s
KUU Kurty 4.47 241 Pg Pg 13 08 47.6 -3.8
156nm,0.6s
KUU Lg Lg 13 09 44.8
1µm,0.6s
KUU Kurty 4.47 241 ePn Pn 13 08 35.7 +2.4
baz=241
KUU ePg **Pg 13 08 50.1 -1.3**
baz=241
KUU Kurty 4.47 241 eP Pg 13 08 47.6 -3.8
156nm,0.6s
KUU eS **Sg 13 09 44.8 -4.4**
1µm,0.6s
KUU Kurty 4.47 241 ePN Pn 13 08 35.6 +2.4
KUU e 13 08 50.0
MDOK Medeo 4.52 229 Pg Pg 13 08 48.5 -3.9
113nm,0.4s
MDOK Pg Pb 13 08 49.8 +4.7
121nm,0.5s
MDOK Lg Lg 13 09 46.2
931nm,0.8s
MDOK Lg Lg 13 09 49.1
1µm,0.7s
MDOK Medeo 4.52 229 ePn Pn 13 08 37.2 +3.1
baz=229
MDOK ePg **Pg 13 08 51.2 -1.2**
baz=229
MDOK Medeo 4.52 229 eP Pg 13 08 48.5 -3.9
113nm,0.4s
MDOK eS **Sg 13 09 46.2 -4.6**
931nm,0.8s
MDOK Medeo 4.52 229 ePN Pn 13 08 37.1 +3.1
MDOK e 13 08 51.1
KNDC Almaty 4.52 230 ⇑Pn Pn 13 08 36.4 +2.3
43nm,0.4s
KNDC ⇑Pg **Pg 13 08 49.8 -2.7**
511nm,1.1s
KNDC ⇓Lg Lg 13 09 50.1

2µm,0.8s
KNDC Almaty 4.52 230 PN **Pn** **13 08 36.4 +2.3**
KNDC P **Pg** **13 08 49.8 -2.7**
AAA Alma-Ata 4.56 231 Pg **Pg** **13 08 50.2 -2.9**
218nm,0.4s
AAA Lg Lg 13 09 49.2
738nm,0.7s
AAA Alma-Ata 4.56 231 *e*P **Pg** **13 08 50.2 -2.9**
210nm,0.3s
AAA *e*S **Sg** **13 09 49.2 -2.9**
738nm,0.7s
TNSS Tian-Shan 4.66 229 Pg **Pg** **13 08 51.4 -3.7**
95nm,0.5s
TNSS Lg Lg 13 09 51.5
313nm,0.8s
TNSS Tian-Shan 4.66 229 *e*Pn **Pn** **13 08 38.4 +2.2**
baz=229
TNSS *e*Pg **Pg** **13 08 53.7 -1.4**
baz=229
TNSS Tian-Shan 4.66 229 *e*P **Pg** **13 08 51.4 -3.7**
95nm,0.5s
TNSS *e*S **Sg** **13 09 51.5 -3.9**
313nm,0.8s
TNSS Tian-Shan 4.66 229 *e*PN **Pn** **13 08 38.4 +2.2**
TNSS *e* 13 08 53.7
KASK Kaskelen 4.70 232 ⇓Pg **Pg** **13 08 52.3 -3.6**
KASK ⇑Lg Lg 13 09 54.9
IZV Izvestkoviy 4.84 231 Pg **Pg** **13 08 54.1 -4.3**
35nm,0.5s
IZV Lg Lg 13 09 56.2
967nm,0.6s
IZV Izvestkoviy 4.84 231 *e*P **Pg** **13 08 54.1 -4.3**
35nm,0.5s
IZV *e*S **Sg** **13 09 56.2 -4.9**
967nm,0.6s
WMQ Urumqi 4.85 117 Pn **Pn** **13 08 40.8 +2.2**
WMQ Sn **Sn** **13 09 35.9 +1.3**
WMQ smax smax
comp=N,920nm,0.9s
WMQ smax smax
comp=E,1µm,0.9s
MTBS Maitube 4.88 233 Pg **Pg** **13 08 55.2 -4.0**
31nm,0.2s
MTBS Lg Lg 13 09 57.8
793nm,0.5s
MTBS Maitube 4.88 233 *e*P **Pg** **13 08 55.2 -4.0**
31nm,0.2s
MTBS *e*S **Sg** **13 09 57.8 -4.5**
793nm,0.5s
KURBB Kurchatov Arra 4.91 335 ⇓Pn **Pn** **13 08 41.5 +2.3**
30nm,0.4s
KURBB ⇓Pg **Pg** **13 08 56.4 -3.3**
176nm,0.5s
KURBB ⇓Lg Lg 13 10 04.2
2µm,0.6s
KURBB Kurchatov Arra 4.91 335 Pn **Pn** **13 08 40.8 +1.6**
3.7nm,0.3s,baz=159,slow=12,SNR=144
KURBB Sn **Sn** **13 09 37.2 +1.4**
9.4nm,0.3s,baz=133,slow=18,SNR=6.4
KURBB Lg Lg 13 10 03.8
24nm,0.3s,baz=155,slow=31,SNR=10
14nm,0.4s
KURBB Kurchatov Arra 4.91 335 PN **Pn** **13 08 41.5 +2.3**
KURBB PG **Pg** **13 08 56.4 -3.3**
KURK Kurchatov 4.96 336 ⇑Pn **Pn** **13 08 42.4 +2.5**
16nm,0.6s
KURK ⇑Pg **Pg** **13 08 58.6 -2.3**
174nm,0.8s
KURK ⇑Lg Lg 13 10 06.0
3µm,1.3s
KURK Kurchatov 4.96 336 **Pn** **13 08 42.5 +2.5**
KURK Kurchatov 4.96 336 Pn **Pn** **13 08 42.6 +2.5**
KURK Pg **Pg** **13 08 58.5 -2.3**
KURK S **Sn** **13 09 41.1 +3.9**
KURK Sg **Sg** **13 10 06.1 +1.0**
KURK Kurchatov 4.96 336 PN **Pn** **13 08 42.5 +2.5**
KRBS Karabastau 4.98 242 Pg **Pg** **13 08 57.8 -3.3**
37nm,0.4s
KRBS Lg Lg 13 10 02.2
323nm,0.7s
KRBS Karabastau 4.98 242 *e*P **Pg** **13 08 57.8 -3.3**
37nm,0.4s
KRBS *e*S **Sg** **13 10 02.2 -3.4**
323nm,0.7s
UKR Ust'-Kan 5.15 22 ⇑Pn **Pn** **13 08 47.2 +4.6**
UKR Pg **Pg** **13 09 05.1 +0.7**
UKR S **Sn** **13 09 46.6 +4.7**
UKR Sg **Sg** **13 10 08.5 -2.5**
DGS Degeres 5.18 237 Pg **Pg** **13 09 02.5 -2.5**
135nm,0.6s
DGS Lg Lg 13 10 10.1
780nm,0.8s
DGS Degeres 5.18 237 *e*P **Pg** **13 09 01.3 -3.7**
135nm,0.6s
DGS *e*S **Sg** **13 10 08.0 -4.0**
780nm,0.8s
DGZ Jazzator, Alta 5.18 46 ⇑Pn **Pn** **13 08 47.4 +4.2**
DGZ S **Sn** **13 09 46.1 +3.2**
DGZ Sg **Sg** **13 10 11.1 -1.1**
KST Kastek 5.19 235 Pg **Pg** **13 09 01.5 -3.7**
79nm,0.5s
KST Lg Lg 13 10 08.6
458nm,0.8s
KST Kastek 5.19 235 *e*P **Pg** **13 09 01.5 -3.7**
79nm,0.5s
KST *e*S **Sg** **13 10 08.6 -3.9**
458nm,0.8s
TARG Taragay, Kyrgy 5.30 214 PN **Pn** 13 08 51.3 +6.3
TKM2 Tokmak 2 5.48 235 P Pb 13 08 55.1 -6.3
SNR=13
TKM2 Tokmak 2 5.48 235 ⇑Pn **Pn** **13 08 50.6 +3.3**
51nm,0.7s
TKM2 ⇓Pg **Pg** **13 09 07.0 -3.7**
64nm,0.6s
TKM2 ⇑Lg Lg 13 10 20.3
330nm,0.8s
TKM2 Tokmak 2 5.48 235 PN **Pn** **13 08 50.0 +2.7**
BTLS Baital 5.52 261 Pg **Pg** **13 09 07.6 -3.8**
77nm,0.5s
BTLS Lg Lg 13 10 18.9
341nm,1.1s
BTLS Baital 5.52 261 *e*Pn **Pn** **13 08 49.4 +1.8**
baz=260
BTLS *e*Pg **Pg** **13 09 08.8 -2.6**
baz=260
BTLS Baital 5.52 261 *e*P **Pg** **13 09 07.7 -3.8**
77nm,0.5s
BTLS *e*S **Sg** **13 10 18.9 -3.9**
341nm,1.1s
BTLS Baital 5.52 261 *e*PN **Pn** **13 08 49.4 +1.8**
BTLS *e* 13 09 08.8
BOOM Boomskoye usch 5.57 230 Pn **Pn** **13 08 51.4 +2.8**
BOOM Boomskoye usch 5.57 230 PN **Pn** **13 08 51.4 +2.8**
ULHL Ulahol 5.59 227 P **Pb** **13 08 58.9 -4.4**
SNR=14
CHBI Chibit, Altay 5.63 41 ⇑Pn **Pn** **13 08 53.8 +4.5**
CHBI S **Sn** **13 09 58.4 +4.6**
CHBI Sg **Sg** **13 10 26.1 -0.4**
SGDS Sogindy 5.75 244 *e*Pn **Pn** **13 08 53.6 +2.6**
baz=244
SGDS Sogindy 5.75 244 *e*PN **Pn** **13 08 53.5 +2.6**
ELDR Elanda 5.78 28 Pn **Pn** **13 08 54.9 +3.6**
ELDR Pg **Pg** **13 09 16.9 +0.4**
ELDR S **Sn** **13 10 00.7 +3.2**
ELDR Sg **Sg** **13 10 29.9 -1.5**
CUR Chagan-Uzun 5.90 46 ⇑Pn **Pn** **13 08 57.1 +4.1**
CUR Pg **Pg** **13 09 21.2 +2.5**
CUR S **Sn** **13 10 03.9 +3.4**
CUR Sg **Sg** **13 10 33.1 -1.9**
CHMS Chumysh 5.93 240 P Pn 13 09 00.7 +7.4
SNR=15
CHMS Chumysh 5.93 240 ⇑Pn **Pn** **13 08 57.0 +3.7**
49nm,0.8s
CHMS ⇓Pg **Pg** **13 09 16.4 -2.9**
120nm,0.8s
CHMS ⇑Lg Lg 13 10 35.5
335nm,0.8s
CHMS Chumysh 5.93 240 PN **Pn** **13 08 56.9 +3.7**
CHMS PG **Pg** **13 09 16.4 -2.9**
USP Ospenovka 5.93 243 P **Pn** **13 08 55.1 +1.7**
SNR=18
KBK Karagaybulak 6.01 236 P **Pn** **13 08 58.5 +3.8**
SNR=45
ULGR Ulagan, Altay 6.06 41 ⇑Pn Pn 13 09 01.2 +6.1
ULGR S **Sn** **13 10 10.0 +5.7**
ULGR Sg **Sg** **13 10 39.8 -0.4**

FRU1 Bishkek 6.11 239 **Pn** **13 08 58.5 +2.7**
FRU1 Bishkek 6.11 239 PN **Pn** **13 08 58.6 +2.7**
AAK Ala-Archa 6.29 238 P Pn 13 09 03.9 +5.5
SNR=24
AAK Ala-Archa 6.29 238 ⇓Pn **Pn** **13 09 00.9 +2.5**
38nm,0.8s
AAK ⇑Pg **Pg** **13 09 24.4 -1.8**
54nm,0.6s
AAK ⇑Lg Lg 13 10 46.5
360nm,0.9s
AAK Ala-Archa 6.29 238 Pn **Pn** **13 09 00.9 +2.5**
AAK Ala-Archa 6.29 238 Pn **Pn** **13 09 00.5 +2.1**
4.3nm,0.3s,baz=66,slow=10,SNR=29
AAK Lg Lg 13 10 43.4
12nm,0.3s,baz=330,slow=20,SNR=9.0
AAK LR LR 13 11 39.1
comp=Z,333nm,19.4s,baz=68,slow=41
6.0nm,0.4s
AAK Ala-Archa 6.29 238 *i* PN **Pn** **13 09 01.2 +2.8**
GALT Gorno-Altaysk, 6.39 24 Pn **Pn** **13 09 03.7 +4.2**
GALT S **Sn** **13 10 14.8 +2.6**
GALT Sg **Sg** **13 10 50.4 -0.3**
UCH Uchtor 6.54 235 P Pb 13 09 10.7 -8.9
SNR=14
ARTR Artybash 6.68 31 ⇑Pn **Pn** **13 09 07.5 +4.0**
ARTR S **Sn** **13 10 21.3 +1.8**
ARTR Sg **Sg** **13 10 57.4 -2.7**
EKS2 Erkin-Say 6.71 241 P Pn 13 09 11.7 +7.6
SNR=17
OTUK Ortayu 6.71 291 ⇑Pn **Pn** **13 09 06.1 +2.0**
24nm,0.5s
OTUK ⇓Lg Lg 13 11 00.4
2µm,1.4s
OTUK Ortayu 6.71 291 PN **Pn** **13 09 06.8 +2.7**
YALR Yailyu, Altay 6.78 33 Pn **Pn** **13 09 09.3 +4.3**
YALR S **Sn** **13 10 24.3 +2.4**
YALR Sg **Sg** **13 11 03.2 0.0**
MRKS Merke 7.00 243 *e*P **Pg** **13 09 36.5 -3.3**
24nm,0.6s
MRKS *e*S **Sg** **13 11 08.8 -1.5**
202nm,0.7s
BRZS Berezniki 7.14 305 *e*Pn **Pn** **13 09 12.2 +2.3**
baz=305
BRZS Berezniki 7.14 305 *e*P **Pg** **13 09 39.2 -3.3**
36nm,0.7s
BRZS *e*S **Sg** **13 11 12.9 -2.0**
466nm,0.7s
BRZS Berezniki 7.14 305 *e*PN **Pn** **13 09 12.2 +2.3**
TEL Teeli 7.39 46 ⇑Pn **Pn** **13 09 14.9 +1.5**
TEL S **Sn** **13 10 39.5 +2.3**
TEL Sg **Sg** **13 11 23.3 +0.3**
ELT Eltsovka 7.64 21 ⇑Pn **Pn** **13 09 19.8 +3.1**
ELT S **Sn** **13 10 43.7 +0.6**
ELT Sg **Sg** **13 11 30.4 -0.5**
TASR Tashtagol 7.68 29 ⇓Pn **Pn** **13 09 21.0 +3.7**
TASR S **Sn** **13 10 45.6 +1.4**
TASR Sg **Sg** **13 11 30.1 -2.0**
KSH Kashi 7.91 214 P Pb 13 09 32.3 -10
KSH pmax pmax
comp=Z,26nm,0.7s
KSH smax smax
comp=N,78nm,1.1s
KSH smax smax
comp=E,68nm,1.1s
ZAA0 Zalesovo Array 8.00 13 ⇓Pn **Pn** **13 09 23.7 +2.1**
6.4nm,0.5s
ZAA0 ⇑Sn **Sn** **13 10 57.1 +5.2**
8.2nm,0.5s
ZAA0 ⇑Lg Lg 13 11 40.8
60nm,0.8s
ZAA0 Zalesovo Array 8.00 13 Pn **Pn** **13 09 23.0 +1.3**
ZALV Zalesovo Beam 8.00 13 Pn **Pn** **13 09 23.4 +1.7**
ZALV Zalesovo Beam 8.00 13 Pn **Pn** **13 09 24.0 +2.3**
5.3nm,0.3s,baz=196,slow=14,SNR=102
ZALV Sn **Sn** **13 10 52.7 +0.8**
14nm,0.3s,baz=187,slow=22,SNR=4.3
ZALV Lg Lg 13 11 39.6
23nm,0.3s,baz=200,slow=25,SNR=5.7
ZALV LR LR 13 12 48.5
comp=Z,179nm,20.9s,baz=348,slow=40
22nm,0.6s
ZALV Zalesovo Beam 8.00 13 P **Pn** **13 09 24.0 +2.3**
BSTK Bystrovka, Nov 8.39 4 Pn **Pn** **13 09 31.5 +4.5**
BSTK S **Sn** **13 11 04.1 +2.6**
BSTK Sg **Sg** **13 11 57.0 +2.1**
KK31 Karatay Array 8.58 253 ⇑Pn **Pn** **13 09 30.4 +0.7**
9.9nm,0.4s,baz=58,slow=12,SNR=81
KK31 ⇑Lg Lg 13 11 58.3
130nm,0.6s,baz=57,slow=31,SNR=8.4
KK31 Karatay Array 8.58 253 Pn **Pn** **13 09 30.7 +1.0**
KK31 Karatay Array 8.58 253 P **Pn** **13 09 30.7 +1.0**
KKAR Karatay Array 8.58 253 Pn **Pn** **13 09 30.7 +1.0**
KKAR Karatay Array 8.58 253 P **Pn** **13 09 30.7 +1.0**
SALR Pechorkino, Sa 8.60 16 Sg **Sg** **13 11 57.8 -3.8**
NVS Novosibirsk 8.70 6 Pn **Pn** **13 09 33.8 +2.6**
NVS S **Sn** **13 11 11.3 +2.3**
NVS Sg **Sg** **13 12 00.2 -4.5**
NVSII Novosibirsk 8.70 6 Pn **Pn** **13 09 33.7 +2.5**
NVSII S **Sn** **13 11 10.8 +1.7**
NVSII Sg **Sg** **13 12 01.8 -2.9**
VEH Verkhnyaya Baz 8.98 35 Pn **Pn** **13 09 38.1 +2.9**
VEH S **Sn** **13 11 14.6 -1.5**
VEH Sg **Sg** **13 12 10.1 -3.5**
DJO Djoy, Khakassi 9.02 40 Sg Sn 13 12 11.5 +55
BRLS Boroldaу 9.06 254 *e*Pn Pn 13 09 43.3 +7.0
baz=253
BRLS Boroldaу 9.06 254 *e*P Pn 13 10 17.7 +41
11nm,0.6s
BRLS *e*S 13 12 19.3
126nm,1.0s
BRLS Boroldaу 9.06 254 *e*P Pn 13 09 43.2 +6.9
DJOS Djoyskaya Sosn 9.11 40 Sg Sn 13 12 13.2 +54
CERR Cheremushki 9.15 40 Sg Sn 13 12 15.8 +55
ERNS Erzin 9.83 61 Sg Sn 13 12 35.2 +58
ARDR Aradan 9.94 46 Sg 13 12 43.6
BVA0 Borovoye Array 10.03 317 ⇑Pn **Pn** **13 09 50.6 +1.1**
14nm,0.6s,baz=129,slow=14,SNR=88
BVA0 ⇓Sn **Sn** **13 11 44.9 +3.1**
35nm,0.5s,baz=110,slow=24,SNR=3.0
BVA0 ⇓Lg Lg 13 12 45.7
242nm,1.2s,baz=130,slow=31,SNR=3.7
BVA0 Borovoye Array 10.03 317 P **Pn** **13 09 50.6 +1.1**
BVAR Borovoye Array 10.03 317 Pn **Pn** **13 09 51.2 +1.8**
0.8nm,0.3s,baz=120,slow=13,SNR=82
BVAR Sn **Sn** **13 11 41.0 -0.8**
1.8nm,0.3s,baz=107,slow=24,SNR=6.3
BVAR Lg Lg 13 12 46.2
2.1nm,0.3s,baz=136,slow=29,SNR=6.2
BVAR LR LR 13 13 49.5
comp=Z,383nm,19.3s,baz=123,slow=38
10nm,0.4s
BTK Batken 10.06 236 Pn **Pn** **13 09 53.4 +3.3**
BTK Batken 10.06 236 P **Pn** **13 09 53.4 +3.3**
GAR Garm 11.07 233 **Pn** **13 10 06.3 +2.4**
SIMJ Simiganj 12.04 236 Pn **Pn** **13 10 20.1 +2.8**
MOY Mondy 13.77 60 *e*P **P** **13 10 45.4 -3.9**
GOMU GeErMu 14.02 131 P **Pn** **13 10 42.0 -2.4**
GOMU S **Sn** **13 13 18.3 -1.6**
GOMU pmax pmax
comp=Z,44nm,0.7s
GOMU LR LR
comp=N,490nm,14.3s
GOMU LR LR
comp=E,560nm,14.3s
GOMU LR LR
comp=Z,700nm,14.1s
NIL Nilore 14.12 210 **P** **13 10 53.5 +0.4**
NIL Nilore 14.12 210 P **P** **13 10 53.5 +0.4**
THN Thein Dam 14.51 201 *e*P **P** **13 10 56.5 -0.9**
DHRM DHARAMSHALA 14.55 199 *e*P **P** **13 10 58.2 0.0**
DHRM IAmb IAmb 13 11 00.9
comp=Z,34nm,0.6s
DHRM *e*S Sn 13 13 23.9 -9.0
GTA Gaotai 14.89 111 P **P** **13 11 03.0 +1.2**
GTA pmax pmax
comp=Z,8.0nm,0.8s
GTA LR LR
comp=N,200nm,15.3s
GTA LR LR
comp=E,150nm,14.2s
GTA LR LR
comp=Z,220nm,14.5s
KLP Kalpa 14.90 192 *e*P **P** **13 11 00.8 -1.3**
KLP *e*S **Sn** **13 13 35.4 -6.0**
ZAK Zakamensk 14.92 66 *e*P **Pn** **13 10 56.9 +0.5**

ZAK pmax pmax
comp=Z,8.0nm,1.1s
AB31 Akbulak array 14.97 290 Pn **Pn** **13 10 58.0 +1.1**
comp=Z,5.8nm,0.5s,baz=86,slow=12,SNR=143
AB31 ⇑Lg Lg 13 15 23.0
comp=Z,55nm,0.8s
AB31 Akbulak array 14.97 290 P **Pn** **13 10 58.2 +1.3**
ABKAR Akbulak array 14.97 290 Pn **Pn** **13 10 54.3 -2.6**
KBL Kabul 15.12 224 P **P** **13 11 05.4 +1.0**
KBL Kabul 15.12 224 P **P** **13 11 05.4 +1.0**
KBL pmax pmax
comp=Z,10.0nm,0.8s
BHK Bhakra 15.33 197 *e*P **P** **13 11 08.2 +1.6**
SMLA Simla 15.47 195 *e*P **P** **13 11 07.4 -0.7**
SMLA IAmb IAmb 13 11 12.1
comp=Z,20nm,0.7s
SMLA *e*S **Sn** **13 13 48.2 -6.5**
AKTO Aktyubinsk 16.31 294 Pn **Pn** **13 11 13.9 -0.4**
comp=Z,0.7nm,0.3s,baz=109,slow=15,SNR=8.8
AKTO Sn **Sn** **13 14 07.9 -7.1**
comp=Z,0.4nm,0.3s,baz=105,slow=16,SNR=1.0
AKTO LR LR 13 17 49.2
comp=Z,181nm,21.0s,baz=212,slow=38
SVE Sverdlovsk 16.82 317 *e*P **Pn** **13 11 21.1 +0.3**
SVE *e*S **Sn** **13 14 20.8 -6.5**
SVE pmax pmax
comp=Z,12nm,0.7s
SVE MLR MLR
comp=Z,319nm,11.0s
SONM Songino Array 16.88 76 Pn **Pn** **13 11 21.7 -0.1**
SONM Songino Array 16.88 76 Pn **Pn** **13 11 22.0 +0.3**
comp=Z,0.9nm,0.3s,baz=275,slow=12,SNR=44
SONM LR LR 13 18 04.5
comp=Z,126nm,21.8s,baz=314,slow=38
comp=Z,11nm,1.0s
ULN Ulaanbaatar 17.32 75 P **P** **13 11 29.1 +0.4**
ULN Ulaanbaatar 17.32 75 P **P** **13 11 29.1 +0.4**
ULN pmax pmax
comp=Z,8.0nm,1.0s
ARU Arti 17.64 314 **P** **13 11 32.4 +0.4**
ARU Arti 17.64 314 P **P** **13 11 32.9 +0.8**
baz=120,slow=7.0,SNR=8.2
ARU Lg Lg 13 16 47.6
ARU baz=173,slow=18,SNR=4.6
ARU LR LR 13 18 29.5
comp=Z,293nm,18.1s,baz=102,slow=37
comp=Z,3.5nm,0.3s
ARU Arti 17.64 314 P **P** **13 11 32.4 +0.4**
ARU S **Sn** **13 14 49.1 +1.8**
ARU MLR MLR
comp=Z,251nm,15.0s
KUDL Kundal 18.50 195 *e*P **Pn** **13 11 47.7 +5.9**
KUDL *e*S Sn 13 14 57.1 -11
HRA Herat 18.93 238 P **Pn** **13 11 47.6 +0.5**
LZH Lanzhou 19.42 114 *e*P **Pn** **13 11 56.9 +3.8**
LZH sP sP 13 12 05.3 +7.8
LZH pmax pmax
comp=Z,8.0nm,1.3s
LZH LR LR
comp=Z,370nm,12.7s
LZH LR LR
comp=Z,240nm,13.4s
LZH LR LR
comp=Z,410nm,13.1s
BTO Baotou 21.24 95 *e*P **P** **13 12 11.3 -0.2**
BTO pP **sP** **13 12 20.3 +3.2**
BTO sP pP 13 12 24.6 +9.2
BTO PP **PnPn** **13 12 34.4 +3.5**
BTO pmax pmax
comp=Z,51nm,0.5s
BTO pmax pmax
comp=Z,130nm,4.4s
SHL Shillong 22.14 155 P **P** **13 12 20.6 -0.8**
SHL Shillong 22.14 155 P **P** **13 12 20.6 -0.8**
SHL pmax pmax
comp=Z,27nm,0.7s
HHC Hu-ho-hao-te 22.21 93 *e*P **P** **13 12 21.4 -0.5**
HHC pmax pmax
comp=Z,10.0nm,0.6s
HHC pmax pmax
comp=Z,54nm,3.7s
HHC LR LR
comp=Z,140nm,14.5s
HHC LR LR
comp=Z,130nm,15.3s
HHC LR LR
comp=Z,150nm,14.8s
BOD Bodaibo 22.77 48 *e*P **P** **13 12 27.7 0.0**
BOD pmax pmax
comp=Z,18nm,1.0s
BELG Belogornoye 22.93 298 ⇑*e*P **P** **13 12 29.8 +0.4**
BELG pmax pmax
comp=Z,5.0nm,1.1s
KIRV Kirov 23.03 314 LR LR 13 21 48.5
comp=Z,193nm,18.4s,baz=109,slow=37
BHPL Bhopal 23.18 190 *ex* **P** **13 12 30.9 -1.2**
XAN Xi'an 23.95 111 ⇑P **P** **13 12 39.8 0.0**
XAN pP sP 13 12 47.8 +2.3
XAN pmax pmax
comp=Z,24nm,0.8s
XAN pmax pmax
comp=Z,190nm,4.0s
XLT XiLinHaoTe 24.27 83 *e*P **P** **13 12 44.1 +1.5**
XLT pP sP 13 12 52.5 +4.1
XLT sP pP 13 12 57.4 +11
XLT PP **PnPn** **13 13 18.3 +6.0**
XLT S **S** **13 17 03.3 +2.4**
XLT pmax pmax
comp=Z,9.0nm,1.3s
XLT pmax pmax
comp=Z,81nm,4.9s
XLT LR LR
comp=Z,590nm,24.2s
XLT LR LR
comp=Z,160nm,20.0s
MAK Makhachkala 24.48 275 *e*P **P** **13 12 43.2 -1.3**
MAK *e*S **S** **13 17 02.1 -2.1**
MAK pmax pmax
comp=Z,31nm,0.3s
MAK MLR MLR
comp=Z,128nm,11.0s
PZH PanZhiHua 25.30 134 P **P** **13 12 53.0 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,70nm,4.9s
KBZ Khabaz 27.41 279 LR LR 13 26 20.6
comp=Z,73nm,18.2s,baz=78,slow=41
GNI Garni 27.47 271 LR LR 13 25 53.7
comp=Z,63nm,19.2s,baz=60,slow=40
GYA Guiyang 27.94 126 ⇓P **P** **13 13 16.8 +0.8**
GYA pmax pmax
comp=Z,17nm,0.7s
WSAR Wadi Sarin 29.56 227 LR LR 13 27 55.1
comp=Z,65nm,18.7s,baz=60,slow=42
SOC Sochi 29.63 280 *e*P **P** **13 13 30.3 -0.4**
SOC *e* 13 14 26.8
SOC *e*PPP PPP 13 14 35.8
SOC *e*S **S** **13 18 24.7 -0.9**
SOC *e*SS **SnSn** **13 19 53.2 -0.9**
SOC *e*SSS SSS 13 20 14.0
SOC MLR MLR
comp=Z,103nm,16.0s
ZEA Zeya 29.79 59 *e*P **P** **13 13 33.9 +1.9**
CRAI Chiangrai 30.09 143 P **P** **13 13 35.4 +0.5**
CHTO Chiang Mai 30.79 147 P **P** **13 13 41.0 -0.2**
CHTO Chiang Mai 30.79 147 P **P** **13 13 41.0 -0.2**
CHTO pmax pmax
comp=Z,4.0nm,0.8s
CM31 Chiang Mai Arr 31.12 147 P **P** **13 13 44.4 +0.4**
CMAR Chiang Mai Arr 31.12 147 P **P** **13 13 44.5 +0.5**
CMAR Chiang Mai Arr 31.12 147 P **P** **13 13 44.3 +0.3**
comp=Z,5.8nm,0.7s,baz=322,slow=8.9,SNR=34
comp=Z,5.8nm,0.7s
CMAR Chiang Mai Arr 31.12 147 *i* P **P** **13 13 45.0 +1.0**
CMAR pmax pmax
comp=Z,7.0nm,0.7s
YAK Yakutsk 31.37 42 LR LR 13 27 02.3
comp=Z,101nm,19.6s,baz=251,slow=38
YAK Yakutsk 31.37 42 *ce*P **P** **13 13 46.4 +0.6**
YAK pmax pmax
comp=Z,13nm,0.8s
PHRA Phrae 31.58 145 P **P** **13 13 48.6 +0.5**
NJ2 Nanjing 31.76 103 *e*P **P** **13 13 49.3 -0.3**
NJ2 pmax pmax

comp=Z,14nm,0.5s
VALR Valaam 32.67 316 *ce* P **P 13 13 55.3 -2.0**
VALR pmax pmax
comp=Z,42nm,1.1s
MDJ Mudanjiang 33.24 75 P **P 13 14 01.3 -1.1**
MDJ pmax pmax
comp=Z,6.0nm,1.0s
MDJ pmax pmax
comp=Z,120nm,4.8s
KLR Kul'dur 33.29 66 LR LR 13 28 19.2
comp=Z,84nm,18.5s,baz=262,slow=38
KLR Kul'dur 33.29 66 *de* P **P 13 14 04.2 +1.3**
KLR pmax pmax
comp=Z,10.0nm,1.7s
TIXI Tiksi 33.68 25 P **P 13 14 05.8 -0.2**
TIXI Tiksi 33.68 25 LR LR 13 28 32.4
comp=Z,70nm,19.4s,baz=264,slow=38
TIXI Tiksi 33.68 25 *je* P **P 13 14 05.7 -0.3**
TIXI pmax pmax
comp=Z,10.0nm,2.5s
AKASG Malin Array Be 34.50 297 P **P 13 14 14.5 +1.1**
comp=Z,0.5nm,0.4s,baz=67,slow=9.7,SNR=2.5
AKASG LR LR 13 29 03.4
comp=Z,78nm,20.2s,baz=50,slow=38
comp=Z,0.5nm,0.4s
FINES FINESS Array B 34.99 316 P **P 13 14 19.2 +1.8**
comp=Z,1.6nm,0.9s,baz=121,slow=36,SNR=1.9
FINES PcP **PcP 13 16 54.7 +5.4**
comp=Z,1.5nm,0.6s,baz=72,slow=4.5,SNR=3.8
FINES LR LR 13 29 20.1
comp=Z,103nm,18.7s,baz=96,slow=37
comp=Z,1.6nm,0.9s
USA0B Ussuriysk Arra 34.99 75 P **P 13 14 18.5 +0.9**
USA0B IAmb IAmb 13 14 19.5
comp=Z,7.0nm,0.8s
USA0B Ussuriysk Arra 34.99 75 P **P 13 14 18.5 +0.9**
USA0B pmax pmax
comp=Z,7.0nm,0.8s
USRK Ussuriysk Ar. 34.99 75 P **P 13 14 18.3 +0.7**
USRK Ussuriysk Ar. 34.99 75 P **P 13 14 17.3 -0.4**
comp=Z,3.7nm,0.7s,baz=280,slow=8.6,SNR=8.7
USRK LR LR 13 29 41.6
comp=Z,50nm,20.4s,baz=258,slow=38
comp=Z,3.7nm,0.7s
USRK Ussuriysk Ar. 34.99 75 P **P 13 14 18.3 +0.7**
KSRS Korea Array 35.09 88 P **P 13 14 18.5 0.0**
comp=Z,0.7nm,0.6s,baz=282,slow=8.3,SNR=5.2
KSRS LR LR 13 29 45.3
comp=Z,97nm,18.2s,baz=245,slow=38
comp=Z,0.7nm,0.6s
BRTR Keskin Array B 35.34 277 P **P 13 14 21.6 +0.8**
comp=Z,0.7nm,0.8s,baz=269,slow=15,SNR=1.8
BRTR LR LR 13 30 48.4
comp=Z,48nm,19.0s,baz=66,slow=40
comp=Z,0.7nm,0.8s
ARCES ARCESS Array B 35.97 330 P **P 13 14 26.1 +0.3**
comp=Z,2.6nm,0.9s,baz=62,slow=4.2,SNR=1.2
comp=Z,2.6nm,0.9s
MMAI Mount Meron Ar 37.52 266 LR LR 13 32 50.8
comp=Z,48nm,18.3s,baz=7.5,slow=41
BURAR Bucovina Array 37.90 293 P **P 13 14 44.3 +1.7**
BUR08 Bucovina Ar. S 37.90 293 P **P 13 14 45.0 +2.4**
MLR Muntele Rosu 38.18 290 LR LR 13 32 56.6
comp=Z,90nm,18.6s,baz=57,slow=40
BALB Balikesir 39.33 280 P **P 13 14 56.0 +1.4**
HFS Hagfors 41.16 315 P **P 13 15 11.5 +2.0**
comp=Z,1.2nm,0.6s,baz=106,slow=7.7,SNR=4.2
HFS LR LR 13 32 50.6
comp=Z,132nm,19.4s,baz=59,slow=37
comp=Z,1.2nm,0.6s
MA2 Magadan 41.77 46 P **P 13 15 15.1 +0.7**
MA2 IAmb IAmb 13 15 16.2
comp=Z,9.4nm,0.8s
MA2 Magadan 41.77 46 LR LR 13 33 19.2
comp=Z,51nm,19.8s,baz=242,slow=37
MA2 Magadan 41.77 46 *de* P **P 13 15 15.5 +1.0**
MA2 pmax pmax
comp=Z,3.0nm,0.7s
NC405 NORSAR Array S 41.91 317 P **P 13 15 16.6 +1.1**
NC405 IAmb IAmb 13 15 23.7
comp=Z,7.8nm,0.8s
ASAJ Asahikawa 42.04 70 P **P 13 15 17.1 +0.2**
ASAJ pmax pmax
comp=Z,23nm,1.4s
JKA Kamikawa-asahi 42.04 70 P **P 13 15 17.1 +0.2**
JKA IAmb IAmb 13 15 28.0
comp=Z,23nm,1.4s
NC602 NORSAR Array S 42.07 316 P **P 13 15 17.8 +0.8**
NC602 IAmb IAmb 13 15 32.7
comp=Z,14nm,1.4s
NB2 NORSAR Subarra 42.16 317 P **P 13 15 18.1 +0.4**
comp=Z,2.6nm,0.6s,baz=78,slow=8.6
NOA NORSAR Array B 42.16 317 P **P 13 15 18.6 +0.9**
comp=Z,0.6nm,0.5s,baz=77,slow=8.1,SNR=12
NOA LR LR 13 33 21.9
comp=Z,74nm,21.4s,baz=80,slow=37
comp=Z,0.6nm,0.5s
MJAR Matsushiro Arr 42.66 82 LR LR 13 33 54.2
comp=Z,79nm,18.8s,baz=345,slow=37
VRAC Vranov 42.69 299 LR LR 13 33 57.4
comp=Z,78nm,18.0s,baz=58,slow=37
KULM Kulim 43.94 152 P **P 13 15 32.0 -0.4**
KULM IAmb IAmb 13 15 32.9
comp=Z,8.5nm,1.0s
GERES GERESS Array B 44.62 299 P **P 13 15 39.2 +1.4**
comp=Z,0.2nm,0.4s,baz=81,slow=7.0,SNR=1.9
GERES LR LR 13 35 09.3
comp=Z,74nm,18.9s,baz=48,slow=37
comp=Z,0.2nm,0.4s
WTTA Wattenberg 46.54 298 *e* P **P 13 15 54.9 +1.9**
comp=Z,1.3nm,0.5s
SQTA Sankt Quirin 46.82 298 *e* P **P 13 15 57.0 +1.8**
comp=Z,1.9nm,0.3s
GSI Gunungsitoli 46.83 158 P **P 13 15 54.3 -1.1**
GSI Gunungsitoli 46.83 158 P **P 13 15 54.5 -0.9**
comp=Z,24nm,1.4s,comp=Z,3μm
MOTA Moosalm 46.83 298 *e* P **P 13 15 56.3 +1.0**
comp=Z,0.2nm,0.2s
FETA Feichten 47.20 298 *e* P **P 13 16 00.2 +1.9**
comp=Z,0.3nm,0.3s
PETK Petropavlovsk- 47.50 52 P **P 13 15 59.6 -0.7**
comp=Z,5.2nm,0.8s,baz=256,slow=5.8,SNR=5.7
comp=Z,5.2nm,0.8s
DAVOX Davos/Dischmat 47.83 298 LR LR 13 37 59.2
comp=Z,69nm,18.9s,baz=272,slow=38
VAE Valguarnera 49.54 285 LR LR 13 41 31.8
comp=Z,48nm,19.1s,baz=144,slow=41
BNI Bardonecchia 50.62 298 P **P 13 16 25.6 +1.2**
BNI IAmb IAmb 13 16 33.3
comp=Z,6.0nm,0.7s
BNI Bardonecchia 50.62 298 P **P 13 16 25.6 +1.2**
BNI pmax pmax
comp=Z,6.0nm,0.7s
EKA Eskdalemuir Ar 51.26 313 P **P 13 16 29.5 +0.6**
comp=Z,0.4nm,0.4s,baz=56,slow=6.9,SNR=5.4
comp=Z,0.4nm,0.4s
B18K Kokolik River 55.73 23 P **P 13 17 01.2 -0.3**
baz=311
TNA Tin City 56.37 28 P **P 13 17 04.4 -1.7**
baz=308
D17K Noatak River 56.48 24 P **P 13 17 06.2 -0.7**
baz=311
B20K Meade River 56.48 21 P **P 13 17 05.8 -1.1**
baz=314
C19K Lookout Ridge 56.49 22 P **P 13 17 08.0 +1.0**
C19K Lookout Ridge 56.49 22 P **P 13 17 06.2 -0.8**
baz=313
B22K Teshekpuk Lake 57.13 19 P **P 13 17 10.7 -0.7**
baz=317
E17K Hotham Inlet 57.25 25 P **P 13 17 11.6 -0.8**
baz=312
D19K Kuna River 57.30 22 P **P 13 17 13.1 +0.3**
D19K IAmb IAmb 13 17 24.7
comp=Z,5.4nm,0.9s
D19K Kuna River 57.30 22 P **P 13 17 11.4 -1.4**
baz=314
F15K North Star Dit 57.32 27 P **P 13 17 14.2 +1.3**
F15K North Star Dit 57.32 27 P **P 13 17 11.7 -1.2**
baz=311
E18K Tukpahlearik C 57.37 24 P **P 13 17 13.8 +0.5**
E18K IAmb IAmb 13 17 45.5
comp=Z,7.6nm,1.2s
E18K Tukpahlearik C 57.37 24 P **P 13 17 12.3 -0.9**
baz=313
B21K Ikpikpuk River 57.38 20 P **P 13 17 13.9 +0.7**
B21K IAmb IAmb 13 17 14.9
comp=Z,5.7nm,0.8s
B21K Ikpikpuk River 57.38 20 P **P 13 17 12.8 -0.4**
baz=317
D20K Etivluk River 57.54 22 P **P 13 17 13.4 -1.1**
baz=316
C21K Knifeblade Rid 57.68 21 P **P 13 17 14.7 -0.7**
baz=317
F17K Baldwin Pennin 57.86 25 P **P 13 17 16.3 -0.3**
baz=313
E20K Nigu River 57.98 22 P **P 13 17 17.1 -0.4**
baz=316,SNR=6.3
G15K Niukluk 57.98 27 P **P 13 17 17.0 -0.6**
baz=312
C23K Itkillik River 58.15 19 P **P 13 17 19.0 +0.4**
C23K IAmb IAmb 13 17 30.6
comp=Z,7.7nm,1.1s
C23K Itkillik River 58.15 19 P **P 13 17 18.5 -0.2**
baz=320
F18K Selawik 58.21 24 P **P 13 17 19.1 0.0**
baz=314
G16K Koyuk River 58.24 26 P **P 13 17 19.1 -0.2**
baz=313
E19K Redstone River 58.28 23 P **P 13 17 20.0 +0.4**
E19K IAmb IAmb 13 17 21.6
comp=Z,5.1nm,0.8s
E19K Redstone River 58.28 23 P **P 13 17 19.2 -0.4**
baz=316
D22K Ayikyak River 58.39 20 P **P 13 17 20.2 -0.2**
baz=318
E21K Killik River 58.40 21 P **P 13 17 20.5 0.0**
baz=318
F19K Shaleruckik Mo 58.58 24 P **P 13 17 21.1 -0.6**
baz=315
C24K Franklin Bluff 58.66 18 P **P 13 17 21.9 -0.3**
baz=321
G17K Kiwalik Mounta 58.69 26 P **P 13 17 22.0 -0.5**
baz=314
H16K Elim 58.80 27 P **P 13 17 22.7 -0.5**
baz=313
D23K Nanushuk River 58.80 20 P **P 13 17 23.1 -0.1**
baz=320
F20K Avaraart Lake 58.98 23 P **P 13 17 23.9 -0.6**
baz=317
G18K Tagagawik 59.00 25 P **P 13 17 23.9 -0.7**
baz=315
D24K Happy Valley 59.08 19 P **P 13 17 24.8 -0.3**
baz=321
E22K Anaktuvuk Pass 59.17 21 P **P 13 17 25.9 +0.1**
E22K IAmb IAmb 13 17 37.7
comp=Z,7.2nm,1.1s
E22K Anaktuvuk Pass 59.17 21 P **P 13 17 25.5 -0.3**
baz=319
G19K Purcell Mounta 59.27 24 P **P 13 17 27.2 +0.7**
G19K IAmb IAmb 13 17 54.5
comp=Z,9.0nm,1.4s
G19K Purcell Mounta 59.27 24 P **P 13 17 25.5 -1.0**
baz=316
C26K Camden Bay 59.30 17 P **P 13 17 25.7 -1.0**
baz=324
H17K Granite Mounta 59.30 26 P **P 13 17 26.2 -0.5**
baz=315
TOLK Toolik Lake Re 59.31 19 P **P 13 17 27.2 +0.4**
TOLK IAmb IAmb 13 17 28.3
comp=Z,5.8nm,1.0s
TOLK Toolik Lake Re 59.31 19 P **P 13 17 25.7 -1.1**
baz=321
F21K Alatna River 59.44 22 P **P 13 17 28.2 +0.5**
F21K IAmb IAmb 13 17 29.4
comp=Z,5.9nm,1.0s
F21K Alatna River 59.44 22 P **P 13 17 27.0 -0.7**
baz=318
D25K Kavik River 59.48 18 P **P 13 17 28.5 +0.6**
F22K John River 59.55 21 P **P 13 17 27.9 -0.6**
baz=319
H18K Honhosa River 59.61 25 P **P 13 17 28.4 -0.5**
baz=316
J14K Nanvaranak Lak 59.66 29 P **P 13 17 28.3 -1.0**
baz=313
C27K Jago River 59.78 17 P **P 13 17 29.6 -0.4**
baz=325
I17K Unalakleet 59.80 27 P **P 13 17 29.5 -0.7**
baz=315
K13K Kusilvak Mount 59.84 30 P **P 13 17 29.7 -0.8**
baz=313
H19K Roundabout Mou 59.90 24 P **P 13 17 31.7 +0.9**
H19K IAmb IAmb 13 17 32.7
comp=Z,4.4nm,0.8s
H19K Roundabout Mou 59.90 24 P **P 13 17 30.8 0.0**
baz=317
G21K Allakaket 59.97 22 P **P 13 17 30.7 -0.6**
baz=319
E24K Your Creek 60.00 19 P **P 13 17 32.1 +0.5**
E24K IAmb IAmb 13 17 33.1
comp=Z,3.1nm,0.7s
E24K Your Creek 60.00 19 P **P 13 17 31.0 -0.7**
baz=322
ESDC Soseca Array 60.15 297 P **P 13 17 33.7 +0.7**
comp=Z,0.4nm,0.5s,baz=44,slow=6.4,SNR=4.7
comp=Z,0.4nm,0.5s
G22K Bettles 60.17 21 P **P 13 17 31.8 -0.9**
baz=320
COLD Coldfoot 60.26 21 P **P 13 17 32.8 -0.5**
baz=321
GCSA Galena City Sc 60.34 25 P **P 13 17 33.6 -0.3**
baz=322
H20K Anotleneega Mo 60.36 24 P **P 13 17 33.3 -0.8**
baz=318
A36M Sachs Harbour 60.58 9 P **P 13 17 36.0 +0.7**
A36M IAmb IAmb 13 17 47.2
comp=Z,5.9nm,1.0s
A36M Sachs Harbour 60.58 9 P **P 13 17 34.4 -1.0**
baz=339
F24K Squaw Lake 60.59 20 P **P 13 17 36.2 +0.6**
F24K Squaw Lake 60.59 20 P **P 13 17 35.2 -0.4**
baz=323
E25K Arctic Village 60.62 18 P **P 13 17 34.4 -1.4**
baz=324
D27M Malcolm River 60.64 16 P **P 13 17 35.1 -0.9**
baz=327
K15K Wolf Creek Mou 60.66 29 P **P 13 17 34.7 -1.4**
baz=315
J17K VABM Dome 60.66 27 P **P 13 17 34.4 -1.7**
baz=316
G23K Bananza Creek 60.71 21 P **P 13 17 35.1 -1.3**
baz=321
H21K Melozitna Rive 60.81 23 P **P 13 17 35.5 -1.6**
baz=320
L14K Kuka Creek 60.94 30 P **P 13 17 36.7 -1.2**
baz=314
D28M Stokes Point 60.99 15 P **P 13 17 37.2 -0.9**
baz=329
H22K Ishtalitna Cre 61.00 22 P **P 13 17 36.7 -1.7**
baz=321
F25K Christian Rive 61.04 19 P **P 13 17 36.3 -2.4**
baz=324,SNR=6.2
L15K Ungalak Mounta 61.11 29 P **P 13 17 36.8 -2.4**
baz=315
J19K Poorman 61.27 25 P **P 13 17 37.8 -2.5**
baz=318
F26K Sheenjek River 61.28 18 P **P 13 17 37.9 -2.5**
baz=325
G24K Hadweenzic Riv 61.34 20 P **P 13 17 37.8 -2.9**
baz=323
J18K Innoko River 61.34 26 P **P 13 17 40.8 +0.1**
J18K IAmb IAmb 13 17 55.7
comp=Z,7.5nm,1.2s
J18K Innoko River 61.34 26 P **P 13 17 38.5 -2.3**
baz=318
M13K Dall Lake 61.35 31 P **P 13 17 39.0 -1.8**
baz=314
I21K Tanana 61.39 23 P **P 13 17 39.6 -1.4**
baz=320
K17K Iditarod 61.40 27 P **P 13 17 39.2 -1.9**
baz=317
BMAR Burnt Mountain 61.41 19 P **P 13 17 42.1 +0.9**
E27K Coleen River 61.41 17 **P 13 17 41.7 +0.5**
E27K IAmb IAmb 13 17 43.0
comp=Z,4.3nm,0.7s
E27K Coleen River 61.41 17 P **P 13 17 39.3 -1.9**
baz=327,SNR=5.8
E28M Babbage River 61.46 16 P **P 13 17 39.7 -1.7**
baz=328
H23K Yukon River 61.53 21 P **P 13 17 42.5 +0.5**
H23K IAmb IAmb 13 17 54.7
comp=Z,9.7nm,1.4s
H23K Yukon River 61.53 21 P **P 13 17 40.2 -1.8**
baz=322
J20K Nowinta River 61.56 24 P **P 13 17 40.3 -1.9**
baz=319
M14K Bethel 61.60 30 P **P 13 17 41.3 -1.1**
baz=315
G25K Bearman Lake 61.61 20 P **P 13 17 40.5 -1.9**
baz=324
L16K Owhat River 61.75 28 P **P 13 17 42.2 -1.3**
baz=316
L17K Donlin 61.83 27 P **P 13 17 42.7 -1.4**
baz=317
MLY Manley 61.84 22 P **P 13 17 42.6 -1.5**
baz=321
H24K Noodor Dome 61.93 21 P **P 13 17 43.7 -1.0**
baz=323
E29M Blow River 61.95 16 **P 13 17 46.0 +1.2**
E29M Blow River 61.95 16 P **P 13 17 43.0 -1.8**
baz=330,SNR=12
G26K Porcupine Rive 61.98 19 P **P 13 17 44.0 -0.9**
baz=326
M15K Kasigluk River 62.08 30 P **P 13 17 43.9 -1.8**
baz=316
H25L Birch Creek 62.08 20 P **P 13 17 44.6 -1.0**
baz=324
I23K Minto, Yukon-K 62.11 22 P **P 13 17 44.6 -1.3**
baz=322
K20K Telida 62.21 25 P **P 13 17 44.5 -2.0**
baz=320
F28M Old Crow 62.24 17 **P 13 17 47.7 +0.9**
F28M IAmb IAmb 13 17 58.5
comp=Z,5.2nm,1.0s
F28M Old Crow 62.24 17 P **P 13 17 45.5 -1.3**
baz=329,SNR=5.9
L18K Granite Mounta 62.27 27 P **P 13 17 45.8 -1.2**
baz=318
N14K Kuskokwak Cree 62.29 31 P **P 13 17 45.7 -1.3**
baz=315
CHUM Lake Minchumin 62.31 24 P **P 13 17 46.0 -1.2**
baz=321
M16K Timber Creek 62.43 29 P **P 13 17 45.7 -2.3**
baz=317
BPAW Bear Paw Mtn. 62.51 23 P **P 13 17 45.9 -2.6**
baz=321
G27K Doyon Strip 62.56 18 P **P 13 17 49.8 +0.9**
G27K IAmb IAmb 13 17 51.1
comp=Z,4.4nm,0.9s
G27K Doyon Strip 62.56 18 P **P 13 17 47.5 -1.4**
baz=327
POKR Poker Plat Res 62.63 21 P **P 13 17 48.2 -1.1**
baz=324
NEA2 Nenana 62.63 22 P **P 13 17 46.8 -2.6**
baz=323
N15K Kwethluk River 62.67 30 P **P 13 17 47.9 -1.8**
baz=316
COLA College 62.72 21 P **P 13 17 48.8 -1.1**
baz=324
CAST Castle Rocks 62.73 24 P **P 13 17 48.6 -1.5**
baz=321
PRP Porcupine Dome 62.77 20 P **P 13 17 49.2 -1.3**
baz=325
INK Inuvik 62.80 14 P **P 13 17 51.0 +0.7**
INK Inuvik 62.80 14 P **P 13 17 50.0 -0.4**
baz=333,SNR=7.1
INK Inuvik 62.80 14 P **P 13 17 51.1 +0.7**
INK pmax pmax
comp=Z,6.0nm,0.8s
L19K White Mountain 62.87 26 P **P 13 17 50.2 -0.9**
baz=319
N16K Nishlik Lake 62.89 29 P **P 13 17 49.4 -1.8**
baz=317
L20K Farewell, AK 62.94 25 P **P 13 17 49.7 -1.8**
baz=320
F30M Barrier River 63.02 15 P **P 13 17 50.9 -1.0**
baz=332,SNR=8.4
IL31 63.04 21 P **P 13 17 51.9 -0.2**
ILAR Eielson Array 63.04 21 P **P 13 17 51.8 -0.3**
ILAR Eielson Array 63.04 21 P **P 13 17 52.1 0.0**
comp=Z,2.2nm,0.7s,baz=318,slow=5.2,SNR=26
ILAR LR LR 13 48 10.4
comp=Z,55nm,18.9s,baz=270,slow=39
comp=Z,2.2nm,0.7s
H27K Steamboat Moun 63.08 18 P **P 13 17 51.6 -0.8**
baz=328
M18K Stony River 63.09 27 P **P 13 17 50.2 -2.3**
baz=319
PPLA Purkeypile 63.11 25 P **P 13 17 51.2 -1.6**
baz=321
C36M Paulatuk 63.20 10 **P 13 17 53.1 +0.1**
C36M Paulatuk 63.20 10 P **P 13 17 52.4 -0.6**
baz=340
G29M Pine Creek 63.22 16 P **P 13 17 51.9 -1.4**
baz=330
M19K Big River Lodg 63.22 26 P **P 13 17 51.3 -2.1**
baz=320
HDA Harding Lake 63.32 21 P **P 13 17 52.9 -1.1**
baz=324
MCK McKinley 63.35 23 P **P 13 17 52.2 -2.0**
baz=323
N17K Nushagak Hills 63.38 28 P **P 13 17 52.1 -2.3**
baz=318
O15K Ungalikthiuk R 63.48 30 P **P 13 17 54.2 -0.9**
baz=317
I26K Coal Creek Min 63.50 19 P **P 13 17 53.7 -1.4**
baz=327
G30M tAoh Zraii Nji 63.50 16 P **P 13 17 54.1 -1.1**
baz=331
F31M Tsiigehtchic 63.54 14 P **P 13 17 55.6 +0.3**
F31M Tsiigehtchic 63.54 14 P **P 13 17 53.1 -2.2**
baz=333,SNR=9.8
J25K Salcha River, 63.55 21 P **P 13 17 54.7 -0.9**
baz=325
H29M Whitestone 63.75 17 **P 13 17 57.3 +0.5**
H29M IAmb IAmb 13 18 09.3
comp=Z,9.8nm,1.2s
H29M Whitestone 63.75 17 P **P 13 17 55.7 -1.1**
baz=330
O16K Kokwok River B 63.77 29 P **P 13 17 56.1 -0.8**
baz=318
G31M Satah River 63.91 15 P **P 13 17 58.1 +0.4**
G31M Satah River 63.91 15 P **P 13 17 55.6 -2.2**
baz=333,SNR=10
EPYK Eagle Plains 63.95 16 P **P 13 17 55.8 -2.3**
baz=331
O17K Koliganek Bris 63.98 29 P **P 13 17 56.6 -1.7**
baz=319
N19K Bonanza Creek 64.03 27 P **P 13 17 56.7 -2.2**
baz=320
CUT Chulitna 64.05 24 P **P 13 17 57.6 -1.1**
baz=322
J26L Joseph Creek 64.08 20 P **P 13 17 57.5 -1.5**
baz=327
I28M Miner Creek 64.09 18 P **P 13 17 56.5 -2.7**
baz=329
K24K Donnelly Dome 64.12 21 P **P 13 17 57.8 -1.5**
baz=325
WAT1 Susitna Watana 64.18 23 P **P 13 17 57.4 -2.4**
baz=324
EGAK Eagle 64.40 19 P **P 13 18 00.2 -0.8**
baz=328
SCRK Sand Creek 64.42 20 P **P 13 17 58.9 -2.5**
baz=326
N20K Mount Spurr 64.43 26 P **P 13 17 59.6 -1.8**
baz=322
I29M Ogilvie Camp, 64.51 17 P **P 13 17 59.8 -2.0**
baz=330
O18K Koktuh Hills 64.54 28 P **P 13 18 00.9 -1.2**
baz=320
O19K Port Alsworth 64.56 27 P **P 13 18 00.4 -1.7**
baz=320
WAT6 Susitna Watana 64.61 23 P **P 13 18 01.3 -1.4**
baz=324
P17K Kvichak River 64.63 29 P **P 13 18 01.7 -0.9**
baz=319
SUA Susitna One 64.66 25 P **P 13 18 02.2 -0.8**
baz=322
UNV Unalaska Valle 64.72 37 P **P 13 18 02.1 -1.2**
baz=314
K27K Chicken 64.83 20 P **P 13 18 02.2 -1.7**
baz=328
P18K Big Mountain, 64.89 28 P **P 13 18 04.2 -0.1**
baz=320
PAX Paxson 64.89 22 P **P 13 18 04.7 +0.4**
baz=326
H31M Peel River 64.90 16 P **P 13 18 04.6 +0.2**
H31M Peel River 64.90 16 P **P 13 18 05.0 +0.7**
baz=333,SNR=5.8
Q16K King Salmon 64.95 29 P **P 13 18 03.9 -0.8**
baz=319
I30M Mount Dempster 65.03 17 P **P 13 18 05.6 +0.4**
I30M Mount Dempster 65.03 17 P **P 13 18 05.7 +0.4**
baz=332,SNR=8.8
SML Sawmill 65.07 24 P **P 13 18 05.1 -0.4**

baz=324
CAPN **Captain Cook N** 65.09 26 P P 13 18 03.6 -2.0
baz=322
O20K **Slope Mountain** 65.18 27 P P 13 18 03.4 -3.0
baz=322
S12K **Black Hills** 65.19 34 P P 13 18 03.4 -3.0
baz=317
M23K **Glacier View** 65.25 23 P P 13 18 04.3 -2.4
baz=324
RC01 **Rabbit Creek A** 65.25 25 P P 13 18 04.9 -1.7
baz=323
P19K **Oil Pt** 65.33 27 P P 13 18 05.1 -2.1
baz=321
L26K **Log Cabin Wild** 65.37 21 P P 13 18 06.3 -1.2
baz=327
DAWY **Dawson** 65.41 19 P P 13 18 06.2 -1.5
baz=330
M24K **Tolsona, Glenn** 65.42 23 P P 13 18 06.0 -1.8
baz=326
HARP **HAARP** 65.44 22 P P 13 18 06.1 -1.7
baz=326
R16K **Pilot Point** 65.48 31 P P 13 18 05.8 -2.3
baz=319
J30M **Hart River** 65.61 17 P P 13 18 07.8 -1.3
baz=332
L27K **Beaver Creek,** 65.71 20 P P 13 18 10.1 +0.5
L27K IAmb IAmb 13 18 11.8
comp=Z,8.6nm,1.2s
L27K **Beaver Creek,** 65.71 20 P P 13 18 09.1 -0.6
baz=328
BCAR **Beaver Creek A** 65.72 20 P P 13 18 10.6 +0.9
S14K **Fog Glacier** 65.72 32 P P 13 18 08.5 -1.4
baz=318
O22K **Cooper Landing** 65.75 25 P P 13 18 07.5 -2.3
baz=323
Q19K **Cape Douglas,** 65.76 28 P P 13 18 08.5 -1.5
baz=321
M26K **Nabesna, AK** 65.99 21 P P 13 18 09.7 -1.8
baz=328
KLU **Klutina** 65.99 23 P P 13 18 10.3 -1.2
baz=326
K29M **Barlow Dome** 66.01 18 P P 13 18 09.5 -2.1
baz=331
BRSE **Bradley Lake S** 66.03 26 P P 13 18 10.3 -1.5
baz=323
SDPT **Sand Point** 66.07 34 P P 13 18 10.8 -1.2
baz=318
SEW **Seward** 66.13 25 P P 13 18 10.0 -2.3
baz=324
N25K **Chitina, Valde** 66.25 22 P P 13 18 11.0 -2.1
baz=327
Q20K **Shuyak Island** 66.42 28 P P 13 18 13.0 -1.2
baz=322
L29M **L29M** 66.52 19 P P 13 18 12.5 -2.4
baz=331
BMRM **Bremner River** 66.78 23 P P 13 18 15.4 -1.2
baz=327
CHNA **Chernabura Isl** 66.80 34 P P 13 18 14.9 -1.8
baz=318
P23K **Montague Islan** 66.81 24 P P 13 18 15.3 -1.4
baz=325
EYAK **Cordova Ski Ar** 66.82 23 P P 13 18 15.3 -1.4
baz=326
MCARA **McCarthy VSAT** 66.84 22 P P 13 18 14.9 -2.0
baz=328
KDAK **Kodiak Island** 67.01 28 P P 13 18 17.4 -0.6
baz=322
M29M **Somme Creek** 67.03 19 P P 13 18 18.5 +0.3
M29M IAmb IAmb 13 18 20.1
comp=Z,7.2nm,1.1s
M29M **Somme Creek** 67.03 19 P P 13 18 16.0 -2.2
baz=331
YUK3 **Moose Creek** 67.15 20 P P 13 18 15.6 -3.5
baz=330
OHAK **Old Harbor** 67.22 29 P P 13 18 19.2 -0.1
baz=322
M30M **Minto, Yukon** 67.28 18 P P 13 18 19.0 -0.7
baz=332
CHIR **Chirikof Islan** 67.51 31 P P 13 18 20.5 -0.7
baz=321
Q23K **Middleton Isla** 67.59 24 P P 13 18 18.8 -2.8
baz=326
CTG **Chitna Glacier** 67.63 21 P P 13 18 18.2 -3.9
baz=329
KAIM **Kayak Island** 67.71 23 P P 13 18 18.6 -3.8
baz=327
YUK8 **Steele Glacier** 67.74 20 P P 13 18 19.6 -3.2
baz=330
YUK4 **Talbot Arm** 67.95 20 P P 13 18 21.2 -2.9
baz=331
M31M **Drury Creek, Y** 68.13 17 P P 13 18 25.4 +0.4
M31M IAmb IAmb 13 18 36.8
comp=Z,6.1nm,0.9s
M31M **Drury Creek, Y** 68.13 17 P P 13 18 23.9 -1.2
baz=334
MESA **MESA** 68.15 22 P P 13 18 23.7 -1.7
baz=329
N30M **Aishikik Lake** 68.21 19 P P 13 18 24.3 -1.3
baz=332
FARO **Faro, Yukon** 68.31 17 P P 13 18 25.5 -0.7
baz=334
HYT **Haines Junctio** 68.67 19 P P 13 18 27.3 -1.3
baz=332
N32M **Quiet Lake** 69.35 17 P P 13 18 30.3 -2.4
baz=335
WHY **Whitehorse** 69.41 18 P P 13 18 32.1 -1.1
baz=334
P33M **Teslin, Yukon** 70.26 18 P P 13 18 38.7 +0.4
P33M IAmb IAmb 13 18 39.6
comp=Z,6.1nm,0.8s
P33M **Teslin, Yukon** 70.26 18 P P 13 18 36.8 -1.5
baz=335
P32M **Atlin** 70.63 18 P P 13 18 40.2 -0.4
baz=335
YKA **Yellowknife Ar** 70.86 8 P P 13 18 41.9 0.0
comp=Z,2.2nm,0.8s,baz=347,slow=6.6,SNR=19
comp=Z,2.2nm,0.8s
YKA **Yellowknife Ar** 70.86 8 *i* P P 13 18 42.0 +0.2
YKA pmax pmax
comp=Z,2.0nm,0.8s
S31K **Pelican** 71.52 20 P P 13 18 43.3 -2.6
baz=333
S34M **Telegraph Cree** 72.72 18 P P 13 18 52.2 -0.8
baz=337
TOAD **Toad River Com** 72.97 14 P P 13 18 53.1 -1.5
baz=341
TOA0 **Torodi Ar. Sit** 73.76 272 P P 13 18 59.5 -0.4
TORD **Torodi Ar. Bea** 73.76 272 P P 13 18 59.7 -0.2
comp=Z,1.4nm,0.5s,baz=39,slow=6.1,SNR=11
comp=Z,1.4nm,0.5s
V35K **Ketchikan** 74.99 19 P P 13 19 04.1 -2.3
baz=337
FITZ **Fitzroy Crossi** 75.30 137 P P 13 19 08.2 -0.3
FFC **Flin Flon** 79.39 2 P P 13 19 31.2 +0.1
FFC IAmb IAmb 13 19 32.1
comp=Z,5.1nm,0.8s
FFC **Flin Flon** 79.39 2 P P 13 19 31.2 +0.1
FFC pmax pmax
comp=Z,5.0nm,0.8s
WRA **Warramunga Arr** 81.21 131 P P 13 19 41.1 -0.2
WRA **Warramunga Arr** 81.21 131 P P 13 19 39.4 -1.9
comp=Z,2.0nm,0.7s,baz=336,slow=5.3,SNR=13
comp=Z,2.0nm,0.7s
WRA **Warramunga Arr** 81.21 131 *i* P P 13 19 40.5 -0.8
WRA pmax pmax
comp=Z,2.0nm,0.7s
WB2 **Warramunga Arr** 81.22 131 P P 13 19 41.0 -0.3
WB2 IAmb IAmb 13 19 56.6
comp=Z,14nm,1.4s
WR0 **Warramunga Arr** 81.33 131 P P 13 19 41.3 -0.7
WR0 IAmb IAmb 13 20 06.1
comp=Z,8.4nm,1.2s
ASAR **Alice Springs** 84.07 133 P P 13 19 56.0 -0.2
ASAR **Alice Springs** 84.07 133 P P 13 19 55.1 -1.0
comp=Z,1.9nm,0.7s,baz=326,slow=5.1,SNR=24
comp=Z,1.9nm,0.7s
ASAR **Alice Springs** 84.07 133 P P 13 19 56.0 -0.2
NEW **Newport** 84.48 13 P P 13 19 57.9 -0.2
baz=347
EGMT **Eagleton** 85.62 8 P P 13 20 02.3 -1.6
baz=352
EYMN **Ely** 86.05 355 P P 13 20 05.3 -0.6
baz=4.6
MSO **Missoula** 86.33 11 P P 13 20 06.1 -1.4
baz=349
LBNH **Lisbon** 86.97 341 P P 13 20 08.6 -1.8
baz=18
LONY **Lake Ozonia** 87.17 343 P P 13 20 09.6 -1.9
baz=16
BOZ **Bozeman (W)** 87.83 9 P P 13 20 13.1 -1.7
baz=351
L61B **Northampton** 88.84 341 P P 13 20 18.5 -1.0
baz=17
RSSD **Black Hills** 89.91 4 P P 13 20 22.7 -2.1
baz=356
ECSD **EROS Data Cent** 90.43 359 P P 13 20 26.5 -0.4
baz=1.1
PAL **Palisades** 90.49 342 P P 13 20 27.0 -0.2
baz=16
PDAR **Pinedale Array** 90.84 8 P P 13 20 29.1 0.0
comp=Z,0.7nm,0.6s,baz=47,slow=2.6,SNR=7.3
comp=Z,0.7nm,0.6s
JFWS **Jewell Farm** 90.98 354 P P 13 20 28.3 -1.2
baz=5.5
SSPA **Standing Stone** 91.64 345 P P 13 20 32.6 0.0
baz=14
P49A **Miami Univ. Ec** 93.78 350 P P 13 20 43.2 +0.8
baz=9.3
NVAR **Mina Array Bea** 93.85 16 P P 13 20 43.7 +0.7
comp=Z,0.8nm,0.6s,baz=358,slow=3.8,SNR=7.9
comp=Z,0.8nm,0.6s
R11B **Troy Canyon, C** 94.40 14 P P 13 20 44.9 -0.7
baz=348
Q24A **Divide** 94.99 5 P P 13 20 46.4 -2.0
baz=355
KSCO **Kaye Shedlock'** 95.07 3 P P 13 20 49.0 +0.4
baz=357
WCI **Wyandotte Cave** 95.26 351 P P 13 20 49.7 +0.5
baz=8.2
GRAC **Grapevine Rang** 95.41 15 P P 13 20 49.4 -0.6
baz=347
CCM **Cathedral Cave** 95.88 354 P P 13 20 52.5 +0.4
baz=4.8
SDCO **Great Sand Dun** 96.17 6 P P 13 20 53.0 -0.8
baz=355
MVCO **Mesa Verde** 96.45 8 P P 13 20 54.7 -0.3
baz=353
TUQ **Turquoise Moun** 97.19 14 P P 13 20 57.5 -0.7
baz=348
EDW2 **Edwards Air Fo** 97.34 16 P P 13 20 58.0 -0.9
baz=346
GMRC **Granite Mounta** 97.87 14 P P 13 20 59.1 -2.2
baz=348
BFSC **Mount Baldy Ra** 98.03 16 P P 13 21 01.0 -1.1
baz=346
BBRC **Big Bear Solar** 98.15 16 P P 13 21 01.8 -0.9
baz=347
IRM **Iron Mountain** 98.57 14 P P 13 21 03.1 -1.2
baz=348
SNCC **San Nicolas Is** 98.61 18 P P 13 21 04.7 +0.2
baz=345
CIS **Catalina Islan** 98.69 17 P P 13 21 04.0 -0.9
baz=346
PFO **Pinyon Flats O** 98.87 15 P P 13 21 04.8 -1.0
baz=347
TPFO **Pinon Flats** 98.87 15 P P 13 21 03.9 -1.9
baz=347
ANMO **Albuquerque** 98.88 7 P P 13 21 04.3 -1.7
baz=354
BC3 **Big Chuckawall** 99.00 14 P Pdif 13 21 04.2 -2.2
baz=348
AMTX **Amarillo** 99.22 3 P Pdif 13 21 06.4 -0.9
baz=358
OXF **Oxford** 99.26 353 P Pdif 13 21 05.4 -1.9
baz=6.1
WMOK **Wichita Mounta** 99.43 0 P Pdif 13 21 07.0 -1.1
baz=360
MONP2 **Monument Peak** 99.58 15 P Pdif 13 21 07.6 -1.5
baz=348
SWSC **Sam W. Stewart** 99.64 15 P Pdif 13 21 07.6 -1.4
baz=348
IKP **In-Ko-Pah, Jac** 99.87 15 P Pdif 13 21 09.4 -0.8
baz=348
MSTX **Muleshoe** 100.09 4 P Pdif 13 21 08.4 -2.8
baz=357
LRAL **Lakeview Retre** 100.47 350 P Pdif 13 21 11.6 -1.1
baz=7.8
TUC **Tucson** 101.03 11 P Pdif 13 21 13.5 -1.9
baz=351
121A **Cookes Peak, D** 101.16 8 P Pdif 13 21 14.3 -1.8
baz=353
ABTX **Abilene, Hawle** 101.53 1 P Pdif 13 21 14.6 -3.0
baz=359
TIGA **Tifton** 101.58 347 P Pdif 13 21 15.8 -1.9
baz=10
WHTX **Lake Whitney,** 102.16 359 P Pdif 13 21 18.9 -1.4
baz=0.5
MNTX **Cornudas Mount** 102.19 6 P Pdif 13 21 19.8 -0.7
baz=355
833A **Chaparral WMA,** 105.82 1 P PKiKP 13 25 48.5 -0.7
baz=359
QSPA **South Pole Qui** 135.98 180 PKP PKPdf 13 26 45.1 -0.1
comp=Z,0.5nm,0.5s,baz=272,slow=4.3,SNR=1.5

*NEIC **21** 13:20:31.6±2.3,21°.90N±0°.07×100°.80E±0°.04,h10km±1km, mb3.9/2,Error ellipse: s-maj=13.0km s-min=5.4km az=336.0*
*PLV **21** 13:20:51.1±1.3,22°.30N×104°.59E,h6km±31km,ML3.5*
ISC 21 13:20:30.9±1.2,22°.0N±0°.1×100°.76E±0°.09,h10km,n13, σ0s78/13,Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRAI	Chiangrai	1.77	192	Pn	Pn	13 21 00.6	-1.1
SLVN	Son La	3.00	102	Pn	Pn	13 21 17.1	-1.4
MLVB	It Ong	3.08	98	*e*Sg	Sn	13 21 42.8	-14
MLVB				IAML		13 21 46.4	
	comp=N,576nm,0.3s						
MLVB				IAML		13 21 48.1	
	comp=E,566nm,0.5s						
PHRA	Phrae	3.49	188	Pn	Pn	13 21 25.9	+0.6
CHTO	Chiang Mai	3.57	209	Pn	Pn	13 21 26.3	-0.2
CM31	Chiang Mai Arr	3.89	206	Pn	Pn	13 21 30.8	0.0
CMAR	Chiang Mai Arr	3.89	206	Pn	Pn	13 21 31.1	+0.2
LAVB	Lang Chanh	4.58	112	*e*Pg	Pn	13 21 40.6	+0.4
CCVB	Con Cuong	4.83	126	*e*Pn	Pn	13 21 44.5	+0.7
CCVB				*e*Pg	Pg	13 22 03.3	-0.3
CCVB				IAML		13 23 09.6	
	comp=E,173nm,1.0s						
CCVB				IAML		13 23 17.7	
	comp=N,216nm,2.0s						
UBPT	Khong Chiam	8.01	145	Pn	Pn	13 22 27.5	0.0
QIZ	Qiongzhong	9.00	107	Pn	Pn	13 22 41.6	+0.5
SONM	Songino Array	26.20	9	P	P	13 26 07.1	+1.2
SONM				IAmb	IAmb	13 26 46.3	
	comp=Z,2.4nm,1.4s						
GEYT	Alibeck	39.86	303	P	P	13 28 04.4	-0.5
GEYT				IAmb	IAmb	13 28 32.2	
	comp=Z,2.2nm,0.5s						

*IDC **21** 13:32:57.0±3.0,21°.39N×94°.83E,h107km±26km,mb3.7/6, mbtmp4.1/7,Error ellipse: s-maj=64.0km s-min=25.4km az=61.0*
*NDI **21** 13:32:56.3±4.1,21°.30N×94°.76E,h26km±34km,ML3.8, MW4.0*
ISC 21 13:32:44.3±0.7,21°.32N±0°.05×94°.87E±0°.06,h10km,n17, σ2s99/25,mb4.1/6,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRDH	Bariadhala	3.28	295	S	Sb	13 34 20.4	-2.2
	0.3nm,0.4s,baz=180,slow=20,SNR=24						
IMP	Imphal	3.59	347	*e*P	Pg	13 33 53.2	-0.1
IMP				*e*S	Sb	13 34 29.7	-2.1
IMP				IAML		13 34 46.5	
	comp=E,101nm,0.6s						
IMP				IAML		13 34 47.6	
	comp=E,65nm,0.7s						
BELO	BELONIA	3.70	302	*e*P	Pb	13 33 52.5	+2.7
BELO				*e*S	Sb	13 34 31.7	-3.1
KOHI	KOHIMA	4.43	351	*e*P	Pb	13 34 03.7	+1.3
KOHI				*e*S	Sb	13 34 50.7	-5.3
KOHI				IAML		13 34 59.1	
	comp=E,105nm,0.4s						
KOHI				IAML		13 35 00.5	
	comp=N,102nm,0.6s						
CMAR	Chiang Mai Arr	4.78	126	P	Pb	13 34 07.7	-0.6
	comp=N,18nm,0.5s,baz=304,slow=13,SNR=67						
CMAR				S	Sn	13 34 58.8	+6.8
	comp=N,4.3nm,0.7s,baz=301,slow=18,SNR=4.2						
SHL	Shillong	5.04	328	*e*P	Pb	13 34 09.1	-3.6
SHL				*e*S	Sn	13 35 00.9	+2.4
SHL				IAML		13 35 05.3	
	comp=E,1μm,0.3s						
ZIRO	ZIRO	6.25	352	*e*P	Pb	13 34 26.6	-6.7
ZIRO				*e*S	Sn	13 35 31.6	+3.3
ZIRO				IAML		13 35 46.7	
	comp=E,397nm,0.6s						
ZIRO				IAML		13 35 47.3	
	comp=E,278nm,0.4s						
GTK	Tadong	8.26	318	*e*S	Sn	13 36 18.8	+0.9
GTK				IAML		13 36 21.1	
	comp=E,145nm,0.4s						
GTK				IAML		13 36 23.8	
	comp=N,144nm,0.2s						
BOK	Bokaro	8.65	288	*e*P	Pn	13 34 56.8	+7.1
BOK				*e*S	Sn	13 36 25.8	-1.6
BOK				IAML		13 36 29.8	
	comp=E,46nm,0.6s						
BOK				IAML		13 36 32.3	
	comp=E,67nm,0.6s						
PBA	Port Blair	9.82	192	*e*P	Pn	13 35 12.2	+6.4
PBA				*e*S	Sn	13 36 56.5	+0.4
BHPL	Bhopal	16.26	280	*e*P	P	13 36 39.5	+3.5
BHPL				*e*S	Sn	13 39 27.6	-5.8
MKAR	Makanchi Array	27.39	341	P	P	13 38 32.1	+2.2
	comp=E,0.6nm,0.3s,baz=158,slow=8.4,SNR=13						
MKAR				PcP	PcP	13 41 48.6	-0.2
	comp=E,0.2nm,0.4s,baz=94,slow=3.4,SNR=3.0						
	comp=E,0.6nm,0.3s						
KURBB	Kurchatov Arra	31.94	340	P	P	13 39 11.8	+1.7
	comp=E,1.6nm,0.5s,baz=153,slow=8.1,SNR=13						
KURBB				PcP	PcP	13 41 59.5	-0.8
	comp=E,0.6nm,0.4s,baz=142,slow=2.8,SNR=7.3						
KURBB				ScP	ScP	13 45 33.5	-10
	comp=E,0.9nm,0.7s,baz=142,slow=2.5,SNR=1.4						
	comp=E,1.6nm,0.5s						
ZALV	Zalesovo Beam	33.46	349	P	P	13 39 25.4	+2.0
	comp=E,2.4nm,0.4s,baz=164,slow=10,SNR=17						
	comp=E,2.4nm,0.4s						
BVAR	Borovoye Array	36.81	335	P	P	13 39 53.4	+1.1
	comp=E,0.6nm,0.5s,baz=141,slow=7.1,SNR=2.4						
	comp=E,0.6nm,0.5s						
ARCES	ARCESS Array B	63.00	338	P	P	13 43 10.8	-0.3
	comp=E,2.7nm,0.8s,baz=90,slow=7.3,SNR=4.6						
	comp=E,2.7nm,0.8s						
HFS	Hagfors	67.38	328	P	P	13 43 39.0	-0.6
	comp=E,0.5nm,0.5s,baz=123,slow=7.1,SNR=1.9						
	comp=E,0.5nm,0.5s						

*BJI **21** 13:33:29.7±0.0,0°.80N×125°.99E,h8km,mb4.7/56, mB4.9/21,Ms4.1/5,Ms7 3.9/7*
*MOS **21** 13:33:30.9±0.9,0°.86N×125°.84E,h13km,mb5.0/40,Error ellipse: s-maj=12.9km s-min=5.3km az=111.7*
*IDC **21** 13:33:30.3±0.4,0°.79N×125°.95E,h0km,mb4.6/21, mbtmp4.6/21,MS3.5/29,Error ellipse: s-maj=26.2km s-min=8.9km az=72.0*
*NEIC **21** 13:33:32.8±1.8,0°.94N±0°.08×126°.08E±0°.05,h10km±1km, mb5.0/90,Error ellipse: s-maj=13.5km s-min=8.9km az=180.0*
*DJA **21** 13:33:34.3±0.2,1°N±2°×12°6E±°,h17km±1km,M4.9/51, mb4.9/51,mB5.5/14,MLv4.7/15,Mw4.6/70,Mw(mB)5.0/14, MwMwp4.4/3,Mwp4.8/3*
ISC 21 13:33:34.7±0.7,0°.89N±0°.04×126°.09E±0°.05,h27km±5km, n668,σ1s30/665,mb4.9/117,MS3.7/30,10C-12D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	Ternate	1.28	95	P	Pn	13 33 58.2	+1.3
TNTI	Ternate	1.28	95	Pn	Pn	13 33 57.7	+0.8
TNTI	Ternate	1.28	95	P	Pn	13 33 57.8	+0.9
LBMI	Labuha	2.07	137	P	Pn	13 34 08.6	+0.8
KMSI	Cibinong	2.13	262	P	Pn	13 34 09.6	+1.0
SGSI	Sangihe	2.83	349	P	Pn	13 34 19.9	+1.7
SANI	Sanana	2.92	182	P	Pn	13 34 19.7	+0.2
GTOI	Gorontalo	3.09	265	P	Pn	13 34 24.4	+2.7
LUWI	Luwuk	3.83	240	P	Pn	13 34 35.5	+3.5
LUWI	Luwuk	3.83	240	Pn	Pn	13 34 33.4	+1.4
LUWI	Luwuk	3.83	240	P	Pn	13 34 35.5	+3.5
TOLI2	Tolitoli	5.31	272	P	Pn	13 34 54.8	+2.5
TOLI2	Tolitoli	5.31	272	Pn	Pn	13 34 53.0	+0.6
SWI	Sorong	5.46	109	P	Pn	13 34 55.3	+1.0
	32nm,0.9s,2μm0.2nm						
DAV	Davao City (W)	6.16	355	LR	LR	13 37 05.3	
	comp=Z,553nm,19.4s,baz=113,slow=34						
MPSI	Mapaga	6.22	265	P	Pn	13 35 08.0	+3.2
	196nm,0.8s,2μm0.6nm						
FAKI	Fak Fak	7.23	122	P	Pn	13 35 20.3	+1.6
FAKI	Fak Fak	7.23	122	Pn	Pn	13 35 20.1	+1.5
FAKI	Fak Fak	7.23	122	P	Pn	13 35 20.2	+1.6
	35nm,0.7s,1μm0.2nm						
BBSI	Bau Bau	7.25	209	P	Pn	13 35 21.3	+2.4
	205nm,1.0s,2μm0.6nm						
BKSI	Bulukumba	8.58	224	P	Pn	13 35 39.4	+2.2
	61nm,0.6s,757nm						
KAPI	Kappang	8.63	227	Pn	Pn	13 35 40.5	+2.5
	7.4nm,0.3s,baz=71,slow=3.5,SNR=10						
KAPI				Sn	Sn	13 37 09.8	-4.6
	1.0nm,0.3s,baz=164,slow=19,SNR=1.0						
MYLDM	Lahad Datu	8.69	300	P	Pn	13 35 41.7	+2.9
MMRI	Maumere	10.21	202	P	Pn	13 36 00.4	+0.8
	37nm,1.6s						
EDFI	Ende, Flores	10.53	205	P	Pn	13 36 06.8	+2.7
	30nm,0.9s						
SOEI	Soe	10.73	190	Pn	Pn	13 36 08.8	+1.9
BATI	Baumata	11.29	192	LR	LR	13 40 02.5	
	comp=Z,172nm,21.6s,baz=353,slow=35						
BATI	Baumata	11.29	192	P	Pn	13 36 16.8	+2.4
	92nm,1.1s						
TWSI	Taliwang, Sumb	13.25	224	P	Pn	13 36 46.0	+4.7
	58nm,1.1s						
DRS	Darwin Rock St	14.07	160	P	Pn	13 36 53.6	+1.2
TGY	Tagaytay City	14.08	339	LR	LR	13 43 19.9	
	comp=Z,144nm,19.2s,baz=236,slow=42						
MTN	Manton Dam	14.53	160	P	Pn	13 37 00.2	+1.5
	baz=15,SNR=5.8						
MTN	Manton Dam	14.53	160	P	Pn	13 36 59.4	+0.7
MTN	Manton Dam	14.53	160	Pn	Pn	13 36 58.8	0.0
STKI	Sintang	14.63	267	P	P	13 37 03.8	-2.4
	29nm,1.0s,5μm						
KDU	Kakadu	14.90	155	P	Pn	13 37 02.2	-1.5
	baz=15,SNR=14						
KDU	Kakadu	14.90	155	P	Pn	13 37 04.2	+0.5
JAGI	Jajag, Banyuwa	15.10	232	P	Pn	13 37 09.0	+2.6
JAGI	Jajag, Banyuwa	15.10	232	P	P	13 37 11.7	+0.3
JAGI				IAmb	IAmb	13 37 11.8	
	comp=Z,46nm,1.5s						
JAGI	Jajag, Banyuwa	15.10	232	P	P	13 37 10.0	-1.4
	comp=Z,57nm,0.7s						
BLJI	Banyuglugur	15.13	235	P	Pn	13 37 08.2	+1.5
	comp=Z,64nm,0.6s,comp=Z,2μm						
KSM	Kuching	15.79	272	P	P	13 37 18.7	-0.3
PWJI	Pagerwojo	16.77	238	P	P	13 37 30.7	+0.8
	comp=Z,47nm,0.7s						
UGM	Wanagama	17.82	240	P	P	13 37 42.3	+0.8
UGM	Wanagama	17.82	240	P	Pn	13 37 41.3	+0.3
UGM				IAmb	IAmb	13 37 44.6	
	comp=Z,185nm,1.8s						
FITZ	Fitzroy Crossi	18.88	181	P	P	13 37 52.8	-0.3
	baz=19,SNR=10						
FITZ	Fitzroy Crossi	18.88	181	P	Pn	13 37 53.9	+0.1
FITZ	Fitzroy Crossi	18.88	181	P	P	13 37 52.8	-0.3
LEM	Lembang	19.96	247	LR	LR	13 45 46.9	
	comp=Z,246nm,21.4s,baz=16,slow=37						
LEM	Lembang	19.96	247	P	P	13 38 06.0	+0.7
	comp=Z,37nm,1.0s						
LEM	Lembang	19.96	247	P	Pn	13 38 09.9	+2.8
LEM				pmax	pmax		
	comp=Z,37nm,1.0s						
BBJI	Bungbulang	20.18	245	P	Pn	13 38 09.9	+0.4
PPBI	Pangkal Pinang	20.18	261	P	Pn	13 38 08.7	-0.7
DLV	T Lat	20.63	303	P	P	13 38 12.8	+0.3
DSRI	Dabo	21.55	266	P	P	13 38 25.5	+3.2
	comp=Z,28nm,1.0s						
WB0	Warramunga Arr	22.09	159	P	P	13 38 27.3	-0.7
WRAB	Tennant Creek	22.22	159	P	P	13 38 28.9	-0.5
WRAB	Tennant Creek	22.22	159	P	P	13 38 28.9	-0.5
WRAB				pmax	pmax		
	comp=Z,97nm,0.8s						
WRA	Warramunga Arr	22.23	159	P	P	13 38 28.9	-0.6
WRA	Warramunga Arr	22.23	159	P	P	13 38 28.7	-0.8
	comp=Z,38nm,0.7s,baz=334,slow=11,SNR=149						
WRA				PcP	PcP	13 42 26.3	+0.7
	comp=Z,1.3nm,0.6s,baz=316,slow=2.7,SNR=4.1						

WRA S **S** **13 42 31.0 -1.9**
comp=Z,1.7nm,0.8s,baz=334,slow=21,SNR=3.9
comp=Z,38nm,0.7s
WB2 Warramunga Arr 22.23 159 P **P**
MYKOM Kota Tinggi 22.25 273 P **P** **13 38 29.1 -0.7**
WR0 Warramunga Arr 22.32 159 P **P** **13 38 29.7 -0.7**
WR0 IAmb IAmb 13 38 35.5
comp=Z,63nm,0.9s
COEN Coen 22.45 132 P **P** **13 38 31.7 -0.2**
baz=22,SNR=9.0
COEN Coen 22.45 132 P **P** **13 38 32.0 +0.1**
COEN Coen 22.45 132 P **P** **13 38 28.6 -3.3**
COEN IAmb IAmb 13 38 44.6
comp=Z,84nm,1.6s
GUMO Guam 22.47 55 P **P** **13 38 34.3 +2.2**
KASI Kota Agung 22.49 253 P **P** **13 38 34.9 +2.6**
comp=Z,30nm,1.1s
LWLI Liwa 22.78 255 P **P** **13 38 38.3 +2.8**
MBWA Marble Bar 22.78 195 P **P** **13 38 35.5 +0.2**
MBWA Marble Bar 22.78 195 P **P** **13 38 34.2 -1.1**
MBWA IAmb IAmb 13 38 36.3
comp=Z,24nm,0.8s
YULB Yu-li 22.85 349 P **P** **13 38 31.5 -4.5**
TPUB Ta-pu 22.90 347 P **P** **13 38 33.2 -3.4**
TPUB IAmb IAmb 13 38 38.6
comp=Z,39nm,0.7s
PSA00 Pilbara Seismi 23.14 195 P **P** **13 38 39.5 +0.4**
PSA00 Pilbara Seismi 23.14 195 P **P** **13 38 38.1 -1.0**
PSA00 IAmb IAmb 13 38 39.7
comp=Z,28nm,0.7s
XMIS Christmas Isla 23.26 240 P **P** **13 38 41.2 +0.8**
PMG Port Moresby 23.34 116 LR LR 13 49 01.3
comp=Z,159nm,19.1s,baz=334,slow=40
JMJ Miyako jima 2 23.80 358 P **P** **13 38 46.5 +1.1**
QIZ Qiongzhong 24.06 320 P **P** **13 38 46.5 -1.4**
QIZ S **S** **13 43 05.3 +1.4**
QIZ LR LR
comp=Z,87nm,5.9s
QIZ LR LR
comp=Z,160nm,10.4s
QIZ LR LR
comp=Z,170nm,23.0s
YHNB Yeheng 24.07 349 P **P** **13 38 49.3 +1.2**
YHNB Yeheng 24.07 349 P **P** **13 38 46.4 -1.8**
YHNB IAmb IAmb 13 38 51.8
comp=Z,21nm,0.9s
UBPT Khong Chiam 24.88 306 P **P** **13 38 54.7 -0.7**
QIS Mount Isa 25.09 149 P **P** **13 38 58.0 +0.7**
baz=25,SNR=32
QIS Mount Isa 25.09 149 P **P** **13 38 58.0 +0.7**
IPM Ipoh 25.29 279 P **P** **13 38 58.5 -0.7**
ASAR Alice Springs 25.56 163 P **P** **13 39 01.7 +0.1**
ASAR Alice Springs 25.56 163 P **P** **13 39 00.2 -1.4**
comp=Z,5.3nm,0.3s,baz=353,slow=15,SNR=174
ASAR PcP **PcP** **13 42 33.1 +0.4**
comp=Z,2.9nm,0.6s,baz=356,slow=2.6,SNR=7.1
ASAR S **S** **13 43 31.1 +3.1**
comp=Z,0.9nm,0.7s,baz=352,slow=24,SNR=3.5
comp=Z,5.3nm,0.3s
AS01 Alice Springs 25.58 163 P **P** **13 39 02.1 +0.3**
PDSI Padang 25.69 266 P **P** **13 39 03.9 +1.0**
KULM Kulim 25.77 280 P **P** **13 39 02.6 -1.0**
WRKA Warakurna 25.86 175 P **P** **13 39 04.8 +0.4**
baz=26,SNR=43
WRKA Warakurna 25.86 175 P **P** **13 39 05.1 +0.8**
JOW Kunigami 25.88 4 P **P** **13 39 06.1 +1.7**
JOW Kunigami 25.88 4 P **P** **13 39 03.4 -1.0**
MTSU Mount Surprise 26.06 137 P **P** **13 39 07.4 +1.2**
GIRL Giralia 26.09 206 P **P** **13 39 07.6 +1.3**
baz=26,SNR=3.4
GIRL Giralia 26.09 206 P **P** **13 39 07.1 +0.8**
GIRL Giralia 26.09 206 P **P** **13 39 06.4 0.0**
SISI Saibi 27.09 265 P **P** **13 39 16.9 +1.4**
MEEK Meekatharra 28.30 194 P **P** **13 39 25.8 -0.4**
baz=28,SNR=4.9
MEEK Meekatharra 28.30 194 P **P** **13 39 26.4 +0.2**
OOD Oodnadatta 29.98 163 P **P** **13 39 41.6 +0.6**
PHRA Phrae 30.83 306 P **P** **13 39 47.9 -0.9**
MORW Morawa 31.30 197 P **P** **13 39 52.6 -0.2**
baz=32,SNR=4.7
MORW Morawa 31.30 197 P **P** **13 39 52.3 -0.5**
MORW Morawa 31.30 197 P **P** **13 39 52.2 -0.5**
MORW IAmb IAmb 13 39 56.0
comp=Z,48nm,1.8s
FORT Forrest 31.55 177 P **P** **13 39 55.0 +0.1**
baz=32,SNR=20
FORT Forrest 31.55 177 P **P** **13 39 55.4 +0.5**
FORT Forrest 31.55 177 P **P** **13 39 54.5 -0.4**
NJ2 Nanjing 31.74 348 *eP* **P** **13 39 56.3 -0.2**
NJ2 pmax pmax
comp=Z,8.0nm,0.5s
CMAR Chiang Mai Arr 31.86 305 P **P** **13 39 57.1 -0.7**
CMAR Chiang Mai Arr 31.86 305 P **P** **13 39 56.8 -1.0**
comp=Z,1.6nm,0.9s,baz=134,slow=7.3,SNR=6.3
comp=Z,1.6nm,0.9s
CMAR Chiang Mai Arr 31.86 305 *ce*P **P** **13 39 57.7 -0.1**
CMAR pmax pmax
comp=Z,2.0nm,0.9s
MULG Mulgathing 31.92 167 P **P** **13 39 58.7 +0.6**
CHTO Chiang Mai 32.03 305 P **P** **13 39 58.3 -1.1**
CHTO Chiang Mai 32.03 305 P **P** **13 39 58.3 -1.1**
CHTO pmax pmax
comp=Z,8.0nm,1.2s
KMBL Kambalda 32.33 187 P **P** **13 40 01.7 0.0**
baz=32,SNR=6.2
KMBL Kambalda 32.33 187 P **P** **13 40 02.3 +0.5**
JNU Nakatsue 32.38 8 P **P** **13 40 04.7 +2.5**
JNU Nakatsue 32.38 8 P **P** **13 40 02.1 -0.1**
JNU IAmb IAmb 13 40 03.7
comp=Z,28nm,1.1s
JNU Nakatsue 32.38 8 LR LR 13 51 35.4
comp=Z,43nm,21.8s,baz=178,slow=33
BLDU Ballidu 32.58 195 P **P** **13 40 03.7 -0.2**
baz=33,SNR=17
BLDU Ballidu 32.58 195 P **P** **13 40 04.3 +0.3**
LCRK Leigh Creek 33.24 161 P **P** **13 40 10.2 +0.5**
KLBR Kellerberrin 33.26 193 P **P** **13 40 10.2 +0.3**
JMN Monobe 33.47 12 P **P** **13 40 14.6 +2.8**
MUN Mundaring 34.00 195 P **P** **13 40 17.2 +0.8**
JHJ Hachijo jima 2 34.55 21 LR LR 13 56 26.8
comp=Z,38nm,18.2s,baz=188,slow=40
PZH PanZhiHua 34.60 319 P **P** **13 40 21.3 -0.5**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,60nm,5.3s
NWAO Narrogin (SRO) 34.66 193 P **P** **13 40 22.8 +0.8**
NWAO Narrogin (SRO) 34.66 193 P **P** **13 40 22.6 +0.5**
NWAO IAmb IAmb 13 40 22.8
comp=Z,15nm,1.0s
NWAO Narrogin (SRO) 34.66 193 P **P** **13 40 22.6 +0.5**
NWAO pmax pmax
comp=Z,15nm,1.0s
BBOO Buckleboo 34.82 165 P **P** **13 40 23.4 0.0**
baz=35,SNR=8.3
BBOO Buckleboo 34.82 165 P **P** **13 40 23.8 +0.4**
BBOO Buckleboo 34.82 165 P **P** **13 40 23.5 0.0**
BBOO IAmb IAmb 13 40 24.9
comp=Z,19nm,0.9s
STKA Stephens Creek 35.75 157 P **P** **13 40 31.9 +0.4**
baz=36,SNR=20
STKA Stephens Creek 35.75 157 P **P** **13 40 31.9 +0.4**
STKA Stephens Creek 35.75 157 P **P** **13 40 31.6 +0.2**
STKA Stephens Creek 35.75 157 P **P** **13 40 31.6 +0.2**
comp=Z,9.8nm,0.5s,baz=324,slow=8.9,SNR=23
STKA LR LR 13 55 10.4
comp=Z,138nm,20.4s,baz=10,slow=36
comp=Z,9.8nm,0.5s
INU Inuyama 35.76 15 P **P** **13 40 31.8 +0.3**
INU IAmb IAmb 13 40 34.3
comp=Z,17nm,0.8s
LYN LuoYang 35.83 341 *eP* P 13 40 36.9 +4.8
LYN pmax pmax
comp=Z,12nm,0.5s
TNCH TengChong 35.85 314 P **P** **13 40 33.4 +0.8**
TNCH sP pP 13 40 38.1 -2.1
TNCH pmax pmax
comp=Z,16nm,0.7s
TNCH pmax pmax
comp=Z,55nm,3.6s
JGF Kuroka 36.09 16 P **P** **13 40 34.3 0.0**
HTT Hallett 36.22 162 P **P** **13 40 36.8 +1.3**
baz=36,SNR=7.5
HTT Hallett 36.22 162 P **P** **13 40 36.2 +0.7**
KSRS Korea Array 36.42 2 P **P** **13 40 38.5 +1.4**
comp=Z,3.4nm,0.6s,baz=182,slow=9.7,SNR=14
KSRS PcP **PcP** **13 43 02.3 +1.3**
comp=Z,1.4nm,0.7s,baz=181,slow=3.2,SNR=5.7
KSRS LR LR 13 55 57.6
comp=Z,35nm,20.9s,baz=165,slow=37
comp=Z,3.4nm,0.6s
CD2 Chengdu 36.60 327 P **P** **13 40 38.1 -0.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
XAN Xi'an 36.69 336 ⇑P **P** **13 40 38.1 -1.4**
XAN pP pP 13 40 42.8 -4.2
XAN pmax pmax
comp=Z,10.0nm,1.0s
MJAR Matsushiro Arr 37.21 16 P **P** **13 40 43.6 -0.2**
comp=Z,7.4nm,0.9s,baz=184,slow=8.6,SNR=12
MJAR LR LR 13 56 27.3
comp=Z,34nm,19.2s,baz=201,slow=37
comp=Z,7.4nm,0.9s
MAJO Matsushiro 37.21 16 P **P** **13 40 46.0 +2.1**
MAJO Matsushiro 37.21 16 P **P** **13 40 43.3 -0.6**
MAJO IAmb IAmb 13 40 45.2
comp=Z,35nm,1.6s
MAJO Matsushiro 37.21 16 *d iP* **P** **13 40 44.1 +0.2**
MAJO pmax pmax
comp=Z,8.0nm,0.9s
MJB9 Matsu-Tunnel 37.21 16 P **P** **13 40 43.5 -0.4**
MJB9 IAmb IAmb 13 40 46.6
comp=Z,33nm,1.6s
CMSA Cobar Meteorol 37.23 152 P **P** **13 40 45.6 +1.5**
baz=37,SNR=7.2
HNS HongShan 37.82 345 ⇓P **P** **13 40 48.5 -0.5**
HNS pmax pmax
comp=Z,6.0nm,0.9s
DL2 Dalian 38.05 354 P **P** **13 40 51.8 +0.9**
DL2 pmax pmax
comp=Z,30nm,0.6s
JMM Marumori 39.21 19 P **P** **13 41 03.5 +2.9**
JMM Marumori 39.21 19 P **P** **13 40 59.7 -0.9**
JMM IAmb IAmb 13 41 05.1
comp=Z,29nm,0.7s
ARMA Armidale 39.51 144 P **P** **13 41 04.9 +1.4**
baz=40,SNR=5.6
ARMA Armidale 39.51 144 P **P** **13 41 04.3 +0.9**
ARMA Armidale 39.51 144 P **P** **13 41 04.6 +1.2**
BJI Beijing 40.00 348 P **P** **13 41 07.0 -0.2**
BJI pmax pmax
comp=Z,5.0nm,0.7s
ARPS Mount Arapiles 40.22 160 P **P** **13 41 10.7 +1.6**
baz=40,SNR=10
ARPS Mount Arapiles 40.22 160 P **P** **13 41 10.2 +1.1**
LZH Lanzhou 40.65 332 *eP* **P** **13 41 13.5 +0.6**
LZH sP pwP 13 41 24.1 +1.3
LZH PcP **PcP** **13 43 16.8 +2.3**
LZH pmax pmax
comp=Z,15nm,1.2s
SNY Shenyang 40.81 357 ⇑P **P** **13 41 14.9 +1.0**
SNY pmax pmax
comp=Z,34nm,0.7s
SHL Shillong 41.10 309 P **P** **13 41 15.6 -1.3**
SHL Shillong 41.10 309 P **P** **13 41 15.6 -1.3**
SHL pmax pmax
comp=Z,9.0nm,0.7s
MSHR Mys Shultsa 41.75 6 ⇓*eP* **P** **13 41 22.6 +1.0**
MSHR pmax pmax
comp=Z,25nm,1.7s
HHC Hu-ho-hao-te 41.90 343 *eP* **P** **13 41 23.8 +0.8**
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,62nm,4.4s
CAN Canberra 41.90 152 P **P** **13 41 23.6 +0.5**
CAN Canberra 41.90 152 P **P** **13 41 24.4 +1.3**
CAN IAmb IAmb 13 41 24.7
comp=Z,94nm,1.8s
CAN Canberra 41.90 152 P **P** **13 41 24.4 +1.3**
CAN pmax pmax
comp=Z,94nm,1.8s
BTO Baotou 42.14 342 *eP* **P** **13 41 25.8 +0.8**
BTO pP **pP** **13 41 30.3 -2.2**
BTO sP **pwP** **13 41 32.8 -2.0**
BTO PP **PP** **13 43 07.3 +4.5**
BTO pmax pmax
comp=Z,6.0nm,0.8s
BTO pmax pmax
comp=Z,230nm,4.8s
VLA Vladivostok 42.36 6 *eP* **P** **13 41 27.8 +1.2**
VLA pmax pmax
comp=Z,22nm,0.7s
CN2 Changchun 42.73 359 *eP* **P** **13 41 30.3 +0.7**
USA0B Ussuriysk Arra 43.44 6 P **P** **13 41 36.4 +1.1**
USA0B IAmb IAmb 13 41 37.7
comp=Z,16nm,0.8s
USA0B Ussuriysk Arra 43.44 6 P **P** **13 41 36.4 +1.1**
USA0B pmax pmax
comp=Z,16nm,0.8s
USRK Ussuriysk Ar. 43.44 6 P **P** **13 41 36.3 +1.0**
comp=Z,13nm,0.5s,baz=182,slow=8.0,SNR=38
USRK LR LR 14 01 15.3
comp=Z,34nm,19.0s,baz=197,slow=38
comp=Z,13nm,0.5s
MDJ Mudanjiang 43.65 4 P **P** **13 41 38.3 +1.3**
MDJ pmax pmax
comp=Z,28nm,0.8s
MDJ pmax pmax
comp=Z,130nm,6.2s
MDJ Mudanjiang 43.65 4 P **P** **13 41 36.6 -0.4**
MDJ IAmb IAmb 13 41 39.4
comp=Z,18nm,0.8s
XLT XiLinHaoTe 43.74 350 *eP* **P** **13 41 38.1 +0.2**
XLT pP pP 13 41 44.0 -1.5
XLT sP pwP 13 41 46.4 -1.4
XLT PP **PP** **13 43 19.9 -0.1**
XLT pmax pmax
comp=Z,8.0nm,0.7s
XLT pmax pmax
comp=Z,130nm,4.5s
BNX BinXian 44.68 1 ⇓P **P** **13 41 45.6 +0.4**
BNX pmax pmax
comp=Z,10.0nm,1.0s
BNX pmax pmax
comp=Z,93nm,3.5s
GTA Gaotai 45.22 331 P **P** **13 41 49.9 0.0**
GTA PcP **PcP** **13 43 31.9 +2.2**
GTA pmax pmax
comp=Z,4.0nm,0.8s
GTA LR LR
comp=Z,84nm,18.5s
GTA LR LR
comp=Z,85nm,18.2s
GTA LR LR
comp=Z,150nm,16.0s
ASAJ Asahikawa 45.48 17 P **P** **13 41 53.1 +1.5**
ASAJ pmax pmax
comp=Z,44nm,1.6s
JKA Kamikawa-asahi 45.48 17 P **P** **13 41 53.1 +1.5**
JKA IAmb IAmb 13 41 54.5
comp=Z,44nm,1.6s
DZM Mont Dzumac 45.49 123 LR LR 14 01 38.5
comp=Z,91nm,19.3s,baz=296,slow=37
YSS Yuzh-Sakhalins 48.13 15 P **P** **13 42 13.9 +1.6**
YSS Yuzh-Sakhalins 48.13 15 ⇓*eP* **P** **13 42 13.4 +1.1**
YSS pmax pmax
comp=Z,10.0nm,1.4s
KLR Kul'dur 48.40 5 *c iP* **P** **13 42 15.0 +0.6**
KLR pmax pmax
comp=Z,16nm,1.7s
HEH HeiHe 49.19 1 *eP* **P** **13 42 20.9 +0.5**
HEH pmax pmax
comp=Z,20nm,0.8s
HYB Hyderabad 49.53 292 *eP* **P** **13 42 23.1 -0.6**
ULN Ulaanbaatar 49.62 343 P **P** **13 42 23.6 -0.3**
ULN Ulaanbaatar 49.62 343 *de*P **P** **13 42 24.1 +0.1**
ULN pmax pmax
comp=Z,4.0nm,0.8s
SONM Songino Array 49.78 343 P **P** **13 42 24.4 -0.7**
SONM Songino Array 49.78 343 P **P** **13 42 24.5 -0.7**
comp=Z,3.6nm,0.8s,baz=158,slow=9.2,SNR=13
SONM PcP **PcP** **13 43 47.1 +1.3**
comp=Z,3.1nm,0.9s,baz=156,slow=4.6,SNR=5.3
SONM LR LR 14 07 57.5
comp=Z,38nm,19.7s,baz=150,slow=42
comp=Z,3.6nm,0.8s
GRNR Gornyy 50.47 8 ⇑*iP* **P** **13 42 31.8 +1.7**
GRNR pmax pmax
comp=N,7.0nm,1.0s
GRNR pmax pmax
comp=Z,10.0nm,1.0s
ZEA Zeya 52.68 1 *eP* **P** **13 42 47.1 +0.5**
ZEA pmax pmax
comp=Z,10.0nm,1.0s
WMQ Urumqi 54.70 327 *eP* **P** **13 43 03.9 +2.2**
WMQ LR LR
comp=Z,140nm,23.8s
MOY Mondy 54.83 341 *eP* **P** **13 43 04.8 +2.2**
MOY pmax pmax
comp=Z,13nm,2.4s
BOD Bodaibo 57.57 352 P **P** **13 43 22.7 +0.9**
BOD pmax pmax
comp=Z,20nm,1.2s
PEA0B Petropavlovsk- 58.28 22 ⇑*eP* **P** **13 43 25.6 -1.4**
PETK Petropavlovsk- 58.28 22 P **P** **13 43 28.6 +1.6**
PETK Petropavlovsk- 58.28 22 P **P** **13 43 28.8 +1.8**
comp=Z,4.8nm,0.6s,baz=184,slow=3.0,SNR=7.7
PETK LR LR 14 08 28.5
comp=Z,24nm,20.8s,baz=171,slow=36
comp=Z,4.8nm,0.6s
ZSN Zaisan 58.55 328 *eP* **P** **13 43 28.2 -0.8**
baz=328
ZSN Zaisan 58.55 328 *eP* **P** **13 43 28.2 -0.8**
SHLS Shalkode 59.14 322 *eP* **P** **13 43 31.0 -2.3**
comp=Z,6.5nm,1.0s,baz=322
SHLS Shalkode 59.14 322 *eP* **P** **13 43 31.0 -2.3**
SHLS pmax pmax
comp=Z,7.0nm,1.0s
UZB Uzynbulak 59.41 321 *eP* **P** **13 43 34.7 -0.4**
baz=322
UZB Uzynbulak 59.41 321 *eP* **P** **13 43 34.7 -0.4**
MK31 Makanchi Array 59.53 327 P **P** **13 43 34.5 -1.3**
MK31 IAmb IAmb 13 43 37.2
comp=Z,6.0nm,0.7s
MK31 Makanchi Array 59.53 327 P **P** **13 43 34.5 -1.3**
MK31 pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 59.53 327 P **P** **13 43 34.5 -1.3**
MKAR Makanchi Array 59.53 327 P **P** **13 43 34.9 -1.0**
comp=Z,5.9nm,0.5s,baz=121,slow=7.9,SNR=67
MKAR LR LR 14 10 56.8
comp=Z,90nm,20.2s,baz=118,slow=38
comp=Z,5.9nm,0.5s
KSH Kashi 59.62 317 P **P** **13 43 38.1 +1.4**
KSH pP pP 13 43 42.1 -2.5
KSH pmax pmax
comp=Z,5.0nm,1.1s
MAKZ Makanchi 59.71 326 P **P** **13 43 36.1 -1.0**
MAKZ IAmb IAmb 13 43 38.3
comp=Z,9.1nm,0.7s
MAKZ Makanchi 59.71 326 P **P** **13 43 36.1 -1.0**
MAKZ pmax pmax
comp=Z,9.0nm,0.7s
LBZ Lake Benmore 59.73 145 P **P** **13 43 36.9 -0.2**
SATY Saty 59.74 321 *eP* **P** **13 43 36.9 -0.6**
comp=Z,6.4nm,0.8s,baz=321
SATY Saty 59.74 321 *eP* **P** **13 43 36.8 -0.6**
SATY pmax pmax
comp=Z,6.0nm,0.8s
TUWZ Tuamarina 60.37 140 P **P** **13 43 41.5 -0.2**
KHZ Kahutara 60.64 141 P **P** **13 43 43.6 +0.2**
MDOK Medeo 60.65 321 *eP* **P** **13 43 43.2 -0.5**
baz=321
MDOK Medeo 60.65 321 *eP* **P** **13 43 43.1 -0.6**
TNSS Tian-Shan 60.65 320 *eP* **P** **13 43 43.5 -0.5**
baz=320
TNSS Tian-Shan 60.65 320 *eP* **P** **13 43 43.5 -0.5**
TDK Taldyqorghan 60.76 323 *eP* **P** **13 43 43.7 -0.6**
comp=Z,3.5nm,0.4s,baz=323
TDK Taldyqorghan 60.76 323 *eP* **P** **13 43 43.6 -0.6**
TDK pmax pmax
comp=Z,3.0nm,0.4s
RTZ Ruatahuna 61.02 136 P **P** **13 43 46.4 +0.2**
CHKK Chushkaly 61.04 321 *eP* **P** **13 43 46.0 -0.2**
baz=321
CHKK Chushkaly 61.04 321 *eP* **P** **13 43 45.9 -0.2**
YAK Yakutsk 61.05 2 LR LR 14 11 43.4
comp=Z,29nm,20.6s,baz=172,slow=38
YAK Yakutsk 61.05 2 *eP* **P** **13 43 46.5 +0.7**
YAK *e**PP **pP** **13 43 55.9 +2.1**
YAK *e* 13 44 28.9
YAK *e* 13 46 01.2
YAK *e*PPP PPP 13 47 25.6
YAK *e*S **S** **13 52 03.9 +1.2**
YAK *e* 13 53 35.1
YAK *e*SS **SS** **13 56 05.7 +3.0**
YAK *e*SSS SSS 13 58 48.6
YAK pmax pmax
comp=Z,39nm,1.1s
YAK pmax pmax
comp=N,11nm,1.4s
YAK pmax pmax
comp=E,4.0nm,1.6s
YAK pmax pmax
comp=Z,234nm,4.9s
YAK pmax pmax
comp=N,71nm,5.0s
YAK pmax pmax
comp=E,42nm,3.5s
KUU Kurty 61.46 321 *eP* **P** **13 43 48.3 -0.8**
comp=E,3.8nm,0.5s,baz=321
KUU Kurty 61.46 321 *eP* **P** **13 43 48.3 -0.8**
KUU pmax pmax
comp=Z,4.0nm,0.5s
MA2 Magadan 61.60 14 P **P** **13 43 50.0 +0.4**
MA2 IAmb IAmb 13 43 52.6
comp=Z,11nm,0.9s
MA2 Magadan 61.60 14 LR LR 14 13 04.4
comp=Z,22nm,18.9s,baz=188,slow=38
MA2 Magadan 61.60 14 ⇓*eP* **P** **13 43 51.9 +2.3**
MA2 pmax pmax
comp=Z,16nm,1.7s
AAK Ala-Archa 62.05 319 *de*P **P** **13 43 53.2 0.0**
AAK pmax pmax
comp=Z,4.0nm,0.9s
SGDS Sogindy 62.34 320 *eP* **P** **13 43 54.3 -0.8**
baz=320
SGDS Sogindy 62.34 320 *eP* **P** **13 43 54.2 -0.8**
ARSB Arslanbob 62.47 317 P **P** **13 43 55.9 -0.1**
ARSB Arslanbob 62.47 317 P **P** **13 43 55.9 -0.1**
ARSB pmax pmax
comp=Z,3.0nm,1.1s
KBL Kabul 62.76 309 P **P** **13 43 55.7 -2.5**
KBL IAmb IAmb 13 43 58.7
comp=Z,6.0nm,0.7s
KBL Kabul 62.76 309 P **P** **13 43 55.7 -2.5**
KBL pmax pmax
comp=Z,6.0nm,0.7s
ZAA0 Zalesovo Array 62.83 334 P **P** **13 43 55.7 -2.3**
ZALV Zalesovo Beam 62.83 334 P **P** **13 43 55.6 -2.4**
ZALV Zalesovo Beam 62.83 334 P **P** **13 43 56.2 -1.7**
comp=Z,2.2nm,0.5s,baz=123,slow=5.3,SNR=8.8
ZALV LR LR 14 11 03.4
comp=Z,33nm,21.0s,baz=111,slow=36
comp=Z,2.2nm,0.5s
ZALV Zalesovo Beam 62.83 334 *i* P **P** **13 43 59.2 +1.3**
ZALV pmax pmax
comp=Z,2.0nm,0.4s
GAR Garm 63.39 314 P **P** **13 44 01.0 -1.2**
BTLS Baital 63.45 321 *eP* **P** **13 44 01.9 -0.4**
baz=321
BTLS Baital 63.45 321 *eP* **P** **13 44 01.9 -0.4**
KURBB Kurchatov Arra 63.79 328 P **P** **13 44 02.5 -1.9**
comp=Z,7.3nm,0.6s,baz=128,slow=6.3,SNR=64
comp=Z,7.3nm,0.6s
KURK Kurchatov 63.79 329 P **P** **13 44 02.7 -1.7**
KURK Kurchatov 63.79 329 *c iP* **P** **13 44 03.4 -1.0**
KURK pmax pmax
comp=Z,21nm,0.8s
CHGR Chuyangaron 64.10 313 P **P** **13 44 06.0 -0.9**
CHGR Chuyangaron 64.10 313 P **P** **13 44 06.0 -0.9**
CHGR pmax pmax
comp=Z,23nm,1.1s
SIMJ Simiganj 64.21 313 P **P** **13 44 06.7 -1.0**
SIMJ IAmb IAmb 13 44 12.3
comp=Z,8.3nm,0.9s
DZA Taraz 64.25 318 *eP* **P** **13 44 07.2 -0.4**
comp=Z,3.8nm,0.4s,baz=318
DZA Taraz 64.25 318 *eP* **P** **13 44 07.2 -0.4**
DZA pmax pmax
comp=Z,4.0nm,0.4s
KK31 Karatay Array 64.88 318 P **P** **13 44 10.7 -1.1**
KK31 IAmb IAmb 13 44 12.8
comp=Z,5.0nm,0.8s
KK31 Karatay Array 64.88 318 P **P** **13 44 10.7 -1.1**

KK31 pmax pmax
comp=Z,5.0nm,0.9s
KKAR Karatay Array 64.88 318 P **P** **13 44 10.5 -1.3**
KKAR Karatay Array 64.88 318 P **P** **13 44 10.5 -1.3**
SEY Seymchan 64.92 13⇑ *e*P **P** **13 44 12.3 +0.7**
SEY pmax pmax
comp=Z,13nm,1.7s
CHM Chimkent 65.18 317 *e*P **P** **13 44 12.7 -1.1**
baz=317
CHM Chimkent 65.18 317 *e*P **P** **13 44 12.6 -1.1**
BRLS Boroldaу 65.31 318 *e*P **P** **13 44 14.3 -0.3**
baz=318
BRLS Boroldaу 65.31 318 *e*P **P** **13 44 14.2 -0.3**
BRZS Berezniki 66.64 326 *e*P **P** **13 44 23.1 +0.2**
baz=326
BRZS Berezniki 66.64 326 *e*P **P** **13 44 23.1 +0.2**
CASY Casey 67.94 187 P **P** **13 44 30.9 +0.1**
WSAR Wadi Sarin 68.98 294 LR LR 14 15 48.7
comp=Z,40nm,20.7s,baz=60,slow=37
BVAR Borovoye Array 69.35 328 P **P** **13 44 38.8 -1.1**
comp=Z,5.2nm,0.7s,baz=134,slow=8.2,SNR=14
BVAR LR LR 14 15 02.9
comp=Z,46nm,22.0s,baz=118,slow=36
comp=Z,5.2nm,0.7s
TIXI Tiksi 70.67 1 P **P** **13 44 47.0 -0.6**
TIXI IAmb IAmb 13 44 48.5
comp=Z,14nm,1.1s
TIXI Tiksi 70.67 1 LR LR 14 15 34.4
comp=Z,33nm,21.6s,baz=194,slow=36
TIXI Tiksi 70.67 1 *de*P **P** **13 44 48.0 +0.4**
TIXI pmax pmax
comp=Z,16nm,1.3s
GEYT Alibeck 72.18 310 P **P** **13 44 58.5 +1.0**
comp=Z,2.5nm,0.6s,baz=111,slow=11,SNR=7.0
comp=Z,2.5nm,0.6s
ABKAR Akbulak array 73.94 321 P **P** **13 45 06.3 -1.3**
SVE Sverdlovsk 76.04 329 *e*P **P** **13 45 19.2 -0.4**
SVE pmax pmax
comp=Z,17nm,0.9s
ARU Arti 76.99 328 P **P** **13 45 23.3 -1.6**
ARU IAmb IAmb 13 45 31.2
comp=Z,8.9nm,0.6s
ARU Arti 76.99 328 LR LR 14 22 14.9
comp=Z,41nm,19.4s,baz=300,slow=38
ARU Arti 76.99 328 *d i*P **P** **13 45 24.3 -0.6**
ARU S **S** **13 55 12.4 +0.8**
ARU pmax pmax
comp=Z,10.0nm,0.8s
GAMB Gambell 77.23 24 P **P** **13 45 26.9 +0.8**
baz=245
TNA Tin City 79.44 23 P **P** **13 45 38.1 -0.1**
baz=248
K13K Kusilvak Mount 79.56 27 P **P** **13 45 39.8 +0.7**
baz=252
M13K Dall Lake 79.72 28 P **P** **13 45 40.2 +0.3**
baz=253
SDPT Sand Point 79.89 34 P **P** **13 45 41.2 +0.2**
baz=257
F14K Arctic Creek 80.03 23 P **P** **13 45 42.4 +0.8**
baz=250
ANM Nome 80.10 24 P **P** **13 45 42.8 +0.8**
baz=251
CHNA Chernabura Isl 80.27 34 P **P** **13 45 43.5 +0.5**
baz=258
L14K Kuka Creek 80.29 28 P **P** **13 45 43.4 +0.4**
baz=254
J14K Nanvaranak Lak 80.30 26 P **P** **13 45 44.0 +0.9**
baz=253
N14K Kuskokwak Cree 80.38 29 P **P** **13 45 44.5 +1.0**
baz=255
VOI Vohitsoka 80.40 248 P **P** **13 45 44.0 -0.6**
O14K Tigyukauivet M 80.42 30 P **P** **13 45 44.4 +0.7**
baz=255
M14K Bethel 80.47 28 P **P** **13 45 45.2 +1.2**
baz=255
S14K Fog Glacier 80.61 33 P **P** **13 45 45.8 +0.8**
baz=257
VNDA Vanda 80.71 173 P **P** **13 45 45.3 +0.4**
VNDA Vanda 80.71 173 P **P** **13 45 45.4 +0.4**
comp=Z,2.9nm,0.6s,baz=316,slow=6.7,SNR=32
VNDA LR LR 14 21 35.8
comp=Z,35nm,18.9s,baz=344,slow=36
comp=Z,2.9nm,0.6s
F15K North Star Dit 80.76 23 P **P** **13 45 46.3 +0.8**
baz=251
G15K Niukluk 80.78 24 P **P** **13 45 46.9 +1.3**
baz=252
L15K Ungalak Mounta 80.93 27 P **P** **13 45 47.7 +1.2**
baz=255
M15K Kasigluk River 81.06 28 P **P** **13 45 48.8 +1.6**
baz=256
K15K Wolf Creek Mou 81.08 27 P **P** **13 45 48.2 +1.0**
baz=255
O15K Ungalikthiuk R 81.12 30 P **P** **13 45 48.1 +0.6**
baz=257
N15K Kwethluk River 81.22 29 P **P** **13 45 48.8 +0.8**
baz=256
H16K Elim 81.41 24 P **P** **13 45 50.1 +1.1**
baz=254
G16K Koyuk River 81.58 24 P **P** **13 45 50.8 +1.0**
baz=254
SBA Scott Base 81.63 172 P **P** **13 45 51.3 +1.4**
SBA IAmb IAmb 13 47 09.4
comp=Z,16nm,1.6s
SBA Scott Base 81.63 172 P **P** **13 45 51.3 +1.4**
SBA pmax pmax
comp=Z,16nm,1.7s
J16K Anvik River 81.75 26 P **P** **13 45 51.5 +0.7**
baz=255
I17K Unalakleet 81.86 25 P **P** **13 45 52.1 +0.8**
baz=255
L16K Owhat River 81.87 28 P **P** **13 45 53.4 +1.9**
L16K IAmb IAmb 13 45 55.5
comp=Z,6.8nm,0.9s
L16K Owhat River 81.87 28 P **P** **13 45 52.1 +0.7**
baz=257
N16K Nishlik Lake 81.93 29 P **P** **13 45 52.5 +0.7**
baz=258
R16K Pilot Point 81.94 32 P **P** **13 45 52.7 +0.9**
baz=259
M16K Timber Creek 81.96 28 P **P** **13 45 53.7 +1.8**
M16K Timber Creek 81.96 28 P **P** **13 45 52.8 +0.9**
baz=257
D17K Noatak River 81.97 21 P **P** **13 45 53.0 +1.1**
baz=252
O16K Kokwok River B 82.07 30 P **P** **13 45 53.6 +1.1**
baz=258
RDOG Red Dog Mine 82.15 21 P **P** **13 45 53.3 +0.6**
baz=253
C17K DeLong Mountai 82.18 21 P **P** **13 45 53.4 +0.4**
baz=252
BELG Belogornoye 82.26 323 *de*P **P** **13 45 53.3 -0.3**
BELG pmax pmax
comp=Z,6.0nm,0.9s
E17K Hotham Inlet 82.26 22 P **P** **13 45 54.9 +1.5**
baz=254
G17K Kiwalik Mounta 82.29 24 P **P** **13 45 54.2 +0.6**
baz=255
F17K Baldwin Pennin 82.30 23 P **P** **13 45 54.9 +1.3**
baz=254
KIRV Kirov 82.31 329 *de*P **P** **13 45 53.6 -0.1**
J17K VABM Dome 82.44 26 P **P** **13 45 56.7 +2.3**
J17K IAmb IAmb 13 45 58.0
comp=Z,18nm,0.9s
J17K VABM Dome 82.44 26 P **P** **13 45 54.6 +0.3**
baz=257,SNR=6.2
H17K Granite Mounta 82.45 24 P **P** **13 45 56.5 +2.1**
H17K IAmb IAmb 13 45 58.0
comp=Z,8.5nm,0.8s
H17K Granite Mounta 82.45 24 P **P** **13 45 54.9 +0.5**
baz=256
L17K Donlin 82.51 27 P **P** **13 45 55.0 +0.2**
baz=258
O17K Koliganek Bris 82.61 30 P **P** **13 45 56.5 +1.2**
baz=259
Q16K King Salmon 82.62 31 P **P** **13 45 56.2 +0.8**
baz=260
K17K Iditarod 82.63 27 P **P** **13 45 57.7 +2.3**
K17K Iditarod 82.63 27 P **P** **13 45 56.2 +0.8**
baz=258,SNR=7.4
CHIR Chirikof Islan 82.69 34 P **P** **13 45 55.8 0.0**
baz=261
N17K Nushagak Hills 82.70 29 P **P** **13 45 56.5 +0.6**
baz=259
M17K Holitna River 82.76 28 P **P** **13 45 56.3 +0.2**
baz=258
E18K Tukpahlearik C 82.81 22 P **P** **13 45 58.8 +2.6**
E18K IAmb IAmb 13 45 59.7
comp=Z,14nm,0.8s
E18K Tukpahlearik C 82.81 22 P **P** **13 45 56.4 +0.2**
baz=255,SNR=5.1
P17K Kvichak River 82.83 30 P **P** **13 45 57.0 +0.5**
baz=260
B18K Kokolik River 82.92 20 P **P** **13 45 58.2 +1.5**
baz=254
C18K Utukok River 82.93 21 P **P** **13 45 56.8 -0.1**
baz=254
F18K Selawik 82.96 23 P **P** **13 45 57.8 +0.8**
baz=256
H18K Honhosa River 83.14 24 P **P** **13 45 58.6 +0.6**
baz=257
G18K Tagagawik 83.19 24 P **P** **13 45 58.9 +0.7**
G18K IAmb IAmb 13 46 01.5
comp=Z,14nm,1.3s
G18K Tagagawik 83.19 24 P **P** **13 45 59.0 +0.7**
baz=257
L18K Granite Mounta 83.27 27 P **P** **13 46 00.2 +1.5**
L18K Granite Mounta 83.27 27 P **P** **13 45 59.1 +0.4**
baz=259,SNR=8.8
N18K Kilae Creek 83.36 29 P **P** **13 45 60.0 +0.7**
baz=260
A19K Wainwright 83.39 19 P **P** **13 45 59.9 +0.7**
baz=254
P18K Big Mountain, 83.47 30 P **P** **13 46 00.8 +0.9**
baz=261
J18K Innoko River 83.49 26 P **P** **13 46 01.7 +1.9**
J18K IAmb IAmb 13 46 02.7
comp=Z,8.0nm,0.8s
J18K Innoko River 83.49 26 P **P** **13 46 01.0 +1.1**
baz=259,SNR=7.4
M18K Stony River 83.54 28 P **P** **13 46 01.2 +1.1**
baz=260,SNR=5.8
O18K Koktuh Hills 83.56 30 P **P** **13 46 02.0 +1.7**
baz=261
SII Sitkinak Islan 83.59 33 P **P** **13 46 01.6 +1.1**
baz=262
C19K Lookout Ridge 83.61 20 P **P** **13 46 01.2 +0.8**
baz=256
GCSA Galena City Sc 83.67 25 P **P** **13 46 01.6 +0.9**
baz=259
F19K Shaleruckik Mo 83.75 23 P **P** **13 46 02.4 +1.3**
baz=258
G19K Purcell Mounta 83.87 23 P **P** **13 46 03.1 +1.4**
baz=258,SNR=13
D19K Kuna River 83.98 21 P **P** **13 46 03.6 +1.3**
baz=257
H19K Roundabout Mou 84.00 24 P **P** **13 46 03.7 +1.3**
baz=259,SNR=6.5
O19K Port Alsworth 84.05 30 P **P** **13 46 04.0 +1.3**
baz=261
N19K Bonanza Creek 84.07 29 P **P** **13 46 03.5 +0.6**
baz=261,SNR=6.2
J19K Poorman 84.07 26 P **P** **13 46 03.4 +0.7**
baz=260
E19K Redstone River 84.08 22 P **P** **13 46 03.6 +0.8**
baz=258,SNR=7.9
L19K White Mountain 84.11 28 P **P** **13 46 04.5 +1.5**
baz=261
OHAK Old Harbor 84.17 33 P **P** **13 46 04.2 +0.8**
baz=263
Q19K Cape Douglas, 84.21 31 P **P** **13 46 04.9 +1.2**
baz=262
M19K Big River Lodg 84.28 28 P **P** **13 46 05.1 +1.2**
baz=261
KBZ Khabaz 84.46 314 P **P** **13 46 04.8 -0.4**
comp=Z,1.9nm,0.6s,baz=75,slow=8.0,SNR=5.8
comp=Z,1.9nm,0.6s
KBZ Khabaz 84.46 314⇑ *e*P **P** **13 46 04.6 -0.6**
KBZ pmax pmax
comp=Z,8.0nm,1.5s
P19K Oil Pt 84.52 30 P **P** **13 46 06.2 +1.0**
baz=262
D20K Etivluk River 84.57 21 P **P** **13 46 06.4 +1.1**
baz=258
F20K Avaraart Lake 84.58 23 P **P** **13 46 06.7 +1.4**
baz=260
L20K Farewell, AK 84.60 27 P **P** **13 46 05.4 -0.1**
baz=262
KDAK Kodiak Island 84.62 32 P **P** **13 46 06.1 +0.4**
baz=263
KIV Kislovodsk 84.63 314 *i* P **P** **13 46 07.1 +0.9**
KIV *i* 13 46 12.1
KIV pmax pmax
comp=Z,6.0nm,1.3s
KIV MLR MLR
comp=Z,33nm,15.0s
E20K Nigu River 84.63 21 P **P** **13 46 06.2 +0.5**
baz=259,SNR=6.3
H20K Anotleneega Mo 84.64 24 P **P** **13 46 06.1 +0.4**
baz=260
B20K Meade River 84.65 20 P **P** **13 46 06.5 +0.9**
baz=258
K20K Telida 84.65 26 P **P** **13 46 06.7 +0.9**
baz=261
I20K Naaghedeneel 84.69 25 P **P** **13 46 07.0 +1.2**
baz=261
J20K Nowinta River 84.74 26 P **P** **13 46 07.4 +1.2**
baz=261
GURO Guroymak-BITLI 84.79 308 P **P** **13 46 07.4 +0.2**
GURO IAmb IAmb 13 46 08.9
comp=Z,12nm,0.8s
Q20K Shuyak Island 84.81 31 P **P** **13 46 07.3 +0.7**
baz=263
M20K Styx River 84.86 28 P **P** **13 46 07.2 +0.2**
baz=262
O20K Slope Mountain 84.88 30 P **P** **13 46 07.4 +0.3**
baz=263
N20K Mount Spurr 85.22 29 P **P** **13 46 09.1 +0.3**
baz=263
C21K Knifeblade Rid 85.30 21 P **P** **13 46 09.7 +0.8**
baz=260
HOM Homer 85.32 30 P **P** **13 46 09.6 +0.4**
baz=264
G21K Allakaket 85.36 23 P **P** **13 46 09.7 +0.4**
baz=262
PPLA Purkeypile 85.43 27 P **P** **13 46 10.3 +0.4**
baz=263
B21K Ikpikpuk River 85.44 20 P **P** **13 46 09.6 +0.1**
baz=260
F21K Alatna River 85.47 23 P **P** **13 46 10.1 +0.3**
baz=262
E21K Killik River 85.47 21 P **P** **13 46 10.7 +0.9**
baz=261
CHUM Lake Minchumin 85.50 26 P **P** **13 46 10.5 +0.5**
baz=263
H21K Melozitna Rive 85.52 24 P **P** **13 46 10.2 +0.2**
baz=262
CAST Castle Rocks 85.54 27 P **P** **13 46 10.4 +0.1**
baz=263
A22K Sinclair Lake 85.56 19 P **P** **13 46 10.8 +0.7**
baz=260
SKT Skwentna 85.63 28 P **P** **13 46 11.3 +0.6**
SKT Skwentna 85.63 28 P **P** **13 46 10.2 -0.5**
baz=264
CAPN Captain Cook N 85.68 29 P **P** **13 46 11.2 +0.3**
baz=264
VRH Novokhopyorsk 85.77 321 *e*P **P** **13 46 10.8 -0.8**
VRH pmax pmax
comp=Z,23nm,0.6s
BRSE Bradley Lake S 85.78 30 P **P** **13 46 11.7 +0.2**
baz=265
I21K Tanana 85.80 25 P **P** **13 46 11.3 -0.2**
baz=263
SUA Susitna One 85.95 29 P **P** **13 46 11.6 -0.8**
SUA IAmb IAmb 13 46 14.4
comp=Z,8.7nm,1.0s
SUA Susitna One 85.95 29 P **P** **13 46 12.0 -0.4**
baz=264
B22K Teshekpuk Lake 85.96 20 P **P** **13 46 11.8 -0.3**
baz=261
D22K Ayikyak River 86.01 21 P **P** **13 46 12.5 +0.1**
baz=262
F22K John River 86.01 22 P **P** **13 46 13.1 +0.6**
baz=263
BPAW Bear Paw Mtn. 86.10 26 P **P** **13 46 13.0 0.0**
baz=264
H22K Ishtalitna Cre 86.13 24 P **P** **13 46 13.7 +0.6**
baz=264
G22K Bettles 86.20 23 P **P** **13 46 13.8 +0.4**
baz=263
E22K Anaktuvuk Pass 86.23 22 P **P** **13 46 13.1 -0.5**
baz=263
MLY Manley 86.31 25 P **P** **13 46 14.8 +0.8**
MLY IAmb IAmb 13 47 37.7
comp=Z,15nm,1.9s
MLY Manley 86.31 25 P **P** **13 46 13.0 -1.1**
baz=264
TRF Thorofare Moun 86.35 27 P **P** **13 46 11.9 -2.5**
baz=265
O22K Cooper Landing 86.36 30 P **P** **13 46 11.7 -2.6**
baz=265
RC01 Rabbit Creek A 86.40 29 P **P** **13 46 12.7 -1.8**
baz=265
SEW Seward 86.46 30 P **P** **13 46 13.8 -1.0**
baz=266
PMR Palmer 86.73 28 P **P** **13 46 16.1 0.0**
baz=266
D23K Nanushuk River 86.73 21 P **P** **13 46 15.3 -0.7**
baz=264
COLD Coldfoot 86.74 23 P **P** **13 46 14.1 -2.0**
baz=265
SOC Sochi 86.76 313 *e*P **P** **13 46 15.1 -1.5**
SOC *e* 13 49 35.8
SOC *e*PPP PPP 13 51 33.2
SOC *e*S **SKSac** **13 56 39.9 -2.0**
SOC *e* 14 02 36.0
SOC MLR MLR
comp=Z,42nm,20.0s
G23K Bananza Creek 86.76 23 P **P** **13 46 15.2 -1.0**
baz=265
C23K Itkillik River 86.85 20 P **P** **13 46 15.9 -0.6**
baz=264
H23K Yukon River 86.88 24 P **P** **13 46 16.0 -0.8**
baz=265
I23K Minto, Yukon-K 86.90 25 P **P** **13 46 16.6 -0.2**
I23K IAmb IAmb 13 46 18.9
comp=Z,5.8nm,0.9s
I23K Minto, Yukon-K 86.90 25 P **P** **13 46 15.9 -1.0**
baz=265
MCK McKinley 86.97 26 P **P** **13 46 16.5 -0.8**
baz=266
NEA2 Nenana 86.98 25 P **P** **13 46 16.3 -1.0**
baz=266
RND Reindeer 86.99 27 P **P** **13 46 16.7 -0.8**
RND IAmb IAmb 13 47 38.5
comp=Z,17nm,1.6s
RND Reindeer 86.99 27 P **P** **13 46 16.7 -0.8**
RND pmax pmax
comp=Z,17nm,1.6s
KNK Knik Glacier 87.04 29 P **P** **13 46 16.6 -1.1**
baz=266
WAT1 Susitna Watana 87.08 27 P **P** **13 46 17.3 -0.6**
baz=266
TOLK Toolik Lake Re 87.11 21 P **P** **13 46 17.6 -0.2**
baz=265
SML Sawmill 87.12 28 P **P** **13 46 17.5 -0.6**
baz=267
VORR Voronezh 87.37 322 *e*P **P** **13 46 17.9 -1.5**
VSR Storozhevoye 87.38 321 *e*P **P** **13 46 20.4 +0.9**
VSR pmax pmax
comp=Z,10.0nm,0.8s
WRH Wood River Hil 87.39 26 P **P** **13 46 19.0 -0.3**
WRH IAmb IAmb 13 49 40.3
comp=Z,28nm,1.9s
M23K Glacier View 87.41 28 P **P** **13 46 19.1 -0.3**
baz=267
D24K Happy Valley 87.42 21 P **P** **13 46 18.9 -0.4**
baz=266
WAT6 Susitna Watana 87.44 28 P **P** **13 46 19.0 -0.8**
baz=267
E24K Your Creek 87.46 22 P **P** **13 46 19.6 0.0**
baz=266
P23K Montague Islan 87.48 30 P **P** **13 46 19.7 -0.1**
baz=267
C24K Franklin Bluff 87.50 20 P **P** **13 46 19.5 -0.1**
baz=266
CCB Clear Creek Bu 87.53 25 P **P** **13 46 19.4 -0.5**
CCB IAmb IAmb 13 48 38.1
comp=Z,23nm,1.8s
KLMR Klimovskoe 87.55 331 *e*P **P** **13 46 17.7 -2.4**
KLMR pmax pmax
comp=Z,17nm,1.4s
H24K Noodlor Dome 87.56 24 P **P** **13 46 19.8 -0.3**
baz=267
LPSR Galich'ya Gora 87.57 322 *e*P **P** **13 46 18.8 -1.5**
LPSR pmax pmax
comp=Z,20nm,0.6s
SCM Sheep Creek Mo 87.60 28 P **P** **13 46 19.5 -0.9**
baz=267
DHY Denali Highway 87.64 27 P **P** **13 46 19.7 -1.0**
baz=267
F24K Squaw Lake 87.66 23 P **P** **13 46 19.8 -0.8**
baz=267
GLI Glacier Island 87.67 29 P **P** **13 46 19.3 -1.4**
baz=268
ARPR Arapgir-MALATY 87.70 309 P **P** **13 46 21.5 0.0**
POKR Poker Plat Res 87.71 25 P **P** **13 46 19.8 -1.0**
baz=267
G24K Hadweenzic Riv 87.77 23 P **P** **13 46 19.0 -2.1**
baz=267
HDA Harding Lake 87.88 26 P **P** **13 46 21.6 0.0**
baz=268
ILAR Eielson Array 87.92 25 P **P** **13 46 21.2 -0.6**
ILAR Eielson Array 87.92 25 P **P** **13 46 20.9 -0.9**
comp=Z,0.7nm,0.7s,baz=248,slow=4.2,SNR=11
comp=Z,0.7nm,0.7s
ILAR Eielson Array 87.92 25 P **P** **13 46 21.2 -0.6**
Q23K Middleton Isla 87.99 31 P **P** **13 46 22.4 +0.2**
baz=268
M24K Tolsona, Glenn 88.15 28 P **P** **13 46 22.9 -0.2**
baz=268
KLU Klutina 88.26 29 P **P** **13 46 24.2 +0.6**
baz=269
D25K Kavik River 88.30 21 P **P** **13 46 24.1 +0.5**
D25K Kavik River 88.30 21 P **P** **13 46 23.0 -0.5**
baz=268
G25K Bearman Lake 88.32 23 P **P** **13 46 22.9 -0.7**
baz=268
EYAK Cordova Ski Ar 88.32 30 P **P** **13 46 23.2 -0.6**
baz=269
K24K Donnelly Dome 88.38 26 P **P** **13 46 22.7 -1.4**
baz=269
H25L Birch Creek 88.42 24 P **P** **13 46 23.6 -0.5**
baz=269
PAX Paxson 88.50 27 P **P** **13 46 24.3 -0.5**
baz=269
F25K Christian Rive 88.52 23 P **P** **13 46 24.1 -0.6**
baz=269
E25K Arctic Village 88.56 22 P **P** **13 46 25.8 +1.0**
E25K Arctic Village 88.56 22 P **P** **13 46 24.5 -0.3**
baz=269
J25K Salcha River, 88.57 26 P **P** **13 46 25.5 +0.5**
baz=269
HARP HAARP 88.64 28 P **P** **13 46 24.9 -0.4**
baz=269
C26K Camden Bay 88.82 20 P **P** **13 46 25.2 -0.7**
baz=269
BMRM Bremner River 88.89 29 P **P** **13 46 27.2 +0.6**
baz=270
N25K Chitina, Valde 88.89 29 P **P** **13 46 27.4 +0.8**
baz=270
BMAR Burnt Mountain 88.92 23 P **P** **13 46 27.8 +1.2**
KAIM Kayak Island 88.98 30 P **P** **13 46 26.8 -0.1**
baz=270
OBN Obninsk 89.00 325 *i* P **P** **13 46 25.6 -1.5**
OBN *i* 13 46 30.2
OBN pmax pmax
comp=Z,7.0nm,0.8s
F26K Sheenjek River 89.09 22 P **P** **13 46 26.5 -0.8**
baz=270
SCRK Sand Creek 89.17 26 P **P** **13 46 26.9 -1.0**
baz=270
G26K Porcupine Rive 89.24 23 P **P** **13 46 26.9 -1.1**
baz=270
C27K Jago River 89.24 21 P **P** **13 46 27.7 -0.2**
baz=270
J26L Joseph Creek 89.35 26 P **P** **13 46 28.9 +0.2**
J26L Joseph Creek 89.35 26 P **P** **13 46 27.5 -1.2**
baz=271
L26K Log Cabin Wild 89.47 27 P **P** **13 46 29.9 +0.7**
baz=271
I26K Coal Creek Min 89.52 25 P **P** **13 46 28.2 -1.1**
baz=271
MCARA McCarthy VSAT 89.65 29 P **P** **13 46 29.4 -0.7**
baz=271
K27K Chicken 90.01 26 P **P** **13 46 31.3 -0.3**
baz=272
E27K Coleen River 90.04 22 P **P** **13 46 32.3 +0.5**
E27K Coleen River 90.04 22 P **P** **13 46 30.9 -0.8**
baz=272
G27K Doyon Strip 90.08 23 P **P** **13 46 30.8 -1.1**
baz=272

MMAI	Mount Meron Ar	90.10	303	P		P		13 46 33.7	+0.9
	comp=Z,2.9nm,0.7s,baz=87,slow=7.4,SNR=5.9								
MMAI				LR		LR		14 33 19.8	
	comp=Z,22nm,20.4s,baz=60,slow=40								
	comp=Z,2.9nm,0.7s								
I27K	Kandik River	90.15	25	P		P		13 46 31.7	-0.7
	baz=272								
H27K	Steamboat Moun	90.16	24	P		P		13 46 30.9	-1.4
	baz=273								
L27K	Beaver Creek,	90.16	27	P		P		13 46 30.7	-1.7
	baz=272								
BCAR	Beaver Creek A	90.18	27	P		P		13 46 33.6	+1.0
MESA	MESA	90.21	30	P		P		13 46 31.0	-2.0
	baz=272								
D27M	Malcolm River	90.22	21	P		P		13 46 31.2	-1.4
	baz=273								
EGAK	Eagle	90.38	25	P		P		13 46 32.0	-1.4
	baz=273								
CTG	Chitna Glacier	90.48	29	P		P		13 46 34.0	-0.1
	baz=273								
F28M	Old Crow	90.73	22	P		P		13 46 32.8	-2.2
	baz=274								
E28M	Babbage River	90.78	21	P		P		13 46 34.6	-0.6
	baz=274								
QSPA	South Pole Qui	90.82	180	P		P		13 46 35.7	+0.2
	comp=Z,1.9nm,0.6s,baz=342,slow=5.1,SNR=13								
	comp=Z,1.9nm,0.6s								
I28M	Miner Creek	90.86	25	P		P		13 46 36.3	+0.6
I28M				IAmb		IAmb		13 46 41.2	
	comp=Z,4.8nm,1.0s								
I28M	Miner Creek	90.86	25	P		P		13 46 34.7	-1.0
	baz=274								
YUK3	Moose Creek	90.86	28	P		P		13 46 34.7	-1.2
	baz=274								
D28M	Stokes Point	91.01	21	P		P		13 46 35.4	-0.8
	baz=275								
O28M	Mount Upton	91.05	29	P		P		13 46 35.9	-1.1
	baz=274								
DAWY	Dawson	91.19	26	P		P		13 46 36.2	-1.0
	baz=274								
YUK8	Steele Glacier	91.23	29	P		P		13 46 36.4	-1.3
	baz=274								
BRTR	Keskin Array B	91.33	310	P		P		13 46 39.6	+1.1
	comp=Z,1.5nm,0.8s,baz=91,slow=7.2,SNR=4.1								
	comp=Z,1.5nm,0.8s								
BRTR	Keskin Array B	91.33	310	*i* P		P		13 46 40.4	+1.9
BRTR				pmax		pmax			
	comp=Z,2.0nm,0.8s								
E29M	Blow River	91.40	22	P		P		13 46 36.9	-1.1
	baz=276								
H29M	Whitestone	91.44	24	P		P		13 46 37.1	-1.2
	baz=276								
G29M	Pine Creek	91.50	23	P		P		13 46 37.7	-0.9
	baz=276								
PNL	Peninsula	91.53	30	P		P		13 46 38.1	-0.8
	baz=274								
M29M	Somme Creek	91.75	28	P		P		13 46 39.6	-0.3
	baz=275								
YUK4	Talbot Arm	91.76	29	P		P		13 46 39.1	-1.1
	baz=275								
L29M	L29M	91.84	27	P		P		13 46 38.7	-1.5
	baz=276								
YUK6	Outpost Mounta	91.93	29	P		P		13 46 39.4	-1.5
	baz=275								
K29M	Barlow Dome	92.03	26	P		P		13 46 40.4	-0.8
	baz=276								
EPYK	Eagle Plains	92.08	24	P		P		13 46 40.8	-0.4
	baz=277								
G30M	tAoh Zraii Nji	92.20	23	P		P		13 46 40.9	-1.0
	baz=278								
F30M	Barrier River	92.28	22	P		P		13 46 40.7	-1.4
	baz=278								
HYT	Haines Junctio	92.36	29	P		P		13 46 41.1	-1.7
	baz=276								
I30M	Mount Dempster	92.36	25	P		P		13 46 42.9	+0.2
	baz=277								
P29M	Windy Craggy	92.37	30	P		P		13 46 41.9	-0.8
	baz=276								
J30M	Hart River	92.47	25	P		P		13 46 42.6	-0.6
	baz=277								
N30M	Aishikik Lake	92.49	29	P		P		13 46 43.3	-0.1
	baz=276								
M30M	Minto, Yukon	92.50	27	P		P		13 46 42.8	-0.5
	baz=277								
P30M	Million Dollar	92.71	30	P		P		13 46 43.5	-0.8
	baz=276								
MAYO	Mayo, Yukon	92.78	26	P		P		13 46 43.6	-1.0
	baz=278								
ARCES	ARCESS Array B	92.87	340	P		P		13 46 44.7	-0.1
	comp=Z,3.7nm,0.9s,baz=82,slow=6.5,SNR=3.9								
	comp=Z,3.7nm,0.9s								
G31M	Satah River	92.97	23	P		P		13 46 45.2	-0.1
	baz=279								
INK	Inuvik	93.02	21	P		P		13 46 45.2	-0.3
	baz=280								
O30N	Mendenhall	93.06	29	P		P		13 46 45.1	-0.8
	baz=277								
PLBC	Pleasant Camp	93.08	30	P		P		13 46 43.7	-2.3
	baz=277								
F31M	Tsiigehtchic	93.09	22	P		P		13 46 43.9	-1.9
	baz=280								
N31M	Braeburn, Yuko	93.11	28	P		P		13 46 43.8	-2.4
	baz=278								
H31M	Peel River	93.12	24	P		P		13 46 45.1	-1.0
	baz=279								
SPITS	Spitsbergen Ar	93.12	349	P		P		13 46 50.5	+4.6
	comp=Z,11nm,1.0s,baz=105,slow=1.6,SNR=8.0								
SPITS				LR		LR		14 33 13.5	
	comp=Z,35nm,19.6s,baz=1.5,slow=38								
S31K	Pelican	93.33	32	P		P		13 46 46.6	-0.5
	baz=277								
SKAG	Skagway	93.61	30	P		P		13 46 48.1	-0.3
	baz=278								
WHY	Whitehorse	93.66	29	P		P		13 46 47.8	-0.9
	baz=278								
M31M	Drury Creek, Y	93.66	28	P		P		13 46 48.1	-0.6
	baz=279								
AKASG	Malin Array Be	93.67	321	LR		LR		14 31 56.9	
	comp=Z,45nm,21.2s,baz=54,slow=37								
AKBB	Malin Array Si	93.67	321	*eP*		P		13 46 49.6	+0.7
SIT	Sitka	93.94	33	P		P		13 46 48.6	-1.3
	baz=278								
FARO	Faro, Yukon	94.14	27	P		P		13 46 50.5	-0.3
	baz=280								
R32K	Eaglecrest	94.19	32	P		P		13 46 50.0	-1.1
	baz=278								
S32K	Killisnoo	94.28	32	P		P		13 46 50.2	-1.3
	baz=278								
P32M	Atlin	94.40	30	P		P		13 46 52.3	+0.2
	baz=279								
N32M	Quiet Lake	94.45	29	P		P		13 46 51.4	-0.9
	baz=280								
P33M	Teslin, Yukon	94.74	29	P		P		13 46 53.0	-0.7
	baz=280								
A36M	Sachs Harbour	94.87	17	P		P		13 46 52.2	-1.7
	baz=288								
U33K	Whale Pass	95.28	34	P		P		13 46 54.7	-1.4
	baz=280								
MBAR	Mbarara	95.36	269	LR		LR		14 27 06.7	
	comp=Z,56nm,20.1s,baz=78,slow=34								
R33M	Jennings River	95.81	30	P		P		13 46 57.6	-1.1
	baz=282								
S34M	Telegraph Cree	96.03	32	P		P		13 46 57.5	-2.0
	baz=281								
C36M	Paulatuk	96.08	20	P		P		13 46 59.6	+0.1
C36M				IAmb		IAmb		13 47 00.7	
	comp=Z,4.4nm,0.7s								
C36M	Paulatuk	96.08	20	P		P		13 46 58.0	-1.5
	baz=289								
V35K	Ketchikan	96.26	34	P		P		13 46 59.1	-1.5
	baz=281								
BUR08	Bucovina Ar. S	96.68	318	P		P		13 47 02.4	-0.5
BUR08				IAmb		IAmb		13 47 21.9	
	comp=Z,4.8nm,1.0s								
T35M	Bob Quinn	96.68	32	P		P		13 47 01.0	-1.6
	baz=282								
WTLY	Watson Lake, Y	96.73	29	P		P		13 47 01.5	-1.3
	baz=284								
NVL	N'lazarevskaya	98.67	198	*eP*		P		13 46 59.0	-12
NVL				pmax		pmax			
	comp=Z,10.0nm,0.8s								
TOAD	Toad River Com	98.82	30	P		P		13 47 10.7	-1.4
	baz=287								
BBB	Bella Bella	98.94	37	LR		LR		14 24 41.5	
	comp=Z,52nm,20.9s,baz=212,slow=31								
KOTAN	Kotaneelee Air	99.01	28	P		Pdif		13 47 11.8	-1.1
	baz=288								
BOSA	Boshof	99.94	241	LR		LR		14 28 03.9	
	comp=Z,44nm,20.4s,baz=184,slow=33								
NEW	Newport	106.83	39	P		PKiKP		13 51 55.9	-2.2
	baz=291								
SMMC	Simmler	108.82	52	P		PKiKP		13 51 59.2	-3.0
	baz=285								
PKM	Mcpherson Peak	109.08	53	P		PKiKP		13 52 00.4	-2.4
	baz=285								
ARVC	Arvin	109.79	52	P		PKiKP		13 52 03.0	-0.9
	baz=286								
HLID	Hailey	110.32	42	P		PKiKP		13 52 02.4	-2.5
	baz=292								
GRAC	Grapevine Rang	110.39	50	P		PKiKP		13 52 02.1	-3.0
	baz=288								
EDW2	Edwards Air Fo	110.52	52	P		PKiKP		13 52 03.4	-2.0
	baz=286								
MPMC	Manual Prospec	110.58	51	P		PKiKP		13 52 03.5	-2.2
	baz=287								
CIS	Catalina Islan	110.58	54	P		PKiKP		13 52 04.6	-1.0
	baz=286								
BFSC	Mount Baldy Ra	110.96	53	P		PKiKP		13 52 05.5	-0.8
	baz=286								
R11B	Troy Canyon, C	111.31	48	P		PKiKP		13 52 04.6	-2.4
	baz=289								
GSC	Goldstone, Bar	111.33	51	P		PKiKP		13 52 05.2	-1.8
	baz=287								
BOZ	Bozeman (W)	111.34	40	P		PKiKP		13 52 05.4	-1.4
	baz=295								
SHOC	Shoshone, Teco	111.56	51	P		PKiKP		13 52 05.9	-1.4
	baz=288								
HEC	Hector,Ludlow	111.84	52	P		PKiKP		13 52 06.7	-1.3
	baz=287								
PFO	Pinyon Flats O	112.09	53	P		PKiKP		13 52 06.9	-1.6
	baz=287								
TPFO	Pinon Flats	112.10	53	P		PKiKP		13 52 05.9	-2.6
	baz=287								
MONP2	Monument Peak	112.33	54	P		PKiKP		13 52 06.6	-2.5
	baz=287								
BELC	Belle Mtn. Jos	112.35	53	P		PKiKP		13 52 07.1	-1.9
	baz=287								
GMRC	Granite Mounta	112.38	52	P		PKiKP		13 52 06.7	-2.4
	baz=288								
DUG	Dugway, Tooele	112.68	45	P		PKiKP		13 52 06.9	-2.5
	baz=292								
SWSC	Sam W. Stewart	112.82	54	P		PKiKP		13 52 07.0	-2.7
	baz=287								
BC3	Big Chuckawall	112.89	53	P		PKiKP		13 52 07.9	-2.1
	baz=288								
PDMCI	Parker Dam,Lak	113.72	52	P		PKiKP		13 52 09.2	-2.2
	baz=289								
DGMT	Dagmar	114.44	34	P		PKiKP		13 52 10.5	-1.9
	baz=302								
WUAZ	Wupatki	115.45	50	P		PKiKP		13 52 12.5	-2.4
	baz=291								
214A	Organ Pipe Nat	115.52	54	P		PKiKP		13 52 12.4	-2.6
	baz=289								
RSSD	Black Hills	116.81	38	P		PKPdf		13 52 14.8	-2.6
	baz=301								
W18A	Petrified Fore	116.85	49	P		PKPdf		13 52 15.9	-1.7
	baz=292								
MVCO	Mesa Verde	116.95	47	P		PKPdf		13 52 16.1	-1.7
	baz=294								
TUC	Tucson	117.03	53	P		PKPdf		13 52 16.1	-1.9
	baz=294								
N23A	Red Feather La	117.14	42	P		PKPdf		13 52 16.0	-2.2
	baz=298								
MDND	Maddock	117.32	33	P		PKPdf		13 52 16.2	-1.7
	baz=306								
ISCO	Idaho Springs	117.88	43	P		PKPdf		13 52 17.4	-2.3
	baz=298								
Q24A	Divide	118.58	44	P		PKPdf		13 52 18.7	-2.4
	baz=298								
SDCO	Great Sand Dun	118.88	45	P		PKPdf		13 52 20.1	-1.5
	baz=297								
AGMN	Agassiz Nation	119.02	31	P		PKPdf		13 52 21.1	-0.1
	baz=310								
121A	Cookes Peak, D	119.32	51	P		PKPdf		13 52 22.0	-0.5
	baz=292								
ANMO	Albuquerque	119.39	48	P		PKPdf		13 52 21.8	-0.7
	baz=294								
SUSD	Miller	119.69	36	P		PKiKP		13 52 23.0	+0.3
	baz=306								
T25A	Trinidad	119.93	45	P		PKPdf		13 52 23.6	0.0
	baz=297								
EYMN	Ely	121.42	29	P		PKPdf		13 52 25.2	-0.6
	baz=314								
ECSD	EROS Data Cent	121.47	35			PKPdf		13 52 25.8	-0.3
ECSD	EROS Data Cent	121.47	35	P		PKPdf		13 52 25.8	-0.3
	baz=308								
MNTX	Cornudas Mount	121.52	51	P		PKPdf		13 52 25.7	-0.9
	baz=294								
BGNE	Belgrade	121.92	38	P		PKPdf		13 52 25.8	-1.2
	baz=305								
CBKS	Cedar Bluff	122.32	42	P		PKiKP		13 52 28.1	0.0
	baz=302								
MSTX	Muleshoe	122.55	48	P		PKPdf		13 52 28.4	-0.2
	baz=297								
SPMN	Marine on St.	122.62	32	P		PKPdf		13 52 28.0	-0.2
	baz=312								
AMTX	Amarillo	122.94	46	P		PKPdf		13 52 29.1	-0.2
	baz=298								
TORD	Torodi Ar. Bea	123.14	286	PKPdf		PKPdf		13 52 29.4	-0.6
TORD	Torodi Ar. Bea	123.14	286	PKP		PKPdf		13 52 29.7	-0.3
	comp=Z,2.6nm,0.9s,baz=43,slow=2.9,SNR=12								
TORD				PKKPbc		PKKPab		14 02 22.2	+1.4
	comp=Z,1.4nm,0.9s,baz=288,slow=3.8,SNR=4.6								
SCHQ	Schefferville	123.45	9	PKP		PKPdf		13 52 29.7	+0.2
	comp=Z,4.9nm,1.1s,baz=250,slow=6.9,SNR=3.7								
TXAR	Lajitas Array	123.81	53	PKP		PKiKP		13 52 32.3	+0.9
	comp=Z,1.2nm,0.7s,baz=204,slow=4.0,SNR=19								
KSU1	Kansas State U	124.20	40	P		PKPdf		13 52 30.7	-0.8
	baz=305								
WMOK	Wichita Mounta	125.09	45	P		PKPdf		13 52 31.9	-1.4
	baz=301								
JFWS	Jewell Farm	125.54	32	P		PKPdf		13 52 32.6	-1.2
	baz=313								
JCT	Junction City	126.37	50	P		PKPdf		13 52 34.1	-1.8
	baz=297								
TUL3	Leonard	126.53	42	P		PKPdf		13 52 33.8	-2.1
	baz=304								
S39A	Bolivar	127.12	39	PKPdf		PKPdf		13 52 36.8	-0.2
WHTX	Lake Whitney,	127.42	47	P		PKPdf		13 52 36.3	-1.5
	baz=300								
833A	Chaparral WMA,	127.64	53	P		PKPdf		13 52 36.3	-2.0
	baz=296								
CCM	Cathedral Cave	128.18	38	P		PKPdf		13 52 37.9	-1.1
	baz=310								
MIAR	Mount Ida	128.80	43	P		PKPdf		13 52 38.9	-1.4
	baz=303								
P49A	Miami Univ. Ec	130.87	32	P		PKPdf		13 52 41.7	-2.4
	baz=318								
WCI	Wyandotte Cave	130.96	34	P		PKPdf		13 52 42.9	-1.4
	baz=315								
LONY	Lake Ozonia	131.09	20	P		PKPdf		13 52 42.3	-2.1
	baz=332								
ERPA	Erie	131.14	26	P		PKPdf		13 52 43.4	-1.1
	baz=324								
ACSO	Alum Creek Sta	131.23	30	P		PKPdf		13 52 42.1	-2.7
	baz=320								
M53A	WI Miller and	131.38	27	P		PKPdf		13 52 42.4	-2.7
	baz=323								
WVT	Waverly	131.50	37	P		PKPdf		13 52 43.9	-1.5
	baz=312								
OXF	Oxford	131.57	40	P		PKPdf		13 52 43.8	-1.8
	baz=309								
PKME	Peaks-Kenny Pk	132.06	15	P		PKPdf		13 52 44.3	-1.8
	baz=339								
O53A	New Philadelph	132.07	28	P		PKiKP		13 52 47.5	+0.1
	baz=322								
P52A	Corning	132.11	29	P		PKPdf		13 52 45.3	-1.2
	baz=321								
VBMS	Vicksburg	132.23	43	P		PKPdf		13 52 45.6	-1.3
	baz=307								
LBNH	Lisbon	132.28	17	P		PKPdf		13 52 45.5	-1.1
	baz=335								
BINY	Binghamton	132.70	22	P		PKPdf		13 52 46.1	-1.5
	baz=329								
MCWV	Mont Chateau	133.18	28	P		PKPdf		13 52 46.5	-2.0
	baz=323								
SSPA	Standing Stone	133.25	25	P		PKPdf		13 52 46.1	-2.5
	baz=326								
L61B	Northampton	133.65	19	P		PKPdf		13 52 48.4	-0.9
	baz=334								
TZTN	Tazewell	133.69	33	P		PKPdf		13 52 47.5	-2.1
	baz=317								
HRV	Adam Dziewonsk	133.96	18	P		PKPdf		13 52 48.2	-1.7
	baz=335								
LRAL	Lakeview Retre	134.05	40	P		PKPdf		13 52 48.5	-1.9
	baz=311								
PAL	Palisades	134.51	21	P		PKPdf		13 52 48.9	-2.0
	baz=332								
BLA	Blacksburg	134.83	30	P		PKPdf		13 52 49.1	-2.7
	baz=321								
BRAL	Brewton	135.21	42	P		PKPdf		13 52 50.9	-1.6
	baz=309								
CBN	Corbin Frederi	135.49	27	P		PKPdf		13 52 50.5	-2.3
	baz=326								
LCO	Las Campanas	147.77	152	PKPbc		PKPbc		13 53 18.4	+0.3
LCO	Las Campanas	147.77	152	PKP2		PKPbc		13 53 18.5	+0.3

UCR 21 13:39:12.1±1.0, 10°.18N×84°.37W, h74km±2km, MW3.8, 23C-6D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
CPMI	Catarata Coope	0.10	351	↑	*eP*		Pn	13 39 23.6	+0.4
CPMI					*eS*		Sn	13 39 31.8	+0.5
RAMO	San Ramon	0.14	226		*eP*		Pn	13 39 23.1	-0.1
RAMO					*eS*		Sn	13 39 31.6	+0.4
TCS1	Tacares	0.15	155	↑	*iP*		Pn	13 39 23.0	-0.2
TCS1					*eS*		Sn	13 39 31.7	+0.4
BELE	Belen	0.27	139	↑	*iP*		Pn	13 39 23.2	-0.5
BELE					*eS*		Sn	13 39 32.0	-0.2
TRB2	Turrubares	0.28	197	↑	*iP*		Pn	13 39 23.2	-0.5
TRB2					*eS*		Sn	13 39 31.4	-0.8
SANTA	Santa Ana	0.30	144	↑	*iP*		Pn	13 39 23.0	-0.9
SANTA					*eS*		Sn	13 39 31.9	-0.7
HDC	Heredia	0.31	126	↑	*iP*		Pn	13 39 23.8	-0.1
HDC					*eS*		Sn	13 39 33.1	+0.4
HDC3	Heredia 3	0.31	125		*eP*		Pn	13 39 23.8	-0.2
HDC3					*eS*		Sn	13 39 32.9	+0.2
SOCE	Pocosol	0.32	309	↓	*eP*		Pn	13 39 24.3	+0.4
SOCE					*eS*		Sn	13 39 33.8	+1.2
ARZA	Esparza	0.35	237		*eP*		Pn	13 39 24.9	+0.8
ARZA					*eS*		Sn	13 39 34.2	+1.2
LUJA	Lujan	0.39	131	↑	*iP*		Pn	13 39 25.3	+0.7
LUJA					*eS*		Sn	13 39 35.0	+1.3
SJS	Escuela Geolog	0.39	128		*eP*		Pn	13 39 24.4	-0.2
SJS					*eS*		Sn	13 39 34.1	+0.4
SJS3	Mercedes San J	0.39	128		*eP*		Pn	13 39 24.6	0.0
VACR	Volcan Arenal	0.42	313		*eP*		Pn	13 39 25.3	+0.6
VACR					*eS*		Sn	13 39 35.0	+1.0
ARE1	Arenal 1	0.44	309	↓	*iP*		Pn	13 39 25.5	+0.6
ARE1					*eS*		Sn	13 39 36.1	+1.8
CVIMO	Finca Echandi	0.45	111	↑	*iP*		Pn	13 39 25.0	-0.1
CVIMO					*eS*		Sn	13 39 35.3	+0.6
CEDE	Laguna Cedeo	0.45	312	↓	*iP*		Pn	13 39 25.5	+0.6
CEDE					*eS*		Sn	13 39 36.0	+1.5
RIFO	Rio Frio, Sara	0.46	73		*eP*		Pn	13 39 25.3	+0.4
OCM	Ochomogo	0.49	126	↑	*iP*		Pn	13 39 25.5	-0.5
OCM					*eS*		Sn	13 39 35.3	0.0
TAGO	Cartago	0.54	126		*eP*		Pn	13 39 27.0	+1.2
VICA	Volcano Irazu	0.55	111	↑	*iP*		Pn	13 39 26.1	-0.2
LCR2	La Lucha 2	0.56	141	↑	*iP*		Pn	13 39 25.6	-0.5
LCR2					*eS*		Sn	13 39 36.5	0.0
ABE2	San Pablo	0.56	147		*eP*		Pn	13 39 25.7	-0.5
ABE2					*eS*		Sn	13 39 36.5	-0.1
JTS	Las Juntas de	0.59	281	↓	*eP*		Pn	13 39 26.1	-0.1
JTS					*eS*		Sn	13 39 37.0	+0.4
RAFA	San Farael, Vo	0.59	112		*eP*		Pn	13 39 26.8	+0.2
JUNT	Juntas	0.59	280		*eP*		Pn	13 39 26.2	0.0
VTRT	Volcan Turrial	0.59	108		*eP*		Pn	13 39 26.6	0.0
REPA	Paraso	0.60	126		*eP*		Pn	13 39 27.4	+0.9
PCAYA	Pacayas	0.61	116	↑	*iP*		Pn	13 39 27.2	+0.6
PCAYA					*eS*		Sn	13 39 38.2	+1.0
VTLA	Turrialba Volc	0.61	107	↑	*eP*		Pn	13 39 26.8	+0.1
BITO	Garabito Jaco	0.61	204		*eP*		Pn	13 39 26.0	-0.5
BITO					*eS*		Sn	13 39 38.1	+1.2
CVTQ	Turrialba Volc	0.61	107		*eP*		Pn	13 39 26.7	-0.2
CVTV	Tajo	0.63	106		*eP*		Pn	13 39 27.0	0.0
LAFE	Finca La Fe, P	0.65	235		*eP*		Pn	13 39 26.9	+0.1
RVLA	Villa Bonita	0.77	95	↑	*iP*		Pn	13 39 28.7	+0.6
TRT1	Tortuguero	0.78	58	↑	*iP*		Pn	13 39 28.5	+0.4
TENO	El Achiote	0.79	311	↑	*eP*		Pn	13 39 29.2	+0.8
TENO					*eS*		Sn	13 39 42.4	+1.8
LCOCO	El Coco	0.80	97		*eP*		Pn	13 39 28.9	+0.4
LCOCO					*eS*		Sn	13 39 42.0	+1.3
CDM	Cerro de Muert	0.86	136	↑	*eP*		Pn	13 39 28.9	-0.8
CDM					*eS*		Sn	13 39 42.1	-0.5
BUS1	Rivas	0.87	136	↑	*eP*		Pn	13 39 28.9	-0.8
BUS1					*eS*		Sn	13 39 42.2	-0.7
NYURE	Nandayure	0.89	258	↓	*iP*		Pn	13 39 29.4	-0.2
LCHIL	Los Chiles	0.92	338		*eP*		Pn	13 39 30.4	+0.6
LCHIL					*eS*		Sn	13 39 44.5	+1.5
CUI	Cuipilapa	0.92	301		*eP*		Pn	13 39 30.5	+0.5
CUI					*eS*		Sn	13 39 44.3	+1.1
CBL1	Cabuya	0.93	231	↑	*iP*		Pn	13 39 29.1	-0.9
COLC	Colonia	0.95	300		*eP*		Pn	13 39 30.7	+0.4
COLC					*eS*		Sn	13 39 44.9	+1.0
VMAR	Armenia, Volca	0.97	311	↑	*iP*		Pn	13 39 31.2	+0.7
VMAR					*eS*		Sn	13 39 45.9	+1.7
ZELE	Perez Zeledon	1.03	141		*eP*		Pn	13 39 31.3	0.0
ZELE					*eS*		Sn	13 39 45.9	+0.2
PEZE	Perez Zeledon,	1.04	139		*eP*		Pn	13 39 31.0	-0.5
PEZE					*eS*		Sn	13 39 46.0	+0.1
NICO	Nicoya	1.06	268		*eP*		Pn	13 39 32.1	+0.4
ORTG	Ortega, Santa	1.09	280		*eP*		Pn	13 39 32.4	+0.4
DUNO	Dulce Nombre,	1.11	265		*eP*		Pn	13 39 32.1	-0.2
GPS3	Bodega del ICE	1.14	300		*eP*		Pn	13 39 33.3	+0.7
VORI	VORI	1.15	303		*eP*		Pn	13 39 36.9	+3.

AC05				*e*S		**Sg**	**13 45 53.8**	**-0.8**
AC04	**Llanos de Chal**	**2.08**	**11**			**Pn**	**13 45 32.5**	**+0.5**
AC04	**Llanos de Chal**	**2.08**	**11**	*e*P		**Pb**	**13 45 33.9**	**-1.1**
AC04				IAML			13 46 08.6	
	comp=N,1μm,0.2s							
VA03	**San Esteban**	**2.63**	**162**			**Pn**	**13 45 41.5**	**+1.8**
VA03	**San Esteban**	**2.63**	**162**	*e*P		**Pn**	**13 45 41.8**	**+2.1**
VA03				*e*S		**Sn**	**13 46 13.9**	**+2.4**
VA03				IAML			13 46 25.1	
	comp=E,1μm,0.6s							
ROCH	**El Roble**	**2.74**	**171**	*e*P		**Pn**	**13 45 42.1**	**+0.7**
ROCH				*e*P		**Pn**	**13 45 42.0**	**+0.7**
ROCH				*i* S		**Sn**	**13 46 15.2**	**+0.8**
ROCH				*i* S		**Sb**	**13 46 19.5**	**-0.6**
ZON	**Zonda**	**2.75**	**119**	Pn		**Pn**	**13 45 43.0**	**+1.8**
VA01	**Torpederas**	**2.76**	**182**	Pn		**Pn**	**13 45 43.8**	**+2.4**
VA01	**Torpederas**	**2.76**	**182**	*e*P		**Pb**	**13 45 46.5**	**-0.2**
VA01				*e*S		**Sb**	**13 46 21.3**	**+0.9**
AC06	**Mina Casimiro**	**3.06**	**20**	Pn		**Pn**	**13 45 46.3**	**+0.9**
AC06	**Mina Casimiro**	**3.06**	**20**	*e*P		**Pn**	**13 45 46.4**	**+0.9**
MT10	**Hacienda Santa**	**3.12**	**165**	*e*P		**Pn**	**13 45 47.9**	**+1.5**
MT10				*i* S		**Sn**	**13 46 25.0**	**+1.4**
MT05	**Renca**	**3.20**	**168**			**Pn**	**13 45 49.8**	**+2.4**
MT05	**Renca**	**3.20**	**168**	*e*P		**Pn**	**13 45 50.5**	**+3.1**
FCH	**Farellones**	**3.24**	**162**	*e*P		**Pn**	**13 45 50.6**	**+2.4**
FCH				*i* S		**Sb**	**13 46 31.2**	**-3.1**
FCH				IAML			13 46 49.9	
	comp=E,439nm,0.4s							
MT14	**Cerro Cal¡n**	**3.24**	**165**	*e*P		**Pn**	**13 45 49.8**	**+1.7**
MT14				*i* S		**Sb**	**13 46 31.4**	**-2.8**
VCA	**Vinchina**	**3.25**	**63**	*e*P		**Pb**	**13 45 54.0**	**-1.1**
MT16	**CCHEN**	**3.27**	**165**	Pn		**Pn**	**13 45 51.0**	**+2.5**
MT16	**CCHEN**	**3.27**	**165**	*e*P		**Pn**	**13 45 51.3**	**+2.8**
MT16				*i* S		**Sn**	**13 46 29.4**	**+2.1**
MT16				IAML			13 46 43.3	
	comp=N,560nm,0.7s							
MT04	**Ro Olivares**	**3.35**	**160**	*e*P		**Pn**	**13 45 52.6**	**+2.9**
MT04				*i* S		**Sb**	**13 46 35.2**	**-2.4**
VA05	**Santo Domingo**	**3.40**	**182**	*e*P		**Pn**	**13 45 49.8**	**-0.3**
VA05				*e*S		**Sb**	**13 46 37.4**	**-1.2**
MT08	**Bocatoma Ro**	**3.43**	**159**			**Pn**	**13 45 53.3**	**+2.6**
MT08	**Bocatoma Ro**	**3.43**	**159**	*e*P		**Pn**	**13 45 54.7**	**-3.4**
MT08				*i* S		**Sb**	**13 46 37.0**	**-2.7**
MT15	**Las Vizcachas**	**3.44**	**166**	*e*P		**Pn**	**13 45 54.3**	**+3.5**
MT15				*e*S		**Sb**	**13 46 36.3**	**-3.7**
MT09	**Talagante**	**3.54**	**173**	Pn		**Pn**	**13 45 52.9**	**+0.7**
MT09	**Talagante**	**3.54**	**173**	*e*P		**Pn**	**13 45 53.0**	**+0.8**
MT09				*e*S		**Sn**	**13 46 32.8**	**-1.1**
MT09				IAML			13 46 49.8	
	comp=E,519nm,0.4s							
MT12	**Pirque**	**3.56**	**167**	*e*P		**Pn**	**13 45 53.7**	**+1.3**
MT12				*i* S		**Sb**	**13 46 41.7**	**-1.8**
MT01	**Popeta**	**3.61**	**177**	Pn		**Pn**	**13 45 54.6**	**+1.6**
MT01	**Popeta**	**3.61**	**177**	*e*P		**Pn**	**13 45 53.2**	**+0.2**
MT13	**San Alfonso**	**3.63**	**164**			**Pn**	**13 45 55.5**	**+2.0**
MT13	**San Alfonso**	**3.63**	**164**	*e*P		**Pn**	**13 45 55.4**	**+2.0**
MT13				*e*S		**Sn**	**13 46 37.9**	**+1.7**
LMEL	**Las Melosas**	**3.75**	**163**			**Pn**	**13 45 57.5**	**+2.4**
LMEL	**Las Melosas**	**3.75**	**163**	*e*P		**Pn**	**13 45 57.3**	**+2.1**
LMEL				*i* S		**Sn**	**13 46 41.6**	**+2.5**
BO04	**La Punta**	**3.80**	**169**			**Pn**	**13 45 56.7**	**+1.0**
BO04	**La Punta**	**3.80**	**169**	*e*P		**Pn**	**13 45 56.8**	**+1.0**
BO04				*i* S		**Sn**	**13 46 41.2**	**+0.9**
BO01	**Tunca**	**4.14**	**175**	Pn		**Pn**	**13 46 01.5**	**+1.1**
BO01	**Tunca**	**4.14**	**175**	*e*P		**Pn**	**13 46 00.9**	**+0.6**
AC01	**Pan de Azucar**	**4.17**	**11**	Pn		**Pn**	**13 45 59.6**	**-1.1**
AC01	**Pan de Azucar**	**4.17**	**11**	*e*P		**Pn**	**13 45 59.9**	**-0.8**
BO02	**Sierra Bellavi**	**4.57**	**172**	Pn		**Pn**	**13 46 07.4**	**+1.1**
BO02	**Sierra Bellavi**	**4.57**	**172**	*e*P		**Pn**	**13 46 07.6**	**+1.3**
GO05	**Huala**	**4.76**	**184**	Pn		**Pn**	**13 46 07.3**	**-1.5**
GO05	**Huala**	**4.76**	**184**	*e*P		**Pn**	**13 46 07.4**	**-1.5**
GO02	**Mina Guanaco**	**5.35**	**19**	Pn		**Pn**	**13 46 17.9**	**+0.7**
ML02	**Panimavida**	**5.50**	**179**	Pn		**Pn**	**13 46 19.6**	**+0.7**
PB14	**IPOC Station P**	**5.69**	**10**	Pn		**Pn**	**13 46 19.6**	**-2.3**
H03N1	**Juan Fernandez**	**7.06**	**241**	T		T	13 53 40.8	
	baz=65,slow=72							
H03N2	**Juan Fernandez**	**7.07**	**241**	T		T	13 53 38.8	
	baz=65,slow=72							
H03N3	**Juan Fernandez**	**7.07**	**241**	T		T	13 53 37.5	
	baz=65,slow=72							
PB15	**IPOC Station P**	**7.25**	**15**	Pn		**Pn**	**13 46 42.0**	**-1.2**
LVC	**Limon Verde**	**7.96**	**18**	Pn		**Pn**	**13 46 53.0**	**-0.1**
LVC	**Limon Verde**	**7.96**	**18**	P		**Pn**	**13 46 52.9**	**-0.3**
	comp=E,0.4nm,0.3s,baz=325,slow=13,SNR=2.1							
LVC				S		**Sn**	**13 48 17.8**	**-5.4**
	comp=E,10.0nm,0.6s,baz=249,slow=12,SNR=1.6							
	comp=E,1.8nm,0.3s							
PB01	**IPOC Station P**	**9.35**	**12**	Pn		**Pn**	**13 47 12.5**	**+0.5**
TRQA	**Tornquist**	**11.08**	**137**	Pn		**Pn**	**13 47 37.0**	**+1.5**
ITQB	**Itaqui**	**12.92**	**91**	Pn		**Pn**	**13 48 00.6**	**-0.1**
CPUP	**Villa Florida**	**13.09**	**76**	P		**Pn**	**13 48 06.9**	**+3.9**
	comp=E,0.1nm,0.3s,baz=237,slow=19,SNR=1.8							
	comp=E,1.2nm,0.7s							
LPAZ	**La Paz**	**14.24**	**13**	P		**Pn**	**13 48 21.7**	**+2.3**
	comp=E,0.4nm,0.3s,baz=179,slow=7.4,SNR=1.6							
	comp=E,1.1nm,0.3s							
SIV	**San Ignacio**	**17.12**	**36**	P		**P**	**13 48 58.2**	**+0.1**
	comp=E,0.1nm,0.3s,baz=229,slow=13,SNR=11							
	comp=E,2.4nm,0.5s							
SAML	**Samuel**	**22.58**	**22**	P		**P**	**13 49 58.5**	**+0.9**
BOAV	**Boa Vista**	**34.12**	**20**	P		**P**	**13 51 41.2**	**-0.8**
BOAV				IAmb		IAmb	13 51 50.9	
	comp=Z,4.8nm,1.0s							
MDP	**Montagnes des**	**39.53**	**30**	LR		LR	14 10 55.7	
	comp=Z,46nm,21.4s,baz=93,slow=39							
QSPA	**South Pole Qui**	**59.97**	**180**	P		**P**	**13 55 04.4**	**+1.1**
	comp=Z,0.8nm,0.8s,baz=179,slow=10,SNR=1.6							
	comp=Z,0.8nm,0.8s							
TXAR	**Lajitas Array**	**66.72**	**330**	P		**P**	**13 55 48.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=153,slow=6.1,SNR=3.4							
	comp=Z,0.3nm,0.7s							
TOA0	**Torodi Ar. Sit**	**82.51**	**70**	P		**P**	**13 57 19.9**	**-0.3**
TORD	**Torodi Ar. Bea**	**82.51**	**70**	P		**P**	**13 57 19.2**	**-1.0**
TORD				IAmb		IAmb	13 58 00.7	
	comp=Z,2.7nm,1.4s							
TORD	**Torodi Ar. Bea**	**82.51**	**70**	P		**P**	**13 57 19.5**	**-0.7**
	comp=Z,0.4nm,0.5s,baz=234,slow=1.2,SNR=2.6							
	comp=Z,0.4nm,0.5s							
H11S2	**WAKE ISLAND Hyl**	**26.20**	**272**	T		T	16 22 43.5	
	baz=115,slow=75,SNR=48							
H11S1	**WAKE ISLAND Hyl**	**26.21**	**272**	T		T	16 22 44.0	
	baz=115,slow=75,SNR=74							
H11S3	**WAKE ISLAND Hyl**	**26.22**	**272**	T		T	16 22 44.4	
	baz=115,slow=75,SNR=53							
H11N3	**WAKE ISLAND Hyl**	**26.52**	**273**	T		T	16 23 11.7	
	baz=117							
H11N1	**WAKE ISLAND Hyl**	**26.53**	**273**	T		T	16 23 12.9	
	baz=117							
H11N2	**WAKE ISLAND Hyl**	**26.53**	**273**	T		T	16 23 13.0	
	baz=117							
BVAR	**Borovoye Array**	**144.17**	**40**	PKP		**PKPab**	**14 04 30.5**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=342,slow=3.3,SNR=2.4							
KURBB	**Kurchatov Arra**	**149.76**	**39**	PKPbc		**PKPbc**	**14 04 45.2**	**-1.4**
	comp=Z,0.4nm,0.4s,baz=307,slow=3.1,SNR=1.9							
ZALV	**Zalesovo Beam**	**150.78**	**29**	PKPbc		**PKPbc**	**14 04 47.6**	**-1.3**
	comp=Z,1.5nm,0.6s,baz=300,slow=3.5,SNR=6.6							

*DJA **21** 14:16:03.7±0.5,9°S±5°×12°5E±°, h10km,M3.8/7, mb4.0/3, MLv3.6/7*
*IDC **21** 14:16:07.0±6.6,9.75S×125.31E,h93km±78km, mb3.0/1, mbtmp3.4/3,ML3.4/2, Error ellipse: s-maj=104.0km s-min=24.4km az=32.0*

ISC 21 14:16:02.2±1.4,9.5S±0.1×125.60E±0.10,h35km,n8, σ2s70/11,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	**Soe**	**1.34**	**259**	P	**Pn**	**14 16 25.8**	**+1.3**
BATI	**Baumata**	**2.03**	**250**	P	**Pn**	**14 16 35.8**	**+1.8**
	15nm,0.3s,baz=50,slow=7.9,SNR=3.0						
BATI				S	**Sn**	**14 16 56.8**	**-1.4**
	24nm,0.3s,baz=296,slow=23,SNR=7.5						
BATI	**Baumata**	**2.03**	**250**	P	**Pn**	**14 16 35.6**	**+1.6**
EDFI	**Ende, Flores**	**3.94**	**281**	P	**Pn**	**14 17 00.7**	**+0.5**
PLAI	**Plampang**	**7.76**	**274**	P	**Pn**	**14 17 52.5**	**-0.2**
	21nm,1.6s,0.1nm						
WRA	**Warramunga Arr**	**13.37**	**142**	P	**Pn**	**14 19 12.0**	**+2.4**
	0.2nm,0.3s,baz=320,slow=14,SNR=10.0						
WRA				S	**Sn**	**14 21 36.4**	**-0.7**
	0.4nm,0.4s,baz=320,slow=26,SNR=1.8						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**16.16**	**152**	P	**Pn**	**14 19 48.9**	**+2.1**
	0.2nm,0.3s,baz=330,slow=12,SNR=22						
ASAR				S	**Sn**	**14 22 39.0**	**-6.0**
	0.6nm,1.1s,baz=320,slow=22,SNR=2.3						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**68.04**	**329**	P	**P**	**14 26 56.9**	**-1.2**
	0.2nm,0.6s,baz=129,slow=3.9,SNR=2.4						
	0.2nm,0.6s						

*IDC **21** 14:18:54.8±1.1,25.50S×176.10W,h0km,mb3.8/7, mbtmp3.9/9,ML4.0/2,MS3.5/6,Error ellipse: s-maj=35.2km s-min=23.3km az=109.0*
*NEIC **21** 14:18:55.4±1.1,25.74S±0.10×175.6W±0.1,h10km±1km, mb4.5/4,Error ellipse: s-maj=23.4km s-min=13.4km az=121.0*

ISC 21 14:18:59.4±0.8,25.60S±0.08×175.9W±0.2,h31km,n26, σ0s88/22,mb3.9/8,MS3.7/5,South of Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.04**	**205**	Pn	**Pn**	**14 19 58.0**	**-1.2**
RAO	**Raoul Island**	**4.04**	**205**	Pn	**Pn**	**14 19 59.4**	**+0.3**
	41nm,0.3s,baz=24,slow=22,SNR=1.7						
RAO				Sn	**Sn**	**14 20 47.2**	**+1.7**
	91nm,0.3s,baz=253,slow=23,SNR=2.8						
	105nm,0.3s						
NIUE	**Niue**	**8.54**	**42**	Pn	Pn	14 20 55.8	-5.3
MSVF	**Nonsavu**	**9.62**	**323**	Pn	**Pn**	**14 21 17.2**	**+1.3**
AFI	**Afiamalu**	**12.27**	**19**	Pn	**Pn**	**14 21 51.6**	**-0.5**
URZ	**Urewera**	**13.93**	**203**	Pn	**Pn**	**14 22 13.6**	**-1.0**
	0.2nm,0.3s,baz=63,slow=22,SNR=1.0						
URZ				Sn	Sn	14 24 38.2	-10
	0.5nm,0.3s,baz=78,slow=21,SNR=2.2						
	4.0nm,0.8s						
RAR	**Rarotonga**	**15.46**	**77**	LR	LR	14 26 52.2	
	comp=Z,200nm,22.0s,baz=304,slow=31						
DZM	**Mont Dzumac**	**16.50**	**279**	LR	LR	14 28 13.5	
	comp=Z,263nm,18.2s,baz=106,slow=34						
MRZ	**Mangatainoka R**	**16.60**	**203**	P	**Pn**	**14 22 50.5**	**+0.7**
MRZ				IAmb	IAmb	14 23 03.9	
	comp=Z,59nm,1.4s						
HNR	**Honiara**	**27.98**	**301**	LR	LR	14 34 10.7	
	comp=Z,2μm,19.1s,baz=188,slow=33						
EIDS	**Eidsvold**	**29.74**	**263**	P	**P**	**14 25 03.1**	**0.0**
EIDS				IAmb	IAmb	14 25 20.5	
	comp=Z,10nm,1.2s						
CTAO	**Charters Tower**	**35.19**	**271**	P	**P**	**14 25 51.0**	**+0.1**
STKA	**Stephens Creek**	**37.58**	**250**	LR	LR	14 40 39.3	
	comp=Z,128nm,18.3s,baz=37,slow=35						
ASAR	**Alice Springs**	**45.42**	**261**	P	**P**	**14 27 14.5**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=95,slow=7.6,SNR=10						
ASAR				PcP	**PcP**	**14 28 54.3**	**-0.2**
	comp=Z,0.3nm,0.8s,baz=114,slow=4.3,SNR=2.0						
	comp=Z,0.6nm,0.7s						
WRA	**Warramunga Arr**	**45.99**	**266**	P	**P**	**14 27 18.4**	**-1.7**
	comp=Z,0.4nm,0.4s,baz=100,slow=6.7,SNR=9.2						
	comp=Z,0.4nm,0.4s						
WB0	**Warramunga Arr**	**45.99**	**267**	P	**P**	**14 27 20.1**	**0.0**
GUMO	**Guam**	**54.54**	**311**	LR	LR	14 48 56.4	
	comp=Z,34nm,21.4s,baz=134,slow=33						
QSPA	**South Pole Qui**	**64.49**	**180**	P	**P**	**14 29 33.5**	**+0.6**
	comp=Z,2.5nm,1.0s,baz=194,slow=5.6,SNR=3.1						
QSPA				LR	LR	14 52 53.7	
	comp=Z,54nm,21.8s,baz=19,slow=32						
	comp=Z,2.5nm,1.0s						
MJAR	**Matsushiro Arr**	**75.42**	**323**	P	**P**	**14 30 39.2**	**-1.1**
	comp=Z,1.0nm,0.7s,baz=137,slow=5.8,SNR=4.0						
	comp=Z,1.0nm,0.7s						
AMKA	**Amchitka**	**76.75**	**357**	P	**P**	**14 30 47.6**	**+0.2**
KSRS	**Korea Array**	**81.94**	**318**	P	**P**	**14 31 15.9**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=141,slow=7.9,SNR=4.2						
KSRS				LR	LR	15 02 10.9	
	comp=Z,14nm,21.4s,baz=100,slow=32						
	comp=Z,0.8nm,0.8s						
NVAR	**Mina Array Bea**	**83.47**	**42**	P	**P**	**14 31 25.1**	**+0.8**
	comp=Z,0.2nm,0.5s,baz=231,slow=5.1,SNR=2.7						
	comp=Z,0.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**93.58**	**289**	P	**P**	**14 32 13.0**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=111,slow=5.0,SNR=4.9						
	comp=Z,0.8nm,0.8s						
NOA	**NORSAR Array B**	**144.24**	**354**	PKP	**PKPab**	**14 38 29.9**	**+0.3**
	comp=Z,0.9nm,0.8s,baz=20,slow=1.6,SNR=3.6						
HFS	**Hagfors**	**144.84**	**352**	PKP	**PKPab**	**14 38 31.8**	**0.0**
	comp=Z,2.4nm,0.7s,baz=34,slow=3.6,SNR=5.9						
AKASG	**Malin Array Be**	**148.36**	**329**	PKPbc	**PKPbc**	**14 38 42.1**	**-0.3**
	comp=Z,0.8nm,0.5s,baz=41,slow=3.9,SNR=5.3						

*DJA **21** 14:38:34.1±2.3,7°S±5°×10°2E±°, h12km±18km, M4.9/15, mb5.0/12,mB5.5/6,MLv4.8/15,Mw(mB)5.0/6*
*IDC **21** 14:38:35.9±0.7,6.64S×102.34E,h0km,mb4.2/13, mbtmp4.2/14,ML4.5/1,MS3.3/2,Error ellipse: s-maj=24.3km s-min=13.4km az=60.0*
*NEIC **21** 14:38:36.7±1.9,6.68S±0.06×102.32E±0.05,h10km±1km, mb4.7/27,Error ellipse: s-maj=11.8km s-min=5.6km az=320.0*

ISC 21 14:38:38.6±0.5,6.70S±0.06×102.36E±0.06,h24km,n97, σ1s40/89,mb4.5/33,MS4.0/5,1C,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LWLI	**Liwa**	**2.38**	**46**	P	**Pn**	**14 39 15.4**	**-0.8**
MNAI	**Manna**	**2.40**	**14**	Pn	**Pn**	**14 39 14.7**	**-1.8**
MNAI	**Manna**	**2.40**	**14**	P	**Pn**	**14 39 14.6**	**-1.8**
KASI	**Kota Agung**	**2.42**	**61**	P	**Pn**	**14 39 15.5**	**-1.3**
SKJI	**Sukabumi**	**4.18**	**94**	P	**Pn**	**14 39 40.5**	**-0.4**
DBJI	**Dramaga**	**4.37**	**88**	P	**Pn**	**14 39 41.8**	**-1.7**
PMBI	**Palembang**	**4.45**	**33**	Pn	**Pn**	**14 39 43.2**	**-1.5**
CBJI	**Citeko**	**4.47**	**87**	P	**Pn**	**14 39 46.8**	**+1.9**
PPSI	**Pulau Pagai**	**4.55**	**329**	P	**Pn**	**14 39 44.1**	**-2.0**
CNJI	**Cibinong**	**4.78**	**98**	P	**Pn**	**14 39 47.4**	**-1.7**
XMIS	**Christmas Isla**	**4.97**	**139**	Pn	Pn	14 39 46.8	-5.1
LEM	**Lembang**	**5.22**	**92**	Pn	**Pn**	**14 39 57.5**	**+2.0**
	15nm,0.3s,baz=191,slow=6.3,SNR=13						
LEM				Sn	**Sn**	**14 40 56.8**	**+1.7**
	2.5nm,0.3s,baz=285,slow=19,SNR=1.3						
	103nm,0.7s						
LEM	**Lembang**	**5.22**	**92**	P	**Pn**	**14 39 56.0**	**+0.5**
	217nm,0.8s,2μm0.6nm						
PDSI	**Padang**	**6.05**	**342**	P	**Pn**	**14 40 04.2**	**-2.5**
	37nm,0.6s,0.7nm						
CMJI	**Cimerak**	**6.14**	**101**	P	**Pn**	**14 40 06.6**	**-1.3**
	284nm,0.4s,6μm1.3nm						
SISI	**Saibi**	**6.25**	**328**	P	**Pn**	**14 40 06.9**	**-2.5**
	56nm,0.7s,0.3nm						
DSRI	**Dabo**	**6.56**	**20**	P	**Pn**	**14 40 11.9**	**-1.8**
	39nm,0.9s,914nm0.2nm						
COCO	**West Island**	**7.71**	**225**	Pn	**Pn**	**14 40 28.8**	**-0.6**
PBSI	**Pulau Batu**	**7.75**	**328**	P	**Pn**	**14 40 26.9**	**-3.1**
	44nm,1.3s,0.4nm						
TPRI	**Tanjung Pinang**	**7.87**	**16**	P	**Pn**	**14 40 28.8**	**-2.8**
YOGI	**Yogyakarta**	**7.95**	**99**	P	**Pn**	**14 40 31.7**	**-1.1**
	63nm,0.5s						
UGM	**Wanagama**	**8.19**	**99**		**Pn**	**14 40 35.1**	**-1.0**
UGM	**Wanagama**	**8.19**	**99**	P	**Pn**	**14 40 35.0**	**-1.1**
	231nm,1.0s						
GSI	**Gunungsitoli**	**9.27**	**329**	Pn	**Pn**	**14 40 51.1**	**+0.2**
PWJI	**Pagerwojo**	**9.46**	**99**	P	**Pn**	**14 40 52.8**	**-0.7**
	87nm,1.0s						
GRJI	**Gresik**	**10.05**	**92**	P	**Pn**	**14 41 00.8**	**-0.8**
	187nm,0.8s						
SNSI	**Sinabang, Aceh**	**10.87**	**326**	P	**Pn**	**14 41 10.2**	**-2.6**
	40nm,1.6s						
KCSI	**Kotacane, Aceh**	**11.13**	**336**	P	**Pn**	**14 41 14.2**	**-2.3**
JAGI	**Jajag, Banyuwa**	**11.82**	**99**	Pn	**Pn**	**14 41 24.9**	**-1.1**
KULM	**Kulim**	**12.03**	**352**	Pn	**Pn**	**14 41 26.6**	**-2.1**
SBUM	**Sibu**	**13.40**	**48**	Pn	**Pn**	**14 41 46.5**	**-0.9**
DLV	**T Lat**	**19.49**	**18**	P	**P**	**14 43 04.4**	**0.0**
TOLI2	**Tolitoli**	**19.96**	**68**	P	**P**	**14 43 08.5**	**-0.8**
MYLDM	**Lahad Datu**	**19.97**	**54**	P	**P**	**14 43 09.5**	**+0.1**
MYLDM				IAmb	IAmb	14 43 34.0	
	comp=Z,70nm,1.2s						
BATI	**Baumata**	**21.36**	**101**	P	**P**	**14 43 25.1**	**+0.7**
	comp=Z,49nm,0.7s,baz=304,slow=3.6,SNR=7.2						
	comp=Z,49nm,0.7s						
SOEI	**Soe**	**21.89**	**99**	P	**P**	**14 43 29.1**	**-1.2**
UBPT	**Khong Chiam**	**22.05**	**8**	P	**P**	**14 43 30.4**	**-1.4**
UBPT				IAmb	IAmb	14 43 41.3	
	comp=Z,20nm,0.8s						
PHRA	**Phrae**	**25.12**	**355**	P	**P**	**14 44 00.7**	**-1.2**
CM31	**Chiang Mai Arr**	**25.22**	**352**	P	**P**	**14 44 01.7**	**-1.1**
CM31				IAmb	IAmb	14 44 05.4	
	comp=Z,25nm,1.2s						
CMAR	**Chiang Mai Arr**	**25.22**	**352**	P	**P**	**14 44 01.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**25.22**	**352**	P	**P**	**14 44 03.1**	**+0.3**
	comp=Z,7.2nm,0.8s,baz=186,slow=8.4,SNR=44						
CMAR				LR	LR	14 54 35.2	
	comp=Z,48nm,18.3s,baz=230,slow=38						
	comp=Z,7.2nm,0.8s						
FITZ	**Fitzroy Crossi**	**25.37**	**119**	P	**P**	**14 44 03.7**	**-0.5**
CHTO	**Chiang Mai**	**25.57**	**352**	P	**P**	**14 44 05.6**	**-0.4**
CRAI	**Chiangrai**	**26.83**	**356**	P	**P**	**14 44 16.8**	**-0.5**
SLVN	**Son La**	**27.90**	**3**	P	**P**	**14 44 26.9**	**-0.1**
SLVN				IAmb	IAmb	14 44 28.6	
	comp=Z,11nm,0.9s						
H08S2	**Diego Garcia H**	**29.64**	**266**	T	T	15 16 19.1	
	baz=88						
H08S3	**Diego Garcia H**	**29.65**	**266**	T	T	15 16 30.1	
	baz=88,slow=74						
H08S1	**Diego Garcia H**	**29.66**	**266**	T	T	15 16 06.6	
	baz=88,slow=74						
H01W3	**Cape Leeuwin H**	**30.08**	**160**	T	T	15 16 20.4	
	baz=338,slow=74						
H01W2	**Cape Leeuwin H**	**30.09**	**160**	T	T	15 16 21.0	
	baz=338,slow=74						
H01W1	**Cape Leeuwin H**	**30.09**	**160**	T	T	15 16 22.5	
	baz=338						
PZH	**PanZhiHua**	**33.01**	**359**	P	P	14 45 17.3	+5.1
PZH				S	**S**	**14 50 33.8**	**+4.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,70nm,5.2s						
PZH				LR	LR		
	comp=N,170nm,14.2s						
PZH				LR	LR		
	comp=E,170nm,15.0s						
PZH				LR	LR		
	comp=Z,190nm,12.2s						
GYA	**Guiyang**	**33.22**	**7**	⇑P	**P**	**14 45 15.3**	**+1.3**
GYA				pmax	pmax		
	comp=Z,14nm,1.2s						
WB0	**Warramunga Arr**	**33.70**	**116**	P	**P**	**14 45 17.7**	**-0.6**
WB0				IAmb	IAmb	14 45 28.2	
	comp=Z,10nm,1.1s						
WRA	**Warramunga Arr**	**33.71**	**116**	P	**P**	**14 45 17.8**	**-0.5**
WRA	**Warramunga Arr**	**33.71**	**116**	P	**P**	**14 45 19.1**	**+0.8**
	comp=Z,1.3nm,0.6s,baz=286,slow=12,SNR=14						
	comp=Z,1.3nm,0.6s						
WB2	**Warramunga Arr**	**33.72**	**116**	P	**P**	**14 45 18.0**	**-0.4**
WB2				IAmb	IAmb	14 45 20.3	
	comp=Z,5.7nm,0.8s						
WR0	**Warramunga Arr**	**33.89**	**116**	P	**P**	**14 45 19.6**	**-0.3**
WR0				IAmb	IAmb	14 45 29.9	
	comp=Z,9.3nm,1.1s						
ASAR	**Alice Springs**	**34.68**	**123**	P	**P**	**14 45 24.1**	**-2.7**
ASAR	**Alice Springs**	**34.68**	**123**	P	**P**	**14 45 27.9**	**+1.1**
	comp=Z,0.6nm,0.5s,baz=297,slow=7.9,SNR=20						
ASAR				PcP	**PcP**	**14 48 01.8**	**+1.1**
	comp=Z,0.5nm,1.1s,baz=303,slow=2.4,SNR=1.6						
	comp=Z,0.6nm,0.5s						
NJ2	**Nanjing**	**41.62**	**21**	*e*P	**P**	**14 46 25.5**	**+0.5**
NJ2				pP	**pP**	**14 46 31.3**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,190nm,4.2s						
JOW	**Kunigami**	**41.73**	**36**	LR	LR	15 03 12.0	
	comp=Z,55nm,20.7s,baz=153,slow=35						
LZH	**Lanzhou**	**42.58**	**2**	*e*P	**P**	**14 46 34.1**	**+1.2**
LZH				sP	sP	14 46 42.3	+0.9
LZH				pmax	pmax		
	comp=Z,9.0nm,1.2s						
LZH				LR	LR		
	comp=N,260nm,11.3s						
LZH				LR	LR		
	comp=E,120nm,10.7s						
LZH		

*DNK **21** 14:42:21.6±0.5,58°.41N×24°.33E,h0km,ML2.2(UPP), Suspected explosion*
*UPP **21** 14:42:22.7±2.8,58°.42N×24°.23E,h0km,ML2.2*
*HEL **21** 14:42:28.9±0.1,58°.54N×23°.52E,h0km,ML1.8,Explosion*
*EST **21** 14:42:28.7±0.1,58°.53N×23°.49E,h0km,ML1.8(HEL), Explosion*
*IDC **21** 14:42:32.7±2.1,59°.01N×23°.33E,h0km,mbtmp3.0/4, ML1.9/4,Error ellipse: s-maj=23.9km s-min=9.0km az=159.0*

ISC 21 14:42:27.0±0.8,**58°.50N**±0°.03×**23°.48E**±0°.03,**h0**km,**n44,** σ1§**06**/60,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
MTSE	**Matsula**	**0.28**	**39**	*eP*		**Pb**		**14 42 34.9**	**-0.1**
MTSE	**Matsula**	**0.28**	**39**	*eP*		**Pg**		**14 42 32.9**	**+0.5**
MTSE				*eS*		**Sg**		**14 42 36.5**	**+0.5**
EE01	**Perakula, Nova**	**0.72**	**6**	*eP*		**Pg**		**14 42 40.5**	**-0.2**
EE01				*eS*		**Sg**		**14 42 48.9**	**-1.1**
EE08	**Sarghaua, Vand**	**0.94**	**79**	*eP*		**Pg**		**14 42 45.0**	**+0.1**
EE08				*eS*		**Sg**		**14 42 56.7**	**-0.4**
EE02	**Kiisa, Saku**	**0.94**	**42**	*eP*		**Pg**		**14 42 44.9**	**-0.1**
EE02				*eS*		**Sg**		**14 42 56.7**	**-0.6**
SLIT	**Slitere, Latvi**	**1.07**	**216**	*eP*		**Pg**		**14 42 46.8**	**-0.8**
SLIT	**Slitere, Latvi**	**1.07**	**216**	*eP*		**Pg**		**14 42 47.8**	**+0.2**
SLIT				*eS*		**Sg**		**14 43 02.5**	**+1.0**
EE03	**Tooma soojaam,**	**1.51**	**74**	*eP*		**Pn**		**14 42 55.6**	**+0.4**
EE03				*eS*		**Sg**		**14 43 15.2**	**-0.2**
ARBE	**Arbavere**	**1.61**	**53**	*eP*		**Pn**		**14 42 56.6**	**+0.1**
ARBE	**Arbavere**	**1.61**	**53**	*eP*		**Pn**		**14 42 57.0**	**+0.4**
ARBE				*eS*		**Sn**		**14 43 18.2**	**+0.2**
VSU	**Vasula**	**1.71**	**90**	*eP*		**Pb**		**14 42 58.9**	**-0.4**
VSU				*eS*		**Sn**		**14 43 20.8**	**+0.2**
MEF	**Metsahovi**	**1.79**	**15**	*eP*		**Pn**		**14 42 59.8**	**+0.7**
MEF	**Metsahovi**	**1.79**	**15**	*eP*		**Pn**		**14 42 59.8**	**+0.7**
MEF				*eS*		**Sn**		**14 43 22.0**	**-0.5**
MEF				MSG				14 43 27.9	
	comp=Z,8.6nm,0.1s								
HEL1	**Helsinki**	**1.83**	**23**	*eP*		**Pn**		**14 42 59.6**	**-0.1**
HEL1				*eS*		**Sn**		**14 43 23.4**	**-0.1**
HEL1				MSG				14 43 29.1	
	comp=Z,5.9nm,0.1s								
NUR	**Nurmijrvi**	**2.11**	**16**	*eP*		**Pn**		**14 43 04.9**	**+1.5**
NUR				*eSB*		**Sn**		**14 43 31.6**	**+1.3**
NUR				MSG				14 43 37.3	
	comp=Z,4.3nm,0.1s								
PVF	**Pernaja**	**2.39**	**30**	*eP*		**Pn**		**14 43 09.5**	**+2.2**
PVF				*eS*		**Sn**		**14 43 38.6**	**+1.4**
PVF				MSG				14 43 45.8	
	comp=Z,2.6nm,0.1s								
AAL	**Aland**	**2.46**	**315**	*eP*		**Pn**		**14 43 10.4**	**+2.1**
AAL	**Aland**	**2.46**	**315**	*eP*		**Pn**		**14 43 09.0**	**+0.8**
AAL				*eS*		**Sn**		**14 43 40.2**	**+1.3**
AAL	**Aland**	**2.46**	**315**	P		**Pn**		**14 43 08.4**	**+0.2**
AAL				S		**Sb**		**14 43 42.7**	**0.0**
AAL	**Aland**	**2.46**	**315**	P		**Pn**		**14 43 08.4**	**+0.2**
AAL				S		**Sb**		**14 43 42.7**	**0.0**
RAF	**Rauma**	**2.68**	**342**	*eP*		**Pn**		**14 43 13.2**	**+2.0**
RAF	**Rauma**	**2.68**	**342**	*eP*		**Pn**		**14 43 13.2**	**+2.0**
GOTU	**Gotland**	**2.73**	**255**	P		**Pn**		**14 43 12.8**	**+0.8**
GOTU	**Gotland**	**2.73**	**255**	P		**Pn**		**14 43 12.8**	**+0.8**
NRTU	**Norrtaelje**	**2.77**	**297**	P		**Pn**		**14 43 13.8**	**+1.3**
NRTU	**Norrtaelje**	**2.77**	**297**	P		**Pn**		**14 43 13.8**	**+1.3**
NYNU	**Nynaeshamn**	**2.90**	**282**	P		**Pn**		**14 43 15.1**	**+0.8**
NYNU	**Nynaeshamn**	**2.90**	**282**	P		**Pn**		**14 43 15.1**	**+0.8**
GRAU	**Graesoe**	**3.12**	**308**	P		**Pn**		**14 43 17.9**	**+0.5**
GRAU	**Graesoe**	**3.12**	**308**	P		**Pn**		**14 43 17.9**	**+0.5**
FINES	**FINESS Array B**	**3.23**	**23**	Pn		**Pn**		**14 43 18.6**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=16								
FINES					Lg		Lg	14 44 00.6	
	comp=Z,0.2nm,0.3s,baz=211,slow=32,SNR=2.5								
	comp=Z,0.9nm,0.3s								
FIA1	**FINESS Array S**	**3.23**	**23**	*eP*		**Pn**		**14 43 20.2**	**+1.3**
FIA1				*eS*		**Sn**		**14 43 58.6**	**+0.5**
FLYU	**Flymyra**	**3.30**	**302**	P		**Pn**		**14 43 21.0**	**+1.1**
FLYU	**Flymyra**	**3.30**	**302**	P		**Pn**		**14 43 21.0**	**+1.1**
FORU	**Forsmark**	**3.30**	**307**	P		**Pn**		**14 43 20.5**	**+0.6**
FORU	**Forsmark**	**3.30**	**307**	P		**Pn**		**14 43 20.5**	**+0.6**
FIBU	**Brunna**	**3.45**	**297**	P		**Pn**		**14 43 22.9**	**+1.0**
FIBU	**Brunna**	**3.45**	**297**	P		**Pn**		**14 43 22.9**	**+1.0**
VIKU	**Vikbolandet**	**3.56**	**273**	*eP*		**Pn**		**14 43 24.6**	**+1.3**
IDID	**Didziasalis**	**3.66**	**149**	*eP*		Pn		14 43 16.5	-8.2
KEF	**Keuruu**	**3.75**	**10**	*eP*		**Pn**		**14 43 26.1**	**+0.1**
HFS	**Hagfors**	**5.27**	**292**	Pn		**Pn**		**14 43 47.8**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=105,slow=14,SNR=19								
HFS					Sn		**Sn**	**14 44 45.8**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=102,slow=28,SNR=1.6								
HFS					Lg		Lg	14 45 07.4	
	comp=Z,0.2nm,0.3s,baz=98,slow=31,SNR=2.3								
	comp=Z,0.9nm,0.3s								
NOA	**NORSAR Array B**	**6.70**	**298**	Pn		**Pn**		**14 44 06.1**	**-0.4**
	baz=104,slow=14,SNR=6.6								
NOA					Lg		Lg	14 45 54.8	
	baz=6.6,slow=19,SNR=1.8								
	comp=Z,0.1nm,0.4s								
ARCES	**ARCESS Array B**	**11.12**	**4**	Pn		**Pn**		**14 45 03.7**	**-3.2**
	baz=187,slow=13,SNR=5.5								
	comp=Z,2.8nm,1.0s								

*IDC **21** 14:57:11.5±9.1,14°.47S×166°.50E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=251.6km s-min=49.2km az=125.0*
*NOU **21** 14:57:19.7,15°.25S×167°.72E,h119km,MLv4.4/9, Vanuatu Islands*

ISC 21 14:57:15.1±1.9,**14°.9S**±0°.2×**167°.2E**±0°.2,**h57**km,**n11,** σ0§**88**/11,**mb3.7/3,Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
DVP	**Devils Point**	**2.98**	**161**	P		**Pn**		**14 57 59.8**	**-0.1**
LIFNC	**LIFOU**	**5.86**	**180**	P		**Pn**		**14 58 39.2**	**-0.1**
YATNC	**Mamie plateau,**	**7.14**	**182**	P		**Pn**		**14 58 56.5**	**-0.4**
DZM	**Mont Dzumac**	**7.18**	**186**	P		**Pn**		**14 58 58.3**	**+0.7**
NOUC	**Port Laguerre**	**7.22**	**187**	P		**Pn**		**14 58 59.0**	**+0.9**
ONTNC	**Ouen Toro**	**7.41**	**185**	P		**Pn**		**14 59 02.1**	**+1.4**
OUENC	**Ouen Island, N**	**7.50**	**182**	P		**Pn**		**14 59 02.3**	**+0.5**
PINNC	**Pines Island,**	**7.69**	**178**	P		**Pn**		**14 59 04.3**	**-0.1**
WRA	**Warramunga Arr**	**31.71**	**256**	P		**P**		**15 03 33.0**	**-0.7**
	0.4nm,0.6s,baz=85,slow=8.4,SNR=1.8								
	0.4nm,0.6s								
ASAR	**Alice Springs**	**32.55**	**249**	P		**P**		**15 03 40.0**	**-1.0**
	0.6nm,0.5s,baz=78,slow=8.7,SNR=21								
	0.6nm,0.5s								
SONM	**Songino Array**	**82.58**	**324**	P		**P**		**15 09 32.9**	**+0.7**
	0.5nm,0.4s,baz=104,slow=6.1,SNR=4.2								
	0.5nm,0.4s								

*DNK **21** 15:08:25.1±0.6,59°.61N×24°.99E,h0km,ML2.6(UPP), Suspected explosion*
*UPP **21** 15:08:27.3±2.8,59°.62N×24°.73E,h0km,ML2.6*
*IDC **21** 15:08:29.5±2.0,59°.50N×24°.58E,h0km,mbtmp3.3/4, ML2.7/4,Error ellipse: s-maj=21.7km s-min=7.7km az=141.0*
*EST **21** 15:08:29.4±0.0,59°.52N×24°.41E,h0km,ML2.5(HEL), Explosion*
*HEL **21** 15:08:29.5±0.0,59°.53N×24°.41E,h0km,ML2.5,Explosion*
*BER **21** 15:08:30.2±4.3,59°.54N×24°.45E,h0km,ML1.8, ML2.5(HEL),Suspected explosion*
*LVSN **21** 15:08:31.2±4.1,59°.58N×24°.59E,h0km±57km,ML2.6*

ISC 21 15:08:27.9±0.7,**59°.53N**±0°.02×**24°.41E**±0°.02,**h0**km,**n74,** σ1§**06**/114,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
EE02	**Kiisa, Saku**	**0.37**	**156**	*eP*		**Pg**		**15 08 35.6**	**+0.6**
EE02				*eS*		**Sg**		**15 08 40.2**	**+0.4**
EE01	**Perakula, Nova**	**0.52**	**231**	*eP*		**Pg**		**15 08 38.5**	**+0.7**
EE01				*eS*		**Sg**		**15 08 45.0**	**+0.5**
HEL5	**Espoo, Suvisaa**	**0.61**	**16**	*eP*		**Pg**		**15 08 40.5**	**+0.9**
HEL5				*eS*		**Sg**		**15 08 48.4**	**+0.8**
HEL3	**Helsinki**	**0.68**	**18**	*eP*		**Pg**		**15 08 41.6**	**+0.7**
HEL3				*eS*		**Sg**		**15 08 50.1**	**+0.4**
MEF	**Metsahovi**	**0.69**	**359**	*eP*		**Pg**		**15 08 42.1**	**+1.0**
MEF				*eS*		**Sg**		**15 08 51.1**	**+1.1**
MEF	**Metsahovi**	**0.69**	**359**	*eP*		**Pg**		**15 08 42.2**	**+1.0**
MEF				*eS*		**Sg**		**15 08 51.3**	**+1.3**
MEF						AML	AML	15 08 56.8	
	comp=N,74nm,0.9s								
MEF						AML	AML	15 08 57.0	
	comp=Z,113nm,0.6s								
MEF						AML	AML	15 09 00.1	
	comp=E,45nm,0.1s								
MEF	**Metsahovi**	**0.69**	**359**	*eP*		**Pg**		**15 08 42.1**	**+1.0**
MEF				*eS*		**Sg**		**15 08 51.1**	**+1.1**
HEL1	**Helsinki**	**0.69**	**20**	*eP*		**Pg**		**15 08 42.0**	**+0.8**
HEL1				*eS*		**Sg**		**15 08 50.6**	**+0.5**
HEL1	**Helsinki**	**0.69**	**20**	*eP*		**Pg**		**15 08 42.0**	**+0.8**
HEL1				*eS*		**Sg**		**15 08 50.6**	**+0.5**
HEL2	**Helsinki**	**0.69**	**18**	*eP*		**Pg**		**15 08 42.0**	**+0.8**
HEL4	**Helsinki**	**0.74**	**15**	*eP*		**Pg**		**15 08 42.7**	**+0.6**
HEL4				*eS*		**Sg**		**15 08 53.1**	**+1.3**
ARBE	**Arbavere**	**0.81**	**96**	*eP*		**Pg**		**15 08 44.1**	**+0.7**
ARBE				*eS*		**Sg**		**15 08 54.6**	**+0.7**
ARBE	**Arbavere**	**0.81**	**96**	*eP*		**Pg**		**15 08 43.5**	**+0.1**
ARBE	**Arbavere**	**0.81**	**96**	*eP*		**Pg**		**15 08 43.9**	**+0.5**
ARBE						AML	AML	15 08 45.0	
	comp=Z,224nm,0.1s								
ARBE						AML	AML	15 09 02.5	
	comp=E,755nm,0.2s								
ARBE						AML	AML	15 09 12.6	
	comp=N,578nm,0.1s								
ARBE	**Arbavere**	**0.81**	**96**	*eP*		**Pg**		**15 08 44.1**	**+0.7**
ARBE				*eS*		**Sg**		**15 08 54.6**	**+0.7**
MTSE	**Matsula**	**0.88**	**201**	*eP*		**Pg**		**15 08 45.0**	**+0.3**
MTSE				*eS*		**Sg**		**15 08 56.1**	**+0.1**
MTSE	**Matsula**	**0.88**	**201**	*eP*		**Pg**		**15 08 45.0**	**+0.3**
MTSE	**Matsula**	**0.88**	**201**	*eP*		**Pg**		**15 08 45.0**	**+0.3**
MTSE				*eS*		**Sg**		**15 08 56.1**	**+0.1**
EE08	**Sarghaua, Vand**	**0.98**	**154**	*eP*		**Pg**		**15 08 46.8**	**+0.2**
EE08				*eS*		**Sg**		**15 08 59.4**	**+0.1**
NUR	**Nurmijrvi**	**0.99**	**7**	*eP*		**Pg**		**15 08 47.3**	**+0.5**
NUR	**Nurmijrvi**	**0.99**	**7**	*eP*		**Pg**		**15 08 47.3**	**+0.5**
EE03	**Tooma soojaam,**	**1.17**	**124**	*eP*		**Pg**		**15 08 50.0**	**-0.2**
EE03				*eS*		**Sg**		**15 09 05.3**	**0.0**
PVF	**Pernaja**	**1.25**	**35**	*eP*		**Pg**		**15 08 52.0**	**+0.1**
PVF				*eS*		**Sg**		**15 09 07.9**	**-0.2**
PVF	**Pernaja**	**1.25**	**35**	*eP*		**Pg**		**15 08 52.0**	**+0.1**
PVF				*eS*		**Sg**		**15 09 07.9**	**-0.2**
VSU	**Vasula**	**1.61**	**131**	*eP*		**Pn**		**15 08 58.1**	**+0.5**
VSU				*eS*		**Sn**		**15 09 18.8**	**-0.3**
VSU	**Vasula**	**1.61**	**131**	*eP*		**Pn**		**15 08 58.2**	**+0.6**
VSU						AML	AML	15 09 00.2	
	comp=Z,85nm,0.2s								
VSU				*eS*		**Sn**		**15 09 19.4**	**+0.3**
VSU						AML	AML	15 09 23.5	
	comp=E,159nm,0.4s								
VSU						AML	AML	15 09 25.1	
	comp=N,113nm,0.2s								
VSU	**Vasula**	**1.61**	**131**	*eP*		**Pn**		**15 08 58.1**	**+0.5**
VSU				*eS*		**Sn**		**15 09 18.8**	**-0.3**
VJF	**Virojoki**	**1.88**	**56**	*eP*		**Pn**		**15 09 02.0**	**+0.8**
VJF				*eSG*		**Sb**		**15 09 27.5**	**+0.6**
VJF				MSG				15 09 29.8	
	comp=Z,44nm,0.2s								
VJF	**Virojoki**	**1.88**	**56**	*eP*		**Pn**		**15 09 02.0**	**+0.8**
VJF				*eSG*		**Sb**		**15 09 27.5**	**+0.6**
VJF				MSG				15 09 29.8	
	comp=Z,44nm,0.2s								
RAF	**Rauma**	**1.99**	**320**	*eP*		**Pb**		**15 09 05.3**	**+0.2**
RAF				*eSG*		**Sb**		**15 09 31.1**	**+0.8**
RAF				MSG				15 09 34.2	
	comp=Z,25nm,0.2s								
RAF	**Rauma**	**1.99**	**320**	*eP*		**Pb**		**15 09 05.5**	**+0.5**
RAF	**Rauma**	**1.99**	**320**	*eP*		**Pb**		**15 09 05.2**	**+0.2**
RAF				*eS*		**Sg**		**15 09 32.2**	**+0.2**
RAF						AML	AML	15 09 34.2	
	comp=Z,38nm,0.3s								
RAF						AML	AML	15 09 34.4	
	comp=N,48nm,0.2s								
RAF						AML	AML	15 09 34.9	
	comp=E,64nm,0.2s								
RAF	**Rauma**	**1.99**	**320**	*eP*		**Pb**		**15 09 05.3**	**+0.2**
RAF				*eSG*		**Sb**		**15 09 31.1**	**+0.8**
RAF				MSG				15 09 34.2	
	comp=Z,25nm,0.2s								
FINES	**FINESS Array B**	**2.09**	**23**	Pn		**Pb**		**15 09 06.9**	**+0.2**
	comp=Z,9.6nm,0.3s,baz=201,slow=14,SNR=445								
FINES					Lg		Lg	15 09 34.4	
	comp=Z,5.7nm,0.3s,baz=198,slow=28,SNR=13								
	comp=Z,25nm,0.3s								
FIA1	**FINESS Array S**	**2.09**	**23**	*eP*		**Pb**		**15 09 06.7**	**0.0**
FIA1				*eSG*		**Sb**		**15 09 33.5**	**+0.3**
FIA1	**FINESS Array S**	**2.09**	**23**	*eP*		**Pb**		**15 09 06.7**	**0.0**
FIA1				*eSG*		**Sb**		**15 09 33.5**	**+0.3**
SLIT	**Slitere, Latvi**	**2.21**	**211**	*eP*		**Pn**		**15 09 07.6**	**+1.8**
SLIT				*eSG*		**Sb**		**15 09 37.7**	**+1.2**
SLIT	**Slitere, Latvi**	**2.21**	**211**	*eP*		**Pn**		**15 09 07.0**	**+1.3**
SLIT	**Slitere, Latvi**	**2.21**	**211**	*eP*		**Pb**		**15 09 07.8**	**-0.9**
SLIT						AML	AML	15 09 08.9	
	comp=Z,323nm,0.1s								
SLIT				*eS*		**Sb**		**15 09 38.1**	**+1.6**
SLIT						AML	AML	15 09 39.8	
	comp=E,452nm,0.2s								
SLIT						AML	AML	15 09 43.4	
	comp=N,406nm,0.3s								
SLIT	**Slitere, Latvi**	**2.21**	**211**	*eP*		**Pn**		**15 09 07.6**	**+1.8**
SLIT				*eSG*		**Sb**		**15 09 37.7**	**+1.2**
AAL	**Aland**	**2.32**	**288**	*eP*		**Pn**		**15 09 09.0**	**+1.7**
AAL				*eSG*		**Sb**		**15 09 40.2**	**+0.4**
AAL	**Aland**	**2.32**	**288**	*eP*		**Pb**		**15 09 09.9**	**-0.7**
AAL	**Aland**	**2.32**	**288**	*eP*		**Pn**		**15 09 09.0**	**+1.7**
AAL				*eSG*		**Sb**		**15 09 40.2**	**+0.4**
AAL	**Aland**	**2.32**	**288**	P		**Pn**		**15 09 09.0**	**+1.7**
AAL				S		**Sb**		**15 09 39.9**	**+0.2**
AAL	**Aland**	**2.32**	**288**	P		**Pn**		**15 09 09.0**	**+1.7**
AAL				S		**Sb**		**15 09 39.9**	**+0.2**
KPF	**Kankaanpaa**	**2.58**	**335**	*ePB*		**Pb**		**15 09 14.2**	**-0.8**
KEF	**Keuruu**	**2.66**	**5**	*eP*		**Pn**		**15 09 13.8**	**+1.9**
NRTU	**Norrtaelje**	**2.94**	**275**	P		**Pn**		**15 09 17.2**	**+1.4**
NRTU	**Norrtaelje**	**2.94**	**275**	P		**Pn**		**15 09 17.2**	**+1.4**
GRAU	**Graesoe**	**3.06**	**288**	P		**Pn**		**15 09 18.2**	**+0.7**
GRAU	**Graesoe**	**3.06**	**288**	P		**Pn**		**15 09 18.2**	**+0.7**
FORU	**Forsmark**	**3.25**	**288**	P		**Pn**		**15 09 21.3**	**+1.2**
FORU	**Forsmark**	**3.25**	**288**	P		**Pn**		**15 09 21.3**	**+1.2**
NYNU	**Nynaeshamn**	**3.33**	**264**	P		**Pn**		**15 09 22.7**	**+1.6**
NYNU	**Nynaeshamn**	**3.33**	**264**	P		**Pn**		**15 09 22.7**	**+1.6**
FLYU	**Flymyra**	**3.35**	**283**	P		**Pn**		**15 09 22.6**	**+1.2**
FLYU	**Flymyra**	**3.35**	**283**	P		**Pn**		**15 09 22.6**	**+1.2**
GOTU	**Gotland**	**3.57**	**241**	P		**Pn**		**15 09 26.3**	**+1.8**
GOTU	**Gotland**	**3.57**	**241**	P		**Pn**		**15 09 26.3**	**+1.8**
FIBU	**Brunna**	**3.59**	**279**	P		**Pn**		**15 09 25.9**	**+1.1**
FIBU	**Brunna**	**3.59**	**279**	P		**Pn**		**15 09 25.9**	**+1.1**
VAF	**Ylistaro**	**3.62**	**347**	*eP*		**Pn**		**15 09 27.2**	**+2.0**
PABE	**Paberze**	**4.04**	**184**			AML	AML	15 10 37.9	
	comp=Z,13nm,0.2s								
PABE						AML	AML	15 10 40.7	
	comp=N,21nm,0.2s								
PABE						AML	AML	15 10 45.9	
	comp=E,26nm,0.5s								
JOF	**Joensuu**	**4.76**	**42**	*eP*		**Pn**		**15 09 41.8**	**+1.0**
HFS	**Hagfors**	**5.44**	**281**	Pn		**Pn**		**15 09 51.3**	**+1.1**
	comp=E,0.4nm,0.3s,baz=94,slow=14,SNR=21								
HFS					Sn		**Sn**	**15 10 52.8**	**-0.6**
	comp=E,0.6nm,0.3s,baz=91,slow=27,SNR=6.4								
HFS					Lg		Lg	15 11 18.4	
	comp=E,0.8nm,0.3s,baz=99,slow=29,SNR=5.5								
	comp=E,0.8nm,0.3s								
NC602	**NORSAR Array S**	**6.54**	**286**	*eP*		**Pn**		**15 10 05.9**	**+0.6**
NC602				*eS*		**Sn**		**15 11 19.0**	**-1.5**
NC303	**NORSAR Array S**	**6.68**	**290**	*eP*		**Pn**		**15 10 07.4**	**+0.1**
NC303				*eS*		Sn		15 11 12.9	-11
NC303				IAML				15 11 27.1	
	comp=Z,1.6nm,0.5s								
NB201	**NORSAR Array S**	**6.70**	**289**	*eP*		**Pn**		**15 10 07.5**	**+0.1**
NOA	**NORSAR Array B**	**6.73**	**289**	Pn		**Pn**		**15 10 07.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=94,slow=12,SNR=13								
NOA					Sn		**Sn**	**15 11 23.1**	**-2.1**
	baz=96,slow=18,SNR=1.2								
NOA					Lg		Lg	15 11 54.7	
	comp=Z,0.1nm,0.3s,baz=98,slow=12,SNR=4.0								
	comp=Z,0.2nm,0.3s								
NAO01	**NORSAR Array S**	**6.87**	**287**	*eP*		**Pn**		**15 10 09.5**	**-0.3**
NAO01				*eS*		**Sn**		**15 11 25.8**	**-2.8**
NBO00	**NORSAR Array S**	**6.94**	**288**	*eP*		**Pn**		**15 10 10.3**	**-0.5**
NC204	**NORSAR Array S**	**6.98**	**290**	*eP*		**Pn**		**15 10 11.2**	**-0.2**
NC204				*eS*		**Sn**		**15 11 29.4**	**-2.1**
ARCES	**ARCESS Array B**	**10.06**	**2**	Pn		**Pn**		**15 10 53.0**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=182,slow=13,SNR=23								
ARCES					Sn		**Sn**	**15 12 42.3**	**-4.5**
	comp=Z,0.1nm,0.3s,baz=187,slow=21,SNR=1.8								
ARCES					Lg		Lg	15 13 46.1	
	comp=Z,0.1nm,0.3s,baz=171,slow=34,SNR=1.3								
	comp=Z,0.6nm,0.2s								

*MOS **21** 15:18:58.8±0.9,51°.94N×153°.03E,h458km,mb4.2/1,Error ellipse: s-maj=16.0km s-min=8.7km az=54.7*
*SKHL **21** 15:18:58.6±0.6,52°.00N×152°.90E,h451km±7km,mb4.7/5, msha4.7/4*
*KRSC **21** 15:18:59.1±1.8,51°.46N×154°.29E,h490km±25km,Ml4.6*
*IDC **21** 15:19:00.4±1.0,52°.17N×152°.84E,h440km±10km, mb2.9/10,mbtmp3.8/15,Error ellipse: s-maj=19.8km s-min=13.3km az=162.0*

ISC 21 15:18:59.6±0.6,**51°.83N**±0°.08×**153°.20E**±0°.08,**h450**km,**n78,** σ1§**68**/91,**mb3.2**/10,**Northwest of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time	Res
SKR	**Severo-Kuril's**	**2.16**	**121**	*eP*		**P**		**15 20 01.5**	**+0.5**
SKR	**Severo-Kuril's**	**2.16**	**121**	*eP*		**P**		**15 20 01.5**	**+0.5**
SKR					AMB	AMB		15 20 02.2	
	90nm,0.6s								
SKR				*eS*		**S**		**15 20 51.1**	**+0.2**
SKR					A	A		15 20 53.2	
	40nm,0.5s								
SKR					A	A		15 20 53.2	
	60nm,0.5s								
SKR	**Severo-Kuril's**	**2.16**	**121**	PN		**P**		**15 20 01.5**	**+0.5**
PAU	**Pauzhetka**	**2.28**	**98**	*eP*		**P**		**15 20 03.9**	**+2.2**
PAU	**Pauzhetka**	**2.28**	**98**	*eP*		**P**		**15 20 02.4**	**+0.7**
PAU					AMB	AMB		15 20 04.5	
	110nm,0.5s								
PAU				*eS*		**S**		**15 20 51.7**	**-0.4**
PAU					A	A		15 20 56.0	
	30nm,0.4s								
PAU					A	A		15 20 56.0	
	30nm,0.4s								
PAU	**Pauzhetka**	**2.28**	**98**	PN		**P**		**15 20 03.9**	**+2.2**
ASAK	**Asacha**	**2.95**	**77**	*eP*		**P**		**15 20 07.7**	**+1.4**
ASAK	**Asacha**	**2.95**	**77**	PN		**P**		**15 20 07.7**	**+1.4**
KDTR	**Khodutka, Kamc**	**3.03**	**88**	*eP*		**P**		**15 20 06.7**	**0.0**
KDTR	**Khodutka, Kamc**	**3.03**	**88**	*eP*		**P**		**15 20 06.7**	**0.0**
KDTR	**Khodutka, Kamc**	**3.03**	**88**	PN		**P**		**15 20 06.7**	**0.0**
PETK	**Petropavlovsk-**	**3.04**	**63**	P		**P**		**15 20 06.5**	**-0.3**
	7.3nm,0.5s,baz=268,slow=8.7,SNR=99								
PETK					S		**S**	**15 21 01.8**	**+0.3**
	1.7nm,0.5s,baz=160,slow=14,SNR=1.5								
GRL	**Gorelyy**	**3.09**	**74**	*eP*		**P**		**15 20 08.7**	**+1.4**
GRL	**Gorelyy**	**3.09**	**74**	PN		**P**		**15 20 08.7**	**+1.4**
MTVR	**Mutnovka**	**3.14**	**76**	*eP*		**P**		**15 20 08.8**	**+1.0**
MTVR	**Mutnovka**	**3.14**	**76**	PN		**P**		**15 20 08.8**	**+1.0**
KRMR	**Karymshinskiy**	**3.19**	**70**	*eP*		**P**		**15 20 08.3**	**+0.4**
KRMR	**Karymshinskiy**	**3.19**	**70**	*eP*		**P**		**15 20 08.8**	**+0.9**
KRMR	**Karymshinskiy**	**3.19**	**70**	PN		**P**		**15 20 08.3**	**+0.4**
RUS	**Russkaya**	**3.33**	**77**	*eP*		**P**		**15 20 09.3**	**+0.3**
RUS				*eS*		**S**		**15 21 02.4**	**-3.2**
RUS	**Russkaya**	**3.33**	**77**	*eP*		**P**		**15 20 09.3**	**+0.3**
RUS	**Russkaya**	**3.33**	**77**	PN		**P**		**15 20 09.3**	**+0.3**
RUS				S		**S**		**15 21 02.4**	**-3.2**
GNL	**Ganaly**	**3.44**	**55**	*eP*		**P**		**15 20 11.1**	**+1.1**
GNL	**Ganaly**	**3.44**	**55**	PN		**P**		**15 20 11

comp=Z,0.6nm,1.1s,baz=11,slow=5.1,SNR=5.1
comp=Z,0.6nm,1.1s

MMAI	**Mount Meron Ar**	**79.51**	**311**	P	**P**	**15 30 18.1**	**-0.4**
	comp=Z,1.2nm,0.5s,baz=46,slow=6.0,SNR=5.0						
	comp=Z,1.2nm,0.5s						

SJA 21 15:23:56.2±2.0, 31°68S×67°80W, h10km, ML3.7, MW3.4, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RTCV	**Cerro Valdivia**	**0.66**	**253**	*e*P	Pg	15 24 07.8	-1.1
SJA	**San Juan**	**0.67**	**283**	*e*P	Pg	15 24 09.0	-0.1
SJA				*e*S	Sg	15 24 17.6	-0.2
SJA				IAML		15 24 20.1	
	comp=Z,2μm,0.2s						
RTLL	**Cerro Villicun**	**0.67**	**301**	*e*P	Pg	15 24 08.6	-0.7
RTLL				*i* S	Sg	15 24 18.0	-0.1
ZON	**Zonda**	**0.76**	**280**	*e*P	Pg	15 24 09.8	-1.1
ZON				*e*S	Sg	15 24 20.6	-0.3
AVFE	**Valle Fertil**	**1.05**	**16**	*e*P	Pb	15 24 16.7	+0.1
ACHE	**Chepes**	**1.10**	**62**	*e*P	Pn	15 24 17.7	-0.1
ASAL	**Salagasta**	**1.27**	**224**	*e*P	Pn	15 24 19.2	-0.8
RTLS	**Leoncito**	**1.28**	**264**	*e*P	Pn	15 24 19.5	-1.0
RTLS				IAML		15 24 38.6	
	comp=Z,2μm,0.2s						
DOCA	**Reserva Natura**	**1.32**	**303**	*e*P	Pn	15 24 20.6	-0.3
DOCA				*e*S	Sn	15 24 40.9	+2.1
DOCA				IAML		15 24 44.1	
	comp=Z,657nm,0.3s						
ARCO	**CERRO ARCO**	**1.51**	**219**	*e*P	Pb	15 24 24.6	+0.2
ARCO				IAML		15 24 52.4	
	comp=Z,730nm,0.2s						
ACCO	**Cerro Coronel**	**1.53**	**315**	*e*P	Pb	15 24 24.8	-0.2
ACCO				*e*SA		15 24 46.4	
AAGR	**Agrelo**	**1.65**	**212**	*e*P	Pb	15 24 27.1	+0.2
AAGR				*e*S	Sg	15 24 50.6	+1.2
ACDV	**Cuesta del Vie**	**1.88**	**323**	*e*P	Pb	15 24 31.0	+0.2
ACDV				IAML		15 25 00.2	
	comp=Z,270nm,0.3s						
AVIZ	**Vizcacheras**	**1.89**	**198**	*e*P	Pn	15 24 22.3	-6.4
MRA	**San Martin**	**1.92**	**113**	*e*P	Pb	15 24 31.2	-0.1
MRA				*e*S	Sg	15 24 57.1	-0.8
MRA				IAML		15 24 58.4	
	comp=Z,700nm,0.5s						
AROD	**Rodeo**	**2.08**	**316**	*e*P	Pb	15 24 34.1	-0.2
AGUA	**GUANDACOL**	**2.26**	**345**	*e*P	Pb	15 24 38.0	+0.8
AGUA				*e*S	Sn	15 25 01.8	0.0
AGUA				IAML		15 25 10.4	
	comp=Z,530nm,0.2s						
VA03	**San Esteban**	**2.57**	**244**	*e*P	Pb	15 24 42.0	-0.5
VA03				*e*S	Sn	15 25 10.4	+1.0
VA03				IAML		15 25 18.1	
	comp=Z,305nm,0.8s						
CO03	**El Pedregal**	**2.61**	**288**	*e*P	Pb	15 24 42.3	-0.8
CO03				*e*S	Sb	15 25 17.1	+1.8
CO03				IAML		15 25 17.4	
	comp=Z,296nm,0.2s						
TCA	**Tanti**	**2.76**	**84**	*e*P	Pn	15 24 42.3	+1.7
TCA				*e*S	Sn	15 25 05.1	-8.9
TCA				IAML		15 25 30.5	
	comp=Z,327nm,0.4s						
CO02	**Combarbal**	**2.78**	**279**	*e*P	Pb	15 24 44.3	-1.7
CO02				*e*S	Sb	15 25 22.1	+1.9
CO02				IAML		15 25 24.3	
	comp=Z,424nm,0.3s						
VCA	**Vinchina**	**2.95**	**353**	*e*P	Pn	15 24 28.6	-15
VCA				*e*S	Sb	15 25 22.6	-2.6
VCA				IAML		15 25 33.2	
	comp=Z,813nm,0.4s						
GO04	**Tololo Observa**	**2.98**	**299**	*e*P	Pb	15 24 48.0	-1.6
GO04				*e*S	Sb	15 25 24.6	-1.6
MT05	**Renca**	**3.02**	**235**	*e*P	Pb	15 24 49.6	-0.4
MT05				*e*S	Sb	15 25 25.5	-1.4
MT05				IAML		15 25 31.0	
	comp=Z,399nm,0.5s						
ROC1	**El Roble**	**3.02**	**244**	*e*P	Pn	15 24 46.7	+2.4
ROC1				*e*S	Sb	15 25 28.6	+1.5
RFA	**San Rafael**	**3.14**	**190**	*e*P	Pn	15 24 43.2	-2.5
RFA				*e*P	Pb	15 24 43.4	-8.7
RFA				*e*S	Sb	15 25 27.9	-2.6
RFA				IAML		15 25 35.8	
	comp=Z,264nm,0.3s						
VA01	**Torpederas**	**3.52**	**247**	*e*P	Pn	15 24 48.6	-2.4
VA01				IAML		15 25 49.1	
	comp=Z,99nm,0.8s						
AC05	**El Transito**	**3.55**	**322**	*e*P	Pn	15 24 55.3	+3.8
AC05				*e*S	Sb	15 25 45.7	+3.4
AC05				IAML		15 25 52.1	
	comp=Z,76nm,0.7s						
MT01	**Popeta**	**3.64**	**232**	*e*P	Pn	15 24 54.8	+2.3
MT01				*e*S	Sb	15 25 42.5	-2.2
MT01				IAML		15 25 49.1	
	comp=Z,80nm,0.8s						
LCO	**Las Campanas**	**3.65**	**316**	*e*P	Pn	15 24 56.3	+3.3
LCO				*e*S	Sb	15 25 43.2	-2.3
CYA	**Choya**	**3.66**	**29**	*e*P	Pn	15 24 54.6	+1.7
CYA				IAML		15 26 04.2	
	comp=Z,146nm,0.9s						
AC04	**Llanos de Chal**	**4.48**	**320**	*e*P	Pn	15 25 07.0	+2.8

IDC 21 15:28:56.0±2.0, 5°94S×130°65E, h0km, mb3.8/2, mbtmp3.6/4, ML3.4/2, Error ellipse: s-maj=123.2km s-min=29.5km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**14.38**	**166**	Pn	Pn	15 32 21.1	+0.1
	0.1nm,0.3s,baz=347,slow=9.5,SNR=2.3						
WRA				Sn	Sn	15 34 47.8	-13
	0.3nm,0.3s,baz=309,slow=7.4,SNR=2.1						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**17.90**	**170**	P	Pn	15 33 06.6	0.0
	0.3nm,0.3s,baz=343,slow=9.2,SNR=39						
ASAR				S	Sn	15 36 12.9	-14
	0.3nm,0.7s,baz=341,slow=25,SNR=2.1						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**67.70**	**326**	P	P	15 39 55.9	+0.6
	0.5nm,0.4s,baz=119,slow=7.1,SNR=8.4						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**71.95**	**328**	P	P	15 40 20.5	-0.8
	0.3nm,0.4s,baz=120,slow=5.5,SNR=4.7						
	0.3nm,0.4s						

*IDC **21** 15:59:11.1±3.5, 6°54N×126°76E, h90km±28km, mb3.6/4, mbtmp4.1/5, MS3.2/2, Error ellipse: s-maj=63.5km s-min=16.1km az=65.0*

ISC 21 15:59:09.0±1.4, 6°6N±0°2×126°9E±0°2, h74km, n8, σ0°65/8, mb3.8/4, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**1.42**	**290**	P	**Pn**	**15 59 32.8**	**-0.2**
	554nm,0.5s,baz=110,slow=0.9,SNR=9.4						
DAV				S	**Sn**	**15 59 51.7**	**+0.6**
	1μm,0.5s,baz=307,slow=23,SNR=25						
DAV				LR	LR	16 00 19.5	
	comp=Z,402nm,19.1s,baz=96,slow=53						
BATI	**Baumata**	**17.00**	**191**	P	**Pn**	**16 03 01.3**	**-0.8**
	13nm,0.5s,baz=34,slow=18,SNR=1.6						
BATI				S	Sn	16 05 55.1	-16
	21nm,0.3s,baz=271,slow=7.4,SNR=3.8						
BATI				LR	LR	16 11 30.9	
	comp=Z,154nm,19.2s,baz=138,slow=44						
WRA	**Warramunga Arr**	**27.36**	**165**	P	**P**	**16 04 48.1**	**+0.7**
	0.4nm,0.7s,baz=341,slow=10,SNR=7.9						
	0.4nm,0.7s						
CMAR	**Chiang Mai Arr**	**29.70**	**296**	LR	LR	16 18 06.3	
	comp=Z,20nm,18.4s,baz=120,slow=38						
ASAR	**Alice Springs**	**30.84**	**167**	P	**P**	**16 05 18.9**	**+0.7**
	0.3nm,0.4s,baz=342,slow=7.4,SNR=23						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**55.35**	**324**	P	**P**	**16 08 35.2**	**-0.1**
	1.1nm,0.5s,baz=118,slow=7.7,SNR=22						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**59.46**	**326**	P	**P**	**16 09 03.9**	**-0.2**
	1.4nm,0.2s,baz=121,slow=8.0,SNR=2.7						
	1.4nm,0.2s						
TORD	**Torodi Ar. Bea**	**122.17**	**290**	PKP	**PKPdf**	**16 17 56.1**	**-0.2**
	0.2nm,0.6s,baz=64,slow=3.4,SNR=1.3						

IDC 21 15:59:47.7±4.9, 18°50S×175°44W, h0km, mb4.0/4, mbtmp4.0/4, Error ellipse: s-maj=205.1km s-min=39.0km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.84**	**242**	P	P	16 07 31.6	+0.2
	1.1nm,0.5s,baz=86,slow=13,SNR=2.3						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**47.30**	**260**	P	P	16 08 22.9	-0.5
	1.5nm,0.6s,baz=97,slow=8.2,SNR=23						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**47.35**	**255**	P	P	16 08 23.9	0.0
	2.0nm,0.7s,baz=87,slow=8.3,SNR=29						
	2.0nm,0.7s						
ILAR	**Eielson Array**	**85.86**	**12**	P	P	16 12 28.9	0.0
	0.8nm,1.1s,baz=207,slow=5.8,SNR=1.6						
	0.8nm,1.1s						

*JMA **21** 16:34:29.7±0.3, 24°N±1°×122°5E±0°5, h19km±4km, MV2.2/13, NW OFF ISHIGAKIJIMA IS*
*TAP **21** 16:34:29.5, 23°90N×122°49E, h20km, ML2.8, D*

ISC 21 16:34:29.1±1.2, 23°91N±0°03×122°51E±0°02, h18km±9km, n72, σ0°55/114, 1C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.28**	**320**	*i* P	**Pb**	**16 34 36.3**	**+0.9**
	baz=323						
EOS4				*i* S	**Sb**	**16 34 41.2**	**+1.6**
	baz=323						
EOS3	**EOS3**	**0.42**	**335**	*i* P	**Pb**	**16 34 38.8**	**+0.8**
	baz=337						
EOS2	**EOS2**	**0.57**	**334**	*i* P	**Pn**	**16 34 41.7**	**-0.6**
	baz=335						
EOS2				*i* S	**Sn**	**16 34 49.9**	**-1.2**
	baz=335						
JYNG	**Yonagunijimaku**	**0.67**	**36**	P	**Pb**	**16 34 42.2**	**-0.1**
JYNG				S	**Sb**	**16 34 50.3**	**-1.0**
YOJ	**Yonaguni jima**	**0.72**	**40**	P	**Pb**	**16 34 43.0**	**-0.1**
YOJ				*e*S	**Sb**	**16 34 51.7**	**-0.9**
YOJ	**Yonaguni jima**	**0.72**	**40**	P	**Pb**	**16 34 43.3**	**+0.2**
	baz=39						
EAHA	**Anhua**	**0.82**	**301**	*e*P	**Pb**	**16 34 44.4**	**-0.5**
	baz=301						
EAHA				*e*S	**Sn**	**16 34 57.9**	**+0.5**
	baz=301						
ETL	**Fush Village**	**0.85**	**287**	*e*P	**Pg**	**16 34 46.1**	**+0.4**
	baz=287						
ETL				*e*S	**Sn**	**16 34 59.1**	**+0.8**
	baz=287						
TWD	**Chiawan**	**0.85**	**282**	P	**Pb**	**16 34 45.6**	**+0.2**
	baz=282						
EWUT	**Wuta**	**0.86**	**309**	P	**Pg**	**16 34 45.8**	**0.0**
	baz=309						
EWUT				*e*S	**Sn**	**16 34 57.8**	**-0.6**
	baz=309						
NACB	**Ninganchiao**	**0.88**	**288**	*i* P	**Pb**	**16 34 45.9**	**0.0**
	baz=288						
NACB				*i* S	**Sn**	**16 34 58.4**	**-0.5**
	baz=288						
ESAO	**Su ao**	**0.90**	**318**	P	**Pb**	**16 34 46.0**	**-0.3**
	baz=318						
ESAO				*e*S	**Sn**	**16 34 59.0**	**-0.5**
	baz=318						
TWC	**Suao**	**0.92**	**319**	*i* P	**Pb**	**16 34 46.4**	**-0.2**
	baz=320						
TWC				*i* S	**Sg**	**16 34 59.2**	**-0.1**
	baz=320						
ETM	**Tongmen**	**0.93**	**274**	P	**Pb**	**16 34 46.5**	**-0.3**
	baz=273						
ETM				S	**Sg**	**16 34 59.9**	**+0.3**
	baz=273						
ESL	**Shilin**	**0.99**	**265**	P	**Pb**	**16 34 47.1**	**-0.7**
	baz=264						
ESL				S	**Sb**	**16 35 00.4**	**-0.1**
	baz=264						
LXIB	**Xiulin Townshi**	**1.01**	**277**	P	**Pb**	**16 34 47.2**	**-1.0**
	baz=276						
NDS	**Dongshan**	**1.02**	**315**	P	**Pn**	**16 34 48.8**	**+0.2**
	baz=315						
NDS				S	**Sg**	**16 35 02.9**	**+0.4**
	baz=315						
WARBT	**Fenglin Townsh**	**1.05**	**260**	*e*P	**Pb**	**16 34 48.1**	**-0.6**
	baz=259						
EGS		**1.07**	**331**	P	**Pb**	**16 34 47.5**	**-1.7**
	baz=331						
EGS				S	**Sg**	**16 35 03.8**	**-0.2**
	baz=331						
HGSD	**Ruisui**	**1.08**	**248**	*e*P	**Pb**	**16 34 48.8**	**-0.5**
	baz=247						
LATG	**Datong**	**1.09**	**305**	*i* P	**Pb**	**16 34 49.6**	**0.0**
	baz=305						
LATG				S	**Sg**	**16 35 05.7**	**+1.0**
	baz=305						
TWE	**Neicheng**	**1.12**	**317**	P	**Pn**	**16 34 49.7**	**-0.2**
	baz=317						
TWE				S	**Sg**	**16 35 06.0**	**+0.5**
	baz=317						
ENTT	**Nioudou**	**1.13**	**310**	*i* P	**Pb**	**16 34 50.4**	**+0.2**
	baz=311						
ENTT				S	**Sg**	**16 35 05.8**	**0.0**
	baz=311						
NDT	**Datong Townshi**	**1.14**	**307**	P	**Pb**	**16 34 50.6**	**+0.2**
	baz=307						
NDT				*e*S	**Sg**	**16 35 06.3**	**+0.1**
	baz=307						
NNSB	**Datong**	**1.15**	**297**	*i* P	**Pn**	**16 34 50.5**	**0.0**
	baz=297						
NNSB				*i* S	**Sn**	**16 35 05.4**	**-0.5**
	baz=297						
EHY	**Hungye**	**1.16**	**250**	*e*P	**Pn**	**16 34 50.4**	**-0.1**
	baz=249						
EHY				*e*S	**Sn**	**16 35 05.8**	**-0.1**
	baz=249						
WHF	**Hehuan Shan**	**1.16**	**282**	*i* P	**Pn**	**16 34 50.4**	**-0.5**
	baz=282						
WHF				*i* S	**Sn**	**16 35 06.2**	**-0.4**
	baz=282						
NNS	**Nan Shan**	**1.17**	**297**	⇓*i* P	**Pb**	**16 34 50.9**	**0.0**
	baz=297						
NNS				S	**Sb**	**16 35 05.7**	**0.0**
	baz=297						
IRIF	**Iriomote-Funau**	**1.19**	**69**	*e*P	**Pb**	**16 34 51.8**	**+0.5**
IRIF				*e*S	**Sb**	**16 35 06.6**	**+0.3**
HATJ	**Hateruma jima**	**1.19**	**83**	*e*P	**Pn**	**16 34 51.2**	**+0.2**
HATJ				*e*S	**Sn**	**16 35 07.0**	**+0.3**
FUSB	**Fushanzhiwuyua**	**1.20**	**315**	*i* P	**Pb**	**16 34 51.4**	**+0.1**
	baz=316						
FUSB				S	**Sn**	**16 35 06.9**	**0.0**
	baz=316						
TWB1	**Santiao Chiao**	**1.20**	**337**	P	**Pb**	**16 34 51.2**	**0.0**
	baz=337						
TWB1				S	**Sn**	**16 35 06.4**	**-0.3**
	baz=337						
FUSS	**Fushou**	**1.21**	**287**	P	**Pn**	**16 34 51.4**	**0.0**
	baz=286						
FUSS				*e*S	**Sn**	**16 35 07.8**	**+0.5**
	baz=286						
OWD	**Renai**	**1.22**	**272**	*e*P	**Pn**	**16 34 50.8**	**-0.7**
	baz=272						
YULB	**Yu-li**	**1.22**	**245**	*e*P	**Pn**	**16 34 51.6**	**+0.2**
	baz=245						
EYUL	**Yuli**	**1.23**	**243**	*e*P	**Pn**	**16 34 51.2**	**-0.2**
	baz=242						
TIPB	**Shuangxi**	**1.23**	**330**	P	**Pb**	**16 34 52.5**	**+0.6**
	baz=330						
TIPB				S	**Sn**	**16 35 08.0**	**+0.3**
	baz=330						
CHGB	**Renai**	**1.23**	**277**	P	**Pn**	**16 34 51.6**	**-0.1**
	baz=277						
CHGB				*e*S	**Sg**	**16 35 09.2**	**0.0**
	baz=277						
TWF1	**Yuli**	**1.24**	**244**	*e*P	**Pb**	**16 34 52.2**	**+0.2**
	baz=243						
NWLT	**Wulai**	**1.26**	**314**	*e*P	**Pn**	**16 34 52.1**	**+0.1**
	baz=314						
NWLT				*e*S	**Sg**	**16 35 09.2**	**-0.8**
	baz=314						
VWDT	**VWDT**	**1.26**	**263**	P	**Pn**	**16 34 52.1**	**+0.2**
	baz=263						
VWDT				*e*S	**Sb**	**16 35 07.4**	**-0.9**
	baz=263						
WUSB	**Renai**	**1.28**	**274**	P	**Pn**	**16 34 52.3**	**+0.1**
	baz=274						
WUSB				S	**Sn**	**16 35 09.7**	**+0.7**
	baz=274						
TDCB	**Techi**	**1.28**	**286**	*e*P	**Pb**	**16 34 52.7**	**-0.1**
	baz=285						
TDCB				*e*S	**Sn**	**16 35 09.2**	**0.0**
	baz=285						
YHNB	**Yeheng**	**1.28**	**306**	⇑*i* P	**Pb**	**16 34 52.7**	**-0.1**
	baz=306						
YHNB				S	**Sb**	**16 35 09.0**	**0.0**
	baz=306						
NSK	**Sanguang**	**1.30**	**306**	⇓*i* P	**Pb**	**16 34 52.9**	**-0.2**
	baz=306						
NSK				S	**Sn**	**16 35 09.0**	**-0.5**
	baz=306						
SXI1	**Grass Mountain**	**1.31**	**334**	P	**Pn**	**16 34 52.7**	**0.0**
	baz=334						
SXI1				*e*S	**Sb**	**16 35 10.4**	**+0.5**
	baz=334						
WFSB	**Wu-fen Shan**	**1.33**	**330**	*e*P	**Pg**	**16 34 54.5**	**-0.4**
	baz=330						
NHDH	**Xindian Distri**	**1.38**	**320**	P	**Pb**	**16 34 54.9**	**+0.4**
	baz=320						
NHDH				*e*S	**Sg**	**16 35 12.9**	**-1.0**
	baz=320						
JKRS	**Kuro-shima**	**1.41**	**76**	P	**Pb**	**16 34 54.9**	**0.0**
NFF	**Wufeng Townshi**	**1.46**	**300**	*e*P	**Pb**	**16 34 56.0**	**+0.1**
	baz=300						
NFF				*e*S	**Sg**	**16 35 15.4**	**-1.0**
	baz=300						
WCS	**Beigang Elemen**	**1.47**	**276**	*e*P	**Pb**	**16 34 55.7**	**-0.3**
	baz=276						
SMLT	**Sun Moon Lake**	**1.47**	**269**	*e*P	**Pn**	**16 34 55.4**	**+0.5**
	baz=269						
WHP	**Taichung City**	**1.48**	**285**	*e*P	**Pb**	**16 34 56.9**	**+0.8**
	baz=284						
YM01	**YM01**	**1.50**	**325**	*e*P	**Pb**	**16 34 56.6**	**+0.1**
	baz=325						
TYC	**Yuchr**	**1.51**	**270**	*e*P	**Pb**	**16 34 57.1**	**+0.5**
	baz=270						
WHYT	**Xinyi Township**	**1.53**	**262**	*e*P	**Pb**	**16 34 57.7**	**+0.7**
	baz=262						
ELDTW	**Lidau**	**1.54**	**243**	*e*P	**Pn**	**16 34 55.9**	**0.0**
	baz=242						
LIOB	**Emei**	**1.55**	**299**	*e*P	**Pb**	**16 34 57.5**	**+0.1**
	baz=298						
LIOB				*e*S	**Sb**	**16 35 17.0**	**+0.4**
	baz=298						
NSTT	**Nanjuang**	**1.55**	**298**	P	**Pb**	**16 34 57.5**	**+0.1**
	baz=298						
NSTT				S	**Sb**	**16 35 17.0**	**+0.2**
	baz=298						
JIJ	**Ishigaki jima**	**1.56**	**73**	*e*P	**Pn**	**16 34 56.0**	**0.0**
JIJ				*e*S	**Sn**	**16 35 15.7**	**0.0**
ALS	**Alishan**	**1.61**	**256**	*e*P	**Pn**	**16 34 57.7**	**+0.7**
	baz=255						
TWQ1	**Liyutan**	**1.65**	**286**	*e*P	**Pn**	**16 34 57.4**	**+0.2**
	baz=285						
NMLH	**Miaoli**	**1.69**	**292**	*e*P	**Pb**	**16 34 58.9**	**-0.8**
	baz=292						
CHN5	**Tsauling**	**1.71**	**260**	*e*P	**Pn**	**16 34 59.2**	**+1.1**
	baz=259						
JISG	**Ishigakijimahi**	**1.78**	**67**	*e*P	**Pn**	**16 34 59.3**	**+0.3**
JISG				S	**Sn**	**16 35 21.2**	**+0.1**
TPUB	**Ta-pu**	**1.83**	**251**	*e*P	**Pb**	**16 35 01.4**	**-0.6**
	baz=250						
CHN4	**Tsaushan**	**1.84**	**253**	*e*P	**Pb**	**16 35 02.3**	**0.0**
	baz=252						
SLGT	**Liugui**	**1.94**	**242**	*e*P	**Pb**	**16 35 03.1**	**-0.8**
	baz=241						
SGST	**Jiashian**	**1.95**	**245**	*e*P	**Pn**	**16 35 03.0**	**+1.6**
	baz=244						
WRL	**Guolierlin Hig**	**1.95**	**270**	*e*P	**Pb**	**16 35 03.5**	**-0.7**
	baz=270						
WTK	**Tuku**	**1.96**	**264**	*e*P	**Pb**	**16 35 03.8**	**-0.4**
	baz=263						
TWK	**Hsinying**	**1.96**	**251**	*e*P	**Pb**	**16 35 03.3**	**-1.1**
	baz=250						

*SOME **21** 16:38:23.4, 39°28N×71°55E, h10km*
*KRNET **21** 16:38:27.6±0.1, 39°20N×71°68E, h15km, mb2.9*
*NNC **21** 16:38:34.8±7.1, 39°41N×72°11E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=56.9km s-min=41.8km az=20.0*

ISC 21 16:38:26.1±1.1, 39°34N±0°05×71°63E±0°04, h14km±7km, n22, σ2°44/39, 23C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DRK	**Karamyk**	**0.19**	**43**	⇓*i* P	**Pn**	**16 38 33.4**	**+2.6**
	baz=19						
DRK				⇓*i* S	**Sb**	**16 38 37.8**	**+2.5**
	baz=19						
BTK	**Batken**	**0.95**	**319**	⇑*i* P	**Pn**	**16 38 48.1**	**+3.0**
	baz=22						
BTK				⇑*i* S	**Sn**	**16 39 02.7**	**+4.2**
	baz=22						
GAR	**Garm**	**1.08**	**252**	⇑*i* P	**Pn**	**16 38 48.0**	**+1.1**
	baz=60						
GAR				⇑*i* S	**Sn**	**16 39 02.3**	**+0.6**
	baz=60						
OHH	**Osh**	**1.48**	**37**	⇑*i* P	**Pg**	**16 38 56.6**	**+2.1**
	baz=33						
OHH				⇑*i* S	**Sg**	**16 39 17.6**	**+3.8**
	baz=33						
SFK	**Sufi-Kurgan**	**1.59**	**64**	⇑*i* P	**Pg**	**16 38 57.3**	**+0.5**
	baz=59						
SFK				⇑*i* S	**Sg**	**16 39 19.4**	**+1.9**
	baz=59						
CHGR	**Chuyangaron**	**2.04**	**251**	⇑*i* P	**Pg**	**16 39 04.1**	**-1.2**
	baz=55						
CHGR				⇑*i* S	**Sg**	**16 39 30.5**	**-1.3**
	baz=55						
TRKS	**Terek-Say**	**2.22**	**350**	⇑*e*P	**Pg**	**16 39 07.7**	**-1.0**
	baz=50						
TRKS				⇑*i* S	**Sg**	**16 39 36.6**	**-0.9**
	baz=50						
ARSB	**Arslanbob**	**2.23**	**27**	⇑*i* P	**Pg**	**16 39 08.4**	**-0.6**
	baz=25						
ARSB				⇑*i* S	**Sg**	**16 39 37.7**	**-0.3**
	baz=25						
ARK	**Arkit**	**2.47**	**6**	⇑*e*P	**Pg**	**16 39 11.7**	**-1.7**
	baz=5.0						
ARK				⇑*e*S	**Sg**	**16 39 44.2**	**-1.2**
	baz=5.0						
MNAS	**Manas**	**3.21**	**12**	⇓*e*P	**Pb**	**16 39 22.0**	**-1.0**
	baz=11						
MNAS				⇓*e*S	**Sb**	**16 40 02.1**	**+0.1**
	baz=11						
ARLS	**Aral**	**3.25**	**38**	⇑*i* P	**Pb**	**16 39 21.8**	**-1.8**
	baz=37						
ARLS				⇑*i* S	**Sb**	**16 40 01.6**	**-1.4**
	baz=37						
MRKS	**Merke**	**3.61**	**19**	Pg	**Pg**	**16 39 31.3**	**-4.0**
	5.8nm,0.5s						
MRKS				Lg	Lg	16 40 17.9	
	16nm,0.5s						
MRKS	**Merke**	**3.61**	**19**	*e*P	**Pg**	**16 39 31.3**	**-4.0**
	5.8nm,0.5s						
MRKS				*e*S	**Sg**	**16 40 17.9**	**-4.1**
	16nm,0.5s						
UCH	**Uchtor**	**3.62**	**36**	⇑*i* P	**Pb**	**16 39 27.6**	**-2.5**
	baz=35						
UCH				⇑*i* S	**Sb**	**16 40 11.3**	**-2.8**
	baz=35						
KK31	**Karatay Array**	**3.85**	**348**	⇑Pn	**Pb**	**16 39 33.7**	**-0.2**
	1.7nm,0.4s,baz=171,slow=12,SNR=33						
KK31				⇓Sn	**Sb**	**16 40 25.2**	**+4.9**
	3.2nm,0.5s,baz=168,slow=22,SNR=5.5						
BRLS	**Borolday**	**3.93**	**340**	Pg	**Pb**	**16 39 34.0**	**-1.1**
	3.7nm,0.3s						
BRLS				Lg	Lg	16 40 22.6	
	3.4nm,0.5s						
BRLS	**Borolday**	**3.93**	**340**	*e*P	**

KRBS					*e*S		**Sg**	**16 41 15.7**	**-0.7**
	3.4nm,0.6s								
KTBS	**Karatobe**	**5.78**	**39**	*e*P			**Pg**	**16 40 13.7**	**-3.1**
	0.8nm,0.5s								
KTBS					*e*S		**Sg**	**16 41 30.9**	**-0.8**
	2.7nm,0.5s								

*UPP **21** 17:02:03.8±0.1, 67.08N×20.92E, h0km, ML1.8, Unknown*
*HEL **21** 17:02:05.6±0.5, 67.12N×21.15E, h0km, ML2.2, Explosion*
*BER **21** 17:02:05.1±1.8, 66.74N×21.75E, h0km, ML2.2, Suspected explosion*
*IDC **21** 17:02:05.2±1.1, 67.16N×21.26E, h0km, mbtmp2.9/4, ML2.2/4, Error ellipse: s-maj=17.5km s-min=7.6km az=107.0*

ISC 21 17:02:03.2±0.8, 67.15N±0.02×21.17E±0.02, h0km, n41, σ1s93/50, Sweden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.23**	**264**	P			**Pg**	**17 02 06.8**	**-0.9**
KUA	**Kurravaara**	**0.87**	**339**	P			**Pb**	**17 02 20.8**	**-0.4**
RATU	**Laukkuluspa**	**0.91**	**319**	P			**Pg**	**17 02 20.9**	**+0.2**
LANU	**Lannavaara**	**0.96**	**19**	P			**Pn**	**17 02 23.4**	**-0.5**
HARU	**Harads**	**0.99**	**185**	P			**Pg**	**17 02 20.9**	**-1.2**
SALU	**Saltoluokta**	**1.06**	**284**	P			**Pg**	**17 02 22.9**	**-0.6**
KLF	**Kolari**	**1.09**	**84**	PG			**Pn**	**17 02 26.1**	**+0.4**
KLF				SG			**Sb**	**17 02 39.2**	**-0.5**
KLF				MSG				17 02 39.3	
	comp=Z,28nm,0.2s								
KOVU	**Salmi**	**1.15**	**341**	P			**Pn**	**17 02 26.0**	**-0.4**
KALU	**Kalix**	**1.56**	**145**	P			**Pg**	**17 02 32.8**	**-0.3**
HEF	**Hetta**	**1.58**	**36**	*e*P			**Pg**	**17 02 34.6**	**+1.1**
HEF				*e*S			**Sb**	**17 03 00.1**	**+6.3**
HEF	**Hetta**	**1.58**	**36**	PN			**Pg**	**17 02 34.6**	**+1.1**
	baz=222								
HEF				MSG				17 02 53.8	
	comp=Z,22nm,0.2s								
TOF	**Tornio**	**1.65**	**129**	PG			**Pg**	**17 02 34.8**	**0.0**
TOF				MSG				17 02 54.9	
	comp=Z,21nm,0.2s								
SJUU	**Sjulsmark**	**1.66**	**174**	P			**Pn**	**17 02 33.1**	**-0.3**
RNF	**Rovaniemi**	**1.99**	**104**	PG			**Pg**	**17 02 40.7**	**-0.5**
SGF	**Sodankyl**	**2.10**	**79**	PB			**Pg**	**17 02 42.9**	**-0.5**
I37NO	**I37NO**	**2.16**	**335**	I			I	17 15 40.0	
	baz=155,slow=324,SNR=1.4								
FAUS	**Fauske**	**2.30**	**279**	*e*P			**Pb**	**17 02 45.7**	**+0.3**
FAUS				*e*S			**Sg**	**17 03 17.2**	**+0.3**
FAUS				IAML				17 03 24.1	
	comp=Z,23nm,0.2s								
STEI	**Steigen**	**2.41**	**292**	*e*P			**Pb**	**17 02 45.8**	**-1.5**
JETT	**Jettan, Norway**	**2.44**	**354**	*e*P			**Pg**	**17 02 49.6**	**-0.2**
RANF	**Ranua**	**2.52**	**114**	PN			**Pb**	**17 02 48.4**	**-0.8**
	baz=300								
TRO	**Tromso**	**2.63**	**343**	*e*P			**Pg**	**17 02 53.2**	**-0.4**
TRO	**Tromso**	**2.63**	**343**	PG			**Pg**	**17 02 52.8**	**-0.8**
	baz=161								
OUL	**Oulu**	**2.83**	**135**	PB			**Pb**	**17 02 53.9**	**-0.5**
MOR8	**Moi Rana**	**2.85**	**253**	*e*P			**Pn**	**17 02 50.7**	**+0.8**
ARA0	**ARCESS Array S**	**2.89**	**32**	*e*P			**Pb**	**17 02 53.6**	**-1.9**
ARCES	**ARCESS Array B**	**2.89**	**32**	Pn			**Pb**	**17 02 53.1**	**-2.4**
	comp=Z,0.5nm,0.3s,baz=213,slow=14,SNR=25								
ARCES					Lg		Lg	17 03 34.0	
	comp=Z,1.1nm,0.3s,baz=212,slow=29,SNR=7.9								
	comp=Z,1.5nm,0.2s								
OBF0	**Syolatti, Pyha**	**2.95**	**153**	PB			**Pb**	**17 02 56.0**	**-0.4**
OBF0				MSG				17 03 31.4	
	comp=Z,11nm,0.2s								
RAJF	**Raja-Jooseppi**	**3.02**	**61**	PB			**Pb**	**17 02 57.4**	**-0.4**
OUF	**Merijarvi**	**3.15**	**151**	PB			**Pb**	**17 02 57.7**	**-2.3**
	baz=330								
OUF				MSG				17 03 37.6	
	comp=Z,5.5nm,0.2s								
KONS	**Konsvik**	**3.25**	**262**	*e*P			**Pb**	**17 02 58.9**	**-2.7**
VRF	**Varrio**	**3.31**	**76**	PB			**Pb**	**17 03 01.7**	**-1.0**
VRF				SG			**Sg**	**17 03 46.5**	**-2.8**
OLKF	**Oulanka, Finla**	**3.37**	**100**	PN			**Pb**	**17 03 01.5**	**-2.2**
OLKF				SB			**Sb**	**17 03 46.6**	**+1.4**
MSF	**Maaselka**	**3.39**	**108**	PB			**Pb**	**17 03 03.6**	**-0.4**
KEV	**Kevo**	**3.39**	**37**	*e*P			**Pb**	**17 03 00.4**	**-3.6**
KEV	**Kevo**	**3.39**	**37**	PB			**Pb**	**17 03 02.8**	**-1.2**
KEV				SB			**Sg**	**17 03 47.5**	**-4.5**
KU6	**Riekki**	**3.66**	**104**	PB			**Pb**	**17 03 06.6**	**-2.0**
VAF	**Ylistaro**	**4.17**	**171**	PN			**Pn**	**17 03 10.4**	**+2.5**
VAF				SB			**Sb**	**17 04 05.7**	**-2.5**
RMF	**Romuvaara**	**4.67**	**125**	PN			**Pn**	**17 03 18.2**	**+3.4**
	baz=316								
FINES	**FINESS Array B**	**6.11**	**157**	Pn			**Pn**	**17 03 36.1**	**+1.5**
	comp=Z,0.2nm,0.3s,baz=344,slow=12,SNR=11								
FINES					Sn		**Sn**	**17 04 48.6**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=350,slow=24,SNR=7.4								
FINES					Lg		Lg	17 05 16.9	
	comp=Z,0.3nm,0.3s,baz=350,slow=32,SNR=2.3								
	comp=Z,0.4nm,0.2s								
NOA	**NORSAR Array B**	**7.51**	**220**	Pn			**Pn**	**17 03 55.1**	**+1.3**
	baz=29,slow=20,SNR=2.2								
NOA					Sn		**Sn**	**17 05 22.1**	**+2.4**
	baz=329,slow=18,SNR=1.8								
	comp=Z,0.6nm,0.8s								
HFS	**Hagfors**	**7.78**	**209**	Pn			**Pn**	**17 03 58.0**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=37,slow=13,SNR=1.3								
HFS					Sn		**Sn**	**17 05 26.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=35,slow=26,SNR=5.6								
	comp=Z,0.9nm,0.8s								

*NNC **21** 17:02:43.3±1.6, 39.96N×79.92E, h0km, mb3.9, mpv3.5, Error ellipse: s-maj=11.2km s-min=10.3km az=153.0*
*KRNET **21** 17:02:44.0±0.1, 39.94N×80.03E, mb2.8*
*SOME **21** 17:02:43.5, 40.03N×79.90E, h5km*

ISC 21 17:02:39.9±2.2, 39.87N±0.10×79.80E±0.06, h10km, n48, σ1s41/76, 13C-7D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**2.81**	**338**	⇓*e*P			**Pg**	**17 03 32.8**	**-1.0**
	baz=35								
PRZ				⇓*e*S			**Sg**	**17 04 08.5**	**-1.8**
	baz=35								
KDJ	**Kajisay**	**3.00**	**320**	⇑*e*P			**Pg**	**17 03 36.0**	**-1.5**
	baz=17								
KDJ				⇑*e*S			**Sg**	**17 04 13.8**	**-2.6**
	baz=17								
NRN	**Naryn**	**3.29**	**300**	⇑*e*P			**Pb**	**17 03 40.5**	**+2.0**
	baz=97								
NRN				⇑*e*S			**Sg**	**17 04 22.5**	**-2.9**
	baz=97								
SHLS	**Shalkode**	**3.29**	**356**	Pg			**Pg**	**17 03 42.5**	**-0.5**
	16nm,0.2s								
SHLS					Lg		Lg	17 04 24.6	
	84nm,0.4s								
SHLS	**Shalkode**	**3.29**	**356**	*e*P			**Pg**	**17 03 42.5**	**-0.5**
	16nm,0.2s								
SHLS				*e*S			**Sg**	**17 04 24.6**	**-1.0**
	84nm,0.4s								
ANVS	**Anan'yevo**	**3.32**	**332**	⇓*e*P			**Pb**	**17 03 39.8**	**+0.8**
	baz=29								
ANVS				⇓*e*S			**Sb**	**17 04 20.1**	**+0.5**
	baz=29								
UZB	**Uzynbulak**	**3.32**	**350**	Pg			**Pg**	**17 03 44.0**	**+0.4**
	5.1nm,0.4s								
UZB					Lg		Lg	17 04 27.2	
	28nm,0.7s								
UZB	**Uzynbulak**	**3.32**	**350**	*e*P			**Pg**	**17 03 44.0**	**+0.4**
	5.1nm,0.4s								
UZB				*e*S			**Sg**	**17 04 27.2**	**+0.6**
	28nm,0.7s								
SATY	**Saty**	**3.35**	**342**	Pg			**Pg**	**17 03 44.8**	**+0.7**
	7.9nm,0.3s								
SATY					Lg		Lg	17 04 28.6	
	39nm,0.4s								
SATY	**Saty**	**3.35**	**342**	*e*P			**Pg**	**17 03 44.8**	**+0.7**
	7.9nm,0.3s								
SATY				*e*S			**Sg**	**17 04 28.6**	**+1.1**
	39nm,0.4s								
ZHN	**Zhinishke**	**3.45**	**343**	Pg			**Pg**	**17 03 45.6**	**-0.3**
	7.6nm,0.3s								
ZHN					Lg		Lg	17 04 29.6	
	57nm,0.2s								
ZHN	**Zhinishke**	**3.45**	**343**	*e*P			**Pg**	**17 03 45.6**	**-0.3**
	7.6nm,0.3s								
ZHN				*e*S			**Sg**	**17 04 29.6**	**-1.1**
	57nm,0.2s								
PDGK	**Podgornoye**	**3.46**	**356**	Pg			**Pg**	**17 03 45.2**	**-1.0**
	3.8nm,0.3s								
PDGK					Lg		Lg	17 04 29.0	
	21nm,0.5s								
PDGK	**Podgornoye**	**3.46**	**356**	⇓Pn			**Pn**	**17 03 36.9**	**+2.9**
	1.1nm,0.3s								
PDGK					Pg		**Pg**	**17 03 44.7**	**-1.5**
	5.5nm,0.5s								
PDGK				⇑Sn			**Sb**	**17 04 20.9**	**-2.6**
	8.2nm,0.3s								
PDGK				⇓Lg			Lg	17 04 30.7	
	38nm,0.6s								
KTMS	**Ketmen**	**3.59**	**6**	Pg			**Pg**	**17 03 47.6**	**-1.2**
	2.9nm,0.2s								
KTMS					Lg		Lg	17 04 33.1	
	20nm,0.5s								
KTMS	**Ketmen**	**3.59**	**6**	*e*P			**Pg**	**17 03 47.6**	**-1.2**
	2.9nm,0.2s								
KTMS				*e*S			**Sg**	**17 04 33.1**	**-2.2**
	20nm,0.5s								
KURS	**Kuram**	**3.81**	**342**	Pg			**Pg**	**17 03 52.0**	**-0.9**
	4.3nm,0.3s								
KURS					Lg		Lg	17 04 41.0	
	16nm,0.7s								
KURS	**Kuram**	**3.81**	**342**	*e*P			**Pg**	**17 03 52.0**	**-0.9**
	4.3nm,0.3s								
KURS				*e*S			**Sg**	**17 04 41.0**	**-1.3**
	16nm,0.7s								
TNSS	**Tian-Shan**	**3.82**	**327**	Pg			**Pg**	**17 03 54.0**	**+0.9**
	16nm,0.5s								
TNSS					Lg		Lg	17 04 44.4	
	8.3nm,0.7s								
TNSS	**Tian-Shan**	**3.82**	**327**	*e*P			**Pg**	**17 03 54.0**	**+0.9**
	16nm,0.5s								
TNSS				*e*S			**Sg**	**17 04 44.5**	**+1.8**
	8.3nm,0.7s								
MDOK	**Medeo**	**3.88**	**329**	Pn			**Pn**	**17 03 43.3**	**+3.5**
	1.1nm,0.4s								
MDOK					Pg		**Pg**	**17 03 52.4**	**-1.9**
	9.9nm,0.5s								
MDOK					Pg		Pb	17 03 54.5	+6.0
	14nm,0.5s								
MDOK					Lg		Lg	17 04 45.5	
	11nm,0.6s								
MDOK					Lg		Lg	17 04 45.7	
	14nm,0.8s								
MDOK	**Medeo**	**3.88**	**329**	*e*P			**Pg**	**17 03 54.5**	**+0.3**
	14nm,0.5s								
MDOK				*e*S			**Sg**	**17 04 45.7**	**+1.1**
	14nm,0.8s								
BOOM	**Boomskoye usch**	**3.92**	**313**	⇑*e*P			**Pb**	**17 03 48.6**	**-0.5**
	baz=11								
BOOM				⇑*e*S			**Sb**	**17 04 36.1**	**-0.5**
	baz=11								
KOTS	**Kotyrbulak**	**3.92**	**330**	Pg			**Pg**	**17 03 55.3**	**+0.4**
	8.6nm,0.4s								
KOTS					Lg		Lg	17 04 46.9	
	22nm,0.7s								
KOTS	**Kotyrbulak**	**3.92**	**330**	*e*P			**Pg**	**17 03 55.3**	**+0.4**
	8.6nm,0.4s								
KOTS				*e*S			**Sg**	**17 04 46.9**	**+1.2**
	22nm,0.7s								
IZV	**Izvestkoviy**	**3.97**	**324**	Pg			**Pg**	**17 03 55.7**	**-0.1**
	3.7nm,0.5s								
IZV					Lg		Lg	17 04 47.4	
	7.4nm,0.5s								
IZV	**Izvestkoviy**	**3.97**	**324**	*e*P			**Pg**	**17 03 55.7**	**-0.1**
	3.7nm,0.5s								
IZV				*e*S			**Sg**	**17 04 47.4**	**+0.2**
	7.4nm,0.5s								
MTBS	**Maitube**	**4.12**	**323**	Pg			**Pg**	**17 03 57.8**	**-1.0**
	4.4nm,0.3s								
MTBS					Lg		Lg	17 04 51.2	
	6.5nm,0.3s								
MTBS	**Maitube**	**4.12**	**323**	*e*P			**Pg**	**17 03 57.8**	**-1.0**
	4.4nm,0.3s								
MTBS				*e*S			**Sg**	**17 04 51.2**	**-1.1**
	6.5nm,0.3s								
KST	**Kastek**	**4.28**	**319**	Pg			**Pg**	**17 04 02.4**	**+0.4**
	6.9nm,0.7s								
KST					Lg		Lg	17 04 59.0	
	17nm,0.5s								
KST	**Kastek**	**4.28**	**319**	*e*P			**Pg**	**17 04 02.4**	**+0.4**
	6.9nm,0.7s								
KST				*e*S			**Sg**	**17 04 59.0**	**+1.6**
	17nm,0.5s								
TKM2	**Tokmak 2**	**4.39**	**315**	⇑Pg			**Pg**	**17 04 01.1**	**-2.9**
	4.1nm,0.6s								
TKM2				⇑Lg			Lg	17 05 02.6	
	6.1nm,0.6s								
DJR	**Jarkent**	**4.46**	**360**	Pg			**Pg**	**17 04 04.0**	**-1.2**
	1.9nm,0.3s								
DJR					Lg		Lg	17 05 01.4	
	11nm,0.5s								
DJR	**Jarkent**	**4.46**	**360**	*e*P			**Pg**	**17 04 04.0**	**-1.2**
	1.9nm,0.3s								
DJR				*e*S			**Sg**	**17 05 01.4**	**-1.5**
	11nm,0.5s								
KTBS	**Karatobe**	**4.49**	**330**	Pg			**Pg**	**17 04 04.8**	**-1.0**
	7.0nm,0.5s								
KTBS					Lg		Lg	17 05 03.7	
	9.6nm,0.4s								
KTBS	**Karatobe**	**4.49**	**330**	*e*P			**Pg**	**17 04 04.8**	**-1.0**
	7.0nm,0.5s								
KTBS				*e*S			**Sg**	**17 05 03.7**	**-0.3**
	9.6nm,0.4s								
CHKK	**Chushkaly**	**4.50**	**333**	Pg			**Pg**	**17 04 05.7**	**-0.4**
	2.8nm,0.2s								
CHKK					Lg		Lg	17 05 04.5	
	14nm,0.3s								
CHKK	**Chushkaly**	**4.50**	**333**	*e*P			**Pg**	**17 04 05.7**	**-0.4**
	2.8nm,0.2s								
CHKK				*e*S			**Sg**	**17 05 04.5**	**+0.2**
	14nm,0.3s								
KNOS	**Konyrlen**	**4.51**	**354**	Pg			**Pg**	**17 04 04.8**	**-1.4**
	5.6nm,0.3s								
KNOS					Lg		Lg	17 05 03.7	
	12nm,0.6s								
ARXS	**Arharly**	**4.58**	**342**	Pg			**Pg**	**17 04 07.5**	**-0.1**
	3.4nm,0.5s								
ARXS					Lg		Lg	17 05 07.5	
	13nm,0.7s								
ARXS	**Arharly**	**4.58**	**342**	*e*P			**Pg**	**17 04 07.5**	**-0.1**
	3.4nm,0.5s								
ARXS				*e*S			**Sg**	**17 05 07.5**	**+0.6**
	13nm,0.7s								
ARLS	**Aral**	**4.60**	**297**	⇑*e*P			**Pb**	**17 03 58.7**	**-2.2**
	baz=96								
ARLS				⇑*e*S			**Sb**	**17 04 53.3**	**-3.1**
	baz=96								
KRBS	**Karabastau**	**4.91**	**322**	Pg			**Pg**	**17 04 13.0**	**-0.9**
	3.3nm,0.4s								
KRBS					Lg		Lg	17 05 17.2	
	5.3nm,0.6s								
KRBS	**Karabastau**	**4.91**	**322**	*e*P			**Pg**	**17 04 13.0**	**-0.9**
	3.3nm,0.4s								
KRBS				*e*S			**Sg**	**17 05 17.2**	**-0.3**
	5.3nm,0.6s								
SGDS	**Sogindy**	**5.27**	**314**	Pg			**Pg**	**17 04 19.0**	**-1.8**
	1.8nm,0.5s								
SGDS					Lg		Lg	17 05 27.7	
	4.7nm,0.8s								
KAPS	**Kapalarasan**	**5.42**	**357**	Pg			**Pg**	**17 04 21.7**	**-1.9**
	2.1nm,0.4s								
KAPS					Lg		Lg	17 05 31.9	
	9.5nm,0.7s								
KAPS	**Kapalarasan**	**5.42**	**357**	*e*P			**Pg**	**17 04 21.7**	**-1.9**
	2.1nm,0.4s								
KAPS				*e*S			**Sg**	**17 05 31.9**	**-1.9**
	9.5nm,0.7s								
MK31	**Makanchi Array**	**7.15**	**14**	⇓Pn			**Pn**	**17 04 26.4**	**+1.9**
	0.1nm,0.2s,baz=180,slow=13,SNR=4.3								
MK31				⇑Sn			**Sn**	**17 05 46.4**	**+0.6**
	1.0nm,0.5s,baz=183,slow=25,SNR=3.6								
MK31				⇑Lg			Lg	17 06 25.9	
	1.2nm,0.5s								

*NEIC **21** 17:40:33.6±1.0, 12.8S±0.1×45.6E±0.2, h10km±1km, mb4.5/5, Error ellipse: s-maj=26.4km s-min=18.3km az=278.0*

ISC 21 17:40:32.6±0.7, 12.92S±0.08×45.5E±0.1, h10km, n13, σ2s03/14, mb4.5/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.28**	**165**	Pn			**Pn**	**17 42 07.2**	**+1.6**
ABPO					Sn		**Sn**	**17 43 13.0**	**-4.6**
VOI	**Vohitsoka**	**9.02**	**172**	Pn			**Pn**	**17 42 44.2**	**+1.1**
RER	**Riviere de l'E**	**12.75**	**131**	Pn			**Pn**	**17 43 33.6**	**-0.6**
KIBK	**Kibwezi**	**12.85**	**324**	Pn			**Pn**	**17 43 32.8**	**-2.8**
BOSA	**Boshof**	**24.50**	**227**	P			**P**	**17 45 52.9**	**+0.5**
BOSA					IAmb		IAmb	17 46 06.6	
	comp=Z,12nm,1.4s								
IPM	**Ipoh**	**57.77**	**76**	P			**P**	**17 50 23.8**	**-0.7**
IPM					IAmb		IAmb	17 50 42.8	
	comp=Z,6.9nm,1.3s								
ABKAR	**Akbulak array**	**63.20**	**11**	P			**P**	**17 51 00.2**	**-0.6**
CART	**Cartagena**	**66.55**	**321**	P			**P**	**17 51 23.4**	**+0.5**
PZH	**PanZhiHua**	**67.22**	**54**	P			**P**	**17 51 30.3**	**+2.7**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,100nm,4.5s								
MKAR	**Makanchi Array**	**67.96**	**26**	P			**P**	**17 51 32.0**	**+0.2**
QSPA	**South Pole Qui**	**77.18**	**180**	P			**P**	**17 52 28.4**	**+1.9**
QSPA					IAmb		IAmb	17 52 42.2	
	comp=Z,6.6nm,1.5s								
HHC	**Hu-ho-hao-te**	**81.04**	**45**	*e*P			**P**	**17 52 47.8**	**-0.3**
HHC					pmax		pmax		
	comp=Z,11nm,0.7s								
HHC					pmax		pmax		
	comp=Z,73nm,4.2s								
SONM	**Songino Array**	**81.04**	**37**	P			**P**	**17 52 47.9**	**-0.1**

*MDD **21** 17:45:52.5±0.9, 36.77N×11.03W, h0km, mb_Lg2.9/8, Error ellipse: s-maj=7.5km s-min=6.0km az=64.0*
*IGIL **21** 17:45:55.4, 36.65N×11.12W, h32km, ML2.0*
*INMG **21** 17:45:55.6±1.2, 36.64N×11.12W, h31km, ML2.3, Error ellipse: s-maj=6.2km s-min=3.3km az=90.0*
*CNRM **21** 17:45:56.4, 36.27N×10.41W, h11km, ML1.9*

ISC 21 17:45:48.6±2.3, 36.62N±0.07×11.2W±0.1, h10km, n58, σ2s43/95, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.93**	**74**	*e*P			**Pb**	**17 46 24.2**	**+0.3**
PFVI				*e*S			**Sn**	**17 46 45.6**	**-0.2**
PFVI				A			A	17 46 47.4	
	14nm,0.1s								
PFVI	**Vila Bisbo**	**1.93**	**74**	Pn			**Pb**	**17 46 24.1**	**+0.2**
PFVI					Sn		**Sn**	**17 46 45.6**	**-0.2**
PFVI	**Vila Bisbo**	**1.93**	**74**	P			**Pn**	**17 46 23.5**	**+1.9**
PFVI	**Vila Bisbo**	**1.93**	**74**	S			**Sn**	**17 46 44.7**	**-1.2**
MORF	**Marmelete**	**2.11**	**70**	*e*P			**Pb**	**17 46 27.0**	**0.0**
MORF				*e*S			**Sn**	**17 46 49.8**	**-0.6**
MORF				A			A	17 46 55.0	
	12nm,0.1s								
MORF	**Marmelete**	**2.11**	**70**	*e*P			**Pb**	**17 46 27.0**	**0.0**
MORF				*e*S			**Sn**	**17 46 49.7**	**-0.6**
MORF				IAML				17 46 51.0	
	comp=E,14nm,0.2s								
PTEO	**Sao Teotonio**	**2.15**	**64**	*e*P			**Pb**	**17 46 27.5**	**-0.1**
PTEO				*e*S			**Sn**	**17 46 51.2**	**0.0**
PTEO				A			A	17 47 00.0	
	comp=E,11nm,0.5s								
PNCL	**Nicolau / Gran**	**2.56**	**54**	*e*P			**Pn**	**17 46 32.9**	**+2.7**
PNCL				*e*S			**Sn**	**17 47 00.7**	**-0.7**
PNCL				A			A	17 47 04.7	
	comp=E,9.8nm,0.1s								
PNCL	**Nicolau / Gran**	**2.56**	**54**	Pn			**Pn**	**17 46 32.9**	**+2.7**
PNCL					Sn		**Sn**	**17 47 00.1**	**-1.3**
MESJ	**Messejana**	**2.63**	**62**	*e*P			**Pn**	**17 46 34.1**	**+2.9**
MESJ				*e*S			**Sn**	**17 47 02.3**	**-0.9**
MESJ				A			A	17 47 07.5	
	comp=E,4.3nm,0.5s								
MESJ	**Messejana**	**2.63**	**62**	*e*P			**Pn**	**17 46 34.1**	**+2.9**
MESJ				*e*S			**Sn**	**17 47 02.3**	**-0.9**
MESJ				IAML				17 47 05.6	
	comp=N,4.1nm,0.1s								
PBDV	**Barranco-do-Ve**	**2.65**	**76**	*e*P			**Pn**	**17 46 34.7**	**+3.2**
PBDV				*e*S			**Sn**	**17 47 03.6**	**-0.1**
PBDV				A			A	17 47 21.1	
	comp=N,3.3nm,0.3s								
PBDV	**Barranco-do-Ve**	**2.65**	**76**	Sn			**Sn**	**17 47 04.7**	**+1.0**
PCVE	**Castro Verde**	**2.68**	**67**	*e*P			**Pn**	**17 46 34.8**	**+2.9**
PCVE				*e*S			**Sn**	**17 47 03.8**	**-0.6**
PCVE				A			A	17 47 04.7	
	comp=N,4.0nm,0.4s								
PCVE	**Castro Verde**	**2.68**	**67**	Pn			**Pn**	**17 46 33.5**	**+1.7**
PCVE					Sn		**Sn**	**17 47 03.3**	**-1.1**
PMAFR	**Mafra**	**2.76**	**32**	*e*P			**Pn**	**17 46 35.0**	**+2.1**
PMAFR				*e*S			**Sn**	**17 47 05.4**	**-0.9**
PMAFR				A			A	17 47 07.2	
	comp=N,28nm,0.2s								
PMAFR	**Mafra**	**2.76**	**32**	Pn			**Pn**	**17 46 34.5**	**+1.6**
PMAFR					Sn		**Sn**	**17 47 05.3**	**-0.9**
PACT	**Alcochete**	**2.82**	**40**	*e*P			**Pn**	**17 46 36.6**	**+2.9**
PACT				*e*S			**Sn**	**17 47 08.9**	**+1.1**
PACT				A			A	17 47 10.4	
	comp=N,41nm,0.8s								
PVAQ	**Vaqueiros**	**2.85**	**73**	*e*P			**Pn**	**17 46 37.3**	**+3.1**
PVAQ				*e*S			**Sn**	**17 47 08.5**	**-0.2**
PVAQ				A			A	17 47 17.4	
	comp=N,5.1nm,0.1s								
PVAQ	**Vaqueiros**	**2.85**	**73**	Pn			**Pn**	**17 46 37.2**	**+2.9**
PVAQ					Sn		**Sn**	**17 47 07.9**	**-0.8**
PVAQ	**Vaqueiros**	**2.85**	**73**	P			**Pn**	**17 46 36.6**	**+2.3**
PVAQ	**Vaqueiros**	**2.85**	**73**	S			**Sn**	**17 47 06.9**	**-1.7**
PBEJ	**Beja**	**2.97**	**61**	*e*S			**Sn**	**17 47 10.8**	**-0.7**
PBEJ				A			A	17 47 16.6	
	comp=N,4.3nm,0.1s								
EGRO	**El Granado**	**3.07**	**72**	Pn			**Pn**	**17 46 40.4**	**+3.2**
EGRO					Sn		**Sn**	**17

MVO					A	A	17 48 14.5	
	comp=N,5.2nm,0.4s							
PCAB	**Cabril**	**5.63**	**25**	*e*P	**Pn**	**17 47 14.0**	**+1.6**	
PCAB				*e*S	**Sn**	**17 48 12.9**	**-4.2**	
ELOB	**Lobios**	**5.76**	**24**	Pn	**Pn**	**17 47 15.4**	**+1.1**	
ELOB				Sn	**Sn**	**17 48 15.4**	**-5.0**	
ELOB				*i* Vmb_Lg		17 48 20.9		
PGAV	**Gavieira, Arco**	**5.78**	**22**	*e*P	**Pn**	**17 47 15.8**	**+1.2**	
PGAV				*e*S	**Sn**	**17 48 16.9**	**-4.1**	
PGAV				A	A	17 48 21.4		
	comp=N,2.9nm,0.8s							
PBRG	**Braganca**	**6.20**	**32**	*e*S	**Sn**	**17 48 27.0**	**-4.3**	
PBRG				A	A	17 48 29.5		
	comp=N,1.7nm,0.1s							
TISM	**Timmit**	**6.25**	**140**	P	**Pn**	**17 47 19.8**	**-1.1**	
TISM	**Timmit**	**6.25**	**140**	S	**Sn**	**17 48 24.8**	**-7.7**	
PSIM	**Granatula de C**	**6.26**	**67**	Pn	**Pn**	**17 47 23.2**	**+2.1**	
PSIM				Sn	**Sn**	**17 48 29.6**	**-3.0**	
MD31	**MD31**	**6.46**	**124**	P	**Pn**	**17 47 22.4**	**-1.4**	
MD31	**MD31**	**6.46**	**124**	S	**Sn**	**17 48 29.7**	**-7.9**	
TTIG	**Tnine Tigouga,**	**6.47**	**159**	P	**Pn**	**17 47 24.2**	**+0.2**	
TIO	**Tiouine**	**6.54**	**149**	P	**Pn**	**17 47 24.3**	**-0.7**	
EAGO	**Agolada(Pontev**	**6.61**	**20**	Pn	**Pn**	**17 47 26.2**	**+0.4**	
EAGO				Sn	**Sn**	**17 48 35.8**	**-5.4**	
EAGO				*i* Vmb_Lg		17 48 42.8		
OUZM	**OUZ**	**6.77**	**146**	P	**Pn**	**17 47 27.9**	**-0.3**	

*MEX **21** 17:46:24.8±0.8, 15°.11N×92°.55W, h99km±6km, MD4.2*
*CATAC **21** 17:46:25.2±0.8, 15°.11N×92°.55W, h78km±7km, ML4.2*
*IDC **21** 17:46:25.2±1.2, 15°.33N×92°.40W, h101km±11km, mb3.5/2, mbtmp3.7/4, Error ellipse: s-maj=24.4km s-min=7.3km az=23.0*
*GCG **21** 17:46:26.9±0.3, 15°.27N×92°.38W, h32km, MD3.9*

ISC 21 17:46:24.2±0.8, 15°.19N±0°.05×92°.52W±0°.04, h94km±6km, **n38**, σ**1**§**13**/64, **Mexico-Guatemala border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PATR	**El Naranjo**	**0.28**	**104**	*e*P	**Pn**	**17 46 37.3**	**-0.9**
PATR				*e*S	**Sn**	**17 46 48.8**	**+0.1**
PAVE	**Pavencul**	**0.33**	**89**	*e*P	**Pn**	**17 46 38.4**	**-0.1**
PAVE				*e*S	**Sn**	**17 46 49.5**	**+0.4**
THIG		**0.37**	**139**	*e*P	**Pn**	**17 46 38.0**	**-0.5**
THIG				*e*S	**Sn**	**17 46 49.1**	**0.0**
CHUJ	**Union Juarez**	**0.41**	**103**	*e*P	**Pn**	**17 46 38.5**	**-0.5**
CHUJ				*e*S	**Sn**	**17 46 49.1**	**-0.9**
SMSP	**San Marcos**	**0.74**	**107**	*e*P	**Pn**	**17 46 41.9**	**+0.2**
SMSP				*e*S	**Sn**	**17 46 54.1**	**-0.8**
SMSP	**San Marcos**	**0.74**	**107**	*i* P	**Pn**	**17 46 42.0**	**+0.2**
SMSP				*i* S	**Sn**	**17 46 54.7**	**-0.2**
SMSP				IAML		17 47 00.4	
	comp=Z,12μm,1.0s						
PCIG		**0.85**	**307**	*e*P	**Pn**	**17 46 42.8**	**+0.3**
PCIG				*e*S	**Sn**	**17 46 57.9**	**+1.7**
HUEH	**Huehuetenango**	**0.99**	**82**	*e*P	**Pn**	**17 46 44.9**	**+0.6**
HUEH				*e*S	**Sn**	**17 47 01.3**	**+2.0**
HUEH	**Huehuetenango**	**0.99**	**82**	*i* P	**Pn**	**17 46 44.7**	**+0.4**
HUEH				*i* S	**Sn**	**17 46 59.9**	**+0.6**
HUEH				IAML		17 47 03.6	
	comp=Z,6μm,1.0s						
STG3	**Santiaguito 3,**	**1.03**	**117**	*e*P	**Pn**	**17 46 44.7**	**0.0**
RTAL	**Retalhuleu**	**1.03**	**130**	*e*P	**Pn**	**17 46 43.7**	**-0.8**
RTAL				*e*S	**Sn**	**17 46 59.0**	**-0.8**
RTAL	**Retalhuleu**	**1.03**	**130**	*i* P	**Pn**	**17 46 44.4**	**-0.2**
RTAL				*i* S	**Sn**	**17 46 59.3**	**-0.5**
RTAL				IAML		17 47 01.5	
	comp=Z,12μm,1.0s						
CCIG	**Comitan**	**1.15**	**19**	*e*P	**Pn**	**17 46 47.9**	**+1.8**
CCIG				*e*S	**Sn**	**17 47 02.3**	**-0.1**
SULM	**Suchitepequez,**	**1.27**	**133**	*e*P	**Pn**	**17 46 48.0**	**+0.6**
QUIS	**Sacapulas**	**1.38**	**86**	*i* P	**Pn**	**17 46 49.4**	**+0.6**
QUIS				*i* S	**Sn**	**17 47 09.0**	**+1.6**
QUIS				IAML		17 47 11.2	
	comp=Z,2μm,1.0s						
CHTG	**Tecpan**	**1.54**	**106**	*i* P	**Pn**	**17 46 51.7**	**+0.8**
CHTG				*i* S	**Sn**	**17 47 11.6**	**+0.5**
CHTG				IAML		17 47 17.5	
	comp=Z,3μm,1.0s						
TGIG		**1.69**	**340**	*e*P	**Pn**	**17 46 53.0**	**+0.5**
TGIG				*e*S	**Sn**	**17 47 14.4**	**+0.4**
FUG	**Fuego 3**	**1.78**	**114**	*e*P	**Pn**	**17 46 54.9**	**+1.0**
GUMI	**Mixco**	**1.92**	**106**	*i* P	**Pn**	**17 46 56.1**	**+0.4**
GUMI				*i* S	**Sn**	**17 47 20.6**	**+0.8**
GUMI				IAML		17 47 59.2	
	comp=Z,2μm,1.0s						
APG	**El Apazote**	**1.99**	**95**	P	**Pn**	**17 46 56.8**	**+0.2**
	comp=Z,5.8nm,0.4s,baz=71,slow=20,SNR=101						
APG				S	**Sn**	**17 47 21.2**	**-0.1**
	comp=Z,28nm,0.5s,baz=115,slow=11,SNR=9.8						
GCG4	**OSOP**	**2.01**	**107**	*i* P	**Pn**	**17 46 56.4**	**-0.4**
GCG4				*i* S	**Sn**	**17 47 21.6**	**-0.1**
GCG4				IAML		17 47 52.4	
	comp=Z,2μm,1.0s						
AVCB	**Coban**	**2.06**	**82**	*i* P	**Pn**	**17 46 58.6**	**+1.2**
AVCB				*i* S	**Sn**	**17 47 23.5**	**+0.7**
AVCB				IAML		17 48 10.4	
	comp=Z,5μm,1.0s						
GUNB	**GUNB**	**2.18**	**105**	*i* P	**Pn**	**17 47 00.0**	**+0.8**
GUNB				*i* S	**Sn**	**17 47 25.6**	**-0.3**
GUNB				IAML		17 47 47.8	
	comp=Z,330nm,1.0s						
NBG	**Las Nubes**	**2.18**	**106**	*e*P	**Pn**	**17 47 00.7**	**+1.5**
UXUV	**UXUV**	**2.63**	**324**	*e*P	**Pn**	**17 47 05.9**	**+1.0**
UXUV				*e*S	**Sn**	**17 47 33.4**	**-2.7**
MRL	**Marmol**	**2.74**	**92**	*e*P	**Pn**	**17 47 07.8**	**+1.3**
NUBE	**Las Nubes**	**2.94**	**115**	*i* P	**Pn**	**17 47 10.2**	**+1.0**
NUBE				*i* S	**Sn**	**17 47 45.0**	**+1.2**
NUBE				IAML		17 47 52.8	
	comp=Z,220nm,1.0s						
CMIG	**Matias Romero**	**2.96**	**310**	P	**Pn**	**17 47 09.9**	**+0.7**
	comp=Z,24nm,0.3s,baz=139,slow=9.7,SNR=45						
CMIG				S	**Sn**	**17 47 45.6**	**+1.6**
	comp=Z,65nm,0.3s,baz=38,slow=15,SNR=11						
CMIG	**Matias Romero**	**2.96**	**310**	*e*P	**Pn**	**17 47 09.9**	**+0.7**
CMIG				*e*S	**Sn**	**17 47 43.4**	**-0.5**
PETF	**Flores**	**3.07**	**56**	*e*P	**Pn**	**17 47 11.7**	**+0.9**
PETF				*e*S	**Sn**	**17 47 46.0**	**-0.7**
HUIG	**Huatulco**	**3.51**	**280**	*e*P	Pn	17 47 14.3	-2.4
HUIG				*e*S	Sn	17 47 50.4	-6.9
SCIG	**Sabancuy**	**3.97**	**19**	*e*P	**Pn**	**17 47 24.6**	**+1.7**
SCIG				*e*S	**Sn**	**17 48 06.2**	**-2.1**
TEIG	**Tepich**	**6.44**	**38**	P	**Pn**	**17 47 55.2**	**-1.2**
	comp=Z,144nm,0.3s,baz=238,slow=3.2,SNR=38						
TEIG				S	**Sn**	**17 49 05.2**	**-3.2**
	comp=Z,142nm,0.3s,baz=78,slow=21,SNR=18						
TXAR	**Lajitas Array**	**17.44**	**326**	P	**Pn**	**17 50 22.7**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=140,slow=13,SNR=5.4						
NVAR	**Mina Array Bea**	**32.44**	**320**	P	**P**	**17 52 47.7**	**+2.0**
	comp=Z,2.7nm,0.6s,baz=134,slow=9.0,SNR=23						
	comp=Z,2.7nm,0.6s						
YKA	**Yellowknife Ar**	**49.76**	**347**	P	**P**	**17 55 04.8**	**-2.0**
	comp=Z,0.3nm,0.6s,baz=149,slow=7.0,SNR=4.0						
	comp=Z,0.3nm,0.6s						
WRA	**Warramunga Arr**	**135.19**	**257**	PKP	**PKPdf**	**18 05 33.3**	**-0.4**
	comp=Z,0.4nm,0.8s,baz=86,slow=2.5,SNR=1.5						
CMAR	**Chiang Mai Arr**	**144.71**	**341**	PKP	**PKPab**	**18 05 48.2**	**-1.6**
	comp=Z,1.3nm,0.7s,baz=337,slow=3.0,SNR=13						

*IDC **21** 17:50:35.1±0.8, 14°.07S×14°.29W, h0km, mb4.1/13, mbtmp4.1/13, MS3.7/42, Error ellipse: s-maj=48.7km s-min=19.5km az=116.0*
*NEIC **21** 17:50:36.8±1.1, 14°.14S±0°.07×14°.1W±0°.1, h10km±1km, mb4.7/13, Error ellipse: s-maj=24.1km s-min=12.2km az=264.0*
*GCMT **21** 17:50:40.8±0.5, 14°.05S±0°.03×14°.26W±0°.02, h12km±2km, MW4.7/72, Moment Tensor Solution. s13,c13; s72,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=0.04±.07; Mθθ=0.33±.08; Mφφ=-0.29±.08; Mrθ=0.11±.19; Mrφ=-1.25±.07; Mθφ=-0.80±.32; Best double couple: M=1.52100×10^16 NP1:ϕs=353.00000°, δ89.00000°, λ-32.00000°. NP2: ϕs=83.00000°, δ58.00000°, λ-179.00000°. Principal axes: T 1.5380, Plg22.0000°, Azm42.0000°; N -0.0340, Plg58.0000°, Azm172.0000°; P -1.5040, Plg23.0000°, Azm303.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 21 17:50:36.5±0.7, 14°.2S±0°.1×14°.2W±0°.2, h10km, **n62,**

σ**1**§**10**/30, **mb4.3**/21, **MS3.8**/42, **3C, Southern Mid-Atlantic Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASCN	**Ascension**	**6.18**	**359**	Pn	**Pn**	**17 52 08.1**	**+0.2**
LIC	**Lamto**	**22.21**	**25⇑**	*e*PKIKP	**P**	**17 55 37.0**	**+3.7**
	36nm,0.9s						
KIC	**Kosan Boka**	**22.45**	**25⇑**	*e*PKIKP	**P**	**17 55 37.2**	**+1.3**
	11nm,0.7s						
TIC	**Toumodi**	**22.59**	**24⇑**	*e*PKIKP	**P**	**17 55 37.4**	**0.0**
	18nm,0.9s						
DBIC	**Dimbokro**	**22.68**	**25**	P	**P**	**17 55 37.9**	**-0.5**
	4.2nm,0.7s,baz=197,slow=10.0,SNR=5.0						
DBIC				LR	LR	18 02 20.1	
	comp=Z,231nm,19.6s,baz=198,slow=31						
	4.2nm,0.7s						
RCBR	**Riachuelo**	**22.88**	**289**	LR	LR	18 02 08.9	
	comp=Z,92nm,21.1s,baz=61,slow=30						
TSUM	**Tsumeb**	**30.85**	**104**	LR	LR	18 07 40.1	
	comp=Z,65nm,18.9s,baz=275,slow=33						
TOA0	**Torodi Ar. Sit**	**31.38**	**31**	P	**P**	**17 56 56.6**	**-1.1**
TORD	**Torodi Ar. Bea**	**31.38**	**31**	P	**P**	**17 56 56.3**	**-1.4**
TORD	**Torodi Ar. Bea**	**31.38**	**31**	P	**P**	**17 56 57.0**	**-0.7**
	1.9nm,0.7s,baz=216,slow=7.4,SNR=9.7						
TORD				LR	LR	18 07 49.3	
	comp=Z,234nm,18.3s,baz=160,slow=33						
	1.9nm,0.7s						
BDFB	**Brasilia**	**32.67**	**263**	LR	LR	18 09 00.9	
	comp=Z,68nm,18.9s,baz=139,slow=34						
SUR	**Sutherland**	**36.72**	**126**	LR	LR	18 08 46.4	
	comp=Z,176nm,19.3s,baz=315,slow=30						
LBTB	**Lobatse**	**38.91**	**112**	LR	LR	18 12 41.9	
	comp=Z,76nm,18.1s,baz=268,slow=34						
BOSA	**Boshof**	**39.28**	**118**	LR	LR	18 11 41.9	
	comp=Z,112nm,21.6s,baz=276,slow=32						
CPUP	**Villa Florida**	**42.03**	**246**	P	**P**	**17 58 28.4**	**-0.1**
	1.0nm,0.3s,baz=86,slow=11,SNR=4.3						
CPUP				LR	LR	18 13 38.0	
	comp=Z,131nm,20.4s,baz=98,slow=33						
	1.0nm,0.3s						
MDP	**Montagnes des**	**42.64**	**294**	LR	LR	18 16 17.7	
	comp=Z,32nm,18.8s,baz=84,slow=36						
MBAR	**Mbarara**	**46.46**	**77**	LR	LR	18 16 03.6	
	comp=Z,88nm,19.1s,baz=230,slow=33						
MDT	**Midelt**	**47.60**	**11**	LR	LR	18 17 47.3	
	comp=Z,227nm,20.2s,baz=172,slow=34						
SAML	**Samuel**	**48.18**	**271**	P	**P**	**17 59 17.8**	**+0.2**
SAML				IAmb	IAmb	17 59 28.4	
	comp=Z,5.8nm,1.1s						
ETMB	**Extrema**	**50.96**	**269**	P	**P**	**17 59 38.4**	**-0.4**
LPAZ	**La Paz**	**51.94**	**260**	LR	LR	18 19 52.3	
	comp=Z,36nm,20.9s,baz=92,slow=34						
LVC	**Limon Verde**	**52.34**	**252**	LR	LR	18 20 59.7	
	comp=Z,48nm,20.4s,baz=112,slow=35						
CO01	**Juntas del Tor**	**53.63**	**243**	P	**P**	**17 59 59.1**	**+0.4**
AC06	**Mina Casimiro**	**53.71**	**246**	P	**P**	**17 59 58.9**	**-0.2**
ESDC	**Sonseca Array**	**54.40**	**10**	P	**P**	**18 00 03.4**	**-0.4**
	comp=Z,0.7nm,0.4s,baz=191,slow=7.7,SNR=12						
ESDC				LR	LR	18 21 46.9	
	comp=Z,79nm,20.6s,baz=166,slow=34						
	comp=Z,0.7nm,0.4s						
KEST	**Kesra**	**54.40**	**24**	P	**P**	**18 00 05.1**	**+1.2**
	comp=Z,3.8nm,0.8s,baz=236,slow=4.3,SNR=4.8						
KEST				LR	LR	18 22 09.6	
	comp=Z,129nm,20.5s,baz=284,slow=35						
	comp=Z,3.8nm,0.8s						
PLCA	**Paso Flores**	**55.48**	**230**	LR	LR	18 20 52.6	
	comp=Z,99nm,20.4s,baz=102,slow=33						
PCRV	**Puerto La Cruz**	**55.53**	**293**	LR	LR	18 20 54.9	
	comp=Z,61nm,21.5s,slow=33						
VAE	**Valguarnera**	**57.99**	**27**	LR	LR	18 23 46.5	
	comp=Z,69nm,18.2s,baz=149,slow=34						
SDV	**Santo Domingo**	**60.46**	**289**	LR	LR	18 26 10.1	
	comp=Z,85nm,19.4s,baz=152,slow=35						
PMSA	**Palmer Station**	**60.81**	**202**	LR	LR	18 20 55.0	
	comp=Z,51nm,21.3s,baz=96,slow=30						
ROSC	**El Rosal**	**62.51**	**283**	LR	LR	18 29 45.4	
	comp=Z,111nm,18.1s,baz=224,slow=38						
EIL	**Elat**	**64.39**	**47**	LR	LR	18 26 51.8	
	comp=Z,44nm,21.3s,baz=246,slow=34						
DAVOX	**Davos/Dischmat**	**64.41**	**18**	LR	LR	18 27 32.2	
	comp=Z,159nm,21.9s,baz=219,slow=34						
MMAI	**Mount Meron Ar**	**66.66**	**44**	LR	LR	18 29 36.8	
	comp=Z,16nm,18.9s,baz=205,slow=35						
GERES	**GERESS Array B**	**67.43**	**20**	LR	LR	18 30 26.7	
	comp=Z,96nm,19.0s,baz=250,slow=36						
VRAC	**Vranov**	**68.81**	**21**	LR	LR	18 31 54.4	
	comp=Z,101nm,19.5s,baz=222,slow=36						
MLR	**Muntele Rosu**	**69.59**	**29**	LR	LR	18 33 30.6	
	comp=Z,71nm,18.6s,baz=238,slow=37						
BRTR	**Keskin Array B**	**69.68**	**38**	P	**P**	**18 01 46.1**	**-0.5**
	comp=Z,1.0nm,0.8s,baz=204,slow=5.4,SNR=6.8						
BRTR				LR	LR	18 32 20.9	
	comp=Z,34nm,21.7s,baz=266,slow=36						
	comp=Z,1.0nm,0.8s						
ARPR	**Arapgir-MALATY**	**72.16**	**40**	P	**P**	**18 02 00.1**	**-1.7**
KIEV	**Kiev**	**74.90**	**27**	P	**P**	**18 02 17.3**	**-0.1**
KIEV				IAmb	IAmb	18 02 26.2	
	comp=Z,13nm,1.5s						
AKASG	**Malin Array Be**	**74.91**	**27**	P	**P**	**18 02 16.9**	**-0.5**
	comp=Z,1.2nm,0.7s,baz=223,slow=6.3,SNR=7.5						
AKASG				LR	LR	18 36 53.4	
	comp=Z,32nm,19.4s,baz=236,slow=37						
	comp=Z,1.2nm,0.7s						
AKBB	**Malin Array Si**	**74.91**	**27**	P	**P**	**18 02 18.4**	**+0.9**
AKBB				IAmb	IAmb	18 02 36.9	
	comp=Z,12nm,1.4s						
QSPA	**South Pole Qui**	**76.00**	**180**	P	**P**	**18 02 23.8**	**0.0**
QSPA				IAmb	IAmb	18 02 25.5	
	comp=Z,9.2nm,1.2s						
QSPA	**South Pole Qui**	**76.00**	**180**	P	**P**	**18 02 24.3**	**+0.5**
	comp=Z,3.6nm,1.0s,baz=209,slow=1.4,SNR=14						
QSPA				LR	LR	18 29 53.4	
	comp=Z,57nm,19.4s,baz=192,slow=31						
	comp=Z,3.6nm,1.0s						
GNI	**Garni**	**76.86**	**42**	LR	LR	18 37 14.1	
	comp=Z,30nm,18.6s,baz=295,slow=36						
HFS	**Hagfors**	**77.37**	**14**	P	**P**	**18 02 29.5**	**-1.8**
	comp=Z,1.6nm,0.8s,baz=203,slow=1.1,SNR=3.6						
	comp=Z,1.6nm,0.8s						
KIV	**Kislovodsk**	**77.62**	**38**	P	**P**	**18 02 31.5**	**-1.7**
KIV				IAmb	IAmb	18 03 07.2	
	comp=Z,7.4nm,1.1s						
KBZ	**Khabaz**	**77.62**	**39**	LR	LR	18 36 01.4	
	comp=Z,15nm,21.2s,baz=228,slow=35						
NOA	**NORSAR Array B**	**77.64**	**12**	P	**P**	**18 02 32.7**	**-0.1**
	comp=Z,0.8nm,0.9s,baz=235,slow=6.8,SNR=2.6						
NOA				LR	LR	18 38 20.0	
	comp=Z,31nm,18.2s,baz=205,slow=37						
	comp=Z,0.8nm,0.9s						
UOSS	**Minazif**	**78.87**	**61**	P	**P**	**18 02 40.8**	**+0.4**
UOSS				IAmb	IAmb	18 02 42.9	
	comp=Z,5.0nm,0.7s						
WSAR	**Wadi Sarin**	**80.35**	**63**	LR	LR	18 37 43.1	
	comp=Z,119nm,19.2s,baz=250,slow=35						
FINES	**FINESS Array B**	**81.81**	**18**	P	**P**	**18 02 55.5**	**+0.1**
	comp=Z,0.9nm,0.6s,baz=211,slow=1.6,SNR=5.7						
FINES				LR	LR	18 39 44.7	
	comp=Z,78nm,18.8s,baz=252,slow=36						
	comp=Z,0.9nm,0.6s						
SADO	**Sadowa**	**82.97**	**319**	LR	LR	18 33 29.3	
	comp=Z,42nm,18.7s,baz=54,slow=31						
GEYT	**Alibeck**	**85.18**	**49**	P	**P**	**18 03 13.6**	**+0.2**
	comp=Z,0.8nm,0.5s,baz=261,slow=5.4,SNR=4.4						
	comp=Z,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**88.00**	**13**	LR	LR	18 42 02.5	
	comp=Z,39nm,19.0s,baz=253,slow=35						
VNDA	**Vanda**	**88.47**	**179**	LR	LR	18 38 09.8	
	comp=Z,42nm,21.3s,baz=156,slow=32						
KIRV	**Kirov**	**88.93**	**28**	LR	LR	18 45 25.6	
	comp=Z,64nm,18.4s,baz=246,slow=37						
AKTO	**Aktyubinsk**	**89.86**	**38**	P	**P**	**18 03 35.9**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=245,slow=4.2,SNR=3.5						
	comp=Z,0.6nm,0.3s						
ARU	**Arti**	**92.44**	**32**	LR	LR	18 47 24.4	
	comp=Z,24nm,18.2s,baz=240,slow=37						
AAK	**Ala-Archa**	**98.51**	**48**	LR	LR	18 48 36.0	
	comp=Z,32nm,21.4s,baz=264,slow=35						
MJAR	**Matsushiro Arr**	**146.78**	**43**	PKPbc	**PKPab**	**18 10 21.2**	**+0.7**
	comp=Z,1.2nm,1.0s,baz=298,slow=2.6,SNR=4.7						

*PRU **21** 18:00:32.5, 50°.26N×12°.44E, h10km, West Bohemia Swarm*
*CLL **21** 18:00:33.8±0.3, 50°.24N×12°.45E, h5km, ML2.4*
*BGR **21** 18:00:33.2±0.2, 50°.24N×12°.46E, h8km±2km, ML2.4/7, Error ellipse: s-maj=2.2km s-min=1.1km az=86.0*

*WBNET **21** 18:00:33.3, 50°.24N×12°.46E, h6km, Ml2.5*

ISC 21 18:00:33.3±0.8, 50°.24N±0°.01×12°.46E±0°.02, h7km±3km, **n68**, σ**0**§**47**/120, **5C-7D, Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.01**	**223**	*i* Pg	**Pg**	**18 00 34.7**	**0.0**
NKC				*i* Sg	**Sg**	**18 00 35.5**	**-0.2**
NKC				IAML		18 00 35.8	
	comp=N,10μm,0.1s						
NKC	**Novy Kostel**	**0.01**	**223**	*e*PG	**Pg**	**18 00 34.7**	**0.0**
NKC				*e*SG	**Sg**	**18 00 35.5**	**-0.2**
	comp=N,4μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**223**	*i* Pg	**Pg**	**18 00 34.7**	**0.0**
NKC				*i* Sg	**Sg**	**18 00 35.5**	**-0.2**
	comp=N,10μm,0.1s						
NKC	**Novy Kostel**	**0.01**	**223**	⇓P	**Pg**	**18 00 34.7**	**0.0**
NKC				S	**Sg**	**18 00 35.5**	**-0.2**
LBCW	**Luby**	**0.04**	**307**	⇓P	**Pg**	**18 00 34.9**	**0.0**
LBCW				S	**Sg**	**18 00 36.0**	**0.0**
STCW	**Studenec**	**0.04**	**66**	*i* Pg	**Pg**	**18 00 34.9**	**0.0**
STCW				*i* Sg	**Sg**	**18 00 35.9**	**-0.2**
STCW	**Studenec**	**0.04**	**66**	*i* Pg	**Pg**	**18 00 34.9**	**0.0**
STCW				*i* Sg	**Sg**	**18 00 35.9**	**-0.2**
STCW	**Studenec**	**0.04**	**66**	⇑P	**Pg**	**18 00 34.9**	**0.0**
STCW				S	**Sg**	**18 00 35.9**	**-0.2**
KVC	**Kvetna**	**0.05**	**136**	*e*Pg	**Pg**	**18 00 35.1**	**+0.1**
KVC				*i* Sg	**Sg**	**18 00 36.0**	**-0.2**
KVC	**Kvetna**	**0.05**	**136**	⇑P	**Pg**	**18 00 35.0**	**0.0**
KVC				S	**Sg**	**18 00 36.0**	**-0.2**
VAC	**Vackov**	**0.06**	**262**	*i* Pg	**Pg**	**18 00 35.0**	**0.0**
VAC				*i* Sg	**Sg**	**18 00 36.1**	**-0.2**
VAC	**Vackov**	**0.06**	**262**	⇓P	**Pg**	**18 00 35.0**	**0.0**
VAC				S	**Sg**	**18 00 36.1**	**-0.2**
WERN	**Wernitzgruen**	**0.07**	**310**	*i* Pg	**Pg**	**18 00 35.3**	**0.0**
WERN				*i* Sg	**Sg**	**18 00 36.6**	**-0.1**
WERN				IAML		18 00 36.8	
	comp=E,3μm,0.1s						
WERN	**Wernitzgruen**	**0.07**	**310**	*i* Pg	**Pg**	**18 00 35.3**	**0.0**
WERN				*i* Sg	**Sg**	**18 00 36.6**	**-0.1**
	comp=E,3μm,0.1s						
POCW	**Potky**	**0.08**	**344**	⇓P	**Pg**	**18 00 35.5**	**+0.1**
POCW				S	**Sg**	**18 00 36.9**	**0.0**
ROHR	**Rohrbach**	**0.09**	**265**	*i* Pg	**Pg**	**18 00 35.5**	**0.0**
ROHR				*i* Sg	**Sg**	**18 00 36.9**	**-0.2**
ROHR				IAML		18 00 37.1	
	comp=E,5μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**265**	*i* Pg	**Pg**	**18 00 35.5**	**0.0**
ROHR				*i* Sg	**Sg**	**18 00 36.9**	**-0.2**
	comp=E,5μm,0.1s						
SKC	**Skalna**	**0.10**	**222**	⇑P	**Pg**	**18 00 35.6**	**0.0**
SKC				S	**Sg**	**18 00 37.1**	**-0.1**
KRCW	**Kraslice**	**0.10**	**26**	⇑P	**Pg**	**18 00 35.8**	**0.0**
KRCW				S	**Sg**	**18 00 37.3**	**-0.1**
GUNZ	**Gunzen**	**0.15**	**326**	*i* Pg	**Pg**	**18 00 36.6**	**+0.1**
GUNZ				*i* Sg	**Sg**	**18 00 38.5**	**-0.1**
GUNZ				IAML		18 00 39.0	
	comp=N,207nm,0.1s						
GUNZ	**Gunzen**	**0.15**	**326**	*i* Pg	**Pg**	**18 00 36.6**	**+0.1**
GUNZ				*i* Sg	**Sg**	**18 00 38.5**	**-0.1**
	comp=N,207nm,0.1s						
KOCW	**Kopaniny**	**0.15**	**279**	⇓P	**Pg**	**18 00 36.5**	**0.0**
KOCW				S	**Sg**	**18 00 38.5**	**-0.1**
TANN	**Tannenbergstha**	**0.17**	**0**	*i* Pg	**Pg**	**18 00 36.9**	**0.0**
TANN				*i* Sg	**Sg**	**18 00 39.1**	**-0.2**
TANN				IAML		18 00 39.7	
	comp=E,704nm,0.1s						
TANN	**Tannenbergstha**	**0.17**	**0**	*i* Pg	**Pg**	**18 00 36.9**	**0.0**
TANN				*i* Sg	**Sg**	**18 00 39.1**	**-0.2**
	comp=E,704nm,0.1s						
MULD	**Muldenberg**	**0.17**	**348**	*i* Pg	**Pg**	**18 00 37.0**	**0.0**
MULD				*i* Sg	**Sg**	**18 00 39.2**	**-0.2**
MULD				IAML		18 00 39.7	
	comp=N,999nm,0.2s						
MULD	**Muldenberg**	**0.17**	**348**	*i* Pg	**Pg**	**18 00 37.0**	**0.0**
MULD				*i* Sg	**Sg**	**18 00 39.2**	**-0.2**
	comp=N,999nm,0.2s						
ZHC	**Zelena Hora**	**0.20**	**210**	⇑P	**Pg**	**18 00 37.4**	**+0.1**
ZHC				S	**Sg**	**18 00 40.0**	**0.0**
TRCW	**Trojmez**	**0.21**	**287**	⇓P	**Pg**	**18 00 37.7**	**0.0**
TRCW				S	**Sg**	**18 00 40.5**	**0.0**
**LAC

PVCC	**Panska Ves**	**1.38**	**77**	*e*SG	**Sg**	**18 01 18.4**	**+0.7**		
	comp=Z,72nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.53**	**101**	*e*SG	**Sb**	**18 01 21.9**	**+0.2**		
	comp=Z,28nm,0.2s								
GEC2	**GERESS Array S**	**1.61**	**150**	*e*Pn	**Pn**	**18 01 02.6**	**+0.3**		
GEC2				*e*Sg	**Sb**	**18 01 23.9**	**-0.1**		
UPC	**Upice**	**2.29**	**82**	*e*SG	**Sb**	**18 01 44.8**	**+1.4**		
DPC	**Dobruska-Polom**	**2.48**	**86**	*e*SG	**Sb**	**18 01 50.2**	**+1.3**		
KRUC	**Moravsky**	**2.82**	**113**	*e*SG	**Sb**	**18 02 00.5**	**+2.0**		
VRAC	**Vranov**	**2.84**	**108**	*e*Pn	**Pn**	**18 01 18.4**	**-0.6**		
VRAC				*e*SG	**Sb**	**18 02 00.6**	**+1.4**		
MORC	**Moravsky Berou**	**3.31**	**96**	*e*SG	**Sn**	**18 02 06.5**	**+1.4**		
MORC	**Moravsky Berou**	**3.31**	**96**	*e*SG	**Sg**	**18 02 16.8**	**-2.8**		

*RSNC **21** 18:54:30.4±0.0,4˚N±2˚×7˚6W±˚, h165km±4km, M3.1, ML3.1*
*IDC **21** 18:54:31.0±1.8,3˚.96N×75˚.91W, h183km±13km, mb3.1/6, mbtmp3.7/7, Error ellipse: s-maj=28.6km s-min=21.8km az=7.0*

ISC 21 18:54:28.9±0.7,3˚.88N±0˚.03×76˚.11W±0˚.04, h165km±6km, n40, σ1§27/62, mb3.3/6, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAMC	**Jamundi, Valle**	**0.87**	**221**	P	**Pn**	**18 54 54.1**	**-0.3**
JAMC				S	**Sn**	**18 55 13.0**	**-0.9**
PLMC	**San Jos del P**	**1.03**	**350**	P	**Pn**	**18 54 55.7**	**+0.3**
PLMC				S	**Sn**	**18 55 15.9**	**0.0**
PRAC	**Prado**	**1.23**	**98**	P	**Pn**	**18 54 57.4**	**+0.4**
PRAC				S	**Sn**	**18 55 18.6**	**0.0**
MALC	**Bahia Malaga**	**1.23**	**276**	P	**Pn**	**18 54 58.2**	**+1.2**
MALC				S	**Sn**	**18 55 21.2**	**+2.5**
BETC	**Betania**	**1.36**	**151**	P	**Pn**	**18 54 58.6**	**+0.3**
BETC				S	**Sn**	**18 55 20.6**	**-0.4**
POPC	**Popayan, Colom**	**1.45**	**203**	P	**Pn**	**18 54 59.3**	**-0.1**
POPC				S	**Sn**	**18 55 21.1**	**-1.7**
PIZC	**Pizarro, Choco**	**1.65**	**311**	P	**Pn**	**18 55 02.3**	**+1.2**
PIZC				S	**Sn**	**18 55 27.2**	**+1.2**
GARC	**Garzon, Huila**	**1.79**	**160**	P	**Pn**	**18 55 03.1**	**+0.2**
GARC				S	**Sn**	**18 55 29.4**	**+0.2**
URMC	**La Uribe, Meta**	**1.83**	**110**	P	**Pn**	**18 55 03.8**	**+0.6**
ROSC	**El Rosal**	**2.02**	**62**	P	**Pn**	**18 55 07.0**	**+1.5**
	74nm,0.4s,baz=311,slow=0.4,SNR=20						
ROSC				S	**Sn**	**18 55 34.5**	**+0.7**
	38nm,0.5s,baz=196,slow=13,SNR=5.1						
ROSC	**El Rosal**	**2.02**	**62**	P	**Pn**	**18 55 07.0**	**+1.5**
NORC	**Norcasia**	**2.08**	**36**	P	**Pn**	**18 55 06.2**	**+0.3**
NORC				S	**Sn**	**18 55 32.5**	**-2.0**
CVER	**Cruz Verde, Cu**	**2.12**	**72**	P	**Pn**	**18 55 08.3**	**+1.5**
BBAC	**Balboa, Cauca**	**2.17**	**212**	P	**Pn**	**18 55 07.4**	**+0.3**
BBAC				S	**Sn**	**18 55 36.9**	**+0.2**
GR1C	**Gorgona, Isla**	**2.24**	**247**	P	**Pn**	**18 55 07.4**	**-0.2**
GR1C				S	**Sn**	**18 55 35.3**	**-2.3**
FLOC	**Florencia**	**2.33**	**169**	P	**Pn**	**18 55 09.5**	**+0.7**
FLOC				S	**Sn**	**18 55 40.8**	**+1.1**
HELC	**Santa Helena**	**2.37**	**14**	P	**Pn**	**18 55 09.9**	**+0.4**
HELC				S	**Sn**	**18 55 41.7**	**+0.7**
VILC	**Villavicencio,**	**2.42**	**84**	P	**Pn**	**18 55 11.5**	**+1.6**
VILC				S	**Sn**	**18 55 45.0**	**+3.4**
CRUC	**La Cruz**	**2.45**	**200**	P	**Pn**	**18 55 11.8**	**+1.3**
CRUC				S	**Sn**	**18 55 44.2**	**+1.5**
CHIC	**Chingaza**	**2.48**	**72**	P	**Pn**	**18 55 12.1**	**+1.2**
SPBC	**San Pablo de B**	**2.68**	**49**	P	**Pn**	**18 55 13.7**	**+0.6**
GCUF	**Volcan Galeras**	**2.91**	**205**	P	**Pn**	**18 55 16.7**	**+0.4**
GCUF				S	**Sn**	**18 55 52.3**	**-0.7**
PTBC	**PUERTO BERRIO,**	**3.11**	**32**	P	**Pn**	**18 55 18.2**	**-0.1**
PTBC				S	**Sn**	**18 55 56.2**	**-0.5**
DBBC	**Dabeiba**	**3.12**	**358**	P	**Pn**	**18 55 19.1**	**+0.7**
DBBC				S	**Sn**	**18 55 57.9**	**+0.9**
ZARC	**Zaragoza, Cauc**	**3.80**	**19**	P	**Pn**	**18 55 27.1**	**+0.1**
ZARC				S	**Sn**	**18 56 11.1**	**-1.2**
UREC	**San Jos de Ur**	**3.89**	**8**	P	**Pn**	**18 55 28.3**	**+0.2**
UREC				S	**Sn**	**18 56 13.0**	**-1.4**
PTLC	**Puerto Leguiza**	**3.91**	**160**	P	Pn	18 55 33.4	+5.0
BARC	**Barichara**	**3.97**	**47**	P	**Pn**	**18 55 30.2**	**+0.9**
APAC	**Apartado, Choc**	**4.02**	**353**	P	**Pn**	**18 55 32.9**	**+3.1**
CUSE	**Cuicocha Este**	**4.23**	**213**	P	**Pn**	**18 55 33.9**	**+1.0**
PAMC	**Pamplona, Colo**	**4.83**	**44**	P	**Pn**	**18 55 40.7**	**-0.1**
PAMC				S	**Sn**	**18 56 38.1**	**+1.2**
SDV	**Santo Domingo**	**7.37**	**47**	P	**Pn**	**18 56 13.4**	**-0.7**
	5.9nm,0.3s,baz=172,slow=17,SNR=6.2						
SDV				S	**Sn**	**18 57 32.9**	**-4.0**
	14nm,0.6s,baz=45,slow=18,SNR=12						
PDAR	**Pinedale Array**	**48.81**	**327**	P	**P**	**19 02 58.9**	**+1.1**
	0.3nm,0.6s,baz=123,slow=6.6,SNR=2.3						
	0.3nm,0.6s						
NVAR	**Mina Array Bea**	**51.53**	**318**	P	**P**	**19 03 19.3**	**+1.1**
	0.2nm,0.6s,baz=112,slow=6.9,SNR=2.3						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**65.03**	**341**	P	**P**	**19 04 51.0**	**-0.1**
	0.6nm,0.7s,baz=131,slow=5.6,SNR=6.4						
	0.6nm,0.7s						
DBIC	**Dimbokro**	**70.95**	**84**	P	**P**	**19 05 28.2**	**-0.9**
	2.1nm,0.8s,baz=263,slow=9.4,SNR=1.7						
	2.1nm,0.8s						
ESDC	**Sonseca Array**	**73.81**	**50**	P	**P**	**19 05 45.6**	**0.0**
	0.3nm,0.5s,baz=270,slow=7.0,SNR=4.0						
	0.3nm,0.5s						
TORD	**Torodi Ar. Bea**	**77.26**	**77**	P	**P**	**19 06 04.7**	**-0.9**
	0.3nm,0.4s,baz=292,slow=5.6,SNR=7.2						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**144.99**	**233**	PKPbc	**PKPbc**	**19 13 46.9**	**-0.3**
	1.1nm,0.5s,baz=117,slow=3.8,SNR=16						
WRA	**Warramunga Arr**	**146.31**	**239**	PKPbc	**PKPdf**	**19 13 48.9**	**-0.9**
	0.6nm,0.8s,baz=115,slow=3.3,SNR=1.9						

*IDC **21** 19:12:50.8±0.4,6˚.54S×155˚.14E, h0km, mb5.0/19, mbtmp5.0/19, MS4.6/55, Error ellipse: s-maj=17.7km s-min=11.8km az=110.0*
*BJI **21** 19:12:55.3±0.0,6˚.34S×155˚.40E, h43km, mb5.0/80, mB5.2/55, Ms4.8/69, Ms7 4.7/69*
*MOS **21** 19:12:55.4±0.8,6˚.42S×154˚.96E, h33km, mb5.4/34, Error ellipse: s-maj=9.8km s-min=6.2km az=113.0*
*NEIC **21** 19:12:56.5,6˚.60S×154˚.95E, h40km, Moment Tensor Solution. Duration: 2§1 Moment tensor: Scale 10¹⁷Nm; Mrr1.70; Mθθ-0.87; Mφφ-0.83; Mrθ0.04; Mθφ1.05; Mφr-0.17; Fault plane solution: M₀1.81000×10¹⁷ NP1: φs138.00000°, δ47.47000°, λ94.88000°. NP2: φs310.80000°, δ42.75000°, λ84.70000°. Principal axes: T 1.7115, Plg86.0000°, Azm101.0000°; N 0.1956, Plg4.0000°, Azm315.0000°; P -1.9071, Plg2.0000°, Azm225.0000°;*
*NEIC **21** 19:12:56.5,6˚.50S×155˚.05E, h40km*
*NEIC **21** 19:12:57.2±2.0,6˚.49S±0˚.08×155˚.05E±0˚.08, h32km±2km, mb5.4/311, Mww5.4/25, Error ellipse: s-maj=13.1km s-min=9.3km az=218.0*
*GCMT **21** 19:12:59.3±0.1,6˚.84S±0˚.01×154˚.96E±0˚.01, h45km, MW5.5/154, Moment Tensor Solution. s154,c274; s131,c244; Duration: 1§3 Moment tensor: Scale 10¹⁷ Nm; Mrr1.75±.02; Mθθ-1.01±.02; Mφφ-0.73±.02; Mrθ0.06±.02; Mθφ1.21±.02; Mφr-0.34±.02; Best double couple: M₀1.95600×10¹⁷ NP1:φs140.00000°, δ50.00000°, λ101.00000°. NP2:φs303.00000°, δ42.00000°, λ77.00000°. Principal axes: T 1.8010, Plg81.0000°, Azm106.0000°; N 0.3140, Plg8.0000°, Azm313.0000°; P -2.1100, Plg4.0000°, Azm222.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **21** 19:12:59.3±0.4,7˚S±2˚×15˚5E±˚, h55km±4km, M5.4/85, mb5.5/85, mB5.8/57, MLv5.7/2, Mw5.4/97, Mw(mB)5.4/57, MwMwp5.2/15, Mwp5.4/15*

ISC 21 19:12:58.2±0.3,6˚58S±0˚.03×155˚06E±0˚.04, h47km±2km, h47km:pP-P, n1068, σ1§20/977, mb5.4/256, MS4.7/82, 21C-12D, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**3.73**	**309**	P	**Pn**	**19 13 57.1**	**+3.7**
RABL	**Rabaul**	**3.73**	**309**	Pn	**Pn**	**19 13 52.6**	**-0.8**
BULU	**Kimbe**	**4.83**	**282**	P	**Pn**	**19 14 10.7**	**+2.2**
HNR	**Honiara**	**5.61**	**121**	P	Pn	19 14 24.2	+5.1
HNR	**Honiara**	**5.61**	**121**	Pn	**Pn**	**19 14 20.4**	**+1.3**
HNR	**Honiara**	**5.61**	**121**	LR	LR	19 16 33.7	
	comp=Z,218µm,18.5s,baz=296,slow=40						
HNR	**Honiara**	**5.61**	**121**	P	**Pn**	**19 14 20.4**	**+1.3**
PMG	**Port Moresby**	**8.32**	**250**	Pn	**Pn**	**19 14 57.9**	**+1.6**
	49nm,0.3s,baz=66,slow=4.1,SNR=65						
PMG				Sn	**Sn**	**19 16 32.3**	**+3.4**
	20nm,0.3s,baz=81,slow=22,SNR=6.9						
PMG				LR	LR	19 18 13.3	
	comp=Z,9µm,19.6s,baz=38,slow=38						
MANU	**Manus Island**	**8.90**	**300**	P	**Pn**	**19 15 07.3**	**+3.0**
MANU	**Manus Island**	**8.90**	**300**	Pn	**Pn**	**19 15 03.0**	**-1.3**
PATS	**Pohnpei**	**13.71**	**14**	P	**Pn**	**19 16 10.0**	**-0.1**
	baz=14,SNR=7.8						
PATS	**Pohnpei**	**13.71**	**14**	Pn	**Pn**	**19 16 07.8**	**-2.3**
COEN	**Coen**	**13.80**	**237**	P	**Pn**	**19 16 12.6**	**+1.2**
	baz=14,SNR=8.3						
COEN	**Coen**	**13.80**	**237**	P	**Pn**	**19 16 12.3**	**+0.9**
COEN	**Coen**	**13.80**	**237**	Pn	**Pn**	**19 16 11.8**	**+0.4**
TABU	**Tabubil**	**13.83**	**275**	P	**Pn**	**19 16 13.6**	**+1.8**
MMPI	**Merauke**	**14.67**	**262**	P	**Pn**	**19 16 22.9**	**-0.1**
	478nm,0.9s,8µm						
JAY	**Jayapura**	**14.87**	**285**	P	**Pn**	**19 16 25.6**	**0.0**
	51nm,1.1s,1µm						
TV1H	**Townsville Har**	**14.96**	**212**	P	**Pn**	**19 16 28.3**	**+1.6**
GENI	**Genyem**	**15.36**	**284**	P	**Pn**	**19 16 32.0**	**-0.1**
	95nm,1.6s,2µm3µm						
MTSU	**Mount Surprise**	**15.55**	**221**	P	**P**	**19 16 36.2**	**-1.8**
	baz=16,SNR=37						
MTSU	**Mount Surprise**	**15.55**	**221**	P	**Pn**	**19 16 35.5**	**+1.0**
CTAO	**Charters Tower**	**15.92**	**212**	P	**P**	**19 16 41.0**	**-1.2**
CTAO	**Charters Tower**	**15.92**	**212**	P	**Pn**	**19 16 39.8**	**+0.5**
CTAO	**Charters Tower**	**15.92**	**212**	P	**Pn**	**19 16 39.8**	**+0.5**
CTAO				pmax	pmax		
	comp=Z,66nm,0.9s						
KOUNC	**Koumac, New Ca**	**16.52**	**148**	Pn	**Pn**	**19 16 44.3**	**-2.5**
LIFNC	**LIFOU**	**18.40**	**141**	P	**Pn**	**19 17 11.7**	**+1.7**
LIFNC	**LIFOU**	**18.40**	**141**	P	**P**	**19 17 09.3**	**-0.2**
LIFNC				IAmb	IAmb	19 17 15.0	
	comp=Z,395nm,0.9s						
NOUC	**Port Laguerre**	**18.87**	**146**	P	**Pn**	**19 17 17.9**	**+2.3**
DZM	**Mont Dzumac**	**18.93**	**146**	P	**Pn**	**19 17 17.9**	**+1.5**
DZM	**Mont Dzumac**	**18.93**	**146**	*e*P	**P**	**19 17 15.2**	**-0.2**
	comp=Z,364nm,1.2s						
DZM				*e*S	**Sn**	**19 20 48.4**	**+0.8**
	comp=Z,5µm,31.7s						
DZM				*e*LR	LR	19 21 48.1	
	comp=Z,7µm,26.4s						
DZM	**Mont Dzumac**	**18.93**	**146**	P	**P**	**19 17 16.8**	**+1.4**
DZM				IAmb	IAmb	19 17 24.2	
	comp=Z,207nm,1.2s						
DZM	**Mont Dzumac**	**18.93**	**146**	P	**P**	**19 17 16.7**	**+1.3**
	comp=Z,110nm,1.0s,baz=242,slow=10.0,SNR=36						
EIDS	**Eidsvold**	**19.07**	**191**	P	**Pn**	**19 17 19.2**	**+1.1**
	baz=19,SNR=6.6						
EIDS	**Eidsvold**	**19.07**	**191**	P	**Pn**	**19 17 18.9**	**+0.8**
EIDS	**Eidsvold**	**19.07**	**191**	P	**P**	**19 17 17.6**	**+0.7**
ONTNC	**Ouen Toro**	**19.12**	**146**	P	**Pn**	**19 17 19.9**	**+1.3**
ONTNC	**Ouen Toro**	**19.12**	**146**	P	**P**	**19 17 17.3**	**-0.2**
YATNC	**Mamie plateau,**	**19.17**	**145**	P	**Pn**	**19 17 20.5**	**+1.3**
OUENC	**Ouen Island, N**	**19.42**	**145**	P	**Pn**	**19 17 23.3**	**+1.1**
OUENC	**Ouen Island, N**	**19.42**	**145**	P	**P**	**19 17 21.1**	**+0.3**
OUENC				IAmb	IAmb	19 17 23.9	
	comp=Z,233nm,1.3s						
PINNC	**Pines Island,**	**19.92**	**144**	P	**P**	**19 17 26.0**	**-0.2**
PINNC				IAmb	IAmb	19 17 34.8	
	comp=Z,286nm,1.2s						
QIS	**Mount Isa**	**20.44**	**226**	P	Pn	19 17 33.2	-1.2
	baz=21,SNR=42						
QIS	**Mount Isa**	**20.44**	**226**	P	**P**	**19 17 32.7**	**+0.8**
RMQ	**Roma**	**20.69**	**196**	P	Pn	19 17 36.5	-0.8
	baz=21,SNR=5.6						
QLP	**Quilpie**	**22.41**	**206**	P	**P**	**19 17 53.3**	**+0.3**
	baz=23,SNR=24						
QLP	**Quilpie**	**22.41**	**206**	P	**P**	**19 17 54.1**	**+1.1**
GUMO	**Guam**	**22.45**	**333**	LR	LR	19 26 03.7	
	comp=Z,991nm,21.1s,baz=152,slow=35						
FAKI	**Fak Fak**	**23.02**	**278**	P	**P**	**19 17 59.9**	**+0.4**
FAKI	**Fak Fak**	**23.02**	**278**	P	**P**	**19 17 59.6**	**0.0**
FAKI	**Fak Fak**	**23.02**	**278**	P	**P**	**19 17 59.5**	**0.0**
	comp=Z,110nm,0.9s,comp=Z,3µmcomp=Z,4µm						
KDU	**Kakadu**	**23.07**	**253**	P	**P**	**19 18 00.1**	**+0.1**
	baz=23,SNR=21						
KDU	**Kakadu**	**23.07**	**253**	P	**P**	**19 18 00.5**	**+0.5**
ARMA	**Armidale**	**23.94**	**187**	P	**P**	**19 18 09.6**	**+1.4**
	baz=24,SNR=20						
ARMA	**Armidale**	**23.94**	**187**	P	**P**	**19 18 09.2**	**+1.0**
ARMA	**Armidale**	**23.94**	**187**	P	**P**	**19 18 08.5**	**+0.3**
ARMA				IAmb	IAmb	19 18 10.9	
	comp=Z,219nm,1.3s						
WR0	**Warramunga Arr**	**23.96**	**234**	P	**P**	**19 18 08.8**	**+0.3**
WR0				IAmb	IAmb	19 18 26.7	
	comp=Z,200nm,1.3s						
WB0	**Warramunga Arr**	**23.98**	**235**	P	**P**	**19 18 09.0**	**+0.4**
WB0				IAmb	IAmb	19 18 27.0	
	comp=Z,75nm,0.8s						
WRAB	**Tennant Creek**	**24.10**	**235**	P	**P**	**19 18 09.5**	**-0.2**
WRAB				IAmb	IAmb	19 18 28.5	
	comp=Z,299nm,1.6s						
WRAB	**Tennant Creek**	**24.10**	**235**	*e*P	**P**	**19 18 09.5**	**-0.2**
WB2	**Warramunga Arr**	**24.10**	**235**	P	**P**	**19 18 10.0**	**+0.3**
WRA	**Warramunga Arr**	**24.11**	**235**	P	**P**	**19 18 10.3**	**+0.5**
	comp=Z,32nm,0.7s,baz=59,slow=9.8,SNR=111						
WRA				PcP	**PcP**	**19 21 50.3**	**0.0**
	comp=Z,14nm,0.7s,baz=61,slow=2.2,SNR=8.4						
WRA				S	**S**	**19 22 29.3**	**+4.7**
	comp=Z,35nm,1.3s,baz=58,slow=16,SNR=11						
	comp=Z,32nm,0.7s						
WB1	**Warramunga Ar.**	**24.11**	**235**	P	**P**	**19 18 10.3**	**+0.4**
MTN	**Manton Dam**	**24.38**	**253**	P	**P**	**19 18 13.0**	**+0.6**
	baz=24,SNR=5.9						
MTN	**Manton Dam**	**24.38**	**253**	P	**P**	**19 18 12.8**	**+0.4**
SWI	**Sorong**	**24.41**	**282**	P	**P**	**19 18 12.8**	**+0.2**
	comp=Z,242nm,1.0s,comp=Z,3µmcomp=Z,2µm						
MSVF	**Nonsavu**	**25.02**	**118**	P	**P**	**19 18 20.8**	**+2.6**
MSVF	**Nonsavu**	**25.02**	**118**	P	**P**	**19 18 18.9**	**+0.7**
MSVF				IAmb	IAmb	19 18 21.6	
	comp=Z,112nm,1.1s						
MSVF	**Nonsavu**	**25.02**	**118**	*d*P	**P**	**19 18 19.4**	**+1.2**
MSVF				pmax	pmax		
	comp=Z,87nm,1.0s						
INKA	**Innaminka**	**25.05**	**211**	P	**P**	**19 18 18.4**	**+0.1**
CMSA	**Cobar Meteorol**	**26.34**	**198**	P	**P**	**19 18 29.8**	**-0.1**
	baz=26,SNR=16						
CMSA	**Cobar Meteorol**	**26.34**	**198**	P	**P**	**19 18 30.8**	**+0.9**
AS01	**Alice Springs**	**26.47**	**228**	P	**P**	**19 18 31.5**	**+0.3**
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**19 18 30.7**	**-0.9**
ASAR	**Alice Springs**	**26.50**	**228**	P	**P**	**19 18 31.1**	**-0.4**
	comp=Z,10nm,0.6s,baz=57,slow=9.0,SNR=106						
ASAR				PcP	**PcP**	**19 21 55.8**	**+0.1**
	comp=Z,14nm,0.8s,baz=53,slow=3.2,SNR=11						
	comp=Z,10nm,0.6s						
MGCD	**Mangrove Creek**	**26.76**	**187**	P	**P**	**19 18 34.6**	**+1.0**
	baz=27,SNR=9.6						
MGCD	**Mangrove Creek**	**26.76**	**187**	P	**P**	**19 18 35.6**	**+2.0**
RIV	**Riverview**	**27.36**	**187**	P	**P**	**19 18 40.2**	**+1.2**
	baz=28,SNR=3.8						
RIV	**Riverview**	**27.36**	**187**	P	**P**	**19 18 40.6**	**+1.6**
OOD	**Oodnadatta**	**27.98**	**219**	P	**P**	**19 18 44.6**	**-0.1**
LBMI	**Labuha**	**28.12**	**281**	P	**P**	**19 18 46.9**	**+0.8**
	comp=Z,500nm,0.9s,comp=Z,5µm						
STKA	**Stephens Creek**	**28.14**	**205**	P	**P**	**19 18 46.5**	**+0.4**
	baz=28,SNR=5.4						
STKA	**Stephens Creek**	**28.14**	**205**	P	**P**	**19 18 46.8**	**+0.7**
STKA	**Stephens Creek**	**28.14**	**205**	P	**P**	**19 18 45.8**	**-0.3**
STKA	**Stephens Creek**	**28.14**	**205**	P	**P**	**19 18 45.7**	**-0.4**
	comp=Z,10nm,0.9s,baz=23,slow=11,SNR=11						
STKA				PcP	**PcP**	**19 21 59.3**	**-0.1**
	comp=Z,4.7nm,0.7s,baz=67,slow=3.6,SNR=3.5						
STKA				LR	LR	19 30 00.1	
	comp=Z,3µm,19.5s,baz=22,slow=36						
	comp=Z,10nm,0.9s						
STKA	**Stephens Creek**	**28.14**	**205**	P	**P**	**19 18 45.8**	**-0.3**
STKA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
YNG	**Young**	**28.27**	**192**	P	**P**	**19 18 47.7**	**+0.5**
LCRK	**Leigh Creek**	**28.54**	**212**	P	**P**	**19 18 49.1**	**-0.5**
TNTI	**Ternate**	**28.59**	**284**	P	**P**	**19 18 50.7**	**+0.4**
	comp=Z,27nm,0.8s,comp=Z,817nm						
H11N1	**WAKE ISLAND Hy**	**28.60**	**24**	T	T	19 48 38.3	
	baz=204						
H11N3	**WAKE ISLAND Hy**	**28.61**	**24**	T	T	19 48 25.3	
	baz=204,slow=74						
H11N2	**WAKE ISLAND Hy**	**28.62**	**24**	T	T	19 48 32.5	
	baz=204,slow=74						
CNB	**Canberra Magne**	**29.08**	**190**	P	**P**	**19 18 55.3**	**+0.8**
	baz=29,SNR=6.2						
CNB	**Canberra Magne**	**29.08**	**190**	P	**P**	**19 18 56.2**	**+1.7**
CAN	**Canberra**	**29.15**	**190**	P	**P**	**19 18 56.0**	**+1.0**
SANI	**Sanana**	**29.33**	**278**	P	**P**	**19 18 57.0**	**+0.1**
SANI	**Sanana**	**29.33**	**278**	P	**P**	**19 18 56.8**	**-0.1**
	comp=Z,45nm,0.6s,comp=Z,830nm						
HTT	**Hallett**	**30.63**	**207**	P	**P**	**19 19 08.0**	**-0.3**
	baz=31,SNR=6.3						
HTT	**Hallett**	**30.63**	**207**	P	**P**	**19 19 09.1**	**+0.9**
SOEI	**Soe**	**30.64**	**262**	P	**P**	**19 19 08.6**	**0.0**
SOEI	**Soe**	**30.64**	**262**	IAmb	IAmb	19 19 38.8	
	comp=Z,87nm,1.0s						
MULG	**Mulgathing**	**30.75**	**217**	P	**P**	**19 19 09.4**	**+0.1**
MILA	**Mila**	**30.81**	**189**	P	**P**	**19 19 10.6**	**+0.8**
	baz=31,SNR=5.4						
MILA	**Mila**	**30.81**	**189**	P	**P**	**19 19 10.1**	**+0.3**
FITZ	**Fitzroy Crossi**	**30.89**	**246**	P	**P**	**19 19 10.1**	**-0.4**
	baz=31,SNR=47						
FITZ	**Fitzroy Crossi**	**30.89**	**246**	P	**P**	**19 19 10.2**	**-0.4**
FITZ	**Fitzroy Crossi**	**30.89**	**246**	PcP	**PcP**	**19 22 05.9**	**-0.8**
SGSI	**Sangihe**	**31.20**	**288**	P	**P**	**19 19 13.9**	**+0.5**
	comp=Z,430nm,1.6s,comp=Z,6µm						
BATI	**Baumata**	**31.26**	**261**	LR	LR	19 33 05.3	
	comp=Z,2µm,22.0s,baz=138,slow=39						
WRKA	**Warakurna**	**31.51**	**231**	P	**P**	**19 19 15.2**	**-0.8**
	baz=32,SNR=31						
WRKA	**Warakurna**	**31.51**	**231**	P	**P**	**19 19 15.5**	**-0.6**
BBOO	**Buckleboo**	**31.53**	**212**	P	**P**	**19 19 15.4**	**-0.7**
	baz=32,SNR=9.8						
BBOO	**Buckleboo**	**31.53**	**212**	P	**P**	**19 19 15.5**	**-0.6**
BBOO	**Buckleboo**	**31.53**	**212**	P	**P**	**19 19 15.2**	**-0.8**
KMSI	**Cibinong**	**31.82**	**282**	P	**P**	**19 19 19.2**	**+0.3**
	comp=Z,472nm,0.7s,comp=Z,6µm						
BBSI	**Bau Bau**	**32.33**	**270**	P	**P**	**19 19 23.5**	**+0.2**
	comp=Z,70nm,1.6s,comp=Z,2µm						
DAV	**Davao City (W)**	**32.39**	**294**	LR	LR	19 30 26.8	
	comp=Z,1µm,22.0s,baz=100,slow=33						
ARPS	**Mount Arapiles**	**32.39**	**200**	P	**P**	**19 19 23.8**	**+0.2**
MMRI	**Maumere**	**32.59**	**264**	P	**P**	**19 19 26.2**	**+0.5**
MMRI	**Maumere**	**32.59**	**264**	P	**P**	**19 19 25.3**	**-0.4**
	comp=Z,285nm,1.0s,comp=Z,4µm						
LUWI	**Luwuk**	**32.67**	**278**	P	**P**	**19 19 26.5**	**+0.2**
	comp=Z,96nm,1.0s,comp=Z,2µm						
EDFI	**Ende, Flores**	**33.14**	**264**	P	**P**	**19 19 29.4**	**-1.1**
	comp=Z,220nm,1.1s,comp=Z,3µmcomp=Z,2µm						
OUZ	**Nanhuta**	**33.22**	**152**	P	**P**	**19 19 33.2**	**+2.4**
RAO	**Raoul Island**	**34.03**	**135**	LR	LR	19 31 14.4	
	comp=Z,930nm,21.2s,baz=310,slow=32						
BASI	**Baing, Sumba**	**34.30**	**262**	P	**P**	**19 19 41.0**	**+0.5**
	comp=Z,218nm,0.7s						
FORT	**Forrest**	**34.94**	**223**	P	**P**	**19 19 45.3**	**-0.6**
	baz=35,SNR=20						
FORT	**Forrest**	**34.94**	**223**	P	**P**	**19 19 46.0**	**+0.2**
FORT	**Forrest**	**34.94**	**223**	P	**P**	**19 19 44.3**	**-1.5**
TOLI2	**Tolitoli**	**35.06**	**281**	P	**P**	**19 19 47.0**	**-0.1**
TOLI2	**Tolitoli**	**35.06**	**281**	P	**P**	**19 19 45.8**	**-1.2**
TOLI2				IAmb	IAmb	19 19 58.8	
	comp=Z,30nm,0.9s						
KAPI	**Kappang**	**35.16**	**271**	P	**P**	**19 19 47.4**	**-0.6**
KAPI	**Kappang**	**35.16**	**271**	LR	LR	19 36 31.0	
	comp=Z,392nm,20.4s,baz=100,slow=40						
KAPI	**Kappang**	**35.16**	**271**	*e*P	**P**	**19 19 47.4**	**-0.6**
KUZ	**Kuaotunu**	**35.47**	**151**	P	**P**	**19 19 52.3**	**+2.0**
MKAZ	**Moumakai**	**35.49**	**152**	P	**P**	**19 19 51.9**	**+1.5**
JCJ	**Chichijima**	**35.72**	**340**	LR	LR	19 31 43.6	
	comp=Z,391nm,21.1s,baz=128,slow=32						
MPSI	**Mapaga**	**35.76**	**280**	P	**P**	**19 19 52.2**	**-0.9**
	comp=Z,51nm,0.8s,comp=Z,687nm						
TOZ	**Tahuroa Road**	**36.15**	**152**	P	**P**	**19 19 57.3**	**+1.2**
TLZ	**Tolley Road**	**36.65**	**153**	P	**P**	**19 20 00.3**	**-0.2**
TAU	**Tasmania Unive**	**36.83**	**190**	P	**P**	**19 20

UGM	**Wanagama**	**44.19 265**	P	**P**	**19 21 03.3 +0.2**
UGM	**Wanagama**	**44.19 265**	P	**P**	**19 21 03.9 +0.8**
	comp=Z,161nm,1.2s				
SMRI	**Semarang**	**44.30 267**	P	**P**	**19 21 03.0 -1.0**
	comp=Z,101nm,1.1s				
YOGI	**Yogyakarta**	**44.42 266**	P	**P**	**19 21 05.3 +0.4**
	comp=Z,238nm,1.9s,comp=Z,3μm				
YULB	**Yu-li**	**44.44 313**	P	**P**	**19 21 04.0 -1.0**
NACB	**Ninganchiao**	**44.71 314**	P	**P**	**19 21 07.8 +0.7**
JMN	**Monobe**	**44.83 335**	P	**P**	**19 21 09.2 +1.3**
TPUB	**Ta-pu**	**44.88 313**	P	**P**	**19 21 08.8 +0.4**
TPUB	**Ta-pu**	**44.88 313**	P	**P**	**19 21 06.7 -1.7**
SSLB	**Suanglung**	**44.93 313**	P	**P**	**19 21 09.5 +0.6**
SSLB	**Suanglung**	**44.93 313**	P	**P**	**19 21 08.3 -0.6**
YHNB	**Yeheng**	**45.18 315**	P	**P**	**19 21 11.9 +1.0**
KSM	**Kuching**	**45.38 279**	P	**P**	**19 21 13.4 +0.8**
KSM	**Kuching**	**45.38 279**	P	**P**	**19 21 13.1 +0.5**
KSM			IAmb	IAmb	19 21 15.3
	comp=Z,46nm,0.8s				
JNU	**Nakatsue**	**45.68 331**	P	**P**	**19 21 16.3 +1.7**
JNU	**Nakatsue**	**45.68 331**	P	**P**	**19 21 13.9 -0.7**
JNU			IAmb	IAmb	19 21 29.5
	comp=Z,114nm,1.8s				
JNU	**Nakatsue**	**45.68 331**	LR	LR	19 39 13.5
	comp=Z,202nm,18.1s,baz=140,slow=35				
MJAR	**Matsushiro Arr**	**45.71 341**	P	**P**	**19 21 13.6 -1.2**
	comp=Z,3.1nm,0.9s,baz=163,slow=6.6,SNR=14				
MJAR			LR	LR	19 41 46.4
	comp=Z,186nm,18.2s,baz=160,slow=38				
	comp=Z,3.1nm,0.9s				
MAJO	**Matsushiro**	**45.71 341**	P	**P**	**19 21 16.1 +1.3**
MAJO	**Matsushiro**	**45.71 341**	⇓*e*P	**P**	**19 21 14.4 -0.4**
MAJO			pmax	pmax	
	comp=Z,3.0nm,0.3s				
MAJO	**Matsushiro**	**45.71 341**	P	**P**	**19 21 14.9 +0.1**
MAJO			pP	**pP**	**19 21 27.6 +0.1**
RAR	**Rarotonga**	**46.01 113**	LR	LR	19 36 50.3
	comp=Z,1μm,21.9s,baz=341,slow=31				
JMM	**Marumori**	**46.17 344**	P	**P**	**19 21 20.3 +2.0**
CMJI	**Cimerak**	**46.25 266**	P	**P**	**19 21 17.2 -2.2**
	comp=Z,124nm,1.3s,comp=Z,2μm				
BBJI	**Bungbulang**	**47.05 266**	P	**P**	**19 21 26.0 +0.2**
JSD	**Sado**	**47.06 342**	P	**P**	**19 21 27.6 +2.3**
LEM	**Lembang**	**47.11 267**	LR	LR	19 43 43.0
	comp=Z,558nm,20.4s,baz=108,slow=39				
LEM	**Lembang**	**47.11 267**	P	**P**	**19 21 26.0 -0.3**
	comp=Z,111nm,1.7s,comp=Z,2μm				
CNJI	**Cibinong**	**47.57 266**	P	**P**	**19 21 28.9 -0.8**
	comp=Z,92nm,1.3s,comp=Z,1μmcomp=Z,1μm				
DBJI	**Dramaga**	**47.98 267**	P	**P**	**19 21 32.5 -0.5**
	comp=Z,80nm,0.8s,comp=Z,3μm				
SKJI	**Sukabumi**	**48.15 266**	P	**P**	**19 21 34.4 +0.1**
	comp=Z,373nm,0.6s,comp=Z,3μm				
JTM	**Tenmabayashi**	**48.85 346**	P	**P**	**19 21 39.8 +0.7**
PPBI	**Pangkal Pinang**	**48.96 273**	P	**P**	**19 21 41.0 +0.5**
	comp=Z,42nm,1.0s,comp=Z,3μm				
DLV	**T Lat**	**49.84 292**	P	**P**	**19 21 47.3 -0.1**
TJN	**Taejon**	**50.00 331**	*de*P	**P**	**19 21 48.0 0.0**
KASI	**Kota Agung**	**50.28 268**	P	**P**	**19 21 48.3 -2.2**
	comp=Z,92nm,1.2s,comp=Z,1μm				
KSRS	**Korea Array**	**50.60 332**	P	**P**	**19 21 51.6 -0.8**
	comp=Z,9.3nm,0.9s,baz=147,slow=7.6,SNR=36				
KSRS			LR	LR	19 43 45.9
	comp=Z,160nm,18.1s,baz=140,slow=37				
	comp=Z,9.3nm,0.9s				
KSAR	**Wonju Array Be**	**50.61 332**	P	**P**	**19 21 51.3 -1.2**
KSAR	**Wonju Array Be**	**50.61 332**	P	**P**	**19 21 51.3 -1.2**
KS19	**Wonju Array Si**	**50.67 332**	IAmb	IAmb	19 22 26.4
	comp=Z,53nm,1.7s				
DSRI	**Dabo**	**50.72 275**	P	**P**	**19 21 53.8 -0.1**
	comp=Z,66nm,1.1s,comp=Z,964nm				
LWLI	**Liwa**	**50.75 269**	P	**P**	**19 21 52.7 -1.5**
	comp=Z,112nm,1.1s,comp=Z,2μm				
TPRI	**Tanjung Pinang**	**50.98 277**	P	**P**	**19 21 56.0 +0.2**
	comp=Z,78nm,1.1s,comp=Z,924nm				
QIZ	**Qiongzhong**	**51.30 301**	P	**P**	**19 21 59.8 +1.7**
QIZ			pP	**pP**	**19 22 11.0 0.0**
QIZ			sP	**sP**	**19 22 16.8 +0.4**
QIZ			PP	**PP**	**19 23 58.6 +3.0**
QIZ			S	**S**	**19 29 13.9 -0.3**
QIZ			pmax	pmax	
	comp=Z,36nm,1.2s				
QIZ			pmax	pmax	
	comp=Z,210nm,8.7s				
QIZ			LR	LR	
	comp=Z,270nm,16.7s				
QIZ			LR	LR	
	comp=Z,390nm,20.6s				
QIZ			LR	LR	
	comp=Z,740nm,28.6s				
QIZ	**Qiongzhong**	**51.30 301**	IAmb	IAmb	19 22 01.4
	comp=Z,30nm,0.9s				
QIZ	**Qiongzhong**	**51.30 301**	P	**P**	**19 21 59.0 +0.9**
QIZ			pP	**pP**	**19 22 11.5 +0.5**
QIZ			sP	**sP**	**19 22 17.4 +1.0**
NJ2	**Nanjing**	**51.64 320**	*e*P	**P**	**19 22 02.1 +1.7**
NJ2			pP	**pP**	**19 22 14.8 +1.5**
NJ2			pmax	pmax	
	comp=Z,8.0nm,0.5s				
NJ2			pmax	pmax	
	comp=Z,420nm,3.8s				
NJ2			LR	LR	
	comp=Z,860nm,18.9s				
NJ2			LR	LR	
	comp=Z,420nm,15.2s				
NJ2			LR	LR	
	comp=Z,490nm,18.0s				
JKA	**Kamikawa-asahi**	**51.70 349**	P	**P**	**19 22 00.7 +0.1**
JKA			IAmb	IAmb	19 22 18.4
	comp=Z,82nm,1.6s				
ASAJ	**Asahikawa**	**51.70 349**	LR	LR	19 41 34.3
	comp=Z,797nm,20.8s,baz=176,slow=33				
ASAJ	**Asahikawa**	**51.70 349**	P	**P**	**19 22 00.7 +0.1**
ASAJ			pmax	pmax	
	comp=Z,82nm,1.6s				
CNSH	**ChangSha**	**53.35 312**	⇓P	**P**	**19 22 14.8 +1.7**
WHN	**Wuhan**	**53.69 316**	⇑P	**P**	**19 22 16.0 +0.4**
WHN			pP	**pP**	**19 22 27.5 -1.0**
WHN			pmax	pmax	
	comp=Z,48nm,0.7s				
WHN			LR	LR	
	comp=Z,3μm,22.9s				
BKNI	**Bangkinang**	**54.34 275**	P	**P**	**19 22 20.3 -0.4**
	comp=Z,177nm,0.9s,comp=Z,2μm				
YSS	**Yuzh-Sakhalins**	**54.40 350**	*e*P	**P**	**19 22 21.8 +1.3**
YSS			*e*		19 24 16.8
YSS			*e*S	**S**	**19 29 54.7 -0.8**
YSS			pmax	pmax	
	comp=Z,20nm,1.2s				
YSS			pmax	pmax	
	comp=Z,200nm,4.3s				
YSS			smax	smax	
	comp=E,200nm,4.9s				
YSS			MLR	MLR	
	comp=Z,600nm,17.0s				
YSS			MLR	MLR	
	comp=N,400nm,18.0s				
USA0B	**Ussuriysk Arra**	**54.66 340**	⇑*e*P	**P**	**19 22 20.5 -1.9**
USRK	**Ussuriysk Ar.**	**54.66 340**	P	**P**	**19 22 21.9 -0.5**
	comp=N,8.3nm,0.9s,baz=220,slow=7.8,SNR=12				
USRK			LR	LR	19 44 15.2
	comp=N,239nm,20.8s,baz=152,slow=34				
	comp=N,8.3nm,0.9s				
PDSI	**Padang**	**54.74 274**	P	**P**	**19 22 21.8 -1.8**
	comp=N,79nm,0.9s,comp=N,900nm				
DL2	**Dalian**	**54.85 328**	P	**P**	**19 22 24.3 +0.4**
DL2			pmax	pmax	
	comp=N,35nm,0.9s				
DL2			LR	LR	
	comp=N,400nm,24.2s				
DL2			LR	LR	
	comp=N,470nm,19.1s				
DL2			LR	LR	
	comp=N,910nm,23.4s				
IPM	**Ipoh**	**55.05 280**	P	**P**	**19 22 26.7 +0.9**
IPM	**Ipoh**	**55.05 280**	P	**P**	**19 22 25.1 -0.7**
PPT	**Papeete**	**55.05 107**	LR	LR	19 41 23.2
	comp=N,440nm,21.8s,baz=306,slow=31				
PPT2	**Papeete2**	**55.05 107**	*e*P	P	19 22 21.0 -4.9
	comp=N,309nm,24.0s				
PPT2			*e*S	**S**	**19 30 12.3 +6.8**
	comp=N,490nm,25.5s				
PPT2			*e*SS	**SS**	**19 33 52.6 +2.7**
	comp=N,300nm,28.0s				
PPT2			*e*LQ	LQ	19 36 08.3
	comp=N,980nm,26.5s				
PPT2			*e*LR	LR	19 38 26.2
	comp=N,719nm,27.5s				
PPT2			*e*LR	LR	19 38 32.9
	comp=N,768nm,22.2s				
TIA	**Tai'an**	**55.47 323**	*e*P	**P**	**19 22 26.3 -2.2**
TIA			pmax	pmax	
	comp=N,7.0nm,1.3s				
TIA			LR	LR	
	comp=N,150nm,21.6s				
TIA			LR	LR	
	comp=N,130nm,17.2s				
TIA			LR	LR	
	comp=N,250nm,21.6s				
KULM	**Kulim**	**55.58 281**	P	**P**	**19 22 27.6 -2.0**
TBI	**Tubuai**	**55.78 114**	*e*P	**P**	**19 22 29.6 -1.3**
	comp=N,975nm,28.8s				
TBI	**Tubuai**	**55.78 114**	*e*PP	**PP**	**19 24 33.4 -2.4**
	comp=N,423nm,39.5s				
TBI			*e*S	**S**	**19 30 15.2 +0.3**
	comp=N,2μm,30.2s				
TBI			*e*SS	**SS**	**19 34 00.4 -0.7**
	comp=N,814nm,25.0s				
TBI			*e*LQ	LQ	19 36 32.5
	comp=N,7μm,40.0s				
TBI			*e*LR	LR	19 38 49.7
	comp=N,2μm,31.2s				
TBI			*e*LR	LR	19 38 53.6
	comp=N,12μm,28.5s				
MDJ	**Mudanjiang**	**55.88 338**	P	**P**	**19 22 32.0 +0.8**
MDJ			pP	pP	19 22 43.8 -0.4
MDJ			PcP	**PcP**	**19 23 30.8 +1.3**
MDJ			PP	**PP**	**19 24 36.4 +0.1**
MDJ			S	**S**	**19 30 15.0 -0.4**
MDJ			SS	**SS**	**19 33 58.6 -3.4**
MDJ			pmax	pmax	
	comp=N,12nm,1.1s				
MDJ			pmax	pmax	
	comp=N,180nm,10.0s				
MDJ			LR	LR	
	comp=N,290nm,19.9s				
MDJ			LR	LR	
	comp=N,400nm,19.7s				
MDJ			LR	LR	
	comp=N,500nm,18.7s				
SISI	**Saibi**	**56.05 273**	P	**P**	**19 22 32.3 -0.7**
	comp=N,53nm,0.6s				
PSI	**Prapat**	**56.81 278**	P	**P**	**19 22 38.4 -0.2**
CN2	**Changchun**	**56.84 335**	*e*P	**P**	**19 22 38.0 -0.1**
CN2			*es*P	sP	19 22 56.1 -0.4
CN2			*e*S	**S**	**19 30 27.3 -0.9**
CN2			*es*S	sS	19 30 48.8 -1.3
CN2			pmax	pmax	
	comp=N,20nm,1.3s				
CN2			LR	LR	
	comp=N,320nm,20.0s				
CN2			LR	LR	
	comp=N,420nm,20.0s				
CN2			LR	LR	
	comp=N,580nm,22.0s				
ENH	**Enshi**	**57.01 313**	IAmb	IAmb	19 23 13.8
	comp=Z,27nm,0.9s				
ENH	**Enshi**	**57.01 313**	P	**P**	**19 22 39.7 +0.2**
ENH			pP	**pP**	**19 22 52.2 -0.4**
PBSI	**Pulau Batu**	**57.02 274**	P	**P**	**19 22 38.9 -1.0**
	comp=Z,53nm,1.3s				
GYA	**Guiyang**	**57.25 307**	⇓P	**P**	**19 22 42.9 +1.4**
GYA			sP	sP	19 23 00.0 +0.1
GYA			S	**S**	**19 30 34.3 -0.2**
GYA			pmax	pmax	
	comp=Z,14nm,1.5s				
GYA			LR	LR	
	comp=Z,310nm,16.0s				
GYA			LR	LR	
	comp=Z,340nm,18.8s				
GYA			LR	LR	
	comp=Z,510nm,19.7s				
LYN	**LuoYang**	**57.35 318**	*e*P	**P**	**19 22 42.0 +0.1**
LYN			pP	pP	19 22 54.1 -0.8
LYN			S	**S**	**19 30 34.6 -0.7**
LYN			sS	sS	19 30 55.4 -1.7
LYN			pmax	pmax	
	comp=Z,28nm,1.0s				
LYN			LR	LR	
	comp=Z,740nm,20.8s				
LYN			LR	LR	
	comp=Z,680nm,18.6s				
LYN			LR	LR	
	comp=Z,1μm,24.5s				
BNX	**BinXian**	**57.65 337**	⇑P	**P**	**19 22 44.0 +0.3**
BNX			pmax	pmax	
	comp=Z,23nm,1.1s				
BNX			pmax	pmax	
	comp=Z,100nm,3.8s				
HNS	**HongShan**	**57.71 322**	⇑P	**P**	**19 22 44.3 0.0**
HNS			S	**S**	**19 30 42.8 +2.9**
HNS			pmax	pmax	
	comp=Z,28nm,1.5s				
HNS			pmax	pmax	
	comp=Z,270nm,5.5s				
HNS			LR	LR	
	comp=Z,340nm,19.1s				
HNS			LR	LR	
	comp=Z,370nm,20.7s				
GSI	**Gunungsitoli**	**57.91 276**	P	**P**	**19 22 46.4 +0.2**
GSI	**Gunungsitoli**	**57.91 276**	P	**P**	**19 22 44.4 -1.7**
GSI	**Gunungsitoli**	**57.91 276**	P	**P**	**19 22 44.3 -1.9**
	comp=Z,98nm,0.9s				
KCSI	**Kotacane, Aceh**	**58.07 278**	P	**P**	**19 22 45.4 -1.9**
	comp=Z,57nm,0.7s				
TYV	**Tymovskoe**	**58.20 351**	*e*P	**P**	**19 22 48.8 +1.3**
TYV			*e*S	**S**	**19 30 50.9 +5.2**
TYV			pmax	pmax	
	comp=Z,9.0nm,0.7s				
TYV			pmax	pmax	
	comp=Z,100nm,4.4s				
TYV			smax	smax	
	comp=N,100nm,5.7s				
TYV			smax	smax	
	comp=E,100nm,5.7s				
BJI	**Beijing**	**58.61 326**	P	**P**	**19 22 50.8 +0.2**
BJI			pmax	pmax	
	comp=E,4.0nm,0.7s				
BJI			LR	LR	
	comp=E,120nm,20.4s				
BJI			LR	LR	
	comp=E,170nm,22.6s				
BJI			LR	LR	
	comp=E,270nm,23.6s				
KLR	**Kul'dur**	**59.19 342**	LR	LR	19 46 53.9
	comp=E,325nm,21.1s,baz=157,slow=34				
KLR	**Kul'dur**	**59.19 342**	*ce*P	**P**	**19 22 54.3 -0.1**
KLR			pmax	pmax	
	comp=Z,31nm,1.3s				
SRDT	**SRDT**	**59.25 291**	P	**P**	**19 22 56.1 +0.6**
SNSI	**Sinabang, Aceh**	**59.31 277**	P	**P**	**19 22 55.7 -0.2**
	comp=Z,57nm,0.9s,comp=Z,1μm				
GRNR	**Gornyy**	**59.34 346**	*e*P	**P**	**19 22 53.6 -1.8**
PET	**Petropavlovsk**	**59.45 3**	*e*P	**P**	**19 22 55.3 -0.8**
PET			*e*S	**S**	**19 31 04.4 +2.6**
PET			*e*		19 32 37.7
PET			MLR	MLR	
	comp=Z,700nm,17.0s				
XAN	**Xi'an**	**59.45 316**	⇓P	**P**	**19 22 55.6 -1.0**
XAN			pP	pP	19 23 07.8 -1.9
XAN			sP	sP	19 23 14.6 -0.5
XAN			S	**S**	**19 30 59.9 -2.9**
XAN			sS	pS	19 31 18.1 -0.1
XAN			pmax	pmax	
	comp=Z,40nm,0.8s				
XAN			pmax	pmax	
	comp=Z,300nm,5.5s				
XAN			LR	LR	
	comp=Z,490nm,20.8s				
XAN			LR	LR	
	comp=Z,490nm,24.7s				
XAN			LR	LR	
	comp=Z,1μm,24.0s				
XAN	**Xi'an**	**59.45 316**	P	**P**	**19 22 55.8 -0.8**
XAN			pP	**pP**	**19 23 08.2 -1.5**
PEA0B	**Petropavlovsk-**	**59.50 2**	P	**P**	**19 22 57.0 +0.6**
PEA0B	**Petropavlovsk-**	**59.50 2**	P	**P**	**19 22 57.0 +0.6**
PEA0B			pmax	pmax	
	comp=Z,101nm,1.1s				
PETK	**Petropavlovsk-**	**59.50 2**	P	**P**	**19 22 56.5 +0.1**
PETK	**Petropavlovsk-**	**59.50 2**	P	**P**	**19 22 56.8 +0.4**
	comp=Z,19nm,0.7s,baz=157,slow=4.8,SNR=18				
PETK			LR	LR	19 44 28.5
	comp=Z,713nm,22.0s,baz=183,slow=32				
	comp=Z,19nm,0.7s				
PHRA	**Phrae**	**59.53 296**	P	**P**	**19 22 57.6 +0.2**
MLSI	**Meulaboh, Aceh**	**59.54 279**	P	**P**	**19 22 56.0 -1.5**
	comp=Z,49nm,0.7s				
KMI	**Kunming**	**59.84 304**	⇑P	**P**	**19 23 00.9 +1.3**
KMI			pP	pP	19 23 12.3 -0.5
KMI			S	**S**	**19 31 10.5 +2.1**
KMI			sS	sS	19 31 29.0 -0.6
KMI			pmax	pmax	
	comp=Z,28nm,1.5s				
KMI			LR	LR	
	comp=Z,350nm,18.6s				
KMI			LR	LR	
	comp=Z,480nm,25.6s				
KMI			LR	LR	
	comp=Z,710nm,25.0s				
CRAI	**Chiangrai**	**59.99 298**	P	**P**	**19 23 01.2 +0.7**
CM31	**Chiang Mai Arr**	**60.67 295**	P	**P**	**19 23 06.1 +0.9**
CMAR	**Chiang Mai Arr**	**60.67 295**	P	**P**	**19 23 05.8 +0.7**
CMAR	**Chiang Mai Arr**	**60.67 295**	P	**P**	**19 23 05.7 +0.6**
	comp=Z,64nm,0.7s,baz=126,slow=5.3,SNR=227				
CMAR			LR	LR	19 48 15.0
	comp=Z,248nm,20.9s,baz=105,slow=35				
CMAR			PKPPKP	**P'P'df**	**19 52 22.6 -3.4**
	comp=Z,1.0nm,1.1s,baz=260,slow=5.0,SNR=4.3				
	comp=Z,64nm,0.7s				
CMAR	**Chiang Mai Arr**	**60.67 295**	*i* P	**P**	**19 23 05.6 +0.5**
CMAR			pmax	pmax	
	comp=Z,69nm,0.7s				
CHTO	**Chiang Mai**	**60.78 296**	P	**P**	**19 23 06.3 +0.4**
CHTO	**Chiang Mai**	**60.78 296**	P	**P**	**19 23 06.3 +0.4**
CHTO			pmax	pmax	
	comp=Z,62nm,0.8s				
DRV	**Dumont d'Urvil**	**60.89 187**	P	**P**	**19 23 05.7 -0.1**
DRV			pP	**pP**	**19 23 18.3 -0.3**
PZH	**PanZhiHua**	**61.23 305**	P	**P**	**19 23 09.6 +0.6**
PZH			pP	**pP**	**19 23 20.3 -1.8**
PZH			S	**S**	**19 31 24.1 -1.8**
PZH			sS	**sS**	**19 31 46.0 -1.8**
PZH			pmax	pmax	
	comp=Z,10.0nm,1.6s				
PZH			pmax	pmax	
	comp=Z,180nm,5.5s				
SHEM	**Shemya Is, Ala**	**61.26 13**	LR	LR	19 45 20.9
	comp=Z,1μm,22.0s,baz=134,slow=32				
XLT	**XiLinHaoTe**	**61.34 329**	*e*P	**P**	**19 23 08.1 -1.2**
XLT			pP	pP	19 23 21.3 -1.2
XLT			sP	sP	19 23 25.9 -1.9
XLT			PcP	**PcP**	**19 23 51.4 +0.1**
XLT			S	**S**	**19 31 28.9 +2.3**
XLT			sS	sS	19 31 50.6 +1.9
XLT			pmax	pmax	
	comp=Z,43nm,0.8s				
XLT			pmax	pmax	
	comp=Z,93nm,3.7s				
XLT			LR	LR	
	comp=Z,370nm,23.0s				
XLT			LR	LR	
	comp=Z,720nm,25.9s				
HEH	**HeiHe**	**61.46 340**	*e*P	**P**	**19 23 09.3 -0.6**
HEH			pmax	pmax	
	comp=Z,12nm,0.8s				
HEH			LR	LR	
	comp=Z,230nm,20.7s				
HEH			LR	LR	
	comp=Z,290nm,20.7s				
HEH			LR	LR	
	comp=Z,580nm,21.4s				
CD2	**Chengdu**	**61.59 310**	P	**P**	**19 23 11.9 +0.6**
CD2			S	**S**	**19 31 29.0 -1.3**
CD2			pmax	pmax	
	comp=Z,20nm,0.5s				
CD2			pmax	pmax	
	comp=Z,180nm,6.0s				
CD2			LR	LR	
	comp=Z,430nm,20.0s				
CD2			LR	LR	
	comp=Z,640nm,22.5s				
CD2			LR	LR	
	comp=Z,690nm,22.6s				
HHC	**Hu-ho-hao-te**	**61.80 324**	*e*P	**P**	**19 23 12.3 -0.2**
HHC			pP	pP	19 23 24.0 -1.7
HHC			sP	sP	19 23 31.3 +0.3
HHC			S	**S**	**19 31 29.9 -2.7**
HHC			sS	sS	19 31 51.5 -3.1
HHC			pmax	pmax	
	comp=Z,14nm,0.8s				
HHC			pmax	pmax	
	comp=Z,140nm,5.8s				
HHC			LR	LR	
	comp=Z,290nm,16.8s				
HHC			LR	LR	
	comp=Z,240nm,15.8s				
HHC			LR	LR	
	comp=Z,590nm,16.8s				
BTO	**Baotou**	**62.56 323**	*e*P	**P**	**19 23 19.1 +1.4**
BTO			pP	**pP**	**19 23 31.9 +1.0**
BTO			sP	**sP**	**19 23 37.4 +1.2**
BTO			PP	**PP**	**19 25 41.0 +5.2**
BTO			S	**S**	**19 31 45.3 +3.0**
BTO			pmax	pmax	
	comp=Z,26nm,1.4s				
BTO			pmax	pmax	
	comp=Z,350nm,8.6s				
BTO			LR	LR	
	comp=Z,590nm,22.0s				
BTO			LR	LR	
	comp=Z,470nm,21.0s				
BTO			LR	LR	
	comp=Z,720nm,20.8s				
TNCH	**TengChong**	**63.32 302**	⇑*i*P	**P**	**19 23 24.0 +0.9**
TNCH			pP	pP	19 23 34.8 -1.5
TNCH			sP	sP	19 23 40.8 -0.8
TNCH			PP	**PP**	**19 25 40.9 -2.0**
TNCH			S	**S**	**19 31 52.0 -0.4**
TNCH			sS	sS	19 32 11.3 -2.5
TNCH			pmax	pmax	
	comp=Z,38nm,1.5s				
TNCH			LR	LR	
	comp=Z,140nm,19.8s				
TNCH			LR	LR	
	comp=Z,130nm,16.1s				
TNCH			LR	LR	
	comp=Z,290nm,21.2s				
HIA	**Hailar**	**63.57 335**	IAmb	IAmb	19 23 25.8
	comp=Z,22nm,0.8s				
LZH	**Lanzhou**	**64.06 315**	*e*P	**P**	**19 23 28.3 +0.5**
LZH			pP	pP	19 23 41.5 +0.5
LZH			S	**S**	**19 31 59.3 -2.0**
LZH			sS	sS	19 32 21.5 -1.8
LZH			SS	**SS**	**19 36 05.6 -5.5**
LZH			pmax	pmax	
	comp=Z,46nm,1.0s				
LZH			LR	LR	
	comp=Z,380nm,14.4s				
LZH			LR	LR	
	comp=Z,400nm,15.1s				
LZH			LR	LR	
	comp=Z,640nm,16.8s				
ATKA	**Atka Island**	**64.16 20**	P	**P**	**19 23 29.3 +1.5**
ZEA	**Zeya**	**64.50 342**	*e*P	**P**	**19 23 30.1 +0.1**
ZEA			pmax	pmax	
	comp=Z,100nm,1.8s				
ZEA			pmax	pmax	
	comp=N,20nm,0.9s				
ZEA			pmax	pmax	
	comp=E,10.0nm,1.1s				
ZEA			pmax	pmax	
	comp=Z,20nm,1.1s				
MA2	**Magadan**	**66.03 358**	P	**P**	**19 23 40.5 +0.7**
MA2	**Magadan**	**66.03 358**	LR	LR	19 49 56.3
	comp=Z,301nm,21.1s,baz=180,slow=34				
MA2	**Magadan**	**66.03 358**	*ce*P	**P**	**19 23 39.5 -0.3**
MA2			pmax	pmax	
	comp=Z,28nm,0.7s				
MA2	**Magadan**	**66.03 358**	P	**P**	**19 23 39.6 -0.1**
MA2			pP	**pP**	**19 23 52.0 -1.1**
MA2	**Magadan**	**66.03 358**	P	**P**	**19 23 39.5 -0.3**
	comp=Z,48nm,0.8s				
NIKH	**Nikolski High**	**66.73 23**	P	**P**	**19 23 45.2 +0.7**
	baz=220				
CASY	**Casey**	**67.01 198**	P	**P**	**19 23 45.6 -0.4**
CASY			IAmb	IAmb	19 23 47.5

comp=Z,28nm,0.9s
CASY Casey 67.01 198 P P 19 23 45.4 -0.7
CASY pP pP 19 23 57.7 -1.6
CASY sP pwP 19 24 02.9 +3.5
CIT Chita 68.27 334 eP P 19 23 54.0 -0.2
CIT e 19 24 02.9
CIT e 19 24 15.1
UNV Unalaska Valle 68.31 23 P P 19 23 55.3 +0.9
UNV Unalaska Valle 68.31 23 P P 19 23 54.5 +0.1
baz=222
GTA Gaotai 68.48 317 eP P 19 23 56.1 +0.1
GTA pP pP 19 24 08.3 -1.0
GTA S S 19 32 53.8 -0.9
GTA pmax pmax
comp=Z,19nm,1.3s
GTA LR LR
comp=Z,150nm,23.3s
GTA LR LR
comp=Z,340nm,22.5s
GTA LR LR
comp=Z,490nm,23.3s
ULN Ulaanbaatar 68.69 328 P P 19 23 56.5 -0.5
ULN Ulaanbaatar 68.69 328 ceP P 19 23 57.2 +0.1
ULN pmax pmax
comp=Z,42nm,1.7s
ULN Ulaanbaatar 68.69 328 P P 19 23 57.0 -0.1
ULN pP pP 19 24 09.5 -1.0
SONM Songino Array 69.02 327 P P 19 23 58.0 -1.1
SONM Songino Array 69.02 327 P P 19 23 58.8 -0.4
comp=Z,18nm,0.8s,baz=145,slow=6.7,SNR=51
SONM PKP2ab 19 52 09.7
comp=Z,3.1nm,0.9s,baz=260,slow=2.7,SNR=13
SONM LR LR 19 56 25.1
comp=Z,252nm,18.1s,baz=134,slow=38
comp=Z,18nm,0.8s
SONM Songino Array 69.02 327 P P 19 23 58.1 -1.1
SONM pmax pmax
comp=Z,20nm,0.9s
SEY Seymchan 69.34 359 LR LR 19 51 58.0
comp=Z,317nm,21.0s,baz=168,slow=34
SEY Seymchan 69.34 359‖ eP P 19 24 00.8 +0.2
SEY pmax pmax
comp=Z,16nm,1.0s
FALS False Pass 70.29 24 P P 19 24 07.5 +0.9
baz=224
GOMU GeErMu 70.62 312 P P 19 24 10.0 +0.5
GOMU S S 19 33 18.6 -1.9
GOMU pmax pmax
comp=Z,8.0nm,0.8s
GOMU LR LR
comp=Z,320nm,17.1s
GOMU LR LR
comp=Z,810nm,16.8s
GOMU LR LR
comp=Z,1μm,17.0s
VNDA Vanda 71.00 178 P P 19 24 11.2 +0.6
VNDA Vanda 71.00 178 P P 19 24 10.4 -0.2
comp=Z,11nm,1.0s,baz=334,slow=6.8,SNR=29
VNDA LR LR 19 49 24.9
comp=Z,374nm,21.5s,baz=348,slow=31
comp=Z,11nm,1.0s
VNDA Vanda 71.00 178 P P 19 24 11.2 +0.6
VNDA pmax pmax
comp=Z,25nm,1.2s
VNDA Vanda 71.00 178 P P 19 24 10.8 +0.2
VNDA pP pP 19 24 23.7 -0.3
VNDA sP sP 19 24 29.4 +0.1
LSA Lhasa 71.09 304 P P 19 24 14.6 +2.0
LSA pmax pmax
comp=Z,8.0nm,0.6s
YAK Yakutsk 71.16 348 P P 19 24 11.1 -0.6
YAK IAmb IAmb 19 24 14.6
comp=Z,25nm,0.8s
YAK Yakutsk 71.16 348 LR LR 19 53 36.6
comp=Z,355nm,21.8s,baz=148,slow=34
YAK Yakutsk 71.16 348 eP P 19 24 11.4 -0.3
YAK e 19 24 23.3
YAK e*PP PcP 19 24 33.5 +2.0
YAK e 19 26 48.3
YAK ePPP PPP 19 28 33.9
YAK eS S 19 33 26.5 +1.5
YAK e*SS SKiKP 19 33 55.5 +6.6
YAK e 19 34 13.8
YAK eSS SS 19 38 04.9 +5.3
YAK pmax pmax
comp=Z,21nm,1.0s
YAK pmax pmax
comp=N,9.0nm,1.5s
YAK pmax pmax
comp=E,4.0nm,1.4s
YAK pmax pmax
comp=Z,98nm,4.8s
YAK pmax pmax
comp=N,48nm,5.4s
YAK pmax pmax
comp=E,42nm,5.1s
YAK smax smax
comp=N,157nm,5.8s
YAK smax smax
comp=E,45nm,3.1s
YAK MLR MLR
comp=Z,275nm,21.0s
S12K Black Hills 71.44 24 P P 19 24 14.2 +0.6
baz=226
SBA Scott Base 71.50 177 P P 19 24 14.7 +1.1
SBA IAmb IAmb 19 24 17.2
comp=Z,84nm,1.4s
SBA Scott Base 71.50 177 P P 19 24 14.7 +1.1
SBA pmax pmax
comp=Z,84nm,1.4s
SDPT Sand Point 71.84 25 P P 19 24 16.0 +0.1
baz=227
CHNA Chernabura Isl 71.87 26 P P 19 24 17.4 +1.3
baz=228
ZAK Zakamensk 72.17 328 eP P 19 24 17.3 -1.0
ZAK pmax pmax
comp=Z,24nm,1.2s
BOD Bodaibo 72.25 338 eP P 19 24 17.3 -1.1
BOD pmax pmax
comp=Z,16nm,1.7s
IRK Irkutsk 72.75 330 eP P 19 24 20.6 -0.9
IRK pmax pmax
comp=Z,30nm,1.6s
S14K Fog Glacier 72.86 25 P P 19 24 23.0 +0.8
baz=228
CHGN Chignik 73.34 25 P P 19 24 25.8 +1.0
baz=229
M11K Mekoryuk 73.37 19 P P 19 24 26.3 +1.3
baz=220
MOY Mondy 74.09 328 eP P 19 24 29.1 -0.5
MOY pmax pmax
comp=Z,27nm,1.3s
O14K Tigyukauivet M 74.24 22 IAmb IAmb 19 24 32.5
comp=Z,61nm,1.1s
O14K Tigyukauivet M 74.24 22 P P 19 24 30.8 +0.8
baz=226
M13K Dall Lake 74.33 20 P P 19 24 31.9 +1.3
baz=223
N14K Kuskokwak Cree 74.56 21 P P 19 24 32.8 +0.9
baz=225
O15K Ungalikthiuk R 74.72 22 P P 19 24 33.7 +0.8
baz=227
BILL Bilibino 74.86 4 P P 19 24 33.2 -0.4
BILL IAmb IAmb 19 24 36.1
comp=Z,44nm,0.8s
BILL Bilibino 74.86 4 iP P 19 24 33.8 +0.3
BILL pmax pmax
comp=Z,52nm,1.0s
K13K Kusilvak Mount 75.03 18 IAmb IAmb 19 24 37.4
comp=Z,36nm,1.1s
K13K Kusilvak Mount 75.03 18 P P 19 24 35.7 +1.1
baz=222
M14K Bethel 75.06 20 P P 19 24 36.2 +1.4
M14K IAmb IAmb 19 24 37.3
comp=Z,72nm,1.1s
M14K Bethel 75.06 20 P P 19 24 35.6 +0.8
baz=224,SNR=11
L14K Kuka Creek 75.24 20 P P 19 24 37.0 +1.3
L14K IAmb IAmb 19 24 38.5
comp=Z,61nm,1.1s
L14K Kuka Creek 75.24 20 P P 19 24 37.2 +1.4
baz=224,SNR=10
N15K Kwethluk River 75.31 21 P P 19 24 37.5 +1.3
baz=226
P16K Nushagak River 75.32 23 P P 19 24 37.1 +0.7
baz=229
SII Sitkinak Islan 75.33 26 P P 19 24 38.4 +1.9
SII Sitkinak Islan 75.33 26 P P 19 24 37.2 +0.7
baz=233
PALK Pallekele 75.44 279 P P 19 24 38.5 +0.5
PALK IAmb IAmb 19 24 40.7
comp=Z,49nm,0.8s
PALK Pallekele 75.44 279 LR LR 20 01 42.7
comp=Z,197nm,19.9s,baz=205,slow=39
PALK Pallekele 75.44 279 P P 19 24 38.5 +0.5
PALK pmax pmax
comp=Z,49nm,0.9s
M15K Kasigluk River 75.46 21 P P 19 24 37.6 +0.6
baz=226,SNR=6.8
O16K Kokwok River B 75.66 23 P P 19 24 38.6 +0.4
baz=228
L15K Ungalak Mounta 75.88 20 P P 19 24 40.3 +0.8
baz=225,SNR=5.9
J14K Nanvaranak Lak 75.99 18 IAmb IAmb 19 24 43.1
comp=Z,80nm,1.2s
J14K Nanvaranak Lak 75.99 18 P P 19 24 41.1 +1.1
baz=223,SNR=8.7
N16K Nishlik Lake 76.00 22 P P 19 24 41.8 +1.6
baz=228,SNR=7.6
P17K Kvichak River 76.04 23 P P 19 24 42.1 +1.7
baz=230
OHAK Old Harbor 76.12 26 P P 19 24 42.5 +1.6
OHAK Old Harbor 76.12 26 P P 19 24 41.9 +1.0
baz=233
O17K Koliganek Bris 76.16 23 P P 19 24 42.6 +1.5
baz=229
M16K Timber Creek 76.30 21 IAmb IAmb 19 24 46.3
comp=Z,44nm,0.8s
M16K Timber Creek 76.30 21 P P 19 24 42.4 +0.5
baz=227,SNR=19
K15K Wolf Creek Mou 76.30 19 IAmb IAmb 19 24 44.6
comp=Z,65nm,1.1s
K15K Wolf Creek Mou 76.30 19 P P 19 24 43.4 +1.5
baz=225,SNR=11
L16K Owhat River 76.59 20 IAmb IAmb 19 24 45.8
comp=Z,34nm,1.2s
L16K Owhat River 76.59 20 P P 19 24 44.6 +1.1
baz=227,SNR=6.6
N17K Nushagak Hills 76.62 22 IAmb IAmb 19 24 46.7
comp=Z,90nm,1.6s
N17K Nushagak Hills 76.62 22 P P 19 24 45.3 +1.6
baz=229,SNR=5.0
P18K Big Mountain, 76.64 24 P P 19 24 44.3 +0.4
baz=231
KDAK Kodiak Island 76.76 26 P P 19 24 45.4 +0.8
baz=234
KDAK Kodiak Island 76.76 26 LR LR 19 54 38.4
comp=Z,188nm,21.7s,baz=254,slow=33
ANM Nome 76.81 16 P P 19 24 46.7 +1.9
baz=220
O18K Koktuh Hills 76.94 23 IAmb IAmb 19 24 58.1
comp=Z,84nm,1.9s
O18K Koktuh Hills 76.94 23 P P 19 24 46.3 +0.7
baz=231
Q19K Cape Douglas, 77.00 25 P P 19 24 46.7 +0.8
baz=233
M17K Holitna River 77.10 21 IAmb IAmb 19 24 51.1
comp=Z,33nm,0.9s
M17K Holitna River 77.10 21 P P 19 24 48.2 +1.8
baz=229,SNR=10
N18K Kilae Creek 77.20 22 IAmb IAmb 19 24 49.8
comp=Z,65nm,1.1s
N18K Kilae Creek 77.20 22 P P 19 24 48.4 +1.3
baz=230,SNR=14
F14K Arctic Creek 77.25 15 P P 19 24 48.6 +1.4
baz=220
L17K Donlin 77.28 20 P P 19 24 49.1 +1.7
baz=228,SNR=11
J16K Anvik River 77.31 19 P P 19 24 48.2 +0.7
J16K Anvik River 77.31 19 P P 19 24 49.4 +1.8
baz=225,SNR=10
Q20K Shuyak Island 77.33 25 P P 19 24 48.6 +0.8
baz=234
O19K Port Alsworth 77.50 23 P P 19 24 49.8 +1.1
baz=232
SVW2 Sparrevohn 77.59 22 IAmb IAmb 19 24 52.1
comp=Z,51nm,1.4s
P19K Oil Pt 77.61 24 P P 19 24 49.3 0.0
P19K Oil Pt 77.61 24 P P 19 24 49.6 +0.2
baz=233,SNR=8.2
K17K Iditarod 77.68 20 IAmb IAmb 19 24 52.5
comp=Z,57nm,1.1s
K17K Iditarod 77.68 20 P P 19 24 51.1 +1.5
baz=228,SNR=14
I17K Unalakleet 77.70 18 IAmb IAmb 19 24 52.9
comp=Z,67nm,1.3s
I17K Unalakleet 77.70 18 P P 19 24 51.6 +1.9
baz=225
M18K Stony River 77.75 22 P P 19 24 51.7 +1.7
baz=230,SNR=10.0
H16K Elim 77.77 17 P P 19 24 50.9 +0.8
baz=224
N19K Bonanza Creek 77.82 23 P P 19 24 51.3 +0.7
baz=232
F15K North Star Dit 77.88 16 P P 19 24 51.4 +0.7
baz=221
J17K VABM Dome 77.88 19 IAmb IAmb 19 24 53.7
comp=Z,38nm,1.1s
J17K VABM Dome 77.88 19 P P 19 24 51.8 +1.1
baz=227,SNR=10
L18K Granite Mounta 77.91 21 IAmb IAmb 19 24 53.9
comp=Z,57nm,1.1s
L18K Granite Mounta 77.91 21 P P 19 24 52.5 +1.6
baz=229,SNR=15
O20K Slope Mountain 78.11 24 P P 19 24 52.2 +0.1
baz=234
HOM Homer 78.26 25 P P 19 24 54.0 +1.2
baz=234
G16K Koyuk River 78.29 17 P P 19 24 54.3 +1.4
baz=223
CNPM China Poot 78.35 25 P P 19 24 53.8 +0.3
M19K Big River Lodg 78.54 22 IAmb IAmb 19 24 57.4
comp=Z,69nm,1.2s
M19K Big River Lodg 78.54 22 P P 19 24 55.9 +1.4
baz=232
L19K White Mountain 78.54 22 IAmb IAmb 19 24 57.0
comp=Z,60nm,1.1s
L19K White Mountain 78.54 22 P P 19 24 55.8 +1.3
baz=231,SNR=17
WMQ Urumqi 78.56 317 eP P 19 24 55.4 +0.3
WMQ pmax pmax
comp=Z,18nm,1.9s
WMQ LR LR
comp=Z,190nm,9.9s
WMQ LR LR
comp=Z,460nm,24.2s
BRSE Bradley Lake S 78.68 25 P P 19 24 55.8 +0.5
H17K Granite Mounta 78.69 18 IAmb IAmb 19 24 57.9
comp=Z,90nm,1.7s
H17K Granite Mounta 78.69 18 P P 19 24 56.5 +1.4
baz=226,SNR=8.8
J18K Innoko River 78.72 20 P P 19 24 56.1 +0.8
baz=229,SNR=10
G17K Kiwalik Mounta 78.86 17 P P 19 24 57.2 +1.1
baz=225
N20K Mount Spurr 78.94 23 P P 19 24 57.6 +0.8
baz=234
M20K Styx River 79.00 22 P P 19 24 58.0 +1.0
baz=233
L20K Farewell, AK 79.08 22 P P 19 24 58.4 +0.9
baz=232,SNR=12
HYB Hyderabad 79.20 289‖ eP P 19 24 58.6 -0.4
H18K Honhosa River 79.31 18 P P 19 24 59.5 +0.9
baz=227
F17K Baldwin Pennin 79.36 16 P P 19 24 59.9 +1.1
baz=224
SEW Seward 79.42 25 P P 19 24 59.7 +0.5
baz=236
J19K Poorman 79.43 20 IAmb IAmb 19 25 01.9
comp=Z,40nm,1.4s
J19K Poorman 79.43 20 P P 19 25 00.5 +1.3
baz=230,SNR=9.7
GCSA Galena City Sc 79.51 19 P P 19 25 00.1 +0.5
baz=229
O22K Cooper Landing 79.52 24 P P 19 25 00.4 +0.6
baz=236
K20K Telida 79.56 21 IAmb IAmb 19 25 02.7
comp=Z,37nm,1.2s
K20K Telida 79.56 21 P P 19 25 01.2 +1.2
baz=232,SNR=13
C16K Lisburne Hills 79.66 14 P P 19 25 01.7 +1.3
baz=220
SKT Skwentna 79.66 23 P P 19 25 00.7 +0.1
baz=234
E17K Hotham Inlet 79.67 16 P P 19 25 01.9 +1.5
baz=224,SNR=8.1
SUA Susitna One 79.67 23 IAmb IAmb 19 25 03.9
comp=Z,40nm,0.6s
SUA Susitna One 79.67 23 P P 19 25 01.2 +0.4
baz=235,SNR=10
G18K Tagagawik 79.73 18 IAmb IAmb 19 25 03.0
comp=Z,36nm,1.3s
G18K Tagagawik 79.73 18 P P 19 25 01.7 +0.8
baz=227,SNR=7.3
D17K Noatak River 79.79 15 P P 19 25 02.5 +1.4
baz=222,SNR=6.5
RC01 Rabbit Creek A 79.86 24 P P 19 25 01.6 0.0
baz=236,SNR=15
F18K Selawik 79.93 17 P P 19 25 02.7 +0.9
baz=226
TIXI Tiksi 79.95 352 P P 19 25 02.5 +0.6
TIXI Tiksi 79.95 352 LR LR 19 57 46.2
comp=Z,173nm,22.0s,baz=166,slow=34
TIXI Tiksi 79.95 352‖ eP P 19 25 01.6 -0.3
TIXI pmax pmax
comp=Z,14nm,1.7s
PPLA Purkeypile 79.96 22 P P 19 25 02.8 +0.4
baz=233
J20K Nowinta River 80.05 20 IAmb IAmb 19 25 05.2
comp=Z,31nm,1.1s
J20K Nowinta River 80.05 20 P P 19 25 03.7 +1.1
baz=231,SNR=15
M22K Willow 80.08 23 P P 19 25 02.7 -0.1
baz=236
RDOG Red Dog Mine 80.10 15 IAmb IAmb 19 25 20.2
comp=Z,41nm,1.0s
RDOG Red Dog Mine 80.10 15 P P 19 25 03.6 +0.8
baz=222,SNR=7.7
H19K Roundabout Mou 80.16 18 IAmb IAmb 19 25 05.6
comp=Z,43nm,1.1s
H19K Roundabout Mou 80.16 18 P P 19 25 04.2 +1.1
baz=229,SNR=19
P23K Montague Islan 80.23 25 P P 19 25 04.7 +1.1
baz=238
E18K Tukpahlearik C 80.24 16 P P 19 25 04.9 +1.3
baz=225
CAST Castle Rocks 80.31 21 IAmb IAmb 19 25 07.5
comp=Z,21nm,0.8s
CAST Castle Rocks 80.31 21 P P 19 25 04.0 0.0
baz=234,SNR=19
I20K Naaghedeneel 80.33 20 IAmb IAmb 19 25 06.7
comp=Z,63nm,1.2s
I20K Naaghedeneel 80.33 20 P P 19 25 04.4 +0.3
baz=231,SNR=7.0
C17K DeLong Mountai 80.34 14 P P 19 25 05.2 +1.1
baz=222
G19K Purcell Mounta 80.37 18 IAmb IAmb 19 25 06.9
comp=Z,56nm,1.2s
G19K Purcell Mounta 80.37 18 P P 19 25 05.5 +1.2
baz=228,SNR=17
PMR Palmer 80.38 24 IAmb IAmb 19 25 06.0
comp=Z,50nm,1.2s
PMR Palmer 80.38 24 P P 19 25 05.0 +0.6
baz=236,SNR=6.6
Q23K Middleton Isla 80.39 26 P P 19 25 04.3 -0.2
baz=239
CUT Chulitna 80.39 23 P P 19 25 03.8 -0.6
baz=235
CHUM Lake Minchumin 80.51 21 P P 19 25 05.4 +0.4
baz=233,SNR=13
KNK Knik Glacier 80.55 24 P P 19 25 05.7 +0.3
KNK Knik Glacier 80.55 24 P P 19 25 05.7 +0.3
baz=237,SNR=7.7
GHO Glory Hole Cre 80.56 24 IAmb IAmb 19 25 09.3
comp=Z,32nm,0.6s
F19K Shaleruckik Mo 80.63 17 P P 19 25 06.4 +0.7
baz=228
H20K Anotleneega Mo 80.64 19 P P 19 25 06.8 +1.0
baz=230,SNR=12
SML Sawmill 80.82 24 P P 19 25 06.8 0.0
SML Sawmill 80.82 24 P P 19 25 07.4 +0.6
baz=237,SNR=16
SML Sawmill 80.82 24 P P 19 25 06.8 0.0
SML pmax pmax
comp=Z,76nm,0.9s
GLI Glacier Island 80.82 25 IAmb IAmb 19 25 10.3
comp=Z,51nm,0.8s
GLI Glacier Island 80.82 25 P P 19 25 07.0 +0.1
baz=238,SNR=11
C18K Utukok River 80.97 15 IAmb IAmb 19 25 09.7
comp=Z,49nm,1.4s
C18K Utukok River 80.97 15 P P 19 25 08.0 +0.5
baz=224,SNR=5.2
TRF Thorofare Moun 80.98 22 IAmb IAmb 19 25 12.2
comp=Z,20nm,0.7s
TRF Thorofare Moun 80.98 22 P P 19 25 07.3 -0.6
baz=235,SNR=12
FID Port Fidalgo 81.02 25 IAmb IAmb 19 25 11.2
comp=Z,72nm,1.2s
M23K Glacier View 81.05 24 P P 19 25 07.4 -0.7
baz=238
BPAW Bear Paw Mtn. 81.11 21 P P 19 25 08.2 -0.1
baz=234
E19K Redstone River 81.21 17 IAmb IAmb 19 25 11.4
comp=Z,63nm,1.2s
E19K Redstone River 81.21 17 P P 19 25 09.8 +1.0
baz=228
EYAK Cordova Ski Ar 81.22 25 P P 19 25 09.8 +0.9
baz=240
SCM Sheep Creek Mo 81.23 24 IAmb IAmb 19 25 12.9
comp=Z,41nm,0.9s
SCM Sheep Creek Mo 81.23 24 P P 19 25 09.8 +0.7
baz=238
WAT1 Susitna Watana 81.29 23 P P 19 25 09.7 +0.4
baz=237
F20K Avaraart Lake 81.38 17 P P 19 25 10.9 +1.3
baz=230,SNR=9.6
H21K Melozitna Rive 81.42 19 P P 19 25 10.6 +0.7
H21K IAmb IAmb 19 25 26.2
comp=Z,43nm,1.6s
H21K Melozitna Rive 81.42 19 P P 19 25 10.8 +0.9
baz=232,SNR=7.8
WAT6 Susitna Watana 81.47 23 P P 19 25 10.8 +0.3
baz=238,SNR=9.1
KAIM Kayak Island 81.49 26 P P 19 25 11.3 +0.9
baz=241
RND Reindeer 81.49 22 IAmb IAmb 19 25 13.7
comp=Z,22nm,0.6s
KLU Klutina 81.63 25 P P 19 25 11.5 +0.3
KLU Klutina 81.63 25 P P 19 25 11.9 +0.7
baz=239,SNR=16
MCK McKinley 81.64 22 P P 19 25 10.6 -0.5
baz=236,SNR=23
D19K Kuna River 81.67 16 IAmb IAmb 19 25 13.4
comp=Z,41nm,1.3s
D19K Kuna River 81.67 16 P P 19 25 11.5 +0.3
baz=227
ZSN Zaisan 81.67 320 eP P 19 25 11.1 -0.6
baz=320
ZSN Zaisan 81.67 320 eP P 19 25 11.1 -0.6
BWN Browne 81.70 21 IAmb IAmb 19 25 12.9
comp=Z,65nm,1.2s
C19K Lookout Ridge 81.70 15 IAmb IAmb 19 25 25.8
comp=Z,36nm,1.1s
C19K Lookout Ridge 81.70 15 P P 19 25 12.4 +1.0
baz=226
G21K Allakaket 81.72 18 IAmb IAmb 19 25 27.5
comp=Z,69nm,1.8s
G21K Allakaket 81.72 18 P P 19 25 11.6 +0.2
baz=232
MLY Manley 81.74 20 P P 19 25 11.8 +0.2
baz=234,SNR=15
M24K Tolsona, Glenn 81.84 24 P P 19 25 13.1 +0.8
baz=239,SNR=11
DHY Denali Highway 81.88 23 P P 19 25 12.4 -0.1
baz=238,SNR=9.4
BMRM Bremner River 81.92 25 P P 19 25 13.0 +0.3
baz=241
H22K Ishtalitna Cre 82.03 19 P P 19 25 14.0 +0.9
baz=234,SNR=11
E20K Nigu River 82.04 16 P P 19 25 14.0 +0.8
baz=229
NEA2 Nenana 82.08 21 P P 19 25 12.9 -0.5
baz=236,SNR=12
A19K Wainwright 82.12 14 P P 19 25 14.7 +1.2
baz=224
F21K Alatna River 82.17 18 P P 19 25 15.0 +1.1
baz=232
D20K Etivluk River 82.22 16 P P 19 25 14.7 +0.6
baz=228
N25K Chitina, Valde 82.23 25 IAmb IAmb 19 25 16.8

comp=Z,60nm,1.2s
N25K Chitina, Valde 82.23 25 P P 19 25 15.2 +0.8
baz=241,SNR=8.5
I23K Minto, Yukon-K 82.28 21 IAmb IAmb 19 25 15.4 +0.9
baz=236
WRH Wood River Hil 82.36 21 IAmb IAmb 19 25 15.8
comp=Z,47nm,1.4s
HARP HAARP 82.40 24 P P 19 25 15.6 +0.4
baz=240
GLB Gilahina Butte 82.49 25 IAmb IAmb 19 25 17.8
comp=Z,60nm,1.1s
VRDI Verde Repeater 82.53 25 IAmb IAmb 19 25 18.2
comp=Z,54nm,1.2s
CCB Clear Creek Bu 82.56 21 IAmb IAmb 19 25 15.9
comp=Z,39nm,1.3s
PAX Paxson 82.56 23 P P 19 25 16.1 0.0
baz=240,SNR=7.4
MDM Murphy Dome 82.58 21 IAmb IAmb 19 25 16.9
comp=Z,32nm,1.3s
G22K Bettles 82.60 19 P P 19 25 16.2 +0.2
baz=234
H23K Yukon River 82.61 20 P P 19 25 16.5 +0.4
baz=236,SNR=13
COLA College 82.67 21 P P 19 25 17.1 +0.7
COLA College 82.67 21 P P 19 25 15.9 -0.5
COLA College 82.67 21 P P 19 25 16.8 +0.3
baz=237
COLA College 82.67 21 *ce*P P 19 25 15.9 -0.5
COLA pmax pmax
comp=Z,25nm,1.0s
MESA MESA 82.70 27 P P 19 25 17.9 +0.9
baz=243
ISLE Juniper Island 82.72 26 IAmb IAmb 19 25 19.0
comp=Z,48nm,1.1s
F22K John River 82.74 18 P P 19 25 17.7 +0.9
baz=233,SNR=12
HDA Harding Lake 82.75 22 IAmb IAmb 19 25 18.1
comp=Z,40nm,1.3s
HDA Harding Lake 82.75 22 P P 19 25 16.7 -0.2
baz=238,SNR=26
E21K Killik River 82.79 17 IAmb IAmb 19 25 19.4
comp=Z,42nm,1.2s
E21K Killik River 82.79 17 P P 19 25 17.9 +0.9
baz=231,SNR=12
MCARA McCarthy VSAT 82.79 25 P P 19 25 18.2 +1.0
baz=242,SNR=6.8
K24K Donnelly Dome 82.87 23 P P 19 25 18.0 +0.4
baz=239,SNR=8.2
B20K Meade River 82.94 15 IAmb IAmb 19 25 50.0
comp=Z,45nm,1.2s
B20K Meade River 82.94 15 P P 19 25 18.2 +0.5
baz=228
POKR Poker Plat Res 82.95 21 P P 19 25 16.9 -1.1
baz=238
G23K Bananza Creek 82.95 19 P P 19 25 18.7 +0.7
baz=235,SNR=12
ILAR Eielson Array 82.96 21 P P 19 25 15.2 -2.8
ILAR Eielson Array 82.96 21 P P 19 25 16.6 -1.4
comp=Z,8.2nm,0.8s,baz=230,slow=7.0,SNR=68
ILAR LR LR 19 57 27.9
comp=Z,1μm,21.8s,baz=238,slow=32
comp=Z,8.2nm,0.8s
C21K Knifeblade Rid 83.01 16 P P 19 25 19.3 +1.1
baz=230,SNR=12
MK31 Makanchi Array 83.14 319 *ce*P P 19 25 18.7 -0.6
MKAR Makanchi Array 83.14 319 P P 19 25 17.6 -1.7
MKAR Makanchi Array 83.14 319 P P 19 25 18.4 -0.9
comp=Z,15nm,0.8s,baz=98,slow=5.1,SNR=59
MKAR PKKPbc PKKPbc 19 43 40.5 -1.9
comp=Z,1.4nm,1.0s,baz=294,slow=1.2,SNR=5.9
MKAR PKPPKP P'P'df 19 51 44.9 -0.5
comp=Z,0.7nm,0.9s,baz=15,slow=5.0,SNR=4.2
MKAR LR LR 20 02 49.5
comp=Z,232nm,19.7s,baz=103,slow=36
comp=Z,15nm,0.8s
MKAR Makanchi Array 83.14 319 *i* P P 19 25 18.3 -1.0
MKAR pmax pmax
comp=Z,15nm,0.8s
H24K Noodor Dome 83.18 20 P P 19 25 19.4 +0.2
baz=237
COLD Coldfoot 83.19 19 P P 19 25 20.0 +0.9
baz=235,SNR=8.2
E22K Anaktuvuk Pass 83.23 18 P P 19 25 20.0 +0.6
baz=233
MENT Mentasta 83.24 24 IAmb IAmb 19 25 21.0
comp=Z,23nm,1.1s
M26K Nabesna, AK 83.28 24 IAmb IAmb 19 25 22.1
comp=Z,35nm,1.2s
M26K Nabesna, AK 83.28 24 P P 19 25 20.7 +0.9
baz=242,SNR=10
CTG Chitna Glacier 83.33 26 P P 19 25 20.8 +0.7
baz=244,SNR=10
MAKZ Makanchi 83.35 319 P P 19 25 18.9 -1.5
MAKZ IAmb IAmb 19 25 33.9
comp=Z,27nm,0.9s
MAKZ Makanchi 83.35 319 P P 19 25 18.9 -1.5
MAKZ pmax pmax
comp=Z,27nm,0.9s
B21K Ikpikpuk River 83.36 16 IAmb IAmb 19 25 43.2
comp=Z,43nm,1.4s
B21K Ikpikpuk River 83.36 16 P P 19 25 20.8 +0.9
baz=230,SNR=6.4
QSPA South Pole Qui 83.40 180 P P 19 25 19.8 -0.7
QSPA South Pole Qui 83.40 180 P P 19 25 20.3 -0.2
comp=Z,51nm,0.8s,baz=203,slow=0.9,SNR=134
QSPA LR LR 19 55 39.2
comp=Z,386nm,21.9s,baz=12,slow=31
comp=Z,51nm,0.8s
D22K Ayikyak River 83.43 17 P P 19 25 21.6 +1.2
baz=232,SNR=20
L26K Log Cabin Wild 83.44 24 P P 19 25 21.7 +1.2
baz=242
J25K Salcha River, 83.44 22 IAmb IAmb 19 25 22.1
comp=Z,53nm,1.2s
J25K Salcha River, 83.44 22 P P 19 25 20.6 +0.1
baz=240,SNR=38
PNL Peninsula 83.64 28 P P 19 25 23.0 +1.4
PNL Peninsula 83.64 28 P P 19 25 21.1 -0.5
baz=246
SCRK Sand Creek 83.64 23 IAmb IAmb 19 25 23.6
comp=Z,37nm,1.3s
SCRK Sand Creek 83.64 23 P P 19 25 21.7 +0.1
baz=241,SNR=14
M27K Edge Creek, AK 83.72 25 P P 19 25 22.2 0.0
baz=243,SNR=42
O28M Mount Upton 83.75 27 P P 19 25 22.3 -0.2
baz=245,SNR=10
G24K Hadweenzic Riv 83.79 20 IAmb IAmb 19 25 25.6
comp=Z,30nm,1.3s
G24K Hadweenzic Riv 83.79 20 P P 19 25 23.6 +1.4
baz=237
PRP Porcupine Dome 83.84 21 P P 19 25 23.9 +1.2
baz=239
ZALV Zalesovo Beam 83.87 326 P P 19 25 19.8 -3.1
ZALV Zalesovo Beam 83.87 326 P P 19 25 20.9 -2.0
comp=Z,8.1nm,0.7s,baz=111,slow=5.3,SNR=33
ZALV PKKPbc PKKPbc 19 43 38.2 -2.8
comp=Z,0.4nm,0.4s,baz=284,slow=6.0,SNR=4.2
ZALV LR LR 20 02 53.6
comp=Z,143nm,21.7s,baz=112,slow=36
comp=Z,8.1nm,0.7s
A21K Barrow 83.96 14 P P 19 25 23.9 +0.9
baz=228
J26L Joseph Creek 84.06 22 IAmb IAmb 19 25 28.0
comp=Z,13nm,0.7s
J26L Joseph Creek 84.06 22 P P 19 25 24.0 +0.2
baz=241,SNR=20
D23K Nanushuk River 84.06 17 P P 19 25 24.9 +1.4
baz=234,SNR=39
YUK3 Moose Creek 84.06 26 P P 19 25 24.3 +0.3
baz=244,SNR=5.6
L27K Beaver Creek, 84.06 24 IAmb IAmb 19 25 26.3
comp=Z,23nm,1.1s
L27K Beaver Creek, 84.06 24 P P 19 25 24.8 +1.1
baz=243,SNR=17
SHLS Shalkode 84.07 315 *e*P P 19 25 22.5 -1.9
baz=315
SHLS Shalkode 84.07 315 *e*P P 19 25 22.4 -1.9
BCAR Beaver Creek A 84.08 24 P P 19 25 23.5 -0.3
F24K Squaw Lake 84.10 19 IAmb IAmb 19 25 25.8
comp=Z,36nm,1.4s
F24K Squaw Lake 84.10 19 P P 19 25 24.6 +0.7
baz=237,SNR=17
H25L Birch Creek 84.12 20 P P 19 25 24.9 +1.0
baz=239
B22K Teshekpuk Lake 84.13 15 P P 19 25 24.5 +0.6
baz=231,SNR=7.2
YUK8 Steele Glacier 84.15 26 P P 19 25 25.3 +0.8
baz=245
A22K Sinclair Lake 84.16 15 P P 19 25 24.1 +0.1
baz=230
TOLK Toolik Lake Re 84.20 18 IAmb IAmb 19 25 25.9
comp=Z,32nm,1.4s
TOLK Toolik Lake Re 84.20 18 P P 19 25 25.2 +0.9
baz=235,SNR=12
E24K Your Creek 84.22 18 P P 19 25 25.2 +0.8
baz=236,SNR=6.6
G25K Bearman Lake 84.29 20 P P 19 25 25.6 +0.9
baz=239,SNR=8.0
UZB Uzynbulak 84.38 314 *e*P P 19 25 25.5 -0.5
baz=314
UZB Uzynbulak 84.38 314 *e*P P 19 25 25.4 -0.5
P29M Windy Craggy 84.39 28 P P 19 25 26.4 +0.9
baz=247
K27K Chicken 84.41 23 P P 19 25 26.4 +1.0
baz=243
S31K Pelican 84.49 30 P P 19 25 26.3 +0.4
baz=248
C23K Itkillik River 84.59 16 P P 19 25 26.9 +0.7
baz=234,SNR=17
I26K Coal Creek Min 84.60 22 P P 19 25 26.7 +0.3
baz=242
SIT Sitka 84.62 31 P P 19 25 26.7 +0.2
baz=249
YUK6 Outpost Mounta 84.63 27 P P 19 25 26.7 -0.2
baz=246
YUK4 Talbot Arm 84.67 26 P P 19 25 28.4 +1.4
baz=246
D24K Happy Valley 84.72 17 IAmb IAmb 19 25 31.7
comp=Z,15nm,0.7s
D24K Happy Valley 84.72 17 P P 19 25 28.1 +1.2
baz=236,SNR=14
SATY Saty 84.80 314 *e*P P 19 25 27.5 -0.5
baz=314
SATY Saty 84.80 314 *e*P P 19 25 27.5 -0.5
ZHN Zhinishke 84.80 314 *e*P P 19 25 27.4 -0.7
baz=314
ZHN Zhinishke 84.80 314 *e*P P 19 25 27.3 -0.7
MAW Mawson 84.81 203 LR LR 20 00 16.0
comp=Z,292nm,19.8s,baz=94,slow=34
F25K Christian Rive 84.87 19 P P 19 25 28.6 +0.9
baz=239,SNR=7.7
R31K City Hall, Gus 84.89 30 P P 19 25 28.2 +0.3
baz=249
P30M Million Dollar 84.95 28 P P 19 25 29.2 +0.9
baz=248
HYT Haines Junctio 84.97 27 P P 19 25 28.6 +0.1
baz=247
PLBC Pleasant Camp 84.98 29 P P 19 25 28.9 +0.5
baz=248
C24K Franklin Bluff 85.07 17 P P 19 25 29.2 +0.6
baz=236
EGAK Eagle 85.11 23 IAmb IAmb 19 25 44.1
comp=Z,21nm,0.9s
EGAK Eagle 85.11 23 P P 19 25 29.8 +0.9
baz=244,SNR=6.0
BMAR Burnt Mountain 85.14 20 P P 19 25 29.3 +0.2
S32K Killisnoo 85.14 31 P P 19 25 30.1 +0.9
baz=250
E25K Arctic Village 85.17 19 IAmb IAmb 19 25 46.8
comp=Z,54nm,1.9s
E25K Arctic Village 85.17 19 P P 19 25 30.2 +1.0
baz=239,SNR=6.1
G26K Porcupine Rive 85.17 20 P P 19 25 30.2 +1.1
baz=241,SNR=14
M29M Somme Creek 85.20 25 IAmb IAmb 19 25 32.2
comp=Z,20nm,1.1s
M29M Somme Creek 85.20 25 P P 19 25 30.2 +0.6
baz=246,SNR=5.4
CRAG Craig 85.23 33 P P 19 25 30.1 +0.4
baz=251
TDK Taldyqorghan 85.27 316 *e*P P 19 25 29.8 -0.5
comp=Z,9.3nm,1.0s,baz=316
TDK Taldyqorghan 85.27 316 *e*P P 19 25 29.7 -0.5
TDK pmax pmax
comp=Z,9.0nm,1.0s
I27K Kandik River 85.31 22 P P 19 25 30.8 +0.8
baz=243,SNR=20
N30M Aishikik Lake 85.40 27 IAmb IAmb 19 25 35.5
comp=Z,14nm,0.8s
N30M Aishikik Lake 85.40 27 P P 19 25 31.6 +1.0
baz=247,SNR=7.5
F26K Sheenjek River 85.42 20 P P 19 25 31.7 +1.3
baz=240,SNR=12
U33K Whale Pass 85.44 32 P P 19 25 31.1 +0.3
baz=251
SKAG Skagway 85.47 29 P P 19 25 31.7 +0.9
baz=249,SNR=6.4
DAWY Dawson 85.49 24 P P 19 25 31.5 +0.6
baz=245,SNR=20
D25K Kavik River 85.54 18 P P 19 25 31.6 +0.5
baz=238,SNR=12
O30N Mendenhall 85.59 27 IAmb IAmb 19 25 34.0
comp=Z,38nm,1.1s
O30N Mendenhall 85.59 27 P P 19 25 32.5 +1.1
baz=248,SNR=10
L29M L29M 85.61 25 P P 19 25 32.5 +0.9
baz=246,SNR=18
H27K Steamboat Moun 85.63 21 P P 19 25 32.7 +1.2
baz=243,SNR=19
T33K Petersburg 85.76 32 P P 19 25 33.0 +0.7
baz=251
MDOK Medeo 85.79 314 *e*P P 19 25 32.6 -0.4
baz=314
MDOK Medeo 85.79 314 *e*P P 19 25 32.6 -0.4
KSH Kashi 85.79 310 P P 19 25 35.0 +1.9
KSH S S 19 36 05.5 +2.6
KSH sS sS 19 36 28.5 +2.9
KSH pmax pmax
comp=Z,17nm,0.9s
KSH LR LR
comp=Z,160nm,18.7s
KSH LR LR
comp=Z,260nm,18.4s
KSH LR LR
comp=Z,330nm,18.4s
TNSS Tian-Shan 85.83 314 *e*P P 19 25 33.0 -0.6
baz=314
TNSS Tian-Shan 85.83 314 *e*P P 19 25 32.9 -0.6
G27K Doyon Strip 85.84 21 IAmb IAmb 19 25 34.6
comp=Z,25nm,1.4s
G27K Doyon Strip 85.84 21 P P 19 25 34.0 +1.4
baz=243,SNR=13
I28M Miner Creek 85.87 22 IAmb IAmb 19 25 37.0
comp=Z,15nm,0.6s
I28M Miner Creek 85.87 22 P P 19 25 33.2 +0.4
baz=244,SNR=20
WRAK Wrangell Islan 85.95 32 P P 19 25 34.5 +1.2
baz=252
M30M Minto, Yukon 85.96 26 IAmb IAmb 19 25 35.9
comp=Z,48nm,1.3s
M30M Minto, Yukon 85.96 26 P P 19 25 34.2 +0.9
baz=248,SNR=16
CHKK Chushkaly 85.99 315 *e*P P 19 25 33.6 -0.2
baz=315
CHKK Chushkaly 85.99 315 *e*P P 19 25 33.6 -0.2
N31M Braeburn, Yuko 86.00 27 P P 19 25 34.9 +1.5
baz=249
V35K Ketchikan 86.01 33 P P 19 25 34.4 +0.8
baz=253
WHY Whitehorse 86.11 28 P P 19 25 34.5 +0.3
baz=249,SNR=6.2
K29M Barlow Dome 86.15 24 P P 19 25 35.8 +1.5
baz=247,SNR=40
P32M Atlin 86.29 29 IAmb IAmb 19 25 36.8
comp=Z,41nm,1.4s
P32M Atlin 86.29 29 P P 19 25 35.9 +0.9
baz=250,SNR=6.1
C26K Camden Bay 86.29 17 P P 19 25 36.4 +1.7
baz=240,SNR=21
I29M Ogilvie Camp, 86.45 23 P P 19 25 36.2 +0.6
baz=246,SNR=36
E27K Coleen River 86.50 20 IAmb IAmb 19 25 38.5
comp=Z,20nm,0.8s
E27K Coleen River 86.50 20 P P 19 25 37.2 +1.4
baz=243,SNR=22
C27K Jago River 86.51 18 P P 19 25 37.0 +1.2
baz=241,SNR=9.3
KURK Kurchatov 86.55 322 P P 19 25 34.6 -1.7
KURK Kurchatov 86.55 322 *ce*P P 19 25 34.8 -1.5
KURK pmax pmax
comp=Z,13nm,1.3s
KURBB Kurchatov Arra 86.58 322 P P 19 25 35.6 -0.9
comp=Z,0.9nm,0.4s,baz=106,slow=4.3,SNR=14
KURBB PKKPbc PKKPbc 19 43 33.0 -1.4
comp=Z,0.7nm,0.8s,baz=297,slow=2.9,SNR=8.5
KURBB PKPPKP P'P'df 19 51 40.3 +1.5
comp=Z,0.6nm,1.1s,baz=305,slow=4.2,SNR=4.7
KURBB LR LR 20 04 29.5
comp=Z,130nm,21.7s,baz=152,slow=36
comp=Z,0.9nm,0.4s
MAYO Mayo, Yukon 86.73 25 P P 19 25 38.3 +1.3
baz=248,SNR=5.3
H29M Whitestone 86.78 22 IAmb IAmb 19 26 14.5
comp=Z,35nm,1.4s
H29M Whitestone 86.78 22 P P 19 25 38.0 +0.8
baz=246,SNR=8.3
F28M Old Crow 86.83 20 IAmb IAmb 19 25 39.9
comp=Z,21nm,1.1s
F28M Old Crow 86.83 20 P P 19 25 38.1 +0.7
baz=244,SNR=14
NIL Nilore 86.83 304 P P 19 25 37.3 -0.9
NIL IAmb IAmb 19 25 51.9
comp=Z,19nm,0.6s
NIL Nilore 86.83 304 P P 19 25 37.3 -0.9
NIL pmax pmax
comp=Z,19nm,0.6s
M31M Drury Creek, Y 86.87 26 IAmb IAmb 19 25 39.7
comp=Z,40nm,1.1s
M31M Drury Creek, Y 86.87 26 P P 19 25 37.9 +0.2
baz=250,SNR=18
J30M Hart River 86.91 24 P P 19 25 39.4 +1.4
baz=248,SNR=37
P33M Teslin, Yukon 86.92 28 P P 19 25 38.7 +0.7
baz=251,SNR=6.6
S34M Telegraph Cree 87.04 31 P P 19 25 39.8 +1.2
baz=253,SNR=15
U35K Hyder 87.04 33 P P 19 25 39.1 +0.5
baz=254
N32M Quiet Lake 87.10 27 P P 19 25 39.6 +0.7
baz=251
I30M Mount Dempster 87.14 23 IAmb IAmb 19 25 41.4
comp=Z,37nm,1.0s
I30M Mount Dempster 87.14 23 P P 19 25 39.6 +0.5
baz=248,SNR=33
BBB Bella Bella 87.15 37 LR LR 20 00 08.6
comp=Z,892nm,19.2s,baz=258,slow=33
D27M Malcolm River 87.18 19 IAmb IAmb 19 25 49.7
comp=Z,20nm,0.7s
D27M Malcolm River 87.18 19 P P 19 25 39.6 +0.4
baz=243
G29M Pine Creek 87.19 21 P P 19 25 39.8 +0.6
baz=246,SNR=22
T35M Bob Quinn 87.22 32 IAmb IAmb 19 25 42.2
comp=Z,45nm,1.2s
T35M Bob Quinn 87.22 32 P P 19 25 40.6 +1.0
baz=254,SNR=6.0
FARO Faro, Yukon 87.34 26 IAmb IAmb 19 25 42.0
comp=Z,41nm,1.1s
FARO Faro, Yukon 87.34 26 P P 19 25 40.9 +0.9
baz=251,SNR=14
E28M Babbage River 87.37 20 P P 19 25 41.4 +1.4
baz=245,SNR=14
EPYK Eagle Plains 87.45 22 P P 19 25 41.2 +0.7
baz=248,SNR=30
AAK Ala-Archa 87.51 313 P P 19 25 39.9 -1.6
AAK Ala-Archa 87.51 313 LR LR 20 05 30.9
comp=Z,279nm,21.2s,baz=94,slow=36
AAK Ala-Archa 87.51 313 *je*P P 19 25 41.4 -0.1
AAK pmax pmax
comp=Z,5.0nm,0.6s
R33M Jennings River 87.56 29 P P 19 25 42.6 +1.4
baz=253,SNR=11
SGDS Sogindy 87.58 314 *e*P P 19 25 40.8 -0.9
baz=314
SGDS Sogindy 87.58 314 *e*P P 19 25 40.7 -0.9
DLBC Dease Lake 87.75 31 P P 19 25 43.5 +1.4
baz=254,SNR=14
DLBC Dease Lake 87.75 31 LR LR 19 57 32.1
comp=Z,359nm,22.0s,baz=282,slow=31
E29M Blow River 87.83 20 IAmb IAmb 19 25 44.3
comp=Z,54nm,1.9s
E29M Blow River 87.83 20 P P 19 25 42.9 +0.7
baz=246,SNR=11
G30M tAoh Zraii Nji 87.86 22 P P 19 25 42.9 +0.4
baz=248,SNR=18
D28M Stokes Point 87.94 19 P P 19 25 43.6 +1.0
baz=246,SNR=6.3
K02D Willamette Mer 88.03 47 IAmb IAmb 19 25 46.5
comp=Z,18nm,1.2s
H31M Peel River 88.14 23 P P 19 25 44.2 +0.5
baz=250,SNR=26
F30M Barrier River 88.26 21 P P 19 25 44.9 +0.7
baz=248,SNR=20
BTLS Baital 88.29 316 *e*P P 19 25 43.9 -1.0
baz=316
BTLS Baital 88.29 316 *e*P P 19 25 43.9 -1.0
MMPY Sheldon Lake, 88.38 26 P P 19 25 45.8 +0.8
baz=250,SNR=11
YBH Yreka Blue Hor 88.56 48 LR LR 19 58 32.8
comp=Z,2μm,21.2s,baz=294,slow=31
G31M Satah River 88.56 22 P P 19 25 46.0 +0.3
baz=250,SNR=23
CLRS Cowichan Lake 88.88 41 IAmb IAmb 19 26 04.7
comp=Z,23nm,1.5s
F31M Tsiigehtchic 88.93 21 P P 19 25 47.8 +0.5
baz=250,SNR=9.3
DRK Karamyk 88.96 310 IAmb IAmb 19 26 04.7
comp=Z,20nm,1.5s
INK Inuvik 89.30 21 IAmb IAmb 19 25 50.8
comp=Z,37nm,1.4s
INK Inuvik 89.30 21 P P 19 25 49.5 +0.4
baz=250,SNR=11
INK Inuvik 89.30 21 LR LR 20 01 58.6
comp=Z,788nm,21.4s,baz=190,slow=33
TGTN Hyland Airport 89.43 28 P P 19 25 51.1 +1.2
baz=255
SMMC Simmler 89.65 55 P P 19 25 53.0 +1.5
baz=262
PKM Mcpherson Peak 89.73 55 P P 19 25 53.2 +1.1
baz=262
SNCC San Nicolas Is 89.74 57 P P 19 25 52.5 +0.5
baz=262
SBC Santa Barbara 89.75 55 P P 19 25 51.7 -0.3
baz=262
SCZ2 Santa Cruz Isl 89.75 56 P P 19 25 51.9 -0.1
baz=262
DZA Taraz 89.85 313 *e*P P 19 25 51.8 -0.6
comp=Z,4.1nm,0.6s,baz=313
DZA Taraz 89.85 313 *e*P P 19 25 51.7 -0.6
DZA pmax pmax
comp=Z,4.0nm,0.6s
J05D Fort Rock, OR 89.89 47 IAmb IAmb 19 25 54.6
comp=Z,17nm,1.1s
LIRD Liard River Hi 89.97 30 P P 19 25 53.2 +0.7
baz=257
K05A Summer Lake 90.05 47 IAmb IAmb 19 25 57.3
comp=Z,15nm,1.1s
TOAD Toad River Com 90.28 31 P P 19 25 54.8 +0.9
baz=258,SNR=6.6
VES Vestal, Richgr 90.45 54 P P 19 25 55.9 +0.7
baz=262
KKAR Karatay Array 90.48 313 P P 19 25 53.0 -2.3
KKAR Karatay Array 90.48 313 P P 19 25 53.0 -2.3
PNTR Pine Nut 90.49 51 IAmb IAmb 19 25 58.1
comp=Z,14nm,0.9s
SCI2 San Clemente I 90.52 57 P P 19 25 56.1 +0.4
baz=263
WAKR Walker 90.54 51 IAmb IAmb 19 25 58.4
comp=Z,36nm,1.7s
ARVC Arvin 90.56 55 P P 19 25 56.7 +1.0
baz=262
OSI Osito Audit: C 90.58 55 P P 19 25 55.6 -0.4
baz=262
CIS Catalina Islan 90.68 57 P P 19 25 56.6 +0.2
baz=263
PAHR Pah Rah Range 90.74 50 IAmb IAmb 19 25 58.9
comp=Z,17nm,1.1s
YERR Yerington 90.75 51 IAmb IAmb 19 25 59.2
comp=Z,27nm,1.4s
FMP Fort Macarthur 90.82 56 P P 19 25 57.0 0.0
baz=263
DECC Green Verdugo 90.86 56 P P 19 25 57.3 +0.1
baz=263
MLAC Mammoth, Mammo 90.89 52 P P 19 25 57.0 -0.6
baz=262
SIMJ Simiganj 90.99 309 P P 19 25 56.1 -1.8
CHM Chimkent 91.03 312 *e*P P 19 25 57.2 -0.6
baz=312
CHM Chimkent 91.03 312 *e*P P 19 25 57.2 -0.6
KOTAN Kotaneelee Air 91.13 30 P P 19 25 58.4 +0.6
baz=259
EDW2 Edwards Air Fo 91.22 55 P P 19 25 59.5 +0.6
baz=263,SNR=6.4

LHV	Little Huntoon	91.23	52	IAmb	IAmb	19 26 01.6		
	comp=Z,24nm,1.1s							
RYN	Ryan	91.26	51	IAmb	IAmb	19 26 01.5		
	comp=Z,20nm,1.1s							
CWC	Cottonwood Cre	91.34	54	P	P	19 26 00.6	+1.0	
	baz=263							
NVAR	Mina Array Bea	91.41	52	P	P	19 26 00.2	+0.3	
	comp=Z,16nm,1.0s,baz=252,slow=6.2,SNR=54							
NVAR				LR	LR	19 59 43.5		
	comp=Z,630nm,21.9s,baz=276,slow=31							
	comp=Z,16nm,1.0s							
BFSC	Mount Baldy Ra	91.41	56	P	P	19 26 00.8	+0.8	
	baz=263							
NV11	Mina Array Sit	91.53	52	IAmb	IAmb	19 26 02.8		
	comp=Z,28nm,1.1s							
DSP	Deep Springs	91.54	53	IAmb	IAmb	19 26 03.1		
	comp=Z,25nm,1.2s							
LRMC	Laurel Mtn Rad	91.54	55	P	P	19 26 01.1	+0.6	
	baz=263							
KVN	Kaiserville	91.64	51	IAmb	IAmb	19 26 03.1		
	comp=Z,19nm,1.0s							
109C	Camp Elliot, M	91.71	57	P	P	19 26 01.8	+0.7	
	baz=263							
MURC	Murrieta	91.72	57	P	P	19 26 01.8	+0.6	
	baz=263							
MPMC	Manual Prospec	91.77	54	P	P	19 26 02.2	+0.6	
	baz=263,SNR=16							
GRAC	Grapevine Rang	91.97	53	P	P	19 26 03.3	+0.9	
	baz=263							
WRGLY	Wrigley	91.99	27	IAmb	IAmb	19 26 04.8		
	comp=Z,18nm,0.9s							
WRGLY	Wrigley	91.99	27	P	P	19 26 03.7	+1.9	
	baz=260							
RPN	Rapa Nui	92.00	117	LR	LR	19 59 03.9		
	comp=Z,503nm,21.7s,baz=256,slow=30							
BVAR	Borovoye Array	92.00	323	P	P	19 25 59.8	-2.3	
	comp=Z,5.3nm,0.9s,baz=100,slow=5.0,SNR=20							
BVAR				LR	LR	20 06 13.9		
	comp=Z,236nm,21.6s,baz=92,slow=35							
	comp=Z,5.3nm,0.9s							
BBRC	Big Bear Solar	92.02	56	P	P	19 26 03.2	+0.4	
	baz=264							
RRX	Edison Barstow	92.03	55	P	P	19 26 03.2	+0.5	
	baz=264							
MZP	Montezuma Peak	92.04	52	IAmb	IAmb	19 26 05.3		
	comp=Z,16nm,1.1s							
GSC	Goldstone, Bar	92.23	55	P	P	19 26 04.1	+0.5	
	baz=264							
QSM	Queen of Sheba	92.25	54	IAmb	IAmb	19 26 06.0		
	comp=Z,17nm,1.1s							
MONP2	Monument Peak	92.28	57	P	P	19 26 05.2	+1.1	
	baz=264,SNR=5.4							
FURC	Furnace Creek,	92.31	54	P	P	19 26 04.9	+1.1	
	baz=264							
PFO	Pinyon Flats O	92.33	57	P	P	19 26 04.4	+0.3	
PFO				IAmb	IAmb	19 26 06.5		
	comp=Z,9.3nm,0.8s							
PFO	Pinyon Flats O	92.33	57	P	P	19 26 05.0	+0.8	
	baz=264							
PFO	Pinyon Flats O	92.33	57	LR	LR	20 02 36.6		
	comp=Z,898nm,18.8s,baz=251,slow=32							
PFO	Pinyon Flats O	92.33	57⇑	eP	P	19 26 05.1	+0.9	
PFO				pmax	pmax			
	comp=Z,14nm,0.9s							
TPFO	Pinon Flats	92.33	57	P	P	19 26 05.0	+0.8	
	baz=264							
GWY	Greenwater Val	92.44	54	IAmb	IAmb	19 26 06.3		
	comp=Z,12nm,1.1s							
BMN	Battle Mountai	92.48	50	IAmb	IAmb	19 26 07.0		
	comp=Z,21nm,1.0s							
IKP	In-Ko-Pah, Jac	92.52	58	P	P	19 26 05.2	+0.2	
	baz=264							
WCT	Wildcat Mounta	92.54	53	IAmb	IAmb	19 26 07.5		
	comp=Z,22nm,1.1s							
HEC	Hector,Ludlow	92.56	55	P	P	19 26 06.1	+0.9	
	baz=264							
SHOC	Shoshone, Teco	92.73	54	P	P	19 26 06.9	+1.1	
	baz=264							
BELC	Belle Mtn. Jos	92.75	56	P	P	19 26 06.9	+0.8	
	baz=264,SNR=11							
SWSC	Sam W. Stewart	92.81	57	P	P	19 26 07.1	+0.9	
	baz=264							
C36M	Paulatuk	92.89	21	IAmb	IAmb	19 26 07.1		
	comp=Z,17nm,1.1s							
C36M	Paulatuk	92.89	21	P	P	19 26 06.3	+0.6	
	baz=259,SNR=5.8							
TUQ	Turquoise Moun	92.96	55	P	P	19 26 07.7	+0.6	
	baz=264,SNR=6.7							
A36M	Sachs Harbour	93.03	18	P	P	19 26 06.2	-0.1	
	baz=258							
GMRC	Granite Mounta	93.11	56	P	P	19 26 08.9	+1.2	
	baz=264,SNR=9.6							
BC3	Big Chuckawall	93.17	57	P	P	19 26 09.2	+1.2	
	baz=264,SNR=5.7							
NEW	Newport	93.40	42	P	P	19 26 08.2	-0.4	
	baz=264							
NEW	Newport	93.40	42	LR	LR	20 00 54.2		
	comp=Z,2µm,21.9s,baz=261,slow=31							
IRM	Iron Mountain	93.47	56	P	P	19 26 10.7	+1.4	
	baz=264,SNR=15							
R11B	Troy Canyon, C	93.52	52	IAmb	IAmb	19 26 12.0		
	comp=Z,18nm,1.1s							
R11B	Troy Canyon, C	93.52	52	P	P	19 26 10.7	+1.0	
	baz=264,SNR=30							
BRLDA	Berland Lookou	93.83	36	IAmb	IAmb	19 29 52.4		
	comp=Z,16nm,0.8s							
NEE2	Needles Airpor	93.96	56	P	P	19 26 12.8	+1.3	
	baz=265							
ELK	Elko	94.01	50	LR	LR	20 02 26.9		
	comp=Z,792nm,20.6s,baz=278,slow=32							
PDMCI	Parker Dam,Lak	94.31	56	P	P	19 26 14.1	+1.0	
	baz=265							
HLID	Hailey	94.86	47	P	P	19 26 16.4	+0.7	
	baz=266							
PSUT	Pine Spring	94.89	52	IAmb	IAmb	19 26 18.4		
	comp=Z,20nm,1.3s							
214A	Organ Pipe Nat	95.23	59	P	P	19 26 17.9	+0.5	
	baz=266							
MSO	Missoula	95.43	44	P	P	19 26 18.7	+0.6	
	baz=266							
KNB	Kanab	95.60	53	IAmb	IAmb	19 26 21.5		
	comp=Z,16nm,1.2s							
ELIB	Princess Elisa	95.63	194	dP	P	19 26 17.4	-1.2	
	comp=Z,6.2nm,1.1s							
DUG	Dugway, Tooele	95.81	50	P	P	19 26 20.3	+0.3	
	baz=266							
YKA	Yellowknife Ar	95.94	28	P	P	19 26 19.2	-0.7	
YKA	Yellowknife Ar	95.94	28	P	P	19 26 19.8	-0.1	
	comp=Z,29nm,1.0s,baz=272,slow=4.8,SNR=96							
YKA				PKKPbc	PKKPbc	19 43 07.1	-3.8	
	comp=Z,0.5nm,0.4s,baz=32,slow=9.4,SNR=9.7							
	comp=Z,29nm,1.0s							
U15A	North Rim	95.98	54	IAmb	IAmb	19 26 23.9		
	comp=Z,11nm,1.1s							
PKCU	Pink Cliffs	96.03	53	IAmb	IAmb	19 26 24.1		
	comp=Z,16nm,1.1s							
MTPU	Mount Pierson	96.17	52	IAmb	IAmb	19 26 25.2		
	comp=Z,8.8nm,0.9s							
WUAZ	Wupatki	96.67	55	P	P	19 26 23.8	-0.3	
	baz=267							
HWUT	Hardware Ranch	96.84	49	IAmb	IAmb	19 26 25.1		
	comp=Z,12nm,1.5s							
LPIG	La Paz	96.86	67	LR	LR	20 03 19.3		
	comp=Z,977nm,20.1s,baz=224,slow=31							
BOZ	Bozeman (W)	96.96	45	P	P	19 26 25.5	+0.3	
	baz=268							
TUC	Tucson	96.97	58	P	P	19 26 25.4	0.0	
	baz=267							
TMUT	Trail Mountain	97.00	51	IAmb	IAmb	19 26 28.1		
	comp=Z,8.7nm,1.0s							
HMU	Henry Mountain	97.30	53	IAmb	IAmb	19 26 29.4		
	comp=Z,14nm,1.2s							
P17A	Butcher Ranch,	97.37	51	IAmb	IAmb	19 26 29.3		
	comp=Z,11nm,1.2s							
W18A	Petrified Fore	97.99	56	P	P	19 26 30.0	0.0	
	baz=268							
RDMU	Red Mountain	98.31	50	IAmb	IAmb	19 26 33.0		
	comp=Z,17nm,1.2s							
EGMT	Eagleton	98.31	43	P	P	19 26 31.1	+0.1	
	baz=270							
PD31	Pinedale Array	98.37	48	IAmb	IAmb	19 30 30.7		
	comp=Z,6.7nm,0.8s							
PDAR	Pinedale Array	98.37	48	P	P	19 26 30.3	-1.4	
PDAR	Pinedale Array	98.37	48	P	P	19 26 30.6	-1.0	
	comp=Z,3.4nm,0.9s,baz=250,slow=3.0,SNR=18							
PDAR				PKKPbc	PKKPbc	19 43 01.4	-2.5	
	comp=Z,0.3nm,0.4s,baz=93,slow=4.7,SNR=3.8							
PDAR				LR	LR	20 07 12.2		
	comp=Z,529nm,19.3s,baz=292,slow=33							
	comp=Z,3.4nm,0.9s							
WSAR	Wadi Sarin	98.45	292	LR	LR	20 11 41.5		
	comp=Z,70nm,21.9s,baz=107,slow=36							
NVL	N'lazarevskaya	99.00	192	eP	Pdif	19 26 38.2	+4.6	
NVL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
NVL				MLR	MLR			
	comp=Z,2µm,19.0s							
MVCO	Mesa Verde	99.06	53	P	Pdif	19 26 35.3	+0.4	
	baz=269							
O20A	White River Ci	99.31	50	P	Pdif	19 26 36.0	+0.1	
	baz=269							
GEYT	Alibeck	99.48	307	LR	LR	20 12 20.6		
	comp=Z,170nm,21.9s,baz=120,slow=36							
121A	Cookes Peak, D	99.52	58	P	Pdif	19 26 36.6	-0.4	
	baz=268							
AKTO	Aktyubinsk	99.52	320	LR	LR	20 14 50.6		
	comp=Z,103nm,18.5s,baz=60,slow=37							
TROLL	Troll, Antarti	99.55	188	⇑Pdiff	Pdif	19 26 35.1	-1.1	
	comp=Z,162nm,0.8s							
K22A	Casper	100.60	48	P	Pdif	19 26 41.5	0.0	
	baz=271							
ANMO	Albuquerque	100.67	56	P	Pdif	19 26 41.7	-0.4	
	baz=270							
N23A	Red Feather La	101.06	50	P	Pdif	19 26 44.0	+0.2	
	baz=271,SNR=5.8							
ISCO	Idaho Springs	101.33	51	P	Pdif	19 26 45.3	+0.3	
	baz=271							
SDCO	Great Sand Dun	101.45	53	P	Pdif	19 26 45.4	-0.2	
	baz=271							
MNTX	Cornudas Mount	101.54	59	P	Pdif	19 26 45.0	-0.8	
	baz=269							
Q24A	Divide	101.71	52	P	Pdif	19 26 45.3	-1.5	
	baz=271							
VNA2	Neumayer--Watz	101.77	186	⇑Pdiff	Pdif	19 26 50.6	+4.6	
	comp=Z,2.8nm,0.6s,baz=201,slow=7.1							
DGMT	Dagmar	102.01	42	P	Pdif	19 26 47.6	+0.1	
	baz=274							
T25A	Trinidad	102.32	54	P	Pdif	19 26 48.8	-0.6	
	baz=271							
RSSD	Black Hills	102.37	46	P	Pdif	19 26 49.2	-0.2	
	baz=273							
TXAR	Lajitas Array	103.00	62	Pdiff	Pdif	19 26 57.4	+5.0	
	comp=Z,0.7nm,0.9s,baz=76,slow=5.3,SNR=4.5							
TXAR				PP	PP	19 31 07.3	-0.1	
	comp=Z,0.3nm,0.7s,baz=270,slow=4.4,SNR=4.0							
TXAR				PKKPbc	PKKPbc	19 42 47.8	-2.1	
	comp=Z,0.8nm,0.6s,baz=107,slow=4.7,SNR=8.8							
KSCO	Kaye Shedlock'	103.67	52	P	Pdif	19 26 54.6	-0.6	
	baz=273							
MSTX	Muleshoe	103.72	57	P	Pdif	19 26 54.7	-0.9	
	baz=271							
OGNE	Ogallala	104.02	50	P	Pdif	19 26 56.2	-0.5	
	baz=274							
AMTX	Amarillo	104.60	56	P	Pdif	19 26 58.5	-0.9	
	baz=272							
MDND	Maddock	105.13	42	P	PKiKP	19 31 15.9	+0.2	
	baz=277							
SPITS	Spitsbergen Ar	105.38	352	PKKPbc	PKKPbc	19 42 41.2	-2.9	
	comp=Z,4.0nm,0.8s,baz=157,slow=4.5,SNR=9.7							
CBKS	Cedar Bluff	105.93	52	P	PKiKP	19 31 17.8	+0.3	
	baz=274							
SUSD	Miller	105.98	46	P	PKiKP	19 31 17.7	+0.3	
	baz=277							
JCT	Junction City	106.34	60	P	PKiKP	19 31 18.9	+0.5	
	baz=272							
ABTX	Abilene, Hawle	106.39	58	P	PKiKP	19 31 18.9	+0.4	
	baz=273							
833A	Chaparral WMA,	106.76	63	P	PKiKP	19 31 19.4	+0.1	
	baz=272							
BGNE	Belgrade	106.91	49	P	PKiKP	19 31 19.6	+0.4	
	baz=276							
WMOK	Wichita Mounta	106.99	56	P	PKiKP	19 31 19.5	0.0	
	baz=274							
AGMN	Agassiz Nation	107.55	41	P	PKiKP	19 31 20.6	+0.5	
	baz=280							
ECSD	EROS Data Cent	107.74	46	P	PKiKP	19 31 20.9	+0.3	
	baz=278							
ARCES	ARCESS Array B	109.21	343	PKiKP	PKiKP	19 31 22.1	-0.5	
	comp=Z,4.5nm,0.9s,baz=57,slow=1.0,SNR=10							
ARCES				PKKPbc	PKKPbc	19 42 27.9	-4.0	
	comp=Z,5.0nm,1.0s,baz=258,slow=3.4,SNR=6.7							
TUL3	Leonard	109.33	54	P	PKiKP	19 31 23.8	0.0	
	baz=276							
SPMN	Marine on St.	110.18	44	P	PKiKP	19 31 25.9	+0.8	
	baz=281							
EYMN	Ely	110.48	41	P	PKiKP	19 31 25.9	+0.3	
	baz=283							
SCIA	State Center	110.50	48	P	PKiKP	19 31 26.0	+0.1	
	baz=280							
NATX	Nacogdoches	110.66	59	P	PKiKP	19 31 26.1	-0.4	
	baz=275							
MIAR	Mount Ida	111.28	56	P	PKiKP	19 31 27.0	-0.5	
	baz=277							
JFWS	Jewell Farm	112.46	46	P	PKiKP	19 31 29.6	0.0	
	baz=282							
CCM	Cathedral Cave	112.64	52	P	PKiKP	19 31 29.4	-0.7	
	baz=280							
FINES	FINESS Array B	113.58	336	PKiKP	PKiKP	19 31 30.1	-0.9	
	comp=Z,0.9nm,0.5s,baz=90,slow=1.9,SNR=5.7							
FINES				PKKPbc	PKKPbc	19 42 14.3	-2.9	
	comp=Z,1.3nm,0.3s,baz=250,slow=2.4,SNR=31							
HDIL	Hopedale	113.66	49	P	PKiKP	19 31 32.1	+0.2	
	baz=282							
OXF	Oxford	114.69	55	P	PKPdf	19 31 34.0	-0.1	
	baz=280							
SFIN	Lafayette	115.33	48	P	PKiKP	19 31 34.8	-0.3	
	baz=284							
E46A	Sault Ste Mari	115.63	41		PKiKP	19 31 34.5	-0.9	
WVT	Waverly	115.67	53	P	PKPdf	19 31 35.5	-0.4	
	baz=281							
GLMI	Grayling	115.90	43	P	PKPdf	19 31 36.5	+0.4	
	baz=288							
WCI	Wyandotte Cave	116.43	51	PKPdf	PKPdf	19 31 35.8	-1.5	
WCI	Wyandotte Cave	116.43	51	P	PKPdf	19 31 36.6	-0.7	
	baz=283							
WCI	Wyandotte Cave	116.43	51	PKiKP	PKPdf	19 31 35.8	-1.5	
O48B	Farmland	116.80	48	P	PKPdf	19 31 37.2	-0.8	
	baz=285							
LRAL	Lakeview Retre	116.92	56	P	PKPdf	19 31 38.3	0.0	
	baz=280							
PLCA	Paso Flores	117.01	142	PKP	PKPdf	19 31 36.5	-2.0	
	comp=Z,0.8nm,0.3s,baz=230,slow=1.1,SNR=7.9							
AKASG	Malin Array Be	117.24	325		PKPdf	19 31 36.5	-1.9	
AKASG	Malin Array Be	117.24	325	PKP	PKPdf	19 31 36.9	-1.5	
	comp=Z,0.6nm,0.3s,baz=57,slow=2.0,SNR=8.9							
AKASG				PKKPab	PKKPbc	19 42 02.0	-2.2	
	comp=Z,1.1nm,0.3s,baz=258,slow=3.6,SNR=14							
P49A	Miami Univ. Ec	117.31	49	P	PKPdf	19 31 38.2	-0.8	
	baz=285							
AAM	Ann Arbor	117.32	46	P	PKPdf	19 31 39.0	+0.1	
	baz=287							
BRTR	Keskin Array B	118.16	312	PKPdf	PKPdf	19 31 37.5	-3.2	
BRTR	Keskin Array B	118.16	312	PKP	PKPdf	19 31 40.0	-0.8	
	comp=Z,2.1nm,0.9s,baz=129,slow=3.3,SNR=6.2							
BRTR				PKKPab	PKKPbc	19 42 00.8	0.0	
	comp=Z,1.5nm,0.8s,baz=227,slow=4.5,SNR=4.3							
BRTR	Keskin Array B	118.16	312	PKIKP	PKPdf	19 31 37.6	-3.2	
MMAI	Mount Meron Ar	118.34	304	PKP	PKPdf	19 31 40.9	-0.4	
	comp=Z,2.4nm,0.8s,baz=106,slow=6.2,SNR=6.5							
ACSO	Alum Creek Sta	118.41	48	P	PKPdf	19 31 40.9	-0.1	
	baz=287							
HFS	Hagfors	119.14	339	PKP	PKPdf	19 31 40.0	-1.8	
	comp=Z,1.4nm,0.6s,baz=104,slow=6.3,SNR=8.5							
HFS				PKKPab	PKKPbc	19 41 56.0	-1.7	
	comp=Z,2.3nm,0.8s,baz=174,slow=3.0,SNR=6.3							
HFS	Hagfors	119.14	339	PKIKP	PKPdf	19 31 40.0	-1.8	
P52A	Cooring	119.20	48	P	PKPdf	19 31 42.1	-0.5	
	baz=287							
VLDQ	Val d'Or	119.31	38	PKPdf	PKPdf	19 31 40.0	-2.5	
NB2	NORSAR Subarra	119.33	341	PKPdf	PKPdf	19 31 42.0	-0.2	
	comp=Z,1.5nm,0.7s,baz=39,slow=1.9							
NB2				PKKP	PKKPab	19 41 54.2	-2.8	
	comp=Z,9.9nm,1.4s,baz=203,slow=4.8							
NOA	NORSAR Array B	119.33	341	PKP	PKPdf	19 31 41.0	-1.2	
	comp=Z,0.8nm,0.6s,baz=45,slow=2.0,SNR=7.7							
O53A	New Philadelph	119.69	47	P	PKPdf	19 31 43.3	-0.3	
	baz=288							
M53A	WI Miller and	119.70	46	P	PKPdf	19 31 43.3	-0.2	
	baz=289							
MDUB	Mudurnu	119.73	313		PKPdf	19 31 42.4	-1.4	
GOGA	Godfrey	119.75	55	P	PKPdf	19 31 43.1	-0.7	
	baz=283							
ERPA	Erie	119.96	45	P	PKPdf	19 31 43.5	-0.4	
	baz=290							
TIGA	Tifton	120.05	57	P	PKPdf	19 31 43.7	-0.8	
	baz=282							
BOSA	Boshof	120.33	231	PKP	PKPdf	19 31 45.0	-0.2	
	comp=Z,6.2nm,0.7s,baz=168,slow=1.6,SNR=16							
MCWV	Mont Chateau	120.88	47	P	PKPdf	19 31 45.2	-0.6	
	baz=289							
KMSC	Kings Mountain	121.05	53	P	PKPdf	19 31 45.9	-0.4	
	baz=285							
BLA	Blacksburg	121.19	50	P	PKPdf	19 31 46.0	-0.5	
	baz=287							
SCHQ	Schefferville	121.38	27	PKP	PKPdf	19 31 44.8	-1.5	
	comp=Z,8.2nm,1.0s,baz=299,slow=6.3,SNR=5.1							
SSPA	Standing Stone	121.96	46	PKPdf	PKPdf	19 31 46.5	-1.3	
SSPA	Standing Stone	121.96	46	P	PKPdf	19 31 47.4	-0.5	
	baz=291							
KOLS	Kolonicke sedl	122.04	325	ePKP	PKiKP	19 31 48.4	+0.5	
KOLS	Kolonicke sedl	122.04	325	ePKIKP	PKiKP	19 31 48.4	+0.5	
CRVS	Cervenica-Dubn	122.52	325	ePKP	PKiKP	19 31 49.5	+0.6	
CRVS	Cervenica-Dubn	122.52	325	ePKIKP	PKiKP	19 31 49.5	+0.6	
LONY	Lake Ozonia	122.62	40	P	PKPdf	19 31 48.6	-0.4	
	baz=296							
BINY	Binghamton	122.70	43	P	PKPdf	19 31 48.5	-0.7	
	baz=294							
LSZ	Lusaka	123.06	247	PKPdf	PKPdf	19 31 50.9	+0.1	
LSZ	Lusaka	123.06	247	PKIKP	PKPdf	19 31 50.9	+0.1	
CBN	Corbin Frederi	123.18	48	P	PKPdf	19 31 49.8	-0.4	
	baz=290							
LANS	Liptovska Anna	123.49	327	ePKP	PKPdf	19 31 50.8	+0.2	
LANS	Liptovska Anna	123.49	327	ePKIKP	PKPdf	19 31 50.8	+0.2	
LCO	Las Campanas	123.52	131		PKPdf	19 31 51.0	-0.5	
LCO	Las Campanas	123.52	131	PKIKP	PKPdf	19 31 51.1	-0.5	
CNNC	Cliffs of the	123.73	52	P	PKPdf	19 31 51.2	-0.2	
	baz=288							
MORC	Moravsky Berou	124.17	328	ePKP	PKPdf	19 31 51.6	-0.3	
MORC				ePKKP	PKKPab	19 41 38.0	+1.7	
VYHS	Vyhne	124.20	326	ePKP	PKPdf	19 31 52.2	+0.3	
VYHS	Vyhne	124.20	326	ePKIKP	PKPdf	19 31 52.2	+0.3	
LBNH	Lisbon	124.48	40	P	PKPdf	19 31 52.2	-0.4	
	baz=298							
PAL	Palisades	124.61	44	P	PKPdf	19 31 52.0	-0.9	
	baz=295							
JAVC	Velka Javorina	124.63	327	ePKP	PKiKP	19 31 54.4	+1.3	
JAVC				ePKKP	PKKPbc	19 41 36.8	+0.4	
D62A	Allapoint, All	124.79	35	PKPdf	PKPdf	19 31 51.4	-1.7	
L61B	Northampton	124.82	42	P	PKPdf	19 31 53.0	-0.3	
	baz=297							
VRAC	Vranov	124.94	328	ePKP	PKiKP	19 31 54.2	+0.5	
VRAC				ePKKP	PKKPab	19 41 34.5	+1.5	
I62A	Tamworth	125.03	40	PKPdf	PKPdf	19 31 53.3	-0.3	
MODS	Modra-Piesok	125.13	327	ePKP	PKiKP	19 31 54.8	+0.7	
MODS	Modra-Piesok	125.13	327	ePKIKP	PKiKP	19 31 54.8	+0.7	
KRUC	Moravsky	125.20	328	ePKP	PKPdf	19 31 53.2	-0.6	
KRUC				ePKKP	PKKPab	19 41 33.5	+1.6	
CLL	Collm	125.48	332	i Pdif	Pdif	19 28 31.2	-0.5	
CLL				ePKPdf	PKPdf	19 31 54.0	-0.3	
	comp=Z,7.0nm,0.9s							
CLL				epPKPdf	pPKPdf	19 32 07.0	-1.5	
CLL				ePP	PP	19 33 47.0	+2.0	
CLL				ePS	PS	19 43 44.0	-3.2	
CLL	Collm	125.48	332	i P	Pdif	19 28 31.2	-0.5	
CLL				e		19 31 54.0		
CLL				e		19 32 07.0		
CLL				pmax	pmax			
	comp=Z,7.0nm,0.9s							
HRV	Adam Dziewonsk	125.53	41	P	PKPdf	19 31 54.2	-0.4	
	baz=298							
PKME	Peaks-Kenny Pk	125.61	37	P	PKPdf	19 31 54.6	-0.1	
	baz=302							
RONA	Rosalia, Austr	126.06	327	ePKP	PKPdf	19 31 54.8	-0.8	
	comp=Z,7.2nm,1.3s,SNR=5.5							
CONA	Conrad Observa	126.16	327	ePKP	PKPdf	19 31 54.9	-0.9	
	comp=Z,6.4nm,1.4s							
GO02	Mina Guanaco	126.33	128	PKPdf	PKPdf	19 31 57.3	+0.2	
FNA	Florina	126.52	317	PKPdf	PKPdf	19 31 54.9	-1.8	
FNA	Florina	126.52	317	PKIKP	PKPdf	19 31 54.9	-1.8	
M65A	Busby, Falmout	126.57	42	P	PKPdf	19 31 56.4	-0.2	
	baz=298							
GERES	GERESS Array B	126.73	329	PKP	PKPdf	19 31 55.8	-1.1	
	comp=Z,3.3nm,0.8s,baz=22,slow=1.4,SNR=13							
ARSA	Arzberg	126.74	327	ePKP	PKPdf	19 31 55.7	-1.2	
	comp=Z,2.5nm,1.4s							
MOA	Molln	127.06	328	ePKP	PKPdf	19 31 56.3	-1.1	
	comp=Z,4.7nm,1.5s							
SOKA	Soboth	127.35	326	ePKP	PKPdf	19 31 57.0	-1.2	
	comp=Z,6.8nm,1.3s							
BIOA	Bad Ischl, Aus	127.49	328	ePKP	PKPdf	19 31 57.0	-1.3	
	comp=Z,4.2nm,1.0s							
KBA	Koelnbreinsper	128.03	327	ePKP	PKPdf	19 31 58.2	-1.3	
	comp=Z,7.6nm,1.2s							
LVC	Limon Verde	128.11	125	PKP	PKPdf	19 32 01.3	+0.7	
	comp=Z,6.6nm,1.0s,baz=86,slow=3.6,SNR=4.1							
LESA	Schwarzleotal	128.16	328	ePKP	PKPdf	19 31 58.2	-1.4	
	comp=Z,2.0nm,0.9s							
EKA	Eskdalemuir Ar	128.35	344	PKP	PKPdf	19 31 59.4	-0.3	
	comp=Z,0.8nm,0.4s,baz=13,slow=2.4,SNR=9.0							
ABTA	Abfaltersbach	128.68	328	ePKP	PKPdf	19 31 59.4

PBDV	**Barranco-do-Ve**	**145.76**	**335**	*e*PKP	**PKPdf**	**19 32 32.8**	**+0.6**
EKNA	**AfricaArray -**	**145.81**	**268**⇑	*e*P	**PKPab**	**19 32 34.6**	**+0.7**
PTEO	**Sao Teotonio**	**145.82**	**337**	*e*PKP	**PKPbc**	**19 32 33.3**	**+0.5**
MORF	**Marmelete**	**146.00**	**336**	*e*PKP	**PKPab**	**19 32 34.5**	**+0.5**
MORF	**Marmelete**	**146.00**	**336**	*e*PKP	**PKPdf**	**19 32 31.6**	**-1.1**
MORF	**Marmelete**	**146.00**	**336**	*e*PKIKP	**PKPdf**	**19 32 31.6**	**-1.1**
PFVI	**Vila Bisbo**	**146.22**	**336**	*e*PKP	**PKPab**	**19 32 35.4**	**+0.7**
TAM	**Tamanrasset**	**146.52**	**302**		**PKPdf**	**19 32 33.7**	**-0.4**
TAM	**Tamanrasset**	**146.52**	**302**	PKP2	**PKPdf**	**19 32 33.7**	**-0.4**
BDFB	**Brasilia**	**148.22**	**134**	PKPbc	**PKPdf**	**19 32 37.8**	**+0.7**
	comp=Z,42nm,0.8s,baz=174,slow=0.7,SNR=22						
TORD	**Torodi Ar. Bea**	**152.98**	**286**	PKP	**PKPdf**	**19 32 44.4**	**+0.1**
	comp=Z,7.8nm,0.9s,baz=349,slow=1.5,SNR=10						
TORD				PKPbc	**PKPbc**	**19 32 51.5**	**-0.1**
	comp=Z,18nm,0.6s,baz=52,slow=2.5,SNR=47						
TORD				PKPab	**PKPab**	**19 33 03.0**	**0.0**
	comp=Z,19nm,0.7s,baz=68,slow=3.4,SNR=12						
KIC	**Kosan Boka**	**159.93**	**271**⇑	*e*P	**PKPab**	**19 33 32.4**	**-0.5**
	comp=Z,102nm,0.7s						
DBIC	**Dimbokro**	**160.05**	**271**	PKPab	**PKPab**	**19 33 32.5**	**-1.0**
	comp=Z,38nm,0.8s,baz=45,slow=5.5,SNR=3.3						
LIC	**Lamto**	**160.21**	**270**⇑	*e*P	**PKPab**	**19 33 33.5**	**-0.6**
	comp=Z,113nm,0.8s						
TIC	**Toumodi**	**160.22**	**271**⇑	*e*P	**PKPab**	**19 33 34.5**	**+0.3**
	comp=Z,63nm,0.9s						

DJA 21 19:27:16.1±0.5, 5°S±8′×10°2E±°, h26km±7km, M3.7/8, mb4.0/2, MLv3.5/8, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MNAI	**Manna**	**1.12**	**27**	P	Pn	19 27 35.8	-0.3
LWLI	**Liwa**	**1.65**	**78**	P	Pn	19 27 43.4	-0.1
KASI	**Kota Agung**	**2.05**	**95**	P	Pn	19 27 49.4	+0.4
PPSI	**Pulau Pagai**	**3.54**	**317**	P	Pn	19 28 09.5	+0.1
PDSI	**Padang**	**4.84**	**336**	P	Pn	19 28 27.3	0.0
CNJI	**Cibinong**	**5.05**	**113**	P	Pn	19 28 29.8	-0.4
	22nm,1.1s,0.1nm						
SISI	**Saibi**	**5.22**	**320**	P	Pn	19 28 32.5	0.0

*IDC **21** 19:35:18.1±3.8, 6°.88S×155°.17E, h0km, mb3.7/6, mbtmp3.7/6, Error ellipse: s-maj=117.6km s-min=30.4km az=114.0*

ISC 21 19:35:20.0±10.0, 7°.3S±0°.9×15°6E±°, h44km, n12, σ1s02/6, mb3.6/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.56**	**237**	P	**P**	**19 40 35.0**	**-1.0**
	0.5nm,0.6s,baz=62,slow=9.8,SNR=2.0						
	0.5nm,0.6s						
ASAR	**Alice Springs**	**26.81**	**230**	P	**P**	**19 40 57.2**	**+0.9**
	0.2nm,0.7s,baz=61,slow=9.4,SNR=2.5						
	0.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**27.67**	**22**	T	T	20 09 29.1	
	baz=202,slow=75,SNR=20						
H11S2	**WAKE ISLAND Hy**	**27.68**	**22**	T	T	20 09 26.8	
	baz=202,slow=75,SNR=17						
H11S1	**WAKE ISLAND Hy**	**27.69**	**22**	T	T	20 09 29.1	
	baz=202,slow=75,SNR=8.8						
H11N1	**WAKE ISLAND Hy**	**28.87**	**21**	T	T	20 10 57.6	
	baz=206						
H11N3	**WAKE ISLAND Hy**	**28.88**	**21**	T	T	20 11 01.8	
	baz=206						
H11N2	**WAKE ISLAND Hy**	**28.88**	**21**	T	T	20 10 51.3	
	baz=206						
SONM	**Songino Array**	**70.19**	**327**	P	**P**	**19 46 28.9**	**+0.6**
	0.9nm,0.8s,baz=123,slow=5.3,SNR=4.1						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**84.36**	**318**	P	**P**	**19 47 47.9**	**+0.3**
	2.2nm,0.8s,baz=107,slow=6.1,SNR=16						
	2.2nm,0.8s						
ZALV	**Zalesovo Beam**	**85.04**	**326**	P	**P**	**19 47 50.2**	**-0.7**
	0.9nm,0.4s,baz=103,slow=5.8,SNR=6.2						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**87.78**	**322**	P	**P**	**19 48 03.6**	**-0.7**
	0.1nm,0.3s,baz=98,slow=5.5,SNR=4.3						
	0.1nm,0.3s						

*CATAC **21** 19:41:29.9±0.5, 13°.41N×90°.04W, h28km±3km, ML3.8*
*SNET **21** 19:41:30.0±1.0, 13°.46N×90°.05W, h53km±11km, ML3.9*

ISC 21 19:41:30.2±2.4, 13°.4N±0°.1×90°.1W±0°.1, h42km±26km, n46, σ0s42/77, 6D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NUBE	**Las Nubes**	**0.58**	**29**⇓	*i* P	**Pn**	**19 41 42.1**	**-0.2**
NUBE				*e*S	**Sn**	**19 41 51.0**	**+0.2**
NUBE	**Las Nubes**	**0.58**	**29**	*i* P	**Pn**	**19 41 42.0**	**-0.2**
NUBE				*i* S	**Sn**	**19 41 51.3**	**+0.5**
NUBE				IAML		19 41 54.1	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**0.62**	**45**⇓	*i* P	**Pn**	**19 41 42.7**	**-0.1**
CEVE				*e*S	**Sn**	**19 41 52.4**	**+0.7**
CEVE	**Cerro Verde**	**0.62**	**45**	*i* P	**Pn**	**19 41 42.6**	**-0.2**
CEVE				*i* S	**Sn**	**19 41 51.8**	**0.0**
CEVE				IAML		19 41 54.6	
	comp=Z,8μm,1.0s						
SBLS	**San Blas**	**0.62**	**44**⇓	*i* P	**Pn**	**19 41 42.7**	**-0.2**
RTR	**El Retiro**	**0.65**	**40**⇓	*i* P	**Pn**	**19 41 43.2**	**0.0**
SNJE	**San Jose**	**0.66**	**44**⇓	*i* P	**Pn**	**19 41 43.1**	**-0.2**
JAYA	**Jayaque - finc**	**0.66**	**67**	*e*P	**Pn**	**19 41 42.7**	**-0.6**
JAYA				*e*S	**Sn**	**19 41 52.9**	**+0.1**
JAYA	**Jayaque - finc**	**0.66**	**67**	*i* P	**Pn**	**19 41 42.8**	**-0.6**
JAYA				*i* S	**Sn**	**19 41 52.3**	**-0.4**
JAYA				IAML		19 41 54.1	
	comp=Z,11μm,1.0s						
LOAL	**Lomas de Alarc**	**0.67**	**25**	*e*P	**Pn**	**19 41 43.4**	**+0.1**
LOAL	**Lomas de Alarc**	**0.67**	**25**	*i* P	**Pn**	**19 41 43.2**	**-0.1**
LOAL				*i* S	**Sn**	**19 41 53.4**	**+0.7**
LOAL				IAML		19 41 55.8	
	comp=Z,5μm,1.0s						
LALI	**Alcalda de L**	**0.74**	**82**	*i* P	**Pn**	**19 41 44.3**	**+0.1**
LALI				*i* S	**Sn**	**19 41 54.1**	**-0.2**
LALI				IAML		19 41 58.1	
	comp=Z,500nm,1.0s						
CEDA	**San Andres**	**0.78**	**58**	*e*P	**Pn**	**19 41 44.6**	**-0.2**
CEDA	**San Andres**	**0.78**	**58**	*i* P	**Pn**	**19 41 44.6**	**-0.2**
CEDA				*i* S	**Sn**	**19 41 56.2**	**+0.9**
CEDA				IAML		19 42 02.1	
	comp=Z,12μm,1.0s						
UNIC	**Universidad Ca**	**0.78**	**41**	*i* P	**Pn**	**19 41 44.6**	**-0.2**
UNIC				IAML		19 41 44.9	
	comp=Z,1μm,1.0s						
UNIC				*i* S	**Sn**	**19 41 55.8**	**+0.4**
PMON	**Piamonte**	**0.80**	**67**	*e*P	**Pn**	**19 41 44.7**	**-0.5**
PMON	**Piamonte**	**0.80**	**67**	*i* P	**Pn**	**19 41 44.9**	**-0.3**
PMON				*i* S	**Sn**	**19 41 56.2**	**+0.1**
PMON				IAML		19 42 01.2	
	comp=Z,6μm,1.0s						
ITCA	**Escuela Especi**	**0.82**	**70**	*i* P	**Pn**	**19 41 45.2**	**-0.3**
ITCA				*i* S	**Sn**	**19 41 55.9**	**-0.6**
ITCA				IAML		19 42 02.7	
	comp=Z,8μm,1.0s						
BOQS	**Boqueron**	**0.84**	**66**	*e*P	**Pn**	**19 41 45.5**	**-0.3**
BOQS				*e*S	**Sn**	**19 41 57.1**	**-0.2**
SNET	**Serv Nac Est T**	**0.87**	**70**	*i* P	**Pn**	**19 41 45.2**	**-0.9**
SNET				*i* S	**Sn**	**19 41 57.7**	**0.0**
SNET				IAML		19 41 59.1	
	comp=Z,7μm,1.0s						
UEES	**Universidad Ev**	**0.87**	**68**	*i* P	**Pn**	**19 41 45.9**	**-0.2**
UEES				*i* S	**Sn**	**19 41 57.9**	**+0.1**
UEES				IAML		19 41 59.8	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**0.90**	**60**	*i* P	**Pn**	**19 41 46.8**	**+0.4**
QUEZ				*i* S	**Sn**	**19 41 59.0**	**+0.8**
QUEZ				IAML		19 41 59.8	
	comp=Z,12μm,1.0s						
UTEC	**Universidad Te**	**0.90**	**70**	*i* P	**Pn**	**19 41 46.5**	**0.0**
UTEC				*i* S	**Sn**	**19 41 58.5**	**+0.1**
UTEC				IAML		19 42 02.0	
	comp=Z,2μm,1.0s						
LOMA	**Loma Larga**	**0.91**	**74**	*e*P	**Pn**	**19 41 46.1**	**-0.6**
LOMA	**Loma Larga**	**0.91**	**74**	*i* P	**Pn**	**19 41 46.2**	**-0.6**
LOMA				*i* S	**Sn**	**19 41 58.7**	**-0.1**
LOMA				IAML		19 42 00.4	
	comp=Z,3μm,1.0s						
IGN	**Direccin Gen**	**0.94**	**70**	*i* P	**Pn**	**19 41 46.5**	**-0.5**
IGN				*i* S	**Sn**	**19 41 59.5**	**+0.3**
IGN				IAML		19 42 04.9	
	comp=Z,7μm,1.0s						
UDBS	**Universidad Do**	**0.95**	**70**	*i* P	**Pn**	**19 41 46.3**	**-0.9**
UDBS				*i* S	**Sn**	**19 41 59.5**	**-0.1**
UDBS				IAML		19 42 02.1	
	comp=Z,2μm,1.0s						
PAVA	**Las Pavas**	**1.15**	**74**	*i* P	**Pn**	**19 41 49.9**	**-0.1**
PAVA				*i* S	**Sn**	**19 42 04.5**	**-0.1**
PAVA				IAML		19 42 57.2	
	comp=Z,4μm,1.0s						
COEG	**Centro de Oper**	**1.18**	**79**	*e*P	**Pn**	**19 41 50.0**	**-0.4**
COEG	**Centro de Oper**	**1.18**	**79**	*i* P	**Pn**	**19 41 50.1**	**-0.3**
COEG				*i* S	**Sn**	**19 42 04.9**	**-0.4**
COEG				IAML		19 42 08.3	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.22**	**35**⇓	*i* P	**Pn**	**19 41 50.4**	**-0.6**
MTO3	**Montecristo**	**1.22**	**35**	*i* P	**Pn**	**19 41 50.4**	**-0.6**
MTO3				*i* S	**Sn**	**19 42 06.0**	**-0.4**
MTO3				IAML		19 42 11.1	
	comp=Z,380nm,1.0s						
GUNB	**GUNB**	**1.23**	**348**	*i* P	**Pn**	**19 41 50.8**	**-0.4**
GUNB				*i* S	**Sn**	**19 42 07.0**	**+0.3**
GUNB				IAML		19 42 08.8	
	comp=Z,680nm,1.0s						
TECO	**Alcaldia de Te**	**1.27**	**83**	*e*P	**Pn**	**19 41 50.9**	**-0.6**
TECO	**Alcaldia de Te**	**1.27**	**83**	*i* P	**Pn**	**19 41 50.8**	**-0.6**
TECO				*i* S	**Sn**	**19 42 07.3**	**0.0**
TECO				IAML		19 42 12.4	
	comp=Z,610nm,1.0s						
UESV	**Universidad de**	**1.27**	**79**	*i* P	**Pn**	**19 41 51.6**	**0.0**
UESV				*i* S	**Sn**	**19 42 07.2**	**-0.3**
UESV				IAML		19 42 09.9	
	comp=Z,960nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.34**	**77**	*e*P	**Pn**	**19 41 52.6**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.34**	**77**	*i* P	**Pn**	**19 41 52.7**	**+0.1**
SCLA				*i* S	**Sn**	**19 42 09.7**	**+0.4**
SCLA				IAML		19 42 25.5	
	comp=Z,310nm,1.0s						
ESQI	**Esquipulas**	**1.36**	**31**	*i* P	**Pn**	**19 41 52.7**	**-0.2**
ESQI				*i* S	**Sn**	**19 42 09.9**	**+0.1**
ESQI				IAML		19 42 11.0	
	comp=Z,360nm,1.0s						
TECA	**Tecapa**	**1.53**	**86**	*e*P	**Pn**	**19 41 55.0**	**-0.2**
PACA	**Pacayal**	**1.71**	**87**	*e*P	**Pn**	**19 41 58.2**	**+0.7**
PACA	**Pacayal**	**1.71**	**87**	*i* P	**Pn**	**19 41 57.5**	**-0.1**
PACA				*i* S	**Sn**	**19 42 18.9**	**+0.7**
PACA				IAML		19 42 25.4	
	comp=Z,3μm,1.0s						
RANC	**El Ranchito**	**1.74**	**88**	*e*P	**Pn**	**19 41 58.0**	**0.0**
RANC	**El Ranchito**	**1.74**	**88**	*i* P	**Pn**	**19 41 58.2**	**+0.2**
RANC				*i* S	**Sn**	**19 42 19.9**	**+0.8**
RANC				IAML		19 42 29.1	
	comp=Z,330nm,1.0s						
BLLM	**Bellamira**	**1.79**	**88**	*e*P	**Pn**	**19 41 58.9**	**+0.3**
LCND	**La Caada**	**2.13**	**92**	*i* P	**Pn**	**19 42 03.0**	**-0.3**
LCND				*i* S	**Sn**	**19 42 29.2**	**+0.7**
LCND				IAML		19 42 32.5	
	comp=Z,480nm,1.0s						

*IDC **21** 19:41:51.8±3.6, 7°.06S×155°.31E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=112.3km s-min=29.4km az=115.0*

ISC 21 19:41:46.0±10.0, 8°.1S±0°.9×15°8E±°, h35km, n12, σ0s22/6, mb4.0/6, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.38**	**240**	P	**P**	**19 47 10.2**	**-0.1**
	0.7nm,0.8s,baz=61,slow=9.7,SNR=5.6						
	0.7nm,0.8s						
ASAR	**Alice Springs**	**27.45**	**233**	P	**P**	**19 47 28.9**	**0.0**
	0.2nm,0.7s,baz=47,slow=10,SNR=1.7						
	0.2nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**27.93**	**19**	T	T	20 16 03.9	
	baz=202,slow=75,SNR=29						
H11S2	**WAKE ISLAND Hy**	**27.93**	**19**	T	T	20 16 04.8	
	baz=202,slow=75,SNR=24						
H11S1	**WAKE ISLAND Hy**	**27.95**	**19**	T	T	20 16 03.5	
	baz=202,slow=75,SNR=13						
H11N1	**WAKE ISLAND Hy**	**29.14**	**18**	T	T	20 17 29.6	
	baz=203						
H11N3	**WAKE ISLAND Hy**	**29.15**	**18**	T	T	20 17 42.3	
	baz=203						
H11N2	**WAKE ISLAND Hy**	**29.15**	**18**	T	T	20 17 30.4	
	baz=203						
SONM	**Songino Array**	**71.67**	**326**	P	**P**	**19 53 04.2**	**-0.1**
	0.6nm,0.4s,baz=146,slow=6.4,SNR=2.6						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**85.93**	**318**	P	**P**	**19 54 22.9**	**+0.4**
	3.3nm,0.8s,baz=102,slow=5.3,SNR=21						
	3.3nm,0.8s						
ZALV	**Zalesovo Beam**	**86.54**	**326**	P	**P**	**19 54 25.3**	**0.0**
	1.3nm,0.4s,baz=105,slow=4.8,SNR=8.8						
	1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**89.33**	**321**	P	**P**	**19 54 38.7**	**0.0**
	0.4nm,0.5s,baz=114,slow=3.2,SNR=7.9						
	0.4nm,0.5s						

OMAN 21 19:45:49.9±0.3, 18°.60N×60°.26E, h10km, mb3.8/3, ml3.5/9, Error ellipse: s-maj=5.6km s-min=3.0km az=300.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**2.89**	**298**	P	Pn	19 46 35.7	-0.4
	SNR=11						
DQM				S	Sn	19 47 11.9	+1.0
MHTO	**MHTO**	**3.21**	**318**	P	Pn	19 46 40.3	-0.2
	SNR=38						
MHTO				S	Sn	19 47 19.4	+0.6
JLN	**Jalan Bani Buh**	**3.62**	**347**	P	Pn	19 46 45.0	-1.1
	SNR=36						
JLN				S	Sn	19 47 29.1	+0.1
WBK	**Wadi Bani Khal**	**4.17**	**343**	P	Pn	19 46 54.2	+0.5
WBK				S	Sn	19 47 44.1	+1.5
JMDO	**Jabal Madar**	**4.26**	**332**	P	Pn	19 46 55.2	+0.2
JMDO				S	Sn	19 47 46.5	+1.6
SHAO	**Shalim**	**4.44**	**263**	P	Pn	19 46 57.3	-0.1
	SNR=35						
SHAO				S	Sn	19 47 49.7	+0.4
SMDO	**Samad**	**4.90**	**335**	P	Pn	19 47 03.6	-0.2
SMDO				S	Sn	19 48 02.1	+1.5
BSY	**Bisya**	**5.03**	**326**	P	Pn	19 47 05.6	+0.2
BSY				S	Sn	19 48 05.4	+1.8
DMTO	**DMTO**	**5.13**	**261**	P	Pn	19 47 06.4	-0.4
	SNR=19						
DMTO				S	Sn	19 48 06.8	+0.6
HOQ	**Hoqain**	**5.67**	**331**	P	Pn	19 47 15.6	+1.2
DOK	**Doka**	**5.82**	**271**	P	Pn	19 47 16.8	+0.5
DOK				S	Sn	19 48 23.3	+0.2
ARQ	**Araqi**	**5.87**	**324**	P	Pn	19 47 17.5	+0.5
WHFO	**Wadi Hawf**	**6.21**	**265**	P	Pn	19 47 22.0	+0.4
WHFO				S	Sn	19 48 32.5	-0.3
UMZA	**Um Al Zommool**	**6.29**	**311**	P	Pn	19 47 23.7	+0.5
UMZA				S	Sn	19 48 35.7	+0.9
ABTO	**Aybut**	**6.74**	**261**	P	Pn	19 47 29.1	0.0
ABTO				S	Sn	19 48 47.1	+1.0

*NEIC **21** 19:50:12.5±1.0, 19°.452N±0°.008×155°.345W±0°.008, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.4km az=183.0*

HVO 21 19:50:11.9±1.1, 19°.463N±0°.007×155°.345W±0°.008, h0km±7km, ML2.6/26, ML2.2/58(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=214.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MLH	**Mauna Loa**	**0.05**	**308**		Pg	19 50 13.8	+0.9
RSD	**Rainshed**	**0.06**	**90**		Pg	19 50 14.3	+1.2
RSD				IAML		19 50 15.4	
	comp=E,2μm,0.3s						
RSD				IAML		19 50 15.7	
	comp=N,2μm,0.1s						
UWE	**Uwekahuna**	**0.06**	**131**	Pg	Pg	19 50 14.2	+1.0
UWE				IAML		19 50 14.7	
	comp=N,2μm,1.1s						
UWE				IAML		19 50 14.7	
	comp=E,2μm,0.9s						
OBL	**Observatory Le**	**0.07**	**128**	Pg	Pg	19 50 14.2	+0.8
OBL				IAML		19 50 14.4	
	comp=N,2μm,0.4s						
OBL				IAML		19 50 15.2	
	comp=E,2μm,0.4s						
UWB	**Uwekahuna B**	**0.07**	**121**	Pg	Pg	19 50 14.2	+0.8
NPH	**North Pit**	**0.08**	**130**	Pg	Pg	19 50 14.2	+0.7
SBLHI	**Steaming Bluff**	**0.08**	**116**		Pg	19 50 14.5	+1.0
SBLHI	**Steaming Bluff**	**0.08**	**116**	IAML		19 50 15.4	
	comp=E,1μm,0.3s						
SBLHI				IAML		19 50 15.8	
	comp=N,2μm,0.2s						
SDHHI	**Sand Hill**	**0.09**	**147**		Pg	19 50 14.4	+0.7
SDHHI				IAML		19 50 16.2	
	comp=E,3μm,0.6s						
HATHI	**Halema'uma'u T**	**0.09**	**117**		Pg	19 50 14.7	+1.0
HATHI	**Halema'uma'u T**	**0.09**	**117**	IAML		19 50 14.8	
	comp=E,1μm,0.8s						
HATHI				IAML		19 50 16.6	
	comp=N,2μm,0.4s						
BYL	**Byron's Ledge**	**0.10**	**122**	Pg	Pg	19 50 13.7	-0.1
BYL				IAML		19 50 17.1	
	comp=E,990nm,0.2s						
RIM	**Rim**	**0.10**	**135**	Pg	Pg	19 50 14.8	+1.0
RIM				IAML		19 50 15.2	
	comp=N,1μm,1.0s						
KKO	**Keanakako`i**	**0.10**	**131**	Pg	Pg	19 50 14.3	+0.4
KKO				IAML		19 50 16.2	
	comp=N,1μm,1.1s						
KKO				IAML		19 50 17.1	
	comp=E,940nm,0.4s						
PUH	**Pauahi**	**0.15**	**126**	Pg	Pg	19 50 15.8	+1.0
PUH				IAML		19 50 19.4	
	comp=N,634nm,0.7s						
HLP	**Hilina Pali**	**0.17**	**168**		Pg	19 50 15.9	+0.7
KNHH	**Kane Nui o Ham**	**0.18**	**117**	Pg	Pg	19 50 16.2	+0.7
HMH	**Humu'ula Sheep**	**0.19**	**317**		Pg	19 50 16.8	+1.2
HMH	**Humu'ula Sheep**	**0.19**	**317**	IAML		19 50 20.9	
	comp=N,1μm,0.3s						
HMH				IAML		19 50 21.1	
	comp=E,1μm,0.3s						
STCH	**Steam Cracks**	**0.22**	**110**	Pg	Pg	19 50 16.7	+0.6
STCH				IAML		19 50 20.7	
	comp=E,422nm,0.7s						
STCH				IAML		19 50 21.0	
	comp=N,351nm,0.9s						
MLOA	**Mauna Loa Obse**	**0.23**	**288**		Pg	19 50 17.3	+0.9
MLOA	**Mauna Loa Obse**	**0.23**	**288**		Pg	19 50 16.3	0.0
MLOA	**Mauna Loa Obse**	**0.23**	**288**	IAML		19 50 21.3	
	comp=N,618nm,0.3s						
MLOA				IAML		19 50 24.2	
	comp=E,1μm,0.5s						
MWH	**Moku'aweowe**	**0.24**	**275**		Pg	19 50 16.7	+0.2
MWH				IAML		19 50 25.0	
	comp=E,813nm,0.8s						
MWH				IAML		19 50 25.0	
	comp=N,796nm,0.3s						
JCUZ	**Jacuzzi**	**0.24**	**109**	Pg	Pg	19 50 14.7	-1.9
JOKA	**Jonika Flow**	**0.32**	**95**	Pg	Pg	19 50 18.5	+0.4
JOKA				IAML		19 50 28.9	
	comp=N,510nm,0.8s						
JOKA				IAML		19 50 29.3	
	comp=E,316nm,0.9s						
KHU	**Kahuku**	**0.33**	**230**		Pg	19 50 18.5	+0.2
KHU				IAML		19 50 28.6	
	comp=E,325nm,0.7s						
KHU				IAML		19 50 28.9	
	comp=N,274nm,0.7s						
POHA	**Pohakuloa**	**0.34**	**329**		Pg	19 50 17.6	-0.9
HUH	**Hualalai**	**0.51**	**296**		Pg	19 50 22.7	+0.9

*PRU **21** 19:52:37.4, 50°.25N×12°.46E, h10km, West Bohemia Swarm*
*BGR **21** 19:52:38.0±0.2, 50°.24N×12°.46E, h10km±1km, ML2.9/6, Error ellipse: s-maj=2.2km s-min=1.1km az=91.0*
*VIE **21** 19:52:37.9±0.1, 50°.23N×12°.44E, h10km, mb2.3/17, ml3.2/18, Error ellipse: s-maj=3.1km s-min=1.4km az=39.0*
*LDG **21** 19:52:38.9±0.3, 50°.28N×12°.41E, h2km, Ml3.2/18, Error ellipse: s-maj=5.9km s-min=4.1km az=160.0*
*IPEC **21** 19:52:38.0±0.1, 50°.25N×12°.46E, h9km, ML3.0/9, Error ellipse: s-maj=1.5km s-min=1.0km az=130.0*
*WBNET **21** 19:52:38.3, 50°.24N×12°.46E, h7km, Ml3.0*
*BNS **21** 19:52:38.3±0.3, 50°.31N×12°.45E, h4km, ML2.9*
*CLL **21** 19:52:38.7±0.3, 50°.25N×12°.45E, h6km±1km, ML2.9*
*STR **21** 19:52:39.3±1.4, 50°N±11°×12°2E±12°, h5km, MLv3.6/14, Error ellipse: s-maj=0.0km s-min=0.0km az=130.4, preliminary*

ISC 21 19:52:37.4±0.7, 50°.23N±0°.01×12°.42E±0°.01, h13km±3km, n165, σ1s38/249, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**76**	*i* Pg	**Pg**	**19 52 39.7**	**-0.1**
NKC				*i* Sg	**Sg**	**19 52 40.6**	**-0.8**
NKC				IAML		19 52 40.9	
	comp=N,32μm,0.1s						
NKC	**Novy Kostel**	**0.02**	**76**	*e*PG	**Pg**	**19 52 39.7**	**-0.1**
NKC				*e*SG	**Sg**	**19 52 40.6**	**-0.8**
	comp=N,5μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**76**	*i* Pg	**Pg**	**19 52 39.7**	**-0.1**
NKC				*i* Sg	**Sg**	**19 52 40.6**	**-0.8**
	comp=N,32μm,0.1s						
NKC	**Novy Kostel**	**0.02**	**76**	⇓P	**Pg**	**19 52 39.7**	**-0.1**
NKC				S	**Sg**	**19 52 40.6**	**-0.8**
VAC	**Vackov**	**0.03**	**280**	*i* Pg	**Pg**	**19 52 40.0**	**+0.1**
VAC				*i* Sg	**Sg**	**19 52 41.1**	**-0.5**
VAC	**Vackov**	**0.03**	**280**	⇓P	**Pg**	**19 52 40.0**	**+0.1**
VAC				S	**Sg**	**19 52 41.1**	**-0.5**
LBCW	**Luby**	**0.04**	**350**	⇓P	**Pg**	**19 52 39.9**	**0.0**
LBCW				S	**Sg**	**19 52 41.1**	**-0.6**
KVC	**Kvetna**	**0.06**	**111**	*i* Pg	**Pg**	**19 52 40.0**	**-0.1**
KVC				*i* Sg	**Sg**	**19 52 41.1**	**-0.9**
KVC	**Kvetna**	**0.06**	**111**	⇑P	**Pg**	**19 52 40.0**	**-0.1**
KVC				S	**Sg**	**19 52 41.1**	**-0.9**
WERN	**Wernitzgruen**	**0.07**	**333**	*i* Pg	**Pg**	**19 52 40.3**	**+0.2**
WERN				*i* Sg	**Sg**	**19 52 41.6**	**-0.5**
WER

VIEL	**Selb-Vielitz**	**0.21**	**258**	*i* Pg	**Pg**	19 52 42.9	+0.8
VIEL				*i* Sg	**Sg**	19 52 46.0	+0.7
VIEL	**Selb-Vielitz**	**0.21**	**258**	*i* Pg	**Pg**	19 52 42.9	+0.8
VIEL				*i* Sg	**Sg**	19 52 46.0	+0.7
TRIB	**Obertriebel**	**0.22**	**304**	*i* Pg	**Pg**	19 52 42.9	+0.7
TRIB				*i* Sg	**Sg**	19 52 46.0	+0.4
TRIB				IAML		19 52 46.4	
	comp=E,1µm,0.1s						
TRIB	**Obertriebel**	**0.22**	**304**	*i* Pg	**Pg**	19 52 42.9	+0.7
TRIB				*i* Sg	**Sg**	19 52 46.0	+0.4
	comp=E,1µm,0.1s						
LACW	**Lazy**	**0.22**	**144**	*i* Pg	**Pg**	19 52 42.9	+0.6
LACW				*i* Sg	**Sg**	19 52 46.0	+0.5
LACW	**Lazy**	**0.22**	**144**	*i* Pg	**Pg**	19 52 42.9	+0.6
LACW				*i* Sg	**Sg**	19 52 46.0	+0.5
LACW	**Lazy**	**0.22**	**144**	ǁP	**Pg**	19 52 42.9	+0.6
LACW				S	**Sg**	19 52 46.0	+0.5
WERD	**Werda**	**0.23**	**341**	*i* Pg	**Pg**	19 52 42.9	+0.4
WERD				*e*Sg	**Sg**	19 52 45.7	-0.1
WERD				IAML		19 52 45.8	
	comp=E,690nm,0.2s						
WERD	**Werda**	**0.23**	**341**	*i* Pg	**Pg**	19 52 42.9	+0.4
WERD				*e*Sg	**Sg**	19 52 45.7	-0.1
	comp=E,690nm,0.2s						
PLN	**Plauen**	**0.31**	**327**	*i* Pg	**Pg**	19 52 44.4	+0.6
PLN				*i* Sg	**Sg**	19 52 48.4	+0.3
PLN				IAML		19 52 48.5	
	comp=E,458nm,0.2s						
PLN	**Plauen**	**0.31**	**327**	*i* Pg	**Pg**	19 52 44.4	+0.6
PLN				*i* Sg	**Sg**	19 52 48.4	+0.3
	comp=E,458nm,0.2s						
SCHF	**Schoenfels**	**0.45**	**358**	*i* Pg	**Pg**	19 52 46.8	+0.4
SCHF				*i* Sg	**Sg**	19 52 52.5	+0.1
SCHF				IAML		19 52 52.9	
	comp=E,3µm,0.2s						
SCHF	**Schoenfels**	**0.45**	**358**	*i* Pg	**Pg**	19 52 46.8	+0.4
SCHF				*i* Sg	**Sg**	19 52 52.5	+0.1
	comp=E,3µm,0.2s						
GRZ1	**Mausoleum Wald**	**0.48**	**344**	*i* Pg	**Pg**	19 52 47.4	+0.5
GRZ1				*i* Sg	**Sg**	19 52 53.3	0.0
GRZ1				IAML		19 52 54.3	
	comp=E,492nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.48**	**344**	*i* Pg	**Pg**	19 52 47.4	+0.5
GRZ1				*i* Sg	**Sg**	19 52 53.3	0.0
	comp=E,492nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.48**	**197**	*e*Pg	**Pb**	19 52 47.9	+0.2
ROTZ				*e*Sg	**Sg**	19 52 54.5	+1.2
ZEU	**Talsperre Zeul**	**0.53**	**327**	*i* Pg	**Pg**	19 52 48.3	+0.6
ZEU				*e*Sg	**Sg**	19 52 55.3	+0.5
ZEU	**Talsperre Zeul**	**0.53**	**327**	*i* Pg	**Pg**	19 52 48.3	+0.6
ZEU				*e*Sg	**Sg**	19 52 55.3	+0.5
MOX	**Moxa**	**0.66**	**309**	*e*Pg	**Pg**	19 52 51.1	+0.8
MOX				*e*Sg	**Sb**	19 53 00.1	+0.1
HSKC	**Hora Svate Kat**	**0.75**	**59**	*e*PG	**Pg**	19 52 51.9	-0.1
HSKC				*e*SG	**Sg**	19 53 01.4	-0.4
	comp=E,300nm,0.2s						
FBE	**Freiberg**	**0.91**	**40**	*e*Pg	**Pg**	19 52 55.3	+0.2
FBE				*e*Sg	**Sg**	19 53 06.6	-0.4
GRF	**Grafenberg Arr**	**0.94**	**236**	*e*Pg	**Pn**	19 52 56.7	+0.4
GRF				*e*Sg	**Sb**	19 53 09.3	+1.3
RICC	**Richard**	**1.12**	**73**	*e*SG	**Sb**	19 53 13.2	+0.2
	comp=E,352nm,0.3s						
WET	**Wettzell**	**1.13**	**165**	*e*Pg	**Pn**	19 52 59.5	+0.6
WET				*e*Sg	**Sb**	19 53 13.9	+0.6
CLL	**Collm**	**1.14**	**19**	*i* Pg	**Pb**	19 52 59.3	+0.3
CLL				*i* x	x	19 53 01.8	
CLL				*i* Sg	**Sb**	19 53 13.8	+0.1
	comp=Z,160nm,0.3s						
CLL				*i* x	x	19 53 17.4	
CLL	**Collm**	**1.14**	**19**	*e*Pg	**Pb**	19 52 59.0	0.0
CLL				*e*Sg	**Sb**	19 53 13.8	+0.1
BRG	**Berggiesshubel**	**1.17**	**56**	Pg	**Pb**	19 52 59.8	+0.4
BRG				Sg	**Sb**	19 53 14.8	+0.4
BRG				Amp		19 53 16.2	
	comp=Z,152nm,0.2s						
BRG	**Berggiesshubel**	**1.17**	**56**	*e*Pg	**Pb**	19 52 59.7	+0.3
BRG				*e*Sg	**Sb**	19 53 14.9	+0.6
PRA	**Prague**	**1.30**	**96**	*e*SG	**Sb**	19 53 18.3	0.0
	comp=Z,120nm,0.4s						
KHC	**Kasperske Hory**	**1.33**	**145**	*e*PG	**Pn**	19 53 02.5	+0.8
KHC				*e*SG	**Sn**	19 53 19.9	+0.6
	comp=Z,63nm,0.3s						
PRU	**Pruhonice**	**1.39**	**99**	*e*SG	**Sn**	19 53 20.9	+0.3
	comp=Z,154nm,0.3s						
PRU	**Pruhonice**	**1.39**	**99**	*e*Pg	**Pb**	19 53 03.7	+0.6
PRU				*e*Sg	**Sg**	19 53 21.9	-0.2
ZVC	**Zvikov**	**1.39**	**124**	*e*SG	**Sb**	19 53 21.5	+0.6
	comp=Z,50nm,0.2s						
PVCC	**Panska Ves**	**1.41**	**77**	*e*SG	**Sg**	19 53 22.7	0.0
GOPC	**GO Pecny, Ondr**	**1.56**	**101**	*e*SG	**Sb**	19 53 26.8	+1.1
	comp=Z,107nm,0.2s						
GEC2	**GERESS Array S**	**1.62**	**148**	*e*Pg	**Pb**	19 53 07.7	+0.5
GEC2				*e*Sg	**Sb**	19 53 28.6	+1.2
CKRC	**Cesky Krumlov**	**1.87**	**138**	*e*SG	**Sb**	19 53 36.0	+1.3
	comp=Z,24nm,0.3s						
TREC	**Trest**	**2.20**	**114**	*e*SG	**Sb**	19 53 45.5	+1.4
	comp=Z,66nm,0.2s						
UPC	**Upice**	**2.32**	**82**	*e*SG	**Sb**	19 53 49.9	+2.4
	comp=Z,69nm,0.3s						
CHVC	**Chvalec**	**2.35**	**80**	*e*SG	**Sg**	19 53 51.6	-1.4
OSTC	**Ostas**	**2.45**	**81**	*e*SG	**Sb**	19 53 54.0	+2.6
DPC	**Dobruska-Polom**	**2.50**	**86**	*e*SG	**Sb**	19 53 55.0	+2.0
	comp=Z,50nm,0.2s						
BIOA	**Bad Ischl, Aus**	**2.66**	**162**	Pn	**Pn**	19 53 21.7	+1.7
	comp=Z,0.8nm,0.2s						
MOA	**Molln**	**2.67**	**152**	*e*Pn	**Pn**	19 53 21.1	+1.0
	comp=Z,0.4nm,0.2s						
KRLC	**Kraliky**	**2.81**	**91**	*e*SG	**Sg**	19 54 05.7	-1.9
	comp=Z,31nm,0.3s						
LESA	**Schwarzleotal**	**2.81**	**176**	*e*Pn	**Pn**	19 53 23.1	+0.9
	comp=Z,0.2nm,0.1s						
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	**Pn**	19 53 23.1	+0.7
KRUC				*e*SG	**Sg**	19 54 06.3	-2.2
KRUC	**Moravsky**	**2.83**	**113**	*e*Pn	**Pn**	19 53 23.0	+0.7
	baz=296						
KRUC				*e*Sg	**Sg**	19 54 06.2	-2.2
	comp=Z,78nm,0.5s,baz=296						
VRAC	**Vranov**	**2.86**	**107**	*e*Pn	**Pn**	19 53 23.3	+0.6
	baz=291						
VRAC				*e*Sg	**Sg**	19 54 06.8	-2.3
	comp=Z,79nm,0.6s,baz=291						
WATA	**Walderalm**	**2.95**	**191**	*e*Pn	**Pn**	19 53 24.5	+0.4
	comp=Z,0.2nm,0.1s						
RETA	**Reutte**	**2.96**	**202**	Pn	**Pn**	19 53 25.3	+1.2
	comp=Z,1.7nm,0.2s						
WTTA	**Wattenberg**	**3.01**	**190**	*i* Pn	**Pn**	19 53 25.6	+0.6
	comp=Z,0.4nm,0.2s						
MOTA	**Moosalm**	**3.02**	**197**	*e*Pn	**Pn**	19 53 24.5	-0.5
	comp=Z,0.2nm,0.1s						
GUT	**Gutenstein**	**3.06**	**226**	P	**Pn**	19 53 25.4	-0.1
GUT	**Gutenstein**	**3.06**	**226**	Pg	**Pg**	19 53 36.1	0.0
NEEW	**Neewiller pres**	**3.08**	**247**	P	**Pg**	19 53 36.7	+0.2
NEEW				S	**Sg**	19 54 16.4	-0.1
SQTA	**Sankt Quirin**	**3.12**	**195**	*e*Pn	**Pn**	19 53 27.4	+1.1
	comp=Z,0.5nm,0.2s						
BABA	**Baden-Baden-Ne**	**3.15**	**243**	S	**Sg**	19 54 16.4	-2.0
BABA	**Baden-Baden-Ne**	**3.15**	**243**	P	**Pn**	19 53 28.8	+2.2
BABA	**Baden-Baden-Ne**	**3.15**	**243**	Pg	**Pg**	19 53 37.5	-0.2
ABH	**Alteburg**	**3.16**	**266**	P	**Pn**	19 53 28.1	+1.3
KBA	**Koelnbreinsper**	**3.21**	**169**	*e*Pn	**Pn**	19 53 29.8	+2.1
	comp=Z,2.5nm,0.2s						
CONA	**Conrad Observa**	**3.23**	**134**	*e*Pn	**Pn**	19 53 28.0	+0.2
	comp=Z,0.8nm,0.2s,SNR=6.1						
LEMB	**Lembach**	**3.26**	**250**	P	**Pn**	19 53 30.3	+2.2
LEMB				Pg	**Pg**	19 53 39.4	-0.4
LEMB				S	**Sg**	19 54 21.6	-0.4
BGG	**Burgeitz**	**3.27**	**272**	*e*Pn	**Pn**	19 53 28.9	+0.7
OPP	**Oppenau**	**3.27**	**240**	S	**Sg**	19 54 21.8	-0.5
OPP	**Oppenau**	**3.27**	**240**	P	**Pn**	19 53 28.9	+0.7
OPP	**Oppenau**	**3.27**	**240**	Pg	**Pg**	19 53 39.4	-0.6
MORC	**Moravsky Berou**	**3.33**	**96**	*e*Pn	**Pn**	19 53 29.8	+0.5
	baz=280						
MORC				*e*Sg	**Sg**	19 54 21.7	-2.7
	comp=Z,65nm,0.6s,baz=280						
DAVA	**Damuels**	**3.39**	**211**	*e*Pn	**Pn**	19 53 31.9	+1.7
	comp=Z,1.4nm,0.3s						
FETA	**Feichten**	**3.40**	**200**	*e*Pn	**Pn**	19 53 30.6	+0.3
	comp=Z,0.2nm,0.2s						
ABTA	**Abfaltersbach**	**3.48**	**179**	*i* Pn	**Pn**	19 53 33.6	+2.2
	comp=Z,0.4nm,0.2s						
SLE	**Schleitheim**	**3.58**	**228**	S	**Sg**	19 54 32.8	+0.6
SLE	**Schleitheim**	**3.58**	**228**	P	**Pn**	19 53 31.9	-0.6
SLE	**Schleitheim**	**3.58**	**228**	Pg	**Pg**	19 53 45.5	-0.4
STB	**Steinbach**	**3.59**	**278**	*e*Pn	**Pn**	19 53 33.2	+0.5
STB				*e*Sn	**Sn**	19 54 15.0	+0.1
	comp=Z,178nm,1.7s						
RONA	**Rosalia, Austr**	**3.59**	**133**	*e*Pn	**Pn**	19 53 34.4	+1.5
	comp=Z,1.4nm,0.3s,SNR=5.1						
ARSA	**Arzberg**	**3.62**	**144**	*e*Pn	**Pn**	19 53 34.5	+1.4
	comp=Z,0.9nm,0.2s,SNR=5.6						
MODS	**Modra-Piesok**	**3.68**	**118**	*e*PN	**Pn**	19 53 36.5	+2.5
MODS				*e*SG	**Sg**	19 54 33.0	-2.5
ZST	**Bratislava**	**3.68**	**122**	*e*SG	**Sg**	19 54 32.5	-3.1
JAVC	**Velka Javorina**	**3.68**	**110**	*e*SG	**Sg**	19 54 33.8	-1.8
HILG	**Hillesheim**	**3.69**	**273**	*e*Pn	**Pn**	19 53 35.0	+0.9
MYKA	**Terra Mystica**	**3.69**	**167**	*e*Pn	**Pn**	19 53 36.2	+2.0
	comp=Z,0.8nm,0.2s						
OKC	**Ostrava-Krasne**	**3.71**	**94**	*e*SG	**Sg**	19 54 32.6	-3.9
	comp=Z,36nm,0.5s						
KIZ	**Kirchzarten**	**3.73**	**234**	S	**Sg**	19 54 36.9	-0.4
KIZ	**Kirchzarten**	**3.73**	**234**	P	**Pn**	19 53 33.9	-0.8
FELD	**Feldberg im Sc**	**3.74**	**233**	Pg	**Pg**	19 53 48.5	-0.6
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	19 53 37.6	+1.6
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	19 53 49.7	-1.0
CDF				*e*Sg	**Sg**	19 54 39.9	-0.3
	comp=Z,12nm,0.2s						
SULZ	**Cheisacher**	**3.92**	**228**	P	**Pg**	19 53 51.8	-0.7
SULZ	**Cheisacher**	**3.92**	**228**	S	**Sg**	19 54 41.7	-1.6
SOKA	**Soboth**	**3.96**	**153**	*e*Pn	**Pn**	19 53 39.0	+1.2
	comp=Z,0.4nm,0.3s						
ENDD	**Endenburg**	**3.98**	**233**	Pg	**Pg**	19 53 53.0	-0.7
OBKA	**Obir**	**3.98**	**158**	*e*Pn	**Pn**	19 53 39.1	+0.9
	comp=Z,0.3nm,0.2s						
ECH	**Echery**	**4.00**	**242**	P	**Pn**	19 53 39.4	+1.1
WALT	**Westhalten**	**4.07**	**238**	P	**Pn**	19 53 38.2	-1.2
WALT				Pg	**Pg**	19 53 55.7	+0.4
WALT				S	**Sg**	19 54 49.3	+1.3
XAFF	**Xaffevillers**	**4.21**	**247**	Pg	**Pg**	19 53 58.8	+0.7
BALST	**Balsthal**	**4.26**	**229**	S	**Sg**	19 54 52.2	-1.0
BALST	**Balsthal**	**4.26**	**229**	P	**Pg**	19 53 58.2	-0.7
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	19 53 44.9	+1.2
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	19 54 01.1	-0.3
HINF				*e*Sg	**Sg**	19 54 56.4	-1.8
	comp=Z,12nm,0.4s						
BOURR	**Bourrignon**	**4.45**	**232**	P	**Pg**	19 54 01.2	-1.4
VYHS	**Vyhne**	**4.54**	**110**	*e*SN	**Sn**	19 54 35.4	-2.9
VYHS				*e*		19 54 52.6	
RONF	**Ronchamp**	**4.56**	**239**	P	**Pg**	19 54 03.5	-1.2
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	19 53 47.1	+0.9
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	19 54 04.4	-0.4
HAU				*e*Sg	**Sg**	19 55 01.3	-2.7
	comp=Z,21nm,0.4s						
PAGF	**Fort de Pagny**	**4.68**	**252**	*e*Pn	**Pn**	19 53 48.8	+1.1
PAGF	**Fort de Pagny**	**4.68**	**252**	*e*Pg	**Pg**	19 54 06.5	-0.6
PAGF				*e*Sg	**Sg**	19 55 05.6	-2.1
	comp=Z,8.5nm,0.4s						
LANS	**Liptovska Anna**	**4.70**	**101**	*e*SG	**Sg**	19 55 05.0	-3.2
CHMF	**Charmoille**	**4.84**	**234**	P	**Pg**	19 54 09.5	-0.6
GIVF	**Givet**	**4.89**	**271**	*e*Sg	**Sg**	19 55 11.8	-2.4
	comp=Z,20nm,0.6s						
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*Pn	**Pn**	19 53 53.8	+0.1
MEZF	**Maizieres J'vi**	**5.12**	**253**	*e*Pg	**Pg**	19 54 14.1	-1.2
MEZF				*e*Sg	**Sg**	19 55 18.1	-3.5
	comp=Z,4.8nm,0.5s						
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pn	**Pn**	19 53 54.9	-0.6
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pg	**Pg**	19 54 15.7	-2.1
SFTF				*e*Sg	**Sg**	19 55 23.1	-2.6
	comp=Z,12nm,0.5s						
BAIF	**Baives**	**5.29**	**271**	*e*Sg	**Sg**	19 55 23.4	-3.6
	comp=Z,4.1nm,0.4s						
DIX	**Grande Dixence**	**5.34**	**221**	Pg	**Pb**	19 54 14.3	+3.7
GIMEL	**St. Georges /**	**5.52**	**230**	Pg	**Pg**	19 54 21.6	-1.5
CABF	**La Chapelle**	**5.56**	**232**	*e*Pn	**Pn**	19 53 59.9	+0.1
CABF	**La Chapelle**	**5.56**	**232**	*e*Pg	**Pg**	19 54 22.5	-1.3
CABF				*e*Sg	**Sg**	19 55 34.1	-1.6
	comp=Z,21nm,0.6s						
CABF	**La Chapelle**	**5.56**	**232**	*e*Sg	**Sg**	19 55 34.4	-1.3
	comp=Z,2.6nm,0.3s						
STHS	**Stebnicka Huta**	**5.77**	**95**	*e*SG	**Sg**	19 55 39.2	-3.2
LPL	**La Plagne**	**6.07**	**221**	*e*Pn	**Pn**	19 54 07.1	+0.1
LPL	**La Plagne**	**6.07**	**221**	*e*Pg	**Pg**	19 54 32.1	-1.5
LPL				*e*Sn	**Sn**	19 55 14.8	-1.6
	comp=Z,1.1nm,0.2s						
LPG	**La Plagne**	**6.08**	**221**	*e*Pn	**Pn**	19 54 06.8	-0.4
LPG	**La Plagne**	**6.08**	**221**	*e*Pg	**Pg**	19 54 33.3	-0.5
LPG				*e*Sn	**Sn**	19 55 15.3	-1.4
	comp=Z,1.5nm,0.3s						
LOR	**Lormes**	**6.39**	**246**	*e*Pn	**Pn**	19 54 12.3	+1.1
LOR	**Lormes**	**6.39**	**246**	*e*Pg	**Pg**	19 54 37.3	-2.4
LOR				*e*Sg	**Sg**	19 55 58.7	-3.7
	comp=Z,8.0nm,0.6s						
KOLS	**Kolonicke sedl**	**6.54**	**98**	*e*PN	**Pn**	19 54 17.7	+4.5
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pn	**Pn**	19 54 16.5	+1.0
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pg	**Pg**	19 54 44.2	-1.5
SSF				*e*Sg	**Sg**	19 56 10.8	-1.6
	comp=Z,7.3nm,0.6s						
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pn	**Pn**	19 54 13.7	-2.3
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg	**Pg**	19 54 44.0	-2.4
SMF				*e*Sg	**Sg**	19 56 11.1	-2.5
	comp=Z,3.8nm,0.4s						
AVF	**Avril sur Loir**	**6.94**	**244**	*e*Pg	**Pg**	19 54 47.5	-2.6
AVF				*e*Sg	**Sg**	19 56 16.8	-3.1
	comp=Z,2.3nm,0.5s						
BGF	**Bois d'Agland**	**7.36**	**244**	*e*Pn	**Pn**	19 54 23.5	-0.9
BGF	**Bois d'Agland**	**7.36**	**244**	*e*Pg	**Pg**	19 54 54.1	-4.1
BGF				*e*Sg	**Sg**	19 56 28.8	-4.5
	comp=Z,7.0nm,0.5s						
TCF	**Toulx Ste Croi**	**7.87**	**244**	*e*Pg	**Pg**	19 55 04.9	-3.1
TCF				*e*Sg	**Sg**	19 56 45.1	-4.8
	comp=Z,3.7nm,0.6s						

*LDG **21** 19:55:13.4±0.1, 46°.18N×6°.79E, h2km, Md2.0/1, Ml2.0/2, Error ellipse: s-maj=1.7km s-min=1.4km az=123.0*
*ZUR **21** 19:55:13.5, 46°.20N×6°.82E, h-1km±1km, MLh1.1/8, Error ellipse: s-maj=2981.7km s-min=787.7km az=198.0*

STR 21 19:55:13.7±0.4, 46°N±3°×°±°, h8km±4km, MLv1.6/13, 3C-2D, Error ellipse: s-maj=0.0km s-min=0.0km az=122.7, preliminary, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SALAN	**Lac Salanfe**	**0.12**	**112**	⇑Pg	Pg	19 55 16.2	-0.2
SALAN				Sg	Sg	19 55 18.3	-0.1
OGSI	**Sixt**	**0.13**	**200**	⇑Pg	Pg	19 55 16.5	-0.1
OGSI				Sg	Sg	19 55 18.8	+0.3
OGSI	**Sixt**	**0.13**	**200**	Pg	Pg	19 55 16.5	-0.1
OGSI				Sg	Sg	19 55 18.9	+0.4
SEMOS	**Emosson Stauma**	**0.14**	**146**	⇓Pg	Pg	19 55 16.9	0.0
SEMOS				Sg	Sg	19 55 19.3	+0.2
A173A	**Vacheresse, 74**	**0.17**	**326**	Pg	Pg	19 55 16.7	-0.6
A173A				Sg	Sg	19 55 19.3	-0.4
AIGLE	**Aigle**	**0.18**	**31**	⇑Pg	Pg	19 55 17.1	-0.4
AIGLE	**Aigle**	**0.18**	**31**	Pg	Pg	19 55 17.2	-0.3
AIGLE				Sg	Sg	19 55 19.8	-0.2
SENIN	**Lac Senin/Sane**	**0.38**	**62**	⇓Pg	Pg	19 55 21.1	-0.1
SENIN				Sg	Sg	19 55 26.6	+0.5
OG02	**Monnetier-Morn**	**0.42**	**266**	Sg	Sg	19 55 28.3	+1.0
DIX	**Grande Dixence**	**0.42**	**104**	Pg	Pg	19 55 22.2	+0.2
DIX				Sg	Sg	19 55 27.8	+0.2
DIX	**Grande Dixence**	**0.42**	**104**	Pg	Pg	19 55 22.1	0.0
GIMEL	**St. Georges /**	**0.52**	**312**	Pg	Pg	19 55 24.0	+0.3
CABF	**La Chapelle**	**0.66**	**310**	*e*Pg	Pb	19 55 27.0	-0.6
CABF	**La Chapelle**	**0.66**	**310**	*e*Pn	Pn	19 55 29.0	-0.5
CABF				*e*Sn	Sn	19 55 38.9	-1.2
	2.5nm,0.2s						
LPL	**La Plagne**	**0.67**	**185**	*e*Pg	Pg	19 55 26.3	-0.4
LPL				*e*Sg	Sg	19 55 34.4	-1.1
	2.8nm,0.3s						
LPG	**La Plagne**	**0.69**	**184**	*e*Pg	Pg	19 55 26.3	-0.8
LPG				*e*Sg	Sg	19 55 35.8	-0.3
	2.1nm,0.3s						
LAUCH	**Lauchernalp**	**0.70**	**71**	Pg	Pg	19 55 27.1	-0.1
RIVEL	**MONT RIVEL**	**0.84**	**313**	Pn	Pn	19 55 31.8	-0.2
RIVEL				Sn	Sn	19 55 44.8	+0.2
OG35	**Corcelles**	**0.88**	**261**	Pg	Pg	19 55 30.7	+0.1
OG35				Sg	Sg	19 55 42.5	+0.5
OGSM	**Saint Maurice**	**0.97**	**234**	Pn	Pb	19 55 33.2	+0.3
OGSM				Sg	Sb	19 55 46.1	+0.2
CHMF	**Charmoille**	**1.07**	**354**	Pn	Pb	19 55 34.8	+0.3
BOUC	**Bouclans**	**1.13**	**340**	Pn	Pn	19 55 35.7	-0.2
BOUC				Sg	Sb	19 55 50.5	+0.1
BALST	**Balsthal**	**1.30**	**27**	Pg	Pg	19 55 39.0	+0.4
ORIF	**Oris-en-Rattie**	**1.43**	**208**	*e*Pg	Pn	19 55 38.2	-1.9
ORIF				*e*Sg	Sb	19 55 57.4	-1.7
	3.1nm,0.3s						

RONF	**Ronchamp**	**1.53**	**356**	Pg	Pb	19 55 42.5	+0.2
RONF				Sn	Sg	19 56 02.7	-0.1
SULZ	**Cheisacher**	**1.61**	**33**	Pg	Pg	19 55 44.5	0.0
SULZ	**Cheisacher**	**1.61**	**33**	Sg	Sg	19 56 06.2	+0.8
MOF	**Molkenrain**	**1.68**	**7**	Pg	Pb	19 55 45.3	+0.4
SSB	**Saint Sauveur**	**1.83**	**241**	Pg	Pg	19 55 48.5	-0.3
KIZ	**Kirchzarten**	**1.92**	**23**	Pg	Pb	19 55 49.7	+0.7
KIZ	**Kirchzarten**	**1.92**	**23**	Sg	Sg	19 56 14.4	-1.1
VIVF	**Saint-Julien-l**	**2.01**	**229**	*e*Pn	Pn	19 55 47.0	-1.0
VIVF				*e*Sg	Sb	19 56 15.9	+0.1
	1.3nm,0.2s						
CAF	**Calviac**	**3.57**	**251**	*e*P	Pn	19 56 10.1	+0.7

*DJA **21** 20:01:00.2±0.4, 9°S±4°×12°.4E±°, h78km±6km, M3.9/10, mb4.2/5, MLv3.7/10*

ISC 21 20:00:59.9±2.3, 9°.0S±0°.2×124°.2E±0°.1, h74km, n13, σ0s87/14, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**0.76**	**178**	P	**Pn**	20 01 17.0	+1.0
SOEI	**Soe**	**0.76**	**178**	P	**Pn**	20 01 16.9	+1.0
SOEI				S	**Sn**	20 01 27.8	0.0
BATI	**Baumata**	**1.34**	**205**	P	**Pn**	20 01 23.3	+0.4
MMRI	**Maumere**	**2.01**	**280**	P	**Pn**	20 01 32.9	+1.1
MMRI	**Maumere**	**2.01**	**280**	P	**Pn**	20 01 32.7	+0.9
EDFI	**Ende, Flores**	**2.53**	**275**	P	**Pn**	20 01 39.8	+0.9
BASI	**Baing, Sumba**	**3.81**	**251**	P	**Pn**	20 01 56.2	0.0
PLAI	**Plampang**	**6.39**	**271**	P	**Pn**	20 02 32.2	+0.7
PLAI	**Plampang**	**6.39**	**271**	P	**Pn**	20 02 32.0	+0.5
	30nm,0.8s,0.2nm						
TWSI	**Taliwang, Sumb**	**7.28**	**271**	P	**Pn**	20 02 43.6	0.0
	11nm,0.6s,0.1nm						
MTN	**Manton Dam**	**7.78**	**120**	P	**Pn**	20 02 50.7	+0.3
KDU	**Kakadu**	**8.88**	**115**	P	**Pn**	20 03 04.9	-0.6
PWJI	**Pagerwojo**	**12.34**	**274**	P	**Pn**	20 03 51.3	-1.4

*BER **21** 20:06:04.3±1.8, 76°.62N×7°.44E, h10km, mb(Pn)3.8, Confirmed Earthquake*
*DNK **21** 20:06:09.9±0.3, 77°.00N×6°.61E, h31km±8km, ML1.6*

ISC 21 20:06:01.1±1.1, 76°.82N±0°.08×7°.32E±0°.05, h10km, n11, σ2s05/16, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**1.88**	**80**	*e*P	**Pb**	20 06 35.1	-0.4
HSPB				*e*S	**Sn**	20 06 55.5	-1.4
HSPB				IAML		20 07 05.6	
	comp=Z,18nm,0.1s						
BRBB	**Barentsburg B**	**1.98**	**46**	*e*P	**Pb**	20 06 37.5	+0.4
BRBB				*e*S	**Sg**	20 07 04.2	-0.3
KBS	**Kingsb

JCUZ				IAML		20 51 42.5		
	comp=N,20µm,0.5s							
JCUZ				IAML		20 51 43.1		
	comp=E,19µm,0.6s							
NPOC	**North of Pu'u**	**0.10**	**48**		Pg	20 51 40.2	+0.4	
NPOC					Sg	20 51 42.2	+0.8	
KKO	**Keanakako`i**	**0.10**	**314**		Pg	20 51 40.2	+0.4	
KKO					Sg	20 51 42.3	+0.8	
KKO	**Keanakako`i**	**0.10**	**314**	IAML		20 51 42.7		
	comp=N,46µm,0.4s							
KKO				IAML		20 51 42.8		
	comp=E,30µm,0.6s							
RIM	**Rim**	**0.11**	**310**		Pg	20 51 40.3	+0.4	
RIM					Sg	20 51 42.4	+0.7	
RIM	**Rim**	**0.11**	**310**	IAML		20 51 42.8		
	comp=N,90µm,0.3s							
RIM				IAML		20 51 42.8		
	comp=E,60µm,0.3s							
BYL	**Byron's Ledge**	**0.11**	**321**		Pg	20 51 40.2	+0.3	
BYL					Sg	20 51 42.6	+0.9	
BYL	**Byron's Ledge**	**0.11**	**321**	IAML		20 51 43.0		
	comp=N,16µm,0.7s							
BYL				IAML		20 51 44.2		
	comp=E,16µm,0.5s							
HLP	**Hilina Pali**	**0.12**	**255**		Pg	20 51 40.6	+0.5	
HLP					Sg	20 51 43.0	+1.2	
HLP	**Hilina Pali**	**0.12**	**255**	IAML		20 51 43.2		
	comp=N,28µm,0.4s							
HLP				IAML		20 51 43.2		
	comp=E,37µm,0.2s							
HATHI	**Halema'uma'u T**	**0.12**	**324**		Pg	20 51 40.4	+0.3	
HATHI					Sg	20 51 42.7	+0.8	
HATHI	**Halema'uma'u T**	**0.12**	**324**	IAML		20 51 43.0		
	comp=N,21µm,0.3s							
HATHI				IAML		20 51 43.0		
	comp=E,19µm,0.3s							
SDHHI	**Sand Hill**	**0.12**	**302**		Pg	20 51 40.4	+0.3	
SDHHI					Sg	20 51 42.8	+0.8	
SDHHI	**Sand Hill**	**0.12**	**302**	IAML		20 51 43.2		
	comp=N,17µm,0.3s							
SDHHI				IAML		20 51 43.4		
	comp=E,26µm,0.3s							
NPH	**North Pit**	**0.12**	**314**		Pg	20 51 40.4	+0.2	
NPH	**North Pit**	**0.12**	**314**	IAML		20 51 42.9		
	comp=N,6µm,0.5s							
NPH				IAML		20 51 44.1		
	comp=E,3µm,0.5s							
SBLHI	**Steaming Bluff**	**0.13**	**323**		Pg	20 51 40.5	+0.2	
SBLHI					Sg	20 51 43.0	+0.9	
SBLHI	**Steaming Bluff**	**0.13**	**323**	IAML		20 51 43.1		
	comp=E,18µm,0.3s							
SBLHI				IAML		20 51 43.3		
	comp=N,26µm,0.3s							
OBL	**Observatory Le**	**0.13**	**315**		Pg	20 51 40.6	+0.3	
OBL	**Observatory Le**	**0.13**	**315**	IAML		20 51 45.4		
	comp=E,28µm,0.4s							
OBL				IAML		20 51 45.4		
	comp=N,23µm,0.5s							
UWB	**Uwekahuna B**	**0.13**	**319**		Pg	20 51 40.5	+0.3	
UWB					Sg	20 51 42.9	+0.6	
UWB	**Uwekahuna B**	**0.13**	**319**	IAML		20 51 43.1		
	comp=E,3µm,0.5s							
UWB				IAML		20 51 43.2		
	comp=N,10µm,0.6s							
UWE	**Uwekahuna**	**0.14**	**314**		Pg	20 51 40.8	+0.3	
UWE	**Uwekahuna**	**0.14**	**314**	IAML		20 51 45.1		
	comp=E,14µm,0.7s							
UWE				IAML		20 51 45.5		
	comp=N,10µm,0.8s							
RSD	**Rainshed**	**0.16**	**328**		Pg	20 51 41.0	+0.2	
RSD	**Rainshed**	**0.16**	**328**	IAML		20 51 44.0		
	comp=E,4µm,0.6s							
RSD				IAML		20 51 44.5		
	comp=N,6µm,0.4s							
JOKA	**Jonika Flow**	**0.20**	**58**		Pg	20 51 41.6	0.0	
JOKA					Sg	20 51 45.0	+0.7	
JOKA	**Jonika Flow**	**0.20**	**58**	IAML		20 51 48.1		
	comp=E,2µm,0.3s							
JOKA				IAML		20 51 48.4		
	comp=N,6µm,0.7s							
HTC	**Hot Caves**	**0.22**	**246**		Pg	20 51 42.4	+0.6	
MLH	**Mauna Loa**	**0.25**	**312**		Pg	20 51 42.7	+0.2	
MLH	**Mauna Loa**	**0.25**	**312**	IAML		20 51 49.0		
	comp=E,11µm,0.1s							
MLH				IAML		20 51 49.3		
	comp=N,13µm,0.2s							
PAH	**Pahoa**	**0.28**	**53**		Pg	20 51 43.1	+0.1	
PHO	**Puu Honuaula**	**0.32**	**61**		Pg	20 51 43.5	-0.2	
KHU	**Kahuku**	**0.41**	**259**		Pg	20 51 45.4	-0.1	
KHU				IAML		20 51 57.4		
	comp=E,7µm,0.3s							
KHU				IAML		20 51 58.9		
	comp=N,5µm,0.6s							
MWH	**Moku'aweowe**	**0.42**	**292**		Pg	20 51 45.4	-0.3	
POHA	**Pohakuloa**	**0.54**	**323**		Pg	20 51 47.3	-0.6	
HPAH	**Hawaii Prepara**	**0.85**	**326**	IAML		20 52 04.7		
	comp=N,2µm,0.4s							
HPAH				IAML		20 52 05.3		
	comp=E,3µm,0.2s							

*NEIC **21** 20:58:28.2±0.5, 19°32′N±0′01×155°19′W±0′02, h8km±1km, Error ellipse: s-maj=2.9km s-min=0.8km az=136.0*

HVO 21 20:58:27.9±0.6, **19°32′N**±0′01×**155°192′W**±0′007, **h1km**±7km, **ML2.6**/18, **ML2.6**/56(NEIC), **Error ellipse: s-maj=1.9km s-min=0.9km az=167.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**338**		Pg	20 58 30.1	+1.0
KNHH	**Kane Nui o Ham**	**0.07**	**19**		Pg	20 58 30.2	+0.9
STCH	**Steam Cracks**	**0.09**	**43**		Pg	20 58 30.6	+0.9
KKO	**Keanakako`i**	**0.11**	**319**		Pg	20 58 30.8	+0.8
KKO				IAML		20 58 33.4	
	comp=N,3µm,0.3s						
KKO				IAML		20 58 33.7	
	comp=E,2µm,0.4s						
JCUZ	**Jacuzzi**	**0.11**	**52**		Pg	20 58 30.7	+0.7
JCUZ				IAML		20 58 33.0	
	comp=N,2µm,0.7s						
JCUZ				IAML		20 58 33.6	
	comp=E,2µm,0.3s						
NPOC	**North of Pu'u**	**0.11**	**45**		Pg	20 58 30.9	+0.8
RIM	**Rim**	**0.11**	**315**		Pg	20 58 30.8	+0.7
RIM				IAML		20 58 33.4	
	comp=E,4µm,0.3s						
HLP	**Hilina Pali**	**0.11**	**260**		Pg	20 58 31.2	+1.1
HLP				IAML		20 58 33.8	
	comp=N,4µm,0.1s						
BYL	**Byron's Ledge**	**0.12**	**326**		Pg	20 58 30.9	+0.7
BYL				IAML		20 58 32.8	
	comp=E,2µm,0.9s						
BYL				IAML		20 58 34.0	
	comp=N,2µm,0.8s						
SDHHI	**Sand Hill**	**0.12**	**307**		Pg	20 58 31.1	+0.8
SDHHI	**Sand Hill**	**0.12**	**307**	IAML		20 58 31.7	
	comp=N,2µm,0.1s						
SDHHI				IAML		20 58 33.5	
	comp=E,3µm,0.4s						
HATHI	**Halema'uma'u T**	**0.12**	**328**	IAML		20 58 34.0	
	comp=E,2µm,0.6s						
HATHI				IAML		20 58 34.1	
	comp=N,2µm,0.7s						
SBLHI	**Steaming Bluff**	**0.13**	**327**	IAML		20 58 32.3	
	comp=N,2µm,0.3s						
SBLHI				IAML		20 58 33.2	
	comp=E,2µm,0.7s						
UWE	**Uwekahuna**	**0.14**	**318**	IAML		20 58 31.8	
	comp=E,3µm,0.9s						
UWE				IAML		20 58 33.2	
	comp=N,3µm,0.7s						
RSD	**Rainshed**	**0.17**	**331**	Pg	Pg	20 58 31.6	+0.4
MLH	**Mauna Loa**	**0.26**	**314**	IAML		20 58 40.0	
	comp=N,1µm,0.2s						
MLH				IAML		20 58 40.3	
	comp=E,739nm,0.1s						
HMH	**Humu'ula Sheep**	**0.40**	**316**		Pg	20 58 35.6	0.0
KHU	**Kahuku**	**0.41**	**260**		Pg	20 58 36.0	+0.3
KHU				IAML		20 58 43.7	
	comp=N,784nm,0.1s						
KHU				IAML		20 58 47.8	
	comp=E,787nm,0.4s						
MWH	**Moku'aweowe**	**0.42**	**294**		Pg	20 58 36.2	+0.2
MLOA	**Mauna Loa Obse**	**0.42**	**301**		Pg	20 58 36.1	+0.1
MLOA	**Mauna Loa Obse**	**0.42**	**301**	Pg	Pg	20 58 36.5	+0.4
POHA	**Pohakuloa**	**0.54**	**324**		Pg	20 58 38.1	-0.3

*PRU **21** 21:04:09.8, 50°25′N×12°43′E, h10km, West Bohemia Swarm*
*WBNET **21** 21:04:10.5, 50°24′N×12°46′E, h7km, Ml2.6*
*BGR **21** 21:04:10.3±0.2, 50°24′N×12°45′E, h9km±1km, ML3.0/8, Error ellipse: s-maj=2.2km s-min=1.1km az=94.0*

CLL 21 21:04:10.9±0.3, **50°24′N×12°45′E, h5km, ML3.0, 9C-12D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**197**	*i* Pg	Pg	21 04 11.9	-0.1
NKC				*i* Sg	Sg	21 04 12.8	+0.1
NKC				IAML		21 04 13.2	
	comp=N,19µm,0.3s						
NKC	**Novy Kostel**	**0.01**	**197**	*e*PG	Pg	21 04 11.8	-0.1
NKC				*e*SG	Sg	21 04 12.7	0.0
	comp=N,7µm,0.2s						
NKC	**Novy Kostel**	**0.01**	**197**	*i* Pg	Pg	21 04 11.9	-0.1
NKC				*i* Sg	Sg	21 04 12.8	+0.1
	comp=N,19µm,0.3s						
NKC	**Novy Kostel**	**0.01**	**197**	⇓P	Pg	21 04 11.9	0.0
NKC				S	Sg	21 04 12.8	+0.1
NKC	**Novy Kostel**	**0.01**	**197**	⇓P	Pg	21 04 12.0	+0.1
NKC				S	Sg	21 04 12.9	+0.2
LBCW	**Luby**	**0.03**	**310**	⇓P	Pg	21 04 12.1	0.0
LBCW				S	Sg	21 04 13.2	+0.2
LBCW	**Luby**	**0.03**	**310**	⇓P	Pg	21 04 12.2	+0.1
LBCW				S	Sg	21 04 13.3	+0.3
STCW	**Studenec**	**0.04**	**71**	*i* Pg	Pg	21 04 12.1	-0.1
STCW				*i* Sg	Sg	21 04 13.1	-0.1
STCW	**Studenec**	**0.04**	**71**	*i* Pg	Pg	21 04 12.1	-0.1
STCW				*i* Sg	Sg	21 04 13.1	-0.1
STCW	**Studenec**	**0.04**	**71**	⇑P	Pg	21 04 12.1	-0.1
STCW				S	Sg	21 04 13.1	-0.1
STCW	**Studenec**	**0.04**	**71**	⇑P	Pg	21 04 12.2	0.0
STCW				S	Sg	21 04 13.2	0.0
VAC	**Vackov**	**0.05**	**259**	*i* Pg	Pg	21 04 12.2	-0.1
VAC				*i* Sg	Sg	21 04 13.2	-0.1
VAC	**Vackov**	**0.05**	**259**	⇓P	Pg	21 04 12.2	-0.1
VAC				S	Sg	21 04 13.2	-0.1
VAC	**Vackov**	**0.05**	**259**	⇓P	Pg	21 04 12.3	0.0
VAC				S	Sg	21 04 13.3	0.0
KVC	**Kvetna**	**0.06**	**134**	*i* Pg	Pg	21 04 12.2	-0.2
KVC				*i* Sg	Sg	21 04 13.2	-0.2
KVC	**Kvetna**	**0.06**	**134**	⇑P	Pg	21 04 12.2	-0.2
KVC				S	Sg	21 04 13.2	-0.2
KVC	**Kvetna**	**0.06**	**134**	S	Sg	21 04 13.3	-0.1
WERN	**Wernitzgruen**	**0.07**	**311**	*i* Pg	Pg	21 04 12.5	0.0
WERN				*i* Sg	Sg	21 04 13.8	+0.1
WERN				IAML		21 04 14.1	
	comp=N,5µm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**311**	*i* Pg	Pg	21 04 12.5	0.0
WERN				*i* Sg	Sg	21 04 13.8	+0.1
	comp=N,5µm,0.2s						
POCW	**Potky**	**0.08**	**348**	⇓P	Pg	21 04 12.7	-0.1
POCW				S	Sg	21 04 14.1	+0.1
POCW	**Potky**	**0.08**	**348**	⇓P	Pg	21 04 12.7	0.0
POCW				S	Sg	21 04 14.1	+0.1
ROHR	**Rohrbach**	**0.09**	**264**	*i* Pg	Pg	21 04 12.7	-0.2
ROHR				*i* Sg	Sg	21 04 14.1	-0.2
ROHR				IAML		21 04 14.5	
	comp=E,8µm,0.3s						
ROHR	**Rohrbach**	**0.09**	**264**	*i* Pg	Pg	21 04 12.7	-0.2
ROHR				*i* Sg	Sg	21 04 14.1	-0.2
	comp=E,8µm,0.3s						
SKC	**Skalna**	**0.10**	**219**	⇑P	Pg	21 04 12.8	-0.2
SKC				S	Sg	21 04 14.3	-0.1
SKC	**Skalna**	**0.10**	**219**	⇑P	Pg	21 04 12.9	-0.1
SKC				S	Sg	21 04 14.4	0.0
KRCW	**Kraslice**	**0.10**	**29**	⇑P	Pg	21 04 12.9	-0.2
KRCW				S	Sg	21 04 14.5	-0.1
KRCW	**Kraslice**	**0.10**	**29**	⇑P	Pg	21 04 13.0	-0.1
KOCW	**Kopaniny**	**0.14**	**279**	⇓P	Pg	21 04 13.6	-0.2
KOCW				S	Sg	21 04 15.6	-0.2
KOCW	**Kopaniny**	**0.14**	**279**	⇓P	Pg	21 04 13.7	-0.1
GUNZ	**Gunzen**	**0.14**	**327**	*i* Pg	Pg	21 04 13.7	-0.1
GUNZ				*i* Sg	Sg	21 04 15.7	-0.1
GUNZ				IAML		21 04 15.9	
	comp=N,1µm,0.3s						
GUNZ	**Gunzen**	**0.14**	**327**	*i* Pg	Pg	21 04 13.7	-0.1
GUNZ				*i* Sg	Sg	21 04 15.7	-0.1
	comp=N,1µm,0.3s						
MULD	**Muldenberg**	**0.17**	**349**	*i* Pg	Pg	21 04 14.1	-0.2
MULD				*i* Sg	Sg	21 04 16.3	-0.3
MULD				IAML		21 04 16.9	
	comp=N,5µm,0.2s						
MULD	**Muldenberg**	**0.17**	**349**	*i* Pg	Pg	21 04 14.1	-0.2
MULD				*i* Sg	Sg	21 04 16.3	-0.3
	comp=N,5µm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**2**	*i* Pg	Pg	21 04 14.1	-0.3
TANN				*i* Sg	Sg	21 04 16.3	-0.3
TANN				IAML		21 04 17.0	
	comp=N,3µm,0.2s						
TANN	**Tannenbergstha**	**0.17**	**2**	*i* Pg	Pg	21 04 14.1	-0.3
TANN				*i* Sg	Sg	21 04 16.3	-0.3
	comp=N,3µm,0.2s						
ZHC	**Zelena Hora**	**0.20**	**208**	⇑P	Pg	21 04 14.5	-0.3
ZHC				S	Sg	21 04 17.2	-0.2
ZHC	**Zelena Hora**	**0.20**	**208**	⇑P	Pg	21 04 14.6	-0.1
TRCW	**Trojmez**	**0.21**	**287**	⇓P	Pg	21 04 14.8	-0.2
TRCW				S	Sg	21 04 17.6	-0.1
LACW	**Lazy**	**0.22**	**150**	*i* Pg	Pg	21 04 15.1	-0.2
LACW				*e*Sg	Sg	21 04 18.1	-0.1
LACW	**Lazy**	**0.22**	**150**	*i* Pg	Pg	21 04 15.1	-0.2
LACW				*e*Sg	Sg	21 04 18.1	-0.1
LACW	**Lazy**	**0.22**	**150**	⇓P	Pg	21 04 15.1	-0.2
LACW				S	Sg	21 04 18.2	0.0
WERD	**Werda**	**0.22**	**335**	*i* Pg	Pg	21 04 15.1	-0.3
WERD				*e*Sg	Sg	21 04 17.9	-0.4
WERD				IAML		21 04 18.4	
	comp=N,1µm,0.2s						
WERD	**Werda**	**0.22**	**335**	*i* Pg	Pg	21 04 15.1	-0.3
WERD				*e*Sg	Sg	21 04 17.9	-0.4
	comp=N,1µm,0.2s						
TRIB	**Obertriebel**	**0.23**	**298**	*i* Pg	Pg	21 04 15.1	-0.3
TRIB				*e*Sg	Sg	21 04 18.3	-0.2
TRIB				IAML		21 04 18.6	
	comp=E,2µm,0.1s						
TRIB	**Obertriebel**	**0.23**	**298**	*i* Pg	Pg	21 04 15.1	-0.3
TRIB				*e*Sg	Sg	21 04 18.3	-0.2
	comp=E,2µm,0.1s						
VIEL	**Selb-Vielitz**	**0.23**	**256**	*i* Pg	Pg	21 04 15.1	-0.3
VIEL				*i* Sg	Sg	21 04 18.2	-0.4
VIEL	**Selb-Vielitz**	**0.23**	**256**	*i* Pg	Pg	21 04 15.1	-0.3
VIEL				*i* Sg	Sg	21 04 18.2	-0.4
PLN	**Plauen**	**0.31**	**322**	*i* Pg	Pg	21 04 16.6	-0.3
PLN				*e*Sg	Sg	21 04 20.6	-0.3
PLN				IAML		21 04 21.1	
	comp=E,666nm,0.1s						
PLN	**Plauen**	**0.31**	**322**	*i* Pg	Pg	21 04 16.6	-0.3
PLN				*e*Sg	Sg	21 04 20.6	-0.3
	comp=E,666nm,0.1s						
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	21 04 18.9	-0.4
SCHF				*i* Sg	Sg	21 04 24.7	-0.3
SCHF				IAML		21 04 25.1	
	comp=E,4µm,0.2s						
SCHF	**Schoenfels**	**0.43**	**356**	*i* Pg	Pg	21 04 18.9	-0.4
SCHF				*i* Sg	Sg	21 04 24.7	-0.3
	comp=E,4µm,0.2s						
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	21 04 19.6	-0.4
GRZ1				*i* Sg	Sg	21 04 25.6	-0.6
GRZ1				IAML		21 04 25.9	
	comp=E,677nm,0.1s						
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Pg	Pg	21 04 19.6	-0.4
GRZ1				*i* Sg	Sg	21 04 25.6	-0.6
	comp=E,677nm,0.1s						
ROTZ	**Rotzenmuhle**	**0.50**	**198**	*e*Pg	Pg	21 04 20.1	-0.5
ROTZ				*e*Sg	Sg	21 04 26.6	-0.5
ZEU	**Talsperre Zeul**	**0.52**	**325**	*i* Pg	Pg	21 04 20.6	-0.4
ZEU				*i* Sg	Sg	21 04 27.2	-0.6
ZEU	**Talsperre Zeul**	**0.52**	**325**	*i* Pg	Pg	21 04 20.6	-0.4
ZEU				*i* Sg	Sg	21 04 27.2	-0.6
MOX	**Moxa**	**0.67**	**307**	*e*Pg	Pg	21 04 23.2	-0.5
MOX				*e*Sg	Sg	21 04 32.3	-0.2
HSKC	**Hora Svate Kat**	**0.72**	**59**	*e*PG	Pg	21 04 24.2	-0.6
HSKC				*e*SG	Sg	21 04 33.6	-0.6
	comp=E,316nm,0.2s						
FBE	**Freiberg**	**0.89**	**40**	*e*Pg	Pg	21 04 27.5	-0.4
FBE				*e*Sg	Sg	21 04 38.9	-0.6
GRF	**Grafenberg Arr**	**0.97**	**236**	*e*Pg	Pg	21 04 28.9	-0.6
GRF				*e*Sg	Sg	21 04 41.7	-0.3
CLL	**Collm**	**1.12**	**18**	*i* x	x	21 04 49.6	
CLL	**Collm**	**1.12**	**18**	*e*Pn	Pg	21 04 31.2	-1.2
CLL				*e*Pg	Pb	21 04 31.6	-1.1
CLL				*e*Sg	Sg	21 04 46.1	-0.8
CLL	**Collm**	**1.12**	**18**	*i* Pg	Pg	21 04 31.6	-0.8
CLL	**Collm**	**1.12**	**18**	*i* x	x	21 04 34.1	
CLL	**Collm**	**1.12**	**18**	*i* Sg	Sg	21 04 45.9	-1.0
	comp=Z,189nm,0.3s						
WET	**Wettzell**	**1.14**	**166**	*e*Pg	Pg	21 04 31.7	-1.0
WET				*e*Sg	Sg	21 04 46.3	-1.0
BRG	**Berggiesshubel**	**1.14**	**56**	Amp		21 04 48.1	
	comp=Z,179nm,0.2s						
BRG	**Berggiesshubel**	**1.14**	**56**	*e*Pn	Pg	21 04 31.4	-1.4
BRG				*e*Pg	Pb	21 04 32.0	-1.1
BRG				*e*Sg	Sg	21 04 47.2	-0.3
BRG	**Berggiesshubel**	**1.14**	**56**	Pg	Pg	21 04 32.0	-0.8
BRG	**Berggiesshubel**	**1.14**	**56**	Sg	Sg	21 04 47.2	-0.3
PRA	**Prague**	**1.28**	**97**	*e*PG	Pn	21 04 34.1	-1.3
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	Pn	21 04 34.7	-1.4
KHC				*e*SG	Sg	21 04 52.3	-1.4
	comp=Z,50nm,0.4s						
PRU	**Pruhonice**	**1.37**	**100**	*e*PG	Pn	21 04 35.3	-1.3
PRU				*e*SG	Sb	21 04 53.2	-1.5
	comp=Z,102nm,0.3s						
PRU	**Pruhonice**	**1.37**	**100**	*e*Pg	Pn	21 04 35.9	-0.7
PRU				*e*Sg	Sb	21 04 54.2	-0.5
PVCC	**Panska Ves**	**1.38**	**77**	*e*SG	Sb	21 04 55.0	-0.2
	comp=Z,247nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	Sn	21 04 59.1	-0.2
	comp=Z,88nm,0.3s						
GEC2	**GERESS Array S**	**1.62**	**149**	*e*Pn	Pn	21 04 38.7	-1.4
GEC2				*e*Pg	Pb	21 04 41.2	0.0
GEC2				*e*Sg	Sn	21 05 01.1	-0.4
CKRC	**Cesky Krumlov**	**1.87**	**139**	*e*SG	Sn	21 05 08.3	+0.8
KRUC	**Moravsky**	**2.82**	**113**	*e*PN	Pn	21 04 55.6	-1.0
VRAC	**Vranov**	**2.84**	**108**	*e*PN	Pn	21 04 55.6	-1.3
MORC	**Moravsky Berou**	**3.32**	**96**	*e*PN	Pn	21 05 02.4	-1.0

*WBNET **21** 21:04:34.0, 50°24′N×12°46′E, h7km, Ml2.2*
*BGR **21** 21:04:33.8±0.5, 50°24′N×12°45′E, h9km±3km, ML2.5/1, Error ellipse: s-maj=4.4km s-min=2.2km az=91.0*

CLL 21 21:04:34.4±0.3, **50°24′N×12°45′E, h6km±1km, ML2.2, 6C-10D, Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**194**	*i* Pg	Pg	21 04 35.4	-0.1
NKC				*i* Sg	Sg	21 04 36.3	+0.1
NKC				IAML		21 04 36.7	
	comp=N,11µm,0.2s						
NKC	**Novy Kostel**	**0.01**	**194**	*i* Pg	Pg	21 04 35.4	-0.1
NKC				*i* Sg	Sg	21 04 36.3	+0.1
	comp=N,11µm,0.2s						
NKC	**Novy Kostel**	**0.01**	**194**	⇓P	Pg	21 04 35.4	0.0
NKC				S	Sg	21 04 36.3	+0.1
NKC	**Novy Kostel**	**0.01**	**194**	⇓P	Pg	21 04 35.5	0.0
NKC				S	Sg	21 04 36.4	+0.2
LBCW	**Luby**	**0.03**	**310**	⇓P	Pg	21 04 35.6	0.0
LBCW				S	Sg	21 04 36.7	+0.2
LBCW	**Luby**	**0.03**	**310**	⇓P	Pg	21 04 35.7	0.0
LBCW				S	Sg	21 04 36.8	+0.3
STCW	**Studenec**	**0.05**	**71**	*i* Pg	Pg	21 04 35.6	-0.1
STCW				*i* Sg	Sg	21 04 36.6	-0.2
STCW	**Studenec**	**0.05**	**71**	*i* Pg	Pg	21 04 35.6	-0.1
STCW				*i* Sg	Sg	21 04 36.6	-0.2
STCW	**Studenec**	**0.05**	**71**	⇓P	Pg	21 04 35.6	-0.1
STCW				S	Sg	21 04 36.6	-0.1
STCW	**Studenec**	**0.05**	**71**	S	Sg	21 04 36.7	0.0
VAC	**Vackov**	**0.05**	**259**	*i* Pg	Pg	21 04 35.7	-0.1
VAC				*i* Sg	Sg	21 04 36.7	-0.1
VAC	**Vackov**	**0.05**	**259**	⇓P	Pg	21 04 35.7	-0.1
VAC				S	Sg	21 04 36.8	-0.1
VAC	**Vackov**	**0.05**	**259**	⇓P	Pg	21 04 35.8	0.0
VAC				S	Sg	21 04 36.8	0.0
KVC	**Kvetna**	**0.06**	**133**	*i* Pg	Pg	21 04 35.7	-0.2
KVC				*i* Sg	Sg	21 04 36.8	-0.2
KVC	**Kvetna**	**0.06**	**133**	⇑P	Pg	21 04 35.7	-0.2
KVC				S	Sg	21 04 36.8	-0.1
WERN	**Wernitzgruen**	**0.07**	**312**	*i* Pg	Pg	21 04 36.0	-0.1
WERN				*i* Sg	Sg	21 04 37.3	+0.1
WERN				IAML		21 04 37.6	
	comp=E,1µm,0.1s						
WERN	**Wernitzgruen**	**0.07**	**312**	*i* Pg	Pg	21 04 36.0	-0.1
WERN				*i* Sg	Sg	21 04 37.3	+0.1
	comp=E,1µm,0.1s						
POCW	**Potky**	**0.08**	**348**	⇓P	Pg	21 04 36.2	-0.1
POCW				S	Sg	21 04 37.6	0.0
ROHR	**Rohrbach**	**0.09**	**264**	*i* Pg	Pg	21 04 36.2	-0.2
ROHR				*i* Sg	Sg	21 04 37.6	-0.2
ROHR				IAML		21 04 37.9	
	comp=E,3µm,0.2s						
ROHR	**Rohrbach**	**0.09**	**264**	*i* Pg	Pg	21 04 36.2	-0.2
ROHR				*i* Sg	Sg	21 04 37.6	-0.2
	comp=E,3µm,0.2s						
SKC	**Skalna**	**0.10**	**218**	⇑P	Pg	21 04 36.3	-0.2
SKC				S	Sg	21 04 37.8	0.0
SKC	**Skalna**	**0.10**	**218**	⇑P	Pg	21 04 36.4	-0.1
KRCW	**Kraslice**	**0.10**	**30**	⇑P	Pg	21 04 36.4	-0.2
KRCW				S	Sg	21 04 38.0	-0.2
GUNZ	**Gunzen**	**0.14**	**327**	*i* Pg	Pg	21 04 37.2	-0.2
GUNZ				*i* Sg	Sg	21 04 39.3	0.0
GUNZ				IA

SCHF				IAML			21 04 48.7	
	comp=E,462nm,0.2s							
SCHF	**Schoenfels**	**0.43**	**356**	*e*Pg	Pg		21 04 42.4	-0.4
SCHF				*e*Sg	Sg		21 04 48.1	-0.4
	comp=E,462nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Sg	Sg		21 04 49.2	-0.5
GRZ1				IAML			21 04 49.5	
	comp=E,78nm,0.2s							
GRZ1	**Mausoleum Wald**	**0.47**	**342**	*i* Sg	Sg		21 04 49.2	-0.5
	comp=E,78nm,0.2s							
ROTZ	**Rotzenmuhle**	**0.50**	**198**	*e*Pg	Pg		21 04 43.7	-0.4
ROTZ				*e*Sg	Sg		21 04 50.2	-0.4

IDC ***21*** *21:04:41.7±1.0,50˚.18N×12˚.32E,h0km,mb3.6/2, mbtmp3.5/9,ML3.5/6,Error ellipse: s-maj=17.0km s-min=8.2km az=71.0*

STR ***21*** *21:04:42.0±1.3,50˚N±11˚×1˚3E±1˚,h10km,MLv4.7/18, Error ellipse: s-maj=0.0km s-min=0.0km az=132.0, preliminary*

DNK ***21*** *21:04:42.0±2.7,50˚.19N×12˚.62E,h15km±315km,ML3.4*

MCSM ***21*** *21:04:42.7±1.1,50˚N±3˚×1˚2E±˚,h7km±10km,mb4.2, MLv4.3*

NEIC ***21*** *21:04:42.7±1.8,50˚.30N±0˚.04×12˚.38E±0˚.02,h14km±6km, mb4.1/1,Error ellipse: s-maj=6.0km s-min=1.8km az=191.0*

PRU ***21*** *21:04:42.4,50˚.25N×12˚.46E,h10km,M4.1,West Bohemia Swarm-stronly Felt As Far As In Prague*

LDG ***21*** *21:04:43.6±0.1,50˚.23N×12˚.47E,h9km,Ml4.2/43,Error ellipse: s-maj=3.2km s-min=2.2km az=152.0*

VIE ***21*** *21:04:43.1±0.2,50˚.23N×12˚.42E,h10km,mb3.2/20, ml4.2/19,Error ellipse: s-maj=3.2km s-min=2.4km az=37.0*

WBNET ***21*** *21:04:43.3,50˚.24N×12˚.45E,h7km,Ml3.8*

BGR ***21*** *21:04:43.0±0.2,50˚.24N×12˚.46E,h9km±1km,ML3.9/6, Error ellipse: s-maj=2.2km s-min=1.1km az=91.0*

CLL ***21*** *21:04:43.7±0.3,50˚.24N×12˚.45E,h6km±1km,ML3.8*

IPEC ***21*** *21:04:43.0±0.1,50˚.25N×12˚.46E,h9km,Ml4.1/10,Error ellipse: s-maj=1.5km s-min=1.0km az=128.0*

BNS ***21*** *21:04:44.4±0.3,50˚.25N×12˚.42E,h4km,ML4.0*

BUG ***21*** *21:04:44.9,50˚.20N×12˚.26E,h1km±64km,MD4.4/6, ML4.4/8*

BER ***21*** *21:04:45.4±3.5,50˚.34N×12˚.60E,h0km±203km,ML2.7, ML3.4(DNK)*

ISC 21 21:04:42.0±0.6, 50˚.24N±0˚.01×12˚.36E±0˚.01, h14km±2km, n413,σ1ϟ91/563, mb4.2/5, 16C-25D, Germany

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
VAC	**Vackov**	**0.01**	**119**	*i* Pg		**Pg**		**21 04 45.0**	**+0.4**
VAC				*i* Sg		**Sg**		**21 04 46.1**	**-0.3**
VAC	**Vackov**	**0.01**	**119**	⇓P		**Pg**		**21 04 45.1**	**+0.4**
VAC				S		**Sg**		**21 04 46.1**	**-0.3**
ROHR	**Rohrbach**	**0.03**	**260**	*i* Pg		**Pg**		**21 04 45.5**	**+0.8**
ROHR				*i* Sg		**Sg**		**21 04 46.9**	**+0.4**
ROHR				IAML				21 04 47.3	
	comp=E,110µm,0.3s								
ROHR	**Rohrbach**	**0.03**	**260**	*i* Pg		**Pg**		**21 04 45.5**	**+0.8**
ROHR				*i* Sg		**Sg**		**21 04 46.9**	**+0.4**
	comp=E,110µm,0.3s								
LBCW	**Luby**	**0.04**	**50**	⇓P		**Pg**		**21 04 45.0**	**+0.2**
LBCW				S		**Sg**		**21 04 46.1**	**-0.5**
WERN	**Wernitzgruen**	**0.05**	**10**	*i* Pg		**Pg**		**21 04 45.3**	**+0.5**
WERN				*i* Sg		**Sg**		**21 04 46.6**	**-0.1**
WERN				IAML				21 04 46.9	
	comp=N,51µm,0.3s								
WERN	**Wernitzgruen**	**0.05**	**10**	*i* Pg		**Pg**		**21 04 45.3**	**+0.5**
WERN				*i* Sg		**Sg**		**21 04 46.6**	**-0.1**
	comp=N,51µm,0.3s								
NKC	**Novy Kostel**	**0.06**	**96**	*i* Pg		**Pg**		**21 04 44.8**	**-0.1**
NKC				*i* Sg		**Sg**		**21 04 45.7**	**-1.0**
NKC				IAML				21 04 46.0	
	comp=E,319µm,0.3s								
NKC	**Novy Kostel**	**0.06**	**96**	*e*PG		**Pg**		**21 04 44.7**	**-0.1**
NKC				*e*SG		**Sg**		**21 04 45.5**	**-1.2**
	comp=E,127µm,0.3s								
NKC	**Novy Kostel**	**0.06**	**96**	*i* Pg		**Pg**		**21 04 44.8**	**-0.1**
NKC				*i* Sg		**Sg**		**21 04 45.7**	**-1.0**
	comp=E,319µm,0.3s								
NKC	**Novy Kostel**	**0.06**	**96**	⇓P		**Pg**		**21 04 44.8**	**-0.1**
NKC				S		**Sg**		**21 04 45.7**	**-1.0**
SKC	**Skalna**	**0.07**	**181**	⇑P		**Pg**		**21 04 45.6**	**+0.7**
SKC				S		**Sg**		**21 04 47.2**	**+0.3**
KOCW	**Kopaniny**	**0.09**	**287**	⇓P		**Pb**		**21 04 46.4**	**+1.3**
KOCW				S		**Sb**		**21 04 48.4**	**+1.2**
POCW	**Potky**	**0.09**	**27**	⇓P		**Pg**		**21 04 45.5**	**+0.3**
POCW				S		**Sg**		**21 04 46.9**	**-0.4**
KVC	**Kvetna**	**0.10**	**109**	*i* Pg		**Pg**		**21 04 45.1**	**-0.2**
KVC				*i* Sg		**Sg**		**21 04 46.1**	**-1.3**
KVC	**Kvetna**	**0.10**	**109**	⇑P		**Pg**		**21 04 45.1**	**-0.2**
KVC				S		**Sg**		**21 04 46.2**	**-1.3**
STCW	**Studenec**	**0.10**	**79**	*e*Pg		**Pg**		**21 04 46.0**	**-0.3**
STCW				*i* Sg		**Sg**		**21 04 46.0**	**-1.5**
STCW	**Studenec**	**0.10**	**79**	*e*Pg		**Pg**		**21 04 45.0**	**-0.3**
STCW				*i* Sg		**Sg**		**21 04 46.0**	**-1.5**
STCW	**Studenec**	**0.10**	**79**	⇑P		**Pg**		**21 04 45.0**	**-0.3**
STCW				S		**Sg**		**21 04 46.0**	**-1.5**
GUNZ	**Gunzen**	**0.13**	**351**	*i* Pg		**Pb**		**21 04 46.5**	**+0.3**
GUNZ				*i* Sg		**Sg**		**21 04 48.5**	**+0.5**
GUNZ				IAML				21 04 49.2	
	comp=N,15µm,0.7s								
GUNZ	**Gunzen**	**0.13**	**351**	*i* Pg		**Pb**		**21 04 46.5**	**+0.3**
GUNZ				*i* Sg		**Sg**		**21 04 48.5**	**+0.5**
	comp=N,15µm,0.7s								
KRCW	**Kraslice**	**0.14**	**49**	⇑P		**Pg**		**21 04 45.8**	**0.0**
KRCW				S		**Sg**		**21 04 47.3**	**-1.0**
TRCW	**Trojmez**	**0.15**	**295**	⇓P		**Pb**		**21 04 47.6**	**+0.9**
TRCW				S		**Sb**		**21 04 50.4**	**+0.6**
ZHC	**Zelena Hora**	**0.17**	**192**	⇑P		**Pb**		**21 04 47.4**	**+0.4**
ZHC				S		**Sb**		**21 04 50.1**	**-0.2**
MULD	**Muldenberg**	**0.17**	**9**	*i* Pg		**Pb**		**21 04 46.9**	**-0.2**
MULD				*i* Sg		**Sg**		**21 04 49.2**	**0.0**
MULD				IAML				21 04 49.7	
	comp=E,15µm,0.3s								
MULD	**Muldenberg**	**0.17**	**9**	*i* Pg		**Pb**		**21 04 46.9**	**-0.2**
MULD				*i* Sg		**Sg**		**21 04 49.2**	**0.0**
	comp=E,15µm,0.3s								
VIEL	**Selb-Vielitz**	**0.18**	**252**	*i* Pg		**Pb**		**21 04 47.9**	**+0.8**
VIEL				*i* Sg		**Sb**		**21 04 51.0**	**+0.6**
VIEL	**Selb-Vielitz**	**0.18**	**252**	*i* Pg		**Pb**		**21 04 47.9**	**+0.8**
VIEL				*i* Sg		**Sb**		**21 04 51.0**	**+0.6**
TRIB	**Obertriebel**	**0.18**	**308**	*i* Pg		**Pb**		**21 04 47.9**	**+0.7**
TRIB				*i* Sg		**Sb**		**21 04 51.0**	**+0.4**
TRIB				IAML				21 04 51.4	
	comp=E,9µm,0.4s								
TRIB	**Obertriebel**	**0.18**	**308**	*i* Pg		**Pb**		**21 04 47.9**	**+0.7**
TRIB				*i* Sg		**Sb**		**21 04 51.0**	**+0.4**
	comp=E,9µm,0.4s								
TANN	**Tannenbergstha**	**0.19**	**20**	*e*Pg		**Pb**		**21 04 47.0**	**-0.3**
TANN				*i* Sg		**Sg**		**21 04 49.1**	**-0.4**
TANN				IAML				21 04 49.7	
	comp=E,16µm,0.3s								
TANN	**Tannenbergstha**	**0.19**	**20**	*e*Pg		**Pb**		**21 04 47.0**	**-0.3**
TANN				*i* Sg		**Sg**		**21 04 49.1**	**-0.4**
	comp=E,16µm,0.3s								
WERD	**Werda**	**0.21**	**350**	*i* Pg		**Pb**		**21 04 47.9**	**+0.2**
WERD				*e*Sg		**Sg**		**21 04 50.7**	**+0.6**
WERD				IAML				21 04 51.5	
	comp=N,7µm,0.2s								
WERD	**Werda**	**0.21**	**350**	*i* Pg		**Pb**		**21 04 47.9**	**+0.2**
WERD				*e*Sg		**Sg**		**21 04 50.7**	**+0.6**
	comp=N,7µm,0.2s								
LACW	**Lazy**	**0.25**	**138**	*i* Pg		**Pb**		**21 04 47.9**	**-0.4**
LACW				*i* Sg		**Sg**		**21 04 51.1**	**-0.2**
LACW	**Lazy**	**0.25**	**138**	*i* Pg		**Pb**		**21 04 47.9**	**-0.4**
LACW				*i* Sg		**Sg**		**21 04 51.1**	**-0.2**
LACW	**Lazy**	**0.25**	**138**	⇓P		**Pb**		**21 04 48.0**	**-0.4**
LACW				S		**Sg**		**21 04 51.1**	**-0.2**
PLN	**Plauen**	**0.28**	**332**	*i* Pg		**Pb**		**21 04 49.4**	**+0.6**
PLN				*i* Sg		**Sb**		**21 04 53.4**	**0.0**
PLN				IAML				21 04 54.0	
	comp=E,4µm,0.1s								
PLN	**Plauen**	**0.28**	**332**	*i* Pg		**Pb**		**21 04 49.4**	**+0.6**
PLN				*i* Sg		**Sb**		**21 04 53.4**	**0.0**
	comp=E,4µm,0.1s								
SCHF	**Schoenfels**	**0.44**	**3**	*i* Pg		**Pb**		**21 04 51.8**	**+0.2**
SCHF				*i* Sg		**Sg**		**21 04 57.5**	**+0.8**
SCHF				IAML				21 04 58.1	
	comp=E,12µm,0.2s								
SCHF	**Schoenfels**	**0.44**	**3**	*i* Pg		**Pb**		**21 04 51.8**	**+0.2**
SCHF				*i* Sg		**Sg**		**21 04 57.5**	**+0.8**
	comp=E,12µm,0.2s								
GRZ1	**Mausoleum Wald**	**0.46**	**349**	*i* Pg		**Pb**		**21 04 52.4**	**+0.5**
GRZ1				*i* Sg		**Sb**		**21 04 58.4**	**-0.3**
GRZ1				IAML				21 05 00.2	
	comp=N,6µm,0.8s								
GRZ1	**Mausoleum Wald**	**0.46**	**349**	*i* Pg		**Pb**		**21 04 52.4**	**+0.5**
GRZ1				*i* Sg		**Sb**		**21 04 58.4**	**-0.3**
	comp=N,6µm,0.8s								
ROTZ	**Rotzenmuhle**	**0.48**	**192**	*e*Pg		**Pb**		**21 04 53.0**	**+0.7**
ROTZ				*e*Sg		**Sb**		**21 04 59.5**	**+0.2**
ZEU	**Talsperre Zeul**	**0.50**	**330**	*i* Pg		**Pb**		**21 04 53.4**	**+0.8**
ZEU				*e*Sg		**Sb**		**21 05 00.4**	**+0.7**
ZEU	**Talsperre Zeul**	**0.50**	**330**	*i* Pg		**Pb**		**21 04 53.4**	**+0.8**
ZEU				*e*Sg		**Sb**		**21 05 00.4**	**+0.7**
MOX	**Moxa**	**0.63**	**311**	*e*Pg		**Pn**		**21 04 56.0**	**-0.5**
MOX				*e*Sg		**Sb**		**21 05 05.2**	**+1.8**
HSKC	**Hora Svate Kat**	**0.78**	**61**	*e*PG		**Pg**		**21 04 57.0**	**-0.1**
HSKC				*e*SG		**Sg**		**21 05 06.3**	**-1.1**
	comp=N,3µm,0.3s								
GRA1	**Grafenberg Arr**	**0.92**	**234**	Pg		**Pn**		**21 05 01.5**	**+1.0**
GRA1						**Sn**		**21 05 14.0**	**+0.5**
GRF	**Grafenberg Arr**	**0.92**	**234**	*e*Pg		**Pn**		**21 05 01.8**	**+1.3**
GRF				*e*Sg		**Sn**		**21 05 14.6**	**+1.2**
GRFO	**Grafenberg**	**0.92**	**234**	Pg		**Pn**		**21 05 01.5**	**+1.0**
GRFO				Sg		**Sn**		**21 05 14.0**	**+0.6**
FBE	**Freiberg**	**0.93**	**42**	*e*Pg		**Pn**		**21 05 00.3**	**-0.3**
FBE				*e*Sg		**Sg**		**21 05 11.6**	**-0.7**
GRB2	**Grafenberg Arr**	**1.07**	**205**	Pn		**Pn**		**21 05 03.6**	**+1.0**
GRB2				Sn		**Sn**		**21 05 17.2**	**0.0**
CLL	**Collm**	**1.14**	**21**			**Pg**		**21 05 03.9**	**-0.1**
CLL	**Collm**	**1.14**	**21**	*i* Pg		**Pg**		**21 05 04.3**	**+0.2**
CLL				*i* x		x		21 05 07.0	
CLL				*i* Sg		**Sg**		**21 05 19.0**	**0.0**
	comp=Z,2µm,0.4s								
CLL				*i* x		x		21 05 22.6	
CLL	**Collm**	**1.14**	**21**	*e*Pg		**Pg**		**21 05 04.4**	**+0.4**
CLL				*e*Sg		**Sn**		**21 05 19.2**	**+0.2**
CLL	**Collm**	**1.14**	**21**	P		**Pg**		**21 05 04.0**	**-0.1**
WET	**Wettzell**	**1.15**	**163**	*e*Pg		**Pg**		**21 05 04.4**	**+0.3**
WET				*e*Sg		**Sn**		**21 05 19.2**	**+0.1**
RICC	**Richard**	**1.15**	**74**	*e*SG		**Sb**		**21 05 18.3**	**-0.2**
	comp=Z,4µm,0.3s								
BRG	**Berggiesshubel**	**1.19**	**57**	Pg		**Pg**		**21 05 04.8**	**-0.1**
BRG				Sg		**Sn**		**21 05 19.9**	**-0.3**
BRG				Amp				21 05 21.6	
	comp=Z,2µm,0.3s								
BRG				Amp				21 05 22.0	
	comp=N,1.9nm,1.0s								
BRG				Amp				21 05 26.0	
	comp=E,1.3nm,1.8s								
BRG				Amp				21 05 26.0	
	comp=Z,1.6nm,3.1s								
BRG	**Berggiesshubel**	**1.19**	**57**	*e*Pg		**Pg**		**21 05 04.8**	**-0.1**
BRG				*e*Sg		**Sn**		**21 05 19.8**	**-0.4**
PRA	**Prague**	**1.34**	**96**	*e*SG		**Sb**		**21 05 22.9**	**-1.0**
GRC1	**Grafenberg Arr**	**1.36**	**204**	Pg		**Pg**		**21 05 09.2**	**+1.1**
GRC1				Sg		**Sg**		**21 05 27.1**	**+1.2**
KHC	**Kasperske Hory**	**1.36**	**144**	Pn		**Pb**		**21 05 07.2**	**-0.1**
KHC	**Kasperske Hory**	**1.36**	**144**	*e*PG		**Pn**		**21 05 06.5**	**-0.1**
KHC				*e*SG		**Sg**		**21 05 25.3**	**-0.6**
	comp=Z,823nm,0.2s								
KHC	**Kasperske Hory**	**1.36**	**144**	P		**Pb**		**21 05 07.2**	**-0.1**
PRU	**Pruhonice**	**1.43**	**99**	*e*SG		**Sb**		**21 05 26.5**	**+0.2**
	comp=Z,2µm,0.4s								
PRU	**Pruhonice**	**1.43**	**99**	*e*Pg		**Pg**		**21 05 08.8**	**-0.6**
PRU				*e*Sg		**Sg**		**21 05 26.9**	**-1.0**
PVCC	**Panska Ves**	**1.44**	**78**	*e*SG		**Sg**		**21 05 27.3**	**-1.2**
	comp=Z,3µm,0.3s								
GOPC	**GO Pecny, Ondr**	**1.59**	**101**	*e*SG		**Sb**		**21 05 31.5**	**+0.2**
GEC2	**GERESS Array S**	**1.65**	**147**	Pn		**Pn**		**21 05 11.2**	**+0.6**
GEC2	**GERESS Array S**	**1.65**	**147**	*e*Pg		**Pg**		**21 05 13.1**	**-0.6**
GEC2				*e*Sg		**Sb**		**21 05 33.5**	**+0.7**
GERES	**GERESS Array B**	**1.65**	**147**	Pn		**Pb**		**21 05 12.0**	**-0.2**
GERES	**GERESS Array B**	**1.65**	**147**	Pg		**Pb**		**21 05 11.5**	**-0.7**
	comp=Z,290nm,0.3s,baz=337,slow=18,SNR=65								
GERES					Lg		Lg	21 05 33.5	
	comp=Z,344nm,0.3s,baz=329,slow=30,SNR=21								
CKRC	**Cesky Krumlov**	**1.90**	**138**	*e*SG		**Sb**		**21 05 41.2**	**+1.1**
	comp=Z,372nm,0.3s								
MILB	**Miltenberg**	**2.02**	**259**	Pg		**Pg**		**21 05 22.5**	**+1.7**
HDH	**Heidenheim-Cha**	**2.18**	**221**	Pn		**Pn**		**21 05 18.5**	**+0.7**
HDH				Pg		**Pg**		**21 05 24.9**	**+1.1**
TREC	**Trest**	**2.23**	**114**	*e*SG		**Sb**		**21 05 50.1**	**+0.4**
	comp=Z,693nm,0.5s								
URBA	**Urbach, Forsts**	**2.29**	**233**	⇑Pn		**Pn**		**21 05 20.5**	**+1.2**
URBA				Pg		**Pg**		**21 05 26.5**	**+0.6**
URBA				Sg		**Sg**		**21 05 56.5**	**+1.0**
UPC	**Upice**	**2.35**	**82**	*e*SG		**Sb**		**21 05 54.6**	**+1.6**
	comp=Z,1µm,0.7s								
WBA	**Furth**	**2.36**	**257**	Pg		**Pg**		**21 05 28.2**	**+0.9**
WBA				Sg		**Sg**		**21 05 59.2**	**+1.2**
FLIN	**Helmstadt-Barg**	**2.37**	**248**	Pn		**Pn**		**21 05 22.0**	**+1.6**
DEGG	**Deggingen-Nord**	**2.38**	**228**	Pn		**Pn**		**21 05 21.2**	**+0.6**
CHVC	**Chvalec**	**2.39**	**80**	*e*SG		**Sg**		**21 05 56.0**	**-2.7**
WBB	**Darmstadt**	**2.42**	**262**	Sg		**Sg**		**21 06 00.6**	**+0.9**
STU	**Stuttgart**	**2.53**	**236**	Pn		**Pn**		**21 05 23.3**	**+0.6**
DPC	**Dobruska-Polom**	**2.54**	**86**	*e*SG		**Sb**		**21 05 59.8**	**+1.3**
	comp=Z,525nm,0.4s								
BUCH	**Bad Urach**	**2.66**	**229**	Pn		**Pn**		**21 05 24.9**	**+0.4**
BUCH				Pg		**Pg**		**21 05 33.9**	**+0.8**
BIOA	**Bad Ischl, Aus**	**2.69**	**161**	*e*Pn		**Pn**		**21 05 26.7**	**+1.9**
	comp=Z,25nm,0.3s								
BRET	**Bretten**	**2.69**	**244**	Pg		**Pg**		**21 05 34.2**	**+0.7**
BRET				Sg		**Sg**		**21 06 09.3**	**+1.0**
MOA	**Molln**	**2.70**	**152**	Pn		**Pn**		**21 05 25.8**	**+0.8**
	comp=Z,9.2nm,0.2s,SNR=12								
GALG	**Neuhausen (Enz**	**2.75**	**239**	Pn		**Pn**		**21 05 26.5**	**+0.8**
GALG				Pg		**Pg**		**21 05 34.8**	**+0.1**
ZWI	**Zwiefalten, Ha**	**2.75**	**225**	Pn		**Pn**		**21 05 26.0**	**+0.3**
ZWI				Pg		**Pg**		**21 05 35.5**	**+0.7**
LESA	**Schwarzleotal**	**2.83**	**176**	*e*Pn		**Pn**		**21 05 27.7**	**+0.9**
	comp=Z,2.5nm,0.2s								
KRLC	**Kraliky**	**2.85**	**92**	*e*SG		**Sg**		**21 06 10.6**	**-2.8**
GWBB	**Espenschied/He**	**2.87**	**269**	Pn		**Pb**		**21 05 30.8**	**-2.2**
KRUC	**Moravsky**	**2.87**	**113**	*e*SG		**Sg**		**21 06 11.6**	**-2.7**
KRUC	**Moravsky**	**2.87**	**113**	*e*Pn		**Pn**		**21 05 28.3**	**+1.0**
	baz=296								
KRUC				*e*Sg		**Sg**		**21 06 11.6**	**-2.7**
	comp=Z,1µm,0.6s,baz=296								
KRUC	**Moravsky**	**2.87**	**113**	*e*PN		**Pn**		**21 05 28.4**	**+1.1**
NAST	**IGS Nastaetten**	**2.89**	**271**	*e*Pn		**Pn**		**21 05 30.2**	**+2.6**
VRAC	**Vranov**	**2.90**	**107**	⇑S		**Sn**		**21 06 03.6**	**+1.3**
VRAC	**Vranov**	**2.90**	**107**	*e*SG		**Sg**		**21 06 12.5**	**-2.5**
VRAC	**Vranov**	**2.90**	**107**	Pn		**Pn**		**21 05 28.2**	**+0.6**
	comp=Z,6.3nm,0.3s,baz=283,slow=15,SNR=18								
VRAC					Lg		Lg	21 06 09.1	
	comp=Z,135nm,0.3s,baz=12,slow=21,SNR=17								
	comp=Z,17nm,0.4s								
VRAC	**Vranov**	**2.90**	**107**	*e*Pn		**Pn**		**21 05 28.3**	**+0.6**
	baz=291								
VRAC				*e*Sg		**Sg**		**21 06 12.5**	**-2.5**
	comp=Z,1µm,0.8s,baz=291								
VRAC	**Vranov**	**2.90**	**107**	⇓P		**Pn**		**21 05 28.2**	**+0.6**
VRAC	**Vranov**	**2.90**	**107**	*e*PN		**Pn**		**21 05 28.3**	**+0.6**
FREU	**Neufra-Freuden**	**2.91**	**228**	Pn		**Pn**		**21 05 28.4**	**+0.4**
FREU				Pg		**Pg**		**21 05 38.4**	**+0.6**
FREU				Sg		**Sg**		**21 06 17.6**	**+2.0**
BIW	**Bindweide**	**2.93**	**281**	Pn		**Pn**		**21 05 30.9**	**+2.8**
RETA	**Reutte**	**2.95**	**202**	*e*Pn		**Pn**		**21 05 29.7**	**+1.3**
	comp=Z,14nm,0.2s,SNR=5.9								
RETA	**Reutte**	**2.95**	**202**	Pg		**Pg**		**21 05 39.4**	**+0.8**
RETA				Sg		**Sg**		**21 06 17.3**	**+0.5**
WATA	**Walderalm**	**2.95**	**190**	*e*Pn		**Pn**		**21 05 29.4**	**+0.8**
	comp=Z,5.5nm,0.1s,SNR=10								
WATA				Sn		**Sn**		**21 06 05.1**	**+1.2**
	comp=Z,136nm,0.2s								
IMS	**Imsbach**	**2.96**	**259**	Pg		**Pg**		**21 05 38.5**	**-0.1**
IMS				Sg		**Sg**		**21 06 17.5**	**+0.5**
UBR	**Ueberruh**	**2.96**	**211**	Pn		**Pn**		**21 05 28.9**	**+0.3**
UBR				Pg		**Pg**		**21 05 40.4**	**+1.6**
UBR				Sg		**Sg**		**21 06 18.5**	**+1.4**
KOE	**Koeppel**	**2.97**	**275**	*e*Pn		**Pn**		**21 05 31.3**	**+2.6**
MOTA	**Moosalm**	**3.01**	**197**	*e*Pn		**Pn**		**21 05 30.2**	**+0.8**
	comp=Z,1.3nm,0.1s,SNR=10								
WTTA	**Wattenberg**	**3.02**	**189**	*e*Pn		**Pn**		**21 05 30.4**	**+0.9**
	comp=Z,6.5nm,0.3s,SNR=7.7								
MSS	**Messtetten**	**3.04**	**229**	Pn		**Pn**		**21 05 30.0**	**+0.3**
MSS				Pg		**Pg**		**21 05 41.2**	**+0.9**
GUT	**Gutenstein**	**3.04**	**226**	Pn		**Pn**		**21 05 30.1**	**+0.4**
GUT				Pg		**Pg**		**21 05 41.0**	**+0.7**
GUT				Sg		**Sg**		**21 06 21.2**	**+1.5**
NEEW	**Neewiller pres**	**3.05**	**247**	P		**Pn**		**21 05 31.7**	**+1.9**
NEEW				Pg		**Pg**		**21 05 41.9**	**+1.4**
SQTA	**Sankt Quirin**	**3.12**	**195**	*e*Pn		**Pn**		**21 05 32.3**	**+1.5**
	comp=Z,3.6nm,0.2s,SNR=12								
BABA	**Baden-Baden-Ne**	**3.12**	**242**	Pg		**Pg**		**21 05 42.3**	**+0.5**
BABA				Sg		**Sg**		**21 06 22.7**	**+0.6**
BABA	**Baden-Baden-Ne**	**3.12**	**242**	P		**Pn**		**21 05 33.2**	**+2.5**
BABA	**Baden-Baden-Ne**	**3.12**	**242**	Pg		**Pg**		**21 05 42.2**	**+0.5**
ABH	**Alteburg**	**3.12**	**265**	Pn		**Pn**		**21 05 33.9**	**+3.0**
ABH	**Alteburg**	**3.12**	**265**	Pn		**Pn**		**21 05 34.0**	**+3.1**
ROTE	**Rottweil**	**3.20**	**231**	Pn		**Pn**		**21 05 32.0**	**+0.2**
ROTE				Pg		**Pg**		**21 05 44.0**	**+0.7**
ROTE				Sg		**Sg**		**21 06 26.4**	**+1.7**
LEMB	**Lembach**	**3.23**	**250**	Pn		**Pn**		**21 05 34.9**	**+2.7**
BGG	**Burgeitz**	**3.23**	**271**	*e*Pn		**Pn**		**21 05 35.0**	**+2.8**
KBA	**Koelnbreinsper**	**3.23**	**168**	*e*Pn		**Pn**		**21 05 34.1**	**+1.7**
	comp=Z,40nm,0.3s,SNR=27								
OPP	**Oppenau**	**3.24**	**239**	Pn		**Pn**		**21 05 31.8**	**-0.6**
OPP				Pg		**Pg**		**21 05 44.6**	**+0.5**
OPP				Sg		**Sg**		**21 06 26.6**	**+0.6**
OPP	**Oppenau**	**3.24**	**239**	Pn		**Pn**		**21 05 32.3**	**-0.1**
PEB	**Petersbachel**	**3.25**	**251**	Pn		**Pn**		**21 05 35.4**	**+2.8**
PEB				Pg		**Pg**		**21 05 45.8**	**+1.5**
HMES	**Hamm, Michael-**	**3.26**	**298**	Pn		**Pb**		**21 05 36.5**	**-3.0**
HMES				Pg		**Pg**		**21 05 46.2**	**+1.8**
HMES				Sn		**Sb**		**21 06 17.2**	**-1.8**
BFO	**Black Forest**	**3.26**	**236**	Pn		**Pn**		**21 05 34.5**	**+1.8**
BFO	**Black Forest**	**3.26**	**236**	Pg		**Pg**		**21 05 45.0**	**+0.6**
BFO				Sg		**Sg**		**21 06 27.2**	**+0.5**
CONA	**Conrad Observa**	**3.26**	**134**	*i* Pn		**Pn**		**21 05 33.7**	**+0.9**
	comp=Z,19nm,0.3s,SNR=6.1								
MORC	**Moravsky Berou**	**3.37**	**96**	⇑P		**Pn**		**21 05 35.0**	**+0.8**
MORC				⇑S		**Sn**		**21 06 13.8**	**-0.3**
MORC	**Moravsky Berou**	**3.37**	**96**	Pn		**Pn**		**21 05 34.5**	**+0.3**
MORC	**Moravsky Berou**	**3.37**	**96**	*e*SG		**Sg**		**21 06 27.0**	**-3.4**
MORC	**Moravsky Berou**	**3.37**	**96**	*e*Pn		**Pn**		**21 05 34.9**	**+0.6**
	baz=280								
MORC				*e*Sg		**Sg**		**21 06 26.9**	**-3.4**
	comp=Z,835nm,0.6s,baz=280								
MORC	**Moravsky Berou**	**3.37**	**96**	*e*PN		**Pn**		**21 05 34.9**	**+0.6**
DAVA	**Damuels**	**3.38**	**210**	*e*Pn		**Pn**		**21 05 35.5**	**+1.0**
	comp=Z,5.4nm,0.1s,SNR=6.4								
AHRW	**Bad

comp=Z,75nm,0.6s
MPLH Magyarpolny 4.60 130 P **Pn** **21 05 51.6 +0.5**
SRO Srobarova 4.61 120 *e*PN **Pn** **21 05 52.4 +1.3**
SRO *e*SG **Sg** **21 07 07.1 -2.7**
SRO *e*LG Lg 21 07 16.9
PAGF Fort de Pagny 4.65 251 *e*Pn **Pn** **21 05 54.0 +2.2**
PAGF Fort de Pagny 4.65 251 *e*Pg **Pg** **21 06 11.9 +0.8**
PAGF *e*Sg **Sg** **21 07 10.3 -1.0**
comp=Z,131nm,0.4s
BGES Gesves 4.67 275 *d*P Pn 21 05 58.1 +6.1
CEY Cerknica 4.71 162 *i* Pn **Pn** **21 05 53.6 +1.0**
CEY IAML 21 07 16.7
comp=Z,178nm,0.9s
LANS Liptovska Anna 4.74 101 *e*PN **Pn** **21 05 54.3 +1.3**
LANS *e*SG **Sg** **21 07 09.9 -4.2**
LANS *e*LG Lg 21 07 20.9
OJC Ojcow 4.77 87 Pn **Pn** **21 05 55.1 +1.6**
OJC Ojcow 4.77 87 P **Pn** **21 05 54.2 +0.7**
LOBO Lobor 4.78 147 *e*Pn **Pn** **21 05 54.9 +1.4**
CHMF Charmoille 4.82 234 Pg **Pg** **21 06 14.5 +0.2**
GIVF Givet 4.85 271 *e*Pn **Pn** **21 05 57.9 +3.4**
GIVF Givet 4.85 271 *e*Pg **Pg** **21 06 15.8 +1.0**
GIVF *e*Sg **Sg** **21 07 16.7 -0.9**
comp=Z,306nm,0.7s
BMRD Maredsous 4.87 274 *d*P Pn 21 06 00.6 +5.8
KALN Kalnik 4.94 145 *e*Pn **Pn** **21 05 56.9 +1.1**
PTJ Puntijarka 4.96 150 *e*Pn **Pn** **21 05 57.8 +1.6**
DOU Dourbes 5.00 271 *d*P Pn 21 06 01.9 +5.4
SAVF Savonnieres en 5.00 254 *e*Pg **Pg** **21 06 18.9 +1.2**
SAVF *e*Sg **Sg** **21 07 21.8 -0.5**
comp=Z,134nm,0.6s
OZLJ Ozalj 5.08 155 *e*Pn **Pn** **21 05 58.4 +0.8**
MEZF Maizieres J'vi 5.08 253 *e*Pn **Pn** **21 05 59.1 +1.4**
MEZF Maizieres J'vi 5.08 253 *e*Pg **Pg** **21 06 19.4 +0.1**
MEZF *e*Sg **Sg** **21 07 22.5 -2.6**
comp=Z,214nm,0.8s
RIY Rijeka 5.12 163 *e*Pn **Pn** **21 05 59.6 +1.4**
BSD Bornholm Skovb 5.12 17 *e*P **Pn** **21 05 56.8 -1.4**
BSD *e*S **Sn** **21 06 55.1 -1.9**
BSD IAML 21 06 57.9
comp=Z,17nm,0.6s
BSD Bornholm Skovb 5.12 17 *e*P **Pn** **21 05 56.8 -1.4**
BSD *e*S **Sn** **21 06 55.1 -1.9**
BSD IAML 21 06 57.9
comp=Z,17nm,0.6s
SENIN Lac Senin/Sane 5.14 223 Pn **Pn** **21 05 59.6 +0.9**
NIE Niedzica 5.20 96 P **Pn** **21 05 59.0 -0.4**
comp=Z,8.7nm,0.8s,comp=Z,0.2nm
SFTF Sexfontaines 5.21 250 *e*Pn **Pn** **21 06 00.7 +1.2**
SFTF Sexfontaines 5.21 250 *e*Pg **Pg** **21 06 20.3 -1.5**
SFTF *e*Sg **Sg** **21 07 27.3 -2.0**
comp=Z,104nm,0.5s
BAIF Baives 5.25 271 *e*Pn **Pn** **21 06 02.9 +3.0**
BAIF Baives 5.25 271 *e*Pg **Pg** **21 06 22.5 +0.1**
BAIF *e*Sg **Sg** **21 07 28.5 -1.8**
comp=Z,71nm,0.6s
SMRN Sveta Marina 5.34 166 *e*Pn **Pn** **21 06 02.5 +1.3**
BRJN Brijuni 5.42 170 *e*Pn **Pn** **21 06 03.3 +1.0**
LUNU Lund 5.44 6 *e*P **Pn** **21 06 02.9 +0.3**
LUNU *e*S **Sn** **21 07 01.2 -3.7**
LUNU Lund 5.44 6 *e*P **Pn** **21 06 02.9 +0.3**
LUNU *e*S **Sn** **21 07 01.2 -3.7**
PSZ Piszkesteto 5.47 112 ⇑P **Pn** **21 06 03.8 +0.8**
PSZ Piszkesteto 5.47 112 Pn **Pn** **21 06 03.5 +0.4**
MOSL Moslavina 5.49 146 *e*Pn **Pn** **21 06 04.2 +0.9**
SSRD Sdr. Stenderup 5.50 344 *e*P **Pn** **21 06 05.1 +1.7**
SSRD *e*S **Sn** **21 07 05.0 -1.4**
SSRD IAML 21 07 10.6
comp=Z,35nm,0.5s
SSRD Sdr. Stenderup 5.50 344 *e*P **Pn** **21 06 05.1 +1.7**
SSRD *e*S **Sn** **21 07 05.0 -1.4**
SSRD IAML 21 07 10.6
comp=Z,35nm,0.5s
CABF La Chapelle 5.53 231 *e*Pn **Pn** **21 06 05.0 +1.0**
CABF La Chapelle 5.53 231 *e*Pg **Pg** **21 06 27.5 -0.4**
CABF *e*Sg **Sg** **21 07 38.5 -1.1**
comp=Z,184nm,0.6s
KECS Kecovo 5.59 105 *e*PN **Pn** **21 06 06.8 +2.1**
RABC Rab 5.73 162 *e*Pn **Pn** **21 06 08.2 +1.6**
PLIT Plitvice 5.80 156 *e*Pn **Pn** **21 06 08.0 +0.5**
STHS Stebnicka Huta 5.81 95 *e*PN **Pn** **21 06 08.5 +0.8**
STHS *e*SG **Sg** **21 07 45.5 -2.8**
STHS *e*LG Lg 21 07 56.9
MORH Mrgy, Hungar 5.81 131 ⇑P **Pn** **21 06 08.4 +0.6**
MORH Mrgy, Hungar 5.81 131 P **Pn** **21 06 07.7 0.0**
comp=Z,20nm,1.1s,comp=Z,0.1nm
BJUU Bjuv 5.86 4 *e*P **Pn** **21 06 09.9 +1.6**
BJUU *e*S **Sn** **21 07 12.3 -2.9**
BJUU Bjuv 5.86 4 *e*P **Pn** **21 06 09.9 +1.6**
BJUU *e*S **Sn** **21 07 12.3 -2.9**
NVLJ Novalja 5.93 162 *e*Pn **Pn** **21 06 10.5 +1.2**
ZCCA Zocca 5.97 190 Pn **Pn** **21 06 12.5 +2.3**
LPL La Plagne 6.05 221 *e*Pn **Pn** **21 06 13.0 +1.7**
LPL La Plagne 6.05 221 *e*Pg **Pg** **21 06 36.0 -1.9**
LPL *e*Sg **Sg** **21 07 53.3 -3.0**
comp=Z,35nm,0.5s
LPG La Plagne 6.06 221 *e*Pn **Pn** **21 06 12.8 +1.4**
LPG La Plagne 6.06 221 *e*Pg **Pg** **21 06 37.1 -1.0**
LPG *e*Sg **Sg** **21 07 54.3 -2.2**
comp=Z,62nm,0.7s
CRVS Cervenica-Dubn 6.07 99 *e*PN **Pn** **21 06 12.3 +1.0**
CRVS *e*SG **Sg** **21 07 56.4 -0.3**
CRVS *e*LG Lg 21 08 09.9
MSSA Maissana 6.23 199 Pn **Pn** **21 06 14.5 +0.9**
DEL Delary 6.31 8 *i* P **Pn** **21 06 13.0 -1.5**
DEL *e*S **Sn** **21 07 22.8 -3.4**
DEL Delary 6.31 8 *i* P **Pn** **21 06 13.0 -1.5**
DEL *e*S **Sn** **21 07 22.8 -3.4**
LOR Lormes 6.36 245 *e*Pn **Pn** **21 06 17.0 +1.7**
LOR Lormes 6.36 245 *e*Pg **Pg** **21 06 40.9 -2.8**
LOR *e*Sg **Sg** **21 08 03.6 -2.4**
comp=Z,128nm,0.6s
BLEU Blekinge 6.42 17 *e*P **Pn** **21 06 19.1 +3.1**
BLEU *e*S **Sn** **21 07 24.1 -4.8**
BLEU Blekinge 6.42 17 *e*P **Pn** **21 06 19.1 +3.1**
BLEU *e*S **Sn** **21 07 24.1 -4.8**
BNI Bardonecchia 6.45 219 Pn **Pn** **21 06 15.9 -0.8**
KOLS Kolonicke sedl 6.58 98 *e*PN **Pn** **21 06 19.2 +1.0**
KOLS *e*SG **Sg** **21 08 08.6 -4.3**
KOLS *e*LG Lg 21 08 20.4
SSF Saint Saulge 6.67 245 *e*Pn **Pn** **21 06 21.1 +1.6**
SSF Saint Saulge 6.67 245 *e*Pg **Pg** **21 06 48.5 -1.2**
SSF *e*Sg **Sg** **21 08 12.9 -3.2**
comp=Z,85nm,0.6s
MBDF Montbardon 6.69 217 *e*Pn **Pn** **21 06 21.8 +1.9**
MBDF Montbardon 6.69 217 *e*Pg **Pg** **21 06 47.7 -2.3**
MBDF *e*Sg **Sg** **21 08 14.1 -2.5**
comp=Z,18nm,0.5s
KWP Kalwaria Pacla 6.71 91 Pn **Pn** **21 06 20.8 +0.8**
SMF Signal de Mont 6.71 241 *e*Pn **Pn** **21 06 17.5 -2.6**
SMF Signal de Mont 6.71 241 *e*Pg **Pg** **21 06 48.4 -2.1**
SMF *e*Sg **Sg** **21 08 14.8 -2.5**
comp=Z,52nm,0.4s
OSSC Osservatorio P 6.76 187 Pn **Pn** **21 06 21.8 +1.0**
AMBH Ambrzfalva 6.80 122 ⇑P **Pn** **21 06 22.3 +1.0**
ORIF Oris-en-Rattie 6.89 222 *e*Pn **Pn** **21 06 25.0 +2.3**
ORIF Oris-en-Rattie 6.89 222 *e*Pg **Pg** **21 06 52.4 -1.6**
ORIF *e*Sg **Sg** **21 08 20.1 -3.1**
comp=Z,58nm,0.8s
AVF Avril sur Loir 6.91 243 *e*Pn **Pn** **21 06 23.7 +1.0**
AVF Avril sur Loir 6.91 243 *e*Pg **Pg** **21 06 51.9 -2.3**
AVF *e*Sg **Sg** **21 08 21.3 -2.3**
comp=Z,113nm,0.8s
CLF Chambon-Foret 6.99 255 Pn **Pn** **21 06 23.9 0.0**
BORR Bors 6.99 113 ⇓P **Pn** **21 06 25.2 +1.4**
HYF Humbligny 7.08 249 *e*Pn **Pn** **21 06 27.5 +2.3**
HYF Humbligny 7.08 249 *e*Pg **Pg** **21 06 56.0 -1.5**
HYF *e*Sn **Sn** **21 07 43.1 -2.3**
HYF *e*Sg **Sg** **21 08 26.3 -2.8**
comp=Z,379nm,0.5s
FRGS Fruska Gora 7.15 133 ⇓P **Pn** **21 06 26.7 +0.7**
FRGS Fruska Gora 7.15 133 P **Pn** **21 06 26.3 +0.2**
comp=Z,21nm,0.7s,comp=Z,0.1nm
SBF Sospel 7.21 210 *e*Pn **Pn** **21 06 29.0 +2.0**
SBF Sospel 7.21 210 *e*Pg **Pg** **21 06 58.0 -2.0**
SBF *e*Sn **Sn** **21 07 44.9 -3.7**
comp=Z,21nm,0.4s
SBF *e*Sg **Sg** **21 08 30.2 -3.1**
SSB Saint Sauveur 7.24 230 Pn **Pn** **21 06 25.7 -1.6**
BGF Bois d'Agland 7.33 243 *e*Pn **Pn** **21 06 29.2 +0.7**
BGF Bois d'Agland 7.33 243 *e*Pg **Pg** **21 06 59.4 -2.8**
BGF *e*Sg **Sg** **21 08 32.8 -4.2**

comp=Z,119nm,0.5s
VIVF Saint-Julien-l 7.49 227 *e*Pn **Pn** **21 06 32.6 +1.9**
VIVF Saint-Julien-l 7.49 227 *e*Pg **Pg** **21 07 02.7 -2.6**
VIVF *e*Sg **Sg** **21 08 39.4 -2.7**
comp=Z,13nm,0.3s
MORS Morshin 7.56 94 P **Pn** **21 06 32.6 +0.9**
SUW Suwalki 7.65 56 Pn **Pn** **21 06 31.7 -1.3**
BZS Buzias 7.75 123 ⇑P **Pn** **21 06 32.1 -2.1**
SMRF Simiane la Rot 7.79 219 *e*Pn **Pn** **21 06 36.2 +1.3**
SMRF Simiane la Rot 7.79 219 *e*Pg **Pg** **21 07 08.4 -2.6**
SMRF *e*Sn **Sn** **21 08 00.5 -2.3**
comp=Z,9.4nm,0.6s
SMRF *e*Sg **Sg** **21 08 49.3 -2.5**
TCF Toulx Ste Croi 7.84 244 *e*Pn **Pn** **21 06 36.8 +1.2**
TCF Toulx Ste Croi 7.84 244 *e*Pg **Pg** **21 07 09.6 -2.5**
TCF *e*Sg **Sg** **21 08 49.7 -3.8**
comp=Z,33nm,0.5s
LMR La Mourre 7.99 212 *e*Pn **Pn** **21 06 40.0 +2.4**
LMR *e*Sn **Sn** **21 08 04.8 -2.8**
MARR Marisel-Cluj 7.99 112 ⇓P **Pn** **21 06 38.3 +0.6**
LDF La Druitiere 8.31 263 *e*Pn **Pn** **21 06 43.5 +1.6**
LDF La Druitiere 8.31 263 *e*Pg **Pg** **21 07 18.4 -2.5**
LDF *e*Sg **Sg** **21 09 04.3 -4.1**
comp=Z,48nm,0.8s
MDVR Moldovita 8.36 127 ⇑P Pn 21 06 35.9 -6.8
HOMB Homborsund 8.36 346 *i* P **Pn** **21 06 43.0 +0.5**
HOMB *e*S **Sn** **21 08 09.6 -6.9**
HOMB Homborsund 8.36 346 *i* P **Pn** **21 06 43.0 +0.5**
HOMB *e*S **Sn** **21 08 09.6 -6.9**
LASF Ste Croix 8.46 226 *e*Pn **Pn** **21 06 46.2 +2.1**
LASF Ste Croix 8.46 226 *e*Pg **Pg** **21 07 20.9 -2.9**
LASF *e*Sg **Sg** **21 09 09.6 -3.6**
comp=Z,28nm,0.6s
FLN La Foliniere 8.49 265 *e*Pn **Pn** **21 06 45.9 +1.4**
FLN *e*Sg **Sg** **21 09 09.3 -5.0**
comp=Z,38nm,0.8s
GZR Gura Zlata 8.52 121 ⇑P **Pn** **21 06 45.2 +0.2**
SNART Smartemo 8.65 342 *e*P **Pn** **21 06 48.5 +1.8**
VIKU Vikbolandet 8.66 15 *e*P **Pn** **21 06 44.5 -2.1**
CAF Calviac 8.76 237 *e*Pn **Pn** **21 06 49.7 +1.6**
CAF Calviac 8.76 237 *e*Pg **Pg** **21 07 26.1 -3.4**
CAF *e*Sg **Sg** **21 09 20.3 -2.4**
comp=Z,17nm,0.6s
PABE Paberze 8.78 49 Pn **Pn** **21 06 47.8 -0.5**
SGRT San Giovanni R 8.80 163 Pn **Pn** **21 06 48.1 -0.7**
RJF Les Rejaudoux 8.81 240 *e*Pn **Pn** **21 06 49.7 +0.8**
RJF Les Rejaudoux 8.81 240 *e*Pg **Pg** **21 07 27.0 -3.6**
RJF *e*Sg **Sg** **21 09 19.1 -5.5**
comp=Z,48nm,0.9s
GRR Gorron 8.84 263 *e*Pn **Pn** **21 06 51.2 +2.0**
GRR Gorron 8.84 263 *e*Pg **Pg** **21 07 27.3 -3.7**
GRR *e*Sn **Sn** **21 08 24.1 -4.3**
GRR *e*Sg **Sg** **21 09 22.0 -3.3**
comp=Z,34nm,0.7s
BUR08 Bucovina Ar. S 8.84 102 Pn **Pn** **21 06 50.3 +0.9**
STRU Stroemstad 8.84 356 *e*P **Pn** **21 06 50.3 +1.2**
BURAR Bucovina Array 8.86 102 ⇑P **Pn** **21 06 49.7 +0.1**
BURAR Bucovina Array 8.86 102 Pn **Pn** **21 06 49.9 +0.2**
MFF Saint Martin d 9.08 251 *e*Pn **Pn** **21 06 53.3 +0.8**
MFF Saint Martin d 9.08 251 *e*Pg Pn 21 07 33.2 +41
MFF *e*Sg Sn 21 09 28.4 +54
comp=Z,28nm,0.7s
LFF La Frestale 9.47 240 *e*Pn **Pn** **21 06 58.3 +0.4**
LFF La Frestale 9.47 240 *e*Pg Pn 21 07 39.5 +42
LFF *e*Sg Sn 21 09 41.8 +58
comp=Z,77nm,0.8s
MTLF Montolieu 9.79 229 *e*Pn **Pn** **21 07 03.9 +1.6**
MTLF Montolieu 9.79 229 *e*Pg Pn 21 07 45.3 +43
MTLF *e*Sg Sn 21 09 50.9 +59
comp=Z,11nm,0.6s
LUBAR Lubar, Ukraine 9.91 86 P **Pn** **21 07 05.7 +1.9**
NACGM Naroch 9.94 56 *e*P **Pn** **21 07 03.8 -0.5**
comp=Z,6.0nm,0.9s,baz=248
HFS Hagfors 9.95 4 Pn **Pn** **21 07 03.6 -0.7**
comp=Z,0.4nm,0.5s,baz=165,slow=13,SNR=1.7
HFS Sn **Sn** **21 08 50.9 -4.6**
comp=Z,0.5nm,0.3s,baz=183,slow=23,SNR=3.1
HFS Lg Lg 21 09 58.5
comp=Z,0.3nm,0.3s,baz=167,slow=26,SNR=1.3
SGMF Saint Gilles 9.96 264 *e*Pn **Pn** **21 07 05.8 +1.2**
SGMF *e*Sg 21 09 57.1
comp=Z,71nm,1.1s
IDID Didziasalis 10.08 54 *e*P **Pn** **21 07 10.9 +4.7**
ROSF Rostrenen 10.39 265 *e*Pn **Pn** **21 07 11.5 +1.0**
ROSF *e*Sg 21 10 10.0
comp=Z,40nm,0.9s
MNK Minsk 10.40 60 *i* P **Pn** **21 07 12.1 +1.6**
comp=E,3.0nm,0.9s
MNK *i* P **Pn** **21 07 12.1 +1.6**
comp=N,5.0nm,0.9s
MNK *i* P **Pn** **21 07 12.1 +1.6**
comp=Z,6.0nm,0.8s,baz=252
MNK *i* PP **PnPn** **21 07 20.3 +2.3**
MNK *i* PPP PPP 21 07 27.4
MNK *i* S **Sn** **21 09 08.9 +2.1**
MNK *i* SS **SnSn** **21 09 24.2 +6.1**
MNK *i* LR LR 21 09 43.2
MNK *i* LQ LQ 21 10 06.8
MNK *i* LRM MLR 21 10 16.0
comp=Z,48nm,16.2s
MNK *i* LRM MLR 21 10 42.2
comp=N,40nm,15.2s
MNK *i* LRM MLR 21 10 58.6
comp=E,27nm,16.8s
QUIF Quistinic 10.45 263 *e*Pn **Pn** **21 07 12.7 +1.4**
QUIF *e*Sg 21 10 11.5
comp=E,25nm,0.8s
NC602 NORSAR Array S 10.53 358 Pn **Pn** **21 07 11.0 -1.3**
AK20 Malin Array Si 10.62 81 P **Pn** **21 07 14.7 +1.1**
AK19 Malin Array Si 10.62 81 P **Pn** **21 07 15.2 +1.5**
AK21 Malin Array Si 10.64 81 P **Pn** **21 07 15.7 +1.8**
AK22 Malin Array Si 10.66 81 P **Pn** **21 07 16.4 +2.3**
AK18 Malin Array Si 10.66 81 P **Pn** **21 07 16.3 +2.2**
EKA Eskdalemuir Ar 10.69 304 Pn **Pn** **21 07 15.7 +1.2**
baz=113,slow=14
EKA Sn **Sn** **21 09 07.4 -6.3**
baz=114,slow=26
comp=E,1.1nm,0.4s
AK15 Malin Array Si 10.70 81 P **Pn** **21 07 16.7 +2.0**
EKB Eskdalemuir 10.71 304 Pn **Pn** **21 07 15.9 +1.2**
AK11 Malin Array Si 10.73 81 P **Pn** **21 07 17.0 +2.0**
KIEV Kiev 10.75 81 Pn **Pn** **21 07 15.6 +0.2**
KIEV Kiev 10.75 81 P **Pn** **21 07 15.4 0.0**
comp=E,31nm,1.4s
AK02 Malin Array Si 10.75 81 P **Pn** **21 07 16.8 +1.4**
AK05 Malin Array Si 10.75 81 P **Pn** **21 07 17.9 +2.5**
AK01 Malin Array Si 10.76 81 P **Pn** **21 07 15.3 -0.1**
AKASG Malin Array Be 10.76 81 Pn **Pn** **21 07 15.5 0.0**
comp=E,0.8nm,0.3s,baz=274,slow=12,SNR=10
AKASG Lg Lg 21 10 15.4
comp=E,0.9nm,0.3s,baz=280,slow=26,SNR=4.7
comp=E,0.5nm,0.4s
AKBB Malin Array Si 10.76 81 Pn **Pn** **21 07 15.2 -0.3**
AKBB Malin Array Si 10.76 81 P **Pn** **21 07 16.3 +0.8**
MTSE Matsula 10.78 34 *e*P **Pn** **21 07 15.8 +0.2**
AK10 Malin Array Si 10.79 82 P **Pn** **21 07 17.5 +1.6**
NOA NORSAR Array B 10.85 357 Pn **Pn** **21 07 16.4 -0.3**
baz=184,slow=13,SNR=5.9
NOA Sn **Sn** **21 09 10.5 -7.2**
baz=185,slow=17,SNR=1.7
comp=E,0.2nm,0.4s
NB201 NORSAR Array S 10.85 357 Pn **Pn** **21 07 15.4 -1.3**
NB201 NORSAR Array S 10.85 357 *e*P **Pn** **21 07 17.9 +1.2**
AAL Aland 10.86 21 *e*P **Pn** **21 07 12.9 -4.0**
NC405 NORSAR Array S 10.91 358 Pn **Pn** **21 07 15.8 -1.7**
EPF Esparros 10.96 233 *e*Sg 21 10 27.5
comp=E,7.4nm,0.6s
NC303 NORSAR Array S 11.03 357 Pn **Pn** **21 07 18.0 -1.1**
NC303 NORSAR Array S 11.03 357 *e*P **Pn** **21 07 19.9 +0.8**
SCTE Santa Cesarea 11.04 155 Pn **Pn** **21 07 20.1 +0.7**
NC204 NORSAR Array S 11.10 356 Pn **Pn** **21 07 20.6 +0.5**
TIP Timpagrande 11.49 163 Pn **Pn** **21 07 28.1 +2.5**
ETSF Etsaut 11.52 235 *e*Sg 21 10 44.0
comp=E,0.7nm,0.2s
RAF Rauma 12.03 22 *e*P Pn 21 07 27.0 -5.7
ARBE Arbaare 12.08 35 *e*P **Pn** **21 07 34.0 +0.5**
MEF Metsahovi 12.11 30 *e*P **Pn** **21 07 30.6 -3.3**
FINES FINESS Array B 13.58 29 Pn **Pn** **21 07 49.4 -4.5**
FINES FINESS Array B 13.58 29 Pn **Pn** **21 07 50.7 -3.2**
comp=E,0.3nm,0.3s,baz=211,slow=12,SNR=12
FINES Sn Sn 21 10 13.7 -11
comp=E,0.4nm,0.3s,baz=221,slow=20,SNR=2.6
comp=E,1.8nm,0.5s
FIA1 FINESS Array S 13.58 29 Pn Pn 21 07 48.8 -5.1

KEF Keuruu 13.80 25 *e*P Pn 21 07 48.6 -8.3
VAF Ylistaro 14.00 20 *e*P Pn 21 07 49.3 -10
JOF Joensuu 16.35 32 *e*P Pn 21 08 18.3 -12
ARCES ARCESS Array B 20.36 13 P Pn 21 09 20.0 +0.2
comp=E,2.0nm,0.8s,baz=206,slow=12,SNR=2.0
comp=E,2.0nm,0.8s
BVAR Borovoye Array 35.28 63 P **P** **21 11 40.7 +4.6**
comp=E,0.5nm,0.7s,baz=288,slow=6.8,SNR=3.0
TOA0 Torodi Ar. Sit 38.01 197 **P** **21 12 01.5 +2.0**
TOA0 IAmb IAmb 21 12 02.8
comp=Z,4.7nm,1.2s
TORD Torodi Ar. Bea 38.01 197 P **P** **21 12 01.6 +2.1**
comp=Z,0.8nm,0.7s,baz=7.2,slow=8.8,SNR=5.4
comp=Z,0.8nm,0.7s
MKAR Makanchi Array 44.89 66 P **P** **21 12 57.4 +1.6**
HHC Hu-ho-hao-te 65.06 56 *e*P **P** **21 15 21.9 +0.1**
HHC pmax pmax
comp=E,6.0nm,0.7s
HHC pmax pmax
comp=E,61nm,6.3s
MDJ Mudanjiang 70.93 42 P **P** **21 15 58.0 -0.5**
MDJ pmax pmax
comp=Z,11nm,1.1s
MDJ pmax pmax
comp=Z,180nm,4.0s

WBNET 21 21:05:30.3, 50.24N×12.46E, h7km, MI1.4, 2D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
NKC	**Novy Kostel**	**0.01**	**219**	⇓P		Pg		21 05 31.7	+0.1
NKC				S		Sg		21 05 32.6	+0.2
LBCW	**Luby**	**0.04**	**310**	⇓P		Pg		21 05 31.9	+0.1
LBCW				S		Sg		21 05 33.0	+0.2
STCW	**Studenec**	**0.04**	**65**	S		Sg		21 05 32.9	0.0
KVC	**Kvetna**	**0.05**	**134**	S		Sg		21 05 33.1	+0.1
VAC	**Vackov**	**0.05**	**263**	S		Sg		21 05 33.0	0.0
SKC	**Skalna**	**0.10**	**221**	S		Sg		21 05 34.1	+0.2

RHSSO 21 21:07:26.6±0.5, 43.03N×17.73E, h6km±3km, ML1.7/10, 3C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
STON	**Ston**	**0.16**	**187**	*e*Pg		Pg		21 07 29.9	+0.1
STON				S		Sg		21 07 33.2	+1.4
STON	**Ston**	**0.16**	**187**	⇑*i*Pg		Pg		21 07 29.9	+0.2
STON				*e*Sg		Sg		21 07 33.0	+1.2
DBRK	**Dubrovnik**	**0.47**	**139**	*e*Pg		Pg		21 07 35.1	-0.6
DBRK				Sg		Sb		21 07 43.3	-1.3
TREB	**Trebinje**	**0.55**	**124**	*e*Pg		Pg		21 07 36.4	-0.8
TREB				*e*Sg		Sg		21 07 44.8	+0.4
BRY	**Bratogost**	**0.61**	**102**	⇑*i*Pg		Pg		21 07 37.4	-0.9
BRY				*e*Sg		Sg		21 07 47.0	+0.7
KLINJ	**Klinje**	**0.64**	**77**	*e*Pg		Pg		21 07 37.5	-1.5
KLINJ				*e*Sg		Sg		21 07 47.4	0.0
LSTV	**Lastovo**	**0.67**	**247**	*e*Pg		Pg		21 07 38.0	-1.4
LSTV				Sg		Sg		21 07 48.5	+0.5
HCY	**Herceg Novi**	**0.81**	**136**	⇑*i*Pg		Pg		21 07 40.5	-1.6
HCY				*e*Sg		Sg		21 07 53.1	+0.5
PDG	**Podgorica**	**1.27**	**117**	*e*Pg		Pn		21 07 49.3	-1.7
PDG				*e*Sg		Sg		21 08 07.3	-0.2
RUDO	**Rudo**	**1.34**	**63**	*e*Pg		Pn		21 07 49.8	-2.1
RUDO				*e*Sg		Sb		21 08 09.0	-0.5
DRME	**Dracevica, Mon**	**1.36**	**128**	*e*Pg		Pn		21 07 50.6	-1.7
DRME				*e*Sg		Sb		21 08 10.2	-0.1
KIJV	**Kijevo**	**1.37**	**316**	Sn		Sb		21 08 10.4	-0.1
HAPS	**Han Pijesak,BI**	**1.38**	**40**	*e*Pg		Pn		21 07 51.3	-1.3
HAPS				*e*Sg		Sb		21 08 10.4	-0.5
BBLS	**Lazi&#263i**	**1.48**	**55**	*e*Pg		Pn		21 07 53.8	-0.1
BBLS				*e*Sg		Sg		21 08 14.3	+0.1
SJES	**Sjenica**	**1.66**	**81**	*e*Pn		Pn		21 07 56.7	+0.3
SJES				*e*Sn		Sn		21 08 18.0	-0.1

*VIE **21** 21:10:40.8±0.1, 50.22N×12.42E, h10km, mb2.4/2, ml2.9/14, Error ellipse: s-maj=3.1km s-min=1.4km az=44.0*
*PRU **21** 21:10:40.5, 50.25N×12.46E, h10km, West Bohemia Swarm*
*CLL **21** 21:10:41.9±0.3, 50.24N×12.45E, h6km±1km, ML2.5*
*WBNET **21** 21:10:41.5, 50.24N×12.45E, h7km, Ml2.6*
*BGR **21** 21:10:41.0±0.2, 50.24N×12.46E, h9km±2km, ML2.6/6, Error ellipse: s-maj=2.2km s-min=1.1km az=93.0*
*LDG **21** 21:10:42.5±0.3, 50.26N×12.28E, h9km, Ml2.8/13, Error ellipse: s-maj=10.3km s-min=4.6km az=156.0*

ISC 21 21:10:39.9±0.8, 50.22N±0.01×12.40E±0.01, h18km±2km, n116, σ1=45/197, 10C-14D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
VAC	**Vackov**	**0.02**	**322**	*i* Pg		Pg		**21 10 43.3**	**+0.1**
VAC				*i* Sg		Sg		**21 10 44.4**	**-1.0**
VAC	**Vackov**	**0.02**	**322**	⇓P		Pg		**21 10 42.9**	**-0.3**
VAC				S		Sg		**21 10 44.0**	**-1.4**
VAC	**Vackov**	**0.02**	**322**	⇓P		Pg		**21 10 43.2**	**+0.1**
VAC				S		Sg		**21 10 44.3**	**-1.0**
NKC	**Novy Kostel**	**0.04**	**65**	*i* Pg		Pg		**21 10 43.0**	**-0.2**
NKC				*i* Sg		Sg		**21 10 43.9**	**-1.5**
NKC				IAML				21 10 44.0	
comp=E,16μm,0.1s									
NKC	**Novy Kostel**	**0.04**	**65**	*e*PG		Pg		**21 10 42.9**	**-0.2**
NKC				*e*SG		Sg		**21 10 43.9**	**-1.5**
comp=E,5μm,0.2s									
NKC	**Novy Kostel**	**0.04**	**65**	*i* Pg		Pg		**21 10 43.0**	**-0.2**
NKC				*i* Sg		Sg		**21 10 43.9**	**-1.5**
comp=E,16μm,0.1s									
NKC	**Novy Kostel**	**0.04**	**65**	⇓P		Pg		**21 10 42.6**	**-0.6**
NKC				S		Sg		**21 10 43.5**	**-1.9**
NKC	**Novy Kostel**	**0.04**	**65**	⇓P		Pg		**21 10 43.0**	**-0.2**
NKC				S		Sg		**21 10 43.9**	**-1.5**
LBCW	**Luby**	**0.05**	**12**	⇓P		Pg		**21 10 42.9**	**-0.4**
LBCW				S		Sg		**21 10 44.0**	**-1.6**
LBCW	**Luby**	**0.05**	**12**	⇓P		Pg		**21 10 43.2**	**-0.1**
LBCW				S		Sg		**21 10 44.4**	**-1.2**
SKC	**Skalna**	**0.05**	**206**	⇑P		Pg		**21 10 43.4**	**+0.2**
SKC				S		Sg		**21 10 44.9**	**-0.6**
SKC	**Skalna**	**0.05**	**206**	⇑P		Pg		**21 10 43.8**	**+0.5**
SKC				S		Sg		**21 10 45.3**	**-0.2**
ROHR	**Rohrbach**	**0.05**	**288**	*i* Pg		Pg		**21 10 43.7**	**+0.4**
ROHR				*i* Sg		Sg		**21 10 45.1**	**-0.5**
ROHR				IAML				21 10 45.5	
comp=N,5μm,0.2s									
ROHR	**Rohrbach**	**0.05**	**288**	*i* Pg		Pg		**21 10 43.7**	**+0.4**
ROHR				*i* Sg		Sg		**21 10 45.1**	**-0.5**
comp=N,5μm,0.2s									
WERN	**Wernitzgruen**	**0.07**	**349**	*i* Pg		Pg		**21 10 43.6**	**+0.2**
WERN				*i* Sg		Sg		**21 10 44.9**	**-0.9**
WERN				IAML				21 10 45.2	
comp=E,1μm,0.2s									
WERN	**Wernitzgruen**	**0.07**	**349**	*i* Pg		Pg		**21 10 43.6**	**+0.2**
WERN				*i* Sg		Sg		**21 10 44.9**	**-0.9**
comp=E,1μm,0.2s									
KVC	**Kvetna**	**0.08**	**99**	*e*Pg		Pg		**21 10 43.3**	**-0.2**
KVC				*i* Sg		Sg		**21 10 44.2**	**-1.6**
KVC	**Kvetna**	**0.08**	**99**	⇑P		Pg		**21 10 42.9**	**-0.6**
KVC				S		Sg		**21 10 43.9**	**-1.9**
KVC	**Kvetna**	**0.08**	**99**	⇑P		Pg		**21 10 43.2**	**-0.2**
KVC				S		Sg		**21 10 44.2**	**-1.6**
STCW	**Studenec**	**0.09**

GUNZ					IAML			21 10 48.1	
	comp=N,543nm,0.4s								
GUNZ	**Gunzen**	**0.15**	**344**	*i* Pg		**Pg**		**21 10 44.9**	**+0.6**
GUNZ				*i* Sg		**Sg**		**21 10 46.9**	**-0.3**
	comp=N,543nm,0.4s								
ZHC	**Zelena Hora**	**0.16**	**201**	⇑P		**Pg**		**21 10 45.2**	**+0.9**
ZHC				S		**Sg**		**21 10 47.8**	**+0.5**
ZHC	**Zelena Hora**	**0.16**	**201**	⇑P		**Sg**		**21 10 45.5**	**+1.2**
ZHC				S		**Sg**		**21 10 48.1**	**+0.8**
TRCW	**Trojmez**	**0.18**	**298**	⇓P		**Pg**		**21 10 45.5**	**+0.8**
TRCW				S		**Sg**		**21 10 48.4**	**+0.5**
TRCW	**Trojmez**	**0.18**	**298**	⇓P		**Sg**		**21 10 45.8**	**+1.2**
TRCW				S		**Sg**		**21 10 48.7**	**+0.8**
VIEL	**Selb-Vielitz**	**0.19**	**260**	*i* Pg		**Pg**		**21 10 46.1**	**+1.3**
VIEL				*i* Sg		**Sg**		**21 10 49.2**	**+1.1**
VIEL	**Selb-Vielitz**	**0.19**	**260**	*i* Pg		**Pg**		**21 10 46.1**	**+1.3**
VIEL				*i* Sg		**Sg**		**21 10 49.2**	**+1.1**
MULD	**Muldenberg**	**0.19**	**1**	*i* Pg		**Pg**		**21 10 45.2**	**+0.4**
MULD				*i* Sg		**Sg**		**21 10 47.5**	**-0.7**
MULD					IAML			21 10 47.7	
	comp=E,1µm,0.2s								
MULD	**Muldenberg**	**0.19**	**1**	*i* Pg		**Pg**		**21 10 45.2**	**+0.4**
MULD				*i* Sg		**Sg**		**21 10 47.5**	**-0.7**
	comp=E,1µm,0.2s								
TANN	**Tannenbergstha**	**0.20**	**12**	*e*Pg		**Pg**		**21 10 45.3**	**+0.3**
TANN				*i* Sg		**Sg**		**21 10 47.6**	**-0.8**
	comp=E,1µm,0.1s								
TANN	**Tannenbergstha**	**0.20**	**12**	*e*Pg		**Pg**		**21 10 45.3**	**+0.3**
TANN				*i* Sg		**Sg**		**21 10 47.6**	**-0.8**
	comp=E,1µm,0.1s								
TRIB	**Obertriebel**	**0.21**	**309**	*i* Pg		**Pg**		**21 10 46.2**	**+1.1**
TRIB				*i* Sg		**Sg**		**21 10 49.4**	**+0.8**
TRIB					IAML			21 10 49.8	
	comp=E,362nm,0.1s								
TRIB	**Obertriebel**	**0.21**	**309**	*i* Pg		**Pg**		**21 10 46.2**	**+1.1**
TRIB				*i* Sg		**Sg**		**21 10 49.4**	**+0.8**
	comp=E,362nm,0.1s								
LACW	**Lazy**	**0.22**	**139**	*i* Pg		**Pg**		**21 10 46.0**	**+0.8**
LACW				*i* Sg		**Sg**		**21 10 49.1**	**+0.2**
LACW					IAML			21 10 49.5	
	comp=N,2µm,0.2s								
LACW	**Lazy**	**0.22**	**139**	*i* Pg		**Pg**		**21 10 46.0**	**+0.8**
LACW				*i* Sg		**Sg**		**21 10 49.1**	**+0.2**
	comp=N,2µm,0.2s								
LACW	**Lazy**	**0.22**	**139**	⇓P		**Pg**		**21 10 45.7**	**+0.5**
LACW				S		**Sg**		**21 10 48.8**	**-0.1**
LACW	**Lazy**	**0.22**	**139**	⇓P		**Sg**		**21 10 46.1**	**+0.8**
LACW				S		**Sg**		**21 10 49.1**	**+0.2**
WERD	**Werda**	**0.24**	**346**	*e*Pg		**Pg**		**21 10 46.2**	**+0.7**
WERD				*e*Sg		**Sg**		**21 10 49.0**	**-0.3**
WERD					IAML			21 10 49.6	
	comp=E,234nm,0.2s								
WERD	**Werda**	**0.24**	**346**	*e*Pg		**Pg**		**21 10 46.2**	**+0.7**
WERD				*e*Sg		**Sg**		**21 10 49.0**	**-0.3**
	comp=E,234nm,0.2s								
PLN	**Plauen**	**0.31**	**330**	*i* Pg		**Pb**		**21 10 47.8**	**+0.8**
PLN				*e*Sg		**Sb**		**21 10 51.7**	**+0.1**
PLN					IAML			21 10 51.9	
	comp=E,210nm,0.2s								
PLN	**Plauen**	**0.31**	**330**	*i* Pg		**Pb**		**21 10 47.8**	**+0.8**
PLN				*e*Sg		**Sb**		**21 10 51.7**	**+0.1**
	comp=E,210nm,0.2s								
SCHF	**Schoenfels**	**0.46**	**0**	*i* Pg		**Pb**		**21 10 50.1**	**+0.6**
SCHF				*i* Sg		**Sg**		**21 10 55.8**	**+0.2**
SCHF					IAML			21 10 56.3	
	comp=E,1µm,0.2s								
SCHF	**Schoenfels**	**0.46**	**0**	*i* Pg		**Pb**		**21 10 50.1**	**+0.6**
SCHF				*i* Sg		**Sg**		**21 10 55.8**	**+0.2**
	comp=E,1µm,0.2s								
ROTZ	**Rotzenmuhle**	**0.47**	**195**	*e*Pg		**Pb**		**21 10 50.7**	**+1.0**
ROTZ				*e*Sg		**Sb**		**21 10 57.5**	**+1.3**
GRZ1	**Mausoleum Wald**	**0.49**	**347**	*i* Pg		**Pb**		**21 10 50.7**	**+0.7**
GRZ1				*i* Sg		**Sg**		**21 10 56.6**	**+0.2**
GRZ1					IAML			21 10 57.8	
	comp=E,192nm,0.4s								
GRZ1	**Mausoleum Wald**	**0.49**	**347**	*i* Pg		**Pb**		**21 10 50.7**	**+0.7**
GRZ1				*i* Sg		**Sg**		**21 10 56.6**	**+0.2**
	comp=E,192nm,0.4s								
MOX	**Moxa**	**0.66**	**311**	*e*Pg		**Pn**		**21 10 54.0**	**-0.3**
MOX				*e*Sg		**Sb**		**21 11 03.0**	**+1.3**
HSKC	**Hora Svate Kat**	**0.77**	**59**	*e*PG		**Pb**		**21 10 54.7**	**-0.1**
HSKC				*e*SG		**Sg**		**21 11 04.6**	**-0.6**
	comp=E,131nm,0.2s								
GRF	**Grafenberg Arr**	**0.92**	**236**	*e*Pg		**Pn**		**21 10 59.6**	**+1.6**
GRF				*e*Sg		**Sn**		**21 11 12.8**	**+2.0**
FBE	**Freiberg**	**0.93**	**41**	*e*Pg		**Pn**		**21 10 58.3**	**+0.2**
FBE				*e*Sg		**Sb**		**21 11 10.1**	**+0.5**
WET	**Wettzell**	**1.12**	**164**	*e*Pg		**Pn**		**21 11 02.3**	**+1.5**
WET				*e*Sg		**Sn**		**21 11 17.3**	**+1.6**
RICC	**Richard**	**1.14**	**73**	*e*SG		**Sb**		**21 11 15.8**	**+0.3**
	comp=E,173nm,0.3s								
CLL	**Collm**	**1.16**	**19**	*i* Pg		**Pg**		**21 11 02.4**	**+0.1**
CLL				*i* x		x		21 11 04.7	
CLL				*i* x		x		21 11 05.3	
CLL				*i* x		x		21 11 06.1	
CLL				*i* x		x		21 11 08.3	
CLL				*i* Sg		**Sg**		**21 11 17.0**	**-0.5**
	comp=Z,54nm,0.4s								
CLL				*i* x		x		21 11 21.2	
CLL	**Collm**	**1.16**	**19**	*e*Pg		**Pg**		**21 11 02.4**	**+0.1**
CLL				*e*Sg		**Sg**		**21 11 17.4**	**-0.1**
BRG	**Berggiesshubel**	**1.19**	**56**	Pg		**Pg**		**21 11 02.8**	**-0.1**
BRG				Sg		**Sg**		**21 11 17.9**	**-0.5**
BRG				Amp				21 11 18.6	
	comp=Z,68nm,0.2s								
BRG	**Berggiesshubel**	**1.19**	**56**	*e*Pg		**Pg**		**21 11 02.7**	**-0.1**
BRG				*e*Sg		**Sg**		**21 11 17.9**	**-0.5**
PRA	**Prague**	**1.32**	**96**	*e*SG		**Sb**		**21 11 21.3**	**+0.6**
KHC	**Kasperske Hory**	**1.33**	**144**	*e*PG		**Pg**		**21 11 05.4**	**-0.2**
KHC				*e*SG		**Sg**		**21 11 23.2**	**+0.2**
	comp=Z,41nm,0.3s								
PRU	**Pruhonice**	**1.40**	**99**	*e*SG		**Sg**		**21 11 24.5**	**-0.7**
PRU	**Pruhonice**	**1.40**	**99**	*e*Pg		**Pg**		**21 11 06.6**	**-0.3**
PRU				*e*Sg		**Sg**		**21 11 25.0**	**-0.1**
PVCC	**Panska Ves**	**1.43**	**77**	*e*SG		**Sg**		**21 11 25.3**	**-0.7**
	comp=Z,109nm,0.2s								
GOPC	**GO Pecny, Ondr**	**1.57**	**100**	*e*SG		**Sg**		**21 11 29.8**	**-0.8**
	comp=Z,69nm,0.2s								
GEC2	**GERESS Array S**	**1.62**	**148**	*e*Pg		**Pg**		**21 11 10.9**	**-0.1**
GEC2				*e*Sg		**Sg**		**21 11 31.9**	**-0.2**
CKRC	**Cesky Krumlov**	**1.87**	**138**	*e*SG		**Sg**		**21 11 38.5**	**-1.8**
UPC	**Upice**	**2.33**	**81**	*e*SG		**Sg**		**21 11 53.1**	**-1.8**
	comp=Z,39nm,0.8s								
CHVC	**Chvalec**	**2.37**	**80**	*e*SG		**Sg**		**21 11 54.8**	**-1.3**
DPC	**Dobruska-Polom**	**2.52**	**85**	*e*SG		**Sb**		**21 11 58.0**	**+2.7**
	comp=Z,22nm,0.2s								
BIOA	**Bad Ischl, Aus**	**2.66**	**162**	Pn		**Pn**		**21 11 23.1**	**+1.2**
	comp=Z,0.8nm,0.3s								
MOA	**Molln**	**2.67**	**152**	*e*Pn		**Pn**		**21 11 24.3**	**+2.2**
	comp=Z,0.1nm,0.1s								
LESA	**Schwarzleotal**	**2.80**	**176**	Pn		**Pn**		**21 11 25.5**	**+1.6**
	comp=Z,0.1nm,0.1s								
KRLC	**Kraliky**	**2.82**	**91**	*e*SG		**Sg**		**21 12 09.0**	**-1.7**
	comp=Z,11nm,0.4s								
KRUC	**Moravsky**	**2.84**	**112**	*e*PN		**Pn**		**21 11 26.2**	**+1.8**
KRUC				*e*SG		**Sg**		**21 12 08.6**	**-2.7**
VRAC	**Vranov**	**2.87**	**107**	*e*PN		**Pn**		**21 11 26.3**	**+1.5**
VRAC				*e*SG		**Sg**		**21 12 08.6**	**-3.5**
WATA	**Walderalm**	**2.94**	**191**	Pn		**Pn**		**21 11 27.4**	**+1.6**
	comp=Z,0.2nm,0.1s								
WTTA	**Wattenberg**	**3.00**	**190**	*e*Pn		**Pn**		**21 11 27.5**	**+0.8**
	comp=Z,0.9nm,0.5s								
MOTA	**Moosalm**	**3.00**	**197**	*e*Pn		**Pn**		**21 11 27.8**	**+1.1**
	comp=Z,0.1nm,0.2s								
SQTA	**Sankt Quirin**	**3.10**	**195**	*e*Pn		**Pn**		**21 11 28.2**	**+0.1**
	comp=Z,0.5nm,0.3s								
KBA	**Koelnbreinsper**	**3.20**	**168**	*e*Pn		**Pn**		**21 11 31.3**	**+1.8**
	comp=Z,2.8nm,0.4s								
CONA	**Conrad Observa**	**3.23**	**134**	*e*Pn		**Pn**		**21 11 32.5**	**+2.7**
	comp=Z,1.1nm,0.3s								
FETA	**Feichten**	**3.38**	**200**	*e*Pn		**Pn**		**21 11 33.2**	**+1.2**
	comp=Z,0.5nm,0.5s								
ABTA	**Abfaltersbach**	**3.47**	**179**	*e*Pn		**Pn**		**21 11 36.1**	**+2.9**
	comp=Z,1.4nm,0.3s								
RONA	**Rosalia, Austr**	**3.60**	**133**	*e*Pn		**Pn**		**21 11 37.1**	**+2.3**
	comp=Z,0.7nm,0.3s								
ARSA	**Arzberg**	**3.62**	**144**	*e*Pn		**Pn**		**21 11 36.6**	**+1.6**
	comp=Z,0.9nm,0.3s								
MYKA	**Terra Mystica**	**3.69**	**167**	*e*Pn		**Pn**		**21 11 38.0**	**+2.0**
	comp=Z,0.6nm,0.4s								
MODS	**Modra-Piesok**	**3.69**	**118**	*e*SG		**Sg**		**21 12 36.6**	**-1.7**
ZST	**Bratislava**	**3.69**	**121**	*e*SG		**Sg**		**21 12 36.3**	**-2.0**
JAVC	**Velka Javorina**	**3.69**	**110**	*e*SG		**Sg**		**21 12 37.6**	**-0.9**
OKC	**Ostrava-Krasne**	**3.73**	**94**	*e*SG		**Sg**		**21 12 36.0**	**-3.6**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pn		**Pn**		**21 11 39.0**	**+1.3**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pg		**Pg**		**21 11 50.9**	**-1.9**
CDF				*e*Sg		**Sg**		**21 12 41.2**	**-0.9**
	comp=Z,7.3nm,0.4s								
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pn		**Pn**		**21 11 46.3**	**+0.9**
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pg		**Pg**		**21 12 03.1**	**-0.5**
HINF				*e*Sn		**Sn**		**21 12 34.7**	**-1.1**
HINF				*e*Sg		**Sg**		**21 12 57.7**	**-2.4**
	comp=Z,8.4nm,0.4s								
HAU	**Haudompre**	**4.55**	**243**	*e*Pn		**Pn**		**21 11 48.5**	**+0.7**
HAU	**Haudompre**	**4.55**	**243**	*e*Pg		**Pg**		**21 12 05.3**	**-1.7**
HAU				*e*Sn		**Sn**		**21 12 38.4**	**-1.8**
HAU				*e*Sg		**Sg**		**21 13 03.2**	**-2.6**
	comp=Z,14nm,0.5s								
PAGF	**Fort de Pagny**	**4.67**	**252**	*e*Pg		**Pg**		**21 12 08.3**	**-0.9**
PAGF				*e*Sg		**Sg**		**21 13 07.0**	**-2.6**
	comp=Z,4.9nm,0.4s								
LANS	**Liptovska Anna**	**4.71**	**100**	*e*SG		**Sg**		**21 13 09.0**	**-2.1**
MEZF	**Maizieres J'vi**	**5.10**	**253**	*e*Pn		**Pn**		**21 11 56.6**	**+1.3**
MEZF	**Maizieres J'vi**	**5.10**	**253**	*e*Pg		**Pg**		**21 12 15.9**	**-1.6**
MEZF				*e*Sg		**Sg**		**21 13 18.9**	**-4.5**
	comp=Z,2.2nm,0.3s								
SFTF	**Sexfontaines**	**5.23**	**250**	*e*Pg		**Pg**		**21 12 17.5**	**-2.4**
SFTF				*e*Sg		**Sg**		**21 13 23.6**	**-4.0**
	comp=Z,3.6nm,0.3s								
BAIF	**Baives**	**5.27**	**271**	*e*Sg		**Sg**		**21 13 25.0**	**-3.9**
	comp=Z,1.7nm,0.4s								
CABF	**La Chapelle**	**5.54**	**232**	*e*Pg		**Pg**		**21 12 24.2**	**-1.7**
CABF				*e*Sg		**Sg**		**21 13 35.5**	**-2.1**
	comp=Z,2.1nm,0.4s								
LOR	**Lormes**	**6.37**	**246**	*e*Pn		**Pn**		**21 12 13.4**	**+0.5**
LOR	**Lormes**	**6.37**	**246**	*e*Pg		**Pg**		**21 12 37.7**	**-4.1**
LOR				*e*Sg		**Sg**		**21 14 00.0**	**-4.2**
	comp=Z,0.7nm,0.2s								
SSF	**Saint Saulge**	**6.68**	**245**	*e*Pg		**Pg**		**21 12 45.6**	**-2.2**
SSF				*e*Sg		**Sg**		**21 14 10.0**	**-4.3**
	comp=Z,2.2nm,0.5s								
SMF	**Signal de Mont**	**6.72**	**241**	*e*Pg		**Pg**		**21 12 45.2**	**-3.3**
SMF				*e*Sg		**Sg**		**21 14 11.8**	**-3.6**
	comp=Z,1.5nm,0.3s								
TCF	**Toulx Ste Croi**	**7.85**	**244**	*e*Sg				21 14 46.4	
	comp=Z,0.4nm,0.3s								

RSPR ***21*** *21:13:30.9, 18˚.49N×65˚.45W, h112km±1km, MD3.2/13*
NEIC ***21*** *21:13:30.3±0.7, 18˚.5N±0˚.2×65˚.4W±0˚.1, h112km±9km, ML2.8/24, Md3.2/13(RSPR), Error ellipse: s-maj=27.8km s-min=15.3km az=193.0*

ISC 21 21:13:27.8±2.0, 18˚.5N±0˚.2×65˚.34W±0˚.06, h124km±13km, n43, σ0s80/58, 8C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**0.62**	**231**	⇓*i*P		**Pn**	**21 13 47.8**	**+0.8**
HUMP	**Col San Antoni**	**0.62**	**231**	*e*S		**Sn**	**21 14 01.5**	**+0.1**
HUMP	**Col San Antoni**	**0.62**	**231**			**Pn**	**21 13 47.7**	**+0.8**
HUMP					Sn	**Sn**	**21 14 01.3**	**-0.1**
HUMP					IAML		21 14 01.9	
	comp=E,269nm,0.2s							
HUMP					IAML		21 14 02.9	
	comp=N,322nm,0.2s							
GCPR	**Guaynabo City**	**0.74**	**252**	⇑*e*P		**Pn**	**21 13 48.4**	**+0.6**
GCPR	**Guaynabo City**	**0.74**	**252**	*e*S		**Sn**	**21 14 02.4**	**-0.6**
GCPR	**Guaynabo City**	**0.74**	**252**	Pn		**Pn**	**21 13 48.1**	**+0.3**
GCPR				Sn		**Sn**	**21 14 02.0**	**-0.9**
IGPR	**InterUniversit**	**0.92**	**232**	⇓*e*P		**Pn**	**21 13 50.0**	**+0.6**
IGPR	**InterUniversit**	**0.92**	**232**	*e*S		**Sn**	**21 14 04.9**	**-0.9**
IGPR	**InterUniversit**	**0.92**	**232**	Pn		**Pn**	**21 13 49.5**	**+0.1**
IGPR				Sn		**Sn**	**21 14 05.0**	**-0.7**
IGPR					IAML		21 14 07.3	
	comp=N,339nm,0.3s							
EMPR	**Esperanza - Ma**	**1.13**	**267**	⇑*e*P		**Pn**	**21 13 52.1**	**+0.8**
EMPR	**Esperanza - Ma**	**1.13**	**267**	*e*S		**Sn**	**21 14 09.4**	**+0.1**
EMPR	**Esperanza - Ma**	**1.13**	**267**	Pn		**Pn**	**21 13 49.0**	**-2.3**
EMPR				Sn		**Sn**	**21 14 09.0**	**-0.3**
EMPR					IAML		21 14 20.5	
	comp=N,130nm,1.0s							
EMPR					IAML		21 14 25.1	
	comp=E,153nm,1.7s							
CELP	**Cerrillos**	**1.26**	**249**	⇑*e*P		**Pn**	**21 13 53.4**	**+0.6**
CELP	**Cerrillos**	**1.26**	**249**	*e*S		**Sn**	**21 14 11.2**	**-0.6**
CELP	**Cerrillos**	**1.26**	**249**	Pn		**Pn**	**21 13 53.2**	**+0.4**
CELP				Sn		**Sn**	**21 14 10.9**	**-0.9**
CELP					IAML		21 14 12.8	
	comp=N,58nm,0.3s							
OBIP	**Obispado Ponce**	**1.30**	**248**	⇑*e*P		**Pn**	**21 13 54.1**	**+0.9**
OBIP	**Obispado Ponce**	**1.30**	**248**	*e*S		**Sn**	**21 14 12.4**	**0.0**
OBIP	**Obispado Ponce**	**1.30**	**248**	Pn		**Pn**	**21 13 53.9**	**+0.7**
OBIP				Sn		**Sn**	**21 14 12.1**	**-0.4**
OBIP					IAML		21 14 12.8	
	comp=N,63nm,0.5s							
OBIP					IAML		21 14 13.2	
	comp=E,81nm,0.7s							
UUPR	**Utuado, UPR, P**	**1.34**	**258**	⇑*e*P		**Pn**	**21 13 54.6**	**+1.0**
UUPR	**Utuado, UPR, P**	**1.34**	**258**	*e*S		**Sn**	**21 14 12.5**	**-0.8**
UUPR	**Utuado, UPR, P**	**1.34**	**258**	Pn		**Pn**	**21 13 54.3**	**+0.7**
UUPR				Sn		**Sn**	**21 14 12.9**	**-0.4**
AOPR	**Arecibo Observ**	**1.35**	**262**	⇑*i*P		**Pn**	**21 13 54.5**	**+0.8**
AOPR	**Arecibo Observ**	**1.35**	**262**	*e*S		**Sn**	**21 13 53.0**	**-0.6**
AOPR	**Arecibo Observ**	**1.35**	**262**	Pn		**Pn**	**21 13 54.1**	**+0.3**
AOPR				Sn		**Sn**	**21 14 12.6**	**-1.0**
AOPR					IAML		21 14 15.7	
	comp=N,226nm,0.3s							
AOPR	**Arecibo Observ**	**1.35**	**262**	*e*P		**Pn**	**21 13 54.6**	**+0.8**
AOPR				*e*S		**Sn**	**21 14 13.4**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.56**	**249**	⇑*e*P		**Pn**	**21 13 56.8**	**+0.7**
GBPR	**Guanica, Bosqu**	**1.56**	**249**	*e*S		**Sn**	**21 14 17.6**	**-0.2**
GBPR	**Guanica, Bosqu**	**1.56**	**249**			**Pn**	**21 13 56.8**	**+0.7**
GBPR						**Sn**	**21 14 17.6**	**-0.2**
AGPR	**Aguadilla, PR**	**1.68**	**268**	⇓*e*P		**Pn**	**21 13 58.7**	**+1.2**
AGPR	**Aguadilla, PR**	**1.68**	**268**	*e*S		**Sn**	**21 14 19.7**	**-0.6**
AGPR	**Aguadilla, PR**	**1.68**	**268**	Pn		**Pn**	**21 13 58.2**	**+0.7**
AGPR				Sn		**Sn**	**21 14 19.4**	**-0.8**
AGPR					IAML		21 14 22.3	
	comp=E,98nm,0.7s							
AGPR					IAML		21 14 39.7	
	comp=N,130nm,2.5s							
LSP	**Las Mesas**	**1.69**	**258**	⇑*e*P		**Pn**	**21 13 58.6**	**+0.8**
LSP	**Las Mesas**	**1.69**	**258**	*e*S		**Sn**	**21 14 20.7**	**+0.1**
LSP	**Las Mesas**	**1.69**	**258**			**Pn**	**21 13 58.6**	**+0.8**
LSP						**Sn**	**21 14 20.7**	**+0.1**
MLPR	**Magueyes Islan**	**1.71**	**251**	⇓*e*P		**Pn**	**21 13 58.3**	**+0.4**
MLPR	**Magueyes Islan**	**1.71**	**251**	*e*S		**Sn**	**21 14 20.4**	**-0.5**
MLPR	**Magueyes Islan**	**1.71**	**251**	Pn		**Pn**	**21 13 58.2**	**+0.2**
MLPR				Sn		**Sn**	**21 14 19.4**	**-1.5**
PRSN	**Puerto Rico Se**	**1.74**	**260**	Pn		**Pn**	**21 13 58.9**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.76**	**253**	⇑*e*P		**Pn**	**21 13 59.1**	**+0.7**
CRPR	**Cabo Rojo, PR**	**1.76**	**253**	*e*S		**Sn**	**21 14 21.1**	**-0.4**
CRPR	**Cabo Rojo, PR**	**1.76**	**253**	Pn		**Pn**	**21 13 57.7**	**-0.8**
CRPR				Sn		**Sn**	**21 14 20.1**	**-1.8**
CRPR					IAML		21 14 28.4	
	comp=N,37nm,1.8s							
ANBD	**Bethesda, Anti**	**3.72**	**113**	*e*P		**Pn**	**21 14 24.5**	**+0.9**
ANBD				*e*S		**Sn**	**21 15 06.0**	**-0.8**
SDDR	**Presa de Saban**	**5.65**	**275**	Pn		**Pn**	**21 14 50.6**	**+1.0**

STR ***21*** *21:16:04.5±4.1, 50˚N±41˚×1˚3E±1˚8, h5km, MLv3.9/13, Error ellipse: s-maj=0.1km s-min=0.0km az=12.8, preliminary*
DNK ***21*** *21:16:07.2±3.0, 50˚.37N×12˚.43E, h0km±170km, ML2.9*
VIE ***21*** *21:16:07.7±0.1, 50˚.21N×12˚.42E, h10km, mb2.6/16, ml3.4/16, Error ellipse: s-maj=2.4km s-min=1.4km az=52.0*
PRU ***21*** *21:16:07.6, 50˚.25N×12˚.45E, h10km, West Bohemia Swarm*
WBNET ***21*** *21:16:08.3, 50˚.24N×12˚.46E, h7km, Ml3.0*
IPEC ***21*** *21:16:08.0±0.1, 50˚.25N×12˚.46E, h9km, ML3.2/10, Error ellipse: s-maj=1.4km s-min=1.0km az=133.0*
LDG ***21*** *21:16:08.8±0.1, 50˚.23N×12˚.43E, h10km, Ml3.4/27, Error ellipse: s-maj=4.3km s-min=2.6km az=150.0*
CLL ***21*** *21:16:08.7±0.3, 50˚.24N×12˚.45E, h6km, ML3.1*
BGR ***21*** *21:16:08.0±0.2, 50˚.24N×12˚.45E, h10km±1km, ML3.2/6, Error ellipse: s-maj=2.2km s-min=1.1km az=91.0*
BNS ***21*** *21:16:09.1±0.3, 50˚.14N×12˚.39E, h4km, ML3.1*

ISC 21 21:16:07.1±0.7, 50˚.23N±0˚.01×12˚.42E±0˚.02, h14km±3km, n165, σ1s74/252, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.02**	**73**	*i* Pg		**Pg**	**21 16 09.8**	**+0.2**
NKC				*i* Sg		**Sg**	**21 16 10.6**	**-0.6**
NKC					IAML		21 16 10.8	
	comp=E,33µm,0.2s							
NKC	**Novy Kostel**	**0.02**	**73**	*e*PG		**Pg**	**21 16 09.7**	**+0.2**
NKC				*e*SG		**Sg**	**21 16 10.7**	**-0.6**
	comp=E,16µm,0.2s							
NKC	**Novy Kostel**	**0.02**	**73**	*i* Pg		**Pg**	**21 16 09.8**	**+0.2**
NKC				*i* Sg		**Sg**	**21 16 10.6**	**-0.6**
	comp=E,33µm,0.2s							
NKC	**Novy Kostel**	**0.02**	**73**	⇓P		**Pg**	**21 16 09.8**	**+0.2**
NKC				S		**Sg**	**21 16 10.7**	**-0.6**
VAC	**Vackov**	**0.03**	**282**	*i* Pg		**Pg**	**21 16 10.1**	**+0.4**
VAC				*i* Sg		**Sg**	**21 16 11.1**	**-0.2**
VAC	**Vackov**	**0.03**	**282**	⇓P		**Pg**	**21 16 10.0**	**+0.4**
VAC				S		**Sg**	**21 16 11.1**	**-0.2**
LBCW	**Luby**	**0.04**	**350**	⇓P		**Pg**	**21 16 10.0**	**+0.3**
LBCW				S		**Sg**	**21 16 11.2**	**-0.3**
KVC	**Kvetna**	**0.06**	**111**	*i* Pg		**Pg**	**21 16 10.0**	**+0.1**
KVC				*i* Sg		**Sg**	**21 16 11.0**	**-0.7**
KVC	**Kvetna**	**0.06**	**111**	⇑P		**Pg**	**21 16 10.0**	**+0.1**
KVC				S		**Sg**	**21 16 11.0**	**-0.7**
WERN	**Wernitzgruen**	**0.07**	**333**	*i* Pg		**Pg**	**21 16 10.4**	**+0.5**
WERN				*e*Sg		**Sg**	**21 16 11.7**	**-0.2**
WERN					IAML		21 16 12.0	
	comp=E,5µm,0.1s							
WERN	**Wernitzgruen**	**0.07**	**333**	*i* Pg		**Pg**	**21 16 10.4**	**+0.5**
WERN				*e*Sg		**Sg**	**21 16 11.7**	**-0.2**
	comp=E,5µm,0.1s							
ROHR	**Rohrbach**	**0.07**	**275**	*i* Pg		**Pg**	**21 16 10.5**	**+0.6**
ROHR				*i* Sg		**Sg**	**21 16 11.9**	**+0.1**
ROHR					IAML		21 16 12.3	
	comp=N,19µm,0.2s							
ROHR	**Rohrbach**	**0.07**	**275**	*i* Pg		**Pg**	**21 16 10.5**	**+0.6**
ROHR				*i* Sg		**Sg**	**21 16 11.9**	**+0.1**
	comp=N,19µm,0.2s							
STCW	**Studenec**	**0.07**	**64**	*i* Pg		**Pg**	**21 16 10.0**	**+0.1**
STCW				*i* Sg		**Sg**	**21 16 11.0**	**-0.9**
STCW	**Studenec**	**0.07**	**64**	*i* Pg		**Pg**	**21 16 10.0**	**+0.1**
STCW				*i* Sg		**Sg**	**21 16 11.0**	**-0.9**
STCW	**Studenec**	**0.07**	**64**	⇑P		**Pg**	**21 16 10.0**	**+0.1**
STCW				S		**Sg**	**21 16 11.0**	**-0.9**
SKC	**Skalna**	**0.07**	**214**	⇑P		**Pg**	**21 16 10.6**	**+0.7**
SKC				S		**Sg**	**21 16 12.1**	**+0.3**
POCW	**Potky**	**0.09**	**2**	⇓P		**Pg**	**21 16 10.6**	**+0.4**
POCW				S		**Sg**	**21 16 12.1**	**-0.2**
KRCW	**Kraslice**	**0.12**	**34**	⇑P		**Pg**	**21 16 10.

GOPC	**GO Pecny, Ondr**	**1.56**	**101**	*e*SG	**Sb**	**21**	**16**	**56.8**	**+1.5**
GEC2	**GERESS Array S**	**1.62**	**148**	*e*Pg	**Pb**	**21**	**16**	**37.8**	**+1.0**
GEC2				*e*Sg	**Sb**	**21**	**16**	**59.0**	**+1.9**
CKRC	**Cesky Krumlov**	**1.87**	**138**	*e*SG	**Sb**	**21**	**17**	**05.9**	**+1.6**
	comp=E,64nm,0.3s								
UPC	**Upice**	**2.31**	**82**	*e*SG	**Sb**	**21**	**17**	**19.8**	**+2.7**
CHVC	**Chvalec**	**2.35**	**80**	*e*SG	**Sg**	**21**	**17**	**21.5**	**-1.1**
DPC	**Dobruska-Polom**	**2.50**	**86**	*e*SG	**Sb**	**21**	**17**	**25.1**	**+2.5**
	comp=E,73nm,0.3s								
BIOA	**Bad Ischl, Aus**	**2.66**	**162**	Pg	**Pg**	**21**	**16**	**57.7**	**-0.4**
	comp=E,3.4nm,0.2s								
MOA	**Molln**	**2.67**	**152**	*e*Pn	**Pn**	**21**	**16**	**50.3**	**+0.6**
	comp=E,0.9nm,0.3s								
KRLC	**Kraliky**	**2.81**	**91**	*e*SG	**Sg**	**21**	**17**	**35.7**	**-1.6**
	comp=E,55nm,0.4s								
LESA	**Schwarzleotal**	**2.81**	**176**	*e*Pg	**Pg**	**21**	**17**	**01.6**	**+0.7**
	comp=E,7.2nm,0.3s								
KRUC	**Moravsky**	**2.83**	**113**	*e*Pn	**Pn**	**21**	**16**	**53.1**	**+1.2**
	baz=296								
KRUC				*e*Sg	**Sg**	**21**	**17**	**36.2**	**-1.9**
	comp=E,101nm,0.6s,baz=296								
VRAC	**Vranov**	**2.86**	**107**	*e*Pn	**Pn**	**21**	**16**	**53.1**	**+0.8**
	baz=291								
VRAC				*e*Sg	**Sg**	**21**	**17**	**36.8**	**-2.0**
	comp=E,105nm,0.6s,baz=291								
WATA	**Walderalm**	**2.95**	**191**	*e*Pn	**Pn**	**21**	**16**	**54.0**	**+0.3**
	comp=E,0.8nm,0.1s								
WTTA	**Wattenberg**	**3.01**	**190**	Pn	**Pn**	**21**	**16**	**55.5**	**+1.0**
	comp=E,1.8nm,0.3s								
KOE	**Koeppel**	**3.01**	**276**	*e*Pn	**Pn**	**21**	**16**	**56.1**	**+1.7**
MOTA	**Moosalm**	**3.02**	**197**	*e*Pn	**Pn**	**21**	**16**	**55.6**	**+1.0**
	comp=E,2.1nm,0.2s								
GUT	**Gutenstein**	**3.06**	**226**	P	**Pn**	**21**	**16**	**54.9**	**-0.2**
GUT	**Gutenstein**	**3.06**	**226**	Pg	**Pg**	**21**	**17**	**06.0**	**+0.2**
NEEW	**Neewiller pres**	**3.08**	**247**	Pg	**Pg**	**21**	**17**	**06.7**	**+0.5**
SQTA	**Sankt Quirin**	**3.12**	**195**	Pg	**Pg**	**21**	**17**	**07.5**	**+0.7**
	comp=E,8.5nm,0.3s								
BABA	**Baden-Baden-Ne**	**3.15**	**243**	P	**Pn**	**21**	**16**	**58.6**	**+2.3**
BABA	**Baden-Baden-Ne**	**3.15**	**243**	Pg	**Pg**	**21**	**17**	**07.5**	**+0.1**
KBA	**Koelnbreinsper**	**3.21**	**169**	*e*Pn	**Pn**	**21**	**16**	**57.4**	**+0.1**
	comp=E,2.7nm,0.4s								
CONA	**Conrad Observa**	**3.23**	**134**	*e*Pn	**Pn**	**21**	**16**	**58.1**	**+0.6**
	comp=E,2.7nm,0.3s								
LEMB	**Lembach**	**3.26**	**250**	P	**Pn**	**21**	**16**	**55.1**	**-2.6**
LEMB				Pg	**Pg**	**21**	**17**	**09.7**	**+0.2**
BGG	**Burgeitz**	**3.27**	**272**	*e*Pn	**Pn**	**21**	**16**	**59.3**	**+1.4**
OPP	**Oppenau**	**3.27**	**240**	Pg	**Pg**	**21**	**17**	**09.2**	**-0.5**
MORC	**Moravsky Berou**	**3.33**	**96**	*e*SG	**Sg**	**21**	**17**	**51.7**	**-2.4**
MORC	**Moravsky Berou**	**3.33**	**96**	*e*Sg	**Sg**	**21**	**17**	**51.6**	**-2.5**
	comp=E,88nm,0.6s,baz=280								
DAVA	**Damuels**	**3.39**	**211**	*e*Pn	**Pn**	**21**	**16**	**59.8**	**+0.1**
	comp=E,1.4nm,0.3s								
FETA	**Feichten**	**3.40**	**200**	*i* Pn	**Pn**	**21**	**16**	**59.8**	**-0.1**
	comp=E,0.5nm,0.2s								
FETA				*e*Sn	**Sn**	**21**	**17**	**41.0**	**+0.9**
	comp=E,1.3nm,0.2s								
ABTA	**Abfaltersbach**	**3.48**	**179**	*e*Pn	**Pn**	**21**	**17**	**02.3**	**+1.3**
	comp=E,2.0nm,0.5s								
ABTA				*e*Sn	**Sn**	**21**	**17**	**44.6**	**+2.5**
	comp=E,3.2nm,0.2s								
SLE	**Schleitheim**	**3.57**	**228**	P	**Pn**	**21**	**17**	**01.6**	**-0.5**
CIEL	**Dossenheim-sur**	**3.58**	**249**	P	**Pn**	**21**	**17**	**03.5**	**+1.3**
STB	**Steinbach**	**3.59**	**278**	*e*Pn	**Pn**	**21**	**17**	**03.8**	**+1.5**
STB				*e*Sn	**Sn**	**21**	**17**	**45.5**	**+1.0**
	comp=E,23nm,1.1s								
RONA	**Rosalia, Austr**	**3.59**	**133**	*e*Pn	**Pn**	**21**	**17**	**02.3**	**-0.1**
	comp=E,1.9nm,0.3s								
ARSA	**Arzberg**	**3.62**	**144**	*e*Pn	**Pn**	**21**	**17**	**04.2**	**+1.5**
	comp=E,5.4nm,0.5s								
MODS	**Modra-Piesok**	**3.68**	**118**	*e*PN	**Pn**	**21**	**17**	**05.7**	**+2.1**
MODS				*e*SG	**Sg**	**21**	**18**	**02.8**	**-2.4**
ZST	**Bratislava**	**3.68**	**122**	*e*PN	**Pn**	**21**	**17**	**06.1**	**+2.5**
ZST				*e*SG	**Sg**	**21**	**18**	**02.5**	**-2.7**
JAVC	**Velka Javorina**	**3.68**	**110**	*e*SG	**Sg**	**21**	**18**	**04.1**	**-1.2**
HILG	**Hillesheim**	**3.69**	**273**	*e*Pn	**Pn**	**21**	**17**	**05.3**	**+1.6**
KIZ	**Kirchzarten**	**3.73**	**234**	P	**Pn**	**21**	**17**	**04.0**	**-0.4**
FELD	**Feldberg im Sc**	**3.74**	**233**	P	**Pn**	**21**	**17**	**03.9**	**-0.7**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	**21**	**17**	**07.2**	**+1.5**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pg**	**21**	**17**	**20.3**	**0.0**
CDF				*e*Sg	**Sg**	**21**	**18**	**08.7**	**-1.2**
	comp=E,30nm,0.4s								
SULZ	**Cheisacher**	**3.92**	**228**	P	**Pn**	**21**	**17**	**06.1**	**-0.9**
SOKA	**Soboth**	**3.96**	**153**	*e*Pn	**Pn**	**21**	**17**	**08.7**	**+1.3**
	comp=E,0.4nm,0.3s								
ENDD	**Endenburg**	**3.98**	**233**	P	**Pn**	**21**	**17**	**06.7**	**-1.1**
OBKA	**Obir**	**3.98**	**158**	*e*Pn	**Pn**	**21**	**17**	**09.5**	**+1.7**
	comp=E,0.8nm,0.3s								
ECH	**Echery**	**4.00**	**242**	P	**Pn**	**21**	**17**	**09.3**	**+1.3**
XAFF	**Xaffevillers**	**4.21**	**247**	P	**Pn**	**21**	**17**	**12.6**	**+1.7**
MOF	**Molkenrain**	**4.21**	**238**	P	**Pn**	**21**	**17**	**10.6**	**-0.5**
ILLF	**Illfurth**	**4.25**	**235**	P	**Pn**	**21**	**17**	**10.1**	**-1.3**
BALST	**Balsthal**	**4.26**	**229**	P	**Pn**	**21**	**17**	**10.4**	**-1.2**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pn	**Pn**	**21**	**17**	**14.1**	**+0.8**
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	**21**	**17**	**30.5**	**-0.6**
HINF				*e*Sn	**Sn**	**21**	**18**	**02.3**	**-2.0**
HINF				*e*Sg	**Sg**	**21**	**18**	**25.7**	**-2.2**
	comp=E,22nm,0.3s								
BOURR	**Bourrignon**	**4.45**	**232**	P	**Pn**	**21**	**17**	**14.4**	**+0.2**
VYHS	**Vyhne**	**4.54**	**110**	*e*PN	**Pn**	**21**	**17**	**16.8**	**+1.4**
VYHS				*e*SN	**Sn**	**21**	**18**	**07.8**	**-0.1**
VYHS				*e*		**21**	**18**	**22.2**	
VYHS	**Vyhne**	**4.54**	**110**	*e*SG	**Sg**	**21**	**18**	**31.3**	**-1.4**
RONF	**Ronchamp**	**4.56**	**239**	P	**Pn**	**21**	**17**	**14.7**	**-1.0**
KOGS	**Kog**	**4.56**	**145**	*i* Pn	**Pn**	**21**	**17**	**17.7**	**+2.0**
HAU	**Haudompre**	**4.57**	**243**	*e*Pn	**Pn**	**21**	**17**	**16.4**	**+0.6**
HAU	**Haudompre**	**4.57**	**243**	*e*Pg	**Pg**	**21**	**17**	**33.1**	**-1.4**
HAU				*e*Sn	**Sn**	**21**	**18**	**06.6**	**-2.1**
HAU				*e*Sg	**Sg**	**21**	**18**	**32.0**	**-1.6**
	comp=E,52nm,0.5s								
PAGF	**Fort de Pagny**	**4.68**	**252**	*e*Pn	**Pn**	**21**	**17**	**18.8**	**+1.4**
PAGF	**Fort de Pagny**	**4.68**	**252**	*e*Pg	**Pg**	**21**	**17**	**36.4**	**-0.3**
PAGF				*e*Sg	**Sg**	**21**	**18**	**34.8**	**-2.6**
	comp=E,24nm,0.6s								
LANS	**Liptovska Anna**	**4.70**	**101**	*e*PN	**Pn**	**21**	**17**	**19.6**	**+2.0**
LANS				*e*SG	**Sg**	**21**	**18**	**34.9**	**-3.0**
GIVF	**Givet**	**4.89**	**271**	*e*Pg	**Pg**	**21**	**17**	**36.7**	**+4.3**
GIVF				*e*Sg	**Sg**	**21**	**18**	**41.4**	**-2.5**
	comp=E,16nm,0.4s								
SAVF	**Savonnieres en**	**5.03**	**254**	*e*Sg	**Sg**	**21**	**18**	**47.2**	**-1.3**
	comp=E,21nm,0.6s								
MEZF	**Maizieres J`vi**	**5.12**	**253**	*e*Pn	**Pn**	**21**	**17**	**24.3**	**+1.0**
MEZF	**Maizieres J`vi**	**5.12**	**253**	*e*Pg	**Pg**	**21**	**17**	**44.4**	**-0.6**
MEZF				*e*Sg	**Sg**	**21**	**18**	**47.5**	**-3.7**
	comp=E,11nm,0.5s								
BSD	**Bornholm Skovb**	**5.12**	**16**	*i* P	**Pn**	**21**	**17**	**24.9**	**+1.6**
BSD				*e*S	**Sn**	**21**	**18**	**17.4**	**-4.9**
BSD				IAML		**21**	**18**	**24.4**	
	comp=Z,8.9nm,0.7s								
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pn	**Pn**	**21**	**17**	**25.3**	**+0.2**
SFTF	**Sexfontaines**	**5.25**	**250**	*e*Pg	**Pg**	**21**	**17**	**45.1**	**-2.4**
SFTF				*e*Sg	**Sg**	**21**	**18**	**52.3**	**-3.1**
	comp=E,16nm,0.4s								
BAIF	**Baives**	**5.29**	**271**	*e*Sg	**Sg**	**21**	**18**	**52.7**	**-3.9**
	comp=E,5.9nm,0.4s								
LUNU	**Lund**	**5.45**	**6**	*i* P	**Pn**	**21**	**17**	**26.4**	**-1.4**
LUNU				*i* S	**Sn**	**21**	**18**	**26.2**	**-4.0**
SSRD	**Sdr. Stenderup**	**5.53**	**343**	*e*S	**Sn**	**21**	**18**	**30.5**	**-1.6**
CABF	**La Chapelle**	**5.56**	**232**	*e*Pn	**Pn**	**21**	**17**	**30.2**	**+0.8**
CABF	**La Chapelle**	**5.56**	**232**	*e*Pg	**Pg**	**21**	**17**	**52.7**	**-0.7**
CABF				*e*Sg	**Sg**	**21**	**19**	**03.8**	**-1.6**
	comp=E,14nm,0.6s								
STHS	**Stebnicka Huta**	**5.77**	**95**	*e*SG	**Sg**	**21**	**19**	**08.6**	**-3.5**
BJUU	**Bjuv**	**5.87**	**3**	*i* S	**Sn**	**21**	**18**	**37.5**	**-3.0**
LPL	**La Plagne**	**6.07**	**221**	*e*Pg	**Pg**	**21**	**18**	**01.0**	**-2.3**
LPL				*e*Sg	**Sg**	**21**	**19**	**19.4**	**-2.5**
	comp=E,2.6nm,0.3s								
LPG	**La Plagne**	**6.08**	**221**	*e*Pg	**Pg**	**21**	**18**	**02.2**	**-1.2**
LPG				*e*Sg	**Sg**	**21**	**19**	**21.0**	**-1.1**
	comp=E,5.8nm,0.6s								
DEL	**Delary**	**6.31**	**7**	*i* S	**Sn**	**21**	**18**	**46.7**	**-4.9**
LOR	**Lormes**	**6.39**	**246**	*e*Pn	**Pn**	**21**	**17**	**41.5**	**+0.7**
LOR	**Lormes**	**6.39**	**246**	*e*Pg	Pg	**21**	**18**	**05.6**	**-3.8**
LOR				*e*Sg	**Sg**	**21**	**19**	**28.6**	**-3.5**
	comp=E,12nm,0.5s								
BLEU	**Blekinge**	**6.42**	**17**	*i* S	**Sn**	**21**	**18**	**50.0**	**-4.0**
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pn	**Pn**	**21**	**17**	**46.0**	**+0.9**
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pg	**Pg**	**21**	**18**	**13.6**	**-1.8**
SSF				*e*Sg	**Sg**	**21**	**19**	**38.4**	**-3.7**
	comp=Z,10.0nm,0.6s								
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg	**Pg**	**21**	**18**	**12.8**	**-3.3**
SMF				*e*Sg	**Sg**	**21**	**19**	**39.1**	**-4.2**
	comp=E,4.3nm,0.3s								
ORIF	**Oris-en-Rattie**	**6.91**	**222**	*e*Pg	**Pg**	**21**	**18**	**17.4**	**-2.0**
ORIF				*e*Sg	**Sg**	**21**	**19**	**46.0**	**-2.8**
	comp=Z,6.3nm,0.7s								
AVF	**Avril sur Loir**	**6.94**	**244**	*e*Pn	**Pn**	**21**	**17**	**49.2**	**+0.9**
AVF	**Avril sur Loir**	**6.94**	**244**	*e*Pg	**Pg**	**21**	**18**	**16.9**	**-2.9**
AVF				*e*Sg	**Sg**	**21**	**19**	**46.2**	**-3.4**
	comp=Z,17nm,0.8s								
HYF	**Humbligny**	**7.11**	**249**	*e*Sg	**Sg**	**21**	**19**	**51.3**	**-3.9**
BGF	**Bois d'Agland**	**7.36**	**244**	*e*Pg	Pg	**21**	**18**	**24.0**	**-3.8**
BGF				*e*Sg	**Sg**	**21**	**19**	**57.6**	**-5.4**
	comp=Z,18nm,0.5s								
VIVF	**Saint-Julien-l**	**7.51**	**227**	*e*Pg	**Pg**	**21**	**18**	**28.3**	**-2.4**
VIVF				*e*Sg	**Sg**	**21**	**20**	**04.3**	**-3.5**
	comp=Z,4.2nm,0.6s								
TCF	**Toulx Ste Croi**	**7.87**	**244**	*e*Pn	**Pn**	**21**	**18**	**02.2**	**+1.0**
TCF	**Toulx Ste Croi**	**7.87**	**244**	*e*Pg	**Pg**	**21**	**18**	**34.9**	**-2.8**
TCF				*e*Sg	**Sg**	**21**	**20**	**13.0**	**-6.5**
	comp=Z,5.6nm,0.6s								
LDF	**La Druitiere**	**8.35**	**264**	*e*Pn	**Pn**	**21**	**18**	**08.0**	**+0.4**
LDF				*e*Sg	**Sg**	**21**	**20**	**29.8**	**-4.8**
	comp=Z,0.9nm,0.3s								
LASF	**Ste Croix**	**8.48**	**227**	*e*Sg	**Sg**	**21**	**20**	**34.4**	**-4.6**
	comp=Z,4.3nm,0.6s								
CAF	**Calviac**	**8.78**	**237**	*e*Sg	**Sg**	**21**	**20**	**45.4**	**-3.2**
	comp=Z,1.8nm,0.4s								
RJF	**Les Rejaudoux**	**8.84**	**240**	*e*Sg	**Sg**	**21**	**20**	**43.7**	**-6.9**
	comp=Z,2.4nm,0.5s								
GRR	**Gorron**	**8.87**	**263**	*e*Pn	**Pn**	**21**	**18**	**14.8**	**0.0**
MFF	**Saint Martin d**	**9.11**	**251**	*e*Sg	Sn	**21**	**20**	**54.1**	**+54**
	comp=E,6.5nm,0.8s								
LFF	**La Frestale**	**9.50**	**241**	*e*Sg	Sn	**21**	**21**	**06.3**	**+56**
	comp=E,5.0nm,0.7s								

*AZER **21** 21:32:31.5,38°.83N×48°.53E,h18km,ml2.5*
*TEH **21** 21:32:33.9,38°.70N×48°.39E,h10km±228km,ML2.5*

ISC 21 21:32:33.4±0.9,38°.81N±0°.03×48°.56E±0°.03,h27km±6km, n31,σ1s07/57,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
LKRN	**Lenkeran, Azer**	**0.20**	**119**	P	**Pb**	**21**	**32**	**39.0**	**-0.2**
LKRN				P	**Pb**	**21**	**32**	**39.0**	**-0.2**
LKRN				S	**Sb**	**21**	**32**	**44.1**	**+1.0**
LRK	**Lerik**	**0.24**	**226**	P	**Pb**	**21**	**32**	**39.3**	**-0.6**
LRK				S	**Sb**	**21**	**32**	**44.4**	**+0.2**
YRD	**Yardimli**	**0.27**	**294**	P	**Pb**	**21**	**32**	**39.1**	**-1.2**
YRD				S	**Sb**	**21**	**32**	**44.0**	**-1.1**
ASTR	**Astara**	**0.31**	**144**	P	**Pb**	**21**	**32**	**40.4**	**-0.2**
ASTR				S	**Sn**	**21**	**32**	**46.8**	**-0.9**
GLBA	**Clilabad**	**0.45**	**344**	P	**Pb**	**21**	**32**	**42.0**	**-0.9**
GLBA				S	**Sb**	**21**	**32**	**49.5**	**+0.2**
GAS1	**Astara - Iran**	**0.48**	**152**	Pg	**Pb**	**21**	**32**	**42.9**	**-0.3**
GAS1				Sg	**Sn**	**21**	**32**	**50.9**	**-1.0**
GRMI	**Germi**	**0.52**	**270**	Pg	**Pb**	**21**	**32**	**42.6**	**-1.4**
QRD	**Qoradiz**	**1.16**	**305**	P	**Pn**	**21**	**32**	**52.6**	**-1.3**
QRD				S	**Sn**	**21**	**33**	**09.2**	**+0.3**
BLQ	**Beylaqan**	**1.20**	**320**	P	**Pn**	**21**	**32**	**53.7**	**-0.7**
BLQ				S	**Sn**	**21**	**33**	**09.9**	**+0.2**
ISRB	**Sarab**	**1.21**	**216**	Pg	**Pn**	**21**	**32**	**54.9**	**+0.2**
IHRS	**Heris**	**1.28**	**248**	Pg	**Pn**	**21**	**32**	**55.2**	**-0.6**
KDMR	**Kurdemir**	**1.59**	**350**	Pn	**Pn**	**21**	**32**	**59.5**	**-0.3**
KDMR				Sn	**Sb**	**21**	**33**	**21.6**	**-0.2**
ZRD	**Zardab**	**1.62**	**336**	Pn	**Pn**	**21**	**33**	**00.6**	**+0.4**
ZRD				Sn	**Sb**	**21**	**33**	**22.7**	**+0.2**
AGDM	**Agdam**	**1.72**	**320**	Pn	**Pn**	**21**	**33**	**01.1**	**-0.5**
AGDM				Sn	**Sn**	**21**	**33**	**24.0**	**+1.4**
BRDA	**Brd**	**1.80**	**324**	Pn	**Pn**	**21**	**33**	**03.2**	**+0.6**
BRDA				Sn	**Sb**	**21**	**33**	**28.7**	**+0.9**
IHSH	**Hashtrud**	**1.82**	**215**	Pg	**Pb**	**21**	**33**	**05.3**	**-0.8**
ITBZ	**Tabriz**	**1.98**	**254**	Pn	**Pn**	**21**	**33**	**05.4**	**+0.2**
PQL	**Pirkuli**	**1.98**	**1**	Pn	**Pn**	**21**	**33**	**07.1**	**+1.8**
PQL				Sn	**Sb**	**21**	**33**	**32.7**	**-0.4**
IML	**Ismayilli**	**2.00**	**352**	Pn	**Pn**	**21**	**33**	**05.8**	**+0.3**
IML				Sn	**Sn**	**21**	**33**	**31.9**	**+2.2**
ORD	**Ordubad**	**2.00**	**274**	Pn	**Pn**	**21**	**33**	**06.3**	**+0.8**
ORD				Sn	**Sn**	**21**	**33**	**32.1**	**+2.3**
ATGJ	**Altiaghaj**	**2.07**	**8**	Pn	**Pn**	**21**	**33**	**05.3**	**-1.2**
ATGJ				Sn	**Sb**	**21**	**33**	**34.3**	**-1.3**
QBL	**Gabala**	**2.21**	**346**	Pn	**Pn**	**21**	**33**	**08.8**	**+0.5**
QBL				Sn	**Sn**	**21**	**33**	**36.1**	**+1.3**
SIZA	**Siyzn**	**2.28**	**6**	Pn	**Pn**	**21**	**33**	**10.4**	**+1.0**
SIZA				Sn	**Sb**	**21**	**33**	**40.1**	**-1.6**
XNQ	**Khinaliq**	**2.38**	**352**	Pn	**Pn**	**21**	**33**	**10.6**	**-0.3**
XNQ				Sn	**Sn**	**21**	**33**	**39.4**	**0.0**
SBZ	**Shahbuz**	**2.41**	**285**	Pn	**Pn**	**21**	**33**	**12.4**	**+1.3**
SBZ				Sn	**Sn**	**21**	**33**	**42.9**	**+3.0**
NAX	**Nakhchivan**	**2.41**	**280**	Pg	**Pb**	**21**	**33**	**15.3**	**-0.8**
NAX				Sg	**Sb**	**21**	**33**	**44.8**	**-0.8**
GANJ	**Ganja**	**2.52**	**317**	Pn	**Pn**	**21**	**33**	**11.9**	**-0.7**
GANJ				Sn	**Sn**	**21**	**33**	**41.9**	**-0.5**
SEKA	**Sheki**	**2.62**	**337**	Pn	**Pn**	**21**	**33**	**13.2**	**-0.7**
SEKA				Sn	**Sn**	**21**	**33**	**45.0**	**+0.1**
GDB	**GEDABAY**	**2.88**	**312**	Pn	**Pn**	**21**	**33**	**17.9**	**+0.2**
GDB				Sn	**Sn**	**21**	**33**	**52.8**	**+1.2**
ZKTA	**Zakatala**	**3.19**	**333**	Pn	**Pn**	**21**	**33**	**22.3**	**+0.5**
QZX	**Qazax, Azerbai**	**3.32**	**314**	Pn	**Pn**	**21**	**33**	**25.1**	**+0.5**
QZX				Sn	**Sn**	**21**	**34**	**04.8**	**+2.5**

RSNC 21 21:36:12.1±0.0,7°N±1°×7°3W±°,h142km±2km,M2.6,mb3.7, ML2.6,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
BARC	**Barichara**	**0.23**	**186**	P	Pn	**21**	**36**	**31.1**	**-0.7**
BARC				S	Sn	**21**	**36**	**45.8**	**-0.9**
PAMC	**Pamplona, Colo**	**0.69**	**41**	P	Pn	**21**	**36**	**33.8**	**-0.5**
PAMC				S	Sn	**21**	**36**	**50.9**	**-0.2**
RUSC	**La Rusia**	**0.93**	**175**	P	Pn	**21**	**36**	**35.0**	**-1.1**
RUSC				S	Sn	**21**	**36**	**53.5**	**-0.7**
PTBC	**PUERTO BERRIO,**	**1.32**	**258**	P	Pn	**21**	**36**	**37.7**	**-1.5**
PTBC				S	Sn	**21**	**36**	**58.7**	**-1.1**
OCAC	**Ocana**	**1.42**	**354**	P	Pn	**21**	**36**	**39.1**	**-1.3**
OCAC				S	Sn	**21**	**37**	**01.5**	**-0.5**
SPBC	**San Pablo de B**	**1.47**	**218**	P	Pn	**21**	**36**	**40.0**	**-0.9**
SPBC				S	Sn	**21**	**37**	**02.2**	**-0.7**
ZARC	**Zaragoza, Cauc**	**1.81**	**292**	P	Pn	**21**	**36**	**43.7**	**-0.9**
ZARC				S	Sn	**21**	**37**	**09.1**	**-0.3**
NORC	**Norcasia**	**2.11**	**234**	P	Pn	**21**	**36**	**47.1**	**-1.0**
NORC				S	Sn	**21**	**37**	**14.5**	**-1.3**
CHIC	**Chingaza**	**2.25**	**195**	P	Pn	**21**	**36**	**49.3**	**-0.9**
CHIC				S	Sn	**21**	**37**	**18.6**	**-0.8**
HELC	**Santa Helena**	**2.44**	**255**	P	Pn	**21**	**36**	**52.8**	**+0.4**
HELC				S	Sn	**21**	**37**	**24.0**	**+0.7**
VILC	**Villavicencio,**	**2.74**	**191**	P	Pn	**21**	**36**	**54.7**	**-1.4**
VILC				S	Sn	**21**	**37**	**29.0**	**-0.9**
PTGC	**Puerto Gaitan,**	**2.80**	**159**	P	Pn	**21**	**36**	**54.3**	**-2.3**
PTGC				S	Sn	**21**	**37**	**27.4**	**-3.6**
DBBC	**Dabeiba**	**3.03**	**274**	P	Pn	**21**	**36**	**59.2**	**-0.5**
ARGC	**Ariguani, Magd**	**3.20**	**340**	P	Pn	**21**	**37**	**01.4**	**-0.4**
ARGC				S	Sn	**21**	**37**	**39.1**	**-1.2**
SDV	**Santo Domingo**	**3.24**	**50**	P	Pn	**21**	**37**	**00.5**	**-1.9**
SDV				S	Sn	**21**	**37**	**37.7**	**-3.6**
PRAC	**Prado**	**3.53**	**209**	P	Pn	**21**	**37**	**04.7**	**-1.4**
PRAC				S	Sn	**21**	**37**	**46.5**	**-1.4**
APAC	**Apartado, Choc**	**3.56**	**288**	P	Pn	**21**	**37**	**03.7**	**-2.7**
APAC				S	Sn	**21**	**37**	**45.6**	**-2.8**
PLMC	**San Jos del P**	**3.64**	**239**	P	Pn	**21**	**37**	**06.6**	**-1.0**
PLMC				S	Sn	**21**	**37**	**48.8**	**-1.7**
SJCC	**San Jacinto, C**	**3.65**	**327**	P	Pn	**21**	**37**	**05.2**	**-2.5**
SJCC				S	Sn	**21**	**37**	**46.4**	**-4.4**
URMC	**La Uribe, Meta**	**3.75**	**199**	P	Pn	**21**	**37**	**08.1**	**-0.9**
URMC				S	Sn	**21**	**37**	**52.5**	**-0.6**
CRJC	**Cerrejon, Guaj**	**4.18**	**4**	P	Pn	**21**	**37**	**11.5**	**-3.2**
CRJC				S	Sn	**21**	**37**	**58.0**	**-5.3**

NOU 21 21:45:23.8,15°.56S×167°.12E,h0km,mb4.3/12,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
DVP	**Devils Point**	**2.38**	**155**	P	Pn	**21**	**46**	**05.4**	**+1.3**
LIFNC	**LIFOU**	**5.19**	**179**	P	Pn	**21**	**46**	**42.1**	**-0.7**
KOUNC	**Koumac, New Ca**	**5.65**	**208**	P	Pn	**21**	**46**	**49.3**	**+0.2**
MARNC	**Mare, Loyalty**	**5.95**	**172**	P	Pn	**21**	**46**	**53.4**	**+0.2**
YATNC	**Mamie plateau,** 31nm,1.0s	**6.47**	**182**	P	Pn	**21**	**46**	**59.1**	**-1.2**
DZM	**Mont Dzumac**	**6.51**	**186**	P	Pn	**21**	**47**	**00.7**	**-0.3**
NOUC	**Port Laguerre**	**6.55**	**187**	P	Pn	**21**	**47**	**01.9**	**+0.4**
ONTNC	**Ouen Toro**	**6.74**	**185**	P	Pn	**21**	**47**	**04.9**	**+0.8**
OUENC	**Ouen Island, N**	**6.83**	**182**	P	Pn	**21**	**47**	**05.6**	**+0.3**
PINNC	**Pines Island,**	**7.02**	**178**	P	Pn	**21**	**47**	**06.7**	**-1.2**

*SOF **21** 22:09:57.8,44°.53N±0°.02×26°.82E±0°.01,h22km±2km, MD3.1/11*
*BUC **21** 22:09:59.5±0.2,44°.43N×26°.87E,h16km±1km,ml2.8/55, Error ellipse: s-maj=1.3km s-min=0.9km az=4.0*
*BEO **21** 22:09:59.6±0.8,44°.50N×26°.47E,h0km,ML2.8/8*

ISC 21 22:09:59.6±0.9,44°.45N±0°.02×26°.83E±0°.02,h30km±9km, n87,σ1s30/154,57C-52D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h	m	s	Res ISC
AMRR	**Amara**	**0.40**	**66**	⇑P	**Pb**	**22**	**10**	**07.5**	**-1.0**
AMRR				⇑S	**Sb**	**22**	**10**	**13.7**	**-0.8**
SULR		**0.47**	**300**	⇑P	**Pb**	**22**	**10**	**09.1**	**-0.5**
SULR				⇓S	**Sn**	**22**	**10**	**17.0**	**-0.6**
INCR	**INCERC-Sediu C**	**0.48**	**270**	⇑P	**Pb**	**22**	**10**	**09.4**	**-0.3**
INCR				⇓S	**Sn**	**22**	**10**	**17.2**	**-0.6**
BUC1	**Bucharest**	**0.58**	**261**	⇑P	**Pb**	**22**	**10**	**11.2**	**-0.1**
BUC1				⇑S	**Sn**	**22**	**10**	**20.3**	**0.0**
SGRR	**Singureni**	**0.65**	**250**	⇑P	**Pb**	**22**	**10**	**12.3**	**-0.3**
SGRR				⇑S	**Sn**	**22**	**10**	**22.1**	**+0.1**
CIOR	**Ciorogarla**	**0.68**	**271**	⇓P	**Pb**	**22**	**10**	**12.7**	**-0

TRUS	**Trudelj**	**4.61**	**269**	*e*Pn		**Pn**	**22 11 06.7**	**-0.5**
IVAS	**Ivanjica**	**4.89**	**262**	*e*Pn		**Pn**	**22 11 10.3**	**-0.9**
IVAS				*e*Sn		**Sn**	**22 12 04.5**	**-2.3**
SEV	**Sevastopol'**	**4.90**	**86**	*e*P		**Pn**	**22 11 12.0**	**+0.9**
SEV				Pm			22 11 17.3	
	comp=Z,1.0nm,0.5s							
SEV				*e*S		**Sn**	**22 12 09.4**	**+2.7**
SEV				Sm			22 12 17.6	
	comp=N,2.0nm,0.4s							
SEV				Sm			22 12 17.6	
	comp=E,3.0nm,0.6s							
SJES	**Sjenica**	**5.09**	**259**	*e*Pn		**Pn**	**22 11 14.0**	**0.0**
SJES				*e*Sn		**Sn**	**22 12 09.6**	**-2.2**

IDC 21 22:24:31.5±22.0, 18°30'S×177°77'W, h312$^{km}_{\pm}$215^{km}, mb3.3/4, mbtmp3.9/4, Error ellipse: s-maj=66.9km s-min=39.3km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.16**	**260**	P	P	22 32 17.8	-0.6
	0.5nm,0.5s,baz=94,slow=6.6,SNR=5.6 0.5nm,0.5s						
ASAR	**Alice Springs**	**45.28**	**255**	P	P	22 32 19.3	+0.1
	3.1nm,0.5s,baz=90,slow=8.5,SNR=52 3.1nm,0.5s						
QSPA	**South Pole Qui**	**71.76**	**180**	P	P	22 35 20.2	0.0
	1.4nm,0.9s,baz=40,slow=3.9,SNR=3.5 1.4nm,0.9s						
ILAR	**Eielson Array**	**86.13**	**13**	P	P	22 36 37.2	0.0
	0.2nm,0.4s,baz=222,slow=5.5,SNR=6.1 0.2nm,0.4s						
BRTR	**Keskin Array B**	**145.49**	**315**	PKPbc	PKPdf	22 43 33.0	0.0
	0.4nm,0.6s,baz=83,slow=3.6,SNR=3.3						

*NEIC **21** 22:57:28.8±1.0, 19°37'N±0°03'×154°97'W±0°02, h8$^{km}_{\pm}$3^{km}, Error ellipse: s-maj=4.9km s-min=0.5km az=147.0*
HVO 21 22:57:28.6±1.2, 19°38'N±0°02'×154°97'W±0°02, h1$^{km}_{\pm}$8^{km}, ML2.3/3, ML2.5/36(NEIC), Error ellipse: s-maj=4.3km s-min=1.0km az=146.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.06**	**326**		Pg	22 57 30.6	+0.8
JOKA				Sg	Sg	22 57 32.2	+1.6
PAH	**Pahoa**	**0.11**	**11**	Pg	Pg	22 57 31.5	+0.7
PAH				Sg	Sg	22 57 33.6	+1.3
JCUZ	**Jacuzzi**	**0.12**	**270**	Pg	Pg	22 57 31.5	+0.5
JCUZ				Sg	Sg	22 57 33.9	+1.3
NPOC	**North of Pu'u**	**0.13**	**274**		Pg	22 57 31.9	+0.8
STCH	**Steam Cracks**	**0.15**	**270**		Pg	22 57 32.1	+0.7
STCH					Sg	22 57 34.6	+1.3
KNHH	**Kane Nui o Ham**	**0.19**	**269**	Pg	Pg	22 57 32.5	+0.2
PUH	**Pauahi**	**0.23**	**268**	Pg	Pg	22 57 33.1	+0.1
PUH				Sg	Sg	22 57 37.5	+1.4
PUH				IAML		22 57 38.4	
	comp=N,685nm,1.3s						
HATHI	**Halema'uma'u T**	**0.28**	**278**	Pg	Pg	22 57 34.0	+0.1
HATHI				Sg	Sg	22 57 37.9	+0.3
SBLHI	**Steaming Bluff**	**0.29**	**279**		Pg	22 57 34.5	+0.5
NPH	**North Pit**	**0.30**	**275**		Pg	22 57 35.5	+1.2
OBL	**Observatory Le**	**0.30**	**276**		Pb	22 57 36.2	-0.6
RSD	**Rainshed**	**0.30**	**285**	Pg	Pg	22 57 34.8	+0.4
RSD				IAML		22 57 40.1	
	comp=E,487nm,0.5s						
RSD				IAML		22 57 42.0	
	comp=N,756nm,0.6s						
HLP	**Hilina Pali**	**0.33**	**255**	Pg	Pg	22 57 35.1	+0.1
HLP				IAML		22 57 41.9	
	comp=E,888nm,0.5s						
MLH	**Mauna Loa**	**0.41**	**286**	Pg	Pg	22 57 36.8	+0.3
MLH				IAML		22 57 43.8	
	comp=N,541nm,0.6s						
MLH				IAML		22 57 45.1	
	comp=E,389nm,0.7s						
HTC	**Hot Caves**	**0.43**	**250**		Pg	22 57 37.4	+0.6
HMH	**Humu'ula Sheep**	**0.53**	**294**	Pg	Pg	22 57 39.1	+0.3
MLOA	**Mauna Loa Obse**	**0.59**	**285**	Pg	Pg	22 57 39.5	-0.5
MLOA				Sg	Sg	22 57 48.2	+0.5
MLOA				IAML		22 57 48.7	
	comp=N,229nm,0.5s						
MLOA				IAML		22 57 49.0	
	comp=E,375nm,0.2s						
MLOA	**Mauna Loa Obse**	**0.59**	**285**	Pg	Pg	22 57 40.0	0.0
MWH	**Moku'aweowe**	**0.60**	**280**	Pg	Pg	22 57 39.5	-0.6
MWH				IAML		22 57 58.1	
	comp=N,376nm,0.9s						
KHU	**Kahuku**	**0.63**	**257**	Pg	Pg	22 57 40.1	-0.5
KHU				Sg	Sg	22 57 48.4	-0.3
KHU				IAML		22 57 51.2	
	comp=N,214nm,1.0s						
KHU				IAML		22 57 55.3	
	comp=E,247nm,0.9s						
ALEP	**Alea Permanent**	**0.66**	**284**		Sg	22 57 50.1	+0.5
HUH	**Hualalai**	**0.87**	**290**	Pg	Pg	22 57 44.9	-0.3

BUC 21 23:06:48.9±0.5, 45°48N×26°02E, h15$^{km}_{\pm}$2^{km}, ml0.5/4, 12C-5D, Error ellipse: s-maj=2.6km s-min=1.8km az=23.0, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.05**	**280**	↑P	Pg	23 06 52.1	+0.1
MLR				↑S	Sg	23 06 54.4	+0.4
MLR	**Muntele Rosu**	**0.05**	**280**	↑P	Pg	23 06 52.1	+0.1
MLR				↑S	Sg	23 06 54.4	+0.4
NEHR	**Nehoiu**	**0.20**	**106**	↓P	Pg	23 06 53.8	+0.2
NEHR				↑S	Sg	23 06 57.3	+0.5
COVR	**Voineasa-Covas**	**0.39**	**20**	↑P	Pg	23 06 56.4	-0.4
COVR				↑S	Sb	23 07 02.7	-0.5
COVR	**Voineasa-Covas**	**0.39**	**20**	↑P	Pg	23 06 56.4	-0.4
COVR				↓S	Sg	23 07 02.1	-0.1
TURR	**Turia**	**0.57**	**360**	↓P	Pb	23 07 00.7	+0.1
TURR	**Turia**	**0.57**	**360**	↑P	Pg	23 06 59.3	-1.0
PLOR	**Plostina**	**0.58**	**50**	↑S	Sg	23 07 08.1	+0.1
VRI	**Vrincioaia**	**0.63**	**52**	↑P	Pg	23 07 01.0	-0.2
VRI				↑S	Sb	23 07 10.1	-0.1
OZUR		**0.64**	**345**	↓P	Pg	23 07 01.5	+0.1
GRER		**0.68**	**98**	↓S	Sn	23 07 13.2	-1.1

*NEIC **21** 23:19:50.0±0.6, 18°3N±0°2×68°71W±0°05, h75km±13km, ML2.5/16, Md3.3/4(RSPR), Error ellipse: s-maj=31.4km s-min=3.3km az=190.0*
*RSPR **21** 23:19:50.4, 18°27N×68°75W, h64km±4km, MD3.3/4*
ISC 21 23:19:50.3±1.7, 18°2N±0°1×68°75W±0°07, h50^{km}, n23, σ0 51/24, 2C-4D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.50**	**44**	↓*i*P	**Pn**	**23 20 01.2**	**-0.3**
PCDR	**Punta Cana, DR**	**0.50**	**44**	*e*S	**Sn**	**23 20 10.2**	**+0.6**
PCDR	**Punta Cana, DR**	**0.50**	**44**		**Pn**	**23 20 01.2**	**-0.3**
PCDR	**Punta Cana, DR**	**0.50**	**44**		**Sn**	**23 20 11.0**	**+1.4**
PCDR				IAML		23 20 13.3	
	comp=N,193nm,1.9s						
CRPR	**Cabo Rojo, PR**	**1.57**	**95**	↓*e*P	**Pn**	**23 20 16.0**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.57**	**95**	*e*S	**Sn**	**23 20 34.8**	**0.0**
CRPR	**Cabo Rojo, PR**	**1.57**	**95**		**Pn**	**23 20 16.0**	**+0.3**
CRPR					**Sn**	**23 20 34.8**	**0.0**
AGPR	**Aguadilla, PR**	**1.59**	**78**	Pn	**Pn**	**23 20 15.2**	**-0.7**
MLPR	**Magueyes Islan**	**1.63**	**96**	↑*e*P	**Pn**	**23 20 16.9**	**+0.4**
MLPR	**Magueyes Islan**	**1.63**	**96**		**Pn**	**23 20 16.9**	**+0.4**
MLPR	**Magueyes Islan**	**1.63**	**96**	IAML		23 20 29.4	
	comp=N,33nm,2.8s						
AOPR	**Arecibo Observ**	**1.91**	**84**	↓*e*P	**Pn**	**23 20 19.8**	**-0.6**
AOPR	**Arecibo Observ**	**1.91**	**84**	*e*S	**Sn**	**23 20 43.2**	**0.0**
AOPR	**Arecibo Observ**	**1.91**	**84**		**Pn**	**23 20 19.8**	**-0.6**
AOPR					**Sn**	**23 20 43.2**	**0.0**
AOPR	**Arecibo Observ**	**1.91**	**84**	IAML		23 20 46.4	
	comp=N,34nm,0.9s						
AOPR				IAML		23 20 46.9	
	comp=E,51nm,0.3s						
UUPR	**Utuado, UPR, P**	**1.93**	**87**	↓*e*P	**Pn**	**23 20 20.5**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.93**	**87**	*e*S	**Sn**	**23 20 43.4**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.93**	**87**		**Pn**	**23 20 20.5**	**-0.2**
UUPR					**Sn**	**23 20 43.4**	**-0.4**
CELP	**Cerrillos**	**2.06**	**92**	↑*e*P	**Pn**	**23 20 22.2**	**-0.3**
CELP	**Cerrillos**	**2.06**	**92**	*e*S	**Sn**	**23 20 47.6**	**+0.5**
CELP	**Cerrillos**	**2.06**	**92**		**Pn**	**23 20 22.2**	**-0.3**
CELP					**Sn**	**23 20 47.6**	**+0.5**
CELP	**Cerrillos**	**2.06**	**92**	IAML		23 21 26.6	
	comp=N,20nm,2.7s						
CELP				IAML		23 21 35.3	
	comp=E,22nm,2.8s						
SDDR	**Presa de Saban**	**2.55**	**289**	Pn	**Pn**	**23 20 28.9**	**-0.3**
SDDR				IAML		23 21 03.4	
	comp=E,22nm,2.8s						
SDDR				IAML		23 21 23.7	
	comp=E,22nm,2.6s						

*NEIC **21** 23:35:38.9±1.6, 59°81N±0°04×153°70W±0°08, h152$^{km}_{\pm}$4^{km}, Error ellipse: s-maj=5.7km s-min=5.5km az=146.0*
*AEIC **21** 23:35:40.2±1.5, 59°82N±0°04×153°68W±0°08, h148$^{km}_{\pm}$4^{km}, ML3.0, ML3.1/118(NEIC), Error ellipse: s-maj=5.7km s-min=5.5km az=149.0*
*IDC **21** 23:35:42.1±9.1, 60°22N×153°83W, h151$^{km}_{\pm}$83^{km}, mb3.3/4, mbtmp3.7/5, Error ellipse: s-maj=100.5km s-min=76.7km az=114.0*
ISC 21 23:35:38.9±0.9, 59°81N±0°04×153°67W±0°04, h150$^{km}_{\pm}$6^{km}, n163, σ0 82/182, mb3.7/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P19K	**Oil Pt**	**0.27**	**125**		**Pn**	**23 35 60.0**	**+0.5**
P19K				Sn	**Sn**	**23 36 15.4**	**+0.4**
P19K				IAML		23 36 16.4	
	comp=N,824nm,0.7s						
P19K				IAML		23 36 17.3	
	comp=E,523nm,0.5s						
IVE	**Iliamna Volcan**	**0.39**	**58**		**Pn**	**23 36 00.1**	**+0.1**
IVE					**Sn**	**23 36 15.9**	**0.0**
AUL	**Augustine Lava**	**0.45**	**164**		**Pn**	**23 36 00.6**	**+0.6**
AUL					**Sn**	**23 36 16.7**	**+0.6**
AUCH	**Augustine Cone**	**0.46**	**165**		**Pn**	**23 36 00.7**	**+0.5**
AU22	**Augustine Moun**	**0.47**	**160**		**Pn**	**23 36 00.7**	**+0.6**
O19K	**Port Alsworth**	**0.51**	**320**	Pn	**Pn**	**23 36 00.1**	**-0.1**
O19K				Sn	**Sn**	**23 36 15.5**	**-1.1**
O19K				IAML		23 36 16.1	
	comp=N,346nm,0.5s						
O19K				IAML		23 36 16.2	
	comp=E,430nm,0.5s						
O20K	**Slope Mountain**	**0.59**	**62**		**Pn**	**23 36 01.5**	**+0.6**
O20K					**Sn**	**23 36 18.0**	**+0.4**
RED	**Redoubt Volcan**	**0.76**	**36**		**Pn**	**23 36 02.1**	**+0.2**
RED					**Sn**	**23 36 19.2**	**-0.3**
O18K	**Koktuh Hills**	**0.78**	**274**	Pn	**Pn**	**23 36 02.1**	**+0.1**
O18K				Sn	**Sn**	**23 36 18.4**	**-1.1**
O18K				IAML		23 36 19.7	
	comp=E,187nm,0.7s						
O18K				IAML		23 36 19.8	
	comp=N,88nm,0.6s						
RDWB	**Redoubt West**	**0.80**	**31**		**Pn**	**23 36 02.4**	**+0.1**
Q19K	**Cape Douglas,**	**0.89**	**179**	Pn	**Pn**	**23 36 02.5**	**-0.4**
Q19K				Sn	**Sn**	**23 36 20.5**	**-0.5**
Q19K				IAML		23 36 26.3	
	comp=N,304nm,0.9s						
Q19K				IAML		23 36 29.6	
	comp=E,493nm,1.0s						
P18K	**Big Mountain,**	**0.90**	**243**	Pn	**Pn**	**23 36 02.2**	**-0.6**
P18K				Sn	**Sn**	**23 36 19.7**	**-1.4**
P18K				IAML		23 36 21.0	
	comp=E,78nm,0.8s						
P18K				IAML		23 36 21.0	
	comp=N,97nm,0.8s						
RDJH	**Redoubt Jeurge**	**0.90**	**29**		**Pn**	**23 36 03.1**	**+0.2**
DFR	**Drift River**	**0.93**	**32**		**Pn**	**23 36 02.7**	**-0.5**
RDT	**Redoubt**	**0.99**	**39**		**Pn**	**23 36 03.9**	**+0.2**
HOM	**Homer**	**1.04**	**98**	Pn	**Pn**	**23 36 04.2**	**+0.2**
HOM				Sn	**Sn**	**23 36 22.6**	**-0.5**
N19K	**Bonanza Creek**	**1.08**	**338**	Pn	**Pn**	**23 36 04.5**	**0.0**
N19K				Sn	**Sn**	**23 36 23.5**	**-0.7**
N19K				IAML		23 36 24.2	
	comp=N,76nm,0.6s						
CNPM	**China Poot**	**1.27**	**102**	Pn	**Pn**	**23 36 06.4**	**+0.2**
CNPM				Sn	**Sn**	**23 36 25.7**	**-1.2**
KAHC	**Katmai Hardscr**	**1.35**	**211**		**Pn**	**23 36 07.3**	**+0.2**
SYI	**Shuyak Island**	**1.37**	**151**	Pn	**Pn**	**23 36 07.3**	**+0.2**
SYI				Sn	**Sn**	**23 36 28.2**	**-0.5**
SYI				IAML		23 36 28.8	
	comp=N,522nm,0.5s						
SYI				IAML		23 36 29.1	
	comp=E,338nm,0.3s						
N18K	**Kilae Creek**	**1.41**	**309**	Pn	**Pn**	**23 36 07.8**	**+0.3**
N18K				Sn	**Sn**	**23 36 28.7**	**-0.8**
BRLK	**Bradley Lake**	**1.41**	**91**	Pn	**Pn**	**23 36 07.6**	**0.0**
BRLK				Sn	**Sn**	**23 36 28.3**	**-1.2**
BRSE	**Bradley Lake S**	**1.48**	**91**		**Pn**	**23 36 08.6**	**+0.3**
P17K	**Kvichak River**	**1.54**	**248**		**Pn**	**23 36 09.4**	**+0.6**
SPCR	**Spurr Chakacha**	**1.57**	**27**		**Pn**	**23 36 09.7**	**+0.4**
CAPN	**Captain Cook N**	**1.58**	**51**	Pn	**Pn**	**23 36 10.8**	**+1.5**
CAPN				Sn	**Sn**	**23 36 34.2**	**+1.7**
SPBG	**Spurr Blockage**	**1.59**	**23**		**Pn**	**23 36 10.1**	**+0.7**
SPBG					**Sn**	**23 36 34.2**	**+1.2**
SPCN	**Chakachatna No**	**1.60**	**27**		**Pn**	**23 36 10.3**	**+0.8**
SVW2	**Sparrevohn**	**1.60**	**325**	Pn	**Pn**	**23 36 09.1**	**-0.4**
SPNN	**North Nagishla**	**1.63**	**17**		**Pn**	**23 36 10.3**	**+0.3**
SPCP	**Crater Peak Br**	**1.64**	**27**		**Pn**	**23 36 10.5**	**+0.3**
KVTA	**Katmai Vly 10**	**1.66**	**211**		**Pn**	**23 36 10.7**	**+0.5**
SPCG	**Spurr Capps Gl**	**1.70**	**28**		**Pn**	**23 36 11.2**	**+0.6**
O17K	**Koliganek Bris**	**1.73**	**270**		**Pn**	**23 36 11.5**	**+0.6**
KCE	**Katmai Mt Cerb**	**1.75**	**207**		**Pn**	**23 36 12.0**	**+0.7**
ACHA	**Angle Creek He**	**1.82**	**209**		**Pn**	**23 36 12.5**	**+0.5**
SLKM	**Skilak Lake**	**1.86**	**66**		**Pn**	**23 36 12.8**	**+0.3**
ANCK	**Angle Creek**	**1.87**	**211**		**Pn**	**23 36 13.2**	**+0.6**
ANCK					**Sn**	**23 36 38.5**	**+0.1**
N17K	**Nushagak Hills**	**1.90**	**294**	Pn	**Pn**	**23 36 13.1**	**+0.3**
STLK	**Strandline Lak**	**1.92**	**27**		**Pn**	**23 36 13.6**	**+0.4**
M18K	**Stony River**	**1.99**	**329**		**Pn**	**23 36 13.9**	**+0.1**
O22K	**Cooper Landing**	**2.09**	**69**	Pn	**Pn**	**23 36 14.8**	**-0.1**
M20K	**Styx River**	**2.10**	**7**	Pn	**Pn**	**23 36 15.0**	**-0.2**
KDAK	**Kodiak Island**	**2.11**	**164**	Pn	**Pn**	**23 36 14.1**	**-1.2**
KDAK				IAML		23 36 43.3	
	comp=E,150nm,0.3s						
KDAK				IAML		23 36 44.9	
	comp=E,272nm,0.5s						
KDAK	**Kodiak Island**	**2.11**	**164**		**Sn**	**23 36 41.9**	**-1.3**
M19K	**Big River Lodg**	**2.13**	**351**	Pn	**Pn**	**23 36 15.3**	**-0.2**
SEW	**Seward**	**2.14**	**80**		**Pn**	**23 36 16.0**	**+0.3**
SUA	**Susitna One**	**2.20**	**40**	Pn	**Pn**	**23 36 16.1**	**-0.3**
O16K	**Kokwok River B**	**2.25**	**266**	Pn	**Pn**	**23 36 17.7**	**+0.8**
RC01	**Rabbit Creek A**	**2.33**	**55**	Pn	**Pn**	**23 36 17.1**	**-0.8**
RC01				IAML		23 36 47.3	
	comp=N,175nm,0.3s						
SKT	**Skwentna**	**2.42**	**25**	Pn	**Pn**	**23 36 19.1**	**+0.2**
SKT				IAML		23 36 51.8	
	comp=E,51nm,0.3s						
SKT				IAML		23 36 58.4	
	comp=N,41nm,0.4s						
L19K	**White Mountain**	**2.45**	**347**	Pn	**Pn**	**23 36 18.7**	**-0.7**
M17K	**Holitna River**	**2.45**	**312**	Pn	**Pn**	**23 36 20.0**	**+0.7**
M17K				IAML		23 36 52.6	
	comp=E,44nm,1.3s						
M17K				IAML		23 36 57.2	
	comp=N,26nm,1.4s						
OHAK	**Old Harbor**	**2.60**	**175**	Pn	**Pn**	**23 36 20.1**	**-1.1**
OHAK				IAML		23 36 52.9	
	comp=N,140nm,0.5s						
OHAK				IAML		23 36 53.3	
	comp=E,126nm,0.4s						
M22K	**Willow**	**2.61**	**40**	Pn	**Pn**	**23 36 20.5**	**-0.8**
M22K	**Willow**	**2.61**	**40**		**Sn**	**23 36 54.4**	**+0.3**
M22K	**Willow**	**2.61**	**40**	IAML		23 36 56.0	
	comp=N,387nm,0.5s						
M22K				IAML		23 36 59.6	
	comp=E,314nm,0.5s						
N16K	**Nishlik Lake**	**2.63**	**287**		**Pn**	**23 36 22.4**	**+0.8**
L20K	**Farewell, AK**	**2.68**	**358**		**Pn**	**23 36 22.4**	**+0.2**
L18K	**Granite Mounta**	**2.83**	**330**	Pn	**Pn**	**23 36 23.5**	**-0.5**
PMR	**Palmer**	**2.86**	**49**	Pn	**Pn**	**23 36 24.3**	**-0.1**
PMR				IAML		23 36 58.6	
	comp=N,57nm,0.1s						
PMR				IAML		23 37 04.8	
	comp=E,56nm,0.4s						
M16K	**Timber Creek**	**2.89**	**297**	Pn	**Pn**	**23 36 25.4**	**+0.6**
KNK	**Knik Glacier**	**3.03**	**56**	Pn	**Pn**	**23 36 25.0**	**-1.6**
KNK				IAML		23 37 14.2	
	comp=E,103nm,0.5s						
GHO	**Glory Hole Cre**	**3.05**	**48**	Pn	**Pn**	**23 36 25.7**	**-1.2**
GHO				IAML		23 37 04.8	
	comp=N,99nm,0.5s						
GHO				IAML		23 37 10.8	
	comp=E,112nm,0.4s						
CUT	**Chulitna**	**3.08**	**31**	Pn	**Pn**	**23 36 26.9**	**-0.3**
P23K	**Montague Islan**	**3.16**	**84**		**Pn**	**23 36 28.7**	**+0.5**
P23K					**Sn**	**23 37 05.4**	**-1.1**
PPLA	**Purkeypile**	**3.18**	**12**		**Pn**	**23 36 29.4**	**+0.8**
L17K	**Donlin**	**3.24**	**318**		**Pn**	**23 36 29.7**	**+0.5**
N15K	**Kwethluk River**	**3.25**	**279**	Pn	**Pn**	**23 36 30.2**	**+0.9**
N15K				IAML		23 37 11.7	
	comp=E,14nm,0.9s						
N15K				IAML		23 37 28.1	
	comp=N,13nm,1.4s						
SML	**Sawmill**	**3.29**	**50**	Pn	**Pn**	**23 36 28.2**	**-1.8**
SML				IAML		23 37 08.7	
	comp=E,54nm,0.5s						
SML				IAML		23 37 17.9	
	comp=N,52nm,0.8s						
L16K	**Owhat River**	**3.43**	**306**	Pn	**Pn**	**23 36 32.1**	**+0.5**
L16K				IAML		23 37 15.7	
	comp=E,11nm,1.0s						
GLI	**Glacier Island**	**3.44**	**69**	Pn	**Pn**	**23 36 33.0**	**+1.2**
GLI				IAML		23 37 14.2	
	comp=N,84nm,0.3s						
M23K	**Glacier View**	**3.53**	**53**		**Pn**	**23 36 32.1**	**-0.8**
K20K	**Telida**	**3.56**	**357**	Pn	**Pn**	**23 36 33.5**	**+0.1**
K17K	**Iditarod**	**3.67**	**325**	Pn	**Pn**	**23 36 35.3**	**+0.5**
K17K				IAML		23 37 19.7	
	comp=E,13nm,1.5s						
CAST	**Castle Rocks**	**3.70**	**11**	Pn	**Pn**	**23 36 35.4**	**+0.2**
FID	**Port Fidalgo**	**3.70**	**72**	Pn	**Pn**	**23 36 34.3**	**-0.9**
SCM	**Sheep Creek Mo**	**3.71**	**54**	Pn	**Pn**	**23 36 34.3**	**-1.1**
SCM				IAML		23 37 19.5	
	comp=N,72nm,0.6s						
SCM				IAML		23 37 20.7	
	comp=E,88nm,0.8s						
Q23K	**Middleton Isla**	**3.74**	**93**		**Pn**	**23 36 36.0**	**+0.3**
WAT7	**Susitna Watana**	**3.82**	**35**		**Pn**	**23 36 36.5**	**-0.3**
WAT1	**Susitna Watana**	**3.91**	**37**		**Pn**	**23 36 37.5**	**-0.4**
J18K	**Innoko River**	**3.94**	**340**	Pn	**Pn**	**23 36 38.1**	**-0.2**
KTH	**Kantishna Hill**	**3.98**	**18**	Pn	**Pn**	**23 36 38.7**	**-0.1**
KTH				IAML		23 37 26.1	
	comp=N,19nm,1.4s						
KTH				IAML		23 37 33.2	
	comp=E,14nm,1.0s						
TRF	**Thorofare Moun**	**3.99**	**22**	Pn	**Pn**	**23 36 38.8**	**-0.3**
TRF				IAML		23 37 25.9	
	comp=N,22nm,0.5s						
TRF				IAML		23 37 26.4	
	comp=E,19nm,0.9s						
WAT6	**Susitna Watana**	**4.00**	**43**		**Pn**	**23 36 38.3**	**-0.8**
EYAK	**Cordova Ski Ar**	**4.03**	**76**		**Pn**	**23 36 39.2**	**-0.1**
DIV	**Divide**	**4.13**	**68**		**Pn**	**23 36 40.4**	**-0.4**
KLU	**Klutina**	**4.17**	**63**	Pn	**Pn**	**23 36 40.7**	**-0.6**
J19K	**Poorman**	**4.30**	**348**	Pn	**Pn**	**23 36 42.6**	**-0.3**
M24K	**Tolsona, Glenn**	**4.32**	**55**	Pn	**Pn**	**23 36 43.0**	**-0.3**
M24K				IAML		23 37 53.4	
	comp=E,56nm,1.4s						
J20K	**Nowinta River**	**4.39**	**357**	Pn	**Pn**	**23 36 44.2**	**+0.1**
J20K				IAML		23 37 35.5	
	comp=E,5.7nm,1.4s						
J20K				IAML		23 37 42.6	
	comp=N,5.6nm,1.4s						
J17K	**VABM Dome**	**4.43**	**327**	Pn	**Pn**	**23 36 45.0**	**+0.3**
J17K				IAML		23 37 42.9	
	comp=N,5.6nm,0.9s						
J17K				IAML		23 37 43.7	
	comp=E,5.5nm,1.2s						
DHY	**Denali Highway**	**4.46**	**40**	Pn	**Pn**	**23 36 44.5**	**-0.7**
DHY				IAML		23 37 36.3	
	comp=E,32nm,0.4s						
DHY				IAML		23 37 39.4	
	comp=N,23nm,0.4s						
BPAW	**Bear Paw Mtn.**	**4.49**	**15**	Pn	**Pn**	**23 36 44.9**	**-0.5**
BPAW				IAML		23 37 36.4	
	comp=N,9.2nm,1.0s						
BPAW				IAML		23 37 37.8	
	comp=E,7.6nm,1.3s						
GOAT	**Goat Mountain**	**4.53**	**76**		**Pn**	**23 36 45.9**	**-0.2**
MCK	**McKinley**	**4.53**	**28**		**Pn**	**23 36 45.9**	**-0.1**
K15K	**Wolf Creek Mou**	**4.56**	**306**	Pn	**Pn**	**23 36 47.7**	**+1.3**
K15K				IAML		23 37 45.0	
	comp=E,8.3nm,1.3s						
K15K				IAML		23 39 37.2	
	comp=N,8.3nm,1.5s						
BMRM	**Bremner River**	**4.65**	**72**		**Pn**	**23 36 47.6**	**0.0**
J16K	**Anvik River**	**4.81**	**319**	Pn	**Pn**	**23 36 49.9**	**+0.3**
J16K				IAML		23 37 36.7	
	comp=E,6.9nm,1.4s						
J16K				IAML		23 37 47.9	
	comp=N,6.9nm,1.4s						
N25K	**Chitina, Valde**	**4.81**	**64**	Pn	**Pn**	**23 36 50.3**	**+0.6**
N25K				IAML		23 37 45.7	
	comp=E,36nm,0.6s						
WACK	**Wrangell Chich**	**5.06**	**60**		**Pn**	**23 36 52.9**	**-0.3**
PAX	**Paxson**	**5.06**	**48**		**Pn**	**23 36 52.8**	**-0.3**
GLB	**Gilahina Butte**	**5.12**	**67**	Pn	**Pn**	**23 36 54.7**	**+0.8**
GLB				IAML		23 37 53.1	
	comp=E,30nm,0.6s						
VRDI	**Verde Repeater**	**5.25**	**70**	Pn	**Pn**	**23 36 56.3**	**+0.7**
VRDI				IAML		23 37 58.3	
	comp=E,17nm,1.2s						
NEA2	**Nenana**	**5.26**	**22**	Pn	**Pn**	**23 36 54.8**	**-0.8**
NEA2				IAML		23 37 55.1	
	comp=E,6.8nm,0.7s						
NEA2				I

C23K	Itkillik River	10.15	6	Pn	Pn	23 38 01.1	+0.5		
B22K	Teshekpuk Lake	10.57	0	Pn	Pn	23 38 03.8	-2.3		
D27M	Malcolm River	10.90	24	Pn	Pn	23 38 12.5	+1.9		
E29M	Blow River	10.99	32	Pn	Pn	23 38 12.8	+1.2		
G31M	Satah River	11.21	42	Pn	Pn	23 38 15.9	+1.4		
ZALV	Zalesovo Beam	57.32	323	P	P	23 45 11.5	+1.0		
	comp=N,1.2nm,0.4s,baz=41,slow=6.7,SNR=5.6								
	comp=N,1.2nm,0.4s								
BVAR	Borovoye Array	62.08	332	P	P	23 45 43.8	+0.8		
	comp=N,0.8nm,0.6s,baz=28,slow=6.7,SNR=6.1								
	comp=N,0.8nm,0.6s								
KURBB	Kurchatov Arra	62.10	325	P	P	23 45 43.0	-0.2		
	comp=N,0.3nm,0.5s,baz=27,slow=6.1,SNR=2.6								
	comp=N,0.3nm,0.5s								
MKAR	Makanchi Array	64.37	321	P	P	23 45 58.5	+0.3		
	comp=N,0.1nm,0.4s,baz=31,slow=8.0,SNR=1.4								
	comp=N,0.1nm,0.4s								

NEIC ***21*** *23:45:54.8±0.8, 19°32N±0°01×155°211W±0°008, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.8km az=78.0*

HVO 21 23:45:54.5±0.9, 19°33N±0°01×155°19W±0°01, h6km±2km, ML2.7/25, ML2.5/34(NEIC), Error ellipse: s-maj=2.1km s-min=1.3km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	Kane Nui o Ham	0.06	16	Pg	Pg	23 45 56.0	-0.1
PUH	Pauahi	0.06	329	Pg	Pg	23 45 56.2	+0.1
PUH				IAML		23 45 58.2	
	comp=E,3μm,0.3s						
PUH				IAML		23 45 58.4	
	comp=N,3μm,0.3s						
NPOC	North of Pu'u	0.10	47		Pg	23 45 57.1	+0.4
NPOC					Sg	23 45 59.2	+1.0
JCUZ	Jacuzzi	0.10	54	Pg	Pg	23 45 56.6	-0.1
RIM	Rim	0.11	309		Pg	23 45 59.5	+2.5
HATHI	Halema'uma'u T	0.12	323		Pg	23 45 57.4	+0.3
HATHI	Halema'uma'u T	0.12	323	IAML		23 45 59.4	
	comp=E,2μm,0.9s						
HATHI				IAML		23 45 59.9	
	comp=N,3μm,0.7s						
HLP	Hilina Pali	0.12	255	Pg	Pg	23 45 57.4	+0.3
HLP				IAML		23 46 00.3	
	comp=N,3μm,0.2s						
HLP				IAML		23 46 00.3	
	comp=E,2μm,0.2s						
JOKA	Jonika Flow	0.20	58	Pg	Pg	23 45 58.4	-0.1
JOKA				IAML		23 46 05.4	
	comp=N,821nm,0.9s						
HTC	Hot Caves	0.22	246		Pg	23 45 59.6	+0.7
MLH	Mauna Loa	0.25	311	Pg	Pg	23 45 59.2	-0.3
MLH				IAML		23 46 06.1	
	comp=E,970nm,0.1s						
MLH				IAML		23 46 06.2	
	comp=N,694nm,0.2s						
HMH	Humu'ula Sheep	0.39	314	Pg	Pg	23 46 02.0	-0.2
MWH	Moku'aweowe	0.42	292	Pg	Pg	23 46 02.8	0.0
MLOA	Mauna Loa Obse	0.42	300	Pg	Pg	23 46 03.0	+0.1
MLOA					Sg	23 46 09.1	+0.7
MLOA				IAML		23 46 09.8	
	comp=N,923nm,0.4s						
MLOA	Mauna Loa Obse	0.42	300	Pg	Pg	23 46 02.9	+0.1
POHA	Pohakuloa	0.54	323	Sg	Sg	23 46 11.8	-0.3
HUH	Hualalai	0.71	300	Pg	Pg	23 46 07.1	-1.1
HUH				IAML		23 46 27.5	
	comp=N,421nm,0.4s						

NEIC ***21*** *23:55:58.6±1.8, 55°90N±0°08×149°35W±0°10, h9km±6km, mb4.0/3, ML4.0/40, ML3.8(AEIC), Error ellipse: s-maj=11.2km s-min=7.6km az=163.0*

IDC ***21*** *23:55:58.6±1.0, 55°89N×149°30W, h0km, mb3.8/15, mbtmp3.8/20, ML3.7/5, MS3.4/13, Error ellipse: s-maj=22.3km s-min=18.6km az=34.0*

AEIC ***21*** *23:56:02.6±1.8, 55°83N±0°08×149°3W±0°1, h10km±6km, Error ellipse: s-maj=11.3km s-min=8.1km az=162.0*

ISC 21 23:55:59.8±0.6, 55°96N±0°07×149°40W±0°05, h10km, n275, σ1§14/269, mb4.2/29, MS3.4/10, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	Old Harbor	2.50	302	P	Pn	23 56 40.3	-0.1
OHAK	Old Harbor	2.50	302	Pn	Pn	23 56 39.7	-0.7
OHAK					Sn	23 57 09.1	-1.7
OHAK	Old Harbor	2.50	302	P	Pn	23 56 39.9	-0.5
	baz=120						
OHAK				S	Sn	23 57 09.4	-1.4
	baz=120						
KDAK	Kodiak Island	2.53	318	Pn	Pn	23 56 40.5	-0.3
KDAK	Kodiak Island	2.53	318	Sn	Sn	23 57 09.9	-1.8
KDAK	Kodiak Island	2.53	318	Pn	Pn	23 56 40.8	-0.1
	20nm,0.3s,baz=141,slow=6.7,SNR=146						
KDAK				Sn	Sn	23 57 10.2	-1.4
	20nm,0.3s,baz=278,slow=11,SNR=4.9						
KDAK				LR	LR	23 57 56.2	
	comp=Z,672nm,19.4s,baz=203,slow=45						
	61nm,0.4s						
SII	Sitkinak Islan	2.74	285	P	Pn	23 56 43.2	-0.6
SII	Sitkinak Islan	2.74	285	Pn	Pn	23 56 42.4	-1.3
SII				Sn	Sn	23 57 14.2	-2.7
SII				IAML		23 57 22.7	
	comp=N,576nm,0.6s						
SII	Sitkinak Islan	2.74	285	P	Pn	23 56 43.2	-0.6
	baz=102						
SII				S	Sn	23 57 15.2	-1.7
	baz=102						
Q20K	Shuyak Island	3.11	330	P	Pn	23 56 49.0	0.0
	baz=147						
Q20K				S	Sn	23 57 26.0	-0.1
	baz=147						
SYI	Shuyak Island	3.11	330	Pn	Pn	23 56 48.5	-0.4
SYI				Sn	Sn	23 57 25.2	-0.9
CHIR	Chirikof Islan	3.51	270	Pn	Pn	23 56 52.6	-1.7
CHIR				Sn	Sn	23 57 32.0	-3.9
CHIR				IAML		23 57 34.7	
	comp=E,307nm,0.6s						
CHIR				IAML		23 57 36.4	
	comp=N,328nm,0.5s						
CHIR	Chirikof Islan	3.51	270	P	Pn	23 56 53.5	-0.8
	baz=86						
CHIR				S	Sn	23 57 32.7	-3.2
	baz=86						
CNPM	China Poot	3.71	345	Pn	Pn	23 56 56.1	-1.0
CNPM				Sn	Sn	23 57 39.8	-1.0
CNPM				IAML		23 57 42.6	
	comp=E,196nm,0.6s						
Q19K	Cape Douglas,	3.76	324	Pn	Pn	23 56 57.7	-0.1
Q19K	Cape Douglas,	3.76	324	P	Pn	23 56 58.5	+0.7
	baz=141						
Q23K	Middleton Isla	3.84	24	Pn	Pn	23 56 56.8	-2.1
Q23K				IAML		23 58 09.7	
	comp=E,231nm,1.2s						
Q23K				IAML		23 58 12.1	
	comp=N,232nm,1.3s						
Q23K	Middleton Isla	3.84	24	P	Pn	23 56 57.2	-1.7
	baz=206						
BRSE	Bradley Lake S	3.86	350		Pn	23 56 58.3	-0.9
BRSE					Sn	23 57 43.5	-1.0
BRSE	Bradley Lake S	3.86	350	P	Pn	23 56 58.5	-0.7
	baz=168						
BRSE				S	Sn	23 57 43.5	-1.0
	baz=168						
BRLK	Bradley Lake	3.90	349	Pn	Pn	23 56 58.6	-1.1
HOM	Homer	3.90	343	Pn	Pn	23 56 59.5	-0.1
HOM	Homer	3.90	343	P	Pn	23 57 00.0	+0.4
	baz=161						
KCE	Katmai Mt Cerb	3.90	308		Pn	23 57 00.9	+1.1
ACHA	Angle Creek He	3.94	307		Pn	23 57 01.1	+0.7
ANCK	Angle Creek	4.01	307		Pn	23 57 01.9	+0.6
KVTA	Katmai Vly 10	4.02	310		Pn	23 57 02.4	+1.0
AUCH	Augustine Cone	4.04	329		Pn	23 57 02.4	+0.6
KAHC	Katmai Hardscr	4.06	314		Pn	23 57 03.2	+1.1
KAHC	Katmai Hardscr	4.06	314	P	Pn	23 57 03.2	+1.1
	baz=130						
PLK3	Peulik 3	4.15	297		Pn	23 57 03.8	+0.6
SEW	Seward	4.16	360		Sn	23 57 48.5	-3.2
SEW	Seward	4.16	360	Pn	Pn	23 57 01.6	-1.6
SEW	Seward	4.16	360	P	Pn	23 57 01.9	-1.2
	baz=179						
SEW				S	Sn	23 57 48.5	-3.2
	baz=179						
P23K	Montague Islan	4.18	14		Pn	23 57 02.7	-0.9
P19K	Oil Pt	4.23	333	Pn	Pn	23 57 04.3	0.0
P19K				IAML		23 57 58.8	
	comp=E,287nm,0.5s						
P19K	Oil Pt	4.23	333	P	Pn	23 57 04.6	+0.3
	baz=150						
O20K	Slope Mountain	4.47	339		Pn	23 57 07.2	-0.4
IVE	Iliamna Volcan	4.50	336		Pn	23 57 07.4	-0.6
O22K	Cooper Landing	4.54	358	P	Pn	23 57 08.0	-0.5
	baz=177						
SLKM	Skilak Lake	4.58	355		Pn	23 57 08.3	-0.7
P18K	Big Mountain,	4.65	320	P	Pn	23 57 10.0	-0.1
	baz=136						
HIN	Hinchinbrook I	4.70	18	Pn	Pn	23 57 08.8	-2.0
HIN				IAML		23 58 08.6	
	comp=N,138nm,1.1s						
HIN				IAML		23 58 12.0	
	comp=E,152nm,0.9s						
KAIM	Kayak Island	4.78	32	Pn	Pn	23 57 10.3	-1.5
KAIM				IAML		23 58 08.2	
	comp=N,173nm,0.9s						
KAIM				IAML		23 58 20.7	
	comp=E,104nm,1.0s						
RED	Redoubt Volcan	4.81	340		Pn	23 57 11.2	-1.2
RDT	Redoubt	4.89	342		Pn	23 57 14.1	+0.7
RDWB	Redoubt West	4.89	340		Pn	23 57 12.3	-1.1
CAPN	Captain Cook N	4.91	350		Pn	23 57 14.4	+0.8
O18K	Koktuh Hills	4.98	324	Pn	Pn	23 57 14.3	-0.3
O18K				IAML		23 58 15.2	
	comp=N,95nm,0.5s						
O18K				IAML		23 58 27.3	
	comp=E,70nm,1.1s						
O18K	Koktuh Hills	4.98	324	P	Pn	23 57 14.6	0.0
	baz=139						
O19K	Port Alsworth	4.98	330		Pn	23 57 14.1	-0.5
P17K	Kvichak River	4.99	313		Pn	23 57 15.4	+0.9
P17K	Kvichak River	4.99	313	P	Pn	23 57 15.6	+1.0
	baz=128						
EYAK	Cordova Ski Ar	4.99	21	P	Pn	23 57 14.3	-0.4
EYAK	Cordova Ski Ar	4.99	21	Pn	Pn	23 57 14.2	-0.4
EYAK	Cordova Ski Ar	4.99	21	P	Pn	23 57 14.5	-0.1
	baz=204						
FID	Port Fidalgo	5.04	17	Pn	Pn	23 57 14.0	-1.4
FID				IAML		23 58 11.7	
	comp=E,130nm,0.5s						
FID				IAML		23 58 14.8	
	comp=N,76nm,0.5s						
CHGN	Chignik	5.06	278	Pn	Pn	23 57 14.6	-1.0
CHGN				IAML		23 58 11.5	
	comp=N,127nm,0.1s						
CHGN				IAML		23 58 16.9	
	comp=E,126nm,0.7s						
GLI	Glacier Island	5.08	13	Pn	Pn	23 57 14.8	-1.1
GLI				IAML		23 58 14.2	
	comp=E,65nm,0.4s						
RC01	Rabbit Creek A	5.15	358	Pn	Pn	23 57 15.7	-1.2
RC01				IAML		23 58 15.7	
	comp=E,78nm,0.7s						
RC01				IAML		23 58 16.4	
	comp=N,65nm,0.4s						
GOAT	Goat Mountain	5.25	26		Pn	23 57 17.7	-0.5
SPCR	Spurr Chakacha	5.46	346		Pn	23 57 20.0	-1.2
VNHG	Veniaminof 1	5.47	277		Pn	23 57 21.6	+0.2
SPCN	Chakachatna No	5.48	346		Pn	23 57 20.7	-0.7
SNH	Sunshine Point	5.48	37	Pn	Pn	23 57 19.9	-1.5
KNK	Knik Glacier	5.49	5	Pn	Pn	23 57 21.1	-0.4
SPOG	Spurr Capps Gl	5.52	347		Pn	23 57 21.6	-0.5
DIV	Divide	5.52	19		Pn	23 57 21.2	-0.8
SPBG	Spurr Blockage	5.54	345		Pn	23 57 22.1	-0.1
KHIT	Khitrov Hills	5.54	33		Pn	23 57 21.5	-0.9
N19K	Bonanza Creek	5.55	333	Pn	Pn	23 57 21.5	-1.0
SUA	Susitna One	5.56	353	Pn	Pn	23 57 21.9	-0.8
O17K	Koliganek Bris	5.61	316		Pn	23 57 23.6	+0.4
BMRM	Bremner River	5.61	25		Pn	23 57 22.4	-0.9
PMR	Palmer	5.65	1	Pn	Pn	23 57 23.3	-0.4
WAX	Waxell Ridge	5.67	35	Pn	Pn	23 57 23.9	-0.2
SPNN	North Nagishla	5.69	344		Pn	23 57 23.9	-0.5
VNFG	Fog Glacier, M	5.69	277		Pn	23 57 24.3	-0.1
STLK	Strandline Lak	5.70	348		Pn	23 57 23.8	-0.6
MESA	MESA	5.79	40	Pn	Pn	23 57 24.8	-0.9
M22K	Willow	5.82	357		Pn	23 57 26.0	0.0
GHO	Glory Hole Cre	5.83	2	Pn	Pn	23 57 26.5	+0.2
KLU	Klutina	5.83	17	Pn	Pn	23 57 25.9	-0.5
N18K	Kitae Creek	5.84	327	Pn	Pn	23 57 25.8	-0.5
SMK	Sawmill	5.89	5	Pn	Pn	23 57 26.9	+0.2
O16K	Kokwok River B	5.91	312	Pn	Pn	23 57 27.6	+0.3
CNBA	Chernabura Isl	5.92	263	Pn	Pn	23 57 25.9	-1.5
ISLE	Juniper Island	5.96	36	Pn	Pn	23 57 26.7	-1.4
SCM	Sheep Creek Mo	5.99	9	Pn	Pn	23 57 28.5	+0.1
SVW2	Sparrevohn	6.08	330	Pn	Pn	23 57 28.7	-1.0
VRDI	Verde Repeater	6.13	28	Pn	Pn	23 57 29.4	-1.1
SKT	Skwentna	6.14	351	Pn	Pn	23 57 29.2	-1.3
N17K	Nushagak Hills	6.15	321	Pn	Pn	23 57 30.1	-0.5
N25K	Chitina, Valde	6.18	22	Pn	Pn	23 57 30.4	-0.8
KIAG	Kiagna River	6.20	34		Pn	23 57 30.5	-0.9
GLB	Gilahina Butte	6.22	26	Pn	Pn	23 57 30.9	-0.6
M20K	Styx River	6.24	344	Pn	Pn	23 57 31.0	-1.0
SDPT	Sand Point	6.30	269	P	Pn	23 57 32.5	-0.2
SDPT	Sand Point	6.30	269	Pn	Pn	23 57 31.8	-0.9
MCARA	McCarthy VSAT	6.37	29	Pn	Pn	23 57 32.9	-0.8
PTPK	Patty Peak	6.37	32		Pn	23 57 33.3	-0.5
M2KK	Talsona, Glenn	6.38	14	Pn	Pn	23 57 34.0	+0.1
O15K	Ungalithiuk R	6.47	304		Pn	23 57 35.5	+0.6
M18K	Stony River	6.47	332		Pn	23 57 34.3	-0.7
M19K	Big River Lodg	6.49	339	Pn	Pn	23 57 34.7	-0.6
PNL	Peninsula	6.51	51	P	Pn	23 57 34.9	-0.6
PNL	Peninsula	6.51	51		Pn	23 57 34.4	-1.1
BARN	Barnard Glacie	6.52	35	Pn	Pn	23 57 35.4	-0.5
BCPM	Bancas Point	6.55	48	Pn	Pn	23 57 35.0	-1.2
LOGN	Logan Glacier	6.57	39	Pn	Pn	23 57 34.0	-2.6
WACK	Wrangell Chich	6.58	21		Pn	23 57 36.4	-0.4
WAT6	Susitna Watana	6.69	7		Pn	23 57 38.0	-0.2
N16K	Nishlik Lake	6.70	316		Pn	23 57 38.9	+0.6
HARP	HAARP	6.81	17		Pn	23 57 40.4	+0.7
O28M	Mount Upton	6.83	41		Pn	23 57 39.7	-0.5
L19K	White Mountain	6.84	338	Pn	Pn	23 57 39.0	-1.1
M17K	Holitna River	6.88	326	Pn	Pn	23 57 40.0	-0.5
WAT7	Susitna Watana	6.90	2		Pn	23 57 40.9	-0.1
WAT1	Susitna Watana	6.90	3		Pn	23 57 41.2	+0.2
L20K	Farewell, AK	6.93	342		Pn	23 57 41.6	+0.3
N15K	Kwethluk River	7.07	311	Pn	Pn	23 57 44.3	+1.1
PS4A	Pavlof South-4	7.08	270		Pn	23 57 42.0	-1.4
M16K	Timber Creek	7.13	319	Pn	Pn	23 57 44.0	0.0
S12K	Black Hills	7.14	273	Pn	Pn	23 57 42.7	-1.5
O14K	Tigyukauivet M	7.18	302	Pn	Pn	23 57 44.3	-0.4
DHY	Denali Highway	7.21	7	Pn	Pn	23 57 45.2	-0.1
P29M	Windy Craggy	7.23	55	Pn	Pn	23 57 44.0	-1.5
M26K	Nabesna, AK	7.24	24	Pn	Pn	23 57 46.7	+1.1
PAX	Paxson	7.31	14		Pn	23 57 47.0	+0.4
L18K	Granite Mounta	7.31	332	Pn	Pn	23 57 44.8	-1.7
YUK3	Moose Creek	7.44	35		Pn	23 57 49.1	+0.6
S31K	Pelican	7.47	69	Pn	Pn	23 57 45.5	-3.2
RND	Reindeer	7.47	2	Pn	Pn	23 57 48.9	+0.1
M27K	Edge Creek, AK	7.48	28	Pn	Pn	23 57 48.2	-0.9
TRF	Thorofare Moun	7.53	357	Pn	Pn	23 57 49.0	-0.6
MENT	Mentasta	7.57	20	Pn	Pn	23 57 49.1	-1.0
M15K	Kasigluk River	7.60	313		Pn	23 57 51.4	+0.9
CAST	Castle Rocks	7.60	351	Pn	Pn	23 57 51.0	+0.4
N14K	Kuskokwak Cree	7.65	306		Pn	23 57 52.0	+0.9
KTH	Kantishna Hill	7.66	355	Pn	Pn	23 57 51.2	-0.1
L17K	Donlin	7.70	327		Pn	23 57 51.4	-0.4
K20K	Telida	7.78	344	Pn	Pn	23 57 51.3	-1.7
SIT	Sitka	7.86	76	P	Pn	23 57 50.6	-3.5
HYT	Haines Junctio	7.92	47	Pn	Pn	23 57 54.1	-0.9
L27K	Beaver Creek,	8.09	25	Pn	Pn	23 57 58.0	+0.8
BCAR	Beaver Creek A	8.10	25	Pn	Pn	23 57 56.8	-0.6
K17K	Iditarod	8.15	330	Pn	Pn	23 57 57.3	-0.8
M14K	Bethel	8.16	311	Pn	Pn	23 57 58.6	+0.5
BPAW	Bear Paw Mtn.	8.20	355	Pn	Pn	23 57 57.3	-1.5
ISLZ	Isanotski Laza	8.25	267		Pn	23 57 58.3	-1.2
S32K	Killisnoo	8.29	73	Pn	Pn	23 57 57.3	-2.6
SKAG	Skagway	8.30	59	P	Pn	23 57 58.2	-1.9
J18K	Innoko River	8.38	337	Pn	Pn	23 57 59.9	-1.3
N30M	Aishikik Lake	8.44	44	Pn	Pn	23 58 00.4	-1.7
SCRK	Sand Creek	8.48	16	Pn	Pn	23 58 03.6	+0.9
L15K	Ungalak Mounta	8.49	317		Pn	23 58 02.7	+0.1
O30N	Mendenhall	8.49	50	Pn	Pn	23 58 01.3	-1.4
JIS	Juneau Island	8.49	68	Pn	Pn	23 58 00.6	-2.1
HDA	Harding Lake	8.56	7	Pn	Pn	23 58 04.4	+0.7
J20K	Nowinta River	8.57	346	Pn	Pn	23 58 02.7	-1.1
M29M	Somme Creek	8.58	36	Pn	Pn	23 58 03.5	-0.5
J19K	Poorman	8.64	341	Pn	Pn	23 58 03.0	-1.6
NEA2	Nenana	8.66	1	Pn	Pn	23 58 04.6	-0.4
CCB	Clear Creek Bu	8.75	5	Pn	Pn	23 58 05.7	-0.5
L14K	Kuka Creek	8.77	313	Pn	Pn	23 58 07.6	+1.2
K27K	Chicken	8.88	21	Pn	Pn	23 58 06.8	-1.2
K15K	Wolf Creek Mou	8.89	321	Pn	Pn	23 58 08.6	+0.5
J25K	Salcha River,	8.90	11	Pn	Pn	23 58 07.3	-1.1
J17K	VABM Dome	8.91	331	Pn	Pn	23 58 06.7	-1.7
IL31		8.93	7	Pn	Pn	23 58 08.0	-0.6
ILAR	Eielson Array	8.93	7	Pn	Pn	23 58 08.3	-0.4
ILAR	Eielson Array	8.93	7	Pn	Pn	23 58 08.7	0.0
	comp=N,1.3nm,0.3s,baz=189,slow=14,SNR=25						
ILAR				Sn	Sn	23 59 46.6	-2.5
	comp=N,0.6nm,0.3s,baz=199,slow=21,SNR=6.7						
	comp=N,2.6nm,0.4s						
WHY	Whitehorse	8.97	52	Pn	Pn	23 58 08.7	-0.7
N31M	Braeburn, Yuko	8.98	46	Pn	Pn	23 58 09.2	-0.2
J26L	Joseph Creek	9.04	16	Pn	Pn	23 58 09.8	-0.4
MDM	Murphy Dome	9.05	3	Pn	Pn	23 58 10.1	-0.2
MLY	Manley	9.12	356	Pn	Pn	23 58 10.2	-1.2
P32M	Atlin	9.13	60	Pn	Pn	23 58 10.1	-1.4
L29M	L29M	9.16	34	Pn	Pn	23 58 11.9	0.0
POKR	Poker Plat Res	9.24	5	Pn	Pn	23 58 12.9	0.0
M30M	Minto, Yukon	9.24	39	Pn	Pn	23 58 12.4	-0.6
J16K	Anvik River	9.27	327	Pn	Pn	23 58 13.0	-0.3
P33M	Teslin, Yukon	9.75	57	Pn	Pn	23 58 18.3	-1.7
P31M	Porcupine Dome	9.77	10	Pn	Pn	23 58 20.0	-0.3
I26K	Coal Creek Min	9.86	15	Pn	Pn	23 58 21.7	+0.4
H21K	Melozitna Rive	9.87	352	Pn	Pn	23 58 20.4	-1.2
K13K	Kusilvak Mount	9.88	314	Pn	Pn	23 58 21.6	-0.1
H23K	Yukon River	9.90	360	Pn	Pn	23 58 22.4	+0.4
M31M	Drury Creek, Y	9.92	45	Pn	Pn	23 58 22.2	-0.1
H24K	Noodor Dome	9.94	4	Pn	Pn	23 58 23.9	+1.4
UNV	Unalaska Valle	10.08	265	P	Pn	23 58 22.7	-1.7
H18K	Honhosa River	10.21	338	Pn	Pn	23 58 24.2	-2.0
R33M	Jennings River	10.44	63	Pn	Pn	23 58 27.5	-2.1
I28M	Miner Creek	10.57	22	Pn	Pn	23 58 32.0	+0.8
G21K	Allakaket	10.77	351	Pn	Pn	23 58 33.0	-0.9
J30M	Hart River	10.78	31	Pn	Pn	23 58 33.7	-0.4
DLBC	Dease Lake	10.79	69	Pn	Pn	23 58 33.3	-0.9
DLBC	Dease Lake	10.79	69	Pn	Pn	23 58 32.9	-1.4
	comp=N,0.4nm,0.3s,baz=252,slow=13,SNR=2.3						
	comp=N,1.7nm,0.5s						
G23K	Bananza Creek	10.79	359	Pn	Pn	23 58 33.8	-0.4
G24K	Hadweenzic Riv	10.82	4	Pn	Pn	23 58 34.8	+0.3
FYU	Fort Yukon	10.82	9	Pn	Pn	23 58 33.6	-1.0
G19K	Purcell Mounta	10.86	343	Pn	Pn	23 58 35.1	0.0
G18K	Tagagawik	10.92	340	Pn	Pn	23 58 35.9	0.0
I30M	Mount Dempster	11.25	29	Pn	Pn	23 58 41.4	+0.9
MMPY	Sheldon Lake,	11.39	47	Pn	Pn	23 58 42.1	-0.3
F21K	Alatna River	11.46	352	Pn	Pn	23 58 42.7	-0.6
F20K	Avaraart Lake	11.52	348	Pn	Pn	23 58 44.1	+0.1
F19K	Shaleruckik Mo	11.61	343	Pn	Pn	23 58 46.2	+1.0
F24K	Squaw Lake	11.62	3	Pn	Pn	23 58 46.1	+0.6
ANM	Nome	11.68	324	Pn	Pn	23 58 44.6	-1.7
BMAR	Burnt Mountain	11.73	9	Pn	Pn	23 58 46.5	-0.5
E19K	Redstone River	12.10	345	Pn	Pn	23 58 52.0	-0.1
E24K	Your Creek	12.16	2	Pn	Pn	23 58 51.2	-1.8
G29M	Pone Creek	12.23	22	Pn	Pn	23 58 54.3	+0.5
H31M	Peel River	12.25	30	Pn	Pn	23 58 55.2	+1.1
E25K	Arctic Village	12.33	7	Pn	Pn	23 58 55.4	+0.2
E21K	Killik River	12.70	352	Pn	Pn	23 59 00.3	+0.1
TOLK	Toolik Lake Re	12.73	360	Pn	Pn	23 59 01.4	+0.7
G31M	Satah River	13.11	27	Pn	Pn	23 59 07.0	+1.2
D19K	Kuna River	13.20	346	Pn	Pn	23 59 06.9	-0.1
D24K	Happy Valley	13.24	1	Pn	Pn	23 59 06.2	-1.4
D25K	Kavik River	13.48	5	Pn	Pn	23 59 10.6	-0.3
E29M	Blow River	13.54	18	Pn	Pn	23 59 12.6	+1.0
D27M	Malcolm River	13.86	13	Pn	Pn	23 59 16.3	+0.3
B21K	Ikpikpuk River	13.91	352	Pn	Pn	23 59 14.6	-2.1
C23K	Itkillik River	13.94	358	Pn	Pn	23 59 17.3	+0.2
INK	Inuvik	14.37	24	Pn	Pn	23 59 24.0	+1.1
INK	Inuvik	14.37	24	Pn	Pn	23 59 24.2	+1.3
	comp=N,0.1nm,0.3s,baz=204,slow=15,SNR=9.1						
INK				LR	LR	00 05 01.6	
	comp=N,76nm,19.2s,baz=181,slow=38						
	comp=N,5.3nm,1.0s						
B22K	Teshekpuk Lake	14.54	355	Pn	Pn	23 59 25.2	-0.1
C36M	Paulatuk	17.55	30	Pn	Pn	00 00 02.6	-1.6
C36M				IAmb	IAmb	00 00 15.6	
	comp=Z,11nm,1.0s						
YKA	Yellowknife Ar	18.77	55

WATA	**Walderalm**	**75.84**	**13**	*i* PcP	P		00 07 54.8	+8.8
	comp=Z,3.6nm,1.1s							
SQTA	**Sankt Quirin**	**75.91**	**13**	*e*PcP	P		00 07 55.4	+9.1
	comp=Z,2.2nm,0.7s							
WTTA	**Wattenberg**	**75.92**	**13**	*i* PcP	P		00 07 55.1	+8.6
	comp=Z,2.5nm,0.6s							
RONA	**Rosalia, Austr**	**76.01**	**10**	*e*PcP	P		00 07 55.2	+8.4
	comp=Z,0.9nm,0.7s							
FETA	**Feichten**	**76.04**	**14**	*i* PcP	P		00 07 56.1	+8.9
	comp=Z,2.9nm,0.8s							
KBA	**Koelnbreinsper**	**76.31**	**12**	*e*PcP	P		00 07 57.5	+8.8
	comp=Z,3.8nm,0.8s							
SOKA	**Soboth**	**76.90**	**11**	*i* PcP	P		00 08 00.7	+8.8
	comp=Z,1.0nm,0.5s							
OBKA	**Obir**	**77.01**	**11**	*e*PcP	P		00 08 00.8	+8.2
	comp=Z,4.4nm,0.6s							
ESDC	**Sonseca Array**	**80.30**	**26**	P	**P**		**00 08 11.8**	**+1.1**
	comp=Z,0.4nm,0.9s,baz=352,slow=7.8,SNR=3.0							
	comp=Z,0.4nm,0.9s							
BRTR	**Keskin Array B**	**84.65**	**358**	P	**P**		**00 08 35.0**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=9.1,slow=3.0,SNR=2.2							
	comp=Z,0.3nm,0.6s							
CMAR	**Chiang Mai Arr**	**86.38**	**298**	P	**P**		**00 08 43.8**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=9.7,slow=6.4,SNR=1.4							
	comp=Z,0.6nm,0.3s							
QSPA	**South Pole Qui**	**145.75**	**180**	PKPbc	**PKPab**		**00 15 37.2**	**-0.7**
	comp=Z,1.4nm,0.7s,baz=24,slow=1.6,SNR=6.0							

IDC ***22*** *00:04:19.9±1.7,5˚.56N×126˚.51E,h0km,mb3.8/6, mbtmp3.8/6,Error ellipse: s-maj=171.5km s-min=21.6km az=67.0*

ISC 22 00:04:31.9±3.0,5˚.5N±0˚.9×12˚7E±˚,h100km,n6,c0ϑ11/6, mb3.7/6,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.41**	**163**	P	**P**	**00 09 59.1**	**-0.1**
	0.6nm,0.7s,baz=343,slow=10,SNR=4.8						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**29.85**	**166**	P	**P**	**00 10 30.0**	**+0.1**
	0.5nm,0.8s,baz=345,slow=7.0,SNR=1.9						
	0.5nm,0.8s						
MKAR	**Makanchi Array**	**56.03**	**325**	P	**P**	**00 14 00.3**	**0.0**
	0.5nm,0.6s,baz=132,slow=7.0,SNR=3.8						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**60.18**	**327**	P	**P**	**00 14 29.2**	**+0.1**
	0.8nm,0.6s,baz=123,slow=7.0,SNR=14						
	0.8nm,0.6s						
BVAR	**Borovoye Array**	**65.77**	**327**	P	**P**	**00 15 06.0**	**-0.1**
	0.6nm,0.6s,baz=114,slow=6.5,SNR=4.3						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**90.21**	**332**	P	**P**	**00 17 21.0**	**+0.1**
	1.3nm,0.9s,baz=76,slow=5.9,SNR=3.9						
	1.3nm,0.9s						

IDC ***22*** *00:17:19.1±1.2,56˚.97S×147˚.19W,h0km,mb4.0/6, mbtmp4.0/6,MS4.0/5,Error ellipse: s-maj=40.3km s-min=26.0km az=11.0*

ISC 22 00:17:20.7±1.2,57˚.1S±0˚.2×147˚2W±0˚.2,h10km,n28, c01ϑ92/11,mb4.2/8,MS4.1/5,4C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**26.76**	**202**	LR	LR	00 31 06.3	
	comp=Z,281nm,18.4s,baz=78,slow=31						
QSPA	**South Pole Qui**	**33.01**	**180**	P	**P**	**00 23 57.0**	**+1.3**
	1.8nm,0.7s,baz=45,slow=7.9,SNR=8.9						
QSPA				LR	LR	00 35 15.3	
	comp=Z,473nm,19.2s,baz=60,slow=32						
	1.8nm,0.7s						
PMSA	**Palmer Station**	**38.24**	**137**	LR	LR	00 35 55.3	
	comp=Z,277nm,20.4s,baz=244,slow=29						
VNA3	**Neumayer Olymp**	**48.46**	**163**	⇑P	**P**	**00 26 03.4**	**+0.7**
	comp=Z,5.9nm,1.0s						
SNAA	**Sanae**	**49.07**	**166**	⇑P	**P**	**00 26 05.0**	**-2.5**
	comp=Z,87nm,1.0s						
SNAA	**Sanae**	**49.07**	**166**	P	**P**	**00 26 08.6**	**+1.2**
	comp=Z,3.5nm,0.9s,baz=178,slow=6.3,SNR=4.5						
SNAA				LR	LR	00 45 12.5	
	comp=Z,59nm,18.9s,baz=249,slow=34						
	comp=Z,3.5nm,0.9s						
VNA2	**Neumayer--Watz**	**49.09**	**164**	⇑P	**P**	**00 26 03.4**	**-4.2**
	comp=Z,5.2nm,0.7s,baz=21,slow=14						
TROLL	**Troll, Antarti**	**49.42**	**168**	⇑P	**P**	**00 26 09.9**	**-0.3**
	comp=Z,129nm,0.9s						
H03S2	**Juan Fernandez**	**50.73**	**93**	T	T	01 21 31.2	
	baz=218,slow=74,SNR=41						
H03S1	**Juan Fernandez**	**50.74**	**93**	T	T	01 21 27.9	
	baz=218,slow=74,SNR=41						
H03S3	**Juan Fernandez**	**50.75**	**93**	T	T	01 21 27.0	
	baz=218,slow=74,SNR=54						
H03N3	**Juan Fernandez**	**51.02**	**93**	T	T	01 21 46.3	
	baz=221,slow=72,SNR=167						
H03N2	**Juan Fernandez**	**51.03**	**93**	T	T	01 21 45.2	
	baz=221,slow=72,SNR=227						
H03N1	**Juan Fernandez**	**51.04**	**93**	T	T	01 21 44.2	
	baz=221,slow=72,SNR=103						
MAW	**Mawson**	**53.60**	**194**	LR	LR	00 46 38.7	
	comp=Z,164nm,21.1s,baz=146,slow=33						
ASAR	**Alice Springs**	**64.50**	**266**	P	**P**	**00 27 58.2**	**+0.7**
	comp=Z,1.0nm,0.8s,baz=138,slow=5.8,SNR=7.6						
	comp=Z,1.0nm,0.8s						
H01W1	**Cape Leeuwin H**	**65.81**	**243**	T	T	01 39 50.9	
	baz=143,slow=76,SNR=11						
H01W2	**Cape Leeuwin H**	**65.82**	**243**	T	T	01 39 51.2	
	baz=143,slow=76,SNR=11						
H01W3	**Cape Leeuwin H**	**65.83**	**243**	T	T	01 39 52.2	
	baz=143,slow=76,SNR=9.5						
WRA	**Warramunga Arr**	**67.26**	**268**	P	**P**	**00 28 14.4**	**-0.9**
	comp=Z,1.0nm,0.8s,baz=150,slow=5.6,SNR=4.2						
	comp=Z,1.0nm,0.8s						
CPUP	**Villa Florida**	**68.21**	**105**	P	**P**	**00 28 20.9**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=225,slow=7.1,SNR=1.7						
	comp=Z,0.7nm,0.3s						
LPAZ	**La Paz**	**70.53**	**90**	P	**P**	**00 28 37.3**	**+0.9**
	comp=Z,0.2nm,0.4s,baz=230,slow=9.6,SNR=1.1						
	comp=Z,0.2nm,0.4s						
H10S3	**ASCENSION HYDR**	**103.55**	**131**	T	T	02 27 33.6	
	baz=204,slow=74,SNR=27						
H10S2	**ASCENSION HYDR**	**103.55**	**131**	T	T	02 27 37.1	
	baz=16,slow=74,SNR=14						
H10N3	**ASCENSION HYDR**	**104.62**	**131**	T	T	02 28 54.1	
	baz=204,slow=75,SNR=56						
H10N1	**ASCENSION HYDR**	**104.63**	**131**	T	T	02 28 54.4	
	baz=204,slow=75,SNR=54						
H10N2	**ASCENSION HYDR**	**104.64**	**131**	T	T	02 28 55.4	
	baz=204,slow=75,SNR=55						
ESDC	**Sonseca Array**	**150.46**	**110**	PKPbc	**PKPbc**	**00 37 11.4**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=225,slow=0.8,SNR=1.9						

IDC ***22*** *00:23:14.0±0.6,9˚.25S×159˚.06E,h0km,mb4.2/14, mbtmp4.2/15,ML3.3/1,MS5.4/1,Error ellipse: s-maj=27.7km s-min=17.4km az=115.0*

NEIC ***22*** *00:23:15.5±0.7,9˚.2S±0˚.1×159˚.15E±0˚.04,h5km±6km, mb4.6/14,Error ellipse: s-maj=19.1km s-min=3.0km az=197.0*

ISC 22 00:23:15.2±0.5,9˚22S±0˚.08×159˚12E±0˚.07,h10km,n42, c0ϑ91/41,mb4.2/20,Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.84**	**105**		**Pg**	**00 23 31.4**	**0.0**
HNR				Sg	**Sg**	**00 23 42.3**	**-0.1**
DZM	**Mont Dzumac**	**14.59**	**152**	Pn	**Pn**	**00 26 40.5**	**-1.4**
	0.1nm,0.3s,baz=319,slow=20,SNR=2.4						
	5.4nm,0.9s						
PATS	**Pohnpei**	**15.97**	**357**	Pn	**Pn**	**00 26 58.9**	**-1.3**
PATS				IAmb	IAmb	00 27 20.8	
	comp=Z,130nm,1.2s						
CTAO	**Charters Tower**	**16.47**	**228**	Pn	**Pn**	**00 27 06.8**	**+0.2**
CTAO				IAmb	IAmb	00 27 15.1	
	comp=Z,30nm,1.4s						
MSVF	**Nonsavu**	**20.24**	**117**	Pn	Pn	00 27 53.3	+0.4
WR0	**Warramunga Arr**	**26.04**	**243**	P	**P**	**00 28 49.8**	**+0.9**
WR0				IAmb	IAmb	00 28 53.5	
	comp=Z,11nm,1.0s						
WB0	**Warramunga Arr**	**26.10**	**244**	P	**P**	**00 28 50.3**	**+0.8**
WB0				IAmb	IAmb	00 28 55.7	
	comp=Z,7.9nm,0.8s						
WB2	**Warramunga Arr**	**26.20**	**243**	P	**P**	**00 28 51.0**	**+0.7**
WB2				IAmb	IAmb	00 28 58.3	
	comp=Z,12nm,1.1s						
WRA	**Warramunga Arr**	**26.21**	**243**	P	**P**	**00 28 50.3**	**-0.2**

WRA	**Warramunga Arr**	**26.21**	**243**	P	**P**		**00 28 50.8**	**+0.4**
	comp=Z,3.5nm,0.7s,baz=70,slow=9.8,SNR=15							
WRA				PcP	**PcP**		**00 32 18.1**	**+0.7**
	comp=Z,1.1nm,0.8s,baz=71,slow=2.5,SNR=3.6							
	comp=Z,3.5nm,0.7s							
STKA	**Stephens Creek**	**27.80**	**213**	P	**P**		**00 29 04.8**	**+0.2**
STKA	**Stephens Creek**	**27.80**	**213**	P	**P**		**00 29 04.2**	**-0.5**
	comp=Z,2.8nm,0.6s,baz=33,slow=13,SNR=6.2							
	comp=Z,2.8nm,0.6s							
AS31	**Alice Springs**	**28.06**	**236**	P	**P**		**00 29 07.6**	**+0.5**
AS31				IAmb	IAmb		00 29 15.8	
	comp=Z,1.6nm,0.6s							
ASAR	**Alice Springs**	**28.06**	**236**	P	**P**		**00 29 07.7**	**+0.6**
ASAR	**Alice Springs**	**28.06**	**236**	P	**P**		**00 29 06.5**	**-0.6**
	comp=Z,2.3nm,0.7s,baz=67,slow=8.8,SNR=12							
ASAR				PcP	**PcP**		**00 32 22.6**	**+0.8**
	comp=Z,0.9nm,0.7s,baz=48,slow=1.9,SNR=4.8							
	comp=Z,2.3nm,0.7s							
BBOO	**Buckleboo**	**31.71**	**219**	P	**P**		**00 29 39.3**	**+0.1**
BBOO				IAmb	IAmb		00 29 40.5	
	comp=Z,17nm,1.2s							
TOZ	**Tahuroa Road**	**32.01**	**155**	P	**P**		**00 29 42.5**	**+0.7**
BATI	**Baumata**	**34.96**	**265**	LR	LR		00 45 30.6	
	comp=Z,6μm,18.7s,baz=14,slow=38							
PETK	**Petropavlovsk-**	**62.09**	**359**	P	**P**		**00 33 37.7**	**+1.7**
	comp=Z,3.7nm,0.8s,baz=166,slow=6.3,SNR=5.1							
	comp=Z,3.7nm,0.8s							
VNDA	**Vanda**	**68.29**	**179**	P	**P**		**00 34 16.3**	**+0.3**
	comp=Z,1.0nm,0.8s,baz=1.1,slow=7.2,SNR=4.9							
	comp=Z,1.0nm,0.8s							
QSPA	**South Pole Qui**	**80.77**	**180**	P	**P**		**00 35 28.4**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=351,slow=6.0,SNR=3.5							
	comp=Z,2.0nm,0.9s							
ILAR	**Eielson Array**	**83.97**	**20**	P	**P**		**00 35 45.5**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=232,slow=5.6,SNR=11							
	comp=Z,0.6nm,0.5s							
MK31	**Makanchi Array**	**87.77**	**318**	P	**P**		**00 36 05.2**	**+0.6**
MKAR	**Makanchi Array**	**87.77**	**318**	P	**P**		**00 36 05.1**	**+0.5**
MKAR	**Makanchi Array**	**87.77**	**318**	P	**P**		**00 36 05.2**	**+0.6**
	comp=Z,1.9nm,0.6s,baz=97,slow=5.9,SNR=19							
	comp=Z,1.9nm,0.6s							
ZALV	**Zalesovo Beam**	**88.31**	**325**	P	**P**		**00 36 06.5**	**-0.4**
	comp=Z,0.3nm,0.3s,baz=115,slow=6.8,SNR=2.2							
	comp=Z,0.3nm,0.3s							
NVAR	**Mina Array Bea**	**89.90**	**51**	P	**P**		**00 36 15.3**	**+0.2**
NVAR	**Mina Array Bea**	**89.90**	**51**	P	**P**		**00 36 16.7**	**+1.6**
	comp=Z,1.7nm,0.9s,baz=241,slow=8.6,SNR=7.1							
	comp=Z,1.7nm,0.9s							
KURBB	**Kurchatov Arra**	**91.14**	**321**	P	**P**		**00 36 19.3**	**-0.9**
	comp=Z,0.3nm,0.6s,baz=111,slow=3.0,SNR=4.9							
	comp=Z,0.3nm,0.6s							
KK31	**Karatay Array**	**95.21**	**313**	P	**P**		**00 36 37.1**	**-2.2**
KK31	**Karatay Array**	**95.21**	**313**	pmax	pmax			
	comp=Z,8.0nm,1.1s							
KK31	**Karatay Array**	**95.21**	**313**	P	**P**		**00 36 37.1**	**-2.2**
KKAR	**Karatay Array**	**95.21**	**313**	P	**P**		**00 36 37.4**	**-1.9**
KKAR				IAmb	IAmb		00 36 43.7	
	comp=Z,7.6nm,1.1s							
YKA	**Yellowknife Ar**	**96.38**	**28**	P	**P**		**00 36 43.8**	**-0.3**
	comp=Z,0.2nm,0.7s,baz=251,slow=9.3,SNR=2.7							
	comp=Z,0.2nm,0.7s							
BVAR	**Borovoye Array**	**96.53**	**323**	P	**P**		**00 36 43.7**	**-1.3**
	comp=Z,1.0nm,0.7s,baz=90,slow=4.9,SNR=6.0							
	comp=Z,1.0nm,0.7s							
PDAR	**Pinedale Array**	**97.15**	**48**	P	Pdif		00 36 49.0	+0.6
	comp=Z,0.3nm,0.5s,baz=221,slow=6.7,SNR=2.4							
	comp=Z,0.3nm,0.5s							
KVAR	**Kislovodsk Ar**	**115.30**	**314**	PKP	**PKiKP**		**00 41 57.6**	**+0.1**
	comp=Z,7.8nm,1.1s,baz=82,slow=7.1,SNR=1.9							
NOA	**NORSAR Array B**	**123.10**	**342**	PKP	**PKiKP**		**00 42 12.4**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=37,slow=2.0,SNR=2.9							
LPAZ	**La Paz**	**126.81**	**118**	PKP	**PKPdf**		**00 42 21.5**	**+0.5**
	comp=Z,1.3nm,0.8s,baz=210,slow=4.3,SNR=6.0							
GERES	**GERESS Array B**	**131.03**	**330**	PKP	**PKPdf**		**00 42 27.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=37,slow=2.5,SNR=2.2							
ESDC	**Sonseca Array**	**146.12**	**336**	PKPbc	**PKPbc**		**00 42 56.4**	**+0.3**
	comp=Z,0.4nm,0.7s,baz=19,slow=3.1,SNR=4.1							
TORD	**Torodi Ar. Bea**	**157.52**	**282**	PKPab	**PKPab**		**00 43 45.0**	**+0.4**
	comp=Z,0.4nm,0.8s,baz=78,slow=4.2,SNR=2.1							

IDC ***22*** *00:26:03.5±0.3,12˚.97N×145˚.42E,h0km,mb5.3/41, mbtmp5.3/42,ML4.8/1,MS5.4/57,Error ellipse: s-maj=15.3km s-min=9.3km az=69.0*

BJI ***22*** *00:26:04.1±0.0,12˚.81N×145˚.67E,h28km,mb5.3/80, mB5.7/79,Ms5.7/99,Ms7 5.6/94*

NEIC ***22*** *00:26:04.5,12˚.88N×145˚.61E,h18km,Moment Tensor Solution. Duration: 3s2 Moment tensor: Scale 1017Nm; Mrr2.88; Mθθ-0.67; Mϕϕ-2.21; Mrθ-2.01; Mθϕ-1.92; Mϕr1.92; Fault plane solution: Mo4.15000×1017 NP1:ϕs3.27000°, δ58.91000°,λ50.26000°. NP2:ϕs241.43000°,δ48.82000°, λ136.67000°. Principal axes: T 4.7351, Plg56.0000°, Azm219.0000°; N -1.1791, Plg33.0000°, Azm27.0000°; P -3.5561, Plg6.0000°, Azm120.0000°;*

NEIC ***22*** *00:26:04.5,12˚.88N×145˚.40E,h18km*

NEIC ***22*** *00:26:05.8±1.8,12˚.89N±0˚.05×145˚.43E±0˚.07,h11km±3km, mb5.8/463,Ms_20 5.7/1049,Mwb5.6/60,Mww5.7/26,Error ellipse: s-maj=11.8km s-min=5.5km az=57.0,Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.94; Mθθ0.36; Mϕϕ-2.30; Mrθ0.53; Mθϕ-1.69; Mϕr1.96; Fault plane solution: Mo3.40000×1017 NP1: ϕs223.67000°,δ27.82000°,λ116.20000°. NP2: ϕs14.58000°,δ65.25000°,λ76.89000°. Principal axes: T 2.7110, Plg67.0000°, Azm260.0000°; N 1.1032, Plg12.0000°, Azm20.0000°; P -3.8142, Plg19.0000°, Azm114.0000°;*

NEIC ***22*** *00:26:05.4,12˚.90N×145˚.39E,h8km*

MOS ***22*** *00:26:05.3±1.0,13˚.01N×145˚.16E,h17km,mb5.6/50, MS5.5/40,Error ellipse: s-maj=8.2km s-min=4.1km az=113.2*

IPGP ***22*** *00:26:07.0,12˚.97N×145˚.38E,h9km,Mw5.9,Fault plane solution: NP1:ϕs16.00000°,δ74.00000°,λ71.00000°. NP2:ϕs247.00000°,δ25.00000°,λ138.00000°.*

DJA ***22*** *00:26:07.7±0.8,13˚N±3˚×14˚6E±˚,h36km±7km,M5.8/91, mb5.7/91,mB6.2/68,MLv5.3/1,Mw(mB)5.9/68, MwMwp5.6/40,Mwp5.8/40*

GCMT ***22*** *00:26:09.8±0.1,12˚.75N±0˚.01×145˚.51E±0˚.01,h14km, MW5.7/153,Moment Tensor Solution. s147,c296; s153,c331; Duration: 1s6 Moment tensor: Scale 1017 Nm; Mrr2.53±.04; Mθθ-0.54±.03; Mϕϕ-1.99±.03; Mrθ0.13±.07; Mθϕ-2.29±.03; Mϕr2.08±.09; Best double couple: Mo3.82100×1017 NP1:ϕs14.00000°,δ64.00000°, λ64.00000°. NP2:ϕs242.00000°,δ36.00000°,λ132.00000°. Principal axes: T 3.4950, Plg62.0000°, Azm243.0000°; N 0.6480, Plg23.0000°, Azm26.0000°; P -4.1470, Plg15.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 00:26:07.7±0.4,12˚.88N±0˚.03×145˚.41E±0˚.04,h26km±2km, h26km:pP-P,n1629,c1ϑ47/1218,mb5.7/398,MS5.7/612, 110C-53D,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.88**	**323**		**Pn**	**00 26 24.3**	**0.0**
GUMO				Sg	**Sb**	**00 26 32.8**	**-2.9**
GUMO	**Guam**	**0.88**	**323**	⇑P	**Pn**	**00 26 24.5**	**+0.2**
GUMO	**Guam**	**0.88**	**323**	Pn	**Pn**	**00 26 24.3**	**0.0**
	5μm,0.3s,baz=156,slow=8.7,SNR=524						
GUMO	**Guam**	**0.88**	**323**	P	**Pn**	**00 26 24.3**	**0.0**
GUMO				SN	**Sb**	**00 26 34.9**	**-0.8**
PATS	**Pohnpei**	**14.06**	**114**	Pn	Pn	00 29 18.8	-6.4
JCJ	**Chichijima**	**14.46**	**348**	Pn	**Pn**	**00 29 29.7**	**-1.0**
	3.8nm,0.3s,baz=240,slow=18,SNR=1.5						
	61nm,0.8s						
MANU	**Manus Island**	**14.95**	**172**	Pn	**Pn**	**00 29 37.7**	**+0.3**
MANU	**Manus Island**	**14.95**	**172**	⇑P	**Pn**	**00 29 35.0**	**-2.4**
JAY	**Jayapura**	**15.99**	**197**	P	**Pn**	**00 29 52.5**	**+1.5**
	153nm,1.8s,4μm						
JAY	**Jayapura**	**15.99**	**197**	P	**P**	**00 29 52.9**	**-1.4**
GENI	**Genyem**	**16.23**	**199**	P	**P**	**00 29 56.1**	**-0.8**
	669nm,1.6s,16μm13μm						
RABL	**Rabaul**	**18.24**	**158**	P	**P**	**00 30 19.6**	**+0.4**
RABL				IAmb	IAmb	00 30 26.8	
	comp=Z,469nm,1.1s						
SWI	**Sorong**	**19.58**	**227**	P	**Pn**	**00 30 36.3**	**+1.0**
	comp=Z,237nm,1.1s,comp=Z,8μmcomp=Z,16μm						
DAV	**Davao City (W)**	**20.36**	**255**	P	**P**	**00 30 42.9**	**+0.5**
DAV	**Davao City (W)**	**20.36**	**255**	P	**P**	**00 30 43.4**	**+1.0**
	comp=Z,133nm,0.4s,baz=69,slow=3.9,SNR=10.0						

DAV				LR	LR		00 38 48.6	
	comp=Z,6μm,20.8s,baz=84,slow=38							
	comp=Z,133nm,0.4s							
DAV	**Davao City (W)**	**20.36**	**255**	P	**P**		**00 30 42.0**	**-0.4**
FAKI	**Fak Fak**	**20.43**	**221**	P	Pn		00 30 44.6	-0.6
FAKI				IAmb	IAmb		00 30 53.0	
	comp=Z,646nm,1.1s							
FAKI	**Fak Fak**	**20.43**	**221**	⇑P	**P**		**00 30 43.9**	**+0.8**
FAKI	**Fak Fak**	**20.43**	**221**	P	Pn		00 30 44.7	-0.6
	comp=Z,555nm,1.2s,comp=Z,9μmcomp=Z,12μm							
JHJ2	**Mitsune**	**20.78**	**347**	P	**P**		**00 30 46.2**	**-0.6**
JHJ2				IAmb	IAmb		00 30 51.2	
	comp=Z,348nm,0.9s							
JHJ	**Hachijo jima 2**	**20.79**	**347**	LR	LR		00 37 15.7	
	comp=Z,12μm,18.2s,baz=176,slow=32							
JOW	**Kunigami**	**21.23**	**313**	P	**P**		**00 30 52.7**	**+1.0**
JOW				IAmb	IAmb		00 31 08.3	
	comp=Z,373nm,1.3s							
JOW	**Kunigami**	**21.23**	**313**	⇑P	**P**		**00 30 52.5**	**+0.7**
JOW	**Kunigami**	**21.23**	**313**	P	**P**		**00 30 51.7**	**0.0**
	comp=Z,121nm,0.9s,baz=146,slow=11,SNR=16							
JOW				LR	LR		00 38 43.6	
	comp=Z,17μm,18.4s,baz=125,slow=36							
	comp=Z,121nm,0.9s							
WAKE	**Wake Island**	**21.37**	**70**	P	**P**		**00 30 52.8**	**-0.5**
WAKE				IAmb	IAmb		00 30 54.5	
	comp=Z,531nm,1.2s							
TNTI	**Ternate**	**21.55**	**237**	P	**P**		**00 30 54.7**	**-0.5**
TNTI	**Ternate**	**21.55**	**237**	P	**P**		**00 30 56.6**	**+1.4**
	comp=Z,144nm,1.3s,comp=Z,7μmcomp=Z,8μm							
SGSI	**Sangihe**	**21.67**	**247**	P	**P**		**00 30 58.3**	**+1.8**
	comp=Z,544nm,1.4s,comp=Z,10μm							
H11N1	**WAKE ISLAND Hy**	**21.70**	**69**	T	T		00 54 04.0	
	baz=257,slow=74,SNR=13							
H11N2	**WAKE ISLAND Hy**	**21.71**	**69**	T	T		00 54 04.7	
	baz=257,slow=74,SNR=9.7							
H11N3	**WAKE ISLAND Hy**	**21.71**	**69**	T	T		00 54 05.5	
	baz=257,slow=74,SNR=16							
PMG	**Port Moresby**	**22.21**	**175**	P	**P**		**00 31 03.5**	**+1.3**
	comp=Z,64nm,0.8s,baz=16,slow=8.6,SNR=10							
PMG				LR	LR		00 39 31.5	
	comp=Z,11μm,18.5s,baz=321,slow=36							
	comp=Z,64nm,0.8s							
LBMI	**Labuha**	**22.27**	**234**	P	**P**		**00 31 03.7**	**+0.7**
	comp=Z,250nm,1.5s,comp=Z,6μm							
JSG	**Sagara**	**22.66**	**344**	P	**P**		**00 31 06.8**	**-0.2**
JSG				IAmb	IAmb		00 31 27.8	
	comp=Z,364nm,1.1s							
JMN	**Monobe**	**23.26**	**335**	P	**P**		**00 31 12.3**	**-0.9**
JMN				IAmb	IAmb		00 31 37.1	
	comp=Z,463nm,1.3s							
JMN	**Monobe**	**23.26**	**335**	⇑P	**P**		**00 31 18.3**	**+5.1**
INU	**Inuyama**	**23.62**	**343**	P	**P**		**00 31 16.4**	**-0.2**
INU				IAmb	IAmb		00 31 21.3	
	comp=Z,302nm,1.5s							
INU	**Inuyama**	**23.62**	**343**	⇑P	**P**		**00 31 14.5**	**-2.2**
JGF	**Kuroka**	**23.76**	**344**	P	**P**		**00 31 17.1**	**-1.0**
JGF	**Kuroka**	**23.76**	**344**	⇓P	**P**		**00 31 16.9**	**-1.2**
TGY	**Tagaytay City**	**23.83**	**276**	LR	LR		00 40 30.1	
	comp=Z,10μm,18.7s,baz=82,slow=36							
YOJ	**Yonaguni jima**	**24.10**	**302**	P	**P**		**00 31 19.0**	**-2.3**
YOJ				IAMs_20	IAMs_20		00 40 44.2	
	comp=Z,20μm,18.0s							
YOJ	**Yonaguni jima**	**24.10**	**302**	P	**P**		**00 31 19.0**	**-2.3**
YOJ				pmax	pmax			
	comp=Z,95nm,0.9s							
YOJ				MLR	MLR			
	comp=Z,20μm,18.0s							
JNU	**Nakatsue**	**24.13**	**329**	P	**P**		**00 31 21.1**	**-0.4**
JNU				IAmb	IAmb		00 31 41.3	
	comp=Z,208nm,1.0s							
NLAI	**Namlea**	**24.23**	**230**	P	**P**		**00 31 24.1**	**+1.5**
	comp=Z,124nm,0.8s							
SANI	**Sanana**	**24.32**	**234**	P	**P**		**00 31 20.5**	**-3.0**
SANI	**Sanana**	**24.32**	**234**	P	**P**		**00 31 24.7**	**+1.2**
	comp=Z,85nm,1.6s,comp=Z,4μmcomp=Z,8μm							
MJAR	**Matsushiro Arr**	**24.43**	**346**	P	**P**		**00 31 22.0**	**-2.2**
	comp=Z,25nm,0.9s,baz=163,slow=9.5,SNR=28							
MJAR				PcP	**PcP**		**00 35 02.3**	**-0.6**
	comp=Z,12nm,0.9s,baz=183,slow=2.8,SNR=6.2							
MJAR				LR	LR		00 39 51.0	
	comp=Z,14μm,19.2s,baz=152,slow=34							
	comp=Z,25nm,0.9s							
MAJO	**Matsushiro**	**24.43**	**346**	P	**P**		**00 31 22.3**	**-2.0**
MAJO	**Matsushiro**	**24.43**	**346**	⇑P	**P**		**00 31 19.4**	**-4.9**
**MAJO

comp=Z,362nm,1.4s
TJN MLR MLR

comp=Z,26µm,20.0s
SSE Sheshan 28.75 313 P **P** **00 32 03.6 +0.4**
SSE S **S** **00 36 53.4 +2.3**
SSE pmax pmax

comp=Z,19nm,0.7s
SSE pmax pmax

comp=Z,1µm,6.1s
SSE LR LR

comp=Z,3µm,13.8s
SSE LR LR

comp=Z,2µm,13.8s
KSRS Korea Array 29.04 330 P **P** **00 32 04.0 -1.6**
comp=Z,12nm,0.8s,baz=142,slow=9.7,SNR=38
KSRS PcP **PcP** **00 35 13.3 -0.3**

comp=Z,22nm,1.1s,baz=164,slow=2.5,SNR=14
KSRS ScP **ScP** **00 38 55.9 +2.3**

comp=Z,0.6nm,0.4s,baz=145,slow=1.9,SNR=2.7
comp=Z,12nm,0.8s
KSAR Wonju Array Be 29.05 330 P **P** **00 32 04.2 -1.5**
KSAR Wonju Array Be 29.05 330 P **P** **00 32 04.2 -1.5**
ERM Erimo 29.09 357 IAMs_20 IAMs_20 00 42 42.9

comp=Z,13µm,19.0s
JEM Erimo 29.09 357 IAMs_20 IAMs_20 00 42 45.3

comp=Z,13µm,20.0s
BBSI Bau Bau 29.12 233 P **P** **00 32 08.6 +2.0**
comp=Z,143nm,1.5s,comp=Z,3µmcomp=Z,7µm
MTN Manton Dam 29.22 210 IAmb IAmb 00 32 11.8

comp=Z,128nm,0.9s
MTN Manton Dam 29.22 210 ⇓P **P** **00 32 07.4 0.0**
HJU Haeju 30.58 328 P P 00 32 11.8 -7.5
HJU S **S** **00 37 14.6 -5.2**
HJU AmB

comp=Z,834nm,3.8s
HJU AMS AMS

comp=Z,5µm,11.9s
SOEI Soe 30.77 224 P **P** **00 32 19.7 -1.6**
SOEI Soe 30.77 224 P **P** **00 32 22.0 +0.7**
comp=Z,141nm,0.9s,comp=Z,3µm
NJ2 Nanjing 30.94 312 *e*P **P** **00 32 25.3 +2.7**
NJ2 PP **PnPn** **00 33 24.0 +0.2**
NJ2 S **S** **00 37 28.3 +2.8**
NJ2 sS **sS** **00 37 41.4 +4.9**
NJ2 pmax pmax

comp=Z,1µm,6.6s
NJ2 LR LR

comp=Z,4µm,13.7s
NJ2 LR LR

comp=Z,6µm,14.7s
NJ2 LR LR

comp=Z,6µm,13.3s
SMKI Samarinda 30.94 247 P **P** **00 32 24.2 +1.4**
comp=Z,276nm,0.5s,comp=Z,12µm
KAPI Kappang 31.08 237 P **P** **00 32 24.8 +0.8**
KAPI Kappang 31.08 237 P **P** **00 32 24.8 +0.8**
KAPI pmax pmax

comp=Z,63nm,1.0s
HKPS Hong Kong Po S 31.18 292 IAMs_20 IAMs_20 00 44 57.8
comp=Z,13µm,18.0s
HHU Hamhung 31.21 333 P P 00 32 17.0 -7.8
HHU AmB

comp=Z,662nm,4.4s
ASAJ Asahikawa 31.22 356 LR LR 00 46 04.8

comp=Z,2µm,18.5s,baz=196,slow=39
PYAG Pyongyang 31.34 330 P P 00 32 18.8 -7.2
PYAG S **S** **00 37 26.6 -5.1**
PYAG AmB

comp=Z,860nm,4.9s
PYAG AMS AMS

comp=Z,8µm,15.2s
MMRI Maumere 31.41 228 P **P** **00 32 28.2 +1.3**
comp=Z,46nm,0.7s,comp=Z,3µm
BATI Baumata 31.50 224 P **P** **00 32 28.9 +1.2**

comp=Z,88nm,1.1s
EDFI Ende, Flores 31.89 229 P **P** **00 32 31.9 +0.7**
comp=Z,31nm,1.1s,comp=Z,1µm
MSHR Mys Shultsa 32.07 340⇑ *e*P **P** **00 32 31.2 -1.2**
MSHR pmax pmax

comp=Z,7.0nm,0.8s
GZH Guangzhou 32.07 293 P **P** **00 32 31.3 -1.4**
GZH PP **PP** **00 33 43.8 -1.6**
GZH S **S** **00 37 44.0 +0.6**
GZH LR LR

comp=Z,3µm,13.4s
GZH LR LR

comp=Z,3µm,18.2s
KUR Kuril'sk 32.31 3 P **P** **00 32 34.2 -0.2**
KUR *e*S **S** **00 37 47.5 +0.9**
KUR *e*SS **SnSn** **00 39 40.3 +0.7**
KUR *e*SSS SSS 00 39 55.4
KUR MLR MLR

comp=Z,4µm,14.0s
KUR MLR MLR

comp=E,2µm,12.0s
KUR MLR MLR

comp=N,4µm,13.0s
VLA Vladivostok 32.32 341 *e*P **P** **00 32 35.4 +0.9**
VLA pmax pmax

comp=Z,80nm,1.1s
CTAO Charters Tower 32.77 179 P **P** **00 32 40.6 +1.8**
CTAO Charters Tower 32.77 179 ⇓P **P** **00 32 39.0 +0.3**
CTAO Charters Tower 32.77 179 P **P** **00 32 40.6 +1.8**
CTAO pmax pmax

comp=Z,48nm,1.1s
SUJ Sinuiju 32.77 330 P P 00 32 31.7 -6.8
SUJ S **S** **00 37 48.9 -5.1**
SUJ AmB

comp=Z,637nm,3.9s
SUJ AMS AMS

comp=Z,10µm,16.1s
TEY Ternei 32.91 348 *e*P P 00 32 27.2 -13
USA0B Ussuriysk Arra 33.27 342⇑ *e*P **P** **00 32 42.5 -0.3**
USRK Ussuriysk Ar. 33.27 342 P **P** **00 32 42.5 -0.3**
USRK Ussuriysk Ar. 33.27 342 P **P** **00 32 41.7 -1.1**
comp=Z,7.0nm,0.8s,baz=160,slow=9.4,SNR=13
USRK PcP **PcP** **00 35 25.6 +0.8**

comp=Z,6.5nm,0.9s,baz=197,slow=2.0,SNR=5.1
USRK LR LR 00 45 08.8

comp=Z,8µm,19.2s,baz=151,slow=34
comp=Z,7.0nm,0.8s
DL2 Dalian 33.41 325 P **P** **00 32 43.8 -0.3**
DL2 PcP **PcP** **00 35 27.8 +2.5**
DL2 S **S** **00 38 01.1 -2.7**
DL2 pmax pmax

comp=Z,40nm,0.9s
DL2 pmax pmax

comp=Z,870nm,6.1s
DL2 LR LR

comp=Z,6µm,17.9s
DL2 LR LR

comp=Z,4µm,17.2s
DL2 LR LR

comp=Z,8µm,19.6s
WHN Wuhan 33.62 307 P **P** **00 32 46.8 +0.7**
WHN PP **PnPn** **00 33 56.6 -1.6**
WHN S **S** **00 38 10.0 +2.6**
WHN LR LR

comp=Z,16µm,16.0s
WHN LR LR

comp=Z,19µm,14.6s
WHN LR LR

comp=Z,34µm,18.3s
CNSH ChangSha 33.87 302 ⇓P **P** **00 32 49.3 +1.0**
CNSH S **S** **00 38 12.8 +1.5**
CNSH LR LR

comp=Z,6µm,17.7s
CNSH LR LR

comp=Z,10µm,18.6s
CNSH LR LR

comp=Z,11µm,19.2s
YSS Yuzh-Sakhalins 34.04 357 P **P** **00 32 48.8 -0.7**
YSS Yuzh-Sakhalins 34.04 357 *e*P **P** **00 32 49.7 +0.2**
YSS *e* 00 34 20.9
YSS *e*S **S** **00 38 13.5 +0.2**
YSS *e*SS **SnSn** **00 40 25.5 +4.0**
YSS pmax pmax

comp=Z,300nm,5.0s
YSS pmax pmax

comp=Z,30nm,1.2s
YSS pmax pmax

comp=N,900nm,6.2s
YSS pmax pmax

comp=E,200nm,5.1s
YSS smax smax

comp=N,1µm,14.5s
YSS smax smax

comp=E,1µm,13.1s
YSS MLR MLR

comp=Z,9µm,16.0s
YSS MLR MLR

comp=N,8µm,14.0s
YSS MLR MLR

comp=E,8µm,15.0s
WB0 Warramunga Arr 34.21 199 P **P** **00 32 50.5 -0.8**
WB0 IAmb IAmb 00 33 03.3

comp=Z,191nm,1.4s
WB2 Warramunga Arr 34.38 199 IAmb IAmb 00 33 10.2
comp=Z,75nm,0.8s
WRA Warramunga Arr 34.39 199 P **P** **00 32 52.1 -0.8**
WRA Warramunga Arr 34.39 199 P **P** **00 32 52.5 -0.3**
comp=Z,40nm,0.9s,baz=21,slow=9.8,SNR=112
WRA PcP **PcP** **00 35 29.4 +0.9**

comp=Z,10nm,0.9s,baz=12,slow=3.6,SNR=4.7
WRA LR LR 00 46 59.2

comp=Z,6µm,19.7s,baz=12,slow=36
comp=Z,40nm,0.9s
MDJ Mudanjiang 34.40 340 P **P** **00 32 52.6 -0.1**
MDJ PP **PP** **00 34 12.0 +1.1**
MDJ PcP **PcP** **00 35 27.8 -0.2**
MDJ S **S** **00 38 21.4 +2.4**
MDJ PcS **PcS** **00 39 15.8 +1.5**
MDJ ScS **ScS** **00 43 14.8 +0.7**
MDJ pmax pmax

comp=Z,8.0nm,0.8s
MDJ pmax pmax

comp=Z,900nm,6.7s
MDJ LR LR

comp=Z,5µm,18.5s
MDJ LR LR

comp=Z,8µm,18.9s
MDJ LR LR

comp=Z,10µm,19.1s
MDJ Mudanjiang 34.40 340 IAMs_20 IAMs_20 00 44 05.2
comp=Z,11µm,21.0s
TIA Tai'an 34.44 317 P **P** **00 32 53.1 0.0**
TIA PP **PP** **00 34 15.0 +3.6**
TIA PcP **PcP** **00 35 30.4 +2.1**
TIA S **S** **00 38 21.1 +1.2**
TIA pmax pmax

comp=Z,5.0nm,0.9s
TIA pmax pmax

comp=Z,510nm,9.8s
TIA LR LR

comp=Z,6µm,14.4s
TIA LR LR

comp=Z,7µm,16.5s
TIA LR LR

comp=Z,11µm,15.8s
SBUM Sibu 34.44 255 P **P** **00 32 53.9 +0.6**
SBUM IAmb IAmb 00 32 57.1

comp=Z,179nm,1.4s
SBUM Sibu 34.44 255⇑ P **P** **00 32 54.1 +0.7**
SNY Shenyang 34.54 331⇓ P P 00 32 48.3 -5.6
SNY PP **PP** **00 34 12.6 +0.1**
SNY S **S** **00 38 23.1 +1.8**
SNY SS **SS** **00 40 54.6 +3.1**
SNY pmax pmax

comp=Z,8.0nm,0.5s
SNY pmax pmax

comp=Z,620nm,8.3s
SNY LR LR

comp=N,4µm,18.7s
SNY LR LR

comp=E,3µm,14.0s
SNY LR LR

comp=Z,7µm,15.6s
QIZ Qiongzhong 34.69 285 P **P** **00 32 55.8 +0.2**
QIZ PP **PnPn** **00 34 09.8 -2.0**
QIZ S **S** **00 38 28.8 +4.6**
QIZ pmax pmax

comp=Z,30nm,1.4s
QIZ pmax pmax

comp=Z,1µm,5.5s
QIZ LR LR

comp=Z,3µm,13.2s
QIZ LR LR

comp=Z,6µm,18.1s
QIZ LR LR

comp=Z,8µm,16.8s
PLAI Plampang 34.91 233 P **P** **00 32 56.9 -0.5**
comp=Z,57nm,0.9s,comp=Z,1µm
GULI GuiLin 35.23 296⇑ P **P** **00 32 58.3 -1.8**
GULI pmax pmax

comp=Z,40nm,0.8s
GULI pmax pmax

comp=Z,1µm,10.8s
GULI LR LR

comp=Z,9µm,18.4s
GULI LR LR

comp=Z,12µm,19.5s
GULI LR LR

comp=Z,19µm,19.5s
CN2 Changchun 35.27 335 *e*P **P** **00 32 59.5 -0.7**
CN2 PP **PnPn** **00 34 18.9 +0.3**
CN2 *e*S **S** **00 38 31.3 -1.2**
CN2 pmax pmax

comp=Z,10.0nm,0.5s
CN2 pmax pmax

comp=Z,700nm,7.0s
CN2 LR LR

comp=Z,4µm,15.0s
CN2 LR LR

comp=Z,6µm,15.0s
CN2 LR LR

comp=Z,7µm,15.0s
TWSI Taliwang, Sumb 35.56 234 P **P** **00 33 02.8 -0.2**
comp=Z,67nm,0.8s,comp=Z,1µmcomp=Z,3µm
STKI Sintang 35.97 252 P **P** **00 33 07.3 +0.7**

comp=Z,246nm,1.2s
DLV T Lat 36.05 273 IAmb IAmb 00 33 10.5

comp=Z,137nm,1.1s
DLV T Lat 36.05 273⇑ P **P** **00 33 07.6 +0.1**
BNX BinXian 36.14 338⇓ P **P** **00 33 07.4 -0.2**
BNX pP **sP** **00 33 16.4 +0.2**
BNX sP **pwP** **00 33 19.9 -2.0**
BNX PP **PP** **00 34 31.3 +1.2**
BNX S **S** **00 38 44.9 -0.8**
BNX sS **sS** **00 39 02.0 +4.8**
BNX pmax pmax

comp=Z,11nm,0.6s
BNX pmax pmax

comp=Z,770nm,6.1s
BNX LR LR

comp=Z,5µm,16.6s
BNX LR LR

comp=Z,6µm,16.5s
BNX LR LR

comp=Z,6µm,16.5s
UGL Uglegorsk 36.20 356 *e*P **P** **00 33 10.7 +2.7**
UGL *e*S **S** **00 38 51.7 +5.2**
UGL *e* 00 41 43.1
UGL pmax pmax

comp=Z,80nm,1.0s
UGL MLR MLR

comp=E,4µm,14.0s
UGL MLR MLR

comp=N,2µm,16.0s
UGL MLR MLR

comp=Z,4µm,18.0s
FITZ Fitzroy Crossi 36.44 213 P **P** **00 33 10.2 -0.3**
FITZ Fitzroy Crossi 36.44 213⇑ P **P** **00 33 10.2 -0.3**
SRBI Singaraja 36.52 237 P **P** **00 33 12.6 +1.3**
comp=Z,92nm,1.4s,comp=Z,3µmcomp=Z,6µm
HNS HongShan 36.70 317⇓ P **P** **00 33 12.8 +0.2**
HNS PP **PnPn** **00 34 35.8 -0.6**
HNS S **S** **00 38 54.1 -0.5**
HNS SS **SnSn** **00 41 29.8 +3.5**
HNS pmax pmax

comp=Z,85nm,0.9s
HNS pmax pmax

comp=Z,1µm,7.6s
HNS LR LR

comp=Z,13µm,16.4s
HNS LR LR

comp=Z,11µm,17.7s
HNS LR LR

comp=Z,15µm,18.1s
LYN LuoYang 36.82 312⇑ P **P** **00 33 12.8 -0.8**
LYN PP **PP** **00 34 35.8 -1.9**
LYN S **S** **00 38 51.4 -5.0**
LYN pmax pmax

comp=Z,74nm,0.8s
LYN pmax pmax

comp=Z,2µm,10.3s
LYN LR LR

comp=Z,6µm,15.5s
LYN LR LR

comp=Z,4µm,18.6s
LYN LR LR

comp=Z,10µm,19.2s
ABJI Asem Bagus 37.17 238 P **P** **00 33 18.0 +1.2**
comp=Z,238nm,1.4s,comp=Z,7µmcomp=Z,10µm
BJI Beijing 37.32 322 P **P** **00 33 16.8 -1.0**
BJI S **S** **00 39 04.8 +0.9**
BJI PcS **PcS** **00 39 24.3 -0.8**
BJI pmax pmax

comp=Z,14nm,0.6s
BJI pmax pmax

comp=Z,410nm,8.6s
BJI LR LR

comp=Z,2µm,18.3s
BJI LR LR

comp=Z,1µm,18.2s
BJI LR LR

comp=Z,3µm,17.2s
JAGI Jagag, Banyuwa 37.60 237 IAmb IAmb 00 33 44.0
comp=Z,87nm,0.9s
JAGI Jagag, Banyuwa 37.60 237 P **P** **00 33 19.9 -0.6**
comp=Z,119nm,1.3s,comp=Z,3µmcomp=Z,4µm
BLJI Banyuglugur 37.67 239 P **P** **00 33 22.2 +1.2**
comp=Z,254nm,1.1s,comp=Z,6µm
TYV Tymovskoe 37.94 357 *e*P **P** **00 33 22.8 -0.1**
TYV *e*S **S** **00 39 16.3 +3.2**
TYV pmax pmax

comp=Z,200nm,5.8s
TYV pmax pmax

comp=Z,22nm,1.1s
TYV smax smax

comp=N,300nm,8.2s
TYV smax smax

comp=E,400nm,8.2s
TYV MLR MLR

comp=N,4µm,16.0s
TYV MLR MLR

comp=Z,4µm,16.0s
KLR Kul'dur 37.96 345 LR LR 00 48 01.7
comp=Z,6µm,19.6s,baz=158,slow=35
KLR Kul'dur 37.96 345 *e*P **P** **00 33 22.4 -0.7**
KLR pmax pmax

comp=Z,37nm,1.5s
KLR MLR MLR

comp=Z,6µm,18.0s
ASAR Alice Springs 38.03 197 P **P** **00 33 23.3 -0.6**
ASAR Alice Springs 38.03 197 P **P** **00 33 23.8 -0.2**
comp=Z,45nm,1.1s,baz=23,slow=9.6,SNR=53
ASAR PcP **PcP** **00 35 39.2 -0.1**

comp=Z,19nm,1.0s,baz=20,slow=7.8,SNR=4.7
ASAR LR LR 00 49 03.3

comp=Z,6µm,20.0s,baz=1.0,slow=36
comp=Z,45nm,1.1s
KOUNC Koumac, New Ca 38.06 151 P **P** **00 33 23.6 -0.6**
KOUNC IAmb IAmb 00 33 51.8

comp=Z,288nm,1.5s
KOUNC Koumac, New Ca 38.06 151⇑ P **P** **00 33 24.9 +0.8**
TIY Taiyuan 38.40 316 *e*P **P** **00 33 26.9 -0.1**
TIY pmax pmax

comp=Z,920nm,5.0s
TIY LR LR

comp=Z,6µm,16.9s
TIY LR LR

comp=Z,9µm,17.8s
TIY LR LR

comp=Z,14µm,17.8s
EIDS Eidsvold 38.42 172⇑ P **P** **00 33 27.3 +0.1**
GRNR Gornyy 38.49 351⇑ *i*P **P** **00 33 26.8 -0.7**
GRNR pmax pmax

comp=Z,6.0nm,0.8s
GRNR MLR MLR

comp=E,2µm,16.0s
GRNR MLR MLR

comp=N,3µm,15.0s
GRNR MLR MLR

comp=Z,3µm,16.0s
GYA Guiyang 38.74 296⇓ P **P** **00 33 31.8 +1.6**
GYA PP **PnPn** **00 35 02.3 +0.9**
GYA S **S** **00 39 27.0 +0.9**
GYA pmax pmax

comp=Z,31nm,0.7s
GYA pmax pmax

comp=Z,2µm,10.6s
GYA LR LR

comp=Z,4µm,17.5s
GYA LR LR

comp=Z,12µm,18.8s
GYA LR LR

comp=Z,16µm,19.0s
UBPT Khong Chiam 38.78 278⇓ P **P** **00 33 30.3 -0.1**
QLP Quilpie 39.24 182⇑ P **P** **00 33 33.4 -0.7**
XAN Xi'an 39.24 309⇓ P **P** **00 33 33.8 -0.4**
XAN pP pP 00 33 38.0 -2.6
XAN PP **PP** **00 35 04.3 -0.1**
XAN S **S** **00 39 35.5 +2.2**
XAN SS **SS** **00 42 21.6 -5.5**
XAN pmax pmax

comp=Z,50nm,0.8s
XAN pmax pmax

comp=Z,2µm,10.7s
XAN LR LR

comp=Z,9µm,17.9s
XAN LR LR

comp=Z,7µm,20.1s
XAN LR LR

comp=Z,17µm,17.9s
NGJI Ngawi 39.27 241 P **P** **00 33 36.1 +1.6**
comp=Z,112nm,1.1s,comp=Z,5µm
PWJI Pagerwojo 39.32 240 P **P** **00 33 34.8 -0.1**
comp=Z,335nm,0.9s,comp=Z,5µm
XLT XiLinHaoTe 39.86 326 *e*P **P** **00 33 39.3 +0.1**
XLT PcS **PcS** **00 39 36.8 +1.9**
XLT S **S** **00 39 42.6 +0.2**
XLT sS sS 00 39 53.9 +0.7
XLT pmax pmax

comp=Z,14nm,0.8s
XLT pmax pmax

comp=Z,810nm,6.0s
XLT LR LR

comp=Z,540nm,19.0s
XLT LR LR

comp=Z,4µm,20.2s
XLT LR LR

comp=Z,5µm,21.5s
SMRI Semarang 39.99 242 P **P** **00 33 42.0 +1.5**
comp=Z,146nm,1.9s,comp=Z,7µmcomp=Z,9µm
HEH HeiHe 40.08 342 *e*P **P** **00 33 38.8 -1.9**
HEH pP **sP** **00 33 50.8 +1.4**
HEH PP **PP** **00 35 14.3 +1.2**
HEH S **S** **00 39 43.6 -1.6**
HEH pmax pmax

comp=Z,110nm,0.9s
HEH pmax pmax

comp=Z,950nm,5.9s
HEH LR LR

comp=Z,6µm,17.7s
HEH LR LR

comp=Z,5µm,18.3s
HEH LR LR

comp=Z,11µm,18.4s
UGM Wanagama 40.35 241 P **P** **00 33 44.1 +0.5**
UGM Wanagama 40.35 241 P **P** **00 33 44.7 +1.2**
comp=Z,364nm,1.4s,comp=Z,6µm
DZM Mont Dzumac 40.40 149 *e*P **P** **00 33 42.2 -1.7**
comp=Z,200nm,1.2s
DZM *e*S **S** **00 39 54.8 +4.0**

comp=Z,2µm,29.1s
DZM *e*SS **SnSn** **00 42 54.2 -2.0**

comp=Z,4µm,25.8s
DZM *e*LR LR 00 44 46.4

comp=Z,7µm,25.0s
DZM Mont Dzumac 40.40 149 P **P** **00 33 43.7 -0.1**
DZM IAMs_20 IAMs_20 00 50 09.1

comp=Z,10µm,18.0s
DZM Mont Dzumac 40.40 149⇑ P **P** **00 33 44.4 +0.5**
DZM Mont Dzumac 40.40 149 P **P** **00 33 44.0 +0.1**
comp=Z,32nm,1.0s,baz=4.9,slow=8.6,SNR=10.0
DZM LR LR 00 50 29.5

comp=Z,9µm,18.4s,baz=344,slow=36
comp=Z,32nm,1.0s
SLVN Son La 40.45 288 IAMs_20 IAMs_20 00 50 15.3

comp=Z,10µm,19.0s
YOGI Yogyakarta 40.50 241 P **P** **00 33 46.0 +1.3**
comp=Z,231nm,1.5s,comp=Z,4µm
ONTNC Ouen Toro 40.60 149 P **P** **00 33 44.7 -0.7**
HHC Hu-ho-hao-te 40.65 320 *e*P **P** **00 33 45.5 -0.3**
HHC pP pP 00 33 51.1 -1.1
HHC S **S** **00 39 49.8 -4.5**
HHC sS sS 00 40 07.8 +2.6
HHC SS **SS** **00 42 50.0 -5.0**
HHC pmax pmax
comp=Z,18nm,0.7s
HHC pmax pmax
comp=Z,860nm,4.0s
HHC LR LR
comp=Z,8µm,16.0s
HHC LR LR
comp=Z,4µm,17.2s
HHC LR LR
comp=Z,10µm,16.8s
OUENC Ouen Island, N 40.89 149 IAMs_20 IAMs_20 00 50 40.1
comp=Z,9µm,18.0s
WRKA Warakurna 41.22 204 ⇑P **P** **00 33 50.4 -0.2**
PEA0B Petropavlovsk- 41.31 11 IAMs_20 IAMs_20 00 53 10.2
comp=Z,10µm,20.0s
PEA0B Petropavlovsk- 41.31 11⇑ *e*P **P** **00 33 53.1 +2.2**
PETK Petropavlovsk- 41.31 11 P **P** **00 33 49.3 -1.7**
PETK Petropavlovsk- 41.31 11 P **P** **00 33 50.4 -0.5**
comp=Z,14nm,1.0s,baz=194,slow=5.6,SNR=6.2
PETK PcP **PcP** **00 35 48.8 -0.3**
comp=Z,3.0nm,0.7s,baz=186,slow=5.8,SNR=2.2
comp=Z,14nm,1.0s
PINNC Pines Island, 41.36 148 IAMs_20 IAMs_20 00 50 30.5
comp=Z,10µm,18.0s
PET Petropavlovsk 41.42 12 *e*P **P** **00 33 50.6 -1.2**
PET *e*S **S** **00 40 04.0 -1.1**
PET MLR MLR
comp=Z,4µm,17.0s
PET Petropavlovsk 41.42 12 P **P** **00 33 50.3 -1.5**
comp=Z,61nm,2.0s
KPJI Karang Pucung 41.44 243 P **P** **00 33 52.9 +0.5**
comp=Z,148nm,0.9s,comp=Z,4µm
BTO Baotou 41.51 318 *e*P **P** **00 33 53.3 +0.4**
BTO pP **pP** **00 33 57.8 -1.5**
BTO sP **sP** **00 34 00.4 -1.1**
BTO PP **PnPn** **00 35 32.9 -0.9**
BTO S **S** **00 40 09.6 +2.6**
BTO sS **sS** **00 40 19.3 +1.3**
BTO SS **SS** **00 43 08.4 -3.7**
BTO pmax pmax
comp=Z,32nm,0.7s
BTO pmax pmax
comp=Z,2µm,11.0s
BTO LR LR
comp=Z,17µm,17.4s
BTO LR LR
comp=Z,12µm,16.2s
BTO LR LR
comp=Z,19µm,18.2s
JCJI Jatiwangi 41.62 245 P **P** **00 33 56.0 +2.0**
comp=Z,389nm,0.4s,comp=Z,12µm
PPBI Pangkal Pinang 41.75 252 P **P** **00 33 55.6 +0.6**
comp=Z,34nm,1.5s,comp=Z,3µm
KMI Kunming 41.97 293 ⇑P **P** **00 33 57.3 +0.3**
KMI S **S** **00 40 15.3 +0.8**
KMI SS **SS** **00 43 21.3 -0.6**
KMI pmax pmax
comp=Z,29nm,0.7s
KMI pmax pmax
comp=Z,1µm,10.6s
KMI LR LR
comp=Z,4µm,16.6s
KMI LR LR
comp=Z,3µm,19.2s
KMI LR LR
comp=Z,5µm,18.1s
HIA Hailar 42.00 335 IAMs_20 IAMs_20 00 53 57.7
comp=Z,8µm,18.0s
CMJI Cimerak 42.07 243 P **P** **00 33 57.1 -0.5**
comp=Z,137nm,1.8s,comp=Z,3µmcomp=Z,3µm
MBWA Marble Bar 42.20 217 P **P** **00 33 57.9 -0.6**
MBWA IAmb IAmb 00 34 03.2
comp=Z,112nm,0.9s
MBWA Marble Bar 42.20 217 ⇓P **P** **00 33 59.0 +0.4**
TPRI Tanjung Pinang 42.21 257 P **P** **00 33 59.6 +0.8**
comp=Z,89nm,1.3s,comp=Z,4µm
CD2 Chengdu 42.31 302 P **P** **00 33 59.1 -0.4**
CD2 S **S** **00 40 20.6 +1.5**
CD2 pmax pmax
comp=Z,30nm,0.7s
CD2 pmax pmax
comp=Z,1µm,10.2s
CD2 LR LR
comp=Z,6µm,16.8s
CD2 LR LR
comp=Z,6µm,15.7s
CD2 LR LR
comp=Z,8µm,17.6s
LEM Lembang 42.35 245 LR LR 00 51 12.5
comp=Z,3µm,21.9s,baz=56,slow=36
LEM Lembang 42.35 245 P **P** **00 34 00.5 +0.4**
comp=Z,203nm,1.1s,comp=Z,4µmcomp=Z,6µm
PSAD2 Pilbara Seismi 42.42 216 IAMs_20 IAMs_20 00 53 42.8
comp=Z,12µm,21.0s
PSA00 Pilbara Seismi 42.45 217 P **P** **00 34 00.8 +0.2**
PSA00 Pilbara Seismi 42.45 217 P **P** **00 34 00.4 -0.2**
PSA00 IAmb IAmb 00 34 06.1
comp=Z,194nm,1.0s
MYKOM Kota Tinggi 42.59 258 IAmb IAmb 00 34 05.2
comp=Z,190nm,0.8s
DSRI Dabo 42.61 255 P **P** **00 34 02.4 +0.3**
comp=Z,195nm,1.8s,comp=Z,4µmcomp=Z,4µm
TNG Tangerang 42.91 246 P **P** **00 34 05.3 +0.8**
comp=Z,830nm,0.4s
TNG P **pP** **00 34 05.6 -5.2**
comp=Z,1µm,0.4s
DBJI Dramaga 42.99 246 P **P** **00 34 05.5 +0.3**
comp=Z,149nm,1.5s,comp=Z,20µm
CNJI Cibinong 43.00 244 P **P** **00 34 05.3 +0.1**
comp=Z,83nm,1.4s,comp=Z,1µm
ZEA Zeya 43.23 344 *e*P **P** **00 34 05.5 -1.0**
ZEA *e* 00 35 58.5
ZEA *e*S **S** **00 40 27.1 -4.7**
ZEA *e* 00 44 08.2
ZEA pmax pmax
comp=Z,400nm,6.7s
ZEA pmax pmax
comp=E,10.0nm,0.8s
ZEA pmax pmax
comp=N,30nm,0.9s
ZEA pmax pmax
comp=Z,40nm,1.0s
ZEA smax smax
comp=N,1µm,13.7s
ZEA MLR MLR
comp=Z,2µm,17.0s
SBJI Serang 43.35 246 P **P** **00 34 08.6 +0.5**
comp=Z,250nm,1.1s
ARMA Armidale 43.46 172 ⇑P **P** **00 34 10.3 +1.5**
CRAI Chiangrai 43.67 286 P **P** **00 34 10.5 -0.1**
PHRA Phrae 43.77 283 P **P** **00 34 10.8 -0.7**
LZH Lanzhou 43.87 309 ⇑P **P** **00 34 11.6 -0.6**
LZH pP pP 00 34 18.5 -0.2
LZH PP **PcP** **00 35 57.5 -0.8**
LZH S **S** **00 40 39.4 -2.7**
LZH pmax pmax
comp=Z,1µm,5.7s
LZH LR LR
comp=Z,4µm,14.6s
LZH LR LR
comp=Z,7µm,17.4s
LZH LR LR
comp=Z,10µm,18.2s
MSVF Nonsavu 44.31 133 P **P** **00 34 15.4 -0.4**
MSVF Nonsavu 44.31 133 ⇑P **P** **00 34 16.6 +0.8**
MSVF Nonsavu 44.31 133 P **P** **00 34 15.4 -0.4**
MSVF pmax pmax
comp=Z,84nm,1.2s
MSVF MLR MLR
comp=Z,5µm,19.0s
KASI Kota Agung 44.57 248 P **P** **00 34 17.3 -0.6**
comp=Z,459nm,1.2s,comp=Z,5µm
STKA Stephens Creek 44.65 185 P **P** **00 34 17.9 -0.3**
STKA Stephens Creek 44.65 185 P **P** **00 34 17.9 -0.3**
comp=Z,38nm,0.8s,baz=347,slow=8.5,SNR=21
STKA LR LR 00 54 33.2
comp=Z,9µm,18.1s,baz=3.7,slow=38
comp=Z,38nm,0.8s
LWLI Liwa 44.76 249 P **P** **00 34 19.4 -0.1**
comp=Z,936nm,0.7s,comp=Z,5µm
KULM Kulim 44.78 265 IAmb IAmb 00 34 23.0
comp=Z,96nm,1.1s
KULM Kulim 44.78 265 ⇑P **P** **00 34 20.1 +0.5**
CHTO Chiang Mai 44.99 284 P **P** **00 34 20.1 -1.1**
CHTO Chiang Mai 44.99 284 P **P** **00 34 20.1 -1.1**
CHTO pmax pmax
comp=Z,19nm,0.8s
CHTO MLR MLR
comp=Z,4µm,20.0s
CM31 Chiang Mai Arr 44.99 283 P **P** **00 34 20.5 -0.7**
CM31 IAmb IAmb 00 34 24.3
comp=Z,55nm,0.8s
CMAR Chiang Mai Arr 44.99 283 P **P** **00 34 21.6 +0.4**
comp=Z,35nm,0.7s,baz=83,slow=6.2,SNR=80
CMAR PcP **PcP** **00 36 03.9 +1.7**
comp=Z,23nm,0.8s,baz=95,slow=1.9,SNR=9.1
CMAR ScP **ScP** **00 39 56.2 +3.1**
comp=Z,0.7nm,0.3s,baz=46,slow=2.2,SNR=4.1
CMAR LR LR 00 53 36.3
comp=Z,3µm,18.5s,baz=90,slow=37
comp=Z,35nm,0.7s
SRIT Nakonsritamara 45.16 269 IAmb IAmb 00 34 29.6
comp=Z,73nm,0.8s
MNAI Manna 45.52 251 P **P** **00 34 24.1 -1.3**
MNAI Manna 45.52 251 ⇑P **P** **00 34 24.6 -0.8**
MNAI Manna 45.52 251 P **P** **00 34 24.9 -0.5**
comp=Z,2µm,1.1s,comp=Z,21µm
BKNI Bangkinang 45.71 258 P **P** **00 34 26.4 -0.6**
BKNI IAmb IAmb 00 34 35.6
comp=Z,115nm,0.9s
BKNI Bangkinang 45.71 258 P **P** **00 34 26.0 -0.9**
BKNI Bangkinang 45.71 258 P **P** **00 34 27.8 +0.9**
comp=Z,109nm,1.1s,comp=Z,4µmcomp=Z,5µm
TNCH TengChong 45.75 292 ⇑P **P** **00 34 26.8 -0.6**
TNCH pP pP 00 34 32.8 -1.2
TNCH PP **PP** **00 36 19.3 +4.5**
TNCH S **S** **00 41 13.5 +3.8**
TNCH sS sS 00 41 25.4 +4.9
TNCH pmax pmax
comp=Z,75nm,0.6s
TNCH pmax pmax
comp=Z,940nm,8.2s
TNCH LR LR
comp=Z,2µm,18.7s
TNCH LR LR
comp=Z,3µm,18.5s
TNCH LR LR
comp=Z,6µm,17.3s
XMIS Christmas Isla 45.79 241 P **P** **00 34 27.2 -0.3**
SHEM Shemya Is, Ala 45.89 24 LR LR 00 51 00.2
comp=Z,6µm,22.0s,baz=233,slow=33
BBOO Buckleboo 46.30 191 P **P** **00 34 30.7 -0.6**
BBOO IAmb IAmb 00 34 35.3
comp=Z,150nm,1.0s
BBOO IAMs_20 IAMs_20 00 54 47.5
comp=Z,7µm,18.0s
HTT Hallett 46.47 187 ⇑P **P** **00 34 32.3 -0.3**
FORT Forrest 46.50 201 P **P** **00 34 32.4 -0.4**
FORT IAmb IAmb 00 34 37.5
comp=Z,100nm,1.0s
FORT IAMs_20 IAMs_20 00 54 21.9
comp=Z,8µm,19.0s
FORT Forrest 46.50 201 ⇑P **P** **00 34 33.0 +0.1**
PDSI Padang 46.64 256 P **P** **00 34 33.1 -1.2**
comp=Z,140nm,0.8s,comp=Z,10µmcomp=Z,4µm
CIT Chita 46.69 333 *e*P **P** **00 34 38.0 +3.8**
CIT *e* 00 36 08.3
CIT *e* 00 36 27.7
CIT *e* 00 37 03.4
CIT *e* 00 41 33.0
MA2 Magadan 46.78 4 P **P** **00 34 33.1 -1.6**
MA2 IAmb IAmb 00 35 01.0
comp=Z,59nm,1.0s
MA2 Magadan 46.78 4 LR LR 00 53 55.9
comp=Z,3µm,18.5s,baz=192,slow=36
MA2 Magadan 46.78 4*de*P **P** **00 34 34.6 -0.1**
MA2 pmax pmax
comp=Z,48nm,1.0s
MA2 Magadan 46.78 4 P **P** **00 34 34.2 -0.5**
comp=Z,64nm,1.0s,comp=Z,693nm
AMKA Amchitka 47.16 28 P **P** **00 34 37.6 -0.2**
ULN Ulaanbaatar 47.26 325 P **P** **00 34 37.5 -1.3**
ULN IAmb IAmb 00 36 13.4
comp=Z,54nm,1.1s
ULN Ulaanbaatar 47.26 325 ⇑P **P** **00 34 38.4 -0.5**
ULN Ulaanbaatar 47.26 325⇓ *e*P **P** **00 34 39.0 +0.2**
ULN pmax pmax
comp=Z,29nm,1.0s
ULN MLR MLR
comp=Z,5µm,17.0s
SONM Songino Array 47.61 325 P **P** **00 34 40.8 -0.7**
SONM Songino Array 47.61 325 P **P** **00 34 41.8 +0.2**
comp=Z,14nm,0.8s,baz=141,slow=7.4,SNR=38
SONM PcP **PcP** **00 36 11.2 +0.2**
comp=Z,14nm,0.7s,baz=143,slow=4.6,SNR=3.1
SONM ScP **ScP** **00 40 06.9 +3.3**
comp=Z,2.8nm,0.9s,baz=127,slow=3.8,SNR=4.4
SONM LR LR 00 54 39.0
comp=Z,7µm,19.5s,baz=118,slow=36
comp=Z,14nm,0.8s
SONM Songino Array 47.61 325 P **P** **00 34 40.8 -0.7**
SONM pmax pmax
comp=Z,19nm,0.8s
PPSI Pulau Pagai 47.67 254 P **P** **00 34 41.7 -0.6**
comp=Z,260nm,1.5s,comp=Z,5µm
KCSI Kotacane, Aceh 47.98 263 P **P** **00 34 44.2 -0.6**
comp=Z,124nm,1.5s,comp=Z,2µm
GTA Gaotai 48.03 312 *e*P **P** **00 34 46.6 +1.6**
GTA PcP **PcP** **00 36 15.8 +3.1**
GTA S **S** **00 41 42.4 +0.6**
GTA sS sS 00 41 54.1 +0.9
GTA SS **SS** **00 45 10.4 -0.5**
GTA pmax pmax
comp=Z,23nm,0.8s
GTA pmax pmax
comp=Z,1µm,10.2s
GTA LR LR
comp=Z,3µm,20.7s
GTA LR LR
comp=Z,2µm,18.5s
GTA LR LR
comp=Z,3µm,18.9s
SISI Saibi 48.07 256 P **P** **00 34 44.1 -1.3**
comp=Z,345nm,0.9s,comp=Z,4µm
PBSI Pulau Batu 48.45 258 P **P** **00 34 49.0 +0.6**
comp=Z,65nm,1.5s
GSI Gunungsitoli 48.74 260 IAmb IAmb 00 34 52.0
comp=Z,108nm,1.0s
GSI Gunungsitoli 48.74 260 ⇑P **P** **00 34 49.8 -0.9**
GSI Gunungsitoli 48.74 260 P **P** **00 34 49.7 -0.9**
comp=Z,114nm,0.9s,comp=Z,6µm
MLSI Meulaboh, Aceh 49.13 264 P **P** **00 34 54.1 +0.5**
comp=Z,46nm,0.7s
SNSI Sinabang, Aceh 49.65 262 P **P** **00 34 57.8 +0.2**
comp=Z,128nm,0.8s,comp=Z,3µmcomp=Z,5µm
TOO Toolangi 50.18 180 P **P** **00 35 02.3 +1.1**
TOO IAmb IAmb 00 35 18.3
comp=Z,79nm,1.1s
TOO Toolangi 50.18 180 ⇑P **P** **00 35 02.9 +1.7**
TOO Toolangi 50.18 180 P **P** **00 35 02.3 +1.1**
TOO pmax pmax
comp=Z,79nm,1.1s
SEY Seymchan 50.23 4 LR LR 00 56 15.2
comp=Z,3µm,20.3s,baz=192,slow=36
SEY Seymchan 50.23 4⇑ *e*P **P** **00 35 01.1 0.0**
SEY pmax pmax
comp=Z,17nm,0.9s
YAK Yakutsk 50.37 350 P **P** **00 35 00.9 -1.3**
YAK IAmb IAmb 00 35 05.0
comp=Z,160nm,0.9s
YAK Yakutsk 50.37 350 ⇑P **P** **00 34 59.1 -3.1**
YAK Yakutsk 50.37 350 LR LR 00 54 22.9
comp=Z,3µm,21.0s,baz=152,slow=34
YAK Yakutsk 50.37 350 *e*P **P** **00 35 01.6 -0.6**
YAK *e**PP **sP** **00 35 12.9 +1.9**
YAK *e* 00 36 52.5
YAK *e*S **S** **00 42 12.6 -0.9**
YAK *e**SS sS 00 42 33.1 +8.9
YAK *e* 00 44 45.3
YAK pmax pmax
comp=Z,193nm,1.0s
YAK pmax pmax
comp=N,53nm,0.9s
YAK pmax pmax
comp=E,17nm,1.0s
YAK pmax pmax
comp=Z,120nm,2.3s
YAK pmax pmax
comp=N,48nm,2.7s
YAK pmax pmax
comp=E,43nm,2.0s
YAK smax smax
comp=N,239nm,4.7s
YAK smax smax
comp=E,189nm,5.3s
YAK MLR MLR
comp=Z,5µm,17.0s
YAK MLR MLR
comp=N,3µm,17.0s
YAK MLR MLR
comp=E,1µm,17.0s
MORW Morawa 50.44 214 IAmb IAmb 00 35 42.8
comp=Z,79nm,1.1s
MORW Morawa 50.44 214 ⇓P **P** **00 35 03.2 0.0**
ZAK Zakamensk 50.72 326 *e*P **P** **00 35 04.2 -1.0**
ZAK pmax pmax
comp=Z,33nm,1.4s
BOD Bodaibo 50.76 339 *e*P **P** **00 35 04.9 -0.4**
BOD pmax pmax
comp=Z,41nm,2.0s
ATKA Atka Island 50.83 31 P **P** **00 35 06.0 +0.1**
ATKA IAmb IAmb 00 35 32.1
comp=Z,140nm,1.0s
ATKA IAMs_20 IAMs_20 00 54 27.2
comp=Z,6µm,20.0s
ATKA Atka Island 50.83 31 ⇑P **P** **00 35 07.9 +2.1**
GOMU GeErMu 50.88 306 P **P** **00 35 10.3 +3.3**
GOMU PP **PP** **00 37 06.4 +3.0**
GOMU ScS ScS 00 44 53.1 -3.6
GOMU pmax pmax
comp=Z,22nm,0.7s
GOMU LR LR
comp=Z,3µm,18.1s
GOMU LR LR
comp=Z,6µm,18.3s
GOMU LR LR
comp=Z,6µm,17.3s
PBA Port Blair 51.40 275 IAMs_20 IAMs_20 00 55 49.0
comp=Z,6µm,19.0s
MOY Mondy 52.62 327 *e*P **P** **00 35 18.3 -1.1**
MOY pmax pmax
comp=Z,40nm,1.5s
LSA Lhasa 52.79 298 P **P** **00 35 22.5 +1.0**
LSA pmax pmax
comp=Z,21nm,0.8s
NWAO Narrogin (SRO) 52.91 210 P **P** **00 35 21.0 -0.6**
NWAO Narrogin (SRO) 52.91 210 IAMs_20 IAMs_20 00 58 20.5
comp=Z,6µm,18.0s
NWAO Narrogin (SRO) 52.91 210 LR LR 00 59 13.8
comp=Z,4µm,19.8s,baz=38,slow=38
NWAO Narrogin (SRO) 52.91 210 P **P** **00 35 21.0 -0.6**
NWAO pmax pmax
comp=Z,65nm,1.5s
NWAO MLR MLR
comp=Z,6µm,18.0s
CLES Cleveland East 53.37 32 IAMs_20 IAMs_20 00 55 54.4
comp=Z,6µm,22.0s
NIKH Nikolski High 53.98 32 P **P** **00 35 29.3 +0.1**
baz=240
KIP Kipapa 54.49 73*ce*P **P** **00 35 34.8 +1.3**
KIP pmax pmax
comp=Z,189nm,2.5s
KIP MLR MLR
comp=Z,2µm,17.0s
OUZ Omahuta 54.79 152 IAMs_20 IAMs_20 00 58 15.2
comp=Z,6µm,19.0s
RAO Raoul Island 54.84 140 IAMs_20 IAMs_20 00 57 27.4
comp=Z,6µm,18.0s
RAO Raoul Island 54.84 140 LR LR 00 57 28.5
comp=Z,5µm,18.5s,baz=309,slow=34
TAU Tasmania Unive 55.54 178 IAMs_20 IAMs_20 01 03 27.0
comp=Z,6µm,18.0s
P08K Saint George I 55.55 28 P **P** **00 35 41.0 +0.5**
baz=237
SPIA Saint Paul Isl 55.56 27 P **P** **00 35 41.4 +0.8**
baz=236
UNV Unalaska Valle 55.64 32 P **P** **00 35 40.7 -0.5**
baz=242
EVN Everest 56.44 295 ⇑P **P** **00 35 47.2 -1.0**
BILL Bilibino 56.77 9 P **P** **00 35 48.0 -1.1**
BILL IAmb IAmb 00 35 54.2
comp=Z,89nm,1.1s
BILL Bilibino 56.77 9 *e*P **P** **00 35 48.2 -0.9**
BILL pmax pmax
comp=Z,81nm,1.0s
WMQ Urumqi 58.00 314 *e*P **P** **00 35 58.9 +0.6**
WMQ PcP **PcP** **00 36 51.8 +1.6**
WMQ S **S** **00 43 58.5 +1.1**
WMQ pmax pmax
comp=Z,770nm,5.7s
WMQ LR LR
comp=Z,3µm,21.3s
WMQ LR LR
comp=Z,3µm,22.9s
WMQ LR LR
comp=Z,4µm,24.5s
S12K Black Hills 58.77 32 P **P** **00 36 02.3 -1.1**
S12K IAMs_20 IAMs_20 01 00 05.4
comp=Z,5µm,20.0s
S12K Black Hills 58.77 32 P **P** **00 36 04.3 +0.9**
baz=245
URZ Urewera 58.90 151 LR LR 00 59 23.3
comp=Z,2µm,20.0s,baz=40,slow=34
GAMB Gambell 58.94 21 P **P** **00 36 04.4 0.0**
baz=231
M11K Mekoryuk 59.08 26 P **P** **00 36 04.9 -0.4**
baz=238
BKZ Black Stump Fm 59.34 152 P **P** **00 36 06.7 -0.9**
SDPT Sand Point 59.45 33 P **P** **00 36 08.5 +0.5**
SDPT Sand Point 59.45 33 P **P** **00 36 08.4 +0.4**
baz=246
TIXI Tiksi 59.59 354 P **P** **00 36 07.3 -1.5**
TIXI Tiksi 59.59 354 ⇑P **P** **00 36 06.6 -2.2**
TIXI Tiksi 59.59 354 LR LR 01 07 36.1
comp=Z,1µm,18.3s,baz=171,slow=42
TIXI Tiksi 59.59 354⇓ *e*P **P** **00 36 07.9 -0.8**
TIXI pmax pmax
comp=Z,11nm,0.9s
TIXI MLR MLR
comp=Z,3µm,17.0s
CHNA Chernabura Isl 59.72 33 P **P** **00 36 11.5 +1.6**
baz=248
MRZ Mangatainoka R 60.16 154 P **P** **00 36 14.6 +1.5**
MRZ IAmb IAmb 00 36 31.4
comp=Z,209nm,1.8s
MRZ IAMs_20 IAMs_20 01 02 03.3
comp=Z,4µm,19.0s
INZ Inchbonnie 60.27 158 IAMs_20 IAMs_20 01 02 07.1
comp=Z,5µm,19.0s
S14K Fog Glacier 60.30 32 P **P** **00 36 15.1 +1.1**
baz=247
M13K Dall Lake 60.31 26 IAMs_20 IAMs_20 00 59 35.9
comp=Z,6µm,21.0s
M13K Dall Lake 60.31 26 P **P** **00 36 14.9 +1.0**
baz=241
SNZO South Karori 60.33 155 IAMs_20 IAMs_20 01 02 37.7
comp=Z,5µm,18.0s
BFZ Birch Farm 60.47 153 IAMs_20 IAMs_20 01 05 49.4
comp=Z,5µm,18.0s
K13K Kusilvak Mount 60.53 25 IAMs_20 IAMs_20 00 59 31.5
comp=Z,6µm,21.0s
K13K Kusilvak Mount 60.53 25 P **P** **00 36 16.4 +1.0**
baz=239,SNR=20
LTZ Lake Taylor 60.62 158 IAMs_20 IAMs_20 01 05 49.5
comp=Z,4µm,18.0s
O14K Tigyukauivet M 60.71 28 P **P** **00 36 18.9 +2.3**
O14K IAmb IAmb 00 36 52.8
comp=Z,94nm,1.2s
O14K Tigyukauivet M 60.71 28 P **P** **00 36 17.1 +0.5**
baz=244
ZSN Zaisan 60.78 317 *e*P **P** **00 36 17.0 -0.5**
baz=317
ZSN *e*S **S** **00 44 34.1 +1.0**
baz=317
ZSN Zaisan 60.78 317 *e*P **P** **00 36 16.9 -0.5**
ZSN *e*S **S** **00 44 34.1 +1.0**
KHZ Kahutara 60.79 156 IAMs_20 IAMs_20 01 00 53.0
comp=Z,4µm,18.0s
N14K Kuskokwak Cree 60.82 27 P **P** **00 36 17.9 +0.6**
baz=243

CHGN Chignik 60.89 32 P P 00 36 17.9 0.0
baz=248
RPZ Rata Peaks 60.99 159 IAMs_20 IAMs_20 01 00 05.3
comp=Z,5µm,19.0s
RPZ Rata Peaks 60.99 159 LR LR 01 00 16.2
comp=Z,3µm,21.1s,baz=328,slow=34
OXZ Oxford 61.01 158 IAMs_20 IAMs_20 01 02 41.7
comp=Z,5µm,18.0s
L14K Kuka Creek 61.05 26 IAMs_20 IAMs_20 01 02 52.3
comp=Z,5µm,20.0s
L14K Kuka Creek 61.05 26 P P 00 36 18.9 0.0
baz=241,SNR=20
M14K Bethel 61.08 26 IAMs_20 IAMs_20 01 00 21.2
comp=Z,6µm,21.0s
M14K Bethel 61.08 26 P P 00 36 20.1 +1.0
baz=242,SNR=13
TNA Tin City 61.33 20 P P 00 36 20.9 +0.2
baz=234
O15K Ungalikthiuk R 61.34 29 P P 00 36 21.7 +0.7
baz=245,SNR=12
J14K Nanvaranak Lak 61.39 24 IAMs_20 IAMs_20 00 58 51.2
comp=Z,6µm,21.0s
J14K Nanvaranak Lak 61.39 24 P P 00 36 21.5 +0.4
baz=240,SNR=15
M15K Kasigluk River 61.61 27 P P 00 36 23.0 +0.3
baz=244,SNR=11
N15K Kwethluk River 61.64 28 IAmb IAmb 00 36 32.0
comp=Z,124nm,1.2s
N15K IAMs_20 IAMs_20 00 59 54.1
comp=Z,5µm,21.0s
N15K Kwethluk River 61.64 28 P P 00 36 23.5 +0.5
baz=244
ANM Nome 61.65 22 IAMs_20 IAMs_20 00 58 34.1
comp=Z,4µm,22.0s
ANM Nome 61.65 22 P P 00 36 22.3 -0.7
baz=237
L15K Ungalak Mounta 61.71 26 P P 00 36 23.6 +0.2
baz=242,SNR=10
R16K Pilot Point 61.79 31 IAMs_20 IAMs_20 01 01 31.2
comp=Z,7µm,21.0s
R16K Pilot Point 61.79 31 P P 00 36 23.6 -0.4
baz=248
F14K Arctic Creek 61.82 21 P P 00 36 24.2 +0.1
baz=236,SNR=9.7
K15K Wolf Creek Mou 61.98 25 IAMs_20 IAMs_20 00 59 55.0
comp=Z,6µm,21.0s
K15K Wolf Creek Mou 61.98 25 P P 00 36 25.7 +0.5
baz=242,SNR=16
P16K Nushagak River 62.15 29 P P 00 36 27.0 +0.6
baz=247,SNR=9.2
CHIR Chirikof Islan 62.19 33 P P 00 36 26.6 -0.1
baz=251
O16K Kokwok River B 62.32 29 IAmb IAmb 00 36 34.0
comp=Z,84nm,1.1s
O16K Kokwok River B 62.32 29 P P 00 36 28.0 +0.5
baz=247,SNR=12
MK31 Makanchi Array 62.36 316 *i* P P 00 36 27.1 -1.0
MK31 pmax pmax
comp=Z,18nm,0.8s
MKAR Makanchi Array 62.36 316 P P 00 36 28.2 +0.1
comp=Z,13nm,0.8s,baz=96,slow=8.4,SNR=27
MKAR LR LR 01 05 20.4
comp=Z,4µm,18.4s,baz=95,slow=38
MKAR PKP2bc **P'P'df** **01 05 39.4 +2.5**
comp=Z,2.2nm,0.9s,baz=245,slow=4.9,SNR=8.0
comp=Z,13nm,0.8s
G15K Niukluk 62.36 22 P P 00 36 27.4 -0.3
baz=238
N16K Nishlik Lake 62.37 28 P P 00 36 28.4 +0.6
baz=246,SNR=19
ZAA0 Zalesovo Array 62.50 325 P P 00 36 27.9 -0.9
ZAA0 IAmb IAmb 00 37 09.9
comp=Z,51nm,1.1s
ZAA0 IAMs_20 IAMs_20 01 05 03.7
comp=Z,5µm,20.0s
ZALV Zalesovo Beam 62.50 325 P P 00 36 27.9 -0.9
ZALV Zalesovo Beam 62.50 325 P P 00 36 28.2 -0.7
comp=Z,20nm,1.1s,baz=105,slow=5.8,SNR=31
ZALV LR LR 01 05 24.2
comp=Z,4µm,18.5s,baz=100,slow=38
ZALV PKP2bc **P'P'df** **01 05 38.3 +2.0**
comp=Z,8.1nm,1.1s,baz=306,slow=3.5,SNR=11
comp=Z,20nm,1.1s
M16K Timber Creek 62.51 27 IAmb IAmb 00 36 35.3
comp=Z,70nm,1.0s
M16K IAMs_20 IAMs_20 01 01 05.1
comp=Z,6µm,21.0s
M16K Timber Creek 62.51 27 P P 00 36 29.5 +0.7
baz=245,SNR=13
F15K North Star Dit 62.53 21 IAmb IAmb 00 36 33.9
comp=Z,109nm,1.1s
F15K IAMs_20 IAMs_20 01 04 42.4
comp=Z,4µm,19.0s
F15K North Star Dit 62.53 21 P P 00 36 29.2 +0.3
baz=237
MAKZ Makanchi 62.58 316 P P 00 36 28.9 -0.6
MAKZ IAMs_20 IAMs_20 01 07 58.0
comp=Z,5µm,18.0s
MAKZ Makanchi 62.58 316 ⇑P P 00 36 29.0 -0.6
MAKZ Makanchi 62.58 316 P P 00 36 29.0 -0.6
MAKZ pmax pmax
comp=Z,27nm,0.8s
MAKZ MLR MLR
comp=Z,5µm,18.0s
L16K Owhat River 62.58 26 IAmb IAmb 00 36 35.4
comp=Z,62nm,1.1s
L16K IAMs_20 IAMs_20 01 00 57.0
comp=Z,6µm,21.0s
L16K Owhat River 62.58 26 P P 00 36 29.1 -0.2
baz=244,SNR=14
J16K Anvik River 62.82 24 IAMs_20 IAMs_20 01 00 54.2
comp=Z,6µm,21.0s
J16K Anvik River 62.82 24 P P 00 36 31.6 +0.8
baz=242,SNR=23
H16K Elim 62.84 23 P P 00 36 31.0 +0.1
baz=240,SNR=8.7
O17K Koliganek Bris 62.86 29 P P 00 36 31.2 +0.2
baz=248
P17K Kvichak River 62.95 29 P P 00 36 31.9 +0.2
baz=248
I17K Unalakleet 63.07 24 IAMs_20 IAMs_20 01 05 51.7
comp=Z,5µm,20.0s
I17K Unalakleet 63.07 24 P P 00 36 33.3 +0.9
baz=242,SNR=13
N17K Nushagak Hills 63.11 28 IAmb IAmb 00 36 42.2
comp=Z,100nm,1.1s
N17K Nushagak Hills 63.11 28 P P 00 36 33.6 +0.8
baz=247,SNR=23
G16K Koyuk River 63.18 22 P P 00 36 32.9 -0.2
baz=240
SII Sitkinak Islan 63.19 33 P P 00 36 34.4 +1.0
SII IAMs_20 IAMs_20 01 06 26.2
comp=Z,4µm,18.0s
SII Sitkinak Islan 63.19 33 P P 00 36 34.1 +0.7
baz=252
L17K Donlin 63.27 26 P P 00 36 34.3 +0.5
baz=245,SNR=26
M17K Holitna River 63.34 27 IAMs_20 IAMs_20 01 01 41.0
comp=Z,6µm,21.0s
M17K Holitna River 63.34 27 P P 00 36 35.2 +0.9
baz=246,SNR=27
J17K VABM Dome 63.49 25 IAMs_20 IAMs_20 01 00 40.8
comp=Z,7µm,22.0s
J17K VABM Dome 63.49 25 P P 00 36 35.4 +0.2
baz=244,SNR=32
K17K Iditarod 63.51 25 IAMs_20 IAMs_20 01 01 47.5
comp=Z,6µm,21.0s
K17K Iditarod 63.51 25 P P 00 36 35.3 -0.1
baz=245,SNR=69
P18K Big Mountain, 63.60 29 IAmb IAmb 00 37 04.9
comp=Z,48nm,1.2s
P18K Big Mountain, 63.60 29 P P 00 36 36.6 +0.5
baz=250
RAR Rarotonga 63.60 122 P P 00 36 36.0 -0.6
RAR IAmb IAmb 00 36 41.0
comp=Z,67nm,1.2s
RAR Rarotonga 63.60 122 P P 00 36 36.1 -0.6
RAR pmax pmax
comp=Z,67nm,1.2s
C16K Lisburne Hills 63.73 18 P P 00 36 36.3 -0.4
baz=235,SNR=13
N18K Kilae Creek 63.76 28 IAmb IAmb 00 36 46.5
comp=Z,105nm,1.2s
N18K Kilae Creek 63.76 28 P P 00 36 38.1 +1.0
baz=248
MALK Mahakanadarawa 63.77 273 P P 00 36 36.8 -1.2
MALK Mahakanadarawa 63.77 273 ⇑P P 00 36 38.4 +0.5
O18K Koktuh Hills 63.77 29 IAmb IAmb 00 36 46.3
comp=Z,109nm,1.2s
O18K Koktuh Hills 63.77 29 P P 00 36 38.2 +1.0
baz=249,SNR=10
SHLS Shalkode 63.78 312 *e*P P 00 36 34.6 -3.1
baz=312
SHLS Shalkode 63.78 312 *e*P P 00 36 34.6 -3.1
PDGK Podgornoye 63.78 312 P P 00 36 37.2 -0.5
PALK Pallekele 63.82 272 P P 00 36 37.9 -0.5
PALK IAmb IAmb 00 37 03.5
comp=Z,62nm,1.2s
PALK Pallekele 63.82 272 LR LR 01 03 36.0
comp=Z,2µm,19.4s,baz=183,slow=35
PALK Pallekele 63.82 272⇑*e*P P 00 36 39.4 +1.1
PALK pmax pmax
comp=Z,35nm,1.2s
G17K Kiwalik Mounta 63.85 22 P P 00 36 37.9 +0.3
baz=241,SNR=34
H17K Granite Mounta 63.86 23 IAmb IAmb 00 36 43.0
comp=Z,105nm,1.1s
H17K IAMs_20 IAMs_20 01 00 16.6
comp=Z,5µm,21.0s
H17K Granite Mounta 63.86 23 P P 00 36 38.0 +0.3
baz=242,SNR=29
OHAK Old Harbor 63.86 32 P P 00 36 39.0 +1.2
OHAK IAMs_20 IAMs_20 01 05 51.9
comp=Z,4µm,20.0s
OHAK Old Harbor 63.86 32 P P 00 36 37.6 -0.1
baz=252
L18K Granite Mounta 63.99 26 IAMs_20 IAMs_20 01 01 08.2
comp=Z,6µm,20.0s
L18K Granite Mounta 63.99 26 P P 00 36 38.4 -0.2
baz=247,SNR=30
M18K Stony River 64.09 27 P P 00 36 40.1 +0.8
baz=248,SNR=21
F17K Baldwin Pennin 64.10 21 P P 00 36 39.2 0.0
baz=240
UZB Uzynbulak 64.10 312 *e*P P 00 36 38.6 -1.3
comp=Z,8.6nm,1.2s,baz=312
UZB *e*S S 00 45 15.4 +0.1
baz=312
UZB Uzynbulak 64.10 312 *e*P P 00 36 38.5 -1.3
UZB *e*S S 00 45 15.3 0.0
UZB pmax pmax
comp=Z,9.0nm,1.2s
D17K Noatak River 64.13 19 P P 00 36 39.1 -0.2
baz=238,SNR=43
Q19K Cape Douglas, 64.22 30 IAMs_20 IAMs_20 01 02 46.2
comp=Z,6µm,22.0s
Q19K Cape Douglas, 64.22 30 P P 00 36 39.4 -0.8
baz=251
E17K Hotham Inlet 64.22 20 P P 00 36 40.0 0.0
baz=240,SNR=37
RDOG Red Dog Mine 64.37 19 P P 00 36 41.0 0.0
RDOG IAMs_20 IAMs_20 01 05 37.0
comp=Z,4µm,19.0s
RDOG Red Dog Mine 64.37 19 P P 00 36 41.0 0.0
baz=238,SNR=20
SEM Semipalatinsk 64.38 320 *e*P P 00 36 40.7 -0.9
comp=Z,9.8nm,1.2s,baz=320
SEM LR LR 01 05 04.1
comp=Z,3µm,17.8s,baz=320
SEM Semipalatinsk 64.38 320 *e*P P 00 36 40.6 -1.0
SEM pmax pmax
comp=Z,10.0nm,1.2s
SEM MLR MLR
comp=Z,3µm,18.0s
KDAK Kodiak Island 64.39 32 IAMs_20 IAMs_20 01 05 59.0
comp=Z,6µm,20.0s
KDAK Kodiak Island 64.39 32 P P 00 36 40.8 -0.5
baz=253
KDAK Kodiak Island 64.39 32 ⇑P P 00 36 43.8 +2.6
KDAK Kodiak Island 64.39 32 P P 00 36 43.8 +2.6
HYB Hyderabad 64.42 283⇑*e*P P 00 36 41.8 -0.4
HYB IVmB_BB 00 36 43.5
comp=Z,1µm,2.0s
HYB *e*S S 00 45 20.7 +1.0
HYB IVMs_BB IVMs_BB 01 11 35.2
comp=Z,790nm,17.5s
N19K Bonanza Creek 64.45 28 IAmb IAmb 00 36 48.7
comp=Z,101nm,1.1s
N19K Bonanza Creek 64.45 28 P P 00 36 42.5 +0.8
baz=250,SNR=18
J18K Innoko River 64.48 25 IAmb IAmb 00 36 44.8
comp=Z,68nm,1.2s
J18K IAMs_20 IAMs_20 01 01 12.1
comp=Z,5µm,21.0s
J18K Innoko River 64.48 25 P P 00 36 42.0 +0.2
baz=246,SNR=22
PRZ Przheval'sk 64.48 311 P P 00 36 42.3 -0.1
PRZ IAmb IAmb 00 37 19.1
comp=Z,55nm,1.0s
PRZ IAMs_20 IAMs_20 01 07 30.7
comp=Z,4µm,19.0s
PRZ Przheval'sk 64.48 311 P P 00 36 42.3 -0.1
PRZ pmax pmax
comp=Z,55nm,1.0s
PRZ MLR MLR
comp=Z,4µm,19.0s
C17K DeLong Mountai 64.51 19 P P 00 36 41.8 -0.1
baz=236,SNR=14
ZHN Zhinishke 64.53 312 *e*P P 00 36 41.3 -1.3
baz=312
ZHN Zhinishke 64.53 312 *e*P P 00 36 41.3 -1.3
SATY Saty 64.54 312 *e*P P 00 36 41.9 -0.9
comp=Z,10nm,1.2s,baz=312
SATY *e*S S 00 45 21.1 +0.4
baz=312
SATY Saty 64.54 312 *e*P P 00 36 41.8 -0.9
SATY *e*S S 00 45 21.0 +0.4
SATY pmax pmax
comp=Z,10.0nm,1.2s
H18K Honhosa River 64.55 23 IAMs_20 IAMs_20 01 00 48.7
comp=Z,5µm,21.0s
H18K Honhosa River 64.55 23 P P 00 36 42.1 -0.1
baz=244,SNR=28
P19K Oil Pt 64.65 30 P P 00 36 42.5 -0.5
baz=251
Q20K Shuyak Island 64.73 31 P P 00 36 41.8 -1.7
baz=252
F18K Selawik 64.73 21 P P 00 36 43.5 +0.1
baz=242,SNR=15
TDK Taldyqorghan 64.76 314 *e*P P 00 36 42.9 -1.1
comp=Z,10nm,0.8s,baz=314
TDK LR LR 01 05 15.6
comp=Z,4µm,16.8s,baz=314
TDK Taldyqorghan 64.76 314 *e*P P 00 36 42.9 -1.1
TDK pmax pmax
comp=Z,10.0nm,0.8s
TDK MLR MLR
comp=Z,4µm,17.0s
G18K Tagagawik 64.77 22 IAMs_20 IAMs_20 01 03 32.6
comp=Z,4µm,20.0s
G18K Tagagawik 64.77 22 P P 00 36 43.4 -0.2
baz=243,SNR=71
L19K White Mountain 64.78 27 P P 00 36 43.2 -0.5
L19K IAmb IAmb 00 36 50.9
comp=Z,92nm,1.1s
L19K IAMs_20 IAMs_20 01 02 35.9
comp=Z,5µm,20.0s
L19K White Mountain 64.78 27 P P 00 36 44.3 +0.5
baz=249,SNR=26
E18K Tukpahlearik C 64.80 20 P P 00 36 43.8 0.0
baz=241,SNR=42
M19K Big River Lodg 64.88 27 IAMs_20 IAMs_20 01 03 21.7
comp=Z,5µm,20.0s
M19K Big River Lodg 64.88 27 P P 00 36 44.8 +0.4
baz=249
GCSA Galena City Sc 64.94 24 P P 00 36 44.8 +0.1
baz=246
ARXS Arharly 65.08 313 *e*P P 00 36 46.7 +0.6
J19K Poorman 65.14 25 IAMs_20 IAMs_20 01 01 42.4
comp=Z,6µm,21.0s
J19K Poorman 65.14 25 P P 00 36 45.8 -0.2
baz=247,SNR=48
C18K Utukok River 65.22 19 IAmb IAmb 00 36 51.2
comp=Z,77nm,1.0s
C18K IAMs_20 IAMs_20 01 06 45.5
comp=Z,4µm,19.0s
C18K Utukok River 65.22 19 P P 00 36 46.2 -0.4
baz=240,SNR=19
L20K Farewell, AK 65.31 26 P P 00 36 47.7 +0.5
baz=249,SNR=26
B18K Kokolik River 65.41 18 P P 00 36 47.7 0.0
baz=239,SNR=13
HOM Homer 65.42 30 P P 00 36 46.5 -1.4
baz=253
M20K Styx River 65.43 27 IAMs_20 IAMs_20 01 03 40.3
comp=Z,6µm,21.0s
M20K Styx River 65.43 27 P P 00 36 49.0 +0.9
baz=250,SNR=46
H19K Roundabout Mou 65.43 23 IAMs_20 IAMs_20 01 01 16.1
comp=Z,4µm,20.0s
H19K Roundabout Mou 65.43 23 P P 00 36 48.0 +0.1
baz=246,SNR=49
G19K Purcell Mounta 65.45 22 P P 00 36 47.9 -0.2
G19K IAMs_20 IAMs_20 01 06 24.7
comp=Z,4µm,20.0s
G19K Purcell Mounta 65.45 22 P P 00 36 48.0 -0.1
baz=245,SNR=90
KURK Kurchatov 65.46 320 ⇑P P 00 36 47.2 -1.2
KURK Kurchatov 65.46 320 *ce*P P 00 36 47.7 -0.6
KURK pmax pmax
comp=Z,41nm,1.0s
KURK MLR MLR
comp=Z,9µm,18.0s
KURBB Kurchatov Arra 65.50 320 P P 00 36 48.0 -0.6
comp=Z,26nm,0.7s,baz=102,slow=6.6,SNR=170
KURBB PKP2bc **P'P'df** **01 05 28.4 -3.1**
comp=Z,2.1nm,1.0s,baz=281,slow=3.1,SNR=11
KURBB LR LR 01 05 51.8
comp=Z,4µm,19.1s,baz=109,slow=36
comp=Z,26nm,0.7s
KURBB Kurchatov Arra 65.50 320 P P 00 36 47.4 -1.2
F19K Shaleruckik Mo 65.51 21 IAmb IAmb 00 36 52.8
comp=Z,46nm,1.1s
F19K IAMs_20 IAMs_20 01 06 25.0
comp=Z,4µm,20.0s
F19K Shaleruckik Mo 65.51 21 P P 00 36 47.8 -0.6
baz=244
MDOK Medeo 65.54 312 *e*P P 00 36 47.9 -1.4
baz=312
MDOK *e*S S 00 45 33.6 +0.5
baz=312
MDOK LR LR 01 05 45.2
comp=Z,1µm,17.0s,baz=312
MDOK Medeo 65.54 312 *e*P P 00 36 47.8 -1.4
MDOK *e*S S 00 45 33.5 +0.5
MDOK MLR MLR
comp=Z,1µm,17.0s
K20K Telida 65.54 26 IAMs_20 IAMs_20 01 02 49.0
comp=Z,6µm,21.0s
K20K Telida 65.54 26 P P 00 36 49.4 +0.7
baz=249
CNPM China Poot 65.58 30 IAMs_20 IAMs_20 01 06 53.2
comp=Z,4µm,20.0s
N20K Mount Spurr 65.62 28 P P 00 36 48.2 -1.1
baz=252,SNR=8.8
J20K Nowinta River 65.81 25 IAMs_20 IAMs_20 01 02 02.1
comp=Z,6µm,21.0s
J20K Nowinta River 65.81 25 P P 00 36 51.3 +0.9
baz=248,SNR=82
BRSE Bradley Lake S 65.88 30 P P 00 36 50.3 -0.6
baz=254
I20K Naaghedeneel 65.91 24 IAMs_20 IAMs_20 01 02 59.7
comp=Z,6µm,21.0s
I20K Naaghedeneel 65.91 24 P P 00 36 51.5 +0.5
baz=248,SNR=43
C19K Lookout Ridge 65.96 19 IAMs_20 IAMs_20 01 07 10.9
comp=Z,4µm,20.0s
C19K Lookout Ridge 65.96 19 P P 00 36 51.3 0.0
baz=241,SNR=49
E19K Redstone River 65.97 21 P P 00 36 51.4 0.0
E19K Redstone River 65.97 21 P P 00 36 51.7 +0.3
baz=244,SNR=68
CAPN Captain Cook N 65.98 29 IAMs_20 IAMs_20 01 09 04.9
comp=Z,5µm,19.0s
H20K Anotleneega Mo 66.02 23 P P 00 36 52.1 +0.4
baz=247,SNR=67
A19K Wainwright 66.06 17 P P 00 36 52.8 +1.0
baz=239
KSH Kashi 66.09 308 P P 00 36 55.5 +2.7
KSH pP sP 00 37 01.0 -0.8
KSH PcP **PcP** **00 37 26.8 +3.6**
KSH SS SS 00 50 06.0 +11
KSH pmax pmax
comp=Z,14nm,0.8s
KSH pmax pmax
comp=Z,1µm,8.9s
KSH LR LR
comp=Z,3µm,17.2s
KSH LR LR
comp=Z,3µm,19.1s
KSH LR LR
comp=Z,3µm,18.7s
KUU Kurty 66.12 312 *e*P P 00 36 52.1 -0.7
comp=Z,7.2nm,0.5s,baz=312
KUU LR LR 01 06 07.0
comp=Z,5µm,18.6s,baz=312
KUU Kurty 66.12 312 *e*P P 00 36 52.1 -0.7
KUU pmax pmax
comp=Z,7.0nm,0.5s
KUU MLR MLR
comp=Z,5µm,19.0s
D19K Kuna River 66.14 20 IAMs_20 IAMs_20 01 07 16.8
comp=Z,4µm,20.0s
D19K Kuna River 66.14 20 P P 00 36 52.3 -0.2
baz=243,SNR=58
SKT Skwentna 66.18 27 IAmb IAmb 00 36 58.8
comp=Z,73nm,1.0s
SKT IAMs_20 IAMs_20 01 03 31.0
comp=Z,5µm,20.0s
SKT Skwentna 66.18 27 P P 00 36 52.1 -0.7
baz=252,SNR=23
PPLA Purkeypile 66.18 26 P P 00 36 53.5 +0.5
baz=251,SNR=28
BOOM Boomskoye usch 66.29 311 P P 00 36 53.4 -0.7
BOOM Boomskoye usch 66.29 311 P P 00 36 53.4 -0.7
BOOM pmax pmax
comp=Z,19nm,1.0s
F20K Avaraart Lake 66.33 22 IAMs_20 IAMs_20 01 06 50.8
comp=Z,4µm,19.0s
F20K Avaraart Lake 66.33 22 P P 00 36 53.8 +0.2
baz=246,SNR=86
SUA Susitna One 66.38 28 P P 00 36 53.4 -0.9
baz=253,SNR=14
CAST Castle Rocks 66.40 26 P P 00 36 54.4 +0.2
CAST IAMs_20 IAMs_20 01 03 36.8
comp=Z,5µm,21.0s
CAST Castle Rocks 66.40 26 P P 00 36 54.0 -0.3
baz=251,SNR=74
CHUM Lake Minchumin 66.46 25 P P 00 36 54.7 +0.2
baz=250,SNR=34
O22K Cooper Landing 66.58 29 P P 00 36 54.5 -0.8
baz=254
TKM2 Tokmak 2 66.58 311 *i* P P 00 36 55.1 -0.9
TKM2 pmax pmax
comp=Z,6.0nm,0.8s
SEW Seward 66.60 30 P P 00 36 54.9 -0.6
baz=255,SNR=13
E20K Nigu River 66.68 20 P P 00 36 56.4 +0.4
baz=245,SNR=117
D20K Etivluk River 66.73 20 P P 00 36 56.0 -0.3
baz=244,SNR=86
RC01 Rabbit Creek A 66.74 29 P P 00 36 56.4 +0.1
baz=254,SNR=19
M22K Willow 66.75 28 P P 00 36 55.4 -1.0
baz=253,SNR=8.4
CUT Chulitna 66.87 27 IAMs_20 IAMs_20 01 03 10.4
comp=Z,4µm,20.0s
CUT Chulitna 66.87 27 P P 00 36 57.9 +0.7
baz=253
H21K Melozitna Rive 66.88 23 IAMs_20 IAMs_20 01 03 08.4
comp=Z,5µm,21.0s
H21K Melozitna Rive 66.88 23 P P 00 36 58.0 +0.7
baz=249,SNR=88
G21K Allakaket 66.93 22 IAmb IAmb 00 37 02.8
comp=Z,112nm,1.1s
G21K IAMs_20 IAMs_20 01 06 49.6
comp=Z,4µm,21.0s
G21K Allakaket 66.93 22 P P 00 36 57.6 +0.1
baz=248,SNR=53
KTH Kantishna Hill 66.94 26 P P 00 36 57.0 -0.7
KTH IAMs_20 IAMs_20 01 03 53.0
comp=Z,4µm,21.0s
BPAW Bear Paw Mtn. 67.08 25 IAMs_20 IAMs_20 01 02 52.9
comp=Z,7µm,22.0s
BPAW Bear Paw Mtn. 67.08 25 P P 00 36 58.5 0.0
baz=252,SNR=72
B20K Meade River 67.14 18 IAMs_20 IAMs_20 01 09 56.0
comp=Z,4µm,20.0s
B20K Meade River 67.14 18 P P 00 36 59.2 +0.5
baz=243
PMR Palmer 67.16 28 IAmb IAmb 00 37 05.1
comp=Z,92nm,1.0s
PMR Palmer 67.16 28 P P 00 36 58.5 -0.4

baz=254,SNR=12
TRF Thorofare Moun 67.18 26 IAMs_20 IAMs_20 01 04 02.3
comp=Z,5µm,21.0s
TRF Thorofare Moun 67.18 26 P **P** **00 36 58.8 -0.6**
baz=252,SNR=37
F21K Alatna River 67.20 22 IAmb IAmb 00 37 04.4
comp=Z,90nm,1.2s
F21K IAMs_20 IAMs_20 01 07 19.9
comp=Z,4µm,19.0s
F21K Alatna River 67.20 22 P **P** **00 36 59.5 +0.2**
baz=248,SNR=54
FRU1 Bishkek 67.28 311 IAMs_20 IAMs_20 01 10 42.8
comp=Z,4µm,18.0s
GHO Glory Hole Cre 67.30 28 P **P** **00 36 59.6 -0.4**
SGDS Sogindy 67.32 312 *e*P **P** **00 36 59.3 -1.3**
baz=312
SGDS Sogindy 67.32 312 *e*P **P** **00 36 59.2 -1.3**
AAK Ala-Archa 67.37 311 IAMs_20 IAMs_20 01 08 54.1
comp=Z,6µm,19.0s
AAK Ala-Archa 67.37 311 P **P** **00 37 02.5 +1.5**
comp=Z,2.0nm,0.4s,baz=63,slow=13,SNR=2.8
AAK LR LR 01 09 16.0
comp=Z,6µm,18.6s,baz=88,slow=38
comp=Z,2.0nm,0.4s
AAK Ala-Archa 67.37 311 *ce*P **P** **00 37 00.5 -0.5**
AAK pmax pmax
comp=Z,3.0nm,0.8s
AAK MLR MLR
comp=Z,5µm,18.0s
KNK Knik Glacier 67.42 28 IAMs_20 IAMs_20 01 09 06.9
comp=Z,4µm,19.0s
KNK Knik Glacier 67.42 28 P **P** **00 37 00.7 -0.1**
baz=255,SNR=26
MLY Manley 67.48 24 IAMs_20 IAMs_20 01 03 04.3
comp=Z,4µm,21.0s
MLY Manley 67.48 24 P **P** **00 37 01.4 +0.3**
baz=251,SNR=123
E21K Killik River 67.50 20 IAmb IAmb 00 37 23.1
comp=Z,75nm,1.2s
E21K Killik River 67.50 20 P **P** **00 37 01.2 0.0**
baz=247,SNR=24
H22K Ishtalitna Cre 67.51 23 P **P** **00 37 01.6 +0.3**
baz=250,SNR=35
C21K Knifeblade Rid 67.52 20 P **P** **00 37 01.5 +0.3**
baz=246,SNR=43
P23K Montague Islan 67.57 30 P **P** **00 37 01.5 -0.2**
baz=255
SML Sawmill 67.58 28 IAMs_20 IAMs_20 01 08 07.1
comp=Z,3µm,20.0s
SML Sawmill 67.58 28 P **P** **00 37 00.9 -0.9**
baz=255,SNR=35
BWN Browne 67.74 25 IAMs_20 IAMs_20 01 03 15.1
comp=Z,5µm,21.0s
WAT1 Susitna Watana 67.75 27 P **P** **00 37 02.7 -0.2**
baz=254
B21K Ikpikpuk River 67.77 19 P **P** **00 37 02.6 -0.1**
B21K IAMs_20 IAMs_20 01 08 40.7
comp=Z,4µm,19.0s
B21K Ikpikpuk River 67.77 19 P **P** **00 37 03.1 +0.3**
baz=246,SNR=76
F22K John River 67.78 22 P **P** **00 37 03.5 +0.6**
baz=249,SNR=177
RND Reindeer 67.78 26 IAmb IAmb 00 37 05.8
comp=Z,74nm,1.1s
RND IAMs_20 IAMs_20 01 04 31.3
comp=Z,6µm,20.0s
G22K Bettles 67.81 22 P **P** **00 37 02.9 -0.2**
baz=250
MCK McKinley 67.84 26 P **P** **00 37 02.5 -0.9**
baz=254,SNR=16
M23K Glacier View 67.86 28 P **P** **00 37 03.2 -0.3**
baz=256,SNR=16
A21K Barrow 67.89 17 P **P** **00 37 03.4 -0.1**
baz=243
GLI Glacier Island 67.93 29 IAmb IAmb 00 37 12.6
comp=Z,109nm,1.1s
GLI IAMs_20 IAMs_20 01 08 01.4
comp=Z,4µm,20.0s
GLI Glacier Island 67.93 29 P **P** **00 37 04.5 +0.6**
baz=256,SNR=10
NEA2 Nenana 68.03 25 IAmb IAmb 00 37 08.1
comp=Z,51nm,1.0s
NEA2 IAMs_20 IAMs_20 01 03 54.8
comp=Z,6µm,21.0s
NEA2 Nenana 68.03 25 P **P** **00 37 03.7 -0.8**
baz=253,SNR=32
SCM Sheep Creek Mo 68.05 28 P **P** **00 37 03.6 -1.2**
baz=256,SNR=31
WAT6 Susitna Watana 68.05 27 P **P** **00 37 04.8 -0.1**
baz=255,SNR=27
I23K Minto, Yukon-K 68.07 24 P **P** **00 37 04.3 -0.4**
I23K IAMs_20 IAMs_20 01 07 01.0
comp=Z,5µm,20.0s
I23K Minto, Yukon-K 68.07 24 P **P** **00 37 04.9 +0.1**
baz=253,SNR=62
HIN Hinchinbrook I 68.10 30 IAMs_20 IAMs_20 01 09 12.0
comp=Z,4µm,20.0s
D22K Ayikyak River 68.11 20 IAMs_20 IAMs_20 01 08 31.7
comp=Z,4µm,19.0s
D22K Ayikyak River 68.11 20 P **P** **00 37 05.6 +0.7**
baz=248,SNR=86
E22K Anaktuvuk Pass 68.13 21 P **P** **00 37 05.4 +0.2**
baz=249
H23K Yukon River 68.21 24 IAMs_20 IAMs_20 01 03 03.5
comp=Z,5µm,21.0s
H23K Yukon River 68.21 24 P **P** **00 37 06.2 +0.5**
baz=252,SNR=65
A22K Sinclair Lake 68.23 18 P **P** **00 37 05.9 +0.2**
baz=245
G23K Bananza Creek 68.30 23 IAMs_20 IAMs_20 01 07 51.9
comp=Z,5µm,20.0s
G23K Bananza Creek 68.30 23 P **P** **00 37 07.0 +0.8**
baz=251,SNR=90
DHY Denali Highway 68.34 27 P **P** **00 37 06.0 -0.6**
DHY IAmb IAmb 00 37 15.0
comp=Z,70nm,1.1s
DHY IAMs_20 IAMs_20 01 05 22.1
comp=Z,5µm,20.0s
DHY Denali Highway 68.34 27 P **P** **00 37 06.4 -0.2**
baz=255,SNR=20
COLD Coldfoot 68.40 22 P **P** **00 37 07.0 +0.2**
baz=251,SNR=174
WRH Wood River Hil 68.40 25 IAMs_20 IAMs_20 01 04 16.7
comp=Z,5µm,21.0s
B22K Teshekpuk Lake 68.43 19 IAMs_20 IAMs_20 01 06 30.1
comp=Z,4µm,21.0s
B22K Teshekpuk Lake 68.43 19 P **P** **00 37 07.0 +0.1**
baz=247,SNR=76
MDM Murphy Dome 68.48 25 IAmb IAmb 00 37 10.9
comp=Z,111nm,1.1s
MDM IAMs_20 IAMs_20 01 04 40.7
comp=Z,6µm,21.0s
EYAK Cordova Ski Ar 68.50 30 P **P** **00 37 07.4 0.0**
baz=258,SNR=6.9
COLA College 68.61 25 P **P** **00 37 08.6 +0.5**
COLA IAmb IAmb 00 37 13.0
comp=Z,94nm,1.1s
COLA College 68.61 25 IAMs_20 IAMs_20 01 03 59.1
comp=Z,6µm,21.0s
COLA College 68.61 25 P **P** **00 37 07.4 -0.7**
baz=254
COLA College 68.61 25 ⇓P **P** **00 37 07.9 -0.2**
COLA College 68.61 25 P **P** **00 37 08.6 +0.5**
COLA pmax pmax
comp=Z,94nm,1.2s
KLU Klutina 68.62 29 IAmb IAmb 00 37 15.5
comp=Z,96nm,1.0s
KLU IAMs_20 IAMs_20 01 11 35.7
comp=Z,4µm,19.0s
KLU Klutina 68.62 29 P **P** **00 37 08.9 +0.5**
baz=257,SNR=23
M24K Tolsona, Glenn 68.64 28 P **P** **00 37 08.5 0.0**
M24K Tolsona, Glenn 68.64 28 P **P** **00 37 09.1 +0.7**
baz=257,SNR=6.2
D23K Nanushuk River 68.81 20 P **P** **00 37 10.6 +1.3**
baz=250
POKR Poker Plat Res 68.85 25 IAmb IAmb 00 37 12.3
comp=Z,82nm,1.2s
POKR Poker Plat Res 68.85 25 P **P** **00 37 08.4 -1.2**
baz=254,SNR=14
HDA Harding Lake 68.86 26 IAmb IAmb 00 37 11.4
comp=Z,87nm,1.0s
HDA IAMs_20 IAMs_20 01 04 42.9
comp=Z,5µm,21.0s
HDA Harding Lake 68.86 26 P **P** **00 37 08.4 -1.3**
baz=255,SNR=31
H24K Noodor Dome 68.87 24 IAMs_20 IAMs_20 01 03 56.9
comp=Z,4µm,22.0s
H24K Noodor Dome 68.87 24 P **P** **00 37 09.2 -0.5**
baz=254,SNR=96
ILAR Eielson Array 68.98 25 P **P** **00 37 09.2 -1.3**
ILAR Eielson Array 68.98 25 P **P** **00 37 09.3 -1.1**
comp=Z,89nm,1.1s,baz=258,slow=4.9,SNR=97
ILAR LR LR 01 04 45.1
comp=Z,5µm,21.9s,baz=247,slow=34
ILAR PKP2bc **P'P'df** **01 05 20.8 -4.5**
comp=Z,1.1nm,0.9s,baz=69,slow=2.3,SNR=7.6
comp=Z,89nm,1.1s
RAGM Ragged Mountai 68.99 30 IAMs_20 IAMs_20 01 05 19.4
comp=Z,6µm,22.0s
TOLK Toolik Lake Re 69.08 21 P **P** **00 37 11.6 +0.5**
baz=251,SNR=73
BMRM Bremner River 69.14 29 P **P** **00 37 12.9 +1.3**
baz=259,SNR=25
C23K Itkillik River 69.14 19 IAMs_20 IAMs_20 01 09 17.0
comp=Z,4µm,20.0s
C23K Itkillik River 69.14 19 P **P** **00 37 11.6 +0.3**
baz=250,SNR=160
BRZS Berezniki 69.14 319 *e*P **P** **00 37 10.8 -0.9**
comp=Z,8.0nm,1.2s,baz=319
BRZS *e*S **S** **00 46 16.5 +0.6**
baz=319
BRZS Berezniki 69.14 319 *e*P **P** **00 37 10.8 -0.9**
BRZS *e*S **S** **00 46 16.4 +0.6**
BRZS pmax pmax
comp=Z,8.0nm,1.2s
PAX Paxson 69.16 27 P **P** **00 37 10.9 -0.7**
baz=257,SNR=30
HARP HAARP 69.17 28 P **P** **00 37 13.0 +1.3**
baz=258,SNR=13
HMT Hamilton 69.18 30 IAMs_20 IAMs_20 01 05 13.5
comp=Z,5µm,21.0s
K24K Donnelly Dome 69.21 26 P **P** **00 37 11.3 -0.7**
baz=256,SNR=33
OTUK Ortayu 69.23 317 *i*P **P** **00 37 11.8 -0.6**
OTUK pmax pmax
comp=Z,23nm,1.1s
G24K Hadweenzic Riv 69.26 23 IAMs_20 IAMs_20 01 03 46.4
comp=Z,4µm,21.0s
G24K Hadweenzic Riv 69.26 23 P **P** **00 37 12.6 +0.4**
baz=254,SNR=93
N25K Chitina, Valde 69.27 29 P **P** **00 37 13.2 +0.8**
N25K IAmb IAmb 00 37 21.6
comp=Z,61nm,1.1s
N25K IAMs_20 IAMs_20 01 06 07.7
comp=Z,4µm,20.0s
N25K Chitina, Valde 69.27 29 P **P** **00 37 14.0 +1.6**
baz=258,SNR=12
E24K Your Creek 69.29 22 IAmb IAmb 00 37 15.7
comp=Z,105nm,1.1s
E24K IAMs_20 IAMs_20 01 08 48.0
comp=Z,4µm,20.0s
E24K Your Creek 69.29 22 P **P** **00 37 12.8 +0.4**
baz=252,SNR=89
F24K Squaw Lake 69.34 22 IAMs_20 IAMs_20 01 08 48.5
comp=Z,5µm,20.0s
F24K Squaw Lake 69.34 22 P **P** **00 37 13.2 +0.5**
baz=253,SNR=151
D24K Happy Valley 69.51 20 IAMs_20 IAMs_20 01 06 17.7
comp=Z,4µm,21.0s
D24K Happy Valley 69.51 20 P **P** **00 37 14.3 +0.7**
baz=252,SNR=345
J25K Salcha River, 69.57 25 IAmb IAmb 00 37 16.0
comp=Z,78nm,1.1s
J25K IAMs_20 IAMs_20 01 05 03.7
comp=Z,4µm,21.0s
J25K Salcha River, 69.57 25 P **P** **00 37 13.1 -1.2**
baz=257,SNR=35
GLB Gilahina Butte 69.60 29 P **P** **00 37 14.2 -0.3**
DZA Taraz 69.71 311 *e*P **P** **00 37 14.2 -1.3**
comp=Z,9.4nm,1.2s,baz=311
DZA Taraz 69.71 311 *e*P **P** **00 37 14.1 -1.3**
DZA pmax pmax
comp=Z,9.0nm,1.2s
PRP Porcupine Dome 69.72 25 P **P** **00 37 13.8 -1.4**
baz=256,SNR=22
C24K Franklin Bluff 69.73 20 P **P** **00 37 15.2 +0.3**
baz=252
VRDI Verde Repeater 69.73 29 IAmb IAmb 00 37 22.3
comp=Z,85nm,1.0s
H25L Birch Creek 69.79 24 P **P** **00 37 15.9 +0.5**
baz=256,SNR=82
G25K Bearman Lake 69.81 23 P **P** **00 37 15.8 +0.4**
baz=255,SNR=33
SNH Sunshine Point 69.85 30 IAMs_20 IAMs_20 01 10 22.2
comp=Z,5µm,20.0s
WAX Waxell Ridge 69.89 30 IAmb IAmb 00 37 21.0
comp=Z,92nm,1.0s
WAX IAMs_20 IAMs_20 01 13 32.2
comp=Z,4µm,20.0s
MENT Mentasta 69.93 27 P **P** **00 37 16.5 +0.1**
MENT IAmb IAmb 00 37 25.4
comp=Z,45nm,0.9s
MCARA McCarthy VSAT 69.97 29 IAmb IAmb 00 37 31.5
comp=Z,95nm,0.9s
MCARA McCarthy VSAT 69.97 29 P **P** **00 37 17.2 +0.6**
baz=260,SNR=17
SCRK Sand Creek 70.02 26 IAMs_20 IAMs_20 01 05 30.6
comp=Z,6µm,21.0s
SCRK Sand Creek 70.02 26 P **P** **00 37 16.6 -0.5**
baz=258,SNR=55
BTK Batken 70.07 308 IAMs_20 IAMs_20 01 10 47.8
comp=Z,3µm,19.0s
FYU Fort Yukon 70.09 23 IAMs_20 IAMs_20 01 05 07.3
comp=Z,4µm,20.0s
L26K Log Cabin Wild 70.12 27 IAmb IAmb 00 37 26.3
comp=Z,55nm,0.9s
L26K IAMs_20 IAMs_20 01 09 02.1
comp=Z,4µm,20.0s
L26K Log Cabin Wild 70.12 27 P **P** **00 37 17.3 -0.2**
baz=258,SNR=27
M26K Nabesna, AK 70.16 28 IAmb IAmb 00 37 44.3
comp=Z,54nm,1.1s
M26K IAMs_20 IAMs_20 01 04 00.3
comp=Z,4µm,21.0s
M26K Nabesna, AK 70.16 28 P **P** **00 37 17.6 -0.3**
baz=260,SNR=6.1
ISLE Juniper Island 70.16 30 P **P** **00 37 18.7 +0.7**
ISLE IAMs_20 IAMs_20 01 07 11.5
comp=Z,3µm,20.0s
F25K Christian Rive 70.19 22 P **P** **00 37 18.9 +0.9**
baz=255,SNR=152
MESA MESA 70.29 30 P **P** **00 37 19.9 +1.1**
MESA IAMs_20 IAMs_20 01 10 44.8
comp=Z,4µm,20.0s
MESA MESA 70.29 30 P **P** **00 37 19.2 +0.3**
baz=261,SNR=7.2
J26L Joseph Creek 70.31 26 IAMs_20 IAMs_20 01 04 43.2
comp=Z,5µm,21.0s
J26L Joseph Creek 70.31 26 P **P** **00 37 19.0 +0.2**
baz=258,SNR=63
KK31 Karatay Array 70.31 311 *i*P **P** **00 37 19.2 +0.1**
KKAR Karatay Array 70.31 311 P **P** **00 37 19.0 -0.1**
KKAR Karatay Array 70.31 311 P **P** **00 37 19.0 -0.1**
E25K Arctic Village 70.35 22 IAmb IAmb 00 37 30.4
comp=Z,95nm,0.9s
E25K IAMs_20 IAMs_20 01 09 32.2
comp=Z,5µm,20.0s
E25K Arctic Village 70.35 22 P **P** **00 37 19.5 +0.6**
baz=255,SNR=97
D25K Kavik River 70.39 20 P **P** **00 37 19.7 +0.6**
baz=254,SNR=222
GAR Garm 70.47 307 IAmb IAmb 00 37 29.1
comp=Z,54nm,0.9s
BMAR Burnt Mountain 70.55 23 P **P** **00 37 20.7 +0.6**
BARN Barnard Glacie 70.56 30 IAmb IAmb 00 37 30.4
comp=Z,51nm,0.9s
BARN IAMs_20 IAMs_20 01 07 03.0
comp=Z,4µm,21.0s
I26K Coal Creek Min 70.64 25 IAmb IAmb 00 37 22.5
comp=Z,67nm,1.2s
I26K IAMs_20 IAMs_20 01 05 13.0
comp=Z,5µm,21.0s
I26K Coal Creek Min 70.64 25 P **P** **00 37 19.5 -1.2**
baz=258,SNR=31
M27K Edge Creek, AK 70.67 28 P **P** **00 37 21.2 +0.2**
M27K IAmb IAmb 00 37 30.0
comp=Z,118nm,1.2s
M27K IAMs_20 IAMs_20 01 08 51.7
comp=Z,4µm,20.0s
M27K Edge Creek, AK 70.67 28 P **P** **00 37 21.1 +0.1**
baz=261,SNR=28
CTG Chitna Glacier 70.70 30 P **P** **00 37 22.6 +1.3**
baz=262,SNR=15
CTGM Chitina Glacie 70.71 30 IAMs_20 IAMs_20 01 07 07.8
comp=Z,4µm,21.0s
G26K Porcupine Rive 70.74 23 P **P** **00 37 22.0 +0.8**
baz=257,SNR=129
F26K Sheenjek River 70.77 22 P **P** **00 37 22.4 +1.0**
baz=257,SNR=159
BVA2 Borovoye Array 70.80 322 P **P** **00 37 20.0 -1.9**
L27K Beaver Creek, 70.80 27 IAmb IAmb 00 37 28.7
comp=Z,50nm,1.0s
L27K IAMs_20 IAMs_20 01 11 56.3
comp=Z,3µm,19.0s
L27K Beaver Creek, 70.80 27 P **P** **00 37 22.2 +0.4**
baz=260,SNR=30
BVAR Borovoye Array 70.81 322 P **P** **00 37 19.8 -2.1**
comp=Z,26nm,0.7s,baz=106,slow=6.5,SNR=75
BVAR PKP2ab **P'P'ab** **01 05 15.9 -3.6**
comp=Z,0.4nm,0.4s,baz=234,slow=34,SNR=2.6
BVAR LR LR 01 10 01.5
comp=Z,5µm,18.3s,baz=92,slow=37
comp=Z,26nm,0.7s
BRLS Borolday 70.81 311 *e*P **P** **00 37 22.4 +0.2**
baz=311
BRLS *e*S **S** **00 46 37.7 +2.0**
baz=311
BRLS Borolday 70.81 311 *e*P **P** **00 37 22.3 +0.2**
BRLS *e*S **S** **00 46 37.6 +2.0**
LOGN Logan Glacier 70.85 30 IAmb IAmb 00 37 29.0
comp=Z,114nm,0.9s
LOGN IAMs_20 IAMs_20 01 07 12.5
comp=Z,4µm,21.0s
K27K Chicken 70.86 26 IAmb IAmb 00 37 25.7
comp=Z,85nm,1.1s
K27K IAMs_20 IAMs_20 01 05 24.4
comp=Z,6µm,21.0s
K27K Chicken 70.86 26 P **P** **00 37 22.7 +0.7**
baz=260,SNR=34
PPT Papeete 70.95 114 LR LR 01 02 31.6
comp=Z,3µm,21.1s,baz=293,slow=31
PPT2 Papeete2 70.95 114 *e*S **S** **00 46 36.6 -1.5**
comp=Z,1µm,23.8s
PPT2 *e*S **S** **00 46 43.7 +5.6**
comp=Z,841nm,24.8s
PPT2 Papeete2 70.95 114 *e*LR LR 00 58 54.7
comp=Z,4µm,21.5s
PPT2 *e*LR LR 00 58 55.5
comp=Z,4µm,26.2s
PPT2 *e*LR LR 00 59 05.4
comp=Z,1µm,21.1s
PAE Paea 70.98 114 *e*S **S** **00 46 44.3 +6.2**
comp=Z,330nm,24.2s
PAE Paea 70.98 114 *e*LR LR 00 58 57.7
comp=Z,880nm,21.8s
C26K Camden Bay 71.04 20 P **P** **00 37 24.2 +1.2**
baz=255,SNR=250
O28M Mount Upton 71.23 30 P **P** **00 37 25.6 +0.9**
baz=263,SNR=22
YUK3 Moose Creek 71.24 29 P **P** **00 37 24.7 +0.1**
baz=262,SNR=28
TVO Taravao 71.31 114 *e*LR LR 00 59 12.5
comp=Z,509nm,23.5s
I27K Kandik River 71.33 25 P **P** **00 37 24.9 0.0**
baz=260,SNR=49
C27K Jago River 71.38 20 P **P** **00 37 25.3 +0.2**
baz=256,SNR=88
CHGR Chuyangaron 71.38 307 IAmb IAmb 00 38 07.1
comp=Z,75nm,0.9s
CHGR Chuyangaron 71.38 307 P **P** **00 37 25.5 -0.3**
EGAK Eagle 71.38 26 P **P** **00 37 25.1 0.0**
EGAK IAmb IAmb 00 37 28.3
comp=Z,123nm,1.2s
EGAK IAMs_20 IAMs_20 01 05 59.5
comp=Z,4µm,21.0s
EGAK Eagle 71.38 26 P **P** **00 37 25.4 +0.3**
baz=260,SNR=43
EGAK Eagle 71.38 26 ⇑P **P** **00 37 25.2 +0.1**
BCPM Bancas Point 71.41 31 IAMs_20 IAMs_20 01 10 24.5
comp=Z,5µm,20.0s
H27K Steamboat Moun 71.48 24 P **P** **00 37 26.5 +0.7**
baz=260,SNR=166
PNL Peninsula 71.50 31 P **P** **00 37 26.4 +0.4**
baz=264
SIMJ Simiganj 71.50 307 P **P** **00 37 26.3 -0.3**
YUK8 Steele Glacier 71.50 29 P **P** **00 37 26.4 +0.1**
baz=263,SNR=22
G27K Doyon Strip 71.53 24 IAmb IAmb 00 37 29.5
comp=Z,56nm,1.1s
G27K IAMs_20 IAMs_20 01 10 02.5
comp=Z,4µm,20.0s
G27K Doyon Strip 71.53 24 P **P** **00 37 26.0 -0.1**
baz=259,SNR=51
KBL Kabul 71.65 302 P **P** **00 37 26.8 -0.8**
KBL Kabul 71.65 302 P **P** **00 37 26.8 -0.8**
KBL pmax pmax
comp=Z,35nm,0.9s
KBL MLR MLR
comp=Z,2µm,19.0s
E27K Coleen River 71.82 22 IAmb IAmb 00 37 33.3
comp=Z,122nm,1.1s
E27K IAMs_20 IAMs_20 01 05 39.9
comp=Z,3µm,20.0s
E27K Coleen River 71.82 22 P **P** **00 37 28.5 +0.7**
baz=259,SNR=83
I28M Miner Creek 72.00 25 IAmb IAmb 00 37 32.1
comp=Z,90nm,1.1s
I28M IAMs_20 IAMs_20 01 06 05.7
comp=Z,4µm,21.0s
I28M Miner Creek 72.00 25 P **P** **00 37 29.0 0.0**
baz=261,SNR=50
DAWY Dawson 72.03 27 IAmb IAmb 00 37 32.7
comp=Z,107nm,1.2s
DAWY IAMs_20 IAMs_20 01 06 32.7
comp=Z,6µm,22.0s
DAWY Dawson 72.03 27 P **P** **00 37 29.9 +0.7**
baz=262,SNR=26
YUK4 Talbot Arm 72.05 29 P **P** **00 37 30.7 +1.2**
baz=264,SNR=18
YUK6 Outpost Mounta 72.14 30 P **P** **00 37 31.3 +1.2**
baz=264,SNR=6.8
D27M Malcolm River 72.25 21 IAmb IAmb 00 37 36.1
comp=Z,116nm,0.9s
D27M IAMs_20 IAMs_20 01 10 57.1
comp=Z,5µm,20.0s
D27M Malcolm River 72.25 21 P **P** **00 37 31.3 +0.9**
baz=259,SNR=34
M29M Somme Creek 72.25 28 IAmb IAmb 00 37 38.2
comp=Z,78nm,1.1s
M29M IAMs_20 IAMs_20 01 11 24.6
comp=Z,3µm,20.0s
M29M Somme Creek 72.25 28 P **P** **00 37 31.4 +0.9**
baz=264,SNR=35
P29M Windy Craggy 72.33 31 IAmb IAmb 00 37 36.4
comp=Z,87nm,1.0s
P29M IAMs_20 IAMs_20 01 07 47.9
comp=Z,4µm,20.0s
P29M Windy Craggy 72.33 31 P **P** **00 37 33.0 +2.0**
baz=265,SNR=14
F28M Old Crow 72.36 23 P **P** **00 37 31.5 +0.5**
baz=261,SNR=158
MEH Mehetia 72.40 114 *e*LR LR 00 59 37.4
comp=Z,155µm,33.0s
L29M L29M 72.48 28 IAmb IAmb 00 37 39.6
comp=Z,130nm,1.0s
L29M IAMs_20 IAMs_20 01 06 29.6
comp=Z,4µm,20.0s
L29M L29M 72.48 28 P **P** **00 37 32.7 +0.8**
baz=264,SNR=41
HYT Haines Junctio 72.55 30 P **P** **00 37 32.9 +0.5**
HYT IAmb IAmb 00 37 40.9
comp=Z,115nm,1.0s
HYT Haines Junctio 72.55 30 P **P** **00 37 33.1 +0.7**
baz=265,SNR=38
J29N Klondike Camp 72.59 26 IAmb IAmb 00 37 39.3
comp=Z,191nm,1.5s
J29N Klondike Camp 72.59 26 P **P** **00 37 33.1 +0.6**
baz=263
E28M Babbage River 72.64 22 IAmb IAmb 00 37 38.5
comp=Z,161nm,1.2s
E28M IAMs_20 IAMs_20 01 10 52.7
comp=Z,4µm,20.0s
E28M Babbage River 72.64 22 P **P** **00 37 33.8 +1.1**
baz=261,SNR=73
I29M Ogilvie Camp, 72.66 25 IAmb IAmb 00 37 36.0
comp=Z,121nm,1.1s
I29M IAMs_20 IAMs_20 01 11 53.3
comp=Z,4µm,20.0s
I29M Ogilvie Camp, 72.66 25 P **P** **00 37 33.2 +0.3**
baz=263
H29M Whitestone 72.74 24 IAmb IAmb 00 37 45.1
comp=Z,123nm,1.0s
H29M Whitestone 72.74 24 P **P** **00 37 33.7 +0.4**

baz=263,SNR=67
P30M Million Dollar 72.76 31 P P 00 37 34.3 +0.7
baz=266
N30M Aishikik Lake 72.81 29 IAmb IAmb 00 37 41.6
N30M comp=Z,68nm,1.0s IAMs_20 IAMs_20 01 12 31.3
comp=Z,4µm,20.0s
N30M Aishikik Lake 72.81 29 P P 00 37 33.0 -0.8
baz=265,SNR=21
K29M Barlow Dome 72.83 27 IAmb IAmb 00 37 41.5
K29M comp=Z,72nm,0.9s IAMs_20 IAMs_20 01 06 45.7
comp=Z,5µm,21.0s
K29M Barlow Dome 72.83 27 P P 00 37 34.4 +0.4
baz=264,SNR=35
G29M Pine Creek 72.97 24 P P 00 37 35.3 +0.7
G29M IAMs_20 IAMs_20 01 06 47.4
comp=Z,5µm,21.0s
G29M Pine Creek 72.97 24 P P 00 37 35.8 +1.2
baz=263,SNR=72
PLBC Pleasant Camp 73.02 32 P P 00 37 35.7 +0.6
baz=266,SNR=17
M30M Minto, Yukon 73.04 28 IAmb IAmb 00 37 44.6
M30M comp=Z,73nm,1.3s IAMs_20 IAMs_20 01 11 58.4
comp=Z,3µm,20.0s
M30M Minto, Yukon 73.04 28 P P 00 37 35.8 +0.6
baz=265,SNR=31
D28M Stokes Point 73.04 21 P P 00 37 35.5 +0.6
baz=261,SNR=20
TBI Tubuai 73.17 119 *e*P P 00 37 37.9 +1.4
TBI comp=Z,806nm,22.2s *e*S S 00 47 03.1 0.0
comp=Z,8µm,27.0s
TBI *e*SS SS 00 51 45.2 +0.1
comp=Z,2µm,23.2s
TBI *e*LR LR 00 59 36.1
comp=Z,4µm,30.5s
TBI *e*LR LR 00 59 41.5
comp=Z,12µm,28.2s
TBI *e*LR LR 01 00 08.1
comp=Z,3µm,22.6s
E29M Blow River 73.21 22 IAmb IAmb 00 37 55.4
comp=Z,135nm,1.2s
E29M Blow River 73.21 22 P P 00 37 36.7 +0.7
baz=262,SNR=52
O30N Mendenhall 73.24 30 IAmb IAmb 00 38 25.7
O30N comp=Z,84nm,1.4s IAMs_20 IAMs_20 01 10 57.8
comp=Z,4µm,20.0s
O30N Mendenhall 73.24 30 P P 00 37 37.6 +1.2
baz=266,SNR=7.8
J30M Hart River 73.41 26 IAmb IAmb 00 37 56.1
comp=Z,96nm,1.1s
J30M Hart River 73.41 26 P P 00 37 38.2 +0.7
baz=265,SNR=40
EPYK Eagle Plains 73.42 24 IAmb IAmb 00 37 40.6
comp=Z,172nm,1.2s
EPYK IAMs_20 IAMs_20 01 06 27.4
comp=Z,4µm,21.0s
EPYK Eagle Plains 73.42 24 P P 00 37 37.8 +0.4
baz=264,SNR=54
N31M Braeburn, Yuko 73.43 29 IAmb IAmb 00 37 47.8
comp=Z,143nm,1.1s
N31M IAMs_20 IAMs_20 01 12 58.9
comp=Z,4µm,20.0s
N31M Braeburn, Yuko 73.43 29 P P 00 37 37.1 -0.4
baz=266
I30M Mount Dempster 73.45 25 P P 00 37 38.0 +0.4
I30M IAmb IAmb 00 37 55.0
comp=Z,71nm,1.2s
I30M IAMs_20 IAMs_20 01 12 45.2
comp=Z,4µm,21.0s
I30M Mount Dempster 73.45 25 P P 00 37 38.1 +0.4
baz=265,SNR=31
MAYO Mayo, Yukon 73.53 27 P P 00 37 38.9 +0.9
MAYO IAMs_20 IAMs_20 01 07 09.3
comp=Z,4µm,21.0s
SKAG Skagway 73.55 32 IAmb IAmb 00 37 54.6
comp=Z,89nm,1.1s
SKAG Skagway 73.55 32 P P 00 37 38.9 +0.8
baz=267
SKAG Skagway 73.55 32 ⇓P P 00 37 41.2 +3.1
G30M tAoh Zraii Nji 73.68 24 IAMs_20 IAMs_20 01 07 09.2
comp=Z,5µm,21.0s
G30M tAoh Zraii Nji 73.68 24 P P 00 37 39.0 +0.1
baz=264,SNR=131
WHY Whitehorse 73.83 30 IAmb IAmb 00 37 45.0
comp=Z,76nm,1.1s
WHY IAMs_20 IAMs_20 01 08 53.3
comp=Z,4µm,21.0s
WHY Whitehorse 73.83 30 P P 00 37 40.7 +0.8
baz=267,SNR=17
S32K Killisnoo 73.87 34 IAMs_20 IAMs_20 01 08 18.8
comp=Z,3µm,20.0s
F30M Barrier River 73.91 23 P P 00 37 40.6 +0.5
baz=265,SNR=156
JIS Juneau Island 74.00 33 P P 00 37 41.7 +1.0
JIS IAmb IAmb 00 38 06.3
comp=Z,124nm,1.3s
M31M Drury Creek, Y 74.13 29 IAMs_20 IAMs_20 01 09 22.3
comp=Z,4µm,20.0s
M31M Drury Creek, Y 74.13 29 P P 00 37 42.2 +0.6
baz=267,SNR=22
H31M Peel River 74.34 25 IAmb IAmb 00 37 46.0
comp=Z,178nm,1.1s
H31M IAMs_20 IAMs_20 01 10 55.7
comp=Z,5µm,20.0s
H31M Peel River 74.34 25 P P 00 37 43.3 +0.5
baz=266,SNR=70
P32M Atlin 74.37 31 P P 00 37 43.9 +0.8
P32M IAmb IAmb 00 38 01.3
comp=Z,114nm,1.2s
P32M Atlin 74.37 31 P P 00 37 43.8 +0.8
baz=269,SNR=12
G31M Satah River 74.44 24 IAMs_20 IAMs_20 01 12 54.3
comp=Z,4µm,20.0s
G31M Satah River 74.44 24 P P 00 37 43.5 +0.3
baz=266,SNR=170
FARO Faro, Yukon 74.62 29 IAMs_20 IAMs_20 01 09 37.2
comp=Z,4µm,20.0s
FARO Faro, Yukon 74.62 29 P P 00 37 44.4 0.0
baz=268,SNR=11
U33K Whale Pass 74.66 35 P P 00 37 45.1 +0.4
U33K IAmb IAmb 00 37 52.5
comp=Z,61nm,0.9s
U33K IAMs_20 IAMs_20 01 08 46.7
comp=Z,4µm,20.0s
U33K Whale Pass 74.66 35 P P 00 37 45.1 +0.4
baz=270
CRAG Craig 74.67 36 IAMs_20 IAMs_20 01 12 44.8
comp=Z,5µm,19.0s
CRAG Craig 74.67 36 P P 00 37 45.2 +0.5
baz=270
F31M Tsiigehtchic 74.68 23 IAmb IAmb 00 37 49.2
comp=Z,134nm,0.9s
F31M IAMs_20 IAMs_20 01 07 51.6
comp=Z,5µm,21.0s
F31M Tsiigehtchic 74.68 23 P P 00 37 44.4 -0.2
baz=267,SNR=30
N32M Quiet Lake 74.72 30 IAMs_20 IAMs_20 01 12 04.0
comp=Z,4µm,19.0s
N32M Quiet Lake 74.72 30 P P 00 37 45.8 +0.8
baz=269
INK Inuvik 74.81 22 IAMs_20 IAMs_20 01 13 51.1
comp=Z,3µm,21.0s
INK Inuvik 74.81 22 P P 00 37 45.3 0.0
baz=266,SNR=165
INK Inuvik 74.81 22 ⇑P P 00 37 44.0 -1.4
INK Inuvik 74.81 22 P P 00 37 43.0 -2.3
P33M Teslin, Yukon 74.84 31 IAmb IAmb 00 37 50.6
comp=Z,51nm,0.9s
P33M Teslin, Yukon 74.84 31 P P 00 37 46.3 +0.5
baz=269,SNR=21
DIB Dawson Inlet, 75.08 38 IAMs_20 IAMs_20 01 11 47.0
comp=Z,4µm,19.0s
WRAK Wrangell Islan 75.09 35 P P 00 37 48.1 +0.9
WRAK IAmb IAmb 00 38 02.8
comp=Z,135nm,1.3s
WRAK Wrangell Islan 75.09 35 IAMs_20 IAMs_20 01 09 29.0
comp=Z,4µm,20.0s
WRAK Wrangell Islan 75.09 35 P P 00 37 48.2 +1.1
baz=271
V35K Ketchikan 75.53 36 IAMs_20 IAMs_20 01 12 25.6
comp=Z,4µm,20.0s
MMPY Sheldon Lake, 75.59 28 IAmb IAmb 00 37 59.0
comp=Z,89nm,1.3s
MMPY IAMs_20 IAMs_20 01 08 04.0
comp=Z,3µm,21.0s
MMPY Sheldon Lake, 75.59 28 P P 00 37 51.2 +1.1
baz=270,SNR=25
S34M Telegraph Cree 75.72 33 IAmb IAmb 00 38 24.8
comp=Z,153nm,1.4s
S34M Telegraph Cree 75.72 33 P P 00 37 52.1 +1.3
baz=271,SNR=19
R33M Jennings River 75.78 32 P P 00 37 51.5 +0.2
R33M IAmb IAmb 00 37 56.7
comp=Z,91nm,0.9s
R33M Jennings River 75.78 32 P P 00 37 52.2 +1.0
baz=271,SNR=34
T35M Bob Quinn 76.23 34 IAmb IAmb 00 38 15.6
T35M comp=Z,83nm,1.1s IAMs_20 IAMs_20 01 10 45.2
comp=Z,3µm,20.0s
T35M Bob Quinn 76.23 34 P P 00 37 55.0 +1.2
baz=272,SNR=16
DLBC Dease Lake 76.29 33 IAmb IAmb 00 38 19.9
comp=Z,138nm,1.2s
DLBC Dease Lake 76.29 33 P P 00 37 54.4 +0.2
baz=272,SNR=29
RUBB Prince Rupert 76.36 37 IAmb IAmb 00 38 20.0
comp=Z,171nm,1.3s
U35K Hyder 76.41 35 IAMs_20 IAMs_20 01 12 45.8
comp=Z,4µm,19.0s
SVE Sverdlovsk 76.47 326 *e*P P 00 37 54.4 -0.7
SVE *e*S S 00 47 36.8 -2.2
SVE pmax pmax
comp=Z,110nm,1.3s
SVE MLR MLR
comp=Z,6µm,18.0s
SVE MLR MLR
comp=E.4µm,17.0s
WTLY Watson Lake, Y 76.85 31 P P 00 37 58.4 +1.2
WTLY Watson Lake, Y 76.85 31 P P 00 37 58.4 +1.2
baz=273
TGTN Hyland Airport 77.03 29 P P 00 37 59.4 +1.2
baz=273,SNR=12
AB31 Akbulak array 77.42 318 *i* P P 00 38 00.0 -0.6
ABKAR Akbulak array 77.42 318 P P 00 37 59.4 -1.1
ABKAR Akbulak array 77.42 318 ⇑P P 00 37 59.5 -1.0
A36M Sachs Harbour 77.64 19 IAMs_20 IAMs_20 01 10 14.7
comp=Z,3µm,22.0s
A36M Sachs Harbour 77.64 19 P P 00 38 01.3 -0.1
baz=273,SNR=40
ARU Arti 77.64 325 P P 00 38 00.7 -1.0
ARU IAMs_20 IAMs_20 01 16 51.1
comp=Z,4µm,19.0s
ARU Arti 77.64 325 P P 00 38 01.1 -0.5
comp=Z,32nm,0.8s,baz=83,slow=2.3,SNR=14
ARU LR LR 01 15 41.5
comp=Z,3µm,18.2s,baz=76,slow=38
comp=Z,32nm,0.8s
ARU Arti 77.64 325 *c i* P P 00 38 01.2 -0.5
ARU 00 40 58.6
ARU PPP PPP 00 42 39.0
ARU S S 00 47 54.1 +2.3
ARU SS SS 00 52 47.9 -3.4
ARU pmax pmax
comp=Z,71nm,1.2s
ARU MLR MLR
comp=Z,3µm,17.0s
ARU Arti 77.64 325 P P 00 38 00.7 -1.0
comp=Z,52nm,1.1s,comp=Z,920nm
BBB Bella Bella 77.79 39 IAMs_20 IAMs_20 01 09 28.8
comp=Z,3µm,21.0s
C36M Paulatuk 78.23 21 P P 00 38 04.7 0.0
baz=275,SNR=53
LIRD Liard River Hi 78.26 31 P P 00 38 05.5 +0.4
baz=275,SNR=15
AKTO Aktyubinsk 78.54 319 P P 00 38 07.0 +0.2
comp=Z,12nm,0.9s,baz=86,slow=7.5,SNR=9.2
AKTO LR LR 01 13 55.7
comp=Z,5µm,19.5s,baz=76,slow=37
comp=Z,12nm,0.9s
TOAD Toad River Com 78.76 32 P P 00 38 09.2 +1.3
baz=276,SNR=17
WRGLY Wrigley 79.12 27 P P 00 38 09.6 -0.1
WRGLY IAmb IAmb 00 38 13.1
comp=Z,61nm,0.9s
WRGLY IAMs_20 IAMs_20 01 09 43.1
comp=Z,4µm,22.0s
WRGLY Wrigley 79.12 27 P P 00 38 10.2 +0.5
baz=277,SNR=10
KOTAN Kotaneelee Air 79.21 31 P P 00 38 10.8 +0.5
baz=277,SNR=9.5
CBB Campbell River 79.76 41 IAMs_20 IAMs_20 01 15 46.9
comp=Z,3µm,19.0s
GEYT Alibeck 80.09 307 P P 00 38 16.0 +0.4
GEYT Alibeck 80.09 307 P P 00 38 15.7 +0.1
comp=Z,7.9nm,0.9s,baz=90,slow=2.1,SNR=9.3
GEYT LR LR 01 16 45.3
comp=Z,2µm,19.8s,baz=92,slow=38
comp=Z,7.9nm,0.9s
GEYT Alibeck 80.09 307 P P 00 38 16.0 +0.4
GEYT pmax pmax
comp=Z,72nm,1.3s
GYA0B ALIBECK ARRAY 80.09 307 P P 00 38 16.0 +0.4
C03A Quillayute Air 80.58 43 IAMs_20 IAMs_20 01 13 07.7
comp=Z,2µm,18.0s
CLRS Cowichan Lake 80.73 42 P P 00 38 19.7 +1.0
CLRS IAmb IAmb 00 38 41.3
comp=Z,97nm,1.4s
PGC Sidney 81.20 42 IAmb IAmb 00 38 28.2
comp=Z,60nm,1.1s
WISH Wiskah 81.24 44 IAmb IAmb 00 38 29.2
comp=Z,92nm,0.9s
E03A Lebam 81.48 44 P P 00 38 23.1 +0.4
HEBO Mount Hebo 81.57 46 IAMs_20 IAMs_20 01 13 54.1
comp=Z,3µm,19.0s
F03A Seaside 81.58 45 IAMs_20 IAMs_20 01 07 39.4
comp=Z,3µm,20.0s
KBO Bosley Butte 81.74 49 IAMs_20 IAMs_20 01 14 20.9
comp=Z,3µm,19.0s
J01E Myrtle Point 81.79 48 P P 00 38 28.1 +3.6
J01E IAmb IAmb 00 38 44.3
comp=Z,77nm,1.0s
J01E IAMs_20 IAMs_20 01 13 48.2
comp=Z,4µm,19.0s
GNW Green Mountain 81.80 43 P P 00 38 25.6 +1.2
GNW IAmb IAmb 00 38 45.4
comp=Z,61nm,1.1s
G03D McMinnville, O 81.91 46 IAMs_20 IAMs_20 01 14 15.2
comp=Z,3µm,19.0s
F04D Rainier, OR 81.93 45 IAMs_20 IAMs_20 01 07 39.7
comp=Z,3µm,21.0s
COR Corvallis 81.99 46 ⇓P P 00 38 30.7 +5.2
KSXB Camp Six Broad 82.06 49 IAMs_20 IAMs_20 01 07 23.5
comp=Z,3µm,21.0s
KRPM Rodgers 82.07 50 IAMs_20 IAMs_20 01 14 04.8
comp=Z,3µm,20.0s
KRMB Red Mountain 82.09 49 IAMs_20 IAMs_20 01 07 45.3
comp=Z,3µm,21.0s
WSAR Wadi Sarin 82.11 292 P P 00 38 26.2 -0.3
comp=Z,13nm,0.6s,baz=63,slow=9.0,SNR=5.8
WSAR LR LR 01 18 26.8
comp=Z,613nm,19.0s,baz=102,slow=38
comp=Z,13nm,0.6s
I03D Drain, OR 82.12 47 IAmb IAmb 00 38 54.7
comp=Z,78nm,1.3s
I03D IAMs_20 IAMs_20 01 10 05.7
comp=Z,4µm,20.0s
JCC Jacoby Creek, 82.13 50 IAMs_20 IAMs_20 01 09 23.2
comp=Z,3µm,20.0s
KMPM Mount Pierce 82.13 50 P P 00 38 27.4 +1.0
KMPM IAmb IAmb 00 38 37.3
comp=Z,68nm,1.0s
KMPM IAMs_20 IAMs_20 01 13 47.3
comp=Z,3µm,20.0s
KIRV Kirov 82.22 328 P P 00 38 26.2 -0.1
comp=Z,78nm,0.7s,baz=88,slow=4.5,SNR=30
KIRV LR LR 01 17 22.2
comp=Z,2µm,18.6s,baz=72,slow=38
comp=Z,78nm,0.7s
BUCK Buck Mountain 82.29 47 IAmb IAmb 00 38 33.1
comp=Z,105nm,0.9s
BUCK IAMs_20 IAMs_20 01 07 45.2
comp=Z,4µm,21.0s
DBO Dodson Butte 82.30 48 IAMs_20 IAMs_20 01 14 13.5
comp=Z,4µm,20.0s
KHMM Horse Mountain 82.34 50 P P 00 38 31.4 +3.7
KHMM IAmb IAmb 00 38 33.2
comp=Z,64nm,1.0s
KHMM IAMs_20 IAMs_20 01 13 54.8
comp=Z,3µm,20.0s
H04D Lebanon 82.40 46 IAmb IAmb 00 38 50.4
comp=Z,134nm,1.4s
H04D IAMs_20 IAMs_20 01 08 01.2
comp=Z,4µm,21.0s
D05A Enumclaw 82.43 43 IAmb IAmb 00 39 00.1
comp=Z,101nm,1.1s
HUMO Hull Mountain 82.60 48 IAmb IAmb 00 38 48.1
comp=Z,90nm,1.4s
HUMO IAMs_20 IAMs_20 01 14 04.5
comp=Z,4µm,19.0s
HUMO Hull Mountain 82.60 48 ⇑P P 00 38 30.7 +2.0
KCPM Cahto Peak 82.67 51 P P 00 38 29.3 0.0
KCPM IAmb IAmb 00 39 05.8
comp=Z,130nm,1.2s
H04A Detroit Lake 82.76 46 IAmb IAmb 00 38 34.6
comp=Z,53nm,1.0s
H04A IAMs_20 IAMs_20 01 14 41.6
comp=Z,3µm,19.0s
I04A Tendick Farm, 82.77 47 IAmb IAmb 00 38 48.2
comp=Z,64nm,1.2s
I04A IAMs_20 IAMs_20 01 10 36.9
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 82.94 49 P P 00 38 31.5 +0.9
YBH IAmb IAmb 00 38 36.4
comp=Z,47nm,0.9s
YBH IAMs_20 IAMs_20 01 07 52.6
comp=Z,3µm,20.0s
YBH Yreka Blue Hor 82.94 49 P P 00 38 31.5 +0.9
YBH pmax pmax
comp=Z,47nm,0.9s
CASY Casey 83.05 193 P P 00 38 30.5 +0.2
CASY IAmb IAmb 00 39 02.8
comp=Z,170nm,1.9s
CASY Casey 83.05 193 ⇓P P 00 38 31.3 +1.0
L04D Klamath Falls 83.14 48 IAmb IAmb 00 38 60.0
comp=Z,82nm,1.1s
L04D IAMs_20 IAMs_20 01 10 07.0
comp=Z,3µm,20.0s
YKAW3 Yellowknife Wh 83.22 27 IAMs_20 IAMs_20 01 13 00.6
comp=Z,4µm,21.0s
YKA Yellowknife Ar 83.24 27 P P 00 38 30.8 -0.8
YKA Yellowknife Ar 83.24 27 P P 00 38 31.9 +0.2
comp=Z,23nm,0.8s,baz=290,slow=5.8,SNR=71
YKA PKKPbc **PKKPbc** 00 56 51.1 -2.9
comp=Z,0.5nm,0.9s,baz=72,slow=19,SNR=3.1
YKA PKPPKP **P'P'df** 01 04 56.3 -3.4
comp=Z,0.6nm,1.0s,baz=101,slow=1.5,SNR=4.2
comp=Z,23nm,0.8s
YKA Yellowknife Ar 83.24 27 *i* P P 00 38 31.8 +0.2
YKA pmax pmax
comp=Z,25nm,0.8s
LTY Liberty 83.30 43 IAmb IAmb 00 38 41.0
comp=Z,39nm,0.9s
YKAW1 Yellowknife Wh 83.30 27 IAMs_20 IAMs_20 01 13 02.6
comp=Z,4µm,21.0s
I05D Terrebonne, OR 83.42 46 IAmb IAmb 00 38 55.4
comp=Z,72nm,1.3s
I05D IAMs_20 IAMs_20 01 15 03.2
comp=Z,4µm,19.0s
GDXM Geysers 83.43 52 IAMs_20 IAMs_20 01 12 33.9
comp=Z,2µm,19.0s
K04D Chiloquin, OR 83.46 48 P P 00 38 33.4 0.0
K04D IAMs_20 IAMs_20 01 14 42.5
comp=Z,3µm,18.0s
MCCM Marconi Confer 83.50 52 IAMs_20 IAMs_20 01 20 02.6
comp=Z,2µm,18.0s
J05D Fort Rock, OR 83.71 47 IAmb IAmb 00 38 40.2
comp=Z,61nm,1.0s
J05D IAMs_20 IAMs_20 01 08 29.8
comp=Z,3µm,21.0s
PINE Pine Mountain 83.81 47 P P 00 38 36.2 +1.0
PINE IAMs_20 IAMs_20 01 11 22.6
comp=Z,4µm,20.0s
BRLDA Berland Lookou 83.85 36 IAmb IAmb 00 38 44.8
comp=Z,67nm,0.9s
B08A Colville Reser 83.95 42 P P 00 38 35.5 -0.1
K05A Summer Lake 84.06 48 IAmb IAmb 00 38 44.5
comp=Z,86nm,1.1s
F07A Phinny Hill Vi 84.08 44 IAMs_20 IAMs_20 01 09 08.4
comp=Z,3µm,21.0s
ORV Oroville 84.27 51 IAmb IAmb 00 39 06.9
comp=Z,47nm,1.2s
BELG Belogornoye 84.60 322 P P 00 38 38.8 +0.1
comp=Z,157nm,1.0s,baz=57,slow=0.8,SNR=16
BELG LR LR 01 18 23.7
comp=Z,4µm,19.1s,baz=62,slow=37
comp=Z,157nm,1.0s
BELG Belogornoye 84.60 322 *ce*P P 00 38 37.6 -1.1
BELG pmax pmax
comp=Z,35nm,1.2s
BELG MLR MLR
comp=Z,596nm,19.0s
C09A Chrisman Ranch 84.76 42 IAmb IAmb 00 38 52.2
comp=Z,46nm,1.2s
I07A Izee 84.77 46 IAMs_20 IAMs_20 01 16 05.7
comp=Z,3µm,19.0s
AFDM Forest Hills D 84.80 51 IAmb IAmb 00 39 16.9
comp=Z,54nm,1.4s
SPA0 Spitsbergen Ar 84.83 351 *e*P P 00 38 40.0 +0.5
SPITS Spitsbergen Ar 84.83 351 P P 00 38 39.4 -0.1
comp=Z,88nm,1.1s,baz=39,slow=5.5,SNR=17
SPITS LR LR 01 15 52.0
comp=Z,830nm,21.7s,baz=7.0,slow=35
comp=Z,88nm,1.1s
SPITS Spitsbergen Ar 84.83 351 P P 00 38 38.7 -0.8
SPITS pmax pmax
comp=Z,179nm,1.3s
G08A Pilot Rock 84.87 45 IAMs_20 IAMs_20 01 09 23.5
comp=Z,3µm,21.0s
SAO San Andreas Ge 84.89 54 IAMs_20 IAMs_20 01 23 12.7
comp=Z,2µm,18.0s
KBS Kingsbay 84.97 352 P P 00 38 39.7 -0.4
KBS IAmb IAmb 00 38 44.3
comp=Z,53nm,0.9s
KBS Kingsbay 84.97 352 *e*P P 00 38 41.7 +1.5
KBS Kingsbay 84.97 352 ⇓P P 00 38 40.9 +0.7
KBS Kingsbay 84.97 352 ⇑*e*P P 00 38 41.6 +1.5
KBS pmax pmax
comp=Z,60nm,1.0s
KBS Kingsbay 84.97 352 *i* P P 00 38 40.2 0.0
RES Resolute Bay 85.11 13 IAmb IAmb 00 38 45.9
comp=Z,74nm,1.0s
RES IAMs_20 IAMs_20 01 18 30.9
comp=Z,3µm,21.0s
RES Resolute Bay 85.11 13 ⇑P P 00 38 40.8 -0.1
RES Resolute Bay 85.11 13 LR LR 01 16 12.6
comp=Z,1µm,21.9s,baz=314,slow=35
RES Resolute Bay 85.11 13 P P 00 38 40.8 -0.1
BBGB Big Mountain B 85.25 54 IAMs_20 IAMs_20 01 23 23.2
comp=Z,3µm,18.0s
NOR Nord 85.26 357 *i* P P 00 38 42.1 +0.6
NOR IAmb IAmb 00 38 44.8
comp=Z,12nm,0.9s
NEW Newport 85.41 42 IAMs_20 IAMs_20 01 16 07.3
comp=Z,3µm,20.0s
NEW Newport 85.41 42 IAmb IAmb 00 38 48.9
comp=Z,58nm,0.9s
NEW Newport 85.41 42 P P 00 38 43.2 +0.2
baz=284,SNR=32
NEW Newport 85.41 42 ⇓P P 00 38 43.8 +0.8
NEW Newport 85.41 42 P P 00 38 43.8 +0.8
MPK Martis Peak 85.44 51 P P 00 38 43.6 0.0
MPK IAmb IAmb 00 38 53.9
comp=Z,64nm,1.2s
MPK IAMs_20 IAMs_20 01 18 41.8
comp=Z,2µm,19.0s
CMB Columbia Colle 85.44 52 IAMs_20 IAMs_20 01 22 55.2
comp=Z,2µm,18.0s
PMPB Monarch Peak 85.52 54 IAMs_20 IAMs_20 01 22 28.3
comp=Z,2µm,18.0s
J08A Circle Bar Ran 85.66 47 IAmb IAmb 00 39 06.8
comp=Z,42nm,1.1s
J08A IAMs_20 IAMs_20 01 10 15.4
comp=Z,3µm,20.0s
LVZ Lovozero 85.74 339 P P 00 38 43.2 -1.0
LVZ IAMs_20 IAMs_20 01 21 29.7
comp=Z,3µm,18.0s
LVZ Lovozero 85.74 339 ⇓*e*P P 00 38 43.3 -1.0
LVZ pmax pmax
comp=Z,166nm,1.3s
LVZ Lovozero 85.74 339 P P 00 38 43.5 -0.7
comp=Z,136nm,1.1s,comp=Z,2µm
WVOR Wild Horse Val 85.75 48 IAmb IAmb 00 39 21.7
comp=Z,134nm,1.8s
WVOR IAMs_20 IAMs_20 01 16 35.1
comp=Z,3µm,19.0s
WVOR Wild Horse Val 85.75 48 ⇓P P 00 38 45.9 +1.0
WVOR Wild Horse Val 85.75 48 P P 00 38 45.9 +1.0

PNTR Pine Nut 85.81 51 IAmb IAmb 00 39 20.9
comp=Z,78nm,1.4s
ADZR Andozero 85.88 335 ⇓*i*P **P 00 38 44.2 -0.7**
ADZR *e*S **SKSac 00 49 09.8 +1.1**
ADZR pmax pmax
comp=Z,65nm,1.0s
F10A Beach Ranch, E 85.89 44 ⇑P **P 00 38 49.2 +3.7**
WAKR Walker 86.07 52 P **P 00 38 46.8 +0.1**
WAKR IAmb IAmb 00 39 23.9
comp=Z,65nm,1.5s
YERR Yerington 86.11 51 IAmb IAmb 00 39 23.0
comp=Z,102nm,1.6s
BMO Blue Mountains 86.12 45 IAmb IAmb 00 39 08.8
comp=Z,79nm,1.3s
BMO IAMs_20 IAMs_20 01 10 11.4
comp=Z,3µm,21.0s
BMO Blue Mountains 86.12 45 ⇓P **P 00 38 47.5 +0.8**
APA Apatity 86.31 339 ⇓*i*P **P 00 38 45.7 -1.3**
APA *i* PPP PPP 00 44 08.0
APA *i* S **SKSac 00 49 12.0 +0.7**
APA *i* PS **PnS 00 50 21.0 +0.5**
APA *i* SSS SSS 00 58 34.0
APA pmax pmax
comp=Z,121nm,1.0s
SMMC Simmler 86.36 55 P **P 00 38 49.9 +1.9**
baz=283
KLMR Klimovskoe 86.42 332 *e*P **P 00 38 45.6 -2.0**
KLMR S **SKSac 00 49 09.7 -2.5**
KLMR pmax pmax
comp=Z,132nm,1.3s
VADS Vadso 86.47 342 *e*P **P 00 38 47.6 -0.1**
MDPB Devils Postpil 86.54 52 IAmb IAmb 00 39 25.3
comp=Z,80nm,1.8s
MDPB IAMs_20 IAMs_20 01 24 03.3
comp=Z,2µm,18.0s
PKM Mcpherson Peak 86.60 55 P **P 00 38 49.8 +0.4**
baz=283,SNR=14
SBC Santa Barbara 86.78 56 P **P 00 38 49.4 -0.6**
baz=283
LHV Little Huntoon 86.84 52 IAmb IAmb 00 39 42.8
comp=Z,59nm,1.5s
LHV IAMs_20 IAMs_20 01 24 28.1
comp=Z,2µm,18.0s
SCZ2 Santa Cruz Isl 86.95 56 P **P 00 38 50.2 -0.6**
baz=283
NVAR Mina Array Bea 86.95 51 P **P 00 38 50.6 -0.5**
NVAR Mina Array Bea 86.95 51 P **P 00 38 51.9 +0.9**
comp=Z,11nm,0.8s,baz=263,slow=5.5,SNR=30
comp=Z,11nm,0.8s
PLID Pearl Lake 86.95 45 P **P 00 38 50.4 -0.5**
PLID IAmb IAmb 00 38 59.8
comp=Z,37nm,0.8s
PLID IAMs_20 IAMs_20 01 16 40.5
comp=Z,2µm,19.0s
KVN Kaiserville 86.95 51 IAmb IAmb 00 39 27.0
comp=Z,57nm,1.3s
KVN IAMs_20 IAMs_20 01 17 14.0
comp=Z,2µm,19.0s
VES Vestal, Richgr 86.96 54 P **P 00 38 50.8 0.0**
baz=284,SNR=9.5
MAK Makhachkala 87.02 313 *e*P **P 00 38 47.5 -3.5**
MAK *e* 00 42 14.2
MAK *e*PPP PPP 00 44 11.3
MAK *e* 00 49 11.6
MAK *e*SS SS 00 55 10.9 -0.2
MAK pmax pmax
comp=Z,428nm,1.6s
NV11 Mina Array Sit 87.06 51 IAmb IAmb 00 39 27.8
comp=Z,45nm,1.4s
NV11 IAMs_20 IAMs_20 01 24 21.9
comp=Z,2µm,18.0s
SNCC San Nicolas Is 87.21 57 P **P 00 38 52.3 +0.2**
baz=284
ARVC Arvin 87.33 55 P **P 00 38 52.7 +0.1**
baz=284
TIN Tinemaha, Big 87.34 53 P **P 00 38 52.2 -0.6**
baz=284
KEV Kevo 87.35 342 P **P 00 38 52.0 0.0**
KEV IAMs_20 IAMs_20 01 19 24.1
comp=Z,3µm,22.0s
KEV Kevo 87.35 342 ⇓P **P 00 38 51.6 -0.4**
KEV Kevo 87.35 342 P **P 00 38 52.0 0.0**
KEV pmax pmax
comp=Z,113nm,1.0s
DSP Deep Springs 87.46 52 IAmb IAmb 00 39 06.4
comp=Z,52nm,1.3s
DSP IAMs_20 IAMs_20 01 22 00.6
comp=Z,3µm,18.0s
MFID Camas Ranch 87.51 46 IAmb IAmb 00 38 58.8
comp=Z,71nm,1.0s
MFID IAMs_20 IAMs_20 01 17 53.4
comp=Z,3µm,19.0s
OSI Osito Audit: C 87.53 55 P **P 00 38 53.6 -0.1**
baz=284
Q09A Carvers 87.70 51 IAMs_20 IAMs_20 01 17 28.8
comp=Z,3µm,19.0s
LCH Last Change Ra 87.75 52 IAmb IAmb 00 39 31.7
comp=Z,54nm,1.5s
HAMF Hammerfest 87.83 344 *e*P **P 00 38 54.9 +0.6**
MSO Missoula 87.86 42 P **P 00 38 55.8 +0.7**
baz=286,SNR=6.4
ARA0 ARCESS Array S 87.92 342 *e*P **P 00 38 54.6 -0.2**
ARCES ARCESS Array B 87.92 342 P **P 00 38 53.6 -1.2**
ARCES ARCESS Array B 87.92 342 P **P 00 38 54.2 -0.5**
comp=Z,138nm,1.0s,baz=54,slow=6.2,SNR=60
ARCES LR LR 01 20 51.8
comp=Z,2µm,21.3s,baz=66,slow=37
comp=Z,138nm,1.0s
ARCES ARCESS Array B 87.92 342 P **P 00 38 53.6 -1.2**
ARCES pmax pmax
comp=Z,171nm,1.1s
DECC Green Verdugo 87.93 55 P **P 00 38 55.5 -0.1**
baz=284
GRAC Grapevine Rang 88.02 53 IAMs_20 IAMs_20 01 23 17.5
comp=Z,2µm,18.0s
EDW2 Edwards Air Fo 88.05 55 P **P 00 38 55.4 -0.8**
baz=284,SNR=6.2
SCI2 San Clemente I 88.07 57 P **P 00 38 56.9 +0.6**
baz=284
CIS Catalina Islan 88.07 56 P **P 00 38 56.1 -0.2**
baz=284
FMP Fort Macarthur 88.10 56 P **P 00 38 57.1 +0.8**
baz=284
LRMC Laurel Mtn Rad 88.15 54 P **P 00 38 57.2 +0.5**
baz=284,SNR=8.1
MPMC Manual Prospec 88.16 54 P **P 00 38 57.4 +0.5**
baz=285,SNR=46
GROC Groznyy 88.17 314 *e*P **P 00 38 56.8 +0.3**
GROC *e*S **SKSac 00 49 25.3 +1.7**
GROC pmax pmax
comp=Z,53nm,1.5s
OVMT Ovando 88.41 42 P **P 00 38 57.4 -0.4**
VRH Novokhopyorsk 88.45 322 *e*P **P 00 38 55.4 -2.2**
VRH pmax pmax
comp=Z,50nm,1.0s
VRH MLR MLR
comp=Z,2µm,16.0s
HLID Hailey 88.46 46 IAmb IAmb 00 39 03.4
comp=Z,28nm,0.9s
HLID IAMs_20 IAMs_20 01 11 34.5
comp=Z,2µm,21.0s
HLID Hailey 88.46 46 P **P 00 38 58.8 +0.6**
baz=286,SNR=41
HLID Hailey 88.46 46 ⇓P **P 00 38 59.3 +1.2**
TULEG Thule 88.48 8 IAmb IAmb 00 39 03.4
comp=Z,92nm,1.3s
FURC Furnace Creek, 88.55 53 P **P 00 38 59.1 +0.7**
baz=285,SNR=14
WCT Wildcat Mounta 88.65 53 IAmb IAmb 00 39 36.0
comp=Z,50nm,1.1s
QSM Queen of Sheba 88.67 54 IAmb IAmb 00 39 35.3
comp=Z,49nm,1.2s
GWY Greenwater Val 88.77 53 IAmb IAmb 00 39 36.5
comp=Z,48nm,1.2s
GWY IAMs_20 IAMs_20 01 26 27.3
comp=Z,2µm,18.0s
ELS Elsinore Mount 88.81 56 IAMs_20 IAMs_20 01 23 08.7
comp=Z,3µm,18.0s
GSC Goldstone, Bar 88.89 54 P **P 00 39 01.1 +0.9**
GSC Goldstone, Bar 88.89 54 P **P 00 39 00.7 +0.5**
baz=285,SNR=17
GSC Goldstone, Bar 88.89 54 P **P 00 39 01.1 +0.9**
GSC pmax pmax
comp=Z,28nm,1.0s
MURC Murrieta 89.01 56 P **P 00 39 00.3 -0.5**
baz=285
R11B Troy Canyon, C 89.03 51 IAmb IAmb 00 39 37.4
comp=Z,68nm,1.5s
R11B IAMs_20 IAMs_20 01 27 02.2
comp=Z,3µm,18.0s
R11B Troy Canyon, C 89.03 51 P **P 00 39 01.1 +0.2**
baz=286,SNR=23
S11A Rachel 89.10 52 IAmb IAmb 00 40 01.3
comp=Z,88nm,1.1s
S11A IAMs_20 IAMs_20 01 25 50.9
comp=Z,2µm,18.0s
SHOC Shoshone, Teco 89.15 53 P **P 00 39 01.6 +0.3**
baz=285,SNR=7.3
JOF Joensuu 89.16 335 *e*P **P 00 38 59.9 -0.8**
MOS Moscow 89.18 327 *e*P **P 00 38 58.5 -2.5**
MOS *e* 00 42 30.4
MOS pmax pmax
comp=Z,141nm,1.2s
MOS pmax pmax
comp=Z,200nm,1.4s
109C Camp Elliot, M 89.27 57 P **P 00 39 01.4 -0.5**
baz=285
NEEM North Greenlan 89.34 4 *i* P **P 00 39 01.5 -0.2**
NEEM IAmb IAmb 00 39 08.1
comp=Z,20nm,0.8s
JETT Jettan, Norway 89.38 343 *e*P **P 00 39 03.0 +1.3**
HEC Hector,Ludlow 89.39 55 P **P 00 39 02.0 -0.5**
baz=285,SNR=19
Q12A Willow Creek R 89.42 50 IAMs_20 IAMs_20 01 18 53.2
comp=Z,3µm,18.0s
GOF Gofitskoye 89.53 316 *ce*P **P 00 39 01.7 -1.1**
TUQ Turquoise Moun 89.55 54 P **P 00 39 03.2 -0.1**
baz=286,SNR=19
PFO Pinyon Flats O 89.60 56 P **P 00 39 04.1 +0.4**
PFO Pinyon Flats O 89.60 56 P **P 00 39 03.5 -0.1**
baz=285,SNR=8.1
PFO Pinyon Flats O 89.60 56 ⇑*e*P **P 00 39 04.4 +0.8**
PFO pmax pmax
comp=Z,40nm,1.0s
TPFO Pinon Flats 89.61 56 P **P 00 39 03.6 0.0**
baz=285,SNR=6.5
LPSR Galich'ya Gora 89.61 324 *e*P **P 00 39 01.1 -1.9**
LPSR pmax pmax
comp=Z,170nm,1.0s
LPSR MLR MLR
comp=Z,4µm,18.0s
PMD Palm Desert 89.66 56 IAmb IAmb 00 39 39.7
comp=Z,48nm,1.2s
PRN Pahroc Range 89.70 52 IAmb IAmb 00 39 39.0
comp=Z,43nm,1.2s
PRN IAMs_20 IAMs_20 01 23 42.8
comp=Z,3µm,19.0s
PRN Pahroc Range 89.70 52 ⇓P **P 00 39 06.4 +2.4**
TRO Tromso 89.74 344 *e*P **P 00 39 02.7 -0.6**
BOZ Bozeman (W) 89.76 43 P **P 00 39 04.8 +0.7**
baz=288,SNR=18
BOZ Bozeman (W) 89.76 43 ⇑P **P 00 39 05.6 +1.4**
GNI Garni 89.78 311 LR LR 01 23 11.1
comp=Z,2µm,19.1s,baz=45,slow=38
VORR Voronezh 89.78 323 *e*P **P 00 39 02.4 -1.4**
VORR pmax pmax
comp=Z,150nm,1.2s
SPR3 Spring Creek 3 89.80 50 IAmb IAmb 00 39 40.2
comp=Z,70nm,1.4s
SPR3 IAMs_20 IAMs_20 01 19 25.3
comp=Z,3µm,20.0s
MONP2 Monument Peak 89.82 56 P **P 00 39 03.5 -1.3**
baz=285,SNR=7.7
TRLG Trialeti 89.84 313 P **P 00 39 03.3 -1.3**
SHPR Sheep Range 89.86 53 IAmb IAmb 00 39 41.6
comp=Z,72nm,1.8s
BELC Belle Mtn. Jos 89.87 55 P **P 00 39 05.0 +0.1**
baz=285
CCX Cicese 89.89 57 IAMs_20 IAMs_20 01 14 37.3
comp=Z,4µm,20.0s
GMRC Granite Mounta 89.93 54 P **P 00 39 05.7 +0.5**
baz=286,SNR=19
VSR Storozhevoye 89.96 323 *e*P **P 00 39 03.2 -1.5**
VSR pmax pmax
comp=Z,50nm,1.0s
VSR MLR MLR
comp=Z,1µm,17.0s
VORD Divnogorie 89.97 323 *e*P **P 00 39 00.6 -4.2**
VORD pmax pmax
comp=Z,40nm,1.1s
OBN Obninsk 89.98 327 ⇓P **P 00 39 05.5 +0.8**
OBN Obninsk 89.98 327 P **P 00 39 03.0 -1.7**
OBN Obninsk 89.98 327 P **P 00 39 03.1 -1.5**
comp=Z,89nm,1.0s,baz=8.9,slow=2.0,SNR=22
OBN LR LR 01 22 17.5
comp=Z,3µm,19.0s,baz=58,slow=38
comp=Z,89nm,1.0s
OBN Obninsk 89.98 327 *c i*P **P 00 39 03.2 -1.5**
OBN *i* 00 39 04.7
OBN *i* *PP **pP 00 39 09.7 -1.7**
OBN PPP PPP 00 44 44.0
OBN *i* S **SKSac 00 49 33.0 -0.8**
OBN *i* 00 49 53.4
OBN *e* 00 51 37.4
OBN SS **SS 00 55 58.0 +4.7**
OBN SSS SSS 00 59 35.0
OBN pmax pmax
comp=Z,162nm,1.3s
OBN MLR MLR
comp=Z,3µm,18.0s
OBN Obninsk 89.98 327 P **P 00 39 03.5 -1.2**
comp=Z,124nm,1.2s,comp=Z,1µm
ONI Oni 89.99 314 P **P 00 39 04.7 -0.5**
DAG Danmarks Havn 90.02 356 ⇓P **P 00 39 03.4 -1.1**
DAG Danmarks Havn 90.02 356 P **P 00 39 03.4 -1.1**
DAG Danmarks Havn 90.02 356 *i* P **P 00 39 03.0 -1.5**
DAG IAmb IAmb 00 39 06.6
comp=Z,21nm,1.0s
KBZ Khabaz 90.03 315 P **P 00 39 03.9 -1.3**
comp=Z,17nm,1.1s,baz=155,slow=2.6,SNR=8.8
KBZ LR LR 01 26 05.5
comp=Z,1µm,18.1s,baz=52,slow=40
comp=Z,17nm,1.1s
KBZ Khabaz 90.03 315 *ce*P **P 00 39 04.6 -0.6**
KBZ MLR MLR
comp=Z,2µm,19.0s
VALR Valaam 90.05 334 *d i*P **P 00 39 03.7 -1.2**
VALR pmax pmax
comp=Z,116nm,1.1s
KVAR Kislovodsk Arr 90.10 315 P **P 00 39 04.0 -1.7**
comp=Z,4.2nm,0.8s,baz=35,slow=12,SNR=5.0
comp=Z,4.2nm,0.8s
KIV Kislovodsk 90.11 315 ⇑P **P 00 39 06.3 +0.6**
KIV Kislovodsk 90.11 315 P **P 00 39 04.2 -1.6**
KIV IAmb IAmb 00 39 17.6
comp=Z,42nm,1.1s
KIV IAMs_20 IAMs_20 01 24 34.9
comp=Z,2µm,19.0s
KIV Kislovodsk 90.11 315 *d i*P **P 00 39 06.4 +0.7**
KIV *e*SP **pP 00 39 12.2 -0.3**
KIV *i* 00 39 16.1
KIV *i* 00 42 32.8
KIV *i* S **SKSac 00 49 35.6 +0.3**
KIV *i* 00 49 57.0
KIV *i* PPS PPS 00 51 32.0
KIV SSS SSS 00 59 30.0
KIV pmax pmax
comp=Z,22nm,0.8s
KIV Kislovodsk 90.11 315 P **P 00 39 05.2 -0.5**
comp=Z,26nm,1.5s,comp=Z,455nm
HVU Hansel Valley 90.13 47 IAmb IAmb 00 39 38.8
comp=Z,80nm,1.4s
HVU IAMs_20 IAMs_20 01 12 38.9
comp=Z,3µm,21.0s
IKP In-Ko-Pah, Jac 90.14 57 P **P 00 39 05.4 -0.6**
baz=285
SHA1 Shidzhatmaz 90.19 315 *ce*P **P 00 39 07.3 +1.0**
EGMT Eagleton 90.20 40 P **P 00 39 06.1 +0.1**
baz=290
BGU Big Grassy Mou 90.20 48 IAMs_20 IAMs_20 01 15 07.8
comp=Z,3µm,20.0s
YUH Yuha Desert 90.29 57 P **P 00 39 07.3 +0.6**
YUH IAmb IAmb 00 39 38.9
comp=Z,61nm,1.4s
SWSC Sam W. Stewart 90.31 56 P **P 00 39 07.1 +0.4**
baz=286
V12A Nelson 90.31 53 IAmb IAmb 00 39 44.2
comp=Z,86nm,1.4s
V12A IAMs_20 IAMs_20 01 26 35.2
comp=Z,3µm,18.0s
BC3 Big Chuckawall 90.40 55 P **P 00 39 07.8 +0.4**
baz=286
ESJX Sierra Juarez 90.44 57 IAmb IAmb 00 39 19.6
comp=Z,42nm,1.3s
SPUT South Promonto 90.51 47 IAMs_20 IAMs_20 01 12 38.8
comp=Z,3µm,21.0s
IRM Iron Mountain 90.51 55 P **P 00 39 08.2 +0.4**
baz=286,SNR=9.0
DUG Dugway, Tooele 90.58 49 IAmb IAmb 00 39 32.4
comp=Z,35nm,1.1s
DUG IAMs_20 IAMs_20 01 19 10.8
comp=Z,3µm,19.0s
DUG Dugway, Tooele 90.58 49 P **P 00 39 08.2 +0.2**
baz=287,SNR=33
DUG Dugway, Tooele 90.58 49 ⇓P **P 00 39 09.2 +1.2**
DUG Dugway, Tooele 90.58 49 P **P 00 39 09.2 +1.2**
YFT Old Faithful 90.66 44 IAMs_20 IAMs_20 01 19 40.5
comp=Z,3µm,19.0s
VNDA Vanda 90.73 176 P **P 00 39 08.9 +1.2**
VNDA Vanda 90.73 176 P **P 00 39 07.5 -0.1**
comp=Z,6.1nm,1.0s,baz=320,slow=6.3,SNR=12
VNDA LR LR 01 18 31.3
comp=Z,565nm,19.7s,baz=346,slow=35
comp=Z,6.1nm,1.0s
VNDA Vanda 90.73 176 P **P 00 39 08.9 +1.2**
VNDA pmax pmax
comp=Z,11nm,1.1s
VTX Valle De La Tr 90.74 58 IAMs_20 IAMs_20 01 14 53.8
comp=Z,3µm,20.0s
NEE2 Needles Airpor 90.76 54 P **P 00 39 08.6 -0.2**
baz=286
IMW Indian Meadow 90.76 45 IAMs_20 IAMs_20 01 13 14.3
comp=Z,2µm,21.0s
FXWY Fox Creek 90.79 45 IAMs_20 IAMs_20 01 20 10.0
comp=Z,3µm,19.0s
KARS Kars 90.85 312 P **P 00 39 08.9 -0.3**
KARS Kars 90.85 312 P **P 00 39 09.0 -0.3**
KARS pmax pmax
comp=Z,116nm,0.9s
H17A Grant Village 90.85 44 IAmb IAmb 00 39 33.6
comp=Z,51nm,1.2s
H17A IAMs_20 IAMs_20 01 13 30.6
comp=Z,3µm,20.0s
H17A Grant Village 90.85 44 P **P 00 39 08.4 -1.0**
baz=289
FLWY Flagg Ranch 90.87 44 IAmb IAmb 00 39 22.1
comp=Z,38nm,0.9s
FLWY IAMs_20 IAMs_20 01 16 19.1
comp=Z,3µm,20.0s
TPAW Teton Pass 90.89 45 IAMs_20 IAMs_20 01 20 40.5
comp=Z,3µm,19.0s
CCUT Cedar City 90.94 51 IAMs_20 IAMs_20 01 26 11.7
comp=Z,2µm,18.0s
AHID Auburn Hatcher 91.01 46 IAmb IAmb 00 39 32.5
comp=Z,78nm,1.5s
AHID IAMs_20 IAMs_20 01 13 30.0
comp=Z,3µm,20.0s
AHID Auburn Hatcher 91.01 46 ⇑P **P 00 39 13.0 +2.9**
YMP Mirror Lake Pl 91.02 44 P **P 00 39 11.0 +0.7**
ERBR Yeremizino-Bor 91.03 317 *e*P **P 00 39 08.4 -1.4**
ERBR *e* 00 49 40.8
SNOW Snow King Moun 91.03 45 IAMs_20 IAMs_20 01 21 03.5
comp=Z,3µm,19.0s
HWUT Hardware Ranch 91.05 47 IAmb IAmb 00 39 28.8
comp=Z,50nm,1.3s
HWUT IAMs_20 IAMs_20 01 20 08.1
comp=Z,3µm,19.0s
HWUT Hardware Ranch 91.05 47 ⇑P **P 00 39 11.7 +1.4**
GUVIX Guadalupe Vict 91.07 57 IAMs_20 IAMs_20 01 17 40.6
comp=Z,3µm,19.0s
LOHW Long Hollow 91.09 45 IAmb IAmb 00 40 12.6
comp=Z,55nm,1.9s
LOHW IAMs_20 IAMs_20 01 20 55.9
comp=Z,2µm,19.0s
BLYC Blythe 91.12 55 IAmb IAmb 00 39 34.7
comp=Z,64nm,1.6s
SZCU Shurtz Canyon 91.14 51 P **P 00 39 10.5 -0.4**
SZCU IAMs_20 IAMs_20 01 24 08.9
comp=Z,2µm,18.0s
NLU North Lily Min 91.19 49 IAmb IAmb 00 39 33.4
comp=Z,32nm,1.2s
NLU IAMs_20 IAMs_20 01 19 50.0
comp=Z,3µm,20.0s
CTU Camp Tracy 91.20 48 IAmb IAmb 00 39 43.3
comp=Z,46nm,1.5s
CTU IAMs_20 IAMs_20 01 13 21.2
comp=Z,2µm,21.0s
W13A Hualapai Mount 91.25 54 IAMs_20 IAMs_20 01 20 50.9
comp=Z,3µm,18.0s
PDMCI Parker Dam,Lak 91.27 55 P **P 00 39 11.6 +0.4**
baz=286,SNR=14
TCUT Toone Canyon 91.31 47 P **P 00 39 11.9 +0.3**
TCUT IAMs_20 IAMs_20 01 13 26.2
comp=Z,4µm,21.0s
TCRU Three Creeks R 91.32 50 IAMs_20 IAMs_20 01 23 27.6
comp=Z,2µm,18.0s
MPU Maple Canyon 91.49 48 IAMs_20 IAMs_20 01 20 37.0
comp=Z,3µm,19.0s
KNB Kanab 91.51 52 IAmb IAmb 00 39 50.2
comp=Z,63nm,1.3s
MVU Marysvale 91.53 50 IAmb IAmb 00 39 17.7
comp=Z,63nm,1.0s
SFX San Felipe 91.60 58 IAMs_20 IAMs_20 01 15 31.7
comp=Z,2µm,20.0s
BCA Borcka 91.64 313 ⇑P **P 00 39 13.1 +0.3**
MTPU Mount Pierson 91.69 50 P **P 00 39 14.5 +1.0**
MTPU IAMs_20 IAMs_20 01 21 06.4
comp=Z,2µm,20.0s
PKCU Pink Cliffs 91.78 51 IAmb IAmb 00 39 52.0
comp=Z,63nm,1.3s
PKCU IAMs_20 IAMs_20 01 24 47.7
comp=Z,3µm,19.0s
STEI Steigen 91.87 343 *e*P **P 00 39 13.0 -0.2**
BSUT Blindstream Ca 91.96 48 IAMs_20 IAMs_20 01 13 35.4
comp=Z,3µm,21.0s
113A Mohawk Valley, 92.00 56 IAMs_20 IAMs_20 01 26 27.2
comp=Z,3µm,18.0s
FIA1 FINESS Array S 92.02 335 P **P 00 39 11.8 -2.3**
FINES FINESS Array B 92.02 335 P **P 00 39 12.7 -1.4**
comp=Z,26nm,0.7s,baz=72,slow=6.2,SNR=37
FINES LR LR 01 23 10.8
comp=Z,2µm,19.3s,baz=54,slow=37
comp=Z,26nm,0.7s
TMUT Trail Mountain 92.03 49 IAmb IAmb 00 39 44.3
comp=Z,65nm,1.9s
PDAR Pinedale Array 92.09 45 P **P 00 39 14.8 -0.3**
PDAR Pinedale Array 92.09 45 P **P 00 39 14.3 -0.8**
comp=Z,3.4nm,0.9s,baz=270,slow=1.2,SNR=18
PDAR PP **PP 00 42 56.5 +1.7**
comp=Z,4.2nm,1.1s,baz=316,slow=3.8,SNR=4.9
comp=Z,3.4nm,0.9s
VSLR Vesoyloye 92.09 315 *d i*P **P 00 39 14.9 +0.1**
VSLR pmax pmax
comp=Z,51nm,0.9s
VSLR MLR MLR
comp=Z,2µm,17.0s
U15A North Rim 92.10 52 IAmb IAmb 00 39 52.9
comp=Z,45nm,1.4s
KEF Keuruu 92.12 336 *e*P **P 00 39 13.9 -0.6**
FFC Flin Flon 92.12 32 P **P 00 39 14.6 -0.1**
FFC IAmb IAmb 00 39 38.8
comp=Z,40nm,1.2s
FFC Flin Flon 92.12 32 IAMs_20 IAMs_20 01 19 15.3
comp=Z,3µm,20.0s
FFC Flin Flon 92.12 32 P **P 00 39 14.6 -0.1**
FFC pmax pmax
comp=Z,40nm,1.3s
FFC MLR MLR
comp=Z,3µm,20.0s
Q16A Castle Valley 92.18 49 IAMs_20 IAMs_20 01 20 25.2
comp=Z,3µm,20.0s
FAUS Fauske 92.22 343 *e*P **P 00 39 14.9 0.0**
SOC Sochi 92.26 316 *e*P P 00 39 09.8 -5.8
SOC *e* 00 42 52.5
SOC *e*PPP PPP 00 44 51.4
SOC *e*S **SKSac 00 49 41.3 -6.1**
SOC pmax pmax
comp=Z,13nm,0.9s
Y14A Wickenburg 92.28 55 IAmb IAmb 00 39 21.4
comp=Z,22nm,0.9s
P17A Butcher Ranch, 92.32 49 P **P 00 39 16.5 +0.3**
VAF Ylistaro 92.47 337 *e*P **P 00 39 16.0 -0.1**
DBG Daneborg 92.52 356 *i*P **P 00 39 16.0 -0.1**
DBG IAmb IAmb 00 39 18.0
comp=Z,7.1nm,0.9s
SRU San Rafael Swe 92.59 49 IAMs_20 IAMs_20 01 20 47.2
comp=Z,2µm,20.0s
PIX Pinacate 92.60 57 IAMs_20 IAMs_20 01 17 55.0
comp=Z,3µm,19.0s
RDMU Red Mountain 92.81 47 P **P 00 39 19.4 +0.9**

RDMU IAmb IAmb 00 39 41.4
comp=Z,68nm,1.5s
RDMU IAMs_20 IAMs_20 01 14 25.8
comp=Z,3µm,21.0s
214A Organ Pipe Nat **93.01 56** P **P** **00 39 19.2 -0.2**
baz=287
WUAZ Wupatki **93.08 53** IAmb IAmb 00 39 25.6
comp=Z,28nm,0.9s
WUAZ IAMs_20 IAMs_20 01 24 13.5
comp=Z,3µm,19.0s
WUAZ Wupatki **93.08 53** P **P** **00 39 19.5 -0.3**
baz=288,SNR=11
ARBE Arbavere **93.12 334** *e*P **P** **00 39 18.7 -0.5**
MOR8 Moi Rana **93.29 342** *e*P **P** **00 39 19.2 -0.6**
VSU Vasula **93.30 332** *de*P **P** **00 39 19.1 -0.9**
VSU pmax pmax
comp=Z,82nm,1.1s
ANN Anapa **93.36 317** *e*P **P** **00 39 18.2 -2.4**
ANN *e* 00 49 53.4
ANN pmax pmax
comp=Z,53nm,0.9s
MEF Metsahovi **93.38 335** *e*P **P** **00 39 20.0 -0.3**
DGMT Dagmar **93.49 39** IAMs_20 IAMs_20 01 21 12.9
comp=Z,3µm,20.0s
STOK Stokkvaagen **93.60 343** *e*P **P** **00 39 21.3 0.0**
O20A White River Ci **93.91 48** IAMs_20 IAMs_20 01 21 42.9
comp=Z,3µm,19.0s
O20A White River Ci **93.91 48** P **P** **00 39 23.0 -0.6**
baz=290,SNR=6.3
RAF Rauma **93.99 336** *e*P **P** **00 39 22.8 -0.3**
RWWY Rawlins **94.09 46** IAMs_20 IAMs_20 01 22 09.6
comp=Z,3µm,19.0s
K22A Casper **94.22 45** P **P** **00 39 24.9 +0.1**
baz=292,SNR=7.3
MTSE Matsula **94.45 334** *e*P **P** **00 39 25.8 +0.5**
W18A Petrified Fore **94.48 53** P **P** **00 39 24.1 -2.2**
baz=289
TUC Tucson **94.55 56** P **P** **00 39 26.1 -0.4**
TUC Tucson **94.55 56** IAMs_20 IAMs_20 01 17 27.4
comp=Z,3µm,20.0s
TUC Tucson **94.55 56** P **P** **00 39 25.7 -0.8**
baz=288
SUMG Summit **94.70 1** ⇓P **P** **00 39 27.9 +1.1**
SUMG Summit **94.70 1** P **P** **00 39 27.8 +1.1**
SUMG Summit **94.70 1** *i* P **P** **00 39 26.0 -0.7**
SUMG IAmb IAmb 00 39 31.2
comp=Z,6.9nm,1.0s
MVCO Mesa Verde **94.73 50** IAMs_20 IAMs_20 01 24 08.0
comp=Z,3µm,19.0s
MVCO Mesa Verde **94.73 50** P **P** **00 39 26.9 -0.5**
baz=290
MNK Minsk **94.76 329** *i* P **P** **00 39 25.2 -1.6**
MNK *i* S **SKSac** **00 50 00.2 -0.4**
MNK *i* SS **SS** **00 57 03.2 +1.3**
MNK *i* SSS SSS 01 00 45.4
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=Z,14nm,1.0s
MNK pmax pmax
comp=E,7.0nm,1.3s
MNK MLR MLR
comp=E,1µm,17.0s
MNK MLR MLR
comp=N,2µm,18.0s
MNK MLR MLR
comp=Z,4µm,18.0s
SRIG Santa Rosalia **94.84 61** IAMs_20 IAMs_20 01 21 44.8
comp=Z,3µm,18.0s
IDID Didziasalis **94.92 330** *e*P **P** **00 39 27.8 +0.3**
SMCO Snowmass **95.17 48** IAMs_20 IAMs_20 01 18 21.2
comp=Z,3µm,21.0s
NSS Namsos **95.17 342** *e*P **P** **00 39 28.9 +0.4**
N23A Red Feather La **95.27 46** IAmb IAmb 00 40 02.5
comp=Z,48nm,1.4s
N23A IAMs_20 IAMs_20 01 22 38.8
comp=Z,3µm,19.0s
N23A Red Feather La **95.27 46** P **P** **00 39 28.6 -1.3**
baz=292
RSSD Black Hills **95.33 43** P **P** **00 39 29.6 -0.4**
RSSD IAmb IAmb 00 40 02.8
comp=Z,38nm,1.7s
RSSD Black Hills **95.33 43** IAMs_20 IAMs_20 01 27 15.0
comp=Z,3µm,19.0s
RSSD Black Hills **95.33 43** P **P** **00 39 29.3 -0.7**
baz=294
RSSD Black Hills **95.33 43** ⇑P **P** **00 39 32.8 +2.8**
RSSD Black Hills **95.33 43** P **P** **00 39 29.6 -0.4**
RSSD pmax pmax
comp=Z,38nm,1.7s
HSIG **95.42 59** IAMs_20 IAMs_20 01 14 48.0
comp=Z,3µm,20.0s
PHWY Pilot Hill **95.46 46** IAMs_20 IAMs_20 01 16 04.8
comp=Z,2µm,21.0s
SLIT Slitere, Latvi **95.73 333** *e*P **P** **00 39 30.6 -0.6**
AKASG Malin Array Be **95.89 325** P **P** **00 39 29.8 -2.3**
AKASG Malin Array Be **95.89 325** P **P** **00 39 30.1 -2.0**
comp=Z,7.5nm,0.9s,baz=50,slow=4.7,SNR=27
AKASG LR LR 01 25 44.1
comp=Z,5µm,18.9s,baz=54,slow=37
comp=Z,7.5nm,0.9s
AKASG Malin Array Be **95.89 325** P **P** **00 39 29.8 -2.3**
AKASG pmax pmax
comp=Z,23nm,1.3s
AKBB Malin Array Si **95.89 325** IAmb IAmb 00 39 35.9
comp=Z,25nm,1.1s
AKBB Malin Array Si **95.89 325** *ce*P **P** **00 39 29.8 -2.3**
AKBB Malin Array Si **95.89 325** P **P** **00 39 30.1 -2.0**
AK09 Malin Array Si **95.90 325** P **P** **00 39 30.7 -1.4**
AK01 Malin Array Si **95.91 325** P **P** **00 39 30.5 -1.6**
KIEV Kiev **95.91 325** ⇓P **P** **00 39 30.5 -1.6**
KIEV Kiev **95.91 325** P **P** **00 39 29.3 -2.8**
KIEV IAmb IAmb 00 39 35.9
comp=Z,20nm,1.1s
KIEV Kiev **95.91 325** ⇓P **P** **00 39 31.7 -0.5**
KIEV Kiev **95.91 325** ⇓P **P** **00 39 30.5 -1.6**
KIEV Kiev **95.91 325** P **P** **00 39 30.8 -1.3**
comp=Z,95nm,1.3s
AK08 Malin Array Si **95.91 325** P **P** **00 39 29.7 -2.4**
AK04 Malin Array Si **95.92 325** P **P** **00 39 29.9 -2.3**
ISCO Idaho Springs **95.92 47** IAMs_20 IAMs_20 01 18 29.0
comp=Z,3µm,20.0s
ISCO Idaho Springs **95.92 47** P **P** **00 39 32.3 -0.5**
baz=292
ISCO Idaho Springs **95.92 47** ⇑P **P** **00 39 35.6 +2.7**
ISCO Idaho Springs **95.92 47** P **P** **00 39 35.6 +2.7**
AK22 Malin Array Si **95.95 325** P **P** **00 39 30.6 -1.7**
AK15 Malin Array Si **95.95 325** P **P** **00 39 30.8 -1.6**
PABE Paberze **96.16 331** IAmb IAmb 00 39 49.8
comp=Z,23nm,0.9s
PABE Paberze **96.16 331** *e*P **P** **00 39 33.5 +0.4**
UPP Uppsala **96.33 336** *e*P **P** **00 39 34.0 +0.2**
SCO Scoresbysund **96.38 356** *i* P **P** **00 39 34.1 +0.3**
SCO IAmb IAmb 00 39 39.9
comp=Z,6.0nm,1.0s
E28A Huff **96.44 39** IAMs_20 IAMs_20 01 22 07.0
comp=Z,2µm,19.0s
MI30 MI30,Zelenitsa **96.45 325** P **P** **00 39 33.1 -1.5**
MDND Maddock **96.53 38** IAMs_20 IAMs_20 01 22 50.3
comp=Z,3µm,20.0s
MDND Maddock **96.53 38** P **P** **00 39 33.8 -1.3**
baz=297
BRIGG Briggsdale **96.53 46** IAMs_20 IAMs_20 01 23 37.2
comp=Z,2µm,19.0s
Q24A Divide **96.56 48** P **P** **00 39 34.4 -1.5**
baz=292
TBLU Trondheim **96.62 341** *e*P **P** **00 39 34.0 -1.1**
MI28 MI28,Pidlybu **96.64 326** P **P** **00 39 34.3 -1.2**
SDCO Great Sand Dun **96.77 49** IAMs_20 IAMs_20 01 23 14.6
comp=Z,2µm,19.0s
SDCO Great Sand Dun **96.77 49** P **P** **00 39 35.7 -1.0**
baz=292
SDCO Great Sand Dun **96.77 49** ⇑P **P** **00 39 39.1 +2.4**
NE56 Odesa **96.77 321** P **P** **00 39 34.3 -1.8**
MI29 MI29, Kamyanyy **96.80 325** P **P** **00 39 34.8 -1.4**
PBUR Paburge **96.82 332** *e*P **P** **00 39 35.1 -1.0**
121A Cookes Peak, D **96.87 55** P **P** **00 39 36.5 -0.6**
baz=290
ANMO Albuquerque **97.07 52** P **P** **00 39 37.1 -1.0**
ANMO Albuquerque **97.07 52** P **P** **00 39 37.0 -1.0**
baz=291
ANMO Albuquerque **97.07 52** LR LR 01 24 49.1
comp=Z,2µm,18.1s,baz=46,slow=36
ANMO Albuquerque **97.07 52** ⇑*e*P **P** Pdif 00 39 39.4 +1.2
ANMO pmax pmax
comp=Z,3.0nm,1.1s
ANMO MLR MLR
comp=Z,2µm,18.0s
LUBAR Lubar, Ukraine **97.09 325** P **P** **00 39 35.8 -1.8**
ILULI Ilulissat **97.29 6** IAMs_20 IAMs_20 01 21 46.3
comp=Z,3µm,22.0s
SUW Suwalki **97.36 330** *e*Pdif **P** **00 39 37.4 -1.3**
SUW Suwalki **97.36 330** IAmb IAmb 00 39 42.2
comp=Z,34nm,0.9s
SUW Suwalki **97.36 330** *e*P Pdif 00 39 38.9 +0.1
RNPP9 Sopachiv **97.37 327** P **P** **00 39 38.0 -0.7**
RNPP8 Varash **97.42 327** P **P** **00 39 37.4 -1.6**
LPIG La Paz **97.46 63** LR LR 01 17 24.4
comp=Z,1µm,19.6s,baz=269,slow=32
VIKU Vikbolandet **97.56 336** *e*P Pdif 00 39 40.2 +0.7
HFS Hagfors **97.64 338** P **P** **00 39 38.0 -1.8**
comp=Z,10nm,0.9s,baz=41,slow=4.7,SNR=12
HFS LR LR 01 25 59.2
comp=Z,805nm,19.7s,baz=45,slow=37
comp=Z,10nm,0.9s
HFS Hagfors **97.64 338** P **P** **00 39 38.0 -1.8**
NC405 NORSAR Array S **97.67 339** IAmb IAmb 00 39 41.0
comp=Z,36nm,1.0s
NC303 NORSAR Array S **97.71 339** IAmb IAmb 00 39 41.3
comp=Z,26nm,1.1s
T25A Trinidad **97.80 49** IAMs_20 IAMs_20 01 24 28.9
comp=Z,2µm,19.0s
T25A Trinidad **97.80 49** P **P** **00 39 40.5 -0.9**
baz=293
NB201 NORSAR Array S **97.86 339** IAmb IAmb 00 39 42.4
comp=Z,35nm,1.1s
NC204 NORSAR Array S **97.88 340** IAmb IAmb 00 39 42.2
comp=Z,34nm,0.9s
DOMB Dombas **97.88 341** *e*P **P** **00 39 40.7 -0.2**
NB2 NORSAR Subarra **97.89 339** P **P** **00 39 39.3 -1.7**
comp=Z,36nm,1.1s,baz=46,slow=5.1
NB2 NORSAR Subarra **97.89 339** P **P** **00 39 39.3 -1.7**
baz=46,slow=5.1
NOA NORSAR Array B **97.89 339** P **P** **00 39 39.3 -1.7**
comp=Z,15nm,0.9s,baz=48,slow=4.7,SNR=39
NOA PP **PP** **00 43 34.9 -4.1**
comp=Z,3.8nm,1.1s,baz=47,slow=8.5,SNR=3.3
NOA LR LR 01 27 07.7
comp=Z,1µm,19.4s,baz=45,slow=38
comp=Z,15nm,0.9s
BR131 Keskin Array S **97.93 314** P **P** **00 39 40.2 -1.6**
BR131 Keskin Array S **97.93 314** P **P** **00 39 40.2 -1.6**
BR131 pmax pmax
comp=Z,12nm,1.0s
BRTR Keskin Array B **97.93 314** P **P** **00 39 39.6 -2.1**
BRTR Keskin Array B **97.93 314** P **P** **00 39 41.1 -0.6**
comp=Z,7.1nm,0.9s,baz=78,slow=2.9,SNR=15
BRTR PKKPbc **PKKPbc** **00 56 15.8 -0.7**
comp=Z,0.7nm,0.8s,baz=26,slow=3.1,SNR=4.1
BRTR LR LR 01 27 59.9
comp=Z,1µm,21.3s,baz=62,slow=38
comp=Z,7.1nm,0.9s
MILM Milestii Mici **97.93 322** ⇓*e*P **P** **00 39 40.0 -1.4**
comp=Z,460nm,5.4s
MILM Milestii Mici **97.93 322** *i* PP PP 00 43 49.0 +9.3
MILM *e*SKS **SKSac** **00 50 18.0 +0.5**
MILM *e*S **ScS** **00 51 07.0 +0.5**
MILM *e*L L 01 13 49.0
MILM LQM 01 20 36.0
comp=Z,2µm,18.0s
MILM LRM MLR 01 28 13.0
comp=Z,3µm,18.0s
MILM Milestii Mici **97.93 322** *de*P **P** **00 39 40.0 -1.4**
MILM *e* 00 50 18.0
MILM *e*S **ScS** **00 51 07.0 +0.5**
MILM pmax pmax
comp=Z,460nm,5.4s
BR104 Keskin Array S **97.93 314** P **P** **00 39 40.3 -1.5**
comp=Z,8.0nm,1.1s,comp=Z,75nm
BR106 Keskin Array S **97.94 314** P **P** **00 39 40.4 -1.4**
comp=Z,11nm,1.1s,comp=Z,92nm
BR105 Keskin Array S **97.95 314** P **P** **00 39 40.3 -1.5**
OGNE Ogallala **97.98 45** IAMs_20 IAMs_20 01 20 06.3
comp=Z,2µm,20.0s
OGNE Ogallala **97.98 45** P **P** **00 39 40.6 -1.3**
baz=295
NC602 NORSAR Array S **98.00 339** IAmb IAmb 00 39 42.5
comp=Z,18nm,1.1s
NC602 NORSAR Array S **98.00 339** *e*P **P** **00 39 41.1 -0.3**
NBO00 NORSAR Array S **98.05 340** IAmb IAmb 00 39 42.8
comp=Z,33nm,1.1s
NAO01 NORSAR Array S **98.15 339** IAmb IAmb 00 39 43.5
comp=Z,26nm,1.1s
EPT El Paso **98.15 55** IAMs_20 IAMs_20 01 22 15.8
comp=Z,3µm,18.0s
KSCO Kaye Shedlock' **98.35 47** IAMs_20 IAMs_20 01 18 00.5
comp=Z,3µm,20.0s
KSCO Kaye Shedlock' **98.35 47** P **P** **00 39 41.4 -2.3**
baz=294
AKN Aaknes **98.43 342** *e*P Pdif 00 39 44.4 +1.1
ANTO Ankara **98.46 314** IAMs_20 IAMs_20 01 31 31.1
comp=Z,2µm,19.0s
SUSD Miller **98.49 41** P **P** **00 39 42.3 -1.8**
baz=297
KMPD K-Psdol'skiy **98.51 324** P **P** **00 39 41.3 -2.6**
AGMN Agassiz Nation **98.52 36** P **P** **00 39 43.0 -1.0**
baz=300
K30B Basset **98.86 43** IAMs_20 IAMs_20 01 30 42.5
comp=Z,2µm,20.0s
MAW Mawson **98.98 203** P Pdif 00 39 46.0 +0.5
comp=Z,8.7nm,1.0s,baz=50,slow=4.2,SNR=9.4
MAW PP **PP** **00 43 47.7 +0.1**
comp=Z,6.1nm,1.1s,baz=52,slow=11,SNR=5.0
MAW LR LR 01 21 40.1
comp=Z,1µm,20.5s,baz=73,slow=34
comp=Z,8.7nm,1.0s
MAW Mawson **98.98 203** P Pdif 00 39 46.0 +0.5
MNTX Cornudas Mount **99.07 55** P **Pdif** **00 39 45.0 -1.9**
baz=291
SKAR Skarslia **99.14 340** *e*P **Pdif** **00 39 46.7 +0.2**
LVV L'vov **99.21 326** *e*P **Pdif** **00 39 46.2 -0.9**
LVV *e* 00 43 51.2
LVV *e* 00 50 23.2
LVV *e*S **S** **00 51 12.6 -4.5**
LVV *e*PS **PS** **00 52 44.9 -1.5**
LVV pmax pmax
comp=Z,40nm,1.2s
MMAI Mount Meron Ar **99.22 307** P **Pdif** **00 39 47.1 -0.4**
comp=Z,27nm,1.1s,baz=81,slow=5.2,SNR=3.6
MMAI LR LR 01 29 03.6
comp=Z,694nm,21.9s,baz=349,slow=38
comp=Z,27nm,1.1s
FRB Frobisher Bay **99.28 15** LR LR 01 24 28.0
comp=Z,768nm,21.9s,baz=326,slow=35
MDUB Mudurnu **99.31 315** P **Pdif** **00 39 47.1 -0.8**
TESR Tescani **99.43 322** ⇑P **Pdif** **00 39 47.4 -0.8**
ATD Arta Tunnel **99.43 284** LR LR 01 22 11.9
comp=Z,12nm,21.6s,baz=60,slow=34
KONO Kongsberg **99.45 339** IAMs_20 IAMs_20 01 28 56.2
comp=Z,2µm,20.0s
KONO Kongsberg **99.45 339** ⇑*e*P **Pdif** **00 39 48.6 +0.7**
KONO pmax pmax
comp=Z,12nm,1.2s
KONO MLR MLR
comp=Z,1µm,16.0s
SFJD Kangerlussuaq **99.48 6** IAMs_20 IAMs_20 01 23 02.2
comp=Z,2µm,21.0s
SFJD Kangerlussuaq **99.48 6** LR LR 01 24 32.8
comp=Z,2µm,22.0s,baz=345,slow=35
VRI Vrincioaia **99.70 322** ⇓P **Pdif** **00 39 49.5 +0.1**
VRI Vrincioaia **99.70 322** ⇓P **Pdif** **00 39 49.5 +0.1**
BURAR Bucovina Array **99.71 324** ⇑P **Pdif** **00 39 49.2 -0.3**
BURAR Bucovina Array **99.71 324** ⇑P **Pdif** **00 39 49.2 -0.3**
BISRR Bisoca **99.87 321** ⇓P **Pdif** **00 39 48.0 -2.2**
KWP Kalwaria Pacla **100.04 326** *e*Pdif **Pdif** **00 39 50.9 +0.1**
TURR Turia **100.04 322** ⇓P **Pdif** **00 39 51.8 +0.9**
CSS Mathiatis **100.06 309** IAMs_20 IAMs_20 01 33 29.8
comp=Z,2µm,19.0s
OZUR **100.16 322** ⇑P **Pdif** **00 39 51.8 +0.4**
MSTX Muleshoe **100.25 52** P **Pdif** **00 39 50.7 -1.5**
baz=293
ECSD EROS Data Cent **100.31 41** IAMs_20 IAMs_20 01 25 45.6
comp=Z,2µm,20.0s
ECSD EROS Data Cent **100.31 41** P **Pdif** **00 39 50.3 -1.8**
baz=299
MLR Muntele Rosu **100.37 321** IAMs_20 IAMs_20 01 32 40.7
comp=Z,3µm,20.0s
MLR Muntele Rosu **100.37 321** P **Pdif** **00 39 51.9 -0.6**
comp=Z,5.4nm,1.1s,baz=326,slow=4.5,SNR=4.6
BGNE Belgrade **100.41 43** IAMs_20 IAMs_20 01 25 52.5
comp=Z,3µm,20.0s
HPIG **100.52 59** IAMs_20 IAMs_20 01 17 47.0
comp=Z,3µm,20.0s
KOLS Kolonicke sedl **100.66 326** *e*PDIFF **Pdif** **00 39 54.5 +0.9**
BMR Baia Mare **100.67 324** ⇓P **Pdif** **00 39 53.6 0.0**
BMR Baia Mare **100.67 324** ⇓P **Pdif** **00 39 53.6 0.0**
AMTX Amarillo **100.72 50** IAMs_20 IAMs_20 01 25 53.4
comp=Z,3µm,19.0s
STHS Stebnicka Huta **100.95 327** *e*PDIFF **Pdif** **00 39 55.7 +0.8**
STHS Stebnicka Huta **100.95 327** *e*P **Pdif** **00 39 55.7 +0.8**
CRVS Cervenica-Dubn **101.12 326** *e*PDIFF **Pdif** **00 39 57.1 +1.5**
CRVS Cervenica-Dubn **101.12 326** *e*P **Pdif** **00 39 57.2 +1.6**
CJR Cluj-Napoca **101.12 323** ⇑P **Pdif** **00 39 53.5 -2.2**
CJR Cluj-Napoca **101.12 323** ⇑P **Pdif** **00 39 53.5 -2.2**
EYMN Ely **101.19 35** P **Pdif** **00 39 54.7 -1.3**
baz=304
ARR Arges **101.22 322** ⇑P **Pdif** **00 39 55.8 -0.5**
TXAR Lajitas Array **101.31 56** P **Pdif** **00 39 57.5 +0.5**
comp=Z,2.8nm,1.1s,baz=278,slow=3.7,SNR=6.8
TXAR PKKPbc **PKKPbc** **00 56 05.7 -0.9**
comp=Z,0.9nm,0.9s,baz=125,slow=6.6,SNR=5.1
L34A Svendsen Farm, **101.32 42** IAMs_20 IAMs_20 01 29 45.4
comp=Z,2µm,19.0s
R32A Long Quarter, **101.38 46** IAMs_20 IAMs_20 01 26 24.4
comp=Z,2µm,19.0s
MARR Marisel-Cluj **101.42 324** ⇓P **Pdif** **00 39 57.5 +0.4**
NIE Niedzica **101.45 327** *e*Pdif **Pdif** **00 39 58.5 +1.4**
RGN Rugen **101.58 334** IAMs_20 IAMs_20 01 33 18.8
comp=Z,2µm,20.0s
DRGR **101.60 324** ⇑P **Pdif** **00 39 58.5 +0.6**
DRGR **101.60 324** ⇑P **Pdif** **00 39 58.5 +0.6**
U32A Winter Ranch, **102.07 48** IAMs_20 IAMs_20 01 24 40.9
comp=Z,2µm,20.0s
OK035 E0210 Rd and N **102.14 48** IAMs_20 IAMs_20 01 22 43.7
comp=Z,2µm,21.0s
N35A Tabor **102.34 43** IAMs_20 IAMs_20 01 25 31.4
comp=Z,2µm,20.0s
OK032 Salt Plains WL **102.45 47** IAMs_20 IAMs_20 01 23 06.0
comp=Z,3µm,20.0s
KSU1 Kansas State U **102.53 45** IAMs_20 IAMs_20 01 20 31.6
comp=Z,2µm,21.0s
KSU1 Kansas State U **102.53 45** P **Pdif** **00 40 02.0 -0.1**
baz=298
PSZ Piszkesteto **102.54 326** ⇑P **Pdif** **00 40 02.2 +0.1**
PSZ Piszkesteto **102.54 326** ⇑P **Pdif** **00 40 02.2 +0.1**
MORC Moravsky Berou **102.67 328** IAMs_20 IAMs_20 01 32 52.1
comp=Z,3µm,18.0s
MORC Moravsky Berou **102.67 328** *e*PDIFF **Pdif** **00 40 02.4 -0.2**
QSPA South Pole Qui **102.72 180** P **Pdif** **00 40 03.3 +1.0**
comp=Z,5.6nm,1.1s,baz=355,slow=0.5,SNR=4.5
QSPA PKKPbc **PKKPbc** **00 56 03.0 -1.5**
comp=Z,3.0nm,1.1s,baz=258,slow=6.7,SNR=2.9
CROK Carrier **102.75 48** IAMs_20 IAMs_20 01 22 23.9
comp=Z,2µm,21.0s
VYHS Vyhne **102.77 327** *e*PDIFF **Pdif** **00 40 03.2 +0.2**
VYHS Vyhne **102.77 327** *e*P **Pdif** **00 40 03.2 +0.2**
WMOK Wichita Mounta **102.94 50** P **Pdif** **00 40 03.5 -0.5**
baz=296
JAVC Velka Javorina **103.17 328** *e*PDIFF **Pdif** **00 40 06.0 +1.2**
BLOK Blackwell **103.19 47** IAMs_20 IAMs_20 01 29 14.4
comp=Z,3µm,20.0s
ABTX Abilene, Hawle **103.19 52** P **Pdif** **00 40 04.6 -0.7**
baz=295
SCIA State Center **103.39 41** IAMs_20 IAMs_20 01 28 18.1
comp=Z,2µm,20.0s
VRAC Vranov **103.45 328** *e*PDIFF **Pdif** **00 40 06.2 +0.2**
VRAC Vranov **103.45 328** Pdiff **Pdif** **00 40 05.7 -0.3**
comp=Z,2.2nm,0.7s,baz=69,slow=5.3,SNR=3.0
OK051 E0350 and S346 **103.57 47** IAMs_20 IAMs_20 01 21 01.6
comp=Z,2µm,21.0s
MODS Modra-Piesok **103.67 327** *e*PDIFF **Pdif** **00 40 08.9 +1.9**
KRUC Moravsky **103.70 328** *e*PDIFF **Pdif** **00 40 06.9 -0.2**
FNO Franklin **103.73 49** IAMs_20 IAMs_20 01 23 30.0
comp=Z,3µm,20.0s
BRG Berggiesshubel **103.75 331** *e*P **Pdif** **00 40 08.1 +0.9**
BRG Amp 00 40 09.5
comp=Z,8.2nm,1.4s
QUOK Quay **103.82 47** IAMs_20 IAMs_20 01 23 02.2
comp=Z,2µm,19.0s
OK031 S. Brethren Rd **103.82 48** IAMs_20 IAMs_20 01 32 19.3
comp=Z,2µm,19.0s
OK052 Battle Ridge R **103.83 48** IAMs_20 IAMs_20 01 32 26.5
comp=Z,2µm,19.0s
CLL Collm **103.91 331** IAMs_20 IAMs_20 01 31 11.5
comp=Z,2µm,19.0s
CLL Collm **103.91 331** *i* P **Pdif** **00 40 07.8 -0.1**
CLL *e* 00 50 46.0
CLL *e*S **Sdif** **00 51 58.0 +1.8**
CLL pmax pmax
comp=Z,13nm,1.3s
JCT Junction City **103.96 54** IAMs_20 IAMs_20 01 26 06.5
comp=Z,2µm,19.0s
JCT Junction City **103.96 54** P **Pdif** **00 40 08.1 -0.6**
baz=294
FRGS Fruska Gora **104.19 324** ⇑P **Pdif** **00 40 09.5 +0.2**
FRGS Fruska Gora **104.19 324** ⇑*i*P **Pdif** **00 40 06.4 -3.0**
FW03 Perrin-Whit E **104.22 51** IAMs_20 IAMs_20 01 29 20.1
comp=Z,3µm,19.0s
MORH Mrgy, Hungar **104.23 325** ⇑P **Pdif** **00 40 09.3 -0.2**
L40A Anamosa **104.57 40** IAMs_20 IAMs_20 01 27 39.2
comp=Z,2µm,21.0s
TUL3 Leonard **104.60 47** IAMs_20 IAMs_20 01 26 22.8
comp=Z,2µm,20.0s
E43A Lone Tree Farm **104.60 35** IAMs_20 IAMs_20 01 26 24.5
comp=Z,2µm,20.0s
ZAIG Zacatecas **104.61 62** IAMs_20 IAMs_20 01 23 42.7
comp=Z,2µm,19.0s
TEKS Tekeris **104.70 323** ⇑*i*P **Pdif** **00 40 10.4 -1.3**
JFWS Jewell Farm **104.71 39** IAMs_20 IAMs_20 01 28 37.8
comp=Z,2µm,20.0s
WHTX Lake Whitney, **105.14 52** IAMs_20 IAMs_20 01 26 16.5
comp=Z,2µm,20.0s
BBLS Lazi&#263i **105.17 323** ⇑*i*P **Pdif** **00 40 12.6 -1.2**
SJES Sjenica **105.17 322** ⇑*i*P **Pdif** **00 40 12.9 -1.0**
GERES GERESS Array B **105.21 329** Pdiff **Pdif** **00 40 12.4 -1.5**
comp=Z,0.2nm,0.3s,baz=253,slow=42,SNR=4.0
GERES PP **PKiKP** **00 44 28.6 +0.5**
comp=Z,1.2nm,0.8s,baz=25,slow=10,SNR=4.4
GERES PKKPbc **PKKPbc** **00 55 54.7 -1.1**
comp=Z,0.9nm,0.9s,baz=234,slow=4.5,SNR=4.8
HAPS Han Pijesak,Bl **105.31 323** ⇑*i*P **Pdif** **00 40 12.7 -1.8**
RUDO Rudo **105.33 322** ⇑*i*P **Pdif** **00 40 13.4 -1.1**
U38A Gravette **105.34 46** IAMs_20 IAMs_20 01 29 07.4
comp=Z,3µm,20.0s
P40A Paris **105.38 43** IAMs_20 IAMs_20 01 32 21.0
comp=Z,2µm,20.0s
S39A Bolivar **105.47 45** IAMs_20 IAMs_20 01 37 02.5
comp=Z,2µm,18.0s
N41A Harden Midland **105.53 41** IAMs_20 IAMs_20 01 28 56.9
comp=Z,2µm,19.0s
435B Jarrell **105.56 53** IAMs_20 IAMs_20 01 27 09.9
comp=Z,2µm,20.0s
L42A Oliver, Polo **105.57 39** IAMs_20 IAMs_20 01 28 56.7
comp=Z,2µm,20.0s
EF01 Eagle Ford 01 **105.64 55** IAMs_20 IAMs_20 01 26 25.1
comp=Z,3µm,19.0s
HHAR Hobbs **105.73 46** IAMs_20 IAMs_20 01 29 29.8
comp=Z,3µm,20.0s
GRA1 Grafenberg Arr **105.84 331** IAMs_20 IAMs_20 01 37 55.7
comp=Z,3µm,19.0s
R40A Maddies Statio **105.88 44** IAMs_20 IAMs_20 01 22 56.3
comp=Z,2µm,20.0s
A051A Mrakovica **105.93 325** ⇑*i*P **Pdif** **00 40 15.6 -1.6**
BLY Banja Luka **105.93 324** ⇑*i*P **Pdif** **00 40 16.2 -0.9**
PDG Podgorica **106.08 322** IAMs_20 IAMs_20 01 32 25.9
comp=Z,2µm,19.0s
PDG Podgorica **106.08 322** ⇑*i*P **Pdif** **00 40 16.8 -1.0**
MGRS Mrkonjic Grad **106.19 324** *e*P **Pdif** **00 40 16.2 -2.1**
CRES Cresnjev **106.23 326** *e*P **Pdif** **00 40 17.7 -0.7**
BRY Bratogost **106.24 322** *e*P **Pdif** **00 40 16.4 -2.3**
OBKA Obir **106.29 327** ⇑*i*P **Pdif** **00 40 10.5 -8.3**
TIR Tirane **106.32 320** IAMs_20 IAMs_20 01 33 52.5
comp=Z,2µm,20.0s
MGMO Mountain Grove **106.46 45** IAMs_20 IAMs_20 01 31 25.8
comp=Z,2µm,20.0s
A050A Klekovaca **106.47 324** ⇑*i*P **Pdif** **00 40 20.2 +0.6**
BOJS Bojanci **106.55 326** ⇑*i*P **Pdif** **00 40 19.8 0.0**
HDIL Hopedale **106.61 40** IAMs_20 IAMs_20 01 30 09.3
comp=Z,3µm,20.0s
CCM Cathedral Cave **106.69 44** IAMs_20 IAMs_20 01 22 37.7
comp=Z,2µm,22.0s
STON Ston **106.76 323** *e*P **Pdif** **00 40 19.9 -0.9**
MOIG Morelia **106.91 65** IAMs_20 IAMs_20 01 24 47.2
comp=Z,2µm,19.0s
M44A Midewin, Midew **106.92 39** IAMs_20 IAMs_20 01 28 52.4
comp=Z,2µm,20.0s
P43A Skaggs, Pawnee **106.97 41** IAMs_20 IAMs_20 01 27 22.9
comp=Z,2µm,21.0s

SLM	**Saint Louis**	**107.05**	**43**	IAMs_20	IAMs_20	01 30 36.2		
	comp=Z,2µm,20.0s							
EKA	**Eskdalemuir Ar**	**107.08**	**342**	Pdiff	**Pdif**	**00 40 21.7**	**-0.2**	
	comp=Z,4.0nm,0.9s,baz=24,slow=6.4,SNR=5.5							
EKA				PP	**PP**	**00 44 42.5**	**-5.1**	
	comp=Z,3.3nm,1.0s,baz=14,slow=9.1,SNR=3.5							
SABO	**M.te Sabotino**	**107.13**	**327**	IAMs_20	IAMs_20	01 33 20.6		
	comp=Z,5µm,19.0s							
FCAR	**Ozark Folk Cen**	**107.20**	**46**	IAMs_20	IAMs_20	01 23 37.6		
	comp=Z,3µm,21.0s							
FVM	**French Village**	**107.28**	**43**	IAMs_20	IAMs_20	01 29 41.2		
	comp=Z,2µm,20.0s							
T42A	**Van Buren**	**107.33**	**44**	IAMs_20	IAMs_20	01 30 07.8		
	comp=Z,2µm,20.0s							
WHAR	**Wooly Hollow**	**107.39**	**46**	IAMs_20	IAMs_20	01 30 27.6		
	comp=Z,1µm,19.0s							
STU	**Stuttgart**	**107.44**	**331**	IAMs_20	IAMs_20	01 33 15.8		
	comp=Z,2µm,18.0s							
CIMO	**Cimolais**	**107.52**	**328**	IAMs_20	IAMs_20	01 33 55.4		
	comp=Z,4µm,18.0s							
UALR	**University of**	**107.61**	**47**	IAMs_20	IAMs_20	01 25 36.5		
	comp=Z,3µm,20.0s							
Q44A	**Meyer Farm, Va**	**107.70**	**42**	IAMs_20	IAMs_20	01 29 49.4		
	comp=Z,2µm,20.0s							
LCAR	**Lake Charles**	**107.79**	**45**	IAMs_20	IAMs_20	01 23 45.0		
	comp=Z,3µm,21.0s							
PBMO	**Poplar Bluff**	**107.91**	**44**	IAMs_20	IAMs_20	01 30 55.2		
	comp=Z,2µm,19.0s							
SFIN	**Lafayette**	**108.09**	**40**	IAMs_20	IAMs_20	01 29 39.3		
	comp=Z,2µm,19.0s							
BFO	**Black Forest**	**108.15**	**331**	IAMs_20	IAMs_20	01 32 23.8		
	comp=Z,2µm,20.0s							
CGM3	**Cape Girardeau**	**108.16**	**43**	IAMs_20	IAMs_20	01 30 37.6		
	comp=Z,2µm,20.0s							
WLF	**Walferdange**	**108.16**	**333**	IAMs_20	IAMs_20	01 33 01.9		
	comp=Z,2µm,19.0s							
OLIL	**Olney**	**108.39**	**42**	IAMs_20	IAMs_20	01 30 28.6		
	comp=Z,2µm,19.0s							
HBAR	**Harrisburg**	**108.40**	**45**	IAMs_20	IAMs_20	01 24 03.2		
	comp=Z,3µm,21.0s							
FUORN	**Ofenpass-Fuorn**	**108.42**	**329**	IAMs_20	IAMs_20	01 34 06.1		
	comp=Z,2µm,19.0s							
PARMO	**Parma**	**108.44**	**44**	IAMs_20	IAMs_20	01 27 42.0		
	comp=Z,2µm,20.0s							
P46A	**Rosedale**	**108.46**	**40**	IAMs_20	IAMs_20	01 31 42.2		
	comp=Z,2µm,20.0s							
PVMO	**Portageville**	**108.61**	**44**	IAMs_20	IAMs_20	01 31 25.5		
	comp=Z,2µm,19.0s							
GNAR	**Gosnell**	**108.63**	**45**	IAMs_20	IAMs_20	01 24 43.1		
	comp=Z,2µm,21.0s							
PEBM	**Pemiscott Bayo**	**108.66**	**45**	IAMs_20	IAMs_20	01 30 57.9		
	comp=Z,2µm,19.0s							
HICK	**Hickman**	**108.86**	**44**	IAMs_20	IAMs_20	01 24 36.1		
	comp=Z,2µm,21.0s							
LNXT	**Lenox**	**108.92**	**44**	IAMs_20	IAMs_20	01 31 14.7		
	comp=Z,3µm,20.0s							
441A	**DeRidder**	**108.95**	**51**	IAMs_20	IAMs_20	01 30 00.4		
	comp=Z,2µm,19.0s							
GLAT	**Glass**	**108.96**	**44**	IAMs_20	IAMs_20	01 31 48.0		
	comp=Z,2µm,20.0s							
T45A	**Paducah**	**108.99**	**43**	IAMs_20	IAMs_20	01 38 35.6		
	comp=Z,2µm,18.0s							
USIN	**University of**	**109.11**	**42**	IAMs_20	IAMs_20	01 31 02.6		
	comp=Z,2µm,19.0s							
HALT	**Halls**	**109.12**	**45**	IAMs_20	IAMs_20	01 31 30.2		
	comp=Z,2µm,20.0s							
MET	**Memphis--Engin**	**109.13**	**46**	IAMs_20	IAMs_20	01 24 36.6		
	comp=Z,3µm,21.0s							
BLO	**Bloomington**	**109.15**	**40**	IAMs_20	IAMs_20	01 31 43.5		
	comp=Z,2µm,20.0s							
GUMA	**Gualdo di Mace**	**109.16**	**325**	IAMs_20	IAMs_20	01 33 44.1		
	comp=Z,2µm,20.0s							
UTMT	**University of**	**109.21**	**44**	IAMs_20	IAMs_20	01 34 31.4		
	comp=Z,2µm,19.0s							
FDMO	**Fiordimonte**	**109.31**	**325**	IAMs_20	IAMs_20	01 33 48.2		
	comp=Z,2µm,20.0s							
INTR	**Introdacqua**	**109.50**	**324**	IAMs_20	IAMs_20	01 35 58.3		
	comp=Z,2µm,18.0s							
TIP	**Timpagrande**	**109.51**	**320**	IAMs_20	IAMs_20	01 36 33.9		
	comp=Z,2µm,22.0s							
CUC	**Castrocucco**	**109.61**	**321**	IAMs_20	IAMs_20	01 38 40.4		
	comp=Z,2µm,20.0s							
PAOL	**Paolisi**	**109.73**	**323**	IAMs_20	IAMs_20	01 38 14.4		
	comp=Z,2µm,21.0s							
WCI	**Wyandotte Cave**	**109.84**	**41**	IAMs_20	IAMs_20	01 31 47.0		
	comp=Z,2µm,20.0s							
CESX	**Cesi**	**109.88**	**325**	IAMs_20	IAMs_20	01 34 17.9		
	comp=Z,2µm,19.0s							
WVT	**Waverly**	**110.03**	**44**	IAMs_20	IAMs_20	01 32 01.7		
	comp=Z,2µm,20.0s							
T47A	**Sharon Grove**	**110.03**	**43**	IAMs_20	IAMs_20	01 40 27.0		
	comp=Z,2µm,19.0s							
P49A	**Miami Univ. Ec**	**110.06**	**39**	P	**PKiKP**	**00 44 36.2**	**-1.1**	
	baz=307							
PLAL	**Pickwick Lake**	**110.49**	**45**	IAMs_20	IAMs_20	01 25 28.1		
	comp=Z,2µm,21.0s							
R49A	**Shelbyville**	**110.52**	**40**	IAMs_20	IAMs_20	01 32 46.8		
	comp=Z,2µm,20.0s							
CEL	**Celeste**	**110.60**	**320**	IAMs_20	IAMs_20	01 37 23.8		
	comp=Z,2µm,20.0s							
CLTN	**Cedars of Leba**	**111.05**	**43**	IAMs_20	IAMs_20	01 31 58.1		
	comp=Z,2µm,20.0s							
R50A	**Paris**	**111.06**	**40**	IAMs_20	IAMs_20	01 31 22.0		
	comp=Z,2µm,20.0s							
ERPA	**Erie**	**111.19**	**35**	P	**PKiKP**	**00 44 38.5**	**-0.9**	
	baz=312							
Z47A	**Carrollton**	**111.46**	**46**	IAMs_20	IAMs_20	01 27 54.4		
	comp=Z,2µm,20.0s							
X48A	**Hartselle**	**111.49**	**45**	IAMs_20	IAMs_20	01 26 09.0		
	comp=Z,3µm,21.0s							
P52A	**Corning**	**111.57**	**38**	P	**PKiKP**	**00 44 40.4**	**+0.2**	
	baz=309							
WBO	**Williamsburg**	**111.63**	**30**	IAMs_20	IAMs_20	01 30 14.9		
	comp=Z,2µm,22.0s							
O53A	**New Philadelph**	**111.72**	**37**	P	**PKiKP**	**00 44 41.1**	**+0.7**	
	baz=310							
SWET	**Sewanee**	**111.82**	**44**	IAMs_20	IAMs_20	01 33 33.4		
	comp=Z,2µm,20.0s							
S51A	**Beattyville**	**111.91**	**40**	IAMs_20	IAMs_20	01 31 49.6		
	comp=Z,2µm,20.0s							
MNTQ	**Montreal, Queb**	**112.04**	**29**	IAMs_20	IAMs_20	01 33 40.8		
	comp=Z,2µm,20.0s							
SSB	**Saint Sauveur**	**112.16**	**331**	IAMs_20	IAMs_20	01 36 41.8		
	comp=Z,1µm,19.0s							
LONY	**Lake Ozonia**	**112.24**	**30**	P	**PKiKP**	**00 44 40.6**	**-0.7**	
	baz=318							
W50A	**Signal Mountai**	**112.24**	**43**	IAMs_20	IAMs_20	01 32 34.2		
	comp=Z,2µm,20.0s							
LRAL	**Lakeview Retre**	**112.31**	**46**	P	**PKiKP**	**00 44 40.8**	**-0.9**	
	baz=304							
FPAL	**Fort Paine**	**112.42**	**44**	IAMs_20	IAMs_20	01 42 11.4		
	comp=Z,2µm,18.0s							
TZTN	**Tazewell**	**112.60**	**41**	IAMs_20	IAMs_20	01 29 33.6		
	comp=Z,2µm,20.0s							
TZTN	**Tazewell**	**112.60**	**41**	P	**PKiKP**	**00 44 41.4**	**-0.8**	
	baz=307							
CPCT	**Cooper Cave**	**112.62**	**43**	IAMs_20	IAMs_20	01 33 12.6		
	comp=Z,2µm,20.0s							
D62A	**Allapoint, All**	**112.82**	**25**	IAMs_20	IAMs_20	01 35 32.7		
	comp=Z,2µm,20.0s							
NCB	**Newcomb**	**112.89**	**30**	IAMs_20	IAMs_20	01 36 39.4		
	comp=Z,2µm,20.0s							
MCWV	**Mont Chateau**	**112.90**	**37**	P	**PKiKP**	**00 44 42.1**	**-0.6**	
	baz=311							
X51A	**Calhoun**	**112.91**	**44**	IAMs_20	IAMs_20	01 32 34.0		
	comp=Z,2µm,20.0s							
TKL	**Tuckaleechee C**	**112.99**	**42**	IAMs_20	IAMs_20	01 33 38.9		
	comp=Z,2µm,20.0s							
V52A	**Sevierville**	**112.99**	**42**	IAMs_20	IAMs_20	01 33 59.0		
	comp=Z,2µm,20.0s							
BINY	**Binghamton**	**113.29**	**32**	P	**PKiKP**	**00 44 42.0**	**-1.4**	
	baz=316							
VT1	**Waterbury**	**113.33**	**29**	IAMs_20	IAMs_20	01 31 56.1		
	comp=Z,2µm,20.0s							
SSPA	**Standing Stone**	**113.36**	**35**	P	**PKiKP**	**00 44 42.7**	**-0.8**	
	baz=313							
F62A	**Pittston Farm,**	**113.38**	**26**	IAMs_20	IAMs_20	01 34 23.6		
	comp=Z,2µm,20.0s							
ACCN	**Adirondack Com**	**113.60**	**30**	IAMs_20	IAMs_20	01 33 26.8		
	comp=Z,3µm,21.0s							
V53A	**Saluda**	**113.61**	**42**	IAMs_20	IAMs_20	01 34 37.2		
	comp=Z,2µm,20.0s							
U54A	**Nelsons Funny**	**113.72**	**40**	IAMs_20	IAMs_20	01 32 45.9		
	comp=Z,2µm,19.0s							
VSL	**Villasalto**	**113.75**	**324**	IAMs_20	IAMs_20	01 36 26.7		
	comp=Z,2µm,20.0s							
LBNH	**Lisbon**	**113.78**	**28**	IAMs_20	IAMs_20	01 34 52.6		
	comp=Z,2µm,20.0s							
LBNH	**Lisbon**	**113.78**	**28**	P	**PKiKP**	**00 44 43.7**	**-0.6**	
	baz=320							
Y52A	**Lilburn**	**113.86**	**44**	IAMs_20	IAMs_20	01 37 28.0		
	comp=Z,2µm,20.0s							
H62A	**Milan**	**113.88**	**28**	IAMs_20	IAMs_20	01 32 29.1		
	comp=Z,3µm,21.0s							
F63A	**Nahmakanta, Br**	**113.90**	**26**	IAMs_20	IAMs_20	01 34 49.4		
	comp=Z,2µm,20.0s							
BG3	**Lake Jocassee**	**113.94**	**42**	IAMs_20	IAMs_20	01 34 31.0		
	comp=Z,2µm,20.0s							
HNH	**Hanover**	**114.02**	**29**	IAMs_20	IAMs_20	01 32 17.0		
	comp=Z,2µm,20.0s							
152A	**Waverly Hall**	**114.10**	**45**	IAMs_20	IAMs_20	01 35 39.6		
	comp=Z,2µm,20.0s							
BLA	**Blacksburg**	**114.15**	**39**	P	**PKiKP**	**00 44 44.4**	**-0.8**	
	baz=310							
PKME	**Peaks-Kenny Pk**	**114.17**	**26**	IAMs_20	IAMs_20	01 35 08.5		
	comp=Z,2µm,20.0s							
I62A	**Tamworth**	**114.34**	**28**	IAMs_20	IAMs_20	01 31 36.3		
	comp=Z,2µm,21.0s							
V55A	**Taylorsville**	**114.51**	**40**	IAMs_20	IAMs_20	01 31 05.1		
	comp=Z,2µm,21.0s							
451A	**Vernon**	**114.52**	**48**	IAMs_20	IAMs_20	01 27 15.1		
	comp=Z,3µm,22.0s							
GOGA	**Godfrey**	**114.52**	**44**	P	**PKiKP**	**00 44 45.9**	**0.0**	
	baz=306							
I63A	**Otisfield**	**114.55**	**28**	IAMs_20	IAMs_20	01 32 37.8		
	comp=Z,3µm,22.0s							
WVL	**Waterville**	**114.56**	**27**	IAMs_20	IAMs_20	01 33 21.9		
	comp=Z,2µm,21.0s							
L61B	**Northampton**	**114.78**	**30**	IAMs_20	IAMs_20	01 33 53.1		
	comp=Z,2µm,20.0s							
L61B	**Northampton**	**114.78**	**30**	P	**PKiKP**	**00 44 45.3**	**-0.9**	
	baz=319							
SDMD	**Soldier's Deli**	**114.78**	**35**	IAMs_20	IAMs_20	01 37 18.6		
	comp=Z,2µm,20.0s							
K62A	**Royalston**	**114.83**	**30**	IAMs_20	IAMs_20	01 40 48.5		
	comp=Z,2µm,20.0s							
HODGE	**Hodges**	**114.84**	**42**	IAMs_20	IAMs_20	01 35 18.9		
	comp=Z,2µm,20.0s							
KMSC	**Kings Mountain**	**114.88**	**41**	IAMs_20	IAMs_20	01 30 54.9		
	comp=Z,2µm,21.0s							
KMSC	**Kings Mountain**	**114.88**	**41**	P	**PKiKP**	**00 44 45.0**	**-1.6**	
	baz=309							
G65A	**Princeton**	**114.94**	**25**	IAMs_20	IAMs_20	01 36 03.1		
	comp=Z,2µm,19.0s							
QUA2	**Belchertown**	**115.07**	**30**	IAMs_20	IAMs_20	01 40 36.7		
	comp=Z,2µm,19.0s							
PAL	**Palisades**	**115.23**	**32**	P	**PKiKP**	**00 44 46.6**	**-0.5**	
	baz=317							
HRV	**Adam Dziewonsk**	**115.28**	**29**	P	**PKPdf**	**00 44 47.4**	**+0.2**	
	baz=320							
EMMW	**East Machias**	**115.39**	**25**	IAMs_20	IAMs_20	01 36 26.8		
	comp=Z,2µm,20.0s							
JSC	**Jenkinsville**	**115.46**	**42**	IAMs_20	IAMs_20	01 45 06.4		
	comp=Z,2µm,18.0s							
WES	**Weston**	**115.48**	**29**	IAMs_20	IAMs_20	01 37 12.7		
	comp=Z,2µm,20.0s							
UCCT	**U. Connecticut**	**115.49**	**30**	IAMs_20	IAMs_20	01 40 52.0		
	comp=Z,2µm,19.0s							
W57A	**Gilead**	**115.73**	**40**	IAMs_20	IAMs_20	01 34 08.3		
	comp=Z,2µm,20.0s							
CEST	**Esterri de Car**	**115.74**	**331**		**PKPdf**	**00 44 48.4**	**+0.2**	
CEST				IAMs_20	IAMs_20	01 39 31.6		
	comp=Z,3µm,19.0s							
BIRD	**Birdtown, Kers**	**115.75**	**41**	IAMs_20	IAMs_20	01 35 23.9		
	comp=Z,2µm,20.0s							
V58A	**Windy Hill, Pi**	**115.86**	**39**	IAMs_20	IAMs_20	01 34 08.8		
	comp=Z,2µm,20.0s							
L64A	**Middleborough**	**116.06**	**29**	IAMs_20	IAMs_20	01 35 41.9		
	comp=Z,2µm,20.0s							
Y57A	**Sumter**	**116.19**	**42**	IAMs_20	IAMs_20	01 45 13.6		
	comp=Z,2µm,18.0s							
KEST	**Kesra**	**116.27**	**321**	IAMs_20	IAMs_20	01 40 28.6		
	comp=Z,1µm,19.0s							
KEST	**Kesra**	**116.27**	**321**	PKP	**PKPdf**	**00 44 49.1**	**-0.2**	
	comp=Z,4.8nm,1.0s,baz=13,slow=5.1,SNR=5.2							
M65A	**Busby, Falmout**	**116.44**	**30**	IAMs_20	IAMs_20	01 35 42.9		
	comp=Z,2µm,20.0s							
TROLL	**Troll, Antarti**	**116.88**	**192**	⇑PKiKP	**PKiKP**	**00 44 50.4**	**+0.9**	
	comp=Z,193nm,0.8s							
257A	**Skidaway Islan**	**117.03**	**44**	IAMs_20	IAMs_20	01 36 11.1		
	comp=Z,2µm,20.0s							
Y60A	**Bolivia**	**117.59**	**40**	IAMs_20	IAMs_20	01 32 35.5		
	comp=Z,2µm,20.0s							
SNAA	**Sanae**	**118.19**	**191**	⇑PKPdf	**PKPdf**	**00 44 50.3**	**-1.6**	
	comp=Z,47nm,0.6s							
SNAA	**Sanae**	**118.19**	**191**	PKP	**PKPdf**	**00 44 51.8**	**-0.1**	
	comp=Z,4.1nm,1.0s,baz=220,slow=7.9,SNR=4.1							
DWPF	**Disney Wildern**	**119.04**	**47**	IAMs_20	IAMs_20	01 30 26.7		
	comp=Z,2µm,22.0s							
DWPF	**Disney Wildern**	**119.04**	**47**	P	**PKPdf**	**00 44 54.3**	**-0.5**	
	baz=306							
ECHE	**Chera**	**119.13**	**331**	PKP	**PKiKP**	**00 44 55.9**	**+1.1**	
UCM	**Universidad Co**	**119.61**	**333**	PKP	**PKiKP**	**00 44 57.9**	**+2.2**	
VNA2	**Neumayer--Watz**	**119.63**	**190**	⇑PKPdf	**PKiKP**	**00 44 54.8**	**+0.1**	
	comp=Z,9.9nm,0.7s,baz=155,slow=1.4							
VNA3	**Neumayer Olymp**	**119.72**	**189**	⇑PKiKP	**PKiKP**	**00 44 55.3**	**+0.5**	
	comp=Z,7.2nm,0.9s							
ECAL	**Calabor**	**119.72**	**336**	PKP	**PKiKP**	**00 44 57.3**	**+1.4**	
PBRG	**Braganca**	**119.84**	**336**	*e*PKPdf	**PKiKP**	**00 44 58.2**	**+2.1**	
VNA1	**Neumayer--Stat**	**120.01**	**190**	⇑PKiKP	**PKiKP**	**00 44 56.1**	**+0.7**	
	comp=Z,10nm,1.0s							
PGAV	**Gavieira, Arco**	**120.28**	**337**	*e*PP	**PP**	**00 46 27.0**	**+5.3**	
PGAV				*e*SKS	**SKSdf**	**00 52 05.9**	**-1.7**	
PGAV	**Gavieira, Arco**	**120.28**	**337**	*e*LR	LR	01 31 24.2		
	comp=Z,2µm,18.0s							
PCAB	**Cabril**	**120.41**	**337**	*e*PKPdf	**PKiKP**	**00 44 59.6**	**+2.4**	
060A	**Indiantown**	**120.44**	**48**	IAMs_20	IAMs_20	01 31 40.7		
	comp=Z,2µm,21.0s							
ESDC	**Sonseca Array**	**120.45**	**333**	PKP	**PKiKP**	**00 44 57.6**	**+0.2**	
	comp=Z,3.3nm,0.9s,baz=2.7,slow=3.1,SNR=11							
ESDC				PP	**PP**	**00 46 21.4**	**-1.5**	
	comp=Z,5.4nm,1.0s,baz=31,slow=7.8,SNR=9.7							
ESDC				PKKPbc	**PKKPbc**	**00 55 03.9**	**-0.6**	
	comp=Z,1.4nm,1.0s,baz=230,slow=2.9,SNR=6.5							
MVO	**Moncorvo**	**120.49**	**336**	*e*PKPdf	**PKiKP**	**00 45 00.0**	**+2.6**	
MVO	**Moncorvo**	**120.49**	**336**	*e*PP	**PP**	**00 46 27.5**	**+4.4**	
MVO				*e*SKS	**SKSdf**	**00 52 06.5**	**-1.4**	
MVO	**Moncorvo**	**120.49**	**336**	*e*LR	LR	01 30 21.4		
	comp=Z,2µm,18.0s							
POLO	**Lamas de Olo**	**120.61**	**337**	*e*PKPdf	**PKiKP**	**00 45 00.9**	**+3.2**	
PVRL	**Vila Real**	**120.67**	**337**	*e*PKPdf	**PKiKP**	**00 44 58.8**	**+1.1**	
PAB	**San Pablo**	**120.72**	**333**	IAMs_20	IAMs_20	01 42 11.4		
	comp=Z,2µm,19.0s							
PVIS	**Viseu**	**121.22**	**336**	*e*PKPdf	**PKiKP**	**00 45 01.1**	**+2.3**	
TGUH	**Tegucigalpa,Un**	**121.35**	**65**	IAMs_20	IAMs_20	01 33 54.6		
	comp=Z,1µm,20.0s							
MTE	**Manteigas**	**121.35**	**336**	*e*PKPdf	**PKiKP**	**00 45 00.2**	**+1.1**	
MTE	**Manteigas**	**121.35**	**336**	*e*PP	**PP**	**00 46 34.3**	**+5.3**	
MTE				*e*SKS	**SKSac**	**00 52 04.3**	**+7.9**	
MTE	**Manteigas**	**121.35**	**336**	*e*LR	LR	01 30 20.0		
	comp=Z,2µm,20.0s							
MTE	**Manteigas**	**121.35**	**336**	IAMs_20	IAMs_20	01 43 19.6		
	comp=Z,2µm,20.0s							
PCBR	**Castelo Branco**	**121.80**	**336**	*e*PKPdf	**PKiKP**	**00 45 02.4**	**+2.5**	
COI	**Coimbra**	**121.86**	**337**	IAMs_20	IAMs_20	01 45 05.0		
	comp=Z,1µm,19.0s							
CAMR	**Camarioca**	**121.92**	**52**	IAMs_20	IAMs_20	01 41 48.7		
	comp=Z,1µm,20.0s							
PCAS	**Casmilo, Conde**	**122.02**	**337**	*e*PKPdf	**PKiKP**	**00 45 02.2**	**+1.8**	
PMRV	**Marv??o**	**122.12**	**335**	*e*PKPdf	**PKiKP**	**00 45 01.3**	**+0.7**	
PMRV	**Marv??o**	**122.12**	**335**	*e*PP	**PP**	**00 46 40.6**	**+6.5**	
PMRV	**Marv??o**	**122.12**	**335**	*e*LR	LR	01 30 40.7		
	comp=Z,2µm,18.0s							
BOSA	**Boshof**	**122.42**	**244**	PKP	**PKPdf**	**00 45 01.4**	**0.0**	
	comp=Z,8.3nm,0.9s,baz=137,slow=2.1,SNR=7.7							
CNGN	**Cerro Negro**	**122.50**	**66**	IAMs_20	IAMs_20	01 36 47.4		
	comp=Z,1µm,21.0s							
PESTR	**Estremoz**	**122.67**	**335**	*e*PKPdf	**PKiKP**	**00 45 03.8**	**+2.1**	
PESTR	**Estremoz**	**122.67**	**335**	IAMs_20	IAMs_20	01 43 43.8		
	comp=Z,2µm,19.0s							
PMTG	**Montargil**	**122.76**	**336**	*e*PKPdf	**PKiKP**	**00 45 02.3**	**+0.5**	
PBAR	**Barrancos**	**123.03**	**334**	*e*PKPdf	**PKiKP**	**00 45 02.9**	**+0.5**	
PACT	**Alcochete**	**123.26**	**336**	*e*PKPdf	**PKiKP**	**00 45 04.5**	**+1.7**	
PMAFR	**Mafra**	**123.27**	**337**	*e*PKPdf	**PKiKP**	**00 45 04.0**	**+1.1**	
PBEJ	**Beja**	**123.50**	**335**	*e*PKPdf	**PKiKP**	**00 45 05.0**	**+1.6**	
PNCL	**Nicolau / Gran**	**123.70**	**335**	*e*PKPdf	**PKiKP**	**00 45 06.2**	**+2.5**	
MESJ	**Messejana**	**123.81**	**335**	*e*PKPdf	**PKiKP**	**00 45 06.8**	**+2.8**	
MESJ	**Messejana**	**123.81**	**335**	*e*PKPdf	**PKiKP**	**00 45 04.6**	**+0.6**	
MESJ				*e*PP	**PP**	**00 46 47.1**	**+1.6**	
MESJ				IAMs_20	IAMs_20	01 44 56.7		
	comp=Z,2µm,21.7s							
MESJ	**Messejana**	**123.81**	**335**	*e*PKiKP	**PKiKP**	**00 45 04.6**	**+0.6**	
MESJ				*e*		00 46 47.1		
PCVE	**Castro Verde**	**123.91**	**335**	*e*PKPdf	**PKiKP**	**00 45 05.5**	**+1.3**	
PVAQ	**Vaqueiros**	**123.97**	**334**	*e*PP	**PP**	**00 46 51.9**	**+5.3**	
PVAQ	**Vaqueiros**	**123.97**	**334**	*e*LR	LR	01 34 24.9		
	comp=Z,2µm,18.0s							
PVAQ	**Vaqueiros**	**123.97**	**334**	IAMs_20	IAMs_20	01 47 36.1		
	comp=Z,1µm,20.0s							
PBDV	**Barranco-do-Ve**	**124.19**	**334**	*e*PKPdf	**PKiKP**	**00 45 09.9**	**+5.1**	
PTEO	**Sao Teotonio**	**124.27**	**335**	*e*PKPdf	**PKiKP**	**00 45 07.4**	**+2.5**	
MORF	**Marmelete**	**124.44**	**335**	*e*PKPdf	**PKiKP**	**00 45 06.1**	**+0.8**	
MORF	**Marmelete**	**124.44**	**335**	IAMs_20	IAMs_20	01 44 08.6		
	comp=Z,2µm,20.0s							
MORF	**Marmelete**	**124.44**	**335**	*e*PKPdf	**PKiKP**	**00 45 05.8**	**+0.5**	
MORF				*e*PP	**PP**	**00 46 51.4**	**+1.5**	
MORF				IAMs_20	IAMs_20	01 48 13.3		
	comp=E,2µm,16.7s							
MORF	**Marmelete**	**124.44**	**335**	*e*PKIKP	**PKiKP**	**00 45 05.8**	**+0.5**	
MORF				*e*		00 46 51.4		
ORTG	**Ortega, Santa**	**124.47**	**68**	IAMs_20	IAMs_20	01 38 31.7		
	comp=Z,2µm,19.0s							
PFVI	**Vila Bisbo**	**124.66**	**335**	*e*PKPdf	**PKiKP**	**00 45 08.4**	**+2.7**	
PFVI	**Vila Bisbo**	**124.66**	**335**	IAMs_20	IAMs_20	01 44 59.4		
	comp=Z,2µm,19.0s							
IFR	**Ifrane**	**125.98**	**329**	PKP	**PKiKP**	**00 45 10.3**	**+1.6**	
PEZE	**Perez Zeledon,**	**126.47**	**68**	IAMs_20	IAMs_20	01 40 53.7		
	comp=Z,1µm,19.0s							
BBSR	**BB Station**	**126.57**	**32**	IAMs_20	IAMs_20	01 38 07.5		
	comp=Z,2µm,22.0s							
AVE	**Averroes**	**127.27**	**331**	PKP	**PKiKP**	**00 45 11.4**	**+0.5**	
GTBY	**Guantanamo Bay**	**128.49**	**51**	IAMs_20	IAMs_20	01 44 48.6		
	comp=Z,2µm,19.0s							
TIO	**Tiouine**	**129.14**	**329**	PKP	**PKiKP**	**00 45 15.2**	**+0.3**	
GRTK	**Grand Turk**	**130.45**	**47**	IAMs_20	IAMs_20	01 47 19.9		
	comp=Z,2µm,20.0s							
PMAR	**Madeira**	**131.61**	**340**	*e*PKPdf	**PKiKP**	**00 45 23.3**	**+3.4**	
PMOZ	**Porto Moniz, M**	**131.61**	**340**	*e*PP	**PP**	**00 47 40.3**	**+3.4**	
PMOZ				*e*SKS	SKSdf	00 52 41.1	+12	
PMOZ	**Porto Moniz, M**	**131.61**	**340**	*e*LR	LR	01 37 53.8		
	comp=Z,800nm,18.0s							
SDDR	**Presa de Saban**	**131.93**	**49**	IAMs_20	IAMs_20	01 38 35.6		
	comp=Z,2µm,21.0s							
CHSH	**Refugio Sur-Vo**	**134.72**	**79**	IAMs_20	IAMs_20	01 33 38.6		
	comp=Z,1µm,19.0s							
TULM	**Tulcn-Chalpat**	**135.08**	**76**	IAMs_20	IAMs_20	01 44 22.9		
	comp=Z,1µm,19.0s							
MACI	**Morro de la Ar**	**135.52**	**337**	IAMs_20	IAMs_20	01 52 33.7		
	comp=Z,1µm,18.0s							
TORD	**Torodi Ar. Bea**	**135.70**	**304**		PKPpre	00 45 14.8		
TORD	**Torodi Ar. Bea**	**135.70**	**304**	PKhKP	PKPpre	00 45 12.4		
	comp=Z,2.2nm,1.1s,baz=48,slow=1.8,SNR=4.3							
TORD				PKP	**PKiKP**	**00 45 28.3**	**-0.1**	
	comp=Z,18nm,0.9s,baz=42,slow=3.8,SNR=25							
TORD				PP	**PP**	**00 48 03.0**	**-1.2**	
	comp=Z,2.5nm,0.7s,baz=44,slow=

SDS1	Sardasht. Az.	1.36	347	Pg		Pg	00 32 19.4	+0.6
IKRK	Kirkuk	1.38	295	*e*Pn		Pn	00 32 17.0	-0.4
IKRK				*e*Sn		Sb	00 32 34.5	-1.0
IKRK				AML		AML	00 32 40.8	
	comp=N,21µm,0.6s							
IKRK				AML		AML	00 32 40.8	
	comp=E,25µm,0.9s							
SNQR	Sonqor, Kerman	1.46	88	Pg		Pg	00 32 20.4	-0.1
IBZA	Bozab	1.69	101	Pg		Pg	00 32 24.5	-0.5
IBDR	Badra	1.70	178	*e*Pg		Pg	00 32 24.5	-0.8
IBDR				*e*Sg		Sg	00 32 49.0	+1.6
IBDR				AML		AML	00 32 54.8	
	comp=E,4µm,0.5s							
IBDR				AML		AML	00 33 02.8	
	comp=N,3µm,0.8s							
MAHB	Mahabad	1.95	356	Pn		Pb	00 32 27.4	-0.5
BHD	Baghdad	1.97	219	*e*Pg		Pb	00 32 28.9	+0.7
BHD				*e*Sg		Sb	00 32 54.0	+1.3
IKFM	Kafar-mosalman	2.09	127	Pn		Pb	00 32 30.5	+0.2
NGD1	Naghade .Az. G	2.15	350	Pn		Pb	00 32 30.5	-0.9
IDOB	Doab	2.18	118	Pn		Pb	00 32 31.7	-0.1
HSAM	Samen	2.34	104	Pn		Pb	00 32 34.4	-0.3
IHSH	Hashtrud	2.73	24	Pn		Pn	00 32 38.6	+2.4
IAZR	Azarshahr	2.86	2	Pn		Pb	00 32 40.6	-2.9
RAFI	Al-Rafai	3.09	176	*e*Pn		Pn	00 32 43.1	+2.2
RAFI				*e*Sn		Sn	00 33 21.0	+3.3
QABG	Abgarm-Qazvin	3.17	73	Pn		Pn	00 32 45.4	+3.1
ISRB	Sarab	3.34	25	Pn		Pn	00 32 47.2	+2.6
IRAZ	Razeghan	3.39	79	Pn		Pn	00 32 48.9	+3.7
IHRS	Heris	3.62	15	Pn		Pn	00 32 51.2	+2.7
JIR1	Jirandeh	3.72	58	Pn		Pn	00 32 52.4	+2.7
CSN1	Caspian	3.79	43	Pn		Pn	00 32 53.5	+3.0
IMRD	Marand	3.89	358	Pn		Pn	00 32 54.7	+2.6
AHWZ	Ahwaz	4.19	145	Pn		Pn	00 32 58.8	+2.8
IQOM	Qom	4.29	88	Pn		Pn	00 33 00.7	+3.1
GAS1	Astara - Iran	4.29	33	Pn		Pn	00 33 00.3	+2.9
GRMI	Germi	4.30	22	Pn		Pn	00 33 00.0	+2.3
NAX	Nakhchivan	4.36	356	P		Pn	00 33 01.7	+3.3
LKRN	Lenkeran, Azer	4.54	30	P		Pn	00 33 03.9	+3.1
KLST	Kelardasht - M	4.56	67	Pn		Pn	00 33 04.4	+3.0
MAKU	Maku	4.63	349	Pn		Pn	00 33 04.5	+2.2
IPIR	Pirpir	4.70	115	Pn		Pn	00 33 06.1	+2.7
QAMS	Qamsar	4.71	102	Pn		Pn	00 33 07.2	+3.8
JHBN	Jahan bin	4.77	121	Pn		Pn	00 33 07.3	+3.0
IVRN	Varamin	4.83	86	Pn		Pn	00 33 08.1	+3.3
GURO	Guroymak-BITLI	4.83	322	Pn		Pn	00 33 05.3	+0.3
MZPU	Pul - Mazandar	4.92	69	Pn		Pn	00 33 09.7	+3.3
ZNGN	Zangian	4.97	121	Pn		Pn	00 33 09.7	+2.6
IKLH	Kolahrood	4.98	106	Pn		Pn	00 33 10.2	+3.1
IDMV	Damavand	5.11	80	Pn		Pn	00 33 11.9	+2.9
KRSH	Karshahi	5.26	97	Pn		Pn	00 33 13.5	+2.6
ISFB	Sefidab	5.28	93	Pn		Pn	00 33 13.9	+2.8
GNI	Garni	5.40	351	Pn		Pn	00 33 12.8	0.0
GNI	Garni	5.40	351	P		Pn	00 33 14.9	+2.1
GNI	Garni	5.40	351	Pn		Pn	00 33 14.3	+1.5
	comp=N,0.7nm,0.3s,baz=165,slow=12,SNR=6.7							
GNI				Pg		Pb	00 33 27.6	+0.9
	comp=N,0.8nm,0.3s,baz=164,slow=18,SNR=4.9							
GNI				Lg		Lg	00 34 41.1	
	comp=N,1.1nm,0.3s,baz=162,slow=20,SNR=2.3							
GNI				LR		LR	00 35 36.6	
	comp=N,474nm,21.9s,baz=169,slow=42							
	comp=N,2.4nm,0.4s							
ABEH	Behbahan	5.60	137	Pn		Pn	00 33 17.8	+2.3
IGAR	Gharneh	5.69	113	Pn		Pn	00 33 19.8	+2.9
IFIR	Firoozkooh	5.70	80	Pn		Pn	00 33 19.8	+2.7
IZEF	Zefreh	5.71	108	Pn		Pn	00 33 20.0	+2.7
GANJ	Ganja	5.83	3	Pn		Pn	00 33 23.9	+5.3
ILAS	Lasjerd	5.85	82	Pn		Pn	00 33 21.3	+2.3
KARS	Kars	6.21	340	Pn		Pn	00 33 22.7	-1.2
KARS	Kars	6.21	340	P		Pn	00 33 22.7	-1.2
IRAM	Ramesheh	6.23	117	Pn		Pn	00 33 27.1	+2.8
SEKA	Sheki	6.47	9	P		Pn	00 33 30.5	+3.1
ANAR	Anarak	6.73	102	Pn		Pn	00 33 33.9	+2.8
ZKTA	Zakatala	6.84	5	P		Pn	00 33 37.5	+5.1
ARPR	Arapgir-MALATY	7.38	308	Pn		Pn	00 33 40.7	+0.7
GAZ	Gaziantep	7.39	291	Pn		Pn	00 33 38.7	-1.4
ONI	Oni	7.99	347	Pn		Pn	00 33 49.0	+0.8
ONI	Oni	7.99	347	P		Pn	00 33 49.0	+0.8
MAK	Makhachkala	8.23	8	*e*P		Pn	00 33 45.7	-5.8
MAK				pmax		pmax		
	comp=Z,459nm,1.8s							
MAK				MLR		MLR		
	comp=Z,606nm,12.0s							
NATI	Neve Ativ	8.54	262	P		Pn	00 33 59.1	+3.3
NATI	Neve Ativ	8.54	262	P		Pn	00 33 57.0	+1.2
KSHT	Keshet	8.55	260	P		Pn	00 33 57.3	+1.3
GEM	Giv'at Ha'Em	8.62	262	P		Pn	00 33 58.8	+2.0
SHMJ	Saham	8.66	259	P		Pn	00 34 05.8	+8.3
NCK	Nalchik	8.84	349⇑	*e*P		Pn	00 33 57.7	-2.2
MMA0B	Mount Meron ar	8.88	261	P		Pn	00 34 02.5	+2.1
MMAI	Mount Meron Ar	8.88	261	Pn		Pn	00 34 00.3	-0.1
	comp=Z,1.2nm,0.3s,baz=86,slow=18,SNR=12							
MMAI				Sn		Sn	00 35 41.2	+0.9
	comp=Z,0.9nm,0.3s,baz=77,slow=19,SNR=2.0							
MMAI				Lg		Lg	00 36 31.1	
	comp=Z,4.5nm,0.3s,baz=82,slow=32,SNR=3.0							
MMAI				LR		LR	00 37 41.5	
	comp=Z,274nm,19.4s,baz=354,slow=40							
	comp=Z,0.7nm,0.3s							
MMC7	Mount Meron ar	8.88	261	P		Pn	00 34 03.0	+2.5
TNSJ	Nastanj	8.93	92	Pn		Pn	00 34 04.2	+3.0
BNN	Bunyan	8.98	300	Pn		Pn	00 34 02.0	+0.1
HMDT	Nahal Hemdat	9.00	256	P		Pn	00 34 10.5	+8.4
HMDT	Nahal Hemdat	9.00	256	P		Pn	00 34 04.5	+2.5
TPRV	Parvadeh(Tabas	9.17	98	Pn		Pn	00 34 07.3	+2.8
KBZ	Khabaz	9.19	346	Pn		Pn	00 34 06.4	+1.8
	comp=Z,0.1nm,0.3s,baz=186,slow=19,SNR=2.8							
KBZ				LR		LR	00 37 45.2	
	comp=Z,258nm,20.1s,baz=146,slow=39							
	comp=Z,2.1nm,0.9s							
KBZ	Khabaz	9.19	346⇑	*e*P		Pn	00 34 03.4	-1.2
OFRI	`Ofer	9.32	259	P		Pn	00 34 08.3	+1.8
GHAJ	Ghor Haditha	9.32	251	Pn		Pn	00 34 07.9	+1.5
DSI	Dead Sea	9.36	253	P		Pn	00 34 08.9	+1.9
SLTI	Sal'it	9.39	257	P		Pn	00 34 13.9	+6.4
SLTI	Sal'it	9.39	257	P		Pn	00 34 09.1	+1.6
TKDS	Koohdasht(Taba	9.40	94	Pn		Pn	00 34 11.1	+3.4
KVAR	Kislovodsk Arr	9.45	346	Pn		Pn	00 34 09.8	+1.5
	baz=79,slow=22							
KVAR				LR		LR	00 37 30.0	
	comp=Z,894nm,21.4s,baz=40,slow=36							
	comp=Z,1.1nm,0.7s							
KIV	Kislovodsk	9.45	346	Pn		Pn	00 34 09.2	+0.9
KIV	Kislovodsk	9.45	346⇓	*e*P		Pn	00 34 05.7	-2.6
KIV				*e*S		Sn	00 35 53.1	-1.3
KIV				pmax		pmax		
	comp=Z,13nm,1.1s							
KIV				MLR		MLR		
	comp=Z,450nm,13.0s							
MDBI	Mazsada	9.48	251	P		Pn	00 34 10.0	+1.4
MSBI	Mazada	9.48	251	P		Pn	00 34 10.4	+1.8
YTIR	Yattir	9.65	252	P		Pn	00 34 13.3	+2.2
SAKB	Bahrain	9.69	154	P		Pn	00 34 12.0	+0.5
SAKB				S		Sn	00 35 55.8	-4.4
AMAZ	Amatzia	9.74	253	P		Pn	00 34 14.6	+2.3
VSLR	Vesyoloye	9.74	334⇑	*e*P		Pn	00 34 11.6	-0.7
ZFRI	Zfri	9.95	248	P		Pn	00 34 21.1	+6.0
ZFRI	Zfri	9.95	248	P		Pn	00 34 16.3	+1.2
SHMA	Al-Shehemyia	9.96	152	P		Pn	00 34 14.3	-0.9
SHMA				S		Sn	00 36 01.0	-5.8
SOC	Sochi	9.96	333	*e*P		Pn	00 34 11.0	-4.3
SOC				*e*			00 36 01.4	
SOC				MLR		MLR		
	comp=Z,394nm,14.0s							
PRNI	Paran	10.18	247	P		Pn	00 34 23.7	+5.4
PRNI	Paran	10.18	247	P		Pn	00 34 19.6	+1.2
CSS	Mathiatis	10.29	274	Pn		Pn	00 34 20.9	+1.1
HRFI	Mount Harif	10.31	245	P		Pn	00 34 21.1	+0.9
GEYT	Alibeck	10.36	69	Pn		Pn	00 34 22.4	+1.7
GEYT	Alibeck	10.36	69	Pn		Pn	00 34 20.5	-0.3
	comp=Z,0.2nm,0.3s,baz=237,slow=18,SNR=1.2							
GEYT				LR		LR	00 38 11.0	
	comp=Z,101nm,21.7s,baz=271,slow=37							
	comp=Z,3.1nm,0.8s							
GEYT	Alibeck	10.36	69	P		Pn	00 34 22.4	+1.7
GYA0	ALIBECK ARRAY	10.36	69	P		Pn	00 34 23.0	+2.3
GYA0B	ALIBECK ARRAY	10.36	69	Pn		Pn	00 34 23.9	+3.2
KZIT	Kziot	10.40	251	P		Pn	00 34 22.1	+0.8
AQBJ	Aqaba	10.46	244	P		Pn	00 34 31.7	+10
KRMI	Paran Flat	10.51	247	P		Pn	00 34 23.6	+0.8
MBRI	Mt Berech	10.53	245	P		Pn	00 34 27.0	+3.9
MBRI	Mt Berech	10.53	245	P		Pn	00 34 23.8	+0.7
EIL	Elat	10.56	244	Pn		Pn	00 34 23.4	-0.1
	comp=Z,0.8nm,0.3s,baz=13,slow=11,SNR=13							
EIL				Lg		Lg	00 37 26.1	
	comp=Z,2.3nm,0.3s,baz=68,slow=20,SNR=3.5							
EIL				LR		LR	00 38 57.5	
	comp=Z,150nm,19.7s,baz=63,slow=40							
	comp=Z,5.7nm,0.6s							
EIL	Elat	10.56	244	P		Pn	00 34 24.6	+1.0
BR131	Keskin Array S	10.90	300	Pn		Pn	00 34 28.7	+0.5
BR131	Keskin Array S	10.90	300⇑	*e*P		Pn	00 34 29.1	+0.9
BRTR	Keskin Array B	10.90	300	Pn		Pn	00 34 26.6	-1.6
BRTR	Keskin Array B	10.90	300	Pn		Pn	00 34 30.6	+2.4
	comp=Z,0.1nm,0.3s,baz=129,slow=12,SNR=23							
BRTR				Lg		Lg	00 37 33.5	
	baz=131,slow=28,SNR=2.1							
BRTR				LR		LR	00 39 11.8	
	comp=Z,464nm,19.8s,baz=124,slow=41							
	comp=Z,3.6nm,0.9s							
SMRA	Abu-Samra	10.92	155	P		Pn	00 34 28.4	0.0
SMRA				S		Sn	00 36 23.6	-6.8
TRNA	Turayna	11.07	154	P		Pn	00 34 31.0	+0.5
	SNR=19							
RAYN	Ar Rayn	11.26	182	P		Pn	00 34 32.1	-1.0
RAYN				S		Sn	00 36 34.1	-4.8
JRN	Qarnain Island	11.55	147	P		Pn	00 34 37.4	+0.3
JRN				S		Sn	00 36 38.2	-7.7
ANTO	Ankara	11.55	300	Pn		Pn	00 34 39.1	+2.0
ANTO	Ankara	11.55	300	P		Pn	00 34 39.1	+2.0
SLWR	Sila	11.85	153	P		Pn	00 34 40.8	-0.3
SLWR				S		Sn	00 36 48.0	-5.2
ANN	Anapa	11.88	330	*e*P		Pn	00 34 43.1	+1.6
ANN				pmax		pmax		
	comp=Z,21nm,0.9s							
GHWR	Ruwais	12.42	149	P		Pn	00 34 49.8	+0.9
GHWR				S		Sn	00 36 58.8	-8.3
SHME	Shamm	12.44	132	*i* P		Pn	00 34 47.9	-1.4
	SNR=23							
SHME	Shamm	12.44	132	P		Pn	00 34 48.9	-0.4
	SNR=10							
SHME				S		Sn	00 37 01.6	-6.1
UMQ	Umm Al-Quwin	12.55	135	P		Pn	00 34 52.0	+1.4
	SNR=5.9							
AJN	Ajban	12.93	140	*i* P		Pn	00 34 55.8	0.0
	SNR=10.0							
AJN	Ajban	12.93	140	P		Pn	00 34 56.2	+0.3
	SNR=10							
AJN				S		Sn	00 37 13.8	-5.7
MASF	Masafi	12.96	134	P		Pn	00 34 55.9	-0.4
	SNR=48							
MASF				S		Sn	00 37 15.4	-5.0
NAZ	Nazwa, Dubai	12.96	136	*i* P		Pn	00 34 56.3	0.0
	SNR=40							
NAZ	Nazwa, Dubai	12.96	136	P		Pn	00 34 56.7	+0.3
	SNR=40							
NAZ				S		Sn	00 37 16.7	-3.7
MSFE	Esma-Masafi	12.97	134	*i* P		Pn	00 34 55.9	-0.6
	SNR=25							
MZWR	Madinat Zayed	13.04	146	P		Pn	00 34 58.1	+0.6
MZWR				S		Sn	00 37 17.2	-5.2
ASUD	Al Ashush, Dub	13.06	139	*i* P		Pn	00 34 57.7	0.0
	SNR=28							
ASUD	Al Ashush, Dub	13.06	139	P		Pn	00 34 58.3	+0.6
	SNR=28							
ASUD				S		Sn	00 37 16.6	-6.3
MDH	Madha	13.09	134	*i* P		Pn	00 34 58.0	-0.2
	SNR=36							
MDH	Madha	13.09	134	P		Pn	00 34 57.5	-0.7
	SNR=9.2							
MDH				S		Sn	00 37 17.0	-6.6
FAQ	Al Faqa, Dubai	13.11	137	*i* P		Pn	00 34 57.9	-0.5
	SNR=12							
FAQ	Al Faqa, Dubai	13.11	137	P		Pn	00 34 58.8	+0.4
	SNR=12							
FAQ				S		Sn	00 37 18.7	-5.4
UOSS	Minazif	13.31	135	Pn		Pn	00 34 59.5	-1.5
UOSS	Minazif	13.31	135	*i* P		Pn	00 34 59.9	-1.1
	SNR=7.0							
UOSS	Minazif	13.31	135	P		Pn	00 35 00.1	-1.0
UOSS				S		Sn	00 37 21.9	-6.9
HATD	Hatta, Dubai	13.36	135	*i* P		Pn	00 35 01.1	-0.6
	SNR=13							
HATD	Hatta, Dubai	13.36	135	P		Pn	00 35 01.4	-0.4
	SNR=55							
HATD				S		Sn	00 37 25.4	-4.7
ASHO	Ashiyiah	13.42	136	*i* P		Pn	00 35 01.8	-0.9
	SNR=15							
ASHO	Ashiyiah	13.42	136	P		Pn	00 35 02.0	-0.7
	SNR=136							
ASHO				S		Sn	00 37 25.3	-6.5
MZR	Muzera	13.52	149	*i* P		Pn	00 35 03.1	-0.9
	SNR=6.7							
MZR	Muzera	13.52	149	P		Pn	00 35 03.3	-0.7
	SNR=23							
MZR				S		Sn	00 37 26.4	-7.8
ALNE	Al Ain	13.75	139	*i* P		Pn	00 35 06.0	-1.0
	SNR=36							
ALNE	Al Ain	13.75	139	P		Pn	00 35 06.5	-0.6
	SNR=17							
ALNE				S		Sn	00 37 34.0	-5.6
SOHO	SOHO	14.12	136	*i* P		Pn	00 35 10.6	-1.6
	SNR=7.8							
SOHO	SOHO	14.12	136	P		Pn	00 35 11.1	-1.1
SOHO				S		Sn	00 37 40.5	-8.2
MANT	Manisa	14.37	290	P		P	00 35 22.6	-0.1
UMZA	Um Al Zommool	14.55	144	P		Pn	00 35 16.8	-1.3
UMZA				S		Sn	00 37 50.6	-8.5
ARQ	Araqi	14.74	138	P		Pn	00 35 19.6	-1.2
	SNR=46							
ARQ				S		Sn	00 37 58.0	-6.0
HOQ	Hoqain	14.99	135	P		Pn	00 35 22.1	-2.0
	SNR=9.3							
HOQ				S		Sn	00 38 03.2	-6.8
KARP	Karpathos	15.31	278	P		P	00 35 34.1	+1.1
BIDO	Bidbid	15.52	133	P		Pn	00 35 28.9	-2.1
BSY	Bisya	15.59	138	P		Pn	00 35 29.8	-2.2
	SNR=13							
BSY				S		Sn	00 38 17.0	-7.5
SMDO	Samad	15.83	135	P		Pn	00 35 33.4	-1.8
	SNR=18							
SMDO				S		Sn	00 38 21.9	-8.6
WSAR	Wadi Sarin	16.04	133	Pn		Pn	00 35 35.7	-2.1
	comp=Z,4.0nm,0.3s,baz=320,slow=11,SNR=35							
JMDO	Jabal Madar	16.39	136	P		Pn	00 35 40.3	-2.0
VRH	Novokhopyorsk	16.65	351	*e*P		P	00 35 47.1	-0.6
VRH				pmax		pmax		
	comp=Z,25nm,0.8s							
WBK	Wadi Bani Khal	16.72	133	P		Pn	00 35 45.4	-1.0
	SNR=18							
VORD	Divnogorie	16.83	346	*e*P		Pn	00 35 48.1	+0.5
VORD				pmax		pmax		
	comp=Z,30nm,0.9s							
CFR	Carcaliu	17.04	313	⇑P		Pn	00 35 48.6	-1.7
CFR	Carcaliu	17.04	313	⇑P		Pn	00 35 48.6	-1.7
VSR	Storozhevoye	17.09	346	*e*P		Pn	00 35 49.4	-1.5
VSR				pmax		pmax		
	comp=Z,20nm,0.9s							
IDI	Anoyia	17.18	278	P		P	00 35 54.0	+0.2
IDI				IAmb		IAmb	00 35 56.3	
	comp=Z,37nm,1.4s							
IDI	Anoyia	17.18	278	P		Pn	00 35 52.0	-0.2
	comp=Z,0.9nm,0.3s,baz=67,slow=15,SNR=11							
	comp=Z,9.8nm,0.8s							
RDO	Rodhopi	17.21	298	P		P	00 35 55.0	+1.1
JLN	Jalan Bani Buh	17.33	133	P		Pn	00 35 52.2	-1.9
	SNR=9.9							
MHTO	MHTO	17.42	139	P		Pn	00 35 53.7	-1.5
	SNR=27							
VORR	Voronezh	17.52	346	*e*P		Pn	00 35 55.2	-1.0
VORR				pmax		pmax		
	comp=Z,17nm,0.2s							
BELG	Belogornoye	17.62	4	P		Pn	00 35 56.8	-0.6
	comp=Z,21nm,0.9s,baz=237,slow=5.3,SNR=3.8							
BELG	Belogornoye	17.62	4⇓	*e*P		Pn	00 35 56.4	-1.0
DOK	Doka	17.73	153	P		Pn	00 35 57.2	-1.9
	SNR=9.6							
ABKAR	Akbulak array	17.78	31			Pn	00 35 59.7	+0.2
ABKAR	Akbulak array	17.78	31			Pn	00 35 59.5	+0.1
ABKAR				IAmb		IAmb	00 36 31.4	
	comp=Z,6.0nm,1.1s							
AKTO	Aktyubinsk	17.95	26	P		Pn	00 36 01.9	+0.2
	comp=Z,0.3nm,0.3s,baz=213,slow=9.7,SNR=12							
	comp=Z,3.4nm,0.7s							
DQM	DQM	18.07	142	P		Pn	00 36 01.7	-1.6
	SNR=14							
WHFO	Wadi Hawf	18.25	155	P		Pn	00 36 03.5	-2.0
	SNR=32							
LPSR	Galich'ya Gora	18.45	347	*e*P		P	00 36 05.2	-2.4
LPSR				pmax		pmax		
	comp=Z,80nm,0.8s							
MLR	Muntele Rosu	18.54	311			P	00 36 08.7	-0.1
MLR	Muntele Rosu	18.54	311	P		P	00 36 08.7	-0.1
MLR				pmax		pmax		
	comp=Z,16nm,1.4s							
ABTO	Aybut	18.62	157	P		P	00 36 07.2	-2.5
	SNR=22							
SORM	Soroca	18.63	321	⇑P		P	00 36 08.0	-1.5
SORM	Soroca	18.63	321	⇑P		P	00 36 08.0	-1.5
RBK	Rabkut	18.78	155	P		P	00 36 11.0	-0.5
	SNR=31							
SHAO	Shalim	18.85	150	*i* P		P	00 36 11.7	-0.6
	SNR=28							
SHAO	Shalim	18.85	150	P		P	00 36 12.0	-0.3
	SNR=28							
DMTO	DMTO	18.86	152	P		P	00 36 10.8	-1.5
	SNR=21							
VOIR		19.07	310	⇑P		Pn	00 36 16.0	+0.6
VOIR		19.07	310	⇑P		Pn	00 36 16.0	+0.6
VOIR		19.07	310	P		P	00 36 14.8	+0.2
	comp=Z,13nm,0.9s							
AGG	Agios Georgios	19.26	289	P		Pn	00 36 17.4	-0.3
AGG	Agios Georgios	19.26	289	P		Pn	00 36 17.4	-0.3
AGG				pmax		pmax		
	comp=Z,20nm,1.1s							
VAY	Valandovo	19.42	296	*i* P		P	00 36 09.3	-9.1
ITM	Ithomi	19.50	284	P		P	00 36 18.4	-0.8
AK07	Malin Array Si	19.86	327	P		P	00 36 20.7	-2.3
AK09	Malin Array Si	19.87	328	P		P	00 36 21.2	-1.9
AK10	Malin Array Si	19.87	328	P		P	00 36 21.7	-1.5
KMPD	K-Podol'skiy	19.89	320	P		P	00 36 20.9	-2.4
KMPD				P		P	00 36 21.0	-2.4
KMPD				pP		sP	00 36 27.1	-2.4
AK08	Malin Array Si	19.89	328	P		P	00 36 21.5	-1.9
AK05	Malin Array Si	19.91	328	P		P	00 36 21.7	-1.8
AK05				pP		pP	00 36 26.6	-1.1
AK02	Malin Array Si	19.93	328	P		P	00 36 22.4	-1.4
AK02				pP		pP	00 36 26.7	-1.3
AK12	Malin Array Si	19.95	328	P		P	00 36 22.5	-1.5
BLKB	Belogradchik	19.95	303	⇓P		P	00 36 24.4	+0.2
AKASG	Malin Array Be	19.96	328	P		P	00 36 23.1	-1.0
AKASG	Malin Array Be	19.96	328	P		P	00 36 23.4	-0.7
	comp=Z,6.9nm,0.9s,baz=134,slow=9.8,SNR=20							
AKASG				LR		LR	00 45 28.7	
	comp=Z,182nm,20.4s,baz=72,slow=41							
AKASG	Malin Array Be	19.96	328	*i* P		P	00 36 23.3	-0.8
AKASG				pmax		pmax		
	comp=Z,12nm,1.0s							
AKBB	Malin Array Si	19.96	328	P		P	00 36 24.6	+0.5
AKBB				IAmb		IAmb	00 36 24.7	
	comp=Z,23nm,1.1s							
AKBB	Malin Array Si	19.96	328	P		P	00 36 24.6	+0.5
AKBB				pmax		pmax		
	comp=Z,23nm,1.1s							
AKBB	Malin Array Si	19.96	328	P		P	00 36 22.3	-1.8
KIEV	Kiev	19.96	328	⇑P		P	00 36 23.8	-0.4
KIEV	Kiev	19.96	328	P		P	00 36 23.7	-0.4
KIEV				IAmb		IAmb	00 36 24.7	
	comp=Z,20nm,1.1s							
KIEV	Kiev	19.96	328	*i* P		P	00 36 22.9	-1.2
	SNR=7.8							
KIEV	Kiev	19.96	328	P		P	00 36 23.7	-0.4
KIEV				pmax		pmax		
	comp=Z,20nm,1.1s							
KIEV	Kiev	19.96	328	P		P	00 36 21.9	-2.2
	comp=Z,80nm,1.1s							
GAR	Garm	19.98	71	P		Pn	00 36 27.6	+1.2
GAR				IAmb		IAmb	00 36 50.7	
	comp=Z,20nm,1.2s							
BURAR	Bucovina Array	20.04	316	⇑P		P	00 36 25.8	+0.6
BURAR	Bucovina Array	20.04	316	⇑P		P	00 36 25.8	+0.6
BUR08	Bucovina Ar. S	20.06	316	P		P	00 36 25.3	-0.1
LUBAR	Lubar, Ukraine	20.09	324	P		P	00 36 25.2	-0.3
LUBAR				pP		sP	00 36 30.5	-1.2
FNA	Florina	20.21	294	P		P	00 36 26.9	-0.2
FNA				IAmb		IAmb	00 36 28.9	
	comp=Z,30nm,0.9s							
FNA	Florina	20.21	294	P		P	00 36 26.9	-0.2
FNA				pmax		pmax		
	comp=Z,29nm,0.9s							
ARCR	ARCALIA	20.27	314	⇑P		Pn	00 36 29.0	-0.6
HORU	Horodok	20.30	321	P		P	00

BERU Beregovo 21.84 315 P P 00 36 44.4 -0.1
RNPP5 Staryi Chortor 21.85 325 P P 00 36 43.7 -0.8
LVV L'vov 21.91 320 *e*P **P 00 36 44.7 -0.6**
LVV *e*S **S 00 40 40.6 -6.2**
LVV pmax pmax
comp=Z,40nm,1.2s
MUKU Mukachevo 21.93 315 P P 00 36 46.3 +0.9
RNPP8 Varash 21.93 325 P P 00 36 44.4 -1.0
RNPP9 Sopachiv 21.97 325 P P 00 36 43.7 -2.1
PDG Podgorica 22.07 298 P P 00 36 47.7 +0.7
HOLU Holmets 22.14 315 P P 00 36 46.1 -1.6
ARSB Arslanbob 22.27 65 P P 00 36 50.0 +0.7
ARSB pmax pmax
comp=Z,5.0nm,1.0s
FRGS Fruska Gora 22.38 305 P P 00 36 50.6 +0.2
comp=Z,5.6nm,1.4s
KOLS Kolonicke sedl 22.41 316 *e*P **P 00 36 51.6 +1.0**
KOLS Kolonicke sedl 22.41 316 *e*P **P 00 36 51.6 +1.0**
KOLS pmax pmax
comp=Z,16nm,1.0s
KWP Kalwaria Pacla 22.52 318 *e*P **P 00 36 52.3 +0.5**
KWP Kalwaria Pacla 22.52 318 P **P 00 36 52.1 +0.3**
KWP IAmb IAmb 00 37 18.0
comp=Z,18nm,1.0s
KWP Kalwaria Pacla 22.52 318 P **P 00 36 52.1 +0.3**
KWP pmax pmax
comp=Z,18nm,1.0s
KWP Kalwaria Pacla 22.52 318 P **P 00 36 51.8 0.0**
comp=Z,14nm,0.9s
CRVS Cervenica-Dubn 22.86 315 *e*P **P 00 36 56.6 +1.3**
CRVS Cervenica-Dubn 22.86 315 *e*P **P 00 36 56.6 +1.3**
CRVS pmax pmax
comp=Z,26nm,1.3s
DBRK Dubrovnik 22.92 298 *i* P **P 00 36 56.4 +0.3**
KECS Kecovo 23.23 314 *e*P **P 00 37 00.4 +1.2**
KECS Kecovo 23.23 314 *e*P **P 00 37 00.4 +1.2**
ARU Arti 23.29 18 P **P 00 37 01.3 +1.6**
ARU IAmb IAmb 00 37 06.7
comp=Z,17nm,1.1s
ARU Arti 23.29 18 P **P 00 36 59.6 -0.1**
comp=Z,2.0nm,0.6s,baz=158,slow=5.4,SNR=2.1
comp=Z,2.0nm,0.6s
ARU Arti 23.29 18 P **P 00 36 59.9 +0.2**
ARU 00 37 24.2
ARU S **S 00 41 13.6 +2.0**
ARU SS **SnSn 00 41 46.5 +0.5**
ARU Arti 23.29 18 P **P 00 37 01.7 +2.0**
comp=Z,11nm,0.9s
ARLS Aral 23.34 64 P **P 00 37 03.5 +3.0**
ARLS pmax pmax
comp=Z,24nm,1.2s
MNK Minsk 23.34 333 *i* P **P 00 36 58.0 -2.3**
comp=E,8.0nm,1.1s
MNK *i* P **P 00 36 58.0 -2.3**
comp=N,15nm,1.1s
MNK *i* P **P 00 36 58.0 -2.3**
comp=Z,21nm,0.8s,baz=140
MNK *i* PP **PnPn 00 37 31.6 +5.4**
MNK *i* S **S 00 41 05.7 -6.8**
MNK *i* SS Sn 00 41 32.5 +1.4
MNK *i* LQ LQ 00 43 44.1
MNK *i* LR LR 00 45 33.0
MNK Minsk 23.34 333 *i* P **P 00 36 57.9 -2.3**
MNK *i* 00 37 31.6
MNK *i* S **S 00 41 05.6 -6.8**
MNK pmax pmax
comp=Z,21nm,0.9s
MNK pmax pmax
comp=N,15nm,1.0s
MNK pmax pmax
comp=E,8.0nm,1.1s
PSZ Piszkesteto 23.34 312 P **P 00 36 58.9 -1.5**
PSZ Piszkesteto 23.34 312 P **P 00 36 58.9 -1.5**
PSZ pmax pmax
comp=Z,8.0nm,1.0s
MORH Mrgy, Hungar 23.50 307 ⇑P **P 00 37 02.0 +0.1**
MORH Mrgy, Hungar 23.50 307 P **P 00 37 00.9 -1.0**
comp=Z,12nm,1.2s
AAK Ala-Archa 23.58 62 P **P 00 37 05.4 +2.5**
AAK IAmb IAmb 00 37 34.8
comp=Z,14nm,1.1s
AAK Ala-Archa 23.58 62 P **P 00 37 05.4 +2.5**
AAK pmax pmax
comp=Z,14nm,1.1s
TIP Timpagrande 23.60 289 P **P 00 37 03.6 +0.6**
TIP Timpagrande 23.60 289 P **P 00 37 02.2 -0.8**
comp=Z,3.5nm,1.3s
FRU1 Bishkek 23.71 62 P **P 00 37 06.2 +2.1**
FRU1 IAmb IAmb 00 37 32.9
comp=Z,19nm,0.9s
FRU1 Bishkek 23.71 62 P **P 00 37 06.2 +2.1**
FRU1 pmax pmax
comp=Z,19nm,0.9s
MATE Matera 23.72 293 ⇓P **P 00 37 02.8 -1.2**
NIE Niedzica 23.77 316 P **P 00 37 04.8 +0.2**
comp=Z,3.4nm,1.7s
LSTV Lastovo 23.85 298 *i* P **P 00 37 03.0 -2.3**
KIRV Kirov 23.89 5 P **P 00 37 05.7 +0.2**
comp=Z,9.9nm,0.6s,baz=185,slow=3.8,SNR=4.4
comp=Z,9.9nm,0.6s
KIRV Kirov 23.89 5⇑*e*P **P 00 37 06.7 +1.2**
NACGM Naroch 24.07 332 *e*P **P 00 37 06.2 -1.0**
comp=Z,14nm,1.1s,baz=138
LANS Liptovska Anna 24.13 314 *e*P **P 00 37 09.8 +1.8**
LANS Liptovska Anna 24.13 314 *e*P **P 00 37 09.8 +1.8**
VYHS Vyhne 24.23 313 *e*P **P 00 37 10.3 +1.5**
VYHS Vyhne 24.23 313 *e*P **P 00 37 10.3 +1.5**
VYHS pmax pmax
comp=Z,4.0nm,1.0s
HVAR Hvar 24.24 299 *i* P **P 00 37 07.9 -1.0**
CEL Celeste 24.27 287 P **P 00 37 08.9 -0.5**
comp=Z,9.5nm,0.8s
SRO Srobarova 24.28 311 *e*P **P 00 37 10.1 +0.8**
SRO Srobarova 24.28 311 *e*P **P 00 37 10.1 +0.8**
SRO pmax pmax
comp=Z,11nm,1.0s
CUC Castrocucco 24.36 291 P **P 00 37 09.1 -1.1**
CUC IAmb IAmb 00 37 11.6
comp=Z,15nm,1.4s
IDID Didziasalis 24.39 333 *e*P **P 00 37 12.2 +2.0**
OJC Ojcow 24.44 317 *e*P **P 00 37 10.7 0.0**
OJC Ojcow 24.44 317 P **P 00 37 10.2 -0.5**
OJC IAmb IAmb 00 37 18.1
comp=Z,15nm,1.3s
OJC Ojcow 24.44 317 P **P 00 37 10.2 -0.5**
OJC pmax pmax
comp=Z,15nm,1.3s
OJC Ojcow 24.44 317 P **P 00 37 10.4 -0.3**
comp=Z,8.1nm,0.8s
MPLH Magyarpolny 24.54 309 P **P 00 37 11.6 0.0**
comp=Z,32nm,1.0s
MOSL Moslavina 24.58 305 *i* P **P 00 37 11.6 -0.5**
ISAL Salakas 24.82 333 *e*P **P 00 37 16.2 +2.2**
SUW Suwalki 24.92 327 *e*P **P 00 37 14.8 -0.2**
SUW Suwalki 24.92 327 P **P 00 37 14.5 -0.5**
SUW Suwalki 24.92 327 *e*P **P 00 37 14.6 -0.4**
SUW Suwalki 24.92 327 P **P 00 37 14.5 -0.5**
SUW pmax pmax
comp=Z,80nm,1.0s
JAVC Velka Javorina 25.08 313 *e*P **P 00 37 15.9 -0.7**
SMOL Smolenice 25.09 312 *e*P **P 00 37 17.5 +0.8**
MODS Modra-Piesok 25.13 311 *e*P **P 00 37 17.6 +0.6**
MODS Modra-Piesok 25.13 311 *e*P **P 00 37 17.6 +0.6**
ZST Bratislava 25.18 311 *e*P **P 00 37 18.4 +1.0**
ZST Bratislava 25.18 311 *e*P **P 00 37 18.4 +1.0**
LOBO Lobor 25.18 306 *i* P **P 00 37 16.9 -0.6**
DUGI Dugi Otok 25.38 300 *i* P **P 00 37 18.5 -0.8**
VIRC Vir 25.44 301 *i* P **P 00 37 18.5 -1.3**
RONA Rosalia, Austr 25.51 309 *e*P **P 00 37 20.9 +0.4**
comp=Z,14nm,1.2s
MORC Moravsky Berou 25.54 314 P **P 00 37 20.8 +0.1**
MORC IAmb IAmb 00 37 23.3
comp=Z,14nm,1.5s
MORC Moravsky Berou 25.54 314 *e*P **P 00 37 18.8 -1.9**
MORC Moravsky Berou 25.54 314 P **P 00 37 20.8 +0.1**
MORC pmax pmax
comp=Z,14nm,1.5s
PABE Paberze 25.61 331 P **P 00 37 21.5 +0.3**
PABE Paberze 25.61 331 *e*P **P 00 37 20.6 -0.6**
CONA Conrad Observa 25.86 310 *e*P **P 00 37 23.4 -0.3**
comp=Z,12nm,1.1s
ARSA Arzberg 25.86 308 *e*P **P 00 37 23.5 -0.1**
comp=Z,8.0nm,1.2s
VRAC Vranov 25.91 313 *e*P **P 00 37 23.8 -0.3**
VRAC Vranov 25.91 313 P **P 00 37 24.3 +0.2**
comp=Z,3.9nm,0.7s,baz=117,slow=8.2,SNR=7.2
comp=Z,3.9nm,0.7s
KRUC Moravsky 25.93 312 *e*P **P 00 37 24.1 -0.2**
INTR Introdacqua 25.94 296 P **P 00 37 23.8 -0.8**
SOKA Soboth 26.02 306 *e*P **P 00 37 25.4 +0.2**
comp=Z,3.8nm,1.2s
KRLC Kraliky 26.11 315 *e*P **P 00 37 31.7 +5.8**
KRLC Kraliky 26.11 315 *e*P **P 00 37 31.7 +5.8**
OBKA Obir 26.30 306 *e*P **P 00 37 27.8 +0.1**
comp=Z,0.5nm,0.4s
CAMP Campotosto 26.36 297 P **P 00 37 28.3 0.0**
CAMP IAmb IAmb 00 37 45.0
comp=Z,10nm,0.7s
CLTB Caltabellotta 26.42 286 P **P 00 37 30.6 +1.8**
DPC Dobruska-Polom 26.49 315 *e*P **P 00 37 29.8 +0.4**
DPC Dobruska-Polom 26.49 315 *e*P **P 00 37 29.8 +0.4**
DPC Dobruska-Polom 26.49 315 P **P 00 37 28.7 -0.7**
comp=Z,4.9nm,0.9s
NRCA Norcia 26.61 297 P **P 00 37 30.4 -0.1**
NRCA IAmb IAmb 00 37 33.6
comp=Z,11nm,1.0s
CHVC Chvalec 26.75 315 *e*P **P 00 37 32.1 +0.5**
CHVC Chvalec 26.75 315 *e*P **P 00 37 32.1 +0.5**
PBUR Paburge 26.80 330 *e*P **P 00 37 32.2 +0.2**
MOA Molln 26.86 309 *e*P **P 00 37 31.9 -0.7**
comp=Z,9.2nm,1.2s
VSU Vasula 26.86 338*ce*P **P 00 37 33.1 +0.6**
VSU pmax pmax
comp=Z,13nm,0.7s
CESX Cesi 26.98 297 P **P 00 37 33.2 -0.6**
CESX IAmb IAmb 00 37 38.6
comp=Z,8.3nm,0.7s
BIOA Bad Ischl, Aus 27.21 308 *e*P **P 00 37 35.7 -0.2**
comp=Z,1.9nm,0.5s
KBA Koelnbreinsper 27.24 307 *e*P **P 00 37 36.2 -0.1**
comp=Z,6.5nm,1.1s
ZVC Zvikov 27.42 312 *e*P **P 00 37 39.3 +1.7**
GERES GERESS Array B 27.52 310 P **P 00 37 39.0 +0.3**
comp=Z,0.3nm,0.5s,baz=126,slow=9.9,SNR=2.8
comp=Z,0.3nm,0.5s
GERES GERESS Array B 27.52 310 P **P 00 37 39.0 +0.3**
KHC Kasperske Hory 27.69 311⇑*e*P **P 00 37 40.7 +0.5**
KHC pmax pmax
comp=Z,11nm,1.7s
KHC Kasperske Hory 27.69 311 P **P 00 37 39.6 -0.6**
comp=Z,3.9nm,2.5s
LESA Schwarzleotal 27.77 307 *e*P **P 00 37 39.8 -1.2**
comp=Z,4.8nm,1.3s
ARBE Arbavere 27.88 338 *e*P **P 00 37 40.9 -0.7**
MTSE Matsula 28.02 335 *e*P **P 00 37 42.9 +0.1**
VALR Valaam 28.24 345⇑*e*P **P 00 37 46.5 +1.7**
VALR pmax pmax
comp=Z,11nm,0.9s
ZCCA Zocca 28.34 300 P **P 00 37 47.0 +1.0**
WTTA Wattenberg 28.42 306 *e*P **P 00 37 45.6 -1.2**
comp=Z,2.7nm,0.7s
WATA Walderalm 28.47 307 *e*P **P 00 37 45.7 -1.6**
comp=Z,6.4nm,1.3s
SQTA Sankt Quirin 28.69 306 *e*P **P 00 37 47.5 -1.7**
comp=Z,2.1nm,0.6s
MOTA Moosalm 28.79 306 *e*P **P 00 37 47.9 -2.2**
comp=Z,4.2nm,1.0s
CLL Collm 28.80 315 *i* P **P 00 37 50.4 +0.4**
comp=Z,13nm,1.8s
CLL Collm 28.80 315 *i* P **P 00 37 50.4 +0.4**
CLL pmax pmax
comp=Z,13nm,1.8s
CLL Collm 28.80 315 P **P 00 37 49.2 -0.8**
comp=Z,2.9nm,0.7s
FETA Feichten 28.97 306 *e*P **P 00 37 49.9 -1.8**
comp=Z,2.2nm,0.7s
MEF Metsahovi 28.99 338 *e*P **P 00 37 51.1 -0.4**
VSL Villasalto 29.32 290 P **P 00 37 54.5 -0.2**
VSL IAmb IAmb 00 38 34.9
comp=Z,12nm,1.2s
BSD Bornholm Skovb 29.47 323 *e*P **P 00 37 55.4 -0.5**
BSD Bornholm Skovb 29.47 323 *i* P **P 00 37 54.7 -1.1**
FIA1 FINESS Array S 29.49 341 P **P 00 37 57.2 +1.3**
FINES FINESS Array B 29.49 341 P **P 00 37 55.2 -0.6**
comp=Z,1.5nm,0.4s,baz=147,slow=10.0,SNR=33
comp=Z,1.5nm,0.4s
FINES FINESS Array B 29.49 341 *i* P **P 00 37 55.5 -0.4**
FINES pmax pmax
comp=Z,1.0nm,0.4s
JOF Joensuu 29.56 347 *e*P **P 00 37 56.1 -0.5**
DAVA Damuels 29.59 306 *e*P **P 00 37 56.2 -1.0**
comp=Z,4.0nm,0.4s
BLEU Blekinge 29.67 326 *e*P **P 00 37 57.6 0.0**
KEST Kesra 29.72 282 P **P 00 37 58.3 0.0**
comp=Z,2.9nm,0.9s,baz=84,slow=18,SNR=3.9
comp=Z,2.9nm,0.8s
MKAR Makanchi Array 29.80 55 P **P 00 37 59.8 +0.9**
comp=Z,4.4nm,0.6s,baz=252,slow=11,SNR=4.2
comp=Z,4.4nm,0.6s
KEF Keuruu 30.41 341 *e*P **P 00 38 04.0 -0.1**
RAF Rauma 30.44 337 *e*P **P 00 38 03.6 -0.7**
LUNU Lund 30.45 323 *i* P **P 00 38 04.8 +0.3**
DEL Delary 30.68 325 *i* P **P 00 38 05.9 -0.6**
BNI Bardonecchia 31.46 301 P **P 00 38 12.9 -0.8**
BNI Bardonecchia 31.46 301 P **P 00 38 12.9 -0.8**
BNI pmax pmax
comp=Z,13nm,0.9s
LPL La Plagne 31.47 302 *e*P **P 00 38 14.8 +0.9**
LPL pmax pmax
comp=Z,3.0nm,0.4s
VAF Ylistaro 31.72 340 *e*P **P 00 38 15.3 -0.3**
BORU Boraas 31.80 326 *i* P **P 00 38 15.9 -0.4**
CABF La Chapelle 32.04 304 *e*P **P 00 38 17.6 -1.2**
CABF pmax pmax
comp=Z,8.0nm,0.8s
HFS Hagfors 32.79 331 P **P 00 38 24.7 -0.3**
comp=Z,2.7nm,0.4s,baz=134,slow=7.4,SNR=55
comp=Z,2.7nm,0.4s
VIVF Saint-Julien-l 32.87 300 *e*P **P 00 38 24.2 -1.8**
VIVF pmax pmax
comp=Z,8.0nm,1.1s
ZALV Zalesovo Beam 33.22 43 P **P 00 38 29.5 +0.7**
comp=Z,1.2nm,0.7s,baz=256,slow=11,SNR=0.7
ZALV PcP **PcP 00 41 13.2 +2.1**
comp=Z,1.8nm,0.9s,baz=241,slow=1.5,SNR=2.1
comp=Z,1.2nm,0.7s
STRU Stroemstad 33.24 328 *i* P **P 00 38 28.3 -0.7**
WMQ Urumqi 33.29 62 *e*P **P 00 38 34.4 +4.7**
SMF Signal de Mont 33.58 304 *e*P **P 00 38 30.6 -1.6**
SMF pmax pmax
comp=Z,13nm,1.4s
LVZ Lovozero 33.74 352⇓*e*P **P 00 38 32.0 -1.3**
LVZ pmax pmax
comp=Z,55nm,1.8s
SSF Saint Saulge 33.85 304 *e*P **P 00 38 34.0 -0.5**
SSF pmax pmax
comp=Z,12nm,1.3s
HOMB Homborsund 34.09 325 *i* P **P 00 38 35.7 -0.6**
KONO Kongsberg 34.26 328⇓*e*P **P 00 38 37.5 -0.3**
KONO pmax pmax
comp=Z,2.0nm,0.6s
NB2 NORSAR Subarra 34.31 331 P **P 00 38 37.4 -1.0**
comp=Z,1.0nm,0.6s,baz=124,slow=9.3
NOA NORSAR Array B 34.31 331 P **P 00 38 37.5 -0.8**
comp=Z,0.7nm,0.7s,baz=125,slow=8.7,SNR=5.7
comp=Z,0.7nm,0.7s
LFF La Frestale 35.66 300 *e*P **P 00 38 48.9 -1.2**
LFF pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 39.22 317 P **P 00 39 19.8 -0.3**
comp=Z,2.7nm,0.6s,baz=107,slow=8.5,SNR=10
comp=Z,2.7nm,0.6s
ESDC Sonseca Array 39.55 292 P **P 00 39 22.7 -0.4**
comp=Z,3.5nm,1.1s,baz=64,slow=8.1,SNR=21
ESDC PcP **PcP 00 41 32.5 +2.0**
comp=Z,0.3nm,0.8s,baz=46,slow=3.7,SNR=2.0
comp=Z,3.5nm,1.1s
MVO Moncorvo 41.63 295 *e*P **P 00 39 40.6 +0.3**
comp=Z,12nm,1.4s
MTE Manteigas 42.14 294 *e*P **P 00 39 46.5 +2.0**
PALK Pallekele 42.15 122⇑*e*P **P 00 39 44.1 -0.7**
PALK pmax pmax
comp=Z,29nm,1.4s
PBAR Barrancos 42.18 291 *e*P **P 00 39 45.5 +0.7**
comp=Z,16nm,1.8s
PCBR Castelo Branco 42.19 293 *e*P **P 00 39 45.3 +0.5**
PMRV Marv??o 42.20 293 *e*P **P 00 39 45.3 +0.3**
comp=Z,14nm,1.7s
PCAS Casmilo, Conde 42.92 294 *e*P **P 00 39 52.4 +1.6**
comp=Z,29nm,1.8s
SPITS Spitsbergen Ar 45.27 352 P **P 00 40 09.1 0.0**
comp=Z,16nm,0.9s,baz=140,slow=12,SNR=32
comp=Z,16nm,0.9s
TORD Torodi Ar. Bea 45.30 253 P P **00 40 10.2 +0.1**
TORD IAmb IAmb 00 40 17.0
comp=Z,5.2nm,1.2s
TORD Torodi Ar. Bea 45.30 253 P P **00 40 10.0 -0.2**
comp=Z,1.0nm,0.8s,baz=45,slow=9.5,SNR=5.8
TORD PcP **PcP 00 41 50.8 +1.0**
comp=Z,0.5nm,0.7s,baz=39,slow=2.6,SNR=2.2
comp=Z,1.0nm,0.8s
LZH Lanzhou 46.64 71 *e*P P 00 40 28.0 +7.3
LZH pP sP 00 40 33.1 +6.0
LZH pmax pmax
comp=Z,20nm,1.0s
PZH PanZhiHua 48.26 84 P P **00 40 35.1 +1.7**
PZH pmax pmax
comp=Z,10.0nm,0.5s
CMAR Chiang Mai Arr 49.61 95 P P **00 40 44.3 +0.6**
comp=Z,0.8nm,0.3s,baz=295,slow=8.6,SNR=1.9
comp=Z,0.8nm,0.3s
HHC Hu-ho-hao-te 51.16 63 *e*P P **00 40 55.8 +0.5**
HHC pmax pmax
comp=Z,14nm,0.8s
HHC pmax pmax
comp=Z,820nm,7.2s
DBIC Dimbokro 54.34 251 P P **00 41 18.5 -0.4**
DBIC Dimbokro 54.34 251 P P **00 41 18.9 0.0**
comp=Z,1.9nm,0.5s,baz=36,slow=8.7,SNR=1.6
comp=Z,1.9nm,0.5s
DBIC Dimbokro 54.34 251 P P **00 41 18.5 -0.4**
DBIC pmax pmax
comp=Z,24nm,1.4s
TIXI Tiksi 55.19 23⇑*e*P P **00 41 24.8 +0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.0s
SUMG Summit 55.49 339 P P **00 41 27.6 +0.6**
SUMG IAmb IAmb 00 41 33.4
comp=Z,8.5nm,1.0s
SUMG Summit 55.49 339 P P **00 41 27.6 +0.6**
SUMG pmax pmax
comp=Z,8.0nm,1.0s
NJ2 Nanjing 59.70 70 *e*P P **00 41 56.6 -0.1**
NJ2 pmax pmax
comp=Z,9.0nm,0.5s
KLR Kul'dur 62.10 48⇓*e*P P **00 42 15.3 +2.5**
KLR pmax pmax
comp=Z,2.0nm,1.0s
USA0B Ussuriysk Arra 64.22 53⇑*e*P P **00 42 27.4 +0.4**
KSRS Korea Array 64.24 61 P P **00 42 27.8 +0.6**
comp=Z,0.7nm,0.3s,baz=285,slow=7.0,SNR=5.5
comp=Z,0.7nm,0.3s
BOSA Boshof 66.03 200 P P **00 42 39.8 +0.9**
comp=Z,2.5nm,0.9s,baz=35,slow=5.1,SNR=3.9
comp=Z,2.5nm,0.9s
SCHQ Schefferville 73.74 326 P P **00 43 25.6 -0.3**
comp=Z,2.7nm,0.8s,baz=342,slow=5.9,SNR=3.8
comp=Z,2.7nm,0.8s
B21K Ikpikpuk River 74.79 7 P P **00 43 32.2 +0.4**
B21K IAmb IAmb 00 43 34.9
comp=Z,9.9nm,1.2s
C18K Utukok River 74.90 10 P P **00 43 32.5 0.0**
C18K IAmb IAmb 00 43 36.9
comp=Z,8.3nm,1.1s
D19K Kuna River 75.46 9 P P **00 43 36.6 +0.9**
D19K IAmb IAmb 00 44 10.8
comp=Z,7.1nm,1.1s
D25K Kavik River 75.78 4 P P **00 43 38.0 +0.4**
D25K IAmb IAmb 00 43 40.1
comp=Z,5.6nm,1.2s
D27M Malcolm River 76.13 3 P P **00 43 40.6 +1.1**
E19K Redstone River 76.55 9 P P **00 43 42.3 +0.4**
E27K Coleen River 77.16 3 P P **00 43 45.7 +0.3**
G19K Purcell Mounta 77.81 9 P P **00 43 49.1 +0.1**
G19K IAmb IAmb 00 43 57.1
comp=Z,8.4nm,1.2s
H21K Melozitna Rive 78.81 8 P P **00 43 55.7 +1.2**
H21K IAmb IAmb 00 44 06.7
comp=Z,11nm,1.5s
H29M Whitestone 79.23 2 P P **00 43 56.9 0.0**
I28M Miner Creek 79.96 2 P P **00 44 00.9 -0.1**
J20K Nowinta River 80.08 9 P P **00 44 02.4 +0.9**
J20K IAmb IAmb 00 44 22.9
comp=Z,11nm,1.4s
ILAR Eielson Array 80.24 6 P P **00 44 02.8 +0.4**
comp=Z,0.7nm,0.9s,baz=323,slow=2.8,SNR=4.1
comp=Z,0.7nm,0.9s
I30M Mount Dempster 80.27 1 P P **00 44 02.0 -0.7**
I30M IAmb IAmb 00 44 05.4
comp=Z,9.7nm,1.4s
PPLA Purkeypile 81.55 8 P P **00 44 10.2 +0.6**
YKA Yellowknife Ar 81.76 351 P P **00 44 10.3 -0.2**
comp=Z,0.6nm,0.6s,baz=16,slow=5.3,SNR=4.9
comp=Z,0.6nm,0.6s
SKT Skwentna 82.52 8 P P **00 44 14.3 -0.2**
TKL Tuckaleechee C 95.60 321 LR LR 01 28 52.6
comp=Z,2μm,20.1s,baz=330,slow=36
QSPA South Pole Qui 124.65 180 PKP **PKiKP 00 50 51.7 +0.6**
comp=Z,1.8nm,1.1s,baz=297,slow=2.3,SNR=2.5

NEIC ***22*** *00:35:58.5±2.8, 34°.90N±0°.05×45°.97E±0°.09, h17km±8km, mb4.3/6, Error ellipse: s-maj=10.5km s-min=7.1km az=71.0*
IDC ***22*** *00:35:59.0±1.4, 34°.93N×45°.73E, h0km, mb3.8/11, mbtmp3.8/12, ML4.1/1, MS4.2/1, Error ellipse: s-maj=25.9km s-min=22.1km az=148.0*
ISN ***22*** *00:35:59.4±0.7, 34°.96N×45°.99E, h14km±5km, ML3.6*
TEH ***22*** *00:36:00.0, 34°.86N×45°.87E, h8km±28km, ML3.7*
ISC 22 00:36:01.1±1.1, 34°.81N±0°.03×45°.85E±0°.03, h24km±9km, n51, σ1°91/57, mb3.8/12, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.37**	**216**	Pg	**Pb**	**00 36 08.0**	**-1.3**
KGS1				Sg	**Sb**	**00 36 15.5**	**+0.8**
IDHR	**Dehrash**	**0.45**	**104**	Pg	**Pb**	**00 36 09.1**	**-1.5**
GLG1	**Gilan-e-Gharb**	**0.70**	**176**	Pg	**Pb**	**00 36 14.6**	**-0.1**
GLG1				Sg	**Sn**	**00 36 25.9**	**+0.2**
IGHG	**Ghaleghazi**	**0.76**	**129**	Pg	**Pb**	**00 36 15.2**	**-0.7**
ILIN	**Lien**	**0.92**	**83**	Pg	**Pb**	**00 36 17.9**	**-0.7**
KCHF	**Cheshme Sefid,**	**1.11**	**118**	Pg	**Pb**	**00 36 21.8**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.22**	**166**	Pg	**Pb**	**00 36 24.0**	**+0.4**
SDS1	**Sardasht. Az.**	**1.37**	**347**	Pg	**Pn**	**00 36 25.5**	**+0.5**
IKRK	**Kirkuk**	**1.37**	**296**	*e*Pg	**Pb**	**00 36 25.5**	**-0.7**
IKRK				*e*Sg	**Sb**	**00 36 44.5**	**+1.2**
SNQR	**Sonqor, Kerman**	**1.46**	**88**	Pg	**Pb**	**00 36 27.9**	**0.0**
IBZA	**Bozab**	**1.69**	**101**	Pg	**Pb**	**00 36 31.8**	**+0.1**
IBDR	**Badra**	**1.70**	**178**	*e*Pg	**Pb**	**00 36 33.0**	**+1.3**
IBDR				*e*Sg	**Sb**	**00 36 57.0**	**+4.4**
IBDR				AML	AML	00 37 04.8	
	comp=N,566nm,0.5s						
IBDR				AML	AML	00 37 07.3	
	comp=E,789nm,0.6s						
MAHB	**Mahabad**	**1.96**	**357**	Pn	**Pn**	**00 36 34.4**	**+1.4**
BHD	**Baghdad**	**1.96**	**219**	*e*Pn	**Pb**	**00 36 37.0**	**+0.8**
BHD				*e*Sn	**Sb**	**00 37 04.0**	**+3.8**
IKFM	**Kafar-mosalman**	**2.09**	**127**	Pn	**Pb**	**00 36 37.8**	**-0.5**
IDOB	**Doab**	**2.18**	**117**	Pn	**Pb**	**00 36 38.6**	**-1.4**
HSAM	**Samen**	**2.35**	**104**	Pn	**Pb**	**00 36 41.5**	**-1.4**
HAGD	**Aghdareh**	**2.70**	**89**	Pn	**Pb**	**00 36 46.7**	**-2.3**
IHSH	**Hashtrud**	**2.74**	**24**	Pn	**Pn**	**00 36 45.6**	**+1.6**
ISRB	**Sarab**	**3.35**	**25**	Pn	**Pn**	**00 36 54.2**	**+2.0**
ITBZ	**Tabriz**	**3.42**	**4**	Pn	**Pn**	**00 36 55.2**	**+2.0**
IHRS	**Heris**	**3.63**	**15**	Pn	**Pn**	**00 36 58.4**	**+2.2**
IMRD	**Marand**	**3.90**	**358**	Pn	**Pn**	**00 37 01.1**	**+1.4**
GEVA	**Gevas**	**4.16**	**328**	Pn	**Pn**	**00 36 58.9**	**-4.4**
GEVA				Pg	**Pb**	**00 37 14.0**	**+0.3**
QAMS	**Qamsar**	**4.71**	**102**	Pn	**Pn**	**00 37 13.9**	**+2.9**
MARD	**Mardin**	**4.81**	**303**	Pn	**Pn**	**00 37 10.7**	**-1.5**
GURO	**Guroymak-BITLI**	**4.83**	**322**	Pn	**Pn**	**00 37 09.3**	**-3.3**
GURO				Pg	**Pb**	**00 37 27.9**	**+2.7**
GNI	**Garni**	**5.40**	**351**	Pn	**Pn**	**00 37 17.2**	**-3.2**
GNI				Pg	**Pb**	**00 37 37.6**	**+2.7**
GNI	**Garni**	**5.40**	**351**	Pg	**Pb**	**00 37 35.7**	**+0.8**
	comp=E,0.6nm,0.3s,baz=216,slow=23,SNR=0.9						
GNI				Lg	Lg	00 38 47.1	
	comp=E,0.3nm,0.3s,baz=322,slow=18,SNR=1.6						
ELL	**Elmali**	**13.09**	**283**	Pn	**Pn**	**00 39 03.3**	**-2.5**
UOSS	**Minazif**	**13.30**	**135**	Pn	**Pn**	**00 39 06.9**	**-1.7**
AGG	**Agios Georgios**	**19.26**	**290**	P	**P**	**00 40 22.4**	**-1.6**
AGG	**Agios Georgios**	**19.26**	**290**	P	**P**	**00 40 22.4**	**-1.6**

AGG	**Agios Georgios**	**19.26**	**290**	pmax	pmax	
	comp=Z,6.0nm,1.1s					
AKASG	**Malin Array Be**	**19.96**	**328**	P	**P**	**00 40 31.6 +0.1**
	comp=Z,0.5nm,0.3s,baz=140,slow=9.5,SNR=4.6					
	comp=Z,0.7nm,0.5s					
BUR08	**Bucovina Ar. S**	**20.07**	**316**	P	**P**	**00 40 30.7 -2.1**
BUR08				IAmb	IAmb	00 41 11.4
	comp=Z,8.8nm,1.2s					
FNA	**Florina**	**20.21**	**294**	P	**P**	**00 40 34.3 -0.1**
FNA				IAmb	IAmb	00 40 35.5
	comp=Z,7.6nm,0.7s					
KBN	**Korca**	**20.63**	**294**	P	**P**	**00 40 36.6 -2.3**
KBN				IAmb	IAmb	00 40 51.2
	comp=Z,14nm,1.4s					
FRU1	**Bishkek**	**23.72**	**62**	P	**P**	**00 41 07.6 -3.8**
FRU1				IAmb	IAmb	00 41 11.1
	comp=Z,24nm,0.5s					
BVAR	**Borovoye Array**	**25.17**	**36**	P	**P**	**00 41 27.0 +2.5**
	comp=Z,1.5nm,0.7s,baz=219,slow=8.9,SNR=1.5					
	comp=Z,1.5nm,0.7s					
FINES	**FINESS Array B**	**29.49**	**341**	P	**P**	**00 42 02.9 -0.3**
	comp=Z,2.1nm,0.8s,baz=140,slow=11,SNR=1.4					
	comp=Z,2.1nm,0.8s					
KEST	**Kesra**	**29.71**	**282**	LR	LR	00 57 22.4
	comp=Z,476nm,21.3s,baz=120,slow=43					
MKAR	**Makanchi Array**	**29.80**	**55**	P	**P**	**00 42 07.8 +1.6**
	comp=Z,0.8nm,0.6s,baz=255,slow=8.7,SNR=5.0					
	comp=Z,0.8nm,0.6s					
HFS	**Hagfors**	**32.79**	**331**	P	**P**	**00 42 31.7 -0.6**
	comp=Z,1.9nm,0.7s,baz=144,slow=6.6,SNR=5.0					
	comp=Z,1.9nm,0.7s					
ZALV	**Zalesovo Beam**	**33.22**	**43**	P	**P**	**00 42 36.8 +0.8**
	comp=Z,0.3nm,0.4s,baz=258,slow=7.0,SNR=1.5					
	comp=Z,0.3nm,0.4s					
ARCES	**ARCESS Array B**	**36.55**	**348**	P	**P**	**00 43 04.7 0.0**
	comp=Z,2.6nm,0.9s,baz=153,slow=8.8,SNR=1.7					
	comp=Z,2.6nm,0.9s					
EKA	**Eskdalemuir Ar**	**39.22**	**317**	P	**P**	**00 43 26.6 -0.7**
	comp=Z,0.5nm,0.4s,baz=112,slow=6.6,SNR=3.5					
	comp=Z,0.5nm,0.4s					
ESDC	**Sonseca Array**	**39.55**	**292**	P	**P**	**00 43 30.5 +0.2**
	comp=Z,0.6nm,0.9s,baz=66,slow=9.2,SNR=4.9					
	comp=Z,0.6nm,0.9s					
SPITS	**Spitsbergen Ar**	**45.27**	**352**	P	**P**	**00 44 16.4 0.0**
	comp=Z,6.1nm,0.8s,baz=141,slow=11,SNR=8.1					
	comp=Z,6.1nm,0.8s					
TORD	**Torodi Ar. Bea**	**45.29**	**253**	P	**P**	**00 44 19.4 +2.1**
	comp=Z,0.3nm,0.7s,baz=39,slow=7.4,SNR=1.6					
	comp=Z,0.3nm,0.7s					
YKA	**Yellowknife Ar**	**81.76**	**351**	P	**P**	**00 48 16.9 -0.6**
	comp=Z,0.3nm,0.7s,baz=23,slow=6.1,SNR=2.7					
	comp=Z,0.3nm,0.7s					

RSNC 22 00:43:02.0±0.0, 7°N±1′×7°3W±°, h145km±3km, M2.9, mb3.5, mB4.8, ML2.9, Mw(mB)4.1, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.20**	**186**	P	Pn	00 43 20.7	-1.3
BARC				S	Sn	00 43 35.9	-1.3
PAMC	**Pamplona, Colo**	**0.71**	**40**	P	Pn	00 43 23.6	-1.0
PAMC				S	Sn	00 43 40.6	-1.2
RUSC	**La Rusia**	**0.90**	**175**	P	Pn	00 43 24.7	-1.3
RUSC				S	Sn	00 43 43.3	-1.0
PTBC	**PUERTO BERRIO,**	**1.31**	**259**	P	Pn	00 43 27.4	-1.9
PTBC				S	Sn	00 43 48.6	-1.4
TAMC	**Tame, Arauca**	**1.41**	**104**	P	Pn	00 43 29.2	-1.0
TAMC				S	Sn	00 43 51.0	-0.8
OCAC	**Ocana**	**1.45**	**354**	P	Pn	00 43 28.9	-1.9
OCAC				S	Sn	00 43 50.9	-2.0
SPBC	**San Pablo de B**	**1.45**	**219**	P	Pn	00 43 29.8	-1.0
SPBC				S	Sn	00 43 51.5	-1.2
ZARC	**Zaragoza, Cauc**	**1.82**	**293**	P	Pn	00 43 33.3	-1.5
ZARC				S	Sn	00 43 58.1	-1.8
NORC	**Norcasia**	**2.09**	**234**	P	Pn	00 43 36.8	-1.2
NORC				S	Sn	00 44 04.3	-1.3
CHIC	**Chingaza**	**2.22**	**195**	P	Pn	00 43 38.9	-1.0
CHIC				S	Sn	00 44 08.2	-0.8
ROSC	**El Rosal**	**2.25**	**211**	P	Pn	00 43 40.6	+0.3
ROSC				S	Sn	00 44 09.7	0.0
CVER	**Cruz Verde, Cu**	**2.43**	**202**	P	Pn	00 43 42.3	-0.2
CVER				S	Sn	00 44 14.4	+0.8
UREC	**San Jos de Ur**	**2.54**	**292**	P	Pn	00 43 40.6	-2.8
UREC				S	Sn	00 44 11.9	-3.4
VILC	**Villavicencio,**	**2.71**	**191**	P	Pn	00 43 44.4	-1.3
VILC				S	Sn	00 44 18.4	-1.0
PTGC	**Puerto Gaitan,**	**2.77**	**158**	P	Pn	00 43 43.9	-2.4
PTGC				S	Sn	00 44 17.2	-3.3
DBBC	**Dabeiba**	**3.04**	**274**	P	Pn	00 43 48.2	-1.5
DBBC				S	Sn	00 44 23.8	-2.8
ARGC	**Ariguani, Magd**	**3.23**	**341**	P	Pn	00 43 52.2	0.0
ARGC				S	Sn	00 44 29.7	-1.3
SDV	**Santo Domingo**	**3.26**	**50**	P	Pn	00 43 50.8	-1.9
SDV				S	Sn	00 44 28.0	-3.8
PRAC	**Prado**	**3.51**	**209**	P	Pn	00 43 54.6	-1.2
PRAC				S	Sn	00 44 36.6	-0.8
APAC	**Apartado, Choc**	**3.57**	**288**	P	Pn	00 43 54.6	-1.9
APAC				S	Sn	00 44 37.3	-1.4
PLMC	**San Jos del P**	**3.63**	**239**	P	Pn	00 43 56.2	-1.2
PLMC				S	Sn	00 44 40.1	-0.1
SJCC	**San Jacinto, C**	**3.68**	**327**	P	Pn	00 43 54.9	-3.1
SJCC				S	Sn	00 44 36.0	-5.4
URMC	**La Uribe, Meta**	**3.72**	**199**	P	Pn	00 43 57.4	-1.2
URMC				S	Sn	00 44 41.8	-0.8
CRJC	**Cerrejon, Guaj**	**4.21**	**4**	P	Pn	00 44 01.0	-4.0
CRJC				S	Sn	00 44 48.7	-5.3
GUVC	**San Jose del G**	**4.25**	**173**	P	Pn	00 44 03.4	-2.1
GUVC				S	Sn	00 44 51.2	-3.6
SMRC	**Santa Marta, M**	**4.47**	**346**	P	Pn	00 44 05.6	-2.8
SMRC				S	Sn	00 44 53.8	-6.2
CAPC	**Capurgana**	**4.54**	**294**	P	Pn	00 44 05.3	-4.0
CAPC				S	Sn	00 44 56.0	-5.6
MACC	**Macarena, Meta**	**4.67**	**188**	P	Pn	00 44 07.9	-3.1
MACC				S	Sn	00 44 59.2	-5.5
JAMC	**Jamundi, Valle**	**4.99**	**225**	P	Pn	00 44 13.8	-1.6
JAMC				S	Sn	00 45 11.6	-1.0
URIC	**Uribia, Colomb**	**5.01**	**13**	P	Pn	00 44 11.3	-4.3
URIC				S	Sn	00 45 08.4	-4.5
GARC	**Garzon, Huila**	**5.13**	**207**	P	Pn	00 44 14.7	-2.7
POPC	**Popayan, Colom**	**5.49**	**220**	P	Pn	00 44 21.1	-1.0
	4.5nm,0.7s						
FLOC	**Florencia**	**5.74**	**206**	P	Pn	00 44 23.4	-1.9
FLOC				S	Sn	00 45 31.1	+0.8

ISN 22 00:43:40.1±3.6, 34°.07N×45°.95E, h25km, ML2.7
TEH 22 00:43:49.7, 34°.84N×45°.85E, h10km±113km, ML2.7
ISC 22 00:43:50.3±1.0, 34°.81N±0°.08×45°.87E±0°.04, h10km, n8, σ0±31/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.39**	**217**	Pg	**Pg**	**00 43 58.1**	**+0.2**
IDHR	**Dehrash**	**0.44**	**105**	Pg	**Pg**	**00 43 59.0**	**+0.1**
IDHR				Sg	**Sb**	**00 44 06.9**	**0.0**
IGHG	**Ghaleghazi**	**0.75**	**130**	Pg	**Pg**	**00 44 04.4**	**-0.3**
KCHF	**Cheshme Sefid,**	**1.10**	**119**	Pg	**Pg**	**00 44 11.4**	**-0.1**
ILBA	**Ilam Banvizeh**	**1.22**	**167**	Pg	**Pb**	**00 44 13.7**	**+0.3**
SDS1	**Sardasht. Az.**	**1.37**	**347**	Pg	**Pn**	**00 44 15.6**	**0.0**
IKRK	**Kirkuk**	**1.39**	**295**	*e*Pn	**Pn**	**00 44 15.1**	**-0.6**
	baz=135						
IKRK				*e*Sn	**Sn**	**00 44 34.1**	**0.0**
IBZA	**Bozab**	**1.68**	**101**	Pg	**Pb**	**00 44 21.7**	**+0.3**

ISK 22 01:32:36.6, 34°.50N×28°.11E, h25km, ML2.7/12
NIC 22 01:32:38.4, 34°.61N×28°.17E, h81km±15km, Ml3.0/9
AFAD 22 01:32:43.2±0.0, 35°.14N×28°.22E, h13km±1km, ML2.4
GII 22 01:32:46.5±0.6, 33°.974N±0°.001×28°.920E±0°.003, h0km, Mws2.6, confirmed
ISC 22 01:32:34.8±1.0, 34°.49N±0°.04×28°.16E±0°.05, h10km, n66, σ2±59/80, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**1.34**	**322**	Pn	**Pb**	**01 33 00.5**	**+0.5**
KARP				Sn	**Sb**	**01 33 16.8**	**-0.4**
KARP	**Karpathos**	**1.34**	**322**	P	**Pb**	**01 33 00.4**	**+0.5**
KARP				S	**Sn**	**01 33 18.3**	**+0.9**
KARP				AML	AML	01 33 18.5	
	0.4nm,0.0s						
KARP				AML	AML	01 33 18.9	
	0.3nm,0.0s						
ZKR	**Zakros**	**1.72**	**292**	Pn	**Pn**	**01 33 05.0**	**+0.2**
ZKR				Sn	**Sn**	**01 33 25.9**	**-0.9**
ARG	**Arkhangelos**	**1.72**	**359**	Pn	**Pn**	**01 33 06.1**	**+1.3**
ARG				Sn	**Sn**	**01 33 26.8**	**-0.1**
ARG	**Arkhangelos**	**1.72**	**359**	P	**Pn**	**01 33 05.9**	**+1.0**
ARG				S	**Sn**	**01 33 26.7**	**-0.2**
ARG				AML	AML	01 33 29.7	
	0.1nm,0.4s						
ARG				AML	AML	01 33 29.7	
	0.1nm,0.6s						
AKAS	**Kas**	**2.10**	**34**	Pn	**Pn**	**01 33 11.9**	**+1.7**
AKAS				Sn	**Sn**	**01 33 36.5**	**+0.1**
AKAS	**Kas**	**2.10**	**34**	P	**Pn**	**01 33 12.2**	**+2.0**
AKAS				S	**Sn**	**01 33 34.6**	**-1.8**
AKAS				*i* AML	AML	01 33 39.0	
	comp=E,46nm,0.3s						
AKAS				*i* AML	AML	01 33 40.0	
	comp=N,54nm,0.4s						
IZZE	**Mula-Seydike**	**2.13**	**24**	P	**Pn**	**01 33 11.8**	**+1.3**
IZZE				S	**Sn**	**01 33 33.6**	**-3.3**
IZZE				*i* AML	AML	01 33 39.0	
	comp=E,48nm,0.3s						
IZZE				*i* AML	AML	01 33 41.0	
	comp=N,48nm,0.2s						
TURN	**Turunc**	**2.28**	**2**	Pn	**Pn**	**01 33 13.4**	**+0.9**
TURN	**Turunc**	**2.28**	**2**	P	**Pn**	**01 33 13.8**	**+1.3**
TURN				S	**Sn**	**01 33 36.3**	**-4.4**
TURN				*i* AML	AML	01 33 41.0	
	comp=N,27nm,0.3s						
DAT	**Datca**	**2.28**	**348**	Pn	**Pn**	**01 33 13.6**	**+0.9**
DALY	**Dalyan (Mula)**	**2.35**	**10**	Pn	**Pn**	**01 33 14.8**	**+1.3**
SABU	**Mula-Dalaman**	**2.42**	**16**	P	**Pn**	**01 33 15.4**	**+1.0**
SABU				S	**Sn**	**01 33 39.2**	**-5.0**
AKUM	**Antalya-Kumluc**	**2.55**	**44**	P	**Pn**	**01 33 18.2**	**+2.0**
KNIK	**Mula-Seydike**	**2.62**	**26**	P	**Pn**	**01 33 19.1**	**+1.9**
KNIK				S	**Sn**	**01 33 45.6**	**-3.5**
CAME	**Cameli-Denizli**	**2.62**	**20**	Pn	**Pn**	**01 33 18.7**	**+1.4**
ELL	**Elmali**	**2.66**	**32**	Pn	**Pn**	**01 33 19.4**	**+1.5**
ELL	**Elmali**	**2.66**	**32**	P	**Pn**	**01 33 20.3**	**+2.3**
ELL				S	**Sn**	**01 33 49.4**	**-0.9**
ELL				AML	AML	01 33 53.8	
	0.1nm,0.5s						
ELL				AML	AML	01 33 55.4	
	0.2nm,0.7s						
MULA	**Mugla, Merkez-**	**2.76**	**3**	P	**Pn**	**01 33 21.7**	**+2.5**
CAEL	**Denizli, Camel**	**2.79**	**19**	P	**Pn**	**01 33 22.0**	**+2.4**
CAEL				*i* AML	AML	01 33 55.0	
	comp=N,42nm,0.8s						
CAEL				*i* AML	AML	01 34 07.0	
	comp=E,27nm,0.6s						
IDI	**Anoyia**	**2.81**	**287**	Pn	**Pn**	**01 33 20.2**	**+0.4**
DNZT	**Denizli-Tavas-**	**2.87**	**14**	P	**Pn**	**01 33 22.8**	**+2.1**
DNZT				S	**Sn**	**01 33 52.2**	**-3.2**
GOLH	**Golhisar**	**2.97**	**22**	P	**Pn**	**01 33 24.9**	**+2.8**
GOLH				S	**Sn**	**01 33 55.2**	**-2.5**
GOLH				*i* AML	AML	01 34 00.0	
	comp=E,24nm,0.6s						
GOLH				*i* AML	AML	01 34 06.0	
	comp=N,19nm,1.2s						
TAVA	**DENIZLI_Tavas**	**3.03**	**11**	P	**Pn**	**01 33 24.6**	**+1.7**
TAVA				S	**Sn**	**01 33 54.4**	**-4.9**
TAVA				*i* AML	AML	01 34 03.0	
	comp=N,18nm,0.2s						
TAVA				*i* AML	AML	01 34 05.0	
	comp=E,16nm,0.6s						
KORT	**Korkueli**	**3.07**	**35**	Pn	**Pn**	**01 33 25.4**	**+1.9**
KORT	**Korkueli**	**3.07**	**35**	P	**Pn**	**01 33 22.4**	**-1.1**
APE	**Apeiranthos**	**3.34**	**321**	Pn	**Pn**	**01 33 26.8**	**-0.4**
AKMS	**Akamas**	**3.48**	**80**	P	**Pn**	**01 33 31.0**	**+2.1**
AKMS				AML	AML	01 34 14.8	
	0.1nm,0.3s						
AKMS				AML	AML	01 34 15.7	
	0.1nm,0.4s						
NATA	**Nata**	**3.65**	**84**	P	**Pn**	**01 33 33.7**	**+2.4**
NATA				AML	AML	01 34 16.8	
	0.2nm,0.6s						
NATA				AML	AML	01 34 21.2	
	0.2nm,0.4s						
ALFC	**Alefka**	**3.71**	**78**	P	**Pn**	**01 33 33.9**	**+1.7**
ALFC				AML	AML	01 34 18.6	
	0.1nm,0.3s						
ALFC				AML	AML	01 34 19.9	
	0.1nm,0.4s						
TROD	**Troodos**	**3.90**	**82**	P	**Pn**	**01 33 36.3**	**+1.3**
TROD				AML	AML	01 34 29.3	
	0.1nm,0.5s						
TROD				AML	AML	01 34 29.6	
	0.2nm,0.7s						
ASGA	**Asgata**	**4.20**	**85**	P	**Pn**	**01 33 40.2**	**+1.3**
ASGA				AML	AML	01 34 33.2	
	0.4nm,0.6s						
ASGA				AML	AML	01 34 33.7	
	0.2nm,0.4s						
CSS	**Mathiatis**	**4.28**	**82**	P	**Pn**	**01 33 41.9**	**+1.9**
CSS				AML	AML	01 34 35.1	
	0.1nm,0.3s						
CSS				AML	AML	01 34 36.4	
	0.1nm,0.4s						
MVOU	**Mavrovouni**	**4.53**	**82**	P	**Pn**	**01 33 45.8**	**+2.3**
MMA0B	**Mount Meron ar**	**6.21**	**102**	P	**Pn**	**01 34 11.0**	**+4.4**
MMA0B	**Mount Meron ar**	**6.21**	**102**	S	**Sn**	**01 35 16.7**	**-0.9**
KZIT	**Kziot**	**6.36**	**123**	P	**Pn**	**01 34 10.4**	**+1.9**
GEM	**Giv'at Ha'Em**	**6.37**	**99**	S	**Sn**	**01 35 20.7**	**-0.9**
GEM	**Giv'at Ha'Em**	**6.37**	**99**	P	Pn	01 34 13.7	+4.9
AMAZ	**Amatzia**	**6.39**	**116**	P	**Pn**	**01 34 12.6**	**+3.6**
AMAZ	**Amatzia**	**6.39**	**116**	S	**Sn**	**01 35 19.2**	**-2.6**
MMLI	**Mount Malkishu**	**6.40**	**107**	S	**Sn**	**01 35 20.7**	**-1.8**
MMLI	**Mount Malkishu**	**6.40**	**107**	P	**Pn**	**01 34 13.1**	**+3.9**
NATI	**Neve Ativ**	**6.42**	**99**	P	**Pn**	**01 34 12.2**	**+2.8**
KSHT	**Keshet**	**6.55**	**101**	S	**Sn**	**01 35 25.1**	**-0.9**
KSHT	**Keshet**	**6.55**	**101**	P	**Pn**	**01 34 15.5**	**+4.2**
HMDT	**Nahal Hemdat**	**6.55**	**108**	S	**Sn**	**01 35 23.9**	**-2.2**
HMDT	**Nahal Hemdat**	**6.55**	**108**	P	**Pn**	**01 34 15.3**	**+4.1**
YTIR	**Yattir**	**6.63**	**116**	S	**Sn**	**01 35 25.1**	**-2.9**
YTIR	**Yattir**	**6.63**	**116**	P	**Pn**	**01 34 16.6**	**+4.3**
DSI	**Dead Sea**	**6.72**	**114**	S	**Sn**	**01 35 27.8**	**-2.5**
DSI	**Dead Sea**	**6.72**	**114**	P	**Pn**	**01 34 17.8**	**+4.2**
ZFRI	**Zfri**	**7.11**	**122**	P	**Pn**	**01 34 22.3**	**+3.5**
ZFRI	**Zfri**	**7.11**	**122**	S	**Sn**	**01 35 35.7**	**-3.9**
HRFI	**Mount Harif**	**7.32**	**125**	S	**Sn**	**01 35 42.2**	**-2.8**
HRFI	**Mount Harif**	**7.32**	**125**	P	**Pn**	**01 34 25.4**	**+3.5**
MBRI	**Mt Berech**	**7.39**	**127**	P	**Pn**	**01 34 26.1**	**+3.2**
MBRI	**Mt Berech**	**7.39**	**127**	S	**Sn**	**01 35 44.0**	**-3.0**
EIL	**Elat**	**7.50**	**128**	P	**Pn**	**01 34 26.5**	**+2.2**
EIL	**Elat**	**7.50**	**128**	S	**Sn**	**01 35 46.3**	**-3.1**

GII 22 01:35:05.8±0.3, 34°.57N±0°.03×28°.088E±0°.009, h86km, Mws2.9, confirmed
ISK 22 01:35:08.9, 34°.68N×28°.02E, h13km, ML2.6/8
AFAD 22 01:35:13.2±0.0, 34°.93N×28°.16E, h7km, 2km, ML2.3
ISC 22 01:35:06.3±1.7, 34°.63N±0°.05×28°.29E±0°.06, h17km±11km, n50, σ1±10/59, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKAS	**Kas**	**1.92**	**34**	Pn	**Pg**	**01 35 43.7**	**+0.4**
AKAS				Sn	**Sg**	**01 36 09.0**	**+0.7**
AKAS	**Kas**	**1.92**	**34**	P	**Pg**	**01 35 43.5**	**+0.3**
AKAS				S	**Sg**	**01 36 06.7**	**-1.6**
AKAS				*i* AML	AML	01 36 10.0	
	comp=E,36nm,0.4s						
AKAS				*i* AML	AML	01 36 16.0	
	comp=N,36nm,0.3s						
IZZE	**Mula-Seydike**	**1.96**	**23**	P	**Pg**	**01 35 43.2**	**-0.7**
IZZE				S	**Sb**	**01 36 05.7**	**+0.1**
IZZE				*i* AML	AML	01 36 17.0	
	comp=N,31nm,0.4s						
TURN	**Turunc**	**2.14**	**359**	Pn	**Pb**	**01 35 45.3**	**+0.7**
TURN				Sn	**Sb**	**01 36 10.9**	**+0.1**
TURN	**Turunc**	**2.14**	**359**	P	**Pb**	**01 35 44.4**	**-0.2**
DALY	**Dalyan (Mula)**	**2.20**	**8**	Pn	**Pb**	**01 35 46.2**	**+0.6**
SABU	**Mula-Dalaman**	**2.25**	**14**	P	**Pb**	**01 35 47.0**	**+0.4**
SABU				S	**Sn**	**01 36 06.8**	**-3.5**
KNIK	**Mula-Seydike**	**2.44**	**25**	P	**Pb**	**01 35 50.8**	**+1.0**
KNIK				S	**Sn**	**01 36 12.8**	**-2.3**
CAME	**Cameli-Denizli**	**2.45**	**19**	Pn	**Pb**	**01 35 50.4**	**+0.4**
ELL	**Elmali**	**2.49**	**32**	Pn	**Pb**	**01 35 51.5**	**+0.8**
CAEL	**Denizli, Camel**	**2.62**	**18**	P	**Pb**	**01 35 53.3**	**+0.3**
CAEL				*i* AML	AML	01 36 42.0	
	comp=E,20nm,1.0s						
CAEL				*i* AML	AML	01 36 47.0	
	comp=N,27nm,1.3s						
DNZT	**Denizli-Tavas-**	**2.71**	**13**	P	**Pb**	**01 35 53.8**	**-0.6**
DNZT				S	**Sn**	**01 36 23.2**	**+1.6**
GOLH	**Golhisar**	**2.79**	**21**	P	**Pb**	**01 35 57.0**	**+1.1**
GOLH				S	**Sb**	**01 36 28.8**	**-1.1**
GOLH				*i* AML	AML	01 36 34.0	
	comp=N,10nm,0.6s						
GOLH				*i* AML	AML	01 36 34.0	
	comp=E,11nm,0.4s						
IDI	**Anoyia**	**2.87**	**284**	Pn	**Pn**	**01 35 52.5**	**+1.1**
TAVA	**DENIZLI_Tavas**	**2.87**	**10**	P	**Pb**	**01 35 56.0**	**-1.2**
TAVA				S	**Sn**	**01 36 28.7**	**+3.0**
KORT	**Korkueli**	**2.90**	**35**	Pn	**Pb**	**01 35 57.5**	**-0.1**
KORT	**Korkueli**	**2.90**	**35**	P	**Pb**	**01 35 57.7**	**0.0**
KORT				*i* AML	AML	01 36 36.0	
	comp=E,10nm,0.6s						
APE	**Apeiranthos**	**3.31**	**318**	Pn	**Pn**	**01 35 59.4**	**+2.0**
MMA0B	**Mount Meron ar**	**6.14**	**103**	P	**Pn**	**01 36 36.4**	**+0.1**
MMA0B	**Mount Meron ar**	**6.14**	**103**	S	**Sn**	**01 37 47.0**	**+0.8**
GEM	**Giv'at Ha'Em**	**6.29**	**101**	S	**Sn**	**01 37 50.4**	**+0.5**
GEM	**Giv'at Ha'Em**	**6.29**	**101**	P	**Pn**	**01 36 38.1**	**-0.3**
NATI	**Neve Ativ**	**6.34**	**100**	S	**Sn**	**01 37 52.0**	**+1.0**
NATI	**Neve Ativ**	**6.34**	**100**	P	**Pn**	**01 36 38.6**	**-0.4**
MMLI	**Mount Malkishu**	**6.34**	**108**	P	**Pn**	**01 36 38.5**	**-0.7**
MMLI	**Mount Malkishu**	**6.34**	**108**	S	**Sn**	**01 37 51.7**	**+0.4**
KZIT	**Kziot**	**6.35**	**124**	P	**Pn**	**01 36 38.6**	**-0.5**
AMAZ	**Amatzia**	**6.36**	**117**	P	**Pn**	**01 36 38.7**	**-0.7**
AMAZ	**Amatzia**	**6.36**	**117**	S	**Sn**	**01 37 52.0**	**+0.3**
KSHT	**Keshet**	**6.47**	**103**	S	**Sn**	**01 37 55.1**	**+0.6**
KSHT	**Keshet**	**6.47**	**103**	P	**Pn**	**01 36 40.6**	**-0.3**
HMDT	**Nahal Hemdat**	**6.50**	**109**	S	**Sn**	**01 37 55.2**	**+0.2**
HMDT	**Nahal Hemdat**	**6.50**	**109**	P	**Pn**	**01 36 40.6**	**-0.6**
YTIR	**Yattir**	**6.60**	**118**	S	**Sn**	**01 37 57.7**	**+0.2**
YTIR	**Yattir**	**6.60**	**118**	P	**Pn**	**01 36 41.9**	**-0.7**
DSI	**Dead Sea**	**6.69**	**115**	P	**Pn**	**01 36 42.9**	**-0.9**
DSI	**Dead Sea**	**6.69**	**115**	S	**Sn**	**01 37 59.7**	**0.0**
MSBI	**Mazada**	**6.80**	**117**	P	**Pn**	**01 36 44.6**	**-0.7**
MSBI	**Mazada**	**6.80**	**117**	S	**Sn**	**01 38 02.1**	**-0.2**
KRMI	**Paran Flat**	**7.06**	**128**	P	**Pn**	**01 36 48.4**	**-0.7**
ZFRI	**Zfri**	**7.09**	**123**	P	**Pn**	**01 36 48.4**	**-1.0**
ZFRI	**Zfri**	**7.09**	**123**	S	**Sn**	**01 38 07.8**	**-1.8**
PRNI	**Paran**	**7.10**	**125**	S	**Sn**	**01 38 08.1**	**-1.7**
PRNI	**Paran**	**7.10**	**125**	P	**Pn**	**01 36 48.7**	**-0.8**
HRFI	**Mount Harif**	**7.32**	**127**	S	**Sn**	**01 38 14.6**	**-0.7**
HRFI	**Mount Harif**	**7.32**	**127**	P	**Pn**	**01 36 51.3**	**-1.2**
MBRI	**Mt Berech**	**7.40**	**129**	P	**Pn**	**01 36 53.0**	**-0.7**
MBRI	**Mt Berech**	**7.40**	**129**	S	**Sn**	**01 38 16.6**	**-0.7**
EIL	**Elat**	**7.51**	**129**	P	**Pn**	**01 36 53.7**	**-1.4**
EIL	**Elat**	**7.51**	**129**	S	**Sn**	**01 38 18.6**	**-1.3**

IDC 22 01:42:38.3±1.1, 13°.05N×143°.50E, h208km±15km, mb3.2/8, mbtmp3.7/8, MS3.9/1, Error ellipse: s-maj=36.5km s-min=14.9km az=95.0
NEIC 22 01:42:38.8±1.9, 13°.1N±0°.1×143°.6E±0°.1, h209km±7km, mb4.4/18, Error ellipse: s-maj=17.4km s-min=12.3km az=140.0
ISC 22 01:42:37.6±0.6, 13°.05N±0°.09×143°.4E±0°.1, h200km, n33, σ0±98/34, mb4.2/18, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.53**	**69**	Pn	**Pn**	**01 43 12.4**	**+0.8**
GUMO				Sn	**Sn**	**01 43 38.1**	**+0.3**
GUMO	**Guam**	**1.53**	**69**	P	**Pn**	**01 43 12.6**	**+1.1**
	52nm,0.3s,baz=217,slow=15,SNR=2.8						
GUMO				S	**Sn**	**01 43 38.5**	**+0.6**
	202nm,0.2s,baz=160,slow=23,SNR=11						
COEN	**Coen**	**26.84**	**180**	P	**P**	**01 48 00.1**	**+0.4**
COEN				IAmb	IAmb	01 48 07.5	
	comp=Z,8.3nm,0.9s						
USRK	**Ussuriysk Ar.**	**32.55**	**345**	LR	LR	02 01 02.5	
	comp=Z,175nm,18.1s,baz=318,slow=34						
WB0	**Warramunga Arr**	**33.80**	**195**	P	**P**	**01 49 00.5**	**-0.3**
WB0				IAmb	IAmb	01 49 05.2	
	comp=Z,20nm,1.4s						
WR0	**Warramunga Arr**	**33.94**	**195**	P	**P**	**01 49 01.4**	**-0.6**
WR0				IAmb	IAmb	01 49 07.1	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**33.98**	**195**	P	**P**	**01 49 02.1**	**-0.3**
WRA	**Warramunga Arr**	**33.98**	**195**	P	**P**	**01 49 01.5**	**-0.9**
WRA	**Warramunga Arr**	**33.98**	**195**	P	**P**	**01 49 02.4**	**0.0**
	comp=Z,2.0nm,0.7s,baz=16,slow=9.3,SNR=12						
	comp=Z,2

*CLL **22** 01:58:21.4±0.3,50°.25N×12°.45E,h5km±1km,ML2.3*
*LDG **22** 01:58:21.4±0.1,50°.26N×12°.35E,h9km,Ml2.6/4,Error ellipse: s-maj=4.9km s-min=2.6km az=150.0*
ISC 22 01:58:20.5±0.8,**50°23N**±0°.01×**12°43E**±0°.01,**h11**km±3km,
n86,σ1°**02**/153,**5C-7D,Germany**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**95**	*i* Pg	**Pg**	**01 58 22.4**	**-0.1**
NKC				*i* Sg	**Sg**	**01 58 23.2**	**-0.6**
NKC				IAML		01 58 23.5	
	comp=N,10μm,0.1s						
NKC	**Novy Kostel**	**0.01**	**95**	*e*PG	**Pg**	**01 58 22.3**	**-0.1**
NKC				*e*SG	**Sg**	**01 58 23.2**	**-0.6**
	comp=N,4μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**95**	*i* Pg	**Pg**	**01 58 22.4**	**-0.1**
NKC				*i* Sg	**Sg**	**01 58 23.2**	**-0.6**
	comp=N,10μm,0.1s						
NKC	**Novy Kostel**	**0.01**	**95**	⇓P	**Pg**	**01 58 22.4**	**-0.1**
NKC				S	**Sg**	**01 58 23.2**	**-0.6**
LBCW	**Luby**	**0.03**	**339**	⇓P	**Pg**	**01 58 22.6**	**0.0**
LBCW				S	**Sg**	**01 58 23.7**	**-0.4**
VAC	**Vackov**	**0.04**	**271**	*i* Pg	**Pg**	**01 58 22.7**	**+0.1**
VAC				*i* Sg	**Sg**	**01 58 23.7**	**-0.3**
VAC	**Vackov**	**0.04**	**271**	⇓P	**Pg**	**01 58 22.7**	**+0.1**
VAC				S	**Sg**	**01 58 23.7**	**-0.3**
KVC	**Kvetna**	**0.06**	**118**	*i* Pg	**Pg**	**01 58 22.6**	**-0.1**
KVC				*i* Sg	**Sg**	**01 58 23.6**	**-0.7**
KVC	**Kvetna**	**0.06**	**118**	⇑P	**Pg**	**01 58 22.7**	**-0.1**
KVC				S	**Sg**	**01 58 23.7**	**-0.7**
STCW	**Studenec**	**0.06**	**66**	*i* Pg	**Pg**	**01 58 22.6**	**-0.2**
STCW				*i* Sg	**Sg**	**01 58 23.5**	**-1.0**
STCW	**Studenec**	**0.06**	**66**	*i* Pg	**Pg**	**01 58 22.6**	**-0.2**
STCW				*i* Sg	**Sg**	**01 58 23.5**	**-1.0**
STCW	**Studenec**	**0.06**	**66**	⇑P	**Pg**	**01 58 22.6**	**-0.2**
STCW				S	**Sg**	**01 58 23.5**	**-1.0**
WERN	**Wernitzgruen**	**0.06**	**327**	*i* Pg	**Pg**	**01 58 23.0**	**+0.2**
WERN				*i* Sg	**Sg**	**01 58 24.2**	**-0.3**
WERN				IAML		01 58 24.4	
	comp=E,2μm,0.2s						
WERN	**Wernitzgruen**	**0.06**	**327**	*i* Pg	**Pg**	**01 58 23.0**	**+0.2**
WERN				*i* Sg	**Sg**	**01 58 24.2**	**-0.3**
	comp=E,2μm,0.2s						
ROHR	**Rohrbach**	**0.07**	**270**	*i* Pg	**Pg**	**01 58 23.2**	**+0.3**
ROHR				*i* Sg	**Sg**	**01 58 24.5**	**-0.1**
ROHR				IAML		01 58 24.7	
	comp=E,4μm,0.1s						
ROHR	**Rohrbach**	**0.07**	**270**	*i* Pg	**Pg**	**01 58 23.2**	**+0.3**
ROHR				*i* Sg	**Sg**	**01 58 24.5**	**-0.1**
	comp=E,4μm,0.1s						
SKC	**Skalna**	**0.08**	**215**	⇑P	**Pg**	**01 58 23.3**	**+0.4**
SKC				S	**Sg**	**01 58 24.8**	**+0.2**
POCW	**Potky**	**0.09**	**358**	⇓P	**Pg**	**01 58 23.1**	**+0.1**
POCW				S	**Sg**	**01 58 24.5**	**-0.4**
KRCW	**Kraslice**	**0.12**	**33**	⇑P	**Pg**	**01 58 23.4**	**-0.1**
KRCW				S	**Sg**	**01 58 24.9**	**-0.7**
KOCW	**Kopaniny**	**0.13**	**284**	⇓P	**Pg**	**01 58 24.1**	**+0.5**
KOCW				S	**Sg**	**01 58 26.1**	**+0.2**
GUNZ	**Gunzen**	**0.14**	**334**	*i* Pg	**Pg**	**01 58 24.2**	**+0.3**
GUNZ				*i* Sg	**Sg**	**01 58 26.2**	**-0.1**
GUNZ				IAML		01 58 26.7	
	comp=E,254nm,0.4s						
GUNZ	**Gunzen**	**0.14**	**334**	*i* Pg	**Pg**	**01 58 24.2**	**+0.3**
GUNZ				*i* Sg	**Sg**	**01 58 26.2**	**-0.1**
	comp=E,254nm,0.4s						
MULD	**Muldenberg**	**0.18**	**354**	*i* Pg	**Pg**	**01 58 24.6**	**+0.2**
MULD				*i* Sg	**Sg**	**01 58 26.8**	**-0.3**
MULD				IAML		01 58 27.4	
	comp=N,713nm,0.2s						
MULD	**Muldenberg**	**0.18**	**354**	*i* Pg	**Pg**	**01 58 24.6**	**+0.2**
MULD				*i* Sg	**Sg**	**01 58 26.8**	**-0.3**
	comp=N,713nm,0.2s						
TANN	**Tannenbergstha**	**0.18**	**6**	*i* Pg	**Pg**	**01 58 24.5**	**+0.1**
TANN				*i* Sg	**Sg**	**01 58 26.7**	**-0.5**
TANN				IAML		01 58 27.3	
	comp=E,621nm,0.1s						
TANN	**Tannenbergstha**	**0.18**	**6**	*i* Pg	**Pg**	**01 58 24.5**	**+0.1**
TANN				*i* Sg	**Sg**	**01 58 26.7**	**-0.5**
	comp=E,621nm,0.1s						
ZHC	**Zelena Hora**	**0.18**	**206**	⇑P	**Pg**	**01 58 25.1**	**+0.7**
ZHC				S	**Sg**	**01 58 27.7**	**+0.6**
TRCW	**Trojmez**	**0.20**	**291**	⇓P	**Pg**	**01 58 25.3**	**+0.6**
TRCW				S	**Sg**	**01 58 28.1**	**+0.5**
VIEL	**Selb-Vielitz**	**0.22**	**257**	*i* Pg	**Pg**	**01 58 25.6**	**+0.6**
VIEL				*i* Sg	**Sg**	**01 58 28.7**	**+0.5**
VIEL	**Selb-Vielitz**	**0.22**	**257**	*i* Pg	**Pg**	**01 58 25.6**	**+0.6**
VIEL				*i* Sg	**Sg**	**01 58 28.7**	**+0.5**
LACW	**Lazy**	**0.22**	**146**	*i* Pg	**Pg**	**01 58 25.6**	**+0.5**
LACW				*i* Sg	**Sg**	**01 58 28.6**	**+0.3**
LACW	**Lazy**	**0.22**	**146**	*i* Pg	**Pg**	**01 58 25.6**	**+0.5**
LACW				*i* Sg	**Sg**	**01 58 28.6**	**+0.3**
LACW	**Lazy**	**0.22**	**146**	⇓P	**Pg**	**01 58 25.6**	**+0.5**
LACW				S	**Sg**	**01 58 28.7**	**+0.3**
TRIB	**Obertriebel**	**0.22**	**302**	*i* Pg	**Pg**	**01 58 25.6**	**+0.5**
TRIB				*i* Sg	**Sg**	**01 58 28.7**	**+0.4**
TRIB				IAML		01 58 29.1	
	comp=E,347nm,0.1s						
TRIB	**Obertriebel**	**0.22**	**302**	*i* Pg	**Pg**	**01 58 25.6**	**+0.5**
TRIB				*i* Sg	**Sg**	**01 58 28.7**	**+0.4**
	comp=E,347nm,0.1s						
WERD	**Werda**	**0.23**	**340**	*i* Pg	**Pg**	**01 58 25.6**	**+0.3**
WERD				*e*Sg	**Sg**	**01 58 28.4**	**-0.1**
WERD				IAML		01 58 28.8	
	comp=N,176nm,0.2s						
WERD	**Werda**	**0.23**	**340**	*i* Pg	**Pg**	**01 58 25.6**	**+0.3**
WERD				*e*Sg	**Sg**	**01 58 28.4**	**-0.1**
	comp=N,176nm,0.2s						
PLN	**Plauen**	**0.31**	**325**	*i* Pg	**Pg**	**01 58 27.1**	**+0.4**
PLN				*i* Sg	**Sg**	**01 58 31.1**	**+0.3**
PLN				IAML		01 58 31.6	
	comp=E,94nm,0.1s						
PLN	**Plauen**	**0.31**	**325**	*i* Pg	**Pg**	**01 58 27.1**	**+0.4**
PLN				*i* Sg	**Sg**	**01 58 31.1**	**+0.3**
	comp=E,94nm,0.1s						
SCHF	**Schoenfels**	**0.44**	**358**	*i* Pg	**Pg**	**01 58 29.4**	**+0.2**
SCHF				*i* Sg	**Sg**	**01 58 35.2**	**+0.1**
SCHF				IAML		01 58 35.6	
	comp=E,414nm,0.2s						
SCHF	**Schoenfels**	**0.44**	**358**	*i* Pg	**Pg**	**01 58 29.4**	**+0.2**
SCHF				*i* Sg	**Sg**	**01 58 35.2**	**+0.1**
	comp=E,414nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.48**	**344**	*i* Pg	**Pg**	**01 58 30.1**	**+0.3**
GRZ1				*i* Sg	**Sg**	**01 58 36.0**	**-0.2**
GRZ1				IAML		01 58 37.8	
	comp=N,117nm,0.3s						
GRZ1	**Mausoleum Wald**	**0.48**	**344**	*i* Pg	**Pg**	**01 58 30.1**	**+0.3**
GRZ1				*i* Sg	**Sg**	**01 58 36.0**	**-0.2**
	comp=N,117nm,0.3s						
ROTZ	**Rotzenmuhle**	**0.49**	**197**	*e*Pg	**Pg**	**01 58 30.7**	**+0.6**
ROTZ				*e*Sg	**Sg**	**01 58 37.1**	**+0.6**
ZEU	**Talsperre Zeul**	**0.53**	**327**	*i* Pg	**Pg**	**01 58 31.1**	**+0.4**
ZEU				*i* Sg	**Sg**	**01 58 37.8**	**+0.2**
ZEU	**Talsperre Zeul**	**0.53**	**327**	*i* Pg	**Pg**	**01 58 31.1**	**+0.4**
ZEU				*i* Sg	**Sg**	**01 58 37.8**	**+0.2**
MOX	**Moxa**	**0.66**	**309**	*e*Pg	**Pg**	**01 58 33.8**	**+0.5**
MOX				*e*Sg	**Sg**	**01 58 42.8**	**+0.7**
HSKC	**Hora Svate Kat**	**0.74**	**59**	*e*PG	**Pg**	**01 58 34.6**	**-0.2**
HSKC				*e*SG	**Sg**	**01 58 44.1**	**-0.4**
	comp=N,81nm,0.2s						
FBE	**Freiberg**	**0.91**	**40**	*e*Pg	**Pg**	**01 58 38.0**	**0.0**
FBE				*e*Sg	**Sg**	**01 58 49.3**	**-0.4**
GRF	**Grafenberg Arr**	**0.95**	**236**	*e*Pg	**Pg**	**01 58 39.4**	**+0.7**
GRF				*e*Sg	**Sg**	**01 58 52.5**	**+1.3**
WET	**Wettzell**	**1.13**	**165**	*e*Pg	**Pg**	**01 58 42.2**	**0.0**
WET				*e*Sg	**Sg**	**01 58 57.5**	**+0.7**
CLL	**Collm**	**1.14**	**18**	*i* Pg	**Pg**	**01 58 42.0**	**-0.3**
CLL				*i* x	x	01 58 44.5	
CLL				*i* Sg	**Sg**	**01 58 56.4**	**-0.6**
	comp=Z,34nm,0.4s						
CLL				*i* x	x	01 59 00.0	
CLL	**Collm**	**1.14**	**18**	*e*Pg	**Pg**	**01 58 41.8**	**-0.5**
CLL				*e*Sg	**Sg**	**01 58 56.7**	**-0.3**
BRG	**Berggiesshubel**	**1.16**	**56**	Pg	**Pb**	**01 58 42.5**	**0.0**
BRG				Sg	**Sg**	**01 58 57.5**	**-0.3**
BRG				Amp		01 58 59.3	
	comp=Z,36nm,0.2s						
BRG	**Berggiesshubel**	**1.16**	**56**	*e*Pg	**Pb**	**01 58 42.5**	**0.0**
BRG				*e*Sg	**Sb**	**01 58 57.7**	**+0.2**
PRA	**Prague**	**1.30**	**96**	*e*Pn	**Pn**	**01 58 45.0**	**+0.4**
PRA	**Prague**	**1.30**	**96**	*e*SG	**Sb**	**01 59 00.9**	**-0.7**
	comp=Z,29nm,0.7s						
KHC	**Kasperske Hory**	**1.33**	**146**	*e*PG	**Pn**	**01 58 45.3**	**+0.2**
KHC				*e*SG	**Sb**	**01 59 02.5**	**-0.1**
	comp=Z,18nm,0.5s						
PRU	**Pruhonice**	**1.38**	**99**	*e*PG	**Pn**	**01 58 46.4**	**+0.7**
PRU				*e*SG	**Sn**	**01 59 04.5**	**+0.5**
	comp=Z,39nm,0.3s						
PRU	**Pruhonice**	**1.38**	**99**	*e*Pg	**Pn**	**01 58 46.4**	**+0.7**
PRU				*e*Sg	**Sn**	**01 59 04.7**	**+0.7**
ZVC	**Zvikov**	**1.39**	**124**	*e*SG	**Sb**	**01 59 04.6**	**+0.4**
	comp=Z,11nm,0.2s						
PVCC	**Panska Ves**	**1.40**	**77**	*e*SG	**Sg**	**01 59 05.3**	**-0.2**
	comp=Z,70nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	*e*SG	**Sb**	**01 59 09.3**	**+0.4**
	comp=Z,28nm,0.2s						
GEC2	**GERESS Array S**	**1.62**	**149**	*e*Pg	**Pn**	**01 58 49.4**	**+0.3**
GEC2				*e*Sg	**Sb**	**01 59 11.3**	**+0.4**
CKRC	**Cesky Krumlov**	**1.87**	**138**	*e*PG	**Pn**	**01 58 53.6**	**+1.1**
CKRC				*e*SG	**Sb**	**01 59 18.7**	**+0.6**
	comp=Z,10nm,0.7s						
UPC	**Upice**	**2.31**	**82**	*e*SG	**Sb**	**01 59 32.6**	**+1.9**
	comp=Z,17nm,0.5s						
DPC	**Dobruska-Polom**	**2.50**	**86**	*e*SG	**Sb**	**01 59 37.7**	**+1.5**
	comp=Z,15nm,0.7s						
MOA	**Molln**	**2.67**	**152**	*e*Pn	**Pn**	**01 59 03.8**	**+0.3**
	comp=Z,0.2nm,0.1s						
LESA	**Schwarzleotal**	**2.82**	**177**	*e*Pn	**Pn**	**01 59 05.6**	**+0.1**
	comp=Z,0.1nm,0.1s						
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	**Pn**	**01 59 06.0**	**+0.4**
KRUC				*e*SG	**Sb**	**01 59 48.0**	**+2.3**
VRAC	**Vranov**	**2.85**	**107**	*e*PN	**Pn**	**01 59 06.3**	**+0.3**
VRAC				*e*SG	**Sb**	**01 59 48.3**	**+2.0**
WATA	**Walderalm**	**2.96**	**191**	*e*Pn	**Pn**	**01 59 07.1**	**-0.4**
	comp=Z,0.2nm,0.1s						
RETA	**Reutte**	**2.96**	**202**	*e*Pn	**Pn**	**01 59 07.0**	**-0.6**
	comp=Z,0.3nm,0.2s						
MOTA	**Moosalm**	**3.02**	**197**	*i* Pn	**Pn**	**01 59 08.0**	**-0.4**
	comp=Z,0.2nm,0.1s						
SQTA	**Sankt Quirin**	**3.12**	**195**	Pg	**Pg**	**01 59 20.4**	**+0.1**
	comp=Z,0.3nm,0.2s						
CONA	**Conrad Observa**	**3.23**	**134**	*e*Pn	**Pn**	**01 59 11.8**	**+0.7**
	comp=Z,0.3nm,0.2s						
MORC	**Moravsky Berou**	**3.33**	**96**	*e*PN	**Pn**	**01 59 12.3**	**-0.2**
MORC				*e*SG	**Sg**	**02 00 04.1**	**-3.2**
DAVA	**Damuels**	**3.40**	**211**	*e*Pn	**Pn**	**01 59 14.4**	**+0.8**
	comp=Z,0.5nm,0.2s						
MODS	**Modra-Piesok**	**3.68**	**119**	*e*SG	**Sg**	**02 00 16.3**	**-2.2**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pn	**Pn**	**01 59 18.4**	**-1.1**
CDF	**Champ du Feu**	**3.83**	**244**	*e*Pg	**Pb**	**01 59 31.3**	**+3.1**
CDF				*e*SG	**Sg**	**02 00 20.5**	**-3.0**
	comp=Z,2.9nm,0.3s						
HINF	**Hinteralfeld**	**4.39**	**239**	*e*Pg	**Pg**	**01 59 42.8**	**-1.8**
HINF				*e*Sn	**Sn**	**02 00 15.4**	**-3.0**
HINF				*e*Sg	**Sg**	**02 00 37.7**	**-3.8**
	comp=Z,2.4nm,0.3s						
HAU	**Haudompre**	**4.58**	**243**	*e*Pn	**Pn**	**01 59 28.8**	**-0.8**
HAU	**Haudompre**	**4.58**	**243**	*e*Pg	**Pg**	**01 59 45.9**	**-2.2**
HAU				*e*Sg	**Sg**	**02 00 43.2**	**-4.1**
	comp=Z,4.7nm,0.4s						
LANS	**Liptovska Anna**	**4.70**	**101**	*e*SG	**Sg**	**02 00 49.2**	**-1.9**
SMF	**Signal de Mont**	**6.75**	**241**	*e*Pg	Pg	02 00 25.3	-4.3
SMF				*e*Sg	**Sg**	**02 01 51.8**	**-5.1**
	comp=Z,0.7nm,0.3s						

*IDC **22** 02:03:47.6±10.0,24°.17S×179°.87W,h541km±143km, mb3.0/3,mbtmp4.0/4,Error ellipse: s-maj=93.3km s-min=32.9km az=0.0*
*NEIC **22** 02:03:47.1±1.7,24°.2S±0°.2×179°.7W±0°.2,h541km±10km, mb4.2/13,Error ellipse: s-maj=27.5km s-min=19.3km az=146.0*
ISC 22 02:03:45.9±0.7,**24°2S**±0°.1×**179°8W**±0°.1,**h518**km,**n19**,
σ1°**00**/20,**mb4.1**/10,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.70**	**38**	P	**P**	**02 06 32.3**	**+0.3**
URZ	**Urewera**	**14.30**	**190**	P	**P**	**02 06 49.9**	**+1.6**
	4.2nm,0.4s,baz=124,slow=2.7,SNR=6.9						
URZ				S	**S**	**02 09 18.6**	**-0.1**
	3.3nm,0.5s,baz=149,slow=22,SNR=2.0						
EIDS	**Eidsvold**	**26.46**	**261**	P	**P**	**02 08 42.1**	**+0.7**
EIDS				IAmb	IAmb	02 09 00.5	
	comp=Z,12nm,1.3s						
CTAO	**Charters Tower**	**31.68**	**271**	P	**P**	**02 09 27.2**	**+0.5**
STKA	**Stephens Creek**	**34.81**	**248**	P	**P**	**02 09 54.5**	**+1.3**
BBOO	**Buckleboo**	**39.52**	**247**	P	**P**	**02 10 31.5**	**-0.3**
ASAR	**Alice Springs**	**42.19**	**261**	P	**P**	**02 10 53.0**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=102,slow=7.2,SNR=8.7						
	comp=Z,1.4nm,0.7s						
WR0	**Warramunga Arr**	**42.40**	**266**	P	**P**	**02 10 54.0**	**-0.9**
WR0				IAmb	IAmb	02 10 57.4	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**42.58**	**266**	P	**P**	**02 10 55.7**	**-0.6**
WB2				IAmb	IAmb	02 11 06.1	
	comp=Z,11nm,1.4s						
WB0	**Warramunga Arr**	**42.58**	**267**	P	**P**	**02 10 55.5**	**-0.8**
WB0				IAmb	IAmb	02 11 03.8	
	comp=Z,18nm,1.5s						
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**02 10 55.6**	**-0.8**
WRA	**Warramunga Arr**	**42.59**	**266**	P	**P**	**02 10 55.5**	**-0.9**
	comp=Z,2.3nm,0.4s,baz=103,slow=8.2,SNR=24						
	comp=Z,2.3nm,0.4s						
FORT	**Forrest**	**46.41**	**250**	P	**P**	**02 11 25.1**	**-0.6**
FORT				IAmb	IAmb	02 11 43.5	
	comp=Z,12nm,0.9s						
PSA00	**Pilbara Seismi**	**55.31**	**260**	P	**P**	**02 12 30.2**	**-0.4**
PSA00				IAmb	IAmb	02 12 42.7	
	comp=Z,10nm,1.4s						
CASY	**Casey**	**59.96**	**206**	P	**P**	**02 13 01.8**	**+0.3**
CASY				IAmb	IAmb	02 13 16.6	
	comp=Z,8.1nm,1.4s						
QSPA	**South Pole Qui**	**65.92**	**180**	P	**P**	**02 13 37.4**	**-2.7**
BELA	**Belgrano 2**	**76.15**	**173**	P	**P**	**02 14 40.3**	**+0.4**
CNBA	**Chernabura Isl**	**80.56**	**12**	P	**P**	**02 15 04.1**	**+0.5**
NVAR	**Mina Array Bea**	**84.81**	**44**	P	**P**	**02 15 25.7**	**-0.1**
	comp=Z,0.2nm,0.6s,baz=222,slow=5.8,SNR=2.3						
	comp=Z,0.2nm,0.6s						

*DJA **22** 02:20:24.3±0.5,10°S±7°×11°7E±°,h10km,M4.4/10, mb4.5/3,MLv4.4/10*
*IDC **22** 02:20:28.9±8.2,9°.33S×117°.06E,h96km±74km,mb3.5/6, mbtmp3.8/8,ML3.5/2,Error ellipse: s-maj=77.1km s-min=18.4km az=68.0*
ISC 22 02:20:27.6±0.9,**9°45S**±0°.09×**117°17E**±0°.05,**h87**km,**n19**,
σ1°**25**/22,**mb3.8**/6,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.76**	**338**	P	**Pn**	**02 20 42.6**	**-1.8**
PLAI	**Plampang**	**0.86**	**44**	P	**Pn**	**02 20 44.3**	**-1.2**
PLAI				S	**Sn**	**02 20 56.7**	**-2.1**
DNP	**Denpasar**	**2.08**	**291**	P	**Pn**	**02 20 59.7**	**-1.1**
SRBI	**Singaraja**	**2.36**	**305**	P	**Pn**	**02 21 04.6**	**+0.1**
SRBI				S	**Sn**	**02 21 31.7**	**-1.0**
JAGI	**Jajag, Banyuwa**	**3.14**	**288**	P	**Pn**	**02 21 14.0**	**-0.9**
ABJI	**Asem Bagus**	**3.33**	**299**	P	**Pn**	**02 21 17.3**	**-0.3**
BASI	**Baing, Sumba**	**3.44**	**103**	P	**Pn**	**02 21 18.2**	**-0.8**
BLJI	**Banyuglugur**	**3.92**	**295**	P	**Pn**	**02 21 25.8**	**+0.3**
EDFI	**Ende, Flores**	**4.52**	**82**	P	**Pn**	**02 21 34.3**	**+0.6**
KAPI	**Kappang**	**5.09**	**30**	P	**Pn**	**02 21 42.5**	**+1.0**
	3.7nm,0.3s,baz=196,slow=9.4,SNR=8.2						
KAPI				S	**Sn**	**02 22 40.0**	**+1.0**
	8.4nm,0.3s,baz=198,slow=22,SNR=1.5						
	19nm,0.5s						
PWJI	**Pagerwojo**	**5.49**	**285**	P	**Pn**	**02 21 46.2**	**-0.7**
	39nm,1.0s,0.5nm						
UGM	**Wanagama**	**6.75**	**283**	P	**Pn**	**02 22 04.1**	**0.0**
	110nm,2.1s,0.6nm						
WRA	**Warramunga Arr**	**19.59**	**124**	P	**Pn**	**02 24 50.8**	**-0.3**
	0.1nm,0.3s,baz=301,slow=12,SNR=5.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**21.35**	**134**	P	**P**	**02 25 10.7**	**+2.8**
	0.8nm,0.5s,baz=311,slow=8.7,SNR=7.6						
	0.8nm,0.5s						
SONM	**Songino Array**	**57.82**	**351**	P	**P**	**02 30 10.6**	**+0.5**
	1.1nm,0.5s,baz=152,slow=6.5,SNR=5.4						
	1.1nm,0.5s						
MKAR	**Makanchi Array**	**64.05**	**334**	P	**P**	**02 30 52.2**	**0.0**
	0.6nm,0.5s,baz=149,slow=6.7,SNR=6.3						
	0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**68.58**	**335**	P	**P**	**02 31 18.9**	**-2.0**
	0.6nm,0.7s,baz=145,slow=4.9,SNR=7.4						
	0.6nm,0.7s						
ZALV	**Zalesovo Beam**	**68.83**	**340**	P	**P**	**02 31 21.5**	**-0.9**
	1.0nm,0.5s,baz=108,slow=7.5,SNR=5.2						
	1.0nm,0.5s						
BVAR	**Borovoye Array**	**73.85**	**333**	P	**P**	**02 31 52.4**	**-0.4**
	0.8nm,0.6s,baz=134,slow=6.2,SNR=5.2						
	0.8nm,0.6s						

*IDC **22** 02:21:02.9±8.4,9°.20S×116°.86E,h82km±76km,mb3.5/6, mbtmp3.8/8,ML3.8/2,Error ellipse: s-maj=73.7km s-min=19.9km az=69.0*
*DJA **22** 02:21:02.3±1.4,9°S±9°×11°7E±°,h13km±7km,M4.0/4, MLv4.0/4*
ISC 22 02:21:03.4±1.0,**9°3S**±0°.1×**117°15E**±0°.07,**h87**km,**n14**,
σ1°**66**/14,**mb3.8**/6,**Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWSI	**Taliwang, Sumb**	**0.58**	**333**	P	**Pn**	**02 21 17.3**	**-1.2**
TWSI				S	**Sn**	**02 21 28.1**	**-1.6**
PLAI	**Plampang**	**0.75**	**56**	P	**Pn**	**02 21 18.9**	**-1.3**
PLAI				S	**Sn**	**02 21 30.8**	**-1.9**
SRBI	**Singaraja**	**2.24**	**301**	P	**Pn**	**02 21 40.6**	**+1.9**
KAPI	**Kappang**	**4.94**	**32**	P	**Pn**	**02 22 16.7**	**+1.5**
	9.5nm,0.3s,baz=205,slow=8.7,SNR=9.9						
KAPI				S	**Sn**	**02 23 13.5**	**+2.3**
	17nm,0.3s,baz=226,slow=22,SNR=2.1						
	17nm,0.3s						
WRA	**Warramunga Arr**	**19.72**	**125**	P	**Pn**	**02 25 29.2**	**+0.8**
	0.2nm,0.3s,baz=298,slow=12,SNR=2.8						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**21.49**	**134**	P	**P**	**02 25 47.4**	**+2.1**
	0.9nm,0.5s,baz=313,slow=9.0,SNR=4.4						
	0.9nm,0.5s						
H08S2	**Diego Garcia H**	**44.18**	**269**	T	T	03 15 33.6	
	baz=94,slow=74,SNR=6.1						
H08S3	**Diego Garcia H**	**44.19**	**269**	T	T	03 15 31.3	
	baz=94,slow=74,SNR=7.2						
H08S1	**Diego Carcia H**	**44.20**	**269**	T	T	03 15 31.9	
	baz=94,SNR=5.1						
SONM	**Songino Array**	**57.63**	**351**	P	**P**	**02 30 44.5**	**-0.1**
	0.8nm,0.4s,baz=167,slow=7.3,SNR=4.4						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**63.87**	**334**	P	**P**	**02 31 25.7**	**-1.1**
	0.8nm,0.6s,baz=153,slow=6.5,SNR=6.6						
	0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**68.40**	**335**	P	**P**	**02 31 54.5**	**-1.2**
	0.3nm,0.5s,baz=146,slow=4.8,SNR=5.2						
	0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**68.64**	**340**	P	**P**	**02 31 56.0**	**-1.2**
	1.1nm,0.5s,baz=134,slow=6.2,SNR=4.1						
	1.1nm,0.5s						
BVAR	**Borovoye Array**	**73.67**	**333**	P	**P**	**02 32 26.7**	**-0.9**
	1.1nm,0.8s,baz=126,slow=7.3,SNR=4.3						
	1.1nm,0.8s						

*BJI **22** 02:24:19.2±0.0,12°.60N×145°.55E,h20km,mb4.6/53, mB5.1/27,Ms4.8/47,Ms7 4.6/47*
*IDC **22** 02:24:19.2±0.5,12°.91N×145°.30E,h0km,mb4.5/28, mbtmp4.5/28,MS4.4/51,Error ellipse: s-maj=18.9km s-min=10.7km az=71.0*
*DJA **22** 02:24:21.2±1.6,13°N±4°×14°6E±°,h19km±11km,M4.9/27, mB5.5/12,mb5.0/27,MLv4.8/1,Mw(mB)5.0/12*
*MOS **22** 02:24:22.1±0.9,12°.89N×145°.29E,h29km,mb5.1/34, MS4.8/5,Error ellipse: s-maj=14.1km s-min=5.9km az=109.0*
*GCMT **22** 02:24:25.2±0.2,12°.70N±0°.02×145°.50E±0°.02,h15km±1km, MW5.1/101,Moment Tensor Solution. s61,c73; s101,c165; Duration: 0 Moment tensor: Scale 10¹⁶Nm; M_{rr}2.68±.17; $M_{θθ}$-1.16±.11; $M_{φφ}$-1.52±.12; $M_{rθ}$1.96±.39; $M_{θφ}$-2.10±.09; $M_{rφ}$3.18±.43; Best double couple: $M_{⊙}$4.84200×10¹⁶ NP1:φ⊙33.00000°,δ71.00000°, λ82.00000°. NP2:φ⊙236.00000°,δ21.00000°,λ112.00000°. Principal axes: T 4.5050, Plg64.0000°, Azm290.0000°; N 0.6730, Plg8.0000°, Azm36.0000°; P -5.1780, Plg25.0000°, Azm129.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **22** 02:24:25.2±1.7,12°.81N±0°.06×145°.29E±0°.08,h35km±1km, mb5.2/245 Error ellipse: s-maj=13.3km s-min=9.6km az=254.0*
ISC 22 02:24:24.3±0.4,**12°80N**±0°.04×**145°48E**±0°.05,**h34**km±1km,
h36km:**pP-P**,**n633

ASAJ Asahikawa 31.30 356 LR LR 02 43 03.2
comp=Z,311nm,20.3s,baz=176,slow=36
BATI Baumata 31.50 224 LR LR 02 43 35.4
comp=Z,565nm,20.0s,baz=134,slow=37
MSHR Mys Shultsa 32.17 340⇑ *eP* **P 02 30 48.5 -0.3**
MSHR pmax pmax
comp=Z,13nm,0.9s
VLA Vladivostok 32.41 341 *eP* **P 02 30 50.8 -0.2**
VLA pmax pmax
comp=Z,22nm,0.9s
CTAO Charters Tower 32.69 179 P **P 02 30 54.8 +1.2**
USRK Ussuriysk Ar. 33.36 342 P **P 02 30 57.8 -1.5**
comp=Z,1.0nm,0.4s,baz=153,slow=9.7,SNR=2.2
USRK LR LR 02 43 23.6
comp=Z,608nm,19.9s,baz=147,slow=34
comp=Z,1.0nm,0.4s
WHN Wuhan 33.73 307 P **P 02 31 05.9 +3.3**
YSS Yuzh-Sakhalins 34.12 357 *eP* **P 02 31 05.6 -0.2**
YSS *eS* **S 02 36 30.8 +1.3**
YSS MLR MLR
comp=Z,800nm,16.0s
WB0 Warramunga Arr 34.16 199 P **P 02 31 06.8 +0.4**
WB0 IAmb IAmb 02 31 10.6
comp=Z,38nm,1.4s
WR0 Warramunga Arr 34.29 198 P **P 02 31 07.7 +0.1**
WR0 IAmb IAmb 02 31 22.4
comp=Z,16nm,0.8s
WB2 Warramunga Arr 34.33 199 P **P 02 31 07.4 -0.5**
WB2 IAmb IAmb 02 31 12.2
comp=Z,61nm,1.6s
WRA Warramunga Arr 34.34 199 P **P 02 31 07.9 -0.1**
WRA Warramunga Arr 34.34 199 P **P 02 31 07.9 -0.1**
comp=Z,8.5nm,0.7s,baz=21,slow=9.7,SNR=30
WRA LR LR 02 47 35.4
comp=Z,379nm,18.4s,baz=38,slow=41
comp=Z,8.5nm,0.7s
WRA Warramunga Arr 34.34 199 *i* P **P 02 31 08.3 +0.3**
WRA pmax pmax
comp=Z,9.0nm,0.6s
SBUM Sibu 34.48 255 P **P 02 31 07.5 -1.9**
SBUM IAmb IAmb 02 31 14.4
comp=Z,56nm,1.6s
QIZ Qiongzhong 34.78 285 P **P 02 31 12.5 +0.6**
QIZ sP **pwP 02 31 25.3 -3.2**
QIZ S **S 02 36 41.8 +1.3**
QIZ LR LR
comp=Z,300nm,13.7s
QIZ LR LR
comp=Z,600nm,17.3s
QIZ LR LR
comp=Z,680nm,16.2s
STKI Sintang 36.01 252 P **P 02 31 22.9 +0.3**
DLV T Lat 36.13 273 P **P 02 31 22.9 -0.9**
DLV IAmb IAmb 02 31 24.8
comp=Z,41nm,1.2s
BNX BinXian 36.24 338 ⇑P **P 02 31 23.8 -0.3**
BNX PP **PnPn 02 32 44.4 -1.9**
BNX S **S 02 37 06.8 +4.7**
BNX pmax pmax
comp=Z,7.0nm,0.6s
BNX pmax pmax
comp=Z,110nm,3.0s
BNX LR LR
comp=Z,480nm,15.1s
BNX LR LR
comp=Z,310nm,14.7s
BNX LR LR
comp=Z,590nm,17.8s
KSM Kuching 36.61 255 P **P 02 31 26.2 -1.5**
HNS HongShan 36.81 317 ⇑P **P 02 31 29.3 +0.2**
HNS S **S 02 37 11.5 +0.4**
HNS pmax pmax
comp=Z,11nm,0.7s
HNS LR LR
comp=Z,540nm,17.5s
HNS LR LR
comp=Z,1μm,17.2s
HNS LR LR
comp=Z,1μm,16.7s
LYN LuoYang 36.92 312 *eP* **P 02 31 29.8 -0.3**
LYN PP **PnPn 02 32 57.1 +2.2**
LYN S **S 02 37 17.9 +5.0**
LYN sS pS 02 37 23.0 0.0
LYN pmax pmax
comp=Z,20nm,0.7s
LYN pmax pmax
comp=Z,290nm,5.3s
LYN LR LR
comp=Z,480nm,14.1s
LYN LR LR
comp=Z,630nm,16.8s
LYN LR LR
comp=Z,1μm,16.5s
BJI Beijing 37.43 322 P **P 02 31 33.3 -1.0**
BJI pmax pmax
comp=Z,4.0nm,0.9s
BJI LR LR
comp=Z,250nm,15.2s
BJI LR LR
comp=Z,130nm,15.5s
BJI LR LR
comp=Z,220nm,18.3s
AS31 Alice Springs 37.97 197 P **P 02 31 39.2 +0.1**
ASAR Alice Springs 37.97 197 P **P 02 31 38.9 -0.1**
ASAR Alice Springs 37.97 197 P **P 02 31 39.0 -0.1**
comp=Z,8.4nm,1.0s,baz=22,slow=7.0,SNR=27
ASAR LR LR 02 49 35.0
comp=Z,573nm,18.9s,baz=21,slow=40
comp=Z,8.4nm,1.0s
KLR Kul'dur 38.05 345 P **P 02 31 37.3 -2.1**
comp=Z,4.8nm,0.7s,baz=138,slow=7.2,SNR=16
KLR PcP **PcP 02 33 53.6 -0.6**
comp=Z,5.3nm,0.9s,baz=170,slow=6.1,SNR=4.9
KLR LR LR 02 46 56.6
comp=Z,770nm,18.7s,baz=155,slow=36
comp=Z,4.8nm,0.7s
KLR Kul'dur 38.05 345⇓ *eP* **P 02 31 37.9 -1.5**
KLR pmax pmax
comp=Z,8.0nm,0.8s
EIDS Eidsvold 38.33 172 P **P 02 31 42.3 +0.3**
GYA Guiyang 38.84 296 ⇓P **P 02 31 46.6 0.0**
GYA pmax pmax
comp=Z,11nm,1.2s
PWJI Pagerwojo 39.34 240 P **P 02 31 51.6 +0.9**
comp=Z,56nm,0.7s
XAN Xi'an 39.35 309 ⇓P **P 02 31 50.4 -0.2**
XAN S **S 02 37 49.8 0.0**
XAN pmax pmax
comp=Z,12nm,0.7s
XAN pmax pmax
comp=Z,190nm,5.7s
XAN LR LR
comp=Z,800nm,16.7s
XAN LR LR
comp=Z,740nm,22.4s
XAN LR LR
comp=Z,2μm,18.4s
XLT XiLinHaoTe 39.96 326 *eP* **P 02 31 58.4 +2.8**
XLT sS sS 02 38 13.1 -1.8
XLT pmax pmax
comp=Z,120nm,5.2s
XLT LR LR
comp=Z,910nm,18.3s
XLT LR LR
comp=Z,890nm,18.0s
HEH HeiHe 40.17 342 *eP* **P 02 31 56.1 -1.0**
HEH pmax pmax
comp=Z,23nm,0.9s
HEH pmax pmax
comp=Z,140nm,3.5s
HEH LR LR
comp=Z,900nm,18.7s
HEH LR LR
comp=Z,830nm,18.6s
HEH LR LR
comp=Z,1μm,15.5s
DZM Mont Dzumac 40.30 149 *eP* P 02 31 50.3 -8.3
comp=Z,57nm,1.2s
DZM *eS* **S 02 38 04.6 +0.4**
comp=Z,152nm,31.1s
DZM *e*LR LR 02 43 06.4
comp=Z,738nm,25.6s
DZM Mont Dzumac 40.30 149 LR LR 02 48 53.7
comp=Z,931nm,18.6s,baz=356,slow=36
DZM Mont Dzumac 40.30 149 P **P 02 32 00.0 +1.4**
HHC Hu-ho-hao-te 40.75 320 *eP* **P 02 32 03.0 +0.7**

HHC sP pwP 02 32 16.5 -1.9
HHC PP **PnPn 02 33 43.3 +2.5**
HHC S **S 02 38 07.8 -2.9**
HHC sS sS 02 38 28.4 +1.6
HHC pmax pmax
comp=Z,13nm,0.7s
HHC pmax pmax
comp=Z,140nm,6.2s
HHC LR LR
comp=Z,970nm,16.0s
HHC LR LR
comp=Z,450nm,15.3s
HHC LR LR
comp=Z,1μm,16.8s
PETK Petropavlovsk- 41.37 11 P **P 02 32 06.7 -0.3**
comp=Z,5.5nm,0.9s,baz=258,slow=7.2,SNR=1.9
comp=Z,5.5nm,0.9s
BTO Baotou 41.61 318 *eP* **P 02 32 11.6 +2.3**
BTO pP **pP 02 32 16.0 -1.6**
BTO sP **sP 02 32 18.6 -1.2**
BTO PP **PnPn 02 33 52.1 +1.3**
BTO sS **sS 02 38 42.1 +2.5**
BTO SS **SS 02 41 30.3 +1.0**
BTO pmax pmax
comp=Z,14nm,0.4s
BTO pmax pmax
comp=Z,350nm,11.5s
BTO LR LR
comp=Z,2μm,18.2s
BTO LR LR
comp=Z,1μm,15.5s
BTO LR LR
comp=Z,2μm,17.9s
MBWA Marble Bar 42.18 217 P P 02 32 18.9 +4.9
CD2 Chengdu 42.41 302 *eP* **P 02 32 15.0 -0.9**
CD2 S **S 02 38 33.8 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 LR LR
comp=Z,500nm,13.9s
CD2 LR LR
comp=Z,540nm,13.7s
CD2 LR LR
comp=Z,730nm,16.2s
DSRI Dabo 42.66 255 P **P 02 32 18.4 +0.3**
comp=Z,39nm,1.3s
PZH PanZhiHua 43.17 295 P **P 02 32 22.4 +0.1**
PZH S **S 02 38 49.3 +2.4**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,80nm,6.0s
PZH LR LR
comp=Z,380nm,17.6s
PZH LR LR
comp=Z,510nm,18.0s
PZH LR LR
comp=Z,590nm,19.1s
ZEA Zeya 43.32 344 *eP* **P 02 32 22.8 -0.1**
ZEA pmax pmax
comp=Z,10.0nm,1.3s
ZEA MLR MLR
comp=Z,300nm,18.0s
ARMA Armidale 43.38 172 P **P 02 32 25.1 +1.5**
ARMA IAmb IAmb 02 33 03.6
comp=Z,106nm,2.0s
CRAI Chiangrai 43.76 286 P **P 02 32 26.6 -0.4**
PHRA Phrae 43.85 283 P **P 02 32 25.7 -1.9**
LZH Lanzhou 43.98 309 *eP* P 02 32 23.3 -5.3
LZH pP pP 02 32 32.3 -4.6
LZH sS sS 02 39 08.8 -6.1
LZH pmax pmax
comp=Z,17nm,1.0s
LZH LR LR
comp=N,130nm,14.8s
LZH LR LR
comp=E,820nm,14.9s
LZH LR LR
comp=Z,1μm,16.2s
MSVF Nonsavu 44.21 133 P **P 02 32 31.1 +0.6**
MSVF Nonsavu 44.21 133 P **P 02 32 31.1 +0.6**
MSVF pmax pmax
comp=Z,24nm,1.2s
MSVF Nonsavu 44.21 133 P **P 02 32 32.1 +1.6**
STKA Stephens Creek 44.58 185 P **P 02 32 33.1 -0.1**
STKA Stephens Creek 44.58 185 P **P 02 32 33.1 -0.1**
comp=Z,14nm,1.0s,baz=356,slow=11,SNR=13
STKA LR LR 02 52 46.3
comp=Z,965nm,18.2s,baz=7.2,slow=38
comp=Z,14nm,1.0s
KASI Kota Agung 44.61 248 P **P 02 32 32.6 -1.1**
comp=Z,76nm,1.2s
IPM Ipoh 44.66 263 P **P 02 32 33.4 -0.8**
KULM Kulim 44.84 265 P **P 02 32 34.0 -1.6**
KULM IAmb IAmb 02 32 40.2
comp=Z,33nm,1.4s
CMAR Chiang Mai Arr 45.07 283 P **P 02 32 36.9 -0.6**
CMAR Chiang Mai Arr 45.07 283 P **P 02 32 37.0 -0.5**
comp=Z,5.3nm,0.6s,baz=85,slow=7.3,SNR=24
CMAR PcP **PcP 02 34 16.4 -1.5**
comp=Z,3.9nm,0.7s,baz=94,slow=2.3,SNR=7.8
CMAR LR LR 02 51 51.7
comp=Z,248nm,18.3s,baz=115,slow=37
comp=Z,5.3nm,0.6s
CMAR Chiang Mai Arr 45.07 283 *i* P **P 02 32 37.7 +0.2**
CMAR pmax pmax
comp=Z,5.0nm,0.5s
MNAI Manna 45.56 251 P **P 02 32 40.4 -0.9**
MNAI Manna 45.56 251 P **P 02 32 40.0 -1.3**
comp=Z,285nm,1.4s,comp=Z,9μm
TNCH TengChong 45.85 292 *eP* **P 02 32 44.8 +1.1**
SHEM Shemya Is, Ala 45.93 24 LR LR 02 49 39.3
comp=Z,667nm,21.5s,baz=246,slow=33
BBOO Buckleboo 46.24 191 P **P 02 32 46.8 +0.4**
BBOO IAmb IAmb 02 32 48.8
comp=Z,28nm,0.9s
FORT Forrest 46.46 201 P **P 02 32 48.8 +0.8**
FORT IAmb IAmb 02 32 49.9
comp=Z,20nm,0.8s
ULN Ulaanbaatar 47.36 325 P **P 02 32 54.8 -0.4**
ULN Ulaanbaatar 47.36 325 P **P 02 32 54.8 -0.4**
ULN pmax pmax
comp=Z,10.0nm,1.1s
SONM Songino Array 47.71 325 P **P 02 32 57.2 -0.7**
SONM Songino Array 47.71 325 P **P 02 32 57.5 -0.4**
comp=Z,1.8nm,0.7s,baz=142,slow=10.0,SNR=6.5
SONM PcP **PcP 02 34 26.0 -0.8**
comp=Z,2.8nm,0.9s,baz=112,slow=1.6,SNR=2.5
comp=Z,1.8nm,0.7s
SONM Songino Array 47.71 325 P **P 02 32 57.2 -0.7**
SONM pmax pmax
comp=Z,11nm,1.4s
KCSI Kotacane, Aceh 48.04 263 P P 02 33 14.5 +14
GTA Gaotai 48.14 312 P **P 02 33 01.3 0.0**
GTA sP sP 02 33 14.3 +2.4
GTA PcP **PcP 02 34 30.3 +1.8**
GTA sS sS 02 40 09.3 -5.0
GTA pmax pmax
comp=Z,7.0nm,1.0s
GTA LR LR
comp=Z,280nm,18.5s
GTA LR LR
comp=Z,360nm,18.5s
GTA LR LR
comp=Z,350nm,17.4s
TOO Toolangi 50.10 180 P **P 02 33 16.2 +0.1**
TOO Toolangi 50.10 180 P **P 02 33 16.2 +0.1**
TOO pmax pmax
comp=Z,41nm,1.3s
SEY Seymchan 50.30 4 LR LR 02 54 11.3
comp=Z,175nm,21.1s,baz=189,slow=36
YAK Yakutsk 50.45 350 P **P 02 33 18.1 -0.4**
YAK Yakutsk 50.45 350 LR LR 02 54 48.3
comp=Z,366nm,19.1s,baz=156,slow=36
YAK Yakutsk 50.45 350 *eP* **P 02 33 18.5 +0.1**
YAK *e*'PP **sP 02 33 28.5 -0.9**
YAK *e* 02 35 15.0
YAK *e*S **S 02 40 29.7 +0.1**
YAK *e*'SS **sS 02 40 47.5 +2.3**
YAK *e* 02 43 00.2
YAK pmax pmax
comp=Z,36nm,0.8s
YAK pmax pmax
comp=N,11nm,0.9s
YAK pmax pmax
comp=E,2.0nm,0.8s

YAK pmax pmax
comp=Z,64nm,2.5s
YAK pmax pmax
comp=N,26nm,2.4s
YAK pmax pmax
comp=E,35nm,2.8s
YAK smax smax
comp=N,29nm,2.4s
YAK Yakutsk 50.45 350 P **P 02 33 17.6 -0.8**
ZAK Zakamensk 50.82 326 *eP* **P 02 33 20.3 -1.3**
ZAK pmax pmax
comp=Z,9.0nm,1.1s
BOD Bodaibo 50.86 339 *eP* **P 02 33 21.3 -0.3**
BOD pmax pmax
comp=Z,10.0nm,2.0s
SHL Shillong 51.88 292 P **P 02 33 28.5 -1.5**
SHL Shillong 51.88 292 P **P 02 33 28.5 -1.5**
SHL pmax pmax
comp=Z,12nm,0.8s
MOY Mondy 52.72 327 *eP* P 02 33 43.2 +7.4
NWAO Narrogin (SRO) 52.87 210 LR LR 02 57 45.1
comp=Z,331nm,18.5s,baz=336,slow=38
NIKH Nikolski High 54.01 32 P **P 02 33 45.6 +0.6**
baz=240
RAO Raoul Island 54.74 140 LR LR 02 55 53.5
comp=Z,393nm,18.1s,baz=306,slow=34
SPIA Saint Paul Isl 55.59 27 P **P 02 33 57.3 +0.9**
baz=236
UNV Unalaska Valle 55.67 32 P **P 02 33 58.3 +1.3**
baz=242
BILL Bilibino 56.84 9 P **P 02 34 03.8 -1.4**
BILL Bilibino 56.84 9 *eP* **P 02 34 04.5 -0.6**
BILL pmax pmax
comp=Z,16nm,1.0s
BILL Bilibino 56.84 9 P **P 02 34 04.6 -0.6**
WMQ Urumqi 58.11 314 *eP* **P 02 34 16.4 +1.8**
WMQ LR LR
comp=Z,420nm,18.9s
WMQ LR LR
comp=Z,720nm,21.1s
WMQ LR LR
comp=Z,460nm,19.9s
S12K Black Hills 58.80 32 P **P 02 34 19.9 +0.8**
baz=245
RTZ Ruatahuna 59.02 151 P **P 02 34 21.8 +0.8**
TIXI Tiksi 59.67 354 P **P 02 34 25.7 +0.9**
TIXI Tiksi 59.67 354 LR LR 03 03 44.8
comp=Z,63nm,20.0s,baz=162,slow=40
TIXI Tiksi 59.67 354⇑ *eP* **P 02 34 25.8 +0.9**
TIXI pmax pmax
comp=Z,7.0nm,2.0s
M13K Dall Lake 60.35 26 P **P 02 34 30.8 +1.1**
baz=241
K13K Kusilvak Mount 60.57 25 P **P 02 34 33.2 +2.1**
K13K Kusilvak Mount 60.57 25 P **P 02 34 32.0 +0.8**
baz=239
O14K Tigyukauivet M 60.74 28 P **P 02 34 33.4 +1.0**
baz=244
N14K Kuskokwak Cree 60.85 27 P **P 02 34 34.2 +1.1**
baz=243
CHGN Chignik 60.92 32 P **P 02 34 34.7 +1.1**
baz=248
L14K Kuka Creek 61.09 26 P **P 02 34 35.0 +0.3**
L14K Kuka Creek 61.09 26 P **P 02 34 35.8 +1.1**
baz=241
M14K Bethel 61.12 26 P **P 02 34 35.8 +0.9**
baz=242
O15K Ungalikthiuk R 61.38 29 P **P 02 34 37.2 +0.5**
baz=245
J14K Nanvaranak Lak 61.43 24 P **P 02 34 38.4 +1.4**
J14K Nanvaranak Lak 61.43 24 P **P 02 34 37.8 +0.8**
baz=240
M15K Kasigluk River 61.65 27 P **P 02 34 39.4 +0.9**
baz=244
N15K Kwethluk River 61.68 28 P **P 02 34 39.7 +1.0**
N15K Kwethluk River 61.68 28 P **P 02 34 40.0 +1.2**
baz=244
ANM Nome 61.70 22 P **P 02 34 39.7 +0.9**
baz=237
L15K Ungalak Mounta 61.75 26 P **P 02 34 39.7 +0.6**
baz=242
R16K Pilot Point 61.82 31 P **P 02 34 40.8 +1.1**
baz=248
F14K Arctic Creek 61.87 21 P **P 02 34 40.8 +0.9**
baz=236
K15K Wolf Creek Mou 62.02 25 P **P 02 34 41.9 +0.8**
K15K IAmb IAmb 02 34 47.4
comp=Z,22nm,0.9s
K15K Wolf Creek Mou 62.02 25 P **P 02 34 42.3 +1.3**
baz=242
P16K Nushagak River 62.18 29 P **P 02 34 43.2 +1.1**
baz=247
CHIR Chirikof Islan 62.22 33 P **P 02 34 43.4 +1.0**
baz=251
O16K Kokwok River B 62.36 29 P **P 02 34 43.7 +0.5**
O16K IAmb IAmb 02 34 46.7
comp=Z,18nm,1.1s
O16K Kokwok River B 62.36 29 P **P 02 34 44.2 +0.9**
baz=247
N16K Nishlik Lake 62.41 28 P **P 02 34 44.9 +1.3**
baz=246
G15K Niukluk 62.41 22 P **P 02 34 44.3 +0.8**
baz=238
MK31 Makanchi Array 62.47 316 P **P 02 34 44.2 -0.1**
MK31 Makanchi Array 62.47 316 P **P 02 34 44.2 -0.1**
MK31 pmax pmax
comp=Z,7.0nm,1.3s
MKAR Makanchi Array 62.47 316 P **P 02 34 44.5 +0.2**
MKAR Makanchi Array 62.47 316 P **P 02 34 43.2 -1.1**
comp=Z,1.7nm,0.7s,baz=94,slow=8.9,SNR=14
MKAR PcP **PcP 02 35 22.0 -1.5**
comp=Z,3.3nm,0.8s,baz=93,slow=6.7,SNR=5.9
MKAR PKP2bc **P'P'bc 03 03 57.6 -2.1**
comp=Z,0.4nm,0.8s,baz=29,slow=3.3,SNR=3.7
MKAR LR LR 03 04 03.6
comp=Z,399nm,18.2s,baz=86,slow=38
comp=Z,1.7nm,0.7s
MKAR Makanchi Array 62.47 316 *i* P **P 02 34 44.7 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
M16K Timber Creek 62.55 27 P **P 02 34 44.3 -0.2**
M16K IAmb IAmb 02 34 52.9
comp=Z,24nm,1.2s
M16K Timber Creek 62.55 27 P **P 02 34 45.6 +1.0**
baz=245
F15K North Star Dit 62.58 21 P **P 02 34 45.4 +0.8**
baz=237
ZALV Zalesovo Beam 62.61 325 P **P 02 34 42.6 -2.5**
ZALV Zalesovo Beam 62.61 325 P **P 02 34 42.8 -2.2**
comp=Z,1.1nm,0.6s,baz=90,slow=7.2,SNR=3.1
ZALV PcP **PcP 02 35 23.7 -0.1**
comp=Z,4.4nm,0.7s,baz=118,slow=4.4,SNR=8.5
comp=Z,1.1nm,0.6s
ZALV Zalesovo Beam 62.61 325 *i* P **P 02 34 47.5 +2.4**
ZALV pmax pmax
comp=Z,2.0nm,0.6s
L16K Owhat River 62.62 26 P **P 02 34 45.5 +0.4**
L16K Owhat River 62.62 26 P **P 02 34 45.7 +0.6**
baz=244
Q16K King Salmon 62.69 30 P **P 02 34 46.8 +1.3**
baz=248
J16K Anvik River 62.87 24 P **P 02 34 47.7 +1.1**
J16K Anvik River 62.87 24 P **P 02 34 47.9 +1.3**
baz=242
H16K Elim 62.89 23 P **P 02 34 46.9 +0.2**
baz=240
O17K Koliganek Bris 62.89 29 P **P 02 34 48.1 +1.2**
baz=248
P17K Kvichak River 62.98 29 P **P 02 34 48.0 +0.5**
baz=248
I17K Unalakleet 63.11 24 P **P 02 34 49.1 +0.9**
I17K Unalakleet 63.11 24 P **P 02 34 49.1 +0.9**
baz=242
N17K Nushagak Hills 63.14 28 P **P 02 34 48.8 +0.3**
N17K IAmb IAmb 02 35 03.4
comp=Z,29nm,1.2s
N17K Nushagak Hills 63.14 28 P **P 02 34 49.7 +1.2**
baz=247
G16K Koyuk River 63.23 22 P **P 02 34 50.6 +1.6**
baz=240
L17K Donlin 63.31 26 P **P 02 34 50.9 +1.3**
baz=245
M17K Holitna River 63.38 27 P **P 02 34 50.0 -0.1**
M17K IAmb IAmb 02 34 57.1
comp=Z,21nm,0.8s
M17K Holitna River 63.38 27 P **P 02 34 51.6 +1.6**
baz=246

RAR	**Rarotonga**	63.50	122	LR	LR	02 58 57.0	
	comp=Z,286nm,18.2s,baz=308,slow=33						
J17K	**VABM Dome**	63.53	24	P	P	02 34 52.7	+1.6
J17K	**VABM Dome**	63.53	24	P	P	02 34 52.4	+1.4
	baz=244,SNR=7.7						
K17K	**Iditarod**	63.55	25	P	P	02 34 52.3	+1.1
	baz=245						
P18K	**Big Mountain,**	63.64	29	P	P	02 34 52.8	+0.9
	baz=250						
C16K	**Lisburne Hills**	63.78	18	P	P	02 34 53.2	+0.7
	baz=236						
N18K	**Kilae Creek**	63.79	28	P	P	02 34 53.4	+0.6
	baz=248						
O18K	**Koktuh Hills**	63.81	29	P	P	02 34 53.9	+1.0
	baz=249						
OHAK	**Old Harbor**	63.89	32	P	P	02 34 54.0	+0.5
	baz=252						
PALK	**Pallekele**	63.89	272	LR	LR	03 02 17.4	
	comp=Z,347nm,19.8s,baz=354,slow=36						
G17K	**Kiwalik Mounta**	63.90	22	P	P	02 34 53.7	+0.3
	baz=241,SNR=6.7						
H17K	**Granite Mounta**	63.91	23	IAmb	IAmb	02 34 55.7	
	comp=Z,17nm,0.9s						
H17K	**Granite Mounta**	63.91	23	P	P	02 34 53.9	+0.4
	baz=242						
L18K	**Granite Mounta**	64.03	26	IAmb	IAmb	02 35 03.1	
	comp=Z,32nm,1.2s						
L18K	**Granite Mounta**	64.03	26	P	P	02 34 55.5	+1.2
	baz=247,SNR=8.8						
M18K	**Stony River**	64.13	27	P	P	02 34 56.6	+1.6
	baz=248						
F17K	**Baldwin Pennin**	64.14	21	IAmb	IAmb	02 34 57.7	
	comp=Z,21nm,0.8s						
F17K	**Baldwin Pennin**	64.14	21	P	P	02 34 55.4	+0.4
	baz=240						
D17K	**Noatak River**	64.18	19	P	P	02 34 55.8	+0.6
	baz=238						
Q19K	**Cape Douglas,**	64.25	30	P	P	02 34 56.5	+0.6
	baz=251						
E17K	**Hotham Inlet**	64.27	20	P	P	02 34 56.6	+0.7
	baz=240						
RDOG	**Red Dog Mine**	64.42	19	P	P	02 34 57.5	+0.7
	baz=238						
N19K	**Bonanza Creek**	64.49	28	IAmb	IAmb	02 35 04.0	
	comp=Z,14nm,0.8s						
N19K	**Bonanza Creek**	64.49	28	P	P	02 34 58.4	+0.9
	baz=250						
J18K	**Innoko River**	64.52	25	P	P	02 34 58.1	+0.6
	baz=246						
C17K	**DeLong Mountai**	64.56	19	P	P	02 34 58.6	+0.8
	baz=238						
H18K	**Honhosa River**	64.59	23	IAmb	IAmb	02 34 59.6	
	comp=Z,17nm,0.8s						
H18K	**Honhosa River**	64.59	23	P	P	02 34 58.4	+0.5
	baz=244						
P19K	**Oil Pt**	64.68	30	P	P	02 34 59.0	+0.3
	baz=251						
Q20K	**Shuyak Island**	64.77	31	P	P	02 35 00.0	+0.8
	baz=252						
F18K	**Selawik**	64.78	21	P	P	02 35 00.2	+1.1
	baz=242						
L19K	**White Mountain**	64.81	27	P	P	02 35 00.4	+0.9
	baz=249,SNR=9.8						
G18K	**Tagagawik**	64.81	22	IAmb	IAmb	02 35 06.3	
	comp=Z,30nm,1.2s						
G18K	**Tagagawik**	64.81	22	P	P	02 34 59.9	+0.5
	baz=243,SNR=9.7						
E18K	**Tukpahlearik C**	64.85	20	IAmb	IAmb	02 35 08.5	
	comp=Z,14nm,0.8s						
E18K	**Tukpahlearik C**	64.85	20	P	P	02 35 00.6	+0.9
	baz=241						
M19K	**Big River Lodg**	64.92	27	IAmb	IAmb	02 35 07.6	
	comp=Z,25nm,1.4s						
M19K	**Big River Lodg**	64.92	27	P	P	02 35 00.9	+0.8
	baz=249						
GCSA	**Galena City Sc**	64.98	24	P	P	02 35 01.5	+1.0
	baz=246						
J19K	**Poorman**	65.18	25	IAmb	IAmb	02 35 08.1	
	comp=Z,19nm,1.0s						
J19K	**Poorman**	65.18	25	P	P	02 35 02.9	+1.0
	baz=247,SNR=13						
C18K	**Utukok River**	65.28	19	P	P	02 35 02.8	+0.4
	baz=240						
L20K	**Farewell, AK**	65.34	26	P	P	02 35 04.1	+1.1
	baz=249						
HOM	**Homer**	65.45	30	P	P	02 35 03.7	+0.1
	baz=253						
M20K	**Styx River**	65.47	27	IAmb	IAmb	02 35 14.9	
	comp=Z,28nm,1.1s						
M20K	**Styx River**	65.47	27	P	P	02 35 04.9	+1.0
	baz=250						
H19K	**Roundabout Mou**	65.48	23	IAmb	IAmb	02 35 10.4	
	comp=Z,24nm,1.0s						
H19K	**Roundabout Mou**	65.48	23	P	P	02 35 04.2	+0.5
	baz=246,SNR=16						
G19K	**Purcell Mounta**	65.50	22	P	P	02 35 04.1	+0.2
	baz=245,SNR=16						
F19K	**Shaleruckik Mo**	65.55	21	P	P	02 35 05.2	+1.0
	baz=244						
KURK	**Kurchatov**	65.57	320	P	P	02 35 04.1	-0.4
KURK				IAmb	IAmb	02 35 36.7	
	comp=Z,21nm,1.3s						
KURK	**Kurchatov**	65.57	320	*de*P	P	02 35 04.1	-0.4
KURK				pmax	pmax		
	comp=Z,24nm,2.5s						
KURK	**Kurchatov**	65.57	320	P	P	02 35 04.1	-0.4
K20K	**Telida**	65.58	26	IAmb	IAmb	02 35 08.3	
	comp=Z,22nm,0.9s						
K20K	**Telida**	65.58	26	P	P	02 35 05.3	+0.9
	baz=249,SNR=15						
KURBB	**Kurchatov Arra**	65.61	320	P	P	02 35 03.3	-1.5
	comp=Z,3.9nm,0.6s,baz=102,slow=6.7,SNR=39						
KURBB				PKP2bc	P'P'df	03 03 47.4	+0.8
	comp=Z,0.2nm,0.2s,baz=279,slow=2.9,SNR=4.4						
KURBB				LR	LR	03 04 52.3	
	comp=Z,630nm,18.1s,baz=164,slow=37						
	comp=Z,3.9nm,0.6s						
N20K	**Mount Spurr**	65.66	28	P	P	02 35 05.6	+0.6
	baz=252						
J20K	**Nowinta River**	65.85	25	P	P	02 35 07.7	+1.5
	baz=248,SNR=19						
I20K	**Naaghedeneel**	65.95	24	P	P	02 35 07.9	+1.2
	baz=248,SNR=12						
C19K	**Lookout Ridge**	66.01	19	P	P	02 35 08.3	+1.2
	baz=241,SNR=6.2						
E19K	**Redstone River**	66.02	21	IAmb	IAmb	02 35 10.4	
	comp=Z,18nm,0.8s						
E19K	**Redstone River**	66.02	21	P	P	02 35 07.9	+0.7
	baz=244,SNR=15						
H20K	**Anotleneega Mo**	66.06	23	P	P	02 35 08.3	+0.8
	baz=247,SNR=12						
D19K	**Kuna River**	66.19	20	IAmb	IAmb	02 35 15.2	
	comp=Z,22nm,0.9s						
D19K	**Kuna River**	66.19	20	P	P	02 35 08.6	+0.3
	baz=243,SNR=9.7						
KSH	**Kashi**	66.19	308	P	P	02 35 11.9	+2.9
KSH				S	S	02 44 04.3	+8.5
KSH				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KSH				LR	LR		
	comp=Z,350nm,18.0s						
KSH				LR	LR		
	comp=Z,230nm,19.9s						
KSH				LR	LR		
	comp=Z,370nm,18.7s						
SKT	**Skwentna**	66.22	27	IAmb	IAmb	02 35 14.0	
	comp=Z,13nm,0.8s						
SKT	**Skwentna**	66.22	27	P	P	02 35 08.6	0.0
	baz=252						
PPLA	**Purkeypile**	66.22	26	P	P	02 35 09.4	+0.7
	baz=251						
F20K	**Avaraart Lake**	66.38	21	IAmb	IAmb	02 35 16.8	
	comp=Z,21nm,1.1s						
F20K	**Avaraart Lake**	66.38	21	P	P	02 35 10.5	+1.0
	baz=246,SNR=13						
SUA	**Susitna One**	66.41	28	P	P	02 35 10.1	+0.1
	baz=253						
CAST	**Castle Rocks**	66.44	26	IAmb	IAmb	02 35 16.7	
	comp=Z,26nm,1.0s						
CAST	**Castle Rocks**	66.44	26	P	P	02 35 10.9	+0.9
	baz=251,SNR=23						
CHUM	**Lake Minchumin**	66.50	25	P	P	02 35 11.2	+0.9
	baz=250						
O22K	**Cooper Landing**	66.61	29	P	P	02 35 11.3	+0.2
	baz=254						
SEW	**Seward**	66.64	30	P	P	02 35 11.6	+0.3
	baz=255						
E20K	**Nigu River**	66.72	20	P	P	02 35 12.2	+0.5
	baz=245,SNR=22						
RC01	**Rabbit Creek A**	66.77	29	P	P	02 35 13.2	+1.1
	baz=254						
D20K	**Etivluk River**	66.78	20	P	P	02 35 12.6	+0.5
	baz=244,SNR=13						
M22K	**Willow**	66.78	28	P	P	02 35 13.3	+1.1
	baz=253						
H21K	**Melozitna Rive**	66.92	23	IAmb	IAmb	02 35 19.9	
	comp=Z,26nm,1.1s						
H21K	**Melozitna Rive**	66.92	23	P	P	02 35 13.5	+0.5
	baz=249,SNR=21						
G21K	**Allakaket**	66.97	22	IAmb	IAmb	02 35 20.5	
	comp=Z,29nm,1.3s						
G21K	**Allakaket**	66.97	22	P	P	02 35 14.2	+0.9
	baz=248,SNR=12						
BPAW	**Bear Paw Mtn.**	67.12	25	P	P	02 35 15.2	+0.8
	baz=252,SNR=14						
B20K	**Meade River**	67.19	18	P	P	02 35 14.9	+0.4
	baz=243						
PMR	**Palmer**	67.19	28	IAmb	IAmb	02 35 20.7	
	comp=Z,29nm,1.1s						
PMR	**Palmer**	67.19	28	P	P	02 35 15.1	+0.3
	baz=254						
TRF	**Thorofare Moun**	67.22	26	IAmb	IAmb	02 35 23.9	
	comp=Z,23nm,1.0s						
TRF	**Thorofare Moun**	67.22	26	P	P	02 35 15.0	-0.2
	baz=252,SNR=9.7						
F21K	**Alatna River**	67.25	22	P	P	02 35 15.5	+0.4
	baz=248,SNR=12						
GHO	**Glory Hole Cre**	67.34	28	IAmb	IAmb	02 35 28.5	
	comp=Z,30nm,1.2s						
KNK	**Knik Glacier**	67.45	28	P	P	02 35 17.1	+0.6
	baz=255						
AAK	**Ala-Archa**	67.47	311	LR	LR	03 07 12.1	
	comp=Z,554nm,18.7s,baz=73,slow=38						
MLY	**Manley**	67.52	24	P	P	02 35 17.2	+0.3
	baz=251,SNR=26						
E21K	**Killik River**	67.55	20	P	P	02 35 17.7	+0.7
	baz=247						
H22K	**Ishtalitna Cre**	67.56	23	P	P	02 35 17.9	+0.8
	baz=250,SNR=6.7						
C21K	**Knifeblade Rid**	67.57	20	P	P	02 35 17.8	+0.7
	baz=246,SNR=9.7						
SML	**Sawmill**	67.62	28	P	P	02 35 18.2	+0.6
	baz=255						
WAT1	**Susitna Watana**	67.79	27	P	P	02 35 18.9	+0.3
	baz=254						
B21K	**Ikpikpuk River**	67.82	19	IAmb	IAmb	02 35 27.2	
	comp=Z,20nm,0.9s						
B21K	**Ikpikpuk River**	67.82	19	P	P	02 35 19.1	+0.6
	baz=246,SNR=6.3						
RND	**Reindeer**	67.82	26	IAmb	IAmb	02 35 25.1	
	comp=Z,20nm,1.0s						
F22K	**John River**	67.82	22	P	P	02 35 19.8	+1.1
	baz=249						
G22K	**Bettles**	67.86	22	P	P	02 35 19.4	+0.5
	baz=250,SNR=12						
MCK	**McKinley**	67.88	26	P	P	02 35 18.9	-0.2
	baz=254,SNR=6.7						
M23K	**Glacier View**	67.89	28	P	P	02 35 19.7	+0.5
	baz=256						
NEA2	**Nenana**	68.07	25	IAmb	IAmb	02 35 27.9	
	comp=Z,16nm,1.1s						
NEA2	**Nenana**	68.07	25	P	P	02 35 20.5	+0.3
	baz=253,SNR=8.4						
SCM	**Sheep Creek Mo**	68.08	28	P	P	02 35 21.0	+0.5
	baz=256						
WAT6	**Susitna Watana**	68.09	27	P	P	02 35 21.1	+0.5
	baz=255,SNR=10						
I23K	**Minto, Yukon-K**	68.12	24	P	P	02 35 21.3	+0.8
	baz=253,SNR=16						
D22K	**Ayiyak River**	68.16	20	IAmb	IAmb	02 35 30.3	
	comp=Z,25nm,0.9s						
D22K	**Ayiyak River**	68.16	20	P	P	02 35 21.6	+0.8
	baz=248,SNR=15						
E22K	**Anaktuvuk Pass**	68.18	21	IAmb	IAmb	02 35 23.2	
	comp=Z,22nm,0.8s						
E22K	**Anaktuvuk Pass**	68.18	21	P	P	02 35 22.0	+1.0
	baz=249						
H23K	**Yukon River**	68.25	24	IAmb	IAmb	02 35 28.8	
	comp=Z,24nm,1.1s						
H23K	**Yukon River**	68.25	24	P	P	02 35 22.2	+0.8
	baz=252,SNR=10						
A22K	**Sinclair Lake**	68.29	18	P	P	02 35 22.5	+1.0
	baz=245,SNR=7.1						
NIL	**Nilore**	68.30	301	P	P	02 35 20.8	-1.5
NIL				IAmb	IAmb	02 35 37.1	
	comp=Z,16nm,0.8s						
NIL	**Nilore**	68.30	301	P	P		
NIL				pmax	pmax		
	comp=Z,16nm,0.8s						
NIL	**Nilore**	68.30	301	P	P	02 35 22.6	+0.2
G23K	**Bananza Creek**	68.34	23	IAmb	IAmb	02 35 24.4	
	comp=Z,18nm,0.9s						
G23K	**Bananza Creek**	68.34	23	P	P	02 35 23.3	+1.3
	baz=251,SNR=16						
DHY	**Denali Highway**	68.38	27	IAmb	IAmb	02 35 30.7	
	comp=Z,18nm,1.0s						
DHY	**Denali Highway**	68.38	27	P	P	02 35 23.0	+0.6
	baz=255,SNR=9.1						
COLD	**Coldfoot**	68.45	22	P	P	02 35 23.8	+1.3
	baz=251,SNR=30						
B22K	**Teshekpuk Lake**	68.48	19	P	P	02 35 23.6	+0.8
	baz=247,SNR=13						
MDM	**Murphy Dome**	68.52	25	IAmb	IAmb	02 35 29.8	
	comp=Z,16nm,0.9s						
CCB	**Clear Creek Bu**	68.61	25	IAmb	IAmb	02 35 29.7	
	comp=Z,30nm,1.2s						
COLA	**College**	68.65	25	*e*P	P	02 35 24.6	+0.8
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
COLA	**College**	68.65	25	P	P	02 35 24.3	+0.4
KLU	**Klutina**	68.66	29	IAmb	IAmb	02 35 31.9	
	comp=Z,29nm,1.1s						
KLU	**Klutina**	68.66	29	P	P	02 35 25.3	+1.2
	baz=257						
M24K	**Tolsona, Glenn**	68.68	28	P	P	02 35 25.4	+1.2
	baz=257						
D23K	**Nanushuk River**	68.86	20	P	P	02 35 26.9	+1.7
	baz=250						
POKR	**Poker Plat Res**	68.89	25	P	P	02 35 24.8	-0.6
	baz=254						
HDA	**Harding Lake**	68.90	25	P	P	02 35 25.3	-0.2
	baz=255,SNR=9.9						
H24K	**Noodor Dome**	68.91	24	IAmb	IAmb	02 35 27.8	
	comp=Z,28nm,1.1s						
H24K	**Noodor Dome**	68.91	24	P	P	02 35 26.5	+0.9
	baz=254,SNR=19						
E23K	**Chandalar**	68.93	21	P	P	02 35 27.0	+1.3
	baz=251						
ILAR	**Eielson Array**	69.02	25	P	P	02 35 25.6	-0.6
ILAR	**Eielson Array**	69.02	25	P	P	02 35 25.3	-0.9
	comp=Z,10.0nm,0.8s,baz=258,slow=4.7,SNR=77						
ILAR				LR	LR	03 03 23.3	
	comp=Z,426nm,21.5s,baz=252,slow=34						
	comp=Z,10.0nm,0.8s						
ILAR	**Eielson Array**	69.02	25	P	P	02 35 25.6	-0.6
TOLK	**Toolik Lake Re**	69.13	21	IAmb	IAmb	02 35 35.2	
	comp=Z,27nm,1.1s						
TOLK	**Toolik Lake Re**	69.13	21	P	P	02 35 28.2	+1.3
	baz=251,SNR=12						
BMRM	**Bremner River**	69.17	29	P	P	02 35 27.9	+0.7
	baz=259						
C23K	**Itkillik River**	69.19	19	IAmb	IAmb	02 35 29.3	
	comp=Z,25nm,0.9s						
C23K	**Itkillik River**	69.19	19	P	P	02 35 28.0	+0.9
	baz=250,SNR=17						
PAX	**Paxson**	69.19	27	P	P	02 35 28.0	+0.6
	baz=257,SNR=11						
HARP	**HAARP**	69.21	28	P	P	02 35 28.2	+0.8
	baz=258						
K24K	**Donnelly Dome**	69.25	26	P	P	02 35 28.1	+0.4
	baz=257,SNR=9.4						
N25K	**Chitina, Valde**	69.30	29	IAmb	IAmb	02 35 41.6	
	comp=Z,26nm,1.2s						
N25K	**Chitina, Valde**	69.30	29	P	P	02 35 29.4	+1.3
	baz=258						
G24K	**Hadweenzic Riv**	69.31	23	IAmb	IAmb	02 35 30.3	
	comp=Z,17nm,0.8s						
G24K	**Hadweenzic Riv**	69.31	23	P	P	02 35 28.8	+0.8
	baz=254,SNR=16						
E24K	**Your Creek**	69.34	22	IAmb	IAmb	02 35 36.9	
	comp=Z,18nm,0.8s						
E24K	**Your Creek**	69.34	22	P	P	02 35 29.0	+0.9
	baz=252,SNR=28						
F24K	**Squaw Lake**	69.39	22	IAmb	IAmb	02 35 31.1	
	comp=Z,22nm,0.9s						
F24K	**Squaw Lake**	69.39	22	P	P	02 35 30.1	+1.6
	baz=253,SNR=18						
D24K	**Happy Valley**	69.56	20	P	P	02 35 30.6	+1.2
	baz=252,SNR=50						
J25K	**Salcha River,**	69.61	25	IAmb	IAmb	02 35 36.8	
	comp=Z,17nm,1.1s						
J25K	**Salcha River,**	69.61	25	P	P	02 35 29.6	-0.4
	baz=257,SNR=10						
PRP	**Porcupine Dome**	69.77	24	P	P	02 35 30.5	-0.5
	baz=256						
C24K	**Franklin Bluff**	69.78	20	P	P	02 35 31.6	+0.8
	baz=252						
H25L	**Birch Creek**	69.83	24	P	P	02 35 32.0	+0.9
	baz=256,SNR=17						
G25K	**Bearman Lake**	69.85	23	P	P	02 35 32.1	+0.8
	baz=255,SNR=6.7						
MENT	**Mentasta**	69.97	27	IAmb	IAmb	02 35 39.6	
	comp=Z,27nm,1.3s						
MCARA	**McCarthy VSAT**	70.00	29	P	P	02 35 33.0	+0.6
	baz=260						
SCRK	**Sand Creek**	70.06	26	IAmb	IAmb	02 35 40.4	
	comp=Z,21nm,1.1s						
SCRK	**Sand Creek**	70.06	26	P	P	02 35 33.1	+0.3
	baz=258,SNR=11						
L26K	**Log Cabin Wild**	70.15	27	IAmb	IAmb	02 35 41.5	
	comp=Z,20nm,1.0s						
M26K	**Nabesna, AK**	70.19	28	P	P	02 35 34.5	+1.0
	baz=260						
F25K	**Christian Rive**	70.24	22	P	P	02 35 35.3	+1.5
	baz=255,SNR=21						
J26L	**Joseph Creek**	70.35	26	P	P	02 35 34.7	+0.2
	baz=258,SNR=23						
E25K	**Arctic Village**	70.40	22	IAmb	IAmb	02 35 43.1	
	comp=Z,23nm,1.1s						
E25K	**Arctic Village**	70.40	22	P	P	02 35 35.9	+1.2
	baz=255,SNR=21						
KKAR	**Karatay Array**	70.42	311	P	P	02 35 35.0	-0.3
KKAR	**Karatay Array**	70.42	311	P	P	02 35 35.0	-0.3
D25K	**Kavik River**	70.44	20	P	P	02 35 35.4	+0.5
	baz=254,SNR=32						
GAR	**Garm**	70.57	307	IAmb	IAmb	02 36 36.5	
	comp=Z,21nm,1.3s						
BMAR	**Burnt Mountain**	70.59	23	P	P	02 35 36.9	+1.0
I26K	**Coal Creek Min**	70.69	25	P	P	02 35 36.7	+0.3
	baz=258						
M27K	**Edge Creek, AK**	70.70	28	IAmb	IAmb	02 35 45.1	
	comp=Z,18nm,1.1s						
M27K	**Edge Creek, AK**	70.70	28	P	P	02 35 38.0	+1.2
	baz=261						
CTG	**Chitna Glacier**	70.74	30	P	P	02 35 37.7	+0.7
	baz=262						
G26K	**Porcupine Rive**	70.78	23	P	P	02 35 38.0	+1.0
	baz=257,SNR=18						
F26K	**Sheenjek River**	70.82	22	P	P	02 35 38.9	+1.6
	baz=257,SNR=28						
L27K	**Beaver Creek,**	70.84	27	P	P	02 35 38.4	+0.9
	baz=260,SNR=9.2						
PPT	**Papeete**	70.85	114	LR	LR	03 00 47.1	
	comp=Z,274nm,20.2s,baz=326,slow=31						
PPT2	**Papeete2**	70.86	114	*e*P	P	02 35 37.9	-0.5
	comp=Z,67nm,20.2s						
PPT2				*e*S	S	02 44 49.1	-2.6
	comp=Z,140nm,24.8s						
PPT2	**Papeete2**	70.86	114	*e*LR	LR	02 57 12.0	
	comp=Z,717nm,26.0s						
PPT2				*e*LR	LR	02 57 13.4	
	comp=Z,446nm,25.5s						
BCAR	**Beaver Creek A**	70.86	27	P	P	02 35 38.2	+0.6
K27K	**Chicken**	70.90	26	IAmb	IAmb	02 35 45.6	
	comp=Z,22nm,1.1s						
K27K	**Chicken**	70.90	26	P	P	02 35 39.1	+1.4
	baz=260						
BVAR	**Borovoye Array**	70.91	322	P	P	02 35 37.7	-0.3
	comp=Z,6.6nm,0.6s,baz=100,slow=8.1,SNR=44						
BVAR				LR	LR	03 08 16.0	
	comp=Z,521nm,18.6s,baz=89,slow=37						
	comp=Z,6.6nm,0.6s						
BRVK	**Borovoye**	70.98	322	P	P	02 35 37.5	-0.9
BRVK	**Borovoye**	70.98	322	P	P	02 35 37.5	-0.9
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
BRVK	**Borovoye**	70.98	322	P	P	02 35 38.9	+0.5
C26K	**Camden Bay**	71.09	20	P	P	02 35 40.5	+1.7
	baz=255,SNR=32						
O28M	**Mount Upton**	71.27	30	P	P	02 35 41.5	+1.1
	baz=263						
YUK3	**Moose Creek**	71.27	29	P	P	02 35 41.5	+1.1
	baz=262						
I27K	**Kandik River**	71.37	25	P	P	02 35 41.3	+0.7
	baz=260,SNR=7.8						
EGAK	**Eagle**	71.42	26	P	P	02 35 42.0	+1.1
	baz=260,SNR=8.7						
C27K	**Jago River**	71.42	20	P	P	02 35 41.9	+1.0
	baz=256,SNR=13						
CHGR	**Chuyangaron**	71.48	307	IAmb	IAmb	02 36 43.0	
	comp=Z,47nm,1.6s						
H27K	**Steamboat Moun**	71.52	24	P	P	02 35 42.4	+0.9
	baz=260,SNR=35						
YUK8	**Steele Glacier**	71.54	29	P	P	02 35 43.7	+1.7
	baz=263						
G27K	**Doyon Strip**	71.58	24	IAmb	IAmb	02 35 49.3	
	comp=Z,33nm,1.7s						
G27K	**Doyon Strip**	71.58	24	P	P	02 35 42.9	+1.1
	baz=259,SNR=9.0						
SIMJ	**Simiganj**	71.60	307	P	P	02 35 40.4	-2.3
SIMJ	**Simiganj**	71.60	307	P	P	02 35 42.8	+0.1
E27K	**Coleen River**	71.86	22	IAmb	IAmb	02 35 51.0	
	comp=Z,20nm,1.1s						
E27K	**Coleen River**	71.86	22	P	P	02 35 44.9	+1.3
	baz=259,SNR=18						
I28M	**Miner Creek**	72.04	25	P	P	02 35 45.6	+0.8
	baz=262,SNR=13						
DAWY	**Dawson**	72.07	27	IAmb	IAmb	02 35 53.3	
	comp=Z,23nm,1.0s						
DAWY	**Dawson**	72.07	27	P	P	02 35 46.1	+1.2
	baz=262,SNR=14						
YUK4	**Talbot Arm**	72.08	29	P	P	02 35 47.0	+1.8
	baz=264						
YUK6	**Outpost Mounta**	72.18	30	P	P	02 35 47.4	+1.6
	baz=264						
M29M	**Somme Creek**	72.29	28	IAmb	IAmb	02 35 53.1	
	comp=Z,17nm,0.8s						
M29M	**Somme Creek**	72.29	28	P	P	02 35 47.3	+1.0
	baz=264,SNR=11						
D27M	**Malcolm River**	72.29	21	IAmb	IAmb	02 35 55.8	
	comp=Z,19nm,0.8s						
D27M	**Malcolm River**	72.29	21	P	P	02 35 47.6	+1.5
	baz=259,SNR=7.2						
F28M	**Old Crow**	72.40	23	IAmb	IAmb	02 35 53.7	
	comp=Z,25nm,0.8s						
F28M	**Old Crow**	72.40	23	P	P	02 35 47.9	+1.1
	baz=261,SNR=25						
L29M	**L29M**	72.51	28	IAmb	IAmb	02 35 54.9	
	comp=Z,27nm,0.8s						
L29M	**L29M**	72.51	28	P	P	02 35 49.2	+1.6
	baz=264,SNR=19						
HYT	**Haines Junctio**	72.58	30	P	P	02 35 49.6	+1.5
	baz=265						
E28M	**Babbage River**	72.69	22	IAmb	IAmb	02 35 55.2	
	comp=Z,19nm,0.9s						
E28M	**Babbage River**	72.69	22	P	P	02 35 50.0	+1.5
	baz=261,SNR=17						
I29M	**Ogilvie Camp,**	72.70	25	IAmb	IAmb	02 35 50.8	
	comp=Z,21nm,1.1s

baz=265,SNR=6.5
D28M Stokes Point 73.09 21 P P 02 35 52.2 +1.4
baz=261
E29M Blow River 73.25 22 P P 02 35 52.8 +1.1
baz=262,SNR=12
O30N Mendenhall 73.27 30 P P 02 35 53.2 +1.1
baz=266
J30M Hart River 73.45 26 P P 02 35 54.6 +1.4
baz=265,SNR=12
EPYK Eagle Plains 73.47 24 P P 02 35 54.2 +1.1
baz=264,SNR=14
N31M Braeburn, Yuko 73.47 29 P P 02 35 55.0 +1.8
baz=266
I30M Mount Dempster 73.49 25 P P 02 35 54.9 +1.5
baz=265,SNR=15
MAYO Mayo, Yukon 73.56 27 P P 02 35 55.1 +1.4
baz=266
G30M tAoh Zraii Nji 73.72 24 P P 02 35 55.4 +0.7
baz=264,SNR=17
WHY Whitehorse 73.86 30 IAmb IAmb 02 36 20.4
comp=Z,34nm,1.4s
WHY Whitehorse 73.86 30 P P 02 35 57.5 +1.9
baz=268
F30M Barrier River 73.95 23 P P 02 35 57.1 +1.2
baz=265,SNR=27
M31M Drury Creek, Y 74.16 29 P P 02 35 57.7 +0.4
baz=269
H31M Peel River 74.38 25 IAmb IAmb 02 36 05.9
comp=Z,28nm,1.0s
H31M Peel River 74.38 25 P P 02 35 59.5 +1.1
baz=266,SNR=19
P32M Atlin 74.40 31 P P 02 36 00.1 +1.4
baz=269
G31M Satah River 74.49 24 P P 02 35 59.9 +0.9
baz=266,SNR=39
FARO Faro, Yukon 74.65 29 IAmb IAmb 02 36 07.9
comp=Z,68nm,2.0s
F31M Tsiigehtchic 74.72 23 IAmb IAmb 02 36 09.0
comp=Z,22nm,0.8s
F31M Tsiigehtchic 74.72 23 P P 02 36 01.2 +0.9
baz=267,SNR=7.0
N32M Quiet Lake 74.75 30 P P 02 36 02.0 +1.3
baz=269
INK Inuvik 74.86 22 IAmb IAmb 02 36 09.8
comp=Z,26nm,0.9s
INK Inuvik 74.86 22 P P 02 36 01.7 +0.6
baz=267,SNR=20
INK Inuvik 74.86 22 LR LR 03 07 23.3
comp=Z,150nm,20.7s,baz=205,slow=34
P33M Teslin, Yukon 74.87 31 P P 02 36 02.6 +1.1
baz=269
WRAK Wrangell Islan 75.11 35 P P 02 36 04.5 +1.7
baz=271
V35K Ketchikan 75.55 36 P P 02 36 06.8 +1.5
baz=272
MMPY Sheldon Lake, 75.63 28 IAmb IAmb 02 36 14.8
comp=Z,42nm,1.4s
MMPY Sheldon Lake, 75.63 28 P P 02 36 07.4 +1.6
baz=270
S34M Telegraph Cree 75.75 33 IAmb IAmb 02 36 13.2
comp=Z,21nm,0.9s
S34M Telegraph Cree 75.75 33 P P 02 36 08.4 +2.0
baz=272
R33M Jennings River 75.81 32 IAmb IAmb 02 36 31.9
comp=Z,24nm,1.1s
R33M Jennings River 75.81 32 P P 02 36 08.7 +1.8
baz=271
T35M Bob Quinn 76.26 34 IAmb IAmb 02 36 16.7
comp=Z,22nm,0.9s
T35M Bob Quinn 76.26 34 P P 02 36 11.2 +1.8
baz=272
DLBC Dease Lake 76.32 33 IAmb IAmb 02 36 16.5
comp=Z,21nm,0.9s
DLBC Dease Lake 76.32 33 P P 02 36 11.6 +1.9
baz=272
SVE Sverdlovsk 76.58 326 *e*P P 02 36 11.8 +0.6
SVE pmax pmax
comp=Z,15nm,0.9s
SVE MLR MLR
comp=Z,954nm,19.0s
TGTN Hyland Airport 77.06 29 P P 02 36 15.3 +1.4
baz=273
ABKAR Akbulak array 77.52 318 P P 02 36 15.4 -1.2
A36M Sachs Harbour 77.69 19 IAmb IAmb 02 36 18.8
comp=Z,19nm,0.8s
A36M Sachs Harbour 77.69 19 P P 02 36 17.9 +0.7
baz=274
ARU Arti 77.75 325 P P 02 36 16.7 -1.0
ARU IAmb IAmb 02 36 18.5
comp=Z,26nm,1.6s
ARU Arti 77.75 325 *c i*P P 02 36 17.4 -0.3
ARU 02 39 10.2
ARU S S 02 46 09.2 +1.6
ARU SS SS 02 51 05.2 -2.5
ARU pmax pmax
comp=Z,11nm,1.0s
BBB Bella Bella 77.81 39 LR LR 03 06 21.4
comp=Z,302nm,20.1s,baz=272,slow=32
C36M Paulatuk 78.28 21 IAmb IAmb 02 36 22.5
comp=Z,17nm,0.8s
C36M Paulatuk 78.28 21 P P 02 36 21.1 +0.7
baz=275,SNR=6.2
LIRD Liard River Hi 78.29 31 P P 02 36 22.1 +1.3
baz=275
TOAD Toad River Com 78.79 32 P P 02 36 25.1 +1.6
baz=276
WRGLY Wrigley 79.16 27 P P 02 36 26.9 +1.5
baz=277
KOTAN Kotaneelee Air 79.24 31 P P 02 36 27.6 +1.6
baz=277
GEYT Alibeck 80.20 307 P P 02 36 30.9 -0.8
GEYT Alibeck 80.20 307 P P 02 36 32.3 +0.7
comp=Z,2.5nm,0.7s,baz=74,slow=5.1,SNR=6.8
comp=Z,2.5nm,0.7s
GEYT Alibeck 80.20 307 P P 02 36 30.9 -0.8
GEYT pmax pmax
comp=Z,5.0nm,0.9s
KIRV Kirov 82.32 328 LR LR 03 15 38.6
comp=Z,326nm,18.7s,baz=66,slow=38
KIRV Kirov 82.32 328 *ce*P P 02 36 42.4 0.0
HUMO Hull Mountain 82.59 48 IAmb IAmb 02 37 06.1
comp=Z,19nm,1.2s
YBH Yreka Blue Hor 82.94 49 IAmb IAmb 02 37 07.9
comp=Z,29nm,1.4s
YBH Yreka Blue Hor 82.94 49 LR LR 03 06 29.4
comp=Z,209nm,20.8s,baz=304,slow=30
L04D Klamath Falls 83.14 48 IAmb IAmb 02 37 12.5
comp=Z,19nm,1.1s
YKA Yellowknife Ar 83.28 27 P P 02 36 47.1 -0.2
YKA Yellowknife Ar 83.28 27 P P 02 36 47.6 +0.3
comp=Z,6.5nm,0.9s,baz=287,slow=5.4,SNR=42
YKA LR LR 03 11 41.0
comp=Z,292nm,21.4s,baz=296,slow=34
comp=Z,6.5nm,0.9s
YKA Yellowknife Ar 83.28 27 *ce*P P 02 36 48.0 +0.7
YKA pmax pmax
comp=Z,7.0nm,0.9s
J05D Fort Rock, OR 83.71 47 IAmb IAmb 02 37 13.1
comp=Z,14nm,1.0s
K05A Summer Lake 84.07 48 IAmb IAmb 02 37 07.2
comp=Z,33nm,1.4s
BELG Belogornoye 84.70 322 LR LR 03 16 57.7
comp=Z,435nm,18.6s,baz=1.4,slow=37
AFDM Forest Hills D 84.79 51 P P 02 36 56.5 +1.0
SPITS Spitsbergen Ar 84.92 351 P P 02 36 56.1 +0.7
comp=Z,5.7nm,0.7s,baz=62,slow=3.4,SNR=7.0
comp=Z,5.7nm,0.7s
RES Resolute Bay 85.17 13 IAmb IAmb 02 37 03.0
comp=Z,11nm,0.9s
NOR Nord 85.34 357 *i* P P 02 36 56.5 -1.0
NOR IAmb IAmb 02 36 59.3
comp=Z,2.2nm,0.8s
NEW Newport 85.42 42 IAmb IAmb 02 37 04.1
comp=Z,12nm,0.9s
NEW Newport 85.42 42 P P 02 36 59.4 +0.9
baz=284
NEW Newport 85.42 42 LR LR 03 13 47.6
comp=Z,209nm,18.8s,baz=317,slow=35
J08A Circle Bar Ran 85.66 47 IAmb IAmb 02 37 22.5
comp=Z,14nm,1.2s
BMO Blue Mountains 86.12 45 IAmb IAmb 02 37 24.9
comp=Z,13nm,1.1s
KLMR Klimovskoe 86.52 332 *e*P P 02 37 01.2 -2.4
KLMR pmax pmax
comp=Z,28nm,1.4s
PKM Mcpherson Peak 86.58 55 P P 02 37 05.7 +0.9
baz=283
SBC Santa Barbara 86.77 56 P P 02 37 06.6 +1.2
baz=283
SCZ2 Santa Cruz Isl 86.93 56 P P 02 37 06.4 +0.2
baz=283
NVAR Mina Array Bea 86.94 51 P P 02 37 07.0 +0.5
NVAR Mina Array Bea 86.94 51 P P 02 37 08.3 +1.8
comp=Z,3.0nm,0.9s,baz=270,slow=5.8,SNR=14
NVAR LR LR 03 14 19.1
comp=Z,102nm,18.4s,baz=208,slow=34
comp=Z,3.0nm,0.9s
VES Vestal, Richgr 86.94 54 P P 02 37 07.6 +1.4
baz=284
SNCC San Nicolas Is 87.19 57 P P 02 37 08.6 +1.1
baz=284
BMN Battle Mountai 87.27 49 IAmb IAmb 02 37 18.0
comp=Z,13nm,1.4s
KEV Kevo 87.45 342 P P 02 37 08.0 0.0
KEV Kevo 87.45 342 P P 02 37 08.0 0.0
KEV pmax pmax
comp=Z,38nm,1.0s
MFID Camas Ranch 87.51 46 IAmb IAmb 02 37 23.8
comp=Z,17nm,1.1s
CWC Cottonwood Cre 87.59 53 P P 02 37 10.5 +0.9
baz=284
MZP Montezuma Peak 87.82 52 IAmb IAmb 02 37 20.8
comp=Z,16nm,1.9s
MSO Missoula 87.87 42 P P 02 37 12.1 +1.5
baz=286
ARCES ARCESS Array B 88.01 342 P P 02 37 10.4 -0.3
ARCES ARCESS Array B 88.01 342 P P 02 37 10.6 -0.1
comp=Z,17nm,0.8s,baz=58,slow=6.7,SNR=19
ARCES LR LR 03 21 52.4
comp=Z,165nm,18.4s,baz=71,slow=39
comp=Z,17nm,0.8s
ARCES ARCESS Array B 88.01 342 P P 02 37 10.4 -0.3
ARCES pmax pmax
comp=Z,24nm,1.0s
GRAC Grapevine Rang 88.01 53 P P 02 37 12.9 +1.4
baz=285
LRMC Laurel Mtn Rad 88.14 54 P P 02 37 13.3 +1.1
baz=284
MPMC Manual Prospec 88.15 54 P P 02 37 13.5 +1.2
baz=285
HLID Hailey 88.47 46 IAmb IAmb 02 37 36.2
comp=Z,9.6nm,1.1s
HLID Hailey 88.47 46 P P 02 37 14.5 +0.9
baz=286
FURC Furnace Creek, 88.54 53 P P 02 37 15.2 +1.4
baz=285
VRH Novokhopyorsk 88.56 322 *e*P P 02 37 10.8 -2.8
VRH pmax pmax
comp=Z,10.0nm,0.8s
ELK Elko 88.65 49 LR LR 03 11 53.8
comp=Z,235nm,19.8s,baz=294,slow=32
QSM Queen of Sheba 88.66 54 IAmb IAmb 02 37 38.5
comp=Z,9.9nm,1.2s
GWY Greenwater Val 88.76 53 IAmb IAmb 02 37 27.2
comp=Z,8.2nm,1.1s
GSC Goldstone, Bar 88.88 54 IAmb IAmb 02 37 23.1
comp=Z,8.7nm,1.0s
GSC Goldstone, Bar 88.88 54 P P 02 37 17.0 +1.3
baz=285
R11B Troy Canyon, C 89.03 51 IAmb IAmb 02 37 26.7
comp=Z,16nm,1.6s
R11B Troy Canyon, C 89.03 51 P P 02 37 16.9 +0.5
baz=286
S11A Rachel 89.09 52 IAmb IAmb 02 37 35.1
comp=Z,16nm,1.1s
109C Camp Elliot, M 89.25 57 P P 02 37 17.8 +0.5
baz=285
MOS Moscow 89.29 327 *e*P P 02 37 14.2 -2.7
MOS *e* 02 40 43.5
MOS pmax pmax
comp=Z,28nm,1.2s
MOS MLR MLR
comp=Z,500nm,19.0s
HEC Hector,Ludlow 89.37 55 P P 02 37 19.4 +1.4
baz=285
NEEM North Greenlan 89.41 4 *i* P P 02 37 16.4 -1.1
NEEM IAmb IAmb 02 37 23.4
comp=Z,6.0nm,0.8s
Q12A Willow Creek R 89.41 50 IAmb IAmb 02 37 30.8
comp=Z,16nm,1.1s
TUQ Turquoise Moun 89.54 54 P P 02 37 19.6 +0.8
baz=286
PFO Pinyon Flats O 89.59 56 P P 02 37 20.0 +1.0
PFO Pinyon Flats O 89.59 56 P P 02 37 19.9 +1.0
baz=285
PFO Pinyon Flats O 89.59 56 LR LR 03 17 16.3
comp=Z,187nm,18.1s,baz=260,slow=35
PFO Pinyon Flats O 89.59 56 P P 02 37 20.0 +1.0
PFO pmax pmax
comp=Z,8.0nm,1.1s
TPFO Pinon Flats 89.59 56 P P 02 37 19.9 +0.8
baz=285
LPSR Galich'ya Gora 89.72 324 *e*P P 02 37 15.0 -4.0
LPSR pmax pmax
comp=Z,20nm,0.8s
BOZ Bozeman (W) 89.77 43 P P 02 37 20.5 +0.9
baz=288
SPR3 Spring Creek 3 89.80 50 IAmb IAmb 02 37 30.5
comp=Z,24nm,1.7s
MONP2 Monument Peak 89.81 56 P P 02 37 20.4 +0.2
baz=285
BELC Belle Mtn. Jos 89.86 55 P P 02 37 20.5 +0.2
baz=285
GMRC Granite Mounta 89.92 54 P P 02 37 20.7 +0.1
baz=286
VSR Storozhevoye 90.07 323 *e*P P 02 37 16.9 -3.8
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORD Divnogorie 90.08 323 *e*P P 02 37 18.5 -2.2
VORD pmax pmax
comp=Z,4.0nm,0.8s
OBN Obninsk 90.08 327 LR LR 03 20 13.7
comp=Z,372nm,19.3s,baz=15,slow=37
OBN Obninsk 90.08 327 *e*P P 02 37 19.9 -0.7
OBN *e**PP pP 02 37 26.3 -3.1
OBN *SP sP 02 37 34.0 +2.1
OBN *e*S SKSac 02 47 51.0 +2.0
OBN *e*PS PnS 02 49 15.1 -6.4
OBN pmax pmax
comp=Z,56nm,2.5s
OBN MLR MLR
comp=Z,393nm,17.0s
DAG Danmarks Havn 90.11 356 P P 02 37 20.5 +0.1
DAG pmax pmax
comp=Z,9.0nm,0.9s
DAG Danmarks Havn 90.11 356 *i* P P 02 37 19.0 -1.4
DAG IAmb IAmb 02 37 21.2
comp=Z,3.9nm,0.8s
KBZ Khabaz 90.14 315 LR LR 03 20 59.1
comp=Z,151nm,18.6s,baz=37,slow=38
KBZ Khabaz 90.14 315 *e*P P 02 37 21.0 -0.2
KBZ pmax pmax
comp=Z,2.0nm,1.0s
VALR Valaam 90.15 334 *de*P P 02 37 20.0 -0.8
VALR pmax pmax
comp=Z,16nm,0.9s
KIV Kislovodsk 90.21 315 *e*P P 02 37 20.6 -1.1
KIV *e**PP pP 02 37 30.6 -0.1
KIV *SP sP 02 37 34.0 +0.6
KIV *e*S SKSac 02 47 47.3 -3.2
KIV *e*PS PS 02 49 26.1 +2.2
KIV SS SS 02 54 17.0 +4.4
KIV pmax pmax
comp=Z,4.0nm,0.9s
PSUT Pine Spring 90.28 50 IAmb IAmb 02 37 31.7
comp=Z,7.8nm,1.0s
V12A Nelson 90.30 53 IAmb IAmb 02 37 29.2
comp=Z,9.9nm,1.0s
BC3 Big Chuckawall 90.39 55 P P 02 37 23.7 +1.0
baz=286
IRM Iron Mountain 90.50 55 P P 02 37 23.3 +0.1
baz=286
DUG Dugway, Tooele 90.58 49 IAmb IAmb 02 37 40.6
comp=Z,16nm,1.4s
DUG Dugway, Tooele 90.58 49 P P 02 37 23.6 +0.1
baz=287
VNDA Vanda 90.65 176 P P 02 37 23.8 +1.1
comp=Z,1.2nm,0.9s,baz=318,slow=6.6,SNR=5.3
comp=Z,1.2nm,0.9s
NEE2 Needles Airpor 90.75 54 P P 02 37 24.7 +0.5
baz=286
CCUT Cedar City 90.94 51 IAmb IAmb 02 37 35.9
comp=Z,22nm,1.9s
NLU North Lily Min 91.19 49 P P 02 37 26.2 -0.3
PDMCI Parker Dam,Lak 91.26 55 P P 02 37 27.4 +0.8
baz=286
U15A North Rim 92.09 52 IAmb IAmb 02 37 58.6
comp=Z,12nm,1.5s
PDAR Pinedale Array 92.09 45 P P 02 37 31.2 +0.6
comp=Z,0.5nm,0.7s,baz=275,slow=9.5,SNR=2.4
PDAR LR LR 03 12 31.9
comp=Z,129nm,20.0s,baz=294,slow=31
comp=Z,0.5nm,0.7s
FINES FINESS Array B 92.12 335 P P 02 37 28.8 -1.2
comp=Z,6.3nm,0.7s,baz=64,slow=6.3,SNR=25
FINES LR LR 03 21 57.1
comp=Z,114nm,19.6s,baz=46,slow=38
comp=Z,6.3nm,0.7s
FINES FINESS Array B 92.12 335 *i* P P 02 37 28.7 -1.3
FINES pmax pmax
comp=Z,6.0nm,0.7s
FFC Flin Flon 92.15 32 P P 02 37 30.8 +0.5
FFC IAmb IAmb 02 37 56.4
comp=Z,9.6nm,1.4s
FFC Flin Flon 92.15 32 P P 02 37 30.8 +0.5
FFC pmax pmax
comp=Z,10.0nm,1.4s
Y14A Wickenburg 92.27 55 IAmb IAmb 02 37 38.9
comp=Z,7.1nm,0.9s
214A Organ Pipe Nat 93.00 56 P P 02 37 35.9 +1.2
baz=287
WUAZ Wupatki 93.07 53 P P 02 37 36.0 +0.8
baz=288
VSU Vasula 93.40 333 ||*e*P P 02 37 34.8 -1.1
VSU pmax pmax
comp=Z,7.0nm,1.0s
K22A Casper 94.23 45 P P 02 37 40.4 0.0
baz=292
AKASG Malin Array Be 96.00 325 P P 02 37 46.0 -2.1
comp=Z,0.2nm,0.3s,baz=58,slow=2.6,SNR=5.4
AKASG LR LR 03 24 18.2
comp=Z,581nm,18.3s,baz=53,slow=38
comp=Z,0.2nm,0.3s
AKASG Malin Array Be 96.00 325 *ce*P P 02 37 46.7 -1.3
ANMO Albuquerque 97.06 52 P P 02 37 53.4 -0.1
baz=291
ANMO Albuquerque 97.06 52 LR LR 03 25 47.9
comp=Z,192nm,18.1s,baz=38,slow=38
LPIG La Paz 97.44 63 LR LR 03 20 31.0
comp=Z,91nm,18.1s,baz=188,slow=35
HFS Hagfors 97.74 338 LR LR 03 24 18.1
comp=Z,86nm,19.0s,baz=49,slow=37
T25A Trinidad 97.80 49 P P 02 37 56.5 -0.3
baz=293
NB2 NORSAR Subarra 97.99 339 P P 02 37 55.4 -1.5
comp=Z,5.6nm,1.1s,baz=46,slow=5.1
NOA NORSAR Array B 97.99 339 P P 02 37 55.3 -1.6
comp=Z,2.0nm,0.8s,baz=48,slow=4.6,SNR=9.7
comp=Z,2.0nm,0.8s
BRTR Keskin Array B 98.03 314 P P 02 37 57.1 -0.6
comp=Z,0.9nm,0.9s,baz=79,slow=7.5,SNR=4.3
comp=Z,0.9nm,0.9s
BRTR Keskin Array B 98.03 314 *i* P P 02 37 55.4 -2.3
BRTR pmax pmax
comp=Z,2.0nm,1.1s
MAW Mawson 98.93 203 LR LR 03 23 20.5
comp=Z,111nm,18.9s,baz=64,slow=36
MMAI Mount Meron Ar 99.32 307 P Pdif 02 38 01.5 -2.0
comp=Z,1.0nm,0.2s,baz=132,slow=2.1,SNR=1.6
comp=Z,0.1nm,0.2s
MSTX Muleshoe 100.25 52 P Pdif 02 38 07.8 +0.1
baz=293
AMTX Amarillo 100.71 50 P Pdif 02 38 10.4 +0.7
baz=294
VYHS Vyhne 102.88 327 *e*PDIFF Pdif 02 38 19.3 +0.4
VYHS Vyhne 102.88 327 *e*P Pdif 02 38 19.3 +0.4
MODS Modra-Piesok 103.78 327 *e*P Pdif 02 38 22.3 -0.6
MODS Modra-Piesok 103.78 327 *e*PDIFF Pdif 02 38 22.3 -0.6
CLL Collm 104.01 332 *e*Pdif Pdif 02 38 23.0 -0.9
CLL AMS AMS 03 29 00.0
comp=Z,300nm,18.6s
CLL Collm 104.01 332 *e*P Pdif 02 38 23.0 -0.9
CLL MLR MLR
comp=Z,300nm,18.6s
ESDC Sonseca Array 120.55 333 PKP PKPdf 02 43 12.9 0.0
comp=Z,0.2nm,0.4s,baz=27,slow=3.2,SNR=2.3
ESDC PKKPbc PKKPbc 02 53 19.6 +0.1
comp=Z,0.9nm,1.1s,baz=212,slow=4.8,SNR=4.5
TORD Torodi Ar. Bas 135.80 304 PKP PKPdf 02 43 43.1 +0.6
comp=Z,1.7nm,0.8s,baz=28,slow=3.7,SNR=11
PLCA Paso Flores 137.95 138 PKP PKPdf 02 43 46.5 +0.6
comp=Z,1.4nm,0.7s,baz=246,slow=14,SNR=2.9
ZON Zonda 143.49 126 PKPdf PKPdf 02 43 55.7 -0.4
ZON Zonda 143.49 126 PKIKP PKPdf 02 43 55.7 -0.4
PB14 IPOC Station P 144.15 114 PKPdf PKPbc 02 43 56.3 +0.4
DBIC Dimbokro 144.74 302 PKPdf PKPbc 02 43 57.8 +0.3
DBIC Dimbokro 144.74 302 PKP PKPbc 02 43 58.0 +0.4
comp=Z,24nm,0.6s,baz=82,slow=2.8,SNR=38
DBIC Dimbokro 144.74 302 PKIKP PKPbc 02 43 58.0 +0.4
KIC Kosan Boka 144.81 301 ||*e*P PKPbc 02 43 58.2 +0.4
comp=Z,44nm,0.6s
TIC Toumodi 144.89 302 ||*e*P PKPdf 02 43 59.0 +0.1
comp=Z,40nm,0.7s
LIC Lamto 145.13 301 ||*e*P PKPdf 02 43 59.8 +0.5
comp=Z,122nm,0.7s
LVC Limon Verde 145.89 111 PKPbc PKPab 02 44 03.4 +1.4
comp=Z,14nm,0.9s,baz=348,slow=4.7,SNR=6.0
LPAZ La Paz 147.30 100 PKPbc 02 44 06.2 +0.2
LPAZ La Paz 147.30 100 PKPbc PKPbc 02 44 05.5 -0.5
comp=Z,3.1nm,0.6s,baz=283,slow=3.3,SNR=14
ETMB Extrema 148.79 88 PKPab PKiKP 02 44 10.8 +0.1
BOAV Boa Vista 150.09 61 PKPbc 02 44 10.8 -1.7
SIV San Ignacio 154.09 100 PKP PKPdf 02 44 15.9 +2.5
comp=Z,0.7nm,0.2s,baz=97,slow=1.9,SNR=6.7
SIV PKPbc pPKPdf 02 44 22.6 +0.4
comp=Z,2.4nm,0.7s,baz=209,slow=2.4,SNR=11
CPUP Villa Florida 154.70 126 PKPab PKPab 02 44 38.1 +0.7
comp=Z,6.5nm,1.1s,baz=249,slow=9.0,SNR=3.2

IDC ***22*** *02:34:53.0±1.9,36°.27N×140°.31E, h0km, mb3.5/3, mbtmp3.6/4, ML3.8/1, Error ellipse: s-maj=27.2km s-min=20.3km az=17.0*
JMA ***22*** *02:35:01.0±0.1,36°.0N±0°.3×139°.9E±0°.4, h42km±1km, MV3.5/39, SW IBARAKI PREF*
JMA Felt II J1 at SW IBARAKI PREF .
ISC 22 02:35:00.1±1.1**,36°.03N**±0°.05×**139°.95E**±0°.06**, h51**km±10km, n14,σ0s90/19, mb3.5/3,5D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
				Op		ISC	
JYT	**Yasato**	**0.28**	**45**	*i* P		**Pn**	**02 35 09.4 +0.2**
JYT				S		**Sn**	**02 35 15.4 -0.3**
TOK	**Tokyo**	**0.37**	**205**	P		**Pn**	**02 35 11.3 +1.3**
JAG	**Ashikaga**	**0.56**	**315**	||*i*P	**Pn**	**02 35 12.3 +0.1**
JAG				||S	**Sn**	**02 35 20.3 -0.7**
JHU	**Hanno**	**0.57**	**252**	||*i*P	**Pn**	**02 35 11.9 -0.4**
JRY	**Ryogami san**	**0.85**	**270**	||*i*P	**Pn**	**02 35 15.8 -0.1**
JRY				||S	**Sn**	**02 35 26.5 -1.0**
JKT	**Katashina**	**0.93**	**323**	*i* P		**Pn**	**02 35 17.2 +0.2**
JKT				S		**Sn**	**02 35 30.0 +0.6**
JOD2	**Odawara 2**	**1.04**	**223**	P		**Pn**	**02 35 19.2 +0.9**
JYN	**Shimob**	**1.26**	**246**	P		**Pn**	**02 35 22.9 +1.5**
BSO3	**Boso 3**	**1.31**	**159**	P		**Pn**	**02 35 22.3 +0.5**
MJAR	**Matsushiro Arr**	**1.50**	**291**	Pg		**Pn**	**02 35 25.0 +0.4**
	1.8nm,0.3s,baz=96,slow=12,SNR=36						
MJAR				Lg		Lg	02 35 45.4
	1.3nm,0.3s,baz=99,slow=24,SNR=3.8						
JHJ	**Hachijo jima 2**	**2.90**	**183**	Pn		**Pn**	**02 35 44.2 +0.4**
	31nm,0.3s,baz=79,slow=23,SNR=17						
JHJ				Sn		**Sn**	**02 36 15.4 -2.1**
	17nm,0.3s,baz=344,slow=24,SNR=6.0						
	74nm,0.3s						
ZALV	**Zalesovo Beam**	**41.73**	**313**	P		**P**	**02 42 44.1 +0.2**
	0.7nm,0.6s,baz=107,slow=5.0,SNR=2.5						
	0.7nm,0.6s						
MKAR	**Makanchi Array**	**43.66**	**303**	P		**P**	**02 42 59.9 +0.2**
	0.1nm,0.5s,baz=100,slow=7.5,SNR=1.7						
	0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**45.70**	**309**	P		**P**	**02 43 15.6 -0.2**
	0.7nm,0.5s,baz=83,slow=7.7,SNR=11						
	0.7nm,0.5s						

MOS ***22*** *02:43:17.9±1.3,44°.52N×148°.32E, h59km, mb4.3/2, Error ellipse: s-maj=16.9km s-min=12.3km az=137.8*
JMA ***22*** *02:43:18.7±0.4,44°N±2°×14°8E±°, h0km, MV4.1/20, SE OFF ETOROFU*
SKHL ***22*** *02:43:19.3±0.1,44°.50N×148°.40E, h69km, 8km, mb4.6/3*
ISC 22 02:43:18.2±1.7**,44°.38N**±0°.09×**148°.4E**±0°.1**, h50**km±14km,

n29,σ1⁑54/42, 5C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**0.94**	**336**	*i* P	**Pn**	**02 43 34.8**	**-0.2**
KUR				AMB	AMB	02 43 35.2	
	700nm,0.2s						
KUR				*i* S	**Sn**	**02 43 46.5**	**-0.9**
KUR				A	A	02 43 47.1	
	2μm,0.3s						
KUR				A	A	02 43 47.1	
	1μm,0.3s						
KUR	**Kuril'sk**	**0.94**	**336**	*c i*PN	**Pn**	**02 43 34.8**	**-0.2**
KUR				*i* S	**Sn**	**02 43 46.1**	**-1.3**
KUR				smax	smax		
	comp=N,2μm,0.3s						
KUR				smax	smax		
	comp=E,991nm,0.3s						
SHO	**Shikotan**	**1.24**	**246**	*e*P	**Pn**	**02 43 39.3**	**+0.1**
SHO				AMB	AMB	02 43 40.3	
	comp=E,60nm,0.2s						
SHO				*e*S	**Sn**	**02 43 54.1**	**-0.7**
SHO				A	A	02 43 55.7	
	comp=E,350nm,0.2s						
SHO				A	A	02 43 55.7	
	comp=E,360nm,0.2s						
SHO	**Shikotan**	**1.24**	**246**	*e*PN	**Pn**	**02 43 39.3**	**+0.1**
SHO				*e*S	**Sn**	**02 43 53.4**	**-1.4**
SHO				pmax	pmax		
	comp=N,23nm,0.3s						
SHO				pmax	pmax		
	comp=Z,34nm,0.3s						
SHO				smax	smax		
	comp=E,510nm,0.2s						
SHO				smax	smax		
	comp=N,154nm,0.1s						
YUK	**Yuzh-Kuril'sk**	**1.86**	**260**	*e*P	**Pn**	**02 43 48.2**	**+0.6**
YUK				AMB	AMB	02 43 51.6	
	comp=N,190nm,0.4s						
YUK				*e*S	**Sn**	**02 44 09.7**	**-0.2**
YUK				A	A	02 44 14.4	
	comp=N,700nm,0.5s						
YUK				A	A	02 44 14.4	
	comp=N,700nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**1.86**	**260**	*e*PN	**Pn**	**02 43 48.5**	**+0.9**
YUK				*e*S	**Sn**	**02 44 09.7**	**-0.2**
YUK				pmax	pmax		
	comp=Z,192nm,0.2s						
YUK				pmax	pmax		
	comp=N,35nm,0.1s						
YUK				pmax	pmax		
	comp=E,88nm,0.2s						
YUK				smax	smax		
	comp=N,550nm,0.2s						
YUK				smax	smax		
	comp=E,865nm,0.2s						
NEM2	**Nemuro 2**	**2.18**	**243**	P	**Pn**	**02 43 52.4**	**+0.5**
NEM2				*S*	**Sn**	**02 44 17.0**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.18**	**243**	*e*P	**Pn**	**02 43 52.1**	**+0.1**
NMR				*e*S	**Sn**	**02 44 16.1**	**-1.7**
NMR	**Nemuro--Hokkai**	**2.18**	**243**	*e*PN	**Pn**	**02 43 52.1**	**+0.1**
NMR				*e*S	**Sn**	**02 44 15.8**	**-2.0**
RUSJ	**Misakicho**	**2.29**	**264**	*e*PN	**Pn**	**02 43 55.0**	**+1.6**
RUSJ				*e*S	**Sn**	**02 44 22.1**	**+1.8**
JNSB	**Nemuroshibetsu**	**2.52**	**257**	*e*P	**Pn**	**02 43 57.9**	**+1.2**
JKHN	**Kushirohamanak**	**2.69**	**242**	*e*P	**Pn**	**02 43 59.9**	**+1.0**
JKHN				S	**Sn**	**02 44 29.6**	**-0.5**
JNK	**Nakash**	**2.78**	**255**	P	**Pn**	**02 44 01.7**	**+1.5**
JNK				*e*S	**Sn**	**02 44 32.6**	**+0.2**
AKK	**Akkeshi**	**2.92**	**243**	*e*P	**Pn**	**02 44 02.8**	**+0.7**
JAK	**Akkeshi**	**3.02**	**244**	P	**Pn**	**02 44 04.2**	**+0.7**
JAR	**Ashorobuto**	**3.52**	**254**	P	**Pn**	**02 44 12.7**	**+2.3**
JAR				*e*S	**Sn**	**02 44 53.2**	**+2.4**
JCH	**Churui**	**4.07**	**246**	P	**Pn**	**02 44 20.2**	**+2.3**
ERM	**Erimo**	**4.51**	**240**	⇑*e*PN	**Pn**	**02 44 26.3**	**+2.4**
JNBK	**Urakawa-nobuka**	**4.63**	**245**	P	**Pn**	**02 44 28.7**	**+3.2**
SKR	**Severo-Kuril's**	**8.18**	**37**	*e*P	**Pn**	**02 45 18.0**	**+3.8**
SKR	**Severo-Kuril's**	**8.18**	**37**	⇓*e*PN	**Pn**	**02 45 14.4**	**+0.2**
USA0B	**Ussuriysk Arra**	**11.77**	**275**	⇑*e*PN	**Pn**	**02 46 04.3**	**+1.0**
KLR	**Kul'dur**	**12.39**	**299**	⇑*e*PN	**Pn**	**02 46 10.1**	**-1.7**
KLR				pmax	pmax		
	comp=Z,2.0nm,1.3s						
BILL	**Bilibino**	**25.51**	**16**	*e*P	**P**	**02 48 42.8**	**+1.3**
BILL	**Bilibino**	**25.51**	**16**	*e*P	**P**	**02 48 42.9**	**+1.4**
BILL				pmax	pmax		
	comp=Z,9.0nm,1.6s						
TIXI	**Tiksi**	**28.93**	**347**	*e*P	**P**	**02 49 12.5**	**+0.3**
TIXI	**Tiksi**	**28.93**	**347**	⇓*e*P	**P**	**02 49 12.5**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.7s						
MK31	**Makanchi Array**	**45.09**	**298**	⇓*e*P	**P**	**02 51 29.8**	**+0.5**
BFO	**Black Forest**	**81.25**	**334**	*i* P	**P**	**02 55 25.7**	**-3.0**

RSNC 22 02:47:53.6±0.0, 8°N±2′×7°5W±°, h3km±4km, M2.7, mb3.7, ML2.7, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
UREC	**San Jos de Ur**	**0.24**	**305**	P	Pg	02 47 58.3	-0.1
UREC				S	Sg	02 48 03.5	+1.9
ZARC	**Zaragoza, Cauc**	**0.48**	**104**	P	Pg	02 48 01.3	-1.6
ZARC				S	Sg	02 48 08.0	-1.2
DBBC	**Dabeiba**	**1.05**	**236**	P	Pg	02 48 12.0	-1.8
DBBC				S	Sg	02 48 26.1	-1.4
APAC	**Apartado, Choc**	**1.27**	**283**	P	Pg	02 48 15.5	-2.5
APAC				S	Sb	02 48 35.0	0.0
PTBC	**PUERTO BERRIO,**	**1.37**	**141**	P	Pn	02 48 15.7	-4.0
PTBC				S	Sg	02 48 33.4	-4.4
NORC	**Norcasia**	**2.08**	**167**	P	Pn	02 48 26.9	-2.6
NORC				S	Sn	02 48 55.1	-0.9
OCAC	**Ocana**	**2.09**	**72**	P	Pn	02 48 25.3	-4.4
OCAC				S	Sn	02 48 50.9	-5.4
CAPC	**Capurgana**	**2.25**	**297**	P	Pn	02 48 26.8	-4.9
CAPC				S	Sn	02 48 54.1	-5.9
SJCC	**San Jacinto, C**	**2.28**	**4**	P	Pn	02 48 30.2	-2.0
SJCC				S	Sn	02 48 58.8	-2.0
SPBC	**San Pablo de B**	**2.31**	**147**	P	Pn	02 48 30.4	-2.3
SPBC				S	Sn	02 48 57.8	-3.9
BARC	**Barichara**	**2.36**	**115**	P	Pn	02 48 30.9	-2.6
BARC				S	Sn	02 49 00.4	-2.7
ARGC	**Ariguani, Magd**	**2.48**	**26**	P	Pn	02 48 33.0	-1.9
ARGC				S	Sn	02 49 05.6	-0.1
PAMC	**Pamplona, Colo**	**2.62**	**96**	P	Pn	02 48 34.4	-2.9
PAMC				S	Sn	02 49 06.8	-3.1
RUSC	**La Rusia**	**2.81**	**127**	P	Pn	02 48 37.6	-2.3
RUSC				S	Sn	02 49 11.4	-3.1
PLMC	**San Jos del P**	**2.85**	**199**	P	Pn	02 48 39.1	-1.0
ROSC	**El Rosal**	**2.93**	**160**	P	Pn	02 48 40.3	-1.2
TAMC	**Tame, Arauca**	**3.70**	**108**	P	Pn	02 48 49.5	-2.3
TAMC				S	Sn	02 49 35.2	-0.8
VILC	**Villavicencio,**	**3.84**	**155**	P	Pn	02 48 52.4	-1.3
PRAC	**Prado**	**3.90**	**173**	P	Pn	02 48 54.7	+0.2
CRJC	**Cerrejon, Guaj**	**4.16**	**35**	P	Pn	02 48 56.1	-2.1
CRJC				S	Sn	02 49 46.7	-0.7
PTGC	**Puerto Gaitan,**	**4.65**	**137**	P	Pn	02 49 01.4	-3.4
BCIP	**Isla Barro Col**	**4.72**	**289**	P	Pn	02 49 02.4	-3.4
SDV	**Santo Domingo**	**4.82**	**74**	P	Pn	02 49 03.4	-3.9
SDV				S	Sn	02 49 57.2	-6.6
URIC	**Uribia, Colomb**	**5.23**	**39**	P	Pn	02 49 09.9	-2.9
URIC				S	Sn	02 50 04.7	-8.9

*IDC **22** 03:29:07.5±0.5, 12.°85S×45.°53E, h0km, mb4.0/19, mbtmp4.0/23, ML4.4/4, MS3.6/17, Error ellipse: s-maj=19.8km s-min=13.7km az=85.0*
*NEIC **22** 03:29:09.7±1.8, 12.°86S±0.°07×45.°5E±0.°1, h10km±1km, mb4.4/22, Error ellipse: s-maj=22.7km s-min=10.8km az=72.0*

ISC 22 03:29:09.2±0.4, 12°94S±0′06×45°37E±0′07, h10km, n97, σ1⁑52/87, mb4.4/45, MS3.6/16, 5C, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.87**	**163**	Pn	**Pn**	**03 30 37.2**	**+0.8**
	2.8nm,0.3s,baz=329,slow=15,SNR=128						
OPO				Sn	**Sn**	**03 31 38.6**	**-5.3**
	32nm,0.3s,baz=337,slow=16,SNR=14						
	49nm,0.3s						
ABPO	**Ambohimpanom**	**6.30**	**164**	Pn	**Pn**	**03 30 43.0**	**+0.6**
VOI	**Vohitsoka**	**9.02**	**172**	Pn	**Pn**	**03 31 20.3**	**+0.6**
ZOMB	**Zomba**	**10.02**	**255**	*e*PN	**Pn**	**03 31 35.1**	**+1.7**
ZOMB				*e*SN	Sn	03 33 11.4	-15
ZOMB	**Zomba**	**10.02**	**255**	*e*PN	**Pn**	**03 31 35.1**	**+1.7**
ZOMB				*e*SN	Sn	03 33 11.4	-15
FOMA	**Nahampoana Res**	**12.07**	**173**	Pn	**Pn**	**03 32 02.0**	**+0.7**
KIBK	**Kibwezi**	**12.79**	**325**	Pn	**Pn**	**03 32 10.0**	**-1.3**
RER	**Riviere de l'E**	**12.85**	**131**	Pn	**Pn**	**03 32 09.8**	**-2.3**
KRI	**Karoi**	**15.71**	**254**	*i* P	**Pn**	**03 32 48.6**	**-2.4**
LSZ	**Lusaka**	**16.83**	**260**	Pn	**Pn**	**03 33 04.9**	**-0.3**
LSZ	**Lusaka**	**16.83**	**260**	Pn	**Pn**	**03 33 05.1**	**-0.1**
	0.3nm,0.3s,baz=81,slow=13,SNR=5.4						
LSZ				Sn	Sn	03 36 01.3	-11
	0.2nm,0.3s,baz=126,slow=19,SNR=2.1						
LSZ				LR	LR	03 39 22.9	
	comp=Z,137nm,19.7s,baz=89,slow=36						
	3.5nm,0.6s						
MOPA	**Mopani**	**16.92**	**230**	*i* P	**Pn**	**03 33 06.5**	**+0.2**
MOPA	**Mopani**	**16.92**	**230**	*i* P	Pn	03 32 55.1	-11
MATP	**Matopo**	**17.78**	**243**	*i* P	**Pn**	**03 33 16.2**	**-0.9**
MATP	**Matopo**	**17.78**	**243**	P	**Pn**	**03 33 19.1**	**+2.0**
	0.2nm,0.3s,baz=72,slow=20,SNR=8.7						
MATP				S	**Sn**	**03 36 28.6**	**-7.0**
	0.8nm,0.6s,baz=328,slow=19,SNR=1.8						
	1.6nm,0.6s						
MBAR	**Mbarara**	**18.99**	**309**	P	**Pn**	**03 33 33.1**	**+1.1**
	1.5nm,0.3s,baz=120,slow=20,SNR=5.6						
MBAR				LR	LR	03 40 40.1	
	comp=Z,219nm,18.1s,baz=109,slow=36						
	3.0nm,0.2s						
LODK	**Lodwar**	**19.05**	**328**	P	**P**	**03 33 30.0**	**-1.8**
POGA	**Pongola**	**19.21**	**220**	P	**P**	**03 33 34.9**	**+1.5**
POGA				IAmb	IAmb	03 33 58.7	
	comp=Z,40nm,1.5s						
LBTB	**Lobatse**	**22.19**	**234**	P	**P**	**03 34 07.7**	**+1.8**
LBTB				IAmb	IAmb	03 34 10.9	
	comp=Z,30nm,1.2s						
LBTB	**Lobatse**	**22.19**	**234**	*i* P	**P**	**03 34 06.0**	**+0.2**
LBTB	**Lobatse**	**22.19**	**234**	LR	LR	03 42 43.8	
	comp=Z,144nm,18.4s,baz=71,slow=36						
BOSA	**Boshof**	**24.37**	**227**	P	**P**	**03 34 29.3**	**+1.5**
BOSA				IAmb	IAmb	03 34 34.4	
	comp=Z,19nm,1.4s						
BOSA	**Boshof**	**24.37**	**227**	*i* P	**P**	**03 34 30.0**	**+2.1**
BOSA	**Boshof**	**24.37**	**227**	P	**P**	**03 34 28.7**	**+0.9**
	comp=Z,4.1nm,0.6s,baz=52,slow=11,SNR=18						
BOSA				LR	LR	03 43 29.7	
	comp=Z,94nm,19.8s,baz=51,slow=35						
	comp=Z,4.1nm,0.6s						
ATD	**Arta Tunnel**	**24.44**	**354**	LR	LR	03 42 52.8	
	comp=Z,5.8nm,20.2s,baz=164,slow=34						
SUR	**Sutherland**	**29.67**	**225**	P	**P**	**03 35 17.4**	**+1.9**
WSAR	**Wadi Sarin**	**38.23**	**20**	LR	LR	03 50 05.0	
	comp=Z,57nm,18.2s,baz=206,slow=33						
EIL	**Elat**	**43.54**	**347**	LR	LR	03 53 20.6	
	comp=Z,52nm,19.0s,baz=246,slow=33						
MMAI	**Mount Meron Ar**	**46.68**	**348**	LR	LR	03 57 54.2	
	comp=Z,69nm,18.2s,baz=97,slow=37						
TOA0	**Torodi Ar. Sit**	**50.46**	**299**	P	**P**	**03 38 09.7**	**+2.1**
TORD	**Torodi Ar. Bea**	**50.46**	**299**	P	**P**	**03 38 10.0**	**+2.4**
TORD				IAmb	IAmb	03 38 10.8	
	comp=Z,3.9nm,1.4s						
TORD	**Torodi Ar. Bea**	**50.46**	**299**	P	**P**	**03 38 08.9**	**+1.3**
	comp=Z,2.0nm,1.1s,baz=134,slow=5.8,SNR=7.6						
	comp=Z,2.0nm,1.1s						
KBL	**Kabul**	**52.30**	**25**	P	**P**	**03 38 22.5**	**+1.1**
KBL				IAmb	IAmb	03 38 36.3	
	comp=Z,4.5nm,0.9s						
TAM	**Tamanrasset**	**52.77**	**312**	P	**P**	**03 38 24.1**	**-0.9**
TAM				IAmb	IAmb	03 38 28.8	
	comp=Z,5.4nm,1.4s						
GNI	**Garni**	**52.82**	**359**	LR	LR	04 01 43.1	
	comp=Z,90nm,18.9s,baz=180,slow=37						
BR131	**Keskin Array S**	**53.52**	**349**	P	**P**	**03 38 30.4**	**+0.3**
BRTR	**Keskin Array B**	**53.52**	**349**	P	**P**	**03 38 28.5**	**-1.7**
BRTR	**Keskin Array B**	**53.52**	**349**	P	**P**	**03 38 29.6**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=173,slow=11,SNR=9.1						
	comp=Z,1.1nm,0.7s						
ITM	**Ithomi**	**54.51**	**337**	P	**P**	**03 38 36.4**	**-1.0**
ITM				IAmb	IAmb	03 38 38.0	
	comp=Z,5.7nm,0.7s						
MAW	**Mawson**	**55.82**	**172**	LR	LR	03 59 55.9	
	comp=Z,77nm,18.1s,baz=328,slow=33						
SIMJ	**Simiganj**	**55.89**	**22**	P	**P**	**03 38 46.1**	**-1.2**
SIMJ				IAmb	IAmb	03 39 02.2	
	comp=Z,4.8nm,0.9s						
CHGR	**Chuyangaron**	**55.94**	**22**	P	**P**	**03 38 47.8**	**+0.1**
KBZ	**Khabaz**	**56.44**	**358**	P	**P**	**03 38 50.6**	**-0.4**
	comp=Z,2.4nm,0.8s,baz=185,slow=3.6,SNR=4.6						
KBZ				LR	LR	04 03 58.5	
	comp=Z,46nm,19.0s,baz=113,slow=37						
	comp=Z,2.4nm,0.8s						
PUK	**Puka**	**59.53**	**338**	P	**P**	**03 39 13.3**	**+0.4**
PUK				IAmb	IAmb	03 39 14.0	
	comp=Z,4.0nm,0.8s						
KKAR	**Karatay Array**	**60.34**	**21**	P	**P**	**03 39 16.6**	**-1.7**
BURAR	**Bucovina Array**	**62.91**	**345**	P	**P**	**03 39 35.9**	**+0.2**
BURAR				IAmb	IAmb	03 39 36.5	
	comp=Z,1.3nm,0.8s						
ABKAR	**Akbulak array**	**63.25**	**11**	P	**P**	**03 39 36.9**	**-0.9**
ABKAR	**Akbulak array**	**63.25**	**11**	P	**P**	**03 39 36.8**	**-0.9**
ABKAR				IAmb	IAmb	03 39 45.2	
	comp=Z,6.6nm,0.8s						
TROLL	**Troll, Antarti**	**64.30**	**194**	⇑P	**P**	**03 39 47.2**	**+2.5**
	comp=Z,380nm,0.8s						
AKASG	**Malin Array Be**	**64.92**	**349**	P	**P**	**03 39 47.5**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=173,slow=6.1,SNR=2.1						
	comp=Z,0.2nm,0.3s						
KECS	**Kecovo**	**65.02**	**342**	*e*P	**P**	**03 39 49.8**	**+0.4**
SOKA	**Soboth**	**65.29**	**337**	*e*P	**P**	**03 39 51.6**	**+0.2**
	comp=Z,2.8nm,1.0s						
OBKA	**Obir**	**65.33**	**337**	*e*P	**P**	**03 39 52.1**	**+0.4**
	comp=Z,4.6nm,0.9s						
SNAA	**Sanae**	**65.38**	**195**	⇑P	**P**	**03 39 53.4**	**+1.8**
	comp=Z,36nm,0.8s						
SNAA	**Sanae**	**65.38**	**195**	P	**P**	**03 39 52.1**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=2.8,slow=18,SNR=2.0						
SNAA				LR	LR	04 07 05.1	
	comp=Z,54nm,18.0s,baz=82,slow=35						
	comp=Z,1.7nm,0.8s						
VYHS	**Vyhne**	**65.54**	**341**	*e*P	**P**	**03 39 53.7**	**+0.9**
ARSA	**Arzberg**	**65.59**	**338**	*e*P	**P**	**03 39 53.4**	**+0.2**
	comp=Z,3.1nm,0.8s						
RONA	**Rosalia, Austr**	**65.70**	**339**	*e*P	**P**	**03 39 54.1**	**+0.2**
	comp=Z,6.3nm,0.8s						
MODS	**Modra-Piesok**	**65.94**	**340**	*e*P	**P**	**03 39 56.4**	**+0.9**
CONA	**Conrad Observa**	**66.05**	**339**	*e*P	**P**	**03 39 56.2**	**0.0**
	comp=Z,2.7nm,0.9s						
VNA2	**Neumayer--Watz**	**66.17**	**197**	⇑P	**P**	**03 39 58.2**	**+1.6**
	comp=Z,2.8nm,0.7s,baz=42,slow=6.2						
KBA	**Koelnbreinsper**	**66.27**	**337**	*e*P	**P**	**03 39 57.2**	**-0.6**
	comp=Z,2.9nm,1.0s						
VNA1	**Neumayer--Stat**	**66.27**	**197**	⇑P	**P**	**03 39 57.5**	**+0.3**
	comp=Z,7.1nm,0.9s						
MOA	**Molln**	**66.56**	**338**	*e*P	**P**	**03 39 59.2**	**-0.2**
	comp=Z,3.9nm,0.8s						
BIOA	**Bad Ischl, Aus**	**66.66**	**337**	*e*P	**P**	**03 39 59.6**	**-0.5**
	comp=Z,1.6nm,0.5s						
VNA3	**Neumayer Olymp**	**66.97**	**197**	⇑P	**P**	**03 40 03.3**	**+1.5**
	comp=Z,5.5nm,0.8s						
VRAC	**Vranov**	**66.98**	**340**	LR	LR	04 10 05.0	
	comp=Z,30nm,20.7s,baz=73,slow=37						
MORC	**Moravsky Berou**	**67.07**	**341**	P	**P**	**03 40 02.7**	**0.0**
WTTA	**Wattenberg**	**67.09**	**336**	*e*P	**P**	**03 40 04.6**	**+1.6**
	comp=Z,4.8nm,1.1s						
FUORN	**Ofenpass-Fuorn**	**67.14**	**335**	P	**P**	**03 40 03.5**	**0.0**
FUORN				IAmb	IAmb	03 40 04.3	
	comp=Z,2.6nm,1.0s						
SQTA	**Sankt Quirin**	**67.23**	**335**	*e*P	**P**	**03 40 03.3**	**-0.5**
	comp=Z,4.3nm,1.1s						
FETA	**Feichten**	**67.26**	**335**	*e*P	**P**	**03 40 03.9**	**-0.3**
	comp=Z,4.2nm,0.9s						
PZH	**PanZhiHua**	**67.35**	**54**	P	**P**	**03 40 08.3**	**+3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,4.5s						
GERES	**GERESS Array B**	**67.60**	**338**	P	**P**	**03 40 04.7**	**-1.4**
	comp=Z,1.7nm,0.8s,baz=162,slow=3.7,SNR=7.7						
	comp=Z,1.7nm,0.8s						
MK31	**Makanchi Array**	**68.05**	**26**	P	**P**	**03 40 08.9**	**0.0**
MK31				IAmb	IAmb	03 40 15.6	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**68.05**	**26**	P	**P**	**03 40 08.4**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=211,slow=8.1,SNR=1.6						
	comp=Z,0.1nm,0.3s						
BVAR	**Borovoye Array**	**69.12**	**16**	P	**P**	**03 40 15.5**	**+0.1**
	comp=Z,0.6nm,0.6s,baz=242,slow=3.1,SNR=1.9						
	comp=Z,0.6nm,0.6s						
ESDC	**Sonseca Array**	**69.58**	**321**	P	**P**	**03 40 17.8**	**-0.9**
ESDC	**Sonseca Array**	**69.58**	**321**	P	**P**	**03 40 19.4**	**+0.7**
	comp=Z,1.4nm,0.8s,baz=130,slow=5.8,SNR=16						
	comp=Z,1.4nm,0.8s						
KURBB	**Kurchatov Array**	**69.61**	**22**	P	**P**	**03 40 17.2**	**-1.3**
	comp=Z,0.2nm,0.3s,baz=227,slow=5.9,SNR=6.4						
	comp=Z,0.2nm,0.3s						
CLL	**Collm**	**69.90**	**339**	*e*P	**P**	**03 40 20.0**	**-0.3**
KIRV	**Kirov**	**71.35**	**2**	LR	LR	04 15 01.5	
	comp=Z,42nm,18.1s,baz=101,slow=39						
ZALV	**Zalesovo Beam**	**74.60**	**23**	P	**P**	**03 40 48.4**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=218,slow=9.1,SNR=1.9						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**75.70**	**351**	P	**P**	**03 40 53.7**	**-0.7**
	comp=Z,1.7nm,0.7s,baz=174,slow=6.7,SNR=6.0						
	comp=Z,1.7nm,0.7s						
HFS	**Hagfors**	**77.14**	**344**	P	**P**	**03 41 02.1**	**-0.6**
	comp=Z,2.6nm,0.7s,baz=118,slow=8.5,SNR=8.5						
	comp=Z,2.6nm,0.7s						
QSPA	**South Pole Qui**	**77.16**	**180**	P	**P**	**03 41 04.2**	**+1.1**
QSPA	**South Pole Qui**	**77.16**	**180**	P	**P**	**03 41 03.8**	**+0.8**
	comp=Z,6.7nm,1.0s,baz=278,slow=2.7,SNR=16						
	comp=Z,6.7nm,1.0s						
NB2	**NORSAR Subarra**	**78.56**	**344**	P	**P**	**03 41 10.0**	**-0.7**
	comp=Z,2.2nm,1.0s,baz=146,slow=5.6						
NOA	**NORSAR Array B**	**78.56**	**344**	P	**P**	**03 41 09.5**	**-1.1**
	comp=Z,1.0nm,0.9s,baz=138,slow=5.3,SNR=4.6						
NOA				LR	LR	04 17 41.4	
	comp=Z,15nm,20.8s,baz=0.0,slow=37						
	comp=Z,1.0nm,0.9s						
HHC	**Hu-ho-hao-te**	**81.17**	**45**	*e*P	**P**	**03 41 26.1**	**+0.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,62nm,5.1s						
VNDA	**Vanda**	**82.96**	**169**	P	**P**	**03 41 34.9**	**+0.9**
	comp=Z,0.5nm,0.6s,baz=264,slow=6.8,SNR=7.8						
	comp=Z,0.5nm,0.6s						
NJ2	**Nanjing**	**83.23**	**55**	*e*P	**P**	**03 41 37.6**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,13nm,0.5s						
ASAR	**Alice Springs**	**83.59**	**113**	P	**P**	**03 41 37.5**	**-0.9**
	comp=Z,1.7nm,0.7s,baz=267,slow=4.9,SNR=15						
ASAR				LR	LR	04 12 46.7	
	comp=Z,87nm,21.3s,baz=306,slow=31						
	comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**84.72**	**109**	P	**P**	**03 41 43.0**	**-1.2**
	comp=Z,2.5nm,1.0s,baz=258,slow=3.6,SNR=7.3						
	comp=Z,2.5nm,1.0s						
USRK	**Ussuriysk Ar.**	**96.50**	**46**	LR	LR	04 24 32.7	
	comp=Z,60nm,20.2s,baz=163,slow=34						
YAK	**Yakutsk**	**98.66**	**28**	LR	LR	04 28 02.9	
	comp=Z,31nm,20.4s,baz=116,slow=36						
TXAR	**Lajitas Array**	**146.97**	**304**	PKPbc	**PKPbc**	**03 48 52.7**	**-0.2**
	comp=Z,0.4nm,0.9s,baz=48,slow=1.3,SNR=4.4						

*IDC **22** 03:47:29.8±11.0, 15.°15S×174.°77W, h211km±100km, mb3.8/6, mbtmp4.3/6, Error ellipse: s-maj=29.8km s-min=24.6km az=63.0*

ISC 22 03:47:28.3±1.0, 15°1S±0′2×174°8W±0′2, h200km, n8, σ0⁑56/10, mb4.1/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**43.04**	**239**	P	**P**	**03 55 08.7**	**+0.2**
	3.4nm,0.5s,baz=84,slow=9.6,SNR=8.6						
	3.4nm,0.5s						
WRA	**Warramunga Arr**	**48.62**	**257**	P	**P**	**03 55 52.0**	**-0.2**
	3.4nm,0.6s,baz=90,slow=7.2,SNR=28						
WRA				PcP	**PcP**	**03 57 14.4**	**-0.3**
	0.2nm,0.3s,baz=98,slow=6.1,SNR=1.4						
	3.4nm,0.6s						
ASAR	**Alice Springs**	**48.94**	**252**	P	**P**	**03 55 55.3**	**+0.6**
	54nm,0.7s,baz=87,slow=7.9,SNR=339						
ASAR				PcP	**PcP**	**03 57 14.9**	**-0.9**
	0.3nm,0.5s,baz=118,slow=5.3,SNR=1.3						
VNDA	**Vanda**	**63.55**	**186**	P	**P**	**03 57 37.6**	**+0.6**
	1.9nm,0.9s,baz=1.9,slow=7.6,SNR=7.3						
	1.9nm,0.9s						
QSPA	**South Pole Qui**	**74.95**	**180**	P	**P**	**03 58 47.1**	**-0.2**
	4.2nm,0.6s,baz=36,slow=0.5,SNR=25						
	4.2nm,0.6s						
NVAR	**Mina Array Bea**	**75.00**	**43**	P	**P**	**03 58 48.3**	**+0.2**
	0.4nm,0.6s,baz=210,slow=8.0,SNR=3.8						
	0.4nm,0.6s						
MAW	**Mawson**	**87.66**	**199**	P	**P**	**03 59 53.3**	**-0.5**
	3.0nm,0.7s,baz=148,slow=8.4,SNR=9.5						
	3.0nm,0.7s						
BRTR	**Keskin Array B**	**145.07**	**320**	PKPbc	**PKPbc**	**04 06 42.5**	**+0.3

NEIC ***22*** *03:51:10, 18.˚71N×155.˚39W, h12km, Moment Tensor Solution. Duration: 1s5 Moment tensor: Scale 10¹⁶Nm; Mrr-2.91; Mθθ 1.97; Mφφ 0.94; Mrθ-0.31; Mθφ 0.64; Mφr 1.38; Fault plane solution: M₀2.85000×10¹⁶ NP1: φs223.94000°, δ52.16000°, λ-113.75000°. NP2: φs79.60000°, δ43.71000°, λ-62.59000°. Principal axes: T 2.3015, Plg4.0000°, Azm331.0000°; N 1.0986, Plg19.0000°, Azm239.0000°; P -3.4001, Plg71.0000°, Azm73.0000°;*

NEIC ***22*** *03:51:10, 19.˚41N×155.˚28W, h12km*

NEIC ***22*** *03:51:11.6±1.1, 19.˚401N±0.˚007×155.˚297W±0.˚009, h1km±5km, Error ellipse: s-maj=1.3km s-min=1.0km az=111.0*

GCMT ***22*** *03:51:33.9±0.3, 19.˚36N±0.˚02×155.˚23W±0.˚03, h12km, MW4.8/111, Moment Tensor Solution. s30,c33; s111,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-2.37±.06; Mθθ 1.45±.07; Mφφ 0.91±.06; Mrθ 0.72±.27; Mθφ 0.87±.06; Mφr 0.34±.27; Best double couple: M₀2.36700×10¹⁶ NP1:φs237.00000°, δ55.00000°, λ-87.00000°. NP2:φs51.00000°, δ35.00000°, λ-95.00000°. Principal axes: T 2.2230, Plg10.0000°, Azm324.0000°; N 0.2860, Plg3.0000°, Azm55.0000°; P -2.5100, Plg80.0000°, Azm161.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

HVO 22 03:51:11.9±0.9, 19.˚405N±0.˚009×155.˚281W±0.˚007, h0km±1km, ML3.0/22, ML1.9/35(NEIC), Mww4.9/6(NEIC)
Error ellipse: s-maj=2.9km s-min=1.6km az=3.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**0**		Pg	03 51 11.7	-0.3
RIM	**Rim**	**0.01**	**146**		Pg	03 51 12.4	+0.3
OBL	**Observatory Le**	**0.01**	**347**		Pg	03 51 12.2	+0.1
KKO	**Keanakako`i**	**0.02**	**117**		Pg	03 51 12.7	+0.5
SDHHI	**Sand Hill**	**0.02**	**219**		Pg	03 51 12.5	+0.2
UWB	**Uwekahuna B**	**0.02**	**8**		Pg	03 51 12.7	+0.5
UWE	**Uwekahuna**	**0.02**	**325**		Pg	03 51 10.8	-1.5
BYL	**Byron's Ledge**	**0.02**	**71**		Pg	03 51 11.8	-0.5
SBLHI	**Steaming Bluff**	**0.03**	**29**		Pg	03 51 13.0	+0.7
HATHI	**Halema`uma`u T**	**0.03**	**47**		Pg	03 51 12.1	-0.3
HATHI	comp=E,2μm,0.7s			IAML		03 51 12.6	
HATHI	comp=N,3μm,0.7s			IAML		03 51 12.9	
RSD	**Rainshed**	**0.06**	**3**		Pg	03 51 12.5	-0.5
PUH	**Pauahi**	**0.07**	**117**		Pg	03 51 12.6	-0.6
PUH	comp=N,408nm,1.1s			IAML		03 51 14.2	
KNHH	**Kane Nui o Ham**	**0.11**	**104**		Pg	03 51 13.6	-0.4
HLP	**Hilina Pali**	**0.11**	**193**		Pg	03 51 13.9	-0.1
HLP	comp=E,486nm,1.8s			IAML		03 51 16.9	
HLP	comp=N,628nm,1.4s			IAML		03 51 17.3	
MLH	**Mauna Loa**	**0.13**	**312**		Pg	03 51 14.3	-0.2
MLH	comp=E,222nm,1.1s			IAML		03 51 15.6	
MLH	comp=N,429nm,1.1s			IAML		03 51 16.8	
JCUZ	**Jacuzzi**	**0.17**	**97**		Pg	03 51 15.1	0.0
JOKA	**Jonika Flow**	**0.26**	**84**	Pg	Pg	03 51 15.8	-1.1
HMH	**Humu`ula Sheep**	**0.27**	**316**	Pg	Pg	03 51 16.1	-1.0
HMH	comp=N,165nm,1.1s			IAML		03 51 18.8	
HMH	comp=E,188nm,2.7s			IAML		03 51 20.8	
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg	Pg	03 51 16.9	-0.9
MLOA	comp=E,198nm,1.3s			IAML		03 51 22.1	
MLOA	comp=N,234nm,2.2s			IAML		03 51 28.0	
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg	Pg	03 51 16.9	-0.9
MWH	**Moku`aweowe**	**0.31**	**285**	Pg	Pg	03 51 17.6	-0.2
KHU	**Kahuku**	**0.35**	**243**	Pg	Pg	03 51 18.5	-0.2
KHU	comp=N,193nm,4.4s			IAML		03 51 22.0	
POHA	**Pohakuloa**	**0.42**	**326**	Pg	Pg	03 51 19.9	-0.1
POHA	comp=N,166nm,1.0s			IAML		03 51 24.1	
POHA	comp=N,157nm,0.8s			IAML		03 51 29.7	
HUH	**Hualalai**	**0.59**	**298**	Pg	Pg	03 51 22.9	-0.4
HPAH	**Hawaii Prepara**	**0.73**	**328**	Pg	Pg	03 51 26.0	0.0
PPT2	**Papeete2**	**37.19**	**171**	eLR	LR	04 08 44.8	
PPT2	comp=N,203nm,31.2s			eLR	LR	04 08 49.7	
	comp=N,313nm,29.0s						
TBI	**Tubuai**	**42.87**	**172**	eLR	LR	04 11 27.1	
TBI	comp=N,916nm,28.0s			eLR	LR	04 11 33.7	
DZM	**Mont Dzumac**	**55.67**	**224**	eLR	LR	04 17 27.9	
	comp=N,87nm,25.4s						

SJA ***22*** *04:12:42.9±1.7, 43.˚07S×71.˚97W, h169km±47km, ML3.7, MW3.8*

NEIC ***22*** *04:12:44.8±1.6, 41.˚31S±0.˚03×73.˚87W±0.˚06, h37km±13km, mb4.4/3, Error ellipse: s-maj=7.9km s-min=2.0km az=119.0*

GUC ***22*** *04:12:45.4±0.8, 41.˚39S×73.˚75W, h50km±3km, ML4.1*

ISC 22 04:12:45.2±1.2, 41.˚37S±0.˚04×73.˚86W±0.˚06, h36km±1km, n55, σ1§22/69, mb4.4/3, 2C-7D, Southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LL05	**Los Muermos**	**0.29**	**97**		**Pn**	**04 12 53.4**	**+0.2**
LL05				Sn	**Sn**	04 12 59.2	-0.5
LL05	**Los Muermos**	**0.29**	**97**	⇑*i* P	**Pn**	**04 12 53.5**	**+0.2**
LL05				*e*S	**Sn**	04 12 59.5	-0.2
LL05	comp=E,57μm,0.2s			IAML		04 13 00.2	
LL06	**Loncomilla**	**0.86**	**168**		**Pn**	**04 13 00.2**	**-0.6**
LL06				Sn	**Sn**	04 13 12.7	+0.5
LL06	**Loncomilla**	**0.86**	**168**	⇓*i* P	**Pn**	**04 13 00.3**	**-0.6**
LL06				*e*S	**Sn**	04 13 12.6	+0.4
LL03	**Petrohue**	**1.12**	**79**		**Pn**	**04 13 03.5**	**-0.9**
LL03				Sn	**Sn**	04 13 17.7	-0.9
LL03	**Petrohue**	**1.12**	**79**	*e*P	**Pn**	**04 13 03.5**	**-0.9**
LL03				*e*S	**Sn**	04 13 17.4	-1.2
LL03	comp=N,10μm,0.1s			IAML		04 13 18.1	
LL04	**Puerto Octay**	**1.19**	**68**		**Pn**	**04 13 04.6**	**-0.7**
LL04	**Puerto Octay**	**1.19**	**68**	⇑*i* P	**Pn**	**04 13 04.5**	**-0.7**
LL04				*e*S	**Sn**	04 13 18.5	-1.8
LL04	comp=E,12μm,0.2s			IAML		04 13 19.7	
LL01	**San Ignacio de**	**1.48**	**133**		**Pn**	**04 13 08.8**	**-0.5**
LL01	**San Ignacio de**	**1.48**	**133**	*e*P	**Pn**	**04 13 08.8**	**-0.5**
LL01				*i* S	**Sn**	04 13 26.5	-0.8
LL01	comp=Z,1μm,0.3s			IAML		04 13 27.1	
LL01	**San Ignacio de**	**1.48**	**133**	*e*P	**Pn**	**04 13 08.7**	**-0.5**
LL01				*e*S	**Sn**	04 13 26.0	-1.3
LL01	comp=N,4μm,0.3s			IAML		04 13 27.2	
LL07	**Hotel Espejo d**	**1.49**	**169**	Pn	**Pn**	**04 13 08.8**	**-0.6**
LL07	**Hotel Espejo d**	**1.49**	**169**	*e*P	**Pn**	**04 13 08.8**	**-0.6**
LL07				*e*S	**Sn**	04 13 26.1	-1.4
LL07	comp=N,2μm,0.3s			IAML		04 13 32.1	
LR04	**Corral**	**1.53**	**13**		**Pn**	**04 13 09.5**	**-0.4**
LR04	**Corral**	**1.53**	**13**	⇓*i* P	**Pn**	**04 13 10.1**	**+0.2**
LR04	comp=E,6μm,0.1s			IAML		04 13 35.1	
LR02	**Universidad Au**	**1.63**	**17**	*e*P	**Pn**	**04 13 11.7**	**+0.4**
GLCR	**Glaciar**	**1.73**	**145**	*i* P	**Pn**	**04 13 12.3**	**-0.5**
GO07	**Milladeo Hill,**	**1.75**	**175**		**Pn**	**04 13 12.2**	**-0.7**
GO07	**Milladeo Hill,**	**1.75**	**175**	*e*P	**Pn**	**04 13 12.4**	**-0.5**
GO07				*i* S	**Sn**	**04 13 33.1**	**-0.9**
GO07	**Milladeo Hill,**	**1.75**	**175**	⇓*i* P	**Pn**	**04 13 12.4**	**-0.5**
GO07	comp=N,2μm,0.4s			IAML		04 13 49.5	
LR05	**Currie**	**1.81**	**52**	Pn	**Pn**	**04 13 13.4**	**-0.5**
LR05	**Currie**	**1.81**	**52**	⇓*i* P	**Pn**	**04 13 13.4**	**-0.5**
LR05	comp=E,2μm,0.3s			IAML		04 13 37.7	
VNTQ	**Ventisquero**	**1.84**	**146**	*e*P	**Pn**	**04 13 13.8**	**-0.4**
VNTQ				*e*S	**Sn**	**04 13 35.4**	**-0.9**
PDRA	**Piedra**	**1.86**	**143**	*i* P	**Pn**	**04 13 14.1**	**-0.6**
PDRA				*e*S	**Sn**	**04 13 36.5**	**-0.5**
LR03	**Panguipulli**	**2.09**	**34**		**Pn**	**04 13 17.9**	**+0.3**
LR03	**Panguipulli**	**2.09**	**34**	*e*P	**Pn**	**04 13 17.8**	**+0.1**
LR03	comp=E,1μm,0.6s			IAML		04 14 01.5	
LL02	**Futaleuf**	**2.35**	**141**	Pn	**Pn**	**04 13 21.2**	**-0.1**
LL02	**Futaleuf**	**2.35**	**141**	*e*P	**Pn**	**04 13 21.6**	**+0.2**
GO06	**Curarrehue**	**2.55**	**46**	Pn	**Pn**	**04 13 24.8**	**+0.6**
GO06	**Curarrehue**	**2.55**	**46**	⇓*i* P	**Pn**	**04 13 24.7**	**+0.6**
PLCA	**Paso Flores**	**2.58**	**77**	Pn	**Pn**	**04 13 25.0**	**+0.4**
PLCA	**Paso Flores**	**2.58**	**77**	*i* P	**Pn**	**04 13 25.5**	**+0.9**
PLCA				*e*S	**Sn**	**04 13 59.6**	**+4.8**
PLCA	comp=Z,119nm,0.8s			IAML		04 14 02.9	
PLCA	**Paso Flores**	**2.58**	**77**	*e*P	**Pn**	**04 13 25.1**	**+0.5**
LC02	**Puerto Saavedr**	**2.60**	**8**	Pn	**Pn**	**04 13 24.8**	**+0.1**
LC02	**Puerto Saavedr**	**2.60**	**8**	*i* P	**Pn**	**04 13 24.6**	**-0.2**
LC02	comp=N,2μm,0.5s			IAML		04 13 56.4	
LJUN	**La Junta**	**2.82**	**159**	⇓*i* P	**Pn**	**04 13 28.2**	**+0.5**
PHPI	**Puyuhuapi**	**3.10**	**163**	⇓*i* P	**Pn**	**04 13 33.2**	**+1.7**
MGDN	**Magdalena**	**3.33**	**168**	*e*P	**Pn**	**04 13 34.8**	**+0.1**
COYC	**Coyhaique**	**4.39**	**163**	Pn	**Pn**	**04 13 50.0**	**+0.7**
BI05	**Punta Hualpn**	**4.65**	**7**	Pn	**Pn**	**04 13 51.7**	**-1.1**
ML02	**Panimavida**	**5.92**	**20**	Pn	**Pn**	**04 14 09.1**	**-1.2**
AY03	**Cochrane**	**5.95**	**172**		**Pn**	**04 14 12.8**	**+2.1**
GO05	**Huala**	**6.53**	**14**	Pn	**Pn**	**04 14 16.9**	**-1.8**
BO02	**Sierra Bellavi**	**7.00**	**21**	Pn	**Pn**	**04 14 24.1**	**-1.2**
GO08	**Villa O'Higgin**	**7.15**	**173**	Pn	**Pn**	**04 14 29.8**	**+2.6**
BO01	**Tunca**	**7.30**	**18**	Pn	**Pn**	**04 14 27.2**	**-2.2**
MT01	**Popeta**	**7.78**	**16**	Pn	**Pn**	**04 14 33.0**	**-2.8**
MT09	**Talagante**	**7.92**	**18**	Pn	**Pn**	**04 14 35.1**	**-2.8**
LMEL	**Las Melosas**	**8.05**	**22**		**Pn**	**04 14 37.9**	**-1.8**
MT13	**San Alfonso**	**8.12**	**22**	Pn	**Pn**	**04 14 39.4**	**-1.4**
VA01	**Torpederas**	**8.52**	**13**	Pn	**Pn**	**04 14 44.4**	**-1.6**
VA04	**Juan Fernndez**	**8.66**	**331**	Pn	**Pn**	**04 14 48.2**	**+0.2**
BELA	**Belgrano 2**	**39.93**	**168**	P	**P**	**04 20 16.0**	**+0.7**
BELA	comp=Z,5.1nm,1.4s			IAmb	IAmb	04 20 40.0	
SNAA	**Sanae**	**45.41**	**155**	P	**P**	**04 20 59.4**	**-0.5**
SNAA	comp=Z,7.5nm,1.3s			IAmb	IAmb	04 21 27.8	
QSPA	**South Pole Qui**	**48.88**	**180**	P	**P**	**04 21 27.5**	**+0.4**
QSPA	comp=Z,6.8nm,1.4s			IAmb	IAmb	04 21 35.2	

IDC 22 04:28:04.2±8.8, 23.˚26S×148.˚88E, h0km, mbtmp3.1/2, ML3.0/2, Error ellipse: s-maj=78.8km s-min=65.5km az=173.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**13.75**	**265**	Pn	Pn	04 31 21.6	+1.0
	0.1nm,0.3s,baz=94,slow=13,SNR=1.7						
ASAR				Lg	Lg	04 35 21.2	
	0.2nm,0.3s,baz=85,slow=28,SNR=1.2						
	0.3nm,0.7s						
WRA	**Warrnunga Arr**	**13.92**	**281**	Pn	Pn	04 31 22.2	-0.7
	0.1nm,0.3s,baz=104,slow=14,SNR=1.8						
WRA				Sn	Sn	04 33 53.5	-4.8
	0.1nm,0.3s,baz=110,slow=23,SNR=0.9						
WRA				Lg	Lg	04 35 25.6	
	0.1nm,0.3s,baz=111,slow=30,SNR=2.8						
	0.5nm,0.9s						
I22FR	**PORTLAGUERRE I**	**16.61**	**90**	I	I	05 59 40.0	
	baz=265,slow=314,SNR=1.6						

RSPR ***22*** *04:31:44.0, 18.˚40N×68.˚00W, h99km, 2km, MD3.1/11*

NEIC ***22*** *04:31:43.2±0.6, 18.˚3N±0.˚2×68.˚03W±0.˚08, h102km±7km, ML2.2/18, Md3.1/11(RSPR), Error ellipse: s-maj=26.8km s-min=7.6km az=197.0*

SDD ***22*** *04:31:49.4±2.3, 18.˚43N×68.˚00W, h56km±51km, MD2.7, ML2.0, MW2.4*

ISC 22 04:31:44.2±1.3, 18.˚4N±0.˚1×67.˚97W±0.˚05, h99km, n46, σ1§11/48, 13C-7D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.40**	**283**	⇑*e*P	**Pn**	**04 31 58.0**	**-1.1**
PCDR	**Punta Cana, DR**	**0.40**	**283**	*e*S	**Sn**	**04 32 09.6**	**-0.7**
PCDR	**Punta Cana, DR**	**0.40**	**283**		**Pn**	**04 31 58.0**	**-1.1**
PCDR					**Sn**	**04 32 09.6**	**-0.7**
PCDR	**Punta Cana, DR**	**0.40**	**283**	IAML		04 32 11.3	
PCDR	comp=E,80nm,2.1s			IAML		04 32 13.7	
	comp=N,112nm,2.3s						
AGPR	**Aguadilla, PR**	**0.82**	**87**	⇑*e*P	**Pn**	**04 32 02.5**	**-0.1**
AGPR	**Aguadilla, PR**	**0.82**	**87**	*e*S	**Sn**	**04 32 17.0**	**+0.5**
AGPR	**Aguadilla, PR**	**0.82**	**87**		**Pn**	**04 32 02.5**	**-0.1**
AGPR					**Sn**	**04 32 17.0**	**+0.5**
AGPR	**Aguadilla, PR**	**0.82**	**87**	IAML		04 32 27.9	
	comp=N,80nm,2.5s						
AGPR	**Aguadilla, PR**	**0.82**	**87**	⇑*e*Pg	**Pn**	**04 32 03.6**	**+1.0**
AGPR				⇑*e*Sg	**Sn**	**04 32 16.5**	**+0.1**
LSP	**Las Mesas**	**0.88**	**106**	⇓*e*P	**Pn**	**04 32 02.8**	**-0.5**
LSP	**Las Mesas**	**0.88**	**106**	*e*S	**Sn**	**04 32 22.7**	**-0.5**
CRPR	**Cabo Rojo, PR**	**0.92**	**117**	⇑*e*P	**Pn**	**04 32 02.7**	**-0.9**
CRPR	**Cabo Rojo, PR**	**0.92**	**117**	*e*S	**Sn**	**04 32 18.8**	**+0.5**
CRPR	**Cabo Rojo, PR**	**0.92**	**117**		**Pn**	**04 32 02.7**	**-0.9**
CRPR	**Cabo Rojo, PR**	**0.92**	**117**		**Sn**	**04 32 18.0**	**-0.3**
CRPR	**Cabo Rojo, PR**	**0.92**	**117**	⇑*e*Pg	**Pn**	**04 32 06.4**	**+2.7**
CRPR				⇑*e*Sg	**Sn**	**04 32 17.9**	**-0.3**
CRPR	comp=E,22nm,2.4s			IAML		04 32 28.9	
CRPR	comp=N,31nm,1.8s			IAML		04 32 46.6	
MLPR	**Magueyes Islan**	**0.99**	**117**	⇓*e*P	**Pn**	**04 32 03.8**	**-0.7**
MLPR	**Magueyes Islan**	**0.99**	**117**	*e*S	**Sn**	**04 32 19.1**	**-0.6**
MLPR	**Magueyes Islan**	**0.99**	**117**		**Pn**	**04 32 03.8**	**-0.7**
MLPR					**Sn**	**04 32 19.1**	**-0.6**
MLPR	**Magueyes Islan**	**0.99**	**117**	IAML		04 32 21.1	
	comp=N,27nm,2.5s						
AOPR	**Arecibo Observ**	**1.16**	**94**	⇓*e*P	**Pn**	**04 32 05.9**	**-0.5**
AOPR	**Arecibo Observ**	**1.16**	**94**	*e*S	**Sn**	**04 32 22.4**	**-0.7**
AOPR	**Arecibo Observ**	**1.16**	**94**		**Pn**	**04 32 05.9**	**-0.5**
AOPR					**Sn**	**04 32 22.4**	**-0.7**
AOPR	**Arecibo Observ**	**1.16**	**94**	IAML		04 32 25.9	
	comp=N,53nm,0.3s						
AOPR	**Arecibo Observ**	**1.16**	**94**	⇑*e*Sg	**Sn**	**04 32 22.6**	**-0.4**
	comp=E,65nm,0.2s						
AOPR				⇑*e*Sg	**Sn**	**04 32 22.6**	**-0.4**
AOPR				IAML		04 32 25.2	
AOPR	comp=Z,20nm,0.1s			IAML		04 32 26.1	
AOPR	comp=N,46nm,0.2s			IAML		04 32 29.3	
	comp=E,65nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.20**	**98**	⇑*e*P	**Pn**	**04 32 07.7**	**+0.9**
UUPR	**Utuado, UPR, P**	**1.20**	**98**	*e*S	**Sn**	**04 32 23.5**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.20**	**98**		**Sn**	**04 32 23.5**	**-0.4**
UUPR	**Utuado, UPR, P**	**1.20**	**98**		**Pn**	**04 32 06.8**	**0.0**
UUPR	**Utuado, UPR, P**	**1.20**	**98**	IAML		04 32 27.8	
	comp=E,119nm,0.3s						
UUPR				IAML		04 32 27.8	
	comp=N,90nm,0.3s						
OBIP	**Obispado Ponce**	**1.35**	**106**	⇑*e*P	**Pn**	**04 32 09.8**	**+1.3**
OBIP	**Obispado Ponce**	**1.35**	**106**	*e*S	**Sn**	**04 32 28.6**	**+1.6**
OBIP	**Obispado Ponce**	**1.35**	**106**		**Pn**	**04 32 08.6**	**0.0**
OBIP				IAML		04 32 23.3	
	comp=E,17nm,2.6s						
OBIP	**Obispado Ponce**	**1.35**	**106**		**Sn**	**04 32 28.6**	**+1.6**
OBIP	**Obispado Ponce**	**1.35**	**106**	IAML		04 32 49.7	
	comp=N,19nm,2.2s						
CELP	**Cerrillos**	**1.37**	**105**	⇑*e*P	**Pn**	**04 32 08.9**	**+0.2**
CELP	**Cerrillos**	**1.37**	**105**	*e*S	**Sn**	**04 32 27.2**	**-0.2**
CELP	**Cerrillos**	**1.37**	**105**		**Pn**	**04 32 08.9**	**+0.2**
CELP	**Cerrillos**	**1.37**	**105**		**Sn**	**04 32 27.2**	**-0.2**
CELP	**Cerrillos**	**1.37**	**105**	IAML		04 32 25.8	
	comp=N,17nm,3.5s						
CELP	**Cerrillos**	**1.37**	**105**	⇑*e*Pg	**Pn**	**04 32 12.9**	**+4.2**
CELP				⇓*e*Sg	**Sn**	**04 32 27.0**	**-0.4**
CELP				IAML		04 32 31.5	
	comp=N,14nm,1.4s						
HATOM	**Hato Mayor del**	**1.39**	**285**	⇓*e*Pg	**Pn**	**04 32 11.9**	**+2.9**
HATOM				IAML		04 32 22.8	
	comp=E,15nm,3.1s						
HATOM				⇓*e*Sg	**Sn**	**04 32 26.4**	**-1.4**
HATOM				IAML		04 33 00.5	
	comp=N,29nm,2.3s						
HUMP	**Col San Antoni**	**2.04**	**98**	⇓*e*P	**Pn**	**04 32 16.8**	**-0.4**
HUMP	**Col San Antoni**	**2.04**	**98**	*e*S	**Sn**	**04 32 41.6**	**-0.8**
HUMP	**Col San Antoni**	**2.04**	**98**		**Pn**	**04 32 16.8**	**-0.4**
HUMP					**Sn**	**04 32 41.6**	**-0.8**
HUMP	**Col San Antoni**	**2.04**	**98**	IAML		04 32 46.2	
	comp=N,13nm,1.5s						
HUMP				IAML		04 33 03.2	
	comp=E,14nm,2.8s						

IDC ***22*** *04:35:20.6±1.2, 0.˚27S×124.˚67E, h0km, mb4.2/6, mbtmp4.2/6, Error ellipse: s-maj=183.8km s-min=17.6km az=63.0*

DJA ***22*** *04:35:23.3±0.8, 1.˚N±3.˚×12.˚7E±.˚, h20km±9km, M4.1/12, mb4.1/2, mB5.1/1, MLv4.1/12, Mw(mB)4.5/1*

NEIC ***22*** *04:35:25.7±1.0, 0.˚81N±0.˚08×126.˚95E±0.˚06, h48km±5km, mb4.5/21, Error ellipse: s-maj=12.3km s-min=7.0km az=206.0*

ISC 22 04:35:24.1±0.6, 0.˚80N±0.˚07×126.˚87E±0.˚06, h35km, n44, σ1§05/46, mb4.4/17, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**0.49**	**93**		**Pn**	**04 35 35.7**	**+1.1**
TNTI				Sn	**Sn**	04 35 43.3	+1.3
TNTI	**Ternate**	**0.49**	**93**	P	**Pn**	**04 35 35.6**	**+1.0**
LBMI	**Labuha**	**1.56**	**156**	P	**Pn**	**04 35 50.3**	**+1.0**
LBMI				S	**Sn**	**04 36 09.9**	**+1.5**
KMSI	**Cibinong**	**2.90**	**266**	P	**Pn**	**04 36 06.6**	**-1.2**
SANI	**Sanana**	**2.97**	**197**	P	**Pn**	**04 36 07.0**	**-1.7**
SGSI	**Sangihe**	**3.17**	**335**	P	**Pn**	**04 36 10.8**	**-0.6**
GTOI	**Gorontalo**	**3.87**	**268**	P	**Pn**	**04 36 23.5**	**+2.4**
NLAI	**Namlea**	**4.02**	**177**	P	**Pn**	**04 36 23.0**	**-0.2**
LUWI	**Luwuk**	**4.49**	**246**	Pn	**Pn**	**04 36 32.7**	**+3.0**
LUWI	**Luwuk**	**4.49**	**246**	P	**Pn**	**04 36 29.0**	**-0.7**
TOLI2	**Tolitoli**	**6.10**	**273**		**Pn**	**04 36 53.1**	**+1.3**
KAPI	**Kappang**	**9.16**	**231**	Pn	**Pn**	**04 37 35.0**	**+1.2**
EDFI	**Ende, Flores**	**10.80**	**208**	P	**Pn**	**04 37 56.4**	**0.0**
FITZ	**Fitzroy Crossi**	**18.82**	**184**		**Pn**	**04 39 41.1**	**-0.5**
WB0	**Warramunga Arr**	**21.73**	**161**	P	**P**	**04 40 12.6**	**+0.1**
WB0	comp=Z,8.8nm,0.8s			IAmb	IAmb	04 40 14.6	
WRA	**Warramunga Arr**	**21.88**	**161**	P	**P**	**04 40 12.4**	**-1.7**
WRA	**Warramunga Arr**	**21.88**	**161**	P	**P**	**04 40 13.5**	**-0.6**
	comp=Z,5.6nm,0.5s,baz=332,slow=12,SNR=64						
	comp=Z,5.6nm,0.5s						
WB2	**Warramunga Arr**	**21.88**	**161**	P	**P**	**04 40 14.1**	**0.0**
WB2	comp=Z,8.5nm,0.8s			IAmb	IAmb	04 40 14.3	
WR0	**Warramunga Arr**	**21.96**	**160**	P	**P**	**04 40 14.5**	**-0.5**
AS31	**Alice Springs**	**25.26**	**165**	P	**P**	**04 40 46.9**	**-0.3**
ASAR	**Alice Springs**	**25.26**	**165**	P	**P**	**04 40 46.8**	**-0.4**
ASAR	**Alice Springs**	**25.26**	**165**	P	**P**	**04 40 46.6**	**-0.5**
	comp=Z,6.7nm,0.4s,baz=347,slow=11,SNR=50						
	comp=Z,6.7nm,0.4s						
GSI	**Gunungsitoli**	**29.30**	**271**	P	**P**	**04 41 25.0**	**+1.5**
GSI	comp=Z,17nm,1.0s			IAmb	IAmb	04 41 37.6	
BBOO	**Buckleboo**	**34.54**	**166**	P	**P**	**04 42 08.4**	**-0.9**
STKA	**Stephens Creek**	**35.37**	**158**	P	**P**	**04 42 16.1**	**-0.3**
	comp=Z,2.2nm,0.9s,baz=353,slow=8.2,SNR=3.1						
	comp=Z,2.2nm,0.9s						
PYZ	**Puysegur Point**	**58.41**	**149**	P	**P**	**04 45 15.3**	**-0.9**
MK31	**Makanchi Array**	**60.04**	**326**	P	**P**	**04 45 27.6**	**0.0**
MKAR	**Makanchi Array**	**60.04**	**326**	P	**P**	**04 45 27.3**	**-0.2**
MKAR	**Makanchi Array**	**60.04**	**326**	P	**P**	**04 45 27.5**	**0.0**
	comp=Z,0.7nm,0.3s,baz=122,slow=7.6,SNR=10						
	comp=Z,0.7nm,0.3s						
KBL	**Kabul**	**63.43**	**309**	P	**P**	**04 45 51.3**	**+0.4**
KURBB	**Kurchatov Arra**	**64.28**	**328**	P	**P**	**04 45 55.9**	**+0.1**
	comp=Z,1.7nm,0.7s,baz=127,slow=5.9,SNR=20						
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**64.28**	**328**	P	**P**	**04 45 55.7**	**-0.1**
KURK	comp=Z,4.1nm,1.0s			IAmb	IAmb	04 45 57.0	
BVAR	**Borovoye Array**	**69.84**	**328**	P	**P**	**04 46 31.6**	**+0.4**
	comp=Z,0.7nm,0.5s,baz=101,slow=7.7,SNR=3.8						
	comp=Z,0.7nm,0.5s						
ABKAR	**Akbulak array**	**74.50**	**321**	P	**P**	**04 46 59.4**	**+0.4**
ABKAR	**Akbulak array**	**74.50**	**321**	P	**P**	**04 46 58.9**	**-0.1**
G16K	**Koyuk River**	**81.34**	**24**	P	**P**	**04 47 35.8**	**-0.9**
G16K	comp=Z,10nm,1.1s			IAmb	IAmb	04 47 47.7	
G19K	**Purcell Mounta**	**83.64**	**23**	P	**P**	**04 47 49.8**	**+1.1**
G19K	comp=Z,10.0nm,1.5s			IAmb	IAmb	04 48 04.8	
N19K	**Bonanza Creek**	**83.76**	**29**	P	**P**	**04 47 47.5**	**-2.1**
N19K	comp=Z,4.7nm,1.1s			IAmb	IAmb	04 47 51.2	
D19K	**Kuna River**	**83.78**	**21**	P	**P**	**04 47 49.5**	**0.0**
D19K	comp=Z,5.3nm,1.1s			IAmb	IAmb	04 48 03.0	
B21K	**Ikpikpuk River**	**85.25**	**20**	P	**P**	**04 47 56.8**	**0.0**
B21K	comp=Z,5.9nm,1.2s			IAmb	IAmb	04 48 02.5	
C23K	**Itkillik River**	**86.66**	**20**	P	**P**	**04 48 03.3**	**-0.4**
C23K	comp=Z,2.8nm,1.1s			IAmb	IAmb	04 48 20.3	
BMAR	**Burnt Mountain**	**88.70**	**23**	P	**P**	**04 48 13.8**	**+0.1**
I28M	**Miner Creek**	**90.61**	**25**	P	**P**	**04 48 21.6**	**-1.1**
I

KRER Koryakskii 2.94 88 PN **P** **04 38 34.6 +1.0**
RUS Russkaya 2.96 105 *e*P **P** **04 38 32.6 -0.8**
RUS *e*S **S** **04 39 26.0 -3.5**
RUS Russkaya 2.96 105 PN **P** **04 38 32.6 -0.8**
RUS S **S** **04 39 26.0 -3.5**
SKR Severo-Kuril's 2.96 151 *e*P **P** **04 38 33.1 -0.4**
SKR Severo-Kuril's 2.96 151 PN **P** **04 38 33.1 -0.4**
DALK Dalny 2.97 93 *e*P **P** **04 38 33.8 +0.3**
DALK Dalny 2.97 93 PN **P** **04 38 33.8 +0.3**
SMAR Somma 2.98 88 *e*P **P** **04 38 34.3 +0.5**
SMAR *e*S **S** **04 39 29.9 -0.3**
SMAR Somma 2.98 88 PN **P** **04 38 34.3 +0.5**
SMAR S **S** **04 39 29.9 -0.3**
KDTR Khodutka, Kamc 2.98 118 *e*S **S** **04 39 25.7 -4.0**
UGLR Uglovaya 2.99 90 *e*P **P** **04 38 34.4 +0.6**
UGLR *e*S **S** **04 39 30.5 +0.3**
UGLR Uglovaya 2.99 90 PN **P** **04 38 34.4 +0.6**
UGLR S **S** **04 39 30.5 +0.3**
NLC Nalytchevo 3.31 90 *e*P **P** **04 38 36.2 +0.3**
NLC Nalytchevo 3.31 90 PN **P** **04 38 36.2 +0.3**
KII Karymskiy 3.42 75 *e*P **P** **04 38 37.4 +0.6**
KII Karymskiy 3.42 75 PN **P** **04 38 37.4 +0.6**
SPN Mys Shipunski 3.72 90 *e*P **P** **04 38 38.1 -1.1**
SPN *e*S **S** **04 39 34.5 -5.5**
SPN Mys Shipunski 3.72 90 PN **P** **04 38 38.1 -1.1**
TUMR Tumrok 4.20 59 *e*P **P** **04 38 44.5 +1.3**
TUMR Tumrok 4.20 59 PN **P** **04 38 44.7 +1.5**
TUMD Tumrok D 4.30 61 *e*P **P** **04 38 44.7 +0.7**
KMNR Kamenistaya 4.47 54 *e*P **P** **04 38 46.6 +1.1**
KMNR Kamenistaya 4.47 54 PN **P** **04 38 46.6 +1.1**
SRDR Sredinnyy 4.55 46 *e*P **P** **04 38 47.5 +1.3**
SRDR Sredinnyy 4.55 46 PN **P** **04 38 47.5 +1.3**
KPT Kopyto 4.57 52 *e*P **P** **04 38 47.2 +0.8**
KPT Kopyto 4.57 52 PN **P** **04 38 47.2 +0.8**
KIRR Kirishev 4.62 52 *e*P **P** **04 38 47.4 +0.5**
KIRR Kirishev 4.62 52 PN **P** **04 38 47.4 +0.5**
BZMR Bezymyannaya 4.69 53 *e*P **P** **04 38 48.8 +1.3**
BZMR Bezymyannaya 4.69 53 PN **P** **04 38 48.8 +1.3**
BZWR Bezymyannyi-We 4.70 53 *e*P **P** **04 38 48.3 +0.6**
BZWR Bezymyannyi-We 4.70 53 PN **P** **04 38 48.3 +0.6**
BZGR Bezymyannyi-Gr 4.79 54 *e*P **P** **04 38 50.2 +1.8**
BZGR Bezymyannyi-Gr 4.79 54 PN **P** **04 38 50.2 +1.8**
MKZ Mys Kozlova 4.83 72 *e*P **P** **04 38 48.2 -0.4**
LGNR Loginova 4.86 52 *e*P **P** **04 38 50.5 +1.3**
LGNR Loginova 4.86 52 PN **P** **04 38 50.5 +1.3**
KRSR Krestovskiy 4.87 50 *e*P **P** **04 38 50.4 +1.2**
KRSR Krestovskiy 4.87 50 PN **P** **04 38 50.4 +1.2**
ZLN Zelenaya 4.88 53 *e*P **P** **04 38 50.8 +1.6**
ZLN Zelenaya 4.88 53 PN **P** **04 38 50.8 +1.6**
KBTR Krutoberegovo 5.96 57 *e*S **S** **04 40 12.3 -4.8**
MA2 Magadan 6.53 346 P **P** **04 39 02.8 +0.8**
MA2 Magadan 6.53 346 P **P** **04 39 05.4 +0.5**
comp=E,9.9nm,0.6s,baz=154,slow=8.9,SNR=7.4
MA2 S **S** **04 40 25.4 -2.0**
comp=E,2.2nm,0.3s,baz=183,slow=19,SNR=1.5
BKI Bering 7.36 70 *e*S **S** **04 40 38.6 -4.4**
SEY Seymchan 9.70 356 P **P** **04 39 39.4 +1.2**
comp=E,17nm,0.4s,baz=169,slow=10,SNR=33
SEY S **S** **04 41 27.4 -0.9**
comp=E,1.2nm,0.5s,baz=15,slow=22,SNR=1.4
ERM Erimo 13.36 217 P **P** **04 40 16.3 -1.5**
ERM Erimo 13.36 217 PN **P** **04 40 16.3 -1.5**
YAK Yakutsk 15.53 314 P **P** **04 40 39.2 -1.1**
comp=E,15nm,0.4s,baz=70,slow=1.5,SNR=4.5
BILL Bilibino 15.95 17 P **P** **04 40 44.6 -0.1**
MJB9 Matsu-Tunnel 20.00 219 P **P** **04 41 24.5 +0.1**
MAJO Matsushiro 20.00 219 P **P** **04 41 25.1 +0.7**
MAJO Matsushiro 20.00 219 P **P** **04 41 25.1 +0.7**
MAJO pmax pmax
comp=Z,9.0nm,0.6s
MJAR Matsushiro Arr 20.00 219 P **P** **04 41 24.6 +0.2**
comp=Z,3.9nm,0.5s,baz=19,slow=10,SNR=14
GAMB Gambell 20.54 46 P **P** **04 41 30.6 +1.8**
JGF Kuroka 21.15 220 P **P** **04 41 35.8 +0.9**
JGF IAmb IAmb 04 41 36.3
comp=Z,4.0nm,0.5s
TIXI Tiksi 21.42 339 P **P** **04 41 36.0 -0.8**
TIXI Tiksi 21.42 339 P **P** **04 41 36.8 +0.1**
comp=Z,8.0nm,0.5s,baz=140,slow=9.2,SNR=12
comp=Z,8.0nm,0.5s
TIXI Tiksi 21.42 339 P **P** **04 41 36.0 -0.8**
TIXI pmax pmax
comp=Z,10.0nm,0.6s
TNA Tin City 22.57 42 P **P** **04 41 49.3 +2.1**
KSRS Korea Array 23.94 239 P **P** **04 42 00.6 +0.8**
comp=Z,1.5nm,0.8s,baz=41,slow=9.3,SNR=7.3
comp=Z,1.5nm,0.8s
C16K Lisburne Hills 24.30 36 P **P** **04 42 03.6 +1.0**
K15K Wolf Creek Mou 24.95 51 P **P** **04 42 09.8 +1.4**
K15K IAmb IAmb 04 42 29.2
comp=Z,9.1nm,1.1s
F17K Baldwin Pennin 25.42 41 P **P** **04 42 13.6 +1.0**
N15K Kwethluk River 25.73 56 P **P** **04 42 16.9 +1.5**
E18K Tukpahlearik C 25.84 39 P **P** **04 42 17.4 +1.2**
E18K IAmb IAmb 04 42 41.1
comp=Z,5.8nm,1.0s
C18K Utukok River 25.88 36 P **P** **04 42 17.6 +0.9**
C18K IAmb IAmb 04 42 25.8
comp=Z,20nm,1.5s
L16K Owhat River 25.93 52 P **P** **04 42 17.4 +0.3**
L16K IAmb IAmb 04 42 57.3
comp=Z,8.7nm,1.3s
J17K VABM Dome 26.08 49 P **P** **04 42 20.1 +1.7**
J17K IAmb IAmb 04 42 36.5
comp=Z,10nm,1.3s
G18K Tagagawik 26.40 43 P **P** **04 42 21.9 +0.7**
G18K IAmb IAmb 04 42 23.0
comp=Z,7.7nm,0.8s
H18K Honhosa River 26.46 45 P **P** **04 42 22.9 +1.1**
H18K IAmb IAmb 04 42 23.3
comp=Z,5.7nm,0.7s
C19K Lookout Ridge 26.55 36 P **P** **04 42 23.6 +1.0**
C19K IAmb IAmb 04 42 36.1
comp=Z,19nm,1.4s
F19K Shaleruckik Mo 26.85 41 P **P** **04 42 25.9 +0.8**
F19K IAmb IAmb 04 42 26.5
comp=Z,6.5nm,0.8s
D19K Kuna River 26.95 37 P **P** **04 42 26.9 +0.8**
G19K Purcell Mounta 27.05 42 P **P** **04 42 27.7 +0.7**
G19K IAmb IAmb 04 42 28.3
comp=Z,4.1nm,0.6s
E19K Redstone River 27.13 40 P **P** **04 42 29.1 +1.4**
J18K Innoko River 27.14 48 P **P** **04 42 28.8 +1.0**
H19K Roundabout Mou 27.28 44 P **P** **04 42 30.1 +1.2**
H19K IAmb IAmb 04 42 30.9
comp=Z,9.1nm,0.8s
B20K Meade River 27.57 34 P **P** **04 42 32.5 +1.0**
J19K Poorman 27.62 47 P **P** **04 42 32.8 +0.8**
J19K IAmb IAmb 04 42 48.9
comp=Z,8.0nm,1.4s
L19K White Mountain 28.07 51 P **P** **04 42 37.0 +1.0**
L19K IAmb IAmb 04 43 18.3
comp=Z,7.3nm,1.4s
M19K Big River Lodg 28.32 52 P **P** **04 42 39.5 +1.3**
M19K IAmb IAmb 04 43 00.9
comp=Z,13nm,1.5s
B21K Ikpikpuk River 28.38 35 P **P** **04 42 39.8 +1.3**
E21K Killik River 28.46 38 P **P** **04 42 40.1 +0.8**
E21K IAmb IAmb 04 42 40.9
comp=Z,5.1nm,0.7s
G21K Allakaket 28.52 42 P **P** **04 42 41.1 +1.2**
G21K IAmb IAmb 04 42 41.9
comp=Z,6.8nm,1.0s
F21K Alatna River 28.55 40 P **P** **04 42 40.7 +0.5**
H21K Melozitna Rive 28.80 44 P **P** **04 42 43.3 +1.0**
H21K IAmb IAmb 04 43 14.7
comp=Z,11nm,1.5s
D22K Ayikyak River 28.97 37 P **P** **04 42 45.0 +1.2**
I21K Tanana 29.15 45 P **P** **04 42 46.6 +1.2**
CAST Castle Rocks 29.23 48 P **P** **04 42 46.9 +0.8**
PPLA Purkeypile 29.23 49 P **P** **04 42 47.8 +1.5**
PPLA IAmb IAmb 04 42 57.9
comp=Z,17nm,1.5s
E22K Anaktuvuk Pass 29.24 39 P **P** **04 42 47.3 +1.1**
E22K IAmb IAmb 04 42 47.9
comp=Z,8.2nm,0.6s
BPAW Bear Paw Mtn. 29.65 47 P **P** **04 42 50.7 +1.0**
BPAW IAmb IAmb 04 42 51.7
comp=Z,9.7nm,1.2s
SKT Skwentna 29.65 51 P **P** **04 42 50.6 +0.8**
SKT IAmb IAmb 04 43 30.7
comp=Z,7.3nm,1.3s
MLY Manley 29.69 45 P **P** **04 42 51.4 +1.3**

KTH Kantishna Hill 29.73 48 P **P** **04 42 51.9 +1.3**
KTH IAmb IAmb 04 43 21.4
comp=Z,7.2nm,1.2s
C23K Itkillik River 29.79 35 P **P** **04 42 51.8 +0.9**
C23K IAmb IAmb 04 42 52.6
comp=Z,9.2nm,0.8s
COLD Coldfoot 29.83 40 P **P** **04 42 52.2 +1.0**
COLD IAmb IAmb 04 42 53.0
comp=Z,8.2nm,0.9s
G23K Bananza Creek 29.91 41 P **P** **04 42 53.0 +1.0**
G23K IAmb IAmb 04 42 53.6
comp=Z,5.5nm,0.8s
KDAK Kodiak Island 29.97 60 P **P** **04 42 52.9 +0.3**
KDAK Kodiak Island 29.97 60 P **P** **04 42 52.9 +0.3**
KDAK pmax pmax
comp=Z,32nm,1.2s
TRF Thorofare Moun 30.02 48 P **P** **04 42 54.2 +1.0**
TRF IAmb IAmb 04 42 55.7
comp=Z,5.7nm,0.9s
TOLK Toolik Lake Re 30.09 38 P **P** **04 42 54.7 +1.2**
TOLK IAmb IAmb 04 42 55.2
comp=Z,5.6nm,0.6s
SUA Susitna One 30.10 52 P **P** **04 42 54.4 +0.5**
SUA IAmb IAmb 04 43 11.6
comp=Z,7.8nm,1.2s
H23K Yukon River 30.14 43 P **P** **04 42 55.6 +1.6**
H23K IAmb IAmb 04 42 56.4
comp=Z,6.4nm,0.7s
CUT Chulitna 30.17 50 P **P** **04 42 54.1 -0.2**
CNPM China Poot 30.24 56 P **P** **04 42 55.4 +0.5**
I23K Minto, Yukon-K 30.26 45 P **P** **04 42 56.1 +1.1**
I23K IAmb IAmb 04 42 57.0
comp=Z,15nm,1.4s
D24K Happy Valley 30.38 37 P **P** **04 42 56.8 +0.9**
E24K Your Creek 30.48 39 P **P** **04 42 58.4 +1.4**
RND Reindeer 30.67 48 P **P** **04 42 59.3 +0.6**
RND Reindeer 30.67 48 P **P** **04 42 59.3 +0.6**
RND pmax pmax
comp=Z,7.0nm,1.3s
F24K Squaw Lake 30.72 40 P **P** **04 42 59.9 +0.9**
F24K IAmb IAmb 04 43 01.0
comp=Z,4.4nm,0.8s
H24K Noodor Dome 30.82 43 P **P** **04 43 01.3 +1.4**
WRH Wood River Hil 30.87 46 P **P** **04 43 01.7 +1.4**
G24K Hadweenzic Riv 30.92 41 P **P** **04 43 02.2 +1.4**
G24K IAmb IAmb 04 43 02.9
comp=Z,8.8nm,0.7s
SML Sawmill 31.17 51 P **P** **04 43 04.1 +1.1**
D25K Kavik River 31.25 36 P **P** **04 43 04.5 +0.9**
IL31 31.35 45 P **P** **04 43 05.4 +1.1**
ILAR Eielson Array 31.35 45 P **P** **04 43 05.2 +0.8**
ILAR Eielson Array 31.35 45 P **P** **04 43 04.8 +0.4**
comp=Z,2.9nm,0.8s,baz=261,slow=5.7,SNR=37
ILAR ScP **ScP** **04 48 38.5 -2.4**
comp=Z,0.1nm,0.4s,baz=284,slow=0.8,SNR=1.6
comp=Z,2.9nm,0.8s
ILAR Eielson Array 31.35 45 P **P** **04 43 05.2 +0.8**
IL03 Eielson Array 31.36 45 P **P** **04 43 05.5 +1.0**
DHY Denali Highway 31.38 48 P **P** **04 43 05.8 +0.9**
DHY IAmb IAmb 04 43 06.2
comp=Z,9.6nm,1.2s
E25K Arctic Village 31.58 39 P **P** **04 43 08.0 +1.6**
E25K IAmb IAmb 04 43 08.6
comp=Z,4.9nm,0.9s
FYU Fort Yukon 31.82 42 P **P** **04 43 10.2 +1.8**
FYU IAmb IAmb 04 43 11.4
comp=Z,6.3nm,0.7s
PRP Porcupine Dome 31.82 44 P **P** **04 43 10.0 +1.3**
PRP IAmb IAmb 04 43 10.9
comp=Z,8.7nm,0.8s
BMAR Burnt Mountain 32.00 40 P **P** **04 43 11.6 +1.6**
J25K Salcha River, 32.01 45 P **P** **04 43 09.6 -0.6**
SCRK Sand Creek 32.72 46 P **P** **04 43 16.4 +0.1**
SCRK IAmb IAmb 04 43 17.0
comp=Z,5.4nm,0.6s
J26L Joseph Creek 32.80 45 P **P** **04 43 17.8 +0.9**
E27K Coleen River 33.05 38 P **P** **04 43 20.1 +1.2**
G27K Doyon Strip 33.21 41 P **P** **04 43 21.9 +1.6**
K27K Chicken 33.53 46 P **P** **04 43 24.1 +1.0**
K27K IAmb IAmb 04 43 24.7
comp=Z,4.4nm,0.8s
E28M Babbage River 33.76 37 P **P** **04 43 26.1 +1.2**
E28M IAmb IAmb 04 43 26.8
comp=Z,4.7nm,0.8s
EGAK Eagle 33.77 44 P **P** **04 43 25.4 +0.5**
EGAK IAmb IAmb 04 43 26.1
comp=Z,8.6nm,1.0s
F28M Old Crow 33.77 39 P **P** **04 43 26.6 +1.5**
F28M IAmb IAmb 04 43 27.3
comp=Z,4.3nm,0.7s
L27K Beaver Creek, 33.86 47 P **P** **04 43 27.6 +1.7**
L27K IAmb IAmb 04 43 28.9
comp=Z,11nm,1.1s
BCAR Beaver Creek A 33.88 47 P **P** **04 43 27.7 +1.7**
M27K Edge Creek, AK 34.01 49 P **P** **04 43 29.3 +2.0**
M27K IAmb IAmb 04 43 30.1
comp=Z,11nm,0.9s
I28M Miner Creek 34.13 43 P **P** **04 43 29.7 +1.5**
I28M IAmb IAmb 04 43 31.2
comp=Z,5.7nm,1.0s
E29M Blow River 34.39 38 P **P** **04 43 31.8 +1.6**
BARN Barnard Glacie 34.46 51 P **P** **04 43 33.0 +1.8**
BARN IAmb IAmb 04 44 03.6
comp=Z,20nm,1.4s
G29M Pine Creek 34.60 40 P **P** **04 43 33.6 +1.6**
G29M IAmb IAmb 04 43 34.8
comp=Z,4.8nm,0.8s
H29M Whitestone 34.61 41 P **P** **04 43 33.6 +1.5**
DAWY Dawson 34.67 45 P **P** **04 43 33.8 +1.0**
I29M Ogilvie Camp, 34.82 43 P **P** **04 43 35.4 +1.5**
I29M IAmb IAmb 04 43 35.8
comp=Z,4.2nm,0.7s
EPYK Eagle Plains 35.23 41 P **P** **04 43 38.6 +1.4**
EPYK IAmb IAmb 04 43 43.7
comp=Z,11nm,1.4s
G30M tAoh Zraii Nji 35.28 40 P **P** **04 43 38.9 +1.1**
G30M IAmb IAmb 04 43 41.9
comp=Z,4.5nm,0.8s
L29M L29M 35.47 47 P **P** **04 43 41.3 +2.0**
L29M IAmb IAmb 04 43 42.2
comp=Z,6.2nm,0.6s
M29M Somme Creek 35.52 48 P **P** **04 43 41.7 +1.9**
K29M Barlow Dome 35.53 45 P **P** **04 43 41.0 +1.0**
I30M Mount Dempster 35.64 43 P **P** **04 43 42.3 +1.4**
I30M IAmb IAmb 04 43 42.8
comp=Z,5.1nm,0.8s
J30M Hart River 35.83 44 P **P** **04 43 43.9 +1.4**
INK Inuvik 36.00 37 P **P** **04 43 44.7 +1.1**
INK IAmb IAmb 04 43 45.0
comp=Z,6.1nm,0.4s
INK Inuvik 36.00 37 P **P** **04 43 44.7 +1.1**
INK pmax pmax
comp=Z,6.0nm,0.4s
G31M Satah River 36.05 40 P **P** **04 43 45.0 +1.0**
M30M Minto, Yukon 36.21 47 P **P** **04 43 47.2 +1.6**
M30M IAmb IAmb 04 43 48.5
comp=Z,5.7nm,1.1s
H31M Peel River 36.30 41 P **P** **04 43 47.8 +1.5**
O30N Mendenhall 37.13 50 P **P** **04 43 55.0 +1.8**
WHY Whitehorse 37.73 50 P **P** **04 44 00.2 +2.0**
WHY IAmb IAmb 04 44 10.8
comp=Z,12nm,1.5s
A36M Sachs Harbour 37.86 30 P **P** **04 43 58.8 -0.1**
A36M IAmb IAmb 04 44 00.8
comp=Z,12nm,0.8s
C36M Paulatuk 39.01 34 P **P** **04 44 09.1 +0.8**
DLBC Dease Lake 40.90 51 P **P** **04 44 24.7 +0.9**
comp=Z,2.3nm,0.7s,baz=234,slow=9.4,SNR=3.5
comp=Z,2.3nm,0.7s
KURK Kurchatov 44.38 299 P **P** **04 44 51.9 +0.7**
KURBB Kurchatov Arra 44.48 298 P **P** **04 44 51.9 -0.1**
comp=Z,0.2nm,0.4s,baz=63,slow=7.7,SNR=2.9
KURBB ScP **ScP** **04 49 28.4 -2.6**
comp=Z,0.4nm,0.9s,baz=61,slow=4.1,SNR=3.1
comp=Z,0.2nm,0.4s
RES Resolute Bay 44.51 21 P **P** **04 44 52.4 +0.6**
RES Resolute Bay 44.51 21 P **P** **04 44 52.4 +0.6**
RES pmax pmax
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 45.51 41 P **P** **04 44 59.7 0.0**
YKA Yellowknife Ar 45.51 41 P **P** **04 45 00.1 +0.4**
comp=Z,2.2nm,0.6s,baz=303,slow=7.8,SNR=36
YKA ScP **ScP** **04 49 34.3 -0.8**
comp=Z,0.2nm,0.8s,baz=312,slow=4.8,SNR=3.2
comp=Z,2.2nm,0.6s

YKAB2 New Yellowknif 45.55 41 P **P** **04 45 00.9 +1.0**
SPITS Spitsbergen Ar 46.27 349 P **P** **04 45 04.7 -0.6**
comp=Z,7.9nm,1.0s,baz=62,slow=5.9,SNR=11
comp=Z,7.9nm,1.0s
SPA3 Spitsbergen Ar 46.27 349 P **P** **04 45 05.6 +0.2**
SPB2 Spitsbergen Ar 46.27 349 P **P** **04 45 05.5 +0.2**
SPB3 Spitsbergen Ar 46.27 349 P **P** **04 45 05.6 +0.2**
PATS Pohnpei 46.45 174 P **P** **04 45 08.6 +1.1**
BVAR Borovoye Array 47.26 305 P **P** **04 45 12.2 -1.0**
comp=Z,0.8nm,0.5s,baz=51,slow=7.6,SNR=3.0
comp=Z,0.8nm,0.5s
ARCES ARCESS Array B 51.86 339 P **P** **04 45 46.0 -0.9**
comp=Z,4.8nm,1.1s,baz=27,slow=8.2,SNR=6.3
comp=Z,4.8nm,1.1s
PHRA Phrae 53.83 251 P **P** **04 46 02.9 +1.2**
SUMG Summit 54.14 5 P **P** **04 46 03.7 0.0**
SUMG Summit 54.14 5 P **P** **04 46 03.7 0.0**
SUMG pmax pmax
comp=Z,9.0nm,1.3s
J05D Fort Rock, OR 54.19 64 P **P** **04 46 06.4 +2.2**
CMAR Chiang Mai Arr 54.60 252 P **P** **04 46 06.8 -0.4**
comp=Z,1.2nm,0.4s,baz=30,slow=6.4,SNR=7.0
comp=Z,1.2nm,0.4s
ABKAR Akbulak array 54.73 307 P **P** **04 46 07.9 +0.2**
K05A Summer Lake 54.75 64 P **P** **04 46 10.7 +2.6**
FFC Flin Flon 55.52 43 P **P** **04 46 13.7 +0.6**
FFC Flin Flon 55.52 43 P **P** **04 46 13.7 +0.6**
FFC pmax pmax
comp=Z,4.0nm,0.8s
FCC Fort Churchill 55.60 36 P **P** **04 46 13.8 +0.2**
FCC Fort Churchill 55.60 36 P **P** **04 46 13.8 +0.2**
FCC pmax pmax
comp=Z,8.0nm,1.3s
FINES FINESS Array B 58.35 334 P **P** **04 46 31.9 -0.6**
FINES FINESS Array B 58.35 334 P **P** **04 46 31.5 -1.0**
comp=Z,1.5nm,0.7s,baz=32,slow=7.5,SNR=7.3
comp=Z,1.5nm,0.7s
FINES FINESS Array B 58.35 334 P **P** **04 46 31.9 -0.6**
NVAR Mina Array Bea 59.16 66 P **P** **04 46 39.5 +0.9**
comp=Z,0.2nm,0.5s,baz=286,slow=4.5,SNR=2.3
comp=Z,0.2nm,0.5s
HWUT Hardware Ranch 60.46 59 P **P** **04 46 47.6 +0.4**
PDAR Pinedale Array 60.64 57 P **P** **04 46 49.6 +1.2**
comp=Z,0.6nm,0.7s,baz=250,slow=1.5,SNR=5.4
comp=Z,0.6nm,0.7s
NC405 NORSAR Array S 62.03 340 P **P** **04 46 57.5 +0.5**
NC405 IAmb IAmb 04 47 18.2
comp=Z,11nm,1.4s
NB2 NORSAR Subarra 62.20 340 P **P** **04 46 57.2 -0.9**
comp=Z,0.4nm,0.6s,baz=22,slow=6.5
NOA NORSAR Array B 62.20 340 P **P** **04 46 57.2 -0.9**
comp=Z,0.8nm,0.7s,baz=24,slow=6.5,SNR=4.3
comp=Z,0.8nm,0.7s
RSSD Black Hills 62.35 53 P **P** **04 47 00.6 +1.0**
RSSD Black Hills 62.35 53 P **P** **04 47 00.6 +1.0**
RSSD pmax pmax
comp=Z,3.0nm,1.0s
HFS Hagfors 62.51 339 P **P** **04 46 59.5 -0.5**
comp=Z,0.7nm,0.3s,baz=52,slow=5.8,SNR=11
comp=Z,0.7nm,0.3s
PV14 Lion Creek, Pa 64.16 60 P **P** **04 47 13.5 +2.1**
PV14 IAmb IAmb 04 47 54.3
comp=Z,5.0nm,1.2s
PV22 Blue Mesa, Par 64.16 60 P **P** **04 47 12.3 +0.9**
EYMN Ely 64.94 42 P **P** **04 47 15.5 -0.4**
EYMN IAmb IAmb 04 47 48.0
comp=Z,5.5nm,1.2s
ECSD EROS Data Cent 66.09 48 P **P** **04 47 23.3 +0.1**
ECSD IAmb IAmb 04 47 23.7
comp=Z,2.9nm,0.6s
AKASG Malin Array Be 66.40 325 P **P** **04 47 23.6 -1.4**
comp=Z,0.8nm,0.4s,baz=31,slow=6.8,SNR=4.1
comp=Z,0.8nm,0.4s
SCHQ Schefferville 67.12 24 P **P** **04 47 28.9 -0.5**
SCHQ IAmb IAmb 04 48 11.0
comp=Z,6.5nm,1.1s
SCHQ Schefferville 67.12 24 P **P** **04 47 28.4 -0.9**
comp=Z,1.3nm,0.5s,baz=320,slow=4.5,SNR=8.6
comp=Z,1.3nm,0.5s
MTN Manton Dam 68.69 204 P **P** **04 47 40.0 +0.6**
VLDQ Val d'Or 70.00 34 P **P** **04 47 45.8 -1.2**
VLDQ IAmb IAmb 04 47 46.3
comp=Z,4.6nm,0.7s
EKA Eskdalemuir Ar 70.09 346 P **P** **04 47 46.3 -1.1**
comp=Z,0.5nm,0.3s,baz=18,slow=5.4,SNR=7.9
comp=Z,0.5nm,0.3s
EKB Eskdalemuir 70.09 346 P **P** **04 47 47.1 -0.3**
TXAR Lajitas Array 73.95 63 P **P** **04 48 11.8 +1.4**
TXAR Lajitas Array 73.95 63 P **P** **04 48 11.3 +0.9**
comp=Z,2.2nm,0.6s,baz=307,slow=3.3,SNR=1.9
comp=Z,2.2nm,0.6s
TXAR Lajitas Array 73.95 63 P **P** **04 48 11.8 +1.4**
BRTR Keskin Array B 73.97 316 P **P** **04 48 10.7 +0.3**
BRTR Keskin Array B 73.97 316 P **P** **04 48 10.0 -0.4**
comp=Z,0.3nm,0.4s,baz=32,slow=2.4,SNR=2.3
comp=Z,0.3nm,0.4s
BRTR Keskin Array B 73.97 316 P **P** **04 48 10.7 +0.3**
WB0 Warramunga Arr 74.67 199 P **P** **04 48 14.4 +0.1**
WB0 IAmb IAmb 04 48 21.9
comp=Z,5.9nm,0.9s
WR0 Warramunga Arr 74.83 199 P **P** **04 48 15.1 -0.1**
WR0 IAmb IAmb 04 48 35.6
comp=Z,5.0nm,1.1s
WB2 Warramunga Arr 74.85 199 P **P** **04 48 15.4 0.0**
WB2 IAmb IAmb 04 48 37.4
comp=Z,11nm,1.2s
WRA Warramunga Arr 74.86 199 P **P** **04 48 15.1 -0.3**
WRA Warramunga Arr 74.86 199 P **P** **04 48 15.0 -0.4**
comp=Z,3.2nm,0.7s,baz=15,slow=5.9,SNR=17
comp=Z,3.2nm,0.7s
WRA Warramunga Arr 74.86 199 P **P** **04 48 15.1 -0.3**
R49A Shelbyville 75.50 44 P **P** **04 48 19.5 +0.6**
R49A IAmb IAmb 04 48 50.0
comp=Z,7.3nm,1.4s
ASAR Alice Springs 78.56 199 P **P** **04 48 36.3 +0.6**
ASAR Alice Springs 78.56 199 P **P** **04 48 36.0 +0.3**
comp=Z,3.8nm,0.7s,baz=11,slow=5.2,SNR=33
comp=Z,3.8nm,0.7s
ASAR Alice Springs 78.56 199 P **P** **04 48 36.3 +0.6**
CEST Esterri de Car 81.62 340 P **P** **04 48 52.1 +0.4**
CEST IAmb IAmb 04 49 17.4
comp=Z,9.6nm,1.5s
ESDC Sonseca Array 85.44 343 P **P** **04 49 10.6 -0.3**
PLCA Paso Flores 147.76 85 PKPbc **PKPbc** **04 56 14.6 +0.2**
comp=Z,0.5nm,0.4s,baz=336,slow=5.9,SNR=3.6

IDC ***22*** *04:41:46.7±1.9, 13.14N×91.71W, h0km, mb4.0/7, mbtmp4.1/9, ML3.7/3, MS3.4/3, Error ellipse: s-maj=41.7km s-min=18.4km az=142.0*
MEX ***22*** *04:41:53.2±0.7, 13.48N×92.18W, h12km±999km, MD4.2*
NEIC ***22*** *04:41:57.0±1.9, 13.69N±0.05×92.13W±0.04, h37km±11km, mb4.3/37, Error ellipse: s-maj=9.0km s-min=2.4km az=145.0*
GCG ***22*** *04:42:04.2±0.5, 14.28N×91.63W, h50km±56km, MD3.7*
ISC 22 04:41:52.3±1.7, 13.63N±0.06×92.09W±0.04, h15km±10km, n96, σ1.83/120, mb4.2/19, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		h m s	ISC
SULM	**Suchitepequez,**	**0.84**	**37**	*e*P		**Pn**	**04 42 11.8 +2.2**
RTAL	**Retalhuleu**	**0.96**	**23**	Pn		**Pn**	**04 42 11.9 +0.6**
RTAL				Sn		**Sn**	**04 42 26.0 +1.2**
STG3	**Santiaguito 3,**	**1.18**	**25**	*e*P		**Pg**	**04 42 15.3 +0.1**
THIG		**1.28**	**352**			**Pn**	**04 42 15.8 +0.2**
THIG						**Sn**	**04 42 33.3 +0.8**
THIG		**1.28**	**352**	*e*P		**Pn**	**04 42 15.8 +0.2**
THIG				*e*S		**Sn**	**04 42 33.3 +0.8**
CHUJ	**Union Juarez**	**1.45**	**359**	*e*P		**Pn**	**04 42 18.0 -0.2**
CHUJ				*e*S		**Sn**	**04 42 37.5 +0.4**
FUG	**Fuego 3**	**1.46**	**56**	*e*P		**Pg**	**04 42 19.4 -0.9**
PATR	**El Naranjo**	**1.48**	**355**	*e*P		**Pn**	**04 42 17.9 -0.7**
PATR				*e*S		**Sn**	**04 42 36.4 -1.5**
PAVE	**Pavencul**	**1.55**	**357**	*e*P		**Pn**	**04 42 19.3 -0.3**
PAVE				*e*S		**Sn**	**04 42 37.3 -2.3**
PCG	**Pacaya**	**1.62**	**62**	*e*P		**Pg**	**04 42 23.0 -0.6**
HUEH	**Huehuetenango**	**1.77**	**19**	Pn		**Pb**	**04 42 24.0 -0.6**
NBG	**Las Nubes**	**1.94**	**60**	*e*P		**Pg**	**04 42 27.7 -1.8**
APG	**El Apazote**	**2.08**	**49**	Pn		**Pn**	**04 42 26.9 0.0**
	2.6nm,0.3s,baz=197,slow=13,SNR=175						
APG				Lg		Lg	04 42 57.5
	5.1nm,0.3s,baz=80,slow=18,SNR=15						
PCIG		**2.33**	**332**			**Pn**	**04 42 30.1 0.0**
PCIG						**Sn**	**04 42 57.4 -1.1**

PCIG 2.33 332 eP Pn 04 42 30.1 0.0
PCIG eS Sn 04 42 57.4 -1.1
CCIG Comitan 2.63 359 Pn 04 42 36.0 +1.5
CCIG Comitan 2.63 359 eP Pb 04 42 37.8 -1.5
CCIG eS Sb 04 43 10.9 -0.6
ESQI Esquipulas 2.82 71 Pn Pn 04 42 38.2 +1.3
CARR Arriaga 3.14 326 eP Pn 04 42 41.4 +0.2
CARR eS Sn 04 43 18.2 -0.2
TGIG 3.28 342 Pn 04 42 44.5 +1.2
TGIG Sn 04 43 22.5 +0.4
TGIG 3.28 342 eP Pn 04 42 44.5 +1.2
TGIG eS Sn 04 43 22.5 +0.4
PETF Flores 3.91 33 Pn Pn 04 42 53.7 +1.9
UXUV UXUV 4.17 332 eP Pn 04 42 57.9 +2.6
UXUV eS Sn 04 43 45.2 +1.4
CMIG Matias Romero 4.37 322 Pn 04 42 59.0 +0.9
CMIG Matias Romero 4.37 322 Pn Pn 04 42 59.4 +1.3
2.6nm,0.3s,baz=113,slow=8.7,SNR=8.3
CMIG Sn Sn 04 43 51.1 +2.2
4.1nm,0.3s,baz=115,slow=14,SNR=5.0
CMIG Matias Romero 4.37 322 eP Pn 04 42 59.0 +0.9
CMIG eS Sn 04 43 45.6 -3.3
TGUH Tegucigalpa,Un 4.70 84 Pn 04 43 04.9 +2.1
CRIN San Cristobal 5.00 100 Pn 04 43 08.8 +2.0
SCIG Sabancuy 5.37 9 eP Pn 04 43 13.1 +1.2
NEUV Arroyo Zacate 5.41 319 eP Pn 04 43 14.0 +1.6
NEUV eS Sn 04 44 14.4 0.0
PEIG Puerto Escondi 5.43 296 Pn 04 43 13.4 +0.7
PEIG Puerto Escondi 5.43 296 eP Pn 04 43 13.4 +0.7
PEIG eS Sn 04 44 08.2 -6.8
OXIG Oaxaca 5.63 308 Pn 04 43 16.9 +1.1
OXIG Sn 04 44 20.6 +0.3
VHO Vista Hermosa 5.63 308 eP Pn 04 43 16.9 +1.1
VHO eS Sn 04 44 20.6 +0.3
YOIG Yosondua 6.16 302 Pn 04 43 25.7 +2.6
YOIG Yosondua 6.16 302 eP Pn 04 43 25.7 +2.6
PNIG Pinotepa 6.45 296 Pn 04 43 28.2 +1.4
PNIG Pinotepa 6.45 296 eP Pn 04 43 28.2 +1.4
PNIG eS Sn 04 44 33.0 -7.1
TOIG Toxpalan 6.53 313 Pn 04 43 29.6 +1.7
TOIG Toxpalan 6.53 313 eP Pn 04 43 29.6 +1.7
TOIG eS Sn 04 44 45.0 +2.7
TXIG Tlaxiaco 6.55 304 Pn 04 43 28.9 +0.5
TXIG Tlaxiaco 6.55 304 eP Pn 04 43 28.9 +0.5
TXIG eS Sn 04 44 40.7 -2.3
HLIG Huajuapan de L 6.91 308 eP Pn 04 43 37.0 +3.8
HLIG eS Sn 04 44 54.9 +3.2
TPIG Tehuac#an 6.95 314 eP Pn 04 43 39.5 +5.7
TPIG eS Sn 04 44 54.3 +1.5
HZTE Horizontes, Gu 6.98 114 Pn Pn 04 43 37.0 +2.9
FTIG Fresnillo de T 7.20 307 Sn 04 44 58.2 -0.7
FTIG Fresnillo de T 7.20 307 eS Sn 04 44 58.2 -0.7
JAUV Jalcomulco 7.28 322 eP Pn 04 43 37.2 -0.9
JAUV eS Sn 04 44 58.7 -1.8
TEIG Tepich 7.50 29 Pn 04 43 43.7 +2.5
TEIG Tepich 7.50 29 Pn Pn 04 43 42.3 +1.1
5.2nm,0.3s,baz=221,slow=2.2,SNR=36
TEIG Sn Sn 04 45 05.3 -0.8
baz=345,slow=22
TEIG LR LR 04 47 07.7
comp=Z,341nm,19.0s,baz=220,slow=41
19nm,0.5s
JTS Las Juntas de 7.73 115 Pn Pn 04 43 43.9 -0.5
1.1nm,0.3s,baz=302,slow=16,SNR=14
JTS Sn Sn 04 45 04.4 -7.4
baz=156,slow=20
SRBA San Rafael, Bu 9.61 116 Pn Pn 04 44 13.2 +3.0
SAND Sanderson 18.71 332 P Pn 04 46 11.3 +0.6
TX31 Lajitas Ar. Si 18.95 327 Pn 04 46 14.5 +0.7
TXAR Lajitas Array 18.95 327 Pn 04 46 14.0 +0.2
TXAR Lajitas Array 18.95 327 P Pn 04 46 15.9 +2.1
0.1nm,0.3s,baz=149,slow=8.7,SNR=22
3.3nm,0.9s
ALPN Alpine 19.78 329 Pn Pn 04 46 24.7 +1.0
Z47A Carrollton 19.82 10 P Pn 04 46 23.9 -0.1
Z47A IAmb IAmb 04 46 25.5
comp=Z,21nm,1.4s
PLPT Palo Pinto 19.92 344 P P 04 46 24.3 +0.8
LPIG La Paz 20.12 304 P Pn 04 46 28.3 +0.7
comp=Z,12nm,0.3s,baz=90,slow=2.0,SNR=1.6
comp=Z,12nm,0.3s
MNHN Monahans 20.17 333 P P 04 46 27.4 +1.1
MNHN IAmb IAmb 04 46 30.7
comp=Z,8.3nm,0.7s
APMT Aspermont 20.92 341 P Pn 04 46 36.1 -0.9
APMT IAmb IAmb 04 46 36.6
comp=Z,5.8nm,0.8s
X37A Clayton 21.07 352 P P 04 46 37.2 +1.2
POST Post 21.16 338 P P 04 46 38.1 +1.0
POST IAmb IAmb 04 46 39.2
comp=Z,8.0nm,0.8s
WMOK Wichita Mounta 21.87 345 P 04 46 45.4 +0.8
MSTX Muleshoe 22.45 336 P P 04 46 52.1 +1.1
SMWD Samnorwood 22.61 342 P P 04 46 53.7 +1.2
SMWD IAmb IAmb 04 46 55.6
comp=Z,15nm,0.9s
AMTX Amarillo 22.87 339 P P 04 46 56.4 +1.1
TKL Tuckaleechee C 23.17 17 P P 04 46 57.8 -0.6
comp=Z,3.8nm,0.9s,baz=206,slow=7.2,SNR=3.9
TKL LR LR 04 56 23.3
comp=Z,74nm,21.0s,baz=210,slow=37
comp=Z,3.8nm,0.9s
U49A Red Boiling Sp 23.48 13 P P 04 47 00.8 -0.6
U49A IAmb IAmb 04 47 10.6
comp=Z,8.5nm,1.2s
T47A Sharon Grove 23.68 10 P P 04 47 02.2 -1.2
T47A IAmb IAmb 04 47 03.6
comp=Z,7.5nm,0.8s
RTBA Rita Blanca 24.64 339 P P 04 47 12.7 +0.3
RTBA IAmb IAmb 04 47 14.9
comp=Z,4.9nm,1.0s
ANMO Albuquerque 24.88 331 P P 04 47 15.1 +0.4
MVCO Mesa Verde 27.68 331 P P 04 47 41.2 +1.1
MVCO IAmb IAmb 04 47 45.0
comp=Z,13nm,1.4s
ISCO Idaho Springs 28.66 338 P P 04 47 48.9 0.0
CCUT Cedar City 30.44 325 P P 04 48 05.5 +1.0
CCUT IAmb IAmb 04 48 20.5
comp=Z,3.6nm,1.3s
BBSR BB Station 31.21 49 P P 04 48 12.5 +1.4
J56A Wolcott 32.32 21 P P 04 48 19.4 -1.3
REDW Red Top Meadow 33.74 335 P P 04 48 34.5 +1.1
SNOW Snow King Moun 33.78 335 P P 04 48 34.3 +0.5
SNOW IAmb IAmb 04 48 37.0
comp=Z,3.8nm,0.6s
NVAR Mina Array Bea 33.90 322 P P 04 48 38.5 +3.5
comp=Z,1.1nm,0.8s,baz=144,slow=8.6,SNR=7.4
comp=Z,1.1nm,0.8s
LKWY Lake 34.56 337 P P 04 48 42.0 +1.4
LKWY IAmb IAmb 04 48 48.8
comp=Z,3.0nm,0.6s
PKME Peaks-Kenny Pk 36.99 27 P P 04 49 00.1 -0.9
EGMT Eagleton 37.30 340 P P 04 49 04.3 +0.5
EGMT IAmb IAmb 04 49 05.8
comp=Z,9.4nm,1.4s
J08A Circle Bar Ran 37.30 328 P P 04 49 05.4 +1.4
J08A IAmb IAmb 04 49 09.8
comp=Z,5.8nm,0.9s
F63A Nahmakanta, Br 37.41 27 P P 04 49 03.4 -1.3
G65A Princeton 37.72 29 P P 04 49 06.2 -1.2
E62A Clayton Lake 37.96 25 P P 04 49 08.9 -0.4
E62A IAmb IAmb 04 49 47.6
comp=Z,5.0nm,1.1s
D62A Allapoint, All 38.52 25 P P 04 49 12.8 -1.3
D62A IAmb IAmb 04 49 14.9
comp=Z,9.2nm,1.1s
KMPM Mount Pierce 38.69 320 P P 04 49 16.8 +1.1
SCHQ Schefferville 45.59 20 P P 04 50 09.7 -2.0
comp=Z,2.9nm,0.8s,baz=267,slow=15,SNR=3.7
comp=Z,2.9nm,0.8s
YKA Yellowknife Ar 51.36 347 P P 04 50 55.9 -0.1
comp=Z,0.4nm,0.7s,baz=144,slow=7.0,SNR=10
YKA PcP PcP 04 52 10.6 0.0
comp=Z,0.2nm,0.8s,baz=137,slow=3.8,SNR=5.9
comp=Z,0.4nm,0.7s
ILAR Eielson Array 63.14 337 P P 04 52 19.7 +0.5
comp=Z,1.2nm,1.1s,baz=117,slow=4.5,SNR=5.8
comp=Z,1.2nm,1.1s
EKA Eskdalemuir Ar 78.31 36 P P 04 53 48.7 -3.1
comp=Z,1.4nm,0.6s,baz=267,slow=5.4,SNR=3.1
comp=Z,1.4nm,0.6s
AKASG Malin Array Be 98.08 33 LR LR 05 42 59.7
comp=Z,19nm,18.1s,baz=332,slow=37
CMAR Chiang Mai Arr 146.31 341 PKPbc PKPbc 05 01 32.8 -0.5
comp=Z,0.5nm,0.3s,baz=341,slow=4.0,SNR=0.9

*SJA **22** 04:45:02.4±0.7, 19°.86S×69°.33W, h95km±2km, ML3.5, MW3.9*
*GUC **22** 04:45:03.3±0.8, 19°.84S×69°.26W, h93km±3km, ML3.5*
*IDC **22** 04:45:04.8±6.7, 19°.87S×69°.00W, h124km±42km, mb3.2/2, mbtmp3.7/4, Error ellipse: s-maj=106.7km s-min=33.7km az=54.0*
ISC 22 04:45:02.3±0.9, **19°.85S**±0°.03×**69°.35W**±0°.04, **h95**km±5km, **n34**, σ1°**88**/62, **3D**, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.24**	**39**	*eP*		**Pn**		**04 45 16.9**	**+0.3**
GO01				*eP*		**Pn**		**04 45 17.1**	**+0.4**
GO01				*eS*		**Sn**		**04 45 28.6**	**+1.3**
GO01				IAML				04 45 29.1	
	comp=Z,1μm,0.5s								
GO01	**Chusmiza**	**0.24**	**39**	*i P*		**Pn**		**04 45 16.9**	**+0.3**
GO01				*eS*		**Sn**		**04 45 27.8**	**+0.6**
GO01				IAML				04 45 28.8	
	comp=N,4μm,0.3s								
PB11	**IPOC Station P**	**0.30**	**288**	*eP*		**Pn**		**04 45 17.1**	**+0.6**
PB11				*eS*		**Sn**		**04 45 28.5**	**+1.5**
PB11				IAML				04 45 29.4	
	comp=Z,941nm,0.3s								
PB11	**IPOC Station P**	**0.30**	**288**	↓*iP*		**Pn**		**04 45 17.3**	**+0.8**
PB11				*eS*		**Sn**		**04 45 28.4**	**+1.3**
PB11				IAML				04 45 29.2	
	comp=E,6μm,0.5s								
PB08	**IPOC Station P**	**0.34**	**147**	*eP*		**Pn**		**04 45 17.4**	**+0.4**
PB08				*eS*		**Sn**		**04 45 29.1**	**+1.1**
PB08				IAML				04 45 30.6	
	comp=Z,864nm,0.2s								
PB08	**IPOC Station P**	**0.34**	**147**	↓*iP*		**Pn**		**04 45 17.6**	**+0.6**
PB08				*eS*		**Sn**		**04 45 28.5**	**+0.5**
PB08				IAML				04 45 30.4	
	comp=N,3μm,0.4s								
HMBC	**Humberstone**	**0.66**	**230**	*eP*		**Pn**		**04 45 19.7**	**+0.8**
HMBC				*eS*		**Sn**		**04 45 33.5**	**+2.0**
HMBC				IAML				04 45 36.2	
	comp=Z,858nm,0.2s								
HMBC	**Humberstone**	**0.66**	**230**	↓*iP*		**Pn**		**04 45 19.9**	**+0.9**
HMBC				*eS*		**Sn**		**04 45 32.8**	**+1.4**
HMBC				IAML				04 45 38.2	
	comp=N,1μm,0.3s								
TA02	**Huaiquique**	**0.84**	**240**	*eP*		**Pn**		**04 45 22.0**	**+1.3**
TA02				IAML				04 45 37.5	
	comp=Z,809nm,0.1s								
TA02	**Huaiquique**	**0.84**	**240**	*eP*		**Pn**		**04 45 21.9**	**+1.3**
TA02				*eS*		**Sn**		**04 45 36.0**	**+1.7**
TA01	**Diego Aracena**	**1.05**	**227**	*eP*		**Pn**		**04 45 23.7**	**+0.8**
TA01				*eS*		**Sn**		**04 45 40.3**	**+1.9**
TA01	**Diego Aracena**	**1.05**	**227**	*i P*		**Pn**		**04 45 23.7**	**+0.8**
TA01				*eS*		**Sn**		**04 45 39.3**	**+0.9**
PX02	**IPOC Station P**	**1.19**	**318**	*eP*		**Pn**		**04 45 24.6**	**-0.1**
PATCX	**Punta Patache**	**1.22**	**218**	*eP*		**Pn**		**04 45 25.9**	**+0.9**
PATCX				*eS*		**Sn**		**04 45 43.5**	**+1.5**
PATCX	**Punta Patache**	**1.22**	**218**	*i P*		**Pn**		**04 45 25.9**	**+0.9**
PATCX				*eS*		**Sn**		**04 45 42.9**	**+0.9**
PATCX				IAML				04 45 46.9	
	comp=E,489nm,0.3s								
PB12	**IPOC Station P**	**1.54**	**323**	*eP*		**Pn**		**04 45 29.6**	**+0.8**
PB12				*eS*		**Sn**		**04 45 51.2**	**+2.3**
PB12				IAML				04 45 58.0	
	comp=Z,603nm,0.3s								
PB12	**IPOC Station P**	**1.54**	**323**	*i P*		**Pn**		**04 45 29.6**	**+0.8**
PB12				*eS*		**Sn**		**04 45 50.2**	**+1.2**
PB12				IAML				04 45 54.3	
	comp=E,911nm,0.3s								
AP01	**Chacalluta**	**1.75**	**327**	*eP*		**Pn**		**04 45 32.9**	**+1.5**
AP01				*eS*		**Sn**		**04 45 57.9**	**+4.4**
AP01				IAML				04 46 01.1	
	comp=Z,861nm,0.3s								
PB09	**IPOC Station P**	**1.94**	**177**	*eP*		**Pn**		**04 45 35.2**	**+1.2**
PB09				*eS*		**Sn**		**04 46 01.2**	**+3.0**
PB09				IAML				04 46 08.4	
	comp=Z,439nm,0.4s								
PB09	**IPOC Station P**	**1.94**	**177**	*eP*		**Pn**		**04 45 35.1**	**+1.1**
PB09				*eS*		**Sn**		**04 46 00.1**	**+1.9**
PB09				IAML				04 46 05.4	
	comp=N,405nm,0.5s								
PB18	**Visviri**	**2.25**	**357**	*eP*		**Pn**		**04 45 41.8**	**+3.2**
PB04	**IPOC Station P**	**2.58**	**197**	*eP*		**Pn**		**04 45 44.3**	**+1.9**
PB04				*eS*		**Sn**		**04 46 09.7**	**-3.6**
PB04				IAML				04 46 25.6	
	comp=Z,218nm,0.5s								
PB04	**IPOC Station P**	**2.58**	**197**	*eP*		**Pn**		**04 45 44.2**	**+1.7**
PB04				IAML				04 46 25.2	
	comp=E,218nm,0.2s								
LVC	**Limon Verde**	**2.77**	**171**	*eP*		**Pn**		**04 45 46.9**	**+1.6**
LVC				*eS*		**Sn**		**04 46 19.6**	**+1.3**
LVC				IAML				04 46 25.3	
	comp=Z,128nm,0.7s								
LVC	**Limon Verde**	**2.77**	**171**	*eP*		**Pn**		**04 45 46.4**	**+1.2**
LVC				*eS*		**Sn**		**04 46 19.0**	**+0.8**
PB06	**IPOC Station P**	**2.85**	**184**	*eP*		**Pn**		**04 45 47.5**	**+1.5**
PB06				*eS*		**Sn**		**04 46 20.9**	**+1.2**
PB06				IAML				04 46 28.4	
	comp=Z,191nm,0.4s								
PB06	**IPOC Station P**	**2.85**	**184**	*i P*		**Pn**		**04 45 47.1**	**+1.1**
PB06				*eS*		**Sn**		**04 46 18.7**	**-0.9**
PB06				IAML				04 46 25.4	
	comp=N,276nm,0.6s								
PB15	**IPOC Station P**	**3.34**	**182**	*eP*		**Pn**		**04 45 54.8**	**+2.1**
PB15				*eS*		**Sn**		**04 46 32.5**	**+0.9**
PB15				IAML				04 46 53.5	
	comp=Z,264nm,0.3s								
LPAZ	**La Paz**	**3.73**	**18**	*eP*		**Pn**		**04 46 01.4**	**+3.0**
LPAZ	**La Paz**	**3.73**	**18**	P		**Pn**		**04 46 00.5**	**+2.1**
	comp=Z,12nm,0.5s,baz=198,slow=6.0,SNR=81								
LPAZ				S		**Sn**		**04 46 37.9**	**-3.8**
	comp=Z,4.6nm,0.7s,baz=216,slow=14,SNR=1.4								
YJA	**Yavi**	**4.27**	**123**	*eP*		**Pn**		**04 46 07.9**	**+2.5**
YJA				*eS*		**Sn**		**04 47 00.1**	**+5.8**
CPUP	**Villa Florida**	**12.80**	**122**	P		**Pn**		**04 47 58.5**	**-2.2**
	comp=Z,2.0nm,0.8s,baz=300,slow=15,SNR=4.9								
TORD	**Torodi Ar. Bea**	**77.20**	**71**	P		**P**		**04 56 44.0**	**-2.4**
	comp=Z,0.2nm,0.5s,baz=248,slow=5.5,SNR=1.4								
TORD				pP		**pP**		**04 57 10.6**	**-1.7**
	comp=Z,0.3nm,0.4s,baz=250,slow=5.1,SNR=4.2								
	comp=Z,0.2nm,0.5s								
YKA	**Yellowknife Ar**	**89.50**	**341**	P		**P**		**04 57 48.0**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=123,slow=5.2,SNR=4.4								
	comp=Z,0.3nm,0.7s								

*KRNET **22** 05:06:08.9±0.1, 39°.47N×71°.49E, h13km, mb3.6*
*SOME **22** 05:06:09.9, 39°.52N×71°.57E, h5km*
*NNC **22** 05:06:13.6±1.0, 39°.70N×71°.51E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=8.6km s-min=4.9km az=1.0*
ISC 22 05:06:09.3±0.8, **39°.52N**±0°.03×**71°.56E**±0°.02, **h10**km, **n69**, σ2s**70**/112, **31C-26D**, **Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DRK	**Karamyk**	**0.19**	**102**	↓*eP*		**Pg**		**05 06 13.9**	**+0.4**
DRK	baz=87			↓*eS*		**Sg**		**05 06 17.1**	**+0.7**
BTK	**Batken**	**0.78**	**313**	↓*eP*		**Pb**		**05 06 23.9**	**-1.2**
BTK	baz=19			↓*eS*		**Sb**		**05 06 34.8**	**-1.0**
GAR	**Garm**	**1.10**	**242**	↑*eP*		**Pg**		**05 06 28.4**	**-2.0**
GAR	baz=43			↑*eS*		**Sg**		**05 06 42.5**	**-2.1**
OHH	**Osh**	**1.38**	**43**	↓*eP*		**Pg**		**05 06 35.9**	**+0.2**
OHH	baz=43			↓*eS*		**Sg**		**05 06 55.5**	**+1.9**
SFK	**Sufi-Kurgan**	**1.58**	**71**	↑*eP*		**Pg**		**05 06 39.4**	**-0.2**
SFK	baz=70			↑*eS*		**Sg**		**05 07 01.5**	**+1.5**
TRKS	**Terek-Say**	**2.03**	**351**	↓*eP*		**Pb**		**05 06 45.5**	**-0.9**
TRKS	baz=53			↓*eS*		**Sb**		**05 07 12.2**	**+0.4**
CHGR	**Chuyangaron**	**2.06**	**246**	↑*eP*		**Pb**		**05 06 45.1**	**-1.7**
CHGR	baz=47			↑*eS*		**Sb**		**05 07 11.6**	**-0.9**
ARSB	**Arslanbob**	**2.10**	**31**	↓*eP*		**Pb**		**05 06 47.6**	**0.0**
ARSB	baz=31			↓*eS*		**Sg**		**05 07 16.0**	**-0.9**
ARK	**Arkit**	**2.29**	**8**	↑*eP*		**Pb**		**05 06 50.4**	**-0.5**
ARK	baz=9.0			↑*eS*		**Sb**		**05 07 20.4**	**+1.0**
MNAS	**Manas**	**3.05**	**13**	↓*eP*		**Pb**		**05 07 00.8**	**-2.9**
MNAS	baz=14			↓*eS*		**Sb**		**05 07 38.7**	**-2.4**
ARLS	**Aral**	**3.14**	**41**	↑*eP*		**Pb**		**05 07 02.3**	**-3.1**
ARLS	baz=41			↑*eS*		**Sb**		**05 07 41.1**	**-2.7**
CHM	**Chimkent**	**3.16**	**333**	*eP*		**Pg**		**05 07 08.0**	**-1.9**
CHM	129nm,0.1s			*eS*		**Sg**		**05 07 50.2**	**-0.7**
DZA	**Taraz**	**3.37**	**357**	Pg		**Pg**		**05 07 12.0**	**-1.9**
DZA	95nm,0.1s			Lg		Lg		05 07 57.3	
DZA	**Taraz**	**3.37**	**357**	*eP*		**Pg**		**05 07 12.0**	**-1.9**
DZA	95nm,0.1s			*eS*		**Sg**		**05 07 57.3**	**-0.3**
MRKS	**Merke**	**3.46**	**21**	Pg		**Pg**		**05 07 12.9**	**-2.6**
MRKS	12nm,0.4s			Lg		Lg		05 07 58.5	
MRKS	**Merke**	**3.46**	**21**	*eP*		**Pg**		**05 07 12.9**	**-2.6**
MRKS	12nm,0.4s			*eS*		**Sg**		**05 07 58.5**	**-1.8**
UCH	**Uchtor**	**3.51**	**39**	↑*eP*		**Pn**		**05 07 07.6**	**+3.2**
UCH	baz=39			↑*eS*		**Sb**		**05 07 50.3**	**-4.4**
EKS2	**Erkin-Say**	**3.56**	**27**	↓*eP*		**Pn**		**05 07 07.9**	**+3.2**
EKS2	baz=28			↓*eS*		**Sb**		**05 07 51.1**	**-4.6**
KK31	**Karatay Array**	**3.67**	**348**	Pn		**Pn**		**05 07 08.8**	**+2.8**
KK31	1.0nm,0.3s,baz=173,slow=13,SNR=42			Pg		**Pg**		**05 07 18.0**	**-1.5**
	6.4nm,0.4s,baz=168,slow=14,SNR=24								
KK31				Lg		Lg		05 08 03.4	
	40nm,0.5s,baz=160,slow=24,SNR=18								
KKAR	**Karatay Array**	**3.67**	**348**	↓*eP*		**Pn**		**05 07 09.0**	**+2.9**
KKAR	baz=49			↓*eS*		**Sn**		**05 07 52.7**	**+3.3**
BRLS	**Borolday**	**3.74**	**340**	Pg		**Pb**		**05 07 15.3**	**-0.1**
BRLS	14nm,0.2s			Lg		Lg		05 08 02.8	
BRLS	**Borolday**	**3.74**	**340**	*eP*		**Pb**		**05 07 15.3**	**-0.1**
BRLS	14nm,0.2s			*eS*		**Sb**		**05 08 02.8**	**+2.0**
AAK	**Ala-Archa**	**3.82**	**35**	↑Pn		**Pb**		**05 07 12.8**	**-4.1**
AAK	5.0nm,0.4s			↑Pg		**Pg**		**05 07 21.8**	**-0.7**
AAK	14nm,0.7s			↓Lg		Lg		05 08 11.1	
	33nm,0.6s								
AAK	**Ala-Archa**	**3.82**	**35**	↑*eP*		**Pn**		**05 07 11.8**	**+3.4**
AAK	baz=35			↑*eS*		**Sn**		**05 07 57.5**	**+4.0**
NRN	**Naryn**	**3.89**	**59**	↑*eP*		**Pn**		**05 07 12.5**	**+3.1**
NRN	baz=59			↑*eS*		**Sn**		**05 07 58.6**	**+3.3**
KBK	**Karagaybulak**	**4.05**	**38**	↓*eP*		**Pn**		**05 07 14.9**	**+3.5**
KBK	baz=38			↓*eS*		**Sn**		**05 08 02.9**	**+3.9**
CHMS	**Chumysh**	**4.23**	**34**	↑Pn		**Pn**		**05 07 17.9**	**+4.1**
CHMS	11nm,0.6s			↑Pg		**Pg**		**05 07 29.5**	**-0.7**
CHMS	7.4nm,0.5s			↓Lg		Lg		05 08 21.3	
	21nm,0.7s								
CHMS	**Chumysh**	**4.23**	**34**	↑*eP*		**Pn**		**05 07 17.1**	**+3.3**
CHMS	baz=34			↑*eS*		**Sn**		**05 08 07.0**	**+3.8**
USP	**Ospenovka**	**4.35**	**30**	↑*eP*		**Pn**		**05 07 18.9**	**+3.4**
USP	baz=30			↑*eS*		**Sn**		**05 08 09.8**	**+3.6**
BOOM	**Boomskoye usch**	**4.45**	**47**	↑*eP*		**Pn**		**05 07 20.5**	**+3.5**
BOOM	baz=47			↑*eS*		**Sn**		**05 08 12.6**	**+3.7**
ULHL	**Ulahol**	**4.47**	**51**	↑*eP*		**Pn**		**05 07 20.7**	**+3.4**
ULHL	baz=51			↑*eS*		**Sn**		**05 08 13.1**	**+3.6**
TKM2	**Tokmak 2**	**4.56**	**41**	↑Pn		Pb		05 07 24.3	-5.3
TKM2	2.1nm,0.5s			↑Pg		**Pg**		**05 07 34.0**	**-2.6**
TKM2	4.7nm,0.5s			↓Lg		Lg		05 08 33.9	
	14nm,0.6s								
TKM2	**Tokmak 2**	**4.56**	**41**	↓*eP*		**Pn**		**05 07 22.1**	**+3.5**
TKM2	baz=41			↓*eS*		**Sn**		**05 08 15.4**	**+3.7**
KST	**Kastek**	**4.84**	**42**	Pg		**Pg**		**05 07 39.0**	**-2.9**
KST	4.9nm,0.5s			Lg		Lg		05 08 43.7	
KST	**Kastek**	**4.84**	**42**	*eP*		**Pg**		**05 07 39.0**	**-2.9**
KST	4.9nm,0.5s			*eS*		**Sg**		**05 08 43.7**	**-0.8**
DGS	**Degeres**	**4.88**	**39**	Pg		**Pg**		**05 07 40.3**	**-2.5**
DGS	12nm,0.5s			Lg		Lg		05 08 46.2	
DGS	**Degeres**	**4.88**	**39**	*eP*		**Pg**		**05 07 40.3**	**-2.5**
DGS	12nm,0.5s			*eS*		**Sg**		**05 08 46.2**	**+0.1**
MTBS	**Maitube**	**5.14**	**44**	Pg		**Pg**		**05 07 44.3**	**-3.5**
MTBS	4.0nm,0.2s			Lg		Lg		05 08 52.4	
MTBS	**Maitube**	**5.14**	**44**	*eP*		**Pg**		**05 07 44.3**	**-3.5**
MTBS	4.0nm,0.2s			*eS*		**Sg**		**05 08 52.5**	**-1.9**
IZV	**Izvestkoviy**	**5.18**	**46**	Pg		**Pg**		**05 07 45.3**	**-3.2**
IZV	4.6nm,0.5s			Lg		Lg		05 08 54.3	
IZV	**Izvestkoviy**	**5.18**	**46**	*eP*		**Pg**		**05 07 45.3**	**-3.2**
IZV	4.6nm,0.5s			*eS*		**Sg**		**05 08 54.3**	**-1.3**
KRBS	**Karabastau**	**5.19**	**35**	Pg		**Pg**		**05 07 44.9**	**-3.7**
KRBS	6.1nm,0.7s			Lg		Lg		05 08 53.8	
KRBS	**Karabastau**	**5.19**	**35**	*eP*		**Pg**		**05 07 44.9**	**-3.7**
KRBS	6.1nm,0.7s			*eS*		**Sg**		**05 08 53.8**	**-2.0**
TNSS	**Tian-Shan**	**5.37**	**47**	Pg		**Pg**		**05 07 49.1**	**-3.0**
TNSS	4.0nm,0.5s			Lg		Lg		05 09 00.7	
TNSS	**Tian-Shan**	**5.37**	**47**	*eP*		**Pg**		**05 07 49.1**	**-3.0**
TNSS	4.0nm,0.5s			*eS*		**Sg**		**05 09 00.7**	**-0.9**
MDOK	**Medeo**	**5.50**	**47**	Pg		**Pg**		**05 07 52.2**	**-2.6**
MDOK	3.5nm,0.4s			Lg		Lg		05 09 05.1	
	16nm,1.0s								
MDOK				Lg		Lg		05 09 06.2	
	11nm,0.8s								
MDOK	**Medeo**	**5.50**	**47**	*eP*		**Pg**		**05 07 52.2**	**-2.6**
	3.5nm,0.4s								

MDOK					*e*S		**Sg**	**05 09 06.2**	**+0.2**
	11nm,0.8s								
KOTS	**Kotyrbulak**	**5.59**	**47**		Pg		**Pg**	**05 07 53.5**	**-2.8**
	4.8nm,0.6s								
KOTS					Lg		Lg	05 09 08.4	
	18nm,0.8s								
KOTS	**Kotyrbulak**	**5.59**	**47**		*e*P		**Pg**	**05 07 53.5**	**-2.8**
	4.8nm,0.6s								
KOTS					*e*S		**Sg**	**05 09 08.4**	**-0.2**
	18nm,0.8s								
KTBS	**Karatobe**	**5.68**	**41**		Pg		**Pg**	**05 07 55.9**	**-2.2**
	2.5nm,0.4s								
KTBS					Lg		Lg	05 09 12.7	
	22nm,0.5s								
KTBS	**Karatobe**	**5.68**	**41**		*e*P		**Pg**	**05 07 55.9**	**-2.2**
	2.5nm,0.4s								
KTBS					*e*S		**Sg**	**05 09 12.7**	**+1.1**
	22nm,0.5s								
BTLS	**Baital**	**5.82**	**18**		Pg		**Pg**	**05 07 58.2**	**-2.5**
	3.1nm,0.7s								
BTLS					Lg		Lg	05 09 16.6	
	2.2nm,0.6s								
BTLS	**Baital**	**5.82**	**18**		*e*P		**Pg**	**05 07 58.2**	**-2.5**
	3.1nm,0.7s								
BTLS					*e*S		**Sg**	**05 09 16.6**	**+0.6**
	2.2nm,0.6s								
CHKK	**Chushkaly**	**5.94**	**41**		Pg		**Pg**	**05 07 59.0**	**-4.0**
	2.2nm,0.3s								
CHKK					Lg		Lg	05 09 17.8	
	12nm,0.3s								
CHKK	**Chushkaly**	**5.94**	**41**		*e*P		**Pg**	**05 07 59.0**	**-4.0**
	2.2nm,0.3s								
CHKK					*e*S		**Sg**	**05 09 17.8**	**-2.0**
	12nm,0.3s								
SATY	**Saty**	**6.25**	**53**		Pg		**Pg**	**05 08 05.1**	**-3.9**
	6.2nm,0.5s								
SATY					Lg		Lg	05 09 28.3	
	10nm,0.6s								
SATY	**Saty**	**6.25**	**53**		*e*P		**Pg**	**05 08 05.1**	**-3.9**
	6.2nm,0.5s								
SATY					*e*S		**Sg**	**05 09 28.3**	**-1.6**
	10nm,0.6s								
KURS	**Kuram**	**6.35**	**49**		Pg		**Pg**	**05 08 08.1**	**-2.8**
	3.0nm,0.6s								
KURS					Lg		Lg	05 09 33.7	
	4.1nm,1.1s								
KURS	**Kuram**	**6.35**	**49**		*e*P		**Pg**	**05 08 08.1**	**-2.8**
	3.0nm,0.6s								
KURS					*e*S		**Sg**	**05 09 33.7**	**+0.6**
	4.1nm,1.1s								
ARXS	**Arharly**	**6.62**	**43**		Pg		**Pg**	**05 08 12.4**	**-3.7**
	3.0nm,0.7s								
ARXS					Lg		Lg	05 09 41.2	
	8.0nm,0.7s								
ARXS	**Arharly**	**6.62**	**43**		*e*P		**Pg**	**05 08 12.4**	**-3.7**
	3.0nm,0.7s								
ARXS					*e*S		**Sg**	**05 09 41.2**	**-0.6**
	8.0nm,0.7s								
UZB	**Uzynbulak**	**6.68**	**55**		Pg		**Pg**	**05 08 13.3**	**-3.9**
	4.9nm,0.3s								
UZB					Lg		Lg	05 09 42.7	
	3.5nm,0.7s								
UZB	**Uzynbulak**	**6.68**	**55**		*e*P		**Pg**	**05 08 13.3**	**-3.9**
	4.9nm,0.3s								
UZB					*e*S		**Sg**	**05 09 42.7**	**-1.1**
	3.5nm,0.7s								
BLB	**Baldybastay**	**6.90**	**46**		Pg		**Pg**	**05 08 17.6**	**-3.7**
	11nm,0.6s								
BLB					Lg		Lg	05 09 49.9	
	10nm,0.4s								
PDGK	**Podgornoye**	**7.07**	**55**		Pg		**Pg**	**05 08 20.7**	**-4.0**
	0.9nm,0.7s								
PDGK					Lg		Lg	05 09 54.9	
	2.7nm,0.9s								
KNOS	**Konyrlen**	**7.46**	**47**		Pg		**Pg**	**05 08 28.0**	**-4.0**
	2.8nm,0.7s								
KNOS					Lg		Lg	05 10 07.8	
	2.8nm,0.9s								
OTUK	**Ortayu**	**8.74**	**3**		Pg		Pg	05 08 51.7	-4.8
	0.8nm,0.7s								
OTUK					Lg		Lg	05 10 48.8	
	2.5nm,0.6s								
OTUK	**Ortayu**	**8.74**	**3**		⇓Pg		Pg	05 08 48.5	-8.0
	2.9nm,1.1s								
OTUK					⇓Lg		Lg	05 10 44.8	
	10nm,1.1s								
AB31	**Akbulak array**	**12.78**	**323**		⇑Pn		**Pn**	**05 09 09.8**	**-1.2**
	0.7nm,0.5s,baz=138,slow=13,SNR=30								
AB31					⇓Sn		**Sn**	**05 11 33.7**	**+0.5**
	2.0nm,0.8s,baz=142,slow=23,SNR=7.6								

MOS ***22*** *05:11:40.4, 42°.19N×45°.66E, h13km, MPVA3.8*
NORS ***22*** *05:11:41.2, 42°.11N×45°.62E, h2km, MPVA3.9*
DRS ***22*** *05:11:41.9, 42°.15N×45°.60E, h14km*
AZER ***22*** *05:11:42.5, 41°.96N×45°.66E, h2km, ml2.5*

ISC 22 05:11:42.0±1.0, 42°.15N±0°.02×45°.61E±0°.02, h13km±9km, n33, σ0s96/66, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
BTLR	**Botlikh**	**0.68**	**41**	*i* Pg		**Pg**	**05 11 54.9**	**-0.4**
BTLR				*e*Sg		**Sg**	**05 12 04.0**	**-0.3**
DVE	**Vedeno**	**0.89**	**25**	*e*Pg		**Pg**	**05 11 58.7**	**-0.5**
DVE				*e*Sg		**Sb**	**05 12 10.9**	**-0.3**
XNZR	**Khunzakh**	**0.90**	**64**	*e*Pg		**Pb**	**05 11 59.3**	**-0.2**
XNZR				*e*Sg		**Sn**	**05 12 11.7**	**-1.8**
GUDG	**Gudauri**	**0.90**	**291**	*e*Pg		**Pg**	**05 11 58.0**	**-1.5**
GUDG				*e*Sg		**Sg**	**05 12 09.7**	**-1.5**
ZKTA	**Zakatala**	**0.91**	**124**	P		**Pn**	**05 12 00.2**	**-0.3**
ZKTA				S		**Sn**	**05 12 14.6**	**+1.1**
GNBR	**Gunib**	**1.03**	**76**	*e*Pg		**Pn**	**05 12 01.6**	**-0.6**
GNBR				*e*Sg		**Sg**	**05 12 14.5**	**-0.8**
UNCR	**Uncukul**	**1.04**	**57**	*e*Pg		**Pg**	**05 12 01.5**	**-0.5**
UNCR				*e*Sg		**Sn**	**05 12 15.5**	**-1.3**
GROC	**Groznyy**	**1.06**	**7**	*e*Pg		**Pn**	**05 12 02.8**	**+0.2**
GROC				*e*Sg		**Sn**	**05 12 17.1**	**-0.1**
KMGR	**Komgaron**	**1.06**	**329**	*e*Pg		**Pb**	**05 12 02.0**	**-0.3**
KMGR				*e*Sg		**Sn**	**05 12 17.6**	**+0.2**
KMKR	**Kumukh**	**1.10**	**91**	*e*Pg		**Pn**	**05 12 02.9**	**-0.5**
KMKR				*e*Sg		**Sn**	**05 12 18.0**	**-0.6**
QZX	**Qazax, Azerbai**	**1.11**	**190**	P		**Pg**	**05 12 03.5**	**+0.2**
QZX				S		**Sn**	**05 12 19.5**	**+1.1**
ARKR	**Arakani**	**1.12**	**66**	*e*Pg		**Pg**	**05 12 03.1**	**-0.5**
ARKR				*e*Sg		**Sn**	**05 12 18.2**	**-0.5**
DLMR	**Dylym**	**1.19**	**39**	*e*Pg		**Pg**	**05 12 07.2**	**+2.3**
DLMR				*e*Sg		**Sn**	**05 12 20.9**	**+0.6**
LACR	**Lac**	**1.19**	**305**	*e*Pg		**Pn**	**05 12 03.5**	**-1.0**
LACR				*e*Sg		**Sb**	**05 12 18.5**	**-1.2**
DBC	**Dubki**	**1.25**	**46**	*i* Pg		**Pg**	**05 12 05.3**	**-0.7**
DBC				*e*Sg		**Sg**	**05 12 22.6**	**+0.3**
BUJR	**Buynaksk**	**1.29**	**58**	*e*Pg		**Pb**	**05 12 05.6**	**-0.6**
BUJR				*e*Sg		**Sg**	**05 12 24.2**	**+0.5**
ARNR	**Ardon**	**1.42**	**317**	*e*Pg		**Pb**	**05 12 08.8**	**+0.4**
ARNR				*e*Sg		**Sg**	**05 12 29.6**	**+1.8**
GDB	**GEDABAY**	**1.43**	**176**	P		**Pb**	**05 12 08.5**	**-0.2**
GDB				S		**Sg**	**05 12 28.8**	**+0.7**
BTKR	**Batakoyurt**	**1.45**	**327**	*e*Pg		**Pg**	**05 12 10.7**	**+0.7**
BTKR				*e*Sg		**Sg**	**05 12 29.2**	**+0.4**
KORR	**Kora**	**1.48**	**310**	*e*Pg		**Pn**	**05 12 08.5**	**+0.2**
KORR				*e*Sg		**Sg**	**05 12 30.4**	**+0.9**
URKR	**Urkarakh**	**1.50**	**89**	*e*Pg		**Pg**	**05 12 12.5**	**+1.6**
URKR				*e*Sg		**Sg**	**05 12 31.4**	**+1.0**
SEKA	**Sheki**	**1.51**	**128**	P		**Pg**	**05 12 10.8**	**-0.3**
SEKA				S		**Sg**	**05 12 32.8**	**+2.0**
GANJ	**Ganja**	**1.59**	**160**	P		**Pb**	**05 12 11.6**	**+0.2**
GANJ				S		**Sg**	**05 12 34.0**	**+0.7**
ONI	**Oni**	**1.66**	**286**	*e*Pg		**Pb**	**05 12 12.7**	**+0.2**
ONI				*e*Sg		**Sg**	**05 12 35.3**	**-0.1**
STDR	**Stavd-Durt**	**1.67**	**317**	*e*Pg		**Pb**	**05 12 12.8**	**+0.2**
STDR				*e*Sg		**Sg**	**05 12 35.9**	**+0.1**
AKT	**Akhty**	**1.72**	**112**	*e*Pg		**Pg**	**05 12 14.3**	**-0.7**
AKT				*e*Sg		**Sg**	**05 12 38.0**	**+0.7**
GNI	**Garni**	**2.10**	**199**	*e*Pg		**Pb**	**05 12 19.6**	**-0.6**
GNI				*e*Sg		**Sg**	**05 12 48.4**	**-1.3**
XNQ	**Khinaliq**	**2.13**	**116**	P		**Pg**	**05 12 22.2**	**-0.7**
XNQ				S		**Sg**	**05 12 53.1**	**+2.6**
KBTC	**Kuba-Taba**	**2.32**	**317**	*e*Pn		**Pb**	**05 12 24.7**	**+0.5**
KBTC				*e*Sn		**Sb**	**05 12 52.8**	**+0.5**
AGDM	**Agdam**	**2.33**	**151**	P		**Pb**	**05 12 22.9**	**-1.0**
AGDM				S		**Sg**	**05 12 56.5**	**-0.5**
KBZ	**Khabaz**	**2.54**	**309**	*e*Pn		**Pb**	**05 12 26.9**	**-0.6**
KBZ				*e*Sn		**Sb**	**05 12 59.1**	**+0.5**
SHA1	**Shidzhatmaz**	**2.69**	**307**	*e*Pn		**Pn**	**05 12 27.6**	**+2.5**
SHA1				*e*Sn		**Sb**	**05 13 02.1**	**-1.0**
SBZ	**Shahbuz**	**2.75**	**181**	P		**Pb**	**05 12 31.2**	**+0.1**
SBZ				S		**Sb**	**05 13 05.1**	**+0.3**

IDC ***22*** *05:54:28.7±3.0, 59°.26N×23°.34E, h0km, mbtmp3.1/4, ML2.6/4, Error ellipse: s-maj=39.3km s-min=9.3km az=158.0*
EST ***22*** *05:54:31.5, 59°.51N×23°.05E, h0km, ML2.2(HEL), Explosion*
HEL ***22*** *05:54:31.5±0.1, 59°.50N×23°.05E, h0km, ML2.2, Explosion*
LVSN ***22*** *05:54:32.8±3.7, 59°.53N×23°.10E, h0km±51km, ML2.2*

ISC 22 05:54:30.0±0.7, 59°.56N±0°.02×23°.10E±0°.02, h0km, n38, σ0s58/61, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
EE01	**Perakula, Nova**	**0.44**	**142**	*e*P		**Pg**	**05 54 38.9**	**+0.4**
EE01				*e*S		**Sg**	**05 54 44.6**	**+0.5**
EE02	**Kiisa, Saku**	**0.90**	**113**	*e*P		**Pg**	**05 54 47.4**	**+0.3**
EE02				*e*S		**Sg**	**05 54 58.5**	**-0.3**
MTSE	**Matsula**	**0.92**	**156**	*e*P		**Pg**	**05 54 48.2**	**+0.5**
MTSE	**Matsula**	**0.92**	**156**	*e*P		**Pg**	**05 54 47.5**	**-0.1**
MTSE				*e*S		**Sg**	**05 54 59.9**	**+0.4**
MTSE	**Matsula**	**0.92**	**156**	*e*P		**Pg**	**05 54 47.5**	**-0.1**
MTSE				*e*S		**Sg**	**05 55 00.1**	**+0.5**
MEF	**Metsahovi**	**0.93**	**44**	*e*P		**Pb**	**05 54 48.5**	**-0.5**
MEF	**Metsahovi**	**0.93**	**44**	*e*P		**Pb**	**05 54 49.0**	**0.0**
MEF				*e*S		**Sb**	**05 55 01.3**	**-0.6**
MEF				AML		AML	05 55 02.1	
	comp=E,16nm,0.2s							
MEF				AML		AML	05 55 06.1	
	comp=N,19nm,0.2s							
MEF				AML		AML	05 55 08.8	
	comp=Z,14nm,0.3s							
MEF	**Metsahovi**	**0.93**	**44**	*e*P		**Pb**	**05 54 49.3**	**+0.3**
MEF				*e*S		**Sb**	**05 55 00.8**	**-1.1**
HEL1	**Helsinki**	**1.09**	**55**	*e*P		**Pb**	**05 54 51.9**	**+0.1**
HEL1				*e*S		**Sb**	**05 55 06.6**	**0.0**
NUR	**Nurmijrvi**	**1.23**	**38**	*e*P		**Pb**	**05 54 54.2**	**0.0**
NUR				*e*S		**Sn**	**05 55 12.0**	**+0.2**
EE08	**Sarghaua, Vand**	**1.43**	**128**	*e*P		**Pn**	**05 54 56.8**	**-0.3**
EE08				*e*S		**Sg**	**05 55 14.5**	**-1.3**
ARBE	**Arbavere**	**1.48**	**93**	*e*P		**Pb**	**05 54 59.7**	**+1.5**
ARBE	**Arbavere**	**1.48**	**93**	*e*P		**Pg**	**05 54 58.2**	**-0.1**
ARBE				*e*S		**Sn**	**05 55 17.9**	**+0.1**
ARBE				AML		AML	05 55 21.5	
	comp=Z,127nm,0.2s							
ARBE				AML		AML	05 55 21.8	
	comp=E,358nm,0.2s							
ARBE				AML		AML	05 55 22.5	
	comp=N,270nm,0.2s							
ARBE	**Arbavere**	**1.48**	**93**	*e*P		**Pb**	**05 54 58.5**	**+0.2**
ARBE				*e*S		**Sn**	**05 55 17.7**	**-0.1**
RAF	**Rauma**	**1.61**	**336**	*e*P		**Pb**	**05 55 00.6**	**-0.1**
RAF	**Rauma**	**1.61**	**336**	*e*P		**Pb**	**05 55 00.6**	**-0.1**
RAF				*e*S		**Sg**	**05 55 22.6**	**+0.7**
RAF				AML		AML	05 55 25.8	
	comp=N,23nm,0.2s							
RAF				AML		AML	05 55 25.9	
	comp=Z,16nm,0.2s							
RAF				AML		AML	05 55 26.0	
	comp=E,41nm,0.2s							
RAF	**Rauma**	**1.61**	**336**	*e*P		**Pb**	**05 55 00.5**	**-0.2**
RAF				*e*S		**Sg**	**05 55 22.1**	**+0.2**
RAF				MSG			05 55 25.9	
	comp=Z,15nm,0.2s							
AAL	**Aland**	**1.69**	**293**	*e*P		**Pg**	**05 55 02.6**	**+0.3**
AAL	**Aland**	**1.69**	**293**	*e*P		**Pb**	**05 55 01.4**	**-0.4**
AAL				*e*S		**Sn**	**05 55 22.2**	**-0.7**
PVF	**Pernaja**	**1.70**	**53**	*e*P		**Pg**	**05 55 02.5**	**-0.2**
PVF				*e*S		**Sg**	**05 55 25.1**	**+0.4**
PVF				MSG			05 55 28.1	
	comp=Z,35nm,0.2s							
EE03	**Tooma soojaam,**	**1.77**	**111**	*e*P		**Pb**	**05 55 02.8**	**-0.5**
EE03				*e*S		**Sg**	**05 55 27.0**	**+0.2**
SLIT	**Slitere, Latvi**	**1.98**	**193**	*e*P		**Pn**	**05 55 04.3**	**-0.3**
SLIT	**Slitere, Latvi**	**1.98**	**193**	*e*P		**Pn**	**05 55 04.6**	**-0.1**
SLIT				*e*S		**Sb**	**05 55 32.1**	**+0.1**
SLIT				AML		AML	05 55 33.4	
	comp=N,150nm,0.3s							
SLIT				AML		AML	05 55 33.5	
	comp=E,135nm,0.2s							
SLIT				AML		AML	05 55 35.7	
	comp=Z,86nm,0.2s							
SLIT	**Slitere, Latvi**	**1.98**	**193**	*e*P		**Pn**	**05 55 04.5**	**-0.2**
SLIT				*e*S		**Sn**	**05 55 29.3**	**-0.9**
VSU	**Vasula**	**2.18**	**119**	*e*P		**Pb**	**05 55 09.7**	**-0.6**
VSU				AML		AML	05 55 40.3	
	comp=E,24nm,0.2s							
VSU				AML		AML	05 55 41.5	
	comp=Z,24nm,0.2s							
VSU				AML		AML	05 55 43.4	
	comp=N,34nm,0.2s							
VSU	**Vasula**	**2.18**	**119**	*e*P		**Pb**	**05 55 09.3**	**-0.9**
VSU				*e*S		**Sb**	**05 55 38.2**	**+0.5**
KPF	**Kankaanpaa**	**2.34**	**348**	*e*P		**Pb**	**05 55 12.4**	**-0.6**
KPF				*e*S		**Sb**	**05 55 42.6**	**+0.2**
FIA0	**FINESS Array S**	**2.40**	**37**	*e*P		**Pb**	**05 55 13.5**	**-0.5**
FIA0				*e*S		**Sb**	**05 55 43.7**	**-0.4**
FINES	**FINESS Array B**	**2.40**	**37**	Pn		**Pb**	**05 55 12.9**	**-1.1**
FINES				Sn		**Sb**	**05 55 44.5**	**+0.4**
	comp=N,5.1nm,0.3s,baz=217,slow=13,SNR=201							
	comp=N,9.3nm,0.2s							
KEF	**Keuruu**	**2.76**	**18**	*e*P		**Pn**	**05 55 16.6**	**+1.1**
RUF	**Ruokolahti**	**3.45**	**55**	MSG			05 56 25.8	
	comp=Z,5.0nm,0.2s							
VIKU	**Vikbolandet**	**3.47**	**255**	*e*P		**Pn**	**05 55 26.0**	**+0.7**
VAF	**Ylistaro**	**3.50**	**357**	*e*P		**Pn**	**05 55 26.8**	**+1.2**
NIF	**Nilsia**	**4.46**	**28**	MSG			05 56 52.4	
	comp=Z,3.2nm,0.2s							
HFS	**Hagfors**	**4.78**	**281**	Pn		**Pn**	**05 55 42.9**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=101,slow=14,SNR=7.8							
HFS				Pg		**Pb**	**05 55 54.9**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=100,slow=17,SNR=8.1							
HFS				Sn		**Sn**	**05 56 38.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=174,slow=40,SNR=1.7							
HFS				Lg		Lg	05 56 55.7	
	comp=Z,1.1nm,0.3s,baz=112,slow=32,SNR=11							
	comp=Z,0.7nm,0.2s							
JOF	**Joensuu**	**5.21**	**46**	*e*P		**Pn**	**05 55 50.0**	**+1.0**
NOA	**NORSAR Array B**	**6.09**	**289**	Pn		**Pn**	**05 56 00.2**	**-1.1**
	baz=94,slow=12,SNR=7.6							
NOA				Sn		**Sn**	**05 57 11.6**	**-0.1**
	baz=16,slow=12,SNR=1.3							
NOA				Lg		Lg	05 57 40.3	
	baz=296,slow=18,SNR=1.8							
	comp=Z,0.2nm,0.2s							
ARCES	**ARCESS Array B**	**10.07**	**5**	Pn		**Pn**	**05 56 55.2**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=180,slow=14,SNR=17							
	comp=Z,0.4nm,0.3s							

IDC ***22*** *05:58:48.6±1.9, 17°.89S×178°.53W, h570km±21km, mb3.7/22, mbtmp4.6/23, Error ellipse: s-maj=15.5km s-min=10.3km az=132.0*
NEIC ***22*** *05:58:49.7±1.6, 18°.0S±0°.1×178°.5W±0°.1, h580km±4km, mb4.4/125, Error ellipse: s-maj=18.2km s-min=14.3km az=148.0*
NOU ***22*** *05:58:49.4, 18°.04S×178°.33W, h587km, mb4.9/22, Fiji Islands Region*

ISC 22 05:58:49.1±0.4, 17°.94S±0°.08×178°.49W±0°.06, h579km, n414, σ0s70/371, mb4.4/105, 5C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**3.30**	**273**	P		**P**	**06 00 10.3**	**+1.8**
MSVF	**Nonsavu**	**3.30**	**273**	P		**P**	**06 00 10.4**	**+1.9**
AFI	**Afiamalu**	**7.60**	**59**	P		**P**	**06 00 42.6**	**-1.6**
NIUE	**Niue**	**8.20**	**99**	P		**P**	**06 00 50.0**	**+0.3**
	baz=8.2,SNR=3.5							
NIUE	**Niue**	**8.20**	**99**	P		**P**	**06 00 49.0**	**-0.7**
NIUE	**Niue**	**8.20**	**99**	P		**P**	**06 00 49.0**	**-0.7**
	comp=Z,176nm,1.0s							
DVP	**Devils Point**	**12.69**	**269**	P		**P**	**06 01 36.5**	**+1.6**
LIFNC	**LIFOU**	**13.76**	**256**	P		**P**	**06 01 44.7**	**-1.1**
PINNC	**Pines Island,**	**13.99**	**248**	P		**P**	**06 01 48.6**	**+0.5**
OUENC	**Ouen Island, N**	**14.47**	**250**	P		**P**	**06 01 52.4**	**-0.5**
DZM	**Mont Dzumac**	**14.74**	**251**	P		**P**	**06 01 56.2**	**+0.6**
DZM	**Mont Dzumac**	**14.74**	**251**	P		**P**	**06 01 55.8**	**+0.2**
DZM	**Mont Dzumac**	**14.74**	**251**	P		**P**	**06 01 55.7**	**+0.1**
	comp=Z,19nm,0.6s,baz=320,slow=23,SNR=21							

ONTNC	**Ouen Toro**	**14.79**	**250**		P		**P**	**06 01 56.4**	**+0.4**
NOUC	**Port Laguerre**	**14.88**	**251**		P		**P**	**06 01 58.9**	**+2.1**
KOUNC	**Koumac, New Ca**	**16.47**	**258**		P		**P**	**06 02 12.2**	**+0.4**
URZ	**Urewera**	**20.61**	**190**		P		**P**	**06 02 47.8**	**-1.3**
	comp=Z,8.0nm,0.7s,baz=265,slow=17,SNR=2.0								
	comp=Z,8.0nm,0.7s								
LTZ	**Lake Taylor**	**25.98**	**196**		P		**P**	**06 03 37.4**	**+0.6**
EIDS	**Eidsvold**	**29.18**	**250**		P		**P**	**06 04 04.8**	**-0.2**
	baz=29,SNR=11								
EIDS	**Eidsvold**	**29.18**	**250**		P		**P**	**06 04 05.3**	**+0.3**
EIDS	**Eidsvold**	**29.18**	**250**		P		**P**	**06 04 04.5**	**-0.5**
EIDS	**Eidsvold**	**29.18**	**250**		P		**P**	**06 04 04.8**	**-0.2**
	comp=Z,31nm,0.8s								
ARMA	**Armidale**	**29.86**	**240**		P		**P**	**06 04 11.9**	**+1.0**
	baz=30,SNR=17								
ARMA	**Armidale**	**29.86**	**240**		P		**P**	**06 04 12.1**	**+1.2**
ARMA	**Armidale**	**29.86**	**240**		P		**P**	**06 04 11.6**	**+0.8**
ARMA	**Armidale**	**29.86**	**240**		P		**P**	**06 04 11.7**	**+0.8**
	comp=Z,36nm,0.7s								
MGCD	**Mangrove Creek**	**31.21**	**235**		P		**P**	**06 04 23.6**	**+1.3**
	baz=31,SNR=10								
CNB	**Canberra Magne**	**33.34**	**232**		P		**P**	**06 04 41.4**	**+1.0**
	baz=34,SNR=29								
CNB	**Canberra Magne**	**33.34**	**232**		P		**P**	**06 04 41.3**	**+0.8**
	comp=Z,60nm,1.3s								
CTAO	**Charters Tower**	**33.36**	**261**		P		**P**	**06 04 40.7**	**-0.1**
CTAO	**Charters Tower**	**33.36**	**261**		P		**P**	**06 04 40.8**	**+0.1**
CMSA	**Cobar Meteorol**	**35.06**	**240**		P		**P**	**06 04 55.4**	**+0.6**
	baz=35,SNR=17								
CMSA	**Cobar Meteorol**	**35.06**	**240**		P		**P**	**06 04 55.0**	**+0.2**
	comp=Z,53nm,0.7s								
MTSU	**Mount Surprise**	**35.33**	**264**		P		**P**	**06 04 56.9**	**-0.2**
	baz=35,SNR=12								
QLP	**Quilpie**	**35.45**	**249**		P		**P**	**06 04 58.0**	**-0.1**
	baz=36,SNR=19								
QLP	**Quilpie**	**35.45**	**249**		P		**P**	**06 04 57.9**	**-0.1**
	comp=Z,112nm,0.8s								
COEN	**Coen**	**37.03**	**270**		P		**P**	**06 05 10.9**	**-0.2**
	baz=37,SNR=31								
COEN	**Coen**	**37.03**	**270**		P		**P**	**06 05 11.4**	**+0.2**
COEN	**Coen**	**37.03**	**270**		P		**P**	**06 05 11.3**	**+0.1**
	comp=Z,62nm,0.9s								
TOO	**Toolangi**	**37.09**	**231**		P		**P**	**06 05 12.5**	**+1.2**
	baz=37,SNR=10								
TOO	**Toolangi**	**37.09**	**231**		P		**P**	**06 05 12.1**	**+0.8**
TOO	**Toolangi**	**37.09**	**231**		P		**P**	**06 05 12.3**	**+0.9**
	comp=Z,50nm,1.0s								
STKA	**Stephens Creek**	**38.54**	**241**		P		**P**	**06 05 24.1**	**+0.9**
	baz=39,SNR=36								
STKA	**Stephens Creek**	**38.54**	**241**		P		**P**	**06 05 23.6**	**+0.4**
STKA							IAmb	IAmb	06 05 25.0
	comp=Z,10nm,1.0s								
STKA	**Stephens Creek**	**38.54**	**241**		P		**P**	**06 05 23.9**	**+0.6**
	comp=Z,30nm,0.5s,baz=92,slow=10,SNR=61								
STKA							PcP	**PcP**	**06 07 19.3**	**-1.5**
	comp=Z,3.0nm,0.7s,baz=318,slow=9.3,SNR=2.3								
	comp=Z,30nm,0.5s								
STKA	**Stephens Creek**	**38.54**	**241**		P		**P**	**06 05 24.0**	**+0.7**
	comp=Z,62nm,1.1s								
QIS	**Mount Isa**	**39.57**	**259**		P		**P**	**06 05 30.9**	**-0.8**
	baz=40,SNR=5.9								
QIS	**Mount Isa**	**39.57**	**259**		P		**P**	**06 05 30.8**	**-0.9**
	comp=Z,12nm,0.8s								
HTT	**Hallett**	**41.06**	**239**		P		**P**	**06 05 43.7**	**+0.3**
	baz=41,SNR=23								
HTT	**Hallett**	**41.06**	**239**		P		**P**	**06 05 44.1**	**+0.7**
	comp=Z,48nm,0.7s								
TABU	**Tabubil**	**41.31**	**283**		P		**P**	**06 05 47.0**	**+1.3**
GENI	**Genyem**	**43.30**	**286**		P		**P**	**06 06 02.9**	**+1.8**
BBOO	**Buckleboo**	**43.32**	**241**		P		**P**	**06 06 01.3**	**+0.2**
	baz=44,SNR=82								
BBOO	**Buckleboo**	**43.32**	**241**		P		**P**	**06 06 01.3**	**+0.2**
BBOO	**Buckleboo**	**43.32**	**241**		P		**P**	**06 06 00.8**	**-0.3**
	comp=Z,61nm,0.7s								
HMH	**Humu'ula Sheep**	**43.62**	**32**		P		**P**	**06 06 04.2**	**+0.4**
HPAH	**Hawaii Prepara**	**43.87**	**32**		P		**P**	**06 06 05.9**	**+0.4**
DHH	**Diamond Head**	**43.92**	**28**		P		**P**	**

TOLI2	**Tolitoli**	62.65	281	P	P	06 08 18.9	+0.4		
TOLI2	comp=Z,9.0nm,0.7s			IAmb	IAmb	06 08 22.0			
GIRL	**Giralia**	62.81	253	P	P	06 08 19.1	-0.3		
	baz=63,SNR=8.1								
MJAR	**Matsushiro Arr**	67.89	323	P	P	06 08 50.2	-0.6		
	comp=Z,2.5nm,0.5s,baz=159,slow=5.7,SNR=6.9 comp=Z,2.5nm,0.5s								
UGM	**Wanagama**	69.57	268	P	P	06 09 01.1	-0.3		
QSPA	**South Pole Qui**	72.11	180	P	P	06 09 16.5	+1.0		
QSPA				IAmb	IAmb	06 09 17.3			
	comp=Z,12nm,1.1s								
QSPA	**South Pole Qui**	72.11	180	P	P	06 09 16.3	+0.8		
	comp=Z,5.3nm,0.9s,baz=307,slow=0.8,SNR=17 comp=Z,5.3nm,0.9s								
TPUB	**Ta-pu**	72.21	302	P	P	06 09 15.5	-1.2		
BBJI	**Bungbulang**	72.42	268	P	P	06 09 17.8	-0.4		
KSM	**Kuching**	72.61	277	P	P	06 09 19.9	+0.7		
KSM	**Kuching**	72.61	277	P	P	06 09 19.4	+0.3		
PETK	**Petropavlovsk-**	73.69	345	P	P	06 09 23.5	-1.0		
	comp=Z,2.9nm,0.7s,baz=120,slow=8.9,SNR=2.5 comp=Z,2.9nm,0.7s								
P08K	**Saint George I**	74.64	5	P	P	06 09 29.6	0.0		
	baz=189								
KSRS	**Korea Array**	74.67	318	P	P	06 09 30.5	+0.2		
	comp=Z,1.0nm,0.5s,baz=126,slow=6.2,SNR=6.4 comp=Z,1.0nm,0.5s								
S14K	**Fog Glacier**	75.64	11	P	P	06 09 34.9	-0.5		
	baz=198								
SBC	**Santa Barbara**	76.38	47	P	P	06 09 40.6	+0.7		
	baz=237								
PKM	**Mcpherson Peak**	76.56	46	P	P	06 09 41.3	+0.2		
	baz=237								
SMMC	**Simmler**	76.67	46	P	P	06 09 42.4	+1.0		
	baz=236								
SII	**Sitkinak Islan**	76.98	14	P	P	06 09 42.3	-0.3		
	baz=204								
R16K	**Pilot Point**	77.22	11	P	P	06 09 43.4	-0.4		
	baz=200								
ARVC	**Arvin**	77.36	46	P	P	06 09 45.3	+0.1		
	baz=237								
109C	**Camp Elliot, M**	77.40	49	P	P	06 09 46.1	+0.6		
	baz=239								
VES	**Vestal, Richgr**	77.58	46	P	P	06 09 47.0	+0.7		
	baz=237								
MURC	**Murrieta**	77.70	49	P	P	06 09 48.0	+0.9		
	baz=238								
BFSC	**Mount Baldy Ra**	77.71	48	P	P	06 09 47.9	+0.6		
	baz=238								
OHAK	**Old Harbor**	77.78	14	P	P	06 09 46.6	-0.3		
	baz=204								
EDW2	**Edwards Air Fo**	77.81	47	P	P	06 09 48.2	+0.5		
	baz=238,SNR=6.1								
MONP2	**Monument Peak**	77.90	49	P	P	06 09 49.2	+0.8		
	baz=239								
IKP	**In-Ko-Pah, Jac**	78.00	50	P	P	06 09 49.3	+0.4		
	baz=239								
TPFO	**Pinon Flats**	78.24	49	P	P	06 09 49.1	-1.0		
	baz=239								
LRMC	**Laurel Mtn Rad**	78.35	47	P	P	06 09 50.8	+0.2		
	baz=238								
SWSC	**Sam W. Stewart**	78.38	50	P	P	06 09 51.8	+1.1		
	baz=240								
Q16K	**King Salmon**	78.43	11	P	P	06 09 50.1	-0.2		
	baz=201								
KDAK	**Kodiak Island**	78.45	14	P	P	06 09 49.8	-0.7		
	baz=205								
KDAK	**Kodiak Island**	78.45	14	P	P	06 09 50.3	-0.2		
	comp=Z,10.0nm,0.9s,baz=210,slow=5.1,SNR=4.6 comp=Z,10.0nm,0.9s								
MDPB	**Devils Postpil**	78.56	44	IAmb	IAmb	06 09 53.6			
	comp=Z,8.3nm,0.9s								
CWC	**Cottonwood Cre**	78.58	46	P	P	06 09 52.7	+0.8		
	baz=238								
YBH	**Yreka Blue Hor**	78.60	39	P	P	06 09 52.6	+0.8		
	comp=Z,6.8nm,0.7s,baz=178,slow=3.5,SNR=15 comp=Z,6.8nm,0.7s								
BELC	**Belle Mtn. Jos**	78.77	49	P	P	06 09 53.8	+0.9		
	baz=239								
MPMC	**Manual Prospec**	78.78	46	P	P	06 09 53.4	+0.3		
	baz=238								
N14K	**Kuskokwak Cree**	78.78	9	P	P	06 09 52.2	0.0		
	baz=196								
TIN	**Tinemaha, Big**	78.81	45	P	P	06 09 54.0	+0.9		
	baz=237								
MPK	**Martis Peak**	78.86	42	IAmb	IAmb	06 09 55.2			
	comp=Z,12nm,0.6s								
GSC	**Goldstone, Bar**	78.86	47	P	P	06 09 54.0	+0.7		
	baz=238								
HEC	**Hector,Ludlow**	78.95	48	P	P	06 09 54.8	+1.0		
	baz=239								
P17K	**Kvichak River**	78.96	11	P	P	06 09 52.9	-0.2		
	baz=201								
BC3	**Big Chuckawall**	78.98	49	P	P	06 09 54.7	+0.6		
	baz=240								
O16K	**Kokwok River B**	79.03	10	P	P	06 09 53.2	-0.3		
	baz=200								
DSP	**Deep Springs**	79.16	45	P	P	06 09 55.7	+1.0		
N15K	**Kwethluk River**	79.25	9	P	P	06 09 54.7	0.0		
	baz=198								
LHV	**Little Huntoon**	79.27	44	IAmb	IAmb	06 09 57.5			
	comp=Z,10nm,1.0s								
GRAC	**Grapevine Rang**	79.36	46	P	P	06 09 55.9	0.0		
	baz=238,SNR=6.2								
P18K	**Big Mountain,**	79.37	12	P	P	06 09 54.6	-0.8		
P18K				IAmb	IAmb	06 09 55.3			
	comp=Z,16nm,0.8s								
P18K	**Big Mountain,**	79.37	12	P	P	06 09 54.6	-0.8		
	baz=202								
O17K	**Koliganek Bris**	79.38	11	P	P	06 09 54.7	-0.7		
	baz=201								
GMRC	**Granite Mounta**	79.40	48	P	P	06 09 56.2	0.0		
	baz=239								
I03D	**Drain, OR**	79.41	37	P	P	06 09 56.6	+0.7		
I03D				IAmb	IAmb	06 10 21.8			
	comp=Z,14nm,1.4s								
FURC	**Furnace Creek,**	79.43	46	P	P	06 09 57.2	+1.1		
	baz=238								
IRM	**Iron Mountain**	79.46	49	P	P	06 09 57.0	+0.5		
	baz=240								
NVAR	**Mina Array Bea**	79.50	44	P	P	06 09 57.2	+0.4		
NVAR	**Mina Array Bea**	79.50	44	P	P	06 09 57.6	+0.8		
	comp=Z,5.0nm,0.8s,baz=224,slow=8.8,SNR=37 comp=Z,5.0nm,0.8s								
SHOC	**Shoshone, Teco**	79.54	47	P	P	06 09 57.5	+0.7		
	baz=239								
TUQ	**Turquoise Moun**	79.55	47	P	P	06 09 57.4	+0.4		
	baz=239								
N16K	**Nishlik Lake**	79.75	10	P	P	06 09 57.4	0.0		
	baz=199								
O18K	**Koktuh Hills**	79.80	12	IAmb	IAmb	06 09 58.0			
	comp=Z,20nm,0.9s								
O18K	**Koktuh Hills**	79.80	12	P	P	06 09 57.5	-0.1		
	baz=202,SNR=5.4								
TPH	**Tonopah**	80.03	45	IAmb	IAmb	06 10 00.8			
	comp=Z,19nm,1.0s								
N17K	**Nushagak Hills**	80.07	11	P	P	06 09 58.9	-0.1		
	baz=200								
M16K	**Timber Creek**	80.24	10	P	P	06 09 59.9	0.0		
	baz=199								
PDMCI	**Parker Dam,Lak**	80.25	49	P	P	06 10 00.6	+0.1		
	baz=240								
K05A	**Summer Lake**	80.28	39	IAmb	IAmb	06 10 02.7			
	comp=Z,14nm,1.0s								
O19K	**Port Alsworth**	80.29	12	P	P	06 09 59.7	-0.3		
	baz=203								
HOM	**Homer**	80.36	13	P	P	06 09 59.7	-0.8		
	baz=206								
K13K	**Kusilvak Mount**	80.36	7	P	P	06 10 00.2	-0.3		
	baz=193								
L15K	**Ungalak Mounta**	80.50	8	P	P	06 10 00.8	-0.3		
	baz=196								
BRSE	**Bradley Lake S**	80.64	14	P	P	06 10 01.7	-0.2		
	baz=207								
H04A	**Detroit Lake**	80.67	37	IAmb	IAmb	06 10 03.2			
	comp=Z,7.7nm,0.5s								
S11A	**Rachel**	80.80	46	IAmb	IAmb	06 10 05.2			
	comp=Z,7.8nm,0.9s								
L16K	**Owhat River**	80.82	9	P	P	06 10 02.6	-0.2		
	baz=198								
N19K	**Bonanza Creek**	80.83	12	P	P	06 10 02.4	-0.6		
	baz=203								
M17K	**Holitna River**	80.85	10	P	P	06 10 02.4	-0.6		
	baz=200								
K15K	**Wolf Creek Mou**	81.09	8	P	P	06 10 03.6	-0.6		
	baz=196								
PRN	**Pahroc Range**	81.16	46	IAmb	IAmb	06 10 07.5			
	comp=Z,9.4nm,0.9s								
M18K	**Stony River**	81.21	11	P	P	06 10 04.4	-0.4		
	baz=202								
R11B	**Troy Canyon, C**	81.27	45	P	P	06 10 06.1	+0.1		
	baz=239								
BMN	**Battle Mountai**	81.29	43	IAmb	IAmb	06 10 07.7			
	comp=Z,8.9nm,1.0s								
L17K	**Donlin**	81.40	9	P	P	06 10 05.4	-0.4		
	baz=199								
WVOR	**Wild Horse Val**	81.48	40	IAmb	IAmb	06 10 08.7			
	comp=Z,12nm,1.1s								
L18K	**Granite Mounta**	81.74	10	P	P	06 10 07.3	-0.2		
	baz=201								
TUC	**Tucson**	81.78	52	P	P	06 10 08.5	-0.1		
TUC				IAmb	IAmb	06 10 11.2			
	comp=Z,7.4nm,1.1s								
TUC	**Tucson**	81.78	52	P	P	06 10 09.2	+0.6		
	baz=243								
M19K	**Big River Lodg**	81.85	11	P	P	06 10 07.8	-0.3		
	baz=203								
K17K	**Iditarod**	81.95	9	P	P	06 10 08.4	-0.2		
	baz=199								
L19K	**White Mountain**	82.03	11	P	P	06 10 09.1	+0.1		
	baz=203								
J08A	**Circle Bar Ran**	82.10	40	IAmb	IAmb	06 10 11.6			
	comp=Z,10nm,1.0s								
Q12A	**Willow Creek R**	82.14	45	IAmb	IAmb	06 10 12.0			
	comp=Z,12nm,1.1s								
BELA	**Belgrano 2**	82.14	173	P	P	06 10 09.8	+0.3		
J16K	**Anvik River**	82.16	8	P	P	06 10 09.1	-0.6		
	baz=197								
SUA	**Susitna One**	82.18	13	P	P	06 10 09.8	-0.2		
	baz=206								
X16A	**Lo Mia Camp, P**	82.27	50	IAmb	IAmb	06 10 13.5			
	comp=Z,7.3nm,1.0s								
IPM	**Ipoh**	82.35	277	P	P	06 10 12.2	+0.4		
BBB	**Bella Bella**	82.39	29	P	P	06 10 10.8	-0.1		
	comp=Z,10nm,1.0s,baz=275,slow=6.3,SNR=3.3 comp=Z,10nm,1.0s								
SPR3	**Spring Creek 3**	82.45	45	P	P	06 10 11.7	-0.4		
L20K	**Farewell, AK**	82.48	11	P	P	06 10 11.3	0.0		
	baz=204								
J17K	**VABM Dome**	82.48	9	P	P	06 10 11.3	+0.1		
	baz=198								
GLI	**Glacier Island**	82.51	15	P	P	06 10 10.9	-0.5		
	baz=210								
319A	**Douglas**	82.51	54	IAmb	IAmb	06 10 15.0			
	comp=Z,8.5nm,0.8s								
PSUT	**Pine Spring**	82.54	46	IAmb	IAmb	06 10 13.9			
	comp=Z,4.9nm,0.7s								
EYAK	**Cordova Ski Ar**	82.56	16	P	P	06 10 11.5	-0.1		
	baz=211								
U15A	**North Rim**	82.60	48	IAmb	IAmb	06 10 15.1			
	comp=Z,11nm,0.8s								
PMR	**Palmer**	82.65	14	P	P	06 10 12.1	0.0		
	baz=208								
ELK	**Elko**	82.74	43	P	P	06 10 13.4	+0.1		
	comp=Z,3.5nm,0.9s,baz=262,slow=3.5,SNR=14 comp=Z,3.5nm,0.9s								
WUAZ	**Wupatki**	82.83	49	IAmb	IAmb	06 10 16.1			
	comp=Z,7.2nm,1.0s								
WUAZ	**Wupatki**	82.83	49	P	P	06 10 14.7	+0.8		
	baz=242								
GHO	**Glory Hole Cre**	82.86	14	IAmb	IAmb	06 10 13.2			
	comp=Z,15nm,0.7s								
J18K	**Innoko River**	82.91	10	IAmb	IAmb	06 10 14.2			
	comp=Z,7.3nm,0.8s								
J18K	**Innoko River**	82.91	10	P	P	06 10 13.5	+0.1		
	baz=201								
PKCU	**Pink Cliffs**	83.07	47	IAmb	IAmb	06 10 17.6			
	comp=Z,9.4nm,1.0s								
BMRM	**Bremner River**	83.21	16	P	P	06 10 15.2	+0.2		
	baz=212								
K20K	**Telida**	83.25	11	IAmb	IAmb	06 10 15.7			
	comp=Z,8.0nm,0.8s								
K20K	**Telida**	83.25	11	P	P	06 10 15.2	0.0		
	baz=203,SNR=7.0								
SCM	**Sheep Creek Mo**	83.28	14	P	P	06 10 15.0	-0.4		
	baz=210								
S31K	**Pelican**	83.31	21	P	P	06 10 15.2	-0.2		
	baz=220								
J19K	**Poorman**	83.58	10	P	P	06 10 16.4	-0.3		
	baz=202								
MVU	**Marysvale**	83.65	46	IAmb	IAmb	06 10 20.4			
	comp=Z,26nm,1.4s								
CAST	**Castle Rocks**	83.68	12	P	P	06 10 15.7	-1.6		
CAST				IAmb	IAmb	06 10 16.7			
	comp=Z,8.6nm,0.7s								
CAST	**Castle Rocks**	83.68	12	P	P	06 10 15.8	-1.4		
	baz=205,SNR=8.5								
N25K	**Chitina, Valde**	83.75	16	IAmb	IAmb	06 10 18.2			
	comp=Z,11nm,0.7s								
N25K	**Chitina, Valde**	83.75	16	P	P	06 10 17.0	-0.8		
	baz=212								
LYN	**LuoYang**	83.79	309	⇑P	P	06 10 19.8	+1.4		
LYN				pmax	pmax				
	comp=Z,28nm,0.8s								
M24K	**Tolsona, Glenn**	83.79	15	P	P	06 10 18.2	+0.3		
	baz=211								
MAW	**Mawson**	83.80	200	P	P	06 10 18.3	+0.4		
	comp=Z,2.6nm,0.6s,baz=142,slow=3.4,SNR=7.2 comp=Z,2.6nm,0.6s								
PSI	**Prapat**	83.81	275	P	P	06 10 18.7	-0.5		
WAT6	**Susitna Watana**	83.84	14	P	P	06 10 17.9	-0.3		
	baz=209,SNR=5.1								
J20K	**Nowinta River**	84.00	10	P	P	06 10 19.0	+0.2		
	baz=203								
CHUM	**Lake Minchumin**	84.06	11	P	P	06 10 18.3	-0.7		
	baz=205								
TRF	**Thorofare Moun**	84.06	12	P	P	06 10 18.2	-1.1		
	baz=207,SNR=8.5								
P29M	**Wind Craggy**	84.11	19	P	P	06 10 19.3	-0.2		
	baz=219								
121A	**Cookes Peak, D**	84.16	53	P	P	06 10 21.6	+1.1		
	baz=244								
ENH	**Enshi**	84.22	304	P	P	06 10 21.5	+0.8		
ENH	**Enshi**	84.22	304	IAmb	IAmb	06 10 22.4			
	comp=Z,12nm,0.8s								
O28M	**Mount Upton**	84.27	18	P	P	06 10 20.1	-0.4		
	baz=216								
F10A	**Beach Ranch, E**	84.28	38	IAmb	IAmb	06 10 21.8			
	comp=Z,11nm,1.0s								
HARP	**HAARP**	84.29	15	P	P	06 10 20.5	+0.2		
	baz=212								
RND	**Reindeer**	84.32	13	P	P	06 10 20.1	-0.3		
RND				IAmb	IAmb	06 10 20.7			
	comp=Z,11nm,0.8s								
DHY	**Denali Highway**	84.35	14	P	P	06 10 20.1	-0.6		
	baz=210								
PLBC	**Pleasant Camp**	84.41	20	P	P	06 10 20.6	-0.3		
	baz=202								
BPAW	**Bear Paw Mtn.**	84.50	12	P	P	06 10 21.0	-0.3		
	baz=206								
I20K	**Naaghedeneel**	84.51	10	P	P	06 10 20.9	-0.4		
	baz=203								
MCK	**McKinley**	84.59	13	P	P	06 10 21.1	-0.6		
	baz=208								
PAX	**Paxson**	84.70	14	P	P	06 10 23.4	+1.0		
	baz=211								
HLID	**Hailey**	84.71	41	P	P	06 10 23.3	+0.3		
	baz=239,SNR=9.4								
P30M	**Million Dollar**	84.74	19	P	P	06 10 22.4	-0.2		
	baz=219								
SKAG	**Skagway**	84.76	21	P	P	06 10 22.5	0.0		
	baz=221								
YUK8	**Steele Glacier**	84.81	18	P	P	06 10 22.8	-0.3		
	baz=217								
M26K	**Nabesna, AK**	84.84	16	IAmb	IAmb	06 10 24.2			
	comp=Z,9.5nm,1.1s								
M26K	**Nabesna, AK**	84.84	16	P	P	06 10 23.0	0.0		
	baz=214								
YUK3	**Moose Creek**	85.00	17	P	P	06 10 24.1	+0.1		
	baz=216								
H20K	**Anotleneega Mo**	85.09	10	P	P	06 10 25.6	+1.5		
	baz=202								
M27K	**Edge Creek, AK**	85.09	16	IAmb	IAmb	06 10 25.5			
	comp=Z,12nm,1.2s								
M27K	**Edge Creek, AK**	85.09	16	P	P	06 10 24.7	+0.3		
	baz=215								
S34M	**Telegraph Cree**	85.11	23	P	P	06 10 24.6	+0.3		
	baz=225								
HYT	**Haines Junctio**	85.11	19	P	P	06 10 24.4	-0.1		
	baz=219								
YUK4	**Talbot Arm**	85.18	18	P	P	06 10 24.8	0.0		
	baz=218								
L26K	**Log Cabin Wild**	85.27	15	P	P	06 10 24.8	-0.2		
	baz=213								
I21K	**Tanana**	85.30	11	P	P	06 10 25.2	+0.2		
	baz=205								
NEA2	**Nenana**	85.33	12	P	P	06 10 25.1	-0.1		
	baz=208								
K24K	**Donnelly Dome**	85.35	14	P	P	06 10 25.7	+0.3		
	baz=211								
G19K	**Purcell Mounta**	85.37	9	P	P	06 10 25.5	+0.1		
	baz=200								
MLY	**Manley**	85.39	11	P	P	06 10 24.9	-0.7		
	baz=206								
P32M	**Atlin**	85.40	21	P	P	06 10 26.1	+0.3		
	baz=222								
WRH	**Wood River Hil**	85.42	13	IAmb	IAmb	06 10 26.3			
	comp=Z,7.2nm,1.0s								
TCUT	**Toone Canyon**	85.44	44	IAmb	IAmb	06 10 28.2			
	comp=Z,5.3nm,0.7s								
O30N	**Mendenhall**	85.51	19	P	P	06 10 26.2	-0.1		
	baz=220								
NEW	**Newport**	85.58	36	P	P	06 10 27.2	+0.3		
	baz=237								
NEW	**Newport**	85.58	36	P	P	06 10 26.5	-0.4		
	comp=Z,2.4nm,0.6s,baz=152,slow=7.9,SNR=2.4 comp=Z,2.4nm,0.6s								
H21K	**Melozitna Rive**	85.59	10	P	P	06 10 26.2	-0.3		
	baz=204								
VHRN	**Van Horn**	85.60	56	IAmb	IAmb	06 10 30.1			
	comp=Z,8.1nm,1.4s								
HDA	**Harding Lake**	85.61	13	P	P	06 10 26.2	-0.4		
	baz=210								
CCB	**Clear Creek Bu**	85.64	13	IAmb	IAmb	06 10 26.5			
	comp=Z,18nm,1.3s								
MNTX	**Cornudas Mount**	85.66	55	P	P	06 10 28.8	+1.2		
	baz=246								
L27K	**Beaver Creek,**	85.69	16	P	P	06 10 26.7	-0.4		
	baz=215								
WHY	**Whitehorse**	85.81	20	P	P	06 10 27.3	-0.5		
	baz=221								
COLA	**College**	85.82	13	P	P	06 10 27.5	0.0		
DLBC	**Dease Lake**	85.89	23	P	P	06 10 28.0	-0.1		
	baz=226								
SCRK	**Sand Creek**	85.91	15	P	P	06 10 27.9	-0.3		
	baz=213								
IL31		85.94	13	IAmb	IAmb	06 10 27.9			
	comp=Z,3.2nm,0.6s								
ILAR	**Eielson Array**	85.94	13	P	P	06 10 26.9	-1.3		
	comp=Z,1.6nm,0.4s,baz=221,slow=5.0,SNR=40 comp=Z,1.6nm,0.4s								
H22K	**Ishtalitna Cre**	86.05	11	P	P	06 10 28.7	0.0		
	baz=206								
TX31	**Lajitas Ar. Si**	86.08	58	IAmb	IAmb	06 10 32.6			
	comp=Z,6.6nm,0.9s								
TXAR	**Lajitas Array**	86.08	58	P	P	06 10 30.4	+0.6		
TXAR	**Lajitas Array**	86.08	58	P	P	06 10 31.5	+1.7		
	comp=Z,5.4nm,0.8s,baz=218,slow=6.2,SNR=36 comp=Z,5.4nm,0.8s								
M29M	**Somme Creek**	86.10	17	P	P	06 10 28.8	-0.3		
	baz=218								
J25K	**Salcha River,**	86.14	14	IAmb	IAmb	06 10 30.6			
	comp=Z,7.3nm,1.4s								
J25K	**Salcha River,**	86.14	14	P	P	06 10 28.6	-0.6		
	baz=211,SNR=5.3								
E18K	**Tukpahlearik C**	86.14	7	P	P	06 10 29.1	+0.1		
	baz=197								
N31M	**Braeburn, Yuko**	86.16	19	P	P	06 10 29.0	-0.3		
	baz=220								
P33M	**Teslin, Yukon**	86.17	21	P	P	06 10 29.6	+0.1		
	baz=223								
ANMO	**Albuquerque**	86.18	52	P	P	06 10 30.7	+0.4		
	baz=245								
ANMO	**Albuquerque**	86.18	52	P	P	06 10 30.5	+0.2		
	comp=Z,2.2nm,0.9s,baz=299,slow=5.6,SNR=7.2 comp=Z,2.2nm,0.9s								
G21K	**Allakaket**	86.26	10	P	P	06 10 29.0	-0.7		
	baz=204								
F20K	**Avaraart Lake**	86.41	9	P	P	06 10 29.7	-0.6		
	baz=202								
K27K	**Chicken**	86.42	15	P	P	06 10 30.4	-0.1		
	baz=214								
J26L	**Joseph Creek**	86.46	14	IAmb	IAmb	06 10 32.5			
	comp=Z,8.1nm,1.4s								
J26L	**Joseph Creek**	86.46	14	P	P	06 10 30.8	+0.1		
	baz=213,SNR=5.4								
ALPN	**Alpine**	86.51	57	IAmb	IAmb	06 10 34.8			
	comp=Z,4.4nm,1.0s								
E19K	**Redstone River**	86.59	8	P	P	06 10 30.5	-0.7		
	baz=200								
MSO	**Missoula**	86.66	38	P	P	06 10 32.4	+0.2		
	baz=239								
M30M	**Minto, Yukon**	86.69	18	IAmb	IAmb	06 10 33.2			
	comp=Z,13nm,1.5s								
M30M	**Minto, Yukon**	86.69	18	P	P	06 10 31.5	-0.3		
	baz=219								
L29M	**L29M**	86.72	17	P	P	06 10 32.0	0.0		
	baz=218								
N32M	**Quiet Lake**	86.77	20	P	P	06 10 32.3	+0.1		
	baz=223								
TPAW	**Teton Pass**	86.86	42	IAmb	IAmb	06 10 35.2			
	comp=Z,5.1nm,0.9s								
PRP	**Porcupine Dome**	86.88	13	P	P	06 10 33.0	+0.2		
	baz=211								
C17K	**DeLong Mountai**	86.89	6	P	P	06 10 31.9	-0.6		
	baz=194								
F21K	**Alatna River**	86.91	9	P	P	06 10 32.7	0.0		
	baz=204								
G22K	**Bettles**	86.96	10	P	P	06 10 32.5	-0.4		
	baz=206								
SNOW	**Snow King Moun**	86.98	42	IAmb	IAmb	06 10 35.6			
	comp=Z,8.4nm,1.1s								
G23K	**Bananza Creek**	87.03	11	P	P	06 10 33.3	0.0		
	baz=207								
IMW	**Indian Meadow**	87.06	42	IAmb	IAmb	06 10 36.2			
	comp=Z,5.7nm,0.8s								
O20A	**White River Ci**	87.13	46	P	P	06 10 35.2	+0.6		
	baz=244								
M31M	**Drury Creek, Y**	87.13	19	P	P	06 10 34.1	+0.3		
	baz=222								
DAWY	**Dawson**	87.14	16	P	P	06 10 34.0	+0.1		
	baz=217								
I26K	**Coal Creek Min**	87.23	14	P	P	06 10 33.9	-0.3		
	baz=213								
HHC	**Hu-ho-hao-te**	87.24	314	eP	P	06 10 33.6	-1.4		
HHC				pmax	pmax				
	comp=Z,13nm,0.8s								
HHC				pmax	pmax				
	comp=Z,86nm,7.0s					

G26K	**Porcupine River** baz=213	**88.47**	**13**	P		**P**	**06 10 39.5**	**-0.5**
C21K	**Knifeblade Rid** baz=202	**88.51**	**8**	P		**P**	**06 10 39.9**	**-0.2**
E24K	**Your Creek** baz=208	**88.52**	**11**	P		**P**	**06 10 40.4**	**+0.1**
D22K	**Ayikyak River** baz=204	**88.55**	**9**	P		**P**	**06 10 40.5**	**+0.2**
MSTX	**Muleshoe** comp=Z,7.0nm,1.0s	**88.58**	**54**	IAmb		IAmb	06 10 42.7	
MSTX	**Muleshoe** baz=247	**88.58**	**54**	P		**P**	**06 10 42.0**	**+0.6**
F25K	**Christian Rive** baz=211	**88.64**	**12**	P		**P**	**06 10 40.5**	**-0.4**
TGTN	**Hyland Airport** baz=227	**88.67**	**22**	P		**P**	**06 10 40.8**	**-0.3**
OZNA	**Ozona** comp=Z,5.0nm,0.8s	**88.72**	**57**	IAmb		IAmb	06 10 43.6	
G27K	**Doyon Strip** baz=215	**88.82**	**14**	P		**P**	**06 10 42.1**	**+0.5**
CMAR	**Chiang Mai Arr**	**88.82**	**290**	P		**P**	**06 10 42.9**	**+0.2**
CMAR	**Chiang Mai Arr** comp=Z,2.3nm,0.6s,baz=108,slow=2.6,SNR=17 comp=Z,2.3nm,0.6s	**88.82**	**290**	P		**P**	**06 10 44.1**	**+1.4**
TOLK	**Toolik Lake Re** baz=207	**88.83**	**10**	P		**P**	**06 10 42.0**	**+0.3**
I30M	**Mount Dempster** baz=220	**88.86**	**16**	P		**P**	**06 10 42.0**	**0.0**
D23K	**Nanushuk River** baz=206	**88.94**	**10**	P		**P**	**06 10 41.6**	**-0.6**
B21K	**Ikpikpuk River** baz=203	**88.96**	**8**	P		**P**	**06 10 41.8**	**-0.3**
F26K	**Sheenjek River** baz=212	**89.02**	**12**	P		**P**	**06 10 42.5**	**-0.1**
N23A	**Red Feather La** comp=Z,7.5nm,1.2s	**89.04**	**46**	IAmb		IAmb	06 10 45.4	
N23A	**Red Feather La** baz=245	**89.04**	**46**	P		**P**	**06 10 43.5**	**-0.1**
PZH	**PanZhiHua**	**89.10**	**298**	P		**P**	**06 10 46.0**	**+2.0**
PZH	comp=Z,10.0nm,0.8s			pmax		pmax		
PZH	comp=Z,100nm,4.5s			pmax		pmax		
E25K	**Arctic Village** baz=211	**89.10**	**12**	P		**P**	**06 10 42.7**	**-0.2**
ELIB	**Princess Elisa** comp=Z,4.4nm,0.8s	**89.12**	**187**	*d*P		**P**	**06 10 43.2**	**-0.1**
H29M	**Whitestone** baz=218	**89.12**	**15**	P		**P**	**06 10 42.9**	**-0.1**
K22A	**Casper** baz=245	**89.39**	**45**	P		**P**	**06 10 44.7**	**-0.3**
JCT	**Junction City** baz=249	**89.62**	**58**	P		**P**	**06 10 47.1**	**+0.9**
EPYK	**Eagle Plains** baz=219	**89.66**	**16**	P		**P**	**06 10 44.7**	**-0.9**
HNDO	**Hondo** comp=Z,7.1nm,0.8s	**89.70**	**59**	IAmb		IAmb	06 10 49.0	
C23K	**Itkillik River** baz=206	**89.74**	**9**	P		**P**	**06 10 45.4**	**-0.3**
AMTX	**Amarillo** baz=248	**89.76**	**53**	P		**P**	**06 10 47.2**	**+0.4**
G29M	**Pine Creek** baz=218	**89.76**	**15**	P		**P**	**06 10 45.6**	**-0.4**
B22K	**Teshekpuk Lake** baz=204	**89.79**	**8**	P		**P**	**06 10 45.3**	**-0.7**
C24K	**Franklin Bluff** baz=208	**89.94**	**10**	P		**P**	**06 10 46.3**	**-0.4**
E27K	**Coleen River** baz=215	**89.97**	**13**	P		**P**	**06 10 47.1**	**+0.2**
D25K	**Kavik River** baz=210	**89.99**	**11**	P		**P**	**06 10 46.6**	**-0.4**
G30M	**tAoh Zraii Nji** comp=Z,5.7nm,0.8s	**90.26**	**15**	IAmb		IAmb	06 10 48.7	
G30M	**tAoh Zraii Nji** baz=220	**90.26**	**15**	P		**P**	**06 10 48.2**	**-0.1**
TROLL	**Troll, Antarti** comp=Z,231nm,0.7s	**90.27**	**180**	⇑P		**P**	**06 10 47.4**	**-1.2**
APMT	**Aspermont** comp=Z,4.1nm,0.8s	**90.39**	**55**	IAmb		IAmb	06 10 50.8	
ABTX	**Abilene, Hawle** baz=249	**90.51**	**56**	P		**P**	**06 10 50.8**	**+0.5**
SNAA	**Sanae** comp=Z,24nm,0.4s	**90.56**	**179**	⇑P		**P**	**06 10 48.7**	**-1.2**
SNAA	**Sanae** comp=Z,1.8nm,0.8s,baz=191,slow=11,SNR=7.9 comp=Z,1.8nm,0.8s	**90.56**	**179**	P		**P**	**06 10 49.6**	**-0.3**
VNA3	**Neumayer Olymp** comp=Z,7.2nm,0.8s	**90.71**	**176**	⇑P		**P**	**06 10 50.4**	**-0.1**
G31M	**Satah River** baz=222	**90.71**	**16**	P		**P**	**06 10 50.4**	**+0.1**
C27K	**Jago River** baz=213	**90.74**	**12**	P		**P**	**06 10 50.4**	**-0.1**
E28M	**Babbage River** baz=217	**90.76**	**13**	P		**P**	**06 10 50.6**	**0.0**
C26K	**Camden Bay** baz=212	**90.77**	**11**	P		**P**	**06 10 50.8**	**+0.3**
F30M	**Barrier River** baz=220	**90.85**	**15**	P		**P**	**06 10 51.1**	**+0.1**
VNA2	**Neumayer--Watz** comp=Z,3.1nm,0.6s,baz=169,slow=3.1	**91.15**	**177**	⇑P		**P**	**06 10 51.6**	**-0.9**
F31M	**Tsiigehtchic**	**91.24**	**16**	P		**P**	**06 10 52.3**	**-0.4**
F31M	**Tsiigehtchic** baz=222	**91.24**	**16**	P		**P**	**06 10 53.3**	**+0.6**
RSSD	**Black Hills** baz=246	**91.64**	**44**	P		**P**	**06 10 55.8**	**+0.3**
INK	**Inuvik** baz=222	**91.94**	**15**	P		**P**	**06 10 55.7**	**-0.2**
INK	**Inuvik** comp=Z,2.4nm,0.7s,baz=239,slow=7.5,SNR=4.7 comp=Z,2.4nm,0.7s	**91.94**	**15**	P		**P**	**06 10 54.9**	**-1.0**
DGMT	**Dagmar** baz=246	**93.27**	**40**	P		**P**	**06 11 03.1**	**+0.5**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.6s,baz=250,slow=4.5,SNR=6.9 comp=Z,0.4nm,0.6s	**94.40**	**25**	P		**P**	**06 11 06.6**	**-0.7**
KSU1	**Kansas State U** baz=251	**95.03**	**51**	P		**P**	**06 11 11.4**	**+0.6**
MKAR	**Makanchi Array** comp=Z,0.5nm,0.5s,baz=244,slow=1.3,SNR=7.7	**109.10**	**314**	PKiKP		**PKiKP**	**06 16 12.5**	**-1.2**
BVAR	**Borovoye Array** comp=Z,1.7nm,0.4s,baz=102,slow=2.6,SNR=11	**116.82**	**321**	PKP		**PKPdf**	**06 16 27.4**	**-0.8**
ARCES	**ARCESS Array B** comp=Z,3.3nm,1.0s,baz=358,slow=2.3,SNR=1.8	**126.33**	**350**	PKP		**PKPdf**	**06 16 45.2**	**-0.9**
BNN	**Bunyan**	**143.62**	**312**			PKPbc	06 17 17.8	-0.4
BR131	**Keskin Array S**	**144.75**	**315**			**PKPdf**	**06 17 20.8**	**-0.3**
BRTR	**Keskin Array B** comp=Z,2.4nm,0.4s,baz=151,slow=2.8,SNR=10	**144.75**	**315**	PKP		**PKPdf**	**06 17 21.1**	**+0.1**
MMAI	**Mount Meron Ar** comp=Z,3.5nm,0.4s,baz=73,slow=5.7,SNR=11	**146.09**	**303**	PKPbc		**PKPbc**	**06 17 25.9**	**+0.3**
GERES	**GERESS Array B** comp=Z,1.5nm,0.6s,baz=39,slow=8.9,SNR=4.5	**147.62**	**345**	PKPbc		**PKPbc**	**06 17 28.9**	**-0.3**
FUORN	**Ofenpass-Fuorn**	**150.50**	**348**			**PKPbc**	**06 17 35.5**	**-0.9**
FNA	**Florina**	**151.53**	**327**			**PKPbc**	**06 17 38.0**	**-0.7**

*NNC **22** 06:12:53.4±3.4,53.42N×87.99E,h4km±21km,mb3.0, mpv2.6,Error ellipse: s-maj=27.6km s-min=14.1km az=77.0,Suspected Mining explosion.*

*IDC **22** 06:12:54.3±3.4,53.49N×87.86E,h0km,mbtmp2.8/2, ML2.3/2,Error ellipse: s-maj=29.6km s-min=17.2km az=57.0*

ISC 22 06:12:53.0±3.6,53.6N±0.1×87.9E±0.2,h0km,n8,σ1§59/8, 7C-1D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=101,slow=320,SNR=4.9	**1.87**	**283**	I		I	I	06 23 50.0	
ZAA0	**Zalesovo Array** 0.8nm,0.7s	**1.87**	**283**	⇑P			**Pb**	**06 13 26.9**	**-1.1**
ZAA0	5.1nm,0.7s			⇓S			**Sg**	**06 13 53.5**	**+0.3**
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=104,slow=16,SNR=21	**1.87**	**283**	Pg			**Pg**	**06 13 28.2**	**-0.7**
ZALV	2.9nm,0.3s,baz=101,slow=28,SNR=32			Lg			Lg	06 13 52.7	
KURK	**Kurchatov** 12nm,1.0s	**6.38**	**247**	⇑Lg			Lg	06 16 15.5	
KURBB	**Kurchatov Arra** 2.4nm,0.9s	**6.48**	**247**	⇑Pn			**Pn**	**06 14 31.5**	**+2.0**
KURBB	5.2nm,0.7s			⇑Sn			**Sn**	**06 15 43.9**	**-0.1**
KURBB	14nm,0.8s			⇑Lg			Lg	06 16 19.2	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=61,slow=14,SNR=4.3	**6.48**	**247**	Pn			**Pn**	**06 14 31.6**	**+2.1**
KURBB				Lg			Lg	06 16 17.6	
	0.2nm,0.3s,baz=61,slow=32,SNR=8.5 1.0nm,0.6s								
MK31	**Makanchi Array** 0.6nm,0.5s,baz=25,slow=34,SNR=5.2	**7.66**	**210**	⇑Sn			**Sn**	**06 16 12.0**	**-1.3**
MK31	1.9nm,0.7s,baz=37,slow=31,SNR=3.9			⇑Lg			Lg	06 16 54.3	
MKAR	**Makanchi Array** baz=38,slow=16,SNR=2.4	**7.66**	**210**	Pn			**Pn**	**06 14 46.5**	**+0.7**
MKAR	0.2nm,0.3s,baz=33,slow=26,SNR=4.5 0.2nm,0.6s			Lg			Lg	06 16 55.0	

*GUC **22** 06:21:14.5±0.9,22.38S×67.81W,h168km±9km,ML3.5*
*SCB **22** 06:21:16.1±1.1,22.36S×67.68W,h133km±27km,ML3.4/3, Error ellipse: s-maj=9.1km s-min=6.0km az=1.0*
*IDC **22** 06:21:18.0±9.9,22.14S×67.32W,h178km±69km,mb3.8/1, mbtmp3.8/3,Error ellipse: s-maj=109.0km s-min=50.5km az=34.0*

ISC 22 06:21:14.1±1.0,22.39S±0.04×67.77W±0.07, h175km±10km,n27,σ1§04/42,6C,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**0.67**	**214**	⇑*i*P			**Pn**	**06 21 39.9**	**+0.4**
LVC	**Limon Verde**	**1.07**	**258**	*e*P			**Pn**	**06 21 42.5**	**+0.2**
LVC				*e*S			**Sn**	**06 22 03.4**	**-0.5**
LVC	336nm,0.3s			IAML				06 22 06.1	
PB09	**IPOC Station P**	**1.49**	**293**	⇑*i*P			**Pn**	**06 21 46.7**	**+1.0**
PB09				*e*S			**Sn**	**06 22 09.8**	**-0.2**
PB09	**IPOC Station P**	**1.49**	**293**	Pg			**Pn**	**06 21 46.5**	**+0.8**
PB06	**IPOC Station P**	**1.69**	**259**	⇑*i*P			**Pn**	**06 21 48.2**	**+0.5**
PB06				*e*S			**Sn**	**06 22 14.5**	**+0.8**
PB06	comp=E,161nm,0.2s			IAML				06 22 15.8	
PB15	**IPOC Station P**	**1.77**	**242**	⇑*i*P			**Pn**	**06 21 49.2**	**+0.7**
PB15				*e*S			**Sn**	**06 22 15.5**	**+0.4**
PB15	**IPOC Station P**	**1.77**	**242**	Pg			**Pn**	**06 21 49.3**	**+0.7**
PB15				Sg			**Sn**	**06 22 15.2**	**+0.1**
PB15	comp=E,1μm,0.3s			IAML				06 22 19.3	
PB04	**IPOC Station P**	**2.20**	**271**	⇑*i*P			**Pn**	**06 21 53.7**	**+0.5**
PB04				*e*S			**Sn**	**06 22 23.2**	**-0.3**
PB04	comp=N,261nm,0.3s			IAML				06 22 28.2	
PB08	**IPOC Station P**	**2.58**	**330**	*i* P			**Pn**	**06 21 59.3**	**+1.4**
PB08				*e*S			**Sn**	**06 22 32.1**	**+0.2**
PB08	comp=N,89nm,0.3s			IAML				06 22 34.0	
PATCX	**Punta Patache**	**2.71**	**305**	*e*P			**Pn**	**06 21 59.2**	**+0.1**
PATCX				*e*S			**Sn**	**06 22 32.7**	**-1.3**
PATCX	comp=E,172nm,0.3s			IAML				06 22 34.5	
PB10	**IPOC Station P**	**2.80**	**246**	*i* P			**Pn**	**06 22 00.3**	**+0.3**
PB10				*e*S			**Sn**	**06 22 34.2**	**-1.6**
PB10	comp=E,68nm,0.3s			IAML				06 22 37.0	
HMBC	**Humberstone**	**2.88**	**316**	*e*P			**Pn**	**06 22 00.7**	**-0.5**
HMBC				*e*S			**Sn**	**06 22 36.1**	**-1.7**
HMBC	comp=N,197nm,0.3s			IAML				06 22 38.6	
TA01	**Diego Aracena**	**2.89**	**309**	*e*P			**Pn**	**06 22 00.7**	**-0.4**
GO01	**Chusmiza**	**3.02**	**334**	*e*P			**Pn**	**06 22 03.9**	**+0.7**
GO01	comp=E,128nm,0.2s			IAML				06 22 44.7	
GO01	**Chusmiza**	**3.02**	**334**	Pg			**Pn**	**06 22 04.0**	**+0.8**
GO01				Sg			**Sn**	**06 22 40.6**	**-0.8**
GO01	comp=E,22nm,0.3s			IAML				06 22 43.4	
PB11	**IPOC Station P**	**3.15**	**326**	*e*P			**Pn**	**06 22 04.2**	**-0.3**
PB11				*e*S			**Sn**	**06 22 42.2**	**-1.6**
PB11	comp=E,177nm,0.2s			IAML				06 22 43.4	
GO02	**Mina Guanaco**	**3.22**	**211**	⇑*i*P			**Pn**	**06 22 06.0**	**+0.5**
GO02				*e*S			**Sn**	**06 22 44.6**	**-1.1**
PB14	**IPOC Station P**	**3.29**	**227**	*e*P			**Pn**	**06 22 06.5**	**+0.2**
SOEO	**Opoqueri**	**3.81**	**358**	Pg			**Pn**	**06 22 14.5**	**+1.4**
SOET	**ToroToro**	**4.63**	**24**	Pg			**Pn**	**06 22 24.6**	**+1.0**
AOEA	**Aiquile**	**4.82**	**30**	Pg			**Pn**	**06 22 25.9**	**0.0**
AOEA				Sg			**Sn**	**06 23 19.6**	**-2.5**
AOEA	comp=E,23nm,0.4s			IAML				06 23 23.5	
BBOE	**La Paz, Chanca**	**5.55**	**358**	Pg			**Pn**	**06 22 37.7**	**+2.0**
BBOD	**La Paz, Gloria**	**5.78**	**352**	Pg			**Pn**	**06 22 39.8**	**+1.1**
LPAZ	**La Paz** comp=E,0.8nm,0.4s,baz=165,slow=8.1,SNR=11	**6.08**	**357**	P			**Pn**	**06 22 44.0**	**+1.3**
LPAZ	comp=E,0.7nm,0.6s,baz=290,slow=9.0,SNR=1.9			S			**Sn**	**06 23 52.0**	**-0.3**
LPAZ	**La Paz**	**6.08**	**357**	Pg			**Pn**	**06 22 44.0**	**+1.3**
BDFB	**Brasilia** comp=E,0.9nm,0.4s,baz=241,slow=11,SNR=4.7	**19.84**	**74**	P			**P**	**06 25 30.4**	**-1.3**
TORD	**Torodi Ar. Bea** comp=E,1.5nm,0.5s,baz=260,slow=5.6,SNR=10 comp=E,1.5nm,0.5s	**76.67**	**70**	P			**P**	**06 32 47.1**	**+0.9**

IDC 22 06:43:55.9±1.7,14.49S×173.14W,h0km,mb3.6/4, mbtmp3.6/4,MS3.2/2,Error ellipse: s-maj=56.3km s-min=40.9km az=134.0,Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** comp=Z,85nm,19.1s,baz=19,slow=33	**15.34**	**196**	LR		LR	LR	06 52 16.6	
H11S2	**WAKE ISLAND Hy** baz=147,slow=76,SNR=11	**38.33**	**328**	T		T	T	07 33 02.1	
H11S3	**WAKE ISLAND Hy** baz=147,slow=76,SNR=11	**38.34**	**328**	T		T	T	07 33 03.3	
H11S1	**WAKE ISLAND Hy** baz=147,slow=76,SNR=8.9	**38.34**	**328**	T		T	T	07 33 01.6	
H11N3	**WAKE ISLAND Hy** baz=146,slow=74	**39.26**	**329**	T		T	T	07 34 14.6	
H11N1	**WAKE ISLAND Hy** baz=146	**39.27**	**329**	T		T	T	07 34 07.4	
H11N2	**WAKE ISLAND Hy** baz=146	**39.28**	**329**	T		T	T	07 34 11.2	
WRA	**Warramunga Arr** 0.6nm,0.9s,baz=92,slow=7.5,SNR=2.0 0.6nm,0.9s	**50.30**	**256**	P		P	P	06 52 54.3	-0.4
ASAR	**Alice Springs** 0.4nm,0.4s,baz=87,slow=8.0,SNR=8.1 0.4nm,0.4s	**50.64**	**251**	P		P	P	06 52 57.4	+0.1
QSPA	**South Pole Qui** 1.2nm,1.0s,baz=93,slow=2.9,SNR=2.0 1.2nm,1.0s	**75.55**	**180**	P		P	P	06 55 42.3	+0.1
MA2	**Magadan** comp=Z,14nm,18.9s,baz=128,slow=37	**79.38**	**342**	LR		LR	LR	07 32 41.6	
ILAR	**Eielson Array** 0.2nm,0.7s,baz=206,slow=5.9,SNR=2.1 0.2nm,0.7s	**81.51**	**11**	P		P	P	06 56 14.9	0.0

IDC 22 06:45:30.2±3.6,53.71N×88.12E,h0km,mbtmp2.7/2, ML2.2/2,Error ellipse: s-maj=33.6km s-min=23.1km az=84.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=95,slow=328,SNR=6.7	**1.97**	**278**	I		I	I	06 58 00.7	
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=96,slow=12,SNR=16	**1.97**	**278**	Pn			Pn	06 46 04.8	0.0
ZALV	1.2nm,0.3s,baz=91,slow=26,SNR=8.0			Sn			Sb	06 46 32.4	+0.4
KURBB	**Kurchatov Arra** baz=61,slow=14,SNR=4.8	**6.66**	**246**	Pn			Pn	06 47 10.0	+0.8
KURBB	baz=42,slow=26,SNR=1.3			Sn			Sn	06 48 23.9	-1.8
KURBB	0.1nm,0.3s,baz=148,slow=5.6,SNR=9.3 0.6nm,0.5s			Lg			Lg	06 48 58.2	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=38,slow=16,SNR=2.4	**7.86**	**211**	Pn			Pn	06 47 26.8	+1.0
MKAR	baz=33,slow=30 0.2nm,0.5s			Lg			Lg	06 49 39.8	

*IDC **22** 06:49:46.8±3.9,8.36S×123.93E,h59km±44km,mb3.2/1, mbtmp3.5/4,ML3.4/3,Error ellipse: s-maj=55.0km s-min=19.4km az=70.0*

*DJA **22** 06:49:47.5±0.6,9°S±3°×12°2E±°,h13km±6km,M3.9/11, mb4.3/1,MLv3.7/11*

ISC 22 06:49:47.9±1.1,9.42S±0.05×122.13E±0.05,h44km,n20, σ2§31/22,Savu Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MMRI	**Maumere**	**0.78**	**8**	P		P	**Pn**	**06 50 03.5**	**+0.9**
MMRI				S			**Sn**	**06 50 14.7**	**+1.5**
MMRI	**Maumere**	**0.78**	**8**	P		P	**Pn**	**06 50 03.4**	**+0.9**
MMRI				S			**Sn**	**06 50 14.7**	**+1.5**
EDFI	**Ende, Flores**	**0.79**	**327**	P		P	**Pn**	**06 50 03.4**	**+0.7**
EDFI	**Ende, Flores**	**0.79**	**327**	P		P	**Pn**	**06 50 03.5**	**+0.7**
BATI	**Baumata** 91nm,0.3s,baz=283,slow=10,SNR=5.2	**1.71**	**118**	P		P	**Pn**	**06 50 16.4**	**+1.2**
BATI	194nm,0.5s,baz=74,slow=23,SNR=7.6			S			**Sn**	**06 50 39.1**	**+3.2**
BATI	**Baumata**	**1.71**	**118**	P		P	**Pn**	**06 50 17.0**	**+1.8**
BATI	**Baumata**	**1.71**	**118**	P		P	**Pn**	**06 50 16.6**	**+1.4**
BASI	**Baing, Sumba**	**1.72**	**242**	P		P	**Pn**	**06 50 17.1**	**+1.7**
BASI	**Baing, Sumba**	**1.72**	**242**	P		P	**Pn**	**06 50 16.9**	**+1.5**
SOEI	**Soe**	**2.14**	**99**	P		P	**Pn**	**06 50 23.5**	**+2.3**
PLAI	**Plampang**	**4.33**	**277**	P		P	**Pn**	**06 50 53.3**	**+2.0**
PLAI	**Plampang**	**4.33**	**277**	P		P	**Pn**	**06 50 53.1**	**+1.8**
BKSI	**Bulukumba**	**4.53**	**334**	P		P	**Pn**	**06 50 56.1**	**+2.2**
BKSI	**Bulukumba**	**4.53**	**334**	P		P	**Pn**	**06 50 55.9**	**+2.0**
KAPI	**Kappang** 2.6nm,0.3s,baz=149,slow=6.3,SNR=6.1 10nm,0.5s	**4.97**	**332**	P		P	**Pn**	**06 51 04.0**	**+4.0**
TWSI	**Taliwang, Sumb**	**5.22**	**277**	P		P	**Pn**	**06 51 06.2**	**+2.7**
TWSI	**Taliwang, Sumb**	**5.22**	**277**	P		P	**Pn**	**06 51 05.5**	**+2.0**
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=313,slow=15,SNR=6.5	**15.77**	**133**	P		P	Pn	06 53 19.8	-7.3
WRA	1.9nm,0.7s,baz=301,slow=21,SNR=9.9 0.6nm,0.9s			S			Sn	06 56 03.3	-18
ASAR	**Alice Springs** 0.1nm,0.3s,baz=324,slow=13,SNR=6.9	**18.10**	**143**	P		P	**P**	**06 53 52.5**	**-3.6**
ASAR	0.7nm,0.6s,baz=319,slow=22,SNR=2.0 0.5nm,0.6s			S			Sn	06 57 00.3	-17
MKAR	**Makanchi Array** 0.4nm,0.7s,baz=142,slow=5.6,SNR=4.1 0.4nm,0.7s	**66.27**	**331**	P		P	**P**	**07 00 28.4**	**-3.2**

IDC 22 07:04:43.4±3.1,53.63N×87.87E,h0km,mbtmp2.7/2, ML2.5/2,Error ellipse: s-maj=27.2km s-min=17.8km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=98,slow=328,SNR=5.6	**1.84**	**281**	I		I	I	07 17 00.0	
ZALV	**Zalesovo Beam** 2.2nm,0.3s,baz=96,slow=14,SNR=18	**1.84**	**281**	Pn			Pn	07 05 16.2	0.0
ZALV	3.3nm,0.3s,baz=97,slow=29,SNR=13			Lg			Lg	07 05 41.4	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=62,slow=14,SNR=2.9	**6.49**	**246**	Pn			Pn	07 06 21.0	+0.9
KURBB	baz=64,slow=32,SNR=2.9 0.3nm,0.4s			Lg			Lg	07 08 09.0	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=28,slow=13,SNR=4.1	**7.72**	**210**	Pn			Pn	07 06 38.1	+1.1
MKAR	baz=22,slow=23,SNR=2.5 0.1nm,0.3s			Lg			Lg	07 08 47.0	

*VAO **22** 07:10:03.4±0.5,19.26S×69.08W,h85km±5km,mb4.4*
*SJA **22** 07:10:03.8±0.8,19.37S×69.21W,h116km±3km,ML4.4, MW4.2*
*NEIC **22** 07:10:04.9±1.6,19.37S±0.05×69.16W±0.08,h111km±4km, mb4.5/24,Error ellipse: s-maj=11.6km s-min=5.1km az=62.0*
*GUC **22** 07:10:05.5±0.8,19.43S×69.21W,h113km±3km,ML4.3*
*IDC **22** 07:10:05.9±0.6,19.34S×68.97W,h117km±5km,mb3.7/12, mbtmp4.1/17,MS3.2/3,Error ellipse: s-maj=16.9km s-min=9.0km az=94.0*

ISC 22 07:10:04.5±0.4,19.39S±0.03×69.15W±0.05,h111km±4km, n151,σ1§47/183,mb4.3/18,10C-2D,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GO01	**Chusmiza**	**0.28**	**188**				**Pn**	**07 10 21.5**	**+0.6**
GO01						Sn	**Sn**	**07 10 33.5**	**+0.3**
GO01	**Chusmiza**	**0.28**	**188**	*e*P			**Pn**	**07 10 20.9**	**-0.1**
GO01				*e*S		Sn	Sn	07 10 21.5	-12
GO01	comp=Z,9μm,0.8s			IAML				07 10 35.8	
GO01	**Chusmiza**	**0.28**	**188**	⇓*i*P			**Pn**	**07 10 21.5**	**+0.6**
GO01				*e*S			**Sn**	**07 10 33.9**	**+0.7**
GO01	comp=E,34μm,0.1s			IAML				07 10 35.4	
PB11	**IPOC Station P**	**0.60**	**232**				**Pn**	**07 10 22.7**	**+0.3**
PB11						Sn	**Sn**	**07 10 35.6**	**-0.2**
PB11	**IPOC Station P**	**0.60**	**232**	*e*P			**Pn**	**07 10 22.7**	**+0.3**
PB11				*e*S			**Sn**	**07 10 36.5**	**+0.7**
PB11	comp=Z,7μm,0.2s			IAML				07 10 38.2	
PB11	**IPOC Station P**	**0.60**	**232**	⇓*i*P			**Pn**	**07 10 22.7**	**+0.3**
PB11				*e*S			**Sn**	**07 10 35.9**	**+0.1**
PB11	comp=N,18μm,0.4s			IAML				07 10 37.0	
PB08	**IPOC Station P**	**0.75**	**180**				**Pn**	**07 10 24.5**	**+0.6**
PB08						Sn	**Sn**	**07 10 39.1**	**+0.8**
PB08	**IPOC Station P**	**0.75**	**180**	*e*P			**Pn**	**07 10 24.7**	**+0.9**
PB08				*e*S			**Sn**	**07 10 40.1**	**+1.8**
PB08	comp=Z,7μm,0.9s			IAML				07 10 40.9	
PB08	**IPOC Station P**	**0.75**	**180**	⇑*i*P			**Pn**	**07 10 24.7**	**+0.9**
PB08				*e*S			**Sn**	**07 10 39.2**	**+0.9**
PB08	comp=E,14μm,0.4s			IAML				07 10 40.9	
PX02	**IPOC Station P**	**1.08**	**293**	*e*P			**Pn**	**07 10 26.0**	**-0.7**
PX02				*e*S			**Sn**	**07 10 42.2**	**-1.2**
HMBC	**Humberstone**	**1.12**	**218**				**Pn**	**07 10 27.1**	**-0.2**
HMBC	**Humberstone**	**1.12**	**218**	*e*P			**Pn**	**07 10 27.2**	**-0.1**
HMBC				*e*S			**Sn**	**07 10 44.9**	**+0.5**
HMBC	comp=Z,4μm,0.6s			IAML				07 10 48.4	
HMBC	**Humberstone**	**1.12**	**218**	⇑*i*P			**Pn**	**07 10 27.2**	**-0.1**
HMBC				*e*S			**Sn**	**07 10 43.9**	**-0.5**
HMBC	comp=E,6μm,0.2s			IAML				07 10 46.3	
TA02	**Huaiquique**	**1.27**	**226**	Pn			Pn	**07 10 28.8**	**+0.1**
TA02	**Huaiquique**	**1.27**	**226**	*e*P			**Pn**	**07 10 29.0**	**+0.2**
TA02				*e*S			**Sn**	**07 10 47.8**	**+0.7**
TA02	comp=Z,3μm,0.1s			IAML				07 10 50.5	
TA02	**Huaiquique**	**1.27**	**226**	⇑*i*P			**Pn**	**07 10 28.8**	**+0.1**
TA02				*e*S			**Sn**	**07 10 46.5**	**-0.6**
PB12	**IPOC Station P**	**1.35**	**305**	Pn			Pn	**07 10 29.8**	**0.0**
PB12	**IPOC Station P**	**1.35**	**305**	*e*P			**Pn**	**07 10 29.6**	**-0.2**
PB12				*e*S			**Sn**	**07 10 48.8**	**-0.1**
PB12	**IPOC Station P**	**1.35**	**305**	⇑*i*P			**Pn**	**07 10 29.8**	**0.0**
PB12				*e*S			**Sn**	**07 10 48.5**	**-0.4**
PB12	comp=E,5μm,0.3s			IAML				07 10 49.1	
AP01	**Chacalluta**	**1.52**	**312**				**Pn**	**07 10 31.6**	**0.0**
AP01	**Chacalluta**	**1.52**	**312**	*e*P			**Pn**	**07 10 31.5**	**-0.1**
AP01				*e*S			**Sn**	**07 10 53.5**

comp=Z,2μm,0.9s
PB09 IPOC Station P 2.40 182 *e*P **Pn 07 10 43.7 +0.9**
PB09 IAML 07 11 18.6
comp=N,1μm,0.6s
PB04 IPOC Station P 3.07 197 *e*P **Pn 07 10 52.5 +0.7**
PB04 *e*S **Sn 07 11 28.1 0.0**
PB04 IAML 07 11 53.7
comp=Z,779nm,0.6s
PB04 IPOC Station P 3.07 197 *e*P **Pn 07 10 52.2 +0.5**
PB04 IAML 07 11 41.9
comp=E,1μm,0.6s
LVC Limon Verde 3.21 176 Pn **Pn 07 10 56.5 +2.7**
LVC Limon Verde 3.21 176 *e*P **Pn 07 10 55.1 +1.3**
LVC *e*S **Sn 07 11 33.2 +1.6**
LVC Limon Verde 3.21 176 P **Pn 07 10 55.0 +1.3**
comp=E,769nm,0.8s,baz=354,slow=9.0,SNR=294
LVC S **Sn 07 11 24.9 -6.7**
comp=E,642nm,0.6s,baz=333,slow=11,SNR=17
LVC Limon Verde 3.21 176 *e*P **Pn 07 10 54.9 +1.2**
LVC Limon Verde 3.21 176 *e*P **Pn 07 10 54.1 +0.3**
LPAZ La Paz 3.23 18 Pn **Pn 07 10 57.2 +3.0**
LPAZ La Paz 3.23 18 *e*P **Pn 07 10 57.3 +3.0**
LPAZ La Paz 3.23 18 P **Pn 07 10 56.4 +2.1**
comp=E,196nm,0.5s,baz=204,slow=6.2,SNR=1226
LPAZ S **Sn 07 11 33.0 +0.4**
comp=E,78nm,0.9s,baz=189,slow=3.5,SNR=1.5
LPAZ La Paz 3.23 18 *e*P **Pn 07 10 50.3 -4.0**
PB06 IPOC Station P 3.32 187 *e*P **Pn 07 10 55.5 +0.5**
PB06 *e*S **Sn 07 11 32.5 -1.4**
PB06 IAML 07 11 44.1
comp=Z,953nm,1.2s
PB06 IPOC Station P 3.32 187 *i* P **Pn 07 10 55.0 -0.1**
PB06 IAML 07 11 45.5
comp=E,866nm,0.4s
AF01 San Pedro de A 3.66 166 **Pn 07 11 01.2 +1.6**
PB15 IPOC Station P 3.81 184 *e*P **Pn 07 11 02.5 +1.0**
PB15 *e*S **Sn 07 11 46.1 +0.3**
PB15 IAML 07 12 02.2
comp=Z,1μm,0.3s
PB15 IPOC Station P 3.81 184 *e*P **Pn 07 11 01.4 -0.2**
PB10 IPOC Station P 4.31 197 *e*P **Pn 07 11 07.5 -0.6**
PB10 *e*S **Sn 07 11 56.4 -0.9**
PB10 IAML 07 12 16.0
comp=Z,209nm,0.8s
PB10 IPOC Station P 4.31 197 *e*P **Pn 07 11 06.8 -1.2**
PB10 *e*S **Sn 07 11 54.9 -2.4**
PB14 IPOC Station P 5.34 192 *e*P Pn 07 11 12.7 -10
PB14 *e*S **Sn 07 12 19.0 -3.7**
PB14 IAML 07 12 43.5
comp=Z,147nm,0.9s
GO02 Mina Guanaco 5.76 184 Pn **Pn 07 11 27.5 -0.4**
AC01 Pan de Azucar 6.86 191 **Pn 07 11 40.1 -2.4**
AC06 Mina Casimiro 8.01 188 Pn **Pn 07 11 56.3 -1.9**
BBSD Serra de San D 8.40 76 *e*P **Pn 07 12 01.7 -1.9**
SIV San Ignacio 8.41 68 P **Pn 07 12 01.4 -2.2**
comp=Z,22nm,0.4s,baz=259,slow=9.9,SNR=206
BBRB Robore, Bolivi 8.92 84 *e*P **Pn 07 12 08.1 -2.4**
AC05 El Transito 9.46 186 **Pn 07 12 15.1 -2.8**
ETMB Extrema 9.93 17 Pn **Pn 07 12 23.8 -0.5**
ETMB Extrema 9.93 17 *e*P **Pn 07 12 21.5 -2.8**
PTLB Pontes e Lacer 10.33 69 Pn **Pn 07 12 28.0 -1.7**
PTLB Pontes e Lacer 10.33 69 *e*P **Pn 07 12 27.8 -1.9**
NNA Nana 10.44 314 P **Pn 07 12 29.6 -1.6**
comp=Z,4.8nm,0.4s,baz=150,slow=18,SNR=2.6
NNA S **Sn 07 14 21.3 -5.0**
comp=Z,10.0nm,0.6s,baz=149,slow=12,SNR=2.1
CO01 Juntas del Tor 10.58 184 **Pn 07 12 29.9 -3.3**
TICA Tres Isletas 10.67 132 *e*P **Pn 07 12 33.9 -0.3**
VILB Vilhena 10.72 55 Pn **Pn 07 12 34.1 -0.9**
VILB Vilhena 10.72 55 *e*P **Pn 07 12 33.3 -1.7**
MURT Porto Murtinho 11.05 104 *e*P **Pn 07 12 37.2 -2.1**
CO03 El Pedregal 11.48 187 Pn **Pn 07 12 40.6 -4.6**
BDQN Bodoquena, MS 11.71 97 *e*P **Pn 07 12 46.0 -2.3**
SAML Samuel 11.88 30 Pn **Pn 07 12 49.7 -0.8**
SAML Samuel 11.88 30 *e*P **Pn 07 12 47.7 -2.8**
CZSB Cruzeiro do Su 12.09 343 Pn **Pn 07 12 50.2 -3.1**
CZSB Cruzeiro do Su 12.09 343 *e*P **Pn 07 12 50.7 -2.6**
CPUP Villa Florida 12.90 125 Pn **Pn 07 13 04.4 +0.6**
CPUP Villa Florida 12.90 125 P **Pn 07 13 02.1 -1.7**
comp=Z,3.4nm,0.6s,baz=304,slow=11,SNR=13
CPUP LR LR 07 19 31.6
comp=Z,46nm,18.3s,baz=298,slow=44
CPUP Villa Florida 12.90 125 *e*P **Pn 07 13 02.5 -1.3**
SALV Santo Antonio 13.29 77 *e*P **Pn 07 13 05.8 -3.2**
VA03 San Esteban 13.38 185 **Pn 07 13 08.0 -2.1**
AMBA Amambai (Brazi 13.67 107 *e*P **Pn 07 13 13.9 0.0**
MT08 Bocatoma Ro 14.02 183 P **Pn 07 13 20.8 +2.3**
MT06 COHEN 14.04 185 P **Pn 07 13 18.8 +0.3**
MT13 San Alfonso 14.33 184 P **Pn 07 13 23.6 +1.2**
MT09 Talagante 14.42 186 P **Pn 07 13 22.9 -0.7**
LMEL Las Melosas 14.43 184 P **Pn 07 13 24.9 +1.2**
MT01 Popeta 14.54 187 **Pn 07 13 25.2 +0.3**
BO01 Tunca 15.04 186 P **Pn 07 13 30.6 -0.7**
TBTG Tabatinga, AM 15.13 357 **Pn 07 13 30.1 -2.5**
TBTG Tabatinga, AM 15.13 357 *e*P **Pn 07 13 29.6 -2.9**
ATAH Atahualpa 15.13 322 P **Pn 07 13 33.1 +0.1**
comp=Z,3.1nm,0.7s,baz=77,slow=17,SNR=2.3
ITQB Itaqui 15.31 134 P **Pn 07 13 35.8 +1.2**
ITQB IAmb IAmb 07 14 03.4
comp=Z,55nm,1.3s
TEFE Tefe 16.39 16 *e*P **Pn 07 13 47.5 -0.7**
ML02 Panimavida 16.43 187 P **Pn 07 13 48.3 -0.2**
ML02 IAmb IAmb 07 13 49.5
comp=Z,29nm,0.8s
PTGB Pitanga 16.70 112 *e*P **Pn 07 13 51.3 -0.7**
ARAG Araguaiana, MT 16.93 80 *e*P **Pn 07 13 54.2 -0.7**
LDASE Londrina, Braz 17.26 107 *e*P **Pn 07 13 59.6 +0.8**
ITAB Concordia 17.46 120 P **Pn 07 14 01.7 +0.5**
ITAB IAmb IAmb 07 14 35.3
comp=Z,38nm,1.4s
MACA Manacapuru-AM 18.13 28 P **P 07 14 06.8 -1.3**
MACA Manacapuru-AM 18.13 28 *e*P **P 07 14 07.5 -0.7**
NPGB Novo Progresso 18.17 49 *e*P **P 07 14 07.9 -0.7**
PLTB Pedras Altas 18.64 134 P **P 07 14 13.7 0.0**
PLTB IAmb IAmb 07 14 47.4
comp=Z,26nm,1.3s
SNDB Serra Nova Dou 18.70 69 *e*P **P 07 14 14.7 +0.3**
ARNL Arenillas 19.02 325 P **Pn 07 14 20.5 +0.7**
ARNL IAmb IAmb 07 14 21.9
comp=Z,14nm,0.7s
TRQA Tornquist 19.62 163 P **P 07 14 24.9 +0.6**
TRQA IAmb IAmb 07 14 26.0
comp=Z,16nm,0.8s
ITTB Itaituba 19.86 43 *e*P **P 07 14 26.4 -0.6**
IPMB Ipameri, GO 19.89 89 *e*P **P 07 14 27.3 -0.1**
BDFB Brasilia 20.50 83 P **P 07 14 33.3 -0.7**
comp=Z,2.8nm,0.5s,baz=258,slow=11,SNR=13
comp=Z,2.8nm,0.5s
VAO Valinhos 20.99 104 P **P 07 14 38.0 -1.3**
PLCA Paso Flores 21.31 183 P **P 07 14 44.4 +1.9**
PLCA Paso Flores 21.31 183 P **P 07 14 43.5 +1.0**
comp=Z,5.9nm,0.8s,baz=1.7,slow=11,SNR=15
comp=Z,5.9nm,0.8s
PLCA Paso Flores 21.31 183 *e*P **P 07 14 44.8 +2.3**
BOAV Boa Vista 23.25 22 P **P 07 15 01.4 -1.0**
BOAV IAmb IAmb 07 15 03.2
comp=Z,11nm,0.8s
BOAV Boa Vista 23.25 22 *e*P **P 07 15 02.2 -0.2**
SMTB Santa Maria do 23.35 66 *e*P **P 07 15 03.5 +0.1**
MCPB Macapa, AP 25.27 44 *e*P **P 07 15 19.6 -1.1**
RUSC La Rusia 25.42 351 P **P 07 15 23.1 +0.6**
SDV Santo Domingo 28.14 357 LR LR 07 29 48.8
comp=Z,46nm,20.2s,baz=140,slow=42
656A Willston 50.16 345 P **P 07 18 49.7 +0.8**
352A Blakely 52.80 343 P **P 07 19 07.6 -0.9**
SWET Sewanee 56.59 344 P **P 07 19 35.4 -0.5**
SWET IAmb IAmb 07 19 39.0
comp=Z,4.0nm,0.7s
TXAR Lajitas Array 58.78 325 P **P 07 19 52.2 +0.8**
comp=Z,0.1nm,0.4s,baz=157,slow=2.9,SNR=2.8
comp=Z,0.1nm,0.4s
X37A Clayton 59.19 335 P **P 07 19 53.0 -1.0**
X37A IAmb IAmb 07 19 56.5
comp=Z,7.1nm,1.2s
VHRN Van Horn 60.62 325 P **P 07 20 03.9 -0.2**
VHRN IAmb IAmb 07 20 05.7
comp=Z,5.5nm,1.3s
BELA Belgrano 2 60.86 172 P **P 07 20 06.3 +1.5**
S39A Bolivar 61.16 338 P **P 07 20 07.1 -0.3**
S39A IAmb IAmb 07 20 12.8
comp=Z,3.7nm,0.7s
VNA3 Neumayer Olymp 62.14 162 ⇑P **P 07 20 13.9 +0.3**
comp=Z,2.4nm,0.7s
VNA2 Neumayer--Watz 62.71 161 ⇑P **P 07 20 17.8 +0.5**
comp=Z,3.1nm,0.8s,baz=308,slow=7.1
SNAA Sanae 64.34 161 P **P 07 20 29.9 +1.8**
SNAA IAmb IAmb 07 20 30.3
comp=Z,6.0nm,1.0s
SNAA Sanae 64.34 161 ⇑P **P 07 20 29.8 +1.7**
comp=Z,58nm,0.6s
SNAA Sanae 64.34 161 P **P 07 20 29.3 +1.2**
comp=Z,3.1nm,0.9s,baz=271,slow=7.7,SNR=11
SNAA pP **pP 07 20 57.8 +1.0**
comp=Z,1.4nm,0.7s,baz=306,slow=11,SNR=2.1
comp=Z,3.1nm,0.9s
TROLL Troll, Antarti 66.05 161 ⇑P **P 07 20 40.7 +1.4**
comp=Z,156nm,0.7s
DBIC Dimbokro 68.37 74 P **P 07 20 54.2 -0.5**
comp=Z,3.2nm,0.8s,baz=276,slow=7.9,SNR=3.8
comp=Z,3.2nm,0.8s
QSPA South Pole Qui 70.79 180 P **P 07 21 10.6 +1.8**
QSPA South Pole Qui 70.79 180 P **P 07 21 10.5 +1.6**
comp=Z,2.7nm,0.7s,baz=207,slow=1.5,SNR=19
QSPA pP **pP 07 21 38.7 +0.9**
comp=Z,1.7nm,1.0s,baz=149,slow=10,SNR=1.9
comp=Z,2.7nm,0.7s
PDAR Pinedale Array 72.18 330 P **P 07 21 18.2 +0.6**
comp=Z,0.3nm,0.4s,baz=109,slow=8.0,SNR=2.4
comp=Z,0.3nm,0.4s
NVAR Mina Array Bea 73.70 322 P **P 07 21 27.8 +1.2**
comp=Z,0.8nm,0.8s,baz=141,slow=7.3,SNR=5.3
comp=Z,0.8nm,0.8s
TOA0 Torodi Ar. Sit 76.87 71 P **P 07 21 43.3 -1.7**
TORD Torodi Ar. Bea 76.87 71 P **P 07 21 44.6 -0.4**
TORD Torodi Ar. Bea 76.87 71 P **P 07 21 44.3 -0.7**
comp=Z,1.5nm,0.7s,baz=258,slow=5.0,SNR=10
TORD pP **pP 07 22 13.8 -0.6**
comp=Z,2.0nm,0.7s,baz=265,slow=4.2,SNR=6.3
comp=Z,1.5nm,0.7s
VNDA Vanda 78.88 190 P **P 07 21 57.0 +1.9**
comp=Z,0.8nm,0.7s,baz=63,slow=2.0,SNR=4.7
comp=Z,0.8nm,0.7s
ESDC Sonseca Array 84.50 45 P **P 07 22 24.6 -0.6**
comp=Z,0.6nm,0.8s,baz=233,slow=3.5,SNR=4.4
ESDC pP **pP 07 22 56.0 +0.7**
comp=Z,0.6nm,0.5s,baz=251,slow=5.1,SNR=4.8
comp=Z,0.6nm,0.8s
YKA Yellowknife Ar 89.13 341 P **P 07 22 48.0 +1.0**
YKA Yellowknife Ar 89.13 341 P **P 07 22 47.7 +0.6**
comp=Z,4.7nm,0.7s,baz=131,slow=4.2,SNR=71
YKA pP **pP 07 23 17.4 +0.2**
comp=Z,2.7nm,0.8s,baz=131,slow=4.4,SNR=8.6
comp=Z,4.7nm,0.7s
GERES GERESS Array B 99.80 42 LR LR 08 07 40.7
comp=Z,19nm,19.2s,baz=340,slow=35
ASAR Alice Springs 131.66 209 PKP **PKPdf 07 29 05.5 +0.3**
comp=Z,0.9nm,0.5s,baz=135,slow=1.7,SNR=14
WRA Warramunga Arr 134.63 212 PKP **PKPdf 07 29 11.5 +0.6**
comp=Z,1.2nm,0.5s,baz=148,slow=1.7,SNR=16
KURBB Kurchatov Arra 139.69 32 PKP **PKPdf 07 29 17.5 -1.7**
comp=Z,0.2nm,0.4s,baz=277,slow=9.0,SNR=2.2
ZALV Zalesovo Beam 140.14 24 PKP **PKPdf 07 29 18.8 -1.1**
comp=Z,1.6nm,0.5s,baz=270,slow=3.0,SNR=5.1
MKAR Makanchi Array 144.04 34 PKP **PKPab 07 29 24.9 +0.1**
comp=Z,0.4nm,0.7s,baz=290,slow=9.0,SNR=4.7
USRK Ussuriysk Ar. 149.60 329 PKPbc **PKPbc 07 29 41.3 +0.1**
comp=Z,6.0nm,0.8s,baz=339,slow=1.2,SNR=6.9
MJAR Matsushiro Arr 150.55 311 PKPbc **PKiKP 07 29 44.5 0.0**
comp=Z,3.2nm,0.6s,baz=79,slow=1.7,SNR=10.0
SONM Songino Array 151.40 6 PKPbc **PKPbc 07 29 45.5 -0.1**
comp=Z,6.9nm,0.8s,baz=303,slow=1.3,SNR=11

*IDC **22** 07:15:35.7±1.3,25°.91N×140°.97E, h139km±11km, mb3.5/14, mbtmp3.9/15, Error ellipse: s-maj=21.4km s-min=14.1km az=82.0*
*JMA **22** 07:15:40.1±0.2,26°.N±1°×14°.1E±°, h112km, MD4.1/22, MV4.5/22, IOTO ISLANDS REGION*
ISC 22 07:15:32.3±0.7, 25°.75N±0°.10×140°.5E±0°.1, h100km, n28, σ2§37/26, mb3.8/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**1.78**	**60**	P	Pn	07 16 06.6	+4.6
JHH2				S	**Sn**	**07 16 26.8**	**+2.2**
JHH2	**Haha-jima-NKT2**	**1.78**	**60**	A	A	07 16 06.6	
	comp=E,8.0nm,0.4s,comp=N,7.0nm,0.5s						
CBIJ	**Chichi jima**	**2.05**	**49**	P	Pn	07 16 10.1	+4.6
CBIJ				S	**Sn**	**07 16 32.7**	**+1.8**
CBIJ	**Chichi jima**	**2.05**	**49**	A	A	07 16 10.1	
	comp=E,5.0nm,1.4s,comp=N,6.0nm,1.1s						
JCJ	**Chichijima**	**2.05**	**49**	P	**Pn**	**07 16 05.3**	**-0.2**
	comp=N,228nm,0.4s,baz=297,slow=18,SNR=68						
JCJ				S	**Sn**	**07 16 28.4**	**-2.4**
	comp=N,660nm,0.3s,baz=260,slow=23,SNR=53						
BSO3	**Boso 3**	**9.02**	**0**	P	**Pn**	**07 17 42.4**	**+3.0**
BSO4	**Boso 4**	**9.21**	**359**	*e*P	**Pn**	**07 17 45.6**	**+3.5**
JHU	**Hanno**	**10.12**	**355**	*e*P	**Pn**	**07 17 57.8**	**+3.2**
JAG	**Ashikaga**	**10.68**	**356**	P	**Pn**	**07 18 03.1**	**+1.0**
MJAR	**Matsushiro Arr**	**10.93**	**350**	P	**Pn**	**07 18 06.8**	**+1.2**
	comp=N,1.1nm,0.3s,baz=143,slow=23,SNR=2.0						
WRA	**Warramunga Arr**	**45.81**	**188**	P	**P**	**07 23 45.5**	**+1.2**
	comp=N,1.6nm,0.5s,baz=11,slow=8.8,SNR=30						
	comp=N,1.6nm,0.5s						
ASAR	**Alice Springs**	**49.53**	**188**	P	**P**	**07 24 13.9**	**+0.9**
	comp=N,0.2nm,0.6s,baz=3.0,slow=5.3,SNR=2.2						
	comp=N,0.2nm,0.6s						
MKAR	**Makanchi Array**	**50.15**	**311**	P	**P**	**07 24 19.6**	**+2.0**
	comp=N,0.4nm,0.8s,baz=115,slow=8.6,SNR=3.7						
	comp=N,0.4nm,0.8s						
KURBB	**Kurchatov Arra**	**52.88**	**315**	P	**P**	**07 24 38.9**	**+1.1**
	comp=N,0.4nm,0.3s,baz=92,slow=8.5,SNR=13						
	comp=N,0.4nm,0.3s						
STKA	**Stephens Creek**	**57.32**	**179**	P	**P**	**07 25 09.8**	**0.0**
	comp=N,0.9nm,0.4s,baz=98,slow=3.8,SNR=2.4						
	comp=N,0.9nm,0.4s						
BVAR	**Borovoye Array**	**57.99**	**318**	P	**P**	**07 25 15.6**	**+1.2**
	comp=N,1.2nm,0.4s,baz=90,slow=6.6,SNR=9.0						
	comp=N,1.2nm,0.4s						
ILAR	**Eielson Array**	**59.63**	**28**	P	**P**	**07 25 23.1**	**-2.5**
	comp=N,0.4nm,0.8s,baz=251,slow=5.8,SNR=5.7						
	comp=N,0.4nm,0.8s						
YKA	**Yellowknife Ar**	**74.05**	**28**	P	**P**	**07 26 54.9**	**-2.1**
	comp=N,0.3nm,0.5s,baz=233,slow=13,SNR=4.3						
	comp=N,0.3nm,0.5s						
ARCES	**ARCESS Array B**	**74.30**	**341**	P	**P**	**07 26 57.7**	**-0.7**
	comp=N,3.9nm,0.9s,baz=33,slow=12,SNR=2.0						
	comp=N,3.9nm,0.9s						
FINES	**FINESS Array B**	**78.46**	**333**	P	**P**	**07 27 20.8**	**-1.2**
	comp=N,3.3nm,0.4s,baz=73,slow=5.0,SNR=36						
	comp=N,3.3nm,0.4s						
NVAR	**Mina Array Bea**	**82.56**	**51**	P	P	07 27 40.0	-4.6
	comp=N,0.2nm,0.6s,baz=292,slow=6.0,SNR=4.8						
	comp=N,0.2nm,0.6s						
AKASG	**Malin Array Be**	**82.77**	**323**	P	**P**	**07 27 43.9**	**-1.3**
	comp=N,0.2nm,0.3s,baz=51,slow=5.2,SNR=2.0						
	comp=N,0.2nm,0.3s						
HFS	**Hagfors**	**84.03**	**336**	P	**P**	**07 27 49.3**	**-2.2**
	comp=N,1.3nm,0.7s,baz=95,slow=9.7,SNR=5.3						
	comp=N,1.3nm,0.7s						
NOA	**NORSAR Array B**	**84.27**	**338**	P	**P**	**07 27 50.3**	**-2.5**
	comp=N,0.5nm,0.5s,baz=56,slow=6.1,SNR=3.1						
	comp=N,0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**124.26**	**309**	PKP	**PKPdf**	**07 34 17.8**	**-2.4**
	comp=N,0.3nm,0.4s,baz=320,slow=2.3,SNR=1.7						
ROSC	**El Rosal**	**134.58**	**53**	PKP	**PKPdf**	**07 34 37.2**	**-3.1**
	comp=N,5.7nm,0.5s,baz=323,slow=4.0,SNR=2.9						
PLCA	**Paso Flores**	**150.26**	**128**	PKPbc	**PKPdf**	**07 35 10.0**	**+3.3**
	comp=N,0.9nm,0.8s,baz=264,slow=5.4,SNR=3.1						
LPAZ	**La Paz**	**151.75**	**76**	PKPbc	**PKPdf**	**07 35 14.8**	**+4.5**
	comp=N,0.8nm,0.5s,baz=282,slow=1.6,SNR=6.5						

IDC 22 07:38:24.8±3.0, 9°.33S×168°.17E, h120km±150km, mb3.6/3, mbtmp4.1/4, ML3.7/1, Error ellipse: s-maj=776.0km s-min=106.1km az=60.0, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.78**	**187**	P	Pn	07 41 22.1	-0.1
	0.4nm,0.3s,baz=34,slow=18,SNR=7.8						
	7.4nm,1.0s						
STKA	**Stephens Creek**	**33.33**	**224**	P	P	07 44 52.2	+0.9
	1.8nm,0.8s,baz=52,slow=11,SNR=3.5						
	1.8nm,0.8s						
WRA	**Warramunga Arr**	**34.33**	**248**	P	P	07 44 59.7	-0.4
	1.8nm,0.7s,baz=81,slow=8.7,SNR=9.0						
	1.8nm,0.7s						
ASAR	**Alice Springs**	**35.70**	**242**	P	P	07 45 11.7	-0.3
	1.4nm,0.7s,baz=69,slow=9.4,SNR=19						

1.4nm,0.7s

*DNK **22** 07:38:23.3±0.9, 57°.74N×21°.88E, h0km, ML2.5(UPP), Suspected explosion*
*UPP **22** 07:38:23.6±1.4, 57°.74N×21°.79E, h0km, ML2.5*
*EST **22** 07:38:26.6±0.2, 57°.82N×21°.46E, h0km, ML1.9(HEL), Explosion*
*HEL **22** 07:38:26.7±0.4, 57°.83N×21°.47E, h0km, ML1.9, Explosion*
*LVSN **22** 07:38:32.5±2.2, 57°.80N×21°.83E, h0km±21km, ML2.3*
ISC 22 07:38:26.0±0.8, 57°.84N±0°.03×21°.51E±0°.02, h0km, n42, σ1§04/60, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**0.47**	**116**	*e*P	**Pg**	**07 38 34.7**	**-0.3**
SLIT	**Slitere, Latvi**	**0.47**	**116**	*e*S	**Sg**	**07 38 41.6**	**+0.5**
SLIT				AML	AML	07 39 08.8	
	comp=E,1μm,0.6s						
SLIT				AML	AML	07 39 09.0	
	comp=Z,828nm,0.7s						
SLIT				AML	AML	07 39 09.1	
	comp=N,765nm,0.7s						
SLIT	**Slitere, Latvi**	**0.47**	**116**	*e*P	**Pg**	**07 38 34.6**	**-0.4**
SLIT				*e*S	**Sg**	**07 38 42.0**	**+0.9**
MTSE	**Matsula**	**1.50**	**53**	*e*P	**Pn**	**07 38 53.2**	**-1.0**
MTSE	**Matsula**	**1.50**	**53**	*e*P	**Pn**	**07 38 53.1**	**-1.1**
MTSE				*e*S	**Sn**	**07 39 14.7**	**+0.2**
GOTU	**Gotland**	**1.58**	**266**	P	**Pn**	**07 38 54.2**	**-1.0**
GOTU				S	**Sg**	**07 39 18.3**	**+1.5**
GOTU	**Gotland**	**1.58**	**266**	P	**Pn**	**07 38 54.2**	**-1.0**
GOTU				S	**Sg**	**07 39 18.3**	**+1.5**
EE01	**Perakula, Nova**	**1.77**	**38**	*e*P	**Pn**	**07 38 57.2**	**-0.6**
EE01				*e*SG	**Sb**	**07 39 22.0**	**+0.1**
PBUR	**Paburge**	**1.83**	**173**	*e*P	**Pn**	**07 38 57.6**	**-1.1**
PBUR	**Paburge**	**1.83**	**173**	*e*S	**Sg**	**07 39 25.6**	**+0.8**
PBUR				AML	AML	07 40 13.4	
	comp=Z,51nm,0.3s						
PBUR				AML	AML	07 40 14.7	
	comp=N,50nm,0.3s						
PBUR				AML	AML	07 40 31.4	
	comp=E,54nm,0.5s						
PBUR	**Paburge**	**1.83**	**173**	*e*P	**Pn**	**07 38 58.3**	**-0.4**
EE08	**Sarghaua, Vand**	**2.14**	**66**	*e*P	**Pn**	**07 39 03.8**	**+0.9**
EE08				*e*S	**Sb**	**07 39 31.9**	**-0.7**
EE02	**Kiisa, Saku**	**2.16**	**50**	*e*P	**Pn**	**07 39 04.0**	**+0.9**
EE02				*e*SB	**Sb**	**07 39 32.5**	**-0.6**
NYNU	**Nynaeshamn**	**2.18**	**304**	P	**Pn**	**07 39 03.9**	**+0.4**
NYNU				S	**Sb**	**07 39 33.9**	**0.0**
NYNU	**Nynaeshamn**	**2.18**	**304**	P	**Pn**	**07 39 03.9**	**+0.4**
NYNU				S	**Sb**	**07 39 33.9**	**0.0**
NRTU	**Norrtaelje**	**2.38**	**322**	*e*P	**Pn**	**07 39 06.8**	**+0.6**
NRTU				*e*SB	**Sb**	**07 39 38.7**	**-0.8**
NRTU	**Norrtaelje**	**2.38**	**322**	P	**Pn**	**07 39 06.7**	**+0.6**
NRTU	**Norrtaelje**	**2.38**	**322**	P	**Pn**	**07 39 06.7**	**+0.6**
AAL	**Aland**	**2.48**	**342**	P	**Pn**	**07 39 07.0**	**-0.6**
AAL	**Aland**	**2.48**	**342**	P	**Pn**	**07 39 07.0**	**-0.6**
BYXU	**Byxelkrok**	**2.48**	**259**	P	**Pn**	**07 39 08.2**	**+0.6**
BYXU	**Byxelkrok**	**2.48**	**259**	P	**Pn**	**07 39 08.2**	**+0.6**
VIKU	**Vikbolandet**	**2.63**	**287**	P	**Pn**	**07 39 10.1**	**+0.5**
VIKU	**Vikbolandet**	**2.63**	**287**	P	**Pn**	**07 39 10.1**	**+0.5**
VSTU	**Vaestervik**	**2.67**	**268**	P	**Pn**	**07 39 10.8**	**+0.6**
VSTU	**Vaestervik**	**2.67**	**268**	P	**Pn**	**07 39 10.8**	**+0.6**
PABE	**Paberze**	**2.70**	**149**	*e*S	**Sn**	**07 39 45.8**	**+1.7**
PABE				AML	AML	07 39 47.1	
	comp=N,20nm,0.2s						
PABE				AML	AML	07 40 02.6	
	comp=E,15nm,0.4s						
PABE				AML	AML	07 40 13.6	
	comp=Z,12nm,0.3s						
PABE	**Paberze**	**2.70**	**149**	*e*P	**Pn**	**07 39 11.4**	**+0.7**
PABE				*e*S	**Sn**	**07 39 44.9**	**+0.8**
EE03	**Tooma soojaam,**	**2.72**	**66**	*e*P	**Pn**	**07 39 12.6**	**+1.8**
EE03				*e*PB	**Pb**	**07 39 13.7**	**-1.7**
EE03				*e*SB	**Sb**	**07 39 48.2**	**-1.1**
MEF	**Metsahovi**	**2.82**	**31**	*e*P	**Pn**	**07 39 12.6**	**+0.4**
MEF	**Metsahovi**	**2.82**	**31**	AML	AML	07 39 53.3	
	comp=E,7.4nm,0.2s						
MEF				AML	AML	07 40 00.5	
	comp=N,4.1nm,0.2s						
MEF				AML	AML	07 40 02.9	
	comp=Z,6.4nm,0.1s						
MEF	**Metsahovi**	**2.82**	**31**	*e*P	**Pn**	**07 39 14.1**	**+1.8**
MEF				*e*SB	**Sb**	**07 39 51.7**	**-0.4**
MEF				MSG		07 39 52.8	
	comp=Z,4.6nm,0.1s						
ARBE	**Arbavere**	**2.84**	**54**	*e*P	**Pb**	**07 39 15.8**	**-1.7**
ARBE				AML	AML	07 39 55.5	
	comp=E,126nm,0.1s						
ARBE				AML	AML	07 40 00.9	
	comp=N,140nm,0.1s						
ARBE				AML	AML	07 40 01.2	
	comp=Z,50nm,0.5s						
ARBE	**Arbavere**	**2.84**	**54**	*e*PB	**Pn**	**07 39 15.0**	**+2.5**
ARBE				*e*SB	**Sb**	**07 39 51.9**	**-0.9**
VSU	**Vasula**	**2.84**	**75**	*e*P	**Pn**	**07 39 14.1**	**+1.5**
VSU				*e*SB	**Sb**	**07 39 53.2**	**+0.4**
HEL1	**Helsinki**	**2.93**	**35**	*e*P	**Pn**	**07 39 15.9**	**+2.2**
HEL1				*e*S	**Sn**	**07 39 50.1**	**+0.6**
HEL1				*e*SB	**Sb**	**07 39 55.5**	**+0.2**
NUR	**Nurmijrvi**	**3.13**	**30**	*e*P	**Pn**	**07 39 19.1**	**+2.6**
KPF	**Kankaanpaa**	**4.02**	**4**	*e*P	**Pn**	**07 39 29.1**	**+0.3**
KPF				*e*S	**Sn**	**07 40 16.5**	**+0.1**
KPF				MSG		07 40 35.8	
	comp=Z,1.8nm,0.2s						
VJF	**Virojoki**	**4.13**	**46**	*e*P	**Pn**	**07 39 31.1**	**+1.0**
FIA1	**FINESS Array S**	**4.30**	**31**	*e*P	**Pn**	**07 39 33.6**	**+1.1**
FIA1				MSG		07 40 42.5	
	comp=Z,1.5nm,0.2s						
KEF	**Keuruu**	**4.66**	**20**	*e*P	**Pn**	**07 39 38.3**	**+0.8**
KEF				*e*S	**Sn**	**07 40 32.2**	**-0.1**
KEF				MSG		07 40 52.4	
	comp=Z,1.1nm,0.1s						
RUF	**Ruokolahti**	**5.22**	**43**	MSG		07 41 14.7	
	comp=Z,1.0nm,0.2s						

*IDC **22** 07:49:53.5±7.0, 52°.18N×178°.04W, h0km, mb3.4/4, mbtmp3.8/5, ML4.6/1, Error ellipse: s-maj=120.5km s-min=65.1km az=87.0*
*AEIC **22** 07:50:27.7±1.7, 52°.5N±0°.2×174°.8W±0°.1, h206km±6km, Error ellipse: s-maj=29.8km s-min=8.7km az=168.0*
*NEIC **22** 07:50:29.5±1.9, 52°.4N±0°.2×174°.7W±0°.2, h212km±32km, mb4.1/54, ML3.4(AEIC), Error ellipse: s-maj=31.8km s-min=21.4km az=177.0*
**ISC 22 07:50:29.5±0.9, 52°.4N±0°.1×

8.1nm,0.2s

J17K	**VABM Dome**	**13.78**	**31**	P	**P**	**07 53 38.7**	**+0.3**
N19K	**Bonanza Creek**	**13.94**	**45**	P	**P**	**07 53 40.6**	**+0.2**
P19K	**Oil Pt**	**14.01**	**50**	P	**P**	**07 53 40.8**	**-0.3**
L19K	**White Mountain**	**14.49**	**40**	P	**P**	**07 53 47.1**	**+0.7**
M19K	**Big River Lodg**	**14.52**	**41**	P	**P**	**07 53 47.2**	**+0.5**
J18K	**Innoko River**	**14.59**	**33**	P	**P**	**07 53 48.0**	**+0.5**
HOM	**Homer**	**14.77**	**51**	P	**Pn**	**07 53 48.8**	**+0.3**
CNPM	**China Poot**	**14.92**	**52**	P	**Pn**	**07 53 49.9**	**-0.6**
BRLK	**Bradley Lake**	**15.16**	**51**	P	**Pn**	**07 53 51.8**	**-1.6**
SKT	**Skwentna**	**15.74**	**43**	P	**Pn**	**07 54 01.3**	**+0.9**
SUA	**Susitna One**	**15.85**	**46**	P	**P**	**07 54 01.3**	**-0.3**
SUA				IAmb	IAmb	07 54 37.2	

comp=Z,9.3nm,1.0s

O22K	**Cooper Landing**	**15.95**	**50**	P	**P**	**07 54 01.4**	**-1.0**
CAST	**Castle Rocks**	**16.23**	**38**	P	**Pn**	**07 54 06.7**	**+0.4**
KTH	**Kantishna Hill**	**16.75**	**39**	P	**P**	**07 54 11.5**	**+0.1**
KTH				IAmb	IAmb	07 54 13.4	

comp=Z,11nm,1.0s

GHO	**Glory Hole Cre**	**16.77**	**46**	P	**P**	**07 54 10.9**	**-0.7**
GHO				IAmb	IAmb	07 54 54.5	

comp=Z,12nm,1.4s

TRF	**Thorofare Moun**	**16.94**	**40**	P	**P**	**07 54 13.0**	**-0.6**
TRF				IAmb	IAmb	07 54 17.6	

comp=Z,5.0nm,0.8s

BPAW	**Bear Paw Mtn.**	**17.01**	**37**	P	**Pn**	**07 54 15.3**	**-0.2**
BPAW				IAmb	IAmb	07 54 19.1	

comp=Z,5.7nm,0.6s

SML	**Sawmill**	**17.05**	**46**	P	**P**	**07 54 13.3**	**-1.3**
SML				IAmb	IAmb	07 54 36.8	

comp=Z,17nm,1.4s

I21K	**Tanana**	**17.28**	**33**	P	**P**	**07 54 16.6**	**-0.4**
I21K				IAmb	IAmb	07 54 18.9	

comp=Z,5.4nm,1.0s

GLI	**Glacier Island**	**17.30**	**50**	P	**P**	**07 54 16.6**	**-0.7**
H21K	**Melozitna Rive**	**17.31**	**31**	P	**P**	**07 54 17.9**	**+0.6**
E19K	**Redstone River**	**17.37**	**23**	P	**P**	**07 54 17.5**	**-0.5**
E19K				IAmb	IAmb	07 54 19.8	

comp=Z,10nm,1.4s

RND	**Reindeer**	**17.49**	**41**	P	**P**	**07 54 18.5**	**-0.9**
SCM	**Sheep Creek Mo**	**17.50**	**47**	P	**P**	**07 54 19.1**	**-0.5**
FID	**Port Fidalgo**	**17.56**	**50**	P	**P**	**07 54 19.1**	**-1.0**
MLY	**Manley**	**17.62**	**35**	P	**P**	**07 54 20.9**	**+0.1**
MLY				IAmb	IAmb	07 54 23.9	

comp=Z,9.4nm,1.5s

G21K	**Allakaket**	**17.66**	**29**	P	**P**	**07 54 20.9**	**-0.3**
G21K				IAmb	IAmb	07 54 22.9	

comp=Z,6.9nm,1.4s

DHY	**Denali Highway**	**17.95**	**43**		**P**	**07 54 23.9**	**-0.7**
NEA2	**Nenana**	**17.98**	**37**	P	**P**	**07 54 22.9**	**-1.8**
D19K	**Kuna River**	**18.01**	**20**	P	**P**	**07 54 24.1**	**-0.8**
D19K				IAmb	IAmb	07 54 35.5	

comp=Z,14nm,1.4s

KLU	**Klutina**	**18.03**	**48**	P	**Pn**	**07 54 27.1**	**-0.5**
M24K	**Tolsona, Glenn**	**18.11**	**46**	P	**P**	**07 54 24.8**	**-1.4**
F21K	**Alatna River**	**18.16**	**27**	P	**P**	**07 54 26.7**	**0.0**
I23K	**Minto, Yukon-K**	**18.17**	**36**	P	**P**	**07 54 25.9**	**-0.8**
I23K				IAmb	IAmb	07 54 28.1	

comp=Z,4.8nm,0.6s

WRH	**Wood River Hil**	**18.29**	**38**	P	**P**	**07 54 25.2**	**-2.9**
WRH				IAmb	IAmb	07 54 28.2	

comp=Z,8.5nm,1.5s

MDM	**Murphy Dome**	**18.48**	**37**	P	**P**	**07 54 28.6**	**-1.5**
CCB	**Clear Creek Bu**	**18.48**	**38**	P	**P**	**07 54 27.4**	**-2.8**
CCB				IAmb	IAmb	07 54 29.5	

comp=Z,2.7nm,0.6s

H23K	**Yukon River**	**18.48**	**34**	P	**P**	**07 54 29.8**	**-0.3**
H23K				IAmb	IAmb	07 54 30.7	

comp=Z,5.7nm,1.1s

HDA	**Harding Lake**	**18.70**	**39**	P	**P**	**07 54 30.2**	**-2.3**
HDA				IAmb	IAmb	07 54 33.9	

comp=Z,3.4nm,0.5s

IL31		**18.89**	**38**	P	**P**	**07 54 32.8**	**-1.7**
ILAR	**Eielson Array**	**18.89**	**38**	P	**P**	**07 54 33.2**	**-1.3**
ILAR	**Eielson Array**	**18.89**	**38**	P	**P**	**07 54 31.2**	**-3.3**

comp=Z,0.8nm,0.5s,baz=238,slow=9.2,SNR=15
comp=Z,0.8nm,0.5s

GLB	**Gilahina Butte**	**18.99**	**49**	P	**Pn**	**07 54 38.1**	**-0.7**
H24K	**Noodor Dome**	**19.06**	**35**	P	**P**	**07 54 35.8**	**-0.6**
H24K				IAmb	IAmb	07 54 37.3	

comp=Z,4.8nm,0.9s

J25K	**Salcha River,**	**19.40**	**40**	P	**P**	**07 54 37.2**	**-2.9**
J25K				IAmb	IAmb	07 54 44.8	

comp=Z,2.7nm,0.6s

D22K	**Ayikyak River**	**19.56**	**24**	P	**P**	**07 54 40.4**	**-1.3**
D22K				IAmb	IAmb	07 55 19.6	

comp=Z,10nm,1.4s

G24K	**Hadweenzic Riv**	**19.67**	**33**	P	**P**	**07 54 42.2**	**-0.7**
SCRK	**Sand Creek**	**19.70**	**42**		**P**	**07 54 42.1**	**-1.3**
SCRK				IAmb	IAmb	07 54 42.5	

comp=Z,3.9nm,0.7s

F24K	**Squaw Lake**	**20.00**	**31**	P	**P**	**07 54 45.9**	**-0.6**
J26L	**Joseph Creek**	**20.07**	**41**		**P**	**07 54 46.5**	**-0.8**
J26L				IAmb	IAmb	07 54 46.7	

comp=Z,8.1nm,1.5s

TOLK	**Toolik Lake Re**	**20.21**	**27**	P	**P**	**07 54 48.1**	**-0.6**
L27K	**Beaver Creek,**	**20.32**	**45**	P	**P**	**07 54 48.7**	**-1.2**
BCAR	**Beaver Creek A**	**20.34**	**45**	P	**P**	**07 54 48.8**	**-1.3**
B22K	**Teshekpuk Lake**	**20.49**	**21**	P	**P**	**07 54 50.7**	**-0.8**
BCPM	**Bancas Point**	**20.75**	**55**	P	**P**	**07 54 50.5**	**-3.9**
C23K	**Itkillik River**	**20.76**	**24**	P	**P**	**07 54 52.9**	**-1.5**
C23K				IAmb	IAmb	07 54 54.2	

comp=Z,2.9nm,0.7s

BMAR	**Burnt Mountain**	**21.02**	**33**	P	**P**	**07 54 56.0**	**-1.2**
EGAK	**Eagle**	**21.14**	**41**	P	**P**	**07 54 57.2**	**-1.3**
EGAK				IAmb	IAmb	07 54 58.4	

comp=Z,3.0nm,0.5s

DAWY	**Dawson**	**21.65**	**44**	P	**P**	**07 55 03.7**	**-0.1**
DAWY				IAmb	IAmb	07 55 32.9	

comp=Z,9.5nm,1.5s

I28M	**Miner Creek**	**21.85**	**40**		**P**	**07 55 04.3**	**-1.6**
L29M	**L29M**	**21.96**	**46**	P	**P**	**07 55 05.7**	**-1.2**
K29M	**Barlow Dome**	**22.39**	**45**	P	**P**	**07 55 09.9**	**-1.1**
K29M				IAmb	IAmb	07 55 11.7	

comp=Z,2.8nm,0.6s

F28M	**Old Crow**	**22.71**	**35**	P	**P**	**07 55 13.1**	**-0.6**
F28M				IAmb	IAmb	07 55 43.5	

comp=Z,4.9nm,1.3s

H29M	**Whitestone**	**22.72**	**38**	P	**P**	**07 55 11.4**	**-2.4**
H29M				IAmb	IAmb	07 55 13.8	

comp=Z,13nm,1.5s

J30M	**Hart River**	**23.07**	**43**	P	**P**	**07 55 16.8**	**-0.3**
I30M	**Mount Dempster**	**23.21**	**42**	P	**P**	**07 55 16.8**	**-1.6**
I30M				IAmb	IAmb	07 55 18.8	

comp=Z,3.2nm,0.8s

YKA	**Yellowknife Ar**	**32.70**	**48**	P	**P**	**07 56 42.0**	**-0.5**

comp=Z,0.2nm,0.5s,baz=291,slow=8.7,SNR=6.1
comp=Z,0.2nm,0.5s

H11N2	**WAKE ISLAND Hy**	**35.59**	**211**	T	T	08 34 01.9	
	baz=18,slow=76,SNR=3.7							
H11N3	**WAKE ISLAND Hy**	**35.60**	**211**	T	T	08 34 04.9	
	baz=18,slow=76,SNR=3.5							
H11N1	**WAKE ISLAND Hy**	**35.61**	**211**	T	T	08 33 59.7	
	baz=18,slow=76,SNR=3.2							
NVAR	**Mina Array Bea**	**40.95**	**87**	P	**P**	**07 57 54.8**	**+2.2**

comp=Z,0.3nm,0.6s,baz=294,slow=7.6,SNR=2.5
comp=Z,0.3nm,0.6s

PDAR	**Pinedale Array**	**43.61**	**76**	P	**P**	**07 58 14.5**	**+0.5**

comp=Z,0.8nm,0.5s,baz=297,slow=3.4,SNR=8.4
comp=Z,0.8nm,0.5s

IDC 22 07:54:51.8±3.2, 53°.76N×88°.08E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=27.9km s-min=19.2km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.94**	**277**	I	I	08 07 50.0	
	0.1nm,1.0s,baz=91,slow=325,SNR=4.7						
ZALV	**Zalesovo Beam**	**1.94**	**277**	Pn	Pn	07 55 26.1	+0.2
	1.5nm,0.3s,baz=92,slow=16,SNR=15						
ZALV				Lg	Lg	07 55 53.1	
	2.1nm,0.3s,baz=96,slow=26,SNR=12						
KURBB	**Kurchatov Arra**	**6.66**	**246**	Pn	Pn	07 56 31.3	+0.5
	0.1nm,0.3s,baz=64,slow=15,SNR=5.2						
KURBB				Lg	Lg	07 58 23.8	
	baz=58,slow=32,SNR=4.4						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**7.90**	**210**	Pn	Pn	07 56 49.0	+1.3
	0.1nm,0.3s,baz=33,slow=16,SNR=1.8						
MKAR				Lg	Lg	07 58 59.1	
	baz=24,slow=31,SNR=1.8						
	0.2nm,0.4s						

IDC 22 07:56:44.2±41.0, 23°.87S×176°.40W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=762.1km s-min=161.4km az=88.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.80**	**248**	P	P	08 04 01.4	-1.0
	0.9nm,0.4s,baz=90,slow=8.7,SNR=1.8						
	0.9nm,0.4s						
ASAR	**Alice Springs**	**45.29**	**260**	P	P	08 05 03.9	-0.1
	2.3nm,0.7s,baz=90,slow=7.2,SNR=34						
	2.3nm,0.7s						
WRA	**Warramunga Arr**	**45.70**	**265**	P	P	08 05 07.7	+0.4
	3.5nm,0.6s,baz=104,slow=7.9,SNR=20						
	3.5nm,0.6s						

*SJA **22** 08:04:00.7±0.6, 22°.44S×66°.59W, h349km±8km, ML3.9, MW3.8*
*IDC **22** 08:04:02.3±1.1, 22°.34S×66°.21W, h255km±23km, mb3.4/1, mbtmp3.8/6, Error ellipse: s-maj=33.8km s-min=15.1km az=113.0*
*NEIC **22** 08:04:02.8±1.5, 22°.44S±0°.09×66°.2W±0°.1, h263km±7km, mb4.1/7, Error ellipse: s-maj=18.6km s-min=11.9km az=116.0*

ISC 22 08:04:02.0±0.6, 22°.46S±0°.05×66°.19W±0°.06, h251km, n51, σ1°77/70, mb4.0/3, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.90**	**255**		**Pn**	**08 04 46.3**	**+2.3**
LVC	**Limon Verde**	**2.52**	**266**	Pn	**Pn**	**08 04 51.5**	**+1.7**
LVC	**Limon Verde**	**2.52**	**266**	*eP*	**Pn**	**08 04 51.9**	**+2.0**
LVC				*eS*	**S**	**08 05 33.4**	**+5.7**
LVC	**Limon Verde**	**2.52**	**266**	P	**Pn**	**08 04 50.8**	**+1.0**
	50nm,0.4s,baz=83,slow=6.3,SNR=205						
LVC				S	**S**	**08 05 28.2**	**+0.6**
	27nm,0.4s,baz=299,slow=22,SNR=22						
PB09	**IPOC Station P**	**2.90**	**282**		**Pn**	**08 04 55.7**	**+2.0**
PB09	**IPOC Station P**	**2.90**	**282**	*eP*	**Pn**	**08 04 56.1**	**+2.4**
PB09				*eS*	**S**	**08 05 37.7**	**+3.2**
PB09				IAML		08 05 39.3	

comp=Z,71nm,0.3s

PB15	**IPOC Station P**	**3.12**	**255**	*eP*	**Pn**	**08 04 58.2**	**+2.2**
PB15				*eS*	**S**	**08 05 40.1**	**+1.4**
PB06	**IPOC Station P**	**3.13**	**265**	*eP*	**Pn**	**08 04 57.9**	**+1.7**
PB06				*eS*	**S**	**08 05 40.7**	**+1.7**
PB06				IAML		08 05 43.1	

comp=Z,141nm,0.3s

PB08	**IPOC Station P**	**3.59**	**309**		**Pn**	**08 05 03.5**	**+2.0**
PB08	**IPOC Station P**	**3.59**	**309**	*eP*	**Pn**	**08 05 03.7**	**+2.1**
PB08				*eS*	**S**	**08 05 50.5**	**+1.7**
PB08				IAML		08 05 53.1	

comp=Z,61nm,0.2s

FSA	**Cafayete**	**3.65**	**177**	*eP*	**Pn**	**08 05 04.9**	**+3.0**
PB04	**IPOC Station P**	**3.66**	**271**	*eP*	**Pn**	**08 05 03.5**	**+1.3**
PB04				*eS*	**S**	**08 05 49.3**	**-0.5**
PB04				IAML		08 05 52.1	

comp=Z,118nm,0.2s

GO01	**Chusmiza**	**3.94**	**314**		**Pn**	**08 05 07.5**	**+1.7**
GO01	**Chusmiza**	**3.94**	**314**	*eP*	**Pn**	**08 05 07.6**	**+1.9**
GO01				*eS*	**S**	**08 05 59.5**	**+3.3**
PATCX	**Punta Patache**	**4.03**	**293**		**Pn**	**08 05 07.3**	**+1.1**
PATCX	**Punta Patache**	**4.03**	**293**	*eP*	**Pn**	**08 05 06.9**	**+0.6**
PATCX				*eS*	**S**	**08 05 56.1**	**-1.2**
PATCX				IAML		08 05 58.7	

comp=Z,80nm,0.2s

HMBC	**Humberstone**	**4.07**	**301**		**Pn**	**08 05 07.3**	**+0.5**
HMBC	**Humberstone**	**4.07**	**301**	*eP*	**Pn**	**08 05 07.4**	**+0.6**
HMBC				*eS*	**S**	**08 05 57.2**	**-1.1**
HMBC				IAML		08 05 59.6	

comp=Z,144nm,0.3s

GO02	**Mina Guanaco**	**4.12**	**228**	Pn	**Pn**	**08 05 08.3**	**+0.8**
GO02	**Mina Guanaco**	**4.12**	**228**	*eP*	**Pn**	**08 05 09.1**	**+1.6**
GO02				*eS*	**S**	**08 05 59.6**	**+0.1**
PB10	**IPOC Station P**	**4.16**	**254**	*eP*	**Pn**	**08 05 08.7**	**+1.1**
PB10				*eS*	**S**	**08 05 58.2**	**-1.6**
PB10				IAML		08 06 02.0	

comp=Z,76nm,0.4s

TA01	**Diego Aracena**	**4.16**	**296**	Pn	**Pn**	**08 05 08.7**	**+1.0**
TA01	**Diego Aracena**	**4.16**	**296**	*eP*	**Pn**	**08 05 08.6**	**+0.8**
TA01				*eS*	**S**	**08 05 58.4**	**-1.7**
TA01				IAML		08 05 59.6	

comp=Z,56nm,0.3s

PB11	**IPOC Station P**	**4.20**	**309**	*eP*	**Pn**	**08 05 09.1**	**+0.7**
PB11				*eS*	**S**	**08 06 00.1**	**-1.1**
PB11				IAML		08 06 01.9	

comp=Z,114nm,0.2s

TA02	**Huaiquique**	**4.26**	**300**	*eP*	**Pn**	**08 05 09.7**	**+0.7**
TA02				*eS*	**S**	**08 06 00.3**	**-2.0**
TA02				IAML		08 06 05.5	

comp=Z,137nm,0.1s

PB14	**IPOC Station P**	**4.43**	**240**	*eP*	**Pn**	**08 05 12.0**	**+0.8**
PB14				*eS*	**S**	**08 06 04.5**	**-1.7**
PB14				IAML		08 06 08.6	

comp=Z,125nm,0.2s

PB12	**IPOC Station P**	**5.44**	**314**	Pn	**Pn**	**08 05 23.6**	**+0.2**
PB12	**IPOC Station P**	**5.44**	**314**	*eP*	**Pn**	**08 05 22.9**	**-0.5**
PB12				*eS*	**S**	**08 06 25.0**	**-3.3**
PB12				IAML		08 06 27.4	

comp=Z,52nm,0.2s

AC01	**Pan de Azucar**	**5.45**	**227**		**Pn**	**08 05 22.9**	**-0.4**
AC01	**Pan de Azucar**	**5.45**	**227**	*eP*	**Pn**	**08 05 23.1**	**-0.1**
AC01				*eS*	**S**	**08 06 23.4**	**-4.9**
AC01				IAML		08 06 28.2	

comp=Z,42nm,0.7s

LPAZ	**La Paz**	**6.40**	**343**	Pn	**Pn**	**08 05 38.6**	**+2.8**
LPAZ	**La Paz**	**6.40**	**343**	P	**Pn**	**08 05 36.2**	**+0.3**
	comp=Z,0.9nm,0.3s,baz=137,slow=6.6,SNR=16						
LPAZ				S	**S**	**08 06 50.6**	**-0.2**
	comp=Z,3.4nm,0.7s,baz=105,slow=20,SNR=6.7						
LCO	**Las Campanas**	**7.69**	**211**		**Pn**	**08 05 50.5**	**-1.1**
SIV	**San Ignacio**	**8.04**	**38**	P	**Pn**	**08 05 55.1**	**-0.9**
	comp=Z,5.8nm,0.5s,baz=236,slow=13,SNR=33						
CO01	**Juntas del Tor**	**8.27**	**204**	Pn	**Pn**	**08 05 59.8**	**+0.9**
CO03	**El Pedregal**	**9.27**	**205**	Pn	**Pn**	**08 06 12.2**	**+0.9**
PTLB	**Pontes e Lacer**	**9.65**	**45**	Pn	**Pn**	**08 06 15.7**	**-0.5**
BO01	**Tunca**	**12.64**	**199**	P	**P**	**08 06 57.0**	**+1.4**
BO02	**Sierra Bellavi**	**12.93**	**197**	P	**P**	**08 07 00.8**	**+2.0**
ITAB	**Concordia**	**13.62**	**113**	P	**P**	**08 07 07.0**	**+0.4**
PLTB	**Pedras Altas**	**14.54**	**132**		**P**	**08 07 16.2**	**-0.5**
GO06	**Curarrehue**	**17.66**	**194**	P	**P**	**08 07 51.4**	**+0.5**
GO06				IAmb	IAmb	08 08 19.4	

comp=Z,12nm,1.5s

VAO	**Valinhos**	**17.75**	**95**	P	**P**	**08 07 51.5**	**-0.5**
BDFB	**Brasilia**	**18.46**	**72**	P	**P**	**08 07 59.1**	**-0.7**
BDFB				IAmb	IAmb	08 08 02.1	

comp=Z,13nm,1.3s

BDFB	**Brasilia**	**18.46**	**72**	P	**P**	**08 07 59.9**	**+0.1**
	comp=Z,3.2nm,0.7s,baz=237,slow=11,SNR=5.4						
PLCA	**Paso Flores**	**18.59**	**190**	P	**Pn**	**08 08 02.5**	**-1.9**
PLCA				IAmb	IAmb	08 08 44.7	

comp=Z,6.6nm,1.3s

PLCA	**Paso Flores**	**18.59**	**190**	P	**Pn**	**08 08 04.0**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=2,slow=12,SNR=6.2						
QSPA	**South Pole Qui**	**67.74**	**180**	P	**P**	**08 14 33.4**	**+1.0**
QSPA				IAmb	IAmb	08 14 42.1	

comp=Z,7.3nm,1.4s

TOA0	**Torodi Ar. Sit**	**75.32**	**69**	P	**P**	**08 15 16.3**	**-1.9**
TOA0				IAmb	IAmb	08 15 29.0	

comp=Z,3.8nm,1.3s

TORD	**Torodi Ar. Bea**	**75.32**	**69**	P	**P**	**08 15 16.5**	**-1.7**
TORD	**Torodi Ar. Bea**	**75.32**	**69**	P	**P**	**08 15 17.2**	**-1.0**
	comp=Z,0.6nm,0.4s,baz=251,slow=5.3,SNR=12						
	comp=Z,0.6nm,0.4s						

IDC 22 08:04:24.9±3.0, 54°.09N×86°.47E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=24.1km s-min=14.4km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.98**	**263**	I	I	08 11 30.0	
	baz=81,slow=325,SNR=2.8						
ZALV	**Zalesovo Beam**	**0.98**	**263**	Pg	Pg	08 04 42.9	-0.9
	0.6nm,0.3s,baz=81,slow=17,SNR=2.9						
ZALV				Lg	Lg	08 04 57.4	
	0.8nm,0.3s,baz=82,slow=29,SNR=4.2						
KURBB	**Kurchatov Arra**	**5.97**	**238**	Pn	Pn	08 05 55.9	+1.4
	0.1nm,0.3s,baz=56,slow=14,SNR=4.0						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**7.77**	**202**	Pn	Pn	08 06 19.9	+0.7
	0.1nm,0.3s,baz=23,slow=14,SNR=4.4						
	0.2nm,0.2s						

IDC 22 08:14:24.8±3.1, 54°.53N×86°.84E, h0km, mbtmp3.0/2, ML2.5/2, Error ellipse: s-maj=25.9km s-min=17.0km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.32**	**245**	I	I	08 22 50.0	
	baz=66,slow=327,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.32**	**245**	Pg	Pg	08 14 49.1	-1.0
	1.1nm,0.3s,baz=63,slow=16,SNR=11						
ZALV				Lg	Lg	08 15 07.3	
	0.8nm,0.3s,baz=64,slow=29,SNR=7.3						
ZALV				Rg	Rg	08 15 13.9	
	5.0nm,0.6s,baz=56,slow=27,SNR=9.5						
KURBB	**Kurchatov Arra**	**6.40**	**236**	Pn	Pn	08 15 59.5	-0.7
	baz=51,slow=14,SNR=1.6						
KURBB				Lg	Lg	08 17 48.8	
	baz=52,slow=33						
	0.9nm,0.3s						
MKAR	**Makanchi Array**	**8.27**	**202**	Pn	Pn	08 16 27.8	+1.9
	0.1nm,0.3s,baz=22,slow=12,SNR=5.5						
MKAR				Sn	Sn	08 17 59.2	-0.6
	0.1nm,0.3s,baz=32,slow=25,SNR=4.2						
MKAR				Lg	Lg	08 18 48.4	
	baz=18,slow=32,SNR=2.4						
	0.2nm,0.3s						

*DNK **22** 08:29:36.6±0.6, 58°.47N×23°.89E, h0km, ML2.0(UPP), Suspected explosion*
*UPP **22** 08:29:37.9±2.5, 58°.48N×23°.72E, h0km, ML2.0*
*EST **22** 08:29:40.1±0.2, 58°.51N×23°.50E, h0km, ML1.4(HEL), Explosion*
*HEL **22** 08:29:40.1±0.2, 58°.49N×23°.53E, h0km, ML1.4, Explosion*
*LVSN **22** 08:29:41.4±3.9, 58°.53N×23°.48E, h0km, 36km, ML2.0*
*IDC **22** 08:29:42.3±2.4, 58°.73N×23°.59E, h0km, mbtmp2.9/4, ML1.6/3, Error ellipse: s-maj=25.9km s-min=9.8km az=157.0*

ISC 22 08:29:38.9±0.8, 58°.48N±0°.03×23°.51E±0°.03, h0km, n42, σ0894/62, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**0.28**	**34**	*eP*	**Pg**	**08 29 44.2**	**-0.1**
MTSE	**Matsula**	**0.28**	**34**	*eP*	**Pg**	**08 29 44.6**	**+0.3**
MTSE				*eS*	**Sg**	**08 29 48.4**	**+0.4**
MTSE	**Matsula**	**0.28**	**34**	*eP*	**Pg**	**08 29 44.6**	**+0.3**
MTSE				*eS*	**Sg**	**08 29 47.9**	**-0.1**
EE01	**Perakula, Nova**	**0.73**	**5**	*eP*	**Pg**	**08 29 52.1**	**-0.7**
EE01				*eS*	**Sg**	**08 30 01.2**	**-1.1**
EE08	**Sarghaua, Vand**	**0.93**	**78**	*eP*	**Pg**	**08 29 56.8**	**+0.2**
EE08				*eS*	**Sg**	**08 30 08.3**	**-0.3**
EE02	**Kiisa, Saku**	**0.94**	**40**	*eP*	**Pg**	**08 29 56.8**	**-0.2**
EE02				*eS*	**Sg**	**08 30 08.6**	**-0.5**
SLIT	**Slitere, Latvi**	**1.07**	**218**	*eP*	**Pg**	**08 29 59.3**	**-0.1**
SLIT				*eS*	**Sb**	**08 30 15.8**	**+1.0**
SLIT				AML	AML	08 30 21.3	

comp=E,48nm,0.5s

SLIT				AML	AML	08 30 29.8	

comp=Z,50nm,0.4s

SLIT				AML	AML	08 30 32.2	

comp=N,51nm,0.6s

SLIT	**Slitere, Latvi**	**1.07**	**218**	*eP*	**Pg**	**08 29 59.3**	**-0.1**
EE03	**Tooma soojaam,**	**1.50**	**74**	*ePG*	**Pn**	**08 30 07.2**	**+0.2**
EE03				*eSN*	**Sn**	**08 30 27.5**	**+0.4**
ARBE	**

0.2nm,0.3s,baz=30,slow=13,SNR=8.5
MKAR Lg Lg 08 34 17.7
baz=32,slow=31,SNR=6.6
0.3nm,0.4s

IDC 22 09:04:21.2±2.3, 54.02N×86.40E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=18.9km s-min=11.9km az=60.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**0.93**	**267**	I	I	09 09 10.0	
	baz=83,slow=326,SNR=1.1						
ZALV	**Zalesovo Beam**	**0.94**	**266**	Pg	Pg	09 04 38.1	-1.1
	1.4nm,0.3s,baz=86,slow=18,SNR=16						
ZALV				Lg	Lg	09 04 53.2	
	3.1nm,0.3s,baz=88,slow=32,SNR=12						
ZALV				Rg	Rg	09 04 55.4	
	5.1nm,0.4s,baz=85,slow=31,SNR=11						
KURBB	**Kurchatov Arra**	**5.90**	**238**	Pn	Pn	09 05 50.7	+0.9
	0.3nm,0.3s,baz=55,slow=14,SNR=12						
KURBB				Lg	Lg	09 07 24.7	
	baz=52,slow=31,SNR=2.0						
	1.1nm,0.3s						
MKAR	**Makanchi Array**	**7.69**	**202**	Pn	Pn	09 06 15.5	+1.1
	0.4nm,0.3s,baz=24,slow=14,SNR=15						
MKAR				Lg	Lg	09 08 25.6	
	baz=26,slow=27						
	0.5nm,0.3s						

DJA 22 09:21:36.6±0.5, 2°N±7°×12°2E±°, h49km±38km, M4.3/7, mb4.6/2, MLv4.2/7, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**2.47**	**227**	P	Pn	09 22 15.1	+0.7
KMSI	**Cibinong**	**2.72**	**123**	P	Pn	09 22 18.2	+0.4
LUWI	**Luwuk**	**3.26**	**161**	P	Pn	09 22 25.4	+0.2
SGSI	**Sangihe**	**4.16**	**67**	P	Pn	09 22 37.1	-0.6
SANI	**Sanana**	**5.92**	**133**	P	Pn	09 23 00.5	-1.3

IDC 22 09:34:34.6±1.7, 9.65N×140.73E, h0km, mb3.5/3, mbtmp3.7/4, ML4.3/1, MS4.4/1, Error ellipse: s-maj=41.8km s-min=31.5km az=104.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**5.64**	**46**	Pn	Pn	09 35 59.4	-0.4
	8.1nm,0.3s,baz=198,slow=9.6,SNR=6.7						
GUMO				Sn	Sn	09 37 00.1	-5.2
	9.3nm,0.3s,baz=162,slow=20,SNR=6.6						
	20nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**26.64**	**68**	T	T	10 08 50.9	
	baz=255,slow=75,SNR=208						
H11S1	**WAKE ISLAND Hy**	**26.66**	**68**	T	T	10 08 52.5	
	baz=255,slow=75,SNR=122						
H11S2	**WAKE ISLAND Hy**	**26.66**	**68**	T	T	10 08 52.6	
	baz=255,slow=75,SNR=225						
H11N1	**WAKE ISLAND Hy**	**27.18**	**65**	T	T	10 09 32.7	
	baz=247,slow=77						
H11N2	**WAKE ISLAND Hy**	**27.19**	**65**	T	T	10 09 29.3	
	baz=247,slow=77						
H11N3	**WAKE ISLAND Hy**	**27.20**	**65**	T	T	10 09 33.5	
	baz=247,slow=77						
WRA	**Warramunga Arr**	**30.07**	**192**	P	P	09 40 45.8	0.0
	0.6nm,1.0s,baz=11,slow=10,SNR=1.9						
	0.6nm,1.0s						
ASAR	**Alice Springs**	**33.77**	**191**	P	P	09 41 18.1	-0.2
	0.2nm,0.7s,baz=16,slow=13,SNR=4.4						
	0.2nm,0.7s						
STKA	**Stephens Creek**	**41.30**	**179**	LR	LR	10 00 21.8	
	comp=Z,435nm,19.6s,baz=97,slow=38						
CMAR	**Chiang Mai Arr**	**41.38**	**287**	P	P	09 42 23.1	+0.1
	1.3nm,0.7s,baz=97,slow=6.9,SNR=5.0						
	1.3nm,0.7s						

IDC 22 09:38:55.9±3.3, 53.49N×90.76E, h0km, mbtmp3.3/3, ML3.3/2, Error ellipse: s-maj=28.3km s-min=22.9km az=50.0
NNC 22 09:39:04.7±2.8, 53.18N×90.12E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=24.3km s-min=22.7km az=50.0, Suspected Mining explosion.
ISC 22 09:38:57.3±4.0, 53.6N±0.1×90.5E±0.2, h0km, n9, σ1s21/10, 4C-2D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.42**	**279**	I	I	10 01 45.0	
	baz=91,slow=325,SNR=5.8						
ZAA0	**Zalesovo Array**	**3.42**	**279**	⇓Pn	**Pb**	**09 39 57.3**	**-1.3**
	1.3nm,0.5s						
ZAA0				⇑Lg	Lg	09 40 48.0	
	20nm,1.1s						
ZALV	**Zalesovo Beam**	**3.42**	**279**	Pn	**Pn**	**09 39 52.7**	**+0.9**
	1.5nm,0.3s,baz=94,slow=12,SNR=2.6						
ZALV				Lg	Lg	09 40 46.6	
	5.1nm,0.3s,baz=97,slow=25,SNR=9.3						
KURK	**Kurchatov**	**7.87**	**254**	⇑Sn	**Sn**	**09 42 22.5**	**+0.1**
	20nm,1.1s						
KURBB	**Kurchatov Arra**	**7.96**	**253**	⇑Pn	**Pn**	**09 40 54.9**	**+0.8**
	3.8nm,0.7s						
KURBB				⇓Sn	**Sn**	**09 42 25.6**	**+0.8**
	49nm,0.9s						
KURBB	**Kurchatov Arra**	**7.96**	**253**	Pn	**Pn**	**09 40 54.4**	**+0.3**
	0.2nm,0.3s,baz=66,slow=16,SNR=4.4						
KURBB				Sn	**Sn**	**09 42 25.7**	**+1.0**
	baz=67,slow=25,SNR=1.1						
KURBB				Lg	Lg	09 43 11.2	
	0.1nm,0.3s,baz=70,slow=35,SNR=1.5						
	1.3nm,0.5s						
MK31	**Makanchi Array**	**8.59**	**221**	Pn	**Pn**	**09 41 04.8**	**+2.0**
	0.7nm,0.5s,baz=33,slow=13,SNR=24						
MK31				⇑Lg	Lg	09 43 24.7	
	12nm,1.0s						
MKAR	**Makanchi Array**	**8.59**	**221**	Pn	**Pn**	**09 41 02.5**	**-0.3**
	0.6nm,0.3s,baz=39,slow=13,SNR=15						
MKAR				Sn	**Sn**	**09 42 39.1**	**-1.2**
	baz=43,slow=9.1						
MKAR				Lg	Lg	09 43 27.4	
	0.1nm,0.3s,baz=41,slow=21,SNR=1.5						
	0.8nm,0.5s						
SONM	**Songino Array**	**11.56**	**113**	Lg	Lg	09 44 52.3	
	0.5nm,0.3s,baz=302,slow=27,SNR=3.7						

IDC 22 09:42:07.3±4.7, 5.91S×147.80E, h0km, mb3.3/2, mbtmp3.3/3, ML3.5/1, Error ellipse: s-maj=150.2km s-min=35.7km az=106.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.13**	**222**	P	P	09 46 31.9	-0.2
	0.2nm,0.3s,baz=47,slow=12,SNR=10						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**22.15**	**216**	P	P	09 47 05.3	+0.4
	0.1nm,0.3s,baz=44,slow=11,SNR=5.3						
	0.1nm,0.3s						
ZALV	**Zalesovo Beam**	**79.36**	**328**	P	P	09 54 14.8	-0.1
	0.4nm,0.4s,baz=108,slow=5.3,SNR=1.9						
	0.4nm,0.4s						

BJI 22 09:43:27.6±0.0, 30.39S×179.07W, h206km, mb5.2/48, mB5.2/30
NOU 22 09:43:27.5, 30.78S×178.23W, h238km, mb5.2/86, Kermadec Islands, New Zealand
MOS 22 09:43:29.8±1.3, 30.36S×179.08W, h224km, mb5.2/19, Error ellipse: s-maj=10.1km s-min=9.0km az=93.8
IDC 22 09:43:30.5±0.5, 30.28S×179.04W, h228km±4km, mb4.6/24, mbtmp5.1/26, Error ellipse: s-maj=8.9km s-min=8.5km az=147.0
NEIC 22 09:43:30.9, 30.49S×178.44W, h230km, Moment Tensor Solution. Duration: 2s8 Moment tensor: Scale 10^17 Nm; Mrr1.40; Mθθ-0.45; Mφφ-0.95; Mrθ-0.52; Mrφ-0.48; Mθφ1.72; Fault plane solution: Mo2.18000×10^17 NP1: φs356.18000°, δ72.94000°, λ73.87000°. NP2: φs220.78000°, δ23.31000°, λ132.16000°. Principal axes: T 2.4667, Plg59.0000°, Azm244.0000°; N -0.5827, Plg15.0000°, Azm1.0000°; P -1.8840, Plg26.0000°, Azm99.0000°;

NEIC 22 09:43:30.9, 30.39S×179.02W, h230km
NEIC 22 09:43:31.7, 30.38S×179.02W, h226km
NEIC 22 09:43:31.7±2.5, 30.38S±0.08×179.02W±0.09, h226km±3km, mb5.0/187, Mwb5.5/23, Mww5.5/50, Error ellipse: s-maj=12.2km s-min=10.1km az=140.0, Moment Tensor Solution. Moment tensor: Scale 10^17 Nm; Mrr1.89; Mθθ-1.58; Mφφ-0.30; Mrθ-0.79; Mθφ0.49; Mrφ1.50; Fault plane solution: Mo2.49000×10^17 NP1: φs94.02000°, δ29.59000°, λ53.66000°. NP2: φs314.25000°, δ66.56000°, λ108.60000°. Principal axes: T 2.7081, Plg64.0000°, Azm255.0000°; N -0.5101, Plg17.0000°, Azm127.0000°; P -2.1980, Plg19.0000°, Azm30.0000°;
GCMT 22 09:43:32.7±0.1, 30.44S±0.01×178.85W±0.01, h227km, MW5.5/152, Moment Tensor Solution. s152,c260; s150,c268; Duration: 1s4 Moment tensor: Scale 10^17 Nm; Mrr1.27±.02; Mθθ-0.29±.02; Mφφ-0.98±.02; Mrθ-0.61±.02; Mθφ-0.28±.02; Mrφ1.74±.02; Best double couple: Mo2.15600×10^17 NP1: φs349.00000°, δ75.00000°, λ78.00000°. NP2: φs207.00000°, δ19.00000°, λ127.00000°. Principal axes: T 2.3830, Plg59.0000°, Azm242.0000°; N -0.4520, Plg11.0000°, Azm352.0000°; P -1.9280, Plg29.0000°, Azm88.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function
ISC 22 09:43:29.5±0.3, 30.66S±0.02×178.92W±0.03, h220km±2km, h220km:pP-P, n932, σ1s60/958, mb5.0/188, 41C-2D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	**Green Lake**	**1.64**	**32**	P	**Pn**	**09 44 06.5**	**+0.3**
GLKZ				S	**S**	**09 44 34.9**	**+0.1**
RAO	**Raoul Island**	**1.65**	**32**	P	**Pn**	**09 44 06.2**	**-0.2**
RAO	**Raoul Island**	**1.65**	**32**	Pn	**Pn**	**09 44 05.8**	**-0.6**
RAO				Sn	**S**	**09 44 32.3**	**-2.6**
RAO	**Raoul Island**	**1.65**	**32**	P	**Pn**	**09 44 05.9**	**-0.5**
	14μm,0.2s,baz=93,slow=7.8,SNR=246						
RAO				S	**S**	**09 44 33.8**	**-1.1**
	21μm,0.3s,baz=84,slow=20,SNR=6.7						
RAO	**Raoul Island**	**1.65**	**32**	P	**Pn**	**09 44 06.5**	**+0.2**
RAO				S	**S**	**09 44 35.6**	**+0.7**
RIZ	**Raoul Island**	**1.65**	**32**	P	**Pn**	**09 44 06.5**	**+0.1**
RIZ				S	**S**	**09 44 36.7**	**+1.8**
MXZ	**Matakaoa Point**	**7.26**	**198**	P	**Pn**	**09 45 11.7**	**-1.5**
MXZ	**Matakaoa Point**	**7.26**	**198**	P	**Pn**	**09 45 11.6**	**-1.5**
MXZ				S	**S**	**09 46 34.1**	**-1.7**
GRZ	**Great Barrier**	**7.29**	**219**	P	**Pn**	**09 45 17.6**	**+4.0**
WMGZ	**Waiomatatini S**	**7.47**	**196**	P	**Pn**	**09 45 15.2**	**-0.7**
WMGZ				S	**S**	**09 46 40.7**	**-0.2**
KUZ	**Kuaotunu**	**7.54**	**215**	P	**Pn**	**09 45 18.7**	**+2.0**
KUZ	**Kuaotunu**	**7.54**	**215**	P	**Pn**	**09 45 20.3**	**+3.6**
WIZ	**White Island**	**7.57**	**204**	P	**Pn**	**09 45 18.5**	**+1.3**
WIZ				S	**S**	**09 46 45.3**	**+2.1**
HAZ	**Te Kaha**	**7.59**	**200**	P	**Pn**	**09 45 17.3**	**-0.1**
HAZ				S	**S**	**09 46 43.4**	**-0.1**
PKGZ	**Pakihiroa**	**7.63**	**198**	P	**Pn**	**09 45 16.7**	**-1.2**
PKGZ				S	**S**	**09 46 43.4**	**-1.2**
WCZ	**Waipu Caves**	**7.71**	**225**	P	Pn	09 45 24.4	+5.4
PUZ	**Puketiti**	**7.75**	**197**	P	**Pn**	**09 45 18.1**	**-1.4**
PUZ				S	**S**	**09 46 44.5**	**-3.0**
OUZ	**Omahuta**	**7.76**	**232**	P	Pn	09 45 24.6	+5.0
OUZ	**Omahuta**	**7.76**	**232**	P	Pn	09 45 24.9	+5.2
RUGZ	**Raukumara Rang**	**7.81**	**200**	P	**Pn**	**09 45 19.3**	**-1.1**
RUGZ				S	**S**	**09 46 45.6**	**-3.4**
WIAZ	**Waiheke Island**	**7.87**	**217**	P	Pn	09 45 26.4	+5.3
ABAZ	**Army Bay**	**7.89**	**220**	P	Pn	09 45 26.1	+4.9
TWGZ	**Tauwhareparae**	**7.92**	**198**	P	**Pn**	**09 45 19.8**	**-2.0**
TWGZ				S	**S**	**09 46 46.3**	**-5.3**
WHRZ	**Whale Island**	**7.94**	**204**	P	**Pn**	**09 45 25.5**	**+3.6**
MKAZ	**Moumakai**	**8.10**	**216**	P	**Pn**	**09 45 27.9**	**+4.0**
ETAZ	**East Tamaki Re**	**8.10**	**218**	P	Pn	09 45 28.6	+4.6
CNGZ	**Carnagh Statio**	**8.16**	**196**	P	**Pn**	**09 45 23.7**	**-1.0**
MARZ	**Manawahe**	**8.16**	**205**	P	**Pn**	**09 45 25.3**	**+0.5**
MWZ	**Matawai**	**8.20**	**200**	P	**Pn**	**09 45 23.1**	**-2.2**
MWZ				S	**S**	**09 46 55.4**	**-2.6**
EDRZ	**Edgecumbe**	**8.25**	**205**	P	**Pn**	**09 45 27.6**	**+1.7**
EDRZ				S	**S**	**09 47 00.7**	**+1.4**
URZ	**Urewera**	**8.26**	**202**	P	**Pn**	**09 45 24.1**	**-1.9**
URZ	**Urewera**	**8.26**	**202**	P	**Pn**	**09 45 24.0**	**-2.0**
	63nm,0.2s,baz=352,slow=4.3,SNR=170						
URZ				S	**S**	**09 46 55.6**	**-3.7**
	1μm,0.5s,baz=105,slow=19,SNR=12						
URZ	**Urewera**	**8.26**	**202**	P	**Pn**	**09 45 24.0**	**-2.0**
URZ				S	**S**	**09 46 56.6**	**-2.7**
KARZ	**Kaharoa**	**8.36**	**207**	P	**Pn**	**09 45 27.2**	**-0.1**
OMRZ	**Omania**	**8.38**	**206**	P	**Pn**	**09 45 27.5**	**-0.2**
TOZ	**Tahuroa Road**	**8.43**	**212**		**Pn**	**09 45 30.7**	**+2.5**
RIGZ	**Rimuhau**	**8.48**	**198**	P	**Pn**	**09 45 26.2**	**-2.7**
RIGZ				S	**S**	**09 47 02.2**	**-2.4**
RRRZ	**Republican Roa**	**8.54**	**205**	P	**Pn**	**09 45 29.2**	**-0.4**
MUGZ	**Murupara**	**8.57**	**203**	P	**Pn**	**09 45 29.3**	**-0.7**
MUGZ				S	**S**	**09 47 05.3**	**-1.4**
RTZ	**Ruatahuna**	**8.62**	**202**	P	**Pn**	**09 45 31.9**	**-1.9**
PRGZ	**Paritu Road**	**8.65**	**197**	P	**Pn**	**09 45 28.4**	**-2.7**
PRGZ				S	**S**	**09 47 04.4**	**-4.2**
SNGZ	**Shannon Statio**	**8.67**	**200**	P	**Pn**	**09 45 28.8**	**-2.5**
PRRZ	**Plateau Road**	**8.72**	**205**	P	**Pn**	**09 45 30.5**	**-1.5**
ALRZ	**Allen Road**	**8.80**	**205**	P	**Pn**	**09 45 31.0**	**-1.9**
WATZ	**Wairara**	**9.16**	**207**	P	**Pn**	**09 45 37.6**	**0.0**
RATZ	**Rangitukua**	**9.28**	**207**	P	**Pn**	**09 45 40.4**	**+1.3**
BKZ	**Black Stump Fm**	**9.28**	**203**	P	**Pn**	**09 45 37.7**	**-1.5**
HIZ	**Hauiti**	**9.36**	**212**	P	**Pn**	**09 45 41.5**	**+1.3**
HIZ	**Hauiti**	**9.36**	**212**		**Pn**	**09 45 41.9**	**+1.7**
KATZ	**Kakaramea**	**9.40**	**207**	P	**Pn**	**09 45 42.9**	**+2.0**
NTVZ	**North Tongarir**	**9.52**	**206**	P	**Pn**	**09 45 41.0**	**-1.3**
TMVZ	**Te Maari**	**9.52**	**206**	P	**Pn**	**09 45 40.9**	**-1.5**
KRVZ	**Karewarewa**	**9.53**	**206**	P	**Pn**	**09 45 41.3**	**-1.1**
ETVZ	**East Tongariro**	**9.54**	**206**	P	**Pn**	**09 45 40.8**	**-1.7**
KWHZ	**Kaweka Forest**	**9.54**	**202**	P	**Pn**	**09 45 38.8**	**-3.7**
CKHZ	**Cape Kidnapper**	**9.56**	**199**	P	**Pn**	**09 45 39.6**	**-3.1**
WTVZ	**West Tongariro**	**9.56**	**207**	P	**Pn**	**09 45 42.5**	**-0.3**
NNVZ	**North Ngauruho**	**9.57**	**206**	P	**Pn**	**09 45 40.0**	**+2.0**
OTVZ	**Oturere**	**9.58**	**206**	P	**Pn**	**09 45 40.5**	**-2.6**
TWVZ	**Taurewa**	**9.59**	**207**	P	**Pn**	**09 45 43.7**	**+0.6**
SNVZ	**South Ngauruho**	**9.61**	**206**	P	**Pn**	**09 45 41.3**	**-2.2**
NGZ	**Ngauruhoe**	**9.61**	**206**	P	**Pn**	**09 45 43.9**	**+0.4**
COVZ	**Chateau Observ**	**9.65**	**207**	P	**Pn**	**09 45 43.1**	**-0.9**
FWVZ	**Far West T-bar**	**9.70**	**206**	P	**Pn**	**09 45 43.3**	**-1.4**
MAVZ	**Matarangi**	**9.71**	**206**	P	**Pn**	**09 45 44.8**	**-0.1**
WHVZ	**Whangaehu Hut**	**9.71**	**206**	P	**Pn**	**09 45 44.5**	**-0.3**
BHHZ	**Black Hill Sta**	**9.72**	**204**	P	**Pn**	**09 45 41.2**	**-3.6**
KAHZ	**Kahuranaki**	**9.74**	**200**	P	**Pn**	**09 45 41.5**	**-3.5**
WNVZ	**Wahianoa**	**9.74**	**206**	P	**Pn**	**09 45 42.6**	**-2.7**
KRHZ	**Kereru**	**9.76**	**202**	P	Pn	09 45 40.9	-4.3
MOVZ	**Moawhango**	**9.76**	**205**	P	Pn	09 45 39.8	-5.5
VRZ	**Vera Road**	**9.91**	**210**	P	**Pn**	**09 45 47.2**	**0.0**
PXZ	**Pawanui**	**9.96**	**199**	P	Pn	09 45 43.4	-4.5
PNHZ	**Pukenui**	**10.06**	**202**	P	Pn	09 45 44.8	-4.3
WPHZ	**Waipukurau**	**10.12**	**201**	P	Pn	09 45 45.4	-4.4
PRHZ	**Porangahau**	**10.25**	**199**	P	Pn	09 45 47.1	-4.4
TSZ	**Takapari Road**	**10.27**	**203**	P	Pn	09 45 47.4	-4.4
PKE	**Pukeiti**	**10.31**	**212**	P	**P**	**09 45 55.6**	**-3.4**
NEZ	**North Egmont**	**10.32**	**212**	P	**P**	**09 45 55.6**	**-3.6**
WAZ	**Wanganui**	**10.35**	**207**	P	**Pn**	**09 45 50.2**	**-2.7**
KHEZ	**Kahui Hut**	**10.38**	**212**	P	**Pn**	**09 45 55.9**	**+2.6**
KHEZ	**Kahui Hut**	**10.38**	**212**	P	**Pn**	**09 45 55.9**	**+2.6**
DVHZ	**Dannevirke**	**10.42**	**201**	P	Pn	09 45 48.7	-5.0
NBEZ	**Newall Road No**	**10.43**	**213**	P	**P**	**09 45 56.5**	**-3.8**
ANWZ	**Angora Road**	**10.47**	**200**	P	**Pn**	**09 45 50.3**	**-4.1**
NMEZ	**Namu Road**	**10.54**	**212**	P	**P**	**09 46 00.8**	**-0.7**
OHWZ	**Ohakea**	**10.62**	**205**	P	**Pn**	**09 45 54.6**	**-1.7**
POWZ	**Post Office Ro**	**10.63**	**203**	P	**Pn**	**09 45 52.6**	**-3.8**
PRWZ	**Pori Road**	**10.71**	**201**	P	**Pn**	**09 45 53.5**	**-3.9**
BFZ	**Birch Farm**	**10.74**	**200**	P	**Pn**	**09 45 56.0**	**-1.8**
BFZ	**Birch Farm**	**10.74**	**200**	P	Pn	09 45 52.9	-4.9
MRZ	**Mangatainoka R**	**10.93**	**203**	P	Pn	09 45 54.9	-5.3
TIWZ	**Tintock**	**10.94**	**201**	P	**Pn**	**09 45 58.0**	**-2.4**
CPWZ	**Castlepoint**	**10.97**	**200**	P	**Pn**	**09 45 57.4**	**-3.3**
OGWZ	**Otaki Gorge**	**11.21**	**204**	P	Pn	09 45 58.5	-5.3
TMWZ	**Te Maipa**	**11.24**	**201**	P	Pn	09 45 59.1	-5.1
KIW	**Kapiti Island**	**11.34**	**205**	P	**Pn**	**09 46 01.6**	**-3.9**
MTW	**Mount Morrison**	**11.41**	**202**	P	Pn	09 46 00.6	-5.7
CAW	**Cannon Point**	**11.51**	**203**	P	Pn	09 46 02.1	-5.4
NFK	**Norfolk Island**	**11.53**	**275**	P	**P**	**09 46 13.2**	**+0.6**
	baz=12,SNR=5.0						
NFK	**Norfolk Island**	**11.53**	**275**	P	**P**	**09 46 13.9**	**+1.3**
	comp=Z,1μm,1.1s						
TRWZ	**Traveller**	**11.57**	**201**	P	Pn	09 46 03.0	-5.3
PAWZ	**Paruwai Farm**	**11.63**	**202**	P	Pn	09 46 04.0	-5.2
WEL	**Wellington**	**11.77**	**204**	P	**Pn**	**09 46 07.1**	**-3.7**
SNZO	**South Karori**	**11.81**	**204**	P	**Pn**	**09 46 09.7**	**-1.6**
BHW	**Baring Head**	**11.84**	**203**	P	Pn	09 46 06.1	-5.7
PLWZ	**Palliser**	**11.86**	**202**	P	Pn	09 46 06.9	-5.1
QRZ	**Quartz Range**	**12.29**	**212**	P	**Pn**	**09 46 17.2**	**-0.1**
MSVF	**Nonsavu**	**13.16**	**347**	P	**Pn**	**09 46 28.0**	**-0.6**
MSVF	**Nonsavu**	**13.16**	**347**	P	**Pn**	**09 46 27.4**	**-1.2**
MSVF	**Nonsavu**	**13.16**	**347**	P	**Pn**	**09 46 27.4**	**-1.2**
KHZ	**Kahutara**	**13.20**	**205**	P	**Pn**	**09 46 26.1**	**-2.6**
NIUE	**Niue**	**14.12**	**37**	P	**Pn**	**09 46 38.6**	**-1.6**
	baz=14,SNR=9.0						
NIUE	**Niue**	**14.12**	**37**	Pn	**Pn**	**09 46 37.0**	**-3.2**
NIUE	**Niue**	**14.12**	**37**	P	**Pn**	**09 46 38.2**	**-2.0**
	comp=Z,259nm,0.8s						
NIUE	**Niue**	**14.12**	**37**	S	S	09 49 02.7	-14
PINNC	**Pines Island,**	**14.58**	**300**		**Pn**	**09 46 44.6**	**-1.3**
MARNC	**Mare, Loyalty**	**14.86**	**305**	P	**P**	**09 46 53.4**	**+3.8**
OUENC	**Ouen Island, N**	**15.15**	**299**	P	**P**	**09 46 55.7**	**+2.9**
OUENC	**Ouen Island, N**	**15.15**	**299**	Pn	**Pn**	**09 46 49.4**	**-3.4**
RPZ	**Rata Peaks**	**15.27**	**209**	P	**Pn**	**09 46 51.7**	**-2.3**
RPZ	**Rata Peaks**	**15.27**	**209**	P	**Pn**	**09 46 51.5**	**-2.6**
	comp=Z,35nm,0.4s,baz=57,slow=16,SNR=18						
RPZ				S	S	09 49 30.2	-12
	comp=Z,576nm,0.7s,baz=356,slow=24,SNR=22						
YATNC	**Mamie plateau,**	**15.32**	**301**	P	**Pn**	**09 46 57.8**	**+2.9**
ONTNC	**Ouen Toro**	**15.51**	**299**	P	**Pn**	**09 46 57.0**	**0.0**
DZM	**Mont Dzumac**	**15.65**	**300**	P	**Pn**	**09 47 00.9**	**+2.0**
DZM	**Mont Dzumac**	**15.65**	**300**	P	**Pn**	**09 46 59.2**	**+0.3**
DZM	**Mont Dzumac**	**15.65**	**300**	P	**P**	**09 46 56.1**	**-2.3**
	comp=Z,25nm,1.1s,baz=61,slow=19,SNR=6.8						
NOUC	**Port Laguerre**	**15.74**	**299**	P	**Pn**	**09 47 02.0**	**+2.1**
LIFNC	**LIFOU**	**15.88**	**305**	P	**Pn**	**09 47 02.2**	**+0.7**
LIFNC	**LIFOU**	**15.88**	**305**	P	**P**	**09 47 00.2**	**-0.6**
ODZ	**Otahua Downs**	**16.54**	**207**	P	**P**	**09 47 06.0**	**-1.9**
JCZ	**Jackson Bay**	**16.55**	**213**	P	**P**	**09 47 07.0**	**-1.2**
AFI	**Afiamalu**	**17.92**	**23**	P	**P**	**09 47 20.5**	**-2.8**
AFI	**Afiamalu**	**17.92**	**23**	P	**P**	**09 47 20.8**	**-2.6**
AFI	**Afiamalu**	**17.92**	**23**	P	**P**	**09 47 20.8**	**-2.6**
KOUNC	**Koumac, New Ca**	**18.17**	**300**	P	**Pn**	**09 47 28.0**	**-0.6**
KOUNC	**Koumac, New Ca**	**18.17**	**300**	P	**P**	**09 47 25.6**	**-0.3**
SYZ	**Scrubby Hill**	**18.36**	**207**	P	**P**	**09 47 27.7**	**0.0**
LHI	**Lord Howe Isla**	**18.88**	**262**	P	**Pn**	**09 47 37.2**	**+0.3**
	baz=19						
LHI				P	**Pn**	**09 47 37.2**	**+0.3**
	baz=19						
LHI	**Lord Howe Isla**	**18.88**	**262**	P	**Pn**	**09 47 38.0**	**+1.2**
LHI	**Lord Howe Isla**	**18.88**	**262**	P	**P**	**09 47 34.6**	**+1.1**
LHI	**Lord Howe Isla**	**18.88**	**262**	P	**Pn**	**09 47 38.3**	**+1.5**
	comp=Z,1μm,1.0s						
RAR	**Rarotonga**	**19.59**	**66**	P	**P**	**09 47 41.9**	**+0.7**
RAR	**Rarotonga**	**19.59**	**66**	P	**P**	**09 47 40.9**	**-0.3**
	comp=Z,38nm,0.9s,baz=242,slow=6.6,SNR=6.6						
RAR	**Rarotonga**	**19.59**	**66**	P	**P**	**09 47 41.9**	**+0.7**
ARMA	**Armidale**	**25.34**	**263**	P	**P**	**09 48 40.2**	**+3.7**
	baz=25,SNR=64						
ARMA	**Armidale**	**25.34**	**263**	P	**P**	**09 48 39.9**	**+3.4**
ARMA	**Armidale**	**25.34**	**263**	P	**P**	**09 48 40.3**	**+3.7**
ARMA	**Armidale**	**25.34**	**263**	P	**P**	**09 48 40.7**	**+4.2**
	comp=Z,0.0nmcomp=Z,226nm,1.1s						
RIV	**Riverview**	**25.47**	**255**	P	**P**	**09 48 41.1**	**+3.7**
	baz=26,SNR=13						
RIV	**Riverview**	**25.47**	**255**	P	**P**	**09 48 40.2**	**+2.8**
RIV	**Riverview**	**25.47**	**255**	P	**P**	**09 48 42.4**	**+5.0**
	comp=Z,295nm,0.9s						
MGCD	**Mangrove Creek**	**25.53**	**256**	P	**P**	**09 48 41.5**	**+3.5**
	baz=26,SNR=52						
MGCD	**Mangrove Creek**	**25.53**	**256**	P	**P**	**09 48 41.3**	**+3.3**
MGCD	**Mangrove Creek**	**25.53**	**256**	P	**P**	**09 48 42.3**	**+4.3**
	comp=Z,363nm,0.8s						
SYDH	**Sydney Hard Ro**	**25.81**	**255**	P	**P**	**09 48 43.7**	**+3.1**
CNB	**Canberra Magne**	**26.95**	**252**	P	**P**	**09 48 54.6**	**+3.8**
	baz=27,SNR=19						
CNB	**Canberra Magne**	**26.95**	**252**	P	**P**	**09 48 53.8**	**+3.1**
CNB	**Canberra Magne**	**26.95**	**252**	P	**P**	**09 48 54.8**	**+4.1**
	comp=Z,178nm,1.3s						
EIDS	**Eidsvold**	**26.96**	**274**	P	**P**	**09 48 52.5**	**+1.6**
	baz=27,SNR=29						
EIDS	**Eidsvold**	**26.96**

INKA **Innaminka** 35.20 264 P **P** 09 50 04.5 +1.6
MTSU **Mount Surprise** 35.57 282 P **P** 09 50 07.3 +1.1
baz=36,SNR=45
MTSU **Mount Surprise** 35.57 282 P **P** 09 50 07.1 +0.9
MTSU **Mount Surprise** 35.57 282 P **P** 09 50 07.4 +1.3
comp=Z,43nm,1.0s
HTT **Hallett** 35.67 254 P **P** 09 50 08.3 +1.5
baz=36,SNR=77
HTT **Hallett** 35.67 254 P **P** 09 50 08.4 +1.5
HTT **Hallett** 35.67 254 P **P** 09 50 08.7 +1.8
comp=Z,104nm,1.1s
PTPS **Port Pirie** 36.48 255 P **P** 09 50 15.3 +1.7
LCRK **Leigh Creek** 36.75 259 P **P** 09 50 16.9 +0.9
PMG **Port Moresby** 38.01 297 P **P** 09 50 24.0 -2.7
comp=Z,24nm,0.8s,baz=176,slow=8.9,SNR=4.4
comp=Z,24nm,0.8s
BBOO **Buckleboo** 38.14 255 P **P** 09 50 28.2 +0.6
baz=38,SNR=155
BBOO **Buckleboo** 38.14 255 P **P** 09 50 27.9 +0.3
BBOO **Buckleboo** 38.14 255 P **P** 09 50 27.8 +0.2
BBOO IAmb IAmb 09 50 29.5
comp=Z,77nm,1.1s
BBOO **Buckleboo** 38.14 255 P **P** 09 50 28.2 +0.6
comp=Z,46nm,0.8s
QIS **Mount Isa** 38.55 275 P **P** 09 50 31.3 +0.1
baz=38,SNR=24
QIS **Mount Isa** 38.55 275 P **P** 09 50 31.1 -0.1
QIS **Mount Isa** 38.55 275 P **P** 09 50 31.3 +0.1
comp=Z,0.0nmcomp=Z,38nm,0.9s
COEN **Coen** 38.59 287 P **P** 09 50 32.0 +0.5
baz=38,SNR=8.3
COEN **Coen** 38.59 287 P **P** 09 50 32.2 +0.7
COEN **Coen** 38.59 287 P **P** 09 50 32.6 +1.1
COEN IAmb IAmb 09 50 33.7
comp=Z,44nm,1.1s
COEN **Coen** 38.59 287 P **P** 09 50 32.1 +0.6
comp=Z,47nm,1.8s
OOD **Oodnadatta** 39.52 262 P **P** 09 50 40.2 +1.1
MULG **Mulgathing** 40.30 258 P **P** 09 50 45.3 -0.2
AS01 **Alice Springs** 42.27 268 P **P** 09 51 01.5 -0.1
AS31 **Alice Springs** 42.31 268 P **P** 09 51 01.7 -0.2
AS31 **Alice Springs** 42.31 268 P **P** 09 51 02.2 +0.2
ASAR **Alice Springs** 42.31 268 P **P** 09 51 01.7 -0.3
ASAR **Alice Springs** 42.31 268 P **P** 09 51 01.3 -0.6
comp=Z,56nm,0.7s,baz=104,slow=7.4,SNR=271
ASAR pP **pwP** 09 51 50.1 -0.6
comp=Z,16nm,0.8s,baz=105,slow=7.4,SNR=2.4
ASAR PcP **PcP** 09 52 51.3 0.0
comp=Z,19nm,1.0s,baz=105,slow=5.9,SNR=7.3
ASAR ScP **ScP** 09 56 18.7 -2.1
comp=Z,18nm,0.9s,baz=113,slow=3.6,SNR=22
ASAR PKiKP **PKiKP** 09 59 55.0 -1.1
comp=Z,0.3nm,0.7s,baz=96,slow=1.3,SNR=4.2
ASAR P4KPbc 10 29 00.1
comp=Z,0.3nm,0.5s,baz=108,slow=4.1,SNR=12
comp=Z,56nm,0.7s
ASPA **Alice Springs** 42.31 268 P **P** 09 51 01.7 -0.2
baz=42
WR0 **Warramunga Arr** 43.14 273 P **P** 09 51 08.4 -0.2
WR0 IAmb IAmb 09 51 10.1
comp=Z,82nm,0.9s
WC3 **Warramunga Arr** 43.28 273 P **P** 09 51 09.5 -0.3
baz=43
WB2 **Warramunga Arr** 43.31 273 P **P** 09 51 09.9 -0.1
WRAB **Tennant Creek** 43.31 273 P **P** 09 51 09.7 -0.3
WRAB **Tennant Creek** 43.31 273 P **P** 09 51 09.7 -0.3
WRAB pmax pmax
comp=Z,94nm,0.8s
WRA **Warramunga Arr** 43.32 273 P **P** 09 51 09.9 -0.2
WRA **Warramunga Arr** 43.32 273 P **P** 09 51 09.2 -0.9
comp=Z,91nm,0.7s,baz=112,slow=7.7,SNR=609
WRA pP **pwP** 09 51 58.2 -1.2
comp=Z,9.0nm,0.6s,baz=112,slow=7.5,SNR=1.1
WRA PcP **PcP** 09 52 54.7 -0.1
comp=Z,28nm,0.9s,baz=121,slow=2.8,SNR=7.7
WRA ScP **ScP** 09 56 22.4 -2.6
comp=Z,26nm,1.1s,baz=112,slow=4.3,SNR=18
WRA S **S** 09 57 17.7 -3.2
comp=Z,5.5nm,0.8s,baz=110,slow=14,SNR=5.1
WRA PKiKP **PKiKP** 09 59 55.2 -1.8
comp=Z,0.4nm,0.5s,baz=101,slow=0.2,SNR=5.6
WRA P4KPbc 10 29 04.4
comp=Z,1.2nm,0.5s,baz=104,slow=4.2,SNR=22
comp=Z,91nm,0.7s
WB0 **Warramunga Arr** 43.34 273 P **P** 09 51 10.0 -0.2
DRV **Dumont d'Urvil** 43.60 202 P **P** 09 51 12.4 +0.8
DRV PcP **PcP** 09 52 55.4 +0.6
DRV ScP **ScP** 09 56 23.9 -1.2
FORT **Forrest** 45.22 256 P **P** 09 51 24.5 -0.4
baz=45,SNR=73
FORT **Forrest** 45.22 256 P **P** 09 51 24.4 -0.5
FORT **Forrest** 45.22 256 P **P** 09 51 24.6 -0.4
FORT **Forrest** 45.22 256 P **P** 09 51 24.5 -0.4
comp=Z,173nm,0.7s
WRKA **Warakurna** 46.66 263 P **P** 09 51 35.2 -1.2
baz=47,SNR=172
WRKA **Warakurna** 46.66 263 P **P** 09 51 35.3 -1.0
WRKA **Warakurna** 46.66 263 P **P** 09 51 35.3 -1.0
comp=Z,78nm,0.9s
SBA **Scott Base** 47.72 184 P P 09 51 49.0 +5.4
SBA **Scott Base** 47.72 184 P P 09 51 49.0 +5.4
SBA pmax pmax
comp=Z,513nm,1.0s
SBA **Scott Base** 47.72 184 P P 09 51 48.9 +5.2
SBA PcP **PcP** 09 53 12.1 +3.0
VNDA **Vanda** 47.76 186 P **P** 09 51 47.9 +3.9
VNDA IAmb IAmb 09 51 50.4
comp=Z,49nm,0.8s
VNDA **Vanda** 47.76 186 P **P** 09 51 47.1 +3.1
comp=Z,32nm,0.7s,baz=4.5,slow=8.1,SNR=243
VNDA ScP **ScP** 09 56 42.0 -0.3
comp=Z,4.1nm,0.7s,baz=328,slow=4.4,SNR=3.8
VNDA P4KPbc 10 29 24.1
comp=Z,0.3nm,0.7s,baz=310,slow=2.3,SNR=4.3
comp=Z,32nm,0.7s
VNDA **Vanda** 47.76 186 P **P** 09 51 47.9 +3.9
VNDA pmax pmax
comp=Z,49nm,0.9s
KDU **Kakadu** 48.19 281 P **P** 09 51 47.4 -0.6
baz=48,SNR=20
KDU **Kakadu** 48.19 281 P **P** 09 51 46.7 -1.4
KDU **Kakadu** 48.19 281 P **P** 09 51 47.9 -0.2
comp=Z,36nm,1.0s
MTN **Manton Dam** 49.24 280 P **P** 09 51 55.3 -0.8
baz=49,SNR=5.8
MTN **Manton Dam** 49.24 280 P **P** 09 51 55.4 -0.8
MTN IAmb IAmb 09 51 57.0
comp=Z,38nm,0.9s
MTN **Manton Dam** 49.24 280 P **P** 09 51 56.4 +0.2
comp=Z,60nm,1.1s
DRS **Darwin Rock St** 49.65 280 P **P** 09 51 58.6 -0.5
KMBL **Kambalda** 50.19 253 P **P** 09 52 02.4 -0.7
baz=50,SNR=15
KMBL **Kambalda** 50.19 253 P **P** 09 52 02.4 -0.7
KMBL **Kambalda** 50.19 253 P **P** 09 52 02.6 -0.5
comp=Z,60nm,0.9s
FITZ **Fitzroy Crossi** 51.57 271 P **P** 09 52 13.2 -0.2
baz=52,SNR=28
CCD **Concordia, Ant** 52.48 196 ⇑P **P** 09 52 21.5 +1.6
CCD ScP **ScP** 09 57 02.6 -0.6
RKGY **Rocky Gully** 53.33 248 P **P** 09 52 26.0 -0.2
baz=53,SNR=5.2
RKGY **Rocky Gully** 53.33 248 P **P** 09 52 26.1 -0.1
comp=Z,54nm,0.9s
KLBR **Kellerberrin** 53.52 252 P **P** 09 52 26.8 -0.9
baz=54,SNR=23
KLBR **Kellerberrin** 53.52 252 P **P** 09 52 27.2 -0.4
KLBR **Kellerberrin** 53.52 252 P **P** 09 52 27.0 -0.6
comp=Z,143nm,1.0s
NWAO **Narrogin (SRO)** 53.57 250 P **P** 09 52 29.7 +1.7
NWAO **Narrogin (SRO)** 53.57 250 P **P** 09 52 27.2 -0.8
NWAO **Narrogin (SRO)** 53.57 250 P **P** 09 52 27.3 -0.7
comp=Z,12nm,1.0s,baz=136,slow=6.2,SNR=4.2
NWAO ScP **ScP** 09 57 06.3 -1.9
comp=Z,5.5nm,0.7s,baz=95,slow=2.8,SNR=3.7
comp=Z,12nm,1.0s
NWAO **Narrogin (SRO)** 53.57 250 P **P** 09 52 27.2 -0.7
NWAO pmax pmax
comp=Z,25nm,1.0s
NWAO **Narrogin (SRO)** 53.57 250 P **P** 09 52 27.5 -0.5
comp=Z,29nm,2.2s
NWAO **Narrogin (SRO)** 53.57 250 P **P** 09 52 26.9 -1.0
FAKI **Fak Fak** 53.69 291 P **P** 09 52 27.5 -1.6
MEEK **Meekatharra** 54.35 258 P **P** 09 52 32.9 -0.9
baz=54,SNR=35
MEEK **Meekatharra** 54.35 258 P **P** 09 52 32.8 -0.9

MEEK **Meekatharra** 54.35 258 P **P** 09 52 33.1 -0.7
comp=Z,36nm,0.9s
CASY **Casey** 54.54 208 P **P** 09 52 35.3 +0.9
CASY **Casey** 54.54 208 P **P** 09 52 34.6 +0.2
BLDU **Ballidu** 54.66 252 P **P** 09 52 35.0 -0.8
baz=55,SNR=9.5
BLDU **Ballidu** 54.66 252 P **P** 09 52 34.7 -1.2
BLDU **Ballidu** 54.66 252 P **P** 09 52 35.1 -0.8
comp=Z,40nm,1.5s
MUN **Mundaring** 54.67 251 P **P** 09 52 35.6 -0.3
baz=55,SNR=8.3
MUN **Mundaring** 54.67 251 P **P** 09 52 35.0 -0.9
MUN **Mundaring** 54.67 251 P **P** 09 52 35.6 -0.3
comp=Z,49nm,1.0s
PSA00 **Pilbara Seismi** 55.15 264 P **P** 09 52 38.5 -1.0
PSA00 **Pilbara Seismi** 55.15 264 P **P** 09 52 38.3 -1.2
PSA00 PcP **PcP** 09 53 37.0 -0.9
PSA00 IAmb IAmb 09 53 37.9
comp=Z,27nm,0.9s
PSA00 **Pilbara Seismi** 55.15 264 P **P** 09 52 38.4 -1.0
comp=Z,35nm,1.3s
PSAC1 **Pilbara Seismi** 55.20 264 P **P** 09 52 38.7 -1.1
comp=Z,45nm,1.4s
MBWA **Marble Bar** 55.41 264 P **P** 09 52 40.3 -1.1
MBWA **Marble Bar** 55.41 264 P **P** 09 52 40.1 -1.3
MBWA PcP **PcP** 09 53 38.1 -0.8
MBWA IAmb IAmb 09 53 38.9
comp=Z,49nm,1.0s
MBWA **Marble Bar** 55.41 264 P **P** 09 52 40.3 -1.1
comp=Z,43nm,0.7s
MBWA **Marble Bar** 55.41 264 P **P** 09 52 40.1 -1.3
MBWA pP **pP** 09 53 33.0 +2.9
MBWA PcP **PcP** 09 53 37.7 -1.2
MORW **Morawa** 55.70 254 P **P** 09 52 42.5 -0.8
baz=56,SNR=11
MORW **Morawa** 55.70 254 P **P** 09 52 42.6 -0.8
MORW **Morawa** 55.70 254 P **P** 09 52 42.3 -1.0
MORW **Morawa** 55.70 254 P **P** 09 52 42.8 -0.5
comp=Z,33nm,1.1s
SWI **Sorong** 55.71 292 P **P** 09 52 42.6 -0.9
comp=Z,23nm,0.7s,comp=Z,2μm
GUMO **Guam** 56.11 316 P **P** 09 52 43.7 -2.6
GUMO **Guam** 56.11 316 P **P** 09 52 43.3 -3.0
comp=Z,20nm,0.7s,baz=150,slow=7.8,SNR=2.6
comp=Z,20nm,0.7s
GUMO **Guam** 56.11 316 P **P** 09 52 43.7 -2.6
GUMO pmax pmax
comp=Z,117nm,1.5s
GUMO **Guam** 56.11 316 P **P** 09 52 43.7 -2.6
SANI **Sanana** 59.28 288 P **P** 09 53 09.0 +0.5
SANI **Sanana** 59.28 288 P **P** 09 53 09.6 +1.1
comp=Z,25nm,1.1s,comp=Z,750nm
EDFI **Ende, Flores** 59.31 278 P **P** 09 53 09.5 +0.7
comp=Z,35nm,0.7s,comp=Z,864nm
QSPA **South Pole Qui** 59.45 180 P **P** 09 53 12.8 +3.8
comp=Z,236nm,0.7s,baz=22,slow=0.9,SNR=1325
QSPA S **S** 10 01 06.7 +6.4
comp=Z,7.0nm,1.0s,baz=17,slow=20,SNR=17
QSPA **South Pole Qui** 59.45 180 P **P** 09 53 12.8 +3.8
QSPA PcP **pP** 09 53 58.0 -0.6
GIRL **Giralia** 59.52 260 P **P** 09 53 10.4 +0.4
baz=60,SNR=19
GIRL **Giralia** 59.52 260 P **P** 09 53 10.2 +0.2
PLAI **Plampang** 62.62 276 P **P** 09 53 31.2 +0.3
JAGI **Jaiag, Banyuwa** 65.91 274 P **P** 09 53 52.1 -0.2
JCJ **Chichijima** 68.41 323 P **P** 09 54 06.8 -0.8
UGM **Wanagama** 69.30 273 P **P** 09 54 13.3 -0.2
UGM **Wanagama** 69.30 273 P **P** 09 54 13.3 -0.2
SMAI **San Martin Ant** 69.48 158 P **P** 09 54 16.6 +3.0
SMAI IAmb IAmb 09 55 23.8
comp=Z,72nm,1.4s
BELA **Belgrano 2** 69.63 172 P **P** 09 54 16.6 +2.1
MAW **Mawson** 71.79 201 P **P** 09 54 29.0 +1.5
comp=Z,40nm,0.7s,baz=125,slow=7.7,SNR=88
comp=Z,40nm,0.7s
BBJI **Bungbulang** 72.00 272 P **P** 09 54 29.2 -0.6
PMSA **Palmer Station** 72.35 156 P **P** 09 54 32.2 +1.3
CNJI **Cibinong** 72.52 272 P **P** 09 54 32.5 -0.3
comp=Z,91nm,1.1s,comp=Z,931nm
SBUM **Sibu** 73.21 283 P **P** 09 54 36.6 -0.2
SBUM IAmb IAmb 09 54 37.9
comp=Z,48nm,2.0s
DBJI **Dramaga** 73.22 272 P **P** 09 54 36.7 -0.2
comp=Z,191nm,0.9s,comp=Z,10μm
KASI **Kota Agung** 75.67 272 P **P** 09 54 49.9 -1.1
comp=Z,145nm,1.0s,comp=Z,2μm
PPBI **Pangkal Pinang** 75.96 276 P **P** 09 54 52.5 -0.1
comp=Z,70nm,0.8s
GO09 **Cerro Castillo** 76.09 142 P **P** 09 54 55.3 +2.5
JOW **Kunigami** 76.25 313 P **P** 09 54 53.2 -0.7
JOW **Kunigami** 76.25 313 P **P** 09 54 51.9 -2.0
comp=Z,37nm,0.8s,baz=158,slow=7.9,SNR=5.7
comp=Z,37nm,0.8s
ELIB **Princess Elisa** 76.50 187 *d*P **P** 09 54 56.8 +1.9
comp=Z,82nm,0.8s
MG02 **Cerro Sombrero** 76.90 144 P **P** 09 55 00.2 +3.0
MNAI **Manna** 77.58 272 P **P** 09 55 01.8 +0.1
TROLL **Troll, Antarti** 77.61 180 ⇑P **P** 09 55 03.6 +2.6
comp=Z,10μm,0.7s
TROLL ⇑S **S** 10 04 34.7 +1.0
INU **Inuyama** 77.65 324 P **P** 09 55 00.5 -1.0
INU IAmb IAmb 09 55 01.6
comp=Z,40nm,1.1s
JGF **Kuroka** 77.68 325 P **P** 09 55 00.8 -0.9
JGF **Kuroka** 77.68 325 P **P** 09 55 01.0 -0.7
JGF IAmb IAmb 09 55 01.7
comp=Z,16nm,0.7s
SNAA **Sanae** 77.92 179 P **P** 09 55 04.6 +2.0
SNAA **Sanae** 77.92 179 ⇑P **P** 09 55 04.9 +2.2
comp=Z,3μm,1.0s
SNAA ⇓S **S** 10 04 38.1 +1.1
SNAA **Sanae** 77.92 179 P **P** 09 55 04.4 +1.7
comp=Z,82nm,0.7s,baz=205,slow=7.9,SNR=185
comp=Z,82nm,0.7s
SNAA **Sanae** 77.92 179 P **P** 09 55 04.6 +2.0
SNAA pmax pmax
comp=Z,102nm,0.8s
MJAR **Matsushiro Arr** 78.01 326 P **P** 09 55 01.7 -1.8
comp=Z,16nm,1.1s,baz=163,slow=5.7,SNR=20
comp=Z,16nm,1.1s
MAJO **Matsushiro** 78.01 326 P **P** 09 55 03.9 +0.4
MAJO **Matsushiro** 78.01 326 P **P** 09 55 03.9 +0.4
MAJO pmax pmax
comp=Z,19nm,1.1s
MJB9 **Matsu-Tunnel** 78.02 326 P **P** 09 55 03.7 +0.2
MJB9 IAmb IAmb 09 55 04.5
comp=Z,30nm,1.2s
JMN **Monobe** 78.03 321 P **P** 09 55 03.9 +0.2
JMN **Monobe** 78.03 321 P **P** 09 55 03.2 -0.5
YOJ **Yonaguni jima** 78.09 308 P **P** 09 55 01.9 -2.2
YOJ **Yonaguni jima** 78.09 308 P **P** 09 55 02.0 -2.2
YOJ pmax pmax
comp=Z,249nm,1.9s
VNA3 **Neumayer Olymp** 78.10 176 ⇑P **P** 09 55 05.7 +2.1
comp=Z,278nm,0.8s
VNA3 ⇑S **S** 10 04 40.5 +1.8
DSRI **Dabo** 78.16 277 P **P** 09 55 04.8 -0.1
TWG **Pinlang** 78.36 305 P **P** 09 55 03.4 -2.3
TWG IAmb IAmb 09 55 03.9
comp=Z,29nm,0.8s
VNA2 **Neumayer--Watz** 78.52 177 ⇑P **P** 09 55 08.3 +2.4
comp=Z,205nm,0.7s,baz=176,slow=5.0
VNA2 ⇓S **S** 10 04 45.1 +1.8
baz=349,slow=31
NVL **N'lazarevskaya** 78.57 184 ⇑*e*P **P** 09 55 06.7 +0.6
NVL *e*S **S** 10 04 44.4 +0.7
NVL pmax pmax
comp=Z,91nm,0.9s
YULB **Yu-li** 78.58 306 P **P** 09 55 04.8 -2.1
YULB IAmb IAmb 09 55 05.5
comp=Z,17nm,0.7s
VNA1 **Neumayer--Stat** 78.76 177 ⇑P **P** 09 55 09.7 +2.5
comp=Z,232nm,0.8s
NACB **Ninganchiao** 78.88 307 P **P** 09 55 06.9 -1.6
NACB IAmb IAmb 09 55 07.8
comp=Z,38nm,1.0s
TPUB **Ta-pu** 78.98 305 P **P** 09 55 07.2 -1.9
SSLB **Suanglung** 79.07 306 P **P** 09 55 08.5 -1.1
SSLB **Suanglung** 79.07 306 P **P** 09 55 07.6 -2.0
JSD **Sado** 79.18 327 P **P** 09 55 09.6 -0.2
JSD IAmb IAmb 09 55 10.4
comp=Z,65nm,1.4s
JNU **Nakatsue** 79.23 319 P **P** 09 55 09.1 -1.2
JNU **Nakatsue** 79.23 319 P **P** 09 55 09.7 -0.6
JNU **Nakatsue** 79.23 319 P **P** 09 55 07.6 -2.7

comp=Z,40nm,1.0s,baz=87,slow=2.3,SNR=13
comp=Z,40nm,1.0s
COYC **Coyhaique** 79.29 137 P **P** 09 55 13.6 +3.0
COYC IAmb IAmb 09 55 15.2
comp=Z,19nm,0.8s
YHNB **Yeheng** 79.35 307 P **P** 09 55 10.6 -0.5
YHNB IAmb IAmb 09 55 15.1
comp=Z,24nm,0.9s
TATO **Taipei** 79.47 307 P **P** 09 55 10.1 -1.6
MYKOM **Kota Tinggi** 79.95 278 P **P** 09 55 14.5 -0.1
JTM **Tenmabayashi** 80.16 330 P **P** 09 55 14.0 -1.0
JTM IAmb IAmb 09 55 16.0
comp=Z,56nm,1.4s
LL02 **Futaleuf** 80.73 135 IAmb IAmb 09 55 22.6
comp=Z,22nm,0.8s
PPSI **Pulau Pagai** 80.92 272 P **P** 09 55 20.7 +1.0
comp=Z,203nm,1.0s
H03S2 **Juan Fernandez** 80.98 124 T T 11 25 03.8
baz=237,slow=74,SNR=42
H03S1 **Juan Fernandez** 80.99 124 T T 11 25 05.0
baz=237,slow=74,SNR=35
H03S3 **Juan Fernandez** 81.00 124 T T 11 25 03.9
baz=237,slow=74,SNR=40
H03N3 **Juan Fernandez** 81.17 124 T T 11 25 14.2
baz=240,slow=72,SNR=40
H03N2 **Juan Fernandez** 81.18 124 T T 11 25 19.1
baz=240,slow=72,SNR=38
H03N1 **Juan Fernandez** 81.19 124 T T 11 25 16.8
baz=240,slow=72,SNR=62
LR05 **Currie** 82.27 132 P **P** 09 55 27.8 +1.4
ASAJ **Asahikawa** 82.31 333 P **P** 09 55 25.6 -0.6
comp=Z,4.6nm,0.5s,baz=192,slow=6.0,SNR=9.4
comp=Z,4.6nm,0.5s
LR03 **Panguipulli** 82.38 132 P **P** 09 55 30.4 +3.4
SISI **Saibi** 82.44 273 P **P** 09 55 28.1 +0.4
comp=Z,98nm,1.5s
PLCA **Paso Flores** 82.91 133 P **P** 09 55 32.4 +2.6
PLCA **Paso Flores** 82.91 133 P **P** 09 55 32.0 +2.2
comp=Z,10.0nm,0.8s,baz=221,slow=4.7,SNR=26
comp=Z,10.0nm,0.8s
PLCA **Paso Flores** 82.91 133 P **P** 09 55 32.4 +2.6
PLCA pmax pmax
comp=Z,14nm,0.9s
GO06 **Curarrehue** 82.97 132 P **P** 09 55 33.1 +3.0
HKPS **Hong Kong Po S** 83.03 301 P **P** 09 55 30.5 0.0
HKPS IAmb IAmb 09 55 32.0
comp=Z,43nm,1.0s
TJN **Taejon** 83.58 319 P **P** 09 55 32.4 -0.5
TJN **Taejon** 83.58 319 P **P** 09 55 32.4 -0.5
NIKH **Nikolski High** 83.74 6 P **P** 09 55 29.7 -3.6
NIKH **Nikolski High** 83.74 6 P **P** 09 55 34.4 +1.0
baz=189
IPM **Ipoh** 83.75 279 P **P** 09 55 34.0 -0.4
PBSI **Pulau Batu** 83.78 274 P **P** 09 55 34.9 +0.4
comp=Z,159nm,1.0s,comp=Z,2μm
KSRS **Korea Array** 84.04 320 P **P** 09 55 34.3 -0.9
comp=Z,15nm,0.9s,baz=140,slow=5.6,SNR=53
comp=Z,15nm,0.9s
KSAR **Wonju Array Be** 84.05 320 P **P** 09 55 35.4 +0.1
KSAR **Wonju Array Be** 84.05 320 P **P** 09 55 35.4 +0.1
KS19 **Wonju Array Si** 84.10 320 P **P** 09 55 35.6 0.0
KS19 IAmb IAmb 09 55 36.6
comp=Z,44nm,1.2s
QIZ **Qiongzhong** 84.39 296 P **P** 09 55 34.1 -3.3
QIZ sP **sP** 09 56 52.6 -0.2
QIZ S **SKSac** 10 05 39.4 -0.9
QIZ sS **sS** 10 07 15.4 -0.9
QIZ pmax pmax
comp=Z,36nm,0.3s
QIZ pmax pmax
comp=Z,230nm,4.3s
KULM **Kulim** 84.48 279 P **P** 09 55 37.2 -0.9
YSS **Yuzh-Sakhalins** 84.64 335 *e*P **P** 09 55 38.5 +0.5
YSS *e**PP **pwP** 09 56 36.3 +2.4
YSS *e*S **S** 10 05 44.3 -1.8
YSS pmax pmax
comp=Z,30nm,1.3s
YSS pmax pmax
comp=Z,300nm,6.5s
YSS smax smax
comp=N,300nm,3.8s
YSS smax smax
comp=E,300nm,3.7s
PSI **Prapat** 84.68 276 P **P** 09 55 38.4 -0.8
UNV **Unalaska Valle** 84.84 7 P **P** 09 55 40.1 +1.3
baz=191
GSI **Gunungsitoli** 85.07 274 P **P** 09 55 41.7 +0.7
GSI **Gunungsitoli** 85.07 274 P **P** 09 55 41.0 0.0
GSI **Gunungsitoli** 85.07 274 P **P** 09 55 41.1 0.0
comp=E,335nm,1.1s,comp=E,4μm
ML02 **Panimavida** 85.15 129 P **P** 09 55 42.1 +1.1
ML02 IAmb IAmb 09 56 02.5
comp=Z,27nm,1.1s
SCZ2 **Santa Cruz Isl** 85.22 46 P **P** 09 55 42.9 +1.6
baz=229
SBC **Santa Barbara** 85.47 45 P **P** 09 55 43.6 +1.1
baz=228
PET **Petropavlovsk** 85.60 347 *e*P **P** 09 55 45.9 +3.3
PET *e**PP **pwP** 09 56 39.3 +1.3
PET *e* 09 59 02.9
PET *e*S **S** 10 05 51.7 -3.5
PET *e**SS **sS** 10 07 24.9 -2.8
PET MLR MLR
comp=Z,100nm,18.0s
PKM **Mcpherson Peak** 85.71 45 P **P** 09 55 45.3 +1.4
baz=228
NJ2 **Nanjing** 85.82 311 ⇑*i*P **P** 09 55 44.5 +0.3
NJ2 pmax pmax
comp=Z,42nm,1.0s
FMP **Fort Macarthur** 85.87 47 P **P** 09 55 46.0 +1.6
baz=229
PETK **Petropavlovsk-** 85.87 346 P **P** 09 55 42.9 -1.0
PETK **Petropavlovsk-** 85.87 346 P **P** 09 55 43.0 -1.0
comp=Z,10nm,0.6s,baz=103,slow=7.2,SNR=11
comp=Z,10nm,0.6s
SMMC **Simmler** 85.88 45 P **P** 09 55 46.4 +1.9
baz=228
BCW **Bitter Crk WRg** 85.99 45 P **P** 09 55 45.0 -0.1
BCW IAmb IAmb 09 55 47.9
comp=Z,37nm,0.9s
KCSI **Kotacane, Aceh** 86.03 276 P **P** 09 55 44.2 -1.6
comp=Z,67nm,1.0s,comp=Z,1μm
109C **Camp Elliot, M** 86.09 48 P **P** 09 55 46.9 +1.4
baz=230
BO02 **Sierra Bellavi** 86.13 128 P **P** 09 55 47.5 +1.4
BO02 IAmb IAmb 09 55 49.3
comp=Z,18nm,0.9s
OSI **Osito Audit: C** 86.19 46 P **P** 09 55 47.6 +1.5
baz=229
DECC **Green Verdugo** 86.20 46 P **P** 09 55 47.0 +0.9
baz=229
FALS **False Pass** 86.21 9 P **P** 09 55 47.2 +1.7
baz=193
BAR **Barrett** 86.23 48 IAmb IAmb 09 55 48.9
comp=Z,37nm,1.5s
PASC **Pasadena Art C** 86.24 46 P **P** 09 55 47.6 +1.4
PASC IAmb IAmb 09 55 48.3
comp=Z,19nm,1.1s
ESJX **Sierra Juarez** 86.27 49 P **P** 09 55 48.8 +2.1
MT01 **Popeta** 86.34 127 P **P** 09 55 49.3 +2.3
MT01 IAmb IAmb 09 55 50.6
comp=Z,26nm,0.9s
PSTR **Posyet** 86.35 325 P **P** 09 55 47.0 +0.5
ELS **Elsinore Mount** 86.37 47 P **P** 09 55 48.4 +1.4
ELS IAmb IAmb 09 55 49.6
comp=Z,23nm,1.1s
ARVC **Arvin** 86.47 45 P **P** 09 55 48.7 +1.3
baz=229,SNR=6.3
MURC **Murrieta** 86.49 47 P **P** 09 55 49.1 +1.6
baz=230,SNR=6.7
MONP2 **Monument Peak** 86.53 48 P **P** 09 55 49.7 +1.8
baz=230,SNR=6.4
MT09 **Talagante** 86.57 127 P **P** 09 55 50.3 +2.0
MT09 IAmb IAmb 09 55 51.6
comp=Z,25nm,1.1s
IKP **In-Ko-Pah, Jac** 86.57 49 P **P** 09 55 49.6 +1.6
baz=230
BFSC **Mount Baldy Ra** 86.61 47 P **P** 09 55 49.4 +1.2
baz=229,SNR=11
YUH **Yuha Desert** 86.69 49 IAmb IAmb 09 55 51.2
comp=Z,24nm,1.2s
SNSI **Sinabang, Aceh** 86.70 275 P **P** 09 55 50.9 +1.9
VES **Vestal, Richgr** 86.79 45 P **P** 09 55 49.7 +0.9
baz=228,SNR=10
EDW2 **Edwards Air Fo** 86.82 46 P **P** 09 55 50.6 +1.4
baz=229,SNR=11

USRK Ussuriysk Ar. 86.94 327 P P 09 55 50.0 +0.6
USRK Ussuriysk Ar. 86.94 327 P P 09 55 49.4 +0.1
comp=Z,4.3nm,0.5s,baz=116,slow=4.4,SNR=17
comp=Z,4.3nm,0.5s
USRK Ussuriysk Ar. 86.94 327 P P 09 55 50.0 +0.6
USA0B Ussuriysk Arra 86.94 327 P P 09 55 50.0 +0.6
USA0B IAmb IAmb 09 55 51.2
comp=Z,33nm,1.2s
USA0B Ussuriysk Arra 86.94 327 P P 09 55 50.0 +0.6
USA0B pmax pmax
comp=Z,33nm,1.3s
SWSC Sam W. Stewart 86.96 49 P P 09 55 51.5 +1.7
baz=230
PFO Pinyon Flats O 86.96 48 P P 09 55 50.8 +0.9
PFO IAmb IAmb 09 55 52.6
comp=Z,25nm,1.2s
PFO Pinyon Flats O 86.96 48 P P 09 55 51.6 +1.7
baz=230,SNR=8.9
PFO Pinyon Flats O 86.96 48 P P 09 55 50.8 +0.9
PFO pmax pmax
comp=Z,25nm,1.2s
TPFO Pinon Flats 86.96 48 P P 09 55 51.5 +1.5
baz=230,SNR=7.7
CCAC Calif City Air 86.99 46 P P 09 55 50.5 +0.6
PMD Palm Desert 87.04 48 IAmb IAmb 09 55 52.8
comp=Z,21nm,1.2s
BBRC Big Bear Solar 87.09 47 P P 09 55 52.3 +1.7
baz=230
LRMC Laurel Mtn Rad 87.41 46 P P 09 55 53.4 +1.4
baz=229,SNR=8.5
RRX Edison Barstow 87.44 47 P P 09 55 53.6 +1.6
baz=230
BELC Belle Mtn. Jos 87.51 48 P P 09 55 54.0 +1.5
baz=230,SNR=11
MLSI Meulaboh, Aceh 87.58 276 P P 09 55 52.7 -0.5
comp=Z,101nm,0.9s
BC3 Big Chuckawall 87.64 48 P P 09 55 55.2 +2.1
baz=231,SNR=12
AFDM Forest Hills D 87.77 41 P P 09 55 53.6 +0.2
CWC Cottonwood Cre 87.79 45 P P 09 55 55.0 +1.1
baz=229
SPIA Saint Paul Isl 87.80 5 P P 09 55 54.9 +1.8
baz=188
HSIG 87.81 54 IAmb IAmb 09 55 56.2
comp=Z,21nm,1.2s
HEC Hector,Ludlow 87.83 47 P P 09 55 55.4 +1.5
baz=230
GSC Goldstone, Bar 87.83 46 IAmb IAmb 09 55 56.5
comp=Z,28nm,1.1s
GSC Goldstone, Bar 87.83 46 P P 09 55 55.4 +1.4
baz=230,SNR=13
WHN Wuhan 87.88 308 ⇑P P 09 55 54.5 +0.4
WHN pmax pmax
comp=Z,120nm,1.3s
MPMC Manual Prospec 87.90 45 P P 09 55 55.8 +1.4
baz=229,SNR=11
TYV Tymovskoe 87.98 337 eP P 09 55 54.9 +0.8
TYV eS S 10 06 14.7 -3.5
TYV pmax pmax
comp=Z,8.0nm,1.1s
TYV pmax pmax
comp=Z,200nm,4.0s
TYV smax smax
comp=N,200nm,5.9s
TYV smax smax
comp=E,400nm,5.9s
CO02 Combarbal 88.03 125 IAmb IAmb 09 55 58.5
comp=Z,35nm,0.9s
TIN Tinemaha, Big 88.11 44 P P 09 55 56.7 +1.4
baz=229
MLAC Mammoth, Mammo 88.12 44 P P 09 55 57.1 +1.6
baz=228
IRM Iron Mountain 88.15 48 P P 09 55 57.2 +1.8
baz=231,SNR=20
S14K Fog Glacier 88.16 11 P P 09 55 56.9 +2.0
baz=197
113A Mohawk Valley, 88.18 50 IAmb IAmb 09 55 58.5
comp=Z,31nm,1.2s
GMRC Granite Mounta 88.22 47 P P 09 55 57.6 +1.7
baz=230,SNR=7.0
QSM Queen of Sheba 88.22 46 P P 09 55 57.0 +1.3
QSM IAmb IAmb 09 55 58.1
comp=Z,24nm,1.3s
BLYC Blythe 88.30 49 IAmb IAmb 09 55 59.1
comp=Z,23nm,1.1s
214A Organ Pipe Nat 88.31 51 P P 09 55 57.7 +1.5
baz=232
WAKR Walker 88.35 43 IAmb IAmb 09 55 58.8
comp=Z,30nm,1.4s
MDJ Mudanjiang 88.40 326 P P 09 55 56.8 +0.6
MDJ PP PP 09 59 27.4 -0.4
MDJ S S 10 06 22.5 +0.1
MDJ SS SS 10 12 21.6 +2.9
MDJ pmax pmax
comp=Z,15nm,1.2s
MDJ pmax pmax
comp=Z,130nm,3.6s
CO03 El Pedregal 88.45 125 P P 09 55 58.9 +1.7
CO03 IAmb IAmb 09 56 00.9
comp=Z,30nm,1.2s
DSP Deep Springs 88.47 44 P P 09 55 55.9 -0.8
TUQ Turquoise Moun 88.47 47 P P 09 55 58.6 +1.6
baz=230
GWY Greenwater Val 88.49 46 P P 09 55 58.0 +0.8
GWY IAmb IAmb 09 55 59.3
comp=Z,21nm,1.4s
MPK Martis Peak 88.54 42 P P 09 55 57.4 0.0
MPK IAmb IAmb 09 55 59.6
comp=Z,25nm,1.1s
SHOC Shoshone, Teco 88.55 46 P P 09 55 58.7 +1.5
baz=230,SNR=7.4
FURC Furnace Creek, 88.55 45 P P 09 55 58.6 +1.5
baz=230
LCH Last Change Ra 88.57 44 P P 09 55 56.7 -0.8
GRAC Grapevine Rang 88.59 45 IAmb IAmb 09 56 00.0
comp=Z,49nm,1.4s
GRAC Grapevine Rang 88.59 45 P P 09 55 59.0 +1.6
baz=229,SNR=12
DL2 Dalian 88.61 318 P P 09 55 58.0 +0.6
DL2 S S 10 06 21.1 -3.5
DL2 sS sS 10 07 48.3 -9.2
DL2 pmax pmax
comp=Z,56nm,0.9s
PNTR Pine Nut 88.65 42 IAmb IAmb 09 55 59.9
comp=Z,21nm,1.1s
LHV Little Huntoon 88.73 43 P P 09 55 59.5 +1.5
LHV IAmb IAmb 09 56 00.4
comp=Z,20nm,1.1s
YERR Yerington 88.79 42 P P 09 55 59.3 +0.8
YERR IAmb IAmb 09 56 00.5
comp=Z,16nm,1.2s
NEE2 Needles Airpor 88.88 48 P P 09 56 00.4 +1.7
baz=231
PDMCI Parker Dam,Lak 88.89 49 P P 09 56 00.6 +1.7
baz=231,SNR=10
NVAR Mina Array Bea 88.97 43 P P 09 55 59.6 +0.2
comp=Z,10.0nm,1.0s,baz=221,slow=8.0,SNR=46
NVAR pP pP 09 56 53.6 +0.6
comp=Z,2.2nm,0.9s,baz=221,slow=8.8,SNR=3.2
NVAR PKKPbc PKKPbc 10 13 38.6 +0.8
comp=Z,0.3nm,0.5s,baz=53,slow=4.6,SNR=3.9
comp=Z,10.0nm,1.0s
RYN Ryan 88.97 43 IAmb IAmb 09 56 01.4
comp=Z,19nm,1.5s
NV11 Mina Array Sit 89.06 43 P P 09 56 00.1 +0.4
NV11 IAmb IAmb 09 56 01.8
comp=Z,15nm,1.1s
TPH Tonopah 89.38 44 P P 09 56 02.7 +1.4
TPH Tonopah 89.38 44 P P 09 56 02.7 +1.4
TPH pmax pmax
comp=Z,117nm,1.2s
Y14A Wickenburg 89.40 49 IAmb IAmb 09 56 04.2
comp=Z,26nm,1.2s
LCO Las Campanas 89.49 124 P P 09 56 03.1 +0.8
LCO IAmb IAmb 09 56 05.4
comp=Z,16nm,0.9s
LCO Las Campanas 89.49 124 P P 09 56 03.1 +0.8
LCO pmax pmax
comp=Z,16nm,0.9s
KVN Kaiserville 89.50 43 P P 09 56 02.3 +0.5
KVN IAmb IAmb 09 56 04.3
comp=Z,19nm,1.2s
KVN Kaiserville 89.50 43 P P 09 56 02.3 +0.5
KVN pmax pmax
comp=Z,19nm,1.2s
W13A Hualapai Mount 89.55 48 IAmb IAmb 09 56 05.0
comp=Z,15nm,1.1s

TIA Tai'an 89.57 313 P P 09 56 03.0 +1.0
TIA pmax pmax
comp=Z,37nm,1.0s
SHPR Sheep Range 89.63 46 P P 09 56 03.3 +0.8
CN2 Changchun 89.88 323 eP P 09 56 03.3 +0.1
CN2 eS S 10 06 32.3 -3.9
CN2 pmax pmax
comp=Z,10.0nm,0.5s
CN2 pmax pmax
comp=Z,100nm,3.0s
TUC Tucson 89.89 52 P P 09 56 05.4 +1.7
TUC IAmb IAmb 09 56 07.2
comp=Z,34nm,1.1s
TUC Tucson 89.89 52 P P 09 56 05.7 +2.0
baz=233
TUC Tucson 89.89 52 P P 09 56 05.4 +1.7
TUC pmax pmax
comp=Z,34nm,1.2s
AC05 El Transito 89.90 124 IAmb IAmb 09 56 08.0
comp=Z,20nm,0.8s
BNX BinXian 90.27 326 ⇑P P 09 56 05.3 +0.3
BNX pP pP 09 56 58.3 +0.2
BNX sP sP 09 57 20.8 0.0
BNX PP PP 09 59 44.9 +2.2
BNX S S 10 06 39.0 -0.7
BNX pmax pmax
comp=Z,20nm,1.0s
BNX pmax pmax
comp=Z,120nm,5.1s
SLVN Son La 90.30 295 IAmb IAmb 09 56 08.1
comp=Z,18nm,1.1s
I04A Tendick Farm, 90.32 37 P P 09 56 06.3 +1.0
I04A IAmb IAmb 09 56 07.0
comp=Z,19nm,0.9s
319A Douglas 90.37 53 P P 09 56 07.4 +1.4
319A IAmb IAmb 09 56 09.1
comp=Z,27nm,1.1s
K05A Summer Lake 90.39 39 IAmb IAmb 09 56 08.2
comp=Z,30nm,1.2s
HPIG 90.40 59 P P 09 56 07.4 +1.1
R11B Troy Canyon, C 90.54 45 P P 09 56 08.6 +1.9
baz=230
J05D Fort Rock, OR 90.59 38 P P 09 56 08.0 +1.3
J05D IAmb IAmb 09 56 08.9
comp=Z,25nm,1.2s
H04D Lebanon 90.66 36 P P 09 56 08.4 +1.6
X16A Lo Mia Camp, P 90.72 50 IAmb IAmb 09 56 10.8
comp=Z,20nm,1.2s
KLR Kul'dur 90.86 330 P P 09 56 07.5 -0.1
comp=Z,5.3nm,0.6s,baz=148,slow=2.8,SNR=24
comp=Z,5.3nm,0.6s
KLR Kul'dur 90.86 330 ceP P 09 56 07.1 -0.5
KLR pmax pmax
comp=Z,5.0nm,0.6s
O15K Ungalikthiuk R 90.90 10 P P 09 56 09.7 +2.2
baz=196
BMN Battle Mountai 90.91 42 IAmb IAmb 09 56 10.3
comp=Z,18nm,1.4s
Q16K King Salmon 90.92 11 P P 09 56 10.0 +2.3
baz=199
GYA Guiyang 91.00 300 ⇓P P 09 56 09.5 +0.5
GYA pmax pmax
comp=Z,37nm,1.2s
H04A Detroit Lake 91.05 37 IAmb IAmb 09 56 10.3
comp=Z,32nm,1.3s
PINE Pine Mountain 91.09 38 P P 09 56 10.5 +1.4
I05D Terrebonne, OR 91.25 37 IAmb IAmb 09 56 11.7
comp=Z,22nm,0.9s
U15A North Rim 91.39 48 P P 09 56 12.8 +2.0
U15A IAmb IAmb 09 56 13.6
comp=Z,17nm,1.1s
KNB Kanab 91.41 47 IAmb IAmb 09 56 13.5
comp=Z,24nm,1.3s
WUAZ Wupatki 91.43 49 P P 09 56 12.6 +1.7
WUAZ IAmb IAmb 09 56 13.6
comp=Z,13nm,1.1s
WUAZ Wupatki 91.43 49 P P 09 56 12.5 +1.7
baz=233
Q12A Willow Creek R 91.43 44 P P 09 56 11.9 +1.1
Q12A IAmb IAmb 09 56 12.9
comp=Z,14nm,0.9s
LYN LuoYang 91.56 310 ⇑P P 09 56 11.8 +0.6
LYN S S 10 06 50.6 -1.3
LYN pmax pmax
comp=Z,100nm,0.9s
LYN pmax pmax
comp=Z,410nm,5.0s
Q19K Cape Douglas, 91.70 13 P P 09 56 13.5 +2.2
baz=202
SPR3 Spring Creek 3 91.71 45 P P 09 56 11.4 -0.8
PHRA Phrae 91.72 290 P P 09 56 13.1 +0.7
X18A Snowflake 91.77 50 P P 09 56 14.1 +1.6
X18A IAmb IAmb 09 56 15.5
comp=Z,20nm,1.6s
N15K Kwethluk River 91.81 9 P P 09 56 13.6 +1.9
baz=196
HNS HongShan 91.83 313 ⇓P P 09 56 13.5 +1.1
HNS SKS SKSac 10 06 21.4 -2.4
HNS S S 10 06 53.0 -1.1
HNS SS SS 10 13 04.3 -4.1
HNS pmax pmax
comp=Z,42nm,1.2s
PKCU Pink Cliffs 92.00 47 P P 09 56 16.1 +2.4
PKCU IAmb IAmb 09 56 16.9
comp=Z,26nm,1.3s
I07A Izee 92.05 38 P P 09 56 14.4 +0.9
I07A IAmb IAmb 09 56 15.5
comp=Z,13nm,1.0s
121A Cookes Peak, D 92.07 53 P P 09 56 15.2 +1.2
121A IAmb IAmb 09 56 16.9
comp=Z,14nm,1.4s
121A Cookes Peak, D 92.07 53 P P 09 56 15.4 +1.5
baz=235
J08A Circle Bar Ran 92.12 39 P P 09 56 14.9 +1.1
J08A IAmb IAmb 09 56 15.8
comp=Z,12nm,1.1s
M15K Kasigluk River 92.24 9 P P 09 56 15.2 +1.5
baz=196
O18K Koktuh Hills 92.28 12 P P 09 56 15.1 +1.1
baz=200
N16K Nishlik Lake 92.30 10 P P 09 56 15.4 +1.4
baz=197
MTPU Mount Pierson 92.44 47 P P 09 56 18.0 +2.2
MTPU IAmb IAmb 09 56 18.9
comp=Z,26nm,1.6s
CRAI Chiangrai 92.51 292 P P 09 56 17.4 +1.4
CRAI IAmb IAmb 09 59 49.8
comp=Z,6.5nm,0.5s
BJI Beijing 92.56 316 P P 09 56 15.9 +0.2
BJI sP sP 09 57 30.3 -1.3
BJI S S 10 07 00.9 +0.4
BJI pmax pmax
comp=Z,11nm,1.0s
BJI pmax pmax
comp=Z,69nm,6.1s
MVU Marysvale 92.71 46 P P 09 56 18.6 +1.8
MVU IAmb IAmb 09 56 19.5
comp=Z,32nm,1.4s
MSU Marysvale 92.73 46 P P 09 56 18.9 +2.0
MSU Marysvale 92.73 46 P P 09 56 18.9 +2.0
CM31 Chiang Mai Arr 92.74 290 P P 09 56 18.7 +1.6
CM31 IAmb IAmb 09 56 20.1
comp=Z,15nm,1.1s
CMAR Chiang Mai Arr 92.74 290 P P 09 56 18.0 +0.9
CMAR Chiang Mai Arr 92.74 290 P P 09 56 17.6 +0.5
comp=Z,3.9nm,0.4s,baz=144,slow=3.6,SNR=36
CMAR PP PP 10 00 02.8 +0.2
comp=Z,1.0nm,0.4s,baz=148,slow=5.4,SNR=4.1
comp=Z,3.9nm,0.4s
CMAR Chiang Mai Arr 92.74 290 iP P 09 56 18.2 +1.1
CMAR pmax pmax
comp=Z,10.0nm,0.9s
CHTO Chiang Mai 92.93 290 P P 09 56 18.7 +0.8
CHTO IAmb IAmb 09 56 19.7
comp=Z,19nm,1.1s
CHTO Chiang Mai 92.93 290 P P 09 56 18.7 +0.8
CHTO pmax pmax
comp=Z,19nm,1.1s
BRSE Bradley Lake S 93.03 14 P P 09 56 19.4 +2.0
baz=204
L15K Ungalak Mounta 93.09 8 P P 09 56 19.2 +1.6
baz=195
TX31 Lajitas Ar. Si 93.19 58 P P 09 56 20.0 +0.9
TXAR Lajitas Array 93.19 58 P P 09 56 20.6 +1.5
TXAR Lajitas Array 93.19 58 P P 09 56 18.2 -0.8
comp=Z,2.9nm,1.0s,baz=201,slow=6.7,SNR=14

TXAR PKKPbc PKKPbc 10 13 27.4 +1.0
comp=Z,0.3nm,0.7s,baz=68,slow=4.1,SNR=4.2
comp=Z,2.9nm,1.0s
TXAR Lajitas Array 93.19 58 P P 09 56 20.6 +1.5
KMI Kunming 93.23 297 ⇑P P 09 56 19.0 -0.5
KMI SKS SKSac 10 06 32.4 -0.4
KMI S S 10 07 05.5 -2.1
KMI pmax pmax
comp=Z,29nm,0.8s
KMI pmax pmax
comp=Z,210nm,4.7s
MNTX Cornudas Mount 93.28 55 P P 09 56 20.3 +1.1
baz=236
N19K Bonanza Creek 93.31 12 P P 09 56 20.4 +1.6
baz=201
DUG Dugway, Tooele 93.37 45 P P 09 56 20.5 +0.8
baz=232
L16K Owhat River 93.38 9 P P 09 56 20.7 +1.8
baz=197
MFID Camas Ranch 93.63 41 IAmb IAmb 09 56 22.4
comp=Z,9.6nm,1.1s
SEW Seward 93.63 14 P P 09 56 21.7 +1.6
baz=205
XAN Xi'an 93.64 308 ⇑P P 09 56 21.0 +0.1
XAN S S 10 07 07.1 -3.3
XAN pmax pmax
comp=Z,18nm,1.1s
XAN pmax pmax
comp=Z,250nm,6.7s
K15K Wolf Creek Mou 93.68 8 P P 09 56 21.7 +1.4
baz=195
BMO Blue Mountains 93.74 39 IAmb IAmb 09 56 22.5
comp=Z,22nm,2.0s
TMUT Trail Mountain 93.81 46 IAmb IAmb 09 56 24.2
comp=Z,18nm,1.5s
J14K Nanvaranak Lak 93.90 7 P P 09 56 22.7 +1.4
baz=193
SRU San Rafael Swe 94.12 46 P P 09 56 23.8 +0.6
SRU San Rafael Swe 94.12 46 P P 09 56 23.8 +0.6
SRU pmax pmax
comp=Z,4.0nm,0.9s
L18K Granite Mounta 94.27 10 P P 09 56 24.4 +1.3
baz=199
MVCO Mesa Verde 94.30 49 P P 09 56 24.7 +0.5
baz=235
ANMO Albuquerque 94.36 52 P P 09 56 25.6 +1.2
ANMO Albuquerque 94.36 52 P P 09 56 24.8 +0.4
baz=236
ANMO Albuquerque 94.36 52 P P 09 56 25.6 +1.2
ANMO pmax pmax
comp=Z,4.0nm,1.1s
HVU Hansel Valley 94.36 43 IAmb IAmb 09 56 26.0
comp=Z,15nm,1.3s
PV05 Paradox Valley 94.42 48 P P 09 56 25.3 +0.7
F10A Beach Ranch, E 94.51 38 P P 09 56 24.9 +0.2
HLID Hailey 94.52 41 P P 09 56 25.5 +0.6
HLID Hailey 94.52 41 P P 09 56 25.7 +0.8
baz=231
L19K White Mountain 94.53 11 P P 09 56 25.3 +1.1
baz=201
PLID Pearl Lake 94.60 39 P P 09 56 25.4 +0.1
PV17 East Wray Mesa 94.62 48 P P 09 56 26.4 +0.8
PV17 IAmb IAmb 09 57 29.7
comp=Z,10nm,1.5s
PZH PanZhiHua 94.73 298 P P 09 56 26.8 +0.6
PZH S S 10 07 19.3 -1.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,4.2s
TCUT Toone Canyon 94.78 44 IAmb IAmb 09 56 29.8
comp=Z,8.3nm,1.1s
BSUT Blindstream Ca 94.83 45 IAmb IAmb 09 56 28.5
comp=Z,9.5nm,1.4s
L20K Farewell, AK 94.97 11 P P 09 56 27.5 +1.2
baz=202
XLT XiLinHaoTe 95.01 319 eP P 09 56 29.9 +2.9
XLT pmax pmax
comp=Z,11nm,0.9s
XLT pmax pmax
comp=Z,74nm,4.2s
PMR Palmer 95.05 14 P P 09 56 28.0 +1.5
baz=206
SML Sawmill 95.41 14 P P 09 56 29.7 +1.4
baz=206
ANM Nome 95.50 6 P P 09 56 29.6 +1.0
baz=192
CD2 Chengdu 95.56 303 P P 09 56 30.0 +0.2
CD2 pmax pmax
comp=Z,10.0nm,0.5s
HHC Hu-ho-hao-te 95.85 314 eP P 09 56 31.3 +0.4
HHC SKS SKSac 10 06 44.9 -0.9
HHC S S 10 07 28.8 -0.6
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,94nm,5.1s
H16K Elim 95.88 7 P P 09 56 31.6 +1.4
baz=194
AHID Auburn Hatcher 95.95 43 P 09 56 32.3 +0.9
AHID IAmb IAmb 09 56 33.3
comp=Z,4.8nm,0.8s
SEY Seymchan 96.05 347 iP P 09 56 31.3 +0.2
SEY pmax pmax
comp=Z,6.0nm,1.3s
ZEA Zeya 96.09 331 iP P 09 56 30.3 -1.2
MSTX Muleshoe 96.36 54 P P 09 56 34.0 +0.6
baz=238
TPAW Teton Pass 96.47 43 P P 09 56 34.1 +0.2
TRF Thorofare Moun 96.51 13 P P 09 56 34.5 +1.0
baz=205
J20K Nowinta River 96.52 11 P P 09 56 34.7 +1.5
baz=201
CHUM Lake Minchumin 96.55 12 P P 09 56 35.1 +1.7
baz=203
SDCO Great Sand Dun 96.56 50 P P 09 56 34.7 +0.2
baz=236
SNOW Snow King Moun 96.57 43 IAmb IAmb 09 56 36.1
comp=Z,13nm,1.4s
PDAR Pinedale Array 96.87 44 P P 09 56 34.8 -0.9
comp=Z,0.8nm,0.8s,baz=174,slow=4.5,SNR=5.7
PDAR PKKPbc PKKPbc 10 13 15.8 -1.6
comp=Z,0.9nm,0.6s,baz=71,slow=4.4,SNR=9.3
comp=Z,0.8nm,0.8s
T25A Trinidad 96.95 51 P P 09 56 36.1 -0.1
baz=237
H17A Grant Village 97.22 42 P Pdif 09 56 38.4 +1.1
baz=234
BOZ Bozeman (W) 97.34 41 P Pdif 09 56 38.3 +0.7
baz=233
M27K Edge Creek, AK 97.36 16 P Pdif 09 56 38.5 +1.2
baz=212
MLY Manley 97.88 12 P Pdif 09 56 40.8 +1.4
baz=204
HDA Harding Lake 98.02 13 P Pdif 09 56 40.5 +0.5
baz=208
LZH Lanzhou 98.25 307 eP Pdif 09 56 43.8 +1.9
LZH SKS SKSac 10 06 56.8 -1.6
LZH pmax pmax
comp=Z,19nm,1.0s
ILAR Eielson Array 98.36 13 P P 09 56 38.7 -2.8
comp=Z,0.3nm,0.9s,baz=266,slow=12,SNR=1.6
ILAR PKiKP PKiKP 10 01 11.5 -1.0
comp=Z,0.3nm,0.5s,baz=236,slow=6.4,SNR=2.4
ILAR PKKPbc PKKPbc 10 13 12.1 -1.8
comp=Z,1.4nm,0.9s,baz=355,slow=3.0,SNR=12
comp=Z,0.3nm,0.9s
F19K Shaleruckik Mo 98.51 8 P P 09 56 42.7 +0.6
baz=198
POKR Poker Plat Res 98.56 13 P Pdif 09 56 42.4 0.0
baz=207
M30M Minto, Yukon 98.85 18 P P 09 56 44.6 +0.8
baz=216
BILL Bilibino 99.02 354 iP Pdif 09 56 42.2 -2.2
BILL pmax pmax
comp=Z,8.0nm,1.9s
F21K Alatna River 99.46 10 P Pdif 09 56 47.2 +0.8
baz=202
G22K Bettles 99.48 11 P Pdif 09 56 46.2 -0.3
baz=204
C17K DeLong Mountai 99.53 6 P Pdif 09 56 46.7 0.0
baz=194
D19K Kuna River 100.06 8 P Pdif 09 56 48.2 -0.8
baz=198
G25K Bearman Lake 100.28 13 P Pdif 09 56 50.3 +0.3
baz=208
I28M Miner Creek 100.44 16 P Pdif 09 56 52.2 +1.4

baz=214
C19K Lookout Ridge 100.48 7 P Pdif 09 56 51.6 +0.7
baz=197
B18K Kokolik River 100.52 6 P Pdif 09 56 51.5 +0.5
baz=195
E21K Killik River 100.53 9 P Pdif 09 56 51.3 +0.2
baz=202
OGNE Ogallala 100.55 49 P Pdif 09 56 52.1 +0.1
baz=239
E22K Anaktuvuk Pass 100.55 10 P Pdif 09 56 51.3 +0.1
baz=204
TGTN Hyland Airport 100.57 22 P Pdif 09 56 52.0 +0.5
baz=223
J30M Hart River 100.59 17 P Pdif 09 56 52.1 +0.5
baz=216
F24K Squaw Lake 100.63 12 P Pdif 09 56 52.9 +1.3
baz=207
H27K Steamboat Moun 100.74 15 P Pdif 09 56 53.2 +1.1
baz=212
RSSD Black Hills 100.96 45 P Pdif 09 56 54.3 +0.4
baz=238
C21K Knifeblade Rid 101.09 9 P Pdif 09 56 53.5 -0.1
baz=201
F25K Christian Rive 101.10 12 P Pdif 09 56 54.1 +0.4
baz=209
TOLK Toolik Lake Re 101.36 11 P Pdif 09 56 55.6 +0.8
baz=206
H29M Whitestone 101.44 16 P Pdif 09 56 55.4 +0.2
baz=215
F26K Sheenjek River 101.47 13 P Pdif 09 56 56.0 +0.7
baz=210
D23K Nanushuk River 101.48 10 P Pdif 09 56 56.4 +1.0
baz=205
B20K Meade River 101.61 7 P Pdif 09 56 57.1 +1.3
baz=199
H31M Peel River 102.08 17 P Pdif 09 56 58.5 +0.4
baz=218
F30M Barrier River 103.17 16 P Pdif 09 57 03.8 +1.0
baz=217
C26K Camden Bay 103.26 11 P Pdif 09 57 03.6 +0.4
baz=210
YKA Yellowknife Ar 106.02 26 PKiKP PKiKP 10 01 24.9 -1.6
comp=Z,0.3nm,0.5s,baz=275,slow=2.2,SNR=7.0
YKA PKKPbc PKKPbc 10 12 47.4 -3.7
comp=Z,1.2nm,0.8s,baz=37,slow=3.3,SNR=14
YKA PKKP PKKPab 10 13 04.7 +1.0
comp=Z,1.0nm,0.9s,baz=45,slow=4.6,SNR=7.0
WCI Wyandotte Cave 110.10 57 P PKiKP 10 01 34.7 -0.1
baz=247
GOGA Godfrey 110.28 63 P PKiKP 10 01 34.6 -0.7
baz=246
O48B Farmland 111.71 55 P PKiKP 10 01 38.0 +0.2
baz=248
P49A Miami Univ. Ec 111.75 56 P PKiKP 10 01 38.1 +0.2
baz=248
WMQ Urumqi 112.77 308 ePKP PKiKP 10 01 39.1 -0.7
MCWV Mont Chateau 115.30 57 P PKiKP 10 01 45.2 +0.5
baz=250
ERPA Erie 116.01 55 P PKiKP 10 01 46.9 +0.9
baz=252
BOSA Boshof 116.71 204 PKP PKPdf 10 01 47.9 -0.2
comp=Z,2.6nm,0.5s,baz=179,slow=2.4,SNR=7.7
SSPA Standing Stone 117.04 57 P PKiKP 10 01 48.8 +0.7
baz=252
MK31 Makanchi Array 117.33 310 PKPdf PKPdf 10 01 47.3 -1.1
MK31 Makanchi Array 117.33 310 PKiKP PKPdf 10 01 47.3 -1.1
MKAR Makanchi Array 117.33 310 PKPdf PKPdf 10 01 47.1 -1.3
MKAR Makanchi Array 117.33 310 PKP PKPdf 10 01 46.7 -1.8
comp=Z,2.9nm,0.7s,baz=90,slow=2.7,SNR=25
MKAR Makanchi Array 117.33 310 PKiKP PKPdf 10 01 47.1 -1.3
MAKZ Makanchi 117.55 310 PKiKP PKPdf 10 01 47.7 -1.1
ZALV Zalesovo Beam 117.70 318 PKP PKPdf 10 01 46.9 -2.0
comp=Z,2.0nm,0.5s,baz=128,slow=3.5,SNR=7.7
BINY Binghamton 118.87 56 P PKiKP 10 01 51.7 +0.1
baz=254
TARG Taragay, Kyrgy 118.99 304 PKiKP PKPdf 10 01 52.3 0.0
PAL Palisades 120.03 58 P PKiKP 10 01 54.1 +0.3
baz=254
LONY Lake Ozonia 120.50 53 P PKiKP 10 01 55.1 +0.4
baz=256
NCB Newcomb 120.59 54 PKPdf PKPdf 10 01 54.0 -0.8
KURK Kurchatov 120.66 314 PKPdf PKPdf 10 01 53.4 -1.2
KURK Kurchatov 120.66 314*c* iPKiKP PKPdf 10 01 53.8 -0.8
KURK pmax pmax
comp=Z,1nm,1.0s
KURBB Kurchatov Arra 120.69 314 PKP PKPdf 10 01 53.0 -1.8
comp=Z,3.0nm,0.4s,baz=100,slow=1.9,SNR=42
KURBB SKP SKPdf 10 05 06.9 -2.1
comp=Z,1.5nm,0.8s,baz=114,slow=2.4,SNR=4.7
L61B Northampton 121.30 56 P PKPdf 10 01 55.5 -0.7
baz=256
ARLS Aral 121.53 303 PKiKP PKPdf 10 01 56.9 0.0
AAK Ala-Archa 121.60 304 iPKiKP PKPdf 10 01 55.4 -1.6
HRV Adam Dziewonsk 122.12 56 P PKiKP 10 01 58.2 +0.3
baz=256
LBNH Lisbon 122.26 54 P PKiKP 10 01 58.2 +0.1
baz=257
KBL Kabul 123.60 293 PKPdf PKPdf 10 02 01.3 +0.2
KBL Kabul 123.60 293 PKiKP PKPdf 10 02 01.3 +0.2
TRKS Terek-Say 123.77 302 PKiKP PKPdf 10 02 01.1 -0.1
KKAR Karatay Array 124.56 304 PKPdf PKPdf 10 02 01.2 -1.2
KKAR Karatay Array 124.56 304 PKiKP PKPdf 10 02 01.2 -1.2
CHGR Chuyangaron 124.58 298 PKiKP PKPdf 10 02 02.8 +0.1
BVAR Borovoye Array 126.04 316 PKP PKPdf 10 02 03.9 -1.1
comp=Z,6.1nm,0.4s,baz=132,slow=1.8,SNR=33
SCHQ Schefferville 126.96 42 PKP PKPdf 10 02 05.4 -1.2
comp=Z,7.1nm,1.1s,baz=228,slow=3.1,SNR=4.1
LMN Caledonia Moun 127.51 54 PKPdf PKPdf 10 02 08.1 +0.1
NEEM North Greenlan 127.65 13 *i* P PKPdf 10 02 06.3 -1.4
NOR Nord 128.50 3 *i* P PKPdf 10 02 04.1 -4.8
UPNV Upernavik 128.56 19 *i* P PKPdf 10 02 08.3 -0.8
SPA0 Spitsbergen Ar 131.91 356 *e*P PKPdf 10 02 15.6 +0.2
SPITS Spitsbergen Ar 131.91 356 PKP PKPdf 10 02 14.8 -0.6
comp=Z,3.8nm,0.5s,baz=78,slow=5.2,SNR=20
SPITS SKPbc SKPbc 10 05 18.2 -2.4
comp=Z,1.2nm,0.5s,baz=122,slow=11,SNR=1.7
ABKAR Akbulak array 132.48 311 PKPdf PKPdf 10 02 17.5 +0.2
ARU Arti 132.79 320 *i* PKiKP PKiKP 10 02 18.4 -0.4
ARU 10 04 42.6
ARU SS SS 10 22 10.5 +1.7
DAG Danmarks Havn 132.89 6 *i* P PKPdf 10 02 15.0 -2.3
GEYT Alibeck 132.95 295 PKhKP PKPpre 10 02 06.7
comp=Z,1.8nm,0.5s,baz=235,slow=7.0,SNR=4.1
GEYT PKP PKPdf 10 02 18.4 -0.2
comp=Z,1.8nm,0.3s,baz=95,slow=8.7,SNR=6.1
GEYT SKPbc SKPbc 10 05 24.0 -1.4
comp=Z,19nm,0.9s,baz=191,slow=1.5,SNR=20
SUMG Summit 133.16 15 *i* P PKPdf 10 02 18.4 0.0
DY2G Dye2 134.35 24 *i* P PKPdf 10 02 20.0 -0.6
DBG Daneborg 134.97 8 *i* P PKPdf 10 02 20.8 -0.5
ICESG Greenland Ices 135.07 19 *i* P PKPdf 10 02 21.2 -0.8
KIRV Kirov 137.08 325 *i* PKiKP PKPdf 10 02 25.7 +0.2
SCO Scoresbysund 138.11 11 *i* P PKiKP 10 02 28.4 -0.8
ARCES ARCESS Array B 138.67 347 PKhKP PKPpre 10 02 19.6
comp=Z,2.0nm,0.4s,baz=34,slow=2.3,SNR=23
ARCES SKPbc SKPbc 10 05 38.2 -3.7
comp=Z,3.2nm,0.7s,baz=35,slow=3.0,SNR=4.4
BELG Belogornoye 139.84 316 *i* PKiKP PKPdf 10 02 31.1 +0.3
KLMR Klimovskoe 140.61 331 *e*PKHKP PKPpre 10 02 26.5
KLMR pmax pmax
comp=Z,26nm,1.3s
GNI Garni 143.49 297 PKPdf PKPbc 10 02 36.1 +0.1
GNI Garni 143.49 297*c* *i* PKiKP PKPab 10 02 35.2 +0.3
VALR Valaam 143.60 336 *i* PKiKP PKPab 10 02 34.8 +0.4
VRH Novokhopyorsk 143.69 316 *e*PKiKP PKPab 10 02 35.4 +0.4
VRH pmax pmax
comp=Z,10.0nm,0.4s
MOS Moscow 144.10 325 *i* PKiKP PKPab 10 02 36.1 -0.4
MOS pmax pmax
comp=Z,76nm,1.2s
NCK Nalchik 144.12 303 *i* PKiKP PKPab 10 02 37.3 +0.2
GOF Gofitskoye 144.30 306*ce* PKiKP PKPab 10 02 37.5 -0.2
KBZ Khabaz 144.60 303 PKP PKPab 10 02 38.2 -0.6
comp=Z,20nm,0.5s,baz=95,slow=2.8,SNR=43
KBZ Khabaz 144.60 303 *i* PKiKP PKPab 10 02 37.4 -1.4
KIV Kislovodsk 144.72 304 ⇑P PKPab 10 02 39.6 +0.1
KIV Kislovodsk 144.72 304 PKPbc 10 02 39.3 -0.1
KIV Kislovodsk 144.72 304*c* *i* PKiKP PKPbc 10 02 38.6 -0.8
KIV 10 03 57.0
KIV *i* 10 05 56.8
KIV SSS SSS 10 29 56.0
KIV pmax pmax
comp=Z,75nm,1.2s
SHA1 Shidzhatmaz 144.77 304*ce* PKiKP PKPdf 10 02 40.2 0.0
VAF Ylistaro 144.77 343 *e*P PKPbc 10 02 38.0 -0.8

LPSR Galich'ya Gora 144.80 320 *e*PKiKP PKPbc 10 02 38.3 -0.9
LPSR pmax pmax
comp=Z,100nm,1.2s
PUL Pulkovo 144.90 335*ce* PKiKP PKPdf 10 02 41.0 +1.5
PUL pmax pmax
comp=Z,177nm,0.6s
KEF Keuruu 144.90 341 *e*P PKPbc 10 02 38.1 -1.1
OBN Obninsk 144.93 325 PKPbc 10 02 39.1 -0.4
OBN Obninsk 144.93 325*ce* PKiKP PKPbc 10 02 38.5 -1.0
OBN *e* 10 02 38.3
OBN *i* 10 09 30.5
OBN SS SS 10 24 24.0 -6.8
OBN pmax pmax
comp=Z,78nm,0.6s
VORR Voronezh 145.00 318 *e*PKiKP PKPbc 10 02 39.0 -0.8
VORR pmax pmax
comp=Z,70nm,1.0s
FIA1 FINESS Array S 145.11 339 PKPdf 10 02 38.4 -1.5
FINES FINESS Array B 145.11 339 PKPdf 10 02 38.6 -1.3
FINES FINESS Array B 145.11 339 PKP PKPdf 10 02 38.4 -1.5
comp=Z,40nm,0.4s,baz=51,slow=3.8,SNR=223
FINES FINESS Array B 145.11 339 PKiKP PKPdf 10 02 38.6 -1.3
VSR Storozhevoye 145.19 317 *e*PKiKP PKPdf 10 02 39.2 -1.1
VSR pmax pmax
comp=Z,80nm,0.6s
VORD Divnogorie 145.21 317 *e*PKiKP PKPdf 10 02 38.7 -1.6
VORD pmax pmax
comp=Z,110nm,1.2s
NSS Namsos 145.43 352 *e*P PKPdf 10 02 39.5 -0.8
BCA Borcka 145.78 300 ⇑P PKPab 10 02 43.1 -0.3
ERBR Yeremizino-Bor 145.95 307 *i* PKP2 PKPab 10 02 44.0 +0.1
ERBR pmax pmax
comp=Z,280nm,1.0s
LABN Labinsk 146.00 305 *i* PKP2 PKPab 10 02 45.1 +1.0
LABN pmax pmax
comp=Z,75nm,0.9s
MEF Metsahovi 146.59 339 *e*P PKPbc 10 02 43.6 -0.7
ARBE Arbavere 146.68 337 *e*P PKPdf 10 02 42.9 +0.3
RAF Rauma 146.69 342 *e*P PKPdf 10 02 43.6 +1.0
TBLU Trondheim 146.87 352 *e*P PKiKP 10 02 59.0 +12
SOC Sochi 146.90 304 *e*PKiKP PKPdf 10 02 44.1 +0.6
SOC *e* 10 06 17.1
SOC *e*PPP PPP 10 09 27.9
SOC *e*SSS SSS 10 30 18.7
VSU Vasula 147.14 335*ce* PKiKP PKPdf 10 02 43.2 -0.2
VSU pmax pmax
comp=Z,170nm,1.3s
MOL Molde 147.81 354 *e*P PKPbc 10 02 47.0 -0.5
AAL Aland 147.88 342 *e*P PKPbc 10 02 46.4 -1.4
MTSE Matsula 147.95 338 *e*P PKPbc 10 02 47.8 -0.3
DOMB Dombas 148.18 353 *e*P PKPbc 10 02 47.8 -0.8
AKN Aaknes 148.24 355 *e*P PKPbc 10 02 48.1 -0.7
ANN Anapa 148.26 307 *i* PKP2 PKPbc 10 02 48.5 -0.8
ANN pmax pmax
comp=Z,105nm,0.9s
ARPR Arapgir-MALATY 148.48 296 PKPbc 10 02 50.6 +0.3
NC303 NORSAR Array S 148.68 350 PKPbc PKPbc 10 02 48.8 -1.1
NC405 NORSAR Array S 148.74 350 PKPbc 10 02 50.0 -0.1
NB2 NORSAR Subarra 148.88 350 PKP PKPbc 10 02 49.4 -1.1
comp=Z,10nm,0.5s,baz=17,slow=2.6
NOA NORSAR Array B 148.88 350 PKPbc PKPbc 10 02 49.0 -1.5
comp=Z,12nm,0.6s,baz=15,slow=4.1,SNR=59
NOA NORSAR Array B 148.88 350 PKHKP PKPpre 10 02 49.0
FOO Floro 148.94 356 *e*P PKPbc 10 02 50.0 -0.5
NC602 NORSAR Array S 149.13 350 *e*P PKPbc 10 02 49.7 -1.3
SLIT Slitere, Latvi 149.31 338 *e*P PKPbc 10 02 51.9 +0.4
HFS Hagfors 149.34 348 PKPbc PKPbc 10 02 50.1 -1.5
comp=Z,12nm,0.4s,baz=117,slow=2.3,SNR=56
MNK Minsk 149.40 329 *e*PKHKP PKPpre 10 02 48.9
ISAL Salakas 149.43 332 *e*P PKPbc 10 02 51.4 -0.5
GAZ Gaziantep 149.46 292 PKPbc 10 02 53.0 +0.3
SKAR Skarslia 149.59 353 *e*P PKPbc 10 02 52.0 -0.2
VSVD Vaisvydziai 150.00 334 *e*P PKPbc 10 02 52.2 -1.1
ASK Askoy 150.05 356 *e*P PKPbc 10 02 53.0 -0.2
BER Bergen 150.14 356 *e*P PKiKP 10 02 54.5 +0.4
VIKU Vikbolandet 150.18 333 *e*P PKPbc 10 02 52.9 -0.7
PABE Paberze 150.34 333 *e*P PKPbc 10 02 54.1 0.0
KONO Kongsberg 150.45 351 PKPbc 10 02 53.8 -0.4
KONO Kongsberg 150.45 351 *e*P PKPbc 10 02 53.5 -0.7
KONO Kongsberg 150.45 351 PKiKP PKPbc 10 02 53.8 -0.4
SIM Simferopol' 150.49 308 *i* PKiKP PKiKP 10 02 56.2 +0.8
SIM pmax pmax
comp=Z,71nm,1.0s
ODD1 Odda 150.51 354 *e*P PKPbc 10 02 54.2 -0.2
PBUR Paburge 150.69 336 *e*P PKPbc 10 02 54.9 0.0
STRU Stroemstad 150.81 349 *i* P PKPbc 10 02 53.9 -1.1
MMAI Mount Meron Ar 150.82 284 PKPbc PKPbc 10 02 56.0 -0.1
comp=Z,17nm,0.4s,baz=72,slow=3.6,SNR=52
AKASG Malin Array Be 151.02 322 PKP PKPdf 10 02 49.6 -0.2
comp=Z,8.2nm,0.5s,baz=46,slow=2.9,SNR=2.0
AKASG PKPbc PKPbc 10 02 55.0 -0.8
comp=Z,13nm,0.4s,baz=44,slow=2.7,SNR=62
AKBB Malin Array Si 151.02 322 PKPbc 10 02 55.0 -0.8
AKBB Malin Array Si 151.02 322 PKiKP PKPbc 10 02 55.0 -0.8
KIEV Kiev 151.03 322 ⇓P PKPbc 10 02 54.1 -1.7
KIEV Kiev 151.03 322 PKPbc 10 02 55.0 -0.8
KIEV Kiev 151.03 322 PKiKP PKPbc 10 02 55.0 -0.8
KMY Karmoy 151.31 356 *e*P PKPbc 10 02 55.9 -0.3
TJOU Tjoern 151.68 348 *i* P PKPbc 10 02 56.0 -1.1
SUW Suwalki 151.74 332 *e*P PKiKP 10 02 58.5 +0.8
BORU Boraas 151.84 347 *i* P PKPbc 10 02 56.1 -1.4
HOMB Homborsund 151.93 352 *e*P PKPbc 10 02 57.3 -0.4
HOMB Homborsund 151.93 352 *i* P PKPbc 10 02 57.1 -0.5
GNOU Gnosjoe 151.95 345 P PKPab 10 03 11.3 +3.3
SNART Snartemo 152.01 353 *e*P PKPbc 10 02 57.6 -0.2
SNART Snartemo 152.01 353 *i* P PKPbc 10 02 57.0 -0.9
VXJU Vaexsjoe 152.02 344 P PKPab 10 03 04.7 -3.5
BRTR Keskin Array B 152.03 298 PKPbc 10 02 57.9 -0.8
BRTR Keskin Array B 152.03 298 PKPbc PKPbc 10 02 57.6 -1.1
comp=Z,7.8nm,0.8s,baz=131,slow=3.4,SNR=16
BRTR PKPab PKPab 10 03 07.5 -1.5
comp=Z,9.1nm,0.7s,baz=108,slow=4.0,SNR=11
ONAU Onsala 152.23 347 *i* P PKPbc 10 02 57.1 -1.2
BLEU Blekinge 152.35 342 *i* P PKPbc 10 02 57.2 -1.4
FABU Falkenberg 152.44 346 *i* P PKPbc 10 02 57.6 -1.2
ANTO Ankara 152.65 298 PKPbc PKPbc 10 02 59.9 -0.1
ANTO Ankara 152.65 298 PKiKP PKPbc 10 02 59.9 -0.1
DEL Delary 152.68 344 *e*P PKPbc 10 02 58.6 -0.4
DEL Delary 152.68 344 *i* P PKPbc 10 02 58.6 -0.8
DEL Delary 152.68 344 P PKPbc 10 02 57.2 -2.2
DEL S 10 03 02.1
SORM Soroca 152.85 318 ⇑P PKPbc 10 02 59.7 -0.3
SORM Soroca 152.85 318 ⇑PKiKP PKPbc 10 02 59.7 -0.3
MILM Milestii Mici 153.16 315 *e*PKP PKPbc 10 02 59.0 -1.8
comp=Z,150nm,3.2s
MILM Milestii Mici 153.16 315 *e*PKiKP PKPbc 10 02 59.0 -1.8
MILM pmax pmax
comp=Z,150nm,3.2s
BJUU Bjuv 153.23 345 *i* P PKPbc 10 02 59.6 -1.0
BJUU Bjuv 153.23 345 P PKiKP 10 03 03.5 +2.8
LUNU Lund 153.54 344 P PKiKP 10 03 03.5 +2.2
BSD Bornholm Skovb 153.64 342 *i* P PKPbc 10 02 58.8 -2.8
TLCR 153.92 312 ⇓P PKPab 10 03 16.7 +0.1
CFR Carcaliu 154.35 312 ⇑P PKPab 10 03 18.8 +0.3
CFR Carcaliu 154.35 312 ⇑PKP2 PKPab 10 03 18.8 +0.3
TESR Tescani 154.66 316 ⇑P PKPab 10 03 19.4 -0.4
HARR Harsova 154.69 311 ⇑P PKPab 10 03 20.5 +0.5
HARR Harsova 154.69 311 ⇑PKP2 PKPab 10 03 20.5 +0.5
BURAR Bucovina Array 154.92 319 ⇑P PKPab 10 03 21.1 +0.1
BURAR Bucovina Array 154.92 319 PKPdf PKPdf 10 02 54.1 -1.7
BURAR PKPab PKPab 10 03 20.6 -0.4
BURAR Bucovina Array 154.92 319 ⇑PKP2 PKPab 10 03 21.1 +0.1
VRI Vrincioaia 154.93 314 ⇓P PKPab 10 03 21.6 +0.6
VRI Vrincioaia 154.93 314 ⇓PKP2 PKPab 10 03 21.6 +0.6
PLOR Plostina 154.99 314 ⇑P PKPab 10 03 22.0 +0.7
PLOR Plostina 154.99 314 ⇑PKP2 PKPab 10 03 22.0 +0.7
GRER 155.00 313 ⇑P PKPab 10 03 22.7 +1.3
KWP Kalwaria Pacla 155.01 325 PKPdf PKPdf 10 02 54.2 -1.5
KWP PKPab PKPab 10 03 21.4 +0.2
KWP Kalwaria Pacla 155.01 325 PKiKP PKPdf 10 02 54.2 -1.5
KWP 10 03 21.4
LIC Lamto 155.02 165 *e*P PKPdf 10 02 56.4 -0.4
comp=Z,14nm,0.8s
EKA Eskdalemuir Ar 155.15 6 PKP PKPdf 10 02 55.7 0.0
comp=Z,0.6nm,0.5s,baz=350,slow=1.0,SNR=4.1
EKA PKPbc PKPbc 10 03 04.0
comp=Z,1.0nm,0.4s,baz=335,slow=2.4,SNR=6.7
KIC Kosan Boka 155.22 166 *e*P PKPdf 10 02 57.8 +0.7
comp=Z,27nm,0.8s
COVR Voineasa-Covas 155.26 315 ⇑P PKPab 10 03 22.0 -0.5
TURR Turia 155.27 315 ⇓P PKPab 10 03 24.2 +1.7
ISR Istrita 155.39 313 ⇓P PKPab 10 03 24.2 +1.7

ISR Istrita 155.39 313 ⇓PKP2 PKPab 10 03 24.2 +1.1
TIC Toumodi 155.43 165 *e*P PKPdf 10 02 58.0 +0.6
comp=Z,21nm,0.9s
DBIC Dimbokro 155.49 166 PKP PKPdf 10 02 57.4 0.0
comp=Z,4.3nm,0.6s,baz=169,slow=1.7,SNR=6.0
DBIC PKPab PKPab 10 03 25.4 +1.3
comp=Z,19nm,0.9s,baz=176,slow=4.6,SNR=7.0
MLR Muntele Rosu 155.59 314 ⇑P PKPab 10 03 24.2 +0.2
STHS Stebnicka Huta 155.86 327 *e*PKP PKPab 10 03 24.9 0.0
STHS Stebnicka Huta 155.86 327 *e*PKP2 PKPab 10 03 24.9 0.0
CRVS Cervenica-Dubn 156.10 325 *e*PKP PKPab 10 03 26.6 +0.7
CRVS Cervenica-Dubn 156.10 325 *e*PKP2 PKPab 10 03 26.6 +0.7
VOIR 156.17 315 ⇓P PKPab 10 03 26.4 0.0
VOIR 156.17 315 ⇓PKP2 PKPab 10 03 26.4 0.0
ARR Arges 156.46 315 ⇓P PKPab 10 03 28.2 +0.6
MARR Marisel-Cluj 156.63 319 ⇓P PKPab 10 03 28.2 -0.2
HUMR Humele 156.65 313 ⇓P PKPab 10 03 28.1 -0.4
ELND Elena 156.77 309 ⇓P PKPab 10 03 29.6 +0.6
MORC Moravsky Berou 157.23 332 *e*PKP PKPab 10 03 30.8 0.0
DPC Dobruska-Polom 157.26 334 *e*PKPAB PKPab 10 03 31.8 +0.9
DPC Dobruska-Polom 157.26 334 *e*PKP2 PKPab 10 03 31.8 +0.9
PSZ Piszkesteto 157.54 325 ⇓P PKPab 10 03 32.5 +0.3
PSZ Piszkesteto 157.54 325 ⇓PKP2 PKPab 10 03 32.5 +0.3
CLL Collm 157.55 340 *e*PKPdf PKPdf 10 03 00.0 +1.1
CLL *i* PKPdif PKPdf 10 03 13.6 +15
comp=Z,5.0nm,0.5s
CLL *i* PKPab PKPab 10 03 31.8 -0.2
comp=Z,13nm,0.6s
CLL *e*PKPab pPKPab 10 04 28.0 +2.4
CLL Collm 157.55 340 *e*PKiKP PKPdf 10 03 00.0 +1.1
CLL pmax pmax
comp=Z,5.0nm,0.5s
VYHS Vyhne 157.63 328 *e*PKP PKPab 10 03 33.2 +0.7
VYHS Vyhne 157.63 328 *e*PKP2 PKPab 10 03 33.2 +0.7
BRG Berggiesshubel 157.65 338 *i* PKP PKPab 10 03 33.0 +0.6
BRG Amp 10 03 34.5
comp=Z,7.7nm,0.8s
RDO Rodhopi 157.67 305 PKPdf PKPdf 10 02 58.0 -1.4
RDO PKPab PKPab 10 03 33.0 +0.1
PVCC Panska Ves 157.73 337 *e*PKPAB PKPab 10 03 33.9 +1.1
JAVC Velka Javorina 157.88 330 *e*PKP PKPab 10 03 34.9 +1.2
VRAC Vranov 157.99 332 *e*PKP PKPab 10 03 34.7 +0.7
HERR Herculane 158.05 316 ⇓P PKPab 10 03 34.7 +0.2
KRUC Moravsky 158.26 332 *e*PKP PKPab 10 03 35.3 +0.1
MODS Modra-Piesok 158.42 330 *e*PKP PKPab 10 03 36.8 +0.8
MODS Modra-Piesok 158.42 330 *e*PKP2 PKPab 10 03 36.8 +0.8
BLKB Belogradchik 158.54 313 ⇓P PKPab 10 03 37.0 +0.3
ZVC Zvikov 158.79 336 *e*PKPAB PKPab 10 03 37.0 -0.5
BOVS Bovan 159.14 314 ⇓P PKPab 10 03 38.7 -0.5
KHC Kasperske Hory 159.26 336 PKPdf PKPdf 10 03 00.0 -1.1
KHC PKPab PKPab 10 03 38.1 -1.5
KHC Kasperske Hory 159.26 336 *e*PKPAB PKPab 10 03 39.3 -0.3
KHC Kasperske Hory 159.26 336 PKiKP PKPdf 10 03 00.0 -1.1
KHC PKP PKPab 10 03 38.1 -1.5
RONA Rosalia, Austr 159.36 330 *i* PKP PKPab 10 03 40.6 +0.6
comp=Z,16nm,1.1s
CONA Conrad Observa 159.37 331 *i* PKP PKPab 10 03 40.6 +0.4
comp=Z,5.0nm,0.7s
FRGS Fruska Gora 159.39 320 ⇓P PKPab 10 03 39.4 -0.9
GEC2 GERESS Array S 159.46 336 PKPdf PKPdf 10 03 00.1 -1.3
GEC2 PKPab PKPab 10 03 39.2 -1.3
GERES GERESS Array B 159.46 336 PKPab PKPab 10 03 39.5 -1.1
comp=Z,3.1nm,0.3s,baz=33,slow=6.0,SNR=0.8
VAY Valandovo 159.67 307 *i* P PKPab 10 03 41.2 -0.5
ARSA Arzberg 160.04 330 *e*PKP PKPab 10 03 43.0 0.0
comp=Z,4.3nm,0.8s
MOA Molln 160.08 333 *e*PKP PKPab 10 03 43.5 +0.4
comp=Z,10nm,1.6s
SKO Skopje 160.14 310 *i* P PKPab 10 03 43.8 +0.1
OHR Ohrid 160.96 309 *i* P PKPab 10 03 47.1 -0.3
LESA Schwarzleotal 161.03 335 *i* PKP PKPab 10 03 47.9 +0.5
comp=Z,9.5nm,1.9s
OBKA Obir 161.04 330 *i* PKP PKPab 10 03 46.8 -0.7
comp=Z,5.2nm,1.0s
PDG Podgorica 161.31 314 ⇓P PKPab 10 03 49.0 +0.3
MYKA Terra Mystica 161.32 332 *i* PKP PKPab 10 03 48.0 -0.7
comp=Z,6.5nm,0.8s
WATA Walderalm 161.49 337 *i* PKP PKPab 10 03 48.6 -0.9
comp=Z,3.8nm,0.5s
WTTA Wattenberg 161.53 337 *i* PKP PKPab 10 03 50.0 +0.3
comp=Z,3.5nm,0.7s
RETA Reutte 161.62 339 *i* PKP PKPab 10 03 50.4 +0.5
comp=Z,11nm,1.1s
MOTA Moosalm 161.64 338 *e*PKP PKPab 10 03 49.5 -0.7
comp=Z,10.0nm,1.0s
ABTA Abfaltersbach 161.66 334 *i* PKP PKPab 10 03 49.5 -0.7
comp=Z,12nm,1.4s
SQTA Sankt Quirin 161.71 338 *i* PKP PKPab 10 03 50.1 -0.3
comp=Z,6.8nm,0.9s
FETA Feichten 162.04 338 *i* PKP PKPab 10 03 52.2 +0.3
comp=Z,7.9nm,1.1s
DAVA Damuels 162.06 340 *e*PKP PKPab 10 03 52.3 +0.3
comp=Z,6.2nm,0.6s
TOA0 Torodi Ar. Sit 162.56 182 PKPdf PKPdf 10 03 05.6 0.0
TOA0 PKPab PKPab 10 03 56.2 +1.5
TORD Torodi Ar. Bea 162.56 182 PKPdf PKPdf 10 03 06.0 +0.4
TORD PKPab PKPab 10 03 56.1 +1.4
TORD Torodi Ar. Bea 162.56 182 PKPab PKPab 10 03 56.0 +1.3
comp=Z,21nm,0.8s,baz=175,slow=2.5,SNR=20
TORD PP PP 10 07 35.6 -2.6
comp=Z,2.4nm,0.9s,baz=97,slow=4.5,SNR=3.7
SGRT San Giovanni R 163.82 317 PKPdf PKPdf 10 03 06.3 +0.2
TIP Timpagrande 164.60 308 ⇑P PKPab 10 04 03.9 +0.4
CEL Celeste 165.63 306 PKPdf PKPdf 10 03 06.3 -1.5
CEL PKPab PKPab 10 04 08.0 0.0
PGAV Gavieira, Arco 166.44 31 *e*PKPdf PKPdf 10 03 09.8 +1.4
PCAB Cabril 166.75 31 *e*PKPdf PKPdf 10 03 10.1 +1.6
POLO Lamas de Olo 167.13 31 *e*PKPdf PKPdf 10 03 11.2 +2.3
RAFF Raffo Rosso 167.19 304 PKPdf PKPdf 10 03 06.7 -2.2
RAFF PKPab PKPab 10 04 14.2 -0.6
MVO Moncorvo 167.63 30 *e*PKPdf PKPdf 10 03 10.0 +0.8
MTE Manteigas 168.01 33 *e*PKPdf PKPdf 10 03 10.0 +0.5
PCBR Castelo Branco 168.48 35 *e*PKPdf PKPdf 10 03 10.7 +1.0
PNCL Nicolau / Gran 169.13 44 *e*PKPdf PKPdf 10 03 11.6 +1.4
PTEO Sao Teotonio 169.36 47 *e*PKPdf PKPdf 10 03 12.0 +1.7
MESJ Messejana 169.49 45 *e*PKPdf PKPdf 10 03 12.3 +1.9
PFVI Vila Bisbo 169.54 49 *e*PKPdf PKPdf 10 03 12.1 +1.6
PCVE Castro Verde 169.73 45 *e*PKPdf PKPdf 10 03 11.5 +0.9
PBAR Barrancos 169.94 40 *e*PKPdf PKPdf 10 03 12.2 +1.5
PBDV Barranco-do-Ve 170.04 46 *e*PKPdf PKPdf 10 03 12.8 +2.0
PAB San Pablo 170.08 25 ⇓PKiKP PKPdf 10 03 12.0 +1.2
ESDC Sonseca Array 170.11 23 PKP PKPdf 10 03 10.8 0.0
comp=Z,3.4nm,0.9s,baz=345,slow=2.6,SNR=16
ESDC PKPab PKPab 10 04 26.9 -0.7
comp=Z,0.2nm,0.4s,baz=300,slow=2.2,SNR=2.6
TAM Tamanrasset 171.22 208 PKPab PKPab 10 04 34.1 +1.1
TAM Tamanrasset 171.22 208 PKP2 PKPab 10 04 34.1 +1.1
KEST Kesra 171.43 308 PKPab PKPab 10 04 34.5 +0.7
KEST Kesra 171.43 308 PKP PKPdf 10 03 11.7 0.0
comp=Z,3.5nm,0.8s,baz=169,slow=5.2,SNR=4.8
KEST PKPab PKPab 10 04 34.1 +0.4
comp=Z,13nm,1.1s,baz=135,slow=7.1,SNR=8.3
TATN Tataouine 171.72 286 PKPdf PKPdf 10 03 12.6 +0.8
TATN PKPab PKPab 10 04 35.0 -0.2
CART Cartagena 172.88 13 PKPdf PKPdf 10 03 10.6 -1.5
CART PKPab PKPab 10 04 37.0 -2.7

ISU 22 09:44:06.3, 42°.07N×70°.99E, h38km, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CHMG	Chimgan	0.90	235	P		Pn	09 44 23.6	+1.1
CHMG				S		Sn	09 44 36.2	+1.8
CHDK	Chadak	1.11	189	P		Pn	09 44 27.0	+1.7
CHDK				S		Sn	09 44 42.2	+2.8

KRNET 22 09:44:52.9±0.1, 40°.92N×69°.58E, mb2.6, 8C-4D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BTK	Batken	1.27	132	⇑*e*P		Pg	09 45 16.9	-0.4
	baz=32							
BTK				⇑*i*S		Sg	09 45 34.1	+0.3
	baz=32							
TRKS	Terek-Say	1.32	62	⇑*i*P		Pg	09 45 17.6	-0.7
	baz=65							
TRKS				⇑*i*S		Sg	09 45 35.2	-0.3
	baz=65							
GAR	Garm	2.00	163	⇑*e*P		Pn	09 45 29.0	+1.0
	baz=63							

GAR				⇑*i*S		Sb	09 45 55.4	-0.2
	baz=63							
ARK	**Arkit**	**2.00**	**63**	⇓*e*P		Pb	09 45 29.4	-0.8
	baz=63							
ARK				⇓*e*S		Sb	09 45 56.1	+0.5
	baz=63							
CHGR	**Chuyangaron**	**2.28**	**188**	⇑*i*P		Pn	09 45 33.3	+1.4
	baz=88							
CHGR				⇑*i*S		Sb	09 46 02.3	-1.5
	baz=88							
KK31	**Karatay Array**	**2.29**	**17**	Pn		Pg	09 45 36.3	-0.6
	0.2nm,0.2s,baz=199,slow=16,SNR=13							
KK31				Lg		Lg	09 46 08.5	
	2.1nm,0.4s,baz=195,slow=30,SNR=14							
KKAR	**Karatay Array**	**2.29**	**17**	⇓*e*P		Pn	09 45 33.1	+1.1
	baz=17							
KKAR				⇓*i*S		Sb	09 46 02.6	-1.5
	baz=17							

IDC 22 09:48:56.7±3.2, 54°26N×87°14E, h0km, mbtmp2.9/2, ML2.4/2, Error ellipse: s-maj=28.4km s-min=20.0km az=54.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.40**	**258**	I	I	09 58 15.0	
	baz=77,slow=324,SNR=11						
ZALV	**Zalesovo Beam**	**1.40**	**258**	Pg	Pn	09 49 21.6	-1.9
	0.5nm,0.3s,baz=73,slow=17,SNR=9.6						
ZALV				Lg	Lg	09 49 41.3	
	0.3nm,0.3s,baz=74,slow=24,SNR=4.1						
KURBB	**Kurchatov Arra**	**6.40**	**239**	Pn	Pn	09 50 33.4	+1.3
	0.1nm,0.3s,baz=55,slow=14,SNR=6.5						
KURBB				Lg	Lg	09 52 18.4	
	baz=55,slow=32						
	1.1nm,0.7s						
MKAR	**Makanchi Array**	**8.08**	**204**	Pn	Pn	09 50 56.0	+0.8
	0.1nm,0.3s,baz=27,slow=12,SNR=1.8						
	0.1nm,0.3s						

*DJA **22** 10:01:42.3±0.3, 9°S×6°×11°6E±°, h95km±6km, M4.7/17, mb4.6/6, mB4.9/3, MLv4.7/17, Mw(mB)4.2/3*
*NEIC **22** 10:01:42.9±2.6, 8.86S±0.08×115.68E±0.06, h93km±7km, mb4.4/37, Error ellipse: s-maj=12.3km s-min=9.0km az=191.0*
*IDC **22** 10:01:46.9±2.3, 8.71S×115.96E, h149km±21km, mb3.6/17, mbtmp4.1/19, Error ellipse: s-maj=19.6km s-min=9.4km az=57.0*

ISC 22 10:01:42.2±0.3, 8°87S±0.05×115°71E±0.04, h98km, n115, σ1s56/117, mb4.2/32, Bali region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DNP	**Denpasar**	**0.52**	**291**	P	**Pn**	**10 02 00.0**	**+2.1**
DNP				S	**Sn**	**10 02 12.5**	**+2.8**
SRBI	**Singaraja**	**0.92**	**328**	P	**Pn**	**10 02 03.6**	**+2.0**
SRBI				S	**Sn**	**10 02 17.9**	**+1.8**
TWSI	**Taliwang, Sumb**	**1.17**	**84**	P	**Pn**	**10 02 06.3**	**+1.9**
JAGI	**Jajag, Banyuwa**	**1.58**	**284**	P	**Pn**	**10 02 09.0**	**-0.4**
JAGI	**Jajag, Banyuwa**	**1.58**	**284**		**Pn**	**10 02 09.8**	**+0.5**
JAGI	**Jajag, Banyuwa**	**1.58**	**284**	P	**Pn**	**10 02 10.5**	**+1.1**
JAGI				S	**Sn**	**10 02 30.5**	**+0.4**
ABJI	**Asem Bagus**	**1.80**	**306**	P	**Pn**	**10 02 14.1**	**+2.0**
PLAI	**Plampang**	**2.05**	**89**	P	**Pn**	**10 02 18.1**	**+2.8**
PLAI				S	**Sn**	**10 02 44.7**	**+4.1**
BLJI	**Banyuglugur**	**2.37**	**298**	P	**Pn**	**10 02 21.3**	**+1.8**
GRJI	**Gresik**	**3.74**	**301**	P	**Pn**	**10 02 39.0**	**+1.2**
PWJI	**Pagerwojo**	**3.95**	**282**	P	**Pn**	**10 02 41.1**	**+0.5**
BWJI	**Bawean**	**4.26**	**315**	P	**Pn**	**10 02 47.0**	**+2.2**
BASI	**Baing, Sumba**	**4.99**	**106**	P	**Pn**	**10 02 54.3**	**-0.5**
	162nm,1.5s,1.3nm						
UGM	**Wanagama**	**5.21**	**280**	P	**Pn**	**10 02 57.8**	**0.0**
UGM	**Wanagama**	**5.21**	**280**		**Pn**	**10 02 58.6**	**+0.8**
UGM	**Wanagama**	**5.21**	**280**	P	**Pn**	**10 02 58.5**	**+0.7**
	117nm,0.8s,0.9nm						
SMRI	**Semarang**	**5.52**	**289**	Pn	**Pn**	**10 03 03.0**	**+1.1**
KAPI	**Kappang**	**5.55**	**47**	Pn	Pn	10 03 06.1	+3.8
KAPI	**Kappang**	**5.55**	**47**	P	**Pn**	**10 03 05.4**	**+3.1**
	14nm,0.4s,baz=218,slow=4.6,SNR=16						
KAPI				S	**Sn**	**10 04 04.1**	**-0.8**
	6.9nm,0.3s,baz=215,slow=16,SNR=1.8						
BKSI	**Bulukumba**	**5.62**	**52**	P	**Pn**	**10 03 06.7**	**+3.3**
	40nm,0.5s,540nm0.2nm						
EDFI	**Ende, Flores**	**5.92**	**89**	P	**Pn**	**10 03 07.5**	**0.0**
MMRI	**Maumere**	**6.46**	**88**	Pn	**Pn**	**10 03 15.7**	**+0.9**
KPJI	**Karang Pucung**	**6.88**	**282**	P	**Pn**	**10 03 20.5**	**+0.1**
	37nm,0.5s,0.3nm						
CMJI	**Cimerak**	**7.26**	**278**	P	**Pn**	**10 03 25.0**	**-0.6**
	68nm,1.2s,0.5nm						
BATI	**Baumata**	**7.96**	**100**	P	**Pn**	**10 03 35.0**	**-0.2**
	44nm,0.4s,baz=261,slow=2.8,SNR=4.8						
BATI				S	**Sn**	**10 05 02.3**	**-1.4**
	18nm,0.3s,baz=93,slow=19,SNR=1.4						
BBJI	**Bungbulang**	**8.10**	**279**	P	**Pn**	**10 03 36.8**	**-0.3**
SOEI	**Soe**	**8.50**	**97**	Pn	**Pn**	**10 03 43.0**	**+0.4**
XMIS	**Christmas Isla**	**10.04**	**260**	P	**Pn**	**10 04 01.2**	**-2.3**
	45nm,1.3s						
XMIS	**Christmas Isla**	**10.04**	**260**	Pn	**Pn**	**10 04 00.6**	**-2.9**
LUWI	**Luwuk**	**10.49**	**43**	Pn	**Pn**	**10 04 08.9**	**-0.7**
MBWA	**Marble Bar**	**12.82**	**163**	P	Pn	10 04 37.0	-3.8
MBWA	**Marble Bar**	**12.82**	**163**		Pn	10 04 36.7	-4.1
PSA00	**Pilbara Seismi**	**13.25**	**163**	P	Pn	10 04 42.9	-3.5
PSA00	**Pilbara Seismi**	**13.25**	**163**	Pn	Pn	10 04 43.1	-3.3
FITZ	**Fitzroy Crossi**	**13.32**	**135**	P	**Pn**	**10 04 45.5**	**-1.9**
FITZ	**Fitzroy Crossi**	**13.32**	**135**		**Pn**	**10 04 47.1**	**-0.2**
MNAI	**Manna**	**13.43**	**289**	Pn	**Pn**	**10 04 48.6**	**-0.3**
GIRL	**Giralia**	**13.77**	**186**	P	Pn	10 04 50.5	-2.7
MYLDM	**Lahad Datu**	**14.23**	**11**	Pn	**Pn**	**10 04 57.6**	**-1.7**
MTN	**Manton Dam**	**15.66**	**106**	Pn	**Pn**	**10 05 15.7**	**-1.7**
MTN				IAmb	IAmb	10 05 15.8	
	comp=Z,49nm,1.5s						
KDU	**Kakadu**	**16.90**	**104**	P	**Pn**	**10 05 33.2**	**+0.4**
FAKI	**Fak Fak**	**17.48**	**71**	P	**Pn**	**10 05 41.5**	**+1.6**
	comp=Z,32nm,1.3s						
FAKI	**Fak Fak**	**17.48**	**71**	P	**P**	**10 05 39.6**	**0.0**
FAKI				IAmb	IAmb	10 05 40.0	
	comp=Z,62nm,1.4s						
MEEK	**Meekatharra**	**17.89**	**171**	P	**P**	**10 05 44.5**	**+0.4**
WRKA	**Warakurna**	**20.06**	**145**	P	**P**	**10 06 09.4**	**+1.6**
MORW	**Morawa**	**20.10**	**179**	P	**P**	**10 06 08.3**	**+0.2**
MORW	**Morawa**	**20.10**	**179**	P	**P**	**10 06 08.0**	**-0.1**
WB0	**Warramunga Arr**	**21.08**	**123**	P	**P**	**10 06 19.2**	**+0.5**
WB0				IAmb	IAmb	10 06 35.3	
	comp=Z,11nm,1.1s						
WRA	**Warramunga Arr**	**21.11**	**123**	P	**P**	**10 06 19.7**	**+0.6**
WRA	**Warramunga Arr**	**21.11**	**123**	P	**P**	**10 06 19.1**	**-0.1**
	comp=Z,2.9nm,0.7s,baz=293,slow=13,SNR=60						
WRA				S	**S**	**10 10 03.8**	**-5.0**
	comp=Z,1.0nm,0.8s,baz=303,slow=24,SNR=3.8						
	comp=Z,2.9nm,0.7s						
WB2	**Warramunga Arr**	**21.12**	**123**	P	**P**	**10 06 19.9**	**+0.6**
WB2				IAmb	IAmb	10 06 46.7	
	comp=Z,11nm,1.1s						
WR0	**Warramunga Arr**	**21.29**	**123**	P	**P**	**10 06 21.7**	**+0.7**
WR0				IAmb	IAmb	10 06 23.8	
	comp=Z,16nm,1.3s						
ASAR	**Alice Springs**	**22.80**	**132**	P	**P**	**10 06 37.9**	**+1.0**
ASAR	**Alice Springs**	**22.80**	**132**	P	**P**	**10 06 37.0**	**+0.2**
	comp=Z,2.3nm,0.5s,baz=305,slow=9.7,SNR=61						
ASAR				PcP	**PcP**	**10 10 25.3**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=317,slow=1.0,SNR=2.5						
	comp=Z,2.3nm,0.5s						
AS31	**Alice Springs**	**22.80**	**132**	P	**P**	**10 06 37.6**	**+0.7**
AS01	**Alice Springs**	**22.83**	**132**	P	**P**	**10 06 37.4**	**+0.2**
	comp=Z,7.4nm,0.6s						
NWAO	**Narrogin (SRO)**	**23.98**	**177**	P	**P**	**10 06 49.6**	**+1.9**
NWAO				IAmb	IAmb	10 07 16.7	
	comp=Z,29nm,1.4s						
NWAO	**Narrogin (SRO)**	**23.98**	**177**	P	**P**	**10 06 48.6**	**+1.0**
	comp=Z,1.4nm,0.4s,baz=40,slow=7.9,SNR=1.8						
	comp=Z,1.4nm,0.4s						
FORT	**Forrest**	**24.66**	**154**	P	**P**	**10 06 55.2**	**+1.4**
FORT	**Forrest**	**24.66**	**154**	P	**P**	**10 06 56.1**	**+2.3**
FORT				IAmb	IAmb	10 07 25.1	
	comp=Z,11nm,0.8s						
OOD	**Oodnadatta**	**26.65**	**138**	P	**P**	**10 07 12.9**	**+1.1**
MULG	**Mulgathing**	**27.36**	**144**	P	**P**	**10 07 19.4**	**+1.2**
BBOO	**Buckleboo**	**30.36**	**145**	P	**P**	**10 07 45.9**	**+1.0**
BBOO	**Buckleboo**	**30.36**	**145**	P	**P**	**10 07 45.9**	**+1.0**
BBOO				IAmb	IAmb	10 07 48.8	
	comp=Z,21nm,1.4s						
CMAR	**Chiang Mai Arr**	**31.79**	**329**	P	**P**	**10 07 56.7**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=160,slow=7.6,SNR=6.1						
	comp=Z,0.7nm,0.3s						
STKA	**Stephens Creek**	**33.19**	**137**	P	**P**	**10 08 11.8**	**+2.1**
STKA	**Stephens Creek**	**33.19**	**137**	P	**P**	**10 08 08.7**	**-1.0**
	comp=Z,4.1nm,1.1s,baz=321,slow=8.6,SNR=3.0						
	comp=Z,4.1nm,1.1s						
SHL	**Shillong**	**41.34**	**326**	P	**P**	**10 09 18.4**	**-0.3**
SHL				IAmb	IAmb	10 09 19.5	
	comp=Z,7.2nm,0.8s						
MNCI	**Minicoy**	**45.77**	**291**	P	**P**	**10 09 53.6**	**-0.8**
LHI	**Lord Howe Isla**	**46.11**	**126**	P	**P**	**10 09 56.5**	**-0.3**
KSAR	**Wonju Array Be**	**47.46**	**13**	P	**P**	**10 10 08.1**	**+1.0**
KSRS	**Korea Array**	**47.48**	**13**	P	**P**	**10 10 06.3**	**-0.9**
	comp=Z,1.6nm,0.8s,baz=198,slow=8.4,SNR=8.7						
	comp=Z,1.6nm,0.8s						
KS19	**Wonju Array Si**	**47.51**	**13**	P	**P**	**10 10 09.0**	**+1.5**
KS19				IAmb	IAmb	10 10 20.5	
	comp=Z,16nm,1.4s						
MJAR	**Matsushiro Arr**	**49.88**	**24**	P	**P**	**10 10 23.5**	**-2.2**
	comp=Z,0.6nm,0.4s,baz=189,slow=11,SNR=1.7						
	comp=Z,0.6nm,0.4s						
USA0B	**Ussuriysk Arra**	**54.84**	**14**	P	**P**	**10 11 04.5**	**+2.3**
USRK	**Ussuriysk Ar.**	**54.84**	**14**	P	**P**	**10 11 04.9**	**+2.7**
SONM	**Songino Array**	**57.05**	**353**	P	**P**	**10 11 15.7**	**-2.4**
	comp=Z,1.5nm,0.6s,baz=165,slow=12,SNR=2.5						
	comp=Z,1.5nm,0.6s						
BOOM	**Boomskoye usch**	**62.69**	**328**	P	**P**	**10 11 56.4**	**-0.5**
MK31	**Makanchi Array**	**62.91**	**335**	P	**P**	**10 11 57.1**	**-0.9**
MKAR	**Makanchi Array**	**62.91**	**335**	P	**P**	**10 11 57.0**	**-1.0**
MKAR	**Makanchi Array**	**62.91**	**335**	P	**P**	**10 11 56.1**	**-1.9**
	comp=Z,0.4nm,0.4s,baz=146,slow=7.1,SNR=9.8						
	comp=Z,0.4nm,0.4s						
MAKZ	**Makanchi**	**63.05**	**335**	P	**P**	**10 12 00.2**	**+1.2**
MAKZ				IAmb	IAmb	10 12 26.5	
	comp=Z,3.5nm,1.5s						
RAO	**Raoul Island**	**65.13**	**118**	P	**P**	**10 12 12.2**	**-0.8**
RAO	**Raoul Island**	**65.13**	**118**	P	**P**	**10 12 11.6**	**-1.4**
	comp=Z,123nm,0.4s,baz=229,slow=8.6,SNR=4.1						
VOI	**Vohitsoka**	**67.23**	**250**	P	**P**	**10 12 28.3**	**+1.6**
KURBB	**Kurchatov Arra**	**67.45**	**335**	P	**P**	**10 12 25.6**	**-1.6**
	comp=Z,0.4nm,0.6s,baz=149,slow=5.8,SNR=5.7						
	comp=Z,0.4nm,0.6s						
ZAA0	**Zalesovo Array**	**67.81**	**341**	P	**P**	**10 12 32.6**	**+3.2**
ZALV	**Zalesovo Beam**	**67.81**	**341**	P	**P**	**10 12 27.8**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=160,slow=4.7,SNR=5.9						
	comp=Z,0.7nm,0.3s						
GEYT	**Alibeck**	**71.03**	**315**	P	**P**	**10 12 49.8**	**+0.1**
GEYT				IAmb	IAmb	10 12 50.3	
	comp=Z,3.5nm,0.8s						
GEYT	**Alibeck**	**71.03**	**315**	P	**P**	**10 12 49.4**	**-0.3**
	comp=Z,1.2nm,0.3s,baz=175,slow=6.8,SNR=4.6						
	comp=Z,1.2nm,0.3s						
VNDA	**Vanda**	**72.64**	**171**	P	**P**	**10 13 00.7**	**+2.0**
BVAR	**Borovoye Array**	**72.80**	**333**	P	**P**	**10 12 58.0**	**-1.2**
	comp=Z,0.7nm,0.5s,baz=126,slow=8.8,SNR=2.8						
	comp=Z,0.7nm,0.5s						
SBA	**Scott Base**	**73.66**	**170**	P	**P**	**10 13 06.1**	**+1.4**
SBA				IAmb	IAmb	10 13 15.4	
	comp=Z,16nm,1.3s						
ABKAR	**Akbulak array**	**75.61**	**326**	P	**P**	**10 13 15.8**	**-0.5**
RAYN	**Ar Rayn**	**75.73**	**297**	P	**P**	**10 13 16.6**	**-1.0**
POGA	**Pongola**	**80.68**	**244**	P	**P**	**10 13 47.2**	**+2.3**
QSPA	**South Pole Qui**	**81.13**	**180**	P	**P**	**10 13 48.0**	**+1.3**
QSPA				IAmb	IAmb	10 14 00.1	
	comp=Z,4.2nm,1.4s						
QSPA	**South Pole Qui**	**81.13**	**180**	P	**P**	**10 13 47.5**	**+0.9**
	comp=Z,1.2nm,0.6s,baz=264,slow=0.3,SNR=7.9						
	comp=Z,1.2nm,0.6s						
GEVA	**Gevas**	**82.11**	**311**	P	**P**	**10 13 52.7**	**+0.4**
GEVA				IAmb	IAmb	10 13 52.9	
	comp=Z,5.2nm,0.6s						
ARPR	**Arapgir-MALATY**	**85.87**	**310**	P	**P**	**10 14 12.3**	**+0.9**
ARPR				IAmb	IAmb	10 14 24.7	
	comp=Z,5.2nm,1.1s						
BOSA	**Boshof**	**86.21**	**242**	P	**P**	**10 14 14.9**	**+1.6**
BOSA	**Boshof**	**86.21**	**242**	P	**P**	**10 14 14.0**	**+0.6**
	comp=Z,3.0nm,0.7s,baz=83,slow=6.3,SNR=5.2						
	comp=Z,3.0nm,0.7s						
GHAJ	**Ghor Haditha**	**86.23**	**302**	P	**P**	**10 14 14.1**	**+1.0**
GAZ	**Gaziantep**	**86.25**	**308**	P	**P**	**10 14 12.6**	**-0.7**
BRTR	**Keskin Array B**	**89.56**	**310**	P	**P**	**10 14 27.8**	**-1.3**
BRTR	**Keskin Array B**	**89.56**	**310**	P	**P**	**10 14 28.5**	**-0.6**
	comp=Z,1.0nm,0.6s,baz=141,slow=8.0,SNR=4.5						
	comp=Z,1.0nm,0.6s						
SNAA	**Sanae**	**90.23**	**196**	P	**P**	**10 14 33.7**	**+2.2**
SNAA				IAmb	IAmb	10 14 47.8	
	comp=Z,8.1nm,1.4s						
SNAA	**Sanae**	**90.23**	**196**	P	**P**	**10 14 31.7**	**+0.1**
	comp=Z,0.8nm,0.6s,baz=28,slow=8.2,SNR=1.7						
	comp=Z,0.8nm,0.6s						
BELA	**Belgrano 2**	**91.82**	**186**	P	**P**	**10 14 40.0**	**+1.2**
BELA				IAmb	IAmb	10 14 58.8	
	comp=Z,5.7nm,1.5s						
ARCES	**ARCESS Array B**	**98.31**	**339**	P	**P**	**10 15 06.4**	**-2.0**
	comp=Z,4.2nm,1.0s,baz=28,slow=8.4,SNR=2.4						
TORD	**Torodi Ar. Bea**	**115.23**	**280**	PKP	**PKPdf**	**10 20 11.2**	**-1.9**
	comp=Z,0.5nm,0.6s,baz=62,slow=1.6,SNR=4.4						
YKA	**Yellowknife Ar**	**115.38**	**23**	PKP	**PKiKP**	**10 20 10.4**	**-1.7**
	comp=Z,0.2nm,0.6s,baz=317,slow=2.9,SNR=4.9						
NVAR	**Mina Array Bea**	**123.43**	**50**	PKP	**PKPdf**	**10 20 26.2**	**-2.5**
	comp=Z,0.4nm,0.6s,baz=294,slow=1.8,SNR=4.4						
CPUP	**Villa Florida**	**144.36**	**191**	PKP	**PKPab**	**10 21 05.2**	**-0.7**
	comp=Z,1.5nm,0.4s,baz=183,slow=2.2,SNR=6.0						
BDFB	**Brasilia**	**150.79**	**214**	PKPbc	**PKPdf**	**10 21 21.0**	**+2.3**
	comp=Z,2.5nm,0.4s,baz=103,slow=9.3,SNR=1.9						

AFAD 22 10:01:54.4±0.0, 40°05N×33°40E, h7km±1km, ML0.9, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KESK	**Krkkale-Ke**	**0.44**	**161**	P	Pg	10 02 03.1	+0.1
KESK				S	Sg	10 02 09.9	+1.2
KESK				*i* AML	AML	10 02 11.0	
	comp=N,18nm,0.3s						
KESK				*i* AML	AML	10 02 11.0	
	comp=E,9.6nm,0.3s						
AKPI	**Kirsehir/Akpin**	**0.72**	**140**	P	Pg	10 02 08.4	+0.2
AKPI				S	Sb	10 02 19.1	-0.2
AKPI				*i* AML	AML	10 02 38.0	
	comp=E,6.2nm,1.2s						

IDC 22 10:13:19.1±2.3, 20°20S×175°93W, h0km, mb3.4/3, mbtmp3.7/4, ML4.4/1, Error ellipse: s-maj=66.3km s-min=39.6km az=123.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.98**	**197**	P	Pn	10 17 42.6	-0.1
	1.1nm,0.3s,baz=76,slow=8.3,SNR=1.5						
	4.3nm,0.4s						
ASAR	**Alice Springs**	**46.48**	**256**	P	P	10 21 46.5	-1.9
	0.5nm,0.9s,baz=96,slow=7.2,SNR=4.8						
	0.5nm,0.9s						
WRA	**Warramunga Arr**	**46.57**	**261**	P	P	10 21 50.5	+1.5
	0.7nm,1.0s,baz=100,slow=7.5,SNR=4.5						
	0.7nm,1.0s						
ILAR	**Eielson Array**	**87.61**	**12**	P	P	10 26 08.7	0.0
	0.3nm,0.9s,baz=199,slow=5.2,SNR=2.3						
	0.3nm,0.9s						

AUST 22 10:33:46.5±1.0, 19°76S×133°99E, h5km, Error ellipse: s-maj=13.5km s-min=8.6km az=33.0, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**0.39**	**118**	P	Pg	10 33 54.9	+0.9
WB2				S	Sg	10 33 59.1	0.0
AS31	**Alice Springs**	**3.89**	**181**	P	Pn	10 34 49.2	+2.2
AS31	**Alice Springs**	**3.89**	**181**	S	Sn	10 35 32.8	-0.4
QIS	**Mount Isa**	**5.33**	**100**	P	Pn	10 35 10.1	+3.2
	baz=5.3						
QIS				S	Sn	10 36 08.7	-0.2
	baz=5.3						
QIS	**Mount Isa**	**5.33**	**100**	P	Pn	10 35 10.2	+3.3
	comp=Z,4.8nm,2.3s,comp=Z,690nmcomp=Z,75µmcomp=Z,0.0nm						
QIS	**Mount Isa**	**5.33**	**100**	S	Sn	10 36 08.5	-0.3
MTN	**Manton Dam**	**7.40**	**338**	P	Pn	10 35 34.0	-1.4
	baz=7.4						
WRKA	**Warakurna**	**7.44**	**224**	P	Pn	10 35 35.6	-0.2
	baz=7.5						
WRKA	**Warakurna**	**7.44**	**224**	P	Pn	10 35 35.0	-0.9
	comp=Z,5.9nm,2.6s,comp=Z,581nmcomp=Z,65µmcomp=Z,0.0nm						
WRKA	**Warakurna**	**7.44**	**224**	S	Sn	10 36 56.4	-4.3
FITZ	**Fitzroy Crossi**	**8.07**	**280**	P	Pn	10 35 46.4	+1.8
	baz=8.1						
FITZ				S	Sn	10 37 14.5	-1.8
	baz=8.1						
FITZ	**Fitzroy Crossi**	**8.07**	**280**	P	Pn	10 35 46.1	+1.6
	comp=Z,1µmcomp=Z,31nm,2.0s,comp=Z,0.1nm						
OOD	**Oodnadatta**	**8.15**	**169**	P	Pn	10 35 46.4	+0.9
	baz=8.2						
OOD	**Oodnadatta**	**8.15**	**169**	P	Pn	10 35 46.3	+0.7
	comp=Z,6.2nm,1.9s,comp=Z,963nmcomp=Z,0.0nm						
MULG	**Mulgathing**	**10.48**	**180**	P	Pn	10 36 17.4	-0.1
	baz=10						
FORT	**Forrest**	**12.21**	**205**	P	Pn	10 36 39.4	-1.8
	baz=12						

*UPP **22** 10:34:51.9±0.1, 67.85N×20.21E, h0km, ML2.4, Confirmed Induced event*
*IDC **22** 10:34:52.1±1.3, 67.81N×20.67E, h0km, mbtmp2.8/3, ML2.1/3, Error ellipse: s-maj=21.0km s-min=7.9km az=122.0*

ISC 22 10:34:51.5±0.9, 67°82N±0.04×20°25E±0.05, h0km, n12, σ0s64/12, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**14**	P	**Pg**	**10 34 54.4**	**+0.3**
KUA				S	**Sg**	**10 34 56.0**	**+0.2**
RATU	**Laukkuluspa**	**0.25**	**271**	P	**Pg**	**10 34 56.6**	**+0.3**
KOVU	**Salmi**	**0.40**	**355**	P	**Pg**	**10 34 59.3**	**0.0**
MASU	**Masugnsbyn**	**0.76**	**118**	P	**Pb**	**10 35 06.8**	**-0.8**
I37NO	**I37NO**	**1.40**	**335**	I	I	10 43 15.0	
	baz=148,slow=325,SNR=0.9						
HEF	**Hetta**	**1.41**	**64**	*e*P	**Pb**	**10 35 18.2**	**-0.4**
ERTU	**Ertsjaerv**	**1.48**	**148**	P	**Pb**	**10 35 19.4**	**-0.4**
HARU	**Harads**	**1.69**	**170**	P	**Pb**	**10 35 23.1**	**-0.3**
STEI	**Steigen**	**1.90**	**276**	*e*P	**Pb**	**10 35 26.5**	**-0.5**
ARCES	**ARCESS Array B**	**2.58**	**46**	Pn	**Pn**	**10 35 35.0**	**+0.5**
	0.7nm,0.3s,baz=225,slow=16,SNR=36						
ARCES				Lg	Lg	10 36 09.1	
	2.5nm,0.3s,baz=226,slow=25,SNR=22						
	1.5nm,0.3s						
FINES	**FINESS Array B**	**6.87**	**156**	Pn	**Pn**	**10 36 34.5**	**+1.2**
	0.1nm,0.3s,baz=341,slow=21,SNR=1.2						
FINES				Lg	Lg	10 38 24.2	
	0.4nm,0.3s,baz=345,slow=30,SNR=7.2						
	2.5nm,1.1s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**10 36 45.9**	**-0.8**
	baz=26,slow=13,SNR=1.5						
NOA				Lg	Lg	10 38 57.1	
	baz=27,slow=22,SNR=2.0						
	0.1nm,0.4s						

*SOME **22** 10:37:11.3, 43.50N×69.55E*
*KRNET **22** 10:37:12.0±0.1, 43.59N×69.72E, mb2.6*
*NNC **22** 10:37:13.2±2.0, 43.49N×69.66E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=11.5km s-min=9.0km az=144.0*

ISC 22 10:37:15.5±1.9, 43°58N±0.07×69°98E±0.07, h0km, n18, σ1s04/23, 10C, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRLS	**Boroldaу**	**0.56**	**191**	P	**Pg**	**10 37 25.5**	**-0.8**
	6.9nm,0.5s						
BRLS				S	**Sb**	**10 37 36.3**	**-0.6**
	27nm,0.4s						
KK31	**Karatay Array**	**0.61**	**141**	P	**Pg**	**10 37 26.6**	**-0.7**
	4.1nm,0.3s,baz=291,slow=16,SNR=62						
KK31				S	**Sb**	**10 37 37.3**	**-1.1**
	18nm,0.5s,baz=296,slow=32,SNR=65						
KKAR	**Karatay Array**	**0.61**	**141**	⇑*i*P	**Pg**	**10 37 26.7**	**-0.6**
	baz=30						
KKAR				⇑*i*S	**Sb**	**10 37 37.4**	**-1.0**
	baz=30						
DZA	**Taraz**	**1.20**	**125**	P	**Pb**	**10 37 38.9**	**-0.3**
	145nm,0.1s						
DZA				S	**Sn**	**10 37 58.9**	**+2.2**
	119nm,0.1s						
MNAS	**Manas**	**2.15**	**120**	⇑*e*P	**Pn**	**10 37 53.6**	**+0.9**
	baz=17						
MNAS				⇑*i*S	**Sg**	**10 38 24.2**	**-0.3**
	baz=17						
TRKS	**Terek-Say**	**2.22**	**157**	⇑*i*P	**Pn**	**10 37 54.6**	**+0.8**
	baz=53						
TRKS				⇑*i*S	**Sb**	**10 38 25.7**	**+0.9**
	baz=53						
ARK	**Arkit**	**2.31**	**140**	⇑*i*P	**Pn**	**10 37 55.3**	**+0.4**
	baz=37						
ARK				⇑*i*S	**Sb**	**10 38 26.9**	**-0.2**
	baz=37						
MRKS	**Merke**	**2

comp=N,18µm,0.6s
PB08 IPOC Station P 1.23 332 Pn 10 41 21.0 +1.0
PB08 Sn **Sn 10 41 40.0 +1.7**
PB08 IPOC Station P 1.23 332 eP **Pn 10 41 21.6 +1.6**
PB08 eS **Sn 10 41 41.0 +2.7**
PB08 IAML 10 41 44.0
comp=Z,10µm,0.9s
PB08 IPOC Station P 1.23 332⇑ eP **Pn 10 41 21.7 +1.7**
PB08 eS **Sn 10 41 39.4 +1.1**
PB08 IAML 10 41 41.8
comp=E,17µm,0.4s
LVC Limon Verde 1.42 194 Pn 10 41 22.8 +0.7
LVC Sn **Sn 10 41 42.7 +0.6**
LVC Limon Verde 1.42 194 eP **Pn 10 41 22.8 +0.7**
LVC eS **Sn 10 41 43.2 +1.2**
LVC Limon Verde 1.42 194 P **Pn 10 41 22.4 +0.3**
comp=E,1µm,0.4s,baz=29,slow=11,SNR=1818
LVC LR LR 10 41 38.1
comp=E,200nm,19.5s,baz=7.5,slow=30
LVC S **Sn 10 41 42.7 +0.6**
comp=E,2µm,0.5s,baz=287,slow=19,SNR=84
LVC Limon Verde 1.42 194⇑ *iP* **Pn 10 41 22.6 +0.5**
LVC *i* S **Sn 10 41 42.4 +0.3**
LVC IAML 10 41 43.6
comp=E,36µm,0.4s
LVC Limon Verde 1.42 194 eP Pn 10 41 13.8 -8.4
PATCX Punta Patache 1.56 285 Pn 10 41 23.3 -0.3
PATCX Punta Patache 1.56 285 eP **Pn 10 41 23.4 -0.1**
PATCX eS **Sn 10 41 44.6 -0.1**
PATCX IAML 10 41 46.4
comp=E,13µm,0.6s
PATCX Punta Patache 1.56 285⇑ eP **Pn 10 41 23.5 -0.1**
PATCX eS **Sn 10 41 42.6 -2.0**
HMBC Humberstone 1.58 307 Pn 10 41 22.9 -0.9
HMBC Sn **Sn 10 41 44.2 -0.9**
TA01 Diego Aracena 1.67 293 Pn 10 41 24.5 -0.3
TA01 Diego Aracena 1.67 293 eP **Pn 10 41 24.5 -0.3**
TA01 eS **Sn 10 41 46.0 -0.9**
TA01 IAML 10 41 49.5
comp=E,7µm,0.3s
TA01 Diego Aracena 1.67 293⇑ eP **Pn 10 41 24.5 -0.3**
TA01 eS **Sn 10 41 44.9 -2.0**
GO01 Chusmiza 1.67 338 Pn 10 41 26.8 +1.4
GO01 Chusmiza 1.67 338 eP **Pn 10 41 26.7 +1.4**
GO01 eS **Sn 10 41 50.1 +2.5**
GO01 IAML 10 41 51.6
comp=Z,4µm,0.6s
GO01 Chusmiza 1.67 338⇑ eP **Pn 10 41 26.8 +1.4**
GO01 eS **Sn 10 41 49.2 +1.5**
GO01 IAML 10 41 52.2
comp=N,13µm,0.4s
AF01 San Pedro de A 1.75 169 Pn 10 41 28.4 +2.3
AF01 San Pedro de A 1.75 169⇓ eP **Pn 10 41 27.5 +1.5**
AF01 eS **Sn 10 41 50.8 +1.8**
AF01 IAML 10 42 07.4
comp=E,6µm,0.7s
PB06 IPOC Station P 1.75 213 Pn 10 41 25.4 -0.6
PB06 IPOC Station P 1.75 213 eP **Pn 10 41 25.9 -0.1**
PB06 eS **Sn 10 41 48.4 -0.5**
PB06 IAML 10 41 49.1
comp=Z,6µm,0.3s
PB06 IPOC Station P 1.75 213⇑ eP **Pn 10 41 25.9 -0.1**
PB06 eS **Sn 10 41 47.6 -1.4**
PB06 IAML 10 41 49.5
comp=E,13µm,0.3s
TA02 Huaiquique 1.77 302 Pn 10 41 25.7 -0.3
TA02 Huaiquique 1.77 302 eP **Pn 10 41 25.9 -0.2**
TA02 eS **Sn 10 41 49.6 +0.6**
TA02 IAML 10 41 52.4
comp=Z,8µm,0.5s
TA02 Huaiquique 1.77 302 eP **Pn 10 41 25.5 -0.5**
TA02 eS **Sn 10 41 46.8 -2.3**
TA02 IAML 10 41 52.2
comp=N,17µm,0.1s
PB11 IPOC Station P 1.80 324 Pn 10 41 27.0 +0.4
PB11 IPOC Station P 1.80 324 eP **Pn 10 41 26.2 -0.3**
PB11 eS **Sn 10 41 51.0 +1.1**
PB11 IAML 10 41 53.8
comp=Z,8µm,0.5s
PB11 IPOC Station P 1.80 324⇑ eP **Pn 10 41 27.0 +0.4**
PB11 eS **Sn 10 41 49.6 -0.3**
PB04 IPOC Station P 1.85 233 Pn 10 41 26.3 -0.9
PB04 IPOC Station P 1.85 233 eP **Pn 10 41 26.3 -0.9**
PB04 eS **Sn 10 41 49.6 -1.6**
PB04 eS 10 41 49.7
PB04 IAML 10 41 58.6
comp=Z,6µm,0.2s
PB04 IPOC Station P 1.85 233⇑ eP **Pn 10 41 26.3 -0.9**
PB04 eS **Sn 10 41 48.4 -2.8**
PB04 IAML 10 41 55.4
comp=N,8µm,0.3s
PB15 IPOC Station P 2.15 203 Pn 10 41 30.9 -0.1
PB15 IPOC Station P 2.15 203 eP **Pn 10 41 30.9 -0.1**
PB15 eS **Sn 10 41 58.1 +0.2**
PB15 IAML 10 42 02.1
comp=Z,13µm,0.3s
PB15 IPOC Station P 2.15 203⇑ eP **Pn 10 41 31.0 -0.1**
PB15 eS **Sn 10 41 56.9 -1.0**
PX02 IPOC Station P 2.74 325 eP **Pn 10 41 37.0 -1.6**
PX02 eS **Sn 10 42 08.6 -2.9**
PX02 IAML 10 42 19.3
comp=N,3µm,0.5s
PB10 IPOC Station P 2.94 219 Pn **Pn 10 41 40.5 -0.6**
PB10 IPOC Station P 2.94 219 eP **Pn 10 41 40.0 -1.1**
PB10 eS **Sn 10 42 13.2 -2.7**
YJA Yavi 2.97 109 eP Pn 10 41 45.9 +4.0
PB12 IPOC Station P 3.10 327 Pn 10 41 42.5 -0.8
PB12 IPOC Station P 3.10 327 eP **Pn 10 41 42.2 -1.1**
PB12 eS **Sn 10 42 20.1 +0.2**
PB12 IAML 10 42 39.8
comp=Z,3µm,0.7s
PB12 IPOC Station P 3.10 327⇑ eP **Pn 10 41 42.3 -1.1**
PB12 eS Sn 10 42 13.4 -6.5
PB12 IAML 10 42 25.8
comp=N,4µm,0.3s
AP01 Chacalluta 3.31 329 Pn **Pn 10 41 46.8 +0.8**
AP01 Chacalluta 3.31 329 eP **Pn 10 41 46.8 +0.8**
AP01 eS Sn 10 42 13.8 -11
AP01 IAML 10 42 54.5
comp=Z,3µm,0.5s
HJA Humahuaca 3.50 125 eP Pn 10 41 52.6 +3.6
PB18 Visviri 3.73 346 Pn 10 41 53.1 +1.0
PB14 IPOC Station P 3.79 207 Pn **Pn 10 41 50.5 -2.2**
PB14 IPOC Station P 3.79 207 eP **Pn 10 41 51.0 -1.8**
PB14 eS **Sn 10 42 33.2 -3.4**
PB14 IAML 10 42 57.7
comp=Z,1µm,0.6s
GO02 Mina Guanaco 4.03 194 Pn **Pn 10 41 53.5 -2.5**
GO02 Mina Guanaco 4.03 194 eP **Pn 10 41 53.9 -2.1**
GO02 eS **Sn 10 42 41.0 -1.4**
GO02 IAML 10 43 14.3
comp=Z,1µm,0.6s
LPAZ La Paz 4.93 5 Pn 10 42 11.2 +2.9
LPAZ La Paz 4.93 5 P **Pn 10 42 10.9 +2.6**
comp=Z,55nm,0.5s,baz=195,slow=6.0,SNR=117
LPAZ LR LR 10 44 48.2
comp=Z,313nm,20.6s,baz=187,slow=46
LPAZ La Paz 4.93 5 eP Pn 10 42 00.3 -8.0
AC01 Pan de Azucar 5.25 201 Pn **Pn 10 42 09.5 -2.5**
AC06 Mina Casimiro 6.32 195 Pn 10 42 23.2 -3.4
AC04 Llanos de Chal 7.32 198 Pn 10 42 34.7 -5.3
AC05 El Transito 7.73 191 Pn 10 42 42.6 -3.2
LCO Las Campanas 7.99 194 Pn **Pn 10 42 44.8 -4.6**
BBSD Serra de San D 8.50 63 eP Pn 10 42 50.8 -5.4
BBRB Robore, Bolivi 8.73 72 eP Pn 10 42 54.4 -4.9
SIV San Ignacio 8.79 55 P **Pn 10 42 59.3 -0.8**
comp=Z,251nm,0.5s,baz=240,slow=11,SNR=663
SIV S **Sn 10 44 33.6 -3.9**
comp=Z,13nm,0.6s,baz=292,slow=18,SNR=3.9
CO01 Juntas del Tor 8.82 189 Pn 10 42 58.2 -2.5
TICA Tres Isletas 9.06 126 eP **Pn 10 42 59.6 -4.1**
CO03 El Pedregal 9.76 191 Pn 10 43 11.6 -1.7
CO06 Fray Jorge 9.81 196 Pn **Pn 10 43 11.3 -2.5**
CO02 Combarbal 10.17 192 Pn **Pn 10 43 15.0 -3.8**
MURT Porto Murtinho 10.19 94 eP **Pn 10 43 14.7 -4.3**
PTLB Pontes e Lacer 10.62 59 Pn 10 43 24.0 -0.9
PTLB Pontes e Lacer 10.62 59 eP Pn 10 43 20.2 -4.6
BDQN Bodoquena, MS 11.05 88 eP **Pn 10 43 28.4 -2.3**
CPUP Villa Florida 11.45 118 Pn 10 43 33.8 -2.2
CPUP Villa Florida 11.45 118 P **Pn 10 43 34.9 -1.0**
comp=Z,10nm,0.6s,baz=298,slow=12,SNR=18
CPUP Villa Florida 11.45 118 eP **Pn 10 43 32.3 -3.6**
VILB Vilhena 11.46 45 Pn 10 43 35.9 -0.3
VILB Vilhena 11.46 45 eP **Pn** 10 43 31.5 -4.7
VILB eS **Sn 10 45 39.1 -3.1**
ETMB Extrema 11.57 12 Pn 10 43 37.2 -0.4
ETMB Extrema 11.57 12 eP Pn 10 43 32.0 -5.6
VA03 San Esteban 11.63 188 Pn **Pn 10 43 34.6 -3.7**
AQDB Aquidauana 12.03 89 eP **Pn 10 43 40.0 -3.7**
AQDB eS **Sn 10 45 56.3 +0.2**
SJPY San Joaquin 12.04 110 eP **Pn 10 43 40.5 -3.4**
SJPY eS **Sn 10 45 57.1 +0.8**
POCN Pocone 12.07 70 eP **Pn 10 43 40.5 -3.8**
NNA Nana 12.15 318 P **Pn 10 43 43.3 -2.1**
comp=Z,4.8nm,0.5s,baz=84,slow=19,SNR=1.6
JIR01 Jirau 12.18 18 eP Pn 10 43 40.5 -5.2
PTET Porto Estrela 12.27 64 eP **Pn 10 43 43.0 -3.9**
MECA Mercedes 12.34 133 eP **Pn 10 43 44.5 -3.2**
MT13 San Alfonso 12.56 187 Pn **Pn 10 43 49.2 -1.4**
LMEL Las Melosas 12.65 186 Pn **Pn 10 43 50.4 -1.5**
AMBA Amambai (Brazi 12.68 100 eP **Pn 10 43 49.3 -2.8**
MT09 Talagante 12.68 189 Pn **Pn 10 43 50.5 -1.8**
MT01 Popeta 12.81 190 Pn 10 43 52.5 -1.3
BO04 La Punta 12.84 188 Pn **Pn 10 43 53.4 -0.8**
RVDE Rio Verde (Bra 12.96 83 eP **Pn 10 43 52.6 -3.4**
SAML Samuel 13.26 24 Pn **Pn 10 43 59.2 -0.6**
SAML Samuel 13.26 24 eP **Pn 10 43 56.1 -3.7**
SALV Santo Antonio 13.28 69 eP **Pn 10 43 58.2 -1.9**
BO01 Tunca 13.30 189 Pn 10 43 59.2 -1.0
ITQB Itaqui 13.65 130 Pn **P 10 44 06.0 -3.7**
ITQB Itaqui 13.65 130 eP **Pn 10 44 02.5 -2.3**
BO02 Sierra Bellavi 13.65 188 Pn **Pn 10 44 03.0 -1.9**
PSAL Palomas, Salto 13.87 137 eP **Pn 10 44 06.8 -0.7**
CZSB Cruzeiro do Su 14.01 343 Pn **Pn 10 44 07.7 -1.8**
CZSB Cruzeiro do Su 14.01 343 eP Pn 10 44 04.4 -5.2
GO05 Huala 14.05 192 Pn **Pn 10 44 07.3 -2.6**
UNIS Unistalda (Bra 14.47 125 eP **Pn 10 44 13.6 -1.8**
CRSM Crissiumal (Br 14.60 118 eP **Pn 10 44 15.9 -1.1**
ML02 Panimavida 14.70 189 Pn **Pn 10 44 15.1 -3.0**
PDRB Porto dos Gac 14.82 52 eP **Pn 10 44 17.5 -2.3**
TRCB Terra Rica 14.84 99 P 10 44 20.4 -2.6
TRCB Terra Rica 14.84 99 eP **Pn 10 44 18.7 -1.3**
RODS Rosario do Sul 15.05 130 eP **Pn 10 44 21.6 -1.1**
TBOT Tacuaremb 15.34 135 eP **P 10 44 25.5 -3.0**
VA04 Juan Fernndez 15.36 214 Pn **Pn 10 44 24.2 -2.3**
PTGB Pitanga 15.56 106 eP **P 10 44 28.9 -2.2**
ALGR Alto Alegre (B 15.94 121 eP **P 10 44 33.5 -1.8**
CLDB Colider 15.99 52 eP **Pn 10 44 32.8 -1.7**
PCMB Pacaembu 16.10 94 eP **P 10 44 36.1 -0.8**
ITAB Concordia 16.11 115 P 10 44 38.2 +1.2
ITAB Concordia 16.11 115 eP **P 10 44 35.9 -1.2**
LDASE Londrina, Braz 16.27 101 eP **P 10 44 37.2 -1.7**
CPSB Cacapava Do Su 16.37 127 eP **P 10 44 39.1 -0.7**
ARAG Araguaiana, MT 16.79 74 eP **P 10 44 43.0 -1.7**
PLTB Pedras Altas 16.97 131 P **P 10 44 46.8 +0.3**
PLTB IAmb IAmb 10 44 48.5
comp=Z,32nm,1.0s
PLTB Pedras Altas 16.97 131 eP **Pn 10 44 44.3 -2.1**
TBTG Tabatinga, AM 17.00 355 P **Pn 10 44 47.8 +0.9**
TBTG Tabatinga, AM 17.00 355 eP **Pn 10 44 44.0 -2.8**
ITRB Iturama 17.11 88 eP **P 10 44 47.6 -0.5**
FRTB Fartura 17.69 100 eP **Pn 10 44 55.1 -0.1**
TRQA Tornquist 17.70 163 P **Pn 10 44 54.3 -0.9**
CNLB Canela 17.89 120 eP **Pn 10 44 58.6 +1.0**
TEFE Tefe 18.02 13 eP **P 10 44 58.8 +0.6**
GO06 Curarrehue 18.46 187 P **Pn 10 45 03.9 -0.5**
GO06 IAmb IAmb 10 45 04.7
comp=Z,43nm,1.1s
LR03 Panguipulli 18.63 189 P **Pn 10 45 05.1 -1.2**
LR03 IAmb IAmb 10 45 11.8
comp=Z,32nm,0.8s
BB19B Bebedouro 18.67 93 eP **Pn 10 45 05.6 -1.4**
SNDB Serra Nova Dou 18.90 64 eP **Pn 10 45 08.1 -1.6**
NPGB Novo Progresso 19.01 44 eP **P 10 45 08.0 -1.0**
LR04 Corral 19.05 192 P **P 10 45 07.0 -2.2**
LR04 IAmb IAmb 10 45 11.4
comp=Z,31nm,0.8s
LR05 Currie 19.17 188 P **Pn 10 45 11.4 -1.2**
PLCA Paso Flores 19.52 185 P **Pn 10 45 15.3 -1.4**
PLCA IAmb IAmb 10 45 20.1
comp=Z,39nm,0.9s
PLCA Paso Flores 19.52 185 P **P 10 45 14.5 +0.1**
comp=Z,35nm,1.0s,baz=357,slow=12,SNR=29
PLCA Paso Flores 19.52 185 eP **Pn 10 45 15.5 -1.3**
MACA Manacapuru-AM 19.52 24 P **P 10 45 13.8 -0.7**
MACA Manacapuru-AM 19.52 24 eP **P 10 45 13.7 -0.9**
RCLB Rio Claro- Sao 19.54 97 eP **Pn 10 45 14.6 -2.6**
SPB Sao Paulo 19.66 101 P **Pn 10 45 16.3 -2.2**
SPB Sao Paulo 19.66 101 eP **Pn 10 45 16.6 -1.8**
PET01 Itanhaem-SP 19.84 103 eP **Pn 10 45 18.7 -1.9**
LL04 Puerto Octay 19.89 189 P **P 10 45 18.6 +0.3**
VAO Valinhos 20.07 99 P **Pn 10 45 20.1 -3.1**
VAO Valinhos 20.07 99 eP **Pn 10 45 20.2 -3.1**
LL03 Petrohue 20.11 189 P **P 10 45 21.2 +0.5**
BDFB Brasilia 20.24 78 P Pn 10 45 22.9 -2.6
BDFB Brasilia 20.24 78 P **P 10 45 22.3 -0.2**
comp=Z,97nm,0.5s,baz=249,slow=10,SNR=169
BDFB LR LR 10 54 33.9
comp=Z,206nm,18.6s,baz=311,slow=40
comp=Z,97nm,0.5s
LL05 Los Muermos 20.54 191 P **P 10 45 25.7 +0.4**
ITTB Itaituba 20.87 38 eP **P 10 45 27.6 -1.5**
LL01 San Ignacio de 21.34 188 P **P 10 45 33.5 -0.3**
LL07 Hotel Espejo d 21.93 190 P **P 10 45 39.7 -0.4**
LL02 Futaleuf 22.07 186 P **P 10 45 42.1 +0.5**
LL02 IAmb IAmb 10 45 43.2
comp=Z,42nm,0.9s
GO07 Milladeo Hill, 22.24 190 P **P 10 45 43.5 +0.2**
SLOR San Lorenzo - 22.57 333 P **P 10 45 48.8 +1.2**
SLOR IAmb IAmb 10 46 31.8
comp=Z,18nm,0.8s
VAS01 Vassouras-RJ 23.33 97 eP **P 10 45 54.0 -0.3**
IMBA Imbabura, San 23.37 335 P **P 10 45 53.7 -1.4**
PRPB Parauapebas 23.51 53 eP **P 10 45 53.2 -2.8**
DIAM Diamantina, MG 23.58 87 eP **P 10 45 55.8 -0.9**
TULM Tulcn-Chalpat 23.61 336 P **P 10 45 55.0 -2.4**
TULM IAmb IAmb 10 46 31.1
comp=Z,21nm,0.8s
JANB Januaria 23.81 79 eP **P 10 45 57.8 -0.9**
SDBA SAO DESIDERIO 24.24 73 eP **P 10 46 01.8 -0.8**
COYC Coyhaique 24.45 186 P **P 10 46 04.6 +0.5**
BOAV Boa Vista 24.76 19 P **P 10 46 08.0 +0.8**
BOAV Boa Vista 24.76 19 eP **P 10 46 07.7 +0.5**
SJMB Sao Joao De Ma 25.82 89 eP **P 10 46 18.0 +1.2**
ALF01 Guarapari-ES 25.98 94 eP **P 10 46 20.1 +1.9**
AY03 Cochrane 26.17 186 P **P 10 46 20.2 +0.6**
AY03 IAmb IAmb 10 46 23.3
comp=Z,12nm,0.7s
MCPB Macapa, AP 26.25 40 eP **P 10 46 21.9 +1.1**
RIB01 Linhares ES 26.46 91 eP **P 10 46 22.1 -0.4**
TMAB Tom-Au,PA,Br 27.35 49 eP **P 10 46 32.8 +2.3**
GO08 Villa O'Higgin 27.36 186 P **P 10 46 32.3 +2.0**
GO08 IAmb IAmb 10 46 36.4
comp=Z,19nm,0.7s
GUA01 Guaratinga, BA 27.55 85 eP **P 10 46 32.0 -0.4**
ROSB Rosrio 29.94 56 eP **P 10 46 56.5 +2.8**
SDV Santo Domingo 30.00 356 LR LR 11 00 25.1
comp=Z,118nm,19.1s,baz=293,slow=39
MDP Montagnes des 30.46 33 LR LR 11 00 30.2
comp=Z,87nm,19.2s,baz=190,slow=38
NBLA Lagarto - SE 31.19 76 eP **P 10 47 03.2 -1.4**
NBPB Pedra_Branca-C 32.10 65 eP **P 10 47 13.2 +0.6**
NBAN Anadia - AL 33.08 75 eP **P 10 47 20.6 -0.6**
SRBA San Rafael, Bu 33.59 333 P **P 10 47 24.8 -0.9**
SRBA IAmb IAmb 10 47 29.1
comp=Z,9.3nm,0.8s
NBCL Cascavel-CE 33.89 64 eP **P 10 47 29.6 +1.4**
LCR2 La Lucha 2 34.33 332 P **P 10 47 32.1 0.0**
LCR2 IAmb IAmb 10 47 35.6
comp=Z,14nm,0.8s
RCBR Riachuelo 35.12 69 P **P 10 47 39.8 +0.9**
RCBR Riachuelo 35.12 69 LR LR 11 02 28.7
comp=Z,56nm,19.8s,baz=258,slow=37
RCBR Riachuelo 35.12 69 eP **P 10 47 39.5 +0.6**
COVE Coope Vega, Sa 35.37 332 P **P 10 47 42.7 +1.8**
ORTG Ortega, Santa 35.52 330 P **P 10 47 45.3 +3.0**
MPOM Morne Pois Mar 36.25 13 P **P 10 47 49.1 +0.5**
BIM Bigo 36.27 12 P **P 10 47 49.0 +0.5**
FDF Fort de France 36.47 12 P **P 10 47 50.8 +0.6**
CELP Cerrillos 39.11 3 P **P 10 48 12.3 -0.1**
TIGA Tifton 54.32 344 P **P 10 50 10.4 -0.3**
baz=163
ZAIG Zacatecas 54.89 321 IAmb IAmb 10 50 18.3
comp=Z,9.3nm,0.9s
GOGA Godfrey 56.17 345 P **P 10 50 23.7 -0.2**
baz=163
LRAL Lakeview Retre 56.77 341 P **P 10 50 28.0 -0.2**
baz=160
KMSC Kings Mountain 57.36 348 P **P 10 50 32.4 +0.1**
baz=166
NATX Nacogdoches 58.33 334 P **P 10 50 38.8 -0.4**
baz=151
TKL Tuckaleechee C 58.39 345 LR LR 11 17 02.8
comp=Z,37nm,20.9s,baz=332,slow=37
T59A Double "B" Far 58.51 352 P **P 10 50 40.4 +0.1**
SWET Sewanee 58.51 343 P **P 10 50 40.4 -0.1**
OXF Oxford 58.88 340 P **P 10 50 42.6 -0.4**
baz=157
PLAL Pickwick Lake 58.90 341 P **P 10 50 42.8 -0.3**
PLAL IAmb IAmb 10 51 25.7
comp=Z,11nm,1.2s
BELA Belgrano 2 58.97 172 P **P 10 50 44.6 +1.6**
BELA IAmb IAmb 10 50 45.6
comp=Z,14nm,1.3s
TZTN Tazewell 59.19 346 P **P 10 50 44.8 -0.2**
baz=164
V48A Smith Brothers 59.25 343 P **P 10 50 45.5 0.0**
WLAR White Oak Lake 59.42 336 P **P 10 50 46.6 -0.1**
CLTN Cedars of Leba 59.45 343 P **P 10 50 47.3 +0.5**
CLTN IAmb IAmb 10 51 30.1
comp=Z,8.7nm,0.9s
U49A Red Boiling Sp 59.70 344 P **P 10 50 48.3 -0.2**
U49A IAmb IAmb 10 51 19.7
comp=Z,4.7nm,0.8s
Z38A Mt. Pleasant 59.78 334 P **P 10 50 48.4 -0.8**
BRDY Brady 59.84 330 P **P 10 50 49.1 -0.5**
WVT Waverly 59.90 342 P **P 10 50 49.5 -0.4**
VNA3 Neumayer Olymp 60.22 161⇑ P **P 10 50 52.8 +1.1**
comp=Z,8.1nm,0.8s
MIAR Mount Ida 60.36 336 IAmb IAmb 10 50 54.5
comp=Z,12nm,1.2s
MIAR Mount Ida 60.36 336 P **P 10 50 53.0 -0.2**
baz=153,SNR=5.3
VNA1 Neumayer--Stat 60.42 161⇑ P **P 10 50 54.7 +1.6**
comp=Z,7.4nm,0.8s
OZNA Ozona 60.56 328 IAmb IAmb 10 50 55.9
comp=Z,9.3nm,1.3s
TXAR Lajitas Array 60.61 325 P **P 10 50 55.5 +0.4**
comp=Z,0.7nm,0.8s,baz=152,slow=8.4,SNR=6.4
TXAR pP **pP 10 51 24.8 +1.2**
comp=Z,0.6nm,0.5s,baz=143,slow=7.3,SNR=4.2
TXAR LR LR 11 18 27.4
comp=Z,40nm,18.4s,baz=175,slow=37
comp=Z,0.7nm,0.8s
FW06 Azle 60.61 332 P **P 10 50 55.9 +1.1**
FW06 IAmb IAmb 10 51 30.3
comp=Z,7.2nm,0.7s
TX31 Lajitas Ar. Si 60.61 325 P **P 10 50 55.8 +0.7**
HICK Hickman 60.70 341 P **P 10 50 55.1 -0.2**
VNA2 Neumayer--Watz 60.79 161⇑ P **P 10 50 56.7 +1.1**
comp=Z,8.3nm,0.7s,baz=274,slow=7.9
PLPT Palo Pinto 60.81 331 P **P 10 50 56.6 +0.4**
PLPT IAmb IAmb 10 51 39.0
comp=Z,8.5nm,1.3s
LCAR Lake Charles 60.88 339 P **P 10 50 56.4 -0.2**
LCAR IAmb IAmb 10 50 57.1
comp=Z,5.4nm,0.9s
ABTX Abilene, Hawle 61.25 330 P **P 10 50 59.8 +0.5**
ABTX IAmb IAmb 10 51 00.7
comp=Z,7.4nm,1.0s
ABTX Abilene, Hawle 61.25 330 P **P 10 50 58.8 -0.5**
baz=147
PBMO Poplar Bluff 61.29 340 P **P 10 50 59.5 +0.2**
PBMO IAmb IAmb 10 51 29.8
comp=Z,7.7nm,0.7s
WCI Wyandotte Cave 61.45 344 P **P 10 50 59.3 -1.1**
baz=161
CGM3 Cape Girardeau 61.52 341 IAmb IAmb 10 51 44.3
comp=Z,9.8nm,0.9s
MNHN Monahans 61.72 327 P **P 10 51 03.6 +1.1**
MNHN IAmb IAmb 10 51 46.0
comp=Z,10nm,1.1s
T42A Van Buren 61.73 340 P **P 10 51 01.5 -0.8**
S44A Carbondale 61.77 341 P **P 10 51 02.9 +0.3**
P52A Corning 61.87 348 P **P 10 51 02.0 -1.2**
baz=166
HHAR Hobbs 62.04 337 IAmb IAmb 10 51 05.5
comp=Z,5.9nm,1.0s
SN05 Snyder 5 62.05 329 IAmb IAmb 10 51 37.1
comp=Z,6.3nm,0.7s
PAL Palisades 62.12 355 P **P 10 51 05.0 +0.2**
baz=174
SSPA Standing Stone 62.16 352 P **P 10 51 03.9 -1.2**
baz=170
SN07 Snyder 07 62.23 329 IAmb IAmb 10 51 37.1
comp=Z,5.3nm,0.8s
MGMO Mountain Grove 62.23 339 P **P 10 51 05.8 +0.1**
MGMO IAmb IAmb 10 51 06.2
comp=Z,5.5nm,0.8s
MGMO pP **pP 10 51 35.1 +0.7**
O53A New Philadelph 62.29 349 P **P 10 51 06.0 0.0**
baz=167
P49A Miami Univ. Ec 62.31 346 P **P 10 51 06.0 -0.1**
baz=163
TUL3 Leonard 62.41 335 P **P 10 51 06.4 -0.5**
baz=151
SNAA Sanae 62.42 161 P **P 10 51 07.7 +1.0**
SNAA IAmb IAmb 10 51 08.7
comp=Z,8.2nm,0.8s
SNAA pP **pP 10 51 33.4 -2.1**
SNAA Sanae 62.42 161⇑ P **P 10 51 06.7 +0.1**
comp=Z,158nm,0.7s
SNAA Sanae 62.42 161 P **P 10 51 07.3 +0.7**
comp=Z,6.1nm,0.6s,baz=282,slow=8.6,SNR=32
comp=Z,6.1nm,0.6s
VHRN Van Horn 62.45 325 pP **pP 10 51 35.6 -0.6**
VHRN IAmb IAmb 10 51 38.5
comp=Z,5.7nm,0.9s
POST Post 62.50 329 P **P 10 51 06.5 -1.1**
POST pP **pP 10 51 35.8 -0.6**
POST IAmb IAmb 10 51 48.2
comp=Z,6.6nm,1.0s
ACSO Alum Creek Sta 62.61 348 P **P 10 51 08.6 +0.5**
baz=165
WMOK Wichita Mounta 62.64 332 P **P 10 51 07.5 -1.0**
baz=148
CCM Cathedral Cave 62.72 340 P **P 10 51 08.3 -0.5**
baz=156
M57A Sunshine Farm, 62.76 353 P **P 10 51 08.2 -0.8**
M57A IAmb IAmb 10 51 25.9
comp=Z,14nm,1.2s
M57A pP **pP 10 51 36.7 -1.1**
OK031 S. Brethren Rd 62.87 334 IAmb IAmb 10 51 10.9
comp=Z,16nm,1.3s
S39A Bolivar 63.08 338 P **P 10 51 11.5 +0.2**
S39A pP **pP 10 51 38.3 -1.7**
M55A Ridgway 63.10 351 P **P 10 51 11.4 +0.1**
M55A IAmb IAmb 10 51 17.7
comp=Z,15nm,1.2s
M55A pP **pP 10 51 39.2 -0.9**
O48B Farmland 63.10 346 P **P 10 51 11.5 +0.2**
O48B Farmland 63.10 346 P **P 10 51 11.2 -0.1**
baz=163
R40A Maddies Statio 63.26 339 P **P 10 51 12.1 -0.4**
R40A IAmb IAmb 10 51 13.2
comp=Z,6.5nm,0.8s
R40A pP **pP 10 51 41.4 +0.2**
OK051 E0350 and S346 63.34 335 P **P 10 51 12.5 -0.6**
OK051 IAmb IAmb 10 51 14.5
comp=Z,14nm,1.0s
M53A WI Miller and 63.36 350 P **P 10 51 13.8 +0.8**
M53A pP **pP 10 51 43.4 +1.5**
M53A WI Miller and 63.36 350 P **P 10 51 12.8 -0.2**
baz=168
MNTX Cornudas Mount 63.37 325 P **P 10 51 12.5 -0.9**
baz=142
L61B Northampton 63.48 357 P **P 10 51 14.3 +0.5**
baz=176
HRV Adam Dziewonsk 63.48 358 P **P 10 51 13.8 0.0**
baz=177
BINY Binghamton 63.48 354 P **P 10 51 15.1 +1.2**
baz=172
SMWD Samnorwood 63.60 331 IAmb IAmb 10 51 16.0
comp=Z,8.8nm,0.9s
SFIN Lafayette 63.68 344 P **P 10 51 15.4 +0.2**
baz=161
MSTX Muleshoe 63.85 329 P **P 10 51 16.9 +0.3**
MSTX IAmb IAmb 10 51 18.3
comp=Z,12nm,1.1s
MSTX pP **pP 10 51 44.2 -1.2**
MSTX Muleshoe 63.85 329 P **P 10 51 16.3 -0.3**

baz=144,SNR=5.4
WVNY West Valley, N 64.00 352 P **P** **10 51 16.9 -0.3**
WVNY pP **pP** **10 51 44.4 -1.6**
WVNY lAmb lAmb 10 51 48.8
comp=Z,12nm,0.9s
KAN13 South Haven SW 64.04 334 P **P** **10 51 18.5 +0.9**
KAN13 lAmb lAmb 10 51 19.2
comp=Z,12nm,0.9s
AMTX Amarillo 64.07 330 P **P** **10 51 18.4 +0.4**
TROLL Troll, Antarti 64.14 161 ⇑P **P** **10 51 19.1 +1.0**
comp=Z,355nm,0.6s
OK032 Salt Plains WL 64.16 334 P **P** **10 51 17.7 -0.7**
OK032 lAmb lAmb 10 51 19.1
comp=Z,6.6nm,0.9s
KAN09 Caldwell North 64.20 334 P **P** **10 51 18.9 +0.2**
MMNY Mt. Morris Dam 64.23 352 P **P** **10 51 20.6 +1.9**
KAN01 Argonia South 64.28 334 P **P** **10 51 20.2 +1.0**
KAN01 lAmb lAmb 10 51 20.7
comp=Z,15nm,1.1s
P40A Paris 64.32 340 P **P** **10 51 19.6 +0.2**
P40A pP **pP** **10 51 48.2 -0.1**
P40A lAmb lAmb 10 51 49.1
comp=Z,8.9nm,0.8s
J59A Piesco 64.61 355 P **P** **10 51 22.6 +1.4**
J59A pP **PcP** **10 51 52.8 -1.4**
J59A lAmb lAmb 10 51 53.2
comp=Z,15nm,1.1s
LBNH Lisbon 65.22 357 P **P** **10 51 26.1 +0.9**
baz=177
319A Douglas 65.29 322 P **P** **10 51 27.2 +1.2**
319A lAmb lAmb 10 51 28.6
comp=Z,12nm,0.9s
121A Cookes Peak, D 65.31 324 P **P** **10 51 26.8 +0.5**
121A lAmb lAmb 10 51 29.2
comp=Z,17nm,1.4s
121A Cookes Peak, D 65.31 324 P **P** **10 51 25.4 -0.8**
baz=140
KSU1 Kansas State U 65.52 336 P **P** **10 51 27.0 -0.2**
KSU1 lAmb lAmb 10 51 28.1
comp=Z,6.7nm,0.9s
KSU1 Kansas State U 65.52 336 P **P** **10 51 26.8 -0.3**
baz=151
PKME Peaks-Kenny Pk 66.18 359 P **P** **10 51 32.2 +1.0**
baz=179
WBO Williamsburg 66.20 355 P **P** **10 51 31.1 -0.3**
WBO lAmb lAmb 10 52 03.6
comp=Z,9.5nm,0.9s
L40A Anamosa 66.38 342 P **P** **10 51 32.8 +0.2**
ANMO Albuquerque 66.46 327 P **P** **10 51 33.9 +0.3**
ANMO Albuquerque 66.46 327 P **P** **10 51 34.2 +0.6**
baz=142
TUC Tucson 66.84 322 P **P** **10 51 36.0 +0.1**
baz=157
T25A Trinidad 67.19 329 P **P** **10 51 39.0 +0.8**
baz=144
TRQ Mont Tremblant 67.35 355 P **P** **10 51 39.0 +0.3**
TRQ lAmb lAmb 10 51 53.8
comp=Z,8.1nm,0.5s
I42A Draeger Farm, 67.44 344 P **P** **10 51 39.5 +0.2**
I42A lAmb lAmb 10 52 22.7
comp=Z,7.6nm,0.7s
214A Organ Pipe Nat 67.78 320 P **P** **10 51 42.2 +0.5**
baz=136
KSCO Kaye Shedlock' 67.90 332 lAmb lAmb 10 51 44.7
comp=Z,12nm,1.1s
KSCO Kaye Shedlock' 67.90 332 P **P** **10 51 43.3 +0.8**
baz=146
LIC Lamto 67.98 74⇑*e*P **P** **10 51 43.5 +0.1**
comp=Z,50nm,0.7s
BGNE Belgrade 68.11 336 P **P** **10 51 44.7 +1.1**
baz=150
TIC Toumodi 68.17 73⇑*e*P **P** **10 51 44.8 +0.2**
comp=Z,31nm,0.8s
SDCO Great Sand Dun 68.19 329 lAmb lAmb 10 51 47.0
comp=Z,13nm,1.3s
SDCO Great Sand Dun 68.19 329 P **P** **10 51 45.0 +0.5**
baz=143,SNR=15
KIC Kosan Boka 68.30 74⇑*e*P **P** **10 51 45.8 +0.4**
comp=Z,87nm,0.6s
W18A Petrified Fore 68.33 324 lAmb lAmb 10 51 48.1
comp=Z,16nm,1.3s
W18A Petrified Fore 68.33 324 P **P** **10 51 45.8 +0.5**
baz=139
DBIC Dimbokro 68.33 73 P **P** **10 51 46.2 +0.7**
DBIC Dimbokro 68.33 73 P **P** **10 51 46.1 +0.6**
comp=Z,51nm,0.8s,baz=227,slow=5.9,SNR=49
comp=Z,51nm,0.8s
X16A Lo Mia Camp, P 68.75 323 P **P** **10 51 48.5 +0.5**
113A Mohawk Valley, 68.92 320 P **P** **10 51 49.8 +1.0**
QSPA South Pole Qui 68.96 180 P **P** **10 51 49.4 +0.6**
comp=Z,11nm,0.6s,baz=157,slow=4.7,SNR=116
QSPA pP **pP** **10 52 20.4 +2.5**
comp=Z,11nm,1.0s,baz=126,slow=3.7,SNR=4.9
comp=Z,11nm,0.6s
Q24A Divide 69.00 330 P **P** **10 51 50.5 +0.9**
Q24A lAmb lAmb 10 51 52.0
comp=Z,8.1nm,0.9s
Q24A Divide 69.00 330 P **P** **10 51 49.6 0.0**
baz=144
MVCO Mesa Verde 69.26 327 P **P** **10 51 51.5 +0.4**
MVCO lAmb lAmb 10 51 53.7
comp=Z,10nm,1.0s
MVCO Mesa Verde 69.26 327 P **P** **10 51 51.7 +0.6**
baz=140,SNR=7.0
Y14A Wickenburg 69.30 321 P **P** **10 51 52.5 +1.3**
E43A Lone Tree Farm 69.33 346 P **P** **10 51 50.5 -0.5**
WUAZ Wupatki 69.52 324 lAmb lAmb 10 51 55.9
comp=Z,15nm,1.1s
WUAZ Wupatki 69.52 324 P **P** **10 51 52.9 +0.3**
baz=138,SNR=8.7
ECSD EROS Data Cent 69.59 339 P **P** **10 51 53.6 +0.9**
baz=152
SPMN Marine on St. 69.73 342 P **P** **10 51 54.6 +1.0**
baz=156
ISCO Idaho Springs 69.88 330 P **P** **10 51 56.7 +1.7**
ISCO Idaho Springs 69.88 330 P **P** **10 51 56.0 +1.0**
baz=143
BRIGG Briggsdale 69.93 332 P **P** **10 51 55.0 -0.1**
BRIGG lAmb lAmb 10 52 26.9
comp=Z,19nm,1.2s
SMCO Snowmass 70.03 329 P **P** **10 51 55.2 -0.8**
PDMCI Parker Dam,Lak 70.22 321 P **P** **10 51 57.2 +0.5**
baz=135
IKP In-Ko-Pah, Jac 70.26 319 P **P** **10 51 56.8 -0.3**
baz=133
SWSC Sam W. Stewart 70.27 319 P **P** **10 51 57.0 -0.1**
baz=134
BC3 Big Chuckawall 70.55 320 P **P** **10 51 58.9 -0.1**
baz=134,SNR=7.0
MONP2 Monument Peak 70.62 319 P **P** **10 51 59.8 +0.3**
baz=133
BAR Barrett 70.63 318 lAmb lAmb 10 52 02.2
comp=Z,16nm,0.9s
W13A Hualapai Mount 70.64 322 P **P** **10 51 59.8 +0.3**
E38A The Farm, Brul 70.66 343 P **P** **10 51 58.8 -0.3**
E38A lAmb lAmb 10 52 42.1
comp=Z,12nm,1.4s
U15A North Rim 70.69 324 P **P** **10 52 00.5 +0.6**
U15A lAmb lAmb 10 52 03.4
comp=Z,15nm,1.1s
IRM Iron Mountain 70.71 320 P **P** **10 52 01.2 +1.4**
baz=134,SNR=8.3
N23A Red Feather La 70.91 331 P **P** **10 52 01.4 +0.2**
baz=143
HMU Henry Mountain 70.97 326 P **P** **10 52 02.0 +0.4**
HMU lAmb lAmb 10 52 04.9
comp=Z,11nm,1.0s
HMU pP **pP** **10 52 31.9 +0.9**
PMD Palm Desert 71.11 319 P **P** **10 52 02.1 0.0**
BELC Belle Mtn. Jos 71.12 320 P **P** **10 52 02.2 -0.2**
baz=134
TPFO Pinon Flats 71.12 319 P **P** **10 52 03.0 +0.6**
baz=133
PFO Pinyon Flats O 71.13 319 P **P** **10 52 04.9 +2.5**
PFO Pinyon Flats O 71.13 319 P **P** **10 52 03.2 +0.8**
baz=133
F33A 5 Mile Ranch, 71.35 340 P **P** **10 52 03.2 -0.2**
O20A White River Ci 71.39 329 P **P** **10 52 04.9 +0.9**
O20A lAmb lAmb 10 52 06.7
comp=Z,12nm,1.0s
O20A White River Ci 71.39 329 P **P** **10 52 05.0 +1.0**
baz=141,SNR=8.6
GMRC Granite Mounta 71.45 320 P **P** **10 52 05.7 +1.3**
baz=134,SNR=13
MURC Murrieta 71.57 319 P **P** **10 52 06.5 +1.4**
baz=133
V12A Nelson 71.64 322 P **P** **10 52 04.4 -1.0**
V12A lAmb lAmb 10 52 08.3
comp=Z,9.9nm,1.0s
V12A pP **pP** **10 52 35.6 +0.8**
SRU San Rafael Swe 71.74 327 P **P** **10 52 07.9 +1.9**
SRU lAmb lAmb 10 52 08.6
comp=Z,13nm,0.8s
SRU pP **pP** **10 52 36.8 +1.2**
MTPU Mount Pierson 71.81 325 P **P** **10 52 08.9 +2.2**
BBRC Big Bear Solar 71.85 319 P **P** **10 52 07.9 +1.0**
baz=133
EYMN Ely 71.88 344 P **P** **10 52 07.7 +1.2**
baz=158
HEC Hector,Ludlow 71.89 320 P **P** **10 52 08.7 +1.8**
baz=134,SNR=5.1
P18A Preston Nutter 71.99 327 lAmb lAmb 10 52 10.6
comp=Z,12nm,0.8s
SCI2 San Clemente I 72.00 317 P **P** **10 52 08.4 +0.9**
baz=132
TUQ Turquoise Moun 72.06 321 P **P** **10 52 09.1 +1.1**
baz=134,SNR=5.5
CCUT Cedar City 72.09 324 P **P** **10 52 10.9 +2.6**
CCUT lAmb lAmb 10 52 12.0
comp=Z,16nm,0.9s
CCUT pP **pP** **10 52 40.0 +2.2**
MSU Marysvale 72.16 325 P **P** **10 52 10.8 +2.1**
MSU pP **pP** **10 52 38.5 +0.3**
CIS Catalina Islan 72.20 318 P **P** **10 52 09.6 +0.8**
baz=132
BFSC Mount Baldy Ra 72.29 319 P **P** **10 52 10.8 +1.4**
baz=132
SHPR Sheep Range 72.36 322 P **P** **10 52 11.9 +2.0**
SHPR **pP** **10 52 41.7 +2.4**
RDMU Red Mountain 72.37 328 P **P** **10 52 11.3 +1.5**
RDMU lAmb lAmb 10 52 12.2
comp=Z,8.5nm,1.0s
RDMU pP **pP** **10 52 38.0 -1.4**
GSC Goldstone, Bar 72.49 320 P **P** **10 52 10.9 +0.4**
GSC Goldstone, Bar 72.49 320 P **P** **10 52 10.5 0.0**
baz=133,SNR=5.6
K22A Casper 72.57 332 P **P** **10 52 11.9 +0.9**
baz=143
RSSD Black Hills 72.71 334 P **P** **10 52 11.8 0.0**
RSSD Black Hills 72.71 334 P **P** **10 52 12.1 +0.3**
baz=146
DECC Green Verdugo 72.71 319 P **P** **10 52 11.5 -0.3**
baz=132
B35A Bob, Littlefor 72.85 343 P **P** **10 52 12.6 +0.3**
B35A lAmb lAmb 10 52 56.3
comp=Z,11nm,0.9s
EDW2 Edwards Air Fo 72.92 319 P **P** **10 52 13.1 +0.1**
baz=132
BSUT Blindstream Ca 72.93 328 P **P** **10 52 14.9 +1.5**
BSUT lAmb lAmb 10 52 16.2
comp=Z,9.6nm,0.9s
BSUT pP **pP** **10 52 41.7 -1.3**
QSM Queen of Sheba 72.98 321 P **P** **10 52 12.3 -1.0**
QSM lAmb lAmb 10 52 16.1
comp=Z,7.6nm,0.9s
QSM pP **pP** **10 52 43.2 +0.4**
GWY Greenwater Val 73.01 321 lAmb lAmb 10 52 16.5
comp=Z,10nm,0.8s
PSUT Pine Spring 73.07 324 lAmb lAmb 10 52 49.1
comp=Z,10nm,1.0s
LRMC Laurel Mtn Rad 73.14 320 P **P** **10 52 14.3 -0.1**
baz=133
OSI Osito Audit: C 73.19 319 P **P** **10 52 15.6 +1.0**
baz=132
FURC Furnace Creek, 73.32 321 P **P** **10 52 16.4 +1.2**
baz=134,SNR=11
WCT Wildcat Mounta 73.41 321 lAmb lAmb 10 52 19.4
comp=Z,12nm,1.0s
AGMN Agassiz Nation 73.41 341 P **P** **10 52 15.6 +0.1**
AGMN Agassiz Nation 73.41 341 P **P** **10 52 16.5 +1.0**
baz=154
MPMC Manual Prospec 73.41 320 P **P** **10 52 16.7 +0.6**
baz=133,SNR=5.9
S11A Rachel 73.49 323 P **P** **10 52 15.5 -1.0**
S11A lAmb lAmb 10 52 20.0
comp=Z,8.1nm,0.9s
SPR3 Spring Creek 3 73.67 324 P **P** **10 52 19.1 +1.4**
SPR3 pP **pP** **10 52 48.4 +1.1**
DUG Dugway, Tooele 73.72 326 P **P** **10 52 18.2 +0.5**
DUG pP **pP** **10 52 48.7 +1.3**
DUG lAmb lAmb 10 53 03.5
comp=Z,9.1nm,1.1s
DUG Dugway, Tooele 73.72 326 P **P** **10 52 18.2 +0.5**
baz=138
R11B Troy Canyon, C 73.89 323 P **P** **10 52 19.2 +0.4**
R11B pP **pP** **10 52 48.8 +0.3**
R11B Troy Canyon, C 73.89 323 P **P** **10 52 18.6 -0.2**
baz=135,SNR=9.2
GRAC Grapevine Rang 73.98 321 P **P** **10 52 19.5 +0.4**
baz=133
CWC Cottonwood Cre 74.02 320 P **P** **10 52 20.0 +0.4**
baz=133
PKM Mcpherson Peak 74.05 318 P **P** **10 52 19.6 -0.2**
baz=131
PDAR Pinedale Array 74.05 330 P **P** **10 52 19.7 0.0**
PDAR pP **pP** **10 52 47.0 -2.4**
PDAR Pinedale Array 74.05 330 P **P** **10 52 19.2 -0.5**
comp=Z,1.2nm,0.7s,baz=139,slow=7.0,SNR=7.5
comp=Z,1.2nm,0.7s
HWUT Hardware Ranch 74.14 328 P **P** **10 52 20.6 +0.4**
HWUT pP **pP** **10 52 50.6 +0.8**
HWUT lAmb lAmb 10 52 55.0
comp=Z,7.0nm,0.8s
MDND Maddock 74.20 339 P **P** **10 52 20.5 +0.3**
MDND pP **pP** **10 52 50.1 +0.4**
MDND Maddock 74.20 339 P **P** **10 52 20.6 +0.4**
baz=150
VES Vestal, Richgr 74.23 319 P **P** **10 52 20.9 +0.3**
baz=132,SNR=8.3
BGU Big Grassy Mou 74.37 327 lAmb lAmb 10 52 24.1
comp=Z,11nm,1.3s
SMMC Simmler 74.44 318 P **P** **10 52 20.4 -1.5**
baz=131
AHID Auburn Hatcher 74.78 329 P **P** **10 52 25.2 +1.3**
AHID lAmb lAmb 10 52 26.2
comp=Z,12nm,0.9s
AHID pP **pP** **10 52 51.2 -2.4**
HVU Hansel Valley 74.87 327 P **P** **10 52 24.2 -0.2**
HVU pP **pP** **10 52 53.9 -0.2**
SNOW Snow King Moun 75.15 330 lAmb lAmb 10 52 28.6
comp=Z,7.9nm,0.9s
TPAW Teton Pass 75.26 329 P **P** **10 52 25.9 -0.9**
MOOW Moose Ponds 75.36 330 P **P** **10 52 26.9 -1.3**
FXWY Fox Creek 75.41 330 P **P** **10 52 27.3 -0.2**
NV11 Mina Array Sit 75.41 322 P **P** **10 52 27.5 0.0**
NV11 pP **pP** **10 52 56.6 -0.6**
LHV Little Huntoon 75.49 321 lAmb lAmb 10 52 31.1
comp=Z,7.6nm,0.9s
NVAR Mina Array Bea 75.50 322 P **P** **10 52 29.6 +1.5**
NVAR **pP** **10 52 57.8 -0.1**
NVAR Mina Array Bea 75.50 322 P **P** **10 52 28.9 +0.8**
comp=Z,4.0nm,0.9s,baz=156,slow=6.6,SNR=26
NVAR pP **pP** **10 52 58.2 +0.3**
comp=Z,1.7nm,0.7s,baz=149,slow=6.4,SNR=4.8
comp=Z,4.0nm,0.9s
IMW Indian Meadow 75.56 330 P **P** **10 52 29.1 +0.7**
FLWY Flagg Ranch 75.59 330 P **P** **10 52 30.1 +1.5**
FLWY lAmb lAmb 10 52 31.6
comp=Z,15nm,0.8s
SCHQ Schefferville 75.77 1 P **P** **10 52 30.0 +1.0**
comp=Z,5.5nm,0.8s,baz=178,slow=5.9,SNR=4.6
comp=Z,5.5nm,0.8s
H17A Grant Village 75.78 330 P **P** **10 52 31.1 +1.5**
baz=140
KVN Kaiserville 75.80 322 P **P** **10 52 31.5 +1.7**
KVN lAmb lAmb 10 52 32.4
comp=Z,10nm,0.9s
KVN pP **pP** **10 53 00.6 +1.0**
YMP Mirror Lake PI 75.85 331 P **P** **10 52 27.8 -2.3**
YHH Holmes Hill 76.20 330 P **P** **10 52 34.2 +2.1**
YHH pP **pP** **10 53 00.9 -0.9**
DGMT Dagmar 76.36 336 P **P** **10 52 32.7 +0.1**
DGMT lAmb lAmb 10 53 05.4
comp=Z,13nm,1.0s
YERR Yerington 76.41 322 P **P** **10 52 32.0 -1.3**
YERR lAmb lAmb 10 52 36.5
comp=Z,20nm,1.5s
PNTR Pine Nut 76.69 322 lAmb lAmb 10 52 38.1
comp=Z,12nm,0.9s
TOA0 Torodi Ar. Sit 76.94 70 P **P** **10 52 36.4 -0.2**
TORD Torodi Ar. Bea 76.94 70 P **P** **10 52 36.6 +0.1**
TORD Torodi Ar. Bea 76.94 70 P **P** **10 52 36.8 +0.3**
comp=Z,26nm,0.7s,baz=265,slow=4.3,SNR=104
TORD pP **pP** **10 53 06.2 0.0**
comp=Z,2.7nm,0.7s,baz=259,slow=5.1,SNR=0.9
comp=Z,26nm,0.7s
HLID Hailey 77.00 328 P **P** **10 52 38.4 +1.9**
HLID lAmb lAmb 10 52 39.7
comp=Z,8.9nm,0.8s
HLID pP **pP** **10 53 04.2 -2.0**
HLID Hailey 77.00 328 P **P** **10 52 37.7 +1.2**
baz=137
MPK Martis Peak 77.08 321 lAmb lAmb 10 52 40.4
comp=Z,15nm,1.1s
MCMT McKenzie Canyo 77.17 329 P **P** **10 52 39.6 +2.2**
VNDA Vanda 77.17 190 P **P** **10 52 39.5 +2.8**
VNDA Vanda 77.17 190 P **P** **10 52 38.0 +1.2**
comp=Z,2.8nm,0.9s,baz=115,slow=5.3,SNR=12
comp=Z,2.8nm,0.9s
BOZ Bozeman (W) 77.17 331 P **P** **10 52 37.7 +0.4**
baz=139
MFID Camas Ranch 77.61 327 lAmb lAmb 10 52 43.0
comp=Z,17nm,1.4s
ORV Oroville 78.11 321 lAmb lAmb 10 52 45.5
comp=Z,22nm,1.1s
EGMT Eagleton 78.21 333 P **P** **10 52 43.9 +0.9**
EGMT lAmb lAmb 10 53 15.3
comp=Z,8.9nm,0.9s
EGMT Eagleton 78.21 333 P **P** **10 52 42.8 -0.1**
baz=141
WVOR Wild Horse Val 78.40 325 P **P** **10 52 44.2 0.0**
PLID Pearl Lake 78.89 328 P **P** **10 52 48.5 +1.6**
PLID lAmb lAmb 10 52 49.4
comp=Z,9.4nm,0.8s
J08A Circle Bar Ran 78.95 325 P **P** **10 52 47.6 +0.4**
MSO Missoula 79.16 330 P **P** **10 52 47.9 -0.3**
baz=138
BMO Blue Mountains 79.38 327 lAmb lAmb 10 52 52.0
comp=Z,9.7nm,0.9s
TSUM Tsumeb 79.79 107 P **P** **10 52 53.6 +1.2**
TSUM lAmb lAmb 10 52 57.9
comp=Z,7.8nm,0.8s
I07A Izee 79.99 325 lAmb lAmb 10 52 55.8
comp=Z,16nm,1.2s
F10A Beach Ranch, E 80.12 328 P **P** **10 52 53.3 -0.1**
YBH Yreka Blue Hor 80.21 322 P **P** **10 52 54.7 +0.7**
J05D Fort Rock, OR 80.39 324 lAmb lAmb 10 52 57.8
comp=Z,15nm,1.0s
I05D Terrebonne, OR 81.14 325 P **P** **10 53 00.5 +1.7**
MDT Midelt 81.31 50 P **P** **10 53 00.8 +0.7**
comp=Z,2.2nm,0.7s,baz=152,slow=3.4,SNR=2.8
MDT pP **pP** **10 53 32.3 +2.2**
comp=Z,1.9nm,0.7s,baz=313,slow=1.0,SNR=2.7
comp=Z,2.2nm,0.7s
I04A Tendick Farm, 81.37 324 P **P** **10 53 00.4 +0.4**
I04A lAmb lAmb 10 53 02.4
comp=Z,8.3nm,0.8s
DBO Dodson Butte 81.40 323 lAmb lAmb 10 53 03.0
comp=Z,15nm,0.8s
NEW Newport 81.69 330 P **P** **10 53 01.6 -0.1**
baz=135
C09A Chrisman Ranch 81.92 329 P **P** **10 53 03.6 +0.8**
C09A lAmb lAmb 10 53 05.2
comp=Z,16nm,0.8s
C09A pP **pP** **10 53 34.1 +1.1**
FCC Fort Churchill 82.45 347 P **P** **10 53 06.3 +1.0**
FCC pP **pP** **10 53 36.9 +1.5**
FCC lAmb lAmb 10 53 37.5
comp=Z,8.6nm,0.6s
LTY Liberty 82.73 327 P **P** **10 53 07.7 +0.6**
LTY pP **pP** **10 53 37.2 -0.1**
LTY lAmb lAmb 10 53 40.0
comp=Z,6.7nm,0.8s
BOSA Boshof 83.27 118 P **P** **10 53 10.5 -0.1**
comp=Z,2.9nm,0.6s,baz=278,slow=3.6,SNR=5.4
comp=Z,2.9nm,0.6s
EDM Edmonton 83.67 335 lAmb lAmb 10 53 12.6
comp=Z,9.4nm,0.9s
MAW Mawson 84.49 163 P **P** **10 53 16.7 +0.9**
comp=Z,8.6nm,0.6s,baz=214,slow=6.0,SNR=13
comp=Z,8.6nm,0.6s
LBTB Lobatse 84.82 115 LR LR 11 27 26.8
comp=Z,35nm,19.8s,baz=224,slow=33
ESDC Sonseca Array 85.40 44 P **P** **10 53 21.3 +0.5**
comp=Z,1.9nm,1.0s,baz=270,slow=6.4,SNR=5.6
ESDC pP **pP** **10 53 52.9 +1.8**
comp=Z,0.8nm,0.7s,baz=215,slow=5.1,SNR=2.2
comp=Z,1.9nm,1.0s
YKA Yellowknife Ar 91.05 340 P **P** **10 53 48.2 +1.1**
YKA Yellowknife Ar 91.05 340 P **P** **10 53 47.8 +0.8**
comp=Z,4.8nm,0.7s,baz=131,slow=4.0,SNR=64
YKA pP **pP** **10 54 18.7 +1.1**
comp=Z,1.9nm,0.8s,baz=132,slow=4.3,SNR=4.5
comp=Z,4.8nm,0.7s
CASY Casey 92.76 180 P **P** **10 53 57.0 +1.9**
SSB Saint Sauveur 93.63 43 P **P** **10 53 59.9 +0.4**
SSB lAmb lAmb 10 54 01.2
comp=Z,4.1nm,0.9s
PAH Pahoa 93.69 289 P **P** **10 53 56.8 -3.4**
ASAR Alice Springs 130.31 207 PKP **PKPdf** **10 59 53.7 -0.1**
comp=Z,1.9nm,0.5s,baz=126,slow=1.7,SNR=25
ASAR pPKP **pPKPdf** **11 00 26.6 +1.1**
comp=Z,1.9nm,1.1s,baz=129,slow=3.0,SNR=3.0
WRA Warramunga Arr 133.36 210 PKP **PKPdf** **11 00 00.2 +0.6**
comp=Z,2.6nm,0.6s,baz=157,slow=1.7,SNR=32
KURBB Kurchatov Arra 140.93 33 PKP **PKPdf** **11 00 12.5 0.0**
comp=Z,0.7nm,0.7s,baz=295,slow=2.7,SNR=6.4
ZALV Zalesovo Beam 141.56 25 PKP **PKPdf** **11 00 13.6 0.0**
comp=Z,1.7nm,0.5s,baz=35,slow=5.4,SNR=3.6
KSH Kashi 144.66 51 PKP **PKPdf** **11 00 20.3 +0.6**
KSH sPKP 11 00 54.8
MKAR Makanchi Array 145.22 36 PKPbc **PKPdf** **11 00 20.8 +0.5**
comp=Z,2.5nm,0.5s,baz=319,slow=4.0,SNR=34
MKAR pPKPbc **pPKPdf** **11 00 52.2 -0.1**
comp=Z,8.0nm,1.0s,baz=304,slow=2.8,SNR=5.7
HEH HeiHe 148.42 340 *e*P **PKPbc** **11 00 28.6 -0.5**
HEH pmax pmax
comp=Z,7.0nm,0.8s
HEH pmax pmax
comp=Z,120nm,4.1s
USRK Ussuriysk Ar. 151.47 328 PKPbc **PKPbc** **11 00 37.4 +0.8**
comp=Z,4.0nm,0.7s,baz=315,slow=2.1,SNR=6.0
MJAR Matsushiro Arr 152.17 309 PKPbc **PKPbc** **11 00 38.4 -0.2**
comp=Z,3.2nm,0.8s,baz=65,slow=2.1,SNR=9.5
MJAR PKPab **PKPab** **11 00 48.7 +0.1**
comp=Z,1.6nm,0.7s,baz=71,slow=4.1,SNR=4.1
SONM Songino Array 153.15 8 PKP **PKPdf** **11 00 34.3 +1.3**
comp=Z,1.4nm,0.6s,baz=316,slow=4.0,SNR=2.4
KSRS Korea Array 158.44 322 PKP **PKPdf** **11 00 40.0 -0.1**
comp=Z,1.5nm,0.8s,baz=97,slow=0.9,SNR=8.6
KSRS pPKP **PKPab** **11 01 13.9 -1.3**
comp=Z,1.9nm,0.7s,baz=47,slow=4.5,SNR=6.6
HHC Hu-ho-hao-te 160.44 360 *e*P **PKPdf** **11 00 43.3 +0.7**
NJ2 Nanjing 167.36 330 *e*P **PKPdf** **11 00 49.3 +0.3**
NJ2 pmax pmax
comp=Z,9.0nm,0.6s
CMAR Chiang Mai Arr 167.90 101 PKP **PKPdf** **11 00 49.3 -0.5**
comp=Z,0.7nm,0.6s,baz=291,slow=2.3,SNR=6.9
CMAR pPKP **pPKPdf** **11 01 23.4 +1.4**
comp=Z,0.4nm,0.3s,baz=253,slow=1.5,SNR=1.9
PZH PanZhiHua 169.68 58 PKP **PKPdf** **11 00 50.5 -0.3**

TEH ***22*** *10:51:53.5, 34.91N×45.82E, h10km±603km, ML2.7*
ISN ***22*** *10:51:55.0±1.7, 34.96N×45.83E, h10km, ML2.7*
ISC 22 10:51:53.7±1.3, 34.90N±0.08×45.83E±0.05, h10km, n6, ∘0862/7, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.44**	**207**	Pg	**Pg**	**10 52 02.5**	**+0.2**
IDHR	**Dehrash**	**0.50**	**114**	Pg	**Pg**	**10 52 03.5**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.79**	**175**	Pg	**Pg**	**10 52 08.9**	**0.0**
IGHG	**Ghaleghazi**	**0.83**	**133**	Pg	**Pg**	**10 52 10.3**	**+0.5**
ILIN	**Lien**	**0.93**	**89**	Pg	**Pg**	**10 52 11.9**	**+0.2**
IKRK	**Kirkuk**	**1.32**	**293**	*e*Pg	**Pn**	**10 52 17.5**	**-0.7**
	baz=110						
IKRK				*e*Sg	**Sg**	**10 52 37.0**	**+0.9**
IKRK				AML	AML	10 52 42.5	
	comp=N,11nm,0.7s						

IDC 22 11:03:39.4±2.5, 6.03S×130.10E, h0km, mb3.7/1, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=152.4km s-min=32.2km az=70.0, Banda Sea

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

WRA	**Warramunga Arr**	**14.43**	**164**	Pn		Pn	11 07 05.0	-0.2
	0.1nm,0.3s,baz=347,slow=13,SNR=2.0							
WRA				Sn		Sn	11 09 29.6	-16
	0.1nm,0.3s,baz=334,slow=25,SNR=2.3							
	0.6nm,0.9s							
ASAR	**Alice Springs**	**17.91**	**169**	P		Pn	11 07 50.1	-0.1
	0.2nm,0.3s,baz=350,slow=10,SNR=13							
ASAR				S		Sn	11 10 55.3	-15
	0.1nm,0.7s,baz=348,slow=26,SNR=4.2							
	0.6nm,0.5s							
MKAR	**Makanchi Array**	**67.47**	**327**	P		P	11 14 37.3	+0.1
	0.4nm,0.6s,baz=131,slow=8.4,SNR=4.3							
	0.4nm,0.6s							

*KRNET **22** 11:06:08.8±0.1,41°.08N×70°.21E,mb2.5*
ISC 22 11:06:10.8±1.2,**41°.12N**±0°.05×**70°.33E**±0°.06,**h10**km,**n7,**
σ1s05/14,9C-5D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.74**	**55**	⇓*i*P	**Pg**	**11 06 24.5**	**-0.6**
	baz=62						
TRKS				⇓*i*S	**Sb**	**11 06 36.1**	**0.0**
	baz=62						
ARK	**Arkit**	**1.40**	**60**	⇑*i*P	**Pg**	**11 06 37.4**	**-0.4**
	baz=61						
ARK				⇑*i*S	**Sg**	**11 06 58.0**	**+2.0**
	baz=61						
KK31	**Karatay Array**	**1.99**	**4**	⇓Pn	**Pb**	**11 06 47.2**	**+0.1**
	1.1nm,0.3s,baz=194,slow=18,SNR=16						
KK31				⇑Sn	**Sg**	**11 07 17.0**	**+2.2**
	4.0nm,0.5s,baz=192,slow=25,SNR=3.9						
KKAR	**Karatay Array**	**1.99**	**4**	⇑*i*P	**Pb**	**11 06 46.5**	**-0.7**
	baz=6.0						
KKAR				⇑*i*S	**Sg**	**11 07 13.8**	**-1.0**
	baz=6.0						
ARSB	**Arslanbob**	**2.01**	**83**	⇓*e*P	**Pb**	**11 06 47.4**	**-0.2**
	baz=83						
ARSB				⇓*e*S	**Sg**	**11 07 15.5**	**+0.1**
	baz=83						
GAR	**Garm**	**2.11**	**180**	⇑*i*P	**Pn**	**11 06 47.0**	**+0.6**
	baz=78						
GAR				⇑*i*S	**Sb**	**11 07 15.2**	**-0.4**
	baz=78						
MNAS	**Manas**	**2.12**	**49**	⇑*i*P	**Pb**	**11 06 49.0**	**-0.5**
	baz=50						
MNAS				⇑*i*S	**Sg**	**11 07 18.5**	**-0.6**
	baz=50						

ISU 22 11:06:53.0,41°.43N×70°.89E,h10km,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHDK	**Chadak**	**0.47**	**192**	P	Pb	11 07 02.9	-0.5
CHDK				S	Sb	11 07 10.1	-0.3
CHMG	**Chimgan**	**0.67**	**280**	P	Pb	11 07 06.6	-0.2
CHMG				S	Sb	11 07 16.7	+0.5
CHMI	**Chimion**	**1.26**	**157**	P	Pn	11 07 16.7	+0.1
CHMI				S	Sn	11 07 34.5	+0.9

ISU 22 11:13:23.7,41°.05N×70°.08E,h5km,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHMG	**Chimgan**	**0.50**	**354**	P	Pb	11 13 34.5	-0.7
CHMG				S	Sb	11 13 42.4	-0.5
CHDK	**Chadak**	**0.51**	**98**	S	Pb	11 13 34.6	-0.7
CHDK				S	Sb	11 13 42.7	-0.4
FRG	**Fergana**	**1.46**	**117**	P	Pg	11 13 51.8	+0.1
FRG				S	Sg	11 14 12.7	+2.1
TSTA	**Tashata**	**1.88**	**104**	P	Pg	11 13 59.4	-0.3
TSTA				S	Sg	11 14 25.5	+1.4

*SOME **22** 11:13:39.2,40°.88N×70°.15E,h10km*
*NNC **22** 11:13:40.5±2.8,40°.84N×70°.18E,h0km,mb3.5,mpv3.2,*
Error ellipse: s-maj=20.0km s-min=11.0km az=24.0
*KRNET **22** 11:13:42.8±0.1,41°.05N×70°.26E,h8km,mb2.8*
ISC 22 11:13:41.3±1.3,**41°.05N**±0°.03×**70°.27E**±0°.04,**h7**km±12km,
n19,σ1s48/33,17C,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRKS	**Terek-Say**	**0.81**	**54**	⇑*i*P	**Pb**	**11 13 57.8**	**-0.1**
	baz=59						
TRKS				⇑*i*S	**Sb**	**11 14 09.4**	**+0.2**
	baz=59						
BTK	**Batken**	**1.08**	**157**	⇑*e*P	**Pn**	**11 14 03.4**	**+0.5**
	baz=57						
BTK				⇑*e*S	**Sn**	**11 14 18.7**	**+0.5**
	baz=57						
ARK	**Arkit**	**1.48**	**59**	⇑*e*P	**Pg**	**11 14 10.8**	**+1.1**
	baz=59						
ARK				⇑*e*S	**Sg**	**11 14 30.9**	**+2.0**
	baz=59						
BRLS	**Boroldav**	**2.00**	**351**	Pg	**Pn**	**11 14 15.3**	**-0.3**
	14nm,0.4s						
BRLS				Lg	Lg	11 14 41.2	
	11nm,0.5s						
BRLS	**Boroldav**	**2.00**	**351**	*e*P	**Pn**	**11 14 15.3**	**-0.3**
	14nm,0.4s						
BRLS				*e*S	**Sn**	**11 14 41.1**	**+0.2**
	11nm,0.5s						
GAR	**Garm**	**2.05**	**179**	⇑*e*P	**Pg**	**11 14 20.2**	**-0.4**
	baz=79						
GAR				⇑*i*S	**Sg**	**11 14 47.7**	**+0.5**
	baz=79						
KK31	**Karatay Array**	**2.06**	**5**	Pn	**Pg**	**11 14 20.1**	**-0.7**
	1.7nm,0.3s,baz=184,slow=14,SNR=32						
KK31				⇑Sn	**Sg**	**11 14 49.8**	**+2.3**
	10nm,0.7s,baz=189,slow=23,SNR=11						
KKAR	**Karatay Array**	**2.06**	**5**	⇑*i*P	**Pg**	**11 14 20.4**	**-0.4**
	baz=5.0						
KKAR				⇑*i*S	**Sg**	**11 14 48.1**	**+0.6**
	baz=5.0						
ARSB	**Arslanbob**	**2.07**	**82**	⇑*e*P	**Pg**	**11 14 20.7**	**-0.3**
	baz=82						
ARSB				⇑*e*S	**Sg**	**11 14 47.8**	**0.0**
	baz=82						
MNAS	**Manas**	**2.20**	**49**	⇑*i*P	**Pg**	**11 14 22.6**	**-1.0**
	baz=49						
MNAS				⇑*i*S	**Sg**	**11 14 51.9**	**-0.3**
	baz=49						
CHGR	**Chuyangaron**	**2.54**	**200**	⇑*i*P	**Pb**	**11 14 26.8**	**-0.5**
	baz=0.0						
CHGR				⇑*i*S	**Sb**	**11 14 59.3**	**+0.5**
	baz=0.0						
MRKS	**Merke**	**2.78**	**52**	Pg	**Pg**	**11 14 33.7**	**-1.0**
	4.2nm,0.5s						
MRKS				Lg	Lg	11 15 12.9	
	7.8nm,0.6s						
MRKS	**Merke**	**2.78**	**52**	*e*P	**Pg**	**11 14 33.7**	**-1.0**
	4.2nm,0.5s						
MRKS				*e*S	**Sg**	**11 15 12.9**	**+2.2**
	7.8nm,0.6s						
DGS	**Degeres**	**4.64**	**60**	Pg	**Pg**	**11 15 08.0**	**-2.2**
	1.9nm,0.4s						
DGS				Lg	Lg	11 16 12.0	
	4.4nm,0.7s						
DGS	**Degeres**	**4.64**	**60**	*e*P	**Pg**	**11 15 08.0**	**-2.2**
	1.9nm,0.4s						
DGS				*e*S	**Sg**	**11 16 12.0**	**+1.7**
	4.4nm,0.7s						
KST	**Kastek**	**4.69**	**63**	Pg	**Pg**	**11 15 08.4**	**-2.7**
	2.5nm,0.6s						
KST				Lg	Lg	11 16 12.5	
	5.6nm,0.6s						
KST	**Kastek**	**4.69**	**63**	*e*P	**Pg**	**11 15 08.4**	**-2.7**
	2.5nm,0.6s						
KST				*e*S	**Sg**	**11 16 12.5**	**+0.7**
	5.6nm,0.6s						
KTBS	**Karatobe**	**5.44**	**59**	Pg	**Pg**	**11 15 23.5**	**-2.1**
	0.9nm,0.2s						
KTBS				Lg	Lg	11 16 38.4	
	3.9nm,0.7s						
KTBS	**Karatobe**	**5.44**	**59**	*e*P	**Pg**	**11 15 23.5**	**-2.1**
	0.9nm,0.2s						
KTBS				*e*S	**Sg**	**11 16 38.4**	**+2.3**
	3.9nm,0.7s						

*IDC **22** 11:36:30.6±0.9,33°.23N×46°.12E,h0km,mb3.8/15,*
mbtmp3.9/18,ML3.9/3,MS2.9/5,Error ellipse:
s-maj=23.1km s-min=14.8km az=167.0

*TEH **22** 11:36:32.1,33°.30N×46°.15E,h15km±27km,ML4.0*
*NEIC **22** 11:36:32.2±1.6,33°.19N±0°.06×46°.22E±0°.10,h10km±1km,*
mb4.2/31,Error ellipse: s-maj=13.8km s-min=9.7km
az=257.0
*ISN **22** 11:36:33.9±1.4,33°.41N×46°.23E,h20km±7km,ML4.0*
*OMAN **22** 11:36:41.5±0.3,32°.79N×46°.55E,h27km±12km,mb4.1/27,*
ms2.9/3,Error ellipse: s-maj=17.3km s-min=4.8km
az=329.0
*DSN **22** 11:36:43.0±1.3,32°.34N×46°.54E,h15km,Error ellipse:*
s-maj=17.1km s-min=9.3km az=0.0
ISC 22 11:36:34.4±1.0,**33°.29N**±0°.03×**46°.25E**±0°.03,**h29**km±8km,
n151,σ2s32/178,mb4.0/30,Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IBDR	**Badra**	**0.33**	**236**	*e*Pg	**Pb**	**11 36 41.0**	**-1.1**
IBDR				*e*Sg	**Sn**	**11 36 48.0**	**-0.9**
IBDR				AML	AML	11 36 54.6	
	comp=E,10μm,0.6s						
IBDR				AML	AML	11 36 55.2	
	comp=N,14μm,0.6s						
GLG1	**Gilan-e-Gharb**	**0.87**	**341**	Pg	**Pb**	**11 36 48.0**	**-3.0**
IGHG	**Ghaleghazi**	**1.07**	**14**	Pg	**Pn**	**11 36 53.4**	**-0.2**
KCHF	**Cheshme Sefid,**	**1.18**	**34**	Pg	**Pn**	**11 36 55.4**	**+0.3**
KGS1	**Ghasr-e-Shirin**	**1.33**	**336**	Pg	**Pn**	**11 36 56.4**	**-0.6**
IKFM	**Kafar-mosalman**	**1.35**	**80**	Pg	**Pb**	**11 36 59.4**	**+0.4**
IDHR	**Dehrash**	**1.41**	**4**	Pg	**Pb**	**11 36 58.9**	**-1.3**
IDHR				Sg	**Sb**	**11 37 18.0**	**+0.2**
RAFI	**Al-Rafai**	**1.57**	**184**	*e*Pn	**Pb**	**11 37 05.0**	**+2.3**
RAFI				*e*Sn	**Sb**	**11 37 26.0**	**+3.8**
BHD	**Baghdad**	**1.57**	**270**	*e*Pn	**Pb**	**11 37 03.0**	**+0.2**
BHD				*e*Sn	**Sb**	**11 37 23.0**	**+0.8**
IDOB	**Doab**	**1.68**	**72**	Pg	**Pb**	**11 37 05.0**	**+0.2**
ILIN	**Lien**	**1.73**	**20**	Pg	**Pb**	**11 37 04.2**	**-1.4**
IBZA	**Bozab**	**1.78**	**48**	Pn	**Pb**	**11 37 05.5**	**-1.0**
SNQR	**Sonqor, Kerman**	**1.93**	**36**	Pn	**Pb**	**11 37 07.7**	**-1.4**
HSAM	**Samen**	**2.16**	**64**	Pn	**Pb**	**11 37 10.9**	**-2.1**
IKRK	**Kirkuk**	**2.63**	**324**	*e*Pn	**Pn**	**11 37 16.0**	**+1.1**
IKRK				*e*Sn	**Sn**	**11 37 46.0**	**+0.1**
HAGD	**Aghdareh**	**2.84**	**57**	Pn	**Pn**	**11 37 20.3**	**+2.3**
SDS1	**Sardasht. Az.**	**2.92**	**348**	Pn	**Pn**	**11 37 20.1**	**+1.1**
MAHB	**Mahabad**	**3.50**	**353**	Pn	**Pn**	**11 37 27.6**	**+0.7**
IRAZ	**Razeghan**	**3.70**	**54**	Pn	**Pn**	**11 37 32.1**	**+2.4**
JHBN	**Jahan bin**	**3.86**	**105**	Pn	**Pn**	**11 37 34.2**	**+2.1**
IPIR	**Pirpir**	**3.94**	**98**	Pn	**Pn**	**11 37 35.1**	**+1.9**
ZNGN	**Zangian**	**4.05**	**106**	Pn	**Pn**	**11 37 36.6**	**+1.9**
IHSH	**Hashtrud**	**4.09**	**11**	Pn	**Pn**	**11 37 36.7**	**+1.5**
QAMS	**Qamsar**	**4.32**	**83**	Pn	**Pn**	**11 37 40.8**	**+2.4**
IAZR	**Azarshahr**	**4.38**	**357**	Pn	**Pn**	**11 37 40.4**	**+1.2**
IBRJ	**Brojen**	**4.44**	**107**	Pn	**Pn**	**11 37 42.1**	**+2.0**
IKLH	**Kolahrood**	**4.46**	**88**	Pn	**Pn**	**11 37 42.5**	**+2.2**
IVRN	**Varamin**	**4.85**	**68**	Pn	**Pn**	**11 37 47.4**	**+2.0**
IGAR	**Gharneh**	**4.95**	**99**	Pn	**Pn**	**11 37 49.6**	**+2.6**
KRSH	**Karshahi**	**4.95**	**81**	Pn	**Pn**	**11 37 49.2**	**+2.3**
ISHB	**Shabestar**	**5.01**	**354**	Pn	**Pn**	**11 37 48.8**	**+1.0**
IHRS	**Heris**	**5.06**	**7**	Pn	**Pn**	**11 37 50.0**	**+1.6**
KLNJ	**Kolanjah**	**5.07**	**115**	Pn	**Pn**	**11 37 50.8**	**+2.1**
ISFB	**Sefidab**	**5.09**	**76**	Pn	**Pn**	**11 37 50.6**	**+1.8**
KLST	**Kelardasht - M**	**5.09**	**49**	Pn	**Pn**	**11 37 51.2**	**+2.2**
IZEF	**Zefreh**	**5.11**	**93**	Pn	**Pn**	**11 37 51.4**	**+2.1**
IDMV	**Damavand**	**5.29**	**63**	Pn	**Pn**	**11 37 53.4**	**+1.7**
MZPU	**Pul - Mazandar**	**5.38**	**53**	Pn	**Pn**	**11 37 55.3**	**+2.4**
IRAM	**Ramesheh**	**5.38**	**104**	Pn	**Pn**	**11 37 54.9**	**+2.0**
IFIR	**Firoozkooh**	**5.86**	**65**	Pn	**Pn**	**11 38 01.2**	**+1.7**
ANAR	**Anarak**	**6.26**	**89**	Pn	**Pn**	**11 38 07.3**	**+2.3**
GURO	**Guroymak-BITLI**	**6.27**	**328**	Pn	**Pn**	**11 38 05.3**	**+0.4**
DSBU	**Dashti - Bushe**	**6.53**	**137**	Pn	**Pn**	**11 38 10.2**	**+1.6**
IGLO	**Ghaloghah**	**7.00**	**61**	Pn	**Pn**	**11 38 17.4**	**+2.3**
IBAF	**Bafgh**	**8.05**	**100**	Pn	**Pn**	**11 38 29.9**	**+2.4**
GAZ	**Gaziantep**	**8.35**	**300**	Pn	**Pn**	**11 38 34.8**	**+1.3**
ARPR	**Arapgir-MALATY**	**8.63**	**314**	Pn	**Pn**	**11 38 38.2**	**+0.8**
MMAI	**Mount Meron Ar**	**9.10**	**271**	LR	LR	11 43 04.2	
	comp=N,75nm,20.4s,baz=58,slow=44						
GHAJ	**Ghor Haditha**	**9.26**	**261**	Pn	**Pn**	**11 38 45.7**	**-0.2**
SMRA	**Abu-Samra**	**9.41**	**154**	P	**Pn**	**11 38 50.4**	**+2.5**
SMRA				S	**Sn**	**11 40 29.9**	**-2.9**
TRNA	**Turayna**	**9.56**	**152**	P	**Pn**	**11 38 52.1**	**+2.0**
TRNA				S	**Sn**	**11 40 31.9**	**-4.7**
RAYN	**Ar Rayn**	**9.76**	**184**		**Pn**	**11 38 51.8**	**-1.1**
RAYN	**Ar Rayn**	**9.76**	**184**	P	**Pn**	**11 38 50.5**	**-2.3**
RAYN	**Ar Rayn**	**9.76**	**184**	P	**Pn**	**11 38 51.5**	**-1.3**
RAYN				S	**Sn**	**11 40 37.5**	**-3.9**
JRN	**Qarnain Island**	**10.12**	**144**	P	**Pn**	**11 38 57.7**	**-0.1**
JRN				S	**Sn**	**11 40 45.5**	**-4.7**
EIL	**Elat**	**10.30**	**253**	Pn	**Pn**	**11 38 58.6**	**-1.6**
	comp=N,0.5nm,0.3s,baz=63,slow=18,SNR=2.0						
EIL				Lg	Lg	11 41 54.9	
	comp=N,0.7nm,0.3s,baz=50,slow=16,SNR=2.5						
EIL				LR	LR	11 43 45.5	
	comp=N,93nm,19.0s,baz=66,slow=43						
	comp=N,1.2nm,0.4s						
GENO	**Geno**	**10.38**	**122**	Pn	**Pn**	**11 39 03.0**	**+1.5**
GEYT	**Alibeck**	**10.71**	**61**	LR	LR	11 44 06.8	
	comp=N,87nm,21.6s,baz=318,slow=42						
SHME	**Shamm**	**11.22**	**127**	P	**Pn**	**11 39 12.5**	**-0.3**
SHME	**Shamm**	**11.22**	**127**	P	**Pn**	**11 39 13.5**	**+0.7**
SHME				S	**Sn**	**11 41 13.3**	**-3.9**
AJN	**Ajban**	**11.58**	**136**	P	**Pn**	**11 39 16.1**	**-1.5**
AJN	**Ajban**	**11.58**	**136**	P	**Pn**	**11 39 19.3**	**+1.6**
	SNR=8.1						
AJN				S	**Sn**	**11 41 22.9**	**-3.1**
NAZ	**Nazwa, Dubai**	**11.66**	**133**	P	**Pn**	**11 39 19.8**	**+1.0**
MASF	**Masafi**	**11.70**	**130**	P	**Pn**	**11 39 22.5**	**+3.1**
MASF				S	**Sn**	**11 41 25.1**	**-4.0**
ASUD	**Al Ashush, Dub**	**11.73**	**135**	P	**Pn**	**11 39 19.7**	**-0.1**
ASUD	**Al Ashush, Dub**	**11.73**	**135**	P	**Pn**	**11 39 21.5**	**+1.7**
	SNR=13						
ASUD				S	**Sn**	**11 41 27.2**	**-2.5**
FAQ	**Al Faqa, Dubai**	**11.80**	**134**	P	**Pn**	**11 39 20.7**	**0.0**
FAQ	**Al Faqa, Dubai**	**11.80**	**134**	P	**Pn**	**11 39 21.4**	**+0.7**
FAQ				S	**Sn**	**11 41 26.3**	**-5.1**
MDH	**Madha**	**11.84**	**130**	P	**Pn**	**11 39 20.3**	**-0.9**
MDH	**Madha**	**11.84**	**130**	P	**Pn**	**11 39 23.5**	**+2.3**
MDH				S	**Sn**	**11 41 28.9**	**-3.5**
BRTR	**Keskin Array B**	**12.00**	**306**	LR	LR	11 44 52.6	
	comp=N,41nm,19.5s,baz=185,slow=42						
UOSS	**Minazif**	**12.03**	**131**	Pn	**Pn**	**11 39 23.9**	**0.0**
UOSS	**Minazif**	**12.03**	**131**	P	**Pn**	**11 39 22.9**	**-1.0**
UOSS	**Minazif**	**12.03**	**131**	P	**Pn**	**11 39 24.7**	**+0.8**
UOSS				S	**Sn**	**11 41 31.2**	**-5.9**
HATD	**Hatta, Dubai**	**12.07**	**132**	P	**Pn**	**11 39 24.0**	**-0.5**
HATD	**Hatta, Dubai**	**12.07**	**132**	P	**Pn**	**11 39 25.0**	**+0.5**
HATD				S	**Sn**	**11 41 32.8**	**-5.2**
ASHO	**Ashiyiah**	**12.13**	**132**	P	**Pn**	**11 39 23.7**	**-1.5**
ASHO				S	**Sn**	**11 41 31.8**	**-7.7**
ASHO	**Ashiyiah**	**12.13**	**132**	P	**Pn**	**11 39 25.0**	**-0.2**
ASHO				S	**Sn**	**11 41 34.0**	**-5.5**
ALNE	**Al Ain**	**12.41**	**135**	P	**Pn**	**11 39 28.1**	**-1.0**
ALNE	**Al Ain**	**12.41**	**135**	P	**Pn**	**11 39 29.6**	**+0.5**
ALNE				S	**Sn**	**11 41 41.4**	**-5.0**
SOHO	**SOHO**	**12.82**	**133**	P	**Pn**	**11 39 32.7**	**-2.0**
SOHO	**SOHO**	**12.82**	**133**	P	**Pn**	**11 39 34.4**	**-0.3**
SOHO				P	**Pn**	**11 39 34.4**	**-0.3**
SOHO				S	**Sn**	**11 41 50.0**	**-6.5**
SOHO				S	**Sn**	**11 41 50.0**	**-6.5**
ARQ	**Araqi**	**13.41**	**135**	P	**Pn**	**11 39 43.7**	**+0.9**
ARQ				S	**Sn**	**11 42 05.2**	**-5.7**
BSY	**Bisya**	**14.27**	**135**	P	**Pn**	**11 39 54.8**	**+0.3**
BSY				S	**Sn**	**11 42 26.3**	**-5.5**
SMDO	**Samad**	**14.55**	**131**	P	**Pn**	**11 39 57.4**	**-1.1**
SMDO				S	**Sn**	**11 42 33.3**	**-5.5**
WSAR	**Wadi Sarin**	**14.79**	**129**	Pn	**Pn**	**11 39 59.8**	**-1.8**
	comp=N,1.1nm,0.3s,baz=322,slow=12,SNR=10						
WSAR				Sn	Sn	11 42 36.1	-8.4
	comp=N,0.2nm,0.3s,baz=292,slow=19,SNR=2.1						
WSAR				LR	LR	11 46 52.6	
	comp=N,45nm,18.4s,baz=264,slow=42						
	comp=N,5.3nm,0.6s						
JMDO	**Jabal Madar**	**15.09**	**133**	P	**Pn**	**11 40 05.2**	**-0.5**
JMDO				P	**Pn**	**11 40 05.2**	**-0.5**
JMDO				S	**Sn**	**11 42 45.5**	**-6.4**
JMDO				S	**Sn**	**11 42 45.5**	**-6.4**
WBK	**Wadi Bani Khal**	**15.46**	**130**	P	**Pn**	**11 40 09.0**	**-1.5**
JLN	**Jalan Bani Buh**	**16.07**	**130**	P	**Pn**	**11 40 18.6**	**+0.3**
MHTO	**MHTO**	**16.07**	**137**	P	**Pn**	**11 40 16.0**	**-2.3**
	SNR=8.9						
MHTO				P	**Pn**	**11 40 16.0**	**-2.3**
	SNR=8.9						
DOK	**Doka**	**16.23**	**152**	P	**Pn**	**11 40 18.0**	**-2.3**
	SNR=12						
WHFO	**Wadi Hawf**	**16.73**	**154**	P	**Pn**	**11 40 24.6**	**-2.1**
ABTO	**Aybut**	**17.09**	**157**	P	**Pn**	**11 40 28.8**	**-2.5**
RBK	**Rabkut**	**17.27**	**154**	P	**Pn**	**11 40 31.9**	**-1.6**
DMTO	**DMTO**	**17.37**	**151**	P	**Pn**	**11 40 32.5**	**-2.2**
SHAO	**Shalim**	**17.38**	**149**	P	**Pn**	**11 40 33.5**	**-1.3**
	SNR=13						
IDI	**Anoyia**	**17.77**	**282**		**P**	**11 40 39.8**	**-0.3**
IDI				IAmb	IAmb	11 40 58.0	
	comp=Z,14nm,1.1s						
IDI	**Anoyia**	**17.77**	**282**	P	**P**	**11 40 41.2**	**+1.0**
	comp=Z,3.7nm,0.4s,baz=96,slow=9.2,SNR=6.1						
ABKAR	**Akbulak array**	**18.93**	**29**	P	**Pn**	**11 40 53.6**	**+0.1**
SIMJ	**Simiganj**	**19.16**	**67**	P	**P**	**11 40 56.1**	**+0.5**
AKTO	**Aktyubinsk**	**19.20**	**23**	P	**P**	**11 40 56.2**	**+0.5**
	comp=Z,0.4nm,0.3s,baz=205,slow=9.6,SNR=5.3						
	comp=Z,1.5nm,0.5s						
CHGR	**Chuyangaron**	**19.28**	**67**	P	**Pn**	**11 40 58.2**	**+0.3**
CHGR					IAmb	IAmb	11 41 10.3	
	comp=Z,5.6nm,0.6s						
MLR	**Muntele Rosu**	**19.80**	**314**	P	**Pn**	**11 41 05.1**	**+0.9**
	comp=Z,2.0nm,0.5s,baz=151,slow=19,SNR=3.3						
AGG	**Agios Georgios**	**20.12**	**293**	P	**P**	**11 41 06.3**	**+0.3**
AGG					IAmb	IAmb	11 41 12.5	
	comp=Z,25nm,1.2s						
LIT	**Litokhoron**	**20.20**	**296**	P	**P**	**11 41 07.2**	**+0.4**
ITM	**Ithomi**	**20.23**	**288**		**P**	**11 41 06.2**	**-0.9**
ITM					IAmb	IAmb	11 41 07.0	
	comp=Z,10.0nm,0.5s						
FNA	**Florina**	**21.18**	**298**		**P**	**11 41 17.6**	**+0.2**
FNA					IAmb	IAmb	11 41 17.9	
	comp=Z,7.5nm,0.6s						
KK31	**Karatay Array**	**21.37**	**56**	P	**P**	**11 41 20.8**	**+1.4**
KKAR	**Karatay Array**	**21.37**	**56**	P	**P**	**11 41 20.8**	**+1.4**
BURAR	**Bucovina Array**	**21.38**	**318**	P	**P**	**11 41 19.1**	**-0.4**
BUR08	**Bucovina Ar. S**	**21.40**	**318**	P	**P**	**11 41 19.8**	**0.0**
BUR08					IAmb	IAmb	11 41 41.1	
	comp=Z,9.8nm,1.4s						
AKASG	**Malin Array Be**	**21.42**	**329**	P	**P**	**11 41 19.1**	**-0.7**
	comp=Z,0.4nm,0.2s,baz=140,slow=9.5,SNR=3.3						
	comp=Z,0.4nm,0.2s						
AKBB	**Malin Array Si**	**21.42**	**329**	P	**P**	**11 41 18.9**	**-0.9**
AKBB					IAmb	IAmb	11 41 27.4	
	comp=Z,6.8nm,1.1s						
KIEV	**Kiev**	**21.43**	**329**	P	**P**	**11 41 18.7**	**-1.2**
PUK	**Puka**	**22.55**	**300**	P	**P**	**11 41 32.8**	**+0.6**
TIP	**Timpagrande**	**24.44**	**292**	P	**P**	**11 41 49.8**	**-0.9**
TIP					IAmb	IAmb	11 41 52.6	
	comp=Z,12nm,1.5s						
PSZ	**Piszkesteto**	**24.62**	**314**	P	**P**	**11 41 51.0**	**-1.2**
PSZ					IAmb	IAmb	11 41 56.8	
	comp=Z,4.0nm,0.8s						
BOOM	**Boomskoye usch**	**25.06**	**60**	P	**P**	**11 41 58.5**	**+2.1**
BOOM					IAmb	IAmb	11 42 05.6	
	comp=Z,4.7nm,0.8s						
CEL	**Celeste**	**25.06**	**290**	P	**P**	**11 41 56.2**	**-0.1**
CUC	**Castrocucco**	**25.24**	**294**	P	**P**	**11 41 57.8**	**-0.1**
CUC					IAmb	IAmb	11 41 59.9	
	comp=Z,4.0nm,0.6s						
LANS	**Liptovska Anna**	**25.45**	**316**	*e*P	**P**	**11 42 00.9**	**+1.3**
VYHS	**Vyhne**	**25.51**	**315**	*e*P	**P**	**11 42 01.9**	**+1.7**
NACGM	**Naroch**	**25.57**	**334**	*e*P	**P**	**11 41 59.6**	**-1.0**
	comp=Z,15nm,1.1s,baz=140						
BVAR	**Borovoye Array**	**26.22**	**34**	P	**P**	**11 42 10.6**	**+4.0**
	comp=Z,1.9nm,0.6s,baz=234,slow=9.9,SNR=6.0						
PABE	**Paberze**	**27.10**	**332**	P	**P**	**11 42 14.7**	**+0.3**
CAMP	**Campotosto**	**27.36**	**299**	P	**P**	**11 42 17.9**	**+0.7**
FDMO	**Fiordimonte**	**27.68**	**300**	P	**P**	**11 42 19.9**	**0.0**
FDMO					IAmb	IAmb	11 42 48.1	
	comp=Z,3.5nm,0.9s						
KURBB	**Kurchatov Arra**	**29.28**	**44**	P	**P**	**11 42 35.8**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=250,slow=9.2,SNR=5.4						
	comp=Z,0.8nm,0.6s						
VSL	**Villasalto**	**30.17**	**293**	P	**P**	**11 42 41.0**	**-1.0**
VSL					IAmb	IAmb	11 42 55.5	
	comp=Z,9.2nm,1.0s						
MK31	**Makanchi Array**	**30.42**	**53**	P	**P**	**11 42 45.2**	**+1.1**
MK31					IAmb	IAmb	11 42 51.4	
	comp=Z,1.7nm,0.7s						
MKAR	**Makanchi Array**	**30.42**	**53**	P	**P**	**11 42 44.7**	**+0.5**
MKAR	**Makanchi Array**	**30.42**	**53**	P	**P**	**11 42 45.6**	**+1.5**
	comp=Z,0.5nm,0.3s,baz=255,slow=10.0,SNR=7.1						
	comp=Z,0.5nm,0.3s						
FINES	**FINESS Array B**	**31.03**	**341**	P	**

AAK Ala-Archa 35.57 332 LR LR 12 09 57.6
comp=Z,49nm,21.7s,baz=154,slow=39
MK31 Makanchi Array 36.34 344 P **P** **11 53 57.8 -0.9**
MKAR Makanchi Array 36.34 344 P **P** **11 53 57.0 -1.7**
MKAR Makanchi Array 36.34 344 P **P** **11 53 59.9 +1.1**
comp=Z,1.0nm,0.9s,baz=153,slow=7.3,SNR=5.5
MKAR S **S** **11 59 40.9 +1.2**
comp=Z,1.3nm,0.8s,baz=173,slow=28,SNR=7.9
MKAR LR LR 12 11 22.6
comp=Z,30nm,19.0s,baz=252,slow=40
comp=Z,1.0nm,0.9s
KSRS Korea Array 38.07 43 P **P** **11 54 13.7 +0.1**
comp=Z,0.8nm,0.6s,baz=236,slow=8.6,SNR=4.6
comp=Z,0.8nm,0.6s
KURBB Kurchatov Arra 40.86 343 P **P** **11 54 34.5 -2.1**
comp=Z,1.0nm,0.8s,baz=159,slow=7.8,SNR=4.9
KURBB LR LR 12 15 23.4
comp=Z,22nm,18.1s,baz=164,slow=42
comp=Z,1.0nm,0.8s
GEYT Alibeck 42.32 314 P **P** **11 54 48.4 -0.5**
GEYT Alibeck 42.32 314 P P 11 54 45.0 -3.8
comp=Z,4.1nm,0.6s,baz=134,slow=8.3,SNR=4.2
GYA0B ALIBECK ARRAY 42.32 314 P **P** **11 54 48.6 -0.3**
ZALV Zalesovo Beam 42.55 350 P **P** **11 54 49.0 -1.4**
comp=Z,0.5nm,0.3s,baz=171,slow=10,SNR=1.9
comp=Z,0.5nm,0.3s
MJB9 Matsu-Tunnel 44.98 50 P **P** **11 55 08.6 -1.7**
BVAR Borovoye Array 45.54 339 P **P** **11 55 12.8 -1.7**
comp=Z,0.3nm,0.3s,baz=136,slow=11,SNR=3.5
BVAR LR LR 12 18 01.0
comp=Z,43nm,18.8s,baz=89,slow=41
comp=Z,0.3nm,0.3s
ABKAR Akbulak array 47.38 328 P **P** **11 55 27.6 -1.3**
WB0 Warramunga Arr 49.43 130 P **P** **11 55 45.4 +0.1**
WB0 IAmb IAmb 11 55 52.5
comp=Z,16nm,1.4s
WRA Warramunga Arr 49.50 130 P **P** **11 55 47.2 +1.5**
comp=Z,2.0nm,0.9s,baz=306,slow=8.2,SNR=6.6
WRA PcP **PcP** **11 57 07.1 -0.6**
comp=Z,0.8nm,0.9s,baz=310,slow=3.0,SNR=1.8
comp=Z,2.0nm,0.9s
WR0 Warramunga Arr 49.66 130 P **P** **11 55 46.6 -0.4**
ASAR Alice Springs 51.48 134 P **P** **11 56 00.1 -0.6**
ASAR Alice Springs 51.48 134 P **P** **11 56 02.4 +1.7**
comp=Z,0.8nm,0.8s,baz=316,slow=7.0,SNR=5.9
ASAR PcP **PcP** **11 57 14.7 -0.3**
comp=Z,0.4nm,0.6s,baz=302,slow=4.2,SNR=1.9
comp=Z,0.8nm,0.8s
KIRV Kirov 57.89 333 LR LR 12 24 11.8
comp=Z,29nm,19.0s,baz=104,slow=39
EIL Elat 58.92 297 LR LR 12 24 10.7
comp=Z,16nm,20.2s,baz=80,slow=38
BNN Bunyan 59.20 308 P **P** **11 56 57.6 +1.2**
BR131 Keskin Array S 61.03 309 P **P** **11 57 09.4 +0.5**
BRTR Keskin Array B 61.03 309 P **P** **11 57 09.1 +0.2**
comp=Z,0.7nm,0.5s,baz=99,slow=8.5,SNR=2.0
comp=Z,0.7nm,0.5s
TIXI Tiksi 62.65 11 P **P** **11 57 18.3 -0.7**
TIXI IAmb IAmb 11 57 18.7
comp=Z,2.9nm,0.6s
FINES FINESS Array B 69.75 331 P **P** **11 58 05.4 +0.7**
comp=Z,0.9nm,0.8s,baz=129,slow=8.0,SNR=1.5
comp=Z,0.9nm,0.8s
HFS Hagfors 75.63 329 P **P** **11 58 41.5 +1.8**
comp=Z,1.3nm,0.6s,baz=94,slow=9.2,SNR=4.4
comp=Z,1.3nm,0.6s
B20K Meade River 84.28 19 P **P** **11 59 27.1 +0.8**
D19K Kuna River 84.46 21 P **P** **11 59 28.0 +0.6**
E19K Redstone River 85.13 22 P **P** **11 59 31.2 +0.5**
E19K IAmb IAmb 11 59 34.8
comp=Z,8.3nm,1.3s
J16K Anvik River 85.14 26 P **P** **11 59 32.2 +1.4**
J16K IAmb IAmb 11 59 39.9
comp=Z,8.3nm,1.1s
B21K Ikpikpuk River 85.24 19 P **P** **11 59 31.7 +0.5**
B21K IAmb IAmb 11 59 33.3
comp=Z,7.9nm,1.2s
F20K Avaraart Lake 85.82 22 P **P** **11 59 35.0 +0.9**
F20K IAmb IAmb 11 59 35.2
comp=Z,3.8nm,0.8s
E21K Killik River 85.91 20 P **P** **11 59 35.7 +1.1**
E21K IAmb IAmb 11 59 35.9
comp=Z,8.6nm,1.1s
D22K Ayikyak River 86.17 20 P **P** **11 59 36.1 +0.2**
D22K IAmb IAmb 11 59 38.6
comp=Z,7.6nm,1.3s
K17K Iditarod 86.31 26 P **P** **11 59 37.6 +0.9**
K17K IAmb IAmb 11 59 57.8
comp=Z,11nm,1.4s
C23K Itkillik River 86.42 19 P **P** **11 59 37.7 +0.6**
C23K IAmb IAmb 11 59 45.5
comp=Z,8.5nm,1.4s
M16K Timber Creek 86.58 28 P **P** **11 59 39.4 +1.4**
G21K Allakaket 86.84 22 P **P** **11 59 39.6 +0.4**
G21K IAmb IAmb 11 59 40.5
comp=Z,5.0nm,0.8s
H21K Melozitna Rive 87.45 23 P **P** **11 59 43.5 +1.3**
I21K Tanana 87.96 23 P **P** **11 59 46.0 +1.4**
I21K IAmb IAmb 11 59 47.1
comp=Z,6.0nm,1.1s
D25K Kavik River 87.98 18 P **P** **11 59 45.3 +0.6**
D25K IAmb IAmb 11 59 45.8
comp=Z,2.8nm,0.9s
MLY Manley 88.50 23 P **P** **11 59 48.3 +1.0**
MLY IAmb IAmb 11 59 48.9
comp=Z,3.1nm,0.8s
H23K Yukon River 88.59 22 P **P** **11 59 48.9 +1.2**
H23K IAmb IAmb 11 59 49.7
comp=Z,4.4nm,1.1s
CAST Castle Rocks 88.67 25 P **P** **11 59 48.6 +0.5**
CAST IAmb IAmb 11 59 49.7
comp=Z,5.0nm,0.8s
N19K Bonanza Creek 88.69 28 P **P** **11 59 49.9 +1.6**
BPAW Bear Paw Mtn. 88.81 24 P **P** **11 59 49.7 +1.0**
P18K Big Mountain, 88.90 29 P **P** **11 59 48.3 -0.9**
I23K Minto, Yukon-K 88.97 23 P **P** **11 59 50.7 +1.4**
I23K IAmb IAmb 11 59 50.9
comp=Z,3.2nm,1.1s
H24K Noodor Dome 89.19 22 P **P** **11 59 51.4 +0.9**
H24K IAmb IAmb 11 59 53.4
comp=Z,6.3nm,1.5s
SKT Skwentna 89.51 26 P **P** **11 59 52.0 0.0**
SKT IAmb IAmb 11 59 52.8
comp=Z,6.9nm,1.1s
ILAR Eielson Array 90.08 22 P **P** **11 59 54.1 -0.5**
comp=Z,0.4nm,0.7s,baz=302,slow=5.1,SNR=5.9
comp=Z,0.4nm,0.7s

*IDC **22** 11:54:13.4±1.6, 13°.70N×89°.12W, h69km±15km, mb3.6/7, mbtmp3.9/9, MS3.5/29, Error ellipse: s-maj=40.3km s-min=13.2km az=42.0*
*GCG **22** 11:54:13.1±0.3, 13°.43N×89°.68W, h98km±21km, MD4.1*
*NEIC **22** 11:54:14.7±2.1, 13°.42N±0°.08×89°.36W±0°.08, h77km±10km, mb4.2/70, Error ellipse: s-maj=14.5km s-min=7.6km az=224.0*
*CATAC **22** 11:54:15.2±0.8, 13°.65N×88°.95W, h5km, ML4.6*
ISC 22 11:54:12.5±0.8, 13°.38N±0°.06×89°.53W±0°.05, h68km±6km, n219, σ1°37/208, mb4.2/32, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res
				Op				
LALI	**Alcalda de L**	**0.23**	**61**	*eP*		**Pn**	**11 54 21.2**	**-1.8**
ITCA	**Escuela Especi**	**0.38**	**39**	*eP*		**Pn**	**11 54 23.0**	**-1.2**
PMON	**Piamonte**	**0.39**	**32**	*eP*		**Pn**	**11 54 23.3**	**-1.0**
PANCS	**Alcalda de**	**0.41**	**55**	*eP*		**Pn**	**11 54 23.2**	**-1.2**
SNET	**Serv Nac Est T**	**0.42**	**43**	*eP*		**Pn**	**11 54 23.4**	**-1.1**
BOQS	**Boqueron**	**0.43**	**34**	*eP*		**Pn**	**11 54 23.9**	**-0.8**
LOMA	**Loma Larga**	**0.43**	**52**	*iP*		**Pn**	**11 54 23.7**	**-1.0**
UEES	**Universidad Ev**	**0.44**	**39**	*eP*		**Pn**	**11 54 23.9**	**-0.8**
CEDA	**San Andres**	**0.44**	**17**	*eP*		**Pn**	**11 54 23.9**	**-0.7**
CEDA				*eS*		**Sn**	**11 54 33.7**	**+0.1**
PIC2	**El Picacho**	**0.45**	**36**	*eP*		**Pn**	**11 54 24.4**	**-0.6**
CEVE	**Cerro Verde**	**0.46**	**348**	*eP*		**Pn**	**11 54 24.0**	**-1.1**
UESS	**Universidad de**	**0.47**	**43**	*eP*		**Pn**	**11 54 24.3**	**-0.6**
SBLS	**San Blas**	**0.47**	**348**	*eP*		**Pn**	**11 54 24.1**	**-1.0**
IGN	**Direccin Gen**	**0.48**	**46**	*eP*		**Pn**	**11 54 24.4**	**-0.6**
IGN				*eS*		**Sn**	**11 54 34.5**	**+0.3**
UDBS	**Universidad Do**	**0.49**	**47**	*eP*		**Pn**	**11 54 24.6**	**-0.5**
SNJE	**San Jose**	**0.49**	**351**	*eP*		**Pn**	**11 54 24.4**	**-1.0**
AEIL	**Aeropuerto Ilo**	**0.51**	**51**	*eP*		**Pn**	**11 54 24.9**	**-0.4**
QUEZ	**Alcaldia de Qu**	**0.52**	**28**	*eP*		**Pn**	**11 54 25.2**	**-0.2**
NUBE	**Las Nubes**	**0.58**	**335**	*eP*		**Pn**	**11 54 25.0**	**-1.2**
LBRS	**Las Brisas**	**0.59**	**52**	*eP*		**Pn**	**11 54 26.0**	**-0.1**

UNIC Universidad Ca 0.60 358 *eP* **Pn** **11 54 26.0 -0.3**
PAVA Las Pavas 0.66 60 *iP* **Pn** **11 54 27.0 0.0**
PAVA *eS* **Sn** **11 54 39.3 +1.7**
LOAL Lomas de Alarc 0.67 338 *eP* **Pn** **11 54 26.6 -0.4**
COEG Centro de Oper 0.67 69 *eP* **Pn** **11 54 26.4 -0.6**
COEG *eS* **Sn** **11 54 38.2 +0.5**
SNVI San Vicente 0.71 71 *eP* **Pn** **11 54 27.0 -0.5**
TECO Alcaldia de Te 0.74 77 *eP* **Pn** **11 54 26.7 -1.0**
SCLA Alcaldia de Sa 0.84 67 *eP* **Pn** **11 54 28.9 0.0**
LLGN La Laguna 0.96 36 *eP* **Pn** **11 54 30.8 +0.2**
COEB Comit de Eme 0.97 83 *eP* **Pn** **11 54 30.0 -0.7**
COEB *eS* **Sn** **11 54 44.1 -0.1**
MTO3 Montecristo 1.03 9 *iP* **Pn** **11 54 31.7 +0.2**
PACA Pacayal 1.17 85 *eP* **Pn** **11 54 33.2 0.0**
RANC El Ranchito 1.21 87 *eP* **Pn** **11 54 33.2 -0.4**
JUCU Jucuarįn 1.25 95 *eP* **Pn** **11 54 33.1 -1.1**
BLLM Bellamira 1.25 87 *eP* **Pn** **11 54 33.8 -0.5**
CNRM Centro Naciona 1.32 86 *eP* **Pn** **11 54 35.1 0.0**
NBG Las Nubes 1.44 327 *eP* **Pn** **11 54 38.2 +1.2**
PCG Pacaya 1.46 314 *eP* **Pn** **11 54 34.5 -2.6**
LCND La Caada 1.59 92 *eP* **Pn** **11 54 38.4 -0.3**
CNCH Conchagua 1.65 93 *eP* **Pn** **11 54 39.0 -0.5**
FUG Fuego 3 1.66 310 *eP* **Pn** **11 54 40.2 +0.4**
MRL Marmol 1.70 355 *eP* **Pn** **11 54 42.0 +1.6**
APG El Apazote 1.86 331 P **Pn** **11 54 42.7 +0.3**
6.7nm,0.3s,baz=150,slow=12,SNR=76
APG S Sn 11 54 55.7 -9.4
22nm,0.3s,baz=103,slow=14,SNR=13
APG LR LR 11 55 26.9
comp=Z,42nm,20.8s,baz=36,slow=40
SULM Suchitepequez, 2.19 295 *eP* **Pn** **11 54 46.2 -0.4**
TGUH Tegucigalpa,Un 2.29 73 **Pn** **11 54 48.4 +0.2**
TGUH Tegucigalpa,Un 2.29 73 *iP* **Pn** **11 54 48.3 +0.2**
TGUH *iS* **Sn** **11 55 07.3 -8.1**
STG3 Santiaguito 3, 2.39 304 *eP* **Pn** **11 54 49.6 +0.1**
CRIN San Cristobal 2.50 105 **Pn** **11 54 50.5 -0.5**
CRIN San Cristobal 2.50 105 *iP* **Pn** **11 54 50.8 -0.2**
CRIN *iS* **Sn** **11 55 25.0 +4.5**
CRIN IAML 11 55 26.5
comp=Z,7µm,1.0s
PKGN Cerro Pekin 2.58 106 *iP* **Pn** **11 54 51.6 -0.4**
PKGN *iS* **Sn** **11 55 22.8 +0.5**
PKGN IAML 11 55 32.8
comp=Z,9µm,1.0s
HUEH Huehuetenango 2.72 315 Pn **Pn** **11 54 56.8 +2.7**
CNGN Cerro Negro 2.89 107 **Pn** **11 54 55.3 -1.0**
CNGN Cerro Negro 2.89 107 *iP* **Pn** **11 54 55.2 -1.0**
CNGN *iS* **Sn** **11 55 32.9 +3.0**
CNGN IAML 11 55 39.2
comp=Z,2µm,1.0s
MACN El Madrono 2.92 108 *iP* **Pn** **11 54 56.8 +0.1**
MACN *iS* **Sn** **11 55 32.6 +1.9**
MACN IAML 11 55 37.4
comp=Z,1µm,1.0s
LEVN Ruinas Leon Vi 3.00 109 *iP* **Pn** **11 54 58.2 +0.5**
LEVN *iS* **Sn** **11 55 34.5 +2.0**
LEVN IAML 11 55 41.7
comp=Z,2µm,1.0s
MOMN Momotombo 3.07 108 *iP* **Pn** **11 54 59.1 +0.5**
MOMN *iS* **Sn** **11 55 31.9 -2.3**
MOMN IAML 11 55 42.0
comp=Z,86nm,1.0s
COPN Copaltepe 3.10 112 *iP* **Pn** **11 54 58.8 -0.3**
COPN IAML 11 55 41.6
comp=Z,1µm,1.0s
MOM2 El Cardon 3.11 107 *iP* **Pn** **11 54 59.0 -0.2**
MOM2 *iS* **Sn** **11 55 36.1 +0.9**
MOM2 IAML 11 55 50.9
comp=Z,790nm,1.0s
BRAN Las Pilas 3.16 102 *iP* **Pn** **11 55 01.4 +1.5**
BRAN *iS* **Sn** **11 55 38.4 +1.9**
APQ3 Volcan Apoyequ 3.27 109 *iP* **Pn** **11 55 02.1 +0.7**
APQ3 *iS* **Sn** **11 55 38.2 -0.9**
APQ3 IAML 11 55 54.6
comp=Z,1µm,1.0s
SAPS Ciudad Sandino 3.27 111 *iP* **Pn** **11 55 01.4 0.0**
SAPS *iS* **Sn** **11 55 37.2 -2.0**
SAPS IAML 11 55 52.9
comp=Z,2µm,1.0s
APYN Apoyeque 3.30 110 *iP* **Pn** **11 55 00.6 -1.2**
APYN *iS* **Sn** **11 55 38.5 -1.4**
ALLN Telcor Managua 3.40 111 *iP* **Pn** **11 54 55.6 -7.5**
TISN Laguna Tiscapa 3.41 111 *iP* **Pn** **11 55 03.0 -0.2**
TISN IAML 11 55 51.1
comp=Z,130nm,1.0s
USIM UNAN 3.41 111 *iP* **Pn** **11 55 07.0 +3.7**
R4DEC Barrio San Lui 3.42 111 *iP* **Pn** **11 55 06.7 +3.2**
R4DEC *iP* **Pn** **11 55 04.3 +0.8**
R4DEC *iS* **Sn** **11 55 41.3 -1.6**
R4DEC IAML 11 55 44.0
comp=Z,1µm,1.0s
R0529 La Mascota 3.44 111 *iP* **Pn** **11 55 04.5 +0.8**
R0529 IAML 11 55 50.1
comp=Z,2µm,1.0s
MAS3 Al N del Volca 3.53 112 *iP* **Sn** **11 55 43.4 -2.3**
PETF Flores 3.54 355 Pn **Pn** **11 55 07.1 +2.1**
RB213 Mirador 2 Volc 3.56 113 *iP* **Pn** **11 55 03.4 -1.9**
RB213 IAML 11 55 49.6
comp=Z,2µm,1.0s
MASN Masaya 3.57 112 *iP* **Pn** **11 55 07.1 +1.6**
CCIG Comitan 3.84 319 **Pn** **11 55 11.4 +2.1**
ACON Acoyapa 4.47 108 **Pn** **11 55 15.0 -2.8**
HZTE Horizontes, Gu 4.67 124 **Pn** **11 55 20.9 +0.4**
GB1A Boringuen Arri 4.77 122 *eP* **Pn** **11 55 23.4 +1.4**
ALIBA Liberia Airpor 4.78 125 *eP* **Pn** **11 55 23.6 +1.6**
VRLE La Escondida, 4.81 122 *eP* **Pn** **11 55 22.8 +0.2**
ORTG Ortega, Santa 4.98 127 Pn **Pn** **11 55 25.9 +1.0**
ORTG Ortega, Santa 4.98 127 *eP* **Pn** **11 55 25.4 +0.5**
VMAR Armenia, Volca 5.01 120 *eP* **Pn** **11 55 25.1 -0.2**
COLC Colonia 5.01 122 *eP* **Pn** **11 55 26.5 +1.2**
JUD3 Juan Diaz 3 5.04 129 *eP* **Pn** **11 55 25.6 0.0**
CUI Cuipilapa 5.05 122 *eP* **Pn** **11 55 26.9 +1.1**
DUNO Dulce Nombre, 5.13 129 **Pn** **11 55 27.4 +0.5**
DUNO Dulce Nombre, 5.13 129 *eP* **Pn** **11 55 27.0 +0.1**
NICO Nicoya 5.13 128 *eP* **Pn** **11 55 26.6 -0.2**
TENO El Achiote 5.18 120 *eP* **Pn** **11 55 28.0 +0.4**
ESPN Las Esperanzas 5.23 102 **Pn** **11 55 28.1 -0.1**
ESPN Las Esperanzas 5.23 102 *eP* **Pn** **11 55 27.1 -1.1**
NYURE Nandayure 5.37 128 *eP* **Pn** **11 55 30.0 0.0**
JTS Las Juntas de 5.43 124 Pn **Pn** **11 55 31.3 +0.4**
JTS Las Juntas de 5.43 124 P **Pn** **11 55 31.1 +0.2**
comp=Z,12nm,0.3s,baz=291,slow=19,SNR=23
JTS S **Sn** **11 56 30.2 -1.9**
comp=Z,10.0nm,0.2s,baz=294,slow=20,SNR=0.8
JTS Las Juntas de 5.43 124 *eP* **Pn** **11 55 32.1 +1.2**
JUNT Juntas 5.43 124 *eP* **Pn** **11 55 32.5 +1.7**
CEDE Laguna Cedeo 5.52 121 *eP* **Pn** **11 55 33.4 +1.1**
ARE1 Arenal 1 5.53 121 Pn **Pn** **11 55 33.5 +1.2**
SOCE Pocosol 5.65 121 **Pn** **11 55 35.0 +1.0**
SOCE Pocosol 5.65 121 *eP* **Pn** **11 55 36.5 +2.5**
COVE Coope Vega, Sa 5.67 117 Pn **Pn** **11 55 34.0 -0.1**
LAFE Finca La Fe, P 5.75 128 *eP* **Pn** **11 55 35.2 -0.1**
JACO JACO, Garabito 6.03 127 Pn **Pn** **11 55 39.5 +0.3**
HDC Heredia 6.27 122 Pn **Pn** **11 55 40.3 -2.3**
CMIG Matias Romero 6.36 306 P **Pn** **11 55 44.9 +1.3**
comp=Z,11nm,0.5s,baz=132,slow=9.7,SNR=16
CMIG S **Sn** **11 56 55.0 +0.2**
comp=Z,21nm,0.3s,baz=101,slow=16,SNR=11
CMIG LR LR 11 58 30.2
comp=Z,505nm,18.4s,baz=132,slow=40
CVIMO Finca Echandi 6.40 121 *eP* **Pn** **11 55 46.1 +1.7**
ABE2 San Pablo 6.49 124 *eP* **Pn** **11 55 48.1 +2.5**
LCR2 La Lucha 2 6.50 123 **Pn** **11 55 47.2 +1.3**
LCR2 La Lucha 2 6.50 123 *eP* **Pn** **11 55 47.1 +1.3**
VICA Volcano Irazu 6.50 121 *eP* **Pn** **11 55 46.8 +0.8**
CDM Cerro de Muert 6.81 123 *eP* **Pn** **11 55 51.9 +1.7**
BUS1 Rivas 6.82 123 *eP* **Pn** **11 55 52.0 +1.6**
TEIG Tepich 6.92 10 P **Pn** **11 55 53.5 +2.3**
comp=Z,87nm,0.3s,baz=190,slow=14,SNR=161
PEZE Perez Zeledon, 6.97 124 **Pn** **11 55 53.8 +1.6**
SRBA San Rafael, Bu 7.32 124 Pn **Pn** **11 55 58.1 +1.3**
CDITO Canoas 8.09 125 **Pn** **11 56 08.1 +0.8**
BRU2 Volcan 8.11 123 Pn **Pn** **11 56 06.8 -0.9**
TLIG Tlapa 9.66 297 Pn **Pn** **11 56 30.6 +1.7**
SOR Soroa 11.22 33 Pn **Pn** **11 56 51.6 +1.5**
HNDO Hondo 18.44 332 P **Pn** **11 58 24.2 +0.7**
HNDO IAmb IAmb 11 58 47.8
comp=Z,22nm,1.5s
456A Hilliard 18.60 21 P **P** **11 58 23.9 -0.5**
NATX Nacogdoches 18.89 346 P **Pn** **11 58 30.1 +1.3**
DRIO Del Rio 19.00 329 P **Pn** **11 58 31.6 +1.5**
SDV Santo Domingo 19.06 102 LR LR 12 06 23.0

comp=Z,98nm,19.8s,baz=298,slow=39
JCT Junction City 19.49 333 P **Pn** **11 58 36.2 +0.2**
LRAL Lakeview Retre 19.70 6 P **P** **11 58 36.6 +0.2**
BRDY Brady 19.84 335 P **P** **11 58 39.0 +1.1**
BRDY IAmb IAmb 11 58 40.4
comp=Z,8.7nm,0.8s
WHTX Lake Whitney, 19.91 340 P **Pn** **11 58 40.2 -0.6**
FW14 Alvarado 20.19 341 P Pn 11 58 44.2 0.0
SAND Sanderson 20.20 327 P Pn 11 58 44.4 0.0
FW13 Cleburne 20.23 340 P Pn 11 58 44.0 -0.6
FW13 IAmb IAmb 11 58 59.2
comp=Z,16nm,0.8s
HPIG 20.25 314 P Pn 11 58 45.1 0.0
Y45A Yeager Farm, C 20.40 360 P **P** **11 58 44.6 +0.7**
OZNA Ozona 20.48 330 P Pn 11 58 46.8 -0.8
WLAR White Oak Lake 20.48 351 P **P** **11 58 44.1 -0.7**
Y49A Blount Mountai 20.59 7 P Pn 11 58 47.9 -0.9
Y49A IAmb IAmb 11 59 09.0
comp=Z,12nm,1.3s
TX31 Lajitas Ar. Si 20.60 323 P Pn 11 58 48.5 -0.6
TXAR Lajitas Array 20.60 323 P Pn 11 58 48.9 -0.2
TXAR Lajitas Array 20.60 323 P Pn 11 58 48.8 -0.3
comp=Z,1.4nm,0.5s,baz=142,slow=10,SNR=42
TXAR PcP **PcP** **12 02 55.3 +0.5**
comp=Z,0.4nm,0.8s,baz=131,slow=5.0,SNR=3.5
comp=Z,1.4nm,0.5s
FW07 Weatherford 20.67 340 P Pn 11 58 48.8 -1.0
FW07 IAmb IAmb 11 58 49.2
comp=Z,13nm,0.8s
FW06 Azle 20.84 341 P **P** **11 58 50.1 +1.4**
FW06 IAmb IAmb 11 59 34.5
comp=Z,10nm,0.6s
PLPT Palo Pinto 20.95 339 P **P** **11 58 50.8 +0.9**
PLPT IAmb IAmb 11 59 12.7
comp=Z,17nm,1.0s
FW03 Perrin-Whitt E 21.07 340 P **P** **11 58 52.9 +1.7**
FW03 IAmb IAmb 11 59 21.0
comp=Z,17nm,1.0s
ABTX Abilene, Hawle 21.28 336 P **P** **11 58 56.0 +2.6**
MIAR Mount Ida 21.39 351 P **P** **11 58 55.2 +0.6**
MIAR IAmb IAmb 11 59 16.6
comp=Z,16nm,1.1s
UALR University of 21.46 354 P **P** **11 58 56.2 +0.9**
UALR IAmb IAmb 11 59 21.1
comp=Z,8.4nm,0.7s
MNHN Monahans 21.63 328 P **P** **11 58 58.3 +1.1**
MNHN IAmb IAmb 11 59 19.5
comp=Z,8.3nm,0.9s
X37A Clayton 21.77 347 P **P** **11 58 58.8 +0.1**
X37A IAmb IAmb 11 59 27.7
comp=Z,15nm,1.1s
WTFS Witchita Falls 21.87 340 P **P** **11 58 59.2 -0.5**
WTFS IAmb IAmb 11 59 01.1
comp=Z,9.4nm,0.8s
WHAR Wooly Hollow 21.96 354 P **P** **11 59 01.0 +0.3**
WHAR IAmb IAmb 11 59 24.5
comp=Z,15nm,1.3s
SN05 Snyder 5 22.01 334 P **P** **11 59 01.6 +0.3**
SN05 IAmb IAmb 11 59 22.5
comp=Z,13nm,1.4s
APMT Aspermont 22.08 336 **P** **11 59 02.0 0.0**
APMT IAmb IAmb 11 59 29.3
comp=Z,15nm,1.3s
SN07 Snyder 07 22.20 334 P **P** **11 59 03.5 +0.2**
POST Post 22.44 333 P **P** **11 59 05.3 -0.6**
LCAR Lake Charles 22.64 357 P **P** **11 59 07.8 -0.2**
DKNS Dickens 22.71 335 P **P** **11 59 09.9 +1.1**
TKL Tuckaschee C 22.78 12 LR LR 12 08 39.6
comp=Z,128nm,21.0s,baz=194,slow=39
WMOK Wichita Mounta 22.86 340 P **P** **11 59 09.6 -0.7**
FNO Franklin 22.92 343 P **P** **11 59 12.5 +1.7**
V53A Saluda 23.01 14 P **P** **11 59 11.9 +0.1**
V53A IAmb IAmb 11 59 33.3
comp=Z,22nm,1.5s
ATAH Atahualpa 23.18 151 LR LR 12 06 05.5
comp=Z,77nm,20.7s,baz=331,slow=31
RLO Rose Lookout 23.22 349 P **P** **11 59 14.6 +0.7**
RLO IAmb IAmb 11 59 50.2
comp=Z,5.7nm,0.9s
U49A Red Boiling Sp 23.28 8 P **P** **11 59 14.3 -0.1**
U49A IAmb IAmb 11 59 34.9
comp=Z,11nm,1.1s
PBMO Poplar Bluff 23.32 358 P **P** **11 59 16.6 +1.9**
PBMO IAmb IAmb 11 59 35.4
comp=Z,7.9nm,0.7s
T42A Van Buren 23.60 357 P **P** **11 59 18.3 +1.1**
V55A Taylorsville 23.60 17 P **P** **11 59 15.7 -1.6**
T47A Sharon Grove 23.61 5 P **P** **11 59 17.5 +0.1**
T47A IAmb IAmb 11 59 19.0
comp=Z,11nm,1.1s
SMWD Samnorwood 23.70 338 P **P** **11 59 18.8 +0.4**
SMWD IAmb IAmb 11 59 19.9
comp=Z,11nm,0.7s
MGMO Mountain Grove 23.80 355 P **P** **11 59 19.7 +0.5**
MGMO IAmb IAmb 11 59 39.1
comp=Z,14nm,1.1s
CGM3 Cape Girardeau 23.82 360 P **P** **11 59 20.0 +0.7**
CGM3 IAmb IAmb 11 59 41.1
comp=Z,11nm,1.0s
U54A Nelsons Funny 24.06 15 P **P** **11 59 22.4 +0.9**
U54A IAmb IAmb 11 59 24.1
comp=Z,25nm,1.4s
S44A Carbondale 24.22 1 P **P** **11 59 24.1 +1.3**
BLOK Blackwell 24.29 345 P **P** **11 59 24.5 +1.0**
BLOK IAmb IAmb 11 59 49.2
comp=Z,7.5nm,1.0s
S39A Bolivar 24.45 353 P **P** **11 59 25.4 +0.4**
S39A IAmb IAmb 11 59 43.4
comp=Z,8.8nm,1.1s
PCRV Puerto La Cruz 24.57 95 LR LR 12 10 16.5
comp=Z,70nm,20.1s,slow=40
OK032 Salt Plains WL 24.59 343 P **P** **11 59 26.8 +0.5**
OK032 IAmb IAmb 11 59 44.2
comp=Z,20nm,1.4s
KAN09 Caldwell North 24.74 344 P **P** **11 59 28.1 +0.5**
KAN09 IAmb IAmb 11 59 45.2
comp=Z,11nm,1.2s
ANMO Albuquerque 26.37 327 LR LR 12 11 34.6
comp=Z,41nm,19.3s,baz=240,slow=40
NNA Nana 28.16 153 LR LR 12 11 38.8
comp=Z,36nm,18.6s,baz=334,slow=37
PFO Pinyon Flats O 31.71 314 LR LR 12 14 04.4
comp=Z,86nm,20.6s,baz=128,slow=38
V12A Nelson 31.85 319 P **P** **12 00 33.4 +2.1**
V12A IAmb IAmb 12 00 34.3
comp=Z,3.9nm,1.0s
SADO Sadowa 32.52 14 LR LR 12 14 20.0
comp=Z,97nm,20.8s,baz=230,slow=38
COWI Conover 32.62 1 P **P** **12 00 37.0 -0.7**
ETMB Extrema 32.66 134 P **P** **12 00 38.3 0.0**
E43A Lone Tree Farm 32.96 3 P **P** **12 00 40.2 -0.5**
E43A IAmb IAmb 12 00 58.7
comp=Z,2.5nm,0.7s
PDAR Pinedale Array 34.02 333 P **P** **12 00 49.2 -1.0**
comp=Z,0.4nm,0.5s,baz=163,slow=9.4,SNR=2.2
PDAR PcP **PcP** **12 03 25.9 -0.9**
comp=Z,0.4nm,0.5s,baz=129,slow=7.2,SNR=2.9
PDAR LR LR 12 18 03.9
comp=Z,40nm,19.1s,baz=144,slow=42
comp=Z,0.4nm,0.5s
SAML Samuel 34.29 129 P **P** **12 00 51.3 -1.3**
B35A Bob, Littlefor 35.05 355 P **P** **12 00 57.2 -1.6**
B35A IAmb IAmb 12 01 16.1
comp=Z,5.1nm,1.4s
REDW Red Top Meadow 35.07 333 P **P** **12 01 00.1 +0.8**
TRQ Mont Tremblant 35.09 18 P **P** **12 00 58.4 -0.9**
SNOW Snow King Moun 35.10 333 P **P** **12 01 00.9 +1.3**
LOHW Long Hollow 35.16 333 P **P** **12 01 02.3 +2.3**
LOHW IAmb IAmb 12 01 39.9
comp=Z,1.7nm,0.7s
MOOW Moose Ponds 35.33 333 P **P** **12 01 02.0 +0.5**
ELK Elko 35.35 325 LR LR 12 17 23.4
comp=Z,72nm,18.1s,baz=168,slow=39
NVAR Mina Array Bea 35.68 320 P **P** **12 01 06.3 +1.7**
NVAR Mina Array Bea 35.68 320 P **P** **12 01 07.2 +2.6**
comp=Z,0.6nm,0.6s,baz=130,slow=8.3,SNR=8.3
NVAR PcP **PcP** **12 03 32.7 +1.0**
comp=Z,1.1nm,0.7s,baz=116,slow=4.1,SNR=7.5
NVAR LR LR 12 16 49.8
comp=Z,135nm,19.0s,baz=176,slow=38
comp=Z,0.6nm,0.6s
YHH Holmes Hill 36.20 334 P **P** **12 01 10.2 +1.1**
LPAZ La Paz 36.28 144 LR LR 12 15 30.1
comp=Z,78nm,19.8s,baz=306,slow=35
EGMT Eagleton 38.43 338 P **P** **12 01 28.4 +0.9**

EGMT				IAmb	IAmb	12 01 30.2	
	comp=Z,3.7nm,0.8s						
LYMT	**Lyon Mountain**	**38.55**	**335**	P	**P**	**12 01 29.7**	**+0.9**
BPMT	**Black Pine Rid**	**38.62**	**333**	P	**P**	**12 01 30.2**	**+0.8**
YBH	**Yreka Blue Hor**	**40.35**	**321**	LR	LR	12 20 31.6	
	comp=Z,95nm,20.1s,baz=176,slow=39						
LVC	**Limon Verde**	**41.08**	**150**	LR	LR	12 17 34.1	
	comp=Z,42nm,18.6s,baz=314,slow=34						
NEW	**Newport**	**41.64**	**332**	LR	LR	12 22 26.3	
	comp=Z,78nm,18.4s,baz=150,slow=41						
RPN	**Rapa Nui**	**44.62**	**205**	LR	LR	12 16 09.7	
	comp=Z,58nm,19.4s,baz=70,slow=29						
SCHQ	**Schefferville**	**45.01**	**18**	P	**P**	**12 02 18.7**	**-2.4**
	comp=Z,1.6nm,0.3s,baz=231,slow=14,SNR=11						
	comp=Z,1.6nm,0.3s						
BBB	**Bella Bella**	**49.49**	**330**	LR	LR	12 27 25.8	
	comp=Z,54nm,18.9s,baz=120,slow=40						
BDFB	**Brasília**	**50.17**	**124**	LR	LR	12 24 36.0	
	comp=Z,52nm,19.2s,baz=306,slow=36						
YKA	**Yellowknife Ar**	**52.20**	**346**	P	**P**	**12 03 15.2**	**-1.0**
	comp=Z,0.8nm,0.4s,baz=102,slow=4.7,SNR=38						
	comp=Z,0.8nm,0.4s						
FRB	**Frobisher Bay**	**52.41**	**12**	LR	LR	12 25 15.2	
	comp=Z,111nm,21.6s,baz=182,slow=36						
PLCA	**Paso Flores**	**56.64**	**163**	LR	LR	12 23 13.8	
	comp=Z,28nm,19.1s,baz=351,slow=31						
SFJD	**Kangerlussuaq**	**59.40**	**17**	LR	LR	12 29 33.3	
	comp=Z,38nm,19.8s,baz=252,slow=36						
RES	**Resolute Bay**	**61.37**	**358**	LR	LR	12 31 50.2	
	comp=Z,41nm,20.7s,baz=49,slow=37						
INK	**Inuvik**	**61.73**	**343**	LR	LR	12 34 46.3	
	comp=Z,56nm,18.4s,baz=192,slow=40						
ILAR	**Eielson Array**	**64.36**	**336**	P	**P**	**12 04 39.5**	**-1.5**
	comp=Z,0.2nm,0.4s,baz=130,slow=5.2,SNR=9.9						
ILAR				LR	LR	12 39 01.2	
	comp=Z,50nm,19.7s,baz=115,slow=42						
	comp=Z,0.2nm,0.4s						
MDT	**Midelt**	**78.66**	**59**	LR	LR	12 34 01.2	
	comp=Z,36nm,20.1s,baz=231,slow=30						
SPITS	**Spitsbergen Ar**	**80.21**	**12**	P	**P**	**12 06 14.3**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=292,slow=7.6,SNR=1.5						
SPITS				LR	LR	12 41 30.3	
	comp=Z,30nm,21.6s,baz=280,slow=36						
	comp=Z,2.9nm,0.7s						
NOA	**NORSAR Array B**	**83.54**	**29**	LR	LR	12 41 31.0	
	comp=Z,17nm,20.7s,baz=110,slow=34						
HFS	**Hagfors**	**84.97**	**29**	LR	LR	12 46 32.6	
	comp=Z,27nm,18.4s,baz=306,slow=37						
WRA	**Warramunga Arr**	**137.57**	**255**	PKP	**PKPdf**	**12 13 30.4**	**+0.8**
	comp=Z,0.4nm,0.5s,baz=86,slow=1.7,SNR=8.6						
ASAR	**Alice Springs**	**137.71**	**250**	PKP	**PKPdf**	**12 13 30.9**	**+1.1**
	comp=Z,0.4nm,0.7s,baz=92,slow=2.3,SNR=4.5						
CMAR	**Chiang Mai Arr**	**147.28**	**345**	PKPbc	**PKPbc**	**12 13 48.9**	**-0.3**
	comp=Z,1.4nm,0.6s,baz=344,slow=3.6,SNR=9.7						

LJU 22 11:59:25.0, 46.05N×13.62E, h0km, ML0.5, 1C, Explosion, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABO	**M.te Sabotino**	**0.07**	**189**	⇑*e*Pg	Pg	11 59 26.4	+0.1
DRE	**Drenchia**	**0.13**	**9**	*e*Pg	Pg	11 59 27.3	-0.1
COLI	**Coloredo**	**0.19**	**297**	*e*Pg	Pg	11 59 29.1	+0.6
VOJS	**Vojsko**	**0.19**	**95**	*i* Pg	Pg	11 59 28.5	-0.1
VOJS				*i* Sg	Sg	11 59 31.6	+0.5
VOJS				IAML		11 59 32.4	
	comp=Z,4.9nm,0.1s						
CADS	**Cadrg**	**0.20**	**25**	*i* Pg	Pg	11 59 28.7	-0.2
CADS				IAML		11 59 33.8	
	comp=Z,3.4nm,0.1s						
ROBS	**Robic**	**0.21**	**340**	*i* Pg	Pg	11 59 29.0	0.0
ROBS				IAML		11 59 35.0	
	comp=Z,2.0nm,0.1s						

VIE 22 12:00:12.4±0.1, 46.74N×14.57E, h0km, mb0.4/1, ml0.9/3, Error ellipse: s-maj=1.7km s-min=0.8km az=14.0, Suspected Mining explosion., Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.23**	**184**	*e*Pg	Pg	12 00 16.9	0.0
	0.6nm,0.1s						
OBKA				*e*Sg	Sg	12 00 20.3	+0.4
	4.3nm,0.1s						
SOKA	**Soboth**	**0.32**	**101**	*i* Pg	Pg	12 00 18.9	+0.3
	0.6nm,0.1s						
SOKA				*e*Sg	Sg	12 00 23.0	+0.3
	0.4nm,0.1s						
KBA	**Koelnbreinsper**	**0.91**	**292**	*e*Pg	Pg	12 00 29.9	+0.2
	0.2nm,0.1s						
KBA				Sg	Sg	12 00 42.5	+1.0
	0.5nm,0.1s						

*LDG **22** 12:00:19.3±0.1, 43.11N×0.85W, h2km, Md2.9/2, Ml3.0/20, Error ellipse: s-maj=2.0km s-min=1.7km az=102.0*
*STR **22** 12:00:19.9±0.7, 43°N±4°×±4°, h0km, MLv2.6/10, Error ellipse: s-maj=0.0km s-min=0.0km az=30.5, preliminary*
*MDD **22** 12:00:21.9±0.2, 43.08N×0.83W, h12km, mb_Lg2.9/61, Error ellipse: s-maj=1.6km s-min=1.0km az=3.0*
*SFS **22** 12:00:22.1, 43.11N×0.86W, h23km, ML3.1/6, ML3.4/5, MLv3.0/6*

ISC 22 12:00:17.6±0.7, 43.17N±0.02×0.84W±0.01, h0km, n75, σ1§83/146, 1C, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.13**	**128**	Pg	**Pg**	**12 00 22.2**	**+2.1**
ATE				Sg	**Sg**	**12 00 24.5**	**+2.7**
SJPF	**Ste Jean**	**0.29**	**259**	*e*Pg	**Pg**	**12 00 24.1**	**+1.0**
SJPF				*e*Sg	**Sg**	**12 00 28.4**	**+1.6**
	986nm,0.3s						
OSSF	**Osses**	**0.32**	**286**	Pg	**Pb**	**12 00 25.8**	**-0.5**
OSSF				Sg	**Sb**	**12 00 30.4**	**-1.6**
URDF	**Urds**	**0.33**	**34**	Pg	**Pn**	**12 00 28.4**	**-1.3**
ETSF	**Etsaut**	**0.34**	**142**	*e*Pg	**Pg**	**12 00 24.7**	**+0.6**
ETSF				*e*Sg	**Sg**	**12 00 28.8**	**+0.3**
	1μm,0.3s						
EORO	**Oroz-Betelu**	**0.44**	**232**	⇑Pg	**Pg**	**12 00 26.4**	**+0.3**
EORO				Sg	**Sg**	**12 00 31.4**	**-0.3**
EORO				*i* Vmb_Lg		12 00 33.3	
CANF	**Canfranc**	**0.47**	**149**	Pg	**Pg**	**12 00 27.1**	**+0.5**
CANF				Sg	**Sg**	**12 00 32.7**	**+0.1**
TEF	**Tercis-les-Bai**	**0.55**	**339**	Pg	**Pn**	**12 00 32.4**	**-0.3**
PYLO	**Lourdes**	**0.58**	**96**	Sg	**Sb**	**12 00 39.9**	**+0.3**
EARA	**Aranguren**	**0.67**	**234**	Pg	**Pg**	**12 00 31.7**	**+1.2**
EARA				Sg	**Sg**	**12 00 40.0**	**+0.9**
EARA				*i* Vmb_Lg		12 00 42.8	
EARA	**Aranguren**	**0.67**	**234**	Pg	**Pg**	**12 00 31.4**	**+0.9**
VIEF	**Viey**	**0.69**	**114**	Pg	**Pb**	**12 00 32.2**	**-0.4**
VIEF				Sg	**Sg**	**12 00 41.4**	**+1.4**
EPF	**Esparros**	**0.88**	**99**	*e*Pg	**Pb**	**12 00 36.5**	**+0.7**
EPF				*e*Sg	**Sb**	**12 00 49.0**	**+1.0**
	34nm,0.2s						
ECHI	**Chisagues Biel**	**0.91**	**123**	Pg	**Pg**	**12 00 35.6**	**+0.5**
ECHI				Sg	**Sg**	**12 00 48.0**	**+1.1**
ECHI				*i* Vmb_Lg		12 00 53.1	
ECHI	**Chisagues Biel**	**0.91**	**123**	Pg	**Pg**	**12 00 35.7**	**+0.6**
ECHI				Sg	**Sb**	**12 00 48.6**	**-0.6**
ESAC	**San Caprasio**	**1.47**	**169**	Pg	**Pn**	**12 00 42.5**	**-2.9**
ESAC				Sg	**Sg**	**12 01 02.3**	**-2.6**
SALF	**Salau**	**1.54**	**105**	Pg	**Pg**	**12 00 48.5**	**+1.3**
PAND	**Andorre**	**1.87**	**109**	Pg	**Pg**	**12 00 55.6**	**+2.1**
ELAN	**Lanestosa**	**1.90**	**273**	Pg	**Pg**	**12 00 54.7**	**+0.7**
ELAN				Sg	**Sg**	**12 01 20.1**	**+1.5**
ELAN				*i* Vmb_Lg		12 01 23.6	
MONQ	**Montcuq**	**1.90**	**50**	Pg	**Pg**	**12 00 56.7**	**+2.6**
LFF	**La Frestale**	**2.11**	**32**	*e*Pg	**Pg**	**12 01 00.0**	**+2.0**
LFF				*e*Sn	**Sn**	**12 01 20.1**	**-1.0**
LFF				*e*Sg	**Sg**	**12 01 27.5**	**+2.2**
	42nm,0.4s						
EMIR	**Miracle**	**2.15**	**125**	Pg	**Pg**	**12 00 59.2**	**+0.3**
EMIR				Sg	**Sg**	**12 01 27.1**	**+0.4**
EMIR				*i* Vmb_Lg		12 01 30.5	
MTLF	**Montolieu**	**2.24**	**84**	*e*Pn	**Pn**	**12 00 55.2**	**-0.8**
MTLF	**Montolieu**	**2.24**	**84**	*e*Pg	**Pg**	**12 01 00.3**	**-0.3**
MTLF				*e*Sg	**Sg**	**12 01 29.6**	**0.0**
	27nm,0.5s						
EPOB	**Poblet**	**2.31**	**141**	Pn	**Pn**	**12 00 57.5**	**+0.5**
EPOB				Pg	**Pb**	**12 01 01.0**	**+0.8**
EPOB				Sg	**Sb**	**12 01 30.4**	**+1.2**
EPOB				*i* Vmb_Lg		12 01 33.0	
ERTA	**Horta de San J**	**2.38**	**158**	Pn	**Pn**	**12 00 57.9**	**0.0**
ERTA				Pg	**Pb**	**12 01 01.7**	**+0.4**
ERTA				Sg	**Sb**	**12 01 32.1**	**+0.9**
ERTA				*i* Vmb_Lg		12 01 36.6	
ETOR	**Torete**	**2.51**	**202**	Pn	**Pn**	**12 01 00.3**	**+0.4**
ETOR				Sn	**Sn**	**12 01 30.2**	**-1.0**
ETOR				Sg	**Sb**	**12 01 37.0**	**+1.8**
ETOR				*i* Vmb_Lg		12 01 45.0	
E0901	**Celadas (Terue**	**2.69**	**185**	Pn	**Pn**	**12 01 03.1**	**+0.8**
E0901				Pg	**Pb**	**12 01 07.8**	**+1.0**
E0901				Sn	**Sn**	**12 01 34.6**	**-1.1**
E0901				*i* Vmb_Lg		12 01 52.6	
RJF	**Les Rejaudoux**	**2.73**	**38**	*e*Pn	**Pn**	**12 01 02.8**	**+0.1**
RJF	**Les Rejaudoux**	**2.73**	**38**	*e*Pg	**Pg**	**12 01 10.9**	**+1.0**
RJF				*e*Sn	**Sn**	**12 01 35.3**	**-1.1**
RJF				*e*Sg	**Sg**	**12 01 46.8**	**+1.5**
	18nm,0.3s						
CAF	**Calviac**	**2.73**	**49**	*e*Pn	**Pn**	**12 01 03.0**	**+0.2**
CAF				*e*Sn	**Sn**	**12 01 35.1**	**-1.5**
CAF				*e*Sg	**Sg**	**12 01 45.9**	**+0.4**
	28nm,0.5s						
EMOS	**Mosqueruela**	**2.81**	**174**	Pn	**Pn**	**12 01 05.1**	**+1.1**
EMOS				Pg	**Pg**	**12 01 11.0**	**-0.5**
EMOS				Sn	**Sn**	**12 01 37.5**	**-1.3**
EMOS				Sg	**Sb**	**12 01 44.8**	**+0.8**
EMOS				*i* Vmb_Lg		12 01 57.2	
EJON	**La Jonquera**	**2.84**	**103**	Pn	**Pn**	**12 04.0**	**-0.2**
EJON				Pg	**Pb**	**12 01 09.8**	**+0.6**
EJON				Sg	**Sg**	**12 01 48.0**	**-0.8**
EJON	**La Jonquera**	**2.84**	**103**	Pg	**Pb**	**12 01 10.4**	**+1.3**
EJON				Sg	**Sg**	**12 01 50.1**	**+1.3**
EJON				*i* Vmb_Lg		12 01 50.5	
EARI	**Arriondas**	**3.19**	**274**	Pn	**Pn**	**12 01 11.4**	**+2.3**
EARI				Sn	**Sn**	**12 01 48.4**	**+0.5**
EARI				*i* Vmb_Lg		12 01 50.8	
UCM	**Universidad Co**	**3.38**	**213**	Sg	**Sb**	**12 02 00.4**	**+0.5**
ECOL	**Islas Columbre**	**3.46**	**160**	Sg	**Sb**	**12 02 04.4**	**+2.1**
MFF	**Saint Martin d**	**3.47**	**8**	*e*Pn	**Pn**	**12 01 13.1**	**+0.2**
MFF	**Saint Martin d**	**3.47**	**8**	*e*Pg	**Pg**	**12 01 24.8**	**+0.7**
MFF				*e*Sg	**Sg**	**12 02 10.0**	**+0.9**
	17nm,0.4s						
LASF	**Ste Croix**	**3.53**	**73**	*e*Pn	**Pn**	**12 01 13.8**	**0.0**
GUD	**Guadarrama**	**3.53**	**226**	Pn	**Pn**	**12 01 14.7**	**+0.9**
GUD				Sn	**Sn**	**12 01 54.1**	**-2.3**
ECHE	**Chera**	**3.57**	**182**	Pn	**Pn**	**12 01 15.3**	**+1.0**
ECHE				Sg	**Sb**	**12 02 07.0**	**+1.3**
ECHE	**Chera**	**3.57**	**182**	Pn	**Pn**	**12 01 16.7**	**+2.4**
ECHE				Sg	**Sb**	**12 02 07.2**	**+1.5**
ECHE				*i* Vmb_Lg		12 02 21.8	
TCF	**Toulx Ste Croi**	**3.80**	**34**	*e*Pn	**Pn**	**12 01 17.9**	**+0.4**
TCF	**Toulx Ste Croi**	**3.80**	**34**	*e*Pg	**Pg**	**12 01 31.3**	**+0.8**
TCF				*e*Sn	**Sn**	**12 02 00.3**	**-2.7**
TCF				*e*Sg	**Sg**	**12 02 19.8**	**0.0**
	8.3nm,0.3s						
ESDC	**Sonseca Array**	**4.21**	**215**	Sn	**Sn**	**12 02 11.3**	**-1.6**
ESDC				Sg	**Sg**	**12 02 29.6**	**-3.2**
ESDC				*i* Vmb_Lg		12 02 32.2	
BGF	**Bois d'Agland**	**4.29**	**36**	*e*Pn	**Pn**	**12 01 24.4**	**+0.3**
BGF				*e*Sg	**Sg**	**12 02 35.3**	**0.0**
	23nm,0.3s						
EJUZ	**Juzbado, Salam**	**4.29**	**243**	Pn	**Pn**	**12 01 25.2**	**+0.9**
EJUZ				Sn	**Sn**	**12 02 12.4**	**-2.6**
EJUZ				Sg	**Sb**	**12 02 29.7**	**+3.4**
VIVF	**Saint-Julien-l**	**4.32**	**65**	*e*Sg	**Sg**	**12 02 35.5**	**-0.9**
	3.2nm,0.3s						
EIBI	**Ibiza**	**4.45**	**158**	Pn	**Pn**	**12 01 26.3**	**-0.1**
EIBI				Sn	**Sn**	**12 02 14.1**	**-4.8**
EIBI	**Ibiza**	**4.45**	**158**	Pn	**Pn**	**12 01 26.4**	**-0.1**
EIBI				Sn	**Sn**	**12 02 14.5**	**-4.4**
PAB	**San Pablo**	**4.48**	**217**	Pn	**Pn**	**12 01 27.2**	**+0.3**
PAB				Sn	**Sn**	**12 02 16.5**	**-3.2**
AFON	**Font Roja**	**4.50**	**177**	Pn	**Pn**	**12 01 28.2**	**+1.0**
ECAL	**Calabor**	**4.52**	**256**	Pn	**Pn**	**12 01 28.6**	**+1.1**
ECAL				Sn	**Sn**	**12 02 16.4**	**-4.4**
ECAL	**Calabor**	**4.52**	**256**	Pn	**Pn**	**12 01 28.4**	**+1.0**
ECAL				Sn	**Sn**	**12 02 18.3**	**-2.5**
ETOB	**Tobarra**	**4.55**	**187**	Pn	**Pn**	**12 01 27.8**	**0.0**
ETOB	**Tobarra**	**4.55**	**187**	Pn	**Pn**	**12 01 28.7**	**+0.9**
ETOB				Sn	**Sn**	**12 02 21.3**	**-0.1**
PBRG	**Braganca**	**4.57**	**255**	*e*Pn	**Pn**	**12 01 29.9**	**+1.8**
PBRG				*e*Sn	**Sn**	**12 02 21.1**	**-0.8**
EPON	**Pontenova**	**4.61**	**274**	Pn	**Pn**	**12 01 32.2**	**+3.6**
EPON				Sn	**Sn**	**12 02 22.4**	**-0.4**
EPON				*i* Vmb_Lg		12 02 36.6	
AVF	**Avril sur Loir**	**4.69**	**38**	*e*Pn	**Pn**	**12 01 29.5**	**-0.1**
AVF				*e*Sn	**Sn**	**12 02 22.4**	**-2.3**
AVF				*e*Sg	**Sg**	**12 02 47.5**	**-0.7**
	6.2nm,0.4s						
SMF	**Signal de Mont**	**4.81**	**42**	*e*Pn	**Pn**	**12 01 31.7**	**+0.4**
SMF				*e*Sg	**Sg**	**12 02 51.9**	**-0.3**
	4.0nm,0.4s						
PSIM	**Granatula de C**	**4.87**	**208**	Pn	**Pn**	**12 01 31.5**	**-0.7**
PSIM				Sn	**Sn**	**12 02 24.6**	**-4.7**
SSF	**Saint Saulge**	**4.96**	**37**	*e*Pn	**Pn**	**12 01 33.4**	**0.0**
SSF				*e*Sn	**Sn**	**12 02 28.6**	**-2.9**
SSF				*e*Sg	**Sg**	**12 02 56.9**	**-0.1**
	3.9nm,0.3s						
EPLA	**Plasencia**	**5.00**	**233**	Pn	**Pn**	**12 01 35.5**	**+1.5**
EPLA				Sn	**Sn**	**12 02 29.2**	**-3.3**
EPLA				*i* Vmb_Lg		12 03 12.9	
MVO	**Moncorvo**	**5.01**	**249**	*e*Pn	**Pn**	**12 01 35.6**	**+1.4**
MVO				*e*Sn	**Sn**	**12 02 29.8**	**-3.1**
QUIF	**Quistinic**	**5.02**	**342**	*e*Pn	**Pn**	**12 01 34.7**	**+0.5**
QUIF				*e*Sn	**Sn**	**12 02 31.8**	**-1.1**
	3.2nm,0.2s						
SGMF	**Saint Gilles**	**5.23**	**347**	*e*Pg	**Pg**	**12 01 56.1**	**-1.7**
SGMF				*e*Sn	**Sn**	**12 02 33.7**	**-4.3**
SGMF				*e*Sg	**Sg**	**12 03 04.2**	**-1.3**
	2.2nm,0.3s						
LOR	**Lormes**	**5.28**	**37**	*e*Sg	**Sg**	**12 03 08.3**	**+1.2**
	3.2nm,0.3s						
EAGO	**Agolada(Pontev**	**5.33**	**269**	Pn	**Pn**	**12 01 40.2**	**+1.7**
EAGO				Sn	**Sn**	**12 02 40.6**	**+0.1**
ROSF	**Rostrenen**	**5.44**	**343**	*e*Pn	**Pn**	**12 01 39.7**	**-0.3**
LDF	**La Druitiere**	**5.45**	**5**	*e*Pn	**Pn**	**12 01 42.0**	**+1.9**
LDF				*e*Sn	**Sn**	**12 02 38.0**	**-5.5**
LDF				*e*Sg	**Sg**	**12 03 11.2**	**-1.5**
	1.8nm,0.3s						
POLO	**Lamas de Olo**	**5.46**	**253**	*e*Pn	**Pn**	**12 01 41.5**	**+1.2**
ELOB	**Lobios**	**5.49**	**259**	Pn	**Pn**	**12 01 41.1**	**+0.3**
ELOB				Sn	**Sn**	**12 02 40.7**	**-3.9**
EADA	**Adamuz**	**5.75**	**211**	Pn	**Pn**	**12 01 44.3**	**+0.1**
EADA				Sn	**Sn**	**12 02 45.9**	**-4.9**
EADA				*i* Vmb_Lg		12 03 30.9	
ECAB	**El Cabril**	**6.16**	**216**	Pn	**Pn**	**12 01 50.5**	**+0.6**
ECAB				Sn	**Sn**	**12 02 54.2**	**-6.9**
ECAB				*i* Vmb_Lg		12 03 52.8	

*DNK **22** 12:05:26.2±0.9, 59.42N×23.97E, h40km, ML3.0*
*EST **22** 12:05:28.8, 59.52N×22.95E, h0km, ML2.4(HEL), Explosion*
*HEL **22** 12:05:28.8±0.1, 59.52N×22.95E, h0km, ML2.4, Explosion*
*IDC **22** 12:05:30.0±1.0, 59.67N×22.94E, h0km, mbtmp3.3/5, ML3.0/5, Error ellipse: s-maj=11.7km s-min=6.5km az=158.0*
*UPP **22** 12:05:30.2±1.6, 59.59N×22.66E, h0km, ML1.8*
*LVSN **22** 12:05:30.1±3.8, 59.52N×22.91E, h0km±34km, ML2.6*

ISC 22 12:05:26.7±0.7, 59.55N±0.02×22.94E±0.02, h0km, n54, σ1§39/84, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.49**	**134**	*e*P	**Pg**	**12 05 36.7**	**+0.7**
EE01				*e*S	**Sg**	**12 05 42.8**	**+0.6**
MTSE	**Matsula**	**0.95**	**151**	*e*P	**Pg**	**12 05 45.5**	**+0.7**
MTSE	**Matsula**	**0.95**	**151**	*e*P	**Pg**	**12 05 45.8**	**+1.0**
MTSE				*e*S	**Sg**	**12 05 57.7**	**+0.6**
MTSE	**Matsula**	**0.95**	**151**	*e*P	**Pg**	**12 05 45.3**	**+0.5**
MTSE				*e*S	**Sg**	**12 05 57.7**	**+0.6**
EE02	**Kiisa, Saku**	**0.97**	**111**	*e*P	**Pg**	**12 05 45.5**	**+0.4**
EE02				*e*S	**Sg**	**12 05 58.1**	**+0.4**
MEF	**Metsahovi**	**1.00**	**47**	*e*P	**Pb**	**12 05 47.5**	**+0.7**
MEF	**Metsahovi**	**1.00**	**47**	*e*P	**Pb**	**12 05 47.4**	**+0.6**
MEF				*e*S	**Sb**	**12 06 00.3**	**-0.1**
MEF				AML	AML	12 06 07.8	
	comp=N,50nm,0.3s						
MEF				AML	AML	12 06 08.4	
	comp=Z,47nm,0.7s						
MEF				AML	AML	12 06 09.3	
	comp=E,49nm,0.3s						
MEF	**Metsahovi**	**1.00**	**47**	*e*P	**Pb**	**12 05 46.9**	**+0.1**
MEF				*e*S	**Sg**	**12 05 59.6**	**+0.9**
MEF				MSG		12 06 01.2	
	comp=Z,43nm,0.2s						
HEL1	**Helsinki**	**1.17**	**56**	*e*P	**Pb**	**12 05 49.8**	**+0.1**
HEL1				*e*S	**Sb**	**12 06 05.7**	**+0.3**
NUR	**Nurmijrvi**	**1.29**	**41**	*e*P	**Pg**	**12 05 51.9**	**+0.5**
NUR				*e*S	**Sg**	**12 06 08.8**	**+0.6**
NUR				MSG		12 06 10.7	
	comp=Z,30nm,0.3s						
EE08	**Sarghaua, Vand**	**1.48**	**126**	*e*P	**Pn**	**12 05 54.8**	**+0.2**
EE08				*e*S	**Sg**	**12 06 14.1**	**-0.2**
ARBE	**Arbavere**	**1.56**	**93**	*e*P	**Pb**	**12 05 56.8**	**+0.5**
ARBE	**Arbavere**	**1.56**	**93**	*e*P	**Pg**	**12 05 57.2**	**+0.7**
ARBE				*e*S	**Sg**	**12 06 17.4**	**+0.8**
ARBE				AML	AML	12 06 17.8	
	comp=Z,179nm,0.2s						
ARBE				AML	AML	12 06 17.8	
	comp=E,535nm,0.2s						
ARBE				AML	AML	12 06 22.8	
	comp=N,412nm,0.2s						
ARBE	**Arbavere**	**1.56**	**93**	*e*P	**Pb**	**12 05 56.8**	**+0.5**
ARBE				*e*S	**Sn**	**12 06 16.4**	**0.0**
RAF	**Rauma**	**1.59**	**339**	*e*P	**Pb**	**12 05 57.4**	**+0.4**
RAF	**Rauma**	**1.59**	**339**	*e*P	**Pb**	**12 05 57.5**	**+0.6**
RAF				*e*S	**Sg**	**12 06 19.0**	**+1.1**
RAF				AML	AML	12 06 22.1	
	comp=N,36nm,0.3s						
RAF				AML	AML	12 06 22.7	
	comp=E,69nm,0.3s						
RAF				AML	AML	12 06 23.8	
	comp=Z,25nm,0.2s						
RAF	**Rauma**	**1.59**	**339**	*e*P	**Pb**	**12 05 57.5**	**+0.6**
RAF				*e*S	**Sg**	**12 06 18.7**	**+0.8**
AAL	**Aland**	**1.62**	**294**	P	**Pn**	**12 05 57.1**	**+0.7**
AAL				S	**Sn**	**12 06 18.0**	**+0.1**
PVF	**Pernaja**	**1.78**	**54**	*e*P	**Pb**	**12 06 00.5**	**+0.5**
PVF				*e*S	**Sg**	**12 06 24.2**	**+0.5**
EE03	**Tooma soojaam,**	**1.84**	**110**	*e*SN	**Sg**	**12 06 25.9**	**+0.1**
SLIT	**Slitere, Latvi**	**1.95**	**190**	*e*P	**Pn**	**12 05 59.6**	**-1.4**
SLIT	**Slitere, Latvi**	**1.95**	**190**	*e*P	**Pn**	**12 06 01.9**	**+1.0**
SLIT				*e*S	**Sb**	**12 06 28.1**	**+0.3**
SLIT				AML	AML	12 06 29.9	
	comp=E,576nm,0.2s						
SLIT				AML	AML	12 06 30.0	
	comp=N,396nm,0.3s						
SLIT				AML	AML	12 06 30.0	
	comp=Z,209nm,0.2s						
SLIT	**Slitere, Latvi**	**1.95**	**190**	*e*P	**Pn**	**12 06 01.7**	**+0.7**
SLIT				*e*S	**Sn**	**12 06 27.5**	**+1.4**
NRTU	**Norrtaelje**	**2.19**	**275**	P	**Pn**	**12 06 05.8**	**+1.4**
VSU	**Vasula**	**2.24**	**117**	*e*P	**Pb**	**12 06 07.4**	**-0.6**
VSU				*e*S	**Sb**	**12 06 37.2**	**+0.9**
VSU				AML	AML	12 06 39.8	
	comp=Z,74nm,0.3s						
VSU				AML	AML	12 06 41.8	
	comp=E,96nm,0.3s						
VSU				AML	AML	12 06 41.9	
	comp=N,111nm,0.3s						
VSU	**Vasula**	**2.24**	**117**	*e*P	**Pb**	**12 06 07.4**	**-0.6**
VSU				*e*S	**Sn**	**12 06 32.6**	**-0.7**
VSU				*e*SG	**Sb**	**12 06 37.1**	**+0.8**
KPF	**Kankaanpaa**	**2.34**	**350**	*e*P	**Pb**	**12 06 09.8**	**+0.2**
KPF				*e*S	**Sb**	**12 06 38.2**	**-0.8**
KPF				MSG		12 06 43.2	
	comp=Z,18nm,0.2s						
GRAU	**Graesoe**	**2.35**	**292**	P	**Pn**	**12 06 07.8**	**+1.3**
FIA0	**FINESS Array S**	**2.46**	**38**	*e*P	**Pb**	**12 06 11.0**	**-0.7**
FIA0				*e*SB	**Sb**	**12 06 42.8**	**+0.4**
FINES	**FINESS Array B**	**2.46**	**38**	Pn	**Pb**	**12 06 10.8**	**-0.9**
	comp=Z,8.5nm,0.3s,baz=221,slow=13,SNR=85						
FINES				Lg	Lg	12 06 43.2	
	comp=Z,12nm,0.3s,baz=222,slow=31,SNR=26						
	comp=Z,12nm,0.3s						
FIA1	**FINESS Array S**	**2.46**	**38**	*e*P	**Pb**	**12 06 11.1**	**-0.6**
FIA1				*e*S	**Sb**	**12 06 41.0**	**-1.4**
FIA1				MSG		12 06 46.8	
	comp=Z,29nm,0.3s						
VJF	**Virojoki**	**2.52**	**65**	*e*SG	**Sg**	**12 06 46.4**	**-1.2**
FORU	**Forsmark**	**2.54**	**291**	P	**Pn**	**12 06 10.9**	**+1.8**
NYNU	**Nynaeshamn**	**2.59**	**260**	P	**Pn**	**12 06 11.5**	**+1.8**
FLYU	**Flymyra**	**2.62**	**285**	P	**Pn**	**

CRUC					S		**Sn**	**12 10 10.8**	**+1.9**
NORC	**Norcasia**	**3.65**	**79**		P		**Pn**	**12 09 27.9**	**+1.1**
NORC					S		**Sn**	**12 10 09.4**	**-0.6**
BETC	**Betania**	**3.70**	**125**		P		**Pn**	**12 09 30.9**	**+3.4**
BETC					S		**Sn**	**12 10 12.0**	**+0.7**
PRAC	**Prado**	**3.74**	**107**		P		**Pn**	**12 09 29.7**	**+1.6**
PRAC					P		Pb	12 09 29.9	-6.5
PRAC					P		Pb	12 09 29.9	-6.5
PRAC					S		**Sn**	**12 10 12.1**	**-0.1**
GARC	**Garzon, Huila**	**3.97**	**132**		P		**Pn**	**12 09 34.1**	**+2.7**
GARC					S		**Sn**	**12 10 19.4**	**+1.2**
UREC	**San Jos de Ur**	**4.10**	**45**		P		**Pn**	**12 09 34.7**	**+1.7**
ROSC	**El Rosal**	**4.13**	**90**	Pn			**Pn**	**12 09 36.9**	**+3.2**
	7.4nm,0.3s,baz=274,slow=14,SNR=6.7								
ROSC					Sn		**Sn**	**12 10 26.9**	**+4.6**
	1.1nm,0.3s,baz=300,slow=20,SNR=3.7 19nm,0.3s								
FLOC	**Florencia**	**4.29**	**139**		P		**Pn**	**12 09 38.4**	**+2.8**
FLOC					P		Pb	12 09 38.7	-7.0
FLOC					S		**Sn**	**12 10 26.7**	**+1.0**
URMC	**La Uribe, Meta**	**4.37**	**111**		P		**Pn**	**12 09 38.4**	**+1.6**
URMC					S		**Sn**	**12 10 28.4**	**+0.5**
SPBC	**San Pablo de B**	**4.45**	**79**		P		**Pn**	**12 09 39.4**	**+1.6**
SPBC					S		**Sn**	**12 10 30.6**	**+0.9**
CHIC	**Chingaza**	**4.72**	**92**		P		**Pn**	**12 09 44.8**	**+2.9**
CHIC					P		**Pn**	**12 09 44.9**	**+3.0**
CHIC					P		Pb	12 09 45.2	-8.2
CHIC					S		**Sn**	**12 10 38.2**	**+1.3**
VILC	**Villavicencio,**	**4.81**	**98**		P		**Pn**	**12 09 46.6**	**+3.7**
VILC					S		**Sn**	**12 10 43.1**	**+4.3**
BARC	**Barichara**	**5.54**	**71**		P		**Pn**	**12 09 54.9**	**+2.0**
BARC					S		**Sn**	**12 10 57.6**	**+0.8**
JTS	**Las Juntas de**	**8.40**	**310**	LR			LR	12 13 32.4	
	comp=Z,110nm,18.7s,baz=104,slow=36								
SDV	**Santo Domingo**	**8.75**	**62**	Pn			**Pn**	**12 10 38.9**	**+1.9**
	2.5nm,0.3s,baz=233,slow=20,SNR=3.5								
SDV					Sn		**Sn**	**12 12 19.0**	**+3.1**
	1.6nm,0.3s,baz=240,slow=20,SNR=1.8 9.0nm,0.3s								
PDAR	**Pinedale Array**	**46.76**	**329**	P			**P**	**12 17 00.7**	**+0.6**
	0.2nm,0.4s,baz=129,slow=13,SNR=2.0 0.2nm,0.4s								
YKA	**Yellowknife Ar**	**63.39**	**342**	P			**P**	**12 18 59.6**	**0.0**
	0.5nm,0.7s,baz=121,slow=7.5,SNR=10 0.5nm,0.7s								
ILAR	**Eielson Array**	**76.54**	**336**	P			**P**	**12 20 21.1**	**+0.7**
	0.2nm,0.5s,baz=107,slow=4.4,SNR=4.8 0.2nm,0.5s								
STKA	**Stephens Creek**	**133.86**	**229**	PKP			**PKPdf**	**12 27 46.8**	**-1.4**
	0.6nm,0.3s,baz=132,slow=18,SNR=5.3								
ASAR	**Alice Springs**	**143.63**	**236**	PKP			PKPab	12 28 04.6	+1.7
	1.4nm,0.7s,baz=114,slow=3.5,SNR=18								
WRA	**Warramunga Arr**	**144.73**	**242**	PKP			**PKPab**	**12 28 08.5**	**+1.4**
	3.2nm,0.8s,baz=110,slow=2.9,SNR=16								

*IDC **22** 12:27:33.9±3.2, 49.°73N×153.°66E, h194km±28km, mb3.0/8, mbtmp3.5/9, Error ellipse: s-maj=31.7km s-min=22.8km az=0.0*
*KRSC **22** 12:27:35.4±2.5, 49.°58N×154.°65E, h221km±10km, Ml4.2*
ISC 22 12:27:33.9±1.0, 49.°6N±0.°1×153.°9E±0.°1, h200km, n31, σ1§37/30, mb3.1/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.80**	**52**		*e*S		**Sn**	**12 28 39.0**	**+0.2**
PAU	**Pauzhetka**	**2.65**	**44**		*e*P		**Pn**	**12 28 20.2**	**+0.8**
KDTR	**Khodutka, Kamc**	**3.47**	**49**		*e*P		**Pn**	**12 28 28.0**	**-1.0**
KDTR					*e*S		**Sn**	**12 29 07.7**	**-4.6**
ASAK	**Asacha**	**3.77**	**41**		*e*P		**Pn**	**12 28 33.5**	**+0.6**
APC	**Apacha**	**3.92**	**30**		*e*P		**Pn**	**12 28 34.6**	**+0.1**
MTVR	**Mutnovka**	**3.96**	**42**		*e*P		**Pn**	**12 28 35.5**	**+0.2**
GRL	**Gorelyy**	**3.97**	**40**		*e*P		**Pn**	**12 28 36.0**	**+0.7**
RUS	**Russkaya**	**4.08**	**44**		*e*P		**Pn**	**12 28 35.7**	**-0.8**
KRMR	**Karymshinskiy**	**4.20**	**38**		*e*P		**Pn**	**12 28 38.1**	**0.0**
PETK	**Petropavlovsk-**	**4.25**	**33**	P			**Pn**	**12 28 38.2**	**-0.6**
	16nm,0.6s,baz=193,slow=12,SNR=54								
PETK					S		**Sn**	**12 29 33.0**	**+3.1**
	1.4nm,0.6s,baz=208,slow=16,SNR=1.7								
PET	**Petropavlovsk**	**4.55**	**39**		*e*P		**Pn**	**12 28 43.5**	**+1.0**
DALK	**Dalny**	**4.60**	**40**		*e*P		**Pn**	**12 28 43.9**	**+0.8**
KOK	**Koryaka**	**4.75**	**37**		*e*P		**Pn**	**12 28 45.9**	**+0.8**
UGLR	**Uglovaya**	**4.76**	**39**		*e*P		**Pn**	**12 28 46.2**	**+0.9**
AVH	**Avacha**	**4.77**	**38**		*e*P		**Pn**	**12 28 46.5**	**+1.2**
SMAR	**Somma**	**4.79**	**38**		*e*P		**Pn**	**12 28 46.9**	**+1.2**
KRX	**Arik**	**4.80**	**36**		*e*P		**Pn**	**12 28 45.3**	**-0.5**
SPN	**Mys Shipunski**	**5.21**	**45**		*e*P		**Pn**	**12 28 50.3**	**-0.6**
TUMR	**Tumrok**	**6.86**	**31**		*e*P		**Pn**	**12 29 13.5**	**+1.2**
H11S1	**WAKE ISLAND Hy**	**32.68**	**157**	T			T	13 07 29.1	
	baz=344,slow=76,SNR=6.2								
H11S3	**WAKE ISLAND Hy**	**32.69**	**157**	T			T	13 07 28.3	
	baz=344,slow=76,SNR=4.5								
H11S2	**WAKE ISLAND Hy**	**32.70**	**157**	T			T	13 07 30.2	
	baz=344,slow=76,SNR=4.7								
ILAR	**Eielson Array**	**34.03**	**41**	P			**P**	**12 33 59.0**	**+0.5**
	0.2nm,0.5s,baz=269,slow=7.8,SNR=4.9 0.2nm,0.5s								
MKAR	**Makanchi Array**	**46.14**	**295**	P			**P**	**12 35 37.0**	**-1.2**
	0.2nm,0.4s,baz=62,slow=7.1,SNR=2.6 0.2nm,0.4s								
KURBB	**Kurchatov Arra**	**46.36**	**302**	P			**P**	**12 35 38.3**	**-1.4**
	0.4nm,0.5s,baz=65,slow=8.5,SNR=4.7 0.4nm,0.5s								
BVAR	**Borovoye Array**	**49.48**	**308**	P			**P**	**12 36 02.5**	**-1.1**
	0.4nm,0.4s,baz=71,slow=9.3,SNR=2.6 0.4nm,0.4s								
FINES	**FINESS Array B**	**61.69**	**334**	P			**P**	**12 37 29.6**	**-0.6**
	0.3nm,0.4s,baz=34,slow=8.4,SNR=5.0 0.3nm,0.4s								
AKASG	**Malin Array Be**	**69.47**	**326**	P			**P**	**12 38 20.1**	**-0.1**
	0.4nm,0.3s,baz=50,slow=0.7,SNR=2.2 0.4nm,0.3s								
ASAR	**Alice Springs**	**75.07**	**199**	P			**P**	**12 38 54.7**	**+1.2**
	0.3nm,0.9s,baz=12,slow=5.3,SNR=2.1 0.3nm,0.9s								
TXAR	**Lajitas Array**	**75.66**	**62**	P			**P**	**12 38 57.8**	**+0.6**
	0.1nm,0.5s,baz=310,slow=5.7,SNR=1.4 0.1nm,0.5s								
QSPA	**South Pole Qui**	**139.33**	**180**	PKP			**PKPdf**	**12 46 36.6**	**+0.8**
	1.6nm,1.1s,baz=18,slow=3.2,SNR=2.0								

*IDC **22** 12:35:04.5±1.5, 31.°30N×77.°80E, h0km, mb3.5/6, mbtmp3.5/8, ML3.0/2, MS3.2/1, Error ellipse: s-maj=52.5km s-min=20.1km az=61.0*
*NDI **22** 12:35:14.0±3.5, 31.°75N×78.°42E, h5km, ML3.4, MW3.5*
ISC 22 12:35:09.1±1.6, 31.°86N±0.°05×78.°55E±0.°05, h12km±11km, n20, σ1§95/29, mb3.6/6, Western Xizang-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SMLA	**Simla**	**1.39**	**239**		*e*P		**Pg**	**12 35 35.8**	**+0.1**
SMLA					*e*S		**Sg**	**12 35 54.8**	**+1.1**
SMLA					IAML			12 35 57.6	
	comp=N,1μm,0.7s								
SMLA					IAML			12 35 58.1	
	comp=E,728nm,0.6s								
DDI	**Dehra Dun**	**1.59**	**195**		*e*P		**Pg**	**12 35 39.3**	**-0.3**
DDI					IAML			12 36 03.9	
	comp=E,749nm,0.5s								
DDI					IAML			12 36 04.2	
	comp=N,460nm,0.5s								
BHK	**Bhakra**	**1.87**	**257**		*e*P		**Pg**	**12 35 45.0**	**0.0**
BHK					*e*S		**Sg**	**12 36 09.8**	**+0.6**
BHK					IAML			12 36 12.7	
	comp=E,2μm,0.4s								
BHK					IAML			12 36 13.1	
	comp=N,2μm,0.5s								
DHRM	**DHARAMSHALA**	**1.95**	**282**		*e*P		**Pg**	**12 35 45.8**	**-0.6**
DHRM					*e*S		**Sg**	**12 36 12.5**	**+0.8**
DHRM					IAML			12 36 16.9	
	comp=E,605nm,0.5s								
DHRM					IAML			12 36 17.3	
	comp=N,600nm,0.6s								
THN	**Thein Dam**	**2.47**	**284**		*e*P		**Pb**	**12 35 52.6**	**-0.7**
THN					*e*S		**Sb**	**12 36 24.3**	**+0.7**
THN					IAML			12 36 30.4	
	comp=N,125nm,0.3s								
THN					IAML			12 36 30.6	
	comp=E,165nm,0.3s								
PTH	**Pithoragarh**	**2.72**	**148**		*e*P		**Pb**	**12 35 59.0**	**+1.3**
PTH					*e*S		**Sb**	**12 36 31.8**	**+0.7**
LGTI	**Lohaghat**	**2.81**	**148**		*e*P		**Pb**	**12 35 57.5**	**-1.8**
LGTI					*e*S		**Sb**	**12 36 32.6**	**-1.1**
LGTI					IAML			12 36 38.8	
	comp=N,87nm,0.8s								
LGTI					IAML			12 36 41.8	
	comp=E,84nm,0.6s								
JMU	**Jammu**	**3.20**	**286**		*e*P		**Pb**	**12 36 04.7**	**-1.2**
JMU					*e*S		**Sb**	**12 36 44.9**	**+0.1**
NDI	**New Delhi**	**3.37**	**200**		*e*P		**Pb**	**12 36 07.4**	**-1.4**
NDI					*e*S		**Sn**	**12 36 44.0**	**+2.6**
SONA	**Sohna**	**3.82**	**200**		*e*P		**Pb**	**12 36 12.9**	**-3.5**
SONA					*e*S		**Sn**	**12 36 56.0**	**+3.6**
KUDL	**Kundal**	**4.11**	**206**		*e*P		**Pn**	**12 36 13.4**	**+1.7**
KUDL					*e*S		**Sn**	**12 36 59.7**	**-0.1**
MKAR	**Makanchi Array**	**15.19**	**10**	Pn			**P**	**12 38 48.5**	**+0.1**
	comp=E,0.2nm,0.3s,baz=195,slow=10,SNR=7.4 comp=E,0.7nm,0.6s								
KURBB	**Kurchatov Arra**	**18.75**	**360**	P			**Pn**	**12 39 29.6**	**+1.5**
	baz=189,slow=11,SNR=6.6 comp=E,0.9nm,0.9s								
BVAR	**Borovoye Array**	**21.96**	**347**	P			**P**	**12 40 04.8**	**+2.2**
	comp=E,1.2nm,0.4s,baz=153,slow=12,SNR=10 comp=E,1.2nm,0.4s								
ZALV	**Zalesovo Beam**	**22.53**	**10**	P			**P**	**12 40 13.1**	**+4.5**
	comp=E,0.7nm,0.6s,baz=201,slow=8.9,SNR=3.5 comp=E,0.7nm,0.6s								
CMAR	**Chiang Mai Arr**	**22.73**	**121**	P			**P**	**12 40 10.3**	**-0.7**
	comp=E,0.7nm,0.6s,baz=309,slow=9.2,SNR=1.9 comp=E,0.7nm,0.6s								
KBZ	**Khabaz**	**30.33**	**303**	LR			LR	12 55 05.6	
	comp=E,46nm,19.7s,baz=212,slow=40								
AKASG	**Malin Array Be**	**40.70**	**312**	P			**P**	**12 42 45.4**	**-3.9**
	comp=E,0.4nm,0.3s,baz=111,slow=8.5,SNR=1.3 comp=E,0.4nm,0.3s								
WRA	**Warramunga Arr**	**74.22**	**126**	P			**P**	**12 46 44.3**	**-1.8**
	comp=E,0.7nm,0.8s,baz=317,slow=6.2,SNR=4.6 comp=E,0.7nm,0.8s								
ASAR	**Alice Springs**	**76.48**	**129**	P			**P**	**12 46 58.5**	**-0.6**
	comp=E,0.5nm,0.8s,baz=323,slow=6.0,SNR=2.3 comp=E,0.5nm,0.8s								

*IDC **22** 12:37:05.5±0.4, 12.°83S×45.°63E, h0km, mb4.5/28, mbtmp4.5/31, ML5.0/4, MS4.1/51, Error ellipse: s-maj=14.7km s-min=10.8km az=83.0*
*MOS **22** 12:37:06.7±0.8, 12.°79S×45.°56E, h19km, mb5.2/56, Error ellipse: s-maj=9.2km s-min=4.7km az=97.2*
*NEIC **22** 12:37:08.1±1.8, 12.°85S±0.°06×45.°62E±0.°09, h10km±1km, mb5.1/134, Error ellipse: s-maj=14.6km s-min=9.9km az=251.0*
*GCMT **22** 12:37:12.1±0.2, 12.°78S±0.°01×45.°60E±0.°02, h41km±2km, MW5.0/118, Moment Tensor Solution. s31,c39; s118,c162; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.26±.25; $M_{\theta\theta}$2.22±.16; $M_{\phi\phi}$-3.47±.16; $M_{r\theta}$-3.09±.20; $M_{\theta\phi}$-0.69±.11; $M_{\phi r}$-1.63±.17; Best double couple: M_o4.67000×10^{16} NP1:ϕ_s227.00000°, δ79.00000°, λ130.00000°. NP2:ϕ_s330.00000°, δ41.00000°, λ16.00000°. Principal axes: T 4.9030, Plg42.0000°, Azm175.0000°; N -0.4560, Plg39.0000°, Azm39.0000°; P -4.4370, Plg24.0000°, Azm288.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 22 12:37:07.4±0.7, 12.°76S±0.°04×45.°54E±0.°05, h10km±3km, h10km:pP-P,n517, σ1§22/498, mb5.0/180, MS4.2/55, 27C-23D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.99**	**165**		*i*P		**Pn**	**12 38 34.1**	**-2.2**
OPO	**Ambohidratompo**	**5.99**	**165**	Pn			**Pn**	**12 38 35.1**	**-1.2**
	19nm,0.3s,baz=346,slow=14,SNR=1064								
OPO					Sn		Sn	12 39 35.7	-9.3
	39nm,0.3s,baz=288,slow=20,SNR=8.6								
ABPO	**Ambohimpanom**	**6.43**	**166**	Pn			**Pn**	**12 38 40.8**	**-1.5**
ABPO	**Ambohimpanom**	**6.43**	**166**	P			**Pn**	**12 38 40.8**	**-1.5**
VOI	**Vohitsoka**	**9.17**	**173**	P			**Pn**	**12 39 18.9**	**-1.0**
VOI	**Vohitsoka**	**9.17**	**173**	Pn			**Pn**	**12 39 18.2**	**-1.8**
ZOMB	**Zomba**	**10.23**	**254**	*e*PN			**Pn**	**12 39 33.5**	**-0.9**
ZOMB				*e*SN			Sn	12 41 18.8	-10
ZOMB	**Zomba**	**10.23**	**254**	*e*PN			**Pn**	**12 39 33.5**	**-0.9**
ZOMB				*e*SN			Sn	12 41 18.8	-10
FOMA	**Nahampoana Res**	**12.22**	**174**	Pn			**Pn**	**12 39 58.9**	**-2.7**
MSEY	**Mahe Island**	**12.68**	**52**	Pn			**Pn**	**12 40 06.0**	**-2.0**
MSEY	**Mahe Island**	**12.68**	**52**	P			**Pn**	**12 40 06.0**	**-2.0**
KIBK	**Kibwezi**	**12.74**	**324**	Pn			**Pn**	**12 40 07.6**	**-1.2**
KIBK	**Kibwezi**	**12.74**	**324**	*e*P			**Pn**	**12 40 07.4**	**-1.4**
KIBK					*e*S		Sn	12 42 18.6	-12
RER	**Riviere de l'E**	**12.84**	**132**	Pn			**Pn**	**12 40 06.7**	**-3.4**
CHIPN	**CHIPINGE**	**14.42**	**237**	*i*P			Pn	12 40 27.3	-4.5
KRI	**Karoi**	**15.92**	**253**	*i*P			**Pn**	**12 40 51.2**	**-0.7**
LSZ	**Lusaka**	**17.02**	**260**				**Pn**	**12 41 06.3**	**+0.4**
LSZ	**Lusaka**	**17.02**	**260**	*i*P			Pn	12 40 58.4	-7.4
LSZ	**Lusaka**	**17.02**	**260**	P			**Pn**	**12 41 04.4**	**-1.4**
	2.4nm,0.3s,baz=83,slow=12,SNR=28								
LSZ					S		Sn	12 44 04.8	-11
	11nm,0.4s,baz=74,slow=3.2,SNR=2.2								
LSZ					LR		LR	12 47 31.3	
	comp=Z,2μm,18.3s,baz=108,slow=37 35nm,0.8s								
LSZ	**Lusaka**	**17.02**	**260**	P			**Pn**	**12 41 06.3**	**+0.4**
LSZ					pmax		pmax		
	comp=Z,77nm,0.9s								
MOPA	**Mopani**	**17.16**	**229**	*i*P			**Pn**	**12 41 04.3**	**-3.1**
MUSN	**Musina, Limpop**	**17.69**	**235**	*i*P			**Pn**	**12 41 13.8**	**-0.2**
MATP	**Matopo**	**18.02**	**243**	*i*P			**Pn**	**12 41 19.4**	**+1.2**
MATP	**Matopo**	**18.02**	**243**	P			**Pn**	**12 41 18.2**	**0.0**
	comp=Z,0.6nm,0.3s,baz=64,slow=14,SNR=20								
MATP					LR		LR	12 48 12.6	
	comp=Z,353nm,19.1s,baz=66,slow=37 comp=Z,4.9nm,0.5s								
ROCAM	**Rodrigues Isla**	**18.46**	**114**	P			**Pn**	**12 41 21.6**	**-1.9**
LODK	**Lodwar**	**19.00**	**327**				**Pn**	**12 41 31.5**	**+1.4**
MBAR	**Mbarara**	**19.01**	**308**	P			**P**	**12 41 30.7**	**+1.0**
MBAR					IAmb		IAmb	12 41 35.7	
	comp=Z,162nm,1.4s								
MBAR	**Mbarara**	**19.01**	**308**	P			**P**	**12 41 29.5**	**-0.2**
	comp=Z,4.2nm,0.3s,baz=113,slow=14,SNR=33								
MBAR					S		Sn	12 44 48.5	-15
	comp=Z,7.6nm,0.3s,baz=153,slow=2.3,SNR=1.9								
MBAR					LR		LR	12 48 47.9	
	comp=Z,1μm,18.1s,baz=122,slow=37 comp=Z,8.1nm,0.2s								
MBAR	**Mbarara**	**19.01**	**308**	*e*P			**Pn**	**12 41 31.2**	**+0.8**
POGA	**Pongola**	**19.45**	**220**	P			**P**	**12 41 33.9**	**-0.4**
POGA					IAmb		IAmb	12 41 38.3	
	comp=Z,153nm,1.5s								
LBTB	**Lobatse**	**22.43**	**234**	P			**P**	**12 42 06.0**	**-0.6**
LBTB					IAmb		IAmb	12 42 08.6	
	comp=Z,57nm,1.0s								
LBTB	**Lobatse**	**22.43**	**234**	S			**S**	**12 46 09.5**	**-3.6**
	comp=Z,2.6nm,0.3s,baz=81,slow=18,SNR=2.6								
LBTB					LR		LR	12 50 38.7	
	comp=Z,163nm,18.4s,baz=57,slow=36								
LBTB	**Lobatse**	**22.43**	**234**	P			**P**	**12 42 06.0**	**-0.6**
LBTB					pmax		pmax		
	comp=Z,57nm,1.0s								
ATD	**Arta Tunnel**	**24.28**	**354**	P			**P**	**12 42 26.6**	**+1.5**
ATD					IAmb		IAmb	12 42 51.7	
	comp=Z,40nm,0.9s								
ATD	**Arta Tunnel**	**24.28**	**354**	LR			LR	12 50 52.6	
	comp=Z,31nm,21.6s,baz=176,slow=34								
BOSA	**Boshof**	**24.61**	**227**	P			**P**	**12 42 27.2**	**-1.0**
BOSA					IAmb		IAmb	12 42 28.2	
	comp=Z,46nm,1.2s								
BOSA	**Boshof**	**24.61**	**227**	*i*P			**P**	**12 42 27.2**	**-1.0**
BOSA	**Boshof**	**24.61**	**227**	P			**P**	**12 42 27.1**	**-1.0**
	comp=Z,10nm,0.6s,baz=52,slow=11,SNR=17								
BOSA					LR		LR	12 52 02.0	
	comp=Z,606nm,20.1s,baz=56,slow=36 comp=Z,10nm,0.6s								
BOSA	**Boshof**	**24.61**	**227**	P			**P**	**12 42 27.2**	**-1.0**
BOSA					pmax		pmax		
	comp=Z,46nm,1.3s								
TSUM	**Tsumeb**	**27.61**	**253**	P			**P**	**12 42 54.4**	**-0.9**
TSUM	**Tsumeb**	**27.61**	**253**	LR			LR	12 53 07.2	
	comp=Z,171nm,19.4s,baz=150,slow=35								
WIN	**Windhoek**	**28.75**	**246**	P			**P**	**12 43 05.3**	**-0.3**
WIN					IAmb		IAmb	12 43 47.6	
	comp=Z,52nm,1.0s								
WIN	**Windhoek**	**28.75**	**246**	P			**P**	**12 43 05.3**	**-0.3**
WIN					pmax		pmax		
	comp=Z,52nm,1.0s								
SUR	**Sutherland**	**29.91**	**225**	P			**P**	**12 43 15.8**	**0.0**
SUR	**Sutherland**	**29.91**	**225**	LR			LR	12 56 26.8	
	comp=Z,441nm,18.4s,baz=48,slow=39								

RAYN	**Ar Rayn**	**36.06**	**360**		P		**P**	**12 44 10.4**	**+1.1**
RAYN	**Ar Rayn**	**36.06**	**360**		P		**P**	**12 44 10.4**	**+1.1**
RAYN					pmax		pmax		
	comp=Z,14nm,1.2s								
WSAR	**Wadi Sarin**	**38.00**	**20**	P			**P**	**12 44 26.5**	**+0.7**
	comp=Z,9.0nm,0.8s,baz=211,slow=13,SNR=7.3								
WSAR					LR		LR	12 57 18.0	
	comp=Z,462nm,20.6s,baz=214,slow=32 comp=Z,9.0nm,0.8s								
UOSS	**Minazif**	**38.90**	**16**	P			**P**	**12 44 33.3**	**0.0**
PALK	**Pallekele**	**40.21**	**62**	LR			LR	12 57 21.6	
	comp=Z,131nm,18.5s,baz=349,slow=30								
PALK	**Pallekele**	**40.21**	**62**	*e*P			**P**	**12 44 46.2**	**+1.7**
PALK					pmax		pmax		
	comp=Z,23nm,1.3s								
EIL	**Elat**	**43.41**	**347**	LR			LR	13 01 31.5	
	comp=Z,193nm,21.4s,baz=224,slow=34								
MMAI	**Mount Meron Ar**	**46.54**	**348**	P			**P**	**12 45 35.1**	**-0.2**
	comp=Z,0.7nm,0.2s,baz=169,slow=8.7,SNR=2.2								
MMAI					LR		LR	13 05 54.9	
	comp=Z,410nm,18.1s,baz=111,slow=37 comp=Z,0.7nm,0.2s								
GAZ	**Gaziantep**	**50.28**	**351**	P			**P**	**12 46 06.5**	**+2.4**
GAZ					IAmb		IAmb	12 46 18.6	
	comp=Z,16nm,0.8s								
TOA0	**Torodi Ar. Sit**	**50.52**	**299**	P			**P**	**12 46 07.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**50.52**	**299**	P			**P**	**12 46 07.6**	**+1.4**
TORD	**Torodi Ar. Bea**	**50.52**	**299**	P			**P**	**12 46 06.8**	**+0.5**
	comp=Z,11nm,1.0s,baz=117,slow=7.7,SNR=34								
TORD					PP		**PP**	**12 48 01.4**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=108,slow=7.7,SNR=5.2								
TORD					LR		LR	13 08 28.1	
	comp=Z,605nm,18.5s,baz=127,slow=37 comp=Z,11nm,1.0s								
KARP	**Karpathos**	**51.10**	**341**	P			**P**	**12 46 12.5**	**+2.2**
ARG	**Arkhangelos**	**51.42**	**342**	P			**P**	**12 46 14.5**	**+1.9**
ARG	**Arkhangelos**	**51.42**	**342**	P			**P**	**12 46 14.5**	**+1.9**
ARG					pmax		pmax		
	comp=Z,87nm,1.2s								
IDI	**Anoyia**	**51.64**	**338**	P			**P**	**12 46 16.5**	**+2.1**
IDI					IAmb		IAmb	12 46 17.0	
	comp=Z,22nm,1.0s								
GEYT	**Alibeck**	**51.78**	**13**	P			**P**	**12 46 16.3**	**+0.9**
GEYT	**Alibeck**	**51.78**	**13**	P			**P**	**12 46 16.2**	**+0.9**
	comp=Z,1.1nm,0.5s,baz=195,slow=10,SNR=2.1								
GEYT					LR		LR	13 07 37.2	
	comp=Z,225nm,21.6s,baz=189,slow=35 comp=Z,1.1nm,0.5s								
GEYT	**Alibeck**	**51.78**	**13**	P			**P**	**12 46 16.3**	**+0.9**
GEYT					pmax		pmax		
	comp=Z,18nm,1.5s								
GYA0B	**ALIBECK ARRAY**	**51.78**	**13**	P			**P**	**12 46 16.3**	**+0.9**
ARPR	**Arapgir-MALATY**	**52.02**	**353**	P			**P**	**12 46 18.6**	**+1.4**
ARPR					IAmb		IAmb	12 46 28.1	
	comp=Z,31nm,1.1s								
KBL	**Kabul**	**52.07**	**25**	P			**P**	**12 46 16.9**	**-0.9**
KBL					IAmb		IAmb	12 46 32.0	
	comp=Z,32nm,1.4s								
KBL	**Kabul**	**52.07**	**25**	P			**P**	**12 46 16.9**	**-0.9**
KBL					pmax		pmax		
	comp=Z,32nm,1.4s								
BNN	**Bunyan**	**52.14**	**350**	P			**P**	**12 46 19.8**	**+1.7**
GNI	**Garni**	**52.65**	**359**	P			**P**	**12 46 23.3**	**+1.4**
GNI					IAmb		IAmb	12 46 32.5	
	comp=Z,34nm,1.0s								
GNI	**Garni**	**52.65**	**359**	LR			LR	13 09 31.9	
	comp=Z,460nm,20.5s,baz=174,slow=37								
GNI	**Garni**	**52.65**	**359**	P			**P**	**12 46 23.3**	**+1.4**
GNI					pmax		pmax		
	comp=Z,34nm,1.0s								
TAM	**Tamanrasset**	**52.78**	**312**	P			**P**	**12 46 23.6**	**+0.4**
TAM	**Tamanrasset**	**52.78**	**312**	P			**P**	**12 46 23.6**	**+0.4**
TAM					pmax		pmax		
	comp=Z,17nm,1.1s								
APE	**Apeiranthos**	**53.02**	**340**	*i*P			**P**	**12 46 26.3**	**+1.7**
APE					pmax		pmax		
	comp=Z,38nm,0.9s								
NIL	**Nilore**	**53.17**	**29**	P			**P**

comp=Z,7.0nm,0.9s
SHA1 Shidzhatmaz 56.29 357 *ce*P **P 12 46 50.2 +1.8**
SOC Sochi 56.32 355 *e*P **P 12 46 46.5 -1.9**
SOC *e* 12 48 52.2
SOC *e*PPP PPP 12 50 07.3
SOC *e*S **S 12 54 37.1 -1.4**
SOC *e*SS **SS 12 58 18.6 -7.2**
SOC *e*SSS SSS 13 00 37.7
SOC MLR MLR
comp=Z,180nm,19.0s
ALN Alexandroupoli 56.36 342 P **P 12 46 49.0 +0.4**
ALN lAmb lAmb 12 47 00.4
comp=Z,41nm,1.7s
ALN Alexandroupoli 56.36 342 P **P 12 46 49.0 +0.4**
ALN pmax pmax
comp=Z,41nm,1.7s
GAR Garm 56.45 23 P **P 12 46 49.9 +0.4**
KIV Kislovodsk 56.50 358 P **P 12 46 50.8 +1.0**
KIV Kislovodsk 56.50 358⇑ *e*P **P 12 46 50.9 +1.1**
KIV *e* 12 46 57.0
KIV 12 47 46.0
KIV *e* 12 55 01.1
KIV SS SKiKP 12 58 27.0 +39
KIV pmax pmax
comp=Z,31nm,1.3s
KIV MLR MLR
comp=Z,262nm,19.0s
KIV Kislovodsk 56.50 358 P **P 12 46 51.3 +1.5**
comp=Z,22nm,1.3s
LABN Labinsk 57.30 356 *e*P **P 12 46 52.0 -3.3**
LABN pmax pmax
comp=Z,34nm,0.5s
KULM Kulim 57.61 75 P **P 12 46 57.9 -0.2**
IPM Ipoh 57.71 76 P **P 12 46 58.7 -0.2**
SRIT Nakonsritamara 57.74 71 P **P 12 46 59.5 +0.5**
ANN Anapa 57.76 353 *e*P **P 12 46 57.6 -0.9**
ANN *e*S **S 12 54 54.2 -3.2**
ANN pmax pmax
comp=Z,11nm,0.6s
FNA Florina 57.79 338 P **P 12 46 59.5 +0.7**
FNA lAmb lAmb 12 47 00.6
comp=Z,42nm,1.4s
FNA Florina 57.79 338 P **P 12 46 59.6 +0.7**
FNA pmax pmax
comp=Z,42nm,1.4s
VAY Valandovo 57.85 340 *i* P **P 12 46 59.9 +0.7**
VAE Valguarnera 57.90 331 LR LR 13 16 14.0
comp=Z,166nm,18.1s,baz=117,slow=40
TIP Timpagrande 58.23 334⇑P **P 12 47 01.9 -0.2**
TIP Timpagrande 58.23 334 P **P 12 47 03.0 +0.9**
TIP Timpagrande 58.23 334 P **P 12 47 03.3 +1.3**
comp=Z,10nm,1.3s
SCTE Santa Cesarea 58.28 336 P **P 12 47 03.4 +1.2**
OHR Ohrid 58.28 338 *i* P **P 12 47 05.0 +2.7**
SIM Simferopol' 58.37 350 *e*P **P 12 47 04.0 +1.2**
SIM pmax pmax
comp=Z,39nm,1.1s
ERBR Yeremizino-Bor 58.38 356 *e*P **P 12 47 03.0 +0.1**
ERBR pmax pmax
comp=Z,70nm,1.0s
CLTB Caltabellotta 58.56 330 P **P 12 47 04.7 +0.3**
SKO Skopje 58.81 339 *i* P **P 12 47 07.0 +1.0**
TIR Tirane 58.83 338 P **P 12 47 08.0 +1.9**
TIR Tirane 58.83 338 P **P 12 47 08.0 +1.9**
TIR pmax pmax
comp=Z,35nm,1.0s
KEST Kesra 59.14 326 P **P 12 47 11.0 +2.5**
KEST lAmb lAmb 12 47 11.8
comp=Z,22nm,1.1s
KEST Kesra 59.14 326 P **P 12 47 10.2 +1.7**
comp=Z,12nm,0.9s,baz=134,slow=1.1,SNR=9.7
comp=Z,12nm,0.9s
KSH Kashi 59.23 27 P **P 12 47 12.3 +3.2**
KSH sP pwP 12 47 19.8 +4.9
KSH pmax pmax
comp=Z,8.0nm,1.0s
CUC Castrocucco 59.31 334 P **P 12 47 09.6 +0.1**
PUK Puka 59.43 338 P **P 12 47 11.7 +1.4**
PUK lAmb lAmb 12 47 15.8
comp=Z,25nm,1.1s
CFR Carcaliu 59.78 346⇓P **P 12 47 12.9 +0.4**
CFR Carcaliu 59.78 346 P **P 12 47 12.9 +0.4**
BLKB Belogradchik 59.87 341⇑P **P 12 47 13.8 +0.5**
PDG Podgorica 60.00 338⇓P **P 12 47 14.2 +0.1**
PDG Podgorica 60.00 338 P **P 12 47 15.1 +1.0**
PDG lAmb lAmb 12 47 16.4
comp=Z,23nm,0.9s
KK31 Karatay Array 60.11 21 P **P 12 47 14.8 -0.2**
KK31 lAmb lAmb 12 47 23.7
comp=Z,18nm,1.0s
KK31 Karatay Array 60.11 21 P **P 12 47 14.8 -0.2**
KK31 pmax pmax
comp=Z,18nm,1.0s
KKAR Karatay Array 60.11 21 P **P 12 47 15.3 +0.3**
KKAR Karatay Array 60.11 21 P **P 12 47 14.9 -0.1**
KKAR lAmb lAmb 12 47 23.7
comp=Z,18nm,1.0s
KKAR Karatay Array 60.11 21 P **P 12 47 14.9 -0.1**
KKAR pmax pmax
comp=Z,18nm,1.0s
ISR Istrita 60.13 345 P **P 12 47 16.8 +1.8**
comp=Z,23nm,1.1s
BOVS Bovan 60.20 340⇓P **P 12 47 15.5 0.0**
MLR Muntele Rosu 60.63 344⇓P **P 12 47 19.0 +0.5**
MLR Muntele Rosu 60.63 344 P **P 12 47 19.2 +0.6**
MLR lAmb lAmb 12 47 27.3
comp=Z,34nm,2.0s
MLR Muntele Rosu 60.63 344 LR LR 13 17 20.2
comp=Z,130nm,18.1s,baz=180,slow=40
MLR Muntele Rosu 60.63 344 P **P 12 47 19.2 +0.6**
MLR pmax pmax
comp=Z,34nm,2.0s
MLR Muntele Rosu 60.63 344 P **P 12 47 19.1 +0.5**
comp=Z,8.2nm,1.7s
ELIB Princess Elisa 60.65 188 *d*P **P 12 47 18.9 +0.5**
comp=Z,22nm,1.1s
PLOR5 Plostina Array 60.77 345 P **P 12 47 20.2 +0.8**
comp=Z,13nm,1.3s
VRI Vrincioaia 60.77 345⇑P **P 12 47 20.2 +0.8**
VRI Vrincioaia 60.77 345 P **P 12 47 20.2 +0.8**
VRI Vrincioaia 60.77 345 P **P 12 47 20.0 +0.6**
PLOR Plostina 60.78 345⇓P **P 12 47 20.2 +0.7**
PLOR Plostina 60.78 345 P **P 12 47 20.2 +0.7**
PLOR3 Plostina Array 60.78 345 P **P 12 47 20.2 +0.7**
comp=Z,16nm,1.2s
VOIR 60.82 344⇑P **P 12 47 20.2 +0.3**
VOIR 60.82 344 P **P 12 47 20.1 +0.3**
VOIR 60.82 344 P **P 12 47 20.0 +0.2**
comp=Z,13nm,1.3s,comp=Z,450nm
ARR Arges 60.87 343⇓P **P 12 47 20.4 +0.2**
COVR Voineasa-Covas 60.89 345⇑P **P 12 47 20.5 +0.3**
HERR Herculane 61.09 341⇑P **P 12 47 22.4 +0.9**
CM31 Chiang Mai Arr 61.11 60 P **P 12 47 22.5 +0.2**
CMAR Chiang Mai Arr 61.11 60 P **P 12 47 22.1 -0.1**
comp=Z,4.6nm,0.9s,baz=249,slow=7.5,SNR=34
comp=Z,4.6nm,0.9s
TURR Turia 61.13 345⇓P **P 12 47 22.0 +0.2**
LOT Lotru 61.19 343⇑P **P 12 47 22.6 +0.2**
AAK Ala-Archa 61.20 24 LR LR 13 11 06.7
comp=Z,75nm,21.9s,baz=226,slow=33
AAK Ala-Archa 61.20 24 *e*P **P 12 47 22.6 +0.1**
AAK pmax pmax
comp=Z,1.0nm,0.9s
CHTO Chiang Mai 61.27 60 P **P 12 47 23.1 -0.2**
CHTO lAmb lAmb 12 47 24.6
comp=Z,17nm,1.1s
CHTO Chiang Mai 61.27 60 P **P 12 47 23.1 -0.2**
CHTO pmax pmax
comp=Z,17nm,1.1s
MILM Milestii Mici 61.27 347 *e*P P 12 47 30.0 +7.3
comp=Z,9.0nm,0.3s
MILM Milestii Mici 61.27 347 *e*P P 12 47 30.0 +7.3
MILM pmax pmax
comp=Z,9.0nm,0.4s
LEM Lembang 61.34 91 LR LR 13 08 11.3
comp=Z,143nm,21.1s,baz=180,slow=30
GZR Gura Zlata 61.44 342⇓P **P 12 47 24.8 +0.8**
GZR Gura Zlata 61.44 342 P **P 12 47 24.7 +0.8**
NVL N'lazarevskaya 61.57 192 *i* P **P 12 47 23.8 -0.7**
NVL pmax pmax
comp=Z,53nm,0.8s
INTR Introdacqua 61.80 334 P **P 12 47 27.3 +0.8**
INTR lAmb lAmb 12 47 28.0
comp=Z,21nm,1.1s
VSL Villasalto 61.94 329 P **P 12 47 28.2 +0.8**
VSL lAmb lAmb 12 47 30.4
comp=Z,9.6nm,0.7s
BZS Buzias 62.00 341⇑P **P 12 47 28.8 +1.2**
BZS Buzias 62.00 341 P **P 12 47 28.8 +1.2**
PHRA Phrae 62.23 61 P **P 12 47 30.1 +0.4**
CAMP Campotosto 62.44 334 P **P 12 47 31.4 +0.6**
CAMP lAmb lAmb 12 47 33.2
comp=Z,14nm,0.8s
MARR Marisel-Cluj 62.50 343⇓P **P 12 47 32.3 +1.1**
ARCR ARCALIA 62.53 344⇑P **P 12 47 32.0 +0.9**
SORM Soroca 62.53 347 P **P 12 47 30.9 -0.2**
comp=Z,13nm,1.1s,comp=Z,1μm
BURAR Bucovina Array 62.78 345⇑P **P 12 47 34.1 +1.0**
BURAR Bucovina Array 62.78 345 P **P 12 47 34.2 +1.2**
BURAR Bucovina Array 62.78 345 P **P 12 47 34.0 +1.0**
NRCA Norcia 62.80 334 P **P 12 47 33.8 +0.5**
NRCA lAmb lAmb 12 47 34.5
comp=Z,16nm,1.3s
BUR08 Bucovina Ar. S 62.82 345 P **P 12 47 34.3 +1.1**
BUR08 lAmb lAmb 12 47 35.4
comp=Z,25nm,1.6s
CESX Cesi 62.86 333 P **P 12 47 34.2 +0.7**
CESX lAmb lAmb 12 48 01.7
comp=Z,6.1nm,0.5s
ABKAR Akbulak array 63.04 11 P **P 12 47 34.7 +0.2**
ABKAR Akbulak array 63.04 11 P **P 12 47 34.5 -0.1**
CRAI Chiangrai 63.11 59 P **P 12 47 35.9 +0.3**
CRAI lAmb lAmb 12 47 37.0
comp=Z,15nm,1.4s
KMPD K-Podol'skiy 63.36 346 P **P 12 47 36.0 -0.7**
KMPD pP **pwP 12 47 42.8 +0.1**
RAKU Rahkiv 63.44 344 P **P 12 47 37.9 +0.7**
MORH Mrgy, Hungar 63.50 339⇑P **P 12 47 38.8 +1.2**
MORH Mrgy, Hungar 63.50 339 P **P 12 47 38.6 +0.9**
comp=Z,21nm,1.0s
MORH pP **pwP 12 47 44.3 +0.6**
comp=Z,21nm,1.0s
VORD Divnogorie 63.69 356 *e*P **P 12 47 38.2 -0.6**
VORD pmax pmax
comp=Z,10.0nm,0.9s
VRH Novokhopyorsk 63.78 357 *e*P **P 12 47 37.5 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.8s
AKTO Aktyubinsk 63.87 9 LR LR 13 19 26.9
comp=Z,180nm,18.4s,baz=320,slow=40
VSR Storozhevoye 63.95 356 *e*P **P 12 47 38.6 -1.9**
VSR pmax pmax
comp=Z,7.0nm,0.9s
STNU Starunia 63.98 345 P **P 12 47 41.7 +0.9**
BERU Beregovo 64.05 343 P **P 12 47 41.4 +0.2**
MEZ Mezhgor'ye 64.06 344 P **P 12 47 42.5 +1.2**
LUBAR Lubar, Ukraine 64.34 347 P **P 12 47 42.9 -0.2**
VORR Voronezh 64.40 356 *e*P P 12 47 51.0 +7.6
TROLL Troll, Antarti 64.51 194⇑P **P 12 47 45.4 +1.2**
comp=Z,3μm,0.8s
MORS Morshin 64.53 344 P **P 12 47 45.6 +1.2**
PSZ Piszkesteto 64.58 341⇓P **P 12 47 44.5 -0.4**
PSZ Piszkesteto 64.58 341 P **P 12 47 44.1 -0.8**
PSZ Piszkesteto 64.58 341 P **P 12 47 44.1 -0.8**
PSZ pmax pmax
comp=Z,6.0nm,0.8s
AK07 Malin Array Si 64.65 349 P **P 12 47 45.0 -0.1**
MPLH Magyarpolny 64.71 339 P **P 12 47 46.6 +1.0**
comp=Z,45nm,1.1s,comp=Z,849nm
MPLH pP **pwP 12 47 51.9 +0.2**
comp=Z,45nm,1.1s,comp=Z,849nm
KIEV Kiev 64.78 349 P **P 12 47 46.1 +0.1**
KIEV lAmb lAmb 12 47 54.5
comp=Z,24nm,1.6s
KIEV Kiev 64.78 349 P **P 12 47 46.1 +0.1**
KIEV pmax pmax
comp=Z,24nm,1.6s
AKASG Malin Array Be 64.79 349 P **P 12 47 45.4 -0.6**
comp=Z,2.0nm,0.6s,baz=167,slow=5.7,SNR=13
AKASG LR LR 13 17 41.4
comp=Z,76nm,19.1s,baz=155,slow=38
comp=Z,2.0nm,0.6s
AKBB Malin Array Si 64.79 349 P **P 12 47 46.1 +0.1**
AKBB lAmb lAmb 12 47 54.5
comp=Z,27nm,1.6s
AKBB Malin Array Si 64.79 349 P **P 12 47 46.1 +0.1**
AKBB pmax pmax
comp=Z,27nm,1.6s
AKBB Malin Array Si 64.79 349 P **P 12 47 45.9 -0.1**
KECS Kecovo 64.90 342 *e*P **P 12 47 47.6 +0.8**
KECS Kecovo 64.90 342 *e*P **P 12 47 47.6 +0.8**
BELG Belogornoye 64.91 1 LR LR 13 18 26.2
comp=Z,283nm,20.1s,baz=150,slow=38
MI30 MI30,Zelenitsa 65.03 348 P **P 12 47 47.3 -0.3**
SOKA Soboth 65.19 337 *e*P **P 12 47 49.6 +0.7**
comp=Z,13nm,0.9s,SNR=10
OBKA Obir 65.24 337 *e*P **P 12 47 50.0 +0.8**
comp=Z,5.9nm,0.7s,SNR=6.7
KWP Kalwaria Pacla 65.30 344 P **P 12 47 50.4 +1.0**
KWP lAmb lAmb 12 47 59.5
comp=Z,28nm,1.3s
KWP Kalwaria Pacla 65.30 344 P **P 12 47 50.4 +1.0**
KWP pmax pmax
comp=Z,28nm,1.3s
MI28 MI28,Pidlybu 65.32 348 P **P 12 47 49.1 -0.3**
VYHS Vyhne 65.43 341 *e*P **P 12 47 50.8 +0.5**
VYHS Vyhne 65.43 341 *e*P **P 12 47 50.8 +0.5**
VYHS pmax pmax
comp=Z,10.0nm,0.9s
ARSA Arzberg 65.50 338 *i* P **P 12 47 51.3 +0.5**
comp=Z,17nm,0.9s,SNR=7.2
STHS Stebnicka Huta 65.52 343 *e*P **P 12 47 50.4 -0.4**
STHS Stebnicka Huta 65.52 343 *e*P **P 12 47 50.4 -0.4**
STHS pmax pmax
comp=Z,6.0nm,0.7s
UBPT Khong Chiam 65.52 67 P **P 12 47 50.8 -0.7**
UBPT lAmb lAmb 12 47 51.4
comp=Z,7.4nm,0.7s
SNAA Sanae 65.59 195 P **P 12 47 51.5 +0.4**
SNAA lAmb lAmb 12 47 55.1
comp=Z,26nm,1.5s
SNAA Sanae 65.59 195⇑P **P 12 47 51.4 +0.4**
comp=Z,145nm,0.8s
SNAA Sanae 65.59 195 P **P 12 47 50.4 -0.8**
comp=Z,6.9nm,0.9s,baz=53,slow=5.1,SNR=14
SNAA LR LR 13 14 27.6
comp=Z,238nm,18.1s,baz=316,slow=34
comp=Z,6.9nm,0.9s
SNAA Sanae 65.59 195 *ce*P **P 12 47 51.6 +0.4**
SNAA pmax pmax
comp=Z,12nm,1.0s
RONA Rosalia, Austr 65.60 339 *i* P **P 12 47 52.0 +0.6**
comp=Z,25nm,0.8s,SNR=10.0
MYKA Terra Mystica 65.69 336 *i* P **P 12 47 52.7 +0.7**
comp=Z,7.0nm,0.9s
ZST Bratislava 65.74 340 *e*P **P 12 47 52.6 +0.3**
ZST Bratislava 65.74 340 *e*P **P 12 47 52.6 +0.3**
STAL STALIGIAL 65.75 336 P **P 12 47 53.0 +0.6**
STAL lAmb lAmb 12 47 53.6
comp=Z,18nm,0.9s
KSM Kuching 65.78 83 P **P 12 47 52.8 -0.5**
NIE Niedzica 65.79 342 P **P 12 47 53.2 +0.6**
comp=Z,4.5nm,2.0s
LANS Liptovska Anna 65.81 342 *e*P **P 12 47 53.7 +1.0**
LANS Liptovska Anna 65.81 342 *e*P **P 12 47 53.7 +1.0**
LANS pmax pmax
comp=Z,3.0nm,0.8s
MODS Modra-Piesok 65.84 340 *e*P **P 12 47 53.5 +0.6**
MODS Modra-Piesok 65.84 340 *e*P **P 12 47 53.5 +0.6**
MODS pmax pmax
comp=Z,51nm,1.3s
CIMO Cimolais 65.90 335 P **P 12 47 54.0 +0.6**
CIMO lAmb lAmb 12 47 54.6
comp=Z,14nm,0.9s
MDT Midelt 65.92 315 LR LR 13 18 07.3
comp=Z,434nm,18.2s,baz=134,slow=37
CONA Conrad Observa 65.95 339 *e*P **P 12 47 54.2 +0.5**
comp=Z,15nm,0.9s,SNR=10
RNPP5 Staryi Chortor 65.98 347 P **P 12 47 53.4 -0.3**
CTI Castel Tesino 66.02 335 P **P 12 47 55.3 +1.1**
CTI Castel Tesino 66.02 335 P **P 12 47 55.3 +1.1**
CTI pmax pmax
comp=Z,21nm,0.9s
JAVC Velka Javorina 66.13 340 *e*P **P 12 47 55.8 +1.0**
RNPP9 Sopachiv 66.15 347 P **P 12 47 54.4 -0.4**
KBA Koelnbreinsper 66.17 337 *e*P **P 12 47 55.5 +0.2**
comp=Z,13nm,1.0s,SNR=5.9
ABTA Abfaltersbach 66.23 336 *i* P **P 12 47 56.1 +0.6**
comp=Z,9.1nm,0.9s
VNA2 Neumayer--Watz 66.38 197⇑P **P 12 47 56.6 +0.4**
comp=Z,14nm,0.7s,baz=30,slow=5.4
MOA Molln 66.46 338 *e*P **P 12 47 57.2 +0.2**
comp=Z,18nm,0.9s,SNR=8.7
VNA1 Neumayer--Stat 66.48 197⇑P **P 12 47 58.1 +1.3**
comp=Z,24nm,0.9s
SLVN Son La 66.56 60 P **P 12 47 58.3 +0.1**
BIOA Bad Ischl, Aus 66.57 337 *i* P **P 12 47 57.4 -0.2**
comp=Z,6.9nm,0.5s
OJC Ojcow 66.66 342 P **P 12 47 57.6 -0.5**
OJC lAmb lAmb 12 47 58.9
comp=Z,7.5nm,0.8s
OJC Ojcow 66.66 342 P **P 12 47 57.6 -0.5**
OJC pmax pmax
comp=Z,8.0nm,0.8s
KRUC Moravsky 66.73 340 *e*P **P 12 47 58.6 0.0**
VRAC Vranov 66.87 340⇑P **P 12 48 00.0 +0.5**
VRAC Vranov 66.87 340 *e*P **P 12 47 59.7 +0.2**
VRAC Vranov 66.87 340 LR LR 13 19 29.0
comp=Z,113nm,21.4s,baz=169,slow=38
VRAC Vranov 66.87 340 P **P 12 48 00.0 +0.5**
MORC Moravsky Berou 66.96 341⇑P **P 12 48 00.8 +0.7**
MORC Moravsky Berou 66.96 341 P **P 12 48 00.2 +0.1**
MORC lAmb lAmb 12 48 01.4
comp=Z,15nm,0.9s
MORC Moravsky Berou 66.96 341 *e*P **P 12 48 00.5 +0.4**
MORC Moravsky Berou 66.96 341 P **P 12 48 00.3 +0.1**
MORC pmax pmax
comp=Z,15nm,0.9s
MORW Morawa 66.97 116 P **P 12 47 59.9 -0.8**
MORW lAmb lAmb 12 48 01.3
comp=Z,24nm,1.1s
WTTA Wattenberg 67.00 336 *e*P **P 12 48 00.3 -0.3**
comp=Z,9.0nm,0.8s
FUORN Ofenpass-Fuorn 67.05 334 P **P 12 48 01.6 +0.6**
WATA Walderalm 67.08 336 *i* P **P 12 48 01.0 -0.1**
comp=Z,13nm,1.1s
DLV T Lat 67.10 71 P **P 12 47 59.5 -2.4**
DLV lAmb lAmb 12 48 02.9
comp=Z,14nm,1.3s
PZH PanZhiHua 67.11 54 P **P 12 48 01.8 +0.1**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,70nm,4.5s
SQTA Sankt Quirin 67.14 335 *i* P **P 12 48 01.1 -0.3**
comp=Z,8.0nm,0.8s
FETA Feichten 67.17 335 *e*P **P 12 48 02.0 +0.3**
comp=Z,26nm,1.0s,SNR=13
VNA3 Neumayer Olymp 67.18 197⇑P **P 12 48 01.2 -0.1**
comp=Z,42nm,0.8s
CKRC Cesky Krumlov 67.26 338 *e*P **P 12 48 02.8 +0.8**
CKRC Cesky Krumlov 67.26 338 *e*P **P 12 48 02.8 +0.8**
MOTA Mooslm 67.28 335 *e*P **P 12 48 01.9 -0.5**
comp=Z,11nm,1.1s,SNR=5.6
TUE Stuetta 67.33 334 P **P 12 48 02.9 +0.2**
TUE Stuetta 67.33 334 P **P 12 48 02.2 -0.5**
comp=Z,33nm,1.1s
BNI Bardonecchia 67.44 331 P **P 12 48 03.3 -0.1**
BNI Bardonecchia 67.44 331 P **P 12 48 03.3 -0.1**
BNI pmax pmax
comp=Z,8.0nm,1.1s
GEC2 GERESS Array S 67.50 338 P **P 12 48 03.6 0.0**
GEC2 lAmb lAmb 12 48 04.3
comp=Z,17nm,1.1s
GERES GERESS Array B 67.50 338 P **P 12 48 03.2 -0.4**
GERES GERESS Array B 67.50 338 P **P 12 48 03.4 -0.3**
comp=Z,7.2nm,0.9s,baz=148,slow=5.8,SNR=21
GERES LR LR 13 22 35.1
comp=Z,78nm,18.4s,baz=138,slow=40
comp=Z,7.2nm,0.9s
RETA Reutte 67.53 335 *e*P **P 12 48 03.1 -0.7**
comp=Z,12nm,1.0s
MAKZ Makanchi 67.69 26 P **P 12 48 05.1 +0.3**
MAKZ Makanchi 67.69 26 P **P 12 48 05.1 +0.3**
MAKZ pmax pmax
comp=Z,29nm,1.2s
DAVA Damuels 67.74 335 *e*P **P 12 48 04.8 -0.4**
comp=Z,21nm,1.3s
KHC Kasperske Hory 67.78 338 P **P 12 48 04.6 -0.7**
KHC Kasperske Hory 67.78 338 *e*P **P 12 48 04.9 -0.4**
KHC Kasperske Hory 67.78 338 *ce*P **P 12 48 04.7 -0.7**
KHC pmax pmax
comp=Z,21nm,1.0s
MK31 Makanchi Array 67.81 26 P **P 12 48 05.4 -0.2**
MK31 lAmb lAmb 12 48 14.1
comp=Z,10nm,0.9s
MK31 Makanchi Array 67.81 26 P **P 12 48 05.4 -0.2**
MK31 pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 67.81 26 P **P 12 48 05.5 -0.1**
MKAR Makanchi Array 67.81 26 P **P 12 48 05.1 -0.4**
comp=Z,0.7nm,0.7s,baz=218,slow=8.3,SNR=6.6
MKAR LR LR 13 18 43.0
comp=Z,35nm,18.1s,baz=272,slow=37
comp=Z,0.7nm,0.7s
MKAR Makanchi Array 67.81 26 P **P 12 48 05.5 -0.1**
ZVC Zvikov 67.82 338 *e*P **P 12 48 05.0 -0.5**
DPC Dobruska-Polom 67.86 340 *e*P **P 12 48 06.3 +0.5**
DPC Dobruska-Polom 67.86 340 *e*P **P 12 48 06.3 +0.5**
DPC Dobruska-Polom 67.86 340 P **P 12 48 05.8 0.0**
comp=Z,9.8nm,1.0s
SBUM Sibu 67.88 82 P **P 12 48 05.9 -0.8**
NWAO Narrogin (SRO) 67.88 120 LR LR 13 10 24.4
comp=Z,166nm,20.8s,baz=264,slow=30
OBN Obninsk 68.04 354 LR LR 13 20 33.6
comp=Z,150nm,19.2s,baz=180,slow=38
SENIN Lac Senin/Sane 68.14 332 P **P 12 48 07.6 -0.3**
WMQ Urumqi 68.16 32 *e*P **P 12 48 10.8 +3.0**
CASY Casey 68.43 157 P **P 12 48 09.8 +0.6**
CASY lAmb lAmb 12 48 10.1
comp=Z,16nm,1.2s
MOS Moscow 68.56 355 *e*P **P 12 48 10.5 +0.5**
MOS pmax pmax
comp=Z,35nm,0.8s
SSB Saint Sauveur 68.63 330 P **P 12 48 11.5 +0.7**
SSB Saint Sauveur 68.63 330 P **P 12 48 11.5 +0.7**
SSB pmax pmax
comp=Z,44nm,1.7s
MNK Minsk 68.66 349 *i* P **P 12 48 08.9 -1.7**
MNK *i* 12 50 40.7
MNK *i* S **S 12 57 08.2 -5.2**
MNK pmax pmax
comp=E,10.0nm,0.9s
MNK pmax pmax
comp=N,19nm,1.0s
MNK pmax pmax
comp=Z,25nm,0.9s
BVAR Borovoye Array 68.91 16 P **P 12 48 12.8 +0.6**
comp=Z,1.0nm,0.6s,baz=204,slow=6.0,SNR=3.7
BVAR LR LR 13 19 30.4
comp=Z,67nm,20.6s,baz=227,slow=37
comp=Z,1.0nm,0.6s
BRVK Borovoye 68.91 16 P **P 12 48 13.1 +0.8**
BRVK lAmb lAmb 12 48 21.7
comp=Z,34nm,1.6s
BRVK Borovoye 68.91 16 P **P 12 48 13.1 +0.8**
BRVK pmax pmax
comp=Z,34nm,1.6s
BRG Berggiesshubel 69.11 339 *e*P **P 12 48 13.8 +0.3**
BRG Amp 12 48 14.6
comp=Z,6.7nm,0.9s
BRG Berggiesshubel 69.11 339 P P 12 48 20.7 +7.1
BRG Amp 12 48 21.0
comp=Z,4.4nm,0.8s
GRA1 Grafenberg Arr 69.12 337 P **P 12 48 14.1 +0.4**
GRF Grafenberg Arr 69.12 337 P **P 12 48 14.1 +0.4**
GRF pmax pmax
comp=Z,26nm,0.5s
GRFO Grafenberg 69.12 337 P **P 12 48 13.9 +0.3**
GRFO lAmb lAmb 12 48 15.2
comp=Z,14nm,0.7s
GRFO Grafenberg 69.12 337 P **P 12 48 14.0 +0.3**
GRFO pmax pmax
comp=Z,14nm,0.7s
BFO Black Forest 69.21 334 P **P 12 48 14.7 +0.5**
BFO lAmb lAmb 12 48 15.5
comp=Z,12nm,1.1s
BFO Black Forest 69.21 334 P **P 12 48 14.7 +0.5**
BFO pmax pmax
comp=Z,12nm,1.1s
KURBB Kurchatov Arra 69.39 22 P **P 12 48 14.5 -0.7**
comp=Z,0.2nm,0.3s,baz=225,slow=6.7,SNR=2.4
KURBB LR LR 13 16 40.5
comp=Z,90nm,21.5s,baz=172,slow=34

KURK	Kurchatov	69.50	22	⇑*i*	P		P	12 48 16.7	+0.8
ESBB	Sonseca Array	69.55	321		P		P	12 48 17.9	+1.2
ESBB					IAmb		IAmb	12 48 18.6	
	comp=Z,9.5nm,0.9s								
ESDC	Sonseca Array	69.55	321		P		P	12 48 17.9	+1.2
	comp=Z,7.5nm,0.9s,baz=130,slow=5.5,SNR=54								
	comp=Z,7.5nm,0.9s								
ECH	Echery	69.62	334		P		P	12 48 17.0	+0.2
ECH	Echery	69.62	334		P		P	12 48 17.0	+0.2
PAB	San Pablo	69.71	321		P		P	12 48 18.6	+1.0
PAB					IAmb		IAmb	12 48 20.2	
	comp=Z,19nm,1.2s								
PAB	San Pablo	69.71	321		P		P	12 48 18.6	+1.0
ARU	Arti	69.78	8		P		P	12 48 18.6	+1.0
ARU	Arti	69.78	8		LR		LR	13 22 58.3	
	comp=Z,137nm,18.8s,baz=204,slow=39								
ARU	Arti	69.78	8	*d*	*i*P		P	12 48 19.1	+1.5
ARU					S		S	12 57 29.6	+3.0
ARU					SS		SS	13 01 54.4	-1.2
ARU					pmax		pmax		
	comp=Z,9.0nm,0.9s								
ARU	Arti	69.78	8		P		P	12 48 18.8	+1.2
CLL	Collm	69.80	339		P		P	12 48 18.2	+0.5
CLL	Collm	69.80	339		*e*P		P	12 48 18.0	+0.2
	comp=Z,17nm,1.5s								
CLL					*e*S		S	12 57 39.0	+12
CLL					*e*PPS		PPS	12 58 04.0	
CLL	Collm	69.80	339		*e*P		P	12 48 18.0	+0.2
CLL					pmax		pmax		
	comp=Z,17nm,1.5s								
PABE	Paberze	70.39	347		P		P	12 48 21.7	+0.4
PBAR	Barrancos	70.60	318		*e*P		P	12 48 24.1	+1.1
	comp=Z,14nm,1.6s								
PVAQ	Vaqueiros	70.61	317		*e*P		P	12 48 24.3	+1.2
	comp=Z,23nm,1.6s								
CD2	Chengdu	70.76	51		*e*P		P	12 48 25.0	+0.8
QIZ	Qiongzhong	70.78	65		P		P	12 48 25.1	+0.6
QIZ					S		S	12 57 43.3	+3.5
QIZ					SS		SS	13 02 16.8	+4.4
QIZ					LR		LR		
	comp=Z,120nm,11.3s								
QIZ					LR		LR		
	comp=Z,120nm,14.2s								
MBWA	Marble Bar	70.92	108		P		P	12 48 24.2	-1.2
MBWA					IAmb		IAmb	12 48 25.7	
	comp=Z,22nm,1.1s								
PSA00	Pilbara Seismi	70.98	109		P		P	12 48 25.0	-0.8
PBEJ	Beja	71.06	318		*e*P		P	12 48 26.5	+0.7
	comp=Z,18nm,1.4s								
WLF	Walferdange	71.15	334		P		P	12 48 26.6	+0.6
WLF					IAmb		IAmb	12 48 27.4	
	comp=Z,12nm,0.9s								
WLF	Walferdange	71.15	334		*d*P		P	12 48 26.7	+0.6
WLF	Walferdange	71.15	334		P		P	12 48 26.7	+0.6
WLF					pmax		pmax		
	comp=Z,12nm,0.9s								
KIRV	Kirov	71.16	2		LR		LR	13 22 51.9	
	comp=Z,164nm,19.3s,baz=196,slow=39								
KIRV	Kirov	71.16	2	*c*	*i*P		P	12 48 25.9	0.0
MESJ	Messejana	71.19	318		*e*P		P	12 48 27.7	+1.1
	comp=Z,12nm,1.4s								
PESTR	Estremoz	71.35	319		*e*P		P	12 48 28.7	+1.1
	comp=Z,19nm,1.5s								
PESTR	Estremoz	71.35	319		P		P	12 48 28.7	+1.1
PESTR					IAmb		IAmb	12 48 30.0	
	comp=Z,14nm,1.0s								
PNCL	Nicolau / Gran	71.54	318		*e*P		P	12 48 30.1	+1.4
	comp=Z,21nm,1.8s								
PMRV	Marv??o	71.55	319		*e*P		P	12 48 29.8	+1.1
	comp=Z,14nm,1.6s								
PCBR	Castelo Branco	71.83	320		*e*P		P	12 48 31.5	+1.1
	comp=Z,13nm,1.6s								
BTNL	Ternell	71.86	335		*d*P		P	12 48 31.4	+1.0
RCHB	Rochefort	71.92	334		*d*P		P	12 48 31.5	+0.8
MEM	Membach	71.93	335		*d*P		P	12 48 31.4	+0.7
BCLA	Clavier	72.08	334		*d*P		P	12 48 32.2	+0.5
PACT	Alcochete	72.10	318		*e*P		P	12 48 32.9	+0.8
	comp=Z,188nm,2.0s								
DOU	Dourbes	72.14	334		*d*P		P	12 48 32.8	+0.7
BGES	Gesves	72.15	334		*d*P		P	12 48 33.0	+0.9
BMRD	Maredsous	72.22	334		*d*P		P	12 48 33.4	+0.8
MVO	Moncorvo	72.32	321		*e*P		P	12 48 35.0	+1.6
	comp=Z,22nm,1.8s								
GTA	Gaotai	72.39	41		P		P	12 48 42.3	+8.3
GTA					pmax		pmax		
	comp=Z,5.0nm,1.0s								
GTA					LR		LR		
	comp=N,77nm,19.6s								
GTA					LR		LR		
	comp=E,78nm,19.3s								
GTA					LR		LR		
	comp=Z,95nm,20.0s								
PBRG	Braganca	72.52	322		*e*P		P	12 48 35.8	+1.2
	comp=Z,19nm,1.7s								
PVIS	Viseu	72.60	320		*e*P		P	12 48 36.1	+1.0
PCAS	Casmilo, Conde	72.60	319		*e*P		P	12 48 35.4	+0.3
	comp=Z,18nm,1.9s								
POLO	Lamas de Olo	72.91	321		*e*P		P	12 48 39.3	+2.3
	comp=Z,11nm,1.5s								
LZH	Lanzhou	73.35	46		*e*P		P	12 48 40.8	+1.0
LZH					sP		pwP	12 48 48.3	+2.6
LZH					pmax		pmax		
	comp=Z,16nm,1.1s								
KAPI	Kappang	73.53	92		LR		LR	13 15 54.4	
	comp=Z,154nm,21.4s,baz=258,slow=32								
KLMR	Klimovskoe	73.53	357		*e*P		P	12 48 38.8	-1.2
KLMR					pmax		pmax		
	comp=Z,46nm,1.4s								
PGAV	Gavieira, Arco	73.54	321		*e*P		P	12 48 42.5	+1.8
	comp=Z,35nm,1.8s								
ZAA0	Zalesovo Array	74.37	23		P		P	12 48 44.9	-0.2
ZALV	Zalesovo Beam	74.37	23		P		P	12 48 44.4	-0.8
ZALV	Zalesovo Beam	74.37	23		P		P	12 48 43.9	-1.3
	comp=Z,1.2nm,0.6s,baz=226,slow=8.1,SNR=7.3								
	comp=Z,1.2nm,0.6s								
ZALV	Zalesovo Beam	74.37	23		P		P	12 48 44.4	-0.8
VALR	Valaam	74.79	353	*i*	P		P	12 48 48.0	+0.6
MPSI	Mapaga	74.82	86		P		P	12 48 48.6	-0.1
	comp=Z,25nm,1.1s								
BELA	Belgrano 2	75.54	192		P		P	12 48 52.0	+0.4
BELA					IAmb		IAmb	12 48 53.3	
	comp=Z,21nm,0.9s								
FINES	FINESS Array B	75.55	350		P		P	12 48 52.1	+0.3
	comp=Z,6.1nm,1.0s,baz=139,slow=8.7,SNR=13								
FINES					LR		LR	13 25 23.9	
	comp=Z,58nm,18.4s,baz=179,slow=38								
	comp=Z,6.1nm,1.0s								
FIA1	FINESS Array S	75.55	350		P		P	12 48 52.3	+0.5
XAN	Xi'an	76.07	50	⇑	P		P	12 49 04.3	+8.8
XAN					pP		PcP	12 49 08.6	+0.9
XAN					pmax		pmax		
	comp=Z,12nm,1.0s								
FITZ	Fitzroy Crossi	76.86	106		P		P	12 48 59.5	-0.8
HFS	Hagfors	77.01	344		P		P	12 49 00.1	0.0
	comp=Z,7.7nm,0.8s,baz=139,slow=6.8,SNR=18								
HFS					LR		LR	13 24 12.4	
	comp=Z,85nm,21.1s,baz=138,slow=37								
	comp=Z,7.7nm,0.8s								
FORT	Forrest	77.22	119		P		P	12 49 01.7	-0.3
QSPA	South Pole Qui	77.33	180		P		P	12 49 02.0	-0.1
QSPA	South Pole Qui	77.33	180		P		P	12 49 01.9	-0.3
	comp=Z,52nm,1.0s,baz=254,slow=2.8,SNR=102								
QSPA					LR		LR	13 20 54.3	
	comp=Z,361nm,18.5s,baz=264,slow=34								
KONO	Kongsberg	77.76	342		P		P	12 49 04.9	+0.6
KONO					IAmb		IAmb	12 49 08.7	
	comp=Z,20nm,1.1s								
KONO	Kongsberg	77.76	342	⇑	*i*P		P	12 49 05.0	+0.6
KONO					pmax		pmax		
	comp=Z,13nm,1.0s								
NC602	NORSAR Array S	78.10	344		P		P	12 49 06.9	+0.7
NC602					IAmb		IAmb	12 49 07.5	
	comp=Z,20nm,1.1s								
NAO01	NORSAR Array S	78.37	343		P		P	12 49 07.7	0.0
NAO01					IAmb		IAmb	12 49 18.5	
	comp=Z,18nm,1.1s								
NB201	NORSAR Array S	78.43	344		P		P	12 49 08.2	+0.1
NB201					IAmb		IAmb	12 49 10.0	
	comp=Z,20nm,1.1s								
NB2	NORSAR Subarra	78.44	344		P		P	12 49 08.2	+0.1
	comp=Z,56nm,2.5s,baz=146,slow=5.6								
NB2	NORSAR Subarra	78.44	344		P		P	12 49 08.2	+0.1
	baz=146,slow=5.6								
NOA	NORSAR Array B	78.44	344		P		P	12 49 08.2	+0.1
	comp=Z,2.7nm,0.9s,baz=137,slow=5.7,SNR=7.7								
NOA					LR		LR	13 28 41.5	
	comp=Z,67nm,19.1s,baz=110,slow=39								
	comp=Z,2.7nm,0.9s								
NBO00	NORSAR Array S	78.56	344		P		P	12 49 09.5	+0.8
NBO00					IAmb		IAmb	12 49 11.2	
	comp=Z,29nm,1.4s								
NC204	NORSAR Array S	78.76	344		P		P	12 49 10.1	+0.2
EKA	Eskdalemuir Ar	79.18	334		P		P	12 49 12.5	+0.2
	comp=Z,4.0nm,0.8s,baz=138,slow=6.2,SNR=7.8								
	comp=Z,4.0nm,0.8s								
SONM	Songino Array	80.91	37		P		P	12 49 22.8	+0.8
SONM	Songino Array	80.91	37		P		P	12 49 22.4	+0.4
	comp=Z,1.9nm,0.7s,baz=224,slow=6.0,SNR=4.5								
	comp=Z,1.9nm,0.7s								
SONM	Songino Array	80.91	37		P		P	12 49 22.8	+0.8
SONM					pmax		pmax		
	comp=Z,4.0nm,1.0s								
HHC	Hu-ho-hao-te	80.92	45		*e*P		P	12 49 23.6	+1.4
HHC					S		S	12 59 32.3	+1.1
HHC					pmax		pmax		
	comp=Z,17nm,0.8s								
HHC					pmax		pmax		
	comp=Z,120nm,4.2s								
HHC					LR		LR		
	comp=Z,140nm,14.5s								
HHC					LR		LR		
	comp=Z,76nm,14.9s								
HHC					LR		LR		
	comp=Z,100nm,14.6s								
ULN	Ulaanbaatar	81.31	37	⇓	*i*P		P	12 49 25.0	+0.8
ULN					pmax		pmax		
	comp=Z,3.0nm,1.0s								
DAV	Davao City (W)	81.91	81		LR		LR	13 22 33.2	
	comp=Z,93nm,20.4s,baz=278,slow=33								
NJ2	Nanjing	82.99	55		*e*P		P	12 49 34.4	+1.3
NJ2					pmax		pmax		
	comp=Z,8.0nm,0.5s								
VNDA	Vanda	83.10	169		P		P	12 49 33.3	+0.4
VNDA					IAmb		IAmb	12 49 34.4	
	comp=Z,28nm,1.6s								
VNDA	Vanda	83.10	169		P		P	12 49 32.8	-0.1
	comp=Z,4.3nm,0.7s,baz=262,slow=6.7,SNR=39								
VNDA					LR		LR	13 23 56.5	
	comp=Z,437nm,18.9s,baz=231,slow=34								
	comp=Z,4.3nm,0.7s								
VNDA	Vanda	83.10	169		P		P	12 49 33.3	+0.4
VNDA					pmax		pmax		
	comp=Z,28nm,1.6s								
ARCES	ARCESS Array B	83.29	353		P		P	12 49 34.3	+0.5
	comp=Z,1.0nm,0.6s,baz=193,slow=3.7,SNR=1.6								
ARCES					LR		LR	13 30 02.1	
	comp=Z,115nm,18.6s,baz=162,slow=38								
	comp=Z,1.0nm,0.6s								
ASAR	Alice Springs	83.50	113		P		P	12 49 35.2	-0.9
ASAR	Alice Springs	83.50	113		P		P	12 49 34.9	-1.2
	comp=Z,18nm,0.7s,baz=263,slow=4.9,SNR=234								
	comp=Z,18nm,0.7s								
ASAR	Alice Springs	83.50	113		P		P	12 49 35.2	-0.9
BBOO	Buckleboo	83.63	122		P		P	12 49 35.6	-0.9
WRA	Warramunga Arr	84.62	109		P		P	12 49 41.1	-0.7
WRA	Warramunga Arr	84.62	109		P		P	12 49 40.9	-0.9
	comp=Z,24nm,0.9s,baz=260,slow=3.3,SNR=97								
WRA	Warramunga Arr	84.62	109		P		P	12 49 41.1	-0.7
WRA					pmax		pmax		
	comp=Z,3.0nm,1.0s								
WB2	Warramunga Arr	84.63	109		P		P	12 49 40.8	-1.0
WRAB	Tennant Creek	84.63	109		P		P	12 49 41.3	-0.6
WRAB	Tennant Creek	84.63	109	⇑	*i*P		P	12 49 41.4	-0.5
WRAB					pmax		pmax		
	comp=Z,39nm,0.9s								
WB0	Warramunga Arr	84.71	109		P		P	12 49 41.8	-0.5
WR0	Warramunga Arr	84.80	109		P		P	12 49 41.9	-0.9
WR0					IAmb		IAmb	12 49 43.0	
	comp=Z,24nm,1.1s								
STKA	Stephens Creek	88.40	122		P		P	12 49 59.4	-0.7
STKA	Stephens Creek	88.40	122		P		P	12 49 59.1	-1.0
	comp=Z,18nm,0.8s,baz=282,slow=4.5,SNR=28								
STKA					LR		LR	13 23 17.7	
	comp=Z,173nm,21.4s,baz=216,slow=31								
	comp=Z,18nm,0.8s								
STKA	Stephens Creek	88.40	122		P		P	12 49 59.4	-0.7
STKA					pmax		pmax		
	comp=Z,5.0nm,0.8s								
JMIC	Jan Mayen	91.13	345		LR		LR	13 32 10.8	
	comp=Z,41nm,21.5s,baz=99,slow=36								
KSAR	Wonju Array Be	91.68	52		P		P	12 50 14.9	-0.3
KSAR	Wonju Array Be	91.68	52		P		P	12 50 14.9	-0.3
KSRS	Korea Array	91.72	52		P		P	12 50 14.6	-0.8
	comp=Z,1.4nm,1.0s,baz=285,slow=3.1,SNR=6.4								
	comp=Z,1.4nm,1.0s								
BORG	Borgarnes	91.94	337		LR		LR	13 36 51.4	
	comp=Z,123nm,18.8s,baz=172,slow=39								
JNU	Nakatsue	93.03	57		LR		LR	13 28 52.6	
	comp=Z,30nm,21.5s,baz=278,slow=33								
KLR	Kul'dur	97.09	41		LR		LR	13 32 49.5	
	comp=Z,42nm,21.9s,baz=208,slow=34								
PMG	Port Moresby	99.10	102		LR		LR	13 32 00.2	
	comp=Z,82nm,19.0s,baz=262,slow=33								
TIXI	Tiksi	99.92	19		LR		LR	13 36 44.6	
	comp=Z,49nm,21.1s,baz=292,slow=36								
DZM	Mont Dzumac	112.50	121		*e*LR		LR	13 29 09.2	
	comp=Z,253nm,21.7s								
ROSC	El Rosal	120.17	268		PKP		PKPdf	12 56 00.4	+0.2
	comp=Z,8.8nm,0.5s,baz=102,slow=20,SNR=2.3								
C24K	Franklin Bluff	122.37	6		P		PKPdf	12 56 02.7	+0.5
	baz=343								
E20K	Nigu River	122.78	9		P		PKPdf	12 56 03.7	+0.6
	baz=334								
D25K	Kavik River	122.97	5		P		PKPdf	12 56 03.2	-0.3
	baz=346								
TOLK	Toolik Lake Re	123.32	7		P		PKiKP	12 56 05.6	+1.1
	baz=342								
E29M	Blow River	124.38	2		P		PKPdf	12 56 05.6	-0.6
	baz=356								
H27K	Steamboat Moun	126.38	4		P		PKPdf	12 56 10.3	+0.2
	baz=351								
EPYK	Eagle Plains	126.43	1		P		PKPdf	12 56 10.0	-0.2
	baz=357								
MLY	Manley	126.60	9		P		PKPdf	12 56 10.9	+0.3
	baz=340								
I26K	Coal Creek Min	127.18	5		P		PKPdf	12 56 11.6	0.0
	baz=349								
I28M	Miner Creek	127.24	3		P		PKPdf	12 56 11.9	0.0
	baz=353								
ILAR	Eielson Array	127.35	7		PKP		PKPdf	12 56 11.1	-0.9
	comp=Z,0.7nm,0.8s,baz=327,slow=3.1,SNR=5.4								
I30M	Mount Dempster	127.59	1		P		PKPdf	12 56 12.5	0.0
	baz=358								
K20K	Telida	127.61	11		P		PKiKP	12 56 13.8	+0.8
	baz=336								
J30M	Hart River	128.24	1				PKPdf	12 56 14.2	+0.4
J30M	Hart River	128.24	1		P		PKPdf	12 56 14.4	+0.6
	baz=358								
YKA	Yellowknife Ar	128.35	348		PKPdf		PKPdf	12 56 13.8	-0.1
YKA	Yellowknife Ar	128.35	348		PKP		PKPdf	12 56 13.5	-0.4
	comp=Z,0.6nm,0.6s,baz=20,slow=1.8,SNR=9.1								
YKA					PP		PP	12 58 16.1	-1.6
	comp=Z,0.9nm,0.9s,baz=20,slow=7.5,SNR=7.6								
YKA	Yellowknife Ar	128.35	348		PKIKP		PKPdf	12 56 13.8	-0.1
WMOK	Wichita Mounta	141.00	310		P		PKPdf	12 56 39.1	+0.6
	baz=65								
TBI	Tubuai	141.22	158		*e*LR		LR	13 42 34.8	
	comp=Z,540nm,21.8s								
BOZ	Bozeman (W)	141.97	334		P		PKPdf	12 56 41.7	+1.7
	baz=38								
PDAR	Pinedale Array	143.15	329		PKP		PKPdf	12 56 41.9	-0.4
	comp=Z,1.3nm,0.8s,baz=73,slow=3.3,SNR=8.6								
POST	Post	143.77	309				PKPab	12 56 41.2	+1.0
SDCO	Great Sand Dun	144.15	319		P		PKPbc	12 56 42.9	+0.6
	baz=54								
HLID	Hailey	144.78	334				PKPab	12 56 44.0	+0.1
HWUT	Hardware Ranch	145.01	329				PKPbc	12 56 44.5	-0.3
TCUT	Toone Canyon	145.29	329		PKPbc		PKPab	12 56 46.5	+0.6
PPT2	Papeete2	146.35	153		*e*LR		LR	13 44 47.6	
	comp=Z,147nm,26.0s								
PPT2					*e*LR		LR	13 44 57.2	
	comp=Z,115nm,23.0s								
ANMO	Albuquerque	146.39	316				PKPbc	12 56 49.5	+0.2
ANMO	Albuquerque	146.39	316		P		PKPbc	12 56 49.6	+0.3
	baz=56								
ANMO	Albuquerque	146.39	316		PKP2		PKPbc	12 56 49.5	+0.2
J08A	Circle Bar Ran	146.54	339		PKPbc		PKPbc	12 56 49.7	+0.3
ALPN	Alpine	146.57	307		PKPbc		PKPbc	12 56 50.7	+0.8
DUG	Dugway, Tooele	146.69	329		PKPbc		PKPdf	12 56 49.5	+1.2
DUG	Dugway, Tooele	146.69	329		PKP2		PKPdf	12 56 49.5	+1.2
Q16A	Castle Valley	146.76	326		PKPbc		PKPbc	12 56 50.4	0.0
TX31	Lajitas Ar. Si	147.01	305		PKPbc		PKPbc	12 56 51.3	+0.1
TXAR	Lajitas Array	147.01	305		PKPbc		PKPbc	12 56 51.5	+0.3
TXAR	Lajitas Array	147.01	305		PKPbc		PKPdf	12 56 49.5	+0.3
	comp=Z,2.5nm,0.7s,baz=88,slow=2.1,SNR=22								
HMU	Henry Mountain	147.21	324		PKPbc		PKPbc	12 56 51.6	0.0
MNTX	Cornudas Mount	147.31	310		P		PKPdf	12 56 50.3	+0.8
	baz=61								
MSU	Marysvale	147.60	326				PKPdf	12 56 52.0	+1.9
MSU	Marysvale	147.60	326		PKP2		PKPdf	12 56 52.0	+1.9
MVU	Marysvale	147.63	326				PKPbc	12 56 52.3	-0.5
TCRU	Three Creeks R	147.68	327				PKPbc	12 56 53.9	+1.0
121A	Cookes Peak, D	148.64	313		P		PKPdf	12 56 54.0	+2.1
	baz=57								
CCUT	Cedar City	148.94	326				PKPdf	12 56 54.6	+2.3
LCMT	Little Creek M	149.27	325				PKPdf	12 56 55.1	+2.4
319A	Douglas	150.33	313		PKPbc		PKPbc	12 56 59.8	+0.1
TPH	Tonopah	150.48	332		PKPbc		PKPbc	12 57 00.3	+0.3
TPH	Tonopah	150.48	332		PKIKP		PKPbc	12 57 00.3	+0.3
NVAR	Mina Array Bea	150.68	334		PKP		PKPdf	12 56 55.1	+0.1
	comp=Z,2.7nm,0.7s,baz=56,slow=1.6,SNR=15								
NVAR					PKPbc		PKPbc	12 57 00.9	+0.5
	comp=Z,2.7nm,0.7s,baz=57,slow=3.3,SNR=15								
TUC	Tucson	150.85	316		P		PKPbc	12 57 01.7	+0.8
	baz=53								
V12A	Nelson	151.09	326		PKPbc		PKiKP	12 57 02.4	+0.4
AFDM	Forest Hills D	151.31	338		PKPbc		PKPbc	12 57 02.0	+0.3
FURC	Furnace Creek,	151.59	329		P		PKiKP	12 57 03.6	+0.9
	baz=38								
PDMCI	Parker Dam,Lak	151.71	323		P		PKiKP	12 57 03.9	+0.8
	baz=46								
GWY	Greenwater Val	151.71	329		PKPbc		PKiKP	12 57 04.0	+0.7
GWY							pPKPab	12 57 12.8	-1.4
TUQ	Turquoise Moun	151.89	327		P		PKiKP	12 57 04.5	+0.8
	baz=41								
CWC	Cottonwood Cre	152.20	331		P		PKPbc	12 57 04.7	+0.8
	baz=36								
MPMC	Manual Prospec	152.22	330		P		PKPbc	12 57 04.9	+0.8
	baz=38								
GMRC	Granite Mounta	152.23	325		P		PKiKP	12 57 05.0	+0.7
	baz=42								
IRM	Iron Mountain	152.40	324		P		PKiKP	12 57 05.8	+1.3
	baz=44								
GSC	Goldstone, Bar	152.46	328		P		PKiKP	12 57 05.8	+1.0
	baz=40								
LRMC	Laurel Mtn Rad	152.78	329		P		PKiKP	12 57 06.7	+1.2
	baz=38								

JMA 22 12:55:05.7±0.1, 39.1N±0.4×142.3E±0.8, h35km±1km, MV0.6/16, E OFF IWATE PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OFUJ	Ofunato	0.48	268	P		Pn	12 55 15.8	-0.2
OFUJ				*e*S		Sn	12 55 23.2	-0.1
MIYJ	Miyakonagasawa	0.60	323	*e*P		Pn	12 55 17.4	-0.3
MIYJ				*e*S		Sn	12 55 25.8	-0.3
JMK	Ichinoseki	0.84	260	*e*S		Sn	12 55 32.5	+0.3
JOM	Ohasama	0.86	296	*e*S		Sn	12 55 33.6	+1.1
JIO	Ouri	0.98	229	*e*S		Sn	12 55 34.0	-1.5

MOS ***22*** *12:55:34.7±1.1, 35.57N×140.88E, h30km, mb4.5/10, Error ellipse: s-maj=12.3km s-min=7.0km az=112.7*
BJI ***22*** *12:55:35.7±0.0, 35.56N×140.74E, h46km, mb4.5/27, mB4.6/8, Ms4.3/2, Ms7 4.1/1*
NEIC ***22*** *12:55:38.5±2.5, 35.63N±0.05×140.83E±0.09, h35km±2km, mb4.7/28, Error ellipse: s-maj=12.1km s-min=8.0km az=102.0*
IDC ***22*** *12:55:38.6±1.4, 35.65N×140.85E, h50km±13km, mb3.7/18, mbtmp4.0/24, ML3.4/6, MS3.2/11, Error ellipse: s-maj=16.4km s-min=8.1km az=78.0*
NIED ***22*** *12:55:39.3, 35.74N×140.62E, h51km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr1.51; Mθθ-0.32; Mφφ-1.19; Mrθ-0.04; Mθφ0.22; Mφr2.15; Fault plane solution: M₀2.55000×10¹⁵ NP1: φs357.00000°, δ74.00000°, λ94.00000°. NP2: φs162.00000°, δ17.00000°, λ76.00000°.*
JMA ***22*** *12:55:39.3±0.2, 35.7N±0.5×140.6E±0.7, h51km±1km, MD3.9/40, MV3.5/40, NEAR CHOSHI CITY*
JMA Felt II J1 at NEAR CHOSHI CITY .

ISC 22 12:55:39.5±0.7, 35.69N±0.04×140.66E±0.05, h49km±6km, n147, σ1°23/130, mb4.2/41, MS3.0/7, 2C-7D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JSMT	Sammumatsuo	0.17	255	⇓*i*	P	Pn	12 55 47.8	+0.3
JSMT				⇓	S	Sn	12 55 54.7	+1.5
JSMT	Sammumatsuo	0.17	255		A	A	12 55 47.8	
	comp=E,122nm,1.5s,comp=N,82nm,0.2s							
JIHU	Itakohorinouch	0.30	339	⇓*i*	P	Pn	12 55 48.5	0.0
JIHU				⇓	S	Sn	12 55 55.5	+0.6
JIHU	Itakohorinouch	0

JNU	**Nakatsue**	**8.48**	**255**	Pn	**Pn**	**12 57 39.3**	**-0.5**
JNU	**Nakatsue**	**8.48**	**255**	P	**Pn**	**12 57 39.7**	**-0.1**
	comp=N,0.2nm,0.3s,baz=90,slow=20,SNR=1.8						
JNU				LR	LR	13 01 18.4	
	comp=N,335nm,18.7s,baz=86,slow=39						
	comp=N,3.8nm,0.7s						
ASAJ	**Asahikawa**	**8.55**	**9**	P	**Pn**	**12 57 39.0**	**-1.6**
	comp=N,0.7nm,0.3s,baz=200,slow=15,SNR=8.1						
ASAJ				S	**Sn**	**12 59 12.2**	**-3.4**
	comp=N,4.2nm,0.7s,baz=217,slow=16,SNR=1.9						
ASAJ				LR	LR	13 02 07.6	
	comp=N,44nm,18.3s,baz=216,slow=45						
	comp=N,5.9nm,0.8s						
JKA	**Kamikawa-asahi**	**8.55**	**9**	Pn	**Pn**	**12 57 39.0**	**-1.6**
JCJ	**Chichijima**	**8.67**	**171**	Pn	**Pn**	**12 57 41.0**	**-1.3**
JCJ	**Chichijima**	**8.67**	**171**	P	**Pn**	12 57 35.2	-7.1
	comp=N,52nm,0.6s,baz=344,slow=18,SNR=8.8						
JCJ				S	Sn	12 59 07.3	-11
	comp=N,27nm,0.4s,baz=301,slow=19,SNR=1.2						
SHO	**Shikotan**	**9.45**	**28**	P	**Pn**	**12 57 52.6**	**-0.3**
KSRS	**Korea Array**	**10.39**	**283**	P	**Pn**	**12 58 07.9**	**+2.0**
	comp=N,0.3nm,0.3s,baz=97,slow=14,SNR=17						
	comp=N,4.2nm,0.8s						
KS19	**Wonju Array Si**	**10.44**	**284**	Pn	**Pn**	**12 58 07.8**	**+1.2**
USA0B	**Ussuriysk Arra**	**10.79**	**325**	Pn	**Pn**	**12 58 12.5**	**+1.3**
USA0B	**Ussuriysk Arra**	**10.79**	**325**	P	**Pn**	**12 58 12.5**	**+1.3**
USRK	**Ussuriysk Ar.**	**10.79**	**325**	P	**Pn**	**12 58 13.0**	**+1.8**
	comp=N,0.2nm,0.3s,baz=138,slow=11,SNR=2.7						
	comp=N,2.5nm,0.7s						
KLR	**Kul'dur**	**15.03**	**337**	LR	LR	13 04 37.8	
	comp=N,35nm,18.3s,baz=217,slow=36						
KLR	**Kul'dur**	**15.03**	**337**	*i* P	**P**	**12 59 16.3**	**+3.2**
NJ2	**Nanjing**	**18.46**	**265**	*e*P	**Pn**	**12 59 52.3**	**+0.6**
NJ2				pmax	pmax		
	comp=N,10.0nm,0.5s						
TIA	**Tai'an**	**19.05**	**278**	P	**P**	**12 59 56.6**	**-1.1**
TIA				pmax	pmax		
	comp=N,5.0nm,0.8s						
ZEA	**Zeya**	**20.34**	**337**	*i* P	Pn	13 00 15.1	+1.1
PETK	**Petropavlovsk-**	**21.16**	**29**	LR	LR	13 08 15.8	
	comp=N,20nm,20.4s,baz=232,slow=36						
HHC	**Hu-ho-hao-te**	**23.36**	**292**	*e*P	**P**	**13 00 44.4**	**+0.7**
HHC				pmax	pmax		
	comp=N,12nm,0.8s						
HHC				pmax	pmax		
	comp=N,54nm,5.2s						
MA2	**Magadan**	**24.80**	**12**	P	**P**	**13 00 57.0**	**+0.4**
MA2				IAmb	IAmb	13 01 03.7	
	comp=Z,15nm,1.3s						
MA2	**Magadan**	**24.80**	**12**	LR	LR	13 11 55.7	
	comp=Z,27nm,18.8s,baz=158,slow=39						
MA2	**Magadan**	**24.80**	**12**	P	**P**	**13 00 57.0**	**+0.4**
MA2				pmax	pmax		
	comp=Z,15nm,1.3s						
XAN	**Xi'an**	**26.04**	**276**	⇑P	**P**	**13 01 07.3**	**-0.9**
XAN				pmax	pmax		
	comp=Z,16nm,0.7s						
ENH	**Enshi**	**26.63**	**267**	P	**P**	**13 01 12.6**	**-1.0**
ENH				IAmb	IAmb	13 01 13.0	
	comp=Z,23nm,0.7s						
YAK	**Yakutsk**	**27.26**	**349**	LR	LR	13 12 01.4	
	comp=Z,41nm,21.4s,baz=114,slow=36						
ULN	**Ulaanbaatar**	**27.63**	**307**	*i* P	**P**	**13 01 24.1**	**+1.5**
ULN				pmax	pmax		
	comp=Z,8.0nm,1.6s						
H11N2	**WAKE ISLAND Hy**	**28.03**	**118**	T	T	13 30 42.7	
	baz=310,slow=75,SNR=16						
H11N1	**WAKE ISLAND Hy**	**28.04**	**118**	T	T	13 30 29.1	
	baz=310,slow=75,SNR=8.2						
H11N3	**WAKE ISLAND Hy**	**28.05**	**118**	T	T	13 30 44.1	
	baz=310,slow=75,SNR=12						
SONM	**Songino Array**	**28.06**	**306**	P	**P**	**13 01 27.9**	**+1.6**
	comp=Z,0.8nm,0.4s,baz=96,slow=8.5,SNR=2.5						
	comp=Z,0.8nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	13 31 30.6	
	baz=312,slow=76,SNR=9.6						
H11S3	**WAKE ISLAND Hy**	**28.68**	**120**	T	T	13 31 19.2	
	baz=312,slow=76,SNR=38						
H11S2	**WAKE ISLAND Hy**	**28.70**	**120**	T	T	13 31 20.0	
	baz=312,slow=76,SNR=34						
SHEM	**Shemya Is, Ala**	**29.06**	**44**	LR	LR	13 11 07.2	
	comp=Z,34nm,19.1s,baz=290,slow=32						
PZH	**PanZhiHua**	**34.37**	**266**	P	**P**	**13 02 20.6**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,60nm,4.5s						
TIXI	**Tiksi**	**36.55**	**354**	*i* P	**P**	**13 02 43.0**	**+2.9**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.0s						
CRAI	**Chiangrai**	**38.48**	**257**	P	**P**	**13 02 57.0**	**0.0**
FAKI	**Fak Fak**	**39.20**	**193**	P	**P**	**13 03 02.6**	**-0.5**
PHRA	**Phrae**	**39.53**	**255**	P	**P**	**13 03 04.8**	**-1.0**
CMAR	**Chiang Mai Arr**	**40.57**	**256**	P	**P**	**13 03 13.3**	**-1.2**
	comp=Z,1.3nm,0.4s,baz=56,slow=8.8,SNR=2.5						
CMAR				LR	LR	13 21 32.8	
	comp=Z,35nm,19.1s,baz=40,slow=38						
	comp=Z,1.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**40.57**	**256**	*i* P	P	13 03 09.1	-5.4
CMAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ZAA0	**Zalesovo Array**	**42.38**	**313**	P	**P**	**13 03 28.6**	**-0.2**
ZALV	**Zalesovo Beam**	**42.38**	**313**	P	**P**	**13 03 28.8**	**-0.1**
ZALV	**Zalesovo Beam**	**42.38**	**313**	P	**P**	**13 03 28.7**	**-0.2**
	comp=Z,1.9nm,0.7s,baz=91,slow=8.0,SNR=12						
	comp=Z,1.9nm,0.7s						
ZALV	**Zalesovo Beam**	**42.38**	**313**	*e*P	**P**	**13 03 29.1**	**+0.2**
ZALV				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MK31	**Makanchi Array**	**44.33**	**303**	P	**P**	**13 03 44.9**	**+0.2**
MK31	**Makanchi Array**	**44.33**	**303**	P	**P**	**13 03 44.9**	**+0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**44.33**	**303**	P	**P**	**13 03 44.5**	**-0.2**
MKAR	**Makanchi Array**	**44.33**	**303**	P	**P**	**13 03 44.4**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=86,slow=9.4,SNR=32						
	comp=Z,2.1nm,0.5s						
MKAR	**Makanchi Array**	**44.33**	**303**	*i* P	**P**	**13 03 44.7**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MAKZ	**Makanchi**	**44.54**	**303**	P	**P**	**13 03 46.6**	**+0.2**
MAKZ	**Makanchi**	**44.54**	**303**	P	**P**	**13 03 46.6**	**+0.2**
MAKZ				pmax	pmax		
	comp=Z,2.0nm,0.6s						
KURK	**Kurchatov**	**46.29**	**309**	P	**P**	**13 04 00.0**	**-0.1**
KURK				IAmb	IAmb	13 04 01.6	
	comp=Z,9.8nm,1.0s						
KURK	**Kurchatov**	**46.29**	**309**	⇓ *i* P	**P**	**13 04 00.0**	**-0.1**
KURK				pmax	pmax		
	comp=Z,11nm,1.1s						
KURBB	**Kurchatov Arra**	**46.36**	**309**	P	**P**	**13 04 00.2**	**-0.4**
	comp=Z,3.8nm,0.6s,baz=83,slow=7.6,SNR=28						
	comp=Z,3.8nm,0.6s						
E19K	**Redstone River**	**46.95**	**28**	P	**P**	**13 04 04.5**	**-0.5**
E19K				IAmb	IAmb	13 04 13.2	
	comp=Z,6.4nm,1.4s						
OHAK	**Old Harbor**	**48.16**	**42**	P	**P**	**13 04 12.6**	**-1.9**
B21K	**Ikpikpuk River**	**48.26**	**25**	P	**P**	**13 04 15.4**	**+0.2**
B21K				IAmb	IAmb	13 04 32.3	
	comp=Z,21nm,1.5s						
KDAK	**Kodiak Island**	**48.51**	**41**	P	**P**	**13 04 17.2**	**0.0**
KDAK	**Kodiak Island**	**48.51**	**41**	P	**P**	**13 04 17.2**	**0.0**
KDAK				pmax	pmax		
	comp=Z,31nm,1.4s						
B22K	**Teshekpuk Lake**	**48.78**	**24**	P	**P**	**13 04 20.7**	**+1.5**
B22K				IAmb	IAmb	13 05 01.9	
	comp=Z,18nm,1.5s						
BOOM	**Boomskoye usch**	**49.61**	**299**	P	**P**	**13 04 27.4**	**+1.3**
BOOM				IAmb	IAmb	13 04 33.4	
	comp=Z,5.6nm,1.1s						
BOOM	**Boomskoye usch**	**49.61**	**299**	P	**P**	**13 04 27.4**	**+1.3**
BOOM				pmax	pmax		
	comp=Z,6.0nm,1.1s						
C23K	**Itkillik River**	**49.67**	**25**	P	**P**	**13 04 28.0**	**+2.0**
RC01	**Rabbit Creek A**	**49.80**	**37**	P	**P**	**13 04 27.7**	**+0.6**
E24K	**Your Creek**	**50.32**	**27**	P	**P**	**13 04 30.9**	**-0.1**
ILAR	**Eielson Array**	**50.96**	**32**	P	**P**	**13 04 36.2**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=274,slow=6.0,SNR=6.0						
	comp=Z,0.4nm,0.6s						
BVAR	**Borovoye Array**	**51.03**	**313**	P	**P**	**13 04 36.4**	**-0.2**
	comp=Z,1.3nm,0.5s,baz=86,slow=8.1,SNR=5.4						
	comp=Z,1.3nm,0.5s						
D25K	**Kavik River**	**51.13**	**26**	P	**P**	**13 04 37.7**	**+0.7**
BMAR	**Burnt Mountain**	**51.80**	**28**	P	**P**	**13 04 41.1**	**-1.0**
GSI	**Gunungsitoli**	**52.59**	**239**	P	**P**	**13 04 46.3**	**-2.3**
GSI				IAmb	IAmb	13 05 00.5	
	comp=Z,23nm,1.5s						
L26K	**Log Cabin Wild**	**52.65**	**34**	P	**P**	**13 04 48.0**	**-0.4**
L26K				IAmb	IAmb	13 05 24.5	
	comp=Z,2.8nm,0.7s						
BCAR	**Beaver Creek A**	**53.35**	**34**	P	**P**	**13 04 53.0**	**-0.6**
WB0	**Warramunga Arr**	**55.47**	**187**	P	**P**	**13 05 09.0**	**-0.4**
WB0				IAmb	IAmb	13 05 24.8	
	comp=Z,9.3nm,1.0s						
WR0	**Warramunga Arr**	**55.65**	**187**	P	**P**	**13 05 10.0**	**-0.6**
WB2	**Warramunga Arr**	**55.65**	**187**	P	**P**	**13 05 10.4**	**-0.2**
WB2				IAmb	IAmb	13 05 54.1	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**13 05 10.4**	**-0.3**
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**13 05 09.9**	**-0.8**
	comp=Z,1.9nm,0.8s,baz=3.6,slow=7.9,SNR=16						
	comp=Z,1.9nm,0.8s						
WRA	**Warramunga Arr**	**55.65**	**187**	P	**P**	**13 05 10.4**	**-0.3**
ARU	**Arti**	**56.97**	**319**	*e* *i*P	**P**	**13 05 19.4**	**-0.3**
ARU						13 07 23.9	
ARU				S	**S**	**13 13 13.2**	**+3.1**
ARU				SS	**SS**	**13 16 57.4**	**-1.1**
ARU				pmax	pmax		
	comp=Z,5.0nm,0.6s						
ABKAR	**Akbulak array**	**58.34**	**311**	P	**P**	**13 05 29.1**	**-0.4**
ASAR	**Alice Springs**	**59.38**	**187**	P	**P**	**13 05 35.9**	**-1.0**
	comp=Z,0.9nm,0.9s,baz=15,slow=8.3,SNR=11						
	comp=Z,0.9nm,0.9s						
SPITS	**Spitsbergen Ar**	**61.72**	**349**	LR	LR	13 33 05.5	
	comp=Z,86nm,22.0s,baz=132,slow=36						
YKA	**Yellowknife Ar**	**65.28**	**30**	P	**P**	**13 06 15.8**	**-0.1**
	comp=Z,0.2nm,0.8s,baz=291,slow=5.1,SNR=3.5						
	comp=Z,0.2nm,0.8s						
FORT	**Forrest**	**67.17**	**192**	P	**P**	**13 06 28.2**	**0.0**
STKA	**Stephens Creek**	**67.22**	**179**	P	**P**	**13 06 27.9**	**-0.7**
	comp=Z,2.1nm,0.9s,baz=354,slow=19,SNR=2.5						
	comp=Z,2.1nm,0.9s						
FINES	**FINESS Array B**	**69.72**	**332**	P	**P**	**13 06 43.6**	**-0.3**
	comp=Z,1.4nm,0.7s,baz=45,slow=10.0,SNR=6.2						
	comp=Z,1.4nm,0.7s						
FINES	**FINESS Array B**	**69.72**	**332**	*i* P	**P**	**13 06 44.0**	**+0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
KBZ	**Khabaz**	**71.31**	**311**	P	**P**	**13 06 54.1**	**+0.1**
	comp=Z,2.1nm,0.8s,baz=28,slow=18,SNR=3.7						
	comp=Z,2.1nm,0.8s						
KBZ	**Khabaz**	**71.31**	**311**	*i* P	**P**	**13 06 54.4**	**+0.5**
KBZ				pmax	pmax		
	comp=Z,3.0nm,0.9s						
NC405	**NORSAR Array S**	**74.97**	**337**	P	**P**	**13 07 15.9**	**+0.6**
NC405				IAmb	IAmb	13 07 42.4	
	comp=Z,4.2nm,1.0s						
AKASG	**Malin Array Be**	**74.98**	**322**	P	**P**	**13 07 14.1**	**-1.4**
	comp=Z,1.1nm,0.5s,baz=45,slow=6.5,SNR=8.6						
	comp=Z,1.1nm,0.5s						
AKASG	**Malin Array Be**	**74.98**	**322**	*i* P	**P**	**13 07 15.3**	**-0.2**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.6s						
HFS	**Hagfors**	**75.06**	**336**	P	**P**	**13 07 15.4**	**-0.4**
	comp=Z,0.6nm,0.4s,baz=67,slow=3.7,SNR=5.4						
	comp=Z,0.6nm,0.4s						
NC204	**NORSAR Array S**	**75.15**	**337**	P	**P**	**13 07 16.6**	**+0.2**
NC204				IAmb	IAmb	13 07 59.2	
	comp=Z,12nm,1.4s						
NB201	**NORSAR Array S**	**75.15**	**337**	P	**P**	**13 07 16.3**	**0.0**
NB201				IAmb	IAmb	13 07 16.9	
	comp=Z,5.5nm,0.9s						
NB2	**NORSAR Subarra**	**75.19**	**337**	P	**P**	**13 07 16.7**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**75.19**	**337**	P	**P**	**13 07 15.6**	**-0.9**
	comp=Z,0.8nm,0.5s,baz=43,slow=5.5,SNR=4.6						
	comp=Z,0.8nm,0.5s						
FRB	**Frobisher Bay**	**78.22**	**13**	LR	LR	13 45 57.0	
	comp=Z,55nm,19.3s,baz=86,slow=39						
PDAR	**Pinedale Array**	**79.05**	**45**	P	**P**	**13 07 37.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=286,slow=6.4,SNR=1.7						
	comp=Z,0.2nm,0.3s						
BRTR	**Keskin Array B**	**79.28**	**311**	P	**P**	**13 07 39.1**	**-0.9**
	comp=Z,0.9nm,0.8s,baz=73,slow=4.8,SNR=1.0						
	comp=Z,0.9nm,0.8s						
QSPA	**South Pole Qui**	**125.44**	**180**	PKP	**PKPdf**	**13 14 33.4**	**-0.7**
	comp=Z,1.4nm,0.9s,baz=317,slow=2.5,SNR=2.6						

*DJA **22** 12:55:37.8±2.7,6˚N±14˚×12˚6E±˚,h18km±24km,M4.4/7, mb4.6/7,mB4.9/5,MLv4.4/7,Mw(mB)4.2/5*
*IDC **22** 12:55:41.6±0.8,5˚.01N×125˚.36E,h0km,mb3.7/7, mbtmp3.7/8,ML4.2/1,Error ellipse: s-maj=61.5km s-min=15.7km az=75.0*
*NEIC **22** 12:55:52.3±1.3,5˚.25N±0˚.07×126˚.1E±0˚.1,h80km±7km, mb4.3/22,Error ellipse: s-maj=18.8km s-min=9.1km az=74.0*

ISC 22 12:55:53.0±0.6,**5˚.34N**±0˚.05×**126˚.1E**±0˚.1,**h100**km,**n43,** σ1**s78**/46,**mb4.2**/18,**Mindanao**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**1.74**	**199**	P	**Pn**	**12 56 20.8**	**-1.5**
DAV	**Davao City (W)**	**1.79**	**343**	Pn	**Pn**	**12 56 22.5**	**-0.5**
DAV	**Davao City (W)**	**1.79**	**343**	Pn	**Pn**	**12 56 18.7**	**-4.3**
	90nm,0.3s,baz=139,slow=19,SNR=1.9						
DAV				Sn	**Sn**	**12 56 43.6**	**-2.2**
	57nm,0.3s,baz=229,slow=20,SNR=4.0						
	256nm,0.4s						
TNTI	**Ternate**	**4.71**	**164**	Pn	**Pn**	**12 56 59.1**	**-2.7**
TNTI	**Ternate**	**4.71**	**164**	P	**Pn**	**12 56 59.1**	**-2.7**
	44nm,0.6s,1μm0.3nm						
GTOI	**Gorontalo**	**5.60**	**214**	P	**Pn**	**12 57 12.4**	**-1.5**
	14nm,0.7s,180nm0.1nm						
LBMI	**Labuha**	**6.10**	**167**	P	**Pn**	**12 57 19.0**	**-1.7**
	33nm,0.5s,1μm0.2nm						
TOLI2	**Tolitoli**	**6.77**	**232**	Pn	**Pn**	**12 57 28.2**	**-1.6**
LUWI	**Luwuk**	**7.16**	**208**	Pn	**Pn**	**12 57 33.7**	**-1.4**
LUWI	**Luwuk**	**7.16**	**208**	P	**Pn**	**12 57 36.3**	**+1.2**
MYLDM	**Lahad Datu**	**7.57**	**269**	Pn	**Pn**	**12 57 40.1**	**-0.6**
TPUB	**Ta-pu**	**18.62**	**344**	P	**P**	**13 00 02.6**	**-0.1**
MTN	**Manton Dam**	**18.74**	**165**	P	**P**	**13 00 01.3**	**-2.9**
MTN				IAmb	IAmb	13 00 20.5	
	comp=Z,38nm,1.4s						
WB0	**Warramunga Arr**	**26.25**	**162**	P	**P**	**13 01 20.1**	**+1.1**
WB0				IAmb	IAmb	13 01 22.1	
	comp=Z,20nm,1.4s						
WRA	**Warramunga Arr**	**26.40**	**162**	P	**P**	**13 01 18.0**	**-2.4**
WRA	**Warramunga Arr**	**26.40**	**162**	P	**P**	**13 01 20.3**	**-0.1**
	comp=Z,0.9nm,0.9s,baz=341,slow=10,SNR=9.6						
WRA				PcP	**PcP**	**13 04 43.6**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=328,slow=2.5,SNR=2.3						
	comp=Z,0.9nm,0.9s						
WB2	**Warramunga Arr**	**26.40**	**162**	P	**P**	**13 01 21.4**	**+1.0**
WR0	**Warramunga Arr**	**26.48**	**162**	P	**P**	**13 01 19.4**	**-1.6**
WR0				IAmb	IAmb	13 01 39.0	
	comp=Z,16nm,1.5s						
JMN	**Monobe**	**29.16**	**13**	P	**P**	**13 01 46.0**	**+1.1**
ASAR	**Alice Springs**	**29.82**	**166**	P	**P**	**13 01 50.9**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=346,slow=7.2,SNR=4.4						
ASAR				PcP	**PcP**	**13 04 52.4**	**+0.3**
	comp=Z,0.5nm,0.5s,baz=344,slow=2.5,SNR=6.9						
	comp=Z,0.1nm,0.3s						
BBOO	**Buckleboo**	**39.10**	**167**	P	**P**	**13 03 10.3**	**-0.3**
STKA	**Stephens Creek**	**39.85**	**159**	P	**P**	**13 03 16.8**	**-0.1**
STKA	**Stephens Creek**	**39.85**	**159**	P	**P**	**13 03 16.4**	**-0.5**
	comp=Z,1.5nm,0.8s,baz=333,slow=16,SNR=2.8						
	comp=Z,1.5nm,0.8s						
SONM	**Songino Array**	**45.58**	**341**	P	**P**	**13 04 03.6**	**+0.5**
	comp=Z,0.6nm,0.5s,baz=142,slow=7.3,SNR=1.6						
	comp=Z,0.6nm,0.5s						
MKAR	**Makanchi Array**	**55.88**	**325**	P	**P**	**13 05 20.4**	**0.0**
MKAR	**Makanchi Array**	**55.88**	**325**	P	**P**	**13 05 20.1**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=123,slow=6.7,SNR=7.7						
	comp=Z,0.3nm,0.3s						
KURBB	**Kurchatov Arra**	**60.05**	**327**	P	**P**	**13 05 51.2**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=113,slow=8.5,SNR=1.1						
	comp=Z,0.2nm,0.4s						
RAYN	**Ar Rayn**	**79.28**	**293**	P	**P**	**13 07 47.8**	**-0.3**
RAYN				IAmb	IAmb	13 07 48.1	
	comp=Z,3.4nm,0.8s						
D19K	**Kuna River**	**79.86**	**21**	P	**P**	**13 07 52.7**	**+2.4**
B21K	**Ikpikpuk River**	**81.29**	**20**	P	**P**	**13 07 59.8**	**+1.9**
G21K	**Allakaket**	**81.30**	**24**	P	**P**	**13 08 00.9**	**+2.9**
G21K				IAmb	IAmb	13 08 09.1	
	comp=Z,4.7nm,1.4s						
CAST	**Castle Rocks**	**81.58**	**27**	P	**P**	**13 08 01.9**	**+2.3**
CAST				IAmb	IAmb	13 08 20.8	
	comp=Z,6.9nm,1.4s						
I21K	**Tanana**	**81.78**	**25**	P	**P**	**13 08 02.8**	**+2.3**
I21K				IAmb	IAmb	13 08 36.2	
	comp=Z,5.5nm,1.4s						
B22K	**Teshekpuk Lake**	**81.79**	**20**	P	**P**	**13 08 02.5**	**+2.0**
D22K	**Ayikyak River**	**81.88**	**21**	P	**P**	**13 08 02.5**	**+1.5**
D22K				IAmb	IAmb	13 08 20.8	
	comp=Z,6.1nm,1.5s						
BPAW	**Bear Paw Mtn.**	**82.12**	**26**	P	**P**	**13 08 04.0**	**+1.6**
BPAW				IAmb	IAmb	13 08 04.5	
	comp=Z,3.0nm,1.1s						
C23K	**Itkillik River**	**82.70**	**20**	P	**P**	**13 08 07.3**	**+2.1**
TOLK	**Toolik Lake Re**	**82.99**	**22**	P	**P**	**13 08 09.9**	**+3.1**
TOLK				IAmb	IAmb	13 08 22.6	
	comp=Z,5.7nm,1.4s						
RND	**Reindeer**	**83.04**	**27**	P	**P**	**13 08 08.8**	**+1.6**
RND				IAmb	IAmb	13 08 46.3	
	comp=Z,6.5nm,1.3s						
VNDA	**Vanda**	**85.09**	**173**	P	**P**	**13 08 17.5**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=322,slow=5.7,SNR=5.8						
	comp=Z,0.7nm,0.6s						
G27K	**Doyon Strip**	**86.02**	**23**	P	**P**	**13 08 24.1**	**+1.9**
F28M	**Old Crow**	**86.64**	**23**	P	**P**	**13 08 27.1**	**+1.9**
F28M				IAmb	IAmb	13 08 39.0	
	comp=Z,6.1nm,1.4s						
TORD	**Torodi Ar. Bea**	**121.81**	**289**	PKP	**PKPdf**	**13 14 36.3**	**-0.2**
	comp=Z,0.5nm,0.6s,baz=58,slow=2.0,SNR=3.2						

*IDC **22** 13:07:23.8±1.5,5˚.71S×131˚.30E,h0km,mb3.8/3, mbtmp4.0/6,ML4.1/3,MS3.4/1,Error ellipse: s-maj=42.3km s-min=27.5km az=79.0*
*DJA **22** 13:07:37.6±0.5,6˚S±3˚×13˚1E±˚,h153km±13km,M4.6/11, mb4.4/6,mB5.2/6,MLv4.7/11,Mw(mB)4.6/6*
*NEIC **22** 13:07:37.3±1.3,6˚.13S±0˚.09×130˚.9E±0˚.1,h157km±17km, mb4.2/2,Error ellipse: s-maj=18.9km s-min=11.1km az=111.0*

ISC 22 13:07:36.7±0.7,**6˚.17S**±0˚.06×**130˚.98E**±0˚.07,**h150**km,**n29,** σ2**s71**/30,**mb3.5**/3,**Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.83**	**170**	Pn	**Pn**	**13 08 11.6**	**+1.7**
SAUI	**Saumlaki**	**1.83**	**170**	P	**Pn**	**13 08 11.9**	**+2.0**
BNDI	**Bandanaira**	**1.96**	**327**	P	**Pn**	**13 08 11.2**	**-0.1**
FAKI	**Fak Fak**	**3.47**	**21**	Pn	**Pn**	**13 08 30.3**	**+0.1**
FAKI	**Fak Fak**	**3.47**	**21**	P	**Pn**	**13 08 30.2**	**+0.1**
KMPI	**Kaimana, Papua**	**3.69**	**48**	P	**Sn**	**13 09 08.9**	**-7.6**
SWI	**Sorong**	**5.28**	**3**	P	**Pn**	**13 08 53.3**	**-0.6**
SANI	**Sanana**	**6.44**	**309**	P	**Pn**	**13 09 08.5**	**-0.9**
	40nm,0.8s,745nm0.2nm						
LBMI	**Labuha**	**6.50**	**328**	P	**Pn**	**13 09 09.1**	**-1.0**
	64nm,1.0s,1μm0.3nm						
MTN	**Manton Dam**	**6.63**	**179**		**Pn**	**13 09 13.1**	**+1.2**
SOEI	**Soe**	**7.54**	**241**	Pn	**Pn**	**13 09 24.3**	**+0.2**
BATI	**Baumata**	**8.28**	**241**	Pn	**Pn**	**13 09 34.0**	**+0.2**
	8.9nm,0.3s,baz=43,slow=6.4,SNR=5.6						
BATI				Sn	**Sn**	**13 11 01.2**	**-4.9**
	6.8nm,0.3s,baz=162,slow=20,SNR=2.3						
	19nm,0.3s						
BATI	**Baumata**	**8.28**	**241**	P	**Pn**	**13 09 34.0**	**+0.2**
KNRA	**Kununurra**	**9.69**	**193**	Pn	**Pn**	**13 09 52.3**	**-0.4**
TOLI2	**Tolitoli**	**12.49**	**305**	Pn	**Pn**	**13 10 28.0**	**-1.4**
FITZ	**Fitzroy Crossi**	**12.95**	**203**	Pn	**Pn**	**13 10 33.2**	**-2.1**
WB0	**Warramunga Arr**	**13.92**	**167**		**Pn**	**13 10 47.5**	**-0.1**
WRAB	**Tennant Creek**	**14.07**	**167**	Pn	**Pn**	**13 10 48.8**	**-0.8**
WRA	**Warramunga Arr**	**14.07**	**167**	Pn	**Pn**	**13 10 48.7**	**-0.9**
	0.6nm,0.3s,baz=348,slow=13,SNR=20						
WRA				Sn	Sn	13 13 17.9	-7.8
	2.3nm,0.3s,baz=342,slow=22,SNR=9.7						
	1.5nm,0.5s						
WB2	**Warramunga Arr**	**14.08**	**167**	Pn	**Pn**	**13 10 48.6**	**-1.1**
WR0	**Warramunga Arr**	**14.14**	**166**	Pn	**Pn**	**13 10 50.8**	**+0.3**
COEN	**Coen**	**14.28**	**124**		**P**	**13 10 55.3**	**+0.3**
ASAR	**Alice Springs**	**17.62**	**171**	P	**Pn**	**13 11 35.6**	**+2.5**
	0.6nm,0.3s,baz=343,slow=8.6,SNR=40						
ASAR				S	**S**	**13 14 40.4

VILB Vilhena 17.32 98 Pn 13 12 36.0 -1.0
VILB Vilhena 17.32 98 eP Pn 13 12 36.5 -0.4
AC06 Mina Casimiro 17.67 158 P Pn 13 12 40.2 -1.0
BBSD Serra de San D 17.74 112 eP Pn 13 12 42.1 0.0
PTLB Pontes e Lacer 18.68 106 P P 13 12 52.2 -0.3
PTLB Pontes e Lacer 18.68 106 eP P 13 12 52.8 +0.3
MACA Manacapuru-AM 18.69 66 P 13 12 52.6 -0.1
MACA IAmb IAmb 13 12 55.0
comp=Z,54nm,0.8s
MACA Manacapuru-AM 18.69 66 eP P 13 12 51.5 -1.2
BBRB Robore, Bolivi 18.82 115 eP P 13 12 54.6 +0.5
AC05 El Transito 19.04 159 P Pn 13 12 57.8 -0.1
BRU2 Volcan 20.31 346 P P 13 13 10.9 +0.5
PDRB Porto dos Gac 20.66 94 eP P 13 13 14.1 -0.1
SRBA San Rafael, Bu 20.89 344 P Pn 13 13 18.3 -1.5
SRBA IAmb IAmb 13 13 19.6
comp=Z,45nm,1.1s
CO02 Combarbal 21.02 164 P P 13 13 18.2 +0.2
SDV Santo Domingo 21.05 20 P P 13 13 18.7 +0.2
SDV IAmb IAmb 13 13 20.3
comp=Z,35nm,0.8s
SDV Santo Domingo 21.05 20 P P 13 13 18.7 +0.2
comp=Z,51nm,1.0s,baz=219,slow=7.8,SNR=14
SDV LR LR 13 23 10.0
comp=Z,356nm,18.1s,baz=142,slow=41
comp=Z,51nm,1.0s
SDV Santo Domingo 21.05 20 eP P 13 13 14.3 -4.2
BOAV Boa Vista 21.77 53 P P 13 13 26.3 +0.3
SALV Santo Antonio 22.02 105 eP P 13 13 28.4 -0.3
ZON Zonda 22.07 159 P P 13 13 29.9 +0.7
BAUV El Baul 22.11 26 P P 13 13 30.1 +0.5
BDQN Bodoquena, MS 22.29 117 eP P 13 13 32.4 +0.9
H03N1 Juan Fernandez 22.31 182 T T 13 36 18.5
baz=2.9,slow=75
H03N2 Juan Fernandez 22.31 183 T T 13 36 17.6
baz=2.9,slow=75
H03N3 Juan Fernandez 22.32 182 T T 13 36 17.2
baz=2.9,slow=75
ITTB Itaituba 22.84 75 eP P 13 13 37.1 -0.4
MT09 Talagante 23.46 166 IAmb IAmb 13 13 48.6
comp=Z,50nm,1.4s
MT13 San Alfonso 23.61 164 P P 13 13 44.9 0.0
AMBA Amambai (Brazi 24.76 121 eP P 13 13 56.1 +0.8
PCRV Puerto La Cruz 24.82 32 LR LR 13 24 58.1
comp=Z,445nm,20.1s,slow=39
ARAG Araguaiana, MT 25.69 103 eP P 13 14 04.8 +1.0
SNDB Serra Nova Dou 25.98 95 eP P 13 14 06.6 +0.1
MCPB Macapa, AP 27.69 99 eP P 13 14 21.7 -0.2
BDFB Brasilia 29.32 102 P P 13 14 36.7 +0.2
comp=Z,2.5nm,0.5s,baz=236,slow=5.1,SNR=3.5
BDFB LR LR 13 28 04.1
comp=Z,237nm,18.9s,baz=129,slow=40
comp=Z,2.5nm,0.5s
IPMB Ipameri, GO 29.43 107 eP P 13 14 37.5 +0.2
LR05 Currie 29.51 171 IAmb IAmb 13 14 38.5
comp=Z,15nm,0.6s
MDP Montagnes des 29.74 59 LR LR 13 26 26.8
comp=Z,130nm,20.3s,baz=168,slow=36
SMTB Santa Maria do 29.83 89 eP P 13 14 41.5 +0.6
PLCA Paso Flores 30.25 169 P P 13 14 44.2 -0.2
comp=Z,8.3nm,0.7s,baz=340,slow=10,SNR=21
comp=Z,8.3nm,0.7s
PLCA Paso Flores 30.25 169 eP P 13 14 44.6 +0.2
PLCA Paso Flores 30.25 169 P P 13 14 44.3 -0.2
PLCA pP pP 13 14 59.3 +0.1
PLCA sP sP 13 15 05.8 -0.5
PLCA PcP PcP 13 17 44.8 +0.9
CELP Cerrillos 30.99 21 P P 13 14 51.1 +0.2
CELP IAmb IAmb 13 14 52.6
comp=Z,22nm,0.7s
IGPR InterUniversit 31.06 22 IAmb IAmb 13 14 52.4
comp=Z,34nm,0.9s
LL01 San Ignacio de 31.56 172 IAmb IAmb 13 14 56.2
comp=Z,11nm,0.7s
SDBA SAO DESIDERIO 32.23 96 eP P 13 15 02.0 -0.1
TEIG Tepich 32.75 342 P P 13 15 07.5 +1.1
RPN Rapa Nui 33.69 237 LR LR 13 25 05.6
comp=Z,217nm,18.0s,baz=58,slow=29
GOGA Godfrey 44.54 353 P P 13 16 44.8 -0.2
baz=172
LRAL Lakeview Retre 44.71 349 P P 13 16 45.8 -0.5
baz=167
HODGE Hodges 45.23 355 IAmb IAmb 13 16 50.8
comp=Z,8.8nm,0.7s
HNDO Hondo 45.35 333 IAmb IAmb 13 16 53.7
comp=Z,19nm,1.0s
PAULI Pauline 45.78 355 IAmb IAmb 13 16 55.3
comp=Z,17nm,0.6s
FPAL Fort Paine 45.94 351 IAmb IAmb 13 16 56.0
comp=Z,9.4nm,0.7s
BG3 Lake Jocassee 46.05 354 IAmb IAmb 13 16 57.6
comp=Z,10nm,1.0s
KMSC Kings Mountain 46.06 356 IAmb IAmb 13 16 57.5
comp=Z,15nm,0.7s
KMSC Kings Mountain 46.06 356 P P 13 16 56.6 -0.4
baz=175,SNR=5.7
W52A Murphy 46.26 353 IAmb IAmb 13 16 59.0
comp=Z,9.3nm,0.6s
W50A Signal Mountai 46.55 352 IAmb IAmb 13 17 01.0
comp=Z,12nm,1.1s
WHTX Lake Whitney, 46.75 337 P P 13 17 01.0 -1.5
baz=153
V52A Sevierville 46.96 354 IAmb IAmb 13 17 04.2
comp=Z,16nm,0.8s
TXAR Lajitas Array 47.27 329 P P 13 17 06.9 +0.1
comp=Z,1.0nm,0.6s,baz=153,slow=8.6,SNR=16
TXAR pP pP 13 17 23.0 +0.7
comp=Z,1.2nm,0.8s,baz=154,slow=8.6,SNR=5.5
comp=Z,1.0nm,0.6s
V48A Smith Brothers 47.31 350 IAmb IAmb 13 17 06.4
comp=Z,12nm,0.8s
U54A Nelsons Funny 47.47 356 IAmb IAmb 13 17 08.3
comp=Z,10nm,0.8s
TZTN Tazewell 47.65 354 P P 13 17 08.4 -1.0
baz=172
MIAR Mount Ida 47.75 342 IAmb IAmb 13 17 11.6
comp=Z,14nm,0.8s
MIAR Mount Ida 47.75 342 P P 13 17 09.4 -0.9
baz=159,SNR=10
T59A Double "B" Far 47.77 0 IAmb IAmb 13 17 11.3
comp=Z,40nm,1.8s
T57A Hurt 47.81 358 IAmb IAmb 13 17 11.1
comp=Z,11nm,0.8s
WVT Waverly 47.87 349 P P 13 17 09.6 -1.6
WVT pP pP 13 17 24.9 -1.7
BLA Blacksburg 48.07 357 P P 13 17 11.7 -1.0
baz=176
WHAR Wooly Hollow 48.09 344 IAmb IAmb 13 17 14.0
comp=Z,21nm,1.0s
ABTX Abilene, Hawle 48.18 335 IAmb IAmb 13 17 15.1
comp=Z,12nm,0.9s
ABTX Abilene, Hawle 48.18 335 P P 13 17 12.5 -1.1
baz=151
LCAR Lake Charles 48.53 346 IAmb IAmb 13 17 16.7
comp=Z,11nm,0.9s
T47A Sharon Grove 48.58 350 IAmb IAmb 13 17 16.1
comp=Z,8.6nm,0.8s
FCAR Ozark Folk Cen 48.61 344 IAmb IAmb 13 17 17.5
comp=Z,17nm,1.2s
S51A Beattyville 48.74 354 IAmb IAmb 13 17 17.3
comp=Z,6.8nm,0.8s
VHRN Van Horn 49.12 329 IAmb IAmb 13 17 22.3
comp=Z,17nm,1.9s
POST Post 49.35 334 IAmb IAmb 13 17 23.8
comp=Z,11nm,0.8s
T42A Van Buren 49.43 346 IAmb IAmb 13 17 22.8
comp=Z,5.5nm,0.7s
R50A Paris 49.45 353 IAmb IAmb 13 17 23.2
comp=Z,9.3nm,0.8s
HHAR Hobbs 49.48 343 IAmb IAmb 13 17 24.1
comp=Z,9.0nm,0.7s
DKNS Dickens 49.62 335 IAmb IAmb 13 17 26.0
comp=Z,9.9nm,0.9s
WCI Wyandotte Cave 49.66 351 P P 13 17 23.3 -1.5
baz=169
S44A Carbondale 49.66 348 IAmb IAmb 13 17 24.9
comp=Z,15nm,0.8s
WMOK Wichita Mounta 49.70 337 P P 13 17 24.2 -1.1
baz=153
TUL3 Leonard 49.70 341 P P 13 17 24.8 -0.4
baz=157
Q56A Snyder Ridge, 49.85 359 IAmb IAmb 13 17 27.0
comp=Z,10nm,0.9s
MNTX Cornudas Mount 50.05 329 P P 13 17 27.8 -0.2
baz=144
FVM French Village 50.19 347 IAmb IAmb 13 17 29.2
comp=Z,8.9nm,0.7s
CCM Cathedral Cave 50.45 346 P P 13 17 30.2 -0.6
baz=163
CCM Cathedral Cave 50.45 346 P P 13 17 30.8 0.0
CCM pP pP 13 17 46.6 +0.2
CCM sP sP 13 17 54.0 +0.7
CCM PcP PcP 13 18 47.6 -0.7
P52A Corning 50.58 356 P P 13 17 31.3 -0.5
baz=174
MSTX Muleshoe 50.68 333 P P 13 17 31.0 -1.7
baz=148
P49A Miami Univ. Ec 50.73 353 IAmb IAmb 13 17 32.3
comp=Z,15nm,0.8s
P49A Miami Univ. Ec 50.73 353 P P 13 17 31.8 -1.2
baz=171
O53A New Philadelph 51.14 357 P P 13 17 35.0 -0.9
baz=176
ACSO Alum Creek Sta 51.25 355 P P 13 17 36.1 -0.7
baz=173
O49A Covington 51.34 354 IAmb IAmb 13 17 37.2
comp=Z,18nm,1.0s
SSPA Standing Stone 51.42 360 P P 13 17 36.6 -1.5
SSPA IAmb IAmb 13 17 39.1
comp=Z,26nm,1.6s
SSPA Standing Stone 51.42 360 P P 13 17 36.8 -1.3
baz=180
SSPA Standing Stone 51.42 360 P P 13 17 37.9 -0.2
SSPA pP pP 13 17 53.1 -0.7
O48B Farmland 51.50 353 P P 13 17 37.6 -1.1
baz=171,SNR=16
P43A Skaggs, Pawnee 51.60 348 IAmb IAmb 13 17 39.6
comp=Z,18nm,0.9s
N58A Sunbury 51.64 1 IAmb IAmb 13 17 40.3
comp=Z,8.0nm,0.8s
SFIN Lafayette 51.89 351 P P 13 17 40.6 -0.9
baz=168
121A Cookes Peak, D 51.95 328 P P 13 17 41.4 -1.0
baz=142
P40A Paris 52.04 346 IAmb IAmb 13 17 42.9
comp=Z,13nm,1.0s
M57A Sunshine Farm, 52.13 1 P P 13 17 43.5 +0.2
M57A IAmb IAmb 13 17 44.6
comp=Z,15nm,1.1s
KSPA Keystone Colle 52.38 2 IAmb IAmb 13 18 00.9
comp=Z,24nm,1.5s
HDIL Hopedale 52.44 349 P P 13 17 44.5 -1.1
baz=166
M63A Gales Ferry 52.46 5 IAmb IAmb 13 17 47.2
comp=Z,18nm,0.9s
P38A Dawn 52.49 345 IAmb IAmb 13 17 46.5
comp=Z,16nm,0.9s
UCCT U. Connecticut 52.83 5 IAmb IAmb 13 17 49.6
comp=Z,11nm,0.7s
L56A Greenwood 52.92 0 IAmb IAmb 13 18 04.6
comp=Z,8.9nm,0.9s
ERPA Erie 52.94 358 P P 13 17 48.3 -1.0
baz=177
BINY Binghamton 53.01 2 IAmb IAmb 13 18 05.9
comp=Z,10nm,0.8s
BINY Binghamton 53.01 2 P P 13 17 49.7 -0.2
baz=182
L59A Walton 53.04 3 P P 13 17 50.5 +0.4
L59A IAmb IAmb 13 17 51.4
comp=Z,16nm,0.8s
ANMO Albuquerque 53.20 331 P P 13 17 51.8 +0.2
ANMO Albuquerque 53.20 331 P P 13 17 50.9 -0.7
baz=144
ANMO Albuquerque 53.20 331 P P 13 17 52.3 +0.7
ANMO pP pP 13 18 08.4 +1.1
TUC Tucson 53.42 325 P P 13 17 52.3 -0.8
baz=138
TUC Tucson 53.42 325 P P 13 17 53.8 +0.7
L61B Northampton 53.44 5 P P 13 17 53.0 0.0
baz=186
HRV Adam Dziewonsk 53.60 6 P P 13 17 54.4 +0.3
baz=188
HRV Adam Dziewonsk 53.60 6 P P 13 17 54.9 +0.7
CBKS Cedar Bluff 53.66 339 P P 13 17 54.2 -0.6
baz=153
J56A Wolcott 54.07 1 IAmb IAmb 13 18 12.9
comp=Z,13nm,0.9s
J59A Piesco 54.33 3 IAmb IAmb 13 18 00.6
comp=Z,14nm,1.4s
SDCO Great Sand Dun 55.05 333 P P 13 18 04.4 -0.7
baz=146,SNR=6.8
LBNH Lisbon 55.28 5 P P 13 18 06.3 0.0
baz=187
DELO DeLoro Mine 55.30 0 IAmb IAmb 13 18 38.5
comp=Z,33nm,1.9s
LONY Lake Ozonia 55.48 3 P P 13 18 07.3 -0.5
baz=184
FRNY Flat Rock 55.75 4 IAmb IAmb 13 18 10.3
comp=Z,8.0nm,0.9s
Q24A Divide 55.91 334 P P 13 18 10.5 -0.8
baz=147
MVCO Mesa Verde 56.00 331 P P 13 18 12.1 +0.2
baz=133
WUAZ Wupatki 56.15 327 P P 13 18 13.3 +0.4
baz=139
PKME Peaks-Kenny Pk 56.58 7 P P 13 18 15.8 +0.3
baz=190,SNR=5.7
G65A Princeton 56.75 9 IAmb IAmb 13 18 18.4
comp=Z,13nm,0.8s
ISCO Idaho Springs 56.80 335 P P 13 18 17.4 -0.3
baz=147
ECSD EROS Data Cent 57.15 344 IAmb IAmb 13 18 19.3
comp=Z,7.0nm,0.7s
ECSD EROS Data Cent 57.15 344 P P 13 18 18.9 -0.8
baz=158,SNR=6.4
IRM Iron Mountain 57.27 323 P P 13 18 20.3 -0.4
baz=135
F64A Sherman 57.28 8 IAmb IAmb 13 18 22.2
comp=Z,13nm,0.9s
E46A Sault Ste Mari 57.45 355 IAmb IAmb 13 18 21.0
comp=Z,21nm,1.2s
SPMN Marine on St. 57.63 347 P P 13 18 22.6 -0.4
baz=162
E43A Lone Tree Farm 57.76 352 IAmb IAmb 13 18 23.4
comp=Z,8.9nm,0.6s
F36A Milaca 58.39 347 IAmb IAmb 13 18 28.6
comp=Z,12nm,0.8s
D41A Chassel 58.64 351 IAmb IAmb 13 18 30.4
comp=Z,14nm,0.9s
BATG Bathurst New B 59.00 9 IAmb IAmb 13 18 34.5
comp=Z,15nm,1.0s
F33A 5 Mile Ranch, 59.02 345 IAmb IAmb 13 18 32.7
comp=Z,9.7nm,0.7s
LDAQ Lac Daran 59.04 5 P P 13 18 32.9 0.0
RDMU Red Mountain 59.18 332 IAmb IAmb 13 18 38.2
comp=Z,4.3nm,0.6s
EDW2 Edwards Air Fo 59.47 322 P P 13 18 35.4 -0.7
baz=133
K22A Casper 59.56 336 P P 13 18 36.0 -0.7
baz=147
RSSD Black Hills 59.86 338 P P 13 18 38.4 -0.5
baz=150
RSSD Black Hills 59.86 338 P P 13 18 39.5 +0.7
RSSD pP pP 13 18 55.5 +0.6
RSSD sP sP 13 19 01.7 +0.1
SCZ2 Santa Cruz Isl 59.89 320 P P 13 18 38.2 -0.7
baz=131
EYMN Ely 59.98 349 IAmb IAmb 13 18 39.3
comp=Z,6.9nm,0.8s
EYMN Ely 59.98 349 P P 13 18 39.1 -0.2
baz=164,SNR=7.3
SPR3 Spring Creek 3 60.31 328 P P 13 18 42.4 +0.2
DUG Dugway, Tooele 60.43 330 P P 13 18 41.7 -1.0
baz=140
R11B Troy Canyon, C 60.51 326 P P 13 18 41.5 -1.8
baz=136
CWC Cottonwood Cre 60.58 323 P P 13 18 43.2 -0.6
baz=133
PKM Mcpherson Peak 60.58 321 P P 13 18 42.3 -1.6
baz=131
B35A Bob, Littlefor 60.81 348 IAmb IAmb 13 18 45.1
comp=Z,11nm,0.9s
HWUT Hardware Ranch 60.92 332 P P 13 18 46.0 0.0
HWUT IAmb IAmb 13 18 46.9
comp=Z,5.2nm,0.8s
PDAR Pinedale Array 60.93 334 P P 13 18 45.9 -0.3
comp=Z,0.6nm,0.5s,baz=132,slow=8.2,SNR=6.4
PDAR pP pP 13 19 01.9 -0.4
comp=Z,0.7nm,0.6s,baz=126,slow=9.1,SNR=3.4
comp=Z,0.6nm,0.5s
SMMC Simmler 60.98 321 P P 13 18 45.8 -0.6
baz=131
AGMN Agassiz Nation 61.22 346 P P 13 18 47.1 -0.6
baz=160,SNR=16
NVAR Mina Array Bea 62.07 325 P P 13 18 53.1 -0.9
comp=Z,1.1nm,0.7s,baz=141,slow=5.8,SNR=10
NVAR pP pP 13 19 10.6 +0.6
comp=Z,1.0nm,0.7s,baz=139,slow=6.6,SNR=5.8
comp=Z,1.1nm,0.7s
HLID Hailey 63.77 331 P P 13 19 04.3 -0.8
baz=139
BOZ Bozeman (W) 64.09 334 P P 13 19 06.9 -0.2
baz=143
EGMT Eagleton 65.29 337 P P 13 19 14.4 -0.4
baz=145
MSO Missoula 66.05 334 P P 13 19 19.3 -0.4
baz=141
SCHQ Schefferville 66.28 7 P P 13 19 19.9 -1.0
SCHQ IAmb IAmb 13 19 21.3
comp=Z,11nm,0.9s
SCHQ Schefferville 66.28 7 P P 13 19 20.3 -0.6
comp=Z,10nm,0.8s,baz=204,slow=5.7,SNR=16
comp=Z,10nm,0.8s
NEW Newport 68.55 333 P P 13 19 35.3 -0.1
baz=138
BELA Belgrano 2 70.28 171 P P 13 19 45.8 +0.1
BELA IAmb IAmb 13 21 45.7
comp=Z,31nm,2.0s
FCC Fort Churchill 70.82 351 P P 13 19 48.3 -0.7
FCC IAmb IAmb 13 19 50.3
comp=Z,14nm,1.1s
VNA3 Neumayer Olymp 72.63 162 ⇑P P 13 20 00.4 +0.5
comp=Z,4.6nm,1.0s
VNA2 Neumayer--Watz 73.26 161 ⇑P P 13 20 03.9 +0.3
comp=Z,3.7nm,0.6s,baz=290,slow=6.4
DBIC Dimbokro 74.69 80 P P 13 20 13.0 0.0
comp=Z,6.3nm,0.6s,baz=259,slow=7.9,SNR=11
comp=Z,6.3nm,0.6s
SNAA Sanae 74.86 162 P P 13 20 13.2 +0.2
SNAA Sanae 74.86 162 ⇑P P 13 20 13.0 0.0
comp=Z,92nm,0.5s
SNAA Sanae 74.86 162 P P 13 20 13.1 +0.1
comp=Z,5.7nm,0.7s,baz=278,slow=8.5,SNR=20
comp=Z,5.7nm,0.7s
TROLL Troll, Antarti 76.57 162 ⇑P P 13 20 23.5 +0.6
comp=Z,150nm,0.5s
RAR Rarotonga 78.68 250 LR LR 13 47 50.5
comp=Z,104nm,21.0s,baz=162,slow=30
YKA Yellowknife Ar 78.68 344 P P 13 20 34.0 -0.4
comp=Z,1.0nm,0.6s,baz=140,slow=5.8,SNR=30
YKA pP pP 13 20 50.5 -0.7
comp=Z,1.8nm,0.7s,baz=140,slow=5.8,SNR=12
comp=Z,1.0nm,0.6s
QSPA South Pole Qui 79.08 180 P P 13 20 37.4 +0.5
comp=Z,6.8nm,0.8s,baz=152,slow=0.9,SNR=33
comp=Z,6.8nm,0.8s
TOAD Toad River Com 79.48 337 P P 13 20 39.0 0.0
baz=133
MDT Midelt 82.16 54 LR LR 13 54 18.1
comp=Z,57nm,21.2s,baz=332,slow=33
TORD Torodi Ar. Bea 82.45 75 P P 13 20 54.9 -0.8
TORD Torodi Ar. Bea 82.45 75 P P 13 20 56.0 +0.3
comp=Z,2.3nm,1.0s,baz=262,slow=4.4,SNR=7.9
TORD pP pP 13 21 12.7 +0.2
comp=Z,2.3nm,0.8s,baz=288,slow=4.3,SNR=2.6
comp=Z,2.3nm,1.0s
FARO Faro, Yukon 84.73 337 P P 13 21 06.0 -0.5
baz=126
ESDC Sonseca Array 84.84 48 P P 13 21 08.3 +0.8
comp=Z,1.6nm,0.8s,baz=256,slow=5.1,SNR=8.7
comp=Z,1.6nm,0.8s
O30N Mendenhall 84.99 335 P P 13 21 07.5 -0.3
baz=125
P30M Million Dollar 85.00 334 P P 13 21 07.4 -0.4
baz=122
P29M Windy Craggy 85.08 334 P P 13 21 08.2 0.0
baz=122
M31M Drury Creek, Y 85.11 337 P P 13 21 08.5 +0.2
baz=125
VNDA Vanda 85.53 191 P P 13 21 10.8 +0.6
comp=Z,1.5nm,0.8s,baz=222,slow=0.3,SNR=6.8
comp=Z,1.5nm,0.8s
HYT Haines Junctio 85.61 335 P P 13 21 11.6 +0.7
baz=122
N30M Aishikik Lake 85.77 336 P P 13 21 12.1 +0.5
baz=122
PNL Peninsula 85.82 333 P P 13 21 12.5 +0.6
baz=120
YUK4 Talbot Arm 86.35 335 P P 13 21 14.7 0.0
baz=121
C36M Paulatuk 86.41 345 P P 13 21 15.5 +1.0
baz=135
MAYO Mayo, Yukon 86.47 338 P P 13 21 15.8 +0.8
baz=123
O28M Mount Upton 86.71 334 P P 13 21 16.2 -0.4
baz=119
M29M Somme Creek 86.84 336 P P 13 21 17.0 0.0
baz=121
L29M L29M 87.06 337 P P 13 21 17.7 -0.2
baz=121,SNR=5.1
J30M Hart River 87.17 338 P P 13 21 18.4 -0.1
baz=123
MESA MESA 87.19 333 P P 13 21 18.8 -0.1
baz=118
K29M Barlow Dome 87.21 337 P P 13 21 18.2 -0.5
baz=122
SUMG Summit 87.30 11 P P 13 21 19.5 +0.2
CTG Chitna Glacier 87.30 334 P P 13 21 19.6 +0.4
baz=118
YUK3 Moose Creek 87.32 335 P P 13 21 20.3 +0.9
baz=119
I30M Mount Dempster 87.54 339 P P 13 21 21.3 +1.1
baz=123
BGLC Bering Glacier 87.76 333 P P 13 21 20.6 -0.6
baz=117
G31M Satah River 87.78 341 P P 13 21 21.6 +0.4
baz=125
BVCY Beaver Creek 87.79 335 P P 13 21 20.6 -0.9
baz=119
F31M Tsiigehtchic 87.91 341 P P 13 21 21.7 -0.1
baz=126
DAWY Dawson 88.03 337 P P 13 21 22.4 -0.2
baz=120
KAIM Kayak Island 88.19 332 P P 13 21 23.1 -0.2
baz=116
M27K Edge Creek, AK 88.19 335 P P 13 21 23.0 -0.5
baz=118
MCARA McCarthy VSAT 88.22 334 P P 13 21 23.1 -0.3
baz=117
EPYK Eagle Plains 88.28 340 P P 13 21 22.2 -1.5
baz=123
I29M Ogilvie Camp, 88.30 339 P P 13 21 23.0 -0.8
baz=121
INK Inuvik 88.35 342 P P 13 21 23.4 -0.5
baz=126
G30M tAoh Zraii Nji 88.45 340 P P 13 21 24.5 0.0
baz=123
L27K Beaver Creek, 88.50 336 P P 13 21 24.7 -0.1
baz=118,SNR=5.7
A36M Sachs Harbour 88.54 347 P P 13 21 25.0 +0.3
baz=134
F30M Barrier River 88.66 341 P P 13 21 24.8 -0.6
baz=124
M26K Nabesna, AK 88.67 335 P P 13 21 25.6 0.0
baz=117
BMRM Bremner River 88.72 333 P P 13 21 25.9 +0.1
baz=116
H29M Whitestone 88.77 339 P P 13 21 25.5 -0.4
baz=121
I28M Miner Creek 88.93 338 P P 13 21 26.3 -0.6
baz=120
N25K Chitina, Valde 88.99 334 P P 13 21 26.9 -0.3
baz=116
G29M Pine Creek 89.01 340 P P 13 21 26.9 -0.2
baz=122
K27K Chicken 89.05 337 P P 13 21 27.5 +0.2
baz=118
EYAK Cordova Ski Ar 89.05 333 P P 13 21 27.1 -0.2
baz=114
EGAK Eagle 89.05 337 P P 13 21 26.5 -0.8
baz=119
KLU Klutina 89.52 334 P P 13 21 28.6 -1.0
baz=114
P23K Montague Islan 89.58 332 P P 13 21 29.0 -0.8
baz=113
I27K Kandik River 89.62 338 P P 13 21 29.0 -1.0
baz=118
E29M Blow River 89.75 341 IAmb IAmb 13 21 47.8
comp=Z,5.3nm,0.8s
E29M Blow River 89.75 341 P P 13 21 29.5 -1.0
baz=122
SCRK Sand Creek 89.78 336 P P 13 21 30.2 -0.7

	baz=116							
GLI	Glacier Island	89.79	333	P	P	13	21	30.1 -0.7
	baz=113							
J26L	Joseph Creek	89.84	337	P	P	13	21	30.6 -0.5
	baz=116							
M24K	Tolsona, Glenn	89.88	334	P	P	13	21	31.5 +0.2
	baz=114							
H27K	Steamboat Moun	89.88	339	P	P	13	21	30.5 -0.8
	baz=118							
PAX	Paxson	89.94	335	P	P	13	21	31.4 -0.2
	baz=115							
F28M	Old Crow	89.99	340	P	P	13	21	31.9 +0.2
	baz=120							
I26K	Coal Creek Min	90.05	338	P	P	13	21	32.0 +0.1
	baz=117							
G27K	Doyon Strip	90.20	339	P	P	13	21	32.8 +0.1
	baz=118							
SCM	Sheep Creek Mo	90.27	334	P	P	13	21	33.6 +0.5
	baz=113							
E28M	Babbage River	90.38	341	P	P	13	21	33.9 +0.5
	baz=120							
K24K	Donnelly Dome	90.42	336	P	P	13	21	33.7 0.0
	baz=114							
M23K	Glacier View	90.43	333	P	P	13	21	33.2 -0.6
	baz=113							
D28M	Stokes Point	90.50	342	P	P	13	21	34.0 +0.1
	baz=121							
J25K	Salcha River,	90.59	337	P	P	13	21	34.2 -0.4
	baz=115							
KNK	Knik Glacier	90.61	333	P	P	13	21	33.9 -0.8
	baz=112							
SML	Sawmill	90.70	333	P	P	13	21	33.4 -1.7
	baz=112							
WAT6	Susitna Watana	90.74	334	P	P	13	21	33.8 -1.6
	baz=113							
PMR	Palmer	90.97	333	P	P	13	21	35.4 -0.9
	baz=112							
PRP	Porcupine Dome	91.03	337	P	P	13	21	36.1 -0.6
	baz=115							
ILAR	Eielson Array	91.25	336	P	P	13	21	36.8 -0.7
	comp=Z,0.5nm,0.8s,baz=127,slow=2.4,SNR=5.1							
ILAR				pP	pP	13	21	53.9 -0.6
	comp=Z,1.2nm,0.9s,baz=156,slow=2.7,SNR=6.5							
	comp=Z,0.5nm,0.8s							
HOM	Homer	91.46	331	P	P	13	21	37.5 -1.1
	baz=109							
H25L	Birch Creek	91.46	338	P	P	13	21	37.6 -0.8
	baz=114							
F26K	Sheenjek River	91.47	340	P	P	13	21	38.4 -0.2
	baz=116							
Q20K	Shuyak Island	91.48	330	P	P	13	21	38.0 -0.7
	baz=109							
OHAK	Old Harbor	91.49	328	P	P	13	21	38.4 -0.4
	baz=108							
G25K	Bearman Lake	91.77	338	P	P	13	21	39.5 -0.4
	baz=114							
F25K	Christian Rive	91.95	339	P	P	13	21	40.8 0.0
	baz=114							
NEA2	Nenana	92.05	336	P	P	13	21	40.9 -0.4
	baz=112							
H24K	Noodor Dome	92.06	337	P	P	13	21	40.8 -0.5
	baz=112							
TRF	Thorofare Moun	92.14	335	P	P	13	21	41.8 -0.2
	baz=110							
C27K	Jago River	92.18	341	P	P	13	21	41.9 +0.1
	baz=116							
Q19K	Cape Douglas,	92.20	330	P	P	13	21	42.1 0.0
	baz=108							
P19K	Oil Pt	92.22	331	P	P	13	21	41.3 -0.9
	baz=108							
N20K	Mount Spurr	92.23	332	P	P	13	21	41.9 -0.3
	baz=109							
G24K	Hadweenzic Riv	92.24	338	P	P	13	21	42.5 +0.3
	baz=113							
CHIR	Chirikof Islan	92.31	326	P	P	13	21	43.1 +0.4
	baz=106							
I23K	Minto, Yukon-K	92.37	336	P	P	13	21	42.9 +0.2
	baz=111							
BPAW	Bear Paw Mtn.	92.66	335	P	P	13	21	43.6 -0.6
	baz=110							
C26K	Camden Bay	92.69	341	P	P	13	21	44.2 +0.1
	baz=115							
F24K	Squaw Lake	92.71	339	P	P	13	21	44.9 +0.6
	baz=112							
M20K	Styx River	92.86	333	P	P	13	21	45.3 +0.1
	baz=108							
MLY	Manley	92.88	336	P	P	13	21	44.6 -0.6
	baz=110							
CAST	Castle Rocks	92.89	334	P	P	13	21	45.2 0.0
	baz=109							
D25K	Kavik River	92.90	341	P	P	13	21	45.4 +0.2
	baz=114							
P18K	Big Mountain,	93.11	330	P	P	13	21	46.0 -0.4
	baz=106							
I21K	Tanana	93.42	336	P	P	13	21	48.1 +0.5
	baz=109							
COLD	Coldfoot	93.43	338	P	P	13	21	47.6 0.0
	baz=110							
D24K	Happy Valley	93.64	340	P	P	13	21	49.0 +0.5
	baz=112							
P17K	Kvichak River	93.66	330	P	P	13	21	48.8 0.0
	baz=105							
K20K	Telida	93.72	334	P	P	13	21	48.5 -0.5
	baz=107							
C24K	Franklin Bluff	93.81	341	P	P	13	21	49.8 +0.5
	baz=112							
J20K	Nowinta River	94.00	335	P	P	13	21	50.9 +0.7
	baz=107							
O17K	Koliganek Bris	94.13	330	P	P	13	21	51.5 +0.6
	baz=105							
K17K	Iditarod	95.42	333	P	P	13	21	57.3 +0.6
	baz=103							
F20K	Avaraart Lake	95.43	337	P	P	13	21	57.3 +0.6
	baz=105							
N15K	Kwethluk River	95.69	330	P	P	13	21	58.5 +0.5
	baz=102							
H18K	Honhosa River	96.00	335	P	P	13	22	00.1 +0.7
	baz=103							
C18K	Utukok River	97.81	338	P	Pdif	13	22	08.2 +0.6
	baz=100							
H11N3	WAKE ISLAND Hyl	17.32	287	T	T	15	35	40.4
	baz=93,slow=74							
H11N2	WAKE ISLAND Hyl	17.34	287	T	T	15	35	31.3
	baz=93,slow=74							
H11N1	WAKE ISLAND Hyl	17.34	287	T	T	15	35	33.8
	baz=93,slow=74							
H11S2	WAKE ISLAND Hyl	17.46	285	T	T	15	35	43.1
	baz=95,slow=75							
H11S1	WAKE ISLAND Hyl	17.46	285	T	T	15	35	49.3
	baz=95,slow=75							
H11S3	WAKE ISLAND Hyl	17.47	285	T	T	15	35	44.9
	baz=95,slow=75							
ASAR	Alice Springs	133.62	222	PKP	PKPdf	13	27	48.7 -1.2
	comp=Z,0.8nm,0.6s,baz=122,slow=2.0,SNR=14							
ASAR				pPKP	pPKPdf	13	28	05.3 -2.1
	comp=Z,0.7nm,0.6s,baz=126,slow=2.2,SNR=3.4							
ZALV	Zalesovo Beam	135.02	14	pPKP	pPKPdf	13	28	08.2 -0.8
	comp=Z,1.6nm,0.6s,baz=256,slow=1.2,SNR=4.9							
WRA	Warramunga Arr	135.85	226	PKP	PKPdf	13	27	54.0 -0.1
	comp=Z,2.1nm,0.6s,baz=127,slow=2.0,SNR=20							
WRA				pPKP	pPKPdf	13	28	11.6 0.0
	comp=Z,3.2nm,0.9s,baz=130,slow=1.8,SNR=7.7							
KURBB	Kurchatov Arra	136.01	22	PKP	PKPdf	13	27	53.5 +0.1
	comp=Z,0.7nm,0.6s,baz=325,slow=2.1,SNR=8.1							
KURBB				pPKP	pPKPdf	13	28	11.0 0.0
	comp=Z,1.4nm,0.7s,baz=318,slow=2.4,SNR=8.7							
MKAR	Makanchi Array	140.58	22	PKhKP	PKPpre	13	27	56.7
	comp=Z,0.2nm,0.6s,baz=5.7,slow=1.4,SNR=2.1							
SONM	Songino Array	143.16	355	PKhKP	PKPpre	13	28	02.9
	comp=Z,0.6nm,0.5s,baz=17,slow=0.8,SNR=2.4							
KSRS	Korea Array	145.00	323	PKPbc	PKPab	13	28	09.4 0.0
	comp=Z,2.5nm,0.8s,baz=60,slow=3.3,SNR=10							
KSRS				pPKPbc	pPKPdf	13	28	26.9 -0.7
	comp=Z,12nm,0.8s,baz=54,slow=3.6,SNR=26							
CMAR	Chiang Mai Arr	171.99	23	PKPab	PKPab	13	30	04.2 -0.7
	comp=Z,0.9nm,0.6s,baz=332,slow=4.7,SNR=5.5							

*TEH **22** 13:09:11.5,29˚.34N×52˚.90E,h12km±.24km,ML3.2*
*OMAN **22** 13:09:15.7±0.2,29˚.03N×53˚.04E,h8km±.7km,mb4.3/9,*
ml3.1/5,Error ellipse: s-maj=14.2km s-min=2.0km
az=355.0

ISC 22 13:09:14.6±1.4,**29˚.17N**±0˚.06×**52˚.98E**±0˚.04,**h16**km,**n40,**
σ1§**39**/53,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	Shiraz	0.62	319	Pg	Pg	13 09 21.1	-5.9
QIR1	Qir	0.69	175	Pg	Pn	13 09 29.2	-0.6
JHRM	Jahrom	0.84	141	Pg	Pn	13 09 31.8	-0.1
KAZ2	Kazeron-Fars-I	1.23	291	Pg	Pn	13 09 34.3	-3.0
DSBU	Dashti - Bushe	1.71	242	Pg	Pn	13 09 44.2	+0.4
KLNJ	Kolanjah	2.19	327	Pn	Pn	13 09 48.3	-2.4
IMEH	Mehriz	2.63	32	Pn	Pn	13 09 56.0	-0.6
IRAM	Rameshesh	2.68	349	Pn	Pn	13 09 55.4	-1.9
IBRJ	Brojen	3.11	332	Pn	Pn	13 10 00.7	-2.5
KHGB	Koh Gabri	3.27	68	Pn	Pn	13 10 05.6	+0.2
IBAF	Bafgh	3.29	42	Pn	Pn	13 10 04.7	-1.0
NGRK	Negar Kerman	3.31	81	Pn	Pn	13 10 07.3	+1.2
IGAR	Gharneh	3.33	346	Pn	Pn	13 10 04.2	-2.0
ZRDN	Zarand Kerman	3.57	59	Pn	Pn	13 10 09.2	-0.3
SHMA	Al-Shehemyia	3.75	209	P	Pn	13 10 13.6	+1.8
	SNR=8.3						
SAKB	Bahrain	3.85	215	P	Pn	13 10 14.9	+1.8
SAKB				S	Sn	13 11 00.4	+2.5
CHMN	Cheshme madani	4.04	79	Pn	Pn	13 10 16.9	+0.9
ANAR	Anarak	4.06	9	Pn	Pn	13 10 14.8	-1.4
TRNA	Turayna	4.69	200	P	Pn	13 10 26.0	+1.3
	SNR=5.8						
TRNA				S	Sn	13 11 20.0	+1.2
MASF	Masafi	4.72	142	P	Pn	13 10 26.4	+1.1
	SNR=5.5						
MASF				S	Sn	13 11 19.0	-0.7
SMRA	Abu-Samra	4.81	204	P	Pn	13 10 26.9	+0.6
SMRA				S	Sn	13 11 22.8	+1.1
MDH	Madha	4.86	142	P	Pn	13 10 27.8	+0.8
MDH				S	Sn	13 11 24.3	+1.4
ASUD	Al Ashush, Dub	4.99	155	P	Pn	13 10 30.3	+1.5
ASUD				S	Sn	13 11 27.7	+1.5
UOSS	Minazif	5.09	145	P	Pn	13 10 30.7	+0.4
UOSS				S	Sn	13 11 27.7	-1.2
HATD	Hatta, Dubai	5.16	146	P	Pn	13 10 31.7	+0.5
HATD				S	Sn	13 11 28.9	-1.5
ASHO	Ashiyiah	5.24	148	P	Pn	13 10 33.0	+0.6
ASHO				S	Sn	13 11 33.8	+1.2
JASK	Jask - Hormozg	5.45	126	P	Pn	13 10 35.2	0.0
JASK				S	Sn	13 11 37.6	+0.2
ALNE	Al Ain	5.66	153	P	Pn	13 10 39.1	+1.0
	SNR=5.4						
ALNE				S	Sn	13 11 43.9	+1.0
SOHO	SOHO	5.94	147	P	Pn	13 10 41.5	-0.3
SOHO				S	Sn	13 11 48.5	-1.1
ARQ	Araqi	6.62	150	P	Pn	13 10 51.4	+0.1
BSY	Bisya	7.44	148	P	Pn	13 11 02.8	+0.2
BSY				S	Sn	13 12 26.7	+0.1
SMDO	Samad	7.60	142	P	Pn	13 11 04.1	-0.7
SMDO				S	Sn	13 12 29.4	-1.3
JMDO	Jabal Madar	8.19	145	P	Pn	13 11 13.0	+0.1
WBK	Wadi Bani Khal	8.47	139	P	Pn	13 11 15.4	-1.3
MHTO	MHTO	9.31	150	P	Pn	13 11 26.9	-1.3
DQM	DQM	10.09	155	P	Pn	13 11 39.2	+0.3
DOK	Doka	10.55	174	P	Pn	13 11 46.2	+0.9
WHFO	Wadi Hawf	11.22	176	P	Pn	13 11 52.0	-2.5
	SNR=13						
DMTO	DMTO	11.54	171	P	Pn	13 11 56.8	-2.0
ABTO	Aybut	11.76	179	P	Pn	13 11 58.8	-3.1

*IDC **22** 13:14:55.4±1.0,34˚.54N×26˚.68E,h0km,mb3.8/10,*
mbtmp3.7/16,ML4.1/4,Error ellipse: s-maj=21.7km
s-min=10.8km az=20.0
*AFAD **22** 13:14:57.7±0.0,34˚.80N×26˚.87E,h8km±.5km,MW3.8*
*ISK **22** 13:14:58.6,34˚.90N×26˚.57E,h10km,ML3.4/16*
*NEIC **22** 13:14:59.9±2.3,34˚.94N±0˚.06×26˚.65E±0˚.06,h10km±.1km,*
mb4.0/4,Error ellipse: s-maj=11.0km s-min=7.8km
az=189.0
*THE **22** 13:14:59.3,34˚.90N×26˚.50E,h19km±.3km,ML3.4/3,Error*
ellipse: s-maj=4.1km s-min=0.7km az=320.0
*ATH **22** 13:15:00.6,34˚.97N×26˚.54E,h5km±.2km,ML3.3/8,Error ellipse: s-maj=5.0km s-min=1.2km az=341.0*

ISC 22 13:14:56.9±0.6,**34˚.74N**±0˚.04×**26˚.61E**±0˚.02,**h10**km,**n89,**
σ1§**89**/114,**mb3.9**/12,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	Zakros	0.50	320	Pg	Pg	13 15 06.0	-0.7
ZKR				Sg	Sg	13 15 11.9	-1.3
ZKR	Zakros	0.50	320	P	Pg	13 15 05.9	-0.7
ZKR				S	Sg	13 15 11.8	-1.4
	10μm,0.5s						
ZKR	Zakros	0.50	320	P	Pg	13 15 06.2	-0.5
ZKR				S	Sg	13 15 11.0	-2.2
ZKR				AML	AML	13 15 14.2	
	comp=N,10502μm,0.4s						
ZKR				AML	AML	13 15 14.2	
	comp=E,20492μm,0.3s						
FRMA	Ierapetra Chan	0.77	291	P	Pg	13 15 10.0	-1.8
FRMA				S	Sg	13 15 18.3	-3.6
	comp=E,2μm,0.5s						
FRMA	Ierapetra Chan	0.77	291	P	Pg	13 15 10.0	-1.8
FRMA				S	Sg	13 15 19.2	-2.7
FRMA				AML	AML	13 15 23.3	
	comp=N,10665μm,0.5s						
FRMA				AML	AML	13 15 23.8	
	comp=E,7403μm,0.4s						
KARP	Karpathos	0.93	29	Pg	Pn	13 15 14.7	-1.4
KARP				Sg	Sg	13 15 26.3	-0.6
KARP	Karpathos	0.93	29	P	Pn	13 15 14.9	-1.2
KARP				S	Sg	13 15 26.3	-0.6
	comp=E,8μm,0.9s						
KARP	Karpathos	0.93	29		Pb	13 15 14.4	-0.8
KARP	Karpathos	0.93	29	P	Pn	13 15 15.2	-0.9
KARP				S	Sg	13 15 25.7	-1.3
KARP				AML	AML	13 15 37.1	
	comp=E,13805μm,1.1s						
KARP				AML	AML	13 15 37.2	
	comp=N,16499μm,0.8s						
KSTL	Kastelli Herak	1.38	295	P	Pn	13 15 19.4	-2.9
KSTL				S	Sn	13 15 33.6	-7.0
KSTL				AML	AML	13 15 39.4	
	comp=N,4226μm,0.7s						
KSTL				AML	AML	13 15 45.5	
	comp=E,2358μm,0.7s						
IACM	Heraklion	1.39	295	P	Pg	13 15 24.0	+0.5
IDI	Anoyia	1.52	292		Pg	13 15 26.5	+0.5
IDI	Anoyia	1.52	292	Pg	Pg	13 15 26.9	+0.9
	comp=E,6.6nm,0.3s,baz=126,slow=16,SNR=26						
IDI				Lg	Lg	13 15 47.7	
	comp=E,18nm,0.3s,baz=322,slow=18,SNR=9.4						
TMBK	Timbaki Herakl	1.55	283	P	Pg	13 15 26.9	+0.2
NISR	Nisiros	1.92	13	P	Pn	13 15 29.4	-0.3
ARG	Arkhangelos	1.93	40	Pn	Pb	13 15 31.3	-0.9
ARG				Sn	Sb	13 15 54.7	-1.6
ARG	Arkhangelos	1.93	40		Pg	13 15 32.3	-1.6
ARG	Arkhangelos	1.93	40	P	Pb	13 15 31.6	-0.5
ARG				AML	AML	13 16 10.0	
	comp=N,1204μm,0.9s						
ARG				AML	AML	13 16 11.4	
	comp=E,1505μm,0.8s						
YAZI	Mula-Dat§a-	2.06	19	P	Pb	13 15 32.6	-1.8
YAZI				S	Sb	13 16 00.6	+0.5
GVDS	Gavdos	2.08	274	Pn	Pb	13 15 34.4	-0.3
GVD	Gavdhos	2.08	274	Pn	Pg	13 15 34.9	-1.9
GVD	Gavdhos	2.08	274	P	Pg	13 15 35.1	-1.6
GVD				AML	AML	13 16 27.7	
	comp=N,976μm,1.0s						
GVD				AML	AML	13 16 31.0	
	comp=E,1080μm,1.0s						
DAT	Datca	2.14	21	Pn	Pb	13 15 33.3	-2.6
IMMV	Iera Moni Meta	2.27	289	Pn	Pb	13 15 36.9	-1.2
IMMV	Iera Moni Meta	2.27	289	P	Pb	13 15 36.6	-1.5
IMMV				AML	AML	13 16 20.6	
	comp=N,941μm,0.7s						
IMMV				AML	AML	13 16 25.6	
	comp=E,1247μm,0.8s						
BODT	Bodrum	2.39	14	Pn	Pn	13 15 36.3	+0.1
TURN	Turunc	2.43	33	Pn	Pb	13 15 37.9	-2.9
TURN	Turunc	2.43	33	P	Pb	13 15 38.9	-1.8
TURN				S	Sg	13 16 16.5	+1.4
KNDR	Palaiochora Ch	2.45	283	Pn	Pb	13 15 39.7	-1.4
KNDR	Palaiochora Ch	2.45	283	P	Pb	13 15 40.3	-0.8
KNDR				AML	AML	13 16 05.8	
	comp=E,533μm,0.7s						
KNDR				AML	AML	13 16 22.4	
	comp=N,496μm,0.6s						
RODP	Rodopos	2.48	290	Pn	Pn	13 15 38.3	+0.9
APE	Apeiranthos	2.49	340	Pn	Pn	13 15 37.6	+0.1
APE	Apeiranthos	2.49	340	P	Pn	13 15 37.3	-0.3
MHLO	Agia Marina, M	2.65	318	P	Pn	13 15 39.8	+0.1
DALY	Dalyan (Mula)	2.66	38	Pn	Pn	13 15 41.1	+1.3
MLSB	Milas	2.73	20	Pn	Pn	13 15 41.1	+0.3
IZZE	Mula-Seydike	2.73	51	P	Pn	13 15 41.8	+1.0
IZZE				S	Sn	13 16 13.9	+0.1
FETY	Fethiye	2.77	46	Pn	Pn	13 15 42.7	+1.4
SABU	Mula-Dalaman	2.83	42	P	Pb	13 15 44.0	-3.6
SABU				S	Sg	13 16 27.5	-0.4
AKAS	Kas	2.87	58	Pn	Pb	13 15 44.8	-3.4
AKAS	Kas	2.87	58	P	Pn	13 15 44.2	+1.4
AKAS				S	Sn	13 16 18.6	+1.2
MULA	Mugla, Merkez-	2.87	28	P	Pb	13 15 44.8	-3.6
ANKY	Antikythira Is	2.93	294	P	Pn	13 15 44.8	+1.2
CAME	Cameli-Denizli	3.10	44	Pn	Pn	13 15 47.7	+1.6
KNIK	Mula-Seydike	3.20	48	P	Pn	13 15 49.1	+1.7
KNIK				S	Sn	13 16 25.4	-0.3
DNZT	Denizli-Tavas-	3.21	37	P	Pn	13 15 49.4	+2.0
DNZT				S	Sg	13 16 36.8	-3.1
TAVA	DENIZLI_Tavas	3.30	34	P	Pn	13 15 50.6	+1.8
TAVA				S	Sg	13 16 39.5	-3.5
ELL	Elmali	3.35	52		Pb	13 15 51.9	-4.7
ESEN	Aydn-Nazilli	3.36	24	P	Pn	13 15 39.2	-10
ESEN				S	Sn	13 16 31.5	+2.0
AYDB	Zeytinkoy-Aydi	3.37	18	Pn	Pn	13 15 50.9	+1.2
AKUM	Antalya-Kumluc	3.43	61	P	Pn	13 15 51.2	+0.7
AKUM				S	Sn	13 16 30.5	-0.7
DNIZ	Denizli-Tavas-	3.49	34	P	Pn	13 15 52.5	+1.1
VLI	Velial	3.58	305	P	Pn	13 15 54.3	+1.7
KIRA	zmir-Kiraz	3.74	22	P	Pn	13 15 54.0	-0.8
KIRA				S	Sn	13 16 41.5	+2.5
KORT	Korkueli	3.79	52	P	Pn	13 15 56.9	+1.4
KORT				S	Sn	13 16 42.5	+2.3
ITM	Ithomi	4.51	304	Pn	Pn	13 16 08.5	+3.2
GAZI	Gazipasa	4.89	71	P	Pn	13 16 09.7	-0.8
GAZI				S	Sn	13 17 06.5	-0.7
AGG	Agios Georgios	5.48	323		Pn	13 16 20.6	+1.9
CSS	Mathiatis	5.53	86	Pn	Pn	13 16 21.0	+1.6
ALN	Alexandroupoli	6.17	356	Pn	Pn	13 16 29.6	+1.5
RDO	Rodhopi	6.46	353	Pn	Pn	13 16 32.7	+0.7
MDUB	Mudurnu	6.79	31		Pn	13 16 37.6	+1.0
BRTR	Keskin Array B	7.50	46	Pn	Pn	13 16 48.5	+2.1
	comp=N,0.4nm,0.4s,baz=230,slow=11,SNR=1.7						
BRTR				Sn	Sn	13 18 07.9	-3.7
	comp=N,0.1nm,0.3s,baz=95,slow=12,SNR=1.2						
MMAI	Mount Meron Ar	7.51	101	Pn	Pn	13 16 45.8	-0.8
	comp=N,1.0nm,0.5s,baz=299,slow=18,SNR=1.3						
MMAI				Sn	Sn	13 18 11.6	-0.3
	comp=N,1.4nm,0.3s,baz=317,slow=53,SNR=1.4						
GHAJ	Ghor Haditha	8.26	112		Pn	13 16 59.9	+3.1
SCTE	Santa Cesarea	8.38	312	Pn	Pn	13 17 00.9	+2.4
EIL	Elat	8.69	123	Pn	Pn	13 17 00.7	-1.9
	comp=N,0.4nm,0.3s,baz=331,slow=19,SNR=1.1						
EIL				Sn	Sn	13 18 37.4	-3.3
	comp=N,0.5nm,0.3s,baz=160,slow=15,SNR=1.8						
	comp=N,1.4nm,0.5s						
TIP	Timpagrande	9.04	302	Pn	Pn	13 17 07.3	-0.3
CUC	Castrocucco	10.06	305		Pn	13 17 23.4	+1.9
MLR	Muntele Rosu	10.76	357	Pn	Pn	13 17 34.2	+3.1
	comp=N,0.2nm,0.3s,baz=165,slow=12,SNR=1.8						
	comp=N,2.2nm,0.6s						
AKASG	Malin Array Be	16.07	6	Pn	P	13 18 43.5	-2.7
	comp=N,0.4nm,0.3s,baz=194,slow=11,SNR=3.5						
	comp=N,0.5nm,0.5s						
GERES	GERESS Array B	17.04	330	P	P	13 18 56.9	-0.2
	comp=N,1.1nm,0.3s,baz=64,slow=20,SNR=1.3						
	comp=N,0.5nm,0.3s						
SENIN	Lac Senin/Sane	18.66	314	P	Pn	13 19 15.4	0.0
TAM	Tamanrasset	21.93	243	P	P	13 19 53.8	+3.0
TAM				IAmb	IAmb	13 19 57.1	
	comp=Z,6.8nm,1.1s						
ESDC	Sonseca Array	24.78	291	P	P	13 20 18.5	-0.4
	comp=Z,0.5nm,0.7s,baz=83,slow=9.2,SNR=4.9						
	comp=Z,0.5nm,0.7s						
FINES	FINESS Array B	26.73	359	P	P	13 20 38.9	+2.6
	comp=Z,0.6nm,0.5s,baz=156,slow=7.6,SNR=3.4						
	comp=Z,0.6nm,0.5s						
AKTO	Aktyubinsk	27.68	46	P	P	13 20 45.6	+0.6
	comp=Z,1.3nm,0.6s,baz=237,slow=7.8,SNR=3.0						
	comp=Z,1.3nm,0.6s						
KURBB	Kurchatov Arra	40.47	51	P	P	13 22 36.3	+0.7
	comp=Z,0.8nm,0.6s,baz=277,slow=8.7,SNR=7.9						
	comp=Z,0.8nm,0.6s						
MK31	Makanchi Array	43.02	56	P	P	13 22 57.1	+0.6
MKAR	Makanchi Array	43.02	56	P	P	13 22 56.8	+0.3
MKAR	Makanchi Array	43.02	56	P	P	13 22 57.0	+0.5
	comp=Z,0.5nm,0.5s,baz=276,slow=5.1,SNR=6.6						
	comp=Z,0.5nm,0.5s						
SPITS	Spitsbergen Ar	43.77	357	P	P	13 23 02.9	+0.7
	comp=Z,3.1nm,0.9s,baz=180,slow=7.2,SNR=0.9						
	comp=Z,3.1nm,0.9s						
ZAA0	Zalesovo Array	44.44	46	P	P	13 23 08.5	+0.7
ZAA0				IAmb	IAmb	13 23 10.5	
	comp=Z,1.5nm,0.6s						
ZALV	Zalesovo Beam	44.44	46	P	P	13 23 08.6	+0.7
ZALV	Zalesovo Beam	44.44	46	P	P	13 23 07.9	+0.1
	comp=Z,1.2nm,0.6s,baz=267,slow=11,SNR=6.2						
	comp=Z,1.2nm,0.6s						
BOSA	Boshof	63.02	181	P	P	13 25 22.6	-1.6
	comp=Z,2.6nm,0.9s,baz=317,slow=19,SNR=1.7						
	comp=Z,2.6nm,0.8s						
CMAR	Chiang Mai Arr	65.44	84	P	P	13 25 41.1	+0.8
	comp=Z,0.7nm,0.3s,baz=296,slow=9.4,SNR=4.2						
	comp=Z,0.7nm,0.3s						
USRK	Ussuriysk Ar.	76.29	46	P	P	13 26 48.4	+2.5
YKA	Yellowknife Ar	78.21	343	P	P	13 26 57.7	+1.3
	comp=Z,0.2nm,0.6s,baz=27,slow=

comp=Z,0.2nm,0.5s,baz=178,slow=3.9,SNR=2.2
comp=Z,0.2nm,0.5s
ILAR Eielson Array 151.70 322 PKPbc **PKiKP 13 36 19.4 -0.3**
comp=Z,0.4nm,0.8s,baz=96,slow=0.5,SNR=2.4

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*IGQ **22** 13:36:16.4±0.3, 1˚N±2˚×7˚9W±˚, h4km, M5.5/14*
*RSNC **22** 13:36:16.5±0.0, 1˚N±2˚×7˚9W±˚, h0km±5km, M5.1, mb5.4, mB5.5, ML4.4, MLv5.2, Mw(mB)4.9*
*VAO **22** 13:36:17.3±0.3, 0.43N×78.48W, h10km, mb4.9*
*NEIC **22** 13:36:19.3±1.9, 0.50N±0.04×78.43W±0.06, h33km±1km, mb5.0/276, Error ellipse: s-maj=8.3km s-min=6.1km az=93.0*
*IDC **22** 13:36:20.4±1.5, 0.63N×78.44W, h48km±14km, mb3.9/24, mbtmp4.3/31, ML4.0/6, MS3.9/44, Error ellipse: s-maj=15.8km s-min=9.7km az=78.0*
*GCMT **22** 13:36:22.3±0.2, 0.57N±0.01×78.56W±0.02, h27km±1km, MW5.0/97, Moment Tensor Solution. s34,c37; s97,c146; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.87±.18; $M_{\theta\theta}$=3.73±.12; $M_{\phi\phi}$=-2.86±.13; $M_{r\theta}$=1.50±.19; $M_{r\phi}$=-0.01±.09; $M_{\theta\phi}$=1.07±.26; Best double couple: M_o=3.78600×10^{16} NP1:ϕs=228.00000°, δ=59.00000°, λ=-7.00000°. NP2: ϕs=135.00000°, δ=59.00000°, λ=-171.00000°. Principal axes: T 4.1890, Plg17.0000°, Azm357.0000°; N -0.8070, Plg58.0000°, Azm238.0000°; P -3.3830, Plg26.0000°, Azm96.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 22 13:36:16.3±0.3, 0.57N±0.02×78.66W±0.02, h17km±2km, n736, σ1$25/671, mb4.9/157, MS3.9/37, 4C-1D, Colombia-Ecuador border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAC1	**Pacto, Paraso**	**0.33**	**204**	P	**Pg**	**13 36 23.4**	**+0.1**
PAC1				S	**Sg**	**13 36 28.0**	**-0.2**
PAC1	**Pacto, Paraso**	**0.33**	**204**	P	**Pg**	**13 36 23.4**	**+0.1**
PAC1				S	**Sg**	**13 36 27.7**	**-0.4**
CUSE	**Cuicocha Este**	**0.37**	**135**	P	**Pb**	**13 36 24.4**	**-0.2**
CUSE				S	**Sg**	**13 36 29.0**	**-0.5**
CUSE	**Cuicocha Este**	**0.37**	**135**	P	**Pb**	**13 36 24.4**	**-0.2**
CUSE				S	**Sb**	**13 36 29.9**	**-0.2**
COTA	**Cotacachi**	**0.39**	**126**	P	**Pb**	**13 36 25.1**	**+0.1**
COTA				S	**Sb**	**13 36 31.1**	**+0.1**
CUIC	**Cuicocha-Domo**	**0.39**	**131**	P	**Pg**	**13 36 24.8**	**+0.2**
CUIC				S	**Sb**	**13 36 30.7**	**-0.2**
URCU	**Urcuqui**	**0.42**	**108**	P	**Pb**	**13 36 25.5**	**0.0**
URCU				S	**Sg**	**13 36 31.4**	**+0.4**
ACOT	**Cotacachi (Cas**	**0.47**	**125**	P	**Pb**	**13 36 26.6**	**+0.3**
ACOT				S	**Sb**	**13 36 32.8**	**-0.1**
AAT1	**Ecuador-Atunta**	**0.50**	**118**	P	**Pb**	**13 36 27.1**	**+0.3**
AAT1				S	**Sb**	**13 36 34.5**	**+0.6**
IMBA	**Imbabura, San**	**0.54**	**122**	Pg	**Pb**	**13 36 28.1**	**+0.6**
IMBA					**Sg**	**13 36 34.6**	**0.0**
IMBA	**Imbabura, San**	**0.54**	**122**	P	**Pb**	**13 36 28.1**	**+0.6**
IMBA				S	**Sb**	**13 36 36.3**	**+1.1**
PULU	**Pululahua**	**0.56**	**164**		**Pb**	**13 36 27.9**	**-0.1**
PULU					**Sg**	**13 36 35.1**	**-0.2**
PULU	**Pululahua**	**0.56**	**164**	P	**Pb**	**13 36 27.8**	**-0.1**
PULU				S	**Sb**	**13 36 36.1**	**+0.3**
APR2	**Miler**	**0.58**	**213**	P	**Pg**	**13 36 27.7**	**-0.1**
APR2				S	**Sb**	**13 36 36.2**	**+0.3**
AIB2	**Ibarra (Univer**	**0.59**	**112**	P	**Pb**	**13 36 28.6**	**+0.2**
AIB2				S	**Sb**	**13 36 37.4**	**+0.8**
SADP	**Ecuador-Quito-**	**0.60**	**160**	P	**Pb**	**13 36 28.5**	**0.0**
SADP				S	**Sb**	**13 36 37.0**	**+0.2**
APR1	**Acelerografo,**	**0.61**	**176**	P	**Pg**	**13 36 28.5**	**0.0**
APR1				S	**Sb**	**13 36 37.3**	**+0.2**
YAHU	**Yahuarcocha**	**0.62**	**108**	P	**Pb**	**13 36 29.2**	**+0.4**
YAHU				S	**Sb**	**13 36 37.7**	**+0.4**
LNGL	**El Angel-Carch**	**0.68**	**75**	P	**Pg**	**13 36 29.7**	**0.0**
LNGL				S	**Sg**	**13 36 38.9**	**0.0**
YANA	**Yana**	**0.69**	**173**	P	**Pb**	**13 36 30.1**	**0.0**
GBMB	**Ecuador-Guayll**	**0.69**	**155**	P	**Pb**	**13 36 30.6**	**+0.5**
AV11	**Acelerografo,**	**0.70**	**156**	P	**Pb**	**13 36 30.7**	**+0.6**
CRPG	**Carapungo - Pi**	**0.70**	**163**	P	**Pb**	**13 36 30.6**	**+0.4**
PINO	**Pino**	**0.72**	**176**	P	**Pb**	**13 36 30.9**	**+0.2**
FENY	**Casa Vinicio C**	**0.73**	**166**	P	**Pb**	**13 36 30.9**	**+0.2**
ECEN	**Cerro Negro**	**0.73**	**70**	P	**Pg**	**13 36 30.6**	**-0.1**
TERV	**Terraza Guagua**	**0.74**	**176**	P	**Pb**	**13 36 31.1**	**+0.1**
GGPC	**Guagua Pichinc**	**0.74**	**175**	P	**Pb**	**13 36 31.1**	**+0.1**
CHL1	**Volc¡n Chiles**	**0.74**	**72**	P	**Pg**	**13 36 30.9**	**-0.1**
CHL1				S	**Sg**	**13 36 40.8**	**-0.2**
SNLR	**San Lorenzo-Es**	**0.75**	**345**	P	**Pg**	**13 36 31.2**	**+0.3**
SNLR				S	**Sn**	**13 36 42.4**	**-0.5**
CHL2	**Volc¡n Chiles**	**0.78**	**72**	P	**Pg**	**13 36 31.4**	**-0.2**
CHL2				S	**Sg**	**13 36 41.8**	**-0.2**
JUA2	**San Juan 2**	**0.78**	**176**	P	**Pb**	**13 36 31.5**	**-0.1**
HPAL	**Hacienda Las P**	**0.78**	**180**	P	**Pb**	**13 36 31.3**	**-0.3**
GGPT	**Toaza - Volcan**	**0.79**	**177**	P	**Pb**	**13 36 31.6**	**-0.1**
CIVI	**Edificio de In**	**0.79**	**168**	P	**Pg**	**13 36 32.0**	**+0.2**
EPNL	**EPN Laboratori**	**0.79**	**168**	P	**Pg**	**13 36 32.0**	**+0.1**
CAYA	**Cayambe**	**0.83**	**126**	P	**Pb**	**13 36 32.5**	**0.0**
CAYA				S	**Sb**	**13 36 43.3**	**-0.2**
ANGU	**Angureal**	**0.83**	**129**	P	**Pg**	**13 36 32.7**	**+0.1**
ANGU				S	**Sg**	**13 36 44.1**	**+0.4**
CAYR	**Refugio Cayamb**	**0.85**	**130**	P	**Pb**	**13 36 33.0**	**0.0**
AV18	**Acelerografo,**	**0.86**	**253**	P	**Pb**	**13 36 32.6**	**-0.1**
TING	**Casa Alexandra**	**0.87**	**166**	P	**Pg**	**13 36 33.5**	**+0.2**
TULM	**Tulcn-Chalpat**	**0.88**	**80**		**Pb**	**13 36 33.5**	**+0.1**
TULM	**Tulcn-Chalpat**	**0.88**	**80**	P	**Pb**	**13 36 33.5**	**+0.1**
TULM				S	**Sg**	**13 36 45.7**	**+0.4**
TULM	**Tulcn-Chalpat**	**0.88**	**80**	P	**Pb**	**13 36 33.6**	**+0.1**
TULM				S	**Sg**	**13 36 45.4**	**+0.1**
AV21	**Acelerografo,**	**0.90**	**276**	P	**Pb**	**13 36 32.5**	**-0.8**
CMBC	**Cumbal**	**0.91**	**66**	P	**Pb**	**13 36 33.7**	**-0.1**
CMBC				S	**Sb**	**13 36 45.5**	**-0.3**
CMBC	**Cumbal**	**0.91**	**66**	P	**Pb**	**13 36 33.7**	**-0.1**
ASDO	**Santo Domingo**	**0.95**	**210**	P	**Pb**	**13 36 33.5**	**-0.7**
ASDO				S	**Sb**	**13 36 46.1**	**-0.4**
ATLC	**Ecuador-Tulcan**	**0.98**	**74**	P	**Pn**	**13 36 36.0**	**+0.4**
AES2	**Ecuador-Puerto**	**1.08**	**293**	P	**Pb**	**13 36 35.4**	**-1.0**
AES2				S	**Sb**	**13 36 50.0**	**-0.1**
TOMA	**Boca Toma-Volc**	**1.08**	**168**	P	**Pn**	**13 36 37.1**	**+0.2**
TOMA				S	**Sn**	**13 36 52.0**	**+0.3**
ANTI	**Antisana**	**1.12**	**154**	P	**Pb**	**13 36 37.5**	**-0.1**
AMA1	**Acelerografo,**	**1.13**	**289**	P	**Pn**	**13 36 36.6**	**-0.7**
BONI	**La Bonita**	**1.13**	**96**	P	**Pb**	**13 36 37.5**	**-0.1**
ANTG	**Antisana-Guama**	**1.14**	**159**	P	**Pb**	**13 36 37.5**	**-0.3**
ANTG				S	**Sb**	**13 36 50.8**	**-1.7**
PITA	**Cotopaxi Volc**	**1.14**	**169**	P	**Pn**	**13 36 38.1**	**+0.3**
ANTS	**Antisana-Sarah**	**1.16**	**155**	P	**Pb**	**13 36 38.0**	**-0.2**
ANTM	**Antisana-La Mi**	**1.18**	**158**	P	**Pn**	**13 36 38.2**	**-0.2**
ANTM				S	**Sb**	**13 36 52.9**	**-0.7**
SUCR	**Mariscal Sucre**	**1.21**	**172**	P	**Pg**	**13 36 39.6**	**-0.2**
REVN	**San Rafael**	**1.21**	**122**	P	**Pb**	**13 36 39.1**	**+0.2**
REVN				S	**Sn**	**13 36 54.6**	**-0.2**
VC1	**Cotopaxi 1**	**1.23**	**168**	P	**Pb**	**13 36 39.6**	**+0.3**
REVS	**Reventador Sur**	**1.23**	**123**	P	**Pb**	**13 36 39.5**	**+0.2**
AV05	**Acelerografo,**	**1.23**	**128**	P	**Pb**	**13 36 39.5**	**+0.3**
BVC2	**Cotopaxi Volca**	**1.24**	**169**	P	**Pg**	**13 36 40.0**	**-0.3**
CAMI	**Rancho Maria**	**1.24**	**173**	P	**Pg**	**13 36 40.2**	**-0.2**
BREF	**Cotopaxi Volca**	**1.25**	**170**	P	**Pg**	**13 36 40.2**	**-0.4**
PAST	**Pastocalle**	**1.25**	**179**	P	**Pg**	**13 36 40.3**	**-0.3**
BTAM	**Cotopaxi Volca**	**1.26**	**168**	P	**Pb**	**13 36 40.2**	**+0.3**
ILLI	**Illinizas Sur**	**1.27**	**183**	P	**Pb**	**13 36 40.0**	**-0.1**
TAMB	**Tambo**	**1.28**	**167**	P	**Pb**	**13 36 40.6**	**+0.2**
SLOR	**San Lorenzo -**	**1.30**	**173**	Pn	**Pg**	**13 36 41.1**	**-0.3**
SLOR	**San Lorenzo -**	**1.30**	**173**	P	**Pg**	**13 36 41.3**	**-0.2**
BMOR	**Cotopaxi Volca**	**1.30**	**171**	P	**Pb**	**13 36 40.9**	**+0.2**
BRRN	**Barrancas-Volc**	**1.35**	**172**	P	**Pb**	**13 36 41.8**	**+0.4**
VCES	**Cotopaxi**	**1.38**	**169**	P	**Pb**	**13 36 42.1**	**+0.1**
AV03	**Acelerografo,**	**1.43**	**111**	P	**Pb**	**13 36 42.9**	**+0.4**
GCUF	**Volcan Galeras**	**1.47**	**63**	P	**Pb**	**13 36 43.1**	**-0.3**
GCUF				S	**Sg**	**13 37 06.8**	**+3.0**
PIS1	**Pisayambo**	**1.64**	**170**	P	**Pb**	**13 36 46.8**	**+0.5**
ARDO	**Archidona, Ten**	**1.77**	**151**	P	**Pb**	**13 36 48.8**	**+0.5**
APS1	**Acelerografo,**	**1.80**	**105**	P	**Pg**	**13 36 50.0**	**-0.9**
AQUE	**Quevedo**	**1.81**	**207**	P	**Pn**	**13 36 47.1**	**+0.4**
PECV	**Mancha de Ca P**	**1.93**	**226**	P	**Pb**	**13 36 51.1**	**+0.1**
CRUC	**La Cruz**	**1.97**	**60**	P	**Pb**	**13 36 53.0**	**+1.1**
CRUC				S	**Sg**	**13 37 23.0**	**+3.0**
BRUN	**Tungurahua Vol**	**1.98**	**173**	P	**Pb**	**13 36 52.2**	**+0.1**
JUI6	**Juive**	**1.99**	**175**	P	**Pb**	**13 36 52.4**	**+0.2**
BULB	**Ulba Tungurahu**	**2.01**	**173**	P	**Pb**	**13 36 52.6**	**+0.1**
BBIL	**Ulba Tungurahu**	**2.01**	**175**	P	**Pb**	**13 36 52.8**	**+0.3**
BIL2	**Estacion Bilba**	**2.01**	**176**	P	**Pb**	**13 36 53.5**	**+0.9**
BBAC	**Balboa, Cauca**	**2.02**	**44**	P	**Pn**	**13 36 50.4**	**+0.7**
BBAC				S	**Sb**	**13 37 17.0**	**-0.5**
BBAC	**Balboa, Cauca**	**2.02**	**44**	P	**Pn**	**13 36 50.5**	**+0.8**
PORT	**Chimborazo Vol**	**2.02**	**183**	P	**Pb**	**13 36 53.7**	**+0.8**
IGUA	**Igualata**	**2.04**	**180**	P	**Pb**	**13 36 53.6**	**+0.3**
TUYU	**Q. Yuibug Volc**	**2.04**	**175**	P	**Pb**	**13 36 53.4**	**+0.2**
CHSH	**Refugio Sur-Vo**	**2.06**	**186**	P	**Pb**	**13 36 54.3**	**+0.8**
BMAS	**Trigal station**	**2.06**	**175**	P	**Pb**	**13 36 53.7**	**+0.2**
ARRY	**Arrayan**	**2.07**	**174**	P	**Pb**	**13 36 53.5**	**0.0**
TAMH	**Tambohuasha Ch**	**2.10**	**183**	P	**Pb**	**13 36 55.0**	**+0.9**
PUYO	**Puyo, Santa Ro**	**2.14**	**163**	P	**Pb**	**13 36 55.6**	**+0.9**
GR1C	**Gorgona, Isla**	**2.47**	**11**	P	**Pn**	**13 36 54.5**	**-1.2**
POPC	**Popayan, Colom**	**2.79**	**45**	P	**Pn**	**13 37 01.4**	**+1.1**
POPC				S	**Sb**	**13 37 42.5**	**+2.8**
MILO	**Milagro-Astudi**	**2.97**	**198**	P	**Pn**	**13 37 02.9**	**+0.3**
FLOC	**Florencia**	**3.17**	**71**	P	**Pb**	**13 37 13.9**	**+1.8**
FLOC				S	**Sg**	**13 37 56.4**	**-1.8**
FLOC	**Florencia**	**3.17**	**71**	P	**Pn**	**13 37 08.1**	**+2.7**
JAMC	**Jamundi, Valle**	**3.29**	**37**	P	**Pn**	**13 37 08.2**	**+0.9**
JAMC				S	**Sb**	**13 37 51.9**	**-2.4**
AZOG	**Ecuador-Azogue**	**3.30**	**183**	P	**Pb**	**13 37 15.9**	**+1.3**
ACUE	**Ecuador-Cuenca**	**3.47**	**185**	P	**Pb**	**13 37 16.2**	**-1.2**
GARC	**Garzon, Huila**	**3.55**	**63**	P	**Pb**	**13 37 20.0**	**+1.2**
GARC				S	**Sg**	**13 38 11.1**	**+0.7**
MALC	**Bahia Malaga**	**3.67**	**21**	P	**Pn**	**13 37 12.9**	**+0.7**
MALC				P	**Pn**	**13 37 13.5**	**+1.3**
MALC				P	**Pn**	**13 37 13.8**	**+1.6**
MALC				S	**Sn**	**13 37 58.7**	**+3.6**
MALC	**Bahia Malaga**	**3.67**	**21**	P	**Pn**	**13 37 12.9**	**+0.7**
BETC	**Betania**	**3.84**	**57**	P	**Pb**	**13 37 23.0**	**-0.6**
BETC				S	Sn	13 37 27.0	-32
PTLC	**Puerto Leguiza**	**3.88**	**96**	P	**Pn**	**13 37 17.8**	**+2.7**
PTLC				S	**Sg**	**13 38 16.7**	**-4.3**
PTLC	**Puerto Leguiza**	**3.88**	**96**	P	**Pn**	**13 37 18.0**	**+2.9**
ARNL	**Arenillas**	**4.32**	**199**		**Pn**	**13 37 22.8**	**+1.6**
ARNL	**Arenillas**	**4.32**	**199**	P	**Pn**	**13 37 24.0**	**+2.8**
LAMO	**ALAMOR**	**4.75**	**197**	P	**Pn**	**13 37 30.4**	**+3.1**
PRAC	**Prado**	**4.89**	**50**	P	**Pn**	**13 37 31.9**	**+2.8**
PRAC				S	Sn	13 37 40.8	-45
PRAC				S	Sn	13 37 40.8	-45
PLMC	**San Jos del P**	**4.92**	**29**	P	**Pn**	**13 37 27.8**	**-1.7**
PLMC				P	**Pn**	**13 37 28.5**	**-0.9**
PLMC				P	**Pn**	**13 37 28.6**	**-0.9**
PLMC				S	**Sn**	**13 38 24.2**	**-1.9**
URMC	**La Uribe, Meta**	**5.04**	**58**	P	**Pn**	**13 37 35.8**	**+4.7**
	472nm,0.6s,8µm2.0nm						
URMC				S	**Sg**	**13 38 54.7**	**-3.4**
	472nm,0.6s,8µm2.0nm						
MACC	**Macarena, Meta**	**5.06**	**72**	P	**Pn**	**13 37 35.3**	**+4.0**
	1µm,0.7s,12µm4.4nm						
MACC				P	Pb	13 37 38.3	-6.0
	1µm,0.7s,12µm4.4nm						
MACC				P	Pg	13 37 39.4	-14
	1µm,0.7s,12µm4.4nm						
MACC				S	**Sg**	**13 38 54.3**	**-4.4**
	1µm,0.7s,12µm4.4nm						
ROSC	**El Rosal**	**6.06**	**45**		**Pn**	**13 37 46.0**	**+0.5**
ROSC	**El Rosal**	**6.06**	**45**	P	**Pn**	**13 37 46.4**	**+0.8**
	40nm,0.5s,baz=278,slow=15,SNR=1.5						
ROSC				S	**Sn**	**13 38 51.4**	**-3.3**
	127nm,0.8s,baz=252,slow=20,SNR=1.1						
ROSC				LR	LR	13 40 11.6	
	comp=Z,2µm,18.4s,baz=62,slow=39						
ROSC	**El Rosal**	**6.06**	**45**	P	Pn	13 37 51.3	+5.8
	330nm,0.7s,4µm						
VILC	**Villavicencio,**	**6.08**	**55**	P	Pn	13 37 50.6	+5.1
NORC	**Norcasia**	**6.24**	**37**	P	**Pn**	**13 37 49.9**	**+2.3**
	218nm,0.8s,2µm						
CHIC	**Chingaza**	**6.36**	**51**	P	**Pn**	**13 37 53.0**	**+3.4**
	713nm,1.2s,6µm						
CHIC				P	Pb	13 37 53.1	-14
	713nm,1.2s,6µm						
CHIC				P	Pg	13 37 54.0	-24
	713nm,1.2s,6µm						
CHIC				S		13 37 55.2	
	713nm,1.2s,6µm						
HELC	**Santa Helena**	**6.40**	**29**	P	**Pn**	**13 37 53.1**	**+3.0**
	150nm,0.7s,2µm						
CACAO	**El Cacao, Vera**	**7.08**	**342**	P	**Pn**	**13 37 58.6**	**-0.6**
	58nm,0.5s						
PTBC	**PUERTO BERRIO,**	**7.26**	**35**	P	**Pn**	**13 38 03.0**	**+1.3**
	138nm,1.1s,2µm						
APAC	**Apartado, Choc**	**7.57**	**16**	P	Pn	13 38 11.2	+5.3
	182nm,0.9s						
ATAH	**Atahualpa**	**7.66**	**178**	P	**Pn**	**13 38 11.2**	**+3.8**
	4.9nm,0.3s,baz=6.0,slow=9.1,SNR=24						
ATAH				S	**Sn**	**13 39 37.0**	**+3.0**
	76nm,0.9s,baz=102,slow=19,SNR=1.0						
ATAH				LR	LR	13 40 56.8	
	comp=Z,546nm,18.3s,baz=357,slow=36						
	84nm,0.9s						
RUSC	**La Rusia**	**7.68**	**46**	P	**Pn**	**13 38 10.3**	**+2.5**
	168nm,1.4s,2µm						
ZARC	**Zaragoza, Cauc**	**7.85**	**29**	P	**Pn**	**13 38 12.1**	**+2.3**
	115nm,0.8s,1µm						
BARC	**Barichara**	**8.10**	**42**	P	Pn	13 38 18.7	+5.3
BCIP	**Isla Barro Col**	**8.62**	**352**	Pn	**Pn**	**13 38 22.8**	**+2.5**
CDITO	**Canoas**	**8.99**	**332**		**Pn**	**13 38 29.4**	**+3.9**
BRU2	**Volcan**	**9.11**	**334**		**Pn**	**13 38 30.8**	**+3.7**
SRBA	**San Rafael, Bu**	**9.80**	**332**	Pn	**Pn**	**13 38 39.9**	**+3.3**
TBTG	**Tabatinga, AM**	**9.94**	**118**	*eP*	**Pn**	**13 38 37.9**	**-0.4**
TBTG				*eS*	**Sn**	**13 40 27.9**	**-1.6**
CZSB	**Cruzeiro do Su**	**10.16**	**144**		**Pn**	**13 38 39.5**	**-1.9**
CZSB	**Cruzeiro do Su**	**10.16**	**144**	*eP*	**Pn**	**13 38 38.2**	**-3.2**
CZSB				*eS*	**Sn**	**13 40 33.6**	**-1.3**
LCR2	**La Lucha 2**	**10.55**	**330**	Pn	**Pn**	**13 38 50.9**	**+3.9**
HDC	**Heredia**	**10.83**	**330**	*eP*	Pn	13 38 56.2	+5.4
SDV	**Santo Domingo**	**11.49**	**44**	Pn	**Pn**	**13 38 59.4**	**-0.5**
SDV	**Santo Domingo**	**11.49**	**44**	P	**Pn**	**13 39 00.2**	**+0.3**
	1.2nm,0.3s,baz=207,slow=12,SNR=6.0						
SDV				LR	LR	13 44 23.0	
	comp=Z,1µm,21.0s,baz=222,slow=43						
	7.0nm,0.4s						
SDV	**Santo Domingo**	**11.49**	**44**	*eP*	**Pn**	**13 39 00.9**	**+1.0**
JTS	**Las Juntas de**	**11.51**	**327**	P	**Pn**	**13 39 03.1**	**+3.2**
	0.4nm,0.3s,baz=162,slow=20,SNR=2.0						
JTS				LR	LR	13 42 37.3	
	comp=Z,852nm,21.6s,baz=144,slow=33						
	3.2nm,0.4s						
NNA	**Nana**	**12.60**	**172**	P	**Pn**	**13 39 18.4**	**+3.5**
	2.8nm,0.3s,baz=342,slow=11,SNR=6.4						
NNA				S	**Sn**	**13 41 37.2**	**+2.2**
	5.0nm,0.3s,baz=155,slow=19,SNR=1.6						
NNA				LR	LR	13 43 54.6	
	comp=Z,363nm,18.1s,baz=346,slow=36						
	40nm,0.8s						
BAUV	**El Baul**	**13.45**	**51**	Pn	**Pn**	**13 39 25.5**	**-1.0**
TEFE	**Tefe**	**14.59**	**106**	*eP*	**Pn**	**13 39 40.7**	**-1.3**
TEFE				*eS*	**Sn**	**13 42 21.9**	**-1.5**
ETMB	**Extrema**	**16.12**	**130**	Pn	**Pn**	**13 40 01.0**	**-1.2**
ETMB	**Extrema**	**16.12**	**130**	*eP*	**Pn**	**13 40 01.3**	**-0.9**
ETMB				*eS*	**Sn**	**13 42 59.1**	**-1.6**
PCRV	**Puerto La Cruz**	**16.90**	**55**	P	**Pn**	**13 40 11.5**	**-0.7**
	0.3nm,0.3s,baz=256,slow=4.2,SNR=1.7						
PCRV				LR	LR	13 47 29.9	
	comp=Z,1µm,21.2s,slow=40						
	12nm,1.1s						
SAML	**Samuel**	**18.08**	**122**		**Pn**	**13 40 25.8**	**-1.0**
SAML	**Samuel**	**18.08**	**122**	*eP*	**Pn**	**13 40 26.1**	**-0.7**
SAML				*eS*	**Sn**	**13 43 46.4**	**-1.9**
BOAV	**Boa Vista**	**18.22**	**84**	P	**Pn**	**13 40 27.4**	**-1.1**
BOAV	**Boa Vista**	**18.22**	**84**	*eP*	**P**	**13 40 29.0**	**+0.3**
BOAV				*eS*	**Sn**	**13 43 51.3**	**-0.4**
MACA	**Manacapuru-AM**	**18.34**	**102**	*eP*	**P**	**13 40 30.1**	**+0.1**
APG	**El Apazote**	**18.49**	**321**	P	**Pn**	**13 40 34.3**	**+2.2**
	0.4nm,0.7s,baz=132,slow=11,SNR=5.5						
APG				LR	LR	13 46 40.0	
	comp=Z,43nm,20.7s,baz=341,slow=33						
SDDR	**Presa de Saban**	**19.68**	**21**	P	**P**	**13 40 44.5**	**-0.1**
SDDR				IAmb	IAmb	13 40 57.1	
	comp=Z,76nm,1.1s						
LPAZ	**La Paz**	**19.71**	**149**	Pn	**P**	**13 40 45.7**	**+0.1**
LPAZ	**La Paz**	**19.71**	**149**	P	**Pn**	**13 40 47.4**	**+0.3**
	comp=Z,0.6nm,0.3s,baz=344,slow=11,SNR=37						
	comp=Z,15nm,0.9s						
LPAZ	**La Paz**	**19.71**	**149**	*eS*	**S**	**13 44 25.8**	**-2.0**
MLPR	**Magueyes Islan**	**20.72**	**33**		**P**	**13 40 57.2**	**+1.2**
MLPR				IAmb	IAmb	13 41 12.5	
	comp=Z,38nm,0.8s						
PB12	**IPOC Station P**	**20.74**	**157**	P	**P**	**13 40 56.3**	**-0.1**
PB12				IAmb	IAmb	13 41 08.3	
	comp=Z,56nm,0.9s						
OBIP	**Obispado Ponce**	**21.02**	**34**	P	**P**	**13 40 58.9**	**-0.3**
OBIP				IAmb	IAmb	13 41 07.8	
	comp=Z,120nm,1.4s						
CELP	**Cerrillos**	**21.06**	**34**		**P**	**13 40 59.8**	**+0.2**
CELP				IAmb	IAmb	13 41 11.4	
	comp=Z,76nm,1.2s						
IGPR	**InterUniversit**	**21.24**	**35**	IAmb	IAmb	13 41 09.5	
	comp=Z,59nm,0.8s						
TEIG	**Tepich**	**21.69**	**335**	P	**P**	**13 41 06.5**	**+0.2**
	comp=Z,3.6nm,0.3s,baz=158,slow=5.4,SNR=3.3						
TEIG				LR	LR	13 48 51.0	
	comp=Z,382nm,20.3s,baz=149,slow=35						
	comp=Z,3.6nm,0.3s						
PB11	**IPOC Station P**	**22.05**	**157**	P	**P**	**13 41 09.6**	**-0.8**
PB11				IAmb	IAmb	13 41 20.2	
	comp=Z,72nm,0.8s						
FDF	**Fort de France**	**22.31**	**50**	P	**P**	**13 41 11.1**	**-2.0**
PB08	**IPOC Station P**	**22.59**	**156**	IAmb	IAmb	13 41 31.4	
	comp=Z,76nm,1.4s						
VILB	**Vilhena**	**22.70**	**127**	P	**P**	**13 41 15.6**	**-1.7**
VILB				IAmb	IAmb	13 41 36.2	
	comp=Z,81nm,1.1s						
VILB	**Vilhena**	**22.70**	**127**	*eP*	**P**	**13 41 17.6**	**+0.3**
VILB				*eS*	**S**	**13 45 24.7**	**-0.6**
CMIG	**Matias Romero**	**22.91**	**317**	LR	LR	13 48 36.2	
	comp=Z,235nm,21.4s,baz=174,slow=32						
ITTB	**Itaituba**	**23.42**	**102**	*eP*	**P**	**13 41 25.3**	**+0.5**
ITTB				*eS*	**S**	**13 45 37.9**	**+0.4**
SIV	**San Ignacio**	**23.92**	**134**	LR	LR	13 51 41.8	
	comp=Z,841nm,20.1s,baz=325,slow=39						
PB09	**IPOC Station P**	**24.05**	**158**	IAmb	IAmb	13 41 56.6	
	comp=Z,79nm,1.1s						
NPGB	**Novo Progresso**	**24.44**	**108**	*eP*	**P**	**13 41 34.1**	**-0.3**
LVC	**Limon Verde**	**24.92**	**158**	P	**P**	**13 41 38.5**	**-0.4**
LVC				IAmb	IAmb	13 42 09.0	
	comp=Z,56nm,1.2s						
LVC	**Limon Verde**	**24.92**	**158**	P	**P**	**13 41 37.6**	**-1.3**
	comp=Z,13nm,0.9s,baz=337,slow=6.7,SNR=2.5						
LVC				LR	LR	13 52 39.1	
	comp=Z,790nm,21.8s,baz=324,slow=39						
	comp=Z,13nm,0.9s						
LVC	**Limon Verde**	**24.92**	**158**	*eP*	**P**	**13 41 39.0**	**0.0**
PDRB	**Porto dos Gac**	**24.92**	**120**	*eP*	**P**	**13 41 39.0**	**+0.3**
PDRB				*eS*	**S**	**13 46 01.9**	**+0.3**
PTLB	**Pontes e Lacer**	**25.01**	**130**	*eP*	**P**	**13 41 40.3**	**+0.8**
PTLB				*eS*	**S**	**13 46 03.0**	**+0.1**
BBSD	**Serra de San D**	**25.05**	**136**	*eP*	**P**	**13 41 40.5**	**+0.6**
CLDB	**Colider**	**25.41**	**117**	*eP*	**P**	**13 41 43.1**	**-0.1**
BBRB	**Robore, Bolivi**	**26.35**	**136**	*eP*	**P**	**13 41 51.8**	**+0.2**
BBRB				*eS*	**S**	**13 46 24.8**	**+0.6**
MDP	**Montagnes des**	**26.36**	**80**	LR	LR	13 52 26.7	
	comp=Z,2µm,18.2s,baz=274,slow=37						
MCPB	**Macapa, AP**	**26.61**	**92**	*eP*	**P**	**13 41 54.5**	**+0.4**
MCPB		

CGM3 **Cape Girardeau** 37.94 346 IAmb IAmb 13 43 40.4
comp=Z,19nm,1.2s
ALGR **Alto Alegre (B** 38.13 142 *e*P **P** **13 43 35.2 +0.5**
WCI **Wyandotte Cave** 38.13 350 P **P** **13 43 33.8 -0.7**
baz=167
Q54A **Coxs Mills** 38.28 357 IAmb IAmb 13 43 44.4
comp=Z,15nm,0.7s
Q56A **Snyder Ridge,** 38.29 359 IAmb IAmb 13 43 45.6
comp=Z,28nm,0.8s
SN05 **Snyder 5** 38.35 329 IAmb IAmb 13 43 44.1
comp=Z,16nm,0.8s
MGMO **Mountain Grove** 38.52 342 IAmb IAmb 13 43 45.6
comp=Z,25nm,0.9s
RLO **Rose Lookout** 38.54 339 IAmb IAmb 13 43 46.1
comp=Z,14nm,1.0s
TUL3 **Leonard** 38.60 337 P **P** **13 43 38.8 +0.2**
baz=152
P57A **Homestead Farm** 38.74 1 IAmb IAmb 13 43 50.2
comp=Z,18nm,0.8s
FVM **French Village** 38.78 345 IAmb IAmb 13 43 47.5
comp=Z,46nm,1.2s
P53A **Whipple** 38.82 357 IAmb IAmb 13 43 48.9
comp=Z,27nm,0.8s
POST **Post** 38.82 329 IAmb IAmb 13 43 49.9
comp=Z,30nm,1.1s
WMOK **Wichita Mounta** 38.85 333 P **P** **13 43 40.6 0.0**
baz=147
MCWV **Mont Chateau** 38.92 359 P **P** **13 43 41.1 0.0**
baz=178
DKNS **Dickens** 39.00 330 IAmb IAmb 13 43 51.7
comp=Z,19nm,0.9s
P52A **Corning** 39.01 356 P **P** **13 43 41.4 -0.5**
baz=174
CCM **Cathedral Cave** 39.06 344 P **P** **13 43 41.5 -0.8**
baz=160
CCM **Cathedral Cave** 39.06 344 P **P** **13 43 41.2 -1.2**
CCM pP **pP** **13 43 46.5 -1.6**
CCM sP **sP** **13 43 48.9 -1.4**
DIAM **Diamantina, MG** 39.17 120 *e*P **P** **13 43 43.1 -0.6**
DIAM *e*S **S** **13 49 43.5 +0.1**
P49A **Miami Univ. Ec** 39.18 353 IAmb IAmb 13 43 50.3
comp=Z,32nm,1.4s
P49A **Miami Univ. Ec** 39.18 353 P **P** **13 43 42.3 -1.0**
baz=170
Q44A **Meyer Farm, Va** 39.32 347 IAmb IAmb 13 43 51.5
comp=Z,25nm,0.9s
O54A **Avella** 39.46 358 IAmb IAmb 13 43 54.8
comp=Z,16nm,0.8s
O53A **New Philadelph** 39.56 357 IAmb IAmb 13 43 55.6
comp=Z,21nm,0.8s
O53A **New Philadelph** 39.56 357 P **P** **13 43 46.2 -0.3**
baz=176
R40A **Maddies Statio** 39.57 343 IAmb IAmb 13 43 53.2
comp=Z,36nm,1.6s
ACSO **Alum Creek Sta** 39.67 355 P **P** **13 43 47.4 0.0**
baz=173
T35A **Sooner Cattle** 39.76 337 IAmb IAmb 13 43 56.7
comp=Z,35nm,1.4s
SMWD **Samnorwood** 39.83 332 IAmb IAmb 13 43 56.8
comp=Z,29nm,0.9s
SSPA **Standing Stone** 39.89 1 P **P** **13 43 49.8 +0.7**
SSPA **Standing Stone** 39.89 1 P **P** **13 43 48.6 -0.6**
baz=181
SSPA **Standing Stone** 39.89 1 P **P** **13 43 50.0 +0.8**
SSPA pP **pP** **13 43 55.7 +0.7**
SSPA sP **sP** **13 43 57.8 +0.5**
O48B **Farmland** 39.95 352 IAmb IAmb 13 43 56.8
comp=Z,21nm,0.7s
O48B **Farmland** 39.95 352 P **P** **13 43 48.6 -1.1**
baz=170
MNTX **Cornudas Mount** 39.97 323 P **P** **13 43 50.4 +0.4**
baz=136,SNR=12
N53A **Lisbon** 40.10 357 IAmb IAmb 13 43 59.2
comp=Z,19nm,0.7s
N58A **Sunbury** 40.12 2 IAmb IAmb 13 44 03.9
comp=Z,18nm,0.8s
MSTX **Muleshoe** 40.19 328 P **P** **13 43 52.3 +0.4**
baz=141,SNR=8.3
AMTX **Amarillo** 40.34 330 P **P** **13 43 52.9 -0.3**
AMTX IAmb IAmb 13 44 01.9
comp=Z,30nm,1.1s
AMTX **Amarillo** 40.34 330 P **P** **13 43 53.3 +0.1**
baz=143
KAN01 **Argonia South** 40.46 336 P **P** **13 43 53.5 -0.5**
KAN01 IAmb IAmb 13 44 03.3
comp=Z,20nm,1.0s
N49A **Columbus Grove** 40.48 354 IAmb IAmb 13 44 01.7
comp=Z,69nm,1.7s
PAL **Palisades** 40.48 6 P **P** **13 43 54.3 +0.2**
baz=187
GO06 **Curarrehue** 40.50 171 P **P** **13 43 55.0 +0.6**
KAN08 **Anthony NE Sta** 40.61 336 P **P** **13 43 55.0 -0.3**
KAN08 IAmb IAmb 13 44 32.6
comp=Z,18nm,0.6s
N47A **Urbana** 40.63 352 IAmb IAmb 13 44 02.1
comp=Z,16nm,0.8s
WSPT **Westport, CT** 40.70 6 P **P** **13 43 56.4 +0.5**
M55A **Ridgway** 40.72 360 IAmb IAmb 13 44 04.9
comp=Z,24nm,0.7s
M53A **WI Miller and** 40.73 358 P **P** **13 43 56.0 -0.1**
baz=177
HDIL **Hopedale** 40.96 348 IAmb IAmb 13 44 04.5
comp=Z,23nm,0.6s
HDIL **Hopedale** 40.96 348 P **P** **13 43 57.6 -0.4**
baz=163
M63A **Gales Ferry** 41.09 8 IAmb IAmb 13 44 08.7
comp=Z,19nm,0.7s
ERPA **Erie** 41.38 358 P **P** **13 44 01.4 0.0**
baz=178
L56A **Greenwood** 41.39 1 IAmb IAmb 13 44 10.7
comp=Z,31nm,0.8s
TRQA **Tornquist** 41.40 160 P **P** **13 44 01.5 -0.3**
TRQA IAmb IAmb 13 44 11.4
comp=Z,30nm,1.0s
UCCT **U. Connecticut** 41.45 7 IAmb IAmb 13 44 11.4
comp=Z,17nm,0.9s
BINY **Binghamton** 41.52 3 P **P** **13 44 03.1 +0.5**
BINY **Binghamton** 41.52 3 P **P** **13 44 01.9 -0.7**
baz=184,SNR=5.3
L59A **Walton** 41.56 4 IAmb IAmb 13 44 12.5
comp=Z,16nm,0.7s
KSU1 **Kansas State U** 41.72 339 P **P** **13 44 04.0 -0.4**
baz=152
PLCA **Paso Flores** 41.76 171 P **P** **13 44 05.5 +0.8**
comp=Z,1.9nm,0.6s,baz=357,slow=8.8,SNR=5.7
comp=Z,1.9nm,0.6s
PLCA **Paso Flores** 41.76 171 P **P** **13 44 06.4 +1.6**
PLCA pP **pP** **13 44 11.7 +0.7**
PLCA sP **sP** **13 44 14.2 +1.1**
QUA2 **Belchertown** 41.91 7 IAmb IAmb 13 44 15.6
comp=Z,37nm,1.3s
121A **Cookes Peak, D** 42.00 322 IAmb IAmb 13 44 15.9
comp=Z,19nm,0.8s
121A **Cookes Peak, D** 42.00 322 P **P** **13 44 07.0 0.0**
baz=133,SNR=15
L61B **Northampton** 42.04 7 P **P** **13 44 05.7 -1.1**
baz=189
N38A **Joes South For** 42.17 343 IAmb IAmb 13 44 15.1
comp=Z,24nm,0.9s
319A **Douglas** 42.18 320 IAmb IAmb 13 44 18.2
comp=Z,24nm,1.2s
HRV **Adam Dziewonsk** 42.24 8 P **P** **13 44 07.2 -1.3**
baz=190
HRV **Adam Dziewonsk** 42.24 8 P **P** **13 44 09.4 +0.9**
HRV pP **pP** **13 44 15.2 +0.9**
HRV sP **sP** **13 44 17.2 +0.6**
Y22D **IRIS PASSCAL I** 42.56 324 P **P** **13 44 11.8 +0.3**
baz=136
CBKS **Cedar Bluff** 42.69 336 P **P** **13 44 12.2 -0.1**
baz=148
J58A **Remsen** 42.71 4 IAmb IAmb 13 44 21.5
comp=Z,23nm,0.8s
L40A **Anamosa** 42.83 346 IAmb IAmb 13 44 20.2
comp=Z,57nm,1.6s
J47A **Sunmer** 42.84 353 IAmb IAmb 13 44 20.8
comp=Z,51nm,1.1s
ANMO **Albuquerque** 42.93 326 P **P** **13 44 15.9 +1.4**
ANMO IAmb IAmb 13 44 22.6
comp=Z,17nm,0.8s
ANMO **Albuquerque** 42.93 326 P **P** **13 44 14.6 +0.1**
baz=137
ANMO **Albuquerque** 42.93 326 P **P** **13 44 16.1 +1.7**
ANMO pP **sP** **13 44 22.0 -0.5**
RCBR **Riachuelo** 43.16 99 LR LR 14 05 07.8
comp=Z,87nm,20.3s,baz=244,slow=40
SCIA **State Center** 43.20 344 P **P** **13 44 16.3 0.0**
baz=158

JFWS **Jewell Farm** 43.42 348 IAmb IAmb 13 44 24.9
comp=Z,25nm,0.8s
JFWS **Jewell Farm** 43.42 348 P **P** **13 44 17.1 -1.1**
baz=163
T25A **Trinidad** 43.48 330 IAmb IAmb 13 44 28.9
comp=Z,53nm,1.7s
T25A **Trinidad** 43.48 330 P **P** **13 44 18.4 -0.6**
baz=141,SNR=7.5
TUC **Tucson** 43.76 319 P **P** **13 44 22.2 +1.1**
TUC **Tucson** 43.76 319 P **P** **13 44 20.8 -0.3**
baz=130
TUC **Tucson** 43.76 319 P **P** **13 44 22.2 +1.1**
LBNH **Lisbon** 43.90 7 IAmb IAmb 13 44 31.5
comp=Z,23nm,0.8s
LBNH **Lisbon** 43.90 7 P **P** **13 44 21.5 -0.4**
baz=189,SNR=6.8
LONY **Lake Ozonia** 44.01 4 IAmb IAmb 13 44 32.6
comp=Z,17nm,0.8s
LONY **Lake Ozonia** 44.01 4 P **P** **13 44 22.6 -0.3**
baz=186,SNR=5.2
SADO **Sadowa** 44.02 360 IAmb IAmb 13 44 31.3
comp=Z,19nm,0.9s
SADO **Sadowa** 44.02 360 LR LR 14 04 10.1
comp=Z,119nm,18.5s,baz=131,slow=38
KSCO **Kaye Shedlock'** 44.11 333 P **P** **13 44 24.1 +0.2**
baz=144
FRNY **Flat Rock** 44.31 5 IAmb IAmb 13 44 34.5
comp=Z,29nm,1.1s
WBO **Williamsburg** 44.35 3 IAmb IAmb 13 44 34.3
comp=Z,22nm,0.9s
SDCO **Great Sand Dun** 44.50 329 IAmb IAmb 13 44 37.6
comp=Z,16nm,0.8s
SDCO **Great Sand Dun** 44.50 329 P **P** **13 44 27.7 +0.4**
baz=140,SNR=37
214A **Organ Pipe Nat** 44.88 317 P **P** **13 44 30.1 0.0**
baz=127
W18A **Petrified Fore** 44.95 323 P **P** **13 44 30.7 -0.1**
baz=133
G62A **West of Eustis** 45.04 8 IAmb IAmb 13 44 40.9
comp=Z,24nm,0.8s
I37A **Lemond, Waseca** 45.21 345 IAmb IAmb 13 44 38.8
comp=Z,12nm,0.8s
Q24A **Divide** 45.26 331 P **P** **13 44 32.9 -0.4**
baz=141
PKME **Peaks-Kenny Pk** 45.27 9 P **P** **13 44 32.1 -0.7**
baz=193
OGNE **Ogallala** 45.44 335 P **P** **13 44 34.3 -0.1**
baz=146,SNR=11
TRQ **Mont Tremblant** 45.61 4 IAmb IAmb 13 44 45.6
comp=Z,13nm,0.8s
G40A **Rib Lake** 45.67 349 IAmb IAmb 13 44 43.2
comp=Z,25nm,1.1s
MVCO **Mesa Verde** 45.70 326 P **P** **13 44 36.4 -0.3**
baz=136
ECSD **EROS Data Cent** 45.87 342 IAmb IAmb 13 44 45.2
comp=Z,33nm,1.6s
ECSD **EROS Data Cent** 45.87 342 P **P** **13 44 37.4 -0.3**
baz=154
E46A **Sault Ste Mari** 45.88 355 IAmb IAmb 13 44 44.7
comp=Z,16nm,0.9s
ISCO **Idaho Springs** 46.14 331 P **P** **13 44 39.6 -0.6**
baz=141
SPMN **Marine on St.** 46.20 346 P **P** **13 44 39.7 -0.5**
baz=160
E43A **Lone Tree Farm** 46.20 352 IAmb IAmb 13 44 47.3
comp=Z,16nm,0.8s
WUAZ **Wupatki** 46.21 322 P **P** **13 44 40.4 -0.3**
baz=132,SNR=20
COWI **Conover** 46.27 350 IAmb IAmb 13 44 47.6
comp=Z,9.5nm,0.7s
F36A **Milaca** 46.97 346 IAmb IAmb 13 44 52.8
comp=Z,9.9nm,0.8s
D62A **Allapoint, All** 47.08 9 P **P** **13 44 47.6 +0.5**
N23A **Red Feather La** 47.15 332 IAmb IAmb 13 44 57.7
comp=Z,21nm,1.5s
N23A **Red Feather La** 47.15 332 P **P** **13 44 48.3 +0.2**
baz=141
PDMCI **Parker Dam,Lak** 47.19 319 P **P** **13 44 47.9 -0.3**
baz=128
E38A **The Farm, Brul** 47.22 348 IAmb IAmb 13 44 55.0
comp=Z,14nm,1.0s
SUSD **Miller** 47.26 340 P **P** **13 44 48.4 -0.2**
baz=152
HMU **Henry Mountain** 47.48 325 IAmb IAmb 13 44 59.7
comp=Z,24nm,1.2s
W13A **Hualapai Mount** 47.52 320 IAmb IAmb 13 44 58.7
comp=Z,13nm,1.2s
IKP **In-Ko-Pah, Jac** 47.55 316 P **P** **13 44 49.9 -1.2**
baz=124
BC3 **Big Chuckawall** 47.68 317 P **P** **13 44 50.9 -1.3**
baz=126
O20A **White River Ci** 47.70 329 P **P** **13 44 51.3 -1.0**
baz=138
IRM **Iron Mountain** 47.77 318 P **P** **13 44 51.1 -1.7**
baz=126
MONP2 **Monument Peak** 47.90 316 P **P** **13 44 52.6 -1.4**
baz=124
PKCU **Pink Cliffs** 48.05 324 IAmb IAmb 13 45 03.6
comp=Z,12nm,1.0s
KNB **Kanab** 48.08 323 IAmb IAmb 13 45 03.8
comp=Z,27nm,1.6s
SRU **San Rafael Swe** 48.17 327 IAmb IAmb 13 45 02.9
comp=Z,13nm,1.2s
BELC **Belle Mtn. Jos** 48.25 318 P **P** **13 44 55.2 -1.3**
baz=126
TPFO **Pinon Flats** 48.33 317 P **P** **13 44 55.6 -1.6**
baz=125
PFO **Pinyon Flats O** 48.34 317 P **P** **13 44 55.2 -2.1**
baz=125
PFO **Pinyon Flats O** 48.34 317 LR LR 14 03 31.0
comp=Z,144nm,21.9s,baz=106,slow=34
RWWY **Rawlins** 48.37 331 IAmb IAmb 13 45 05.1
comp=Z,16nm,1.1s
MTPU **Mount Pierson** 48.38 324 IAmb IAmb 13 45 35.1
comp=Z,18nm,1.8s
GMRC **Granite Mounta** 48.48 319 P **P** **13 44 56.3 -2.0**
baz=126
EYMN **Ely** 48.49 348 IAmb IAmb 13 45 04.8
comp=Z,14nm,0.9s
EYMN **Ely** 48.49 348 P **P** **13 44 55.9 -2.1**
baz=162,SNR=7.6
V12A **Nelson** 48.52 320 IAmb IAmb 13 45 06.1
comp=Z,11nm,1.1s
P17A **Butcher Ranch,** 48.55 327 IAmb IAmb 13 45 07.9
comp=Z,30nm,1.7s
RDMU **Red Mountain** 48.71 329 IAmb IAmb 13 45 08.7
comp=Z,16nm,1.3s
RSSD **Black Hills** 48.89 336 P **P** **13 45 01.9 +0.5**
RSSD IAmb IAmb 13 45 11.2
comp=Z,19nm,0.9s
RSSD **Black Hills** 48.89 336 P **P** **13 44 59.7 -1.7**
baz=145
RSSD **Black Hills** 48.89 336 P **P** **13 45 02.5 +1.0**
RSSD pP **pP** **13 45 08.0 +0.8**
RSSD sP **sP** **13 45 10.6 +1.2**
TUQ **Turquoise Moun** 49.04 319 P **P** **13 45 01.0 -1.7**
baz=127
BSUT **Blindstream Ca** 49.31 328 IAmb IAmb 13 45 32.8
comp=Z,16nm,1.4s
B35A **Bob, Littlefor** 49.36 347 IAmb IAmb 13 45 11.9
comp=Z,36nm,1.7s
GSC **Goldstone, Bar** 49.55 318 P **P** **13 45 07.8 +1.3**
GSC **Goldstone, Bar** 49.55 318 P **P** **13 45 04.2 -2.2**
baz=126
SHOC **Shoshone, Teco** 49.55 319 P **P** **13 45 04.2 -2.2**
baz=127
CIS **Catalina Islan** 49.58 315 P **P** **13 45 04.3 -2.3**
baz=123
AGMN **Agassiz Nation** 49.82 345 IAmb IAmb 13 45 15.3
comp=Z,11nm,1.0s
TCUT **Toone Canyon** 50.07 328 IAmb IAmb 13 45 20.6
comp=Z,12nm,0.6s
EDW2 **Edwards Air Fo** 50.10 317 P **P** **13 45 09.1 -1.5**
baz=124
DUG **Dugway, Tooele** 50.20 326 P **P** **13 45 09.4 -2.0**
baz=133
LRMC **Laurel Mtn Rad** 50.23 318 P **P** **13 45 09.4 -2.4**
baz=125
SPR3 **Spring Creek 3** 50.27 324 IAmb IAmb 13 45 19.8
comp=Z,32nm,1.9s
SNCC **San Nicolas Is** 50.28 315 P **P** **13 45 11.0 -1.0**
baz=122
PDAR **Pinedale Array** 50.32 331 P **P** **13 45 12.7 +0.2**
comp=Z,0.5nm,0.5s,baz=146,slow=11,SNR=4.2
comp=Z,0.5nm,0.5s
MPMC **Manual Prospec** 50.44 319 P **P** **13 45 10.7 -2.7**
baz=126
HWUT **Hardware Ranch** 50.50 328 IAmb IAmb 13 45 22.1

comp=Z,24nm,1.6s
R11B **Troy Canyon, C** 50.61 322 P **P** **13 45 13.0 -1.6**
baz=129
GRAC **Grapevine Rang** 50.91 320 P **P** **13 45 13.9 -2.7**
baz=126
SBC **Santa Barbara** 51.05 316 P **P** **13 45 15.5 -2.2**
baz=122
CWC **Cottonwood Cre** 51.05 319 P **P** **13 45 16.2 -1.7**
baz=125
PKM **Mcpherson Peak** 51.35 316 P **P** **13 45 19.3 -1.0**
baz=122
DSP **Deep Springs** 51.52 320 P **P** **13 45 22.7 +1.6**
FLWY **Flagg Ranch** 51.85 331 IAmb IAmb 13 45 30.7
comp=Z,15nm,1.2s
NVAR **Mina Array Bea** 52.35 321 P **P** **13 45 28.2 +0.5**
NVAR **Mina Array Bea** 52.35 321 P **P** **13 45 28.5 +0.8**
comp=Z,1.5nm,0.7s,baz=125,slow=6.8,SNR=11
comp=Z,1.5nm,0.7s
LHV **Little Huntoon** 52.38 320 IAmb IAmb 13 45 35.6
comp=Z,16nm,1.1s
MDPB **Devils Postpil** 52.39 319 IAmb IAmb 13 45 35.9
comp=Z,14nm,1.1s
DGMT **Dagmar** 52.57 339 P **P** **13 45 27.8 -1.1**
baz=147
BMN **Battle Mountai** 52.90 323 IAmb IAmb 13 45 40.9
comp=Z,34nm,1.8s
HLID **Hailey** 53.37 328 P **P** **13 45 33.2 -1.9**
baz=133
BOZ **Bozeman (W)** 53.42 332 IAmb IAmb 13 45 44.9
comp=Z,12nm,0.9s
BOZ **Bozeman (W)** 53.42 332 P **P** **13 45 33.3 -2.0**
baz=137,SNR=14
MFID **Camas Ranch** 54.03 327 IAmb IAmb 13 45 49.8
comp=Z,12nm,1.0s
EGMT **Eagleton** 54.40 335 IAmb IAmb 13 46 08.0
comp=Z,12nm,1.2s
EGMT **Eagleton** 54.40 335 P **P** **13 45 41.2 -1.2**
baz=140
SCHQ **Schefferville** 54.95 8 IAmb IAmb 13 45 52.0
comp=Z,10nm,0.9s
SCHQ **Schefferville** 54.95 8 P **P** **13 45 45.7 -0.5**
comp=Z,2.7nm,0.7s,baz=216,slow=8.7,SNR=3.3
SCHQ LR LR 14 11 33.7
comp=Z,39nm,20.5s,baz=254,slow=38
comp=Z,2.7nm,0.7s
WVOR **Wild Horse Val** 54.98 324 IAmb IAmb 13 45 55.8
comp=Z,25nm,1.4s
MSO **Missoula** 55.42 331 IAmb IAmb 13 45 59.1
comp=Z,17nm,1.2s
MSO **Missoula** 55.42 331 P **P** **13 45 48.5 -1.3**
baz=135
YBH **Yreka Blue Hor** 57.02 322 LR LR 14 11 17.2
comp=Z,79nm,18.5s,baz=138,slow=37
J05D **Fort Rock, OR** 57.02 324 IAmb IAmb 13 46 08.5
comp=Z,28nm,1.4s
FFC **Flin Flon** 57.27 344 P **P** **13 46 02.5 -0.2**
FFC IAmb IAmb 13 46 10.8
comp=Z,12nm,0.9s
FFC **Flin Flon** 57.27 344 P **P** **13 46 02.6 -0.2**
FFC sP **sP** **13 46 10.4 -0.6**
NEW **Newport** 57.96 331 P **P** **13 46 05.8 -2.0**
baz=133
NEW **Newport** 57.96 331 LR LR 14 10 59.1
comp=Z,82nm,22.0s,baz=116,slow=36
FCC **Fort Churchill** 59.29 351 IAmb IAmb 13 46 23.8
comp=Z,17nm,1.1s
FRB **Frobisher Bay** 63.47 5 LR LR 14 15 19.7
comp=Z,68nm,21.4s,baz=187,slow=37
BBB **Bella Bella** 65.92 329 LR LR 14 18 37.1
comp=Z,55nm,19.0s,baz=124,slow=38
YKA **Yellowknife Ar** 67.38 343 P **P** **13 47 13.6 +3.3**
YKA **Yellowknife Ar** 67.38 343 P **P** **13 47 10.0 -0.3**
comp=Z,1.9nm,0.7s,baz=134,slow=5.7,SNR=19
comp=Z,1.9nm,0.7s
TOAD **Toad River Com** 68.55 336 P **P** **13 47 15.5 -2.3**
baz=129
KOTAN **Kotaneelee Air** 68.90 338 P **P** **13 47 18.2 -1.8**
baz=130
SFJD **Kangerlussuaq** 69.15 11 LR LR 14 18 00.1
comp=Z,63nm,20.8s,baz=201,slow=36
V35K **Ketchikan** 69.37 331 P **P** **13 47 21.1 -1.8**
baz=121
T35M **Bob Quinn** 69.61 333 P **P** **13 47 23.1 -1.4**
baz=123
DY2G **Dye2** 69.64 13 *i*P **P** **13 47 25.9 +1.2**
CRAG **Craig** 70.18 330 P **P** **13 47 25.8 -2.1**
baz=120
WRAK **Wrangell Islan** 70.29 332 P **P** **13 47 25.7 -2.8**
baz=121
DLBC **Dease Lake** 70.32 334 P **P** **13 47 26.7 -2.2**
baz=124
DLBC **Dease Lake** 70.32 334 P **P** **13 47 29.2 +0.3**
comp=Z,1.6nm,0.8s,baz=141,slow=5.2,SNR=2.4
DLBC LR LR 14 20 21.8
comp=Z,86nm,20.6s,baz=134,slow=38
comp=Z,1.6nm,0.8s
U33K **Whale Pass** 70.51 331 P **P** **13 47 29.0 -0.8**
baz=120
S34M **Telegraph Cree** 70.52 333 P **P** **13 47 28.6 -1.3**
baz=123
WRGLY **Wrigley** 70.73 340 P **P** **13 47 30.5 -0.5**
baz=132
R33M **Jennings River** 71.26 335 P **P** **13 47 33.3 -1.3**
baz=123
TGTN **Hyland Airport** 71.39 337 P **P** **13 47 35.0 -0.2**
baz=126
S32K **Killisnoo** 71.88 332 P **P** **13 47 37.8 -0.4**
baz=119
PPT **Papeete** 72.01 251 LR LR 14 13 59.6
comp=Z,145nm,18.1s,baz=49,slow=31
PPT2 **Papeete2** 72.01 251 *e*LR LR 14 10 02.0
comp=Z,148nm,22.2s
PPT2 *e*LR LR 14 10 07.4
comp=Z,146nm,23.2s
SIT **Sitka** 72.03 331 P **P** **13 47 38.2 -0.9**
baz=118
R32K **Eaglecrest** 72.25 333 P **P** **13 47 39.2 -1.2**
baz=120
P33M **Teslin, Yukon** 72.49 335 P **P** **13 47 40.9 -1.0**
baz=122
N32M **Quiet Lake** 73.10 336 P **P** **13 47 44.2 -1.3**
baz=122
SKAG **Skagway** 73.20 334 P **P** **13 47 45.3 -0.7**
baz=119
ICESG **Greenland Ices** 73.25 14 *i*P **P** **13 47 49.1 +2.6**
ICESG IAmb IAmb 13 47 51.7
comp=Z,8.8nm,0.6s
WHY **Whitehorse** 73.60 335 P **P** **13 47 48.1 -0.4**
baz=120
PLBC **Pleasant Camp** 73.66 333 P **P** **13 47 48.8 +0.1**
baz=118
FARO **Faro, Yukon** 73.78 337 P **P** **13 47 49.1 -0.3**
baz=122
DBIC **Dimbokro** 73.84 83 P **P** **13 47 49.5 -1.3**
comp=Z,3.9nm,0.7s,baz=257,slow=10,SNR=4.4
DBIC LR LR 14 18 35.6
comp=Z,108nm,19.3s,baz=256,slow=34
comp=Z,3.9nm,0.7s
O30N **Mendenhall** 74.17 335 P **P** **13 47 52.2 +0.4**
baz=119
M31M **Drury Creek, Y** 74.18 336 P **P** **13 47 52.2 +0.5**
baz=121
P30M **Million Dollar** 74.24 334 P **P** **13 47 53.4 +1.2**
baz=118
N31M **Braeburn, Yuko** 74.39 335 P **P** **13 47 54.0 +1.0**
baz=119
RES **Resolute Bay** 74.66 356 LR LR 14 22 13.6
comp=Z,78nm,18.3s,baz=52,slow=37
HYT **Haines Junctio** 74.81 334 P **P** **13 47 56.1 +0.6**
baz=117
N30M **Aishikik Lake** 74.93 335 P **P** **13 47 56.6 +0.4**
baz=118
PNL **Peninsula** 75.14 333 P **P** **13 47 56.8 -0.6**
baz=115
YUK6 **Outpost Mounta** 75.24 334 P **P** **13 47 56.8 -1.3**
baz=117
M30M **Minto, Yukon** 75.34 336 P **P** **13 47 59.1 +0.7**
baz=118
YUK4 **Talbot Arm** 75.54 334 P **P** **13 48 00.0 +0.2**
baz=116
M29M **Somme Creek** 75.96 336 P **P** **13 48 02.4 +0.3**
baz=117
O28M **Mount Upton** 75.97 334 P **P** **13 48 03.2 +0.8**
baz=115
YUK8 **Steele Glacier** 76.00 334 P **P** **13 48 02.7 +0.1**
baz=115
H31M **Peel River** 76.04 339 P **P** **13 48 02.6 +0.2**
baz=122

BORG	**Borgarnes**	**76.09**	**22**	LR	LR	14 19 11.5	
	comp=Z,66nm,20.9s,baz=178,slow=34						
L29M	**L29M**	**76.13**	**336**	IAmb	IAmb	13 48 13.0	
	comp=Z,43nm,1.8s						
L29M	**L29M**	**76.13**	**336**	P	P	**13 48 02.4**	**-0.6**
	baz=117						
J30M	**Hart River**	**76.13**	**338**	P	P	**13 48 02.9**	**-0.2**
	baz=119						
SUMG	**Summit**	**76.14**	**12**	*i* P	P	**13 48 07.5**	**+4.2**
SUMG				IAmb	IAmb	13 48 11.1	
	comp=Z,8.9nm,0.7s						
K29M	**Barlow Dome**	**76.23**	**337**	P	P	**13 48 03.9**	**+0.3**
	baz=118						
MDT	**Midelt**	**76.31**	**56**	LR	LR	14 18 47.1	
	comp=Z,53nm,21.9s,baz=340,slow=34						
I30M	**Mount Dempster**	**76.47**	**339**	P	P	**13 48 04.5**	**-0.5**
	baz=119						
YUK3	**Moose Creek**	**76.51**	**334**	P	P	**13 48 06.3**	**+0.9**
	baz=115						
MESA	**MESA**	**76.52**	**333**	P	P	**13 48 05.4**	**-0.1**
	baz=113						
CTG	**Chitna Glacier**	**76.56**	**334**	P	P	**13 48 06.1**	**+0.5**
	baz=114						
G31M	**Satah River**	**76.61**	**340**	P	P	**13 48 06.5**	**+1.0**
	baz=122						
F31M	**Tsiigehtchic**	**76.71**	**341**	P	P	**13 48 07.6**	**+1.5**
	baz=122						
DAWY	**Dawson**	**77.07**	**337**	P	P	**13 48 08.1**	**-0.2**
	baz=116						
A36M	**Sachs Harbour**	**77.11**	**347**	P	P	**13 48 09.2**	**+0.9**
	baz=132						
INK	**Inuvik**	**77.11**	**342**	IAmb	IAmb	13 48 17.4	
	comp=Z,16nm,1.2s						
INK	**Inuvik**	**77.11**	**342**	P	P	**13 48 09.0**	**+0.7**
	baz=123						
INK	**Inuvik**	**77.11**	**342**	P	P	**13 48 08.5**	**+0.2**
	comp=Z,3.5nm,1.1s,baz=115,slow=11,SNR=4.2						
INK				LR	LR	14 25 17.9	
	comp=Z,96nm,18.1s,baz=170,slow=38						
	comp=Z,3.5nm,1.1s						
BGLC	**Bering Glacier**	**77.11**	**332**	P	P	**13 48 08.7**	**+0.2**
	baz=112						
EPYK	**Eagle Plains**	**77.16**	**339**	IAmb	IAmb	13 48 17.9	
	comp=Z,22nm,1.6s						
EPYK	**Eagle Plains**	**77.16**	**339**	P	P	**13 48 10.1**	**+1.3**
	baz=119						
I29M	**Ogilvie Camp,**	**77.25**	**338**	P	P	**13 48 11.1**	**+1.9**
	baz=118						
G30M	**tAoh Zraii Nji**	**77.29**	**340**	P	P	**13 48 09.3**	**-0.2**
	baz=120						
M27K	**Edge Creek, AK**	**77.36**	**335**	P	P	**13 48 10.8**	**+0.7**
	baz=114						
F30M	**Barrier River**	**77.47**	**341**	P	P	**13 48 11.0**	**+0.6**
	baz=120						
MCARA	**McCarthy VSAT**	**77.47**	**334**	P	P	**13 48 11.7**	**+1.1**
	baz=112						
KAIM	**Kayak Island**	**77.57**	**332**	P	P	**13 48 11.7**	**+0.6**
	baz=111						
BCAR	**Beaver Creek A**	**77.61**	**335**	P	P	**13 48 11.3**	**0.0**
L27K	**Beaver Creek,**	**77.63**	**335**	P	P	**13 48 11.2**	**-0.2**
	baz=114						
H29M	**Whitestone**	**77.67**	**339**	IAmb	IAmb	13 48 20.9	
	comp=Z,18nm,1.1s						
H29M	**Whitestone**	**77.67**	**339**	P	P	**13 48 11.0**	**-0.6**
	baz=118						
M26K	**Nabesna, AK**	**77.86**	**335**	P	P	**13 48 13.0**	**+0.3**
	baz=113						
ESDC	**Sonseca Array**	**77.88**	**50**	P	P	**13 48 12.5**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=267,slow=5.2,SNR=2.6						
	comp=Z,0.4nm,0.6s						
G29M	**Pine Creek**	**77.88**	**340**	P	P	**13 48 12.1**	**-0.7**
	baz=118						
I28M	**Miner Creek**	**77.89**	**338**	IAmb	IAmb	13 48 24.5	
	comp=Z,12nm,1.1s						
I28M	**Miner Creek**	**77.89**	**338**	P	P	**13 48 12.9**	**0.0**
	baz=116						
BMRM	**Bremner River**	**78.03**	**333**	P	P	**13 48 13.0**	**-0.7**
	baz=111						
EGAK	**Eagle**	**78.07**	**337**	P	P	**13 48 14.4**	**+0.6**
	baz=115						
K27K	**Chicken**	**78.12**	**336**	P	P	**13 48 14.7**	**+0.6**
	baz=114						
NEEM	**North Greenlan**	**78.26**	**6**	*i* P	P	**13 48 16.5**	**+1.5**
NEEM				IAmb	IAmb	13 48 23.9	
	comp=Z,12nm,0.9s						
Q23K	**Middleton Isla**	**78.32**	**331**	P	P	**13 48 15.6**	**+0.3**
	baz=109						
EYAK	**Cordova Ski Ar**	**78.41**	**332**	P	P	**13 48 16.1**	**+0.4**
	baz=110						
E29M	**Blow River**	**78.55**	**341**	P	P	**13 48 16.5**	**+0.1**
	baz=119						
I27K	**Kandik River**	**78.59**	**338**	P	P	**13 48 17.0**	**+0.3**
	baz=114						
KLU	**Klutina**	**78.81**	**333**	P	P	**13 48 17.5**	**-0.6**
	baz=110						
H27K	**Steamboat Moun**	**78.83**	**338**	P	P	**13 48 18.5**	**+0.5**
	baz=115						
SCO	**Scoresbysund**	**78.83**	**17**	*i* P	P	**13 48 21.5**	**+3.6**
SCO				IAmb	IAmb	13 48 24.3	
	comp=Z,4.9nm,0.7s						
F28M	**Old Crow**	**78.84**	**340**	P	P	**13 48 17.1**	**-0.9**
	baz=116						
SCRK	**Sand Creek**	**78.88**	**336**	P	P	**13 48 16.4**	**-2.1**
	baz=112						
J26L	**Joseph Creek**	**78.91**	**336**	P	P	**13 48 16.3**	**-2.3**
	baz=112						
P23K	**Montague Islan**	**79.01**	**332**	P	P	**13 48 17.9**	**-1.2**
	baz=108						
I26K	**Coal Creek Min**	**79.06**	**337**	P	P	**13 48 18.6**	**-0.7**
	baz=113						
G27K	**Doyon Strip**	**79.12**	**339**	P	P	**13 48 18.1**	**-1.5**
	baz=115						
PAX	**Paxson**	**79.13**	**335**	P	P	**13 48 18.5**	**-1.3**
	baz=110						
M24K	**Tolsona, Glenn**	**79.14**	**334**	P	P	**13 48 19.0**	**-0.8**
	baz=110						
GLI	**Glacier Island**	**79.15**	**332**	P	P	**13 48 18.6**	**-1.2**
	baz=109						
E28M	**Babbage River**	**79.18**	**341**	P	P	**13 48 18.9**	**-1.0**
	baz=117						
K24K	**Donnelly Dome**	**79.55**	**335**	P	P	**13 48 21.8**	**-0.3**
	baz=110						
SCM	**Sheep Creek Mo**	**79.56**	**333**	P	P	**13 48 22.3**	**+0.2**
	baz=109						
J25K	**Salcha River,**	**79.67**	**336**	IAmb	IAmb	13 48 36.6	
	comp=Z,33nm,1.9s						
J25K	**Salcha River,**	**79.67**	**336**	P	P	**13 48 22.6**	**-0.1**
	baz=111						
E27K	**Coleen River**	**79.68**	**340**	P	P	**13 48 22.4**	**-0.3**
	baz=115						
M23K	**Glacier View**	**79.72**	**333**	P	P	**13 48 22.5**	**-0.5**
	baz=108						
D27M	**Malcolm River**	**79.93**	**341**	P	P	**13 48 23.5**	**-0.6**
	baz=116						
KNK	**Knik Glacier**	**79.94**	**333**	P	P	**13 48 23.6**	**-0.5**
	baz=108						
G26K	**Porcupine Rive**	**79.94**	**339**	P	P	**13 48 23.8**	**-0.2**
	baz=113						
WAT6	**Susitna Watana**	**79.98**	**334**	P	P	**13 48 23.8**	**-0.7**
	baz=108						
DHY	**Denali Highway**	**79.98**	**334**	P	P	**13 48 24.6**	**+0.1**
	baz=109						
SML	**Sawmill**	**80.00**	**333**	P	P	**13 48 24.5**	**-0.1**
	baz=108						
SEW	**Seward**	**80.02**	**331**	P	P	**13 48 24.8**	**+0.3**
	baz=106						
PRP	**Porcupine Dome**	**80.06**	**337**	P	P	**13 48 26.5**	**+1.6**
	baz=111						
HDA	**Harding Lake**	**80.24**	**336**	IAmb	IAmb	13 51 14.4	
	comp=Z,10.0nm,0.7s						
HDA	**Harding Lake**	**80.24**	**336**	P	P	**13 48 26.4**	**+0.7**
	baz=109						
PMR	**Palmer**	**80.30**	**333**	P	P	**13 48 27.1**	**+1.0**
	baz=107						
ILAR	**Eielson Array**	**80.34**	**336**	P	P	**13 48 25.4**	**-0.9**
ILAR	**Eielson Array**	**80.34**	**336**	P	P	**13 48 26.6**	**+0.4**
	comp=Z,1.2nm,0.8s,baz=109,slow=3.5,SNR=12						
ILAR				LR	LR	14 25 48.2	
	comp=Z,49nm,21.8s,baz=99,slow=37						
	comp=Z,1.2nm,0.8s						
F26K	**Sheenjek River**	**80.36**	**339**	P	P	**13 48 26.0**	**-0.3**
	baz=112						
BMAR	**Burnt Mountain**	**80.41**	**339**	P	P	**13 48 27.1**	**+0.4**
RC01	**Rabbit Creek A**	**80.44**	**332**	P	P	**13 48 26.8**	**0.0**
	baz=106						
H25L	**Birch Creek**	**80.44**	**338**	P	P	**13 48 27.2**	**+0.5**
	baz=111						
TORD	**Torodi Ar. Bea**	**80.47**	**77**	P	P	**13 48 26.9**	**-1.0**
	comp=Z,0.8nm,0.9s,baz=282,slow=4.3,SNR=4.1						
TORD				LR	LR	14 21 47.4	
	comp=Z,119nm,21.4s,baz=309,slow=34						
	comp=Z,0.8nm,0.9s						
POKR	**Poker Plat Res**	**80.67**	**336**	P	P	**13 48 28.5**	**+0.5**
	baz=109						
G25K	**Bearman Lake**	**80.72**	**338**	P	P	**13 48 30.5**	**+2.3**
	baz=110						
F25K	**Christian Rive**	**80.85**	**339**	P	P	**13 48 27.9**	**-1.1**
	baz=111						
MCK	**McKinley**	**80.85**	**335**	P	P	**13 48 29.7**	**+0.7**
	baz=107						
MDM	**Murphy Dome**	**80.94**	**336**	IAmb	IAmb	13 51 09.4	
	comp=Z,9.7nm,0.8s						
C27K	**Jago River**	**80.97**	**341**	P	P	**13 48 29.0**	**-0.5**
	baz=113						
KDAK	**Kodiak Island**	**80.99**	**329**	P	P	**13 48 30.5**	**+0.7**
	baz=103						
KDAK	**Kodiak Island**	**80.99**	**329**	LR	LR	14 25 42.8	
	comp=Z,66nm,20.2s,baz=124,slow=37						
SUA	**Susitna One**	**81.01**	**332**	P	P	**13 48 30.8**	**+0.8**
	baz=105						
E25K	**Arctic Village**	**81.02**	**340**	P	P	**13 48 30.3**	**+0.4**
	baz=111						
H24K	**Noodor Dome**	**81.08**	**337**	P	P	**13 48 30.6**	**+0.4**
	baz=109						
Q20K	**Shuyak Island**	**81.09**	**329**	P	P	**13 48 30.8**	**+0.4**
	baz=104						
NEA2	**Nenana**	**81.17**	**336**	IAmb	IAmb	13 50 55.5	
	comp=Z,11nm,0.6s						
NEA2	**Nenana**	**81.17**	**336**	P	P	**13 48 31.7**	**+1.0**
	baz=107						
G24K	**Hadweenzic Riv**	**81.22**	**338**	P	P	**13 48 31.1**	**+0.2**
	baz=109						
OHAK	**Old Harbor**	**81.23**	**328**	P	P	**13 48 31.5**	**+0.4**
	baz=102						
EKA	**Eskdalemuir Ar**	**81.31**	**34**	P	P	**13 48 30.9**	**-0.6**
	comp=Z,2.2nm,1.0s,baz=246,slow=4.6,SNR=2.6						
	comp=Z,2.2nm,1.0s						
I23K	**Minto, Yukon-K**	**81.46**	**336**	IAmb	IAmb	13 51 04.0	
	comp=Z,17nm,1.3s						
I23K	**Minto, Yukon-K**	**81.46**	**336**	P	P	**13 48 32.4**	**+0.2**
	baz=107						
C26K	**Camden Bay**	**81.47**	**341**	P	P	**13 48 31.9**	**-0.3**
	baz=112						
O20K	**Slope Mountain**	**81.55**	**331**	P	P	**13 48 32.9**	**+0.1**
	baz=104						
SII	**Sitkinak Islan**	**81.57**	**327**	P	P	**13 48 32.6**	**-0.4**
	baz=102						
N20K	**Mount Spurr**	**81.62**	**332**	P	P	**13 48 34.3**	**+1.0**
	baz=104						
F24K	**Squaw Lake**	**81.64**	**339**	P	P	**13 48 33.0**	**-0.1**
	baz=105						
D25K	**Kavik River**	**81.73**	**341**	P	P	**13 48 35.5**	**+1.9**
	baz=111						
H23K	**Yukon River**	**81.73**	**337**	P	P	**13 48 35.0**	**+1.4**
	baz=107						
Q19K	**Cape Douglas,**	**81.79**	**330**	P	P	**13 48 35.5**	**+1.3**
	baz=102						
BPAW	**Bear Paw Mtn.**	**81.83**	**335**	P	P	**13 48 34.8**	**+0.6**
	baz=106						
MLY	**Manley**	**81.98**	**336**	IAmb	IAmb	13 50 52.2	
	comp=Z,7.3nm,0.6s						
MLY	**Manley**	**81.98**	**336**	P	P	**13 48 34.9**	**-0.2**
	baz=106						
E24K	**Your Creek**	**82.03**	**339**	P	P	**13 48 35.6**	**+0.3**
	baz=108						
PPLA	**Purkeypile**	**82.03**	**334**	P	P	**13 48 36.4**	**+0.9**
	baz=104						
CAST	**Castle Rocks**	**82.12**	**334**	P	P	**13 48 36.6**	**+0.8**
	baz=104						
G23K	**Banaza Creek**	**82.18**	**338**	P	P	**13 48 36.9**	**+0.8**
	baz=107						
M20K	**Styx River**	**82.22**	**333**	P	P	**13 48 38.1**	**+1.7**
	baz=103						
CHUM	**Lake Minchumin**	**82.34**	**335**	P	P	**13 48 38.5**	**+1.7**
	baz=104						
COLD	**Coldfoot**	**82.40**	**338**	P	P	**13 48 38.5**	**+1.4**
	baz=107						
H22K	**Ishtalitna Cre**	**82.48**	**337**	P	P	**13 48 38.7**	**+1.1**
	baz=105						
D24K	**Happy Valley**	**82.50**	**340**	P	P	**13 48 38.0**	**+0.4**
	baz=108						
I21K	**Tanana**	**82.53**	**336**	P	P	**13 48 39.0**	**+1.2**
	baz=105						
TOLK	**Toolik Lake Re**	**82.59**	**340**	P	P	**13 48 39.7**	**+1.6**
	baz=108						
N19K	**Bonanza Creek**	**82.61**	**331**	P	P	**13 48 39.5**	**+1.0**
	baz=102						
C24K	**Franklin Bluff**	**82.64**	**341**	P	P	**13 48 40.2**	**+1.9**
	baz=108						
P18K	**Big Mountain,**	**82.69**	**330**	P	P	**13 48 39.4**	**+0.6**
	baz=101						
L20K	**Farewell, AK**	**82.69**	**333**	P	P	**13 48 40.1**	**+1.4**
	baz=103						
O18K	**Koktuh Hills**	**82.77**	**330**	P	P	**13 48 41.1**	**+1.9**
	baz=101						
M19K	**Big River Lodg**	**82.80**	**332**	P	P	**13 48 40.7**	**+1.4**
	baz=102						
G22K	**Bettles**	**82.80**	**338**	P	P	**13 48 41.4**	**+2.2**
	baz=105						
DAG	**Danmarks Havn**	**82.84**	**12**	*i* P	P	**13 48 43.0**	**+3.8**
DAG				IAmb	IAmb	13 48 45.5	
	comp=Z,4.8nm,0.8s						
K20K	**Telida**	**82.97**	**334**	P	P	**13 48 41.3**	**+1.1**
	baz=103						
H21K	**Melozitna Rive**	**82.98**	**336**	P	P	**13 48 41.6**	**+1.4**
	baz=104						
D23K	**Nanushuk River**	**83.08**	**340**	P	P	**13 48 42.5**	**+1.9**
	baz=106						
J20K	**Nowinta River**	**83.19**	**335**	P	P	**13 48 43.2**	**+1.9**
	baz=103						
F22K	**John River**	**83.21**	**338**	P	P	**13 48 42.4**	**+1.1**
	baz=105						
E22K	**Anaktuvuk Pass**	**83.24**	**339**	P	P	**13 48 41.8**	**+0.3**
	baz=105						
N18K	**Kilae Creek**	**83.26**	**331**	P	P	**13 48 43.5**	**+1.8**
	baz=101						
Q16K	**King Salmon**	**83.28**	**329**	P	P	**13 48 43.0**	**+1.2**
	baz=100						
C23K	**Itkillik River**	**83.30**	**341**	P	P	**13 48 43.3**	**+1.6**
	baz=107						
M18K	**Stony River**	**83.39**	**332**	P	P	**13 48 44.7**	**+2.4**
	baz=101						
I20K	**Naaghedeneel**	**83.47**	**335**	P	P	**13 48 45.6**	**+2.9**
	baz=102						
G21K	**Allakaket**	**83.47**	**337**	P	P	**13 48 45.3**	**+2.6**
	baz=104						
R16K	**Pilot Point**	**83.58**	**328**	P	P	**13 48 44.9**	**+1.6**
	baz=99						
F21K	**Alatna River**	**83.63**	**338**	P	P	**13 48 46.4**	**+2.9**
	baz=104						
O17K	**Koliganek Bris**	**83.69**	**330**	P	P	**13 48 45.7**	**+1.8**
	baz=100						
D22K	**Ayikyak River**	**83.75**	**339**	P	P	**13 48 46.7**	**+2.6**
	baz=105						
H20K	**Anotleneega Mo**	**83.79**	**336**	P	P	**13 48 46.1**	**+1.8**
	baz=102						
J19K	**Poorman**	**83.79**	**334**	P	P	**13 48 46.7**	**+2.4**
	baz=101						
N17K	**Nushagak Hills**	**83.86**	**331**	P	P	**13 48 46.1**	**+1.3**
	baz=100						
VNA3	**Neumayer Olymp**	**83.88**	**162**	⇑P	P	**13 48 44.2**	**-0.5**
	comp=Z,15nm,0.8s						
L18K	**Grite Mounta**	**83.92**	**333**	P	P	**13 48 47.1**	**+2.0**
	baz=100						
P16K	**Nushagak River**	**84.02**	**329**	P	P	**13 48 47.1**	**+1.5**
	baz=99						
E21K	**Killik River**	**84.10**	**339**	P	P	**13 48 48.9**	**+3.0**
	baz=103						
M17K	**Holitna River**	**84.13**	**332**	P	P	**13 48 48.2**	**+2.1**
	baz=99						
J18K	**Innoko River**	**84.16**	**334**	P	P	**13 48 48.6**	**+2.3**
	baz=100						
O16K	**Kokwok River B**	**84.16**	**330**	P	P	**13 48 47.1**	**+0.8**
	baz=99						
CHNA	**Chernabura Isl**	**84.31**	**325**	P	P	**13 48 47.9**	**+0.7**
	baz=97						
B22K	**Teshekpuk Lake**	**84.36**	**341**	P	P	**13 48 47.7**	**+0.6**
	baz=104						
H19K	**Roundabout Mou**	**84.43**	**336**	P	P	**13 48 47.6**	**+0.1**
	baz=101						
F20K	**Avaraart Lake**	**84.44**	**337**	P	P	**13 48 47.9**	**+0.3**
	baz=102						
GCSA	**Galena City Sc**	**84.47**	**335**	P	P	**13 48 47.8**	**+0.1**
	baz=100						
S14K	**Fog Glacier**	**84.47**	**326**	P	P	**13 48 47.4**	**-0.7**
	baz=97						
VNA2	**Neumayer--Watz**	**84.47**	**162**	⇑P	P	**13 48 51.1**	**+3.4**
	comp=Z,5.3nm,0.8s,baz=291,slow=4.7						
C21K	**Knifeblade Rid**	**84.55**	**340**	P	P	**13 48 47.7**	**-0.5**
	baz=103						
B21K	**Ikpikpuk River**	**84.59**	**340**	P	P	**13 48 48.6**	**+0.3**
	baz=103						
N16K	**Nishlik Lake**	**84.63**	**331**	P	P	**13 48 49.7**	**+0.9**
	baz=98						
L17K	**Donlin**	**84.66**	**332**	P	P	**13 48 50.0**	**+1.2**
	baz=99						
K17K	**Iditarod**	**84.75**	**333**	P	P	**13 48 50.2**	**+1.0**
	baz=99						
M16K	**Timber Creek**	**84.80**	**331**	P	P	**13 48 49.8**	**+0.2**
	baz=98						
G19K	**Purcell Mounta**	**84.81**	**336**	P	P	**13 48 50.2**	**+0.7**
	baz=100						
E20K	**Nigu River**	**84.86**	**339**	P	P	**13 48 50.0**	**+0.2**
	baz=101						
SDPT	**Sand Point**	**84.88**	**325**	P	P	**13 48 52.3**	**+2.3**
	baz=96						
O15K	**Ungalikthiuk R**	**84.98**	**329**	P	P	**13 48 52.0**	**+1.5**
	baz=97						
A22K	**Sinclair Lake**	**85.02**	**341**	P	P	**13 48 51.7**	**+1.3**
	baz=103						
E19K	**Redstone River**	**85.10**	**338**	P	P	**13 48 52.2**	**+1.3**
	baz=100						
D20K	**Etivluk River**	**85.11**	**339**	P	P	**13 48 53.0**	**+2.0**
	baz=101						
L16K	**Owhat River**	**85.14**	**332**	P	P	**13 48 53.3**	**+2.1**
	baz=98						
H18K	**Honhosa River**	**85.16**	**335**	P	P	**13 48 52.8**	**+1.5**
	baz=99						
F19K	**Shaleruckik Mo**	**85.20**	**337**	P	P	**13 48 51.9**	**+0.5**
	baz=100						
J17K	**VABM Dome**	**85.20**	**334**	P	P	**13 48 52.3**	**+0.8**
	baz=98						
N15K	**Kwethluk River**	**85.24**	**330**	P	P	**13 48 52.5**	**+0.7**
	baz=97						
G18K	**Tagagawik**	**85.39**	**336**	P	P	**13 48 52.7**	**+0.3**
	baz=99						
NOR	**Nord**	**85.48**	**7**	*i* P	P	**13 48 57.4**	**+4.8**
NOR				IAmb	IAmb	13 49 01.9	
	comp=Z,2.5nm,0.8s						
B20K	**Meade River**	**85.54**	**340**	P	P	**13 48 54.1**	**+1.1**
	baz=100						
M15K	**Kasigluk River**	**85.60**	**331**	P	P	**13 48 54.2**	**+0.7**
	baz=96						
D19K	**Kuna River**	**85.61**	**339**	P	P	**13 48 53.7**	**+0.2**
	baz=99						
O14K	**Tigyukauivet M**	**85.73**	**329**	P	P	**13 48 54.6**	**+0.5**
	baz=96						
H17K	**Granite Mounta**	**85.78**	**335**	P	P	**13 48 54.0**	**-0.3**
	baz=98						
J16K	**Anvik River**	**85.87**	**333**	P	P	**13 48 54.8**	**-0.1**
	baz=97						
F18K	**Selawik**	**85.90**	**337**	P	P	**13 48 54.9**	**0.0**
	baz=98						
I17K	**Unalakleet**	**85.98**	**334**	P	P	**13 48 55.8**	**+0.5**
	baz=97						
N14K	**Kuskokwak Cree**	**86.01**	**330**	P	P	**13 48 56.0**	**+0.5**
	baz=96						
SNAA	**Sanae**	**86.09**	**162**	⇑P	P	**13 48 55.6**	**-0.2**
	comp=Z,168nm,1.0s						
SNAA	**Sanae**	**86.09**	**162**	P	P	**13 48 54.2**	**-1.6**
	comp=Z,2.0nm,0.9s,baz=249,slow=4.7,SNR=3.7						
SNAA				LR	LR	14 26 50.0	
	comp=Z,54nm,21.3s,baz=12,slow=35						
	comp=Z,2.0nm,0.9s						
L15K	**Ungalak Mounta**	**86.09**	**332**	P	P	**13 48 56.4**	**+0.4**
	baz=96						
G17K	**Kiwalik Mounta**	**86.16**	**336**	P	P	**13 48 55.7**	**-0.6**
	baz=97						
K15K	**Wolf Creek Mou**	**86.18**	**332**	P	P	**13 48 57.0**	**+0.7**
	baz=96						
C19K	**Lookout Ridge**	**86.23**	**339**	P	P	**13 48 57.8**	**+1.2**
	baz=98						
E18K	**Tukpahlearik C**	**86.38**	**337**	P	P	**13 48 58.7**	**+1.4**
	baz=97						
F17K	**Baldwin Pennin**	**86.51**	**336**	P	P	**13 48 59.1**	**+1.2**
	baz=96						
L14K	**Kuka Creek**	**86.63**	**331**	P	P	**13 48 59.5**	**+0.9**
	baz=95						
H16K	**Elim**	**86.73**	**335**	P	P	**13 48 58.5**	**-0.6**
	baz=95						
C18K	**Utukok River**	**86.75**	**339**	P	P	**13 48 59.0**	**-0.2**
	baz=97						
E17K	**Hotham Inlet**	**86.81**	**337**	P	P	**13 49 00.1**	**+0.7**
	baz=96						
G16K	**Koyuk River**	**86.85**	**335**	P	P	**13 49 00.3**	**+0.7**
	baz=95						
M13K	**Dall Lake**	**86.88**	**330**	P	P	**13 49 00.7**	**+0.9**
	baz=94						
J14K	**Nanvaranak Lak**	**87.15**	**333**	P	P	**13 49 01.5**	**+0.4**
	baz=94						
D17K	**Noatak River**	**87.36**	**338**	P	P	**13 49 01.7**	**-0.3**
	baz=95						
C17K	**DeLong Mountai**	**87.46**	**338**	P	P	**13 49 03.4**	**+0.8**
	baz=95						
K13K	**Kusilvak Mount**	**87.61**	**332**	P	P	**13 49 03.7**	**+0.3**
	baz=93						
TROLL	**Troll, Antarti**	**87.81**	**162**	⇑P	P	**13 49 04.8**	**+0.5**
	comp=Z,630nm,0.8s						
F15K	**North Star Dit**	**87.83**	**336**	P	P	**13 49 04.7**	**+0.3**
	baz=93						
C16K	**Lisburne Hills**	**88.25**	**338**	P	P	**13 49 04.3**	**-1.9**
	baz=93						
UNV	**Unalaska Valle**	**88.27**	**324**	P	P	**13 49 05.9**	**-0.7**
	baz=91						
M11K	**Mekoryuk**	**88.29**	**330**	P	P	**13 49 06.7**	**+0.1**
	baz=92						
F14K	**Arctic Creek**	**88.52**	**335**	P	P	**13 49 08.1**	**+0.5**
	baz=92						
DAVOX	**Davos/Dischmat**	**88.58**	**43**	LR	LR	14 25 04.4	
	comp=Z,28nm,20.2s,baz=262,slow=33						
TNA	**Tin City**	**89.18**	**335**	P	P	**13 49 11.0**	**+0.3**
	baz=90						
NOA	**NORSAR Array B**	**89.45**	**29**	P	P	**13 49 11.3**	**-0.8**
	comp=Z,0.6nm,0.8s,baz=268,slow=4.5,SNR=2.1						
NOA				LR	LR	14 25 24.1	
	comp=Z,43nm,22.0s,baz=310,slow=33						
	comp=Z,0.6nm,0.8s						
P08K	**Saint George I**	**90.02**	**326**	P	P	**13 49 15.5**	**+0.7**
	baz=89						
SPIA	**Saint Paul Isl**	**90.39**	**327**	P	P	**13 49 17.3**	**+0.8**
	baz=88						
SPITS	**Spitsbergen Ar**	**90.48**	**12**	P	P	**13 49 16.8**	**+0.2**
	comp=Z,3.4nm,0.9s,baz=212,slow=5.1,SNR=1.2						
SPITS				LR	LR	14 32 00.1	
	comp=Z,37nm,19.0s,baz=250,slow=37						
	comp=Z,3.4nm,0.9s						
CLL	**Collm**	**90.60**	**39**	*e*P	P	**13 49 19.0**	**+1.3**
CLL				*i* PP	PP	**13 52 53.2**	**+0.6**
QSPA	**South Pole Qui**	**90.61**	**180**	P	P	**13 49 18.8**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=159,slow=3.8,SNR=2.5						
	comp=Z,1.2nm,0.9s						
HFS	**Hagfors**	**90.69**	**30**	P	P	**13 49 16.8**	**-1.0**
	comp=Z,1.1nm,0.8s,baz=256,slow=12,SNR=2.0						
HFS				LR	LR	14 25 36.6	
	comp=Z,97nm,20.7s,baz=273,slow=33						
	comp=Z,1.1nm,0.8s						
GAMB	**Gambell**	**90.85**	**334**	P	P	**13 49 19.3**	**+0.8**
	baz=87						
VAE	**Valguarnera**	**92.10**	**53**	LR	LR	14 27 56.0	
	comp=Z,138nm,20.1s,baz=330,slow=34						
VRAC	**Vranov**	**93.01**	**41**	LR	LR	14 28 13.8	
	comp=Z,37nm,20.8s,baz=267,slow=34						
ELIB	**Princess Elisa**	**94.25**	**162**	*dx*	x	13 49 43.7	
ARCES	**ARCESS Array B**	**94.41**	**20**	P	P	**13 49 32.5**	**-2.4**
	comp=Z,2.9nm,0.8s,baz=290,slow=2.7,SNR=2.5						
ARCES				LR	LR	14 28 42.3	
	comp=Z,34nm,19.9s,baz=282,slow=33						
	comp=Z,2.9nm,0.8s						
FINES	**FINESS Array B**	**96.52**	**28**	P	P	**13 49 42.7**	**-2.0**
	comp=Z,0.7nm,0.9s,baz=224,slow=7.8,SNR=1.6						
FINES				LR	LR	14 29 36.2	
	comp=Z,82nm,19.4s,baz=260,

KSRS	**Korea Array**	**134.89**	**330**	PKhKP	PKPpre	13 55 28.2			
	comp=Z,0.6nm,0.7s,baz=17,slow=0.9,SNR=2.3								
HHC	**Hu-ho-hao-te**	**137.74**	**348**	*eP*	**PKPdf**	**13 55 39.8**	**-0.4**		
ASAR	**Alice Springs**	**140.96**	**232**	PKhKP	PKPpre	13 55 39.5			
	comp=Z,0.2nm,0.7s,baz=119,slow=3.6,SNR=6.5								
ASAR				PKP	**PKPdf**	**13 55 46.2**	**-0.2**		
	comp=Z,0.4nm,0.4s,baz=119,slow=3.8,SNR=15								
WRA	**Warramunga Arr**	**142.40**	**237**	PKhKP	PKPpre	13 55 44.1			
	comp=Z,1.0nm,0.6s,baz=121,slow=2.8,SNR=6.3								
NJ2	**Nanjing**	**143.57**	**335**	*eP*	**PKPdf**	**13 55 51.1**	**+0.3**		
NJ2				pmax	pmax				
	comp=Z,13nm,0.6s								
XAN	**Xi'an**	**144.85**	**349**	PKPbc	PKPbc	13 55 52.4	+0.4		
PZH	**PanZhiHua**	**153.08**	**359**	PKPbc	**PKPdf**	**13 56 05.3**	**-1.3**		
CMAR	**Chiang Mai Arr**	**160.95**	**7**	PKP	**PKPdf**	**13 56 16.8**	**+0.2**		
	comp=Z,0.2nm,0.5s,baz=306,slow=2.2,SNR=1.4								
CMAR				PKPab	**PKPab**	**13 56 58.9**	**-0.1**		
	comp=Z,1.7nm,0.8s,baz=331,slow=5.7,SNR=5.1								

KRNET 22 13:38:14.5±0.1, 40.16N×70.60E, h10km, mb2.2, 13C-7D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BTK	**Batken**	**0.20**	**120**	⇑*eP*	Pg	13 38 17.9	-0.7
	baz=21						
BTK				⇑*eS*	Sg	13 38 21.3	-0.2
	baz=21						
DRK	**Karamyk**	**1.15**	**126**	⇑*eP*	Pg	13 38 36.5	0.0
	baz=26						
DRK				⇑*eS*	Sn	13 38 52.5	-0.2
	baz=26						
GAR	**Garm**	**1.18**	**191**	⇑*iP*	Pb	13 38 36.8	-0.1
	baz=91						
GAR				⇑*iS*	Sn	13 38 53.7	+0.5
	baz=91						
TRKS	**Terek-Say**	**1.43**	**16**	⇑*iP*	Pb	13 38 41.1	-0.3
	baz=18						
TRKS				⇑*iS*	Sb	13 38 59.8	+0.1
	baz=18						
CHGR	**Chuyangaron**	**1.87**	**217**	⇑*iP*	Pb	13 38 49.4	+0.7
	baz=17						
CHGR				⇑*iS*	Sg	13 39 15.0	+0.5
	baz=17						
ARK	**Arkit**	**1.94**	**32**	⇓*iP*	Pb	13 38 50.7	+0.8
	baz=32						
ARK				⇓*iS*	Sg	13 39 17.3	+0.5
	baz=32						
ARSB	**Arslanbob**	**2.15**	**56**	⇑*eP*	Pb	13 38 53.7	+0.1
	baz=56						
ARSB				⇑*eS*	Sg	13 39 22.3	-1.4
	baz=56						
SFK	**Sufi-Kurgan**	**2.23**	**93**	⇓*eP*	Pb	13 38 54.9	-0.1
	baz=93						
SFK				⇓*eS*	Sg	13 39 24.9	-1.3
	baz=93						
MNAS	**Manas**	**2.73**	**31**	⇓*iP*	Pb	13 39 01.7	-1.8
	baz=31						
MNAS				⇓*iS*	Sb	13 39 36.8	-0.4
	baz=31						
KK31	**Karatay Array**	**2.94**	**359**	⇑Pn	Pb	13 39 04.4	-2.6
	0.5nm,0.3s,baz=171,slow=12,SNR=7.8						
KK31				⇓Sn	Sg	13 39 47.2	-1.9
	3.5nm,0.7s,baz=176,slow=29,SNR=7.4						

ISU 22 13:38:51.6, 39.84N×70.39E, h24km, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHMI	**Chimion**	**0.97**	**63**	P	Pn	13 39 09.9	+0.1
CHMI				S	Sn	13 39 24.1	+1.3
FRG	**Fergana**	**1.20**	**63**	P	Pb	13 39 14.2	+0.6
FRG				S	Sb	13 39 31.2	+2.5
CHMG	**Chimgan**	**1.73**	**351**	P	Pb	13 39 23.4	+0.6
CHMG				S	Sb	13 39 47.2	+3.0

*IDC **22** 13:51:02.9±1.4, 36.62N×54.64E, h0km, mb3.4/7, mbtmp3.6/12, ML3.5/5, MS3.4/3, Error ellipse: s-maj=26.9km s-min=13.3km az=163.0*
*TEH **22** 13:51:03.0, 36.62N×54.69E, h7km, ML4.0*
ISC 22 13:51:04.4±0.6, 36.64N±0.05×54.71E±0.04, h10km, n63, σ1§81/62, mb3.5/8, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGLO	**Ghaloghah**	**0.72**	**259**	Pg	**Pg**	**13 51 17.9**	**-0.6**
IMND	**Minoodasht**	**0.83**	**42**	Pg	**Pg**	**13 51 19.2**	**-1.3**
IANJ	**Anjilo**	**1.34**	**209**	Pg	**Pn**	**13 51 29.0**	**-0.4**
IALA	**Alasht**	**1.63**	**251**	Pg	**Pb**	**13 51 34.4**	**-0.4**
IFIR	**Firoozkooh**	**1.87**	**238**	Pn	**Pb**	**13 51 38.4**	**-0.5**
ILAS	**Lasjerd**	**1.90**	**229**	Pn	**Pb**	**13 51 39.1**	**-0.2**
IPRN	**Peran**	**1.95**	**259**	Pn	**Pb**	**13 51 39.5**	**-0.7**
SBZV	**Sabzevar**	**2.35**	**95**	Pn	**Pn**	**13 51 45.3**	**+2.0**
IDMV	**Damavand**	**2.41**	**245**	Pn	**Pn**	**13 51 46.1**	**+1.9**
MZPU	**Pul - Mazandar**	**2.54**	**266**	Pn	**Pn**	**13 51 48.1**	**+2.2**
ISFR	**Sfrayin**	**2.67**	**80**	Pn	**Pn**	**13 51 50.0**	**+2.3**
TEHA	**Amirabad Tehra**	**2.83**	**253**	Pn	**Pn**	**13 51 52.3**	**+2.4**
TEH	**Tehran**	**2.84**	**252**	Pn	**Pn**	**13 51 52.2**	**+2.2**
IVRN	**Varamin**	**2.93**	**237**	Pn	**Pn**	**13 51 53.6**	**+2.5**
KLST	**Kelardasht - M**	**2.94**	**269**	Pn	**Pn**	**13 51 53.5**	**+2.0**
GEYT	**Alibeck**	**3.01**	**64**	Pn	**Pn**	**13 51 54.1**	**+2.0**
	14nm,0.3s,baz=248,slow=14,SNR=135						
GEYT				Sn	**Sn**	**13 52 29.6**	**+1.3**
	13nm,0.3s,baz=234,slow=14,SNR=1.8						
GEYT				Lg	Lg	13 52 40.1	
	12nm,0.3s,baz=257,slow=32,SNR=4.2						
GEYT				LR	LR	13 53 31.2	
	comp=Z,170nm,20.8s,baz=340,slow=48						
	23nm,0.4s						
IHSB	**Hasanabad**	**3.03**	**248**	Pn	**Pn**	**13 51 54.8**	**+2.3**
ISFB	**Sefidab**	**3.04**	**222**	Pn	**Pn**	**13 51 53.9**	**+1.1**
TNSJ	**Nastanj**	**3.09**	**149**	Pn	**Pn**	**13 51 54.4**	**+1.1**
IEMG	**Emamgholi**	**3.25**	**75**	Pn	**Pn**	**13 51 58.0**	**+2.3**
IAKL	**Akhelmad**	**3.25**	**89**	Pn	**Pn**	**13 51 58.1**	**+2.3**
IPAY	**Payeh**	**3.46**	**92**	Pn	**Pn**	**13 52 01.1**	**+2.6**
IQOM	**Qom**	**3.46**	**240**	Pn	**Pn**	**13 51 59.9**	**+1.2**
ANAR	**Anarak**	**3.54**	**193**	Pn	**Pn**	**13 52 00.4**	**+0.9**
TKDS	**Koohdasht(Taba**	**3.61**	**146**	Pn	**Pn**	**13 52 02.5**	**+1.9**
IMOG	**Moghan**	**3.77**	**97**	Pn	**Pn**	**13 52 05.2**	**+2.2**
IKRD	**Kardeh**	**3.86**	**87**	Pn	**Pn**	**13 52 06.6**	**+2.5**
JIR1	**Jirandeh**	**3.95**	**272**	Pn	**Pn**	**13 52 07.0**	**+1.8**
TPRV	**Parvadeh(Tabas**	**3.95**	**155**	Pn	**Pn**	**13 52 06.8**	**+1.5**
IRAZ	**Razeghan**	**4.07**	**254**	Pn	**Pn**	**13 52 09.0**	**+2.1**
IKLH	**Kolahrood**	**4.12**	**210**	Pn	**Pn**	**13 52 10.4**	**+1.7**
IZEF	**Zefreh**	**4.22**	**208**	Pn	**Pn**	**13 52 10.3**	**+1.2**
TBJM	**Torbat-e-JAM**	**4.76**	**105**	Pn	**Pn**	**13 52 18.5**	**+2.1**
IGAR	**Gharneh**	**4.76**	**208**	Pn	**Pn**	**13 52 18.9**	**+2.3**
AFRZ	**Afriz**	**4.77**	**131**	Pn	**Pn**	**13 52 18.8**	**+2.2**
ISAD	**Sadrabad**	**4.79**	**190**	Pn	**Pn**	**13 52 17.9**	**+1.0**
HAGD	**Aghdareh**	**4.88**	**250**	Pn	**Pn**	**13 52 20.6**	**+2.5**
ITEG	**Tejag**	**5.00**	**137**	Pn	**Pn**	**13 52 22.4**	**+2.7**
IPIR	**Pirpir**	**5.05**	**220**	Pn	**Pn**	**13 52 23.2**	**+2.7**
IBAF	**Bafgh**	**5.09**	**172**	Pn	**Pn**	**13 52 22.7**	**+1.8**
IRAM	**Ramesheh**	**5.19**	**202**	Pn	**Pn**	**13 52 24.4**	**+2.0**
IMEH	**Mehriz**	**5.24**	**181**	Pn	**Pn**	**13 52 24.5**	**+1.5**
IKOO	**Kooshah**	**5.50**	**139**	Pn	**Pn**	**13 52 28.7**	**+2.0**
JHBN	**Jahan bin**	**5.52**	**218**	Pn	**Pn**	**13 52 29.7**	**+2.7**
IDAH	**Dahanechah**	**5.76**	**131**	Pn	**Pn**	**13 52 31.5**	**+1.3**
IHSH	**Hashtrud**	**6.00**	**279**	Pn	**Pn**	**13 52 35.6**	**+2.1**
KLNJ	**Kolanjah**	**6.19**	**206**	Pn	**Pn**	**13 52 38.3**	**+2.1**
IHRS	**Heris**	**6.33**	**288**	Pn	**Pn**	**13 52 39.6**	**+1.6**
IMRD	**Marand**	**7.44**	**289**	Pn	**Pn**	**13 52 55.2**	**+2.0**
AKTO	**Aktyubinsk**	**13.99**	**9**	Pn	**Pn**	**13 54 19.6**	**-3.1**
	0.5nm,0.3s,baz=191,slow=10,SNR=9.5						
AKTO				Sn	Sn	13 56 48.9	-9.1
	0.3nm,0.3s,baz=172,slow=15,SNR=2.6						
	3.2nm,0.6s						
AAK	**Ala-Archa**	**16.36**	**62**	LR	LR	14 02 09.1	
	comp=Z,44nm,18.2s,baz=257,slow=41						
BRTR	**Keskin Array B**	**16.85**	**287**	Pn	**Pn**	**13 55 01.8**	**+1.3**
	0.1nm,0.3s,baz=89,slow=13,SNR=1.5						
BRTR				Lg	Lg	13 59 56.2	
	0.1nm,0.3s,baz=236,slow=26,SNR=4.2						
	0.4nm,0.3s						
BVAR	**Borovoye Array**	**19.73**	**29**	P	**P**	**13 55 34.5**	**+0.5**
	0.2nm,0.3s,baz=213,slow=11,SNR=28						
	2.8nm,0.4s						
ARU	**Arti**	**19.97**	**6**	P	**P**	**13 55 36.7**	**+0.1**
	baz=314,slow=9.7,SNR=3.7						
	2.3nm,0.3s						
KURBB	**Kurchatov Arra**	**22.07**	**43**	P	**P**	**13 55 59.7**	**+0.4**
	0.5nm,0.6s,baz=244,slow=11,SNR=2.7						
	0.5nm,0.6s						
MKAR	**Makanchi Array**	**22.84**	**55**	P	**P**	**13 56 08.6**	**+0.8**
	0.4nm,0.6s,baz=257,slow=5.8,SNR=1.4						
	0.4nm,0.6s						
AKASG	**Malin Array Be**	**23.03**	**316**	P	**P**	**13 56 08.7**	**-0.8**
	0.4nm,0.4s,baz=123,slow=9.3,SNR=1.6						
	0.4nm,0.4s						
EKA	**Eskdalemuir Ar**	**42.94**	**315**	P	**P**	**13 59 03.4**	**+0.1**
	0.4nm,0.5s,baz=96,slow=10,SNR=1.7						
	0.4nm,0.5s						
SPITS	**Spitsbergen Ar**	**44.64**	**350**	P	**P**	**13 59 17.1**	**+0.4**
	15nm,1.2s,baz=123,slow=10,SNR=1.9						
ESDC	**Sonseca Array**	**45.53**	**292**	P	**P**	**13 59 23.9**	**-0.4**
	0.4nm,0.6s,baz=57,slow=9.4,SNR=5.0						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**52.72**	**258**	P	**P**	**14 00 18.6**	**-1.0**
	0.6nm,0.8s,baz=41,slow=10,SNR=3.7						
	0.6nm,0.8s						
KSRS	**Korea Array**	**57.00**	**65**	P	**P**	**14 00 50.1**	**-0.1**
	0.6nm,0.6s,baz=289,slow=6.4,SNR=4.3						
	0.6nm,0.6s						
BOSA	**Boshof**	**70.57**	**207**	LR	LR	14 34 07.9	
	comp=Z,196nm,20.9s,baz=247,slow=37						

IDC 22 14:05:03.0±6.5, 8.90S×158.87E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=204.2km s-min=41.6km az=118.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**1.19**	**117**	LR	LR	14 05 55.5	
	comp=Z,3μm,18.3s,baz=101,slow=44						
WRA	**Warramunga Arr**	**26.13**	**242**	P	P	14 10 39.5	+0.4
	0.6nm,0.7s,baz=70,slow=9.9,SNR=3.5						
	0.6nm,0.7s						
ASAR	**Alice Springs**	**28.03**	**235**	P	P	14 10 55.8	-0.4
	0.4nm,0.7s,baz=61,slow=9.6,SNR=2.7						
	0.4nm,0.7s						
MKAR	**Makanchi Array**	**87.37**	**318**	P	P	14 17 53.9	+1.7
	0.2nm,0.6s,baz=98,slow=6.0,SNR=2.5						
	0.2nm,0.6s						
ZALV	**Zalesovo Beam**	**87.91**	**325**	P	P	14 17 52.8	-1.8
	0.4nm,0.4s,baz=123,slow=5.3,SNR=2.0						
	0.4nm,0.4s						

IDC 22 14:06:09.4±2.3, 3.76N×123.93E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=260.5km s-min=28.5km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.68**	**157**	P	P	14 11 41.9	+0.6
	0.6nm,0.6s,baz=333,slow=10.0,SNR=6.7						
	0.6nm,0.6s						
ASAR	**Alice Springs**	**28.94**	**161**	P	P	14 12 10.2	-0.5
	0.6nm,0.5s,baz=344,slow=7.4,SNR=18						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**55.97**	**327**	P	P	14 15 49.6	-0.1
	0.1nm,0.3s,baz=126,slow=7.4,SNR=1.8						
	0.1nm,0.3s						

*IDC **22** 14:21:37.9±2.1, 0.07N×123.28E, h170km±20km, mb3.5/13, mbtmp4.0/14, Error ellipse: s-maj=21.7km s-min=11.0km az=73.0*
*DJA **22** 14:21:38.8±0.4, 0°S±3°×12°3E±°, h152km±5km, M4.1/11, mb4.0/2, mB4.8/1, MLv4.2/11, Mw(mB)4.0/1*
*NEIC **22** 14:21:38.0±1.8, 0.05S±0.08×123.24E±0.07, h163km±7km, mb4.2/32, Error ellipse: s-maj=11.7km s-min=10.0km az=205.0*
ISC 22 14:21:36.7±0.4, 0.03S±0.05×123.27E±0.06, h157km, n65, σ1§59/73, mb4.1/29, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.71**	**339**	P	**Pn**	**14 22 03.8**	**+3.7**
GTOI				S	**Sn**	**14 22 22.2**	**+4.2**
KMSI	**Cibinong**	**0.94**	**50**	P	**Pn**	**14 22 05.0**	**+3.4**
LUWI	**Luwuk**	**1.12**	**206**		**Pn**	**14 22 04.6**	**+1.5**
LUWI	**Luwuk**	**1.12**	**206**	P	**Pn**	**14 22 04.1**	**+0.9**
LUWI				S	**Sn**	**14 22 24.1**	**+0.6**
TOLI2	**Tolitoli**	**2.73**	**295**		**Pn**	**14 22 21.3**	**+0.3**
SANI	**Sanana**	**3.38**	**126**	P	**Pn**	**14 22 29.8**	**+0.6**
MPSI	**Mapaga**	**3.39**	**276**	P	**Pn**	**14 22 31.2**	**+1.9**
TNTI	**Ternate**	**4.18**	**79**	Pn	**Pn**	**14 22 41.6**	**+2.1**
TNTI	**Ternate**	**4.18**	**79**	P	**Pn**	**14 22 43.3**	**+3.8**
LBMI	**Labuha**	**4.28**	**98**	P	**Pn**	**14 22 43.4**	**+2.6**
KAPI	**Kappang**	**6.07**	**215**	Pn	**Pn**	**14 23 06.0**	**+1.6**
KAPI	**Kappang**	**6.07**	**215**	P	**Pn**	**14 23 07.0**	**+2.6**
	8.4nm,0.5s,baz=179,slow=12,SNR=4.7						
KAPI				S	**Sn**	**14 24 16.7**	**+3.6**
	3.6nm,0.3s,baz=41,slow=20,SNR=1.2						
MYLDM	**Lahad Datu**	**7.03**	**317**		**Pn**	**14 23 19.3**	**+2.0**
FAKI	**Fak Fak**	**9.43**	**108**	Pn	**Pn**	**14 23 50.7**	**+1.6**
MTN	**Manton Dam**	**14.93**	**149**	P	**P**	**14 25 02.1**	**+0.4**
DLV	**T Lat**	**18.89**	**310**	Pn	**Pn**	**14 25 48.1**	**+0.2**
DLV				IAmb	IAmb	14 25 48.6	
	comp=Z,5.6nm,0.6s						
MYKOM	**Kota Tinggi**	**19.50**	**275**	P	**P**	**14 25 53.5**	**+1.6**
XMIS	**Christmas Isla**	**20.36**	**239**	P	**P**	**14 26 01.8**	**+0.5**
WB0	**Warramunga Arr**	**22.44**	**152**	P	**P**	**14 26 23.3**	**+0.5**
WRA	**Warramunga Arr**	**22.56**	**152**	P	**P**	**14 26 24.5**	**+0.5**
	comp=Z,2.9nm,0.6s,baz=329,slow=11,SNR=59						
WRA				S	**S**	**14 30 16.8**	**-2.8**
	comp=Z,0.8nm,0.8s,baz=307,slow=29,SNR=3.0						
WRA				ScP	**ScP**	**14 33 33.8**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=329,slow=2.5,SNR=5.0						
	comp=Z,2.9nm,0.6s						
WB2	**Warramunga Arr**	**22.57**	**152**	P	**P**	**14 26 24.8**	**+0.7**
WB2				IAmb	IAmb	14 26 26.1	
	comp=Z,5.8nm,0.6s						
IPM	**Ipoh**	**22.67**	**282**	P	**P**	**14 26 25.9**	**+0.9**
IPM				IAmb	IAmb	14 26 27.2	
	comp=Z,6.5nm,0.6s						
WR0	**Warramunga Arr**	**22.67**	**152**	P	**P**	**14 26 25.6**	**+0.6**
WR0				IAmb	IAmb	14 26 26.7	
	comp=Z,5.2nm,0.8s						
KULM	**Kulim**	**23.20**	**284**	P	**P**	**14 26 30.9**	**+1.0**
KULM				IAmb	IAmb	14 26 31.5	
	comp=Z,6.4nm,0.8s						
TPUB	**Ta-pu**	**23.34**	**354**	P	**P**	**14 26 31.4**	**+0.3**
TPUB				IAmb	IAmb	14 26 34.5	
	comp=Z,14nm,1.1s						
ASAR	**Alice Springs**	**25.66**	**157**	P	**P**	**14 26 52.3**	**+0.2**
ASAR	**Alice Springs**	**25.66**	**157**	P	**P**	**14 26 53.1**	**+1.0**
	comp=Z,0.4nm,0.3s,baz=330,slow=9.2,SNR=22						
ASAR				PcP	**PcP**	**14 30 19.0**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=348,slow=2.2,SNR=14						
	comp=Z,0.4nm,0.3s						
PHRA	**Phrae**	**29.18**	**310**	P	**P**	**14 27 26.2**	**+2.6**
CMAR	**Chiang Mai Arr**	**30.15**	**309**	P	**P**	**14 27 33.3**	**+1.2**
	comp=Z,1.1nm,0.5s,baz=133,slow=6.6,SNR=10.0						
CMAR				PcP	**PcP**	**14 30 29.8**	**+0.1**
	comp=Z,0.3nm,0.2s,baz=141,slow=3.5,SNR=4.3						
	comp=Z,1.1nm,0.5s						
CHTO	**Chiang Mai**	**30.35**	**309**	P	**P**	**14 27 35.8**	**+1.8**
CHTO				IAmb	IAmb	14 27 36.9	
	comp=Z,3.6nm,0.8s						
FORT	**Forrest**	**30.91**	**172**	P	**P**	**14 27 39.3**	**+0.6**
STKA	**Stephens Creek**	**36.11**	**153**	P	**P**	**14 28 25.0**	**+1.3**
	comp=Z,1.1nm,0.5s,baz=336,slow=12,SNR=3.0						
	comp=Z,1.1nm,0.5s						
MJAR	**Matsushiro Arr**	**38.95**	**19**	P	**P**	**14 28 46.3**	**-1.2**
	comp=Z,2.2nm,0.7s,baz=187,slow=9.0,SNR=7.1						
	comp=Z,2.2nm,0.7s						
USRK	**Ussuriysk Ar.**	**44.72**	**9**	P	**P**	**14 29 34.0**	**-0.2**
	comp=Z,2.3nm,0.7s,baz=197,slow=6.7,SNR=2.5						
	comp=Z,2.3nm,0.7s						
SONM	**Songino Array**	**49.89**	**345**	P	**P**	**14 30 13.3**	**-1.0**
SONM	**Songino Array**	**49.89**	**345**	P	**P**	**14 30 13.9**	**-0.4**
	comp=Z,1.6nm,0.5s,baz=157,slow=7.6,SNR=8.2						
	comp=Z,1.6nm,0.5s						
MK31	**Makanchi Array**	**58.78**	**328**	P	**P**	**14 31 17.3**	**-1.1**
MKAR	**Makanchi Array**	**58.78**	**328**	P	**P**	**14 31 17.4**	**-1.1**
MKAR	**Makanchi Array**	**58.78**	**328**	P	**P**	**14 31 17.6**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=120,slow=8.9,SNR=16						
MKAR				PcP	**PcP**	**14 32 03.5**	**-2.9**
	comp=Z,0.6nm,0.4s,baz=159,slow=3.6,SNR=5.5						
	comp=Z,0.6nm,0.3s						
MAKZ	**Makanchi**	**58.96**	**328**	P	**P**	**14 31 18.9**	**-0.8**
PETK	**Petropavlovsk-**	**60.21**	**23**	P	**P**	**14 31 27.6**	**-0.5**
	comp=Z,2.6nm,0.9s,baz=210,slow=5.1,SNR=1.5						
	comp=Z,2.6nm,0.9s						
KBL	**Kabul**	**61.17**	**310**	P	**P**	**14 31 34.9**	**-0.3**
KURBB	**Kurchatov Arra**	**63.13**	**330**	P	**P**	**14 31 46.0**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=118,slow=6.2,SNR=5.5						
	comp=Z,0.4nm,0.3s						
KURK	**Kurchatov**	**63.14**	**330**	P	**P**	**14 31 46.2**	**-1.5**
KURK				IAmb	IAmb	14 31 47.1	
	comp=Z,2.3nm,0.8s						
BVAR	**Borovoye Array**	**68.65**	**329**	P	**P**	**14 32 20.7**	**-2.2**
	comp=Z,0.5nm,0.5s,baz=125,slow=8.5,SNR=3.1						
	comp=Z,0.5nm,0.5s						
TIXI	**Tiksi**	**71.66**	**2**	P	**P**	**14 32 39.4**	**-1.5**
TIXI				IAmb	IAmb	14 32 40.5	
	comp=Z,3.0nm,0.8s						
ABKAR	**Akbulak array**	**72.92**	**322**	P	**P**	**14 32 46.8**	**-2.0**
BILL	**Bilibino**	**74.07**	**15**	P	**P**	**14 32 54.6**	**-0.5**
RAYN	**Ar Rayn**	**78.80**	**294**	P	**P**	**14 33 22.5**	**-0.2**
VNDA	**Vanda**	**80.18**	**172**	P	**P**	**14 33 29.0**	**0.0**
VNDA	**Vanda**	**80.18**	**172**	P	**P**	**14 33 29.1**	**+0.1**
	comp=Z,0.5nm,0.5s,baz=337,slow=7.7,SNR=2.6						
	comp=Z,0.5nm,0.5s						
H17K	**Granite Mounta**	**84.46**	**25**		**P**	**14 33 52.3**	**+0.8**
H17K				IAmb	IAmb	14 34 30.2	
	comp=Z,5.2nm,1.1s						
C18K	**Utukok River**	**84.78**	**21**		**P**	**14 33 53.8**	**+0.7**
L18K	**Granite Mounta**	**85.38**	**28**	P	**P**	**14 33 57.0**	**+0.8**
J18K	**Innoko River**	**85.56**	**26**	P	**P**	**14 33 57.1**	**0.0**
J18K				IAmb	IAmb	14 34 02.7	
	comp=Z,6.0nm,1.4s						
G19K	**Purcell Mounta**	**85.84**	**24**	P	**P**	**14 33 58.8**	**+0.4**
G19K				IAmb	IAmb	14 34 10.0	
	comp=Z,5.1nm,1.2s						
D19K	**Kuna River**	**85.86**	**21**	P	**P**	**14 33 58.8**	**+0.4**
H19K	**Roundabout Mou**	**86.00**	**24**		**P**	**14 33 59.8**	**+0.7**
H19K				IAmb	IAmb	14 34 12.2	
	comp=Z,4.9nm,1.1s						
E19K	**Redstone River**	**86.00**	**22**	P	**P**	**14 33 59.6**	**+0.5**
E19K				IAmb	IAmb	14 34 37.8	
	comp=Z,6.2nm,1.4s						
B21K	**Ikpikpuk River**	**87.28**	**20**	P	**P**	**14 34 05.6**	**+0.3**
I23K	**Minto, Yukon-K**	**88.92**	**25**	P	**P**	**14 34 13.2**	**+0.2**
I23K				IAmb	IAmb	14 34 49.0	
	comp=Z,4.6nm,1.4s						
H24K	**Noodor Dome**	**89.56**	**24**	P	**P**	**14 34 16.3**	**+0.1**
H24K				IAmb	IAmb	14 34 24.5	
	comp=Z,4.0nm,1.5s						
ILAR	**Eielson Array**	**89.97**	**25**	P	**P**	**14 34 16.6**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=253,slow=5.0,SNR=4.4						
	comp=Z,0.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**93.47**	**349**	P	**P**	**14 34 32.3**	**-1.7**
	comp=Z,5.1nm,0.8s,baz=102,slow=6.2,SNR=6.8						
TORD	**Torodi Ar. Bea**	**120.67**	**285**	PKP	**PKPdf**	**14 40 09.7**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=86,slow=2.3,SNR=12						

*NEIC **22** 14:31:01.9±2.3, 7.59S±0.10×119.36E±0.09, h274km±10km, mb4.1/6, Error ellipse: s-maj=15.8km s-min=11.5km az=213.0*
*DJA **22** 14:31:03.0±0.9, 8°S±6°×11°9E±°, h253km±13km, M4.1/9, mb4.6/2, mB5.2/1, MLv3.9/9, Mw(mB)4.5/1*
*IDC **22** 14:31:03.5±2.5, 7.19S×119.93E, h281km±21km, mb3.1/2, mbtmp3.8/4, Error ellipse: s-maj=113.4km s-min=13.7km az=51.0*
ISC 22 14:31:02.1±0.7, 7.66S±0.07×119.35E±0.06, h300km, n29, σ2§51/33, mb3.7/3, Flores Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	**Plampang**	**1.94**	**233**	P	**Pn**	**14 31 46.1**	**-2.3**
BKSI	**Bulukumba**	**2.44**	**18**	P	**Pn**	**14 31 49.9**	**-2.8**
EDFI	**Ende, Flores**	**2.56**	**115**	P	**Pn**	**14 31 51.4**	**-2.3**
KAPI	**Kappang**	**2.66**	**9**	Pn	**Pn**	**14 31 51.9**	**-2.8**
TWSI	**Taliwang, Sumb**	**2.67**	**246**	P	**Pn**	**14 31 52.6**	**-2.1**
TWSI				S	**S**	**14 32 31.3**	**-5.4**
BASI	**Baing, Sumba**	**2.82**	**155**	P	**Pn**	**14 31 54.4**	**-1.7**
BASI				S	**S**	**14 32 33.9**	**-5.3**
MMRI	**Maumere**	**3.02**	**109**	Pn	**Pn**	**14 31 55.7**	**-2.3**
MMRI	**Maumere**	**3.02**	**109**	P	**Pn**	**14 31 56.2**	**-1.8**
BATI	**Baumata**	**4.95**	**121**	P	**Pn**

UWE	Uwekahuna	0.35 289		Sg	14 37 52.0	+0.2	
UWE	Uwekahuna	0.35 289	Pg	Pg	14 37 46.9	-0.2	
UWE	Uwekahuna	0.35 289	IAML		14 37 53.4		
	comp=E,3μm,0.4s						
UWE			IAML		14 37 55.0		
	comp=N,3μm,0.8s						
RSD	Rainshed	0.35 297	Pg	Pg	14 37 46.8	-0.4	
HTC	Hot Caves	0.43 261		Pg	14 37 48.5	-0.2	
MLH	Mauna Loa	0.46 294	Pg	Pg	14 37 48.5	-0.6	
MLH			IAML		14 37 55.3		
	comp=E,2μm,0.3s						
MLH			IAML		14 37 57.9		
	comp=N,2μm,0.1s						
HMH	Humu'ula Sheep	0.59 300		Pg	14 37 50.8	-0.8	
HMH	Humu'ula Sheep	0.59 300		Sg	14 37 58.5	-0.9	
KHU	Kahuku	0.63 265		Pg	14 37 50.9	-1.6	
KHU	Kahuku	0.63 265	IAML		14 38 03.5		
	comp=E,591nm,0.6s						
MLOA	Mauna Loa Obse	0.64 291		Pg	14 37 51.2	-1.4	
MLOA	Mauna Loa Obse	0.64 291		Pg	14 37 51.1	-1.4	
MLOA			IAML		14 38 00.7		
	comp=E,2μm,0.3s						
MLOA			IAML		14 38 01.5		
	comp=N,1μm,0.4s						
MWH	Moku'aweowe	0.64 286	Pg	Pg	14 37 51.2	-1.5	
MWH			IAML		14 38 06.3		
	comp=N,1μm,0.3s						
ALEP	Alea Permanent	0.70 290		Pg	14 37 52.1	-1.6	
POHA	Pohakuloa	0.71 309		Pg	14 37 52.1	-1.9	
POHA			IAML		14 38 03.2		
	comp=N,941nm,0.2s						
HUH	Hualalai	0.92 294		Pg	14 37 56.7	-1.2	
MHA	Mahukona	1.26 314	Pn	Pn	14 37 59.7	-4.0	

IDC ***22*** *14:48:49.6±1.4,32°.04N×48°.17E,h0km,mb3.9/10, mbtmp3.9/12,ML3.7/2,MS3.1/6,Error ellipse: s-maj=29.3km s-min=22.9km az=15.0*

NEIC ***22*** *14:48:51.2±2.4,32°.12N±0°.09×48°.6E±0°.1,h10km±2km, mb4.4/2,Error ellipse: s-maj=21.9km s-min=3.6km az=228.0*

TEH ***22*** *14:48:52.8,32°.24N×48°.46E,h9km±40km,ML3.8*

DSN ***22*** *14:49:01.0±1.5,31°.46N×48°.66E,h15km,ML3.7/2,Error ellipse: s-maj=18.6km s-min=8.9km az=0.0*

OMAN ***22*** *14:49:02.2±0.2,31°.55N×48°.91E,h10km,mb4.2/27, ms2.6/1,Error ellipse: s-maj=4.7km s-min=1.9km az=280.0*

ISC 22 14:48:51.5±0.6,32°.02N±0°.05×48°.41E±0°.05,h10km,n98,
σ2§44/120,mb3.9/11,MS3.2/3,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	Ahwaz	0.71	163	Pg	Pn	14 49 11.0	+3.4
IKFM	Kafar-mosalman	1.58	343	Pg	Pn	14 49 18.6	-0.9
IDOB	Doab	1.78	354	Pg	Pn	14 49 22.6	+0.1
IDOB				Sg	Sn	14 49 46.0	+0.7
JHBN	Jahan bin	1.93	83	Pn	Pn	14 49 27.0	+2.3
ZNGN	Zangian	2.08	87	Pn	Pn	14 49 29.8	+3.0
ABEH	Behbahan	2.12	131	Pn	Pb	14 49 32.3	+2.3
HSAM	Samen	2.20	4	Pn	Pn	14 49 28.6	+0.3
IPIR	Pirpir	2.21	72	Pn	Pn	14 49 30.7	+2.2
IBRJ	Brojen	2.43	92	Pn	Pn	14 49 34.3	+2.7
IBZA	Bozab	2.49	350	Pn	Pn	14 49 32.5	+0.1
KCHF	Cheshme Sefid,	2.53	333	Pn	Pn	14 49 34.1	+1.3
HAGD	Aghdareh	2.87	12	Pn	Pn	14 49 37.9	+0.3
KLNJ	Kolanjah	2.90	109	Pn	Pn	14 49 42.0	+3.9
SNQR	Sonqor, Kerman	2.91	347	Pn	Pn	14 49 38.8	+0.6
GLG1	Gilan-e-Gharb	2.96	316	Pn	Pn	14 49 40.6	+1.9
IKLH	Kolahrood	2.98	63	Pn	Pn	14 49 40.8	+1.8
IGAR	Gharneh	3.11	82	Pn	Pn	14 49 43.2	+2.4
ILIN	Lien	3.14	338	Pn	Pn	14 49 42.0	+0.7
IDHR	Dehrash	3.17	328	Pn	Pn	14 49 42.8	+1.2
IRAM	Ramesheh	3.39	92	Pn	Pn	14 49 47.5	+2.8
IZEF	Zefreh	3.43	74	Pn	Pn	14 49 47.4	+2.1
IQOM	Qom	3.59	38	Pn	Pn	14 49 48.2	+0.6
IRAZ	Razeghan	3.61	20	Pn	Pn	14 49 48.2	+0.5
KAZ2	Kazeron-Fars-I	3.69	130	Pn	Pn	14 49 52.8	+4.2
ISFB	Sefidab	3.97	53	Pn	Pn	14 49 53.7	+1.1
IVRN	Varamin	4.07	42	Pn	Pn	14 49 55.2	+1.3
ISAD	Sadrabad	4.49	90	Pn	Pn	14 50 02.8	+2.9
ANAR	Anarak	4.64	74	Pn	Pn	14 50 04.0	+2.1
IDMV	Damavand	4.66	39	Pn	Pn	14 50 02.9	+0.6
KLST	Kelardasht - M	5.00	25	Pn	Pn	14 50 07.8	+0.8
IFIR	Firoozkooh	5.12	44	Pn	Pn	14 50 09.3	+0.8
MZPU	Pul - Mazandar	5.13	30	Pn	Pn	14 50 09.0	+0.4
IMEH	Mehriz	5.33	95	Pn	Pn	14 50 14.2	+2.9
IPRN	Peran	5.33	37	Pn	Pn	14 50 12.0	+0.7
IANJ	Anjilo	5.74	52	Pn	Pn	14 50 18.1	+1.1
IBAF	Bafgh	6.11	92	Pn	Pn	14 50 24.9	+2.8
IGLO	Ghaloghah	6.34	44	Pn	Pn	14 50 25.8	+0.6
TPRV	Parvadeh(Tabas	7.07	80	Pn	Pn	14 50 37.3	+2.2
SMRA	Abu-Samra	7.55	163	P	Pn	14 50 45.4	+3.7
TRNA	Turayna	7.66	160	P	Pn	14 50 46.8	+3.5
JRN	Qarnain Island	8.06	150	P	Pn	14 50 51.3	+2.7
JRN				S	Sn	14 52 20.0	+0.2
SLWR	Sila	8.43	159	P	Pn	14 50 57.0	+3.2
SLWR				S	Sn	14 52 29.0	0.0
GNI	Garni	8.64	341	LR	LR	14 55 01.4	
	comp=Z,110nm,21.3s,baz=68,slow=43						
RAYN	Ar Rayn	8.84	198		Pn	14 51 00.3	+0.9
RAYN	Ar Rayn	8.84	198	P	Pn	14 51 01.6	+2.1
SHME	Shamm	9.01	129	P	Pn	14 51 03.0	+1.3
SHME	Shamm	9.01	129	P	Pn	14 51 03.5	+1.8
SHME				S	Sn	14 52 40.5	-2.7
NAZ	Nazwa, Dubai	9.47	136	P	Pn	14 51 10.9	+2.8
NAZ				S	Sn	14 52 52.1	-2.5
MASF	Masafi	9.49	132	P	Pn	14 51 10.1	+1.7
MASF				S	Sn	14 52 51.9	-3.3
ASUD	Al Ashush, Dub	9.56	139	P	Pn	14 51 12.1	+2.9
	SNR=6.1						
ASUD				S	Sn	14 52 54.5	-2.3
FAQ	Al Faqa, Dubai	9.62	137	P	Pn	14 51 12.9	+2.9
FAQ				S	Sn	14 52 54.6	-3.6
MDH	Madha	9.63	132	P	Pn	14 51 12.3	+2.0
MDH	Madha	9.63	132	P	Pn	14 51 13.7	+3.4
MDH				S	Sn	14 52 53.9	-4.7
UOSS	Minazif	9.83	134	Pn	Pn	14 51 11.0	-2.0
UOSS	Minazif	9.83	134	P	Pn	14 51 15.2	+2.3
UOSS	Minazif	9.83	134	P	Pn	14 51 15.0	+2.0
UOSS				P	Pn	14 51 15.0	+2.0
UOSS				S	Sn	14 52 59.1	-4.3
UOSS				S	Sn	14 52 59.1	-4.3
HATD	Hatta, Dubai	9.88	135	P	Pn	14 51 14.8	+1.2
HATD	Hatta, Dubai	9.88	135	P	Pn	14 51 15.8	+2.2
HATD				S	Sn	14 53 01.2	-3.3
GEYT	Alibeck	9.91	51	Pn	Pn	14 51 19.2	+5.1
	0.3nm,0.3s,baz=217,slow=14,SNR=2.3						
GEYT				LR	LR	14 55 05.1	
	comp=Z,64nm,19.8s,baz=310,slow=37						
ASHO	Ashiyiah	9.94	135	P	Pn	14 51 16.0	+1.5
ASHO				S	Sn	14 53 02.2	-3.9
ASHO	Ashiyiah	9.94	135	P	Pn	14 51 16.1	+1.7
	SNR=7.2						
ASHO				S	Sn	14 53 03.6	-2.5
MZR	Muzera	10.04	152	P	Pn	14 51 18.2	+2.3
MZR	Muzera	10.04	152	P	Pn	14 51 18.5	+2.6
	SNR=8.7						
MZR				S	Sn	14 53 07.3	-1.3
ALNE	Al Ain	10.24	139	P	Pn	14 51 20.3	+1.6
ALNE	Al Ain	10.24	139	P	Pn	14 51 21.0	+2.4
	SNR=6.4						
JASK	Jask - Hormozg	10.30	124	P	Pn	14 51 21.6	+2.1
JASK				S	Sn	14 53 12.2	-2.9
SOHO	SOHO	10.63	136	P	Pn	14 51 24.7	+0.7
SOHO	SOHO	10.63	136	P	Pn	14 51 25.1	+1.1
SOHO				S	Sn	14 53 19.6	-3.5
UMZA	Um Al Zommool	11.04	145	P	Pn	14 51 31.0	+1.5
UMZA				S	Sn	14 53 28.1	-4.9
ARQ	Araqi	11.24	138	P	Pn	14 51 33.8	+1.5
ARQ				S	Sn	14 53 36.2	-1.9
HOQ	Hoqain	11.52	135	P	Pn	14 51 37.4	+1.4
HOQ				S	Sn	14 53 40.8	-4.0
BSY	Bisya	12.09	138	P	Pn	14 51 45.2	+1.3
BSY				S	Sn	14 53 53.6	-5.3
SMDO	Samad	12.36	134	P	Pn	14 51 48.7	+1.1
SMDO				S	Sn	14 54 01.2	-4.3
KBZ	Khabaz	12.47	341	LR	LR	14 56 24.3	
	comp=Z,33nm,18.2s,baz=131,slow=37						
WSAR	Wadi Sarin	12.59	131	Pn	Pn	14 51 51.8	+1.1
	0.4nm,0.3s,baz=333,slow=11,SNR=6.7						
WSAR				Sn	Sn	14 54 05.0	-6.0
	0.7nm,0.3s,baz=157,slow=22,SNR=2.9						
	3.3nm,0.6s						
JMDO	Jabal Madar	12.91	136	P	Pn	14 51 57.0	+1.9
JMDO				S	Sn	14 54 17.0	-1.9
WBK	Wadi Bani Khal	13.26	132	P	Pn	14 52 02.3	+2.4
WBK				S	Sn	14 54 20.9	-6.5
JLN	Jalan Bani Buh	13.87	132	P	Pn	14 52 07.9	-0.3
JLN				S	Sn	14 54 34.2	-8.2
MHTO	MHTO	13.92	140	P	Pn	14 52 10.3	+1.4
MHTO				S	Sn	14 54 36.5	-7.0
DOK	Doka	14.30	157	P	Pn	14 52 14.5	+0.3
	SNR=7.9						
DOK				S	Sn	14 54 50.3	-2.6
DQM	DQM	14.56	144	P	Pn	14 52 17.7	-0.1
DQM				S	Sn	14 54 53.5	-5.7
WHFO	Wadi Hawf	14.85	160	S	Sn	14 55 02.5	-3.9
ABTO	Aybut	15.26	162	P	Pn	14 52 26.8	-0.3
ABTO				S	Sn	14 55 15.3	-1.0
DMTO	DMTO	15.42	156	P	Pn	14 52 29.0	-0.2
DMTO				S	Sn	14 55 15.1	-5.0
AKTO	Aktyubinsk	19.74	18	P	P	14 53 22.9	+1.5
	0.2nm,0.3s,baz=126,slow=6.0,SNR=5.0 1.7nm,0.5s						
ITM	Ithomi	22.36	291	P	P	14 53 49.7	-0.1
ITM				IAmb	IAmb	14 54 11.6	
	comp=Z,19nm,1.4s						
AAK	Ala-Archa	23.21	55	LR	LR	15 04 37.9	
	comp=Z,104nm,18.3s,baz=266,slow=41						
BVAR	Borovoye Array	26.33	31	P	P	14 54 27.4	0.0
	comp=Z,1.5nm,0.8s,baz=240,slow=8.1,SNR=6.6						
BVAR				LR	LR	15 06 11.3	
	comp=Z,32nm,18.4s,baz=328,slow=39 comp=Z,1.5nm,0.8s						
MKAR	Makanchi Array	29.79	50	P	P	14 55 00.1	+1.7
	comp=Z,1.0nm,0.6s,baz=248,slow=7.6,SNR=1.9 comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	32.83	340	P	P	14 55 22.6	-2.4
	comp=Z,0.8nm,0.7s,baz=140,slow=7.2,SNR=2.4 comp=Z,0.8nm,0.7s						
ZALV	Zalesovo Beam	33.94	39	P	P	14 55 34.9	+0.2
	comp=Z,1.1nm,0.6s,baz=260,slow=8.6,SNR=5.2 comp=Z,1.1nm,0.6s						
HFS	Hagfors	36.27	331	P	P	14 55 53.4	-1.3
	comp=Z,1.3nm,0.3s,baz=113,slow=11,SNR=4.2 comp=Z,1.3nm,0.3s						
MBAR	Mbarara	36.50	211	LR	LR	15 11 42.0	
	comp=Z,47nm,21.6s,baz=159,slow=38						
ARCES	ARCESS Array B	39.73	348	P	P	14 56 22.8	-1.0
	comp=Z,5.8nm,1.1s,baz=158,slow=5.8,SNR=1.7 comp=Z,5.8nm,1.1s						
SONM	Songino Array	46.11	52	P	P	14 57 17.1	+1.1
	comp=Z,0.5nm,0.4s,baz=234,slow=5.0,SNR=2.7 comp=Z,0.5nm,0.4s						
TORD	Torodi Ar. Bea	46.63	257	P	P	14 57 19.0	-1.4
	comp=Z,0.4nm,0.8s,baz=48,slow=10,SNR=2.2 comp=Z,0.4nm,0.8s						
CMAR	Chiang Mai Arr	47.27	94	P	P	14 57 25.9	+0.6
	comp=Z,1.0nm,0.8s,baz=292,slow=9.7,SNR=3.5 comp=Z,1.0nm,0.8s						
SPITS	Spitsbergen Ar	48.34	352	P	P	14 57 31.6	-1.2
	comp=Z,7.0nm,1.0s,baz=123,slow=10,SNR=1.7 comp=Z,7.0nm,1.0s						

KRNET ***22*** *15:12:12.0±0.1,42°.23N×80°.66E,h19km,mb3.1*

SOME ***22*** *15:12:12.0,42°.20N×80°.67E,h25km*

NNC ***22*** *15:12:13.7±1.1,42°.33N×80°.59E,h0km,mb3.6,mpv3.5, Error ellipse: s-maj=6.7km s-min=5.3km az=137.0*

ISC 22 15:12:16.0±1.6,42°.41N±0°.06×80°.44E±0°.06,h10km,n54,
σ1§53/89,14C-10D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHLS	Shalkode	1.03	316	P	Pg	15 12 32.6	-3.3
	30nm,0.1s						
SHLS				S	Sg	15 12 47.7	-1.8
	129nm,0.4s						
SHLS	Shalkode	1.03	316	*e*P	Pg	15 12 32.6	-3.3
	30nm,0.1s						
SHLS				*e*S	Sg	15 12 47.6	-1.8
	129nm,0.4s						
SHLS	Shalkode	1.03	316	*e*P	Pg	15 12 32.6	-3.3
	baz=28						
SHLS				*e*S	Sg	15 12 47.6	-1.8
	baz=28						
KTMS	Ketmen	1.03	357	P	Pg	15 12 35.0	-0.9
	3.6nm,0.1s						
KTMS				S	Sn	15 12 51.6	+0.2
	35nm,0.3s						
KTMS	Ketmen	1.03	357	*e*P	Pg	15 12 35.0	-0.9
	3.6nm,0.1s						
KTMS				*e*S	Sn	15 12 51.6	+0.2
	35nm,0.3s						
KTMS	Ketmen	1.03	357	*e*P	Pg	15 12 35.0	-0.9
	baz=49						
KTMS				*e*S	Sn	15 12 51.6	+0.2
	baz=49						
PDGK	Podgornoye	1.15	323	P	Pb	15 12 37.4	-0.7
	5.7nm,0.1s						
PDGK				S	Sn	15 12 55.6	+1.4
	17nm,0.1s						
PDGK	Podgornoye	1.15	323	⇓P	Pb	15 12 37.5	-0.6
	5.1nm,0.4s						
PDGK				⇑S	Sn	15 12 55.1	+0.9
	27nm,0.5s						
UZB	Uzynbulak	1.27	306	P	Pg	15 12 40.1	-0.4
	13nm,0.3s						
UZB				S	Sn	15 13 00.4	+3.1
	32nm,0.2s						
UZB	Uzynbulak	1.27	306	*e*P	Pg	15 12 40.1	-0.4
	13nm,0.3s						
UZB				*e*S	Sn	15 13 00.4	+3.1
	32nm,0.2s						
UZB	Uzynbulak	1.27	306	*e*P	Pg	15 12 40.1	-0.4
	baz=8.0						
UZB				*e*S	Sn	15 13 00.4	+3.1
	baz=8.0						
PRZ	Przheval'sk	1.51	273	⇑*e*P	Pn	15 12 43.0	-0.3
	baz=80						
PRZ				⇑*i*S	Sg	15 13 05.7	+1.1
	baz=80						
SATY	Saty	1.63	294	P	Pg	15 12 46.2	-1.1
	24nm,0.3s						
SATY				S	Sg	15 13 11.0	+2.5
	110nm,0.2s						
SATY	Saty	1.63	294	*e*P	Pg	15 12 46.2	-1.1
	24nm,0.3s						
SATY				*e*S	Sg	15 13 11.0	+2.5
	110nm,0.2s						
SATY	Saty	1.63	294	*e*P	Pg	15 12 46.2	-1.1
	baz=97						
SATY				*e*S	Sg	15 13 11.0	+2.5
	baz=97						
DJR	Jarkent	1.98	346	Pg	Pb	15 12 52.1	0.0
	3.9nm,0.1s						
DJR				Lg	Lg	15 13 21.0	
	67nm,0.2s						
DJR	Jarkent	1.98	346	*e*P	Pb	15 12 52.1	0.0
	3.9nm,0.1s						
DJR				*e*S	Sg	15 13 21.0	+1.5
	67nm,0.2s						
KURS	Kuram	1.98	304	Pg	Pb	15 12 52.2	0.0
	29nm,0.3s						
KURS				Lg	Lg	15 13 21.2	
	26nm,0.8s						
KURS	Kuram	1.98	304	*e*P	Pb	15 12 52.2	0.0
	29nm,0.3s						
KURS				*e*S	Sg	15 13 21.2	+1.5
	26nm,0.8s						
ANVS	Anan'yevo	2.08	281	⇓*i*P	Pb	15 12 53.0	-1.0
	baz=85						
ANVS				⇓*i*S	Sg	15 13 21.5	-1.3
	baz=85						
KNOS	Konyrlen	2.15	335	Pg	Pb	15 12 55.1	0.0
	19nm,0.6s						
KNOS				Lg	Lg	15 13 26.1	
	92nm,0.4s						
BLB	Baldybastay	2.21	320	Pg	Pb	15 12 56.1	0.0
	102nm,0.2s						
BLB				Lg	Lg	15 13 28.0	
	166nm,0.2s						
KDJ	Kajisay	2.43	264	⇑*e*P	Pn	15 12 56.6	+0.6
	baz=69						
KDJ				⇑*i*S	Sb	15 13 28.6	-1.5
	baz=69						
KOTS	Kotyrbulak	2.58	290	Pg	Pb	15 13 02.5	+0.1
	18nm,0.3s						
KOTS				Lg	Lg	15 13 39.0	
	45nm,0.2s						
KOTS	Kotyrbulak	2.58	290	*e*P	Pb	15 13 02.5	+0.1
	18nm,0.3s						
KOTS				*e*S	Sg	15 13 39.0	0.0
	45nm,0.2s						
MDOK	Medeo	2.60	288	Pn	Pn	15 12 59.3	+0.9
	11nm,0.5s						
MDOK				Pg	Pb	15 13 02.4	-0.5
	17nm,0.0s						
MDOK				⇓Sn	Sg	15 13 37.5	-2.3
	17nm,0.6s						
MDOK				Lg	Lg	15 13 38.5	
	19nm,0.1s						
MDOK	Medeo	2.60	288	*e*P	Pb	15 13 02.4	-0.5
	17nm,0.0s						
MDOK				*e*S	Sg	15 13 38.5	-1.2
	19nm,0.1s						
ARXS	Arharly	2.62	314	Pg	Pb	15 13 03.4	+0.3
	5.1nm,0.8s						
ARXS				Lg	Lg	15 13 40.5	
	35nm,0.1s						
ARXS	Arharly	2.62	314	*e*P	Pb	15 13 03.5	+0.3
	5.1nm,0.8s						
ARXS				*e*S	Sg	15 13 40.5	+0.2
	35nm,0.1s						
TNSS	Tian-Shan	2.65	285	Pg	Pb	15 13 03.2	-0.6
	15nm,0.5s						
TNSS				Lg	Lg	15 13 40.1	
	12nm,0.5s						
TNSS	Tian-Shan	2.65	285	*e*P	Pb	15 13 03.2	-0.6
	15nm,0.5s						
TNSS				*e*S	Sg	15 13 40.1	-1.0
	12nm,0.5s						
IZV	Izvestkoviy	2.88	284	Pg	Pb	15 13 07.4	-0.3
	4.3nm,0.1s						
IZV				Lg	Lg	15 13 47.2	
	36nm,0.6s						
IZV	Izvestkoviy	2.88	284	*e*P	Pb	15 13 07.4	-0.3
	4.3nm,0.1s						
IZV				*e*S	Sg	15 13 47.2	-1.5
	36nm,0.6s						
CHKK	Chushkaly	2.91	301	Pg	Pb	15 13 08.2	+0.2
	2.5nm,0.4s						
CHKK				Lg	Lg	15 13 48.7	
	23nm,0.3s						
CHKK	Chushkaly	2.91	301	*e*P	Pb	15 13 08.2	+0.2
	2.5nm,0.4s						
CHKK				*e*S	Sg	15 13 48.7	-0.7
	23nm,0.3s						
KAPS	Kapalarasan	2.98	345	Pg	Pb	15 13 09.8	+0.6
	1.9nm,0.5s						
KAPS				Lg	Lg	15 13 51.0	
	32nm,0.0s						
KAPS	Kapalarasan	2.98	345	*e*P	Pb	15 13 09.8	+0.6
	1.9nm,0.5s						
KAPS				*e*S	Sg	15 13 51.0	-0.6
	32nm,0.0s						
MTBS	Maitube	3.04	285	Pg	Pb	15 13 10.0	-0.2
	5.0nm,0.1s						
MTBS				Lg	Lg	15 13 51.7	
	16nm,0.2s						
MTBS	Maitube	3.04	285	*e*P	Pb	15 13 10.0	-0.2
	5.0nm,0.1s						
MTBS				*e*S	Sg	15 13 51.7	-1.9
	16nm,0.2s						
KTBS	Karatobe	3.04	297	Pg	Pb	15 13 10.5	+0.2
	4.9nm,0.2s						
KTBS				Lg	Lg	15 13 52.5	
	21nm,0.7s						
KTBS	Karatobe	3.04	297	*e*P	Pb	15 13 10.5	+0.2
	4.9nm,0.2s						
KTBS				*e*S	Sg	15 13 52.5	-1.3
	21nm,0.7s						
BOOM	Boomskoye usch	3.33	273	⇑*e*P	Pn	15 13 09.8	+1.5
	baz=76						
BOOM				⇑*i*S	Sn	15 13 50.9	+2.9
	baz=76						
KST	Kastek	3.36	282	Pg	Pb	15 13 15.3	-0.4
	5.9nm,0.5s						
KST				Lg	Lg	15 14 00.8	
	18nm,0.1s						
KST	Kastek	3.36	282	*e*P	Pb	15 13 15.3	-0.4
	5.9nm,0.5s						
KST				*e*S	Sg	15 14 00.8	-3.0
	18nm,0.1s						
NRN	Naryn	3.45	255	⇓*e*P	Pn	15 13 11.1	+0.9
	baz=59						
NRN				⇓*e*S	Sn	15 13 53.3	+2.0
	baz=59						
DGS	Degeres	3.53	285	Pg	Pb	15 13 18.8	+0.2
	3.6nm,0.4s						
DGS				Lg	Lg	15 14 07.0	
	17nm,0.1s						
DGS	Degeres	3.53	285	*e*P	Pb	15 13 18.8	+0.2
	3.6nm,0.4s						
DGS				*e*S	Sg	15 14 07.0	-2.4
	17nm,0.1s						
TKM2	Tokmak 2	3.60	280	⇓Pn	Pn	15 13 14.3	+2.1
	2.7nm,0.7s						
TKM2				⇑Lg	Lg	15 14 12.9	
	5.6nm,0.4s						
TKM2	Tokmak 2	3.60	280	⇑*e*P	Pn	15 13 13.8	+1.6
	baz=82						
TKM2				⇑*i*S	Sn	15 13 58.3	+3.4
	baz=82						
CHMS	Chumysh	4.23	280	⇑Lg	Lg	15 14 32.5	
	8.1nm,0.8s						
SGDS	Sogindy	4.39	286	Pg	Pb	15 13 35.4	+2.1
	1.8nm,0.2s						
SGDS				Lg	Lg	15 14 35.3	
	4.6nm,0.5s						
AAK	Ala-Archa	4.40	275	⇑Pg	Pg	15 13 37.3	-3.0
	1.8nm,0.5s						
AAK				⇑Lg	Lg	15 14 39.6	
	5.2nm,0.6s						
MAKZ	Makanchi	4.53	14	⇑Pn	Pn	15 13 25.0	+0.3
	1.9nm,0.4s						
MAKZ				⇓Lg	Lg	15 14 40.1	
	1.5nm,0.4s						
MK31	Makanchi Array	4.58	16	⇓Pn	Pn	15 13 25.0	-0.3
	0.3nm,0.2s,baz=202,slow=13,SNR=46						
MK31				Sn	Sn	15 14 21.2	+2.7
	2.5nm,0.7s,baz=181,slow=21,SNR=4.8						
MK31				⇓Lg	Lg	15 14 41.1	
	3.4nm,0.7s,baz=190,slow=28,SNR=4.4						

IDC ***22*** *15:16:37.5±5.1,4°.53S×132°.49E,h0km,mb3.5/1, mbtmp3.6/3,ML3.7/2,Error ellipse: s-maj=329.0km s-min=30.3km az=75.0*

DJA ***22*** *15:16:38.0±0.7,4°.5S×13°.4E±1°.2,h20km±10km,M4.0/7, mb4.0/1,mB5.0/1,MLv4.0/7,Mw(mB)4.3/1*

ISC 22 15:16:39.3±0.9,4°.12S±0°.07×133°.63E±0°.09,h35km,n16,
σ1§53/17,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMPI	Kaimana, Papua	0.46	9	P	Pn	15 16 47.7	-1.8
KMPI				S	Sn	15 16 56.1	-0.3
FAKI	Fak Fak	1.82	311	P	Pn	15 17 07.9	-0.3
FAKI	Fak Fak	1.82	311	P	Pn	15 17 08.1	-0.1
BNDI	Bandanaira	3.74	264	P	Pn	15 17 35.4	+0.9
BNDI	Bandan

ML2.4/3,Error ellipse: s-maj=31.3km s-min=12.7km az=90.0

ISC 22 15:17:12.3±5.3, 65°.92N±0°.09×36°.5E±0°.4, h10km, n9, σ0s94/5, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARCES	**ARCESS Array B**	**5.53**	**316**	Pn	**Pn**	**15 18 34.8**	**+0.3**
	0.1nm,0.3s,baz=124,slow=14,SNR=2.2						
ARCES				Sn	**Sn**	**15 19 38.8**	**+0.8**
	0.2nm,0.3s,baz=126,slow=24,SNR=2.0						
ARCES				Lg	Lg	15 20 06.8	
	0.4nm,0.3s,baz=127,slow=30,SNR=3.0						
	2.5nm,0.9s						
FINES	**FINESS Array B**	**6.45**	**231**	Pn	**Pn**	**15 18 47.6**	**+0.5**
	0.3nm,0.3s,baz=48,slow=12,SNR=10						
FINES				Sn	**Sn**	**15 20 00.9**	**+0.2**
	0.1nm,0.3s,baz=34,slow=25,SNR=1.5						
FINES				Lg	Lg	15 20 36.0	
	0.5nm,0.3s,baz=46,slow=26,SNR=6.4						
	0.5nm,0.3s						
I37NO	**I37NO**	**7.54**	**303**	I	I	16 00 00.0	
	0.1nm,0.6s,baz=105,slow=328,SNR=6.5						
I43RU	**DUBNA INFRASON 9**	**24.177**		I	I	16 10 20.0	
	baz=360,slow=321,SNR=4.9						
HFS	**Hagfors**	**11.81**	**251**	Pn	**Pn**	**15 19 59.8**	**-0.8**
	0.1nm,0.3s,baz=51,slow=21,SNR=2.0						
	0.4nm,0.4s						
I31KZ	**AKTYUBINSK INF**	**19.09**	**134**	I	I	17 10 30.0	
	baz=336,slow=318,SNR=0.7						
I26DE	**FREYUNG INFRAS20**	**84.226**		I	I	17 23 20.0	
	baz=28,slow=323,SNR=0.9						
I46RU	**ZALESOVO INFRA26**	**.26**	**94**	I	I	17 53 40.0	
	baz=314,slow=322,SNR=1.5						
I18DK	**QAANAAQ INFRAS**	**30.04**	**335**	I	I	18 22 40.0	
	baz=52,slow=330,SNR=1.4						

*SJA **22** 16:34:21.0±0.8, 24°.08S×69°.02W, h33km±3km, ML3.5, MW3.7*
*GUC **22** 16:34:23.9±0.8, 23°.99S×69°.22W, h80km±7km, ML3.4*

ISC 22 16:34:24.8±1.3, 24°.02S±0°.03×69°.20W±0°.05, h63km±17km, n34, σ1s62/54, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB15	**IPOC Station P**	**0.84**	**343**	*e*P	**Pn**	**16 34 40.7**	**-0.5**
PB15				*e*S	**Sn**	**16 34 54.3**	**+1.1**
PB15				IAML		16 34 54.6	
	comp=Z,4μm,0.6s						
PB15	**IPOC Station P**	**0.84**	**343**	⇓*i*P	**Pn**	**16 34 40.9**	**-0.3**
PB15				*i* S	**Sn**	**16 34 53.8**	**+0.6**
PB15				IAML		16 34 56.1	
	comp=E,5μm,0.5s						
GO02	**Mina Guanaco**	**1.19**	**197**	*e*P	**Pn**	**16 34 41.1**	**-4.7**
GO02				*e*S	**Sn**	**16 35 03.9**	**+2.6**
GO02				IAML		16 35 06.1	
	comp=Z,949nm,0.2s						
GO02	**Mina Guanaco**	**1.19**	**197**	⇑*i*P	Pn	16 34 46.4	+0.7
GO02				*e*S	**Sn**	**16 35 03.0**	**+1.7**
GO02				IAML		16 35 05.2	
	comp=E,2μm,0.3s						
PB14	**IPOC Station P**	**1.25**	**241**	*e*P	**Pn**	**16 34 46.2**	**-0.3**
PB14				*e*S	**Sn**	**16 35 04.8**	**+2.0**
PB14				IAML		16 35 10.2	
	comp=Z,812nm,0.3s						
PB14	**IPOC Station P**	**1.25**	**241**	⇑*i*P	**Pn**	**16 34 46.3**	**-0.3**
PB14				*e*S	**Sn**	**16 35 03.6**	**+0.8**
PB14				IAML		16 35 08.8	
	comp=E,423nm,0.3s						
PB10	**IPOC Station P**	**1.34**	**292**	*e*P	**Pn**	**16 34 46.9**	**-0.5**
PB10				*e*S	**Sn**	**16 35 04.1**	**-0.3**
PB10				*e*S		16 35 07.3	
PB10				IAML		16 35 09.7	
	comp=Z,368nm,0.3s						
PB10	**IPOC Station P**	**1.34**	**292**	*e*P	**Pn**	**16 34 47.1**	**-0.2**
PB10				*e*S	**Sn**	**16 35 04.4**	**+0.1**
PB10				IAML		16 35 09.0	
	comp=N,450nm,0.3s						
PB06	**IPOC Station P**	**1.35**	**345**	*e*P	**Pn**	**16 34 47.0**	**-0.8**
PB06				*e*S	**Sn**	**16 35 05.5**	**+0.6**
PB06	**IPOC Station P**	**1.35**	**345**	⇓*e*P	**Pn**	**16 34 46.9**	**-0.8**
PB06				*e*S	**Sn**	**16 35 04.5**	**-0.4**
PB06				IAML		16 35 05.9	
	comp=N,383nm,0.4s						
AF01	**San Pedro de A**	**1.42**	**42**	*e*P	**Pn**	**16 34 48.9**	**+0.2**
AF01				*i* S	**Sn**	**16 35 08.3**	**+1.7**
AF01				IAML		16 35 13.4	
	comp=E,1μm,0.4s						
LVC	**Limon Verde**	**1.43**	**11**	*e*P	**Pn**	**16 34 48.1**	**-0.8**
LVC				*e*S	**Sn**	**16 35 06.8**	**-0.1**
LVC	**Limon Verde**	**1.43**	**11**	*e*P	**Pn**	**16 34 48.1**	**-0.8**
LVC				*e*S	**Sn**	**16 35 06.5**	**-0.5**
LVC				IAML		16 35 07.7	
	comp=E,2μm,0.5s						
PB04	**IPOC Station P**	**1.89**	**332**	*e*P	**Pn**	**16 34 54.6**	**-0.4**
PB04				*e*S	Sn	16 35 03.6	-14
PB04				IAML		16 35 29.3	
	comp=Z,193nm,0.5s						
PB04	**IPOC Station P**	**1.89**	**332**	*e*P	**Pn**	**16 34 54.0**	**-0.9**
PB04				*i* S	**Sn**	**16 35 17.7**	**-0.1**
PB04				IAML		16 35 38.1	
PB09	**IPOC Station P**	**2.21**	**359**	*e*P	**Pn**	**16 34 59.4**	**0.0**
PB09				*e*S	**Sn**	**16 35 27.4**	**+1.7**
PB09				IAML		16 35 34.5	
	comp=Z,207nm,0.4s						
PB09	**IPOC Station P**	**2.21**	**359**	⇑*i*P	**Pn**	**16 34 59.4**	**0.0**
PB09				*i* S	**Sn**	**16 35 23.9**	**-1.8**
PB09				IAML		16 35 33.4	
	comp=N,236nm,0.7s						
AC01	**Pan de Azucar**	**2.47**	**211**	*e*P	**Pn**	**16 35 01.8**	**-0.9**
AC01				*e*S	**Sn**	**16 35 33.7**	**+2.0**
AC01				IAML		16 35 43.1	
	comp=Z,219nm,0.6s						
AC01	**Pan de Azucar**	**2.47**	**211**	*e*P	**Pn**	**16 35 02.0**	**-0.7**
AC01				*i* S	**Sn**	**16 35 31.4**	**-0.3**
PB01	**IPOC Station P**	**2.97**	**355**	*e*P	**Pn**	**16 35 08.6**	**-1.1**
PB01				*e*S	Sn	16 35 33.3	-11
PB01				IAML		16 35 33.9	
	comp=Z,117nm,0.4s						
PB01	**IPOC Station P**	**2.97**	**355**	*e*P	**Pn**	**16 35 08.9**	**-0.8**
PB01				IAML		16 35 56.8	
	comp=E,118nm,0.2s						
PATCX	**Punta Patache**	**3.30**	**344**	*e*P	**Pn**	**16 35 13.1**	**-1.1**
PATCX				*e*S	**Sn**	**16 35 52.1**	**-0.2**
PATCX				IAML		16 36 04.5	
	comp=Z,103nm,0.6s						
PATCX	**Punta Patache**	**3.30**	**344**	*e*P	**Pn**	**16 35 12.1**	**-2.0**
PATCX				*i* S	**Sn**	**16 35 49.8**	**-2.5**
SLA	**San Lorenzo**	**3.44**	**102**	*e*P	Pn	16 35 22.1	+6.0
AC06	**Mina Casimiro**	**3.48**	**197**	*e*P	**Pn**	**16 35 15.2**	**-1.4**
AC06				*i* S	**Sn**	**16 35 58.1**	**+1.5**
TA01	**Diego Aracena**	**3.56**	**345**	*e*P	**Pn**	**16 35 17.1**	**-0.4**
TA01				*e*S	**Sn**	**16 36 02.5**	**+4.2**
TA01				IAML		16 36 09.7	
	comp=Z,76nm,0.5s						
TA01	**Diego Aracena**	**3.56**	**345**	*i* S	**Sn**	**16 36 00.2**	**+1.9**
HJA	**Humahuaca**	**3.57**	**78**	*e*P	Pn	16 35 04.1	-14
HMBC	**Humberstone**	**3.78**	**350**	*e*P	Pn	16 35 21.2	+0.5
HMBC				*e*S	**Sn**	**16 36 06.1**	**+2.1**
HMBC				IAML		16 36 21.4	
	comp=Z,91nm,0.4s						
HMBC	**Humberstone**	**3.78**	**350**	*e*P	**Pn**	**16 35 19.3**	**-1.4**
HMBC				*i* S	Sn	16 36 09.6	+5.7
PB08	**IPOC Station P**	**3.86**	**1**	*e*P	**Pn**	**16 35 21.9**	**-0.1**
PB08				*e*S	Sn	16 36 20.2	+14
PB08				IAML		16 36 28.0	
	comp=Z,38nm,0.8s						
PB08	**IPOC Station P**	**3.86**	**1**	⇑*e*P	Pn	16 35 22.4	+0.4
PB08				*i* S	Sn	16 36 10.9	+4.6
PB11	**IPOC Station P**	**4.26**	**354**	*e*P	**Pn**	**16 35 25.7**	**-1.6**
PB11				*e*S	**Sn**	**16 36 18.1**	**+2.2**
PB11				IAML		16 36 27.2	
	comp=Z,56nm,1.1s						
AC05	**El Transito**	**4.89**	**191**	*e*P	**Pn**	**16 35 34.1**	**-1.8**
AC05				*e*S	**Sn**	**16 36 35.5**	**+4.2**
AC05				IAML		16 36 47.2	
	comp=Z,56nm,0.5s						

*KNET **22** 16:46:19.8±0.4, 42°.62N×75°.16E, h13km±2km, ml1.1, Error ellipse: s-maj=3.3km s-min=1.7km az=156.0*
*NNC **22** 16:46:20.2±0.2, 42°.64N×75°.16E, h0km, mb2.6, mpv2.3, Error ellipse: s-maj=1.8km s-min=0.7km az=168.0*

*SOME **22** 16:46:20.7, 42°.62N×75°.15E, h10km*

ISC 22 16:46:20.4±1.0, 42°.63N±0°.04×75°.16E±0°.02, h12km±8km, n28, σ0s49/54, 7C-11D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBK	**Karagaybulak**	**0.16**	**281**	⇓P	**Pg**	**16 46 24.3**	**0.0**
	32nm,0.2s,SNR=73						
KBK				⇓S	**Sg**	**16 46 27.0**	**+0.1**
	64nm,0.2s						
TKM2	**Tokmak 2**	**0.44**	**47**	⇓P	**Pg**	**16 46 28.8**	**-0.4**
	4.7nm,0.1s,SNR=25						
TKM2				⇓S	**Sg**	**16 46 34.6**	**-0.4**
	34nm,0.1s						
TKM2	**Tokmak 2**	**0.44**	**47**	⇓P	**Pg**	**16 46 28.8**	**-0.4**
	1.4nm,0.2s						
TKM2				⇑S	**Sg**	**16 46 34.5**	**-0.4**
	14nm,0.4s						
CHMS	**Chumysh**	**0.48**	**321**	⇑P	**Pg**	**16 46 29.7**	**-0.2**
	2.0nm,0.1s,SNR=5.8						
CHMS				⇓S	**Sg**	**16 46 36.2**	**0.0**
	20nm,0.2s						
CHMS	**Chumysh**	**0.48**	**321**	⇑P	**Pg**	**16 46 29.4**	**-0.4**
	1.2nm,0.5s						
CHMS				⇑S	**Sg**	**16 46 36.1**	**-0.1**
	7.8nm,0.4s						
AAK	**Ala-Archa**	**0.49**	**272**	⇓P	**Pg**	**16 46 30.1**	**-0.1**
	10.0nm,0.1s,SNR=16						
AAK				⇑S	**Sg**	**16 46 37.1**	**+0.4**
	8.6nm,0.2s						
AAK	**Ala-Archa**	**0.49**	**272**	⇓P	**Pg**	**16 46 29.9**	**-0.3**
	1.9nm,0.2s						
AAK				⇑S	**Sg**	**16 46 36.8**	**+0.1**
	11nm,0.6s						
UCH	**Uchtor**	**0.62**	**231**	⇓P	**Pg**	**16 46 32.4**	**-0.3**
	1.0nm,0.1s,SNR=8.2						
UCH				⇓S	**Sg**	**16 46 41.0**	**0.0**
	3.7nm,0.2s						
KST	**Kastek**	**0.72**	**54**	P	**Pg**	**16 46 34.1**	**-0.4**
	1.4nm,0.5s						
KST				S	**Sg**	**16 46 43.6**	**-0.3**
	7.7nm,0.3s						
KST	**Kastek**	**0.72**	**54**	*e*P	**Pg**	**16 46 34.1**	**-0.4**
	1.4nm,0.5s						
KST				*e*S	**Sg**	**16 46 43.6**	**-0.3**
	7.7nm,0.3s						
DGS	**Degeres**	**0.76**	**36**	P	**Pg**	**16 46 35.2**	**-0.1**
	0.6nm,0.2s						
DGS				S	**Sg**	**16 46 45.4**	**+0.2**
	4.0nm,0.2s						
DGS	**Degeres**	**0.76**	**36**	*e*P	**Pg**	**16 46 35.1**	**-0.1**
	0.6nm,0.2s						
DGS				*e*S	**Sg**	**16 46 45.4**	**+0.2**
	4.0nm,0.2s						
SGDS	**Sogindy**	**0.91**	**335**	P	**Pb**	**16 46 38.1**	**-0.2**
	2.0nm,0.1s						
SGDS				S	**Sb**	**16 46 50.4**	**-0.1**
	35nm,0.7s						
EKS2	**Erkin-Say**	**1.02**	**272**	⇑P	**Pb**	**16 46 39.9**	**-0.3**
	2.0nm,0.2s,SNR=8.1						
EKS2				⇓S	**Sn**	**16 46 54.5**	**-0.6**
	1.7nm,0.2s						
MTBS	**Maitube**	**1.06**	**61**	P	**Pg**	**16 46 40.4**	**-0.4**
	2.6nm,0.2s						
MTBS				S	**Sg**	**16 46 54.3**	**-0.4**
	9.3nm,0.3s						
MTBS	**Maitube**	**1.06**	**61**	*e*P	**Pg**	**16 46 40.3**	**-0.6**
	2.6nm,0.2s						
MTBS				*e*S	**Sg**	**16 46 54.3**	**-0.4**
	9.3nm,0.3s						
IZV	**Izvestkoviy**	**1.14**	**69**	P	**Pb**	**16 46 42.1**	**-0.3**
	0.9nm,0.1s						
IZV				S	**Sg**	**16 46 57.2**	**-0.2**
	6.7nm,0.3s						
IZV	**Izvestkoviy**	**1.14**	**69**	*e*P	**Pb**	**16 46 42.0**	**-0.3**
	0.9nm,0.1s						
IZV				*e*S	**Sg**	**16 46 57.2**	**-0.2**
	6.7nm,0.3s						
TNSS	**Tian-Shan**	**1.38**	**72**	P	**Pg**	**16 46 46.9**	**-0.1**
	0.6nm,0.2s						
TNSS				S	**Sg**	**16 47 05.5**	**+0.6**
	1.1nm,0.3s						
TNSS	**Tian-Shan**	**1.38**	**72**	*e*P	**Pg**	**16 46 46.9**	**-0.1**
	0.6nm,0.2s						
TNSS				*e*S	**Sg**	**16 47 05.5**	**+0.6**
	1.1nm,0.3s						
MDOK	**Medeo**	**1.49**	**68**	Pg	**Pb**	**16 46 48.1**	**0.0**
	1.4nm,0.3s						
MDOK				Lg	Lg	16 47 07.6	
	2.6nm,0.5s						
MDOK	**Medeo**	**1.49**	**68**	*e*P	**Pb**	**16 46 48.1**	**0.0**
	1.4nm,0.3s						
MDOK				*e*S	**Sb**	**16 47 07.6**	**+0.6**
	2.6nm,0.5s						
KTBS	**Karatobe**	**1.55**	**45**	P	**Pb**	**16 46 49.3**	**0.0**
	1.4nm,0.2s						
KTBS				S	**Sb**	**16 47 09.6**	**+0.7**
	4.4nm,0.4s						
KTBS	**Karatobe**	**1.55**	**45**	*e*P	**Pb**	**16 46 49.2**	**0.0**
	1.4nm,0.2s						
KTBS				*e*S	**Sb**	**16 47 09.6**	**+0.7**
	4.4nm,0.4s						
KOTS	**Kotyrbulak**	**1.56**	**66**	P	**Pg**	**16 46 50.1**	**-0.2**
	1.7nm,0.3s						
KOTS				S	**Sg**	**16 47 11.2**	**+0.6**
	6.8nm,0.7s						
KOTS	**Kotyrbulak**	**1.56**	**66**	*e*P	**Pg**	**16 46 50.1**	**-0.2**
	1.7nm,0.3s						
KOTS				*e*S	**Sg**	**16 47 11.2**	**+0.6**
	6.8nm,0.7s						
BTLS	**Baital**	**2.55**	**342**	Pg	**Pb**	**16 47 07.4**	**+1.3**
	0.7nm,0.5s						
BTLS				Lg	Lg	16 47 40.7	
	1.6nm,0.3s						
BTLS	**Baital**	**2.55**	**342**	*e*P	**Pb**	**16 47 07.4**	**+1.3**
	0.7nm,0.5s						
BTLS				*e*S	**Sg**	**16 47 40.7**	**-1.6**
	1.6nm,0.3s						

*IDC **22** 16:49:32.2±1.0, 6°.11S×143°.25E, h0km, mb3.7/5, mbtmp3.8/8, ML3.7/2, MS3.0/5, Error ellipse: s-maj=32.7km s-min=21.8km az=78.0*
*NEIC **22** 16:49:34.2±1.4, 6°.2S±0°.1×143°.1E±0°.1, h10km±2km, mb4.0/7, Error ellipse: s-maj=23.1km s-min=14.7km az=311.0*

ISC 22 16:49:36.8±0.8, 6°.24S±0°.08×143°.13E±0°.08, h35km, n23, σ1s27/22, mb4.1/7, MS2.9/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.08**	**129**	Pn	**Pn**	**16 50 49.7**	**-0.8**
	20nm,0.8s,baz=28,slow=3.9,SNR=9.7						
PMG				Sn	**Sn**	**16 51 48.4**	**+0.3**
	1.2nm,0.3s,baz=216,slow=21,SNR=2.7						
PMG				LR	LR	16 53 34.4	
	comp=Z,116nm,21.5s,baz=314,slow=48						
MANU	**Manus Island**	**5.93**	**46**	Pn	**Pn**	**16 51 01.7**	**-0.5**
COEN	**Coen**	**7.67**	**180**	Pn	**Pn**	**16 51 28.6**	**+2.5**
RABL	**Rabaul**	**9.22**	**78**	Pn	**Pn**	**16 51 46.7**	**-0.7**
MTN	**Manton Dam**	**13.53**	**240**	Pn	**Pn**	**16 52 46.2**	**-0.2**
WB0	**Warramunga Arr**	**15.91**	**211**	Pn	**Pn**	**16 53 18.4**	**+0.2**
WB0				IAmb	IAmb	16 54 00.5	
	comp=Z,5.2nm,0.8s						
WR0	**Warramunga Arr**	**15.99**	**211**	Pn	**Pn**	**16 53 19.1**	**-0.2**
WR0				IAmb	IAmb	16 53 45.2	
	comp=Z,15nm,1.4s						
WB2	**Warramunga Arr**	**16.08**	**211**	Pn	**Pn**	**16 53 20.9**	**+0.6**
WB2				IAmb	IAmb	16 53 55.9	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**16.08**	**211**	Pn	**Pn**	**16 53 20.7**	**+0.3**
WRA	**Warramunga Arr**	**16.08**	**211**	Pn	**Pn**	**16 53 20.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=26,slow=13,SNR=13						
WRA				Sn	**Sn**	**16 56 15.0**	**-2.8**
	comp=Z,0.1nm,0.3s,baz=35,slow=21,SNR=2.2						
WRA				Lg	Lg	16 58 08.3	
	comp=Z,0.1nm,0.3s,baz=37,slow=26,SNR=2.3						
WRA				LR	LR	17 00 18.3	
	comp=Z,128nm,20.1s,baz=55,slow=40						
	comp=Z,1.8nm,0.9s						
ASAR	**Alice Springs**	**19.47**	**206**	P	**P**	**16 53 60.0**	**-0.8**
ASAR	**Alice Springs**	**19.47**	**206**	P	**Pn**	**16 54 03.8**	**+1.6**
	comp=Z,0.5nm,0.3s,baz=34,slow=10.0,SNR=77						
	comp=Z,7.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**20.74**	**234**	P	**P**	**16 54 14.4**	**-0.2**
DAV	**Davao City (W)**	**21.94**	**307**	LR	LR	17 03 25.8	
	comp=Z,16nm,18.3s,baz=76,slow=38						
ARMA	**Armidale**	**25.35**	**163**	P	**P**	**16 54 58.8**	**-2.0**
ARMA				IAmb	IAmb	16 55 05.7	
	comp=Z,28nm,1.4s						
PSA00	**Pilbara Seismi**	**27.20**	**234**	P	**P**	**16 55 15.9**	**-1.5**
PSA00				IAmb	IAmb	16 55 38.9	
	comp=Z,5.6nm,1.2s						
KSRS	**Korea Array**	**45.72**	**343**	LR	LR	17 16 30.3	
	comp=Z,12nm,18.4s,baz=245,slow=36						
CMAR	**Chiang Mai Arr**	**50.01**	**300**	LR	LR	17 21 00.4	
	comp=Z,17nm,18.5s,baz=215,slow=38						
MKAR	**Makanchi Array**	**75.26**	**322**	P	**P**	**17 01 16.8**	**+0.5**
	comp=Z,0.2nm,0.6s,baz=117,slow=6.3,SNR=1.8						
	comp=Z,0.2nm,0.6s						
KURBB	**Kurchatov Array**	**79.14**	**324**	P	**P**	**17 01 37.9**	**+0.1**
	comp=Z,0.1nm,0.4s,baz=104,slow=3.9,SNR=2.5						
	comp=Z,0.1nm,0.4s						
QSPA	**South Pole Qui**	**83.73**	**180**	P	**P**	**17 02 03.7**	**+1.6**
	comp=Z,1.9nm,0.9s,baz=2.1,slow=0.3,SNR=5.2						
	comp=Z,1.9nm,0.9s						
BVAR	**Borovoye Array**	**84.71**	**325**	P	**P**	**17 02 08.7**	**+1.6**
	comp=Z,0.8nm,0.5s,baz=102,slow=4.7,SNR=5.9						
	comp=Z,0.8nm,0.5s						
ILAR	**Eielson Array**	**87.23**	**24**	P	**P**	**17 02 19.4**	**+0.1**
	comp=Z,0.8nm,0.9s,baz=249,slow=4.7,SNR=2.8						
	comp=Z,0.8nm,0.9s						

NEIC 22 16:58:31.2±0.8, 22°.24N±0°.04×101°.00E±0°.06, h10km±2km, ML3.4/14, Error ellipse: s-maj=11.5km s-min=5.0km az=302.0, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRAI	**Chiangrai**	**2.08**	**196**	Pn	Pn	16 59 06.0	-0.2
CRAI				Sn	Sn	16 59 31.6	-0.6
CRAI				IAML		16 59 33.9	
	comp=E,129nm,0.2s						
CRAI				IAML		16 59 34.5	
	comp=N,84nm,0.3s						
SLVN	**Son La**	**2.85**	**108**	Pn	Pn	16 59 16.6	-0.2
PHRA	**Phrae**	**3.79**	**191**	Pn	Pn	16 59 29.1	-0.6
PHRA				IAML		17 00 34.0	
	comp=E,197nm,1.2s						
CHTO	**Chiang Mai**	**3.92**	**210**	Pn	Pn	16 59 31.8	+0.4
CHTO				IAML		17 00 36.6	
	comp=E,13nm,0.7s						
CM31	**Chiang Mai Arr**	**4.23**	**208**	Pn	Pn	16 59 35.7	0.0
CMAR	**Chiang Mai Arr**	**4.23**	**208**	Pn	Pn	16 59 35.6	-0.2

IDC 22 17:23:34.5±1.5, 6°.33S×142°.67E, h0km, mb3.7/2, mbtmp3.7/5, ML3.6/2, Error ellipse: s-maj=39.6km s-min=26.9km az=56.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.40**	**125**	Pn	Pn	17 24 56.4	0.0
	6.9nm,0.4s,baz=269,slow=14,SNR=17						
PMG				Sn	Sn	17 25 59.5	+0.2
	6.9nm,0.3s,baz=264,slow=23,SNR=11						
WRA	**Warramunga Arr**	**15.77**	**210**	Pn	Pn	17 27 15.9	-2.2
	0.3nm,0.3s,baz=30,slow=13,SNR=14						
WRA				Sn	Sn	17 30 06.3	-7.3
	0.2nm,0.3s,baz=38,slow=24,SNR=2.4						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**19.19**	**205**	P	Pn	17 28 00.8	0.0
	0.2nm,0.3s,baz=35,slow=9.5,SNR=24						
ASAR				S	Sn	17 31 27.4	-9.3
	0.6nm,0.8s,baz=18,slow=27,SNR=3.4						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**75.05**	**322**	P	P	17 35 17.3	-0.8
	0.3nm,0.8s,baz=125,slow=7.2,SNR=2.8						
	0.3nm,0.8s						
BVAR	**Borovoye Array**	**84.52**	**325**	P	P	17 36 10.4	+1.1
	0.7nm,0.6s,baz=99,slow=6.4,SNR=3.1						
	0.7nm,0.6s						

TRN 22 17:26:19.3, 17°.63N×61°.79W, h16km, MD3.5, Barbuda., Leeward Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANDO	**Antigua, Disas**	**0.51**	**185**	*e*P	Pn	17 26 31.7	-0.2
ANDO				*e*S	Sn	17 26 41.2	+0.8
ANBD	**Bethesda, Anti**	**0.57**	**178**	*e*P	Pn	17 26 32.4	-0.4
ANBD				*e*S	Sn	17 26 42.2	+0.3
MBFL	**Flemmings, Mon**	**0.96**	**205**	*e*P	Pn	17 26 39.4	+1.1
MBFL				*e*S	Sn	17 26 54.5	+2.9
CBE	**Ff, Capester**	**1.56**	**174**	*e*S	Sn	17 27 00.2	-6.1
TBG	**Guadaloupe-3**	**1.77**	**176**	*e*P	Pb	17 26 51.9	+0.6
TDBA	**Terre de Bas,**	**1.77**	**175**	*e*P	Pn	17 26 48.4	-0.9
TDBA				*e*S	Sn	17 27 10.6	-1.0

IDC 22 17:31:24.0±7.8, 10°.26S×160°.62E, h0km, mb3.8/3, mbtmp3.8/3, MS3.3/3, Error ellipse: s-maj=231.1km s-min=50.7km az=121.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**13.29**	**272**	LR	LR	17 39 05.9	
	comp=Z,97nm,18.2s,baz=111,slow=35						
WRA	**Warramunga Arr**	**27.10**	**246**	P		17 37 07.9	-0.9
	0.9nm,0.7s,baz=76,slow=8.9,SNR=17						
WRA				LR	LR	17 46 51.3	
	comp=Z,74nm,18.3s,baz=129,slow=34						
	0.9nm,0.7s						
STKA	**Stephens Creek**	**27.80**	**216**	LR	LR	17 48 40.7	
	comp=Z,51nm,18.5s,baz=36,slow=37						
ASAR	**Alice Springs**	**28.75**	**239**	P	P	17 37 24.6	+1.0
	1.0nm,0.9s,baz=63,slow=10,SNR=7.1						
	1.0nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**30.42**	**12**	T	T	18 07 49.5	
	baz=194,slow=76,SNR=8.6						
H11N3	**WAKE ISLAND Hy**	**30.42**	**12**	T	T	18 07 49.7	
	baz=194,slow=76,SNR=10						
H11N2	**WAKE ISLAND Hy**	**30.43**	**12**	T	T	18 07 50.9	
	baz=194,slow=76,SNR=9.3						
MKAR	**Makanchi Array**	**89.53**	**318**	P	P	17 44 23.4	0.0
	0.3nm,0.6s,baz=102,slow=6.2,SNR=3.5						
	0.3nm,0.6s						

*NEIC **22** 17:54:01.8±1.6, 19°.1N±0°.1×64°.64W±0°.07, h35km±2km, ML2.7/22, Md3.6/6(RSPR),

AOPR	**Arecibo Observ**	**2.08 255**	⇓*eP*	Pn	17 54 36.1	-0.8
AOPR			*eS*	Sn	17 55 01.3	-0.6
AOPR	**Arecibo Observ**	**2.08 255**		Pn	17 54 34.7	-2.2
AOPR	comp=N,62nm,0.4s		IAML		17 55 12.1	
AGPR	**Aguadilla, PR**	**2.39 260**	Pn	Pn	17 54 39.3	-1.7
MLPR	**Magueyes Islan**	**2.47 248**	⇑*eP*	Pn	17 54 41.2	-0.9
MLPR	**Magueyes Islan**	**2.47 248**	*eS*	Sn	17 55 10.3	-0.8
MLPR	**Magueyes Islan**	**2.47 248**		Pn	17 54 41.2	-0.9
MLPR				Sn	17 55 10.3	-0.8
MLPR	**Magueyes Islan**	**2.47 248**	IAML		17 55 14.1	
MLPR	comp=N,32nm,2.1s		IAML		17 55 21.5	
CRPR	comp=E,25nm,2.3s		IAML		17 56 06.2	
CRPR	**Cabo Rojo, PR**	**2.51 250**	⇑*eP*	Pn	17 54 42.6	-0.1
CRPR	**Cabo Rojo, PR**	**2.51 250**	*eS*	Sn	17 55 12.0	-0.2
CRPR	**Cabo Rojo, PR**	**2.51 250**		Pn	17 54 41.9	-0.8
CRPR	**Cabo Rojo, PR**	**2.51 250**		Sn	17 55 12.0	-0.2
CRPR	**Cabo Rojo, PR**	**2.51 250**	IAML		17 55 34.7	
CRPR	comp=E,30nm,3.1s		IAML		17 56 06.2	
SDDR	**Presa de Saban**	**6.30 272**	Pn	Pn	17 55 30.9	-3.6

*IDC **22** 17:59:11.7±0.9,40˚.43S×176˚.47E,h0km,mb4.4/7, mbtmp4.3/9,ML3.8/2,MS3.6/10,Error ellipse: s-maj=29.2km s-min=20.8km az=117.0*

*NOU **22** 17:59:13.7,40˚.52S×176˚.43E,h10km,mb4.8/40,North Island, New Zealand*

*NEIC **22** 17:59:16.5±2.3,40˚.47S±0˚.04×176˚.42E±0˚.06,h34km±4km, mb4.7/23,Mwr4.5/37,Error ellipse: s-maj=7.8km s-min=4.2km az=122.0,Moment Tensor Solution. Moment tensor: Scale 10^15^Nm; Mrr3.02; Mθθ-1.60; Mϕϕ-1.43; Mrθ1.87; Mrϕ-1.07; Mθϕ6.05; Fault plane solution: M=6.94000×10^15^ NP1:ϕ=235.16000°,δ13.52000°, λ124.00000°. NP2:ϕ=20.41000°,δ78.83000°,λ82.34000°. Principal axes: T 7.3424, Plg56.0000°, Azm281.0000°; N -0.9017, Plg8.0000°, Azm22.0000°; P -6.4406, Plg33.0000°, Azm117.0000°;*

*WEL **22** 17:59:16.5±1.1,40˚.5S×17˚.6E±˚,h18km±7km,M4.5/6, ML4.8/6,MLv4.5/6 Error ellipse: s-maj=0.0km s-min=0.0km az=144.5,confirmed*

*WEL **22** 17:59:16.5,40˚.37S×176˚.32E,h21km,ML4.5,Mw4.3, Moment Tensor Solution. s7 Moment tenso: Mrr85.19; Mθθ79.78; Mϕϕ-164.97; Mrθ26.13; Mθϕ14.95; Mrϕ-322.82; Fault plane solution: NP1:ϕ=180.00000°,δ11.00000°, λ85.00000°. NP2:ϕ=5.00000°,δ79.00000°,λ91.00000°. Principal axes: T -387.6700, Plg56.0000°, Azm277.0000°; N 80.5900, Plg1.0000°, Azm185.0000°; P 307.0800, Plg34.0000°, Azm94.0000°; NORTH ISLAND*

*NEIC **22** 17:59:16.6,40˚.45S×176˚.40E,h34km*

ISC 22 17:59:16.2±0.6,40˚.44S±0˚.02×176˚.36E±0˚.02,h27km±3km, n304,σ1°§44/331,mb4.7/20,MS3.6/11,1C,North Island

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
WBFS	**Weber Fire Sta**	**0.05**	**318**	P		**Pb**	**17 59 19.3**	**-1.5**
WBFS				S		**Sb**	**17 59 22.6**	**-1.4**
ANWZ	**Angora Road**	**0.09**	**103**	P		**Pb**	**17 59 21.8**	**+0.8**
ANWZ				S		**Sb**	**17 59 25.9**	**+1.6**
DVHZ	**Dannevirke**	**0.20**	**314**	P		**Pb**	**17 59 21.6**	**-0.6**
DVHZ				S		**Sb**	**17 59 25.3**	**-0.8**
PGFS	**Porangahau Fir**	**0.24**	**55**	P		**Pb**	**17 59 23.1**	**+0.6**
PGFS				S		**Sb**	**17 59 28.3**	**+1.5**
BFZ	**Birch Farm**	**0.26**	**199**			**Pb**	**17 59 24.3**	**+1.5**
BFZ						**Sb**	**17 59 29.9**	**+2.5**
BFZ	**Birch Farm**	**0.26**	**199**	P		**Pb**	**17 59 24.3**	**+1.5**
BFZ				S		**Sb**	**17 59 29.8**	**+2.5**
PRHZ	**Porangahau**	**0.28**	**51**	P		**Pn**	**17 59 23.6**	**-0.9**
PRHZ				S		**Sn**	**17 59 28.8**	**-1.1**
DVHS	**Dannevirke Hig**	**0.31**	**321**	P		**Pb**	**17 59 21.8**	**-1.7**
DVHS				S		**Sb**	**17 59 26.9**	**-1.5**
PRWZ	**Pori Road**	**0.32**	**248**	P		**Pn**	**17 59 24.8**	**-0.3**
PRWZ				S		**Sn**	**17 59 31.2**	**+0.3**
TRMS	**Tiraumea**	**0.36**	**230**	P		**Pn**	**17 59 26.0**	**+0.2**
TRMS				S		**Sn**	**17 59 32.9**	**+0.9**
WPHZ	**Waipukurau**	**0.38**	**10**	P		**Pb**	**17 59 24.6**	**0.0**
WPHZ				S		**Sb**	**17 59 30.7**	**+0.5**
POWZ	**Post Office Ro**	**0.45**	**276**	P		**Pn**	**17 59 26.2**	**-0.8**
CPFS	**Castlepoint Fi**	**0.47**	**192**	P		**Pn**	**17 59 28.9**	**+1.7**
CPFS				S		**Sn**	**17 59 38.6**	**+3.9**
CPWZ	**Castlepoint**	**0.48**	**194**	P		**Pn**	**17 59 29.0**	**+1.5**
CPWZ				S		**Sn**	**17 59 39.0**	**+4.0**
TSZ	**Takapari Road**	**0.48**	**321**	P		**Pb**	**17 59 25.9**	**-0.4**
TSZ				S		**Sb**	**17 59 32.8**	**-0.3**
TIWZ	**Tintock**	**0.49**	**226**	P		**Pn**	**17 59 28.0**	**+0.4**
TIWZ				S		**Sn**	**17 59 37.5**	**+2.2**
PNHZ	**Pukenui**	**0.54**	**347**	P		**Pb**	**17 59 26.9**	**-0.3**
PNHZ				S		**Sb**	**17 59 35.5**	**+0.9**
PXZ	**Pawanui**	**0.56**	**44**	P		**Pn**	**17 59 28.4**	**-0.1**
PXZ				S		**Sn**	**17 59 38.3**	**+1.3**
MRZ	**Mangatainoka R**	**0.63**	**249**			**Pn**	**17 59 29.5**	**0.0**
MRZ				Sn		**Sn**	**17 59 38.8**	**+0.1**
MRZ	**Mangatainoka R**	**0.63**	**249**	P		**Pn**	**17 59 29.5**	**0.0**
MRZ				S		**Sn**	**17 59 39.2**	**+0.5**
TMWZ	**Te Maipa**	**0.76**	**208**	P		**Pn**	**17 59 31.7**	**+0.5**
TMWZ				S		**Sn**	**17 59 45.2**	**+3.4**
KAHZ	**Kahuranaki**	**0.76**	**32**	P		**Pn**	**17 59 31.4**	**+0.1**
KAHZ				S		**Sn**	**17 59 44.1**	**+2.3**
HOWZ	**Holdsworth Sta**	**0.79**	**234**	P		**Pn**	**17 59 32.1**	**+0.5**
HOWZ				S		**Sn**	**17 59 44.1**	**+1.6**
KRHZ	**Kereru**	**0.79**	**1**	P		**Pb**	**17 59 31.5**	**0.0**
KRHZ				S		**Sn**	**17 59 43.1**	**+0.4**
OHWZ	**Ohakea**	**0.83**	**286**	P		**Pn**	**17 59 33.2**	**+1.1**
CKHZ	**Cape Kidnapper**	**0.96**	**36**	P		**Pb**	**17 59 33.6**	**-0.6**
MTW	**Mount Morrison**	**0.97**	**222**	P		**Pn**	**17 59 34.3**	**+0.2**
MTW				S		**Sn**	**17 59 48.1**	**+1.1**
BHHZ	**Black Hill Sta**	**0.97**	**347**	P		**Pb**	**17 59 34.3**	**-0.2**
BHHZ				S		**Sn**	**17 59 47.7**	**+0.5**
OGWZ	**Otaki Gorge**	**0.98**	**247**	P		**Pn**	**17 59 34.7**	**+0.5**
KWHZ	**Kaweka Forest**	**1.01**	**3**	P		**Pb**	**17 59 35.0**	**-0.2**
KWHZ				S		**Sn**	**17 59 49.1**	**+0.9**
TRWZ	**Traveller**	**1.08**	**208**	P		**Pb**	**17 59 35.9**	**-0.5**
MOVZ	**Moawhango**	**1.13**	**336**	P		**Pb**	**17 59 37.0**	**-0.1**
PAWZ	**Paruwai Farm**	**1.18**	**216**	P		**Pn**	**17 59 37.0**	**0.0**
KIW	**Kapiti Island**	**1.18**	**249**	P		**Pn**	**17 59 37.5**	**-0.4**
KIW				S		**Sn**	**17 59 54.5**	**+2.3**
CAW	**Cannon Point**	**1.19**	**235**	P		**Pb**	**17 59 37.3**	**-0.7**
MTVZ	**Mangateitei**	**1.25**	**327**	P		**Pb**	**17 59 39.4**	**+0.2**
WAZ	**Wanganui**	**1.25**	**303**	P		**Pb**	**17 59 39.7**	**+0.4**
WNVZ	**Wahianoa**	**1.25**	**332**	P		**Pb**	**17 59 39.2**	**-0.1**
ARHZ	**Aropaoanui**	**1.27**	**23**	P		**Pn**	**17 59 38.6**	**+0.3**
BKZ	**Black Stump Fm**	**1.28**	**5**	P		**Pn**	**17 59 38.3**	**-0.1**
BKZ	**Black Stump Fm**	**1.28**	**5**	Pn		**Pn**	**17 59 38.3**	**-0.1**
BKZ				Sn		**Sn**	**17 59 54.6**	**0.0**
BKZ	**Black Stump Fm**	**1.28**	**5**	P		**Pn**	**17 59 38.5**	**+0.1**
MSWZ	**Moikau Station**	**1.29**	**220**			**Pn**	**17 59 38.1**	**-0.3**
MSWZ				Sn		**Sn**	**17 59 54.6**	**-0.3**
MSWZ	**Moikau Station**	**1.29**	**220**	P		**Pn**	**17 59 38.2**	**-0.3**
TUVZ	**Tukino**	**1.29**	**335**	P		**Pb**	**17 59 39.8**	**-0.1**
WHVZ	**Whangaehu Hut**	**1.30**	**333**	P		**Pb**	**17 59 39.9**	**-0.1**
TRVZ	**Turoa**	**1.30**	**331**	P		**Pb**	**17 59 39.9**	**-0.2**
MAVZ	**Matarangi**	**1.32**	**332**	P		**Pb**	**17 59 40.2**	**-0.3**
FWVZ	**Far West T-bar**	**1.33**	**332**	P		**Pb**	**17 59 40.4**	**-0.3**
SNVZ	**South Ngauruho**	**1.37**	**336**	P		**Pb**	**17 59 40.8**	**-0.4**
OTVZ	**Oturere**	**1.38**	**337**	P		**Pb**	**17 59 41.0**	**-0.5**
NMHZ	**Naumai**	**1.38**	**15**	P		**Pn**	**17 59 40.5**	**+0.6**
COVZ	**Chateau Observ**	**1.39**	**333**	P		**Pb**	**17 59 41.0**	**-0.5**
PKVZ	**Pokaka**	**1.39**	**326**	P		**Pb**	**17 59 41.1**	**-0.4**
NGZ	**Ngauruhoe**	**1.39**	**335**	P		**Pb**	**17 59 41.0**	**-0.7**
ETVZ	**East Tongariro**	**1.39**	**339**	P		**Pb**	**17 59 41.1**	**-0.6**
PLWZ	**Palliser**	**1.40**	**216**			**Pn**	**17 59 39.6**	**-0.5**
PLWZ				Sn		**Sn**	**17 59 57.1**	**-0.7**
PLWZ	**Palliser**	**1.40**	**216**	P		**Pn**	**17 59 39.7**	**-0.5**
TMVZ	**Te Maari**	**1.41**	**339**	P		**Pb**	**17 59 41.4**	**-0.7**
NNVZ	**North Ngauruho**	**1.42**	**336**	P		**Pb**	**17 59 41.6**	**-0.7**
NTVZ	**North Tongariro**	**1.44**	**338**	P		**Pb**	**17 59 42.3**	**-0.1**
WTVZ	**West Tongariro**	**1.45**	**336**	P		**Pb**	**17 59 41.8**	**-0.8**
KRVZ	**Karewarewa**	**1.45**	**337**	P		**Pb**	**17 59 42.4**	**-0.3**
WEL	**Wellington**	**1.47**	**234**	P		**Pn**	**17 59 40.9**	**-0.1**
BHW	**Baring Head**	**1.48**	**229**			**Pn**	**17 59 40.8**	**-0.4**
BHW				Sn		**Sn**	**17 59 59.0**	**-0.6**
BHW	**Baring Head**	**1.48**	**229**	P		**Pn**	**17 59 40.8**	**-0.4**
WHHZ	**Waihua**	**1.52**	**27**	P		**Pn**	**17 59 41.7**	**0.0**
SNZO	**South Karori**	**1.52**	**235**	P		**Pn**	**17 59 41.4**	**-0.3**
SNZO	**South Karori**	**1.52**	**235**	Pn		**Pn**	**17 59 41.5**	**-0.3**
SNZO						**Sn**	**18 00 01.0**	**+0.4**
TWVZ	**Taurewa**	**1.54**	**332**	P		**Pb**	**17 59 43.2**	**-0.9**
KATZ	**Kakaramea**	**1.55**	**341**	P		**Pb**	**17 59 44.2**	**-0.1**
HATZ	**Hinemaiaia**	**1.56**	**352**	P		**Pn**	**17 59 42.9**	**+0.7**
MRHZ	**Matea Rd**	**1.60**	**2**	P		**Pn**	**17 59 43.3**	**+0.4**
RAHZ	**Arahi**	**1.62**	**21**	P		**Pn**	**17 59 43.3**	**+0.2**
MTHZ	**Maungataniwha**	**1.63**	**13**	P		**Pn**	**17 59 43.1**	**-0.1**
RATZ	**Rangitukua**	**1.63**	**344**	P		**Pn**	**17 59 44.1**	**+0.8**
KNZ	**Kokohu**	**1.74**	**36**	P		**Pn**	**17 59 43.7**	**-1.1**
MHGZ	**Mahia Peninsul**	**1.75**	**43**	P		**Pn**	**17 59 44.0**	**-0.9**
TCW	**Tory Channel**	**1.76**	**243**			**Pn**	**17 59 44.6**	**-0.2**
TCW				Sn		**Sn**	**18 00 07.0**	**+0.6**
TCW	**Tory Channel**	**1.76**	**243**	P		**Pn**	**17 59 44.7**	**-0.2**
LREZ	**Lake Rotokare**	**1.79**	**302**	P		**Pn**	**17 59 47.4**	**-1.0**
WATZ	**Wairara**	**1.79**	**344**	P		**Pn**	**17 59 46.2**	**+0.7**
WHTZ	**Whakaora**	**1.80**	**350**	P		**Pb**	**17 59 47.4**	**-1.1**
VRZ	**Vera Road**	**1.80**	**316**	P		**Pn**	**17 59 47.0**	**+1.4**
SNGZ	**Shannon Statio**	**1.82**	**25**	P		**Pn**	**17 59 45.5**	**-0.3**
RTZ	**Ruatahuna**	**1.88**	**15**			**Pn**	**17 59 46.6**	**-0.2**
RTZ				Sn		**Sn**	**18 00 09.6**	**-0.1**
RTZ	**Ruatahuna**	**1.88**	**15**	P		**Pn**	**17 59 47.0**	**+0.2**
DUWZ	**D'Urville Isla**	**1.89**	**258**	P		**Pn**	**17 59 47.0**	**+0.3**
PRGZ	**Paritu Road**	**1.92**	**38**	P		**Pn**	**17 59 46.1**	**-1.1**
WPRZ	**Whakapapatarin**	**1.92**	**355**	P		**Pn**	**17 59 47.3**	**0.0**
PRRZ	**Plateau Road**	**1.94**	**1**	P		**Pn**	**17 59 47.4**	**0.0**
KUTZ	**Kaahu Road**	**1.99**	**348**	P		**Pn**	**17 59 48.5**	**+0.3**
PREZ	**Palmer Road**	**2.01**	**302**	P		**Pb**	**17 59 51.0**	**-1.2**
RIGZ	**Rimuhau**	**2.04**	**33**	P		**Pn**	**17 59 48.3**	**-0.7**
HRRZ	**Handcock Road**	**2.05**	**358**	P		**Pn**	**17 59 49.3**	**+0.3**
MHEZ	**Mangahewa**	**2.08**	**310**	P		**Pb**	**17 59 51.9**	**-1.3**
DREZ	**Durham Road**	**2.08**	**306**	P		**Pn**	**17 59 51.2**	**+1.9**
TUWZ	**Tuamarina**	**2.08**	**241**			**Pn**	**17 59 48.5**	**-0.8**
TUWZ	**Tuamarina**	**2.08**	**241**	P		**Pn**	**17 59 48.6**	**-0.8**
CMWZ	**Cape Campbell**	**2.08**	**230**			**Pn**	**17 59 49.1**	**-0.4**
CMWZ	**Cape Campbell**	**2.08**	**230**	P		**Pn**	**17 59 49.2**	**-0.2**
NEZ	**North Egmont**	**2.09**	**303**	P		**Pn**	**17 59 51.7**	**-1.9**
GRRZ	**Galatos Road**	**2.10**	**355**	P		**Pn**	**17 59 50.2**	**+0.6**
RRRZ	**Republican Roa**	**2.10**	**3**	P		**Pn**	**17 59 49.5**	**-0.2**
RAGZ	**Rawiri**	**2.11**	**23**	P		**Pn**	**17 59 49.3**	**-0.5**
HSRZ	**Hossack Road**	**2.13**	**358**	P		**Pn**	**17 59 50.1**	**+0.1**
KHEZ	**Kahui Hut**	**2.13**	**302**	P		**Pn**	**17 59 51.1**	**+0.9**
KHEZ	**Kahui Hut**	**2.13**	**302**	P		**Pb**	**17 59 52.6**	**-1.6**
NMEZ	**Namu Road**	**2.16**	**297**	P		**Pb**	**17 59 52.8**	**-1.9**
HLRZ	**Highlands Stat**	**2.18**	**360**	P		**Pn**	**17 59 51.9**	**+1.0**
HLRZ						**Pb**	**17 59 53.4**	**-1.7**
TLZ	**Tolley Road**	**2.20**	**343**	P		**Pn**	**17 59 51.1**	**+0.1**
TARZ	**Mount Tarawera**	**2.20**	**3**	P		**Pn**	**17 59 51.1**	**-0.1**
PKE	**Pukeiti**	**2.21**	**304**	P		**Pb**	**17 59 53.5**	**-1.9**
NBEZ	**Newall Road No**	**2.24**	**301**	P		**Pn**	**17 59 53.9**	**-2.1**
HIZ	**Hauiti**	**2.25**	**328**	P		**Pn**	**17 59 52.7**	**+1.0**
HIZ	**Hauiti**	**2.25**	**328**			**Pn**	**17 59 53.0**	**+1.3**
HIZ	**Hauiti**	**2.25**	**328**	P		**Pn**	**17 59 53.0**	**+1.3**
URZ	**Urewera**	**2.25**	**15**	P		**Pn**	**17 59 50.8**	**-1.0**
URZ	**Urewera**	**2.25**	**15**	Pn		**Pn**	**17 59 50.3**	**-1.4**
URZ	16nm,0.3s,baz=314,slow=6.7,SNR=77			Sn		**Sn**	**18 00 17.3**	**-1.4**
	76nm,0.3s,baz=158,slow=16,SNR=13							
	64nm,0.3s							
URZ	**Urewera**	**2.25**	**15**	P		**Pn**	**17 59 50.8**	**-1.0**
UTU	**Utuhina**	**2.26**	**357**	P		**Pn**	**17 59 52.3**	**+0.4**
BSWZ	**Blackbirch Sta**	**2.27**	**235**			**Pn**	**17 59 51.1**	**-0.9**
BSWZ	**Blackbirch Sta**	**2.27**	**235**	P		**Pn**	**17 59 51.2**	**-0.8**
MWZ	**Matawai**	**2.29**	**24**	P		**Pn**	**17 59 51.3**	**-1.0**
OMRZ	**Omania**	**2.33**	**0**	P		**Pn**	**17 59 52.5**	**-0.3**
NGRZ	**Ngongotaha**	**2.34**	**357**	P		**Pb**	**17 59 59.1**	**+1.4**
NNZ	**Nelson**	**2.39**	**250**			**Pn**	**17 59 54.1**	**+0.5**
NNZ	**Nelson**	**2.39**	**250**	P		**Pn**	**17 59 53.8**	**+0.2**
KARZ	**Kaharoa**	**2.42**	**358**	P		**Pn**	**17 59 54.0**	**0.0**
CNGZ	**Carnagh Statio**	**2.42**	**37**	P		**Pn**	**17 59 53.2**	**-0.9**
TWGZ	**Tauwhareparae**	**2.59**	**30**	P		**Pn**	**17 59 55.7**	**-0.8**
OPRZ	**Ohinepanea**	**2.59**	**4**	P		**Pn**	**17 59 57.4**	**+1.0**
KMRZ	**Kaimai**	**2.61**	**353**	P		**Pn**	**17 59 56.8**	**+0.1**
WHRZ	**Whale Island**	**2.62**	**11**	P		**Pb**	**18 00 01.3**	**-1.3**
TKNZ	**Takaka Hill**	**2.65**	**256**			**Pn**	**17 59 57.3**	**+0.1**
TKNZ	**Takaka Hill**	**2.65**	**256**	P		**Pn**	**17 59 57.6**	**+0.4**
RUGZ	**Raukumara Rang**	**2.67**	**23**	P		**Pn**	**17 59 56.8**	**-0.9**
TGRZ	**Tauranga**	**2.71**	**358**	P		**Pn**	**17 59 59.0**	**+1.0**
TOZ	**Tahuroa Road**	**2.78**	**346**			**Pn**	**17 59 58.8**	**-0.3**
TOZ	**Tahuroa Road**	**2.78**	**346**	P		**Pn**	**17 59 59.1**	**+0.1**
PUZ	**Puketiti**	**2.79**	**33**	P		**Pn**	**17 59 57.5**	**-1.6**
PKGZ	**Pakihiroa**	**2.88**	**28**	P		**Pn**	**17 59 59.6**	**-0.8**
MRNZ	**Matariki Terra**	**2.89**	**249**			**Pn**	**18 00 00.4**	**-0.1**
MRNZ	**Matariki Terra**	**2.89**	**249**	P		**Pn**	**18 00 00.7**	**+0.2**
KHZ	**Kahutara**	**2.90**	**226**	P		**Pn**	**17 59 58.8**	**-1.8**
KHZ	**Kahutara**	**2.90**	**226**	Pn		**Pn**	**17 59 58.9**	**-1.6**
KHZ	**Kahutara**	**2.90**	**226**	P		**Pn**	**17 59 58.9**	**-1.6**
HAZ	**Te Kaha**	**2.90**	**23**	P		**Pn**	**18 00 00.1**	**-0.5**
THZ	**Tophouse**	**2.92**	**242**	Pn		**Pn**	**18 00 00.1**	**-0.9**
THZ	**Tophouse**	**2.92**	**242**	P		**Pn**	**17 59 60.0**	**-1.1**
QRZ	**Quartz Range**	**2.94**	**261**	P		**Pn**	**18 00 01.1**	**0.0**
QRZ	**Quartz Range**	**2.94**	**261**			**Pn**	**18 00 01.2**	**0.0**
QRZ	**Quartz Range**	**2.94**	**261**	P		**Pn**	**18 00 01.1**	**0.0**
WMGZ	**Waiomatatini S**	**3.07**	**32**	P		**Pn**	**18 00 01.6**	**-1.4**
MXZ	**Matakaoa Point**	**3.25**	**29**	P		**Pn**	**18 00 05.0**	**-0.5**
MXZ	**Matakaoa Point**	**3.25**	**29**	Pn		**Pn**	**18 00 03.7**	**-1.8**
MXZ	**Matakaoa Point**	**3.25**	**29**	P		**Pn**	**18 00 04.1**	**-1.3**
MKAZ	**Moumakai**	**3.46**	**244**	P		**Pn**	**18 00 09.0**	**+0.7**
KBAZ	**Kaharoa Road Bo**	**3.53**	**341**	P		**Pb**	**18 00 14.9**	**-3.0**
GVZ	**Greta Valley S**	**3.54**	**223**	Pn		**Pn**	**18 00 07.6**	**-2.0**
GVZ	**Greta Valley S**	**3.54**	**223**	P		**Pn**	**18 00 07.7**	**-1.8**
AWAZ	**Awhitu Peninsu**	**3.63**	**338**	P		**Pn**	**18 00 12.0**	**+1.3**
ETAZ	**East Tamaki Re**	**3.65**	**342**	P		**Pn**	**18 00 11.6**	**+0.5**
DSZ	**Denniston Nort**	**3.68**	**248**	Pn		**Pn**	**18 00 10.7**	**-0.8**
DSZ	**Denniston Nort**	**3.68**	**248**	P		**Pn**	**18 00 10.6**	**-0.8**
KUZ	**Kuaotunu**	**3.72**	**352**	P		**Pn**	**18 00 12.2**	**+0.2**
KUZ	**Kuaotunu**	**3.72**	**352**	P		**Pn**	**18 00 12.1**	**+0.2**
WTAZ	**Waiatarua**	**3.77**	**338**	P		**Pn**	**18 00 14.4**	**+1.7**
MBAZ	**Motutapu North**	**3.84**	**342**	P		**Pn**	**18 00 14.3**	**+0.7**
LTZ	**Lake Taylor**	**3.85**	**231**	Pn		**Pn**	**18 00 11.9**	**-1.9**
LTZ	**Lake Taylor**	**3.85**	**231**	P		**Pn**	**18 00 11.8**	**-2.0**
AMCZ	**Amberley**	**3.89**	**224**	Pn		**Pn**	**18 00 12.1**	**-2.2**
AMCZ	**Amberley**	**3.89**	**224**	P		**Pn**	**18 00 12.1**	**-2.2**
RVAZ	**Riverhead Bore**	**3.92**	**339**	P		**Pn**	**18 00 16.2**	**+1.5**
OKCZ	**Okains Bay**	**4.10**	**216**	P		**Pn**	**18 00 15.1**	**-2.1**
OKCZ				S		**Sn**	**18 00 30.5**	**-3.7**
MQZ	**McQueen's Vall**	**4.27**	**219**	Pn		**Sn**	**18 00 16.4**	**-3.0**
MQZ						**Sn**	**18 01 01.8**	**-6.7**
MQZ	**McQueen's Vall**	**4.27**	**219**	P		**Pn**	**18 00 16.5**	**-3.0**
MQZ				S		**Sn**	**18 01 03.6**	**-4.8**
AKCZ	**Akaroa Harbour**	**4.28**	**216**	P		**Pn**	**18 00 17.7**	**-1.9**
AKCZ				S		**Sn**	**18 01 04.8**	**-3.9**
OXZ	**Oxford**	**4.33**	**227**	Pn		**Pn**	**18 00 17.1**	**-3.2**
OXZ	**Oxford**	**4.33**	**227**	P		**Pn**	**18 00 17.3**	**-3.0**
INZ	**Inchbonnie**	**4.33**	**237**	Pn		**Pn**	**18 00 18.1**	**-2.2**
INZ	**Inchbonnie**	**4.33**	**237**	P		**Pn**	**18 00 18.5**	**-1.9**
RACZ	**Rakaia**	**4.54**	**222**	P		**Pn**	**18 00 21.6**	**-1.6**
MHCZ	**Mount Hutt**	**4.72**	**228**	P		**Pn**	**18 00 23.0**	**-2.7**
WCZ	**Waipu Caves**	**4.76**	**340**	P		**Pn**	**18 00 27.2**	**+0.9**
WACZ	**Wakanui South**	**4.85**	**222**	P		**Pn**	**18 00 25.0**	**-2.4**
WVZ	**Waitaha Valley**	**4.96**	**236**	P		**Pn**	**18 00 26.8**	**-2.1**
RPZ	**Rata Peaks**	**5.13**	**229**	P		**Pn**	**18 00 29.9**	**-1.4**
RPZ	**Rata Peaks**	**5.13**	**229**	Pn		**Pn**	**18 00 28.2**	**-3.0**
RPZ	**Rata Peaks**	**5.13**	**229**	Pn		**Pn**	**18 00 29.7**	**-1.5**
RPZ	6.9nm,0.3s,baz=101,slow=4.7,SNR=18			Sn		**Sn**	**18 01 25.0**	**-4.6**
	23nm,0.3s,baz=323,slow=21,SNR=22							
	14nm,0.3s							
RPZ	**Rata Peaks**	**5.13**	**229**	P		**Pn**	**18 00 28.6**	**-2.6**
ARCZ	**Arundel**	**5.20**	**226**	P		**Pn**	**18 00 29.8**	**-2.5**
TMZ	**Timaru**	**5.59**	**223**	P		**Pn**	**18 00 35.7**	**-1.9**
OUZ	**Omahuta**	**5.65**	**336**	P		**Pn**	**18 00 39.4**	**+1.0**
OUZ	**Omahuta**	**5.65**	**336**	P		**Pn**	**18 00 39.5**	**+1.0**
FOZ	**Fox Glacier**	**5.77**	**235**	Pn		**Pn**	**18 00 37.6**	**-2.4**
FOZ	**Fox Glacier**	**5.77**	**235**	P		**Pn**	**18 00 38.8**	**-1.3**
LBZ	**Lake Benmore**	**6.03**	**227**	Pn		**Pn**	**18 00 40.9**	**-2.8**
LBZ	**Lake Benmore**	**6.03**	**227**	P		**Pn**	**18 00 41.7**	**-2.1**
CTZ	**Chatham Island**	**6.18**	**125**	P		**Pn**	**18 00 45.0**	**-0.7**
CTZ	**Chatham Island**	**6.18**	**125**	Pn		**Pn**	**18 00 45.5**	**-0.2**
CTZ	**Chatham Island**	**6.18**	**125**	P		**Pn**	**18 00 45.8**	**+0.1**
CTZ				S		**Sn**	**18 01 47.7**	**-7.7**
ODZ	**Otahua Downs**	**6.23**	**221**	P		**Pn**	**18 00 44.1**	**-2.4**
ODZ	**Otahua Downs**	**6.23**	**221**	Pn		**Pn**	**18 00 43.5**	**-2.9**
ODZ	**Otahua Downs**	**6.23**	**221**	P		**Pn**	**18 00 44.0**	**-2.4**
JCZ	**Jackson Bay**	**6.69**	**235**	P		**Pn**	**18 00 51.3**	**-1.5**
JCZ	**Jackson Bay**	**6.69**	**235**	P		**Pn**	**18 00 51.4**	**-1.4**
HHSZ	**Highcliff Hill**	**6.88**	**216**	P		**Pn**	**18 00 53.3**	**-2.0**
WKZ	**Wanaka**	**6.96**	**229**	Pn		**Pn**	**18 00 53.6**	**-2.9**
WKZ	**Wanaka**	**6.96**	**229**	P		**Pn**	**18 00 56.8**	**+0.3**
EAZ	**Earnscleugh**	**7.05**	**225**	P		**Pn**	**18 00 55.3**	**-2.4**
TUZ	**Tuapeka**	**7.38**	**219**	P		**Pn**	**18 01 01.0**	**-1.2**
MLZ	**Mavora Lakes**	**7.80**	**228**	Pn		**Pn**	**18 01 05.5**	**-2.4**
SYZ	**Scrubby Hill**	**8.04**	**218**	P		**Pn**	**18 01 10.6**	**-0.6**
SYZ	**Scrubby Hill**	**8.04**	**218**	P		**Pn**	**18 01 10.3**	**-0.9**
WHZ	**Wether Hill Ro**	**8.21**	**226**	Pn		**Pn**	**18 01 10.1**	**-3.5**
DCZ	**Deep Cove**	**8.41**	**230**	Pn		Pn	18 01 10.7	-5.6
APZ	**The Paps**	**8.81**	**221**	P		**Pn**	**18 01 21.2**	**-0.6**
DZM	**Mont Dzumac**	**20.15**	**332**	P		**P**	**18 03 49.6**	**+1.1**
DZM	**Mont Dzumac**	**20.15**	**332**	*eP*		Pn	18 03 50.0	-0.5
DZM	50nm,25.4s			*e*LR		LR	18 08 43.6	
	192nm,22.7s							
DZM	**Mont Dzumac**	**20.15**	**332**	P		**P**	**18 03 47.4**	**-1.1**
DZM	**Mont Dzumac**	**20.15**	**332**	P		**P**	**18 03 49.4**	**+0.9**

FINES	**FINESS Array B**	**152.27**	**329**	PKPbc	**PKPbc**	**18 19 08.1**	**-0.4**
	comp=Z,1.7nm,0.6s,baz=46,slow=5.5,SNR=8.5						
FINES				PKPab	**pPKPbc**	**18 19 17.1**	**-0.3**
	comp=Z,1.5nm,0.5s,baz=54,slow=4.2,SNR=7.9						
TORD	**Torodi Ar. Bea**	**152.41**	**191**	PKPbc	**PKPbc**	**18 19 10.1**	**-0.1**
	comp=Z,0.7nm,0.6s,baz=154,slow=2.2,SNR=4.7						
TORD				PKPab	**sPKPbc**	**18 19 20.1**	**-2.1**
	comp=Z,1.3nm,0.6s,baz=147,slow=2.6,SNR=6.0						
HFS	**Hagfors**	**157.52**	**337**	PKPab	**PKPab**	**18 19 40.0**	**-1.0**
	comp=Z,1.0nm,0.7s,baz=23,slow=7.8,SNR=2.8						

DNK ***22*** *18:00:12.3±1.4,59.41N×25.08E, h0km, ML2.2(UPP), Suspected explosion*
UPP ***22*** *18:00:14.5±2.7,59.41N×24.85E, h0km, ML2.2*
HEL ***22*** *18:00:15.9±0.1,59.47N×24.76E, h0km, ML1.9, Explosion*
EST ***22*** *18:00:15.7±0.1,59.46N×24.74E, h0km, ML1.9(HEL), Explosion*
LVSN ***22*** *18:00:16.7±5.5,59.52N×24.70E, h0km±61km, ML2.2*
IDC ***22*** *18:00:16.7±2.2,59.59N×24.77E, h0km, mbtmp3.2/3, ML2.3/3, Error ellipse: s-maj=26.3km s-min=9.1km az=157.0*

ISC 22 18:00:13.8±0.7,**59.51N**±0.02×**24.77E**±0.02,**h0**km,**n51**, σ1**9**24/74,**1D, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EE02	**Kiisa, Saku**	**0.32**	**186**	*eP*		**Pg**		**18 00 20.4**	**+0.4**
EE02				*eS*		**Sg**		**18 00 23.8**	**-0.3**
ARBE	**Arbavere**	**0.63**	**96**	*eP*		**Pb**		**18 00 26.9**	**-0.7**
ARBE	**Arbavere**	**0.63**	**96**	*eP*		**Pb**		**18 00 26.7**	**-0.9**
ARBE	comp=N,401nm,0.2s			AML	AML			18 00 46.1	
ARBE	comp=Z,111nm,0.6s			AML	AML			18 00 47.7	
ARBE	comp=E,284nm,0.5s			AML	AML			18 00 50.5	
ARBE	**Arbavere**	**0.63**	**96**	*eP*		**Pb**		**18 00 26.7**	**-0.9**
ARBE				*eS*		**Sb**		**18 00 35.9**	**-1.0**
EE01	**Perakula, Nova**	**0.66**	**243**	*eP*		**Pg**		**18 00 26.7**	**+0.3**
EE01				*eS*		**Sg**		**18 00 34.9**	**-0.1**
HEL1	**Helsinki**	**0.67**	**5**	*eP*		**Pb**		**18 00 28.1**	**-0.3**
HEL1				*eS*		**Sb**		**18 00 37.8**	**-0.4**
MEF	**Metsahovi**	**0.73**	**345**	*eP*		**Pb**		**18 00 29.5**	**+0.1**
MEF	**Metsahovi**	**0.73**	**345**	*eP*		**Pb**		**18 00 29.4**	**-0.1**
MEF				*eS*		**Sb**		**18 00 39.0**	**-1.0**
MEF	comp=E,20nm,0.2s			AML	AML			18 00 46.8	
MEF	comp=N,24nm,0.3s			AML	AML			18 00 49.2	
MEF	comp=Z,24nm,0.5s			AML	AML			18 00 49.7	
MEF	**Metsahovi**	**0.73**	**345**	*eP*		**Pb**		**18 00 29.5**	**+0.1**
MEF				*eS*		**Sb**		**18 00 39.4**	**-0.5**
EE08	**Sarghaua, Vand**	**0.89**	**164**	*eP*		**Pg**		**18 00 30.9**	**+0.1**
EE08				*eS*		**Sg**		**18 00 41.9**	**-0.5**
MTSE	**Matsula**	**0.94**	**212**	*eP*		**Pg**		**18 00 31.7**	**0.0**
MTSE	**Matsula**	**0.94**	**212**	*eP*		**Pb**		**18 00 31.7**	**0.0**
MTSE	**Matsula**	**0.94**	**212**	*eP*		**Pg**		**18 00 31.8**	**0.0**
MTSE				*eS*		**Sg**		**18 00 42.7**	**-1.2**
NUR	**Nurmijrvi**	**1.00**	**357**	*eP*		**Pb**		**18 00 34.2**	**+0.2**
NUR				*eSN*		**Sn**		**18 00 54.1**	**+4.2**
EE03	**Tooma soojaam,**	**1.01**	**129**	*eP*		**Pb**		**18 00 33.2**	**-0.8**
PVF	**Pernaja**	**1.17**	**27**	*eP*		**Pn**		**18 00 37.1**	**-0.3**
PVF				*eSN*		**Sn**		**18 00 58.4**	**+4.3**
VSU	**Vasula**	**1.47**	**135**	*eP*		**Pb**		**18 00 41.7**	**-0.2**
VSU				*eS*		**Sn**		**18 01 03.5**	**+2.2**
VSU	comp=Z,19nm,0.2s			AML	AML			18 01 06.6	
VSU	comp=N,31nm,0.5s			AML	AML			18 01 16.4	
VSU	comp=E,35nm,0.4s			AML	AML			18 01 21.6	
VSU	**Vasula**	**1.47**	**135**	*eP*		**Pb**		**18 00 41.5**	**-0.4**
VSU				*eS*		**Sg**		**18 00 59.8**	**-1.0**
VJF	**Virojoki**	**1.74**	**52**	*eP*		**Pg**		**18 00 46.8**	**-0.3**
VJF				*eS*		**Sg**		**18 01 10.0**	**+0.4**
VJF	comp=Z,7.3nm,0.1s			MSG				18 01 13.1	
FIA0	**FINESS Array S**	**2.04**	**18**	*eP*		**Pg**		**18 00 52.6**	**-0.3**
FINES	**FINESS Array B**	**2.04**	**18**	Pn		**Pg**		**18 00 52.2**	**-0.7**
FINES	comp=Z,3.9nm,0.3s,baz=195,slow=15,SNR=231			Sn		**Sg**		**18 01 18.8**	**-0.6**
FIA1	comp=Z,2.2nm,0.3s,baz=200,slow=26,SNR=16 **FINESS Array S** comp=Z,8.0nm,0.2s	**2.05**	**18**	MSG				18 01 21.6	
RAF	**Rauma**	**2.13**	**317**	*eP*		**Pb**		**18 00 53.5**	**+0.3**
RAF	**Rauma**	**2.13**	**317**	*eP*		**Pb**		**18 00 53.5**	**+0.3**
RAF	comp=Z,20nm,0.3s			AML	AML			18 01 24.4	
RAF	comp=E,24nm,0.4s			AML	AML			18 01 24.5	
RAF	comp=N,19nm,0.2s			AML	AML			18 01 24.5	
RAF	**Rauma**	**2.13**	**317**	*eP*		**Pb**		**18 00 53.2**	**-0.1**
SLIT	**Slitere, Latvi**	**2.29**	**216**	*eP*		**Pb**		**18 00 54.9**	**-1.0**
SLIT	**Slitere, Latvi**	**2.29**	**216**	*eP*		**Pb**		**18 00 55.1**	**-0.8**
SLIT	comp=N,153nm,0.4s			AML	AML			18 01 26.4	
SLIT	comp=Z,110nm,0.2s			AML	AML			18 01 28.7	
SLIT	comp=E,180nm,0.3s			AML	AML			18 01 28.9	
SLIT	**Slitere, Latvi**	**2.29**	**216**	*e*PG		**Pb**		**18 00 55.0**	**-1.0**
SLIT				*e*SG		**Sb**		**18 01 25.2**	**+0.4**
AAL	**Aland**	**2.50**	**288**	*eP*		**Pn**		**18 00 57.1**	**+1.4**
AAL	**Aland**	**2.50**	**288**	*eP*		**Pb**		**18 00 58.6**	**-0.9**
AAL				*eS*		**Sn**		**18 01 28.8**	**+2.0**
AAL	**Aland**	**2.50**	**288**	P		**Pb**		**18 00 58.6**	**-0.9**
AAL				S		**Sb**		**18 01 29.9**	**-0.9**
AAL	**Aland**	**2.50**	**288**	P		**Pb**		**18 00 58.6**	**-0.9**
AAL				S		**Sb**		**18 01 29.9**	**-0.9**
KEF	**Keuruu**	**2.67**	**1**	*eP*		**Pb**		**18 01 01.3**	**-1.1**
KEF	**Keuruu**	**2.67**	**1**	*eP*		**Pb**		**18 01 01.2**	**-1.1**
KEF				*e*SB		**Sg**		**18 01 37.5**	**-1.8**
KPF	**Kankaanpaa**	**2.68**	**332**	*eP*		**Pb**		**18 01 01.4**	**-1.2**
KPF				*e*SB		**Sb**		**18 01 36.7**	**+0.7**
KPF	comp=Z,4.9nm,0.2s			MSG				18 01 38.9	
KAF	**Kangasniemi**	**2.72**	**15**	*eP*		**Pb**		**18 01 01.4**	**-1.8**
GRAU	**Graesoe**	**3.24**	**287**	P		**Pn**		**18 01 06.5**	**+0.7**
GRAU	**Graesoe**	**3.24**	**287**	P		**Pn**		**18 01 06.5**	**+0.7**
NYNU	**Nynaeshamn**	**3.51**	**265**	P		**Pn**		**18 01 10.9**	**+1.4**
NYNU	**Nynaeshamn**	**3.51**	**265**	P		**Pn**		**18 01 10.9**	**+1.4**
FLYU	**Flymyra**	**3.53**	**283**	P		**Pn**		**18 01 10.8**	**+1.0**
FLYU	**Flymyra**	**3.53**	**283**	P		**Pn**		**18 01 10.8**	**+1.0**
FIBU	**Brunna**	**3.78**	**279**	P		**Pn**		**18 01 14.3**	**+1.1**
FIBU	**Brunna**	**3.78**	**279**	P		**Pn**		**18 01 14.3**	**+1.1**
BACU	**Backbrunna**	**3.90**	**278**	P		**Pn**		**18 01 15.8**	**+0.9**
BACU	**Backbrunna**	**3.90**	**278**	P		**Pn**		**18 01 15.8**	**+0.9**
OSTU	**Oestervaala**	**3.92**	**284**	P		**Pn**		**18 01 16.1**	**+1.1**
OSTU				S		**Sn**		**18 02 03.0**	**+1.3**
OSTU	**Oestervaala**	**3.92**	**284**	P		**Pn**		**18 01 16.1**	**+1.1**
OSTU				S		**Sn**		**18 02 03.0**	**+1.3**
HFS	**Hagfors**	**5.62**	**281**	Pn		**Pn**		**18 01 39.3**	**+0.8**
HFS	comp=Z,0.3nm,0.3s,baz=88,slow=14,SNR=16			Sn		**Sn**		**18 02 43.7**	**0.0**
HFS	comp=Z,0.3nm,0.3s,baz=89,slow=28,SNR=7.7			Lg		Lg		18 03 10.7	
NOA	comp=Z,0.6nm,0.3s,baz=90,slow=33,SNR=5.2 comp=Z,0.6nm,0.3s **NORSAR Array B** baz=91,slow=18,SNR=6.1	**6.91**	**289**	Pn		**Pn**		**18 01 56.3**	**0.0**
NOA	baz=96,slow=17,SNR=1.5			Sn		**Sn**		**18 03 11.3**	**-4.3**
NOA	baz=104,slow=11,SNR=3.4 comp=Z,0.2nm,0.5s			Lg		Lg		18 03 53.8	
ARCES	**ARCESS Array B** comp=Z,0.1nm,0.3s,baz=178,slow=14,SNR=7.6 comp=Z,5.1nm,1.1s	**10.07**	**1**	Pn		**Pn**		**18 02 39.3**	**-0.2**

NOU ***22*** *18:03:54.6,40.78S×176.98E, h26km, MLv3.9/7, North Island, New Zealand*
WEL ***22*** *18:03:59.6±0.4,40.3S±2.2×17.6E±, h18km±3km, M3.7/14, ML4.0/14, MLv3.7/14, Error ellipse: s-maj=0.0km s-min=0.0km az=127.5, confirmed*

ISC 22 18:03:59.4±0.9,**40.43S**±0.02×**176.38E**±0.03,**h25**km±5km, **n127**, σ1**9**29/141,**North Island**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WBFS	**Weber Fire Sta**	**0.06**	**299**	P		**Pb**		**18 04 02.3**	**-1.5**
WBFS				S		**Sb**		**18 04 05.4**	**-1.3**
ANWZ	**Angora Road**	**0.08**	**113**	P		**Pb**		**18 04 04.7**	**+0.8**
ANWZ				S		**Sb**		**18 04 08.7**	**+1.7**
DVHZ	**Dannevirke**	**0.21**	**309**	P		**Pb**		**18 04 04.5**	**-0.6**
DVHZ				S		**Sb**		**18 04 08.2**	**-0.9**
PGFS	**Porangahau Fir**	**0.22**	**55**	P		**Pb**		**18 04 06.0**	**+0.7**
PGFS				S		**Sb**		**18 04 11.3**	**+2.1**
PRHZ	**Porangahau**	**0.26**	**51**	P		**Pb**		**18 04 06.5**	**+0.7**
PRHZ				S		**Sn**		**18 04 11.9**	**-0.8**
BFZ	**Birch Farm**	**0.27**	**201**	P		**Pb**		**18 04 06.8**	**+0.8**
BFZ	**Birch Farm**	**0.27**	**201**	P		**Pb**		**18 04 07.2**	**-0.6**
BFZ				S		**Sn**		**18 04 12.9**	**-0.2**
DVHS	**Dannevirke Hig**	**0.31**	**317**	P		**Pb**		**18 04 04.8**	**-1.8**
DVHS				S		**Sb**		**18 04 10.0**	**-1.5**
PRWZ	**Pori Road**	**0.33**	**248**	P		**Pb**		**18 04 07.8**	**+0.8**
PRWZ				S		**Sn**		**18 04 14.1**	**-0.5**
WPHZ	**Waipukurau**	**0.37**	**8**	P		**Pb**		**18 04 07.6**	**+0.2**
WPHZ				S		**Sb**		**18 04 13.9**	**+1.0**
TRMS	**Tiraumea**	**0.38**	**230**	P		**Pb**		**18 04 08.7**	**+1.1**
TRMS				S		**Sn**		**18 04 16.2**	**+0.4**
POWZ	**Post Office Ro**	**0.47**	**274**	P		**Pb**		**18 04 09.2**	**+0.2**
CPFS	**Castlepoint Fi**	**0.48**	**194**	P		**Pn**		**18 04 11.8**	**+1.1**
CPFS				S		**Sn**		**18 04 22.1**	**+3.8**
TSZ	**Takapari Road**	**0.49**	**319**	P		**Pb**		**18 04 08.9**	**-0.5**
CPWZ	**Castlepoint**	**0.50**	**195**	P		**Pn**		**18 04 11.9**	**+1.0**
CPWZ				S		**Sn**		**18 04 22.0**	**+3.3**
WPWS	**Waipawa Distri**	**0.51**	**18**	S		**Sb**		**18 04 18.3**	**+1.6**
TIWZ	**Tintock**	**0.51**	**227**	P		**Pn**		**18 04 11.0**	**-0.1**
TIWZ				S		**Sn**		**18 04 19.4**	**+1.3**
PNHZ	**Pukenui**	**0.53**	**345**	P		**Pn**		**18 04 09.8**	**-0.4**
PXZ	**Pawanui**	**0.54**	**43**	P		**Pn**		**18 04 11.3**	**-0.2**
PXZ				S		**Sn**		**18 04 21.1**	**+1.3**
KRHZ	**Kereru**	**0.78**	**360**	P		**Pb**		**18 04 14.5**	**+0.1**
OHWZ	**Ohakea**	**0.84**	**285**	P		**Pb**		**18 04 16.2**	**+0.9**
CKHZ	**Cape Kidnapper**	**0.94**	**35**	P		**Pb**		**18 04 16.5**	**-0.4**
BHHZ	**Black Hill Sta**	**0.97**	**346**	P		**Pn**		**18 04 17.3**	**-0.1**
OGWZ	**Otaki Gorge**	**1.00**	**247**	P		**Pn**		**18 04 17.7**	**-0.1**
TRWZ	**Traveller**	**1.10**	**208**	P		**Pn**		**18 04 19.0**	**-0.2**
MOVZ	**Moawhango**	**1.13**	**335**	P		**Pn**		**18 04 19.2**	**-0.5**
PAWZ	**Paruwai Farm**	**1.19**	**217**	P		**Pn**		**18 04 20.0**	**-0.5**
KIW	**Kapiti Island**	**1.20**	**248**	P		**Pn**		**18 04 20.6**	**+0.1**
CAW	**Cannon Point**	**1.20**	**235**	P		**Pn**		**18 04 20.3**	**-0.3**
WNVZ	**Wahianoa**	**1.25**	**331**	P		**Pn**		**18 04 22.2**	**+0.8**
MTVZ	**Mangateitei**	**1.25**	**326**	P		**Pn**		**18 04 22.4**	**+1.1**
ARHZ	**Aropaoanui**	**1.26**	**22**	P		**Pn**		**18 04 21.6**	**+0.3**
WAZ	**Wanganui**	**1.26**	**302**	P		**Pn**		**18 04 23.2**	**+0.7**
BKZ	**Black Stump Fm**	**1.26**	**4**	P		**Pn**		**18 04 21.4**	**-0.1**
BKZ	**Black Stump Fm**	**1.26**	**4**	P		**Pn**		**18 04 21.4**	**-0.1**
TUVZ	**Tukino**	**1.28**	**334**	P		**Pn**		**18 04 22.8**	**+0.9**
WHVZ	**Whangaehu Hut**	**1.29**	**332**	P		**Pn**		**18 04 22.9**	**+0.8**
TRVZ	**Turoa**	**1.30**	**330**	P		**Pn**		**18 04 22.9**	**+0.9**
MSWZ	**Moikau Station**	**1.30**	**221**	P		**Pn**		**18 04 21.1**	**-0.9**
MAVZ	**Matarangi**	**1.32**	**331**	P		**Pn**		**18 04 23.3**	**+0.8**
FWVZ	**Far West T-bar**	**1.33**	**331**	P		**Pn**		**18 04 23.5**	**+0.9**
SNVZ	**South Ngauruho**	**1.36**	**335**	P		**Pn**		**18 04 24.2**	**+1.2**
NMHZ	**Naumai**	**1.37**	**14**	P		**Pn**		**18 04 23.8**	**+0.8**
OTVZ	**Oturere**	**1.38**	**336**	P		**Pn**		**18 04 24.4**	**+1.3**
COVZ	**Chateau Observ**	**1.39**	**332**	P		**Pn**		**18 04 24.2**	**+1.1**
NGZ	**Ngauruhoe**	**1.39**	**334**	P		**Pn**		**18 04 24.2**	**+0.9**
PKVZ	**Pokaka**	**1.39**	**325**	P		**Pn**		**18 04 24.1**	**+1.0**
ETVZ	**East Tongariro**	**1.39**	**338**	P		**Pn**		**18 04 24.4**	**+1.2**
TMVZ	**Te Maari**	**1.41**	**338**	P		**Pn**		**18 04 24.8**	**+1.3**
NNVZ	**North Ngauruho**	**1.42**	**335**	P		**Pn**		**18 04 24.9**	**+1.1**
PLWZ	**Pallister**	**1.42**	**216**	P		**Pn**		**18 04 25.2**	**-1.0**
NTVZ	**North Tongarir**	**1.43**	**338**	P		**Pn**		**18 04 25.5**	**+1.6**
WTVZ	**West Tongariro**	**1.45**	**335**	P		**Pn**		**18 04 25.2**	**+1.2**
KRVZ	**Karewarewa**	**1.45**	**337**	P		**Pn**		**18 04 25.6**	**+1.5**
WEL	**Wellington**	**1.49**	**234**	P		**Pn**		**18 04 24.0**	**-0.5**
BHW	**Baring Head**	**1.50**	**229**	P		**Pn**		**18 04 23.8**	**-0.9**
WHHZ	**Waihua**	**1.50**	**26**	P		**Pn**		**18 04 24.1**	**-0.6**
TWVZ	**Taurewa**	**1.54**	**332**	P		**Pn**		**18 04 26.6**	**+1.3**
SNZO	**South Karori**	**1.54**	**235**	P		**Pn**		**18 04 24.6**	**-0.6**
KATZ	**Kakaramea**	**1.54**	**340**	P		**Pb**		**18 04 27.3**	**0.0**
MRHZ	**Matea Rd**	**1.59**	**1**	P		**Pn**		**18 04 26.3**	**+0.3**
RAHZ	**Arahi**	**1.61**	**20**	P		**Pn**		**18 04 26.9**	**+0.8**
MTHZ	**Maungataniwha**	**1.61**	**13**	P		**Pn**		**18 04 27.2**	**+0.9**
RATZ	**Rangitukua**	**1.63**	**343**	P		**Pb**		**18 04 28.5**	**-0.3**
KNZ	**Kokohu**	**1.73**	**36**	P		**Pn**		**18 04 26.6**	**-1.1**
MHGZ	**Mahia Peninsul**	**1.74**	**43**	P		**Pn**		**18 04 27.0**	**-0.9**
TCW	**Tory Channel**	**1.77**	**243**	P		**Pn**		**18 04 27.8**	**-0.7**
WHTZ	**Whakaora**	**1.79**	**349**	P		**Pn**		**18 04 32.2**	**+0.7**
LREZ	**Lake Rotokare**	**1.80**	**228**	P		**Pn**		**18 04 30.4**	**+1.8**
VRZ	**Vera Road**	**1.80**	**316**	P		**Pn**		**18 04 30.0**	**+1.2**
SNGZ	**Shannon Statio**	**1.81**	**25**	P		**Pn**		**18 04 28.5**	**-0.4**
PRGZ	**Paritu Road**	**1.90**	**38**	P		**Pn**		**18 04 29.1**	**-1.1**
DUWZ	**D'Urville Isla**	**1.91**	**258**	P		**Pn**		**18 04 30.8**	**+0.5**
WPRZ	**Whakapapatarin**	**1.91**	**355**	P		**Pn**		**18 04 31.1**	**+0.7**
PRRZ	**Plateau Road**	**1.93**	**0**	P		**Pb**		**18 04 33.4**	**-0.4**
MUGZ	**Murupara**	**1.97**	**9**	P		**Pn**		**18 04 32.8**	**+1.6**
KUTZ	**Kaahu Road**	**1.98**	**347**	P		**Pn**		**18 04 31.5**	**+0.1**
PREZ	**Palmer Road**	**2.02**	**302**	P		**Pn**		**18 04 34.1**	**+2.2**
RIGZ	**Rimuhau**	**2.03**	**32**	P		**Pn**		**18 04 31.0**	**-0.9**
HRRZ	**Handcock Road**	**2.04**	**358**	P		**Pn**		**18 04 32.3**	**+0.2**
MHEZ	**Mangahewa**	**2.08**	**310**	P		**Pn**		**18 04 35.0**	**+2.3**
DREZ	**Durham Road**	**2.08**	**306**	P		**Pn**		**18 04 34.3**	**+1.6**
RRRZ	**Republican Roa**	**2.09**	**3**	P		**Pn**		**18 04 32.2**	**-0.6**
TUWZ	**Tuamarina**	**2.10**	**241**	P		**Pn**		**18 04 31.6**	**-1.3**
CMWZ	**Cape Campbell**	**2.10**	**230**	P		**Pn**		**18 04 32.2**	**-0.7**
NEZ	**North Egmont**	**2.10**	**303**	P		**Pn**		**18 04 35.0**	**+2.0**
HSRZ	**Hossack Road**	**2.12**	**357**	P		**Pn**		**18 04 33.0**	**-0.1**
KHEZ	**Kahui Hut**	**2.14**	**301**	P		**Pn**		**18 04 36.5**	**-1.0**
KHEZ	**Kahui Hut**	**2.14**	**301**	P		**Pn**		**18 04 35.7**	**+2.2**
NMEZ	**Namu Road**	**2.17**	**297**	P		**Pn**		**18 04 35.9**	**+2.0**
TARZ	**Mount Tarawera**	**2.19**	**3**	P		**Pn**		**18 04 34.3**	**0.0**
PKE	**Pukeiti**	**2.21**	**303**	P		**Pn**		**18 04 36.6**	**+2.0**
URZ	**Urewera**	**2.24**	**15**	P		**Pn**		**18 04 33.9**	**-1.0**
URZ	**Urewera**	**2.24**	**15**	P		**Pn**		**18 04 33.8**	**-1.0**
HIZ	**Hauiti**	**2.25**	**328**	P		**Pb**		**18 04 38.4**	**-0.8**
HIZ	**Hauiti**	**2.25**	**328**	P		**Pn**		**18 04 36.9**	**+2.0**
NBEZ	**Newall Road No**	**2.25**	**300**	P		**Pn**		**18 04 37.2**	**+2.2**
MWZ	**Matawai**	**2.27**	**23**	P		**Pn**		**18 04 34.4**	**-1.0**
BSWZ	**Blackbirch Sta**	**2.29**	**235**	P		**Pn**		**18 04 34.3**	**-1.2**
NNZ	**Nelson**	**2.41**	**250**	P		**Pn**		**18 04 37.1**	**-0.1**
TWGZ	**Tauwhareparae**	**2.57**	**29**	P		**Pn**		**18 04 38.6**	**-0.8**
RUGZ	**Raukumara Rang**	**2.66**	**23**	P		**Pn**		**18 04 40.2**	**-0.5**
TKNZ	**Takaka Hill**	**2.67**	**256**	P		**Pn**		**18 04 40.8**	**+0.1**
PUKZ	**Puketiti**	**2.77**	**32**	P		**Pn**		**18 04 40.2**	**-2.0**
TOZ	**Tauhara Road**	**2.78**	**346**	P		**Pn**		**18 04 47.1**	**-1.2**
PKGZ	**Pakihiroa**	**2.86**	**28**	P		**Pn**		**18 04 42.4**	**-1.0**
HAZ	**Te Kaha**	**2.88**	**23**	P		**Pn**		**18 04 43.3**	**-0.3**
MRNZ	**Matariki Terra**	**2.91**	**249**	P		**Pn**		**18 04 44.2**	**+0.2**
KHZ	**Kahutara**	**2.92**	**226**	P		**Pn**		**18 04 42.0**	**-2.1**
THZ	**Tophouse**	**2.94**	**242**	P		**Pn**		**18 04 43.2**	**-1.4**
QRZ	**Quartz Range**	**2.95**	**261**	P		**Pn**		**18 04 44.8**	**+0.1**
QRZ	**Quartz Range**	**2.95**	**261**	P		**Pn**		**18 04 44.6**	**-0.1**
WMGZ	**Waiomatatini S**	**3.05**	**32**	P		**Pn**		**18 04 44.2**	**-1.8**
MKAZ	**Moumakai**	**3.45**	**344**	P		**Pb**		**18 04 56.7**	**-3.1**
GVZ	**Greta Valley S**	**3.56**	**224**	P		**Pn**		**18 04 51.1**	**-2.0**
DSZ	**Denniston Nort**	**3.70**	**248**	P		**Pn**		**18 04 54.3**	**-0.6**
LTZ	**Lake Taylor**	**3.87**	**231**	P		**Pn**		**18 04 54.9**	**-2.4**
OKCZ	**Okains Bay**	**4.12**	**216**	P		**Pn**		**18 04 58.3**	**-2.3**
MQZ	**McQueen's Vall**	**4.29**	**219**	P		**Pn**		**18 04 59.7**	**-3.3**
AKCZ	**Akaroa Harbour**	**4.30**	**216**	P		**Pn**		**18 05 01.0**	**-2.2**
INZ	**Inchbonnie**	**4.35**	**237**	P		**Pn**		**18 05 01.9**	**-2.0**
MHCZ	**Mount Hutt**	**4.74**	**228**	P		**Pn**		**18 05 07.5**	**-1.7**
WACZ	**Wakanui South**	**4.87**	**222**	P		**Pn**		**18 05 09.3**	**-1.6**
ARCZ	**Arundel**	**5.22**	**226**	P		**Pn**		**18 05 14.2**	**-1.6**
TMZ	**Timaru**	**5.61**	**223**	P		**Pn**		**18 05 18.9**	**-2.2**
CTZ	**Chatham Island**	**6.17**	**125**	P		**Pn**		**18 05 28.9**	**+0.1**
ODZ	**Otahua Downs**	**6.25**	**221**	P		**Pn**		**18 05 27.6**	**-2.4**

TEH ***22*** *18:09:15.6,28.99N×51.24E, h12km±23km, ML3.3*
OMAN ***22*** *18:09:18.9±0.3,28.71N×51.46E, h6km±7km, mb3.7/9, ml3.5/1, ms2.5/2, Error ellipse: s-maj=15.7km s-min=3.1km az=338.0*

ISC 22 18:09:16.4±1.0,**28.94N**±0.05×**51.31E**±0.05,**h17**km,**n42**, σ1**9**50/61,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.58**	**184**	Pg		**Pg**		**18 09 27.1**	**-0.8**
DSBU				Sg		**Sn**		**18 09 37.5**	**-1.6**
KAZ2	**Kazeron-Fars-I**	**0.74**	**25**	Pg		**Pb**		**18 09 29.1**	**-1.8**
KAZ2				Sg		**Sb**		**18 09 40.6**	**-0.1**
SHI	**Shiraz**	**1.26**	**56**	Pg		**Pn**		**18 09 41.0**	**+1.5**

QIR1	**Qir**	**1.59**	**106**	Pg		**Pg**		**18 09 48.1**	**+1.0**
ABEH	**Behbahan**	**1.89**	**331**	Pn		**Pn**		**18 09 49.3**	**+1.3**
JHRM	**Jahrom**	**2.04**	**102**	Pn		**Pb**		**18 09 52.8**	**-0.3**
KLNJ	**Kolanjah**	**2.08**	**7**	Pn		**Pn**		**18 09 52.0**	**+1.2**
IRAM	**Ramesheh**	**3.00**	**18**	Pn		**Pn**		**18 10 05.2**	**+1.8**
SAKB	**Bahrain**	**3.03**	**193**	P		**Pn**		**18 10 05.0**	**+1.4**
SAKB				S		**Sn**		**18 10 41.5**	**+2.0**
SHMA	**Al-Shehemyia** SNR=18	**3.09**	**186**	P		**Pn**		**18 10 05.7**	**+1.3**
SHMA				S		**Sn**		**18 10 42.7**	**+1.8**
ZNGN	**Zangian**	**3.19**	**353**	Pn		**Pn**		**18 10 07.5**	**+1.4**
ISAD	**Sadrabad**	**3.60**	**34**	Pn		**Pn**		**18 10 14.2**	**+2.4**
IPIR	**Pirpir**	**3.75**	**355**	Pn		**Pn**		**18 10 14.6**	**+0.8**
IMEH	**Mehriz**	**3.76**	**49**	Pn		**Pn**		**18 10 17.1**	**+3.1**
IZEF	**Zefreh**	**4.04**	**12**	Pn		**Pn**		**18 10 20.1**	**+2.4**
TRNA	**Turayna** SNR=7.5	**4.19**	**181**	P		**Pn**		**18 10 21.0**	**+1.4**
SMRA	**Abu-Samra**	**4.20**	**186**	P		**Pn**		**18 10 20.7**	**+0.9**
IKLH	**Kolahrood**	**4.37**	**3**	Pn		**Pn**		**18 10 23.4**	**+1.1**
IBAF	**Bafgh**	**4.53**	**53**	Pn		**Pn**		**18 10 26.6**	**+2.2**
KHGB	**Koh Gabri**	**4.72**	**71**	Pn		**Pn**		**18 10 28.9**	**+1.9**
NGRK	**Negar Kerman**	**4.79**	**80**	Pn		**Pn**		**18 10 30.5**	**+2.3**
CHMN	**Cheshme madani**	**5.51**	**79**	Pn		**Pn**		**18 10 40.5**	**+2.4**
ASUD	**Al Ashush, Dub** SNR=7.6	**5.60**	**139**	P		**Pn**		**18 10 40.5**	**+1.5**
ASUD				S		**Sn**		**18 11 44.4**	**+1.4**
MDH	**Madha**	**5.74**	**128**	P		**Pn**		**18 10 42.0**	**+1.1**
MDH				S		**Sn**		**18 11 45.8**	**+0.6**
UOSS	**Minazif**	**5.91**	**131**	P		**Pn**		**18 10 44.1**	**+0.9**
UOSS				S		**Sn**		**18 11 48.9**	**-1.8**
HATD	**Hatta, Dubai**	**5.95**	**132**	P		**Pn**		**18 10 44.7**	**+0.9**
HATD				S		**Sn**		**18 11 50.8**	**-0.7**
ASHO	**Ashiyiah** SNR=7.4	**6.00**	**134**	P		**Pn**		**18 10 45.7**	**+

RCBR	**Riachuelo**	**49.77**	**344**	LR	LR	18 37 47.0		
	comp=Z,42nm,19.5s,baz=224,slow=31							
LPAZ	**La Paz**	**51.34**	**301**	P	**P**	**18 21 01.6**	**-0.4**	
LPAZ	**La Paz**	**51.34**	**301**	P	**P**	**18 21 02.3**	**+0.3**	
	comp=Z,0.9nm,0.3s,baz=160,slow=5.7,SNR=4.6							
LPAZ				LR	LR	18 42 48.1		
	comp=Z,40nm,21.2s,baz=134,slow=36							
	comp=Z,0.9nm,0.3s							
CASY	**Casey**	**54.44**	**159**	P	**P**	**18 21 23.3**	**-0.3**	
CASY				IAmb	IAmb	18 21 57.4		
	comp=Z,14nm,1.5s							
SAML	**Samuel**	**55.39**	**310**	P	**P**	**18 21 30.7**	**-0.4**	
ETMB	**Extrema**	**56.00**	**307**	P	**P**	**18 21 35.3**	**-0.1**	
ETMB				IAmb	IAmb	18 21 50.0		
	comp=Z,10nm,1.2s							
BOAV	**Boa Vista**	**64.54**	**318**	P	**P**	**18 22 33.5**	**-0.5**	
TOA0	**Torodi Ar. Sit**	**70.98**	**26**	P	**P**	**18 23 14.9**	**+0.5**	
TOA0				IAmb	IAmb	18 23 16.3		
	comp=Z,3.0nm,0.7s							
TORD	**Torodi Ar. Bea**	**70.98**	**26**		**P**	**18 23 15.1**	**+0.7**	
TORD				IAmb	IAmb	18 23 16.3		
	comp=Z,2.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**70.98**	**26**	P	**P**	**18 23 15.2**	**+0.7**	
	comp=Z,2.6nm,0.6s,baz=195,slow=5.4,SNR=13							
	comp=Z,2.6nm,0.6s							
ROSC	**El Rosal**	**72.64**	**306**	LR	LR	18 54 22.5		
	comp=Z,50nm,21.3s,baz=225,slow=35							
SDV	**Santo Domingo**	**74.56**	**312**	LR	LR	18 57 36.4		
	comp=Z,50nm,19.6s,baz=250,slow=37							
STKA	**Stephens Creek**	**92.80**	**168**	LR	LR	19 02 37.1		
	comp=Z,62nm,22.0s,baz=205,slow=33							
FINES	**FINESS Array B**	**122.33**	**26**	PKP	**PKPdf**	**18 30 50.1**	**-0.5**	
	comp=Z,0.3nm,0.4s,baz=198,slow=4.0,SNR=1.2							
CMAR	**Chiang Mai Arr**	**123.59**	**106**	PKP	**PKPdf**	**18 30 53.9**	**-0.6**	
	comp=Z,0.6nm,0.8s,baz=236,slow=2.9,SNR=4.8							
BVAR	**Borovoye Array**	**132.41**	**55**	PKP	**PKPdf**	**18 31 10.3**	**+0.2**	
	comp=Z,0.4nm,0.6s,baz=270,slow=2.5,SNR=2.8							
YKA	**Yellowknife Ar**	**136.54**	**318**	PKP	**PKPdf**	**18 31 16.6**	**-0.9**	
	comp=Z,0.2nm,0.5s,baz=98,slow=2.6,SNR=2.4							
N30M	**Aishikik Lake**	**145.61**	**309**	PKPdf	**PKPdf**	**18 31 33.5**	**-0.5**	
H31M	**Peel River**	**145.75**	**317**	PKPdf	**PKPdf**	**18 31 34.2**	**+0.1**	
G31M	**Satah River**	**146.01**	**319**	PKPdf	**PKPbc**	**18 31 35.1**	**-0.1**	
I30M	**Mount Dempster**	**146.42**	**315**	PKPdf	**PKPbc**	**18 31 36.1**	**-0.6**	
H29M	**Whitestone**	**147.45**	**317**	PKPdf	**PKPbc**	**18 31 38.8**	**-0.6**	
G29M	**Pine Creek**	**147.45**	**318**	PKPdf	**PKPdf**	**18 31 37.7**	**+0.9**	
BCAR	**Beaver Creek A**	**148.18**	**310**	PKPbc	**PKPbc**	**18 31 42.4**	**+0.8**	
SONM	**Songino Array**	**148.62**	**82**	PKPbc	**PKPbc**	**18 31 42.9**	**-0.3**	
SONM	**Songino Array**	**148.62**	**82**	PKPbc	**PKPbc**	**18 31 42.5**	**-0.8**	
	comp=Z,2.2nm,0.7s,baz=243,slow=1.9,SNR=6.5							
I26K	**Coal Creek Min**	**149.22**	**314**	PKPbc	**PKPbc**	**18 31 44.1**	**+0.1**	
J26L	**Joseph Creek**	**149.25**	**313**	PKPbc	**PKPbc**	**18 31 44.1**	**-0.2**	
ILAR	**Eielson Array**	**150.71**	**313**	PKPbc	**PKPbc**	**18 31 47.0**	**-0.6**	
	comp=Z,0.9nm,0.9s,baz=3.3,slow=0.9,SNR=7.4							

TAP 22 18:14:07.0,24.69N×121.80E,h62km±1km, ML2.1, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ILA	**Ilan**	**0.09**	**331**	*e*P	Pn	18 14 16.2	0.0
	baz=334						
NDS	**Dongshan**	**0.09**	**233**	*e*P	Pn	18 14 16.1	-0.2
	baz=233						
NDS				*e*S	Sn	18 14 22.5	-0.4
	baz=233						
TWC	**Suao**	**0.09**	**148**	P	Pn	18 14 16.8	+0.6
	baz=143						
TWC				S	Sn	18 14 23.5	+0.6
	baz=143						
ESAO	**Su ao**	**0.12**	**159**	*e*P	Pn	18 14 16.6	+0.3
	baz=158						
ESAO				*e*S	Sn	18 14 23.1	0.0
	baz=158						
TWE	**Neicheng**	**0.12**	**286**	P	Pn	18 14 16.9	+0.6
	baz=286						
TWE				*e*S	Sn	18 14 24.1	+1.0
	baz=286						
FUSB	**Fushanzhiwuyua**	**0.20**	**291**	P	Pn	18 14 17.0	+0.2
	baz=290						
FUSB				S	Sn	18 14 24.4	+0.6
	baz=290						
ENTT	**Nioudou**	**0.21**	**257**	P	Pn	18 14 16.9	+0.2
	baz=256						
ENTT				S	Sn	18 14 24.1	+0.2
	baz=256						
EWUT	**Wuta**	**0.24**	**184**	*e*S	Sn	18 14 24.6	+0.5
	baz=183						
ENA	**Nanau**	**0.26**	**191**	*e*S	Sn	18 14 25.1	+0.8
	baz=189						
NDT	**Datong Townshi**	**0.27**	**252**	*e*P	Pn	18 14 16.8	-0.3
	baz=251						
NDT				S	Sn	18 14 25.3	+0.8
	baz=251						
NDT	**Datong Townshi**	**0.27**	**252**	P	Sn	18 14 25.5	+1.1
	baz=123						
NWLT	**Wulai**	**0.28**	**288**	P	Pn	18 14 17.6	+0.4
	baz=288						
NWLT				S	Sn	18 14 24.6	-0.1
	baz=288						
NWLT	**Wulai**	**0.28**	**288**	P	Sn	18 14 24.6	-0.1
	baz=75						
TIPB	**Shuangxi**	**0.28**	**5**	P	Pn	18 14 17.6	+0.4
	baz=5.0						
TIPB				*e*S	Sn	18 14 25.4	+0.7
	baz=5.0						
LATG	**Datong**	**0.29**	**238**	*e*P	Pn	18 14 17.2	-0.1
	baz=238						
LATG				S	Sn	18 14 25.9	+1.0
	baz=238						
LATG	**Datong**	**0.29**	**238**	*e*P	Sn	18 14 25.8	+0.9
	baz=133						
NWF	**Wu-fen Shan**	**0.38**	**358**	*e*P	Pn	18 14 18.0	-0.1
	baz=358						
WFSB	**Wu-fen Shan**	**0.38**	**358**	*e*P	Pn	18 14 18.1	+0.2
	baz=357						
YHNB	**Yeheng**	**0.38**	**267**	*i* P	Pn	18 14 18.2	+0.1
	baz=267						
NSK	**Sanguang**	**0.40**	**268**	*i* P	Pn	18 14 18.5	+0.3
	baz=267						
NNSB	**Datong**	**0.46**	**236**	P	Pn	18 14 18.9	+0.1
	baz=235						
NNS	**Nan Shan**	**0.46**	**237**	*e*P	Pn	18 14 19.0	+0.2
	baz=236						
YM01	**YM01**	**0.50**	**336**	P	Pn	18 14 19.6	+0.5
	baz=335						
NACB	**Ninganchiao**	**0.54**	**200**	*e*P	Pn	18 14 20.1	+0.5
	baz=199						
FUSS	**Fushou**	**0.67**	**229**	*e*P	Pn	18 14 21.7	+0.5
	baz=228						
LIOB	**Emei**	**0.71**	**267**	*e*P	Pn	18 14 22.1	+0.6
	baz=266						
NSTT	**Nanjuang**	**0.73**	**266**	*e*P	Pn	18 14 23.1	+1.5
	baz=265						

TAP 22 18:14:19.5,24.73N×121.30E,h14km, ML1.3, A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSK	**Sanguang**	**0.07**	**135**	*i* P	Pg	18 14 23.2	+0.7
	baz=132						
NSK				*i* S	Sg	18 14 25.4	+0.9
	baz=132						
YHNB	**Yeheng**	**0.09**	**131**	*i* P	Pg	18 14 23.4	+0.7
	baz=130						
YHNB				*i* S	Sg	18 14 25.4	+0.7
	baz=130						
NWLT	**Wulai**	**0.19**	**75**	S	Sb	18 14 27.9	-0.4
	baz=75						
NFF	**Wufeng Townshi**	**0.19**	**240**	P	Pb	18 14 24.5	-0.3
	baz=239						
NFF				*i* S	Sb	18 14 28.0	-0.4
	baz=239						
NDT	**Datong Townshi**	**0.23**	**123**	S	Sb	18 14 29.7	+0.2
	baz=123						
ENTT	**Nioudou**	**0.26**	**110**	P	Pb	18 14 25.9	-0.1
	baz=110						
ENTT				S	Sb	18 14 30.1	-0.1
	baz=110						
NCUH	**Zhongli**	**0.26**	**336**	*e*P	Pb	18 14 25.6	-0.4
	baz=336						
NCUH				*e*S	Sb	18 14 30.4	+0.1
	baz=336						
FUSB	**Fushanzhiwuyua**	**0.26**	**83**	*e*S	Sb	18 14 30.5	0.0
	baz=83						
LIOB	**Emei**	**0.27**	**252**	P	Pb	18 14 26.2	0.0
	baz=252						
LIOB				S	Sb	18 14 31.0	+0.3
	baz=252						
LATG	**Datong**	**0.28**	**133**	*e*S	Sb	18 14 31.8	+0.8
	baz=133						
NSTT	**Nanjuang**	**0.29**	**250**	*i* P	Pb	18 14 26.9	+0.4
	baz=249						
NSTT				*i* S	Sb	18 14 30.9	-0.3
	baz=249						
NNS	**Nan Shan**	**0.29**	**167**	*e*P	Pg	18 14 26.0	+0.3
	baz=165						
NNS				S	Sb	18 14 31.7	+0.3
	baz=165						
NNSB	**Datong**	**0.31**	**166**	*e*P	Pb	18 14 27.0	+0.1
	baz=165						
NNSB				S	Sb	18 14 31.9	+0.1
	baz=165						
NHDH	**Xindian Distri**	**0.31**	**41**	*e*S	Sg	18 14 31.0	+0.7
	baz=41						
TWA	**Mucha**	**0.36**	**46**	*e*S	Sb	18 14 33.9	+0.7
	baz=47						
FUSS	**Fushou**	**0.48**	**186**	*e*S	Sb	18 14 37.2	+0.2
	baz=186						
YM01	**YM01**	**0.48**	**30**	*e*S	Sb	18 14 37.5	+0.7
	baz=30						
WHF	**Hehuan Shan**	**0.58**	**183**	*e*S	Sg	18 14 38.5	-0.4
	baz=182						
NACB	**Ninganchiao**	**0.61**	**154**	*e*S	Sb	18 14 41.6	+1.1
	baz=154						

*NEIC **22** 18:19:37.4±1.0, 19.38N±0.02×154.97W±0.01, h11km±2km, Error ellipse: s-maj=2.7km s-min=1.2km az=152.0*
HVO 22 18:19:37.3±1.2, 19.40N±0.02×154.98W±0.01, h11km±2km, ML3.0/47, ML3.2/46(NEIC), Error ellipse: s-maj=3.3km s-min=0.8km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.04**	**321**		Pg	18 19 39.5	0.0
JOKA				Sg	Sg	18 19 41.0	-0.1
JOKA				IAML		18 19 41.7	
	comp=E,11μm,0.5s						
PAH	**Pahoa**	**0.10**	**18**		Pg	18 19 40.2	+0.1
PAH				Sg	Sg	18 19 42.4	+0.4
PHO	**Puu Honuaula**	**0.12**	**47**		Pg	18 19 40.5	+0.2
PHO					Sg	18 19 42.7	+0.3
PHO	**Puu Honuaula**	**0.12**	**47**	Pg	Pg	18 19 39.9	-0.3
JCUZ	**Jacuzzi**	**0.12**	**261**		Pg	18 19 40.5	+0.1
NPOC	**North of Pu'u**	**0.12**	**266**		Pg	18 19 40.7	+0.2
NPOC					Sg	18 19 43.1	+0.5
STCH	**Steam Cracks**	**0.14**	**263**		Pg	18 19 40.8	+0.1
STCH					Sg	18 19 43.3	+0.3
STCH				IAML		18 19 43.9	
	comp=E,5μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.18**	**263**		Pg	18 19 41.5	+0.1
PUH	**Pauahi**	**0.23**	**263**		Pg	18 19 42.6	+0.5
PUH				IAML		18 19 49.7	
	comp=N,3μm,0.7s						
BYL	**Byron's Ledge**	**0.27**	**272**	Pg	Pg	18 19 43.2	+0.3
BYL					Sg	18 19 47.1	+0.5
BYL				IAML		18 19 49.9	
	comp=N,3μm,0.5s						
BYL				IAML		18 19 49.9	
	comp=E,3μm,0.5s						
HATHI	**Halema'uma'u T**	**0.27**	**274**		Pg	18 19 43.5	+0.6
HATHI	**Halema'uma'u T**	**0.27**	**274**	IAML		18 19 50.0	
	comp=E,2μm,0.9s						
HATHI				IAML		18 19 51.2	
	comp=N,4μm,0.6s						
KKO	**Keanakako'i**	**0.27**	**269**		Sb	18 19 48.4	-0.6
SBLHI	**Steaming Bluff**	**0.28**	**275**		Pg	18 19 43.5	+0.5
SBLHI					Sb	18 19 48.3	-0.7
RSD	**Rainshed**	**0.29**	**282**		Pg	18 19 43.9	+0.6
RSD				IAML		18 19 49.9	
	comp=E,3μm,0.4s						
RSD				IAML		18 19 50.0	
	comp=N,3μm,0.3s						
UWE	**Uwekahuna**	**0.30**	**274**	Pg	Pg	18 19 43.4	0.0
HLP	**Hilina Pali**	**0.33**	**251**		Pg	18 19 44.6	+0.6
HLP				IAML		18 19 54.5	
	comp=E,4μm,0.5s						
MLH	**Mauna Loa**	**0.40**	**283**		Sb	18 19 52.5	-0.1
MLH	**Mauna Loa**	**0.40**	**283**		Pg	18 19 45.6	+0.4
MLH	**Mauna Loa**	**0.40**	**283**	IAML		18 19 52.7	
	comp=E,3μm,0.6s						
MLH				IAML		18 19 52.7	
	comp=N,3μm,0.4s						
HTC	**Hot Caves**	**0.43**	**248**		Pg	18 19 46.0	+0.3
HMH	**Humu'ula Sheep**	**0.52**	**293**		Pb	18 19 48.0	-0.5
MLOA	**Mauna Loa Obse**	**0.58**	**283**		Pg	18 19 48.5	-0.2
MLOA				IAML		18 19 59.2	
	comp=E,1μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.58**	**283**		Pg	18 19 48.6	-0.1
MWH	**Moku'aweowe**	**0.59**	**278**		Pg	18 19 48.5	-0.4
MWH				IAML		18 20 06.2	
	comp=E,2μm,0.5s						
KHU	**Kahuku**	**0.62**	**256**		Pg	18 19 48.4	-1.0
KHU				IAML		18 20 08.3	
	comp=E,919nm,1.0s						
POHA	**Pohakuloa**	**0.63**	**304**		Pg	18 19 49.4	-0.3
POHA	**Pohakuloa**	**0.63**	**304**	IAML		18 20 10.7	
	comp=E,1μm,0.3s						
POHA				IAML		18 20 12.3	
	comp=E,1μm,0.5s						
ALEP	**Alea Permanent**	**0.64**	**282**		Pg	18 19 49.3	-0.6
HUH	**Hualalai**	**0.86**	**289**		Pg	18 19 52.6	-1.3
HPAH	**Hawaii Prepara**	**0.92**	**313**		Pg	18 19 53.1	-2.0
MHA	**Mahukona**	**1.17**	**312**	Pn	Pb	18 19 56.2	-3.3
HLK	**Haleakala**	**1.80**	**319**	Pn	Pn	18 20 06.9	-1.7
WMR	**Waimanalo Ridg**	**3.17**	**307**	Pn	Pn	18 20 25.7	-1.5

*BEO **22** 18:24:48.5±0.7, 43.62N×16.56E, h0km, ML2.3/8*
*RHSSO **22** 18:24:48.8±0.3, 43.64N×16.61E, h4km±1km, ML2.5/19*
*VIE **22** 18:24:49.2±0.9, 43.60N×16.77E, h8km, mb2.4/7, ml2.5/7, Error ellipse: s-maj=13.6km s-min=6.1km az=76.0*
ISC 22 18:24:48.1±1.1, 43.63N±0.02×16.64E±0.02, h0km±10km, n64, σ0°89/108, 2C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIJV	**Kijevo**	**0.41**	**336**	*e*Pg	**Pg**	**18 24 55.9**	**-0.2**
KIJV				Sg	**Sg**	**18 25 02.4**	**+0.9**
MAKA	**Makarska**	**0.44**	**141**	*e*Pg	**Pg**	**18 24 56.1**	**-0.4**
MAKA				Sg	**Sg**	**18 25 03.0**	**+0.8**
HVAR	**Hvar**	**0.47**	**197**	*e*Pg	**Pg**	**18 24 57.3**	**+0.2**
HVAR				Sg	**Sb**	**18 25 05.6**	**-1.1**
SRKV	**Kupres RS**	**0.58**	**41**	*e*Pg	**Pg**	**18 24 58.7**	**-0.6**
SRKV				*e*Sg	**Sg**	**18 25 07.7**	**+0.8**
MORI	**Morici**	**0.72**	**290**	*e*Pg	**Pg**	**18 25 02.2**	**+0.3**
MORI				Sg	**Sb**	**18 25 13.5**	**-0.4**
ZIRJ	**Zirje**	**0.72**	**273**	*e*Pg	**Pg**	**18 25 02.0**	**0.0**
ZIRJ				Sg	**Sb**	**18 25 13.7**	**-0.3**
MGRS	**Mrkonjic Grad**	**0.85**	**22**	*e*Pg	**Pg**	**18 25 04.1**	**-0.4**
MGRS				*e*Sg	**Sg**	**18 25 16.1**	**+0.6**
A050A	**Klekovaca**	**0.86**	**355**	*i*Pg	**Pg**	**18 25 03.8**	**-0.8**
A050A				*e*Sg	**Sg**	**18 25 15.8**	**+0.1**
LSTV	**Lastovo**	**0.88**	**168**	*e*Pg	**Pg**	**18 25 03.9**	**-1.0**
LSTV				Sg	**Sg**	**18 25 15.8**	**-0.5**
STON	**Ston**	**1.08**	**134**	*e*Pg	**Pg**	**18 25 06.8**	**-2.0**
STON				*e*Sg	**Sb**	**18 25 24.5**	**+0.2**
STON	**Ston**	**1.08**	**134**	*e*Pg	**Pg**	**18 25 06.9**	**-1.9**
STON				Sg	**Sg**	**18 25 23.6**	**+0.7**
STON	**Ston**	**1.08**	**134**	*e*Pg	**Pg**	**18 25 07.8**	**-1.0**
STON				*e*Sg	**Sg**	**18 25 23.6**	**+0.7**
UDBI	**Udbina**	**1.10**	**325**	*e*Pn	**Pg**	**18 25 09.2**	**0.0**
BLY	**Banja Luka**	**1.19**	**19**	*e*Pg	**Pg**	**18 25 10.8**	**-0.1**
BLY				*e*Sg	**Sg**	**18 25 26.8**	**+0.4**
BLY	**Banja Luka**	**1.19**	**19**	*e*Pg	**Pg**	**18 25 10.2**	**-0.7**
BLY				*e*Sg	**Sg**	**18 25 26.7**	**+0.4**
DUGI	**Dugi Otok**	**1.20**	**288**	*e*Pn	**Pg**	**18 25 11.0**	**-0.2**
DUGI				Sn	**Sn**	**18 25 30.0**	**+0.9**
VIRC	**Vir**	**1.32**	**301**	*e*Pn	**Pn**	**18 25 12.8**	**-1.0**
PRIJ	**Prijedor**	**1.35**	**2**	*e*Sg	**Sg**	**18 25 30.7**	**-0.8**
PLIT	**Plitvice**	**1.45**	**330**	*e*Pn	**Pn**	**18 25 14.7**	**-1.0**
DBRK	**Dubrovnik**	**1.46**	**130**	*e*Pn	**Pn**	**18 25 14.4**	**-1.3**
KLINJ	**Klinje**	**1.49**	**107**	*e*Pg	**Pn**	**18 25 15.7**	**-0.5**
KLINJ				*e*Sg	**Sg**	**18 25 37.5**	**+1.5**
DOB	**Doboj**	**1.52**	**43**	*e*Sn	**Sn**	**18 25 36.7**	**-0.4**
TREB	**Trebinje**	**1.55**	**125**	*e*Pg	**Pn**	**18 25 16.3**	**-0.6**
TREB				*e*Sg	**Sg**	**18 25 39.0**	**+1.2**
TREB	**Trebinje**	**1.55**	**125**	*e*Pn	**Pn**	**18 25 16.5**	**-0.4**
TREB				*e*Sn	**Sn**	**18 25 38.0**	**+0.4**
BRY	**Bratogost**	**1.56**	**117**	*e*Pn	**Pn**	**18 25 17.8**	**+0.5**
BRY				*e*Sn	**Sn**	**18 25 38.4**	**+0.1**
NVLJ	**Novalja**	**1.58**	**307**	*e*Pn	**Pn**	**18 25 17.3**	**0.0**
NVLJ				Sn	**Sg**	**18 25 41.2**	**+2.2**
UPM	**Unac-Piva**	**1.70**	**104**	*e*Pn	**Pn**	**18 25 19.0**	**-0.2**
UPM				*e*Sn	**Sn**	**18 25 41.7**	**-0.1**
HAPS	**Han Pijesak,Bl**	**1.73**	**74**	*e*Pg	**Pn**	**18 25 20.3**	**+0.7**
HAPS				*e*Sg	**Sg**	**18 25 46.3**	**+2.5**
HAPS	**Han Pijesak,Bl**	**1.73**	**74**	*e*Pn	**Pn**	**18 25 19.8**	**+0.2**
HAPS				*e*Sn	**Sn**	**18 25 42.0**	**-0.4**
RABC	**Rab**	**1.75**	**311**	*e*Pn	**Pb**	**18 25 21.0**	**0.0**
HCY	**Herceg Novi**	**1.80**	**130**	*e*Pn	**Pn**	**18 25 20.4**	**0.0**
HCY				*e*Sn	**Sb**	**18 25 44.9**	**-0.1**
RUDO	**Rudo**	**1.98**	**89**	*e*Pn	**Pn**	**18 25 23.1**	**+0.2**
RUDO				*e*Sn	**Sn**	**18 25 48.9**	**+0.5**
MOSL	**Moslavina**	**1.99**	**2**	*e*Pn	**Pn**	**18 25 22.1**	**-0.9**
BBLS	**Lazi&#263i**	**2.02**	**82**	*e*Pn	**Pb**	**18 25 25.8**	**+0.1**
BBLS				*e*Sn	**Sn**	**18 25 50.9**	**+1.5**
BBLS	**Lazi&#263i**	**2.02**	**82**	*e*Pn	**Pn**	**18 25 24.2**	**+0.7**
BBLS				*e*Sn	**Sn**	**18 25 49.1**	**-0.3**
BOJS	**Bojanci**	**2.12**	**333**	*e*Pn	**Pn**	**18 25 24.2**	**-0.6**
BOJS				*e*Sn	**Sn**	**18 25 50.9**	**-1.0**
OZLJ	**Ozalj**	**2.16**	**338**	*e*Pn	**Pn**	**18 25 26.6**	**+1.4**
OZLJ				Sn	**Sb**	**18 25 55.8**	**+0.5**
PDG	**Podgorica**	**2.26**	**121**	*e*Pn	**Pn**	**18 25 27.5**	**+0.8**
PDG				*e*Sn	**Sn**	**18 25 55.9**	**+0.7**
SMRN	**Sveta Marina**	**2.27**	**309**	*e*Pn	**Pb**	**18 25 29.0**	**-1.0**
TEKS	**Tekeris**	**2.28**	**65**	*e*Pn	**Pb**	**18 25 29.4**	**-0.7**
TEKS				*e*Sn	**Sb**	**18 25 58.2**	**-0.6**
TEKS	**Tekeris**	**2.28**	**65**	*e*Pn	**Pn**	**18 25 27.5**	**+0.5**
TEKS				*e*Sn	**Sn**	**18 25 55.6**	**-0.1**
PTJ	**Puntijarka**	**2.33**	**348**	*e*Pn	**Pn**	**18 25 28.1**	**+0.3**
CRES	**Cresnjev**	**2.35**	**339**	*i*Pn	**Pn**	**18 25 28.2**	**+0.2**
CRES				*e*Sn	**Sn**	**18 25 57.1**	**-0.5**
DRME	**Dracevica, Mon**	**2.36**	**127**	*e*Pn	**Pn**	**18 25 28.9**	**+0.8**
DRME				*e*Sn	**Sn**	**18 25 58.4**	**+0.7**
SJES	**Sjenica**	**2.46**	**97**	*e*Sn	**Sn**	**18 26 00.3**	**+0.1**
SJES	**Sjenica**	**2.46**	**97**	*e*Pn	**Pn**	**18 25 30.3**	**+0.8**
SJES				*e*Sn	**Sn**	**18 26 01.2**	**+1.0**
DIVS	**Divibare**	**2.47**	**78**	*e*Pn	**Pb**	**18 25 32.4**	**-1.0**
DIVS				*e*Sn	**Sb**	**18 26 03.2**	**-1.2**
KALN	**Kalnik**	**2.51**	**357**	*e*Pn	**Pn**	**18 25 29.3**	**-0.8**
IVAS	**Ivanjica**	**2.55**	**90**	*e*Pn	**Pn**	**18 25 32.5**	**+1.7**
IVAS				*e*Sn	**Sn**	**18 26 04.1**	**+1.6**
CEY	**Cerknica**	**2.64**	**324**	*e*Pn	**Pn**	**18 25 32.2**	**+0.3**
CEY				*e*Sn	**Sn**	**18 26 04.1**	**-0.5**
FRGS	**Fruska Gora**	**2.74**	**55**	*e*Pn	**Pn**	**18 25 34.8**	**+1.5**
FRGS				*e*Sn	**Sn**	**18 26 07.6**	**+0.5**
FRGS	**Fruska Gora**	**2.74**	**55**	*e*Pn	**Pn**	**18 25 34.3**	**+1.0**
FRGS				*e*Sn	**Sn**	**18 26 07.3**	**+0.2**
MORH	**Mrgy, Hungar**	**2.95**	**28**	*e*Pn	**Pn**	**18 25 36.5**	**+0.3**
MORH				*e*Sn	**Sn**	**18 26 11.8**	**-0.5**
GRUS	**Gruza**	**2.96**	**84**	*e*Sn	**Sn**	**18 26 13.2**	**+0.6**
OBKA	**Obir**	**3.24**	**334**	*e*Pn	**Pn**	**18 25 41.8**	**+1.5**
	0.9nm,0.2s						
OBKA	**Obir**	**3.24**	**334**	*e*Pn	**Pn**	**18 25 40.5**	**+0.2**
OBKA				*e*Sn	**Sn**	**18 26 18.0**	**-1.6**
SELS	**Selova**	**3.29**	**96**	*e*Pn	**Pn**	**18 25 42.0**	**+1.1**
SELS				*e*Sn	**Sn**	**18 26 21.9**	**+1.2**
ARSA	**Arzberg**	**3.71**	**348**	*e*Pn	**Pn**	**18 25 46.4**	**-0.2**
	1.2nm,0.3s						
ARSA	**Arzberg**	**3.71**	**348**	*e*Pn	**Pn**	**18 25 46.8**	**+0.2**
ARSA				*e*Sn	**Sn**	**18 26 30.0**	**-1.0**
RONA	**Rosalia, Austr**	**4.08**	**357**	*e*Pn	**Pn**	**18 25 51.8**	**0.0**
	0.6nm,0.2s						
CONA	**Conrad Observa**	**4.34**	**353**	*e*Pn	**Pn**	**18 25 55.7**	**+0.3**
	0.2nm,0.2s						
LESA	**Schwarzleotal**	**4.71**	**325**	*e*Pn	**Pn**	**18 26 01.6**	**+1.1**
	5.0nm,0.3s						
WTTA	**Wattenberg**	**5.06**	**318**	*e*Pn	**Pn**	**18 26 06.7**	**+1.3**
	1.3nm,0.3s						
WATA	**Walderalm**	**5.14**	**318**	*e*Pn	**Pn**	**18 26 08.2**	**+1.8**
	1.6nm,0.2s						

*IDC **22** 18:31:34.6±6.1, 22.79S×179.33E, h514km±62km, mb3.3/9, mbtmp4.2/10, Error ellipse: s-maj=43.2km s-min=17.8km az=53.0*
*NEIC **22** 18:31:39.7±1.6, 22.94S±0.09×179.3E±0.1, h573km±12km, mb4.5/23, Error ellipse: s-maj=20.6km s-min=11.4km az=112.0*
ISC 22 18:31:38.4±0.6, 22.99S±0.08×179.2E±0.1, h550km, n52, σ1°43/51, mb4.1/17, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.34**	**348**	P	**P**	**18 33 13.0**	**+1.7**
RAO	**Raoul Island**	**6.75**	**158**	P	**P**	**18 33 25.8**	**+1.9**
NIUE	**Niue**	**10.86**	**71**	P	**P**	**18 34 05.0**	**-0.2**
MKAZ	**Moumakai**	**14.50**	**193**	P	**P**	**18 34 46.2**	**+3.7**
HAZ	**Te Kaha**	**14.77**	**184**	P	**P**	**18 34 46.2

KSRS	Korea Array	77.08	320	P		P	18 42 34.5	-0.7
	comp=Z,1.0nm,0.8s,baz=134,slow=3.5,SNR=3.7							
	comp=Z,1.0nm,0.8s							
BELA	Belgrano 2	77.43	173	P		P	18 42 36.4	-0.1
N15K	Kwethluk River	84.56	10	P		P	18 43 13.2	-0.3
N15K				IAmb		IAmb	18 43 45.9	
	comp=Z,23nm,1.4s							
SNAA	Sanae	85.59	179	P		P	18 43 17.0	-1.5
SNAA				IAmb		IAmb	18 43 40.1	
	comp=Z,10nm,1.4s							
SNAA	Sanae	85.59	179	P		P	18 43 17.4	-1.1
	comp=Z,0.4nm,0.4s,baz=190,slow=14,SNR=8.1							
	comp=Z,0.4nm,0.4s							
CMAR	Chiang Mai Arr	88.53	291	P		P	18 43 32.8	-0.4
	comp=Z,0.7nm,0.9s,baz=121,slow=3.5,SNR=4.2							
	comp=Z,0.7nm,0.9s							
HFS	Hagfors	141.51	348	PKhKP		PKPpre	18 50 00.4	
	comp=Z,0.7nm,0.5s,baz=57,slow=5.5,SNR=6.8							
MMAI	Mount Meron Ar	146.66	295	PKPbc		PKPbc	18 50 18.9	-0.2
	comp=Z,1.9nm,0.5s,baz=76,slow=4.4,SNR=12							
EKA	Eskdalemuir Ar	147.65	3	PKPbc		PKPbc	18 50 19.4	-1.6
	comp=Z,0.4nm,0.5s,baz=356,slow=2.8,SNR=3.5							

IDC ***22*** *18:57:47.5±1.0,28.°69S×177.°89W, h0km, mb4.0/5, mbtmp4.0/5, Error ellipse: s-maj=29.1km s-min=14.5km az=82.0*

NEIC ***22*** *18:57:51.2±1.2,29.°80S±0.°05×177.°54W±0.°07, h35km±2km, mb4.6/8, Error ellipse: s-maj=11.1km s-min=7.6km az=109.0*

ISC 22 18:57:52.0±0.9,29.°87S±0.°06×177.°7W±0.°2, h35km, n22, σ1§46/24, mb4.4/9, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
RAO	Raoul Island	0.64	346			Pn	Pn	18 58 03.2	-1.4
RAO						Sn	Sn	18 58 13.0	-0.5
RAO	Raoul Island	0.64	346			Pn	Pn	18 58 03.3	-1.2
	2μm,0.3s,baz=68,slow=8.4,SNR=170								
RAO				Sn		Sn	Sn	18 58 13.1	-0.3
	2μm,0.3s,baz=65,slow=20,SNR=16								
MXZ	Matakaoa Point	8.34	202	Pn		Pn	Pn	18 59 51.4	+1.0
RTZ	Ruatahuna	9.75	205	Pn		Pn	Pn	19 00 07.4	-2.4
RTZ				Sn		Sn	Sn	19 01 57.1	-1.0
THZ	Tophouse	14.07	210	Pn		Pn	Pn	19 01 09.3	+0.5
GVZ	Greta Valley S	15.01	207	Pn		Pn	Pn	19 01 20.2	-1.3
RPZ	Rata Peaks	16.45	210	Pn		Pn	Pn	19 01 40.1	+0.1
CTAO	Charters Tower	33.94	278	P		P	P	19 04 30.8	-1.3
STKA	Stephens Creek	34.81	256	P		P	P	19 04 42.1	+2.5
	1.3nm,0.3s,baz=153,slow=19,SNR=3.7								
	1.3nm,0.3s								
BBOO	Buckleboo	39.33	254	P		P	P	19 05 18.7	+0.8
BBOO				IAmb		IAmb	IAmb	19 05 26.1	
	comp=Z,21nm,1.4s								
ASAR	Alice Springs	43.36	266	P		P	P	19 05 51.3	+0.1
	comp=Z,0.9nm,0.7s,baz=102,slow=7.4,SNR=9.7								
	comp=Z,0.9nm,0.7s								
WB2	Warramunga Arr	44.29	271	P		P	P	19 05 58.8	+0.1
WB2				IAmb		IAmb	IAmb	19 05 59.5	
	comp=Z,15nm,1.4s								
WRA	Warramunga Arr	44.30	271	P		P	P	19 05 58.1	-0.6
	comp=Z,1.8nm,0.4s,baz=110,slow=8.0,SNR=26								
	comp=Z,1.8nm,0.4s								
WB0	Warramunga Arr	44.32	272	P		P	P	19 05 58.7	-0.2
WB0				IAmb		IAmb	IAmb	19 06 05.5	
	comp=Z,14nm,1.3s								
CASY	Casey	55.71	208	P		P	P	19 07 24.5	-0.1
CASY				IAmb		IAmb	IAmb	19 07 32.9	
	comp=Z,11nm,1.5s								
QSPA	South Pole Qui	60.23	180	P		P	P	19 07 56.5	0.0
QSPA				IAmb		IAmb	IAmb	19 08 08.6	
	comp=Z,3.7nm,1.1s								
QSPA	South Pole Qui	60.23	180	P		P	P	19 08 04.8	+8.3
	comp=Z,2.1nm,0.6s,baz=319,slow=1.0,SNR=16								
	comp=Z,1nm,0.6s								
TXAR	Lajitas Array	91.92	57	P		P	P	19 10 56.3	-0.8
	comp=Z,0.3nm,0.8s,baz=205,slow=4.0,SNR=2.7								
	comp=Z,0.3nm,0.8s								
FINES	FINESS Array B	144.73	340	PKP		PKPab		19 17 21.1	-2.1
	comp=Z,2.7nm,0.5s,baz=52,slow=3.5,SNR=25								
HFS	Hagfors	148.77	349	PKPbc		PKPdf		19 17 32.9	+1.7
	comp=Z,0.9nm,0.5s,baz=0.0,slow=2.1,SNR=5.4								
AKASG	Malin Array Be	151.01	323	PKPbc		PKPdf		19 17 38.8	+3.8
	comp=Z,0.2nm,0.4s,baz=51,slow=1.9,SNR=4.6								
MMAI	Mount Meron Ar	151.61	285	PKPbc		PKPbc		19 17 42.6	-0.2
	comp=Z,1.1nm,0.4s,baz=82,slow=6.0,SNR=7.5								

NEIC ***22*** *19:11:02.5±1.1,47.°3N±0.°1×152.°0E±0.°2, h108km±8km, mb4.5/31, Error ellipse: s-maj=20.7km s-min=12.0km az=145.0*

MOS ***22*** *19:11:02.1±1.2,47.°14N×152.°33E, h132km, mb4.3/10, Error ellipse: s-maj=9.8km s-min=7.8km az=78.6*

IDC ***22*** *19:11:04.6±2.2,47.°21N×152.°25E, h136km±18km, mb3.7/20, mbtmp4.1/24, Error ellipse: s-maj=20.6km s-min=12.2km az=135.0*

SKHL ***22*** *19:11:04.1±0.6,47.°20N×152.°30E, h128km±7km, mb4.9/2, msha5.5/4*

JMA ***22*** *19:11:04.0±0.8,46.°N±9.°×15.°3E±.°, h120km, MV3.6/10, KURILE ISLANDS REGION*

ISC 22 19:11:01.3±0.5,47.°17N±0.°07×152.°20E±0.°07, h100km, n116, σ1§80/117, mb4.4/34, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time	Res
								h m s	ISC
KUR	Kuril'sk	3.58	239	*e*P		Pn	Pn	19 11 59.5	+4.8
KUR				AMB		AMB	AMB	19 12 01.0	
	50nm,0.5s								
KUR				*i* S		Sn	Sn	19 12 40.4	+4.3
KUR				A		A	A	19 12 44.9	
	150nm,0.5s								
KUR				A		A	A	19 12 44.9	
	130nm,0.5s								
KUR	Kuril'sk	3.58	239	*e*PN		Pn	Pn	19 11 58.6	+3.9
KUR				*i* S		Sn	Sn	19 12 41.2	+5.1
KUR				pmax		pmax			
	comp=E,22nm,0.6s								
KUR				pmax		pmax			
	comp=Z,39nm,0.6s								
KUR				pmax		pmax			
	comp=N,24nm,0.5s								
KUR				smax		smax			
	comp=N,130nm,0.6s								
KUR				smax		smax			
	comp=E,103nm,0.4s								
SKR	Severo-Kuril's	4.36	35	*e*P		Pn	Pn	19 12 08.5	+3.3
SKR				*e*S		Sn	Sn	19 12 56.2	+1.3
SKR				A		A	A	19 13 05.9	
	comp=E,80nm,0.2s								
SKR				A		A	A	19 13 05.9	
	comp=E,50nm,0.2s								
SHO	Shikotan	5.01	231	*e*P		Pn	Pn	19 12 14.1	0.0
SHO				*e*S		Sn	Sn	19 13 08.3	-2.5
SHO				A		A	A	19 13 12.4	
	comp=E,80nm,0.4s								
SHO				A		A	A	19 13 12.4	
	comp=E,60nm,0.4s								
SHO	Shikotan	5.01	231	*e*PN		Pn	Pn	19 12 14.2	+0.1
SHO				*e*S		Sn	Sn	19 13 07.9	-2.9
SHO				smax		smax			
	comp=N,67nm,0.4s								
SHO				smax		smax			
	comp=E,49nm,0.2s								
PAU	Pauzhetka	5.25	33	*e*S		Sn	Sn	19 13 17.2	+0.7
YUK	Yuzh-Kuril'sk	5.44	237	*e*P		Pn	Pn	19 12 24.2	+4.3
YUK				*e*S		Sn	Sn	19 13 24.1	+2.9
NEM2	Nemuro 2	5.94	232	P		Pn	Pn	19 12 26.3	-0.3
NEM2				S		Sn	Sn	19 13 29.4	-3.8
NMR	Nemuro--Hokkai	5.94	233	*e*P		Pn	Pn	19 12 26.3	-0.4
NMR				*e*S		Sn	Sn	19 13 29.1	-4.2
JNK	Nakash	6.37	238	*e*P		Pn	Pn	19 12 34.7	+2.1
JNK				*e*S		Sn	Sn	19 13 44.8	+1.0
YSS	Yuzh-Sakhalins	6.46	272	*e*P		Pn	Pn	19 12 39.6	+5.9
YSS	Yuzh-Sakhalins	6.46	272	*e*PN		Pn	Pn	19 12 39.6	+5.9
YSS				*e*S		Sn	Sn	19 13 54.1	+8.3
YSS				pmax		pmax			
	comp=Z,20nm,1.0s								
YSS				smax		smax			
	comp=N,20nm,0.8s								
JTKR	Abashiri--Toko	6.64	244	*e*P		Pn	Pn	19 12 38.5	+2.3
JAK	Akkeshi	6.75	235	*e*P		Pn	Pn	19 12 37.4	-0.4
JAK				*e*S		Sn	Sn	19 13 49.3	-3.9
PEA0B	Petropavlovsk-	6.91	29	Pn		Pn	Pn	19 12 40.2	+0.3
PEA0B	Petropavlovsk-	6.91	29	PN		Pn	Pn	19 12 40.2	+0.3
PETK	Petropavlovsk-	6.91	29	Pn		Pn	Pn	19 12 38.5	-1.4
PETK	Petropavlovsk-	6.91	29	P		Pn	Pn	19 12 42.1	+2.3
	comp=N,1.5nm,0.8s,baz=186,slow=10,SNR=4.4								
PETK				S		Sn	Sn	19 14 00.9	+4.0
	comp=N,1.0nm,0.6s,baz=159,slow=25,SNR=1.3								
JAR	Ashorobuto	7.10	240	P		Pn	Pn	19 12 44.4	+1.9
JAR				*e*S		Sn	Sn	19 14 02.5	+0.9
JOB	Onbets	7.30	237	*e*P		Pn	Pn	19 12 46.1	+0.9
JOB				*e*S		Sn	Sn	19 14 03.5	-2.9
JKA	Kamikawa-asahi	7.39	249			Pn	Pn	19 12 49.0	+2.6
JKA	Kamikawa-asahi	7.39	249	*e*P		Pn	Pn	19 12 50.5	+4.1
ASAJ	Asahikawa	7.39	249	*e*P		Pn	Pn	19 12 50.5	+4.1
	comp=N,2.5nm,0.7s,baz=65,slow=15,SNR=4.8								
JCH	Churui	7.75	237	P		Pn	Pn	19 12 51.6	+0.3
JCH				*e*S		Sn	Sn	19 14 13.4	-4.0
ERM	Erimo	8.26	235	Pn		Pn	Pn	19 12 59.4	+1.2
ERM	Erimo	8.26	235	*i* PN		Pn	Pn	19 13 01.3	+3.1
JNBK	Urakawa-nobuka	8.31	237	*e*P		Pn	Pn	19 12 59.2	+0.2
JNBK				*e*S		Sn	Sn	19 14 25.7	-5.4
JTM	Tenmabayashi	10.24	236	Pn		Pn	Pn	19 13 23.2	-2.0
KLR	Kul'dur	13.79	286	P		Pn	Pn	19 14 12.7	+0.4
	comp=N,0.3nm,0.2s,baz=75,slow=12,SNR=1.5								
USA0B	Ussuriysk Arra	14.43	266	Pn		Pn	Pn	19 14 20.1	-0.5
USA0B	Ussuriysk Arra	14.43	266	*i* P		P	P	19 14 22.7	-1.9
USRK	Ussuriysk Ar.	14.43	266	P		Pn	Pn	19 14 21.4	+0.8
	comp=N,1.3nm,0.6s,baz=73,slow=12,SNR=5.0								
MAJO	Matsushiro	14.86	229	Pn		Pn	Pn	19 14 26.7	+0.6
MAJO	Matsushiro	14.86	229	P		Pn	Pn	19 14 26.7	+0.6
SEY	Seymchan	15.80	0	P		P	P	19 14 40.5	+1.0
	comp=N,1.9nm,0.6s,baz=178,slow=13,SNR=5.4								
JMN	Monobe	19.29	232	P		P	P	19 15 16.1	-2.2
JMN				IAmb		IAmb	IAmb	19 15 28.0	
	comp=Z,42nm,1.2s								
YAK	Yakutsk	19.63	327	P		Pn	Pn	19 15 23.2	-0.6
	comp=Z,6.5nm,0.4s,baz=121,slow=4.0,SNR=8.7								
KSRS	Korea Array	20.34	250	P		Pn		19 15 31.6	-0.7
	comp=Z,1.4nm,0.6s,baz=62,slow=9.9,SNR=7.8								
	comp=Z,1.4nm,0.6s								
H11N2	WAKE ISLAND Hy	29.89	151	T		T		19 48 26.6	
	baz=338,slow=76								
H11N1	WAKE ISLAND Hy	29.90	151	T		T		19 48 41.7	
	baz=338,slow=76								
H11N3	WAKE ISLAND Hy	29.90	151	T		T		19 48 32.8	
	baz=338,slow=76								
G16K	Koyuk River	30.19	36			S		19 21 47.0	-6.2
H11S1	WAKE ISLAND Hy	30.97	152	T		T		19 49 53.8	
	baz=341,slow=76								
H11S3	WAKE ISLAND Hy	30.98	153	T		T		19 49 55.1	
	baz=341,slow=76								
H11S2	WAKE ISLAND Hy	30.98	152	T		T		19 49 57.4	
	baz=341,slow=76								
C18K	Utukok River	31.57	31	P		P		19 17 13.1	-0.8
C18K				IAmb		IAmb		19 17 39.9	
	comp=Z,26nm,1.4s								
D19K	Kuna River	32.61	31	P		P		19 17 21.2	-1.7
D19K				IAmb		IAmb		19 17 39.8	
	comp=Z,8.2nm,1.4s								
H19K	Roundabout Mou	32.63	37	P		P		19 17 22.5	-0.6
B20K	Meade River	33.35	29	P		P		19 17 29.1	-0.2
B21K	Ikpikpuk River	34.11	30	P		P		19 17 35.7	-0.2
B21K				IAmb		IAmb		19 17 40.4	
	comp=Z,11nm,1.3s								
D22K	Ayikyak River	34.63	32	P		P		19 17 40.1	-0.3
E22K	Anaktuvuk Pass	34.83	33	P		P		19 17 41.7	-0.5
E22K				IAmb		IAmb		19 18 13.1	
	comp=Z,7.2nm,1.3s								
C23K	Itkillik River	35.52	30	P		P		19 17 48.1	+0.1
E24K	Your Creek	36.06	33	P		P		19 17 52.5	-0.2
E24K				IAmb		IAmb		19 18 33.2	
	comp=Z,5.6nm,1.4s								
ILAR	Eielson Array	36.61	39	P		P		19 17 56.3	-1.1
	comp=Z,0.3nm,0.5s,baz=265,slow=7.8,SNR=4.3								
	comp=Z,0.3nm,0.5s								
D25K	Kavik River	36.93	31	P		P		19 17 59.5	-0.6
BMAR	Burnt Mountain	37.52	34	P		P		19 18 05.2	0.0
L27K	Beaver Creek,	38.98	41	P		P		19 18 17.1	-0.2
ZALV	Zalesovo Beam	41.86	305	P		P		19 18 40.3	-0.8
	comp=Z,0.8nm,0.4s,baz=65,slow=7.5,SNR=4.5								
	comp=Z,0.8nm,0.4s								
MK31	Makanchi Array	46.19	297	*i* P		P		19 19 15.1	-0.8
MKAR	Makanchi Array	46.19	297	P		P		19 19 15.7	-0.2
	comp=Z,1.9nm,0.7s,baz=62,slow=6.8,SNR=14								
MKAR				PcP		PcP		19 20 48.6	-1.3
	comp=Z,0.2nm,0.3s,baz=61,slow=3.4,SNR=1.5								
	comp=Z,1.9nm,0.7s								
MAKZ	Makanchi	46.38	297	P		P		19 19 16.1	-1.2
MAKZ				IAmb		IAmb		19 19 28.7	
	comp=Z,9.4nm,1.5s								
MAKZ	Makanchi	46.38	297	P		P		19 19 16.1	-1.2
MAKZ				pmax		pmax			
	comp=Z,9.0nm,1.5s								
KURK	Kurchatov	46.61	303	P		P		19 19 17.3	-1.7
KURK				IAmb		IAmb		19 19 18.7	
	comp=Z,2.9nm,0.6s								
KURK	Kurchatov	46.61	303	*e*P		P		19 19 18.2	-0.8
KURK	Kurchatov	46.61	303	*i* P		P		19 19 18.2	-0.8
KURK				pmax		pmax			
	comp=Z,3.0nm,0.7s								
KURBB	Kurchatov Arra	46.70	303	P		P		19 19 18.6	-1.1
	comp=Z,4.1nm,0.2s,baz=67,slow=8.5,SNR=11								
	comp=Z,4.1nm,0.2s								
BVAR	Borovoye Array	50.11	309	P		P		19 19 45.1	-0.7
	comp=Z,1.0nm,0.4s,baz=51,slow=9.2,SNR=7.2								
	comp=Z,1.0nm,0.4s								
PHO	Puu Honuaula	50.91	104			S		19 27 03.8	+2.5
CMAR	Chiang Mai Arr	51.87	255	P		P		19 19 59.6	+0.1
	comp=Z,0.9nm,0.8s,baz=35,slow=8.0,SNR=9.3								
	comp=Z,0.9nm,0.8s								
CMAR	Chiang Mai Arr	51.87	255	*e*P		P		19 20 00.3	+0.9
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.8s								
SPITS	Spitsbergen Ar	52.09	350	P		P		19 19 59.2	-1.1
	comp=Z,8.5nm,1.0s,baz=62,slow=9.6,SNR=14								
	comp=Z,8.5nm,1.0s								
SPITS	Spitsbergen Ar	52.09	350	P		P		19 19 59.6	-0.7
SPITS				pmax		pmax			
	comp=Z,38nm,1.4s								
BOOM	Boomskoye usch	52.27	295	P		P		19 20 01.5	-0.9
BOOM				IAmb		IAmb		19 20 23.1	
	comp=Z,6.7nm,1.2s								
BOOM	Boomskoye usch	52.27	295	P		P		19 20 01.5	-0.9
BOOM				pmax		pmax			
	comp=Z,7.0nm,1.2s								
BRLDA	Berland Lookou	53.98	47			pwP		19 20 45.7	+6.9
ARU	Arti	54.28	317	P		P		19 20 15.4	-1.2
	comp=Z,1.7nm,0.3s,baz=81,slow=16,SNR=3.6								
	comp=Z,1.7nm,0.3s								
ARCES	ARCESS Array B	57.25	340	P		P		19 20 37.1	-0.5
ARCES				IAmb		IAmb		19 20 57.9	
	comp=Z,8.9nm,1.3s								
ARCES	ARCESS Array B	57.25	340	P		P		19 20 36.6	-1.0
	comp=Z,2.8nm,0.8s,baz=31,slow=7.2,SNR=3.9								
	comp=Z,2.8nm,0.8s								
ARCES	ARCESS Array B	57.25	340	P		P		19 20 37.1	-0.5
ARCES				pmax		pmax			
	comp=Z,9.0nm,1.3s								
ABKAR	Akbulak array	57.67	309	P		P		19 20 39.9	-1.0
JCC	Jacoby Creek,	57.84	63	P		P		19 20 42.7	+0.5
CHGR	Chuyangaron	58.70	295	P		P		19 20 47.2	-1.2
CHGR				IAmb		IAmb		19 20 49.7	
	comp=Z,6.7nm,0.9s								
CHGR	Chuyangaron	58.70	295	P		P		19 20 47.2	-1.2
CHGR				pmax		pmax			
	comp=Z,7.0nm,0.9s								
SIMJ	Simiganj	58.79	295	P		P		19 20 47.9	-1.2
SIMJ				IAmb		IAmb		19 20 50.3	
	comp=Z,4.2nm,0.8s								
FIA1	FINESS Array S	63.39	334	P		P		19 21 18.4	-1.1
FINES	FINESS Array B	63.39	334			P		19 21 18.3	-1.3
FINES	FINESS Array B	63.39	334	P		P		19 21 18.6	-1.0
	comp=Z,2.3nm,0.5s,baz=34,slow=7.8,SNR=34								
	comp=Z,2.3nm,0.5s								
NB2	NORSAR Subarra	67.62	341	P		P		19 21 46.3	-0.6
	comp=Z,1.4nm,0.5s,baz=28,slow=6.5								
NOA	NORSAR Array B	67.62	341	P		P		19 21 46.3	-0.6
	comp=Z,2.3nm,0.5s,baz=29,slow=6.6,SNR=18								
	comp=Z,2.3nm,0.5s								
NOA	NORSAR Array B	67.62	341	*e*P		P		19 21 46.3	-0.6
NOA				pmax		pmax			
	comp=Z,3.0nm,0.6s								
HFS	Hagfors	67.84	339	P		P		19 21 47.4	-0.8
	comp=Z,3.8nm,0.4s,baz=57,slow=5.5,SNR=43								
	comp=Z,3.8nm,0.4s								
AKASG	Malin Array Be	70.85	326	P		P		19 22 05.7	-1.2
	comp=Z,1.8nm,0.3s,baz=35,slow=6.4,SNR=12								
	comp=Z,1.8nm,0.3s								
F36A	Milaca	70.92	42	P		P		19 22 07.2	-0.2
F36A				IAmb		IAmb		19 22 12.4	
	comp=Z,15nm,1.4s								
ASAR	Alice Springs	72.42	198	P		P		19 22 16.1	-0.4
	comp=Z,0.3nm,0.7s,baz=9.9,slow=6.0,SNR=6.9								
	comp=Z,0.3nm,0.7s								
STHS	Stebnicka Huta	74.83	329	*e*P		P		19 22 30.2	-0.3
STHS	Stebnicka Huta	74.83	329	*e*P		P		19 22 30.2	-0.3
BUR08	Bucovina Ar. S	74.87	326	P		P		19 22 30.2	-0.7
BUR08				IAmb		IAmb		19 22 31.2	
	comp=Z,4.9nm,0.7s								
KOLS	Kolonicke sedl	74.88	328	*e*P		P		19 22 30.9	+0.1
KOLS	Kolonicke sedl	74.88	328	*e*P		P		19 22 30.9	+0.1
BURAR	Bucovina Array	74.89	326	P		P		19 22 30.3	-0.6
BURAR				IAmb		IAmb		19 22 31.6	
	comp=Z,6.4nm,0.7s								
OK032	Salt Plains WL	75.37	51			pP		19 22 57.7	-1.6
LANS	Liptovska Anna	75.67	330	*e*P		P		19 22 36.4	+1.1
LANS	Liptovska Anna	75.67	330	*e*P		P		19 22 36.4	+1.1
EKA	Eskdalemuir Ar	75.78	346	P		P		19 22 36.0	+0.2
	comp=Z,0.7nm,0.4s,baz=23,slow=5.0,SNR=8.5								
	comp=Z,0.7nm,0.4s								
EKA	Eskdalemuir Ar	75.78	346	P		P		19 22 36.0	+0.2
CLL	Collm	75.82	335	*i* P		P		19 22 35.2	-0.9
	comp=Z,5.0nm,0.6s								
CLL	Collm	75.82	335	*i* P		P		19 22 35.2	-0.9
CLL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
MLR	Muntele Rosu	76.36	324	P		P		19 22 39.5	+0.1
MLR				IAmb		IAmb		19 22 40.8	
	comp=Z,4.2nm,0.6s								
MLR	Muntele Rosu	76.36	324	P		P		19 22 39.5	+0.1
MLR				pmax		pmax			
	comp=Z,4.0nm,0.6s								
SN07	Snyder 07	76.66	56	P		P		19 22 44.4	+3.1
BRTR	Keskin Array B	77.65	316	P		P		19 22 46.4	-0.4
	comp=Z,1.3nm,0.8s,baz=28,slow=2.9,SNR=4.2								
	comp=Z,1.3nm,0.8s								
GERES	GERESS Array B	77.80	333	P		P		19 22 46.7	-0.6
	comp=Z,0.6nm,0.5s,baz=62,slow=4.6,SNR=3.4								
	comp=Z,0.6nm,0.5s								
TXAR	Lajitas Array	77.83	60	P		P		19 22 46.3	-1.5
	comp=Z,0.2nm,0.5s,baz=285,slow=4.6,SNR=3.9								
	comp=Z,0.2nm,0.5s								
SLBS	Sierra La Lagu	78.08	68	P		P		19 22 49.0	-0.3
MMAI	Mount Meron Ar	82.06	311	P		P		19 23 10.3	-0.3
	comp=Z,0.3nm,0.3s,baz=60,slow=4.0,SNR=5.5								
	comp=Z,0.3nm,0.3s								

NEIC ***22*** *19:30:52.9, 17.°86S×173.°05W, h30km*

NEIC ***22*** *19:30:52.9, 17.°86S×173.°05W, h30km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 1017Nm; Mrr2.24; Mθθ-1.43; Mφφ-0.81; Mrθ0.43; Mφθ0.82; Mφr0.49; Fault plane solution: M0 2.20000×1017 NP1: φs111.09000°, δ47.67000°, λ71.24000°. NP2: φs317.85000°, δ45.57000°, λ109.44000°. Principal axes: T 2.4005, Plg76.0000°, Azm309.0000°; N -0.4052, Plg14.0000°, Azm124.0000°; P -1.9954, Plg1.0000°, Azm214.0000°;*

NEIC ***22*** *19:30:52.9, 17.°86S×173.°06W, h10km*

IDC ***22*** *19:30:52.0±0.4, 17.°86S×173.°31W, h0km, mb5.1/22, mbtmp5.1/22, ML6.4/1, MS5.0/52, Error ellipse: s-maj=16.4km s-min=13.1km az=123.0*

BJI ***22*** *19:30:52.2±0.0, 17.°42S×172.°80W, h10km, mb5.4/64, mB5.7/51, Ms5.3/61, Ms7 5.1/62*

NEIC ***22*** *19:30:52.9±2.0, 17.°86S±0.°06×173.°05W±0.°07, h10km±1km, mb5.4/399, Ms_20 5.2/382, Mwb5.4/70, Mww5.5/15, Error ellipse: s-maj=12.2km s-min=9.2km az=54.0, Moment Tensor Solution. Moment tensor: Scale 1017Nm; Mrr1.56; Mθθ-1.76; Mφφ0.20; Mrθ0.33; Mφθ0.68; Mφr-0.07; Fault plane solution: M0 1.83000×1017 NP1: φs105.81000°, δ50.38000°, λ87.84000°. NP2: φs289.19000°, δ39.67000°, λ92.60000°. Principal axes: T 1.5954, Plg84.0000°, Azm0.0000°; N 0.4081, Plg2.0000°, Azm107.0000°; P -2.0035, Plg5.0000°, Azm197.0000°;*

MOS ***22*** *19:30:53.3±1.5, 17.°90S×173.°35W, h17km, mb5.5/53, MS5.1/39 Error ellipse: s-maj=9.0km s-min=7.5km az=105.1*

NOU ***22*** *19:30:54.1, 17.°82S×172.°86W, h17km, mb5.5/97, Tonga Islands Region*

GCMT ***22*** *19:30:58.9±0.1, 17.°87S±0.°01×172.°91W±0.°01, h28km, MW5.6/156, Moment Tensor Solution. s146,c281; s156,c296; Duration: 1s5 Moment tensor: Scale 1017 Nm; Mrr2.78±.03; Mθθ-2.13±.02; Mφφ-0.65±.02; Mrθ0.47±.04; Mφθ0.89±.02; Mφr0.33±.05; Best double couple: M0 2.72000

MBAZ Motutapu North 21.48 208 P **P** **19 35 45.1 +4.0**
KOUNC **Koumac, New Ca 21.64 260** P **P** **19 35 46.4 +3.3**
KOUNC **Koumac, New Ca 21.64 260** P **P** **19 35 41.9 -1.2**
CNGZ Carnagh Statio 21.74 199 P **P** **19 35 49.4 +5.5**
URZ Urewera 21.90 201 P **P** **19 35 48.9 +3.3**
TOZ Tahuroa Road 22.04 205 P **P** **19 35 50.5 +3.4**
PPT2 Papeete2 22.23 92 *e*PKIKP **P** **19 35 53.7 +4.2**
919nm,28.0s
PPT2 *e*S **S** **19 39 48.8 -4.4**
2µm,24.2s
PPT2 *e*LR LR 19 41 08.6
5µm,23.5s
PPT2 *e*LR LR 19 41 15.4
3µm,22.8s
PPT Papeete 22.23 92 LR LR 19 42 10.1
comp=Z,2µm,20.4s,baz=262,slow=30
RTZ Ruatahuna 22.26 201 **P** **19 35 51.3 +1.6**
TBI Tubuai 22.55 107 *e*P **P** **19 35 54.6 +1.9**
3µm,36.0s
TBI *e*S **S** **19 39 56.1 -2.7**
10µm,25.8s
TBI *e*LR LR 19 41 19.3
6µm,25.8s
TBI *e*LR LR 19 41 24.0
19µm,24.5s
BKZ Black Stump Fm 22.92 202 P **P** **19 35 59.1 +2.5**
BKZ Black Stump Fm 22.92 202 **P** **19 35 58.0 +1.4**
HIZ Hauiti 22.97 205 P **P** **19 36 01.5 +4.4**
HIZ Hauiti 22.97 205 P **P** **19 35 58.9 +1.8**
OTVZ Oturere 23.22 203 P **P** **19 36 01.2 +1.4**
BFZ Birch Farm 24.37 200 P **P** **19 36 14.3 +3.8**
BFZ Birch Farm 24.37 200 P **P** **19 36 12.0 +1.5**
MRZ Mangatainoka R 24.57 201 P **P** **19 36 12.3 -0.1**
MSWZ Moikau Station 25.36 202 P **P** **19 36 20.9 +1.4**
SNZO South Karori 25.46 202 P **P** **19 36 21.4 +1.0**
BHW Baring Head 25.48 202 P **P** **19 36 22.6 +2.0**
BHW IAmb IAmb 19 36 28.6
comp=Z,66nm,0.6s
PLWZ Palliser 25.49 201 P **P** **19 36 22.5 +1.8**
TCW Tory Channel 25.52 203 P **P** **19 36 19.8 -1.2**
TCW **S** **19 40 49.0 +1.9**
TUWZ Tuamarina 25.84 203 P **P** **19 36 23.5 -0.3**
NNZ Nelson 25.87 204 P **P** **19 36 23.7 -0.4**
TKNZ Takaka Hill 25.88 205 P **P** **19 36 22.9 -1.3**
QRZ Quartz Range 25.88 206 P **P** **19 36 28.2 +4.0**
QRZ Quartz Range 25.88 206 P **P** **19 36 26.4 +2.1**
BSWZ Blackbirch Sta 26.11 203 P **P** **19 36 28.0 +1.7**
MRNZ Matariki Terra 26.27 205 P **P** **19 36 29.9 +2.1**
THZ Tophouse 26.52 204 P **P** **19 36 31.7 +1.6**
KHZ Kahutara 26.84 203 P **P** **19 36 34.4 +1.5**
KHZ IAMs_20 IAMs_20 19 47 47.1
comp=Z,6µm,19.0s
DSZ Denniston Nort 26.95 206 P **P** **19 36 35.7 +1.8**
GVZ Greta Valley S 27.51 203 P **P** **19 36 40.1 +1.2**
LTZ Lake Taylor 27.64 204 P **P** **19 36 39.9 -0.2**
HNR Honiara 27.69 284 P **P** **19 36 37.6 -3.2**
HNR IAmb IAmb 19 36 52.6
comp=Z,66nm,0.8s
HNR Honiara 27.69 284 LR LR 19 45 55.2
comp=Z,50µm,19.4s,baz=116,slow=33
HNR Honiara 27.69 284 P **P** **19 36 37.6 -3.2**
HNR pmax pmax
comp=Z,66nm,0.8s
HNR MLR MLR
comp=Z,4µm,20.0s
INZ Inchbonnie 27.91 205 P **P** **19 36 42.0 -0.5**
INZ IAMs_20 IAMs_20 19 46 50.1
comp=Z,6µm,22.0s
OXZ Oxford 28.19 204 P **P** **19 36 45.2 +0.2**
MQZ McQueen's Vall 28.29 202 P **P** **19 36 48.0 +2.2**
RPZ Rata Peaks 28.90 204 P **P** 19 36 56.2 +4.9
RPZ Rata Peaks 28.90 204 P **P** **19 36 53.8 +2.5**
RPZ IAMs_20 IAMs_20 19 47 34.3
comp=Z,5µm,22.0s
FOZ Fox Glacier 29.25 206 IAMs_20 IAMs_20 19 47 15.4
comp=Z,6µm,18.0s
LBZ Lake Benmore 29.80 205 P **P** **19 37 00.7 +1.3**
LBZ IAMs_20 IAMs_20 19 48 00.2
comp=Z,6µm,20.0s
JCZ Jackson Bay 30.13 207 P **P** **19 37 06.5 +4.2**
ODZ Otahua Downs 30.18 204 P **P** 19 37 08.0 +5.4
WKZ Wanaka 30.64 206 P **P** **19 37 09.3 +2.6**
MLZ Mavora Lakes 31.45 206 P **P** **19 37 14.9 +1.0**
MLZ IAmb IAmb 19 37 27.9
comp=Z,51nm,1.0s
MLZ IAMs_20 IAMs_20 19 48 30.6
comp=Z,4µm,18.0s
WHZ Wether Hill Ro 31.95 206 P **P** **19 37 19.4 +1.2**
EIDS Eidsvold 34.13 251 P **P** **19 37 39.6 +2.0**
EIDS Eidsvold 34.13 251 P **P** **19 37 35.1 -2.5**
ARMA Armidale 34.43 242 P **P** **19 37 37.6 -2.6**
ARMA IAmb IAmb 19 37 53.2
comp=Z,94nm,1.7s
AULRC Lightning Ridg 37.36 245 P **P** **19 38 07.4 +2.2**
CAN Canberra 37.82 235 **P** **19 38 08.2 -0.9**
CAN IAMs_20 IAMs_20 19 51 47.2
comp=Z,4µm,18.0s
CAN Canberra 37.82 235 P **P** **19 38 08.2 -0.9**
CAN pmax pmax
comp=Z,54nm,1.5s
CAN MLR MLR
comp=Z,4µm,18.0s
CTAO Charters Tower 38.56 260 P **P** **19 38 14.2 -1.3**
CTAO Charters Tower 38.56 260 P **P** **19 38 12.8 -2.7**
CTAO IAmb IAmb 19 38 16.6
comp=Z,44nm,0.8s
CTAO Charters Tower 38.56 260 IAMs_20 IAMs_20 19 52 07.3
comp=Z,4µm,20.0s
CTAO Charters Tower 38.56 260 P **P** **19 38 12.8 -2.7**
CTAO pmax pmax
comp=Z,44nm,0.8s
CTAO MLR MLR
comp=Z,4µm,20.0s
CMSA Cobar Meteorol 39.65 242 P **P** **19 38 26.1 +1.7**
PMG Port Moresby 39.65 277 P **P** **19 38 21.3 -3.3**
comp=Z,34nm,0.9s,baz=136,slow=6.1,SNR=5.4
comp=Z,34nm,0.9s
QLP Quilpie 40.37 250 P **P** **19 38 29.6 -0.9**
MTSU Mount Surprise 40.57 263 P **P** **19 38 31.3 -1.0**
TOO Toolangi 41.17 233 P **P** **19 38 40.2 +3.2**
TOO Toolangi 41.17 233 P **P** **19 38 36.6 -0.4**
TOO Toolangi 41.17 233 P **P** **19 38 36.6 -0.4**
TOO pmax pmax
comp=Z,19nm,0.7s
H11S2 WAKE ISLAND Hy 41.51 330 T T 20 21 10.9
baz=145,slow=76,SNR=8.6
H11S3 WAKE ISLAND Hy 41.52 330 T T 20 21 10.8
baz=145,slow=76,SNR=7.8
H11S1 WAKE ISLAND Hy 41.52 330 T T 20 21 11.4
baz=145,slow=76,SNR=17
TAU Tasmania Unive 41.70 225 P **P** **19 38 42.2 +1.0**
TAU Tasmania Unive 41.70 225 P **P** **19 38 42.2 +1.0**
TAU pmax pmax
comp=Z,304nm,2.0s
KEKH Kekaha 41.88 19 P **P** **19 38 41.0 -1.7**
MANU Manus Island 42.08 288 P **P** **19 38 42.0 -2.7**
WAKE Wake Island 42.22 331 P **P** **19 38 43.9 -1.7**
COEN Coen 42.33 269 P **P** **19 38 45.3 -1.4**
COEN Coen 42.33 269 P **P** **19 38 44.4 -2.3**
COEN IAmb IAmb 19 38 48.8
comp=Z,58nm,1.2s
BRAT Ballarat 42.36 234 P **P** **19 38 48.8 +2.1**
STKA Stephens Creek 43.15 243 P **P** **19 38 55.2 +2.0**
STKA Stephens Creek 43.15 243 P **P** **19 38 51.2 -1.9**
STKA Stephens Creek 43.15 243 P **P** **19 38 51.2 -1.9**
comp=Z,5.0nm,0.4s,baz=93,slow=8.8,SNR=8.8
STKA PcP **PcP** **19 40 43.7 +1.1**
comp=Z,5.8nm,0.7s,baz=40,slow=5.5,SNR=3.6
STKA LR LR 19 55 23.9
comp=Z,3µm,18.0s,baz=73,slow=34
comp=Z,5.0nm,0.4s
INKA Innaminka 43.53 249 P **P** **19 38 58.1 +1.8**
ARPS Mount Arapiles 43.80 235 P **P** **19 39 00.9 +2.6**
HTT Hallett 45.58 241 P **P** **19 39 16.2 +3.5**
LCRK Leigh Creek 45.89 245 P **P** **19 39 15.3 +0.2**
MIDW Midway 46.24 355 IAMs_20 IAMs_20 19 57 30.8
comp=Z,2µm,20.0s
BBOO Buckleboo 47.91 242 P **P** **19 39 32.0 +1.1**
BBOO Buckleboo 47.91 242 P **P** **19 39 28.5 -2.4**
BBOO IAmb IAmb 19 39 33.7
comp=Z,18nm,0.7s
JAY Jayapura 48.00 283 P **P** **19 39 30.3 -1.6**
comp=Z,46nm,1.2s,comp=Z,480nm
OOD Oodnadatta 48.01 249 P **P** **19 39 31.2 -0.5**

GENI Genyem 48.47 283 P **P** **19 39 37.1 +1.7**
GENI Genyem 48.47 283 P **P** **19 39 35.6 +0.2**
comp=Z,104nm,0.8s
WR0 Warramunga Arr 49.54 259 P **P** **19 39 40.7 -2.9**
WR0 IAmb IAmb 19 39 44.8
comp=Z,37nm,1.3s
WR0 PcP **PcP** **19 41 05.4 +0.1**
WB0 Warramunga Arr 49.70 259 P **P** **19 39 41.5 -3.3**
WB0 IAmb IAmb 19 39 46.9
comp=Z,27nm,0.7s
WB2 Warramunga Arr 49.72 259 P **P** **19 39 41.6 -3.4**
WB2 IAmb IAmb 19 39 47.5
comp=Z,34nm,0.8s
WRAB Tennant Creek 49.72 259 *i*P **P** **19 39 41.8 -3.1**
WRAB pmax pmax
comp=Z,38nm,0.9s
AS01 Alice Springs 49.72 254 P **P** **19 39 43.8 -1.2**
WRA Warramunga Arr 49.73 259 P **P** **19 39 41.2 -3.8**
WRA PcP **PcP** **19 41 07.2 +1.2**
WRA Warramunga Arr 49.73 259 P **P** **19 39 42.5 -2.5**
comp=Z,18nm,0.5s,baz=98,slow=6.0,SNR=140
WRA PcP **PcP** **19 41 06.7 +0.7**
comp=Z,7.3nm,0.6s,baz=91,slow=3.4,SNR=5.7
WRA S S 19 46 42.6 -10
comp=Z,4.5nm,0.9s,baz=96,slow=13,SNR=6.8
comp=Z,18nm,0.5s
WRA Warramunga Arr 49.73 259 P **P** **19 39 41.2 -3.8**
WRA 19 41 07.2
ASAR Alice Springs 49.76 254 P **P** **19 39 41.8 -3.5**
ASAR PcP **PcP** **19 41 07.4 +1.3**
ASAR Alice Springs 49.76 254 P **P** **19 39 43.1 -2.2**
comp=Z,71nm,0.8s,baz=93,slow=8.1,SNR=181
ASAR PcP **PcP** **19 41 07.3 +1.3**
comp=Z,19nm,0.7s,baz=100,slow=4.2,SNR=9.3
ASAR S **S** **19 46 45.0 -8.5**
comp=Z,6.2nm,0.6s,baz=88,slow=17,SNR=24
comp=Z,71nm,0.8s
GUMO Guam 52.20 304 LR LR 19 59 50.1
comp=Z,1µm,19.1s,baz=106,slow=34
MTN Manton Dam 54.01 267 P **P** **19 40 13.3 -3.6**
FORT Forrest 54.65 245 P **P** **19 40 22.7 +1.2**
FORT Forrest 54.65 245 P **P** **19 40 19.0 -2.5**
FORT IAmb IAmb 19 40 23.0
comp=Z,29nm,0.7s
WRKA Warakurna 54.75 252 P **P** **19 40 21.7 -0.7**
FAKI Fak Fak 55.75 279 P **P** **19 40 27.3 -2.3**
FAKI IAmb IAmb 19 40 54.1
comp=Z,57nm,1.3s
SWI Sorong 57.39 281 P **P** **19 40 39.3 -2.0**
SWI Sorong 57.39 281 P **P** **19 40 39.9 -1.4**
comp=Z,85nm,0.7s,comp=Z,866nm
FITZ Fitzroy Crossi 58.14 260 P **P** **19 40 45.2 -1.3**
FITZ PcP **PcP** **19 41 39.0 +1.0**
RPN Rapa Nui 58.86 111 LR LR 20 00 12.7
comp=Z,1µm,19.7s,baz=278,slow=30
SBA Scott Base 60.62 185 P **P** **19 41 05.5 +2.8**
SBA IAmb IAmb 19 41 09.7
comp=Z,19nm,0.8s
SBA Scott Base 60.62 185 P **P** **19 41 05.5 +2.8**
SBA pmax pmax
comp=Z,19nm,0.9s
VNDA Vanda 60.76 186 P **P** **19 41 05.7 +2.1**
VNDA Vanda 60.76 186 P **P** **19 41 07.8 +4.2**
comp=Z,9.9nm,1.0s,baz=3.1,slow=6.5,SNR=30
VNDA LR LR 20 06 07.8
comp=Z,344nm,18.3s,baz=18,slow=35
comp=Z,9.9nm,1.0s
VNDA Vanda 60.76 186 P **P** **19 41 05.7 +2.1**
VNDA pmax pmax
comp=Z,10.0nm,1.0s
LBMI Labuha 60.99 280 P **P** **19 41 05.4 -0.8**
comp=Z,48nm,0.8s,comp=Z,908nm
SOEI Soe 61.29 269 P **P** **19 41 09.0 +0.6**
comp=Z,67nm,0.9s
TNTI Ternate 61.61 281 P **P** **19 41 10.3 -0.1**
TNTI Ternate 61.61 281 P **P** **19 41 07.8 -2.5**
TNTI IAmb IAmb 19 41 11.7
comp=Z,40nm,0.9s
TNTI Ternate 61.61 281 P **P** **19 41 09.6 -0.8**
comp=Z,53nm,1.0s,comp=Z,680nm
BATI Baumata 61.75 268 P **P** **19 41 08.8 -2.6**
comp=Z,22nm,0.6s,baz=269,slow=4.2,SNR=5.1
comp=Z,22nm,0.6s
SANI Sanana 61.93 278 P **P** **19 41 11.9 -0.7**
SANI Sanana 61.93 278 P **P** **19 41 11.8 -0.8**
comp=Z,33nm,0.8s
JCJ Chichijima 62.56 315 LR LR 20 04 10.7
comp=Z,2µm,20.0s,baz=124,slow=32
PSA00 Pilbara Seismi 62.91 255 P **P** **19 41 20.2 +1.2**
PSA00 Pilbara Seismi 62.91 255 P **P** **19 41 17.7 -1.3**
PSA00 Pilbara Seismi 62.91 255 P **P** **19 41 17.0 -2.1**
PSA00 IAmb IAmb 19 41 20.7
comp=Z,25nm,0.9s
MBWA Marble Bar 63.08 255 P **P** **19 41 20.7 +0.5**
MBWA Marble Bar 63.08 255 P **P** **19 41 18.4 -1.9**
MBWA Marble Bar 63.08 255 IAMs_20 IAMs_20 20 08 12.3
comp=Z,2µm,18.0s
MEEK Meekatharra 63.25 249 P **P** **19 41 21.3 0.0**
KLBR Kellerberrin 63.41 243 P **P** **19 41 22.6 +0.3**
NWAO Narrogin (SRO) 63.73 242 P **P** **19 41 26.6 +2.3**
NWAO Narrogin (SRO) 63.73 242 P **P** **19 41 26.1 +1.8**
NWAO Narrogin (SRO) 63.73 242 P **P** **19 41 24.3 0.0**
NWAO IAmb IAmb 19 41 26.7
comp=Z,32nm,0.9s
NWAO Narrogin (SRO) 63.73 242 IAMs_20 IAMs_20 20 08 25.4
comp=Z,2µm,18.0s
NWAO Narrogin (SRO) 63.73 242 P **P** **19 41 24.2 -0.1**
comp=Z,16nm,0.7s,baz=85,slow=5.1,SNR=13
NWAO LR LR 20 07 34.0
comp=Z,1µm,18.1s,baz=64,slow=35
comp=Z,16nm,0.7s
NWAO Narrogin (SRO) 63.73 242 P **P** **19 41 24.3 0.0**
NWAO pmax pmax
comp=Z,32nm,1.0s
NWAO MLR MLR
comp=Z,2µm,18.0s
BLDU Ballidu 64.41 244 P **P** **19 41 28.7 -0.2**
MUN Mundaring 64.69 243 P **P** **19 41 31.4 +0.8**
KMSI Cibinong 64.71 279 P **P** **19 41 31.0 0.0**
comp=Z,148nm,0.7s
MORW Morawa 65.18 246 P **P** **19 41 34.4 +0.5**
MORW Morawa 65.18 246 P **P** **19 41 33.1 -0.8**
MORW IAmb IAmb 19 41 36.0
comp=Z,32nm,1.0s
LUWI Luwuk 65.30 277 P **P** **19 41 36.7 +1.9**
LUWI Luwuk 65.30 277 P **P** **19 41 33.5 -1.4**
LUWI Luwuk 65.30 277 P **P** **19 41 34.8 0.0**
comp=Z,63nm,1.3s,comp=Z,855nm
DAV Davao City (W) 65.62 287 LR LR 20 10 15.5
comp=Z,817nm,18.0s,baz=122,slow=36
GTOI Gorontalo 65.64 279 P **P** **19 41 37.5 +0.5**
comp=Z,16nm,1.0s,comp=Z,228nm
BKSI Bulukumba 66.47 272 P **P** **19 41 45.0 +2.6**
comp=Z,38nm,1.0s
TOLI2 Tolitoli 67.89 279 P **P** **19 41 52.1 +0.7**
TOLI2 Tolitoli 67.89 279 P **P** **19 41 49.4 -2.0**
TOLI2 IAmb IAmb 19 41 52.6
comp=Z,24nm,0.8s
JHJ Hachijo jima 2 68.07 318 LR LR 20 11 34.8
comp=Z,730nm,18.1s,baz=40,slow=36
CASY Casey 68.17 205 P **P** **19 41 53.7 +1.4**
ATKA Atka Island 70.01 359 P **P** **19 42 02.4 -1.2**
JMM Marumori 70.64 323 P **P** **19 42 08.2 +0.3**
NIKH Nikolski High 70.86 3 P **P** **19 42 08.1 -0.7**
baz=184
JGF Kuroka 71.20 319 P **P** **19 42 11.6 +0.2**
INU Inuyama 71.26 319 P **P** **19 42 11.4 -0.3**
INU Inuyama 71.26 319 IAmb IAmb 19 42 12.8
comp=Z,29nm,1.0s
MJAR Matsushiro Arr 71.29 320 P **P** **19 42 10.5 -1.4**
comp=Z,22nm,0.9s,baz=154,slow=5.8,SNR=42
comp=Z,22nm,0.9s
MAJO Matsushiro 71.29 320 P **P** **19 42 12.0 +0.1**
MAJO Matsushiro 71.29 320 P **P** **19 42 09.8 -2.1**
MAJO IAmb IAmb 19 42 12.7
comp=Z,34nm,0.9s
MAJO Matsushiro 71.29 320 IAMs_20 IAMs_20 20 07 04.9
comp=Z,1µm,22.0s
MAJO Matsushiro 71.29 320 P **P** **19 42 09.8 -2.1**
MAJO pmax pmax
comp=Z,34nm,1.0s
MAJO MLR MLR
comp=Z,1µm,22.0s
MJB9 Matsu-Tunnel 71.29 320 P **P** **19 42 10.0 -2.0**
MJB9 IAmb IAmb 19 42 13.7
comp=Z,32nm,0.9s

SHEM Shemya Is, Ala 71.42 352 LR LR 20 10 02.0
comp=Z,2µm,19.1s,baz=125,slow=33
UNV Unalaska Valle 71.86 4 P **P** **19 42 14.0 -0.9**
baz=187
QSPA South Pole Qui 71.97 180 P **P** **19 42 17.7 +2.0**
QSPA IAmb IAmb 19 42 21.6
comp=Z,41nm,1.1s
QSPA South Pole Qui 71.97 180 P **P** **19 42 18.6 +2.8**
comp=Z,32nm,1.0s,baz=5.2,slow=1.4,SNR=38
QSPA LR LR 20 09 33.4
comp=Z,458nm,21.4s,baz=30,slow=32
comp=Z,32nm,1.0s
SNCC San Nicolas Is 72.13 45 P **P** **19 42 16.9 -0.2**
baz=234
JSD Sado 72.24 321 P **P** **19 42 17.6 +0.1**
JSD Sado 72.24 321 P **P** **19 42 15.8 -1.7**
ERM Erimo 72.26 327 *ce*P **P** **19 42 16.2 -1.4**
ERM pmax pmax
comp=Z,33nm,1.7s
JMN Monobe 72.29 316 P **P** **19 42 18.1 +0.1**
JOW Kunigami 72.44 307 LR LR 20 08 10.4
comp=Z,1µm,21.6s,baz=110,slow=31
JTM Tenmabayashi 72.50 325 P **P** **19 42 19.0 0.0**
SCZ2 Santa Cruz Isl 72.51 44 P **P** **19 42 19.8 +0.5**
baz=233
TGY Tagaytay City 72.63 292 LR LR 20 10 38.5
comp=Z,856nm,20.1s,baz=68,slow=33
SCI2 San Clemente I 72.64 46 P **P** **19 42 20.0 -0.1**
baz=234
PKM Mcpherson Peak 72.92 43 P **P** **19 42 21.9 0.0**
baz=233
CIS Catalina Islan 72.97 45 P **P** **19 42 22.6 +0.5**
baz=234
SAO San Andreas Ge 73.03 41 IAmb IAmb 19 42 25.2
comp=Z,36nm,1.2s
MCCM Marconi Confer 73.04 39 IAMs_20 IAMs_20 20 06 42.5
comp=Z,1µm,22.0s
FALS False Pass 73.11 6 P **P** **19 42 23.0 +0.7**
baz=190
BBGB Big Mountain B 73.17 41 P **P** **19 42 22.5 -0.8**
BCW Bitter Crk WRg 73.22 44 P **P** **19 42 23.1 -0.5**
BCW IAmb IAmb 19 42 47.8
comp=Z,45nm,1.4s
FMP Fort Macarthur 73.24 45 P **P** **19 42 23.9 +0.3**
baz=234
HOPS Hopland Field 73.47 38 IAMs_20 IAMs_20 20 06 56.9
comp=Z,1µm,20.0s
CHNA Chernabura Isl 73.52 8 P **P** **19 42 25.0 +0.3**
baz=193
109C Camp Elliot, M 73.57 47 IAMs_20 IAMs_20 20 13 24.7
comp=Z,1µm,18.0s
PASC Pasadena Art C 73.58 45 IAMs_20 IAMs_20 20 14 09.6
comp=Z,1µm,18.0s
SKR Severo-Kuril's 73.70 340 *e*P **P** **19 42 23.3 -2.6**
SKR *e* 19 45 09.4
SKR *e*S **SKiKP** **19 51 53.6 -0.7**
SKR pmax pmax
comp=Z,400nm,4.1s
SKR MLR MLR
comp=Z,400nm,15.0s
ARVC Arvin 73.71 44 P **P** **19 42 26.7 +0.3**
baz=234
KMRM Mail Ridge 73.91 37 IAmb IAmb 19 42 31.2
comp=Z,42nm,0.8s
MURC Murrieta 73.92 46 P **P** **19 42 28.2 +0.6**
baz=235
JNU Nakatsue 73.97 313 P **P** **19 42 28.3 +0.3**
JNU Nakatsue 73.97 313 IAmb IAmb 19 42 28.5
comp=Z,34nm,0.8s
JNU Nakatsue 73.97 313 LR LR 20 11 59.5
comp=Z,706nm,18.7s,baz=122,slow=34
BFSC Mount Baldy Ra 73.97 45 P **P** **19 42 27.4 -0.7**
baz=235
MONP2 Monument Peak 74.05 47 P **P** **19 42 27.8 -0.8**
baz=236
JKA Kamikawa-asahi 74.06 328 P **P** **19 42 27.4 -0.7**
JKA IAmb IAmb 19 42 30.1
comp=Z,38nm,0.7s
ASAJ Asahikawa 74.06 328 LR LR 20 09 52.9
comp=Z,1µm,21.2s,baz=150,slow=32
ASAJ Asahikawa 74.06 328 P **P** **19 42 27.5 -0.7**
ASAJ pmax pmax
comp=Z,38nm,0.7s
LPIG La Paz 74.07 58 LR LR 20 06 58.6
comp=Z,713nm,20.3s,baz=218,slow=29
S12K Black Hills 74.08 6 P **P** **19 42 28.5 +0.5**
baz=191
JCC Jacoby Creek, 74.12 36 IAMs_20 IAMs_20 20 14 00.8
comp=Z,2µm,18.0s
EDW2 Edwards Air Fo 74.12 44 P **P** **19 42 29.3 +0.5**
baz=234,SNR=14
IKP In-Ko-Pah, Jac 74.13 47 P **P** **19 42 29.9 +0.9**
baz=236
KHMM Horse Mountain 74.33 37 P **P** **19 42 30.0 0.0**
KHMM IAmb IAmb 19 42 40.4
comp=Z,89nm,1.7s
PFO Pinyon Flats O 74.43 46 P **P** **19 42 30.8 0.0**
PFO Pinyon Flats O 74.43 46 P **P** **19 42 31.4 +0.7**
baz=236,SNR=6.6
PFO Pinyon Flats O 74.43 46 LR LR 20 07 40.7
comp=Z,873nm,20.0s,baz=230,slow=30
PFO Pinyon Flats O 74.43 46 *i*P **P** **19 42 31.4 +0.7**
PFO pmax pmax
comp=Z,27nm,1.3s
TPFO Pinon Flats 74.43 46 P **P** **19 42 31.5 +0.8**
baz=236,SNR=6.7
SZP Santa 74.48 295 P **P** **19 42 32.2 +1.0**
SWSC Sam W. Stewart 74.51 47 P **P** **19 42 32.1 +1.1**
baz=236
LRMC Laurel Mtn Rad 74.68 44 P **P** **19 42 33.1 +0.9**
baz=234,SNR=9.4
AFDM Forest Hills D 74.70 40 P **P** **19 42 31.7 -0.4**
ORV Oroville 74.77 39 IAmb IAmb 19 42 34.8
comp=Z,47nm,1.7s
BELC Belle Mtn. Jos 74.96 46 P **P** **19 42 34.7 +0.8**
baz=236,SNR=8.8
PET Petropavlovsk 74.97 343 *e*P **P** **19 42 32.5 -0.7**
PET *e*S **S** **19 52 10.1 +0.8**
PET pmax pmax
comp=Z,200nm,7.7s
PET pmax pmax
comp=Z,200nm,17.4s
PET MLR MLR
comp=Z,400nm,17.0s
CWC Cottonwood Cre 74.98 43 P **P** **19 42 34.5 +0.6**
baz=234
CHGN Chignik 75.11 8 P **P** **19 42 33.6 -0.4**
baz=194
MPMC Manual Prospec 75.14 44 P **P** **19 42 35.9 +1.0**
baz=234,SNR=34
BC3 Big Chuckawall 75.14 47 P **P** **19 42 35.2 +0.4**
baz=236,SNR=9.0
GSC Goldstone, Bar 75.16 45 P **P** **19 42 35.8 +0.9**
baz=235,SNR=10
HEC Hector,Ludlow 75.20 45 P **P** **19 42 35.5 +0.3**
baz=235,SNR=6.2
MLAC Mammoth, Mammo 75.21 42 P **P** **19 42 35.2 -0.2**
baz=233
PEA0B Petropavlovsk- 75.32 342 *ce*P **P** **19 42 36.2 +0.9**
PETK Petropavlovsk- 75.32 342 P **P** **19 42 34.1 -1.2**
PETK Petropavlovsk- 75.32 342 P **P** **19 42 35.1 -0.2**
comp=Z,40nm,0.8s,baz=105,slow=9.1,SNR=54
PETK LR LR 20 12 17.2
comp=Z,412nm,20.0s,baz=163,slow=33
comp=Z,40nm,0.8s
WAKR Walker 75.36 41 P **P** **19 42 36.7 +0.5**
WAKR IAmb IAmb 19 42 39.6
comp=Z,19nm,0.7s
YBH Yreka Blue Hor 75.47 36 IAmb IAmb 19 42 39.4
comp=Z,60nm,1.5s
YBH IAMs_20 IAMs_20 20 08 11.5
comp=Z,1µm,21.0s
YBH Yreka Blue Hor 75.47 36 LR LR 20 08 22.1
comp=Z,1µm,21.1s,baz=244,slow=30
MPK Martis Peak 75.49 40 IAmb IAmb 19 42 40.2
comp=Z,36nm,1.0s
QSM Queen of Sheba 75.50 44 IAmb IAmb 19 42 40.0
comp=Z,31nm,1.2s
PNTR Pine Nut 75.62 40 IAmb IAmb 19 42 41.5
comp=Z,24nm,0.8s
GMRC Granite Mounta 75.64 46 P **P** **19 42 38.5 +0.8**
baz=236,SNR=11
IRM Iron Mountain 75.64 46 P **P** **19 42 38.6 +1.0**
baz=236,SNR=15
GRAC Grapevine Rang 75.77 43 P **P** **19 42 39.4 +1.1**
baz=234,SNR=8.4
YERR Yerington 75.78 40 IAmb IAmb 19 42 41.0

comp=Z,67nm,1.5s
FURC Furnace Creek, 75.79 44 P **P** **19 42 37.6 -0.8**
baz=235
LHV Little Huntoon 75.79 41 P **P** **19 42 38.9 +0.6**
LHV IAmb IAmb 19 42 59.2
comp=Z,65nm,1.5s
TUQ Turquoise Moun 75.83 45 P **P** **19 42 39.4 +0.6**
baz=236,SNR=11
113A Mohawk Valley, 75.84 48 IAmb IAmb 19 42 41.6
comp=Z,40nm,1.6s
HUMO Hull Mountain 75.91 36 IAmb IAmb 19 42 42.1
comp=Z,38nm,1.4s
HUMO IAMs_20 IAMs_20 20 07 51.0
comp=Z,1µm,22.0s
RYN Ryan 76.01 41 IAmb IAmb 19 42 42.4
comp=Z,34nm,1.4s
SII Sitkinak Islan 76.02 11 P **P** **19 42 40.0 +0.7**
baz=198
GMN Gold Mountain 76.02 43 IAmb IAmb 19 42 43.3
comp=Z,51nm,1.5s
NVAR Mina Array Bea 76.03 41 P **P** **19 42 41.5 +1.5**
comp=Z,12nm,0.6s,baz=228,slow=8.8,SNR=84
NVAR LR LR 20 09 11.6
comp=Z,871nm,20.4s,baz=232,slow=30
comp=Z,12nm,0.6s
YSS Yuzh-Sakhalins 76.04 330 P **P** **19 42 39.8 +0.3**
YSS Yuzh-Sakhalins 76.04 330 P **P** **19 42 38.4 -1.1**
YSS Yuzh-Sakhalins 76.04 330 *e*P **P** **19 42 39.9 +0.4**
YSS *e*S **S** **19 52 21.4 0.0**
YSS *e*PPS PPS 19 52 58.4
YSS pmax pmax
comp=Z,90nm,0.8s
YSS pmax pmax
comp=Z,400nm,5.2s
214A Organ Pipe Nat 76.09 49 IAmb IAmb 19 42 43.3
comp=Z,42nm,1.6s
214A Organ Pipe Nat 76.09 49 P **P** **19 42 40.5 +0.2**
baz=238
PAHR Pah Rah Range 76.14 40 IAmb IAmb 19 42 43.1
comp=Z,42nm,1.5s
TWGBT Beinan 76.23 300 P **P** **19 42 40.5 -0.7**
TWG Pinlang 76.24 300 P **P** **19 42 39.5 -1.8**
TWG IAmb IAmb 19 42 43.1
comp=Z,20nm,0.6s
NEE2 Needles Airpor 76.34 46 P **P** **19 42 41.8 +0.3**
baz=236
SBUM Sibu 76.40 277 P **P** **19 42 42.3 -0.1**
PDMCI Parker Dam,Lak 76.41 47 P **P** **19 42 42.3 +0.3**
baz=237,SNR=8.1
I03D Drain, OR 76.42 35 IAmb IAmb 19 42 44.3
comp=Z,44nm,1.4s
NACB Ninganchiao 76.42 301 P **P** **19 42 41.6 -0.6**
NACB Ninganchiao 76.42 301 P **P** **19 42 40.5 -1.7**
NACB IAMs_20 IAMs_20 20 15 56.0
comp=Z,977nm,20.0s
KVN Kaiserville 76.53 41 IAmb IAmb 19 42 45.2
comp=Z,61nm,1.6s
SSLB Suanglung 76.77 301 P **P** **19 42 44.9 +0.6**
SSLB Suanglung 76.77 301 IAmb IAmb 19 42 44.7
comp=Z,29nm,0.6s
OHAK Old Harbor 76.81 11 P **P** **19 42 43.7 +0.1**
baz=199
TPUB Ta-pu 76.82 300 P **P** **19 42 43.3 -1.2**
YHNB Yeheng 76.83 302 P **P** **19 42 46.6 +2.0**
YHNB Yeheng 76.83 302 IAMs_20 IAMs_20 20 15 08.6
comp=Z,1µm,19.0s
TATO Taipei 76.87 302 P **P** **19 42 44.7 -0.1**
TATO Taipei 76.87 302 P **P** **19 42 44.0 -0.8**
BUCK Buck Mountain 76.94 34 IAmb IAmb 19 42 47.5
comp=Z,43nm,1.4s
I04A Tendick Farm, 76.99 35 IAmb IAmb 19 42 47.2
comp=Z,29nm,1.4s
K05A Summer Lake 77.14 37 IAmb IAmb 19 42 49.6
comp=Z,36nm,0.9s
H04D Lebanon 77.29 34 P **P** **19 42 47.7 +1.0**
H04D IAmb IAmb 19 43 05.1
comp=Z,28nm,1.0s
J05D Fort Rock, OR 77.31 36 IAmb IAmb 19 42 50.4
comp=Z,29nm,0.8s
KDAK Kodiak Island 77.46 11 P **P** **19 42 46.7 -0.6**
baz=200
KDAK Kodiak Island 77.46 11 LR LR 20 10 20.3
comp=Z,2µm,21.1s,baz=234,slow=31
KDAK Kodiak Island 77.46 11 *i*P **P** **19 42 46.5 -0.8**
KDAK pmax pmax
comp=Z,75nm,1.6s
PRN Pahroc Range 77.52 44 IAmb IAmb 19 42 52.3
comp=Z,43nm,1.3s
O14K Tigyukauivet M 77.66 6 IAMs_20 IAMs_20 20 12 53.9
comp=Z,1µm,20.0s
O14K Tigyukauivet M 77.66 6 P **P** **19 42 47.7 -0.6**
baz=192
H04A Detroit Lake 77.70 34 IAmb IAmb 19 42 51.0
comp=Z,51nm,1.5s
R11B Troy Canyon, C 77.71 43 P **P** **19 42 50.3 +0.9**
R11B Troy Canyon, C 77.71 43 P **P** **19 42 49.0 -0.4**
baz=235,SNR=24
O15K Ungalikthiuk R 77.74 7 P **P** **19 42 48.2 -0.7**
baz=193
TUC Tucson 77.75 50 P **P** **19 42 49.4 -0.2**
TUC IAmb IAmb 19 42 53.0
comp=Z,51nm,1.6s
TUC Tucson 77.75 50 IAMs_20 IAMs_20 20 08 39.8
comp=Z,1µm,20.0s
TUC Tucson 77.75 50 P **P** **19 42 48.3 -1.3**
baz=240
TUC Tucson 77.75 50 P **P** **19 42 49.4 -0.2**
TUC pmax pmax
comp=Z,51nm,1.6s
TUC MLR MLR
comp=Z,1µm,20.0s
TEY Ternei 77.79 326 *e*P P 19 42 35.3 -14
TEY *e* 19 52 40.0
P16K Nushagak River 77.82 8 P **P** **19 42 48.4 -0.9**
baz=195
BMN Battle Mountai 77.89 40 IAmb IAmb 19 42 53.6
comp=Z,20nm,0.8s
KSM Kuching 77.89 276 P **P** **19 42 52.2 +1.4**
KSM Kuching 77.89 276 P **P** **19 42 50.9 +0.1**
LEM Lembang 77.92 267 P **P** **19 42 51.9 +0.8**
comp=Z,220nm,0.9s,baz=79,slow=8.1,SNR=4.3
LEM LR LR 20 15 34.9
comp=Z,627nm,21.9s,baz=148,slow=35
TJN Taejon 78.18 315 *i*P **P** **19 42 50.8 -1.0**
P17K Kvichak River 78.19 9 P **P** **19 42 50.4 -0.9**
baz=196
E03A Lebam 78.22 32 IAmb IAmb 19 43 13.7
comp=Z,50nm,1.3s
WVOR Wild Horse Val 78.26 38 IAmb IAmb 19 42 54.7
comp=Z,56nm,1.4s
WVOR IAMs_20 IAMs_20 20 09 52.5
comp=Z,1µm,20.0s
N14K Kuskokwak Cree 78.28 6 P **P** **19 42 50.7 -1.1**
baz=191
Q20K Shuyak Island 78.28 11 P **P** **19 42 50.7 -1.1**
baz=200
O16K Kokwok River B 78.35 8 P **P** **19 42 51.9 -0.3**
O16K IAMs_20 IAMs_20 20 10 52.4
comp=Z,1µm,21.0s
O16K Kokwok River B 78.35 8 P **P** **19 42 52.0 -0.2**
baz=194
Q19K Cape Douglas, 78.36 10 IAmb IAmb 19 42 54.3
comp=Z,27nm,0.9s
Q19K Cape Douglas, 78.36 10 P **P** **19 42 51.5 -0.8**
baz=199
M11K Mekoryuk 78.39 3 P **P** **19 42 51.3 -1.1**
baz=187
F04A Amboy 78.40 33 IAmb IAmb 19 42 55.6
comp=Z,39nm,1.3s
KSRS Korea Array 78.40 316 P **P** **19 42 53.5 +0.5**
comp=Z,20nm,0.9s,baz=131,slow=6.4,SNR=50
KSRS LR LR 20 14 57.7
comp=Z,451nm,18.9s,baz=110,slow=34
comp=Z,20nm,0.9s
KSAR Wonju Array Be 78.42 316 P **P** **19 42 53.0 -0.1**
KSAR Wonju Array Be 78.42 316 P **P** **19 42 53.0 -0.1**
LCMT Little Creek M 78.50 45 IAmb IAmb 19 42 56.9
comp=Z,31nm,1.4s
P18K Big Mountain, 78.55 9 P **P** **19 42 52.6 -0.8**
P18K IAmb IAmb 19 42 54.5
comp=Z,35nm,0.7s
P18K IAMs_20 IAMs_20 20 11 18.9
comp=Z,2µm,20.0s
P18K Big Mountain, 78.55 9 P **P** **19 42 52.7 -0.7**
baz=197
Q12A Willow Creek R 78.59 42 IAmb IAmb 19 42 57.6
comp=Z,26nm,0.7s

M13K Dall Lake 78.61 5 IAmb IAmb 19 42 55.7
comp=Z,55nm,1.2s
M13K Dall Lake 78.61 5 P **P** **19 42 53.0 -0.6**
baz=189
O17K Koliganek Bris 78.66 8 P **P** **19 42 53.4 -0.5**
baz=196,SNR=8.2
N15K Kwethluk River 78.68 7 IAMs_20 IAMs_20 20 10 30.9
comp=Z,2µm,21.0s
N15K Kwethluk River 78.68 7 P **P** **19 42 53.6 -0.5**
baz=193
CCUT Cedar City 78.72 44 IAmb IAmb 19 42 58.5
comp=Z,39nm,1.4s
I07A Izee 78.78 36 P **P** **19 42 55.4 +0.2**
I07A IAmb IAmb 19 42 57.7
comp=Z,38nm,1.4s
KNB Kanab 78.79 45 IAmb IAmb 19 43 08.2
comp=Z,72nm,1.5s
SPR3 Spring Creek 3 78.89 43 IAmb IAmb 19 42 59.5
comp=Z,44nm,1.5s
G06A Carlson Farm, 78.89 35 IAmb IAmb 19 42 57.9
comp=Z,47nm,1.5s
J08A Circle Bar Ran 78.92 37 IAmb IAmb 19 42 58.3
comp=Z,63nm,1.4s
SZCU Shurtz Canyon 78.92 44 IAmb IAmb 19 43 00.1
comp=Z,31nm,1.3s
TYV Tymovskoe 78.95 333 *e*P **P** **19 42 55.5 -0.2**
TYV pmax pmax
comp=Z,300nm,4.3s
TYV pmax pmax
comp=Z,19nm,1.0s
WUAZ Wupatki 78.98 47 P **P** **19 42 56.5 0.0**
baz=239
O18K Koktuh Hills 79.00 9 P **P** **19 42 54.7 -1.2**
O18K IAmb IAmb 19 42 57.4
comp=Z,38nm,1.1s
O18K IAMs_20 IAMs_20 20 12 03.7
comp=Z,1µm,20.0s
O18K Koktuh Hills 79.00 9 P **P** **19 42 55.4 -0.5**
baz=197,SNR=10.0
M14K Bethel 79.07 5 P **P** **19 42 55.6 -0.5**
M14K IAmb IAmb 19 43 10.6
comp=Z,55nm,1.2s
M14K IAMs_20 IAMs_20 20 11 07.1
comp=Z,977nm,21.0s
M14K Bethel 79.07 5 P **P** **19 42 56.3 +0.2**
baz=191,SNR=11
P19K Oil Pt 79.12 10 IAmb IAmb 19 43 11.8
comp=Z,45nm,1.1s
P19K Oil Pt 79.12 10 P **P** **19 42 56.2 -0.3**
baz=199
N16K Nishlik Lake 79.13 7 P **P** **19 42 56.3 -0.2**
baz=194
M15K Kasigluk River 79.13 6 P **P** **19 42 56.4 -0.1**
baz=192,SNR=14
VLA Vladivostok 79.21 322 *i*P **P** **19 42 57.0 -0.3**
VLA pmax pmax
comp=Z,46nm,1.0s
INCN Inchon 79.27 315 P **P** **19 42 59.3 +1.4**
INCN Inchon 79.27 315 P **P** **19 42 57.8 0.0**
INCN IAmb IAmb 19 43 00.1
comp=Z,52nm,0.8s
INCN Inchon 79.27 315 IAMs_20 IAMs_20 20 14 26.5
comp=Z,952nm,20.0s
INCN Inchon 79.27 315 P **P** **19 42 57.8 0.0**
INCN pmax pmax
comp=Z,52nm,0.9s
INCN MLR MLR
comp=Z,1µm,20.0s
MSHR Mys Shultsa 79.31 321 *i*P **P** **19 42 58.3 +0.4**
MSHR pmax pmax
comp=Z,26nm,1.0s
PKCU Pink Cliffs 79.36 45 P **P** **19 42 59.8 +1.0**
N17K Nushagak Hills 79.37 8 P **P** **19 42 57.6 -0.2**
N17K IAMs_20 IAMs_20 20 11 55.4
comp=Z,1µm,20.0s
N17K Nushagak Hills 79.37 8 P **P** **19 42 57.6 -0.2**
baz=195
CLRS Cowichan Lake 79.48 30 IAmb IAmb 19 43 02.3
comp=Z,36nm,1.4s
L14K Kuka Creek 79.59 5 P **P** **19 42 58.8 -0.2**
baz=190
O20K Slope Mountain 79.63 10 P **P** **19 42 59.0 -0.3**
baz=200
M16K Timber Creek 79.64 7 P **P** **19 42 59.0 -0.3**
M16K IAmb IAmb 19 43 01.9
comp=Z,36nm,1.0s
M16K IAMs_20 IAMs_20 20 11 54.4
comp=Z,1µm,20.0s
M16K Timber Creek 79.64 7 P **P** **19 42 59.3 0.0**
baz=194,SNR=12
BRSE Bradley Lake S 79.64 11 P **P** **19 42 59.6 +0.2**
baz=202
N18K Kilae Creek 79.69 8 P **P** **19 42 58.5 -1.1**
N18K IAMs_20 IAMs_20 20 11 01.0
comp=Z,1µm,21.0s
N18K Kilae Creek 79.69 8 P **P** **19 42 59.4 -0.3**
baz=197
PGC Sidney 79.70 31 IAmb IAmb 19 43 02.2
comp=Z,40nm,1.5s
USA0B Ussuriysk Arra 79.80 323 P **P** **19 42 59.9 -0.6**
USA0B IAmb IAmb 19 43 03.0
comp=Z,28nm,1.1s
USA0B Ussuriysk Arra 79.80 323 P **P** **19 42 59.9 -0.6**
USA0B pmax pmax
comp=Z,28nm,1.1s
USRK Ussuriysk Ar. 79.80 323 P **P** **19 42 59.9 -0.6**
USRK Ussuriysk Ar. 79.80 323 P **P** **19 43 00.8 +0.3**
comp=Z,26nm,1.1s,baz=105,slow=2.6,SNR=33
USRK LR LR 20 12 34.4
comp=Z,2µm,20.9s,baz=122,slow=32
comp=Z,26nm,1.1s
ZAIG Zacatecas 79.84 62 P **P** **19 43 01.4 -0.2**
G08A Pilot Rock 79.84 35 IAmb IAmb 19 43 03.9
comp=Z,46nm,1.3s
W18A Petrified Fore 79.92 48 P **P** **19 43 01.8 +0.1**
baz=240
L15K Ungalak Mounta 80.02 6 P **P** **19 43 01.2 -0.1**
baz=191,SNR=7.6
K13K Kusilvak Mount 80.03 4 P **P** **19 43 01.5 +0.2**
baz=188
N19K Bonanza Creek 80.03 9 IAMs_20 IAMs_20 20 12 04.8
comp=Z,2µm,21.0s
N19K Bonanza Creek 80.03 9 P **P** **19 43 01.3 -0.2**
baz=198,SNR=12
121A Cookes Peak, D 80.06 51 P **P** **19 43 02.2 -0.2**
baz=241
BBB Bella Bella 80.08 26 LR LR 20 10 59.1
comp=Z,645nm,20.4s,baz=224,slow=30
M17K Holitna River 80.19 7 P **P** **19 43 02.7 +0.4**
M17K IAmb IAmb 19 43 04.2
comp=Z,46nm,1.4s
M17K IAMs_20 IAMs_20 20 11 48.9
comp=Z,1µm,21.0s
M17K Holitna River 80.19 7 P **P** **19 43 02.1 -0.1**
baz=195,SNR=8.3
SEW Seward 80.22 12 P **P** **19 43 02.2 -0.2**
baz=203
HAWA Hanford 80.22 34 IAmb IAmb 19 43 05.2
comp=Z,43nm,1.4s
L16K Owhat River 80.25 6 IAMs_20 IAMs_20 20 11 41.6
comp=Z,1µm,21.0s
L16K Owhat River 80.25 6 P **P** **19 43 02.2 -0.3**
baz=193
M18K Stony River 80.48 8 P **P** **19 43 03.4 -0.4**
baz=197,SNR=6.4
BMO Blue Mountains 80.50 37 IAMs_20 IAMs_20 20 11 03.6
comp=Z,1µm,21.0s
O22K Cooper Landing 80.52 11 IAMs_20 IAMs_20 20 10 58.0
comp=Z,1µm,22.0s
O22K Cooper Landing 80.52 11 P **P** **19 43 03.8 -0.2**
baz=202
DUG Dugway, Tooele 80.52 42 P **P** **19 43 04.9 +0.2**
baz=237,SNR=8.5
CAPN Captain Cook N 80.53 11 P **P** **19 43 03.6 -0.4**
baz=201
P23K Montague Islan 80.53 13 P **P** **19 43 04.2 +0.1**
baz=205
K15K Wolf Creek Mou 80.62 5 P **P** **19 43 04.9 +0.3**
K15K Wolf Creek Mou 80.62 5 P **P** **19 43 05.4 +0.8**
baz=191,SNR=23
EPT El Paso 80.66 52 IAMs_20 IAMs_20 20 11 18.1
comp=Z,925nm,19.0s
CRAG Craig 80.66 22 P **P** **19 43 05.2 +0.4**
baz=218
HMU Henry Mountain 80.68 45 IAmb IAmb 19 43 08.6
comp=Z,36nm,1.4s
PPBI Pangkal Pinang 80.72 271 P **P** **19 43 06.5 +0.3**
comp=Z,90nm,1.1s
N20K Mount Spurr 80.75 10 P **P** **19 43 04.6 -0.8**
baz=200,SNR=6.6
L17K Donlin 80.80 7 P **P** **19 43 05.6 +0.1**
baz=194,SNR=8.9
J14K Nanvaranak Lak 80.91 4 P **P** **19 43 06.4 +0.4**
baz=189
D08A Wollman Farm, 80.97 34 IAmb IAmb 19 43 09.1
comp=Z,29nm,1.0s
E09A Wood Farm, Sta 81.05 35 IAmb IAmb 19 43 10.3
comp=Z,75nm,1.7s
L18K Granite Mounta 81.07 8 IAMs_20 IAMs_20 20 12 38.4
comp=Z,1µm,21.0s
L18K Granite Mounta 81.07 8 P **P** **19 43 06.9 -0.1**
baz=196,SNR=10
RC01 Rabbit Creek A 81.08 11 P **P** **19 43 07.2 +0.1**
RC01 IAmb IAmb 19 43 08.6
comp=Z,24nm,0.9s
RC01 IAMs_20 IAMs_20 20 12 31.8
comp=Z,1µm,20.0s
RC01 Rabbit Creek A 81.08 11 P **P** **19 43 07.1 +0.1**
baz=202
M19K Big River Lodg 81.08 9 IAMs_20 IAMs_20 20 13 19.7
comp=Z,1µm,20.0s
M19K Big River Lodg 81.08 9 P **P** **19 43 06.1 -0.9**
baz=198,SNR=5.5
V35K Ketchikan 81.08 22 P **P** **19 43 06.7 -0.4**
baz=220
KAIM Kayak Island 81.12 14 P **P** **19 43 06.9 -0.4**
baz=208
U33K Whale Pass 81.17 21 P **P** **19 43 06.9 -0.6**
baz=218
SIT Sitka 81.19 20 P **P** **19 43 08.1 +0.4**
baz=216
F10A Beach Ranch, E 81.22 36 IAmb IAmb 19 43 10.0
comp=Z,28nm,1.0s
SUA Susitna One 81.25 11 IAmb IAmb 19 43 09.6
comp=Z,20nm,0.8s
SUA Susitna One 81.25 11 P **P** **19 43 08.0 0.0**
baz=201,SNR=14
M20K Styx River 81.25 9 P **P** **19 43 07.0 -1.0**
M20K IAMs_20 IAMs_20 20 12 23.2
comp=Z,2µm,20.0s
M20K Styx River 81.25 9 P **P** **19 43 07.7 -0.3**
baz=199
KASI Kota Agung 81.27 267 P **P** **19 43 08.8 -0.3**
comp=Z,252nm,1.0s,comp=Z,2µm
BELA Belgrano 2 81.28 172 P **P** **19 43 08.6 +0.5**
L19K White Mountain 81.28 8 P **P** **19 43 07.8 -0.3**
L19K IAMs_20 IAMs_20 20 13 24.9
comp=Z,913nm,20.0s
L19K White Mountain 81.28 8 P **P** **19 43 08.0 -0.2**
baz=198
VHRN Van Horn 81.36 54 P **P** **19 43 09.2 -0.2**
VHRN IAmb IAmb 19 43 13.5
comp=Z,20nm,0.7s
K17K Iditarod 81.36 7 P **P** **19 43 08.9 +0.4**
K17K IAMs_20 IAMs_20 20 12 04.0
comp=Z,1µm,22.0s
K17K Iditarod 81.36 7 P **P** **19 43 08.5 0.0**
baz=194,SNR=6.3
UNM Universidad Na 81.38 66 IAMs_20 IAMs_20 20 12 08.4
comp=Z,1µm,19.0s
PLID Pearl Lake 81.38 37 P **P** **19 43 08.9 -0.4**
PLID IAmb IAmb 19 43 13.2
comp=Z,52nm,1.6s
PLID IAMs_20 IAMs_20 20 12 05.0
comp=Z,1µm,20.0s
EYAK Cordova Ski Ar 81.38 13 P **P** **19 43 08.9 +0.3**
baz=206
GLI Glacier Island 81.40 12 IAmb IAmb 19 43 10.5
comp=Z,36nm,0.9s
GLI Glacier Island 81.40 12 P **P** **19 43 08.8 +0.1**
baz=205,SNR=8.7
HLID Hailey 81.42 39 IAmb IAmb 19 43 12.9
comp=Z,21nm,0.9s
HLID Hailey 81.42 39 P **P** **19 43 08.5 -0.9**
baz=235,SNR=12
MDJ Mudanjiang 81.43 322 P **P** **19 43 09.4 +0.1**
MDJ Mudanjiang 81.43 322 P **P** **19 43 09.3 0.0**
MDJ pP PcP 19 43 12.3 -2.9
MDJ sP pP 19 43 13.8 -2.0
MDJ S **S** **19 53 20.9 +1.8**
MDJ pmax pmax
comp=Z,34nm,1.6s
MDJ pmax pmax
comp=Z,310nm,6.1s
MDJ LR LR
comp=Z,710nm,20.6s
MDJ LR LR
comp=Z,920nm,21.8s
MDJ LR LR
comp=Z,1µm,17.8s
MDJ Mudanjiang 81.43 322 IAmb IAmb 19 43 11.8
comp=Z,61nm,1.3s
MDJ IAMs_20 IAMs_20 20 12 52.1
comp=Z,2µm,22.0s
SRU San Rafael Swe 81.44 44 IAmb IAmb 19 43 13.7
comp=Z,84nm,1.7s
NKL Nikolayevsk 81.45 334 *e*P P 19 43 02.4 -6.7
MNTX Cornudas Mount 81.47 53 P **P** **19 43 09.0 -0.8**
baz=243
P17A Butcher Ranch, 81.48 44 IAmb IAmb 19 43 13.7
comp=Z,49nm,1.5s
PMSA Palmer Station 81.54 156 LR LR 20 11 28.7
comp=Z,980nm,19.9s,baz=243,slow=30
SKT Skwentna 81.60 10 P **P** **19 43 08.9 -0.9**
baz=201,SNR=5.4
GAMB Gambell 81.61 1 P **P** **19 43 09.5 -0.2**
baz=181
KNK Knik Glacier 81.62 12 P **P** **19 43 09.3 -0.6**
KNK IAmb IAmb 19 43 24.0
comp=Z,22nm,0.8s
KNK IAMs_20 IAMs_20 20 14 25.1
comp=Z,1µm,20.0s
KNK Knik Glacier 81.62 12 P **P** **19 43 08.7 -1.2**
baz=204
S31K Pelican 81.64 19 IAMs_20 IAMs_20 20 11 53.5
comp=Z,1µm,19.0s
S31K Pelican 81.64 19 P **P** **19 43 09.5 -0.5**
baz=215
PMR Palmer 81.66 11 P **P** **19 43 09.7 -0.3**
PMR Palmer 81.66 11 P **P** **19 43 09.8 -0.2**
baz=203
WRAK Wrangell Islan 81.67 21 IAMs_20 IAMs_20 20 11 42.7
comp=Z,1µm,20.0s
WRAK Wrangell Islan 81.67 21 P **P** **19 43 09.9 -0.3**
baz=219
J16K Anvik River 81.68 6 IAmb IAmb 19 43 12.5
comp=Z,70nm,1.4s
J16K IAMs_20 IAMs_20 20 12 48.3
comp=Z,958nm,20.0s
J16K Anvik River 81.68 6 P **P** **19 43 10.0 -0.2**
baz=192,SNR=14
GRNR Gornyy 81.70 330⇑ *i*P **P** **19 43 10.0 -0.5**
GRNR pmax pmax
comp=Z,20nm,1.1s
GRNR MLR MLR
comp=E,180nm,18.0s
L20K Farewell, AK 81.70 9 P **P** **19 43 09.5 -0.8**
baz=198,SNR=8.6
TX31 Lajitas Ar. Si 81.74 56 P **P** **19 43 11.9 +0.5**
TX31 IAmb IAmb 19 43 16.6
comp=Z,47nm,1.5s
TXAR Lajitas Array 81.74 56 P **P** **19 43 12.0 +0.6**
TXAR Lajitas Array 81.74 56 P **P** **19 43 14.0 +2.6**
comp=Z,9.0nm,1.1s,baz=224,slow=5.2,SNR=43
TXAR LR LR 20 13 53.8
comp=Z,350nm,18.1s,baz=248,slow=32
comp=Z,9.0nm,1.1s
S32K Killisnoo 81.76 20 P **P** **19 43 10.5 -0.1**
baz=217
C09A Chrisman Ranch 81.78 34 IAmb IAmb 19 44 52.0
comp=Z,20nm,0.8s
HKPS Hong Kong Po S 81.83 297 P **P** **19 43 13.8 +1.9**
HKPS Hong Kong Po S 81.83 297 IAmb IAmb 19 43 14.5
comp=Z,46nm,0.9s
LWLI Liwa 81.84 267 P **P** **19 43 11.6 -0.7**
comp=Z,217nm,0.8s
MVCO Mesa Verde 81.84 47 IAMs_20 IAMs_20 20 11 22.6
comp=Z,913nm,20.0s
MVCO Mesa Verde 81.84 47 P **P** **19 43 11.8 -0.1**
baz=240
GHO Glory Hole Cre 81.86 11 IAmb IAmb 19 43 25.4
comp=Z,29nm,0.9s
GHO IAMs_20 IAMs_20 20 12 13.5
comp=Z,962nm,22.0s

P18A	**Preston Nutter**	**81.89**	**44**	IAmb	IAmb	19 43 21.0		
	comp=Z,41nm,1.6s							
MESA	**MESA**	**81.94**	**15**	P	**P**	**19 43 11.3**	**-0.5**	
	baz=210							
J17K	**VABM Dome**	**81.94**	**6**	P	**P**	**19 43 12.1**	**+0.5**	
J17K				IAMs_20	IAMs_20	20 13 16.3		
	comp=Z,1µm,20.0s							
J17K	**VABM Dome**	**81.94**	**6**	P	**P**	**19 43 11.7**	**+0.1**	
	baz=193,SNR=7.9							
SML	**Sawmill**	**82.00**	**12**	IAMs_20	IAMs_20	20 12 37.4		
	comp=Z,1µm,21.0s							
SML	**Sawmill**	**82.00**	**12**	P	**P**	**19 43 11.4**	**-0.6**	
	baz=204							
BMRM	**Bremner River**	**82.01**	**14**	P	**P**	**19 43 11.9**	**-0.1**	
	baz=207							
BSUT	**Blindstream Ca**	**82.03**	**43**	IAmb	IAmb	19 43 24.2		
	comp=Z,46nm,1.6s							
HWUT	**Hardware Ranch**	**82.08**	**42**	P	**P**	**19 43 12.8**	**-0.2**	
HWUT				IAmb	IAmb	19 43 15.4		
	comp=Z,36nm,1.6s							
HWUT				IAMs_20	IAMs_20	20 16 12.3		
	comp=Z,852nm,20.0s							
M23K	**Glacier View**	**82.11**	**12**	P	**P**	**19 43 11.7**	**-0.7**	
	baz=204							
U35K	**Hyder**	**82.12**	**23**	IAMs_20	IAMs_20	20 12 21.5		
	comp=Z,1µm,21.0s							
NJ2	**Nanjing**	**82.15**	**307**	*e*P	**P**	**19 43 14.4**	**+1.1**	
NJ2				pmax	pmax			
	comp=Z,10.0nm,0.6s							
PNL	**Peninsula**	**82.16**	**16**	P	**P**	**19 43 12.2**	**-0.6**	
	baz=212							
ANMO	**Albuquerque**	**82.18**	**49**	P	**P**	**19 43 15.0**	**+1.3**	
ANMO				IAmb	IAmb	19 43 17.2		
	comp=Z,36nm,1.6s							
ANMO	**Albuquerque**	**82.18**	**49**	IAMs_20	IAMs_20	20 11 36.2		
	comp=Z,939nm,20.0s							
ANMO	**Albuquerque**	**82.18**	**49**	P	**P**	**19 43 12.6**	**-1.2**	
	baz=242							
ANMO	**Albuquerque**	**82.18**	**49**	LR	LR	20 12 07.8		
	comp=Z,872nm,20.6s,baz=339,slow=30							
ANMO	**Albuquerque**	**82.18**	**49**	P	**P**	**19 43 15.0**	**+1.3**	
ANMO				pmax	pmax			
	comp=Z,36nm,1.6s							
ANMO				MLR	MLR			
	comp=Z,900nm,20.0s							
KLU	**Klutina**	**82.20**	**13**	P	**P**	**19 43 12.9**	**-0.1**	
	baz=206,SNR=6.1							
CUT	**Chulitna**	**82.21**	**10**	IAmb	IAmb	19 43 14.2		
	comp=Z,44nm,1.0s							
SCM	**Sheep Creek Mo**	**82.22**	**12**	IAmb	IAmb	19 43 30.5		
	comp=Z,30nm,0.9s							
SCM				IAMs_20	IAMs_20	20 13 33.1		
	comp=Z,1µm,21.0s							
SCM	**Sheep Creek Mo**	**82.22**	**12**	P	**P**	**19 43 12.8**	**-0.4**	
	baz=205,SNR=8.3							
I17K	**Unalakleet**	**82.27**	**5**	P	**P**	**19 43 13.2**	**0.0**	
	baz=192							
J18K	**Innoko River**	**82.28**	**7**	P	**P**	**19 43 13.1**	**-0.2**	
J18K				IAMs_20	IAMs_20	20 13 26.1		
	comp=Z,1µm,20.0s							
J18K	**Innoko River**	**82.28**	**7**	P	**P**	**19 43 12.9**	**-0.4**	
	baz=196,SNR=15							
PPLA	**Purkeypile**	**82.36**	**9**	P	**P**	**19 43 12.7**	**-1.2**	
	baz=200							
R32K	**Eaglecrest**	**82.43**	**19**	IAMs_20	IAMs_20	20 20 39.4		
	comp=Z,1µm,20.0s							
R32K	**Eaglecrest**	**82.43**	**19**	P	**P**	**19 43 13.4**	**-0.8**	
	baz=217							
JIS	**Juneau Island**	**82.47**	**19**	IAMs_20	IAMs_20	20 23 35.5		
	comp=Z,884nm,18.0s							
VRDI	**Verde Repeater**	**82.50**	**14**	IAmb	IAmb	19 43 16.0		
	comp=Z,26nm,1.3s							
K20K	**Telida**	**82.52**	**8**	P	**P**	**19 43 14.1**	**-0.5**	
K20K				IAMs_20	IAMs_20	20 13 32.5		
	comp=Z,945nm,21.0s							
K20K	**Telida**	**82.52**	**8**	P	**P**	**19 43 13.6**	**-0.9**	
	baz=198,SNR=7.9							
P29M	**Windy Craggy**	**82.58**	**17**	P	**P**	**19 43 15.4**	**+0.4**	
P29M				IAmb	IAmb	19 43 31.2		
	comp=Z,18nm,0.9s							
P29M	**Windy Craggy**	**82.58**	**17**	P	**P**	**19 43 15.2**	**+0.2**	
	baz=214							
N25K	**Chitina, Valde**	**82.58**	**13**	IAmb	IAmb	19 43 16.9		
	comp=Z,15nm,0.7s							
N25K	**Chitina, Valde**	**82.58**	**13**	P	**P**	**19 43 14.2**	**-0.8**	
	baz=207,SNR=8.3							
ANM	**Nome**	**82.60**	**3**	P	**P**	**19 43 14.8**	**-0.1**	
	baz=187							
GLB	**Gilahina Butte**	**82.61**	**14**	IAmb	IAmb	19 43 23.6		
	comp=Z,49nm,1.5s							
GLB				IAMs_20	IAMs_20	20 13 27.6		
	comp=Z,1µm,20.0s							
NEW	**Newport**	**82.67**	**34**	IAmb	IAmb	19 44 17.9		
	comp=Z,22nm,0.6s							
NEW	**Newport**	**82.67**	**34**	P	**P**	**19 43 15.1**	**-0.7**	
	baz=233							
NEW	**Newport**	**82.67**	**34**	LR	LR	20 12 33.9		
	comp=Z,2µm,21.1s,baz=206,slow=30							
M24K	**Tolsona, Glenn**	**82.70**	**12**	P	**P**	**19 43 15.3**	**-0.3**	
	baz=206,SNR=7.4							
DSRI	**Dabo**	**82.72**	**272**	P	**P**	**19 43 17.8**	**+1.0**	
	comp=Z,90nm,1.1s,comp=Z,970nm							
LOGN	**Logan Glacier**	**82.73**	**15**	IAmb	IAmb	19 43 30.5		
	comp=Z,19nm,0.9s							
MCARA	**McCarthy VSAT**	**82.74**	**14**	IAMs_20	IAMs_20	20 14 21.0		
	comp=Z,2µm,20.0s							
MCARA	**McCarthy VSAT**	**82.74**	**14**	P	**P**	**19 43 15.6**	**-0.2**	
	baz=209							
CTG	**Chitna Glacier**	**82.77**	**15**	P	**P**	**19 43 15.8**	**-0.3**	
	baz=210							
CTGM	**Chitina Glacie**	**82.77**	**15**	IAmb	IAmb	19 43 32.0		
	comp=Z,18nm,1.0s							
WAT6	**Susitna Watana**	**82.83**	**11**	P	**P**	**19 43 15.8**	**-0.6**	
	baz=204,SNR=14							
PLBC	**Pleasant Camp**	**82.83**	**18**	P	**P**	**19 43 16.4**	**+0.2**	
	baz=215							
T35M	**Bob Quinn**	**82.84**	**22**	IAMs_20	IAMs_20	20 12 11.7		
	comp=Z,1µm,22.0s							
T35M	**Bob Quinn**	**82.84**	**22**	P	**P**	**19 43 15.9**	**-0.5**	
	baz=221							
MA2	**Magadan**	**82.86**	**342**	P	**P**	**19 43 15.6**	**-0.8**	
MA2	**Magadan**	**82.86**	**342**	P	**P**	**19 43 15.0**	**-1.4**	
MA2				IAmb	IAmb	19 43 17.8		
	comp=Z,36nm,1.0s							
MA2	**Magadan**	**82.86**	**342**	LR	LR	20 17 26.7		
	comp=Z,653nm,19.4s,baz=149,slow=34							
MA2	**Magadan**	**82.86**	**342**	*ce*P	**P**	**19 43 16.5**	**+0.1**	
MA2				pmax	pmax			
	comp=Z,43nm,1.3s							
MA2	**Magadan**	**82.86**	**342**	P	**P**	**19 43 15.6**	**-0.8**	
	comp=Z,41nm,1.1s,comp=Z,655nm							
CAST	**Castle Rocks**	**82.86**	**9**	IAMs_20	IAMs_20	20 13 23.9		
	comp=Z,1µm,20.0s							
CAST	**Castle Rocks**	**82.86**	**9**	P	**P**	**19 43 15.7**	**-0.7**	
	baz=200,SNR=10							
H16K	**Elim**	**82.88**	**5**	P	**P**	**19 43 15.7**	**-0.7**	
	baz=190							
O28M	**Mount Upton**	**82.89**	**16**	P	**P**	**19 43 15.7**	**-1.2**	
	baz=211							
J19K	**Poorman**	**82.92**	**8**	IAMs_20	IAMs_20	20 13 35.2		
	comp=Z,1µm,21.0s							
J19K	**Poorman**	**82.92**	**8**	P	**P**	**19 43 16.5**	**-0.1**	
	baz=197							
AHID	**Auburn Hatcher**	**83.00**	**41**	IAmb	IAmb	19 43 39.3		
	comp=Z,28nm,1.1s							
KLR	**Kul'dur**	**83.02**	**327**	*ce*P	**P**	**19 43 17.9**	**+0.4**	
KLR				pmax	pmax			
	comp=Z,20nm,1.0s							
DLV	**T Lat**	**83.07**	**285**	P	**P**	**19 43 19.1**	**+0.3**	
DLV	**T Lat**	**83.07**	**285**	P	**P**	**19 43 17.6**	**-1.2**	
G15K	**Niukluk**	**83.11**	**4**	P	**P**	**19 43 17.2**	**-0.3**	
	baz=189,SNR=5.6							
SKAG	**Skagway**	**83.14**	**18**	P	**P**	**19 43 18.8**	**+1.0**	
SKAG	**Skagway**	**83.14**	**18**	IAmb	IAmb	19 43 20.3		
	comp=Z,49nm,1.5s							
SKAG	**Skagway**	**83.14**	**18**	P	**P**	**19 43 17.7**	**-0.1**	
	baz=216							
KTH	**Kantishna Hill**	**83.17**	**10**	P	**P**	**19 43 16.6**	**-1.4**	
HARP	**HAARP**	**83.17**	**13**	P	**P**	**19 43 18.0**	**-0.1**	
	baz=207							
TRF	**Thorofare Moun**	**83.18**	**10**	IAmb	IAmb	19 43 28.6		
	comp=Z,25nm,0.8s							
TRF	**Thorofare Moun**	**83.18**	**10**	P	**P**	**19 43 18.0**	**-0.2**	
	baz=202,SNR=20							
TPRI	**Tanjung Pinang**	**83.20**	**273**	P	**P**	**19 43 19.9**	**+0.6**	
	comp=Z,37nm,1.2s,comp=Z,811nm							
P30M	**Million Dollar**	**83.21**	**17**	P	**P**	**19 43 18.1**	**-0.1**	
	baz=214							
SAND	**Sanderson**	**83.22**	**56**	P	**P**	**19 43 20.3**	**+1.3**	
S34M	**Telegraph Cree**	**83.25**	**21**	IAMs_20	IAMs_20	20 12 52.4		
	comp=Z,894nm,21.0s							
S34M	**Telegraph Cree**	**83.25**	**21**	P	**P**	**19 43 18.6**	**+0.1**	
	baz=220							
CHUM	**Lake Minchumin**	**83.27**	**9**	P	**P**	**19 43 17.7**	**-0.7**	
	baz=200,SNR=12							
J20K	**Nowinta River**	**83.29**	**8**	IAmb	IAmb	19 43 20.5		
	comp=Z,21nm,0.9s							
J20K				IAMs_20	IAMs_20	20 13 56.9		
	comp=Z,1µm,21.0s							
J20K	**Nowinta River**	**83.29**	**8**	P	**P**	**19 43 18.3**	**-0.2**	
	baz=198,SNR=19							
BNX	**BinXian**	**83.34**	**323**	⇓P	**P**	**19 43 19.3**	**+0.1**	
BNX				pP	**PcP**	**19 43 24.0**	**+0.4**	
BNX				sP	**pP**	**19 43 25.9**	**+0.1**	
BNX				PP	**PP**	**19 46 32.6**	**+1.1**	
BNX				sS	**sS**	**19 53 48.1**	**-1.4**	
BNX				pmax	pmax			
	comp=Z,73nm,1.0s							
BNX				pmax	pmax			
	comp=Z,320nm,5.3s							
BNX				LR	LR			
	comp=Z,580nm,21.2s							
BNX				LR	LR			
	comp=Z,890nm,19.8s							
BNX				LR	LR			
	comp=Z,1µm,21.3s							
H03S2	**Juan Fernandez**	**83.34**	**123**	T	T	21 16 20.3		
	baz=250,slow=75,SNR=23							
DHY	**Denali Highway**	**83.35**	**11**	IAMs_20	IAMs_20	20 16 24.9		
	comp=Z,794nm,19.0s							
DHY	**Denali Highway**	**83.35**	**11**	P	**P**	**19 43 18.0**	**-1.0**	
	baz=204,SNR=6.1							
H03S1	**Juan Fernandez**	**83.36**	**123**	T	T	21 16 21.2		
	baz=250,slow=75,SNR=26							
H03S3	**Juan Fernandez**	**83.36**	**123**	T	T	21 16 20.0		
	baz=250,slow=75,SNR=19							
H17K	**Granite Mounta**	**83.37**	**6**	IAMs_20	IAMs_20	20 13 40.9		
	comp=Z,1µm,21.0s							
H17K	**Granite Mounta**	**83.37**	**6**	P	**P**	**19 43 18.6**	**-0.4**	
	baz=193							
DL2	**Dalian**	**83.38**	**314**	P	**P**	**19 43 20.0**	**+0.4**	
DL2				S	**SKSac**	**19 53 40.5**	**0.0**	
DL2				pmax	pmax			
	comp=Z,46nm,1.0s							
DL2				pmax	pmax			
	comp=Z,250nm,4.5s							
DL2				LR	LR			
	comp=Z,620nm,17.1s							
DL2				LR	LR			
	comp=Z,660nm,17.3s							
DL2				LR	LR			
	comp=Z,870nm,19.4s							
RND	**Reindeer**	**83.39**	**11**	IAmb	IAmb	19 43 21.3		
	comp=Z,32nm,1.0s							
CN2	**Changchun**	**83.44**	**320**	*e*P	**P**	**19 43 19.8**	**0.0**	
CN2				pmax	pmax			
	comp=Z,20nm,0.8s							
CN2				pmax	pmax			
	comp=Z,400nm,3.0s							
CN2				LR	LR			
	comp=Z,100nm,13.0s							
CN2				LR	LR			
	comp=Z,600nm,13.0s							
CN2				LR	LR			
	comp=Z,500nm,17.0s							
YUK8	**Steele Glacier**	**83.44**	**15**	P	**P**	**19 43 19.1**	**-0.6**	
	baz=212							
H03N2	**Juan Fernandez**	**83.45**	**123**	T	T	21 16 43.9		
	baz=257,slow=72,SNR=6.0							
H03N3	**Juan Fernandez**	**83.46**	**123**	T	T	21 16 36.6		
	baz=257,slow=72,SNR=6.6							
F14K	**Arctic Creek**	**83.46**	**3**	P	**P**	**19 43 19.0**	**-0.3**	
	baz=186							
H03N1	**Juan Fernandez**	**83.47**	**123**	T	T	21 16 41.4		
	baz=257,slow=72,SNR=5.4							
O20A	**White River Ci**	**83.47**	**44**	P	**P**	**19 43 18.9**	**-1.4**	
	baz=240							
TPAW	**Teton Pass**	**83.48**	**40**	P	**P**	**19 43 21.0**	**+0.6**	
TPAW				IAmb	IAmb	19 43 31.5		
	comp=Z,24nm,0.9s							
TNA	**Tin City**	**83.48**	**2**	P	**P**	**19 43 18.9**	**-0.5**	
	baz=185							
FXWY	**Fox Creek**	**83.51**	**40**	IAmb	IAmb	19 43 24.4		
	comp=Z,41nm,1.4s							
YUK6	**Outpost Mounta**	**83.51**	**16**	P	**P**	**19 43 18.9**	**-1.2**	
	baz=213							
MSO	**Missoula**	**83.56**	**36**	IAmb	IAmb	19 43 22.2		
	comp=Z,44nm,1.6s							
MSO	**Missoula**	**83.56**	**36**	P	**P**	**19 43 20.1**	**-0.4**	
	baz=235							
SNY	**Shenyang**	**83.56**	**318**	⇓P	**P**	**19 43 21.3**	**+0.9**	
SNY				SS	SS	19 59 04.5	-3.6	
SNY				pmax	pmax			
	comp=Z,29nm,1.0s							
SNY				pmax	pmax			
	comp=Z,180nm,3.8s							
SNY				LR	LR			
	comp=Z,280nm,19.9s							
SNY				LR	LR			
	comp=Z,250nm,19.2s							
SNY				LR	LR			
	comp=Z,400nm,20.8s							
PAX	**Paxson**	**83.62**	**12**	P	**P**	**19 43 19.8**	**-0.6**	
	baz=206,SNR=8.0							
M26K	**Nabesna, AK**	**83.64**	**14**	P	**P**	**19 43 20.3**	**-0.2**	
M26K				IAmb	IAmb	19 43 23.1		
	comp=Z,46nm,1.4s							
M26K				IAMs_20	IAMs_20	20 13 53.8		
	comp=Z,1µm,20.0s							
M26K	**Nabesna, AK**	**83.64**	**14**	P	**P**	**19 43 20.1**	**-0.4**	
	baz=209,SNR=13							
HYT	**Haines Junctio**	**83.64**	**17**	P	**P**	**19 43 20.8**	**+0.1**	
	baz=214							
MCK	**McKinley**	**83.67**	**10**	P	**P**	**19 43 20.0**	**-0.5**	
	baz=203,SNR=17							
BPAW	**Bear Paw Mtn.**	**83.68**	**10**	IAMs_20	IAMs_20	20 14 21.3		
	comp=Z,1µm,21.0s							
BPAW	**Bear Paw Mtn.**	**83.68**	**10**	P	**P**	**19 43 19.7**	**-0.9**	
	baz=201,SNR=5.9							
YUK3	**Moose Creek**	**83.69**	**15**	P	**P**	**19 43 20.3**	**-0.6**	
	baz=211,SNR=8.5							
H18K	**Honhosa River**	**83.73**	**6**	IAMs_20	IAMs_20	20 14 43.5		
	comp=Z,1µm,20.0s							
H18K	**Honhosa River**	**83.73**	**6**	P	**P**	**19 43 20.5**	**-0.3**	
	baz=194							
P32M	**Atlin**	**83.73**	**19**	IAMs_20	IAMs_20	20 13 27.8		
	comp=Z,992nm,20.0s							
P32M	**Atlin**	**83.73**	**19**	P	**P**	**19 43 21.9**	**+0.9**	
	baz=217							
MOOW	**Moose Ponds**	**83.74**	**40**	P	**P**	**19 43 22.1**	**+0.5**	
LOHW	**Long Hollow**	**83.76**	**40**	IAmb	IAmb	19 43 37.9		
	comp=Z,23nm,1.1s							
YUK4	**Talbot Arm**	**83.78**	**16**	P	**P**	**19 43 22.3**	**+0.9**	
	baz=213							
F15K	**North Star Dit**	**83.78**	**3**	P	**P**	**19 43 21.2**	**+0.2**	
	baz=188							
I20K	**Naaghedeneel**	**83.84**	**8**	IAmb	IAmb	19 43 43.5		
	comp=Z,33nm,1.3s							
I20K				IAMs_20	IAMs_20	20 14 14.4		
	comp=Z,1µm,21.0s							
I20K	**Naaghedeneel**	**83.84**	**8**	P	**P**	**19 43 22.2**	**+0.9**	
	baz=198,SNR=6.0							
SMCO	**Snowmass**	**83.85**	**46**	IAmb	IAmb	19 43 26.1		
	comp=Z,20nm,0.8s							
M27K	**Edge Creek, AK**	**83.86**	**14**	IAmb	IAmb	19 43 24.7		
	comp=Z,48nm,1.3s							
M27K	**Edge Creek, AK**	**83.86**	**14**	P	**P**	**19 43 21.5**	**-0.2**	
	baz=210,SNR=22							
G17K	**Kiwalik Mounta**	**83.86**	**5**	P	**P**	**19 43 22.3**	**+0.9**	
	baz=192							
FLWY	**Flagg Ranch**	**83.95**	**40**	IAmb	IAmb	19 43 26.2		
	comp=Z,31nm,0.8s							
MENT	**Mentasta**	**83.96**	**13**	P	**P**	**19 43 21.8**	**-0.3**	
PD31	**Pinedale Array**	**83.96**	**41**	IAmb	IAmb	19 43 25.4		
	comp=Z,14nm,0.7s							
PDAR	**Pinedale Array**	**83.96**	**41**	P	**P**	**19 43 22.7**	**-0.1**	
PDAR	**Pinedale Array**	**83.96**	**41**	P	**P**	**19 43 23.6**	**+0.7**	
	comp=Z,13nm,0.6s,baz=209,slow=3.7,SNR=73							
PDAR				LR	LR	20 17 25.0		
	comp=Z,580nm,18.1s,baz=263,slow=33							
	comp=Z,13nm,0.6s							
O30N	**Mendenhall**	**83.99**	**17**	P	**P**	**19 43 22.7**	**+0.4**	
O30N				IAmb	IAmb	19 43 24.5		
	comp=Z,42nm,1.4s							
O30N	**Mendenhall**	**83.99**	**17**	P	**P**	**19 43 22.3**	**+0.1**	
	baz=215,SNR=9.8							
DLBC	**Dease Lake**	**84.03**	**21**	P	**P**	**19 43 22.7**	**+0.2**	
	baz=221							
DLBC	**Dease Lake**	**84.03**	**21**	LR	LR	20 13 48.7		
	comp=Z,857nm,20.8s,baz=201,slow=31							
MYKOM	**Kota Tinggi**	**84.12**	**274**	P	**P**	**19 43 23.5**	**-0.4**	
MYKOM				IAmb	IAmb	19 43 27.8		
	comp=Z,39nm,1.2s							
L26K	**Log Cabin Wild**	**84.12**	**13**	IAmb	IAmb	19 43 25.6		
	comp=Z,36nm,1.5s							
L26K	**Log Cabin Wild**	**84.12**	**13**	P	**P**	**19 43 23.1**	**+0.3**	
	baz=208,SNR=8.0							
DRIO	**Del Rio**	**84.18**	**57**	P	**P**	**19 43 24.2**	**+0.3**	
DRIO				IAmb	IAmb	19 43 43.3		
	comp=Z,31nm,1.3s							
SDCO	**Great Sand Dun**	**84.18**	**47**	IAmb	IAmb	19 43 36.1		
	comp=Z,24nm,1.4s							
SDCO	**Great Sand Dun**	**84.18**	**47**	P	**P**	**19 43 23.6**	**-0.5**	
	baz=242							
BOZ	**Bozeman (W)**	**84.21**	**38**	IAMs_20	IAMs_20	20 13 01.9		
	comp=Z,951nm,21.0s							
BOZ	**Bozeman (W)**	**84.21**	**38**	P	**P**	**19 43 24.0**	**+0.1**	
	baz=237,SNR=12							
WHY	**Whitehorse**	**84.25**	**18**	IAmb	IAmb	19 43 41.0		
	comp=Z,49nm,1.9s							
WHY	**Whitehorse**	**84.25**	**18**	P	**P**	**19 43 23.3**	**-0.3**	
	baz=216							
N30M	**Aishikik Lake**	**84.28**	**16**	IAMs_20	IAMs_20	20 13 19.1		
	comp=Z,1µm,21.0s							
N30M	**Aishikik Lake**	**84.28**	**16**	P	**P**	**19 43 24.0**	**+0.2**	
	baz=214							
H19K	**Roundabout Mou**	**84.30**	**7**	P	**P**	**19 43 23.6**	**-0.1**	
H19K				IAmb	IAmb	19 43 25.7		
	comp=Z,18nm,1.0s							
H19K				IAMs_20	IAMs_20	20 14 59.6		
	comp=Z,1µm,20.0s							
H19K	**Roundabout Mou**	**84.30**	**7**	P	**P**	**19 43 24.0**	**+0.4**	
	baz=196,SNR=11							
K24K	**Donnelly Dome**	**84.32**	**12**	P	**P**	**19 43 23.8**	**0.0**	
	baz=206,SNR=10							
QIZ	**Qiongzhong**	**84.33**	**292**	P	**P**	**19 43 25.8**	**+0.9**	
QIZ				S	**S**	**19 53 50.6**	**+0.9**	
QIZ				SS	**SS**	**19 59 24.4**	**+4.1**	
QIZ				pmax	pmax			
	comp=Z,170nm,11.3s							
QIZ				LR	LR			
	comp=Z,150nm,18.5s							
QIZ				LR	LR			
	comp=Z,400nm,15.2s							
QIZ				LR	LR			
	comp=Z,410nm,23.6s							
CMIG	**Matias Romero**	**84.35**	**70**	LR	LR	20 13 47.9		
	comp=Z,1µm,18.4s,baz=182,slow=30							
OZNA	**Ozona**	**84.40**	**55**	IAmb	IAmb	19 43 51.3		
	comp=Z,33nm,1.6s							
G18K	**Tagagawik**	**84.43**	**6**	IAMs_20	IAMs_20	20 17 05.9		
	comp=Z,1µm,20.0s							
G18K	**Tagagawik**	**84.43**	**6**	P	**P**	**19 43 24.5**	**+0.2**	
	baz=194							
NEA2	**Nenana**	**84.45**	**10**	P	**P**	**19 43 23.2**	**-1.2**	
NEA2				IAmb	IAmb	19 43 26.8		
	comp=Z,18nm,1.0s							
NEA2	**Nenana**	**84.45**	**10**	P	**P**	**19 43 24.1**	**-0.4**	
	baz=203,SNR=14							
MSTX	**Muleshoe**	**84.45**	**52**	IAmb	IAmb	19 43 29.0		
	comp=Z,19nm,0.8s							
MSTX	**Muleshoe**	**84.45**	**52**	P	**P**	**19 43 25.8**	**+0.4**	
	baz=244							
R33M	**Jennings River**	**84.45**	**20**	IAmb	IAmb	19 43 42.3		
	comp=Z,40nm,1.5s							
R33M	**Jennings River**	**84.45**	**20**	P	**P**	**19 43 25.0**	**+0.3**	
	baz=220,SNR=6.6							
H20K	**Anotleneega Mo**	**84.45**	**7**	P	**P**	**19 43 24.3**	**-0.2**	
	baz=197,SNR=7.5							
L27K	**Beaver Creek,**	**84.48**	**14**	IAmb	IAmb	19 43 27.5		
	comp=Z,40nm,1.8s							
L27K				IAMs_20	IAMs_20	20 13 40.1		
	comp=Z,1µm,20.0s							
L27K	**Beaver Creek,**	**84.48**	**14**	P	**P**	**19 43 25.2**	**+0.4**	
	baz=210,SNR=7.6							
BCAR	**Beaver Creek A**	**84.50**	**14**	P	**P**	**19 43 24.6**	**-0.2**	
P33M	**Teslin, Yukon**	**84.50**	**19**	IAmb	IAmb	19 43 59.2		
	comp=Z,45nm,1.9s							
P33M				IAMs_20	IAMs_20	20 13 52.2		
	comp=Z,1µm,21.0s							
P33M	**Teslin, Yukon**	**84.50**	**19**	P	**P**	**19 43 24.9**	**0.0**	
	baz=218							
MLY	**Manley**	**84.59**	**9**	IAmb	IAmb	19 43 26.7		
	comp=Z,14nm,0.8s							
MLY	**Manley**	**84.59**	**9**	P	**P**	**19 43 24.9**	**-0.3**	
	baz=201,SNR=26							
HDA	**Harding Lake**	**84.65**	**11**	P	**P**	**19 43 25.1**	**-0.4**	
HDA				IAMs_20	IAMs_20	20 14 14.1		
	comp=Z,851nm,21.0s							
HDA	**Harding Lake**	**84.65**	**11**	P	**P**	**19 43 25.6**	**+0.2**	
	baz=205,SNR=22							
N31M	**Braeburn, Yuko**	**84.67**	**17**	IAMs_20	IAMs_20	20 14 10.2		
	comp=Z,1µm,20.0s							
N31M	**Braeburn, Yuko**	**84.67**	**17**	P	**P**	**19 43 25.6**	**-0.1**	
	baz=215							
T25A	**Trinidad**	**84.67**	**48**	P	**P**	**19 43 25.7**	**-0.8**	
	baz=243							
833A	**Chaparral WMA,**	**84.72**	**58**	P	**P**	**19 43 26.3**	**-0.3**	
	baz=246							
F17K	**Baldwin Pennin**	**84.74**	**5**	P	**P**	**19 43 26.5**	**+0.7**	
	baz=191							
M29M	**Somme Creek**	**84.75**	**15**	P	**P**	**19 43 25.7**	**-0.5**	
	baz=213,SNR=8.4							
SGCY	**Sterling City**	**84.82**	**54**	IAmb	IAmb	19 43 47.1		
	comp=Z,64nm,1.9s							
G19K	**Purcell Mounta**	**84.83**	**6**	P	**P**	**19 43 26.4**	**0.0**	
G19K				IAmb	IAmb	19 43 31.5		
	comp=Z,18nm,0.8s							
G19K				IAMs_20	IAMs_20	20 14 45.5		
	comp=Z,1µm,21.0s							
G19K	**Purcell Mounta**	**84.83**	**6**	P	**P**	**19 43 26.2**	**-0.1**	
	baz=195,SNR=17							
SCRK	**Sand Creek**	**84.83**	**12**	IAmb	IAmb	19 43 28.9		
	comp=Z,21nm,1.2s							
SCRK				IAMs_20	IAMs_20	20 15 14.0		
	comp=Z,1µm,20.0s							
SCRK	**Sand Creek**	**84.83**	**12**	P	**P**	**19 43 26.4**	**-0.2**	
	baz=208,SNR=19							
H21K	**Melozitna Rive**	**84.88**	**8**	P	**P**	**19 43 26.2**	**-0.4**	
H21K				IAmb	IAmb	19 43 29.4		
	comp=Z,38nm,1.2s

baz=218
POKR Poker Plat Res 85.21 11 P P 19 43 28.6 +0.3
baz=204,SNR=14
SEY Seymchan 85.23 345 LR LR 20 17 40.9
comp=Z,887nm,19.8s,baz=142,slow=33
SEY Seymchan 85.23 345 *ce*P P 19 43 28.3 -0.1
SEY pmax pmax
comp=Z,64nm,1.3s
JCT Junction City 85.26 56 IAmb IAmb 19 43 35.1
comp=Z,35nm,1.7s
JCT Junction City 85.26 56 P P 19 43 29.8 +0.4
baz=246
K27K Chicken 85.28 13 P P 19 43 29.5 +0.9
baz=209
M30M Minto, Yukon 85.29 16 P P 19 43 28.9 +0.1
baz=214
TIA Tai'an 85.29 310 P P 19 43 29.9 +0.5
TIA S SKSac 19 53 55.3 +2.3
TIA pmax pmax
comp=Z,10.0nm,0.8s
TIA pmax pmax
comp=Z,190nm,3.5s
TIA LR LR
comp=Z,270nm,18.0s
TIA LR LR
comp=Z,300nm,19.4s
TIA LR LR
comp=Z,280nm,17.2s
H22K Ishtalitna Cre 85.30 9 P P 19 43 27.8 -1.0
baz=201,SNR=36
E17K Hotham Inlet 85.33 4 P P 19 43 29.2 +0.4
baz=191,SNR=6.3
N23A Red Feather La 85.37 44 P P 19 43 29.5 -0.5
baz=242
J26L Joseph Creek 85.38 12 P P 19 43 29.3 0.0
J26L IAmb IAmb 19 43 32.4
comp=Z,35nm,0.9s
J26L Joseph Creek 85.38 12 P P 19 43 30.0 +0.7
baz=208,SNR=42
L29M L29M 85.40 15 P P 19 43 29.3 0.0
L29M IAmb IAmb 19 43 31.9
comp=Z,30nm,0.9s
L29M L29M 85.40 15 P P 19 43 29.2 0.0
baz=213,SNR=10
MAW Mawson 85.40 199 P P 19 43 31.4 +2.1
comp=Z,8.7nm,0.7s,baz=127,slow=5.5,SNR=11
MAW LR LR 20 18 34.0
comp=Z,1μm,21.2s,baz=116,slow=34
comp=Z,8.7nm,0.7s
SN05 Snyder 5 85.41 53 IAmb IAmb 19 43 53.7
comp=Z,49nm,1.6s
F19K Shaleruckik Mo 85.43 6 IAMs_20 IAMs_20 20 14 55.3
comp=Z,1μm,21.0s
F19K Shaleruckik Mo 85.43 6 P P 19 43 29.2 -0.1
baz=195,SNR=20
SN07 Snyder 07 85.49 53 IAmb IAmb 19 43 33.6
comp=Z,14nm,0.6s
H23K Yukon River 85.51 9 P P 19 43 29.9 0.0
baz=202,SNR=8.8
RTBA Rita Blanca 85.56 50 P P 19 43 30.6 -0.2
RTBA IAmb IAmb 19 43 33.0
comp=Z,32nm,1.6s
G21K Allakaket 85.60 8 IAMs_20 IAMs_20 20 14 36.1
comp=Z,1μm,22.0s
G21K Allakaket 85.60 8 P P 19 43 30.6 +0.4
baz=199
M31M Drury Creek, Y 85.63 17 IAMs_20 IAMs_20 20 15 19.8
comp=Z,1μm,20.0s
M31M Drury Creek, Y 85.63 17 P P 19 43 29.8 -0.7
baz=217,SNR=5.4
AMTX Amarillo 85.66 51 IAmb IAmb 19 43 42.5
comp=Z,29nm,1.0s
AMTX IAMs_20 IAMs_20 20 16 55.4
comp=Z,1μm,18.0s
AMTX Amarillo 85.66 51 P P 19 43 31.3 0.0
baz=245
DKNS Dickens 85.71 53 IAmb IAmb 19 43 35.8
comp=Z,20nm,0.6s
E18K Tukpahlearik C 85.75 5 IAMs_20 IAMs_20 20 20 09.8
comp=Z,889nm,19.0s
E18K Tukpahlearik C 85.75 5 P P 19 43 30.6 -0.3
baz=192
H24K Noodor Dome 85.79 10 P P 19 43 30.1 -1.2
baz=204,SNR=6.0
F20K Avaraart Lake 85.85 7 IAMs_20 IAMs_20 20 16 09.5
comp=Z,1μm,20.0s
F20K Avaraart Lake 85.85 7 P P 19 43 31.3 -0.1
baz=196,SNR=20
D17K Noatak River 85.85 4 P P 19 43 31.8 +0.4
baz=190
HEH HeiHe 85.89 326 *e*P P 19 43 31.5 -0.5
HEH S S 19 54 05.5 +1.6
HEH pmax pmax
comp=Z,10.0nm,1.2s
HEH pmax pmax
comp=Z,410nm,6.5s
HEH LR LR
comp=Z,460nm,16.1s
HEH LR LR
comp=Z,260nm,18.2s
HEH LR LR
comp=Z,610nm,17.3s
DAWY Dawson 85.91 14 IAmb IAmb 19 43 34.1
comp=Z,22nm,0.9s
DAWY Dawson 85.91 14 P P 19 43 32.1 +0.2
baz=212,SNR=5.8
PRP Porcupine Dome 85.91 11 P P 19 43 32.0 0.0
PRP IAmb IAmb 19 43 33.9
comp=Z,31nm,0.9s
PRP Porcupine Dome 85.91 11 P P 19 43 32.4 +0.5
baz=206,SNR=44
FARO Faro, Yukon 85.95 17 P P 19 43 32.1 +0.1
baz=218
TOAD Toad River Com 86.04 23 P P 19 43 32.4 -0.1
baz=225,SNR=20
E19K Redstone River 86.09 6 IAMs_20 IAMs_20 20 15 04.8
comp=Z,1μm,21.0s
E19K Redstone River 86.09 6 P P 19 43 32.6 0.0
baz=195
EGAK Eagle 86.12 13 IAmb IAmb 19 43 35.0
comp=Z,23nm,1.1s
EGAK Eagle 86.12 13 P P 19 43 32.5 -0.3
baz=210,SNR=17
K29M Barlow Dome 86.16 15 IAmb IAmb 19 43 35.2
comp=Z,34nm,1.4s
K29M Barlow Dome 86.16 15 P P 19 43 33.0 -0.2
baz=214
GULI GuiLin 86.17 298 ⇑P P 19 43 33.1 -0.9
GULI S S 19 54 10.4 +2.7
GULI pmax pmax
comp=Z,40nm,1.2s
GULI pmax pmax
comp=Z,320nm,3.8s
GULI LR LR
comp=Z,230nm,19.2s
GULI LR LR
comp=Z,380nm,18.4s
GULI LR LR
comp=Z,580nm,19.6s
APMT Aspermont 86.18 53 IAmb IAmb 19 43 37.3
comp=Z,25nm,0.7s
I26K Coal Creek Min 86.18 12 P P 19 43 33.9 +0.8
baz=208
RDOG Red Dog Mine 86.21 4 P P 19 43 33.7 +0.5
baz=190
BRDY Brady 86.22 56 IAmb IAmb 19 43 38.2
comp=Z,32nm,1.4s
G22K Bettles 86.25 8 P P 19 43 33.6 +0.2
baz=200
ABTX Abilene, Hawle 86.25 54 P P 19 43 35.0 +0.8
ABTX IAmb IAmb 19 43 37.9
comp=Z,41nm,1.0s
ABTX Abilene, Hawle 86.25 54 P P 19 43 35.1 +0.8
baz=246
G23K Bananza Creek 86.27 9 P P 19 43 33.3 -0.2
baz=202
F21K Alatna River 86.28 7 IAMs_20 IAMs_20 20 15 18.9
comp=Z,1μm,21.0s
F21K Alatna River 86.28 7 P P 19 43 33.5 0.0
baz=199,SNR=18
C16K Lisburne Hills 86.30 3 P P 19 43 34.3 +0.7
baz=187
BKNI Bangkinang 86.33 272 P P 19 43 37.0 +1.9
J29N Klondike Camp 86.51 14 IAMs_20 IAMs_20 20 16 01.7
comp=Z,1μm,20.0s
J29N Klondike Camp 86.51 14 P P 19 43 34.0 -0.8
baz=213
H25L Birch Creek 86.54 11 P P 19 43 34.8 0.0
baz=206
EGMT Eagleton 86.59 37 IAmb IAmb 19 45 08.8
comp=Z,35nm,1.4s
EGMT IAMs_20 IAMs_20 20 15 18.9
comp=Z,1μm,21.0s
EGMT Eagleton 86.59 37 P P 19 43 35.4 -0.3
baz=238
C17K DeLong Mountai 86.62 4 P P 19 43 34.9 -0.3
baz=189
G24K Hadweenzic Riv 86.65 10 P P 19 43 35.9 +0.5
baz=204
F22K John River 86.72 8 P P 19 43 36.0 +0.3
baz=200
COLD Coldfoot 86.72 9 P P 19 43 35.9 +0.2
baz=202,SNR=11
I27K Kandik River 86.75 12 P P 19 43 35.7 -0.3
baz=210,SNR=12
KSCO Kaye Shedlock' 86.77 47 P P 19 43 36.0 -0.8
baz=244
MMPY Sheldon Lake, 86.86 18 P P 19 43 36.6 0.0
baz=219
FYU Fort Yukon 86.91 11 IAmb IAmb 19 43 38.7
comp=Z,37nm,1.6s
FYU IAMs_20 IAMs_20 20 15 38.9
comp=Z,1μm,21.0s
C18K Utukok River 86.92 4 P P 19 43 36.5 -0.2
baz=191
G25K Bearman Lake 86.94 10 P P 19 43 37.4 +0.7
baz=206
TGTN Hyland Airport 86.94 20 P P 19 43 37.7 +0.7
baz=222
UBPT Khong Chiam 86.96 287 P P 19 43 38.9 +0.9
UBPT Khong Chiam 86.96 287 P P 19 43 38.0 0.0
UBPT IAmb IAmb 19 43 40.2
comp=Z,24nm,1.0s
E20K Nigu River 86.97 6 P P 19 43 37.2 +0.2
baz=196
I28M Miner Creek 86.97 13 IAmb IAmb 19 43 53.0
comp=Z,19nm,0.9s
I28M Miner Creek 86.97 13 P P 19 43 37.3 +0.2
baz=211,SNR=15
D19K Kuna River 87.01 5 IAMs_20 IAMs_20 20 16 40.2
comp=Z,1μm,21.0s
D19K Kuna River 87.01 5 P P 19 43 38.1 +0.9
baz=194
J30M Hart River 87.06 15 P P 19 43 38.5 +0.9
baz=215,SNR=11
GO06 Curarrehue 87.13 131 P P 19 43 41.6 +2.9
BILL Bilibino 87.23 352 P P 19 43 37.3 -0.9
BILL IAmb IAmb 19 43 41.2
comp=Z,31nm,1.0s
BILL IAMs_20 IAMs_20 20 18 24.1
comp=Z,916nm,20.0s
BILL Bilibino 87.23 352 *e*P P 19 43 38.3 +0.2
BILL pmax pmax
comp=Z,46nm,1.3s
I29M Ogilvie Camp, 87.25 14 IAmb IAmb 19 43 53.0
comp=Z,21nm,1.1s
I29M Ogilvie Camp, 87.25 14 P P 19 43 39.0 +0.6
baz=213,SNR=15
H27K Steamboat Moun 87.31 12 P P 19 43 39.1 +0.4
baz=210,SNR=22
F24K Squaw Lake 87.34 9 P P 19 43 39.4 +0.7
baz=204,SNR=8.3
E22K Anaktuvuk Pass 87.35 8 P P 19 43 40.1 +1.3
baz=200
D20K Etivluk River 87.37 6 P P 19 43 39.1 +0.3
baz=196
KOTAN Kotaneelee Air 87.37 22 P P 19 43 39.4 +0.4
baz=226
PLCA Paso Flores 87.37 132 P P 19 43 43.5 +3.7
comp=Z,2.5nm,0.7s,baz=239,slow=6.1,SNR=5.3
PLCA LR LR 20 14 56.5
comp=Z,719nm,20.6s,baz=240,slow=30
comp=Z,2.5nm,0.7s
E21K Killik River 87.38 7 IAMs_20 IAMs_20 20 16 48.1
comp=Z,1μm,20.0s
E21K Killik River 87.38 7 P P 19 43 39.4 +0.4
baz=198,SNR=9.2
C19K Lookout Ridge 87.48 5 IAMs_20 IAMs_20 20 16 58.6
comp=Z,1μm,21.0s
C19K Lookout Ridge 87.48 5 P P 19 43 39.5 +0.1
baz=193
G26K Porcupine Rive 87.51 11 P P 19 43 39.5 0.0
baz=208,SNR=26
HNS HongShan 87.55 311 ⇓P P 19 43 41.8 +1.4
HNS SKS SKSac 19 54 09.9 +3.0
HNS S S 19 54 22.3 +1.8
HNS pmax pmax
comp=Z,40nm,1.0s
HNS pmax pmax
comp=Z,410nm,5.0s
HNS LR LR
comp=Z,810nm,17.8s
HNS LR LR
comp=Z,430nm,18.6s
HNS LR LR
comp=Z,640nm,19.1s
B18K Kokolik River 87.58 4 P P 19 43 40.9 +1.1
baz=191
I30M Mount Dempster 87.59 15 P P 19 43 39.9 -0.2
baz=215,SNR=23
WTFS Witchita Falls 87.62 53 P P 19 43 41.4 +0.5
IPM Ipoh 87.63 275 P P 19 43 42.6 +1.2
IPM Ipoh 87.63 275 P P 19 43 41.3 -0.1
SISI Saibi 87.68 269 P P 19 43 42.9 +1.3
comp=Z,45nm,1.1s
WHTX Lake Whitney, 87.70 55 P P 19 43 41.4 +0.1
WHTX Lake Whitney, 87.70 55 P P 19 43 40.6 -0.6
baz=247
E24K Your Creek 87.76 9 P P 19 43 40.9 +0.1
baz=203,SNR=7.9
F25K Christian Rive 87.77 10 P P 19 43 41.7 +0.9
baz=206,SNR=9.5
WMOK Wichita Mounta 87.77 52 P P 19 43 40.6 -1.0
baz=246
G27K Doyon Strip 87.79 12 P P 19 43 40.9 -0.1
baz=210,SNR=9.9
BMAR Burnt Mountain 87.80 11 P P 19 43 40.9 -0.1
D22K Ayikyak River 87.95 7 IAMs_20 IAMs_20 20 16 03.1
comp=Z,1μm,21.0s
D22K Ayikyak River 87.95 7 P P 19 43 42.5 +0.8
baz=199,SNR=16
ZEA Zeya 87.96 329 *e*P P 19 43 42.5 +0.5
ZEA *e* 19 54 22.1
ZEA pmax pmax
comp=Z,200nm,3.5s
ZEA pmax pmax
comp=N,10.0nm,1.0s
ZEA pmax pmax
comp=Z,30nm,1.3s
H29M Whitestone 87.97 13 P P 19 43 41.7 0.0
H29M IAmb IAmb 19 43 57.7
comp=Z,22nm,0.9s
H29M IAMs_20 IAMs_20 20 15 38.1
comp=Z,1μm,21.0s
H29M Whitestone 87.97 13 P P 19 43 42.7 +0.9
baz=213,SNR=20
C21K Knifeblade Rid 87.98 6 P P 19 43 41.7 0.0
baz=197,SNR=8.1
LAO LASA Array 87.99 39 IAMs_20 IAMs_20 20 17 19.2
comp=Z,830nm,20.0s
OGNE Ogallala 88.03 46 P P 19 43 43.8 +1.0
baz=244
LYN LuoYang 88.05 307 ⇓P P 19 43 44.1 +1.2
LYN sP pP 19 43 50.9 +1.4
LYN SKS SKSac 19 54 11.8 +1.7
LYN pmax pmax
comp=Z,99nm,1.0s
LYN pmax pmax
comp=Z,280nm,4.1s
LYN LR LR
comp=Z,900nm,17.5s
LYN LR LR
comp=Z,750nm,20.3s
LYN LR LR
comp=Z,2μm,19.6s
F26K Sheenjek River 88.11 11 P P 19 43 43.0 +0.6
baz=207,SNR=8.8
TOLK Toolik Lake Re 88.13 8 P P 19 43 42.4 -0.1
TOLK IAmb IAmb 19 43 45.3
comp=Z,8.5nm,0.7s
TOLK Toolik Lake Re 88.13 8 P P 19 43 42.1 -0.4
baz=202,SNR=8.2
RSSD Black Hills 88.13 42 P P 19 43 43.3 -0.1
RSSD IAmb IAmb 19 43 45.8
comp=Z,9.3nm,0.7s
RSSD Black Hills 88.13 42 IAMs_20 IAMs_20 20 16 53.4
comp=Z,870nm,20.0s
RSSD Black Hills 88.13 42 P P 19 43 42.8 -0.6
baz=243
RSSD Black Hills 88.13 42 P P 19 43 43.3 -0.1
RSSD pmax pmax
comp=Z,9.0nm,0.7s
RSSD MLR MLR
comp=Z,900nm,20.0s
HKT Hockley 88.22 58 P P 19 43 43.6 -0.1
HKT Hockley 88.22 58 *i* P P 19 43 45.3 +1.6
HKT pmax pmax
comp=Z,26nm,1.6s
KULM Kulim 88.24 276 P P 19 43 43.8 -0.5
E25K Arctic Village 88.25 10 P P 19 43 42.7 -0.4
E25K Arctic Village 88.25 10 P P 19 43 42.7 -0.4
baz=206,SNR=7.5
D23K Nanushuk River 88.28 8 P P 19 43 44.3 +1.1
baz=201,SNR=7.8
B21K Ikpikpuk River 88.44 6 IAMs_20 IAMs_20 20 17 46.1
comp=Z,1μm,20.0s
B21K Ikpikpuk River 88.44 6 P P 19 43 43.6 -0.3
baz=198
EPYK Eagle Plains 88.46 14 IAmb IAmb 19 43 47.9
comp=Z,57nm,1.9s
EPYK IAMs_20 IAMs_20 20 17 35.2
comp=Z,1μm,20.0s
EPYK Eagle Plains 88.46 14 P P 19 43 43.7 -0.4
baz=214
H31M Peel River 88.56 15 P P 19 43 44.3 -0.3
baz=217
B20K Meade River 88.57 5 IAMs_20 IAMs_20 20 21 27.3
comp=Z,1μm,20.0s
B20K Meade River 88.57 5 P P 19 43 45.0 +0.5
baz=195
G29M Pine Creek 88.63 13 P P 19 43 44.8 -0.1
baz=213,SNR=6.2
D24K Happy Valley 88.71 8 P P 19 43 45.0 -0.2
baz=203,SNR=8.5
ENH Enshi 88.74 302 P P 19 43 47.0 +0.7
F28M Old Crow 88.84 12 P P 19 43 46.0 +0.1
baz=211,SNR=8.2
PBSI Pulau Batu 88.84 270 P P 19 43 48.6 +1.5
comp=Z,49nm,1.1s
E27K Coleen River 89.01 11 P P 19 43 47.4 +0.8
baz=210
OK032 Salt Plains WL 89.02 51 IAMs_20 IAMs_20 20 15 46.2
comp=Z,1μm,22.0s
HILA High Level 89.05 26 P P 19 43 47.1 +0.1
G30M tAoh Zraii Nji 89.08 14 IAMs_20 IAMs_20 20 15 37.5
comp=Z,1μm,22.0s
G30M tAoh Zraii Nji 89.08 14 P P 19 43 46.8 -0.3
baz=215,SNR=13
PSI Prapat 89.11 273 P P 19 43 50.2 +1.7
C23K Itkillik River 89.11 8 P P 19 43 46.4 -0.7
baz=201,SNR=11
D25K Kavik River 89.22 9 P P 19 43 47.2 -0.4
baz=205,SNR=8.0
C24K Franklin Bluff 89.25 8 P P 19 43 47.5 -0.2
baz=203
B22K Teshekpuk Lake 89.26 6 IAMs_20 IAMs_20 20 17 39.6
comp=Z,958nm,21.0s
B22K Teshekpuk Lake 89.26 6 P P 19 43 47.6 -0.1
baz=199
TIY Taiyuan 89.33 310 *e*P P 19 43 49.8 +0.9
TIY SKS SKSac 19 54 20.9 +3.1
TIY S S 19 54 37.8 +0.2
TIY pmax pmax
comp=Z,330nm,5.0s
TIY LR LR
comp=Z,410nm,18.6s
TIY LR LR
comp=Z,560nm,19.9s
TIY LR LR
comp=Z,690nm,22.0s
XLT XiLinHaoTe 89.39 317 *e*P P 19 43 49.4 +0.3
XLT pmax pmax
comp=Z,16nm,1.2s
XLT pmax pmax
comp=Z,310nm,4.3s
XLT LR LR
comp=Z,460nm,20.1s
XLT LR LR
comp=Z,510nm,19.1s
G31M Satah River 89.48 14 P P 19 43 48.3 -0.5
G31M IAmb IAmb 19 44 03.6
comp=Z,15nm,0.8s
G31M Satah River 89.48 14 P P 19 43 48.6 -0.2
baz=217,SNR=11
ELIB Princess Elisa 89.50 185 *d*P P 19 43 51.2 +1.9
comp=Z,9.3nm,0.9s
HIA Hailar 89.61 323 P P 19 43 50.0 +0.1
HIA Hailar 89.61 323 IAMs_20 IAMs_20 20 19 39.6
comp=Z,1μm,20.0s
HIA Hailar 89.61 323 IAmb IAmb 19 43 52.4
comp=Z,31nm,1.2s
F30M Barrier River 89.69 13 P P 19 43 50.2 +0.3
baz=215
GYA Guiyang 89.70 298 ⇓P P 19 43 52.6 +1.6
GYA S S 19 54 41.3 -0.3
GYA pmax pmax
comp=Z,31nm,0.9s
GYA pmax pmax
comp=Z,210nm,8.6s
GYA LR LR
comp=Z,260nm,19.6s
GYA LR LR
comp=Z,200nm,20.8s
GYA LR LR
comp=Z,280nm,23.1s
WRGLY Wrigley 89.73 20 P P 19 43 50.0 -0.1
baz=226
A22K Sinclair Lake 89.73 6 P P 19 43 49.8 -0.1
baz=197
E28M Babbage River 89.76 12 IAMs_20 IAMs_20 20 19 09.2
comp=Z,1μm,20.0s
E28M Babbage River 89.76 12 P P 19 43 51.2 +1.0
baz=212
OK048 Pawnee Station 89.80 51 IAMs_20 IAMs_20 20 19 25.2
comp=Z,858nm,18.0s
NATX Nacogdoches 89.82 57 IAMs_20 IAMs_20 20 19 58.4
comp=Z,745nm,19.0s
E29M Blow River 89.90 12 P P 19 43 51.2 +0.4
baz=213
C27K Jago River 89.91 10 P P 19 43 51.1 +0.3
baz=208
OK051 E0350 and S346 89.92 51 IAMs_20 IAMs_20 20 23 17.2
comp=Z,953nm,18.0s
GSI Gunungsitoli 89.93 271 P P 19 43 54.0 +1.8
GSI Gunungsitoli 89.93 271 P P 19 43 52.4 +0.2
GSI Gunungsitoli 89.93 271 P P 19 43 53.8 +1.6
comp=Z,199nm,1.0s,comp=Z,2μm
C26K Camden Bay 89.98 9 P P 19 43 51.1 0.0
baz=207,SNR=11
F31M Tsiigehtchic 90.02 14 IAmb IAmb 19 44 06.3
comp=Z,30nm,0.9s
F31M Tsiigehtchic 90.02 14 P P 19 43 50.8 -0.5
baz=217,SNR=8.3
D27M Malcolm River 90.04 11 IAMs_20 IAMs_20 20 20 34.7
comp=Z,847nm,20.0s
D27M Malcolm River 90.04 11 P P 19 43 50.9 -0.6
baz=210
DGMT Dagmar 90.04 38 IAMs_20 IAMs_20 20 17 01.4
comp=Z,1μm,20.0s
DGMT Dagmar 90.04 38 P P 19 43 52.0 0.0
baz=243
TROLL Troll, Antarti 90.07 179 ⇑PcP PcP 19 43 52.9 -0.3
comp=Z,547nm,1.1s
VNA3 Neumayer Olymp 90.15 175 ⇑PcP PcP 19 43 54.4 +1.0
comp=Z,9.7nm,0.8s
SNAA Sanae 90.21 177 P P 19 43 53.6 +1.1
SNAA Sanae 90.21 177 ⇑PcP PcP 19 43 54.8 +1.1
comp=Z,157nm,0.8s
SNAA Sanae 90.21 177 P P 19 43 54.3 +1.8
comp=Z,8.7nm,1.0s,baz=190,slow=3.9,SNR=15
comp=Z,8.7nm,1.0s
SNAA Sanae 90.21 177 P P 19 43 53.6 +1.1
SNAA pmax pmax
comp=Z,12nm,1.0s
SRIT Nakonsritamara 90.25 279 P P 19 43 55.8 +2.1
SLVN Son La 90.36 292 IAmb IAmb 19 43 57.4
comp=Z,20nm,0.9s
KCSI Kotacane, Aceh 90.42 274 P P 19 43 55.1 +0.6
comp=Z,58nm,1.3s
EFI East Falkland 90.42 146 *i* P P 19 43 56.1 +2.3
EFI pmax pmax
comp=Z,79nm,2.0s

TUL3	**Leonard**	**90.47**	**52**	IAMs_20	IAMs_20	20 16 37.1					
	comp=Z,744nm,20.0s										
D28M	**Stokes Point**	**90.53**	**12**	P	**P**	**19 43 54.0**	**+0.4**				
	baz=212										
XAN	**Xi'an**	**90.57**	**306**	⇑P	**P**	**19 43 55.5**	**+0.7**				
XAN				SKS	**SKSac**	**19 54 23.3**	**-1.8**				
XAN				S	**ScS**	**19 54 51.4**	**-1.3**				
XAN				pmax	pmax						
	comp=Z,49nm,1.3s										
XAN				pmax	pmax						
	comp=Z,320nm,3.5s										
XAN				LR	LR						
	comp=Z,300nm,12.9s										
XAN				LR	LR						
	comp=Z,770nm,17.9s										
XAN				LR	LR						
	comp=Z,1μm,22.0s										
VNA2	**Neumayer--Watz**	**90.64**	**175**	⇑PcP	**PcP**	**19 43 57.1**	**+1.6**				
	comp=Z,8.2nm,0.7s,baz=187,slow=4.0										
INK	**Inuvik**	**90.76**	**14**	P	**P**	**19 43 54.4**	**-0.3**				
INK	**Inuvik**	**90.76**	**14**	P	**P**	**19 43 54.6**	**-0.2**				
	baz=217,SNR=6.8										
INK	**Inuvik**	**90.76**	**14**	LR	LR	20 18 17.7					
	comp=Z,1μm,20.5s,baz=182,slow=31										
INK	**Inuvik**	**90.76**	**14**	P	**P**	**19 43 54.4**	**-0.3**				
INK				pmax	pmax						
	comp=Z,9.0nm,0.9s										
VNA1	**Neumayer--Stat**	**90.84**	**175**	⇑PcP	**PcP**	**19 43 57.5**	**+1.2**				
	comp=Z,13nm,1.0s										
KSU1	**Kansas State U**	**91.08**	**49**	IAMs_20	IAMs_20	20 17 59.5					
	comp=Z,961nm,19.0s										
KSU1	**Kansas State U**	**91.08**	**49**	P	**P**	**19 43 57.2**	**+0.2**				
	baz=248										
HHC	**Hu-ho-hao-te**	**91.18**	**313**	*e*P	**P**	**19 43 58.8**	**+1.2**				
HHC				sP	pP	19 44 05.5	+1.3				
HHC				sS	sS	19 55 01.3	-4.8				
HHC				SS	**SS**	**20 00 59.3**	**-0.5**				
HHC				pmax	pmax						
	comp=Z,27nm,0.8s										
HHC				pmax	pmax						
	comp=Z,180nm,4.0s										
HHC				LR	LR						
	comp=Z,230nm,15.3s										
HHC				LR	LR						
	comp=Z,400nm,16.0s										
HHC				LR	LR						
	comp=Z,550nm,16.7s										
JTS	**Las Juntas de**	**91.24**	**80**	LR	LR	20 16 24.6					
	comp=Z,966nm,18.9s,baz=260,slow=30										
TEIG	**Tepich**	**91.30**	**69**	LR	LR	20 20 06.1					
	comp=Z,665nm,18.3s,baz=228,slow=32										
SNSI	**Sinabang, Aceh**	**91.45**	**272**	P	**P**	**19 44 01.4**	**+2.1**				
	comp=Z,83nm,1.1s,comp=Z,4μm										
SUSD	**Miller**	**91.56**	**44**	P	**P**	**19 43 59.7**	**+0.6**				
	baz=246										
MIAR	**Mount Ida**	**91.67**	**54**	IAmb	IAmb	19 44 04.0					
	comp=Z,30nm,1.8s										
MIAR	**Mount Ida**	**91.67**	**54**	P	**P**	**19 44 00.5**	**+0.6**				
	baz=249										
YAK	**Yakutsk**	**91.75**	**337**	P	**P**	**19 43 58.0**	**-1.5**				
YAK				IAmb	IAmb	19 44 00.4					
	comp=Z,18nm,0.9s										
YAK	**Yakutsk**	**91.75**	**337**	LR	LR	20 21 22.0					
	comp=Z,454nm,20.1s,baz=118,slow=33										
YAK	**Yakutsk**	**91.75**	**337**	*e*P	**P**	**19 43 58.5**	**-1.0**				
YAK				*e**PP	**pP**	**19 44 07.0**	**+0.9**				
YAK				*e*S	**SKSac**	**19 54 30.6**	**+0.2**				
YAK				*e*SS	**SS**	**20 01 03.2**	**-3.6**				
YAK				pmax	pmax						
	comp=Z,22nm,1.0s										
YAK				pmax	pmax						
	comp=N,2.0nm,1.0s										
YAK				pmax	pmax						
	comp=E,3.0nm,1.0s										
YAK				smax	smax						
	comp=N,34nm,3.0s										
MLSI	**Meulaboh, Aceh**	**91.95**	**274**	P	**P**	**19 44 02.1**	**+0.5**				
	comp=N,91nm,0.9s										
NNA	**Nana**	**92.00**	**103**	LR	LR	20 17 26.9					
	comp=N,264nm,19.5s,baz=240,slow=30										
NNA	**Nana**	**92.00**	**103**	*i* P	**P**	**19 44 03.9**	**+2.0**				
NNA				pmax	pmax						
	comp=Z,69nm,1.7s										
ATAH	**Atahualpa**	**92.09**	**98**	LR	LR	20 15 28.5					
	comp=Z,639nm,21.9s,baz=257,slow=29										
BTO	**Baotou**	**92.17**	**312**	*e*P	**P**	**19 44 03.1**	**+0.9**				
BTO				pP	**pP**	**19 44 07.9**	**-0.9**				
BTO				sP	**sP**	**19 44 10.1**	**-1.1**				
BTO				S	**S**	**19 55 03.8**	**+0.2**				
BTO				sS	**pS**	**19 55 10.8**	**-1.6**				
BTO				pmax	pmax						
	comp=Z,39nm,1.1s										
BTO				pmax	pmax						
	comp=Z,510nm,4.3s										
BTO				LR	LR						
	comp=Z,720nm,17.3s										
BTO				LR	LR						
	comp=Z,600nm,21.0s										
BTO				LR	LR						
	comp=Z,1μm,21.9s										
YKA	**Yellowknife Ar**	**92.38**	**23**	P	**P**	**19 44 01.2**	**-1.2**				
YKA	**Yellowknife Ar**	**92.38**	**23**	P	**P**	**19 44 03.0**	**+0.6**				
	comp=Z,2.2nm,1.0s,baz=241,slow=4.1,SNR=19										
YKA				LR	LR	20 18 22.3					
	comp=Z,865nm,21.4s,baz=230,slow=31										
	comp=Z,2.2nm,1.0s										
YKA	**Yellowknife Ar**	**92.38**	**23**	P	**P**	**19 44 03.0**	**+0.6**				
SRDT	**SRDT**	**92.47**	**284**	P	**P**	**19 44 06.3**	**+2.4**				
KMI	**Kunming**	**92.60**	**295**	⇓P	**P**	**19 44 05.8**	**+1.2**				
KMI				S	**S**	**19 55 09.4**	**+1.1**				
KMI				pmax	pmax						
	comp=Z,47nm,1.1s										
KMI				pmax	pmax						
	comp=Z,130nm,3.3s										
KMI				LR	LR						
	comp=Z,240nm,18.4s										
KMI				LR	LR						
	comp=Z,550nm,18.6s										
KMI				LR	LR						
	comp=Z,550nm,19.5s										
ECSD	**EROS Data Cent**	**92.83**	**45**	P	**P**	**19 44 04.2**	**-0.8**				
ECSD				IAmb	IAmb	19 44 08.9					
	comp=Z,13nm,1.4s										
ECSD	**EROS Data Cent**	**92.83**	**45**	P	**P**	**19 44 04.8**	**-0.2**				
	baz=248										
WHAR	**Wooly Hollow**	**92.92**	**54**	IAmb	IAmb	19 44 09.3					
	comp=Z,18nm,1.0s										
S39A	**Bolivar**	**92.97**	**51**	P	**P**	**19 44 05.3**	**-0.5**				
S39A				IAmb	IAmb	19 44 08.9					
	comp=Z,21nm,1.6s										
CRAI	**Chiangrai**	**93.14**	**290**	IAmb	IAmb	19 44 09.8					
	comp=Z,23nm,1.0s										
FCAR	**Ozark Folk Cen**	**93.25**	**53**	P	**P**	**19 44 06.5**	**-0.5**				
CD2	**Chengdu**	**93.60**	**301**	P	**P**	**19 44 08.8**	**-0.1**				
CD2				pmax	pmax						
	comp=Z,20nm,0.4s										
PZH	**PanZhiHua**	**93.88**	**296**	P	**P**	**19 44 11.3**	**+0.9**				
PZH				SKS	**SKSac**	**19 54 46.8**	**+2.6**				
PZH				pmax	pmax						
	comp=Z,30nm,1.0s										
PZH				pmax	pmax						
	comp=Z,220nm,3.5s										
PZH				LR	LR						
	comp=Z,270nm,19.8s										
PZH				LR	LR						
	comp=Z,250nm,18.6s										
PZH				LR	LR						
	comp=Z,390nm,19.6s										
CM31	**Chiang Mai Arr**	**93.89**	**288**	P	**P**	**19 44 09.8**	**-0.7**				
CMAR	**Chiang Mai Arr**	**93.89**	**288**	P	**P**	**19 44 11.5**	**+1.0**				
CMAR	**Chiang Mai Arr**	**93.89**	**288**	P	**P**	**19 44 11.9**	**+1.6**				
	comp=Z,32nm,1.0s,baz=97,slow=2.7,SNR=127										
CMAR				LR	LR	20 21 35.2					
	comp=Z,382nm,21.9s,baz=125,slow=33										
	comp=Z,32nm,1.0s										
CMAR	**Chiang Mai Arr**	**93.89**	**288**	P	**P**	**19 44 12.0**	**+1.6**				
R40A	**Maddies Statio**	**93.95**	**51**	IAmb	IAmb	19 44 13.2					
	comp=Z,31nm,1.4s										
CHTO	**Chiang Mai**	**93.99**	**288**	P	**P**	**19 44 10.6**	**-0.3**				
CHTO	**Chiang Mai**	**93.99**	**288**	P	**P**	**19 44 10.6**	**-0.3**				
CHTO				pmax	pmax						
	comp=Z,31nm,0.8s										
CHTO				MLR	MLR						
	comp=Z,500nm,20.0s										
LCAR	**Lake Charles**	**94.05**	**53**	P	**P**	**19 44 10.2**	**-0.5**				
LCAR				IAmb	IAmb	19 44 13.1					
	comp=Z,41nm,1.6s										
FFC	**Flin Flon**	**94.09**	**33**	P	**P**	**19 44 09.1**	**-1.4**				
FFC	**Flin Flon**	**94.09**	**33**	P	**P**	**19 44 09.1**	**-1.4**				
FFC				pmax	pmax						
	comp=Z,13nm,1.5s										
CIT	**Chita**	**94.36**	**324**	*e*P	**P**	**19 44 12.2**	**+0.3**				
CIT				pmax	pmax						
	comp=Z,56nm,1.5s										
T42A	**Van Buren**	**94.41**	**53**	IAmb	IAmb	19 44 15.2					
	comp=Z,8.1nm,0.8s										
SCIA	**State Center**	**94.50**	**47**	IAMs_20	IAMs_20	20 19 23.0					
	comp=Z,899nm,19.0s										
CCM	**Cathedral Cave**	**94.64**	**52**	P	**P**	**19 44 13.2**	**-0.2**				
CCM				IAmb	IAmb	19 44 14.9					
	comp=Z,14nm,1.3s										
CCM				IAMs_20	IAMs_20	20 22 37.1					
	comp=Z,872nm,20.0s										
CCM	**Cathedral Cave**	**94.64**	**52**	P	**P**	**19 44 13.1**	**-0.4**				
	baz=251										
CCM	**Cathedral Cave**	**94.64**	**52**	P	**P**	**19 44 13.2**	**-0.2**				
CCM				pmax	pmax						
	comp=Z,14nm,1.3s										
CCM				MLR	MLR						
	comp=Z,900nm,20.0s										
PBMO	**Poplar Bluff**	**94.83**	**53**	IAmb	IAmb	19 44 17.2					
	comp=Z,34nm,1.6s										
OXF	**Oxford**	**94.90**	**55**	IAMs_20	IAMs_20	20 20 24.7					
	comp=Z,762nm,19.0s										
OXF	**Oxford**	**94.90**	**55**	P	**P**	**19 44 14.4**	**-0.2**				
	baz=252										
AGMN	**Agassiz Nation**	**95.02**	**41**	IAMs_20	IAMs_20	20 21 39.6					
	comp=Z,696nm,20.0s										
AGMN	**Agassiz Nation**	**95.02**	**41**	P	**P**	**19 44 15.5**	**+0.6**				
	baz=249										
LZH	**Lanzhou**	**95.18**	**306**	*e*P	**P**	**19 44 17.5**	**+1.3**				
LZH				sP	pP	19 44 24.0	+1.2				
LZH				pmax	pmax						
	comp=Z,35nm,1.1s										
LZH				pmax	pmax						
	comp=Z,260nm,4.0s										
LZH				LR	LR						
	comp=Z,260nm,17.2s										
LZH				LR	LR						
	comp=Z,210nm,16.5s										
LZH				LR	LR						
	comp=Z,540nm,18.6s										
FVM	**French Village**	**95.22**	**52**	IAmb	IAmb	19 44 19.2					
	comp=Z,12nm,1.0s										
A36M	**Sachs Harbour**	**95.40**	**13**	P	**P**	**19 44 16.8**	**+0.7**				
	baz=225										
LVC	**Limon Verde**	**95.44**	**116**	LR	LR	20 16 57.8					
	comp=Z,774nm,21.8s,baz=252,slow=29										
CGM3	**Cape Girardeau**	**95.58**	**53**	P	**P**	**19 44 16.8**	**-1.0**				
CGM3				IAmb	IAmb	19 44 28.6					
	comp=Z,10nm,0.9s										
SPMN	**Marine on St.**	**95.91**	**44**	P	**P**	**19 44 19.6**	**+0.5**				
	baz=251										
L40A	**Anamosa**	**95.96**	**48**	IAmb	IAmb	19 44 22.6					
	comp=Z,13nm,1.0s										
TNCH	**TengChong**	**96.21**	**294**	⇑P	**P**	**19 44 20.6**	**-0.6**				
TNCH				pP	PcP	19 44 23.3	+2.0				
TNCH				sP	pP	19 44 26.0	-1.8				
TNCH				S	**S**	**19 55 35.4**	**-4.4**				
TNCH				pmax	pmax						
	comp=Z,9.0nm,1.0s										
TNCH				pmax	pmax						
	comp=Z,150nm,4.3s										
TNCH				LR	LR						
	comp=Z,120nm,16.3s										
TNCH				LR	LR						
	comp=Z,160nm,15.2s										
TNCH				LR	LR						
	comp=Z,360nm,21.4s										
LRAL	**Lakeview Retre**	**96.36**	**57**	P	**P**	**19 44 22.1**	**+0.8**				
	baz=253										
BOD	**Bodaibo**	**96.47**	**329**	*e*P	**P**	**19 44 20.0**	**-1.3**				
BOD				pmax	pmax						
	comp=Z,7.0nm,1.4s										
WVT	**Waverly**	**96.62**	**54**	IAMs_20	IAMs_20	20 20 50.2					
	comp=Z,720nm,21.0s										
ULN	**Ulaanbaatar**	**96.74**	**318**	P	**P**	**19 44 21.4**	**-1.5**				
ULN	**Ulaanbaatar**	**96.74**	**318**	P	**P**	**19 44 21.5**	**-1.5**				
ULN				pmax	pmax						
	comp=Z,7.0nm,1.0s										
ULN				MLR	MLR						
	comp=Z,600nm,22.0s										
HDIL	**Hopedale**	**96.86**	**50**	IAMs_20	IAMs_20	20 20 57.8					
	comp=Z,1μm,20.0s										
JFWS	**Jewell Farm**	**96.91**	**47**	IAMs_20	IAMs_20	20 21 36.6					
	comp=Z,1μm,19.0s										
JFWS	**Jewell Farm**	**96.91**	**47**	P	**P**	**19 44 23.5**	**-0.2**				
	baz=252										
SONM	**Songino Array**	**97.14**	**318**	P	Pdif	19 44 25.9	+1.0				
	comp=Z,1.6nm,0.7s,baz=108,slow=3.3,SNR=4.8										
SONM				PKiKP	**PKiKP**	**19 49 00.4**	**0.0**				
	comp=Z,1.2nm,0.7s,baz=188,slow=2.9,SNR=2.8										
SONM				LR	LR	20 23 06.0					
	comp=Z,434nm,21.9s,baz=108,slow=32										
	comp=Z,1.6nm,0.7s										
E38A	**The Farm, Brul**	**97.19**	**43**	IAmb	IAmb	19 44 28.2					
	comp=Z,11nm,1.4s										
EYMN	**Ely**	**97.65**	**42**	IAMs_20	IAMs_20	20 23 48.4					
	comp=Z,699nm,19.0s										
EYMN	**Ely**	**97.65**	**42**	P	**P**	**19 44 26.4**	**-0.5**				
	baz=252										
G40A	**Rib Lake**	**97.67**	**45**	IAmb	IAmb	19 44 42.5					
	comp=Z,8.7nm,1.2s										
TIXI	**Tiksi**	**97.71**	**344**	P	**P**	**19 44 25.9**	**-0.7**				
TIXI				IAmb	IAmb	19 44 28.3					
	comp=Z,9.5nm,1.1s										
TIXI	**Tiksi**	**97.71**	**344**	IAMs_20	IAMs_20	20 26 08.7					
	comp=Z,852nm,20.0s										
TIXI	**Tiksi**	**97.71**	**344**	LR	LR	20 25 09.8					
	comp=Z,825nm,20.3s,baz=134,slow=34										
TIXI	**Tiksi**	**97.71**	**344**	*c*P	Pdif	19 44 26.7	+0.1				
TIXI				pmax	pmax						
	comp=Z,9.0nm,1.1s										
HQIL	**Hanson Quary C**	**98.27**	**49**	IAMs_20	IAMs_20	20 21 22.9					
	comp=Z,685nm,20.0s										
L44A	**Lake County Fo**	**98.34**	**48**	IAMs_20	IAMs_20	20 25 19.6					
	comp=Z,709nm,19.0s										
WCI	**Wyandotte Cave**	**98.41**	**53**	IAMs_20	IAMs_20	20 22 25.1					
	comp=Z,754nm,20.0s										
SFIN	**Lafayette**	**98.41**	**50**	P	**P**	**19 44 30.3**	**-0.1**				
	baz=254										
LPAZ	**La Paz**	**98.46**	**110**	LR	LR	20 19 07.1					
	comp=Z,721nm,21.9s,baz=266,slow=29										
COWI	**Conover**	**98.63**	**44**	P	**P**	**19 44 30.5**	**-0.8**				
COWI				IAMs_20	IAMs_20	20 21 54.6					
	comp=Z,789nm,20.0s										
TIGA	**Tifton**	**98.67**	**60**	P	Pdif	19 44 32.2	+0.4				
	baz=254										
GTA	**Gaotai**	**99.21**	**308**	*e*P	**Pdif**	**19 44 34.8**	**+0.5**				
GTA				pmax	pmax						
	comp=Z,4.0nm,1.2s										
GTA				LR	LR						
	comp=Z,280nm,20.4s										
GTA				LR	LR						
	comp=Z,530nm,20.0s										
GTA				LR	LR						
	comp=Z,620nm,20.4s										
TKL	**Tuckaleechee C**	**99.65**	**56**	LR	LR	20 22 53.2					
	comp=Z,366nm,21.4s,baz=247,slow=31										
O48B	**Farmland**	**99.81**	**51**	IAMs_20	IAMs_20	20 25 01.9					
	comp=Z,978nm,19.0s										
P49A	**Miami Univ. Ec**	**99.94**	**52**	IAMs_20	IAMs_20	20 21 50.6					
	comp=Z,705nm,22.0s										
TZTN	**Tazewell**	**100.06**	**55**	IAMs_20	IAMs_20	20 22 48.2					
	comp=Z,738nm,22.0s										
GLMI	**Grayling**	**101.35**	**47**	IAMs_20	IAMs_20	20 24 01.0					
	comp=Z,792nm,20.0s										
GLMI	**Grayling**	**101.35**	**47**	P	**Pdif**	**19 44 43.5**	**0.0**				
	baz=256										
ACSO	**Alum Creek Sta**	**101.41**	**51**	IAMs_20	IAMs_20	20 22 59.4					
	comp=Z,669nm,21.0s										
AAM	**Ann Arbor**	**101.42**	**49**	IAMs_20	IAMs_20	20 24 48.2					
	comp=Z,774nm,20.0s										
KMSC	**Kings Mountain**	**101.45**	**57**	P	**Pdif**	**19 44 44.5**	**+0.3**				
	baz=256										
P52A	**Corning**	**101.90**	**52**	IAMs_20	IAMs_20	20 27 01.5					
	comp=Z,782nm,18.0s										
P52A	**Corning**	**101.90**	**52**	P	**Pdif**	**19 44 45.6**	**-0.4**				
	baz=257										
BLA	**Blacksburg**	**102.65**	**55**	IAMs_20	IAMs_20	20 24 28.9					
	comp=Z,627nm,21.0s										
BLA	**Blacksburg**	**102.65**	**55**	P	**Pdif**	**19 44 49.5**	**0.0**				
	baz=257										
O53A	**New Philadelph**	**102.73**	**52**	IAMs_20	IAMs_20	20 27 20.4					
	comp=Z,683nm,19.0s										
M53A	**WI Miller and**	**103.39**	**51**	IAMs_20	IAMs_20	20 25 00.6					
	comp=Z,782nm,21.0s										
M53A	**WI Miller and**	**103.39**	**51**	P	**Pdif**	**19 44 52.0**	**-0.6**				
	baz=258										
MCWV	**Mont Chateau**	**103.63**	**52**	IAMs_20	IAMs_20	20 31 51.3					
	comp=Z,733nm,18.0s										
SSPA	**Standing Stone**	**105.29**	**52**	IAMs_20	IAMs_20	20 30 01.3					
	comp=Z,818nm,19.0s										
SSPA	**Standing Stone**	**105.29**	**52**	P	**PKiKP**	**19 49 14.2**	**-0.9**				
	baz=259										
SAML	**Samuel**	**105.64**	**105**	IAMs_20	IAMs_20	20 25 01.8					
	comp=Z,922nm,21.0s										
SDDR	**Presa de Saban**	**106.34**	**75**	IAMs_20	IAMs_20	20 22 43.8					
	comp=Z,595nm,21.0s										
BINY	**Binghamton**	**106.97**	**50**	IAMs_20	IAMs_20	20 27 22.5					
	comp=Z,804nm,20.0s										
BINY	**Binghamton**	**106.97**	**50**	P	**PKiKP**	**19 49 17.8**	**-0.4**				
	baz=261										
PAL	**Palisades**	**108.33**	**52**	P	**PKiKP**	**19 49 20.0**	**-0.7**				
	baz=262										
LONY	**Lake Ozonia**	**108.34**	**48**	IAMs_20	IAMs_20	20 28 33.1					
	comp=Z,678nm,20.0s										
LONY	**Lake Ozonia**	**108.34**	**48**	P	**PKiKP**	**19 49 19.9**	**-0.8**				
	baz=263										
WSPT	**Westport, CT**	**108.79**	**52**	IAMs_20	IAMs_20	20 27 48.8					
	comp=Z,707nm,20.0s										
YLE	**Yale**	**109.10**	**52**	IAMs_20	IAMs_20	20 27 02.4					
	comp=Z,676nm,22.0s										
L61B	**Northampton**	**109.44**	**51**	P	**PKiKP**	**19 49 22.4**	**-0.4**				
	baz=263										
VT1	**Waterbury**	**109.60**	**49**	IAMs_20	IAMs_20	20 29 11.7					
	comp=Z,699nm,20.0s										
HNH	**Hanover**	**109.87**	**49**	IAMs_20	IAMs_20	20 30 42.8					
	comp=Z,884nm,19.0s										
LBNH	**Lisbon**	**110.18**	**49**	IAMs_20	IAMs_20	20 31 22.1					
	comp=Z,721nm,20.0s										
LBNH	**Lisbon**	**110.18**	**49**	P	**PKiKP**	**19 49 24.1**	**0.0**				
	baz=264										
M65A	**Busby, Falmout**	**110.84**	**52**	IAMs_20	IAMs_20	20 28 50.1					
	comp=Z,800nm,21.0s										
ZSN	**Zaisan**	**111.30**	**315**	*e*PKiKP	**PKiKP**	**19 49 26.1**	**-0.2**				
	baz=315										
ZSN	**Zaisan**	**111.30**	**315**	*i* PKiKP	**PKiKP**	**19 49 26.0**	**-0.2**				
ZALV	**Zalesovo Beam**	**111.62**	**322**	PKiKP	**PKiKP**	**19 49 25.8**	**-0.7**				
	comp=Z,2.7nm,0.6s,baz=164,slow=1.0,SNR=9.5										
WVL	**Waterville**	**111.83**	**49**	IAMs_20	IAMs_20	20 32 14.6					
	comp=Z,795nm,20.0s										
PKME	**Peaks-Kenny Pk**	**112.14**	**48**	IAMs_20	IAMs_20	20 30 42.6					
	comp=Z,842nm,20.0s										
MK31	**Makanchi Array**	**113.02**	**314**	*i* PKiKP	**PKiKP**	**19 49 27.5**	**-2.0**				
MKAR	**Makanchi Array**	**113.02**	**314**	PKiKP	**PKiKP**	**19 49 30.0**	**+0.5**				
	comp=Z,3.4nm,0.6s,baz=345,slow=0.2,SNR=5.8										
MKAR	**Makanchi Array**	**113.02**	**314**	*i* PKiKP	**PKiKP**	**19 49 30.0**	**+0.5**				
MAKZ	**Makanchi**	**113.24**	**314**	IAMs_20	IAMs_20	20 35 53.4					
	comp=Z,525nm,20.0s										
EMMW	**East Machias**	**113.41**	**48**	IAMs_20	IAMs_20	20 33 40.3					
	comp=Z,668nm,19.0s										
SABA	**Saba**	**113.47**	**78**	IAMs_20	IAMs_20	20 30 35.3					
	comp=Z,548nm,18.0s										
SEM	**Semipalatinsk**	**114.42**	**318**	*e*PKP	PKPdf	19 49 32.0	-0.3				
	baz=318										
SEM	**Semipalatinsk**	**114.42**	**318**	*e*PKiKP	PKPdf	19 49 31.9	-0.4				
SHLS	**Shalkode**	**114.90**	**310**	*e*PKP	PKPdf	19 49 32.5	-0.8				
	baz=310										
SHLS				*e*PP	**PP**	**19 50 27.6**	**-4.9**				
	baz=310										
SHLS	**Shalkode**	**114.90**	**310**	*e*PKiKP	PKPdf	19 49 32.5	-0.9				
SHLS				*e*		19 50 27.5					
UZB	**Uzynbulak**	**115.22**	**310**	*e*PKP	**PKiKP**	**19 49 34.1**	**+0.1**				
	baz=310										
UZB	**Uzynbulak**	**115.22**	**310**	*e*PKiKP	**PKiKP**	**19 49 34.1**	**+0.1**				
KURK	**Kurchatov**	**115.45**	**318**	PKiKP	**PKPdf**	**19 49 34.6**	**+0.6**				
KURBB	**Kurchatov Arra**	**115.51**	**318**	PKP	**PKPdf**	**19 49 34.5**	**+0.5**				
	comp=Z,4.0nm,0.7s,baz=91,slow=1.8,SNR=27										
SATY	**Saty**	**115.67**	**310**	*e*PKP	**PKPdf**	**19 49 34.9**	**0.0**				
	baz=310										
SATY	**Saty**	**115.67**	**310**	*e*PKiKP	**PKPdf**	**19 49 34.8**	**0.0**				
TDK	**Taldyqorghan**	**115.70**	**312**	*e*PKP	**PKPdf**	**19 49 34.6**	**-0.1**				
	baz=312										
TDK				LR	LR	20 40 44.9					
	comp=Z,189nm,16.3s,baz=312										
TDK	**Taldyqorghan**	**115.70**	**312**	*e*PKiKP	**PKPdf**	**19 49 34.6**	**-0.1**				
TDK				MLR	MLR						
	comp=Z,189nm,16.0s										
BBGH	**Gun Hill**	**115.92**	**84**		**PKPdf**	**19 49 33.6**	**-2.3**				
MDOK	**Medeo**	**116.67**	**310**	*e*PKP	**PKPdf**	**19 49 36.8**	**0.0**				
	baz=310				

BOSA Boshof 130.35 201 PKP **PKiKP** **19 50 07.0 +2.6**
comp=Z,2.4nm,0.8s,baz=148,slow=2.2,SNR=5.6
BOSA Boshof 130.35 201 PKiKP **PKiKP** **19 50 07.0 +2.6**
GEYT Alibeck 131.45 305 PKPdf **PKiKP** **19 50 05.8 -0.3**
GEYT Alibeck 131.45 305 PKP **PKiKP** **19 50 07.2 +1.1**
comp=Z,4.8nm,0.7s,baz=253,slow=1.5,SNR=10
KLMR Klimovskoe 131.46 339 *e*PKiKP **PKPdf** **19 50 00.7 -3.6**
KLMR pmax pmax
comp=Z,26nm,1.3s
BELG Belogornoye 133.38 327 PKP **PKiKP** **19 50 09.6 +0.2**
comp=Z,13nm,0.6s,baz=272,slow=1.8,SNR=6.3
BELG Belogornoye 133.38 327 *i* PKiKP **PKiKP** **19 50 09.0 -0.4**
VALR Valaam 133.61 344 *i* PKiKP **PKiKP** **19 50 09.2 -0.4**
FINES FINESS Array B 134.66 347 PKhKP PKPpre 19 50 00.1
comp=Z,1.0nm,0.5s,baz=52,slow=3.1,SNR=8.3
FINES PKP **PKiKP** **19 50 12.1 +0.3**
comp=Z,5.5nm,0.8s,baz=36,slow=3.1,SNR=14
MOS Moscow 135.88 336 *e*PKiKP **PKiKP** **19 50 13.7 -0.7**
MOS pmax pmax
comp=Z,23nm,0.7s
MOS MLR MLR
comp=Z,600nm,20.0s
OBN Obninsk 136.75 336 ⇑*i*PKiKP **PKPdf** **19 50 14.7 +0.3**
OBN *i* 19 50 17.1
OBN *e* 19 50 24.7
OBN *i* 19 52 55.4
OBN pmax pmax
comp=Z,12nm,0.8s
NOA NORSAR Array B 137.00 357 PKhKP PKPpre 19 50 04.9
comp=Z,0.4nm,0.7s,baz=28,slow=2.0,SNR=4.2
NOA PKP **PKPdf** **19 50 13.7 -1.2**
comp=Z,0.5nm,0.6s,baz=271,slow=3.1,SNR=2.3
VRH Novokhopyorsk 137.08 328 *e*PKiKP **PKPdf** **19 50 12.8 -2.3**
VRH pmax pmax
comp=Z,10.0nm,1.0s
VSU Vasula 137.18 345 *i* PKiKP **PKiKP** **19 50 16.3 -0.6**
LPSR Galich'ya Gora 137.51 332 *e*PKiKP **PKPdf** **19 50 16.8 +0.9**
LPSR pmax pmax
comp=Z,20nm,1.1s
HFS Hagfors 137.74 355 PKhKP PKPpre 19 50 05.4
comp=Z,1.4nm,0.6s,baz=52,slow=2.4,SNR=9.5
HFS PKP **PKPdf** **19 50 15.7 -0.4**
comp=Z,2.0nm,0.5s,baz=72,slow=6.4,SNR=7.8
MAK Makhachkala 137.83 315 *e*P **Pdif** **19 47 23.9 -1.8**
MAK *i* 19 50 14.3
MAK *e* 19 57 29.2
MAK pmax pmax
comp=Z,63nm,1.1s
VORR Voronezh 138.00 330 *e*PKiKP **PKPdf** **19 50 15.3 -1.5**
VORR pmax pmax
comp=Z,10.0nm,1.0s
VSR Storozhevoye 138.32 330 *e*PKiKP **PKPdf** **19 50 14.8 -2.6**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 138.42 329 *e*PKiKP **PKPdf** **19 50 15.0 -2.6**
VORD pmax pmax
comp=Z,10.0nm,0.7s
SEKA Sheki 138.71 313 PKiKP **PKPdf** **19 50 18.2 -0.4**
GROC Groznyy 138.87 316 *e*PKiKP **PKiKP** **19 50 19.9 -1.0**
GROC pmax pmax
comp=Z,47nm,1.6s
GANJ Ganja 139.54 312 PKiKP **PKPdf** **19 50 19.1 -1.0**
GOF Gofitskoye 139.77 320 *ce*PKiKP PKiKP 19 50 32.7 +10
MNK Minsk 140.30 341 *i* PKiKP **PKPdf** **19 50 16.8 -4.2**
MNK *i* 19 53 15.5
MNK *i* SSS SSS 20 16 50.1
MNK pmax pmax
comp=N,8.0nm,0.9s
MNK pmax pmax
comp=E,8.0nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=Z,421nm,20.0s
MNK MLR MLR
comp=E,150nm,21.0s
PABE Paberze 140.50 345 PKPpre 19 50 14.6
PABE IAMs_20 IAMs_20 20 51 49.9
comp=Z,608nm,20.0s
KBZ Khabaz 140.51 318 PKP **PKPdf** **19 50 22.4 +0.7**
comp=Z,2.1nm,0.7s,baz=344,slow=1.7,SNR=5.0
KBZ Khabaz 140.51 318 *i* PKiKP **PKiKP** **19 50 23.1 -1.1**
KIV Kislovodsk 140.54 319 ⇑P **PKPdf** **19 50 18.0 -3.9**
KIV Kislovodsk 140.54 319 PKPdf **PKPdf** **19 50 17.4 -4.5**
KIV Kislovodsk 140.54 319 ⇑*e*PKiKP **PKPdf** **19 50 22.0 +0.1**
KIV *i* 19 50 24.6
KIV *i* 19 53 23.0
KIV 19 57 30.0
KIV SS SS 20 11 47.0 +2.5
KIV pmax pmax
comp=Z,10.0nm,1.8s
KIV MLR MLR
comp=Z,532nm,20.0s
GNI Garni 140.84 312 PKhKP PKPpre 19 50 19.5
comp=Z,1.3nm,0.4s,baz=27,slow=14,SNR=2.2
GNI Garni 140.84 312 *i* PKiKP **PKiKP** **19 50 24.2 -1.1**
ERBR Yeremizino-Bor 140.95 322 *i* PKiKP **PKPdf** **19 50 21.4 -1.0**
ERBR pmax pmax
comp=Z,30nm,0.8s
EKA Eskdalemuir Ar 142.01 9 PKhKP PKPpre 19 50 19.3
comp=Z,1.3nm,0.6s,baz=332,slow=2.9,SNR=8.0
SUW Suwalki 142.05 345 IAMs_20 IAMs_20 20 53 56.8
comp=Z,608nm,21.0s
BCA Borcka 142.43 316 ⇑P **PKPdf** **19 50 21.7 -3.5**
SOC Sochi 142.57 320 *e*PKiKP **PKPdf** **19 50 23.9 -1.5**
SOC *e* 19 53 30.3
SOC *e*PPP PPP 19 56 37.6
SOC *e*SS SS 20 12 10.6 +2.7
SOC *e*SSS SSS 20 17 24.3
SOC MLR MLR
comp=Z,583nm,21.0s
AKASG Malin Array Be 142.99 337 **PKPdf** **19 50 23.3 -2.6**
AKASG Malin Array Be 142.99 337 PKhKP PKPpre 19 50 22.3
comp=Z,2.7nm,0.5s,baz=37,slow=3.6,SNR=13
AKASG Malin Array Be 142.99 337 PKiKP **PKPdf** **19 50 23.3 -2.6**
AKBB Malin Array Si 142.99 337 *i* PKiKP **PKPdf** **19 50 23.4 -2.5**
KIEV Kiev 143.00 337 ⇑P **PKPdf** **19 50 23.9 -2.0**
KIEV Kiev 143.00 337 **PKPdf** **19 50 22.5 -3.4**
KIEV Kiev 143.00 337 IAMs_20 IAMs_20 20 54 00.9
comp=Z,500nm,20.0s
KIEV Kiev 143.00 337 PKiKP **PKPdf** **19 50 22.5 -3.4**
KIEV MLR MLR
comp=Z,500nm,20.0s
ANN Anapa 143.24 323 *i* PKiKP **PKPdf** **19 50 25.1 -1.4**
ANN pmax pmax
comp=Z,15nm,0.7s
KIBK Kibwezi 143.36 239 PKPbc 19 50 26.0 +1.1
KIBK IAMs_20 IAMs_20 20 50 43.9
comp=Z,534nm,18.0s
ATD Arta Tunnel 144.85 264 IAMs_20 IAMs_20 20 52 39.8
comp=Z,550nm,19.0s
SIM Simferopol' 144.98 326 *e*PKiKP **PKPdf** **19 50 30.3 +0.7**
SIM pmax pmax
comp=Z,46nm,1.1s
SORM Soroca 145.38 335 ⇓P **PKPbc** **19 50 30.1 +0.1**
SORM Soroca 145.38 335 ⇓PKiKP **PKPbc** **19 50 30.1 +0.1**
LVV L'vov 145.54 341 *e*PKiKP **PKPab** **19 50 31.1 +0.3**
LVV *e* 19 53 58.4
LVV *e*SS SS 20 12 40.4 -0.4
LVV *e*SSS SSS 20 18 05.6
LVV MLR MLR
comp=N,400nm,21.0s
LVV MLR MLR
comp=E,900nm,21.0s
LVV MLR MLR
comp=Z,500nm,21.0s
ARPR Arapgir-MALATY 145.75 314 IAMs_20 IAMs_20 20 59 03.7
comp=Z,370nm,20.0s
KMPD K-Podol'skiy 145.77 337 PKP **PKPdf** **19 50 30.9 +0.1**
PURM Purcari 145.97 331 ⇑P **PKPab** **19 50 33.3 +0.8**
KIS Kishinev 146.08 333 ⇑*i*PKP **PKPdf** **19 50 31.0 -0.4**
comp=Z,330nm,6.0s
KIS Kishinev 146.08 333 *c i*PKiKP **PKPdf** **19 50 31.0 -0.4**
KIS pmax pmax
comp=Z,300nm,6.0s
KWP Kalwaria Pacla 146.11 342 **PKPdf** **19 50 30.9 -0.5**
KWP Kalwaria Pacla 146.11 342 PKiKP **PKPdf** **19 50 30.9 -0.5**
KWP MLR MLR
comp=Z,900nm,21.0s
MILM Milestii Mici 146.14 333 ⇑P **PKPbc** **19 50 32.7 +0.2**
MILM Milestii Mici 146.14 333 ⇑*i*PKP **PKPdf** **19 50 31.9 +0.5**
MILM Milestii Mici 146.14 333 ⇑*i*PKP **PKPdf** **19 50 32.0 +0.5**
comp=Z,110nm,1.2s
MILM Milestii Mici 146.14 333 *c i*PKP2 **PKPdf** **19 50 32.0 +0.5**
MILM *i* 19 50 34.0
MILM pmax pmax
comp=Z,110nm,1.2s
CLL Collm 146.53 353 IAMs_20 IAMs_20 21 02 34.2
comp=Z,437nm,20.0s
CLL Collm 146.53 353 *i* PKP2 **PKPbc** **19 50 33.4 -0.1**
CLL MLR MLR
comp=Z,400nm,19.6s
STHS Stebnicka Huta 146.73 343 *e*PKP **PKPab** **19 50 35.3 0.0**
STHS Stebnicka Huta 146.73 343 *e*PKP2 **PKPab** **19 50 35.3 0.0**
VASR Vaslui 146.80 334 ⇑P **PKPab** **19 50 35.6 -0.1**
CHVC Chvalec 146.80 350 *e*PKP **PKPab** **19 50 36.3 +0.7**
CHVC Chvalec 146.80 350 *e*PKP2 **PKPab** **19 50 36.3 +0.7**
OSTC Ostas 146.80 349 *e*PKP **PKPab** **19 50 36.3 +0.7**
OSTC Ostas 146.80 349 *e*PKP2 **PKPab** **19 50 36.3 +0.7**
BRG Berggiesshubel 146.84 352 *i* PKP **PKPbc** **19 50 35.0 +0.7**
BRG Amp 19 50 38.1
comp=Z,51nm,1.1s
KOLS Kolonicke sedl 146.86 342 *e*PKP **PKPab** **19 50 35.9 0.0**
KOLS Kolonicke sedl 146.86 342 *e*PKP2 **PKPab** **19 50 35.9 0.0**
UPC Upice 146.88 350 *e*PKP **PKPab** **19 50 35.8 -0.1**
UPC AMS AMS 20 56 40.0
comp=Z,600nm,21.1s
UPC Upice 146.88 350 *e*PKP2 **PKPab** **19 50 35.8 -0.1**
UPC MLR MLR
comp=Z,600nm,21.1s
DPC Dobruska-Polom 146.98 349 *e*PKP **PKPab** **19 50 36.2 -0.1**
DPC AMS AMS 20 55 20.0
comp=Z,500nm,17.4s
DPC Dobruska-Polom 146.98 349 *e*PKP2 **PKPab** **19 50 36.2 -0.1**
DPC MLR MLR
comp=Z,500nm,17.4s
BURAR Bucovina Array 147.02 337 ⇑P **PKPab** **19 50 36.8 +0.2**
BURAR Bucovina Array 147.02 337 **PKPbc** **19 50 34.4 -0.7**
BURAR Bucovina Array 147.02 337 ⇑PKP2 **PKPab** **19 50 36.8 +0.2**
PVCC Panska Ves 147.09 351 *e*PKP **PKPab** **19 50 36.6 -0.1**
PVCC AMS AMS 20 54 50.0
comp=Z,600nm,18.1s
OKC Ostrava-Krasne 147.10 347 *e*PKP **PKiKP** **19 50 37.5 -0.1**
OKC AMS AMS 20 54 10.0
comp=Z,500nm,23.9s
OKC Ostrava-Krasne 147.10 347 *e*PKP2 **PKiKP** **19 50 37.5 -0.1**
OKC MLR MLR
comp=Z,500nm,23.9s
KRLC Kraliky 147.16 348 *e*PKP **PKPab** **19 50 36.3 -0.7**
KRLC AMS AMS 20 55 50.0
comp=Z,700nm,19.6s
KRLC Kraliky 147.16 348 *e*PKP2 **PKPab** **19 50 36.3 -0.7**
KRLC MLR MLR
comp=Z,700nm,19.6s
HSKC Hora Svate Kat 147.17 353 *e*PKP **PKPab** **19 50 37.0 0.0**
HSKC AMS AMS 20 57 20.0
comp=Z,500nm,21.6s
MORC Moravsky Berou 147.29 347 ⇑P **PKPbc** **19 50 35.5 -0.3**
MORC Moravsky Berou 147.29 347 **PKPdf** **19 50 34.6 +1.1**
MORC Moravsky Berou 147.29 347 *e*PKP **PKPbc** **19 50 35.1 -0.7**
MORC Moravsky Berou 147.29 347 ⇑PKP2 **PKPbc** **19 50 35.5 -0.3**
VLDR Vladesti 147.29 332 ⇑P **PKPab** **19 50 37.5 -0.2**
VARL Varlezi 147.35 333 ⇑P **PKPab** **19 50 37.2 -0.6**
TESR Tescani 147.38 335 ⇓P **PKPab** **19 50 35.8 -0.2**
GHRR 147.42 333 ⇑P **PKPbc** **19 50 37.0 +0.8**
LANS Liptovska Anna 147.44 345 *e*PKP **PKiKP** **19 50 38.6 +0.2**
LANS Liptovska Anna 147.44 345 *e*PKP2 **PKiKP** **19 50 38.6 +0.2**
SCTR Scanteiesti 147.47 332 ⇓P **PKPab** **19 50 38.1 -0.1**
TLCR 147.47 331 ⇑P **PKPbc** **19 50 37.1 +0.8**
TLCR 147.47 331 ⇑PKP2 **PKPbc** **19 50 37.1 +0.8**
MEM Membach 147.55 1 *d*PKP **PKPbc** **19 50 37.3 +1.0**
PRA Prague 147.56 351 AMS AMS 20 55 30.0
comp=Z,1μm,20.0s
BSTI Sart Tilman 147.56 2 *d*PKP **PKPbc** **19 50 37.3 +0.9**
BTNL Ternell 147.57 1 *d*PKP **PKPbc** **19 50 35.7 -0.8**
BMR Baia Mare 147.58 339 ⇑P **PKPbc** **19 50 36.9 +0.3**
BMR Baia Mare 147.58 339 ⇑PKP2 **PKPbc** **19 50 36.9 +0.3**
MAUC Maruska 147.62 347 *e*PKP **PKPab** **19 50 39.3 +0.5**
PRU Pruhonice 147.62 351 *e*PKP **PKiKP** **19 50 38.0 -0.7**
PRU AMS AMS 20 55 20.0
comp=Z,1μm,21.3s
PRU Pruhonice 147.62 351 *e*PKP2 **PKiKP** **19 50 38.0 -0.7**
PRU MLR MLR
comp=Z,1μm,21.3s
NEGRR Negrea 147.62 332 ⇑P **PKPdf** **19 50 34.7 +0.7**
SLCR Slobozia Conac 147.63 332 ⇓P **PKPab** **19 50 39.5 +0.5**
NKC Novy Kostel 147.65 354 *e*PKP **PKPab** **19 50 39.1 +0.2**
NKC AMS AMS 20 58 00.0
comp=Z,500nm,22.1s
NKC Novy Kostel 147.65 354 *e*PKP2 **PKPab** **19 50 39.1 +0.2**
NKC MLR MLR
comp=Z,500nm,22.1s
GOPC GO Pecny, Ondr 147.66 351 AMS AMS 20 55 30.0
comp=Z,800nm,21.9s
IZVR Izvoarele 147.67 332 ⇓P **PKiKP** **19 50 38.8 0.0**
PANC Panciu 147.68 333 ⇑P **PKPab** **19 50 39.4 +0.3**
BCLA Clavier 147.72 2 *d*PKP **PKiKP** **19 50 38.3 -0.6**
BGES Gesves 147.75 2 *d*PKP **PKPbc** **19 50 37.6 +0.7**
JURR Jurilovca 147.75 330 ⇑P **PKPbc** **19 50 36.8 -0.3**
ARCR ARCALIA 147.78 338 ⇑P **PKiKP** **19 50 38.6 -0.5**
CFR Carcaliu 147.78 332 ⇑P **PKPbc** **19 50 36.1 -1.1**
CFR Carcaliu 147.78 332 ⇑PKP2 **PKPbc** **19 50 36.1 -1.1**
BMRD Maredsous 147.81 3 *d*PKP **PKiKP** **19 50 38.1 -0.9**
VRI Vrincioaia 147.86 334 ⇑P **PKiKP** **19 50 38.8 -0.6**
VRI Vrincioaia 147.86 334 ⇑PKP2 **PKiKP** **19 50 38.8 -0.6**
PLOR Plostina 147.91 334 ⇓P **PKiKP** **19 50 39.6 +0.1**
PLOR Plostina 147.91 334 ⇓PKP2 **PKiKP** **19 50 39.6 +0.1**
VRAC Vranov 147.93 348 ⇓P **PKiKP** **19 50 38.6 -0.8**
VRAC Vranov 147.93 348 *e*PKP **PKPbc** **19 50 36.2 -1.3**
VRAC Vranov 147.93 348 ⇓PKP2 **PKiKP** **19 50 38.6 -0.8**
RCHB Rochefort 147.98 2 *d*PKP **PKiKP** **19 50 38.6 -0.8**
FURI Furi 147.99 258 IAMs_20 IAMs_20 20 50 39.2
comp=Z,547nm,20.0s
TURR Turia 148.00 335 ⇑P **PKiKP** **19 50 40.0 +0.3**
DOU Dourbes 148.01 3 *d*PKP **PKiKP** **19 50 39.1 -0.3**
OZUR 148.06 335 ⇑P **PKPbc** **19 50 38.9 +0.9**
COVR Voineasa-Covas 148.09 334 ⇓P **PKPbc** **19 50 37.1 -1.0**
BISRR Bisoca 148.12 333 ⇑P **PKiKP** **19 50 39.4 -0.6**
BOSR Bodos 148.13 335 ⇑P **PKiKP** **19 50 40.0 +0.1**
JAVC Velka Javorina 148.13 347 *e*PKP **PKPbc** **19 50 37.7 -0.4**
KRUC Moravsky 148.20 348 *e*PKP **PKPdf** **19 50 36.5 +1.6**
VYHS Vyhne 148.20 345 *e*PKP **PKPbc** **19 50 37.0 -1.2**
VYHS *e* 19 50 40.1
VYHS Vyhne 148.20 345 *e*PKP2 **PKPbc** **19 50 37.0 -1.2**
ZVC Zvikov 148.21 351 *e*PKP **PKiKP** **19 50 39.7 -0.2**
ZVC AMS AMS 20 56 00.0
comp=Z,400nm,20.7s
MESR Meseseni 148.22 339 ⇑P **PKiKP** **19 50 40.3 +0.3**
HARR Harsova 148.25 331 ⇑P **PKPbc** **19 50 38.1 -0.3**
HARR Harsova 148.25 331 ⇑PKP2 **PKPbc** **19 50 38.1 -0.3**
GRA1 Grafenberg Arr 148.30 355 IAMs_20 IAMs_20 20 58 22.2
comp=Z,484nm,20.0s
GRFO Grafenberg 148.30 355 PKPdf **PKPdf** **19 50 33.4 -1.7**
GRFO **PKPbc** **19 50 37.4 -1.0**
GRFO IAMs_20 IAMs_20 20 58 22.2
comp=Z,502nm,21.0s
GRFO Grafenberg 148.30 355 PKHKP PKPpre 19 50 33.4
GRFO 19 50 37.4
GRFO MLR MLR
comp=Z,500nm,21.0s
DOPR Dopca 148.32 335 ⇑P **PKPbc** **19 50 38.6 -0.1**
CJR Cluj-Napoca 148.37 338 ⇑P **PKiKP** **19 50 40.8 +0.4**
CJR Cluj-Napoca 148.37 338 ⇑PKP2 **PKiKP** **19 50 40.8 +0.4**
NEHR Nehoiu 148.39 334 ⇑P **PKPbc** **19 50 39.1 +0.2**
MFTR Murfatlar 148.41 330 ⇑P **PKiKP** **19 50 40.7 +0.2**
PSZ Piszkesteto 148.46 343 ⇑P **PKPbc** **19 50 38.2 -0.8**
PSZ Piszkesteto 148.46 343 IAMs_20 IAMs_20 20 58 17.5
comp=Z,586nm,21.0s
PSZ Piszkesteto 148.46 343 ⇑PKP2 **PKPbc** **19 50 38.2 -0.8**
MLR Muntele Rosu 148.49 334 ⇑P **PKPdf** **19 50 37.2 +1.5**
MLR Muntele Rosu 148.49 334 IAMs_20 IAMs_20 20 54 27.7
comp=Z,565nm,22.0s
MLR Muntele Rosu 148.49 334 PKPbc **PKPbc** **19 50 39.9 +0.6**
comp=Z,30nm,1.1s,baz=30,slow=2.4,SNR=27
WLF Walferdange 148.50 1 PKPdf **PKPdf** **19 50 33.7 -1.7**
WLF **PKPbc** **19 50 38.7 -0.2**
WLF IAMs_20 IAMs_20 20 59 07.7
comp=Z,549nm,21.0s
WLF Walferdange 148.50 1 *d*PKP **PKiKP** **19 50 40.6 +0.1**
WLF Walferdange 148.50 1 PKHKP PKPpre 19 50 33.7
WLF PKP **PKPbc** **19 50 38.7 -0.2**
BRTR Keskin Array B 148.50 319 **PKPdf** **19 50 34.0 -1.9**
BRTR PKPbc **PKPbc** **19 50 39.9 +0.4**
BRTR Keskin Array B 148.50 319 PKPbc **PKiKP** **19 50 40.6 -0.4**
comp=Z,23nm,0.8s,baz=127,slow=1.9,SNR=37
BRTR Keskin Array B 148.50 319 PKHKP PKPpre 19 50 34.0
BRTR 19 50 39.9
ISR Istrita 148.53 333 ⇑P **PKPbc** **19 50 38.6 -0.7**
ISR Istrita 148.53 333 ⇑PKP2 **PKPbc** **19 50 38.6 -0.7**
MARR Marisel-Cluj 148.57 339 ⇑P **PKPbc** **19 50 38.6 -0.8**
KHC Kasperske Hory 148.60 352 *e*PKP **PKPdf** **19 50 37.0 +1.4**
KHC *ex* x 19 50 40.2
KHC *e*SKP 19 54 14.3
KHC AMS AMS 20 56 20.0
comp=Z,900nm,18.4s
KHC Kasperske Hory 148.60 352 *e*PKP2 **PKiKP** **19 50 40.2 -0.6**
KHC *e* 19 54 14.3
KHC MLR MLR
comp=Z,900nm,18.4s
DRGR 148.61 339 ⇓P **PKiKP** **19 50 41.0 +0.1**
DRGR 148.61 339 ⇓PKP2 **PKiKP** **19 50 41.0 +0.1**
MODS Modra-Piesok 148.68 347 *e*PKP **PKPbc** **19 50 37.9 -1.6**
MODS *e* 19 50 42.0
MODS Modra-Piesok 148.68 347 *e*PKiKP **PKPbc** **19 50 37.9 -1.6**
MODS *e* 19 50 42.0
LODK Lodwar 148.70 246 **PKPdf** **19 50 37.9 +1.0**
CKRC Cesky Krumlov 148.79 351 *e*PKP **PKPbc** **19 50 38.5 -1.3**
CKRC *ex* x 19 50 41.1
CKRC AMS AMS 20 56 00.0
comp=Z,700nm,19.1s
CKRC Cesky Krumlov 148.79 351 *e*PKiKP **PKPbc** **19 50 38.5 -1.3**
CKRC *e* 19 50 41.1
CKRC MLR MLR
comp=Z,700nm,19.1s
GERES GERESS Array B 148.86 352 **PKPdf** **19 50 37.8 +1.7**
GERES GERESS Array B 148.86 352 PKPbc **PKiKP** **19 50 41.0 -0.4**
comp=Z,8.0nm,0.8s,baz=22,slow=4.3,SNR=32
GERES GERESS Array B 148.86 352 PKiKP **PKPdf** **19 50 37.8 +1.7**
ZST Bratislava 148.88 347 *e*PKP **PKPab** **19 50 43.0 -0.9**
ZST Bratislava 148.88 347 *e*PKP2 **PKPab** **19 50 43.0 -0.9**
VOIR 148.90 335 ⇓P **PKiKP** **19 50 42.0 +0.4**
VOIR 148.90 335 ⇓PKP2 **PKiKP** **19 50 42.0 +0.4**
BSZH Besenyszg 148.92 342 ⇑P **PKPbc** **19 50 39.7 -0.4**
ANTO Ankara 148.94 320 ⇑P **PKiKP** **19 50 41.9 0.0**
ANTO Ankara 148.94 320 **PKPdf** **19 50 38.0 +1.5**
ANTO Ankara 148.94 320 IAMs_20 IAMs_20 21 10 10.4
comp=Z,327nm,20.0s
ANTO Ankara 148.94 320 PKiKP **PKPdf** **19 50 38.0 +1.5**
ANTO MLR MLR
comp=Z,300nm,20.0s
PSN Preselentsi 148.95 330 *i* P **PKiKP** **19 50 42.4 +0.8**
SRO Srobarova 148.97 345 *e*PKP **PKiKP** **19 50 42.8 +1.3**
SRO Srobarova 148.97 345 *e*PKP2 **PKiKP** **19 50 42.8 +1.3**
SULR 149.01 333 ⇑P **PKiKP** **19 50 43.0 +1.3**
ARR Arges 149.12 336 ⇑P **PKiKP** **19 50 43.5 +1.5**
DEV Deva 149.33 338 ⇑P **PKiKP** **19 50 42.9 +0.6**
DEV Deva 149.33 338 ⇑PKP2 **PKiKP** **19 50 42.9 +0.6**
STU Stuttgart 149.35 357 IAMs_20 IAMs_20 20 56 11.0
comp=Z,484nm,20.0s
LOT Lotru 149.39 337 ⇓P **PKPbc** **19 50 40.9 -0.5**
CONA Conrad Observa 149.39 348 *e*PKiKP **PKiKP** **19 50 43.0 +0.4**
comp=Z,53nm,1.2s,SNR=41
RONA Rosalia, Austr 149.52 348 *e*PKiKP **PKiKP** **19 50 43.2 +0.5**
comp=Z,37nm,1.0s,SNR=12
NEF NEVSHA 149.65 330 *i* P **PKiKP** **19 50 43.0 -0.1**
PRD Provadia 149.66 330 *i* P **PKPbc** **19 50 42.2 +0.1**
HUMR Humele 149.67 334 ⇑P **PKPdf** **19 50 39.7 +2.3**
MOA Molln 149.75 350 *i* PKiKP **PKiKP** **19 50 43.4 +0.3**
comp=Z,12nm,0.8s
GZR Gura Zlata 149.80 338 ⇑P **PKPdf** **19 50 39.3 +1.6**
GZR Gura Zlata 149.80 338 ⇑PKiKP **PKPdf** **19 50 39.3 +1.6**
BFO Black Forest 149.82 358 PKPdf **PKPdf** **19 50 36.0 -1.6**
BFO **PKiKP** **19 50 43.0 -0.3**
BFO Black Forest 149.82 358 PKiKP **PKPdf** **19 50 36.0 -1.6**
BFO PKP **PKiKP** **19 50 43.0 -0.3**
ECH Echery 149.96 360 IAMs_20 IAMs_20 20 52 30.2
comp=Z,519nm,21.0s
BIOA Bad Ischl, Aus 150.00 351 *i* PKiKP **PKiKP** **19 50 43.8 +0.1**
comp=Z,26nm,1.3s,SNR=6.3
BZS Buzias 150.01 339 ⇑P **PKPdf** **19 50 39.5 +1.6**
BZS Buzias 150.01 339 ⇑PKHKP PKPpre 19 50 39.5
ARSA Arzberg 150.10 348 *i* PKiKP **PKiKP** **19 50 44.1 +0.1**
comp=Z,19nm,1.1s,SNR=5.4
SZH Strazhitsa 150.25 332 *i* P **PKiKP** **19 50 44.0 -0.3**
MORH Mrgy, Hungar 150.37 344 ⇑P **PKPdf** **19 50 40.0 +1.6**
HERR Herculane 150.37 338 ⇑P **PKPbc** **19 50 41.2 -2.6**
LESA Schwarzleotal 150.39 352 *e*PKiKP **PKiKP** **19 50 44.8 +0.2**
comp=Z,17nm,1.2s
RETA Reutte 150.53 355 *e*PKiKP **PKiKP** **19 50 45.3 +0.5**
comp=Z,26nm,1.0s,SNR=11
ELND Elena 150.56 331 ⇓P **PKPdf** **19 50 39.5 +0.6**
MMAI Mount Meron Ar 150.56 306 PKPbc **PKiKP** **19 50 46.4 +1.0**
comp=Z,59nm,1.0s,baz=64,slow=3.8,SNR=38
JMB Yambol 150.59 330 *i* P **PKiKP** **19 50 45.3 +0.3**
WATA Walderalm 150.60 354 *e*PKiKP **PKiKP** **19 50 45.3 +0.2**
comp=Z,24nm,0.8s,SNR=13
KBA Koelnbreinsper 150.64 351 *e*PKiKP **PKiKP** **19 50 45.1 -0.1**
comp=Z,8.0nm,0.8s,SNR=6.5
MOTA Moosalm 150.64 354 *i* PKiKP **PKiKP** **19 50 45.5 +0.3**
comp=Z,43nm,1.1s
WTTA Wattenberg 150.67 354 *e*PKiKP **PKiKP** **19 50 45.8 +0.5**
comp=Z,37nm,0.7s,SNR=14
MDVR Moldovita 150.71 338 ⇑P **PKPdf** **19 50 37.9 -1.2**
SQTA Sankt Quirin 150.75 354 *e*PKiKP **PKiKP** **19 50 46.0 +0.6**
comp=Z,31nm,0.9s,SNR=11
DAVA Damuels 150.80 356 *e*PKiKP **PKiKP** **19 50 46.2 +0.7**
comp=Z,51nm,1.1s,SNR=13
SSF Saint Saulge 150.96 5 *e*PKiKP **PKPdf** **19 50 41.2 +1.8**
SSF pmax pmax
comp=Z,61nm,0.9s
VALD Valchedram 150.99 335 *i* P **PKPdf** **19 50 41.0 +1.5**
FETA Feichten 151.00 355 *e*PKiKP **PKiKP** **19 50 46.6 +0.7**
comp=Z,45nm,1.0s
FRGS Fruska Gora 151.00 341 ⇓P **PKPdf** **19 50 41.3 +1.8**
FRGS Fruska Gora 151.00 341 *e*P **PKPdf** **19 50 40.9 +1.4**
OBKA Obir 151.00 349 *e*PKiKP **PKiKP** **19 50 45.8 -0.1**
comp=Z,10nm,0.8s
OBKA Obir 151.00 349 *e*P **PKPdf** **19 50 40.5 +0.9**
MYKA Terra Mystica 151.03 351 *e*PKiKP **PKPbc** **19 50 45.7 +0.3**
comp=Z,18nm,0.7s,SNR=7.3
GHAJ Ghor Haditha 151.07 302 IAMs_20 IAMs_20 20 57 50.3
comp=Z,489nm,22.0s
ABTA Abfaltersbach 151.08 352 *e*PKiKP **PKiKP** **19 50 46.1 0.0**
comp=Z,33nm,0.7s
MPEP Malo Peshtene 151.14 334 *i* P **PKiKP** **19 50 46.6 +0.4**
CSS Mathiatis 151.25 311 IAMs_20 IAMs_20 20 59 41.8
comp=Z,387nm,22.0s
BLKB Belogradchik 151.35 336 ⇑P **PKPdf** **19 50 39.9 -0.2**
DIM Dimitrovgrad 151.38 330 *i* P **PKiKP** **19 50 47.4 +0.7**
FUORN Ofenpass-Fuorn 151.43 355 IAMs_20 IAMs_20 21 00 43.0
comp=Z,490nm,21.0s
CRES Cresnjev 151.48 348 *e*P **PKPdf** **19 50 39.3 -0.9**
ISP Isparta 151.59 319 IAMs_20 IAMs_20 20 59 36.4
comp=Z,395nm,21.0s
TEKS Tekeris 151.63 341 *e*P **PKPdf** **19 50 40.2 -0.3**
TUE Stuetta 151.64 357 PKPdf **PKPdf** **19 50 40.1 -0.6**
TUE PKPbc **PKiKP** **19 50 47.6 +0.2**
TUE IAMs_20 IAMs_20 20 56 16.5
comp=Z,549nm,20.0s
PLD Plovdiv 151.69 332 *i* P **PKiKP** **19 50 48.6 +1.3**
BOVS Bovan 151.70 337 ⇑P **PKPdf** **19 50 42.8 +2.2**
CEY Cerknica 151.76 349 *e*P **PKPdf** **19 50 41.2 +0.5**
KDZ Kurdzhali 151.82 330 *i* P **PKiKP** **19 50 47.8 +0.2**
BOJS Bojanci 151.83 348 *e*P **PKPdf** **19 50 41.7 +1.0**
A051A Mrakovica 151.93 345 *e*P **PKPdf** **19 50 42.3 +1.3**
VTS Vitosha 151.96 334 *i* P **PKiKP** **19 50 50.8 +2.7**
RZN Rozhen 152.05 331 *i* P **PKiKP** **19 50 48.3 0.0**
RDO Rodhopi 152.09 329 PKPdf **PKPdf** **19 50 40.0 -1.3**
RDO PKPbc **PKPbc** **19 50 47.8 0.0**
EIL Elat 152.11 300 PKPbc **PKiKP** **19 50 49.7 +1.1**
comp=Z,9.8nm,0.8s,baz=142,slow=0.9,SNR=10
BLY Banja Luka 152.11 344 *e*P **PKPbc** **19 50 47.9 +0.1**
HAPS Han Pijesak,Bi 152.23 341 *e*P **PKPdf** **19 50 42.2 +0.7**
BBLS Lazi&#263i 152.29 341 *e*P **PKPdf** **19 50 43.6 +2.0**
MGRS Mrkonjic Grad 152.44 344 *e*P **PKiKP** **19 50 50.2 +1.3**
A050A Klekovaca 152.52 345 *e*P **PKPdf** **19 50 40.2 -1.7**
MMB Musomishta 152.61 332 *i* P **PKPbc** **19 50 49.0 -0.1**
SJES Sjenica 152.64 339 *e*P **PKPdf** **19 50 41.6 -0.6**
KKB Krupnik 152.65 333 *i* P **PKiKP** **19 50 49.3 0.0**
LPL La Plagne 152.66 1 *e*PKiKP **PKPdf** **19 50 44.4 +2.1**
LPL pmax pmax
comp=Z,9.0nm,0.9s
PGAV Gavieira, Arco 152.84 26 *e*PKPbc **PKiKP** **19 50 52.1 +2.3**
PGAV Gavieira, Arco 152.84 26 *e*LR LR 20 49 05.2
comp=Z,752nm,20.0s
BNI Bardonecchia 153.12 1 PKPdf **PKPdf** **19 50 40.8 -2.0**
BNI PKPbc **sPKPdf** **19 50 51.9 -0.2**
BNI PKPab **PKPab** **19 51 02.4 +0.8**
BNI Bardonecchia 153.12 1 PKiKP **PKPdf** **19 50 40.8 -2.0**
BNI 19 50 51.9

BNI								19 51 02.4	
BNI					MLR	MLR			
	comp=Z,600nm,20.0s								
PCAB	**Cabril**	**153.15**	**26**	*e*PKPbc	**PKiKP**		**19 50 51.7**	**+1.3**	
VAY	**Valandovo**	**153.31**	**333**	*i* P	**PKPdf**		**19 50 39.2**	**-3.8**	
POLO	**Lamas de Olo**	**153.53**	**26**	*e*PKPbc	**PKiKP**		**19 50 52.6**	**+1.3**	
PBRG	**Braganca**	**153.58**	**24**	*e*PKPbc	**PKiKP**		**19 50 52.3**	**+1.0**	
PBRG	**Braganca**	**153.58**	**24**	*e*PKPab	**PKPab**		**19 51 05.7**	**+2.1**	
PDG	**Podgorica**	**153.62**	**339**		**PKPdf**		**19 50 41.8**	**-1.6**	
PDG					**PKPab**		**19 51 03.0**	**-0.6**	
PDG				IAMs_20	IAMs_20		20 57 06.1		
	comp=Z,492nm,21.0s								
PDG	**Podgorica**	**153.62**	**339**	*e*P	**PKPbc**		**19 50 51.0**	**-0.2**	
PVRL	**Vila Real**	**153.64**	**26**	*e*PKPbc	**PKiKP**		**19 50 53.0**	**+1.5**	
STON	**Ston**	**153.71**	**342**	*e*P	**PKPdf**		**19 50 44.2**	**+0.7**	
DRME	**Dracevica, Mon**	**153.86**	**339**	*e*P	**PKPdf**		**19 50 44.7**	**+0.9**	
MVO	**Moncorvo**	**154.01**	**25**	*e*PKPbc	**PKiKP**		**19 50 53.8**	**+1.5**	
MVO	**Moncorvo**	**154.01**	**25**	*e*LR	LR		20 49 35.5		
	comp=Z,617nm,22.0s								
PVIS	**Viseu**	**154.03**	**27**	*e*PKPbc	**PKiKP**		**19 50 53.5**	**+1.2**	
PVIS	**Viseu**	**154.03**	**27**	*e*PKPab	**PKPab**		**19 51 06.7**	**+1.1**	
OHR	**Ohrid**	**154.21**	**336**	*i* P	**PKPdf**		**19 50 46.1**	**+1.7**	
PCAS	**Casmilo, Conde**	**154.31**	**28**	*e*PKPbc	**PKiKP**		**19 50 54.3**	**+1.5**	
PCAS	**Casmilo, Conde**	**154.31**	**28**	*e*PKPab	**PKPab**		**19 51 08.8**	**+2.1**	
TIR	**Tirane**	**154.36**	**337**	IAMs_20	IAMs_20		21 00 11.9		
	comp=Z,468nm,20.0s								
MTE	**Manteigas**	**154.44**	**27**	*e*PKPbc	**PKiKP**		**19 50 54.9**	**+1.7**	
MTE	**Manteigas**	**154.44**	**27**	*e*PKPab	**PKPab**		**19 51 10.7**	**+3.3**	
MTE	**Manteigas**	**154.44**	**27**	*e*LR	LR		20 49 59.2		
	comp=Z,574nm,20.0s								
PCBR	**Castelo Branco**	**154.93**	**27**	*e*PKPbc	**PKiKP**		**19 50 55.7**	**+1.6**	
CEST	**Esterri de Car**	**155.08**	**10**		**PKPdf**		**19 50 44.5**	**-1.2**	
CEST					**PKPab**		**19 51 10.4**	**+0.4**	
PMTG	**Montargil**	**155.22**	**29**	*e*PKPbc	PKPdf		19 50 56.9	+11	
AGG	**Agios Georgios**	**155.29**	**331**		**PKPdf**		**19 50 44.7**	**-1.3**	
AGG	**Agios Georgios**	**155.29**	**331**	PKIKP	**PKPdf**		**19 50 44.7**	**-1.3**	
PMRV	**Marv??o**	**155.31**	**28**	*e*PKPbc	PKPdf		19 50 57.3	+11	
PMRV	**Marv??o**	**155.31**	**28**	*e*LR	LR		20 48 31.4		
	comp=Z,438nm,20.0s								
INTR	**Introdacqua**	**155.46**	**348**		**PKPdf**		**19 50 44.7**	**-1.5**	
EVO	**Evora**	**155.75**	**30**	*e*PKPab	**PKPab**		**19 51 14.8**	**+1.9**	
PNCL	**Nicolau / Gran**	**155.83**	**31**	*e*PKPab	**PKPab**		**19 51 15.1**	**+1.8**	
MESJ	**Messejana**	**156.20**	**31**	*e*PKPdf	**PKPdf**		**19 50 47.7**	**+0.5**	
MESJ				*e*PP	**PP**		**19 54 52.6**	**+0.9**	
MESJ				IAMs_20	IAMs_20		20 51 55.8		
	comp=Z,442nm,19.0s								
MESJ	**Messejana**	**156.20**	**31**	*e*PKIKP	**PKPdf**		**19 50 47.7**	**+0.5**	
MESJ				*e*			19 54 52.6		
ESDC	**Sonseca Array**	**156.46**	**22**	PKPdf	**PKPdf**		**19 50 46.2**	**-1.3**	
ESDC	**Sonseca Array**	**156.46**	**22**	PKP	**PKPdf**		**19 50 48.5**	**+1.0**	
	comp=Z,1.4nm,1.1s,baz=338,slow=3.7,SNR=5.7								
ESDC				PKPbc	**sPKPdf**		**19 50 59.1**	**+2.6**	
	comp=Z,1.4nm,0.6s,baz=328,slow=2.7,SNR=13								
ESDC				PKPab	**PKPab**		**19 51 15.3**	**-0.7**	
	comp=Z,2.2nm,1.0s,baz=328,slow=4.2,SNR=6.4								
IDI	**Anoyia**	**156.69**	**321**	PKP	**PKPdf**		**19 50 46.1**	**-1.9**	
	comp=Z,9.0nm,1.1s,baz=37,slow=3.2,SNR=2.8								
PVAQ	**Vaqueiros**	**156.79**	**31**	*e*LR	LR		20 49 07.1		
	comp=Z,437nm,22.0s								
CUC	**Castrocucco**	**156.91**	**343**	PKPdf	**PKPdf**		**19 50 46.4**	**-1.6**	
CUC					**PKPab**		**19 51 15.9**	**-1.9**	
CUC				IAMs_20	IAMs_20		21 00 21.9		
	comp=Z,527nm,22.0s								
TIP	**Timpagrande**	**157.37**	**340**		**PKPdf**		**19 50 47.1**	**-1.6**	
TIP					**PKPab**		**19 51 18.4**	**-1.5**	
TIP				IAMs_20	IAMs_20		20 59 19.3		
	comp=Z,546nm,22.0s								
MAHO	**Mahon**	**158.14**	**6**	IAMs_20	IAMs_20		20 59 59.1		
	comp=Z,441nm,21.0s								
KEST	**Kesra**	**162.32**	**354**	PKP	**PKPdf**		**19 50 54.9**	**+0.5**	
	comp=Z,1.1nm,0.6s,baz=60,slow=3.5,SNR=2.0								
KEST				PKPab	**PKPab**		**19 51 42.5**	**+1.0**	
	comp=Z,3.8nm,0.8s,baz=265,slow=12,SNR=4.1								
TOA0	**Torodi Ar. Sit**	**172.85**	**133**		**PKPdf**		**19 51 01.6**	**-0.7**	
TOA0					**PKPab**		**19 52 29.6**	**+1.1**	
TORD	**Torodi Ar. Bea**	**172.85**	**133**		**PKPdf**		**19 51 01.4**	**-1.0**	
TORD					**PKPab**		**19 52 29.6**	**+1.1**	
TORD	**Torodi Ar. Bea**	**172.85**	**133**	PKP	**PKPdf**		**19 51 02.9**	**+0.6**	
	comp=Z,5.5nm,0.9s,baz=6.2,slow=2.7,SNR=19								
TORD				PKPab	**PKPab**		**19 52 31.8**	**+3.2**	
	comp=Z,3.8nm,0.8s,baz=276,slow=4.3,SNR=9.9								

*DJA **22** 19:38:24.4±0.8,9°S±4°×11°1E±°, h35km±17km, M5.0/25, mB5.5/7, mb5.0/8, MLv5.1/25, Mw(mB)5.0/7, MwMwp5.4/1, Mwp5.6/1*
*NEIC **22** 19:38:25.6±2.4,9°16S±0°07×110°61E±0°06, h44km±7km, mb4.5/17, Error ellipse: s-maj=11.5km s-min=6.2km az=215.0*
*IDC **22** 19:38:27.4±2.7,9°03S×110°73E, h58km±24km, mb4.0/13, mbtmp4.3/16, ML4.3/3, MS3.6/4, Error ellipse: s-maj=22.9km s-min=13.5km az=62.0*

ISC 22 19:38:23.4±0.4,**9°39S**±0°05×**110°50E**±0°04,**h35**km,**n92,**
σ2**s25**/97,**mb4.4**/23,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UGM	**Wanagama**	**1.47**	**1**	P	**Pn**	**19 38 47.6**	**+0.2**
UGM	**Wanagama**	**1.47**	**1**		**Pn**	**19 38 47.0**	**-0.5**
UGM				Sn	**Sn**	**19 39 01.0**	**-4.4**
UGM	**Wanagama**	**1.47**	**1**	P	**Pn**	**19 38 47.4**	**0.0**
YOGI	**Yogyakarta**	**1.57**	**353**	P	**Pn**	**19 38 49.1**	**+0.2**
PWJI	**Pagerwojo**	**1.87**	**44**	P	**Pn**	**19 38 53.2**	**+0.2**
NGJI	**Ngawi**	**2.22**	**26**	P	**Pn**	**19 39 00.9**	**+3.1**
NGJI				S	**Sn**	**19 39 29.0**	**+4.9**
SMRI	**Semarang**	**2.32**	**359**	P	**Pn**	**19 39 01.9**	**+2.7**
SMRI	**Semarang**	**2.32**	**359**		**Pn**	**19 39 01.5**	**+2.3**
SMRI	**Semarang**	**2.32**	**359**	P	**Pn**	**19 39 01.7**	**+2.5**
SMRI				S	**Sn**	**19 39 30.1**	**+3.5**
CMJI	**Cimerak**	**2.58**	**308**	P	**Pn**	**19 39 04.0**	**+1.3**
CMJI				S	**Sn**	**19 39 34.8**	**+2.0**
GRJI	**Gresik**	**3.15**	**39**	P	**Pn**	**19 39 12.1**	**+1.6**
GRJI				S	**Sn**	**19 39 48.1**	**+1.2**
BBJI	**Bungbulang**	**3.40**	**304**	P	**Pn**	**19 39 16.1**	**+2.0**
BLJI	**Banyuglugur**	**3.47**	**62**	P	**Pn**	**19 39 16.9**	**+1.9**
JAGI	**Jajag, Banyuwa**	**3.73**	**76**	P	**Pn**	**19 39 19.7**	**+1.2**
JAGI	**Jajag, Banyuwa**	**3.73**	**76**		**Pn**	**19 39 19.2**	**+0.6**
JAGI				Sn	**Sn**	**19 39 58.1**	**-3.1**
JAGI	**Jajag, Banyuwa**	**3.73**	**76**	P	**Pn**	**19 39 19.7**	**+1.2**
JAGI				S	**Sn**	**19 40 03.2**	**+2.0**
LEM	**Lembang**	**3.82**	**312**	P	**Pn**	**19 39 24.1**	**+4.2**
	26nm,0.3s,baz=48,slow=7.5,SNR=21						
LEM				S	**Sn**	**19 40 04.0**	**+0.3**
	211nm,0.7s,baz=215,slow=18,SNR=4.9						
LEM				LR	LR	19 41 07.9	
	comp=Z,782nm,19.3s,baz=175,slow=42 77nm,0.5s						
LEM	**Lembang**	**3.82**	**312**	P	**Pn**	**19 39 23.5**	**+3.6**
CNJI	**Cibinong**	**3.92**	**302**	P	**Pn**	**19 39 23.6**	**+2.5**
ABJI	**Asem Bagus**	**4.02**	**67**	P	**Pn**	**19 39 24.3**	**+1.7**
BWJI	**Bawean**	**4.12**	**32**	P	**Pn**	**19 39 24.9**	**+1.0**
SKJI	**Sukabumi**	**4.56**	**301**	P	**Pn**	**19 39 31.5**	**+1.5**
DBJI	**Dramaga**	**4.66**	**307**	P	**Pn**	**19 39 33.3**	**+2.0**
DNP	**Denpasar**	**4.71**	**82**	P	**Pn**	**19 39 33.8**	**+1.7**
SRBI	**Singaraja**	**4.84**	**75**	P	**Pn**	**19 39 35.8**	**+2.0**
XMIS	**Christmas Isla**	**4.89**	**257**	P	**Pn**	**19 39 35.9**	**+1.3**
XMIS	**Christmas Isla**	**4.89**	**257**	Pn	**Pn**	**19 39 35.7**	**+1.1**
XMIS				Sn	**Sn**	**19 40 26.7**	**-3.4**
TNG	**Tangerang**	**4.97**	**310**	P	**Pn**	**19 39 37.0**	**+1.3**
TNG				P	**Pn**	**19 39 36.0**	**+0.3**
	2µm,0.4s,30µm9.6nm						
TWSI	**Taliwang, Sumb**	**6.34**	**85**	P	**Pn**	**19 39 56.4**	**+1.9**
	103nm,0.5s,3µm0.7nm						
KASI	**Kota Agung**	**7.08**	**302**	P	**Pn**	**19 40 07.7**	**+3.1**
	38nm,1.1s,0.4nm						
PLAI	**Plampang**	**7.21**	**86**	P	**Pn**	**19 40 08.1**	**+1.6**
PLAI	**Plampang**	**7.21**	**86**	P	**Pn**	**19 40 08.5**	**+2.0**
	106nm,0.5s,2µm18µm0.6nm						
LWLI	**Liwa**	**7.72**	**304**	P	**Pn**	**19 40 15.6**	**+2.1**
	84nm,0.6s,2µm0.7nm						
PPBI	**Pangkal Pinang**	**8.38**	**329**	P	**Pn**	**19 40 26.2**	**+3.6**
	25nm,0.7s						
MNAI	**Manna**	**9.00**	**303**	P	**Pn**	**19 40 33.3**	**+2.3**
MNAI	**Manna**	**9.00**	**303**	Pn	**Pn**	**19 40 33.1**	**+2.2**
MNAI				Sn	**Sn**	**19 42 05.6**	**-5.5**
MNAI	**Manna**	**9.00**	**303**	P	**Pn**	**19 40 35.2**	**+4.2**
KAPI	**Kappang**	**10.16**	**65**	Pn	**Pn**	**19 40 46.5**	**-0.4**
KAPI	**Kappang**	**10.16**	**65**	P	**Pn**	**19 40 45.7**	**-1.2**
	0.5nm,0.3s,baz=55,slow=21,SNR=1.9						
KAPI				LR	LR	19 45 16.0	
	comp=Z,381nm,19.5s,baz=324,slow=42 3.1nm,0.2s						

BKB	**Balikpapan**	**10.28**	**39**	Pn	**Pn**		**19 40 49.1**	**+0.5**	
KSM	**Kuching**	**10.79**	**359**	P	**Pn**		**19 40 57.5**	**+2.0**	
EDFI	**Ende, Flores**	**11.07**	**88**	P	**Pn**		**19 40 57.6**	**-2.0**	
	42nm,1.0s,687nm								
MMRI	**Maumere**	**11.62**	**87**	P	**Pn**		**19 41 07.5**	**+0.5**	
MMRI	**Maumere**	**11.62**	**87**	Pn	**Pn**		**19 41 04.9**	**-2.1**	
BATI	**Baumata**	**13.00**	**95**	P	**Pn**		**19 41 25.2**	**-0.6**	
	8.3nm,0.3s,baz=278,slow=15,SNR=8.6								
BATI				S	**Sn**		**19 43 44.2**	**-5.2**	
	28nm,0.5s,baz=340,slow=19,SNR=5.7 35nm,0.6s								
SOEI	**Soe**	**13.59**	**93**	Pn	**Pn**		**19 41 34.9**	**+1.0**	
GIRL	**Giralia**	**13.66**	**165**	Pn	**Pn**		**19 41 34.2**	**-0.5**	
GSI	**Gunungsitoli**	**16.68**	**309**	Pn	**Pn**		**19 42 08.8**	**-5.9**	
SANI	**Sanana**	**17.04**	**66**	P	**P**		**19 42 21.8**	**+1.1**	
TNTI	**Ternate**	**19.60**	**60**		**P**		**19 42 47.9**	**-0.9**	
MTN	**Manton Dam**	**20.54**	**102**	P	Pn		19 43 00.8	-0.6	
MTN	**Manton Dam**	**20.54**	**102**		**P**		**19 42 58.3**	**-0.8**	
DAV	**Davao City (W)**	**22.21**	**43**	LR	LR		19 52 21.0		
	comp=Z,175nm,20.6s,baz=186,slow=38								
FAKI	**Fak Fak**	**22.55**	**75**	P	**P**		**19 43 21.5**	**+0.7**	
FAKI	**Fak Fak**	**22.55**	**75**	P	**P**		**19 43 16.0**	**-4.8**	
WRA	**Warramunga Arr**	**25.31**	**117**	P	**P**		**19 43 44.8**	**-2.2**	
	0.7nm,0.2s,baz=292,slow=11,SNR=4.8								
ASAR	**Alice Springs**	**26.50**	**125**	P	**P**		**19 44 00.1**	**+2.3**	
	2.7nm,0.8s,baz=304,slow=9.6,SNR=9.6 2.7nm,0.8s								
COEN	**Coen**	**32.31**	**101**	P	**P**		**19 44 51.0**	**+1.6**	
BBOO	**Buckleboo**	**33.17**	**138**	P	**P**		**19 44 58.0**	**+1.2**	
BBOO				IAmb	IAmb		19 45 04.4		
	comp=Z,16nm,1.5s								
PALK	**Pallekele**	**33.98**	**298**	LR	LR		19 59 25.4		
	comp=Z,119nm,19.3s,baz=265,slow=37								
TNCH	**TengChong**	**36.14**	**341**	P	P		19 45 29.9	+7.2	
TNCH				pP	pP		19 45 32.8	+0.7	
TNCH				pmax	pmax				
	comp=Z,5.0nm,1.9s								
STKA	**Stephens Creek**	**36.48**	**132**	P	**P**		**19 45 28.5**	**+3.1**	
STKA	**Stephens Creek**	**36.48**	**132**	P	**P**		**19 45 28.6**	**+3.1**	
	comp=Z,2.8nm,0.5s,baz=304,slow=8.5,SNR=7.1								
	comp=Z,2.8nm,0.5s								
H08S2	**Diego Garcia H**	**37.61**	**270**	T	T		20 25 27.7		
	baz=95,slow=75								
H08S3	**Diego Garcia H**	**37.62**	**270**	T	T		20 25 30.1		
	baz=95,slow=75								
H08S1	**Diego Carcia H**	**37.63**	**270**	T	T		20 25 32.9		
	baz=95,slow=75								
MJAR	**Matsushiro Arr**	**52.59**	**28**	P	**P**		**19 47 32.6**	**-1.2**	
	comp=Z,2.1nm,0.9s,baz=198,slow=7.3,SNR=3.4								
	comp=Z,2.1nm,0.9s								
USA0B	**Ussuriysk Arra**	**56.78**	**18**	P	**P**		**19 48 02.8**	**-1.3**	
USA0B				IAmb	IAmb		19 48 04.4		
	comp=Z,7.1nm,0.8s								
USRK	**Ussuriysk Ar.**	**56.78**	**18**	P	**P**		**19 48 02.5**	**-1.6**	
USRK	**Ussuriysk Ar.**	**56.78**	**18**	P	**P**		**19 48 03.1**	**-1.0**	
	comp=Z,4.8nm,0.8s,baz=197,slow=4.8,SNR=12								
	comp=Z,4.8nm,0.8s								
SONM	**Songino Array**	**57.08**	**357**	P	**P**		**19 48 04.5**	**-1.8**	
	comp=Z,0.8nm,0.4s,baz=179,slow=6.9,SNR=4.7								
	comp=Z,0.8nm,0.4s								
GAR	**Garm**	**60.93**	**325**	P	**P**		**19 48 31.4**	**-1.8**	
GAR				IAmb	IAmb		19 48 38.9		
	comp=Z,2.5nm,0.6s								
HEH	**HeiHe**	**61.20**	**12**	*e*P	**P**		**19 48 33.6**	**-1.0**	
HEH				pmax	pmax				
	comp=Z,8.0nm,0.8s								
KURBB	**Kurchatov Arra**	**65.90**	**338**	P	**P**		**19 49 05.1**	**-0.5**	
	comp=Z,0.8nm,0.5s,baz=157,slow=5.3,SNR=9.3								
	comp=Z,0.8nm,0.5s								
KURK	**Kurchatov**	**65.94**	**338**	P	**P**		**19 49 05.5**	**-0.4**	
KURK				IAmb	IAmb		19 49 06.4		
	comp=Z,2.9nm,0.7s								
ZAA0	**Zalesovo Array**	**66.73**	**344**	P	**P**		**19 49 09.9**	**-1.0**	
ZAA0				IAmb	IAmb		19 49 28.2		
	comp=Z,3.6nm,0.8s								
ZALV	**Zalesovo Beam**	**66.73**	**344**	P	**P**		**19 49 09.9**	**-1.0**	
ZALV	**Zalesovo Beam**	**66.73**	**344**	P	**P**		**19 49 10.5**	**-0.4**	
	comp=Z,2.7nm,0.4s,baz=139,slow=3.9,SNR=18								
	comp=Z,2.7nm,0.4s								
GEYT	**Alibeck**	**67.84**	**317**	P	**P**		**19 49 18.8**	**+0.4**	
GEYT				IAmb	IAmb		19 49 20.0		
	comp=Z,8.9nm,1.1s								
GEYT	**Alibeck**	**67.84**	**317**	P	**P**		**19 49 19.4**	**+1.1**	
	comp=Z,4.0nm,0.7s,baz=167,slow=7.3,SNR=11								
	comp=Z,4.0nm,0.7s								
GYA0B	**ALIBECK ARRAY**	**67.84**	**317**	P	**P**		**19 49 18.8**	**+0.4**	
BVAR	**Borovoye Array**	**70.93**	**336**	P	**P**		**19 49 36.7**	**-0.3**	
	comp=Z,2.2nm,0.6s,baz=148,slow=6.7,SNR=12								
	comp=Z,2.2nm,0.6s								
RAYN	**Ar Rayn**	**71.42**	**299**	P	**P**		**19 49 41.5**	**+0.8**	
RAYN				IAmb	IAmb		19 49 42.2		
	comp=Z,2.4nm,0.5s								
VNDA	**Vanda**	**73.01**	**170**	P	**P**		**19 49 51.5**	**+2.3**	
VNDA	**Vanda**	**73.01**	**170**	P	**P**		**19 49 51.1**	**+1.9**	
	comp=Z,1.2nm,0.9s,baz=307,slow=6.3,SNR=5.5								
	comp=Z,1.2nm,0.9s								
PETK	**Petropavlovsk-**	**74.04**	**27**	P	**P**		**19 49 54.3**	**-1.3**	
	comp=Z,3.3nm,0.9s,baz=250,slow=4.2,SNR=2.1								
	comp=Z,3.3nm,0.9s								
QSPA	**South Pole Qui**	**80.62**	**180**	P	**P**		**19 50 34.6**	**+2.2**	
QSPA				IAmb	IAmb		19 50 36.7		
	comp=Z,5.8nm,1.1s								
QSPA	**South Pole Qui**	**80.62**	**180**	P	**P**		**19 50 35.1**	**+2.7**	
	comp=Z,1.7nm,0.6s,baz=312,slow=0.9,SNR=6.1								
	comp=Z,1.7nm,0.6s								
TIXI	**Tiksi**	**81.78**	**6**	P	**P**		**19 50 36.4**	**-1.8**	
TIXI				IAmb	IAmb		19 50 47.7		
	comp=Z,6.7nm,1.4s								
SNAA	**Sanae**	**88.28**	**197**	P	**P**		**19 51 14.3**	**+3.3**	
	comp=Z,0.8nm,0.5s,baz=156,slow=6.2,SNR=7.9								
	comp=Z,0.8nm,0.5s								
YKA	**Yellowknife Ar**	**117.83**	**22**	PKP	**PKiKP**		**19 57 06.6**	**+0.7**	
	comp=Z,0.2nm,0.7s,baz=324,slow=3.1,SNR=2.2								
BDFB	**Brasilia**	**147.27**	**221**	PKPbc	**PKiKP**		**19 58 07.5**	**+0.8**	
	comp=Z,1.1nm,0.4s,baz=133,slow=2.9,SNR=5.0								

*NEIC **22** 19:45:52.3±0.7, 19°435N±0°009×155°270W±0°007, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=240.0*

HVO 22 19:45:51.8±0.9,**19°422N**±0°007×**155°264W**±0°006,
h0km±3km,**ML2.7**/26,**ML2.3**/32(NEIC),**Error ellipse:**
s-maj=1.1km s-min=0.7km az=148.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATHI	**Halema'uma'u T**	**0.00**	**63**		Pg	19 45 52.2	+0.2
SBLHI	**Steaming Bluff**	**0.01**	**321**		Pg	19 45 52.6	+0.6
BYL	**Byron's Ledge**	**0.01**	**161**		Pg	19 45 52.6	+0.5
UWB	**Uwekahuna B**	**0.01**	**282**		Pg	19 45 52.8	+0.6
NPH	**North Pit**	**0.02**	**239**		Pg	19 45 53.5	+1.3
OBL	**Observatory Le**	**0.02**	**258**		Pg	19 45 53.5	+1.2
KKO	**Keanakako`i**	**0.02**	**186**		Pg	19 45 53.7	+1.4
RIM	**Rim**	**0.03**	**201**		Pg	19 45 53.8	+1.4
UWE	**Uwekahuna**	**0.03**	**269**		Pg	19 45 53.0	+0.7
RSD	**Rainshed**	**0.04**	**342**		Pg	19 45 53.4	+0.7
RSD				IAML		19 45 53.9	
	comp=N,5µm,0.4s						
SDHHI	**Sand Hill**	**0.04**	**222**		Pg	19 45 53.6	+0.9
PUH	**Pauahi**	**0.07**	**137**		Pg	19 45 54.2	+1.1
PUH				IAML		19 45 55.2	
	comp=N,2µm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**115**		Pg	19 45 54.7	+1.0
HLP	**Hilina Pali**	**0.13**	**199**		Pg	19 45 55.5	+1.1
HLP				IAML		19 45 58.9	
	comp=E,1µm,0.7s						
MLH	**Mauna Loa**	**0.14**	**302**		Pg	19 45 55.4	+0.9
MLH					Sg	19 45 59.0	+2.7
STCH	**Steam Cracks**	**0.14**	**105**		Pg	19 45 55.2	+0.8
STCH				IAML		19 45 58.9	
	comp=N,887nm,0.4s						
NPOC	**North of Pu'u**	**0.15**	**101**		Pg	19 45 56.9	+2.2
JCUZ	**Jacuzzi**	**0.16**	**104**		Pg	19 45 57.1	+2.3
HTC	**Hot Caves**	**0.22**	**215**		Pg	19 45 57.1	+1.1
JOKA	**Jonika Flow**	**0.24**	**87**		Pg	19 45 57.0	+0.5
JOKA				IAML		19 46 04.6	
	comp=E,647nm,1.2s						
HMH	**Humu'ula Sheep**	**0.27**	**311**		Pg	19 45 57.8	+0.8
HMH				IAML		19 46 06.0	
	comp=N,524nm,0.5s						
HMH				IAML		19 46 06.2	
	comp=E,547nm,0.4s						
PAH	**Pahoa**	**0.31**	**76**	Pg	Pg	19 45 58.2	+0.5
MLOA	**Mauna Loa Obse**	**0.32**	**291**		Pg	19 45 58.3	+0.5
MLOA				IAML		19 45 59.3	
	comp=E,351nm,3.8s						
MLOA				IAML		19 46 08.9	
	comp=N,463nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.32**	**291**		Pg	19 45 58.2	+0.3
MWH	**Moku'aweowe**	**0.32**	**281**		Pg	19 45 58.6	+0.6
KHU	**Kahuku**	**0.38**	**242**		Pg	19 45 59.5	+0.5
KHU				IAML		19 46 07.2	
	comp=N,326nm,0.7s						
POHA	**Pohakuloa**	**0.42**	**323**		Pg	19 46 00.6	+0.7
POHA				IAML		19 46 11.1	
	comp=N,464nm,0.7s						
HUH	**Hualalai**	**0.60**	**296**		Pg	19 46 03.8	+0.5
HPAH	**Hawaii Prepara**	**0.73**	**326**	Pg	Pg	19 46 05.1	-0.7
MHA	**Mahukona**	**0.97**	**322**	Pg	Pg	19 46 08.3	-2.1

*TEH **22** 19:47:45.9,29°39N×56°29E, h12km±999km, ML2.9*
*OMAN **22** 19:47:48.3±0.7,28°98N×56°12E, h4km±32km, mb5.2/1, ml3.0/7, Error ellipse: s-maj=60.5km s-min=3.9km az=348.0*

ISC 22 19:47:44.3±1.0,**29°29N**±0°04×**56°23E**±0°09,**h10**km,**n18,**
σ1**s24**/31,**Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NGRK	**Negar Kerman**	**0.56**	**51**	Pg	**Pg**	**19 47 56.0**	**+0.7**
NGRK				Sg	**Sg**	**19 48 03.5**	**+0.7**
TVBK	**TV Kerman**	**0.83**	**34**	Pg	**Pg**	**19 48 01.0**	**+0.5**
TVBK				Sg	**Sg**	**19 48 12.2**	**+0.8**
KHGB	**Koh Gabri**	**1.10**	**11**	Pg	**Pg**	**19 48 05.3**	**-0.3**
KHGB				Sg	**Sg**	**19 48 19.3**	**-0.6**
CHMN	**Cheshme madani**	**1.28**	**63**	Pg	**Pn**	**19 48 07.6**	**-0.9**
KRM1	**Kerman Provinc**	**1.51**	**37**	Pg	**Pn**	**19 48 12.1**	**+0.5**
KRM1				Sg	**Sn**	**19 48 31.0**	**-0.5**
ZRDN	**Zarand Kerman**	**1.69**	**9**	Pg	**Pb**	**19 48 16.0**	**+0.3**
GENO	**Geno**	**1.89**	**181**	Pn	**Pb**	**19 48 18.8**	**-0.1**
SHME	**Shamm**	**3.23**	**181**	P	**Pn**	**19 48 36.6**	**+1.5**
SHME				S	**Sn**	**19 49 13.4**	**-0.2**
JASK	**Jask - Hormozg**	**3.71**	**157**	P	**Pn**	**19 48 42.3**	**+0.6**
JASK				S	**Sn**	**19 49 26.4**	**+0.9**
MASF	**Masafi**	**3.91**	**181**	P	**Pn**	**19 48 45.3**	**+0.9**
	SNR=5.4						
MASF				S	**Sn**	**19 49 28.9**	**-1.5**
MDH	**Madha**	**3.98**	**179**	P	**Pn**	**19 48 46.1**	**+0.7**
MDH				S	**Sn**	**19 49 29.8**	**-2.3**
UOSS	**Minazif**	**4.33**	**180**	P	**Pn**	**19 48 51.6**	**+1.4**
UOSS				S	**Sn**	**19 49 39.0**	**-1.8**
HATD	**Hatta, Dubai**	**4.45**	**181**	P	**Pn**	**19 48 51.3**	**-0.6**
HATD				S	**Sn**	**19 49 40.5**	**-3.2**
FAQ	**Al Faqa, Dubai**	**4.56**	**187**	P	**Pn**	**19 48 53.4**	**-0.1**
FAQ				S	**Sn**	**19 49 45.6**	**-0.9**
ASHO	**Ashiyiah**	**4.59**	**182**	P	**Pn**	**19 48 55.

TDBA	**Terre de Bas,**	**3.24**	**138**	*e*P		**Pn**	**19 49 29.5**	**+2.4**
TDBA				*e*S		**Sn**	**19 50 06.8**	**+1.9**
GDSD	**La Dsirade Is**	**3.33**	**125**	Pn		**Pn**	**19 49 28.6**	**+0.2**
GDSD				IAML			19 50 16.8	
	comp=E,92nm,2.2s							
GDSD				IAML			19 50 26.8	
	comp=N,79nm,3.0s							
MAGL	**Barre de l'ile**	**3.40**	**132**	Pn		**Pn**	**19 49 28.8**	**-0.5**
MAGL				IAML			19 50 14.8	
	comp=N,240nm,1.4s							
BIM	**Bigot**	**4.61**	**144**	Pn		**Pn**	**19 49 46.5**	**+0.8**
BIM				IAML			19 51 07.3	
	comp=N,118nm,1.9s							
MPOM	**Morne Pois Mar**	**4.79**	**142**	Pn		**Pn**	**19 49 49.7**	**+1.7**
MPOM				IAML			19 50 43.9	
	comp=E,66nm,3.0s							
MPOM				IAML			19 51 37.2	
	comp=N,72nm,2.6s							
BAUV	**El Baul**	**10.11**	**204**	Pn		**Pn**	**19 50 57.0**	**-3.5**

NEIC **22** *19:54:03.4±1.2,50°.26N±0°.02×12°.44E±0°.04,h10km±2km, ML3.2/6, Error ellipse: s-maj=5.1km s-min=3.3km az=311.0*
VIE **22** *19:54:03.8±0.2,50°.22N×12°.42E,h10km, mb2.4/16, ml3.4/17, Error ellipse: s-maj=2.3km s-min=1.7km az=75.0*
BUG **22** *19:54:03.9±0.3,50°.34N×12°.66E,h2km±2km, MD4.1/12, ML3.8/14*
PRU **22** *19:54:03.7, 50°.25N×12°.46E,h10km, West Bohemia Swarm*
WBNET **22** *19:54:04.4, 50°.24N×12°.46E,h7km, Ml3.0*
CLL **22** *19:54:04.8±0.3, 50°.24N×12°.46E,h5km, ML3.0*
BGR **22** *19:54:04.0±0.2, 50°.24N×12°.47E, h9km±1km, ML3.0/6, Error ellipse: s-maj=2.2km s-min=1.1km az=92.0*
IPEC **22** *19:54:04.1±0.1, 50°.25N×12°.46E, h8km, ML3.2/10, Error ellipse: s-maj=1.4km s-min=1.0km az=132.0*
LDG **22** *19:54:06.0±0.2, 50°.17N×12°.38E, h10km, Ml3.3/24, Error ellipse: s-maj=4.4km s-min=3.0km az=165.0*
BNS **22** *19:54:06.2±0.3, 50°.28N×12°.42E, h4km, ML3.0*

ISC 22 19:54:03.1±0.7,**50°.22N**±0°.01×**12°.41E**±0°.01,**h13**km±3km, **n198,**σ1§**61**/318,**9C-16D,Germany**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
VAC	**Vackov**	**0.03**	**309**	*e*Pg		**Pg**	**19 54 06.0**	**+0.5**
VAC				*e*Sg		**Sg**	**19 54 07.1**	**-0.2**
VAC	**Vackov**	**0.03**	**309**	⇓P		**Pg**	**19 54 06.1**	**+0.5**
VAC				S		**Sg**	**19 54 07.1**	**-0.2**
VAC	**Vackov**	**0.03**	**309**	⇓P		**Pg**	**19 54 06.1**	**+0.5**
VAC				S		**Sg**	**19 54 07.2**	**-0.2**
NKC	**Novy Kostel**	**0.03**	**61**	*e*Pg		**Pg**	**19 54 05.7**	**+0.1**
NKC				*i* Sg		**Sg**	**19 54 06.6**	**-0.7**
NKC				IAML			19 54 06.9	
	comp=N,52μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**61**	*e*PG		**Pg**	**19 54 05.7**	**+0.1**
NKC				*e*SG		**Sg**	**19 54 06.7**	**-0.7**
	comp=N,25μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**61**	*e*Pg		**Pg**	**19 54 05.7**	**+0.1**
NKC				*i* Sg		**Sg**	**19 54 06.6**	**-0.7**
	comp=N,52μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**61**	⇓P		**Pg**	**19 54 05.7**	**+0.1**
NKC				S		**Sg**	**19 54 06.6**	**-0.7**
NKC	**Novy Kostel**	**0.03**	**61**	⇓P		**Pg**	**19 54 05.8**	**+0.2**
NKC				S		**Sg**	**19 54 06.7**	**-0.7**
LBCW	**Luby**	**0.05**	**4**	⇓P		**Pg**	**19 54 06.0**	**+0.2**
LBCW	**Luby**	**0.05**	**4**	⇓P		**Pg**	**19 54 06.0**	**+0.2**
LBCW				S		**Sg**	**19 54 07.1**	**-0.4**
SKC	**Skalna**	**0.06**	**211**	⇑P		**Pg**	**19 54 06.7**	**+0.9**
SKC				S		**Sg**	**19 54 08.2**	**+0.6**
SKC	**Skalna**	**0.06**	**211**	⇑P		**Pg**	**19 54 06.7**	**+0.9**
SKC				S		**Sg**	**19 54 08.3**	**+0.6**
ROHR	**Rohrbach**	**0.06**	**285**	*i* Pg		**Pg**	**19 54 06.6**	**+0.7**
ROHR				*i* Sg		**Sg**	**19 54 08.0**	**+0.3**
ROHR				IAML			19 54 08.2	
	comp=E,17μm,0.1s							
ROHR	**Rohrbach**	**0.06**	**285**	*i* Pg		**Pg**	**19 54 06.6**	**+0.7**
ROHR				*i* Sg		**Sg**	**19 54 08.0**	**+0.3**
	comp=E,17μm,0.1s							
KVC	**Kvetna**	**0.07**	**100**	*e*Pg		**Pg**	**19 54 06.1**	**+0.1**
KVC				*i* Sg		**Sg**	**19 54 07.0**	**-0.8**
KVC	**Kvetna**	**0.07**	**100**	⇑P		**Pg**	**19 54 06.0**	**+0.1**
KVC				S		**Sg**	**19 54 07.0**	**-0.8**
KVC	**Kvetna**	**0.07**	**100**	S		**Sg**	**19 54 07.1**	**-0.8**
WERN	**Wernitzgruen**	**0.07**	**344**	*i* Pg		**Pg**	**19 54 06.4**	**+0.4**
WERN				*i* Sg		**Sg**	**19 54 07.7**	**-0.3**
WERN				IAML			19 54 07.9	
	comp=E,8μm,0.2s							
WERN	**Wernitzgruen**	**0.07**	**344**	*i* Pg		**Pg**	**19 54 06.4**	**+0.4**
WERN				*i* Sg		**Sg**	**19 54 07.7**	**-0.3**
	comp=E,8μm,0.2s							
STCW	**Studenec**	**0.08**	**61**	*e*Pg		**Pg**	**19 54 06.0**	**-0.1**
STCW				*i* Sg		**Sg**	**19 54 06.9**	**-1.2**
STCW	**Studenec**	**0.08**	**61**	*e*Pg		**Pg**	**19 54 06.0**	**-0.1**
STCW				*i* Sg		**Sg**	**19 54 06.9**	**-1.2**
STCW	**Studenec**	**0.08**	**61**	⇑P		**Pg**	**19 54 05.9**	**-0.1**
STCW				S		**Sg**	**19 54 06.9**	**-1.2**
STCW	**Studenec**	**0.08**	**61**	⇑P		**Pg**	**19 54 06.0**	**-0.1**
STCW				S		**Sg**	**19 54 07.0**	**-1.2**
POCW	**Potky**	**0.10**	**7**	⇓P		**Pg**	**19 54 06.5**	**+0.3**
POCW				S		**Sg**	**19 54 08.0**	**-0.5**
POCW	**Potky**	**0.10**	**7**	⇓P		**Pg**	**19 54 06.6**	**+0.3**
POCW				S		**Sg**	**19 54 08.1**	**-0.5**
KOCW	**Kopaniny**	**0.12**	**293**	⇓P		**Pb**	**19 54 07.5**	**+0.2**
KOCW				S		**Sg**	**19 54 09.6**	**+0.8**
KOCW	**Kopaniny**	**0.12**	**293**	⇓P		**Pb**	**19 54 07.6**	**+0.2**
KOCW				S		**Sg**	**19 54 09.7**	**+0.8**
KRCW	**Kraslice**	**0.14**	**35**	⇑P		**Pg**	**19 54 06.8**	**0.0**
KRCW				S		**Sg**	**19 54 08.3**	**-0.9**
KRCW	**Kraslice**	**0.14**	**35**	⇑P		**Pg**	**19 54 06.9**	**0.0**
KRCW				S		**Sg**	**19 54 08.4**	**-0.9**
GUNZ	**Gunzen**	**0.15**	**342**	*i* Pg		**Pb**	**19 54 07.6**	**-0.3**
GUNZ				*i* Sg		**Sg**	**19 54 09.6**	**0.0**
GUNZ				IAML			19 54 10.1	
	comp=E,2μm,0.3s							
GUNZ	**Gunzen**	**0.15**	**342**	*i* Pg		**Pb**	**19 54 07.6**	**-0.3**
GUNZ				*i* Sg		**Sg**	**19 54 09.6**	**0.0**
	comp=E,2μm,0.3s							
ZHC	**Zelena Hora**	**0.16**	**203**	⇑P		**Pb**	**19 54 08.4**	**+0.5**
ZHC				S		**Sb**	**19 54 11.1**	**0.0**
ZHC	**Zelena Hora**	**0.16**	**203**	⇑P		**Pb**	**19 54 08.5**	**+0.5**
ZHC				S		**Sb**	**19 54 11.2**	**0.0**
TRCW	**Trojmez**	**0.19**	**297**	⇓P		**Pb**	**19 54 08.7**	**+0.2**
TRCW				S		**Sb**	**19 54 11.6**	**-0.4**
TRCW	**Trojmez**	**0.19**	**297**	⇓P		**Pb**	**19 54 08.7**	**+0.2**
TRCW				S		**Sb**	**19 54 11.6**	**-0.4**
MULD	**Muldenberg**	**0.19**	**359**	*i* Pg		**Pg**	**19 54 08.0**	**+0.4**
MULD				*i* Sg		**Sg**	**19 54 10.3**	**-0.3**
MULD				IAML			19 54 11.2	
	comp=E,3μm,0.3s							
MULD	**Muldenberg**	**0.19**	**359**	*i* Pg		**Pg**	**19 54 08.0**	**+0.4**
MULD				*i* Sg		**Sg**	**19 54 10.3**	**-0.3**
	comp=E,3μm,0.3s							
VIEL	**Selb-Vielitz**	**0.20**	**261**	*i* Pg		**Pb**	**19 54 09.0**	**+0.4**
VIEL				*i* Sg		**Sb**	**19 54 12.2**	**-0.1**
VIEL	**Selb-Vielitz**	**0.20**	**261**	*i* Pg		**Pb**	**19 54 09.0**	**+0.4**
VIEL				*i* Sg		**Sb**	**19 54 12.2**	**-0.1**
TANN	**Tannenbergstha**	**0.20**	**10**	*i* Pg		**Pg**	**19 54 08.0**	**+0.3**
TANN				*i* Sg		**Sg**	**19 54 10.3**	**-0.5**
TANN				IAML			19 54 10.8	
	comp=E,3μm,0.3s							
TANN	**Tannenbergstha**	**0.20**	**10**	*i* Pg		**Pg**	**19 54 08.0**	**+0.3**
TANN				*i* Sg		**Sg**	**19 54 10.3**	**-0.5**
	comp=E,3μm,0.3s							
TRIB	**Obertriebel**	**0.22**	**308**	*i* Pg		**Pb**	**19 54 09.0**	**+0.1**
TRIB				*i* Sg		**Sg**	**19 54 12.2**	**+1.0**
TRIB				IAML			19 54 12.6	
	comp=E,2μm,0.3s							
TRIB	**Obertriebel**	**0.22**	**308**	*i* Pg		**Pb**	**19 54 09.0**	**+0.1**
TRIB				*i* Sg		**Sg**	**19 54 12.2**	**+1.0**
	comp=E,2μm,0.3s							
LACW	**Lazy**	**0.22**	**140**	*e*Pg		**Pb**	**19 54 09.0**	**0.0**
LACW				*i* Sg		**Sg**	**19 54 12.1**	**+0.8**
LACW	**Lazy**	**0.22**	**140**	*e*Pg		**Pb**	**19 54 09.0**	**0.0**
LACW				*i* Sg		**Sg**	**19 54 12.1**	**+0.8**
LACW	**Lazy**	**0.22**	**140**	⇓P		**Pb**	**19 54 09.0**	**0.0**
LACW				S		**Sg**	**19 54 12.0**	**+0.8**
LACW	**Lazy**	**0.22**	**140**	⇓P		**Pb**	**19 54 09.0**	**0.0**
WERD	**Werda**	**0.24**	**344**	*i* Pg		**Pb**	**19 54 09.0**	**-0.4**
WERD				*e*Sg		**Sg**	**19 54 11.9**	**+0.1**
WERD				IAML			19 54 12.3	
	comp=N,1μm,0.3s							
WERD	**Werda**	**0.24**	**344**	*i* Pg		**Pb**	**19 54 09.0**	**-0.4**
WERD				*e*Sg		**Sg**	**19 54 11.9**	**+0.1**
	comp=N,1μm,0.3s							
PLN	**Plauen**	**0.31**	**329**	*i* Pg		**Pb**	**19 54 10.6**	**0.0**
PLN				*i* Sg		**Sg**	**19 54 14.6**	**+0.7**
PLN				IAML			19 54 15.0	
	comp=N,533nm,0.3s							
PLN	**Plauen**	**0.31**	**329**	*i* Pg		**Pb**	**19 54 10.6**	**0.0**
PLN				*i* Sg		**Sg**	**19 54 14.6**	**+0.7**
	comp=N,533nm,0.3s							
SCHF	**Schoenfels**	**0.46**	**360**	*i* Pg		**Pb**	**19 54 12.9**	**-0.2**
SCHF				*i* Sg		**Sg**	**19 54 18.7**	**+0.3**
SCHF				IAML			19 54 18.9	
	comp=E,2μm,0.1s							
SCHF	**Schoenfels**	**0.46**	**360**	*i* Pg		**Pb**	**19 54 12.9**	**-0.2**
SCHF				*i* Sg		**Sg**	**19 54 18.7**	**+0.3**
	comp=E,2μm,0.1s							
ROTZ	**Rotzenmuhle**	**0.47**	**196**	*e*Pg		**Pb**	**19 54 14.1**	**+0.8**
ROTZ				*e*Sg		**Sb**	**19 54 20.6**	**+0.5**
GRZ1	**Mausoleum Wald**	**0.49**	**346**	*i* Pg		**Pb**	**19 54 13.6**	**0.0**
GRZ1				*i* Sg		**Sg**	**19 54 19.5**	**+0.2**
GRZ1				IAML			19 54 21.3	
	comp=N,906nm,0.4s							
GRZ1	**Mausoleum Wald**	**0.49**	**346**	*i* Pg		**Pb**	**19 54 13.6**	**0.0**
GRZ1				*i* Sg		**Sg**	**19 54 19.5**	**+0.2**
	comp=N,906nm,0.4s							
ZEU	**Talsperre Zeul**	**0.53**	**329**	*i* Pg		**Pb**	**19 54 14.5**	**+0.2**
ZEU				*e*Sg		**Sg**	**19 54 21.2**	**+0.6**
ZEU	**Talsperre Zeul**	**0.53**	**329**	*i* Pg		**Pb**	**19 54 14.5**	**+0.2**
ZEU				*e*Sg		**Sg**	**19 54 21.2**	**+0.6**
MOX	**Moxa**	**0.66**	**310**	*e*Pg		**Pb**	**19 54 17.2**	**+0.7**
MOX				*e*Sg		**Sb**	**19 54 26.4**	**+0.8**
HSKC	**Hora Svate Kat**	**0.76**	**59**	*e*PG		**Pg**	**19 54 18.1**	**+0.2**
HSKC				*e*SG		**Sg**	**19 54 27.3**	**-0.7**
	comp=N,444nm,0.2s							
FBE	**Freiberg**	**0.93**	**40**	*e*Pg		**Pg**	**19 54 21.4**	**+0.4**
FBE				*e*Sg		**Sg**	**19 54 32.8**	**-0.4**
GRA1	**Grafenberg Arr**	**0.93**	**236**			**Pn**	**19 54 22.4**	**+0.5**
GRA1				Sg		**Sn**	**19 54 35.3**	**+0.3**
GRA1				IAML			19 54 38.5	
	comp=N,610nm,0.7s							
GRF	**Grafenberg Arr**	**0.93**	**236**	*e*Pg		**Pn**	**19 54 22.9**	**+1.0**
GRF				*e*Sg		**Sn**	**19 54 35.9**	**+0.8**
GRFO	**Grafenberg**	**0.93**	**236**			**Pn**	**19 54 22.6**	**+0.8**
GRFO				Sg		**Sn**	**19 54 35.6**	**+0.6**
GRFO				IAML			19 54 38.3	
	comp=N,531nm,0.6s							
GRFO				IAML			19 54 38.4	
	comp=N,662nm,0.8s							
WET	**Wettzell**	**1.12**	**164**	*e*Pg		**Pg**	**19 54 25.5**	**+0.9**
WET				*e*Sg		**Sn**	**19 54 39.9**	**+0.2**
RICC	**Richard**	**1.13**	**73**	*e*SG		**Sb**	**19 54 39.3**	**+0.2**
	comp=N,429nm,0.4s							
CLL	**Collm**	**1.15**	**19**			**Pn**	**19 54 25.1**	**+0.1**
CLL				Sg		**Sb**	**19 54 39.1**	**-0.6**
CLL				IAML			19 54 44.1	
	comp=E,511nm,0.9s							
CLL	**Collm**	**1.15**	**19**	*i* Pg		**Pg**	**19 54 25.5**	**+0.1**
CLL				*i* x		x	19 54 28.1	
CLL				*i* x		x	19 54 29.5	
CLL				*i* Sg		**Sb**	**19 54 40.0**	**+0.2**
	comp=Z,241nm,0.4s							
CLL				*i* x		x	19 54 43.5	
CLL	**Collm**	**1.15**	**19**	*e*Pg		**Pn**	**19 54 25.2**	**+0.2**
CLL				*e*Sg		**Sb**	**19 54 39.9**	**+0.1**
BRG	**Berggiesshubel**	**1.18**	**56**	Pg		**Pg**	**19 54 25.9**	**+0.1**
BRG				Sg		**Sg**	**19 54 40.9**	**-0.3**
BRG				Amp			19 54 42.4	
	comp=Z,160nm,0.3s							
BRG	**Berggiesshubel**	**1.18**	**56**	*e*Pg		**Pg**	**19 54 25.9**	**+0.1**
BRG				*e*Sg		**Sb**	**19 54 40.4**	**-0.1**
PRA	**Prague**	**1.31**	**96**	*e*SG		**Sn**	**19 54 44.8**	**+0.4**
KHC	**Kasperske Hory**	**1.33**	**145**			**Pb**	**19 54 28.4**	**+0.5**
KHC	**Kasperske Hory**	**1.33**	**145**	*e*PG		**Pg**	**19 54 28.6**	**-0.1**
KHC				*e*SG		**Sg**	**19 54 46.1**	**+0.2**
	comp=Z,122nm,0.4s							
PRU	**Pruhonice**	**1.39**	**99**	*e*PG		**Pb**	**19 54 29.0**	**0.0**
PRU				*e*SG		**Sg**	**19 54 48.0**	**0.0**
	comp=Z,270nm,0.3s							
PRU	**Pruhonice**	**1.39**	**99**	*e*Pg		**Pg**	**19 54 29.8**	**-0.1**
PRU				*e*Sg		**Sg**	**19 54 48.0**	**0.0**
ZVC	**Zvikov**	**1.40**	**123**	*e*SG		**Sg**	**19 54 47.6**	**-0.5**
	comp=Z,53nm,0.2s							
PVCC	**Panska Ves**	**1.42**	**77**	*e*SG		**Sg**	**19 54 48.3**	**-0.5**
	comp=Z,256nm,0.2s							
GOPC	**GO Pecny, Ondr**	**1.56**	**100**	*e*SG		**Sg**	**19 54 52.7**	**-0.8**
	comp=Z,133nm,0.2s							
GEC2	**GERESS Array S**	**1.61**	**148**	Pn		**Pb**	**19 54 32.5**	**-0.3**
GEC2	**GERESS Array S**	**1.61**	**148**	*e*Pg		**Pb**	**19 54 32.8**	**0.0**
GEC2				*e*Sg		**Sg**	**19 54 54.9**	**-0.2**
GERES	**GERESS Array B**	**1.61**	**148**	Pn		**Pb**	**19 54 32.5**	**-0.3**
UBBA	**Unterbreizbach**	**1.65**	**292**	Pn		**Pg**	**19 54 34.4**	**-0.3**
UBBA				Sn		**Sg**	**19 54 56.2**	**+0.1**
CKRC	**Cesky Krumlov**	**1.87**	**138**	*e*SG		**Sg**	**19 55 02.2**	**-1.1**
	comp=Z,51nm,0.3s							
FUR	**Furstenfeldbru**	**2.19**	**200**	Pn		**Pg**	**19 54 45.1**	**0.0**
FUR				Sn		**Sb**	**19 55 08.3**	**-1.2**
TREC	**Trest**	**2.20**	**114**	*e*SG		**Sb**	**19 55 11.6**	**+1.7**
	comp=E,78nm,0.5s							
A106B	**Goeppingen, Ma**	**2.28**	**231**	Pn		**Pn**	**19 54 41.3**	**+0.9**
A106B				Sn		**Sn**	**19 55 10.3**	**+1.9**
UPC	**Upice**	**2.33**	**81**	*e*SG		**Sg**	**19 55 16.0**	**-1.9**
	comp=Z,117nm,0.4s							
CHVC	**Chvalec**	**2.36**	**80**	*e*SG		**Sg**	**19 55 17.7**	**-1.4**
DPC	**Dobruska-Polom**	**2.52**	**85**	*e*SG		**Sb**	**19 55 21.3**	**+2.3**
	comp=Z,124nm,0.6s							
STU	**Stuttgart**	**2.55**	**237**	Pn		**Pn**	**19 54 45.4**	**+1.3**
A109A	**Bad Urach, See**	**2.62**	**228**	Pn		**Pg**	**19 54 45.9**	**+0.7**
A109A				Sg		**Sg**	**19 55 28.9**	**+1.6**
A107C	**Memmingen - Ei**	**2.64**	**214**	Pn		**Pn**	**19 54 47.3**	**+2.0**
A107C				Sg		**Sg**	**19 55 28.8**	**+1.0**
BIOA	**Bad Ischl, Aus**	**2.66**	**162**	*e*Pn		**Pn**	**19 54 47.2**	**+1.5**
	comp=Z,1.1nm,0.2s							
MOA	**Molln**	**2.67**	**152**	*e*Pn		**Pn**	**19 54 47.2**	**+1.5**
	comp=Z,1.9nm,0.3s,SNR=6.8							
A104C	**Biberach, Ahle**	**2.76**	**222**	Pg		**Pg**	**19 54 56.6**	**+0.5**
A104C				Sg		**Sg**	**19 55 32.3**	**+0.4**
LESA	**Schwarzleotal**	**2.80**	**176**	*e*Pn		**Pn**	**19 54 49.1**	**+1.4**
	comp=Z,0.5nm,0.1s							
KRLC	**Kraliky**	**2.82**	**91**	*e*SG		**Sg**	**19 55 31.9**	**-1.7**
KRUC	**Moravsky**	**2.84**	**113**	*e*Pn		**Pn**	**19 54 49.2**	**+1.1**
	baz=296							
KRUC				*e*Sg		**Sg**	**19 55 32.2**	**-2.1**
	comp=Z,138nm,0.6s,baz=296							
VRAC	**Vranov**	**2.86**	**107**	*e*PN		**Pn**	**19 54 49.5**	**+1.0**
VRAC				*e*SG		**Sg**	**19 55 33.0**	**-2.1**
VRAC	**Vranov**	**2.86**	**107**	*e*Pn		**Pn**	**19 54 49.4**	**+1.0**
	baz=291							
VRAC				*e*Sg		**Sg**	**19 55 32.9**	**-2.1**
	comp=Z,119nm,0.6s,baz=291							
WATA	**Walderalm**	**2.94**	**191**	Pn		**Pn**	**19 54 49.9**	**+0.3**
	comp=Z,0.6nm,0.1s							
WATA				*e*Sn		**Sn**	**19 55 27.5**	**+2.8**
	comp=Z,11nm,0.2s							
RETA	**Reutte**	**2.94**	**202**	*e*Pg		**Pg**	**19 55 00.1**	**+0.6**
	comp=Z,8.8nm,0.3s							
UBR	**Ueberruh**	**2.96**	**212**	Pn		**Pn**	**19 54 51.7**	**+1.9**
UBR				Sg		**Sg**	**19 55 38.9**	**+0.8**
A102A	**Sigmaringen, J**	**2.96**	**227**	Pn		**Pb**	**19 54 57.4**	**+1.7**
A102A				Sg		**Sg**	**19 55 39.2**	**+1.1**
WTTA	**Wattenberg**	**3.00**	**190**	Pn		**Pn**	**19 54 51.0**	**+0.5**
	comp=Z,0.4nm,0.2s							
WTTA				Sn		**Sn**	**19 55 28.8**	**+2.4**
	comp=Z,7.1nm,0.3s							
MOTA	**Moosalm**	**3.00**	**197**	*e*Pn		**Pn**	**19 54 51.3**	**+0.8**
	comp=Z,0.3nm,0.1s							
MOTA				*i* Pg		**Pg**	**19 55 01.0**	**+0.3**
	comp=Z,3.0nm,0.2s							
MOTA				*e*Sn		**Sn**	**19 55 27.5**	**+1.2**
	comp=Z,2.4nm,0.2s							
KOE	**Koeppel**	**3.00**	**276**	*e*Pn		**Pn**	**19 54 53.3**	**+2.9**
SQTA	**Sankt Quirin**	**3.10**	**195**	*i* Pn		**Pn**	**19 54 53.6**	**+1.7**
	comp=Z,0.9nm,0.2s							
A105A	**Obersdorf, Sch**	**3.14**	**207**	Pn		**Pn**	**19 54 54.7**	**+2.4**
KBA	**Koelnbreinsper**	**3.20**	**168**	*i* Pn		**Pn**	**19 54 54.8**	**+1.5**
	comp=Z,4.8nm,0.3s,SNR=9.5							
CONA	**Conrad Observa**	**3.23**	**134**	*e*Pn		**Pn**	**19 54 55.0**	**+1.5**
	comp=Z,2.9nm,0.3s,SNR=6.0							
CONA				*e*Pg		**Pg**	**19 55 04.7**	**-0.2**
	comp=Z,7.7nm,0.3s							
BGG	**Burgeitz**	**3.26**	**272**	*e*Pn		**Pn**	**19 54 56.8**	**+3.0**
BGG				*e*Sn		**Sn**	**19 55 35.1**	**+2.7**
BFO	**Black Forest**	**3.27**	**236**	Pn		**Pn**	**19 54 55.1**	**+1.0**
BFO	**Black Forest**	**3.27**	**236**	Pn		**Pn**	**19 54 54.4**	**+0.4**
A101B	**Rottweil, Deis**	**3.29**	**232**	Pn		**Pn**	**19 54 56.3**	**+1.9**
MORC	**Moravsky Berou**	**3.34**	**96**	Pn		**Pn**	**19 54 55.5**	**+0.4**
MORC	**Moravsky Berou**	**3.34**	**96**	*e*Pn		**Pn**	**19 54 56.0**	**+0.9**
	baz=280							
MORC				*e*Sg		**Sg**	**19 55 47.8**	**-2.7**
	comp=Z,118nm,0.7s,baz=280							
DAVA	**Damuels**	**3.38**	**211**	*e*Pn		**Pn**	**19 54 56.3**	**+0.7**
	comp=Z,1.1nm,0.2s							
FETA	**Feichten**	**3.39**	**200**	*i* Pn		**Pn**	**19 54 56.4**	**+0.6**
	comp=Z,0.5nm,0.2s							
FETA				*i* Sn		**Sn**	**19 55 37.1**	**+1.2**
	comp=Z,2.2nm,0.2s							
ABTA	**Abfaltersbach**	**3.48**	**179**	*e*Pn		**Pn**	**19 54 59.2**	**+2.3**
	comp=Z,2.4nm,0.3s,SNR=7.7							
ABTA				Pg		**Pg**	**19 55 12.7**	**+3.0**
	comp=Z,7.0nm,0.3s							
ABTA				*e*Sn		**Sn**	**19 55 41.1**	**+3.1**
	comp=Z,6.5nm,0.3s							
STB	**Steinbach**	**3.58**	**278**	*e*Pn		**Pn**	**19 55 01.1**	**+2.8**
RONA	**Rosalia, Austr**	**3.59**	**133**	*e*Pn		**Pn**	**19 54 59.8**	**+1.3**
	comp=Z,3.0nm,0.3s,SNR=6.4							
ARSA	**Arzberg**	**3.62**	**144**	*e*Pn		**Pn**	**19 55 00.3**	**+1.5**
	comp=Z,2.3nm,0.3s,SNR=7.5							
MODS	**Modra-Piesok**	**3.68**	**118**	*e*PN		**Pn**	**19 55 01.9**	**+2.2**
MODS				*e*PG		**Pg**	**19 55 13.9**	**+0.2**
MODS				*e*SG		**Sg**	**19 55 59.3**	**-2.1**
MYKA	**Terra Mystica**	**3.68**	**167**	*e*Pn		**Pn**	**19 55 00.0**	**+0.2**
	comp=Z,1.1nm,0.3s							
ZST	**Bratislava**	**3.68**	**122**	*e*SG		**Sg**	**19 55 58.8**	**-2.6**
JAVC	**Velka Javorina**	**3.69**	**110**	*e*PN		**Pn**	**19 55 02.1**	**+2.3**
JAVC				*e*SG		**Sg**	**19 55 59.8**	**-1.7**
OKC	**Ostrava-Krasne**	**3.72**	**94**	*e*SG		**Sg**	**19 55 58.8**	**-3.8**
	comp=Z,71nm,0.6s							
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pn		**Pn**	**19 55 02.3**	**+0.7**
CDF	**Champ du Feu**	**3.81**	**244**	*e*Pg		**Pg**	**19 55 15.2**	**-0.9**
CDF				*e*Sg		**Sg**	**19 56 04.7**	**-0.8**
	comp=Z,31nm,0.4s							
PRED	**Cave del Predi**	**3.86**	**168**	Pn		**Pn**	**19 55 02.5**	**+0.3**
FUORN	**Ofenpass-Fuorn**	**3.87**	**202**	Pn		**Pn**	**19 55 03.4**	**+0.8**
CIMO	**Cimolais**	**3.91**	**180**	Pn		**Pn**	**19 55 03.8**	**+0.9**
STAL	**STALIGIAL**	**3.97**	**177**	Pn		**Pn**	**19 55 04.4**	**+0.8**
OBKA	**Obir**	**3.98**	**158**	*e*Pn		**Pn**	**19 55 04.8**	**+1.0**
	comp=Z,0.8nm,0.2s							
ECH	**Echery**	**3.98**	**242**	Pn		**Pn**	**19 55 04.4**	**+0.6**
WLF	**Walferdange**	**4.08**	**265**	Pn		**Pn**	**19 55 06.5**	**+1.4**
MEM	**Membach**	**4.11**	**278**	*d*P		**Pn**	**19 55 03.8**	**-1.8**
MEM				*d*S		**Sn**	**19 55 58.3**	**+4.8**
CTI	**Castel Tesino**	**4.20**	**187**	Pn		**Pn**	**19 55 08.1**	**+1.1**
TUE	**Stuetta**	**4.27**	**210**	Pn		**Pn**	**19 55 08.7**	**+0.7**
SABO	**M.te Sabotino**	**4.32**	**169**	Pn		**Pn**	**19 55 08.5**	**+0.1**
RGN	**Rugen**	**4.37**	**7**	Pn		**Pn**	**19 55 07.4**	**-1.7**
HINF	**Hinteralfeld**	**4.37**	**239**	*e*Pn		**Pn**	**19 55 09.2**	**0.0**
HINF	**Hinteralfeld**	**4.37**	**239**	*e

mb3.6/17,mbtmp4.3/17,Error ellipse: s-maj=18.9km s-min=14.4km az=72.0

NEIC ***22*** *20:09:28.2±1.7, 17.1°S×0.1°×178.2°W×0.1, h439km±7km, mb4.4/70,Error ellipse: s-maj=17.5km s-min=14.9km az=117.0*

ISC 22 20:09:29.0±0.4,**17°04'S**±0°08'×**178°16'W**±0°08,**h450**km, **n141**,σ0°96/138,**mb4.3**/52,**15C-12D**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.69**	**259**	**P**		**P**	**20 10 43.1**	**+1.5**
AFI	**Afiamalu**	**6.89**	**64**	**P**		**P**	**20 11 11.6**	**-1.2**
NIUE	**Niue**	**8.09**	**106**	**P**		**P**	**20 11 24.0**	**-1.4**
TOZ	**Tahuroa Road**	**21.35**	**194**	**P**		**P**	**20 13 43.6**	**+1.0**
URZ	**Urewera**	**21.54**	**190**	**P**		**P**	**20 13 43.3**	**-1.0**
	26nm,0.8s,baz=78,slow=3.5,SNR=8.4							
	26nm,0.8s							
RTZ	**Ruatahuna**	**21.91**	**190**	**P**		**P**	**20 13 46.9**	**-0.9**
TCW	**Tory Channel**	**24.95**	**194**	**P**		**P**	**20 14 13.8**	**-1.1**
KHZ	**Kahutara**	**26.27**	**194**	**P**		**P**	**20 14 24.6**	**-1.9**
FOZ	**Fox Glacier**	**28.31**	**199**	**P**		**P**	**20 14 43.7**	**-0.8**
MLZ	**Mavora Lakes**	**30.49**	**199**	**P**		**P**	**20 15 03.7**	**+0.1**
COEN	**Coen**	**37.35**	**269**	**P**		**P**	**20 16 03.2**	**+1.2**
TOO	**Toolangi**	**37.90**	**230**	**P**		**P**	**20 16 04.6**	**-1.8**
TOO				IAmb		IAmb	20 16 32.0	
	comp=Z,30nm,1.4s							
STKA	**Stephens Creek**	**39.26**	**240**	**P**		**P**	**20 16 16.9**	**-0.6**
STKA	**Stephens Creek**	**39.26**	**240**	**P**		**P**	**20 16 17.5**	**0.0**
	comp=Z,1.1nm,0.5s,baz=91,slow=10,SNR=6.0							
	comp=Z,1.1nm,0.5s							
BBOO	**Buckleboo**	**44.04**	**240**	**P**		**P**	**20 16 54.1**	**-1.4**
BBOO				IAmb		IAmb	20 17 03.6	
	comp=Z,22nm,1.5s							
WB0	**Warramunga Arr**	**44.99**	**259**	**P**		**P**	**20 17 02.2**	**-0.9**
WB0				IAmb		IAmb	20 17 30.2	
	comp=Z,19nm,1.4s							
MIDW	**Midway**	**44.99**	**1**	**P**		**P**	**20 17 02.8**	**0.0**
WB2	**Warramunga Arr**	**45.02**	**259**	**P**		**P**	**20 17 01.9**	**-1.4**
WRA	**Warramunga Arr**	**45.03**	**259**	**P**		**P**	**20 17 03.1**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=90,slow=6.7,SNR=28							
	comp=Z,2.1nm,0.5s							
ASAR	**Alice Springs**	**45.26**	**253**	**P**		**P**	**20 17 04.1**	**-1.1**
ASAR	**Alice Springs**	**45.26**	**253**	**P**		**P**	**20 17 04.3**	**-0.9**
	comp=Z,10nm,0.8s,baz=86,slow=7.8,SNR=68							
	comp=Z,10nm,0.8s							
MTN	**Manton Dam**	**49.07**	**268**	**P**		**P**	**20 17 33.8**	**-0.3**
MTN				IAmb		IAmb	20 17 59.3	
	comp=Z,26nm,1.1s							
SAUI	**Saumlaki**	**50.03**	**274**	**P**		**P**	**20 17 40.2**	**-1.1**
FORT	**Forrest**	**50.60**	**244**	**P**		**P**	**20 17 45.2**	**0.0**
FORT				IAmb		IAmb	20 17 46.0	
	comp=Z,13nm,0.8s							
FAKI	**Fak Fak**	**50.65**	**280**	**P**		**P**	**20 17 46.2**	**+0.3**
FAKI				IAmb		IAmb	20 18 12.0	
	comp=Z,28nm,1.2s							
FITZ	**Fitzroy Crossi**	**53.41**	**260**	**P**		**P**	**20 18 05.9**	**+0.2**
SOEI	**Soe**	**56.31**	**270**	**P**		**P**	**20 18 26.4**	**-0.1**
PSA00	**Pilbara Seismi**	**58.36**	**255**	**P**		**P**	**20 18 38.9**	**-1.4**
PSA00				IAmb		IAmb	20 19 06.8	
	comp=Z,28nm,1.2s							
MMRI	**Maumere**	**58.53**	**270**	**P**		**P**	**20 18 40.8**	**-0.8**
MORW	**Morawa**	**61.05**	**246**	**P**		**P**	**20 18 58.3**	**+0.1**
MORW				IAmb		IAmb	20 19 39.1	
	comp=Z,11nm,1.3s							
SBA	**Scott Base**	**61.30**	**184**	**P**		**P**	**20 19 00.8**	**+1.9**
SBA				IAmb		IAmb	20 19 18.5	
	comp=Z,26nm,1.5s							
VNDA	**Vanda**	**61.32**	**185**	**P**		**P**	**20 19 00.9**	**+1.7**
VNDA	**Vanda**	**61.32**	**185**	**P**		**P**	**20 19 00.7**	**+1.6**
	comp=Z,2.1nm,0.9s,baz=352,slow=8.0,SNR=16							
	comp=Z,2.1nm,0.9s							
JAGI	**Jajag, Banyuwa**	**66.31**	**268**	**P**		**P**	**20 19 31.9**	**-0.3**
CASY	**Casey**	**67.02**	**205**	**P**		**P**	**20 19 36.1**	**+0.5**
CASY				IAmb		IAmb	20 19 37.3	
	comp=Z,8.0nm,1.1s							
JGF	**Kuroka**	**67.21**	**322**	**P**		**P**	**20 19 36.6**	**-0.8**
MJAR	**Matsushiro Arr**	**67.36**	**323**	**P**		**P**	**20 19 38.3**	**0.0**
	comp=Z,3.6nm,0.8s,baz=151,slow=6.2,SNR=8.4							
	comp=Z,3.6nm,0.8s							
MAJO	**Matsushiro**	**67.36**	**323**	**P**		**P**	**20 19 36.7**	**-1.6**
MAJO				IAmb		IAmb	20 19 50.2	
	comp=Z,7.4nm,1.0s							
MJB9	**Matsu-Tunnel**	**67.37**	**323**	**P**		**P**	**20 19 37.8**	**-0.5**
MJB9				IAmb		IAmb	20 19 51.1	
	comp=Z,7.3nm,1.0s							
JSD	**Sado**	**68.38**	**324**	**P**		**P**	**20 19 43.9**	**-0.6**
JSD				IAmb		IAmb	20 20 27.8	
	comp=Z,13nm,1.4s							
JNU	**Nakatsue**	**69.68**	**316**	**P**		**P**	**20 19 52.6**	**+0.1**
	comp=Z,4.5nm,0.9s,baz=128,slow=12,SNR=1.6							
	comp=Z,4.5nm,0.9s							
YULB	**Yu-li**	**71.50**	**302**	**P**		**P**	**20 20 03.4**	**-0.1**
YULB				IAmb		IAmb	20 20 23.2	
	comp=Z,11nm,1.2s							
SSLB	**Suanglung**	**71.97**	**303**	**P**		**P**	**20 20 05.1**	**-1.2**
SSLB				IAmb		IAmb	20 20 13.6	
	comp=Z,14nm,1.5s							
TPUB	**Ta-pu**	**72.00**	**302**	**P**		**P**	**20 20 05.7**	**-0.8**
PETK	**Petropavlovsk-**	**72.91**	**345**	**P**		**P**	**20 20 10.9**	**-0.2**
PETK	**Petropavlovsk-**	**72.91**	**345**	**P**		**P**	**20 20 11.2**	**+0.1**
	comp=Z,3.4nm,0.8s,baz=105,slow=10.0,SNR=5.3							
	comp=Z,3.4nm,0.8s							
QSPA	**South Pole Qui**	**73.01**	**180**	**P**		**P**	**20 20 12.2**	**+0.5**
QSPA				IAmb		IAmb	20 20 14.3	
	comp=Z,11nm,1.0s							
QSPA	**South Pole Qui**	**73.01**	**180**	**P**		**P**	**20 20 13.1**	**+1.4**
	comp=Z,6.6nm,0.8s,baz=2.7,slow=11,SNR=24							
	comp=Z,6.6nm,0.8s							
SDPT	**Sand Point**	**73.65**	**10**	**P**		**P**	**20 20 18.2**	**+3.0**
KSRS	**Korea Array**	**74.22**	**318**	**P**		**P**	**20 20 20.0**	**+1.1**
	comp=Z,1.5nm,0.7s,baz=138,slow=6.6,SNR=5.5							
	comp=Z,1.5nm,0.7s							
USRK	**Ussuriysk Ar.**	**76.04**	**325**	**P**		**P**	**20 20 30.6**	**+1.6**
N15K	**Kwethluk River**	**78.32**	**9**	**P**		**P**	**20 20 41.7**	**+0.6**
N15K				IAmb		IAmb	20 20 51.1	
	comp=Z,18nm,1.4s							
P18K	**Big Mountain,**	**78.43**	**12**	**P**		**P**	**20 20 41.6**	**-0.2**
P18K				IAmb		IAmb	20 20 42.5	
	comp=Z,9.6nm,0.9s							
NVAR	**Mina Array Bea**	**78.64**	**44**	**P**		**P**	**20 20 43.6**	**0.0**
	comp=Z,1.3nm,0.8s,baz=227,slow=8.6,SNR=7.7							
	comp=Z,1.3nm,0.8s							
O18K	**Koktuh Hills**	**78.86**	**12**	**P**		**P**	**20 20 44.3**	**+0.2**
O18K				IAmb		IAmb	20 20 45.1	
	comp=Z,11nm,0.9s							
M16K	**Timber Creek**	**79.31**	**9**	**P**		**P**	**20 20 47.5**	**+1.1**
M16K				IAmb		IAmb	20 21 10.7	
	comp=Z,18nm,1.4s							
J05D	**Fort Rock, OR**	**79.50**	**38**	**P**		**P**	**20 20 49.6**	**+1.6**
M17K	**Holitna River**	**79.91**	**10**	**P**		**P**	**20 20 50.9**	**+1.4**
M17K				IAmb		IAmb	20 20 52.1	
	comp=Z,9.6nm,0.9s							
K15K	**Wolf Creek Mou**	**80.16**	**8**	**P**		**P**	**20 20 52.2**	**+1.4**
K15K				IAmb		IAmb	20 20 53.2	
	comp=Z,7.7nm,0.8s							
L18K	**Granite Mounta**	**80.80**	**10**	**P**		**P**	**20 20 55.6**	**+1.3**
L18K				IAmb		IAmb	20 20 56.5	
	comp=Z,6.6nm,1.0s							
M19K	**Big River Lodg**	**80.91**	**11**	**P**		**P**	**20 20 54.9**	**0.0**
M19K				IAmb		IAmb	20 21 33.5	
	comp=Z,13nm,1.4s							
K17K	**Iditarod**	**81.02**	**9**	**P**		**P**	**20 20 56.0**	**+0.7**
K17K				IAmb		IAmb	20 20 56.7	
	comp=Z,8.4nm,1.1s							
L19K	**White Mountain**	**81.09**	**11**	**P**		**P**	**20 20 56.2**	**+0.4**
J16K	**Anvik River**	**81.23**	**8**	**P**		**P**	**20 20 57.6**	**+1.1**
J16K				IAmb		IAmb	20 21 26.8	
	comp=Z,7.6nm,1.1s							
SUA	**Susitna One**	**81.24**	**13**	**P**		**P**	**20 20 55.9**	**-0.7**
SUA				IAmb		IAmb	20 20 58.4	
	comp=Z,10nm,1.0s							
J17K	**VABM Dome**	**81.55**	**9**	**P**		**P**	**20 20 59.5**	**+1.5**
GLI	**Glacier Island**	**81.56**	**15**	**P**		**P**	**20 20 58.2**	**0.0**
GLI				IAmb		IAmb	20 20 58.9	
	comp=Z,7.5nm,0.8s							
GHO	**Glory Hole Cre**	**81.91**	**14**			**P**	**20 21 00.2**	**+0.1**
GHO				IAmb		IAmb	20 21 01.0	
	comp=Z,7.9nm,0.6s							
J18K	**Innoko River**	**81.97**	**10**	**P**		**P**	**20 21 00.6**	**+0.3**
SCM	**Sheep Creek Mo**	**82.33**	**14**	**P**		**P**	**20 21 02.4**	**+0.2**
J19K	**Poorman**	**82.64**	**10**	**P**		**P**	**20 21 04.6**	**+0.9**
CAST	**Castle Rocks**	**82.74**	**11**	**P**		**P**	**20 21 03.6**	**-0.6**
M24K	**Tolsona, Glenn**	**82.84**	**15**	**P**		**P**	**20 21 05.8**	**+1.0**
M24K				IAmb		IAmb	20 21 23.7	
	comp=Z,11nm,1.3s							

BELA	**Belgrano 2**	**82.99**	**173**		**P**		**P**	**20 21 05.2**	**-0.2**
SEY	**Seymchan**	**82.99**	**347**		**P**		**P**	**20 21 05.2**	**-0.2**
	comp=Z,4.0nm,0.8s,baz=146,slow=8.9,SNR=5.8								
	comp=Z,4.0nm,0.8s								
J20K	**Nowinta River**	**83.06**	**10**		**P**		**P**	**20 21 06.3**	**+0.6**
J20K					IAmb		IAmb	20 21 06.7	
	comp=Z,4.0nm,0.7s								
TRF	**Thorofare Moun**	**83.12**	**12**		**P**		**P**	**20 21 06.1**	**-0.2**
TRF					IAmb		IAmb	20 21 06.8	
	comp=Z,7.0nm,0.8s								
RND	**Reindeer**	**83.38**	**13**		**P**		**P**	**20 21 07.7**	**+0.3**
BPAW	**Bear Paw Mtn.**	**83.56**	**12**		**P**		**P**	**20 21 07.6**	**-0.7**
M27K	**Edge Creek, AK**	**84.14**	**16**		**P**		**P**	**20 21 12.2**	**+0.8**
M27K					IAmb		IAmb	20 21 25.6	
	comp=Z,11nm,1.4s								
G19K	**Purcell Mounta**	**84.43**	**8**		**P**		**P**	**20 21 12.0**	**-0.6**
WRH	**Wood River Hil**	**84.48**	**13**		**P**		**P**	**20 21 12.7**	**-0.1**
WRH					IAmb		IAmb	20 21 14.3	
	comp=Z,12nm,1.3s								
CCB	**Clear Creek Bu**	**84.69**	**13**		**P**		**P**	**20 21 13.2**	**-0.6**
CCB					IAmb		IAmb	20 21 14.0	
	comp=Z,5.3nm,0.8s								
ILAR	**Eielson Array**	**84.99**	**13**		**P**		**P**	**20 21 15.2**	**-0.1**
	comp=Z,1.5nm,0.6s,baz=225,slow=5.8,SNR=11								
	comp=Z,1.5nm,0.6s								
J25K	**Salcha River,**	**85.19**	**14**		**P**		**P**	**20 21 16.8**	**+0.4**
J25K					IAmb		IAmb	20 21 17.4	
	comp=Z,4.7nm,0.7s								
G21K	**Allakaket**	**85.32**	**10**		**P**		**P**	**20 21 17.0**	**+0.1**
TXAR	**Lajitas Array**	**85.33**	**58**		**P**		**P**	**20 21 19.4**	**+1.5**
	comp=Z,0.9nm,0.8s,baz=234,slow=4.0,SNR=8.0								
	comp=Z,0.9nm,0.8s								
M30M	**Minto, Yukon**	**85.74**	**18**		**P**		**P**	**20 21 19.7**	**+0.6**
PDAR	**Pinedale Array**	**86.56**	**43**		**P**		**P**	**20 21 24.1**	**+0.4**
PDAR	**Pinedale Array**	**86.56**	**43**		**P**		**P**	**20 21 24.6**	**+0.9**
	comp=Z,0.5nm,0.5s,baz=270,slow=3.0,SNR=5.3								
	comp=Z,0.5nm,0.5s								
I28M	**Miner Creek**	**87.17**	**15**		**P**		**P**	**20 21 26.3**	**+0.5**
D22K	**Ayikyak River**	**87.62**	**9**		**P**		**P**	**20 21 28.4**	**+0.6**
BMAR	**Burnt Mountain**	**87.77**	**12**		**P**		**P**	**20 21 28.8**	**+0.2**
CMAR	**Chiang Mai Arr**	**88.82**	**290**		**P**		**P**	**20 21 36.1**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=108,slow=2.1,SNR=5.6								
	comp=Z,0.4nm,0.3s								
YKA	**Yellowknife Ar**	**93.45**	**25**		**P**		**P**	**20 21 55.3**	**+0.4**
	comp=Z,0.5nm,0.6s,baz=252,slow=4.2,SNR=3.7								
	comp=Z,0.5nm,0.6s								
BVAR	**Borovoye Array**	**116.33**	**321**		PKP		**PKiKP**	**20 27 20.0**	**-0.3**
	comp=Z,1.0nm,0.4s,baz=125,slow=2.3,SNR=4.5								
ARCES	**ARCESS Array B**	**125.51**	**350**		PKP		**PKiKP**	**20 27 37.8**	**-0.1**
	comp=Z,5.3nm,1.0s,baz=8.7,slow=1.6,SNR=10								
FINES	**FINESS Array B**	**132.42**	**345**		PKP		**PKiKP**	**20 27 51.7**	**-0.3**
	comp=Z,1.6nm,1.0s,baz=90,slow=1.7,SNR=4.1								
HFS	**Hagfors**	**136.12**	**351**		PKP		**PKPdf**	**20 27 57.3**	**-0.4**
	comp=Z,0.8nm,0.7s,baz=311,slow=3.1,SNR=1.8								
BNN	**Bunyan**	**143.25**	**313**				**PKPdf**	**20 28 09.8**	**-1.8**
BUR08	**Bucovina Ar. S**	**143.94**	**333**				PKPab	20 28 10.8	-0.6
BURAR	**Bucovina Array**	**143.96**	**333**	⇓	P		**PKPdf**	**20 28 12.6**	**+0.1**
TLCR		**143.99**	**327**	⇑	P		**PKPdf**	**20 28 12.0**	**-0.4**
SCTR	**Scanteiesti**	**144.07**	**328**	⇓	P		**PKPdf**	**20 28 12.5**	**0.0**
TESR	**Tescani**	**144.13**	**330**	⇓	P		**PKPdf**	**20 28 12.1**	**-0.6**
JURR	**Jurilovca**	**144.23**	**326**	⇑	P		PKPbc	20 28 11.5	-0.7
BRTR	**Keskin Array B**	**144.34**	**316**				PKPbc	20 28 11.2	-1.8
BRTR	**Keskin Array B**	**144.34**	**316**		PKP		**PKPdf**	**20 28 13.5**	**+0.1**
	comp=Z,1.8nm,0.7s,baz=116,slow=2.9,SNR=6.9								
CFR	**Carcaliu**	**144.34**	**327**	⇓	P		**PKPdf**	**20 28 13.0**	**0.0**
ODBI	**Odobesti**	**144.47**	**329**	⇓	P		**PKiKP**	**20 28 14.8**	**-2.3**
VRI	**Vrincioaia**	**144.56**	**330**	⇑	P		**PKPab**	**20 28 13.3**	**-0.3**
PLOR	**Plostina**	**144.61**	**330**	⇑	P		**PKPab**	**20 28 14.1**	**+0.3**
CLL	**Collm**	**144.67**	**348**				**PKPab**	**20 28 13.3**	**-0.5**
CLL	**Collm**	**144.67**	**348**	⇓	*i* PKPbc		**PKPab**	**20 28 13.7**	**-0.1**
	comp=Z,11nm,0.9s								
ARCR	**ARCALIA**	**144.74**	**333**	⇑	P		**PKPab**	**20 28 14.4**	**+0.1**
TURR	**Turia**	**144.77**	**330**	⇑	P		**PKPab**	**20 28 15.0**	**+0.6**
HARR	**Harsova**	**144.78**	**327**	⇑	P		**PKPab**	**20 28 15.1**	**+0.7**
TLBR	**Topalu**	**144.82**	**327**	⇑	P		**PKPab**	**20 28 14.3**	**-0.3**
COVR	**Voineasa-Covas**	**144.83**	**330**	⇓	P		**PKPdf**	**20 28 12.9**	**-1.0**
OZUR		**144.84**	**331**	⇑	P		**PKiKP**	**20 28 15.7**	**-2.2**
BRG	**Berggiesshubel**	**144.88**	**347**	*i*	P		**PKPab**	**20 28 15.0**	**+0.3**
BRG					Amp			20 28 15.7	
	comp=Z,5.1nm,0.8s								
BOSR	**Bodos**	**144.92**	**331**	⇑	P		**PKPab**	**20 28 15.7**	**+0.8**
MORC	**Moravsky Berou**	**144.97**	**342**	*e*	PKP		**PKPab**	**20 28 15.2**	**+0.1**
NEHR	**Nehoiu**	**145.09**	**329**	⇑	P		**PKPab**	**20 28 15.1**	**-0.6**
DOPR	**Dopca**	**145.12**	**331**	⇓	P		**PKiKP**	**20 28 16.5**	**-2.0**
MLR	**Muntele Rosu**	**145.21**	**330**	⇑	P		**PKPab**	**20 28 15.4**	**-0.9**
MARR	**Marisel-Cluj**	**145.59**	**334**	⇓	P		**PKPab**	**20 28 17.0**	**-0.6**
VRAC	**Vranov**	**145.66**	**343**	*e*	PKP		**PKPab**	**20 28 17.3**	**-0.4**
MMAI	**Mount Meron Ar**	**145.87**	**304**		PKPbc		**PKPab**	**20 28 18.7**	**-0.5**
	comp=Z,4.2nm,0.6s,baz=69,slow=4.7,SNR=20								
ARR	**Arges**	**145.93**	**331**	⇑	P		**PKiKP**	**20 28 19.2**	**-1.0**
KRUC	**Moravsky**	**145.94**	**343**	*e*	PKP		**PKPab**	**20 28 18.0**	**-0.8**
GEC2	**GERESS Array S**	**146.84**	**346**				**PKPbc**	**20 28 19.9**	**0.0**
GERES	**GERESS Array B**	**146.84**	**346**		PKPbc		**PKiKP**	**20 28 20.6**	**-1.4**
	comp=Z,1.1nm,0.7s,baz=18,slow=4.8,SNR=6.0								
BZS	**Buzias**	**147.07**	**334**	⇑	P		**PKiKP**	**20 28 21.1**	**-1.4**
ELND	**Elena**	**147.07**	**327**	⇑	P		**PKiKP**	**20 28 21.4**	**-1.1**
HERR	**Herculane**	**147.31**	**332**	⇓	P		**PKiKP**	**20 28 21.6**	**-1.4**
BLKB	**Belogradchik**	**148.16**	**331**	⇓	P		**PKiKP**	**20 28 23.9**	**-1.0**
BOVS	**Bovan**	**148.60**	**332**	⇓	P		**PKiKP**	**20 28 24.4**	**-1.2**
CIMO	**Cimolais**	**149.51**	**345**				**PKPbc**	**20 28 25.2**	**-1.5**
FNA	**Florina**	**150.94**	**328**				**PKPbc**	**20 28 29.5**	**-0.8**
BNI	**Bardonecchia**	**151.78**	**353**				**PKiKP**	**20 28 32.7**	**+0.3**

BJI ***22*** *20:10:56.8±0.0, 41.1°N×140.6°E, h148km, mb4.7/54, mB4.7/16*

MOS ***22*** *20:11:01.3±0.9, 41.2°N×140.3°E, h158km, mb4.5/47, Error ellipse: s-maj=5.8km s-min=4.4km az=109.2*

NEIC ***22*** *20:11:02.8±2.1, 41.2°N±0.0°×140.3°E±0.0°, h152km±5km, mb4.6/238, Error ellipse: s-maj=10.7km s-min=7.1km az=125.0*

NIED ***22*** *20:11:02.7, 41.2°N×140.3°E, h148km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}1.67; $M_{\theta\theta}$-2.45; $M_{\phi\phi}$0.79; $M_{r\theta}$-0.00; $M_{\theta\phi}$-2.76; $M_{\phi r}$-3.66; Fault plane solution: $M_0$5.04000×10^{15} NP1: ϕ_s201.00000°,δ76.00000°,λ48.00000°. NP2:ϕ_s96.00000°, δ44.00000°,λ160.00000°.*

JMA ***22*** *20:11:02.7±0.1, 41.2°N±0.3°×140.4°E±0.7, h148km, MD4.3/40, MV3.9/40, TSUGARU PENINSULA REGION*

JMA Felt I J1 at TSUGARU PENINSULA REGION.

IDC ***22*** *20:11:02.7±1.2, 41.2°N×140.3°E, h156km±10km, mb3.9/30, mbtmp4.4/37, Error ellipse: s-maj=10.9km s-min=9.3km az=155.0*

ISC 22 20:11:02.0±0.4,**41°23N**±0°03'×**140°37E**±0°04,**h152**km±3km, **h152**km:**pP-P**,**n731**,σ1**918**/707,**mb4.6**/190,**20C-12D**, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
JSI2	**Shiura 2**	**0.18**	**171**	*i*	P	**Pn**	**20 11 22.8**	**+0.2**
JSI2					S	**Sn**	**20 11 38.0**	**-0.2**
JSI2	**Shiura 2**	**0.18**	**171**		A	A	20 11 22.8	
	comp=E,50nm,0.9s,comp=N,19nm,0.8s							
JSR	**Shiriuchi**	**0.30**	**6**	*i*	P	**Pn**	**20 11 22.9**	**+0.1**
JSR					S	**Sn**	**20 11 38.1**	**-0.7**
JOMM	**Oshimamatsumae**	**0.40**	**317**	*i*	P	**Pn**	**20 11 23.5**	**+0.3**
JOMM					S	**Sn**	**20 11 39.4**	**+0.1**
JOMM	**Oshimamatsumae**	**0.40**	**317**		A	A	20 11 23.5	
	comp=E,11nm,1.1s,comp=N,8.0nm,3.6s							
JOT	**Ohata**	**0.53**	**73**	*i*	P	**Pn**	**20 11 24.1**	**+0.4**
JOT	**Ohata**	**0.53**	**73**		A	A	20 11 24.1	
	comp=E,6.0nm,2.2s,comp=N,5.0nm,1.2s							
JHHS	**Hirosakihyakuz**	**0.58**	**181**		A	A	20 11 24.3	
	comp=E,51nm,1.2s,comp=N,32nm,0.5s							
JTM	**Tenmabayashi**	**0.69**	**130**		P	**Pn**	**20 11 24.9**	**+0.2**
JTM	**Tenmabayashi**	**0.69**	**130**		Pn	**Pn**	**20 11 24.7**	**0.0**
JTM						**Sn**	**20 11 41.2**	**-0.7**
JTM	**Tenmabayashi**	**0.69**	**130**	⇓	*i* P	**Pn**	**20 11 25.0**	**+0.2**
JTM				⇓	S	**Sn**	**20 11 41.6**	**-0.3**
JTM	**Tenmabayashi**	**0.69**	**130**		A	A	20 11 25.0	
	comp=E,18nm,2.2s,comp=N,16nm,1.9s							
JIW	**Iwasaki**	**0.70**	**204**	*i*	P	**Pn**	**20 11 25.1**	**+0.3**
JIW					S	**Sn**	**20 11 42.3**	**+0.2**
JIW	**Iwasaki**	**0.70**	**204**		A	A	20 11 25.1	
	comp=E,17nm,4.3s,comp=N,8.0nm,2.1s							
JAHD	**Aomorihigashid**	**0.73**	**87**		A	A	20 11 25.3	
	comp=E,19nm,1.8s,comp=N,23nm,1.1s							
JKB	**Kayabe**	**0.82**	**37**	*i*	P	**Pn**	**20 11 26.2**	**+0.6**
JYM2	**Yakumo 2**	**0.89**	**360**	*i*	P	**Pn**	**20 11 26.6**	**+0.5**
JYM2					S	**Sn**	**20 11 44.7**	**+0.1**
JYM2	**Yakumo 2**	**0.89**	**360**		A	A	20 11 26.6	

	comp=E,3.0nm,0.9s,comp=N,4.0nm,1.9s							
JNTW	**Noshirotokiwa**	**0.97**	**190**		A	A	20 11 27.2	
	comp=E,38nm,2.7s,comp=N,18nm,3.2s							
JAH	**Hinai**	**1.06**	**169**	⇓	*i* P	**Pn**	**20 11 27.9**	**+0.3**
JAH				⇓	S	**Sn**	**20 11 47.2**	**+0.2**
JAH	**Hinai**	**1.06**	**169**		A	A	20 11 27.9	
	comp=E,24nm,2.7s,comp=N,8.0nm,1.1s							
JOSM	**Okushiri--Mats**	**1.08**	**322**	*i*	P	**Pn**	**20 11 27.9**	**+0.2**
JOSM					S	**Sn**	**20 11 46.7**	**-0.7**
JOSM	**Okushiri--Mats**	**1.08**	**322**		A	A	20 11 27.9	
	comp=E,4.0nm,1.6s,comp=N,7.0nm,2.3s							
JANG	**Nango**	**1.22**	**134**	⇓	*i* P	**Pn**	**20 11 28.8**	**-0.3**
JANG	**Nango**	**1.22**	**134**		A	A	20 11 28.8	
	comp=E,4.0nm,1.6s,comp=N,5.0nm,1.3s							
JHST	**Hiyamasetana**	**1.25**	**343**	*i*	P	**Pn**	**20 11 29.9**	**+0.7**
JHST					S	**Sn**	**20 11 50.2**	**+0.1**
JNB	**Noboribetsu**	**1.33**	**22**	*i*	P	**Pn**	**20 11 30.6**	**+0.6**
JKEN	**Kujiedanarisaw**	**1.44**	**135**		A	A	20 11 31.7	
	comp=E,13nm,0.9s,comp=N,10.0nm,0.5s							
JSZI	**Iwateshizukuis**	**1.55**	**163**		A	A	20 11 32.8	
	comp=E,9.0nm,2.3s,comp=N,10.0nm,1.7s							
JOG3	**Oga3**	**1.64**	**217**		A	A	20 11 31.0	
	comp=E,17nm,2.4s,comp=N,11nm,1.0s							
JYW	**Yuwa**	**1.69**	**184**		A	A	20 11 34.4	
	comp=E,19nm,0.7s,comp=N,19nm,0.5s							
JEW	**Eniwo**	**1.80**	**26**		P	**Pn**	**20 11 36.2**	**+1.3**
JEW					*e*S	**Sn**	**20 12 02.2**	**+1.9**
JEW	**Eniwo**	**1.80**	**26**		A	A	20 11 36.2	
	comp=E,5.0nm,1.1s,comp=N,4.0nm,1.0s							
JIAM	**Iburiatsuma**	**1.81**	**39**		A	A	20 11 35.7	
	comp=E,10.0nm,0.8s,comp=N,14nm,1.2s							
JRG	**Rokugo**	**1.84**	**174**		A	A	20 11 36.1	
	comp=E,9.0nm,1.8s,comp=N,12nm,0.8s							
JOM	**Ohasama**	**1.89**	**158**	*i*	P	**Pn**	**20 11 35.7**	**-0.4**
JOM					S	**Sn**	**20 12 01.5**	**-0.7**
JOM	**Ohasama**	**1.89**	**158**		A	A	20 11 35.7	
	comp=E,8.0nm,0.9s,comp=N,3.0nm,0.7s							
JSHD	**Hidakashinhida**	**1.96**	**52**		A	A

TYV pmax pmax
comp=Z,100nm,4.3s
TYV smax smax
comp=N,9.0nm,1.7s
TYV smax smax
comp=E,5.0nm,1.7s
TYV smax smax
comp=N,200nm,6.2s
GRNR Gornyy 9.93 345 ⇓ *i*P **Pn 20 13 20.4 -0.5**
GRNR pmax pmax
comp=Z,220nm,0.7s
GRNR MLR MLR
comp=Z,220nm,17.0s
KLR Kul'dur 10.04 326 P **Pn 20 13 23.4 +1.0**
comp=Z,4.0nm,0.5s,baz=133,slow=12,SNR=22
KLR Kul'dur 10.04 326 *ce*P **Pn 20 13 21.1 -1.3**
KLR pmax pmax
comp=Z,11nm,1.3s
KSRS Korea Array 10.35 253 P **Pn 20 13 28.1 +1.5**
comp=Z,2.6nm,0.7s,baz=65,slow=13,SNR=9.3
JNU Nakatsue 11.08 226 Pn **Pn 20 13 35.7 -0.6**
SNY Shenyang 12.60 278 ⇑P **Pn 20 13 56.8 +0.9**
SNY pmax pmax
comp=Z,14nm,1.0s
HEH HeiHe 12.76 319 *e*P **Pn 20 13 56.1 -1.8**
HEH pmax pmax
comp=Z,12nm,1.0s
JCJ Chichijima 14.18 173 Pn Pn 20 14 11.2 -4.9
JCJ Chichijima 14.18 173 P Pn 20 14 06.9 -9.2
comp=Z,49nm,0.4s,baz=271,slow=22,SNR=8.8
JCJ S Sn 20 16 36.4 -17
comp=Z,22nm,0.3s,baz=266,slow=23,SNR=1.7
ZEA Zeya 15.30 329 *e*P **Pn 20 14 28.9 -0.9**
ZEA pmax pmax
comp=N,20nm,0.7s
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=Z,50nm,0.6s
HIA Hailar 16.57 306 P **P 20 14 42.5 -2.7**
HIA IAmb IAmb 20 14 45.7
comp=Z,18nm,0.6s
HIA Hailar 16.57 306 P **P 20 14 42.5 -2.7**
HIA pmax pmax
comp=Z,18nm,0.6s
PEA0B Petropavlovsk- 16.68 39 **P 20 14 44.3 -2.1**
PEA0B IAmb IAmb 20 15 17.0
comp=Z,51nm,1.4s
PEA0B Petropavlovsk- 16.68 39 P **P 20 14 44.3 -2.1**
PEA0B pmax pmax
comp=Z,51nm,1.4s
PETK Petropavlovsk- 16.68 39 **P 20 14 44.4 -2.0**
PETK Petropavlovsk- 16.68 39 P **P 20 14 45.6 -0.7**
comp=Z,2.7nm,0.6s,baz=234,slow=4.5,SNR=4.5
PETK Petropavlovsk- 16.68 39 P **P 20 14 44.4 -2.0**
BJT Baijiatuau 18.40 274 P **P 20 15 03.0 -2.4**
BJT Baijiatuau 18.40 274 P **P 20 15 03.0 -2.4**
BJT pmax pmax
comp=Z,12nm,1.0s
TIA Tai'an 18.80 262 P **P 20 15 08.6 -1.2**
TIA pmax pmax
comp=Z,10.0nm,0.6s
MA2 Magadan 19.48 16 P **P 20 15 15.3 -1.5**
MA2 IAmb IAmb 20 15 21.7
comp=Z,13nm,0.6s
MA2 Magadan 19.48 16 P **P 20 15 16.7 -0.2**
comp=Z,15nm,0.6s,baz=226,slow=10.0,SNR=12
MA2 Magadan 19.48 16 *ce*P **P 20 15 16.3 -0.6**
MA2 pmax pmax
comp=Z,13nm,0.8s
MA2 Magadan 19.48 16 P **P 20 15 16.9 0.0**
comp=Z,21nm,0.7s
NJ2 Nanjing 19.51 249 *e*P **P 20 15 18.1 +0.7**
NJ2 pmax pmax
comp=Z,8.0nm,0.6s
HNS HongShan 20.20 267 ⇓P **P 20 15 22.0 -2.8**
HNS pmax pmax
comp=Z,11nm,0.8s
CIT Chita 21.22 310 *e*P **P 20 15 32.2 -3.5**
CIT pmax pmax
comp=Z,32nm,1.4s
HHC Hu-ho-hao-te 21.70 279 *e*P **P 20 15 39.4 -1.5**
HHC pmax pmax
comp=Z,24nm,0.8s
HHC pmax pmax
comp=Z,86nm,5.3s
YAK Yakutsk 21.80 346 P **P 20 15 37.9 -3.7**
YAK Yakutsk 21.80 346 P **P 20 15 39.1 -2.6**
comp=Z,21nm,0.4s,baz=167,slow=5.0,SNR=18
YAK Yakutsk 21.80 346 *e*P **P 20 15 39.1 -2.6**
YAK *e*S **S 20 19 29.8 -2.4**
YAK *e**SS **sS 20 20 17.1 -2.5**
YAK pmax pmax
comp=Z,37nm,0.9s
YAK pmax pmax
comp=N,8.0nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK smax smax
comp=N,134nm,1.5s
YAK smax smax
comp=E,81nm,1.7s
SEY Seymchan 22.88 14 P **P 20 15 51.7 -0.3**
comp=E,4.8nm,0.4s,baz=207,slow=12,SNR=18
comp=E,4.8nm,0.4s
SEY Seymchan 22.88 14 *ce*P **P 20 15 52.7 +0.7**
SEY pmax pmax
comp=Z,8.0nm,0.8s
BTO Baotou 22.89 279 *e*P **P 20 15 51.6 -1.0**
BTO pP **pP 20 16 20.0 0.0**
BTO PP **PnPn 20 16 27.9 +0.7**
BTO sP **sP 20 16 36.9 -1.5**
BTO pmax pmax
comp=Z,26nm,0.8s
BTO pmax pmax
comp=Z,190nm,5.8s
BOD Bodaibo 23.61 324 *e*P **P 20 15 57.0 -1.8**
BOD pmax pmax
comp=Z,84nm,0.8s
YULB Yu-li 23.92 228 P **P 20 16 00.8 -1.1**
YULB IAmb IAmb 20 16 42.2
comp=Z,5.6nm,0.9s
TPUB Ta-pu 24.36 229 P **P 20 16 04.6 -1.4**
ULN Ulaanbaatar 24.52 297 P **P 20 16 04.6 -2.8**
ULN Ulaanbaatar 24.52 297 *ce*P **P 20 16 06.4 -1.0**
ULN pmax pmax
comp=Z,7.0nm,0.8s
SONM Songino Array 24.96 297 P **P 20 16 08.8 -2.5**
SONM Songino Array 24.96 297 P **P 20 16 11.1 -0.2**
comp=Z,4.0nm,0.6s,baz=94,slow=8.0,SNR=12
SONM ScP **ScP 20 23 06.5 -0.5**
comp=Z,1.6nm,0.9s,baz=132,slow=2.1,SNR=4.8
comp=Z,4.0nm,0.6s
SONM Songino Array 24.96 297 P **P 20 16 08.8 -2.5**
SONM pmax pmax
comp=Z,12nm,1.4s
XAN Xi'an 25.82 264 ⇑P **P 20 16 17.3 -1.9**
XAN pmax pmax
comp=Z,13nm,0.6s
ZAK Zakamensk 27.18 302 *e*P **P 20 16 30.8 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.1s
MOY Mondy 28.74 305 *e*P **P 20 16 45.3 +0.2**
MOY pmax pmax
comp=Z,14nm,1.9s
BILL Bilibino 30.28 19 *i*P **P 20 16 59.4 +1.1**
BILL pmax pmax
comp=Z,6.0nm,1.1s
GTA Gaotai 30.78 280 P **P 20 17 02.3 -1.0**
GTA ScP **ScP 20 23 25.8 +0.7**
GTA pmax pmax
comp=Z,4.0nm,0.8s
TIXI Tiksi 31.03 353 P **P 20 17 03.5 -1.4**
TIXI Tiksi 31.03 353 *ce*P **P 20 17 03.5 -1.4**
TIXI pmax pmax
comp=Z,6.0nm,1.9s
PZH PanZhiHua 34.97 257 P **P 20 17 39.8 0.0**
PZH pmax pmax
comp=Z,10.0nm,0.6s
SPIA Saint Paul Isl 35.10 46 P **P 20 17 40.3 0.0**
baz=265
P08K Saint George I 35.44 47 P **P 20 17 42.6 -0.6**
baz=266
GOMU GeErMu 35.59 277 P **P 20 17 44.3 -0.9**
GOMU S **S 20 23 05.5 -4.6**
GOMU pmax pmax
comp=Z,17nm,0.8s
GOMU LR LR
comp=Z,370nm,18.7s
GOMU LR LR
comp=Z,430nm,18.0s
GOMU LR LR
comp=Z,560nm,18.2s
GAMB Gambell 35.63 34 P **P 20 17 44.5 -0.2**
baz=254
NIKH Nikolski High 35.77 53 P **P 20 17 45.5 -0.6**
baz=272
SLVN Son La 36.59 248 P **P 20 17 52.9 -0.6**
UNV Unalaska Valle 37.14 52 P **P 20 17 57.6 -0.1**
baz=272
M11K Mekoryuk 37.52 41 P **P 20 18 00.7 -0.1**
baz=264
TNA Tin City 37.67 32 P **P 20 18 01.9 -0.1**
baz=256
F14K Arctic Creek 38.30 33 P **P 20 18 07.5 +0.2**
baz=257
WMQ Urumqi 38.37 292 *e*P **P 20 18 08.8 +0.5**
WMQ pmax pmax
comp=Z,26nm,0.7s
K13K Kusilvak Mount 38.44 39 P **P 20 18 09.7 +1.2**
K13K IAmb IAmb 20 18 11.4
comp=Z,21nm,1.2s
K13K Kusilvak Mount 38.44 39 P **P 20 18 09.0 +0.5**
baz=263
ZAA0 Zalesovo Array 38.58 309 P **P 20 18 09.4 -0.3**
ZALV Zalesovo Beam 38.58 309 P **P 20 18 09.8 0.0**
ZALV Zalesovo Beam 38.58 309 P **P 20 18 09.6 -0.1**
comp=Z,20nm,0.7s,baz=87,slow=8.6,SNR=89
ZALV ScP **ScP 20 23 52.2 -0.3**
comp=Z,2.7nm,0.6s,baz=93,slow=2.6,SNR=12
comp=Z,20nm,0.7s
FALS False Pass 38.90 50 P **P 20 18 12.4 0.0**
baz=273
M13K Dall Lake 38.94 41 P **P 20 18 14.7 +2.1**
M13K IAmb IAmb 20 18 38.4
comp=Z,16nm,0.9s
M13K Dall Lake 38.94 41 P **P 20 18 13.1 +0.5**
baz=267
F15K North Star Dit 39.03 33 P **P 20 18 14.5 +1.2**
F15K IAmb IAmb 20 18 51.4
comp=Z,20nm,1.3s
F15K North Star Dit 39.03 33 P **P 20 18 13.6 +0.3**
baz=259
J14K Nanvaranak Lak 39.04 37 P **P 20 18 14.0 +0.5**
baz=264
L14K Kuka Creek 39.32 40 P **P 20 18 17.7 +1.9**
L14K IAmb IAmb 20 18 19.1
comp=Z,21nm,1.1s
L14K Kuka Creek 39.32 40 P **P 20 18 16.0 +0.2**
baz=266
C16K Lisburne Hills 39.35 28 P **P 20 18 16.6 +0.6**
baz=255
ZSN Zaisan 39.46 298 *e*P **P 20 18 17.7 +0.5**
baz=298
ZSN Zaisan 39.46 298 *e*P **P 20 18 17.7 +0.5**
S12K Black Hills 39.62 49 P **P 20 18 18.5 +0.1**
baz=273
M14K Bethel 39.64 41 P **P 20 18 19.7 +1.2**
M14K Bethel 39.64 41 P **P 20 18 18.7 +0.2**
baz=267,SNR=7.7
UBPT Khong Chiam 39.74 240 P **P 20 18 20.7 +0.9**
N14K Kuskokwak Cree 39.75 42 P **P 20 18 19.9 +0.6**
baz=269
CRAI Chiangrai 39.80 251 P **P 20 18 21.2 +0.8**
H16K Elim 39.86 34 P **P 20 18 21.1 +0.9**
baz=262
L15K Ungalak Mounta 39.92 39 P **P 20 18 21.2 +0.5**
baz=267
K15K Wolf Creek Mou 39.94 38 P **P 20 18 22.6 +1.7**
K15K Wolf Creek Mou 39.94 38 P **P 20 18 21.9 +1.0**
baz=266,SNR=6.8
O14K Tigyukauivet M 39.95 43 P **P 20 18 22.7 +1.6**
O14K Tigyukauivet M 39.95 43 P **P 20 18 21.3 +0.2**
baz=270
D17K Noatak River 40.04 30 P **P 20 18 21.8 +0.1**
baz=258
C17K DeLong Mountai 40.17 28 P **P 20 18 23.8 +1.0**
baz=257
M15K Kasigluk River 40.26 41 P **P 20 18 23.6 0.0**
baz=269,SNR=8.4
E17K Hotham Inlet 40.40 31 P **P 20 18 24.7 +0.1**
baz=260
J16K Anvik River 40.43 37 P **P 20 18 25.0 0.0**
baz=266
I17K Unalakleet 40.44 36 P **P 20 18 25.2 +0.2**
baz=265
F17K Baldwin Pennin 40.52 32 P **P 20 18 26.4 +0.8**
F17K IAmb IAmb 20 18 33.0
comp=Z,29nm,1.4s
F17K Baldwin Pennin 40.52 32 P **P 20 18 25.6 0.0**
baz=261
SDPT Sand Point 40.55 49 P **P 20 18 25.9 -0.1**
baz=275
N15K Kwethluk River 40.55 42 P **P 20 18 27.8 +1.8**
N15K IAmb IAmb 20 18 29.0
comp=Z,18nm,0.8s
N15K Kwethluk River 40.55 42 P **P 20 18 26.5 +0.5**
baz=270,SNR=6.1
G17K Kiwalik Mounta 40.63 33 P **P 20 18 27.0 +0.4**
baz=263
O15K Ungalikthiuk R 40.69 43 P **P 20 18 27.7 +0.5**
baz=271
B18K Kokilk River 40.86 27 P **P 20 18 29.4 +1.0**
baz=257
L16K Owhat River 40.88 39 IAmb IAmb 20 18 31.3
comp=Z,15nm,1.0s
L16K Owhat River 40.88 39 P **P 20 18 29.4 +0.8**
baz=268
H17K Granite Mounta 40.88 34 P **P 20 18 28.7 0.0**
baz=264
C18K Utukok River 40.92 28 P **P 20 18 29.2 +0.2**
baz=259
E18K Tukpahlearik C 40.92 30 P **P 20 18 29.7 +0.7**
baz=261
PHRA Phrae 41.04 249 P **P 20 18 31.3 +0.8**
CHNA Chernabura Isl 41.11 50 P **P 20 18 31.3 +0.7**
baz=276
CNBA Chernabura Isl 41.11 50 P **P 20 18 30.9 +0.3**
M16K Timber Creek 41.11 40 P **P 20 18 31.9 +1.3**
M16K PcP **PcP 20 20 28.6 +1.6**
M16K Timber Creek 41.11 40 P **P 20 18 29.8 -0.8**
baz=270,SNR=7.3
J17K VABM Dome 41.13 37 IAmb IAmb 20 18 33.8
comp=Z,29nm,1.2s
J17K VABM Dome 41.13 37 P **P 20 18 30.5 -0.1**
baz=267,SNR=8.9
F18K Selawik 41.18 32 P **P 20 18 30.0 -0.9**
baz=263
N16K Nishlik Lake 41.21 41 P **P 20 18 31.3 -0.1**
baz=271,SNR=7.8
MK31 Makanchi Array 41.32 298 *ce*P **P 20 18 32.4 -0.1**
MKAR Makanchi Array 41.32 298 P **P 20 18 32.5 0.0**
comp=Z,33nm,0.7s,baz=85,slow=11,SNR=213
MKAR ScP **ScP 20 24 03.1 -0.4**
comp=Z,1.8nm,0.8s,baz=74,slow=4.6,SNR=8.4
comp=Z,33nm,0.7s
L17K Donlin 41.44 39 P **P 20 18 32.6 -0.6**
baz=269
K17K Iditarod 41.45 38 IAmb IAmb 20 18 36.6
comp=Z,22nm,1.0s
K17K Iditarod 41.45 38 P **P 20 18 33.1 -0.3**
baz=268,SNR=7.2
G18K Tagagawik 41.50 33 P **P 20 18 33.8 +0.1**
baz=264
MAKZ Makanchi 41.52 298 P **P 20 18 34.0 -0.1**
MAKZ Makanchi 41.52 298 P **P 20 18 34.1 -0.1**
MAKZ pmax pmax
comp=Z,35nm,0.7s
H18K Honhosa River 41.55 34 P **P 20 18 33.8 -0.4**
baz=266
O16K Kokwok River B 41.57 42 P **P 20 18 34.5 +0.2**
baz=272
C19K Lookout Ridge 41.58 28 P **P 20 18 35.2 +0.8**
baz=260
CHGN Chignik 41.62 47 P **P 20 18 34.6 -0.2**
CHGN Chignik 41.62 47 P **P 20 18 35.5 +0.8**
baz=276
P16K Nushagak River 41.64 43 P **P 20 18 35.4 +0.5**
baz=273
CHTO Chiang Mai 41.74 250 P **P 20 18 36.6 +0.4**
CHTO IAmb IAmb 20 18 37.8
comp=Z,8.9nm,0.8s
CHTO Chiang Mai 41.74 250 P **P 20 18 36.6 +0.4**
CHTO pmax pmax
comp=Z,9.0nm,0.8s
SEM Semipalatinsk 41.84 304 *e*P **P 20 18 36.2 -0.8**
baz=304
SEM Semipalatinsk 41.84 304 *e*P **P 20 18 36.1 -0.8**
M17K Holitna River 41.85 40 P **P 20 18 38.8 +2.2**
M17K IAmb IAmb 20 18 39.9
comp=Z,22nm,0.9s
M17K Holitna River 41.85 40 P **P 20 18 37.2 +0.6**
baz=271,SNR=12
F19K Shaleruckik Mo 41.95 31 P **P 20 18 37.4 +0.2**
F19K PcP **PcP 20 20 30.6 +1.0**
F19K Shaleruckik Mo 41.95 31 P **P 20 18 37.6 +0.4**
baz=264
CMAR Chiang Mai Arr 41.98 250 P **P 20 18 38.8 +0.6**
CMAR Chiang Mai Arr 41.98 250 P **P 20 18 38.9 +0.7**
comp=Z,3.3nm,0.8s,baz=41,slow=7.0,SNR=20
comp=Z,3.3nm,0.8s
N17K Nushagak Hills 41.99 41 P **P 20 18 39.7 +1.9**
N17K IAmb IAmb 20 18 40.4
comp=Z,9.0nm,0.6s
N17K Nushagak Hills 41.99 41 P **P 20 18 38.2 +0.5**
baz=272
D19K Kuna River 42.01 29 P **P 20 18 38.5 +0.7**
baz=262
O17K Koliganek Bris 42.07 42 P **P 20 18 38.7 +0.4**
baz=273
G19K Purcell Mounta 42.16 33 P **P 20 18 39.0 0.0**
baz=266
GCSA Galena City Sc 42.16 35 P **P 20 18 39.4 +0.3**
baz=267
J18K Innoko River 42.19 37 IAmb IAmb 20 18 41.3
comp=Z,7.3nm,0.7s
J18K Innoko River 42.19 37 P **P 20 18 39.7 +0.4**
baz=269,SNR=9.0
L18K Granite Mounta 42.20 38 P **P 20 18 40.1 +0.7**
baz=270,SNR=6.2
E19K Redstone River 42.22 31 IAmb IAmb 20 18 41.3
comp=Z,8.0nm,0.8s
E19K Redstone River 42.22 31 P **P 20 18 39.9 +0.3**
baz=264
Q16K King Salmon 42.36 44 P **P 20 18 41.2 +0.5**
baz=274
H19K Roundabout Mou 42.38 33 IAmb IAmb 20 18 43.1
comp=Z,18nm,1.1s
H19K Roundabout Mou 42.38 33 P **P 20 18 41.5 +0.7**
baz=267,SNR=8.6
P17K Kvichak River 42.43 43 P **P 20 18 42.0 +0.7**
baz=274
B20K Meade River 42.57 27 P **P 20 18 42.9 +0.6**
B20K IAmb IAmb 20 18 48.9
comp=Z,14nm,0.7s
B20K PcP **PcP 20 20 32.6 +1.0**
B20K Meade River 42.57 27 P **P 20 18 42.1 -0.1**
baz=261
D20K Etivluk River 42.59 29 P **P 20 18 42.1 -0.4**
baz=263
M18K Stony River 42.62 39 P **P 20 18 42.1 -0.7**
baz=272
N18K Kilae Creek 42.62 41 P **P 20 18 45.0 +2.1**
N18K IAmb IAmb 20 18 46.1
comp=Z,19nm,0.8s
N18K Kilae Creek 42.62 41 P **P 20 18 42.7 -0.2**
baz=273,SNR=9.8
J19K Poorman 42.69 36 IAmb IAmb 20 18 45.7
comp=Z,14nm,0.8s
J19K Poorman 42.69 36 P **P 20 18 43.7 +0.4**
baz=269,SNR=14
E20K Nigu River 42.69 29 P **P 20 18 43.5 0.0**
baz=264
F20K Avaraart Lake 42.77 31 P **P 20 18 43.9 0.0**
baz=266
KURK Kurchatov 42.80 304 P **P 20 18 44.6 +0.2**
KURK Kurchatov 42.80 304 P **P 20 18 44.6 +0.2**
KURK pmax pmax
comp=Z,40nm,0.6s
SHL Shillong 42.84 264 P **P 20 18 44.4 -0.8**
SHL pmax pmax
comp=Z,8.0nm,0.6s
KURBB Kurchatov Arra 42.87 304 P **P 20 18 45.0 0.0**
comp=Z,28nm,0.5s,baz=80,slow=8.7,SNR=171
KURBB ScP **ScP 20 24 07.9 -1.7**
comp=Z,0.6nm,0.4s,baz=76,slow=3.9,SNR=4.7
comp=Z,28nm,0.5s
O18K Koktuh Hills 43.01 42 IAmb IAmb 20 18 51.0
comp=Z,9.6nm,0.6s
O18K Koktuh Hills 43.01 42 P **P 20 18 46.5 +0.5**
baz=274
H20K Anotleneega Mo 43.03 34 P **P 20 18 46.6 +0.5**
baz=268,SNR=6.0
P18K Big Mountain, 43.04 43 IAmb IAmb 20 18 49.2
comp=Z,9.4nm,0.6s
P18K Big Mountain, 43.04 43 P **P 20 18 46.5 +0.2**
baz=275,SNR=5.7
L19K White Mountain 43.06 38 P **P 20 18 46.4 +0.1**
baz=272
I20K Naaghedeneel 43.19 35 P **P 20 18 47.6 +0.3**
baz=270,SNR=5.3
CHIR Chirikof Islan 43.23 48 P **P 20 18 47.8 0.0**
baz=278
M19K Big River Lodg 43.29 39 P **P 20 18 48.6 +0.4**
baz=273
C21K Knifeblade Rid 43.29 28 P **P 20 18 47.8 -0.3**
baz=265
N19K Bonanza Creek 43.30 40 P **P 20 18 48.1 -0.4**
baz=274,SNR=5.0
J20K Nowinta River 43.33 35 IAmb IAmb 20 18 51.3
comp=Z,23nm,0.9s
J20K Nowinta River 43.33 35 P **P 20 18 47.5 -1.0**
baz=270,SNR=19
K20K Telida 43.38 37 IAmb IAmb 20 18 51.8
comp=Z,12nm,0.8s
K20K Telida 43.38 37 P **P 20 18 48.2 -0.7**
baz=272,SNR=7.9
B21K Ikpikpuk River 43.40 28 P **P 20 18 49.4 +0.5**
B21K IAmb IAmb 20 18 56.6
comp=Z,11nm,1.1s
B21K PcP **PcP 20 20 35.8 +1.4**
B21K Ikpikpuk River 43.40 28 P **P 20 18 48.4 -0.5**
baz=264
A22K Sinclair Lake 43.44 25 P **P 20 18 48.9 -0.3**
baz=262
L20K Farewell, AK 43.50 38 P **P 20 18 49.7 -0.2**
baz=273
E21K Killik River 43.53 29 P **P 20 18 49.9 -0.2**
baz=266
G21K Allakaket 43.62 32 P **P 20 18 50.7 -0.1**
baz=269
F21K Alatna River 43.65 31 P **P 20 18 51.4 +0.3**
baz=268
B22K Teshekpuk Lake 43.88 27 **P 20 18 53.1 +0.4**
B22K IAmb IAmb 20 18 59.2
comp=Z,16nm,1.4s
B22K PcP **PP 20 20 37.4 -0.3**
B22K Teshekpuk Lake 43.88 27 P **P 20 18 53.2 +0.4**
baz=265
M20K Styx River 43.88 39 P **P 20 18 52.1 -0.9**
baz=274
Q19K Cape Douglas, 43.90 43 P **P 20 18 53.0 -0.1**
baz=276,SNR=6.3
H21K Melozitna Rive 43.90 33 P **P 20 18 53.3 +0.2**
baz=270
D22K Ayikyak River 44.03 29 P **P 20 18 54.6 +0.6**
baz=267
P19K Oil Pt 44.03 42 P **P 20 18 54.3 +0.1**
baz=276
CHUM Lake Minchumin 44.15 36 P **P 20 18 54.0 -1.0**
baz=272,SNR=7.5
F22K John River 44.16 31 P **P 20 18 54.9 -0.2**
baz=269
PPLA Purkeypile 44.26 37 P **P 20 18 56.2 +0.1**
baz=274
CAST Castle Rocks 44.27 37 P **P 20 18 57.6 +1.5**
CAST IAmb IAmb 20 18 59.1
comp=Z,15nm,0.7s
CAST Castle Rocks 44.27 37 P **P 20 18 56.7 +0.6**
baz=273,SNR=17
O20K Slope Mountain 44.29 41 P **P 20 18 57.1 +0.9**
baz=276
SHLS Shalkode 44.29 294 *e*P **P 20 18 54.1 -2.6**
comp=Z,7.9nm,0.6s,baz=294
SHLS Shalkode 44.29 294 *e*P **P 20 18 54.0 -2.6**
SHLS pmax pmax
comp=Z,8.0nm,0.6s
OHAK Old Harbor 44.31 46 P **P 20 18 56.9 +0.5**
OHAK IAmb IAmb 20 18 57.5
comp=Z,13nm,0.8s

OHAK PcP **PcP** **20 20 38.7 +1.0**
OHAK Old Harbor 44.31 46 P **P** **20 18 56.5 +0.2**
baz=278
E22K Anaktuvuk Pass 44.32 30 IAmb IAmb 20 18 57.9
comp=Z,7.8nm,0.6s
E22K Anaktuvuk Pass 44.32 30 P **P** **20 18 57.5 +1.1**
baz=268
N20K Mount Spurr 44.38 40 P **P** **20 18 57.6 +0.6**
baz=275,SNR=11
G22K Bettles 44.42 32 P **P** **20 18 57.2 +0.1**
baz=270
TDK Taldyqorghan 44.42 297 *eP* **P** **20 18 57.8 +0.3**
comp=Z,11nm,0.8s,baz=296
TDK Taldyqorghan 44.42 297 *eP* **P** **20 18 57.7 +0.3**
TDK pmax pmax
comp=Z,11nm,0.8s
H22K Ishtalitna Cre 44.48 33 P **P** **20 18 57.9 +0.2**
baz=271,SNR=8.6
Q20K Shuyak Island 44.58 43 P **P** **20 18 58.8 +0.3**
baz=278
UZB Uzynbulak 44.59 294 *eP* **P** **20 18 58.9 -0.1**
baz=294
UZB Uzynbulak 44.59 294 *eP* **P** **20 18 59.0 -0.1**
UZB pmax pmax
comp=Z,3.0nm,0.4s
KDAK Kodiak Island 44.60 45 P **P** **20 18 59.2 +0.5**
KDAK PcP **PcP** **20 20 37.5 -1.3**
KDAK Kodiak Island 44.60 45 P **P** **20 18 58.6 -0.1**
baz=278
SKT Skwentna 44.63 39 P **P** **20 18 59.1 +0.1**
baz=275
BPAW Bear Paw Mtn. 44.72 36 P **P** **20 19 01.1 +1.5**
BPAW IAmb IAmb 20 19 02.3
comp=Z,8.1nm,0.8s
BPAW PcP **PcP** **20 20 40.0 +0.9**
BPAW Bear Paw Mtn. 44.72 36 P **P** **20 19 00.3 +0.7**
baz=273,SNR=7.3
D23K Nanushuk River 44.75 29 P **P** **20 19 00.8 +1.0**
baz=269
MLY Manley 44.78 34 IAmb IAmb 20 19 02.8
comp=Z,7.8nm,0.8s
MLY Manley 44.78 34 P **P** **20 19 00.2 +0.1**
baz=273,SNR=11
KTH Kantishna Hill 44.78 36 P **P** **20 19 01.9 +1.7**
C23K Itkillik River 44.80 27 P **P** **20 19 00.7 +0.6**
baz=268
COLD Coldfoot 44.93 31 P **P** **20 19 01.8 +0.6**
baz=271
ZHN Zhinishke 44.99 294 *eP* **P** **20 19 02.0 -0.2**
baz=294
ZHN Zhinishke 44.99 294 *eP* **P** **20 19 01.9 -0.2**
G23K Bananza Creek 45.01 32 IAmb IAmb 20 19 03.9
comp=Z,8.5nm,0.8s
G23K Bananza Creek 45.01 32 P **P** **20 19 02.2 +0.3**
baz=272,SNR=11
SATY Saty 45.05 294 *eP* **P** **20 19 02.6 -0.1**
baz=294
SATY Saty 45.05 294 *eP* **P** **20 19 02.5 -0.1**
SUA Susitna One 45.05 39 IAmb IAmb 20 19 05.9
comp=Z,14nm,0.9s
SUA Susitna One 45.05 39 P **P** **20 19 02.4 0.0**
baz=276,SNR=7.7
ARXS Arharly 45.06 296 *eP* **P** **20 19 02.6 -0.1**
TRF Thorofare Moun 45.08 36 P **P** **20 19 03.6 +1.0**
TRF PcP **PcP** **20 20 41.6 +1.1**
TRF Thorofare Moun 45.08 36 P **P** **20 19 02.8 +0.2**
baz=275
TOLK Toolik Lake Re 45.15 29 P **P** **20 19 03.0 0.0**
baz=270
CUT Chulitna 45.18 38 P **P** **20 19 03.5 +0.3**
baz=276
BRLK Bradley Lake 45.19 42 P **P** **20 19 04.2 +0.8**
BRLK IAmb IAmb 20 19 06.2
comp=Z,16nm,0.8s
H23K Yukon River 45.24 33 IAmb IAmb 20 19 06.7
comp=Z,10nm,0.8s
H23K Yukon River 45.24 33 P **P** **20 19 04.2 +0.5**
baz=273,SNR=14
PRZ Przheval'sk 45.25 293 IAmb IAmb 20 19 06.9
comp=Z,16nm,0.9s
BRSE Bradley Lake S 45.27 42 P **P** **20 19 04.1 +0.1**
baz=278
I23K Minto, Yukon-K 45.35 34 IAmb IAmb 20 19 07.3
comp=Z,29nm,1.5s
I23K Minto, Yukon-K 45.35 34 P **P** **20 19 05.1 +0.6**
baz=274,SNR=7.6
D24K Happy Valley 45.42 28 IAmb IAmb 20 19 06.9
comp=Z,10.0nm,0.6s
D24K Happy Valley 45.42 28 P **P** **20 19 05.4 +0.4**
baz=270,SNR=9.3
C24K Franklin Bluff 45.47 28 P **P** **20 19 06.2 +0.9**
baz=270
NEA2 Nenana 45.52 35 P **P** **20 19 07.5 +1.6**
NEA2 PcP **PcP** **20 20 42.9 +1.0**
NEA2 Nenana 45.52 35 P **P** **20 19 06.4 +0.5**
baz=275,SNR=29
E24K Your Creek 45.56 30 P **P** **20 19 06.9 +0.6**
baz=272,SNR=7.7
RC01 Rabbit Creek A 45.58 40 IAmb IAmb 20 19 08.6
comp=Z,24nm,1.1s
RC01 Rabbit Creek A 45.58 40 P **P** **20 19 06.6 +0.2**
baz=277
MCK McKinley 45.65 36 P **P** **20 19 07.1 +0.1**
baz=276,SNR=5.2
O22K Cooper Landing 45.67 41 P **P** **20 19 07.2 +0.2**
baz=278
RND Reindeer 45.72 36 IAmb IAmb 20 19 09.3
comp=Z,12nm,1.0s
CHKK Chushkaly 45.75 295 *eP* **P** **20 19 07.7 -0.3**
baz=295
CHKK Chushkaly 45.75 295 *eP* **P** **20 19 07.7 -0.3**
PMR Palmer 45.81 39 IAmb IAmb 20 19 09.8
comp=Z,11nm,0.7s
PMR Palmer 45.81 39 P **P** **20 19 08.7 +0.6**
baz=278
F24K Squaw Lake 45.81 31 P **P** **20 19 08.6 +0.4**
baz=273,SNR=5.7
MDM Murphy Dome 45.85 34 P **P** **20 19 09.8 +1.4**
MDM IAmb IAmb 20 19 11.0
comp=Z,18nm,0.8s
SEW Seward 45.86 41 P **P** **20 19 08.6 +0.1**
baz=279
H24K Noodor Dome 45.92 33 IAmb IAmb 20 19 12.1
comp=Z,18nm,1.0s
H24K Noodor Dome 45.92 33 P **P** **20 19 10.0 +0.9**
baz=274,SNR=15
MDOK Medeo 45.95 295 *eP* **P** **20 19 10.0 +0.3**
baz=294
MDOK Medeo 45.95 295 *eP* **P** **20 19 10.0 +0.3**
COLA College 46.02 34 P **P** **20 19 10.6 +0.9**
baz=275
COLA College 46.02 34 *i* P **P** **20 19 11.2 +1.5**
COLA pmax pmax
comp=Z,24nm,0.7s
AAA Alma-Ata 46.02 295 *eP* **P** **20 19 09.5 -0.7**
comp=Z,10.0nm,0.5s,baz=295
AAA Alma-Ata 46.02 295 *eP* **P** **20 19 09.5 -0.7**
AAA pmax pmax
comp=Z,10.0nm,0.5s
G24K Hadweenzic Riv 46.02 32 P **P** **20 19 10.1 +0.3**
baz=274,SNR=7.0
CCB Clear Creek Bu 46.06 35 IAmb IAmb 20 19 12.1
comp=Z,15nm,1.3s
KNK Knik Glacier 46.15 39 P **P** **20 19 12.2 +1.3**
KNK IAmb IAmb 20 19 12.5
comp=Z,14nm,0.6s
KNK Knik Glacier 46.15 39 P **P** **20 19 11.5 +0.7**
baz=278
SML Sawmill 46.16 39 IAmb IAmb 20 19 13.1
comp=Z,14nm,0.7s
SML Sawmill 46.16 39 P **P** **20 19 11.2 +0.3**
baz=278,SNR=7.3
POKR Poker Plat Res 46.17 34 P **P** **20 19 11.9 +1.0**
baz=276,SNR=10
D25K Kavik River 46.29 28 P **P** **20 19 12.8 +1.0**
baz=272,SNR=8.8
WAT6 Susitna Watana 46.33 37 P **P** **20 19 13.2 +0.9**
baz=278
DHY Denali Highway 46.43 37 P **P** **20 19 14.1 +1.0**
DHY IAmb IAmb 20 19 15.1
comp=Z,12nm,0.8s
DHY PcP **PcP** **20 20 46.4 +1.2**
DHY Denali Highway 46.43 37 P **P** **20 19 13.2 +0.1**
baz=278,SNR=8.5
IL31 46.44 34 P **P** **20 19 14.0 +1.0**
IL31 IAmb IAmb 20 19 16.1
comp=Z,17nm,0.8s

ILAR Eielson Array 46.44 34 P **P** **20 19 14.2 +1.2**
ILAR Eielson Array 46.44 34 P **P** **20 19 13.8 +0.8**
comp=Z,9.9nm,0.7s,baz=274,slow=5.7,SNR=95
comp=Z,9.9nm,0.7s
ILAR Eielson Array 46.44 34 P **P** **20 19 14.2 +1.2**
M23K Glacier View 46.44 39 P **P** **20 19 13.4 +0.2**
baz=278
HDA Harding Lake 46.45 35 P **P** **20 19 13.5 +0.4**
baz=277,SNR=12
G25K Bearman Lake 46.56 32 P **P** **20 19 14.7 +0.8**
baz=275
SCM Sheep Creek Mo 46.62 38 IAmb IAmb 20 19 16.8
comp=Z,14nm,0.6s
SCM Sheep Creek Mo 46.62 38 P **P** **20 19 14.6 0.0**
baz=279
E25K Arctic Village 46.66 30 P **P** **20 19 15.5 +0.8**
baz=274,SNR=5.4
BRZS Berezniki 46.67 305 *eP* **P** **20 19 14.9 -0.1**
comp=Z,4.6nm,0.6s,baz=305
BRZS Berezniki 46.67 305 *eP* **P** **20 19 14.8 -0.2**
BRZS pmax pmax
comp=Z,5.0nm,0.6s
F25K Christian Rive 46.67 30 P **P** **20 19 15.5 +0.6**
baz=275,SNR=8.1
H25L Birch Creek 46.72 32 P **P** **20 19 15.4 +0.2**
baz=276
C26K Camden Bay 46.77 27 P **P** **20 19 16.2 +0.6**
baz=273
GLI Glacier Island 46.89 40 P **P** **20 19 17.5 +0.9**
GLI IAmb IAmb 20 19 18.4
comp=Z,11nm,0.6s
GLI PcP **PcP** **20 20 48.0 +1.2**
GLI Glacier Island 46.89 40 P **P** **20 19 16.9 +0.3**
baz=280
PRP Porcupine Dome 46.92 33 P **P** **20 19 17.8 +0.8**
baz=277,SNR=45
BOOM Boomskoye usch 46.95 294 P **P** **20 19 18.1 +0.6**
BOOM Boomskoye usch 46.95 294 P **P** **20 19 18.1 +0.6**
BOOM pmax pmax
comp=Z,22nm,0.7s
TKM2 Tokmak 2 47.03 295 P **P** **20 19 19.0 +0.8**
SNR=45
K24K Donnelly Dome 47.04 36 P **P** **20 19 17.7 0.0**
baz=278
BMAR Burnt Mountain 47.09 31 P **P** **20 19 20.3 +2.1**
BMAR PcP **PcP** **20 20 48.7 +1.3**
J25K Salcha River, 47.10 34 P **P** **20 19 19.1 +0.8**
baz=278
M24K Tolsona, Glenn 47.12 38 P **P** **20 19 19.3 +0.8**
baz=279
C27K Jago River 47.21 28 P **P** **20 19 19.7 +0.7**
baz=275
BVAR Borovoye Array 47.22 309 P **P** **20 19 19.5 +0.3**
comp=Z,12nm,0.5s,baz=70,slow=8.4,SNR=44
comp=Z,12nm,0.5s
F26K Sheenjek River 47.23 30 P **P** **20 19 20.4 +1.2**
baz=276,SNR=28
BRVK Borovoye 47.27 309 P **P** **20 19 19.6 -0.1**
BRVK IAmb IAmb 20 19 20.8
comp=Z,10nm,0.9s
BRVK Borovoye 47.27 309 P **P** **20 19 19.6 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
PAX Paxson 47.30 37 P **P** **20 19 20.9 +1.0**
baz=279
BTLS Baital 47.33 298 *eP* **P** **20 19 19.9 -0.4**
baz=298
BTLS Baital 47.33 298 *eP* **P** **20 19 19.8 -0.4**
BTLS pmax pmax
comp=Z,3.0nm,0.6s
KLU Klutina 47.34 39 P **P** **20 19 21.4 +1.3**
KLU IAmb IAmb 20 19 22.2
comp=Z,10nm,0.5s
KLU Klutina 47.34 39 P **P** **20 19 21.1 +0.9**
baz=280,SNR=5.1
G26K Porcupine Rive 47.45 31 P **P** **20 19 22.5 +1.7**
baz=277,SNR=15
SGDS Sogindy 47.50 296 *eP* **P** **20 19 20.6 -1.1**
baz=296
SGDS Sogindy 47.50 296 *eP* **P** **20 19 21.7 +0.1**
SGDS pmax pmax
comp=Z,5.0nm,1.4s
HARP HAARP 47.54 37 P **P** **20 19 23.1 +1.5**
baz=280,SNR=5.5
KBK Karagaybulak 47.57 295 P **P** **20 19 23.0 +0.6**
SNR=32
EYAK Cordova Ski Ar 47.60 40 P **P** **20 19 24.1 +2.1**
baz=281
FRU1 Bishkek 47.73 295 P **P** **20 19 23.9 +0.5**
FRU1 IAmb IAmb 20 19 25.3
comp=Z,9.4nm,0.8s
FRU1 Bishkek 47.73 295 P **P** **20 19 24.0 +0.5**
FRU1 pmax pmax
comp=Z,9.0nm,0.8s
SCRK Sand Creek 47.80 35 P **P** **20 19 24.4 +0.6**
baz=280,SNR=39
AAK Ala-Archa 47.89 295 P **P** **20 19 25.0 +0.2**
SNR=7.7
AAK Ala-Archa 47.89 295 P **P** **20 19 24.2 -0.5**
AAK Ala-Archa 47.89 295 *ce*P **P** **20 19 26.0 +1.2**
AAK pmax pmax
comp=Z,13nm,1.7s
J26L Joseph Creek 47.89 34 P **P** **20 19 25.1 +0.7**
baz=279,SNR=7.2
N25K Chitina, Valde 47.94 38 P **P** **20 19 26.0 +1.1**
baz=281
UCH Uchtor 48.03 294 P **P** **20 19 27.5 +1.3**
SNR=6.4
BMRM Bremner River 48.07 39 P **P** **20 19 26.9 +1.2**
baz=282
KSH Kashi 48.07 290 P **P** **20 19 30.6 +4.4**
KSH pmax pmax
comp=Z,8.0nm,1.0s
KSH LR LR
comp=Z,290nm,19.4s
KSH LR LR
comp=Z,440nm,19.8s
KSH LR LR
comp=Z,480nm,20.4s
MENT Mentasta 48.09 37 IAmb IAmb 20 19 28.8
comp=Z,11nm,0.8s
E27K Coleen River 48.13 29 P **P** **20 19 27.4 +1.3**
E27K Coleen River 48.13 29 P **P** **20 19 27.3 +1.2**
baz=278,SNR=6.1
D27M Malcolm River 48.22 28 IAmb IAmb 20 19 29.3
comp=Z,12nm,1.1s
D27M Malcolm River 48.22 28 P **P** **20 19 28.1 +1.3**
baz=277
L26K Log Cabin Wild 48.25 36 IAmb IAmb 20 19 29.9
comp=Z,9.0nm,0.6s
L26K Log Cabin Wild 48.25 36 P **P** **20 19 28.4 +1.3**
baz=281,SNR=7.4
G27K Doyon Strip 48.30 31 P **P** **20 19 28.9 +1.5**
G27K PcP **PcP** **20 20 53.8 +2.0**
G27K Doyon Strip 48.30 31 P **P** **20 19 29.0 +1.5**
baz=279,SNR=14
EKS2 Erkin-Say 48.37 295 P **P** **20 19 28.6 +0.2**
SNR=9.1
KAIM Kayak Island 48.38 41 P **P** **20 19 29.5 +1.4**
baz=283
H27K Steamboat Moun 48.45 32 P **P** **20 19 30.1 +1.5**
baz=280,SNR=18
I27K Kandik River 48.52 33 P **P** **20 19 30.5 +1.3**
baz=280,SNR=12
M26K Nabesna, AK 48.53 37 IAmb IAmb 20 19 32.3
comp=Z,14nm,1.2s
M26K Nabesna, AK 48.53 37 P **P** **20 19 30.9 +1.6**
baz=282,SNR=6.2
K27K Chicken 48.62 35 IAmb IAmb 20 19 32.5
comp=Z,14nm,0.9s
K27K Chicken 48.62 35 P **P** **20 19 31.9 +2.1**
baz=281
BERG Berg Lake 48.62 40 P **P** **20 19 31.8 +1.9**
MCARA McCarthy VSAT 48.73 39 P **P** **20 19 32.7 +2.0**
MCARA IAmb IAmb 20 19 33.7
comp=Z,15nm,0.9s
MCARA McCarthy VSAT 48.73 39 P **P** **20 19 32.2 +1.4**
baz=283
E28M Babbage River 48.82 29 IAmb IAmb 20 19 33.6
comp=Z,8.2nm,0.6s
E28M Babbage River 48.82 29 P **P** **20 19 32.9 +1.5**
baz=279
F28M Old Crow 48.86 30 P **P** **20 19 33.2 +1.6**
F28M IAmb IAmb 20 19 34.7
comp=Z,8.6nm,0.8s
F28M PcP **PcP** **20 20 54.4 +0.7**
F28M Old Crow 48.86 30 P **P** **20 19 33.1 +1.4**
baz=280,SNR=11
EGAK Eagle 48.86 34 IAmb IAmb 20 19 41.7
comp=Z,9.0nm,0.8s
EGAK Eagle 48.86 34 P **P** **20 19 32.9 +1.2**
baz=281,SNR=8.6
L27K Beaver Creek, 48.92 36 IAmb IAmb 20 19 34.8
comp=Z,12nm,0.7s
L27K Beaver Creek, 48.92 36 P **P** **20 19 34.0 +1.8**
baz=282,SNR=20
BCAR Beaver Creek A 48.94 36 P **P** **20 19 34.5 +2.1**
BCAR PcP **PcP** **20 20 56.1 +2.0**
D28M Stokes Point 48.99 28 P **P** **20 19 34.2 +1.7**
baz=279
M27K Edge Creek, AK 49.05 37 IAmb IAmb 20 19 36.2
comp=Z,18nm,1.1s
M27K Edge Creek, AK 49.05 37 P **P** **20 19 34.8 +1.5**
baz=283,SNR=8.9
I28M Miner Creek 49.24 33 P **P** **20 19 36.6 +1.9**
I28M IAmb IAmb 20 19 37.7
comp=Z,15nm,0.8s
I28M Miner Creek 49.24 33 P **P** **20 19 36.5 +1.9**
baz=282,SNR=22
BARN Barnard Glacie 49.45 39 IAmb IAmb 20 19 39.0
comp=Z,14nm,0.7s
E29M Blow River 49.45 29 IAmb IAmb 20 19 39.2
comp=Z,14nm,1.1s
E29M Blow River 49.45 29 P **P** **20 19 38.2 +2.1**
baz=281,SNR=12
CTG Chitna Glacier 49.62 39 P **P** **20 19 39.1 +1.5**
baz=284,SNR=5.4
G29M Pine Creek 49.70 31 P **P** **20 19 40.0 +2.0**
G29M IAmb IAmb 20 19 41.5
comp=Z,23nm,1.2s
G29M PcP **PcP** **20 20 57.5 +0.7**
G29M Pine Creek 49.70 31 P **P** **20 19 39.6 +1.6**
baz=282,SNR=6.7
H29M Whitestone 49.71 32 IAmb IAmb 20 19 41.0
comp=Z,24nm,1.4s
H29M Whitestone 49.71 32 P **P** **20 19 40.4 +2.3**
baz=282,SNR=9.0
YUK3 Moose Creek 49.83 38 P **P** **20 19 40.6 +1.3**
baz=284
I29M Ogilvie Camp, 49.92 33 IAmb IAmb 20 19 42.6
comp=Z,23nm,1.4s
I29M Ogilvie Camp, 49.92 33 P **P** **20 19 40.9 +1.1**
baz=283,SNR=12
DZA Taraz 49.94 296 *eP* **P** **20 19 40.3 0.0**
comp=Z,6.1nm,0.7s,baz=296
DZA Taraz 49.94 296 *eP* **P** **20 19 40.3 0.0**
DZA pmax pmax
comp=Z,6.0nm,0.7s
O28M Mount Upton 50.21 39 P **P** **20 19 43.4 +1.1**
baz=285
EPYK Eagle Plains 50.33 31 P **P** **20 19 44.5 +1.7**
EPYK Eagle Plains 50.33 31 P **P** **20 19 44.0 +1.2**
baz=284,SNR=32
G30M tAoh Zrail Nji 50.38 30 P **P** **20 19 44.8 +1.7**
baz=283,SNR=18
F30M Barrier River 50.39 30 P **P** **20 19 45.6 +2.4**
baz=283,SNR=14
KKAR Karatay Array 50.41 297 P **P** **20 19 43.8 0.0**
KKAR IAmb IAmb 20 19 44.5
comp=Z,7.3nm,0.7s
KKAR Karatay Array 50.41 297 P **P** **20 19 43.8 0.0**
KKAR pmax pmax
comp=Z,7.0nm,0.7s
L29M L29M 50.54 36 IAmb IAmb 20 19 48.2
comp=Z,13nm,0.8s
L29M L29M 50.54 36 P **P** **20 19 46.7 +2.2**
baz=285,SNR=9.1
M29M Somme Creek 50.57 37 P **P** **20 19 46.9 +2.2**
baz=285
K29M Barlow Dome 50.62 35 IAmb IAmb 20 19 48.0
comp=Z,17nm,0.8s
K29M Barlow Dome 50.62 35 P **P** **20 19 46.9 +1.7**
baz=285,SNR=22
I30M Mount Dempster 50.74 33 P **P** **20 19 47.7 +1.6**
baz=285,SNR=44
YUK4 Talbot Arm 50.78 38 P **P** **20 19 48.0 +1.5**
baz=286
BRLS Borolday 50.90 297 *eP* **P** **20 19 48.7 +1.2**
baz=297
BRLS Borolday 50.90 297 *eP* **P** **20 19 48.6 +1.2**
PNL Peninsula 50.90 40 P **P** **20 19 48.8 +1.7**
baz=287
J30M Hart River 50.93 34 IAmb IAmb 20 19 50.3
comp=Z,10nm,1.2s
J30M Hart River 50.93 34 P **P** **20 19 49.2 +1.7**
baz=285,SNR=7.9
DRK Karamyk 51.02 292 P **P** **20 19 48.1 -0.6**
DRK IAmb IAmb 20 19 58.8
comp=Z,5.6nm,0.6s
DRK Karamyk 51.02 292 P **P** **20 19 48.1 -0.6**
DRK pmax pmax
comp=Z,6.0nm,0.6s
YUK6 Outpost Mounta 51.03 38 P **P** **20 19 49.9 +1.6**
baz=286
INK Inuvik 51.05 28 P **P** **20 19 49.1 +1.0**
INK IAmb IAmb 20 19 50.2
comp=Z,12nm,0.7s
INK Inuvik 51.05 28 P **P** **20 19 49.6 +1.5**
baz=285,SNR=17
INK Inuvik 51.05 28 P **P** **20 19 49.1 +1.0**
INK pmax pmax
comp=Z,12nm,0.7s
G31M Satah River 51.13 30 P **P** **20 19 50.1 +1.4**
baz=285,SNR=13
F31M Tsiigehtchic 51.20 30 P **P** **20 19 50.3 +1.1**
baz=285
M30M Minto, Yukon 51.28 36 IAmb IAmb 20 19 52.8
comp=Z,5.5nm,0.7s
M30M Minto, Yukon 51.28 36 P **P** **20 19 52.2 +2.3**
baz=286
CHM Chimkent 51.34 296 *eP* **P** **20 19 51.1 +0.4**
comp=Z,4.7nm,0.5s,baz=296
CHM Chimkent 51.34 296 *eP* **P** **20 19 51.1 +0.4**
CHM pmax pmax
comp=Z,5.0nm,0.5s
H31M Peel River 51.41 32 P **P** **20 19 52.7 +1.8**
baz=286,SNR=21
HYT Haines Junctio 51.46 38 P **P** **20 19 53.5 +2.0**
baz=287
N30M Aishikik Lake 51.47 37 P **P** **20 19 53.1 +1.7**
baz=287
SVE Sverdlovsk 51.51 316 *eP* **P** **20 19 52.6 +0.9**
SVE pmax pmax
comp=Z,21nm,0.8s
P29M Windy Craggy 51.71 40 P **P** **20 19 55.0 +1.8**
baz=288,SNR=7.7
P30M Million Dollar 51.93 39 P **P** **20 19 56.3 +1.4**
baz=288
N31M Braeburn, Yuko 52.06 37 P **P** **20 19 57.4 +1.6**
baz=288
O30N Mendenhall 52.14 38 P **P** **20 19 58.3 +1.9**
baz=288
GAR Garm 52.27 292 P **P** **20 19 57.2 -0.6**
PLBC Pleasant Camp 52.43 40 P **P** **20 19 59.9 +1.4**
baz=289
M31M Drury Creek, Y 52.46 36 IAmb IAmb 20 20 01.6
comp=Z,7.4nm,0.9s
M31M Drury Creek, Y 52.46 36 P **P** **20 20 00.2 +1.5**
baz=289,SNR=5.5
NIL Nilore 52.65 285 P **P** **20 20 01.3 +0.8**
NIL Nilore 52.65 285 P **P** **20 20 01.3 +0.8**
NIL pmax pmax
comp=Z,31nm,0.8s
A36M Sachs Harbour 52.69 23 P **P** **20 20 02.0 +1.8**
baz=289
ARU Arti 52.73 316 P **P** **20 20 00.6 -0.1**
ARU Arti 52.73 316 *c i* P **P** **20 20 01.1 +0.4**
ARU *PP **pP** **20 20 37.6 +2.3**
ARU 20 22 00.4
ARU S **S** **20 27 17.9 +1.4**
ARU SS **SS** **20 30 58.3 +1.8**
ARU pmax pmax
comp=Z,15nm,0.7s
ARU Arti 52.73 316 P **P** **20 20 01.0 +0.4**
comp=Z,20nm,1.1s
WHY Whitehorse 52.74 38 P **P** **20 20 02.7 +1.8**
baz=289
FARO Faro, Yukon 52.91 36 P **P** **20 20 03.4 +1.3**
FARO IAmb IAmb 20 20 04.8
comp=Z,6.9nm,1.0s
FARO Faro, Yukon 52.91 36 P **P** **20 20 04.1 +2.1**
baz=289,SNR=5.3
SKAG Skagway 52.93 40 P **P** **20 20 04.0 +1.9**
baz=290

S31K	Pelican		53.00	42	P		P		20 20 04.6	+1.9
	baz=290									
CHGR	Chuyangaron		53.23	292	P		P		20 20 04.5	-0.3
CHGR	Chuyangaron		53.23	292	P		P		20 20 04.5	-0.3
CHGR					pmax		pmax			
	comp=Z,39nm,0.9s									
SIMJ	Simiganj		53.33	292	P		P		20 20 05.0	-0.6
MMPY	Sheldon Lake,		53.69	35	P		P		20 20 09.6	+1.9
MMPY					IAmb		IAmb		20 20 10.4	
	comp=Z,5.8nm,0.5s									
MMPY	Sheldon Lake,		53.69	35	P		P		20 20 08.9	+1.2
	baz=291,SNR=6.8									
SIT	Sitka		53.78	42	P		P		20 20 09.6	+1.3
	baz=292									
P33M	Teslin, Yukon		53.85	38	IAmb		IAmb		20 20 12.0	
	comp=Z,13nm,1.1s									
P33M	Teslin, Yukon		53.85	38	P		P		20 20 10.0	+1.0
	baz=291									
C36M	Paulatuk		53.99	26	P		P		20 20 11.1	+1.5
	baz=292									
S32K	Killisnoo		54.01	42	P		P		20 20 11.5	+1.5
	baz=292									
ABKAR	Akbulak array		54.68	308	P		P		20 20 15.0	+0.1
R33M	Jennings River		55.03	39	P		P		20 20 19.4	+1.9
R33M					IAmb		IAmb		20 20 20.9	
	comp=Z,4.4nm,0.7s									
R33M	Jennings River		55.03	39	P		P		20 20 18.9	+1.4
	baz=293									
KBL	Kabul		55.26	288	P		P		20 20 18.6	-1.1
KBL					IAmb		IAmb		20 20 21.6	
	comp=Z,8.0nm,0.7s									
KBL	Kabul		55.26	288	P		P		20 20 18.6	-1.1
KBL					pmax		pmax			
	comp=Z,8.0nm,0.7s									
U33K	Whale Pass		55.27	43	P		P		20 20 21.5	+2.4
U33K	Whale Pass		55.27	43	P		P		20 20 20.8	+1.7
	baz=294									
TGTN	Hyland Airport		55.41	36	P		P		20 20 21.6	+1.5
	baz=294									
CRAG	Craig		55.53	44	P		P		20 20 22.8	+1.8
	baz=294									
S34M	Telegraph Cree		55.54	40	P		P		20 20 22.6	+1.6
	baz=294									
DLBC	Dease Lake		55.86	39	P		P		20 20 25.6	+2.2
DLBC					IAmb		IAmb		20 20 26.5	
	comp=Z,4.6nm,0.7s									
DLBC	Dease Lake		55.86	39	P		P		20 20 25.3	+1.9
	baz=294									
SPB2	Spitsbergen Ar		56.25	348	P		P		20 20 27.6	+1.8
SPITS	Spitsbergen Ar		56.25	348	P		P		20 20 26.1	+0.2
	comp=Z,1.6nm,0.7s,baz=76,slow=7.0,SNR=5.1									
	comp=Z,1.6nm,0.7s									
T35M	Bob Quinn		56.36	41	P		P		20 20 29.1	+2.1
T35M	Bob Quinn		56.36	41	P		P		20 20 28.8	+1.8
	baz=295									
V35K	Ketchikan		56.37	43	P		P		20 20 28.8	+1.8
	baz=295									
KBS	Kingsbay		56.39	350	P		P		20 20 27.8	+1.1
KBS	Kingsbay		56.39	350	P		P		20 20 27.8	+1.1
KBS					pmax		pmax			
	comp=Z,33nm,1.5s									
KIRV	Kirov		56.45	321	*ce*P		P		20 20 27.8	+0.4
WRGLY	Wrigley		56.72	33	P		P		20 20 31.1	+1.8
	baz=296									
LIRD	Liard River Hi		57.28	37	P		P		20 20 35.8	+2.4
	baz=297									
RUBB	Prince Rupert		57.52	44	P		P		20 20 36.4	+1.3
TOAD	Toad River Com		57.94	38	P		P		20 20 40.0	+2.1
	baz=298,SNR=9.0									
RES	Resolute Bay		58.75	15	P		P		20 20 43.0	-0.3
RES					IAmb		IAmb		20 20 44.2	
	comp=Z,5.6nm,1.0s									
RES	Resolute Bay		58.75	15	P		P		20 20 43.0	-0.3
RES					pmax		pmax			
	comp=Z,6.0nm,1.0s									
KEV	Kevo		59.24	338	P		P		20 20 46.5	-0.3
KEV	Kevo		59.24	338	P		P		20 20 46.5	-0.3
KEV					pmax		pmax			
	comp=Z,40nm,1.4s									
ARCES	ARCESS Array B		59.80	338	P		P		20 20 50.3	-0.3
ARCES	ARCESS Array B		59.80	338	P		P		20 20 50.5	0.0
	comp=Z,3.2nm,0.9s,baz=46,slow=6.9,SNR=4.5									
	comp=Z,3.2nm,0.9s									
ARCES	ARCESS Array B		59.80	338	P		P		20 20 50.3	-0.3
ARCES					pmax		pmax			
	comp=Z,22nm,1.5s									
KLMR	Klimovskoe		59.80	326	*e*P		P		20 20 49.2	-1.5
KLMR					*e*				20 23 01.6	
KLMR					MLR		MLR			
	comp=Z,698nm,17.0s									
HRA	Herat		60.17	291	P		P		20 20 54.2	+0.2
HRA					IAmb		IAmb		20 20 55.3	
	comp=Z,6.9nm,0.7s									
BELG	Belogornoye		60.22	315	*i* P		P		20 20 53.4	-0.3
BELG					pmax		pmax			
	comp=Z,3.0nm,0.7s									
HOLB	Holberg		60.41	47	P		P		20 20 55.8	+0.7
YKA	Yellowknife Ar		60.61	31	P		P		20 20 56.3	+0.1
YKA	Yellowknife Ar		60.61	31	P		P		20 20 56.6	+0.5
	comp=Z,2.2nm,0.6s,baz=308,slow=6.7,SNR=35									
	comp=Z,2.2nm,0.6s									
WRA	Warramunga Arr		61.12	186	P		P		20 20 59.5	-0.6
	comp=Z,2.0nm,0.5s,baz=3.2,slow=7.0,SNR=21									
	comp=Z,2.0nm,0.5s									
GEYT	Alibeck		61.16	297	P		P		20 21 00.6	+0.2
GEYT	Alibeck		61.16	297	P		P		20 21 00.4	0.0
	comp=Z,2.8nm,0.6s,baz=46,slow=4.3,SNR=7.9									
	comp=Z,2.8nm,0.6s									
GEYT	Alibeck		61.16	297	P		P		20 21 00.6	+0.2
GEYT					pmax		pmax			
	comp=Z,4.0nm,0.9s									
DAG	Danmarks Havn		61.53	355	*i* P		P		20 21 01.0	-1.1
DAG					IAmb		IAmb		20 21 03.1	
	comp=Z,4.2nm,0.5s									
VRH	Novokhopyorsk		63.96	316	*e*P		P		20 21 15.5	-3.1
VRH					pmax		pmax			
	comp=Z,10.0nm,0.7s									
OBN	Obninsk		64.28	322	*de*P		P		20 21 20.2	-0.4
OBN					*PP		pP		20 21 58.0	+1.6
OBN					*SP		sP		20 22 16.0	+3.3
OBN					*e*				20 30 30.4	
OBN					SS		SS		20 33 54.0	-3.4
OBN					pmax		pmax			
	comp=Z,10.0nm,0.5s									
LPSR	Galich'ya Gora		64.59	319	*e*P		P		20 21 20.3	-2.4
LPSR					pmax		pmax			
	comp=Z,10.0nm,0.8s									
FINES	FINESS Array B		64.74	331	P		P		20 21 23.6	0.0
	comp=Z,5.6nm,0.7s,baz=31,slow=10,SNR=29									
	comp=Z,5.6nm,0.7s									
ASAR	Alice Springs		64.84	187	P		P		20 21 24.7	0.0
	comp=Z,0.7nm,0.6s,baz=10.0,slow=6.1,SNR=6.5									
	comp=Z,0.7nm,0.6s									
VSR	Storozhevoye		65.27	317	*e*P		P		20 21 23.8	-3.4
VSR					pmax		pmax			
	comp=Z,10.0nm,0.7s									
LON	Longmire		66.03	48	P		P		20 21 33.5	+1.3
LON					IAmb		IAmb		20 21 36.6	
	comp=Z,3.6nm,0.7s									
LON	Longmire		66.03	48	P		P		20 21 33.5	+1.3
LON					pmax		pmax			
	comp=Z,4.0nm,0.7s									
LTY	Liberty		66.38	47	P		P		20 21 34.8	+0.4
LTY					IAmb		IAmb		20 21 36.5	
	comp=Z,21nm,1.5s									
VSU	Vasula		66.44	328	*i* P		P		20 21 34.2	-0.3
VSU					pmax		pmax			
	comp=Z,7.0nm,0.8s									
SUMG	Summit		66.49	360	P		P		20 21 35.4	+0.3
SUMG					IAmb		IAmb		20 21 36.8	
	comp=Z,7.0nm,0.5s									
SUMG	Summit		66.49	360	P		P		20 21 35.4	+0.3
SUMG					pmax		pmax			
	comp=Z,7.0nm,0.5s									
SUMG	Summit		66.49	360	*i* P		P		20 21 35.0	-0.1
SUMG					IAmb		IAmb		20 21 36.9	
	comp=Z,6.4nm,0.5s									
KIV	Kislovodsk		67.59	309	P		P		20 21 41.7	-0.4
KIV	Kislovodsk		67.59	309	*c* *i*P		P		20 21 43.2	+1.1
KIV					*e*				20 22 01.0	
KIV					*PP		pP		20 22 18.0	-0.3
KIV					*SP		sP		20 22 34.0	-0.5
KIV					*e*				20 24 12.3	
KIV					*e*S		S		20 30 30.4	+3.8
KIV					*e**SS		SKiKP		20 31 22.9	-1.0
KIV					pmax		pmax			
	comp=Z,17nm,0.9s									
KIV	Kislovodsk		67.59	309	P		P		20 21 43.0	+0.9
	comp=Z,15nm,1.0s									
KBZ	Khabaz		67.60	309	P		P		20 21 43.0	+1.0
	comp=Z,3.0nm,0.7s,baz=26,slow=3.6,SNR=6.6									
	comp=Z,3.0nm,0.7s									
KBZ	Khabaz		67.60	309	*ce*P		P		20 21 42.5	+0.5
KBZ					pmax		pmax			
	comp=Z,5.0nm,0.9s									
NEW	Newport		67.70	45	P		P		20 21 43.9	+1.1
	baz=307									
SHA1	Shidzhatmaz		67.73	309	*ce*P		P		20 21 45.2	+2.0
PINE	Pine Mountain		68.27	50	IAmb		IAmb		20 21 49.4	
	comp=Z,10nm,0.7s									
YBH	Yreka Blue Hor		68.44	53	P		P		20 21 47.1	-0.4
	comp=Z,1.3nm,0.4s,baz=218,slow=8.3,SNR=3.2									
	comp=Z,1.3nm,0.4s									
K05A	Summer Lake		68.93	51	P		P		20 21 51.7	+1.0
K05A					IAmb		IAmb		20 21 53.1	
	comp=Z,7.7nm,0.9s									
BMO	Blue Mountains		69.69	48	IAmb		IAmb		20 21 57.4	
	comp=Z,8.2nm,1.0s									
HFS	Hagfors		69.94	335	P		P		20 21 56.7	+0.4
	comp=Z,1.1nm,0.4s,baz=34,slow=5.5,SNR=13									
	comp=Z,1.1nm,0.4s									
J08A	Circle Bar Ran		69.95	50	P		P		20 21 57.7	+0.9
J08A					IAmb		IAmb		20 21 59.5	
	comp=Z,8.2nm,1.1s									
NB2	NORSAR Subarra		70.01	336	P		P		20 21 56.5	-0.3
	comp=Z,1.1nm,0.7s,baz=37,slow=6.2									
NOA	NORSAR Array B		70.01	336	P		P		20 21 56.9	+0.1
	comp=Z,0.5nm,0.5s,baz=39,slow=6.3,SNR=4.6									
	comp=Z,0.5nm,0.5s									
MSO	Missoula		70.28	45	P		P		20 21 58.9	+0.1
	baz=310									
AKASG	Malin Array Be		70.51	321	P		P		20 21 59.6	-0.3
	comp=Z,0.7nm,0.4s,baz=44,slow=6.6,SNR=11									
	comp=Z,0.7nm,0.4s									
AKBB	Malin Array Si		70.51	321	P		P		20 21 59.5	-0.3
AKBB	Malin Array Si		70.51	321	P		P		20 21 59.6	-0.3
AKBB					pmax		pmax			
	comp=Z,6.0nm,1.1s									
AKBB	Malin Array Si		70.51	321	P		P		20 21 59.7	-0.2
KIEV	Kiev		70.52	321	P		P		20 21 59.4	-0.5
KIEV	Kiev		70.52	321	P		P		20 21 59.4	-0.5
KIEV					pmax		pmax			
	comp=Z,6.0nm,1.1s									
FFC	Flin Flon		70.62	33	P		P		20 22 00.7	+0.2
FFC					IAmb		IAmb		20 22 02.1	
	comp=Z,8.9nm,0.8s									
FFC	Flin Flon		70.62	33	P		P		20 22 00.7	+0.2
FFC					pmax		pmax			
	comp=Z,9.0nm,0.8s									
RNPP9	Sopachiv		71.57	323	P		P		20 22 07.2	+0.9
EGMT	Eagleton		71.67	42	P		P		20 22 07.8	+0.8
EGMT					IAmb		IAmb		20 22 08.9	
	comp=Z,12nm,0.8s									
EGMT	Eagleton		71.67	42	P		P		20 22 06.9	-0.2
	baz=312									
LUBAR	Lubar, Ukraine		71.73	321	P		P		20 22 07.5	+0.3
HLID	Hailey		72.12	47	P		P		20 22 10.7	+0.7
	baz=310									
YERR	Yerington		72.22	54	IAmb		IAmb		20 22 12.8	
	comp=Z,18nm,1.1s									
BOZ	Bozeman (W)		72.31	44	IAmb		IAmb		20 22 12.7	
	comp=Z,8.2nm,0.6s									
BOZ	Bozeman (W)		72.31	44	P		P		20 22 11.8	+0.9
	baz=311									
KVN	Kaiserville		72.86	53	IAmb		IAmb		20 22 16.7	
	comp=Z,8.5nm,0.6s									
NVAR	Mina Array Bea		73.14	54	P		P		20 22 17.7	+1.6
	comp=Z,5.6nm,0.8s,baz=289,slow=5.9,SNR=33									
	comp=Z,5.6nm,0.8s									
IMW	Indian Meadow		73.80	45	IAmb		IAmb		20 22 22.9	
	comp=Z,6.8nm,0.8s									
PKM	Mcpherson Peak		74.44	57	P		P		20 22 24.4	+0.7
	baz=310									
BUR08	Bucovina Ar. S		74.53	321	P		P		20 22 23.9	0.0
CWC	Cottonwood Cre		74.54	55	P		P		20 22 25.3	+1.1
	baz=310									
GRAC	Grapevine Rang		74.62	54	IAmb		IAmb		20 22 27.1	
	comp=Z,12nm,0.8s									
GRAC	Grapevine Rang		74.62	54	P		P		20 22 26.0	+1.4
	baz=310									
Q12A	Willow Creek R		74.82	51	IAmb		IAmb		20 22 27.8	
	comp=Z,6.3nm,0.6s									
R11B	Troy Canyon, C		74.82	52	P		P		20 22 26.7	+0.9
	baz=311,SNR=9.0									
KOLS	Kolonicke sedl		74.97	323	*e*PP		PP		20 25 17.3	+1.9
SCZ2	Santa Cruz Isl		75.13	58	P		P		20 22 28.6	+1.2
	baz=310									
MPMC	Manual Prospec		75.15	55	P		P		20 22 28.7	+0.9
	baz=310									
DUG	Dugway, Tooele		75.23	49	P		P		20 22 29.2	+1.2
	baz=312									
FURC	Furnace Creek,		75.27	54	P		P		20 22 30.0	+1.8
	baz=311									
PD31	Pinedale Array		75.31	46	IAmb		IAmb		20 22 29.9	
	comp=Z,5.2nm,0.5s									
PDAR	Pinedale Array		75.31	46	P		P		20 22 29.1	+0.5
PDAR	Pinedale Array		75.31	46	P		P		20 22 29.4	+0.8
	comp=Z,3.9nm,0.4s,baz=231,slow=0.1,SNR=41									
	comp=Z,3.9nm,0.4s									
LRMC	Laurel Mtn Rad		75.40	56	P		P		20 22 30.7	+1.6
	baz=310									
BRTR	Keskin Array B		75.49	310	P		P		20 22 29.6	0.0
	comp=Z,0.6nm,0.5s,baz=20,slow=4.7,SNR=2.8									
	comp=Z,0.6nm,0.5s									
GWY	Greenwater Val		75.57	54	IAmb		IAmb		20 22 32.2	
	comp=Z,7.0nm,0.9s									
EDW2	Edwards Air Fo		75.60	56	P		P		20 22 31.2	+1.1
	baz=310									
PRN	Pabco Range		75.76	53	P		P		20 22 32.3	+1.2
GSC	Goldstone, Bar		76.06	55	P		P		20 22 34.6	+1.7
	baz=311									
BFSC	Mount Baldy Ra		76.22	57	P		P		20 22 35.3	+1.5
	baz=311									
TUQ	Turquoise Moun		76.52	55	P		P		20 22 36.8	+1.3
	baz=311									
HEC	Hector,Ludlow		76.66	55	P		P		20 22 37.7	+1.5
	baz=311									
VYHS	Vyhne		76.83	324	*e*PP		PP		20 25 32.1	+1.1
P17A	Butcher Ranch,		76.89	49	IAmb		IAmb		20 22 39.8	
	comp=Z,11nm,1.3s									
GMRC	Granite Mounta		77.11	55	P		P		20 22 39.9	+1.1
	baz=312									
RSSD	Black Hills		77.24	42	P		P		20 22 39.7	+0.2
RSSD					IAmb		IAmb		20 22 41.0	
	comp=Z,4.9nm,0.6s									
RSSD	Black Hills		77.24	42	P		P		20 22 40.1	+0.7
	baz=316									
RSSD	Black Hills		77.24	42	P		P		20 22 39.7	+0.2
RSSD					pmax		pmax			
	comp=Z,5.0nm,0.6s									
SRU	San Rafael Swe		77.26	49	P		P		20 22 39.6	0.0
SRU	San Rafael Swe		77.26	49	P		P		20 22 39.6	0.0
SRU					pmax		pmax			
	comp=Z,6.0nm,1.0s									
PFO	Pinyon Flats O		77.39	56	P		P		20 22 41.6	+1.2
	baz=311									
PFO	Pinyon Flats O		77.39	56	P		P		20 22 40.7	+0.4
	comp=Z,3.3nm,0.9s,baz=281,slow=5.2,SNR=2.6									
	comp=Z,3.3nm,0.9s									
TPFO	Pinon Flats		77.39	56	P		P		20 22 41.2	+0.9
	baz=311									
BELC	Belle Mtn. Jos		77.42	56	P		P		20 22 41.4	+0.9
	baz=312									
IRM	Iron Mountain		77.84	55	P		P		20 22 44.0	+1.2
	baz=312									
HMU	Henry Mountain		77.94	50	P		P		20 22 43.8	+0.3
HMU					IAmb		IAmb		20 22 45.6	
	comp=Z,9.5nm,0.7s									
BC3	Big Chuckawall		77.99	56	P		P		20 22 43.5	-0.1
	baz=312									
IKP	In-Ko-Pah, Jac		78.24	57	P		P		20 22 45.9	+0.9
	baz=312									
PDMCI	Parker Dam,Lak		78.37	55	P		P		20 22 46.5	+1.0
	baz=312									
RONA	Rosalia, Austr		78.54	325	*i* PKiKP		PKiKP		20 28 21.7	+0.9
	comp=Z,1.9nm,0.6s									
CONA	Conrad Observa		78.55	326	*e*PKiKP		PKiKP		20 28 21.4	+0.6
	comp=Z,2.8nm,0.6s									
N23A	Red Feather La		78.55	45	P		P		20 22 47.3	+0.5
	baz=315									
KHC	Kasperske Hory		78.56	328	*ce*P		P		20 22 48.3	+1.9
KHC					pmax		pmax			
	comp=Z,11nm,2.5s									
GERES	GERESS Array B		78.73	327	P		P		20 22 47.4	0.0
	comp=Z,0.3nm,0.5s,baz=43,slow=4.4,SNR=2.2									
	comp=Z,0.3nm,0.5s									
B35A	Bob, Littlefor		78.80	33	P		P		20 22 47.1	-0.6
B35A					IAmb		IAmb		20 22 48.6	
	comp=Z,6.5nm,0.8s									
MMAI	Mount Meron Ar		78.91	304	P		P		20 22 49.4	+0.7
	comp=Z,0.2nm,0.3s,baz=31,slow=3.4,SNR=2.0									
	comp=Z,0.2nm,0.3s									
EKA	Eskdalemuir Ar		78.91	340	P		P		20 22 49.0	+0.9
	comp=Z,0.2nm,0.4s,baz=27,slow=6.4,SNR=1.7									
	comp=Z,0.2nm,0.4s									
ARSA	Arzberg		79.22	325	*i* PKiKP		PKiKP		20 28 22.6	+0.8
	comp=Z,1.1nm,0.5s									
WUAZ	Wupatki		79.22	52	P		P		20 22 51.6	+1.2
	baz=313									
SUSD	Miller		79.48	39	P		P		20 22 52.2	+0.7
	baz=319									
ISCO	Idaho Springs		79.50	46	P		P		20 22 52.5	+0.5
	baz=316									
MVCO	Mesa Verde		79.73	49	P		P		20 22 53.7	+0.4
	baz=314									
EYMN	Ely		80.04	32	P		P		20 22 54.0	-0.4
EYMN					IAmb		IAmb		20 22 55.3	
	comp=Z,6.7nm,0.7s									
EYMN	Ely		80.04	32	P		P		20 22 54.9	+0.5
	baz=323									
KBA	Koelnbreinsper		80.28	326	*i* PKiKP		PKiKP		20 28 24.4	+0.8
	comp=Z,2.2nm,0.5s									
LESA	Schwarzleotal		80.28	327	*i* PKiKP		PKiKP		20 28 24.7	+1.2
	comp=Z,1.3nm,0.5s									
W18A	Petrified Fore		80.47	51	P		P		20 22 57.1	0.0
	baz=314									
MYKA	Terra Mystica		80.51	326	*i* PKiKP		PKiKP		20 28 25.0	+1.1
	comp=Z,2.7nm,0.5s									
WTTA	Wattenberg		80.83	327	*i* PKiKP		PKiKP		20 28 25.5	+1.0
	comp=Z,3.6nm,0.6s									
ABTA	Abfaltersbach		80.89	327	*i* PKiKP		PKiKP		20 28 25.7	+1.2
	comp=Z,4.6nm,0.6s									
SDCO	Great Sand Dun		81.03	47	P		P		20 23 00.5	+0.3
	baz=316									
ECSD	EROS Data Cent		81.11	38	P		P		20 22 59.9	-0.4
ECSD					IAmb		IAmb		20 23 01.3	
	comp=Z,5.8nm,0.7s									
ECSD	EROS Data Cent		81.11	38	P		P		20 23 00.7	+0.5
	baz=320									
DAVA	Damuels		81.52	328	*i* PKiKP		PKiKP		20 28 26.1	+0.5
	comp=Z,5.0nm,0.8s									
SCHQ	Schefferville		81.52	16	P		P		20 23 02.1	0.0
	comp=Z,0.9nm,0.4s,baz=80,slow=6.1,SNR=2.1									
	comp=Z,0.9nm,0.4s									
T25A	Trinidad		82.07	47	IAmb		IAmb		20 23 07.4	
	comp=Z,5.9nm,0.8s									
T25A	Trinidad		82.07	47	P		P		20 23 06.2	+0.6
	baz=317									
BGNE	Belgrade		82.16	40	P		P		20 23 06.3	+0.5
	baz=320									
ANMO	Albuquerque		82.50	50	P		P		20 23 09.1	+1.2
	baz=316									
ANMO	Albuquerque		82.50	50	P		P		20 23 07.9	+0.1
	comp=Z,0.7nm,0.3s,baz=34,slow=6.9,SNR=5.3									
	comp=Z,0.7nm,0.3s									
ANMO	Albuquerque		82.50	50	*ce*P		P		20 23 09.2	+1.3
ANMO					pmax		pmax			
	comp=Z,4.0nm,1.3s									
121A	Cookes Peak, D		83.43	52	P		P		20 23 13.3	+0.6
	baz=315									
TOZ	Tahuroa Road		84.89	153	P		P		20 23 21.5	+2.1
AMTX	Amarillo		85.23	47	P		P		20 23 21.2	-0.4
	baz=318									
GLMI	Grayling		85.31	30	P		P		20 23 22.4	+0.6
	baz=328									
MNTX	Cornudas Mount		85.45	51	P		P		20 23 23.3	+0.6
	baz=316									
P40A	Paris		86.53	38	IAmb		IAmb		20 23 29.2	
	comp=Z,10nm,1.0s									
WMOK	Wichita Mounta		86.91	45	P		P		20 23 30.4	+0.7
	baz=320									
S39A	Bolivar		87.39	40	IAmb		IAmb		20 23 32.6	
	comp=Z,4.4nm,0.8s									
CCM	Cathedral Cave		88.09	38	P		P		20 23 35.3	0.0
	baz=324									
TXAR	Lajitas Array		88.18	52	P		P		20 23 36.9	+0.9
	comp=Z,1.3nm,0.6s,baz=301,slow=3.0,SNR=22									
	comp=Z,1.3nm,0.6s									
MGMO	Mountain Grove		88.33	39	IAmb		IAmb		20 23 37.8	
	comp=Z,4.1nm,0.8s									
O48B	Farmland		88.95	33	P		P		20 23 39.9	+0.6
	baz=328									
LONY	Lake Ozonia		88.96	24	P		P		20 23 39.3	0.0
	baz=334									
ERPA	Erie		89.36	29	P		P		20 23 41.8	+0.6
	baz=331									
JCT	Junction City		89.57	49	P		P		20 23 43.0	+0.6
	baz=319									
M53A	WI Miller and		89.70	30	P		P		20 23 43.2	+0.4
	baz=330									
P49A	Miami Univ. Ec		89.74	33	P		P		20 23 43.0	0.0
	baz=328									
MIAR	Mount Ida		89.76	42	P		P		20 23 43.7	+0.6
	baz=323		

ROSA				A	A	20 11 53.9	
	33nm,0.3s						

DJA ***22*** *20:12:37.8±0.5,9°S±5°×11°1E±°, h10km, M4.5/13, mb4.8/2, mB5.0/1, MLv4.3/13, Mw(mB)4.3/1*
NEIC ***22*** *20:12:38.3±2.1,9.43S±0.06×110.54E±0.05, h57km±8km, mb4.5/7, Error ellipse: s-maj=9.1km s-min=7.1km az=197.0*
IDC ***22*** *20:12:41.5±3.2,9.05S×110.74E, h55km±32km, mb3.5/6, mbtmp3.9/8, ML4.0/2, Error ellipse: s-maj=50.1km s-min=18.2km az=45.0*

ISC 22 20:12:37.7±0.6, 9.46S±0.05×110.49E±0.05, h35km, n36, σ1§93/40, mb3.8/8, South of Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UGM	**Wanagama**	**1.54**	**1**		**Pn**	**20 13 01.4**	**-1.3**
UGM				Sn	**Sn**	**20 13 19.7**	**-1.7**
UGM	**Wanagama**	**1.54**	**1**	P	**Pn**	**20 13 01.2**	**-1.5**
YOGI	**Yogyakarta**	**1.64**	**353**	P	**Pn**	**20 13 03.6**	**-0.5**
YOGI				S	**Sn**	**20 13 24.8**	**+0.8**
PWJI	**Pagerwojo**	**1.93**	**42**	P	**Pn**	**20 13 07.2**	**-0.8**
NGJI	**Ngawi**	**2.29**	**25**	P	**Pn**	**20 13 15.4**	**+2.4**
SMRI	**Semarang**	**2.39**	**359**		**Pn**	**20 13 14.5**	**0.0**
SMRI				Sn	**Sn**	**20 13 42.2**	**-0.4**
SMRI	**Semarang**	**2.39**	**359**	P	**Pn**	**20 13 16.2**	**+1.7**
CMJI	**Cimerak**	**2.62**	**309**	P	**Pn**	**20 13 19.0**	**+1.5**
BLJI	**Banyuglugur**	**3.51**	**61**	P	**Pn**	**20 13 31.3**	**+1.5**
JAGI	**Jajag, Banyuwa**	**3.75**	**75**		**Pn**	**20 13 33.3**	**+0.2**
JAGI				Sn	**Sn**	**20 14 12.5**	**-3.5**
JAGI	**Jajag, Banyuwa**	**3.75**	**75**	P	**Pn**	**20 13 33.8**	**+0.7**
LEM	**Lembang**	**3.86**	**312**	P	**Pn**	**20 13 38.1**	**+3.3**
	4.2nm,0.3s,baz=331,slow=16,SNR=4.6						
LEM				S	**Sn**	**20 14 17.8**	**-1.3**
	19nm,0.5s,baz=299,slow=21,SNR=3.6						
	15nm,0.5s						
LEM	**Lembang**	**3.86**	**312**	P	**Pn**	**20 13 38.0**	**+3.1**
CNJI	**Cibinong**	**3.95**	**302**	P	**Pn**	**20 13 37.9**	**+2.0**
ABJI	**Asem Bagus**	**4.05**	**66**	P	**Pn**	**20 13 39.0**	**+1.7**
XMIS	**Christmas Isla**	**4.88**	**258**	Pn	**Pn**	**20 13 50.0**	**+1.4**
XMIS				Sn	**Sn**	**20 14 40.4**	**-3.5**
TWSI	**Taliwang, Sumb**	**6.35**	**84**	P	**Pn**	**20 14 10.6**	**+1.7**
	34nm,0.6s,1µm0.3nm						
PLAI	**Plampang**	**7.22**	**86**	P	**Pn**	**20 14 22.2**	**+1.3**
MNAI	**Manna**	**9.03**	**304**	Pn	**Pn**	**20 14 48.0**	**+2.2**
BATI	**Baumata**	**13.00**	**94**	P	**Pn**	**20 15 39.6**	**-0.5**
	2.2nm,0.3s,baz=270,slow=9.1,SNR=2.0						
BATI				S	Sn	20 17 52.9	-11
	18nm,0.7s,baz=308,slow=16,SNR=1.2						
	18nm,0.6s						
SOEI	**Soe**	**13.59**	**92**	Pn	**Pn**	**20 15 49.9**	**+1.6**
GIRL	**Giralia**	**13.59**	**165**	Pn	**Pn**	**20 15 47.9**	**-0.3**
MBWA	**Marble Bar**	**14.65**	**144**	Pn	Pn	20 15 58.1	-4.4
PSA00	**Pilbara Seismi**	**15.03**	**144**	Pn	Pn	20 16 02.0	-5.7
PSA00				IAmb	IAmb	20 16 27.0	
	comp=Z,24nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.02**	**122**	P	**Pn**	**20 16 32.6**	**-0.6**
MTN	**Manton Dam**	**20.53**	**101**	P	**P**	**20 17 10.7**	**-2.5**
MTN				IAmb	IAmb	20 17 25.8	
	comp=Z,61nm,1.4s						
FAKI	**Fak Fak**	**22.57**	**75**	P	**P**	**20 17 33.6**	**-1.7**
FAKI				IAmb	IAmb	20 17 43.7	
	comp=Z,29nm,1.1s						
WRA	**Warramunga Arr**	**25.28**	**117**	P	**P**	**20 18 03.0**	**+1.9**
	comp=Z,1.1nm,0.7s,baz=291,slow=11,SNR=7.1						
	comp=Z,1.1nm,0.7s						
ASAR	**Alice Springs**	**26.46**	**125**	P	**P**	**20 18 13.9**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=304,slow=9.5,SNR=7.9						
	comp=Z,1.0nm,0.7s						
STKA	**Stephens Creek**	**36.44**	**132**	P	**P**	**20 19 39.1**	**-0.2**
STKA	**Stephens Creek**	**36.44**	**132**	P	**P**	**20 19 42.4**	**+3.0**
	comp=Z,1.7nm,0.7s,baz=312,slow=10,SNR=5.0						
	comp=Z,1.7nm,0.7s						
WKZ	**Wanaka**	**61.23**	**136**	P	**P**	**20 22 46.9**	**-2.4**
MKAR	**Makanchi Array**	**61.40**	**338**	P	**P**	**20 22 49.8**	**-0.5**
	comp=Z,0.3nm,0.5s,baz=165,slow=8.0,SNR=2.1						
	comp=Z,0.3nm,0.5s						
ZALV	**Zalesovo Beam**	**66.80**	**344**	P	**P**	**20 23 25.2**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=151,slow=3.3,SNR=2.6						
	comp=Z,0.6nm,0.6s						
VNDA	**Vanda**	**72.94**	**170**	P	**P**	**20 24 06.2**	**+3.1**
	comp=Z,1.0nm,0.9s,baz=288,slow=5.9,SNR=3.9						
	comp=Z,1.0nm,0.9s						
ABKAR	**Akbulak array**	**73.30**	**328**	P	**P**	**20 24 03.6**	**-2.0**
ABKAR				IAmb	IAmb	20 24 06.0	
	comp=Z,5.4nm,1.2s						

OMAN 22 20:23:04.2±0.2, 18.65N×60.24E, h10km, mb3.9/2, ml3.2/9, Error ellipse: s-maj=4.5km s-min=2.6km az=285.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DQM	**DQM**	**2.85**	**297**	P	Pn	20 23 50.3	+0.5
	SNR=26						
DQM				S	Sn	20 24 26.7	+2.5
MHTO	**MHTO**	**3.16**	**318**	P	Pn	20 23 53.9	-0.1
	SNR=20						
MHTO				S	Sn	20 24 32.7	+0.8
JLN	**Jalan Bani Buh**	**3.57**	**348**	P	Pn	20 23 59.0	-0.7
JLN				S	Sn	20 24 42.0	0.0
	SNR=15						
WBK	**Wadi Bani Khal**	**4.12**	**343**	P	Pn	20 24 09.0	+1.7
	SNR=7.0						
WBK				S	Sn	20 24 55.0	-0.6
JMDO	**Jabal Madar**	**4.21**	**332**	P	Pn	20 24 09.4	+0.9
	SNR=22						
JMDO				S	Sn	20 24 59.7	+1.9
SHAO	**Shalim**	**4.43**	**263**	P	Pn	20 24 11.0	-0.5
	SNR=11						
SMDO	**Samad**	**4.84**	**335**	P	Pn	20 24 17.9	+0.6
SMDO				S	Sn	20 25 13.5	0.0
BSY	**Bisya**	**4.97**	**326**	P	Pn	20 24 19.5	+0.5
BSY				S	Sn	20 25 17.9	+1.3
DMTO	**DMTO**	**5.12**	**260**	P	Pn	20 24 20.0	-0.9
DMTO				S	Sn	20 25 19.8	-0.3
BIDO	**Bidbid**	**5.24**	**338**	P	Pn	20 24 23.0	+0.4
BIDO				S	Sn	20 25 23.0	-0.1
HOQ	**Hoqain**	**5.62**	**331**	P	Pn	20 24 27.9	0.0
HOQ				S	Sn	20 25 33.7	+1.1
DOK	**Doka**	**5.79**	**271**	P	Pn	20 24 30.4	+0.1
DOK				S	Sn	20 25 36.5	-0.4
ARQ	**Araqi**	**5.82**	**324**	P	Pn	20 24 31.9	+1.3
ARQ				S	Sn	20 25 38.6	+1.2
UMZA	**Um Al Zommool**	**6.24**	**311**	P	Pn	20 24 37.5	+1.1
UMZA				S	Sn	20 25 49.2	+1.3

IDC ***22*** *20:55:21.8±4.9,20.15S×177.61W, h470km±53km, mb3.3/8, mbtmp4.1/9, Error ellipse: s-maj=35.7km s-min=22.6km az=163.0*
NEIC ***22*** *20:55:25.5±2.0,20.05S±0.2×177.8W±0.1, h497km±9km, mb4.3/12, Error ellipse: s-maj=24.7km s-min=17.3km az=142.0*

ISC 22 20:55:24.8±0.5, 20.1S±0.1×177.71W±0.09, h500km, n44, σ1§24/44, mb4.1/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.65**	**300**	P	**P**	**20 56 53.5**	**+4.6**
NIUE	**Niue**	**7.40**	**83**	P	**P**	**20 57 16.8**	**+1.6**
NIUE				S	**S**	**20 58 47.2**	**+1.7**
AFI	**Afiamalu**	**8.36**	**44**	P	**P**	**20 57 25.4**	**+0.3**
AFI				S	**S**	**20 59 01.4**	**-2.4**
URZ	**Urewera**	**18.65**	**193**	P	**P**	**20 59 08.6**	**-2.4**
	13nm,0.7s,baz=116,slow=6.1,SNR=5.2						
TCW	**Tory Channel**	**22.13**	**196**	P	**P**	**20 59 42.7**	**+0.1**
TUWZ	**Tuamarina**	**22.42**	**197**	P	**P**	**20 59 46.6**	**+1.4**
STKA	**Stephens Creek**	**38.21**	**244**	P	**P**	**21 02 01.1**	**-0.2**
STKA	**Stephens Creek**	**38.21**	**244**	P	**P**	**21 02 00.5**	**-0.9**
	2.4nm,0.9s,baz=114,slow=9.2,SNR=4.5						
	2.4nm,0.9s						
BBOO	**Buckleboo**	**42.98**	**243**	P	**P**	**21 02 39.1**	**-0.3**
BBOO				IAmb	IAmb	21 02 58.5	
	comp=Z,18nm,1.5s						
WR0	**Warramunga Arr**	**44.74**	**262**	P	**P**	**21 02 52.1**	**-1.2**
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**21 02 54.0**	**-0.3**
ASAR				PcP	**PcP**	**21 04 25.1**	**-0.5**
ASAR	**Alice Springs**	**44.88**	**256**	P	**P**	**21 02 54.5**	**+0.1**
	comp=Z,6.0nm,0.9s,baz=84,slow=8.7,SNR=4.5						
ASAR				PcP	**PcP**	**21 04 24.9**	**-0.7**
	comp=Z,1.1nm,0.6s,baz=103,slow=3.3,SNR=8.2						
	comp=Z,6.0nm,0.9s						
WB0	**Warramunga Arr**	**44.91**	**262**	P	**P**	**21 02 54.3**	**-0.3**
WB0				IAmb	IAmb	21 02 54.6	
	comp=Z,9.9nm,1.1s						
WB2	**Warramunga Arr**	**44.92**	**262**	P	**P**	**21 02 54.5**	**-0.2**
WB2				IAmb	IAmb	21 03 05.0	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**44.93**	**262**	P	**P**	**21 02 54.0**	**-0.8**
	comp=Z,3.2nm,0.9s,baz=96,slow=7.6,SNR=30						
WRA				PcP	**PcP**	**21 04 25.9**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=99,slow=2.6,SNR=8.6						
	comp=Z,3.2nm,0.9s						
MTN	**Manton Dam**	**49.44**	**270**	P	**P**	**21 03 28.1**	**-0.7**
FORT	**Forrest**	**49.71**	**246**	P	**P**	**21 03 29.6**	**-1.0**
FORT				IAmb	IAmb	21 03 35.3	
	comp=Z,12nm,0.8s						
FITZ	**Fitzroy Crossi**	**53.35**	**262**	P	**P**	**21 03 57.5**	**+0.3**
PSA00	**Pilbara Seismi**	**58.03**	**257**	P	**P**	**21 04 29.7**	**0.0**
PSA00				IAmb	IAmb	21 04 46.3	
	comp=Z,18nm,1.2s						
MORW	**Morawa**	**60.24**	**247**	P	**P**	**21 04 43.4**	**-1.0**
MORW				IAmb	IAmb	21 04 57.8	
	comp=Z,15nm,1.3s						
USRK	**Ussuriysk Ar.**	**78.78**	**326**	P	**P**	**21 06 35.3**	**+0.1**
USRK	**Ussuriysk Ar.**	**78.78**	**326**	P	**P**	**21 06 34.8**	**-0.3**
	comp=Z,1.9nm,0.7s,baz=131,slow=3.3,SNR=6.6						
	comp=Z,1.9nm,0.7s						
USA0B	**Ussuriysk Arra**	**78.78**	**326**	P	**P**	**21 06 35.8**	**+0.6**
NVAR	**Mina Array Bea**	**80.54**	**43**	P	**P**	**21 06 44.6**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=226,slow=8.7,SNR=4.0						
	comp=Z,0.6nm,0.8s						
TXAR	**Lajitas Array**	**86.61**	**57**	P	**P**	**21 07 15.9**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=235,slow=6.6,SNR=6.1						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**87.86**	**13**	P	**P**	**21 07 18.2**	**-1.8**
	comp=Z,0.4nm,0.9s,baz=215,slow=6.7,SNR=3.0						
	comp=Z,0.4nm,0.9s						
BPMT	**Black Pine Rid**	**87.96**	**39**	P	**P**	**21 07 20.7**	**-0.6**
CMAR	**Chiang Mai Arr**	**90.24**	**289**	P	**P**	**21 07 32.9**	**+0.8**
CMAR	**Chiang Mai Arr**	**90.24**	**289**	P	**P**	**21 07 33.7**	**+1.5**
	comp=Z,1.4nm,0.8s,baz=122,slow=2.8,SNR=13						
	comp=Z,1.4nm,0.8s						
CHTO	**Chiang Mai**	**90.36**	**290**	P	**P**	**21 07 33.5**	**+0.8**
CHTO				IAmb	IAmb	21 07 35.0	
	comp=Z,2.8nm,0.7s						
MKAR	**Makanchi Array**	**111.12**	**314**	PKiKP	**PKiKP**	**21 12 59.2**	**-2.0**
	comp=Z,0.2nm,0.6s,baz=60,slow=1.7,SNR=2.5						
KURBB	**Kurchatov Arra**	**113.93**	**317**	PKiKP	**PKiKP**	**21 13 04.5**	**-1.9**
	comp=Z,0.3nm,0.6s,baz=105,slow=1.8,SNR=4.6						
BVAR	**Borovoye Array**	**118.94**	**320**	PKP	**PKPdf**	**21 13 15.3**	**-0.7**
	comp=Z,0.8nm,0.5s,baz=70,slow=1.7,SNR=5.5						
HFS	**Hagfors**	**139.18**	**351**	PKhKP	PKPpre	21 13 46.3	
	comp=Z,1.6nm,0.5s,baz=35,slow=3.6,SNR=4.6						
AKASG	**Malin Array Be**	**142.79**	**332**	PKhKP	PKPpre	21 13 57.4	
	comp=Z,1.6nm,0.5s,baz=43,slow=4.3,SNR=15						
AKBB	**Malin Array Si**	**142.79**	**332**	PKPpre	PKPpre	21 13 57.0	
KIEV	**Kiev**	**142.80**	**332**		PKPpre	21 13 56.7	
ARPR	**Arapgir-MALATY**	**143.69**	**309**		PKPbc	21 14 02.2	+0.5
BNN	**Bunyan**	**145.58**	**310**	PKPbc	**PKPdf**	**21 14 06.3**	**+0.2**
BRTR	**Keskin Array B**	**146.77**	**313**	PKPbc	**PKPbc**	**21 14 10.8**	**0.0**
	comp=Z,0.9nm,0.8s,baz=47,slow=11,SNR=3.8						
BUR08	**Bucovina Ar. S**	**146.83**	**331**		**PKPbc**	**21 14 11.0**	**+0.3**
MMAI	**Mount Meron Ar**	**147.85**	**300**	PKPbc	**PKPbc**	**21 14 13.8**	**+0.1**
	comp=Z,1.9nm,0.5s,baz=77,slow=5.2,SNR=12						
KHC	**Kasperske Hory**	**149.65**	**345**		**PKPbc**	**21 14 18.0**	**+0.4**
GERES	**GERESS Array B**	**149.88**	**345**	PKPbc	**PKPbc**	**21 14 18.4**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=338,slow=2.9,SNR=6.2						

NEIC ***22*** *21:33:29.5±1.9,20.2S±0.1×177.8W±0.1, h482km±6km, mb4.5/62, Error ellipse: s-maj=17.1km s-min=14.6km az=145.0*
IDC ***22*** *21:33:32.9±2.2,20.76S×177.99W, h514km±24km, mb3.7/15, mbtmp4.5/16, Error ellipse: s-maj=13.9km s-min=10.3km az=146.0*

ISC 22 21:33:30.3±0.4, 20.84S±0.07×177.86W±0.07, h495km, n127, σ1§05/125, mb4.4/51, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.95**	**308**	P	**P**	**21 34 56.9**	**+0.2**
NIUE	**Niue**	**7.66**	**78**	P	**P**	**21 35 21.3**	**-1.8**
RAO	**Raoul Island**	**8.38**	**180**	S	**S**	**21 37 04.7**	**-4.3**
	174nm,0.3s,baz=88,slow=21,SNR=3.2						
AFI	**Afiamalu**	**9.01**	**41**	P	**P**	**21 35 33.0**	**-4.3**
PINNC	**Pines Island,**	**13.77**	**260**	P	**P**	**21 36 28.0**	**+0.4**
DZM	**Mont Dzumac**	**14.67**	**262**	P	**P**	**21 36 35.2**	**-2.0**
DZM	**Mont Dzumac**	**14.67**	**262**	P	**P**	**21 36 37.8**	**+0.5**
	5.3nm,0.7s,baz=205,slow=22,SNR=1.7						
URZ	**Urewera**	**17.90**	**193**	P	**P**	**21 37 08.9**	**-0.9**
	23nm,0.6s,baz=68,slow=2.6,SNR=11						
BKZ	**Black Stump Fm**	**18.90**	**194**	P	**P**	**21 37 17.0**	**-2.1**
THZ	**Tophouse**	**22.27**	**198**	P	**P**	**21 37 48.9**	**-0.7**
EIDS	**Eidsvold**	**28.89**	**255**	P	**P**	**21 38 48.0**	**-0.4**
EIDS				IAmb	IAmb	21 39 01.6	
	comp=Z,15nm,1.4s						
ARMA	**Armidale**	**29.04**	**245**	P	**P**	**21 38 50.3**	**+0.5**
ARMA				IAmb	IAmb	21 39 16.3	
	comp=Z,26nm,1.4s						
CTAO	**Charters Tower**	**33.59**	**265**	P	**P**	**21 39 29.3**	**+0.5**
CTAO				IAmb	IAmb	21 39 30.0	
	comp=Z,14nm,0.6s						
MTSU	**Mount Surprise**	**35.71**	**268**	P	**P**	**21 39 47.0**	**+0.4**
	comp=Z,8.5nm,0.9s						
TOO	**Toolangi**	**35.81**	**234**	P	**P**	**21 39 47.3**	**+0.1**
TOO				IAmb	IAmb	21 40 15.2	
	comp=Z,23nm,1.4s						
COEN	**Coen**	**37.74**	**274**	P	**P**	**21 40 03.4**	**-0.1**
COEN				IAmb	IAmb	21 40 26.3	
	comp=Z,38nm,1.4s						
STKA	**Stephens Creek**	**37.76**	**245**	P	**P**	**21 40 03.5**	**+0.1**
STKA	**Stephens Creek**	**37.76**	**245**	P	**P**	**21 40 04.2**	**+0.8**
	comp=Z,2.1nm,0.8s,baz=85,slow=13,SNR=5.9						
	comp=Z,2.1nm,0.8s						
BBOO	**Buckleboo**	**42.52**	**244**	P	**P**	**21 40 41.4**	**-0.2**
WR0	**Warramunga Arr**	**44.50**	**262**	P	**P**	**21 40 56.7**	**-0.6**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**21 40 57.7**	**-0.1**
ASAR	**Alice Springs**	**44.57**	**257**	P	**P**	**21 40 57.9**	**0.0**
	comp=Z,11nm,0.8s,baz=86,slow=8.5,SNR=90						
ASAR				PcP	**PcP**	**21 42 30.8**	**+0.4**
	comp=Z,0.9nm,0.6s,baz=114,slow=3.8,SNR=5.0						
ASAR				S	**S**	**21 46 56.2**	**-0.9**
	comp=Z,1.8nm,0.8s,baz=93,slow=16,SNR=8.9						
	comp=Z,11nm,0.8s						
WB0	**Warramunga Arr**	**44.67**	**263**	P	**P**	**21 40 58.0**	**-0.6**
WRA	**Warramunga Arr**	**44.69**	**262**	P	**P**	**21 40 58.2**	**-0.5**
WRA	**Warramunga Arr**	**44.69**	**262**	P	**P**	**21 40 58.1**	**-0.6**
	comp=Z,9.7nm,0.6s,baz=97,slow=7.5,SNR=134						
WRA				S	**S**	**21 46 57.9**	**-0.9**
	comp=Z,3.2nm,1.0s,baz=96,slow=12,SNR=4.8						
	comp=Z,9.7nm,0.6s						
KDU	**Kakadu**	**48.09**	**271**	P	**P**	**21 41 24.3**	**-0.3**
	comp=Z,35nm,1.3s						
FORT	**Forrest**	**49.28**	**247**	P	**P**	**21 41 33.0**	**-0.3**
FORT				IAmb	IAmb	21 41 33.9	
	comp=Z,11nm,0.7s						
MTN	**Manton Dam**	**49.30**	**271**	P	**P**	**21 41 33.2**	**-0.4**
MTN	**Manton Dam**	**49.30**	**271**	P	**P**	**21 41 33.3**	**-0.4**
	comp=Z,42nm,0.7s						
WRKA	**Warakurna**	**49.50**	**254**	P	**P**	**21 41 35.2**	**+0.1**
	comp=Z,10nm,1.0s						
FAKI	**Fak Fak**	**51.71**	**283**	P	**P**	**21 41 49.9**	**-1.3**
FITZ	**Fitzroy Crossi**	**53.12**	**263**	P	**P**	**21 42 01.5**	**+0.2**
SOEI	**Soe**	**56.64**	**272**	P	**P**	**21 42 27.4**	**+1.1**
SBA	**Scott Base**	**57.54**	**184**	P	**P**	**21 42 33.5**	**+2.2**
VNDA	**Vanda**	**57.59**	**185**	P	**P**	**21 42 33.5**	**+1.9**
VNDA	**Vanda**	**57.59**	**185**	P	**P**	**21 42 33.6**	**+1.9**
	comp=Z,1.3nm,0.8s,baz=350,slow=7.1,SNR=14						
	comp=Z,1.3nm,0.8s						
TNTI	**Ternate**	**57.67**	**285**	P	**P**	**21 42 33.1**	**-0.2**
TNTI				IAmb	IAmb	21 42 34.4	
	comp=Z,28nm,0.9s						
MMRI	**Maumere**	**58.90**	**272**	P	**P**	**21 42 40.8**	**-0.7**
CASY	**Casey**	**63.72**	**205**	P	**P**	**21 43 12.6**	**+0.3**
CASY				IAmb	IAmb	21 43 13.7	
	comp=Z,17nm,1.5s						
TOLI2	**Tolitoli**	**63.80**	**282**	P	**P**	**21 43 13.7**	**-0.1**
TOLI2				IAmb	IAmb	21 43 16.1	
	comp=Z,11nm,0.6s						
JAGI	**Jajag, Banyuwa**	**66.51**	**270**	P	**P**	**21 43 29.5**	**-1.4**
QSPA	**South Pole Qui**	**69.23**	**180**	P	**P**	**21 43 48.0**	**+1.3**
QSPA	**South Pole Qui**	**69.23**	**180**	P	**P**	**21 43 48.3**	**+1.5**
	comp=Z,4.5nm,0.7s,baz=0.4,slow=0.7,SNR=38						
	comp=Z,4.5nm,0.7s						

UGM	**Wanagama**	**70.09**	**269**	P	**P**	**21 43 52.5**	**-0.2**
JMM	**Marumori**	**70.15**	**326**	P	**P**	**21 43 52.7**	**+0.3**
JMM				IAmb	IAmb	21 43 53.5	
	comp=Z,20nm,0.9s						
JGF	**Kuroka**	**70.36**	**322**	P	**P**	**21 43 53.7**	**-0.1**
MJAR	**Matsushiro Arr**	**70.56**	**324**	P	**P**	**21 43 55.0**	**0.0**
	comp=Z,8.3nm,0.7s,baz=156,slow=5.7,SNR=20						
	comp=Z,8.3nm,0.7s						
MAJO	**Matsushiro**	**70.56**	**324**	P	**P**	**21 43 54.9**	**-0.1**
MAJO				IAmb	IAmb	21 43 55.7	
	comp=Z,8.9nm,0.8s						
MJB9	**Matsu-Tunnel**	**70.56**	**324**	P	**P**	**21 43 55.3**	**+0.3**
MJB9				IAmb	IAmb	21 43 56.7	
	comp=Z,8.6nm,0.8s						
JSD	**Sado**	**71.62**	**325**	P	**P**	**21 44 01.5**	**+0.4**
JSD				IAmb	IAmb	21 44 03.0	
	comp=Z,13nm,0.8s						
JTM	**Tenmabayashi**	**72.22**	**328**	P	**P**	**21 44 05.2**	**+0.6**
JTM				IAmb	IAmb	21 44 05.5	
	comp=Z,18nm,0.9s						
JNU	**Nakatsue**	**72.61**	**317**	P	**P**	**21 44 06.7**	**-0.4**
JNU				IAmb	IAmb	21 44 08.3	
	comp=Z,28nm,1.3s						
YULB	**Yu-li**	**73.80**	**303**	P	**P**	**21 44 13.0**	**-1.0**
YULB				IAmb	IAmb	21 44 13.8	
	comp=Z,7.1nm,0.6s						
JKA	**Kamikawa-asahi**	**74.08**	**332**	P	**P**	**21 44 16.2**	**+1.0**
SSLB	**Suanglung**	**74.27**	**304**	P	**P**	**21 44 15.6**	**-1.1**
SSLB				IAmb	IAmb	21 44 16.5	
	comp=Z,13nm,0.5s						
TPUB	**Ta-pu**	**74.27**	**303**	P	**P**	**21 44 15.6**	**-1.2**
PEA0B	**Petropavlovsk-**	**76.63**	**345**	P	**P**	**21 44 30.2**	**+1.0**
PEA0B				IAmb	IAmb	21 44 46.1	
	comp=Z,36nm,1.4s						
PETK	**Petropavlovsk-**	**76.63**	**345**	P	**P**	**21 44 29.9**	**+0.7**
	comp=Z,6.9nm,0.7s,baz=142,slow=7.4,SNR=8.7						
	comp=Z,6.9nm,0.7s						
KSRS	**Korea Array**	**77.23**	**319**	P	**P**	**21 44 33.8**	**+1.0**
	comp=Z,2.8nm,0.6s,baz=125,slow=5.9,SNR=12						
	comp=Z,2.8nm,0.6s						
CHIR	**Chirikof Islan**	**78.66**	**13**	P	**P**	**21 44 39.8**	**-0.3**
BELA	**Belgrano 2**	**79.21**	**173**	P	**P**	**21 44 43.2**	**+0.3**
USA0B	**Ussuriysk Arra**	**79.32**	**326**	P	**P**	**21 44 44.9**	**+1.0**
USA0B				IAmb	IAmb	21 44 46.1	
	comp=Z,9.9nm,0.8s						
USRK	**Ussuriysk Ar.**	**79.32**	**326**	P	**P**	**21 44 45.3**	**+1.4**
USRK	**Ussuriysk Ar.**	**79.32**	**326**	P	**P**	**21 44 44.9**	**+1.0**
	comp=Z,9.1nm,0.8s,baz=115,slow=3.0,SNR=30						
	comp=Z,9.1nm,0.8s						
MYKOM	**Kota Tinggi**	**79.70**	**276**	P	**P**	**21 44 47.5**	**+0.9**
YBH	**Yreka Blue Hor**	**80.47**	**39**	P	**P**	**21 44 51.1**	**+1.0**
YBH	**Yreka Blue Hor**	**80.47**	**39**	P	**P**	**21 44 51.4**	**+1.3**
	comp=Z,4.2nm,0.6s,baz=215,slow=0.8,SNR=10						
	comp=Z,4.2nm,0.6s						
HUMO	**Hull Mountain**	**80.88**	**38**	P	**P**	**21 44 52.9**	**+0.7**
L04D	**Klamath Falls**	**81.01**	**38**	P	**P**	**21 44 53.4**	**+0.3**
L04D				IAmb	IAmb	21 44 55.4	
	comp=Z,17nm,1.2s						
NVAR	**Mina Array Bea**	**81.18**	**43**	P	**P**	**21 44 54.5**	**+0.5**
NVAR	**Mina Array Bea**	**81.18**	**43**	P	**P**	**21 44 55.3**	**+1.2**
	comp=Z,2.6nm,0.9s,baz=224,slow=9.6,SNR=13						
	comp=Z,2.6nm,0.9s						
KVN	**Kaiserville**	**81.67**	**43**	P	**P**	**21 44 57.0**	**+0.4**
TPH	**Tonopah**	**81.67**	**44**	P	**P**	**21 44 57.5**	**+0.9**
TPH				IAmb	IAmb	21 44 58.5	
	comp=Z,20nm,1.0s						
P18K	**Big Mountain,**	**82.07**	**11**	P	**P**	**21 44 57.3**	**-0.6**
P18K				IAmb	IAmb	21 44 58.7	
	comp=Z,14nm,1.5s						
K05A	**Summer Lake**	**82.14**	**39**	P	**P**	**21 44 60.0**	**+1.1**
K05A				IAmb	IAmb	21 45 00.8	
	comp=Z,6.2nm,0.7s						
J05D	**Fort Rock, OR**	**82.29**	**38**	P	**P**	**21 45 00.9**	**+1.3**
J05D				IAmb	IAmb	21 45 01.8	
	comp=Z,11nm,0.8s						
O18K	**Koktuh Hills**

comp=Z,1.8nm,0.6s
WATA Walderalm 152.48 346 *i* PKP **PKPbc 21 52 29.3 -0.8**
comp=Z,2.4nm,0.6s
WTTA Wattenberg 152.53 346 *i* PKP **PKPbc 21 52 29.8 -0.5**
comp=Z,4.4nm,0.8s
ABTA Abfaltersbach 152.81 344 *i* PKP **PKPbc 21 52 29.8 -1.0**
comp=Z,2.6nm,0.5s
TORD Torodi Ar. Bea 172.34 177 PKP **PKPdf 21 52 41.2 -1.6**
comp=Z,0.5nm,0.8s,baz=90,slow=4.3,SNR=2.1
TORD PKPab **PKPab 21 54 11.9 +1.7**
comp=Z,0.3nm,0.7s,baz=195,slow=3.8,SNR=1.9

OMAN 22 21:37:03.8±0.3, 29°20'N×48°14'E, h10km, mb4.0/18, Error ellipse: s-maj=7.2km s-min=4.9km az=15.0, Eastern Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHMA	**Al-Shehemyia**	**4.17**	**142**	P	Pn	21 38 07.7	+0.3
SHMA				S	Sn	21 38 58.5	+2.3
SMRA	**Abu-Samra**	**5.04**	**151**	P	Pn	21 38 18.9	-0.5
SMRA				S	Sn	21 39 19.3	+1.6
TRNA	**Turayna**	**5.22**	**148**	P	Pn	21 38 21.4	-0.5
SHME	**Shamm**	**7.76**	**112**	P	Pn	21 38 58.2	+1.4
SHME				S	Sn	21 40 26.2	+1.4
MZR	**Muzera**	**7.81**	**141**	P	Pn	21 38 57.8	+0.2
MZR				S	Sn	21 40 24.5	-1.7
ASUD	**Al Ashush, Dub**	**7.87**	**124**	P	Pn	21 38 60.0	+1.7
ASUD				S	Sn	21 40 30.6	+3.2
MASF	**Masafi**	**8.09**	**116**	P	Pn	21 38 59.2	-2.2
MASF				S	Sn	21 40 34.6	+1.7
MDH	**Madha**	**8.23**	**116**	P	Pn	21 39 02.8	-0.5
MDH				S	Sn	21 40 37.1	+0.6
UOSS	**Minazif**	**8.34**	**119**	P	Pn	21 39 05.4	+0.6
UOSS				S	Sn	21 40 38.6	-0.5
HATD	**Hatta, Dubai**	**8.35**	**120**	P	Pn	21 39 04.4	-0.5
HATD				S	Sn	21 40 40.0	+0.7
ASHO	**Ashiyiah**	**8.38**	**121**	P	Pn	21 39 05.6	+0.3
ASHO				S	Sn	21 40 38.2	-1.8
ALNE	**Al Ain**	**8.52**	**125**	P	Pn	21 39 08.7	+1.4
ALNE				S	Sn	21 40 44.9	+1.4
UMZA	**Um Al Zommool**	**9.03**	**134**	P	Pn	21 39 14.0	-0.2
UMZA				S	Sn	21 40 51.9	-4.1
SOHO	**SOHO**	**9.04**	**122**	P	Pn	21 39 15.5	+1.1
SOHO				S	Sn	21 40 54.7	-1.6
JASK	**Jask - Hormozg**	**9.25**	**109**	P	Pn	21 39 17.6	+0.4
JASK				S	Sn	21 41 03.2	+1.8
ARQ	**Araqi**	**9.52**	**126**	P	Pn	21 39 21.0	+0.1
ARQ				S	Sn	21 41 08.6	+0.5
HOQ	**Hoqain**	**9.94**	**122**	P	Pn	21 39 26.9	+0.2
HOQ				S	Sn	21 41 16.4	-2.0
BSY	**Bisya**	**10.38**	**126**	P	Pn	21 39 33.4	+0.6
SMDO	**Samad**	**10.80**	**122**	P	Pn	21 39 39.6	+1.0
SMDO				S	Sn	21 41 38.7	-0.8
JMDO	**Jabal Madar**	**11.26**	**125**	P	Pn	21 39 43.7	-1.1
WBK	**Wadi Bani Khal**	**11.75**	**121**	P	Pn	21 39 51.8	+0.3
MHTO	**MHTO**	**12.08**	**130**	P	Pn	21 39 54.8	-1.3
JLN	**Jalan Bani Buh**	**12.35**	**122**	P	Pn	21 39 59.0	-0.6
DQM	**DQM**	**12.57**	**135**	P	Pn	21 40 01.1	-1.7

IDC 22 21:37:18.5±1.1, 54°16S×136°35W, h0km, mb4.1/5, mbtmp4.1/5, MS3.8/7, Error ellipse: s-maj=53.5km s-min=25.7km az=1.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**31.80**	**201**	LR	LR	21 53 54.2	
	comp=Z,41nm,18.6s,baz=110,slow=31						
RPN	**Rapa Nui**	**33.52**	**47**	LR	LR	21 54 28.7	
	comp=Z,124nm,19.4s,baz=280,slow=31						
URZ	**Urewera**	**35.19**	**278**	LR	LR	21 55 28.0	
	comp=Z,148nm,18.5s,baz=208,slow=31						
QSPA	**South Pole Qui**	**36.01**	**180**	LR	LR	21 57 42.7	
	comp=Z,166nm,18.5s,baz=84,slow=34						
PMSA	**Palmer Station**	**36.16**	**136**	LR	LR	21 54 28.2	
	comp=Z,248nm,19.1s,baz=290,slow=28						
PPT	**Papeete**	**37.93**	**339**	LR	LR	21 56 00.1	
	comp=Z,217nm,18.8s,baz=147,slow=30						
H03S2	**Juan Fernandez**	**44.62**	**87**	T	T	22 32 53.0	
	baz=222,slow=74,SNR=104						
H03S1	**Juan Fernandez**	**44.63**	**87**	T	T	22 32 59.8	
	baz=222,slow=74,SNR=97						
H03S3	**Juan Fernandez**	**44.64**	**87**	T	T	22 32 54.9	
	baz=222,slow=74,SNR=102						
PLCA	**Paso Flores**	**44.85**	**101**	LR	LR	22 01 30.9	
	comp=Z,84nm,18.3s,baz=90,slow=32						
H03N3	**Juan Fernandez**	**44.89**	**87**	T	T	22 33 10.3	
	baz=226,slow=72,SNR=89						
H03N2	**Juan Fernandez**	**44.90**	**87**	T	T	22 33 41.5	
	baz=226,slow=72						
H03N1	**Juan Fernandez**	**44.91**	**87**	T	T	22 33 06.8	
	baz=226,slow=72						
SNAA	**Sanae**	**50.27**	**163**	P	P	21 46 15.9	-0.1
	2.0nm,0.8s,baz=240,slow=10,SNR=6.6 2.0nm,0.8s						
STKA	**Stephens Creek**	**60.38**	**256**	P	P	21 47 30.8	+1.5
	2.0nm,0.8s,baz=134,slow=6.6,SNR=3.6 2.0nm,0.8s						
LPAZ	**La Paz**	**64.22**	**82**	P	P	21 47 56.5	+0.6
	0.8nm,0.3s,baz=136,slow=5.6,SNR=4.0 0.8nm,0.3s						
ASAR	**Alice Springs**	**71.02**	**256**	P	P	21 48 37.8	-0.4
	1.7nm,0.7s,baz=139,slow=6.7,SNR=16 1.7nm,0.7s						
H01W1	**Cape Leeuwin H**	**72.59**	**234**	T	T	23 08 52.3	
	baz=144,slow=76,SNR=28						
H01W2	**Cape Leeuwin H**	**72.59**	**234**	T	T	23 08 48.8	
	baz=144,slow=76,SNR=28						
H01W3	**Cape Leeuwin H**	**72.60**	**234**	T	T	23 08 55.1	
	baz=144,slow=76,SNR=27						
WRA	**Warramunga Arr**	**73.69**	**259**	P	P	21 48 53.7	-0.4
	2.2nm,0.9s,baz=145,slow=5.4,SNR=11 2.2nm,0.9s						
H11S2	**WAKE ISLAND Hy**	**87.16**	**307**	T	T	23 27 07.0	
	baz=148,slow=76,SNR=10						
H11S3	**WAKE ISLAND Hy**	**87.17**	**307**	T	T	23 27 08.3	
	baz=148,slow=76,SNR=5.5						
H11S1	**WAKE ISLAND Hy**	**87.18**	**307**	T	T	23 27 08.7	
	baz=148,slow=76,SNR=6.5						
ESDC	**Sonseca Array**	**145.12**	**95**	PKPbc	PKPbc	21 56 54.8	-1.9
	0.4nm,0.8s,baz=247,slow=4.1,SNR=2.2						
MKAR	**Makanchi Array**	**154.59**	**269**	PKPab	PKPab	21 57 34.8	-0.3
	0.6nm,0.8s,baz=118,slow=4.3,SNR=3.7						

*IDC **22** 21:47:21.1±0.6, 17°06N×46°51W, h0km, mb4.1/18, mbtmp4.1/19, ML3.7/1, MS3.7/18, Error ellipse: s-maj=19.1km s-min=15.0km az=152.0*
*NEIC **22** 21:47:23.2±1.1, 17°0N±0°1×46°54W±0°05, h10km±1km, mb4.6/55, Error ellipse: s-maj=17.9km s-min=7.6km az=177.0*
ISC 22 21:47:23.2±0.4, 17°03N±0°07×46°54W±0°07, h15km, n114, σ0s72/97, mb4.5/45, MS3.6/17, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MDP	**Montagnes des**	**13.28**	**207**	Pn	**Pn**	**21 50 31.1**	**-0.2**
	0.4nm,0.3s,baz=7.7,slow=14,SNR=10						
MDP				LR	LR	21 54 40.6	
	comp=Z,219nm,18.6s,baz=10.0,slow=33 16nm,1.0s						
CBE	**Ff, Capester**	**14.48**	**268**	Pn	**Pn**	**21 50 47.7**	**-0.2**
GDHS	**Morne Mazeau,**	**14.62**	**269**	Pn	**Pn**	**21 50 49.3**	**-0.4**
GRGR	**Grenville**	**15.42**	**254**	Pn	**Pn**	**21 51 00.6**	**+0.2**
BOAV	**Boa Vista**	**20.01**	**225**	P	**P**	**21 51 56.1**	**+0.5**
BOAV	**Boa Vista**	**20.01**	**225**	*eP*	Pn	21 51 56.8	-0.5
BAUV	**El Baul**	**22.43**	**252**	P	**P**	**21 52 21.6**	**-0.1**
ITTB	**Itaituba**	**23.12**	**204**	*eP*	**P**	**21 52 29.6**	**+0.7**
SDV	**Santo Domingo**	**24.82**	**254**	P	**P**	**21 52 43.0**	**-2.3**
SDV	**Santo Domingo**	**24.82**	**254**	LR	LR	22 04 10.1	
	comp=Z,29nm,18.3s,baz=108,slow=41						
SDV	**Santo Domingo**	**24.82**	**254**	*eP*	**P**	**21 52 46.9**	**+1.6**
RCBR	**Riachuelo**	**25.02**	**154**	LR	LR	22 00 07.5	
	comp=Z,98nm,19.9s,baz=347,slow=31						
NPGB	**Novo Progresso**	**25.46**	**201**	*eP*	**P**	**21 52 51.6**	**+0.8**
ROSC	**El Rosal**	**29.79**	**249**	LR	LR	22 05 12.7	
	comp=Z,150nm,21.7s,baz=78,slow=36						
SAML	**Samuel**	**30.61**	**214**	P	**P**	**21 53 36.1**	**-0.8**
VILB	**Vilhena**	**32.70**	**205**	P	**P**	**21 53 55.2**	**-0.2**
ETMB	**Extrema**	**33.01**	**218**	P	**P**	**21 53 56.7**	**-1.4**
ETMB				IAmb	IAmb	21 53 59.4	
	comp=Z,6.9nm,1.1s						
ETMB	**Extrema**	**33.01**	**218**	*eP*	**P**	**21 53 58.3**	**+0.2**
TRNY	**Table Rock, Ra**	**33.85**	**321**	P	**P**	**21 54 06.0**	**+0.9**
TRNY				IAmb	IAmb	21 54 07.9	
	comp=Z,8.3nm,1.0s						
SALV	**Santo Antonio**	**33.94**	**196**	*eP*	**P**	**21 54 07.4**	**+1.3**
PTLB	**Pontes e Lacer**	**34.58**	**202**	*eP*	**P**	**21 54 12.9**	**+1.3**
L59A	**Walton**	**34.97**	**322**	P	**P**	**21 54 13.6**	**-1.3**
L59A				IAmb	IAmb	21 54 45.2	
	comp=Z,7.3nm,1.1s						
CZSB	**Cruzeiro do Su**	**35.70**	**229**	P	**P**	**21 54 21.4**	**0.0**
CZSB	**Cruzeiro do Su**	**35.70**	**229**	*eP*	**P**	**21 54 22.2**	**+0.8**
SLOR	**San Lorenzo -**	**36.10**	**244**	P	**P**	**21 54 24.7**	**-0.8**
SLOR				IAmb	IAmb	21 54 51.0	
	comp=Z,8.4nm,0.6s						
BBSD	**Serra de San D**	**36.72**	**203**	*eP*	**P**	**21 54 31.3**	**+1.3**
BBRB	**Robore, Bolivi**	**37.43**	**201**	*eP*	**P**	**21 54 37.7**	**+1.6**
TKL	**Tuckaleechee C**	**37.89**	**307**	LR	LR	22 06 50.4	
	comp=Z,136nm,19.7s,baz=95,slow=31						
SADO	**Sadowa**	**38.89**	**322**	LR	LR	22 07 40.1	
	comp=Z,83nm,20.4s,baz=103,slow=31						
LPAZ	**La Paz**	**39.36**	**214**	P	**P**	**21 54 52.9**	**-0.2**
LPAZ	**La Paz**	**39.36**	**214**	P	**P**	**21 54 53.8**	**+0.7**
	comp=Z,4.6nm,0.8s,baz=6.7,slow=6.4,SNR=15 comp=Z,4.6nm,0.8s						
LPAZ	**La Paz**	**39.36**	**214**	*eP*	**P**	**21 54 53.7**	**+0.7**
TEIG	**Tepich**	**39.61**	**281**	LR	LR	22 11 16.0	
	comp=Z,52nm,20.3s,baz=70,slow=36						
H10N3	**ASCENSION HYDR**	**40.17**	**125**	T	T	22 37 33.1	
	baz=308,slow=75,SNR=28						
H10N2	**ASCENSION HYDR**	**40.17**	**125**	T	T	22 37 39.4	
	baz=308,slow=75,SNR=36						
H10N1	**ASCENSION HYDR**	**40.19**	**125**	T	T	22 37 34.6	
	baz=308,slow=75,SNR=39						
H10S3	**ASCENSION HYDR**	**40.74**	**127**	T	T	22 38 27.0	
	baz=273,slow=74,SNR=37						
H10S2	**ASCENSION HYDR**	**40.75**	**127**	T	T	22 38 23.6	
	baz=307,slow=74,SNR=24						
SCHQ	**Schefferville**	**40.84**	**342**	LR	LR	22 09 33.5	
	comp=Z,90nm,22.0s,baz=271,slow=33						
MDT	**Midelt**	**40.86**	**59**	LR	LR	22 08 57.6	
	comp=Z,84nm,19.9s,baz=312,slow=32						
PLAL	**Pickwick Lake**	**41.05**	**304**	P	**P**	**21 55 06.7**	**+0.5**
WVT	**Waverly**	**41.17**	**306**	P	**P**	**21 55 07.8**	**+0.5**
DBIC	**Dimbokro**	**41.98**	**99**	P	**P**	**21 55 13.5**	**-0.6**
DBIC				IAmb	IAmb	21 55 23.1	
	comp=Z,16nm,1.2s						
DBIC	**Dimbokro**	**41.98**	**99**	P	**P**	**21 55 13.7**	**-0.4**
	comp=Z,3.6nm,0.8s,baz=301,slow=15,SNR=3.9						
DBIC				LR	LR	22 09 35.0	
	comp=Z,170nm,20.4s,baz=266,slow=32 comp=Z,3.6nm,0.8s						
PB11	**IPOC Station P**	**43.04**	**213**	P	**P**	**21 55 21.5**	**-1.2**
PB11				IAmb	IAmb	21 55 24.9	
	comp=Z,15nm,0.8s						
ESDC	**Sonseca Array**	**43.21**	**50**	P	**P**	**21 55 23.6**	**-0.3**
	comp=Z,0.4nm,0.7s,baz=254,slow=7.5,SNR=4.5						
ESDC				LR	LR	22 09 08.3	
	comp=Z,85nm,19.3s,baz=228,slow=30 comp=Z,0.4nm,0.7s						
HMBC	**Humberstone**	**43.59**	**213**	P	**P**	**21 55 25.4**	**-1.8**
FVM	**French Village**	**43.68**	**308**	P	**P**	**21 55 27.4**	**-0.3**
FVM				IAmb	IAmb	21 55 30.3	
	comp=Z,9.5nm,1.2s						
PB01	**IPOC Station P**	**44.02**	**212**	P	**P**	**21 55 30.1**	**-0.5**
PB01				IAmb	IAmb	21 55 38.6	
	comp=Z,13nm,1.1s						
CPUP	**Villa Florida**	**44.35**	**194**	P	**P**	**21 55 33.0**	**0.0**
CPUP				IAmb	IAmb	21 55 35.7	
	comp=Z,7.1nm,1.0s						
CPUP	**Villa Florida**	**44.35**	**194**	P	**P**	**21 55 33.6**	**+0.5**
	comp=Z,4.1nm,0.8s,baz=28,slow=7.4,SNR=8.0 comp=Z,4.1nm,0.8s						
E43A	**Lone Tree Farm**	**44.44**	**320**	P	**P**	**21 55 34.3**	**+0.7**
E43A				IAmb	IAmb	21 55 36.1	
	comp=Z,8.7nm,0.8s						
X40A	**Basin Creek Fa**	**44.76**	**302**	P	**P**	**21 55 37.0**	**+0.6**
LVC	**Limon Verde**	**45.07**	**210**	P	**P**	**21 55 38.0**	**-1.3**
LVC				IAmb	IAmb	21 55 40.0	
	comp=Z,8.5nm,0.8s						
LVC	**Limon Verde**	**45.07**	**210**	*eP*	**P**	**21 55 39.0**	**-0.2**
JFWS	**Jewell Farm**	**45.13**	**314**	P	**P**	**21 55 39.4**	**+0.2**
JFWS				IAmb	IAmb	21 55 41.1	
	comp=Z,9.0nm,0.8s						
P40A	**Paris**	**45.33**	**309**	P	**P**	**21 55 41.3**	**+0.5**
P40A				IAmb	IAmb	21 55 43.8	
	comp=Z,7.6nm,0.9s						
COWI	**Conover**	**45.65**	**319**	P	**P**	**21 55 43.9**	**+0.6**
D41A	**Chassel**	**45.72**	**320**	P	**P**	**21 55 43.7**	**-0.1**
G40A	**Rib Lake**	**45.99**	**317**	P	**P**	**21 55 46.8**	**+0.8**
G40A				IAmb	IAmb	21 55 51.3	
	comp=Z,6.5nm,1.1s						
TOA0	**Torodi Ar. Sit**	**46.64**	**88**	P	**P**	**21 55 50.8**	**-0.6**
TORD	**Torodi Ar. Bea**	**46.64**	**88**	P	**P**	**21 55 50.7**	**-0.8**
TORD	**Torodi Ar. Bea**	**46.64**	**88**	P	**P**	**21 55 51.1**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=296,slow=7.8,SNR=11						
TORD				LR	LR	22 13 37.4	
	comp=Z,201nm,18.7s,baz=318,slow=34 comp=Z,1.8nm,0.7s						
GO02	**Mina Guanaco**	**47.57**	**209**	P	**P**	**21 55 58.2**	**-0.6**
F36A	**Milaca**	**48.38**	**317**	P	**P**	**21 56 04.5**	**-0.1**
F36A				IAmb	IAmb	21 56 06.5	
	comp=Z,7.1nm,0.8s						
KSU1	**Kansas State U**	**48.66**	**307**	P	**P**	**21 56 06.5**	**-0.4**
BRDY	**Brady**	**49.50**	**297**	P	**P**	**21 56 13.4**	**-0.1**
SFJD	**Kangerlussuaq**	**50.01**	**358**	LR	LR	22 12 10.6	
	comp=Z,53nm,21.1s,baz=21,slow=30						
ABTX	**Abilene, Hawle**	**50.15**	**298**	P	**P**	**21 56 18.4**	**+0.1**
ABTX				IAmb	IAmb	21 56 21.1	
	comp=Z,5.0nm,0.8s						
KEST	**Kesra**	**52.71**	**58**	P	**P**	**21 56 37.6**	**0.0**
	comp=Z,6.7nm,1.0s,baz=184,slow=2.7,SNR=5.9						
KEST				LR	LR	22 18 56.3	
	comp=Z,75nm,18.3s,baz=262,slow=36 comp=Z,6.7nm,1.0s						
TXAR	**Lajitas Array**	**53.47**	**294**	P	**P**	**21 56 42.7**	**-0.6**
TXAR	**Lajitas Array**	**53.47**	**294**	P	**P**	**21 56 43.7**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=97,slow=8.4,SNR=14 comp=Z,1.7nm,0.9s						
ISCO	**Idaho Springs**	**55.65**	**307**	P	**P**	**21 56 59.6**	**+0.3**
ISCO				IAmb	IAmb	21 57 09.2	
	comp=Z,5.0nm,0.9s						
CTI	**Castel Tesino**	**55.94**	**46**	P	**P**	**21 57 01.4**	**+0.4**
CTI				IAmb	IAmb	21 57 03.5	
	comp=Z,5.4nm,1.0s						
ANMO	**Albuquerque**	**55.96**	**301**	LR	LR	22 18 15.1	
	comp=Z,129nm,21.8s,baz=216,slow=33						
FFC	**Flin Flon**	**56.51**	**325**	P	**P**	**21 57 04.1**	**-0.6**
FFC				IAmb	IAmb	21 57 07.3	
	comp=Z,5.1nm,1.0s						
GERES	**GERESS Array B**	**57.85**	**43**	P	**P**	**21 57 14.0**	**-0.4**
GERES	**GERESS Array B**	**57.85**	**43**	P	**P**	**21 57 14.6**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=276,slow=2.5,SNR=3.9 comp=Z,0.2nm,0.3s						
CLL	**Collm**	**57.93**	**40**	P	**P**	**21 57 15.6**	**+0.8**
CLL				IAmb	IAmb	21 57 23.5	
	comp=Z,4.9nm,0.9s						
CLL	**Collm**	**57.93**	**40**	*i* P	**P**	**21 57 15.6**	**+0.8**
	comp=Z,4.0nm,0.9s						
CLL				*i* (pP)	**pP**	**21 57 17.2**	**-1.4**
	comp=Z,5.0nm,1.0s						
CLL				*i* x	x	21 57 22.1	
	comp=Z,6.0nm,1.0s						
PDAR	**Pinedale Array**	**58.90**	**310**	P	**P**	**21 57 21.9**	**-0.2**
PDAR	**Pinedale Array**	**58.90**	**310**	P	**P**	**21 57 22.4**	**+0.3**
	comp=Z,2.5nm,0.9s,baz=106,slow=7.9,SNR=12 comp=Z,2.5nm,0.9s						
NOA	**NORSAR Array B**	**59.82**	**28**	P	**P**	**21 57 27.5**	**-0.4**
	comp=Z,1.0nm,1.0s,baz=256,slow=2.1,SNR=3.3 comp=Z,1.0nm,1.0s						
WUAZ	**Wupatki**	**59.99**	**301**	P	**P**	**21 57 29.9**	**+0.3**
X16A	**Lo Mia Camp, P**	**60.05**	**300**	P	**P**	**21 57 30.5**	**+0.3**
X16A				IAmb	IAmb	21 57 40.4	
	comp=Z,5.8nm,1.3s						
HFS	**Hagfors**	**60.68**	**30**	P	**P**	**21 57 34.4**	**+0.7**
	comp=Z,3.7nm,0.9s,baz=249,slow=11,SNR=6.1 comp=Z,3.7nm,0.9s						
PDG	**Podgorica**	**60.92**	**51**	P	**P**	**21 57 36.2**	**+0.6**
PDG				IAmb	IAmb	21 57 45.1	
	comp=Z,5.2nm,1.0s						
BGU	**Big Grassy Mou**	**61.38**	**308**	P	**P**	**21 57 39.5**	**+0.5**
BGU				IAmb	IAmb	21 57 40.9	
	comp=Z,5.7nm,1.0s						
HLID	**Hailey**	**62.50**	**311**	P	**P**	**21 57 46.7**	**+0.1**
EDM	**Edmonton**	**62.68**	**322**	P	**P**	**21 57 47.4**	**0.0**
RES	**Resolute Bay**	**63.29**	**347**	LR	LR	22 25 40.4	
	comp=Z,34nm,18.4s,baz=13,slow=36						
MFID	**Camas Ranch**	**63.52**	**310**	P	**P**	**21 57 53.1**	**-0.2**
MFID				IAmb	IAmb	21 57 55.5	
	comp=Z,5.3nm,1.1s						
NEW	**Newport**	**64.60**	**316**	P	**P**	**21 57 59.7**	**-0.5**
NEW	**Newport**	**64.60**	**316**	LR	LR	22 24 23.9	
	comp=Z,113nm,20.2s,baz=142,slow=34						
YKA	**Yellowknife Ar**	**64.94**	**332**	P	**P**	**21 58 01.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=99,slow=7.2,SNR=13						
YKA				LR	LR	22 24 51.5	
	comp=Z,84nm,18.2s,baz=9.0,slow=35 comp=Z,0.9nm,0.7s						
BURAR	**Bucovina Array**	**65.36**	**45**	P	**P**	**21 58 06.4**	**+1.2**
NVAR	**Mina Array Bea**	**65.47**	**305**	P	**P**	**21 58 06.6**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=104,slow=6.6,SNR=2.3 comp=Z,0.9nm,0.8s						
MLR	**Muntele Rosu**	**65.83**	**47**	P	**P**	**21 58 08.6**	**+0.3**
FINES	**FINESS Array B**	**66.89**	**30**	P	**P**	**21 58 14.7**	**+0.2**
	comp=Z,2.8nm,1.0s,baz=129,slow=3.8,SNR=4.4 comp=Z,2.8nm,1.0s						
K05A	**Summer Lake**	**67.24**	**310**	P	**P**	**21 58 18.1**	**+0.6**
AKASG	**Malin Array Be**	**68.02**	**42**	P	**P**	**21 58 22.0**	**+0.1**
	comp=Z,0.4nm,0.4s,baz=263,slow=5.8,SNR=4.5 comp=Z,0.4nm,0.4s						
BRTR	**Keskin Array B**	**71.87**	**53**	P	**P**	**21 58 46.5**	**+0.4**
BRTR	**Keskin Array B**	**71.87**	**53**	P	**P**	**21 58 46.3**	**+0.3**
	comp=Z,1.5nm,0.8s,baz=297,slow=5.4,SNR=4.1 comp=Z,1.5nm,0.8s						
BCAR	**Beaver Creek A**	**77.34**	**332**	P	**P**	**21 59 17.3**	**+0.1**
BMAR	**Burnt Mountain**	**77.48**	**337**	P	**P**	**21 59 18.3**	**+0.4**
KIV	**Kislovodsk**	**77.84**	**48**	P	**P**	**21 59 21.4**	**+0.9**
KIV				IAmb	IAmb	21 59 30.6	
	comp=Z,5.9nm,0.9s						
KBZ	**Khabaz**	**78.03**	**48**	P	**P**	**21 59 21.6**	**+0.2**
	comp=Z,3.2nm,1.0s,baz=271,slow=8.8,SNR=3.1 comp=Z,3.2nm,1.0s						
IL31		**79.09**	**335**	P	**P**	**21 59 26.4**	**-0.3**
IL31				IAmb	IAmb	21 59 28.2	
	comp=Z,4.4nm,0.8s						
ILAR	**Eielson Array**	**79.09**	**335**	P	**P**	**21 59 26.9**	**+0.1**
ILAR	**Eielson Array**	**79.09**	**335**	P	**P**	**21 59 27.4**	**+0.5**
	comp=Z,3.9nm,0.9s,baz=72,slow=4.5,SNR=26 comp=Z,3.9nm,0.9s						
G23K	**Bananza Creek**	**79.73**	**337**	P	**P**	**21 59 31.3**	**+1.0**
G23K				IAmb	IAmb	21 59 40.0	
	comp=Z,7.8nm,1.2s						
H21K	**Melozitna Rive**	**81.16**	**336**	P	**P**	**21 59 38.8**	**+0.8**
H21K				IAmb	IAmb	21 59 39.5	
	comp=Z,8.5nm,1.4s						
ABKAR	**Akbulak array**	**87.59**	**39**	P	**P**	**22 00 11.0**	**+0.1**
ABKAR				IAmb	IAmb	22 00 20.3	
	comp=Z,3.7nm,1.0s						
CMAR	**Chiang Mai Arr**	**131.04**	**45**	PKP	**PKPdf**	**22 06 35.5**	**+0.2**
	comp=Z,0.4nm,0.4s,baz=316,slow=5.0,SNR=1.8						

*TRN **22** 21:55:35.6, 10°60N×62°45W, h76km, MD3.2, Paria peninsula.*
*FUNV **22** 21:55:36.7, 10°41N×62°39W, h24km, MW3.5*
ISC 22 21:55:34.1±1.3, 10°51N±0°05×62°40W±0°04, h89km±13km, n14, σ1s73/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.84**	**281**	*eP*	**Pn**	**21 55 52.1**	**+0.3**
CRUV				*eS*	**Sn**	**21 56 03.4**	**-1.8**
CRUV	**Carupano**	**0.84**	**281**	*eP*	**Pn**	**21 55 53.0**	**+1.2**
CRUV				*eS*	**Sn**	**21 56 03.6**	**-1.5**
TRN	**Trinidad (W)**	**0.99**	**82**	*eP*	**Pn**	**21 55 55.6**	**+2.0**
TRN				*eS*	**Sn**	**21 56 08.1**	**-0.1**
GRFF	**Grenada Fort F**	**1.66**	**23**	*eP*	**Pn**	**21 56 01.7**	**-0.1**
GRFF				*eS*	**Sn**	**21 56 21.6**	**-1.3**
GRGR	**Grenville**	**1.77**	**24**	*eP*	**Pn**	**21 56 04.4**	**+1.1**
GRGR				*eS*	**Sn**	**21 56 25.2**	**-0.2**
GCMP	**Grenada, Carri**	**2.18**	**26**	*eP*	**Pn**	**21 56 09.4**	**+0.8**
GCMP				*eS*	**Sn**	**21 56 34.0**	**-1.1**
PCRV	**Puerto La Cruz**	**2.22**	**262**	*eP*	**Pn**	**21 56 11.3**	**+2.1**
PCRV				*eS*	**Sn**	**21 56 36.1**	**0.0**
PCRV	**Puerto La Cruz**	**2.22**	**262**	*eP*	**Pn**	**21 56 11.5**	**+2.3**
PCRV				*eS*	**Sn**	**21 56 34.8**	**-1.3**
SVB	**Belmont**	**2.97**	**22**	*eS*	**Sn**	**21 56 52.0**	**-1.9**
LUEV	**Luepa**	**4.73**	**169**	*eP*	**Pn**	**21 56 44.2**	**+1.0**
LUEV				*eS*	**Sn**	**21 57 33.9**	**-3.0**
CACV	**CAICARA DEL OR**	**5.03**	**235**	*eP*	Pn	21 56 42.5	-4.5
CACV				*eS*	Sn	21 57 32.3	-12
BENV	**Beln**	**5.14**	**264**	*eP*	**Pn**	**21 56 50.9**	**+2.1**
BENV				*eS*	**Sn**	**21 57 46.1**	**-0.7**
BAUV	**El Baul**	**5.77**	**255**	*eP*	**Pn**	**21 56 58.6**	**+1.3**
BAUV				*eS*	**Sn**	**21 57 59.5**	**-2.6**
BAUV	**El Baul**	**5.77**	**255**	*eP*	**Pn**	**21 56 58.7**	**+1.5**

ROHR *i* Sg **Sg** 22 02 37.0 +0.3
ROHR IAML 22 02 37.2
comp=E,16μm,0.1s
ROHR Rohrbach 0.06 281 *i* Pg **Pg** 22 02 35.6 +0.8
ROHR *i* Sg **Sg** 22 02 37.0 +0.3
comp=E,16μm,0.1s
SKC Skalna 0.06 208 ⇑P **Pg** 22 02 35.7 +0.8
SKC S **Sg** 22 02 37.1 +0.4
WERN Wernitzgruen 0.07 344 *i* Pg **Pg** 22 02 35.5 +0.5
WERN *i* Sg **Sg** 22 02 36.8 -0.1
WERN IAML 22 02 37.0
comp=E,6μm,0.1s
WERN Wernitzgruen 0.07 344 *i* Pg **Pg** 22 02 35.5 +0.5
WERN *i* Sg **Sg** 22 02 36.8 -0.1
comp=E,6μm,0.1s
KVC Kvetna 0.07 104 *i* Pg **Pg** 22 02 35.0 +0.1
KVC *i* Sg **Sg** 22 02 36.0 -0.9
KVC Kvetna 0.07 104 ⇓P **Pg** 22 02 35.0 +0.1
KVC S **Sg** 22 02 36.0 -0.9
STCW Studenec 0.08 64 *i* Pg **Pg** 22 02 35.1 0.0
STCW *i* Sg **Sg** 22 02 36.1 -1.0
STCW Studenec 0.08 64 *i* Pg **Pg** 22 02 35.1 0.0
STCW *i* Sg **Sg** 22 02 36.1 -1.0
STCW Studenec 0.08 64 ⇑P **Pg** 22 02 35.1 0.0
STCW S **Sg** 22 02 36.1 -1.0
POCW Potky 0.10 8 ⇓P **Pg** 22 02 35.7 +0.4
POCW S **Sg** 22 02 37.2 -0.3
KOCW Kopaniny 0.12 291 ⇓P **Pg** 22 02 36.6 +1.1
KOCW S **Sg** 22 02 38.6 +0.8
KRCW Kraslice 0.14 37 ⇑P **Pg** 22 02 35.9 +0.2
KRCW S **Sg** 22 02 37.5 -0.7
GUNZ Gunzen 0.15 341 *i* Pg **Pg** 22 02 36.8 +0.8
GUNZ *i* Sg **Sg** 22 02 38.8 +0.3
GUNZ IAML 22 02 40.0
comp=N,2μm,0.6s
GUNZ Gunzen 0.15 341 *i* Pg **Pg** 22 02 36.8 +0.8
GUNZ *i* Sg **Sg** 22 02 38.8 +0.3
comp=N,2μm,0.6s
ZHC Zelena Hora 0.17 202 ⇑P **Pg** 22 02 37.4 +1.3
ZHC S **Sg** 22 02 40.0 +1.2
TRCW Trojmez 0.18 296 ⇓P **Pg** 22 02 37.8 +1.3
TRCW S **Sg** 22 02 40.7 +1.3
MULD Muldenberg 0.19 360 *i* Pg **Pg** 22 02 37.2 +0.6
MULD *i* Sg **Sg** 22 02 39.4 -0.1
MULD IAML 22 02 40.0
comp=N,4μm,0.2s
MULD Muldenberg 0.19 360 *i* Pg **Pg** 22 02 37.2 +0.6
MULD *i* Sg **Sg** 22 02 39.4 -0.1
comp=N,4μm,0.2s
TANN Tannenbergstha 0.20 11 *i* Pg **Pg** 22 02 37.1 +0.5
TANN *i* Sg **Sg** 22 02 39.4 -0.3
TANN IAML 22 02 40.0
comp=E,4μm,0.5s
TANN Tannenbergstha 0.20 11 *i* Pg **Pg** 22 02 37.1 +0.5
TANN *i* Sg **Sg** 22 02 39.4 -0.3
comp=E,4μm,0.5s
VIEL Selb-Vielitz 0.20 259 *i* Pg **Pg** 22 02 38.1 +1.4
VIEL *i* Sg **Sg** 22 02 41.1 +1.4
VIEL Selb-Vielitz 0.20 259 *i* Pg **Pg** 22 02 38.1 +1.4
VIEL *i* Sg **Sg** 22 02 41.1 +1.4
TRIB Obertriebel 0.21 307 *i* Pg **Pg** 22 02 38.1 +1.2
TRIB *i* Sg **Sg** 22 02 41.3 +1.2
TRIB IAML 22 02 41.8
comp=E,2μm,0.4s
TRIB Obertriebel 0.21 307 *i* Pg **Pg** 22 02 38.1 +1.2
TRIB *i* Sg **Sg** 22 02 41.3 +1.2
comp=E,2μm,0.4s
LACW Lazy 0.22 141 *i* Pg **Pg** 22 02 37.9 +0.9
LACW *i* Sg **Sg** 22 02 40.9 +0.5
LACW Lazy 0.22 141 *i* Pg **Pg** 22 02 37.9 +0.9
LACW *i* Sg **Sg** 22 02 40.9 +0.5
LACW Lazy 0.22 141 ⇓P **Pg** 22 02 37.9 +0.9
LACW S **Sg** 22 02 40.9 +0.5
WERD Werda 0.23 344 *i* Pg **Pg** 22 02 38.1 +0.9
WERD *e*Sg **Sg** 22 02 41.0 +0.3
WERD IAML 22 02 41.5
comp=E,1μm,0.5s
WERD Werda 0.23 344 *i* Pg **Pg** 22 02 38.1 +0.9
WERD *e*Sg **Sg** 22 02 41.0 +0.3
comp=E,1μm,0.5s
PLN Plauen 0.31 329 *i* Pg **Pg** 22 02 39.7 +1.2
PLN *i* Sg **Sg** 22 02 43.7 +0.9
PLN IAML 22 02 43.9
comp=E,785nm,0.2s
PLN Plauen 0.31 329 *i* Pg **Pg** 22 02 39.7 +1.2
PLN *i* Sg **Sg** 22 02 43.7 +0.9
comp=E,785nm,0.2s
SCHF Schoenfels 0.45 360 *i* Pg **Pg** 22 02 42.0 +0.9
SCHF *i* Sg **Sg** 22 02 47.9 +0.6
SCHF IAML 22 02 48.3
comp=E,3μm,0.2s
SCHF Schoenfels 0.45 360 *i* Pg **Pg** 22 02 42.0 +0.9
SCHF *i* Sg **Sg** 22 02 47.9 +0.6
comp=E,3μm,0.2s
ROTZ Rotzenmuhle 0.47 196 *e*Pg **Pg** 22 02 43.0 +1.5
ROTZ *e*Sg **Sg** 22 02 49.3 +1.4
GRZ1 Mausoleum Wald 0.48 346 *i* Pg **Pg** 22 02 42.7 +1.0
GRZ1 *i* Sg **Sg** 22 02 48.7 +0.5
GRZ1 IAML 22 02 49.8
comp=E,751nm,0.5s
GRZ1 Mausoleum Wald 0.48 346 *i* Pg **Pg** 22 02 42.7 +1.0
GRZ1 *i* Sg **Sg** 22 02 48.7 +0.5
comp=E,751nm,0.5s
ZEU Talsperre Zeul 0.53 329 *i* Pg **Pg** 22 02 43.6 +1.2
ZEU *e*Sg **Sg** 22 02 50.4 +0.9
ZEU Talsperre Zeul 0.53 329 *i* Pg **Pg** 22 02 43.6 +1.2
ZEU *e*Sg **Sg** 22 02 50.4 +0.9
MOX Moxa 0.66 310 *e*Pg **Pg** 22 02 46.3 +1.3
MOX *e*Sg **Sg** 22 02 55.1 +1.5
HSKC Hora Svate Kat 0.76 59 *e*PG **Pg** 22 02 47.3 +0.4
HSKC *e*SG **Sg** 22 02 56.6 -0.3
comp=E,549nm,0.2s
FBE Freiberg 0.92 41 *e*Pg **Pg** 22 02 50.5 +0.6
FBE *e*Sg **Sb** 22 03 03.1 +1.0
GRF Grafenberg Arr 0.93 236 *e*Pg **Pg** 22 02 51.8 +1.7
GRF *e*Sg **Sg** 22 03 04.6 +2.3
WET Wettzell 1.12 164 *e*Pg **Pg** 22 02 54.5 +0.7
WET *e*Sg **Sg** 22 03 09.1 +0.7
RICC Richard 1.13 73 *e*SG **Sg** 22 03 08.3 -0.3
comp=E,518nm,0.3s
CLL Collm 1.15 19 *i* Pg **Pg** 22 02 54.5 +0.2
CLL *i* x x 22 02 57.1
CLL *i* x x 22 02 58.6
CLL *i* Sg **Sg** 22 03 09.3 0.0
comp=Z,249nm,0.4s
CLL *i* x x 22 03 12.6
CLL Collm 1.15 19 *e*Pg **Pg** 22 02 54.4 +0.1
CLL *e*Sg **Sg** 22 03 09.3 0.0
BRG Berggiesshubel 1.18 56 Pg **Pg** 22 02 55.0 +0.2
BRG Sg **Sg** 22 03 09.9 -0.2
BRG Amp 22 03 10.6
comp=Z,233nm,0.3s
BRG Berggiesshubel 1.18 56 *e*Pg **Pg** 22 02 54.5 -0.3
BRG *e*Sg **Sg** 22 03 09.7 -0.4
PRA Prague 1.31 96 *e*SG **Sb** 22 03 13.5 +0.2
KHC Kasperske Hory 1.33 145 *e*PG **Pn** 22 02 57.3 +0.9
KHC *e*SG **Sb** 22 03 15.2 +1.3
comp=Z,100nm,0.2s
PRU Pruhonice 1.40 99 *e*SG **Sn** 22 03 16.7 +1.3
comp=Z,317nm,1.0s
PRU Pruhonice 1.40 99 *e*Pg **Pn** 22 02 58.6 +1.5
PRU *e*Sg **Sg** 22 03 17.4 +0.3
ZVC Zvikov 1.40 123 *e*SG **Sb** 22 03 16.9 +1.2
comp=Z,57nm,0.2s
PVCC Panska Ves 1.42 77 *e*SG **Sg** 22 03 17.6 -0.2
comp=Z,373nm,0.2s
GOPC GO Pecny, Ondr 1.57 101 *e*SG **Sg** 22 03 22.1 -0.4
comp=Z,215nm,0.2s
GEC2 GERESS Array S 1.62 148 Pn **Pn** 22 03 01.7 +1.3
GEC2 *e*Pg **Pb** 22 03 03.1 +1.3
GEC2 *e*Sg **Sb** 22 03 23.7 +1.6
GERES GERESS Array B 1.62 148 Pg **Pn** 22 03 01.6 +1.3
comp=Z,34nm,0.3s,baz=329,slow=19,SNR=124
GERES Lg Lg 22 03 23.4
comp=Z,48nm,0.3s,baz=327,slow=30,SNR=35
CKRC Cesky Krumlov 1.88 138 *e*SG **Sb** 22 03 31.0 +1.6
FUR Furstenfeldbru 2.19 200 *e*Pg **Pb** 22 03 14.0 +2.5
FUR Sn **Sn** 22 03 38.3 +3.2
TREC Trest 2.20 114 *e*SG **Sb** 22 03 40.8 +1.9
comp=Z,82nm,0.2s
A106B Goeppingen, Ma 2.29 231 Pn **Pn** 22 03 10.3 +0.8
UPC Upice 2.33 82 *e*SG **Sg** 22 03 45.1 -1.8
CHVC Chvalec 2.36 80 *e*SG **Sg** 22 03 46.7 -1.3

DPC Dobruska-Polom 2.52 86 *e*SG **Sb** 22 03 50.2 +2.3
comp=Z,76nm,0.3s
A108A Ulm, Ringingen 2.52 223 Pn **Pn** 22 03 13.7 +1.0
A109A Bad Urach, See 2.62 228 Pn **Pn** 22 03 14.6 +0.5
A107C Memmingen - Ei 2.64 214 Pn **Pn** 22 03 14.9 +0.6
A107C Pg **Pg** 22 03 24.3 +1.6
BIOA Bad Ischl, Aus 2.66 162 *e*Pn **Pn** 22 03 15.7 +1.1
comp=Z,1.8nm,0.3s
MOA Molln 2.67 152 *e*Pn **Pn** 22 03 16.2 +1.4
comp=Z,1.0nm,0.2s
A104C Biberach, Ahle 2.77 222 Pg **Pg** 22 03 25.9 +0.8
A104A Biberach, Staf 2.79 220 Pg **Pg** 22 03 26.4 +0.7
LESA Schwarzleotal 2.81 176 *e*Pn **Pn** 22 03 18.1 +1.4
comp=Z,0.5nm,0.1s
KRLC Kraliky 2.82 91 *e*SG **Sg** 22 04 00.9 -1.7
comp=Z,53nm,0.4s
KRUC Moravsky 2.84 113 *e*PN **Pn** 22 03 18.1 +1.0
KRUC *e*SG **Sg** 22 04 01.3 -2.1
KRUC Moravsky 2.84 113 *e*Pn **Pn** 22 03 18.0 +1.0
baz=296
KRUC *e*SG **Sg** 22 04 01.2 -2.1
comp=Z,103nm,0.5s,baz=296
VRAC Vranov 2.87 107 *e*PN **Pn** 22 03 18.5 +1.0
VRAC *e*SG **Sg** 22 04 01.7 -2.4
VRAC Vranov 2.87 107 Pn **Pn** 22 03 18.4 +1.0
comp=Z,0.9nm,0.3s,baz=285,slow=13,SNR=5.8
VRAC Sn **Sn** 22 03 52.7 +1.0
comp=Z,3.9nm,0.3s,baz=116,slow=8.8,SNR=5.2
VRAC Lg Lg 22 04 00.9
comp=Z,12nm,0.3s,baz=9.8,slow=21,SNR=20
comp=Z,2.3nm,0.3s
VRAC Vranov 2.87 107 *e*Pn **Pn** 22 03 18.4 +1.0
baz=291
VRAC *e*SG **Sg** 22 04 01.6 -2.5
comp=Z,79nm,0.5s,baz=291
WATA Walderalm 2.94 191 *e*Pn **Pn** 22 03 19.3 +0.7
comp=Z,1.3nm,0.1s
WATA *e*Sn **Sn** 22 03 55.4 +1.7
comp=Z,46nm,0.2s
RETA Reutte 2.95 202 Pn **Pn** 22 03 19.4 +0.8
comp=Z,1.3nm,0.2s
UBR Ueberruh 2.96 212 Pn **Pn** 22 03 19.2 +0.4
A102A Sigmaringen, J 2.96 226 Pn **Pn** 22 03 19.6 +0.8
A102A Pg **Pg** 22 03 29.0 +0.2
WTTA Wattenberg 3.01 190 *e*Pn **Pn** 22 03 20.3 +0.8
comp=Z,0.7nm,0.1s
WTTA *e*Sn **Sn** 22 03 57.7 +2.3
comp=Z,4.0nm,0.2s
MOTA Moosalm 3.01 197 *i* Pn **Pn** 22 03 19.7 +0.2
comp=Z,1.0nm,0.1s
SQTA Sankt Quirin 3.11 195 *i* Pn **Pn** 22 03 22.3 +1.4
comp=Z,0.6nm,0.1s
SQTA *e*Pg **Pg** 22 03 32.2 +0.6
comp=Z,5.7nm,0.2s
A105A Obersdorf, Sch 3.15 207 Pn **Pn** 22 03 23.6 +2.3
A105A Sg **Sg** 22 04 13.5 +0.4
KBA Koelnbreinsper 3.21 168 *i* Pn **Pn** 22 03 23.6 +1.3
comp=Z,4.1nm,0.3s
CONA Conrad Observa 3.23 134 *e*Pn **Pn** 22 03 23.5 +1.0
comp=Z,1.5nm,0.3s
BFO Black Forest 3.27 236 *e*Pg **Pg** 22 03 35.0 +0.2
BFO Sg **Sg** 22 04 17.3 +0.1
A101B Rottweil, Deis 3.29 232 Pg **Pg** 22 03 35.6 +0.5
MORC Moravsky Berou 3.34 96 *e*Pn **Pn** 22 03 25.1 +1.1
baz=280
MORC *e*SG **Sg** 22 04 16.8 -2.7
comp=Z,100nm,0.6s,baz=280
DAVA Damuels 3.38 211 *e*Pn **Pn** 22 03 24.6 0.0
comp=Z,1.7nm,0.2s
FETA Feichten 3.39 200 *e*Pn **Pn** 22 03 25.7 +0.9
comp=Z,0.4nm,0.1s
FETA *e*Sn **Sn** 22 04 06.2 +1.3
comp=Z,1.4nm,0.1s
ABTA Abfaltersbach 3.48 179 *e*Pn **Pn** 22 03 28.1 +2.2
comp=Z,2.6nm,0.3s
ABTA Pg **Pg** 22 03 41.3 +2.6
comp=Z,4.6nm,0.3s
ARSA Arzberg 3.62 144 *e*Pn **Pn** 22 03 27.6 -0.2
comp=Z,2.1nm,0.3s
MODS Modra-Piesok 3.69 118 *e*PN **Pn** 22 03 30.2 +1.5
MODS *e*SG **Sg** 22 04 28.5 -2.0
ZST Bratislava 3.69 122 *e*SG **Sg** 22 04 28.3 -2.2
MYKA Terra Mystica 3.69 167 *e*Pn **Pn** 22 03 31.7 +2.9
comp=Z,0.5nm,0.2s
JAVC Velka Javorina 3.69 110 *e*PN **Pn** 22 03 31.1 +2.3
JAVC *e*SG **Sg** 22 04 29.3 -1.3
OKC Ostrava-Krasne 3.72 94 *e*SG **Sb** 22 04 26.6 +4.0
comp=Z,52nm,0.6s
CDF Champ du Feu 3.81 244 *e*Pn **Pn** 22 03 32.8 +2.3
CDF Champ du Feu 3.81 244 *e*Pg **Pg** 22 03 44.6 -0.5
CDF *e*SG **Sg** 22 04 33.6 -0.9
comp=Z,60nm,0.6s
DAVOX Davos/Dischmat 3.83 207 Pn **Pn** 22 03 31.0 +0.2
comp=Z,0.3nm,0.3s,baz=348,slow=14,SNR=2.6
DAVOX Sn **Sn** 22 04 16.4 +0.6
comp=Z,2.2nm,0.3s,baz=278,slow=17,SNR=7.5
DAVOX Lg Lg 22 04 34.8
comp=Z,4.3nm,0.3s,baz=356,slow=23,SNR=6.7
comp=Z,0.9nm,0.3s
OBKA Obir 3.98 158 *e*Pn **Pn** 22 03 34.3 +1.4
comp=Z,0.7nm,0.2s
HINF Hinteralfeld 4.38 239 *e*Pn **Pn** 22 03 38.5 +0.3
HINF Hinteralfeld 4.38 239 *e*Pg **Pg** 22 03 54.9 -1.0
HINF *e*Sn **Sn** 22 04 27.7 -1.3
comp=Z,6.9nm,0.5s
HINF *e*SG **Sg** 22 04 51.2 -1.3
comp=Z,19nm,0.3s
VYHS Vyhne 4.54 110 *e*PN **Pn** 22 03 41.5 +1.0
VYHS *e*SN **Sn** 22 04 32.6 -0.5
VYHS *e*SG **Sg** 22 04 55.8 -2.2
HAU Haudompre 4.55 243 *e*Pn **Pn** 22 03 41.8 +1.2
HAU Haudompre 4.55 243 *e*Pg **Pg** 22 03 58.2 -1.1
HAU *e*SG **Sg** 22 04 56.8 -1.5
comp=Z,53nm,0.6s
PAGF Fort de Pagny 4.67 252 *e*Pn **Pn** 22 03 43.4 +1.2
PAGF Fort de Pagny 4.67 252 *e*Pg **Pg** 22 04 00.6 -0.9
baz=65
PAGF *e*SG **Sg** 22 05 00.0 -2.0
comp=Z,34nm,0.7s
LANS Liptovska Anna 4.71 100 *e*SG **Sg** 22 05 00.4 -2.8
LOBO Lobor 4.75 148 *e*Pn **Pn** 22 03 45.0 +1.7
GIVF Givet 4.88 271 *e*Pg **Pg** 22 04 03.6 -1.8
GIVF *e*Sn **Sn** 22 04 41.3 +0.1
GIVF *e*SG **Sg** 22 05 07.3 -1.2
comp=Z,22nm,0.7s
KALN Kalnik 4.91 145 *e*Pn **Pn** 22 03 46.6 +1.1
PTJ Puntijarka 4.94 150 *e*Pn **Pn** 22 03 48.0 +2.1
SAVF Savonnieres en 5.02 254 *e*Pn **Pn** 22 03 48.9 +1.9
SAVF Savonnieres en 5.02 254 *e*Pg **Pg** 22 04 06.7 -1.5
SAVF *e*Sn **Sn** 22 04 44.4 -0.3
SAVF *e*SG **Sg** 22 05 11.7 -1.4
comp=Z,12nm,0.5s
MEZF Maizieres J'vi 5.11 253 *e*Pn **Pn** 22 03 49.5 +1.4
MEZF Maizieres J'vi 5.11 253 *e*Pg **Pg** 22 04 08.5 -1.3
MEZF *e*Sn **Sn** 22 04 47.0 +0.2
MEZF *e*SG **Sg** 22 05 13.6 -2.3
comp=Z,21nm,0.7s
BSD Bornholm Skovb 5.13 16 *i* P **Pn** 22 03 48.0 -0.5
BSD *i* S **Sn** 22 04 42.6 -4.8
BSD IAML 22 04 47.6
comp=Z,2.6nm,0.6s
SFTF Sexfontaines 5.23 250 *e*Pn **Pn** 22 03 51.5 +1.6
SFTF Sexfontaines 5.23 250 *e*Pg **Pg** 22 04 11.0 -1.3
SFTF *e*Sn **Sn** 22 04 48.7 -1.4
SFTF *e*SG **Sg** 22 05 18.3 -1.7
comp=Z,14nm,0.4s
BAIF Baives 5.28 271 *e*Pn **Pn** 22 03 53.4 +2.9
BAIF *e*SG **Sg** 22 05 20.0 -1.3
comp=Z,34nm,1.0s
SMRN Sveta Marina 5.32 167 *e*Pn **Pn** 22 03 52.6 +1.4
LUNU Lund 5.46 6 *i* S **Sn** 22 04 51.3 -4.1
MOSL Moslavina 5.46 146 *e*Pn **Pn** 22 03 54.1 +1.1
CABF La Chapelle 5.54 232 *e*Pn **Pn** 22 03 55.5 +1.2
CABF La Chapelle 5.54 232 *e*Pg **Pg** 22 04 16.3 -2.0
CABF *e*SG **Sg** 22 05 27.2 -2.8
comp=Z,20nm,0.7s
STHS Stebnicka Huta 5.78 95 *e*SG **Sg** 22 05 34.4 -3.1
LPL La Plagne 6.06 221 *e*Pn **Pn** 22 04 02.3 +0.8
LPL La Plagne 6.06 221 *e*Pg **Pg** 22 04 26.0 -2.1
LPL *e*Sn **Sn** 22 05 09.3 -1.4
LPL *e*SG **Sg** 22 05 44.0 -2.6
comp=Z,1.4nm,0.3s
LPG La Plagne 6.07 221 *e*Pn **Pn** 22 04 02.4 +0.7
LPG La Plagne 6.07 221 *e*Pg **Pg** 22 04 26.3 -2.0
LPG *e*SG **Sg** 22 05 44.5 -2.3

comp=Z,1.4nm,0.3s
LOR Lormes 6.38 246 *e*Pn **Pn** 22 04 06.6 +0.9
baz=78
LOR Lormes 6.38 246 *e*Pg **Pg** 22 04 31.9 -2.3
baz=64
LOR *e*Sg **Sg** 22 05 53.8 -2.9
comp=Z,16nm,0.7s
BLEU Blekinge 6.42 17 *e*P **Pn** 22 04 05.5 -0.7
BLEU *e*S Sn 22 05 11.5 -7.7
SSF Saint Saulge 6.69 245 *e*Pn **Pn** 22 04 10.8 +0.9
SSF Saint Saulge 6.69 245 *e*Pg **Pg** 22 04 37.6 -2.5
SSF *e*Sg **Sg** 22 06 03.8 -2.9
comp=Z,11nm,0.5s
MBDF Montbardon 6.69 217 *e*Pg **Pg** 22 04 37.9 -2.3
MBDF *e*Sg **Sg** 22 06 03.9 -2.9
comp=Z,0.8nm,0.2s
SMF Signal de Mont 6.73 241 *e*Pn **Pn** 22 04 11.2 +0.7
SMF Signal de Mont 6.73 241 *e*Pg **Pg** 22 04 38.1 -2.8
SMF *e*Sn **Sn** 22 05 23.9 -3.0
comp=Z,0.6nm,0.4s
SMF *e*Sg **Sg** 22 06 04.7 -3.2
comp=Z,15nm,0.7s
ORIF Oris-en-Rattie 6.90 222 *e*Pn **Pn** 22 04 15.8 +2.9
ORIF Oris-en-Rattie 6.90 222 *e*Pg **Pg** 22 04 42.8 -1.4
ORIF *e*Sn **Sn** 22 05 29.1 -2.2
ORIF *e*Sg **Sg** 22 06 10.3 -3.2
comp=Z,1.9nm,0.3s
AVF Avril sur Loir 6.92 244 *e*Pn **Pn** 22 04 14.2 +1.1
AVF Avril sur Loir 6.92 244 *e*Pg **Pg** 22 04 41.7 -2.9
AVF *e*Sn **Sn** 22 05 29.8 -1.9
AVF *e*Sg **Sg** 22 06 10.0 -4.2
comp=Z,23nm,0.9s
HYF Humbligny 7.10 249 *e*Pn **Pn** 22 04 16.2 +0.6
HYF Humbligny 7.10 249 *e*Pg **Pg** 22 04 45.1 -2.9
HYF *e*Sg **Sg** 22 06 16.4 -3.5
SBF Sospel 7.21 210 *e*Pn **Pn** 22 04 19.8 +2.7
SBF *e*Sn **Sn** 22 05 36.4 -2.4
comp=Z,1.8nm,0.3s
BGF Bois d'Agland 7.34 244 *e*Pn **Pn** 22 04 19.8 +0.9
BGF Bois d'Agland 7.34 244 *e*Pg Pg 22 04 49.6 -3.0
BGF *e*Sn **Sn** 22 05 38.5 -3.5
comp=Z,3.7nm,0.6s
BGF *e*Sg **Sg** 22 06 23.3 -4.3
comp=Z,13nm,0.5s
VIVF Saint-Julien-l 7.50 227 *e*Pg Pg 22 04 52.3 -3.2
VIVF *e*Sg **Sg** 22 06 27.8 -4.7
comp=Z,2.7nm,0.5s
TCF Toulx Ste Croi 7.86 244 *e*Pn **Pn** 22 04 26.8 +0.8
TCF Toulx Ste Croi 7.86 244 *e*Pg Pg 22 04 59.2 -3.3
TCF *e*Sn **Sn** 22 05 51.2 -3.5
TCF *e*Sg **Sg** 22 06 39.5 -4.7
comp=Z,4.0nm,0.7s
LDF La Druitiere 8.33 264 *e*Pn **Pn** 22 04 33.5 +1.1
LDF La Druitiere 8.33 264 *e*Pg Pg 22 05 07.9 -3.6
FLN La Foliniere 8.52 265 *e*Pn **Pn** 22 04 35.8 +0.8
RJF Les Rejaudoux 8.83 240 *e*SG **Sg** 22 07 09.5 -5.7
comp=Z,1.8nm,0.4s
LFF La Frestale 9.49 241 *e*SG Sn 22 07 32.1 +57
comp=Z,2.3nm,0.4s
HFS Hagfors 9.96 4 Pn **Pn** 22 04 55.2 +0.6
comp=Z,0.7nm,0.9s,baz=270,slow=14,SNR=1.0
HFS Sn **Sn** 22 06 43.9 -2.2
comp=Z,0.1nm,0.3s,baz=175,slow=22,SNR=1.6
EKA Eskdalemuir Ar 10.72 304 Pn **Pn** 22 05 06.6 +1.6
baz=103,slow=15
comp=Z,1.5nm,0.9s
AKASG Malin Array Be 10.74 81 Pn **Pn** 22 05 04.1 -1.2
comp=Z,0.5nm,0.3s,baz=231,slow=18,SNR=1.0
AKASG Sn Sn 22 06 56.8 -8.5
comp=Z,0.4nm,0.3s,baz=66,slow=26,SNR=1.1
comp=Z,0.1nm,0.3s
FINES FINESS Array B 13.58 29 Pn **Pn** 22 05 43.2 -0.8
comp=Z,0.1nm,0.3s,baz=204,slow=13,SNR=3.5
FINES Sn Sn 22 08 01.9 -13
comp=Z,0.1nm,0.3s,baz=142,slow=29,SNR=1.7
comp=Z,1.1nm,0.9s

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*IDC **22** 22:12:18.4±0.5, 8.˚94S×80.˚42W, h0km, mb4.5/21, mbtmp4.5/27, ML4.0/5, MS4.5/45, Error ellipse: s-maj=18.3km s-min=11.8km az=64.0*
*MOS **22** 22:12:18.5±1.2, 8.˚89S×80.˚32W, h12km, mb5.3/35, Error ellipse: s-maj=11.2km s-min=5.9km az=110.0*
*NEIC **22** 22:12:20.1±1.2, 8.˚955±0.˚06×80.˚35W±0.˚08, h10km±1km, mb5.2/167, Error ellipse: s-maj=14.4km s-min=10.0km az=252.0*
*GCMT **22** 22:12:22.1±0.2, 8.˚89S±0.˚01×80.˚65W±0.˚01, h12km, MW5.2/134, Moment Tensor Solution. s78,c102; s134,c228; Duration: 1ŝ0 Moment tensor: Scale 10^16 Nm; Mrr5.49±.09; Mθθ-0.81±.08; Mφφ-4.69±.09; Mrθ0.07±.29; Mθφ1.23±.07; Mφr-6.62±.25; Best double couple: M0 8.45100×10^16 NP1:φs176.00000°, δ71.00000°, λ97.00000°. NP2:φs335.00000°, δ20.00000°, λ71.00000°. Principal axes: T 8.7750, Plg63.0000°, Azm97.0000°; N -0.6550, Plg6.0000°, Azm353.0000°; P -8.1260, Plg26.0000°, Azm260.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*VAO **22** 22:12:23.2±0.5, 8.˚89S×79.˚93W, h12km±3km, mb5.3*
ISC 22 22:12:19.8±0.3, 8˚91S±0.˚04×80˚25W±0.˚04, h10km, n795, σ1ŝ24/781, mb5.1/121, MS4.5/43, 5C-2D, Off coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Op	Time h m s	Res ISC
ATAH	**Atahualpa**	**2.55**	**46**	Pn		**Pn**	**22 13 04.7**	**+3.1**
	12nm,0.3s,baz=254,slow=11,SNR=98							
ATAH				Sn		**Sb**	**22 13 38.8**	**+1.3**
	158nm,0.3s,baz=295,slow=23,SNR=7.0							
	261nm,0.8s							
NNA	**Nana**	**4.53**	**133**	Pn		**Pn**	**22 13 27.8**	**-0.9**
NNA	**Nana**	**4.53**	**133**	Pn		**Pn**	**22 13 28.0**	**-0.7**
	12nm,0.3s,baz=308,slow=11,SNR=40							
NNA				Sn		**Sn**	**22 14 21.3**	**-0.1**
	114nm,0.3s,baz=308,slow=14,SNR=16							
	145nm,0.7s							
NNA	**Nana**	**4.53**	**133**	P		**Pn**	**22 13 28.0**	**-0.7**
ARNL	**Arenillas**	**5.33**	**2**	Pn		**Pn**	**22 13 39.0**	**-0.6**
CHSH	**Refugio Sur-Vo**	**7.50**	**11**	Pn		**Pn**	**22 14 10.2**	**+0.4**
CZSB	**Cruzeiro do Su**	**7.56**	**82**	Pn		**Pn**	**22 14 11.3**	**+1.1**
CZSB	**Cruzeiro do Su**	**7.56**	**82**	*e*P		**Pn**	**22 14 09.2**	**-1.0**
SLOR	**San Lorenzo -**	**8.31**	**12**	Pn		**Pn**	**22 14 22.2**	**+1.2**
PULU	**Pululahua**	**9.05**	**11**	Pn		**Pn**	**22 14 31.4**	**+0.4**
IMBA	**Imbabura, San**	**9.36**	**13**	Pn		**Pn**	**22 14 35.6**	**+0.3**
TULM	**Tulcn-Chalpat**	**9.88**	**15**	Pn		**Pn**	**22 14 42.9**	**+0.5**
TBTG	**Tabatinga, AM**	**11.29**	**66**	Pn		**Pn**	**22 15 00.9**	**-0.4**
TBTG	**Tabatinga, AM**	**11.29**	**66**	*e*P		**Pn**	**22 15 01.0**	**-0.4**
TBTG				*e*S		**Sn**	**22 17 04.9**	**-2.9**
PAYG	**Puerto Ayora**	**12.92**	**309**	Pn		**Pn**	**22 15 22.6**	**-1.0**
PB18	**Visviri**	**13.57**	**131**	Pn		**Pn**	**22 15 33.2**	**+0.3**
PB12	**IPOC Station P**	**13.62**	**136**	Pn		**Pn**	**22 15 33.0**	**-0.4**
ETMB	**Extrema**	**13.88**	**95**	Pn		**Pn**	**22 15 33.6**	**-3.2**
ETMB	**Extrema**	**13.88**	**95**	*e*P		Pn	22 15 32.7	-4.1
LPAZ	**La Paz**	**13.91**	**123**	Pn		**Pn**	**22 15 35.7**	**-2.0**
LPAZ	**La Paz**	**13.91**	**123**	Pn		**Pn**	**22 15 39.5**	**+1.7**
	0.5nm,0.3s,baz=336,slow=14,SNR=9.1							
LPAZ				Sn		**Sn**	**22 18 19.6**	**+7.0**
	0.2nm,0.3s,baz=345,slow=3.8,SNR=1.7							
	2.4nm,0.5s							
LPAZ	**La Paz**	**13.91**	**123**	*e*P		**Pn**	**22 15 36.8**	**-0.9**
LPAZ				*e*S		**Sn**	**22 18 10.5**	**-2.2**
PB11	**IPOC Station P**	**14.88**	**138**	Pn		**Pn**	**22 15 49.7**	**-0.9**
ROSC	**El Rosal**	**14.89**	**24**	Pn		**Pn**	**22 15 51.8**	**+0.9**
	9.5nm,0.4s,baz=177,slow=23,SNR=1.0							
ROSC				Sn		**Sn**	**22 18 36.2**	**0.0**
	0.5nm,0.3s,baz=173,slow=17,SNR=1.4							
ROSC				LR		LR	22 21 46.7	
	comp=Z,15μm,18.1s,baz=208,slow=38							
ROSC	**El Rosal**	**14.89**	**24**	P		**Pn**	**22 15 51.9**	**+1.0**
TA02	**Huaiquique**	**14.93**	**140**	Pn		**Pn**	**22 15 51.9**	**+0.7**
HMBC	**Humberstone**	**15.10**	**140**	Pn		**Pn**	**22 15 55.1**	**+1.6**
TA01	**Diego Aracena**	**15.12**	**141**			**Pn**	**22 15 53.2**	**-0.4**
GO01	**Chusmiza**	**15.12**	**136**			**Pn**	**22 15 54.6**	**+0.4**
PATCX	**Punta Patache**	**15.33**	**142**			**Pn**	**22 15 58.2**	**+1.7**
PATCX				IAmb		IAmb	22 16 04.3	
	comp=Z,166nm,1.8s							
PB08	**IPOC Station P**	**15.48**	**137**	Pn		**Pn**	**22 15 58.8**	**+0.1**
PB01	**IPOC Station P**	**15.91**	**140**			**Pn**	**22 16 05.7**	**+1.7**
TEFE	**Tefe**	**16.42**	**72**	*e*P		**Pn**	**22 16 05.8**	**-4.8**
TEFE				*e*S		**Sn**	**22 19 10.2**	**-2.8**
PB04	**IPOC Station P**	**16.50**	**145**	Pn		**Pn**	**22 16 12.5**	**+0.8**
PB09	**IPOC Station P**	**16.62**	**142**			**Pn**	**22 16 14.3**	**+1.0**

PB09 IAmb IAmb 22 16 21.4
comp=Z,145nm,1.0s
SAML Samuel 16.86 91 Pn **Pn 22 16 13.1 -3.1**
SAML Samuel 16.86 91 P **Pn 22 16 13.1 -3.1**
SAML pmax pmax
comp=Z,73nm,1.0s
SAML Samuel 16.86 91 *eP* **Pn 22 16 10.9 -5.2**
SAML *eS* **Sn 22 19 20.7 -3.0**
PB06 IPOC Station P 17.12 144 Pn **Pn 22 16 18.6 -0.9**
PB10 IPOC Station P 17.23 149 Pn **Pn 22 16 20.5 -0.3**
LVC Limon Verde 17.43 143 Pn **Pn 22 16 23.6 -0.1**
LVC IAmb IAmb 22 16 30.5
comp=Z,166nm,1.1s
LVC Limon Verde 17.43 143 Pn **P 22 16 26.2 +1.3**
comp=Z,1.2nm,0.3s,baz=326,slow=8.5,SNR=19
LVC LR LR 22 22 45.2
comp=Z,2µm,18.5s,baz=313,slow=36
comp=Z,85nm,0.9s
LVC Limon Verde 17.43 143 *eP* **P 22 16 25.4 +0.5**
CDITO Canoas 17.57 351 **Pn 22 16 25.7 +0.7**
CDITO IAmb IAmb 22 16 29.1
comp=Z,96nm,0.3s
PB15 IPOC Station P 17.57 145 P **Pn 22 16 25.1 -0.2**
BRU2 Volcan 17.76 352 **Pn 22 16 27.0 -0.5**
BCIP Isla Barro Col 17.97 1 Pn **Pn 22 16 28.7 -1.2**
BCIP Isla Barro Col 17.97 1 P **Pn 22 16 28.7 -1.2**
BCIP pmax pmax
comp=Z,89nm,1.2s
AF01 San Pedro de A 18.13 142 P **Pn 22 16 32.1 -0.2**
PB14 IPOC Station P 18.23 150 P **Pn 22 16 32.1 -1.3**
SRBA San Rafael, Bu 18.29 350 P **Pn 22 16 33.8 -0.3**
GO02 Mina Guanaco 19.08 149 P **P 22 16 43.2 +0.2**
GO02 IAmb IAmb 22 16 49.8
comp=Z,93nm,0.9s
HDC Heredia 19.18 348 P **P 22 16 44.3 +0.3**
AC01 Pan de Azucar 19.43 153 P **P 22 16 45.7 -0.9**
JTS Las Juntas de 19.64 346 P **P 22 16 48.1 -0.9**
JTS Las Juntas de 19.64 346 P **Pn 22 16 50.5 +0.2**
comp=Z,0.3nm,0.3s,baz=292,slow=23,SNR=1.5
JTS LR LR 22 23 25.0
comp=Z,2µm,19.1s,baz=168,slow=34
comp=Z,1.7nm,0.4s
SOCE Pocosol 19.66 347 P **P 22 16 48.2 -0.9**
SOCE IAmb IAmb 22 17 01.9
comp=Z,122nm,1.4s
SIV San Ignacio 19.99 112 P **P 22 16 54.3 +1.5**
comp=Z,27nm,1.0s,baz=290,slow=12,SNR=51
SIV LR LR 22 25 00.6
comp=Z,7µm,19.0s,baz=298,slow=38
comp=Z,27nm,1.0s
VILB Vilhena 20.09 103 P **P 22 16 54.2 +0.4**
VILB IAmb IAmb 22 17 03.6
comp=Z,142nm,1.0s
SDV Santo Domingo 20.11 29 P **P 22 16 54.5 +0.2**
SDV IAmb IAmb 22 17 00.2
comp=Z,101nm,0.9s
SDV Santo Domingo 20.11 29 P Pn 22 16 56.5 +0.5
comp=Z,108nm,0.9s,baz=207,slow=2.5,SNR=41
SDV LR LR 22 25 43.8
comp=Z,4µm,19.0s,baz=208,slow=40
comp=Z,108nm,0.9s
SDV Santo Domingo 20.11 29 *eP* **P 22 16 56.0 +1.7**
MACA Manacapuru-AM 20.27 75 P **P 22 16 56.0 +0.2**
MACA Manacapuru-AM 20.27 75 *eP* **P 22 16 56.0 +0.2**
MACA *eS* **S 22 20 41.1 -2.2**
AC06 Mina Casimiro 20.59 154 P **P 22 16 57.6 -1.6**
AC06 IAmb IAmb 22 17 12.9
comp=Z,183nm,1.3s
BBSD Serra de San D 20.81 115 *eP* **P 22 17 01.7 +0.1**
AC04 Llanos de Chal 21.05 157 P **P 22 17 03.3 -0.8**
AC04 IAmb IAmb 22 17 17.4
comp=Z,147nm,1.6s
ACON Acoyapa 21.32 347 P **P 22 17 06.8 -0.3**
ACON IAmb IAmb 22 17 12.5
comp=Z,152nm,2.0s
ESPN Las Esperanzas 21.35 349 P **P 22 17 08.0 +0.5**
BAUV El Baul 21.51 35 P **P 22 17 09.9 +0.8**
PTLB Pontes e Lacer 21.62 110 P **P 22 17 11.1 +0.7**
PTLB Pontes e Lacer 21.62 110 *eP* **P 22 17 11.9 +1.6**
LCO Las Campanas 21.91 157 P **P 22 17 14.5 +0.8**
LCO IAmb IAmb 22 17 26.6
comp=Z,96nm,1.1s
LCO Las Campanas 21.91 157 P **P 22 17 14.5 +0.8**
LCO pmax pmax
comp=Z,96nm,1.1s
BBRB Robore, Bolivi 21.92 117 *eP* **P 22 17 13.2 -0.3**
BBRB *eS* **S 22 21 14.8 -1.0**
AC05 El Transito 21.93 156 P **P 22 17 14.3 +0.6**
AC05 IAmb IAmb 22 17 25.8
comp=Z,213nm,1.4s
CNGN Cerro Negro 22.22 343 P **P 22 17 17.4 +0.6**
CNGN IAmb IAmb 22 17 27.9
comp=Z,171nm,1.6s
CRIN San Cristobal 22.51 342 P **P 22 17 19.5 -0.5**
CRIN IAmb IAmb 22 17 40.9
comp=Z,122nm,1.0s
CO05 La Serena 22.54 159 P **P 22 17 19.8 -0.3**
CO05 IAmb IAmb 22 17 36.0
comp=Z,107nm,1.0s
BOAV Boa Vista 22.65 61 P **P 22 17 20.7 -0.7**
BOAV IAmb IAmb 22 17 27.2
comp=Z,79nm,1.0s
BOAV Boa Vista 22.65 61 *eP* **P 22 17 22.4 +1.0**
BOAV *eS* **S 22 21 28.1 -1.5**
CO01 Juntas del Tor 23.01 157 P **P 22 17 25.2 -0.2**
CO06 Fray Jorge 23.09 161 P **P 22 17 26.0 +0.1**
CO06 IAmb IAmb 22 17 45.9
comp=Z,78nm,1.3s
PDRB Porto dos Gac 23.30 99 *eP* **P 22 17 27.5 -0.7**
PDRB *eS* **S 22 21 39.9 -1.0**
CO03 El Pedregal 23.57 159 P **P 22 17 30.6 -0.2**
CO03 IAmb IAmb 22 17 45.5
comp=Z,86nm,1.6s
TGUH Tegucigalpa,Un 23.86 343 P **P 22 17 32.4 -1.4**
CLDB Colider 24.16 97 *eP* **P 22 17 37.5 +0.9**
CLDB *eS* **S 22 21 54.0 -0.8**
H03N2 Juan Fernandez 24.44 177 T T 22 43 02.2
baz=149,slow=74,SNR=89
H03N1 Juan Fernandez 24.44 177 T T 22 43 36.0
SNR=119
H03N3 Juan Fernandez 24.45 177 T T 22 43 01.9
baz=358,slow=74,SNR=91
PCRV Puerto La Cruz 24.52 40 LR LR 22 27 48.4
comp=Z,3µm,19.2s,slow=38
NPGB Novo Progresso 24.72 88 *eP* **P 22 17 42.1 +0.5**
ITTB Itaituba 24.76 81 *eP* **P 22 17 43.0 +1.0**
SALV Santo Antonio 24.95 109 *eP* **P 22 17 45.2 +1.6**
ZON Zonda 24.96 156 P **P 22 17 43.1 -0.6**
ZON IAmb IAmb 22 18 01.4
comp=Z,45nm,1.1s
ZON Zonda 24.96 156 P **P 22 17 43.1 -0.6**
ZON pmax pmax
comp=Z,45nm,1.1s
VA03 San Esteban 25.37 161 P **P 22 17 46.4 -1.1**
VA03 IAmb IAmb 22 17 58.9
comp=Z,53nm,1.1s
BDQN Bodoquena, MS 25.42 119 *eP* **P 22 17 49.2 +1.3**
TICA Tres Isletas 25.63 135 *eP* **P 22 17 50.2 +0.4**
TICA *eS* **S 22 22 18.8 +0.7**
PEL Peldehue 25.68 161 P **P 22 17 50.4 +0.2**
PEL IAmb IAmb 22 18 12.1
comp=Z,58nm,1.2s
PEL Peldehue 25.68 161 P **P 22 17 50.4 +0.2**
PEL pmax pmax
comp=Z,58nm,1.2s
MT09 Talagante 26.17 162 P **P 22 17 54.4 -0.3**
MT09 IAmb IAmb 22 18 04.9
comp=Z,128nm,1.6s
MT08 Bocatoma Ro 26.18 160 P **P 22 17 55.5 +0.7**
MT08 IAmb IAmb 22 18 06.3
comp=Z,75nm,1.4s
AQDB Aquidauana 26.34 119 P **P 22 17 57.1 +0.9**
AQDB IAmb IAmb 22 18 02.2
comp=Z,56nm,1.2s
MT13 San Alfonso 26.36 161 P **P 22 17 56.3 -0.1**
MT13 IAmb IAmb 22 18 14.0
comp=Z,69nm,1.4s
LMEL Las Melosas 26.48 161 P **P 22 17 57.6 0.0**
LMEL IAmb IAmb 22 18 14.6
comp=Z,74nm,1.1s
RVDE Rio Verde (Bra 26.50 115 *eP* **P 22 17 58.6 +0.8**
BO01 Tunca 26.72 163 P **P 22 17 58.7 -0.8**
BO01 IAmb IAmb 22 18 25.7
comp=Z,43nm,1.3s

PETF Flores 27.37 340 P **P 22 18 05.0 -0.5**
CCIG Comitan 27.66 335 P **P 22 18 07.7 -0.7**
CPUP Villa Florida 27.79 131 P **P 22 18 09.4 +0.1**
CPUP Villa Florida 27.79 131 P **P 22 18 10.6 +1.3**
comp=Z,14nm,1.1s,baz=311,slow=9.1,SNR=12
CPUP LR LR 22 30 45.0
comp=Z,2µm,19.4s,baz=317,slow=40
comp=Z,14nm,1.1s
CPUP Villa Florida 27.79 131 P **P 22 18 09.4 +0.1**
CPUP pmax pmax
comp=Z,26nm,1.2s
AMBA Amambai (Brazi 27.93 123 *eP* **P 22 18 12.5 +1.9**
ARAG Araguaiana, MT 28.57 106 *eP* **P 22 18 17.4 +1.1**
SNDB Serra Nova Dou 28.63 99 *eP* **P 22 18 18.0 +1.2**
SNDB *eS* **S 22 23 04.3 -1.4**
MCPB Macapa, AP 29.33 75 *eP* **P 22 18 24.0 +0.9**
MCPB *eS* **S 22 23 15.7 -1.0**
TRCB Terra Rica 29.86 121 P **P 22 18 27.9 +0.1**
TRCB IAmb IAmb 22 18 39.5
comp=Z,53nm,0.9s
TEIG Tepich 30.02 345 LR LR 22 29 30.0
comp=Z,1µm,18.7s,baz=157,slow=34
UUPR Utuado, UPR, P 30.12 26 P **P 22 18 30.3 +0.4**
IGPR InterUniversit 30.14 28 P **P 22 18 29.4 -0.7**
IGPR IAmb IAmb 22 18 40.8
comp=Z,52nm,0.9s
AOPR Arecibo Observ 30.18 26 P **P 22 18 30.1 -0.5**
SJG San Juan 30.25 27 P **P 22 18 30.4 -0.7**
SJG San Juan 30.25 27 P **P 22 18 30.4 -0.7**
SJG pmax pmax
comp=Z,95nm,1.3s
ITQB Itaqui 30.27 136 P **P 22 18 31.4 +0.1**
ITQB IAmb IAmb 22 18 33.9
comp=Z,62nm,1.1s
ITQB Itaqui 30.27 136 *eP* **P 22 18 33.2 +2.0**
ITQB *eS* **S 22 23 31.1 0.0**
PRPB Parauapebas 30.29 87 *eP* **P 22 18 32.3 +0.7**
PRPB *eS* **S 22 23 30.7 -1.1**
PSAL Palomas, Salto 30.52 139 *eP* **P 22 18 35.9 +2.5**
PCMB Pacaembu 30.61 118 *eP* **P 22 18 36.1 +1.7**
ITRB Iturama 30.83 114 *eP* **P 22 18 37.0 +0.6**
UNIS Unistalda (Bra 30.99 134 *eP* **P 22 18 39.9 +2.2**
UNIS *eS* **S 22 23 43.1 +0.5**
PTGB Pitanga 31.12 124 *eP* **P 22 18 41.2 +2.2**
LDASE Londrina, Braz 31.38 121 *eP* **P 22 18 42.5 +1.4**
GO06 Curarrehue 31.53 167 P **P 22 18 41.4 -1.0**
GO06 IAmb IAmb 22 18 52.2
comp=Z,62nm,1.4s
RODS Rosario do Sul 31.66 136 *eP* **P 22 18 44.5 +1.0**
TBOT Tacuaremb 31.99 139 *eP* **P 22 18 47.6 +1.3**
LR05 Currie 32.04 168 P **P 22 18 46.3 -0.4**
BDFB Brasilia 32.17 105 P **P 22 18 47.8 -0.5**
BDFB IAmb IAmb 22 18 50.2
comp=Z,37nm,1.3s
BDFB Brasilia 32.17 105 P **P 22 18 49.8 +1.5**
comp=Z,12nm,1.0s,baz=266,slow=12,SNR=11
BDFB LR LR 22 33 05.1
comp=Z,2µm,20.3s,baz=288,slow=39
comp=Z,12nm,1.0s
BDFB Brasilia 32.17 105 P **P 22 18 47.8 -0.5**
BDFB pmax pmax
comp=Z,37nm,1.3s
ITAB Concordia 32.22 128 P **P 22 18 48.5 0.0**
ITAB IAmb IAmb 22 18 50.7
comp=Z,27nm,1.0s
ITAB Concordia 32.22 128 *eP* **P 22 18 50.3 +1.8**
SMTB Santa Maria do 32.26 92 *eP* **P 22 18 50.1 +1.0**
ALGR Alto Alegre (B 32.33 131 *eP* **P 22 18 50.4 +0.9**
IPMB Ipameri, GO 32.39 110 *eP* **P 22 18 50.5 +0.4**
LL04 Puerto Octay 32.62 169 P **P 22 18 51.2 -0.6**
TMAB Tom-Au,PA,Br 32.63 80 *eP* **P 22 18 52.0 -0.2**
FRTB Fartura 32.69 120 *eP* **P 22 18 54.1 +1.4**
PLCA Paso Flores 32.84 166 P **P 22 18 53.0 -0.8**
PLCA IAmb IAmb 22 19 03.9
comp=Z,69nm,1.4s
PLCA Paso Flores 32.84 166 P **P 22 18 55.2 +1.4**
comp=Z,6.9nm,1.0s,baz=337,slow=12,SNR=14
comp=Z,6.9nm,1.0s
PLCA Paso Flores 32.84 166 P **P 22 18 53.0 -0.8**
PLCA pmax pmax
comp=Z,69nm,1.4s
PLCA Paso Flores 32.84 166 *eP* **P 22 18 51.9 -2.0**
BB19B Bebedouro 32.86 115 *eP* **P 22 18 55.4 +1.2**
CPSB Caapava Do Su 32.92 134 *eP* **P 22 18 55.8 +1.2**
RPN Rapa Nui 32.92 233 LR LR 22 28 29.9
comp=Z,1µm,19.8s,baz=65,slow=30
TRQA Tornquist 33.37 153 P **P 22 18 57.8 -0.6**
TRQA IAmb IAmb 22 19 08.7
comp=Z,19nm,1.1s
TRQA Tornquist 33.37 153 P **P 22 18 57.8 -0.6**
TRQA pmax pmax
comp=Z,19nm,1.1s
PLTB Pedras Altas 33.60 136 P **P 22 18 60.0 -0.5**
PLTB IAmb IAmb 22 19 17.9
comp=Z,34nm,1.0s
PLTB Pedras Altas 33.60 136 *eP* **P 22 19 01.6 +1.0**
LL01 San Ignacio de 34.04 170 P **P 22 19 03.3 -0.8**
LL01 IAmb IAmb 22 19 13.5
comp=Z,42nm,1.1s
RCLB Rio Claro- Sao 34.15 117 *eP* **P 22 19 06.9 +1.4**
SPB Sao Paulo 34.61 119 P **P 22 19 09.4 0.0**
SPB Sao Paulo 34.61 119 *eP* **P 22 19 10.7 +1.3**
VAO Valinhos 34.82 118 P **P 22 19 11.2 -0.1**
VAO IAmb IAmb 22 19 13.6
comp=Z,36nm,0.9s
VAO Valinhos 34.82 118 *eP* **P 22 19 12.2 +0.9**
SDBA SAO DESIDERIO 34.89 99 *eP* **P 22 19 13.0 +1.0**
LL02 Futaleuf 34.93 169 P **P 22 19 11.0 -0.9**
LL02 IAmb IAmb 22 19 21.3
comp=Z,58nm,1.1s
PET01 Itanhaem-SP 34.98 120 *eP* **P 22 19 13.7 +1.1**
JRQG Juriquilla Cam 35.51 326 P **P 22 19 16.4 -0.9**
JANB Januaria 35.65 103 *eP* **P 22 19 19.0 +0.5**
PARB Paraibuna 36.10 118 *eP* **P 22 19 23.5 +1.2**
DIAM Diamantina, MG 36.69 109 *eP* **P 22 19 28.3 +0.8**
DWPF Disney Wildern 36.82 358 P **P 22 19 29.8 +1.6**
baz=178
COYC Coyhaique 37.20 170 P **P 22 19 30.9 -0.3**
COYC IAmb IAmb 22 19 41.1
comp=Z,66nm,1.1s
VAS01 Vassouras-RJ 37.74 115 *eP* **P 22 19 37.5 +1.2**
RIB01 Linhares ES 39.92 109 *eP* **P 22 19 54.6 +0.1**
GUA01 Guaratinga, BA 40.12 105 *eP* **P 22 19 55.4 -0.7**
GUA01 *eS* **S 22 26 01.6 -1.2**
TIGA Tifton 40.25 356 P **P 22 19 58.2 +1.2**
baz=175
352A Blakely 40.41 354 P **P 22 19 57.8 -0.5**
352A IAmb IAmb 22 20 06.8
comp=Z,30nm,0.9s
833A Chaparral WMA, 41.39 334 P **P 22 20 07.3 +0.9**
baz=151
HKT Hockley 41.45 339 P **P 22 20 06.6 -0.2**
HKT IAmb IAmb 22 20 17.7
comp=Z,44nm,1.2s
HKT Hockley 41.45 339 *i* P **P 22 20 06.9 +0.1**
HKT pmax pmax
comp=Z,51nm,1.3s
NBLA Lagarto - SE 41.85 97 *eP* **P 22 20 10.8 +0.3**
NBCL Cascavel-CE 41.92 86 *eP* **P 22 20 12.1 +1.0**
VBMS Vicksburg 42.06 347 P **P 22 20 13.4 +1.5**
baz=165
GOGA Godfrey 42.20 356 P **P 22 20 12.9 -0.1**
GOGA Godfrey 42.20 356 P **P 22 20 13.5 +0.5**
baz=175
GOGA Godfrey 42.20 356 P **P 22 20 12.9 -0.1**
GOGA pmax pmax
comp=Z,15nm,0.9s
LRAL Lakeview Retre 42.21 352 P **P 22 20 11.9 -1.1**
LRAL Lakeview Retre 42.21 352 P **P 22 20 14.3 +1.2**
baz=170
NATX Nacogdoches 42.73 342 P **P 22 20 17.1 -0.3**
NATX IAmb IAmb 22 20 27.1
comp=Z,72nm,0.9s
NATX Nacogdoches 42.73 342 P **P 22 20 17.9 +0.6**
baz=159
435B Jarrell 42.83 338 P **P 22 20 17.7 -0.6**
baz=155
HPIG 43.33 326 P **P 22 20 22.1 -0.5**
NBAN Anadia - AL 43.38 95 *eP* **P 22 20 24.1 +1.1**
JCT Junction City 43.44 335 P **P 22 20 23.4 +0.2**
baz=152
FPAL Fort Paine 43.51 354 P **P 22 20 21.4 -2.3**
NBCA Caruaru-PE 43.73 93 *eP* **P 22 20 26.8 +0.9**
KMSC Kings Mountain 43.83 359 P **P 22 20 26.7 +0.6**
baz=179
W57A Gilead 43.83 0 P **P 22 20 24.9 -1.3**
WHTX Lake Whitney, 43.88 339 P **P 22 20 26.0 -0.6**
baz=155
CNNC Cliffs of the 43.97 3 P **P 22 20 28.1 +0.8**
baz=184
LPIG La Paz 44.03 319 LR LR 22 32 31.8
comp=Z,184nm,20.2s,baz=86,slow=28
OXF Oxford 44.05 349 P **P 22 20 28.5 +0.6**
baz=167
RCBR Riachuelo 44.07 89 P **P 22 20 28.2 -0.4**
RCBR IAmb IAmb 22 20 30.6
comp=Z,40nm,1.1s
RCBR Riachuelo 44.07 89 LR LR 22 39 46.5
comp=Z,2µm,20.9s,baz=250,slow=37
RCBR Riachuelo 44.07 89 P **P 22 20 28.2 -0.4**
RCBR pmax pmax
comp=Z,40nm,1.1s
WLAR White Oak Lake 44.09 345 P **P 22 20 28.3 0.0**
SWET Sewanee 44.22 353 P **P 22 20 29.6 +0.2**
SWET IAmb IAmb 22 20 37.7
comp=Z,18nm,0.8s
TX31 Lajitas Ar. Si 44.22 330 P **P 22 20 29.3 -0.3**
TXAR Lajitas Array 44.22 330 P **P 22 20 29.2 -0.4**
comp=Z,0.8nm,0.9s,baz=144,slow=11,SNR=6.1
comp=Z,0.8nm,0.9s
TKL Tuckaleechee C 44.46 356 P **P 22 20 30.5 -0.7**
TKL Tuckaleechee C 44.46 356 LR LR 22 39 07.2
comp=Z,430nm,19.2s,baz=171,slow=36
TKL Tuckaleechee C 44.46 356 P **P 22 20 30.5 -0.7**
TKL pmax pmax
comp=Z,18nm,1.0s
MIAR Mount Ida 45.03 344 P **P 22 20 35.8 0.0**
MIAR IAmb IAmb 22 20 56.3
comp=Z,18nm,0.9s
MIAR Mount Ida 45.03 344 P **P 22 20 36.5 +0.7**
baz=161
MIAR Mount Ida 45.03 344 P **P 22 20 35.8 0.0**
MIAR pmax pmax
comp=Z,18nm,1.0s
ABTX Abilene, Hawle 45.26 337 P **P 22 20 37.1 -0.7**
ABTX IAmb IAmb 22 20 53.9
comp=Z,34nm,1.0s
ABTX Abilene, Hawle 45.26 337 P **P 22 20 37.8 +0.1**
baz=153
TZTN Tazewell 45.32 356 P **P 22 20 38.8 +0.6**
baz=176
X37A Clayton 45.58 342 P **P 22 20 40.4 +0.3**
X37A IAmb IAmb 22 21 00.6
comp=Z,45nm,1.0s
GNAR Gosnell 45.58 349 P **P 22 20 40.0 -0.1**
BLA Blacksburg 45.88 360 P **P 22 20 43.1 +0.5**
baz=180
LCAR Lake Charles 45.91 348 P **P 22 20 42.5 -0.2**
LCAR IAmb IAmb 22 20 51.4
comp=Z,53nm,1.2s
WMOK Wichita Mounta 46.83 339 P **P 22 20 49.3 -0.7**
WMOK Wichita Mounta 46.83 339 P **P 22 20 50.1 +0.1**
baz=155,SNR=12
WMOK Wichita Mounta 46.83 339 P **P 22 20 49.3 -0.7**
WMOK pmax pmax
comp=Z,13nm,1.0s
TUL3 Leonard 46.93 343 P **P 22 20 51.2 +0.4**
baz=159
CBN Corbin Frederi 46.95 3 P **P 22 20 51.4 +0.5**
baz=184
MNTX Cornudas Mount 47.00 330 P **P 22 20 50.7 -0.7**
baz=145
WCI Wyandotte Cave 47.24 354 P **P 22 20 51.9 -1.2**
WCI IAmb IAmb 22 21 01.2
comp=Z,17nm,0.8s
WCI Wyandotte Cave 47.24 354 P **P 22 20 53.2 +0.1**
baz=172
WCI Wyandotte Cave 47.24 354 P **P 22 20 51.9 -1.2**
WCI pmax pmax
comp=Z,17nm,0.8s
MSTX Muleshoe 47.71 335 P **P 22 20 56.7 -0.3**
baz=150
CCM Cathedral Cave 47.84 348 P **P 22 20 58.3 +0.5**
baz=166
HSIG 47.95 323 P **P 22 20 57.6 -1.2**
AMTX Amarillo 48.05 336 P **P 22 21 00.2 +0.6**
baz=151
MCWV Mont Chateau 48.33 0 P **P 22 21 02.6 +1.1**
baz=181
P52A Corning 48.33 358 P **P 22 21 01.3 -0.3**
baz=178,SNR=8.6
P49A Miami Univ. Ec 48.38 355 P **P 22 21 01.9 -0.1**
baz=174
319A Douglas 48.76 326 P **P 22 21 04.8 -0.5**
319A IAmb IAmb 22 21 33.0
comp=Z,25nm,0.9s
WUPA West Chester U 48.79 5 P **P 22 21 04.8 -0.3**
121A Cookes Peak, D 48.88 329 P **P 22 21 06.1 0.0**
baz=143
O53A New Philadelph 48.92 359 P **P 22 21 06.3 +0.2**
baz=179
ACSO Alum Creek Sta 48.96 357 P **P 22 21 05.1 -1.3**
ACSO Alum Creek Sta 48.96 357 P **P 22 21 06.4 -0.1**
baz=177,SNR=8.1
O48B Farmland 49.13 355 P **P 22 21 07.3 -0.5**
baz=174,SNR=6.5
SSPA Standing Stone 49.35 2 P **P 22 21 09.2 -0.2**
SSPA IAmb IAmb 22 21 26.8
comp=Z,28nm,1.2s
SSPA Standing Stone 49.35 2 P **P 22 21 09.5 +0.1**
baz=183
SFIN Lafayette 49.45 353 P **P 22 21 09.6 -0.6**
baz=171
Y22D IRIS PASSCAL I 49.68 331 P **P 22 21 11.4 -0.8**
baz=145
HDIL Hopedale 49.93 351 P **P 22 21 12.9 -0.9**
HDIL Hopedale 49.93 351 P **P 22 21 14.2 +0.4**
baz=168
PAL Palisades 50.01 6 P **P 22 21 15.4 +1.0**
baz=188
M53A WI Miller and 50.10 360 P **P 22 21 15.3 +0.2**
baz=180
KSU1 Kansas State U 50.13 343 P **P 22 21 16.1 +0.7**
baz=159
ANMO Albuquerque 50.17 332 P **P 22 21 14.9 -1.1**
ANMO Albuquerque 50.17 332 P **P 22 21 16.0 0.0**
baz=146
ANMO Albuquerque 50.17 332 P **P 22 21 15.0 -1.1**
ANMO pmax pmax
comp=Z,20nm,1.3s
TUC Tucson 50.30 326 P **P 22 21 16.5 -0.4**
TUC Tucson 50.30 326 P **P 22 21 16.3 -0.6**
baz=140
TUC Tucson 50.30 326 P **P 22 21 16.5 -0.4**
TUC pmax pmax
comp=Z,26nm,1.7s
L48A N Adams 50.75 356 P **P 22 21 19.4 -0.6**
L48A IAmb IAmb 22 21 26.8
comp=Z,23nm,1.0s
ERPA Erie 50.78 0 P **P 22 21 20.6 +0.3**
baz=180
CBKS Cedar Bluff 50.83 340 P **P 22 21 21.0 +0.2**
baz=155
UCCT U. Connecticut 50.99 8 P **P 22 21 21.6 -0.3**
M65A Busby, Falmout 51.00 9 P **P 22 21 22.4 +0.6**
baz=192
BINY Binghamton 51.01 4 P **P 22 21 21.1 -0.9**
BINY IAmb IAmb 22 21 41.6
comp=Z,22nm,0.9s
BINY Binghamton 51.01 4 P **P 22 21 22.1 0.0**
baz=186
AAM Ann Arbor 51.06 357 P **P 22 21 22.9 +0.5**
baz=176
T25A Trinidad 51.11 335 P **P 22 21 22.9 -0.2**
baz=149
214A Organ Pipe Nat 51.19 324 P **P 22 21 23.4 -0.1**
baz=137
L44A Lake County Fo 51.33 353 P **P 22 21 24.9 +0.6**
baz=170
L61B Northampton 51.58 7 P **P 22 21 25.9 -0.4**
baz=190
HRV Adam Dziewonsk 51.78 8 P **P 22 21 27.2 -0.6**
baz=191
W18A Petrified Fore 51.91 329 P **P 22 21 28.3 -0.8**
baz=142,SNR=8.9
SCIA State Center 51.95 348 P **P 22 21 28.8 -0.2**
baz=164
KSCO Kaye Shedlock' 52.02 338 P **P 22 21 29.7 -0.1**
baz=152
SDCO Great Sand Dun 52.08 335 P **P 22 21 29.2 -1.2**
SDCO IAmb IAmb 22 21 45.9

comp=Z,19nm,1.0s
SDCO Great Sand Dun 52.08 335 P P 22 21 29.5 -1.0
baz=148
JFWS Jewell Farm 52.38 351 P P 22 21 32.3 +0.1
baz=168
ACCN Adirondack Com 52.39 6 P P 22 21 31.9 -0.4
ACCN IAmb IAmb 22 21 50.8
comp=Z,24nm,1.1s
BGNE Belgrade 52.71 343 P P 22 21 34.7 0.0
baz=158
HNH Hanover 52.87 7 P P 22 21 35.5 -0.3
Q24A Divide 52.97 336 P P 22 21 36.7 -0.4
baz=149
MVCO Mesa Verde 52.97 332 P P 22 21 36.3 -0.7
baz=144
WUAZ Wupatki 53.06 328 P P 22 21 37.1 -0.5
WUAZ IAmb IAmb 22 21 39.5
comp=Z,24nm,1.1s
WUAZ Wupatki 53.06 328 P P 22 21 37.1 -0.5
baz=140,SNR=10
LBNH Lisbon 53.44 7 P P 22 21 40.4 +0.4
baz=190
SADO Sadowa 53.44 1 LR LR 22 45 19.4
comp=Z,439nm,19.1s,baz=186,slow=37
OGNE Ogallala 53.52 340 P P 22 21 40.3 -0.5
baz=153
LONY Lake Ozonia 53.53 5 P P 22 21 41.2 +0.5
baz=187
GLMI Grayling 53.63 356 P P 22 21 41.4 -0.1
baz=175
IKP In-Ko-Pah, Jac 53.64 322 P P 22 21 40.7 -1.1
baz=134
SWSC Sam W. Stewart 53.66 323 P P 22 21 40.8 -1.0
baz=135
PDMCI Parker Dam,Lak 53.66 325 P P 22 21 41.3 -0.5
baz=137
FRNY Flat Rock 53.84 6 P P 22 21 42.7 -0.2
FRNY IAmb IAmb 22 22 00.4
comp=Z,25nm,1.1s
ISCO Idaho Springs 53.87 336 P P 22 21 43.0 -0.6
ISCO IAmb IAmb 22 21 52.9
comp=Z,31nm,1.7s
ISCO Idaho Springs 53.87 336 P P 22 21 43.7 +0.1
baz=149
ISCO Idaho Springs 53.87 336 P P 22 21 43.0 -0.6
ISCO pmax pmax
comp=Z,31nm,1.7s
BC3 Big Chuckawall 53.95 324 P P 22 21 44.2 +0.1
baz=136,SNR=7.0
MONP2 Monument Peak 53.99 322 P P 22 21 43.9 -0.7
baz=134
IRM Iron Mountain 54.13 324 P P 22 21 45.0 -0.4
baz=136,SNR=12
NEE2 Needles Airpor 54.27 325 P P 22 21 45.9 -0.4
baz=137
ECSD EROS Data Cent 54.47 345 P P 22 21 48.3 +0.7
baz=160
TPFO Pinon Flats 54.51 323 P P 22 21 47.2 -1.0
baz=134
BELC Belle Mtn. Jos 54.51 323 P P 22 21 47.9 -0.4
baz=135
PFO Pinyon Flats O 54.52 323 P P 22 21 47.8 -0.4
PFO Pinyon Flats O 54.52 323 P P 22 21 48.2 -0.1
baz=134
PFO Pinyon Flats O 54.52 323 LR LR 22 40 43.5
comp=Z,238nm,21.8s,baz=126,slow=31
PFO Pinyon Flats O 54.52 323 P P 22 21 47.8 -0.4
PFO pmax pmax
comp=Z,12nm,1.1s
HMU Henry Mountain 54.62 331 P P 22 21 49.5 +0.3
PKME Peaks-Kenny Pk 54.82 9 P P 22 21 51.1 +1.0
baz=193
GMRC Granite Mounta 54.87 324 P P 22 21 51.0 +0.2
baz=136
N23A Red Feather La 54.93 336 P P 22 21 51.4 0.0
baz=149
MURC Murrieta 54.95 322 P P 22 21 51.4 +0.1
baz=134
SPMN Marine on St. 55.06 349 P P 22 21 52.0 +0.2
baz=165
BBRC Big Bear Solar 55.24 323 P P 22 21 53.3 -0.3
baz=134
O20A White River Ci 55.25 334 P P 22 21 53.7 +0.2
baz=146
HEC Hector Ludlow 55.29 324 P P 22 21 54.0 +0.1
baz=135,SNR=6.0
SCI2 San Clemente I 55.36 321 P P 22 21 53.0 -1.2
baz=132
TUQ Turquoise Moun 55.49 325 P P 22 21 54.8 -0.5
baz=136,SNR=6.6
CIS Catalina Islan 55.56 321 P P 22 21 55.0 -0.7
baz=132
BFSC Mount Baldy Ra 55.67 322 P P 22 21 55.8 -0.8
baz=134,SNR=6.8
FMP Fort Macarthur 55.70 322 P P 22 21 56.2 -0.4
baz=133
RRX Edison Barstow 55.71 323 P P 22 21 56.4 -0.4
baz=135
SUSD Miller 55.74 344 P P 22 21 57.2 +0.5
baz=158
MVU Marysvale 55.79 330 P P 22 21 57.5 0.0
GSC Goldstone, Bar 55.90 324 P P 22 21 57.9 -0.3
baz=135,SNR=6.6
SHOC Shoshone, Teco 56.02 325 P P 22 21 59.2 +0.3
baz=136
DECC Green Verdugo 56.09 322 P P 22 21 59.4 -0.1
baz=133
LMN Caledonia Moun 56.25 13 P P 22 22 00.7 +0.3
LMN IAmb IAmb 22 22 09.0
comp=Z,25nm,1.0s
EDW2 Edwards Air Fo 56.31 323 P P 22 22 01.1 0.0
baz=134
QSM Queen of Sheba 56.40 324 P P 22 22 01.1 -0.5
QSM IAmb IAmb 22 22 03.0
comp=Z,20nm,1.0s
LRMC Laurel Mtn Rad 56.54 324 P P 22 22 02.9 +0.1
baz=134
OSI Osito Audit: C 56.57 322 P P 22 22 02.4 -0.6
baz=133
K22A Casper 56.65 337 P P 22 22 03.4 -0.1
baz=149
FURC Furnace Creek, 56.76 325 P P 22 22 04.5 +0.4
baz=135,SNR=6.1
MPMC Manual Prospec 56.83 324 P P 22 22 04.9 0.0
baz=135,SNR=17
ARVC Arvin 56.98 322 P P 22 22 05.6 -0.1
baz=133
RSSD Black Hills 57.02 340 P P 22 22 05.5 -0.7
RSSD Black Hills 57.02 340 P P 22 22 06.8 +0.7
baz=152
RSSD Black Hills 57.02 340 P P 22 22 05.5 -0.7
RSSD pmax pmax
comp=Z,13nm,1.0s
LDAQ Lac Daran 57.19 7 P P 22 22 06.7 -0.4
CTU Camp Tracy 57.27 332 P P 22 22 07.6 -0.4
DUG Dugway, Tooele 57.39 331 P P 22 22 08.5 -0.3
DUG IAmb IAmb 22 22 18.6
comp=Z,61nm,1.6s
DUG Dugway, Tooele 57.39 331 P P 22 22 09.5 +0.7
baz=141,SNR=15
DUG Dugway, Tooele 57.39 331 P P 22 22 08.5 -0.3
DUG pmax pmax
comp=Z,61nm,1.6s
R11B Troy Canyon, C 57.41 327 P P 22 22 09.3 +0.3
baz=138,SNR=20
GRAC Grapevine Rang 57.41 325 P P 22 22 09.0 +0.1
baz=135
PKM Mcpherson Peak 57.42 322 P P 22 22 09.2 0.0
baz=132
CWC Cottonwood Cre 57.44 324 P P 22 22 09.3 +0.2
baz=134
EYMN Ely 57.48 351 P P 22 22 09.3 +0.3
EYMN IAmb IAmb 22 22 22.3
comp=Z,41nm,1.7s
EYMN Ely 57.48 351 P P 22 22 09.5 +0.4
baz=167,SNR=6.3
VES Vestal, Richgr 57.61 323 P P 22 22 10.2 0.0
baz=133
SMMC Simmler 57.81 322 P P 22 22 12.5 +0.8
baz=132
HWUT Hardware Ranch 57.91 333 P P 22 22 12.1 -0.4
HWUT IAmb IAmb 22 22 22.3
comp=Z,46nm,1.1s
TIN Tinemaha, Big 57.95 324 P P 22 22 13.0 +0.3
baz=134
PDAR Pinedale Array 57.97 335 P P 22 22 11.6 -1.4
PDAR Pinedale Array 57.97 335 P P 22 22 12.4 -0.5
comp=Z,1.6nm,0.9s,baz=142,slow=7.5,SNR=10
PDAR LR LR 22 46 18.3
comp=Z,186nm,18.3s,baz=142,slow=35
comp=Z,1.6nm,0.9s
TPH Tonopah 58.10 326 P P 22 22 13.4 -0.5
TPH Tonopah 58.10 326 P P 22 22 13.4 -0.5
TPH pmax pmax
comp=Z,77nm,1.0s
VOG Valley Oaks Go 58.12 323 P P 22 22 14.3 +0.6
baz=133
AGMN Agassiz Nation 58.61 348 P P 22 22 17.9 +0.9
baz=162
AHID Auburn Hatcher 58.63 334 P P 22 22 16.7 -0.8
MLAC Mammoth, Mammo 58.69 325 P P 22 22 17.8 -0.2
baz=134
NVAR Mina Array Bea 58.95 326 P P 22 22 19.6 -0.3
NVAR Mina Array Bea 58.95 326 P P 22 22 20.2 +0.4
comp=Z,8.8nm,0.8s,baz=142,slow=7.0,SNR=55
NVAR LR LR 22 45 01.7
comp=Z,178nm,18.9s,baz=144,slow=33
comp=Z,8.8nm,0.8s
MDND Maddock 59.06 345 P P 22 22 21.2 +1.1
baz=158
LOHW Long Hollow 59.10 335 P P 22 22 19.7 -1.1
LOHW IAmb IAmb 22 22 29.9
comp=Z,23nm,1.6s
H17A Grant Village 59.73 335 P P 22 22 27.1 +2.0
baz=145
HLID Hailey 60.75 332 P P 22 22 31.6 -0.5
HLID IAmb IAmb 22 22 48.5
comp=Z,19nm,1.2s
HLID Hailey 60.75 332 P P 22 22 32.1 0.0
baz=141,SNR=13
DGMT Dagmar 60.92 342 P P 22 22 33.2 +0.3
baz=153
BOZ Bozeman (W) 61.14 335 P P 22 22 34.7 0.0
BOZ IAmb IAmb 22 22 44.8
comp=Z,49nm,1.8s
BOZ Bozeman (W) 61.14 335 P P 22 22 35.4 +0.7
baz=144,SNR=9.2
BOZ Bozeman (W) 61.14 335 P P 22 22 34.7 0.0
BOZ pmax pmax
comp=Z,49nm,1.8s
EGMT Eagleton 62.41 338 P P 22 22 43.4 +0.3
baz=147
MSO Missoula 63.09 335 P P 22 22 47.7 +0.1
MSO Missoula 63.09 335 P P 22 22 47.9 +0.2
baz=142,SNR=10
YBH Yreka Blue Hor 63.67 326 LR LR 22 47 23.9
comp=Z,185nm,19.6s,baz=131,slow=33
F10A Beach Ranch, E 63.89 332 P P 22 22 53.0 +0.1
J05D Fort Rock, OR 63.93 328 P P 22 22 53.0 -0.3
J05D IAmb IAmb 22 22 56.4
comp=Z,25nm,1.1s
KSXB Camp Six Broad 64.39 325 P P 22 22 56.2 -0.1
SCHQ Schefferville 64.50 9 P P 22 22 56.5 -0.2
comp=Z,5.1nm,0.9s,baz=277,slow=9.4,SNR=4.3
SCHQ LR LR 22 50 45.6
comp=Z,239nm,21.4s,baz=246,slow=36
comp=Z,5.1nm,0.9s
ASCN Ascension 65.11 95 P P 22 23 01.6 +0.2
NEW Newport 65.57 334 P P 22 23 03.9 +0.1
baz=140
COR Corvallis 65.91 328 P P 22 23 05.1 -0.8
COR Corvallis 65.91 328 P P 22 23 05.1 -0.8
COR pmax pmax
comp=Z,102nm,1.3s
FFC Flin Flon 65.98 346 P P 22 23 06.3 0.0
FFC IAmb IAmb 22 23 21.6
comp=Z,14nm,1.2s
FFC Flin Flon 65.98 346 P P 22 23 06.3 0.0
FFC pmax pmax
comp=Z,14nm,1.3s
PPT Papeete 67.73 255 LR LR 22 44 38.7
comp=Z,488nm,19.9s,baz=89,slow=29
EDM Edmonton 67.99 339 P P 22 23 18.3 -0.8
EDM Edmonton 67.99 339 P P 22 23 18.3 -0.8
EDM pmax pmax
comp=Z,145nm,1.8s
BELA Belgrano 2 72.75 171 P P 22 23 47.5 -0.4
FRB Frobisher Bay 73.00 5 LR LR 22 57 48.6
comp=Z,228nm,19.7s,baz=196,slow=37
VNA3 Neumayer Olymp 75.41 162 ⇑P P 22 24 03.0 -0.5
comp=Z,3.3nm,0.6s
YKA Yellowknife Ar 75.97 344 P P 22 24 06.0 -0.7
YKA Yellowknife Ar 75.97 344 P P 22 24 06.3 -0.4
comp=Z,3.3nm,1.1s,baz=136,slow=5.0,SNR=23
comp=Z,3.3nm,1.1s
YKA Yellowknife Ar 75.97 344 eP P 22 24 06.7 0.0
YKA pmax pmax
comp=Z,2.0nm,0.9s
VNA2 Neumayer--Watz 76.05 161 ⇑P P 22 24 07.4 +0.2
comp=Z,4.7nm,0.6s,baz=290,slow=5.4
U35K Hyder 76.58 334 P P 22 24 10.4 +0.1
baz=129
DBIC Dimbokro 76.72 81 P P 22 24 11.1 -0.9
DBIC IAmb IAmb 22 24 24.8
comp=Z,22nm,1.0s
DBIC Dimbokro 76.72 81 P P 22 24 12.9 +0.9
comp=Z,9.7nm,0.9s,baz=269,slow=5.4,SNR=5.5
DBIC LR LR 22 56 02.1
comp=Z,371nm,21.6s,baz=237,slow=34
comp=Z,9.7nm,0.9s
DBIC Dimbokro 76.72 81 P P 22 24 11.1 -0.9
DBIC pmax pmax
comp=Z,22nm,1.0s
V35K Ketchikan 76.93 333 P P 22 24 12.3 +0.1
baz=128
RAR Rarotonga 77.11 250 LR LR 22 50 09.0
comp=Z,281nm,18.2s,baz=127,slow=30
T35M Bob Quinn 77.36 335 P P 22 24 14.1 -0.7
baz=129
SNAA Sanae 77.63 162 P P 22 24 16.0 -0.2
SNAA Sanae 77.63 162 ⇑P P 22 24 16.0 -0.2
comp=Z,224nm,1.5s
SNAA Sanae 77.63 162 P P 22 24 15.9 -0.2
comp=Z,2.4nm,0.7s,baz=259,slow=9.1,SNR=10
comp=Z,2.4nm,0.7s
SNAA Sanae 77.63 162 i P P 22 24 18.7 +2.5
SNAA pmax pmax
comp=Z,45nm,1.6s
CRAG Craig 77.70 332 P P 22 24 16.2 -0.4
baz=126
WRAK Wrangell Islan 77.92 333 P P 22 24 18.0 +0.2
baz=127
U33K Whale Pass 78.08 333 P P 22 24 18.1 -0.6
baz=126
DLBC Dease Lake 78.19 336 P P 22 24 18.6 -0.8
baz=130
DLBC Dease Lake 78.19 336 LR LR 22 59 08.2
comp=Z,298nm,19.5s,baz=88,slow=36
S34M Telegraph Cree 78.31 335 P P 22 24 19.4 -0.6
baz=129
SFJD Kangerlussuaq 78.70 11 LR LR 22 59 16.7
comp=Z,211nm,20.0s,baz=202,slow=36
WRGLY Wrigley 79.11 342 P P 22 24 23.3 -1.0
baz=137
R33M Jennings River 79.17 336 P P 22 24 23.9 -1.0
baz=129
TROLL Troll, Antarti 79.34 162 ⇑P P 22 24 26.3 +0.6
comp=Z,639nm,0.9s
S32K Killisnoo 79.53 333 P P 22 24 25.7 -0.9
baz=125
SIT Sitka 79.62 333 P P 22 24 26.4 -0.8
baz=125
R32K Eaglecrest 79.97 334 P P 22 24 28.4 -0.7
baz=126
P32M Atlin 80.40 336 P P 22 24 31.1 -0.4
baz=126
P33M Teslin, Yukon 80.42 336 P P 22 24 31.1 -0.4
baz=127
S31K Pelican 80.54 333 P P 22 24 31.4 -0.7
baz=124
AVE Averroes 80.79 54 P P 22 24 34.9 +0.8
PFVI Vita Bisbo 80.85 50 eP P 22 24 37.0 +2.7
SKAG Skagway 81.00 335 P P 22 24 33.5 -1.0
baz=125
MORF Marmelete 81.03 50 eP P 22 24 37.8 +2.5
comp=Z,59nm,1.6s
MORF Marmelete 81.03 50 P P 22 24 35.4 +0.1
MORF IAmb IAmb 22 24 45.7
comp=Z,42nm,1.2s
MORF Marmelete 81.03 50 eP P 22 24 36.5 +1.2
MORF IAmb IAmb 22 24 46.1
comp=Z,54nm,1.3s
MORF Marmelete 81.03 50 P P 22 24 35.4 +0.1
MORF pmax pmax
comp=Z,42nm,1.2s
PTEO Sao Teotonio 81.06 50 eP P 22 24 38.2 +2.8
N32M Quiet Lake 81.09 337 P P 22 24 34.3 -0.8
baz=127
LIS Lisbon 81.11 49 eP P 22 24 36.8 +1.2
LIS IAmb IAmb 22 24 48.6
comp=Z,49nm,0.7s
LIS Lisbon 81.11 49 eP P 22 24 36.8 +1.2
QSPA South Pole Qui 81.20 180 P P 22 24 35.7 -0.1
QSPA South Pole Qui 81.20 180 P P 22 24 35.7 -0.1
comp=Z,3.9nm,0.7s,baz=147,slow=2.1,SNR=22
comp=Z,3.9nm,0.7s
MMPY Sheldon Lake, 81.32 339 P P 22 24 35.7 -0.6
baz=129
PNCL Nicolau / Gran 81.38 49 eP P 22 24 38.9 +1.8
PLBC Pleasant Camp 81.43 335 P P 22 24 36.3 -0.6
baz=124
WHY Whitehorse 81.51 336 P P 22 24 37.1 -0.3
baz=126
MESJ Messejana 81.53 50 eP P 22 24 42.1 +4.2
MESJ Messejana 81.53 50 eP P 22 24 39.0 +1.1
MESJ IAmb IAmb 22 24 53.6
comp=Z,33nm,1.6s
MESJ eS S 22 34 51.8 +1.8
MESJ Messejana 81.53 50 eP P 22 24 39.0 +1.1
MESJ eS S 22 34 51.8 +1.8
PBDV Barranco-do-Ve 81.56 50 eP P 22 24 40.6 +2.5
PCVE Castro Verde 81.60 50 eP P 22 24 40.5 +2.2
comp=Z,57nm,1.6s
PVAQ Vaqueiros 81.77 50 eS SKSac 22 35 00.7 +1.1
PVAQ Vaqueiros 81.77 50 eLR LR 22 52 05.7
comp=Z,367nm,20.0s
PVAQ Vaqueiros 81.77 50 P P 22 24 39.8 +0.6
PVAQ IAmb IAmb 22 24 51.8
comp=Z,21nm,1.2s
FARO Faro, Yukon 81.84 338 P P 22 24 38.7 -0.4
baz=127
PBEJ Beja 81.85 49 eP P 22 24 42.0 +2.4
comp=Z,40nm,1.7s
EVO Evora 81.90 49 eP P 22 24 41.5 +1.7
comp=Z,30nm,1.6s
PMTG Montargil 81.91 48 eP P 22 24 41.0 +1.1
comp=Z,24nm,2.1s
PCAS Casmilo, Conde 82.02 47 eP P 22 24 41.9 +1.5
P30M Million Dollar 82.05 335 P P 22 24 39.4 -0.8
baz=124
O30N Mendenhall 82.06 336 P P 22 24 39.3 -0.9
baz=124
P29M Windy Craggy 82.11 334 P P 22 24 39.8 -0.7
baz=123
COI Coimbra 82.13 47 eP P 22 24 42.5 +1.5
COI Coimbra 82.13 47 P P 22 24 42.2 +1.2
COI IAmb IAmb 22 24 59.2
comp=Z,28nm,0.8s
COI Coimbra 82.13 47 P P 22 24 42.2 +1.2
COI pmax pmax
comp=Z,28nm,0.9s
M31M Drury Creek, Y 82.22 337 P P 22 24 40.1 -1.0
baz=126
PESTR Estremoz 82.32 49 eP P 22 24 43.3 +1.3
comp=Z,45nm,1.6s
PESTR Estremoz 82.32 49 P P 22 24 42.4 +0.4
PESTR IAmb IAmb 22 25 11.1
comp=Z,42nm,1.7s
NVL N'lazarevskaya 82.34 160 eP P 22 24 38.9 -2.6
NVL eS S 22 34 58.2 +1.0
NVL pmax pmax
comp=Z,16nm,0.9s
N31M Braeburn, Yuko 82.34 336 P P 22 24 40.6 -1.1
baz=125
PBAR Barrancos 82.52 50 eP P 22 24 45.5 +2.4
comp=Z,35nm,1.6s
PMRV Marv??o 82.64 48 eS S 22 35 10.3 +8.9
PMRV Marv??o 82.64 48 eLR LR 22 53 13.1
comp=Z,219nm,18.0s
HYT Haines Junctio 82.67 335 P P 22 24 42.7 -0.8
baz=123
PVIS Viseu 82.67 47 eP P 22 24 45.0 +1.1
PCBR Castelo Branco 82.70 48 eP P 22 24 45.5 +1.5
comp=Z,37nm,1.6s
ICESG Greenland Ices 82.78 14 i P P 22 24 43.2 -1.0
ICESG IAmb IAmb 22 24 47.6
comp=Z,6.3nm,1.0s
PGAV Gavieira, Arco 82.80 46 eS S 22 35 09.3 +6.2
PGAV Gavieira, Arco 82.80 46 eLR LR 22 51 40.2
comp=Z,240nm,16.0s
MTE Manteigas 82.82 47 eP P 22 24 45.9 +1.2
comp=Z,33nm,1.8s
MTE Manteigas 82.82 47 eS S 22 35 10.8 +7.5
MTE Manteigas 82.82 47 eLR LR 22 52 24.8
comp=Z,197nm,20.0s
N30M Aishikik Lake 82.85 336 P P 22 24 44.0 -0.4
baz=124
PNL Peninsula 82.85 334 P P 22 24 43.5 -0.8
baz=121
PCAB Cabril 82.89 46 eP P 22 24 46.3 +1.3
comp=Z,60nm,1.9s
MDT Midelt 82.92 55 LR LR 23 00 56.7
comp=Z,106nm,18.6s,baz=285,slow=35
POLO Lamas de Olo 82.94 46 eP P 22 24 46.7 +1.3
comp=Z,16nm,2.0s
YUK6 Outpost Mounta 83.08 335 P P 22 24 45.1 -0.7
baz=122
M30M Minto, Yukon 83.35 337 P P 22 24 46.6 -0.3
baz=124,SNR=5.8
YUK4 Talbot Arm 83.41 336 P P 22 24 47.4 -0.1
baz=122
MVO Moncorvo 83.43 47 eP P 22 24 49.3 +1.5
comp=Z,43nm,1.5s
MVO Moncorvo 83.43 47 eS S 22 35 14.5 +5.0
MVO Moncorvo 83.43 47 eLR LR 22 51 23.7
comp=Z,212nm,18.0s
MAYO Mayo, Yukon 83.59 338 P P 22 24 48.5 +0.4
baz=125
C36M Paulatuk 83.74 346 P P 22 24 49.4 +0.8
baz=137
O28M Mount Upton 83.76 335 P P 22 24 49.6 +0.3
baz=121
PBRG Braganca 83.83 46 eP P 22 24 51.3 +1.4
comp=Z,77nm,1.6s
YUK8 Steele Glacier 83.84 335 P P 22 24 48.9 -0.8
baz=121
M29M Somme Creek 83.93 337 P P 22 24 50.1 +0.1
baz=122,SNR=9.7
RES Resolute Bay 83.94 356 LR LR 23 03 22.3
comp=Z,361nm,18.2s,baz=186,slow=36
L29M L29M 84.16 337 P P 22 24 50.9 -0.1
baz=123,SNR=9.0
MESA MESA 84.22 334 P P 22 24 50.8 -0.8
baz=119
TOA0 Torodi Ar. Sit 84.25 76 P P 22 24 51.8 -0.7
TORD Torodi Ar. Bea 84.25 76 P P 22 24 52.1 -0.4
TORD Torodi Ar. Bea 84.25 76 P P 22 24 53.0 +0.5
comp=Z,7.9nm,0.9s,baz=48,slow=2.2,SNR=26
TORD LR LR 23 01 08.8
comp=Z,463nm,20.0s,baz=262,slow=35
comp=Z,7.9nm,0.9s
J30M Hart River 84.31 339 P P 22 24 50.9 -1.0
baz=125,SNR=11
K29M Barlow Dome 84.33 338 P P 22 24 51.8 -0.2
baz=124
CTG Chitna Glacier 84.34 335 P P 22 24 51.7 -0.5
baz=120
H31M Peel River 84.34 340 P P 22 24 51.8 -0.1
baz=127
YUK3 Moose Creek 84.38 336 P P 22 24 51.4 -1.0
baz=121
I30M Mount Dempster 84.69 339 P P 22 24 54.0 +0.2
I30M IAmb IAmb 22 25 13.8
comp=Z,23nm,1.0s
I30M Mount Dempster 84.69 339 P P 22 24 53.0 -0.8
baz=125,SNR=25
BGLC Bering Glacier 84.78 333 P P 22 24 54.2 +0.1
baz=118
BVCY Beaver Creek 84.87 336 P P 22 24 54.2 -0.4
baz=120
J29N Klondike Camp 84.92 338 P P 22 24 54.5 -0.4
baz=123
PAB San Pablo 84.92 49 P P 22 24 55.9 +0.4
PAB San Pablo 84.92 49 P P 22 24 55.9 +0.4
PAB pmax pmax
comp=Z,40nm,1.4s
G31M Satah River 84.99 341 P P 22 24 54.2 -0.9
baz=127
F31M Tsiigehtchic 85.14 342 P P 22 24 54.9 -0.9
baz=127
DAWY Dawson 85.15 338 P P 22 24 54.6 -1.4

baz=122
KAIM **Kayak Island** 85.19 333 P P 22 24 55.7 -0.6
baz=117
ESDC **Sonseca Array** 85.24 49 P P 22 24 57.4 +0.3
ESDC **Sonseca Array** 85.24 49 P P 22 24 58.2 +1.1
comp=Z,3.7nm,0.8s,baz=267,slow=4.9,SNR=27
ESDC LR LR 23 02 00.5
comp=Z,110nm,19.2s,baz=259,slow=35
comp=Z,3.7nm,0.8s
ESBB **Sonseca Array** 85.25 49 P P 22 24 57.2 +0.2
ESBB IAmb IAmb 22 25 10.9
comp=Z,31nm,1.4s
M27K **Edge Creek, AK** 85.25 336 P P 22 24 55.3 -1.4
baz=119
MCARA **McCarthy VSAT** 85.26 335 P P 22 24 55.8 -0.8
baz=118
BORG **Borgarnes** 85.43 22 LR LR 23 01 29.1
comp=Z,206nm,20.2s,baz=229,slow=34
I29M **Ogilvie Camp,** 85.45 339 P P 22 24 56.3 -1.1
baz=123,SNR=5.4
EPYK **Eagle Plains** 85.46 340 P P 22 24 56.6 -0.9
baz=124,SNR=5.5
BCAR **Beaver Creek A** 85.56 336 P P 22 24 58.1 0.0
L27K **Beaver Creek,** 85.58 336 P P 22 24 57.4 -0.8
baz=120,SNR=13
INK **Inuvik** 85.60 343 P P 22 24 58.5 +0.4
INK **Inuvik** 85.60 343 P P 22 24 57.0 -1.1
baz=128,SNR=7.9
INK **Inuvik** 85.60 343 LR LR 23 05 15.2
comp=Z,310nm,21.0s,baz=168,slow=37
INK **Inuvik** 85.60 343 P P 22 24 58.5 +0.4
INK pmax pmax
comp=Z,48nm,1.4s
G30M **tAoh Zraii Nji** 85.65 341 P P 22 24 58.2 -0.2
baz=125
SUMG **Summit** 85.69 12 P P 22 24 58.5 -0.5
SUMG IAmb IAmb 22 25 14.4
comp=Z,19nm,1.0s
SUMG **Summit** 85.69 12 P P 22 24 58.5 -0.5
SUMG pmax pmax
comp=Z,19nm,1.0s
SUMG **Summit** 85.69 12 *i* P P 22 24 59.0 0.0
SUMG IAmb IAmb 22 25 00.7
comp=Z,5.1nm,0.9s
M26K **Nabesna, AK** 85.73 335 P P 22 24 58.1 -0.8
baz=118
BMRM **Bremner River** 85.74 334 P P 22 24 58.7 -0.4
baz=117
ELIB **Princess Elisa** 85.77 162 *d* P P 22 24 60.0 +0.8
comp=Z,11nm,1.0s
Q23K **Middleton Isla** 85.85 332 P P 22 24 58.4 -1.2
baz=115
F30M **Barrier River** 85.87 342 P P 22 24 59.0 -0.5
baz=125
A36M **Sachs Harbour** 85.92 347 P P 22 24 59.5 -0.1
baz=136
H29M **Whitestone** 85.93 340 P P 22 24 59.8 -0.1
baz=123
N25K **Chitina, Valde** 86.03 334 P P 22 24 59.2 -1.4
baz=117
EYAK **Cordova Ski Ar** 86.06 333 P P 22 24 60.0 -0.6
baz=116
I28M **Miner Creek** 86.07 339 P P 22 24 60.0 -0.7
baz=121,SNR=15
K27K **Chicken** 86.15 337 P P 22 25 00.6 -0.4
baz=119
L26K **Log Cabin Wild** 86.17 336 P P 22 25 00.4 -0.7
baz=118
EGAK **Eagle** 86.17 338 P P 22 25 00.8 -0.2
EGAK **Eagle** 86.17 338 P P 22 25 00.8 -0.2
baz=120,SNR=20
G29M **Pine Creek** 86.20 340 P P 22 25 00.6 -0.6
baz=123,SNR=11
KLU **Klutina** 86.55 334 P P 22 25 02.9 -0.1
baz=116
P23K **Montague Islan** 86.58 332 P P 22 25 02.5 -0.6
baz=114
HARP **HAARP** 86.62 335 P P 22 25 02.8 -0.5
baz=116
I27K **Kandik River** 86.75 339 P P 22 25 03.4 -0.6
baz=120,SNR=5.0
GLI **Glacier Island** 86.80 333 P P 22 25 03.5 -0.7
baz=115
SCRK **Sand Creek** 86.86 337 P P 22 25 03.4 -1.3
baz=118
M24K **Tolsona, Glenn** 86.92 335 P P 22 25 03.3 -1.6
baz=116
J26L **Joseph Creek** 86.94 337 P P 22 25 04.0 -1.0
baz=118,SNR=11
E29M **Blow River** 86.97 342 P P 22 25 04.0 -0.9
baz=123,SNR=24
PAX **Paxson** 87.00 335 P P 22 25 04.6 -0.7
baz=116
H27K **Steamboat Moun** 87.03 339 P P 22 25 04.7 -0.7
baz=120,SNR=9.0
VNDA **Vanda** 87.15 191 P P 22 25 06.0 +0.3
comp=Z,1.0nm,1.0s,baz=104,slow=8.4,SNR=3.5
VNDA LR LR 22 56 06.5
comp=Z,172nm,20.4s,baz=126,slow=30
comp=Z,1.0nm,1.0s
I26K **Coal Creek Min** 87.17 338 P P 22 25 04.8 -1.1
baz=118
F28M **Old Crow** 87.18 341 P P 22 25 04.7 -1.3
baz=122
SCM **Sheep Creek Mo** 87.30 334 P P 22 25 05.9 -0.8
baz=114
G27K **Doyon Strip** 87.37 340 P P 22 25 06.1 -0.8
baz=120
M23K **Glacier View** 87.46 334 P P 22 25 06.2 -1.2
baz=114
K24K **Donnelly Dome** 87.50 336 P P 22 25 06.9 -0.6
baz=116
SEW **Seward** 87.56 332 P P 22 25 06.3 -1.5
baz=112
E28M **Babbage River** 87.59 342 P P 22 25 07.0 -0.9
baz=122
KNK **Knik Glacier** 87.62 333 P P 22 25 07.0 -1.3
baz=114
J25K **Salcha River,** 87.69 337 P P 22 25 07.3 -1.2
baz=116,SNR=8.0
SML **Sawmill** 87.73 334 P P 22 25 07.7 -1.1
baz=114
D28M **Stokes Point** 87.74 342 P P 22 25 07.6 -0.9
baz=123
WAT6 **Susitna Watana** 87.78 335 P P 22 25 07.6 -1.5
baz=114
NEEM **North Greenlan** 87.79 6 *i* P P 22 25 09.1 0.0
NEEM IAmb IAmb 22 25 19.6
comp=Z,28nm,0.8s
O22K **Cooper Landing** 87.83 332 P P 22 25 08.2 -1.0
baz=112
DHY **Denali Highway** 87.83 335 P P 22 25 08.2 -1.2
baz=114
BRSE **Bradley Lake S** 88.03 331 P P 22 25 08.4 -1.8
baz=111
E27K **Coleen River** 88.03 341 P P 22 25 08.7 -1.3
baz=120,SNR=7.3
RC01 **Rabbit Creek A** 88.07 333 P P 22 25 09.0 -1.4
baz=112
PRP **Porcupine Dome** 88.15 338 P P 22 25 09.9 -0.9
baz=116,SNR=5.4
G26K **Porcupine Rive** 88.17 339 P P 22 25 10.3 -0.4
baz=118
HDA **Harding Lake** 88.22 336 P P 22 25 11.3 +0.3
baz=115
WAT1 **Susitna Watana** 88.23 335 P P 22 25 11.1 0.0
baz=113
KDAK **Kodiak Island** 88.25 329 P P 22 25 10.8 -0.4
baz=110
SCO **Scoresbysund** 88.31 17 *i* P P 22 25 10.3 -0.9
SCO IAmb IAmb 22 25 13.0
comp=Z,4.2nm,0.8s
IL31 88.35 337 P P 22 25 10.8 -0.8
ILAR **Eielson Array** 88.35 337 P P 22 25 10.6 -1.0
ILAR **Eielson Array** 88.35 337 P P 22 25 11.3 -0.3
comp=Z,2.5nm,0.9s,baz=148,slow=3.4,SNR=18
ILAR LR LR 23 05 30.7
comp=Z,146nm,19.9s,baz=90,slow=36
comp=Z,2.5nm,0.9s
D27M **Malcolm River** 88.37 342 P P 22 25 11.1 -0.6
baz=121
OHAK **Old Harbor** 88.42 329 P P 22 25 12.0 0.0
baz=109
HOM **Homer** 88.43 331 P P 22 25 12.5 +0.4
baz=111
Q20K **Shuyak Island** 88.43 330 P P 22 25 11.3 -0.7
baz=110
M22K **Willow** 88.49 333 P P 22 25 13.0 +0.7
baz=112
H25L **Birch Creek** 88.59 338 P P 22 25 12.6 -0.1
baz=116,SNR=6.1
CAPN **Captain Cook N** 88.59 332 P P 22 25 12.7 -0.1
baz=111
F26K **Sheenjek River** 88.64 340 P P 22 25 12.9 0.0
baz=118,SNR=6.2
SUA **Susitna One** 88.66 333 P P 22 25 13.0 -0.3
baz=111
BMAR **Burnt Mountain** 88.67 340 P P 22 25 13.2 +0.1
SII **Sitkinak Islan** 88.67 328 P P 22 25 12.8 -0.5
baz=108
POKR **Poker Plat Res** 88.70 337 P P 22 25 13.9 +0.6
baz=114
MCK **McKinley** 88.74 336 P P 22 25 13.4 -0.1
baz=113
COLA **College** 88.77 337 P P 22 25 12.9 -0.5
baz=114
COLA **College** 88.77 337 *i* P P 22 25 15.7 +2.2
COLA pmax pmax
comp=Z,27nm,1.5s
CUT **Chulitna** 88.80 334 P P 22 25 13.5 -0.2
baz=112
G25K **Bearman Lake** 88.91 339 P P 22 25 14.7 +0.6
baz=116,SNR=7.3
MDM **Murphy Dome** 88.95 337 P P 22 25 13.7 -0.8
O20K **Slope Mountain** 89.04 331 P P 22 25 15.4 +0.4
baz=110
F25K **Christian Rive** 89.11 340 P P 22 25 15.7 +0.5
baz=116,SNR=6.7
NEA2 **Nenana** 89.13 336 P P 22 25 15.7 +0.4
baz=113
Q19K **Cape Douglas,** 89.15 330 P P 22 25 15.7 +0.2
baz=109
H24K **Noodor Dome** 89.17 338 P P 22 25 15.6 +0.1
baz=114,SNR=12
P19K **Oil Pt** 89.19 331 P P 22 25 16.2 +0.6
baz=109
TRF **Thorofare Moun** 89.19 335 P P 22 25 16.2 +0.4
baz=112
SKT **Skwentna** 89.20 333 P P 22 25 15.0 -0.6
SKT IAmb IAmb 22 25 43.1
comp=Z,15nm,1.0s
SKT **Skwentna** 89.20 333 P P 22 25 16.2 +0.5
baz=111
CHIR **Chirikof Islan** 89.21 327 P P 22 25 16.0 +0.2
baz=107
N20K **Mount Spurr** 89.23 333 P P 22 25 15.8 0.0
baz=110
E25K **Arctic Village** 89.32 340 P P 22 25 15.9 -0.2
baz=116,SNR=15
G24K **Hadweenzic Riv** 89.38 338 P P 22 25 16.8 +0.4
baz=114,SNR=10
C27K **Jago River** 89.40 342 P P 22 25 16.7 +0.3
baz=118,SNR=7.2
I23K **Minto, Yukon-K** 89.46 337 P P 22 25 16.8 0.0
baz=113
TAM **Tamanrasset** 89.55 67 P P 22 25 17.9 -0.4
TAM **Tamanrasset** 89.55 67 P P 22 25 17.9 -0.4
TAM pmax pmax
comp=Z,6.0nm,1.2s
MFF **Saint Martin d** 89.68 43 *e* P P 22 25 18.3 +0.1
MFF pmax pmax
comp=Z,17nm,1.2s
BPAW **Bear Paw Mtn.** 89.72 336 P P 22 25 18.7 +0.7
baz=111
CEST **Esterri de Car** 89.77 47 P P 22 25 18.4 -0.5
CEST IAmb IAmb 22 25 31.9
comp=Z,10nm,1.1s
H23K **Yukon River** 89.79 337 P P 22 25 18.3 -0.1
baz=113
PPLA **Purkeypile** 89.80 334 P P 22 25 18.3 -0.3
baz=110
F24K **Squaw Lake** 89.86 339 P P 22 25 18.8 +0.2
baz=114,SNR=6.1
C26K **Camden Bay** 89.91 342 P P 22 25 19.0 +0.2
baz=117,SNR=9.1
CAST **Castle Rocks** 89.94 335 P P 22 25 18.0 -1.1
CAST **Castle Rocks** 89.94 335 P P 22 25 18.5 -0.6
baz=110
MLY **Manley** 89.96 336 P P 22 25 18.4 -0.8
baz=112
EKA **Eskdalemuir Ar** 90.01 34 P P 22 25 19.2 -0.4
comp=Z,2.1nm,0.9s,baz=212,slow=2.5,SNR=2.8
comp=Z,2.1nm,0.9s
P18K **Big Mountain,** 90.07 330 P P 22 25 19.4 -0.4
baz=108
D25K **Kavik River** 90.11 341 P P 22 25 19.4 -0.4
baz=116,SNR=8.2
N19K **Bonanza Creek** 90.15 332 P P 22 25 20.7 +0.5
baz=108
CHUM **Lake Minchumin** 90.19 335 P P 22 25 20.2 0.0
baz=110
O18K **Koktuli Hills** 90.20 331 P P 22 25 20.4 0.0
baz=108
E24K **Your Creek** 90.29 340 P P 22 25 21.6 +0.9
baz=114
G23K **Bananza Creek** 90.31 338 P P 22 25 21.4 +0.6
baz=112,SNR=7.8
L20K **Farewell, AK** 90.40 334 P P 22 25 22.3 +1.0
baz=109
M19K **Big River Lodg** 90.45 333 P P 22 25 22.2 +0.7
baz=108
H22K **Ishtalitna Cre** 90.52 337 P P 22 25 21.5 -0.2
baz=111
COLD **Coldfoot** 90.57 339 P P 22 25 22.2 +0.3
baz=112
P17K **Kvichak River** 90.61 330 P P 22 25 22.2 0.0
baz=106
L19K **White Mountain** 90.74 333 P P 22 25 22.3 -0.6
baz=108
K20K **Telida** 90.76 334 P P 22 25 22.6 -0.3
baz=108
N18K **Kilae Creek** 90.77 332 P P 22 25 22.9 -0.1
baz=107
CAF **Calviac** 90.83 45 *e* P P 22 25 23.7 0.0
CAF pmax pmax
comp=Z,6.0nm,1.1s
D24K **Happy Valley** 90.83 341 P P 22 25 24.1 +1.0
baz=113
CHGN **Chignik** 90.85 327 P P 22 25 24.1 +0.7
baz=105
TOLK **Toolik Lake Re** 90.88 340 P P 22 25 24.4 +0.9
baz=112
M18K **Stony River** 90.97 332 P P 22 25 24.6 +0.7
baz=107
H21K **Melozitna Rive** 90.99 337 P P 22 25 23.8 -0.1
baz=110
C24K **Franklin Bluff** 91.02 341 P P 22 25 23.9 -0.1
baz=113
J20K **Nowinta River** 91.05 335 P P 22 25 24.3 +0.1
baz=108
O17K **Koliganek Bris** 91.09 330 P P 22 25 24.5 0.0
baz=106
CHNA **Chernabura Isl** 91.14 325 P P 22 25 24.5 -0.3
baz=104
P16K **Nushagak River** 91.33 330 P P 22 25 25.4 -0.3
baz=105
D23K **Nanushuk River** 91.38 340 P P 22 25 25.4 -0.3
baz=112
I20K **Naaghedeneel** 91.38 336 P P 22 25 26.2 +0.5
baz=108
F22K **John River** 91.39 339 P P 22 25 25.6 -0.1
baz=110
S14K **Fog Glacier** 91.46 327 P P 22 25 25.4 -1.1
baz=104
E22K **Anaktuvuk Pass** 91.47 339 P P 22 25 25.4 -0.8
baz=110
O16K **Kokwok River B** 91.53 330 P P 22 25 26.6 +0.1
baz=105
G21K **Allakaket** 91.55 337 P P 22 25 26.6 +0.1
baz=109
L18K **Granite Mounta** 91.57 333 P P 22 25 26.7 0.0
baz=106
J19K **Poorman** 91.61 335 P P 22 25 26.2 -0.6
baz=107
C23K **Itkillik River** 91.68 341 P P 22 25 27.1 +0.1
baz=112
M17K **Holitna River** 91.69 332 P P 22 25 26.8 -0.5
baz=106
SDPT **Sand Point** 91.75 326 P P 22 25 26.5 -1.2
baz=103
H20K **Anotleneega Mo** 91.76 336 P P 22 25 27.5 0.0
baz=108
F21K **Alatna River** 91.77 338 P P 22 25 27.4 -0.1
baz=109
J18K **Innoko River** 91.93 334 P P 22 25 28.1 -0.2
baz=106
D22K **Ayikyak River** 92.03 340 P P 22 25 28.0 -0.7
baz=110
N16K **Nishlik Lake** 92.08 331 P P 22 25 28.0 -1.1
baz=104
L17K **Donlin** 92.28 333 P P 22 25 28.5 -1.5
baz=105
O15K **Ungalikthiuk R** 92.29 330 P P 22 25 28.9 -1.1
baz=104
M16K **Timber Creek** 92.31 331 P P 22 25 29.6 -0.5
baz=104
E21K **Killik River** 92.33 339 P P 22 25 29.7 -0.5
baz=108
GCSA **Galena City Sc** 92.35 335 P P 22 25 29.8 -0.4
baz=106
DAG **Danmarks Havn** 92.38 12 *i* P P 22 25 29.0 -1.1
DAG IAmb IAmb 22 25 31.1
comp=Z,2.1nm,0.8s
H19K **Roundabout Mou** 92.39 336 P P 22 25 29.7 -0.7
baz=106
K17K **Iditarod** 92.43 333 P P 22 25 30.1 -0.6
baz=105
JMIC **Jan Mayen** 92.52 18 LR LR 23 03 21.1
comp=Z,153nm,21.7s,baz=258,slow=33
F20K **Avaraart Lake** 92.55 338 P P 22 25 31.0 -0.1
baz=107
N15K **Kwethluk River** 92.65 330 P P 22 25 31.5 -0.2
baz=103
S12K **Black Hills** 92.71 326 P P 22 25 31.0 -1.1
baz=102
L16K **Owhat River** 92.71 332 P P 22 25 31.9 0.0
baz=104
B22K **Teshekpuk Lake** 92.75 341 P P 22 25 32.4 +0.4
baz=109
G19K **Purcell Mounta** 92.82 337 P P 22 25 32.0 -0.4
baz=106
C21K **Knifeblade Rid** 92.83 340 P P 22 25 31.7 -0.7
baz=108
B21K **Ikpikpuk River** 92.92 340 P P 22 25 32.9 +0.2
baz=108
J17K **VABM Dome** 92.94 334 P P 22 25 33.0 0.0
baz=104
O14K **Tigyukauivet M** 93.03 329 P P 22 25 33.7 +0.2
baz=102
M15K **Kasigluk River** 93.06 331 P P 22 25 33.8 +0.3
baz=103
E20K **Nigu River** 93.06 339 P P 22 25 33.9 +0.4
baz=106
H18K **Honhosa River** 93.07 336 P P 22 25 33.8 +0.2
baz=105
E19K **Redstone River** 93.22 338 P P 22 25 35.1 +0.9
baz=106
F19K **Shaleruckik Mo** 93.26 337 P P 22 25 35.2 +0.8
baz=105
FALS **False Pass** 93.30 325 P P 22 25 34.5 -0.3
baz=101
D20K **Etivluk River** 93.34 339 P P 22 25 34.9 +0.2
baz=106
G18K **Tagagawik** 93.37 336 P P 22 25 34.3 -0.7
baz=104
N14K **Kuskokwak Cree** 93.38 330 P P 22 25 34.9 -0.1
baz=102
A22K **Sinclair Lake** 93.45 342 P P 22 25 34.8 -0.4
baz=107
J16K **Anvik River** 93.58 333 P P 22 25 35.0 -1.0
baz=103
L15K **Ungalak Mounta** 93.64 332 P P 22 25 36.6 +0.4
baz=102
H17K **Granite Mounta** 93.66 335 P P 22 25 36.6 +0.3
baz=103
M14K **Bethel** 93.68 331 P P 22 25 36.6 +0.2
baz=102
I17K **Unalakleet** 93.75 334 P P 22 25 36.8 +0.1
baz=103
K15K **Wolf Creek Mou** 93.79 332 P P 22 25 36.7 -0.2
baz=102
D19K **Kuna River** 93.81 339 P P 22 25 36.4 -0.6
baz=105
B20K **Meade River** 93.88 340 P P 22 25 37.6 +0.5
baz=105
F18K **Selawik** 93.93 337 P P 22 25 36.7 -0.7
baz=103
G17K **Kiwalik Mounta** 94.08 336 P P 22 25 38.1 -0.1
baz=102
L14K **Kuka Creek** 94.14 331 P P 22 25 37.4 -1.1
baz=101
M13K **Dall Lake** 94.29 330 P P 22 25 38.5 -0.7
baz=100
URZ **Urewera** 94.32 230 LR LR 22 59 50.9
comp=Z,611nm,18.9s,baz=211,slow=30
TSUM **Tsumeb** 94.41 110 P P 22 25 39.9 -1.1
TSUM **Tsumeb** 94.41 110 LR LR 23 04 03.7
comp=Z,150nm,21.7s,baz=273,slow=33
E18K **Tukpahlearik C** 94.48 338 P P 22 25 39.1 -0.8
baz=102
SUR **Sutherland** 94.49 124 LR LR 23 07 00.4
comp=Z,383nm,18.4s,baz=293,slow=35
J14K **Nanvaranak Lak** 94.80 333 P P 22 25 41.4 -0.1
baz=100
KEST **Kesra** 94.81 55 P P 22 25 42.5 +0.1
comp=Z,2.2nm,1.0s,baz=220,slow=17,SNR=1.9
KEST LR LR 23 06 22.4
comp=Z,123nm,20.9s,baz=187,slow=34
comp=Z,2.2nm,1.0s
E17K **Hotham Inlet** 94.87 337 P P 22 25 41.0 -0.8
baz=101
UNV **Unalaska Valle** 94.92 324 P P 22 25 41.6 -0.7
baz=98
C18K **Utukok River** 94.95 339 P P 22 25 41.5 -0.8
baz=102
A19K **Wainwright** 95.22 340 P P 22 25 42.4 -0.9
baz=102
B18K **Kokolik River** 95.31 339 P P 22 25 43.2 -0.5
baz=101
G15K **Niukluk** 95.39 335 P P 22 25 42.4 -1.8
baz=100
RDOG **Red Dog Mine** 95.46 338 P P 22 25 43.0 -1.5
baz=100
D17K **Noatak River** 95.47 338 P P 22 25 42.4 -2.1
baz=100
C17K **DeLong Mountai** 95.64 338 P P 22 25 43.5 -1.8
baz=100
M11K **Mekoryuk** 95.68 330 P P 22 25 44.8 -0.7
baz=98
F15K **North Star Dit** 95.75 336 P P 22 25 44.6 -1.2
baz=99
NIKH **Nikolski High** 96.20 323 P P 22 25 46.9 -1.2
baz=97
DAVOX **Davos/Dischmat** 96.51 44 LR LR 23 08 11.2
comp=Z,124nm,19.6s,baz=263,slow=35
TNA **Tin City** 97.08 335 P P 22 25 51.8 0.0
baz=96
NOA **NORSAR Array B** 98.44 29 P P 22 25 58.7 +0.6
comp=Z,0.9nm,0.9s,baz=269,slow=4.6,SNR=3.1
NOA LR LR 23 07 38.3
comp=Z,135nm,20.5s,baz=265,slow=34
comp=Z,0.9nm,0.9s
CLL **Collm** 98.92 39 *e* P Pdif 22 26 01.0 +0.5
CLL *e* 22 36 40.0
CLL *e* S S 22 37 30.0 -0.9
VAE **Valguarnera** 99.04 53 LR LR 23 10 10.1
comp=Z,440nm,18.7s,baz=310,slow=35
BOSA **Boshof** 99.14 121 LR LR 23 09 19.3
comp=Z,314nm,18.0s,baz=245,slow=34
GERES **GERESS Array B** 99.24 42 P Pdif 22 26 02.6 +0.5
comp=Z,0.2nm,0.3s,baz=218,slow=50,SNR=2.1
GERES LR LR 23 09 50.2
comp=Z,82nm,18.7s,baz=262,slow=35
comp=Z,0.2nm,0.3s
MAW **Mawson** 99.25 167 LR LR 23 07 31.0
comp=Z,266nm,20.6s,baz=235,slow=33
HFS **Hagfors** 99.63 30 LR LR 23 08 33.6
comp=Z,146nm,19.8s,baz=264,slow=34
H11N3 **WAKE ISLAND Hyl** 14.39 288 T T 00 35 54.2
baz=91
H11N2 **WAKE ISLAND Hyl** 14.40 288 T T 00 36 05.2
baz=91
H11N1 **WAKE ISLAND Hyl** 14.41 288 T T 00 35 55.1
baz=91
H11S2 **WAKE ISLAND Hyl** 14.56 286 T T 00 36 02.0
baz=94
H11S1 **WAKE ISLAND Hyl** 14.56 286 T T 00 36 07.5
baz=94
H11S3 **WAKE ISLAND Hyl** 14.58 286 T T 00 35 51.6
baz=94
SOC **Sochi** 117.67 45 *i* PKIKP PKPdf 22 31 06.2 -0.3
SOC *e* 22 32 18.8
SOC *e* PPP PPP 22 34 46.0
SOC *e* SS SS 22 48 29.7 -1.8

SOC					*e*SSS	SSS	22 52 51.4			
SOC					pmax	pmax				
	comp=Z,10.0nm,0.7s									
YSS	**Yuzh-Sakhalins**	**127.38**	**324**	*e*P		**Pdif**	**22 28 21.0**	**+14**		
ABKAR	**Akbulak array**	**127.85**	**32**	PKPdf		**PKPdf**	**22 31 25.6**	**-0.3**		
BVAR	**Borovoye Array**	**130.00**	**23**	PKP		**PKPdf**	**22 31 30.3**	**+0.4**		
	comp=Z,1.6nm,0.9s,baz=344,slow=3.7,SNR=6.0									
KLR	**Kul'dur**	**131.72**	**332**	*i* PKIKP		**PKiKP**	**22 31 35.1**	**+0.8**		
GEYT	**Alibeck**	**132.70**	**46**	PKP		**PKiKP**	**22 31 36.8**	**+0.1**		
	comp=Z,0.4nm,0.4s,baz=0,slow=0.1,SNR=2.0									
ASAR	**Alice Springs**	**133.49**	**225**	PKP		**PKPdf**	**22 31 37.1**	**-0.4**		
	comp=Z,2.0nm,0.8s,baz=123,slow=2.0,SNR=5.7									
ZALV	**Zalesovo Beam**	**133.51**	**12**	PKPdf		**PKPdf**	**22 31 35.7**	**-0.8**		
ZALV	**Zalesovo Beam**	**133.51**	**12**	PKP		**PKPdf**	**22 31 36.6**	**+0.1**		
	comp=Z,2.3nm,0.9s,baz=328,slow=5.3,SNR=8.8									
ZALV	**Zalesovo Beam**	**133.51**	**12**	*e*PKIKP		**PKiKP**	**22 31 38.5**	**+0.8**		
ZALV					pmax	pmax				
	comp=Z,2.0nm,0.9s									
KURK	**Kurchatov**	**134.81**	**19**	PKIKP		**PKPdf**	**22 31 39.2**	**+0.2**		
KURBB	**Kurchatov Arra**	**134.86**	**19**	PKP		**PKPdf**	**22 31 39.2**	**+0.1**		
	comp=Z,1.2nm,0.8s,baz=332,slow=2.3,SNR=6.3									
WRA	**Warramunga Arr**	**135.49**	**230**	PKP		**PKPdf**	**22 31 40.7**	**-0.6**		
	comp=Z,1.6nm,0.7s,baz=123,slow=2.0,SNR=6.6									
WRA	**Warramunga Arr**	**135.49**	**230**	*e*PKIKP		**PKPdf**	**22 31 41.3**	**0.0**		
WRA					pmax	pmax				
	comp=Z,2.0nm,0.7s									
MAKZ	**Makanchi**	**139.30**	**19**			**PKPdf**	**22 31 46.1**	**-1.4**		
MAKZ	**Makanchi**	**139.30**	**19**	PKIKP		**PKPdf**	**22 31 46.1**	**-1.4**		
MKAR	**Makanchi Array**	**139.42**	**18**	PKP		**PKPdf**	**22 31 47.5**	**-0.3**		
	comp=Z,1.0nm,0.8s,baz=328,slow=5.1,SNR=6.2									
MKAR	**Makanchi Array**	**139.42**	**18**	*e*PKIKP		**PKiKP**	**22 31 50.6**	**+0.6**		
MKAR					pmax	pmax				
	comp=Z,1.0nm,0.8s									
SONM	**Songino Array**	**140.81**	**353**	PKP		**PKPdf**	**22 31 50.3**	**-0.1**		
	comp=Z,1.8nm,1.0s,baz=88,slow=1.2,SNR=4.8									
SONM					PP	**PP**	**22 34 52.0**	**+2.7**		
	comp=Z,0.9nm,1.0s,baz=359,slow=9.0,SNR=3.9									
KSRS	**Korea Array**	**141.85**	**323**	PKP		**PKPdf**	**22 31 52.9**	**+0.6**		
	comp=Z,3.5nm,1.0s,baz=48,slow=1.9,SNR=5.3									
KSRS	**Korea Array**	**141.85**	**323**	*e*PKIKP		**PKiKP**	**22 31 56.3**	**+1.1**		
KSRS					pmax	pmax				
	comp=Z,4.0nm,1.0s									
KSH	**Kashi**	**142.84**	**31**	PKP		**PKPdf**	**22 31 55.6**	**+1.3**		
WMQ	**Urumqi**	**143.67**	**15**	*e*PKP		**PKPdf**	**22 31 56.6**	**+1.1**		
HHC	**Hu-ho-hao-te**	**146.51**	**344**	*e*PKPbc		**PKPdf**	**22 31 55.4**	**-5.2**		
BTO	**Baotou**	**147.14**	**346**	*e*PKPbc		**PKPdf**	**22 32 02.8**	**+1.2**		
BTO					PP	**PP**	**22 35 31.8**	**+4.4**		
BTO					SS	SS	22 54 28.5	+0.3		
BTO					LR	LR				
	comp=Z,350nm,18.7s									
BTO					LR	LR				
	comp=Z,230nm,17.4s									
BTO					LR	LR				
	comp=Z,460nm,21.4s									
TIA	**Tai'an**	**148.56**	**332**	PKPbc		**PKPab**	**22 32 14.8**	**+3.9**		
HNS	**HongShan**	**148.58**	**337**	⇓PKPbc		**PKPab**	**22 32 10.4**	**-0.5**		
HNS					PP	PP	22 35 49.4	+14		
GTA	**Gaotai**	**149.63**	**360**	PKPbc		**PKPbc**	**22 32 10.0**	**-0.3**		
GTA					SS	SS	22 54 53.8	-2.1		
GTA					LR	LR				
	comp=Z,130nm,18.5s									
GTA					LR	LR				
	comp=Z,130nm,17.4s									
GTA					LR	LR				
	comp=Z,180nm,19.3s									
NJ2	**Nanjing**	**150.94**	**325**	*e*PKPbc		**PKPdf**	**22 32 07.5**	**-0.3**		
LYN	**LuoYang**	**151.94**	**337**	⇑PKPbc		PKPab	22 32 32.8	+8.0		
LYN					pPKP	sPKPab	22 32 43.6	+15		
LZH	**Lanzhou**	**152.70**	**353**	*e*PKPbc		**PKPdf**	**22 32 06.5**	**-4.1**		
LZH					SS	SS	22 55 26.3	-3.7		
XAN	**Xi'an**	**153.61**	**343**	PKPbc		**PKPdf**	**22 32 14.3**	**+2.5**		
CD2	**Chengdu**	**157.80**	**351**	PKP		**PKPdf**	**22 32 16.0**	**-1.5**		
PZH	**PanZhiHua**	**162.40**	**354**	PKP		**PKPdf**	**22 32 24.1**	**+1.2**		
QIZ	**Qiongzhong**	**165.97**	**317**	PKP		**PKPdf**	**22 32 24.4**	**-1.7**		
QIZ					PP	PP	**22 37 11.3**	**-1.3**		
QIZ					SS	SS	22 57 53.4	+1.2		
QIZ					AMB	AMB				
	comp=Z,160nm,8.8s									
QIZ					LR	LR				
	comp=Z,150nm,15.7s									
QIZ					LR	LR				
	comp=Z,100nm,21.6s									
QIZ					LR	LR				
	comp=Z,170nm,22.7s									
CHTO	**Chiang Mai**	**170.13**	**4**	PKPdf		**PKPdf**	**22 32 27.4**	**-1.6**		
CHTO						**PKPab**	**22 33 43.0**	**-1.1**		
CMAR	**Chiang Mai Arr**	**170.48**	**5**	PKPdf		**PKPdf**	**22 32 26.7**	**-2.5**		
CMAR						**PKPab**	**22 33 44.4**	**-1.2**		
CMAR	**Chiang Mai Arr**	**170.48**	**5**	PKP		**PKPdf**	**22 32 30.1**	**+0.9**		
	comp=Z,0.8nm,0.4s,baz=293,slow=2.7,SNR=5.7									
CMAR				PKPab		**PKPab**	**22 33 44.9**	**-0.8**		
	comp=Z,3.7nm,0.3s,baz=337,slow=5.0,SNR=9.9									

*NEIC **22** 22:13:48.0±0.5,36°.873N×0°.010×97°.92W×0°.01,h6km±1km, Error ellipse: s-maj=1.6km s-min=1.3km az=129.0*

TUL 22 22:13:48.2±0.5,36°.881N±0°.008×97°.92W±0°.01,h7km±1km, ML2.6,mb_Lg2.2/15(NEIC),ML2.5/43(NEIC),Error ellipse: s-maj=1.6km s-min=0.9km az=118.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.06**	**120**	Pg	Pg	22 13 50.0	0.0
GC02				Sg	Sg	22 13 51.1	-0.1
KAN14	**Manchester OK**	**0.08**	**337**	Pg	Pg	22 13 50.6	+0.3
KAN14				Sg	Sg	22 13 52.2	+0.5
KAN14				IAML		22 13 52.4	
	comp=E,2μm,0.2s						
KAN14				IAML		22 13 52.9	
	comp=N,2μm,0.1s						
KAN05	**Bluff City Nor**	**0.23**	**10**	Pg	Pg	22 13 53.3	+0.5
KAN05				Sg	Sg	22 13 56.9	+1.0
KAN05				IAML		22 13 57.5	
	comp=N,895nm,0.2s						
OK032	**Salt Plains WL**	**0.24**	**251**	Pg	Pg	22 13 53.4	+0.3
OK032				Sg	Sg	22 13 56.9	+0.6
OK032				IAML		22 13 57.2	
	comp=N,1μm,0.2s						
OK032				IAML		22 13 59.4	
	comp=N,650nm,0.2s						
KAN10	**Anthony SW Sta**	**0.28**	**330**	Pg	Pg	22 13 54.2	+0.5
KAN10				Sg	Sg	22 13 58.3	+0.8
KAN01	**Argonia South**	**0.30**	**26**	Pg	Pg	22 13 54.6	+0.4
KAN01				Sg	Sg	22 13 58.6	+0.4
KAN01				IAML		22 13 59.5	
	comp=N,454nm,0.1s						
KAN08	**Anthony NE Sta**	**0.35**	**354**	Pg	Pg	22 13 55.3	+0.3
KAN08				Sg	Sg	22 14 00.4	+0.8
KAN08				IAML		22 14 01.0	
	comp=E,573nm,0.1s						
KAN08				IAML		22 14 02.6	
	comp=N,483nm,0.1s						
KAN09	**Caldwell North**	**0.35**	**44**	Pg	Pg	22 13 55.5	+0.3
KAN09				Sg	Sg	22 14 00.2	+0.4
KAN09				IAML		22 14 02.0	
	comp=E,609nm,0.2s						
KAN09				IAML		22 14 03.4	
	comp=N,512nm,0.1s						
KAN06	**Argonia West S**	**0.37**	**8**	Pg	Pg	22 13 55.8	+0.4
KAN06				Sg	Sg	22 14 00.9	+0.6
KAN06				IAML		22 14 01.4	
	comp=N,643nm,0.2s						
CROK	**Carrier**	**0.38**	**187**	Pg	Pg	22 13 55.7	+0.1
CROK				Sg	Sg	22 14 01.0	+0.4
KAN13	**South Haven SW**	**0.38**	**70**	Pg	Pg	22 13 55.9	+0.3
KAN13				Sg	Sg	22 14 01.2	+0.5
KAN12	**Harper NE Stat**	**0.42**	**352**	Pg	Pg	22 13 56.7	+0.3
KAN12				Sg	Sg	22 14 02.7	+0.8
KAN12				IAML		22 14 04.7	
	comp=N,350nm,0.4s						
KAN12				IAML		22 14 04.9	
	comp=E,491nm,0.4s						
OK035	**E0210 Rd and N**	**0.65**	**255**	Pg	Pg	22 14 00.7	-0.1
OK035				Sg	Sg	22 14 09.8	+0.4
OK035				IAML		22 14 10.2	
	comp=E,228nm,0.2s						
OK038	**West end E0370**	**0.77**	**239**	Pg	Pg	22 14 02.5	-0.5
OK038				Sg	Sg	22 14 13.0	-0.1
OK038				IAML		22 14 25.2	
	comp=E,181nm,0.3s						
OK048	**Pawnee Station**	**0.92**	**120**	Pg	Pg	22 14 05.3	-0.5
U32A	**Winter Ranch,**	**1.00**	**240**	Pg	Pg	22 14 06.7	-0.7
T35A	**Sooner Cattle**	**1.13**	**88**	Pg	Pg	22 14 09.4	-0.5
T35A				IAML		22 14 25.6	
	comp=E,93nm,0.1s						
T35A				IAML		22 14 29.0	
	comp=N,103nm,0.3s						
QUOK	**Quay**	**1.21**	**126**	Pg	Pb	22 14 10.8	-0.6
OK052	**Battle Ridge R**	**1.27**	**134**	Pg	Pn	22 14 11.6	-0.6
CSTR	**Hydro, Custer**	**1.38**	**207**		Pn	22 14 13.4	-0.4
OKCSW	**OKLAHOMA CITY**	**1.52**	**165**		Pn	22 14 16.0	+0.2
DEOK	**Depew**	**1.55**	**132**		Pn	22 14 15.8	-0.3
R32A	**Long Quarter,**	**1.66**	**338**		Pb	22 14 18.8	-0.3
FNO	**Franklin**	**1.68**	**165**		Pn	22 14 18.1	+0.2
TUL3	**Leonard**	**1.97**	**119**	Pn	Pn	22 14 22.1	0.0
TUL3				IAmb_Lg		22 14 51.1	
	comp=Z,14nm,0.8s						
WMOK	**Wichita Mounta**	**2.25**	**198**	Pn	Pn	22 14 25.7	-0.1
WMOK				IAmb_Lg		22 15 03.8	
	comp=Z,6.6nm,0.9s						
RLO	**Rose Lookout**	**2.44**	**106**	Pn	Pn	22 14 28.9	+0.4
KSU1	**Kansas State U**	**2.45**	**25**	IAmb_Lg		22 15 06.4	
	comp=Z,9.1nm,1.0s						
SMWD	**Samnorwood**	**2.58**	**227**	IAmb_Lg		22 15 10.6	
	comp=Z,6.3nm,0.9s						
X37A	**Clayton**	**3.09**	**137**	Pn	Pn	22 14 37.5	+0.2
S39A	**Bolivar**	**3.76**	**76**	Pn	Pn	22 14 47.0	+0.5
MIAR	**Mount Ida**	**4.24**	**122**	Pn	Pn	22 14 54.9	+1.8
P38A	**Dawn**	**4.41**	**50**	IAmb_Lg		22 16 09.2	
	comp=Z,3.7nm,0.8s						
SN07	**Snyder 07**	**4.50**	**214**	IAmb_Lg		22 16 11.5	
	comp=Z,5.2nm,0.9s						
MGMO	**Mountain Grove**	**4.53**	**85**	IAmb_Lg		22 16 11.4	
	comp=Z,5.8nm,0.8s						
X40A	**Basin Creek Fa**	**4.78**	**118**	IAmb_Lg		22 16 27.6	
	comp=Z,3.4nm,0.7s						
PBMO	**Poplar Bluff**	**6.01**	**89**	IAmb_Lg		22 17 07.7	
	comp=Z,3.8nm,0.8s						

*BGR **22** 22:19:45.9±0.2,50°.23N×12°.46E,h9km±2km,ML2.3/6, Error ellipse: s-maj=2.2km s-min=1.1km az=93.0*
*VIE **22** 22:19:45.7±0.1,50°.23N×12°.44E,h10km,mb2.1/4,ml2.7/6, Error ellipse: s-maj=2.5km s-min=1.3km az=43.0*
*PRU **22** 22:19:45.5,50°.24N×12°.44E,h10km, West Bohemia Swarm*
*WBNET **22** 22:19:46.3,50°.23N×12°.46E,h6km,Ml2.4*
*CLL **22** 22:19:46.7±0.3,50°.24N×12°.46E,h5km,ML2.3*
*LDG **22** 22:19:46.5±0.1,50°.22N×12°.39E,h5km,Ml2.6/10,Error ellipse: s-maj=3.6km s-min=2.0km az=158.0*

ISC 22 22:19:45.7±0.7,50°.22N±0°.01×12°.42E±0°.01,h13km±3km, n97,σ1°54/167,4C-8D,Germany

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NKC	**Novy Kostel**	**0.02**	**52**	*i* Pg	**Pg**	**22 19 47.6**	**-0.4**
NKC				*i* Sg	**Sg**	**22 19 48.5**	**-1.1**
NKC				IAML		22 19 48.6	
	comp=E,6μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**52**	*e*PG	**Pg**	**22 19 47.6**	**-0.4**
NKC				*e*SG	**Sg**	**22 19 48.5**	**-1.1**
	comp=E,3μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**52**	*i* Pg	**Pg**	**22 19 47.6**	**-0.4**
NKC				*i* Sg	**Sg**	**22 19 48.5**	**-1.1**
	comp=E,6μm,0.2s						
NKC	**Novy Kostel**	**0.02**	**52**	⇓P	**Pg**	**22 19 47.6**	**-0.4**
NKC				S	**Sg**	**22 19 48.5**	**-1.1**
VAC	**Vackov**	**0.03**	**294**	*i* Pg	**Pg**	**22 19 48.0**	**-0.1**
VAC				*i* Sg	**Sg**	**22 19 49.0**	**-0.7**
VAC	**Vackov**	**0.03**	**294**	⇓P	**Pg**	**22 19 47.9**	**-0.1**
VAC				S	**Sg**	**22 19 49.0**	**-0.7**
LBCW	**Luby**	**0.04**	**351**	⇓P	**Pg**	**22 19 47.9**	**-0.2**
LBCW				S	**Sg**	**22 19 49.1**	**-0.8**
KVC	**Kvetna**	**0.06**	**104**	*i* Pg	**Pg**	**22 19 47.9**	**-0.4**
KVC				*i* Sg	**Sg**	**22 19 48.8**	**-1.3**
KVC	**Kvetna**	**0.06**	**104**	⇓P	**Pg**	**22 19 47.8**	**-0.4**
KVC				S	**Sg**	**22 19 48.8**	**-1.3**
SKC	**Skalna**	**0.07**	**218**	⇑P	**Pg**	**22 19 48.5**	**+0.2**
SKC				S	**Sg**	**22 19 49.9**	**-0.2**
ROHR	**Rohrbach**	**0.07**	**281**	*i* Pg	**Pg**	**22 19 48.4**	**+0.1**
ROHR				*i* Sg	**Sg**	**22 19 49.9**	**-0.4**
ROHR				IAML		22 19 50.1	
	comp=N,3μm,0.2s						
ROHR	**Rohrbach**	**0.07**	**281**	*i* Pg	**Pg**	**22 19 48.4**	**+0.1**
ROHR				*i* Sg	**Sg**	**22 19 49.9**	**-0.4**
	comp=N,3μm,0.2s						
STCW	**Studenec**	**0.07**	**58**	*i* Pg	**Pg**	**22 19 47.9**	**-0.5**
STCW				*i* Sg	**Sg**	**22 19 48.9**	**-1.5**
STCW	**Studenec**	**0.07**	**58**	*i* Pg	**Pg**	**22 19 47.9**	**-0.5**
STCW				*i* Sg	**Sg**	**22 19 48.9**	**-1.5**
STCW	**Studenec**	**0.07**	**58**	⇑P	**Pg**	**22 19 47.9**	**-0.5**
STCW				S	**Sg**	**22 19 48.9**	**-1.5**
WERN	**Wernitzgruen**	**0.07**	**335**	*i* Pg	**Pg**	**22 19 48.3**	**-0.1**
WERN				*i* Sg	**Sg**	**22 19 49.6**	**-0.8**
WERN				IAML		22 19 49.8	
	comp=E,1μm,0.2s						
WERN	**Wernitzgruen**	**0.07**	**335**	*i* Pg	**Pg**	**22 19 48.3**	**-0.1**
WERN				*i* Sg	**Sg**	**22 19 49.6**	**-0.8**
	comp=E,1μm,0.2s						
POCW	**Potky**	**0.10**	**1**	⇓P	**Pg**	**22 19 48.5**	**-0.2**
POCW				S	**Sg**	**22 19 50.0**	**-0.9**
KOCW	**Kopaniny**	**0.13**	**290**	⇓P	**Pg**	**22 19 49.4**	**+0.4**
KOCW				S	**Sg**	**22 19 51.4**	**0.0**
KRCW	**Kraslice**	**0.13**	**32**	⇑P	**Pg**	**22 19 48.8**	**-0.3**
KRCW				S	**Sg**	**22 19 50.4**	**-1.1**
GUNZ	**Gunzen**	**0.15**	**338**	*i* Pg	**Pg**	**22 19 49.6**	**+0.1**
GUNZ				*i* Sg	**Sg**	**22 19 51.6**	**-0.4**
GUNZ				IAML		22 19 52.9	
	comp=N,308nm,0.3s						
GUNZ	**Gunzen**	**0.15**	**338**	*i* Pg	**Pg**	**22 19 49.6**	**+0.1**
GUNZ				*i* Sg	**Sg**	**22 19 51.6**	**-0.4**
	comp=N,308nm,0.3s						
ZHC	**Zelena Hora**	**0.17**	**206**	⇑P	**Pg**	**22 19 50.2**	**+0.6**
ZHC				S	**Sg**	**22 19 52.8**	**+0.4**
MULD	**Muldenberg**	**0.19**	**356**	*i* Pg	**Pg**	**22 19 50.0**	**0.0**
MULD				*i* Sg	**Sg**	**22 19 52.3**	**-0.7**
MULD				IAML		22 19 52.9	
	comp=N,840nm,0.1s						
MULD	**Muldenberg**	**0.19**	**356**	*i* Pg	**Pg**	**22 19 50.0**	**0.0**
MULD				*i* Sg	**Sg**	**22 19 52.3**	**-0.7**
	comp=N,840nm,0.1s						
TANN	**Tannenbergstha**	**0.20**	**7**	*i* Pg	**Pg**	**22 19 50.0**	**-0.1**
TANN				*i* Sg	**Sg**	**22 19 52.3**	**-0.9**
TANN				IAML		22 19 53.0	
	comp=N,543nm,0.3s						
TANN	**Tannenbergstha**	**0.20**	**7**	*i* Pg	**Pg**	**22 19 50.0**	**-0.1**
TANN				*i* Sg	**Sg**	**22 19 52.3**	**-0.9**
	comp=N,543nm,0.3s						
TRCW	**Trojmez**	**0.20**	**295**	⇓P	**Pg**	**22 19 50.6**	**+0.5**
TRCW				S	**Sg**	**22 19 53.5**	**+0.4**
VIEL	**Selb-Vielitz**	**0.21**	**260**	*i* Pg	**Pg**	**22 19 50.9**	**+0.6**
VIEL				*i* Sg	**Sg**	**22 19 53.9**	**+0.5**
VIEL	**Selb-Vielitz**	**0.21**	**260**	*i* Pg	**Pg**	**22 19 50.9**	**+0.6**
VIEL				*i* Sg	**Sg**	**22 19 53.9**	**+0.5**
LACW	**Lazy**	**0.21**	**143**	*i* Pg	**Pg**	**22 19 50.7**	**+0.3**
LACW				*i* Sg	**Sg**	**22 19 53.7**	**+0.1**
LACW	**Lazy**	**0.21**	**143**	*i* Pg	**Pg**	**22 19 50.7**	**+0.3**
LACW				*i* Sg	**Sg**	**22 19 53.7**	**+0.1**
LACW	**Lazy**	**0.21**	**143**	⇓P	**Pg**	**22 19 50.7**	**+0.3**
LACW				S	**Sg**	**22 19 53.7**	**+0.1**
TRIB	**Obertriebel**	**0.23**	**306**	*i* Pg	**Pg**	**22 19 51.0**	**+0.4**
TRIB				*i* Sg	**Sg**	**22 19 54.1**	**+0.3**
TRIB				IAML		22 19 54.5	
	comp=E,509nm,0.3s						
TRIB	**Obertriebel**	**0.23**	**306**	*i* Pg	**Pg**	**22 19 51.0**	**+0.4**
TRIB				*i* Sg	**Sg**	**22 19 54.1**	**+0.3**
	comp=E,509nm,0.3s						
WERD	**Werda**	**0.24**	**342**	*i* Pg	**Pg**	**22 19 51.0**	**+0.2**
WERD				*e*Sg	**Sg**	**22 19 53.9**	**-0.4**
WERD				IAML		22 19 54.3	
	comp=N,225nm,0.3s						
WERD	**Werda**	**0.24**	**342**	*i* Pg	**Pg**	**22 19 51.0**	**+0.2**
WERD				*e*Sg	**Sg**	**22 19 53.9**	**-0.4**
	comp=N,225nm,0.3s						
PLN	**Plauen**	**0.32**	**327**	*i* Pg	**Pg**	**22 19 52.5**	**+0.4**
PLN				*i* Sg	**Sg**	**22 19 56.5**	**+0.1**
PLN				IAML		22 19 56.9	
	comp=N,202nm,0.1s						
PLN	**Plauen**	**0.32**	**327**	*i* Pg	**Pg**	**22 19 52.5**	**+0.4**
PLN				*i* Sg	**Sg**	**22 19 56.5**	**+0.1**
	comp=N,202nm,0.1s						
SCHF	**Schoenfels**	**0.46**	**358**	*i* Pg	**Pg**	**22 19 54.8**	**+0.1**
SCHF				*i* Sg	**Sg**	**22 20 00.7**	**-0.1**
SCHF				IAML		22 20 01.1	
	comp=E,624nm,0.2s						
SCHF	**Schoenfels**	**0.46**	**358**	*i* Pg	**Pg**	**22 19 54.8**	**+0.1**
SCHF				*i* Sg	**Sg**	**22 20 00.7**	**-0.1**
	comp=E,624nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.48**	**197**	*e*Pg	**Pg**	**22 19 55.7**	**+0.7**
ROTZ				*e*Sg	**Sg**	**22 20 02.2**	**+0.9**
GRZ1	**Mausoleum Wald**	**0.49**	**345**	*i* Pg	**Pg**	**22 19 55.5**	**+0.2**
GRZ1				*i* Sg	**Sg**	**22 20 01.5**	**-0.3**
GRZ1				IAML		22 20 02.6	
	comp=E,149nm,0.5s						
GRZ1	**Mausoleum Wald**	**0.49**	**345**	*i* Pg	**Pg**	**22 19 55.5**	**+0.2**
GRZ1				*i* Sg	**Sg**	**22 20 01.5**	**-0.3**
	comp=E,149nm,0.5s						
ZEU	**Talsperre Zeul**	**0.53**	**328**	*i* Pg	**Pg**	**22 19 56.5**	**+0.3**
ZEU				*e*Sg	**Sg**	**22 20 03.2**	**-0.1**
ZEU	**Talsperre Zeul**	**0.53**	**328**	*i* Pg	**Pg**	**22 19 56.5**	**+0.3**
ZEU				*e*Sg	**Sg**	**22 20 03.2**	**-0.1**
MOX	**Moxa**	**0.67**	**310**	*e*Pg	**Pg**	**22 19 59.1**	**+0.4**
MOX				*e*Sg	**Sg**	**22 20 08.4**	**+0.9**
HSKC	**Hora Svate Kat**	**0.75**	**59**	*e*PG	**Pg**	**22 19 59.9**	**-0.4**
HSKC				*e*SG	**Sg**	**22 20 09.4**	**-0.7**
	comp=E,87nm,0.2s						
FBE	**Freiberg**	**0.92**	**40**	*e*Pg	**Pg**	**22 20 03.3**	**-0.1**
FBE				*e*Sg	**Sg**	**22 20 15.2**	**-0.2**
GRF	**Grafenberg Arr**	**0.94**	**236**	*e*Pg	**Pg**	**22 20 04.6**	**+0.8**
GRF				*e*Sg	**Sg**	**22 20 17.1**	**+1.0**
WET	**Wettzell**	**1.12**	**165**	*e*Pg	**Pg**	**22 20 07.3**	**+0.1**
WET				*e*Sg	**Sg**	**22 20 22.2**	**+0.5**
RICC	**Richard**	**1.12**	**73**	*e*SG	**Sg**	**22 20 21.2**	**-0.6**
	comp=E,102nm,0.3s						
CLL	**Collm**	**1.15**	**18**	*i* Pg	**Pg**	**22 20 07.5**	**-0.3**
CLL				*i* x	x	22 20 10.0	
CLL				*i* Sg	**Sg**	**22 20 22.2**	**-0.5**
	comp=Z,52nm,0.3s						
CLL				*i* x	x	22 20 25.5	
CLL	**Collm**	**1.15**	**18**	*e*Pg	**Pg**	**22 20 07.3**	**-0.4**
CLL				*e*Sg	**Sg**	**22 20 22.6**	**-0.1**
BRG	**Berggiesshubel**	**1.17**	**55**	Pg	**Pb**	**22 20 07.8**	**0.0**
BRG				Sg	**Sg**	**22 20 22.6**	**-0.8**
BRG				Amp		22 20 23.5	
	comp=Z,53nm,0.2s						
BRG	**Berggiesshubel**	**1.17**	**55**	*e*Pg	**Pb**	**22 20 07.7**	**0.0**
BRG				*e*Sg	**Sg**	**22 20 22.6**	**-0.8**
PRA	**Prague**	**1.30**	**96**	*e*Pn	**Pn**	**22 20 10.0**	**+0.4**
PRA	**Prague**	**1.30**	**96**	*e*SG	**Sb**	**22 20 26.3**	**-0.3**
KHC	**Kasperske Hory**	**1.32**	**145**	*e*PG	**Pn**	**22 20 10.0**	**+0.1**
KHC				*e*SG	**Sb**	**22 20 27.7**	**+0.4**
	comp=Z,16nm,0.2s						
PRU	**Pruhonice**	**1.38**	**99**	*e*SG	**Sb**	**22 20 29.5**	**+0.5**
	comp=Z,40nm,0.4s						
PRU	**Pruhonice**	**1.38**	**99**	*e*Pg	**Pn**	**22 20 11.4**	**+0.7**
PRU				*e*Sg	**Sn**	**22 20 29.9**	**+1.0**
ZVC	**Zvikov**	**1.39**	**124**	*e*SG	**Sb**	**22 20 29.7**	**+0.6**
PVCC	**Panska Ves**	**1.41**	**77**	*e*SG	**Sg**	**22 20 30.6**	**-0.4**
	comp=E,69nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.55**	**101**	*e*SG	**Sb**	**22 20 34.8**	**+0.9**
	comp=Z,37nm,0.2s						
GEC2	**GERESS Array S**	**1.61**	**148**	*e*Pg	**Pn**	**22 20 14.6**	**+0.7**
GEC2				*e*Sg	**Sb**	**22 20 36.4**	**+0.8**
CKRC	**Cesky Krumlov**	**1.86**	**138**	*e*SG	**Sb**	**22 20 43.7**	**+0.8**
	comp=Z,14nm,0.3s						
UPC	**Upice**	**2.32**	**82**	*e*SG	**Sb**	**22 20 57.8**	**+2.0**
CHVC	**Chvalec**	**2.35**	**80**	*e*SG	**Sg**	**22 20 59.5**	**-1.7**
DPC	**Dobruska-Polom**	**2.50**	**86**	*e*SG	**Sb**	**22 21 03.0**	**+1.7**
	comp=Z,14nm,0.3s						
MOA	**Molln**	**2.67**	**152**	*e*Pn	**Pn**	**22 20 28.4**	**+0.1**
	comp=Z,0.2nm,0.2s						
KRLC	**Kraliky**	**2.81**	**91**	*e*SG	**Sg**	**22 21 14.4**	**-1.4**
	comp=Z,9.4nm,0.4s						
KRUC	**Moravsky**	**2.83**	**113**	*e*PN	**Pn**	**22 20 31.2**	**+0.6**
KRUC				*e*SG	**Sb**	**22 21

comp=E,163nm,0.1s
BLOK Blackwell 0.75 22 Pg 22 23 32.9 -0.1
BLOK IAML 22 23 47.1
comp=E,152nm,0.2s
BLOK IAML 22 23 50.7
comp=N,113nm,0.2s
GC02 Grant County # 0.82 343 Pg Pg 22 23 34.2 -0.2
FNO Franklin 0.82 170 Pg Pg 22 23 34.2 -0.2
FNO IAML 22 23 48.2
comp=E,64nm,0.4s
DEOK Depew 0.90 104 Pg Pg 22 23 35.5 -0.4
KAN14 Manchester OK 0.94 340 Pg Pg 22 23 36.4 -0.4
OK038 West end E0370 1.03 294 Pg Pg 22 23 37.9 -0.7
KAN09 Caldwell North 1.07 358 Pg Pg 22 23 38.9 -0.3
KAN05 Bluff City Nor 1.07 347 Pg Pg 22 23 38.8 -0.4
KAN01 Argonia South 1.09 352 Pg Pg 22 23 39.2 -0.5
KAN01 IAML 22 23 56.5
comp=E,73nm,0.3s
KAN01 IAML 22 23 59.3
comp=N,77nm,0.1s
KAN06 Argonia West S 1.20 349 Pg Pg 22 23 41.0 -0.7
T35A Sooner Cattle 1.20 45 Pg Pg 22 23 41.2 -0.5
T35A IAML 22 23 57.9
comp=N,63nm,0.3s
T35A IAML 22 24 04.2
comp=E,65nm,0.5s
U32A Winter Ranch, 1.20 285 Pg Pg 22 23 40.9 -0.8
U32A IAML 22 23 59.0
comp=N,46nm,0.1s
U32A IAML 22 23 59.5
comp=E,41nm,0.1s
KAN08 Anthony NE Sta 1.20 344 Pg Pg 22 23 41.2 -0.5
KAN08 IAML 22 23 59.5
comp=N,65nm,0.3s
NOKA Waynoka 1.24 298 Pb 22 23 41.4 -1.0
NOKA IAML 22 24 04.5
comp=E,54nm,0.4s
TUL3 Leonard 1.45 96 Pn 22 23 44.6 -0.8
WMOK Wichita Mounta 1.66 217 Pn 22 23 48.4 +0.2
RLO Rose Lookout 2.06 87 Pn Pn 22 23 54.6 +0.8
WTFS Witchita Falls 2.41 198 Pn Pn 22 23 59.1 +0.5

KRSC ***22*** *22:33:04.0±2.0, 50°.51N×157°.47E, h107km±20km, Ml4.4, Felt [II] at Severo-Kurilsk.*
MOS ***22*** *22:33:05.4±1.0, 50°.85N×156°.56E, h149km, mb4.0/7, Error ellipse: s-maj=13.2km s-min=4.5km az=72.2*
NEIC ***22*** *22:33:06.5±2.1, 50°.96N±0°.10×156°.6E±0°.2, h136km±7km, mb4.2/12, Error ellipse: s-maj=21.5km s-min=11.7km az=117.0*
IDC ***22*** *22:33:08.1±1.2, 51°.00N×156°.48E, h154km±10km, mb3.4/20, mbtmp3.9/26, Error ellipse: s-maj=18.9km s-min=11.4km az=127.0*

ISC 22 22:33:04.4±0.7, 50°.68N±0°.07×156°.88E±0°.07, h135km±5km, n123, σ1s67/140, mb3.8/28, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**0.48**	**271**	*e*P	**Pn**	**22 33 24.7**	**+0.8**
SKR				*e*S	**Sn**	**22 33 38.4**	**-0.3**
SKR	**Severo-Kuril's**	**0.48**	**271**	*e*PN	**Pn**	**22 33 24.8**	**+0.9**
SKR				*e*S	**Sn**	**22 33 38.8**	**+0.1**
SKR				pmax	pmax		
	comp=Z,569nm,0.4s						
SKR				smax	smax		
	comp=N,10μm,0.2s						
SKR				smax	smax		
	comp=E,8μm,0.3s						
PAU	**Pauzhetka**	**0.79**	**357**	*e*P	**Pn**	**22 33 27.8**	**+1.8**
PAU	**Pauzhetka**	**0.79**	**357**	PN	**Pn**	**22 33 27.8**	**+1.8**
KDTR	**Khodutka, Kamc**	**1.36**	**33**	*e*P	**Pn**	**22 33 31.9**	**+0.6**
KDTR				*e*S	**Sn**	**22 33 50.9**	**-0.9**
KDTR	**Khodutka, Kamc**	**1.36**	**33**	PN	**Pn**	**22 33 31.9**	**+0.6**
KDTR				S	**Sn**	**22 33 51.0**	**-0.9**
ASAK	**Asacha**	**1.82**	**20**	*e*P	**Pn**	**22 33 37.8**	**+1.3**
ASAK				*e*S	**Sn**	**22 34 01.3**	**+0.1**
ASAK	**Asacha**	**1.82**	**20**	PN	**Pn**	**22 33 37.9**	**+1.3**
ASAK				S	**Sn**	**22 34 01.8**	**+0.5**
MTVR	**Mutnovka**	**1.98**	**24**	*e*P	**Pn**	**22 33 39.8**	**+1.3**
MTVR				*e*S	**Sn**	**22 34 04.8**	**+0.1**
MTVR	**Mutnovka**	**1.98**	**24**	PN	**Pn**	**22 33 39.8**	**+1.3**
MTVR				S	**Sn**	**22 34 05.0**	**+0.3**
GRL	**Gorelyy**	**2.02**	**21**	*e*P	**Pn**	**22 33 40.4**	**+1.5**
GRL				*e*S	**Sn**	**22 34 06.1**	**+0.6**
GRL	**Gorelyy**	**2.02**	**21**	PN	**Pn**	**22 33 40.5**	**+1.5**
GRL				S	**Sn**	**22 34 07.4**	**+1.9**
RUS	**Russkaya**	**2.03**	**30**	*e*P	**Pn**	**22 33 39.5**	**+0.6**
RUS				*e*S	**Sn**	**22 34 04.4**	**-1.1**
RUS	**Russkaya**	**2.03**	**30**	PN	**Pn**	**22 33 39.5**	**+0.6**
RUS				S	**Sn**	**22 34 04.5**	**-1.1**
APC	**Apacha**	**2.26**	**4**	*e*P	**Pn**	**22 33 42.4**	**+0.7**
APC	**Apacha**	**2.26**	**4**	PN	**Pn**	**22 33 42.4**	**+0.7**
KRMR	**Karymshinskiy**	**2.29**	**19**	*e*P	**Pn**	**22 33 43.3**	**+1.2**
KRMR	**Karymshinskiy**	**2.29**	**19**	PN	**Pn**	**22 33 43.4**	**+1.2**
PEA0B	**Petropavlovsk-**	**2.49**	**11**		**Pn**	**22 33 45.7**	**+1.1**
PEA0B				Sn	**Sn**	**22 34 13.4**	**-2.1**
PEA0B	**Petropavlovsk-**	**2.49**	**11**	*i* PN	**Pn**	**22 33 45.4**	**+0.8**
PETK	**Petropavlovsk-**	**2.49**	**11**		**Pn**	**22 33 44.9**	**+0.3**
PETK	**Petropavlovsk-**	**2.49**	**11**	P	**Pn**	**22 33 45.3**	**+0.7**
	comp=E,46nm,0.4s,baz=168,slow=8.9,SNR=54						
PETK				S	**Sn**	**22 34 16.6**	**+1.0**
	comp=E,32nm,0.8s,baz=155,slow=11,SNR=6.9						
PET	**Petropavlovsk**	**2.59**	**24**		**Pn**	**22 33 46.6**	**+0.7**
PET				Sn	**Sn**	**22 34 16.5**	**-1.5**
PET	**Petropavlovsk**	**2.59**	**24**	*e*P	**Pn**	**22 33 47.0**	**+1.0**
PET				*e*S	**Sn**	**22 34 17.4**	**-0.5**
PET	**Petropavlovsk**	**2.59**	**24**	PN	**Pn**	**22 33 46.9**	**+1.0**
PET				S	**Sn**	**22 34 18.1**	**+0.2**
INSR	**Institute**	**2.62**	**23**	*e*S	**Sn**	**22 34 18.7**	**+0.2**
DALK	**Dalny**	**2.63**	**26**	*e*S	**Sn**	**22 34 18.4**	**-0.3**
UGLR	**Uglovaya**	**2.81**	**25**	*e*P	**Pn**	**22 33 50.6**	**+1.9**
UGLR	**Uglovaya**	**2.81**	**25**	PN	**Pn**	**22 33 50.5**	**+1.8**
AVH	**Avacha**	**2.83**	**23**	*e*P	**Pn**	**22 33 51.1**	**+2.0**
AVH				*e*S	**Sn**	**22 34 24.7**	**+1.1**
AVH	**Avacha**	**2.83**	**23**	PN	**Pn**	**22 33 51.1**	**+2.0**
AVH				S	**Sn**	**22 34 25.1**	**+1.5**
KOK	**Koryaka**	**2.83**	**22**	*e*P	**Pn**	**22 33 51.2**	**+2.1**
KOK	**Koryaka**	**2.83**	**22**	PN	**Pn**	**22 33 51.2**	**+2.1**
SMAR	**Somma**	**2.85**	**24**	*e*P	**Pn**	**22 33 51.1**	**+1.6**
SMAR	**Somma**	**2.85**	**24**	PN	**Pn**	**22 33 51.0**	**+1.6**
KRER	**Koryakskii**	**2.87**	**23**	*e*P	**Pn**	**22 33 51.5**	**+1.8**
KRER	**Koryakskii**	**2.87**	**23**	PN	**Pn**	**22 33 51.5**	**+1.8**
KRX	**Arik**	**2.90**	**21**	*e*P	**Pn**	**22 33 51.7**	**+1.8**
KRX	**Arik**	**2.90**	**21**	PN	**Pn**	**22 33 51.8**	**+1.8**
NLC	**Nalytchevo**	**2.93**	**31**	*e*P	**Pn**	**22 33 50.2**	**+0.1**
NLC				*e*S	**Sn**	**22 34 22.4**	**-3.1**
NLC	**Nalytchevo**	**2.93**	**31**	PN	**Pn**	**22 33 50.2**	**+0.1**
NLC				S	**Sn**	**22 34 22.7**	**-2.8**
GNL	**Ganaly**	**3.09**	**12**	*e*P	**Pn**	**22 33 53.6**	**+1.2**
GNL	**Ganaly**	**3.09**	**12**	PN	**Pn**	**22 33 53.7**	**+1.3**
SPN	**Mys Shipunski**	**3.11**	**38**	*e*P	**Pn**	**22 33 53.2**	**+0.7**
SPN	**Mys Shipunski**	**3.11**	**38**	PN	**Pn**	**22 33 53.1**	**+0.6**
SPN				S	**Sn**	**22 34 27.8**	**-1.9**
KII	**Karymskiy**	**3.71**	**24**	*e*P	**Pn**	**22 34 02.5**	**+2.0**
KII	**Karymskiy**	**3.71**	**24**	PN	**Pn**	**22 34 02.5**	**+2.0**
TUMD	**Tumrok D**	**5.01**	**24**	*e*P	**Pn**	**22 34 18.8**	**+1.3**
TUMD				*e*S	**Sn**	**22 35 14.0**	**-0.5**
TUMR	**Tumrok**	**5.02**	**22**	*e*P	**Pn**	**22 34 20.4**	**+2.6**
TUMR	**Tumrok**	**5.02**	**22**	PN	**Pn**	**22 34 19.0**	**+1.2**
TUMR				S	**Sn**	**22 35 14.6**	**-0.3**
KMNR	**Kamenistaya**	**5.47**	**20**	*e*P	**Pn**	**22 34 26.0**	**+2.1**
KMNR	**Kamenistaya**	**5.47**	**20**	PN	**Pn**	**22 34 27.8**	**+4.0**
BZMR	**Bezymyannaya**	**5.69**	**21**	*e*P	**Pn**	**22 34 29.0**	**+2.2**
BZMR	**Bezymyannaya**	**5.69**	**21**	PN	**Pn**	**22 34 29.2**	**+2.4**
BZWR	**Bezymyannyi-We**	**5.72**	**21**	*e*P	**Pn**	**22 34 29.0**	**+1.8**
BZWR	**Bezymyannyi-We**	**5.72**	**21**	PN	**Pn**	**22 34 29.1**	**+1.8**
BZGR	**Bezymyannyi-Gr**	**5.75**	**22**	*e*P	**Pn**	**22 34 30.4**	**+3.0**
BZGR	**Bezymyannyi-Gr**	**5.75**	**22**	PN	**Pn**	**22 34 30.5**	**+3.0**
KBTR	**Krutoberegovo**	**6.58**	**30**	*e*P	**Pn**	**22 34 39.0**	**+0.5**
KBTR	**Krutoberegovo**	**6.58**	**30**	PN	**Pn**	**22 34 39.2**	**+0.7**
BKI	**Bering**	**7.12**	**47**	*e*S	**Sn**	**22 35 58.3**	**-7.0**
KUR	**Kuril'sk**	**8.14**	**231**	*i* PN	**Pn**	**22 35 00.8**	**+1.3**
MA2	**Magadan**	**9.57**	**341**	*i* PN	Pn	22 35 24.2	+5.5
YUK	**Yuzh-Kuril'sk**	**9.99**	**233**	*i* PN	**Pn**	**22 35 25.1**	**+0.7**
SHEM	**Shemya Is, Ala**	**10.88**	**72**	P	Pn	22 35 41.6	+5.4
	comp=E,42nm,0.8s,baz=301,slow=21,SNR=1.7						
SHEM				S	**Sn**	**22 37 38.7**	**+2.6**
	comp=E,80nm,0.8s,baz=302,slow=23,SNR=7.0						
ASAJ	**Asahikawa**	**11.68**	**241**	P	**Pn**	**22 35 49.4**	**+2.5**
	comp=E,4.5nm,0.4s,baz=83,slow=15,SNR=7.1						
ERM	**Erimo**	**12.82**	**233**	Pn	**Pn**	**22 35 58.0**	**-3.6**
ERM	**Erimo**	**12.82**	**233**	*i* PN	**Pn**	**22 35 59.3**	**-2.4**
KLR	**Kul'dur**	**16.22**	**275**	P	**Pn**	**22 36 44.6**	**+0.3**
	comp=E,1.2nm,0.5s,baz=86,slow=13,SNR=5.1						
USRK	**Ussuriysk Ar.**	**17.99**	**259**	P	**P**	**22 37 02.5**	**-1.9**
USRK	**Ussuriysk Ar.**	**17.99**	**259**	P	**P**	**22 37 04.3**	**-0.1**
	comp=E,1.3nm,0.7s,baz=64,slow=12,SNR=6.1						
JSD	**Sado**	**18.29**	**233**	P	**P**	**22 37 08.7**	**+1.0**
VLA	**Vladivostok**	**18.61**	**256**	*i* P	**Pn**	**22 37 15.9**	**+2.8**
HEH	**HeiHe**	**18.71**	**280**	*e*P	**Pn**	**22 37 14.8**	**+0.7**
HEH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MJB9	**Matsu-Tunnel**	**19.48**	**231**	P	**Pn**	**22 37 22.7**	**-0.5**
MJB9				IAmb	IAmb	22 37 28.1	
	comp=Z,8.0nm,0.5s						
MAJO	**Matsushiro**	**19.48**	**231**	P	**P**	**22 37 21.8**	**+1.2**
MAJO				IAmb	IAmb	22 37 27.1	
	comp=Z,8.2nm,0.5s						
MAJO	**Matsushiro**	**19.48**	**231**	P	**P**	**22 37 21.8**	**+1.2**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.5s						
MJAR	**Matsushiro Arr**	**19.48**	**231**	P	**Pn**	**22 37 22.4**	**-0.8**
	comp=Z,2.6nm,0.5s,baz=23,slow=11,SNR=11						
JGF	**Kuroka**	**20.64**	**231**	P	**P**	**22 37 34.5**	**+1.3**
JGF				IAmb	IAmb	22 37 36.0	
	comp=Z,8.0nm,1.3s						
INU	**Inuyama**	**21.01**	**231**	P	**P**	**22 37 38.5**	**+1.4**
INU				IAmb	IAmb	22 37 39.5	
	comp=Z,12nm,0.7s						
KSRS	**Korea Array**	**24.47**	**248**	P	**P**	**22 38 12.5**	**+1.9**
	comp=Z,0.8nm,0.3s,baz=42,slow=9.2,SNR=4.6						
	comp=Z,0.8nm,0.3s						
TIXI	**Tiksi**	**24.54**	**339**	P	**P**	**22 38 09.7**	**-1.2**
TIXI	**Tiksi**	**24.54**	**339**	P	**P**	**22 38 09.7**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.5s						
H23K	**Yukon River**	**30.84**	**40**	P	**P**	**22 39 10.1**	**+2.9**
COLA	**College**	**31.53**	**42**	*i* P	**P**	**22 39 15.6**	**+2.5**
COLA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
H11N2	**WAKE ISLAND Hy**	**31.89**	**162**	T	T	23 13 13.7	
	baz=348,slow=76,SNR=20						
H11N1	**WAKE ISLAND Hy**	**31.90**	**162**	T	T	23 13 20.2	
	baz=348,slow=76,SNR=17						
H11N3	**WAKE ISLAND Hy**	**31.90**	**162**	T	T	23 13 17.3	
	baz=348,slow=76,SNR=26						
SONM	**Songino Array**	**32.55**	**285**	P	**P**	**22 39 21.8**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=60,slow=8.3,SNR=5.1						
	comp=Z,0.4nm,0.4s						
H11S1	**WAKE ISLAND Hy**	**33.04**	**163**	T	T	23 14 47.1	
	baz=348,slow=76,SNR=17						
H11S3	**WAKE ISLAND Hy**	**33.05**	**163**	T	T	23 14 48.0	
	baz=348,slow=76,SNR=19						
H11S2	**WAKE ISLAND Hy**	**33.06**	**163**	T	T	23 14 44.1	
	baz=348,slow=76,SNR=17						
L27K	**Beaver Creek,**	**34.31**	**45**	P	**P**	**22 39 37.7**	**+0.3**
L27K				IAmb	IAmb	22 39 51.0	
	comp=Z,6.6nm,1.5s						
ZALV	**Zalesovo Beam**	**42.43**	**304**	P	**P**	**22 40 43.7**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=54,slow=8.1,SNR=2.5						
	comp=Z,0.5nm,0.5s						
KURK	**Kurchatov**	**47.32**	**302**	P	**P**	**22 41 22.9**	**-1.1**
KURK				IAmb	IAmb	22 41 23.7	
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**47.32**	**302**	P	**P**	**22 41 22.9**	**-1.1**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.41**	**296**	P	**P**	**22 41 23.7**	**-1.2**
	comp=Z,0.3nm,0.3s,baz=47,slow=6.2,SNR=12						
	comp=Z,0.3nm,0.3s						
MKAR	**Makanchi Array**	**47.41**	**296**	*e*P	**P**	**22 41 23.6**	**-1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**47.42**	**302**	P	**P**	**22 41 23.6**	**-1.2**
	comp=Z,0.9nm,0.5s,baz=57,slow=7.0,SNR=17						
	comp=Z,0.9nm,0.5s						
SPITS	**Spitsbergen Ar**	**49.18**	**350**	P	**P**	**22 41 35.8**	**-2.1**
	comp=Z,2.6nm,0.9s,baz=52,slow=5.6,SNR=1.4						
	comp=Z,2.6nm,0.9s						
BVAR	**Borovoye Array**	**50.33**	**308**	P	**P**	**22 41 45.4**	**-1.5**
	comp=Z,1.6nm,0.5s,baz=70,slow=8.2,SNR=10						
	comp=Z,1.6nm,0.5s						
AAK	**Ala-Archa**	**54.34**	**296**	*i* P	**P**	**22 42 14.8**	**-2.1**
AAK				pmax	pmax		
	comp=Z,4.0nm,2.6s						
ARCES	**ARCESS Array B**	**54.95**	**341**	P	**P**	**22 42 19.4**	**-1.2**
	comp=Z,2.7nm,0.9s,baz=29,slow=15,SNR=1.5						
	comp=Z,2.7nm,0.9s						
CHTO	**Chiang Mai**	**55.44**	**257**	P	**P**	**22 42 25.5**	**+0.7**
CHTO	**Chiang Mai**	**55.44**	**257**	P	**P**	**22 42 25.5**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CMAR	**Chiang Mai Arr**	**55.71**	**257**	P	**P**	**22 42 28.2**	**+1.5**
CMAR	**Chiang Mai Arr**	**55.71**	**257**	P	**P**	**22 42 27.8**	**+1.0**
	comp=Z,2.3nm,0.6s,baz=29,slow=7.2,SNR=13						
	comp=Z,2.3nm,0.6s						
CMAR	**Chiang Mai Arr**	**55.71**	**257**	P	**P**	**22 42 28.2**	**+1.5**
ABKAR	**Akbulak array**	**57.82**	**310**	P	**P**	**22 42 40.3**	**-1.0**
NVAR	**Mina Array Bea**	**58.49**	**67**	P	**P**	**22 42 49.1**	**+2.8**
	comp=Z,0.3nm,0.5s,baz=294,slow=8.8,SNR=2.1						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**61.52**	**336**	P	**P**	**22 43 04.7**	**-1.6**
	comp=Z,2.3nm,1.0s,baz=32,slow=11,SNR=4.7						
	comp=Z,2.3nm,1.0s						
FINES	**FINESS Array B**	**61.52**	**336**	*i* P	**P**	**22 43 05.0**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
NOA	**NORSAR Array B**	**65.27**	**342**	P	**P**	**22 43 29.7**	**-1.4**
	comp=Z,0.3nm,0.6s,baz=52,slow=5.7,SNR=1.8						
	comp=Z,0.3nm,0.6s						
HFS	**Hagfors**	**65.61**	**341**	P	**P**	**22 43 32.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=33,slow=3.5,SNR=9.1						
	comp=Z,0.4nm,0.3s						
AKASG	**Malin Array Be**	**69.62**	**328**	P	**P**	**22 43 56.7**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=28,slow=6.1,SNR=2.6						
	comp=Z,0.3nm,0.4s						
EKA	**Eskdalemuir Ar**	**73.05**	**348**	P	**P**	**22 44 19.1**	**0.0**
	comp=Z,0.3nm,0.3s,baz=21,slow=5.4,SNR=8.6						
	comp=Z,0.3nm,0.3s						
WRA	**Warramunga Arr**	**73.07**	**202**	P	**P**	**22 44 21.4**	**+1.9**
	comp=Z,0.8nm,0.6s,baz=20,slow=6.8,SNR=2.0						
	comp=Z,0.8nm,0.6s						
GERES	**GERESS Array B**	**75.95**	**336**	P	**P**	**22 44 36.3**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=148,slow=5.8,SNR=1.6						
	comp=Z,0.2nm,0.5s						
ASAR	**Alice Springs**	**76.75**	**202**	P	**P**	**22 44 43.9**	**+3.2**
	comp=Z,0.4nm,0.6s,baz=5.0,slow=3.0,SNR=2.2						
	comp=Z,0.4nm,0.6s						
MMAI	**Mount Meron Ar**	**81.99**	**314**	P	**P**	**22 45 09.7**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=42,slow=7.9,SNR=9.0						
	comp=Z,0.8nm,0.3s						
RAYN	**Ar Rayn**	**84.64**	**301**	P	**P**	**22 45 22.5**	**-0.4**
RAYN	**Ar Rayn**	**84.64**	**301**	P	**P**	**22 45 22.5**	**-0.4**
RAYN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
ESDC	**Sonseca Array**	**88.47**	**345**	P	**P**	**22 45 40.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=336,slow=2.8,SNR=1.3						
	comp=Z,0.3nm,0.7s						

IDC 22 22:35:13.8±3.5, 5°.95S×141°.31E, h0km, mb3.7/2, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=124.6km s-min=27.6km az=98.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**15.47**	**205**	Pn	Pn	22 38 52.6	-1.0
	0.2nm,0.3s,baz=28,slow=14,SNR=7.0						
WRA				Sn	Sn	22 41 41.0	-4.7
	0.2nm,0.3s,baz=26,slow=24,SNR=2.1						
WRA				Lg	Lg	22 43 27.2	
	baz=22,slow=28						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**19.00**	**201**	P	P	22 39 36.8	-0.4
	0.3nm,0.3s,baz=36,slow=9.3,SNR=14						
	2.2nm,0.8s						
MKAR	**Makanchi Array**	**73.92**	**322**	P	P	22 46 51.3	+0.5
	0.1nm,0.5s,baz=110,slow=8.0,SNR=2.0						
	0.1nm,0.5s						
BVAR	**Borovoye Array**	**83.43**	**325**	P	P	22 47 43.0	-0.1
	0.9nm,0.6s,baz=101,slow=7.7,SNR=4.4						
	0.9nm,0.6s						

NEIC ***22*** *22:36:34.1±0.6, 19°.420N±0°.008×155°.286W±0°.007, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=141.0*
HVO 22 22:36:33.6±0.7, 19°.413N±0°.006×155°.286W±0°.007,

h1km±4km, ML2.6/26, ML2.3/41(NEIC), Error ellipse: s-maj=1.2km s-min=0.7km az=137.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPH	**North Pit**	**0.01**	**96**		Pg	22 36 34.6	+0.7
OBL	**Observatory Le**	**0.01**	**19**		Pg	22 36 35.2	+1.2
UWE	**Uwekahuna**	**0.01**	**322**	Pg	Pg	22 36 34.4	+0.4
UWE					Sg	22 36 35.0	+0.6
UWB	**Uwekahuna B**	**0.01**	**31**		Pg	22 36 35.0	+0.9
RIM	**Rim**	**0.02**	**147**		Pg	22 36 35.3	+1.2
SBLHI	**Steaming Bluff**	**0.02**	**49**		Pg	22 36 35.3	+1.2
BYL	**Byron's Ledge**	**0.02**	**91**	Pg	Pg	22 36 34.7	+0.5
KKO	**Keanakako`i**	**0.02**	**128**		Pg	22 36 35.5	+1.4
SDHHI	**Sand Hill**	**0.02**	**199**		Pg	22 36 35.5	+1.4
HATHI	**Halema'uma'u T**	**0.03**	**66**	Pg	Pg	22 36 34.8	+0.6
RSD	**Rainshed**	**0.05**	**8**	Pg	Pg	22 36 35.4	+0.8
RSD				IAML		22 36 36.1	
	comp=N,2μm,0.3s						
RSD				IAML		22 36 36.2	
	comp=E,2μm,0.2s						
RSD					Sg	22 36 36.6	+1.3
PUH	**Pauahi**	**0.08**	**120**	Pg	Pg	22 36 35.9	+0.8
PUH				IAML		22 36 37.5	
	comp=N,911nm,0.7s						
KNHH	**Kane Nui o Ham**	**0.12**	**107**		Pg	22 36 36.7	+0.8
HLP	**Hilina Pali**	**0.12**	**190**		Pg	22 36 36.8	+0.9
HLP				IAML		22 36 39.7	
	comp=N,1μm,1.1s						
HLP				IAML		22 36 39.9	
	comp=E,1μm,0.6s						
MLH	**Mauna Loa**	**0.12**	**311**		Pg	22 36 37.2	+1.1
STCH	**Steam Cracks**	**0.15**	**100**		Pg	22 36 37.3	+0.7
STCH				IAML		22 36 40.5	
	comp=N,539nm,0.8s						
HTC	**Hot Caves**	**0.20**	**211**		Pg	22 36 38.3	+0.8
HMH	**Humu'ula Sheep**	**0.27**	**316**		Pg	22 36 39.6	+0.9
HMH				IAML		22 36 44.2	
	comp=N,704nm,0.3s						
HMH				IAML		22 36 47.0	
	comp=E,546nm,0.8s						
JOKA	**Jonika Flow**	**0.27**	**85**		Pg	22 36 39.2	+0.5
JOKA				IAML		22 36 46.9	
	comp=E,364nm,0.9s						
JOKA				IAML		22 36 47.0	
	comp=N,816nm,1.5s						
MLOA	**Mauna Loa Obse**	**0.30**	**294**		Pg	22 36 40.2	+0.8
MLOA				IAML		22 36 50.0	
	comp=E,715nm,0.6s						
MWH	**Moku'aweowe**	**0.30**	**284**		Pg	22 36 40.3	+0.8
MWH				IAML		22 36 47.6	
	comp=E,745nm,0.7s						
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg	22 36 41.1	+0.7
KHU				IAML		22 36 47.9	
	comp=N,312nm,0.5s						
KHU				IAML		22 36 48.0	
	comp=E,433nm,0.4s						
ALEP	**Alea Permanent**	**0.36**	**291**		Pg	22 36 41.1	+0.5
POHA	**Pohakuloa**	**0.41**	**326**	Pg	Pg	22 36 42.0	+0.4
POHA	**Pohakuloa**	**0.41**	**326**	IAML		22 36 49.7	
	comp=E,761nm,0.3s						
POHA				IAML		22 36 56.4	
	comp=E,724nm,0.7s						
HUH	**Hualalai**	**0.58**	**298**		Pg	22 36 45.1	+0.3

NEIC ***22*** *22:44:07.2±0.7, 19°.40N±0°.01×155°.282W±0°.007, h3km±1km, Error ellipse: s-maj=1.8km s-min=0.9km az=186.0*
HVO 22 22:44:06.6±0.7, 19°.41N±0°.01×155°.279W±0°.009, h0km±4km, ML2.8/12, ML1.8/26(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=211.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NPH	**North Pit**	**0.00**	**324**		Pg	22 44 07.4	+0.5
OBL	**Observatory Le**	**0.01**	**330**		Pg	22 44 07.8	+0.8
RIM	**Rim**	**0.01**	**161**		Pg	22 44 08.1	+1.0
UWB	**Uwekahuna B**	**0.01**	**5**		Pg	22 44 08.1	+1.0
KKO	**Keanakako`i**	**0.02**	**134**		Pg	22 44 08.2	+1.1
UWE	**Uwekahuna**	**0.02**	**311**	Pg	Pg	22 44 07.5	+0.4
UWE					Sg	22 44 08.2	+0.8
BYL	**Byron's Ledge**	**0.02**	**83**	Pg	Pg	22 44 07.5	+0.4
SBLHI	**Steaming Bluff**	**0.02**	**32**		Pg	22 44 07.6	+0.5
HATHI	**Halema'uma'u T**	**0.02**	**53**	IAML		22 44 07.2	
	comp=E,2μm,0.7s						
HATHI				Pg	Pg	22 44 07.7	+0.6
SDHHI	**Sand Hill**	**0.03**	**214**		Pg	22 44 08.4	+1.3
RSD	**Rainshed**	**0.05**	**1**	Pg	Pg	22 44 08.5	+0.8
RSD				IAML		22 44 08.9	
	comp=N,796nm,0.3s						
RSD				IAML		22 44 09.1	
	comp=E,779nm,0.8s					

	comp=Z,353nm,0.7s							
CO01				*i* S		**Sb**	**23 00 12.2**	**+0.3**
CO01	**Juntas del Tor**	**1.82**	**101**	⇓*i* P		**Pn**	**22 59 47.8**	**+0.8**
CO01				*e*S		**Sn**	**23 00 09.2**	**-0.8**
CO01				IAML			23 00 11.7	
	comp=N,547nm,0.4s							
AC05	**El Transito**	**1.83**	**64**	*i* P		**Pn**	**22 59 47.9**	**+0.8**
AC05				*i* S		**Sb**	**23 00 12.2**	**+0.1**
AC05				IAML			23 00 15.3	
	comp=Z,398nm,1.1s							
AC05	**El Transito**	**1.83**	**64**	⇑*i* P		**Pn**	**22 59 48.0**	**+0.9**
AC05				*e*S		**Sn**	**23 00 10.1**	**0.0**
AC05				IAML			23 00 15.3	
	comp=E,554nm,0.4s							
CO02	**Combarbal**	**1.84**	**147**	*i* P		**Pn**	**22 59 48.0**	**+0.8**
CO02				*i* S		**Sb**	**23 00 12.2**	**-0.1**
CO02				IAML			23 00 17.5	
	comp=Z,944nm,0.5s							
CO02	**Combarbal**	**1.84**	**147**	⇑*i* P		**Pn**	**22 59 48.0**	**+0.8**
CO02				*i* S		**Sn**	**23 00 10.3**	**0.0**
AROD	**Rodeo**	**2.39**	**103**	*i* P		**Pn**	**22 59 57.2**	**+2.4**
AROD				*i* S		**Sb**	**23 00 27.0**	**-1.3**
AC06	**Mina Casimiro**	**2.78**	**35**	*e*P		**Pn**	**23 00 01.3**	**+1.3**
AC06				IAML			23 00 52.0	
	comp=E,221nm,0.6s							
VA03	**San Esteban**	**3.39**	**156**	*e*P		**Pn**	**23 00 10.8**	**+2.3**
VA03				*i* S		**Sn**	**23 00 50.2**	**+1.7**
ROCH	**El Roble**	**3.45**	**164**	*e*P		**Pn**	**23 00 10.5**	**+1.1**
ROCH				*i* S		**Sn**	**23 00 48.2**	**-1.9**
VCA	**Vinchina**	**3.57**	**76**	*e*P		**Pn**	**23 00 15.7**	**+4.7**
MT02	**Curacav**	**3.70**	**167**	⇓*e*P		**Pn**	**23 00 13.4**	**+0.7**
AC01	**Pan de Azucar**	**3.75**	**22**	⇓*e*P		**Pn**	**23 00 12.9**	**-0.4**
MT10	**Hacienda Santa**	**3.87**	**159**	*e*P		**Pn**	**23 00 16.2**	**+1.1**
FCH	**Farellones**	**4.00**	**157**	*e*P		**Pn**	**23 00 20.1**	**+3.1**
FCH				*i* S		**Sn**	**23 01 06.6**	**+2.8**
MT04	**Ro Olivares**	**4.12**	**156**	*e*P		**Pn**	**23 00 21.6**	**+3.0**
MT04				*i* S		**Sn**	**23 01 07.2**	**+0.6**
MT09	**Talagante**	**4.23**	**167**	*e*P		**Pn**	**23 00 21.4**	**+1.3**
MT09				*e*S		**Sn**	**23 01 07.8**	**-1.5**
MT01	**Popeta**	**4.27**	**170**	*e*P		**Pn**	**23 00 21.2**	**+0.7**
MT12	**Pirque**	**4.29**	**162**	*e*P		**Pn**	**23 00 22.3**	**+1.4**
LMEL	**Las Melosas**	**4.50**	**159**	*e*P		**Pn**	**23 00 26.4**	**+2.6**
BO04	**La Punta**	**4.52**	**163**	*e*P		**Pn**	**23 00 25.4**	**+1.4**
BO04				*i* S		**Sn**	**23 01 13.7**	**-2.6**
BO01	**Tunca**	**4.81**	**169**	*e*P		**Pn**	**23 00 28.8**	**+0.8**

*BGR **22** 23:01:32.5±0.2,50.24N×12.47E, h9km±1km, ML2.4/6, Error ellipse: s-maj=2.2km s-min=1.1km az=92.0*
*LDG **22** 23:01:32.9±0.2,50.23N×12.35E, h5km, Ml2.8/10, Error ellipse: s-maj=5.3km s-min=2.9km az=159.0*
*VIE **22** 23:01:32.5±0.1,50.23N×12.44E, h10km, mb2.1/5, ml2.8/10, Error ellipse: s-maj=2.7km s-min=1.4km az=47.0*
*PRU **22** 23:01:32.2,50.24N×12.45E, h10km, West Bohemia Swarm*
*WBNET **22** 23:01:32.9,50.24N×12.46E, h6km, Ml2.5*
*CLL **22** 23:01:33.4±0.3,50.24N×12.46E, h5km, ML2.5*
*BUG **22** 23:01:33.8±0.3,50.31N×12.77E, h0km, MD3.8/9, ML3.1/9*

ISC 22 23:01:32.9±0.7, 50.22N±0.01×12.45E±0.01, h11km±3km, n109, σ1.974/183, 5C-7D, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKC	**Novy Kostel**	**0.01**	**353**	*i* Pg	**Pg**	**23 01 34.3**	**-0.6**
NKC				*i* Sg	**Sg**	**23 01 35.1**	**-1.2**
NKC				IAML		23 01 35.4	
	comp=N,10μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**353**	*e*PG	**Pg**	**23 01 34.2**	**-0.6**
NKC				*e*SG	**Sg**	**23 01 35.1**	**-1.2**
	comp=N,5μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**353**	*i* Pg	**Pg**	**23 01 34.3**	**-0.6**
NKC				*i* Sg	**Sg**	**23 01 35.1**	**-1.2**
	comp=N,10μm,0.2s						
NKC	**Novy Kostel**	**0.01**	**353**	⇓P	**Pg**	**23 01 34.3**	**-0.6**
NKC				S	**Sg**	**23 01 35.1**	**-1.2**
KVC	**Kvetna**	**0.04**	**107**	*i* Pg	**Pg**	**23 01 34.5**	**-0.5**
KVC				*i* Sg	**Sg**	**23 01 35.5**	**-1.1**
KVC	**Kvetna**	**0.04**	**107**	⇑P	**Pg**	**23 01 34.5**	**-0.5**
KVC				S	**Sg**	**23 01 35.5**	**-1.1**
VAC	**Vackov**	**0.05**	**288**	*i* Pg	**Pg**	**23 01 34.6**	**-0.4**
VAC				*i* Sg	**Sg**	**23 01 35.7**	**-1.0**
VAC	**Vackov**	**0.05**	**288**	⇓P	**Pg**	**23 01 34.6**	**-0.4**
VAC				S	**Sg**	**23 01 35.7**	**-1.0**
LBCW	**Luby**	**0.05**	**332**	⇓P	**Pg**	**23 01 34.6**	**-0.5**
LBCW				S	**Sg**	**23 01 35.7**	**-1.0**
STCW	**Studenec**	**0.06**	**48**	*i* Pg	**Pg**	**23 01 34.5**	**-0.6**
STCW				*i* Sg	**Sg**	**23 01 35.5**	**-1.4**
STCW	**Studenec**	**0.06**	**48**	*i* Pg	**Pg**	**23 01 34.5**	**-0.6**
STCW				*i* Sg	**Sg**	**23 01 35.5**	**-1.4**
STCW	**Studenec**	**0.06**	**48**	⇑P	**Pg**	**23 01 34.5**	**-0.6**
STCW				S	**Sg**	**23 01 35.5**	**-1.4**
SKC	**Skalna**	**0.08**	**230**	⇑P	**Pg**	**23 01 35.2**	**-0.1**
SKC				S	**Sg**	**23 01 36.7**	**-0.4**
WERN	**Wernitzgruen**	**0.08**	**325**	*i* Pg	**Pg**	**23 01 35.0**	**-0.4**
WERN				*i* Sg	**Sg**	**23 01 36.3**	**-1.0**
WERN				IAML		23 01 36.5	
	comp=E,2μm,0.1s						
WERN	**Wernitzgruen**	**0.08**	**325**	*i* Pg	**Pg**	**23 01 35.0**	**-0.4**
WERN				*i* Sg	**Sg**	**23 01 36.3**	**-1.0**
	comp=E,2μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**280**	*i* Pg	**Pg**	**23 01 35.2**	**-0.3**
ROHR				*i* Sg	**Sg**	**23 01 36.5**	**-0.8**
ROHR				IAML		23 01 36.7	
	comp=E,5μm,0.1s						
ROHR	**Rohrbach**	**0.09**	**280**	*i* Pg	**Pg**	**23 01 35.2**	**-0.3**
ROHR				*i* Sg	**Sg**	**23 01 36.5**	**-0.8**
	comp=E,5μm,0.1s						
POCW	**Potky**	**0.10**	**351**	⇓P	**Pg**	**23 01 35.2**	**-0.5**
POCW				S	**Sg**	**23 01 36.6**	**-1.1**
KRCW	**Kraslice**	**0.12**	**24**	⇑P	**Pg**	**23 01 35.4**	**-0.5**
KRCW				S	**Sg**	**23 01 37.0**	**-1.2**
KOCW	**Kopaniny**	**0.15**	**289**	⇓P	**Pg**	**23 01 36.1**	**-0.2**
KOCW				S	**Sg**	**23 01 38.1**	**-0.6**
GUNZ	**Gunzen**	**0.16**	**332**	*i* Pg	**Pg**	**23 01 36.3**	**-0.3**
GUNZ				*i* Sg	**Sg**	**23 01 38.3**	**-0.9**
GUNZ				IAML		23 01 38.8	
	comp=E,484nm,0.3s						
GUNZ	**Gunzen**	**0.16**	**332**	*i* Pg	**Pg**	**23 01 36.3**	**-0.3**
GUNZ				*i* Sg	**Sg**	**23 01 38.3**	**-0.9**
	comp=E,484nm,0.3s						
ZHC	**Zelena Hora**	**0.17**	**212**	⇑P	**Pg**	**23 01 37.0**	**+0.2**
ZHC				S	**Sg**	**23 01 39.6**	**+0.2**
MULD	**Muldenberg**	**0.20**	**351**	*i* Pg	**Pg**	**23 01 36.7**	**-0.4**
MULD				*i* Sg	**Sg**	**23 01 39.0**	**-1.1**
MULD				IAML		23 01 39.5	
	comp=N,1μm,0.1s						
MULD	**Muldenberg**	**0.20**	**351**	*i* Pg	**Pg**	**23 01 36.7**	**-0.4**
MULD				*i* Sg	**Sg**	**23 01 39.0**	**-1.1**
	comp=N,1μm,0.1s						
TANN	**Tannenbergstha**	**0.20**	**2**	*i* Pg	**Pg**	**23 01 36.6**	**-0.5**
TANN				*i* Sg	**Sg**	**23 01 38.9**	**-1.2**
TANN				IAML		23 01 39.4	
	comp=E,888nm,0.1s						
TANN	**Tannenbergstha**	**0.20**	**2**	*i* Pg	**Pg**	**23 01 36.6**	**-0.5**
TANN				*i* Sg	**Sg**	**23 01 38.9**	**-1.2**
	comp=E,888nm,0.1s						
LACW	**Lazy**	**0.20**	**146**	*i* Pg	**Pg**	**23 01 37.5**	**+0.3**
LACW				*i* Sg	**Sg**	**23 01 40.4**	**+0.3**
LACW	**Lazy**	**0.20**	**146**	*i* Pg	**Pg**	**23 01 37.5**	**+0.3**
LACW				*i* Sg	**Sg**	**23 01 40.4**	**+0.3**
LACW	**Lazy**	**0.20**	**146**	⇓P	**Pg**	**23 01 37.4**	**+0.3**
LACW				S	**Sg**	**23 01 40.4**	**+0.3**
TRCW	**Trojmez**	**0.21**	**293**	⇓P	**Pg**	**23 01 37.3**	**-0.1**
TRCW				S	**Sg**	**23 01 40.2**	**-0.3**
VIEL	**Selb-Vielitz**	**0.23**	**262**	*i* Pg	**Pg**	**23 01 37.6**	**0.0**
VIEL				*i* Sg	**Sg**	**23 01 40.7**	**-0.1**
VIEL	**Selb-Vielitz**	**0.23**	**262**	*i* Pg	**Pg**	**23 01 37.6**	**0.0**
VIEL				*i* Sg	**Sg**	**23 01 40.7**	**-0.1**
TRIB	**Obertriebel**	**0.24**	**304**	*i* Pg	**Pg**	**23 01 37.7**	**-0.2**
TRIB				*i* Sg	**Sg**	**23 01 40.9**	**-0.4**
TRIB				IAML		23 01 41.3	
	comp=E,740nm,0.1s						
TRIB	**Obertriebel**	**0.24**	**304**	*i* Pg	**Pg**	**23 01 37.7**	**-0.2**
TRIB				*i* Sg	**Sg**	**23 01 40.9**	**-0.4**
	comp=E,740nm,0.1s						
WERD	**Werda**	**0.25**	**338**	*i* Pg	**Pg**	**23 01 37.6**	**-0.3**
WERD				*e*Sg	**Sg**	**23 01 40.5**	**-1.0**
WERD				IAML		23 01 41.0	
	comp=N,404nm,0.3s						
WERD	**Werda**	**0.25**	**338**	*i* Pg	**Pg**	**23 01 37.6**	**-0.3**
WERD				*e*Sg	**Sg**	**23 01 40.5**	**-1.0**
	comp=N,404nm,0.3s						
PLN	**Plauen**	**0.33**	**325**	*i* Pg	**Pg**	**23 01 39.2**	**-0.2**
PLN				*i* Sg	**Sg**	**23 01 43.2**	**-0.6**
PLN				IAML		23 01 43.6	
	comp=E,303nm,0.1s						
PLN	**Plauen**	**0.33**	**325**	*i* Pg	**Pg**	**23 01 39.2**	**-0.2**
PLN				*i* Sg	**Sg**	**23 01 43.2**	**-0.6**
	comp=E,303nm,0.1s						
SCHF	**Schoenfels**	**0.46**	**356**	*i* Pg	**Pg**	**23 01 41.5**	**-0.4**
SCHF				*i* Sg	**Sg**	**23 01 47.3**	**-0.7**
SCHF				IAML		23 01 47.8	
	comp=E,649nm,0.2s						
SCHF	**Schoenfels**	**0.46**	**356**	*i* Pg	**Pg**	**23 01 41.5**	**-0.4**
SCHF				*i* Sg	**Sg**	**23 01 47.3**	**-0.7**
	comp=E,649nm,0.2s						
ROTZ	**Rotzenmuhle**	**0.48**	**199**	*e*Pg	**Pg**	**23 01 42.5**	**+0.3**
ROTZ				*e*Sg	**Sg**	**23 01 49.0**	**+0.4**
GRZ1	**Mausoleum Wald**	**0.50**	**343**	*i* Pg	**Pg**	**23 01 42.2**	**-0.4**
GRZ1				*i* Sg	**Sg**	**23 01 48.2**	**-0.9**
GRZ1				IAML		23 01 50.0	
	comp=N,226nm,0.2s						
GRZ1	**Mausoleum Wald**	**0.50**	**343**	*i* Pg	**Pg**	**23 01 42.2**	**-0.4**
GRZ1				*i* Sg	**Sg**	**23 01 48.2**	**-0.9**
	comp=N,226nm,0.2s						
ZEU	**Talsperre Zeul**	**0.54**	**326**	*i* Pg	**Pg**	**23 01 43.2**	**-0.3**
ZEU				*e*Sg	**Sg**	**23 01 50.0**	**-0.7**
ZEU	**Talsperre Zeul**	**0.54**	**326**	*i* Pg	**Pg**	**23 01 43.2**	**-0.3**
ZEU				*e*Sg	**Sg**	**23 01 50.0**	**-0.7**
MOX	**Moxa**	**0.68**	**309**	*e*Pg	**Pg**	**23 01 45.8**	**-0.3**
MOX				*e*Sg	**Sg**	**23 01 54.8**	**-0.2**
HSKC	**Hora Svate Kat**	**0.74**	**58**	*e*PG	**Pg**	**23 01 46.7**	**-0.4**
HSKC				*e*SG	**Sg**	**23 01 56.2**	**-0.6**
	comp=N,131nm,0.2s						
FBE	**Freiberg**	**0.91**	**39**	*e*Pg	**Pg**	**23 01 50.0**	**-0.4**
FBE				*e*Sg	**Sg**	**23 02 01.3**	**-0.9**
GRF	**Grafenberg Arr**	**0.95**	**237**	*e*Pg	**Pg**	**23 01 51.4**	**+0.2**
GRF				*e*Sg	**Sb**	**23 02 04.5**	**+0.5**
RICC	**Richard**	**1.10**	**72**	*e*SG	**Sg**	**23 02 07.9**	**-0.5**
	comp=N,103nm,0.4s						
WET	**Wettzell**	**1.11**	**165**	*e*Pg	**Pg**	**23 01 54.1**	**-0.1**
WET				*e*Sg	**Sg**	**23 02 08.2**	**-0.4**
CLL	**Collm**	**1.15**	**18**	*i* Pg	**Pg**	**23 01 54.2**	**-0.7**
CLL				*i* x	x	23 01 56.7	
CLL				*i* Sg	**Sg**	**23 02 08.8**	**-1.0**
	comp=Z,66nm,0.4s						
CLL				*i* x	x	23 02 12.1	
CLL	**Collm**	**1.15**	**18**	*e*Pg	**Pg**	**23 01 53.9**	**-1.0**
CLL				*e*Sg	**Sg**	**23 02 08.5**	**-1.3**
BRG	**Berggiesshubel**	**1.16**	**55**	Pg	**Pg**	**23 01 54.5**	**-0.6**
BRG				Sg	**Sg**	**23 02 09.5**	**-0.6**
BRG				Amp		23 02 10.1	
	comp=Z,51nm,0.2s						
BRG	**Berggiesshubel**	**1.16**	**55**	*e*Pg	**Pg**	**23 01 54.5**	**-0.6**
BRG				*e*Sg	**Sg**	**23 02 08.7**	**-1.4**
PRA	**Prague**	**1.28**	**96**	*e*Pn	**Pn**	**23 01 57.0**	**+0.3**
PRA	**Prague**	**1.28**	**96**	*e*SG	**Sg**	**23 02 13.7**	**-0.5**
KHC	**Kasperske Hory**	**1.31**	**146**	*e*PG	**Pn**	**23 01 57.0**	**-0.2**
KHC				*e*SG	**Sb**	**23 02 14.4**	**0.0**
	comp=Z,27nm,0.2s						
PRU	**Pruhonice**	**1.37**	**99**	*e*SG	**Sb**	**23 02 16.3**	**+0.4**
	comp=Z,58nm,0.2s						
PRU	**Pruhonice**	**1.37**	**99**	*e*Pg	**Pn**	**23 01 58.4**	**+0.5**
PRU				*e*Sg	**Sb**	**23 02 16.3**	**+0.4**
ZVC	**Zvikov**	**1.37**	**124**	*e*SG	**Sb**	**23 02 16.1**	**0.0**
	comp=Z,12nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**76**	*e*SG	**Sg**	**23 02 17.3**	**-0.3**
	comp=Z,109nm,0.2s						
GOPC	**GO Pecny, Ondr**	**1.54**	**101**	*e*SG	**Sb**	**23 02 21.6**	**+0.8**
	comp=Z,49nm,0.3s						
GEC2	**GERESS Array S**	**1.60**	**149**	*e*Pn	**Pn**	**23 02 01.2**	**0.0**
GEC2				*e*Sg	**Sn**	**23 02 23.0**	**+1.1**
CKRC	**Cesky Krumlov**	**1.85**	**138**	*e*SG	**Sb**	**23 02 30.6**	**+0.7**
	comp=Z,13nm,0.3s						
GTTG	**Gottingen**	**2.06**	**311**	Pn	**Pn**	**23 02 09.1**	**+1.7**
GTTG				Sn	**Sn**	**23 02 33.5**	**+0.4**
CLZ	**Clausthal**	**2.09**	**322**	Pn	**Pn**	**23 02 09.0**	**+1.1**
CLZ				Sg	**Sb**	**23 02 38.2**	**+1.5**
FUR	**Furstenfeldbru**	**2.19**	**201**	Sg	**Sb**	**23 02 42.4**	**+2.6**
UPC	**Upice**	**2.30**	**81**	*e*SG	**Sb**	**23 02 44.4**	**+1.7**
	comp=Z,24nm,0.4s						
A106B	**Goeppingen, Ma**	**2.31**	**232**	Pn	**Pn**	**23 02 09.6**	**-1.3**
A106B				Sg	**Sb**	**23 02 44.3**	**+1.3**
CHVC	**Chvalec**	**2.33**	**80**	*e*SG	**Sg**	**23 02 46.3**	**-1.6**
DPC	**Dobruska-Polom**	**2.49**	**85**	*e*SG	**Sb**	**23 02 49.8**	**+1.6**
	comp=Z,19nm,0.3s						
A108A	**Uim, Ringingen**	**2.54**	**223**	Pg	**Pg**	**23 02 21.1**	**-0.4**
A109A	**Bad Urach, See**	**2.64**	**229**	Pg	**Pg**	**23 02 23.1**	**-0.4**
BIOA	**Bad Ischl, Aus**	**2.65**	**162**	Pn	**Pn**	**23 02 15.8**	**+0.3**
	comp=Z,1.3nm,0.3s						
MOA	**Molln**	**2.66**	**153**	Pn	**Pn**	**23 02 15.2**	**-0.4**
	comp=Z,0.5nm,0.3s						
A104C	**Biberach, Ahle**	**2.78**	**222**	Sg	**Sg**	**23 03 00.9**	**-1.3**
KRLC	**Kraliky**	**2.79**	**91**	*e*SG	**Sg**	**23 03 00.8**	**-1.6**
	comp=Z,12nm,0.5s						
LESA	**Schwarzleotal**	**2.80**	**177**	Pn	**Pn**	**23 02 16.6**	**-1.1**
	comp=Z,0.4nm,0.2s						
KRUC	**Moravsky**	**2.81**	**113**	*e*PN	**Pn**	**23 02 17.8**	**0.0**
KRUC				*e*SG	**Sb**	**23 03 00.1**	**+2.6**
VRAC	**Vranov**	**2.84**	**107**	*e*PN	**Pn**	**23 02 18.0**	**-0.1**
VRAC				*e*SG	**Sb**	**23 03 00.3**	**+2.1**
WATA	**Walderalm**	**2.94**	**192**	Pn	**Pn**	**23 02 19.2**	**-0.5**
	comp=Z,0.8nm,0.1s						
RETA	**Reutte**	**2.95**	**203**	*e*Pg	**Pg**	**23 02 29.5**	**+0.1**
	comp=Z,3.1nm,0.4s						
A102A	**Sigmaringen, J**	**2.98**	**227**	Pg	**Pg**	**23 02 28.9**	**-1.0**
MOTA	**Moosalm**	**3.01**	**198**	*e*Pn	**Pn**	**23 02 19.8**	**-0.8**
	comp=Z,0.2nm,0.1s						
SQTA	**Sankt Quirin**	**3.11**	**196**	*e*Pn	**Pn**	**23 02 21.2**	**-0.7**
	comp=Z,1.1nm,0.3s						
SQTA				Pg	**Pg**	**23 02 32.2**	**-0.2**
	comp=Z,3.1nm,0.3s						
KBA	**Koelnbreinsper**	**3.20**	**169**	*e*Pn	**Pn**	**23 02 24.5**	**+1.3**
	comp=Z,0.6nm,0.3s						
CONA	**Conrad Observa**	**3.21**	**134**	*e*Pn	**Pn**	**23 02 23.4**	**+0.2**
	comp=Z,0.3nm,0.2s						
BFO	**Black Forest**	**3.29**	**237**	Pg	**Pg**	**23 02 34.5**	**-1.5**
BFO				Sg	**Sg**	**23 03 16.5**	**-1.8**
MORC	**Moravsky Berou**	**3.31**	**96**	*e*PN	**Pn**	**23 02 25.8**	**+0.3**
MORC				*e*SG	**Sg**	**23 03 16.4**	**-2.9**
RONA	**Rosalia, Austr**	**3.57**	**133**	*e*Pn	**Pn**	**23 02 28.2**	**-0.1**
	comp=Z,0.6nm,0.2s						
MODS	**Modra-Piesok**	**3.66**	**118**	*e*SG	**Sg**	**23 03 28.1**	**-2.2**
ZST	**Bratislava**	**3.66**	**122**	*e*SG	**Sg**	**23 03 27.7**	**-2.6**
OKC	**Ostrava-Krasne**	**3.69**	**94**	*e*SG	**Sg**	**23 03 27.6**	**-3.8**
CDF	**Champ du Feu**	**3.84**	**244**	*e*Pn	**Pn**	**23 02 30.9**	**-1.0**
CDF	**Champ du Feu**	**3.84**	**244**	*e*Pg	**Pb**	**23 02 43.2**	**+2.6**
CDF				*e*SG	**Sb**	**23 03 30.1**	**+3.0**
	comp=Z,13nm,0.6s						
HINF	**Hinteralfeld**	**4.40**	**239**	*e*Pg	**Pg**	**23 02 54.3**	**-2.8**
HINF				*e*Sn	**Sn**	**23 03 25.2**	**-5.6**
	comp=Z,0.9nm,0.3s						
HINF				*e*Sg	**Sb**	**23 03 46.8**	**+3.6**
	comp=Z,7.3nm,0.8s						
HAU	**Haudompre**	**4.58**	**243**	*e*Pn	**Pn**	**23 02 41.0**	**-1.1**
HAU	**Haudompre**	**4.58**	**243**	*e*Pg	**Pb**	**23 02 56.5**	**+3.3**
HAU				*e*SG	**Sb**	**23 03 54.5**	**+6.1**
	comp=Z,11nm,0.6s						
LANS	**Liptovska Anna**	**4.68**	**101**	*e*SG	**Sg**	**23 03 59.8**	**-3.2**
PAGF	**Fort de Pagny**	**4.70**	**252**	*e*Pg	**Pg**	**23 03 00.0**	**-2.8**
PAGF				*e*SG	**Sb**	**23 03 55.9**	**+4.2**
GIVF	**Givet**	**4.91**	**272**	*e*Sg	**Sb**	**23 04 02.9**	**+5.2**
	comp=Z,5.0nm,0.4s						
SAVF	**Savonnieres en**	**5.04**	**254**	*e*Pn	**Pn**	**23 02 47.9**	**-0.5**
SAVF				*e*Sn	**Sn**	**23 03 41.4**	**-5.2**
	comp=Z,3.3nm,0.3s						
CABF	**La Chapelle**	**5.56**	**232**	*e*Pg	**Pg**	**23 03 15.4**	**-4.0**
CABF				*e*Sg	**Sg**	**23 04 25.8**	**-5.6**
	comp=Z,14nm,1.0s						
LOR	**Lormes**	**6.40**	**246**	*e*Sg	Sb	23 04 50.2	+9.4
	comp=Z,14nm,1.3s						
SMF	**Signal de Mont**	**6.75**	**241**	*e*Pg	**Pb**	**23 03 33.7**	**+3.5**
SMF				*e*Sg	**Sg**	**23 05 01.6**	**-7.8**
	comp=Z,1.5nm,0.5s						
AVF	**Avril sur Loir**	**6.95**	**244**	*e*Pn	**Pn**	**23 03 11.9**	**-2.7**
AVF	**Avril sur Loir**	**6.95**	**244**	*e*Pg	**Pg**	**23 03 42.1**	**-3.7**
AVF				*e*Sg	**Sg**	**23 05 08.7**	**-7.0**
	comp=Z,0.3nm,0.3s						

IDC 22 23:11:43.5±2.2,2.17N×127.87E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=149.0km s-min=26.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.88**	**164**	P	P	23 16 49.5	+0.6
	1.7nm,0.5s,baz=344,slow=11,SNR=13						
	1.7nm,0.5s						
ASAR	**Alice Springs**	**26.35**	**167**	P	P	23 17 20.6	-0.9
	0.4nm,0.5s,baz=347,slow=7.5,SNR=4.9						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**59.47**	**325**	P	P	23 21 48.6	+0.2
	0.3nm,0.6s,baz=109,slow=8.6,SNR=4.2						
	0.3nm,0.6s						

*NEIC **22** 23:34:22.1±2.0,23.31N±0.04×125.10E±0.08, h10km±2km, mb4.0/4, Error ellipse: s-maj=12.0km s-min=7.1km az=82.0*
*IDC **22** 23:34:23.6±1.0,23.59N×125.01E, h0km, mb3.7/14, mbtmp3.8/17, ML3.9/2, Error ellipse: s-maj=27.3km s-min=20.0km az=74.0*
*JMA **22** 23:34:27.0±0.2,24.1×125.0E±0.6, h53km, MV3.8/14, NEAR ISHIGAKIJIMA ISLAND*
*NIED **22** 23:34:27.0,23.57N×124.97E, h53km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}2.18; M_{90}5.26; $M_{\theta\theta}$-7.43; $M_{r\theta}$-0.72; M_{90}4.10; $M_{\theta\phi}$3.24; Fault plane solution: M_o8.03000×10^{14} NP1: ϕ_s209.00000°,δ82.00000°,λ-166.00000°. NP2: ϕ_s117.00000°,δ76.00000°,λ-9.00000°.*

ISC 22 23:34:23.7±1.8, 23.57N±0.07×124.99E±0.04, h4km±10km, n55, σ1.921/68, mb3.8/16, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTJ	**Tarama**	**1.10**	**346**	*i* P	**Pn**	**23 34 46.6**	**+0.7**
JTJ				S	**Sn**	**23 35 00.7**	**-0.7**
JIJ	**Ishigaki jima**	**1.10**	**316**	*i* P	**Pn**	**23 34 46.4**	**+0.4**
JIJ				S	**Sg**	**23 34 59.8**	**+0.6**
JKRS	**Kuro-shima**	**1.11**	**307**	*i* P	**Pn**	**23 34 46.8**	**+0.7**
JKRS				*e*S	**Sn**	**23 35 01.0**	**-0.9**
HATJ	**Hateruma jima**	**1.19**	**294**	P	**Pg**	**23 34 47.2**	**+0.7**
HATJ				S	**Sb**	**23 35 01.6**	**-0.8**
JISG	**Ishigakijimahi**	**1.19**	**329**	P	**Pg**	**23 34 47.5**	**+1.0**
JISG				S	**Sn**	**23 35 03.1**	**-0.5**
JMJ2	**Miyako jima3**	**1.21**	**15**	P	**Pg**	**23 34 47.9**	**+1.0**
JMJ2				S	**Sn**	**23 35 03.6**	**-0.6**
JOGS	**Gusukube**	**1.25**	**18**	P	**Pg**	**23 34 48.7**	**+1.0**
JOGS				S	**Sn**	**23 35 05.1**	**0.0**
JIRB	**Irabujima**	**1.26**	**8**	P	**Pg**	**23 34 48.5**	**+0.5**
JIRB				S	**Sn**	**23 35 04.5**	**-1.1**
JMJ	**Miyako jima 2**	**1.27**	**13**	P	**Pg**	**23 34 48.0**	**-0.1**
JIKM	**Ikemajima**	**1.37**	**10**	P	**Pg**	**23 34 50.0**	**0.0**
JIKM				S	**Sg**	**23 35 07.5**	**-0.2**
IRIF	**Iriomote-Funau**	**1.38**	**304**	*i* P	**Pg**	**23 34 50.4**	**+0.3**
IRIF				S	**Sn**	**23 35 06.9**	**-1.5**
YOJ	**Yonaguni jima**	**2.01**	**297**	P	**Pb**	**23 34 59.5**	**-1.4**
YOJ	**Yonaguni jima**	**2.01**	**297**		**Pn**	**23 34 58.7**	**+0.2**
YOJ	**Yonaguni jima**	**2.01**	**297**	P	**Pb**	**23 34 59.4**	**-1.4**
YOJ				S	**Sn**	**23 35 21.6**	**-2.5**
JYNG	**Yonagunijimaku**	**2.06**	**296**	P	**Pb**	**23 35 00.2**	**-1.5**
JYNG				S	**Sn**	**23 35 23.7**	**-1.6**
NACB	**Ninganchiao**	**3.16**	**282**	P	**Pn**	**23 35 13.9**	**-0.4**
NACB	**Ninganchiao**	**3.16**	**282**	Pn	**Pn**	**23 35 13.2**	**-1.1**
YULB	**Yu-li**	**3.39**	**268**	P	**Pn**	**23 35 16.4**	**-1.1**
YULB	**Yu-li**	**3.39**	**268**	Pn	**Pn**	**23 35 15.7**	**-1.8**
YHNB	**Yeheng**	**3.48**	**289

OK031				Sg	Sg	00 16 06.6	+0.7	
OK031				IAML		00 16 07.5		
	comp=E,1μm,0.2s							
OK031				IAML		00 16 07.6		
	comp=E,1μm,0.1s							
OK052	**Battle Ridge R**	**0.57**	**57**	Pg	Pg	00 16 00.2	+0.1	
OK052				Sg	Sg	00 16 08.0	+0.5	
OK052				IAML		00 16 08.9		
	comp=E,990nm,0.2s							
OK052				IAML		00 16 08.9		
	comp=E,1μm,0.1s							
QUOK	**Quay**	**0.74**	**48**	Pg	Pg	00 16 02.9	-0.4	
QUOK				Sg	Sg	00 16 12.5	-0.4	
QUOK				IAML		00 16 16.6		
	comp=E,1μm,0.2s							
QUOK				IAML		00 16 16.7		
	comp=N,1μm,0.1s							
DEOK	**Depew**	**0.74**	**77**	Sg	Sg	00 16 13.4	+0.4	
OK048	**Pawnee Station**	**0.82**	**26**	Pg	Pg	00 16 04.5	-0.2	
OK048				Sg	Sg	00 16 15.5	+0.1	
OK048				IAML		00 16 18.4		
	comp=N,836nm,0.4s							
OK048				IAML		00 16 18.5		
	comp=N,859nm,0.1s							
OK051	**E0350 and S346**	**0.94**	**29**	Pg	Pg	00 16 06.7	-0.3	
OK051				Sg	Sg	00 16 19.0	-0.2	
CROK	**Carrier**	**0.95**	**330**	Pg	Pg	00 16 06.9	-0.4	
CROK				IAML		00 16 27.8		
	comp=E,745nm,0.3s							
CROK				IAML		00 16 30.3		
	comp=N,1μm,0.3s							
CSTR	**Hydro, Custer**	**1.06**	**268**	Pg	Pg	00 16 08.7	-0.6	
BLOK	**Blackwell**	**1.09**	**8**	Pg	Pg	00 16 09.3	-0.6	
GC02	**Grant County #**	**1.23**	**342**	Pg	Pg	00 16 11.8	-0.8	
OK032	**Salt Plains WL**	**1.30**	**330**		Pn	00 16 12.9	-0.9	
TUL3	**Leonard**	**1.32**	**80**		Pn	00 16 12.6	-1.4	
TUL3				IAML		00 16 34.8		
	comp=N,328nm,0.3s							
TUL3				IAML		00 16 34.8		
	comp=E,510nm,0.6s							
KAN13	**South Haven SW**	**1.33**	**357**		Pn	00 16 13.8	-0.4	
OK038	**West end E0370**	**1.35**	**306**		Pn	00 16 13.8	-0.7	
KAN14	**Manchester OK**	**1.35**	**340**		Pn	00 16 14.0	-0.5	
T35A	**Sooner Cattle**	**1.42**	**30**		Pn	00 16 14.9	-0.6	
KAN09	**Caldwell North**	**1.46**	**353**		Pn	00 16 15.9	-0.1	
KAN05	**Bluff City Nor**	**1.48**	**345**		Pn	00 16 16.1	-0.1	
OK035	**E0210 Rd and N**	**1.48**	**314**		Pn	00 16 15.6	-0.6	
KAN01	**Argonia South**	**1.50**	**349**		Pn	00 16 16.4	-0.1	
KAN06	**Argonia West S**	**1.61**	**347**		Pn	00 16 18.0	0.0	
KAN08	**Anthony NE Sta**	**1.61**	**343**		Pn	00 16 18.3	+0.2	
KAN12	**Harper NE Stat**	**1.69**	**343**		Pn	00 16 19.2	+0.1	
ELIS	**Ellis County**	**1.69**	**284**		Pn	00 16 19.0	-0.2	
LOOK	**Love County**	**1.69**	**174**		Pn	00 16 19.0	-0.2	
X37A	**Clayton**	**1.98**	**123**	Pn	Pn	00 16 23.0	-0.1	
X37A				IAmb_Lg		00 16 54.9		
	comp=Z,65nm,0.8s							
RLO	**Rose Lookout**	**1.98**	**75**	Pn	Pn	00 16 23.3	+0.1	
WTFS	**Witchita Falls**	**2.10**	**205**	Pn	Pn	00 16 24.8	-0.1	
Z35A	**Perchaven, San**	**2.35**	**177**	Pn	Pn	00 16 28.5	+0.4	
SMWD	**Samnorwood**	**2.40**	**257**	Pn	Pn	00 16 29.2	+0.2	
SMWD				IAmb_Lg		00 17 07.0		
	comp=Z,76nm,0.9s							
U38A	**Gravette**	**2.55**	**72**	Pn	Pn	00 16 31.4	+0.4	
FW03	**Perrin-Whitt E**	**2.69**	**192**	Pn	Pn	00 16 34.0	+1.1	
FW06	**Azle**	**2.71**	**183**	Pn	Pn	00 16 33.6	+0.5	
HHAR	**Hobbs**	**2.86**	**77**	Pn	Pn	00 16 35.0	-0.3	
R32A	**Long Quarter,**	**2.93**	**339**	Pn	Pn	00 16 36.1	-0.2	
PLPT	**Palo Pinto**	**2.96**	**195**	Pn	Pn	00 16 37.2	+0.6	
PLPT				IAmb_Lg		00 17 30.1		
	comp=Z,31nm,0.9s							
Z38A	**Mt. Pleasant**	**3.13**	**140**	Pn	Pn	00 16 39.0	+0.1	
Z38A				IAmb_Lg		00 17 33.2		
	comp=Z,28nm,0.9s							
TREL	**Terrell**	**3.13**	**159**	Pn	Pn	00 16 38.4	-0.6	
TREL				IAmb_Lg		00 17 31.5		
	comp=Z,32nm,0.8s							
APMT	**Aspermont**	**3.26**	**225**	Pn	Pn	00 16 40.7	0.0	
FW13	**Cleburne**	**3.32**	**181**	Pn	Pn	00 16 41.8	+0.2	
MIAR	**Mount Ida**	**3.33**	**109**	Pn	Pn	00 16 42.4	+0.7	
MIAR				IAmb_Lg		00 17 40.4		
	comp=Z,28nm,0.7s							
KSU1	**Kansas State U**	**3.47**	**10**	Pn	Pn	00 16 42.3	-1.4	
KSU1				IAmb_Lg		00 17 41.8		
	comp=Z,58nm,1.0s							
DKNS	**Dickens**	**3.54**	**236**	Pn	Pn	00 16 44.9	+0.3	
ABTX	**Abilene, Hawle**	**3.58**	**212**	Pn	Pn	00 16 45.3	+0.2	
AMTX	**Amarillo**	**3.60**	**258**	Pn	Pn	00 16 45.4	0.0	
CBKS	**Cedar Bluff**	**3.64**	**330**	Pn	Pn	00 16 44.3	-1.8	
CBKS				IAmb_Lg		00 17 50.8		
	comp=Z,26nm,0.8s							
WHTX	**Lake Whitney,**	**3.68**	**181**	Pn	Pn	00 16 46.2	-0.3	
S39A	**Bolivar**	**3.84**	**57**	Pn	Pn	00 16 48.7	0.0	
S39A				IAmb_Lg		00 17 52.9		
	comp=Z,24nm,0.8s							
SN07	**Snyder 07**	**3.88**	**229**	Pn	Pn	00 16 47.1	-2.2	
SN07				IAmb_Lg		00 17 59.8		
	comp=Z,32nm,0.7s							
237A	**Washetta, Mont**	**3.90**	**160**	Pn	Pn	00 16 48.5	-1.0	
237A				IAmb_Lg		00 18 02.0		
	comp=Z,22nm,0.8s							
X40A	**Basin Creek Fa**	**3.92**	**106**	Pn	Pn	00 16 50.7	+0.9	
SN05	**Snyder 5**	**4.02**	**227**	IAmb_Lg		00 17 59.3		
	comp=Z,35nm,0.7s							
WLAR	**White Oak Lake**	**4.05**	**118**	IAmb_Lg		00 18 00.4		
	comp=Z,24nm,0.8s							
WHAR	**Wooly Hollow**	**4.18**	**94**	Pn	Pn	00 16 52.3	-1.1	
WHAR				IAmb_Lg		00 18 08.2		
	comp=Z,29nm,0.9s							
UALR	**University of**	**4.23**	**101**	IAmb_Lg		00 18 07.3		
	comp=Z,50nm,1.1s							
POST	**Post**	**4.28**	**234**	Pn	Pn	00 16 55.0	+0.2	
POST				IAmb_Lg		00 18 13.9		
	comp=Z,32nm,1.0s							
FCAR	**Ozark Folk Cen**	**4.29**	**86**	Pn	Pn	00 16 55.9	+1.1	
FCAR				IAmb_Lg		00 18 12.5		
	comp=Z,35nm,0.7s							
MGMO	**Mountain Grove**	**4.39**	**69**	IAmb_Lg		00 18 18.7		
	comp=Z,28nm,0.9s							
RTBA	**Rita Blanca**	**4.40**	**281**	Pn	Pn	00 16 56.6	+0.1	
RTBA				IAmb_Lg		00 18 12.7		
	comp=Z,20nm,0.7s							
Z41A	**Richland Creek**	**4.50**	**121**	IAmb_Lg		00 18 21.4		
	comp=Z,23nm,0.8s							
BRDY	**Brady**	**4.58**	**197**	Pn	Pn	00 16 57.8	-1.2	
BRDY				IAmb_Lg		00 18 19.4		
	comp=Z,24nm,0.7s							
MSTX	**Muleshoe**	**4.74**	**250**	Pn	Pn	00 17 01.4	+0.2	
R40A	**Maddies Statio**	**4.86**	**56**	Pn	Pn	00 17 00.8	-1.9	
R40A				IAmb_Lg		00 18 34.4		
	comp=Z,18nm,0.8s							
435B	**Jarrell**	**4.89**	**182**	IAmb_Lg		00 18 35.5		
	comp=Z,30nm,0.8s							
CCAR	**Cane Creek**	**4.95**	**109**	IAmb_Lg		00 18 33.0		
	comp=Z,38nm,0.8s							
P38A	**Dawn**	**4.99**	**37**	Pn	Pn	00 17 03.1	-1.4	
P38A				IAmb_Lg		00 18 33.1		
	comp=Z,20nm,0.7s							
LCAR	**Lake Charles**	**5.08**	**84**	Pn	Pn	00 17 05.3	-0.4	
LCAR				IAmb_Lg		00 18 41.5		
	comp=Z,17nm,0.8s							
T42A	**Van Buren**	**5.26**	**73**	Pn	Pn	00 17 07.5	-0.7	
T42A				IAmb_Lg		00 18 43.7		
	comp=Z,16nm,0.7s							
KSCO	**Kaye Shedlock'**	**5.33**	**310**	IAmb_Lg		00 18 52.3		
	comp=Z,21nm,0.7s							
ODSA	**Odessa**	**5.57**	**232**	IAmb_Lg		00 18 54.3		
	comp=Z,26nm,1.1s							
OZNA	**Ozona**	**5.68**	**214**	IAmb_Lg		00 18 56.5		
	comp=Z,34nm,0.9s							
P40A	**Paris**	**5.72**	**46**	Pn	Pn	00 17 15.0	+0.5	
PBMO	**Poplar Bluff**	**5.73**	**77**	IAmb_Lg		00 18 55.5		
	comp=Z,32nm,0.7s							
143A	**Socs Landing,**	**5.78**	**119**	IAmb_Lg		00 18 58.4		
	comp=Z,22nm,1.1s							
N38A	**Joes South For**	**6.06**	**31**	Pn	Pn	00 17 18.6	-0.7	
OGNE	**Ogallala**	**6.40**	**327**	IAmb_Lg		00 19 18.1		
	comp=Z,26nm,0.8s							
CGM3	**Cape Girardeau**	**6.44**	**73**	Pn	Pn	00 17 23.9	-0.5	
CGM3				IAmb_Lg		00 19 21.6		
	comp=Z,16nm,0.9s							
EF01	**Eagle Ford 01**	**6.59**	**188**	IAmb_Lg		00 19 27.6		
	comp=Z,22nm,0.8s							
OXF	**Oxford**	**6.65**	**98**	IAmb_Lg		00 19 21.4		
	comp=Z,16nm,0.7s							
Y45A	**Yeager Farm, C**	**6.71**	**103**	IAmb_Lg		00 19 40.8		
	comp=Z,22nm,1.0s							
DRIO	**Del Rio**	**6.81**	**204**	Pn	Pn	00 17 29.6	+0.1	
SDCO	**Great Sand Dun**	**6.83**	**290**	Pn	Pn	00 17 30.7	+0.6	
SDCO				IAmb_Lg		00 19 29.8		
	comp=Z,13nm,1.1s							
S44A	**Carbondale**	**6.84**	**71**	Pn	Pn	00 17 29.4	-0.5	
PECS	**Pecos**	**6.91**	**233**	IAmb_Lg		00 19 33.3		
	comp=Z,11nm,0.9s							
SAND	**Sanderson**	**6.96**	**216**	Pn	Pn	00 17 30.0	-1.6	
SAND				IAmb_Lg		00 19 40.3		
	comp=Z,13nm,0.9s							
Q24A	**Divide**	**7.00**	**300**	IAmb_Lg		00 19 41.4		
	comp=Z,11nm,0.8s							
N41A	**Harden Midland**	**7.19**	**44**	Pn	Pn	00 17 33.9	-0.8	
P43A	**Skaggs, Pawnee**	**7.39**	**55**	IAmb_Lg		00 19 44.9		
	comp=Z,23nm,0.8s							
833A	**Chaparral WMA,**	**7.53**	**194**	IAmb_Lg		00 19 58.1		
	comp=Z,23nm,1.1s							
PLAL	**Pickwick Lake**	**7.65**	**93**	Pn	Pn	00 17 41.3	+0.3	
ISCO	**Idaho Springs**	**7.70**	**305**	Pn	Pn	00 17 41.2	-0.8	
L40A	**Anamosa**	**7.98**	**35**	IAmb_Lg		00 20 08.9		
	comp=Z,20nm,0.8s							
OLIL	**Olney**	**8.02**	**65**	IAmb_Lg		00 20 18.1		
	comp=Z,17nm,0.8s							
ECSD	**EROS Data Cent**	**8.06**	**4**	Pn	Pn	00 17 44.8	-1.9	
SMCO	**Snowmass**	**8.38**	**297**	Pn	Pn	00 17 52.2	+0.8	
PHWY	**Pilot Hill**	**8.45**	**314**	Pn	Pn	00 17 50.8	-1.5	
N23A	**Red Feather La**	**8.50**	**310**	Pn	Pn	00 17 51.5	-1.5	
N23A				IAmb_Lg		00 20 32.3		
	comp=Z,12nm,0.8s							
L42A	**Oliver, Polo**	**8.73**	**41**	Pn	Pn	00 17 54.6	-1.2	
JFWS	**Jewell Farm**	**9.10**	**35**	IAmb_Lg		00 20 48.9		
	comp=Z,17nm,0.8s							
I40A	**Norwalk**	**9.71**	**30**	IAmb_Lg		00 20 57.6		
	comp=Z,8.7nm,0.9s							
RSSD	**Black Hills**	**9.85**	**331**	Pn	Pn	00 18 10.1	-1.4	
K43A	**Burlington**	**9.93**	**42**	IAmb_Lg		00 21 29.1		
	comp=Z,16nm,0.8s							
K22A	**Casper**	**9.93**	**317**	IAmb_Lg		00 21 25.7		
	comp=Z,15nm,0.7s							

NEIC ***23*** *00:16:48.5±0.9, 19°.401N±0°.008×155°.273W±0°.007, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.6km az=353.0*

HVO 23 00:16:48.0±0.6,**19°.410N**±0°.007×**155°.269W**±0°.006, **h0**km±3km,**ML3.0**/14,**ML2.0**/29(NEIC),**Error ellipse: s-maj=1.1km s-min=0.8km az=202.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**76**	Pg	Pg	00 16 48.7	+0.4
KKO	**Keanakako'i**	**0.01**	**167**		Pg	00 16 49.4	+0.9
NPH	**North Pit**	**0.01**	**281**		Pg	00 16 49.1	+0.7
HATHI	**Halema'uma'u T**	**0.01**	**30**	Pg	Pg	00 16 48.5	+0.1
RIM	**Rim**	**0.01**	**198**		Pg	00 16 49.3	+0.9
OBL	**Observatory Le**	**0.02**	**298**		Pg	00 16 48.9	+0.4
SBLHI	**Steaming Bluff**	**0.02**	**3**		Pg	00 16 49.3	+0.8
UWB	**Uwekahuna B**	**0.02**	**330**		Pg	00 16 49.3	+0.8
UWE	**Uwekahuna**	**0.03**	**296**	IAML		00 16 48.6	
	comp=N,3μm,0.8s						
UWE				Pg	Pg	00 16 49.1	+0.5
SDHHI	**Sand Hill**	**0.03**	**229**		Pg	00 16 50.1	+1.5
RSD	**Rainshed**	**0.05**	**351**	Pg	Pg	00 16 49.9	+0.8
PUH	**Pauahi**	**0.06**	**125**	Pg	Pg	00 16 50.0	+0.7
PUH				IAML		00 16 50.9	
	comp=E,2μm,0.2s						
PUH				IAML		00 16 51.3	
	comp=N,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**108**	Pg	Pg	00 16 50.4	+0.5
HLP	**Hilina Pali**	**0.12**	**198**	Pg	Pg	00 16 51.2	+0.9
HLP				IAML		00 16 51.5	
	comp=E,845nm,1.6s						
STCH	**Steam Cracks**	**0.14**	**100**	Pg	Pg	00 16 51.2	+0.5
MLH	**Mauna Loa**	**0.14**	**307**	Pg	Pg	00 16 51.6	+0.8
MLH				IAML		00 16 55.1	
	comp=N,689nm,0.7s						
MLH				IAML		00 16 55.4	
	comp=E,582nm,0.5s						
NPOC	**North of Pu'u**	**0.15**	**96**		Pg	00 16 51.8	+0.9
HTC	**Hot Caves**	**0.21**	**215**		Pg	00 16 53.3	+1.2
JOKA	**Jonika Flow**	**0.25**	**85**	Pg	Pg	00 16 53.2	+0.4
JOKA				IAML		00 16 58.5	
	comp=E,307nm,1.1s						
HMH	**Humu'ula Sheep**	**0.28**	**314**	Pg	Pg	00 16 54.1	+0.7
HMH				IAML		00 16 56.3	
	comp=N,210nm,1.2s						
HMH				IAML		00 16 59.9	
	comp=E,236nm,1.5s						
MLOA	**Mauna Loa Obse**	**0.32**	**293**	Pg	Pg	00 16 55.0	+0.9
MLOA				IAML		00 17 04.0	
	comp=N,277nm,1.2s						
MLOA				IAML		00 17 05.3	
	comp=E,260nm,1.2s						
MWH	**Moku'aweowe**	**0.32**	**284**	Pg	Pg	00 16 54.5	+0.3
KHU	**Kahuku**	**0.36**	**244**	Pg	Pg	00 16 55.5	+0.5
HUH	**Hualalai**	**0.60**	**297**	Pg	Pg	00 17 00.4	+0.8

CATAC ***23*** *01:27:31.3±0.8, 13°.69N×90°.76W, h22km±8km, mb4.6, ML4.4*

NEIC ***23*** *01:27:32.1±2.4, 13°.79N±0°.09×90°.80W±0°.08, h58km±10km, mb4.0/21, Error ellipse: s-maj=15.1km s-min=6.8km az=218.0*

SNET ***23*** *01:27:33.0±0.7, 13°.77N×90°.65W, h28km±23km, ML4.3*

GCG ***23*** *01:27:34.7±0.7, 13°.97N×90°.80W, h55km±13km, MD4.0*

ISC 23 01:27:31.6±1.1,**13°.72N**±0°.06×**90°.77W**±0°.05,**h62**km±10km, **n97,σ1ˢ15**/106,**mb4.0**/9,**3D,Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.69**	**13**	*eP*	**Pn**	**01 27 46.4**	**+0.3**
FUG	**Fuego 3**	**0.73**	**355**	*eP*	**Pn**	**01 27 46.7**	**+0.2**
GCG4	**OSOP**	**0.89**	**15**	*i* P	**Pn**	**01 27 48.7**	**+0.2**
GCG4				*i* S	**Sn**	**01 28 01.1**	**+0.1**
GCG4				IAML		01 28 05.2	
	comp=Z,9μm,1.0s						
GUMI	**Mixco**	**0.92**	**10**	*i* P	**Pn**	**01 27 49.2**	**+0.3**
GUMI				*i* S	**Sn**	**01 28 02.9**	**+1.3**
GUMI				IAML		01 28 04.3	
	comp=Z,15μm,1.0s						
NBG	**Las Nubes**	**0.96**	**25**	*eP*	**Pn**	**01 27 50.9**	**+1.5**
GUNB	**GUNB**	**0.96**	**25**	*i* P	**Pn**	**01 27 49.4**	**-0.1**
GUNB				*i* S	**Sn**	**01 28 02.6**	**-0.1**
GUNB				IAML		01 28 06.4	
	comp=Z,10μm,1.0s						
SULM	**Suchitepequez,**	**0.96**	**307**	*eP*	**Pn**	**01 27 50.1**	**+0.9**
NUBE	**Las Nubes**	**0.98**	**79**	*eP*	**Pn**	**01 27 48.8**	**-0.7**
NUBE				*eS*	**Sn**	**01 28 01.9**	**-1.0**
LOAL	**Lomas de Alarc**	**1.00**	**74**	*eP*	**Pn**	**01 27 49.5**	**-0.2**
CHTG	**Tecpan**	**1.06**	**349**	*i* P	**Pn**	**01 27 50.7**	**0.0**
CHTG				*i* S	**Sn**	**01 28 05.7**	**+0.9**
CHTG				IAML		01 28 07.6	
	comp=Z,31μm,1.0s						
RTR	**El Retiro**	**1.11**	**81**	*eP*	**Pn**	**01 27 51.1**	**-0.1**
CEVE	**Cerro Verde**	**1.12**	**84**	*eP*	**Pn**	**01 27 51.0**	**-0.5**
SBLS	**San Blas**	**1.12**	**84**	*eP*	**Pn**	**01 27 50.9**	**-0.6**
SNJE	**San Jose**	**1.14**	**82**	*iP*	**Pn**	**01 27 51.4**	**-0.4**
RTAL	**Retalhuleu**	**1.20**	**312**		**Pn**	**01 27 51.4**	**-1.0**
RTAL				Sn	**Sn**	**01 28 06.2**	**-1.6**
RTAL	**Retalhuleu**	**1.20**	**312**	*i* P	**Pn**	**01 27 51.7**	**-0.6**
RTAL				IAML		01 28 12.2	
	comp=Z,3μm,1.0s						
UNIC	**Universidad Ca**	**1.22**	**78**	*eP*	**Pn**	**01 27 52.3**	**-0.2**
UNIC				*eS*	**Sn**	**01 28 08.5**	**+0.3**
STG3	**Santiaguito 3,**	**1.25**	**322**	*eP*	**Pn**	**01 27 53.7**	**+0.5**
JAYA	**Jayaque - finc**	**1.29**	**93**	*eP*	**Pn**	**01 27 52.7**	**-0.9**
CEDA	**San Andres**	**1.34**	**86**	*eP*	**Pn**	**01 27 53.1**	**-1.1**
PMON	**Piamonte**	**1.42**	**90**	*eP*	**Pn**	**01 27 55.0**	**-0.2**
LALI	**Alcalda de L**	**1.43**	**99**	*eP*	**Pn**	**01 27 54.6**	**-0.8**
BOQS	**Boqueron**	**1.45**	**89**	*eP*	**Pn**	**01 27 55.6**	**-0.2**
SNET	**Serv Nac Est T**	**1.50**	**91**	*eP*	**Pn**	**01 27 56.2**	**-0.1**
MTO3	**Montecristo**	**1.53**	**64**	*iP*	**Pn**	**01 27 56.4**	**-0.5**
PANCS	**Alcalda de**	**1.55**	**94**	*eP*	**Pn**	**01 27 56.8**	**-0.2**
LOMA	**Loma Larga**	**1.56**	**93**	*eP*	**Pn**	**01 27 56.7**	**-0.5**
SMSP	**San Marcos**	**1.58**	**322**	*i* P	**Pn**	**01 27 59.9**	**+2.2**
SMSP				*i* S	**Sn**	**01 28 17.7**	**+0.3**
SMSP				IAML		01 28 23.2	
	comp=Z,9μm,1.0s						
QUIS	**Sacapulas**	**1.59**	**349**	*i* P	**Pn**	**01 27 58.5**	**+0.8**
QUIS				*i* S	**Sn**	**01 28 21.2**	**+3.8**
QUIS				IAML		01 28 23.2	
	comp=Z,2μm,1.0s						
ESQI	**Esquipulas**	**1.62**	**59**	Pn	**Pn**	**01 27 57.5**	**-0.5**
ESQI	**Esquipulas**	**1.62**	**59**	*i* P	**Pn**	**01 27 58.1**	**+0.1**
ESQI				*i* S	**Sn**	**01 28 19.6**	**+1.6**
ESQI				IAML		01 28 32.5	
	comp=Z,1μm,1.0s						
MRL	**Marmol**	**1.71**	**38**	*eP*	**Pn**	**01 28 00.5**	**+1.1**
HUEH	**Huehuetenango**	**1.74**	**336**	Pn	**Pn**	**01 27 57.4**	**-2.4**
HUEH	**Huehuetenango**	**1.74**	**336**	*i* P	**Pn**	**01 28 00.6**	**+0.8**
HUEH				IAML		01 28 30.5	
	comp=Z,2μm,1.0s						
AVCB	**Coban**	**1.77**	**11**	*i* P	**Pn**	**01 28 00.8**	**+0.6**
AVCB				IAML		01 28 27.9	
	comp=Z,12μm,1.0s						
PAVA	**Las Pavas**	**1.78**	**90**	*eP*	**Pn**	**01 27 59.9**	**-0.3**
COEG	**Centro de Oper**	**1.84**	**93**	*eP*	**Pn**	**01 28 00.9**	**0.0**
TECO	**Alcaldia de Te**	**1.94**	**95**	*eP*	**Pn**	**01 28 02.1**	**-0.3**
SCLA	**Alcaldia de Sa**	**1.99**	**90**	*eP*	**Pn**	**01 28 02.7**	**-0.2**
CCIG	**Comitan**	**2.87**	**333**	Pn	**Pn**	**01 28 16.2**	**+1.2**
CCIG	**Comitan**	**2.87**	**333**	*i* P	**Pn**	**01 28 16.9**	**+1.8**
CCIG				IAML		01 29 07.2	
	comp=Z,230nm,1.0s						
PETF	**Flores**	**3.30**	**15**	Pn	**Pn**	**01 28 20.8**	**+0.1**
PETF	**Flores**	**3.30**	**15**	*i* P	**Pn**	**01 28 22.2**	**+1.4**
PETF				IAML		01 29 26.8	
	comp=Z,240nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.41**	**84**	Pn	**Pn**	**01 28 21.5**	**-0.9**
TGUH	**Tegucigalpa,Un**	**3.41**	**84**	*i* P	**Pn**	**01 28 22.3**	**-0.2**
TGUH				IAML		01 29 32.3	
	comp=Z,130nm,1.0s						
CRIN	**San Cristobal**	**3.76**	**105**	Pn	**Pn**	**01 28 27.3**	**+0.1**
CRIN	**San Cristobal**	**3.76**	**105**	*i* P	**Pn**	**01 28 27.7**	**+0.5**
CRIN				IAML		01 29 30.0	
	comp=Z,930nm,1.0s						
PKGN	**Cerro Pekin**	**3.84**	**105**	*i* P	**Pn**	**01 28 27.6**	**-0.6**
PKGN				IAML		01 29 23.8	
	comp=Z,1μm,1.0s						
CNGN	**Cerro Negro**	**4.15**	**107**	Pn	**Pn**	**01 28 32.0**	**-0.4**
CNGN	**Cerro Negro**	**4.15**	**107**	*i* P	**Pn**	**01 28 32.1**	**-0.4**
CNGN				IAML		01 29 38.5	
	comp=Z,310nm,1.0s						
MACN	**El Madrono**	**4.18**	**107**	*i* P	**Pn**	**01 28 33.0**	**+0.1**
MACN				IAML		01 29 36.5	
	comp=Z,170nm,1.0s						
LEVN	**Ruinas Leon Vi**	**4.25**	**107**	*i* P	**Pn**	**01 28 33.8**	**-0.1**
LEVN				IAML		01 29 31.4	
	comp=Z,340nm,1.0s						
LIMN	**Finca el Limon**	**4.34**	**98**	*i* P	**Pn**	**01 28 37.1**	**+2.0**
COPN	**Copaltepe**	**4.35**	**110**	*i* P	**Pn**	**01 28 34.7**	**-0.5**
COPN				IAML		01 29 40.7	
	comp=Z,210nm,1.0s						
MOM2	**El Cardon**	**4.37**	**106**	*i* P	**Pn**	**01 28 35.9**	**+0.5**
MOM2				IAML		01 29 39.3	
	comp=Z,170nm,1.0s						
APQ3	**Volcan Apoyequ**	**4.53**	**108**	*i* P	**Pn**	**01 28 38.6**	**+1.0**
APQ3				IAML		01 28 57.7	
	comp=Z,250nm,1.0s						
SAPS	**Ciudad Sandino**	**4.53**	**109**	*i* P	**Pn**	**01 28 39.8**	**+2.2**
SAPS				IAML		01 29 50.2	
	comp=Z,390nm,1.0s						
TISN	**Laguna Tiscapa**	**4.66**	**109**	*i* P	**Pn**	**01 28 41.2**	**+1.7**
TISN				IAML		01 29 44.6	
	comp=Z,25nm,1.0s						
HUEN		**4.69**	**107**	*i* P	**Pn**	**01 28 42.3**	**+2.5**
HUEN				*i* S	**Sn**	**01 29 34.1**	**+1.2**
CONN	**Concepcion**	**5.46**	**113**	*i* P	**Pn**	**01 28 50.4**	**0.0**
CONN				IAmb	IAmb	01 29 15.9	
	comp=Z,230nm,0.6s						
CONN				IAML		01 30 13.6	
	comp=Z,590nm,1.0s						
ACON	**Acoyapa**	**5.73**	**107**	Pn	**Pn**	**01 28 54.6**	**+0.5**
ACON	**Acoyapa**	**5.73**	**107**	*i* P	**Pn**	**01 28 56.4**	**+2.3**
ACON				IAmb	IAmb	01 29 16.8	
	comp=Z,12nm,0.9s						
ACON				IAML		01 30 55.8	
	comp=Z,64nm,1.0s						
HZTE	**Horizontes, Gu**	**5.88**	**120**	Pn	**Pn**	**01 28 57.8**	**+1.7**
ORTG	**Ortega, Santa**	**6.17**	**122**	Pn	**Pn**	**01 29 01.2**	**+1.0**
DUNO	**Dulce Nombre,**	**6.31**	**124**	Pn	**Pn**	**01 29 03.4**	**+1.4**
ESPN	**Las Esperanzas**	**6.49**	**103**	Pn	**Pn**	**01 29 04.8

λ74.53000°. Principal axes: T 2.2980, Plg78.0000°, Azm335.0000°; N -0.2932, Plg10.0000°, Azm194.0000°; P -2.0048, Plg8.0000°, Azm103.0000°;
NEIC **23** 01:37:46.2,55.2ENx161.98E, h40km
NEIC **23** 01:37:46.3,55.22Nx162.02E, h34km
BJI **23** 01:37:47.4±0.0,55.34Nx161.50E, h63km, mb5.3/84, mB5.3/70, Ms5.6/96, Ms7 5.7/91
MOS **23** 01:37:48.4±1.1,55.20Nx161.84E, h74km, mb5.9/83, MS5.4/72, Error ellipse: s-maj=5.4km s-min=2.9km az=93.5
MOS Felt (III-IV) at Petropavlovsk-Kamchatskiy.
GCMT **23** 01:37:49.5±0.1,55.11N±0.01×162.59E±0.01, h43km, MW5.7/157, Moment Tensor Solution. s157,c347; s155,c317; Duration: 1ŧ8 Moment tensor: Scale 10^{17} Nm; M_{rr}4.04±.04; $M_{\theta\theta}$-0.74±.04; $M_{\phi\phi}$-3.29±.04; $M_{r\theta}$1.71±.04; $M_{\theta\phi}$-2.18±.03; $M_{\phi r}$1.55±.04; Best double couple: M_o4.88000×10^{17} NP1:ϕs39.00000°, δ59.00000°, λ100.00000°. NP2:ϕs200.00000°, δ32.00000°, λ73.00000°. Principal axes: T 4.6840, Plg74.0000°, Azm335.0000°; N 0.3970, Plg9.0000°, Azm214.0000°; P -5.0760, Plg14.0000°, Azm122.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function

ISC 23 01:37:47.7±0.3,55.16N±0.03×162.01E±0.02, h50km±2km, h50km:pP-P, n2379, σ1ŧ58/2246, mb5.6/693, MS5.3/550, 183C-54D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
TUMD	**Tumrok D**	**0.92**	**274**	*eP*		**Pn**	**01 38 05.9**	**+1.5**
TUMD				*eS*		**Sn**	**01 38 19.7**	**+3.0**
TUMR	**Tumrok**	**1.07**	**278**	*eP*		**Pn**	**01 38 08.5**	**+1.9**
TUMR	**Tumrok**	**1.07**	**278**	PN		**Pn**	**01 38 05.9**	**-0.6**
TUMR				S		**Sn**	**01 38 19.7**	**-0.8**
BZGR	**Bezymyannyi-Gr**	**1.08**	**317**	*eP*		**Pn**	**01 38 08.4**	**+1.8**
BZGR				*eS*		**Sn**	**01 38 25.3**	**+4.7**
BZGR	**Bezymyannyi-Gr**	**1.08**	**317**	PN		**Pn**	**01 38 08.4**	**+1.8**
BZGR				S		**Sn**	**01 38 25.3**	**+4.7**
ZLN	**Zelenaya**	**1.10**	**322**	*eP*		**Pn**	**01 38 08.7**	**+1.8**
ZLN	**Zelenaya**	**1.10**	**322**	PN		**Pn**	**01 38 08.7**	**+1.8**
BZP	**Bezymyannyi-Pe**	**1.13**	**313**	*eP*		**Pn**	**01 38 08.8**	**+1.5**
KBTR	**Krutoberegovo**	**1.15**	**23**	*eP*		**Pn**	**01 38 05.8**	**-1.6**
KBTR	**Krutoberegovo**	**1.15**	**23**	PN		**Pn**	**01 38 05.8**	**-1.6**
BZMR	**Bezymyannaya**	**1.16**	**313**	*eP*		**Pn**	**01 38 09.5**	**+1.7**
BZMR	**Bezymyannaya**	**1.16**	**313**	PN		**Pn**	**01 38 09.5**	**+1.7**
KMNR	**Kamenistaya**	**1.17**	**302**	*eP*		**Pn**	**01 38 09.9**	**+2.0**
KMNR	**Kamenistaya**	**1.17**	**302**	PN		**Pn**	**01 38 09.9**	**+2.0**
BZWR	**Bezymyannyi-We**	**1.18**	**314**	*eP*		**Pn**	**01 38 09.8**	**+1.8**
BZWR	**Bezymyannyi-We**	**1.18**	**314**	PN		**Pn**	**01 38 09.8**	**+1.8**
LGNR	**Loginova**	**1.19**	**322**	*eP*		**Pn**	**01 38 10.3**	**+2.0**
LGNR	**Loginova**	**1.19**	**322**	PN		**Pn**	**01 38 10.3**	**+2.0**
CIRR	**Tsirk**	**1.20**	**324**	*eP*		**Pn**	**01 38 09.9**	**+1.7**
CIRR	**Tsirk**	**1.20**	**324**	PN		**Pn**	**01 38 09.9**	**+1.7**
KIRR	**Kirishev**	**1.24**	**311**	*eP*		**Pn**	**01 38 10.4**	**+1.6**
KIRR	**Kirishev**	**1.24**	**311**	PN		**Pn**	**01 38 10.4**	**+1.6**
KPT	**Kopyto**	**1.30**	**309**	*eP*		**Pn**	**01 38 11.3**	**+1.7**
KPT	**Kopyto**	**1.30**	**309**	PN		**Pn**	**01 38 11.3**	**+1.7**
KRSR	**Krestovskiy**	**1.34**	**323**	*eP*		**Pn**	**01 38 11.5**	**+1.4**
KRSR	**Krestovskiy**	**1.34**	**323**	PN		**Pn**	**01 38 11.5**	**+1.4**
KLY	**Klyuchi**	**1.39**	**327**	*eP*		**Pn**	**01 38 11.0**	**+0.3**
KLY	**Klyuchi**	**1.39**	**327**	PN		**Pn**	**01 38 11.0**	**+0.3**
BDR	**Baidarnaya**	**1.48**	**343**	*eP*		**Pn**	**01 38 14.1**	**+2.0**
BDR	**Baidarnaya**	**1.48**	**343**	PN		**Pn**	**01 38 14.1**	**+2.0**
KOZ	**Kozyrevsk**	**1.51**	**308**	*eP*		**Pn**	**01 38 15.0**	**+2.6**
KOZ	**Kozyrevsk**	**1.51**	**308**	PN		**Pn**	**01 38 15.0**	**+2.6**
SRKR	**Sorokina**	**1.57**	**343**	*eP*		**Pn**	**01 38 15.4**	**+2.1**
SRKR	**Sorokina**	**1.57**	**343**	PN		**Pn**	**01 38 15.4**	**+2.1**
SRDR	**Sredinnyy**	**1.74**	**313**	*eP*		**Pn**	**01 38 17.7**	**+2.1**
SRDR	**Sredinnyy**	**1.74**	**313**	PN		**Pn**	**01 38 17.7**	**+2.1**
KII	**Karymskiy**	**1.86**	**234**	*eP*		**Pn**	**01 38 18.5**	**+1.2**
KII	**Karymskiy**	**1.86**	**234**	PN		**Pn**	**01 38 18.5**	**+1.2**
BKI	**Bering**	**2.27**	**87**	*eP*		**Pn**	**01 38 19.0**	**-3.7**
BKI				*eS*		**Sn**	**01 38 42.8**	**-6.7**
BKI	**Bering**	**2.27**	**87**	PN		**Pn**	**01 38 19.0**	**-3.7**
SPN	**Mys Shipunski**	**2.37**	**210**	*eP*		**Pn**	**01 38 22.9**	**-1.2**
SPN	**Mys Shipunski**	**2.37**	**210**	PN		**Pn**	**01 38 22.9**	**-1.2**
NLC	**Nalytchevo**	**2.53**	**219**	*eP*		**Pn**	**01 38 26.8**	**+0.5**
NLC				*eS*		**Sn**	**01 39 00.1**	**+4.2**
NLC	**Nalytchevo**	**2.53**	**219**	PN		**Pn**	**01 38 26.8**	**+0.5**
NLC				S		**Sn**	**01 39 00.1**	**+4.2**
KRER	**Koryakskii**	**2.67**	**227**	*eP*		**Pn**	**01 38 30.3**	**+2.0**
KRER	**Koryakskii**	**2.67**	**227**	PN		**Pn**	**01 38 30.3**	**+2.0**
KRX	**Arik**	**2.67**	**229**	*eP*		**Pn**	**01 38 29.7**	**+1.4**
KRX	**Arik**	**2.67**	**229**	PN		**Pn**	**01 38 29.7**	**+1.4**
SMAR	**Somma**	**2.67**	**226**	*eP*		**Pn**	**01 38 29.9**	**+1.5**
SMAR	**Somma**	**2.67**	**226**	PN		**Pn**	**01 38 29.9**	**+1.5**
AVH	**Avacha**	**2.70**	**227**	*eP*		**Pn**	**01 38 30.4**	**+1.8**
AVH	**Avacha**	**2.70**	**227**	PN		**Pn**	**01 38 30.4**	**+1.8**
UGLR	**Uglovaya**	**2.70**	**225**	*eP*		**Pn**	**01 38 30.2**	**+1.4**
UGLR	**Uglovaya**	**2.70**	**225**	PN		**Pn**	**01 38 30.2**	**+1.4**
KOK	**Koryaka**	**2.72**	**228**	*eP*		**Pn**	**01 38 30.7**	**+1.7**
KOK	**Koryaka**	**2.72**	**228**	PN		**Pn**	**01 38 30.7**	**+1.7**
GNL	**Ganaly**	**2.79**	**240**	*eP*		**Pn**	**01 38 32.2**	**+2.2**
GNL	**Ganaly**	**2.79**	**240**	PN		**Pn**	**01 38 32.2**	**+2.2**
DALK	**Dalny**	**2.87**	**223**	*eP*		**Pn**	**01 38 32.2**	**+1.3**
DALK				*eS*		**Sn**	**01 39 07.1**	**+3.1**
DALK	**Dalny**	**2.87**	**223**	PN		**Pn**	**01 38 32.2**	**+1.3**
DALK				S		**Sn**	**01 39 07.1**	**+3.1**
INSR	**Institute**	**2.90**	**225**	*eP*		**Pn**	**01 38 33.3**	**+1.9**
INSR				*eS*		**Sn**	**01 39 12.5**	**+7.6**
PET	**Petropavlovsk**	**2.91**	**224**	P		**Pn**	**01 38 33.8**	**+2.3**
PET	**Petropavlovsk**	**2.91**	**224**			**Pn**	**01 38 32.3**	**+0.8**
PET	**Petropavlovsk**	**2.91**	**224**	*eP*		**Pn**	**01 38 33.4**	**+1.9**
PET	**Petropavlovsk**	**2.91**	**224**	*de*PN		**Pn**	**01 38 33.2**	**+1.7**
PET				*eS*		**Sn**	**01 39 08.6**	**+3.4**
PET					pmax	pmax		
	comp=Z,10μm,0.6s							
PET					smax	smax		
	comp=E,70μm,1.1s							
PET					smax	smax		
	comp=E,71μm,1.0s							
PET					smax	smax		
	comp=N,78μm,0.9s							
PET					smax	smax		
	comp=N,82μm,0.8s							
PET	**Petropavlovsk**	**2.91**	**224**	P		**Pn**	**01 38 33.2**	**+1.7**
TIGL	**Tigil**	**3.20**	**326**	*eP*		**Pn**	**01 38 37.3**	**+1.9**
I44RU	**PETROPAVLOVSK-**	**3.26**	**233**	Pn		**Pn**	**01 38 40.2**	**+3.9**
	baz=79,slow=18							
I44RU				I		I	01 51 40.0	
	baz=50,slow=329,SNR=4.1							
PEA0B	**Petropavlovsk-**	**3.26**	**233**	Pn		**Pn**	**01 38 37.9**	**+1.5**
PEA0B	**Petropavlovsk-**	**3.26**	**233**	*ce*PN		**Pn**	**01 38 38.4**	**+2.1**
PETK	**Petropavlovsk-**	**3.26**	**233**	Pn		**Pn**	**01 38 37.7**	**+1.4**
PETK	**Petropavlovsk-**	**3.26**	**233**	Pn		**Pn**	**01 38 37.1**	**+0.8**
	comp=N,83nm,0.3s,baz=63,slow=18,SNR=277							
PETK				Sn		**Sn**	**01 39 11.4**	**-2.4**
	comp=N,496nm,0.3s,baz=89,slow=20,SNR=5.9							
PETK				Lg		Lg	01 39 23.8	
	comp=N,495nm,0.3s,baz=99,slow=15,SNR=6.6							
PETK				LR		LR	01 40 08.6	
	comp=N,48μm,20.1s,baz=55,slow=43							
	comp=N,821nm,0.7s							
KRMR	**Karymshinskiy**	**3.27**	**226**	*eP*		**Pn**	**01 38 38.0**	**+1.6**
KRMR				*eS*		**Sn**	**01 39 19.8**	**+5.8**
KRMR	**Karymshinskiy**	**3.27**	**226**	PN		**Pn**	**01 38 38.0**	**+1.6**
RUS	**Russkaya**	**3.43**	**219**	*eP*		**Pn**	**01 38 39.0**	**+0.4**
RUS	**Russkaya**	**3.43**	**219**	PN		**Pn**	**01 38 39.0**	**+0.4**
MTVR	**Mutnovka**	**3.51**	**222**	*eP*		**Pn**	**01 38 41.2**	**+1.4**
MTVR	**Mutnovka**	**3.51**	**222**	PN		**Pn**	**01 38 41.2**	**+1.4**
APC	**Apacha**	**3.63**	**234**	*eP*		**Pn**	**01 38 43.9**	**+2.6**
APC	**Apacha**	**3.63**	**234**	PN		**Pn**	**01 38 43.9**	**+2.6**
ASAK	**Asacha**	**3.70**	**223**	*eP*		**Pn**	**01 38 44.7**	**+2.3**
ASAK	**Asacha**	**3.70**	**223**	PN		**Pn**	**01 38 44.7**	**+2.3**
KDTR	**Khodutka, Kamc**	**4.09**	**217**	*eP*		**Pn**	**01 38 48.9**	**+1.2**
KDTR				*eS*		**Sn**	**01 39 38.1**	**+3.8**
KDTR	**Khodutka, Kamc**	**4.09**	**217**	PN		**Pn**	**01 38 48.9**	**+1.2**
KDTR				S		**Sn**	**01 39 38.1**	**+3.8**
PALN	**Palana**	**4.10**	**345**	*eP*		**Pn**	**01 38 49.4**	**+1.7**
PALN	**Palana**	**4.10**	**345**	PN		**Pn**	**01 38 49.4**	**+1.7**
OSSR	**Ossora**	**4.14**	**8**	*eP*		**Pn**	**01 38 48.7**	**+0.3**
OSSR	**Ossora**	**4.14**	**8**	PN		**Pn**	**01 38 48.7**	**+0.3**
PAU	**Pauzhetka**	**4.83**	**222**	*eP*		**Pn**	**01 39 01.6**	**+3.8**
PAU	**Pauzhetka**	**4.83**	**222**	PN		**Pn**	**01 39 01.6**	**+3.8**
SKR	**Severo-Kuril's**	**5.72**	**221**	*eP*		**Pn**	**01 39 12.4**	**+2.4**
SKR	**Severo-Kuril's**	**5.72**	**221**	*e*PN		**Pn**	**01 39 12.5**	**+2.4**
SKR				*eS*		Sn	01 40 24.8	+10
SKR					pmax	pmax		
	comp=Z,725nm,0.7s							
SKR					smax	smax		
	comp=E,13μm,0.7s							
SKR					smax	smax		
	comp=N,14μm,0.8s							
SKR					MLR	MLR		
	comp=Z,12μm,15.0s							
TILK	**Tilichiki**	**5.75**	**21**	*eP*		**Pn**	**01 39 11.3**	**+1.0**
TILK	**Tilichiki**	**5.75**	**21**	PN		**Pn**	**01 39 11.3**	**+1.0**
MA2	**Magadan**	**7.52**	**311**	P		**Pn**	**01 39 36.6**	**+2.0**
MA2	**Magadan**	**7.52**	**311**	Pn		**Pn**	**01 39 38.2**	**+3.7**
MA2	**Magadan**	**7.52**	**311**	Pn		**Pn**	**01 39 38.5**	**+4.0**
	comp=Z,16nm,0.3s,baz=114,slow=16,SNR=49							
MA2					LR	LR	01 42 58.5	
	comp=Z,29μm,21.2s,baz=129,slow=42							
MA2	**Magadan**	**7.52**	**311**	*i* PN		**Pn**	**01 39 36.3**	**+1.7**
SHEM	**Shemya Is, Ala**	**7.54**	**104**	Pn		**Pn**	**01 39 31.7**	**-3.2**
	comp=Z,53nm,0.3s,baz=348,slow=2.2,SNR=21							
SHEM					Sn	Sn	01 40 47.9	-11
	comp=Z,34nm,0.3s,baz=320,slow=20,SNR=12							
SHEM					LR	LR	01 42 58.8	
	comp=Z,17μm,18.4s,baz=322,slow=41							
KMSK	**Kamenskaya**	**7.65**	**15**	*eP*		**Pn**	**01 39 37.7**	**+1.4**
KMSK	**Kamenskaya**	**7.65**	**15**	PN		**Pn**	**01 39 37.7**	**+1.4**
SEY	**Seymchan**	**9.23**	**332**	Pn		**Pn**	**01 40 01.6**	**+3.6**
	comp=Z,0.7nm,0.3s,baz=134,slow=14,SNR=36							
SEY					LR	LR	01 43 52.4	
	comp=Z,25μm,21.9s,baz=146,slow=40							
SEY	**Seymchan**	**9.23**	**332**	*ce*PN		**Pn**	**01 40 01.1**	**+3.1**
SEY					pmax	pmax		
	comp=Z,108nm,1.7s							
OKH	**Okha**	**11.24**	**270**	*c i*PN		Pn	01 40 31.7	+6.2
OKH				*eS*		Sn	01 42 40.5	+11
OKH					pmax	pmax		
	comp=Z,1μm,8.7s							
OKH					smax	smax		
	comp=N,2μm,11.1s							
OKH					MLR	MLR		
	comp=Z,17μm,15.0s							
OKH					MLR	MLR		
	comp=N,7μm,13.0s							
OKH					MLR	MLR		
	comp=E,19μm,12.0s							
TYV	**Tymovskoe**	**12.41**	**258**	*eP*		**P**	**01 40 47.6**	**-4.5**
TYV	**Tymovskoe**	**12.41**	**258**	*e*PN		**P**	**01 40 47.6**	**-4.5**
TYV				*eS*		Sn	01 43 09.9	+12
TYV					pmax	pmax		
	comp=Z,3μm,2.3s							
TYV					pmax	pmax		
	comp=Z,321nm,1.3s							
TYV					smax	smax		
	comp=N,23nm,1.6s							
TYV					smax	smax		
	comp=E,21nm,1.6s							
TYV					smax	smax		
	comp=N,600nm,5.3s							
TYV					smax	smax		
	comp=E,1μm,5.3s							
BILL	**Bilibino**	**13.08**	**7**	Pn		**Pn**	**01 40 53.2**	**+2.7**
BILL	**Bilibino**	**13.08**	**7**	*i* PN		**Pn**	**01 40 54.1**	**+3.6**
BILL					pmax	pmax		
	comp=Z,440nm,1.3s							
KUR	**Kuril'sk**	**13.41**	**228**	*e*PN		**Pn**	**01 40 54.9**	**-0.3**
KUR				S		**Sn**	**01 43 26.5**	**+3.9**
KUR					pmax	pmax		
	comp=N,102nm,1.0s							
KUR					pmax	pmax		
	comp=Z,340nm,1.0s							
KUR					pmax	pmax		
	comp=E,93nm,0.8s							
KUR					pmax	pmax		
	comp=Z,2μm,5.3s							
KUR					smax	smax		
	comp=N,4μm,16.6s							
KUR					smax	smax		
	comp=E,2μm,16.6s							
KUR					MLR	MLR		
	comp=E,10μm,17.0s							
UGL	**Uglegorsk**	**13.66**	**252**	*c i*P		**P**	**01 41 03.5**	**-2.4**
UGL					pmax	pmax		
	comp=Z,1μm,0.9s							
UGL					pmax	pmax		
	comp=Z,2μm,2.0s							
UGL					pmax	pmax		
	comp=E,2μm,3.1s							
UGL					pmax	pmax		
	comp=N,1μm,2.2s							
UGL					MLR	MLR		
	comp=E,12μm,16.0s							
UGL					MLR	MLR		
	comp=Z,11μm,16.0s							
UGL					MLR	MLR		
	comp=N,5μm,13.0s							
YSS	**Yuzh-Sakhalins**	**14.59**	**244**	P		**P**	**01 41 14.0**	**-2.3**
YSS	**Yuzh-Sakhalins**	**14.59**	**244**	Pn		**Pn**	**01 41 11.9**	**+0.9**
YSS	**Yuzh-Sakhalins**	**14.59**	**244**	*de*P		**Pn**	**01 41 13.7**	**+2.7**
YSS				*eS*		**Sn**	**01 43 56.7**	**+5.5**
YSS					pmax	pmax		
	comp=Z,420nm,0.9s							
YSS					pmax	pmax		
	comp=Z,2μm,5.5s							
YSS					pmax	pmax		
	comp=N,2μm,5.8s							
YSS					pmax	pmax		
	comp=E,2μm,5.8s							
YSS					smax	smax		
	comp=E,1μm,8.9s							
YSS					MLR	MLR		
	comp=E,7μm,14.0s							
YSS					MLR	MLR		
	comp=Z,10μm,14.0s							
YSS					MLR	MLR		
	comp=N,8μm,15.0s							
SHO	**Shikotan**	**14.95**	**227**	*eP*		Pn	01 41 11.2	-4.5
SHO				S		**S**	**01 44 09.1**	**-6.5**
SHO					pmax	pmax		
	comp=Z,124nm,0.6s							
SHO					pmax	pmax		
	comp=N,60nm,0.3s							
YUK	**Yuzh-Kuril'sk**	**15.24**	**230**	*eP*		**Pn**	**01 41 17.0**	**-2.4**
YUK					pmax	pmax		
	comp=Z,724nm,0.7s							
YUK					pmax	pmax		
	comp=E,259nm,0.4s							
YUK					pmax	pmax		
	comp=N,99nm,0.3s							
YUK					pmax	pmax		
	comp=Z,2μm,1.3s							
RUSJ	**Misakicho**	**15.45**	**231**	*eP*		**Pn**	**01 41 22.9**	**+0.7**
RUSJ				S		**Sn**	**01 44 16.3**	**+4.2**
SPIA	**Saint Paul Isl**	**15.54**	**71**	P		**Pn**	**01 41 22.5**	**-0.7**
	baz=275							
GAMB	**Gambell**	**15.79**	**46**	P		**Pn**	**01 41 25.5**	**-0.9**
	baz=249							
GAMB				S		**Sn**	**01 44 19.5**	**-0.6**
	baz=249							
NMR	**Nemuro--Hokkai**	**15.83**	**229**	*eP*		**Pn**	**01 41 23.1**	**-3.9**
NMR				S		**Sn**	**01 44 12.2**	**-9.0**
P08K	**Saint George I**	**15.98**	**73**	P		**Pn**	**01 41 27.7**	**-1.2**
	baz=277							
GRNR	**Gornyy**	**15.99**	**265**	*i*P		**P**	**01 41 32.6**	**+0.8**
GRNR				*eS*		**S**	**01 44 31.7**	**-5.0**
GRNR					pmax	pmax		
	comp=E,20nm,0.8s							
GRNR					pmax	pmax		
	comp=N,10.0nm,0.9s							
GRNR					pmax	pmax		
	comp=Z,40nm,0.7s							
GRNR					smax	smax		
	comp=E,7.0nm,0.7s							
GRNR					MLR	MLR		
	comp=E,5μm,18.0s							
GRNR					MLR	MLR		
	comp=N,4μm,16.0s							
GRNR					MLR	MLR		
	comp=Z,6μm,17.0s							
CLES	**Cleveland East**	**16.64**	**86**	Pn		**Pn**	**01 41 36.4**	**-0.8**
JKA	**Kamikawa-asahi**	**16.67**	**237**			**Pn**	**01 41 37.5**	**-0.2**
JKA					IAmb	IAmb	01 41 41.6	
	comp=Z,567nm,1.0s							
ASAJ	**Asahikawa**	**16.67**	**237**	Pn		**Pn**	**01 41 38.6**	**+0.9**
	comp=Z,3.8nm,0.3s,baz=38,slow=5.6,SNR=83							
ASAJ				Sn		**Sn**	**01 44 41.9**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=205,slow=8.7,SNR=1.9							
ASAJ					LR	LR	01 47 35.7	
	comp=Z,11μm,20.5s,baz=50,slow=35							
	comp=Z,376nm,0.8s							
NIKH	**Nikolski High**	**17.19**	**85**	P		**Pn**	**01 41 43.3**	**-0.7**
	baz=289,SNR=11							
NIKH					S	**Sn**	**01 44 56.7**	**+2.7**
	baz=289							
M11K	**Mekoryuk**	**17.63**	**60**	P		**Pn**	**01 41 49.4**	**+0.1**
	baz=267							
M11K					S	**Sn**	**01 45 04.2**	**-0.4**
	baz=267							
TNA	**Tin City**	**17.95**	**43**	P		**Pn**	**01 41 53.2**	**-0.1**
	baz=249,SNR=10							
TNA					S	**Sn**	**01 45 12.2**	**-0.1**
	baz=249							
YAK	**Yakutsk**	**18.04**	**306**	P		**P**	**01 41 54.0**	**-0.3**
YAK					IAmb	IAmb	01 41 58.5	
	comp=Z,485nm,0.9s							
YAK	**Yakutsk**	**18.04**	**306**	P		**P**	**01 41 53.7**	**-0.6**
	comp=Z,12nm,0.3s,baz=105,slow=2.5,SNR=63							
YAK					S	**Sn**	**01 45 13.4**	**-1.1**
	comp=Z,29nm,0.6s,baz=90,slow=20,SNR=1.6							
YAK					LR	LR	01 49 14.9	
	comp=Z,10μm,21.6s,baz=102,slow=38							
	comp=Z,342nm,0.8s							
YAK	**Yakutsk**	**18.04**	**306**	*ce*P		**P**	**01 41 54.0**	**-0.3**
YAK					pmax	pmax		
	comp=Z,706nm,1.3s							
YAK					MLR	MLR		
	comp=Z,11μm,16.0s							
UNV	**Unalaska Valle**	**18.26**	**81**	P		**P**	**01 41 57.3**	**+0.5**
UNV	**Unalaska Valle**	**18.26**	**81**	P		**P**	**01 41 56.5**	**-0.3**
	baz=287,SNR=12							
UNV					S	**Sn**	**01 45 18.9**	**-0.9**
	baz=287							
K13K	**Kusilvak Mount**	**18.50**	**55**	P		**P**	**01 41 59.7**	**+0.3**
K13K	**Kusilvak Mount**	**18.50**	**55**	P		**P**	**01 41 58.8**	**-0.6**
	baz=264,SNR=26							
K13K					S	**Sn**	**01 45 23.4**	**-2.3**
	baz=264							
F14K	**Arctic Creek**	**18.55**	**44**	P		**P**	**01 41 59.7**	**-0.2**
	baz=252,SNR=7.2							
F14K					S	**Sn**	**01 45 25.4**	**-1.3**
	baz=252							
ANM	**Nome**	**18.67**	**47**	P		**Pn**	**01 42 02.2**	**+0.2**
ANM	**Nome**	**18.67**	**47**	P		**P**	**01 42 01.5**	**+0.3**
	baz=255							
ANM					S	**Sn**	**01 45 29.6**	**-0.1**
	baz=255							
ANM	**Nome**	**18.67**	**47**	P		**Pn**	**01 42 02.2**	**+0.2**
ANM					pmax	pmax		
	comp=Z,320nm,1.8s							
M13K	**Dall Lake**	**19.04**	**60**	P		**Pn**	**01 42 06.5**	**+0.1**
M13K	**Dall Lake**	**19.04**	**60**	P		**P**	**01 42 05.7**	**+0.5**
	baz=270,SNR=14							
M13K					S	**Sn**	**01 45 39.8**	**+1.2**
	baz=270							
TEY	**Ternei**	**19.08**	**249**	*e*P		**Pn**	**01 42 08.1**	**+1.0**
TEY					pmax	pmax		
	comp=E,50nm,1.2s							
TEY					pmax	pmax		
	comp=Z,90nm,1.2s							
TEY					pmax	pmax		
	comp=N,30nm,1.0s							
J14K	**Nanvaranak Lak**	**19.11**	**53**	P		**P**	**01 42 06.4**	**+0.3**
J14K	**Nanvaranak Lak**	**19.11**	**53**	P		**P**	**01 42 06.7**	**+0.6**
	baz=263,SNR=35							
J14K					S	**S**	**01 45 38.7**	**-1.1**
	baz=263							
F15K	**North Star Dit**	**19.28**	**44**	P		**Pn**	**01 42 08.9**	**-0.5**
F15K	**North Star Dit**	**19.28**	**44**	P		**Pn**	**01 42 09.9**	**+0.6**
	baz=253,SNR=38							
F15K					S	**S**	**01 45 43.8**	**+0.5**
	baz=253							
G15K	**Niukluk**	**19.33**	**46**	P		**Pn**	**01 42 09.6**	**-0.3**
	baz=256,SNR=15							
G15K					S	**Sn**	**01 45 45.5**	**-0.2**
	baz=256							
KLR	**Kul'dur**	**19.37**	**265**	P		**P**	**01 42 08.8**	**-0.2**
	comp=N,1.1nm,0.3s,baz=73,slow=12,SNR=40							
KLR					S	**Sn**	**01 45 46.2**	**-0.6**
	comp=N,5.6nm,0.9s,baz=293,slow=22,SNR=0.6							
KLR					PcP	**PcP**	**01 46 29.8**	**+1.0**
	comp=N,14nm,0.9s,baz=46,slow=3.7,SNR=3.0							
KLR					LR	LR	01 50 46.4	
	comp=N,11μm,18.1s,baz=62,slow=40							
	comp=N,26nm,0.7s							
KLR	**Kul'dur**	**19.37**	**265**	*ce*P		**P**	**01 42 09.6**	**+0.6**
KLR					pmax	pmax		
	comp=Z,117nm,1.3s							
KLR					MLR	MLR		
	comp=Z,10μm,18.0s							
L14K	**Kuka Creek**	**19.39**	**57**	P		**P**	**01 42 10.1**	**+1.0**
L14K	**Kuka Creek**	**19.39**	**57**	P		**Pn**	**01 42 10.7**	**0.0**
	baz=268,SNR=31							
L14K					S	**S**	**01 45 45.7**	**+0.2**
	baz=268							
FALS	**False Pass**	**19.72**	**77**	P		**P**	**01 42 13.7**	**+1.0**
FALS	**False Pass**	**19.72**	**77**	P		**P**	**01 42 13.4**	**+0.7**
	baz=285							
FALS					S	**S**	**01 45 52.8**	**+0.8**
	baz=285							
M14K	**Bethel**	**19.73**	**59**	P		**Pn**	**01 42 14.1**	**-0.5**
M14K	**Bethel**	**19.73**	**59**	P		**P**	**01 42 13.5**	**+0.7**
	baz=270,SNR=52							
M14K					S	**S**	**01 45 53.2**	**+1.0**
	baz=270							
N14K	**Kuskokwak Cree**	**19.88**	**61**	P		**P**	**01 42 15.3**	**+0.9**
	baz=272,SNR=30							
N14K					S	**S**	**01 45 55.2**	**0.0**
	baz=272							
C16K

baz=271
J16K Anvik River 20.51 52 P P 01 42 21.4 0.0
J16K Anvik River 20.51 52 P P 01 42 22.4 +1.1
baz=264,SNR=38
J16K S S 01 46 07.4 -0.4
baz=264
D17K Noatak River 20.52 39 P P 01 42 22.0 +0.7
baz=250,SNR=36
D17K S S 01 46 07.5 -0.3
baz=250
I17K Unalakleet 20.54 50 P P 01 42 22.6 +1.0
I17K IAmb IAmb 01 42 24.1
comp=Z,273nm,1.1s
I17K Unalakleet 20.54 50 P P 01 42 23.1 +1.4
baz=262,SNR=71
I17K S S 01 46 08.7 +0.4
baz=262
N15K Kwethluk River 20.67 60 P P 01 42 23.9 +0.9
N15K IAmb IAmb 01 42 28.7
comp=Z,451nm,1.2s
N15K IAMs_20 IAMs_20 01 50 19.6
comp=Z,11µm,19.0s
N15K Kwethluk River 20.67 60 P P 01 42 24.6 +1.6
baz=273,SNR=85
N15K S S 01 46 11.0 +0.1
baz=273
RDOG Red Dog Mine 20.71 38 P P 01 42 23.3 -0.1
RDOG IAmb IAmb 01 42 25.4
comp=Z,501nm,1.5s
RDOG Red Dog Mine 20.71 38 P P 01 42 24.3 +0.9
baz=249,SNR=30
RDOG S S 01 46 11.3 -0.3
baz=249
C17K DeLong Mountai 20.77 36 P P 01 42 24.9 +0.8
baz=248,SNR=28
C17K S S 01 46 13.7 +0.8
baz=248
E17K Hotham Inlet 20.78 41 P P 01 42 25.3 +1.2
baz=253,SNR=167
E17K S S 01 46 13.5 +0.6
baz=253
F17K Baldwin Pennin 20.82 43 P P 01 42 25.0 +0.5
F17K IAmb IAmb 01 42 27.0
comp=Z,298nm,0.8s
F17K Baldwin Pennin 20.82 43 P P 01 42 25.8 +1.3
baz=255,SNR=101
F17K S S 01 46 16.0 +2.3
baz=255
G17K Kiwalik Mounta 20.84 45 P P 01 42 25.6 +0.8
baz=258,SNR=74
G17K S S 01 46 14.5 +0.4
baz=258
O15K Ungalikthiuk R 20.88 63 P P 01 42 26.0 +0.7
baz=276,SNR=36
O15K S S 01 46 15.0 0.0
baz=276
L16K Owhat River 20.94 56 P P 01 42 26.5 +0.6
baz=270,SNR=42
L16K S S 01 46 17.6 +1.4
baz=270
H17K Granite Mounta 21.04 47 P P 01 42 27.3 +0.4
H17K Granite Mounta 21.04 47 P P 01 42 28.1 +1.1
baz=261,SNR=83
H17K S S 01 46 19.5 +1.4
baz=261
M16K Timber Creek 21.20 58 P P 01 42 28.7 0.0
M16K IAMs_20 IAMs_20 01 49 57.5
comp=Z,9µm,20.0s
M16K Timber Creek 21.20 58 P P 01 42 29.5 +0.8
baz=272,SNR=37
M16K S S 01 46 23.1 +1.9
baz=272
J17K VABM Dome 21.21 51 P P 01 42 29.1 +0.3
J17K IAMs_20 IAMs_20 01 50 57.8
comp=Z,8µm,19.0s
J17K VABM Dome 21.21 51 P P 01 42 29.8 +1.0
baz=266,SNR=78
J17K S S 01 46 21.7 +0.3
baz=266
SDPT Sand Point 21.22 74 P P 01 42 29.8 +0.9
SDPT Sand Point 21.22 74 P P 01 42 30.7 +1.8
baz=285
SDPT S S 01 46 21.7 -0.1
baz=285
N16K Nishlik Lake 21.31 60 P P 01 42 30.9 +1.0
baz=273
N16K S S 01 46 24.8 +1.1
baz=273
E18K Tukpahlearik C 21.33 40 P P 01 42 30.4 +0.3
E18K Tukpahlearik C 21.33 40 P P 01 42 31.0 +0.9
baz=254,SNR=59
E18K S S 01 46 26.0 +2.1
baz=254
HEH HeiHe 21.38 271 *e*P P 01 42 28.6 -2.1
HEH S S 01 46 22.0 -3.1
HEH PcP PcP 01 46 30.6 -1.9
HEH sS sS 01 46 40.3 -3.3
HEH ScS ScS 01 53 50.3 +1.5
HEH pmax pmax
comp=Z,69nm,0.9s
HEH LR LR
comp=Z,7µm,16.1s
HEH LR LR
comp=Z,13µm,15.5s
HEH LR LR
comp=Z,17µm,15.7s
F18K Selawik 21.48 43 P P 01 42 32.7 +1.1
baz=257,SNR=113
F18K S S 01 46 29.0 +2.2
baz=257
S14K Fog Glacier 21.50 71 P P 01 42 33.1 +1.0
baz=284,SNR=8.8
S14K S S 01 46 27.7 +0.3
baz=284
L17K Donlin 21.51 55 P P 01 42 32.8 +0.8
baz=270,SNR=34
L17K S S 01 46 28.8 +1.4
baz=270
C18K Utukok River 21.52 37 P P 01 42 31.7 -0.4
C18K Utukok River 21.52 37 P P 01 42 32.5 +0.4
baz=250,SNR=42
C18K S S 01 46 28.2 +0.6
baz=250
K17K Iditarod 21.52 53 P P 01 42 32.4 +0.3
K17K IAmb IAmb 01 42 36.2
comp=Z,253nm,1.0s
K17K IAMs_20 IAMs_20 01 51 26.0
comp=Z,7µm,19.0s
K17K Iditarod 21.52 53 P P 01 42 32.6 +0.5
baz=268,SNR=106
K17K S S 01 46 28.9 +1.3
baz=268
B18K Kokolik River 21.58 35 P P 01 42 33.5 +0.9
baz=247,SNR=21
B18K S S 01 46 28.1 -0.5
baz=247
O16K Kokwok River B 21.72 62 P P 01 42 34.0 -0.2
O16K IAMs_20 IAMs_20 01 50 51.3
comp=Z,8µm,20.0s
O16K Kokwok River B 21.72 62 P P 01 42 34.4 +0.1
baz=276,SNR=24
O16K S S 01 46 30.9 -0.6
baz=276
H18K Honhosa River 21.72 47 P P 01 42 34.5 +0.2
H18K IAmb IAmb 01 42 38.7
comp=Z,347nm,1.4s
H18K Honhosa River 21.72 47 P P 01 42 35.0 +0.7
baz=262,SNR=72
H18K S S 01 46 34.1 +2.5
baz=262
TIXI Tiksi 21.73 332 IAMs_20 IAMs_20 01 51 40.7
comp=Z,15µm,19.0s
TIXI Tiksi 21.73 332 P P 01 42 34.2 0.0
comp=Z,179nm,0.9s,baz=116,slow=13,SNR=128
TIXI PcP PcP 01 46 33.4 +0.6
comp=Z,18nm,0.7s,baz=88,slow=3.1,SNR=3.3
TIXI LR LR 01 51 50.8
comp=Z,12µm,20.0s,baz=142,slow=39
comp=Z,179nm,0.9s
TIXI Tiksi 21.73 332 *c* *i*P P 01 42 34.9 +0.7
TIXI pmax pmax
comp=Z,897nm,2.5s
TIXI MLR MLR
comp=Z,14µm,15.0s
G18K Tagagawik 21.73 45 P P 01 42 34.2 -0.1
G18K IAmb IAmb 01 42 38.7
comp=Z,293nm,1.1s
G18K Tagagawik 21.73 45 P P 01 42 34.7 +0.4
baz=260,SNR=214
G18K S S 01 46 34.4 +2.8
baz=260
P16K Nushagak River 21.84 63 P P 01 42 36.3 +0.9
baz=278,SNR=10
P16K S S 01 46 34.6 +0.9
baz=278
CHNA Chernabura Isl 21.85 75 P P 01 42 35.6 -0.1
baz=287,SNR=8.2
CHNA S S 01 46 32.7 -1.5
baz=287
CNBA Chernabura Isl 21.86 75 P P 01 42 34.1 -1.7
M17K Holitna River 21.92 57 P P 01 42 36.4 -0.1
M17K IAmb IAmb 01 42 51.5
comp=Z,228nm,1.0s
M17K Holitna River 21.92 57 P P 01 42 36.9 +0.5
baz=272,SNR=78
M17K S S 01 46 35.4 -0.1
baz=272
N17K Nushagak Hills 22.09 59 P P 01 42 37.6 -0.6
N17K IAMs_20 IAMs_20 01 50 36.1
comp=Z,9µm,20.0s
N17K Nushagak Hills 22.09 59 P P 01 42 38.7 +0.5
baz=274,SNR=9.4
N17K S S 01 46 39.3 +0.7
baz=274
CHGN Chignik 22.11 71 P P 01 42 37.1 -1.3
CHGN IAmb IAmb 01 42 44.8
comp=Z,395nm,1.5s
CHGN Chignik 22.11 71 P P 01 42 39.0 +0.5
baz=284,SNR=14
CHGN S S 01 46 39.1 +0.2
baz=284
USA0B Ussuriysk Arra 22.12 253 P P 01 42 36.8 -1.9
USA0B Ussuriysk Arra 22.12 253 P P 01 42 36.8 -1.9
USA0B pmax pmax
comp=Z,287nm,1.6s
USRK Ussuriysk Ar. 22.12 253 P P 01 42 36.3 -2.4
USRK Ussuriysk Ar. 22.12 253 P P 01 42 36.8 -1.9
comp=Z,32nm,0.9s,baz=60,slow=8.5,SNR=22
USRK PcP PcP 01 46 35.2 +1.1
comp=Z,13nm,1.0s,baz=7.4,slow=1.8,SNR=3.2
USRK ScP ScP 01 50 08.0 +1.0
comp=Z,2.1nm,1.0s,baz=46,slow=4.2,SNR=2.0
USRK LR LR 01 51 20.0
comp=Z,8µm,21.9s,baz=54,slow=37
comp=Z,32nm,0.9s
A19K Wainwright 22.14 33 P P 01 42 39.1 +0.4
baz=246,SNR=11
A19K S S 01 46 40.4 +1.0
baz=246
O17K Koliganek Bris 22.20 61 P P 01 42 39.9 +0.4
baz=276,SNR=38
O17K S S 01 46 41.2 +0.7
baz=276
C19K Lookout Ridge 22.22 36 P P 01 42 39.1 -0.5
C19K IAmb IAmb 01 42 41.2
comp=Z,420nm,1.3s
C19K IAMs_20 IAMs_20 01 52 03.7
comp=Z,7µm,20.0s
C19K Lookout Ridge 22.22 36 P P 01 42 39.9 +0.2
baz=251,SNR=66
C19K S S 01 46 40.9 0.0
baz=251
F19K Shaleruckik Mo 22.26 42 P P 01 42 39.4 -0.6
F19K IAmb IAmb 01 42 43.1
comp=Z,320nm,0.9s
F19K Shaleruckik Mo 22.26 42 P P 01 42 40.2 +0.2
baz=258,SNR=356
F19K S S 01 46 44.2 +2.7
baz=258
L18K Granite Mounta 22.26 55 P P 01 42 39.8 -0.3
L18K IAMs_20 IAMs_20 01 51 12.6
comp=Z,7µm,20.0s
L18K Granite Mounta 22.26 55 P P 01 42 40.6 +0.5
baz=271,SNR=100
L18K S S 01 46 43.4 +1.8
baz=271
J18K Innoko River 22.27 51 P P 01 42 40.0 -0.2
J18K IAMs_20 IAMs_20 01 51 41.0
comp=Z,7µm,19.0s
J18K Innoko River 22.27 51 P P 01 42 40.4 +0.2
baz=268,SNR=148
J18K S S 01 46 43.1 +1.3
baz=268
R16K Pilot Point 22.29 67 P P 01 42 41.2 +0.9
baz=281
R16K S S 01 46 44.7 +2.6
baz=281
GCSA Galena City Sc 22.30 48 P P 01 42 40.1 -0.3
baz=264,SNR=36
GCSA S S 01 46 42.6 +0.5
baz=264
G19K Purcell Mounta 22.40 44 P P 01 42 40.6 -1.0
G19K IAmb IAmb 01 42 43.7
comp=Z,256nm,1.1s
G19K Purcell Mounta 22.40 44 P P 01 42 41.5 0.0
baz=261,SNR=167
G19K S S 01 46 44.3 +0.3
baz=261
JMM Marumori 22.48 228 P P 01 42 44.1 +1.5
JMM Marumori 22.48 228 P P 01 42 42.0 -0.6
D19K Kuna River 22.54 38 IAmb IAmb 01 42 46.8
comp=Z,320nm,1.0s
D19K Kuna River 22.54 38 P P 01 42 42.8 -0.3
baz=254,SNR=225
D19K S S 01 46 46.4 -0.1
baz=254
H19K Roundabout Mou 22.57 46 IAmb IAmb 01 42 45.6
comp=Z,505nm,1.1s
H19K Roundabout Mou 22.57 46 P P 01 42 43.3 0.0
baz=263,SNR=328
H19K S S 01 46 47.9 +1.0
baz=263
Q16K King Salmon 22.57 64 P P 01 42 44.3 +0.9
baz=279,SNR=15
Q16K S S 01 46 48.3 +1.3
baz=279
E19K Redstone River 22.60 41 IAmb IAmb 01 42 46.7
comp=Z,589nm,1.4s
E19K Redstone River 22.60 41 P P 01 42 44.1 +0.4
baz=257,SNR=182
E19K S S 01 46 47.8 +0.3
baz=257
P17K Kvichak River 22.61 63 P P 01 42 44.3 +0.6
baz=278,SNR=31
P17K S S 01 46 48.6 +1.0
baz=278
M18K Stony River 22.69 57 P P 01 42 44.7 0.0
baz=273,SNR=50
M18K S S 01 46 50.4 +1.3
baz=273
N18K Kilae Creek 22.71 59 IAmb IAmb 01 42 58.8
comp=Z,246nm,1.3s
N18K IAMs_20 IAMs_20 01 51 16.7
comp=Z,9µm,20.0s
N18K Kilae Creek 22.71 59 P P 01 42 44.9 -0.1
baz=275,SNR=47
N18K S S 01 46 51.8 +2.2
baz=275
J19K Poorman 22.79 50 IAmb IAmb 01 42 47.1
comp=Z,318nm,1.6s
J19K Poorman 22.79 50 P P 01 42 45.1 -0.5
baz=267,SNR=87
J19K S S 01 46 50.6 -0.1
baz=267
SVW2 Sparrevohn 22.83 58 P P 01 42 47.0 +0.8
F20K Avaraart Lake 23.09 42 IAmb IAmb 01 42 50.2
comp=Z,668nm,1.8s
F20K Avaraart Lake 23.09 42 P P 01 42 48.6 0.0
baz=260,SNR=119
F20K S S 01 46 56.1 +0.4
baz=260
L19K White Mountain 23.12 55 IAmb IAmb 01 43 03.0
comp=Z,442nm,1.6s
L19K White Mountain 23.12 55 P P 01 42 49.0 -0.1
baz=272,SNR=52
L19K S S 01 46 55.9 -0.4
baz=272
D20K Etivluk River 23.13 38 P P 01 42 48.9 -0.2
baz=255,SNR=317
D20K S S 01 46 56.4 0.0
baz=255
O18K Koktuh Hills 23.14 61 P P 01 42 49.0 -0.2
O18K IAmb IAmb 01 43 03.5
comp=Z,402nm,1.3s
O18K IAMs_20 IAMs_20 01 51 56.6
comp=Z,9µm,19.0s
O18K Koktuh Hills 23.14 61 P P 01 42 49.7 +0.4
baz=278,SNR=73
O18K S S 01 46 58.4 +1.7
baz=278
E20K Nigu River 23.17 39 P P 01 42 49.5 0.0
baz=257,SNR=292
E20K S S 01 46 56.5 -0.6
baz=257
MDJ Mudanjiang 23.19 256 P P 01 42 46.8 -3.0
MDJ PP PnPn 01 43 21.1 +4.3
MDJ PcP PcP 01 46 31.0 -5.3
MDJ S S 01 46 56.9 -0.7
MDJ pmax pmax
comp=Z,560nm,3.7s
MDJ LR LR
comp=Z,5µm,18.3s
MDJ LR LR
comp=Z,8µm,19.5s
MDJ LR LR
comp=Z,12µm,20.6s
MDJ Mudanjiang 23.19 256 IAMs_20 IAMs_20 01 51 55.3
comp=Z,10µm,21.0s
P18K Big Mountain, 23.19 62 IAMs_20 IAMs_20 01 51 47.1
comp=Z,7µm,19.0s
P18K Big Mountain, 23.19 62 P P 01 42 50.2 +0.4
baz=279,SNR=36
P18K S S 01 46 57.9 +0.3
baz=279
H20K Anotleneega Mo 23.21 46 P P 01 42 50.0 0.0
baz=264,SNR=166
H20K S S 01 46 57.1 -0.7
baz=264
B20K Meade River 23.32 35 IAmb IAmb 01 42 51.4
comp=Z,382nm,1.0s
B20K Meade River 23.32 35 P P 01 42 50.8 -0.1
baz=252,SNR=70
B20K S S 01 46 58.0 -1.4
baz=252
I20K Naaghedeneel 23.33 48 P P 01 42 51.2 +0.3
baz=266,SNR=25
I20K S S 01 46 59.3 -0.2
baz=266
M19K Big River Lodg 23.35 55 IAmb IAmb 01 43 04.5
comp=Z,245nm,1.4s
M19K Big River Lodg 23.35 55 P P 01 42 51.6 +0.3
baz=273
M19K S S 01 47 00.4 +0.3
baz=273
N19K Bonanza Creek 23.39 58 IAmb IAmb 01 43 05.1
comp=Z,217nm,1.2s
N19K IAMs_20 IAMs_20 01 51 37.1
comp=Z,8µm,20.0s
N19K Bonanza Creek 23.39 58 P P 01 42 52.1 +0.3
baz=276,SNR=19
N19K S S 01 47 00.8 -0.1
baz=276
J20K Nowinta River 23.44 50 P P 01 42 51.5 -0.6
J20K IAmb IAmb 01 42 53.5
comp=Z,529nm,1.4s
J20K IAMs_20 IAMs_20 01 51 49.9
comp=Z,7µm,20.0s
J20K Nowinta River 23.44 50 P P 01 42 52.0 -0.1
baz=268,SNR=178
J20K S S 01 47 01.8 +0.3
baz=268
K20K Telida 23.46 52 IAmb IAmb 01 42 53.9
comp=Z,665nm,1.8s
K20K IAMs_20 IAMs_20 01 52 36.6
comp=Z,6µm,19.0s
K20K Telida 23.46 52 P P 01 42 52.3 0.0
baz=270
K20K S S 01 47 02.0 +0.2
baz=270
JSD Sado 23.47 233 P P 01 42 53.5 +1.0
O19K Port Alsworth 23.54 60 IAmb IAmb 01 43 11.0
comp=Z,260nm,1.4s
O19K IAMs_20 IAMs_20 01 52 36.1
comp=Z,8µm,18.0s
O19K Port Alsworth 23.54 60 P P 01 42 53.1 0.0
baz=277,SNR=9.2
O19K S S 01 47 04.3 +1.2
baz=277
L20K Farewell, AK 23.57 54 P P 01 42 53.2 -0.1
baz=272,SNR=33
L20K S S 01 47 03.7 +0.1
baz=272
BNX BinXian 23.74 261 ⇓P P 01 42 53.3 -1.7
BNX pP pP 01 43 08.4 +0.7
BNX sP sP 01 43 14.6 +0.8
BNX PP PnPn 01 43 27.6 +3.2
BNX S S 01 47 04.8 -1.7
BNX sS sS 01 47 26.4 -1.5
BNX pmax pmax
comp=Z,48nm,1.3s
BNX pmax pmax
comp=Z,390nm,3.7s
BNX LR LR
comp=Z,5µm,14.5s
BNX LR LR
comp=Z,5µm,13.7s
BNX LR LR
comp=Z,4µm,13.4s
CHIR Chirikof Islan 23.75 71 IAmb IAmb 01 43 08.2
comp=Z,198nm,1.0s
CHIR IAMs_20 IAMs_20 01 52 12.0
comp=Z,8µm,20.0s
CHIR Chirikof Islan 23.75 71 P P 01 42 55.3 +0.3
baz=286
C21K Knifeblade Rid 23.88 37 P P 01 42 56.4 +0.3
baz=256,SNR=227
C21K S S 01 47 07.6 -0.8
baz=256
G21K Allakaket 23.89 44 P P 01 42 56.3 +0.1
baz=264,SNR=428
G21K S S 01 47 09.2 +0.6
baz=264
A21K Barrow 23.94 32 P P 01 42 56.3 -0.3
baz=249,SNR=9.1
A21K S S 01 47 08.4 -0.8
baz=249
M20K Styx River 23.95 55 IAmb IAmb 01 43 11.3
comp=Z,405nm,1.6s
M20K IAMs_20 IAMs_20 01 52 26.7
comp=Z,7µm,19.0s
M20K Styx River 23.95 55 P P 01 42 57.5 +0.6
baz=274,SNR=55
M20K S S 01 47 10.0 +0.1
baz=274
F21K Alatna River 23.99 42 P P 01 42 56.7 -0.4
F21K IAmb IAmb 01 42 59.1
comp=Z,366nm,1.1s
F21K Alatna River 23.99 42 P P 01 42 57.0 -0.2
baz=262,SNR=294
F21K S S 01 47 10.0 -0.2
baz=262
E21K Killik River 24.01 39 IAmb IAmb 01 42 59.5
comp=Z,300nm,1.2s
E21K Killik River 24.01 39 P P 01 42 57.2 -0.2
baz=259
E21K S S 01 47 09.5 -1.1
baz=259
B21K Ikpikpuk River 24.06 36 P P 01 42 58.0 +0.3
baz=255
B21K S S 01 47 10.9 -0.2
baz=255
Q19K Cape Douglas, 24.07 63 IAmb IAmb 01 43 10.3
comp=Z,552nm,1.5s
Q19K IAMs_20 IAMs_20 01 51 35.4
comp=Z,7µm,20.0s
Q19K Cape Douglas, 24.07 63 P P 01 42 57.9 -0.2
baz=281,SNR=40
Q19K S S 01 47 10.9 -0.9
baz=281
H21K Melozitna Rive 24.09 46 IAmb IAmb 01 42 59.8
comp=Z,323nm,1.6s
H21K Melozitna Rive 24.09 46 P P 01 42 58.0 -0.1
baz=266,SNR=107
H21K S S 01 47 12.1 +0.2
baz=266
ILSW Iliamna Southw 24.15 60 IAmb IAmb 01 43 09.0
comp=Z,242nm,1.0s
ILSW IAMs_20 IAMs_20 01 51 50.4
comp=Z,9µm,20.0s
P19K Oil Pt 24.16 61 IAmb IAmb 01 43 09.2
comp=Z,268nm,1.2s
P19K IAMs_20 IAMs_20 01 53 20.6
comp=Z,8µm,18.0s

P19K	**Oil Pt**	**24.16**	**61**	P	**P**	**01 42 58.9**	**+0.1**
	baz=279,SNR=36						
P19K				S	**S**	**01 47 13.7**	**+0.6**
	baz=279						
CHUM	**Lake Minchumin**	**24.24**	**50**	P	**P**	**01 42 60.0**	**+0.5**
	baz=271,SNR=40						
CHUM				S	**S**	**01 47 14.6**	**+0.3**
	baz=271						
SII	**Sitkinak Islan**	**24.32**	**69**	P	**P**	**01 42 58.7**	**-1.6**
SII	**Sitkinak Islan**	**24.32**	**69**	IAMs_20	IAMs_20	01 51 53.3	
	comp=Z,7μm,21.0s						
SII	**Sitkinak Islan**	**24.32**	**69**	P	**P**	**01 43 01.5**	**+1.2**
	baz=286,SNR=6.4						
SII				S	**S**	**01 47 17.1**	**+1.4**
	baz=286						
PPLA	**Purkeypile**	**24.33**	**53**	P	**P**	**01 43 01.3**	**+0.9**
	baz=273,SNR=84						
PPLA				S	**S**	**01 47 17.2**	**+1.2**
	baz=273						
A22K	**Sinclair Lake**	**24.33**	**33**	P	**P**	**01 42 60.0**	**-0.2**
	baz=252,SNR=220						
A22K				S	**S**	**01 47 15.1**	**-0.4**
	baz=252						
CAST	**Castle Rocks**	**24.35**	**52**	IAmb	IAmb	01 43 02.9	
	comp=Z,175nm,0.9s						
CAST				IAMs_20	IAMs_20	01 53 24.2	
	comp=Z,6μm,19.0s						
CAST	**Castle Rocks**	**24.35**	**52**	P	**P**	**01 43 00.8**	**+0.3**
	baz=272,SNR=153						
CAST				S	**S**	**01 47 17.0**	**+0.9**
	baz=272						
O20K	**Slope Mountain**	**24.40**	**60**	P	**P**	**01 43 01.4**	**+0.4**
	baz=279,SNR=19						
O20K				S	**S**	**01 47 17.6**	**+0.6**
	baz=279						
N20K	**Mount Spurr**	**24.45**	**57**	P	**P**	**01 43 01.9**	**+0.3**
	baz=277,SNR=31						
N20K				S	**S**	**01 47 20.5**	**+2.6**
	baz=277						
F22K	**John River**	**24.52**	**42**	P	**P**	**01 43 02.1**	**+0.1**
	baz=263,SNR=262						
F22K				S	**S**	**01 47 19.4**	**+0.6**
	baz=263						
D22K	**Ayikyak River**	**24.56**	**38**	P	**P**	**01 43 01.9**	**-0.5**
D22K				IAmb	IAmb	01 43 04.8	
	comp=Z,305nm,1.0s						
D22K	**Ayikyak River**	**24.56**	**38**	P	**P**	**01 43 02.5**	**+0.1**
	baz=259,SNR=156						
D22K				S	**S**	**01 47 18.3**	**-1.1**
	baz=259						
OHAK	**Old Harbor**	**24.63**	**67**	P	**P**	**01 43 01.7**	**-1.3**
OHAK	**Old Harbor**	**24.63**	**67**	IAmb	IAmb	01 43 15.5	
	comp=Z,518nm,1.8s						
OHAK	**Old Harbor**	**24.63**	**67**	P	**P**	**01 43 03.0**	**-0.1**
	baz=285,SNR=16						
OHAK				S	**S**	**01 47 20.5**	**0.0**
	baz=285						
B22K	**Teshekpuk Lake**	**24.64**	**35**	P	**P**	**01 43 02.9**	**-0.1**
	baz=255,SNR=272						
B22K				S	**S**	**01 47 20.0**	**-0.5**
	baz=255						
H22K	**Ishtalitna Cre**	**24.69**	**46**	P	**P**	**01 43 03.8**	**+0.2**
	baz=267,SNR=204						
H22K				S	**S**	**01 47 22.4**	**+0.9**
	baz=267						
SKT	**Skwentna**	**24.70**	**55**	IAmb	IAmb	01 43 06.5	
	comp=Z,187nm,1.2s						
SKT				IAMs_20	IAMs_20	01 52 50.4	
	comp=Z,6μm,20.0s						
SKT	**Skwentna**	**24.70**	**55**	P	**P**	**01 43 03.8**	**+0.1**
	baz=276,SNR=42						
SKT				S	**S**	**01 47 23.0**	**+1.3**
	baz=276						
G22K	**Bettles**	**24.72**	**43**	P	**P**	**01 43 03.4**	**-0.4**
	baz=265						
G22K				S	**S**	**01 47 21.9**	**0.0**
	baz=265						
MAJO	**Matsushiro**	**24.72**	**231**	P	**P**	**01 43 05.5**	**+1.4**
MAJO	**Matsushiro**	**24.72**	**231**	P	**P**	**01 43 04.7**	**+0.6**
MAJO	**Matsushiro**	**24.72**	**231** *c i*	P	**P**	**01 43 05.1**	**+1.0**
MAJO				pmax	pmax		
	comp=Z,569nm,0.9s						
MAJO				MLR	MLR		
	comp=Z,10μm,24.0s						
MJAR	**Matsushiro Arr**	**24.72**	**231**	P	**P**	**01 43 05.2**	**+1.1**
	comp=Z,441nm,1.1s,baz=24,slow=9.1,SNR=416						
MJAR				S	**S**	**01 47 21.9**	**-0.6**
	comp=Z,1.7nm,0.5s,baz=131,slow=46,SNR=1.3						
MJAR				ScP	**ScP**	**01 50 16.0**	**+1.9**
	comp=Z,0.7nm,0.3s,baz=333,slow=1.4,SNR=2.1						
MJAR				LR	LR	01 54 11.2	
	comp=Z,5μm,21.4s,baz=38,slow=40						
	comp=Z,441nm,1.1s						
E22K	**Anaktuvuk Pass**	**24.75**	**40**	IAmb	IAmb	01 43 06.4	
	comp=Z,327nm,0.9s						
E22K	**Anaktuvuk Pass**	**24.75**	**40**	P	**P**	**01 43 03.9**	**-0.3**
	baz=262						
E22K				S	**S**	**01 47 21.8**	**-0.7**
	baz=262						
Q20K	**Shuyak Island**	**24.77**	**63**	P	**P**	**01 43 04.3**	**0.0**
	baz=282,SNR=26						
Q20K				S	**S**	**01 47 20.4**	**-2.5**
	baz=282						
SYI	**Shuyak Island**	**24.78**	**63**	IAmb	IAmb	01 43 06.3	
	comp=Z,227nm,0.9s						
SYI				IAMs_20	IAMs_20	01 52 19.0	
	comp=Z,6μm,19.0s						
BPAW	**Bear Paw Mtn.**	**24.82**	**50**	IAmb	IAmb	01 43 08.1	
	comp=Z,336nm,1.2s						
BPAW	**Bear Paw Mtn.**	**24.82**	**50**	P	**P**	**01 43 04.9**	**0.0**
	baz=271,SNR=157						
BPAW				S	**S**	**01 47 25.4**	**+1.7**
	baz=271						
KDAK	**Kodiak Island**	**24.86**	**65**	P	**P**	**01 43 02.7**	**-2.4**
KDAK	**Kodiak Island**	**24.86**	**65**	P	**P**	**01 43 03.8**	**-1.3**
	baz=284						
KDAK				S	**S**	**01 47 25.4**	**+1.1**
	baz=284						
KDAK	**Kodiak Island**	**24.86**	**65**	LR	LR	01 52 23.0	
	comp=Z,6μm,21.6s,baz=276,slow=35						
KDAK	**Kodiak Island**	**24.86**	**65**	P	**P**	**01 43 02.7**	**-2.4**
KDAK				pmax	pmax		
	comp=Z,88nm,0.9s						
KDAK				MLR	MLR		
	comp=Z,6μm,21.0s						
KTH	**Kantishna Hill**	**24.87**	**51**	IAmb	IAmb	01 43 08.0	
	comp=Z,217nm,1.2s						
KTH				IAMs_20	IAMs_20	01 53 39.8	
	comp=Z,6μm,19.0s						
MLY	**Manley**	**24.93**	**48**	IAmb	IAmb	01 43 08.6	
	comp=Z,246nm,1.4s						
MLY	**Manley**	**24.93**	**48**	P	**P**	**01 43 06.0**	**+0.2**
	baz=270,SNR=150						
MLY				S	**S**	**01 47 26.0**	**+0.5**
	baz=270						
HOM	**Homer**	**24.95**	**61**	IAmb	IAmb	01 43 31.7	
	comp=Z,226nm,0.9s						
HOM				IAMs_20	IAMs_20	01 52 44.5	
	comp=Z,6μm,20.0s						
HOM	**Homer**	**24.95**	**61**	P	**P**	**01 43 05.9**	**-0.1**
	baz=280						
HOM				S	**S**	**01 47 24.0**	**-1.7**
	baz=280						
CAPN	**Captain Cook N**	**25.02**	**58**	P	**P**	**01 43 06.4**	**-0.1**
	baz=278						
SUA	**Susitna One**	**25.12**	**56**	IAMs_20	IAMs_20	01 53 04.7	
	comp=Z,6μm,20.0s						
SUA	**Susitna One**	**25.12**	**56**	P	**P**	**01 43 07.1**	**-0.6**
	baz=277,SNR=16						
SUA				S	**S**	**01 47 26.2**	**-2.5**
	baz=277						
TRF	**Thorofare Moun**	**25.16**	**51**	IAmb	IAmb	01 43 34.9	
	comp=Z,235nm,1.0s						
TRF	**Thorofare Moun**	**25.16**	**51**	P	**P**	**01 43 07.9**	**-0.1**
	baz=273,SNR=102						
TRF				S	**S**	**01 47 28.5**	**-0.8**
	baz=273						
CNPM	**China Poot**	**25.18**	**61**	IAmb	IAmb	01 43 32.1	
	comp=Z,144nm,1.1s						
CNPM				IAMs_20	IAMs_20	01 53 01.6	
	comp=Z,6μm,20.0s						
CUT	**Chulitna**	**25.25**	**54**	IAMs_20	IAMs_20	01 53 54.9	
	comp=Z,6μm,19.0s						
CUT	**Chulitna**	**25.25**	**54**	P	**P**	**01 43 08.1**	**-0.5**
	baz=276,SNR=21						
CUT				S	**S**	**01 47 31.1**	**+0.7**
	baz=276						
COLD	**Coldfoot**	**25.25**	**43**	P	**P**	**01 43 08.5**	**-0.1**
	baz=265,SNR=130						
COLD				S	**S**	**01 47 31.3**	**+0.8**
	baz=265						
G23K	**Bananza Creek**	**25.29**	**44**	P	**P**	**01 43 08.1**	**-0.9**
G23K				IAmb	IAmb	01 43 10.8	
	comp=Z,381nm,1.7s						
G23K	**Bananza Creek**	**25.29**	**44**	P	**P**	**01 43 08.6**	**-0.4**
	baz=267,SNR=108						
G23K				S	**S**	**01 47 30.2**	**-0.9**
	baz=267						
D23K	**Nanushuk River**	**25.29**	**38**	P	**P**	**01 43 09.0**	**0.0**
	baz=261						
D23K				S	**S**	**01 47 30.8**	**-0.2**
	baz=261						
BRLK	**Bradley Lake**	**25.31**	**60**	IAmb	IAmb	01 43 20.8	
	comp=Z,174nm,1.2s						
BRLK				IAMs_20	IAMs_20	01 52 26.8	
	comp=Z,7μm,20.0s						
M22K	**Willow**	**25.38**	**55**	IAmb	IAmb	01 43 32.6	
	comp=Z,150nm,1.1s						
M22K	**Willow**	**25.38**	**55**	P	**P**	**01 43 09.9**	**+0.1**
	baz=277,SNR=8.8						
M22K				S	**S**	**01 47 32.7**	**+0.2**
	baz=277						
BRSE	**Bradley Lake S**	**25.39**	**60**	P	**P**	**01 43 08.9**	**-1.1**
	baz=281,SNR=11						
BRSE				S	**S**	**01 47 32.5**	**-0.3**
	baz=281						
H23K	**Yukon River**	**25.44**	**46**	IAmb	IAmb	01 43 14.5	
	comp=Z,238nm,1.1s						
H23K	**Yukon River**	**25.44**	**46**	P	**P**	**01 43 10.8**	**+0.4**
	baz=269,SNR=165						
H23K				S	**S**	**01 47 34.8**	**+1.2**
	baz=269						
C23K	**Itkillik River**	**25.46**	**36**	P	**P**	**01 43 10.5**	**0.0**
	baz=259,SNR=157						
C23K				S	**S**	**01 47 32.0**	**-1.7**
	baz=259						
I23K	**Minto, Yukon-K**	**25.51**	**47**	IAMs_20	IAMs_20	01 53 16.6	
	comp=Z,6μm,21.0s						
I23K	**Minto, Yukon-K**	**25.51**	**47**	P	**P**	**01 43 11.1**	**+0.1**
	baz=270,SNR=62						
I23K				S	**S**	**01 47 35.1**	**+0.6**
	baz=270						
TOLK	**Toolik Lake Re**	**25.64**	**39**	P	**P**	**01 43 12.2**	**-0.1**
	baz=263,SNR=236						
TOLK				S	**S**	**01 47 36.8**	**+0.1**
	baz=263						
NEA2	**Nenana**	**25.65**	**49**	P	**P**	**01 43 11.4**	**-0.8**
NEA2				IAMs_20	IAMs_20	01 53 19.2	
	comp=Z,6μm,21.0s						
NEA2	**Nenana**	**25.65**	**49**	P	**P**	**01 43 12.0**	**-0.3**
	baz=272,SNR=59						
NEA2				S	**S**	**01 47 37.0**	**+0.3**
	baz=272						
RC01	**Rabbit Creek A**	**25.66**	**57**	IAMs_20	IAMs_20	01 53 33.9	
	comp=Z,7μm,20.0s						
RC01	**Rabbit Creek A**	**25.66**	**57**	P	**P**	**01 43 12.0**	**-0.3**
	baz=279						
RC01				S	**S**	**01 47 34.1**	**-2.8**
	baz=279						
MCK	**McKinley**	**25.75**	**51**	P	**P**	**01 43 12.7**	**-0.5**
	baz=274,SNR=28						
MCK				S	**S**	**01 47 36.5**	**-1.8**
	baz=274						
O22K	**Cooper Landing**	**25.76**	**58**	IAmb	IAmb	01 43 43.0	
	comp=Z,133nm,0.8s						
O22K				IAMs_20	IAMs_20	01 53 14.7	
	comp=Z,8μm,20.0s						
O22K	**Cooper Landing**	**25.76**	**58**	P	**P**	**01 43 13.8**	**+0.5**
	baz=280						
O22K				S	**S**	**01 47 38.9**	**+0.4**
	baz=280						
RND	**Reindeer**	**25.81**	**51**	IAmb	IAmb	01 43 29.3	
	comp=Z,215nm,1.5s						
RND				IAMs_20	IAMs_20	01 54 20.5	
	comp=Z,7μm,20.0s						
PMR	**Palmer**	**25.87**	**56**	P	**P**	**01 43 15.7**	**+1.4**
PMR	**Palmer**	**25.87**	**56**	IAMs_20	IAMs_20	01 53 39.6	
	comp=Z,6μm,20.0s						
PMR	**Palmer**	**25.87**	**56**	P	**P**	**01 43 13.9**	**-0.4**
	baz=278						
PMR				S	**S**	**01 47 39.9**	**-0.4**
	baz=278						
JGF	**Kuroka**	**25.88**	**231**	P	**P**	**01 43 15.9**	**+1.2**
JGF	**Kuroka**	**25.88**	**231**	P	**P**	**01 43 15.2**	**+0.5**
JGF				IAmb	IAmb	01 43 17.5	
	comp=Z,244nm,1.2s						
SEW	**Seward**	**25.96**	**59**	P	**P**	**01 43 14.5**	**-0.6**
	baz=281,SNR=6.2						
SEW				S	**S**	**01 47 40.4**	**-1.3**
	baz=281						
D24K	**Happy Valley**	**25.98**	**38**	P	**P**	**01 43 14.9**	**-0.2**
	baz=263,SNR=65						
D24K				S	**S**	**01 47 40.1**	**-1.7**
	baz=263						
E24K	**Your Creek**	**25.98**	**41**	IAmb	IAmb	01 43 18.6	
	comp=Z,112nm,0.8s						
E24K	**Your Creek**	**25.98**	**41**	P	**P**	**01 43 15.5**	**+0.2**
	baz=265,SNR=196						
E24K				S	**S**	**01 47 41.3**	**-0.8**
	baz=265						
WAT1	**Susitna Watana**	**26.00**	**53**	P	**P**	**01 43 14.2**	**-1.2**
	baz=276						
WAT1				S	**S**	**01 47 40.9**	**-1.4**
	baz=276						
MDM	**Murphy Dome**	**26.00**	**48**	IAMs_20	IAMs_20	01 53 30.3	
	comp=Z,6μm,21.0s						
CN2	**Changchun**	**26.02**	**259**	*e*P	**P**	**01 43 13.3**	**-2.5**
CN2				*e*PP	**PnPn**	**01 43 56.5**	**+0.9**
CN2				PcP	**PcP**	**01 46 41.6**	**-1.0**
CN2				*e*S	**S**	**01 47 34.8**	**-8.1**
CN2				*es*S	sS	01 48 04.8	+0.3
CN2				LR	LR		
	comp=Z,670nm,14.0s						
CN2				LR	LR		
	comp=Z,6μm,14.0s						
CN2				LR	LR		
	comp=Z,4μm,14.0s						
WRH	**Wood River Hil**	**26.08**	**49**	IAmb	IAmb	01 43 17.4	
	comp=Z,301nm,1.2s						
C24K	**Franklin Bluff**	**26.10**	**37**	P	**P**	**01 43 16.0**	**-0.2**
	baz=262						
C24K				S	**S**	**01 47 43.6**	**0.0**
	baz=262						
H24K	**Noodor Dome**	**26.13**	**46**	P	**P**	**01 43 16.9**	**+0.2**
	baz=270,SNR=56						
H24K				S	**S**	**01 47 46.1**	**+1.8**
	baz=270						
COLA	**College**	**26.16**	**48**	P	**P**	**01 43 16.7**	**-0.1**
COLA	**College**	**26.16**	**48**	P	**P**	**01 43 16.5**	**-0.3**
COLA				IAmb	IAmb	01 43 18.1	
	comp=Z,156nm,1.1s						
COLA	**College**	**26.16**	**48**	IAMs_20	IAMs_20	01 53 35.6	
	comp=Z,6μm,21.0s						
COLA	**College**	**26.16**	**48**	P	**P**	**01 43 16.7**	**-0.1**
	baz=272						
COLA				S	**S**	**01 47 45.7**	**+1.0**
	baz=272						
COLA	**College**	**26.16**	**48**	P	**P**	**01 43 16.5**	**-0.3**
COLA				pmax	pmax		
	comp=Z,156nm,1.2s						
COLA				MLR	MLR		
	comp=Z,6μm,21.0s						
F24K	**Squaw Lake**	**26.17**	**42**	P	**P**	**01 43 16.6**	**-0.4**
	baz=267,SNR=68						
F24K				S	**S**	**01 47 45.0**	**+0.1**
	baz=267						
CCB	**Clear Creek Bu**	**26.19**	**49**	IAmb	IAmb	01 43 18.3	
	comp=Z,243nm,1.2s						
CCB				IAMs_20	IAMs_20	01 53 45.5	
	comp=Z,7μm,20.0s						
BOD	**Bodaibo**	**26.20**	**296**	*e*P	**P**	**01 43 15.4**	**-1.9**
BOD				pmax	pmax		
	comp=Z,410nm,1.8s						
KNK	**Knik Glacier**	**26.22**	**56**	IAMs_20	IAMs_20	01 53 50.7	
	comp=Z,6μm,20.0s						
KNK	**Knik Glacier**	**26.22**	**56**	P	**P**	**01 43 17.1**	**-0.4**
	baz=279,SNR=18						
KNK				S	**S**	**01 47 44.4**	**-1.4**
	baz=279						
SML	**Sawmill**	**26.22**	**55**	IAmb	IAmb	01 43 30.5	
	comp=Z,207nm,1.3s						
SML	**Sawmill**	**26.22**	**55**	P	**P**	**01 43 17.0**	**-0.5**
	baz=278,SNR=21						
SML				S	**S**	**01 47 44.0**	**-1.9**
	baz=278						
HIA	**Hailar**	**26.24**	**275**	P	**P**	**01 43 17.9**	**+0.1**
INU	**Inuyama**	**26.25**	**231**	P	**P**	**01 43 18.8**	**+0.9**
INU	**Inuyama**	**26.25**	**231**	P	**P**	**01 43 17.9**	**0.0**
INU				IAmb	IAmb	01 43 27.4	
	comp=Z,213nm,0.8s						
INU				IAMs_20	IAMs_20	01 53 31.3	
	comp=Z,6μm,22.0s						
G24K	**Hadweenzic Riv**	**26.30**	**44**	IAmb	IAmb	01 43 19.8	
	comp=Z,273nm,1.0s						
G24K	**Hadweenzic Riv**	**26.30**	**44**	P	**P**	**01 43 18.5**	**+0.4**
	baz=269,SNR=268						
G24K				S	**S**	**01 47 48.3**	**+1.4**
	baz=269						
JSG	**Sagara**	**26.30**	**229**	P	**P**	**01 43 20.8**	**+2.4**
POKR	**Poker Plat Res**	**26.33**	**47**	IAMs_20	IAMs_20	01 54 02.1	
	comp=Z,6μm,20.0s						
POKR	**Poker Plat Res**	**26.33**	**47**	P	**P**	**01 43 18.4**	**0.0**
	baz=272,SNR=13						
POKR				S	**S**	**01 47 46.6**	**-0.9**
	baz=272						
WAT6	**Susitna Watana**	**26.39**	**53**	P	**P**	**01 43 18.2**	**-1.0**
	baz=277,SNR=21						
WAT6				S	**S**	**01 47 46.9**	**-1.9**
	baz=277						
DHY	**Denali Highway**	**26.50**	**52**	IAMs_20	IAMs_20	01 54 43.0	
	comp=Z,7μm,18.0s						
DHY	**Denali Highway**	**26.50**	**52**	P	**P**	**01 43 19.3**	**-0.8**
	baz=276,SNR=28						
DHY				S	**S**	**01 47 47.9**	**-2.6**
	baz=276						
M23K	**Glacier View**	**26.51**	**55**	P	**P**	**01 43 19.6**	**-0.5**
	baz=279,SNR=23						
M23K				S	**S**	**01 47 48.7**	**-1.7**
	baz=279						
HDA	**Harding Lake**	**26.57**	**49**	IAMs_20	IAMs_20	01 53 47.7	
	comp=Z,6μm,20.0s						
HDA	**Harding Lake**	**26.57**	**49**	P	**P**	**01 43 19.7**	**-1.0**
	baz=274,SNR=18						
HDA				S	**S**	**01 47 49.2**	**-2.2**
	baz=274						
HDA				S	**S**	**01 47 49.2**	**-2.2**
	baz=274						
IL31		**26.58**	**48**	P	**P**	**01 43 19.6**	**-0.9**
ILAR	**Eielson Array**	**26.58**	**48**	P	**P**	**01 43 19.5**	**-1.1**
ILAR	**Eielson Array**	**26.58**	**48**	P	**P**	**01 43 19.8**	**-0.8**
	comp=Z,34nm,1.0s,baz=266,slow=8.5,SNR=169						
ILAR				PcP	**PcP**	**01 46 42.9**	**-0.6**
	comp=Z,8.5nm,1.0s,baz=278,slow=2.1,SNR=5.9						
ILAR				LR	LR	01 54 09.5	
	comp=Z,6μm,20.9s,baz=258,slow=37						
ILAR				P3KPbc		02 16 03.8	
	comp=Z,1.3nm,1.0s,baz=98,slow=3.6,SNR=6.8						
	comp=Z,34nm,1.0s						
SCM	**Sheep Creek Mo**	**26.69**	**55**	IAmb	IAmb	01 43 35.0	
	comp=Z,167nm,0.8s						
SCM	**Sheep Creek Mo**	**26.69**	**55**	P	**P**	**01 43 21.5**	**-0.2**
	baz=279,SNR=32						
SCM				S	**S**	**01 47 51.7**	**-1.6**
	baz=279						
G25K	**Bearman Lake**	**26.84**	**44**	P	**P**	**01 43 23.2**	**+0.2**
	baz=270,SNR=38						
D25K	**Kavik River**	**26.86**	**38**	IAmb	IAmb	01 43 24.8	
	comp=Z,152nm,0.7s						
D25K	**Kavik River**	**26.86**	**38**	P	**P**	**01 43 22.9**	**-0.4**
	baz=265,SNR=310						
D25K				S	**S**	**01 47 54.3**	**-1.6**
	baz=265						
GLI	**Glacier Island**	**26.96**	**57**	IAMs_20	IAMs_20	01 54 15.4	
	comp=Z,7μm,20.0s						
GLI	**Glacier Island**	**26.96**	**57**	P	**P**	**01 43 22.7**	**-1.4**
	baz=281						
GLI				S	**S**	**01 47 56.6**	**-0.9**
	baz=281						
H25L	**Birch Creek**	**26.96**	**45**	P	**P**	**01 43 24.5**	**+0.5**
	baz=271,SNR=35						
H25L				S	**S**	**01 47 58.5**	**+1.1**
	baz=271						
JHJ2	**Mitsune**	**26.97**	**224**	P	**P**	**01 43 26.0**	**+1.6**
JHJ2	**Mitsune**	**26.97**	**224**	P	**P**	**01 43 24.0**	**-0.5**
P23K	**Montague Islan**	**26.99**	**59**	P	**P**	**01 43 23.3**	**-1.1**
	baz=282						
F25K	**Christian Rive**	**27.03**	**42**	P	**P**	**01 43 25.1**	**+0.4**
	baz=269,SNR=122						
F25K				S	**S**	**01 47 59.4**	**+0.8**
	baz=269						
E25K	**Arctic Village**	**27.08**	**41**	IAmb	IAmb	01 43 26.9	
	comp=Z,305nm,1.4s						
E25K	**Arctic Village**	**27.08**	**41**	P	**P**	**01 43 25.5**	**+0.3**
	baz=268,SNR=158						
E25K				S	**S**	**01 47 59.8**	**+0.5**
	baz=268						
PRP	**Porcupine Dome**	**27.11**	**46**	IAmb	IAmb	01 43 27.0	
	comp=Z,221nm,1.2s						
PRP				IAMs_20	IAMs_20	01 54 06.8	
	comp=Z,5μm,21.0s						
PRP	**Porcupine Dome**	**27.11**	**46**	P	**P**	**01 43 25.3**	**-0.3**
	baz=273,SNR=145						
PRP				S	**S**	**01 47 59.8**	**-0.2**
	baz=273						
K24K	**Donnelly Dome**	**27.14**	**50**	P	**P**	**01 43 24.8**	**-1.0**
	baz=276,SNR=8.4						
K24K				S	**S**	**01 47 59.1**	**-1.2**
	baz=276						
M24K	**Tolsona, Glenn**	**27.18**	**54**	P	**P**	**01 43 26.6**	**+0.4**
	baz=279,SNR=33						
M24K				S	**S**	**01 48 02.0**	**+0.9**
	baz=279						
FYU	**Fort Yukon**	**27.19**	**44**	IAmb	IAmb	01 43 27.9	
	comp=Z,313nm,1.2s						
J25K	**Salcha River,**	**27.24**	**48**	IAMs_20	IAMs_20	01 54 18.2	
	comp=Z,5μm,20.0s						
J25K	**Salcha River,**	**27.24**	**48**	P	**P**	**01 43 25.2**	**-1.5**
	baz=275,SNR=39						
J25K				S	**S**	**01 48 01.0**	**-0.9**
	baz=275						
FID	**Port Fidalgo**	**27.28**	**57**	IAMs_20	IAMs_20	01 54 33.5	
	comp=Z,7μm,20.0s						
HIN	**Hinchinbrook I**	**27.34**	**58**	IAMs_20	IAMs_20	01 53 54.6	
	comp=Z,7μm,20.0s						
PAX	**Paxson**	**27.38**	**52**	P	**P**	**01 43 26.7**	**-1.3**
	baz=278,SNR=15						
PAX				S	**S**	**01 48 05.4**	**+1.2**
	baz=278						
KLU	**Klutina**	**27.41**	**55**	P	**P**	**01 43 27.6**	**-0.6**
	baz=281,SNR=10						
KLU				S	**S**	**01 48 05.1**	**+0.4**
	baz=281						
C26K	**Camden Bay**	**27.43**	**37**	P	**P**	**01 43 28.8**	**+0.6**
	baz=265,SNR=116						
C26K				S	**S**	**01 48 05.2**	**+0.6**
	baz=265						
BMAR	**Burnt Mountain**	**27.44**	**42**	P	**P**	**01 43 28.4**	**0.0**
F26K	**Sheenjek River**	**27.61**	**42**	P	**P**	**01 43 30.2**	**+0.4**
	baz=270,SNR=82						
F26K				S	**S**	**01 48 09.7**	**+2.1**
	baz=270						
HARP	**HAARP**	**27.61**	**53**	P	**P**	**01 43 29.7**	**-0.2**
	baz=280,SNR=6.2						
HARP				S	**S**	**01 48 06.8**	**-0.9**
	baz=280						
Q23K	**Middleton Isla**	**27.64**	**60**	IAMs_20	IAMs_20	01 55 26.6	
	comp=Z,6μm,18.0s						
Q23K	**Middleton Isla**	**27.64**	**60**	P	**P**	**01 43 30.6**	**+0.4**
	baz=284						
EYAK	**Cordova Ski Ar**	**27.68**	**57**	P	**P**	**01 43 30.1**	**-0.4**
EYAK	**Cordova Ski Ar**	**27.68**	**57**	P	**P**	**01 43 29.8**	**-0.7**
	baz=283						
EYAK				S	**S**	**01 48 09.2**	**+0.6**
	baz=283						
G26K	**Porcupine Rive**	**27.76**	**43**	P	**P**	**01 43 31.7**	**+0.6**
	baz=272,SNR=126						
G26K				S	**S**	**01 48 11.1**	**+1.2**
	baz=272						
C27K	**Jago River**	**27.82**	**38**	P	**P**	**01 43 31.9**	**+0.2**
	baz=267,SNR=99						
C27K				S	**S**	**01 48 10.9**	**-0.1**
	baz=267						
SCRK	**Sand Creek**	**27.91**	**50**	IAmb	IAmb	01 43 32.8	
	comp=Z,154nm,1.3s						
SCRK	**Sand Creek**	**27.91**	**50**	P	**P

J26L S **S** **01 48 13.2 -1.2**
baz=277
I26K **Coal Creek Min** **28.12 47** IAMs_20 IAMs_20 01 54 46.6
comp=Z,5µm,20.0s
I26K **Coal Creek Min** **28.12 47** P **P** **01 43 32.8 -1.6**
baz=276
BMRM **Bremner River** **28.14 56** P **P** **01 43 34.0 -0.7**
baz=282,SNR=6.1
BMRM S **S** **01 48 19.2 +3.1**
baz=282
MENT **Mentasta** **28.17 52** P **P** **01 43 34.7 -0.3**
MENT **Mentasta** **28.17 52** IAMs_20 IAMs_20 01 55 45.2
comp=Z,6µm,19.0s
L26K **Log Cabin Wild** **28.33 52** IAMs_20 IAMs_20 01 55 59.2
comp=Z,7µm,18.0s
L26K **Log Cabin Wild** **28.33 52** P **P** **01 43 36.0 -0.3**
baz=280
L26K S **S** **01 48 19.8 +0.7**
baz=280
SNY **Shenyang** **28.34 258** ‖P **P** **01 43 35.3 -1.3**
SNY pmax pmax
comp=Z,35nm,1.1s
SNY pmax pmax
comp=Z,270nm,4.1s
SNY LR LR
comp=Z,6µm,16.7s
SNY LR LR
comp=Z,7µm,15.2s
SNY LR LR
comp=Z,9µm,15.9s
HMT **Hamilton** **28.44 57** IAMs_20 IAMs_20 01 55 23.6
comp=Z,9µm,19.0s
KAIM **Kayak Island** **28.46 58** IAMs_20 IAMs_20 01 54 58.3
comp=Z,7µm,20.0s
KAIM **Kayak Island** **28.46 58** P **P** **01 43 37.0 -0.6**
baz=285
KAIM S **S** **01 48 20.8 -0.4**
baz=285
CIT **Chita** **28.47 284** *e*P **P** **01 43 36.6 -1.2**
CIT *e* 01 43 49.6
CIT *e* 01 44 07.6
CIT *e* 01 44 35.4
CIT *e* 01 46 44.2
CIT *e* 01 50 12.0
E27K **Coleen River** **28.57 41** IAmb IAmb 01 43 40.0
comp=Z,148nm,1.4s
E27K **Coleen River** **28.57 41** P **P** **01 43 38.5 +0.1**
baz=272,SNR=47
E27K S **S** **01 48 23.4 +0.7**
baz=272
M26K **Nabesna, AK** **28.60 53** IAMs_20 IAMs_20 01 56 00.4
comp=Z,4µm,18.0s
M26K **Nabesna, AK** **28.60 53** P **P** **01 43 39.5 +0.7**
baz=281,SNR=32
M26K S **S** **01 48 24.9 +1.6**
baz=281
G27K **Doyon Strip** **28.61 44** P **P** **01 43 38.9 +0.1**
G27K **Doyon Strip** **28.61 44** P **P** **01 43 39.2 +0.5**
baz=274,SNR=67
G27K S **S** **01 48 25.5 +2.2**
baz=274
VRDI **Verde Repeater** **28.62 55** IAmb IAmb 01 43 53.2
comp=Z,255nm,2.0s
VRDI IAMs_20 IAMs_20 01 54 18.3
comp=Z,5µm,21.0s
H27K **Steamboat Moun** **28.70 45** P **P** **01 43 40.3 +0.7**
baz=275,SNR=161
H27K S **S** **01 48 25.7 +0.8**
baz=275
I27K **Kandik River** **28.73 46** P **P** **01 43 39.1 -0.8**
baz=276,SNR=16
I27K S **S** **01 48 25.3 0.0**
baz=276
K27K **Chicken** **28.73 49** P **P** **01 43 39.5 -0.4**
baz=279
K27K S **S** **01 48 25.0 -0.3**
baz=279
SUCK **Suckling Hills** **28.74 58** IAMs_20 IAMs_20 01 54 18.5
comp=Z,6µm,20.0s
D27M **Malcolm River** **28.78 38** IAmb IAmb 01 43 41.9
comp=Z,176nm,1.2s
D27M **Malcolm River** **28.78 38** P **P** **01 43 40.6 +0.3**
baz=270,SNR=58
D27M S **S** **01 48 24.6 -1.6**
baz=270
MCARA **McCarthy VSAT** **28.79 55** P **P** **01 43 40.8 +0.3**
baz=283,SNR=5.9
MCARA S **S** **01 48 27.1 +0.8**
baz=283
BGLC **Bering Glacier** **28.97 58** P **P** **01 43 42.2 +0.2**
baz=285
L27K **Beaver Creek,** **29.00 51** IAmb IAmb 01 43 44.3
comp=Z,237nm,1.6s
L27K IAMs_20 IAMs_20 01 56 20.0
comp=Z,6µm,18.0s
L27K **Beaver Creek,** **29.00 51** P **P** **01 43 42.8 +0.4**
baz=281,SNR=58
L27K S **S** **01 48 31.3 +1.6**
baz=281
EGAK **Eagle** **29.02 48** IAMs_20 IAMs_20 01 55 13.2
comp=Z,5µm,21.0s
EGAK **Eagle** **29.02 48** P **P** **01 43 41.4 -1.0**
baz=278,SNR=46
EGAK S **S** **01 48 29.6 -0.1**
baz=278
BCAR **Beaver Creek A** **29.02 51** P **P** **01 43 42.7 +0.2**
JMN **Monobe** **29.03 234** P **P** **01 43 44.3 +1.5**
JMN **Monobe** **29.03 234** IAmb IAmb 01 43 45.9
comp=Z,237nm,1.2s
JMN IAMs_20 IAMs_20 01 55 26.8
comp=Z,5µm,21.0s
KSRS **Korea Array** **29.05 247** P **P** **01 43 42.9 -0.1**
comp=Z,35nm,1.0s,baz=40,slow=9.3,SNR=66
KSRS PcP **PcP** **01 46 51.1 +1.2**
comp=Z,32nm,1.0s,baz=5.4,slow=1.4,SNR=22
KSRS ScP **ScP** **01 50 30.2 +3.3**
comp=Z,1.1nm,0.6s,baz=58,slow=3.0,SNR=2.7
KSRS LR LR 01 54 52.9
comp=Z,4µm,20.6s,baz=55,slow=35
comp=Z,35nm,1.0s
KSAR **Wonju Array Be** **29.08 247** P **P** **01 43 42.7 -0.5**
KSAR **Wonju Array Be** **29.08 247** P **P** **01 43 42.7 -0.5**
M27K **Edge Creek, AK** **29.12 53** P **P** **01 43 44.1 +0.6**
baz=282,SNR=21
M27K S **S** **01 48 34.4 +2.7**
baz=282
SNH **Sunshine Point** **29.17 57** IAMs_20 IAMs_20 01 56 15.8
comp=Z,8µm,18.0s
F28M **Old Crow** **29.24 42** IAmb IAmb 01 43 46.3
comp=Z,180nm,1.4s
F28M **Old Crow** **29.24 42** P **P** **01 43 44.6 +0.2**
baz=274,SNR=85
F28M S **S** **01 48 35.3 +2.0**
baz=274
ISLE **Juniper Island** **29.30 56** IAmb IAmb 01 43 59.0
comp=Z,272nm,1.8s
E28M **Babbage River** **29.31 40** IAmb IAmb 01 43 46.6
comp=Z,151nm,1.4s
E28M **Babbage River** **29.31 40** P **P** **01 43 45.2 +0.2**
baz=273,SNR=66
E28M S **S** **01 48 35.5 +1.2**
baz=273
I28M **Miner Creek** **29.44 46** IAMs_20 IAMs_20 01 55 49.3
comp=Z,6µm,20.0s
I28M **Miner Creek** **29.44 46** P **P** **01 43 46.1 -0.2**
baz=278,SNR=42
I28M S **S** **01 48 38.1 +1.6**
baz=278
BARN **Barnard Glacie** **29.51 55** IAmb IAmb 01 44 00.6
comp=Z,246nm,1.8s
BARN IAMs_20 IAMs_20 01 54 45.7
comp=Z,7µm,22.0s
BVCY **Beaver Creek** **29.57 52** P **P** **01 43 46.7 -0.7**
baz=283
D28M **Stokes Point** **29.57 38** P **P** **01 43 47.1 -0.1**
baz=272,SNR=9.5
D28M S **S** **01 48 40.2 +1.9**
baz=272
MESA **MESA** **29.60 57** IAmb IAmb 01 44 01.5
comp=Z,354nm,1.6s
MESA IAMs_20 IAMs_20 01 56 11.1
comp=Z,9µm,20.0s
MESA **MESA** **29.60 57** P **P** **01 43 48.1 +0.2**
baz=286
MESA S **S** **01 48 41.2 +1.8**
baz=286
CTG **Chitna Glacier** **29.68 55** P **P** **01 43 49.1 +0.6**
baz=285,SNR=6.6

CTG S **S** **01 48 40.8 +0.3**
baz=285
CTGM **Chitina Glacie** **29.69 55** IAMs_20 IAMs_20 01 54 51.3
comp=Z,7µm,22.0s
INCN **Inchon** **29.72 248** P **P** **01 43 50.1 +1.2**
LOGN **Logan Glacier** **29.88 56** IAMs_20 IAMs_20 01 56 02.5
comp=Z,5µm,21.0s
DAWY **Dawson** **29.89 49** P **P** **01 43 50.0 -0.2**
baz=281,SNR=16
DAWY S **S** **01 48 45.3 +1.7**
baz=281
YUK3 **Moose Creek** **29.90 54** P **P** **01 43 50.5 0.0**
baz=284,SNR=8.5
YUK3 S **S** **01 48 46.8 +2.8**
baz=284
E29M **Blow River** **29.93 40** P **P** **01 43 50.3 -0.1**
E29M IAmb IAmb 01 43 52.4
comp=Z,183nm,1.4s
E29M **Blow River** **29.93 40** P **P** **01 43 51.0 +0.5**
baz=274,SNR=118
E29M S **S** **01 48 44.8 +0.8**
baz=274
H29M **Whitestone** **29.98 44** IAmb IAmb 01 43 52.8
comp=Z,109nm,1.2s
H29M **Whitestone** **29.98 44** P **P** **01 43 51.5 +0.6**
baz=278,SNR=38
H29M S **S** **01 48 46.6 +1.9**
baz=278
G29M **Pine Creek** **30.02 43** IAmb IAmb 01 43 53.6
comp=Z,203nm,1.1s
G29M **Pine Creek** **30.02 43** P **P** **01 43 52.2 +0.9**
baz=277,SNR=112
G29M S **S** **01 48 48.1 +2.5**
baz=277
I29M **Ogilvie Camp,** **30.13 46** IAmb IAmb 01 43 53.6
comp=Z,135nm,1.3s
I29M IAMs_20 IAMs_20 01 56 20.4
comp=Z,5µm,20.0s
I29M **Ogilvie Camp,** **30.13 46** P **P** **01 43 52.1 -0.1**
baz=279,SNR=67
I29M S **S** **01 48 48.4 +1.2**
baz=279
TJN **Taejon** **30.16 246** P **P** **01 43 53.4 +0.6**
TJN **Taejon** **30.16 246** P **P** **01 43 52.3 -0.4**
TJN **Taejon** **30.16 246** P **P** **01 43 52.3 -0.4**
TJN pmax pmax
comp=Z,791nm,1.9s
TJN MLR MLR
comp=Z,18µm,20.0s
O28M **Mount Upton** **30.28 55** P **P** **01 43 54.2 +0.3**
baz=286,SNR=12
O28M S **S** **01 48 50.9 +0.8**
baz=286
J29N **Klondike Camp** **30.32 48** IAMs_20 IAMs_20 01 55 53.7
comp=Z,5µm,21.0s
J29N **Klondike Camp** **30.32 48** P **P** **01 43 54.0 0.0**
baz=281
J29N S **S** **01 48 51.9 +1.5**
baz=281
YUK8 **Steele Glacier** **30.34 54** P **P** **01 43 54.8 +0.3**
baz=285
YUK8 S **S** **01 48 53.9 +2.8**
baz=285
EPYK **Eagle Plains** **30.61 44** IAmb IAmb 01 43 58.2
comp=Z,237nm,1.6s
EPYK **Eagle Plains** **30.61 44** P **P** **01 43 56.8 +0.2**
baz=279,SNR=57
EPYK S **S** **01 48 55.0 +0.2**
baz=279
L29M **L29M** **30.64 50** IAmb IAmb 01 43 59.2
comp=Z,194nm,1.4s
L29M IAMs_20 IAMs_20 01 56 35.3
comp=Z,4µm,20.0s
L29M **L29M** **30.64 50** P **P** **01 43 57.8 +1.0**
baz=283,SNR=38
M29M **Somme Creek** **30.65 52** P **P** **01 43 57.6 +0.6**
baz=284,SNR=20
M29M S **S** **01 48 57.2 +1.6**
baz=284
G30M **tAoh Zraii Nji** **30.72 43** IAmb IAmb 01 43 58.9
comp=Z,318nm,1.9s
G30M **tAoh Zraii Nji** **30.72 43** P **P** **01 43 57.2 -0.3**
baz=278,SNR=31
G30M S **S** **01 48 56.6 +0.1**
baz=278
K29M **Barlow Dome** **30.75 49** P **P** **01 43 57.7 -0.2**
baz=282,SNR=18
K29M S **S** **01 48 57.0 -0.1**
baz=282
BCPM **Bancas Point** **30.77 57** IAmb IAmb 01 44 11.7
comp=Z,128nm,0.8s
MIDW **Midway** **30.77 143** IAMs_20 IAMs_20 01 53 19.0
comp=Z,6µm,20.0s
F30M **Barrier River** **30.80 41** P **P** **01 43 59.0 +0.8**
baz=278,SNR=102
F30M S **S** **01 48 58.3 +0.7**
baz=278
YUK4 **Talbot Arm** **30.85 54** P **P** **01 43 59.2 +0.3**
baz=286
JNU **Nakatsue** **30.95 238** P **P** **01 44 01.6 +1.8**
JNU **Nakatsue** **30.95 238** IAmb IAmb 01 44 03.0
comp=Z,108nm,1.0s
JNU **Nakatsue** **30.95 238** LR LR 01 57 13.6
comp=Z,4µm,21.9s,baz=36,slow=38
I30M **Mount Dempster** **30.95 46** IAmb IAmb 01 44 00.9
comp=Z,167nm,1.4s
I30M IAMs_20 IAMs_20 01 56 46.2
comp=Z,6µm,20.0s
I30M **Mount Dempster** **30.95 46** P **P** **01 43 59.5 -0.2**
baz=281,SNR=74
I30M S **S** **01 49 01.5 +1.2**
baz=281
PNL **Peninsula** **30.98 57** P **P** **01 44 00.2 +0.4**
PNL **Peninsula** **30.98 57** P **P** **01 43 59.4 -0.4**
baz=288
YUK6 **Outpost Mounta** **31.09 55** P **P** **01 44 01.0 0.0**
baz=287
YUK6 S **S** **01 49 04.3 +1.5**
baz=287
J30M **Hart River** **31.10 47** P **P** **01 44 00.5 -0.5**
J30M IAMs_20 IAMs_20 01 56 40.2
comp=Z,5µm,21.0s
J30M **Hart River** **31.10 47** P **P** **01 44 00.8 -0.1**
baz=282,SNR=11
J30M S **S** **01 49 03.5 +0.9**
baz=282
XLT **XiLinHaoTe** **31.30 268** *e*P **P** **01 44 01.5 -1.4**
XLT pP pP 01 44 18.4 +2.3
XLT sP sP 01 44 27.3 +5.4
XLT PP **PnPn** **01 45 06.6 +0.1**
XLT PcP **PcP** **01 46 56.8 +0.9**
XLT S **S** **01 49 08.5 +2.4**
XLT pmax pmax
comp=Z,27nm,1.1s
XLT pmax pmax
comp=Z,250nm,5.7s
XLT LR LR
comp=Z,8µm,14.9s
XLT LR LR
comp=Z,10µm,16.6s
M30M **Minto, Yukon** **31.36 51** P **P** **01 44 03.8 +0.6**
baz=285,SNR=13
M30M S **S** **01 49 10.8 +4.1**
baz=285
DL2 **Dalian** **31.42 256** P **P** **01 44 02.3 -1.6**
DL2 PcP **PcP** **01 46 57.3 +1.2**
DL2 S **S** **01 49 02.9 -4.9**
DL2 pmax pmax
comp=Z,120nm,1.0s
DL2 pmax pmax
comp=Z,490nm,11.8s
DL2 LR LR
comp=Z,9µm,17.8s
DL2 LR LR
comp=Z,4µm,14.6s
DL2 LR LR
comp=Z,9µm,17.3s
G31M **Satah River** **31.49 43** IAmb IAmb 01 44 05.5
comp=Z,148nm,1.4s
G31M **Satah River** **31.49 43** P **P** **01 44 03.6 -0.5**
baz=280,SNR=30
G31M S **S** **01 49 07.5 -0.8**
baz=280
MAYO **Mayo, Yukon** **31.51 49** P **P** **01 44 04.9 +0.5**
baz=284
HYT **Haines Junctio** **31.53 55** P **P** **01 44 05.5 +0.7**
baz=287,SNR=16

HYT S **S** **01 49 10.9 +1.5**
baz=287
JCJ **Chichijima** **31.53 215** P **P** **01 44 06.3 +1.4**
JCJ **Chichijima** **31.53 215** LR LR 01 57 26.2
comp=Z,773nm,21.0s,baz=21,slow=37
N30M **Aishikik Lake** **31.54 53** IAMs_20 IAMs_20 01 57 54.1
comp=Z,5µm,19.0s
N30M **Aishikik Lake** **31.54 53** P **P** **01 44 04.9 +0.1**
baz=287,SNR=6.3
N30M S **S** **01 49 13.0 +3.6**
baz=287
INK **Inuvik** **31.55 40** P **P** **01 44 04.2 -0.5**
INK **Inuvik** **31.55 40** P **P** **01 44 05.1 +0.4**
baz=278,SNR=82
INK S **S** **01 49 10.1 +0.8**
baz=278
INK **Inuvik** **31.55 40** P **P** **01 44 04.2 -0.5**
INK pmax pmax
comp=Z,433nm,1.8s
INK MLR MLR
comp=Z,2µm,21.0s
F31M **Tsiigehtchic** **31.60 42** IAmb IAmb 01 44 06.5
comp=Z,97nm,1.0s
F31M **Tsiigehtchic** **31.60 42** P **P** **01 44 05.3 +0.2**
baz=280,SNR=17
F31M S **S** **01 49 11.6 +1.5**
baz=280
H31M **Peel River** **31.67 45** P **P** **01 44 05.6 -0.2**
baz=282,SNR=26
H31M S **S** **01 49 12.2 +1.0**
baz=282
P29M **Windy Craggy** **31.79 57** IAMs_20 IAMs_20 01 57 08.0
comp=Z,8µm,20.0s
P29M **Windy Craggy** **31.79 57** P **P** **01 44 07.7 +0.8**
baz=289,SNR=7.4
P29M S **S** **01 49 14.9 +1.7**
baz=289
P30M **Million Dollar** **32.00 56** P **P** **01 44 09.3 +0.5**
baz=289
P30M S **S** **01 49 20.2 +3.6**
baz=289
N31M **Braeburn, Yuko** **32.13 53** IAMs_20 IAMs_20 01 58 11.8
comp=Z,4µm,19.0s
N31M **Braeburn, Yuko** **32.13 53** P **P** **01 44 10.7 +0.8**
baz=288
N31M S **S** **01 49 22.7 +4.1**
baz=288
O30N **Mendenhall** **32.20 54** IAMs_20 IAMs_20 01 59 01.8
comp=Z,5µm,19.0s
O30N **Mendenhall** **32.20 54** P **P** **01 44 11.4 +0.8**
baz=288,SNR=13
O30N S **S** **01 49 23.0 +3.3**
baz=288
PLBC **Pleasant Camp** **32.51 57** P **P** **01 44 14.2 +1.0**
baz=290
PLBC S **S** **01 49 28.5 +4.1**
baz=290
M31M **Drury Creek, Y** **32.55 51** IAmb IAmb 01 44 16.1
comp=Z,77nm,1.1s
M31M IAMs_20 IAMs_20 01 57 54.7
comp=Z,5µm,20.0s
M31M **Drury Creek, Y** **32.55 51** P **P** **01 44 14.3 +0.8**
baz=287,SNR=39
M31M S **S** **01 49 27.3 +2.3**
baz=287
WHY **Whitehorse** **32.80 54** IAmb IAmb 01 44 18.5
comp=Z,133nm,1.3s
WHY IAMs_20 IAMs_20 01 58 35.6
comp=Z,5µm,20.0s
WHY **Whitehorse** **32.80 54** P **P** **01 44 17.1 +1.2**
baz=289,SNR=34
WHY S **S** **01 49 32.7 +3.5**
baz=289
SKAG **Skagway** **33.00 56** P **P** **01 44 18.9 +1.5**
SKAG **Skagway** **33.00 56** IAmb IAmb 01 44 32.6
comp=Z,83nm,1.1s
SKAG IAMs_20 IAMs_20 01 57 59.0
comp=Z,6µm,20.0s
SKAG **Skagway** **33.00 56** P **P** **01 44 19.0 +1.5**
baz=291,SNR=9.3
SKAG S **S** **01 49 37.3 +5.3**
baz=291
FARO **Faro, Yukon** **33.00 51** P **P** **01 44 17.9 +0.3**
FARO IAmb IAmb 01 44 19.9
comp=Z,86nm,1.3s
FARO IAMs_20 IAMs_20 01 58 08.7
comp=Z,4µm,20.0s
FARO **Faro, Yukon** **33.00 51** P **P** **01 44 18.4 +0.8**
baz=288,SNR=34
S31K **Pelican** **33.11 59** IAMs_20 IAMs_20 01 59 13.1
comp=Z,4µm,19.0s
S31K **Pelican** **33.11 59** P **P** **01 44 19.3 +0.8**
baz=292
S31K S **S** **01 49 39.4 +5.6**
baz=292
R31K **City Hall, Gus** **33.18 58** P **P** **01 44 19.4 +0.4**
baz=292
IRK **Irkutsk** **33.47 289** *e*P **P** **01 44 20.5 -1.2**
IRK pmax pmax
comp=Z,112nm,3.2s
N32M **Quiet Lake** **33.47 53** IAMs_20 IAMs_20 01 59 20.0
comp=Z,5µm,18.0s
N32M **Quiet Lake** **33.47 53** P **P** **01 44 22.2 +0.6**
baz=290
N32M S **S** **01 49 43.0 +3.6**
baz=290
P32M **Atlin** **33.72 56** P **P** **01 44 24.9 +1.1**
baz=292,SNR=7.2
P32M S **S** **01 49 47.0 +3.6**
baz=292
A36M **Sachs Harbour** **33.77 32** P **P** **01 44 24.9 +0.8**
baz=280,SNR=65
A36M S **S** **01 49 44.9 +1.1**
baz=280
MMPY **Sheldon Lake,** **33.80 50** IAmb IAmb 01 44 27.1
comp=Z,108nm,1.4s
MMPY **Sheldon Lake,** **33.80 50** P **P** **01 44 25.7 +1.2**
baz=289,SNR=35
MMPY S **S** **01 49 47.5 +3.0**
baz=289
R32K **Eaglecrest** **33.83 58** P **P** **01 44 25.6 +0.8**
baz=293
JIS **Juneau Island** **33.90 58** P **P** **01 44 26.8 +1.5**
JIS **Juneau Island** **33.90 58** IAmb IAmb 01 44 40.4
comp=Z,149nm,1.2s
SIT **Sitka** **33.92 60** P **P** **01 44 26.7 +1.2**
SIT **Sitka** **33.92 60** IAmb IAmb 01 44 36.5
comp=Z,174nm,1.4s
SIT IAMs_20 IAMs_20 01 56 47.5
comp=Z,4µm,22.0s
SIT **Sitka** **33.92 60** P **P** **01 44 25.9 +0.5**
baz=294
SIT S **S** **01 49 52.3 +6.0**
baz=294
P33M **Teslin, Yukon** **33.92 54** IAmb IAmb 01 44 28.0
comp=Z,99nm,1.4s
P33M IAMs_20 IAMs_20 01 59 17.2
comp=Z,5µm,19.0s
P33M **Teslin, Yukon** **33.92 54** P **P** **01 44 26.5 +0.9**
baz=291,SNR=20
P33M S **S** **01 49 50.4 +4.0**
baz=291
S32K **Killisnoo** **34.12 59** IAMs_20 IAMs_20 01 59 51.9
comp=Z,4µm,18.0s
S32K **Killisnoo** **34.12 59** P **P** **01 44 28.1 +0.9**
baz=294
ULN **Ulaanbaatar** **34.17 281** P **P** **01 44 27.0 -1.0**
ULN **Ulaanbaatar** **34.17 281** IAMs_20 IAMs_20 01 59 41.3
comp=Z,5µm,19.0s
ULN **Ulaanbaatar** **34.17 281** *ce*P **P** **01 44 27.3 -0.7**
ULN pmax pmax
comp=Z,12nm,0.8s
ULN MLR MLR
comp=Z,4µm,16.0s
SONM **Songino Array** **34.56 281** P **P** **01 44 29.8 -1.5**
SONM **Songino Array** **34.56 281** P **P** **01 44 30.5 -0.8**
comp=Z,1.8nm,0.3s,baz=61,slow=7.7,SNR=7.1
SONM PcP **PcP** **01 47 05.8 +0.8**
comp=Z,35nm,1.0s,baz=43,slow=2.4,SNR=11
SONM ScP **ScP** **01 50 47.9 +2.3**
comp=Z,6.2nm,0.9s,baz=70,slow=1.7,SNR=7.3
SONM LR LR 02 00 06.0
comp=Z,5µm,18.9s,baz=58,slow=39
SONM **Songino Array** **34.56 281** P **P** **01 44 29.8 -1.5**
SONM pmax pmax
comp=Z,18nm,1.2s
C36M **Paulatuk** **34.71 37** P **P** **01 44 32.5 +0.3**
baz=285,SNR=71

C36M					S	**S**	**01 49 58.6**	**+0.3**
	baz=285								
ZAK	**Zakamensk**	**34.93**	**287**	*e*P	**P**	**01 44 33.4**	**-1.1**
ZAK				pmax	pmax				
	comp=Z,30nm,1.3s								
R33M	**Jennings River**	**35.09**	**55**	IAmb	IAmb	01 44 46.0			
	comp=Z,182nm,1.6s								
R33M	**Jennings River**	**35.09**	**55**	P	**P**	**01 44 37.1**	**+1.3**		
	baz=293,SNR=28								
R33M				S	**S**	**01 50 09.2**	**+4.5**		
	baz=293								
T33K	**Petersburg**	**35.20**	**60**	P	**P**	**01 44 36.3**	**-0.3**		
	baz=296								
U33K	**Whale Pass**	**35.42**	**61**	IAMs_20	IAMs_20	01 58 30.4			
	comp=Z,3µm,20.0s								
U33K	**Whale Pass**	**35.42**	**61**	P	**P**	**01 44 39.0**	**+0.6**		
	baz=296								
U33K				S	**S**	**01 50 15.6**	**+6.2**		
	baz=296								
TGTN	**Hyland Airport**	**35.50**	**51**	P	**P**	**01 44 40.1**	**+0.9**		
	baz=292,SNR=9.2								
TGTN				S	**S**	**01 50 13.3**	**+2.5**		
	baz=292								
MOY	**Mondy**	**35.52**	**290**	*e*P	**P**	**01 44 38.9**	**-0.6**		
MOY				*e*		01 46 04.0			
MOY				pmax	pmax				
	comp=Z,47nm,1.4s								
H11N2	**WAKE ISLAND Hy**	**35.56**	**172**	T	T	02 22 07.5			
	baz=355,slow=76,SNR=3348								
H11N3	**WAKE ISLAND Hy**	**35.58**	**172**	T	T	02 22 04.5			
	baz=355,slow=76,SNR=3677								
H11N1	**WAKE ISLAND Hy**	**35.58**	**172**	T	T	02 22 04.8			
	baz=355,slow=76,SNR=2927								
S34M	**Telegraph Cree**	**35.62**	**57**	P	**P**	**01 44 41.9**	**+1.7**		
	baz=295,SNR=8.8								
WRAK	**Wrangell Islan**	**35.67**	**60**	IAMs_20	IAMs_20	01 59 52.0			
	comp=Z,4µm,18.0s								
WRAK	**Wrangell Islan**	**35.67**	**60**	IAmb	IAmb	01 44 55.4			
	comp=Z,88nm,1.4s								
WRAK	**Wrangell Islan**	**35.67**	**60**	P	**P**	**01 44 41.1**	**+0.5**		
	baz=296								
WRAK				S	**S**	**01 50 17.7**	**+4.5**		
	baz=296								
CRAG	**Craig**	**35.71**	**62**	P	**P**	**01 44 42.8**	**+1.8**		
	baz=297								
CRAG				S	**S**	**01 50 19.8**	**+6.0**		
	baz=297								
WTLY	**Watson Lake, Y**	**35.82**	**53**	IAmb	IAmb	01 44 44.2			
	comp=Z,76nm,1.2s								
WTLY				IAMs_20	IAMs_20	02 00 26.3			
	comp=Z,6µm,19.0s								
WTLY	**Watson Lake, Y**	**35.82**	**53**	P	**P**	**01 44 42.8**	**+1.0**		
	baz=294,SNR=7.1								
HHC	**Hu-ho-hao-te**	**35.82**	**268**	*e*P	**P**	**01 44 40.8**	**-1.4**		
HHC				pP	pP	01 44 57.6	+2.2		
HHC				PcP	**PcP**	**01 47 10.3**	**+1.6**		
HHC				S	**S**	**01 50 10.3**	**-5.8**		
HHC				sS	sS	01 50 42.1	+4.1		
HHC				ScS	**ScS**	**01 54 55.3**	**-0.3**		
HHC				pmax	pmax				
	comp=Z,29nm,0.9s								
HHC				pmax	pmax				
	comp=Z,140nm,4.1s								
HHC				LR	LR				
	comp=Z,4µm,14.9s								
HHC				LR	LR				
	comp=Z,5µm,16.3s								
HHC				LR	LR				
	comp=Z,9µm,16.3s								
TIA	**Tai'an**	**35.85**	**257**	P	**P**	**01 44 40.8**	**-1.6**		
TIA				pmax	pmax				
	comp=Z,20nm,0.9s								
TIA				pmax	pmax				
	comp=Z,160nm,11.2s								
TIA				LR	LR				
	comp=Z,3µm,15.7s								
TIA				LR	LR				
	comp=Z,2µm,17.2s								
TIA				LR	LR				
	comp=Z,4µm,16.7s								
DLBC	**Dease Lake**	**35.93**	**56**	IAmb	IAmb	01 44 53.4			
	comp=Z,158nm,1.6s								
DLBC				IAMs_20	IAMs_20	02 00 28.5			
	comp=Z,5µm,19.0s								
DLBC	**Dease Lake**	**35.93**	**56**	P	**P**	**01 44 44.9**	**+2.0**		
	baz=295,SNR=19								
DLBC				S	**S**	**01 50 23.3**	**+5.9**		
	baz=295								
DLBC	**Dease Lake**	**35.93**	**56**	LR	LR	02 00 39.7			
	comp=Z,5µm,18.9s,baz=302,slow=38								
WAKE	**Wake Island**	**35.99**	**173**	IAMs_20	IAMs_20	01 56 54.4			
	comp=Z,4µm,21.0s								
HNS	**HongShan**	**36.37**	**261**	⇑P	**P**	**01 44 45.3**	**-1.5**		
HNS				PP	**PP**	**01 46 12.0**	**+2.0**		
HNS				PcP	**PcP**	**01 47 11.8**	**+1.6**		
HNS				S	**S**	**01 50 22.3**	**-1.9**		
HNS				PcS	**PcS**	**01 51 00.0**	**+2.0**		
HNS				pmax	pmax				
	comp=Z,59nm,1.2s								
HNS				LR	LR				
	comp=Z,6µm,18.6s								
HNS				LR	LR				
	comp=Z,5µm,15.9s								
HNS				LR	LR				
	comp=Z,5µm,20.7s								
T35M	**Bob Quinn**	**36.46**	**59**	IAmb	IAmb	01 44 58.4			
	comp=Z,156nm,1.4s								
T35M				IAMs_20	IAMs_20	01 59 51.6			
	comp=Z,4µm,20.0s								
T35M	**Bob Quinn**	**36.46**	**59**	P	**P**	**01 44 49.9**	**+2.5**		
	baz=297,SNR=18								
V35K	**Ketchikan**	**36.54**	**62**	IAMs_20	IAMs_20	01 58 17.0			
	comp=Z,3µm,21.0s								
V35K	**Ketchikan**	**36.54**	**62**	P	**P**	**01 44 49.6**	**+1.5**		
	baz=298								
H11S1	**WAKE ISLAND Hy**	**36.76**	**173**	T	T	02 23 52.3			
	baz=352,slow=73								
H11S3	**WAKE ISLAND Hy**	**36.77**	**173**	T	T	02 23 40.6			
	baz=352,slow=73								
H11S2	**WAKE ISLAND Hy**	**36.78**	**173**	T	T	02 23 55.2			
	baz=352,slow=73								
BTO	**Baotou**	**36.87**	**269**	*e*P	**P**	**01 44 50.4**	**-0.7**		
BTO				pP	**sP**	**01 45 08.1**	**-2.2**		
BTO				PP	**PnPn**	**01 46 16.4**	**+0.3**		
BTO				S	**S**	**01 50 29.4**	**-2.7**		
BTO				SS	**SnSn**	**01 52 57.3**	**-10**		
BTO				pmax	pmax				
	comp=Z,310nm,1.2s								
BTO				pmax	pmax				
	comp=Z,710nm,4.1s								
BTO				LR	LR				
	comp=Z,11µm,16.1s								
BTO				LR	LR				
	comp=Z,18µm,15.5s								
BTO				LR	LR				
	comp=Z,24µm,15.9s								
WRGLY	**Wrigley**	**36.92**	**47**	IAMs_20	IAMs_20	02 01 05.1			
	comp=Z,4µm,20.0s								
WRGLY	**Wrigley**	**36.92**	**47**	P	**P**	**01 44 52.4**	**+1.2**		
	baz=293,SNR=9.7								
U35K	**Hyder**	**37.06**	**60**	IAMs_20	IAMs_20	02 00 53.6			
	comp=Z,5µm,19.0s								
U35K	**Hyder**	**37.06**	**60**	P	**P**	**01 44 54.3**	**+1.8**		
	baz=298								
DIB	**Dawson Inlet,**	**37.13**	**65**	IAMs_20	IAMs_20	01 58 19.9			
	comp=Z,3µm,21.0s								
LIRD	**Liard River Hi**	**37.35**	**53**	P	**P**	**01 44 56.3**	**+1.4**		
	baz=296,SNR=5.4								
JOW	**Kunigami**	**37.42**	**235**	P	**P**	**01 44 57.1**	**+1.2**		
JOW	**Kunigami**	**37.42**	**235**	IAMs_20	IAMs_20	02 01 41.2			
	comp=Z,3µm,21.0s								
TIY	**Taiyuan**	**37.44**	**263**	P	**P**	**01 44 55.1**	**-0.9**		
TIY				PP	**PnPn**	**01 46 24.5**	**+1.4**		
TIY				S	**S**	**01 50 42.0**	**+1.2**		
TIY				pmax	pmax				
	comp=Z,200nm,3.9s								
TIY				LR	LR				
	comp=Z,4µm,17.2s								
TIY				LR	LR				
	comp=Z,4µm,15.1s								
TIY				LR	LR				
	comp=Z,7µm,16.5s								
SSE	**Sheshan**	**37.49**	**247**	P	**P**	**01 44 55.3**	**-1.1**		
SSE				S	**S**	**01 50 37.9**	**-3.6**		
SSE				pmax	pmax				
	comp=Z,20nm,1.0s								
SSE				pmax	pmax				
	comp=Z,230nm,6.5s								
SSE				LR	LR				
	comp=Z,1µm,22.2s								
SSE				LR	LR				
	comp=Z,1µm,22.2s								
RUBB	**Prince Rupert**	**37.72**	**62**	IAMs_20	IAMs_20	01 59 29.1			
	comp=Z,4µm,20.0s								
KOTAN	**Kotaneelee Air**	**37.96**	**51**	P	**P**	**01 45 01.4**	**+1.4**		
	baz=296,SNR=16								
NJ2	**Nanjing**	**38.00**	**251**	⇑P	**P**	**01 44 59.3**	**-1.3**		
NJ2				pP	**pP**	**01 45 13.9**	**0.0**		
NJ2				PcP	**PcP**	**01 47 16.8**	**+1.5**		
NJ2				S	**S**	**01 50 54.0**	**+4.9**		
NJ2				sS	**sS**	**01 51 15.0**	**+3.9**		
NJ2				pmax	pmax				
	comp=Z,53nm,0.9s								
NJ2				pmax	pmax				
	comp=Z,290nm,4.3s								
NJ2				LR	LR				
	comp=Z,4µm,15.2s								
NJ2				LR	LR				
	comp=Z,4µm,17.5s								
NJ2				LR	LR				
	comp=Z,6µm,15.2s								
TOAD	**Toad River Com**	**38.00**	**54**	P	**P**	**01 45 01.9**	**+1.5**		
	baz=297,SNR=27								
LYN	**LuoYang**	**39.67**	**260**	⇑P	**P**	**01 45 13.6**	**-1.0**		
LYN				PcP	**PcP**	**01 47 22.1**	**+1.6**		
LYN				S	**S**	01 51 04.5	-10		
LYN				SS	**SS**	**01 54 00.3**	**-11**		
LYN				pmax	pmax				
	comp=Z,120nm,1.0s								
LYN				pmax	pmax				
	comp=Z,540nm,6.1s								
LYN				LR	LR				
	comp=Z,6µm,17.3s								
LYN				LR	LR				
	comp=Z,5µm,17.5s								
LYN				LR	LR				
	comp=Z,7µm,16.1s								
BBB	**Bella Bella**	**39.93**	**64**	IAMs_20	IAMs_20	01 59 45.8			
	comp=Z,3µm,21.0s								
BBB	**Bella Bella**	**39.93**	**64**	LR	LR	01 59 35.7			
	comp=Z,3µm,21.8s,baz=310,slow=33								
JMJ	**Miyako jima 2**	**40.55**	**237**	P	**P**	**01 45 23.7**	**+1.8**		
ALE	**Alert**	**40.72**	**8**	P	**P**	**01 45 23.1**	**+0.3**		
ALE				pP	**pP**	**01 45 34.6**	**-1.3**		
ALE				sP	**sP**	**01 45 39.6**	**-2.2**		
ALE				PcP	**PcP**	**01 47 23.9**	**+0.8**		
YKA	**Yellowknife Ar**	**40.89**	**45**	P	**P**	**01 45 24.2**	**-0.1**		
YKA	**Yellowknife Ar**	**40.89**	**45**	P	**P**	**01 45 24.7**	**+0.3**		
	comp=Z,48nm,0.8s,baz=300,slow=8.1,SNR=447								
YKA				PcP	**PcP**	**01 47 24.3**	**+0.4**		
	comp=Z,10nm,1.0s,baz=308,slow=3.3,SNR=7.5								
YKA				ScP	**ScP**	**01 51 11.6**	**+2.6**		
	comp=Z,0.2nm,0.3s,baz=296,slow=4.1,SNR=6.9								
YKA				S	**S**	**01 51 34.5**	**+2.7**		
	comp=Z,0.5nm,0.8s,baz=39,slow=36,SNR=3.2								
YKA				PKiKP	**PKiKP**	**01 54 30.9**	**-1.0**		
	comp=Z,1.0nm,0.9s,baz=269,slow=0.8,SNR=5.7								
YKA				LR	LR	02 03 45.7			
	comp=Z,1µm,20.0s,baz=298,slow=38								
	comp=Z,48nm,0.8s								
RES	**Resolute Bay**	**40.98**	**23**	P	**P**	**01 45 24.7**	**-0.3**		
RES	**Resolute Bay**	**40.98**	**23**	LR	LR	02 05 21.3			
	comp=Z,677nm,18.6s,baz=323,slow=40								
RES	**Resolute Bay**	**40.98**	**23**	P	**P**	**01 45 24.7**	**-0.3**		
RES				pmax	pmax				
	comp=Z,51nm,0.9s								
RES				MLR	MLR				
	comp=Z,900nm,19.0s								
WHN	**Wuhan**	**41.62**	**254**	⇑P	**P**	**01 45 29.3**	**-1.4**		
WHN				PcP	**PcP**	**01 47 28.1**	**+1.3**		
WHN				pmax	pmax				
	comp=Z,98nm,0.8s								
WHN				LR	LR				
	comp=Z,8µm,13.5s								
WHN				LR	LR				
	comp=Z,9µm,13.6s								
WHN				LR	LR				
	comp=Z,12µm,15.6s								
YOJ	**Yonaguni jima**	**41.95**	**239**	IAMs_20	IAMs_20	02 03 03.8			
	comp=Z,4µm,22.0s								
XAN	**Xi'an**	**42.05**	**262**	⇓P	**P**	**01 45 32.8**	**-1.5**		
XAN				PP	**PP**	**01 47 12.1**	**-0.1**		
XAN				S	**S**	**01 51 48.6**	**-1.2**		
XAN				sS	sS	01 52 17.6	+5.6		
XAN				pmax	pmax				
	comp=Z,25nm,1.4s								
XAN				pmax	pmax				
	comp=Z,460nm,11.8s								
XAN				LR	LR				
	comp=Z,4µm,19.9s								
XAN				LR	LR				
	comp=Z,6µm,20.6s								
XAN				LR	LR				
	comp=Z,9µm,16.5s								
YHNB	**Yeheng**	**42.59**	**241**	P	**P**	**01 45 38.7**	**-0.1**		
YHNB	**Yeheng**	**42.59**	**241**	IAMs_20	IAMs_20	02 02 55.8			
	comp=Z,3µm,22.0s								
ZALV	**Zalesovo Beam**	**42.63**	**302**	P	**P**	**01 45 36.6**	**-2.1**		
	comp=Z,8.1nm,0.8s,baz=47,slow=8.5,SNR=27								
ZALV				PP	**PP**	**01 47 17.4**	**-0.5**		
	comp=Z,17nm,1.0s,baz=68,slow=8.5,SNR=6.3								
ZALV				PcP	**PcP**	**01 47 29.6**	**-0.2**		
	comp=Z,62nm,1.1s,baz=46,slow=4.3,SNR=9.6								
ZALV				ScP	**ScP**	**01 51 18.5**	**+2.4**		
	comp=Z,7.3nm,0.9s,baz=48,slow=2.1,SNR=6.2								
ZALV				LR	LR	02 04 55.9			
	comp=Z,6µm,19.9s,baz=48,slow=38								
	comp=Z,8.1nm,0.8s								
ZALV	**Zalesovo Beam**	**42.63**	**302**	*i* P	**P**	**01 45 36.7**	**-2.0**		
ZALV				pmax	pmax				
	comp=Z,8.0nm,0.8s								
NACB	**Ninganchiao**	**42.90**	**240**	P	**P**	**01 45 42.4**	**+1.2**		
NACB	**Ninganchiao**	**42.90**	**240**	P	**P**	**01 45 38.7**	**-2.4**		
NACB				IAMs_20	IAMs_20	02 04 28.9			
	comp=Z,3µm,21.0s								
NOR	**Nord**	**43.48**	**360**	*i* P	**P**	**01 45 43.6**	**-1.6**		
LZH	**Lanzhou**	**43.49**	**269**	P	**P**	**01 45 45.3**	**-0.8**		
LZH				pP	pP	01 46 01.1	+1.5		
LZH				sP	sP	01 46 10.9	+5.4		
LZH				PcP	**PcP**	**01 47 34.4**	**+1.1**		
LZH				PcS	**PcS**	**01 51 24.5**	**-1.7**		
LZH				S	**S**	**01 52 10.3**	**-0.8**		
LZH				pmax	pmax				
	comp=Z,89nm,1.0s								
LZH				pmax	pmax				
	comp=Z,260nm,4.6s								
LZH				LR	LR				
	comp=Z,10µm,16.3s								
LZH				LR	LR				
	comp=Z,11µm,16.3s								
LZH				LR	LR				
	comp=Z,16µm,15.8s								
GTA	**Gaotai**	**43.51**	**276**	P	**P**	**01 45 45.0**	**-1.2**		
GTA				sP	sP	01 46 08.6	+3.0		
GTA				PcP	**PcP**	**01 47 34.3**	**+1.1**		
GTA				PcS	**PcS**	**01 51 27.4**	**+1.3**		
GTA				S	**S**	**01 52 13.0**	**+1.7**		
GTA				sS	sS	01 52 36.0	+2.4		
GTA				SS	SS	01 55 15.3	-11		
GTA				pmax	pmax				
	comp=Z,15nm,0.8s								
GTA				pmax	pmax				
	comp=Z,310nm,10.5s								
GTA				LR	LR				
	comp=Z,7µm,16.7s								
GTA				LR	LR				
	comp=Z,5µm,18.2s								
GTA				LR	LR				
	comp=Z,9µm,17.4s								
SSLB	**Suanglung**	**43.54**	**241**	P	**P**	**01 45 47.4**	**+1.0**		
SSLB	**Suanglung**	**43.54**	**241**	P	**P**	**01 45 46.4**	**0.0**		
SSLB				IAMs_20	IAMs_20	02 04 51.9			
	comp=Z,3µm,22.0s								
GUMO	**Guam**	**43.58**	**205**	IAMs_20	IAMs_20	02 02 34.8			
	comp=Z,2µm,21.0s								
GUMO	**Guam**	**43.58**	**205**	LR	LR	02 02 54.8			
	comp=Z,2µm,20.0s,baz=23,slow=35								
YULB	**Yu-li**	**43.70**	**240**	P	**P**	**01 45 48.0**	**+0.4**		
YULB	**Yu-li**	**43.70**	**240**	P	**P**	**01 45 46.1**	**-1.5**		
YULB				IAmb	IAmb	01 45 56.8			
	comp=Z,169nm,1.4s								
YULB				IAMs_20	IAMs_20	02 04 01.1			
	comp=Z,4µm,22.0s								
QZH	**Quanzhou**	**43.79**	**244**	⇑*i*P	**P**	**01 45 48.0**	**-0.3**		
QZH				pP	**pP**	**01 46 03.3**	**+1.6**		
QZH				S	**S**	**01 52 13.6**	**-1.6**		
QZH				pmax	pmax				
	comp=Z,450nm,5.3s								
QZH				LR	LR				
	comp=Z,2µm,15.0s								
QZH				LR	LR				
	comp=Z,3µm,13.1s								
QZH				LR	LR				
	comp=Z,2µm,14.7s								
TPUB	**Ta-pu**	**44.11**	**241**	P	**P**	**01 45 52.4**	**+1.5**		
TPUB	**Ta-pu**	**44.11**	**241**	IAmb	IAmb	01 45 53.7			
	comp=Z,189nm,1.1s								
TPUB				IAMs_20	IAMs_20	02 05 19.9			
	comp=Z,3µm,22.0s								
CNSH	**ChangSha**	**44.23**	**253**	⇓P	**P**	**01 45 50.8**	**-1.0**		
CNSH				LR	LR				
	comp=Z,2µm,20.5s								
CNSH				LR	LR				
	comp=Z,2µm,18.8s								
CNSH				LR	LR				
	comp=Z,2µm,25.9s								
C03A	**Quillayute Air**	**44.25**	**67**	IAMs_20	IAMs_20	02 07 35.4			
	comp=Z,3µm,18.0s								
TWGBT	**Beinan**	**44.29**	**240**	P	**P**	**01 45 53.3**	**+0.9**		
TWG	**Pinlang**	**44.29**	**240**	P	**P**	**01 45 50.8**	**-1.6**		
TWG				IAMs_20	IAMs_20	02 04 29.7			
	comp=Z,3µm,21.0s								
PGC	**Sidney**	**44.41**	**66**	IAMs_20	IAMs_20	02 01 19.4			
	comp=Z,2µm,22.0s								
ENH	**Enshi**	**44.53**	**258**	P	**P**	**01 45 53.2**	**-1.1**		
ENH	**Enshi**	**44.53**	**258**	IAmb	IAmb	01 47 39.1			
	comp=Z,129nm,1.1s								
ENH	**Enshi**	**44.53**	**258**	P	**P**	**01 45 52.5**	**-1.8**		
ENH				PP	**PP**	**01 47 37.9**	**-0.9**		
TULEG	**Thule**	**44.67**	**15**	P	**P**	**01 45 54.1**	**-0.7**		
TULEG				IAMs_20	IAMs_20	02 07 54.2			
	comp=Z,4µm,18.0s								
KBS	**Kingsbay**	**44.98**	**352**	P	**P**	**01 45 57.9**	**+0.6**		
KBS				IAmb	IAmb	01 46 04.9			
	comp=Z,181nm,1.2s								
KBS	**Kingsbay**	**44.98**	**352**	IAMs_20	IAMs_20	02 04 03.4			
	comp=Z,4µm,21.0s								
KBS	**Kingsbay**	**44.98**	**352**	*e*P	**P**	**01 45 58.0**	**+0.8**		
KBS	**Kingsbay**	**44.98**	**352**	*ce*P	**P**	**01 45 58.4**	**+1.1**		
KBS				pmax	pmax				
	comp=Z,105nm,1.3s								
KBS				MLR	MLR				
	comp=Z,4µm,20.0s								
WISH	**Wishkah**	**45.19**	**68**	IAMs_20	IAMs_20	02 01 12.2			
	comp=Z,3µm,22.0s								
SPA0	**Spitsbergen Ar**	**45.28**	**351**	*e*P	**P**	**01 45 59.8**	**+0.2**		
SPITS	**Spitsbergen Ar**	**45.28**	**351**	P	**P**	**01 45 59.7**	**0.0**		
	comp=Z,91nm,0.7s,baz=62,slow=8.7,SNR=96								
SPITS				PcP	**PcP**	**01 47 38.8**	**+0.2**		
	comp=Z,79nm,1.0s,baz=1.4,slow=5.8,SNR=2.8								
SPITS				ScP	**ScP**	**01 51 29.7**	**+3.1**		
	comp=Z,10.0nm,1.1s,baz=39,slow=5.4,SNR=2.2								
SPITS				S	**S**	**01 52 37.4**	**+1.6**		
	comp=Z,5.4nm,1.1s,baz=218,slow=16,SNR=1.3								
SPITS				LR	LR	02 05 27.9			
	comp=Z,4µm,19.4s,baz=356,slow=37								
	comp=Z,91nm,0.7s								
SPB2	**Spitsbergen Ar**	**45.28**	**351**	P	**P**	**01 45 58.9**	**-0.7**		
NEEM	**North Greenlan**	**46.06**	**10**	*i* P	**P**	**01 46 04.6**	**-1.6**		
NEEM				IAmb	IAmb	01 46 06.6			
	comp=Z,204nm,1.0s								
HSPB	**Hornsund (broa**	**46.42**	**350**	*e*P	**P**	**01 46 08.5**	**-0.1**		
ZSN	**Zaisan**	**46.52**	**294**	*e*P	**P**	**01 46 08.9**	**-0.9**		
	baz=294								
ZSN	**Zaisan**	**46.52**	**294**	*e*P	**P**	**01 46 08.9**	**-0.9**		
EDM	**Edmonton**	**46.64**	**55**	IAMs_20	IAMs_20	02 07 28.7			
	comp=Z,4µm,18.0s								
F04A	**Amboy**	**46.66**	**68**	P	**P**	**01 46 10.3**	**-0.5**		
SEM	**Semipalatinsk**	**47.00**	**300**	*e*P	**P**	**01 46 11.7**	**-2.1**		
	baz=300								
SEM				LR	LR	02 06 16.1			
	comp=Z,3µm,15.2s,baz=300								
SEM	**Semipalatinsk**	**47.00**	**300**	*e*P	**P**	**01 46 11.6**	**-2.1**		
SEM				MLR	MLR				
	comp=Z,3µm,15.0s								
CD2	**Chengdu**	**47.30**	**264**	P	**P**	**01 46 15.3**	**-0.8**		
CD2				pP	pP	01 46 30.9	+1.1		
CD2				PP	**PP**	**01 48 06.3**	**-1.1**		
CD2				S	**S**	**01 53 00.3**	**-5.6**		
CD2				SS	SS	01 56 22.0	-11		
CD2				pmax	pmax				
	comp=Z,70nm,1.0s								
CD2				pmax	pmax				
	comp=Z,430nm,12.2s								
CD2				LR	LR				
	comp=Z,5µm,15.5s								
CD2				LR	LR				
	comp=Z,3µm,14.3s								
CD2				LR	LR				
	comp=Z,4µm,15.3s								
WMQ	**Urumqi**	**47.36**	**289**	⇑*i*P	**P**	**01 46 16.3**	**-0.2**		
WMQ				pP	pP	01 46 29.5	-0.6		
WMQ				PcP	**PcP**	**01 47 47.0**	**+0.5**		
WMQ				PP	**PP**	**01 48 09.3**	**+1.5**		
WMQ				PcS	**PcS**	**01 51 41.3**	**-0.5**		
WMQ				S	**S**	**01 53 08.5**	**+1.9**		
WMQ				pmax	pmax				
	comp=Z,100nm,1.3s								
WMQ				pmax	pmax				
	comp=Z,490nm,4.1s								
WMQ				LR	LR				
	comp=Z,5µm,19.1s								
WMQ				LR	LR				
	comp=Z,5µm,20.1s								
WMQ				LR	LR				
	comp=Z,6µm,24.9s								
HOOD	**Mount Hood Mea**	**47.47**	**68**	IAmb	IAmb	01 46 50.3			
	comp=Z,58nm,1.0s								
KURK	**Kurchatov**	**47.61**	**301**	P	**P**	**01 46 16.0**	**-2.2**		
KURK	**Kurchatov**	**47.61**	**301**	P	**P**	**01 46 16.5**	**-1.6**		
KURK	**Kurchatov**	**47.61**	**301**	*c* P	**P**	**01 46 16.8**	**-1.4**		
KURK				pmax	pmax				
	comp=Z,195nm,1.2s								
KURK				MLR	MLR				
	comp=Z,8µm,19.0s								
KURK	**Kurchatov**	**47.61**	**301**	P	**P**	**01 46 16.6**	**-1.6**		
KURK				PcP	**PcP**	**01 47 46.9**	**-0.2**		
I03D	**Drain, OR**	**47.62**	**71**	P	**P**	**01 46 19.5**	**+1.1**		
C09A	**Chrisman Ranch**	**47.63**	**64**	IAMs_20	IAMs_20	02 06 44.6			
	comp=Z,3µm,19.0s								
KURBB	**Kurchatov Arra**	**47.72**	**301**	P	**P**	**01 46 17.8**	**-1.2**		
	comp=Z,70nm,0.9s,baz=54,slow=7.8,SNR=220								
KURBB				PcP	**PcP**	**01 47 46.9**	**-0.6**		
	comp=Z,52nm,1.1s,baz=54,slow=3.3,SNR=13								
KURBB				ScP	**ScP**	**01 51 39.2**	**+2.0**		
	comp=Z,5.5nm,1.0s,baz=56,slow=4.0,SNR=4.4								
KURBB				S	**S**	**01 53 05.2**	**-6.0**		
	comp=

comp=Z,43nm,0.8s
MKAR Makanchi Array 48.29 295 P **P** **01 46 21.7 -1.8**
comp=Z,21nm,0.8s,baz=54,slow=6.2,SNR=72
MKAR PcP **PcP** **01 47 49.6 -0.1**
comp=Z,8.4nm,0.8s,baz=35,slow=4.4,SNR=3.5
MKAR ScP **ScP** **01 51 41.5 +1.7**
comp=Z,5.0nm,1.0s,baz=48,slow=2.1,SNR=4.6
MKAR S **S** **01 53 21.1 +1.6**
comp=Z,1.4nm,0.9s,baz=32,slow=12,SNR=2.2
MKAR LR LR 02 08 14.9
comp=Z,9µm,18.5s,baz=44,slow=38
MKAR P4KPbc 02 24 00.9
comp=Z,0.4nm,0.4s,baz=52,slow=4.8,SNR=5.6
comp=Z,21nm,0.8s
HKPS Hong Kong Po S 48.30 247 P **P** **01 46 25.4 +1.6**
HKPS Hong Kong Po S 48.30 247 P **P** **01 46 23.2 -0.6**
HKPS IAmb IAmb 01 46 27.5
comp=Z,86nm,1.3s
HKPS IAMs_20 IAMs_20 02 07 00.4
comp=Z,3µm,20.0s
DAG Danmarks Havn 48.34 0 *i* P **P** **01 46 21.6 -1.9**
DAG IAmb IAmb 01 46 23.7
comp=Z,57nm,1.0s
MAKZ Makanchi 48.44 295 P **P** **01 46 22.1 -2.6**
MAKZ IAmb IAmb 01 46 25.9
comp=Z,71nm,1.1s
MAKZ Makanchi 48.44 295 P **P** **01 46 22.1 -2.6**
MAKZ pmax pmax
comp=Z,71nm,1.1s
MAKZ MLR MLR
comp=Z,8µm,18.0s
E09A Wood Farm, Sta 48.54 65 IAmb IAmb 01 46 27.1
comp=Z,45nm,0.9s
HUMO Hull Mountain 48.56 72 IAMs_20 IAMs_20 02 03 15.2
comp=Z,2µm,22.0s
KSXB Camp Six Broad 48.59 73 IAmb IAmb 01 46 40.3
comp=Z,96nm,1.6s
GOMU GeErMu 48.59 276 P **P** **01 46 24.4 -2.0**
GOMU S **S** **01 53 23.3 -1.4**
GOMU pmax pmax
comp=Z,47nm,1.0s
GOMU LR LR
comp=Z,19µm,17.5s
GOMU LR LR
comp=Z,11µm,16.4s
GOMU LR LR
comp=Z,23µm,17.5s
PINE Pine Mountain 48.86 70 IAMs_20 IAMs_20 02 09 24.6
comp=Z,2µm,18.0s
GYA Guiyang 49.05 258 ⇓P **P** **01 46 28.8 -0.9**
GYA sP sP 01 46 51.3 +2.1
GYA S **S** **01 53 28.6 -2.1**
GYA pmax pmax
comp=Z,34nm,1.3s
GYA LR LR
comp=Z,3µm,18.9s
GYA LR LR
comp=Z,4µm,21.2s
GYA LR LR
comp=Z,6µm,24.6s
L04D Klamath Falls 49.18 72 IAmb IAmb 01 46 45.0
comp=Z,48nm,0.9s
YBH Yreka Blue Hor 49.29 73 LR LR 02 05 45.3
comp=Z,978nm,19.9s,baz=318,slow=34
KHMM Horse Mountain 49.32 74 IAmb IAmb 01 47 10.7
comp=Z,65nm,1.2s
I07A Izee 49.44 68 P **P** **01 46 31.7 -0.8**
K05A Summer Lake 49.61 71 IAmb IAmb 01 46 53.1
comp=Z,144nm,1.8s
UPNV Upernavik 49.66 14 *i* P **P** **01 46 31.7 -1.9**
UPNV IAmb IAmb 01 46 33.8
comp=Z,126nm,0.9s
BVA0 Borovoye Array 50.00 308 *i* P **P** **01 46 34.7 -1.8**
BVAR Borovoye Array 50.00 308 P **P** **01 46 35.2 -1.2**
comp=Z,36nm,0.7s,baz=57,slow=8.5,SNR=138
BVAR PcP **PcP** **01 47 55.2 -0.5**
comp=Z,36nm,0.9s,baz=66,slow=3.6,SNR=8.6
BVAR ScP **ScP** **01 51 49.2 +2.3**
comp=Z,11nm,0.8s,baz=90,slow=3.1,SNR=6.5
BVAR LR LR 02 10 20.8
comp=Z,6µm,19.3s,baz=48,slow=39
comp=Z,36nm,0.7s
BRVK Borovoye 50.02 308 P **P** **01 46 35.1 -1.6**
BRVK IAmb IAmb 01 47 57.1
comp=Z,100nm,1.2s
BRVK Borovoye 50.02 308 P **P** **01 46 35.1 -1.6**
BRVK pmax pmax
comp=Z,101nm,1.2s
BRVK Borovoye 50.02 308 P **P** **01 46 35.4 -1.2**
BRVK pP **pP** **01 46 48.1 -2.1**
BRVK PcP **PcP** **01 47 55.8 0.0**
VADS Vadso 50.47 341 *eP* **P** **01 46 38.9 -0.8**
MSO Missoula 50.49 62 IAmb IAmb 01 46 42.2
comp=Z,106nm,1.6s
MSO IAMs_20 IAMs_20 02 07 38.4
comp=Z,3µm,20.0s
MSO Missoula 50.49 62 P **P** **01 46 40.8 +0.3**
baz=312,SNR=23
MSO S **S** **01 53 50.9 +0.4**
baz=312
PLID Pearl Lake 50.61 65 P **P** **01 46 40.9 -0.6**
FFC Flin Flon 50.79 48 P **P** **01 46 42.0 -0.4**
FFC IAmb IAmb 01 46 44.0
comp=Z,124nm,1.3s
FFC Flin Flon 50.79 48 IAMs_20 IAMs_20 02 09 06.8
comp=Z,2µm,21.0s
FFC Flin Flon 50.79 48 P **P** **01 46 42.0 -0.4**
FFC pmax pmax
comp=Z,124nm,1.3s
FFC MLR MLR
comp=Z,2µm,21.0s
FFC Flin Flon 50.79 48 P **P** **01 46 42.4 0.0**
FFC pP **pP** **01 46 55.2 -0.2**
FFC PcP **PcP** **01 47 58.8 +0.2**
DBG Daneborg 50.81 1 *i* P **P** **01 46 40.7 -1.6**
DBG IAmb IAmb 01 46 42.6
comp=Z,29nm,0.9s
BRZS Berezniki 50.97 304 *eP* **P** **01 46 42.1 -1.8**
comp=Z,41nm,1.2s,baz=304
BRZS Berezniki 50.97 304 *eP* **P** **01 46 42.1 -1.8**
BRZS pmax pmax
comp=Z,41nm,1.2s
HOPS Hopland Field 50.98 76 IAMs_20 IAMs_20 02 04 42.5
comp=Z,3µm,21.0s
HAMF Hammerfest 51.02 343 *eP* **P** **01 46 43.0 -0.9**
FCC Fort Churchill 51.17 40 IAmb IAmb 01 46 46.5
comp=Z,113nm,0.8s
NUUG Nuugaatsiaq 51.18 14 *i* P **P** **01 46 44.1 -1.1**
NUUG IAmb IAmb 01 46 45.7
comp=Z,67nm,1.2s
KEV Kevo 51.21 342 P **P** **01 46 43.4 -1.9**
KEV IAmb IAmb 01 46 52.6
comp=Z,118nm,1.5s
KEV IAMs_20 IAMs_20 02 11 23.8
comp=Z,2µm,20.0s
KEV Kevo 51.21 342 P **P** **01 46 43.4 -1.9**
KEV pmax pmax
comp=Z,118nm,1.5s
KEV MLR MLR
comp=Z,2µm,20.0s
LVZ Lovozero 51.23 337 P **P** **01 46 43.5 -2.1**
LVZ IAmb IAmb 01 46 59.8
comp=Z,56nm,0.8s
LVZ Lovozero 51.23 337 *ce*P **P** **01 46 44.5 -1.1**
LVZ pmax pmax
comp=Z,71nm,1.3s
LVZ Lovozero 51.23 337 P **P** **01 46 44.3 -1.3**
comp=Z,88nm,0.9s
TDK Taldyqorghan 51.50 296 *eP* **P** **01 46 47.2 -0.7**
comp=Z,54nm,0.7s,baz=296
TDK LR LR 02 08 58.7
comp=Z,4µm,16.5s,baz=296
TDK Taldyqorghan 51.50 296 *eP* **P** **01 46 47.2 -0.7**
TDK pmax pmax
comp=Z,54nm,0.7s
TDK MLR MLR
comp=Z,4µm,17.0s
SVE Sverdlovsk 51.55 317 *de*P **P** **01 46 47.4 -0.7**
SVE *e* 01 48 51.6
SVE *e*S **S** **01 54 09.2 +4.6**
SVE *e* 01 57 36.0
SVE pmax pmax
comp=Z,51nm,1.0s
SVE MLR MLR
comp=E,6µm,20.0s
SVE MLR MLR
comp=Z,14µm,23.0s
ARA0 ARCESS Array S 51.67 342 *e*P **P** **01 46 48.3 -0.6**
ARCES ARCESS Array B 51.67 342 P **P** **01 46 46.8 -2.1**
ARCES IAmb IAmb 01 46 53.3
comp=Z,112nm,1.1s
ARCES ARCESS Array B 51.67 342 P **P** **01 46 48.0 -0.8**
comp=Z,38nm,0.8s,baz=37,slow=8.2,SNR=29
ARCES PcP **PcP** **01 48 01.3 -0.4**
comp=Z,17nm,0.6s,baz=31,slow=4.5,SNR=11
ARCES LR LR 02 11 26.6
comp=Z,2µm,20.6s,baz=31,slow=39
comp=Z,38nm,0.8s
ARCES ARCESS Array B 51.67 342 P **P** **01 46 46.8 -2.1**
ARCES pmax pmax
comp=Z,112nm,1.2s
MCCM Marconi Confer 51.69 76 IAMs_20 IAMs_20 02 05 20.2
comp=Z,2µm,20.0s
SUMG Summit 51.77 8 *i* P **P** **01 46 48.7 -1.2**
SUMG IAmb IAmb 01 46 51.5
comp=Z,232nm,1.2s
SUMG Summit 51.77 8 P **P** **01 46 48.4 -1.6**
EGMT Eagleton 51.77 59 IAmb IAmb 01 46 51.5
comp=Z,293nm,1.9s
EGMT Eagleton 51.77 59 P **P** **01 46 50.0 +0.1**
baz=313,SNR=20
EGMT S **S** **01 54 09.0 +0.9**
baz=313
APA Apatity 51.77 338 ⇓*i*P **P** **01 46 46.3 -3.3**
APA *i* 01 48 50.0
APA *i* PPP PPP 01 49 54.0
APA *i* S S 01 53 58.0 -9.4
APA *i* 01 56 23.0
APA *i* SS **SS** **01 57 41.0 -2.5**
APA pmax pmax
comp=Z,20nm,0.9s
PZH PanZhiHua 51.79 262 ⇓P **P** **01 46 49.5 -0.9**
PZH S **S** **01 54 11.0 +2.1**
PZH pmax pmax
comp=Z,40nm,1.4s
PZH pmax pmax
comp=Z,150nm,5.3s
PZH LR LR
comp=Z,2µm,21.6s
PZH LR LR
comp=Z,2µm,22.1s
PZH LR LR
comp=Z,3µm,17.7s
PDGK Podgornoye 52.09 294 P **P** **01 46 49.5 -3.0**
UMMG Uummannaq 52.12 14 *i* P **P** **01 46 51.5 -0.5**
UMMG IAmb IAmb 01 46 52.6
comp=Z,75nm,1.1s
DLMT Dillon 52.17 63 IAmb IAmb 01 46 55.0
comp=Z,80nm,1.4s
SHLS Shalkode 52.22 293 *eP* **P** **01 46 50.7 -2.7**
comp=Z,57nm,0.8s,baz=293
SHLS Shalkode 52.22 293 *eP* **P** **01 46 50.7 -2.7**
SHLS pmax pmax
comp=Z,57nm,0.8s
KMI Kunming 52.29 260 ⇑P **P** **01 46 51.1 -3.2**
KMI PcP **PcP** **01 48 04.8 -0.2**
KMI S **S** **01 54 13.3 -2.7**
KMI pmax pmax
comp=Z,38nm,1.1s
KMI pmax pmax
comp=Z,360nm,8.9s
KMI LR LR
comp=Z,5µm,22.7s
KMI LR LR
comp=Z,5µm,22.7s
KMI LR LR
comp=Z,4µm,22.7s
OTUK Ortayu 52.32 302 P **P** **01 46 51.9 -2.1**
ARXS Arharly 52.34 295 *eP* **P** **01 46 52.7 -1.6**
MPK Martis Peak 52.45 73 IAmb IAmb 01 47 22.4
comp=Z,74nm,1.2s
UZB Uzynbulak 52.46 294 *eP* **P** **01 46 53.5 -1.7**
baz=294
UZB Uzynbulak 52.46 294 *eP* **P** **01 46 53.7 -1.6**
UZB pmax pmax
comp=Z,9.0nm,0.8s
HLID Hailey 52.48 66 IAMs_20 IAMs_20 02 11 24.3
comp=Z,2µm,19.0s
HLID Hailey 52.48 66 P **P** **01 46 56.0 +0.6**
baz=314,SNR=21
HLID S **S** **01 54 19.7 +1.6**
baz=314
BOZ Bozeman (W) 52.51 62 IAmb IAmb 01 46 57.6
comp=Z,173nm,1.8s
BOZ IAMs_20 IAMs_20 02 08 50.7
comp=Z,2µm,21.0s
BOZ Bozeman (W) 52.51 62 P **P** **01 46 56.2 +0.6**
baz=314,SNR=36
BOZ S **S** **01 54 18.7 +0.4**
baz=314
JETT Jettan, Norway 52.51 344 *eP* **P** **01 46 54.9 -0.2**
EMB Emerald Bay 52.64 74 IAMs_20 IAMs_20 02 06 02.6
comp=Z,2µm,21.0s
ARU Arti 52.64 317 P **P** **01 46 54.6 -1.6**
ARU IAmb IAmb 01 46 56.2
comp=Z,54nm,0.8s
ARU Arti 52.64 317 LR LR 02 12 15.8
comp=Z,11µm,19.1s,baz=35,slow=39
ARU Arti 52.64 317 *c* *i*P **P** **01 46 55.0 -1.2**
ARU pmax pmax
comp=Z,63nm,0.8s
ARU MLR MLR
comp=Z,10µm,19.0s
ARU Arti 52.64 317 P **P** **01 46 55.0 -1.2**
ARU PcP **PcP** **01 48 05.2 -0.3**
ARU Arti 52.64 317 P **P** **01 46 55.2 -1.0**
comp=Z,74nm,0.9s,comp=Z,1µm
ARU pP **pP** **01 47 12.8 +2.8**
comp=Z,74nm,0.9s,comp=Z,1µm
TRO Tromso 52.67 345 *eP* **P** **01 46 56.0 -0.2**
ZHN Zhinishke 52.75 294 *eP* **P** **01 46 56.1 -1.2**
baz=294
ZHN Zhinishke 52.75 294 *eP* **P** **01 46 57.7 +0.3**
ZHN pmax pmax
comp=Z,26nm,1.0s
SATY Saty 52.84 294 *eP* **P** **01 46 56.9 -1.2**
baz=294
SATY Saty 52.84 294 *eP* **P** **01 46 56.9 -1.2**
CHKK Chushkaly 53.03 296 *eP* **P** **01 46 58.4 -0.9**
baz=295
CHKK Chushkaly 53.03 296 *eP* **P** **01 46 58.3 -0.9**
YERR Yerington 53.10 73 IAmb IAmb 01 47 02.8
comp=Z,95nm,1.6s
CMB Columbia Colle 53.15 75 IAMs_20 IAMs_20 02 06 27.2
comp=Z,2µm,21.0s
QIZ Qiongzhong 53.24 249 P **P** **01 47 02.4 +1.3**
QIZ Qiongzhong 53.24 249 P **P** **01 47 01.0 -0.1**
QIZ PP **PP** **01 48 58.9 -2.5**
QIZ pmax pmax
comp=Z,26nm,0.7s
QIZ pmax pmax
comp=Z,530nm,5.5s
QIZ LR LR
comp=Z,2µm,15.7s
QIZ LR LR
comp=Z,2µm,14.3s
QIZ LR LR
comp=Z,2µm,16.0s
QIZ Qiongzhong 53.24 249 IAMs_20 IAMs_20 02 13 04.8
comp=Z,2µm,19.0s
PRZ Przheval'sk 53.25 293 IAmb IAmb 01 47 08.2
comp=Z,86nm,1.0s
KUU Kurty 53.34 296 *eP* **P** **01 47 00.1 -1.4**
comp=Z,30nm,0.7s,baz=296
KUU Kurty 53.34 296 *eP* **P** **01 47 00.1 -1.4**
KUU pmax pmax
comp=Z,30nm,0.7s
WAKR Walker 53.34 73 IAMs_20 IAMs_20 02 06 11.1
comp=Z,2µm,22.0s
MDOK Medeo 53.48 295 *eP* **P** **01 47 01.5 -1.3**
baz=295
MDOK LR LR 02 10 11.2
comp=Z,3µm,16.5s,baz=295
MDOK Medeo 53.48 295 *eP* **P** **01 47 01.5 -1.3**
MDOK MLR MLR
comp=Z,3µm,16.0s
AAA Alma-Ata 53.52 295 *eP* **P** **01 47 01.3 -1.7**
comp=Z,68nm,1.1s,baz=295
AAA Alma-Ata 53.52 295 *eP* **P** **01 47 01.2 -1.7**
AAA pmax pmax
comp=Z,68nm,1.1s
ADZR Andozero 53.57 333 ⇑*i*P **P** **01 47 02.1 -0.8**
ADZR pmax pmax
comp=Z,148nm,1.5s
YNR Norris Junctio 53.60 62 IAmb IAmb 01 47 06.5
comp=Z,83nm,1.3s
YNR IAMs_20 IAMs_20 02 09 27.1
comp=Z,2µm,22.0s
ILULI Ilulissat 53.61 14 IAmb IAmb 01 47 03.6
comp=Z,440nm,1.8s
ILULI Ilulissat 53.61 14 *i* P **P** **01 47 01.2 -1.9**
ILULI IAmb IAmb 01 47 03.3
comp=Z,73nm,0.8s
TNSS Tian-Shan 53.62 295 *eP* **P** **01 47 03.0 -1.2**
baz=295
TNSS Tian-Shan 53.62 295 *eP* **P** **01 47 02.9 -1.2**
KVN Kaiserville 53.68 72 IAmb IAmb 01 47 07.1
comp=Z,106nm,1.7s
BTLS Baital 53.70 298 *eP* **P** **01 47 02.7 -1.5**
baz=298
BTLS Baital 53.70 298 *eP* **P** **01 47 02.6 -1.5**
BTLS pmax pmax
comp=Z,21nm,1.0s
YFT Old Faithful 53.71 63 IAMs_20 IAMs_20 02 11 44.9
comp=Z,2µm,20.0s
BBGB Big Mountain B 53.83 76 IAMs_20 IAMs_20 02 06 11.3
comp=Z,2µm,20.0s
LKWY Lake 53.85 62 IAmb IAmb 01 47 09.0
comp=Z,56nm,0.9s
LKWY IAMs_20 IAMs_20 02 12 37.3
comp=Z,3µm,20.0s
YMP Mirror Lake Pl 53.85 62 IAMs_20 IAMs_20 02 09 54.6
comp=Z,2µm,21.0s
H17A Grant Village 53.88 62 IAmb IAmb 01 47 09.4
comp=Z,75nm,1.1s
H17A IAMs_20 IAMs_20 02 11 49.5
comp=Z,3µm,22.0s
H17A Grant Village 53.88 62 P **P** **01 47 08.1 +2.3**
baz=315,SNR=41
JMIC Jan Mayen 53.97 356 LR LR 02 09 29.3
comp=Z,1µm,20.0s,baz=348,slow=35
NVAR Mina Array Bea 54.02 73 P **P** **01 47 07.5 +0.7**
NVAR Mina Array Bea 54.02 73 P **P** **01 47 07.3 +0.5**
comp=Z,7.8nm,0.7s,baz=304,slow=8.1,SNR=52
NVAR S **S** **01 54 42.4 +3.2**
comp=Z,0.1nm,0.3s,baz=313,slow=20,SNR=1.3
NVAR LR LR 02 07 03.8
comp=Z,1µm,21.5s,baz=306,slow=32
comp=Z,7.8nm,0.7s
RLMT Red Lodge 54.03 61 IAMs_20 IAMs_20 02 10 28.0
comp=Z,2µm,20.0s
LHV Little Huntoon 54.03 73 IAmb IAmb 01 47 10.0
comp=Z,138nm,1.6s
LHV IAMs_20 IAMs_20 02 07 19.4
comp=Z,2µm,20.0s
FLWY Flagg Ranch 54.04 63 IAMs_20 IAMs_20 02 09 18.7
comp=Z,2µm,21.0s
IMW Indian Meadow 54.05 63 IAmb IAmb 01 47 09.7
comp=Z,60nm,1.1s
DGMT Dagmar 54.13 55 IAMs_20 IAMs_20 02 12 03.5
comp=Z,2µm,19.0s
DGMT Dagmar 54.13 55 IAmb IAmb 01 47 09.1
comp=Z,138nm,1.2s
DGMT Dagmar 54.13 55 P **P** **01 47 07.7 +0.4**
baz=315,SNR=6.5
MDPB Devils Postpil 54.16 74 IAMs_20 IAMs_20 02 07 10.8
comp=Z,2µm,21.0s
MLAC Mammoth, Mammo 54.30 74 P **P** **01 47 10.6 +1.8**
baz=316
TPAW Teton Pass 54.33 63 P **P** **01 47 08.7 -0.4**
TPAW IAmb IAmb 01 47 11.8
comp=Z,190nm,1.9s
TARA Tarawa 54.37 167 IAMs_20 IAMs_20 02 10 09.4
comp=Z,3µm,19.0s
KIRV Kirov 54.40 324 LR LR 02 13 44.8
comp=Z,7µm,18.2s,baz=31,slow=40
KIRV Kirov 54.40 324 *c* *i*P **P** **01 47 08.4 -0.6**
TKM2 Tokmak 2 54.41 296 P **P** **01 47 08.3 -1.3**
SNR=42
TKM2 Tokmak 2 54.41 296 *i* P **P** **01 47 07.3 -2.3**
TKM2 pmax pmax
comp=Z,28nm,0.7s
SGDS Sogindy 54.53 297 *eP* **P** **01 47 09.2 -1.1**
SGDS pmax pmax
comp=Z,12nm,0.9s
BOOM Boomskoye usch 54.53 295 IAmb IAmb 01 48 14.7
comp=Z,120nm,1.3s
ULHL Ulahol 54.55 295 P **P** **01 47 10.0 -0.7**
SNR=7.8
SLVN Son La 54.63 256 P **P** **01 47 10.0 -1.2**
SLVN IAmb IAmb 01 47 13.6
comp=Z,50nm,0.9s
SLVN IAMs_20 IAMs_20 02 12 60.0
comp=Z,3µm,20.0s
SCO Scoresbysund 54.63 2 IAmb IAmb 01 47 12.9
comp=Z,179nm,1.9s
SCO IAMs_20 IAMs_20 02 09 49.0
comp=Z,3µm,20.0s
SCO Scoresbysund 54.63 2 *i* P **P** **01 47 09.3 -1.2**
TNCH TengChong 54.76 264 ⇑P **P** **01 47 12.1 -0.2**
TNCH PcP **PcP** **01 48 15.6 +1.3**
TNCH S S 01 54 32.9 -16
TNCH sS sS 01 55 10.1 -2.8
TNCH pmax pmax
comp=Z,540nm,6.0s
TNCH LR LR
comp=Z,2µm,12.6s
TNCH LR LR
comp=Z,2µm,13.9s
TNCH LR LR
comp=Z,4µm,15.0s
STEI Steigen 54.78 345 *eP* **P** **01 47 10.7 -0.9**
CHMS Chumysh 54.79 296 P **P** **01 47 11.3 -0.9**
SNR=21
LOF Lofoten 54.83 346 *eP* **P** **01 47 11.4 -0.6**
KBK Karagaybulak 54.93 296 P **P** **01 47 12.3 -1.1**
SNR=12
VOG Valley Oaks Go 54.94 75 P **P** **01 47 14.2 +1.0**
baz=317
DSP Deep Springs 54.96 73 IAmb IAmb 01 47 16.7
comp=Z,147nm,1.9s
DSP IAMs_20 IAMs_20 02 07 33.0
comp=Z,2µm,21.0s
FRU1 Bishkek 54.98 296 IAmb IAmb 01 47 19.8
comp=Z,92nm,0.8s
TIN Tinemaha, Big 55.04 74 P **P** **01 47 15.3 +1.1**
baz=317
ICESG Greenland Ices 55.05 9 *i* P **P** **01 47 12.6 -1.4**
ICESG IAmb IAmb 01 47 14.7
comp=Z,125nm,0.8s
FRB Frobisher Bay 55.16 25 LR LR 02 14 49.0
comp=Z,1µm,18.1s,baz=330,slow=40
AAK Ala-Archa 55.18 296 P **P** **01 47 13.0 -2.1**
SNR=22
AAK Ala-Archa 55.18 296 P **P** **01 47 13.4 -1.7**
AAK IAmb IAmb 01 47 21.6
comp=Z,77nm,0.8s
AAK Ala-Archa 55.18 296 *i* P **P** **01 47 14.3 -0.8**
SNR=36
AAK Ala-Archa 55.18 296 LR LR 02 12 13.7
comp=Z,3µm,19.7s,baz=45,slow=38
AAK Ala-Archa 55.18 296 P **P** **01 47 13.4 -1.7**
AAK Ala-Archa 55.18 296 *c* *i*P **P** **01 47 14.0 -1.1**
AAK pmax pmax
comp=Z,77nm,0.8s
AAK MLR MLR
comp=Z,4µm,23.0s
FAUS Fauske 55.28 345 *eP* **P** **01 47 14.7 -0.6**
SMMC Simmler 55.33 77 P **P** **01 47 17.8 +1.6**
baz=317
HWUT Hardware Ranch 55.35 65 IAmb IAmb 01 47 19.1
comp=Z,58nm,1.0s
HWUT IAMs_20 IAMs_20 02 13 06.2
comp=Z,2µm,19.0s
LSA Lhasa 55.43 273 P **P** **01 47 16.0 -1.4**
LSA pmax pmax
comp=Z,24nm,1.3s
LSA Lhasa 55.43 273 IAmb IAmb 01 48 12.1
comp=Z,194nm,2.0s
LSA Lhasa 55.43 273 P **P** **01 47 15.5 -1.9**
VES Vestal, Richgr 55.45 75 P **P** **01 47 17.7 +0.8**
baz=317
UCH Uchtor 55.46 296 P **P** **01 47 16.8 -0.7**
SNR=28
Q12A Willow Creek R 55.46 70 IAmb IAmb 01 47 20.0
comp=Z,205nm,2.0s
EKS2 Erkin-Say 55.53 297 P **P** **01 47 16.7 -0.9**
SNR=43
R11B Troy Canyon, C 55.55 71 P **P** **01 47 18.7 +0.8**

baz=317,SNR=32
R11B S **S** **01 54 59.7 0.0**
baz=317
PD31 Pinedale Array 55.56 63 IAmb IAmb 01 47 20.1
comp=Z,192nm,1.7s
PDAR Pinedale Array 55.56 63 P **P** **01 47 18.1 +0.1**
PDAR Pinedale Array 55.56 63 P **P** **01 47 18.7 +0.8**
comp=Z,29nm,0.8s,baz=336,slow=3.3,SNR=184
PDAR S **S** **01 55 01.2 +1.4**
comp=Z,0.1nm,0.4s,baz=98,slow=21,SNR=1.2
PDAR LR LR 02 11 32.7
comp=Z,875nm,21.2s,baz=342,slow=36
PDAR PKP2bc **P'P'bc** **02 17 35.6 -2.4**
comp=Z,0.6nm,0.8s,baz=158,slow=1.6,SNR=4.6
PDAR PKP2ab **P'P'ab** **02 17 55.7 -2.0**
comp=Z,1.1nm,0.9s,baz=116,slow=3.4,SNR=4.6
comp=Z,29nm,0.8s
GRAC Grapevine Rang 55.56 73 IAmb IAmb 01 47 36.2
comp=Z,196nm,1.9s
GRAC IAMs_20 IAMs_20 02 08 02.9
comp=Z,2µm,21.0s
GRAC Grapevine Rang 55.56 73 P **P** **01 47 19.6 +1.8**
baz=317,SNR=11
CWC Cottonwood Cre 55.57 74 P **P** **01 47 19.3 +1.3**
baz=317
DUG Dugway, Tooele 55.71 67 IAmb IAmb 01 47 21.6
comp=Z,55nm,0.9s
DUG Dugway, Tooele 55.71 67 P **P** **01 47 20.4 +1.4**
baz=316,SNR=34
DUG S **S** **01 55 05.2 +3.6**
baz=316
KLMR Klimovskoe 55.73 330 *c i*P **P** **01 47 17.8 -0.7**
KLMR S **S** **01 55 02.3 +1.4**
KLMR SS **SS** **01 58 38.9 -7.0**
KLMR pmax pmax
comp=Z,173nm,1.6s
KLMR MLR MLR
comp=Z,6µm,16.0s
SFJD Kangerlussuaq 55.73 15 P **P** **01 47 17.3 -1.2**
SFJD IAmb IAmb 01 47 18.5
comp=Z,72nm,0.9s
SFJD Kangerlussuaq 55.73 15 LR LR 02 12 38.5
comp=Z,1µm,21.9s,baz=342,slow=38
SFJD Kangerlussuaq 55.73 15 P **P** **01 47 17.3 -1.2**
SFJD pmax pmax
comp=Z,72nm,0.9s
SFJD Kangerlussuaq 55.73 15 P **P** **01 47 17.9 -0.6**
SFJD PcP **PcP** **01 48 17.4 +0.3**
SFJD Kangerlussuaq 55.73 15 *i*P **P** **01 47 16.9 -1.6**
SFJD IAmb IAmb 01 47 18.8
comp=Z,76nm,0.9s
PKM Mcpherson Peak 55.74 77 P **P** **01 47 20.8 +1.5**
baz=317,SNR=12
PKM S **S** **01 55 06.5 +4.2**
baz=317
SPR3 Spring Creek 3 55.76 70 IAmb IAmb 01 47 22.9
comp=Z,82nm,1.1s
TCUT Toone Canyon 55.78 66 IAmb IAmb 01 47 23.4
comp=Z,154nm,1.6s
TCUT IAMs_20 IAMs_20 02 08 21.2
comp=Z,2µm,21.0s
BCW Bitter Crk WRg 55.93 76 IAmb IAmb 01 47 40.8
comp=Z,97nm,1.4s
DAV Davao City (W) 56.05 225 LR LR 02 13 08.9
comp=Z,731nm,18.7s,baz=35,slow=38
ARVC Arvin 56.12 76 P **P** **01 47 22.3 +0.5**
baz=318
ARVC S **S** **01 55 07.8 +0.9**
baz=318
SBC Santa Barbara 56.12 77 P **P** **01 47 23.2 +1.4**
baz=318
JOF Joensuu 56.16 335 *e*P **P** **01 47 21.6 0.0**
MPMC Manual Prospec 56.18 74 P **P** **01 47 23.5 +1.1**
baz=317,SNR=22
MPMC S **S** **01 55 10.6 +2.5**
baz=317
FURC Furnace Creek, 56.22 73 P **P** **01 47 24.0 +1.6**
baz=317,SNR=22
FURC S **S** **01 55 12.6 +4.4**
baz=317
NLU North Lily Min 56.27 67 IAmb IAmb 01 47 25.6
comp=Z,47nm,0.9s
KONS Konsvik 56.42 346 *e*P **P** **01 47 23.2 -0.2**
MPU Maple Canyon 56.46 67 IAmb IAmb 01 47 26.5
comp=Z,55nm,1.0s
LRMC Laurel Mtn Rad 56.49 75 P **P** **01 47 25.4 +0.8**
baz=318,SNR=14
LRMC S **S** **01 55 12.9 +0.7**
baz=318
PRN Pahroc Range 56.53 71 IAMs_20 IAMs_20 02 13 59.3
comp=Z,2µm,18.0s
MOR8 Moi Rana 56.53 345 *e*P **P** **01 47 22.3 -2.0**
GWY Greenwater Val 56.54 73 IAmb IAmb 01 47 35.5
comp=Z,93nm,1.5s
BSUT Blindstream Ca 56.54 66 IAmb IAmb 01 47 28.0
comp=Z,149nm,1.3s
BSUT IAMs_20 IAMs_20 02 08 45.3
comp=Z,2µm,21.0s
CCAC Calif City Air 56.55 75 IAMs_20 IAMs_20 02 08 39.2
comp=Z,2µm,20.0s
OSI Osito Audit: C 56.55 76 P **P** **01 47 26.3 +1.4**
baz=318
OSI S **S** **01 55 15.1 +2.3**
baz=318
QSM Queen of Sheba 56.59 74 IAmb IAmb 01 47 39.2
comp=Z,103nm,1.6s
STOK Stokkvaagen 56.59 346 *e*P **P** **01 47 23.9 -0.7**
DZA Taraz 56.61 298 *e*P **P** **01 47 24.2 -1.0**
baz=298
DZA Taraz 56.61 298 *e*P **P** **01 47 24.2 -1.0**
KSH Kashi 56.65 293 P **P** **01 47 28.3 +2.6**
KSH pP sP 01 47 44.0 -1.4
KSH S **S** **01 55 18.1 +4.0**
KSH pmax pmax
comp=Z,56nm,1.1s
KSH pmax pmax
comp=Z,470nm,6.7s
KSH LR LR
comp=Z,4µm,19.1s
KSH LR LR
comp=Z,3µm,17.2s
KSH LR LR
comp=Z,7µm,22.7s
MDND Maddock 56.71 53 P **P** **01 47 25.9 +0.1**
MDND Maddock 56.71 53 P **P** **01 47 26.9 +1.1**
baz=317,SNR=10.0
MDND S **S** **01 55 18.1 +3.7**
baz=317
EDW2 Edwards Air Fo 56.76 75 P **P** **01 47 27.4 +1.0**
baz=318,SNR=13
EDW2 S **S** **01 55 18.3 +2.7**
baz=318
DY2G Dye2 56.83 13 *i*P **P** **01 47 25.0 -1.7**
DY2G IAmb IAmb 01 47 26.9
comp=Z,154nm,1.0s
KK31 Karatay Array 56.87 299 *i*P **P** **01 47 24.1 -2.9**
KKAR Karatay Array 56.87 299 IAmb IAmb 01 47 32.4
comp=Z,56nm,0.7s
SHOC Shoshone, Teco 56.96 73 P **P** **01 47 28.9 +1.1**
baz=318
SHOC S **S** **01 55 21.7 +3.6**
baz=318
DECC Green Verdugo 57.03 76 P **P** **01 47 29.3 +1.0**
baz=318
TCRU Three Creeks R 57.05 69 IAmb IAmb 01 48 23.8
comp=Z,64nm,1.3s
TCRU IAMs_20 IAMs_20 02 12 19.0
comp=Z,2µm,19.0s
GSC Goldstone, Bar 57.11 74 P **P** **01 47 30.1 +1.2**
baz=318,SNR=25
GSC S **S** **01 55 23.1 +2.9**
baz=318
RDMU Red Mountain 57.14 65 IAMs_20 IAMs_20 02 13 14.0
comp=Z,2µm,20.0s
E28A Huff 57.14 55 IAMs_20 IAMs_20 02 12 01.1
comp=Z,2µm,21.0s
PASC Pasadena Art C 57.18 76 IAMs_20 IAMs_20 02 07 40.9
comp=Z,2µm,20.0s
K22A Casper 57.18 61 IAmb IAmb 01 47 31.5
comp=Z,124nm,1.2s
K22A IAMs_20 IAMs_20 02 12 46.8
comp=Z,2µm,19.0s
K22A Casper 57.18 61 P **P** **01 47 30.1 +0.7**
baz=317,SNR=38
K22A S **S** **01 55 23.8 +2.7**
baz=317
TMUT Trail Mountain 57.21 67 IAmb IAmb 01 47 31.9
comp=Z,45nm,0.9s
BRLS Borolday 57.26 299 *e*P **P** **01 47 30.0 +0.2**
baz=299
BRLS Borolday 57.26 299 *e*P **P** **01 47 30.1 +0.3**
AKTO Aktyubinsk 57.26 312 LR LR 02 14 59.4
comp=Z,5µm,19.8s,baz=45,slow=39
AB31 Akbulak array 57.31 310 P **P** **01 47 28.4 -1.6**
ABKAR Akbulak array 57.31 310 IAmb IAmb 01 47 30.4
comp=Z,120nm,1.2s
RRX Edison Barstow 57.32 75 P **P** **01 47 31.3 +1.1**
baz=318
RSSD Black Hills 57.34 59 P **P** **01 47 30.8 +0.2**
RSSD Black Hills 57.34 59 P **P** **01 47 31.3 +0.7**
baz=317
RSSD S **S** **01 55 24.5 +1.2**
baz=317
RSSD Black Hills 57.34 59 P **P** **01 47 30.8 +0.2**
RSSD pmax pmax
comp=Z,138nm,1.0s
RSSD Black Hills 57.34 59 ⇑P **P** **01 47 31.3 +0.7**
RSSD PcP **PcP** **01 48 24.8 +0.6**
BFSC Mount Baldy Ra 57.42 76 P **P** **01 47 32.0 +0.8**
baz=318,SNR=5.8
BFSC S **S** **01 55 27.1 +2.7**
baz=318
FMP Fort Macarthur 57.46 77 P **P** **01 47 32.3 +1.1**
baz=318
P18A Preston Nutter 57.48 66 IAmb IAmb 01 47 34.5
comp=Z,226nm,1.8s
P18A IAMs_20 IAMs_20 02 14 38.0
comp=Z,1µm,19.0s
CRAI Chiangrai 57.48 259 IAmb IAmb 01 47 34.5
comp=Z,66nm,1.1s
TUQ Turquoise Moun 57.50 74 P **P** **01 47 32.4 +0.8**
baz=318,SNR=9.2
TUQ S **S** **01 55 28.6 +3.2**
baz=318
RWWY Rawlins 57.54 63 IAMs_20 IAMs_20 02 14 17.3
comp=Z,2µm,19.0s
MTPU Mount Pierson 57.61 69 IAMs_20 IAMs_20 02 12 36.8
comp=Z,2µm,19.0s
CIS Catalina Islan 57.62 77 P **P** **01 47 33.0 +0.6**
baz=318
SRU San Rafael Swe 57.71 67 P **P** **01 47 33.7 +0.5**
SRU IAmb IAmb 01 47 35.7
comp=Z,86nm,1.0s
SRU IAMs_20 IAMs_20 02 08 42.2
comp=Z,1µm,21.0s
SRU San Rafael Swe 57.71 67 P **P** **01 47 33.7 +0.5**
SRU pmax pmax
comp=Z,86nm,1.0s
HEC Hector,Ludlow 57.72 74 P **P** **01 47 34.4 +1.2**
baz=318,SNR=17
HEC S **S** **01 55 29.8 +1.7**
baz=318
BBRC Big Bear Solar 57.81 75 P **P** **01 47 34.6 +0.6**
baz=318
BBRC S **S** **01 55 33.3 +3.6**
baz=318
SCI2 San Clemente I 57.86 77 S **S** **01 55 33.7 +3.9**
baz=318
V12A Nelson 57.87 73 IAMs_20 IAMs_20 02 09 19.0
comp=Z,1µm,20.0s
CHM Chimkent 57.90 299 *e*P **P** **01 47 33.1 -1.2**
comp=Z,58nm,1.2s,baz=299
CHM LR LR 02 12 52.3
comp=Z,1µm,15.7s,baz=299
CHM Chimkent 57.90 299 *e*P **P** **01 47 33.0 -1.2**
CHM pmax pmax
comp=Z,58nm,1.2s
CHM MLR MLR
comp=Z,1µm,16.0s
VAF Ylistaro 57.96 339 *e*P **P** **01 47 34.4 +0.1**
PKCU Pink Cliffs 57.98 69 IAmb IAmb 01 48 08.8
comp=Z,54nm,1.1s
ELS Elsinore Mount 57.99 76 IAmb IAmb 01 47 37.3
comp=Z,118nm,1.9s
KNB Kanab 58.02 70 IAmb IAmb 01 48 29.8
comp=Z,68nm,1.3s
KNB IAMs_20 IAMs_20 02 09 05.8
comp=Z,2µm,21.0s
AGMN Agassiz Nation 58.06 50 P **P** **01 47 34.8 -0.4**
AGMN IAmb IAmb 01 47 36.8
comp=Z,108nm,1.1s
AGMN Agassiz Nation 58.06 50 P **P** **01 47 35.7 +0.4**
baz=319,SNR=15
AGMN S **S** **01 55 34.1 +2.0**
baz=319
GMRC Granite Mounta 58.12 74 P **P** **01 47 37.2 +1.1**
baz=318,SNR=26
GMRC S **S** **01 55 37.2 +3.6**
baz=318
O20A White River Ci 58.15 64 IAmb IAmb 01 47 38.5
comp=Z,108nm,1.0s
O20A White River Ci 58.15 64 P **P** **01 47 37.4 +1.1**
baz=318,SNR=91
O20A S **S** **01 55 36.6 +2.7**
baz=318
MURC Murrieta 58.15 76 P **P** **01 47 37.0 +0.8**
baz=318,SNR=7.7
MURC S **S** **01 55 34.7 +0.9**
baz=318
NUUK Nuuk 58.18 17 *i*P **P** **01 47 34.5 -1.4**
NUUK IAmb IAmb 01 47 36.8
comp=Z,100nm,1.1s
KEF Keuruu 58.29 338 *e*P **P** **01 47 36.4 -0.2**
D32A Dogwood Acres, 58.41 52 IAMs_20 IAMs_20 02 14 27.6
comp=Z,3µm,19.0s
NSS Namsos 58.44 345 *e*P **P** **01 47 37.0 -0.6**
HMU Henry Mountain 58.46 68 IAMs_20 IAMs_20 02 10 03.1
comp=Z,1µm,21.0s
BELC Belle Mtn. Jos 58.52 75 P **P** **01 47 39.3 +0.4**
baz=318,SNR=15
BELC S **S** **01 55 41.0 +2.3**
baz=318
PFO Pinyon Flats O 58.55 75 P **P** **01 47 39.9 +0.8**
PFO IAmb IAmb 01 47 57.8
comp=Z,83nm,1.9s
PFO Pinyon Flats O 58.55 75 IAMs_20 IAMs_20 02 09 49.3
comp=Z,2µm,20.0s
PFO Pinyon Flats O 58.55 75 P **P** **01 47 39.4 +0.3**
baz=318,SNR=6.4
PFO S **S** **01 55 40.9 +1.8**
baz=318
PFO Pinyon Flats O 58.55 75 LR LR 02 10 01.2
comp=Z,2µm,19.9s,baz=296,slow=33
PFO Pinyon Flats O 58.55 75 *i*P **P** **01 47 38.9 -0.2**
PFO pmax pmax
comp=Z,60nm,2.0s
PFO MLR MLR
comp=Z,1µm,18.0s
TPFO Pinon Flats 58.56 75 P **P** **01 47 39.6 +0.5**
baz=318,SNR=6.8
TPFO S **S** **01 55 40.0 +0.7**
baz=318
ISOG Isortoq, Green 58.56 10 *i*P **P** **01 47 36.9 -1.6**
ISOG IAmb IAmb 01 47 38.5
comp=Z,99nm,0.7s
PMD Palm Desert 58.57 75 IAMs_20 IAMs_20 02 09 41.7
comp=Z,2µm,20.0s
ANGG Ammassalik, Gr 58.63 9 *i*P **P** **01 47 37.2 -1.7**
ANGG IAmb IAmb 01 47 39.0
comp=Z,139nm,1.0s
FINES FINESS Array B 58.66 337 P **P** **01 47 38.8 -0.4**
FINES FINESS Array B 58.66 337 P **P** **01 47 39.0 -0.2**
comp=Z,36nm,0.7s,baz=34,slow=8.5,SNR=253
FINES PcP **PcP** **01 48 28.8 +0.1**
comp=Z,12nm,0.8s,baz=49,slow=4.2,SNR=0.9
FINES S **S** **01 55 38.7 -0.8**
comp=Z,1.1nm,0.8s,baz=45,slow=14,SNR=1.0
FINES LR LR 02 17 17.3
comp=Z,2µm,18.7s,baz=24,slow=40
FINES PKP2bc **P'P'df** **02 17 25.9 +4.8**
comp=Z,2.4nm,0.9s,baz=242,slow=3.0,SNR=4.1
comp=Z,36nm,0.7s
UBPT Khong Chiam 58.68 250 P **P** **01 47 41.4 +1.5**
NEE2 Needles Airpor 58.71 73 P **P** **01 47 40.2 +0.2**
baz=318
NEE2 S **S** **01 55 44.0 +3.1**
baz=318
PHWY Pilot Hill 58.71 62 IAmb IAmb 01 47 42.3
comp=Z,77nm,1.7s
PHWY IAMs_20 IAMs_20 02 12 16.3
comp=Z,2µm,21.0s
109C Camp Elliot, M 58.73 76 P **P** **01 47 40.8 +0.6**
baz=319
109C S **S** **01 55 44.3 +3.1**
baz=319
U15A North Rim 58.74 70 IAMs_20 IAMs_20 02 13 33.4
comp=Z,1µm,20.0s
N23A Red Feather La 58.77 62 IAMs_20 IAMs_20 02 13 23.8
comp=Z,2µm,20.0s
N23A Red Feather La 58.77 62 P **P** **01 47 41.9 +1.3**
baz=318,SNR=60
N23A S **S** **01 55 44.4 +2.3**
baz=318
DRK Karamyk 58.87 295 IAmb IAmb 01 48 32.0
comp=Z,142nm,1.4s
IRM Iron Mountain 58.87 74 P **P** **01 47 42.3 +1.1**
baz=319,SNR=34
IRM S **S** **01 55 45.2 +2.1**
baz=319
B35A Bob, Littlefor 58.95 49 IAmb IAmb 01 47 42.7
comp=Z,131nm,1.2s
BC3 Big Chuckawall 59.08 75 P **P** **01 47 43.1 +0.4**
baz=319,SNR=10
BC3 S **S** **01 55 45.3 -0.7**
baz=319
MONP2 Monument Peak 59.11 76 P **P** **01 47 43.7 +0.7**
baz=319,SNR=5.3
MONP2 S **S** **01 55 49.0 +2.4**
baz=319
SGSI Sangihe 59.15 224 P **P** **01 47 44.5 +1.3**
comp=Z,346nm,0.9s,comp=Z,10µm
PDMCI Parker Dam,Lak 59.32 73 P **P** **01 47 44.7 +0.5**
baz=319,SNR=10
PDMCI S **S** **01 55 50.7 +1.9**
baz=319
CBX Cerro Bola 59.41 77 IAmb IAmb 01 47 58.8
comp=Z,51nm,1.0s
SWSC Sam W. Stewart 59.42 75 P **P** **01 47 45.3 +0.4**
baz=319
SWSC S **S** **01 55 53.9 +3.8**
baz=319
CHTO Chiang Mai 59.42 259 P **P** **01 47 44.3 -0.8**
CHTO IAmb IAmb 01 47 47.2
comp=Z,77nm,0.8s
CHTO Chiang Mai 59.42 259 P **P** **01 47 44.3 -0.8**
CHTO pmax pmax
comp=Z,77nm,0.8s
CHTO MLR MLR
comp=Z,4µm,20.0s
IKP In-Ko-Pah, Jac 59.47 76 P **P** **01 47 46.4 +1.0**
baz=319
IKP S **S** **01 55 55.3 +4.4**
baz=319
SMCO Snowmass 59.52 64 IAmb IAmb 01 47 48.3
comp=Z,49nm,1.0s
BLYC Blythe 59.52 74 IAmb IAmb 01 47 48.1
comp=Z,186nm,1.9s
SUSD Miller 59.55 55 P **P** **01 47 45.8 +0.1**
baz=319,SNR=5.6
SUSD S **S** **01 55 52.3 +0.7**
baz=319
YUH Yuha Desert 59.57 76 IAmb IAmb 01 47 48.0
comp=Z,77nm,1.9s
YUH IAMs_20 IAMs_20 02 08 03.3
comp=Z,1µm,21.0s
RABL Rabaul 59.70 191 IAMs_20 IAMs_20 02 08 26.9
comp=Z,2µm,22.0s
CM31 Chiang Mai Arr 59.70 259 P **P** **01 47 47.3 +0.3**
CM31 IAmb IAmb 01 47 49.5
comp=Z,70nm,0.8s
CMAR Chiang Mai Arr 59.70 259 P **P** **01 47 47.3 +0.3**
comp=Z,60nm,0.8s,baz=24,slow=6.8,SNR=18
CMAR PcP **PcP** **01 48 34.4 +0.8**
comp=Z,30nm,0.8s,baz=16,slow=4.5,SNR=6.5
CMAR ScP **ScP** **01 52 34.0 +4.1**
comp=Z,1.0nm,0.3s,baz=17,slow=4.9,SNR=4.1
CMAR LR LR 02 16 55.6
comp=Z,4µm,18.3s,baz=35,slow=39
comp=Z,60nm,0.8s
CMAR Chiang Mai Arr 59.70 259 *i*P **P** **01 47 47.7 +0.7**
CMAR pmax pmax
comp=Z,64nm,0.8s
F33A 5 Mile Ranch, 59.72 52 IAMs_20 IAMs_20 02 15 23.8
comp=Z,2µm,18.0s
ISCO Idaho Springs 59.75 63 IAMs_20 IAMs_20 02 15 30.5
comp=Z,2µm,20.0s
ISCO Idaho Springs 59.75 63 P **P** **01 47 49.1 +1.6**
baz=319,SNR=82
ISCO S **S** **01 56 00.2 +5.3**
baz=319
BRIGG Briggsdale 59.82 62 IAMs_20 IAMs_20 02 12 57.7
comp=Z,2µm,22.0s
DLV T Lat 59.85 246 P **P** **01 47 49.4 +1.1**
DLV T Lat 59.85 246 IAMs_20 IAMs_20 02 12 59.1
comp=Z,2µm,22.0s
BELG Belogornoye 59.87 320 LR LR 02 16 28.9
comp=Z,71nm,18.8s,baz=34,slow=39
BELG Belogornoye 59.87 320 *c i*P **P** **01 47 46.9 -0.8**
BELG pmax pmax
comp=Z,45nm,1.0s
BELG MLR MLR
comp=Z,998nm,18.0s
GLA Glamis 59.88 75 P **P** **01 47 49.3 +1.2**
baz=319
TBLU Trondheim 59.90 346 *e*P **P** **01 47 46.0 -1.7**
WUAZ Wupatki 59.92 70 IAmb IAmb 01 47 51.3
comp=Z,90nm,1.4s
WUAZ Wupatki 59.92 70 P **P** **01 47 50.0 +1.5**
baz=319,SNR=19
WUAZ S **S** **01 56 01.6 +4.8**
baz=319
RAF Rauma 59.97 339 *e*P **P** **01 47 48.0 -0.3**
ESJX Sierra Juarez 60.04 76 P **P** **01 47 50.2 +0.7**
ESJX IAmb IAmb 01 47 51.7
comp=Z,113nm,1.9s
JAY Jayapura 60.10 205 P **P** **01 47 51.0 +1.3**
comp=Z,64nm,1.7s
MEF Metsahovi 60.14 337 *e*P **P** **01 47 49.6 +0.2**
MVCO Mesa Verde 60.19 67 IAmb IAmb 01 47 52.6
comp=Z,175nm,1.9s
MVCO Mesa Verde 60.19 67 P **P** **01 47 51.3 +0.8**
baz=319,SNR=21
MVCO S **S** **01 56 05.5 +5.1**
baz=319
EYMN Ely 60.22 48 P **P** **01 47 50.4 +0.1**
baz=321,SNR=79
EYMN S **S** **01 56 01.5 +1.4**
baz=321
GENI Genyem 60.30 205 P **P** **01 47 53.7 +2.6**
GENI Genyem 60.30 205 P **P** **01 47 52.3 +1.2**
comp=Z,80nm,0.9s,comp=Z,2µm
BORG Borgarnes 60.40 2 LR LR 02 13 08.9
comp=Z,1µm,20.7s,baz=1.6,slow=35
ARBE Arbavere 60.47 336 *e*P **P** **01 47 52.0 +0.3**
MOS Moscow 60.52 328 *e*P **P** **01 47 50.3 -1.8**
MOS *e**PP **pP** **01 48 05.9 -0.2**
MOS *e* 01 48 35.1
MOS *e* 01 50 02.3
MOS *e*S **S** **01 56 01.6 -2.0**
MOS *e* 01 57 35.2
MOS *e*SS **SS** **01 59 58.9 -2.4**
MOS pmax pmax
comp=Z,178nm,1.2s
MOS pmax pmax
comp=Z,300nm,1.6s
MOS pmax pmax
comp=N,200nm,1.6s
MOS pmax pmax
comp=N,131nm,1.2s
MOS MLR MLR
comp=N,4µm,20.0s
MOS MLR MLR
comp=E,2µm,20.0s
MOS MLR MLR
comp=Z,5µm,20.0s
Q24A Divide 60.62 63 IAMs_20 IAMs_20 02 16 20.4
comp=Z,2µm,19.0s
Q24A Divide 60.62 63 P **P** **01 47 54.5 +1.0**
baz=319,SNR=30
Q24A S **S** **01 56 10.0 +4.0**
baz=319
113A Mohawk Valley, 60.67 74 IAMs_20 IAMs_20 02 10 42.9
comp=Z,1µm,20.0s
OGNE Ogallala 60.70 60 IAMs_20 IAMs_20 02 14 38.1
comp=Z,2µm,20.0s
OGNE Ogallala 60.70 60 P **P** **01 47 54.7 +1.0**
baz=319,SNR=18
X16A Lo Mia Camp, P 60.71 71 IAMs_20 IAMs_20 02 12 45.5
comp=Z,1µm,19.0s
MOL Molde 60.92 347 *e*P **P** **01 47 54.7 0.0**
SIMJ Simiganj 60.92 297 P **P** **01 47 53.2 -2.1**

SIMJ IAmb IAmb 01 48 01.8
comp=Z,65nm,0.8s
SIMJ Simiganj 60.92 297 P **P** **01 47 54.3 -1.0**
SIMJ PcP **PcP** **01 48 37.5 -0.9**
F36A Milaca 60.95 51 IAmb IAmb 01 47 56.4
comp=Z,95nm,1.4s
W18A Petrified Fore 61.10 69 IAMs_20 IAMs_20 02 11 47.7
comp=Z,2µm,22.0s
W18A Petrified Fore 61.10 69 P **P** **01 47 58.1 +1.5**
baz=319,SNR=13
W18A S **S** **01 56 17.0 +5.0**
baz=319
AAL Aland 61.11 339 *e*P **P** **01 47 55.8 -0.2**
TNTI Ternate 61.11 220 P **P** **01 47 57.6 +1.0**
TNTI Ternate 61.11 220 IAmb IAmb 01 47 58.9
comp=Z,118nm,1.2s
TNTI Ternate 61.11 220 P **P** **01 47 57.9 +1.3**
comp=Z,43nm,0.7s
VSU Vasula 61.16 335*c i*P **P** **01 47 56.1 -0.3**
VSU pmax pmax
comp=Z,106nm,0.8s
VSU MLR MLR
comp=Z,4µm,23.0s
ECSD EROS Data Cent 61.18 54 IAMs_20 IAMs_20 02 14 33.5
comp=Z,3µm,21.0s
ECSD EROS Data Cent 61.18 54 P **P** **01 47 56.9 +0.1**
baz=320,SNR=43
ECSD S **S** **01 56 12.8 +0.3**
baz=320
DOMB Dombas 61.22 346 *e*P **P** **01 47 56.4 -0.5**
SWI Sorong 61.25 216 P **P** **01 47 59.6 +2.0**
comp=Z,350nm,1.4s,comp=Z,5µmcomp=Z,2µm
SDCO Great Sand Dun 61.35 64 IAmb IAmb 01 48 00.9
comp=Z,117nm,1.6s
SDCO IAMs_20 IAMs_20 02 17 06.0
comp=Z,2µm,18.0s
SDCO Great Sand Dun 61.35 64 P **P** **01 47 59.6 +1.2**
baz=319,SNR=57
SDCO S **S** **01 56 20.6 +5.2**
baz=319
AKN Aaknes 61.37 347 *e*P **P** **01 47 57.9 +0.1**
OBN Obninsk 61.38 328 ||P **P** **01 47 57.6 -0.3**
OBN Obninsk 61.38 328 P **P** **01 47 56.3 -1.6**
OBN Obninsk 61.38 328 LR LR 02 17 50.8
comp=Z,5µm,19.5s,baz=22,slow=39
OBN Obninsk 61.38 328*c i*P **P** **01 47 56.9 -1.0**
OBN *e**SP **sP** **01 48 18.5 +0.9**
OBN *e* 01 48 39.0
OBN *e* 01 50 12.9
OBN *e*S **S** **01 56 12.6 -1.8**
OBN *e*SS **SS** **02 00 16.1 +1.5**
OBN pmax pmax
comp=Z,189nm,1.4s
OBN MLR MLR
comp=Z,5µm,19.0s
OBN Obninsk 61.38 328 P **P** **01 47 57.2 -0.7**
comp=Z,125nm,1.4s,comp=Z,2µm
X18A Snowflake 61.43 70 IAmb IAmb 01 48 01.6
comp=Z,48nm,1.0s
X18A IAMs_20 IAMs_20 02 12 32.5
comp=Z,1µm,19.0s
IVI Ivigtut 61.55 16 P **P** **01 47 57.6 -1.4**
IVI Ivigtut 61.55 16 *i*P **P** **01 47 57.8 -1.2**
IVI IAmb IAmb 01 47 59.7
comp=Z,149nm,0.9s
MTSE Matsula 61.62 337 *e*P **P** **01 48 00.1 +0.6**
NC303 NORSAR Array S 61.66 344 IAmb IAmb 01 48 00.1
comp=Z,74nm,0.9s
SPMN Marine on St. 61.76 51 P **P** **01 48 01.0 +0.3**
baz=321,SNR=14
214A Organ Pipe Nat 61.82 74 IAMs_20 IAMs_20 02 10 33.1
comp=Z,2µm,20.0s
214A Organ Pipe Nat 61.82 74 P **P** **01 48 02.3 +1.0**
baz=320,SNR=15
214A S **S** **01 56 25.1 +4.3**
baz=320
NB201 NORSAR Array S 61.84 344 P **P** **01 48 00.1 -0.9**
KSCO Kaye Shedlock' 61.86 62 P **P** **01 48 02.4 +0.8**
baz=320,SNR=6.1
KSCO S **S** **01 56 25.7 +4.2**
baz=320
NB2 NORSAR Subarra 61.86 344 P **P** **01 48 00.5 -0.7**
comp=Z,315nm,1.4s,baz=18,slow=6.9
NB2 NORSAR Subarra 61.86 344 P **P** **01 48 00.5 -0.7**
baz=18,slow=6.9
NOA NORSAR Array B 61.86 344 P **P** **01 48 00.8 -0.4**
comp=Z,66nm,1.0s,baz=19,slow=6.9,SNR=175
comp=Z,66nm,1.0s
UPP Uppsala 61.87 341 *e*P **P** **01 48 01.0 -0.1**
NRS Narsarsuaq 62.02 15 IAmb IAmb 01 48 02.5
comp=Z,101nm,0.9s
NRS Narsarsuaq 62.02 15 *i*P **P** **01 48 00.8 -1.3**
NRS IAmb IAmb 01 48 02.8
comp=Z,107nm,0.9s
NAO01 NORSAR Array S 62.10 344 P **P** **01 48 01.8 -1.0**
NC602 NORSAR Array S 62.10 344 IAmb IAmb 01 48 03.4
comp=Z,87nm,1.3s
NC602 NORSAR Array S 62.10 344 *e*P **P** **01 48 02.0 -0.8**
BGNE Belgrade 62.24 57 P **P** **01 48 04.5 +0.4**
baz=320,SNR=11
BGNE S **S** **01 56 27.3 +1.4**
baz=320
HFS Hagfors 62.32 343 P **P** **01 48 02.9 -1.3**
comp=Z,30nm,0.6s,baz=31,slow=4.0,SNR=191
HFS PcP **PcP** **01 48 43.3 -0.1**
comp=Z,9.6nm,0.5s,baz=58,slow=4.1,SNR=1.9
HFS LR LR 02 15 57.4
comp=Z,3µm,21.4s,baz=20,slow=37
comp=Z,30nm,0.6s
LBMI Labuha 62.36 220 P **P** **01 48 06.4 +1.4**
comp=Z,202nm,1.1s,comp=Z,6µm
T25A Trinidad 62.38 64 IAmb IAmb 01 48 07.5
comp=Z,151nm,1.6s
T25A IAMs_20 IAMs_20 02 15 35.1
comp=Z,2µm,19.0s
T25A Trinidad 62.38 64 P **P** **01 48 06.0 +0.7**
baz=320,SNR=19
T25A S **S** **01 56 33.4 +5.2**
baz=320
HYA Hoyanger 62.45 347 *e*P **P** **01 48 05.0 -0.1**
NIL Nilore 62.48 290 P **P** **01 48 04.3 -1.5**
NIL Nilore 62.48 290 P **P** **01 48 04.5 -1.3**
NIL Nilore 62.48 290 P **P** **01 48 04.3 -1.5**
NIL pmax pmax
comp=Z,148nm,1.1s
KMSI Cibinong 62.60 224 P **P** **01 48 08.0 +1.4**
comp=Z,713nm,1.3s,comp=Z,8µm
SKAR Skarslia 62.64 346 *e*P **P** **01 48 06.2 -0.2**
TABU Tabubil 62.64 203 P **P** **01 48 09.0 +2.1**
L34A Svendsen Farm, 62.65 55 IAMs_20 IAMs_20 02 17 14.6
comp=Z,2µm,19.0s
TUC Tucson 62.66 72 P **P** **01 48 06.9 -0.1**
TUC Tucson 62.66 72 P **P** **01 48 08.2 +1.2**
baz=320
TUC S **S** **01 56 36.3 +4.8**
baz=320
TUC Tucson 62.66 72 P **P** **01 48 06.9 -0.1**
TUC pmax pmax
comp=Z,43nm,1.5s
TUC Tucson 62.66 72 P **P** **01 48 08.0 +1.0**
TUC pP **pP** **01 48 19.7 -0.4**
COWI Conover 62.67 48 IAmb IAmb 01 48 07.8
comp=Z,132nm,1.4s
SUE Sulen 62.74 348 *e*P **P** **01 48 07.0 +0.1**
LPSR Galich'ya Gora 62.75 325 *e*P **P** **01 48 06.0 -1.2**
LPSR pmax pmax
comp=Z,160nm,1.0s
LPSR MLR MLR
comp=Z,3µm,15.0s
FAKI Fak Fak 62.86 214 P **P** **01 48 09.6 +1.3**
FAKI Fak Fak 62.86 214 P **P** **01 48 09.0 +0.7**
FAKI Fak Fak 62.86 214 P **P** **01 48 09.3 +1.0**
comp=Z,227nm,1.3s,comp=Z,3µm
G40A Rib Lake 62.87 49 IAmb IAmb 01 48 09.3
comp=Z,93nm,1.4s
SRDT SRDT 62.92 256 P **P** **01 48 09.4 +0.6**
GTOI Gorontalo 62.93 225 P **P** **01 48 09.2 +0.4**
comp=Z,23nm,0.8s,comp=Z,666nm
SLIT Slitere, Latvi 62.95 337 *e*P **P** **01 48 08.6 +0.2**
VRH Novokhopyorsk 62.97 322 *e*P **P** **01 48 07.2 -1.4**
VRH pmax pmax
comp=Z,90nm,0.6s
VRH MLR MLR
comp=Z,3µm,16.0s
ANMO Albuquerque 62.98 67 P **P** **01 48 09.5 +0.3**
ANMO Albuquerque 62.98 67 P **P** **01 48 10.2 +1.0**
baz=320
ANMO S **S** **01 56 39.6 +3.9**
baz=320
ANMO Albuquerque 62.98 67 LR LR 02 15 05.8
comp=Z,1µm,20.5s,baz=60,slow=36
ANMO Albuquerque 62.98 67||*i*P **P** **01 48 08.9 -0.3**
ANMO pmax pmax
comp=Z,28nm,0.9s
ANMO MLR MLR
comp=Z,1µm,19.0s
OSL Oslo 62.99 344 *e*P **P** **01 48 08.8 +0.2**
ASK Askoy 63.24 347 *e*P **P** **01 48 10.6 +0.3**
SCHQ Schefferville 63.30 29 IAmb IAmb 01 48 11.0
comp=Z,66nm,0.8s
SCHQ Schefferville 63.30 29 P **P** **01 48 10.3 -0.5**
comp=Z,50nm,0.8s,baz=347,slow=6.8,SNR=92
SCHQ PKP2bc **P'P'bc** **02 17 17.0 -3.4**
comp=Z,7.0nm,1.0s,baz=198,slow=3.2,SNR=4.1
SCHQ LR LR 02 17 26.3
comp=Z,1µm,21.1s,baz=331,slow=38
comp=Z,50nm,0.8s
BER Bergen 63.32 347 *e*P **P** **01 48 10.8 0.0**
E43A Lone Tree Farm 63.35 46 IAmb IAmb 01 48 12.1
comp=Z,75nm,1.2s
E43A IAMs_20 IAMs_20 02 16 51.3
comp=Z,2µm,20.0s
DUN6 Lazy B Ranch 63.40 71 IAmb IAmb 01 48 13.8
comp=Z,63nm,0.9s
Y22D IRIS PASSCAL I 63.40 68 IAmb IAmb 01 48 14.5
comp=Z,61nm,0.8s
Y22D IAMs_20 IAMs_20 02 13 22.5
comp=Z,2µm,22.0s
Y22D IRIS PASSCAL I 63.40 68 P **P** **01 48 13.2 +1.2**
baz=320
TOLI2 Tolitoli 63.43 227 P **P** **01 48 12.7 +0.6**
TOLI2 Tolitoli 63.43 227 P **P** **01 48 12.8 +0.6**
KONO Kongsberg 63.44 345 P **P** **01 48 11.0 -0.6**
KONO Kongsberg 63.44 345 IAMs_20 IAMs_20 02 18 41.4
comp=Z,1µm,22.0s
KONO Kongsberg 63.44 345 *e*P **P** **01 48 11.5 -0.1**
KONO Kongsberg 63.44 345 P **P** **01 48 11.0 -0.6**
KONO pmax pmax
comp=Z,228nm,1.5s
KONO MLR MLR
comp=Z,2µm,22.0s
KONO Kongsberg 63.44 345 P **P** **01 48 11.3 -0.3**
KONO PcP **PcP** **01 48 48.4 +0.3**
VORR Voronezh 63.44 324 *e*P **P** **01 48 10.3 -1.4**
VORR pmax pmax
comp=Z,40nm,0.4s
VORR MLR MLR
comp=Z,4µm,15.0s
CBKS Cedar Bluff 63.46 60 IAmb IAmb 01 48 12.7
comp=Z,58nm,0.9s
CBKS IAMs_20 IAMs_20 02 16 25.3
comp=Z,2µm,20.0s
CBKS Cedar Bluff 63.46 60 P **P** **01 48 12.2 0.0**
baz=321,SNR=6.5
CBKS S **S** **01 56 42.5 +1.2**
baz=321
ODD1 Odda 63.61 346 *e*P **P** **01 48 13.1 +0.3**
I40A Norwalk 63.78 50 IAmb IAmb 01 48 15.1
comp=Z,84nm,1.1s
VSR Storozhevoye 63.84 324 *e*P **P** **01 48 12.0 -2.4**
VSR pmax pmax
comp=Z,110nm,1.1s
VSR MLR MLR
comp=Z,5µm,16.0s
ISAL Salakas 63.90 334 *e*P **P** **01 48 17.8 +3.1**
IDID Didziasalis 63.97 333 *e*P **P** **01 48 16.2 +1.0**
VORD Divnogorie 64.01 324 *e*P **P** **01 48 14.4 -1.1**
VORD pmax pmax
comp=Z,90nm,1.2s
VORD MLR MLR
comp=Z,3µm,16.0s
KBL Kabul 64.04 294 P **P** **01 48 13.9 -2.4**
KBL IAmb IAmb 01 48 22.1
comp=Z,46nm,0.9s
KBL Kabul 64.04 294 P **P** **01 48 13.3 -3.0**
SNR=27
KBL Kabul 64.04 294 P **P** **01 48 13.9 -2.4**
VSVD Vaisvydziai 64.07 335 *e*P **P** **01 48 16.4 +0.6**
BLS5 Blasjo 64.11 346 *e*P **P** **01 48 16.0 -0.1**
121A Cookes Peak, D 64.12 70 IAmb IAmb 01 48 19.6
comp=Z,54nm,1.2s
121A IAMs_20 IAMs_20 02 11 29.7
comp=Z,1µm,21.0s
121A Cookes Peak, D 64.12 70 P **P** **01 48 18.1 +1.4**
baz=321,SNR=23
121A S **S** **01 56 54.5 +4.6**
baz=321
SCIA State Center 64.17 53 P **P** **01 48 17.2 +0.4**
baz=322,SNR=8.1
SCIA S **S** **01 56 50.1 +0.1**
baz=322
319A Douglas 64.19 72 IAmb IAmb 01 48 19.7
comp=Z,66nm,1.1s
SANI Sanana 64.23 221 P **P** **01 48 18.1 +0.8**
SANI Sanana 64.23 221 S **S** **01 56 52.2 +1.2**
SANI P **P** **01 48 15.9 -1.4**
SANI Sanana 64.23 221 P **P** **01 48 17.9 +0.6**
comp=Z,318nm,1.2s,comp=Z,3µm
HNR Honiara 64.37 182 LR LR 02 12 07.6
comp=Z,68µm,21.7s,baz=8.5,slow=32
MNK Minsk 64.40 332 *i*P **P** **01 48 18.2 +0.2**
MNK *i**PP **pP** **01 48 34.6 +2.6**
MNK *i* 01 50 40.1
MNK *i*PPP PPP 01 52 11.2
MNK *i*S **S** **01 56 52.0 -0.3**
MNK *i**SS sS 01 57 26.7 +11
MNK pmax pmax
comp=Z,126nm,1.0s
MNK pmax pmax
comp=N,85nm,1.0s
MNK pmax pmax
comp=E,19nm,1.1s
MNK MLR MLR
comp=N,3µm,15.0s
MNK MLR MLR
comp=Z,4µm,18.0s
MNK MLR MLR
comp=E,765nm,15.0s
E46A Sault Ste Mari 64.46 45 IAmb IAmb 01 48 18.1
comp=Z,49nm,0.9s
E46A IAMs_20 IAMs_20 02 18 29.5
comp=Z,2µm,19.0s
KMY Karmoy 64.47 347 *e*P **P** **01 48 18.5 +0.1**
PABE Paberze 64.49 335 *e*P **P** **01 48 18.9 +0.3**
MPSI Mapaga 64.50 228 P **P** **01 48 20.1 +1.0**
comp=Z,88nm,1.0s,comp=Z,2µm
PBUR Paburge 64.50 336 *e*P **P** **01 48 19.1 +0.5**
I42A Draeger Farm, 64.52 49 IAmb IAmb 01 48 20.0
comp=Z,155nm,1.6s
LUWI Luwuk 64.55 224 P **P** **01 48 19.3 -0.2**
LUWI Luwuk 64.55 224 P **P** **01 48 18.3 -1.2**
LUWI Luwuk 64.55 224 P **P** **01 48 18.0 -1.5**
LUWI Luwuk 64.55 224 P **P** **01 48 21.2 +1.7**
JFWS Jewell Farm 64.72 51 IAmb IAmb 01 48 20.7
comp=Z,111nm,1.6s
JFWS Jewell Farm 64.72 51 P **P** **01 48 19.6 -0.8**
baz=323,SNR=9.3
JFWS S **S** **01 56 56.4 -0.3**
baz=323
KSU1 Kansas State U 64.77 57 IAmb IAmb 01 48 21.0
comp=Z,60nm,1.0s
KSU1 Kansas State U 64.77 57 P **P** **01 48 19.9 -0.8**
baz=322,SNR=12
KSU1 S **S** **01 56 54.9 -2.6**
baz=322
HOMB Homborsund 64.93 345 *e*P **P** **01 48 20.9 -0.4**
HOMB Homborsund 64.93 345 *i*P **P** **01 48 20.1 -1.3**
L40A Anamosa 64.96 52 IAmb IAmb 01 48 22.3
comp=Z,158nm,1.6s
G45A Suttons Bay 64.98 46 IAMs_20 IAMs_20 02 18 46.5
comp=Z,2µm,18.0s
N38A Joes South For 65.04 54 IAmb IAmb 01 48 23.3
comp=Z,87nm,0.9s
SNART Snartemo 65.05 346 *e*P **P** **01 48 22.4 +0.2**
SNART Snartemo 65.05 346 *i*P **P** **01 48 20.8 -1.4**
HSIG 65.09 75 IAmb IAmb 01 48 25.2
comp=Z,124nm,1.8s
EPT El Paso 65.39 69 IAmb IAmb 01 48 27.1
comp=Z,77nm,1.4s
EPT IAMs_20 IAMs_20 02 15 28.4
comp=Z,1µm,18.0s
PMG Port Moresby 65.52 196 LR LR 02 13 35.5
comp=Z,1µm,21.5s,baz=23,slow=33
AMTX Amarillo 65.52 64 IAmb IAmb 01 48 27.4
comp=Z,186nm,1.9s
AMTX Amarillo 65.52 64 P **P** **01 48 26.2 +0.5**
baz=321
AMTX S **S** **01 57 06.9 0.0**
baz=321
BLEU Blekinge 65.54 340 *i*P **P** **01 48 23.0 -2.3**
GLMI Grayling 65.59 46 P **P** **01 48 25.7 -0.2**
baz=325,SNR=15
GLMI S **S** **01 57 06.4 -0.9**
baz=325
VLDQ Val d'Or 65.64 39 P **P** **01 48 23.7 -2.5**
VLDQ IAMs_20 IAMs_20 02 20 02.8
comp=Z,2µm,19.0s
MSTX Muleshoe 65.67 65 IAmb IAmb 01 48 28.2
comp=Z,89nm,1.1s
MSTX IAMs_20 IAMs_20 02 20 01.2
comp=Z,2µm,18.0s
MSTX Muleshoe 65.67 65 P **P** **01 48 26.8 0.0**
baz=321,SNR=29
MSTX S **S** **01 57 10.4 +1.6**
baz=321
L42A Oliver, Polo 65.70 51 IAmb IAmb 01 48 26.9
comp=Z,54nm,0.9s
U32A Winter Ranch, 65.72 61 IAmb IAmb 01 48 27.2
comp=Z,40nm,0.8s
K43A Burlington 65.73 50 P **P** **01 48 25.2 -1.6**
K43A IAmb IAmb 01 48 27.3
comp=Z,69nm,1.1s
KAN01 Argonia South 65.73 60 IAmb IAmb 01 48 27.3
comp=Z,97nm,1.1s
ELIS Ellis County 65.75 61 IAmb IAmb 01 48 28.4
comp=Z,112nm,1.5s
OK038 West end E0370 65.77 61 IAmb IAmb 01 48 28.0
comp=Z,52nm,0.8s
OK032 Salt Plains WL 65.78 60 IAmb IAmb 01 48 27.8
comp=Z,108nm,1.7s
OK032 IAMs_20 IAMs_20 02 17 47.8
comp=Z,2µm,20.0s
KAN09 Caldwell North 65.81 60 IAmb IAmb 01 48 27.9
comp=Z,96nm,1.3s
P38A Dawn 65.83 55 P **P** **01 48 27.0 -0.5**
P38A IAMs_20 IAMs_20 02 17 59.6
comp=Z,2µm,20.0s
KAN13 South Haven SW 65.98 59 IAmb IAmb 01 48 28.8
comp=Z,83nm,1.2s
GOET G??ttrup 66.00 344 *i*P **P** **01 48 27.9 -0.4**
GOET IAmb IAmb 01 48 29.8
comp=Z,239nm,1.2s
SUW Suwalki 66.04 335 *e*P **P** **01 48 28.1 -0.5**
SUW Suwalki 66.04 335 IAMs_20 IAMs_20 02 19 25.7
comp=Z,2µm,21.0s
SUW Suwalki 66.04 335 *e*P **P** **01 48 28.6 0.0**
MNTX Cornudas Mount 66.05 69 P **P** **01 48 30.2 +1.1**
baz=321,SNR=88
MNTX S **S** **01 57 16.5 +3.2**
baz=321
SMWD Samnorwood 66.09 63 IAmb IAmb 01 48 30.9
comp=Z,113nm,1.1s
CROK Carrier 66.13 60 IAmb IAmb 01 48 30.1
comp=Z,94nm,1.2s
CROK IAMs_20 IAMs_20 02 17 59.0
comp=Z,2µm,20.0s
BIGH Upper Bighouse 66.14 352⇑*e*P **P** **01 48 28.8 -0.4**
BIGH IAmb IAmb 01 48 29.7
comp=Z,102nm,1.3s
KLNR Kaliningrad 66.19 337 *i*P **P** **01 48 28.6 -1.0**
KLNR pmax pmax
comp=Z,338nm,1.6s
L44A Lake County Fo 66.34 50 P **P** **01 48 29.9 -0.8**
baz=324,SNR=7.7
CSTR Hydro, Custer 66.45 61 P **P** **01 48 30.1 -1.5**
MUD Monsted U'grnd 66.57 344 *i*P **P** **01 48 30.6 -1.4**
MUD IAmb IAmb 01 48 33.4
comp=Z,173nm,1.3s
LINV Loch Inver, As 66.58 353⇑*e*P **P** **01 48 32.0 0.0**
LINV IAmb IAmb 01 48 33.2
comp=Z,240nm,1.6s
LEWI Lewis, Hebride 66.70 354⇑*e*P **P** **01 48 32.7 -0.1**
LEWI IAmb IAmb 01 48 33.2
comp=Z,52nm,1.1s
COP Copenhagen 66.75 342 *i*P **P** **01 48 32.1 -1.1**
COP IAmb IAmb 01 48 34.4
comp=Z,201nm,1.2s
J47A Sunmer 66.80 47 IAMs_20 IAMs_20 02 20 30.6
comp=Z,1µm,18.0s
BSD Bornholm Skovb 66.83 340 *e*P **P** **01 48 33.4 -0.3**
BSD Bornholm Skovb 66.83 340 *i*P **P** **01 48 31.9 -1.8**
BSD IAmb IAmb 01 48 34.4
comp=Z,188nm,1.4s
DKNS Dickens 66.86 64 IAmb IAmb 01 48 35.7
comp=Z,139nm,1.6s
GEYT Alibeck 66.90 303 P **P** **01 48 33.3 -1.2**
GEYT IAmb IAmb 01 48 41.0
comp=Z,96nm,1.1s
GEYT Alibeck 66.90 303 P **P** **01 48 33.7 -0.8**
comp=Z,29nm,0.8s,baz=357,slow=3.0,SNR=59
GEYT PcP **PcP** **01 49 03.5 +0.7**
comp=Z,30nm,0.8s,baz=19,slow=4.9,SNR=5.2
GEYT LR LR 02 20 56.6
comp=Z,4µm,18.6s,baz=48,slow=39
comp=Z,29nm,0.8s
GEYT Alibeck 66.90 303 P **P** **01 48 33.3 -1.2**
GEYT pmax pmax
comp=Z,96nm,1.1s
GYA0 ALIBECK ARRAY 66.90 303 P **P** **01 48 33.1 -1.4**
GYA0B ALIBECK ARRAY 66.90 303 IAmb IAmb 01 48 41.0
comp=Z,92nm,1.1s
M44A Midewin, Midew 66.92 50 IAmb IAmb 01 48 35.0
comp=Z,139nm,1.3s
OK029 Liberty Lake 66.95 60 IAmb IAmb 01 48 35.8
comp=Z,126nm,1.5s
VHRN Van Horn 66.97 69 IAmb IAmb 01 48 37.4
comp=Z,58nm,1.2s
MCD Coleburn Disti 66.98 351⇑*e*P **P** **01 48 34.6 -0.1**
MCD IAmb IAmb 01 48 35.1
comp=Z,93nm,0.9s
QUOK Quay 67.02 60 IAmb IAmb 01 48 36.0
comp=Z,59nm,1.3s
POST Post 67.03 65 IAmb IAmb 01 48 36.8
comp=Z,56nm,0.8s
HDIL Hopedale 67.03 52 P **P** **01 48 34.9 -0.3**
baz=324,SNR=30
HDIL S **S** **01 57 21.7 -3.1**
baz=324
I49A Point Hope 67.05 45 IAmb IAmb 01 48 35.9
comp=Z,124nm,1.2s
PECS Pecos 67.11 68 IAmb IAmb 01 48 38.1
comp=Z,125nm,1.7s
WMOK Wichita Mounta 67.12 62 IAMs_20 IAMs_20 02 19 33.3
comp=Z,1µm,20.0s
WMOK Wichita Mounta 67.12 62 IAmb IAmb 01 48 37.3
comp=Z,84nm,1.0s
WMOK Wichita Mounta 67.12 62 P **P** **01 48 36.1 +0.2**
baz=322,SNR=78
WMOK S **S** **01 57 26.1 0.0**
baz=322
OK052 Battle Ridge R 67.12 60 IAmb IAmb 01 48 36.6
comp=Z,62nm,1.1s
LLD Lille Linde 67.13 342 *i*P **P** **01 48 34.6 -0.9**
LLD IAmb IAmb 01 48 36.8
comp=Z,184nm,1.2s
OK031 S. Brethren Rd 67.13 60 P **P** **01 48 34.1 -1.8**
OK031 IAmb IAmb 01 48 36.8
comp=Z,79nm,1.2s
ODSA Odessa 67.22 66 IAmb IAmb 01 48 38.2
comp=Z,47nm,1.0s
BKB Balikpapan 67.23 230 P **P** **01 48 38.6 +1.9**
BKB Balikpapan 67.23 230 P **P** **01 48 37.1 +0.4**
comp=Z,749nm,1.1s,comp=Z,7µmcomp=Z,3µm
OKCSW OKLAHOMA CITY 67.27 61 IAmb IAmb 01 48 37.3
comp=Z,70nm,0.9s
SN07 Snyder 07 67.33 65 IAmb IAmb 01 48 38.6
comp=Z,107nm,1.7s
AK23 Malin Array Si 67.39 330 P **P** **01 48 36.9 -0.4**
DEOK Depew 67.39 60 IAmb IAmb 01 48 38.5
comp=Z,120nm,1.4s
SRIT Nakonsritamara 67.39 252 P **P** **01 48 39.0 +1.3**
AK03 Malin Array Si 67.39 330 P **P** **01 48 36.3 -1.0**
AK21 Malin Array Si 67.40 330 P **P** **01 48 36.9 -0.4**
AK22 Malin Array Si 67.40 330 P **P** **01 48 36.4 -1.0**
FNO Franklin 67.40 61 IAMs_20 IAMs_20 02 18 40.8
comp=Z,2µm,20.0s
AK04 Malin Array Si 67.41 330 P **P** **01 48 36.5 -0.9**
AKASG Malin Array Be 67.41 330 P **P** **01 48 35.7 -1.8**
AKASG IAmb IAmb 01 48 39.0

comp=Z,93nm,1.1s
AKASG Malin Array Be 67.41 330 P P 01 48 36.4 -1.0
comp=Z,19nm,0.5s,baz=27,slow=6.9,SNR=74
AKASG S S **01 57 29.0 -0.1**
comp=Z,0.1nm,0.3s,baz=231,slow=29,SNR=1.7
AKASG LR LR 02 19 49.6
comp=Z,2µm,21.7s,baz=16,slow=38
comp=Z,19nm,0.5s
AKBB Malin Array Si 67.41 330 IAmb IAmb 01 48 39.1
comp=Z,109nm,1.1s
AKBB Malin Array Si 67.41 330 *c* iP **P 01 48 36.5 -0.9**
AKBB pmax pmax
comp=Z,126nm,1.3s
AKBB MLR MLR
comp=Z,3µm,22.0s
AKBB Malin Array Si 67.41 330 P **P 01 48 36.5 -0.9**
KPL Plockton 67.41 353⇑ *e*P **P 01 48 37.1 -0.2**
KPL IAmb IAmb 01 48 37.8
comp=Z,32nm,1.0s
KIEV Kiev 67.42 330 ⇑P **P 01 48 37.2 -0.3**
KIEV Kiev 67.42 330 P **P 01 48 35.5 -2.0**
KIEV IAmb IAmb 01 48 39.1
comp=Z,98nm,1.1s
KIEV Kiev 67.42 330 IAMs_20 IAMs_20 02 19 39.0
comp=Z,2µm,21.0s
KIEV Kiev 67.42 330 *i* P **P 01 48 36.5 -1.0**
SNR=10
KIEV Kiev 67.42 330 P **P 01 48 35.5 -2.0**
KIEV pmax pmax
comp=Z,98nm,1.2s
KIEV MLR MLR
comp=Z,2µm,21.0s
KIEV Kiev 67.42 330 P **P 01 48 36.5 -1.0**
KIEV Kiev 67.42 330 P **P 01 48 36.5 -1.0**
comp=Z,334nm,1.7s,comp=Z,4µm
AK01 Malin Array Si 67.42 330 P **P 01 48 36.6 -0.9**
SSRD Sdr. Stenderup 67.43 343 *i* P **P 01 48 36.5 -0.9**
SSRD IAmb IAmb 01 48 38.9
comp=Z,198nm,1.2s
AK20 Malin Array Si 67.44 330 P **P 01 48 36.7 -0.9**
AK18 Malin Array Si 67.44 330 P **P 01 48 36.7 -0.9**
AK15 Malin Array Si 67.45 330 P **P 01 48 36.7 -0.9**
AK11 Malin Array Si 67.45 330 P **P 01 48 36.8 -0.9**
AK19 Malin Array Si 67.45 330 P **P 01 48 36.7 -1.0**
AK02 Malin Array Si 67.46 330 P **P 01 48 37.2 -0.5**
AK08 Malin Array Si 67.46 330 P **P 01 48 37.0 -0.7**
S39A Bolivar 67.46 56 IAmb IAmb 01 48 38.1
comp=Z,90nm,1.4s
R40A Maddies Statio 67.48 55 IAMs_20 IAMs_20 02 17 12.4
comp=Z,2µm,21.0s
APMT Aspermont 67.54 64 IAmb IAmb 01 48 39.7
comp=Z,129nm,1.4s
DRUM Mains of Drumt 67.58 351⇑ *e*P **P 01 48 38.2 -0.2**
DRUM IAmb IAmb 01 48 39.3
comp=Z,73nm,1.0s
MAK Makhachkala 67.58 314 *e*P **P 01 48 37.1 -1.5**
MAK *e**PP **pP 01 48 53.4 +0.6**
MAK *e**SP **sP 01 49 00.7 +2.3**
MAK *e* 01 51 05.9
MAK *e*PPP PPP 01 52 48.3
MAK *e*S **S 01 57 27.6 -3.8**
MAK *e**SS **sS 01 57 56.4 +1.0**
MAK *e*SS **SS 02 01 52.2 +0.5**
MAK pmax pmax
comp=Z,74nm,0.8s
MAK MLR MLR
comp=Z,4µm,17.0s
GOF Gofitskoye 67.62 318 *c* iP **P 01 48 38.5 -0.4**
MI28 Mi28,Pidlybu 67.65 331 P **P 01 48 38.6 -0.3**
MI30 MI30,Zelenitsa 67.67 330 P **P 01 48 38.3 -0.8**
P43A Skaggs, Pawnee 67.67 52 IAmb IAmb 01 48 40.0
comp=Z,111nm,1.1s
RGN Rugen 67.67 341 *e*P **P 01 48 39.9 +0.9**
HRA Herat 67.67 298 IAmb IAmb 01 49 07.4
comp=Z,77nm,1.1s
TUL3 Leonard 67.68 59 P **P 01 48 39.2 -0.2**
baz=323,SNR=15
TUL3 S **S 01 57 31.7 -1.1**
baz=323
RNPP9 Sopachiv 67.71 332 P **P 01 48 38.9 -0.4**
MNHN Monahans 67.72 67 IAmb IAmb 01 48 40.8
comp=Z,36nm,0.8s
SADO Sadowa 67.82 42 IAMs_20 IAMs_20 02 20 52.3
comp=Z,1µm,19.0s
SADO Sadowa 67.82 42 LR LR 02 21 04.5
comp=Z,1µm,18.1s,baz=348,slow=38
MTKI Muara Teweh, K 67.84 232 P **P 01 48 41.3 +0.7**
comp=Z,273nm,0.7s
RLO Rose Lookout 67.86 58 IAmb IAmb 01 48 40.6
comp=Z,32nm,0.9s
KSM Kuching 67.88 238 P **P 01 48 42.7 +1.9**
LDAQ Lac Daran 67.94 36 P **P 01 48 39.7 -1.2**
LDAQ IAmb IAmb 01 48 41.6
comp=Z,67nm,0.9s
LDAQ IAMs_20 IAMs_20 02 21 00.8
comp=Z,2µm,20.0s
ALPN Alpine 68.02 68 IAmb IAmb 01 48 43.5
comp=Z,137nm,1.8s
L48A N Adams 68.03 48 IAMs_20 IAMs_20 02 21 07.1
comp=Z,2µm,18.0s
ERBR Yeremizino-Bor 68.03 320 *e*P **P 01 48 41.0 -0.4**
ERBR *e*S **S 01 57 36.7 0.0**
ERBR pmax pmax
comp=Z,218nm,1.9s
ERBR MLR MLR
comp=E,4µm,14.0s
ERBR MLR MLR
comp=Z,4µm,17.0s
ERBR MLR MLR
comp=N,5µm,16.0s
WTFS Witchita Falls 68.04 62 IAmb IAmb 01 48 42.2
comp=Z,46nm,0.9s
AAM Ann Arbor 68.06 47 IAMs_20 IAMs_20 02 20 45.9
comp=Z,1µm,18.0s
AAM Ann Arbor 68.06 47 P **P 01 48 41.5 -0.2**
baz=326,SNR=6.0
AAM S **S 01 57 36.7 -0.3**
baz=326
MI29 MI29, Kamyanyy 68.06 330 P **P 01 48 40.6 -0.9**
GROC Groznyy 68.08 315 *e*P **P 01 48 41.2 -0.6**
GROC *e**PP **sP 01 49 01.6 0.0**
GROC *e* 01 49 06.4
GROC *e**SP **PcP 01 49 10.9 +3.3**
GROC *e* 01 51 11.9
GROC *e*S **S 01 57 34.3 -3.1**
GROC *e* 01 57 59.4
GROC pmax pmax
comp=Z,79nm,1.5s
GKP Gorka Klasztor 68.09 338 *e*P **P 01 48 41.9 +0.3**
GKP Gorka Klasztor 68.09 338 *e*P **P 01 48 42.4 +0.8**
K50A Casco 68.09 46 IAMs_20 IAMs_20 02 19 07.8
comp=Z,2µm,21.0s
SGCY Sterling City 68.13 65 IAmb IAmb 01 48 43.7
comp=Z,59nm,1.0s
CCM Cathedral Cave 68.15 55 IAMs_20 IAMs_20 02 18 56.1
comp=Z,2µm,20.0s
CCM Cathedral Cave 68.15 55 P **P 01 48 41.6 -0.7**
CCM PcP **PcP 01 49 06.8 -1.2**
SFIN Lafayette 68.16 50 IAmb IAmb 01 48 42.8
comp=Z,102nm,1.5s
SFIN Lafayette 68.16 50 P **P 01 48 41.7 -0.6**
baz=325,SNR=9.5
INVG Invergeldie, C 68.19 352⇑ *e*P **P 01 48 41.8 -0.4**
INVG IAmb IAmb 01 48 42.4
comp=Z,19nm,0.8s
HHAR Hobbs 68.29 58 P **P 01 48 41.6 -1.6**
HHAR IAmb IAmb 01 48 43.7
comp=Z,117nm,1.3s
HHAR IAMs_20 IAMs_20 02 17 47.0
comp=Z,2µm,21.0s
TRQ Mont Tremblant 68.30 39 IAmb IAmb 01 48 43.4
comp=Z,91nm,1.1s
TRQ IAMs_20 IAMs_20 02 21 50.7
comp=Z,2µm,18.0s
ABTX Abilene, Hawle 68.34 64 IAmb IAmb 01 48 45.0
comp=Z,114nm,1.4s
ABTX Abilene, Hawle 68.34 64 P **P 01 48 43.9 +0.2**
baz=323,SNR=21
ABTX S **S 01 57 41.2 +0.4**
baz=323
N47A Urbana 68.36 49 IAmb IAmb 01 48 43.8
comp=Z,101nm,1.3s
MGMO Mountain Grove 68.39 56 IAmb IAmb 01 48 43.7
comp=Z,47nm,0.9s
LAWE Loch Awe, Argy 68.47 352⇑ *e*P **P 01 48 43.9 -0.1**
LOOK Love County 68.51 61 IAmb IAmb 01 48 45.4
comp=Z,64nm,1.2s
LUBAR Lubar, Ukraine 68.53 330 P **P 01 48 43.0 -1.5**
STKI Sintang 68.55 236 P **P 01 48 46.9 +1.9**
comp=Z,283nm,1.0s,comp=Z,2µm
ESY Stoneypath 68.58 351⇑ *e*P **P 01 48 44.0 -0.6**
LMQ La Malbaie 68.60 35 IAMs_20 IAMs_20 02 21 31.4
comp=Z,2µm,20.0s
BEL Belsk 68.62 335 *e*P **P 01 48 45.8 +0.9**
DELO Delorz Mine 68.62 42 IAMs_20 IAMs_20 02 21 13.3
comp=Z,2µm,18.0s
KVAR Kislovodsk Arr 68.68 317 S **S 01 57 45.4 +0.6**
comp=Z,0.8nm,0.6s,baz=329,slow=16,SNR=1.3
KVAR LR LR 02 22 20.6
comp=Z,4µm,20.9s,baz=258,slow=39
KIV Kislovodsk 68.69 317 ⇑P **P 01 48 46.5 +0.8**
KIV Kislovodsk 68.69 317 P **P 01 48 44.7 -1.0**
KIV IAmb IAmb 01 49 31.8
comp=Z,45nm,0.9s
KIV Kislovodsk 68.69 317 *i* P **P 01 48 45.9 +0.2**
SNR=17
KIV Kislovodsk 68.69 317 P **P 01 48 46.3 +0.6**
KIV Kislovodsk 68.69 317 *c* iP **P 01 48 45.1 -0.6**
KIV *e**SP **sP 01 49 06.4 +0.9**
KIV *e* 01 49 09.4
KIV *e* 01 51 16.8
KIV *e*PPP PPP 01 52 56.6
KIV *e*S **S 01 57 43.5 -1.3**
KIV *e*SS **SS 02 02 09.7 +0.7**
KIV pmax pmax
comp=Z,84nm,1.6s
KIV MLR MLR
comp=Z,4µm,20.0s
PBA Port Blair 68.69 260 P **P 01 48 46.2 +0.3**
PBA Port Blair 68.69 260 P **P 01 48 45.5 -0.4**
SNR=5.7
NCK Nalchik 68.72 317 *c* iP **P 01 48 45.6 -0.2**
NCK pmax pmax
comp=Z,35nm,0.8s
NCK MLR MLR
comp=Z,6µm,20.0s
P46A Rosedale 68.73 51 IAmb IAmb 01 48 46.5
comp=Z,94nm,0.8s
KBZ Khabaz 68.80 317 P **P 01 48 46.3 +0.1**
comp=Z,26nm,0.8s,baz=47,slow=6.2,SNR=49
KBZ PKPPKP **P'P'df 02 16 59.3 -4.4**
comp=Z,0.5nm,0.4s,baz=316,slow=1.9,SNR=3.6
KBZ LR LR 02 22 31.6
comp=Z,6µm,21.0s,baz=18,slow=39
comp=Z,26nm,0.8s
KBZ Khabaz 68.80 317 *c* iP **P 01 48 46.0 -0.2**
KBZ pmax pmax
comp=Z,72nm,1.0s
KBZ MLR MLR
comp=Z,6µm,21.0s
TX31 Lajitas Ar. Si 68.82 69 IAmb IAmb 01 48 48.7
comp=Z,117nm,1.4s
TXAR Lajitas Array 68.82 69 P **P 01 48 46.6 -0.1**
TXAR Lajitas Array 68.82 69 P **P 01 48 47.1 +0.4**
comp=Z,29nm,0.7s,baz=299,slow=4.5,SNR=308
TXAR LR LR 02 16 31.2
comp=Z,458nm,22.0s,baz=340,slow=34
TXAR PKP2bc **P'P'df 02 16 57.2 -5.4**
comp=Z,1.1nm,0.9s,baz=132,slow=5.2,SNR=7.5
comp=Z,29nm,0.7s
TXAR Lajitas Array 68.82 69 P **P 01 48 46.6 -0.1**
FW03 Perrin-Whitt E 68.82 63 IAmb IAmb 01 48 47.6
comp=Z,147nm,1.6s
FW03 IAMs_20 IAMs_20 02 21 57.5
comp=Z,1µm,20.0s
PGBU Glenifferbraes 68.84 352⇑ *e*P **P 01 48 46.0 -0.3**
PGBU IAmb IAmb 01 48 47.4
comp=Z,228nm,1.1s
LABN Labinsk 68.86 319 *e*P **P 01 48 45.3 -1.3**
LABN *e**PP **pP 01 49 00.7 -0.1**
LABN *e*S **S 01 57 45.1 -1.4**
LABN pmax pmax
comp=Z,97nm,1.4s
LABN MLR MLR
comp=Z,2µm,15.0s
LABN MLR MLR
comp=E,3µm,14.0s
LABN MLR MLR
comp=N,2µm,11.0s
PLPT Palo Pinto 68.87 63 IAmb IAmb 01 48 48.0
comp=Z,188nm,1.9s
OZNA Ozona 68.91 66 IAmb IAmb 01 48 48.7
comp=Z,68nm,1.5s
X37A Clayton 68.94 60 IAmb IAmb 01 48 48.6
comp=Z,124nm,1.9s
N49A Columbus Grove 68.97 48 IAmb IAmb 01 48 48.1
comp=Z,119nm,1.2s
N49A IAMs_20 IAMs_20 02 21 06.3
comp=Z,2µm,19.0s
Z35A Perchaven, San 69.00 62 IAmb IAmb 01 48 48.3
comp=Z,55nm,1.2s
Z35A IAMs_20 IAMs_20 02 22 01.3
comp=Z,1µm,20.0s
ZKTA Zakatala 69.05 314 P **P 01 48 45.8 -2.1**
OLIL Olney 69.05 52 IAmb IAmb 01 48 48.8
comp=Z,96nm,1.2s
M50A Frmont 69.06 47 IAmb IAmb 01 48 47.9
comp=Z,58nm,1.1s
M50A IAMs_20 IAMs_20 02 22 08.4
comp=Z,1µm,18.0s
WBO Williamsburg 69.08 40 P **P 01 48 46.0 -1.9**
WBO IAMs_20 IAMs_20 02 24 40.4
comp=Z,2µm,18.0s
O48B Farmland 69.11 49 IAmb IAmb 01 48 48.4
comp=Z,117nm,1.1s
O48B Farmland 69.11 49 P **P 01 48 47.1 -1.1**
baz=326,SNR=23
O48B S **S 01 57 47.2 -2.4**
baz=326
FW06 Azle 69.13 62 IAMs_20 IAMs_20 02 22 20.8
comp=Z,2µm,20.0s
SAND Sanderson 69.15 67 IAmb IAmb 01 48 50.5
comp=Z,76nm,1.3s
SEKA Sheki 69.16 313 P **P 01 48 46.3 -2.3**
EKA Eskdalemuir Ar 69.20 351 P **P 01 48 48.0 -0.5**
comp=Z,36nm,0.8s,baz=16,slow=5.5,SNR=70
comp=Z,36nm,0.8s
ESK Eskdalemuir 69.22 351 P **P 01 48 47.4 -1.3**
ESK IAmb IAmb 01 48 50.0
comp=Z,146nm,1.4s
ESK Eskdalemuir 69.22 351 P **P 01 48 47.4 -1.3**
ESK pmax pmax
comp=Z,146nm,1.4s
FW07 Weatherford 69.23 63 IAmb IAmb 01 48 50.4
comp=Z,63nm,1.4s
MNTQ Montreal, Queb 69.25 38 IAmb IAmb 01 48 49.2
comp=Z,56nm,1.0s
MNTQ IAMs_20 IAMs_20 02 22 37.7
comp=Z,2µm,19.0s
LPIG La Paz 69.28 77 LR LR 02 14 04.6
comp=Z,341nm,21.8s,baz=306,slow=31
S44A Carbondale 69.37 53 P **P 01 48 49.1 -0.8**
KAPI Kappang 69.39 226 P **P 01 48 51.4 +1.2**
KAPI Kappang 69.39 226 P **P 01 48 50.2 +0.1**
KAPI Kappang 69.39 226 P **P 01 48 50.2 +0.1**
KAPI pmax pmax
comp=Z,188nm,1.4s
KAPI MLR MLR
comp=Z,400nm,20.0s
BLO Bloomington 69.40 51 IAmb IAmb 01 48 50.5
comp=Z,64nm,1.1s
D62A Allapoint, All 69.43 35 IAmb IAmb 01 48 50.6
comp=Z,65nm,0.8s
MEDO Medina 69.44 43 IAmb IAmb 01 48 50.6
comp=Z,59nm,1.2s
FCAR Ozark Folk Cen 69.48 57 IAmb IAmb 01 48 51.1
comp=Z,81nm,1.1s
FCAR IAMs_20 IAMs_20 02 19 28.4
comp=Z,2µm,21.0s
CGM3 Cape Girardeau 69.50 54 IAmb IAmb 01 48 51.6
comp=Z,76nm,1.4s
NEWG New Galloway 69.51 352⇑ *e*P **P 01 48 50.1 -0.3**
NEWG IAmb IAmb 01 48 50.7
comp=Z,43nm,0.9s
BKSI Bulukumba 69.51 225 P **P 01 48 51.7 +0.8**
comp=Z,121nm,0.8s,comp=Z,2µm
O49A Covington 69.52 49 IAmb IAmb 01 48 51.5
comp=Z,153nm,1.4s
ONI Oni 69.54 316 IAmb IAmb 01 48 54.0
comp=Z,56nm,1.2s
ONI Oni 69.54 316 P **P 01 48 51.2 +0.3**
RUE Ruedersdorf 69.55 340 *e*P **P 01 48 51.6 +0.9**
PBMO Poplar Bluff 69.56 55 IAMs_20 IAMs_20 02 19 28.5
comp=Z,2µm,20.0s
MNGR Mingechevir, A 69.57 313 P **P 01 48 49.1 -2.0**
KULM Kulim 69.58 249 IAMs_20 IAMs_20 02 20 20.7
comp=Z,1µm,22.0s
J55A Hilton 69.60 42 IAmb IAmb 01 48 51.4
comp=Z,118nm,1.4s
HPIG 69.62 72 IAmb IAmb 01 48 54.1
comp=Z,121nm,1.9s
M52A Chesterland 69.64 46 IAmb IAmb 01 48 52.3
comp=Z,65nm,0.8s
LVV L'vov 69.65 332 *e*P **P 01 48 49.8 -1.6**
LVV *e*PPP PPP 01 53 06.5
LVV *e*S **S 01 57 51.3 -4.4**
LVV *e* 01 58 39.9
LVV MLR MLR
comp=N,3µm,16.0s
LVV MLR MLR
comp=E,2µm,16.0s
LVV MLR MLR
comp=Z,3µm,17.0s
LONY Lake Ozonia 69.66 39 P **P 01 48 49.6 -2.0**
LONY IAMs_20 IAMs_20 02 22 51.7
comp=Z,1µm,19.0s
LONY Lake Ozonia 69.66 39 P **P 01 48 50.4 -1.2**
baz=329,SNR=16
E62A Clayton Lake 69.68 35 IAMs_20 IAMs_20 02 20 02.0
comp=Z,2µm,22.0s
CLGH Cloghs, Cushen 69.69 353⇑ *e*P **P 01 48 51.4 -0.2**
CLGH IAmb IAmb 01 48 52.6
comp=Z,181nm,1.4s
ERPA Erie 69.72 44 IAMs_20 IAMs_20 02 20 51.6
comp=Z,2µm,20.0s
ERPA Erie 69.72 44 P **P 01 48 51.6 -0.3**
baz=328,SNR=7.5
ERPA S **S 01 57 52.9 -3.8**
baz=328
BRDY Brady 69.73 64 IAmb IAmb 01 48 53.5
comp=Z,122nm,1.7s
N51A Ashland 69.74 47 IAMs_20 IAMs_20 02 21 56.4
comp=Z,2µm,18.0s
IDGL Inch Island, C 69.80 354⇑ *e*P **P 01 48 52.1 -0.1**
IDGL IAmb IAmb 01 48 53.1
comp=Z,124nm,1.0s
LCAR Lake Charles 69.80 56 IAMs_20 IAMs_20 02 18 30.7
comp=Z,2µm,22.0s
GAL1 Galloway 69.80 352⇑ *e*P **P 01 48 52.1 -0.1**
GAL1 IAmb IAmb 01 48 52.5
comp=Z,70nm,1.0s
FRNY Flat Rock 69.84 39 P **P 01 48 50.7 -2.0**
FRNY IAMs_20 IAMs_20 02 23 02.3
comp=Z,2µm,19.0s
MIAR Mount Ida 69.86 58 IAmb IAmb 01 48 54.3
comp=Z,119nm,1.4s
MIAR Mount Ida 69.86 58 P **P 01 48 53.0 +0.1**
baz=324,SNR=34
MIAR S **S 01 57 57.8 -0.9**
baz=324
USIN University of 69.87 52 IAMs_20 IAMs_20 02 19 29.4
comp=Z,2µm,20.0s
P49A Miami Univ. Ec 69.89 49 P **P 01 48 52.3 -0.8**
baz=326,SNR=34
P49A S **S 01 57 56.9 -2.0**
baz=326
ANN Anapa 69.93 321 *e*P **P 01 48 48.9 -4.3**
ANN *e**PP **pP 01 49 05.9 -1.5**
ANN *e* 01 49 12.6
ANN *e* 01 51 25.9
ANN *e*PPP PPP 01 53 10.7
ANN *e*S **S 01 57 51.9 -7.2**
ANN *e*SS **SS 02 02 26.4 -1.3**
ANN pmax pmax
comp=Z,76nm,1.7s
ANN MLR MLR
comp=Z,2µm,14.0s
ANN MLR MLR
comp=E,1µm,15.0s
ANN MLR MLR
comp=N,2µm,14.0s
KESW Keswick, Cumbr 69.94 351⇑ *e*P **P 01 48 53.2 +0.2**
KESW IAmb IAmb 01 48 54.2
comp=Z,240nm,1.1s
JCT Junction City 69.96 65 IAmb IAmb 01 48 54.9
comp=Z,78nm,0.9s
JCT IAMs_20 IAMs_20 02 17 32.9
comp=Z,2µm,22.0s
JCT Junction City 69.96 65 P **P 01 48 53.7 0.0**
baz=323,SNR=22
JCT S **S 01 57 57.9 -2.0**
baz=323
J56A Wolcott 69.96 42 IAmb IAmb 01 48 53.3
comp=Z,65nm,1.1s
J56A IAMs_20 IAMs_20 02 24 32.9
comp=Z,1µm,20.0s
SORM Soroca 69.96 329 ⇑P **P 01 48 53.1 -0.2**
SORM Soroca 69.96 329 P **P 01 48 53.1 -0.2**
WHTX Lake Whitney, 69.97 63 P **P 01 48 52.7 -1.0**
WHTX IAmb IAmb 01 48 54.9
comp=Z,129nm,1.8s
WHTX IAMs_20 IAMs_20 02 19 35.9
comp=Z,2µm,21.0s
WHTX Lake Whitney, 69.97 63 P **P 01 48 53.3 -0.4**
baz=323,SNR=5.8
WHTX S **S 01 57 58.6 -1.4**
baz=323
PARMO Parma 69.97 54 IAMs_20 IAMs_20 02 20 01.3
comp=Z,2µm,20.0s
GANJ Ganja 70.00 313 P **P 01 48 51.6 -2.2**
M53A WI Miller and 70.01 45 P **P 01 48 53.4 -0.4**
baz=327,SNR=39
WVNY West Valley, N 70.02 43 IAMs_20 IAMs_20 02 23 01.6
comp=Z,2µm,19.0s
ALLY Alegheny Colle 70.05 45 IAmb IAmb 01 48 54.8
comp=Z,126nm,1.1s
IPM Ipoh 70.06 248 P **P 01 48 54.9 +0.5**
IPM Ipoh 70.06 248 IAMs_20 IAMs_20 02 22 18.5
comp=Z,1µm,21.0s
ACSO Alum Creek Sta 70.06 48 IAmb IAmb 01 48 54.9
comp=Z,121nm,1.1s
ACSO Alum Creek Sta 70.06 48 P **P 01 48 53.7 -0.4**
baz=327,SNR=29
ACSO S **S 01 57 58.6 -2.2**
baz=327
TREL Terrell 70.07 61 P **P 01 48 53.0 -1.3**
TREL IAmb IAmb 01 48 54.6
comp=Z,38nm,0.9s
VSLR Vesyoloye 70.12 319 *c* iP **P 01 48 54.0 -0.4**
VSLR pmax pmax
comp=Z,85nm,1.0s
VSLR MLR MLR
comp=Z,3µm,20.0s
SOC Sochi 70.14 319 *c* iP **P 01 48 53.5 -1.0**
SOC *e**SP **PcP 01 49 15.6 -0.6**
SOC *e*PPP PPP 01 53 08.6
SOC *e*S **S 01 58 00.8 -0.8**
SOC *e*SS **SS 02 02 26.2 -4.8**
SOC pmax pmax
comp=Z,48nm,1.1s
SOC MLR MLR
comp=Z,3µm,20.0s
TRLG Trialeti 70.16 315 P **P 01 48 54.1 -0.8**
KWP Kalwaria Pacla 70.17 333 *e*P **P 01 48 55.8 +1.1**
KWP *e*S **S 01 58 03.5 +1.7**
F62A Pittston Farm, 70.17 36 IAmb IAmb 01 48 55.8
comp=Z,116nm,1.4s
F62A IAMs_20 IAMs_20 02 23 38.9
comp=Z,2µm,19.0s
Z38A Mt. Pleasant 70.20 60 IAmb IAmb 01 48 55.5
comp=Z,46nm,1.0s
Z38A IAMs_20 IAMs_20 02 20 55.7
comp=Z,2µm,20.0s
T45A Paducah 70.20 53 IAMs_20 IAMs_20 02 21 22.2
comp=Z,2µm,18.0s
PVMO Portageville 70.20 54 IAMs_20 IAMs_20 02 19 49.3
comp=Z,2µm,20.0s
X40A Basin Creek Fa 70.27 58 IAMs_20 IAMs_20 02 22 39.4
comp=Z,2µm,18.0s
WCI Wyandotte Cave 70.27 51 P **P 01 48 53.8 -1.7**
WCI IAmb IAmb 01 48 56.2
comp=Z,65nm,0.9s
WCI Wyandotte Cave 70.27 51 P **P 01 48 55.3 -0.2**
baz=326
WCI S **S 01 58 01.1 -2.3**
baz=326
WCI Wyandotte Cave 70.27 51 P **P 01 48 53.8 -1.7**
WCI pmax pmax
comp=Z,65nm,1.0s

WCI MLR MLR
comp=Z,3μm,20.0s
WCI Wyandotte Cave 70.27 51 P **P** **01 48 55.0 -0.5**
NCB Newcomb 70.35 40 IAMs_20 IAMs_20 02 21 55.9
comp=Z,1μm,20.0s
OJC Ojcow 70.35 335 *e*P **P** **01 48 56.3 +0.6**
OJC *e*S **S** **01 58 05.2 +1.3**
DRIO Del Rio 70.37 67 IAmb IAmb 01 48 57.2
comp=Z,54nm,1.1s
PEBM Pemiscott Bayo 70.37 55 IAMs_20 IAMs_20 02 19 42.8
comp=Z,2μm,20.0s
HPK Haverah Park 70.42 350 *e*P **P** **01 48 55.7 -0.4**
HPK IAmb IAmb 01 48 57.1
comp=Z,186nm,1.2s
GNAR Gosnell 70.42 55 IAMs_20 IAMs_20 02 19 44.1
comp=Z,2μm,20.0s
HBAR Harrisburg 70.45 56 P **P** **01 48 56.1 -0.4**
N53A Lisbon 70.47 46 IAMs_20 IAMs_20 02 21 12.7
comp=Z,2μm,20.0s
J58A Remsen 70.48 41 IAmb IAmb 01 48 56.7
comp=Z,72nm,1.0s
J58A IAMs_20 IAMs_20 02 23 18.6
comp=Z,2μm,19.0s
WIM Isle of Man 70.51 352 *e*P **P** **01 48 56.4 -0.2**
LKRN Lenkeran, Azer 70.55 310 P **P** **01 48 55.2 -1.9**
LNXT Lenox 70.55 55 IAMs_20 IAMs_20 02 20 28.7
comp=Z,2μm,20.0s
K57A Scipio Center 70.56 42 IAmb IAmb 01 48 57.1
comp=Z,64nm,1.1s
K57A IAMs_20 IAMs_20 02 22 12.6
comp=Z,1μm,19.0s
VT1 Waterbury 70.57 38 IAMs_20 IAMs_20 02 23 45.0
comp=Z,2μm,20.0s
G62A West of Eustis 70.57 37 IAmb IAmb 01 48 58.6
comp=Z,159nm,1.4s
G62A IAMs_20 IAMs_20 02 23 08.6
comp=Z,2μm,20.0s
F63A Nahmakanta, Br 70.63 35 P **P** **01 48 56.3 -1.2**
F63A IAmb IAmb 01 48 58.5
comp=Z,54nm,1.0s
F63A IAMs_20 IAMs_20 02 22 24.0
comp=Z,1μm,20.0s
O52A Adamsville 70.64 47 IAMs_20 IAMs_20 02 23 32.1
comp=Z,2μm,19.0s
P51A Williamsport 70.65 48 IAmb IAmb 01 48 57.4
comp=Z,46nm,0.9s
P51A IAMs_20 IAMs_20 02 22 07.6
comp=Z,2μm,20.0s
COEN Coen 70.67 199 P **P** **01 48 59.1 +1.2**
COEN Coen 70.67 199 P **P** **01 48 58.2 +0.3**
COEN IAmb IAmb 01 49 11.0
comp=Z,110nm,1.1s
COEN IAMs_20 IAMs_20 02 16 05.3
comp=Z,2μm,20.0s
J59A Piesco 70.68 40 IAmb IAmb 01 48 57.9
comp=Z,51nm,1.1s
J59A IAMs_20 IAMs_20 02 22 04.8
comp=Z,1μm,20.0s
F64A Sherman 70.73 35 IAmb IAmb 01 48 58.9
comp=Z,98nm,1.2s
F64A IAMs_20 IAMs_20 02 22 39.8
comp=Z,1μm,20.0s
STHS Stebnicka Huta 70.74 334 *e*P **P** **01 48 58.0 -0.1**
STHS Stebnicka Huta 70.74 334 *e*P **P** **01 48 58.0 -0.1**
STHS pmax pmax
comp=Z,76nm,1.2s
M55A Ridgway 70.75 44 IAmb IAmb 01 48 58.4
comp=Z,87nm,1.0s
M55A IAMs_20 IAMs_20 02 21 55.0
comp=Z,2μm,19.0s
WLAR White Oak Lake 70.78 59 IAmb IAmb 01 48 60.0
comp=Z,98nm,1.2s
HALT Halls 70.78 55 IAMs_20 IAMs_20 02 20 05.6
comp=Z,2μm,20.0s
O53A New Philadelph 70.78 46 IAmb IAmb 01 48 59.1
comp=Z,134nm,1.4s
O53A IAMs_20 IAMs_20 02 22 38.0
comp=Z,1μm,18.0s
O53A New Philadelph 70.78 46 P **P** **01 48 57.9 -0.6**
baz=327,SNR=17
237A Washetta, Mont 70.79 62 IAMs_20 IAMs_20 02 23 22.7
comp=Z,2μm,18.0s
CLL Collm 70.81 340 IAMs_20 IAMs_20 02 22 49.8
comp=Z,2μm,22.0s
CLL Collm 70.81 340⇑ *i*P **P** **01 48 58.4 -0.1**
CLL *i* 01 49 14.5
CLL *e*S **S** **01 58 07.0 -2.2**
CLL pmax pmax
comp=Z,307nm,1.3s
CLL MLR MLR
comp=Z,2μm,18.2s
DRLN Deer Lake 70.82 26 IAmb IAmb 01 48 59.5
comp=Z,140nm,1.6s
DRLN IAMs_20 IAMs_20 02 23 39.4
comp=Z,2μm,20.0s
KIS Kishinev 70.84 328⇑ *i*P **P** **01 48 58.0 -0.7**
comp=Z,160nm,1.7s
KIS eL L 02 15 42.0
KIS LRM MLR 02 23 21.0
comp=Z,1μm,19.5s
KIS Kishinev 70.84 328*c i*P **P** **01 48 58.0 -0.7**
KIS *e* 01 58 48.0
KIS pmax pmax
comp=Z,160nm,1.7s
KIS MLR MLR
comp=Z,1μm,17.0s
OSTC Ostas 70.86 338 *e*P **P** **01 48 59.0 +0.2**
OSTC AMS AMS 02 25 10.0
comp=Z,2μm,17.4s
OSTC Ostas 70.86 338 *e*P **P** **01 48 59.0 +0.2**
OSTC MLR MLR
comp=Z,2μm,17.4s
CHVC Chvalec 70.86 338 *e*P **P** **01 48 59.2 +0.3**
CHVC AMS AMS 02 25 10.0
comp=Z,2μm,17.2s
CHVC Chvalec 70.86 338 *e*P **P** **01 48 59.2 +0.3**
CHVC MLR MLR
comp=Z,2μm,17.2s
435B Jarrell 70.86 64 IAmb IAmb 01 49 00.5
comp=Z,87nm,1.3s
435B IAMs_20 IAMs_20 02 22 08.7
comp=Z,2μm,19.0s
435B Jarrell 70.86 64 P **P** **01 48 59.5 +0.3**
baz=324
Q51A Peebles 70.91 49 IAmb IAmb 01 49 00.1
comp=Z,168nm,1.6s
Q51A IAMs_20 IAMs_20 02 22 05.4
comp=Z,2μm,19.0s
P52A Corning 70.92 47 IAmb IAmb 01 48 59.0
comp=Z,51nm,0.9s
P52A IAMs_20 IAMs_20 02 22 55.6
comp=Z,2μm,18.0s
P52A Corning 70.92 47 P **P** **01 48 58.5 -0.8**
baz=327,SNR=20
P52A S **S** **01 58 08.9 -1.9**
baz=327
MILM Milestii Mici 70.92 328⇓ *i*P **P** **01 48 58.6 -0.5**
MILM Milestii Mici 70.92 328⇑ *i*P **P** **01 48 58.0 -1.2**
comp=Z,410nm,2.4s
MILM Milestii Mici 70.92 328 *e*PcP **PcP** **01 49 18.0 -1.4**
MILM Milestii Mici 70.92 328*c i*P **P** **01 48 58.0 -1.2**
MILM *e* 01 49 18.0
MILM *i* S **S** **01 58 08.0 -2.5**
MILM *e*PS PnS 01 58 28.0 -16
MILM *i* 01 58 58.0
MILM pmax pmax
comp=Z,410nm,2.4s
H62A Milan 70.92 37 IAMs_20 IAMs_20 02 22 01.9
comp=Z,2μm,22.0s
KOLS Kolonicke sedl 70.92 333 *e*P **P** **01 48 59.7 +0.5**
KOLS Kolonicke sedl 70.92 333 *e*P **P** **01 48 59.7 +0.5**
KOLS pmax pmax
comp=Z,48nm,1.1s
PURM Purcari 70.94 327⇓ P **P** **01 48 59.3 0.0**
LBNH Lisbon 70.94 38 IAmb IAmb 01 49 00.6
comp=Z,70nm,1.1s
LBNH IAMs_20 IAMs_20 02 23 40.5
comp=Z,1μm,19.0s
LBNH Lisbon 70.94 38 P **P** **01 48 59.4 -0.1**
baz=331,SNR=19
UPC Upice 70.95 338 *e*P **P** **01 48 59.9 +0.6**
UPC AMS AMS 02 25 00.0
comp=Z,2μm,16.8s
UPC Upice 70.95 338 *e*P **P** **01 48 59.9 +0.6**
UPC MLR MLR
comp=Z,2μm,16.8s
PKME Peaks-Kenny Pk 70.95 36 IAmb IAmb 01 48 59.9
comp=Z,52nm,1.0s
PKME IAMs_20 IAMs_20 02 24 02.6
comp=Z,2μm,19.0s
PKME Peaks-Kenny Pk 70.95 36 P **P** **01 48 59.4 0.0**
baz=332,SNR=11
SIM Simferopol' 70.96 324 *e*P **P** **01 49 00.7 +1.2**
SIM *e*S **S** **01 58 07.7 -3.4**
SIM pmax pmax
comp=Z,33nm,1.3s
SIM smax smax
comp=N,100nm,13.5s
SIM MLR MLR
comp=Z,3μm,16.7s
NIE Niedzica 70.97 335 *e*P **P** **01 49 00.4 +0.9**
LBWR Ladybower, Pea 70.97 350⇑ *e*P **P** **01 48 59.1 -0.4**
LBWR IAmb IAmb 01 49 00.3
comp=Z,162nm,1.1s
DPC Dobruska-Polom 71.03 338 *e*P **P** **01 49 00.4 +0.5**
DPC AMS AMS 02 25 50.0
comp=Z,2μm,15.1s
DPC Dobruska-Polom 71.03 338 *e*P **P** **01 49 00.4 +0.5**
DPC MLR MLR
comp=Z,2μm,15.1s
BRG Berggiesshubel 71.04 339⇑ *i*P **P** **01 48 59.9 +0.1**
BRG Amp 01 49 02.1
comp=Z,134nm,1.2s
BRG pP **pP** **01 49 15.1 +1.0**
BRG Amp 01 49 17.7
comp=Z,49nm,1.1s
BRG sP sP 01 49 30.1 +10
BRG Amp 01 49 31.1
comp=Z,28nm,1.1s
ACCN Adirondack Com 71.06 40 IAmb IAmb 01 49 00.5
comp=Z,52nm,0.9s
ACCN IAMs_20 IAMs_20 02 22 26.8
comp=Z,1μm,21.0s
BATM Batumi 71.07 317 P **P** **01 48 59.8 -0.4**
GNI Garni 71.07 314 P **P** **01 48 59.9 -0.6**
GNI Garni 71.07 314 P **P** **01 49 01.1 +0.6**
GNI Garni 71.07 314 LR LR 02 25 36.3
comp=Z,4μm,19.7s,baz=28,slow=40
GNI Garni 71.07 314 P **P** **01 48 59.9 -0.6**
GNI pmax pmax
comp=Z,133nm,1.1s
GNI MLR MLR
comp=Z,4μm,19.0s
OKC Ostrava-Krasne 71.10 336 *e*P **P** **01 49 01.0 +0.8**
OKC AMS AMS 02 26 00.0
comp=Z,2μm,19.2s
OKC Ostrava-Krasne 71.10 336 *e*P **P** **01 49 01.0 +0.8**
OKC MLR MLR
comp=Z,2μm,19.2s
R50A Paris 71.10 50 IAmb IAmb 01 49 01.5
comp=Z,116nm,1.4s
CRVS Cervenica-Dubn 71.16 334 *e*P **P** **01 49 00.9 +0.2**
CRVS Cervenica-Dubn 71.16 334 *e*P **P** **01 49 00.9 +0.2**
CRVS pmax pmax
comp=Z,185nm,1.6s
KRLC Kraliky 71.18 337 *e*P **P** **01 49 01.3 +0.5**
KRLC *e*S **S** **01 58 15.4 +1.7**
KRLC AMS AMS 02 22 50.0
comp=Z,2μm,20.6s
KRLC Kraliky 71.18 337 *e*P **P** **01 49 01.3 +0.5**
KRLC *e*S **S** **01 58 15.4 +1.7**
KRLC MLR MLR
comp=Z,2μm,20.6s
O54A Avella 71.19 46 IAmb IAmb 01 49 01.9
comp=Z,113nm,1.4s
O54A IAMs_20 IAMs_20 02 21 13.6
comp=Z,2μm,20.0s
BINY Binghamton 71.22 42 IAmb IAmb 01 49 01.4
comp=Z,64nm,1.2s
BINY IAMs_20 IAMs_20 02 22 42.0
comp=Z,2μm,20.0s
BINY Binghamton 71.22 42 P **P** **01 49 00.2 -1.0**
baz=329,SNR=15
BINY S **S** **01 58 10.8 -3.5**
baz=329
WME Myndd Eilian 71.22 351 *e*P **P** **01 49 00.1 -0.8**
BCA Borcka 71.23 317⇓ P **P** **01 49 01.1 -0.1**
PVCC Panska Ves 71.23 339 *e*P **P** **01 49 01.3 +0.2**
PVCC AMS AMS 02 25 10.0
comp=Z,2μm,15.7s
PVCC Panska Ves 71.23 339 *e*P **P** **01 49 01.3 +0.2**
PVCC MLR MLR
comp=Z,2μm,15.7s
WPS Cemaes, Angles 71.23 352 *e*P **P** **01 49 00.1 -0.8**
CCAR Cane Creek 71.25 57 IAMs_20 IAMs_20 02 20 23.2
comp=Z,2μm,21.0s
TPRI Tanjung Pinang 71.25 243 P **P** **01 49 03.3 +1.7**
comp=Z,81nm,0.4s,comp=Z,5μm
Z41A Richland Creek 71.28 59 IAmb IAmb 01 49 03.1
comp=Z,66nm,1.3s
HNH Hanover 71.28 38 IAmb IAmb 01 49 02.5
comp=Z,43nm,0.9s
HNH IAMs_20 IAMs_20 02 23 48.5
comp=Z,2μm,18.0s
MORC Moravsky Berou 71.29 337⇓ P **P** **01 49 01.6 0.0**
MORC Moravsky Berou 71.29 337⇑ *i*P **P** **01 49 01.8 +0.3**
MORC Moravsky Berou 71.29 337 P **P** **01 49 01.5 0.0**
WVT Waverly 71.30 53 IAMs_20 IAMs_20 02 21 31.6
comp=Z,2μm,18.0s
WVT Waverly 71.30 53 P **P** **01 49 01.9 +0.2**
BUR08 Bucovina Ar. S 71.31 331 IAmb IAmb 01 49 03.3
comp=Z,84nm,1.4s
RICC Richard 71.32 339 *e*P **P** **01 49 02.0 +0.4**
RICC AMS AMS 02 25 20.0
comp=Z,2μm,15.6s
BURAR Bucovina Array 71.34 331⇓ P **P** **01 49 01.9 0.0**
BURAR Bucovina Array 71.34 331 P **P** **01 49 00.9 -1.0**
BURAR IAmb IAmb 01 49 04.1
comp=Z,29nm,0.5s
BURAR Bucovina Array 71.34 331 P **P** **01 49 01.9 0.0**
P53A Whipple 71.35 47 IAmb IAmb 01 49 02.7
comp=Z,128nm,1.3s
WACR West Acre 71.38 348 *e*P **P** **01 49 01.6 -0.3**
WACR IAmb IAmb 01 49 04.1
comp=Z,229nm,1.0s
HSKC Hora Svate Kat 71.39 339 *e*P **P** **01 49 02.4 +0.3**
HSKC AMS AMS 02 25 30.0
Q52A Bidwell 71.42 48 IAmb IAmb 01 49 03.0
comp=Z,171nm,1.4s
Q52A IAMs_20 IAMs_20 02 23 01.0
comp=Z,1μm,19.0s
LANS Liptovska Anna 71.42 335 *e*P **P** **01 49 03.5 +1.2**
LANS Liptovska Anna 71.42 335 *e*P **P** **01 49 03.5 +1.2**
LANS pmax pmax
comp=Z,87nm,1.1s
WVL Waterville 71.44 36 IAmb IAmb 01 49 03.7
comp=Z,44nm,0.9s
WVL IAMs_20 IAMs_20 02 23 35.6
comp=Z,2μm,19.0s
I62A Tamworth 71.47 38 IAmb IAmb 01 49 03.9
comp=Z,90nm,1.6s
I62A IAMs_20 IAMs_20 02 24 26.5
comp=Z,1μm,19.0s
VASR Vaslui 71.47 329⇑ P **P** **01 49 03.1 +0.5**
J61A Chester 71.50 39 IAmb IAmb 01 49 03.6
comp=Z,45nm,0.9s
J61A IAMs_20 IAMs_20 02 20 15.3
comp=Z,2μm,22.0s
M57A Sunshine Farm, 71.51 43 IAmb IAmb 01 49 03.3
comp=Z,93nm,1.0s
DSB Dublin 71.54 353 IAmb IAmb 01 49 04.2
comp=Z,86nm,1.2s
IGLA Glengowla, Co 71.56 355 *e*P **P** **01 49 02.4 -0.5**
NATX Nacogdoches 71.57 61 IAmb IAmb 01 49 04.9
comp=Z,125nm,1.4s
NATX IAMs_20 IAMs_20 02 22 23.0
comp=Z,2μm,20.0s
NATX Nacogdoches 71.57 61 P **P** **01 49 03.5 +0.2**
baz=324
NAX Nakhchivan 71.58 313 P **P** **01 49 01.4 -2.0**
G65A Princeton 71.58 35 IAMs_20 IAMs_20 02 24 34.1
comp=Z,2μm,19.0s
I63A Otisfield 71.58 37 IAmb IAmb 01 49 04.9
comp=Z,107nm,1.1s
I63A IAMs_20 IAMs_20 02 23 06.3
comp=Z,2μm,20.0s
L59A Walton 71.58 41 IAmb IAmb 01 49 03.6
comp=Z,77nm,0.9s
L59A IAMs_20 IAMs_20 02 23 32.7
comp=Z,2μm,19.0s
CWF Charnwood Fore 71.59 349 *e*P **P** **01 49 03.0 -0.1**
CWF IAmb IAmb 01 49 04.1
comp=Z,118nm,1.3s
MAUC Maruska 71.61 336 *e*P **P** **01 49 04.0 +0.6**
PRA Prague 71.70 339 *e*P **P** **01 49 03.9 +0.1**
PRA AMS AMS 02 25 30.0
comp=Z,3μm,15.2s
PRA Prague 71.70 339 *e*P **P** **01 49 03.9 +0.1**
PRA MLR MLR
comp=Z,3μm,15.2s
MMRI Maumere 71.70 222 P **P** **01 49 04.9 +0.7**
MMRI Maumere 71.70 222 P **P** **01 49 04.1 -0.1**
comp=Z,327nm,1.2s,comp=Z,5μmcomp=Z,2μm
PRU Pruhonice 71.75 339 *e*P **P** **01 49 03.7 -0.5**
PRU *e*S **S** **01 58 24.9 +4.8**
PRU AMS AMS 02 25 30.0
comp=Z,2μm,15.4s
PRU Pruhonice 71.75 339 *e*P **P** **01 49 03.7 -0.5**
PRU *e*S **S** **01 58 24.9 +4.8**
PRU MLR MLR
comp=Z,2μm,15.4s
BMR Baia Mare 71.76 332⇑ P **P** **01 49 04.2 -0.1**
BMR Baia Mare 71.76 332 P **P** **01 49 04.1 -0.1**
GOPC GO Pecny, Ondr 71.77 338 *e*P **P** **01 49 04.8 +0.5**
GOPC GO Pecny, Ondr 71.77 338 *e*P **P** **01 49 04.8 +0.5**
EF01 Eagle Ford 01 71.78 65 IAMs_20 IAMs_20 02 19 33.0
comp=Z,2μm,21.0s
KECS Kecovo 71.79 334 *e*P **P** **01 49 05.2 +0.7**
KECS Kecovo 71.79 334 *e*P **P** **01 49 05.2 +0.7**
KECS pmax pmax
comp=Z,59nm,1.2s
SSPA Standing Stone 71.81 44 P **P** **01 49 03.2 -1.5**
SSPA IAmb IAmb 01 49 05.3
comp=Z,101nm,1.3s
SSPA Standing Stone 71.81 44 IAMs_20 IAMs_20 02 21 58.9
comp=Z,2μm,20.0s
SSPA Standing Stone 71.81 44 P **P** **01 49 03.9 -0.8**
baz=329
SSPA S **S** **01 58 16.6 -4.5**
baz=329
MCWV Mont Chateau 71.85 46 IAmb IAmb 01 49 06.0
comp=Z,90nm,1.2s
MCWV IAMs_20 IAMs_20 02 22 05.1
comp=Z,2μm,20.0s
MCWV Mont Chateau 71.85 46 P **P** **01 49 04.7 -0.2**
baz=328,SNR=15
KSPA Keystone Colle 71.85 42 IAMs_20 IAMs_20 02 24 23.8
comp=Z,1μm,20.0s
LMN Caledonia Moun 71.87 32 IAmb IAmb 01 49 05.3
comp=Z,53nm,1.1s
LMN IAMs_20 IAMs_20 02 24 30.6
comp=Z,1μm,19.0s
GGN Saint George 71.89 34 IAmb IAmb 01 49 05.4
comp=Z,74nm,0.8s
833A Chaparral WMA, 71.89 67 IAMs_20 IAMs_20 02 22 43.1
comp=Z,2μm,19.0s
833A Chaparral WMA, 71.89 67 P **P** **01 49 05.9 +0.6**
baz=324,SNR=5.8
OXF Oxford 71.89 55 IAMs_20 IAMs_20 02 19 55.1
comp=Z,2μm,21.0s
OXF Oxford 71.89 55 P **P** **01 49 05.4 +0.2**
baz=325,SNR=30
OXF S **S** **01 58 20.0 -2.1**
baz=325
T50A Nancy 71.92 51 IAmb IAmb 01 49 06.5
comp=Z,157nm,1.4s
U49A Red Boiling Sp 71.92 52 IAmb IAmb 01 49 06.6
comp=Z,114nm,1.4s
TESR Tescani 71.93 329⇑ P **P** **01 49 04.8 -0.5**
MLDN Muldoon 71.93 64 IAmb IAmb 01 49 07.0
comp=Z,125nm,1.1s
NKC Novy Kostel 71.94 340 *e*P **P** **01 49 05.7 +0.3**
NKC AMS AMS 02 26 20.0
comp=Z,3μm,16.3s
NKC Novy Kostel 71.94 340 *e*P **P** **01 49 05.7 +0.3**
NKC MLR MLR
comp=Z,3μm,16.3s
VRAC Vranov 71.95 337⇑ P **P** **01 49 05.7 +0.2**
VRAC Vranov 71.95 337⇑ *i*P **P** **01 49 05.9 +0.5**
VRAC Vranov 71.95 337 LR LR 02 25 33.8
comp=Z,3μm,18.6s,baz=22,slow=40
VRAC Vranov 71.95 337 P **P** **01 49 05.6 +0.2**
S51A Beattyville 71.95 49 P **P** **01 49 04.3 -1.3**
S51A IAmb IAmb 01 49 06.5
comp=Z,110nm,1.4s
HLM1 Long Mynd 71.96 350⇑ *e*P **P** **01 49 05.2 -0.3**
HLM1 IAmb IAmb 01 49 06.4
comp=Z,134nm,1.2s
SOEI Soe 71.97 219 P **P** **01 49 06.5 +0.5**
SOEI Soe 71.97 219 P **P** **01 49 05.1 -0.8**
SOEI Soe 71.97 219 P **P** **01 49 06.5 +0.5**
comp=Z,196nm,1.1s,comp=Z,3μm
Q54A Coxs Mills 72.01 47 IAmb IAmb 01 49 06.9
comp=Z,129nm,1.4s
EDFI Ende, Flores 72.01 222 P **P** **01 49 05.8 -0.4**
comp=Z,147nm,1.3s,comp=Z,2μm
CLTN Cedars of Leba 72.02 52 IAmb IAmb 01 49 07.3
comp=Z,189nm,1.5s
KDU Kakadu 72.03 210 P **P** **01 49 07.2 +1.1**
EMMW East Machias 72.05 35 IAmb IAmb 01 49 06.5
comp=Z,62nm,0.8s
EMMW IAMs_20 IAMs_20 02 23 40.6
comp=Z,2μm,19.0s
ARCR ARCALIA 72.06 331⇑ P **P** **01 49 06.9 +0.8**
V48A Smith Brothers 72.09 53 IAmb IAmb 01 49 07.6
comp=Z,174nm,1.4s
N58A Sunbury 72.10 43 IAmb IAmb 01 49 06.7
comp=Z,82nm,1.1s
N58A IAMs_20 IAMs_20 02 22 41.5
comp=Z,1μm,19.0s
VLDR Vladesti 72.10 328⇓ P **P** **01 49 06.6 +0.2**
GHRR 72.11 329⇑ P **P** **01 49 07.3 +0.9**
JAVC Velka Javorina 72.12 336⇑ *i*P **P** **01 49 07.9 +1.4**
VARL Varlezi 72.12 328⇑ P **P** **01 49 06.3 -0.1**
PLAL Pickwick Lake 72.13 54 IAmb IAmb 01 49 07.6
comp=Z,98nm,0.9s
PLAL IAMs_20 IAMs_20 02 21 26.4
comp=Z,2μm,20.0s
HYB Hyderabad 72.18 275⇑ *e*P **P** **01 49 06.4 -0.9**
HYB IVmB_BB 01 49 06.8
comp=Z,910nm,1.0s
HYB IVMs_BB IVMs_BB 02 24 40.0
comp=Z,1μm,14.2s
VYHS Vyhne 72.19 335 *e*P **P** **01 49 07.4 +0.5**
VYHS Vyhne 72.19 335 *e*P **P** **01 49 07.4 +0.5**
VYHS pmax pmax
comp=Z,127nm,1.4s
TREC Trest 72.20 338 *e*P **P** **01 49 07.2 +0.2**
TREC AMS AMS 02 22 40.0
comp=Z,3μm,22.0s
TREC Trest 72.20 338 *e*P **P** **01 49 07.2 +0.2**
TREC MLR MLR
comp=Z,3μm,22.0s
K62A Royalston 72.21 39 IAMs_20 IAMs_20 02 20 36.0
comp=Z,1μm,21.0s
KRUC Moravsky 72.22 337⇑ *i*P **P** **01 49 07.6 +0.6**
L61B Northampton 72.23 39 IAMs_20 IAMs_20 02 23 03.7
comp=Z,74nm,1.9s
L61B Northampton 72.23 39 P **P** **01 49 06.5 -0.7**
baz=331,SNR=5.8
DRS Darwin Rock St 72.25 212 P **P** **01 49 09.0 +1.5**
SCTR Scanteiesti 72.28 328⇓ P **P** **01 49 07.6 +0.2**
735A Kenedy 72.29 65 IAMs_20 IAMs_20 02 20 21.7
comp=Z,1μm,20.0s
ZVC Zvikov 72.34 339 *e*P **P** **01 49 08.2 +0.4**
Y45A Yeager Farm, C 72.36 56 IAMs_20 IAMs_20 02 20 19.5
comp=Z,2μm,21.0s
PANC Panciu 72.36 329⇓ P **P** **01 49 08.8 +1.0**
MESR Meseseni 72.39 332⇑ P **P** **01 49 08.3 +0.2**
143A Socs Landing, 72.41 58 IAmb IAmb 01 49 10.1
comp=Z,86nm,1.1s
143A IAMs_20 IAMs_20 02 19 52.1
comp=Z,2μm,22.0s
DSRI Dabo 72.41 242 P **P** **01 49 10.1 +1.5**
comp=Z,138nm,1.4s,comp=Z,3μmcomp=Z,2μm
SLCR Slobozia Conac 72.43 328⇑ P **P** **01 49 09.2 +0.9**
HKT Hockley 72.43 63 P **P** **01 49 07.9 -0.6**
HKT IAmb IAmb 01 49 10.3
comp=Z,100nm,1.6s
HKT Hockley 72.43 63 IAMs_20 IAMs_20 02 24 43.8
comp=Z,2μm,19.0s
HKT Hockley 72.43 63*c i*P **P** **01 49 09.0 +0.5**
HKT pmax pmax
comp=Z,66nm,1.6s
HKT MLR MLR
comp=Z,2μm,18.0s
IWEX Carrickbyrne, 72.43 353⇑ *e*P **P** **01 49 08.3 +0.1**
TUDR 72.45 328⇑ P **P** **01 49 09.3 +0.9**

PSZ **Piszkesteto** 72.47 334 ⇓P P 01 49 09.3 +0.7
PSZ **Piszkesteto** 72.47 334 IAmb IAmb 01 49 10.9
comp=Z,139nm,1.3s
PSZ **Piszkesteto** 72.47 334 P P 01 49 09.3 +0.7
ODBI **Odobesti** 72.48 329 ⇑P P 01 49 09.7 +1.1
MCH1 **Michaelchurch** 72.49 350⇑ *e*P P 01 49 08.2 -0.3
MCH1 IAmb IAmb 01 49 08.8
comp=Z,60nm,0.9s
VRI **Vrincioaia** 72.49 329 ⇑P P 01 49 08.4 -0.3
VRI **Vrincioaia** 72.49 329 P P 01 49 08.4 -0.3
QUA2 **Belchertown** 72.50 39 IAMs_20 IAMs_20 02 24 29.8
comp=Z,1µm,20.0s
SMOL **Smolenice** 72.50 336 *e*P P 01 49 09.9 +1.2
SMOL pmax pmax
comp=Z,66nm,1.2s
PLOR **Plostina** 72.53 329 ⇑P P 01 49 08.5 -0.5
PLOR **Plostina** 72.53 329 P P 01 49 08.4 -0.5
TURR **Turia** 72.53 330 ⇑P P 01 49 09.6 +0.7
OZUR 72.56 330 ⇑P P 01 49 09.5 +0.4
KSCT **Kent School, K** 72.56 40 IAmb IAmb 01 49 09.2
comp=Z,76nm,0.9s
MTN **Manton Dam** 72.57 212 P P 01 49 10.4 +1.0
BEBN **Eben Emael** 72.58 345 *d*P P 01 49 08.9 -0.2
comp=Z,38nm,1.2s
HRV **Adam Dziewonsk** 72.59 39 P P 01 49 08.5 -0.8
HRV **Adam Dziewonsk** 72.59 39 IAMs_20 IAMs_20 02 24 18.1
comp=Z,1µm,19.0s
HRV **Adam Dziewonsk** 72.59 39 P P 01 49 09.3 0.0
baz=331
HRV **Adam Dziewonsk** 72.59 39 P P 01 49 08.5 -0.8
HRV pmax pmax
comp=Z,47nm,1.0s
HRV MLR MLR
comp=Z,1µm,19.0s
KCSI **Kotacane, Aceh** 72.60 250 P P 01 49 08.0 -1.8
comp=Z,114nm,1.2s
BATI **Baumata** 72.61 220 P P 01 49 10.6 +0.9
comp=Z,179nm,1.2s
CJR **Cluj-Napoca** 72.61 331 ⇓P P 01 49 10.3 +0.8
CJR **Cluj-Napoca** 72.61 331 P P 01 49 10.2 +0.8
STRD **Stroud** 72.62 350 *e*P P 01 49 09.1 -0.3
STRD IAmb IAmb 01 49 10.3
comp=Z,173nm,1.2s
MONM **Monmouth** 72.63 350⇑ *e*P P 01 49 09.3 -0.1
MONM IAmb IAmb 01 49 09.8
comp=Z,102nm,0.9s
Q56A **Snyder Ridge,** 72.64 46 IAMs_20 IAMs_20 02 22 29.1
comp=Z,2µm,20.0s
COVR **Voineasa-Covas** 72.66 329 ⇑P P 01 49 10.1 +0.3
MODS **Modra-Piesok** 72.67 336 *e*P P 01 49 10.8 +1.1
MODS **Modra-Piesok** 72.67 336 *e*P P 01 49 10.8 +1.1
MODS pmax pmax
comp=Z,254nm,1.2s
RPSI **Rantau Prapat** 72.68 249 IAMs_20 IAMs_20 02 24 58.9
comp=Z,1µm,20.0s
CFR **Carcaliu** 72.69 328 ⇓P P 01 49 09.8 -0.1
CFR **Carcaliu** 72.69 328 P P 01 49 09.7 -0.1
GRA1 **Grafenberg Arr** 72.70 341 IAMs_20 IAMs_20 02 23 35.7
comp=Z,2µm,21.0s
GRFO **Grafenberg** 72.70 341 P P 01 49 09.5 -0.4
GRFO IAMs_20 IAMs_20 02 23 35.8
comp=Z,2µm,21.0s
GRFO **Grafenberg** 72.70 341 P P 01 49 09.5 -0.4
GRFO pmax pmax
comp=Z,201nm,1.1s
GRFO MLR MLR
comp=Z,2µm,21.0s
ODNJ **Ogdensburg** 72.70 41 IAMs_20 IAMs_20 02 23 45.3
comp=Z,2µm,19.0s
MEM **Membach** 72.72 344 *d*P P 01 49 09.7 -0.2
comp=Z,117nm,1.1s
BTNL **Ternell** 72.72 344 *d*P P 01 49 10.1 +0.1
comp=Z,80nm,1.1s
MLSI **Meulaboh, Aceh** 72.73 252 P P 01 49 09.3 -1.2
comp=Z,95nm,0.9s
KHC **Kasperske Hory** 72.76 339 *e*P P 01 49 11.0 +0.7
KHC *e*S S 01 58 35.1 +3.2
KHC AMS AMS 02 26 00.0
comp=Z,4µm,15.2s
KHC **Kasperske Hory** 72.76 339 *e*P P 01 49 11.0 +0.7
KHC *e*S S 01 58 35.1 +3.2
KHC MLR MLR
comp=Z,4µm,15.2s
MARR **Marisel-Cluj** 72.78 332 ⇑P P 01 49 10.4 -0.1
WES **Weston** 72.78 38 IAmb IAmb 01 49 09.8
comp=Z,54nm,0.9s
WES IAMs_20 IAMs_20 02 24 32.1
comp=Z,2µm,19.0s
DRGR 72.78 332 ⇓P P 01 49 10.8 +0.3
DRGR 72.78 332 P P 01 49 10.8 +0.3
BISRR **Bisoca** 72.78 329 ⇑P P 01 49 11.7 +1.2
DOPR **Dopca** 72.79 330 ⇓P P 01 49 11.4 +0.9
TRNY **Table Rock, Ra** 72.79 41 IAMs_20 IAMs_20 02 24 18.7
comp=Z,2µm,19.0s
S54A **Dingess, Beckl** 72.80 48 IAmb IAmb 01 49 11.8
comp=Z,122nm,1.5s
S54A IAMs_20 IAMs_20 02 23 53.6
comp=Z,1µm,20.0s
BSTI **Sart Tilman** 72.81 345 *d*P P 01 49 10.6 +0.1
comp=Z,13nm,1.1s
JURR **Jurilovca** 72.83 327 ⇑P P 01 49 11.0 +0.3
SWN1 **Swindon** 72.85 349 *e*P P 01 49 10.4 -0.2
SWN1 IAmb IAmb 01 49 11.9
comp=Z,309nm,1.3s
GRER 72.86 329 ⇑P P 01 49 12.3 +1.5
ZST **Bratislava** 72.88 336 *e*P P 01 49 12.6 +1.7
ZST **Bratislava** 72.88 336 *e*P P 01 49 12.6 +1.7
ZST pmax pmax
comp=Z,375nm,1.3s
TZTN **Tazewell** 72.89 50 IAmb IAmb 01 49 11.8
comp=Z,58nm,0.9s
TZTN **Tazewell** 72.89 50 P P 01 49 11.2 0.0
baz=327,SNR=18
TZTN S S 01 58 32.2 -1.4
baz=327
R55A **Marlinton** 72.90 47 IAmb IAmb 01 49 12.4
comp=Z,138nm,1.3s
R55A IAMs_20 IAMs_20 02 23 44.0
comp=Z,2µm,18.0s
CKRC **Cesky Krumlov** 72.91 338 *e*P P 01 49 10.6 -0.5
CKRC AMS AMS 02 26 40.0
comp=Z,2µm,15.8s
CKRC **Cesky Krumlov** 72.91 338 *e*P P 01 49 10.6 -0.5
CKRC MLR MLR
comp=Z,2µm,15.8s
SRO **Srobarova** 72.95 335 *e*P P 01 49 12.3 +1.0
SRO **Srobarova** 72.95 335 *e*P P 01 49 12.4 +1.1
SRO pmax pmax
comp=Z,136nm,1.4s
BHOU **Houvegnez** 72.96 344 *d*P P 01 49 11.7 +0.2
comp=Z,34nm,0.0s
UCCT **U. Connecticut** 72.97 39 IAMs_20 IAMs_20 02 23 25.2
comp=Z,1µm,20.0s
BCLA **Clavier** 73.01 345 *d*P P 01 49 11.0 -0.7
comp=Z,26nm,1.2s
GEC2 **GERESS Array S** 73.01 339 IAmb IAmb 01 49 13.5
comp=Z,127nm,1.2s
GERES **GERESS Array B** 73.01 339 P P 01 49 11.6 -0.3
GERES **GERESS Array B** 73.01 339 P P 01 49 12.1 +0.2
comp=Z,33nm,0.9s,baz=24,slow=4.5,SNR=132
GERES LR LR 02 26 33.9
comp=Z,2µm,19.3s,baz=20,slow=40
comp=Z,33nm,0.9s
GERES **GERESS Array B** 73.01 339 P P 01 49 11.6 -0.3
NEHR **Nehoiu** 73.02 329 ⇑P P 01 49 12.8 +1.0
PAL **Palisades** 73.03 41 IAmb IAmb 01 49 12.2
comp=Z,58nm,0.9s
PAL IAMs_20 IAMs_20 02 24 35.0
comp=Z,1µm,20.0s
PAL **Palisades** 73.03 41 P P 01 49 11.2 -0.7
baz=330,SNR=9.8
PAL S S 01 58 31.4 -3.5
baz=330
X48A **Hartselle** 73.05 54 IAmb IAmb 01 49 12.9
comp=Z,122nm,1.4s
X48A IAMs_20 IAMs_20 02 22 14.6
comp=Z,2µm,20.0s
MLR **Muntele Rosu** 73.06 329 ⇓P P 01 49 12.7 +0.5
MLR **Muntele Rosu** 73.06 329 IAmb IAmb 01 49 14.9
comp=Z,102nm,1.3s
MLR **Muntele Rosu** 73.06 329 LR LR 02 25 39.4
comp=Z,5µm,18.1s,baz=25,slow=39
MLR **Muntele Rosu** 73.06 329 P P 01 49 12.7 +0.5
BRNJ **Basking Ridge** 73.06 42 IAmb IAmb 01 49 11.9
comp=Z,57nm,1.0s
BGES **Gesves** 73.08 345 *d*P P 01 49 11.6 -0.5
comp=Z,22nm,1.1s
PPBI **Pangkal Pinang** 73.08 240 P P 01 49 13.8 +1.3
comp=Z,185nm,1.2s
VAL **Valentia** 73.08 355 P P 01 49 12.6 +0.6
VAL **Valentia** 73.08 355 P P 01 49 10.2 -1.8
WSPT **Westport, CT** 73.11 40 IAMs_20 IAMs_20 02 22 56.9
comp=Z,1µm,19.0s
YLE **Yale** 73.12 40 IAMs_20 IAMs_20 02 23 37.5
comp=Z,1µm,18.0s
HARR **Harsova** 73.19 328 ⇑P P 01 49 13.2 +0.3
HARR **Harsova** 73.19 328 P P 01 49 13.1 +0.3
CPNY **Central Park** 73.20 41 IAmb IAmb 01 49 13.3
comp=Z,61nm,0.9s
BMRD **Maredsous** 73.20 345 *d*P P 01 49 12.7 -0.1
comp=Z,32nm,1.0s
W50A **Signal Mountai** 73.22 52 IAmb IAmb 01 49 14.1
comp=Z,144nm,1.4s
ISR **Istrita** 73.22 329 ⇓P P 01 49 13.7 +0.6
ISR **Istrita** 73.22 329 P P 01 49 13.7 +0.6
VBMS **Vicksburg** 73.24 58 IAmb IAmb 01 49 15.0
comp=Z,186nm,1.5s
VBMS IAMs_20 IAMs_20 02 21 24.0
comp=Z,2µm,22.0s
VBMS **Vicksburg** 73.24 58 P P 01 49 13.7 +0.4
baz=325
N62A **Caumsett State** 73.26 41 IAMs_20 IAMs_20 02 24 42.1
comp=Z,1µm,19.0s
SDMD **Soldier's Deli** 73.27 44 IAMs_20 IAMs_20 02 23 04.7
comp=Z,1µm,19.0s
RCHB **Ronchefort** 73.28 345 *d*P P 01 49 12.9 -0.3
comp=Z,21nm,1.2s
HBVL **Hebbronville** 73.28 67 IAmb IAmb 01 49 16.6
comp=Z,172nm,1.6s
TLBR **Topalu** 73.29 327 ⇑P P 01 49 13.2 -0.2
WUPA **West Chester U** 73.31 43 IAMs_20 IAMs_20 02 23 38.5
comp=Z,959nm,20.0s
HAL **Halifax** 73.34 32 IAmb IAmb 01 49 14.2
comp=Z,68nm,0.9s
HAL IAMs_20 IAMs_20 02 26 00.4
comp=Z,2µm,18.0s
L64A **Middleborough** 73.34 38 IAmb IAmb 01 49 14.8
comp=Z,98nm,1.2s
L64A IAMs_20 IAMs_20 02 24 50.1
comp=Z,2µm,19.0s
VOIR 73.37 330 ⇑P P 01 49 14.0 0.0
VOIR 73.37 330 P P 01 49 14.0 0.0
M63A **Gales Ferry** 73.38 39 IAmb IAmb 01 49 14.5
comp=Z,127nm,1.4s
M63A IAMs_20 IAMs_20 02 23 47.0
comp=Z,1µm,19.0s
CONA **Conrad Observa** 73.41 337 *i*P P 01 49 15.4 +1.2
comp=Z,34nm,0.9s,SNR=65
DOU **Dourbes** 73.43 345 *d*P P 01 49 13.9 -0.3
comp=Z,25nm,1.1s
DIKM **Dikmen** 73.45 321 ⇓P P 01 49 15.4 +0.9
V52A **Seiverville** 73.45 51 P P 01 49 13.6 -1.0
V52A IAmb IAmb 01 49 15.7
comp=Z,139nm,1.4s
RONA **Rosalia, Austr** 73.53 337 *i*P P 01 49 15.9 +1.1
comp=Z,31nm,1.1s,SNR=75
TKL **Tuckaleechee C** 73.53 51 IAmb IAmb 01 49 16.0
comp=Z,98nm,1.4s
TKL **Tuckaleechee C** 73.53 51 LR LR 02 23 26.3
comp=Z,3µm,19.4s,baz=330,slow=37
GURO **Guroymak-BITLI** 73.53 315 IAmb IAmb 01 49 33.7
comp=Z,68nm,1.3s
ARR **Arges** 73.55 330 ⇑P P 01 49 15.9 +0.8
BKNI **Bangkinang** 73.55 246 IAMs_20 IAMs_20 02 23 55.4
comp=Z,1µm,19.0s
BKNI **Bangkinang** 73.55 246 P P 01 49 13.5 -1.8
Z47A **Carrollton** 73.60 55 IAmb IAmb 01 49 16.3
comp=Z,108nm,0.8s
WLF **Walferdange** 73.61 344 IAmb IAmb 01 49 17.0
comp=Z,83nm,1.3s
WLF **Walferdange** 73.61 344 *d*P P 01 49 15.8 +0.6
comp=Z,24nm,1.2s
WLF **Walferdange** 73.61 344 P P 01 49 15.0 -0.2
FPAL **Fort Paine** 73.63 53 IAmb IAmb 01 49 16.6
comp=Z,167nm,1.3s
PLAI **Plampang** 73.65 226 P P 01 49 15.0 -0.8
PLAI **Plampang** 73.65 226 P P 01 49 14.9 -0.8
comp=Z,185nm,0.8s,comp=Z,2µm
SBSI **Sibolga** 73.66 248 P P 01 49 16.3 +0.4
comp=Z,95nm,1.2s
U54A **Nelsons Funny** 73.66 49 IAmb IAmb 01 49 16.4
comp=Z,68nm,0.8s
BLA **Blacksburg** 73.68 48 IAmb IAmb 01 49 16.9
comp=Z,117nm,1.1s
BLA IAMs_20 IAMs_20 02 23 43.7
comp=Z,983nm,19.0s
BLA **Blacksburg** 73.68 48 P P 01 49 15.6 -0.3
baz=328,SNR=22
BLA S SKiKP 01 58 37.8 -2.8
baz=328
LOT **Lotru** 73.72 331 ⇑P P 01 49 15.4 -0.7
M65A **Busby, Falmout** 73.74 38 P P 01 49 15.6 -0.5
baz=332
BASI **Baing, Sumba** 73.79 223 P P 01 49 15.8 -0.8
comp=Z,636nm,1.4s,comp=Z,9µm
S57A **Dark Hollow, R** 73.83 46 IAmb IAmb 01 49 17.9
comp=Z,158nm,1.2s
S57A IAMs_20 IAMs_20 02 24 59.5
comp=Z,2µm,18.0s
Y49A **Blount Mountai** 73.83 54 IAmb IAmb 01 49 17.0
comp=Z,54nm,0.8s
MOA **Molln** 73.84 338 *i*P P 01 49 17.2 +0.6
comp=Z,26nm,1.3s,SNR=39
P61A **Hammonton** 73.85 42 IAMs_20 IAMs_20 02 25 23.8
comp=Z,1µm,18.0s
MSVF **Nonsavu** 73.87 164 P P 01 49 18.3 +1.2
MSVF **Nonsavu** 73.87 164 P P 01 49 17.9 +0.8
MSVF IAmb IAmb 01 50 22.7
comp=Z,107nm,2.0s
MSVF **Nonsavu** 73.87 164 P P 01 49 17.9 +0.8
MSVF pmax pmax
comp=Z,107nm,2.0s
W52A **Murphy** 73.93 51 IAmb IAmb 01 49 18.5
comp=Z,120nm,1.4s
TWSI **Taliwang, Sumb** 73.94 227 P P 01 49 18.6 +1.1
comp=Z,51nm,1.0s,comp=Z,713nm
V53A **Saluda** 73.94 50 IAmb IAmb 01 49 18.7
comp=Z,114nm,1.4s
X51A **Calhoun** 73.95 52 IAmb IAmb 01 49 18.6
comp=Z,201nm,1.6s
STU **Stuttgart** 73.96 342 IAmb IAmb 01 49 18.8
comp=Z,98nm,1.2s
STU IAMs_20 IAMs_20 02 25 23.0
comp=Z,1µm,20.0s
GZR **Gura Zlata** 74.05 331 ⇓P P 01 49 18.3 +0.3
GZR **Gura Zlata** 74.05 331 P P 01 49 18.2 +0.3
PSN **Preselentsi** 74.08 327 *i*P P 01 49 17.8 -0.2
CBN **Corbin Frederi** 74.09 45 IAmb IAmb 01 49 19.3
comp=Z,123nm,1.2s
CBN **Corbin Frederi** 74.09 45 P P 01 49 17.6 -0.6
baz=329,SNR=6.1
R58B **Mineral** 74.09 45 IAmb IAmb 01 49 19.4
comp=Z,126nm,1.4s
BIOA **Bad Ischl, Aus** 74.12 338 *i*P P 01 49 18.8 +0.5
comp=Z,7.8nm,0.6s,SNR=33
DYA **Yadsworthy** 74.12 351⇑ *e*P P 01 49 17.4 -0.8
DYA IAmb IAmb 01 49 18.9
comp=Z,171nm,1.4s
ARSA **Arzberg** 74.13 337 *i*P P 01 49 19.5 +1.2
comp=Z,33nm,1.2s,SNR=37
BZS **Buzias** 74.16 332 ⇑P P 01 49 18.1 -0.5
BZS **Buzias** 74.16 332 P P 01 49 18.0 -0.5
LRAL **Lakeview Retre** 74.24 55 IAMs_20 IAMs_20 02 22 31.2
comp=Z,2µm,20.0s
LRAL **Lakeview Retre** 74.24 55 P P 01 49 18.2 -0.9
baz=326,SNR=24
LRAL S S 01 58 47.4 -1.5
baz=326
SNSI **Sinabang, Aceh** 74.32 251 P P 01 49 20.3 +0.5
comp=Z,873nm,1.2s,comp=Z,9µm
T57A **Hurt** 74.35 47 IAmb IAmb 01 49 20.0
comp=Z,52nm,0.8s
MORH **Mrgy, Hungar** 74.36 335 ⇑P P 01 49 19.2 -0.5
U56A **King** 74.42 48 IAmb IAmb 01 49 21.4
comp=Z,126nm,1.2s
U56A IAMs_20 IAMs_20 02 23 02.5
comp=Z,1µm,21.0s
BG3 **Lake Jocassee** 74.46 51 IAmb IAmb 01 49 21.7
comp=Z,182nm,1.4s
CCA1 **Carnmenellis** 74.48 352⇑ *e*P P 01 49 19.8 -0.5
CCA1 IAmb IAmb 01 49 20.6
comp=Z,85nm,1.1s
V55A **Taylorsville** 74.49 49 IAmb IAmb 01 49 21.6
comp=Z,106nm,1.4s
COPA **Copaceanca** 74.51 329 ⇓P P 01 49 20.4 -0.2
ARPR **Arapgir-MALATY** 74.53 318 IAmb IAmb 01 49 23.3
comp=Z,102nm,1.2s
ARPR IAMs_20 IAMs_20 02 27 56.0
comp=Z,2µm,19.0s
BFO **Black Forest** 74.54 342 P P 01 49 20.3 -0.4
BFO IAmb IAmb 01 49 22.1
comp=Z,129nm,1.3s
BFO **Black Forest** 74.54 342 P P 01 49 20.3 -0.4
BFO pmax pmax
comp=Z,129nm,1.3s
MTSU **Mount Surprise** 74.54 197 P P 01 49 22.1 +1.2
GSI **Gunungsitoli** 74.56 249 P P 01 49 22.1 +0.9
GSI **Gunungsitoli** 74.56 249 P P 01 49 22.1 +0.9
comp=Z,464nm,1.3s,comp=Z,6µm
HERR **Herculane** 74.62 331 ⇓P P 01 49 21.0 -0.2
ZAIG **Zacatecas** 74.63 72 IAMs_20 IAMs_20 02 26 06.3
comp=Z,2µm,18.0s
NEF **NEVSHA** 74.68 327 *i*P P 01 49 21.5 -0.1
PRD **Provadia** 74.73 327 *i*P P 01 49 21.6 -0.3
KBA **Koelnbreinsper** 74.77 338 *i*P P 01 49 23.3 +1.1
comp=Z,104nm,0.9s,SNR=175
PERS **Pernice** 74.80 337 *i*P P 01 49 22.8 +0.5
ECH **Echery** 74.85 343 IAmb IAmb 01 49 23.9
comp=Z,131nm,1.2s
ECH IAMs_20 IAMs_20 02 25 11.7
comp=Z,2µm,22.0s
VLAD **Vladila** 74.87 330 ⇑P P 01 49 23.6 +1.0
WATA **Walderalm** 74.88 340 *i*P P 01 49 23.8 +0.9
comp=Z,67nm,1.3s,SNR=78
RETA **Reute** 74.90 340 *i*P P 01 49 23.3 +0.4
comp=Z,30nm,0.9s,SNR=58
Y52A **Lilburn** 74.90 52 IAmb IAmb 01 49 24.2
comp=Z,67nm,1.1s
PDSI **Padang** 74.90 246 P P 01 49 22.8 -0.4
comp=Z,63nm,1.4s,comp=Z,6µm
MDVR **Moldovita** 74.90 332 ⇑P P 01 49 22.9 -0.1
WTTA **Wattenberg** 74.94 340 *i*P P 01 49 24.1 +0.8
comp=Z,56nm,1.0s,SNR=93
MOTA **Moosalm** 74.97 340 *i*P P 01 49 23.8 +0.4
comp=Z,79nm,1.4s,SNR=92
KALN **Kalnik** 74.97 336 *i*P P 01 49 23.3 +0.1
PUNG **Punghina** 75.03 331 ⇑P P 01 49 23.7 +0.2
KMSC **Kings Mountain** 75.04 49 IAmb IAmb 01 49 24.6
comp=Z,154nm,1.4s
KMSC **Kings Mountain** 75.04 49 P P 01 49 23.1 -0.7
baz=328,SNR=35
KMSC S S 01 58 56.0 -1.7
baz=328
LOBO **Lobor** 75.04 336 *i*P P 01 49 23.8 +0.2
OBKA **Obir** 75.05 337 *i*P P 01 49 24.4 +0.7
comp=Z,75nm,1.0s,SNR=69
OBKA **Obir** 75.05 337⇑ *i*P P 01 49 24.5 +0.7
FRGS **Fruska Gora** 75.06 333 ⇓P P 01 49 24.2 +0.5
FRGS **Fruska Gora** 75.06 333⇑ *i*P P 01 49 23.7 0.0
SQTA **Sankt Quirin** 75.07 340 *i*P P 01 49 24.6 +0.7
comp=Z,116nm,1.5s,SNR=79
SZH **Strazhitsa** 75.08 328 *i*P P 01 49 23.3 -0.6
T59A **Double "B" Far** 75.08 46 IAmb IAmb 01 49 25.2
comp=Z,89nm,1.1s
T59A IAMs_20 IAMs_20 02 23 25.5
comp=Z,2µm,20.0s
PAULI **Pauline** 75.10 50 P P 01 49 23.1 -1.0
PAULI IAmb IAmb 01 49 24.9
comp=Z,87nm,1.4s
JLP **Les Platons** 75.12 349 *e*P P 01 49 23.5 -0.5
MYKA **Terra Mystica** 75.13 338 *i*P P 01 49 24.8 +0.6
comp=Z,19nm,0.7s,SNR=32
JQE **Queens East** 75.16 349 *e*P P 01 49 23.5 -0.7
JSA **Saint Aubin** 75.18 349 *e*P P 01 49 23.4 -1.0
JSA IAmb IAmb 01 49 25.1
comp=Z,173nm,1.3s
ABTA **Abfaltersbach** 75.25 339 *i*P P 01 49 25.3 +0.4
comp=Z,73nm,1.0s,SNR=86
DAVA **Damuels** 75.26 341 *i*P P 01 49 25.5 +0.4
comp=Z,24nm,1.2s,SNR=32
SMRI **Semarang** 75.27 234 P P 01 49 26.4 +1.1
SMRI **Semarang** 75.27 234 P P 01 49 26.3 +1.0
comp=Z,265nm,1.1s,comp=Z,5µm
PTJ **Puntijarka** 75.29 336 P P 01 49 25.4 +0.2
PBSI **Pulau Batu** 75.33 248 P P 01 49 26.5 +0.9
comp=Z,250nm,1.2s,comp=Z,5µm
FETA **Feichten** 75.35 340 *i*P P 01 49 26.3 +0.7
comp=Z,69nm,1.0s,SNR=112
ZAG **Zagreb** 75.36 336 P P 01 49 25.8 +0.3
MOSL **Moslavina** 75.39 336 *i*P P 01 49 25.4 -0.3
HODGE **Hodges** 75.40 50 IAmb IAmb 01 49 26.9
comp=Z,88nm,1.3s
ELND **Elena** 75.41 328 ⇓P P 01 49 25.4 -0.4
KOUNC **Koumac, New Ca** 75.43 178 IAmb IAmb 01 49 27.2
comp=Z,74nm,1.4s
VALD **Valchedram** 75.43 330 *i*P P 01 49 25.1 -0.8
V58A **Windy Hill, Pi** 75.43 47 IAMs_20 IAMs_20 02 27 20.2
comp=Z,1µm,18.0s
250A **Grady** 75.46 55 IAMs_20 IAMs_20 02 22 29.6
comp=Z,2µm,20.0s
CRES **Cresnjev** 75.49 337⇑ *i*P P 01 49 26.4 +0.2
LJU **Ljubljana** 75.49 337 *i*P P 01 49 26.2 0.0
LJU *e*S S 01 59 03.3 +0.9
PWJI **Pagerwojo** 75.51 232 P P 01 49 25.6 -1.0
comp=Z,357nm,1.2s,comp=Z,3µm
GOGA **Godfrey** 75.55 52 P P 01 49 26.5 -0.2
baz=328,SNR=8.6
GOGA S S 01 59 00.9 -2.6
baz=328
152A **Waverly Hall** 75.60 53 IAmb IAmb 01 49 27.7
comp=Z,177nm,1.7s
W57A **Gilead** 75.61 48 IAmb IAmb 01 49 27.9
comp=Z,159nm,1.4s
W57A IAMs_20 IAMs_20 02 25 29.8
comp=Z,2µm,20.0s
JMB **Yambol** 75.61 328 *i*P P 01 49 26.6 -0.3
MPEP **Malo Peshtene** 75.65 330 *i*P P 01 49 26.8 -0.4
STAL **STALIGIAL** 75.68 339 IAmb IAmb 01 49 28.2
comp=Z,63nm,1.2s
A052A **Srbac** 75.68 335⇑ *i*P P 01 49 26.8 -0.5
OZLJ **Ozalj** 75.69 336 *i*P P 01 49 27.3 0.0
CIMO **Cimolais** 75.69 339 IAmb IAmb 01 49 28.4
comp=Z,58nm,1.4s
TEKS **Tekeris** 75.70 333⇑ *i*P P 01 49 26.9 -0.5
BLKB **Belogradchik** 75.71 331 ⇓P P 01 49 27.0 -0.6
BR131 **Keskin Array S** 75.73 321 IAmb IAmb 01 49 29.4
comp=Z,116nm,1.3s
BR131 **Keskin Array S** 75.73 321 *c i*P P 01 49 27.3 -0.5
BRTR **Keskin Array B** 75.73 321 P P 01 49 27.2 -0.7
BRTR **Keskin Array B** 75.73 321 P P 01 49 27.9 +0.1
comp=Z,55nm,1.1s,baz=41,slow=2.3,SNR=79
comp=Z,55nm,1.1s
BRTR **Keskin Array B** 75.73 321 P P 01 49 28.0 +0.1
DAVOX **Davos/Dischmat** 75.75 341 LR LR 02 25 41.4
comp=Z,2µm,21.9s,baz=12,slow=38
SABO **M.te Sabotino** 75.75 338 IAmb IAmb 01 49 28.0
comp=Z,51nm,1.3s
BRAL **Brewton** 75.76 56 P P 01 49 28.9 +0.9
baz=327,SNR=6.3
BRAL S S 01 59 07.3 +1.5
baz=327
CLF **Chambon-Foret** 75.79 346 IAmb IAmb 01 49 29.8
comp=Z,179nm,1.3s
CLF IAMs_20 IAMs_20 02 29 16.9
comp=Z,2µm,18.0s
CEY **Cerknica** 75.80 337⇑ *i*P P 01 49 27.6 -0.4
FUORN **Ofenpass-Fuorn** 75.83 340 IAmb IAmb 01 49 30.7
comp=Z,164nm,1.4s
FUORN IAMs_20 IAMs_20 02 25 33.5
comp=Z,1µm,20.0s
BIRD **Birdtown, Kers** 75.83 49 IAmb IAmb 01 49 29.3
comp=Z,75nm,1.2s
BOJS **Bojanci** 75.84 337 *i*P P 01 49 28.0 -0.2
BOJS **Bojanci** 75.84 337⇑ *i*P P 01 49 28.3 +0.1
ANTO **Ankara** 75.90 322 ⇓P P 01 49 29.8 +1.0
ANTO **Ankara** 75.90 322 P P 01 49 28.8 +0.1
ANTO IAmb IAmb 01 49 31.4
comp=Z,174nm,1.2s
ANTO **Ankara** 75.90 322 IAMs_20 IAMs_20 02 28 48.9
comp=Z,2µm,20.0s
ANTO **Ankara** 75.90 322 P P 01 49 29.0 +0.2
ANTO **Ankara** 75.90 322 P P 01 49 28.8 +0.1
ANTO pmax pmax
comp=Z,174nm,1.3s
A051A **Mrakovica** 75.92 335⇑ *i*P P 01 49 28.4 -0.3
BR231 **Keskin MP Arra** 75.93 322 IAmb IAmb 01 49 31.6
comp=Z,180nm,1.3s
BOVS **Bovan** 75.97 331 ⇑P P 01 49 28.0 -1.0
SISI **Saibi** 75.97 247 P P 01 49 30.3 +1.0

comp=Z,233nm,1.7s,comp=Z,4µm
UGM Wanagama 75.99 233 P P 01 49 28.6 -0.8
UGM Wanagama 75.99 233 P P 01 49 29.4 0.0
comp=Z,332nm,1.7s
BLY Banja Luka 76.10 335⇑ *i*P P 01 49 29.3 -0.4
CTI Castel Tesino 76.10 339 IAmb IAmb 01 49 30.9
comp=Z,157nm,1.3s
CTAO Charters Tower 76.14 195 P P 01 49 30.6 +0.6
CTAO Charters Tower 76.14 195 P P 01 49 29.9 -0.1
CTAO IAmb IAmb 01 49 32.2
comp=Z,101nm,1.1s
CTAO Charters Tower 76.14 195 P P 01 49 30.0 -0.1
CTAO pmax pmax
comp=Z,101nm,1.1s
RIY Rijeka 76.18 337 P P 01 49 29.7 -0.5
W59A Clinton 76.25 47 IAMs_20 IAMs_20 02 26 43.8
comp=Z,1µm,19.0s
HAPS Han Pijesak,Bl 76.28 334⇑ *i*P P 01 49 30.9 0.0
PGB Panagyurishte 76.30 329 *i*P P 01 49 30.6 -0.3
DIM Dimitrovgrad 76.31 328 *i*P P 01 49 31.1 +0.2
BBLS Lazi&#263i 76.37 333⇑ *i*P P 01 49 31.7 +0.4
LEM Lembang 76.40 236 P P 01 49 31.8 -0.1
comp=Z,108nm,1.2s,comp=Z,2µm
CNNC Cliffs of the 76.42 47 IAmb IAmb 01 49 33.0
comp=Z,162nm,1.2s
CNNC Cliffs of the 76.42 47 P P 01 49 31.7 +0.1
baz=330,SNR=8.1
MGRS Mrkonjic Grad 76.43 335⇑ *i*P P 01 49 32.3 +0.7
PLD Plovdiv 76.47 329 *i*P P 01 49 31.6 -0.2
VTS Vitosha 76.48 330 *i*P P 01 49 31.7 -0.4
352A Blakely 76.50 54 IAmb IAmb 01 49 32.6
comp=Z,56nm,0.9s
A050A Klekovaca 76.50 335⇑ *i*P P 01 49 32.0 -0.1
SSF Saint Saulge 76.55 345 *e*P P 01 49 31.1 -1.1
SSF pmax pmax
comp=Z,109nm,1.6s
LWLI Liwa 76.57 240 P P 01 49 31.3 -1.5
comp=Z,388nm,0.8s,comp=Z,10µm
DBJI Dramaga 76.58 237 P P 01 49 31.9 -0.8
comp=Z,222nm,1.2s
RUDO Rudo 76.61 333 *e*P P 01 49 31.7 -0.9
GAZ Gaziantep 76.64 318 IAmb IAmb 01 49 35.1
comp=Z,81nm,1.0s
UDBI Udbina 76.64 336 *i*P P 01 49 32.5 -0.4
RABC Rab 76.66 337 *i*P P 01 49 32.0 -0.8
PPSI Pulau Pagai 76.71 245 P P 01 49 33.8 +0.4
comp=Z,272nm,0.9s,comp=Z,3µm
SRKY Kupres RS 76.74 335⇑ *i*P P 01 49 33.8 +0.3
KDZ Kurdzhali 76.76 328 *i*P P 01 49 33.2 -0.3
JASK Jask - Hormozg 76.76 296 P P 01 49 33.1 -0.6
SNR=5.8
SJES Sjenica 76.78 333⇑ *i*P P 01 49 33.8 +0.1
KASI Kota Agung 76.79 240 P P 01 49 31.9 -2.0
comp=Z,73nm,1.2s,comp=Z,921nm
Y58A Scranton 76.81 49 IAmb IAmb 01 49 34.9
comp=Z,155nm,1.3s
NVLJ Novalja 76.82 337 *i*P P 01 49 33.0 -0.7
451A Vernon 76.84 55 IAMs_20 IAMs_20 02 23 01.1
comp=Z,2µm,21.0s
PLE Pljevlja 76.87 333⇑ *i*P P 01 49 34.6 +0.4
RZN Rozhen 76.88 329 *i*P P 01 49 34.2 -0.2
BBJI Bungbulang 76.94 236 P P 01 49 34.2 -0.6
KIJV Kijevo 76.98 335 *i*P P 01 49 34.5 -0.2
DZM Mont Dzumac 77.01 176 P P 01 49 37.4 +2.4
DZM Mont Dzumac 77.01 176 IAmb IAmb 01 49 38.7
comp=Z,76nm,1.3s
DZM Mont Dzumac 77.01 176 LR LR 02 19 41.4
comp=Z,2µm,20.0s,baz=10,slow=33
NOUC Port Laguerre 77.03 176 P P 01 49 37.5 +2.5
UPM Unac-Piva 77.11 333⇑ *i*P P 01 49 34.9 -0.8
UPM Unac-Piva 77.11 333⇑ *i*P P 01 49 35.1 -0.6
RDO Rodhopi 77.14 328 P P 01 49 35.2 -0.4
RDO IAmb IAmb 01 49 37.3
comp=Z,165nm,1.3s
TIGA Tifton 77.15 53 P P 01 49 36.0 +0.1
baz=328,SNR=15
IVA Berane 77.17 332⇑ *i*P P 01 49 35.8 0.0
ALN Alexandroupoli 77.21 327 IAmb IAmb 01 49 37.4
comp=Z,116nm,1.3s
KKB Krupnik 77.22 330 *i*P P 01 49 36.2 +0.1
MORI Morici 77.28 336 *i*P P 01 49 35.5 -0.9
KOME Kolasin 77.28 333⇑ *i*P P 01 49 36.1 -0.4
MMB Musomishta 77.31 329 *i*P P 01 49 36.6 0.0
DUGI Dugi Otok 77.31 336 *i*P P 01 49 36.4 -0.2
Y60A Bolivia 77.34 48 IAMs_20 IAMs_20 02 25 11.8
comp=Z,1µm,20.0s
OUENC Ouen Island, N 77.37 175 P P 01 49 38.7 +1.8
OUENC Ouen Island, N 77.37 175 IAmb IAmb 01 49 40.7
comp=Z,77nm,1.5s
PVY Plav 77.41 332⇑ *i*P P 01 49 36.9 -0.4
BRY Bratogost 77.49 333⇑ *i*P P 01 49 36.9 -0.8
BRY Bratogost 77.49 333⇑ *i*P P 01 49 36.9 -0.8
SHME Shamm 77.49 298 *i*P P 01 49 36.4 -1.4
SNR=6.2
SHME Shamm 77.49 298 P P 01 49 36.3 -1.6
SNR=7.4
MFF Saint Martin d 77.50 348 *e*P P 01 49 36.7 -0.8
MFF pmax pmax
comp=Z,71nm,1.1s
NKME Niksic 77.51 333⇑ *i*P P 01 49 37.0 -0.7
MAKA Makarska 77.51 335 *i*P P 01 49 36.7 -0.9
SKO Skopje 77.58 331 *i*P P 01 49 38.1 0.0
TREB Trebinje 77.71 333 *e*P P 01 49 38.3 -0.5
CEME Cevo 77.72 333⇑ *i*P P 01 49 38.3 -0.7
STON Ston 77.73 334 *i*P P 01 49 37.5 -1.3
STON Ston 77.73 334⇑ *i*P P 01 49 37.7 -1.2
PDG Podgorica 77.75 333 ⇓P P 01 49 38.9 -0.1
PDG Podgorica 77.75 333 IAMs_20 IAMs_20 02 27 47.4
comp=Z,2µm,20.0s
PDG Podgorica 77.75 333⇑ *i*P P 01 49 38.4 -0.5
PDG Podgorica 77.75 333⇑ *i*P P 01 49 38.5 -0.5
HVAR Hvar 77.75 335 *i*P P 01 49 38.3 -0.7
QIS Mount Isa 77.80 201 P P 01 49 39.6 +0.2
DBRK Dubrovnik 77.81 334 *i*P P 01 49 38.0 -1.3
553A Crawfordville 77.81 54 IAMs_20 IAMs_20 02 24 52.8
comp=Z,2µm,21.0s
VAY Valandovo 77.86 330 *i*P P 01 49 39.9 +0.3
HCY Herceg Novi 77.93 333⇑ *i*P P 01 49 38.8 -1.2
HCY Herceg Novi 77.93 333⇑ *i*P P 01 49 39.0 -1.0
PUK Puka 77.94 332 IAmb IAmb 01 49 42.6
comp=Z,80nm,1.3s
BUM Brajici-Budva 77.96 333⇑ *i*P P 01 49 39.6 -0.7
DRME Dracevica, Mon 77.99 333⇑ *i*P P 01 49 40.1 -0.3
DRME Dracevica, Mon 77.99 333⇑ *i*P P 01 49 40.2 -0.2
BNI Bardonecchia 78.00 342 IAmb IAmb 01 49 43.1
comp=Z,97nm,1.2s
MDH Madha 78.03 297 *i*P P 01 49 39.3 -1.5
SNR=5.2
MDH Madha 78.03 297 P P 01 49 38.7 -2.1
SNR=5.6
MASF Masafi 78.04 297 P P 01 49 39.4 -1.5
SNR=8.0
MSFE Esma-Masafi 78.05 297 P P 01 49 39.6 -1.4
SSB Saint Sauveur 78.13 344 IAMs_20 IAMs_20 02 28 32.0
comp=Z,1µm,22.0s
SSB Saint Sauveur 78.13 344 IAmb IAmb 01 49 42.9
comp=Z,74nm,1.1s
VLC Villacollemand 78.17 340 S S 01 59 33.0 +1.3
VLC P P 01 49 41.8 +0.4
UMQ Umm Al-Quwin 78.17 298 *i*P P 01 49 40.6 -1.0
SNR=5.6
ULC Ulcinj 78.18 333⇑ *i*P P 01 49 40.7 -0.8
WB0 Warramunga Arr 78.25 206 IAMs_20 IAMs_20 02 21 24.1
comp=Z,1µm,21.0s
MALK Mahakanadarawa 78.28 268 S S 01 59 32.7 -0.9
MALK P P 01 49 40.7 -1.7
WB8 Warramunga Arr 78.30 206 IAMs_20 IAMs_20 02 21 31.3
comp=Z,1µm,21.0s
WB6 Warramunga Arr 78.34 206 IAMs_20 IAMs_20 02 26 27.5
comp=Z,1µm,19.0s
UOSS Minazif 78.37 297 P P 01 49 40.2 -2.5
UOSS IAmb IAmb 01 49 49.8
comp=Z,104nm,1.6s
UOSS Minazif 78.37 297 *i*P P 01 49 40.8 -1.9
SNR=14
UOSS Minazif 78.37 297 P P 01 49 40.8 -1.9
WB4 Warramunga Arr 78.39 206 IAMs_20 IAMs_20 02 20 57.8
comp=Z,2µm,22.0s
WR0 Warramunga Arr 78.40 206 IAmb IAmb 01 49 44.8
comp=Z,72nm,1.0s
WR0 IAMs_20 IAMs_20 02 21 27.0
comp=Z,1µm,22.0s
WR6 Warramunga Arr 78.41 206 IAMs_20 IAMs_20 02 20 42.4
comp=Z,2µm,21.0s
WC1 Warramunga Arr 78.42 206 IAMs_20 IAMs_20 02 21 05.4
comp=Z,1µm,21.0s
WR3 Warramunga Arr 78.43 206 IAMs_20 IAMs_20 02 21 20.7
comp=Z,1µm,18.0s
WR1 Warramunga Arr 78.43 206 IAMs_20 IAMs_20 02 21 29.9
comp=Z,1µm,21.0s
WRA Warramunga Arr 78.43 206 P P 01 49 42.7 -0.2
WRA Warramunga Arr 78.43 206 P P 01 49 43.7 +0.8
comp=Z,82nm,1.0s,baz=18,slow=5.7,SNR=131
WRA PKKPbc **PKKPbc 02 08 39.1 +0.7**
comp=Z,0.6nm,0.7s,baz=212,slow=2.0,SNR=4.8
WRA PKPPKP **P'P'df 02 16 44.6 +5.9**
comp=Z,1.7nm,1.0s,baz=178,slow=1.3,SNR=5.4
WRA LR LR 02 20 31.9
comp=Z,714nm,21.4s,baz=34,slow=33
comp=Z,82nm,1.0s
WRA Warramunga Arr 78.43 206 P P 01 49 42.7 -0.2
WRA pmax pmax
comp=Z,111nm,1.1s
456A Hilliard 78.47 52 IAmb IAmb 01 49 45.0
HATD Hatta, Dubai 78.50 297 *i*P P 01 49 42.1 -1.4
SNR=7.5
HATD Hatta, Dubai 78.50 297 P P 01 49 42.3 -1.2
SNR=16
WSAR Wadi Sarin 78.51 294 LR LR 02 29 06.3
comp=Z,1µm,20.8s,baz=56,slow=39
ISP Isparta 78.52 323 IAMs_20 IAMs_20 02 30 24.9
comp=Z,2µm,20.0s
BIDO Bidbid 78.55 295 P P 01 49 42.9 -0.8
SNR=5.9
OHR Ohrid 78.56 331 *i*P P 01 49 43.5 -0.1
GUMA Gualdo di Mace 78.59 337 IAmb IAmb 01 49 45.8
comp=Z,248nm,1.1s
NAZ Nazwa, Dubai 78.61 297 *i*P P 01 49 42.8 -1.3
SNR=6.9
NAZ Nazwa, Dubai 78.61 297 P P 01 49 44.0 -0.1
SNR=9.6
ASHO Ashiyiah 78.66 297 *i*P P 01 49 42.7 -1.7
SNR=14
ASHO Ashiyiah 78.66 297 P P 01 49 42.8 -1.5
SNR=17
FNA Florina 78.70 331 IAmb IAmb 01 49 45.3
comp=Z,90nm,1.1s
RK1H Rockhampton Ha 78.84 191 P P 01 49 46.7 +1.7
FAQ Al Faqa, Dubai 78.85 297 *i*P P 01 49 43.5 -1.8
SNR=6.2
FAQ Al Faqa, Dubai 78.85 297 P P 01 49 43.7 -1.6
SNR=9.0
WBK Wadi Bani Khal 78.85 293 P P 01 49 44.9 -0.5
SNR=15
CAF Calviac 78.85 346 *e*P P 01 49 44.8 -0.3
CAF pmax pmax
comp=Z,86nm,1.1s
SOHO SOHO 78.87 296 *i*P P 01 49 43.5 -1.9
SNR=12
SOHO SOHO 78.87 296 P P 01 49 43.6 -1.9
HOQ Hoqain 78.92 295 P P 01 49 44.4 -1.4
SNR=7.9
SMDO Samad 78.96 294 P P 01 49 44.9 -1.3
SNR=14
JLN Jalan Bani Buh 78.99 293 P P 01 49 45.6 -0.6
SNR=16
KBD Kabd 79.02 306 P P 01 49 45.6 -0.6
ASUD Al Ashush, Dub 79.08 297 *i*P P 01 49 45.5 -1.1
SNR=6.6
ASUD Al Ashush, Dub 79.08 297 P P 01 49 45.4 -1.2
SNR=6.6
PALK Pallekele 79.10 267 P P 01 49 46.6 -0.3
PALK Pallekele 79.10 267 LR LR 02 31 39.6
comp=Z,749nm,18.5s,baz=138,slow=41
PALK Pallekele 79.10 267 P P 01 49 46.7 -0.2
PALK Pallekele 79.10 267 P P 01 49 46.6 -0.3
PALK pmax pmax
comp=Z,283nm,1.2s
CESX Cesi 79.19 338 IAmb IAmb 01 49 48.5
comp=Z,118nm,1.1s
FITZ Fitzroy Crossi 79.24 215 P P 01 49 49.0 +1.7
AJN Ajban 79.31 298 *i*P P 01 49 46.0 -1.8
SNR=5.3
ALNE Al Ain 79.33 297 *i*P P 01 49 46.7 -1.3
SNR=8.3
ALNE Al Ain 79.33 297 P P 01 49 47.0 -1.0
SNR=22
CASP Castiglione de 79.38 339 IAmb IAmb 01 49 49.2
comp=Z,116nm,1.3s
656A Willston 79.38 53 IAmb IAmb 01 49 50.3
comp=Z,138nm,1.4s
INTR Introdacqua 79.46 336 IAmb IAmb 01 49 51.3
comp=Z,117nm,1.2s
JMDO Jabal Madar 79.50 294 P P 01 49 48.0 -1.0
SNR=28
ARQ Araqi 79.53 296 P P 01 49 47.8 -1.4
SNR=14
BSY Bisya 79.67 295 P P 01 49 48.8 -1.0
SNR=23
CSS Mathiatis 80.06 319 IAMs_20 IAMs_20 02 30 00.3
comp=Z,1µm,21.0s
JRN Qarnain Island 80.07 299 P P 01 49 50.4 -1.6
SNR=5.0
MATE Matera 80.07 334 ⇑P P 01 49 51.7 0.0
PAOL Paolisi 80.24 336 IAmb IAmb 01 49 53.9
comp=Z,125nm,1.4s
SHMA Al-Shehemyia 80.24 301 P P 01 49 50.7 -2.1
SNR=13
SAKB Bahrain 80.35 302 P P 01 49 51.8 -1.6
XMIS Christmas Isla 80.52 236 P P 01 49 54.6 +0.2
MHTO MHTO 80.71 293 P P 01 49 54.6 -0.8
SNR=34
EIDS Eidsvold 80.74 190 P P 01 49 56.7 +1.4
EIDS Eidsvold 80.74 190 P P 01 49 55.4 +0.1
EIDS IAMs_20 IAMs_20 02 20 55.6
comp=Z,1µm,22.0s
GHWR Ruwais 80.87 299 P P 01 49 54.5 -1.8
CUC Castrocucco 80.92 334 IAmb IAmb 01 49 57.0
comp=Z,67nm,1.2s
DWPF Disney Wildern 80.96 53 P P 01 49 57.4 +0.8
baz=329
MMAI Mount Meron Ar 80.99 317 P P 01 49 57.0 +0.1
comp=Z,40nm,0.8s,baz=45,slow=6.0,SNR=145
MMAI LR LR 02 32 18.7
comp=Z,2µm,18.2s,baz=328,slow=40
comp=Z,40nm,0.8s
TRNA Turayna 81.06 301 P P 01 49 55.4 -1.8
SNR=12
EJON La Junquera 81.15 345 P P 01 49 58.3 +0.7
SMRA Abu-Samra 81.24 301 P P 01 49 56.6 -1.6
SNR=18
CEST Esterri de Car 81.25 346 IAmb IAmb 01 50 00.6
comp=Z,91nm,1.1s
CEST IAMs_20 IAMs_20 02 29 46.4
comp=Z,2µm,20.0s
MZR Muzera 81.36 298 *i*P P 01 49 57.5 -1.5
SNR=11
MZR Muzera 81.36 298 P P 01 49 57.6 -1.3
SNR=19
SLWR Sila 81.37 300 P P 01 49 57.5 -1.4
TIP Timpagrande 81.45 333 ⇑P P 01 49 59.6 +0.4
DQM DQM 81.80 293 P P 01 49 59.2 -2.1
SNR=6.5
AS01 Alice Springs 82.09 206 P P 01 50 03.8 +1.3
ASAR Alice Springs 82.11 206 P P 01 50 03.6 +1.0
ASAR Alice Springs 82.11 206 P P 01 50 03.5 +0.9
comp=Z,77nm,0.9s,baz=14,slow=5.1,SNR=355
ASAR PKKPbc **PKKPbc 02 08 30.4 +0.2**
comp=Z,0.8nm,0.6s,baz=186,slow=0.8,SNR=6.1
ASAR PKPPKP **P'P'df 02 16 38.9 +6.8**
comp=Z,1.9nm,1.0s,baz=193,slow=1.2,SNR=5.3
ASAR LR LR 02 23 52.3
comp=Z,559nm,21.5s,baz=14,slow=34
comp=Z,77nm,0.9s
CEL Celeste 82.53 334 IAmb IAmb 01 50 05.6
comp=Z,82nm,1.2s
IDI Anoyia 82.71 326 P P 01 50 03.4 -2.5
IDI Anoyia 82.71 326 LR LR 02 30 30.0
comp=Z,1µm,21.8s,baz=21,slow=38
RAR Rarotonga 82.75 144 LR LR 02 18 55.0
comp=Z,1µm,21.9s,baz=336,slow=30
ECAL Calabor 82.80 352 P P 01 50 06.7 +0.4
QLP Quilpie 82.82 196 P P 01 50 08.0 +1.8
VSL Villasalto 82.85 339 IAmb IAmb 01 50 08.2
comp=Z,134nm,1.2s
VSL IAMs_20 IAMs_20 02 30 12.9
comp=Z,1µm,19.0s
PGAV Gavieira, Arco 82.89 353⇑ *i*P P 01 50 07.1 +0.3
comp=Z,62nm,1.3s
PGAV Gavieira, Arco 82.89 353 *e*SKSac SKSac 02 00 27.6 +3.5
PGAV *e*SS SS 02 05 51.8 +8.3
PGAV Gavieira, Arco 82.89 353 *e*LR LR 02 18 10.8
comp=Z,1µm,20.0s
PBRG Braganca 82.93 352⇑ *e*P P 01 50 07.2 +0.3
comp=Z,51nm,1.5s
PCAB Cabril 83.13 353⇑ *e*P P 01 50 08.3 +0.4
comp=Z,70nm,1.6s
PPT Papeete 83.24 134 LR LR 02 22 49.8
comp=Z,1µm,18.6s,baz=322,slow=32
MAHO Mahon 83.42 343 IAMs_20 IAMs_20 02 30 25.9
comp=Z,1µm,20.0s
MAHO Mahon 83.42 343 P P 01 50 10.8 +1.4
POLO Lamas de Olo 83.45 352⇑ *e*P P 01 50 10.1 +0.5
comp=Z,30nm,2.2s
PVRL Vila Real 83.54 352⇑ *i*P P 01 50 10.7 +0.7
comp=Z,109nm,1.5s
MVO Moncorvo 83.59 352⇑ *i*P P 01 50 10.6 +0.2
comp=Z,128nm,1.5s
MVO Moncorvo 83.59 352 *e*SKSac SKSac 02 00 29.3 +0.7
MVO *e*SS SS 02 05 58.2 +4.4
MVO Moncorvo 83.59 352 *e*LR LR 02 18 23.7
comp=Z,889nm,18.0s
VAE Valguarnera 83.64 335 LR LR 02 32 53.0
comp=Z,3µm,18.5s,baz=18,slow=40
ETOS Mallorca 83.78 344 P P 01 50 12.6 +1.3
BBSR BB Station 84.07 38 P P 01 50 12.4 -0.4
BBSR IAmb IAmb 01 50 13.6
comp=Z,65nm,0.9s
UCM Universidad Co 84.07 349 P P 01 50 13.6 +0.9
PVIS Viseu 84.11 352⇑ *i*P P 01 50 13.3 +0.3
MBWA Marble Bar 84.12 219 P P 01 50 13.8 +0.8
MBWA Marble Bar 84.12 219 P P 01 50 13.0 0.0
EIL Elat 84.13 316 LR LR 02 34 20.7
comp=Z,2µm,18.5s,baz=42,slow=40
TEIG Tepich 84.28 63 LR LR 02 34 03.7
comp=Z,407nm,18.1s,baz=355,slow=40
SHAO Shalim 84.39 293 P P 01 50 13.3 -1.4
SHAO Shalim 84.39 293 P P 01 50 13.3 -1.4
MTE Manteigas 84.40 352⇑ *i*P P 01 50 15.1 +0.6
comp=Z,207nm,1.4s
MTE Manteigas 84.40 352 *e*SKSac S 02 00 39.1 +2.6
MTE *e*SS SS 02 06 09.9 +4.2
MTE Manteigas 84.40 352 *e*LR LR 02 18 49.3
comp=Z,919nm,20.0s
MTE Manteigas 84.40 352 IAMs_20 IAMs_20 02 28 00.5
comp=Z,1µm,21.0s
PSA00 Pilbara Seismi 84.45 219 P P 01 50 15.2 +0.5
PSA00 Pilbara Seismi 84.45 219 P P 01 50 13.8 -0.8
ECHE Chera 84.50 347 P P 01 50 16.4 +1.4
INKA Innaminka 84.56 199 P P 01 50 16.7 +1.7
COI Coimbra 84.65 353⇑ *i*P P 01 50 16.2 +0.6
comp=Z,299nm,1.4s
DOK Doka 84.68 295 P P 01 50 14.6 -1.5
SNR=14
EIBI Ibiza 84.74 345 P P 01 50 17.6 +1.5
SOR Soroa 84.74 57 IAMs_20 IAMs_20 02 31 39.5
comp=Z,1µm,18.0s
ESBB Sonseca Array 84.78 349 IAMs_20 IAMs_20 02 35 34.6
comp=Z,1µm,20.0s
ESDC Sonseca Array 84.78 349 P P 01 50 16.6 +0.2
ESDC IAMs_20 IAMs_20 02 35 19.6
comp=Z,1µm,20.0s
ESDC Sonseca Array 84.78 349 P P 01 50 17.0 +0.6
comp=Z,131nm,1.0s,baz=0.5,slow=4.9,SNR=623
ESDC PKKPbc **PKKPbc 02 08 22.1 -0.3**
comp=Z,0.4nm,0.8s,baz=208,slow=3.7,SNR=5.2
ESDC PKP2bc 02 16 23.3
comp=Z,0.6nm,0.9s,baz=182,slow=0.8,SNR=5.2
comp=Z,131nm,1.0s
PCAS Casmilo, Conde 84.81 353⇑ *i*P P 01 50 16.9 +0.4
comp=Z,306nm,1.5s
RAYN Ar Rayn 84.84 304 P P 01 50 15.6 -1.3
RAYN Ar Rayn 84.84 304 *i*P P 01 50 16.4 -0.6
SNR=147
RAYN Ar Rayn 84.84 304 P P 01 50 16.1 -0.8
RAYN Ar Rayn 84.84 304 P P 01 50 15.6 -1.3
RAYN pmax pmax
comp=Z,357nm,1.4s
WRKA Warakurna 84.93 210 P P 01 50 18.0 +0.9
PCBR Castelo Branco 84.95 352⇑ *i*P P 01 50 17.6 +0.5
comp=Z,218nm,1.4s
PAB San Pablo 84.95 349 P P 01 50 18.2 +0.9
PAB San Pablo 84.95 349 IAMs_20 IAMs_20 02 35 40.1
comp=Z,1µm,20.0s
PAB San Pablo 84.95 349 P P 01 50 18.2 +0.9
PAB pmax pmax
comp=Z,146nm,1.2s
DMTO DMTO 85.00 294 P P 01 50 15.5 -2.2
WDD Wied Dalam 85.17 334 IAMs_20 IAMs_20 02 34 25.0
comp=Z,1µm,19.0s
CAMR Camarioca 85.29 56 IAMs_20 IAMs_20 02 31 18.1
comp=Z,2µm,19.0s
PMRV Marv??o 85.35 352⇑ *i*P P 01 50 19.3 +0.1
comp=Z,142nm,1.7s
PMRV Marv??o 85.35 352 *e*SKSac S 02 00 47.0 +1.2
PMRV *e*SS SS 02 06 24.8 +5.2
PMRV Marv??o 85.35 352 *e*LR LR 02 18 59.2
comp=Z,899nm,20.0s
PSBE So Bento 85.37 353⇑ *i*P P 01 50 19.7 +0.4
comp=Z,221nm,1.6s
WHFO Wadi Hawf 85.44 295 P P 01 50 18.2 -1.8
SNR=25
ETOB Tobarra 85.51 347 P P 01 50 21.4 +1.3
CCIG Comitan 85.55 68 IAmb IAmb 01 50 23.6
comp=Z,69nm,1.4s
RBK Rabkut 85.56 294 P P 01 50 18.3 -2.3
SNR=9.5
OOD Oodnadatta 85.65 203 P P 01 50 21.7 +1.2
ARMA Armidale 85.69 189 P P 01 50 21.9 +1.1
ARMA Armidale 85.69 189 IAmb IAmb 01 50 25.1
comp=Z,70nm,1.2s
PMTG Montargil 85.77 352⇑ *i*P P 01 50 21.2 -0.1
comp=Z,135nm,1.4s
RAO Raoul Island 85.82 162 LR LR 02 23 10.2
comp=Z,1µm,20.5s,baz=346,slow=32
PESTR Estremoz 85.92 352⇑ *i*P P 01 50 22.2 +0.2
comp=Z,162nm,1.4s
PESTR Estremoz 85.92 352 IAMs_20 IAMs_20 02 28 56.9
comp=Z,1µm,20.0s
PESTR Estremoz 85.92 352 P P 01 50 22.3 +0.3
PMAFR Mafra 85.96 353⇑ *i*P P 01 50 22.3 +0.1
comp=Z,316nm,1.3s
PMAFR Mafra 85.96 353 P P 01 50 22.3 +0.1
EBAD Badajoz 85.98 351 P P 01 50 22.4 +0.1
CMAH Djebel Manchou 86.02 340 P P 01 50 22.1 -0.5
PACT Alcochete 86.11 353⇑ *i*P P 01 50 23.2 +0.3
comp=Z,327nm,1.6s
ABTO Aybut 86.16 295 P P 01 50 22.2 -1.4
SNR=27
LIS Lisbon 86.19 353 *e*P P 01 50 23.2 -0.1
LIS IAMs_20 IAMs_20 02 35 04.0
comp=Z,2µm,18.3s
LIS Lisbon 86.19 353 *e*P P 01 50 23.2 -0.1
EMUR La Murta 86.26 347 P P 01 50 23.9 +0.1
EVO Evora 86.29 352⇑ *i*P P 01 50 23.9 +0.1
comp=Z,124nm,1.7s
EVO Evora 86.29 352 P P 01 50 23.9 +0.1
EADA Adamuz 86.33 349 P P 01 50 24.8 +0.7
ABSA Djebel Ababsia 86.35 340 P P 01 50 24.4 +0.1
CKFL Kef-Lekhel 86.38 340 P P 01 50 25.2 +0.7
DFRA Djebel Bou Aff 86.40 341 P P 01 50 23.6 -1.0
CART Cartagena 86.48 347 P P 01 50 24.1 -0.6
KEST Kesra 86.48 338 IAmb IAmb 01 50 27.5
comp=Z,23nm,0.6s
KEST IAMs_20 IAMs_20 02 33 30.1
comp=Z,2µm,21.0s
KEST Kesra 86.48 338 P P 01 50 24.7 -0.2
comp=Z,14nm,0.5s,baz=99,slow=0.7,SNR=71
KEST LR LR 02 33 51.3
comp=Z,2µm,20.8s,baz=330,slow=39
comp=Z,14nm,0.5s
TLOR Lorca, Murcia 86.50 347 P P 01 50 25.4 +0.5
ECAB El Cabril 86.51 350 P P 01 50 25.1 +0.2
PBAR Barrancos 86.56 351 ⇑P P 01 50 25.4 +0.2
comp=Z,143nm,1.6s
PBAR Barrancos 86.56 351 P P 01 50 25.3 +0.2
PNCL Nicolau / Gran 86.75 353⇑ *e*P P 01 50 25.6 -0.5
comp=Z,28nm,1.3s
PNCL Nicolau / Gran 86.75 353 P P 01 50 27.3 +1.3
PBEJ Beja 86.78 352⇑ *i*P P 01 50 26.5 +0.2
comp=Z,77nm,1.6s
EMIN Mina Concepcio 86.94 351 P P 01 50 27.4 +0.4
MESJ Messejana 86.99 352⇑ *e*P P 01 50 27.5 +0.2
comp=Z,57nm,1.8s
MESJ Messejana 86.99 352 P P 01 50 26.7 -0.6
MESJ IAmb IAmb 01 50 29.1

	comp=Z,100nm,1.8s							
MESJ				IAMs_20	IAMs_20	02 34 31.2		
	comp=Z,925nm,21.0s							
MESJ	**Messejana**	**86.99**	**352**	*eP*	**P**	**01 50 27.2**	**-0.1**	
MESJ				*e*SKSac	**SKSac**	**02 00 48.9**	**-1.1**	
MESJ				IAMs_20	IAMs_20	02 37 44.8		
	comp=Z,1μm,21.6s							
MESJ	**Messejana**	**86.99**	**352**	*eP*	**P**	**01 50 27.2**	**-0.1**	
MESJ				*e*		02 00 48.9		
EQTA	**Presa de Quent**	**87.16**	**348**	P	**P**	**01 50 28.4**	**+0.2**	
PCVE	**Castro Verde**	**87.18**	**352**	⇑*iP*	**P**	**01 50 28.5**	**+0.3**	
	comp=Z,79nm,1.5s							
PCVE	**Castro Verde**	**87.18**	**352**	P	**P**	**01 50 28.6**	**+0.3**	
EGRO	**El Granado**	**87.24**	**352**	P	**P**	**01 50 28.7**	**+0.3**	
ENIJ	**Nijar**	**87.24**	**347**	P	**P**	**01 50 27.8**	**-0.7**	
PTEO	**Sao Teotonio**	**87.32**	**353**	⇑*eP*	**P**	**01 50 28.8**	**-0.1**	
EGOR	**Sierra Gorda,**	**87.33**	**349**	P	**P**	**01 50 29.4**	**+0.3**	
PVAQ	**Vaqueiros**	**87.39**	**352**	⇑*iP*	**P**	**01 50 29.5**	**+0.3**	
	comp=Z,65nm,1.3s							
PVAQ	**Vaqueiros**	**87.39**	**352**	*e*SKSac	**SKSac**	**02 00 57.2**	**+4.7**	
PVAQ	**Vaqueiros**	**87.39**	**352**	*e*LR	LR	02 19 57.2		
	comp=Z,923nm,18.0s							
PVAQ	**Vaqueiros**	**87.39**	**352**	IAmb	IAmb	01 50 30.2		
	comp=Z,29nm,0.9s							
PVAQ	**Vaqueiros**	**87.39**	**352**	P	**P**	**01 50 29.6**	**+0.3**	
EBER	**Berja**	**87.40**	**348**	P	**P**	**01 50 28.9**	**-0.6**	
CMSA	**Cobar Meteorol**	**87.47**	**194**	P	**P**	**01 50 30.9**	**+1.6**	
ELGU	**Los Guajares,**	**87.52**	**349**	P	**P**	**01 50 30.0**	**+0.1**	
MORF	**Marmelete**	**87.56**	**353**	⇑*eP*	**P**	**01 50 30.3**	**+0.2**	
MORF	**Marmelete**	**87.56**	**353**	IAmb	IAmb	01 51 07.7		
	comp=Z,53nm,1.3s							
MORF	**Marmelete**	**87.56**	**353**	*eP*	**P**	**01 50 29.9**	**-0.1**	
MORF				IAMs_20	IAMs_20	02 27 13.1		
	comp=Z,1μm,18.2s							
PBDV	**Barranco-do-Ve**	**87.56**	**352**	⇑*iP*	**P**	**01 50 30.7**	**+0.6**	
	comp=Z,65nm,1.5s							
PBDV	**Barranco-do-Ve**	**87.56**	**352**	P	**P**	**01 50 30.6**	**+0.5**	
LCRK	**Leigh Creek**	**87.67**	**200**	P	**P**	**01 50 31.6**	**+1.3**	
EMAL	**Malaga-Limoner**	**87.71**	**349**	P	**P**	**01 50 30.9**	**+0.2**	
PFVI	**Vila Bisbo**	**87.74**	**353**	⇑*eP*	**P**	**01 50 31.1**	**+0.2**	
	comp=Z,81nm,1.3s							
PFVI	**Vila Bisbo**	**87.74**	**353**	IAMs_20	IAMs_20	02 27 03.0		
	comp=Z,1μm,21.0s							
PFVI	**Vila Bisbo**	**87.74**	**353**	P	**P**	**01 50 31.1**	**+0.2**	
ESPR	**Espera**	**87.75**	**350**	P	**P**	**01 50 31.5**	**+0.6**	
AUDCS	**Dubbo College**	**87.79**	**191**	P	**P**	**01 50 32.8**	**+2.0**	
EMIJ	**Mijas**	**87.94**	**349**	P	**P**	**01 50 31.6**	**-0.3**	
MULG	**Mulgathing**	**88.41**	**204**	P	**P**	**01 50 34.3**	**+0.5**	
STKA	**Stephens Creek**	**88.44**	**197**	P	**P**	**01 50 34.8**	**+0.9**	
STKA	**Stephens Creek**	**88.44**	**197**	P	**P**	**01 50 35.0**	**+1.0**	
	comp=Z,30nm,0.9s,baz=348,slow=5.6,SNR=43							
STKA				LR	LR	02 26 13.7		
	comp=Z,1μm,21.6s,baz=14,slow=33							
	comp=Z,30nm,0.9s							
STKA	**Stephens Creek**	**88.44**	**197**	P	**P**	**01 50 35.0**	**+1.0**	
MGCD	**Mangrove Creek**	**88.51**	**189**	P	**P**	**01 50 36.5**	**+2.3**	
CEU	**Ceuta**	**88.66**	**350**	P	**P**	**01 50 34.8**	**-0.5**	
ECEU	**Ceuta**	**88.66**	**350**	P	**P**	**01 50 35.4**	**+0.1**	
WMELI	**Melilla**	**88.97**	**348**	P	**P**	**01 50 36.5**	**-0.2**	
EMLI	**Melilla**	**88.98**	**348**	P	**P**	**01 50 36.5**	**-0.2**	
CHAS	**Isla Isabel II**	**89.03**	**347**	P	**P**	**01 50 37.1**	**+0.1**	
TATN	**Tataouine**	**89.25**	**336**	IAmb	IAmb	01 50 37.3		
	comp=Z,66nm,1.3s							
PVLZ	**Peæn de**	**89.27**	**349**	P	**P**	**01 50 37.9**	**-0.2**	
MEEK	**Meekatharra**	**89.54**	**218**	P	**P**	**01 50 39.2**	**-0.1**	
YNG	**Young**	**89.86**	**191**	P	**P**	**01 50 42.5**	**+1.9**	
WHYH	**Whyalla**	**90.31**	**200**	P	**P**	**01 50 44.0**	**+1.4**	
BBOO	**Buckleboo**	**90.40**	**202**	P	**P**	**01 50 43.7**	**+0.6**	
BBOO	**Buckleboo**	**90.40**	**202**	IAmb	IAmb	01 50 45.1		
	comp=Z,54nm,1.4s							
FORT	**Forrest**	**90.42**	**209**	P	**P**	**01 50 44.2**	**+1.0**	
FORT	**Forrest**	**90.42**	**209**	IAMs_20	IAMs_20	02 28 18.4		
	comp=Z,1μm,22.0s							
HTT	**Hallett**	**90.43**	**199**	P	**P**	**01 50 44.7**	**+1.4**	
IFR	**Ifrane**	**90.99**	**349**	P	**P**	**01 50 46.2**	**-0.3**	
MTDJ	**Mount Denham**	**91.26**	**55**	IAMs_20	IAMs_20	02 33 53.0		
	comp=Z,1μm,21.0s							
AVE	**Averroes**	**91.43**	**351**	IAMs_20	IAMs_20	02 39 37.8		
	comp=Z,782nm,21.0s							
AVE	**Averroes**	**91.43**	**351**	P	**P**	**01 50 48.7**	**+0.5**	
MDT	**Midelt**	**91.63**	**349**	LR	LR	02 35 45.5		
	comp=Z,424nm,19.9s,baz=35,slow=38							
PMOZ	**Porto Moniz, M**	**92.37**	**359**	*e*LR	LR	02 22 23.6		
	comp=Z,492nm,22.0s							
PMAR	**Madeira**	**92.47**	**359**	⇑*eP*	**P**	**01 50 52.6**	**-0.7**	
MORW	**Morawa**	**92.67**	**219**	P	**P**	**01 50 54.1**	**+0.4**	
KMBL	**Kambalda**	**92.80**	**213**	P	**P**	**01 50 54.2**	**-0.1**	
SDDR	**Presa de Saban**	**93.43**	**49**	IAMs_20	IAMs_20	02 41 22.0		
	comp=Z,1μm,18.0s							
TIO	**Tiouine**	**93.77**	**351**	P	**P**	**01 50 59.6**	**+0.3**	
BLDU	**Ballidu**	**93.84**	**218**	P	**P**	**01 50 58.8**	**-0.3**	
URZ	**Urewera**	**93.94**	**168**	LR	LR	02 35 37.5		
	comp=Z,324nm,18.1s,baz=44,slow=37							
JTS	**Las Juntas de**	**94.34**	**65**	IAMs_20	IAMs_20	02 33 28.0		
	comp=Z,805nm,18.0s							
JTS	**Las Juntas de**	**94.34**	**65**	LR	LR	02 36 57.3		
	comp=Z,360nm,19.0s,baz=319,slow=38							
KLBR	**Kellerberrin**	**94.36**	**217**	P	**P**	**01 51 01.5**	**0.0**	
HDC	**Heredia**	**95.02**	**65**	IAMs_20	IAMs_20	02 32 44.9		
	comp=Z,1μm,18.0s							
JACO	**JACO, Garabito**	**95.02**	**65**	IAMs_20	IAMs_20	02 34 40.1		
	comp=Z,1μm,19.0s							
LCR2	**La Lucha 2**	**95.30**	**65**	IAMs_20	IAMs_20	02 34 59.2		
	comp=Z,571nm,18.0s							
NWAO	**Narrogin (SRO)**	**95.76**	**217**	LR	LR	02 34 14.8		
	comp=Z,374nm,21.4s,baz=42,slow=35							
MLPR	**Magueyes Islan**	**96.14**	**46**	IAMs_20	IAMs_20	02 39 18.4		
	comp=Z,706nm,19.0s							
SJG	**San Juan**	**96.38**	**45**	IAMs_20	IAMs_20	02 36 18.0		
	comp=Z,950nm,21.0s							
ATD	**Arta Tunnel**	**96.40**	**301**	IAmb	IAmb	01 51 13.2		
	comp=Z,54nm,1.2s							
ATD	**Arta Tunnel**	**96.40**	**301**	LR	LR	02 40 21.6		
	comp=Z,155nm,19.4s,baz=32,slow=39							
IGPR	**InterUniversit**	**96.53**	**46**	IAMs_20	IAMs_20	02 36 18.6		
	comp=Z,832nm,21.0s							
MACI	**Morro de la Ar**	**96.92**	**359**	IAMs_20	IAMs_20	02 33 26.2		
	comp=Z,698nm,21.0s							
SMRT	**St. Maarten**	**97.66**	**43**	IAMs_20	IAMs_20	02 34 56.5		
	comp=Z,1μm,21.0s							
BCIP	**Isla Barro Col**	**97.92**	**62**	IAMs_20	IAMs_20	02 31 08.7		
	comp=Z,782nm,22.0s							
SABA	**Saba**	**97.99**	**43**	IAMs_20	IAMs_20	02 38 03.1		
	comp=Z,1μm,18.0s							
SEUS	**St. Eustatius**	**98.20**	**43**	IAMs_20	IAMs_20	02 35 37.8		
	comp=Z,1μm,21.0s							
RPZ	**Rata Peaks**	**98.80**	**173**	LR	LR	02 29 47.5		
	comp=Z,2μm,21.7s,baz=322,slow=32							
FURI	**Furi**	**100.71**	**303**	IAMs_20	IAMs_20	02 44 26.3		
	comp=Z,1μm,21.0s							
MPOM	**Morne Pois Mar**	**101.80**	**42**	IAMs_20	IAMs_20	02 41 35.0		
	comp=Z,1μm,20.0s							
SDV	**Santo Domingo**	**102.62**	**54**	IAMs_20	IAMs_20	02 40 56.0		
	comp=Z,980nm,20.0s							
GRGR	**Grenville**	**103.59**	**44**	IAMs_20	IAMs_20	02 41 03.4		
	comp=Z,926nm,21.0s							
ARNL	**Arenillas**	**108.58**	**68**	IAMs_20	IAMs_20	02 41 16.3		
	comp=Z,557nm,22.0s							
TORD	**Torodi Ar. Bea**	**109.96**	**340**	IAMs_20	IAMs_20	02 49 27.5		
	comp=Z,656nm,21.0s							
TORD	**Torodi Ar. Bea**	**109.96**	**340**	Pdiff	**Pdif**		**01 52 15.8**	**+4.1**
	comp=Z,1.1nm,1.0s,baz=358,slow=5.9,SNR=5.3							
TORD				PKiKP	**PKiKP**		**01 56 13.6**	**+0.1**
	comp=Z,2.4nm,0.9s,baz=8.8,slow=2.6,SNR=12							
TORD				PP	PP	01 56 35.6		-10
	comp=Z,3.5nm,1.0s,baz=12,slow=10.0,SNR=6.3							
TORD				PKKPbc	**PKKPbc**		**02 07 14.0**	**+0.5**
	comp=Z,1.1nm,0.9s,baz=192,slow=5.9,SNR=4.1							
DBIC	**Dimbokro**	**117.43**	**345**	IAMs_20	IAMs_20	02 46 42.4		
	comp=Z,619nm,22.0s							
DBIC	**Dimbokro**	**117.43**	**345**	PKP	**PKPdf**	**01 56 27.6**	**-0.2**	
	comp=Z,11nm,0.8s,baz=346,slow=4.5,SNR=7.6							
TIC	**Toumodi**	**117.48**	**345**	⇑*e*PKiKP	**PKPdf**	**01 56 27.8**	**-0.1**	
	comp=Z,26nm,1.1s							
KIC	**Kosan Boka**	**117.72**	**345**	⇑*i*PKiKP	**PKPdf**	**01 56 28.1**	**-0.3**	
	comp=Z,22nm,0.8s							
LIC	**Lamto**	**117.89**	**345**	⇑*e*PKiKP	**PKPdf**	**01 56 28.5**	**-0.2**	
	comp=Z,31nm,1.1s							
ITTB	**Itaituba**	**120.96**	**45**	*eP*	**PKPdf**	**01 56 34.5**	**0.0**	
ETMB	**Extrema**	**121.03**	**59**		**PKPdf**	**01 56 33.4**	**-1.2**	
ETMB	**Extrema**	**121.03**	**59**	*eP*	**PKiKP**	**01 56 35.0**	**+0.2**	
SAML	**Samuel**	**121.75**	**56**	PKPdf	**PKPdf**	**01 56 35.3**	**-0.7**	
SAML	**Samuel**	**121.75**	**56**	PKIKP	**PKPdf**	**01 56 35.3**	**-0.7**	
SAML	**Samuel**	**121.75**	**56**	*eP*	**PKiKP**	**01 56 36.4**	**+0.3**	
TMAB	**Tom-Au,PA,Br**	**121.99**	**36**	*eP*	**PKPdf**	**01 56 36.5**	**-0.1**	
VOI	**Vohitsoka**	**122.06**	**278**	PKP	**PKiKP**	**01 56 38.5**	**+1.8**	
VOI	**Vohitsoka**	**122.06**	**278**	PKPdf	**PKPdf**	**01 56 36.0**	**-0.5**	
NPGB	**Novo Progresso**	**123.54**	**46**	*eP*	**PKPdf**	**01 56 38.8**	**-0.7**	
FOMA	**Nahampoana Res**	**124.35**	**275**	IAMs_20	IAMs_20	02 46 06.5		
	comp=Z,890nm,22.0s							
PRPB	**Parauapebas**	**124.91**	**40**	*eP*	**PKPdf**	**01 56 42.4**	**+0.2**	
LPAZ	**La Paz**	**125.56**	**65**	PKP	**PKPdf**	**01 56 44.2**	**+0.2**	
	comp=Z,4.5nm,1.1s,baz=359,slow=6.8,SNR=10							
LPAZ				PP	**PP**		**01 58 36.0**	**+0.4**
	comp=Z,3.1nm,0.9s,baz=331,slow=2.9,SNR=3.5							
LPAZ	**La Paz**	**125.56**	**65**	*eP*	**PKPdf**	**01 56 43.4**	**-0.6**	
NBCL	**Cascavel-CE**	**126.64**	**26**	*eP*	**PKPdf**	**01 56 45.7**	**+0.2**	
VILB	**Vilhena**	**126.64**	**55**	*eP*	**PKPdf**	**01 56 45.3**	**-0.1**	
PDRB	**Porto dos Gac**	**127.04**	**50**	*eP*	**PKPdf**	**01 56 46.5**	**+0.3**	
CASY	**Casey**	**127.18**	**203**	PKPdf	**PKPdf**	**01 56 45.1**	**+0.4**	
NBPB	**Pedra_Branca-C**	**127.57**	**28**	*eP*	**PKPdf**	**01 56 47.1**	**-0.1**	
TA01	**Diego Aracena**	**128.00**	**70**	IAMs_20	IAMs_20	02 41 07.2		
	comp=Z,631nm,21.0s							
PB08	**IPOC Station P**	**128.21**	**69**	PKPdf	**PKPdf**	**01 56 47.9**	**-0.8**	
SMTB	**Santa Maria do**	**128.21**	**38**	*eP*	**PKPdf**	**01 56 48.3**	**-0.1**	
RCBR	**Riachuelo**	**128.75**	**23**	PKPdf	**PKPdf**	**01 56 49.1**	**-0.4**	
RCBR	**Riachuelo**	**128.75**	**23**	IAMs_20	IAMs_20	02 50 28.8		
	comp=Z,704nm,19.0s							
RCBR	**Riachuelo**	**128.75**	**23**	PKP	**PKiKP**	**01 56 50.0**	**-0.2**	
	comp=Z,27nm,1.0s,baz=63,slow=2.1,SNR=7.3							
RCBR	**Riachuelo**	**128.75**	**23**	PKIKP	**PKPdf**	**01 56 49.1**	**-0.4**	
RCBR				MLR	MLR			
	comp=Z,700nm,19.0s							
RCBR	**Riachuelo**	**128.75**	**23**	*eP*	**PKPdf**	**01 56 49.0**	**-0.4**	
SIV	**San Ignacio**	**128.86**	**58**	PKP	**PKPdf**	**01 56 49.8**	**+0.2**	
	comp=Z,15nm,1.0s,baz=348,slow=1.0,SNR=19							
SIV				PP	**PP**		**01 58 51.9**	**-4.7**
	comp=Z,2.3nm,0.6s,baz=341,slow=8.4,SNR=5.9							
PTLB	**Pontes e Lacer**	**129.31**	**55**	*eP*	**PKPdf**	**01 56 50.5**	**+0.2**	
SNDB	**Serra Nova Dou**	**129.66**	**44**	*eP*	**PKPdf**	**01 56 51.2**	**0.0**	
BBSD	**Serra de San D**	**130.11**	**58**	*eP*	**PKPdf**	**01 56 52.1**	**+0.2**	
LVC	**Limon Verde**	**130.34**	**70**	PKPdf	**PKPdf**	**01 56 52.6**	**0.0**	
LVC	**Limon Verde**	**130.34**	**70**	PKP	**PKPdf**	**01 56 53.3**	**+0.6**	
	comp=Z,2.7nm,0.4s,baz=303,slow=3.8,SNR=6.4							
LVC	**Limon Verde**	**130.34**	**70**	PKIKP	**PKPdf**	**01 56 52.7**	**0.0**	
LVC	**Limon Verde**	**130.34**	**70**	*eP*	**PKPdf**	**01 56 52.4**	**-0.3**	
NBCA	**Caruaru-PE**	**131.04**	**24**	*eP*	**PKPdf**	**01 56 53.6**	**-0.3**	
SALV	**Santo Antonio**	**131.29**	**52**	*eP*	**PKPdf**	**01 56 54.0**	**-0.1**	
BBRB	**Robore, Bolivi**	**131.43**	**58**	*eP*	**PKPdf**	**01 56 54.8**	**+0.4**	
NBAN	**Anadia - AL**	**132.37**	**25**	*eP*	**PKPdf**	**01 56 56.5**	**+0.1**	
VNDA	**Vanda**	**132.41**	**180**	PKP	**PKPdf**	**01 56 54.8**	**+0.4**	
	comp=Z,5.3nm,0.9s,baz=325,slow=4.3,SNR=22							
VNDA				SKPbc	**SKPab**		**02 00 18.8**	**+0.7**
	comp=Z,3.0nm,1.0s,baz=284,slow=4.2,SNR=4.5							
SDBA	**SAO DESIDERIO**	**132.44**	**37**	*eP*	**PKPdf**	**01 56 56.4**	**-0.1**	
SBA	**Scott Base**	**132.78**	**179**		PKPpre	01 56 47.7		
SBA	**Scott Base**	**132.78**	**179**	PKIKP	**PKPdf**	**01 56 47.7**	**-7.4**	
ARAG	**Araguaiana, MT**	**132.81**	**47**	*eP*	**PKPdf**	**01 56 57.0**	**0.0**	
NBLA	**Lagarto - SE**	**133.26**	**27**	*eP*	**PKPdf**	**01 56 57.9**	**-0.1**	
BDFB	**Brasilia**	**134.28**	**42**	PKP	**PKPdf**	**01 57 00.2**	**+0.2**	
	comp=Z,8.4nm,0.9s,baz=244,slow=2.2,SNR=9.2							
RVDE	**Rio Verde (Bra**	**134.37**	**53**	*eP*	**PKPdf**	**01 56 59.9**	**0.0**	
BDQN	**Bodoquena, MS**	**134.76**	**56**	*eP*	**PKPdf**	**01 57 00.7**	**+0.2**	
POGA	**Pongola**	**134.78**	**287**	PKPdf	**PKPdf**	**01 56 59.5**	**-0.9**	
JANB	**Januaria**	**135.11**	**37**	*eP*	**PKPdf**	**01 57 01.2**	**-0.2**	
AQDB	**Aquidauana**	**135.28**	**55**	*eP*	**PKPdf**	**01 57 01.5**	**0.0**	
IPMB	**Ipameri, GO**	**136.33**	**44**	*eP*	**PKPdf**	**01 57 03.7**	**0.0**	
GUA01	**Guaratinga, BA**	**138.01**	**32**	*eP*	**PKPdf**	**01 57 06.5**	**-0.2**	
MT08	**Bocatoma Ro**	**138.12**	**81**	PKPdf	**PKPdf**	**01 57 07.2**	**+0.5**	
PCMB	**Pacaembu**	**138.28**	**50**	*eP*	**PKPdf**	**01 57 07.1**	**0.0**	
BB19B	**Bebedouro**	**138.97**	**46**	*eP*	**PKPdf**	**01 57 09.2**	**+0.8**	
BOSA	**Boshof**	**139.26**	**293**	PKhKP	PKPpre	01 57 03.9		
	comp=Z,5.1nm,0.8s,baz=345,slow=2.2,SNR=5.2							
CPUP	**Villa Florida**	**139.43**	**61**	PKhKP	PKPpre	01 56 60.0		
	comp=Z,1.6nm,0.8s,baz=109,slow=3.6,SNR=3.8							
CPUP				SKPbc	**SKiKP**		**02 00 41.6**	**-1.4**
	comp=Z,2.5nm,1.0s,baz=262,slow=5.4,SNR=2.7							
SJMB	**Sao Joao De Ma**	**139.56**	**35**	*eP*	**PKPdf**	**01 57 09.3**	**-0.1**	
LDASE	**Londrina, Braz**	**139.90**	**51**	*eP*	**PKPdf**	**01 57 09.9**	**-0.1**	
RIB01	**Linhares ES**	**140.38**	**34**	*eP*	**PKPdf**	**01 57 10.8**	**-0.2**	
FRTB	**Fartura**	**140.54**	**49**	*eP*	**PKPdf**	**01 57 11.2**	**0.0**	
PTGB	**Pitanga**	**140.61**	**53**	*eP*	**PKPdf**	**01 57 11.5**	**+0.1**	
SPB	**Sao Paulo**	**141.67**	**47**		PKPpre	01 57 07.1		
CRSM	**Crissiumal (Br**	**142.02**	**58**	*eP*	**PKPdf**	**01 57 14.1**	**+0.4**	
VAS01	**Vassouras-RJ**	**142.06**	**40**	*eP*	**PKPdf**	**01 57 13.8**	**-0.1**	
MAW	**Mawson**	**142.31**	**218**	PKhKP	PKPpre	01 57 08.6		
	comp=Z,11nm,0.9s,baz=136,slow=5.2,SNR=7.0							
ITQB	**Itaqui**	**142.51**	**63**	*eP*	**PKPdf**	**01 57 14.4**	**0.0**	
UNIS	**Unistalda (Bra**	**142.81**	**61**	*eP*	**PKPdf**	**01 57 15.2**	**+0.1**	
PLCA	**Paso Flores**	**142.89**	**89**	PKhKP	PKPpre	01 57 11.8		
	comp=Z,14nm,1.0s,baz=310,slow=5.3,SNR=9.7							
PLCA	**Paso Flores**	**142.89**	**89**	*eP*	**PKPdf**	**01 57 15.5**	**+0.6**	
PSAL	**Palomas, Salto**	**143.13**	**66**	*eP*	**PKPdf**	**01 57 16.2**	**+0.7**	
ALGR	**Alto Alegre (B**	**143.60**	**58**	*eP*	**PKPdf**	**01 57 16.4**	**-0.1**	
TBOT	**Tacuaremb**	**144.48**	**64**	*eP*	PKPbc	01 57 17.3	+0.7	
CPSB	**Cacapava Do Su**	**144.72**	**60**	*eP*	**PKPab**	**01 57 17.4**	**+0.1**	
QSPA	**South Pole Qui**	**144.91**	**180**		PKPbc	01 57 16.3	-0.6	
QSPA	**South Pole Qui**	**144.91**	**180**	PKPbc	PKPbc	01 57 16.8	-0.2	
	comp=Z,182nm,1.0s,baz=342,slow=0.9,SNR=318							
CNLB	**Canela**	**145.08**	**56**	*eP*	**PKPab**	**01 57 19.0**	**+0.3**	
PLTB	**Pedras Altas**	**145.73**	**62**	*eP*	**PKPdf**	**01 57 19.9**	**-0.2**	
TRQA	**Tornquist**	**145.96**	**78**		**PKPdf**	**01 57 20.8**	**+0.5**	
TRQA	**Tornquist**	**145.96**	**78**	PKP2	**PKPdf**	**01 57 20.8**	**+0.5**	
MG03	**Isla Dawson**	**150.09**	**110**		**PKPbc**	**01 57 31.8**	**+0.3**	
ELIB	**Princess Elisa**	**155.84**	**210**	*d*PKPdf	**PKPdf**	**01 57 34.1**	**-0.4**	
ELIB				*d*PKP	**PKPab**	**01 58 02.5**	**+0.8**	
NVL	**N'lazarevskaya**	**159.66**	**208**	*e*PKIKP	**PKPdf**	**01 57 37.0**	**-2.0**	
NVL				*e*		01 58 14.2		
NVL				pmax	pmax			
	comp=Z,50nm,1.2s							
TROLL	**Troll, Antarti**	**160.98**	**200**	⇑PKPdf	**PKPdf**	**01 57 41.2**	**+0.5**	
	comp=Z,404nm,1.1s							
TROLL	**Troll, Antarti**	**160.98**	**200**	⇓Pdiff	**PKPab**	**01 58 22.0**	**-2.0**	
	comp=Z,1μm,0.9s							
SNAA	**Sanae**	**162.20**	**196**		**PKPdf**	**01 57 41.4**	**-0.5**	
SNAA					**PKPab**	**01 58 28.6**	**-0.6**	
SNAA	**Sanae**	**162.20**	**196**	⇑PKPdf	**PKPdf**	**01 57 41.4**	**-0.5**	
	comp=Z,40nm,0.8s							
SNAA	**Sanae**	**162.20**	**196**	⇓Pdiff	**PKPab**	**01 58 27.6**	**-1.6**	
	comp=Z,305nm,1.3s							
SNAA	**Sanae**	**162.20**	**196**	PKP	**PKPdf**	**01 57 41.5**	**-0.4**	
	comp=Z,6.7nm,1.2s,baz=186,slow=9.2,SNR=3.4							
SNAA				PKPab	**PKPab**	**01 58 27.6**	**-1.6**	
	comp=Z,17nm,1.1s,baz=143,slow=4.5,SNR=9.4							
SNAA				PP	**PP**	**02 02 16.2**	**+2.2**	
	comp=Z,4.4nm,1.0s,baz=134,slow=8.8,SNR=5.3							
SNAA	**Sanae**	**162.20**	**196**	PKIKP	**PKPdf**	**01 57 41.4**	**-0.5**	
SNAA						01 58 28.6		
VNA3	**Neumayer Olymp**	**163.45**	**189**	⇑PKPdf	**PKPdf**	**01 57 42.1**	**-1.0**	
	comp=Z,5.1nm,1.2s							
VNA3	**Neumayer Olymp**	**163.45**	**189**	⇓Pdiff	**PKPab**	**01 58 32.6**	**-2.0**	
	comp=Z,12nm,0.9s							
VNA2	**Neumayer--Watz**	**163.51**	**192**	⇑PKPdf	**PKPdf**	**01 57 42.1**	**-1.0**	
	comp=Z,4.1nm,0.9s,baz=187,slow=6.0							
VNA2	**Neumayer--Watz**	**163.51**	**192**	⇓Pdiff	**PKPab**	**01 58 31.6**	**-3.2**	
	comp=Z,16nm,1.6s,baz=126,slow=3.8							
VNA1	**Neumayer--Stat**	**163.87**	**192**	⇑PKPdf	**PKPdf**	**01 57 41.3**	**-2.1**	
	comp=Z,2.8nm,0.6s							
VNA1	**Neumayer--Stat**	**163.87**	**192**	⇓Pdiff	**PKPab**	**01 58 32.6**	**-3.8**	
	comp=Z,4.1nm,0.8s							

WEL 23 01:39:26.1±0.8, 37°S±7′×17°7E±°, h205km±8km, M3.5/18, ML4.1/2, MLv3.5/18, Error ellipse: s-maj=0.0km s-min=0.0km az=131.5, confirmed, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**1.07**	**167**	P	Pn	01 39 56.7	-0.1
HAZ				S	S	01 40 20.6	-0.1
MXZ	**Matakaoa Point**	**1.08**	**143**	P	Pn	01 39 56.6	-0.2
MXZ				S	S	01 40 20.8	+0.1
RUGZ	**Raukumara Rang**	**1.27**	**173**	P	Pn	01 39 57.8	-0.6
RUGZ				S	S	01 40 23.7	+0.2
PKGZ	**Pakihiroa**	**1.27**	**159**	P	Pn	01 39 58.6	+0.2
PKGZ				S	S	01 40 23.6	+0.3
WMGZ	**Waiomatatini S**	**1.33**	**147**	P	Pn	01 39 59.1	+0.3
WMGZ				S	S	01 40 25.2	+1.2
KUZ	**Kuaotunu**	**1.42**	**268**	P	Pn	01 39 58.7	-0.8
PUZ	**Puketiti**	**1.50**	**156**	P	Pn	01 40 00.5	+0.4
PUZ				S	S	01 40 26.9	+0.4
TWGZ	**Tauwhareparae**	**1.52**	**165**	P	Pn	01 40 01.2	+0.8
TWGZ	**Tauwhareparae**	**1.52**	**165**	S	S	01 40 28.5	+1.6
URZ	**Urewera**	**1.58**	**191**	P	Pn	01 40 00.7	-0.1
URZ				S	S	01 40 28.7	+0.9
MWZ	**Matawai**	**1.63**	**179**	P	Pn	01 40 01.5	+0.2
MWZ	**Matawai**	**1.63**	**179**	S	S	01 40 29.5	+0.9
TOZ	**Tahuroa Road**	**1.89**	**237**	P	Pn	01 40 04.5	+0.7
MKAZ	**Moumakai**	**1.91**	**257**	P	Pn	01 40 04.1	+0.1
RTZ	**Ruatahuna**	**1.95**	**192**	P	Pn	01 40 04.1	-0.4
RTZ				S	S	01 40 34.2	+0.1
RIGZ	**Rimuhau**	**2.01**	**174**	P	Pn	01 40 05.2	+0.2
RIGZ				S	S	01 40 36.2	+1.1
SNGZ	**Shannon Statio**	**2.08**	**183**	P	Pn	01 40 05.8	+0.1
SNGZ				S	S	01 40 37.0	+0.7
MTHZ	**Maungataniwha**	**2.20**	**193**	P	Pn	01 40 07.1	0.0
MTHZ				S	S	01 40 40.5	+1.8
RAHZ	**Arahi**	**2.23**	**188**	P	Pn	01 40 07.5	+0.2
RAHZ				S	S	01 40 39.9	+0.7
PRGZ	**Paritu Road**	**2.24**	**172**	P	Pn	01 40 07.5	+0.1
PRGZ				S	S	01 40 36.8	-2.5
TLZ	**Tolley Road**	**2.24**	**223**	P	Pn	01 40 09

SPN	**Mys Shipunski**	**2.48 216**	*eS*		**Sn**	**01 47 38.3 -2.4**
NLC	**Nalytchevo**	**2.67 224**	*eP*		**Pn**	**01 47 14.9 +0.9**
NLC			*eS*		**Sn**	**01 47 44.8 -0.6**
NLC	**Nalytchevo**	**2.67 224**	PN		**Pn**	**01 47 14.9 +0.9**
NLC			S		**Sn**	**01 47 44.8 -0.6**
KRER	**Koryakskii**	**2.83 231**	*eP*		**Pn**	**01 47 18.4 +2.0**
KRER	**Koryakskii**	**2.83 231**	PN		**Pn**	**01 47 18.4 +2.0**
SMAR	**Somma**	**2.84 230**	*eP*		**Pn**	**01 47 17.6 +1.1**
SMAR	**Somma**	**2.84 230**	PN		**Pn**	**01 47 17.6 +1.1**
KRX	**Arik**	**2.84 233**	*eP*		**Pn**	**01 47 18.1 +1.6**
KRX			*eS*		**Sn**	**01 47 51.4 +1.6**
KRX	**Arik**	**2.84 233**	PN		**Pn**	**01 47 18.1 +1.6**
KRX			S		**Sn**	**01 47 51.4 +1.6**
AVH	**Avacha**	**2.86 231**	*eP*		**Pn**	**01 47 19.0 +2.3**
AVH			*eS*		**Sn**	**01 47 52.6 +2.3**
AVH	**Avacha**	**2.86 231**	PN		**Pn**	**01 47 19.0 +2.3**
AVH			S		**Sn**	**01 47 52.6 +2.3**
UGLR	**Uglovaya**	**2.87 229**	*eP*		**Pn**	**01 47 18.3 +1.6**
UGLR			*eS*		**Sn**	**01 47 52.2 +1.9**
UGLR	**Uglovaya**	**2.87 229**	PN		**Pn**	**01 47 18.3 +1.6**
UGLR			S		**Sn**	**01 47 52.2 +1.9**
KOK	**Koryaka**	**2.89 232**	*eP*		**Pn**	**01 47 18.9 +1.8**
KOK	**Koryaka**	**2.89 232**	PN		**Pn**	**01 47 18.9 +1.8**
GNL	**Ganaly**	**2.99 243**	*eP*		**Pn**	**01 47 19.8 +1.3**
GNL	**Ganaly**	**2.99 243**	PN		**Pn**	**01 47 19.8 +1.3**
DALK	**Dalny**	**3.02 227**	*eP*		**Pn**	**01 47 19.7 +0.9**
DALK			*eS*		**Sn**	**01 47 54.5 +0.6**
DALK	**Dalny**	**3.02 227**	PN		**Pn**	**01 47 19.7 +0.9**
DALK			S		**Sn**	**01 47 54.5 +0.6**
PET	**Petropavlovsk**	**3.07 228**	*eP*		**Pn**	**01 47 21.1 +1.6**
PET			*eS*		**Sn**	**01 47 56.1 +1.0**
PET	**Petropavlovsk**	**3.07 228**	*e*PN		**Pn**	**01 47 21.3 +1.9**
PET			*eS*		**Sn**	**01 47 56.0 +0.9**
PET			smax	smax		
	comp=E,250nm,0.5s					
PET			smax	smax		
	comp=N,367nm,0.5s					
KRMR	**Karymshinskiy**	**3.43 229**	*eP*		**Pn**	**01 47 26.6 +2.2**
KRMR			*eS*		**Sn**	**01 48 05.8 +1.7**
KRMR	**Karymshinskiy**	**3.43 229**	PN		**Pn**	**01 47 26.6 +2.2**
KRMR			S		**Sn**	**01 48 05.8 +1.7**
PETK	**Petropavlovsk-**	**3.44 236**	Pn		**Pn**	**01 47 26.2 +1.5**
	comp=N,6.8nm,0.3s,baz=72,slow=17,SNR=24					
PETK			Sn		**Sn**	**01 48 08.7 +4.2**
	comp=N,9.0nm,0.3s,baz=180,slow=7.4,SNR=9.6					
	comp=N,6.5nm,0.3s					
RUS	**Russkaya**	**3.57 222**	*eP*		**Pn**	**01 47 27.2 +0.9**
RUS			*eS*		**Sn**	**01 48 07.4 0.0**
RUS	**Russkaya**	**3.57 222**	PN		**Pn**	**01 47 27.2 +0.9**
RUS			S		**Sn**	**01 48 07.4 0.0**
GRL	**Gorelyy**	**3.65 227**	*eP*		**Pn**	**01 47 29.5 +1.9**
GRL			*eS*		**Sn**	**01 48 11.0 +1.3**
GRL	**Gorelyy**	**3.65 227**	PN		**Pn**	**01 47 29.5 +1.9**
GRL			S		**Sn**	**01 48 11.0 +1.3**
MTVR	**Mutnovka**	**3.66 225**	*eP*		**Pn**	**01 47 29.6 +1.9**
MTVR			*eS*		**Sn**	**01 48 11.0 +1.1**
MTVR	**Mutnovka**	**3.66 225**	PN		**Pn**	**01 47 29.6 +1.9**
MTVR			S		**Sn**	**01 48 11.0 +1.1**
ASAK	**Asacha**	**3.85 226**	*eP*		**Pn**	**01 47 33.1 +2.8**
ASAK			*eS*		**Sn**	**01 48 17.8 +3.3**
ASAK	**Asacha**	**3.85 226**	PN		**Pn**	**01 47 33.1 +2.8**
ASAK			S		**Sn**	**01 48 17.8 +3.3**
OSSR	**Ossora**	**4.14 5**	*eP*		**Pn**	**01 47 36.2 +2.1**
OSSR	**Ossora**	**4.14 5**	PN		**Pn**	**01 47 36.2 +2.1**
KDTR	**Khodutka, Kamc**	**4.22 220**	*eP*		**Pn**	**01 47 37.0 +1.7**
KDTR	**Khodutka, Kamc**	**4.22 220**	PN		**Pn**	**01 47 37.0 +1.7**
H11N2	**WAKE ISLAND Hy**	**35.51 173**	T		T	02 30 49.0
	baz=353					
H11N3	**WAKE ISLAND Hy**	**35.52 173**	T		T	02 30 49.8
	baz=353					
H11N1	**WAKE ISLAND Hy**	**35.52 173**	T		T	02 30 50.1
	baz=353					
YKA	**Yellowknife Ar**	**40.73 45**	P		**P**	**01 54 11.9 +1.3**
	comp=N,0.6nm,0.6s,baz=300,slow=7.9,SNR=5.0					
	comp=N,0.6nm,0.6s					
YKA	**Yellowknife Ar**	**40.73 45**	P		**P**	**01 54 12.0 +1.3**
KURK	**Kurchatov**	**47.83 301**	P		**P**	**01 55 05.2 -2.3**
KURBB	**Kurchatov Arra**	**47.93 301**	P		**P**	**01 55 05.2 -3.2**
	comp=N,0.3nm,0.4s,baz=55,slow=7.8,SNR=1.8					
	comp=N,0.3nm,0.4s					
FINES	**FINESS Array B**	**58.78 337**	P		**P**	**01 56 26.1 -1.7**
	comp=N,0.6nm,0.5s,baz=35,slow=10,SNR=4.4					
	comp=N,0.6nm,0.5s					
NOA	**NORSAR Array B**	**61.95 345**	P		**P**	**01 56 47.4 -2.2**
	comp=N,0.4nm,0.6s,baz=18,slow=12,SNR=1.9					
	comp=N,0.4nm,0.6s					
TXAR	**Lajitas Array**	**68.60 69**	P		**P**	**01 57 34.8 +1.6**
	comp=N,0.3nm,0.5s,baz=310,slow=5.8,SNR=4.6					
	comp=N,0.3nm,0.5s					
ESDC	**Sonseca Array**	**84.84 349**	P		**P**	**01 59 04.2 -0.4**
	comp=N,0.7nm,0.7s,baz=3.4,slow=4.3,SNR=7.3					
	comp=N,0.7nm,0.7s					

KRSC 23 01:48:28.4±1.5, 55°03N×162°36E, h41km±16km, MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.60**	**218**	*eS*	Sn	01 48 50.3	+1.4
TUMD	**Tumrok D**	**1.14**	**280**	*eP*	Pn	01 48 48.6	+0.7
TUMD				*eS*	Sn	01 49 02.9	+0.6
KBTR	**Krutoberegovo**	**1.21**	**12**	*eP*	Pn	01 48 50.1	+1.3
KBTR				*eS*	Sn	01 49 06.2	+2.2
TUMR	**Tumrok**	**1.29**	**282**	*eP*	Pn	01 48 51.8	+1.7
TUMR				*eS*	Sn	01 49 08.9	+2.7
BZGR	**Bezymyannyi-Gr**	**1.31**	**315**	*eP*	Pn	01 48 51.5	+1.2
BZGR				*eS*	Sn	01 49 07.9	+1.2
ZLN	**Zelenaya**	**1.33**	**319**	*eS*	Sn	01 49 08.9	+1.9
BZP	**Bezymyannyi-Pe**	**1.36**	**311**	*eS*	Sn	01 49 08.9	+0.9
KMNR	**Kamenistaya**	**1.41**	**302**	*eP*	Pn	01 48 53.5	+1.8
KMNR				*eS*	Sn	01 49 12.0	+2.9
LGNR	**Loginova**	**1.42**	**319**	*eS*	Sn	01 49 12.3	+2.7
KLY	**Klyuchi**	**1.61**	**324**	*eS*	Sn	01 49 13.1	-0.7
SPN	**Mys Shipunski**	**2.37**	**216**	*eP*	Pn	01 49 06.8	+2.0
SPN				*eS*	Sn	01 49 32.6	0.0
NLC	**Nalytchevo**	**2.57**	**225**	*eP*	Pn	01 49 10.4	+2.9
NLC				*eS*	Sn	01 49 40.6	+3.2
SMAR	**Somma**	**2.74**	**231**	*eP*	Pn	01 49 14.3	+4.3
SMAR				*eS*	Sn	01 49 46.2	+4.3
AVH	**Avacha**	**2.77**	**232**	*eS*	Sn	01 49 48.5	+6.1
DALK	**Dalny**	**2.92**	**228**	*eS*	Sn	01 49 49.2	+3.2
PET	**Petropavlovsk**	**2.97**	**229**	*eS*	Sn	01 49 50.9	+3.7
KRMR	**Karymshinskiy**	**3.33**	**230**	*eS*	Sn	01 50 01.1	+4.9
RUS	**Russkaya**	**3.46**	**223**	*eS*	Sn	01 50 02.7	+3.4
GRL	**Gorelyy**	**3.55**	**227**	*eS*	Sn	01 50 07.5	+5.7
ASAK	**Asacha**	**3.75**	**227**	*eS*	Sn	01 50 12.3	+5.7

*NEIC **23** 01:51:59.5±1.0, 19°.396N±0°.005×155°.275W±0°.007, h5km±1km, Error ellipse: s-maj=1.6km s-min=1.2km az=128.0*

HVO 23 01:51:59.1±0.6, 19°.410N±0°.007×155°.270W±0°.006, h1km±1km, ML3.0/16, ML2.0/25(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=198.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**77**	Pg	Pg	01 51 59.8	+0.3
BYL					Sg	01 52 00.4	+0.6
NPH	**North Pit**	**0.01**	**282**		Pg	01 51 59.7	+0.2
KKO	**Keanakako`i**	**0.01**	**162**		Pg	01 52 00.5	+0.9
OBL	**Observatory Le**	**0.01**	**300**		Pg	01 51 60.0	+0.4
RIM	**Rim**	**0.01**	**195**		Pg	01 52 00.5	+0.9
HATHI	**Halema'uma'u T**	**0.02**	**33**	Pg	Pg	01 51 59.8	+0.2
SBLHI	**Steaming Bluff**	**0.02**	**6**		Pg	01 52 00.5	+0.9
UWB	**Uwekahuna B**	**0.02**	**333**		Pg	01 52 00.4	+0.8
UWE	**Uwekahuna**	**0.02**	**297**	Pg	Pg	01 52 00.1	+0.5
UWE				Sg	Sg	01 52 00.9	+0.9
SDHHI	**Sand Hill**	**0.03**	**228**		Pg	01 52 01.3	+1.6
RSD	**Rainshed**	**0.05**	**352**	Pg	Pg	01 52 00.7	+0.4
PUH	**Pauahi**	**0.06**	**125**	Pg	Pg	01 52 00.8	+0.5
PUH				IAML		01 52 02.4	
	comp=N,1μm,0.2s						
PUH				IAML		01 52 02.5	
	comp=E,1μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.10**	**108**	Pg	Pg	01 52 01.7	+0.6
HLP	**Hilina Pali**	**0.12**	**198**	Pg	Pg	01 52 01.9	+0.5
HLP				IAML		01 52 04.1	
	comp=N,774nm,1.5s						
HLP				IAML		01 52 05.2	
	comp=E,805nm,0.5s						
MLH	**Mauna Loa**	**0.14**	**307**	Pg	Pg	01 52 02.6	+0.8
MLH					Sg	01 52 03.0	-0.7
MLH				IAML		01 52 06.5	
	comp=E,502nm,0.5s						
STCH	**Steam Cracks**	**0.14**	**100**	Pg	Pg	01 52 02.5	+0.7
STCH					Sg	01 52 04.2	+0.6
NPOC	**North of Pu'u**	**0.15**	**96**		Pg	01 52 04.9	+2.8
HTC	**Hot Caves**	**0.21**	**215**		Pg	01 52 04.4	+1.3
JOKA	**Jonika Flow**	**0.25**	**85**	Pg	Pg	01 52 04.3	+0.3
JOKA				IAML		01 52 12.0	
	comp=E,222nm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**314**	Pg	Pg	01 52 05.1	+0.6
HMH					Sg	01 52 09.1	+1.0
HMH				IAML		01 52 12.2	
	comp=E,219nm,1.2s						
HMH				IAML		01 52 13.9	
	comp=N,244nm,1.0s						
MLOA	**Mauna Loa Obse**	**0.32**	**294**	Pg	Pg	01 52 06.0	+0.9
MLOA				IAML		01 52 14.4	
	comp=N,210nm,1.4s						
MLOA				IAML		01 52 16.2	
	comp=E,222nm,0.7s						
MWH	**Moku'aweowe**	**0.32**	**284**	Pg	Pg	01 52 06.0	+0.8
KHU	**Kahuku**	**0.36**	**244**	Pg	Pg	01 52 06.7	+0.6
ALEP	**Alea Permanent**	**0.38**	**290**		Pg	01 52 07.2	+0.9
HUH	**Hualalai**	**0.60**	**297**	Pg	Pg	01 52 11.5	+0.9

KRSC 23 02:12:53.1±0.9, 55°09N×162°46E, h42km±21km, MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.68**	**219**	*eP*	Pn	02 13 06.9	+0.7
KBTR	**Krutoberegovo**	**1.14**	**10**	*eP*	Pn	02 13 14.1	+1.6
TUMD	**Tumrok D**	**1.19**	**277**	*eP*	Pn	02 13 14.1	+0.9
TUMD				*eS*	Sn	02 13 28.5	+0.3
BZGR	**Bezymyannyi-Gr**	**1.32**	**311**	*eP*	Pn	02 13 16.5	+1.4
BZGR				*eS*	Sn	02 13 32.6	+1.0
ZLN	**Zelenaya**	**1.33**	**315**	*eP*	Pn	02 13 16.9	+1.7
TUMR	**Tumrok**	**1.34**	**279**	*eP*	Pn	02 13 16.9	+1.5
TUMR				*eS*	Sn	02 13 34.7	+2.6
BZP	**Bezymyannyi-Pe**	**1.37**	**308**	*eP*	Pn	02 13 16.8	+0.9
BZMR	**Bezymyannaya**	**1.41**	**308**	*eP*	Pn	02 13 17.6	+1.3
CIRR	**Tsirk**	**1.42**	**317**	*eP*	Pn	02 13 18.5	+2.0
LGNR	**Loginova**	**1.42**	**316**	*eP*	Pn	02 13 18.5	+1.8
BZWR	**Bezymyannyi-We**	**1.42**	**309**	*eP*	Pn	02 13 18.0	+1.4
KMNR	**Kamenistaya**	**1.43**	**299**	*eP*	Pn	02 13 18.1	+1.4
KIRR	**Kirishev**	**1.49**	**307**	*eP*	Pn	02 13 18.9	+1.5
KPT	**Kopyto**	**1.55**	**306**	*eP*	Pn	02 13 20.0	+1.7
KRSR	**Krestovskiy**	**1.56**	**317**	*eP*	Pn	02 13 19.6	+1.2
KOZ	**Kozyrevsk**	**1.76**	**305**	*eP*	Pn	02 13 23.3	+2.2
SRDR	**Sredinnyy**	**1.98**	**310**	*eP*	Pn	02 13 25.9	+1.7
BKI	**Bering**	**2.02**	**85**	*eS*	Sn	02 13 51.1	+2.6
KII	**Karymskiy**	**2.04**	**240**	*eS*	Sn	02 13 53.0	+3.6
SPN	**Mys Shipunski**	**2.45**	**217**	*eS*	Sn	02 13 59.4	+0.1
KRER	**Koryakskii**	**2.82**	**232**	*eP*	Pn	02 13 39.6	+3.9
KRER				*eS*	Sn	02 14 13.4	+4.9
SMAR	**Somma**	**2.82**	**231**	*eP*	Pn	02 13 39.1	+3.3
SMAR				*eS*	Sn	02 14 14.2	+5.5
KRX	**Arik**	**2.83**	**234**	*eP*	Pn	02 13 39.5	+3.7
KRX				*eS*	Sn	02 14 12.9	+4.2
UGLR	**Uglovaya**	**2.85**	**230**	*eP*	Pn	02 13 39.3	+3.2
UGLR				*eS*	Sn	02 14 13.0	+3.9
AVH	**Avacha**	**2.85**	**232**	*eP*	Pn	02 13 39.9	+3.8
AVH				*eS*	Sn	02 14 13.0	+3.9
KOK	**Koryaka**	**2.88**	**233**	*eP*	Pn	02 13 40.2	+3.7
GNL	**Ganaly**	**2.99**	**244**	*eP*	Pn	02 13 41.0	+3.0
DALK	**Dalny**	**3.00**	**228**	*eP*	Pn	02 13 41.0	+3.0
DALK				*eS*	Sn	02 14 15.3	+2.6
KRMR	**Karymshinskiy**	**3.41**	**230**	*eP*	Pn	02 13 47.7	+4.0
KRMR				*eS*	Sn	02 14 27.7	+4.9
RUS	**Russkaya**	**3.54**	**223**	*eP*	Pn	02 13 48.8	+3.3
RUS				*eS*	Sn	02 14 29.3	+3.3
MTVR	**Mutnovka**	**3.64**	**226**	*eP*	Pn	02 13 51.0	+4.1
ASAK	**Asacha**	**3.83**	**227**	*eP*	Pn	02 13 54.1	+4.6

*IDC **23** 02:31:46.6±5.3, 13°.17S×166°.95E, h223km±44km, mb3.4/5, mbtmp3.9/6, Error ellipse: s-maj=36.7km s-min=27.4km az=23.0*

ISC 23 02:31:44.3±1.4, 13°.0S±0°.1×166°.9E±0°.2, h200km, n6, σ0°.58/7, mb3.7/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.99**	**183**	P	**Pn**	**02 33 51.0**	**+0.4**
	1.1nm,0.3s,baz=342,slow=20,SNR=1.6						
DZM				S	**Sn**	**02 35 31.5**	**0.0**
	3.5nm,0.8s,baz=318,slow=19,SNR=1.9						
STKA	**Stephens Creek**	**29.86**	**227**	P	**P**	**02 37 33.5**	**+0.4**
	3.2nm,0.5s,baz=67,slow=8.5,SNR=6.2						
	3.2nm,0.5s						
WRA	**Warramunga Arr**	**31.95**	**253**	P	**P**	**02 37 51.4**	**-0.2**
	0.3nm,0.5s,baz=86,slow=9.4,SNR=4.7						
	0.3nm,0.5s						
ASAR	**Alice Springs**	**32.99**	**247**	P	**P**	**02 38 00.5**	**-0.2**
	0.9nm,0.5s,baz=76,slow=9.1,SNR=21						
	0.9nm,0.5s						
QSPA	**South Pole Qui**	**76.97**	**180**	P	**P**	**02 43 13.8**	**-0.9**
	1.4nm,0.7s,baz=90,slow=2.0,SNR=12						
	1.4nm,0.7s						
ILAR	**Eielson Array**	**85.04**	**18**	P	**P**	**02 43 57.3**	**+0.4**
	0.2nm,0.5s,baz=226,slow=4.9,SNR=2.0						
	0.2nm,0.5s						

*IDC **23** 02:39:30.7±3.2, 36°.79S×179°.27E, h0km, mb3.6/2, mbtmp3.6/3, ML3.4/1, MS4.0/1, Error ellipse: s-maj=70.0km s-min=43.9km az=126.0*

*WEL **23** 02:39:35.2±1.1, 37°.5±6°.×17°.9E±°, h12km, M3.2/9, ML3.5/12, MLv3.2/9, Error ellipse: s-maj=0.0km s-min=0.0km az=109.6, confirmed*

ISC 23 02:39:32.8±2.4, 37°.08S±0°.06×179°.3E±0°.1, h14km±10km, n33, σ1°.22/47, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.94**	**239**	P	**Pg**	**02 39 50.9**	**-0.2**
MXZ				S	**Sg**	**02 40 01.0**	**-2.4**
WMGZ	**Waiomatatini S**	**1.03**	**224**	P	**Pb**	**02 39 54.3**	**+1.8**
WMGZ				S	**Sg**	**02 40 07.8**	**+1.6**
PKGZ	**Pakihiroa**	**1.28**	**231**	P	**Pn**	**02 39 57.4**	**+1.0**
PKGZ				S	**Sb**	**02 40 13.2**	**+0.2**
PUZ	**Puketiti**	**1.30**	**220**	P	**Pn**	**02 39 57.7**	**+1.1**
PUZ				S	**Sb**	**02 40 14.8**	**+1.1**
HAZ	**Te Kaha**	**1.40**	**241**	P	**Pb**	**02 39 59.7**	**+0.9**
HAZ				S	**Sb**	**02 40 16.9**	**+0.4**
TWGZ	**Tauwhareparae**	**1.53**	**224**	P	**Pn**	**02 40 01.3**	**+1.6**
TWGZ				S	**Sn**	**02 40 20.5**	**+1.0**
RUGZ	**Raukumara Rang**	**1.58**	**236**	P	**Pn**	**02 40 02.0**	**+1.5**
RUGZ				S	**Sn**	**02 40 22.1**	**+1.2**
MWZ	**Matawai**	**1.90**	**228**	P	**Pn**	**02 40 06.1**	**+1.3**
MWZ				S	**Sn**	**02 40 27.7**	**-0.8**
URZ	**Urewera**	**2.12**	**236**	Pn	**Pn**	**02 40 09.0**	**+1.3**
	9.4nm,0.3s,baz=57,slow=1.0,SNR=25						
URZ				Sn	**Sn**	**02 40 32.9**	**-0.9**
	6.5nm,0.3s,baz=94,slow=8.5,SNR=12						
	18nm,0.3s						
URZ	**Urewera**	**2.12**	**236**	P	**Pn**	**02 40 09.1**	**+1.3**
URZ				S	**Sn**	**02 40 33.5**	**-0.3**
RAHZ	**Arahi**	**2.55**	**223**	P	**Pn**	**02 40 15.4**	**+1.6**
RAHZ				S	**Sn**	**02 40 44.2**	**-0.4**
MTHZ	**Maungataniwha**	**2.64**	**227**	P	**Pn**	**02 40 16.6**	**+1.5**
MTHZ				S	**Sn**	**02 40 46.5**	**-0.4**
NMHZ	**Naumai**	**2.83**	**224**	P	**Pn**	**02 40 19.4**	**+1.8**
NMHZ				S	**Sn**	**02 40 51.1**	**-0.5**
ARHZ	**Aropaoanui**	**2.85**	**219**	P	**Pn**	**02 40 18.9**	**+1.1**
ARHZ				S	**Sn**	**02 40 51.7**	**-0.2**
KUZ	**Kuaotunu**	**2.91**	**276**	P	**Pn**	**02 40 19.3**	**+0.6**
BKZ	**Black Stump Fm**	**3.05**	**226**	P	**Pn**	**02 40 21.9**	**+1.2**
BKZ				S	**Sn**	**02 40 55.4**	**-1.7**
TOZ	**Tahuroa Road**	**3.11**	**257**	P	**Pn**	**02 40 22.2**	**+0.7**
CKHZ	**Cape Kidnapper**	**3.12**	**214**	P	**Pn**	**02 40 21.6**	**+0.1**
KWHZ	**Kaweka Forest**	**3.27**	**223**	P	**Pn**	**02 40 24.9**	**+1.2**
KAHZ	**Kahuranaki**	**3.32**	**215**	P	**Pn**	**02 40 24.2**	**-0.1**
MKAZ	**Moumakai**	**3.33**	**268**	P	**Pn**	**02 40 24.8**	**+0.4**
BHHZ	**Black Hill Sta**	**3.52**	**226**	P	**Pn**	**02 40 28.2**	**+1.1**
KRVZ	**Karewarewa**	**3.53**	**234**	P	**Pb**	**02 40 32.7**	**-2.5**
OTVZ	**Oturere**	**3.56**	**233**	P	**Pn**	**02 40 28.6**	**+0.9**
WNVZ	**Wahianoa**	**3.69**	**232**	P	**Pn**	**02 40 30.1**	**+0.4**
PNHZ	**Pukenui**	**3.74**	**220**	P	**Pn**	**02 40 30.5**	**+0.3**
TSZ	**Takapari Road**	**3.97**	**221**	P	**Pn**	**02 40 32.7**	**-0.7**
WCZ	**Waipu Caves**	**4.17**	**284**	P	**Pn**	**02 40 37.4**	**+1.4**
OUZ	**Omahuta**	**5.00**	**290**	P	**Pn**	**02 40 49.5**	**+2.2**
RPZ	**Rata Peaks**	**9.14**	**221**	LR	LR	02 46 19.2	
	comp=Z,875nm,19.0s,baz=318,slow=44						
ASAR	**Alice Springs**	**41.04**	**276**	P	**P**	**02 47 15.4**	**-0.5**
	0.5nm,0.5s,baz=118,slow=8.3,SNR=9.0						
	0.5nm,0.5s						
WRA	**Warramunga Arr**	**42.64**	**281**	P	**P**	**02 47 27.8**	**-1.2**
	1.0nm,0.9s,baz=120,slow=7.8,SNR=5.2						
	1.0nm,0.9s						
FINES	**FINESS Array B**	**150.42**	**334**	PKPbc	**PKPbc**	**02 59 22.5**	**-0.5**
	0.5nm,0.7s,baz=86,slow=5.9,SNR=0.9						

*SNET **23** 02:49:47.6±0.7, 12°.68N×89°.46W, h41km±63km, ML3.5*
*CATAC **23** 02:49:48.0±0.9, 12°.63N×89°.39W, h25km±19km, ML3.9*

ISC 23 02:49:46.3±3.4, 12°.66N±0°.09×89°.48W±0°.10, h23km±28km, n42, σ0°.49/49, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.84**	**10**	*eP*	**Pn**	**02 50 02.7**	**-0.1**
LALI				*eS*	**Sn**	**02 50 14.3**	**-0.2**
JAYA	**Jayaque - finc**	**0.99**	**2**	*eP*	**Pn**	**02 50 04.5**	**-0.5**
JAYA				IAML		02 50 21.5	
	comp=Z,1μm,0.2s						
LOMA	**Loma Larga**	**1.03**	**17**	*eP*	**Pn**	**02 50 05.4**	**-0.1**
PMON	**Piamonte**	**1.06**	**9**	*eP*	**Pn**	**02 50 06.2**	**+0.3**
UEES	**Universidad Ev**	**1.08**	**12**	*eP*	**Pn**	**02 50 06.9**	**+0.7**
BOQS	**Boqueron**	**1.09**	**10**	*eP*	**Pn**	**02 50 07.0**	**+0.6**
TECO	**Alcaldia de Te**	**1.11**	**38**	*eP*	**Pn**	**02 50 06.2**	**-0.4**
TECO				*eS*	**Sn**	**02 50 20.9**	**-0.2**
COEG	**Centro de Oper**	**1.12**	**31**	*eP*	**Pn**	**02 50 06.5**	**-0.2**
COEG				IAML		02 50 32.9	
	comp=Z,681nm,0.3s						
CEVE	**Cerro Verde**	**1.18**	**353**	*eP*	**Pn**	**02 50 08.2**	**+0.6**
CEVE				IAML		02 50 26.6	
	comp=Z,2μm,0.3s						
PAVA	**Las Pavas**	**1.18**	**26**	*eP*	**Pn**	**02 50 07.6**	**+0.1**
SBLS	**San Blas**	**1.19**	**353**	*eP*	**Pn**	**02 50 08.1**	**+0.3**
SNJE	**San Jose**	**1.21**	**354**	*eP*	**Pn**	**02 50 08.1**	**0.0**
COEB	**Comit de Eme**	**1.25**	**48**	*eP*	**Pn**	**02 50 08.5**	**0.0**
TECA	**Tecapa**	**1.26**	**49**	*eP*	**Pn**	**02 50 08.9**	**+0.1**
SCLA	**Alcaldia de Sa**	**1.27**	**35**	*eP*	**Pn**	**02 50 08.9**	**+0.2**
NUBE	**Las Nubes**	**1.27**	**347**	*eP*	**Pn**	**02 50 08.6**	**-0.4**
LCY	**Lacayo**	**1.38**	**56**	*eP*	**Pn**	**02 50 10.7**	**+0.4**
BLLM	**Bellamira**	**1.44**	**57**	*eP*	**Pn**	**02 50 11.6**	**+0.5**
CNCH	**Conchagua**	**1.72**	**69**	*eP*	**Pn**	**02 50 15.1**	**+0.1**
MTO3	**Montecristo**	**1.74**	**4**	*eP*	**Pn**	**02 50 16.1**	**+0.7**
ESQI	**Esquipulas**	**1.90**	**4**	*i P*	**Pn**	**02 50 18.4**	**+0.9**
ESQI				*i* S	**Sb**	**02 50 43.4**	**-0.3**
ESQI				IAML		02 51 06.0	
	comp=Z,430nm,1.0s						
CRIN	**San Cristobal**	**2.37**	**89**	*i P*	**Pn**	**02 50 24.1**	**+0.2**
CRIN				IAML		02 50 27.4	
	comp=Z,770nm,1.0s						
CRIN				*i* S	**Sn**	**02 50 52.2**	**-0.1**
PKGN	**Cerro Pekin**	**2.44**	**89**	*i P*	**Pn**	**02 50 24.9**	**+0.1**
PKGN				IAML		02 50 29.4	
	comp=Z,970nm,1.0s						
PKGN				*i* S	**Sn**	**02 50 53.7**	**-0.2**
TGUH	**Tegucigalpa,Un**	**2.56**	**57**	*i P*	**Pn**	**02 50 27.5**	**+0.9**
TGUH				IAML		02 50 54.4	
	comp=Z,160nm,1.0s						
PACN	**Al O del Volca**	**2.62**	**93**	*i P*	**Pn**	**02 50 26.9**	**-0.5**
PACN				IAML		02 50 29.1	
	comp=Z,880nm,1.0s						
PACN				*i* S	**Sn**	**02 50 58.6**	**0.0**
ROCN	**Rota Cerro Neg**	**2.67**	**93**	*i* S	**Sn**	**02 50 58.8**	**-0.9**
CNGA	**Al SSO del Vol**	**2.71**	**93**	*i P*	**Pn**	**02 50 27.9**	**-0.7**
CNGA				IAML		02 50 30.0	

	SNR=8.6							
JRN	**Qarnain Island**	**5.44**	**161**	P		**Pn**	**03 02 54.5**	**+2.1**
TPRV	**Parvadeh(Tabas**	**5.71**	**58**	Pn		**Pn**	**03 02 58.3**	**+2.0**
IFIR	**Firoozkooh**	**5.72**	**15**	Pn		**Pn**	**03 02 57.5**	**+1.0**
TNSJ	**Nastanj**	**6.17**	**50**	Pn		**Pn**	**03 03 03.9**	**+1.4**
TKDS	**Koohdasht(Taba**	**6.32**	**55**	Pn		**Pn**	**03 03 06.1**	**+1.4**
MASF	**Masafi**	**6.63**	**134**	P		**Pn**	**03 03 09.5**	**+0.6**
MASF				S		**Sn**	**03 04 22.8**	**-1.8**
ASUD	**Al Ashush, Dub**	**6.73**	**143**	P		**Pn**	**03 03 12.9**	**+2.7**
MDH	**Madha**	**6.77**	**134**	P		**Pn**	**03 03 11.8**	**+1.1**
MDH				S		**Sn**	**03 04 23.8**	**-4.0**
IGLO	**Ghaloghah**	**6.82**	**20**	Pn		**Pn**	**03 03 13.0**	**+1.5**
UOSS	**Minazif**	**6.97**	**136**	Pn		**Pn**	03 03 04.0	-10
UOSS	**Minazif**	**6.97**	**136**	P		**Pn**	**03 03 13.7**	**+0.2**
UOSS				S		**Sn**	**03 04 30.5**	**-2.4**
HATD	**Hatta, Dubai**	**7.02**	**137**	P		**Pn**	**03 03 15.3**	**+1.2**
HATD				S		**Sn**	**03 04 32.5**	**-1.5**
ASHO	**Ashiyiah**	**7.08**	**139**	P		**Pn**	**03 03 17.0**	**+1.9**
ASHO				S		**Sn**	**03 04 33.5**	**-2.3**
IKOO	**Kooshah**	**7.29**	**70**	Pn		**Pn**	**03 03 19.8**	**+1.7**
MZR	**Muzera**	**7.45**	**161**	P		**Pn**	**03 03 22.1**	**+2.0**
	SNR=8.1							
MZR				S		**Sn**	**03 04 43.5**	**-1.2**
SOHO	**SOHO**	**7.78**	**139**	P		**Pn**	**03 03 25.0**	**+0.4**
SOHO				S		**Sn**	**03 04 49.7**	**-3.1**
RAYN	**Ar Rayn**	**8.16**	**218**			**Pn**	**03 03 27.3**	**-2.5**
BSY	**Bisya**	**9.25**	**141**	P		**Pn**	**03 03 47.6**	**+2.8**
BSY				S		**Sn**	**03 05 25.7**	**-3.3**
GEYT	**Alibeck**	**9.81**	**36**	Pn		**Pn**	**03 03 52.3**	**-0.1**
	0.3nm,0.3s,baz=228,slow=11,SNR=2.4 1.4nm,0.7s							
JMDO	**Jabal Madar**	**10.06**	**138**	P		**Pn**	**03 03 58.4**	**+2.6**
MHTO	**MHTO**	**11.10**	**143**	P		**Pn**	**03 04 10.9**	**+0.8**
MHTO				S		**Sn**	**03 06 07.7**	**-6.6**
DOK	**Doka**	**11.82**	**165**	P		**Pn**	**03 04 20.9**	**+0.9**
	SNR=7.4							
WHFO	**Wadi Hawf**	**12.42**	**167**	P		**Pn**	**03 04 28.4**	**+0.1**
	SNR=6.9							
WHFO				S		**Sn**	**03 06 40.8**	**-6.0**
SHAO	**Shalim**	**12.79**	**159**	P		**Pn**	**03 04 32.7**	**-0.5**
	SNR=7.5							
DMTO	**DMTO**	**12.88**	**163**	P		**Pn**	**03 04 33.2**	**-1.4**
	SNR=23							
ABTO	**Aybut**	**12.89**	**170**	P		**Pn**	**03 04 35.0**	**+0.2**
	SNR=5.3							
GHAJ	**Ghor Haditha**	**13.26**	**279**	Pn		**Pn**	**03 04 41.8**	**+2.2**
ABKAR	**Akbulak array**	**20.31**	**17**	P		**P**	**03 06 05.4**	**-1.8**
KKAR	**Karatay Array**	**20.32**	**45**	P		**P**	**03 06 02.2**	**-5.2**
IDI	**Anoyia**	**22.47**	**290**	P		**P**	**03 06 30.5**	**-0.3**
	4.4nm,1.0s,baz=348,slow=3.1,SNR=3.4 4.4nm,1.0s							
MLR	**Muntele Rosu**	**24.85**	**315**	P		**P**	**03 06 55.0**	**+0.9**
MLR				IAmb		IAmb	03 07 00.8	
	comp=Z,6.8nm,1.4s							
MLR	**Muntele Rosu**	**24.85**	**315**	P		**P**	**03 06 55.0**	**+0.9**
	comp=Z,1.4nm,0.7s,baz=146,slow=15 comp=Z,1.4nm,0.7s							
AKASG	**Malin Array Be**	**26.20**	**328**	P		**P**	**03 07 07.7**	**+1.8**
	comp=Z,0.6nm,0.4s,baz=122,slow=7.0,SNR=5.2 comp=Z,0.6nm,0.4s							
BURAR	**Bucovina Array**	**26.38**	**319**	P		**P**	**03 07 06.4**	**-1.3**
BUR08	**Bucovina Ar. S**	**26.40**	**319**	P		**P**	**03 07 09.2**	**+1.2**
BUR08				IAmb		IAmb	03 07 12.9	
	comp=Z,7.1nm,1.4s							
BVAR	**Borovoye Array**	**26.96**	**26**	P		**P**	**03 07 14.1**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=228,slow=6.0,SNR=2.2 comp=Z,0.4nm,0.3s							
PUK	**Puka**	**27.60**	**304**	P		**P**	**03 07 18.7**	**-0.1**
PUK				IAmb		IAmb	03 07 28.2	
	comp=Z,7.8nm,1.5s							
MKAR	**Makanchi Array**	**29.42**	**47**	P		**P**	**03 07 35.3**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=247,slow=10,SNR=1.8 comp=Z,0.2nm,0.6s							
CESX	**Cesi**	**33.02**	**303**	P		**P**	**03 08 08.2**	**+1.6**
CESX				IAmb		IAmb	03 08 38.8	
	comp=Z,10nm,1.4s							
FINES	**FINESS Array B**	**35.34**	**340**	P		**P**	**03 08 24.2**	**-2.3**
FINES	**FINESS Array B**	**35.34**	**340**	P		**P**	**03 08 28.3**	**+1.8**
	comp=Z,0.6nm,0.6s,baz=152,slow=9.3,SNR=4.9 comp=Z,0.6nm,0.6s							
HFS	**Hagfors**	**38.96**	**331**	P		**P**	**03 08 58.7**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=152,slow=9.4,SNR=7.9 comp=Z,0.7nm,0.5s							
LVZ	**Lovozero**	**39.02**	**350**	P		**P**	**03 08 57.3**	**-0.4**
NC405	**NORSAR Array S**	**40.31**	**332**	P		**P**	**03 09 08.9**	**+0.3**
NC405				IAmb		IAmb	03 09 24.0	
	comp=Z,12nm,1.3s							
NOA	**NORSAR Array B**	**40.48**	**331**	P		**P**	**03 09 10.7**	**+0.7**
	comp=Z,0.8nm,0.9s,baz=137,slow=10,SNR=3.4 comp=Z,0.8nm,0.9s							
NBO00	**NORSAR Array S**	**40.66**	**331**	P		**P**	**03 09 13.2**	**+1.8**
NBO00				IAmb		IAmb	03 09 48.2	
	comp=Z,18nm,1.4s							
TOA0	**Torodi Ar. Sit**	**48.39**	**261**	P		**P**	**03 10 12.4**	**-1.3**
TOA0				IAmb		IAmb	03 10 43.1	
	comp=Z,6.7nm,1.5s							
TORD	**Torodi Ar. Bea**	**48.39**	**261**	P		**P**	**03 10 12.6**	**-1.2**
TORD	**Torodi Ar. Bea**	**48.39**	**261**	P		**P**	**03 10 12.2**	**-1.6**
	comp=Z,0.5nm,0.5s,baz=53,slow=9.0,SNR=7.3 comp=Z,0.5nm,0.5s							
LSZ	**Lusaka**	**50.17**	**209**	LR		LR	03 33 58.4	
	comp=Z,385nm,20.7s,baz=192,slow=39							
SPB2	**Spitsbergen Ar**	**50.52**	**351**	P		**P**	**03 10 30.1**	**+0.9**
SPITS	**Spitsbergen Ar**	**50.53**	**351**	P		**P**	**03 10 28.3**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=186,slow=8.4,SNR=4.2 comp=Z,2.6nm,0.8s							
SUMG	**Summit**	**61.38**	**340**	P		**P**	**03 11 51.1**	**+3.6**
SUMG				IAmb		IAmb	03 11 52.7	
	comp=Z,3.2nm,0.9s							

*MOS **23** 03:08:50.9±1.0, 47.°92N×154.°69E, h50km, mb4.4/4, Error ellipse: s-maj=18.8km s-min=6.1km az=73.1*
*SKHL **23** 03:08:53.1±0.3, 47.°90N×154.°80E, h64km±5km, mb4.5/3*
*IDC **23** 03:08:55.0±3.0, 48.°07N×154.°32E, h71km±27km, mb3.4/9, mbtmp3.8/12, MS3.4/1, Error ellipse: s-maj=32.5km s-min=18.0km az=149.0*
*NEIC **23** 03:08:57.6±0.6, 48.°4N±0.°1×154.°2E±0.°2, h72km±8km, mb4.4/23, Error ellipse: s-maj=21.2km s-min=13.0km az=131.0*

ISC 23 03:08:53.1±0.6, 48.°07N±0.°08×154.°52E±0.°08, h42km, n82, σ1°51/76, mb4.3/25, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.82**	**21**	*e*P	**Pn**	**03 09 36.6**	**+1.1**
SKR				AMB	AMB	03 09 39.4	
	90nm,0.5s						
SKR				*e*S	**Sn**	**03 10 09.4**	**+1.2**
SKR				A	A	03 10 16.0	
	180nm,0.4s						
SKR				A	A	03 10 16.0	
	180nm,0.4s						
SKR	**Severo-Kuril's**	**2.82**	**21**	*e*PN	**Pn**	**03 09 35.6**	**+0.1**
SKR				*e*S	**Sn**	**03 10 09.4**	**+1.2**
SKR				pmax	pmax		
	comp=Z,268nm,0.9s						
SKR				smax	smax		
	comp=N,718nm,0.6s						
SKR				smax	smax		
	comp=E,663nm,0.6s						
SKR				MLR	MLR		
	comp=Z,600nm,16.0s						
PAU	**Pauzhetka**	**3.71**	**23**	*e*P	**Pn**	**03 09 49.9**	**+2.1**
PAU				AMB	AMB	03 09 55.9	
	comp=Z,50nm,0.4s						
PAU				*e*S	**Sn**	**03 10 31.8**	**+1.5**
PAU				A	A	03 10 36.9	
	comp=Z,190nm,0.4s						
PAU				A	A	03 10 36.9	
	comp=Z,100nm,0.4s						
KDTR	**Khodutka, Kamc**	**4.39**	**30**	*e*P	**Pn**	**03 09 56.5**	**-0.7**
KDTR	**Khodutka, Kamc**	**4.39**	**30**	PN	**Pn**	**03 09 56.5**	**-0.7**
ASAK	**Asacha**	**4.83**	**25**	PN	**Pn**	**03 10 04.2**	**+0.9**
MTVR	**Mutnovka**	**5.00**	**27**	PN	**Pn**	**03 10 06.2**	**+0.5**
GRL	**Gorelyy**	**5.03**	**26**	PN	**Pn**	**03 10 07.1**	**+1.0**
RUS	**Russkaya**	**5.06**	**29**	*e*P	**Pn**	**03 10 05.7**	**-0.7**
RUS	**Russkaya**	**5.06**	**29**	PN	**Pn**	**03 10 05.7**	**-0.7**
KUR	**Kuril'sk**	**5.38**	**241**	*e*P	**Pn**	**03 10 12.7**	**+1.9**
KUR				*e*S	**Sn**	**03 11 12.6**	**+1.1**
PEA0B	**Petropavlovsk-**	**5.44**	**21**	Pn	**Pn**	**03 10 13.3**	**+1.8**
PEA0B	**Petropavlovsk-**	**5.44**	**21**	PN	**Pn**	**03 10 13.3**	**+1.8**
PETK	**Petropavlovsk-**	**5.44**	**21**	P	**Pn**	**03 10 13.0**	**+1.5**
	comp=Z,3.3nm,0.4s,baz=185,slow=13,SNR=22						

UGLR	**Uglovaya**	**5.83**	**26**	PN		**Pn**	**03 10 18.2**	**+1.2**
KOK	**Koryaka**	**5.85**	**25**	*e*P		**Pn**	**03 10 19.7**	**+2.5**
KOK	**Koryaka**	**5.85**	**25**	PN		**Pn**	**03 10 19.7**	**+2.5**
AVH	**Avacha**	**5.85**	**26**	*e*P		**Pn**	**03 10 19.2**	**+1.9**
AVH	**Avacha**	**5.85**	**26**	PN		**Pn**	**03 10 19.2**	**+1.9**
SMAR	**Somma**	**5.87**	**26**	PN		**Pn**	**03 10 19.0**	**+1.4**
KRX	**Arik**	**5.91**	**25**	PN		**Pn**	**03 10 19.7**	**+1.6**
YSS	**Yuzh-Sakhalins**	**8.04**	**266**	Pn		**Pn**	**03 10 48.7**	**+1.4**
JKA	**Kamikawa-asahi**	**9.17**	**249**			**Pn**	**03 11 05.1**	**+2.3**
JKA	**Kamikawa-asahi**	**9.17**	**249**	*e*P		**Pn**	**03 11 05.1**	**+2.3**
ASAJ	**Asahikawa**	**9.18**	**249**	P		**Pn**	**03 11 03.9**	**+1.0**
	comp=Z,8.9nm,0.6s,baz=67,slow=12,SNR=11							
ASAJ	**Asahikawa**	**9.18**	**249**	PN		**Pn**	**03 11 05.1**	**+2.3**
KLR	**Kul'dur**	**15.08**	**283**	*e*P		**Pn**	**03 12 25.1**	**+2.0**
KLR	**Kul'dur**	**15.08**	**283**	*e*P		**Pn**	**03 12 25.1**	**+2.0**
KLR				pmax		pmax		
	comp=Z,4.0nm,1.4s							
USRK	**Ussuriysk Ar.**	**16.07**	**264**	P		**Pn**	**03 12 35.3**	**-0.6**
	comp=Z,0.9nm,0.4s,baz=63,slow=12,SNR=6.4							
MJAR	**Matsushiro Arr**	**16.64**	**232**	P		**Pn**	**03 12 38.7**	**-4.5**
	comp=Z,3.0nm,0.9s,baz=28,slow=13,SNR=6.0							
H11N2	**WAKE ISLAND Hy**	**30.00**	**156**	T		T	03 46 33.2	
	baz=344,slow=76,SNR=74							
H11N1	**WAKE ISLAND Hy**	**30.02**	**156**	T		T	03 46 31.6	
	baz=344,slow=76,SNR=127							
H11N3	**WAKE ISLAND Hy**	**30.02**	**156**	T		T	03 46 32.9	
	baz=344,slow=76,SNR=78							
H11S1	**WAKE ISLAND Hy**	**31.11**	**157**	T		T	03 47 51.4	
	baz=344,slow=76,SNR=263							
H11S3	**WAKE ISLAND Hy**	**31.12**	**157**	T		T	03 47 52.4	
	baz=344,slow=76,SNR=263							
H11S2	**WAKE ISLAND Hy**	**31.13**	**157**	T		T	03 47 47.1	
	baz=344,slow=76,SNR=156							
B21K	**Ikpikpuk River**	**32.54**	**30**	P		**P**	**03 15 20.3**	**+0.7**
B21K				IAmb		IAmb	03 15 21.6	
	comp=Z,8.6nm,0.9s							
B22K	**Teshekpuk Lake**	**33.12**	**29**	P		**P**	**03 15 24.8**	**+0.2**
E22K	**Anaktuvuk Pass**	**33.22**	**33**	P		**P**	**03 15 26.1**	**+0.4**
E22K				IAmb		IAmb	03 15 26.0	
	comp=Z,5.6nm,1.3s							
C23K	**Itkillik River**	**33.95**	**31**	P		**P**	**03 15 32.3**	**+0.4**
C23K				IAmb		IAmb	03 15 50.5	
	comp=Z,5.3nm,1.3s							
TOLK	**Toolik Lake Re**	**34.12**	**33**	P		**P**	**03 15 33.8**	**+0.3**
SML	**Sawmill**	**34.36**	**45**	P		**P**	**03 15 35.8**	**+0.2**
E24K	**Your Creek**	**34.45**	**34**	P		**P**	**03 15 36.8**	**+0.5**
D24K	**Happy Valley**	**34.46**	**32**	P		**P**	**03 15 36.4**	**+0.1**
D24K				IAmb		IAmb	03 15 37.1	
	comp=Z,2.4nm,0.6s							
G24K	**Hadweenzic Riv**	**34.73**	**36**	P		**P**	**03 15 39.8**	**+1.1**
G24K				IAmb		IAmb	03 15 40.9	
	comp=Z,5.3nm,1.2s							
ILAR	**Eielson Array**	**34.92**	**40**	P		**P**	**03 15 39.9**	**-0.5**
	comp=Z,0.9nm,1.1s,baz=252,slow=7.5,SNR=7.5 comp=Z,0.9nm,1.1s							
GLI	**Glacier Island**	**35.02**	**47**	P		**P**	**03 15 41.3**	**0.0**
D25K	**Kavik River**	**35.35**	**32**	P		**P**	**03 15 44.2**	**+0.1**
D25K				IAmb		IAmb	03 15 45.8	
	comp=Z,2.6nm,0.7s							
BMAR	**Burnt Mountain**	**35.89**	**35**	P		**P**	**03 15 49.9**	**+1.2**
K27K	**Chicken**	**37.05**	**41**	P		**P**	**03 15 59.2**	**+0.7**
K27K				IAmb		IAmb	03 15 59.9	
	comp=Z,8.0nm,1.4s							
BCAR	**Beaver Creek A**	**37.28**	**42**	P		**P**	**03 16 01.6**	**+1.0**
BARN	**Barnard Glacie**	**37.63**	**46**	P		**P**	**03 16 04.5**	**+0.8**
BARN				IAmb		IAmb	03 16 22.6	
	comp=Z,5.7nm,1.2s							
I28M	**Miner Creek**	**37.83**	**38**	P		**P**	**03 16 05.8**	**+0.6**
H29M	**Whitestone**	**38.39**	**37**	P		**P**	**03 16 10.3**	**+0.5**
H29M				IAmb		IAmb	03 16 10.9	
	comp=Z,8.2nm,1.4s							
E29M	**Blow River**	**38.40**	**33**	P		**P**	**03 16 10.4**	**+0.6**
M29M	**Somme Creek**	**38.89**	**43**	P		**P**	**03 16 15.1**	**+0.9**
M29M				IAmb		IAmb	03 16 24.9	
	comp=Z,4.9nm,1.4s							
KURK	**Kurchatov**	**47.43**	**303**	P		**P**	**03 17 21.1**	**-2.0**
KURK	**Kurchatov**	**47.43**	**303**	P		**P**	**03 17 21.1**	**-2.0**
KURK				pmax		pmax		
	comp=Z,2.0nm,1.2s							
KURBB	**Kurchatov Arra**	**47.53**	**303**	P		**P**	**03 17 21.6**	**-2.3**
	comp=Z,0.4nm,0.5s,baz=68,slow=8.3,SNR=1.3 comp=Z,0.4nm,0.5s							
YKA	**Yellowknife Ar**	**49.30**	**38**	P		**P**	**03 17 37.4**	**+0.1**
	comp=Z,0.7nm,1.0s,baz=298,slow=7.9,SNR=4.9 comp=Z,0.7nm,1.0s							
PMG	**Port Moresby**	**57.59**	**189**	LR		LR	03 41 02.2	
	comp=Z,87nm,20.5s,baz=13,slow=34							
ABKAR	**Akbulak array**	**58.31**	**310**	P		**P**	**03 18 41.2**	**-2.1**
SUMG	**Summit**	**59.31**	**5**	P		**P**	**03 18 50.0**	**-0.5**
SUMG	**Summit**	**59.31**	**5**	P		**P**	**03 18 50.0**	**-0.5**
SUMG				pmax		pmax		
	comp=Z,11nm,1.5s							
PNTR	**Pine Nut**	**59.78**	**64**	P		**P**	**03 18 55.1**	**+1.1**
PNTR				IAmb		IAmb	03 19 06.0	
	comp=Z,2.4nm,0.9s							
NVAR	**Mina Array Bea**	**60.99**	**64**	P		**P**	**03 19 02.5**	**+0.3**
	comp=Z,0.6nm,0.5s,baz=294,slow=6.8,SNR=5.4 comp=Z,0.6nm,0.5s							
PDAR	**Pinedale Array**	**63.20**	**55**	P		**P**	**03 19 17.2**	**+0.1**
	comp=Z,0.3nm,0.4s,baz=312,slow=7.0,SNR=2.7 comp=Z,0.3nm,0.4s							
FINES	**FINESS Array B**	**63.25**	**335**	P		**P**	**03 19 14.8**	**-1.8**
	comp=Z,1.7nm,0.8s,baz=56,slow=5.4,SNR=4.1 comp=Z,1.7nm,0.8s							
OBN	**Obninsk**	**64.75**	**326**	*e*P		**P**	**03 19 27.7**	**+1.0**
OBN	**Obninsk**	**64.75**	**326**	*e*P		**P**	**03 19 27.7**	**+1.0**
OBN				*e*			03 19 59.5	
OBN				*e*			03 21 50.7	
OBN				pmax		pmax		
	comp=Z,3.0nm,0.8s							
LIFNC	**LIFOU**	**69.47**	**167**	P		**P**	**03 20 00.7**	**+3.8**
WB2	**Warramunga Arr**	**70.07**	**200**	P		**P**	**03 20 02.6**	**+1.9**
WB2				IAmb		IAmb	03 20 05.8	
	comp=Z,4.6nm,1.1s							
WRA	**Warramunga Arr**	**70.08**	**200**	P		**P**	**03 19 58.4**	**-2.2**
	comp=Z,0.5nm,0.8s,baz=16,slow=6.1,SNR=1.2 comp=Z,0.5nm,0.8s							
KIV	**Kislovodsk**	**70.55**	**315**	*e*P		**P**	**03 20 04.4**	**+0.8**
KIV	**Kislovodsk**	**70.55**	**315**	*e*P		**P**	**03 20 04.4**	**+0.8**
KIV				*e*			03 20 25.4	
KIV				pmax		pmax		
	comp=Z,2.0nm,0.9s							
TXAR	**Lajitas Array**	**76.02**	**62**	P		**P**	**03 20 34.3**	**-1.8**
	comp=Z,1.5nm,0.8s,baz=290,slow=8.6,SNR=4.4 comp=Z,1.5nm,0.8s							
Y49A	**Blount Mountai**	**81.94**	**47**	P		**P**	**03 21 07.4**	**-0.9**
Y49A				IAmb		IAmb	03 21 09.0	
	comp=Z,7.8nm,1.3s							
MMAI	**Mount Meron Ar**	**82.64**	**312**	P		**P**	**03 21 10.4**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=47,slow=8.5,SNR=2.0 comp=Z,0.3nm,0.3s							
H03N2	**Juan Fernandez**	**137.80**	**90**	T		T	06 01 32.8	
	baz=310,slow=77,SNR=13							
QSPA	**South Pole Qui**	**137.81**	**180**	PKP		**PKPdf**	**03 28 09.8**	**-1.7**
	comp=Z,0.5nm,0.8s,baz=226,slow=3.4,SNR=1.2							
H03N1	**Juan Fernandez**	**137.82**	**90**	T		T	06 01 31.7	
	baz=310,slow=77,SNR=20							
H03N3	**Juan Fernandez**	**137.82**	**90**	T		T	06 01 35.2	
	baz=310,slow=77,SNR=21							

*SDD **23** 03:16:00.3±2.4, 18.°46N×69.°04W, h158km±15km, MD3.2, ML2.7, MW3.0*
*NEIC **23** 03:16:02.5±1.8, 19.°5N±0.°1×68.°88W±0.°09, h35km±2km, ML2.6/10, Md3.2/4(RSPR), Error ellipse: s-maj=24.0km s-min=3.1km az=217.0*

RSPR 23 03:16:01.7, 19.75N×68.°82W, h35km±32km, MD3.2/4, 15C-5D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NADR	**Nagua**	**1.05**	**248**	⇑*e*Pg	Pn	03 16 25.3	+5.3
NADR				⇑*e*Sg	Sn	03 16 45.3	+12
NADR				IAML		03 16 47.6	
	comp=E,123nm,1.4s						
NADR				IAML		03 16 55.0	
	comp=N,120nm,1.2s						
HIDR	**Higuey Centro**	**1.16**	**175**	⇓*e*Pg	Pn	03 16 18.6	-2.7
HIDR				⇓*e*Sg	Sn	03 16 34.8	-1.1
HIDR				IAML		03 16 35.0	
	comp=N,175nm,0.2s						
PCDR	**Punta Cana, DR**	**1.30**	**161**	⇑*e*P	Pn	03 16 22.1	-1.2
PCDR	**Punta Cana, DR**	**1.30**	**161**	*e*S	Sn	03 16 38.2	-1.3
PCDR	**Punta Cana, DR**	**1.30**	**161**		Pn	03 16 21.3	-2.0
PCDR					Sn	03 16 36.4	-3.0
PCDR				IAML		03 16 55.8	
	comp=N,185nm,2.1s						
PCDR	**Punta Cana, DR**	**1.30**	**161**	⇑*e*Pg	Pn	03 16 21.7	-1.6
PCDR				⇑*e*Sg	Sn	03 16 39.4	0.0
PCDR				IAML		03 16 40.6	
	comp=E,51nm,1.0s						
PCDR				IAML		03 17 20.7	
	comp=N,792nm,1.9s						
BANI	**BANI**	**1.98**	**227**	⇑*e*Pg	Pn	03 16 26.8	-6.1
BANI				⇑*e*Sg	Sn	03 16 46.6	-10
BANI				IAML		03 16 48.1	
	comp=E,147nm,0.2s						
BANI				IAML		03 16 49.0	
	comp=N,188nm,0.1s						
LSP	**Las Mesas**	**2.27**	**133**	⇑*e*P	Pn	03 16 38.5	+1.8
LSP	**Las Mesas**	**2.27**	**133**	*e*S	Sn	03 17 01.1	-2.4
LSP	**Las Mesas**	**2.27**	**133**		Pn	03 16 38.5	+1.8
LSP					Sn	03 17 01.1	-2.4
CRPR	**Cabo Rojo, PR**	**2.37**	**137**	⇓*e*P	Pn	03 16 34.1	-4.0
CRPR	**Cabo Rojo, PR**	**2.37**	**137**		Pn	03 16 35.2	-2.9
CRPR				IAML		03 17 13.3	
	comp=N,27nm,2.8s						
CRPR	**Cabo Rojo, PR**	**2.37**	**137**	*e*Pg	Pn	03 16 32.8	-5.3
CRPR				⇑*e*Sg	Sn	03 16 59.2	-6.7
CRPR				IAML		03 17 05.7	
	comp=E,34nm,2.0s						
CRPR				IAML		03 17 12.6	
	comp=N,38nm,3.2s						
AOPR	**Arecibo Observ**	**2.40**	**125**	⇑*e*P	Pn	03 16 39.7	+1.2
AOPR	**Arecibo Observ**	**2.40**	**125**	*e*S	Sn	03 17 06.0	-0.8
AOPR	**Arecibo Observ**	**2.40**	**125**		Pn	03 16 38.4	-0.2
AOPR				IAML		03 17 14.3	
	comp=N,39nm,1.5s						
AOPR				IAML		03 17 21.7	
	comp=E,48nm,2.1s						
AOPR	**Arecibo Observ**	**2.40**	**125**		Sn	03 17 06.0	-0.8
SDDR	**Presa de Saban**	**2.45**	**252**	IAML		03 17 11.9	
	comp=E,17nm,0.5s						
SDDR				IAML		03 17 13.0	
	comp=N,12nm,1.4s						
UUPR	**Utuado, UPR, P**	**2.48**	**127**	⇓*e*P	Pn	03 16 40.9	+1.3
UUPR	**Utuado, UPR, P**	**2.48**	**127**	*e*S	Sn	03 17 08.2	-0.5
UUPR	**Utuado, UPR, P**	**2.48**	**127**		Sn	03 17 08.2	-0.5
UUPR	**Utuado, UPR, P**	**2.48**	**127**		Pn	03 16 40.0	+0.4
REDR	**Restauracion**	**2.50**	**257**	⇑*e*Pg	Pn	03 16 42.4	+2.6
REDR				⇑*e*Sg	Sn	03 17 13.9	+4.9
REDR				IAML		03 17 17.7	
	comp=E,14nm,0.3s						
REDR				IAML		03 17 46.7	
	comp=N,20nm,2.5s						
CELP	**Cerrillos**	**2.70**	**128**	⇑*e*P	Pn	03 16 41.8	-0.8
CELP	**Cerrillos**	**2.70**	**128**	*e*S	Sn	03 17 12.3	-1.7
CELP	**Cerrillos**	**2.70**	**128**		Pn	03 16 40.6	-2.0
CELP	**Cerrillos**	**2.70**	**128**		Sn	03 17 12.3	-1.7
CELP	**Cerrillos**	**2.70**	**128**	IAML		03 17 17.5	
	comp=E,21nm,3.0s						
CELP				IAML		03 17 32.0	
	comp=N,19nm,2.8s						
LOBA2	**Hotel Casa Bon**	**2.72**	**233**	⇑*e*Pg	Pn	03 16 34.4	-8.4
LOBA2				⇓*e*Sg	Sn	03 16 58.4	-16
LOBA2				IAML		03 17 00.5	
	comp=E,16nm,0.1s						
LOBA2				IAML		03 17 00.9	
	comp=N,14nm,0.2s						
PODR	**Polo**	**2.81**	**236**	*e*Pg	Pn	03 16 36.4	-7.9
PODR				⇑*e*Sg	Sn	03 17 03.6	-14
PODR				IAML		03 17 06.1	
	comp=N,42nm,1.4s						
PODR				IAML		03 17 07.3	
	comp=E,49nm,0.5s						

*ATH **23** 03:26:17.4, 37.°85N×21.°10E, h23km±1km, ML2.2/11, Error ellipse: s-maj=1.8km s-min=0.9km az=213.0*
*THE **23** 03:26:17.5, 37.°85N×21.°11E, h24km±2km, ML2.5/6, Error ellipse: s-maj=2.2km s-min=0.6km az=177.0*

ISC 23 03:26:17.3±1.0, 37.°85N±0.°03×21.°11E±0.°02, h26km±8km, n31, σ0°51/49, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
LTHK	**Lithakia**	**0.26**	**237**	P	**Pb**	**03 26 23.3**	**-0.4**
LTHK				S	**Sb**	**03 26 28.7**	**+0.5**
	2μm,0.3s						
LTHK	**Lithakia**	**0.26**	**237**	P	**Pb**	**03 26 23.4**	**-0.4**
LTHK		

ANX	**Ano Chora**	**0.98**	**41**	P	**Pb**	**03 26 35.4**	**-0.2**
ANX				AML	AML	03 26 52.6	
	comp=E,208μm,0.3s						
ANX				AML	AML	03 26 53.2	
	comp=N,313μm,0.4s						
GUR	**Goura**	**0.98**	**85**	P	**Pb**	**03 26 35.0**	**-0.6**
GUR				AML	AML	03 26 55.9	
	comp=E,178μm,0.3s						
GUR				AML	AML	03 26 57.8	
	comp=N,220μm,0.3s						
LKD2	**Lefkada island**	**1.00**	**339**	P	**Pn**	**03 26 35.6**	**-0.1**
LKD2				AML	AML	03 26 57.4	
	comp=E,257μm,0.4s						
LKD2				AML	AML	03 26 57.4	
	comp=N,257μm,0.4s						
PYL	**PYLOS**	**1.08**	**152**	P	**Pn**	**03 26 36.6**	**-0.1**

*NEIC **23** 03:34:59.6±1.7, 6°.2S±0°.1×149°.6E±0°.1, h82km±7km, mb4.5/26, Error ellipse: s-maj=21.8km s-min=12.4km az=124.0*

*IDC **23** 03:34:59.2±2.5, 6°.14S×149°.39E, h82km±21km, mb3.8/9, mbtmp4.1/10, Error ellipse: s-maj=30.8km s-min=13.0km az=114.0*

ISC 23 03:35:00.6±0.5, 6°.27S±0°.07×149°.6E±0°.1, h100km, n53, σ1s55/55, mb4.3/19, New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**3.29**	**51**			**Pn**	**03 35 47.7**	**-2.6**
PMG	**Port Moresby**	**3.94**	**218**	P		**Pn**	**03 35 57.5**	**-1.5**
	37nm,0.3s,baz=355,slow=6.2,SNR=12							
PMG				S		**Sn**	**03 36 42.2**	**-2.1**
	982nm,0.7s,baz=60,slow=16,SNR=23							
COEN	**Coen**	**9.91**	**219**	P		**Pn**	**03 37 18.6**	**-1.6**
COEN	**Coen**	**9.91**	**219**	Pn		**Pn**	**03 37 17.7**	**-2.4**
QIS	**Mount Isa**	**17.19**	**213**	P		**Pn**	**03 38 56.6**	**+1.9**
KDU	**Kakadu**	**18.04**	**248**	P		**P**	**03 39 01.6**	**-2.5**
EIDS	**Eidsvold**	**19.05**	**176**	P		**P**	**03 39 15.2**	**+0.2**
EIDS	**Eidsvold**	**19.05**	**176**	P		**Pn**	**03 39 16.3**	**-0.5**
WB0	**Warramunga Arr**	**19.95**	**226**	P		**P**	**03 39 25.5**	**+0.6**
WB0				IAmb		IAmb	03 39 26.1	
	comp=Z,156nm,1.0s							
WR0	**Warramunga Arr**	**19.97**	**226**	P		**P**	**03 39 25.8**	**+0.6**
WB2	**Warramunga Arr**	**20.10**	**226**	P		**P**	**03 39 27.2**	**+0.7**
WB2				IAmb		IAmb	03 39 27.7	
	comp=Z,16nm,0.9s							
WRA	**Warramunga Arr**	**20.11**	**226**	P		**P**	**03 39 25.5**	**-1.1**
WRA	**Warramunga Arr**	**20.11**	**226**	P		**P**	**03 39 26.7**	**+0.1**
	comp=Z,8.6nm,0.5s,baz=52,slow=11,SNR=90							
WRA				S		**S**	**03 43 06.2**	**-0.9**
	comp=Z,1.0nm,0.9s,baz=48,slow=22,SNR=2.3							
WRA				PcP		**PcP**	**03 43 38.5**	**+0.4**
	comp=Z,0.7nm,0.7s,baz=44,slow=1.9,SNR=2.3							
	comp=Z,8.6nm,0.5s							
LIFNC	**LIFOU**	**22.38**	**132**	P		P	03 39 42.5	-8.3
DZM	**Mont Dzumac**	**22.63**	**136**	P		**P**	**03 39 46.6**	**-6.9**
DZM	**Mont Dzumac**	**22.63**	**136**	P		**P**	**03 39 54.8**	**+1.3**
DZM				IAmb		IAmb	03 40 17.4	
	comp=Z,24nm,1.4s							
AS01	**Alice Springs**	**22.92**	**219**	P		**P**	**03 39 56.9**	**+0.6**
ASAR	**Alice Springs**	**22.95**	**219**	P		**P**	**03 39 56.9**	**+0.2**
	comp=Z,4.1nm,0.9s,baz=53,slow=8.9,SNR=26							
	comp=Z,4.1nm,0.9s							
OOD	**Oodnadatta**	**25.15**	**210**	P		**P**	**03 40 17.6**	**+1.0**
FITZ	**Fitzroy Crossi**	**26.15**	**241**	P		**P**	**03 40 25.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**26.15**	**241**	P		**P**	**03 40 26.0**	**+0.2**
LCRK	**Leigh Creek**	**26.32**	**203**	P		**P**	**03 40 28.0**	**+0.9**
STKA	**Stephens Creek**	**26.55**	**195**	P		**P**	**03 40 31.2**	**+2.0**
STKA	**Stephens Creek**	**26.55**	**195**	P		**P**	**03 40 31.2**	**+2.0**
	comp=Z,3.7nm,0.7s,baz=3.8,slow=12,SNR=8.3							
	comp=Z,3.7nm,0.7s							
MULG	**Mulgathing**	**28.00**	**210**	P		**P**	**03 40 42.6**	**+0.4**
BBOO	**Buckleboo**	**29.26**	**204**	P		**P**	**03 40 53.9**	**+0.6**
BBOO				IAmb		IAmb	03 41 10.6	
	comp=Z,12nm,1.4s							
FORT	**Forrest**	**31.67**	**217**	P		**P**	**03 41 15.3**	**+0.7**
FORT				IAmb		IAmb	03 41 39.9	
	comp=Z,16nm,1.0s							
RPZ	**Rata Peaks**	**41.80**	**157**	P		**P**	**03 42 42.6**	**+2.3**
PLWZ	**Palliser**	**41.92**	**151**	P		**P**	**03 42 42.1**	**+0.6**
GVZ	**Greta Valley S**	**42.00**	**154**	P		**P**	**03 42 43.3**	**+1.3**
USRK	**Ussuriysk Ar.**	**52.69**	**344**	P		**P**	**03 44 04.9**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=181,slow=7.2,SNR=2.7							
	comp=Z,0.8nm,0.6s							
PEA0B	**Petropavlovsk-**	**59.55**	**6**	P		**P**	**03 44 53.4**	**-0.1**
PETK	**Petropavlovsk-**	**59.55**	**6**	P		**P**	**03 44 52.3**	**-1.1**
PETK	**Petropavlovsk-**	**59.55**	**6**	P		**P**	**03 44 52.6**	**-0.9**
	comp=Z,4.7nm,0.5s,baz=162,slow=6.6,SNR=23							
	comp=Z,4.7nm,0.5s							
CASY	**Casey**	**65.70**	**196**	P		**P**	**03 45 34.3**	**+0.1**
CASY				IAmb		IAmb	03 46 17.5	
	comp=Z,9.7nm,1.4s							
VNDA	**Vanda**	**71.51**	**177**	P		**P**	**03 46 10.7**	**+0.6**
VNDA	**Vanda**	**71.51**	**177**	P		**P**	**03 46 11.8**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=320,slow=7.9,SNR=6.3							
	comp=Z,0.5nm,0.5s							
S12K	**Black Hills**	**73.47**	**26**	P		**P**	**03 46 22.3**	**+0.2**
O14K	**Tigyukauivet M**	**76.05**	**24**	P		**P**	**03 46 37.4**	**+0.6**
O14K				IAmb		IAmb	03 47 14.6	
	comp=Z,25nm,1.4s							
O16K	**Kokwok River B**	**77.54**	**24**	P		**P**	**03 46 45.5**	**+0.3**
O16K				IAmb		IAmb	03 47 13.3	
	comp=Z,13nm,1.5s							
M16K	**Timber Creek**	**78.06**	**23**	P		**P**	**03 46 48.4**	**+0.3**
M16K				IAmb		IAmb	03 47 05.8	
	comp=Z,11nm,1.4s							
TIXI	**Tiksi**	**78.95**	**353**	P		**P**	**03 46 54.2**	**+1.5**
TIXI				IAmb		IAmb	03 46 56.4	
	comp=Z,2.3nm,0.5s							
Q19K	**Cape Douglas,**	**79.06**	**26**	P		**P**	**03 46 52.8**	**-0.9**
Q19K				IAmb		IAmb	03 47 14.8	
	comp=Z,25nm,1.4s							
CNPM	**China Poot**	**80.43**	**26**	P		**P**	**03 47 00.8**	**-0.3**
G18K	**Tagagawik**	**81.15**	**19**	P		**P**	**03 47 04.4**	**-0.4**
G18K				IAmb		IAmb	03 47 32.3	
	comp=Z,6.1nm,1.5s							
D19K	**Kuna River**	**82.92**	**17**	P		**P**	**03 47 15.6**	**+1.6**
D19K				IAmb		IAmb	03 47 16.9	
	comp=Z,12nm,1.4s							
KURBB	**Kurchatov Arra**	**83.00**	**323**	P		**P**	**03 47 16.1**	**+1.4**
	comp=Z,0.2nm,0.5s,baz=77,slow=4.9,SNR=2.9							
	comp=Z,0.2nm,0.5s							
MLY	**Manley**	**83.41**	**22**	P		**P**	**03 47 16.6**	**0.0**
QSPA	**South Pole Qui**	**83.70**	**180**	P		**P**	**03 47 19.0**	**+0.7**
QSPA				IAmb		IAmb	03 47 44.6	
	comp=Z,5.8nm,1.4s							
QSPA	**South Pole Qui**	**83.70**	**180**	P		**P**	**03 47 19.6**	**+1.4**
	comp=Z,1.3nm,0.6s,baz=278,slow=3.0,SNR=12							
	comp=Z,1.3nm,0.6s							
ILAR	**Eielson Array**	**84.73**	**23**	P		**P**	**03 47 21.9**	**-1.3**
	comp=Z,0.6nm,0.7s,baz=245,slow=5.5,SNR=8.9							
	comp=Z,0.6nm,0.7s							
TORD	**Torodi Ar. Bea**	**147.65**	**285**	PKPbc		**PKiKP**	**03 54 34.6**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=81,slow=4.3,SNR=15							
BDFB	**Brasilia**	**152.11**	**141**	PKPbc		**PKiKP**	**03 54 47.0**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=270,slow=4.0,SNR=4.1							

WEL 23 03:58:50.8±1.0, 33°S±8°×17°9W±1°9, h33km, M4.2/3, mB5.0/2, ML4.4/7, MLv4.2/3, Mw(mB)4.4/2, Error ellipse: s-maj=0.0km s-min=0.0km az=109.8, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.24**	**14**	P		Pn	03 59 54.0	+0.9
WMGZ	**Waiomatatini S**	**4.85**	**204**	P		Pn	04 00 02.2	+0.7
WMGZ				S		Sn	04 01 00.2	+3.7
HAZ	**Te Kaha**	**5.03**	**209**	P		Pn	04 00 02.4	-1.6
HAZ				S		Sn	04 01 02.8	+1.8
PKGZ	**Pakihiroa**	**5.03**	**206**	P		Pn	04 00 03.1	-0.9
PKGZ				S		Sn	04 01 00.1	-1.0
PUZ	**Puketiti**	**5.13**	**204**	P		Pn	04 00 04.2	-1.2
PUZ				S		Sn	04 01 03.5	0.0
RUGZ	**Raukumara Rang**	**5.26**	**209**	P		Pn	04 00 07.4	+0.3
RUGZ				S		Sn	04 01 07.3	+0.7
OUZ	**Omahuta**	**6.30**	**251**	P		Pn	04 00 21.4	0.0

*IDC **23** 03:58:52.4±1.5, 5°.64S×142°.99E, h0km, mb3.9/3, mbtmp3.9/4, ML3.0/2, Error ellipse: s-maj=62.3km s-min=26.8km az=99.0*

ISC 23 03:58:56.0±1.1, 6°.1S±0°.1×143°.0E±0°.2, h35km, n6, σ2s15/7, mb3.8/3, New Guinea

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.26**	**168**	Pn		**P**	**04 02 21.9**	**-0.4**
	baz=224,slow=15,SNR=2.6							
WRA	**Warramunga Arr**	**16.16**	**211**	Pn		**P**	**04 02 41.5**	**-1.9**
	0.2nm,0.3s,baz=29,slow=13,SNR=9.6							
WRA				Sn		**Sn**	**04 05 37.8**	**-1.1**
	0.1nm,0.3s,baz=42,slow=23,SNR=1.9							
WRA				Lg		Lg	04 07 34.5	
	0.1nm,0.3s,baz=26,slow=31,SNR=2.5							
ASAR	**Alice Springs**	**19.57**	**206**	P		**Pn**	**04 03 25.9**	**+3.5**
	0.5nm,0.3s,baz=32,slow=10,SNR=34							
ASAR				Lg		Lg	04 09 26.8	
	0.1nm,0.3s,baz=27,slow=31,SNR=2.4							
	3.2nm,0.6s							
MKAR	**Makanchi Array**	**75.09**	**322**	P		**P**	**04 10 33.6**	**-0.8**
	0.7nm,0.7s,baz=104,slow=6.3,SNR=4.0							
	0.7nm,0.7s							
BVAR	**Borovoye Array**	**84.54**	**325**	P		**P**	**04 11 26.2**	**+0.8**
	1.4nm,0.6s,baz=109,slow=6.6,SNR=6.1							
	1.4nm,0.6s							
ILAR	**Eielson Array**	**87.13**	**24**	P		**P**	**04 11 37.8**	**-0.2**
	0.3nm,0.5s,baz=262,slow=4.2,SNR=6.9							
	0.3nm,0.5s							

*NEIC **23** 04:02:24.0±1.0, 19°.403N±0°.006×155°.276W±0°.007, h2km±2km, Error ellipse: s-maj=0.9km s-min=0.9km az=223.0*

HVO 23 04:02:23.2±1.1, 19°.417N±0°.008×155°.280W±0°.007, h0km±3km, ML2.7/17, ML2.2/35(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=182.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.00**	**286**			Pg	04 02 24.1	+0.7
NPH	**North Pit**	**0.01**	**188**			Pg	04 02 23.9	+0.5
UWB	**Uwekahuna B**	**0.01**	**15**			Pg	04 02 24.1	+0.6
UWE	**Uwekahuna**	**0.01**	**291**			Pg	04 02 24.0	+0.4
SBLHI	**Steaming Bluff**	**0.02**	**48**			Pg	04 02 24.6	+1.0
HATHI	**Halema'uma'u T**	**0.02**	**70**			Pg	04 02 24.2	+0.6
BYL	**Byron's Ledge**	**0.02**	**103**			Pg	04 02 24.4	+0.8
RIM	**Rim**	**0.02**	**164**			Pg	04 02 25.4	+1.7
KKO	**Keanakako`i**	**0.02**	**144**			Pg	04 02 25.6	+1.9
SDHHI	**Sand Hill**	**0.03**	**206**			Pg	04 02 24.5	+0.7
PUH	**Pauahi**	**0.07**	**125**			Pg	04 02 25.7	+1.0
PUH				IAML			04 02 26.8	
	comp=N,1μm,0.2s							
PUH	**Pauahi**	**0.07**	**125**			Sg	04 02 27.8	+2.2
KNHH	**Kane Nui o Ham**	**0.11**	**109**			Pg	04 02 25.6	+0.2
HLP	**Hilina Pali**	**0.12**	**192**			Pg	04 02 25.6	+0.1
HLP						Sg	04 02 28.5	+1.3
HLP				IAML			04 02 28.8	
	comp=N,988nm,1.4s							
HLP				IAML			04 02 29.2	
	comp=E,720nm,0.8s							
MLH	**Mauna Loa**	**0.13**	**308**			Pg	04 02 26.9	+1.3
MLH						Sg	04 02 29.8	+2.5
MLH	**Mauna Loa**	**0.13**	**308**	IAML			04 02 30.1	
	comp=E,2μm,0.3s							
MLH				IAML			04 02 30.1	
	comp=N,1μm,0.2s							
STCH	**Steam Cracks**	**0.15**	**102**			Pg	04 02 26.9	+0.8
STCH						Sg	04 02 29.6	+1.6
STCH	**Steam Cracks**	**0.15**	**102**	IAML			04 02 30.0	
	comp=E,517nm,0.3s							
STCH				IAML			04 02 31.0	
	comp=N,562nm,0.9s							
NPOC	**North of Pu'u**	**0.16**	**98**			Pg	04 02 27.1	+0.8
HTC	**Hot Caves**	**0.21**	**212**			Pg	04 02 28.1	+0.9
HMH	**Humu'ula Sheep**	**0.27**	**314**			Pg	04 02 29.3	+1.0
HMH	**Humu'ula Sheep**	**0.27**	**314**	IAML			04 02 36.6	
	comp=N,478nm,0.4s							
HMH				IAML			04 02 37.7	
	comp=E,452nm,0.5s							
MLOA	**Mauna Loa Obse**	**0.30**	**293**	Pg		Pg	04 02 29.9	+0.9
MLOA				IAML			04 02 36.5	
	comp=N,385nm,0.2s							
MLOA				IAML			04 02 39.4	
	comp=E,392nm,0.6s							
MWH	**Moku'aweowe**	**0.31**	**283**	Pg		Pg	04 02 30.0	+0.9
KHU	**Kahuku**	**0.36**	**242**			Pg	04 02 30.5	+0.4
KHU	**Kahuku**	**0.36**	**242**	IAML			04 02 32.6	
	comp=E,319nm,1.3s							
KHU				IAML			04 02 38.1	
	comp=N,285nm,0.6s							
POHA	**Pohakuloa**	**0.41**	**325**	Pg		Pg	04 02 31.4	+0.3
POHA				IAML			04 02 41.9	
	comp=N,325nm,0.5s							
HUH	**Hualalai**	**0.59**	**297**			Pg	04 02 35.2	+0.8

*IDC **23** 04:44:41.1±2.2, 31°.75S×68°.30W, h0km, mbtmp3.5/3, ML3.6/3, Error ellipse: s-maj=42.9km s-min=32.5km az=122.0*

*SJA **23** 04:44:46.2±0.7, 31°.11S×68°.55W, h18km±2km, ML3.7, MW3.7*

ISC 23 04:44:46.8±0.9, 31°.10S±0°.02×68°.49W±0°.04, h18km±7km, n36, σ1s67/51, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.23**	**177**	*eP*		**Pg**	**04 44 53.4**	**+1.2**
RTLL				IAML			04 44 59.1	
	comp=Z,7μm,0.5s							
SJA	**San Juan**	**0.43**	**188**	*eP*		**Pg**	**04 44 56.0**	**+0.4**
ZON	**Zonda**	**0.47**	**200**	*eP*		**Pg**	**04 44 56.0**	**-0.3**
DOCA	**Reserva Natura**	**0.53**	**287**	*eP*		**Pg**	**04 44 56.9**	**-0.6**
DOCA				*eS*		**Sg**	**04 45 04.2**	**-0.6**
DOCA				IAML			04 45 05.2	
	comp=Z,15μm,0.2s							
ACCO	**Cerro Coronel**	**0.71**	**316**	*eP*		**Pg**	**04 45 00.3**	**-0.5**
ACCO				*eS*		**Sg**	**04 45 09.2**	**-1.2**
RTCV	**Cerro Valdivia**	**0.76**	**183**	*eP*		**Pg**	**04 45 00.9**	**-0.7**
RTCV				*eS*		**Sg**	**04 45 11.9**	**+0.1**
RTLS	**Leoncito**	**0.98**	**225**	*eP*		**Pg**	**04 45 03.8**	**-2.0**
RTLS				IAML			04 45 18.4	
	comp=Z,3μm,0.8s							
AVFE	**Valle Fertil**	**0.99**	**64**	*eP*		**Pb**	**04 45 06.2**	**+0.7**
AVFE				IAML			04 45 21.3	
	comp=Z,2μm,0.3s							
ACDV	**Cuesta del Vie**	**1.08**	**330**	*eP*		**Pg**	**04 45 06.6**	**-1.0**
ACDV				IAML			04 45 21.8	
	comp=Z,937nm,0.5s							
AROD	**Rodeo**	**1.26**	**318**	*eP*		**Pn**	**04 45 09.6**	**-0.3**
AROD				*eS*		**Sb**	**04 45 26.4**	**+0.1**
ASAL	**Salagasta**	**1.51**	**191**	*eP*		**Pn**	**04 45 13.9**	**+0.8**
ACHE	**Chepes**	**1.57**	**93**	*eP*		Pn	04 45 06.0	-7.9
AGUA	**GUANDACOL**	**1.61**	**360**	*eP*		**Pb**	**04 45 16.2**	**+0.1**
AGUA				*eS*		**Sg**	**04 45 38.4**	**-0.4**
AGUA				IAML			04 45 39.8	
	comp=Z,784nm,0.2s							
ARCO	**CERRO ARCO**	**1.77**	**192**	*eP*		**Pn**	**04 45 18.3**	**+1.5**
ARCO				*eS*		**Sb**	**04 45 43.0**	**+2.1**
ARCO				IAML			04 45 44.0	
	comp=Z,380nm,0.4s							
CO01	**Juntas del Tor**	**1.78**	**309**	*eP*		**Pn**	**04 45 18.3**	**+1.3**
CO01				*eS*		**Sn**	**04 45 41.6**	**+2.3**
CO01				IAML			04 45 41.8	
	comp=Z,789nm,0.4s							
CO03	**El Pedregal**	**1.91**	**277**	*eP*		**Pn**	**04 45 19.2**	**+0.7**
CO03				*eS*		**Sn**	**04 45 44.3**	**+2.1**
CO03				IAML			04 45 46.5	
	comp=Z,798nm,0.6s							
AAGR	**Agrelo**	**2.00**	**188**	*eP*		**Pn**	**04 45 21.1**	**+1.3**
AAGR				*eS*		**Sg**	**04 45 50.9**	**-0.3**
AAGR				IAML			04 45 50.9	
	comp=Z,323nm,0.5s							
CO02	**Combarbal**	**2.15**	**267**	*eP*		**Pn**	**04 45 23.0**	**+1.1**
CO02				*eS*		**Sn**	**04 45 51.6**	**+3.3**
CO02				IAML			04 45 54.5	
	comp=Z,1μm,0.8s							
GO04	**Tololo Observa**	**2.20**	**294**	*eP*		**Pn**	**04 45 25.0**	**+2.4**
GO04				*eS*		**Sb**	**04 45 54.3**	**+1.2**
AVIZ	**Vizcacheras**	**2.36**	**181**	*eP*		**Pn**	**04 45 23.5**	**-1.3**
AVIZ				*eS*		**Sb**	**04 45 58.5**	**+0.7**
VCA	**Vinchina**	**2.37**	**6**	*eP*		**Pb**	**04 45 28.2**	**-0.9**
VCA				*eS*		**Sb**	**04 46 00.0**	**+1.9**
VCA				IAML			04 46 01.8	
	comp=Z,474nm,0.3s							
VA03	**San Esteban**	**2.41**	**226**	*eP*		**Pn**	**04 45 27.8**	**+2.3**
VA03				*eS*		**Sb**	**04 46 00.0**	**+0.8**
VA03				IAML			04 46 00.6	
	comp=Z,1μm,0.5s							
MRA	**San Martin**	**2.70**	**120**	*eP*		**Pn**	**04 45 30.9**	**+1.4**
MRA				IAML			04 46 23.1	
	comp=Z,230nm,0.5s							
AC05	**El Transito**	**2.74**	**325**	*eP*		**Pn**	**04 45 33.2**	**+3.1**
AC05				*eS*		**Sn**	**04 46 05.9**	**+3.1**
AC05				IAML			04 46 12.8	
	comp=Z,147nm,0.8s							
PEL	**Peldehue**	**2.76**	**222**	*eP*		**Pn**	**04 45 31.8**	**+1.5**
PEL				*eS*		**Sn**	**04 46 04.8**	**+1.7**
ROC1	**El Roble**	**2.84**	**228**	*eS*		**Sn**	**04 46 05.9**	**+0.3**
MT02	**Curacav**	**3.11**	**226**	*eP*		**Pn**	**04 45 35.4**	**+0.4**
MT02				IAML			04 46 24.6	
	comp=Z,158nm,0.5s							
VA01	**Torpederas**	**3.29**	**234**	*eP*		**Pn**	**04 45 37.3**	**-0.2**
VA01				IAML			04 46 30.0	
	comp=Z,101nm,0.6s							
CYA	**Choya**	**3.54**	**42**	*eP*		Pn	04 45 28.1	-13
CYA				IAML			04 46 51.2	
	comp=Z,130nm,0.5s							
MT01	**Popeta**	**3.61**	**220**	*eP*		**Pn**	**04 45 41.1**	**-0.8**
MT01				*eP*		Pn	**04 45 41.1**	**-0.8**
MT01				*eS*		**Sn**	**04 46 28.1**	**+4.0**
MT01				IAML			04 46 36.7	
	comp=Z,117nm,0.6s							
RFA	**San Rafael**	**3.66**	**180**	*eP*		**Pn**	**04 45 42.1**	**-0.5**
RFA				IAML			04 46 49.7	
	comp=Z,188nm,0.5s							
AC01	**Pan de Azucar**	**5.27**	**339**	*eP*		**Pn**	**04 46 06.8**	**+2.0**
LVC	**Limon Verde**	**8.47**	**357**	Pn		Pn	04 46 54.3	+5.3
	comp=Z,0.4nm,0.3s,baz=171,slow=13,SNR=2.2							
LVC				Sn		Sn	04 48 39.1	+15
	comp=Z,0.1nm,0.3s,baz=129,slow=20,SNR=1.0							
	comp=Z,1.3nm,0.4s							
CPUP	**Villa Florida**	**10.89**	**67**	Pn		**Pn**	**04 47 20.0**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=242,slow=13,SNR=4.4							
CPUP				Lg		Lg	04 50 31.0	
	comp=Z,0.2nm,0.3s,baz=156,slow=18,SNR=1.9							
	comp=Z,0.5nm,0.3s							
LPAZ	**La Paz**	**14.75**	**1**	Pn		**P**	**04 48 20.4**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=206,slow=13,SNR=2.2							
	comp=Z,0.3nm,0.4s							
WRA	**Warramunga Arr**	**124.71**	**206**	PKP		**PKPdf**	**05 03 42.2**	**-3.9**
	comp=Z,0.7nm,1.1s,baz=167,slow=1.7,SNR=4.6							

IDC 23 05:00:42.1±3.1, 53°.58N×87°.89E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=27.9km s-min=18.3km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.86**	**283**		I	I	05 12 30.0	
	baz=98,slow=325,SNR=4.3							
ZALV	**Zalesovo Beam**	**1.86**	**283**	Pn		Pn	05 01 15.0	-0.2
	0.9nm,0.3s,baz=105,slow=18,SNR=12							
ZALV				Lg		Lg	05 01 41.0	
	2.0nm,0.3s,baz=102,slow=23,SNR=11							
KURBB	**Kurchatov Arra**	**6.48**	**247**	Pn		Pn	05 02 18.9	+0.2
	0.1nm,0.3s,baz=64,slow=14,SNR=5.0							
KURBB				Lg		Lg	05 04 08.6	
	baz=63,slow=32,SNR=5.3							
	0.6nm,0.4s							
MKAR	**Makanchi Array**	**7.68**	**210**	Pn		Pn	05 02 36.9	+1.7
	0.1nm,0.3s,baz=30,slow=14,SNR=1.7							
MKAR				Lg		Lg	05 04 43.4	
	0.1nm,0.3s,baz=30,slow=32,SNR=3.0							
	0.1nm,0.3s							

OMAN 23 05:01:19.3±0.1, 18°.52N×60°.46E, h43km±18km, mb3.6/1, ml3.6/9, Error ellipse: s-maj=2.5km s-min=1.1km az=287.0, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DQM	**DQM**	**3.09**	**297**	P		Pn	05 02 05.0	-0.6
	SNR=14							
DQM				S		Sn	05 02 41.8	+0.4
MHTO	**MHTO**	**3.39**	**317**	P		Pn	05 02 10.5	+0.7
MHTO				S		Sn	05 02 49.0	+0.2
JLN	**Jalan Bani Buh**	**3.74**	**345**	P		Pn	05 02 14.0	-0.6
JLN				S		Sn	05 02 57.1	-0.3
	SNR=8.8							
WBK	**Wadi Bani Khal**	**4.30**	**341**	P		Pn	05 02 22.4	+0.1
WBK				S		Sn	05 03 12.0	+0.8
JMDO	**Jabal Madar**	**4.42**	**330**	P		Pn	05 02 24.2	+0.3
JMDO				S		Sn	05 03 15.0	+0.8
SHAO	**Shalim**	**4.62**	**265**	P		Pn	05 02 25.9	-0.7
	SNR=11							
SHAO				S		Sn	05 03 18.5	-0.5
SMDO	**Samad**	**5.04**	**334**	P		Pn	05 02 32.7	+0.1
SMDO				S		Sn	05 03 31.0	+1.3
	SNR=7.8							
BSY	**Bisya**	**5.19**	**325**	P		Pn	05 02 34.7	+0.2
BSY				S		Sn	05 03 34.7	+1.5
DMTO	**DMTO**	**5.30**	**262**	P		Pn	05 02 35.0	-0.9
DMTO				S		Sn	05 03 34.2	-1.6
HOQ	**Hoqain**	**5.83**	**330**	P		Pn	05 02 41.4	-1.9
DOK	**Doka**	**6.00**	**272**	P		Pn	05 02 46.6	+0.9
DOK				S		Sn	05 03 51.6	-1.5
WHFO	**Wadi

WRA	**Warramunga Arr**	**47.47**	**189**	P		**P**	**05 12 56.0**	**-2.2**
	comp=N,1.6nm,0.5s,baz=12,slow=8.8,SNR=27							
	comp=N,1.6nm,0.5s							
KURBB	**Kurchatov Arra**	**52.51**	**314**	P		**P**	**05 13 38.1**	**+1.9**
	comp=N,0.3nm,0.4s,baz=91,slow=7.4,SNR=7.9							
	comp=N,0.3nm,0.4s							
ILAR	**Eielson Array**	**57.81**	**29**	P		**P**	**05 14 15.0**	**+0.7**
	comp=N,2.1nm,0.9s,baz=264,slow=5.7,SNR=20							
	comp=N,2.1nm,0.9s							
DLBC	**Dease Lake**	**66.37**	**35**	LR		LR	05 44 24.3	
	comp=N,32nm,19.4s,baz=213,slow=36							
YKA	**Yellowknife Ar**	**72.24**	**28**	P		**P**	**05 15 48.8**	**+0.9**
	comp=N,1.8nm,0.6s,baz=299,slow=6.9,SNR=46							
	comp=N,1.8nm,0.6s							
FINES	**FINESS Array B**	**77.53**	**334**	P		**P**	**05 16 16.2**	**-2.3**
	comp=N,0.5nm,0.4s,baz=74,slow=5.9,SNR=1.9							
NVAR	**Mina Array Bea**	**80.83**	**52**	P		**P**	**05 16 38.8**	**+1.4**
	comp=N,1.1nm,0.7s,baz=290,slow=5.6,SNR=13							
	comp=N,1.1nm,0.7s							
PDAR	**Pinedale Array**	**84.47**	**44**	P		**P**	**05 16 56.8**	**+0.6**
	comp=N,1.1nm,0.8s,baz=218,slow=1.7,SNR=6.7							
	comp=N,1.1nm,0.8s							
TXAR	**Lajitas Array**	**95.93**	**53**	P		**P**	**05 17 52.1**	**+1.7**
	comp=N,0.7nm,0.9s,baz=322,slow=2.4,SNR=6.9							
	comp=N,0.7nm,0.9s							
PLCA	**Paso Flores**	**150.37**	**125**	PKPbc		**PKPbc**	**05 24 14.9**	**+0.4**
	comp=N,0.9nm,0.6s,baz=251,slow=4.2,SNR=4.4							
LPAZ	**La Paz**	**150.41**	**74**	PKPbc		**PKiKP**	**05 24 16.5**	**-0.2**
	comp=N,1.5nm,0.6s,baz=1.9,slow=3.3,SNR=9.2							

NNC 23 05:24:34.0±3.5, 38.79N×69.49E, h0km, mb 3.9, mpv 3.6, 2C-4D, Error ellipse: s-maj=29.1km s-min=21.7km az=166.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRLS	**Boroldaу**	**4.24**	**3**	Pg	Pb	05 25 47.0	-2.5
	8.3nm,0.6s						
BRLS				Lg	Lg	05 26 42.6	
	20nm,0.6s						
KK31	**Karatay Array**	**4.38**	**10**	⇑Pn	Pn	05 25 42.6	+0.8
	1.2nm,0.3s,baz=188,slow=14,SNR=24						
KK31				⇓Pg	Pg	05 25 56.6	-1.3
	2.7nm,0.3s,baz=195,slow=19,SNR=3.7						
KK31				⇓Lg	Lg	05 26 51.2	
	5.1nm,0.5s,baz=198,slow=26,SNR=4.4						
MRKS	**Merke**	**4.86**	**34**	Pg	Pb	05 25 59.9	-0.2
	19nm,0.6s						
MRKS				Lg	Lg	05 27 04.3	
	12nm,0.6s						
AAK	**Ala-Archa**	**5.41**	**43**	⇓Pn	Pn	05 25 55.8	-0.2
	3.2nm,0.5s						
AAK				⇓Sn	Sn	05 27 01.7	+2.6
	8.9nm,0.8s						
BTLS	**Baital**	**7.11**	**27**	Pg	Pb	05 26 43.2	+4.8
	2.5nm,0.6s						
BTLS				Lg	Lg	05 28 18.2	
	4.2nm,0.7s						
AB31	**Akbulak array**	**12.50**	**330**	⇑P	Pn	05 27 31.9	-1.2
	0.4nm,0.4s,baz=158,slow=9.6,SNR=18						

*DNK **23** 05:30:08.7±0.8, 59.54N×25.23E, h0km, ML2.5(UPP), Suspected explosion*
*UPP **23** 05:30:10.7±2.4, 59.55N×25.02E, h0km, ML2.5*
*IDC **23** 05:30:11.9±2.7, 59.44N×25.06E, h0km, mbtmp3.2/4, ML2.4/4, Error ellipse: s-maj=32.0km s-min=10.3km az=152.0*
*HEL **23** 05:30:12.7±0.1, 59.46N×24.73E, h0km, ML2.0, Explosion*
*EST **23** 05:30:12.6±0.0, 59.46N×24.74E, h0km, ML2.0(HEL), Explosion*
*LVSN **23** 05:30:13.0±2.2, 59.48N×24.83E, h0km±45km, ML2.6*

ISC 23 05:30:11.5±0.7, 59.47N±0.02×24.79E±0.02, h0km, n54, σ0 91/79, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE02	**Kiisa, Saku**	**0.28**	**189**	*e*P	**Pg**	**05 30 17.4**	**+0.5**
EE02				*e*S	**Sg**	**05 30 20.9**	**+0.4**
ARBE	**Arbavere**	**0.61**	**93**	*e*P	**Pb**	**05 30 24.2**	**-0.8**
ARBE	**Arbavere**	**0.61**	**93**	*e*P	**Pg**	**05 30 23.7**	**+0.6**
ARBE				*e*S	**Sg**	**05 30 31.2**	**+0.1**
ARBE				AML	AML	05 30 38.0	
	comp=E,5μm,0.1s						
ARBE				AML	AML	05 30 43.2	
	comp=N,458nm,0.2s						
ARBE				AML	AML	05 30 45.5	
	comp=Z,216nm,0.7s						
ARBE	**Arbavere**	**0.61**	**93**	*e*P	**Pb**	**05 30 23.8**	**-1.2**
ARBE				*e*S	**Sb**	**05 30 32.7**	**-1.4**
EE01	**Perakula, Nova**	**0.65**	**247**	*e*P	**Pg**	**05 30 23.8**	**-0.1**
EE01				*e*S	**Sg**	**05 30 31.9**	**-0.5**
HEL1	**Helsinki**	**0.71**	**4**	*e*S	**Sg**	**05 30 34.5**	**+0.2**
MEF	**Metsahovi**	**0.78**	**345**	*e*P	**Pg**	**05 30 27.0**	**+0.7**
MEF	**Metsahovi**	**0.78**	**345**	*e*P	**Pg**	**05 30 26.4**	**+0.1**
MEF				*e*S	**Sg**	**05 30 36.5**	**+0.1**
MEF	**Metsahovi**	**0.78**	**345**	*e*P	**Pg**	**05 30 26.5**	**+0.1**
MEF				*e*S	**Sg**	**05 30 36.3**	**0.0**
EE08	**Sarghaua, Vand**	**0.85**	**164**	*e*P	**Pg**	**05 30 28.0**	**+0.3**
EE08				*e*S	**Sg**	**05 30 38.4**	**-0.2**
MTSE	**Matsula**	**0.91**	**214**	*e*P	**Pg**	**05 30 28.9**	**0.0**
MTSE	**Matsula**	**0.91**	**214**	*e*P	**Pg**	**05 30 28.7**	**-0.2**
MTSE				*e*S	**Sg**	**05 30 40.8**	**+0.2**
MTSE	**Matsula**	**0.91**	**214**	*e*P	**Pg**	**05 30 28.7**	**-0.2**
MTSE				*e*S	**Sg**	**05 30 40.7**	**+0.2**
EE03	**Tooma soojaam,**	**0.97**	**127**	*e*P	**Pg**	**05 30 30.2**	**+0.1**
NUR	**Nurmijrvi**	**1.05**	**356**	*e*P	**Pg**	**05 30 31.4**	**-0.1**
NUR				*e*S	**Sg**	**05 30 45.0**	**-0.1**
PVF	**Pernaja**	**1.21**	**26**	*e*P	**Pg**	**05 30 34.4**	**-0.2**
PVF				*e*S	**Sb**	**05 30 50.9**	**-0.4**
VSU	**Vasula**	**1.43**	**134**	*e*P	**Pg**	**05 30 38.6**	**-0.2**
VJF	**Virojoki**	**1.76**	**51**	*e*P	**Pb**	**05 30 43.9**	**-0.6**
VJF				*e*SN	**Sg**	**05 31 07.7**	**-0.1**
VJF				MSG		05 31 10.9	
	comp=Z,15nm,0.1s						
FIA0	**FINESS Array S**	**2.08**	**17**	*e*PG	**Pb**	**05 30 49.8**	**-0.2**
FIA0				*e*SB	**Sb**	**05 31 16.3**	**-0.2**
FIA0				MSG		05 31 18.7	
	comp=Z,7.7nm,0.1s						
FINES	**FINESS Array B**	**2.08**	**17**	Pn	**Pb**	**05 30 49.4**	**-0.6**
	comp=Z,4.7nm,0.3s,baz=212,slow=12,SNR=226						
FINES				Sn	**Sb**	**05 31 16.3**	**-0.1**
	comp=Z,6.2nm,0.3s,baz=196,slow=25,SNR=28						
FINES				Lg	Lg	05 31 30.0	
	comp=Z,0.7nm,0.3s,baz=192,slow=34,SNR=13						
	comp=Z,8.5nm,0.3s						
FIA1	**FINESS Array S**	**2.08**	**17**	*e*PG	**Pb**	**05 30 49.8**	**-0.2**
FIA1				*e*SB	**Sb**	**05 31 16.3**	**-0.2**
FIA1				MSG		05 31 18.6	
	comp=Z,7.7nm,0.1s						
RAF	**Rauma**	**2.17**	**317**	*e*P	**Pb**	**05 30 50.6**	**-0.9**
RAF	**Rauma**	**2.17**	**317**	*e*P	**Pb**	**05 30 50.4**	**-1.1**
RAF				AML	AML	05 31 21.7	
	comp=Z,22nm,0.6s						
RAF				AML	AML	05 31 21.8	
	comp=E,23nm,0.2s						
RAF				AML	AML	05 31 22.1	
	comp=N,24nm,0.2s						
RAF	**Rauma**	**2.17**	**317**	*e*PB	**Pb**	**05 30 50.4**	**-1.1**
RAF				*e*SG	**Sb**	**05 31 19.3**	**+0.4**
RAF				MSG		05 31 21.2	
	comp=Z,8.3nm,0.1s						
SLIT	**Slitere, Latvi**	**2.26**	**216**	*e*P	**Pb**	**05 30 51.8**	**-1.3**
SLIT	**Slitere, Latvi**	**2.26**	**216**	*e*P	**Pb**	**05 30 52.1**	**-1.1**
SLIT				AML	AML	05 31 23.3	
	comp=E,124nm,0.5s						
SLIT				AML	AML	05 31 25.0	
	comp=N,132nm,0.3s						
SLIT				AML	AML	05 31 25.3	
	comp=Z,134nm,0.2s						
SLIT	**Slitere, Latvi**	**2.26**	**216**	*e*P	**Pb**	**05 30 52.0**	**-1.1**
AAL	**Aland**	**2.52**	**288**	*e*P	**Pn**	**05 30 55.5**	**+1.9**
AAL	**Aland**	**2.52**	**288**	*e*P	**Pn**	**05 30 54.0**	**+0.4**
AAL				*e*PB	**Pb**	**05 30 55.8**	**-1.8**
AAL	**Aland**	**2.52**	**288**	P	**Pn**	**05 30 54.1**	**+0.4**
AAL				S	**Sn**	**05 31 27.4**	**+2.4**
AAL	**Aland**	**2.52**	**288**	P	**Pn**	**05 30 54.1**	**+0.4**
AAL				S	**Sn**	**05 31 27.4**	**+2.4**
KEF	**Keuruu**	**2.71**	**1**	*e*P	**Pn**	**05 30 57.2**	**+1.0**
NRTU	**Norrtaelje**	**3.14**	**276**	P	**Pn**	**05 31 02.5**	**+0.4**
NRTU				S	**Sn**	**05 31 42.0**	**+1.8**
NRTU	**Norrtaelje**	**3.14**	**276**	P	**Pn**	**05 31 02.5**	**+0.4**
NRTU				S	**Sn**	**05 31 42.0**	**+1.8**
GRAU	**Graesoe**	**3.27**	**288**	P	**Pn**	**05 31 03.8**	**0.0**
GRAU				S	**Sn**	**05 31 43.6**	**+0.3**
GRAU	**Graesoe**	**3.27**	**288**	P	**Pn**	**05 31 03.8**	**0.0**
GRAU				S	**Sn**	**05 31 43.6**	**+0.3**
NYNU	**Nynaeshamn**	**3.52**	**265**	P	**Pn**	**05 31 08.2**	**+0.9**
NYNU	**Nynaeshamn**	**3.52**	**265**	P	**Pn**	**05 31 08.2**	**+0.9**
FLYU	**Flymyra**	**3.55**	**284**	P	**Pn**	**05 31 08.3**	**+0.5**
FLYU	**Flymyra**	**3.55**	**284**	P	**Pn**	**05 31 08.3**	**+0.5**
VAF	**Ylistaro**	**3.73**	**345**	*e*P	**Pn**	**05 31 13.4**	**+3.2**
PBUR	**Paburge**	**3.78**	**205**	*e*P	**Pn**	**05 31 12.0**	**+1.2**
FIBU	**Brunna**	**3.79**	**280**	P	**Pn**	**05 31 11.4**	**+0.3**
FIBU	**Brunna**	**3.79**	**280**	P	**Pn**	**05 31 11.4**	**+0.3**
BACU	**Backbrunna**	**3.92**	**279**	P	**Pn**	**05 31 12.9**	**+0.2**
BACU	**Backbrunna**	**3.92**	**279**	P	**Pn**	**05 31 12.9**	**+0.2**
OSTU	**Oestervaala**	**3.94**	**284**	P	**Pn**	**05 31 13.2**	**+0.1**
OSTU	**Oestervaala**	**3.94**	**284**	P	**Pn**	**05 31 13.2**	**+0.1**
IGGU	**Iggoen**	**3.99**	**294**	P	**Pn**	**05 31 14.1**	**+0.3**
IGGU	**Iggoen**	**3.99**	**294**	P	**Pn**	**05 31 14.1**	**+0.3**
JOF	**Joensuu**	**4.68**	**40**	*e*P	**Pn**	**05 31 23.9**	**+0.6**
HFS	**Hagfors**	**5.64**	**282**	Pn	**Pn**	**05 31 36.9**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=113,slow=13,SNR=18						
HFS				Sn	**Sn**	**05 32 41.2**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=92,slow=25,SNR=6.8						
HFS				Lg	Lg	05 33 06.2	
	comp=Z,1.0nm,0.3s,baz=95,slow=30,SNR=4.1						
	comp=Z,0.9nm,0.2s						
NOA	**NORSAR Array B**	**6.94**	**289**	Pn	**Pn**	**05 31 53.8**	**-0.4**
	baz=100,slow=12,SNR=6.3						
NOA				Sn	**Sn**	**05 33 12.6**	**-1.2**
	baz=233,slow=16,SNR=4.6						
NOA				Lg	Lg	05 33 48.6	
	comp=Z,0.1nm,0.3s,baz=122,slow=22,SNR=3.3						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**10.11**	**1**	Pn	**Pn**	**05 32 35.3**	**-2.4**
	baz=180,slow=13,SNR=6.2						
	comp=Z,3.4nm,1.0s						

*IDC **23** 05:44:41.6±0.3, 7.52N×36.31W, h0km, mb4.9/32, mbtmp4.9/34, ML4.7/2, MS4.9/75, Error ellipse: s-maj=12.6km s-min=9.1km az=133.0*
*MOS **23** 05:44:41.6±0.9, 7.59N×36.29W, h10km, mb5.5/58, MS4.9/21, Error ellipse: s-maj=10.7km s-min=4.5km az=50.7*
*NEIC **23** 05:44:43.8±1.5, 7.44N±0.10×36.24W±0.09, h10km±1km, mb5.4/616, Ms_20 5.1/954, Mwb5.6/55, Mww5.7/24, Error ellipse: s-maj=17.2km s-min=13.8km az=144.0, Moment Tensor Solution. Moment tensor: Scale 10 17 Nm; Mrr=0.17; Mθθ=0.14; Mφφ=0.31; Mrθ=0.54; Mθφ=-2.56; Mφr=0.87; Fault plane solution: M0 2.77000×10 17 NP1:φs=3.56000°, δ81.22000°, λ16.30000°. NP2:φs=271.00000°, δ73.90000°, λ170.86000°. Principal axes: T 2.9809, Plg18.0000°, Azm228.0000°; N -0.4757, Plg72.0000°, Azm31.0000°; P -2.5052, Plg5.0000°, Azm137.0000°;*
*NEIC **23** 05:44:43.8, 7.40N×36.21W, h10km*
*NEIC **23** 05:44:43.8, 7.24N×36.34W, h20km, Moment Tensor Solution. Duration: 3s1 Moment tensor: Scale 10 17 Nm; Mrr=0.18; Mθθ=0.89; Mφφ=1.07; Mrθ=0.99; Mθφ=-3.27; Mφr=1.87; Fault plane solution: M0 3.91000×10 17 NP1:φs=10.07000°, δ78.29000°, λ22.85000°. NP2:φs=275.18000°, δ67.65000°, λ167.33000°. Principal axes: T 4.4485, Plg24.0000°, Azm234.0000°; N -1.0808, Plg64.0000°, Azm36.0000°; P -3.3677, Plg7.0000°, Azm141.0000°;*
*NEIC **23** 05:44:43.8, 7.44N×36.24W, h20km*
*IPGP **23** 05:44:43.0, 7.40N×36.21W, h12km, Mw5.7, Fault plane solution: NP1:φs=360.00000°, δ84.00000°, λ-10.00000°. NP2:φs=91.00000°, δ80.00000°, λ-173.00000°.*
*GCMT **23** 05:44:45.8±0.1, 7.58N±0.01×36.31W±0.01, h16km, MW5.7/165, Moment Tensor Solution. s136,c260; s165,c350; Duration: 1s7 Moment tensor: Scale 10 17 Nm; Mrr=0.42±.04; Mθθ=0.12±.04; Mφφ=0.54±.04; Mrθ=0.60±.11; Mθφ=-3.85±.04; Mφr=0.13±.10; Best double couple: M0 3.91100×10 17 NP1:φs=273.00000°, δ90.00000°, λ-171.00000°. NP2:φs=183.00000°, δ81.00000°, λ0.00000°. Principal axes: T 4.1310, Plg6.0000°, Azm47.0000°; N -0.4410, Plg81.0000°, Azm273.0000°; P -3.6910, Plg6.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 05:44:42.9±0.2, 7.49N±0.04×36.30W±0.05, h10km, n1684, σ1 25/1073, mb5.4/458, MS5.1/543, 80C-28D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NBCL	**Cascavel-CE**	**11.81**	**190**	*e*P	**Pn**	**05 47 29.9**	**-1.7**
ROSB	**Rosrio**	**12.95**	**217**	*e*P	**Pn**	**05 47 44.5**	**-2.7**
RCBR	**Riachuelo**	**13.24**	**178**	Pn	**Pn**	**05 47 50.1**	**-1.0**
RCBR	**Riachuelo**	**13.24**	**178**	Pn	**Pn**	**05 47 50.5**	**-0.7**
	13nm,0.3s,baz=64,slow=9.5,SNR=108						
RCBR				Sn	Sn	05 50 07.5	-11
	31nm,0.3s,baz=63,slow=23,SNR=12						
RCBR				LR	LR	05 51 40.4	
	comp=Z,4μm,20.6s,baz=152,slow=32						
	83nm,0.5s						
RCBR	**Riachuelo**	**13.24**	**178**	*e*P	**Pn**	**05 47 50.2**	**-1.0**
NBPB	**Pedra_Branca-C**	**13.36**	**194**	*e*P	**Pn**	**05 47 52.2**	**-0.6**
SACV	**Santiago Islan**	**14.49**	**58**	Pn	Pn	05 48 02.0	-6.2
TMAB	**Tom-Au,PA,Br**	**15.32**	**231**	*e*P	**Pn**	**05 48 17.9**	**-1.5**
NBCA	**Caruaru-PE**	**15.62**	**179**	*e*P	**Pn**	**05 48 23.7**	**+0.3**
MDP	**Montagnes des**	**16.42**	**263**	Pn	**Pn**	**05 48 33.6**	**-0.1**
	1.0nm,0.3s,baz=50,slow=17,SNR=10.0						
MDP				Sn	Sn	05 51 16.4	-20
	1.4nm,0.3s,baz=77,slow=9.6,SNR=2.4						
MDP				LR	LR	05 53 23.0	
	comp=Z,4μm,21.9s,baz=70,slow=32						
	55nm,0.8s						
NBAN	**Anadia - AL**	**17.05**	**180**	*e*P	**Pn**	**05 48 42.8**	**+1.1**
MCPB	**Macapa, AP**	**17.55**	**244**	*e*P	**Pn**	**05 48 46.7**	**-1.2**
NBLA	**Lagarto - SE**	**18.43**	**185**	*e*P	**P**	**05 48 58.6**	**-0.1**
PRPB	**Parauapebas**	**19.14**	**225**	*e*P	**P**	**05 49 05.6**	**-0.9**
SMTB	**Santa Maria do**	**19.77**	**215**	*e*P	**P**	**05 49 12.9**	**-0.4**
MBO	**M'Bour**	**20.18**	**68**		**P**	**05 49 18.8**	**+1.0**
MBO				IAMs_20	IAMs_20	05 54 40.2	
	comp=Z,6μm,18.0s						
GDU01	**Guandu, BA**	**21.33**	**189**	*e*P	**P**	**05 49 29.6**	**-0.7**
SDBA	**SAO DESIDERIO**	**21.54**	**203**	*e*P	**P**	**05 49 32.4**	**-0.3**
ITTB	**Itatuba**	**22.70**	**239**	*e*P	**P**	**05 49 13.7**	**-1.3**
CMC01	**Camocan, BA**	**22.93**	**188**	*e*P	**P**	**05 49 48.2**	**+0.8**
BBGH	**Gun Hill**	**23.56**	**286**	*e*P	**P**	**05 49 52.9**	**-1.0**
JANB	**Januaria**	**23.77**	**200**	*e*P	**P**	**05 49 54.8**	**-1.2**
NPGB	**Novo Progresso**	**23.88**	**233**	*e*P	**P**	**05 49 55.8**	**-1.2**
GUA01	**Guaratinga, BA**	**24.17**	**188**	*e*P	**P**	**05 50 01.1**	**+1.5**
SNDB	**Serra Nova Dou**	**24.42**	**218**	*e*P	**P**	**05 50 01.6**	**-0.4**
BOAV	**Boa Vista**	**24.66**	**259**	P	**P**	**05 50 03.4**	**-0.7**
BOAV	**Boa Vista**	**24.66**	**259**	*e*P	**P**	**05 50 03.7**	**-0.5**
TRN	**Trinidad (W)**	**24.99**	**279**	*e*P	P	05 49 58.1	-9.0
H05S1	**Guadeloupe/Mar**	**25.04**	**288**	T	T	06 16 11.0	
	SNR=27						
SLBI	**Saint Lucia, B**	**25.08**	**287**	*e*P	**P**	**05 50 06.0**	**-2.0**
ILAM	**Ilet Lapin Mar**	**25.16**	**289**	*e*P	**P**	**05 50 07.7**	**-0.9**
SVB	**Belmont**	**25.20**	**285**	*e*P	**P**	**05 50 10.2**	**+1.1**
GCMP	**Grenada, Carri**	**25.23**	**283**	*e*P	**P**	**05 50 04.0**	**-5.3**
BIM	**Bigot**	**25.29**	**288**	*e*P	**P**	**05 50 12.3**	**+2.4**
GRGR	**Grenville**	**25.40**	**282**	*e*P	P	05 50 04.0	-6.9
GRHS	**Sauteurs**	**25.40**	**283**	*e*P	**P**	**05 50 14.5**	**+3.6**
ABR01	**Abrolhos, BA**	**25.41**	**185**	*e*P	**P**	**05 50 12.5**	**+1.7**
FDF	**Fort de France**	**25.41**	**289**	P	**P**	**05 50 11.9**	**+0.9**
FDF				IAmb	IAmb	05 50 20.0	
	comp=Z,121nm,1.0s						
FDF	**Fort de France**	**25.41**	**289**	P	**P**	**05 50 11.9**	**+0.9**
FDF				pmax	pmax		
	comp=Z,121nm,1.0s						
FDF				MLR	MLR		
	comp=Z,2μm,19.0s						
NAN01	**Guarapari, ES**	**25.46**	**189**	*e*P	**P**	**05 50 11.6**	**+0.3**
H05N1	**Guadeloupe/Mar**	**25.74**	**292**	T	T	06 16 57.2	
	SNR=14						
GDSD	**La Dsirade Is**	**25.75**	**292**	P	**P**	**05 50 16.1**	**+2.1**
GDSD				IAmb	IAmb	05 50 26.3	
	comp=Z,159nm,1.4s						
BDFB	**Brasilia**	**25.75**	**207**	P	**P**	**05 50 13.6**	**-0.5**
BDFB				IAmb	IAmb	05 50 26.7	
	comp=Z,105nm,1.0s						
BDFB				IAMs_20	IAMs_20	05 59 03.3	
	comp=Z,4μm,19.0s						
BDFB	**Brasilia**	**25.75**	**207**	P	**P**	**05 50 13.8**	**-0.3**
	comp=Z,76nm,0.9s,baz=36,slow=11,SNR=52						
BDFB				S	**S**	**05 54 46.9**	**+3.5**
	comp=Z,8.0nm,0.8s,baz=45,slow=26,SNR=1.6						
BDFB				LR	LR	05 59 13.6	
	comp=Z,5μm,19.5s,baz=23,slow=34						
	comp=Z,76nm,0.9s						
TDBA	**Terre de Bas,**	**26.14**	**291**	*e*P	P	05 50 07.1	-10
CBE	**Ff, Capester**	**26.18**	**291**	*e*P	**P**	**05 50 20.2**	**+2.2**
ABD	**La Joyeuse, An**	**26.18**	**292**	P	**P**	**05 50 19.6**	**+1.7**
GDHS	**Morne Mazeau,**	**26.38**	**292**	P	**P**	**05 50 21.6**	**+1.8**
GDHS				IAmb	IAmb	05 50 24.9	
	comp=Z,124nm,1.2s						
SJMB	**Sao Joao De Ma**	**26.47**	**190**	*e*P	**P**	**05 50 20.9**	**+0.4**
H10N3	**ASCENSION HYDR**	**26.54**	**125**	T	T	06 17 59.8	
	baz=305,slow=75,SNR=180						
MACA	**Manacapuru-AM**	**26.54**	**247**	P	**P**	**05 50 20.3**	**-0.9**
MACA				IAmb	IAmb	05 50 50.5	
	comp=Z,68nm,1.1s						
MACA	**Manacapuru-AM**	**26.54**	**247**	*e*P	**P**	**05 50 21.1**	**-0.1**
H10N2	**ASCENSION HYDR**	**26.54**	**125**	T	T	06 18 00.1	
	baz=305,slow=75,SNR=133						
H10N1	**ASCENSION HYDR**	**26.56**	**125**	T	T	06 18 01.3	
	baz=305,slow=75,SNR=196						
ANBD	**Bethesda, Anti**	**26.61**	**293**	*e*P	**P**	**05 50 22.8**	**+1.1**
CLDB	**Colider**	**26.64**	**227**	*e*P	**P**	**05 50 22.5**	**+0.4**
DIAM	**Diamantina, MG**	**26.64**	**196**	*e*P	**P**	**05 50 22.1**	**-0.1**
CRUV	**Carupano**	**26.79**	**279**	*e*P	**P**	**05 50 23.9**	**+0.5**
RIB01	**Linhares ES**	**26.94**	**189**	*e*P	**P**	**05 50 24.5**	**-0.2**
H10S3	**ASCENSION HYDR**	**27.05**	**127**	T	T	06 18 39.1	
	baz=304,slow=74,SNR=308						
H10S2	**ASCENSION HYDR**	**27.07**	**127**	T	T	06 18 40.5	
	baz=276,slow=74,SNR=106						
ARAG	**Araguaiana, MT**	**27.70**	**214**	*e*P	**P**	**05 50 31.1**	**-0.5**
PMNB	**Patos De Minas**	**27.73**	**201**	*e*P	**P**	**05 50 31.3**	**-0.7**
PDRB	**Porto dos Gac**	**27.81**	**227**	*e*P	**P**	**05 50 30.8**	**-1.8**
IPMB	**Ipameri, GO**	**27.92**	**205**	*e*P	**P**	**05 50 32.0**	**-1.5**
ALF01	**Guarapari-ES**	**28.27**	**189**	*e*P	**P**	**05 50 37.9**	**+1.3**
EOSO	**Osorio**	**28.35**	**41**	P	**P**	**05 50 36.6**	**-0.8**
CAM01	**Campos-RJ**	**29.61**	**190**	*e*P	**P**	**05 50 50.7**	**+2.2**
DUB01	**Friburgo-RJ**	**29.99**	**191**	*e*P	**P**	**05 50 51.6**	**-0.4**
SALV	**Santo Antonio**	**30.16**	**220**	*e*P	**P**	**05 50 52.5**	**-1.0**
TEFE	**Tefe**	**30.32**	**250**	*e*P	**P**	**05 50 55.3**	**+0.4**
ITRB	**Iturama**	**30.37**	**207**	*e*P	**P**	**05 50 55.6**	**+0.3**
VAS01	**Vassouras-RJ**	**30.41**	**193**	*e*P	**P**	**05 50 56.8**	**+1.2**
BB19B	**Bebedouro**	**30.82**	**203**	*e*P	**P**	**05 50 60.0**	**+0.7**
IGPR	**InterUniversit**	**30.84**	**293**	P	**P**	**05 50 59.0**	**-0.5**
IGPR				IAmb	IAmb	05 51 07.1	
	comp=Z,57nm,0.9s						
PMAR	**Madeira**	**30.89**	**33**	*e*P	**P**	**05 51 02.7**	**+2.7**
SJG	**San Juan**	**30.91**	**293**	IAMs_20	IAMs_20	06 00 51.0	
	comp=Z,3μm,19.0s						
TIC	**Toumodi**	**31.05**	**90⇑**	*e*P	**P**	**05 51 00.9**	**-0.5**
	comp=Z,31nm,0.8s						
LIC	**Lamto**	**31.07**	**90⇑**	*e*P	**P**	**05 51 01.4**	**-0.2**
	comp=Z,121nm,0.9s						
MAN01	**Angra dos Reis**	**31.09**	**194**	*e*P	**P**	**05 51 02.5**	**+0.9**
PSMN	**Pico do Norte,**	**31.10**	**18**	*e*LQ	LQ	05 57 28.0	
DBIC	**Dimbokro**	**31.21**	**89**	P	**P**	**05 51 01.4**	**-1.4**
DBIC				IAmb	IAmb	05 51 03.5	
	comp=Z,65nm,0.8s						
DBIC	**Dimbokro**	**31.21**	**89**	P	**P**	**05 51 01.7**	**-1.1**
	comp=Z,43nm,0.6s,baz=275,slow=11,SNR=38						
DBIC				S	**S**	**05 56 12.8**	**+3.5**
	comp=Z,3.4nm,0.8s,baz=283,slow=8.6,SNR=1.3						
DBIC				LR	LR	06 00 56.6	
	comp=Z,936nm,18.7s,baz=252,slow=31						
	comp=Z,43nm,0.6s						
VILB	**Vilhena**	**31.25**	**230**	P	**P**	**05 51 02.6**	**-0.6**
VILB				IAmb	IAmb	05 52 03.7	
	comp=Z,61nm,0.9s						
VILB	**Vilhena**	**31.25**	**230**	*e*P	**P**	**05 51 03.7**	**+0.5**
CELP	**Cerrillos**	**31.30**	**293**	P	**P**	**05 51 03.0**	**-0.5**
CELP				IAmb	IAmb	05 51 10.9	
	comp=Z,61nm,0.9s						
OBIP	**Obispado Ponce**	**31.31**	**292**	P	**P**	**05 51 05.1**	**+1.4**
OBIP				IAmb	IAmb	05 51 11.5	
	comp=Z,45nm,0.9s						
KIC	**Kosan Boka**	**31.34**	**90⇑**	*e*P	**P**	**05 51 03.8**	**-0.2**
	comp=Z,40nm,0.9s						
**SA

TORD Torodi Ar. Bea 37.76 78 P **P** 05 51 58.7 -0.9
TORD IAmb IAmb 05 52 00.0
comp=Z,106nm,1.1s
TORD IAMs_20 IAMs_20 06 04 41.2
comp=Z,3µm,21.0s
TORD Torodi Ar. Bea 37.76 78 P **P** 05 51 58.9 -0.7
comp=Z,66nm,1.0s,baz=273,slow=9.6,SNR=94
TORD LR LR 06 05 15.1
comp=Z,3µm,21.4s,baz=261,slow=33
comp=Z,66nm,1.0s
ITAB Concordia 37.78 203 P **P** 05 51 59.6 +0.1
ITAB IAmb IAmb 05 52 02.4
comp=Z,201nm,2.0s
ITAB Concordia 37.78 203 *e*P **P** 05 52 00.3 +0.9
RTC Rabat Centre 37.85 42 S **S** 05 57 51.2 -0.2
ROSC El Rosal 37.89 268 P **P** 05 52 01.7 +0.6
ROSC IAmb IAmb 05 52 14.2
comp=Z,45nm,0.7s
ROSC El Rosal 37.89 268 P **P** 05 52 01.7 +0.6
comp=Z,30nm,0.6s,baz=133,slow=11,SNR=16
ROSC LR LR 06 08 07.1
comp=Z,3µm,18.8s,baz=313,slow=37
comp=Z,30nm,0.6s
PFVI Vila Bisbo 38.65 36 *e*P **P** 05 52 07.7 +1.0
comp=Z,120nm,1.8s
PFVI Vila Bisbo 38.65 36 IAMs_20 IAMs_20 06 05 25.2
comp=Z,2µm,19.0s
PFVI Vila Bisbo 38.65 36 S **S** 05 58 00.8 -2.6
PFVI P **P** 05 52 07.4 +0.6
MDT Midelt 38.70 45 LR LR 06 06 23.4
comp=Z,2µm,20.3s,baz=251,slow=34
IFR Ifrane 38.74 44 P **P** 05 52 09.0 +1.2
CRSM Crissiumal (Br 38.79 206 *e*P **P** 05 52 08.8 +0.7
MORF Marmelete 38.87 36 *e*P **P** 05 52 09.4 +0.8
comp=Z,98nm,1.2s
MORF Marmelete 38.87 36 P **P** 05 52 09.0 +0.3
MORF IAmb IAmb 05 52 10.8
comp=Z,84nm,1.1s
MORF IAMs_20 IAMs_20 06 03 44.0
comp=Z,3µm,22.0s
MORF Marmelete 38.87 36 *e*P **P** 05 52 09.3 +0.7
MORF *e*S **S** 05 58 08.7 +1.9
MORF IAMs_20 IAMs_20 06 02 55.2
comp=E,3µm,28.4s
MORF Marmelete 38.87 36 *e*P **P** 05 52 09.3 +0.7
MORF *e*S **S** 05 58 08.7 +1.9
PTEO Sao Teotonio 38.99 36 *e*P **P** 05 52 10.4 +0.8
comp=E,110nm,1.2s
CNLB Canela 39.19 200 *e*P **P** 05 52 12.2 +0.8
PBDV Barranco-do-Ve 39.25 37 *e*P **P** 05 52 12.8 +0.9
comp=E,181nm,1.1s
PBDV Barranco-do-Ve 39.25 37 P **P** 05 52 12.7 +0.9
CZSB Cruzeiro do Su 39.33 248 P **P** 05 52 11.7 -1.0
CZSB IAmb IAmb 05 52 21.5
comp=Z,88nm,0.9s
CZSB IAMs_20 IAMs_20 06 08 32.4
comp=Z,3µm,19.0s
CZSB Cruzeiro do Su 39.33 248 *e*P **P** 05 52 11.8 -1.0
CPUP Villa Florida 39.34 211 P **P** 05 52 12.4 -0.1
CPUP Villa Florida 39.34 211 P **P** 05 52 12.9 +0.4
comp=Z,4.6nm,0.9s,baz=351,slow=9.2,SNR=8.2
CPUP PP **PP** 05 53 42.1 -0.9
comp=Z,8.9nm,1.1s,baz=45,slow=11,SNR=4.1
CPUP LR LR 06 08 25.3
comp=Z,4µm,18.2s,baz=32,slow=36
comp=Z,4.6nm,0.9s
CPUP Villa Florida 39.34 211 P **P** 05 52 12.4 -0.1
CPUP pmax pmax
comp=Z,60nm,1.7s
CPUP MLR MLR
comp=Z,4µm,18.0s
CPUP Villa Florida 39.34 211 *e*P **P** 05 52 12.5 -0.1
LPAZ La Paz 39.38 233 P **P** 05 52 13.7 -0.2
LPAZ IAMs_20 IAMs_20 06 07 32.1
comp=Z,2µm,19.0s
LPAZ La Paz 39.38 233 P **P** 05 52 14.3 +0.5
comp=Z,32nm,0.7s,baz=46,slow=6.7,SNR=162
LPAZ LR LR 06 07 51.8
comp=Z,2µm,18.4s,baz=37,slow=35
comp=Z,32nm,0.7s
LPAZ La Paz 39.38 233 P **P** 05 52 13.7 -0.2
LPAZ pmax pmax
comp=Z,45nm,1.0s
LPAZ MLR MLR
comp=Z,2µm,19.0s
LPAZ La Paz 39.38 233 *e*P **P** 05 52 14.5 +0.6
PCVE Castro Verde 39.45 36 *e*P **P** 05 52 14.4 +1.0
comp=Z,38nm,1.2s
PCVE Castro Verde 39.45 36 P **P** 05 52 14.2 +0.8
MESJ Messejana 39.48 36 *e*P **P** 05 52 14.5 +0.8
comp=Z,66nm,1.2s
MESJ Messejana 39.48 36 P **P** 05 52 14.5 +0.8
MESJ IAMs_20 IAMs_20 06 04 22.3
comp=Z,2µm,19.0s
MESJ Messejana 39.48 36 *e*P **P** 05 52 14.5 +0.8
MESJ *e*S **S** 05 58 17.8 +1.9
MESJ IAMs_20 IAMs_20 06 03 01.3
comp=Z,3µm,29.0s
MESJ Messejana 39.48 36 P **P** 05 52 14.5 +0.8
MESJ pmax pmax
comp=Z,49nm,1.0s
PVAQ Vaqueiros 39.48 37 *e*P **P** 05 52 14.7 +1.0
comp=Z,138nm,1.5s
PVAQ *e*S **S** 05 58 18.7 +2.7
PVAQ eLR LR 06 02 32.5
comp=Z,2µm,20.0s
PVAQ Vaqueiros 39.48 37 P **P** 05 52 13.6 -0.2
PVAQ IAmb IAmb 05 52 19.5
comp=Z,99nm,1.4s
PVAQ Vaqueiros 39.48 37 P **P** 05 52 14.6 +0.8
PNCL Nicolau / Gran 39.49 35 *e*P **P** 05 52 14.6 +0.8
comp=Z,80nm,1.5s
ALGR Alto Alegre (B 39.52 203 *e*P **P** 05 52 14.8 +0.6
LIS Lisbon 39.56 34 *e*S **S** 05 58 19.0 +2.0
LIS IAMs_20 IAMs_20 06 04 30.9
comp=N,3µm,16.2s
PMAFR Mafra 39.66 34 *e*P **P** 05 52 16.2 +1.0
comp=N,180nm,1.6s
PMAFR Mafra 39.66 34 P **P** 05 52 16.1 +0.9
EGRO El Granado 39.71 37 P **P** 05 52 16.5 +0.8
PACT Alcochete 39.77 34 *e*P **P** 05 52 17.2 +1.1
comp=N,247nm,1.7s
SFS San Fernando 39.80 39 P **P** 05 52 18.8 +2.4
PBEJ Beja 39.81 36 *e*P **P** 05 52 17.3 +0.8
comp=N,55nm,1.3s
ECEU Ceuta 39.98 40 P **P** 05 52 19.5 +1.6
CEU Ceuta 39.98 40 P **P** 05 52 19.8 +1.9
EVO Evora 40.07 35 *e*P **P** 05 52 19.4 +0.8
comp=N,119nm,2.0s
EVO Evora 40.07 35 P **P** 05 52 19.5 +0.9
PVLZ Peæn de 40.25 42 P **P** 05 52 21.2 +1.1
ESPR Espera 40.27 39 P **P** 05 52 21.2 +0.9
PSBE So Bento 40.32 34 *e*P **P** 05 52 21.6 +0.9
comp=N,190nm,1.7s
PMTG Montargil 40.32 34 *e*P **P** 05 52 21.4 +0.7
comp=N,128nm,1.5s
EMIN Mina Concepcio 40.35 37 P **P** 05 52 21.6 +0.7
PBAR Barrancos 40.40 36 *e*P **P** 05 52 22.3 +1.0
comp=N,103nm,1.7s
PBAR Barrancos 40.40 36 P **P** 05 52 22.4 +1.0
PESTR Estremoz 40.54 35 *e*P **P** 05 52 23.1 +0.5
comp=N,63nm,1.4s
PESTR Estremoz 40.54 35 P **P** 05 52 23.1 +0.5
PESTR IAMs_20 IAMs_20 06 06 12.4
comp=Z,3µm,18.0s
PESTR Estremoz 40.54 35 P **P** 05 52 23.5 +0.9
UNIS Unistalda (Bra 40.60 206 *e*P **P** 05 52 23.5 +0.4
EMIJ Mijas 40.77 40 P **P** 05 52 25.0 +0.5
EBAD Badajoz 40.80 36 P **P** 05 52 25.7 +1.1
PCAS Casmilo, Conde 40.86 33 *e*P **P** 05 52 26.0 +0.9
comp=Z,157nm,1.6s
TICA Tres Isletas 41.00 214 *e*P **P** 05 52 26.5 +0.1
COI Coimbra 41.02 33 *e*P **P** 05 52 27.4 +1.0
comp=Z,173nm,1.1s
COI Coimbra 41.02 33 P **P** 05 52 26.7 +0.3
COI IAMs_20 IAMs_20 06 05 05.0
comp=Z,3µm,21.0s
COI Coimbra 41.02 33 P **P** 05 52 26.7 +0.3
COI pmax pmax
comp=Z,126nm,0.9s
PMRV Marv??o 41.04 35 *e*P **P** 05 52 27.8 +1.2
comp=Z,196nm,1.3s
EMAL Malaga-Limoner 41.11 40 P **P** 05 52 28.5 +1.3
CPSB Cacapava Do Su 41.12 203 *e*P **P** 05 52 27.9 +0.6
PB18 Visviri 41.18 232 P **P** 05 52 27.8 -0.8
PB18 IAmb IAmb 05 53 17.3
comp=Z,158nm,1.4s
PB18 IAMs_20 IAMs_20 06 08 47.7
comp=Z,4µm,19.0s
WMELI Melilla 41.24 43 P **P** 05 52 29.2 +0.9
PCBR Castelo Branco 41.27 34 *e*P **P** 05 52 29.1 +0.6
comp=Z,52nm,1.6s
ECAB El Cabril 41.30 38 P **P** 05 52 29.7 +0.8
MTDJ Mount Denham 41.50 289 IAMs_20 IAMs_20 06 06 09.3
comp=Z,3µm,21.0s
CHAS Isla Isabel II 41.52 44 P **P** 05 52 31.3 +0.7
EGOR Sierra Gorda, 41.52 40 P **P** 05 52 31.9 +1.1
EALB Alboran 41.53 42 P **P** 05 52 31.3 +0.6
MTE Manteigas 41.62 34 *e*P **P** 05 52 32.2 +0.7
comp=Z,160nm,1.8s
MTE *e*S **S** 05 58 51.0 +3.0
MTE *e*LR LR 06 03 35.6
comp=Z,2µm,22.0s
MTE Manteigas 41.62 34 P **P** 05 52 31.7 +0.2
MTE IAmb IAmb 05 52 33.4
comp=Z,62nm,0.9s
MTE IAMs_20 IAMs_20 06 05 36.1
comp=Z,3µm,21.0s
PVIS Viseu 41.65 33 *e*P **P** 05 52 32.3 +0.6
ELGU Los Guajares, 41.69 41 P **P** 05 52 32.2 +0.2
RODS Rosario do Sul 41.77 205 *e*P **P** 05 52 33.4 +0.7
ITQB Itaqui 41.81 207 P **P** 05 52 33.0 0.0
ITQB IAmb IAmb 05 52 35.2
comp=Z,192nm,1.7s
ITQB Itaqui 41.81 207 *e*P **P** 05 52 33.3 +0.3
EADA Adamuz 41.88 38 P **P** 05 52 34.4 +0.9
EQTA Presa de Quent 42.01 40 P **P** 05 52 35.9 +1.2
PVRL Vila Real 42.14 33 *e*P **P** 05 52 36.4 +0.7
comp=Z,90nm,1.5s
POLO Lamas de Olo 42.17 32 *e*P **P** 05 52 36.7 +0.7
comp=Z,40nm,1.6s
EBER Berja 42.18 41 P **P** 05 52 37.2 +0.9
PCAB Cabril 42.29 32 *e*P **P** 05 52 37.5 +0.6
comp=Z,85nm,1.6s
AP01 Chacalluta 42.30 232 IAMs_20 IAMs_20 06 10 33.2
comp=Z,2µm,18.0s
PGAV Gavieira, Arco 42.35 31 *e*P **P** 05 52 37.9 +0.5
comp=Z,156nm,1.6s
PGAV *e*S **S** 05 59 02.8 +4.1
PGAV eLR LR 06 04 00.3
comp=Z,2µm,22.0s
IMBA Imbabura, San 42.39 262 P **P** 05 52 39.7 +1.2
IMBA IAmb IAmb 05 52 49.3
comp=Z,61nm,1.0s
PLTB Pedras Altas 42.40 202 P **P** 05 52 38.3 +0.5
PLTB Pedras Altas 42.40 202 *e*P **P** 05 52 38.7 +0.9
PB12 IPOC Station P 42.42 232 IAMs_20 IAMs_20 06 09 31.6
comp=Z,2µm,20.0s
MVO Moncorvo 42.44 33 *e*P **P** 05 52 38.6 +0.5
comp=Z,87nm,1.3s
MVO *e*S **S** 05 59 04.1 +4.1
MVO eLR LR 06 03 50.2
comp=Z,2µm,20.0s
PB11 IPOC Station P 42.57 230 P **P** 05 52 37.3 -2.2
PB11 IAmb IAmb 05 54 02.9
comp=Z,44nm,0.8s
ENIJ Nijar 42.67 41 P **P** 05 52 40.9 +0.9
PAB San Pablo 42.88 37 P **P** 05 52 41.2 -0.6
PAB San Pablo 42.88 37 IAMs_20 IAMs_20 06 06 05.3
comp=Z,2µm,21.0s
PAB San Pablo 42.88 37 P **P** 05 52 41.2 -0.6
PAB pmax pmax
comp=Z,46nm,1.2s
TAM Tamanrasset 42.96 65 P **P** 05 52 42.8 +0.1
TAM IAmb IAmb 05 52 45.4
comp=Z,114nm,1.5s
TAM IAMs_20 IAMs_20 06 08 42.4
comp=Z,2µm,20.0s
TAM Tamanrasset 42.96 65 P **P** 05 52 42.8 +0.1
TAM pmax pmax
comp=Z,114nm,1.5s
PBRG Braganca 43.04 33 *e*P **P** 05 52 43.7 +0.7
comp=Z,127nm,1.6s
HMBC Humberstone 43.05 230 P **P** 05 52 41.2 -2.2
HMBC IAMs_20 IAMs_20 06 09 58.0
comp=Z,3µm,20.0s
ECAL Calabor 43.13 33 P **P** 05 52 44.7 +0.9
ES14 SONSECA Array 43.17 37 IAMs_20 IAMs_20 06 06 57.8
comp=Z,2µm,20.0s
ES15 SONSECA Array 43.17 37 IAMs_20 IAMs_20 06 06 56.8
comp=Z,2µm,20.0s
ES13 SONSECA Array 43.18 37 IAMs_20 IAMs_20 06 07 10.1
comp=Z,2µm,22.0s
ES16 SONSECA Array 43.19 37 IAMs_20 IAMs_20 06 06 58.3
comp=Z,2µm,20.0s
ES12 SONSECA Array 43.19 37 IAMs_20 IAMs_20 06 06 59.3
comp=Z,2µm,20.0s
ES05 SONSECA Array 43.19 37 IAMs_20 IAMs_20 06 07 07.4
comp=Z,2µm,20.0s
ESDC Sonseca Array 43.20 37 P **P** 05 52 44.2 -0.1
ESDC IAMs_20 IAMs_20 06 06 59.4
comp=Z,2µm,20.0s
ESDC Sonseca Array 43.20 37 P **P** 05 52 44.9 +0.6
comp=Z,18nm,1.0s,baz=239,slow=8.8,SNR=87
ESDC LR LR 06 07 39.7
comp=Z,2µm,20.0s,baz=230,slow=32
comp=Z,18nm,1.0s
ES04 SONSECA Array 43.20 37 IAMs_20 IAMs_20 06 06 59.6
comp=Z,2µm,20.0s
ESBB Sonseca Array 43.20 37 P **P** 05 52 44.1 -0.2
ESBB IAMs_20 IAMs_20 06 06 15.6
comp=Z,2µm,21.0s
ES06 SONSECA Array 43.20 37 IAMs_20 IAMs_20 06 06 58.8
comp=Z,2µm,20.0s
ES11 SONSECA Array 43.21 37 IAMs_20 IAMs_20 06 07 00.8
comp=Z,2µm,20.0s
ES17 SONSECA Array 43.21 37 IAMs_20 IAMs_20 06 06 58.9
comp=Z,2µm,20.0s
ES03 SONSECA Array 43.21 37 IAMs_20 IAMs_20 06 06 16.9
comp=Z,2µm,21.0s
ES07 SONSECA Array 43.21 37 IAMs_20 IAMs_20 06 06 58.0
comp=Z,2µm,20.0s
ES02 SONSECA Array 43.21 37 IAMs_20 IAMs_20 06 06 17.1
comp=Z,2µm,21.0s
ES10 SONSECA Array 43.22 37 IAMs_20 IAMs_20 06 06 17.3
comp=Z,2µm,20.0s
ES18 SONSECA Array 43.23 37 IAMs_20 IAMs_20 06 06 47.4
comp=Z,2µm,20.0s
TA02 Huaiique 43.23 230 IAMs_20 IAMs_20 06 09 58.8
comp=Z,3µm,19.0s
ES08 SONSECA Array 43.23 37 IAMs_20 IAMs_20 06 06 16.5
comp=Z,2µm,21.0s
ES09 SONSECA Array 43.24 37 IAMs_20 IAMs_20 06 06 17.6
comp=Z,2µm,21.0s
TBOT Tacuaremb 43.24 205 *e*P **P** 05 52 44.9 +0.3
ES19 SONSECA Array 43.25 37 IAMs_20 IAMs_20 06 06 18.0
comp=Z,2µm,21.0s
CHSH Refugio Sur-Vo 43.40 260 P **P** 05 52 46.8 -0.1
CHSH IAMs_20 IAMs_20 06 09 37.7
comp=Z,3µm,21.0s
TA01 Diego Aracena 43.44 229 IAMs_20 IAMs_20 06 10 29.4
comp=Z,3µm,20.0s
PSAL Palomas, Salto 43.45 207 *e*P **P** 05 52 47.3 +1.0
AF01 San Pedro de A 43.46 225 IAMs_20 IAMs_20 06 11 10.6
comp=Z,3µm,21.0s
PATCX Punta Patache 43.57 229 IAMs_20 IAMs_20 06 10 43.8
comp=Z,3µm,19.0s
LVC Limon Verde 43.76 226 IAMs_20 IAMs_20 06 11 23.7
comp=Z,2µm,20.0s
LVC Limon Verde 43.76 226 LR LR 06 11 44.8
comp=Z,2µm,18.9s,baz=50,slow=37
EMUR La Murta 43.80 41 P **P** 05 52 49.0 -0.2
CART Cartagena 43.81 42 P **P** 05 52 48.2 -0.9
CART IAmb IAmb 05 52 50.0
comp=Z,57nm,0.9s
CART Cartagena 43.81 42 P **P** 05 52 48.9 -0.3
HAL Halifax 43.96 332 IAMs_20 IAMs_20 06 06 27.1
comp=Z,2µm,22.0s
UCM Universidad Co 44.02 37 P **P** 05 52 52.2 +1.2
ETOB Tobarra 44.06 40 P **P** 05 52 52.0 +0.7
ATAH Atahualpa 44.43 252 LR LR 06 12 59.2
comp=Z,4µm,18.2s,baz=76,slow=38
PB04 IPOC Station P 44.48 227 IAMs_20 IAMs_20 06 10 51.7
comp=Z,2µm,22.0s
NNA Nana 44.72 245 IAMs_20 IAMs_20 06 11 02.2
comp=Z,3µm,20.0s
NNA Nana 44.72 245 LR LR 06 11 13.2
comp=Z,3µm,21.4s,baz=69,slow=36
NNA Nana 44.72 245 *i* P **P** 05 52 59.0 +2.1
ECHE Chera 44.98 39 P **P** 05 53 00.0 +1.4
ARNL Arenillas 45.03 257 P **P** 05 52 58.9 -0.4
ARNL IAmb IAmb 05 53 17.5
comp=Z,34nm,0.8s
ARNL IAMs_20 IAMs_20 06 11 48.0
comp=Z,2µm,20.0s
DRLN Deer Lake 45.29 341 P **P** 05 53 00.5 -0.4
DRLN IAmb IAmb 05 53 17.3
comp=Z,49nm,1.1s
LMN Caledonia Moun 45.44 332 IAMs_20 IAMs_20 06 07 24.0
comp=Z,2µm,21.0s
M65A Busby, Falmout 45.58 324 IAMs_20 IAMs_20 06 06 58.7
comp=Z,2µm,20.0s
M65A Busby, Falmout 45.58 324 P **P** 05 53 03.7 +0.5
baz=128
GO02 Mina Guanaco 45.87 224 IAMs_20 IAMs_20 06 13 45.5
comp=Z,3µm,18.0s
EMMW East Machias 45.90 329 IAmb IAmb 05 53 10.3
comp=Z,62nm,1.2s
L64A Middleborough 45.92 324 IAmb IAmb 05 53 10.5
comp=Z,106nm,1.8s
L64A IAMs_20 IAMs_20 06 07 09.9
comp=Z,2µm,19.0s
PB14 IPOC Station P 46.09 225 P P 05 53 14.2 +6.3
EIBI Ibiza 46.14 41 P **P** 05 53 08.1 +0.4
G65A Princeton 46.30 329 IAmb IAmb 05 53 13.3
comp=Z,40nm,1.2s
BCX Boston College 46.36 324 IAmb IAmb 05 53 16.0
comp=Z,34nm,1.2s
WES Weston 46.48 324 IAmb IAmb 05 53 15.8
comp=Z,99nm,1.9s
WES IAMs_20 IAMs_20 06 07 15.7
comp=Z,2µm,22.0s
HRV Adam Dziewonsk 46.69 324 P **P** 05 53 12.9 +0.9
HRV Adam Dziewonsk 46.69 324 P **P** 05 53 12.6 +0.5
baz=128
HRV Adam Dziewonsk 46.69 324 P **P** 05 53 12.9 +0.9
HRV pmax pmax
comp=Z,95nm,1.4s
WVL Waterville 46.95 327 IAmb IAmb 05 53 18.5
comp=Z,38nm,1.1s
WSPT Westport, CT 46.96 322 IAmb IAmb 05 53 19.6
comp=Z,45nm,1.1s
QUA2 Belchertown 47.02 323 IAMs_20 IAMs_20 06 07 52.0
comp=Z,2µm,20.0s
CNNC Cliffs of the 47.04 312 IAMs_20 IAMs_20 06 08 43.9
comp=Z,2µm,21.0s
CNNC Cliffs of the 47.04 312 P **P** 05 53 15.2 +0.3
baz=116
F64A Sherman 47.16 330 IAMs_20 IAMs_20 06 08 07.6
comp=Z,2µm,20.0s
K62A Royalston 47.19 324 IAMs_20 IAMs_20 06 07 47.3
comp=Z,2µm,20.0s
AC01 Pan de Azucar 47.20 224 IAMs_20 IAMs_20 06 13 48.7
comp=Z,2µm,21.0s
PAL Palisades 47.22 321 IAmb IAmb 05 53 23.6
comp=Z,30nm,0.9s
PAL Palisades 47.22 321 P **P** 05 53 16.5 +0.3
baz=125,SNR=7.1
PKME Peaks-Kenny Pk 47.23 328 IAmb IAmb 05 53 20.6
comp=Z,43nm,1.1s
PKME Peaks-Kenny Pk 47.23 328 P **P** 05 53 16.6 +0.4
baz=133
DWPF Disney Wildern 47.27 302 P **P** 05 53 16.9 +0.1
baz=107
L61B Northampton 47.32 323 IAMs_20 IAMs_20 06 07 59.9
comp=Z,2µm,19.0s
L61B Northampton 47.32 323 P **P** 05 53 17.3 +0.4
baz=127
W59A Clinton 47.42 312 IAMs_20 IAMs_20 06 08 36.9
comp=Z,2µm,19.0s
I62A Tamworth 47.42 326 IAmb IAmb 05 53 25.5
comp=Z,35nm,1.1s
ETOS Mallorca 47.50 41 P **P** 05 53 19.1 +0.7
T59A Double "B" Far 47.58 314 P **P** 05 53 20.1 +1.1
T59A IAMs_20 IAMs_20 06 08 09.0
comp=Z,2µm,22.0s
ODNJ Ogdensburg 47.70 321 IAmb IAmb 05 53 25.4
comp=Z,55nm,1.5s
WUPA West Chester U 47.72 319 IAmb IAmb 05 53 25.5
comp=Z,30nm,1.2s
H62A Milan 47.77 327 IAmb IAmb 05 53 25.3
comp=Z,29nm,1.1s
J61A Chester 47.79 324 IAmb IAmb 05 53 25.6
comp=Z,66nm,1.4s
AC06 Mina Casimiro 47.82 222 IAmb IAmb 05 53 51.5
comp=Z,26nm,0.7s
AC06 IAMs_20 IAMs_20 06 13 26.2
comp=Z,3µm,21.0s
HNH Hanover 47.85 325 IAmb IAmb 05 53 26.0
comp=Z,31nm,1.1s
G62A West of Eustis 47.85 328 IAmb IAmb 05 53 26.1
comp=Z,53nm,1.1s
LBNH Lisbon 47.98 326 IAmb IAmb 05 53 27.3
comp=Z,52nm,1.4s
LBNH IAMs_20 IAMs_20 06 08 36.1
comp=Z,2µm,21.0s
LBNH Lisbon 47.98 326 P **P** 05 53 22.3 +0.2
baz=129
CBN Corbin Frederi 48.04 316 IAmb IAmb 05 53 46.4
comp=Z,30nm,0.9s
CBN Corbin Frederi 48.04 316 P **P** 05 53 22.8 +0.3
baz=119
DFRA Djebel Bou Aff 48.04 47 P P 05 53 30.5 +7.7
CEST Esterri de Car 48.10 37 IAmb IAmb 05 53 26.1
comp=Z,67nm,1.0s
CEST IAMs_20 IAMs_20 06 09 55.2
comp=Z,2µm,21.0s
JTS Las Juntas de 48.12 277 LR LR 06 14 31.2
comp=Z,496nm,18.8s,baz=104,slow=37
257A Skidaway Islan 48.17 307 IAMs_20 IAMs_20 06 08 56.7
comp=Z,2µm,20.0s
V58A Windy Hill, Pi 48.19 312 IAmb IAmb 05 53 29.4
comp=Z,34nm,1.1s
MVL Millersville 48.24 318 IAmb IAmb 05 53 29.8
comp=Z,39nm,1.1s
R58B Mineral 48.27 315 IAmb IAmb 05 53 30.0
comp=Z,63nm,1.4s
E62A Clayton Lake 48.27 330 IAmb IAmb 05 53 33.3
comp=Z,26nm,1.1s
E62A IAMs_20 IAMs_20 06 08 51.0
comp=Z,2µm,20.0s
D62A Allapoint, All 48.36 330 P **P** 05 53 25.2 +0.3
D62A IAMs_20 IAMs_20 06 08 56.2
comp=Z,2µm,20.0s
CASM Ain Smara 48.36 47 P **P** 05 53 26.4 +1.2
ACCN Adirondack Com 48.46 324 IAmb IAmb 05 53 31.4
comp=Z,87nm,1.9s
VT1 Waterbury 48.51 325 IAmb IAmb 05 53 30.8
comp=Z,59nm,1.6s
MAHO Mahon 48.52 42 P **P** 05 53 26.9 +0.6
MAHO Mahon 48.52 42 P **P** 05 53 27.3 +1.0
456A Hilliard 48.55 305 IAMs_20 IAMs_20 06 08 58.9
comp=Z,2µm,22.0s
656A Williston 48.56 303 IAMs_20 IAMs_20 06 08 58.1
comp=Z,2µm,22.0s
CKFL Kef-Lekhel 48.59 47 P **P** 05 53 28.5 +1.5
L59A Walton 48.59 322 IAmb IAmb 05 53 32.4
comp=Z,68nm,1.2s
KSPA Keystone Colle 48.70 321 IAmb IAmb 05 53 33.0
comp=Z,43nm,1.1s
BIRD Birdtown, Kers 48.72 310 IAmb IAmb 05 53 33.6
comp=Z,41nm,1.1s
AC05 El Transito 48.76 221 IAmb IAmb 05 54 17.9
comp=Z,75nm,1.5s
T57A Hurt 48.81 314 IAMs_20 IAMs_20 06 09 39.5
comp=Z,2µm,20.0s
CAEH 'Ain El Ouahch 48.85 47 P **P** 05 53 30.1 +1.2
AC04 Llanos de Chal 48.86 222 IAmb IAmb 05 53 45.4
comp=Z,38nm,0.9s
S57A Dark Hollow, R 48.93 315 IAmb IAmb 05 53 53.9
comp=Z,43nm,1.0s
S57A IAMs_20 IAMs_20 06 08 49.8
comp=Z,2µm,21.0s
J59A Piesco 49.00 323 IAmb IAmb 05 53 35.4
comp=Z,54nm,1.2s
J59A IAMs_20 IAMs_20 06 09 02.3
comp=Z,2µm,21.0s
EJON La Jonquera 49.01 38 P **P** 05 53 30.7 +0.7
ABSA Djebel Ababsia 49.09 48 P **P** 05 53 32.4 +1.6
NCB Newcomb 49.13 324 IAmb IAmb 05 53 36.5
comp=Z,83nm,1.6s
LCO Las Campanas 49.15 221 IAMs_20 IAMs_20 06 14 22.2
comp=Z,2µm,20.0s
BINY Binghamton 49.18 321 IAmb IAmb 05 53 37.2
comp=Z,59nm,1.3s
BINY Binghamton 49.18 321 P **P** 05 53 31.9 +0.6
baz=123,SNR=9.9
CMAH Djebel Manchou 49.19 47 P **P** 05 53 32.6 +1.0

LFF La Frestale 49.20 34 *e*P P 05 53 31.5 +0.1
LFF pmax pmax
comp=Z,77nm,1.1s

VAL Valentia 49.22 21 P P 05 53 31.6 +0.3
FRNY Flat Rock 49.28 325 IAmb IAmb 05 53 36.8
comp=Z,45nm,1.2s

255A Hazlehurst 49.31 306 IAMs_20 IAMs_20 06 09 19.9
comp=Z,2µm,22.0s

U56A King 49.35 312 IAmb IAmb 05 53 51.9
comp=Z,58nm,1.8s

U56A IAMs_20 IAMs_20 06 09 03.9
comp=Z,2µm,21.0s

J58A Remsen 49.40 323 IAMs_20 IAMs_20 06 08 52.0
comp=Z,2µm,22.0s

CO01 Juntas del Tor 49.42 219 IAmb IAmb 05 53 51.5
comp=Z,59nm,1.2s

M57A Sunshine Farm, 49.44 320 P P 05 53 33.3 -0.1
M57A IAmb IAmb 05 53 38.2
comp=Z,82nm,1.6s

KMSC Kings Mountain 49.57 310 IAmb IAmb 05 53 36.6
comp=Z,72nm,2.0s

KMSC Kings Mountain 49.57 310 P P 05 53 34.5 0.0
baz=113

SSPA Standing Stone 49.58 318 P P 05 53 34.9 +0.5
SSPA Standing Stone 49.58 318 P P 05 53 34.9 +0.5
baz=120

ZON Zonda 49.65 217 IAmb IAmb 05 53 59.6
comp=Z,35nm,1.2s

ZON IAMs_20 IAMs_20 06 14 21.2
comp=Z,2µm,19.0s

Q56A Snyder Ridge, 49.68 316 IAmb IAmb 05 53 41.1
comp=Z,36nm,0.9s

MNTQ Montreal, Queb 49.71 326 IAmb IAmb 05 53 39.6
comp=Z,46nm,1.3s

MNTQ IAMs_20 IAMs_20 06 09 59.1
comp=Z,1µm,19.0s

LONY Lake Ozonia 49.72 325 P P 05 53 36.3 +0.9
baz=126

BLA Blacksburg 49.74 313 IAmb IAmb 05 53 41.7
comp=Z,46nm,1.0s

BLA IAMs_20 IAMs_20 06 10 09.2
comp=Z,2µm,20.0s

BLA Blacksburg 49.74 313 P P 05 53 36.8 +1.1
baz=115,SNR=11

V55A Taylorsville 49.76 311 IAmb IAmb 05 53 41.9
comp=Z,32nm,1.1s

V55A IAMs_20 IAMs_20 06 10 37.9
comp=Z,1µm,20.0s

PAULI Pauline 49.82 310 IAmb IAmb 05 53 42.1
comp=Z,59nm,1.8s

CAF Calviac 49.95 35 *e*P P 05 53 37.0 -0.1
CAF pmax pmax
comp=Z,89nm,1.2s

R55A Marlinton 49.99 315 IAmb IAmb 05 53 52.9
comp=Z,95nm,1.8s

R55A IAMs_20 IAMs_20 06 10 06.8
comp=Z,2µm,20.0s

TATN Tataouine 50.04 53 IAMs_20 IAMs_20 06 13 05.2
comp=Z,2µm,21.0s

154A Montrose 50.04 307 IAmb IAmb 05 54 02.8
comp=Z,50nm,1.0s

154A IAMs_20 IAMs_20 06 09 32.3
comp=Z,3µm,22.0s

LDAQ Lac Daran 50.05 330 IAmb IAmb 05 53 42.1
comp=Z,69nm,1.2s

TIGA Tifton 50.05 305 IAmb IAmb 05 53 50.5
comp=Z,40nm,1.0s

TIGA IAMs_20 IAMs_20 06 09 43.6
comp=Z,2µm,22.0s

TIGA Tifton 50.05 305 P P 05 53 38.1 0.0
baz=108

CO05 La Serena 50.11 220 IAMs_20 IAMs_20 06 14 25.5
comp=Z,2µm,20.0s

L56A Greenwood 50.13 320 IAmb IAmb 05 53 43.3
comp=Z,74nm,1.4s

KEST Kesra 50.26 49 P P 05 53 40.9 +1.1
comp=Z,84nm,1.0s,baz=202,slow=6.0,SNR=50

KEST LR LR 06 13 25.0
comp=Z,4µm,22.0s,baz=192,slow=34
comp=Z,84nm,1.0s

WBO Williamsburg 50.34 325 IAMs_20 IAMs_20 06 09 45.9
comp=Z,1µm,21.0s

553A Crawfordville 50.37 303 IAMs_20 IAMs_20 06 10 05.2
comp=Z,2µm,21.0s

MCWV Mont Chateau 50.42 316 IAmb IAmb 05 53 45.7
comp=Z,47nm,1.5s

MCWV Mont Chateau 50.42 316 P P 05 53 40.9 +0.1
baz=118

TGUH Tegucigalpa,Un 50.42 282 IAmb IAmb 05 53 59.9
comp=Z,31nm,0.8s

TGUH IAMs_20 IAMs_20 06 11 50.5
comp=Z,1µm,19.0s

U54A Nelsons Funny 50.48 312 IAmb IAmb 05 53 47.3
comp=Z,34nm,1.1s

U54A IAMs_20 IAMs_20 06 10 21.8
comp=Z,1µm,20.0s

M55A Ridgway 50.57 319 IAmb IAmb 05 53 47.4
comp=Z,74nm,1.6s

GOGA Godfrey 50.59 307 IAMs_20 IAMs_20 06 10 18.9
comp=Z,3µm,21.0s

GOGA Godfrey 50.59 307 P P 05 53 42.0 -0.2
baz=110

S54A Dingess, Beckl 50.63 314 IAMs_20 IAMs_20 06 10 15.8
comp=Z,1µm,20.0s

TRQ Mont Tremblant 50.67 326 IAmb IAmb 05 53 47.0
comp=Z,73nm,1.3s

TRQ IAMs_20 IAMs_20 06 09 36.3
comp=Z,2µm,22.0s

BG3 Lake Jocassee 50.73 310 IAmb IAmb 05 53 49.5
comp=Z,35nm,1.0s

Q54A Coxs Mills 50.80 315 IAmb IAmb 05 53 48.6
comp=Z,92nm,1.8s

Q54A IAMs_20 IAMs_20 06 10 43.2
comp=Z,2µm,20.0s

CO02 Combarbal 50.83 219 IAmb IAmb 05 53 58.3
comp=Z,39nm,0.7s

CO06 Fray Jorge 50.87 220 IAmb IAmb 05 54 00.8
comp=Z,58nm,1.0s

CO06 IAMs_20 IAMs_20 06 16 52.6
comp=Z,2µm,19.0s

J55A Hilton 50.89 321 IAmb IAmb 05 53 48.9
comp=Z,60nm,1.5s

O54A Avella 51.03 317 IAmb IAmb 05 53 50.9
comp=Z,136nm,2.0s

352A Blakely 51.16 305 IAMs_20 IAMs_20 06 10 28.8
comp=Z,2µm,22.0s

Y52A Lilburn 51.21 308 IAMs_20 IAMs_20 06 10 48.3
comp=Z,2µm,21.0s

152A Waverly Hall 51.35 306 IAMs_20 IAMs_20 06 10 33.9
comp=Z,2µm,21.0s

P53A Whipple 51.41 315 IAmb IAmb 05 53 53.8
comp=Z,52nm,0.9s

P53A IAMs_20 IAMs_20 06 10 06.3
comp=Z,1µm,21.0s

DELO Deloro Mine 51.45 323 IAmb IAmb 05 53 53.1
comp=Z,59nm,1.4s

DELO IAMs_20 IAMs_20 06 10 26.1
comp=Z,1µm,19.0s

ALLY Alegheny Colle 51.56 318 IAmb IAmb 05 53 54.8
comp=Z,49nm,0.9s

SSB Saint Sauveur 51.58 36 IAmb IAmb 05 53 52.3
comp=Z,68nm,1.0s

SSB Saint Sauveur 51.58 36 IAMs_20 IAMs_20 06 12 12.4
comp=Z,2µm,21.0s

451A Vernon 51.58 303 IAMs_20 IAMs_20 06 10 42.2
comp=Z,2µm,22.0s

TKL Tuckaleechee C 51.62 310 LR LR 06 10 37.3
comp=Z,1µm,21.9s,baz=120,slow=30

N53A Lisbon 51.62 317 IAmb IAmb 05 53 55.5
comp=Z,72nm,1.1s

O53A New Philadelph 51.63 316 IAmb IAmb 05 53 55.4
comp=Z,64nm,1.1s

O53A IAMs_20 IAMs_20 06 11 24.1
comp=Z,1µm,18.0s

O53A New Philadelph 51.63 316 P P 05 53 50.5 +0.7
baz=117,SNR=17

VA03 San Esteban 51.63 217 IAmb IAmb 05 53 59.9
comp=Z,36nm,0.9s

ERPA Erie 51.69 319 P P 05 53 50.8 +0.5
baz=119

TZTN Tazewell 51.77 311 IAmb IAmb 05 53 56.8
comp=Z,62nm,1.4s

TZTN Tazewell 51.77 311 P P 05 53 51.3 +0.2
baz=112

MT08 Bocatoma Ro 51.79 216 IAmb IAmb 05 54 09.9
comp=Z,42nm,1.1s

Q52A Bidwell 51.80 314 IAmb IAmb 05 53 56.5
comp=Z,65nm,1.1s

Q52A IAMs_20 IAMs_20 06 10 18.7
comp=Z,2µm,22.0s

M53A WI Miller and 51.81 318 IAmb IAmb 05 53 56.6
comp=Z,100nm,1.7s

M53A WI Miller and 51.81 318 P P 05 53 51.6 +0.3
baz=118

VSL Villasalto 51.82 45 IAmb IAmb 05 53 53.4
comp=Z,62nm,1.1s

TEIG Tepich 51.83 290 LR LR 06 13 01.0
comp=Z,975nm,21.8s,baz=91,slow=33

PEL Peldehue 51.98 217 IAmb IAmb 05 54 34.1
comp=Z,52nm,1.3s

PEL IAMs_20 IAMs_20 06 15 29.6
comp=Z,2µm,21.0s

P52A Corning 51.99 315 IAmb IAmb 05 53 57.8
comp=Z,61nm,1.1s

P52A IAMs_20 IAMs_20 06 11 18.7
comp=Z,1µm,20.0s

P52A Corning 51.99 315 P P 05 53 53.0 +0.4
baz=116,SNR=14

O52A Adamsville 51.99 316 IAmb IAmb 05 53 58.2
comp=Z,68nm,1.1s

SSF Saint Saulge 52.02 34 *e*P P 05 53 52.4 -0.3
SSF pmax pmax
comp=Z,93nm,1.5s

MT16 CCHEN 52.08 217 IAmb IAmb 05 54 00.8
comp=Z,45nm,0.8s

LMEL Las Melosas 52.19 216 IAmb IAmb 05 54 23.1
comp=Z,37nm,1.1s

S51A Beattyville 52.22 312 IAMs_20 IAMs_20 06 11 15.9
comp=Z,2µm,21.0s

250A Grady 52.39 305 IAmb IAmb 05 54 07.1
comp=Z,110nm,1.6s

250A IAMs_20 IAMs_20 06 11 06.6
comp=Z,2µm,22.0s

SADO Sadowa 52.50 322 IAmb IAmb 05 54 00.5
comp=Z,28nm,1.4s

SADO Sadowa 52.50 322 LR LR 06 11 30.3
comp=Z,1µm,20.5s,baz=101,slow=31

BO04 La Punta 52.53 216 IAmb IAmb 05 54 13.7
comp=Z,48nm,1.1s

P51A Williamsport 52.58 315 IAmb IAmb 05 54 02.3
comp=Z,69nm,1.1s

P51A IAMs_20 IAMs_20 06 10 42.2
comp=Z,2µm,22.0s

Q51A Peebles 52.59 314 IAmb IAmb 05 54 12.0
comp=Z,40nm,0.8s

MT09 Talagante 52.60 217 IAmb IAmb 05 54 07.0
comp=Z,47nm,0.8s

MT09 IAMs_20 IAMs_20 06 16 42.3
comp=Z,2µm,21.0s

FPAL Fort Paine 52.65 308 IAMs_20 IAMs_20 06 11 44.3
comp=Z,2µm,21.0s

N51A Ashland 52.72 317 IAmb IAmb 05 54 03.3
comp=Z,33nm,0.8s

BNI Bardonecchia 52.73 37 IAmb IAmb 05 54 00.8
comp=Z,44nm,1.1s

BNI IAMs_20 IAMs_20 06 13 44.6
comp=Z,1µm,20.0s

BRAL Brewton 52.81 304 IAMs_20 IAMs_20 06 11 52.8
comp=Z,2µm,20.0s

BRAL Brewton 52.81 304 P P 05 53 59.0 +0.2
baz=106

MT01 Popeta 52.82 217 IAmb IAmb 05 54 08.8
comp=Z,26nm,0.8s

MT01 IAMs_20 IAMs_20 06 17 09.0
comp=Z,2µm,21.0s

ACSO Alum Creek Sta 52.84 316 IAmb IAmb 05 54 23.4
comp=Z,57nm,1.1s

ACSO Alum Creek Sta 52.84 316 P P 05 53 59.2 +0.4
baz=115,SNR=11

VA05 Santo Domingo 52.89 217 IAMs_20 IAMs_20 06 18 13.0
comp=Z,2µm,20.0s

LPL La Plagne 53.00 37 *e*P P 05 54 00.6 +0.3
LPL pmax pmax
comp=Z,25nm,1.2s

R50A Paris 53.00 313 IAmb IAmb 05 54 06.2
comp=Z,61nm,1.3s

R50A IAMs_20 IAMs_20 06 12 21.6
comp=Z,2µm,20.0s

Y49A Blount Mountai 53.06 307 IAmb IAmb 05 54 13.2
comp=Z,92nm,2.0s

Y49A IAMs_20 IAMs_20 06 11 26.3
comp=Z,2µm,21.0s

BO01 Tunca 53.09 216 IAmb IAmb 05 54 09.7
comp=Z,90nm,1.6s

SWET Sewanee 53.12 309 IAmb IAmb 05 54 06.8
comp=Z,52nm,1.2s

SCHQ Schefferville 53.15 338 IAmb IAmb 05 54 05.0
comp=Z,28nm,0.8s

SCHQ Schefferville 53.15 338 P P 05 54 01.1 +0.2
comp=Z,23nm,0.8s,baz=145,slow=5.3,SNR=20

SCHQ LR LR 06 12 35.6
comp=Z,833nm,21.8s,baz=141,slow=32
comp=Z,23nm,0.8s

LRAL Lakeview Retre 53.29 306 IAmb IAmb 05 54 26.6
comp=Z,35nm,1.1s

LRAL IAMs_20 IAMs_20 06 11 45.3
comp=Z,2µm,22.0s

LRAL Lakeview Retre 53.29 306 P P 05 54 02.5 +0.2
baz=107

VLDQ Val d'Or 53.38 327 IAmb IAmb 05 54 08.4
comp=Z,39nm,1.2s

VLDQ IAMs_20 IAMs_20 06 12 07.8
comp=Z,1µm,20.0s

U49A Red Boiling Sp 53.44 310 IAmb IAmb 05 54 09.2
comp=Z,82nm,1.6s

R49A Shelbyville 53.62 313 IAmb IAmb 05 54 21.5
comp=Z,30nm,0.9s

R49A IAMs_20 IAMs_20 06 12 10.0
comp=Z,2µm,21.0s

X48A Hartselle 53.74 307 IAMs_20 IAMs_20 06 12 18.4
comp=Z,2µm,20.0s

O49A Covington 53.76 315 IAmb IAmb 05 54 10.8
comp=Z,61nm,1.4s

O49A IAMs_20 IAMs_20 06 11 51.6
comp=Z,2µm,21.0s

P49A Miami Univ. Ec 53.77 314 P P 05 54 06.0 +0.3
baz=113

CLTB Caltabellotta 53.83 48 P P 05 54 07.1 +0.7

N49A Columbus Grove 53.96 316 IAmb IAmb 05 54 12.2
comp=Z,64nm,1.3s

N49A IAMs_20 IAMs_20 06 11 58.8
comp=Z,2µm,21.0s

V48A Smith Brothers 53.97 309 IAmb IAmb 05 54 13.0
comp=Z,32nm,0.9s

V48A IAMs_20 IAMs_20 06 11 41.4
comp=Z,1µm,21.0s

NRS Narsarsuaq 53.98 355 *i* P P 05 54 07.6 +0.8

GO05 Huala 54.02 216 IAMs_20 IAMs_20 06 16 17.8
comp=Z,2µm,20.0s

MSSA Maissana 54.10 39 P P 05 54 08.3 +0.1

AAM Ann Arbor 54.19 318 P P 05 54 09.3 +0.5
baz=116,SNR=5.4

Z47A Carrollton 54.20 306 IAMs_20 IAMs_20 06 12 24.3
comp=Z,2µm,22.0s

P48A Milroy 54.25 314 IAmb IAmb 05 54 14.0
comp=Z,35nm,1.1s

P48A IAMs_20 IAMs_20 06 12 08.5
comp=Z,2µm,22.0s

ML02 Panimavida 54.25 215 IAMs_20 IAMs_20 06 16 53.0
comp=Z,2µm,21.0s

CASP Castiglione de 54.27 42 P P 05 54 08.9 -0.5
CASP IAmb IAmb 05 54 11.1
comp=Z,62nm,1.2s

O48B Farmland 54.36 315 IAmb IAmb 05 54 15.0
comp=Z,36nm,1.1s

O48B IAMs_20 IAMs_20 06 11 36.6
comp=Z,2µm,22.0s

O48B Farmland 54.36 315 P P 05 54 10.3 +0.2
baz=113

I49A Point Hope 54.38 320 IAmb IAmb 05 54 14.9
comp=Z,35nm,1.0s

DOU Dourbes 54.42 31 *d*P P 05 54 10.2 -0.1
comp=Z,42nm,1.0s

WCI Wyandotte Cave 54.42 312 IAmb IAmb 05 54 25.4
comp=Z,29nm,0.9s

WCI Wyandotte Cave 54.42 312 IAMs_20 IAMs_20 06 12 55.2
comp=Z,1µm,20.0s

WCI Wyandotte Cave 54.42 312 P P 05 54 11.0 +0.5
baz=111

ESK Eskdalemuir 54.47 23 IAmb IAmb 05 54 11.4
comp=Z,48nm,1.2s

EKA Eskdalemuir Ar 54.50 23 P P 05 54 10.3 -0.4
comp=Z,11nm,0.9s,baz=231,slow=6.1,SNR=13
comp=Z,11nm,0.9s

VLC Villacollemand 54.58 40 P P 05 54 11.8 +0.2

T47A Sharon Grove 54.60 310 IAmb IAmb 05 54 28.7
comp=Z,52nm,0.9s

BMRD Maredsous 54.63 31 *d*P P 05 54 11.9 +0.1
comp=Z,14nm,1.0s

VAE Valguarnera 54.69 49 LR LR 06 16 05.7
comp=Z,4µm,21.5s,baz=296,slow=34

PLAL Pickwick Lake 54.71 308 IAMs_20 IAMs_20 06 12 48.0
comp=Z,2µm,20.0s

RCHB Rochefort 54.78 31 *d*P P 05 54 13.0 +0.1
comp=Z,19nm,1.0s

BGES Gesves 54.84 31 *d*P P 05 54 13.5 +0.1
comp=Z,21nm,1.0s

146A Union 54.84 305 P P 05 54 13.4 -0.3
146A IAmb IAmb 05 54 38.4
comp=Z,42nm,0.9s

146A IAMs_20 IAMs_20 06 12 33.5
comp=Z,2µm,22.0s

346A Big Creek Wild 54.87 303 IAMs_20 IAMs_20 06 15 15.2
comp=Z,2µm,20.0s

WVT Waverly 54.87 309 IAMs_20 IAMs_20 06 14 20.3
comp=Z,1µm,19.0s

BLO Bloomington 54.93 313 IAmb IAmb 05 54 18.9
comp=Z,70nm,1.5s

BLO IAMs_20 IAMs_20 06 12 50.6
comp=Z,2µm,22.0s

BCLA Clavier 54.98 31 *d*P P 05 54 14.8 +0.5
comp=Z,22nm,1.1s

WLF Walferdange 54.98 32 IAmb IAmb 05 54 15.7
comp=Z,31nm,0.9s

WLF IAMs_20 IAMs_20 06 12 58.3
comp=Z,2µm,21.0s

WLF Walferdange 54.98 32 *d*P P 05 54 15.0 +0.6
comp=Z,22nm,1.0s

WLF Walferdange 54.98 32 P P 05 54 15.0 +0.6

N47A Urbana 54.99 315 IAmb IAmb 05 54 19.5
comp=Z,66nm,1.4s

N47A IAMs_20 IAMs_20 06 13 12.1
comp=Z,1µm,20.0s

TUE Stuetta 55.06 37 P P 05 54 15.0 -0.3
comp=Z,69nm,1.1s

BSTI Sart Tilman 55.21 31 *d*P P 05 54 16.6 +0.7

USIN University of 55.34 311 IAMs_20 IAMs_20 06 13 15.7
comp=Z,1µm,20.0s

BFO Black Forest 55.43 35 IAmb IAmb 05 54 19.4
comp=Z,62nm,1.1s

BFO IAMs_20 IAMs_20 06 13 37.2
comp=Z,1µm,22.0s

MEM Membach 55.45 31 *d*P P 05 54 18.1 +0.4
comp=Z,34nm,1.0s

MEM *d*P *p*P 05 54 18.5 -1.3
comp=Z,35nm,1.0s

BTNL Ternell 55.50 31 *d*P P 05 54 18.5 +0.3
comp=Z,27nm,1.1s

DAVOX Davos/Dischmat 55.53 37 LR LR 06 15 24.1
comp=Z,2µm,19.8s,baz=256,slow=33

P46A Rosedale 55.58 313 IAmb IAmb 05 54 24.5
comp=Z,56nm,1.0s

P46A IAMs_20 IAMs_20 06 13 20.9
comp=Z,2µm,21.0s

OXF Oxford 55.63 307 IAMs_20 IAMs_20 06 13 06.3
comp=Z,2µm,21.0s

OXF Oxford 55.63 307 P P 05 54 18.8 -0.5
baz=106

FUORN Ofenpass-Fuorn 55.68 37 IAMs_20 IAMs_20 06 14 59.8
comp=Z,2µm,20.0s

UTMT University of 55.73 309 IAMs_20 IAMs_20 06 14 46.1
comp=Z,1µm,19.0s

DAVA Damuels 55.78 36 *e*P P 05 54 20.4 0.0
comp=Z,58nm,0.9s,SNR=24

NRCA Norcia 55.78 42 IAmb IAmb 05 54 21.7
comp=Z,30nm,1.0s

SFIN Lafayette 55.78 314 IAmb IAmb 05 54 25.6
comp=Z,61nm,1.2s

SFIN IAMs_20 IAMs_20 06 13 05.2
comp=Z,2µm,22.0s

SFIN Lafayette 55.78 314 P P 05 54 20.5 +0.2
baz=112

FDMO Fiordimonte 55.85 42 IAmb IAmb 05 54 24.2
comp=Z,36nm,0.9s

CAMP Campotosto 55.86 43 P P 05 54 21.1 +0.1
CAMP IAmb IAmb 05 54 35.7
comp=Z,29nm,1.0s

OLIL Olney 55.92 312 IAMs_20 IAMs_20 06 15 10.0
comp=Z,1µm,21.0s

GLMI Grayling 55.93 320 P P 05 54 21.7 +0.4
baz=117

VBMS Vicksburg 55.94 304 IAMs_20 IAMs_20 06 13 06.4
comp=Z,2µm,22.0s

VBMS Vicksburg 55.94 304 P P 05 54 21.5 0.0
baz=104

HALT Halls 55.97 308 IAMs_20 IAMs_20 06 13 39.4
comp=Z,1µm,21.0s

INTR Introdacqua 55.98 44 P P 05 54 22.3 +0.4
INTR IAmb IAmb 05 54 31.5
comp=Z,36nm,1.2s

GUMA Gualdo di Mace 56.02 42 IAMs_20 IAMs_20 06 16 44.8
comp=Z,973nm,21.0s

CEL Celeste 56.05 49 IAmb IAmb 05 54 28.9
comp=Z,39nm,0.8s

CEL Celeste 56.05 49 P P 05 54 22.1 -0.3
comp=Z,50nm,1.2s

PAOL Paolisi 56.07 45 P P 05 54 22.9 +0.4

FETA Feichten 56.16 37 *e*P P 05 54 22.7 -0.3
comp=Z,43nm,1.1s,SNR=21

MET Memphis--Engin 56.21 307 IAMs_20 IAMs_20 06 13 00.7
comp=Z,2µm,22.0s

CTI Castel Tesino 56.25 38 P P 05 54 22.9 -0.8
CTI IAmb IAmb 05 54 25.2
comp=Z,38nm,0.8s

CTI Castel Tesino 56.25 38 P P 05 54 22.9 -0.8
CTI pmax pmax
comp=Z,38nm,0.8s

PVMO Portageville 56.40 309 IAMs_20 IAMs_20 06 15 26.6
comp=Z,1µm,19.0s

RETA Reutte 56.40 37 *i* P P 05 54 24.6 -0.1
comp=Z,52nm,1.0s,SNR=18

PEBM Pemiscott Bayo 56.44 309 IAMs_20 IAMs_20 06 14 10.6
comp=Z,1µm,21.0s

E46A Sault Ste Mari 56.44 322 IAmb IAmb 05 54 29.1
comp=Z,50nm,1.3s

S44A Carbondale 56.45 311 IAmb IAmb 05 54 38.2
comp=Z,36nm,1.0s

S44A IAMs_20 IAMs_20 06 22 01.9
comp=Z,1µm,19.0s

PARMO Parma 56.51 309 IAmb IAmb 05 54 40.9
comp=Z,39nm,0.7s

PARMO IAMs_20 IAMs_20 06 17 26.6
comp=Z,1µm,19.0s

GNAR Gosnell 56.52 308 IAMs_20 IAMs_20 06 13 52.7
comp=Z,1µm,21.0s

MOTA Moosalm 56.53 37 *e*P P 05 54 25.3 -0.5
comp=Z,30nm,0.9s,SNR=12

SQTA Sankt Quirin 56.54 37 *i* P P 05 54 25.4 -0.4
comp=Z,46nm,0.9s,SNR=13

CUC Castrocucco 56.58 47 P P 05 54 25.3 -0.8

CGM3 Cape Girardeau 56.63 310 IAmb IAmb 05 54 35.8
comp=Z,64nm,1.9s

Q44A Meyer Farm, Va 56.66 312 IAMs_20 IAMs_20 06 14 54.4
comp=Z,1µm,18.0s

G45A Suttons Bay 56.69 320 IAmb IAmb 05 54 31.9
comp=Z,51nm,1.0s

143A Socs Landing, 56.78 304 P P 05 54 28.0 +0.5
143A IAMs_20 IAMs_20 06 13 43.8
comp=Z,2µm,22.0s

WATA Walderalm 56.81 37 *e*P P 05 54 27.5 -0.3
comp=Z,36nm,1.0s

WTTA Wattenberg 56.81 37 *e*P P 05 54 27.4 -0.4
comp=Z,46nm,0.9s,SNR=17

M44A Midewin, Midew 56.82 315 IAMs_20 IAMs_20 06 14 18.6
comp=Z,1µm,21.0s

HQIL Hanson Quary C 56.84 316 IAMs_20 IAMs_20 06 13 08.1
comp=Z,1µm,21.0s

CIMO Cimolais 56.86 38 IAmb IAmb 05 54 43.9
comp=Z,90nm,1.7s

CIMO IAMs_20 IAMs_20 06 15 01.0
comp=Z,1µm,20.0s

HBAR Harrisburg 56.90 308 IAMs_20 IAMs_20 06 14 03.9
comp=Z,2µm,21.0s

TIP Timpagrande 56.99 48 ⇑P P 05 54 28.3 -0.7

TIP Timpagrande 56.99 48 IAmb IAmb 05 54 29.2
comp=Z,40nm,1.0s

TIP IAMs_20 IAMs_20 06 17 56.3
comp=Z,2µm,21.0s

TIP Timpagrande 56.99 48 P P 05 54 28.0 -1.1
comp=Z,37nm,1.0s,comp=Z,416nm

STAL STALIGIAL 57.00 39 IAmb IAmb 05 54 30.1
comp=Z,35nm,1.0s

L44A Lake County Fo 57.02 316 IAMs_20 IAMs_20 06 13 50.9
comp=Z,2µm,21.0s

L44A	Lake County Fo		57.02	316	P		P		05 54 29.4	+0.3
	baz=112									
GO06	Curarrehue		57.04	212	IAmb		IAmb		05 54 45.8	
	comp=Z,47nm,1.0s									
PBMO	Poplar Bluff		57.07	309	IAMs_20		IAMs_20		06 16 58.3	
	comp=Z,1µm,20.0s									
ABTA	Abfaltersbach		57.10	38	*e*P		P		05 54 29.6	-0.2
	comp=Z,44nm,1.0s,SNR=23									
P43A	Skaggs, Pawnee		57.27	313	IAMs_20		IAMs_20		06 14 44.6	
	comp=Z,1µm,20.0s									
HDIL	Hopedale		57.41	314	IAmb		IAmb		05 54 36.5	
	comp=Z,38nm,1.0s									
HDIL					IAMs_20		IAMs_20		06 13 56.3	
	comp=Z,2µm,22.0s									
HDIL	Hopedale		57.41	314	P		P		05 54 31.5	-0.5
	baz=110									
PLCA	Paso Flores		57.41	211	IAmb		IAmb		05 54 39.7	
	comp=Z,61nm,1.4s									
PLCA	Paso Flores		57.41	211	P		P		05 54 31.7	-0.2
	comp=Z,13nm,1.2s,baz=37,slow=8.5,SNR=8.3									
PLCA					LR		LR		06 19 49.7	
	comp=Z,3µm,18.2s,baz=50,slow=37									
	comp=Z,13nm,1.2s									
PLCA	Paso Flores		57.41	211	*e*P		P		05 54 31.7	-0.2
FVM	French Village		57.42	311	IAMs_20		IAMs_20		06 13 58.6	
	comp=Z,1µm,21.0s									
LCAR	Lake Charles		57.43	308	IAMs_20		IAMs_20		06 14 29.9	
	comp=Z,2µm,20.0s									
SABO	M.te Sabotino		57.43	39	IAmb		IAmb		05 54 34.0	
	comp=Z,115nm,1.2s									
SABO					IAMs_20		IAMs_20		06 15 27.8	
	comp=Z,733nm,22.0s									
SLM	Saint Louis		57.48	311	IAMs_20		IAMs_20		06 14 41.1	
	comp=Z,1µm,20.0s									
K43A	Burlington		57.51	316	IAMs_20		IAMs_20		06 14 05.8	
	comp=Z,1µm,21.0s									
LESA	Schwarzleotal		57.52	37	*e*P		P		05 54 32.3	-0.4
	comp=Z,41nm,1.1s									
CADS	Cadrg		57.63	39	*i* P		P		05 54 33.6	+0.2
CADS					*e*S		S		06 02 29.8	-1.9
T42A	Van Buren		57.65	309	IAMs_20		IAMs_20		06 16 15.7	
	comp=Z,1µm,18.0s									
NUUK	Nuuk		57.65	352	*i* P		P		05 54 34.8	+1.7
MYKA	Terra Mystica		57.74	39	*e*P		P		05 54 34.5	+0.2
	comp=Z,44nm,1.0s,SNR=26									
KBA	Koelnbreinsper		57.76	38	*e*P		P		05 54 34.0	-0.5
	comp=Z,25nm,1.1s,SNR=16									
LR05	Currie		57.79	212	IAmb		IAmb		05 54 50.6	
	comp=Z,36nm,1.0s									
H43A	Windswept, Lux		57.82	319	IAmb		IAmb		05 54 39.8	
	comp=Z,60nm,1.1s									
441A	DeRidder		57.85	302	IAMs_20		IAMs_20		06 16 04.2	
	comp=Z,2µm,20.0s									
CEY	Cerknica		57.85	40⇑	*i*P		P		05 54 35.0	0.0
UALR	University of		58.03	306	IAmb		IAmb		05 55 01.2	
	comp=Z,33nm,0.8s									
UALR					IAMs_20		IAMs_20		06 14 40.9	
	comp=Z,2µm,22.0s									
ANGG	Ammassalik, Gr		58.03	359	*i* P		P		05 54 36.4	+0.6
LJU	Ljubljana		58.04	40	*i* P		P		05 54 36.9	+0.6
LJU					*i* S		S		06 02 33.3	-3.8
Z41A	Richland Creek		58.05	305	IAMs_20		IAMs_20		06 16 55.4	
	comp=Z,2µm,20.0s									
CCM	Cathedral Cave		58.06	310	IAMs_20		IAMs_20		06 14 16.5	
	comp=Z,1µm,22.0s									
WHAR	Wooly Hollow		58.12	307	IAmb		IAmb		05 54 59.7	
	comp=Z,30nm,1.1s									
WHAR					IAMs_20		IAMs_20		06 14 31.2	
	comp=Z,2µm,21.0s									
BORG	Borgarnes		58.13	7	LR		LR		06 12 55.3	
	comp=Z,578nm,20.4s,baz=197,slow=29									
FCAR	Ozark Folk Cen		58.14	308	IAMs_20		IAMs_20		06 14 51.7	
	comp=Z,1µm,21.0s									
L42A	Oliver, Polo		58.18	315	IAmb		IAmb		05 54 42.0	
	comp=Z,56nm,1.4s									
L42A					IAMs_20		IAMs_20		06 14 39.5	
	comp=Z,1µm,22.0s									
BIOA	Bad Ischl, Aus		58.22	37	*e*P		P		05 54 36.7	-0.8
	comp=Z,27nm,0.9s,SNR=15									
OBKA	Obir		58.26	39	*i* P		P		05 54 38.2	+0.3
	comp=Z,57nm,1.2s,SNR=25									
OBKA	Obir		58.26	39⇑	*i*P		P		05 54 38.2	+0.3
BOJS	Bojanci		58.28	40⇑	*i*P		P		05 54 38.7	+0.8
I42A	Draeger Farm,		58.35	318	IAmb		IAmb		05 54 43.5	
	comp=Z,51nm,1.1s									
X40A	Basin Creek Fa		58.36	306	IAMs_20		IAMs_20		06 14 29.5	
	comp=Z,2µm,22.0s									
LL04	Puerto Octay		58.49	212	IAmb		IAmb		05 54 55.0	
	comp=Z,28nm,1.1s									
CRES	Cresnjev		58.54	40	*i* P		P		05 54 40.1	+0.3
CRES	Cresnjev		58.54	40⇑	*i*P		P		05 54 40.0	+0.3
F42A	Maple Grove Fa		58.57	320	IAmb		IAmb		05 54 44.9	
	comp=Z,56nm,1.2s									
N41A	Harden Midland		58.58	313	IAMs_20		IAMs_20		06 15 15.3	
	comp=Z,2µm,20.0s									
MGMO	Mountain Grove		58.59	309	IAmb		IAmb		05 54 53.4	
	comp=Z,24nm,0.9s									
MGMO					IAMs_20		IAMs_20		06 16 42.5	
	comp=Z,1µm,18.0s									
SOKA	Soboth		58.63	39	*i* P		P		05 54 40.4	0.0
	comp=Z,36nm,1.1s,SNR=35									
MOA	Molln		58.67	38	*e*P		P		05 54 40.1	-0.6
	comp=Z,23nm,1.0s,SNR=13									
A050A	Klekovaca		58.71	42⇑	*i*P		P		05 54 41.8	+0.7
NKC	Novy Kostel		58.72	34	*e*P		P		05 54 41.9	+0.9
NKC					AMS		AMS		06 16 00.0	
	comp=Z,1µm,17.9s									
NKC	Novy Kostel		58.72	34	*e*P		P		05 54 41.9	+0.9
NKC					MLR		MLR			
	comp=Z,1µm,17.9s									
GEC2	GERESS Array S		58.78	36	IAmb		IAmb		05 54 45.2	
	comp=Z,25nm,1.0s									
GERES	GERESS Array B		58.78	36	P		P		05 54 41.5	0.0
	comp=Z,9.4nm,0.8s,baz=228,slow=10.0,SNR=10.0									
GERES					LR		LR		06 16 30.6	
	comp=Z,2µm,21.9s,baz=253,slow=32									
	comp=Z,9.4nm,0.8s									
KHC	Kasperske Hory		58.84	36	IAmb		IAmb		05 54 43.0	
	comp=Z,43nm,1.3s									
KHC					IAMs_20		IAMs_20		06 14 34.4	
	comp=Z,1µm,21.0s									
KHC	Kasperske Hory		58.84	36	*e*P		P		05 54 41.4	-0.4
KHC					*e*S		S		06 02 48.3	+0.8
KHC					AMS		AMS		06 14 20.0	
	comp=Z,2µm,24.1s									
KHC	Kasperske Hory		58.84	36	*e*P		P		05 54 41.4	-0.4
KHC					*e*S		S		06 02 48.3	+0.8
KHC					MLR		MLR			
	comp=Z,2µm,24.1s									
KHC	Kasperske Hory		58.84	36	P		P		05 54 41.7	-0.1
	comp=Z,26nm,1.4s									
JFWS	Jewell Farm		58.90	316	IAmb		IAmb		05 54 46.9	
	comp=Z,28nm,0.8s									
JFWS	Jewell Farm		58.90	316	IAMs_20		IAMs_20		06 14 58.6	
	comp=Z,1µm,20.0s									
JFWS	Jewell Farm		58.90	316	P		P		05 54 42.0	-0.3
	baz=111,SNR=15									
R40A	Maddies Statio		58.90	310	IAmb		IAmb		05 55 00.0	
	comp=Z,18nm,0.8s									
R40A					IAMs_20		IAMs_20		06 14 53.7	
	comp=Z,1µm,22.0s									
STON	Ston		58.91	44⇑	*i*P		P		05 54 41.9	-0.5
MIAR	Mount Ida		58.97	306	IAMs_20		IAMs_20		06 15 21.7	
	comp=Z,2µm,21.0s									
MIAR	Mount Ida		58.97	306	P		P		05 54 42.3	-0.6
	baz=103									
SRKY	Kupres RS		58.98	43⇑	*i*P		P		05 54 43.6	+0.6
MGRS	Mrkonjic Grad		59.05	42	*e*P		P		05 54 44.8	+1.4
P40A	Paris		59.09	312	IAmb		IAmb		05 54 56.5	
	comp=Z,41nm,0.9s									
P40A					IAMs_20		IAMs_20		06 15 30.8	
	comp=Z,1µm,20.0s									
CKRC	Cesky Krumlov		59.12	37	*e*P		P		05 54 43.9	+0.1
CKRC					*ex*		x		05 54 47.8	
CKRC					*e*S		S		06 02 46.4	-4.8
CKRC					AMS		AMS		06 15 50.0	
	comp=Z,2µm,21.7s									
CKRC	Cesky Krumlov		59.12	37	*e*P		P		05 54 43.9	+0.1
CKRC					*e*				05 54 47.8	
CKRC					*e*S		S		06 02 46.4	-4.8
CKRC					MLR		MLR			
	comp=Z,2µm,21.7s									
A051A	Mrakovica		59.16	41⇑	*i*P		P		05 54 44.4	+0.2
ARSA	Arzberg		59.17	39	*e*P		P		05 54 43.8	-0.4
	comp=Z,13nm,0.9s,SNR=8.5									
BLY	Banja Luka		59.24	42⇑	*i*P		P		05 54 45.1	+0.4
NATX	Nacogdoches		59.28	302	IAMs_20		IAMs_20		06 16 08.0	
	comp=Z,2µm,21.0s									
NATX	Nacogdoches		59.28	302	P		P		05 54 44.9	-0.3
	baz=101									
L40A	Anamosa		59.29	315	IAmb		IAmb		05 54 49.3	
	comp=Z,24nm,0.9s									
L40A					IAMs_20		IAMs_20		06 15 12.8	
	comp=Z,1µm,20.0s									
DY2G	Dye2		59.29	355	*i* P		P		05 54 45.2	+0.3
TREB	Trebinje		59.31	44	*e*P		P		05 54 45.9	+0.7
HCY	Herceg Novi		59.32	45⇑	*i*P		P		05 54 46.2	+1.0
HCY	Herceg Novi		59.32	45⇑	*i*P		P		05 54 45.3	+0.1
TSUM	Tsumeb		59.33	117	LR		LR		06 14 26.1	
	comp=Z,2µm,20.9s,baz=294,slow=30									
ZVC	Zvikov		59.34	36	*e*P		P		05 54 44.7	-0.5
ZVC					AMS		AMS		06 15 10.0	
	comp=Z,600nm,22.7s									
COWI	Conover		59.35	320	IAmb		IAmb		05 54 50.2	
	comp=Z,29nm,1.0s									
VLO	Vlora		59.40	47	IAMs_20		IAMs_20		06 19 47.1	
	comp=Z,1µm,20.0s									
HSKC	Hora Svate Kat		59.45	34	*e*S		S		06 02 58.6	+3.3
HSKC					*e*S		S		06 02 58.7	+3.4
HSKC					AMS		AMS		06 17 20.0	
	comp=Z,1µm,16.6s									
BRY	Bratogost		59.50	44⇑	*i*P		P		05 54 46.9	+0.2
BRY	Bratogost		59.50	44⇑	*i*P		P		05 54 47.2	+0.5
S39A	Bolivar		59.54	309	IAmb		IAmb		05 55 02.0	
	comp=Z,24nm,0.7s									
S39A					IAMs_20		IAMs_20		06 20 03.6	
	comp=Z,1µm,20.0s									
BUM	Brajici-Budva		59.55	45⇑	*i*P		P		05 54 47.8	+0.9
CLL	Collm		59.55	34	IAMs_20		IAMs_20		06 16 09.4	
	comp=Z,1µm,20.0s									
CLL	Collm		59.55	34	*i* P		P		05 54 46.3	-0.4
CLL					*e*S		S		06 02 59.0	+2.5
CLL					pmax		pmax			
	comp=Z,31nm,1.6s									
CLL					MLR		MLR			
	comp=Z,1µm,20.8s									
CLL	Collm		59.55	34	P		P		05 54 47.3	+0.6
	comp=Z,13nm,1.6s									
LL01	San Ignacio de		59.57	210	IAmb		IAmb		05 55 02.6	
	comp=Z,28nm,1.2s									
CEME	Cevo		59.65	45⇑	*i*P		P		05 54 48.2	+0.6
HHAR	Hobbs		59.66	308	IAMs_20		IAMs_20		06 16 10.0	
	comp=Z,1µm,21.0s									
CONA	Conrad Observa		59.67	38	*e*P		P		05 54 47.4	-0.2
	comp=Z,29nm,1.1s,SNR=27									
ULC	Ulcinj		59.69	45⇑	*i*P		P		05 54 48.7	+0.9
DRME	Dracevica, Mon		59.72	45⇑	*i*P		P		05 54 49.1	+1.1
DRME	Dracevica, Mon		59.72	45⇑	*i*P		P		05 54 49.0	+1.1
G40A	Rib Lake		59.72	319	IAmb		IAmb		05 54 52.2	
	comp=Z,59nm,1.4s									
NKME	Niksic		59.74	44⇑	*i*P		P		05 54 48.9	+0.7
PRA	Prague		59.77	35	AMS		AMS		06 14 40.0	
	comp=Z,1µm,21.4s									
PRU	Pruhonice		59.79	35	*e*P		P		05 54 48.6	+0.3
PRU					*e*S		S		06 02 59.7	0.0
PRU					AMS		AMS		06 14 30.0	
	comp=Z,1µm,28.3s									
PRU	Pruhonice		59.79	35	*e*P		P		05 54 48.6	+0.3
PRU					*e*S		S		06 02 59.7	0.0
PRU					MLR		MLR			
	comp=Z,1µm,28.3s									
RICC	Richard		59.80	35	AMS		AMS		06 18 00.0	
	comp=Z,1µm,23.0s									
Z38A	Mt. Pleasant		59.84	304	IAMs_20		IAMs_20		06 16 15.7	
	comp=Z,2µm,22.0s									
RONA	Rosalia, Austr		59.84	38	*e*P		P		05 54 48.8	0.0
	comp=Z,41nm,1.0s,SNR=22									
PDG	Podgorica		59.84	45⇓	*i*P		P		05 54 49.8	+1.0
PDG	Podgorica		59.84	45⇑	*i*P		P		05 54 49.5	+0.7
PDG	Podgorica		59.84	45⇑	*i*P		P		05 54 49.8	+1.0
BRG	Berggiesshubel		59.86	34	*e*P		P		05 54 49.1	+0.3
BRG					Amp				05 54 51.3	
	comp=Z,43nm,1.4s									
BRG	Berggiesshubel		59.86	34	S		S		06 03 07.0	+6.4
BRG	Berggiesshubel		59.86	34	SS		SS		06 06 59.0	+2.2
LL02	Futaleuf		59.89	209	IAmb		IAmb		05 54 55.8	
	comp=Z,27nm,1.1s									
GOPC	GO Pecny, Ondr		59.90	36	AMS		AMS		06 14 50.0	
	comp=Z,1µm,23.1s									
TIR	Tirane		59.93	46⇓	*i*P		P		05 54 50.3	+0.8
TIR	Tirane		59.93	46	P		P		05 54 50.2	+0.8
TIR	Tirane		59.93	46	P		P		05 54 50.8	+1.3
	comp=Z,96nm,1.0s,comp=Z,1µm									
HKT	Hockley		59.96	300	IAMs_20		IAMs_20		06 20 28.2	
	comp=Z,1µm,20.0s									
HKT	Hockley		59.96	300	*i* P		P		05 54 49.4	-0.4
HKT					pmax		pmax			
	comp=Z,37nm,2.0s									
TREC	Trest		60.03	36	*e*S		S		06 03 08.3	+5.5
U38A	Gravette		60.05	308	IAMs_20		IAMs_20		06 15 50.2	
	comp=Z,1µm,20.0s									
SSRD	Sdr. Stenderup		60.05	28	*i* P		P		05 54 48.5	-1.5
SSRD					IAmb		IAmb		05 54 51.1	
	comp=Z,34nm,1.0s									
LL06	Loncomilla		60.07	211	IAMs_20		IAMs_20		06 19 45.6	
	comp=Z,2µm,21.0s									
KOME	Kolasin		60.16	45⇑	*i*P		P		05 54 52.1	+1.0
PUK	Puka		60.17	46	IAmb		IAmb		05 54 55.1	
	comp=Z,31nm,1.1s									
HAPS	Han Pijesak,Bl		60.19	43⇑	*i*P		P		05 54 52.2	+0.9
P38A	Dawn		60.22	312	IAmb		IAmb		05 55 07.0	
	comp=Z,20nm,0.8s									
P38A					IAMs_20		IAMs_20		06 16 47.6	
	comp=Z,1µm,19.0s									
SFJD	Kangerlussuaq		60.22	354	*i* P		P		05 54 52.8	+1.9
PLE	Pljevlja		60.23	44⇑	*i*P		P		05 54 52.5	+0.9
237A	Washetta, Mont		60.28	303	IAMs_20		IAMs_20		06 18 01.5	
	comp=Z,2µm,20.0s									
RUDO	Rudo		60.31	44⇑	*i*P		P		05 54 52.1	0.0
ITM	Ithomi		60.33	51	IAMs_20		IAMs_20		06 21 13.6	
	comp=Z,1µm,20.0s									
N38A	Joes South For		60.33	313	IAMs_20		IAMs_20		06 15 57.5	
	comp=Z,2µm,21.0s									
MPLH	Magyarpolny		60.40	39	P		P		05 54 53.2	+0.6
	comp=Z,31nm,1.2s,comp=Z,2µm									
MUD	Monsted U'grnd		60.41	27	*i* P		P		05 54 51.0	-1.4
MUD					IAmb		IAmb		05 54 54.2	
	comp=Z,65nm,1.1s									
BBLS	Lazi&#263i		60.42	43⇑	*i*P		P		05 54 53.2	+0.3
IVA	Berane		60.43	45⇑	*i*P		P		05 54 54.0	+1.0
KRUC	Moravsky		60.47	37	*e*P		P		05 54 52.3	-0.7
RLO	Rose Lookout		60.49	307	IAmb		IAmb		05 55 03.0	
	comp=Z,133nm,2.0s									
RLO					IAMs_20		IAMs_20		06 16 01.9	
	comp=Z,2µm,18.0s									
OHR	Ohrid		60.53	47	*i* P		P		05 54 55.4	+1.7
ZST	Bratislava		60.54	38	*e*P		P		05 54 53.9	+0.4
ZST	Bratislava		60.54	38	*e*P		P		05 54 53.9	+0.4
ZST					pmax		pmax			
	comp=Z,132nm,1.1s									
SJES	Sjenica		60.61	44⇑	*i*P		P		05 54 55.1	+0.9
SCIA	State Center		60.65	314	IAMs_20		IAMs_20		06 16 17.9	
	comp=Z,1µm,20.0s									
SCIA	State Center		60.65	314	P		P		05 54 53.7	-0.6
	baz=108									
VRAC	Vranov		60.69	37	⇓P		P		05 54 55.0	+0.5
VRAC	Vranov		60.69	37	*e*P		P		05 54 54.2	-0.3
VRAC	Vranov		60.69	37	LR		LR		06 17 38.6	
	comp=Z,2µm,21.8s,baz=250,slow=33									
VRAC	Vranov		60.69	37	P		P		05 54 55.6	+1.1
SNART	Snartemo		60.70	25	*i* P		P		05 54 53.0	-1.4
MODS	Modra-Piesok		60.72	38	*e*P		P		05 54 55.0	+0.3
MODS	Modra-Piesok		60.72	38	*e*P		P		05 54 55.0	+0.3
MODS					pmax		pmax			
	comp=Z,100nm,1.1s									
FRB	Frobisher Bay		60.73	344	LR		LR		06 17 04.9	
	comp=Z,725nm,21.7s,baz=149,slow=32									
TEKS	Tekeris		60.74	43⇑	*i*P		P		05 54 54.5	-0.5
MORH	Mrgy, Hungar		60.74	41	⇑P		P		05 54 55.1	+0.1
MORH	Mrgy, Hungar		60.74	41	P		P		05 54 55.0	+0.1
	comp=Z,19nm,1.3s,comp=Z,372nm									
GOET	G??ttrup		60.77	27	*i* P		P		05 54 54.9	+0.1
GOET					IAmb		IAmb		05 54 57.2	
	comp=Z,98nm,1.2s									
FNA	Florina		60.86	47	IAmb		IAmb		05 54 57.9	
	comp=Z,45nm,1.2s									
SMOL	Smolenice		60.87	38	*e*P		P		05 54 55.7	0.0
UPC	Upice		60.87	35	AMS		AMS		06 15 20.0	
	comp=Z,1µm,23.8s									
CHVC	Chvalec		60.93	35	*e*P		P		05 54 55.8	-0.3
CHVC					*e*S		S		06 03 17.0	+2.7
CHVC	Chvalec		60.93	35	*e*P		P		05 54 55.8	-0.3
	comp=Z,2µm,21.0s									
DPC	Dobruska-Polom		60.98	36	*e*P		P		05 54 56.8	+0.3
DPC					AMS		AMS		06 15 20.0	
	comp=Z,1µm,23.7s									
DPC	Dobruska-Polom		60.98	36	*e*P		P		05 54 56.8	+0.3
DPC					MLR		MLR			
	comp=Z,1µm,23.7s									
DPC	Dobruska-Polom		60.98	36	P		P		05 54 56.9	+0.4
	comp=Z,25nm,1.7s									
TUL3	Leonard		61.04	307	IAmb		IAmb		05 55 18.6	
	comp=Z,27nm,0.8s									
TUL3					IAMs_20		IAMs_20		06 16 11.4	
	comp=Z,2µm,21.0s									
TUL3	Leonard		61.04	307	P		P		05 54 56.2	-1.0
	baz=102									
AGG	Agios Georgios		61.09	49	IAmb		IAmb		05 54 59.8	
	comp=Z,31nm,1.0s									
KRLC	Kraliky		61.13	36	*e*P		P		05 54 58.3	+0.8
KRLC					*e*S		S		06 03 19.8	+2.9
KRLC	Kraliky		61.13	36	*e*P		P		05 54 58.3	+0.8
KRLC					*e*S		S		06 03 19.8	+2.9
FRGS	Fruska Gora		61.13	42⇑	P		P		05 54 58.6	+1.0
FRGS	Fruska Gora		61.13	42⇑	*i*P		P		05 54 58.3	+0.7
FRGS	Fruska Gora		61.13	42	P		P		05 54 58.4	+0.8
	comp=Z,64nm,1.5s,comp=Z,968nm									
SRO	Srobarova		61.13	39	*e*P		P		05 54 58.4	+0.9
SRO	Srobarova		61.13	39	*e*P		P		05 54 58.4	+0.9
SRO					pmax		pmax			
	comp=Z,74nm,1.1s									
JAVC	Velka Javorina		61.15	38	*e*P		P		05 54 58.0	+0.3
SKO	Skopje		61.25	46	*i* P		P		05 54 59.2	+0.8
RGN	Rugen		61.34	30	IAMs_20		IAMs_20		06 17 58.7	
	comp=Z,2µm,20.0s									
SPMN	Marine on St.		61.42	318	P		P		05 54 59.0	-0.6
	baz=110,SNR=16									
I37A	Lemond, Waseca		61.43	316	IAMs_20		IAMs_20		06 20 51.5	
	comp=Z,949nm,18.0s									
MORC	Moravsky Berou		61.45	37	IAmb		IAmb		05 55 01.5	
	comp=Z,62nm,1.8s									
MORC					IAMs_20		IAMs_20		06 17 38.4	
	comp=Z,1µm,22.0s									
MORC	Moravsky Berou		61.45	37	*e*P		P		05 54 59.8	+0.1
MAUC	Maruska		61.45	37	*e*P		P		05 55 00.7	+1.0
LIT	Litokhoron		61.49	48	IAMs_20		IAMs_20		06 22 10.4	
	comp=Z,1µm,21.0s									
735A	Kenedy		61.51	299	IAMs_20		IAMs_20		06 21 26.0	
	comp=Z,1µm,19.0s									
EYMN	Ely		61.55	321	IAmb		IAmb		05 55 04.1	
	comp=Z,32nm,1.6s									
EYMN	Ely		61.55	321	P		P		05 55 00.7	+0.3
	baz=112,SNR=5.3									
ICESG	Greenland Ices		61.56	359	*i* P		P		05 55 00.5	0.0
ICESG					IAmb		IAmb		05 55 02.6	
	comp=Z,26nm,0.9s									
435B	Jarrell		61.58	301	IAMs_20		IAMs_20		06 18 42.0	
	comp=Z,1µm,20.0s									
435B	Jarrell		61.58	301	P		P		05 54 60.0	-0.9
	baz=99									
DEOK	Depew		61.58	307	IAmb		IAmb		05 55 08.7	
	comp=Z,24nm,1.0s									
WHTX	Lake Whitney,		61.66	302	IAmb		IAmb		05 55 24.1	
	comp=Z,18nm,0.8s									
WHTX					IAMs_20		IAMs_20		06 17 21.0	
	comp=Z,2µm,20.0s									
WHTX	Lake Whitney,		61.66	302	P		P		05 55 00.5	-0.9
	baz=99									
FW13	Cleburne		61.70	303	IAmb		IAmb		05 55 17.1	
	comp=Z,30nm,0.9s									
VYHS	Vyhne		61.72	38	*e*P		P		05 55 01.3	-0.2
VYHS	Vyhne		61.72	38	*e*P		P		05 55 01.3	-0.2
VYHS					pmax		pmax			
	comp=Z,23nm,1.3s									
QUOK	Quay		61.82	307	IAmb		IAmb		05 55 09.4	
	comp=Z,23nm,0.9s									
T35A	Sooner Cattle		61.

comp=Z,14nm,1.4s,comp=Z,248nm
OJC Ojcow 62.96 37 *e*P P 05 55 10.5 +0.7
OJC Ojcow 62.96 37 P P 05 55 10.1 +0.3
comp=Z,35nm,1.3s,comp=Z,552nm
PUNG Punghina 62.97 44 ⇑P P 05 55 11.1 +1.1
KAN14 Manchester OK 62.97 308 IAmb IAmb 05 55 28.5
comp=Z,32nm,0.8s
KAN08 Anthony NE Sta 63.03 308 IAmb IAmb 05 55 29.0
comp=Z,30nm,0.8s
APE Apeiranthos 63.11 52 *i* P P 05 55 11.9 +0.8
APE pmax pmax
comp=Z,70nm,1.1s
OK032 Salt Plains WL 63.13 307 IAmb IAmb 05 55 32.3
comp=Z,21nm,0.8s
OK032 IAMs_20 IAMs_20 06 17 24.9
comp=Z,1μm,20.0s
VALD Valchedram 63.14 45 *i* P P 05 55 11.9 +0.8
GZR Gura Zlata 63.19 43 P P 05 55 12.2 +0.7
WMOK Wichita Mounta 63.21 305 P P 05 55 10.5 -1.3
baz=100
MPEP Malo Peshtene 63.27 45 *i* P P 05 55 12.8 +0.8
PGB Panagyurishte 63.35 46 *i* P P 05 55 13.8 +1.2
DEV Deva 63.42 42 ⇓P P 05 55 14.2 +1.3
DEV Deva 63.42 42 P P 05 55 14.2 +1.3
JCT Junction City 63.43 300 P P 05 55 12.1 -1.2
JCT IAmb IAmb 05 55 28.3
comp=Z,19nm,1.0s
JCT Junction City 63.43 300 P P 05 55 12.6 -0.8
baz=97
JCT Junction City 63.43 300 P P 05 55 12.1 -1.2
JCT pmax pmax
comp=Z,19nm,1.0s
BLEU Blekinge 63.45 29 *i* P P 05 55 12.0 -0.8
OK035 E0210 Rd and N 63.51 307 IAMs_20 IAMs_20 06 17 50.8
comp=Z,1μm,20.0s
STHS Stebnicka Huta 63.53 38 *e*P P 05 55 13.6 0.0
STHS Stebnicka Huta 63.53 38 *e*P P 05 55 13.7 +0.1
STHS pmax pmax
comp=Z,9.0nm,1.0s
RZN Rozhen 63.55 47 *i* P P 05 55 15.2 +1.1
ECSD EROS Data Cent 63.57 315 IAmb IAmb 05 55 36.7
comp=Z,20nm,0.9s
ECSD EROS Data Cent 63.57 315 IAMs_20 IAMs_20 06 17 44.1
comp=Z,1μm,19.0s
ECSD EROS Data Cent 63.57 315 P P 05 55 13.3 -0.7
baz=106,SNR=14
DRGR 63.58 41 ⇓P P 05 55 14.7 +0.7
DRGR 63.58 41 P P 05 55 14.7 +0.7
SCO Scoresbysund 63.59 5 *i* P P 05 55 14.3 +0.8
SCO IAmb IAmb 05 55 18.6
comp=Z,12nm,0.8s
ABTX Abilene, Hawle 63.59 303 IAmb IAmb 05 55 29.6
comp=Z,33nm,1.1s
ABTX IAMs_20 IAMs_20 06 20 29.0
comp=Z,1μm,19.0s
ABTX Abilene, Hawle 63.59 303 P P 05 55 13.3 -1.1
baz=98
PLD Plovdiv 63.66 47 *i* P P 05 55 15.3 +0.7
U32A Winter Ranch, 63.68 307 IAMs_20 IAMs_20 06 17 45.3
comp=Z,945nm,20.0s
NAO01 NORSAR Array S 63.71 24 IAmb IAmb 05 55 18.7
comp=Z,51nm,1.4s
NBO00 NORSAR Array S 63.77 23 IAmb IAmb 05 55 26.5
comp=Z,35nm,1.1s
MARR Marisel-Cluj 63.81 41 ⇓P P 05 55 16.3 +0.7
R32A Long Quarter, 63.84 309 IAMs_20 IAMs_20 06 18 21.6
comp=Z,1μm,20.0s
VLAD Vladila 63.90 44 ⇑P P 05 55 17.3 +1.1
NC602 NORSAR Array S 63.90 24 IAmb IAmb 05 55 17.2
comp=Z,25nm,1.1s
HOLU Holmets 63.93 39 P P 05 55 16.6 +0.4
NB2 NORSAR Subarra 63.95 24 P P 05 55 16.4 +0.2
comp=Z,69nm,1.4s,baz=235,slow=6.5
NB2 NORSAR Subarra 63.95 24 P P 05 55 16.4 +0.2
baz=235,slow=6.5
NOA NORSAR Array B 63.95 24 P P 05 55 16.5 +0.2
comp=Z,12nm,0.9s,baz=234,slow=6.6,SNR=15
NOA LR LR 06 18 16.9
comp=Z,1μm,21.7s,baz=230,slow=32
comp=Z,12nm,0.9s
KDZ Kurdzhali 63.97 47 *i* P P 05 55 17.2 +0.6
KOLS Kolonicke sedl 64.00 39 *e*P P 05 55 17.9 +1.2
KOLS Kolonicke sedl 64.00 39 *e*P P 05 55 17.9 +1.2
KOLS pmax pmax
comp=Z,20nm,1.2s
BERU Beregovo 64.00 40 P P 05 55 17.0 +0.3
BGNE Belgrade 64.08 312 IAMs_20 IAMs_20 06 18 37.7
comp=Z,2μm,20.0s
BGNE Belgrade 64.08 312 P P 05 55 16.7 -0.7
baz=104
APMT Aspermont 64.08 303 IAmb IAmb 05 55 35.9
comp=Z,40nm,1.3s
MUKU Mukachevo 64.10 39 P P 05 55 17.8 +0.5
KARP Karpathos 64.13 54 P P 05 55 18.4 +0.5
comp=Z,431nm,0.9s,comp=Z,3μm
GO08 Villa O'Higgin 64.19 206 IAmb IAmb 05 55 26.2
comp=Z,37nm,1.2s
DIM Dimitrovgrad 64.24 47 *i* P P 05 55 19.0 +0.6
BRIU Brid 64.27 40 P P 05 55 18.9 +0.4
KORU Korolevo 64.28 40 P P 05 55 19.3 +0.8
EZN Ezine 64.29 49 P P 05 55 19.6 +0.9
comp=Z,108nm,1.1s,comp=Z,949nm
AGMN Agassiz Nation 64.42 320 IAmb IAmb 05 55 22.5
comp=Z,25nm,1.1s
AGMN Agassiz Nation 64.42 320 P P 05 55 18.6 -0.9
baz=109,SNR=6.4
ARR Arges 64.44 43 ⇑P P 05 55 20.6 +0.9
HUMR Humele 64.44 44 ⇑P P 05 55 20.8 +1.1
HFS Hagfors 64.45 25 P P 05 55 19.4 0.0
comp=Z,9.4nm,0.9s,baz=249,slow=4.1,SNR=11
HFS LR LR 06 19 04.7
comp=Z,1μm,21.5s,baz=243,slow=32
comp=Z,9.4nm,0.9s
SMWD Sammorwood 64.45 305 IAmb IAmb 05 55 38.0
comp=Z,14nm,0.8s
KWP Kalwaria Pacla 64.50 38 IAMs_20 IAMs_20 06 19 57.3
comp=Z,1μm,21.0s
COPA Copaceanca 64.50 45 ⇓P P 05 55 21.3 +1.2
OZNA Ozona 64.62 301 IAmb IAmb 05 55 37.6
comp=Z,27nm,1.0s
MEZ Mezhgor'ye 64.64 39 P P 05 55 21.9 +1.0
SN05 Snyder 5 64.66 303 IAmb IAmb 05 55 36.4
comp=Z,19nm,0.6s
MTUR Matau 64.69 43 ⇑P P 05 55 22.7 +1.3
MTUR Matau 64.69 43 P P 05 55 22.6 +1.3
CBKS Cedar Bluff 64.71 309 IAMs_20 IAMs_20 06 18 37.5
comp=Z,1μm,20.0s
CBKS Cedar Bluff 64.71 309 P P 05 55 20.8 -0.8
baz=101
VOIR 64.74 43 ⇑P P 05 55 22.3 +0.6
VOIR 64.74 43 P P 05 55 22.3 +0.6
VOIR 64.74 43 P P 05 55 22.7 +1.0
comp=Z,49nm,1.2s,comp=Z,663nm
SZH Strazhitsa 64.82 46 *i* P P 05 55 22.7 +0.5
RAKU Rahkiv 64.90 40 P P 05 55 23.2 +0.6
KLNR Kaliningrad 64.93 32 *i* P P 05 55 22.7 +0.1
KLNR pmax pmax
comp=Z,109nm,1.2s
JMB Yambol 65.03 47 *i* P P 05 55 23.5 -0.1
SUMG Summit 65.03 359 PP PP 05 57 49.8 +3.3
SUMG Summit 65.03 359 *i* P P 05 55 24.2 +0.7
SUMG IAmb IAmb 05 55 26.5
comp=Z,20nm,0.9s
MORS Morshin 65.07 39 P P 05 55 24.4 +0.7
POST Post 65.19 303 IAmb IAmb 05 55 39.9
comp=Z,17nm,0.9s
BOSR Bodos 65.32 43 ⇑P P 05 55 25.4 0.0
STNU Starunia 65.32 40 P P 05 55 25.7 +0.4
MLR Muntele Rosu 65.36 43 ⇓P P 05 55 26.8 +0.9
MLR Muntele Rosu 65.36 43 IAMs_20 IAMs_20 06 23 14.8
comp=Z,1μm,20.0s
MLR Muntele Rosu 65.36 43 LR LR 06 23 36.0
comp=Z,1μm,19.6s,baz=264,slow=36
MLR Muntele Rosu 65.36 43 P P 05 55 26.7 +0.9
MLR Muntele Rosu 65.36 43 P P 05 55 26.7 +0.9
comp=Z,186nm,1.5s,comp=Z,2μm
SAND Sanderson 65.37 299 IAmb IAmb 05 55 48.4
comp=Z,41nm,1.4s
LVV L'vov 65.38 38 *e*P P 05 55 25.1 -0.6
SUSD Miller 65.38 316 P P 05 55 24.7 -1.2
baz=104
OZUR 65.41 43 ⇑P P 05 55 26.8 +0.8
K30B Basset 65.43 314 IAMs_20 IAMs_20 06 19 18.4
comp=Z,2μm,21.0s
BURAR Bucovina Array 65.46 41 ⇑P P 05 55 27.5 +1.1
BURAR Bucovina Array 65.46 41 P P 05 55 26.8 +0.4
BURAR IAmb IAmb 05 55 31.5
comp=Z,58nm,1.7s
TURR Turia 65.55 43 ⇑P P 05 55 26.8 -0.2
KSV Kosov 65.56 40 P P 05 55 27.2 +0.3
AMTX Amarillo 65.59 305 P P 05 55 26.3 -1.1
baz=98
COVR Voineasa-Covas 65.63 43 ⇓P P 05 55 28.3 +0.9
ISR Istrita 65.67 44 ⇑P P 05 55 28.3 +0.6
ISR Istrita 65.67 44 P P 05 55 28.4 +0.6
ISR Istrita 65.67 44 P P 05 55 28.2 +0.5
comp=Z,150nm,1.2s,comp=Z,1μm
NEF NEVSHA 65.74 46 *i* P P 05 55 28.7 +0.5
JMIC Jan Mayen 65.80 10 LR LR 06 16 34.7
comp=Z,445nm,20.3s,baz=194,slow=29
PRD Provadia 65.81 46 *i* P P 05 55 28.7 +0.1
PLOR3 Plostina Array 65.93 43 P P 05 55 29.4 0.0
comp=Z,46nm,1.2s
PLOR Plostina 65.93 43 ⇑P P 05 55 29.1 -0.3
PLOR Plostina 65.93 43 P P 05 55 29.0 -0.3
PLOR5 Plostina Array 65.94 43 P P 05 55 29.6 +0.2
comp=Z,48nm,0.7s
ODSA Odessa 65.96 302 IAmb IAmb 05 55 45.7
comp=Z,31nm,1.0s
VRI Vrincioaia 65.98 43 ⇓P P 05 55 29.7 0.0
VRI Vrincioaia 65.98 43 P P 05 55 30.2 +0.5
VRI Vrincioaia 65.98 43 P P 05 55 29.2 -0.5
comp=Z,45nm,1.0s
UPP Uppsala 66.01 27 *e*P P 05 55 29.7 +0.2
MNHN Monahans 66.06 301 IAmb IAmb 05 55 40.3
comp=Z,41nm,1.7s
CTYL Yalikoy Yolu 66.09 48 P P 05 55 30.8 +0.4
TESR Tescani 66.10 42 ⇑P P 05 55 31.0 +0.6
TESR Tescani 66.10 42 P P 05 55 30.7 +0.3
comp=Z,53nm,1.7s,comp=Z,914nm
ODBI Odobesti 66.18 43 P P 05 55 31.5 +0.6
comp=Z,40nm,1.1s
ICOR Ion Corvin 66.31 45 ⇓P P 05 55 32.4 +0.6
SUW Suwalki 66.31 34 IAMs_20 IAMs_20 06 20 22.0
comp=Z,938nm,21.0s
SUW Suwalki 66.31 34 *e*P P 05 55 32.3 +0.8
MSTX Muleshoe 66.36 304 IAmb IAmb 05 55 48.3
comp=Z,25nm,1.1s
MSTX IAMs_20 IAMs_20 06 20 21.5
comp=Z,2μm,21.0s
MSTX Muleshoe 66.36 304 P P 05 55 31.9 -0.6
baz=97
PBUR Paburge 66.40 31 *e*P P 05 55 33.1 +1.0
PSN Preselentsi 66.43 46 *i* P P 05 55 33.0 +0.4
KMPD K-Podol'skiy 66.52 40 P P 05 55 32.2 -0.8
KMPD P P 05 55 32.2 -0.8
HARR Harsova 66.53 44 ⇑P P 05 55 33.6 +0.4
HARR Harsova 66.53 44 P P 05 55 33.5 +0.4
TLBR Topalu 66.57 45 ⇑P P 05 55 34.1 +0.7
TXAR Lajitas Array 66.66 299 P P 05 55 34.0 -0.4
comp=Z,1.5nm,0.7s,baz=109,slow=6.5,SNR=18
comp=Z,1.5nm,0.7s
HORU Horodok 66.68 39 P P 05 55 33.4 -0.7
MDND Maddock 66.69 319 P P 05 55 33.9 -0.3
baz=105,SNR=7.1
ALPN Alpine 66.72 300 IAmb IAmb 05 55 54.3
comp=Z,34nm,1.3s
MFTR Murfatlar 66.75 45 ⇓P P 05 55 35.0 +0.4
OGNE Ogallala 66.84 311 IAMs_20 IAMs_20 06 19 42.0
comp=Z,1μm,21.0s
OGNE Ogallala 66.84 311 P P 05 55 34.3 -1.1
baz=101
RNPP5 Staryi Chortor 66.94 37 P P 05 55 36.0 +0.3
RNPP8 Varash 66.95 37 P P 05 55 36.2 +0.5
KSCO Kaye Shedlock' 66.96 309 IAmb IAmb 05 55 48.1
comp=Z,30nm,1.1s
KSCO IAMs_20 IAMs_20 06 21 55.2
comp=Z,1μm,19.0s
KSCO Kaye Shedlock' 66.96 309 P P 05 55 35.6 -0.6
baz=99
RNPP9 Sopachiv 67.00 37 P P 05 55 36.4 +0.4
PECS Pecos 67.00 301 IAmb IAmb 05 55 41.1
comp=Z,41nm,1.7s
E28A Huff 67.08 318 IAMs_20 IAMs_20 06 25 03.1
comp=Z,809nm,18.0s
JURR Jurilovca 67.20 45 ⇑P P 05 55 38.4 +1.0
SUR Sutherland 67.26 130 LR LR 06 18 14.2
comp=Z,851nm,21.9s,baz=296,slow=30
PABE Paberze 67.27 32 IAMs_20 IAMs_20 06 21 38.5
comp=Z,1μm,20.0s
PABE Paberze 67.27 32 *e*P P 05 55 38.2 +0.5
FCC Fort Churchill 67.29 331 IAMs_20 IAMs_20 06 19 28.0
comp=Z,1μm,21.0s
MBAR Mbarara 67.32 94 LR LR 06 22 04.4
comp=Z,387nm,21.9s,baz=269,slow=33
MBAR Mbarara 67.32 94 *ce*P P 05 55 40.6 +1.6
MBAR pmax pmax
comp=Z,16nm,1.3s
DBG Daneborg 67.42 5 *i* P P 05 55 38.8 +0.5
DBG IAmb IAmb 05 55 40.5
comp=Z,12nm,1.3s
SORM Soroca 67.63 41 ⇑P P 05 55 39.6 -0.5
SORM Soroca 67.63 41 P P 05 55 39.6 -0.5
SORM Soroca 67.63 41 P P 05 55 39.4 -0.7
comp=Z,84nm,1.0s,comp=Z,8μm
MILM Milestii Mici 67.64 42 ⇑*i* P P 05 55 39.2 -1.0
comp=Z,160nm,1.2s
MILM *e*S S 06 04 38.7 +1.3
comp=Z,400nm,10.3s
MILM *e*L L 06 15 41.0
MILM LQM 06 17 34.0
comp=Z,500nm,23.5s
MILM LRM MLR 06 25 38.0
comp=Z,700nm,17.0s
MILM Milestii Mici 67.64 42 *c i*P P 05 55 39.2 -1.0
MILM *e*S S 06 04 38.7 +1.3
MILM pmax pmax
comp=Z,160nm,1.2s
MILM smax smax
comp=E,400nm,10.3s
MILM MLR MLR
comp=Z,700nm,17.0s
KIS Kishinev 67.66 42 ⇑*i* P P 05 55 39.6 -0.7
comp=Z,110nm,1.0s
KIS *e*L L 06 19 45.0
KIS LRM MLR 06 35 36.0
comp=Z,200nm,16.0s
KIS Kishinev 67.66 42 *c i*P P 05 55 39.6 -0.7
KIS pmax pmax
comp=Z,110nm,1.0s
KIS MLR MLR
comp=Z,200nm,16.0s
KIS Kishinev 67.66 42 P P 05 55 40.3 0.0
comp=Z,94nm,0.6s
LUBAR Lubar, Ukraine 67.71 39 P P 05 55 39.8 -0.8
LSZ Lusaka 67.77 110 LR LR 06 19 49.4
comp=Z,482nm,21.5s,baz=300,slow=31
MI29 MI29, Kamyanyy 67.90 38 P P 05 55 42.0 +0.2
MI28 MI28,Pidlybu 67.93 38 P P 05 55 42.2 +0.3
T25A Trinidad 68.08 307 IAmb IAmb 05 55 53.4
comp=Z,36nm,1.4s
T25A Trinidad 68.08 307 P P 05 55 42.9 -0.6
baz=97
MI30 MI30,Zelenitsa 68.20 38 P P 05 55 43.5 -0.1
MNTX Cornudas Mount 68.32 301 P P 05 55 44.3 -0.5
baz=95
LBTB Lobatse 68.32 121 LR LR 06 19 22.6
comp=Z,1μm,22.0s,baz=284,slow=30
RAF Rauma 68.37 26 *e*P P 05 55 44.5 0.0
MTSE Matsula 68.38 29 *e*P P 05 55 45.3 +0.7
BRIGG Briggsdale 68.50 311 IAMs_20 IAMs_20 06 21 27.7
comp=Z,1μm,20.0s
IDID Didziasalis 68.69 33 *e*P P 05 55 47.7 +1.1
AK19 Malin Array Si 68.70 38 P P 05 55 46.4 -0.3
AK13 Malin Array Si 68.70 38 P P 05 55 46.5 -0.3
AK20 Malin Array Si 68.70 38 P P 05 55 46.4 -0.4
AK18 Malin Array Si 68.73 38 P P 05 55 46.6 -0.3
AK14 Malin Array Si 68.73 38 P P 05 55 46.6 -0.4
AK07 Malin Array Si 68.77 39 P P 05 55 47.0 -0.2
KIEV Kiev 68.81 38 IAmb IAmb 05 55 51.3
comp=Z,46nm,1.2s
AKASG Malin Array Be 68.82 38 IAmb IAmb 05 55 51.0
comp=Z,46nm,1.4s
AKASG Malin Array Be 68.82 38 P P 05 55 47.2 -0.3
comp=Z,14nm,0.8s,baz=258,slow=6.1,SNR=55
AKASG LR LR 06 23 48.7
comp=Z,334nm,20.6s,baz=254,slow=34
comp=Z,14nm,0.8s
AKBB Malin Array Si 68.82 38 *ce*P P 05 55 47.2 -0.3
AKBB pmax pmax
comp=Z,49nm,1.2s
AKBB Malin Array Si 68.88 38 P P 05 55 46.9 -0.6
RSSD Black Hills 68.88 314 IAMs_20 IAMs_20 06 21 27.6
comp=Z,908nm,20.0s
RSSD Black Hills 68.88 314 P P 05 55 47.0 -1.3
baz=100
Q24A Divide 68.90 309 IAMs_20 IAMs_20 06 21 42.5
comp=Z,901nm,20.0s
Q24A Divide 68.90 309 P P 05 55 47.8 -0.9
baz=98
NE56 Odesa 68.99 43 P P 05 55 48.7 +0.1
SDCO Great Sand Dun 69.02 307 IAMs_20 IAMs_20 06 20 39.8
comp=Z,979nm,20.0s
SDCO Great Sand Dun 69.02 307 P P 05 55 49.0 -0.4
baz=97,SNR=22
CSS Mathiatis 69.06 56 IAmb IAmb 05 55 54.3
comp=Z,27nm,0.9s
MNK Minsk 69.08 34 *i* P P 05 55 47.4 -1.6
MNK *i* 05 58 19.8
MNK *i* PPP PPP 05 59 59.8
MNK *i* S S 06 04 52.7 -1.6
MNK *i* SS SS 06 09 18.7 -1.4
MNK pmax pmax
comp=E,7.0nm,0.9s
MNK pmax pmax
comp=N,15nm,0.9s
MNK pmax pmax
comp=Z,29nm,0.9s
MNK MLR MLR
comp=E,160nm,15.0s
MNK MLR MLR
comp=Z,366nm,16.0s
MNK MLR MLR
comp=N,330nm,16.0s
ANTO Ankara 69.20 50 P P 05 55 50.5 +0.3
comp=N,23nm,1.2s,comp=N,297nm
MEF Metsahovi 69.23 28 *e*P P 05 55 50.3 +0.5
EPT El Paso 69.28 301 IAMs_20 IAMs_20 06 24 09.8
comp=Z,1μm,18.0s
BOSA Boshof 69.29 124 IAmb IAmb 05 55 54.3
comp=Z,25nm,0.9s
BOSA Boshof 69.29 124 P P 05 55 51.0 0.0
comp=Z,27nm,1.0s,baz=299,slow=5.9,SNR=16
BOSA LR LR 06 19 48.2
comp=Z,850nm,21.4s,baz=294,slow=30
comp=Z,27nm,1.0s
ISCO Idaho Springs 69.37 310 IAmb IAmb 05 56 04.0
comp=Z,24nm,1.2s
ISCO IAMs_20 IAMs_20 06 21 47.8
comp=Z,1μm,20.0s
ISCO Idaho Springs 69.37 310 P P 05 55 50.8 -0.8
baz=98
MATP Matopo 69.45 115 LR LR 06 20 13.3
comp=Z,424nm,20.5s,baz=284,slow=31
PHWY Pilot Hill 69.45 311 IAmb IAmb 05 55 57.2
comp=Z,36nm,1.9s
PHWY IAMs_20 IAMs_20 06 23 55.1
comp=Z,1μm,20.0s
ANMO Albuquerque 69.49 304 P P 05 55 52.6 +0.3
baz=95
ANMO Albuquerque 69.49 304 LR LR 06 22 22.0
comp=Z,2μm,21.9s,baz=193,slow=32
ANMO Albuquerque 69.49 304 *ce*P P 05 55 51.4 -0.9
ANMO pmax pmax
comp=Z,14nm,1.2s
VAF Ylistaro 69.62 25 *e*P P 05 55 53.0 +0.8
ARBE Arbavere 69.69 29 *e*P P 05 55 54.0 +1.2
VSU Vasula 69.72 30 *ce*P P 05 55 53.5 +0.6
VSU pmax pmax
comp=Z,36nm,1.7s
N23A Red Feather La 69.76 311 IAmb IAmb 05 56 06.8
comp=Z,29nm,1.4s
N23A IAMs_20 IAMs_20 06 22 10.3
comp=Z,1μm,21.0s
N23A Red Feather La 69.76 311 P P 05 55 54.0 +0.1
baz=98
Y22D IRIS PASSCAL I 69.80 303 P P 05 55 54.1 0.0
baz=95
BR105 Keskin Array S 69.81 51 P P 05 55 54.3 +0.2
comp=Z,40nm,1.0s,comp=Z,372nm
BR106 Keskin Array S 69.81 50 P P 05 55 54.5 +0.4
comp=Z,30nm,1.1s,comp=Z,314nm
DGMT Dagmar 69.82 319 IAMs_20 IAMs_20 06 26 23.4
comp=Z,879nm,18.0s
DGMT Dagmar 69.82 319 P P 05 55 54.2 +0.4
baz=102,SNR=7.0
BR104 Keskin Array S 69.83 51 P P 05 55 54.7 +0.5
comp=Z,48nm,1.1s,comp=Z,412nm
BR131 Keskin Array S 69.83 51 *c i*P P 05 55 54.3 +0.1
BRTR Keskin Array B 69.83 51 P P 05 55 54.5 +0.3
comp=Z,30nm,1.0s,baz=251,slow=3.8,SNR=50
BRTR LR LR 06 26 20.5
comp=Z,1μm,21.9s,baz=242,slow=36
comp=Z,30nm,1.0s
DAG Danmarks Havn 69.90 4 *i* P P 05 55 52.9 -0.8
FFC Flin Flon 69.98 326 IAMs_20 IAMs_20 06 21 27.2
comp=Z,1μm,21.0s
EIL Elat 70.05 61 LR LR 06 25 45.1
comp=Z,2μm,21.6s,baz=269,slow=35
KEF Keuruu 70.19 26 *e*P P 05 55 56.4 +0.6
NEEM North Greenlan 70.36 357 *i* P P 05 55 57.9 +1.0
NEEM IAmb IAmb 05 56 02.7
comp=Z,24nm,0.7s
121A Cookes Peak, D 70.41 302 P P 05 55 57.4 -0.6
baz=94
K22A Casper 70.43 313 P P 05 55 57.1 -0.8
baz=98
FINES FINESS Array B 70.45 27 P P 05 55 57.9 +0.5
comp=Z,18nm,0.8s,baz=242,slow=4.1,SNR=34
FINES LR LR 06 23 57.6
comp=Z,1μm,20.3s,baz=243,slow=33
comp=Z,18nm,0.8s
FIA1 FINESS Array S 70.45 27 IAMs_20 IAMs_20 06 22 56.7
comp=Z,1μm,20.0s
MMAI Mount Meron Ar 70.62 58 P P 05 56 00.3 +1.2
comp=Z,13nm,0.7s,baz=306,slow=3.0,SNR=16
MMAI PP PP 05 58 30.8 -4.7
comp=Z,0.5nm,0.3s,baz=280,slow=8.6,SNR=2.0
MMAI LR LR 06 28 24.2
comp=Z,492nm,21.2s,baz=206,slow=37
comp=Z,13nm,0.7s
GHAJ Ghor Haditha 70.66 60 IAMs_20 IAMs_20 06 26 29.0
comp=Z,898nm,20.0s
RWWY Rawlins 70.81 311 IAmb IAmb 05 56 12.4
comp=Z,56nm,1.6s
LAO LASA Array 70.84 317 IAMs_20 IAMs_20 06 21 49.6
comp=Z,883nm,20.0s
SIM Simferopol' 70.90 45 *e*P P 05 56 00.7 +0.3
SIM *e*S S 06 05 11.3 -4.7
SIM pmax pmax
comp=Z,28nm,1.0s
SIM MLR MLR
comp=Z,360nm,15.4s
DIKM Dikmen 71.28 49 ⇓P P 05 56 04.0 +1.2
DIKM Dikmen 71.28 49 P P 05 56 03.1 +0.3
comp=Z,42nm,1.1s,comp=Z,587nm
MVCO Mesa Verde 71.34 307 IAmb IAmb 05 56 22.4
comp=Z,62nm,2.0s
MVCO Mesa Verde 71.34 307 P P 05 56 04.0 +0.4
baz=95,SNR=6.1
LODK Lodwar 71.39 89 IAmb IAmb 05 56 06.3
comp=Z,22nm,0.9s
O20A White River Ci 71.41 310 IAmb IAmb 05 56 09.4
comp=Z,23nm,0.9s
O20A IAMs_20 IAMs_20 06 24 33.9
comp=Z,1μm,21.0s
O20A White River Ci 71.41 310 P P 05 56 04.3 +0.4
baz=96,SNR=18
319A Douglas 71.62 300 IAMs_20 IAMs_20 06 27 36.9
comp=Z,786nm,18.0s
W18A Petrified Fore 72.19 304 IAmb IAmb 05 56 25.8
comp=Z,44nm,1.3s
W18A Petrified Fore 72.19 304 P P 05 56 08.9 +0.2
baz=93
X18A Snowflake 72.33 304 IAmb IAmb 05 56 26.5
comp=Z,28nm,1.1s
X18A IAMs_20 IAMs_20 06 23 31.6
comp=Z,1μm,21.0s
LPIG La Paz 72.41 293 LR LR 06 26 32.9
comp=Z,430nm,21.7s,baz=74,slow=35
RDMU Red Mountain 72.46 310 IAmb IAmb 05 56 22.3
comp=Z,38nm,1.0s
RDMU IAMs_20 IAMs_20 06 25 06.8
comp=Z,1μm,20.0s
VALR Valaam 72.61 28 *i* P P 05 56 11.3 +0.9
PDAR Pinedale Array 72.67 312 P P 05 56 11.6 +0.1
comp=Z,2.8nm,0.8s,baz=124,slow=9.0,SNR=14
PDAR LR LR 06 23 53.8
comp=Z,1μm,21.4s,baz=112,slow=32

comp=Z,2.8nm,0.8s
P18A Preston Nutter 72.90 309 IAmb IAmb 05 56 36.2
comp=Z,36nm,1.0s
P18A IAMs_20 IAMs_20 06 25 51.4
comp=Z,1µm,20.0s
TUC Tucson 72.94 301 IAMs_20 IAMs_20 06 28 04.6
comp=Z,797nm,18.0s
TUC Tucson 72.94 301 P **P** **05 56 13.3 +0.3**
baz=92
HSIG 73.00 298 IAMs_20 IAMs_20 06 24 52.5
comp=Z,816nm,20.0s
SRU San Rafael Swe 73.08 309 IAMs_20 IAMs_20 06 27 07.1
comp=Z,892nm,19.0s
HMU Henry Mountain 73.17 307 IAmb IAmb 05 56 34.9
comp=Z,25nm,1.1s
HMU IAMs_20 IAMs_20 06 26 26.6
comp=Z,859nm,18.0s
ANN Anapa 73.22 46 *e*P **P** **05 56 11.9 -2.4**
ANN *e**PP **pP** **05 56 15.3 -1.2**
ANN *e*S **S** **06 05 39.3 -3.3**
ANN pmax pmax
comp=Z,72nm,1.3s
ANN MLR MLR
comp=Z,601nm,16.0s
ANN MLR MLR
comp=N,580nm,18.0s
ANN MLR MLR
comp=E,545nm,15.0s
JOF Joensuu 73.26 26 *e*P **P** **05 56 14.7 +0.5**
P17A Butcher Ranch, 73.27 309 IAMs_20 IAMs_20 06 27 15.2
comp=Z,1µm,20.0s
YMP Mirror Lake Pl 73.30 314 IAmb IAmb 05 56 53.5
comp=Z,45nm,1.1s
YMP IAMs_20 IAMs_20 06 24 07.8
comp=Z,807nm,20.0s
BSUT Blindstream Ca 73.36 310 IAmb IAmb 05 56 30.3
comp=Z,24nm,0.9s
BSUT IAMs_20 IAMs_20 06 24 21.7
comp=Z,1µm,22.0s
ARCES ARCESS Array B 73.38 19 IAmb IAmb 05 56 31.5
comp=Z,47nm,1.3s
ARCES ARCESS Array B 73.38 19 P **P** **05 56 14.6 -0.2**
ARCES LR LR 06 24 43.0
comp=Z,552nm,19.4s,baz=246,slow=33
comp=Z,5.3nm,0.5s,baz=224,slow=4.6,SNR=18
comp=Z,5.3nm,0.5s
EGMT Eagleton 73.41 318 IAMs_20 IAMs_20 06 29 16.4
comp=Z,890nm,20.0s
EGMT Eagleton 73.41 318 P **P** **05 56 15.8 +0.2**
baz=97,SNR=7.5
LOHW Long Hollow 73.51 313 IAmb IAmb 05 56 30.1
comp=Z,36nm,1.1s
WUAZ Wupatki 73.55 305 P **P** **05 56 17.2 +0.5**
baz=92,SNR=7.5
X16A Lo Mia Camp, P 73.56 304 IAmb IAmb 05 56 27.6
comp=Z,52nm,1.7s
H17A Grant Village 73.57 314 IAmb IAmb 05 56 48.6
comp=Z,52nm,1.6s
H17A IAMs_20 IAMs_20 06 23 58.8
comp=Z,973nm,21.0s
H17A Grant Village 73.57 314 P **P** **05 56 17.1 +0.3**
baz=96,SNR=8.4
Q16A Castle Valley 73.57 308 IAMs_20 IAMs_20 06 27 42.2
comp=Z,1µm,18.0s
SNOW Snow King Moun 73.61 313 IAmb IAmb 05 56 30.9
comp=Z,45nm,1.1s
TMUT Trail Mountain 73.62 309 IAmb IAmb 05 56 27.4
comp=Z,46nm,1.6s
FLWY Flagg Ranch 73.62 314 IAMs_20 IAMs_20 06 24 42.3
comp=Z,1µm,20.0s
YNR Norris Junctio 73.67 314 IAMs_20 IAMs_20 06 24 28.5
comp=Z,854nm,19.0s
YNM Yellowstone No 73.69 314 IAMs_20 IAMs_20 06 24 28.0
comp=Z,907nm,18.0s
TPAW Teton Pass 73.75 313 IAmb IAmb 05 56 31.9
comp=Z,43nm,1.1s
YFT Old Faithful 73.76 314 IAmb IAmb 05 56 38.3
comp=Z,45nm,1.0s
IMW Indian Meadow 73.78 313 IAmb IAmb 05 56 31.0
comp=Z,53nm,1.1s
AHID Auburn Hatcher 73.80 312 IAmb IAmb 05 56 30.6
comp=Z,28nm,0.9s
FXWY Fox Creek 73.82 313 IAmb IAmb 05 56 42.9
comp=Z,34nm,1.1s
TCUT Toone Canyon 73.90 311 IAmb IAmb 05 56 32.6
comp=Z,36nm,0.9s
MPU Maple Canyon 74.00 309 IAMs_20 IAMs_20 06 27 33.3
comp=Z,1µm,20.0s
HWUT Hardware Ranch 74.05 311 IAmb IAmb 05 56 31.6
comp=Z,45nm,0.9s
FURI Furi 74.10 83 IAMs_20 IAMs_20 06 26 35.1
comp=Z,990nm,18.0s
OBN Obninsk 74.10 35 IAMs_20 IAMs_20 06 24 46.2
comp=Z,935nm,22.0s
OBN Obninsk 74.10 35 LR LR 06 25 32.4
comp=Z,467nm,21.4s,baz=252,slow=33
OBN Obninsk 74.10 35*ce*P **P** **05 56 18.7 -0.6**
OBN *e* 05 56 33.8
OBN *e* 05 59 03.9
OBN *e*PPP PPP 06 00 49.3
OBN *e*S **S** **06 05 52.3 +0.1**
OBN *e*SS **SS** **06 10 37.3 +0.2**
OBN pmax pmax
comp=Z,60nm,1.7s
OBN MLR MLR
comp=Z,410nm,17.0s
CTU Camp Tracy 74.13 310 IAMs_20 IAMs_20 06 24 47.8
comp=Z,1µm,21.0s
SRIG Santa Rosalia 74.13 296 IAMs_20 IAMs_20 06 25 25.6
comp=Z,903nm,20.0s
MTPU Mount Pierson 74.31 307 IAMs_20 IAMs_20 06 27 03.9
comp=Z,844nm,20.0s
PKCU Pink Cliffs 74.39 307 IAmb IAmb 05 56 32.7
comp=Z,73nm,1.8s
PKCU IAMs_20 IAMs_20 06 27 32.8
comp=Z,835nm,18.0s
BOZ Bozeman (W) 74.42 315 IAMs_20 IAMs_20 06 25 47.4
comp=Z,858nm,20.0s
BOZ Bozeman (W) 74.42 315 P **P** **05 56 21.9 +0.2**
baz=95,SNR=8.6
TCRU Three Creeks R 74.55 308 IAMs_20 IAMs_20 06 27 15.0
comp=Z,1µm,20.0s
NOR Nord 74.60 3 *i*P **P** **05 56 21.7 -0.1**
NOR IAmb IAmb 05 56 27.1
comp=Z,21nm,1.3s
214A Organ Pipe Nat 74.65 301 IAmb IAmb 05 56 37.4
comp=Z,32nm,1.2s
214A IAMs_20 IAMs_20 06 29 40.0
comp=Z,752nm,19.0s
214A Organ Pipe Nat 74.65 301 P **P** **05 56 23.3 +0.3**
baz=91
SPUT South Promonto 74.69 311 IAmb IAmb 05 56 27.9
comp=Z,82nm,1.7s
SPUT IAMs_20 IAMs_20 06 26 31.8
comp=Z,1µm,20.0s
SOC Sochi 74.74 47 *e*P **P** **05 56 22.2 -1.1**
SOC *e*S **S** **06 05 59.0 -0.9**
SOC *e*SS **SS** **06 10 43.0 -4.4**
SOC *e*SSS SSS 06 13 59.3
SOC pmax pmax
comp=Z,73nm,1.0s
SOC MLR MLR
comp=Z,381nm,18.0s
MOS Moscow 74.80 34 *e*P **P** **05 56 21.7 -1.7**
MOS *e* 05 56 36.6
MOS pmax pmax
comp=Z,60nm,0.8s
RES Resolute Bay 74.80 346 IAMs_20 IAMs_20 06 23 27.7
comp=Z,796nm,22.0s
RES Resolute Bay 74.80 346 LR LR 06 25 18.1
comp=Z,443nm,21.2s,baz=121,slow=33
DUG Dugway, Tooele 74.91 310 IAmb IAmb 05 56 44.3
comp=Z,87nm,1.8s
DUG Dugway, Tooele 74.91 310 P **P** **05 56 25.1 +0.6**
baz=93,SNR=5.8
DUG Dugway, Tooele 74.91 310 P **P** **05 56 24.6 +0.1**
VSLR Vesyoloye 74.96 47 *i*P **P** **05 56 25.6 +1.0**
VSLR pmax pmax
comp=Z,113nm,1.1s
HVU Hansel Valley 74.97 311 IAMs_20 IAMs_20 06 26 39.0
comp=Z,1µm,20.0s
SZCU Shurtz Canyon 75.01 307 IAMs_20 IAMs_20 06 27 44.3
comp=Z,856nm,22.0s
DLMT Dillon 75.08 315 IAmb IAmb 05 56 38.7
comp=Z,41nm,1.1s
VSR Storozhevoye 75.09 39 *e*P **P** **05 56 23.8 -1.3**
VSR pmax pmax
comp=Z,60nm,1.5s
BGU Big Grassy Mou 75.11 310 IAmb IAmb 05 56 40.3
comp=Z,25nm,1.0s
BGU IAMs_20 IAMs_20 06 26 55.8
comp=Z,947nm,20.0s
LPSR Galich'ya Gora 75.11 38 *e*P **P** **05 56 24.1 -1.1**
LPSR pmax pmax
comp=Z,40nm,1.1s
LCMT Little Creek M 75.11 306 IAMs_20 IAMs_20 06 25 11.1
comp=Z,1µm,22.0s
VORD Divnogorie 75.14 39 *e*P **P** **05 56 24.6 -0.8**
VORD pmax pmax
comp=Z,110nm,0.5s
VORR Voronezh 75.17 39 *e*P **P** **05 56 26.7 +1.1**
VORR pmax pmax
comp=Z,32nm,0.3s
APA Apatity 75.42 22⇓ *i*P **P** **05 56 27.0 +0.3**
APA *i* 05 56 36.8
APA *i*S **S** **06 06 09.0 +2.4**
APA *i*PS **PnS** **06 06 34.0 -8.2**
APA *i*SS **SS** **06 10 51.0 -5.7**
APA pmax pmax
comp=Z,14nm,0.8s
ERBR Yeremizino-Bor 75.44 45 *e*P **P** **05 56 24.8 -2.5**
ERBR *e**PP **pP** **05 56 29.2 -0.3**
ERBR *e*S **S** **06 06 04.1 -3.6**
ERBR pmax pmax
comp=Z,106nm,1.2s
113A Mohawk Valley, 75.46 302 IAMs_20 IAMs_20 06 29 42.5
comp=Z,688nm,19.0s
SPITS Spitsbergen Ar 75.48 10 P **P** **05 56 27.3 +0.3**
comp=Z,7.6nm,0.8s,baz=236,slow=5.4,SNR=5.8
SPITS LR LR 06 22 54.9
comp=Z,527nm,20.0s,baz=206,slow=30
comp=Z,7.6nm,0.8s
LABN Labinsk 75.54 46 *e*P **P** **05 56 26.5 -1.4**
LABN *e**PP **pP** **05 56 30.0 -0.1**
LABN *e*S **S** **06 06 07.4 -1.3**
LABN pmax pmax
comp=Z,25nm,0.6s
LABN MLR MLR
comp=Z,402nm,14.0s
PSUT Pine Spring 75.65 308 IAMs_20 IAMs_20 06 26 55.1
comp=Z,1µm,20.0s
LVZ Lovozero 75.97 22*ce*P **P** **05 56 30.3 +0.4**
LVZ pmax pmax
comp=Z,39nm,1.3s
LVZ Lovozero 75.97 22 P **P** **05 56 30.1 +0.2**
comp=Z,40nm,2.0s
SPR3 Spring Creek 3 76.03 308 IAmb IAmb 05 56 41.6
comp=Z,74nm,1.8s
SPR3 IAMs_20 IAMs_20 06 28 02.3
comp=Z,783nm,20.0s
BLYC Blythe 76.10 303 IAMs_20 IAMs_20 06 35 16.4
comp=Z,797nm,21.0s
MSO Missoula 76.12 316 IAMs_20 IAMs_20 06 27 36.3
comp=Z,865nm,20.0s
MSO Missoula 76.12 316 P **P** **05 56 31.5 +0.2**
baz=94,SNR=5.3
NEE2 Needles Airpor 76.19 304 P **P** **05 56 32.5 +0.7**
baz=90
HLID Hailey 76.27 313 IAMs_20 IAMs_20 06 26 10.3
comp=Z,1µm,20.0s
HLID Hailey 76.27 313 P **P** **05 56 33.0 +0.7**
baz=93,SNR=38
EDM Edmonton 76.28 323 IAMs_20 IAMs_20 06 26 00.2
comp=Z,803nm,20.0s
V12A Nelson 76.39 305 IAMs_20 IAMs_20 06 26 11.8
comp=Z,1µm,21.0s
Q12A Willow Creek R 76.42 308 IAmb IAmb 05 56 53.8
comp=Z,25nm,1.0s
Q12A IAMs_20 IAMs_20 06 28 24.6
comp=Z,826nm,20.0s
ADZR Andozero 76.54 26 *e*P **P** **05 56 32.2 -1.0**
ADZR pmax pmax
comp=Z,15nm,0.5s
PRN Pahroc Range 76.56 307 IAMs_20 IAMs_20 06 26 10.5
comp=Z,1µm,22.0s
KLMR Klimovskoe 76.59 29 *e*P **P** **05 56 32.0 -1.5**
KLMR S S 06 06 11.7 -8.0
KLMR pmax pmax
comp=Z,2µm,17.0s
IRM Iron Mountain 76.62 303 P **P** **05 56 35.3 +1.0**
baz=90
SHPR Sheep Range 76.64 306 IAMs_20 IAMs_20 06 25 34.5
comp=Z,1µm,22.0s
VRH Novokhopyorsk 76.69 39 *e*P **P** **05 56 34.5 +0.2**
VRH pmax pmax
comp=Z,35nm,0.8s
BC3 Big Chuckawall 76.88 303 P **P** **05 56 36.9 +1.0**
baz=90
SHA1 Shidzhatmaz 76.88 47*ce*P **P** **05 56 37.1 +1.3**
KIV Kislovodsk 76.91 47*ce*P **P** **05 56 36.4 +0.6**
KIV *e* 05 56 46.5
KIV *e* 05 59 28.5
KIV *e*PPP PPP 06 01 14.6
KIV *e*S **S** **06 06 24.0 -0.1**
KIV *e*SS **SS** **06 11 20.6 +0.1**
KIV pmax pmax
comp=Z,95nm,1.7s
KIV MLR MLR
comp=Z,500nm,20.0s
KIV Kislovodsk 76.91 47 P **P** **05 56 36.2 +0.4**
comp=Z,44nm,1.1s,comp=Z,419nm
KVAR Kislovodsk Arr 76.92 47 LR LR 06 31 40.1
comp=Z,251nm,20.4s,baz=168,slow=37
R11B Troy Canyon, C 77.00 308 IAmb IAmb 05 56 47.1
comp=Z,60nm,1.9s
R11B IAMs_20 IAMs_20 06 28 42.0
comp=Z,979nm,20.0s
R11B Troy Canyon, C 77.00 308 P **P** **05 56 37.5 +0.9**
baz=91
GMRC Granite Mounta 77.04 304 P **P** **05 56 36.8 -0.1**
baz=90
KBZ Khabaz 77.05 47 P **P** **05 56 37.5 +1.1**
comp=Z,18nm,0.9s,baz=272,slow=4.2,SNR=21
KBZ LR LR 06 33 36.3
comp=Z,357nm,18.8s,baz=287,slow=38
comp=Z,18nm,0.9s
KBZ Khabaz 77.05 47*ce*P **P** **05 56 37.3 +0.8**
KBZ pmax pmax
comp=Z,25nm,0.9s
SWSC Sam W. Stewart 77.17 302 P **P** **05 56 38.3 +0.9**
baz=89
GOF Gofitskoye 77.21 46*ce*P **P** **05 56 37.6 +0.2**
TUQ Turquoise Moun 77.26 305 P **P** **05 56 38.1 +0.1**
baz=90,SNR=6.6
MFID Camas Ranch 77.29 313 IAMs_20 IAMs_20 06 26 22.4
comp=Z,1µm,21.0s
BELC Belle Mtn. Jos 77.33 303 P **P** **05 56 39.3 +0.8**
baz=90
ONI Oni 77.43 48 IAmb IAmb 05 56 47.4
comp=Z,30nm,0.8s
ONI Oni 77.43 48 P **P** **05 56 39.3 +0.6**
IKP In-Ko-Pah, Jac 77.44 302 P **P** **05 56 39.5 +0.5**
baz=89
PLID Pearl Lake 77.47 314 IAMs_20 IAMs_20 06 29 07.0
comp=Z,884nm,20.0s
SHOC Shoshone, Teco 77.54 305 P **P** **05 56 39.6 +0.1**
baz=90
HEC Hector,Ludlow 77.60 304 P **P** **05 56 39.2 -0.7**
baz=90,SNR=5.5
PMD Palm Desert 77.65 303 IAMs_20 IAMs_20 06 28 11.4
comp=Z,911nm,19.0s
MONP2 Monument Peak 77.70 302 P **P** **05 56 39.2 -1.5**
baz=89
TPFO Pinon Flats 77.71 303 P **P** **05 56 39.5 -1.1**
baz=89
PFO Pinyon Flats O 77.72 303 IAMs_20 IAMs_20 06 28 42.1
comp=Z,880nm,18.0s
PFO Pinyon Flats O 77.72 303 P **P** **05 56 39.4 -1.2**
baz=89
PFO Pinyon Flats O 77.72 303 LR LR 06 28 54.9
comp=Z,675nm,19.6s,baz=100,slow=34
PFO Pinyon Flats O 77.72 303 *i*P **P** **05 56 41.6 +1.0**
PFO pmax pmax
comp=Z,5.0nm,0.9s
TRLG Trialeti 77.89 49 P **P** **05 56 41.8 +0.3**
YKAW1 Yellowknife Wh 77.94 332 IAMs_20 IAMs_20 06 28 02.3
comp=Z,1µm,21.0s
GSC Goldstone, Bar 77.98 304 P **P** **05 56 41.5 -0.5**
baz=89
YKA Yellowknife Ar 77.99 332 P **P** **05 56 40.5 -0.8**
comp=Z,5.0nm,0.8s,baz=97,slow=5.5,SNR=41
YKA LR LR 06 28 24.1
comp=Z,1µm,20.2s,baz=84,slow=34
comp=Z,5.0nm,0.8s
FURC Furnace Creek, 78.02 306 P **P** **05 56 41.5 -0.5**
baz=90
QSM Queen of Sheba 78.02 305 IAmb IAmb 05 57 02.3
comp=Z,30nm,1.1s
BBRC Big Bear Solar 78.09 303 P **P** **05 56 42.0 -0.8**
baz=89
RRX Edison Barstow 78.14 304 P **P** **05 56 42.8 0.0**
baz=89
Q09A Carvers 78.25 308 IAMs_20 IAMs_20 06 29 34.1
comp=Z,973nm,20.0s
109C Camp Elliot, M 78.27 302 P **P** **05 56 43.1 -0.4**
baz=89
BMN Battle Mountai 78.28 310 IAMs_20 IAMs_20 06 30 27.8
comp=Z,1µm,19.0s
MURC Murrieta 78.33 303 P **P** **05 56 44.3 +0.4**
baz=89
NEW Newport 78.35 318 IAMs_20 IAMs_20 06 30 25.0
comp=Z,804nm,20.0s
NEW Newport 78.35 318 P **P** **05 56 42.9 -0.8**
baz=92
NEW Newport 78.35 318 LR LR 06 27 11.2
comp=Z,616nm,21.2s,baz=94,slow=33
F10A Beach Ranch, E 78.36 315 IAMs_20 IAMs_20 06 27 24.4
comp=Z,803nm,19.0s
GNI Garni 78.37 51 IAMs_20 IAMs_20 06 31 24.1
comp=Z,892nm,22.0s
GNI Garni 78.37 51 LR LR 06 32 42.6
comp=Z,501nm,21.6s,baz=282,slow=37
GNI Garni 78.37 51*ce*P **P** **05 56 45.4 +1.3**
GNI pmax pmax
comp=Z,77nm,1.7s
BMO Blue Mountains 78.39 314 IAMs_20 IAMs_20 06 30 37.4
comp=Z,854nm,18.0s
GRAC Grapevine Rang 78.41 306 IAmb IAmb 05 57 04.5
comp=Z,39nm,1.1s
GRAC Grapevine Rang 78.41 306 P **P** **05 56 43.8 -0.5**
baz=89,SNR=17
RPN Rapa Nui 78.52 240 LR LR 06 27 38.4
comp=Z,716nm,21.8s,baz=86,slow=33
MPMC Manual Prospec 78.53 305 P **P** **05 56 44.5 -0.6**
baz=89
LRMC Laurel Mtn Rad 78.69 305 P **P** **05 56 45.7 -0.3**
baz=89
BFSC Mount Baldy Ra 78.70 303 P **P** **05 56 46.0 -0.1**
baz=89
DSP Deep Springs 78.89 307 IAMs_20 IAMs_20 06 27 45.1
comp=Z,1µm,21.0s
EDW2 Edwards Air Fo 78.96 304 P **P** **05 56 47.7 +0.3**
baz=89
KVN Kaiserville 78.97 308 IAMs_20 IAMs_20 06 30 07.1
comp=Z,1µm,20.0s
CWC Cottonwood Cre 79.00 306 P **P** **05 56 47.7 0.0**
baz=89
E09A Wood Farm, Sta 79.00 316 IAMs_20 IAMs_20 06 29 42.5
comp=Z,941nm,19.0s
NV11 Mina Array Sit 79.02 308 IAMs_20 IAMs_20 06 30 06.5
comp=Z,692nm,21.0s
C09A Chrisman Ranch 79.11 317 IAMs_20 IAMs_20 06 27 34.2
comp=Z,777nm,22.0s
NVAR Mina Array Bea 79.14 308 P **P** **05 56 48.7 +0.2**
comp=Z,1.2nm,0.7s,baz=99,slow=6.0,SNR=14
NVAR LR LR 06 30 27.3
comp=Z,330nm,19.4s,baz=98,slow=35
comp=Z,1.2nm,0.7s
GROC Groznyy 79.16 48 *e*P **P** **05 56 48.7 +0.5**
GROC *e* 05 56 56.2
GROC pmax pmax
comp=Z,68nm,1.6s
FMP Fort Macarthur 79.24 303 P **P** **05 56 48.6 -0.3**
baz=88
DECC Green Verdugo 79.26 303 P **P** **05 56 49.0 0.0**
baz=88
LHV Little Huntoon 79.30 307 IAmb IAmb 05 57 03.5
comp=Z,30nm,1.0s
LHV IAMs_20 IAMs_20 06 30 12.8
comp=Z,783nm,22.0s
RYN Ryan 79.31 308 IAMs_20 IAMs_20 06 30 17.0
comp=Z,789nm,19.0s
CIS Catalina Islan 79.36 303 P **P** **05 56 49.2 -0.3**
baz=88
SCI2 San Clemente I 79.48 302 P **P** **05 56 50.0 -0.2**
baz=88
D08A Wolman Farm, 79.54 316 IAMs_20 IAMs_20 06 28 34.7
comp=Z,706nm,20.0s
RAYN Ar Rayn 79.56 67 IAMs_20 IAMs_20 06 33 01.8
comp=Z,831nm,20.0s
G08A Pilot Rock 79.56 315 IAMs_20 IAMs_20 06 30 22.4
comp=Z,902nm,20.0s
OSI Osito Audit: C 79.57 304 P **P** **05 56 50.4 -0.4**
baz=88
MLAC Mammoth, Mammo 79.57 307 P **P** **05 56 50.8 -0.1**
baz=89
E08A Dider Farm, El 79.63 316 IAMs_20 IAMs_20 06 30 47.2
comp=Z,744nm,20.0s
ARVC Arvin 79.64 304 P **P** **05 56 50.9 -0.2**
baz=88
MDPB Devils Postpil 79.77 307 IAMs_20 IAMs_20 06 31 11.3
comp=Z,924nm,19.0s
B08A Colville Reser 79.82 318 IAMs_20 IAMs_20 06 27 46.1
comp=Z,768nm,21.0s
VES Vestal, Richgr 79.83 305 P **P** **05 56 51.9 -0.1**
baz=88
YERR Yerington 79.86 308 IAMs_20 IAMs_20 06 30 47.6
comp=Z,746nm,18.0s
PAHR Pah Rah Range 79.95 309 IAMs_20 IAMs_20 06 30 29.1
comp=Z,1µm,20.0s
HAWA Hanford 79.96 316 IAMs_20 IAMs_20 06 31 04.9
comp=Z,713nm,20.0s
PNT Penticton 80.01 319 P **P** **05 56 54.6 +1.8**
PNT pmax pmax
comp=Z,24nm,0.9s
WAKR Walker 80.03 308 P **P** **05 56 53.8 +0.5**
VOG Valley Oaks Go 80.05 306 P **P** **05 56 53.4 +0.2**
baz=88
PNTR Pine Nut 80.14 308 P **P** **05 56 54.6 +0.7**
PNTR IAMs_20 IAMs_20 06 30 46.9
comp=Z,725nm,20.0s
E07A Sunnyside 80.18 316 IAMs_20 IAMs_20 06 31 02.7
comp=Z,776nm,20.0s
VNA1 Neumayer--Stat 80.24 171⇑ P **P** **05 56 57.1 +3.8**
comp=Z,14nm,0.9s
F07A Phinny Hill Vi 80.24 315 IAMs_20 IAMs_20 06 29 32.3
comp=Z,868nm,20.0s
SBC Santa Barbara 80.39 304 P **P** **05 56 54.6 -0.5**
baz=88
BELG Belogornoye 80.40 38 LR LR 06 31 12.7
comp=Z,368nm,20.0s,baz=274,slow=35
BELG Belogornoye 80.40 38*c i*P **P** **05 56 54.8 +0.1**
BELG pmax pmax
comp=Z,10.0nm,0.7s
MAK Makhachkala 80.41 48 *e*P P 05 56 51.3 -3.7
MAK *e* 05 59 53.1
MAK *e*S **S** **06 06 55.9 -5.4**
MAK *e*SS **SS** **06 12 08.8 -4.1**
MAK *e*SSS SSS 06 15 38.7
MAK pmax pmax
comp=Z,134nm,0.9s
MAK MLR MLR
comp=Z,463nm,17.0s
PKM Mcpherson Peak 80.46 304 P **P** **05 56 55.9 +0.2**
baz=88,SNR=7.9
MPK Martis Peak 80.46 309 P **P** **05 56 55.5 -0.2**
MPK IAMs_20 IAMs_20 06 30 57.7
comp=Z,1µm,19.0s
VNA3 Neumayer Olymp 80.55 172⇑ P **P** **05 56 56.1 +1.0**
comp=Z,10nm,1.0s
SMMC Simmler 80.59 305 P **P** **05 56 56.3 +0.1**
baz=88
VNA2 Neumayer--Watz 80.62 171⇑ P **P** **05 56 58.6 +3.2**
comp=Z,6.7nm,0.8s,baz=325,slow=5.5
CMB Columbia Colle 80.79 307 IAMs_20 IAMs_20 06 28 24.3
comp=Z,1µm,22.0s
PINE Pine Mountain 81.00 313 IAMs_20 IAMs_20 06 29 10.7
comp=Z,909nm,20.0s
AFDM Forest Hills D 81.21 308 IAMs_20 IAMs_20 06 31 29.3
comp=Z,822nm,19.0s
I05D Terrebonne, OR 81.27 314 IAMs_20 IAMs_20 06 29 58.8
comp=Z,656nm,21.0s
KIRV Kirov 81.42 32 LR LR 06 30 06.3
comp=Z,591nm,21.8s,baz=275,slow=34
KIRV Kirov 81.42 32*ce*P **P** **05 57 00.4 +0.4**
HOOD Mount Hood Mea 81.46 315 IAMs_20 IAMs_20 06 32 52.7
comp=Z,919nm,20.0s
LON Longmire 81.52 316 IAMs_20 IAMs_20 06 31 11.2
comp=Z,879nm,19.0s
ORV Oroville 81.59 309 IAMs_20 IAMs_20 06 31 32.4
comp=Z,935nm,19.0s
F04A Amboy 81.98 315 IAMs_20 IAMs_20 06 29 23.3

comp=Z,635nm,20.0s
SNAA **Sanae** **82.02 170** P **P** **05 57 02.2 -0.7**
SNAA **Sanae** **82.02 170** ⇑P **P** **05 57 03.0 0.0**
comp=Z,240nm,0.9s
SNAA **Sanae** **82.02 170** P **P** **05 57 03.4 +0.4**
comp=Z,16nm,1.1s,baz=303,slow=8.2,SNR=16
SNAA LR LR 06 27 32.4
comp=Z,200nm,18.1s,baz=316,slow=31
comp=Z,16nm,1.1s
SNAA **Sanae** **82.02 170** *ce*P **P** **05 57 06.2 +3.2**
SNAA pmax pmax
comp=Z,22nm,1.3s
L04D **Klamath Falls** **82.07 312** IAMs_20 IAMs_20 06 29 29.9
comp=Z,1µm,22.0s
I04A **Tendick Farm,** **82.07 313** IAMs_20 IAMs_20 06 30 07.8
comp=Z,796nm,21.0s
WRGLY **Wrigley** **82.08 333** P **P** **05 57 04.5 +1.1**
baz=89
C36M **Paulatuk** **82.25 339** P **P** **05 57 05.6 +1.4**
baz=89
F04D **Rainier, OR** **82.38 315** IAMs_20 IAMs_20 06 30 19.0
comp=Z,666nm,20.0s
YBH **Yreka Blue Hor** **82.40 311** IAMs_20 IAMs_20 06 28 56.6
comp=Z,1µm,21.0s
YBH **Yreka Blue Hor** **82.40 311** LR LR 06 31 51.4
comp=Z,780nm,19.0s,baz=99,slow=34
KOTAN **Kotaneelee Air** **82.44 330** P **P** **05 57 06.6 +1.2**
baz=88
PGC **Sidney** **82.55 318** IAMs_20 IAMs_20 06 29 53.3
comp=Z,933nm,20.0s
A36M **Sachs Harbour** **82.60 342** IAmb IAmb 05 57 22.8
comp=Z,22nm,0.8s
A36M **Sachs Harbour** **82.60 342** P **P** **05 57 07.1 +1.2**
baz=89,SNR=5.9
G03D **McMinnville, O** **82.61 315** IAMs_20 IAMs_20 06 33 28.9
comp=Z,699nm,18.0s
GDXM **Geysers** **82.64 308** IAMs_20 IAMs_20 06 32 44.2
comp=Z,950nm,19.0s
DBO **Dodson Butte** **82.71 313** IAMs_20 IAMs_20 06 29 02.8
comp=Z,1µm,21.0s
E03A **Lebam** **82.74 316** IAMs_20 IAMs_20 06 32 51.4
comp=Z,871nm,18.0s
I03D **Drain, OR** **82.75 313** IAMs_20 IAMs_20 06 30 08.9
comp=Z,764nm,20.0s
F03A **Seaside** **82.77 315** IAMs_20 IAMs_20 06 29 50.3
comp=Z,686nm,20.0s
RADR **Rader Ridge** **82.91 316** IAMs_20 IAMs_20 06 32 46.9
comp=Z,964nm,20.0s
CLRS **Cowichan Lake** **82.99 318** IAMs_20 IAMs_20 06 29 08.9
comp=Z,826nm,20.0s
TOAD **Toad River Com** **83.09 328** P **P** **05 57 10.2 +1.3**
baz=87,SNR=9.1
KHMM **Horse Mountain** **83.22 310** IAMs_20 IAMs_20 06 35 05.4
comp=Z,1µm,20.0s
TROLL **Troll, Antarti** **83.29 169** ⇑P **P** **05 57 12.1 +2.5**
comp=Z,371nm,0.8s
JCC **Jacoby Creek,** **83.45 310** IAMs_20 IAMs_20 06 29 15.5
comp=Z,970nm,22.0s
LIRD **Liard River Hi** **83.51 329** P **P** **05 57 11.5 +0.5**
baz=86
TGTN **Hyland Airport** **84.42 331** P **P** **05 57 16.1 +0.5**
baz=85
NVL **N'lazarevskaya** **84.43 166** *e*P **P** **05 57 17.4 +2.1**
NVL *e*S **S** **06 07 41.7 +0.4**
NVL pmax pmax
comp=Z,15nm,0.8s
NVL MLR MLR
comp=Z,388nm,17.0s
WTLY **Watson Lake, Y** **84.81 330** IAMs_20 IAMs_20 06 32 27.1
comp=Z,1µm,20.0s
WTLY **Watson Lake, Y** **84.81 330** P **P** **05 57 18.9 +1.2**
baz=84
BELA **Belgrano 2** **85.25 180** P **P** **05 57 18.6 -0.7**
BELA IAmb IAmb 05 57 24.0
comp=Z,38nm,1.4s
BBB **Bella Bella** **85.25 322** LR LR 06 30 56.3
comp=Z,694nm,21.6s,baz=78,slow=33
DLBC **Dease Lake** **85.63 328** IAmb IAmb 05 57 33.9
comp=Z,37nm,1.1s
DLBC **Dease Lake** **85.63 328** P **P** **05 57 22.9 +1.1**
baz=83,SNR=7.8
DLBC **Dease Lake** **85.63 328** LR LR 06 31 31.8
comp=Z,1µm,21.6s,baz=88,slow=33
INK **Inuvik** **85.76 338** P **P** **05 57 21.6 -0.5**
INK IAmb IAmb 05 57 31.7
comp=Z,32nm,1.4s
INK **Inuvik** **85.76 338** P **P** **05 57 23.2 +1.1**
baz=80,SNR=9.6
INK **Inuvik** **85.76 338** LR LR 06 32 25.7
comp=Z,1µm,21.0s,baz=84,slow=33
INK **Inuvik** **85.76 338** P **P** **05 57 21.7 -0.5**
INK pmax pmax
comp=Z,33nm,1.5s
T35M **Bob Quinn** **85.93 327** P **P** **05 57 24.2 +0.9**
baz=83,SNR=9.0
U35K **Hyder** **85.94 326** P **P** **05 57 23.0 -0.2**
baz=83
R33M **Jennings River** **85.99 329** IAmb IAmb 05 57 36.3
comp=Z,48nm,1.6s
R33M IAMs_20 IAMs_20 06 31 48.3
comp=Z,700nm,19.0s
R33M **Jennings River** **85.99 329** P **P** **05 57 23.6 -0.1**
baz=82
F31M **Tsiigehtchic** **85.99 337** P **P** **05 57 23.9 +0.6**
baz=80
S34M **Telegraph Cree** **86.28 328** IAmb IAmb 05 57 37.0
comp=Z,19nm,0.9s
S34M **Telegraph Cree** **86.28 328** P **P** **05 57 25.9 +1.0**
baz=82
G31M **Satah River** **86.28 337** IAmb IAmb 05 57 35.6
comp=Z,29nm,1.1s
G31M **Satah River** **86.28 337** P **P** **05 57 25.4 +0.7**
baz=80
ARU **Arti** **86.50 34** P **P** **05 57 26.8 +0.8**
ARU IAMs_20 IAMs_20 06 32 55.9
comp=Z,775nm,19.0s
ARU **Arti** **86.50 34** LR LR 06 33 40.9
comp=Z,595nm,20.4s,baz=270,slow=34
ARU **Arti** **86.50 34** *ce*P **P** **05 57 27.5 +1.5**
ARU pmax pmax
comp=Z,69nm,1.7s
ARU **Arti** **86.50 34** P **P** **05 57 27.0 +1.0**
comp=Z,40nm,1.1s
H31M **Peel River** **86.51 336** IAmb IAmb 05 58 18.0
comp=Z,21nm,1.2s
H31M **Peel River** **86.51 336** P **P** **05 57 27.1 +1.2**
baz=80
FARO **Faro, Yukon** **86.71 332** IAMs_20 IAMs_20 06 31 57.1
comp=Z,832nm,22.0s
FARO **Faro, Yukon** **86.71 332** P **P** **05 57 28.1 +1.1**
baz=80
F30M **Barrier River** **86.73 338** P **P** **05 57 28.1 +1.1**
baz=78
N32M **Quiet Lake** **86.76 331** IAmb IAmb 05 57 38.8
comp=Z,17nm,0.8s
N32M **Quiet Lake** **86.76 331** P **P** **05 57 28.3 +0.9**
baz=80
P33M **Teslin, Yukon** **86.79 330** IAmb IAmb 05 57 51.3
comp=Z,34nm,1.4s
P33M IAMs_20 IAMs_20 06 32 02.5
comp=Z,880nm,20.0s
P33M **Teslin, Yukon** **86.79 330** P **P** **05 57 28.2 +0.7**
baz=81
V35K **Ketchikan** **86.92 325** P **P** **05 57 28.7 +0.6**
baz=81
AKTO **Aktyubinsk** **87.02 40** LR LR 06 35 50.7
comp=Z,477nm,19.8s,baz=274,slow=35
G30M **tAoh Zraii Nji** **87.03 337** P **P** **05 57 29.5 +1.0**
baz=78
WRAK **Wrangell Islan** **87.16 326** P **P** **05 57 29.0 -0.2**
baz=81
M31M **Drury Creek, Y** **87.19 332** IAMs_20 IAMs_20 06 32 24.0
comp=Z,937nm,22.0s
M31M **Drury Creek, Y** **87.19 332** P **P** **05 57 29.2 -0.2**
baz=79
E29M **Blow River** **87.34 339** P **P** **05 57 31.1 +1.2**
baz=76
P32M **Atlin** **87.34 330** IAMs_20 IAMs_20 06 33 54.1
comp=Z,1µm,21.0s
P32M **Atlin** **87.34 330** P **P** **05 57 31.0 +0.9**
baz=80
EPYK **Eagle Plains** **87.35 337** P **P** **05 57 31.6 +1.6**
baz=77
D28M **Stokes Point** **87.41 340** P **P** **05 57 31.4 +1.3**
baz=76
T33K **Petersburg** **87.42 327** P **P** **05 57 30.5 +0.1**
baz=80
I30M **Mount Dempster** **87.46 335** P **P** **05 57 31.2 +0.5**
baz=78
SVE **Sverdlovsk** **87.57 33** *e*P **P** **05 57 33.9 +2.7**
SVE pmax pmax
comp=Z,39nm,1.1s
J30M **Hart River** **87.58 335** P **P** **05 57 31.8 +0.5**
baz=78
MAYO **Mayo, Yukon** **87.59 334** P **P** **05 57 32.8 +1.6**
baz=78
U33K **White Pass** **87.63 326** P **P** **05 57 32.7 +1.2**
baz=80
WHY **Whitehorse** **87.72 331** IAMs_20 IAMs_20 06 32 38.9
comp=Z,1µm,21.0s
WHY **Whitehorse** **87.72 331** P **P** **05 57 32.4 +0.4**
baz=79
G29M **Pine Creek** **87.73 337** P **P** **05 57 33.3 +1.5**
baz=76
CRAG **Craig** **87.74 326** P **P** **05 57 33.4 +1.4**
baz=80
E28M **Babbage River** **87.87 339** IAmb IAmb 05 57 53.8
comp=Z,21nm,1.6s
E28M IAMs_20 IAMs_20 06 34 19.4
comp=Z,915nm,20.0s
E28M **Babbage River** **87.87 339** P **P** **05 57 33.4 +0.9**
baz=75
N31M **Braeburn, Yuko** **87.98 332** P **P** **05 57 33.7 +0.6**
baz=78
R32K **Eaglecrest** **87.99 328** P **P** **05 57 34.2 +1.0**
baz=79
H29M **Whitestone** **88.03 337** IAmb IAmb 05 57 56.1
comp=Z,14nm,0.9s
H29M **Whitestone** **88.03 337** P **P** **05 57 33.7 +0.4**
baz=76,SNR=8.5
ELIB **Princess Elisa** **88.10 164** *d*P **P** **05 57 36.0 +2.4**
comp=Z,6.1nm,1.0s
SKAG **Skagway** **88.17 330** IAMs_20 IAMs_20 06 34 18.1
comp=Z,1µm,20.0s
S32K **Killisnoo** **88.17 328** P **P** **05 57 34.8 +0.7**
baz=79
D27M **Malcolm River** **88.19 340** IAMs_20 IAMs_20 06 34 31.5
comp=Z,1µm,21.0s
D27M **Malcolm River** **88.19 340** P **P** **05 57 34.7 +0.6**
baz=74
M30M **Minto, Yukon** **88.21 333** IAMs_20 IAMs_20 06 35 47.9
comp=Z,994nm,20.0s
M30M **Minto, Yukon** **88.21 333** P **P** **05 57 34.5 +0.2**
baz=77
I29M **Ogilvie Camp,** **88.22 336** P **P** **05 57 34.9 +0.7**
baz=76
K29M **Barlow Dome** **88.25 334** P **P** **05 57 35.3 +0.8**
baz=77
F28M **Old Crow** **88.25 338** P **P** **05 57 34.4 +0.1**
baz=75
O30N **Mendenhall** **88.28 331** P **P** **05 57 35.0 +0.4**
baz=78
ABKAR **Akbulak array** **88.44 41** P **P** **05 57 36.2 +0.7**
ABKAR **Akbulak array** **88.44 41** IAmb IAmb 05 57 41.4
comp=Z,17nm,0.9s
N30M **Aishikik Lake** **88.60 332** IAMs_20 IAMs_20 06 32 34.2
comp=Z,985nm,20.0s
N30M **Aishikik Lake** **88.60 332** P **P** **05 57 36.3 +0.2**
baz=77
L29M **L29M** **88.69 334** P **P** **05 57 36.8 +0.3**
baz=76
PLBC **Pleasant Camp** **88.69 330** P **P** **05 57 37.8 +1.3**
baz=78
E27K **Coleen River** **88.72 339** P **P** **05 57 36.9 +0.4**
baz=73,SNR=7.7
P30M **Million Dollar** **88.84 331** P **P** **05 57 38.2 +0.9**
baz=77
I28M **Miner Creek** **88.85 336** P **P** **05 57 38.4 +1.1**
baz=74
GEYT **Alibeck** **88.91 52** P **P** **05 57 38.8 +0.7**
comp=Z,2.9nm,0.7s,baz=260,slow=7.1,SNR=5.0
GEYT LR LR 06 40 15.2
comp=Z,228nm,21.1s,baz=296,slow=38
comp=Z,2.9nm,0.7s
HYT **Haines Junctio** **88.94 331** P **P** **05 57 39.0 +1.2**
baz=77
S31K **Pelican** **88.94 328** P **P** **05 57 37.2 -0.4**
baz=78
DAWY **Dawson** **88.99 335** P **P** **05 57 38.7 +0.8**
baz=75
M29M **Somme Creek** **89.00 333** IAMs_20 IAMs_20 06 36 12.6
comp=Z,878nm,18.0s
M29M **Somme Creek** **89.00 333** P **P** **05 57 38.6 +0.5**
baz=76
C27K **Jago River** **89.00 340** P **P** **05 57 37.9 +0.1**
baz=71
UOSS **Minazif** **89.14 65** P **P** **05 57 39.7 +0.3**
UOSS **Minazif** **89.14 65** IAMs_20 IAMs_20 06 40 49.5
comp=Z,847nm,20.0s
G27K **Doyon Strip** **89.14 338** P **P** **05 57 39.6 +1.0**
baz=73
H27K **Steamboat Moun** **89.26 337** P **P** **05 57 39.7 +0.6**
baz=73,SNR=11
C26K **Camden Bay** **89.30 341** P **P** **05 57 39.6 +0.5**
baz=70
YUK6 **Outpost Mounta** **89.32 331** P **P** **05 57 39.9 +0.1**
baz=76
P29M **Windy Craggy** **89.33 330** IAMs_20 IAMs_20 06 33 30.7
comp=Z,915nm,20.0s
P29M **Windy Craggy** **89.33 330** P **P** **05 57 40.2 +0.6**
baz=76
YUK4 **Talbot Arm** **89.35 332** P **P** **05 57 39.3 -0.6**
baz=76
I27K **Kandik River** **89.48 336** P **P** **05 57 41.0 +0.8**
baz=73,SNR=8.6
EGAK **Eagle** **89.54 336** P **P** **05 57 41.1 +0.7**
baz=73
F26K **Sheenjek River** **89.79 339** P **P** **05 57 42.9 +1.4**
baz=71,SNR=7.5
YUK8 **Steele Glacier** **89.89 332** P **P** **05 57 43.2 +0.8**
baz=75
G26K **Porcupine Rive** **89.90 338** P **P** **05 57 43.5 +1.4**
baz=71
D25K **Kavik River** **89.99 341** IAMs_20 IAMs_20 06 36 40.9
comp=Z,680nm,20.0s
D25K **Kavik River** **89.99 341** P **P** **05 57 43.7 +1.2**
baz=69,SNR=17
BMAR **Burnt Mountain** **90.03 338** P **P** **05 57 44.8 +2.0**
YUK3 **Moose Creek** **90.08 333** P **P** **05 57 44.3 +1.1**
baz=74
BVCY **Beaver Creek** **90.08 333** P **P** **05 57 44.2 +1.2**
baz=74
K27K **Chicken** **90.14 335** P **P** **05 57 44.7 +1.5**
baz=72
PNL **Peninsula** **90.14 330** P **P** **05 57 44.6 +1.3**
baz=75
E25K **Arctic Village** **90.15 339** IAMs_20 IAMs_20 06 35 49.6
comp=Z,923nm,20.0s
E25K **Arctic Village** **90.15 339** P **P** **05 57 44.7 +1.5**
baz=69
I26K **Coal Creek Min** **90.19 336** P **P** **05 57 44.0 +0.6**
baz=72
O28M **Mount Upton** **90.23 332** P **P** **05 57 44.4 +0.4**
baz=74
L27K **Beaver Creek,** **90.32 334** P **P** **05 57 45.4 +1.3**
baz=73
F25K **Christian Rive** **90.36 339** P **P** **05 57 45.1 +0.9**
baz=69
M27K **Edge Creek, AK** **90.55 333** IAMs_20 IAMs_20 06 34 41.7
comp=Z,831nm,21.0s
M27K **Edge Creek, AK** **90.55 333** P **P** **05 57 46.6 +1.3**
baz=73
FYU **Fort Yukon** **90.57 338** IAmb IAmb 05 58 39.3
comp=Z,51nm,1.9s
C24K **Franklin Bluff** **90.59 341** P **P** **05 57 46.8 +1.6**
baz=66
J26L **Joseph Creek** **90.61 336** P **P** **05 57 46.7 +1.2**
baz=71
CTGM **Chitina Glacie** **90.71 332** IAMs_20 IAMs_20 06 34 04.1
comp=Z,896nm,21.0s
CTG **Chitna Glacier** **90.71 332** P **P** **05 57 46.7 +0.5**
baz=73
G25K **Bearman Lake** **90.82 338** P **P** **05 57 48.0 +1.6**
baz=69
BARN **Barnard Glacie** **90.84 332** IAMs_20 IAMs_20 06 34 52.0
comp=Z,964nm,21.0s
D24K **Happy Valley** **90.86 341** IAMs_20 IAMs_20 06 36 30.3
comp=Z,862nm,20.0s
D24K **Happy Valley** **90.86 341** P **P** **05 57 47.5 +1.1**
baz=66
H25L **Birch Creek** **90.90 338** P **P** **05 57 48.6 +2.0**
baz=69
SCRK **Sand Creek** **90.95 335** P **P** **05 57 48.2 +1.1**
baz=71
L26K **Log Cabin Wild** **90.99 334** P **P** **05 57 48.1 +0.8**
baz=71
M26K **Nabesna, AK** **91.03 334** IAMs_20 IAMs_20 06 33 47.5
comp=Z,1µm,22.0s
M26K **Nabesna, AK** **91.03 334** P **P** **05 57 48.0 +0.5**
baz=72
PRP **Porcupine Dome** **91.05 337** P **P** **05 57 48.7 +1.1**
baz=69
C23K **Itkillik River** **91.15 342** IAmb IAmb 05 57 58.1
comp=Z,50nm,1.8s
C23K IAMs_20 IAMs_20 06 37 01.9
comp=Z,695nm,21.0s
C23K **Itkillik River** **91.15 342** P **P** **05 57 48.9 +1.1**
baz=65
E24K **Your Creek** **91.18 340** P **P** **05 57 49.4 +1.3**
baz=67
F24K **Squaw Lake** **91.19 339** P **P** **05 57 49.3 +1.2**
baz=67
MESA **MESA** **91.23 331** P **P** **05 57 49.7 +1.0**
baz=73
J25K **Salcha River,** **91.31 336** P **P** **05 57 49.8 +1.1**
baz=70
TOLK **Toolik Lake Re** **91.32 340** IAmb IAmb 05 58 00.2
comp=Z,18nm,1.3s
TOLK IAMs_20 IAMs_20 06 38 55.4
comp=Z,765nm,19.0s
TOLK **Toolik Lake Re** **91.32 340** P **P** **05 57 49.5 +0.9**
baz=66,SNR=7.7
G24K **Hadweenzic Riv** **91.36 338** P **P** **05 57 49.9 +1.1**
baz=68
MCARA **McCarthy VSAT** **91.37 333** IAMs_20 IAMs_20 06 34 29.3
comp=Z,846nm,22.0s
MCARA **McCarthy VSAT** **91.37 333** P **P** **05 57 49.8 +0.8**
baz=72
D23K **Nanushuk River** **91.55 341** P **P** **05 57 51.0 +1.4**
baz=64
WSAR **Wadi Sarin** **91.58 66** LR LR 06 40 34.2
comp=Z,790nm,19.6s,baz=290,slow=37
VRDI **Verde Repeater** **91.61 332** IAMs_20 IAMs_20 06 35 14.8
comp=Z,785nm,20.0s
K24K **Donnelly Dome** **91.76 335** P **P** **05 57 52.2 +1.4**
baz=69
B22K **Teshekpuk Lake** **91.78 342** P **P** **05 57 51.7 +1.0**
baz=62
H24K **Noodor Dome** **91.84 337** P **P** **05 57 52.5 +1.4**
baz=67
ILAR **Eielson Array** **91.86 336** P **P** **05 57 51.1 0.0**
ILAR **Eielson Array** **91.86 336** P **P** **05 57 51.5 +0.3**
comp=Z,3.5nm,1.0s,baz=61,slow=3.4,SNR=18
ILAR PP **PP** **06 01 26.0 -3.9**
comp=Z,0.7nm,0.8s,baz=72,slow=6.9,SNR=4.5
ILAR LR LR 06 38 22.5
comp=Z,1µm,18.2s,baz=62,slow=35
comp=Z,3.5nm,1.0s
BGLC **Bering Glacier** **91.89 331** P **P** **05 57 52.9 +1.5**
baz=72
A22K **Sinclair Lake** **91.92 343** P **P** **05 57 52.3 +1.0**
baz=60
PAX **Paxson** **91.92 334** P **P** **05 57 51.3 -0.3**
baz=70
POKR **Poker Plat Res** **91.94 337** P **P** **05 57 52.2 +0.6**
baz=68
HARP **HAARP** **91.99 334** P **P** **05 57 52.5 +0.7**
baz=70
N25K **Chitina, Valde** **92.01 333** IAMs_20 IAMs_20 06 34 33.2
comp=Z,1µm,22.0s
N25K **Chitina, Valde** **92.01 333** P **P** **05 57 52.5 +0.5**
baz=70
HDA **Harding Lake** **92.02 336** P **P** **05 57 53.3 +1.4**
baz=68
COLD **Coldfoot** **92.12 339** P **P** **05 57 54.1 +1.7**
baz=65
COLA **College** **92.20 337** P **P** **05 57 52.3 -0.5**
baz=67
COLA **College** **92.20 337** *i*P **P** **05 57 56.0 +3.3**
COLA pmax pmax
comp=Z,9.0nm,1.0s
A21K **Barrow** **92.21 344** P **P** **05 57 54.2 +1.5**
baz=59
BMRM **Bremner River** **92.23 332** P **P** **05 57 53.0 -0.1**
baz=70
D22K **Ayikyak River** **92.23 341** IAmb IAmb 05 58 03.9
comp=Z,17nm,1.2s
D22K IAMs_20 IAMs_20 06 37 16.6
comp=Z,921nm,21.0s
D22K **Ayikyak River** **92.23 341** P **P** **05 57 52.6 -0.3**
baz=63
G23K **Bananza Creek** **92.28 339** IAMs_20 IAMs_20 06 36 09.0
comp=Z,957nm,20.0s
G23K **Bananza Creek** **92.28 339** P **P** **05 57 54.3 +1.1**
baz=65
E22K **Anaktuvuk Pass** **92.29 340** IAMs_20 IAMs_20 06 37 17.6
comp=Z,758nm,21.0s
E22K **Anaktuvuk Pass** **92.29 340** P **P** **05 57 54.4 +1.3**
baz=64
H23K **Yukon River** **92.47 338** P **P** **05 57 55.8 +1.7**
baz=66
B21K **Ikpikpuk River** **92.49 342** IAMs_20 IAMs_20 06 38 08.3
comp=Z,833nm,20.0s
B21K **Ikpikpuk River** **92.49 342** P **P** **05 57 55.0 +1.0**
baz=61
KAIM **Kayak Island** **92.49 331** P **P** **05 57 55.0 +0.8**
baz=70
M24K **Tolsona, Glenn** **92.53 334** IAMs_20 IAMs_20 06 37 22.1
comp=Z,941nm,20.0s
M24K **Tolsona, Glenn** **92.53 334** P **P** **05 57 55.4 +0.9**
baz=69
KLU **Klutina** **92.64 333** IAMs_20 IAMs_20 06 35 26.0
comp=Z,844nm,20.0s
KLU **Klutina** **92.64 333** P **P** **05 57 55.8 +0.8**
baz=69
I23K **Minto, Yukon-K** **92.68 337** IAmb IAmb 05 58 47.1
comp=Z,19nm,1.7s
I23K **Minto, Yukon-K** **92.68 337** P **P** **05 57 55.8 +0.9**
baz=66
F22K **John River** **92.69 340** P **P** **05 57 55.7 +0.7**
baz=63
DHY **Denali Highway** **92.69 335** P **P** **05 57 55.4 +0.1**
baz=68
G22K **Bettles** **92.72 339** P **P** **05 57 55.6 +0.5**
baz=64
C21K **Knifeblade Rid** **92.77 342** P **P** **05 57 56.1 +0.7**
baz=61
NEA2 **Nenana** **92.79 337** IAMs_20 IAMs_20 06 37 37.7
comp=Z,944nm,20.0s
NEA2 **Nenana** **92.79 337** P **P** **05 57 56.3 +0.8**
baz=66
HRA **Herat** **92.80 55** IAMs_20 IAMs_20 06 42 00.4
comp=Z,589nm,19.0s
E21K **Killik River** **92.86 341** IAMs_20 IAMs_20 06 36 50.7
comp=Z,700nm,22.0s
E21K **Killik River** **92.86 341** P **P** **05 57 56.6 +0.8**
baz=62
EYAK **Cordova Ski Ar** **92.90 332** P **P** **05 57 57.4 +1.4**
baz=69
WAT6 **Susitna Watana** **93.04 334** P **P** **05 57 58.3 +1.4**
baz=68
B20K **Meade River** **93.06 343** P **P** **05 57 58.2 +1.6**
baz=68
MCK **McKinley** **93.08 336** P **P** **05 57 58.1 +1.2**
baz=66
H22K **Ishtalitna Cre** **93.12 338** P **P** **05 57 58.2 +1.1**
baz=64
SCM **Sheep Creek Mo** **93.14 334** P **P** **05 57 58.3 +1.0**
baz=68
FID **Port Fidalgo** **93.16 333** IAMs_20 IAMs_20 06 39 43.4
comp=Z,821nm,19.0s
MLY **Manley** **93.26 337** P **P** **05 57 59.0 +1.3**
baz=65
F21K **Alatna River** **93.27 340** IAMs_20 IAMs_20 06 38 39.1
comp=Z,848nm,19.0s
F21K **Alatna River** **93.27 340** P **P** **05 57 58.4 +0.7**
baz=62
WAT1 **Susitna Watana** **93.28 335** P **P** **05 57 57.9 0.0**
baz=67
M23K **Glacier View** **93.33 334** P **P** **05 57 58.6 +0.5**
baz=68
GLI **Glacier Island** **93.40 333** IAMs_20 IAMs_20 06 35 51.9
comp=Z,857nm,22.0s
GLI **Glacier Island** **93.40 333** P **P** **05 57 58.5 +0.2**
baz=68
D20K **Etivluk River** **93.56 342** P **P** **05 57 59.6 +0.6**
baz=59
SML **Sawmill** **93.59 334** IAMs_20 IAMs_20 06 36 28.1
comp=Z,839nm,20.0s
SML **Sawmill** **93.59 334** P **P** **05 57 59.7 +0.3**
baz=67
G21K **Allakaket** **93.61 339** IAMs_20 IAMs_20 06 39 35.2
comp=Z,734nm,19.0s
G21K **Allakaket** **93.61 339** P **P** **05 58 01.0 +1.7**

baz=62
E20K Nigu River 93.66 341 P **P** 05 58 00.2 +0.6
baz=59
I21K Tanana 93.67 338 P **P** 05 58 00.7 +1.1
baz=64
TRF Thorofare Moun 93.75 336 P **P** 05 58 01.5 +1.3
baz=65
BPAW Bear Paw Mtn. 93.76 336 P **P** 05 58 01.8 +1.8
baz=64
H21K Melozitna Rive 93.76 338 P **P** 05 58 01.7 +1.8
baz=63
KNK Knik Glacier 93.80 333 P **P** 05 58 01.4 +1.2
baz=67
GHO Glory Hole Cre 93.86 344 IAMs_20 IAMs_20 06 36 37.3
comp=Z,986nm,22.0s
P23K Montague Islan 93.87 332 P **P** 05 58 01.3 +0.8
baz=68
BVAR Borovoye Array 93.94 35 P **P** 05 58 01.3 +0.2
comp=Z,0.4nm,0.3s,baz=290,slow=4.3,SNR=9.7
BVAR LR LR 06 38 39.0
comp=Z,750nm,20.6s,baz=286,slow=34
comp=Z,0.4nm,0.3s
PMR Palmer 94.03 334 IAMs_20 IAMs_20 06 38 17.6
comp=Z,908nm,20.0s
PMR Palmer 94.03 334 P **P** 05 58 02.9 +1.7
baz=66
F20K Avaraart Lake 94.12 340 P **P** 05 58 02.8 +1.3
baz=60
D19K Kuna River 94.15 342 IAMs_20 IAMs_20 06 38 33.2
comp=Z,538nm,21.0s
D19K Kuna River 94.15 342 P **P** 05 58 02.8 +1.1
baz=58
CHUM Lake Minchumin 94.38 336 P **P** 05 58 04.0 +1.2
baz=63
M22K Willow 94.39 334 IAMs_20 IAMs_20 06 36 52.2
comp=Z,968nm,21.0s
CAST Castle Rocks 94.50 336 IAMs_20 IAMs_20 06 39 24.7
comp=Z,767nm,19.0s
CAST Castle Rocks 94.50 336 P **P** 05 58 05.2 +1.8
baz=64
RC01 Rabbit Creek A 94.50 333 IAMs_20 IAMs_20 06 37 54.1
comp=Z,978nm,21.0s
H20K Anotleneega Mo 94.60 338 P **P** 05 58 05.4 +1.6
baz=61
B18K Kokolik River 94.76 343 P **P** 05 58 06.5 +2.0
baz=54
PPLA Purkeypile 94.77 336 P **P** 05 58 05.5 +0.6
baz=64
SEW Seward 94.77 332 P **P** 05 58 06.5 +1.9
baz=66
I20K Naaghedeneel 94.79 338 P **P** 05 58 06.3 +1.7
baz=61
SUA Susitna One 94.79 334 P **P** 05 58 06.0 +1.1
baz=65
SKT Skwentna 94.90 335 P **P** 05 58 07.1 +1.8
baz=64
F19K Shaleruckik Mo 94.93 340 P **P** 05 58 07.4 +2.1
baz=58
J20K Nowinta River 94.96 337 P **P** 05 58 07.0 +1.5
baz=62
C18K Utukok River 95.00 342 IAMs_20 IAMs_20 06 40 19.7
comp=Z,870nm,20.0s
C18K Utukok River 95.00 342 P **P** 05 58 06.9 +1.2
baz=55
G19K Purcell Mounta 95.05 339 IAMs_20 IAMs_20 06 39 09.3
comp=Z,504nm,20.0s
G19K Purcell Mounta 95.05 339 P **P** 05 58 07.5 +1.6
baz=59
H19K Roundabout Mou 95.15 339 P **P** 05 58 08.4 +2.1
baz=59
CAPN Captain Cook N 95.26 333 P **P** 05 58 08.1 +1.2
baz=65
K20K Telida 95.32 336 IAMs_20 IAMs_20 06 37 10.4
comp=Z,661nm,20.0s
K20K Telida 95.32 336 P **P** 05 58 08.6 +1.4
baz=62
E18K Tukpahlearik C 95.53 341 P **P** 05 58 08.4 +0.4
baz=55
N20K Mount Spurr 95.54 334 P **P** 05 58 08.8 +0.5
baz=64
J19K Poorman 95.61 337 P **P** 05 58 09.3 +0.8
baz=60
M20K Styx River 95.62 335 P **P** 05 58 10.0 +1.3
baz=63
L20K Farewell, AK 95.66 336 P **P** 05 58 10.1 +1.4
baz=62
F18K Selawik 95.68 340 P **P** 05 58 10.4 +1.8
baz=56
C17K DeLong Mountai 95.69 343 P **P** 05 58 10.4 +1.6
baz=53
G18K Tagagawik 95.73 340 IAMs_20 IAMs_20 06 39 32.1
comp=Z,712nm,20.0s
RDOG Red Dog Mine 95.87 342 IAMs_20 IAMs_20 06 40 07.6
comp=Z,883nm,20.0s
RDOG Red Dog Mine 95.87 342 P **P** 05 58 10.9 +1.4
baz=53
HOM Homer 95.96 333 P **P** 05 58 12.3 +2.1
baz=64
H18K Honhosa River 96.03 339 IAMs_20 IAMs_20 06 38 36.0
comp=Z,738nm,20.0s
H18K Honhosa River 96.03 339 P **P** 05 58 11.3 +1.0
baz=58
E17K Hotham Inlet 96.11 341 P **P** 05 58 11.4 +0.7
baz=54
D17K Noatak River 96.14 342 P **P** 05 58 11.7 +0.9
baz=53
M19K Big River Lodg 96.14 335 P **P** 05 58 12.1 +1.2
baz=62
L19K White Mountain 96.20 336 IAMs_20 IAMs_20 06 38 48.8
comp=Z,873nm,22.0s
L19K White Mountain 96.20 336 P **P** 05 58 12.4 +1.1
baz=61
F17K Baldwin Pennin 96.30 341 IAMs_20 IAMs_20 06 40 49.1
comp=Z,768nm,19.0s
J18K Innoko River 96.30 337 P **P** 05 58 12.1 +0.5
baz=59
C16K Lieburne Hills 96.45 343 IAMs_20 IAMs_20 06 39 28.9
comp=Z,546nm,19.0s
C16K Lisburne Hills 96.45 343 P **P** 05 58 13.3 +1.2
baz=51
G17K Kiwalik Mounta 96.64 340 P **P** 05 58 14.9 +1.8
baz=55
P19K Oil Pt 96.69 333 IAMs_20 IAMs_20 06 37 43.0
comp=Z,932nm,21.0s
H17K Granite Mounta 96.70 339 IAMs_20 IAMs_20 06 37 15.7
comp=Z,863nm,21.0s
H17K Granite Mounta 96.70 339 P **P** 05 58 14.7 +1.3
baz=56
N19K Bonanza Creek 96.70 334 P **P** 05 58 15.2 +1.6
baz=62
L18K Granite Mounta 96.93 336 IAMs_20 IAMs_20 06 41 45.0
comp=Z,644nm,20.0s
M18K Stony River 96.94 335 P **P** 05 58 15.7 +1.1
baz=60
SIMJ Simiganj 97.14 50 P **P** 05 58 15.1 -1.1
SIMJ IAmb IAmb 05 58 22.6
comp=Z,7.1nm,0.9s
SIMJ IAMs_20 IAMs_20 06 46 56.0
comp=Z,484nm,20.0s
KDAK Kodiak Island 97.23 331 P **P** 05 58 17.8 +1.9
baz=64
KDAK Kodiak Island 97.23 331 LR LR 06 40 46.7
comp=Z,861nm,19.7s,baz=78,slow=35
J17K VABM Dome 97.24 338 P **P** 05 58 17.7 +1.8
baz=57
G16K Koyuk River 97.28 340 IAMs_20 IAMs_20 06 39 20.0
comp=Z,545nm,20.0s
G16K Koyuk River 97.28 340 P **P** 05 58 16.7 +0.7
baz=54
N18K Kilae Creek 97.37 334 P **P** 05 58 17.0 +0.5
baz=60
O18K Koktuh Hills 97.48 334 IAMs_20 IAMs_20 06 38 41.8
comp=Z,868nm,22.0s
QSPA South Pole Qui 97.52 180 P **P** 05 58 17.3 +0.2
comp=Z,1.8nm,1.1s,baz=180,slow=5.4,SNR=2.7
comp=Z,1.8nm,1.1s
I17K Unalakleet 97.57 338 P **P** 05 58 18.5 +1.2
baz=56
L17K Donlin 97.62 336 P **P** 05 58 18.5 +0.9
baz=58
M17K Holitna River 97.65 335 IAMs_20 IAMs_20 06 42 10.2
comp=Z,720nm,20.0s
M17K Holitna River 97.65 335 P **P** 05 58 18.2 +0.4
baz=59
H16K Elim 97.69 339 P **P** 05 58 18.5 +0.7
baz=54
P18K Big Mountain, 97.71 333 IAMs_20 IAMs_20 06 38 16.0
comp=Z,838nm,21.0s
P18K Big Mountain, 97.71 333 P **P** 05 58 19.0 +0.9
baz=61
OHAK Old Harbor 97.82 331 P **P** 05 58 19.6 +1.0
baz=63
F15K North Star Dit 97.85 341 IAMs_20 IAMs_20 06 41 09.0
comp=Z,555nm,20.0s
F15K North Star Dit 97.85 341 P **P** 05 58 20.0 +1.5
baz=52
J16K Anvik River 97.88 338 P **P** 05 58 20.1 +1.4
baz=56
N17K Nushagak Hills 98.00 335 P **P** 05 58 20.5 +1.2
baz=59
GAR Garm 98.03 49 IAMs_20 IAMs_20 06 41 11.5
comp=Z,883nm,22.0s
G15K Niukluk 98.09 340 P **P** 05 58 20.4 +0.8
baz=52
L16K Owhat River 98.31 336 IAMs_20 IAMs_20 06 41 48.7
comp=Z,658nm,19.0s
L16K Owhat River 98.31 336 P **P** 05 58 20.8 +0.1
baz=57
P17K Kvichak River 98.35 333 P **P** 05 58 21.6 +0.8
baz=60
M16K Timber Creek 98.48 336 IAMs_20 IAMs_20 06 40 12.1
comp=Z,768nm,20.0s
M16K Timber Creek 98.48 336 P **P** 05 58 22.2 +0.7
baz=58
F14K Arctic Creek 98.54 341 P **P** 05 58 21.5 -0.1
baz=50
N16K Nishlik Lake 98.69 335 P **P** 05 58 23.3 +0.8
baz=58
K15K Wolf Creek Mou 98.79 337 P **P** 05 58 22.5 -0.3
baz=55
ANM Nome 98.81 340 IAMs_20 IAMs_20 06 39 57.3
comp=Z,534nm,20.0s
ANM Nome 98.81 340 P **P** 05 58 22.6 -0.3
baz=51
O16K Kokwok River B 98.87 334 P **P** 05 58 23.9 +0.7
baz=58
P16K Nushagak River 99.12 334 P **Pdif** 05 58 24.8 +0.4
baz=59
L15K Ungalak Mounta 99.13 337 P **Pdif** 05 58 25.0 +0.6
baz=55
J14K Nanvaranak Lak 99.28 338 P **Pdif** 05 58 26.0 +1.0
baz=53
M15K Kasigluk River 99.37 336 P **Pdif** 05 58 25.1 -0.3
baz=56
N15K Kwethluk River 99.41 335 IAMs_20 IAMs_20 06 40 49.8
comp=Z,841nm,21.0s
N15K Kwethluk River 99.41 335 P **Pdif** 05 58 25.7 0.0
baz=57
KURBB Kurchatov Arra 99.52 36 P **Pdif** 05 58 26.2 -0.1
comp=Z,0.9nm,0.7s,baz=293,slow=4.9,SNR=12
KURBB PP **PP** **06 02 27.6 -1.9**
comp=Z,2.3nm,0.9s,baz=297,slow=8.2,SNR=3.9
KURBB LR LR 06 44 29.3
comp=Z,507nm,18.4s,baz=304,slow=36
comp=Z,0.9nm,0.7s
KURK Kurchatov 99.53 36 IAMs_20 IAMs_20 06 42 09.6
comp=Z,633nm,20.0s
KURK Kurchatov 99.53 36 P **Pdif** 05 58 26.2 -0.2
CHIR Chirikof Islan 99.62 330 P **Pdif** 05 58 27.2 +0.5
baz=61
L14K Kuka Creek 99.79 337 IAMs_20 IAMs_20 06 41 26.7
comp=Z,712nm,20.0s
L14K Kuka Creek 99.79 337 P **Pdif** 05 58 27.4 +0.1
baz=54
M14K Bethel 99.85 336 IAMs_20 IAMs_20 06 38 33.3
comp=Z,778nm,22.0s
M14K Bethel 99.85 336 P **Pdif** 05 58 28.0 +0.5
baz=55
AAK Ala-Archa 99.92 44 IAMs_20 IAMs_20 06 44 35.3
comp=Z,466nm,21.0s
AAK Ala-Archa 99.92 44 LR LR 06 44 59.4
comp=Z,384nm,19.8s,baz=307,slow=36
FRU1 Bishkek 99.95 44 IAMs_20 IAMs_20 06 44 07.2
comp=Z,440nm,19.0s
K13K Kusilvak Mount 100.19 338 P **Pdif** 05 58 29.3 +0.2
baz=52
O14K Tigyukauivet M 100.42 335 IAMs_20 IAMs_20 06 42 39.4
comp=Z,743nm,20.0s
O14K Tigyukauivet M 100.42 335 P **Pdif** 05 58 29.7 -0.5
baz=56
M13K Dall Lake 100.60 336 P **Pdif** 05 58 29.9 -1.0
baz=54
S14K Fog Glacier 101.28 332 P **Pdif** 05 58 33.9 -0.3
baz=58
GAMB Gambell 101.40 341 P **Pdif** 05 58 34.0 -0.4
baz=45
ZAA0 Zalesovo Array 101.44 31 IAMs_20 IAMs_20 06 45 39.0
comp=Z,604nm,19.0s
ZALV Zalesovo Beam 101.44 31 P **Pdif** 05 58 34.9 +0.1
comp=Z,0.4nm,0.4s,baz=285,slow=7.3,SNR=1.8
ZALV PP **PP** **06 02 44.3 +0.4**
comp=Z,3.3nm,0.9s,baz=297,slow=6.3,SNR=4.0
ZALV Zalesovo Beam 101.44 31 *i* P **Pdif** 05 58 43.0 +8.2
ZALV pmax pmax
comp=Z,1.0nm,0.7s
NIL Nilore 101.85 53 IAMs_20 IAMs_20 06 47 42.0
comp=Z,714nm,19.0s
CHNA Chernabura Isl 102.08 330 P **Pdif** 05 58 37.7 +0.1
baz=58
S12K Black Hills 102.78 332 P **Pdif** 05 58 40.6 -0.2
baz=56
MAKZ Makanchi 103.21 38 IAMs_20 IAMs_20 06 43 35.0
comp=Z,821nm,21.0s
MKAR Makanchi Array 103.41 38 Pdiff **Pdif** 05 58 43.6 -0.1
comp=Z,0.7nm,0.9s,baz=305,slow=4.7,SNR=1.6
MKAR Makanchi Array 103.41 38 *i* P **Pdif** 05 58 49.5 +5.7
MKAR pmax pmax
comp=Z,2.0nm,0.8s
YAK Yakutsk 109.83 7 IAMs_20 IAMs_20 06 42 23.5
comp=Z,421nm,21.0s
MA2 Magadan 112.91 356 IAMs_20 IAMs_20 06 54 47.1
comp=Z,381nm,20.0s
PPT2 Papeete2 114.38 254 *e*PP PP 06 04 12.4 -7.8
comp=Z,65nm,25.2s
PPT2 Papeete2 114.38 254 *e*SS SS 06 20 11.4 -1.9
comp=Z,447nm,28.5s
PPT2 Papeete2 114.38 254 *e*LR LR 06 37 40.7
comp=Z,610nm,30.0s
PPT2 eLR LR 06 37 47.1
comp=Z,819nm,27.2s
ULN Ulaanbaatar 116.10 27 IAMs_20 IAMs_20 06 50 54.4
comp=Z,668nm,21.0s
LSA Lhasa 117.43 51 IAMs_20 IAMs_20 06 55 26.7
comp=Z,390nm,21.0s
HIA Hailar 119.71 18 IAMs_20 IAMs_20 06 56 34.8
comp=Z,412nm,19.0s
SHL Shillong 119.87 55 IAMs_20 IAMs_20 06 55 10.4
comp=Z,619nm,20.0s
KLR Kul'dur 122.55 9 *e*PKIKP **PKPdf** **06 03 37.7 -1.3**
KLR pmax pmax
comp=Z,4.0nm,1.0s
BTO Baotou 122.97 30 *e*PKP **PKPdf** **06 03 34.5 -5.7**
BTO SS SS 06 21 58.9 -2.7
BTO LR LR
comp=Z,1μm,21.8s
BTO LR LR
comp=Z,730nm,20.0s
BTO LR LR
comp=Z,2μm,19.0s
XLT XiLinHaoTe 123.06 24 *e*PKP **PKPdf** **06 03 35.8 -4.4**
HHC Hu-ho-hao-te 123.54 29 *e*PKP **PKPdf** **06 03 37.8 -3.5**
HHC SS SS 06 22 11.4 +2.6
HHC AMB AMB
comp=Z,79nm,8.0s
HHC LR LR
comp=Z,760nm,21.6s
HHC LR LR
comp=Z,510nm,21.1s
HHC LR LR
comp=Z,1μm,20.0s
YSS Yuzh-Sakhalins 125.79 1 IAMs_20 IAMs_20 06 57 06.5
comp=Z,402nm,20.0s
CD2 Chengdu 125.95 43 PKP **PKPdf** **06 03 43.5 -2.6**
MDJ Mudanjiang 126.59 13 IAMs_20 IAMs_20 06 54 49.7
comp=Z,358nm,22.0s
PZH PanZhiHua 127.10 49 PKP **PKPdf** **06 03 48.0 -0.5**
PZH AMB AMB
comp=Z,110nm,6.1s
PZH LR LR
comp=Z,230nm,19.6s
PZH LR LR
comp=Z,280nm,21.0s
PZH LR LR
comp=Z,380nm,20.6s
XAN Xi'an 127.16 36 PKP **PKPdf** **06 03 49.1 +0.8**
XAN LR LR
comp=Z,400nm,15.9s
XAN LR LR
comp=Z,450nm,19.2s
XAN LR LR
comp=Z,1μm,22.0s
USA0B Ussuriysk Arra 127.47 11 IAMs_20 IAMs_20 06 54 39.0
comp=Z,422nm,22.0s
USRK Ussuriysk Ar. 127.47 11 PKP **PKPdf** **06 03 48.9 +0.4**
comp=Z,2.1nm,0.8s,baz=27,slow=1.3,SNR=5.0
HNS HongShan 127.76 29 *e*PKP **PKiKP** **06 03 54.3 +4.5**
HNS PP PP 06 05 59.4 +10
HNS LR LR
comp=Z,760nm,20.7s
HNS LR LR
comp=Z,360nm,22.3s
HNS LR LR
comp=Z,950nm,21.1s
JKA Kamikawa-asahi 128.62 1 IAMs_20 IAMs_20 06 59 05.6
comp=Z,430nm,20.0s
CHTO Chiang Mai 128.71 59 IAMs_20 IAMs_20 07 04 13.6
comp=Z,322nm,20.0s
CMAR Chiang Mai Arr 128.87 59 PKPdf **PKPdf** **06 03 52.5 +0.6**
CMAR Chiang Mai Arr 128.87 59 PKP **PKPdf** **06 03 52.9 +1.0**
comp=Z,8.1nm,0.9s,baz=295,slow=3.5,SNR=12
ENH Enshi 130.12 40 IAMs_20 IAMs_20 07 02 05.4
comp=Z,481nm,20.0s
SLVN Son La 131.56 53 IAMs_20 IAMs_20 07 01 49.7
comp=Z,285nm,20.0s
WHN Wuhan 132.85 35 PKP **PKPdf** **06 03 59.3 +0.2**
KSRS Korea Array 132.91 17 PKP **PKPdf** **06 03 57.7 -1.4**
comp=Z,0.4nm,0.3s,baz=343,slow=3.8,SNR=1.5
NJ2 Nanjing 134.08 30 *e*PKP **PKPdf** **06 04 01.3 -0.1**
NJ2 LR LR
comp=Z,640nm,20.8s
NJ2 LR LR
comp=Z,480nm,19.9s
NJ2 LR LR
comp=Z,890nm,18.9s
KULM Kulim 135.21 75 IAMs_20 IAMs_20 06 57 23.4
comp=Z,304nm,20.0s
UBPT Khong Chiam 135.87 59 IAMs_20 IAMs_20 07 08 49.3
comp=Z,300nm,19.0s
MJAR Matsushiro Arr 135.90 6 PKhKP PKPpre 06 04 02.1
comp=Z,0.9nm,0.4s,baz=343,slow=2.4,SNR=1.7
QIZ Qiongzhong 137.47 51 PKP **PKPdf** **06 04 07.8 -0.3**
QIZ SS SS 06 25 00.3 -1.0
QIZ LR LR
comp=Z,200nm,21.6s
QIZ LR LR
comp=Z,210nm,19.1s
QIZ LR LR
comp=Z,300nm,21.9s
QIZ Qiongzhong 137.47 51 IAMs_20 IAMs_20 07 08 37.2
comp=Z,306nm,21.0s
MYKOM Kota Tinggi 139.18 79 IAMs_20 IAMs_20 07 10 48.9
comp=Z,311nm,21.0s
DLV T Lat 140.01 61 IAMs_20 IAMs_20 07 07 56.9
comp=Z,310nm,22.0s
PSA00 Pilbara Seismi 153.05 124 **PKPdf** **06 04 39.5 +5.0**
DZM Mont Dzumac 153.73 234 *e*PP **PP** **06 08 25.6 -4.3**
comp=Z,95nm,26.4s
DZM Mont Dzumac 153.73 234 *e*SS SS 06 28 05.5 -1.6
comp=Z,278nm,27.1s
DZM Mont Dzumac 153.73 234 *e*LR LR 06 56 00.3
comp=Z,1μm,23.8s
DZM Mont Dzumac 153.73 234 **PKPbc** **06 04 43.6 +0.3**
TOLI2 Tolitoli 155.59 70 PKPdf **PKPdf** **06 04 36.1 -2.1**
STKA Stephens Creek 155.66 176 PKP **PKPdf** **06 04 37.5 -0.3**
comp=Z,0.5nm,0.3s,baz=116,slow=5.6,SNR=1.2
STKA PKPab **PKPab** **06 05 03.1 -0.6**
comp=Z,3.3nm,0.9s,baz=12,slow=15,SNR=3.8
KAPI Kappang 156.06 85 IAMs_20 IAMs_20 07 30 19.4
comp=Z,260nm,20.0s
ASAR Alice Springs 161.37 151 PKP **PKPdf** **06 04 45.0 0.0**
comp=Z,0.5nm,0.7s,baz=247,slow=0.6,SNR=3.1
ASAR PKPab **PKPab** **06 05 29.3 +0.5**
comp=Z,0.4nm,0.4s,baz=208,slow=4.3,SNR=1.2
WRA Warramunga Arr 164.65 145 PKP **PKPdf** **06 04 48.1 0.0**
comp=Z,2.2nm,1.0s,baz=266,slow=0.9,SNR=6.7
WRA PKPab **PKPab** **06 05 43.6 +0.4**
comp=Z,1.8nm,0.8s,baz=218,slow=3.9,SNR=2.5

KRNET ***23*** *05:48:15.2±0.1, 39.51N×74.96E, mb2.5*
SOME ***23*** *05:48:16.2, 39.60N×75.65E, h5km*
NNC ***23*** *05:48:18.1±4.8, 39.57N×76.40E, h0km, mb3.6, mpv3.3,*
Error ellipse: s-maj=67.2km s-min=32.5km az=91.0
ISC 23 05:48:16.9±2.3, 39.6N±0.1×74.95E±0.05, h10km, n17,
σ1s 97/30, 15C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**1.20**	**292**	⇑*e*P		**Pb**	**05 48 38.5**	**-1.4**
	baz=95						
SFK				⇑*e*S		**Sn**	**05 48 55.7**	**-0.8**
	baz=95						
NRN	**Naryn**	**2.03**	**23**	⇑*e*P		**Pb**	**05 48 53.1**	**-1.1**
	baz=22						
NRN				⇑*e*S		**Sb**	**05 49 20.3**	**+0.6**
	baz=22						
ARSB	**Arslanbob**	**2.31**	**320**	⇑*e*P		**Pb**	**05 48 57.1**	**-1.7**
	baz=21						
ARSB				⇑*e*S		**Sb**	**05 49 27.6**	**0.0**
	baz=21						
ARLS	**Aral**	**2.35**	**348**	⇑*e*P		**Pb**	**05 48 57.4**	**-2.0**
	baz=49						
ARLS				⇑*e*S		**Sb**	**05 49 28.4**	**-0.1**
	baz=49						
UCH	**Uchtor**	**2.68**	**353**	⇑*e*P		**Pb**	**05 49 02.4**	**-2.9**
	baz=53						
UCH				⇑*e*S		**Sb**	**05 49 36.9**	**-1.6**
	baz=53						
BOOM	**Boomskoye usch**	**3.02**	**14**	⇑*e*P		**Pn**	**05 49 06.7**	**+1.7**
	baz=14						
BOOM				⇑*e*S		**Sb**	**05 49 44.3**	**-3.6**
	baz=14						
KDJ	**Kajisay**	**3.07**	**33**	⇑*e*P		**Pn**	**05 49 07.5**	**+1.8**
	baz=32						
KDJ				⇑*e*S		**Sb**	**05 49 45.5**	**-3.9**
	baz=32						
TKM2	**Tokmak 2**	**3.39**	**8**	⇑Pn		**Pn**	**05 49 12.0**	**+1.9**
	2.7nm,0.3s						
TKM2				⇓Sn		**Sb**	**05 49 56.2**	**-2.4**
	3.5nm,0.4s						
MNAS	**Manas**	**3.46**	**328**	⇓*e*P		**Pn**	**05 49 12.5**	**+1.5**
	baz=29						
MNAS				⇓*e*S		**Sn**	**05 49 55.5**	**+3.4**
	baz=29						
KST	**Kastek**	**3.56**	**12**	Pg		**Pb**	**05 49 19.8**	**-0.2**
	3.7nm,0.3s						
KST				Lg		Lg	05 50 04.4	
	11nm,0.4s						
KST	**Kastek**	**3.56**	**12**	*e*P		**Pb**	**05 49 19.4**	**-0.7**
	3.6nm,0.2s						
KST				*e*S		**Sb**	**05 50 04.9**	**+1.5**
	11nm,0.2s						
IZV	**Izvestkoviy**	**3.69**	**19**	Pg		**Pb**	**05 49 22.7**	**+0.4**
	0.7nm,0.1s						
IZV				Lg		Lg	05 50 09.7	
	11nm,0.6s						
IZV	**Izvestkoviy**	**3.69**	**19**	*e*P		**Pb**	**05 49 21.8**	**-0.5**
	0.7nm,0.1s						
IZV				*e*S		**Sb**	**05 50 09.0**	**+1.9**
	11nm,0.2s						
TNSS	**Tian-Shan**	**3.78**	**23**	Pg		**Pb**	**05 49 21.5**	**-2.6**
	2.4nm,0.3s						
TNSS				Lg		Lg	05 50 07.8	
	2.6nm,0.4s						
TNSS	**Tian-Shan**	**3.78**	**23**	*e*P		**Pb**	**05 49 22.3**	**-1.7**
	2.3nm,0.1s						
TNSS				*e*S		**Sb**	**05 50 10.0**	**-0.1**
	3.1nm,0.2s						
MDOK	**Medeo**	**3.93**	**23**	Pg		**Pb**	**05 49 25.1**	**-1.3**
	2.1nm,0.3s						
MDOK				Lg		Lg	05 50 13.4	
	4.0nm,0.5s						
MDOK	**Medeo**	**3.93**	**23**	*e*P		**Pb**	**05 49 24.0**	**-2.3**
	2.1nm,0.3s						
MDOK				*e*S		**Sb**	**05 50 12.9**	**-1.2**
	4.0nm,0.5s						

IDC 23 05:58:49.0±15.0, 19.48S×175.90W, h162km±138km,
mb3.4/6, mbtmp3.8/6, Error ellipse: s-maj=43.9km
s-min=31.3km az=134.0, Tonga Islands

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

ASAR Alice Springs 46.68 256 P P 06 07 01.9 +0.2
3.9nm,0.6s,baz=90,slow=8.6,SNR=31
ASAR PcP PcP 06 08 32.1 -0.7
0.5nm,0.4s,baz=98,slow=4.1,SNR=5.1
3.9nm,0.6s
WRA Warramunga Arr 46.70 261 P P 06 07 01.6 -0.4
1.0nm,0.3s,baz=92,slow=6.4,SNR=47
1.0nm,0.3s
QSPA South Pole Qui 70.58 180 P P 06 09 46.0 -0.4
0.8nm,0.7s,baz=89,slow=4.1,SNR=2.0
0.8nm,0.7s
NVAR Mina Array Bea 78.94 43 P P 06 10 35.2 +0.3
0.3nm,0.5s,baz=220,slow=9.2,SNR=2.9
0.3nm,0.5s
ILAR Eielson Array 86.90 12 P P 06 11 14.6 -0.4
0.1nm,0.3s,baz=215,slow=5.1,SNR=5.5
0.1nm,0.3s
YKA Yellowknife Ar 94.78 24 P P 06 11 51.6 0.0
0.1nm,0.6s,baz=250,slow=4.9,SNR=2.1
0.1nm,0.6s
MMAI Mount Meron Ar 148.99 302 PKPbc PKPbc 06 18 18.7 +0.3
1.7nm,0.5s,baz=76,slow=6.1,SNR=2.2

IDC 23 05:59:28.1±3.1, 54°45N×86°48E, h0km, mbtmp3.0/2, ML2.6/2, Error ellipse: s-maj=26.8km s-min=18.3km az=56.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.29**	**248**	I	I	06 08 00.0	
	baz=68,slow=321,SNR=11						
ZALV	**Zalesovo Beam**	**1.29**	**248**	Pg	Pg	05 59 51.5	-1.2
	1.1nm,0.3s,baz=65,slow=16,SNR=15						
ZALV				Lg	Lg	06 00 09.6	
	4.0nm,0.3s,baz=62,slow=28,SNR=8.8						
KURBB	**Kurchatov Arra**	**6.35**	**236**	Pn	Pn	06 01 03.7	+0.9
	0.1nm,0.3s,baz=54,slow=14,SNR=12						
KURBB				Lg	Lg	06 02 49.8	
	baz=56,slow=31						
	1.6nm,0.5s						
MKAR	**Makanchi Array**	**8.19**	**202**	Pn	Pn	06 01 29.2	+1.1
	0.1nm,0.3s,baz=26,slow=15,SNR=1.4						
MKAR				Lg	Lg	06 03 46.3	
	baz=38,slow=28						
	0.2nm,0.4s						

IDC 23 06:00:39.4±2.9, 54°13N×86°48E, h0km, mbtmp3.1/2, ML2.9/2, Error ellipse: s-maj=23.7km s-min=14.2km az=58.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.00**	**260**	I	I	06 07 20.0	
	baz=80,slow=326,SNR=1.0						
ZALV	**Zalesovo Beam**	**1.00**	**260**	Pg	Pg	06 00 56.8	-1.7
	0.6nm,0.3s,baz=79,slow=16,SNR=1.9						
ZALV				Lg	Lg	06 01 13.0	
	2.9nm,0.3s,baz=79,slow=30,SNR=7.3						
KURBB	**Kurchatov Arra**	**6.00**	**237**	Pn	Pn	06 02 10.4	+1.0
	0.1nm,0.3s,baz=55,slow=13,SNR=5.5						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**7.82**	**202**	Pn	Pn	06 02 35.4	+1.1
	0.4nm,0.3s,baz=25,slow=14,SNR=4.3						
	0.6nm,0.3s						

*NEIC **23** 06:11:01.9±0.8, 19°.39N±0°.03×155°.27W±0°.01, h4km±7km, Error ellipse: s-maj=5.2km s-min=1.0km az=167.0*
HVO 23 06:11:01.4±0.8, 19°.42N±0°.01×155°.28W±0°.01, h1km±4km, ML2.9/39, ML2.9/41(NEIC), Error ellipse: s-maj=1.5km s-min=1.3km az=208.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBL	**Observatory Le**	**0.01**	**279**		Pg	06 11 02.9	+1.1
UWB	**Uwekahuna B**	**0.01**	**346**		Pg	06 11 02.6	+0.7
SBLHI	**Steaming Bluff**	**0.01**	**34**		Pg	06 11 02.8	+0.9
BYL	**Byron's Ledge**	**0.01**	**106**		Pg	06 11 02.9	+1.0
HATHI	**Halema'uma'u T**	**0.01**	**64**		Pg	06 11 02.9	+1.0
UWE	**Uwekahuna**	**0.02**	**287**		Pg	06 11 03.1	+1.2
KKO	**Keanakako`i**	**0.02**	**153**		Pg	06 11 03.3	+1.4
RIM	**Rim**	**0.02**	**176**		Pg	06 11 03.3	+1.4
SDHHI	**Sand Hill**	**0.03**	**213**		Pg	06 11 03.8	+1.8
RSD	**Rainshed**	**0.05**	**357**		Pg	06 11 04.2	+1.9
PUH	**Pauahi**	**0.07**	**127**		Pg	06 11 03.6	+0.8
PUH	**Pauahi**	**0.07**	**127**	IAML		06 11 05.0	
	comp=E,11μm,0.8s						
PUH				IAML		06 11 05.0	
	comp=N,9μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**110**		Pg	06 11 04.4	+1.0
HLP	**Hilina Pali**	**0.12**	**194**		Sg	06 11 07.6	+2.3
HLP	**Hilina Pali**	**0.12**	**194**		Pg	06 11 05.1	+1.3
HLP				IAML		06 11 07.8	
	comp=E,5μm,0.5s						
MLH	**Mauna Loa**	**0.13**	**307**		Pg	06 11 05.0	+1.1
MLH	**Mauna Loa**	**0.13**	**307**	IAML		06 11 08.4	
	comp=N,11μm,0.4s						
MLH				IAML		06 11 08.6	
	comp=E,6μm,0.4s						
STCH	**Steam Cracks**	**0.15**	**102**		Pg	06 11 05.0	+0.8
STCH	**Steam Cracks**	**0.15**	**102**	IAML		06 11 08.7	
	comp=E,5μm,0.7s						
STCH				IAML		06 11 08.9	
	comp=N,3μm,0.7s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	06 11 05.2	+0.7
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	06 11 05.6	+1.0
JOKA	**Jonika Flow**	**0.26**	**86**		Pg	06 11 07.3	+1.0
JOKA				IAML		06 11 15.4	
	comp=N,2μm,0.7s						
HMH	**Humu'ula Sheep**	**0.27**	**314**	IAML		06 11 15.2	
	comp=E,2μm,0.7s						
HMH				IAML		06 11 15.8	
	comp=N,3μm,0.5s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**		Pg	06 11 08.2	+0.9
MLOA				IAML		06 11 18.4	
	comp=E,2μm,0.8s						
PAH	**Pahoa**	**0.32**	**76**		Pb	06 11 10.0	+0.1
KHU	**Kahuku**	**0.36**	**242**	IAML		06 11 19.2	
	comp=E,1μm,0.6s						
KHU				IAML		06 11 20.2	
	comp=N,1μm,0.8s						
POHA	**Pohakuloa**	**0.42**	**325**		Pg	06 11 10.1	+0.7
POHA				IAML		06 11 18.7	
	comp=N,2μm,0.3s						
HPAH	**Hawaii Prepara**	**0.73**	**327**		Pg	06 11 14.5	-0.8
HPAH				IAML		06 11 33.8	
	comp=E,422nm,0.9s						
HPAH				IAML		06 11 40.9	
	comp=N,455nm,1.0s						
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	06 11 18.1	-1.9

*ANF **23** 06:11:44.2±0.5, 32°.69N×115°.87W, h21km±2km, ML2.7/22, Error ellipse: s-maj=4.7km s-min=2.5km az=149.0*
*NEIC **23** 06:11:45.1±1.5, 32°.664N±0°.009×115°.890W±0°.009, h3km±4km, Error ellipse: s-maj=1.4km s-min=1.1km az=186.0*
*PAS **23** 06:11:45.3±1.2, 32°.65N±0°.02×115°.87W±0°.01, h10km±6km, ML3.0/132, ML2.9/34(NEIC), Error ellipse: s-maj=2.3km s-min=1.3km az=170.0*
*ECX **23** 06:11:46.0±0.6, 32°.65N×115°.88W, h6km±2km, MD2.8, ML3.0, Fault plane solution: NP1:φs114.00000°, δ48.00000°, λs-162.00000°.*
ISC 23 06:11:44.4±0.7, 32°.64N±0°.02×115°.89W±0°.01, h16km±4km, n119, σ1≥09/173, 29C-13D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YUH	**Yuha Desert**	**0.03**	**286**	Pg	**Pg**	**06 11 47.1**	**-0.2**
YUH				IAML		06 11 48.7	
	comp=E,8μm,0.1s						
YUH				IAML		06 11 48.7	
	comp=N,8μm,0.1s						
YUH2	**Yuha Desert**	**0.03**	**285**	⇑*i*P	**Pg**	**06 11 47.1**	**-0.2**
YUH2				*e*S	**Sg**	**06 11 48.4**	**-0.8**
FRM2	**Fiarum2 CEA PB**	**0.07**	**230**	⇑*i*P	**Pg**	**06 11 47.7**	**+0.2**
SGL	**Mount Signal**	**0.14**	**86**		**Pg**	**06 11 48.0**	**-0.2**
SGL					**Sg**	**06 11 50.2**	**-0.5**
SGL	**Mount Signal**	**0.14**	**86**	⇑*i*P	**Pg**	**06 11 48.0**	**-0.2**
SGL				*i* S	**Sg**	**06 11 50.2**	**-0.5**
FRM1	**Rumorosa**	**0.15**	**237**	⇑*i*P	**Pg**	**06 11 49.1**	**+0.5**
FRM1				*e*S	**Sg**	**06 11 51.9**	**+0.5**
RMX	**La Rumorosa**	**0.17**	**258**		**Pg**	**06 11 49.1**	**+0.2**
RMX					**Sg**	**06 11 51.7**	**-0.1**
RMX	**La Rumorosa**	**0.17**	**258**	IAML		06 11 51.8	
	comp=N,5μm,0.2s						
RMX				IAML		06 11 52.1	
	comp=E,4μm,0.3s						
RMX	**La Rumorosa**	**0.17**	**258**	⇑*i*P	**Pg**	**06 11 49.1**	**+0.2**
RMX				*i* S	**Sg**	**06 11 51.7**	**-0.1**
RMX				⇓*e*		06 11 51.8	
RMX				IAML		06 11 51.8	
	comp=N,5μm,0.1s						
WESC	**Westside Schoo**	**0.18**	**47**		**Pg**	**06 11 49.0**	**+0.2**
WESC					**Sg**	**06 11 52.3**	**+0.5**
WESC	**Westside Schoo**	**0.18**	**47**	⇑*i*P	**Pg**	**06 11 49.0**	**+0.2**
CEA0	**Mexicali**	**0.18**	**86**	⇑*i*P	**Pg**	**06 11 48.9**	**0.0**
CEA0				*i* S	**Sg**	**06 11 51.8**	**-0.1**
IKP	**In-Ko-Pah, Jac**	**0.19**	**273**		**Pg**	**06 11 49.6**	**+0.5**
IKP					**Sg**	**06 11 52.5**	**+0.3**
IKP	**In-Ko-Pah, Jac**	**0.19**	**273**	P	**Pg**	**06 11 49.5**	**+0.5**
	baz=90,SNR=466						
IKP				S	**Sg**	**06 11 52.5**	**+0.3**
	baz=90						
IKP	**In-Ko-Pah, Jac**	**0.19**	**273**	⇑*i*P	**Pg**	**06 11 49.6**	**+0.5**
IKP				*e*S	**Sg**	**06 11 52.5**	**+0.3**
COK2	**Cook Ranch 2**	**0.25**	**32**		**Pg**	**06 11 50.4**	**+0.4**
COK2					**Sb**	**06 11 54.7**	**0.0**
COK2	**Cook Ranch 2**	**0.25**	**32**	⇑*i*P	**Pg**	**06 11 50.4**	**+0.4**
CRR	**Carrizo Plain**	**0.26**	**344**		**Pg**	**06 11 50.4**	**+0.3**
CRR					**Sg**	**06 11 54.1**	**+0.2**
CRR	**Carrizo Plain**	**0.26**	**344**	⇓*i*P	**Pg**	**06 11 50.4**	**+0.3**
ZC01	**Zona Comercial**	**0.26**	**92**	⇑*i*P	**Pg**	**06 11 50.6**	**+0.5**
ZC01				*e*S	**Sb**	**06 11 55.4**	**+0.3**
JARAX	**Ej. Heriberto**	**0.28**	**111**	⇓*i*P	**Pg**	**06 11 50.5**	**+0.2**
JARAX				*i* S	**Sg**	**06 11 54.8**	**+0.4**
SWSC	**Sam W. Stewart**	**0.31**	**13**	P	**Pg**	**06 11 51.2**	**+0.1**
	baz=191,SNR=292						
SWSC				S	**Sg**	**06 11 55.1**	**-0.5**
	baz=191						
SWSC	**Sam W. Stewart**	**0.31**	**13**	⇑*i*P	**Pg**	**06 11 51.2**	**+0.1**
SUP	**Superstition M**	**0.32**	**9**		**Pg**	**06 11 51.4**	**+0.2**
SUP					**Sg**	**06 11 56.0**	**+0.2**
5053	**Calexico**	**0.33**	**85**		**Pb**	**06 11 52.1**	**+0.1**
5053					**Sb**	**06 11 57.7**	**+0.6**
POTX	**Potabilizadora**	**0.34**	**96**	⇑*i*P	**Pg**	**06 11 52.1**	**+0.6**
ICBC	**Inst. de Cultu**	**0.35**	**86**	⇑*i*P	**Pb**	**06 11 52.5**	**+0.2**
ICBC				*e*S	**Sb**	**06 11 58.2**	**+0.7**
UABX	**UABC, Campus M**	**0.38**	**91**		**Pg**	**06 11 52.9**	**+0.8**
UABX					**Sb**	**06 11 59.1**	**+0.8**
UABX	**UABC, Campus M**	**0.38**	**91**	IAML		06 11 59.5	
	comp=E,6μm,0.2s						
UABX				IAML		06 11 59.6	
	comp=N,5μm,0.4s						
UABX	**UABC, Campus M**	**0.38**	**91**	⇑*i*P	**Pg**	**06 11 52.9**	**+0.8**
IMPE	**Imperial**	**0.38**	**46**		**Pb**	**06 11 53.0**	**+0.2**
IMPE					**Sb**	**06 11 59.4**	**+0.9**
BDSO	**Brigada del So**	**0.40**	**92**	⇑*i*P	**Pb**	**06 11 53.4**	**+0.3**
DREC	**Desert Rsrch C**	**0.41**	**66**		**Sb**	**06 12 00.2**	**+1.0**
DREC	**Desert Rsrch C**	**0.41**	**66**	⇑*i*P	**Pb**	**06 11 53.4**	**+0.2**
ZC06	**Zona comercial**	**0.42**	**95**	⇑*i*P	**Pb**	**06 11 53.8**	**+0.4**
ZC06				*e*S	**Sb**	**06 12 00.5**	**+1.0**
POT2	**Potabilizadora**	**0.42**	**91**	⇑*i*P	**Pg**	**06 11 53.0**	**+0.1**
POT2				⇑*i*P	**Pb**	**06 11 53.9**	**+0.4**
POT2				*e*S	**Sg**	**06 11 59.4**	**+0.7**
5054	**Holtville Bond**	**0.46**	**83**		**Pb**	**06 11 54.5**	**+0.2**
5054					**Sb**	**06 12 01.7**	**+0.8**
WEMD	**Westmorland, C**	**0.47**	**33**		**Pb**	**06 11 54.6**	**+0.2**
WEMD					**Sb**	**06 12 02.4**	**+1.2**
ERRC	**Elmore Ranch**	**0.48**	**6**		**Pb**	**06 11 54.8**	**+0.3**
ERRC					**Sb**	**06 12 02.2**	**+0.9**
MONP2	**Monument Peak**	**0.52**	**299**		**Sg**	**06 12 02.3**	**+0.5**
MONP2	**Monument Peak**	**0.52**	**299**	P	**Pg**	**06 11 55.2**	**+0.4**
	baz=118,SNR=56						
MONP2				S	**Sg**	**06 12 01.6**	**-0.2**
	baz=118						
MONP2	**Monument Peak**	**0.52**	**299**	⇓*e*P	**Pg**	**06 11 55.3**	**+0.4**
MONP2				IAML		06 12 02.6	
	comp=N,462nm,0.5s						
MONP2				⇑*e*		06 12 02.6	
MONP2				IAML		06 12 02.6	
	comp=E,277nm,0.2s						
MONP2				⇓*e*		06 12 02.6	
CLI2	**Calipatria 2**	**0.55**	**28**		**Pb**	**06 11 56.0**	**+0.4**
CLI2					**Sb**	**06 12 04.7**	**+1.5**
TKX	**Tecate**	**0.61**	**264**		**Pg**	**06 11 57.0**	**+0.5**
TKX					**Sg**	**06 12 05.1**	**+0.4**
ESJX	**Sierra Juarez**	**0.63**	**185**		**Pg**	**06 11 57.3**	**+0.3**
ESJX					**Sg**	**06 12 05.6**	**+0.2**
SLH	**Sleepy Hollow**	**0.63**	**331**		**Pg**	**06 11 57.3**	**+0.4**
SLH					**Sb**	**06 12 06.3**	**+0.6**
SLH	**Sleepy Hollow**	**0.63**	**331**	⇓*i*P	**Pg**	**06 11 57.3**	**+0.4**
SALN	**Salton City**	**0.65**	**352**		**Pg**	**06 11 57.3**	**+0.2**
SALN					**Sb**	**06 12 06.8**	**+0.7**
CTLX	**Tlaxcala, TLX**	**0.65**	**105**	*e*P	**Pb**	**06 11 58.2**	**+0.9**
CTLX				*e*S	**Sn**	**06 12 08.8**	**-0.1**
ALAMX	**Rancho Alamar**	**0.65**	**167**	⇓*e*P	**Pg**	**06 11 57.3**	**+0.2**
ALAMX				*e*S	**Sg**	**06 12 06.0**	**+0.3**
ALAMX				*e*		06 12 07.0	
ALAMX				IAML		06 12 07.0	
	comp=N,780nm,0.2s						
ALAMX				IAML		06 12 07.2	
	comp=E,1μm,0.3s						
ALAMX				⇓*e*		06 12 07.2	
BAR	**Barrett**	**0.67**	**274**		**Pg**	**06 11 57.9**	**+0.4**
BAR				IAML		06 12 06.9	
	comp=N,1μm,0.2s						
BAR	**Barrett**	**0.67**	**274**	⇑*e*P	**Pg**	**06 11 57.9**	**+0.4**
BAR				*e*S	**Sg**	**06 12 06.6**	**+0.2**
BAR				*e*		06 12 08.2	
BAR				IAML		06 12 08.2	
	comp=N,1μm,0.2s						
COA	**Coachella**	**0.68**	**71**		**Pg**	**06 11 57.6**	**-0.1**
COA					**Sb**	**06 12 07.8**	**+0.7**
RHX	**Rio Hardy**	**0.71**	**134**	⇓*i*P	**Pb**	**06 11 58.4**	**-0.1**
AGSX	**Ej. Aguas Cali**	**0.72**	**121**	⇓*i*P	**Pb**	**06 11 58.9**	**+0.3**
AGSX				⇑*e*		06 12 10.1	
AGSX				IAML		06 12 10.1	
	comp=E,1μm,0.2s						
AGSX				IAML		06 12 10.6	
	comp=N,2μm,0.1s						
AGSX				⇓*e*		06 12 10.6	
CBX	**Cerro Bola**	**0.73**	**244**		**Pb**	**06 11 59.3**	**+0.4**
CBX				IAML		06 12 12.6	
	comp=E,406nm,0.3s						
CBX				IAML		06 12 13.3	
	comp=N,326nm,0.2s						
CBX	**Cerro Bola**	**0.73**	**244**		**Sg**	**06 12 09.1**	**+0.6**
CBX	**Cerro Bola**	**0.73**	**244**	⇑*i*P	**Pb**	**06 11 59.3**	**+0.4**
BOMB	**Bombay Beach**	**0.74**	**10**		**Pb**	**06 11 58.7**	**-0.2**
JUEM	**Julian Eagle M**	**0.74**	**307**		**Sg**	**06 12 09.0**	**+0.1**
DUZA	**Dulzura**	**0.75**	**268**		**Pb**	**06 11 59.3**	**+0.1**
DUZA					**Sb**	**06 12 09.3**	**+0.1**
GUVIX	**Guadalupe Vict**	**0.76**	**116**		**Pb**	**06 11 59.7**	**+0.4**
GUVIX	**Guadalupe Vict**	**0.76**	**116**	IAML		06 12 12.4	
	comp=N,686nm,0.5s						
EMSC	**East Mesa**	**0.77**	**82**		**Pb**	**06 11 58.8**	**-0.6**
EMSC					**Sb**	**06 12 09.8**	**+0.3**
EMSC	**East Mesa**	**0.77**	**82**	⇑*i*P	**Pb**	**06 11 59.0**	**-0.4**
EMSC				*e*S	**Sg**	**06 12 09.9**	**+0.4**
BORC	**Borrego Spring**	**0.77**	**325**		**Pb**	**06 11 59.4**	**-0.1**
BORC					**Sb**	**06 12 09.6**	**-0.1**
RUN	**Ruthven**	**0.83**	**66**		**Pb**	**06 11 59.6**	**-0.9**
RUN					**Sb**	**06 12 11.1**	**-0.5**
EML	**El Monte Cty P**	**0.85**	**288**		**Sb**	**06 12 11.8**	**-0.2**
EML	**El Monte Cty P**	**0.85**	**288**	*e*P	**Pb**	**06 12 00.9**	**+0.1**
MATG	**Mataguay Scout**	**0.85**	**311**		**Pb**	**06 12 01.1**	**+0.2**
MATG					**Sb**	**06 12 12.4**	**+0.2**
MATG	**Mataguay Scout**	**0.85**	**311**	⇓*e*P	**Pb**	**06 12 01.1**	**+0.2**
PIPTJ	**Tijuana**	**0.86**	**261**	⇑*i*P	**Pb**	**06 12 01.5**	**+0.5**
SJX	**San Joaquin**	**0.88**	**184**	⇓*i*P	**Pb**	**06 11 57.3**	**-3.9**
CNATK	**Presa El Carri**	**0.88**	**260**	⇑*i*P	**Pb**	**06 11 58.6**	**-2.7**
CNATK				*e*S	**Sb**	**06 12 07.8**	**-5.0**
OLP	**Otay Lakes Par**	**0.88**	**268**		**Pb**	**06 12 01.7**	**+0.2**
OLP					**Sb**	**06 12 13.2**	**+0.3**
OLP	**Otay Lakes Par**	**0.88**	**268**	⇑*e*P	**Pb**	**06 12 01.6**	**+0.2**
SDRC	**San Diego Road**	**0.90**	**276**		**Pb**	**06 12 01.8**	**+0.2**
SDRC					**Sb**	**06 12 13.5**	**+0.1**
TJX	**Tijuana**	**0.99**	**263**		**Pn**	**06 12 04.2**	**+0.5**
MTRP	**Mission Trails**	**1.00**	**281**		**Pb**	**06 12 03.9**	**+0.4**
CCX	**Cicese**	**1.01**	**221**		**Pb**	**06 12 04.1**	**+0.5**
CCX				IAML		06 12 18.4	
	comp=N,210nm,0.6s						
CCX				IAML		06 12 18.7	
	comp=E,373nm,0.3s						
CCX	**Cicese**	**1.01**	**221**	⇑*i*P	**Pb**	**06 12 04.2**	**+0.6**
109C	**Camp Elliot, M**	**1.06**	**284**		**Pb**	**06 12 04.6**	**+0.2**
109C	**Camp Elliot, M**	**1.06**	**284**	P	**Pb**	**06 12 04.4**	**+0.1**
	baz=103,SNR=18						
109C				S	**Sb**	**06 12 18.0**	**0.0**
	baz=103						
BC3	**Big Chuckawall**	**1.08**	**20**	P	**Pb**	**06 12 03.6**	**-1.2**
	baz=199,SNR=24						
BC3				S	**Sb**	**06 12 16.5**	**-2.1**
	baz=199						
PFO	**Pinyon Flats O**	**1.08**	**334**		**Pb**	**06 12 03.8**	**-1.1**
PFO	**Pinyon Flats O**	**1.08**	**334**	P	**Pb**	**06 12 03.8**	**-1.1**
	baz=153,SNR=29						
PFO				Sn	**Sb**	**06 12 18.5**	**-0.3**
	baz=153						
PMD	**Palm Desert**	**1.09**	**338**		**Pb**	**06 12 03.8**	**-1.1**
PMD				IAML		06 12 19.7	
	comp=N,112nm,0.5s						
PMD				IAML		06 12 19.9	
	comp=E,161nm,0.3s						
PBX	**Punta Banda**	**1.14**	**219**	⇑*i*P	**Pn**	**06 12 06.4**	**+0.6**
VTX	**Valle De La Tr**	**1.25**	**176**		**Pb**	**06 12 08.3**	**+0.6**
VTX				IAML		06 12 25.7	
	comp=N,138nm,0.1s						
VTX				IAML		06 12 26.8	
	comp=E,173nm,0.2s						
BELC	**Belle Mtn. Jos**	**1.36**	**356**	P	**Pn**	**06 12 07.9**	**-1.0**
	baz=175,SNR=25						
BELC				S	**Sn**	**06 12 24.2**	**-2.5**
	baz=175						
MURC	**Murrieta**	**1.46**	**311**	Pb	**Pn**	**06 12 10.0**	**-0.1**
	baz=130						
MURC				Sb	**Sb**	**06 12 30.0**	**+0.4**
	baz=130						
BLYC	**Blythe**	**1.59**	**45**		**Pn**	**06 12 11.8**	**-0.2**
IRM	**Iron Mountain**	**1.64**	**22**	P	**Pn**	**06 12 11.8**	**-0.8**
	baz=202						
IRM				Sb	**Sn**	**06 12 33.5**	**+0.1**
	baz=202						
ELS	**Elsinore Mount**	**1.64**	**308**		**Pn**	**06 12 12.7**	**0.0**
ELS				IAML		06 12 36.0	
	comp=N,111nm,0.3s						
ELS				IAML		06 12 36.2	
	comp=E,96nm,0.3s						
SFX	**San Felipe**	**1.82**	**151**		**Pb**	**06 12 17.8**	**+0.4**
BBRC	**Big Bear Solar**	**1.84**	**332**	Pb	**Pn**	**06 12 15.6**	**0.0**
	baz=151,SNR=20						
BBRC				Sb	**Sb**	**06 12 39.9**	**-0.8**
	baz=151						
GMRC	**Granite Mounta**	**2.15**	**5**	S	**Sn**	**06 12 43.0**	**-3.1**
	baz=185						
PSRC	**Puddingstone R**	**2.17**	**313**		**Pb**	**06 12 24.3**	**+1.0**
BFSC	**Mount Baldy Ra**	**2.18**	**318**	Pb	**Pb**	**06 12 23.5**	**-0.1**
	baz=136						
BFSC				Sb	**Sb**	**06 12 51.8**	**+1.4**
	baz=136						
HEC	**Hector,Ludlow**	**2.22**	**350**	S	**Sn**	**06 12 45.4**	**-2.4**
	baz=170						
PEM	**Pine Mountain**	**2.25**	**313**		**Pb**	**06 12 25.6**	**+0.9**
CIS	**Catalina Islan**	**2.26**	**290**	Pb	**Pn**	**06 12 23.0**	**+1.8**
	baz=109						
CIS				Sb	**Sb**	**06 12 51.7**	**-0.8**
	baz=109						
SCI2	**San Clemente I**	**2.27**	**279**	P	**Pn**	**06 12 20.9**	**-0.4**
	baz=98						
SCI2				S	**Sn**	**06 12 48.9**	**0.0**
	baz=98						
XTL	**Crystal Lake,**	**2.34**	**316**		**Pb**	**06 12 27.3**	**+1.0**
NEE2	**Needles Airpor**	**2.37**	**26**	Sb	**Sb**	**06 12 57.4**	**+1.6**
	baz=206						
PASC	**Pasadena Art C**	**2.46**	**309**	Pn	**Pn**	**06 12 26.1**	**+2.2**
DECC	**Green Verdugo**	**2.60**	**309**	Sb	**Sb**	**06 13 04.1**	**+1.5**
	baz=127						
214A	**Organ Pipe Nat**	**2.69**	**104**	P	**Pn**	**06 12 26.1**	**-1.1**
	baz=286						
214A				S	**Sn**	**06 12 57.3**	**-2.1**
	baz=286						
Y14A	**Wickenburg**	**2.74**	**61**	Pn	**Pn**	**06 12 28.5**	**+0.7**
GSC	**Goldstone, Bar**	**2.76**	**344**	Sb	**Sb**	**06 13 10.3**	**+3.1**
	baz=163						
TUQ	**Turquoise Moun**	**2.79**	**359**	S	**Sn**	**06 12 59.8**	**-2.2**
	baz=179						
EDW2	**Edwards Air Fo**	**2.84**	**322**	Sb	**Sb**	**06 13 11.5**	**+2.0**
	baz=141						
W13A	**Hualapai Mount**	**2.96**	**34**	Pn	**Pn**	**06 12 30.6**	**-0.4**
SHOC	**Shoshone, Teco**	**3.27**	**354**	Sb	**Sb**	**06 13 25.2**	**+3.5**
	baz=174						
ARVC	**Arvin**	**3.49**	**316**	Sb	**Sb**	**06 13 32.1**	**+4.2**
	baz=134						
MPMC	**Manual Prospec**	**3.66**	**339**	Sb	**Sg**	**06 13 38.0**	**-4.0**
	baz=158						
X16A	**Lo Mia Camp, P**	**4.11**	**63**	Pn	**Pn**	**06 12 47.4**	**+0.5**
LCMT	**Little Creek M**	**4.87**	**26**	Pn	**Pn**	**06 12 58.5**	**+1.3**
KNB	**Kanab**	**5.04**	**29**	Pn	**Pn**	**06 13 01.2**	**+1.6**

IDC 23 06:12:00.5±2.9, 10°.81S×66°.81E, h0km, mb3.5/3, mbtmp3.5/3, Error ellipse: s-maj=121.3km s-min=38.9km az=52.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H08S1	**Diego Carcia H**	**6.42**	**61**	T	T	06 20 46.5	
	baz=237,slow=75,SNR=123						
H08S2	**Diego Garcia H**	**6.43**	**61**	T	T	06 20 48.8	
	baz=237,slow=75,SNR=117						
H08S3	**Diego Garcia H**	**6.43**	**61**	T	T	06 20 47.8	
	baz=237,slow=75,SNR=160						
H04N2	**CROZET ISLANDS**	**37.48**	**197**	T	T	06 57 27.8	
	baz=31,slow=75,SNR=15						
H04N1	**CROZET ISLANDS**	**37.48**	**197**	T	T	06 57 28.8	
	baz=31,slow=75,SNR=16			

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**108**		Pg	06 22 15.3	-0.5
HATHI	**Halema'uma'u T**	**0.01**	**27**		Pg	06 22 15.2	-0.7
HATHI				IAML		06 22 15.6	
	comp=E,3μm,0.3s						
HATHI				IAML		06 22 15.8	
	comp=N,4μm,0.3s						
SBLHI	**Steaming Bluff**	**0.01**	**352**		Pg	06 22 16.8	+0.9
KKO	**Keanakako`i**	**0.02**	**180**		Pg	06 22 15.9	+0.1
UWB	**Uwekahuna B**	**0.02**	**314**		Pg	06 22 16.7	+0.9
OBL	**Observatory Le**	**0.02**	**282**		Sg	06 22 16.3	-0.3
RIM	**Rim**	**0.02**	**202**		Pg	06 22 15.7	-0.2
UWE	**Uwekahuna**	**0.03**	**286**		Pg	06 22 15.2	-0.8
UWE				IAML		06 22 16.0	
	comp=N,4μm,0.5s						
SDHHI	**Sand Hill**	**0.04**	**228**		Pg	06 22 17.2	+1.2
RSD	**Rainshed**	**0.05**	**347**		Pg	06 22 15.7	-0.5
RSD				IAML		06 22 16.8	
	comp=N,887nm,0.8s						
PUH	**Pauahi**	**0.06**	**130**		Pg	06 22 15.6	-0.7
PUH				IAML		06 22 16.4	
	comp=E,883nm,0.8s						
PUH				IAML		06 22 16.8	
	comp=N,1μm,0.9s						
KNHH	**Kane Nui o Ham**	**0.10**	**111**		Pg	06 22 17.2	+0.3
STCH	**Steam Cracks**	**0.14**	**102**		Pg	06 22 18.0	+0.4
STCH				IAML		06 22 21.3	
	comp=N,349nm,1.2s						
MLH	**Mauna Loa**	**0.14**	**305**	Pg	Pg	06 22 17.1	-0.6
MLH				IAML		06 22 21.8	
	comp=E,470nm,1.1s						
MLH				IAML		06 22 21.8	
	comp=N,700nm,1.2s						
JOKA	**Jonika Flow**	**0.25**	**85**	Pg	Pg	06 22 19.6	0.0
MLOA	**Mauna Loa Obse**	**0.32**	**293**	Pg	Pg	06 22 20.1	-1.0
MLOA				IAML		06 22 23.4	
	comp=E,289nm,2.1s						
MLOA				IAML		06 22 27.6	
	comp=N,259nm,2.7s						
MWH	**Moku'aweowe**	**0.32**	**283**	Pg	Pg	06 22 20.5	-0.7
POHA	**Pohakuloa**	**0.42**	**324**	Pg	Pg	06 22 23.3	+0.2
POHA	**Pohakuloa**	**0.42**	**324**	IAML		06 22 33.2	
	comp=N,206nm,0.8s						
HUH	**Hualalai**	**0.60**	**297**	Pg	Pg	06 22 26.9	+0.5

IDC 23 06:32:54.9±3.5, 54°.30N×87°.01E, h0km, mbtmp2.9/2, ML2.3/1, Error ellipse: s-maj=32.2km s-min=19.5km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.34**	**255**	I	I	06 41 54.5	
	0.1nm,0.9s,baz=75,slow=324,SNR=21						
ZALV	**Zalesovo Beam**	**1.34**	**255**	Pg	Pg	06 33 19.5	-1.1
	1.7nm,0.3s,baz=72,slow=15,SNR=15						
ZALV				Lg	Lg	06 33 37.3	
	1.0nm,0.3s,baz=71,slow=27,SNR=3.2						
KURBB	**Kurchatov Arra**	**6.36**	**238**	Pn	Pn	06 34 31.1	+1.3
	0.1nm,0.3s,baz=57,slow=14,SNR=5.7						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**8.10**	**204**	Pn	Pn	06 34 54.3	+0.6
	0.8nm,1.0s,baz=22,slow=13,SNR=1.4						

KRSC 23 06:54:30.0±1.3, 55°.32N×166°.31E, h38km±6km, Ml3.7, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**0.22**	**239**	eP	Pn	06 54 37.5	-1.2
BKI				eS	Sn	06 54 42.7	-4.1
KBTR	**Krutoberegovo**	**2.16**	**296**	eP	Pn	06 55 03.8	+0.5
BZGR	**Bezymyannyi-Gr**	**3.24**	**283**	eP	Pn	06 55 21.9	+3.6
BZGR				eS	Sn	06 56 00.7	+5.1
BZP	**Bezymyannyi-Pe**	**3.33**	**283**	eP	Pn	06 55 23.7	+4.2
BZMR	**Bezymyannaya**	**3.35**	**283**	eP	Pn	06 55 24.2	+4.3
BZWR	**Bezymyannyi-We**	**3.36**	**283**	eP	Pn	06 55 24.0	+4.1
KRSR	**Krestovskiy**	**3.37**	**288**	eS	Sn	06 56 03.4	+4.7
TUMD	**Tumrok D**	**3.38**	**270**	eP	Pn	06 55 24.3	+4.1
TUMD				eS	Sn	06 56 04.9	+5.9
KIRR	**Kirishev**	**3.44**	**283**	eP	Pn	06 55 24.5	+3.4
KMNR	**Kamenistaya**	**3.48**	**280**	eP	Pn	06 55 25.7	+4.2
TUMR	**Tumrok**	**3.52**	**272**	eP	Pn	06 55 26.7	+4.5
TUMR				eS	Sn	06 56 09.5	+6.9
KII	**Karymskiy**	**4.18**	**255**	eP	Pn	06 55 35.7	+4.5
SMAR	**Somma**	**4.86**	**248**	eP	Pn	06 55 45.2	+4.6
KRER	**Koryakskii**	**4.86**	**249**	eP	Pn	06 55 45.4	+4.7
KRER				eS	Sn	06 56 40.1	+4.3
UGLR	**Uglovaya**	**4.87**	**247**	eP	Pn	06 55 45.7	+5.0
AVH	**Avacha**	**4.89**	**248**	eP	Pn	06 55 45.8	+4.9
AVH				eS	Sn	06 56 40.8	+4.6
KRX	**Arik**	**4.89**	**249**	eP	Pn	06 55 45.6	+4.6
KRX				eS	Sn	06 56 40.6	+4.2
KOK	**Koryaka**	**4.93**	**249**	eP	Pn	06 55 46.1	+4.6
GNL	**Ganaly**	**5.14**	**255**	eP	Pn	06 55 49.4	+5.0
KRMR	**Karymshinskiy**	**5.42**	**246**	eP	Pn	06 55 53.6	+5.5
KRMR				eS	Sn	06 56 53.5	+4.3
MTVR	**Mutnovka**	**5.58**	**243**	eP	Pn	06 55 55.2	+4.8
MTVR				eS	Sn	06 56 57.1	+3.8
ASAK	**Asacha**	**5.78**	**243**	eP	Pn	06 55 58.7	+5.6
ASAK				eS	Sn	06 57 02.7	+4.6

IDC 23 07:00:24.3±2.9, 54°.17N×86°.31E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=21.3km s-min=12.2km az=63.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.90**	**257**	I	I	07 06 52.2	
	baz=74,slow=324,SNR=2.2						
ZALV	**Zalesovo Beam**	**0.91**	**257**	Pg	Pg	07 00 40.1	-1.5
	0.8nm,0.3s,baz=76,slow=17,SNR=12						
ZALV				Lg	Lg	07 00 55.0	
	2.6nm,0.3s,baz=79,slow=30,SNR=15						
KURBB	**Kurchatov Arra**	**5.94**	**236**	Pn	Pn	07 01 54.5	+1.1
	0.1nm,0.3s,baz=52,slow=12,SNR=2.0						
	0.3nm,0.3s						
MKAR	**Makanchi Array**	**7.81**	**201**	Pn	Pn	07 02 20.5	+1.4
	0.1nm,0.3s,baz=25,slow=12,SNR=1.8						
	0.2nm,0.3s						

IDC 23 07:02:57.5±3.6, 16°.12S×176°.47W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=160.9km s-min=75.6km az=154.0
NEIC 23 07:03:51.8±1.8, 17°.4S±0°.3×177°.7W±0°.1, h432km±17km, mb4.0/7, Error ellipse: s-maj=47.0km s-min=17.9km az=183.0

ISC 23 07:03:51.9±1.0, 17°.1S±0°.2×177°.7W±0°.1, h450km, n16, σ1°34/18, mb4.0/8, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.07**	**260**	P	**P**	**07 05 06.8**	**-1.0**
AFI	**Afiamalu**	**6.56**	**62**	P	**P**	**07 05 31.3**	**-0.8**
NIUE	**Niue**	**7.70**	**106**		**P**	**07 05 43.5**	**-0.6**
LIFNC	**LIFOU**	**14.68**	**253**	P	**P**	**07 06 58.1**	**-1.6**
STKA	**Stephens Creek**	**39.59**	**240**	P	**P**	**07 10 43.0**	**0.0**
STKA	**Stephens Creek**	**39.59**	**240**	P	**P**	**07 10 43.5**	**+0.5**
	1.9nm,0.5s,baz=77,slow=9.9,SNR=7.2						
	1.9nm,0.5s						
BBOO	**Buckleboo**	**44.36**	**240**	P	**P**	**07 11 21.9**	**+0.9**
BBOO				IAmb	IAmb	07 11 40.1	
	comp=Z,16nm,1.4s						
WB0	**Warramunga Arr**	**45.38**	**259**	P	**P**	**07 11 29.8**	**+0.9**
WB0				IAmb	IAmb	07 11 43.6	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**45.40**	**259**	P	**P**	**07 11 28.4**	**-0.7**
WB2				IAmb	IAmb	07 11 36.1	
	comp=Z,8.5nm,1.1s						
WRA	**Warramunga Arr**	**45.41**	**259**	P	**P**	**07 11 28.8**	**-0.4**
WRA	**Warramunga Arr**	**45.41**	**259**	P	**P**	**07 11 29.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=93,slow=7.0,SNR=13						
WRA				PcP	**PcP**	**07 13 02.0**	**+2.5**
	comp=Z,0.2nm,0.5s,baz=91,slow=3.5,SNR=1.6						
	comp=Z,0.9nm,0.6s						
AS31	**Alice Springs**	**45.63**	**253**	P	**P**	**07 11 31.2**	**+0.3**
AS31				IAmb	IAmb	07 11 31.9	
	comp=Z,2.2nm,0.5s						
ASAR	**Alice Springs**	**45.63**	**253**	P	**P**	**07 11 30.9**	**0.0**
ASAR	**Alice Springs**	**45.63**	**253**	P	**P**	**07 11 31.3**	**+0.4**
	comp=Z,4.9nm,0.5s,baz=88,slow=8.1,SNR=104						
ASAR				PcP	**PcP**	**07 13 03.9**	**+3.6**
	comp=Z,0.4nm,0.4s,baz=105,slow=3.9,SNR=6.9						
	comp=Z,4.9nm,0.5s						
FORT	**Forrest**	**50.94**	**244**	P	**P**	**07 12 10.4**	**-0.1**
VNDA	**Vanda**	**61.32**	**185**	P	**P**	**07 13 21.7**	**-0.3**
VNDA				IAmb	IAmb	07 13 36.2	
	comp=Z,1.9nm,1.4s						

IDC 23 07:19:44.9±3.2, 54°.47N×87°.01E, h0km, mbtmp2.9/2, ML2.5/2, Error ellipse: s-maj=27.5km s-min=19.6km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**249**	I	I	07 28 00.0	
	baz=69,slow=328,SNR=1.1						
ZALV	**Zalesovo Beam**	**1.39**	**249**	Pg	Pg	07 20 09.3	-2.2
	1.0nm,0.3s,baz=67,slow=16,SNR=12						
ZALV				Lg	Lg	07 20 29.2	
	1.5nm,0.3s,baz=65,slow=26,SNR=11						
KURBB	**Kurchatov Arra**	**6.45**	**237**	Pn	Pn	07 21 21.9	+0.9
	0.1nm,0.3s,baz=53,slow=14,SNR=7.5						
KURBB				Lg	Lg	07 23 10.1	
	baz=55,slow=34,SNR=2.3						
	0.9nm,0.5s						
MKAR	**Makanchi Array**	**8.24**	**203**	Pn	Pn	07 21 47.1	+1.3
	0.1nm,0.3s,baz=24,slow=13,SNR=1.5						
	0.3nm,0.6s						

ATH 23 07:27:58.9, 40°.86N×20°.74E, h18km±2km, ML2.0/2, Error ellipse: s-maj=6.0km s-min=2.5km az=109.0
SKO 23 07:28:00.8, 40°.70N×20°.75E, h0km, ML1.8
TIR 23 07:28:02.0, 40°.77N×20°.93E, h1km±1km, Md2.5, Ml1.7

ISC 23 07:28:02.6±1.1, 40°.81N±0°.03×20°.91E±0°.03, h11km±12km, n12, σ1°57/24, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.31**	**345**	*i* Pg	**Pg**	**07 28 08.0**	**-0.9**
OHR				*i* Sg	**Sb**	**07 28 13.9**	**-1.4**
OHR				*e*Lg	Lg	07 28 14.3	
	comp=N,59nm,0.4s						
OHR				*e*Lg	Lg	07 28 14.9	
	comp=E,60nm,0.4s						
FNA	**Florina**	**0.36**	**94**	P	**Pg**	**07 28 09.1**	**-0.6**
	baz=88						
FNA				S	**Sg**	**07 28 15.6**	**+1.1**
	baz=88						
FNA				AMP			
	comp=E,0.5nm,0.2s,baz=88						
FNA	**Florina**	**0.36**	**94**	*i* Pg	**Pg**	**07 28 09.1**	**-0.6**
FNA				*i* Sg	**Sg**	**07 28 16.0**	**+1.5**
FNA	**Florina**	**0.36**	**94**	P	**Pg**	**07 28 09.1**	**-0.6**
FNA				S	**Sg**	**07 28 15.4**	**+0.9**
FNA				AML	AML	07 28 17.6	
	comp=N,820μm,0.3s						
FNA				AML	AML	07 28 17.9	
	comp=E,852μm,0.5s						
NEST	**Nestorio**	**0.41**	**165**	P	**Pg**	**07 28 09.0**	**-1.6**
NEST				S	**Sg**	**07 28 15.8**	**-0.3**
NEST				AML	AML	07 28 19.1	
	comp=E,221μm,0.6s						
NEST				AML	AML	07 28 21.6	
	comp=N,191μm,0.3s						
PENT	**Pentalofos**	**0.64**	**164**	P	**Pg**	**07 28 11.8**	**-3.1**
PENT				S	**Sg**	**07 28 23.1**	**-0.3**
LSK	**Leskovik**	**0.70**	**200**	P	**Pg**	**07 28 15.7**	**-0.4**
	baz=203						
LSK				S	**Sg**	**07 28 26.0**	**+0.8**
	baz=203						
GRG	**Griva**	**1.14**	**82**	*i* Pg	**Pn**	**07 28 24.5**	**-0.1**
GRG				*i* Sg	**Sg**	**07 28 41.7**	**+2.3**
SRN	**Sarande**	**1.16**	**217**	P	**Pb**	**07 28 24.5**	**-0.1**
	baz=220						
SRN				S	**Sg**	**07 28 42.3**	**+2.4**
	baz=220						
IGT	**Igoumenitsa**	**1.35**	**199**	P	**Pg**	**07 28 29.6**	**+1.1**
	baz=201						
IGT				S	**Sg**	**07 28 47.8**	**+1.9**
	baz=201						
IGT				AMP			
	comp=N,0.0nm,0.4s,baz=201						
LIT	**Litokhoron**	**1.40**	**120**	*i* Pg	**Pb**	**07 28 29.2**	**+0.5**
LIT				*i* Sg	**Sg**	**07 28 51.0**	**+3.4**
KNT	**Kendrikon**	**1.55**	**76**	*i* Pg	**Pb**	**07 28 31.1**	**-0.1**
KNT				*i* Sg	**Sg**	**07 28 52.9**	**+0.5**

UCR 23 07:36:30.9±1.0, 8°.42N×83°.05W, h25km±1km, MW3.5
UPA 23 07:36:31.2±1.0, 8°.43N×83°.02W, h25km±6km, ML3.7

ISC 23 07:36:30.3±1.0, 8°.43N±0°.03×83°.01W±0°.02, h31km±6km, n79, σ1°29/116, 18C-10D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDITO	**Canoas**	**0.20**	**43**	↑*i*P	**Pn**	**07 36 36.7**	**-0.5**
CDITO				*e*S	**Sn**	**07 36 41.2**	**-0.3**
CDITO	**Canoas**	**0.20**	**43**	↑*i*P	**Pn**	**07 36 36.6**	**-0.6**
CDITO				*e*S	**Sn**	**07 36 41.9**	**+0.4**
FITO	**Golfito**	**0.24**	**325**	↑*i*P	**Pb**	**07 36 36.1**	**-1.0**
FITO				*e*S	**Sb**	**07 36 40.6**	**-1.1**
PTPM	**Petroterminale**	**0.26**	**149**	↑*i*P	**Pn**	**07 36 38.1**	**+0.2**
PTPM				*e*S	**Sb**	**07 36 45.6**	**+3.6**
EDAD	**Golfito**	**0.27**	**326**	↑*e*P	**Pb**	**07 36 36.6**	**-1.0**
EDAD				*e*S	**Sb**	**07 36 41.4**	**-1.1**
PIRO	**Carate, Puerto**	**0.32**	**266**	↓*e*P	**Pn**	**07 36 37.4**	**-1.4**
PIRO				*e*S	**Sn**	**07 36 43.5**	**-0.9**
JIME	**Puerto Jimenez**	**0.33**	**290**	*e*P	**Pn**	**07 36 37.8**	**-1.1**
JIME				*e*S	**Sn**	**07 36 44.5**	**-0.1**
MLIR3	**Monte Lirio, C**	**0.41**	**27**	↓*i*P	**Pn**	**07 36 41.0**	**+0.8**
MLIR3				*e*S	**Sn**	**07 36 47.7**	**+0.8**
BRU2	**Volcan**	**0.49**	**41**	↓*i*P	**Pn**	**07 36 41.0**	**-0.3**
BRU2				AMP		07 36 41.1	
	comp=Z,5μm,0.2s						
BRU2				*e*S	**Sn**	**07 36 49.3**	**+0.5**
BRU2	**Volcan**	**0.49**	**41**	↓*i*P	**Pn**	**07 36 41.0**	**-0.3**
BRU2				*e*S	**Sn**	**07 36 49.3**	**+0.5**
DVD	**David**	**0.56**	**89**	*e*P	**Pn**	**07 36 42.0**	**0.0**
DVD				*e*S	**Sn**	**07 36 50.7**	**+0.4**
BCO2	**Palmira**	**0.56**	**59**	↓*i*P	**Pn**	**07 36 42.3**	**0.0**
BCO2				*e*S	**Sn**	**07 36 51.4**	**+0.7**
PEDE3	**Pedregal, Chir**	**0.59**	**94**	*e*P	**Pn**	**07 36 42.3**	**-0.1**
PEDE3				*e*S	**Sn**	**07 36 51.1**	**+0.1**
LOCO3	**Loma Colorada,**	**0.59**	**91**	*e*P	**Pn**	**07 36 42.6**	**+0.1**
LOCO3				*e*S	**Sn**	**07 36 52.1**	**+1.0**
EDP2	**Potrero Grande**	**0.61**	**345**	↑*e*P	**Pb**	**07 36 42.4**	**-0.2**
EDP2				*e*S	**Sb**	**07 36 51.3**	**+0.3**
LNBQ3	**Los Naranjos,**	**0.67**	**57**	↓*i*P	**Pn**	**07 36 43.5**	**-0.4**
LNBQ3				*e*S	**Sn**	**07 36 53.9**	**+0.5**
EDPN	**Palmar Norte**	**0.69**	**321**	↑*i*P	**Pb**	**07 36 43.0**	**-0.9**
EDPN				*e*S	**Sb**	**07 36 53.1**	**-0.1**
PSOM3	**Paja de Sombre**	**0.73**	**69**	↑*i*P	**Pn**	**07 36 44.4**	**-0.1**
PSOM3				*e*S	**Sn**	**07 36 55.0**	**+0.4**
EDBA	**Buenos Aires**	**0.78**	**341**	*e*P	**Pn**	**07 36 44.8**	**-0.3**
EDBA				*e*S	**Sb**	**07 36 56.2**	**+0.5**
BURE	**Buenos Aires**	**0.81**	**337**	*e*P	**Pn**	**07 36 45.2**	**-0.4**
BURE				*e*S	**Sb**	**07 36 56.2**	**-0.4**
DRK0	**Durika**	**0.86**	**345**	↑*e*P	**Pn**	**07 36 45.7**	**-0.8**
DRK0				*e*S	**Sb**	**07 36 57.4**	**-0.9**
SRBA	**San Rafael, Bu**	**0.87**	**337**	↑*i*P	**Pn**	**07 36 45.8**	**-0.8**
SRBA				*e*S	**Sb**	**07 36 57.4**	**-1.0**
OCHAL	**Ojochal**	**0.92**	**317**	↑*i*P	**Pn**	**07 36 46.2**	**-0.8**
OCHAL				*e*S	**Sn**	**07 36 59.4**	**+0.2**
CNI2	**El Empalme, Bo**	**1.13**	**28**	*e*P	**Pn**	**07 36 50.2**	**+0.2**
PEZE	**Perez Zeledon,**	**1.16**	**325**	↓*e*P	**Pn**	**07 36 50.0**	**-0.4**
PEZE				*e*P	**Pn**	**07 36 50.1**	**-0.4**
PEZE				*e*S	**Sn**	**07 37 05.8**	**+0.6**
ZELE	**Perez Zeledon**	**1.17**	**324**	*e*P	**Pn**	**07 36 50.6**	**0.0**
CDM	**Cerro de Muert**	**1.34**	**327**	↑*i*P	**Pn**	**07 36 53.1**	**-0.2**
CDM				*e*S	**Sn**	**07 37 10.4**	**+0.1**
LLNJ	**Naranjito**	**1.50**	**314**	↑*i*P	**Pn**	**07 36 55.9**	**+0.8**
LLNJ				*e*S	**Sb**	**07 37 15.7**	**-0.4**
RIMA	**Rio Macho**	**1.57**	**328**	*e*P	**Pn**	**07 36 56.2**	**-0.1**
RAZU	**San Marcos de**	**1.58**	**321**	↑*i*P	**Pb**	**07 36 58.0**	**-1.0**
RAZU				*e*S	**Sb**	**07 37 21.1**	**+2.4**
TURIB	**Turrialba**	**1.61**	**336**	↓*e*P	**Pn**	**07 36 57.5**	**+0.8**
REPA	**Paraso**	**1.63**	**329**	*e*P	**Pb**	**07 36 58.3**	**-1.5**
REPA				*e*P	**Pb**	**07 36 58.4**	**-1.5**
VINA	**Juan Vinas**	**1.63**	**334**	*e*P	**Pn**	**07 36 57.8**	**+0.8**
VINA				*e*P	**Pb**	**07 36 57.9**	**-1.9**
LCR2	**La Lucha 2**	**1.63**	**323**	*e*P	**Pn**	**07 36 57.2**	**+0.1**
ABE2	**San Pablo**	**1.64**	**321**	*e*P	**Pn**	**07 36 57.8**	**+0.6**
RVSTA	**Santa Teresita**	**1.66**	**338**	*e*P	**Pn**	**07 36 58.6**	**+1.1**
RVSTA				⇑*e*P	**Pn**	**07 36 58.6**	**+1.1**
PCAYA	**Pacayas**	**1.68**	**332**	*e*P	**Pn**	**07 36 58.6**	**+0.8**
BATAN	**Batan**	**1.70**	**348**	*e*P	**Pn**	**07 36 58.7**	**+0.9**
BATAN				*e*S	**Sb**	**07 37 23.6**	**+1.7**
BATAN	**Batan**	**1.70**	**348**	*e*P	**Pn**	**07 36 59.2**	**+1.4**
BATAN				*e*S	**Sb**	**07 37 21.6**	**-0.3**
VTCV	**VTCV, Calle Va**	**1.70**	**336**	*e*P	**Pn**	**07 36 58.8**	**+0.7**
RAFA	**San Farael, Vo**	**1.71**	**333**	*e*P	**Pn**	**07 36 59.1**	**+0.8**
CVTV	**Tajo**	**1.73**	**335**	*e*P	**Pn**	**07 36 59.7**	**+1.1**
IRES	**Siquirres**	**1.73**	**344**	⇑*i*P	**Pb**	**07 36 59.7**	**-1.7**
IRES				⇑*i*P	**Pb**	**07 36 59.8**	**-1.7**
LCOCO	**El Coco**	**1.73**	**342**	*e*P	**Pb**	**07 36 59.8**	**-1.7**
OCM	**Ochomogo**	**1.73**	**327**	*e*P	**Pn**	**07 36 59.0**	**+0.5**
OCM				*e*P	**Pn**	**07 36 59.0**	**+0.5**
CVTQ	**Turrialba Volc**	**1.74**	**335**	*e*P	**Pn**	**07 37 00.0**	**+1.4**
VTLA	**Turrialba Volc**	**1.74**	**334**	*e*P	**Pn**	**07 36 59.8**	**+1.1**
VTR0	**Volcan Turrial**	**1.75**	**335**	*e*P	**Pb**	**07 37 00.4**	**-1.6**
CVTR	**Volcan Turrial**	**1.75**	**335**	*e*P	**Pb**	**07 37 00.3**	**-1.7**
VICA	**Volcano Irazu**	**1.75**	**332**	*e*P	**Pn**	**07 36 59.6**	**+0.7**
VTLO	**VTLO**	**1.76**	**336**	⇑*e*P	**Pn**	**07 36 59.8**	**+1.0**
LUJA	**Lujan**	**1.82**	**325**	*e*P	**Pn**	**07 37 00.7**	**+1.1**
CORON	**Coronado**	**1.82**	**328**	*e*P	**Pb**	**07 37 01.7**	**-1.4**
CORON				*e*P	**Pb**	**07 37 01.7**	**-1.4**
LUPE	**Guadalupe**	**1.83**	**326**	*e*P	**Pb**	**07 37 02.3**	**-0.9**
CVIMO	**Finca Echandi**	**1.83**	**330**	*e*P	**Pn**	**07 37 00.4**	**+0.6**
DOMI	**Santo Domingo**	**1.88**	**326**	*e*P	**Pb**	**07 37 02.4**	**-1.6**
GMAL	**Guarumal, Vera**	**1.88**	**110**	*e*P	**Pb**	**07 37 01.7**	**-2.3**
SANTA	**Santa Ana**	**1.89**	**322**	*e*P	**Pn**	**07 37 01.1**	**+0.5**
HDC3	**Heredia 3**	**1.91**	**325**	*e*P	**Pb**	**07 37 02.8**	**-1.7**
HDC	**Heredia**	**1.91**	**325**	*e*P	**Pb**	**07 37 02.4**	**+1.6**
BELE	**Belen**	**1.93**	**323**	*e*P	**Pn**	**07 37 02.1**	**+1.1**
JACO	**JACO, Garabito**	**2.04**	**307**	↓*i*P	**Pn**	**07 37 02.7**	**+0.3**
TCS1	**Tacares**	**2.05**	**322**	*e*P	**Pn**	**07 37 03.3**	**+0.6**
TRB2	**Turrubares**	**2.05**	**316**	*e*P	**Pn**	**07 37 03.6**	**+0.9**
CARI	**Cariari**	**2.05**	**340**	*e*P	**Pb**	**07 37 05.2**	**-1.7**
RIFO	**Rio Frio, Sara**	**2.08**	**335**	*e*P	**Pb**	**07 37 05.1**	**-2.3**
CPMI	**Catarata Coope**	**2.29**	**324**	*e*P	**Pn**	**07 37 07.1**	**+1.1**
ITAL	**Pital**	**2.37**	**328**	*e*P	**Pb**	**07 37 10.3**	**-1.9**
SOCE	**Pocosol**	**2.51**	**321**	*e*P	**Pn**	**07 37 11.0**	**+2.0**
VACR	**Volcan Arenal**	**2.62**	**321**	*e*P	**Pb**	**07 37 14.1**	**-2.5**
ARE1	**Arenal 1**	**2.63**	**320**	*e*P	**Pn**	**07 37 12.9**	**+2.3**
CEDE	**Laguna Cedeo**	**2.64**	**321**	*e*P	**Pn**	**07 37 13.6**	**+2.7**
JUNT	**Juntas**	**2.66**	**314**	*e*P	**Pn**	**07 37 12.3**	**+1.2**
JTS	**Las Juntas de**	**2.66**	**314**	*e*P	**Pn**	**07 37 12.2**	**+1.0**
DUNO	**Dulce Nombre,**	**2.95**	**304**	*e*P	**Pn**	**07 37 15.4**	**+0.4**
TENO	**El Achiote**	**2.98**	**320**	*e*P	**Pn**	**07 37 18.1**	**+2.6**
CUI	**Cuipilapa**	**3.07**	**316**	↓*e*P	**Pn**	**07 37 19.8**	**+3.0**
ORTG	**Ortega, Santa**	**3.09**	**309**	*e*P	**Pn**	**07 37 19.6**	**+1.7**
ALIBA	**Liberia Airpor**	**3.30**	**311**	*e*P	**Pn**	**07 37 23.2**	**+3.4**
ALIBA				*e*S	**Sn**	**07 38 01.9**	**+3.9**

NEIC 23 07:37:10.8±0.7, 19°.34N±0°.02×155°.10W±0°.01, h5km±2km, Error ellipse: s-maj=2.8km s-min=0.8km az=145.0

HVO 23 07:37:10.6±0.7, 19°.35N±0°.02×155°.11W±0°.01, h6km±2km, ML2.4/7, ML2.6/40(NEIC), Error ellipse: s-maj=2.8km s-min=0.7km az=145.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.04**	**8**		Pg	07 37 12.2	+0.1
STCH	**Steam Cracks**	**0.04**	**337**		Pg	07 37 12.3	+0.2
STCH				IAML		07 37 13.8	
	comp=E,5μm,0.2s						
STCH				IAML		07 37 14.2	
	comp=N,5μm,0.4s						
NPOC	**North of Pu'u**	**0.05**	**357**		Pg	07 37 12.3	+0.1
KNHH	**Kane Nui o Ham**	**0.07**	**299**		Pg	07 37 12.3	-0.2
PUH	**Pauahi**	**0.11**	**285**		Pg	07 37 13.2	+0.2
PUH	**Pauahi**	**0.11**	**285**	IAML		07 37 14.9	
	comp=N,1μm,1.1s						
PUH				IAML		07 37 15.7	
	comp=E,1μm,0.7s						
JOKA	**Jonika Flow**	**0.13**	**48**		Pg	07 37 13.2	-0.2
HATHI	**Halema'uma'u T**	**0.16**	**298**		Pg	07 37 14.1	0.0
HATHI	**Halema'uma'u T**	**0.16**	**298**	IAML		07 37 16.7	
	comp=N,3μm,1.2s						
HATHI				IAML		07 37 18.9	
	comp=E,2μm,0.7s						
HLP	**Hilina Pali**	**0.20**	**255**	Pg	Pg	07 37 15.5

KRSC 23 07:58:18.6±1.6, 54.24N×168.03E, h13km±27km, MI3.8, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**1.54**	**310**	*eS*	Sb	07 59 05.9	-0.4
TUMD	**Tumrok D**	**4.53**	**285**	*eP*	Pn	07 59 29.8	+3.1
BZGR	**Bezymyannyi-Gr**	**4.55**	**295**	*eS*	Sn	08 00 25.6	+5.8
KMNR	**Kamenistaya**	**4.74**	**292**	*eP*	Pn	07 59 33.4	+3.6
KMNR				*eS*	Sn	08 00 30.5	+6.0
KII	**Karymskiy**	**5.05**	**271**	*eP*	Pn	07 59 38.3	+4.3
SMAR	**Somma**	**5.56**	**264**	*eP*	Pn	07 59 45.8	+4.7
UGLR	**Uglovaya**	**5.56**	**263**	*eP*	Pn	07 59 45.2	+4.2
KRER	**Koryakskii**	**5.58**	**264**	*eP*	Pn	07 59 45.8	+4.4
AVH	**Avacha**	**5.60**	**264**	*eP*	Pn	07 59 46.4	+4.9
KRX	**Arik**	**5.63**	**265**	*eP*	Pn	07 59 46.1	+4.1
KRX				*eS*	Sn	08 00 50.9	+4.4
KOK	**Koryaka**	**5.65**	**264**	*eP*	Pn	07 59 46.8	+4.5
GNL	**Ganaly**	**5.98**	**269**	*eP*	Pn	07 59 51.5	+4.7
KRMR	**Karymshinskiy**	**6.07**	**261**	*eP*	Pn	07 59 53.5	+5.6
KRMR				*eS*	Sn	08 01 02.0	+4.9
MTVR	**Mutnovka**	**6.15**	**257**	*eP*	Pn	07 59 54.1	+5.0
MTVR				*eS*	Sn	08 01 03.9	+4.5
ASAK	**Asacha**	**6.35**	**257**	*eP*	Pn	07 59 56.8	+5.0
ASAK				*eS*	Sn	08 01 09.9	+5.8
KDTR	**Khodutka, Kamc**	**6.48**	**252**	*eS*	Sn	08 01 10.0	+2.8

*NEIC **23** 07:58:47.7, 19.31N×155.28W, h12km, Moment Tensor Solution. Duration: 185 Moment tensor: Scale 10^16 Nm; Mrr-2.69; Mθθ1.50; Mφφ 1.19; Mrθ-0.60; Mθφ0.81; Mrφ1.97; Fault plane solution: M0 3.02000×10^16 NP1: φs198.83000°, δ61.97000°, λ-113.76000°. NP2: φs61.96000°, δ36.11000°, λ-52.88000°. Principal axes: T 2.3791, Plg14.0000°, Azm306.0000°; N 1.2868, Plg21.0000°, Azm211.0000°; P -3.6658, Plg65.0000°, Azm67.0000°;*

*NEIC **23** 07:58:47.6±0.7, 19.415N±0.006×155.279W±0.008, h1km±1km Error ellipse: s-maj=1.1km s-min=1.0km az=114.0*

*NEIC **23** 07:58:47.7, 19.41N×155.28W, h12km*

*GCMT **23** 07:59:10.3±0.3, 19.30N±0.02×155.32W±0.02, h12km, MW4.8/106, Moment Tensor Solution. s29,c30; s106,c134; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-2.65±.06; Mθθ 1.50±.07; Mφφ 1.15±.06; Mrθ-0.34±.27; Mθφ 0.76±.05; Mφr 0.04±.28; Best double couple: M0 2.39900×10^16 NP1: φs56.00000°, δ48.00000°, λ-84.00000°. NP2: φs227.00000°, δ42.00000°, λ-96.00000°. Principal axes: T 2.1180, Plg3.0000°, Azm142.0000°; N 0.5620, Plg4.0000°, Azm232.0000°; P -2.6800, Plg85.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

HVO 23 07:58:46.3±0.6, 19.41N±0.01×155.281W±0.007, h0km±2km, ML1.8/7, ML1.8/28(NEIC), Mww4.9/10(NEIC) Error ellipse: s-maj=3.1km s-min=1.8km az=109.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NPH	**North Pit**	**0.01**	**0**		Pg	07 58 46.6	+0.1
RIM	**Rim**	**0.01**	**146**		Pg	07 58 46.9	+0.4
OBL	**Observatory Le**	**0.01**	**347**		Pg	07 58 47.0	+0.4
KKO	**Keanakako`i**	**0.02**	**117**		Pg	07 58 47.3	+0.7
SDHHI	**Sand Hill**	**0.02**	**219**		Pg	07 58 47.5	+0.8
UWB	**Uwekahuna B**	**0.02**	**8**		Pg	07 58 46.9	+0.2
UWE	**Uwekahuna** comp=E,2μm,0.5s	**0.02**	**325**	IAML		07 58 47.0	
UWE				Pg	Pg	07 58 47.5	+0.8
BYL	**Byron's Ledge**	**0.02**	**71**	Pg	Pg	07 58 48.4	+1.7
SBLHI	**Steaming Bluff**	**0.03**	**29**		Pg	07 58 47.3	+0.5
HATHI	**Halema`uma`u T** comp=N,2μm,0.8s	**0.03**	**47**	IAML		07 58 47.1	
HATHI				IAML		07 58 47.4	
	comp=E,2μm,1.1s						
HATHI				Pg	Pg	07 58 48.4	+1.5
RSD	**Rainshed**	**0.06**	**3**	Pg	Pg	07 58 49.0	+1.6
PUH	**Pauahi** comp=N,540nm,1.4s	**0.07**	**117**	IAML		07 58 48.4	
PUH				Pg	Pg	07 58 49.1	+1.5
KNHH	**Kane Nui o Ham**	**0.11**	**104**	Pg	Pg	07 58 49.6	+1.2
HLP	**Hilina Pali**	**0.11**	**193**	Pg	Pg	07 58 50.1	+1.7
HLP	comp=E,848nm,1.3s			IAML		07 58 50.8	
MLH	**Mauna Loa**	**0.13**	**312**	Pg	Pg	07 58 50.3	+1.5
MLH	comp=E,396nm,1.5s			IAML		07 58 52.4	
MLH	comp=N,567nm,0.9s			IAML		07 58 53.0	
STCH	**Steam Cracks**	**0.15**	**98**	Pg	Pg	07 58 50.6	+1.4
STCH	comp=N,354nm,1.8s			IAML		07 58 51.4	
STCH	comp=E,274nm,1.2s			IAML		07 58 52.1	
HMH	**Humu`ula Sheep**	**0.27**	**316**	Pg	Pg	07 58 52.6	+1.1
HMH	comp=N,230nm,1.7s			IAML		07 58 53.8	
HMH	comp=E,250nm,1.7s			IAML		07 58 59.6	
MWH	**Moku`aweowe**	**0.31**	**285**	Pg	Pb	07 58 53.8	-1.2
KHU	**Kahuku**	**0.35**	**243**	Pg	Pb	07 58 54.5	-1.1
PPT2	**Papeete2** comp=E,320nm,34.0s	**37.19**	**171**	*eLR*	LR	08 16 00.8	
PPT2	**Papeete2** comp=E,584nm,31.5s	**37.19**	**171**	*eLR*	LR	08 15 51.0	
TBI	**Tubuai** comp=E,1μm,28.5s	**42.87**	**172**	*eLR*	LR	08 18 41.0	
TBI	**Tubuai** comp=E,2μm,34.2s	**42.87**	**172**	*eLR*	LR	08 18 37.1	
DZM	**Mont Dzumac** comp=E,85nm,28.6s	**55.67**	**224**	*eLR*	LR	08 24 30.4	

*IDC **23** 08:09:12.2±1.4, 13.68S×45.93E, h0km, mb3.8/4, mbtmp3.8/4, MS3.2/1, Error ellipse: s-maj=59.1km s-min=32.0km az=129.0*

*NEIC **23** 08:09:15.5±2.3, 13.2S±0.1×45.8E±0.2, h10km±1km, mb4.4/8, Error ellipse: s-maj=29.5km s-min=17.5km az=287.0*

ISC 23 08:09:14.3±0.7, 13.2S±0.1×45.7E±0.2, h10km, n20, σ1s72/18, mb4.1/6, 1C, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**5.96**	**166**		**Pn**	**08 10 44.5**	**+1.7**
VOI	**Vohitsoka**	**8.71**	**173**	Pn	**Pn**	**08 11 22.1**	**+1.6**
FOMA	**Nahampoana Res**	**11.77**	**174**	Pn	**Pn**	**08 12 03.7**	**+1.4**
RER	**Riviere de l'E**	**12.44**	**131**	Pn	**Pn**	**08 12 11.9**	**+0.3**
BOSA	**Boshof**	**24.42**	**228**	P	**P**	**08 14 31.1**	**-2.3**
BOSA	comp=Z,16nm,1.4s			IAmb	IAmb	08 14 37.3	
BOSA	**Boshof** comp=Z,1.3nm,0.4s,baz=59,slow=9.4,SNR=4.7	**24.42**	**228**	P	**P**	**08 14 30.9**	**-2.5**
	comp=Z,1.3nm,0.4s						
SUR	**Sutherland**	**29.70**	**226**	P	**P**	**08 15 20.3**	**-0.7**
WSAR	**Wadi Sarin** comp=Z,31nm,18.1s,baz=166,slow=36	**38.38**	**19**	LR	LR	08 32 43.2	
KKAR	**Karatay Array**	**60.48**	**21**	P	**P**	**08 19 25.8**	**+1.4**
KKAR	comp=Z,2.3nm,0.8s			IAmb	IAmb	08 19 47.0	
ABKAR	**Akbulak array**	**63.46**	**10**	P	**P**	**08 19 43.8**	**-0.5**
ABKAR	**Akbulak array**	**63.46**	**10**	P	**P**	**08 19 44.3**	**0.0**
SNAA	**Sanae**	**65.20**	**195**	P	**P**	**08 19 57.5**	**+1.9**
SNAA	comp=Z,3.5nm,1.3s			IAmb	IAmb	08 20 36.0	
SNAA	**Sanae** comp=Z,2.2nm,0.2s	**65.20**	**195**	⇑P	P	08 20 02.6	+7.0
MKAR	**Makanchi Array** comp=Z,0.8nm,0.8s,baz=211,slow=6.8,SNR=3.9	**68.15**	**26**	P	**P**	**08 20 16.5**	**+1.8**
	comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**76.89**	**180**	P	**P**	**08 21 06.0**	**-0.7**
QSPA	**South Pole Qui** comp=Z,1.3nm,0.8s,baz=270,slow=6.0,SNR=3.7	**76.89**	**180**	P	**P**	**08 21 04.9**	**-1.8**
	comp=Z,1.3nm,0.8s						
ASAR	**Alice Springs** comp=Z,0.4nm,0.6s,baz=263,slow=5.9,SNR=8.0	**83.20**	**113**	P	**P**	**08 21 38.3**	**-3.2**
	comp=Z,0.4nm,0.6s						
WRA	**Warramunga Arr**	**84.34**	**109**	P	**P**	**08 21 46.1**	**-1.3**
N41A	**Harden Midland**	**133.23**	**314**		**PKPdf**	**08 28 30.0**	**-0.8**
KS21	**Milan North St**	**139.48**	**313**		**PKPdf**	**08 28 42.7**	**+0.2**

IDC 23 08:13:57.2±3.6, 53.71N×87.89E, h0km, mbtmp2.8/2, ML2.4/2, Error ellipse: s-maj=33.7km s-min=19.0km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** 0.1nm,0.9s,baz=97,slow=325,SNR=2.7	**1.83**	**279**	I	I	08 25 48.0	
ZALV	**Zalesovo Beam** 0.7nm,0.3s,baz=96,slow=15,SNR=14	**1.83**	**279**	Pg	Pn	08 14 30.6	+0.8
ZALV	1.3nm,0.3s,baz=104,slow=23,SNR=15			Lg	Lg	08 14 55.5	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=59,slow=14,SNR=2.5	**6.53**	**246**	Pn	Pn	08 15 34.4	+0.1
KURBB	baz=66,slow=25,SNR=4.8			Lg	Lg	08 17 24.4	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=29,slow=14,SNR=2.1	**7.79**	**210**	Pn	Pn	08 15 53.3	+1.5
	0.6nm,0.8s						

IDC 23 08:16:08.6±3.4, 54.04N×86.77E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=28.9km s-min=16.6km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=84,slow=329,SNR=3.7	**1.16**	**266**	I	I	08 23 00.0	
ZALV	**Zalesovo Beam** 1.4nm,0.3s,baz=82,slow=18,SNR=9.6	**1.16**	**266**	Pg	Pg	08 16 29.9	-0.8
ZALV	1.2nm,0.3s,baz=89,slow=26,SNR=2.3			Lg	Lg	08 16 47.0	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=56,slow=14,SNR=2.2	**6.10**	**239**	Pn	Pn	08 17 40.7	+0.7
	0.7nm,0.5s						
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=25,slow=14,SNR=1.6	**7.80**	**203**	Pn	Pn	08 18 04.5	+1.3
	0.2nm,0.4s						

IDC 23 08:20:29.5±3.7, 54.27N×87.29E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=33.7km s-min=21.3km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=78,slow=325,SNR=5.3	**1.49**	**258**	I	I	08 29 10.0	
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=78,slow=14,SNR=9.2	**1.49**	**258**	Pg	Pn	08 20 56.1	-1.4
ZALV	0.7nm,0.3s,baz=73,slow=25,SNR=2.5			Lg	Lg	08 21 17.1	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=57,slow=14,SNR=3.2	**6.48**	**239**	Pn	Pn	08 22 06.9	+0.8
	0.5nm,0.4s						
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=26,slow=13,SNR=1.7	**8.14**	**205**	Pn	Pn	08 22 30.0	+1.1
	0.2nm,0.5s						

*JMA **23** 08:30:11.8±0.5, 23.5N±0.6×12°0E±°, h1km±4km, TAIWAN REGION*

*TAP **23** 08:30:12.6, 23.43N×120.30E, h14km, ML4.1, B*

*ASIES **23** 08:30:12.6, 23.43N×120.30E, h14km, ML4.1, Mw3.5, Moment Tensor Solution. Moment tensor: Scale 10^21 Nm; Mrr 0.17; Mθθ 1.67; Mφφ -1.84; Mrθ 0.52; Mθφ -0.77; Mrφ -0.61; Fault plane solution: M0 2.07930×10^21 NP1: φs147.91000°, δ85.65000°, λ22.91000°. NP2: φs56.08000°, δ67.16000°, λ175.28000°. Principal axes: T Plg19.1530°, Azm14.3250°; N Plg66.7030°, Azm158.0890°; P Plg12.7590°, Azm279.8150°;*

ISC 23 08:30:12.7±0.7, 23.44N±0.01×120.27E±0.01, h18km±3km, n159, σ0s63/259, 44C-31D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ICHU	**Yijhu** baz=195	**0.07**	**176**	⇑*iP*	**Pg**	**08 30 15.8**	**-0.3**
ICHU				*i* S	**Sg**	**08 30 18.8**	**+0.4**
WSL	**Shuilin Townsh** baz=326	**0.10**	**334**	⇑*iP*	**Pb**	**08 30 16.3**	**-0.1**
WSL				S	**Sb**	**08 30 19.7**	**+0.9**
CHN8	**Yiju** baz=221	**0.11**	**213**	⇑*iP*	**Pg**	**08 30 16.2**	**-0.2**
CHN8				*i* S	**Sb**	**08 30 19.6**	**+2.9**
CHY	**Chiayi** baz=61	**0.15**	**66**	⇓*iP*	**Pb**	**08 30 17.1**	**+0.7**
CHY				S	**Sb**	**08 30 20.8**	**+2.0**
WSF	**Szhu** baz=344	**0.21**	**347**	⇑*iP*	**Pb**	**08 30 17.9**	**+0.1**
WSF				*i* S	**Sb**	**08 30 22.4**	**+1.4**
CHN2	**Minshiung** baz=57	**0.21**	**62**	P	**Pb**	**08 30 18.1**	**+0.3**
CHN2				S	**Sb**	**08 30 22.2**	**+1.1**
TWK	**Hsinying** baz=132	**0.26**	**130**	⇓*iP*	**Pb**	**08 30 18.8**	**0.0**
TWK				*i* S	**Sb**	**08 30 23.3**	**+0.5**
SCLT	**Jiali** baz=199	**0.27**	**196**	⇑*iP*	**Pb**	**08 30 19.1**	**+0.1**
SCLT				S	**Sb**	**08 30 24.7**	**+1.6**
WTK	**Tuku** baz=6.0	**0.27**	**23**	⇑*iP*	**Pb**	**08 30 19.1**	**0.0**
WTK				S	**Sb**	**08 30 24.5**	**+1.1**
SNST	**Tainan City** baz=139	**0.30**	**136**	⇓*iP*	**Pb**	**08 30 19.3**	**-0.2**
SNST				*i* S	**Sb**	**08 30 24.2**	**+0.2**
SSHA	**Shanhua** baz=182	**0.30**	**177**	⇑*iP*	**Pb**	**08 30 19.6**	**+0.1**
SSHA				S	**Sb**	**08 30 25.6**	**+1.5**
WCKO	**Fanlu** baz=88	**0.30**	**89**	⇓*iP*	**Pb**	**08 30 19.3**	**-0.4**
WCKO				*i* S	**Sb**	**08 30 24.1**	**-0.1**
CHN4	**Tsaushan** baz=106	**0.30**	**106**	⇓*iP*	**Pb**	**08 30 19.4**	**-0.3**
CHN4				S	**Sb**	**08 30 24.7**	**+0.4**
TSCK	**Chigu Township** baz=214	**0.33**	**211**	⇑*iP*	**Pb**	**08 30 20.2**	**0.0**
TSCK				S	**Sb**	**08 30 26.7**	**+1.5**
CHN1	**Nanshi** baz=131	**0.34**	**137**	⇓*iP*	**Pb**	**08 30 20.0**	**-0.3**
CHN1				S	**Sb**	**08 30 25.3**	**-0.1**
WDLH	**Douliu** baz=40	**0.35**	**44**	⇑*iP*	**Pb**	**08 30 20.6**	**+0.1**
WDLH				*i* S	**Sb**	**08 30 26.9**	**+1.2**
TPUB	**Ta-pu** baz=113	**0.35**	**112**	⇓*iP*	**Pg**	**08 30 20.1**	**-0.1**
TPUB				*i* S	**Sb**	**08 30 25.3**	**-0.5**
WGK	**Gukeng** baz=43	**0.36**	**47**	⇑*iP*	**Pb**	**08 30 20.9**	**+0.2**
WGK				*i* S	**Sb**	**08 30 27.2**	**+1.1**
WTP	**Ta-pu** baz=122	**0.36**	**121**	⇓*iP*	**Pb**	**08 30 20.4**	**-0.3**
WTP				*i* S	**Sb**	**08 30 26.2**	**0.0**
CHN3	**Shinhua** baz=171	**0.37**	**167**	⇑*iP*	**Pb**	**08 30 21.2**	**+0.5**
CHN3				S	**Sb**	**08 30 27.9**	**+1.7**
TAI1	**Yung-k'ang** baz=188	**0.40**	**186**	⇑*iP*	**Pb**	**08 30 21.6**	**+0.4**
TAI1				S	**Sb**	**08 30 28.6**	**+1.7**
CHN5	**Tsauling** baz=63	**0.41**	**66**	⇓*iP*	**Pb**	**08 30 21.1**	**-0.4**
CHN5				*eS*	**Sg**	**08 30 26.7**	**-0.1**
	baz=63						
SHHT	**Tainan City** baz=181	**0.42**	**171**	⇑P	**Pb**	**08 30 22.2**	**+0.6**
SHHT				S	**Sn**	**08 30 30.0**	**-1.1**
	baz=181						
WTCT	**Ta-ch'eng** baz=9.0	**0.43**	**1**	P	**Pg**	**08 30 21.5**	**0.0**
WTCT				*eS*	**Sb**	**08 30 28.5**	**+0.6**
	baz=9.0						
TAI	**Tainan** baz=191	**0.44**	**189**	P	**Pb**	**08 30 22.6**	**+0.6**
TAI				S	**Sn**	**08 30 30.5**	**-1.2**
	baz=191						
SGST	**Jiashian** baz=134	**0.45**	**141**	⇓*iP*	**Pg**	**08 30 21.2**	**-0.7**
SGST				S	**Sb**	**08 30 28.5**	**-0.1**
	baz=134						
RLNB	**Erlin** baz=7.0	**0.46**	**10**	⇑*iP*	**Pb**	**08 30 22.3**	**-0.1**
WRL	**Guolierlin Hig** baz=9.0	**0.47**	**12**	⇑*iP*	**Pb**	**08 30 22.6**	**0.0**
WRL				S	**Sb**	**08 30 29.9**	**+0.7**
	baz=9.0						
ALS	**Alishan** baz=79	**0.49**	**81**	⇓*iP*	**Pb**	**08 30 23.0**	**0.0**
ALS				*i* S	**Sb**	**08 30 30.6**	**+0.5**
	baz=79						
STYT	**Tauyuan** baz=111	**0.52**	**121**	⇓*iP*	**Pb**	**08 30 23.1**	**-0.3**
STYT				*eS*	**Sb**	**08 30 30.5**	**0.0**
	baz=111						
STYH	**Taoyuan** baz=112	**0.53**	**120**	⇓P	**Pg**	**08 30 23.1**	**-0.3**
STYH				S	**Sb**	**08 30 30.9**	**+0.2**
	baz=112						
SLGT	**Liugui** baz=133	**0.56**	**142**	⇓*eP*	**Pb**	**08 30 24.4**	**+0.4**
SLGT				*eS*	**Sb**	**08 30 32.7**	**+1.1**
	baz=133						
WJS	**Zhushan** baz=33	**0.57**	**47**	⇑*iP*	**Pb**	**08 30 24.1**	**0.0**
WJS				S	**Sb**	**08 30 32.2**	**+0.4**
	baz=33						
WNT	**Mingjian** baz=39	**0.58**	**40**	⇑*iP*	**Pb**	**08 30 24.4**	**0.0**
WNT				S	**Sb**	**08 30 33.2**	**+1.0**
	baz=39						
SCST	**Cishan** baz=150	**0.58**	**160**	⇑*eP*	**Pn**	**08 30 25.4**	**-0.7**
SCST				*eS*	**Sn**	**08 30 35.3**	**+0.1**
	baz=150						
WDGT	**Dungji** baz=253	**0.59**	**253**	⇓*iP*	**Pg**	**08 30 24.1**	**-0.4**
WDGT				S	**Sg**	**08 30 32.3**	**0.0**
	baz=253						
WHYT	**Xinyi Township** baz=62	**0.59**	**64**	⇓P	**Pg**	**08 30 24.4**	**-0.1**
WHYT				S	**Sb**	**08 30 32.9**	**+0.3**
	baz=62						
WYL	**Yuanlin Townsh** baz=38	**0.59**	**28**	P	**Pb**	**08 30 24.6**	**0.0**
WYL				S	**Sb**	**08 30 33.8**	**+1.2**
	baz=38						
WNT1	**Nantou City** baz=36	**0.60**	**38**	P	**Pb**	**08 30 24.6**	**-0.1**
WNT1				S	**Sb**	**08 30 33.5**	**+0.7**
	baz=36						
TWM1	**Shoushan** baz=152	**0.62**	**167**	*eP*	**Pn**	**08 30 26.5**	**-0.2**
TWM1				*eS*	**Sn**	**08 30 39.1**	**+2.9**
	baz=152						
PHUB	**P'eng-hu** baz=277	**0.65**	**277**	⇓P	**Pg**	**08 30 24.9**	**-0.7**
PHUB				S	**Sg**	**08 30 33.8**	**-0.4**
	baz=277						
PNG	**Penghu** baz=282	**0.67**	**281**	⇓*iP*	**Pg**	**08 30 25.3**	**-0.7**
PNG				*eS*	**Sb**	**08 30 35.2**	**+0.3**
	baz=282						
SNJT	**Kaohsiung City** baz=190	**0.68**	**175**	*eP*	**Pn**	**08 30 27.2**	**-0.2**
TYC	**Yuchr** baz=47	**0.71**	**49**	⇑*iP*	**Pb**	**08 30 26.5**	**-0.2**
TYC				S	**Sb**	**08 30 36.9**	**+0.9**
	baz=47						
SSLB	**Suanglung** baz=46	**0.72**	**61**	⇑P	**Pg**	**08 30 26.4**	**-0.4**
SSLB				S	**Sb**	**08 30 36.2**	**0.0**
	baz=46						
WWF	**Wufeng** baz=31	**0.72**	**33**	⇑P	**Pb**	**08 30 26.8**	**+0.1**
WWF				*eS*	**Sn**	**08 30 37.6**	**-0.9**
	baz=31						
ELDTW	**Lidau** baz=97	**0.73**	**110**	⇓*iP*	**Pb**	**08 30 26.8**	**-0.1**
ELDTW				S	**Sb**	**08 30 36.7**	**+0.1**
	baz=97						
SMLT	**Sun Moon Lake** baz=50	**0.73**	**52**	⇑*iP*	**Pb**	**08 30 26.9**	**-0.1**
SMLT				S	**Sb**	**08 30 36.9**	**+0.3**
	baz=50						
SGLT	**Jiouru** baz=154	**0.73**	**164**	*eP*	**Pn**	**08 30 28.3**	**+0.1**
SSD	**Sandimen** baz=144	**0.76**	**154**	P	**Pg**	**08 30 27.6**	**-0.1**
SSD				S	**Sn**	**08 30 38.9**	**-0.7**
	baz=144						
TSPT	**Pingtung City** baz=167	**0.78**	**165**	*eP*	**Pn**	**08 30 28.9**	**0.0**
TCU	**Taichung** baz=27	**0.80**	**27**	⇑*eP*	**Pg**	**08 30 28.3**	**-0.1**
TCU				*eS*	**Sg**	**08 30 39.6**	**+0.6**
	baz=27						
TSMG	**Majia** baz=145	**0.80**	**155**	*eP*	**Pg**	**08 30 28.2**	**-0.3**
TSMG				*eS*	**Sn**	**08 30 39.7**	**-0.9**
	baz=145						
VCHM	**Qimei** baz=254	**0.81**	**254**	⇓*iP*	**Pb**	**08 30 27.6**	**-0.6**
VCHM				*eS*	**Sb**	**08 30 38.6**	**-0.2**
	baz=254						
DPDB	**Guoxing** baz=43	**0.84**	**45**	⇑P	**Pb**	**08 30 28.5**	**-0.4**
DPDB				S	**Sg**	**08 30 40.5**	**+0.1**
	baz=43						
WPL	**Puli Township** baz=45	**0.85**	**47**	*eP*	**Pb**	**08 30 28.4**	**-0.6**
WPL				S	**Sb**	**08 30 39.7**	**-0.3**
	baz=45						
WCS	**Beigang Elemen** baz=41	**0.85**	**43**	*eP*	**Pb**	**08 30 28.6**	**-0.4**
WCS				*eS*	**Sg**	**08 30 40.9**	**+0.2**
	baz=41						
VWDT	**VWDT** baz=66	**0.86**	**68**	P	**Pg**	**08 30 29.1**	**-0.3**
VWDT				S	**Sb**	**08 30 40.2**	**0.0**
	baz=66						
MASBT	**Mashibuluo** baz=162	**0.88**	**158**	⇑*iP*	**Pb**	**08 30 29.4**	**-0.1**
MASBT				*eS*	**Sg**	**08 30 41.6**	**0.0**
	baz=162						
EHD	**Haiduan** baz=100	**0.90**	**108**	P	**Pg**	**08 30 29.9**	**-0.4**
EHD				*eS*	**Sg**	**08 30 42.0**	**-0.3**
	baz=100						
ECS	**Chishang** baz=103	**0.93**	**111**	*eP*	**Pg**	**08 30 30.6**	**-0.3**
ECS				*eS*	**Sn**	**08 30 43.9**	**+0.1**
	baz=103						
YULB	**Yu-li** baz=92	**0.94**	**92**	⇓*iP*	**Pb**	**08 30 30.3**	**-0.3**
YULB				*eS*	**Sb**	**08 30 42.3**	**-0.4**
	baz=92						
TWF1	**Yuli** baz=94	**0.94**	**95**	⇓*iP*	**Pb**	**08 30 30.4**	**-0.2**
TWF1				S	**Sg**	**08 30 43.1**	**-0.4**
	baz=94						
LONT	**Longtian** baz=125	**0.95**	**124**	⇓*eP*	**Pg**	**08 30 30.8**	**-0.3**
LONT				S	**Sn**	**08 30 43.9**	**-0.3**
	baz=125						
WUSB	**Renai** baz=52	**0.95**	**54**	⇑*iP*	**Pb**	**08 30 30.2**	**-0.6**
WUSB				*i* S	**Sb**	**08 30 42.5**	**-0.6**
	baz=52						
TWG	**Pinlang** baz=131	**0.96**	**130**	P	**Pg**	**08 30 31.0**	**-0.3**
TWG				S	**Sn**	**08 30 44.3**	**-0.1**
	baz=131						

TWGBT	**Beinan** baz=131	0.96	129	⇓	*e*P	Pg	08 30 31.1	-0.4
TWGBT	baz=131				*i* S	Sn	08 30 44.3	-0.3
EYUL	**Yuli** baz=94	0.96	95	⇓	*e*P	Pb	08 30 30.9	0.0
EYUL	baz=94				*e*S	Sg	08 30 43.7	-0.5
EHY	**Hungye** baz=85	0.96	86		P	Pb	08 30 30.8	-0.1
EHY	baz=85				*e*S	Sb	08 30 43.2	-0.1
FULB	**Fuli** baz=95	0.97	104	⇓	P	Pn	08 30 31.4	0.0
FULB	baz=95				*e*S	Sn	08 30 45.4	+0.7
WDJ	**Dajia District** baz=7.0	0.97	20	⇑	P	Pg	08 30 31.4	-0.2
OWD	**Renai** baz=56	0.97	58		*e*P	Pb	08 30 31.0	-0.1
EHYH	**Wanrong** baz=85	0.99	86		*e*P	Pb	08 30 31.3	0.0
EHYH	baz=85				*e*S	Sb	08 30 43.9	-0.1
TWQ1	**Liyutan** baz=26	1.02	27	⇑	*i*P	Pn	08 30 32.0	-0.1
TWQ1	baz=26				S	Sn	08 30 46.6	+0.7
CHGB	**Renai** baz=51	1.03	53	⇑	P	Pb	08 30 31.6	-0.6
CHGB	baz=51				*e*S	Sb	08 30 45.4	-0.2
WHP	**Taichung City** baz=34	1.04	36	⇑	*e*P	Pb	08 30 32.0	-0.3
WHP	baz=34				S	Sn	08 30 47.9	+1.2
TTN	**Taitung** baz=131	1.05	130		*e*P	Pg	08 30 33.4	+0.3
CHKT	**Chengkung** baz=108	1.06	108		*e*P	Pb	08 30 32.0	-0.5
CHKT	baz=108				*e*S	Sn	08 30 48.5	+1.6
HGSD	**Ruisui** baz=85	1.06	87	⇓	P	Pg	08 30 33.2	-0.1
HGSD	baz=85				*e*S	Sn	08 30 48.3	+1.4
CHKH	**Chenggong** baz=103	1.06	103	⇓	*e*P	Pn	08 30 32.8	+0.1
WARBT	**Fenglin Townsh** baz=72	1.06	74		P	Pb	08 30 32.4	-0.1
WARBT	baz=72				S	Sb	08 30 45.8	-0.3
NSY	**Sanyi** baz=34	1.07	24	⇑	*i*P	Pn	08 30 33.0	+0.1
NSY	baz=34				*i* S	Sn	08 30 48.5	+1.2
TWP	**Hsiaoliuchiu** baz=177	1.09	176		*e*P	Pn	08 30 33.3	+0.2
ECBN	**Changbin** baz=95	1.09	96		*e*P	Pg	08 30 34.1	+0.3
ECBN	baz=95				*e*S	Sg	08 30 49.9	+1.8
SCZT	**Fangliau** baz=164	1.10	163	⇑	P	Pb	08 30 33.0	-0.3
ESL	**Shilin** baz=69	1.13	70		*e*P	Pg	08 30 34.2	-0.3
TDCB	**Techi** baz=42	1.15	45	⇑	*i*P	Pn	08 30 33.5	-0.5
TDCB	baz=42				*e*S	Sb	08 30 48.1	-0.7
WHF	**Hehuan Shan** baz=49	1.15	52		*e*P	Pb	08 30 34.1	-0.2
WHF	baz=49				*e*S	Sn	08 30 49.9	0.0
TWT	**Tachien** baz=43	1.16	45	⇑	*e*P	Pb	08 30 33.7	-0.6
TWT	baz=43				*e*S	Sn	08 30 49.9	+0.2
EAST	**Anshuo** baz=154	1.17	153	⇑	*e*P	Pn	08 30 34.2	-0.1
NMLH	**Miaoli** baz=32	1.20	23	⇑	P	Pb	08 30 34.9	+0.1
NMLH	baz=32				*e*S	Sg	08 30 52.0	+0.5
LXIB	**Xiulin Townshi** baz=47	1.20	61		*e*P	Pn	08 30 34.7	0.0
LXIB	baz=47				*e*S	Sn	08 30 50.7	+0.1
FUSS	**Fushou** baz=46	1.20	47		*e*P	Pn	08 30 34.6	-0.3
SHUL	**Shoufeng** baz=72	1.23	73		*e*P	Pb	08 30 35.8	+0.4
ETM	**Tongmen** baz=54	1.24	64		*e*P	Pb	08 30 35.7	+0.1
TEYL	**Yanliau Villag** baz=68	1.29	70		*e*P	Pg	08 30 37.3	-0.3
SLIU	**Shizi** baz=159	1.31	158		*e*P	Pb	08 30 36.5	-0.2
HWA	**Hwalien** baz=65	1.33	66		*e*P	Pg	08 30 38.3	-0.1
LDUT	**Ludao** baz=125	1.34	124		*e*P	Pb	08 30 37.1	-0.2
NJN	**Zhunan** baz=23	1.36	24		*e*P	Pb	08 30 38.1	+0.5
NSTT	**Nanjuang** baz=28	1.36	29	⇑	P	Pn	08 30 36.8	-0.1
NSTT	baz=28				S	Sb	08 30 55.0	+0.2
TWD	**Chiawan** baz=47	1.37	62		*e*P	Pb	08 30 38.0	+0.2
TWD	baz=47				*e*S	Sb	08 30 55.4	+0.3
LIOB	**Emei** baz=28	1.38	29	⇑	P	Pn	08 30 37.1	0.0
NACB	**Ninganchiao** baz=55	1.42	58	⇓	*e*P	Pb	08 30 38.2	-0.4
NACB	baz=55				*e*S	Sn	08 30 55.9	+0.1
NNSB	**Datong** baz=29	1.42	46		*e*P	Pn	08 30 37.6	-0.2
NNSB	baz=29				S	Sb	08 30 56.7	+0.2
NNS	**Nan Shan** baz=28	1.42	45		*e*P	Pn	08 30 37.9	+0.1
NNS	baz=28				*e*S	Sb	08 30 56.8	+0.2
NFF	**Wufeng Townshi** baz=31	1.42	33		*e*P	Pn	08 30 37.5	-0.2
ETL	**Fush Village** baz=58	1.43	59		*e*P	Pg	08 30 39.6	-0.7
NJD	**Zhudong** baz=28	1.49	30		*e*P	Pn	08 30 39.2	+0.5
HSN1	**Hsinchu** baz=25	1.50	27		*e*P	Pn	08 30 38.9	+0.2
SBCB	**Hsinchu** baz=26	1.50	26		P	Pn	08 30 39.2	+0.4
SBCB	baz=26				*e*S	Sb	08 30 58.6	-0.2
HSN	**Hsinchu** baz=25	1.50	25		*e*P	Pn	08 30 39.4	+0.6
TWK1	**Hengchun** baz=162	1.56	162	⇑	*i*P	Pn	08 30 39.4	-0.2
TWKBT	**Hengchun** baz=162	1.57	161	⇑	P	Pn	08 30 39.5	-0.2
NSK	**Sanguang** baz=24	1.58	39	⇑	*i*P	Pn	08 30 40.2	+0.3
NSK	baz=24				S	Sb	08 31 01.1	-0.2
LATG	**Datong** baz=42	1.58	46	⇑	P	Pn	08 30 40.5	+0.4
LATG	baz=42				*e*S	Sb	08 31 00.9	-0.5
YHNB	**Yeheng** baz=25	1.59	39	⇑	P	Pn	08 30 40.2	+0.1
YHNB	baz=25				S	Sb	08 31 01.3	-0.1
EAHA	**Aohua** baz=40	1.61	56		*e*P	Pb	08 30 41.8	-0.1
NDT	**Datong Townshi** baz=27	1.62	44		*e*P	Pn	08 30 41.1	+0.7
NDT	baz=27				*e*S	Sb	08 31 02.3	0.0
ENA	**Nanau** baz=37	1.67	53		*e*P	Pb	08 30 42.2	-0.7
ENTT	**Nioudou** baz=28	1.68	44		*e*P	Pn	08 30 41.9	+0.6
ENTT	baz=28				*e*S	Sb	08 31 04.4	+0.3
EWUT	**Wuta** baz=50	1.71	54		*e*P	Pb	08 30 43.0	-0.5
EWUT	baz=50				*e*S	Sb	08 31 05.4	+0.8
VWUC	**VWUC** baz=335	1.72	334		*e*P	Pn	08 30 42.6	+0.8
NCUH	**Zhongli** baz=27	1.74	28		*e*P	Pn	08 30 42.1	0.0
NCU	**National Centr** baz=27	1.74	28		*e*P	Pb	08 30 43.7	-0.5
NWLT	**Wulai** baz=30	1.75	40		*e*P	Pn	08 30 42.6	+0.4
NWLT	baz=30				*e*S	Sb	08 31 05.6	-0.3
NDS	**Dongshan** baz=31	1.78	48		*e*P	Pb	08 30 44.0	-0.8
FUSB	**Fushanzhiwuyua** baz=27	1.78	42	⇑	P	Pn	08 30 43.5	+0.8
FUSB	baz=27				S	Sb	08 31 06.2	-0.8
TWE	**Neicheng** baz=29	1.81	45		*e*P	Pn	08 30 44.0	+1.0
TWE	baz=29				*e*S	Sb	08 31 07.8	+0.2
ESAO	**Su ao** baz=36	1.83	51		*e*P	Pb	08 30 44.6	-1.0
TWC	**Suao** baz=46	1.85	51		*e*P	Pb	08 30 45.5	-0.6
TWC	baz=46				S	Sb	08 31 09.3	+0.3
LYUB	**Lan-yu** baz=140	1.87	139		*e*P	Pn	08 30 41.9	-2.0
TATO	**Taipei** baz=32	1.89	36		*e*P	Pn	08 30 44.2	0.0
NHDH	**Xindian Distri** baz=33	1.90	37		*e*P	Pn	08 30 44.4	+0.1
PTMZ	**Houxiangcun** baz=328	1.91	327		*e*P	Pn	08 30 44.4	0.0
TWA	**Mucha** baz=25	1.95	38		*e*P	Pn	08 30 45.3	+0.4
TWA	baz=25				*e*S	Sn	08 31 09.5	+0.6
TWS1	**Kuangyinshan** baz=29	1.96	32		*e*P	Pn	08 30 45.1	+0.1
EOS4	**EOS4** baz=67	1.99	70		*e*P	Pb	08 30 47.0	-1.2
KNMB	**Chin-men Tao** baz=302	2.01	301		*e*P	Pn	08 30 45.4	-0.3
EOS2	**EOS2** baz=76	2.04	61		*e*P	Pb	08 30 48.8	-0.4
YM01	**YM01** baz=31	2.07	35		P	Pn	08 30 46.8	+0.1
YM01	baz=31				*e*S	Sn	08 31 11.4	-0.7
ANP	**Anpu** baz=29	2.08	33		*e*P	Pn	08 30 46.6	-0.2
TIPB	**Shuangxi** baz=25	2.09	42		*e*P	Pn	08 30 47.4	+0.5
YM08	**YM08** baz=31	2.12	34		*e*P	Pn	08 30 46.7	-0.6
NWF	**Wu-fen Shan** baz=24	2.13	40		*e*P	Pn	08 30 47.9	+0.4
WFSB	**Wu-fen Shan** baz=24	2.13	40		*e*P	Pn	08 30 48.0	+0.6
TWY	**Chenhua** baz=29	2.20	33		*e*P	Pn	08 30 48.8	+0.5
SXI1	**Grass Mountain** baz=24	2.21	41		*e*P	Pn	08 30 48.8	+0.2
TWB1	**Santiao Chiao** baz=27	2.21	45		*e*P	Pn	08 30 49.2	+0.6
TWB1	baz=27				*e*S	Sn	08 31 16.0	+0.5
ZPLA	**Ao Xicun** baz=283	2.37	283	⇓	*e*P	Pn	08 30 50.0	-0.6
DSXP	**Dongshan** baz=276	2.63	277	⇓	*e*P	Pn	08 30 53.6	-0.7
YOJ	**Yonaguni jima** baz=65	2.71	67		*e*P	Pn	08 30 55.8	+0.5
MATB	**Ma-tsu** baz=355	2.72	354		*e*P	Pn	08 30 54.7	-0.9
PCYT	**Pengchaiyu** baz=32	2.73	36		*e*P	Pn	08 30 56.1	+0.4
MSUT	**Lienchiang** baz=355	2.74	353		*e*P	Pn	08 30 55.1	-0.7
MHZQ	**Yeshan** baz=338	2.88	337		*e*P	Pn	08 30 57.4	-0.3
LYJJ	**Jianjiangzhen** baz=353	3.14	352		*e*P	Pn	08 31 00.9	-0.3
SXFK	**Yanhouchang** baz=324	3.79	322		*e*P	Pn	08 31 09.6	-0.7
JISG	**Ishigakijimahi**	3.87	72		*e*P	Pn	08 31 12.5	+1.3
JISG					*e*S	Sn	08 31 56.6	+0.3

*SOME **23** 08:52:59.3, 43˚.45N×86˚.85E, h0km*
NNC 23 08:53:04.2±4.2, 43˚.37N×88˚.04E, h0km, mb3.8, mpv3.3, 11C-4D, Error ellipse: s-maj=31.7km s-min=27.0km az=101.0, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ZSN	**Zaisan** 2.6nm,0.1s	4.65	332	*e*P	Pn	08 54 19.9	+4.2
ZSN	21nm,0.5s			*e*S	Sn	08 55 15.2	+4.8
MK31	**Makanchi Array** 0.8nm,0.3s,baz=131,slow=15,SNR=60	5.32	312	⇑Pn	Pn	08 54 27.0	+2.1
MK31	7.0nm,0.5s,baz=122,slow=26,SNR=6.7			⇑Sn	Sn	08 55 29.3	+2.5
MK31	4.3nm,0.3s,baz=120,slow=30,SNR=4.8			⇑Lg	Lg	08 55 55.3	
MAKZ	**Makanchi** 4.7nm,0.7s	5.50	311	⇑Pn	Pn	08 54 30.1	+2.8
MAKZ	2.9nm,0.4s			⇓Sn	Sn	08 55 33.2	+2.0
MAKZ	12nm,0.6s			⇑Lg	Lg	08 56 02.5	
PDGK	**Podgornoye** 1.7nm,0.5s	6.24	273	⇑Pn	Pn	08 54 36.8	-0.8
PDGK	4.2nm,0.5s			⇑Sn	Sn	08 55 50.3	+0.7
PDGK	10nm,0.6s			⇑Lg	Lg	08 56 20.3	
KURBB	**Kurchatov Arra** 0.8nm,0.3s	9.73	321	⇓Pn	Pn	08 55 24.0	-1.4
KURBB	6.3nm,0.7s			⇑Sn	Sn	08 57 13.9	-1.4
KURBB	19nm,0.7s			⇑Lg	Lg	08 58 18.4	
KURK	**Kurchatov** 0.6nm,0.3s	9.76	322	⇓Pn	Pn	08 55 22.5	-3.2
KURK	2.0nm,0.5s			⇓Sn	Sn	08 57 12.7	-3.2
KURK	5.3nm,0.6s			⇑Lg	Lg	08 58 17.9	

IDC 23 09:13:33.4±2.7, 53˚.91N×86˚.52E, h0km, mbtmp2.8/2, ML2.6/2, Error ellipse: s-maj=22.2km s-min=13.4km az=64.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA** baz=91,slow=324,SNR=6.4	1.01	273	I	I	09 21 00.0	
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=92,slow=16,SNR=5.3	1.01	273	Pg	Pg	09 13 52.0	-0.7
ZALV	1.5nm,0.3s,baz=93,slow=29,SNR=11			Lg	Lg	09 14 06.8	
KURBB	**Kurchatov Arra** 0.1nm,0.3s,baz=53,slow=14,SNR=2.3	5.91	239	Pn	Pn	09 15 03.5	+1.4
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=27,slow=14,SNR=4.7 0.3nm,0.3s	7.62	202	Pn	Pn	09 15 26.5	+0.8
	0.2nm,0.3s						

*IDC **23** 09:20:29.1±0.8, 10˚.44N×60˚.39W, h0km, mb3.9/11, mbtmp3.9/12, ML3.7/1, MS3.3/5, Error ellipse: s-maj=21.7km s-min=19.9km az=163.0*
*NEIC **23** 09:20:31.1±1.4, 10˚.16N±0˚.06×60˚.41W±0˚.08, h15km±5km, mb4.4/66, Error ellipse: s-maj=12.2km s-min=8.9km az=70.0*
*TRN **23** 09:20:35.4, 10˚.35N×60˚.50W, h86km, MD4.0, East of Trinidad.*
ISC 23 09:20:32.1±1.3, 10˚.24N±0˚.04×60˚.29W±0˚.04, h31km±9km,

n387, σ1$41/393, mb4.3/43, MS3.2/5, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TBH	**Brigand Hill**	0.80	288	*e*P	Pn	09 20 50.2	+2.9
TPR	**Prospect**	1.05	333	*e*P	Pb	09 20 52.8	+0.9
TPP	**Pointe-a-Pierr**	1.15	274	*e*P	Pb	09 20 55.2	+1.8
TRN	**Trinidad (W)**	1.17	290	*e*P	Pb	09 20 53.5	-0.3
TRN				*e*S	Sb	09 21 08.5	-0.1
GRFF	**Grenada Fort F**	2.29	322	*e*P	Pn	09 21 08.4	+0.6
GRFF				*e*S	Sn	09 21 32.8	-2.2
GRGR	**Grenville**	2.31	325		Pn	09 21 09.2	+1.1
GRGR	**Grenville**	2.31	325	*e*P	Pn	09 21 08.8	+0.8
GRGR				*e*S	Sn	09 21 34.1	-1.3
GRHS	**Sauteurs**	2.38	326	*e*P	Pn	09 21 10.5	+1.5
GRHS				*e*S	Sn	09 21 35.8	-1.2
GCMP	**Grenada, Carri**	2.50	334	*e*P	Pn	09 21 11.0	+0.4
GCMP				*e*S	Sn	09 21 37.8	-2.2
CRUV	**Carupano**	2.93	279	*e*P	Pn	09 21 15.7	-0.9
CRUV				*e*S	Sn	09 21 47.7	-3.0
BBGH	**Gun Hill**	2.97	14	*e*P	Pb	09 21 20.5	-3.9
BBGH	**Gun Hill**	2.97	14	*e*S	Sn	09 21 54.6	+2.8
SVOC	**Richmond Hill,**	3.04	343	*e*P	Pn	09 21 19.4	+1.3
SVOC				*e*S	Sn	09 21 51.6	-1.8
SVT	**Saint Vincent**	3.06	342	*e*P	Pn	09 21 19.9	+1.6
SVT				*e*S	Sn	09 21 52.3	-1.6
SVB	**Belmont**	3.16	343	*e*P	Pn	09 21 21.3	+1.5
SVB				*e*S	Sn	09 21 54.2	-2.2
SLB	**Belfond**	3.64	348	*e*P	Pn	09 21 28.8	+2.4
SLB				*e*S	Sn	09 22 08.4	0.0
SLB	**Belfond**	3.64	348	*e*S	Sn	09 22 07.0	-1.4
SLCP	**Castries, St.**	3.81	350	*e*S	Sn	09 22 09.5	-2.9
SLBI	**Saint Lucia, B**	3.82	350	*e*P	Pn	09 21 30.0	+1.2
SLBI				*e*S	Sn	09 22 10.2	-2.5
H05S1	**Guadeloupe/Mar**	4.19	353	Pn	Pn	09 21 32.9	-1.1
H05S1				Sn	Sn	09 22 17.9	-4.0
MPOM	**Morne Pois Mar**	4.22	352	Pn	Pn	09 21 34.7	+0.5
MPOM	**Morne Pois Mar**	4.22	352	*e*P	Pb	09 21 58.6	+13
PCRV	**Puerto La Cruz** 4.9nm,0.3s,baz=61,slow=3.4,SNR=21	4.28	270	Pn	Pn	09 21 34.9	-0.3
PCRV				Sn	Sn	09 22 19.1	-5.1
	8.2nm,0.3s,baz=126,slow=20,SNR=3.8 14nm,0.4s						
PCRV	**Puerto La Cruz**	4.28	270	*e*P	Pn	09 21 34.9	-0.3
PCRV				*e*S	Sn	09 22 21.0	-3.2
BIM	**Bigot**	4.32	350	Pn	Pn	09 21 36.9	+1.1
BIM	**Bigot**	4.32	350	*e*P	Pn	09 21 36.5	+0.8
BIM				*e*S	Sn	09 22 23.5	-1.6
ILAM	**Ilet Lapin Mar**	4.54	353	Pn	Pn	09 21 41.1	+2.3
ILAM	**Ilet Lapin Mar**	4.54	353	*e*P	Pn	09 21 41.0	+2.3
ILAM				*e*S	Sn	09 22 27.8	-2.8
FDF	**Fort de France**	4.54	349		Pn	09 21 41.0	+2.1
SVN	**Savane Anatole**	4.65	349		Pn	09 21 42.6	+2.3
SVN	**Savane Anatole**	4.65	349	*e*P	Pn	09 21 41.6	+1.3
SVN				*e*S	Sn	09 22 30.4	-3.0
TDBA	**Terre de Bas,**	5.73	347	*e*P	Pn	09 21 57.2	+2.1
TDBA				*e*S	Sn	09 22 55.1	-4.7
TBG	**Guadaloupe-3**	5.73	347	*e*P	Pn	09 21 57.2	+2.1
MAGL	**Barre de l'Ile**	5.76	350	Pn	Pn	09 21 56.6	+1.1
CBE	**Ff, Capester**	5.94	348	Pn	Pn	09 21 59.0	+1.0
CBE	**Ff, Capester**	5.94	348	*e*P	Pb	09 22 06.7	-8.2
CBE				*e*S	Sn	09 23 00.7	-4.3
CBE	**Ff, Capester**	5.94	348	*e*P	Pn	09 21 58.2	+0.3
GDSD	**La Dsirade Is**	6.08	353	Pn	Pn	09 22 02.1	+2.1
H05N1	**Guadeloupe/Mar**	6.09	353	Pn	Pn	09 21 59.1	-0.9
H05N1				Sn	Sn	09 23 02.2	-6.4
GDHS	**Morne Mazeau,**	6.17	347	Pn	Pn	09 22 02.8	+1.7
ABD	**La Joyeuse, An**	6.31	349	Pn	Pn	09 22 04.3	+1.3
ANBD	**Bethesda, Anti**	6.92	348	*e*P	Pn	09 22 12.3	+0.9
ANBD				*e*S	Sn	09 23 23.1	-6.0
BAUV	**El Baul**	7.75	261	Pn	Pn	09 22 21.9	-1.0
BAUV	**El Baul**	7.75	261	*e*P	Pn	09 22 20.9	-2.0
BAUV				*e*S	Sn	09 23 42.0	-7.7
BOAV	**Boa Vista**	7.80	182	Pn	Pn	09 22 24.3	+0.8
MDP	**Montagnes des** 5.2nm,0.3s,baz=318,slow=15,SNR=54	9.14	123	Pn	Pn	09 22 41.4	-0.5
MDP				Sn	Sn	09 24 18.0	-5.7
	16nm,0.3s,baz=47,slow=16,SNR=11						
EMPR	**Esperanza - Ma**	10.18	324	Pn	Pn	09 22 55.3	-0.8
AOPR	**Arecibo Observ**	10.21	323	*e*P	Pn	09 22 55.7	-0.9
SDV	**Santo Domingo**	10.29	263	Pn	Pn	09 22 56.3	-1.6
SDV	**Santo Domingo** 2.9nm,0.3s,baz=110,slow=11,SNR=6.2	10.29	263	Pn	Pn	09 22 54.7	-3.1
SDV				Sn	Sn	09 24 43.0	-9.3
	4.6nm,0.3s,baz=26,slow=18,SNR=12						
MACA	**Manacapuru-AM**	13.32	182		Pn	09 23 38.2	-0.9
ROSC	**El Rosal**	14.90	250		Pn	09 23 59.2	-2.0
SAML	**Samuel**	19.28	189	P	P	09 24 54.4	0.0
ETMB	**Extrema**	20.78	197	P	P	09 25 09.9	-0.9
VILB	**Vilhena**	23.04	180	P	P	09 25 34.5	-0.5
VILB				IAmb	IAmb	09 25 55.1	
	comp=Z,9.9nm,1.1s						
RIMA	**Rio Macho**	23.22	271	P	P	09 25 35.5	-1.5
RIMA				IAmb	IAmb	09 25 39.8	
	comp=Z,7.4nm,0.7s						
LCR2	**La Lucha 2**	23.36	271	P	P	09 25 40.5	+2.1
LCR2				IAmb	IAmb	09 25 41.4	
	comp=Z,6.9nm,0.9s						
ARNL	**Arenillas**	23.99	236	P	P	09 25 43.8	-0.4
ARNL				IAmb	IAmb	09 25 46.5	
	comp=Z,8.3nm,0.6s						
JTS	**Las Juntas de** comp=Z,44nm,18.9s,baz=105,slow=39	24.27	272	LR	LR	09 36 19.4	
ORTG	**Ortega, Santa**	24.76	273	P	P	09 25 50.5	-0.8
ORTG				IAmb	IAmb	09 26 08.5	
	comp=Z,10nm,1.1s						
ATAH	**Atahualpa** comp=Z,70nm,19.9s,baz=15,slow=40	24.96	227	LR	LR	09 37 15.8	
SIV	**San Ignacio** comp=Z,69nm,18.9s,baz=150,slow=39	26.07	182	LR	LR	09 37 22.9	
LPAZ	**La Paz** comp=Z,0.7nm,0.6s,baz=204,slow=4.7,SNR=1.6 comp=Z,0.7nm,0.6s	27.48	196	P	P	09 26 20.2	+3.8
NNA	**Nana**	27.53	217	P	P	09 26 14.9	-1.4
NNA				IAmb	IAmb	09 26 21.7	
	comp=Z,9.8nm,1.1s						
LRAL	**Lakeview Retre** baz=127	33.45	317	P	P	09 27 08.8	+0.4
Y49A	**Blount Mountai**	33.56	318	P	P	09 27 10.2	+0.8
Y49A				IAmb	IAmb	09 27 13.8	
	comp=Z,3.6nm,1.1s						
SSPA	**Standing Stone** baz=148	34.05	336	P	P	09 27 15.3	+1.8
Z47A	**Carrollton**	34.27	316	P	P	09 27 15.5	-0.1
S51A	**Beattyville**	34.41	326	P	P	09 27 17.4	+0.7
S51A				IAmb	IAmb	09 27 18.9	
	comp=Z,2.9nm,0.7s						
BINY	**Binghamton** baz=152	34.69	339	P	P	09 27 20.9	+1.8
M55A	**Ridgway**	35.10	336	P	P	09 27 24.6	+1.9
M55A				IAmb	IAmb	09 27 24.7	
	comp=Z,3.5nm,0.6s						
L56A	**Greenwood**	35.20	337	P	P	09 27 25.4	+1.9
PLAL	**Pickwick Lake**	35.33	319	P	P	09 27 24.9	+0.2
PLAL				IAmb	IAmb	09 27 25.3	
	comp=Z,5.2nm,0.9s						
PKME	**Peaks-Kenny Pk** baz=165	35.75	349	P	P	09 27 30.4	+2.3
WVNY	**West Valley, N**	35.83	337	P	P	09 27 30.6	+1.7
WVNY				IAmb	IAmb	09 27 31.1	
	comp=Z,5.4nm,0.9s						
M53A	**WI Miller and** baz=145	35.89	333	P	P	09 27 30.5	+1.1
OXF	**Oxford**	35.94	317	P	P	09 27 29.6	-0.3
OXF	**Oxford** baz=126	35.94	317	P	P	09 27 30.1	+0.3
ACSO	**Alum Creek Sta** baz=140	36.02	330	P	P	09 27 31.6	+1.0
ERPA	**Erie** baz=146	36.15	335	P	P	09 27 32.1	+0.4
WCI	**Wyandotte Cave** baz=134	36.34	324	P	P	09 27 33.8	+0.6
P49A	**Miami Univ. Ec** baz=137	36.39	327	P	P	09 27 33.9	+0.2
CPUP	**Villa Florida** comp=Z,48nm,18.8s,baz=44,slow=37	36.46	176	LR	LR	09 43 18.9	
O48B	**Farmland** baz=137	37.15	328	P	P	09 27 40.4	+0.2
PBMO	**Poplar Bluff**	37.94	319	P	P	09 27 46.0	-0.9
P43A	**Skaggs, Pawnee**	39.15	323	P	P	09 27 57.4	+0.4
P43A				IAmb	IAmb	09 27 58.4	
	comp=Z,9.0nm,0.9s						
S39A	**Bolivar**	40.35	318	P	P	09 28 06.2	-0.8
S39A				IAmb	IAmb	09 28 06.8	

WHTX Lake Whitney, 40.57 308 P P 09 28 08.4 -0.6
baz=114
P40A Paris 40.60 321 P P 09 28 08.6 -0.5
P40A IAmb IAmb 09 28 09.3
comp=Z,7.5nm,0.8s
833A Chaparral WMA, 40.82 302 P P 09 28 10.8 -0.3
baz=108
TUL3 Leonard 41.09 314 P P 09 28 13.1 -0.2
baz=120
HNDO Hondo 41.12 304 P P 09 28 13.3 -0.3
HNDO IAmb IAmb 09 28 13.8
comp=Z,5.0nm,0.7s
BRDY Brady 41.51 306 P P 09 28 15.9 -0.9
BRDY IAmb IAmb 09 28 16.7
comp=Z,5.3nm,0.8s
I42A Draeger Farm, 41.70 329 P P 09 28 18.5 +0.5
JCT Junction City 41.87 305 P P 09 28 18.4 -1.3
baz=110
N38A Joes South For 42.09 322 P P 09 28 21.9 +0.6
DRIO Del Rio 42.19 303 P P 09 28 23.7 +1.4
E43A Lone Tree Farm 42.59 333 P P 09 28 27.0 +1.7
SCIA State Center 42.76 323 P P 09 28 26.1 -0.6
baz=128
D41A Chassel 43.82 332 P P 09 28 36.5 +1.3
POST Post 44.14 307 P P 09 28 37.7 -0.4
MNHN Monahans 44.55 305 P P 09 28 40.9 -0.5
MNHN IAmb IAmb 09 28 42.0
comp=Z,3.3nm,0.5s
TXAR Lajitas Array 44.70 302 P P 09 28 43.1 +0.4
TXAR Lajitas Array 44.70 302 P P 09 28 41.8 -0.9
comp=Z,0.4nm,0.5s,baz=107,slow=11,SNR=10
TXAR PcP PP 09 30 27.5 +0.1
comp=Z,1.0nm,0.7s,baz=121,slow=5.7,SNR=9.0
TXAR S S 09 35 12.8 -4.8
comp=Z,0.1nm,0.4s,baz=149,slow=21,SNR=2.4
comp=Z,0.4nm,0.5s
TX31 Lajitas Ar. Si 44.70 302 P P 09 28 42.8 +0.1
SCHQ Schefferville 44.78 355 P P 09 28 42.4 -0.4
comp=Z,2.0nm,0.8s,baz=205,slow=8.8,SNR=3.5
comp=Z,2.0nm,0.8s
MSTX Muleshoe 45.45 308 P P 09 28 47.2 -1.4
baz=111
EYMN Ely 45.83 331 P P 09 28 51.9 +0.6
EYMN IAmb IAmb 09 28 52.0
comp=Z,2.3nm,0.8s
EYMN Ely 45.83 331 P P 09 28 51.0 -0.3
baz=135
ECSD EROS Data Cent 45.85 323 P P 09 28 51.2 -0.3
ECSD EROS Data Cent 45.85 323 P P 09 28 50.4 -1.1
baz=126
MNTX Cornudas Mount 46.79 304 P P 09 28 58.3 -0.8
baz=107
B35A Bob, Littlefor 47.20 330 P P 09 29 01.9 0.0
B35A IAmb IAmb 09 29 02.3
comp=Z,2.9nm,0.8s
OGNE Ogallala 47.81 317 P P 09 29 06.5 -0.5
baz=118
AGMN Agassiz Nation 48.24 329 P P 09 29 09.9 -0.1
AGMN IAmb IAmb 09 29 10.2
comp=Z,3.9nm,0.8s
AGMN Agassiz Nation 48.24 329 P P 09 29 09.7 -0.3
baz=130
BNM Barren Site 48.53 307 P P 09 29 12.7 -0.1
ANMO Albuquerque 48.65 308 P P 09 29 14.0 +0.3
ANMO Albuquerque 48.65 308 P P 09 29 12.8 -0.9
baz=109
SDCO Great Sand Dun 48.90 312 P P 09 29 15.6 -0.1
SDCO Great Sand Dun 48.90 312 P P 09 29 15.6 -0.1
baz=112
121A Cookes Peak, D 48.98 304 P P 09 29 15.3 -0.9
baz=106
H10N3 ASCENSION HYDR 49.00 110 T T 10 22 19.6
baz=290
H10N2 ASCENSION HYDR 49.01 110 T T 10 22 21.9
baz=290
H10N1 ASCENSION HYDR 49.02 110 T T 10 22 21.9
baz=290
Q24A Divide 49.12 313 P P 09 29 17.2 -0.1
baz=114
ISCO Idaho Springs 49.78 314 P P 09 29 22.1 -0.3
baz=114
RSSD Black Hills 50.61 320 P P 09 29 28.7 +0.3
baz=118
TUC Tucson 51.38 303 P P 09 29 34.0 -0.3
baz=104
K22A Casper 51.57 317 P P 09 29 35.7 0.0
baz=115
WUAZ Wupatki 52.66 307 IAmb IAmb 09 29 45.3
comp=Z,4.4nm,0.8s
WUAZ Wupatki 52.66 307 P P 09 29 43.6 -0.3
baz=106
214A Organ Pipe Nat 52.98 302 P P 09 29 45.9 -0.2
baz=102
P18A Preston Nutter 53.04 312 IAmb IAmb 09 29 47.7
comp=Z,3.3nm,0.8s
PD31 Pinedale Array 53.67 316 IAmb IAmb 09 29 51.5
comp=Z,2.7nm,0.7s
PDAR Pinedale Array 53.67 316 P P 09 29 50.2 -1.0
comp=Z,2.1nm,0.6s,baz=115,slow=10,SNR=17
PDAR PcP PcP 09 30 59.1 +1.7
comp=Z,0.3nm,0.4s,baz=84,slow=3.7,SNR=1.9
comp=Z,2.1nm,0.6s
DUG Dugway, Tooele 55.09 312 IAmb IAmb 09 30 02.4
comp=Z,2.4nm,0.7s
DUG Dugway, Tooele 55.09 312 P P 09 30 01.8 +0.2
baz=108
IRM Iron Mountain 55.35 304 P P 09 30 03.2 -0.2
baz=102
PSUT Pine Spring 55.39 310 IAmb IAmb 09 30 05.9
comp=Z,4.3nm,1.0s
BGU Big Grassy Mou 55.47 313 IAmb IAmb 09 30 05.0
comp=Z,3.3nm,0.7s
BC3 Big Chuckawall 55.50 304 P P 09 30 04.5 -0.1
baz=102
HVU Hansel Valley 55.56 314 IAmb IAmb 09 30 05.1
comp=Z,2.1nm,0.6s
SWSC Sam W. Stewart 55.65 303 P P 09 30 05.1 -0.4
baz=101
GMRC Granite Mounta 55.90 305 P P 09 30 06.9 -0.5
baz=102
BOZ Bozeman (W) 56.12 319 IAmb IAmb 09 30 10.0
comp=Z,2.5nm,0.8s
BOZ Bozeman (W) 56.12 319 P P 09 30 09.6 +0.7
baz=112
MONP2 Monument Peak 56.16 303 P P 09 30 09.4 0.0
baz=100
HEC Hector,Ludlow 56.45 305 P P 09 30 10.9 -0.4
baz=102
SHOC Shoshone, Teco 56.62 306 P P 09 30 12.3 -0.2
baz=102
R11B Troy Canyon, C 56.65 309 P P 09 30 11.7 -1.1
baz=105
GSC Goldstone, Bar 56.92 305 P P 09 30 14.4 -0.3
baz=102
FURC Furnace Creek, 57.21 307 P P 09 30 17.0 +0.5
baz=102
HLID Hailey 57.28 316 P P 09 30 17.2 0.0
HLID IAmb IAmb 09 30 18.4
comp=Z,3.2nm,0.8s
HLID Hailey 57.28 316 P P 09 30 17.8 +0.6
baz=109
BPMT Black Pine Rid 57.61 319 P P 09 30 19.7 +0.1
MPMC Manual Prospec 57.62 306 P P 09 30 19.4 -0.3
baz=102
LRMC Laurel Mtn Rad 57.66 306 P P 09 30 20.2 +0.3
baz=101
ESDC Sonseca Array 57.76 49 P P 09 30 22.1 +1.6
comp=Z,0.7nm,0.6s,baz=253,slow=7.8,SNR=6.3
comp=Z,0.7nm,0.6s
SCI2 San Clemente I 57.93 302 P P 09 30 21.4 -0.3
baz=99
CWC Cottonwood Cre 58.16 307 P P 09 30 23.2 -0.3
baz=102
OSI Osito Audit: C 58.34 304 P P 09 30 24.4 -0.2
baz=100
NVAR Mina Array Bea 58.75 309 P P 09 30 28.1 +0.5
comp=Z,0.7nm,0.5s,baz=107,slow=6.9,SNR=13
NVAR PcP PcP 09 31 18.4 +1.2
comp=Z,0.3nm,0.7s,baz=94,slow=3.6,SNR=2.0
NVAR LR LR 09 58 22.4
comp=Z,47nm,18.1s,baz=331,slow=39
comp=Z,0.7nm,0.5s
PLID Pearl Lake 58.84 317 P P 09 30 28.4 +0.2
PLID IAmb IAmb 09 30 28.6
comp=Z,3.3nm,0.9s
MLAC Mammoth, Mammo 58.99 308 P P 09 30 29.4 0.0
baz=102

PKM Mcpherson Peak 59.27 304 P P 09 30 31.1 -0.1
baz=100
SMMC Simmler 59.49 305 P P 09 30 31.8 -0.7
baz=100
NEW Newport 60.58 320 P P 09 30 40.6 +0.7
baz=109
TORD Torodi Ar. Bea 60.64 81 P P 09 30 41.7 +0.9
comp=Z,0.5nm,0.5s,baz=292,slow=6.3,SNR=5.5
comp=Z,0.5nm,0.5s
K05A Summer Lake 61.61 313 P P 09 30 47.9 +0.7
J05D Fort Rock, OR 61.98 314 P P 09 30 49.8 +0.2
YKA Yellowknife Ar 64.98 335 P P 09 31 08.9 +0.2
comp=Z,1.3nm,0.8s,baz=59,slow=10,SNR=32
comp=Z,1.3nm,0.8s
DLBC Dease Lake 70.76 328 P P 09 31 45.7 +0.3
baz=102
V35K Ketchikan 71.03 325 P P 09 31 47.5 +0.6
baz=100
S34M Telegraph Cree 71.23 328 P P 09 31 48.6 +0.5
baz=101
C36M Paulatuk 71.37 340 P P 09 31 49.8 +1.1
baz=111
R33M Jennings River 71.44 329 P P 09 31 50.3 +0.8
baz=102
WRAK Wrangell Islan 71.62 326 P P 09 31 51.4 +0.9
baz=100
CRAG Craig 71.90 325 P P 09 31 52.6 +0.4
baz=98
NOA NORSAR Array B 72.17 29 P P 09 31 55.4 +1.7
comp=Z,1.0nm,0.9s,baz=256,slow=5.6,SNR=2.0
comp=Z,1.0nm,0.9s
P33M Teslin, Yukon 72.51 330 P P 09 31 56.1 +0.2
baz=100
S32K Killisnoo 72.98 327 P P 09 31 59.2 +0.6
baz=98
R32K Eaglecrest 73.06 328 P P 09 32 00.0 +0.9
baz=98
FARO Faro, Yukon 73.12 332 P P 09 31 59.9 +0.5
baz=100
HFS Hagfors 73.21 30 P P 09 32 01.9 +2.0
comp=Z,1.5nm,0.6s,baz=294,slow=7.2,SNR=4.1
comp=Z,1.5nm,0.6s
SIT Sitka 73.33 327 P P 09 32 01.8 +1.2
baz=97
WHY Whitehorse 73.59 330 P P 09 32 03.2 +1.0
baz=99
M31M Drury Creek, Y 73.60 332 P P 09 32 02.7 +0.5
baz=100
SKAG Skagway 73.64 329 P P 09 32 03.3 +0.9
baz=98
N31M Braeburn, Yuko 74.14 331 P P 09 32 06.0 +0.6
baz=98
PLBC Pleasant Camp 74.17 329 P P 09 32 06.1 +0.6
baz=97
H31M Peel River 74.19 336 P P 09 32 06.3 +0.6
baz=100
INK Inuvik 74.36 338 IAmb IAmb 09 32 08.2
comp=Z,3.8nm,0.8s
INK Inuvik 74.36 338 P P 09 32 06.6 +0.1
baz=102
G31M Satah River 74.37 337 P P 09 32 07.4 +0.9
baz=101
MAYO Mayo, Yukon 74.49 333 P P 09 32 08.1 +0.7
baz=98
P30M Million Dollar 74.54 330 P P 09 32 08.7 +0.9
baz=97
M30M Minto, Yukon 74.76 332 P P 09 32 10.1 +1.1
baz=97
N30M Aishikik Lake 74.76 331 P P 09 32 09.8 +0.8
baz=97
J30M Hart River 74.82 334 P P 09 32 10.6 +1.1
baz=98
P29M Windy Craggy 74.88 329 P P 09 32 10.8 +1.1
baz=96
I30M Mount Dempster 74.94 335 P P 09 32 12.5 +2.5
I30M Mount Dempster 74.94 335 P P 09 32 11.3 +1.3
baz=98,SNR=8.1
F30M Barrier River 75.07 337 P P 09 32 12.4 +1.7
baz=100
G30M tAoh Zraii Nji 75.14 337 P P 09 32 12.6 +1.5
baz=99
K29M Barlow Dome 75.24 333 P P 09 32 12.7 +0.9
baz=97
EPYK Eagle Plains 75.24 336 P P 09 32 13.2 +1.5
baz=98
YUK6 Outpost Mounta 75.32 330 P P 09 32 13.5 +1.0
baz=96
L29M L29M 75.43 333 P P 09 32 14.3 +1.4
baz=96
YUK4 Talbot Arm 75.49 331 P P 09 32 14.4 +0.9
baz=96
M29M Somme Creek 75.51 332 P P 09 32 13.7 +0.3
baz=96
I29M Ogilvie Camp, 75.76 335 P P 09 32 15.2 +0.6
baz=97
G29M Pine Creek 75.83 337 P P 09 32 16.8 +1.8
baz=97
H29M Whitestone 75.88 336 P P 09 32 17.4 +2.1
H29M Whitestone 75.88 336 P P 09 32 17.0 +1.7
baz=97,SNR=6.0
E29M Blow River 75.98 338 IAmb IAmb 09 32 18.0
comp=Z,4.7nm,1.0s
E29M Blow River 75.98 338 P P 09 32 17.4 +1.6
baz=98
DAWY Dawson 76.09 334 P P 09 32 17.2 +0.6
baz=95
O28M Mount Upton 76.20 330 P P 09 32 18.5 +0.9
baz=94
YUK3 Moose Creek 76.39 331 P P 09 32 19.0 +0.4
baz=94
D28M Stokes Point 76.40 339 P P 09 32 19.3 +1.1
baz=97
I28M Miner Creek 76.44 335 P P 09 32 19.5 +0.8
baz=95
E28M Babbage River 76.60 338 P P 09 32 20.9 +1.5
baz=96
F28M Old Crow 76.62 337 P P 09 32 20.9 +1.3
baz=96
CTG Chitna Glacier 76.77 330 P P 09 32 20.9 +0.3
baz=93
EGAK Eagle 76.91 334 P P 09 32 22.2 +1.0
baz=94
MESA MESA 77.04 330 P P 09 32 23.0 +0.7
baz=92
M27K Edge Creek, AK 77.09 332 P P 09 32 23.2 +0.8
baz=93
L27K Beaver Creek, 77.10 332 P P 09 32 23.1 +0.8
baz=93
I27K Kandik River 77.16 335 P P 09 32 23.5 +0.9
baz=94
H27K Steamboat Moun 77.16 336 P P 09 32 23.6 +1.0
baz=94
D27M Malcolm River 77.18 339 P P 09 32 23.8 +1.1
baz=95
G27K Doyon Strip 77.25 336 P P 09 32 24.5 +1.4
baz=94
K27K Chicken 77.26 333 P P 09 32 24.2 +1.0
baz=93
E27K Coleen River 77.33 338 P P 09 32 24.9 +1.4
baz=94
MCARA McCarthy VSAT 77.60 331 P P 09 32 26.5 +1.4
baz=92
I26K Coal Creek Min 77.78 335 P P 09 32 28.0 +1.9
baz=92
L26K Log Cabin Wild 77.79 332 P P 09 32 27.4 +1.3
baz=92
G26K Porcupine Rive 78.10 336 P P 09 32 28.1 +0.4
baz=92
SCRK Sand Creek 78.10 333 P P 09 32 28.3 +0.3
baz=91
C27K Jago River 78.17 339 P P 09 32 28.6 +0.4
baz=93
F26K Sheenjek River 78.26 337 P P 09 32 29.4 +0.7
baz=92
N25K Chitina, Valde 78.36 331 P P 09 32 30.3 +0.9
baz=90
BMRM Bremner River 78.36 330 P P 09 32 30.3 +0.9
baz=90
C26K Camden Bay 78.60 339 P P 09 32 31.6 +1.2
baz=92
HARP HAARP 78.62 332 P P 09 32 31.9 +1.1
baz=90
J25K Salcha River, 78.71 334 P P 09 32 32.2 +0.9
baz=90
PRP Porcupine Dome 78.78 335 P P 09 32 32.7 +0.9
baz=90
E25K Arctic Village 78.81 338 P P 09 32 32.7 +1.0
baz=91

F25K Christian Rive 78.83 337 P P 09 32 33.2 +1.3
baz=90,SNR=6.0
K24K Donnelly Dome 78.89 333 P P 09 32 33.5 +1.2
baz=90
H25L Birch Creek 78.90 336 P P 09 32 33.3 +1.2
baz=90
EYAK Cordova Ski Ar 78.93 330 P P 09 32 33.4 +1.0
baz=89
KLU Klutina 78.99 331 P P 09 32 33.5 +0.5
baz=89
G25K Bearman Lake 79.01 336 P P 09 32 33.6 +0.8
baz=90
M24K Tolsona, Glenn 79.10 331 P P 09 32 34.2 +0.7
baz=89
D25K Kavik River 79.11 339 P P 09 32 34.5 +1.1
baz=90
ILAR Eielson Array 79.36 334 P P 09 32 35.1 +0.4
comp=Z,1.1nm,0.6s,baz=88,slow=4.5,SNR=18
comp=Z,1.1nm,0.6s
HDA Harding Lake 79.40 334 P P 09 32 36.0 +1.1
baz=89
G24K Hadweenzic Riv 79.56 336 P P 09 32 36.7 +0.9
baz=89
GLI Glacier Island 79.58 330 P P 09 32 37.0 +0.9
baz=88
POKR Poker Plat Res 79.58 335 P P 09 32 36.6 +0.6
baz=88
SCM Sheep Creek Mo 79.65 331 P P 09 32 37.8 +1.3
baz=88
F24K Squaw Lake 79.69 337 P P 09 32 37.7 +1.1
baz=88
H24K Noodor Dome 79.75 335 P P 09 32 38.0 +1.1
baz=88
P23K Montague Islan 79.77 329 P P 09 32 37.8 +0.7
baz=88
WAT6 Susitna Watana 79.81 332 P P 09 32 38.0 +0.6
baz=88
M23K Glacier View 79.84 331 P P 09 32 38.2 +0.7
baz=88
E24K Your Creek 79.90 338 P P 09 32 39.1 +1.4
baz=88
C24K Franklin Bluff 79.92 339 P P 09 32 38.7 +1.0
baz=88
D24K Happy Valley 79.98 339 P P 09 32 39.0 +1.0
baz=88
SML Sawmill 80.13 331 P P 09 32 39.5 +0.4
baz=87
WAT1 Susitna Watana 80.18 332 P P 09 32 39.5 +0.3
baz=87
TOLK Toolik Lake Re 80.28 338 P P 09 32 40.5 +0.7
baz=87
MCK McKinley 80.30 333 P P 09 32 40.3 +0.4
baz=87
NEA2 Nenana 80.31 334 P P 09 32 40.0 +0.1
baz=87
I23K Minto, Yukon-K 80.40 335 P P 09 32 41.0 +0.6
baz=87
H23K Yukon River 80.43 335 P P 09 32 41.9 +1.4
baz=87
PMR Palmer 80.52 331 P P 09 32 42.2 +1.1
baz=86
G23K Bananza Creek 80.57 336 P P 09 32 42.0 +0.7
baz=86
C23K Itkillik River 80.58 339 P P 09 32 42.8 +1.5
baz=86
COLD Coldfoot 80.60 337 P P 09 32 42.9 +1.4
baz=86
D23K Nanushuk River 80.66 339 P P 09 32 43.2 +1.5
baz=86
SEW Seward 80.79 330 P P 09 32 43.5 +0.9
baz=86
RC01 Rabbit Creek A 80.85 331 P P 09 32 43.7 +0.8
baz=86
TRF Thorofare Moun 80.92 333 P P 09 32 44.3 +0.9
baz=86
MLY Manley 80.99 335 P P 09 32 44.5 +0.9
baz=85
E22K Anaktuvuk Pass 81.14 338 P P 09 32 45.4 +1.0
baz=85
BPAW Bear Paw Mtn. 81.18 334 P P 09 32 45.3 +0.7
baz=85
H22K Ishtalitna Cre 81.18 335 P P 09 32 45.9 +1.4
baz=85
SUA Susitna One 81.31 331 P P 09 32 46.1 +0.7
baz=85
F22K John River 81.34 337 P P 09 32 45.8 +0.4
baz=84
D22K Ayikyak River 81.39 339 P P 09 32 46.5 +0.9
baz=84
BRSE Bradley Lake S 81.47 329 P P 09 32 47.0 +0.8
baz=85
B22K Teshekpuk Lake 81.49 340 P P 09 32 47.0 +1.0
baz=84
I21K Tanana 81.50 335 P P 09 32 47.2 +1.0
baz=84
SKT Skwentna 81.63 331 P P 09 32 47.9 +0.9
baz=84
CAST Castle Rocks 81.73 333 P P 09 32 48.7 +1.2
baz=84
CHUM Lake Minchumin 81.78 333 P P 09 32 48.6 +0.9
baz=84
H21K Melozitna Rive 81.79 335 P P 09 32 48.3 +0.5
baz=84
PPLA Purkeypile 81.83 332 P P 09 32 48.6 +0.4
baz=84
F21K Alatna River 81.88 337 P P 09 32 49.4 +1.1
baz=83
E21K Killik River 81.91 338 P P 09 32 49.1 +0.7
baz=83
A22K Sinclair Lake 81.92 341 P P 09 32 48.9 +0.6
baz=82
G21K Allakaket 81.97 336 IAmb IAmb 09 32 53.8
comp=Z,3.0nm,1.0s
G21K Allakaket 81.97 336 P P 09 32 50.0 +1.3
baz=83
B21K Ikpikpuk River 81.98 339 P P 09 32 50.1 +1.4
baz=82
N20K Mount Spurr 82.03 331 P P 09 32 50.5 +1.2
baz=84
C21K Knifeblade Rid 82.11 339 P P 09 32 50.8 +1.4
baz=82
O20K Slope Mountain 82.37 330 P P 09 32 51.8 +0.8
baz=83
M20K Styx River 82.39 331 P P 09 32 52.2 +1.1
baz=83
Q20K Shuyak Island 82.44 328 P P 09 32 51.9 +0.6
baz=83
J20K Nowinta River 82.54 334 P P 09 32 52.0 +0.3
baz=82
I20K Naaghedeneel 82.60 334 P P 09 32 52.8 +0.8
baz=82
K20K Telida 82.62 333 P P 09 32 53.1 +0.9
baz=82
KDAK Kodiak Island 82.64 327 P P 09 32 53.2 +0.8
baz=83
L20K Farewell, AK 82.66 332 P P 09 32 53.3 +0.9
baz=82
H20K Anotleneega Mo 82.67 335 P P 09 32 53.5 +1.1
baz=82
P19K Oil Pt 82.73 329 P P 09 32 53.6 +0.8
baz=82
E20K Nigu River 82.75 338 P P 09 32 53.5 +0.6
baz=81
F20K Avaraart Lake 82.77 337 P P 09 32 53.5 +0.7
baz=81
B20K Meade River 82.80 340 P P 09 32 53.4 +0.5
baz=80
D20K Etivluk River 82.83 339 P P 09 32 53.8 +0.6
baz=80
M19K Big River Lodg 82.98 332 P P 09 32 55.3 +1.2
baz=82
Q19K Cape Douglas, 83.04 329 P P 09 32 56.0 +1.6
baz=82
L19K White Mountain 83.15 332 P P 09 32 56.6 +1.6
baz=81
N19K Bonanza Creek 83.19 331 P P 09 32 56.3 +1.1
baz=82
O19K Port Alsworth 83.20 330 P P 09 32 57.2 +2.0
baz=82
J19K Poorman 83.21 334 P P 09 32 56.1 +0.9
baz=81
E19K Redstone River 83.28 337 P P 09 32 57.5 +2.0
baz=80,SNR=7.6
H19K Roundabout Mou 83.31 335 P P 09 32 57.5 +1.9
baz=80,SNR=5.2
D19K Kuna River 83.41 338 P P 09 32 57.5 +1.3
baz=79
G19K Purcell Mounta 83.46 336 P P 09 32 58.4 +2.0
baz=80

F19K	**Shaleruckik Mo**	**83.60**	**337**	P		**P**	**09 32 58.5**	**+1.4**
	baz=79,SNR=5.1							
SII	**Sitkinak Islan**	**83.68**	**326**	P		**P**	**09 32 58.6**	**+0.8**
	baz=81							
O18K	**Koktuh Hills**	**83.69**	**330**	P		**P**	**09 32 59.4**	**+1.6**
	baz=81							
M18K	**Stony River**	**83.72**	**331**	P		**P**	**09 32 59.5**	**+1.7**
	baz=80							
C19K	**Lookout Ridge**	**83.81**	**339**	P		**P**	**09 32 59.8**	**+1.6**
	baz=78							
N18K	**Kilae Creek**	**83.89**	**330**	P		**P**	**09 33 00.0**	**+1.2**
	baz=80							
L18K	**Granite Mounta**	**83.99**	**332**	P		**P**	**09 33 01.5**	**+2.2**
	baz=80							
G18K	**Tagagawik**	**84.13**	**336**	P		**P**	**09 33 02.0**	**+2.1**
	baz=78,SNR=8.3							
H18K	**Honhosa River**	**84.17**	**335**	P		**P**	**09 33 01.2**	**+1.1**
	baz=78							
F18K	**Selawik**	**84.38**	**337**	P		**P**	**09 33 02.9**	**+1.8**
	baz=78							
M17K	**Holitna River**	**84.50**	**331**	P		**P**	**09 33 03.2**	**+1.4**
	baz=79							
B18K	**Kokolik River**	**84.52**	**340**	P		**P**	**09 33 03.2**	**+1.4**
	baz=76							
CHIR	**Chirikof Islan**	**84.60**	**326**	P		**P**	**09 33 03.1**	**+0.7**
	baz=80							
K17K	**Iditarod**	**84.63**	**333**	P		**P**	**09 33 05.9**	**+3.5**
K17K	**Iditarod**	**84.63**	**333**	P		**P**	**09 33 03.3**	**+0.9**
	baz=78							
O17K	**Koliganek Bris**	**84.64**	**330**	P		**P**	**09 33 04.2**	**+1.6**
	baz=79							
L17K	**Donlin**	**84.75**	**332**	P		**P**	**09 33 04.7**	**+1.6**
	baz=78							
J17K	**VABM Dome**	**84.84**	**333**	P		**P**	**09 33 05.2**	**+1.7**
	baz=78							
H17K	**Granite Mounta**	**84.85**	**335**	P		**P**	**09 33 05.1**	**+1.6**
	baz=77							
G17K	**Kiwalik Mounta**	**85.03**	**336**	P		**P**	**09 33 06.1**	**+1.7**
	baz=76							
F17K	**Baldwin Pennin**	**85.04**	**337**	P		**P**	**09 33 05.7**	**+1.3**
	baz=76							
E17K	**Hotham Inlet**	**85.10**	**337**	P		**P**	**09 33 06.4**	**+1.7**
	baz=76							
O16K	**Kokwok River B**	**85.18**	**330**	P		**P**	**09 33 06.5**	**+1.2**
	baz=78							
C17K	**DeLong Mountai**	**85.23**	**339**	P		**P**	**09 33 07.2**	**+1.8**
	baz=74							
P16K	**Nushagak River**	**85.24**	**329**	P		**P**	**09 33 06.8**	**+1.2**
	baz=78							
M16K	**Timber Creek**	**85.30**	**331**	P		**P**	**09 33 07.1**	**+1.2**
	baz=78							
N16K	**Nishlik Lake**	**85.32**	**331**	P		**P**	**09 33 07.5**	**+1.4**
	baz=78							
R16K	**Pilot Point**	**85.32**	**328**	P		**P**	**09 33 06.6**	**+0.6**
	baz=78							
D17K	**Noatak River**	**85.41**	**338**	P		**P**	**09 33 07.5**	**+1.2**
	baz=74							
I17K	**Unalakleet**	**85.43**	**334**	P		**P**	**09 33 07.8**	**+1.4**
	baz=76							
H16K	**Elim**	**85.89**	**335**	P		**P**	**09 33 09.7**	**+1.0**
	baz=75							
N15K	**Kwethluk River**	**86.03**	**330**	P		**P**	**09 33 11.0**	**+1.4**
	baz=77							
C16K	**Lisburne Hills**	**86.06**	**339**	P		**P**	**09 33 10.9**	**+1.5**
	baz=72							
O15K	**Ungalikthiuk R**	**86.13**	**329**	P		**P**	**09 33 10.7**	**+0.6**
	baz=77							
K15K	**Wolf Creek Mou**	**86.19**	**333**	P		**P**	**09 33 10.5**	**+0.2**
	baz=76							
M15K	**Kasigluk River**	**86.19**	**331**	P		**P**	**09 33 10.6**	**+0.3**
	baz=76							
G15K	**Niukluk**	**86.53**	**336**	P		**P**	**09 33 12.2**	**+0.3**
	baz=73							
F15K	**North Star Dit**	**86.57**	**336**	P		**P**	**09 33 13.2**	**+1.1**
	baz=73							
S14K	**Fog Glacier**	**86.66**	**327**	P		**P**	**09 33 13.1**	**+0.3**
	baz=77							
O14K	**Tigyukauivet M**	**86.83**	**330**	P		**P**	**09 33 14.5**	**+1.1**
	baz=76							
N14K	**Kuskokwak Cree**	**86.87**	**330**	P		**P**	**09 33 14.1**	**+0.6**
	baz=75							
L14K	**Kuka Creek**	**86.97**	**332**	P		**P**	**09 33 14.7**	**+0.7**
	baz=74							
J14K	**Nanvaranak Lak**	**86.97**	**333**	P		**P**	**09 33 14.8**	**+0.7**
	baz=74							
K13K	**Kusilvak Mount**	**87.70**	**333**	P		**P**	**09 33 18.0**	**+0.4**
	baz=73							
TNA	**Tin City**	**87.91**	**337**	P		**P**	**09 33 18.8**	**+0.3**
	baz=70							
S12K	**Black Hills**	**88.17**	**326**	P		**P**	**09 33 20.4**	**+0.5**
	baz=75							
M11K	**Mekoryuk**	**88.90**	**331**	P		**P**	**09 33 24.0**	**+0.7**
	baz=71							
FALS	**False Pass**	**89.15**	**326**	P		**P**	**09 33 25.2**	**+0.6**
	baz=74							
UNV	**Unalaska Valle**	**91.18**	**325**	P		**P**	**09 33 33.8**	**-0.3**
	baz=71							
P08K	**Saint George I**	**91.86**	**329**	P		**P**	**09 33 37.1**	**0.0**
	baz=68							
SPIA	**Saint Paul Isl**	**92.00**	**329**	P		**P**	**09 33 37.8**	**0.0**
	baz=68							
NIKH	**Nikolski High**	**92.80**	**325**	P		**P**	**09 33 41.3**	**-0.3**
	baz=69							
CMAR	**Chiang Mai Arr**	**144.88**	**36**	PKP		**PKPdf**	**09 40 08.0**	**+0.9**
	comp=Z,1.0nm,0.3s,baz=319,slow=5.1,SNR=5.2							
ASAR	**Alice Springs**	**160.98**	**224**	PKPab		**PKPab**	**09 41 14.5**	**+1.5**
	comp=Z,0.2nm,0.6s,baz=121,slow=4.9,SNR=5.7							

*NNC **23** 09:23:29.1±4.0, 40°.81N×69°.82E, h0km, mb3.4, mpv3.4, Error ellipse: s-maj=29.0km s-min=22.3km az=42.0*
*SOME **23** 09:23:29.7, 40°.95N×70°.20E, h10km*
*KRNET **23** 09:23:30.6±0.1, 41°.00N×70°.27E, h19km, mb2.6*
*ISU **23** 09:23:31.2, 41°.48N×70°.73E, h12km*

ISC 23 09:23:30.9±1.2, 41°.03N±0°.03×70°.26E±0°.03, h3km±11km, n17, σ1°.84/32, 11C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHDK	**Chadak**	**0.38**	**99**	P	**Pn**	**09 23 41.4**	**-1.9**
CHDK				S	**Sb**	**09 23 49.4**	**+2.9**
CHMG	**Chimgan**	**0.55**	**340**	P	**Pg**	**09 23 42.0**	**+0.5**
CHMG				S	**Sg**	**09 23 50.4**	**+1.7**
TAS	**Tashkent**	**0.79**	**292**	↑*eP*	**Pg**	**09 23 46.0**	**0.0**
	baz=95						
TAS				↑*eS*	**Sg**	**09 23 56.9**	**+0.7**
	baz=95						
TRKS	**Terek-Say**	**0.83**	**53**	↑*eP*	**Pg**	**09 23 46.4**	**-0.4**
	baz=55						
TRKS				↑*eS*	**Sg**	**09 23 57.5**	**0.0**
	baz=55						
BTK	**Batken**	**1.06**	**156**	↑*eP*	**Pb**	**09 23 49.9**	**-2.0**
	baz=56						
BTK				↑*eS*	**Sg**	**09 24 03.6**	**-1.4**
	baz=56						
IUG	**Iuzhnay**	**1.13**	**351**	P	**Pg**	**09 23 55.1**	**+2.6**
	42nm,0.1s						
IUG				S	**Sn**	**09 24 13.7**	**+4.0**
	214nm,0.5s						
IUG	**Iuzhnay**	**1.13**	**351**	*eP*	**Pg**	**09 23 53.6**	**+1.1**
	34nm,0.1s						
IUG				*eS*	**Sn**	**09 24 10.7**	**+1.0**
	214nm,0.5s						
CHMI	**Chimion**	**1.23**	**128**	P	**Pg**	**09 23 56.6**	**+2.2**
CHMI				S	**Sn**	**09 24 15.6**	**+3.6**
BRLS	**Borolday**	**2.02**	**351**	P	**Pn**	**09 24 04.3**	**-1.6**
	10nm,0.3s						
BRLS				S	**Sn**	**09 24 29.4**	**-2.3**
	17nm,0.4s						
BRLS	**Borolday**	**2.02**	**351**	*eP*	**Pn**	**09 24 04.3**	**-1.6**
	9.8nm,0.2s						
BRLS				*eS*	**Sn**	**09 24 29.4**	**-2.3**
	14nm,0.2s						
KK31	**Karatay Array**	**2.08**	**5**	↓P	**Pb**	**09 24 08.9**	**-0.3**
	1.3nm,0.3s,baz=194,slow=17,SNR=25						
KK31				↑Sn	**Sg**	**09 24 37.0**	**-0.7**
	7.4nm,0.6s,baz=196,slow=32,SNR=8.3						
KKAR	**Karatay Array**	**2.08**	**5**	↑*eP*	**Pn**	**09 24 07.2**	**+0.6**
	baz=5.0						
KKAR				↑*eS*	**Sb**	**09 24 33.7**	**-1.7**
	baz=5.0						
MNAS	**Manas**	**2.22**	**48**	↑*eP*	**Pn**	**09 24 09.1**	**+0.4**
	baz=48						
MNAS				↑*eS*	**Sn**	**09 24 36.7**	**0.0**
	baz=48						
MRKS	**Merke**	**2.80**	**51**	Pg	**Pb**	**09 24 22.4**	**+0.8**
	6.9nm,0.7s						
MRKS				Lg	Lg	09 25 00.2	
	6.8nm,0.5s						
MRKS	**Merke**	**2.80**	**51**	*eP*	**Pb**	**09 24 22.4**	**+0.8**
	3.9nm,0.2s						
MRKS				*eS*	**Sg**	**09 24 60.0**	**-0.8**
	6.8nm,0.2s						
DGS	**Degeres**	**4.65**	**60**	Pg	**Pg**	**09 24 59.0**	**-1.0**
	1.9nm,0.6s						
DGS				Lg	Lg	09 26 02.9	
	4.8nm,0.5s						
DGS	**Degeres**	**4.65**	**60**	*eP*	**Pg**	**09 24 57.3**	**-2.7**
	2.9nm,0.3s						
DGS				*eS*	**Sg**	**09 26 00.5**	**+0.2**
	4.8nm,0.2s						

*IDC **23** 09:25:15.7±1.1, 1°.21S×120°.52E, h0km, mb3.7/5, mbtmp3.7/6, ML3.9/1, MS2.7/2, Error ellipse: s-maj=54.2km s-min=18.8km az=68.0*
*DJA **23** 09:25:17.4±0.3, 1°.52S×120°.38E±°, h10km, M4.0/8, MLv4.0/8*

ISC 23 09:25:17.3±0.9, 1°.23S±0°.05×120°.38E±0°.07, h10km, n10, σ1°.92/13, mb3.8/5, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MPSI	**Mapaga**	**1.63**	**343**	P	**Pn**	**09 25 45.5**	**-0.6**
MPSI				S	**Sn**	**09 26 08.5**	**+1.4**
LUWI	**Luwuk**	**2.40**	**86**	P	**Pn**	**09 25 57.1**	**+0.4**
LUWI				S	**Sn**	**09 26 27.4**	**+1.2**
GTOI	**Gorontalo**	**3.22**	**55**	P	**Pn**	**09 26 07.7**	**-0.3**
KAPI	**Kappang**	**3.81**	**189**	Pn	**Pn**	**09 26 17.1**	**+1.0**
	9.0nm,0.3s,baz=356,slow=9.7,SNR=12						
KAPI				Sn	**Sn**	**09 27 02.0**	**+1.0**
	7.2nm,0.3s,baz=84,slow=21,SNR=2.2						
KAPI				LR	LR	09 27 41.4	
	comp=Z,44nm,20.4s,baz=26,slow=38						
	38nm,0.5s						
BKSI	**Bulukumba**	**4.07**	**184**	P	**Pn**	**09 26 19.1**	**-0.6**
WRA	**Warramunga Arr**	**23.07**	**145**	P	**P**	**09 30 21.9**	**-1.4**
	1.4nm,0.9s,baz=326,slow=9.5,SNR=8.5						
	1.4nm,0.9s						
ASAR	**Alice Springs**	**25.87**	**151**	P	**P**	**09 30 48.6**	**-0.9**
	0.8nm,0.8s,baz=337,slow=9.1,SNR=3.9						
ASAR				LR	LR	09 41 40.8	
	comp=Z,35nm,20.6s,baz=98,slow=38						
	0.8nm,0.8s						
STKA	**Stephens Creek**	**36.48**	**149**	P	**P**	**09 32 22.2**	**-0.6**
	1.2nm,0.7s,baz=304,slow=12,SNR=3.2						
	1.2nm,0.7s						
MKAR	**Makanchi Array**	**58.32**	**330**	P	**P**	**09 35 13.6**	**+1.0**
	1.0nm,0.7s,baz=133,slow=7.9,SNR=5.2						
	1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**62.74**	**331**	P	**P**	**09 35 42.6**	**0.0**
	0.4nm,0.5s,baz=144,slow=6.0,SNR=4.9						
	0.4nm,0.5s						

IDC 23 09:35:06.5±3.0, 53°.38N×87°.22E, h0km, mbtmp2.7/2, ML2.2/2, Error ellipse: s-maj=26.6km s-min=16.5km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.54**	**293**	I	I	09 44 48.6	
	baz=108,slow=324,SNR=2.6						
ZALV	**Zalesovo Beam**	**1.54**	**293**	Pg	Pb	09 35 35.5	-0.3
	0.4nm,0.3s,baz=108,slow=18,SNR=4.9						
ZALV				Lg	Lg	09 35 55.2	
	0.7nm,0.3s,baz=115,slow=25,SNR=7.5						
KURBB	**Kurchatov Arra**	**6.04**	**246**	Pn	Pn	09 36 36.1	-0.9
	baz=66,slow=14,SNR=1.5						
KURBB				Lg	Lg	09 38 19.0	
	baz=58,slow=30,SNR=1.0						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.32**	**208**	Pn	Pn	09 36 56.5	+2.0
	0.1nm,0.3s,baz=31,slow=14,SNR=2.4						
	0.5nm,0.6s						

DJA 23 09:46:39.0±0.5, 1°.74N±4°×126°.72E±°, h72km±10km, M4.0/7, mb4.3/1, MLv3.8/7, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**0.55**	**88**	P	Pn	09 46 51.9	-0.6
KMSI	**Cibinong**	**1.52**	**92**	P	Pn	09 47 04.6	+0.3
KMSI				S	Sn	09 47 26.0	+2.6
LUWI	**Luwuk**	**1.68**	**169**	P	Pn	09 47 05.6	-0.8
LUWI				S	Sn	09 47 28.5	+1.3
MPSI	**Mapaga**	**2.58**	**264**	P	Pn	09 47 19.2	+0.7
MPSI				S	Sn	09 47 50.1	+1.3
LBMI	**Labuha**	**5.19**	**104**	P	Pn	09 47 52.7	-1.5

*DJA **23** 10:01:04.4±0.6, 8°.5S×127°.8E±°, h147km±26km, M4.6/9, mb4.2/3, mB4.9/1, MLv4.8/9, Mw(mB)4.1/1*
*IDC **23** 10:01:06.2±3.5, 7°.46S×127°.78E, h169km±31km, mb3.7/10, mbtmp4.2/12, Error ellipse: s-maj=32.7km s-min=13.5km az=72.0*

ISC 23 10:01:03.5±0.5, 7°.58S±0°.06×127°.91E±0°.06, h142km, n31, σ2°.19/36, mb3.9/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.39**	**97**	P	**Pn**	**10 01 54.9**	**-0.6**
SOEI	**Soe**	**4.20**	**239**	P	**Pn**	**10 02 07.6**	**+1.4**
SOEI				S	**Sn**	**10 02 56.2**	**+1.2**
BATI	**Baumata**	**4.94**	**238**	P	**Pn**	**10 02 18.4**	**+2.4**
	409nm,0.7s,baz=308,slow=4.7,SNR=47						
BATI				S	**Sn**	**10 03 12.0**	**-0.5**
	181nm,0.5s,baz=84,slow=4.9,SNR=11						
BATI	**Baumata**	**4.94**	**238**	P	**Pn**	**10 02 17.4**	**+1.4**
BATI				S	**Sn**	**10 03 12.2**	**-0.2**
DRS	**Darwin Rock St**	**5.65**	**149**	P	**Pn**	**10 02 28.2**	**+2.7**
EDFI	**Ende, Flores**	**6.26**	**259**	P	**Pn**	**10 02 35.2**	**+1.5**
	46nm,0.9s,0.2nm						
FAKI	**Fak Fak**	**6.34**	**43**	P	**Pn**	**10 02 36.6**	**+1.9**
FAKI	**Fak Fak**	**6.34**	**43**	P	**Pn**	**10 02 37.2**	**+2.5**
	21nm,1.0s,0.2nm						
KDU	**Kakadu**	**6.78**	**139**	P	**Pn**	**10 02 42.7**	**+2.1**
PLAI	**Plampang**	**10.10**	**262**	P	**Pn**	**10 03 24.9**	**-0.1**
TABU	**Tabubil**	**13.43**	**81**	P	**P**	**10 04 13.0**	**0.0**
WRA	**Warramunga Arr**	**13.78**	**154**	P	**Pn**	**10 04 12.2**	**-0.9**
	5.0nm,0.6s,baz=320,slow=14,SNR=29						
WRA				S	**Sn**	**10 06 37.8**	**-7.8**
	23nm,0.8s,baz=329,slow=23,SNR=17						
MBWA	**Marble Bar**	**15.64**	**209**	P	**P**	**10 04 38.2**	**+0.8**
PSA00	**Pilbara Seismi**	**15.94**	**208**	P	**P**	**10 04 40.7**	**0.0**
COEN	**Coen**	**16.28**	**114**	P	**P**	**10 04 49.1**	**+4.6**
ASAR	**Alice Springs**	**17.00**	**161**	P	**Pn**	**10 04 54.0**	**+1.1**
	7.4nm,0.7s,baz=336,slow=12,SNR=59						
ASAR				S	S	10 07 47.8	-15
	1.3nm,0.7s,baz=317,slow=12,SNR=1.9						
QIS	**Mount Isa**	**17.17**	**140**	P	**Pn**	**10 04 59.2**	**+4.3**
WRKA	**Warakurna**	**17.36**	**179**	P	**Pn**	**10 04 59.0**	**+1.7**
LEM	**Lembang**	**20.14**	**271**	P	**P**	**10 05 27.6**	**+0.8**
	18nm,0.5s,baz=318,slow=21,SNR=4.0						
	18nm,0.5s						
CMAR	**Chiang Mai Arr**	**38.55**	**312**	P	**P**	**10 08 12.0**	**-0.6**
	0.6nm,0.3s,baz=143,slow=5.9,SNR=1.9						
	0.6nm,0.3s						
KSRS	**Korea Array**	**44.80**	**0**	P	**P**	**10 09 02.8**	**-0.3**
	0.5nm,0.4s,baz=169,slow=9.6,SNR=2.8						
	0.5nm,0.4s						
PETK	**Petropavlovsk-**	**65.53**	**19**	P	**P**	**10 11 31.2**	**-0.4**
	1.6nm,0.8s,baz=194,slow=5.5,SNR=4.4						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**67.59**	**328**	P	**P**	**10 11 43.5**	**-1.3**
	0.5nm,0.4s,baz=117,slow=8.7,SNR=5.7						
	0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**71.20**	**335**	P	**P**	**10 12 04.5**	**-2.3**
	1.1nm,0.5s,baz=132,slow=4.5,SNR=5.4						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**71.93**	**329**	P	**P**	**10 12 09.8**	**-1.4**
	1.6nm,0.6s,baz=133,slow=5.2,SNR=17						
	1.6nm,0.6s						
VNDA	**Vanda**	**72.13**	**173**	P	**P**	**10 12 12.6**	**+0.6**
	0.5nm,0.4s,baz=312,slow=10,SNR=10						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**82.40**	**180**	P	**P**	**10 13 09.4**	**-0.2**
	2.1nm,0.6s,baz=153,slow=0.8,SNR=29						
	2.1nm,0.6s						
AKTO	**Aktyubinsk**	**83.27**	**323**	P	**P**	**10 13 12.2**	**-1.9**
	1.5nm,0.6s,baz=92,slow=4.8,SNR=5.4						
	1.5nm,0.6s						
TORD	**Torodi Ar. Bea**	**126.88**	**281**	PKP	**PKPdf**	**10 19 50.4**	**-1.1**
	0.5nm,0.7s,baz=75,slow=3.4,SNR=3.8						
CPUP	**Villa Florida**	**145.91**	**172**	PKPbc	**PKPbc**	**10 20 27.0**	**-0.1**
	1.4nm,0.6s,baz=302,slow=3.6,SNR=4.2						
LPAZ	**La Paz**	**151.46**	**146**	PKPbc	**PKPbc**	**10 20 42.3**	**-0.1**
	0.7nm,0.4s,baz=45,slow=3.8,SNR=5.1						
LPAZ				PKPab	**PKPab**	**10 20 52.0**	**+1.0**
	2.8nm,0.6s,baz=200,slow=1.3,SNR=14						

*IDC **23** 10:08:13.2±2.4, 4°.84N×93°.81E, h0km, mb4.0/5, mbtmp4.0/6, ML4.4/1, MS3.1/1, Error ellipse: s-maj=100.9km s-min=21.2km az=59.0*
*NEIC **23** 10:08:16.6±0.7, 5°.0N±0°.2×94°.1E±0°.1, h10km±1km, mb4.2/8, Error ellipse: s-maj=30.1km s-min=18.7km az=192.0*

ISC 23 10:08:18.7±1.0, 4°.9N±0°.1×94°.0E±0°.1, h34km, n30, σ0°.89/20, mb4.2/9, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LHMI	**Lhok Sumawe**	**2.94**	**83**	Pn	**Pn**	**10 09 02.2**	**-0.8**
KULM	**Kulim**	**6.62**	**86**	Pn	**Pn**	**10 09 52.4**	**-1.3**
CMAR	**Chiang Mai Arr**	**14.31**	**19**	Pn	**Pn**	**10 11 40.5**	**+1.5**
	0.6nm,0.3s,baz=207,slow=14,SNR=9.7						
	1.6nm,0.5s						
HYB	**Hyderabad**	**19.60**	**311**	*eP*	**P**	**10 12 42.1**	**-2.1**
H08S3	**Diego Garcia H**	**24.82**	**240**	T	T	10 39 39.2	
	baz=59,slow=76,SNR=139						
H08S2	**Diego Garcia H**	**24.82**	**240**	T	T	10 39 39.3	
	baz=59,slow=76,SNR=104						
H08S1	**Diego Garcia H**	**24.84**	**240**	T	T	10 39 39.0	
	baz=59,slow=76,SNR=43						
MTN	**Manton Dam**	**40.87**	**116**	P	**P**	**10 15 57.4**	**-0.4**
MK31	**Makanchi Array**	**42.95**	**348**	P	**P**	**10 16 14.5**	**+0.1**
MKAR	**Makanchi Array**	**42.95**	**348**	P	**P**	**10 16 14.1**	**-0.3**
MKAR	**Makanchi Array**	**42.95**	**348**	P	**P**	**10 16 13.9**	**-0.5**
	2.3nm,0.5s,baz=164,slow=8.2,SNR=17						
	2.3nm,0.5s						
WB0	**Warramunga Arr**	**46.66**	**123**	P	**P**	**10 16 45.1**	**+0.7**
WRA	**Warramunga Arr**	**46.69**	**123**	P	**P**	**10 16 45.3**	**+0.7**
	0.8nm,0.7s,baz=306,slow=8.4,SNR=12						
	0.8nm,0.7s						
WB2	**Warramunga Arr**	**46.70**	**123**	P	**P**	**10 16 45.4**	**+0.7**
WB2				IAmb	IAmb	10 16 55.2	
	comp=Z,1.3nm,0.8s						
WR0	**Warramunga Arr**	**46.87**	**123**	P	**P**	**10 16 46.7**	**+0.7**
KURBB	**Kurchatov Arra**	**47.39**	**347**	P	**P**	**10 16 49.5**	**0.0**
	comp=Z,1.2nm,0.4s,baz=179,slow=6.7,SNR=15						
	comp=Z,1.2nm,0.4s						
KURK	**Kurchatov**	**47.46**	**347**	P	**P**	**10 16 50.1**	**0.0**
KURK				IAmb	IAmb	10 17 05.0	
	comp=Z,2.6nm,1.0s						
ASAR	**Alice Springs**	**48.15**	**128**	P	**P**	**10 16 56.4**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=302,slow=8.0,SNR=1.9						
	comp=Z,0.2nm,0.3s						
ZAA0	**Zalesovo Array**	**49.48**	**353**	P	**P**	**10 17 05.6**	**0.0**
ZAA0				IAmb	IAmb	10 17 18.0	
	comp=Z,3.1nm,1.0s						
ZALV	**Zalesovo Beam**	**49.48**	**353**	P	**P**	**10 17 04.9**	**-0.7**
ZALV	**Zalesovo Beam**	**49.48**	**353**	P	**P**	**10 17 04.7**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=184,slow=7.0,SNR=9.0						
	comp=Z,1.8nm,0.5s						
ABKAR	**Akbulak array**	**52.78**	**333**	P	**P**	**10 17 30.8**	**+0.3**
KVAR	**Kislovodsk Arr**	**59.45**	**319**	LR	LR	10 47 42.5	
	comp=Z,17nm,20.6s,baz=272,slow=40						
H04N2	**CROZET ISLANDS**	**63.13**	**212**	T	T	11 27 16.1	
	baz=48,slow=75,SNR=24						
H04N1	**CROZET ISLANDS**	**63.14**	**212**	T	T	11 27 15.7	
	baz=48,slow=75,SNR=18						
H04N3	**CROZET ISLANDS**	**63.15**	**212**	T	T	11 27 16.9	
	baz=48,slow=75,SNR=19						
H04S1	**CROZET ISLANDS**	**63.52**	**211**	T	T	11 28 06.0	
	baz=53						
H04S3	**CROZET ISLANDS**	**63.53**	**211**	T	T	11 28 16.3	
	baz=53						
H04S2	**CROZET ISLANDS**	**63.54**	**211**	T	T	11 27 58.3	
	baz=53						
TSUM	**Tsumeb**	**78.86**	**249**	P	**P**	**10 20 19.9**	**+0.7**
TSUM				IAmb	IAmb	10 20 21.6	
	comp=Z,2.6nm,0.9s						

*IDC **23** 10:26:08.3±0.7, 0°.48S×137°.65E, h0km, mb4.3/12, mbtmp4.5/18, ML2.0/1, MS3.8/14, Error ellipse: s-maj=27.1km s-min=14.1km az=71.0*
*NEIC **23** 10:26:11.5±1.2, 0°.65S±0°.08×137°.40E±0°.07, h10km±1km, mb4.7/47, Error ellipse: s-maj=13.2km s-min=11.3km az=15.0*
*DJA **23** 10:26:11.2±0.3, 1°.5S±4°×137°.8E±°, h10km, M4.9/22, mB5.3/7, mb4.9/22, MLv5.1/7, Mw(mB)4.7/7*

ISC 23 10:26:10.9±0.4, 0°.69S±0°.05×137°.43E±0°.06, h10km, n131, σ1°.60/127, mb4.7/45, MS3.9/12, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**3.33**	**125**	P	**Pn**	**10 27 03.5**	**+0.5**
GENI	**Genyem**	**3.33**	**125**	P	**Pn**	**10 27 02.6**	**-0.4**
JAY	**Jayapura**	**3.74**	**119**	P	**Pn**	**10 27 07.4**	**-1.4**
FAKI	**Fak Fak**	**5.63**	**247**	P	**Pn**	**10 27 35.9**	**+1.2**
FAKI	**Fak Fak**	**5.63**	**247**	Pn	**Pn**	**10 27 34.5**	**-0.2**
FAKI	**Fak Fak**	**5.63**	**247**	P	**Pn**	**10 27 35.6**	**+0.9**
	159nm,0.7s,2µm2.2nm						
TABU	**Tabubil**	**5.92**	**140**	P	**Pn**	**10 27 41.3**	**+2.6**
SWI	**Sorong**	**6.17**	**268**	P	**Pn**	**10 27 43.0**	**+0.9**
	105nm,0.7s,2µm1.6nm						
LBMI	**Labuha**	**9.93**	**270**	P	**Pn**	**10 28 35.7**	**+2.0**
	41nm,1.0s,1µm						
MANU	**Manus Island**	**10.03**	**98**	Pn	**Pn**	**10 28 35.4**	**+0.2**
TNTI	**Ternate**	**10.16**	**278**	Pn	**Pn**	**10 28 36.3**	**-0.7**
TNTI	**Ternate**	**10.16**	**278**	P	**Pn**	**10 28 38.7**

WR0	**Warramunga Arr**	**19.36**	**188**	P	**P**	**10 30 37.6**	**+0.9**	
WR0				IAmb	IAmb	10 30 39.9		
	comp=Z,46nm,0.7s							
WRAB	**Tennant Creek**	**19.36**	**189**	P	**P**	**10 30 37.4**	**+0.6**	
WRAB				IAmb	IAmb	10 30 40.0		
	comp=Z,43nm,0.7s							
WB2	**Warramunga Arr**	**19.37**	**189**		**P**	**10 30 37.9**	**+1.0**	
WB2					**Pn**	**10 30 38.0**	**0.0**	
WB2				IAmb	IAmb	10 30 40.1		
	comp=Z,43nm,0.8s							
WRA	**Warramunga Arr**	**19.37**	**189**	P	**P**	**10 30 37.7**	**+0.7**	
WRA	**Warramunga Arr**	**19.37**	**189**	P	**Pn**	**10 30 38.7**	**+0.7**	
	comp=Z,47nm,0.8s,baz=12,slow=11,SNR=133							
WRA				S	Sn	10 34 00.6	-15	
	comp=Z,8.9nm,1.0s,baz=12,slow=22,SNR=8.4							
WRA				LR	LR	10 39 36.5		
	comp=Z,350nm,19.9s,baz=39,slow=41							
QIS	**Mount Isa**	**19.86**	**174**	P	**Pn**	**10 30 44.7**	**+0.8**	
QIS	**Mount Isa**	**19.86**	**174**	P	**P**	**10 30 44.0**	**+1.7**	
	comp=Z,678nmcomp=Z,104nm,0.9s							
SMKI	**Samarinda**	**20.22**	**271**	P	Pn	10 30 48.7	+0.5	
	comp=Z,158nm,0.9s,comp=Z,5µm							
BKB	**Balikpapan**	**20.54**	**268**	P	**P**	**10 30 49.7**	**0.0**	
FITZ	**Fitzroy Crossi**	**20.82**	**213**	P	**P**	**10 30 52.3**	**-0.4**	
CTAO	**Charters Tower**	**21.12**	**156**	P	**P**	**10 30 56.1**	**+0.1**	
PLAI	**Plampang**	**21.17**	**247**	P	**P**	**10 30 57.8**	**+1.2**	
	comp=Z,61nm,0.9s							
TGY	**Tagaytay City**	**21.97**	**313**	P	**P**	**10 31 06.2**	**+0.9**	
	comp=Z,180nm,0.3s,baz=85,slow=3.3,SNR=6.8							
AS31	**Alice Springs**	**23.09**	**188**	P	**P**	**10 31 18.4**	**+1.3**	
AS31	**Alice Springs**	**23.09**	**188**	P	**P**	**10 31 19.1**	**+2.1**	
ASAR	**Alice Springs**	**23.09**	**188**	P	**P**	**10 31 18.1**	**+1.1**	
ASAR	**Alice Springs**	**23.09**	**188**	P	**P**	**10 31 18.6**	**+1.6**	
	comp=Z,35nm,0.5s,baz=21,slow=10,SNR=310							
ASAR				S	**S**	**10 35 28.2**	**-0.2**	
	comp=Z,0.6nm,0.7s,baz=177,slow=36,SNR=1.3							
ASAR				LR	LR	10 41 50.8		
	comp=Z,345nm,18.6s,baz=5.0,slow=40							
	comp=Z,35nm,0.5s							
HNR	**Honiara**	**24.03**	**112**	LR	LR	10 40 19.5		
	comp=Z,2µm,19.8s,baz=254,slow=36							
SBUM	**Sibu**	**25.39**	**277**	P	**P**	**10 31 38.4**	**-0.4**	
WRKA	**Warakurna**	**25.76**	**199**	P	**P**	**10 31 43.0**	**+1.0**	
	comp=Z,31nm,0.7s							
QLP	**Quilpie**	**26.56**	**166**	P	**P**	**10 31 53.7**	**+4.5**	
	comp=Z,43nm,0.9s							
MBWA	**Marble Bar**	**26.69**	**219**	P	**P**	**10 31 50.4**	**0.0**	
MBWA				IAmb	IAmb	10 31 54.8		
	comp=Z,14nm,0.8s							
MBWA	**Marble Bar**	**26.69**	**219**	P	**P**	**10 31 52.7**	**+2.3**	
	comp=Z,19nm,1.3s							
PSAC1	**Pilbara Seismi**	**26.91**	**219**	P	**P**	**10 31 54.3**	**+1.9**	
	comp=Z,28nm,1.0s							
PSA00	**Pilbara Seismi**	**26.92**	**218**	P	**P**	**10 31 51.9**	**-0.6**	
PSA00				IAmb	IAmb	10 32 10.2		
	comp=Z,21nm,0.9s							
PSA00	**Pilbara Seismi**	**26.92**	**218**	P	**P**	**10 31 53.2**	**+0.7**	
	comp=Z,25nm,1.2s							
KSM	**Kuching**	**27.20**	**275**	P	**P**	**10 31 55.0**	**-0.1**	
KSM				IAmb	IAmb	10 32 03.5		
	comp=Z,13nm,0.8s							
EIDS	**Eidsvold**	**27.85**	**153**	P	**P**	**10 32 01.2**	**+0.3**	
EIDS				IAmb	IAmb	10 32 31.0		
	comp=Z,21nm,1.0s							
TPUB	**Ta-pu**	**28.91**	**327**	P	**P**	**10 32 09.5**	**-0.8**	
FORT	**Forrest**	**31.21**	**196**	P	**P**	**10 32 30.0**	**-0.6**	
FORT	**Forrest**	**31.21**	**196**	P	**P**	**10 32 32.1**	**+1.5**	
	comp=Z,36nm,0.7s							
STKA	**Stephens Creek**	**31.27**	**173**	P	**P**	**10 32 30.8**	**-0.2**	
STKA	**Stephens Creek**	**31.27**	**173**	P	**P**	**10 32 31.8**	**+0.7**	
	comp=Z,6.7nm,0.7s,baz=345,slow=9.5,SNR=17							
STKA				LR	LR	10 44 48.7		
	comp=Z,142nm,20.5s,baz=348,slow=36							
	comp=Z,6.7nm,0.7s							
STKA	**Stephens Creek**	**31.27**	**173**	P	**P**	**10 32 29.4**	**-1.7**	
	comp=Z,20nm,0.9s							
BBOO	**Buckleboo**	**31.97**	**182**	P	**P**	**10 32 37.8**	**+0.6**	
BBOO				IAmb	IAmb	10 32 39.4		
	comp=Z,11nm,0.7s							
BBOO	**Buckleboo**	**31.97**	**182**	P	**P**	**10 32 38.0**	**+0.7**	
	comp=Z,23nm,0.7s							
HTT	**Hallett**	**32.60**	**178**	P	**P**	**10 32 42.6**	**-0.2**	
	comp=Z,16nm,1.3s							
JHJ	**Hachijo jima 2**	**33.70**	**4**	LR	LR	10 43 17.4		
	comp=Z,87nm,19.2s,baz=260,slow=31							
KMBL	**Kambalda**	**33.87**	**204**	P	**P**	**10 32 55.4**	**+1.5**	
	baz=240,slow=75,SNR=3.6							
H11S3	**WAKE ISLAND Hy**	**34.51**	**55**	T	T	11 11 27.2		
	baz=240,slow=75,SNR=3.6							
H11S2	**WAKE ISLAND Hy**	**34.52**	**55**	T	T	11 11 26.1		
	baz=240,slow=75,SNR=4.1							
H11S1	**WAKE ISLAND Hy**	**34.52**	**55**	T	T	11 11 30.3		
	baz=240,slow=75,SNR=2.8							
UBPT	**Khong Chiam**	**35.35**	**298**	P	**P**	**10 33 05.7**	**-1.2**	
UBPT				IAmb	IAmb	10 33 07.0		
	comp=Z,14nm,1.1s							
KLBR	**Kellerberrin**	**35.93**	**209**	P	**P**	**10 33 12.7**	**+1.1**	
	comp=Z,26nm,1.0s							
ARPS	**Mount Arapiles**	**36.13**	**174**	P	**P**	**10 33 15.0**	**+1.7**	
	comp=Z,31nm,0.9s							
NJ2	**Nanjing**	**37.01**	**333**	*e*P	**P**	**10 33 21.9**	**+1.1**	
NJ2				pP	**pwP**	**10 33 32.3**	**+4.0**	
NJ2				sP	sP	10 33 36.3	+13	
NJ2				pmax	pmax			
	comp=Z,16nm,0.5s							
NJ2				pmax	pmax			
	comp=Z,320nm,10.8s							
NWAO	**Narrogin (SRO)**	**37.27**	**209**	LR	LR	10 49 50.4		
	comp=Z,153nm,21.8s,baz=256,slow=38							
TOO	**Toolangi**	**37.44**	**169**	P	**P**	**10 33 24.6**	**+0.1**	
TOO				IAmb	IAmb	10 33 29.4		
	comp=Z,14nm,1.1s							
KSAR	**Wonju Array Be**	**38.96**	**348**	P	**P**	**10 33 37.4**	**+0.1**	
SLVN	**Son La**	**39.39**	**306**	P	**P**	**10 33 40.6**	**-0.6**	
PHRA	**Phrae**	**41.23**	**299**	P	**P**	**10 33 56.1**	**-0.3**	
JTM	**Tenmabayashi**	**41.42**	**4**	P	**P**	**10 33 57.7**	**+0.1**	
JTM				IAmb	IAmb	10 34 13.0		
	comp=Z,22nm,1.1s							
CRAI	**Chiangrai**	**41.82**	**302**	P	**P**	**10 34 00.9**	**-0.4**	
CRAI				IAmb	IAmb	10 34 01.9		
	comp=Z,8.3nm,0.9s							
KMI	**Kunming**	**42.25**	**310**	⇓P	**P**	**10 34 05.1**	**+0.2**	
KMI				pmax	pmax			
	comp=Z,9.0nm,0.9s							
KMI				pmax	pmax			
	comp=Z,75nm,5.4s							
KMI				LR	LR			
	comp=N,250nm,16.8s							
KMI				LR	LR			
	comp=E,320nm,15.9s							
KMI				LR	LR			
	comp=Z,250nm,27.1s							
CM31	**Chiang Mai Arr**	**42.34**	**299**	P	**P**	**10 34 04.6**	**-0.9**	
CM31				IAmb	IAmb	10 34 06.4		
	comp=Z,17nm,0.9s							
CMAR	**Chiang Mai Arr**	**42.34**	**299**	P	**P**	**10 34 04.8**	**-0.7**	
CMAR	**Chiang Mai Arr**	**42.34**	**299**	P	**P**	**10 34 05.3**	**-0.2**	
	comp=Z,8.3nm,0.7s,baz=118,slow=6.5,SNR=50							
	comp=Z,8.3nm,0.7s							
CHTO	**Chiang Mai**	**42.47**	**299**	P	**P**	**10 34 05.7**	**-0.9**	
CHTO				IAmb	IAmb	10 34 07.1		
	comp=Z,11nm,0.9s							
MSVF	**Nonsavu**	**43.37**	**115**	P	**P**	**10 34 13.9**	**0.0**	
MSVF				IAmb	IAmb	10 34 42.6		
	comp=Z,12nm,1.1s							
PZH	**PanZhiHua**	**43.74**	**311**	P	**P**	**10 34 19.3**	**+2.4**	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,140nm,5.7s							
USRK	**Ussuriysk Ar.**	**44.96**	**354**	P	**P**	**10 34 25.9**	**-0.3**	
HHC	**Hu-ho-hao-te**	**47.57**	**333**	*e*P	**P**	**10 34 47.9**	**+1.0**	
HHC				pmax	pmax			
	comp=Z,9.0nm,0.5s							
HHC				pmax	pmax			
	comp=Z,87nm,4.4s							
HHC				LR	LR			
	comp=N,120nm,14.7s							
HHC				LR	LR			
	comp=E,130nm,13.0s							
HHC				LR	LR			
	comp=Z,130nm,15.9s							
LZH	**Lanzhou**	**48.11**	**323**	*e*P	**P**	**10 34 55.6**	**+4.3**	
LZH				sP	pwP	10 35 07.6	+8.7	
LZH				ScP	**ScP**	**10 40 09.3**	**-4.5**	
LZH				sS	sS	10 42 11.9	+18	
LZH				pmax	pmax			
	comp=Z,14nm,1.0s							
LZH				LR	LR			
	comp=N,140nm,13.6s							
LZH				LR	LR			
	comp=E,360nm,13.4s							
LZH				LR	LR			
	comp=Z,210nm,14.4s							
XLT	**XiLinHaoTe**	**48.32**	**339**	*e*P	**P**	**10 34 53.6**	**+0.9**	
XLT				pP	pwP	10 34 59.4	-0.9	
XLT				sP	sP	10 35 02.4	+7.2	
XLT				pmax	pmax			
	comp=Z,5.0nm,0.8s							
XLT				pmax	pmax			
	comp=Z,65nm,4.2s							
URZ	**Urewera**	**52.18**	**140**	LR	LR	11 00 55.4		
	comp=Z,85nm,18.3s,baz=36,slow=40							
GTA	**Gaotai**	**52.70**	**324**	P	**P**	**10 35 26.0**	**+0.1**	
GTA				pmax	pmax			
	comp=Z,5.0nm,1.0s							
WMQ	**Urumqi**	**62.64**	**322**	*e*P	**P**	**10 36 38.1**	**+2.3**	
WMQ				S	**S**	**10 45 03.8**	**-0.4**	
MKAR	**Makanchi Array**	**67.42**	**322**	P	**P**	**10 37 06.5**	**-0.3**	
MKAR	**Makanchi Array**	**67.42**	**322**	P	**P**	**10 37 04.8**	**-2.0**	
	comp=Z,1.9nm,0.8s,baz=111,slow=7.3,SNR=7.0							
	comp=Z,1.9nm,0.8s							
CASY	**Casey**	**68.17**	**191**	P	**P**	**10 37 11.9**	**+0.8**	
CASY				IAmb	IAmb	10 37 13.4		
	comp=Z,4.3nm,1.1s							
ZALV	**Zalesovo Beam**	**69.56**	**330**	P	**P**	**10 37 19.6**	**-0.3**	
ZALV	**Zalesovo Beam**	**69.56**	**330**	P	**P**	**10 37 17.3**	**-2.6**	
	comp=Z,0.4nm,0.4s,baz=111,slow=7.9,SNR=2.1							
ZALV				LR	LR	11 09 26.1		
	comp=Z,35nm,18.9s,baz=135,slow=37							
	comp=Z,0.4nm,0.4s							
KURK	**Kurchatov**	**71.34**	**325**	P	**P**	**10 37 30.6**	**-0.3**	
KURK				IAmb	IAmb	10 37 46.4		
	comp=Z,5.9nm,1.1s							
KURBB	**Kurchatov Arra**	**71.35**	**325**	P	**P**	**10 37 29.3**	**-1.7**	
	comp=Z,2.0nm,0.9s,baz=114,slow=5.8,SNR=11							
	comp=Z,2.0nm,0.9s							
ARSB	**Arslanbob**	**71.52**	**314**	P	**P**	**10 37 32.4**	**0.0**	
GAR	**Garm**	**72.81**	**311**	P	**P**	**10 37 39.5**	**-0.7**	
GAR				IAmb	IAmb	10 37 40.2		
	comp=Z,6.9nm,1.0s							
KKAR	**Karatay Array**	**73.80**	**315**	P	**P**	**10 37 45.0**	**-0.7**	
BVAR	**Borovoye Array**	**76.94**	**325**	P	**P**	**10 38 02.1**	**-1.5**	
	comp=Z,2.8nm,0.8s,baz=106,slow=8.0,SNR=11							
	comp=Z,2.8nm,0.8s							
VNDA	**Vanda**	**77.89**	**175**	P	**P**	**10 38 09.6**	**+1.1**	
VNDA	**Vanda**	**77.89**	**175**	P	**P**	**10 38 07.8**	**-0.7**	
	comp=Z,0.6nm,0.8s,baz=317,slow=5.7,SNR=4.2							
VNDA				LR	LR	11 12 09.3		
	comp=Z,114nm,19.0s,baz=348,slow=35							
	comp=Z,0.6nm,0.8s							
GEYT	**Alibeck**	**81.99**	**308**	P	**P**	**10 38 31.4**	**-0.1**	
	comp=Z,1.0nm,0.3s,baz=90,slow=2.9,SNR=1.5							
	comp=Z,1.0nm,0.3s							
ABKAR	**Akbulak array**	**82.36**	**320**	P	**P**	**10 38 32.5**	**-0.6**	
AKTO	**Aktyubinsk**	**83.78**	**321**	P	**P**	**10 38 39.5**	**-1.0**	
	comp=Z,1.4nm,0.8s,baz=51,slow=4.6,SNR=3.7							
	comp=Z,1.4nm,0.8s							
ILAR	**Eielson Array**	**84.54**	**25**	P	**P**	**10 38 42.2**	**-1.8**	
	comp=Z,0.4nm,0.8s,baz=260,slow=5.4,SNR=3.1							
	comp=Z,0.4nm,0.8s							
QSPA	**South Pole Qui**	**89.24**	**180**	P	**P**	**10 39 07.5**	**+0.4**	
QSPA				IAmb	IAmb	10 39 33.1		
	comp=Z,6.8nm,1.0s							
QSPA	**South Pole Qui**	**89.24**	**180**	P	**P**	**10 39 07.2**	**+0.2**	
	comp=Z,2.9nm,1.2s,baz=327,slow=3.1,SNR=5.1							
QSPA				LR	LR	11 20 04.5		
	comp=Z,116nm,19.0s,baz=12,slow=36							
	comp=Z,2.9nm,1.2s							
WHY	**Whitehorse**	**89.46**	**29**	P	**P**	**10 39 08.9**	**+0.7**	
WHY				IAmb	IAmb	10 39 37.2		
	comp=Z,5.4nm,0.6s							
TORD	**Torodi Ar. Bea**	**134.44**	**288**	PKP	**PKiKP**	**10 45 31.7**	**-0.1**	
	comp=Z,0.5nm,1.0s,baz=18,slow=2.7,SNR=1.7							
LPAZ	**La Paz**	**149.65**	**125**	PKPbc	**PKPbc**	**10 46 01.6**	**-1.1**	
	comp=Z,1.2nm,0.9s,baz=195,slow=4.8,SNR=1.8							

IDC ***23*** *10:33:19.1±0.8,4.°44N×92.°85E,h0km,mb4.4/25, mbtmp4.4/27,ML4.4/2,MS3.6/36,Error ellipse: s-maj=27.2km s-min=15.8km az=44.0*

NEIC ***23*** *10:33:20.8±1.1,4.°35N±0.°08×92.°89E±0.°08,h10km±1km, mb4.8/62,Error ellipse: s-maj=15.1km s-min=11.9km az=212.0*

DJA ***23*** *10:33:22.9±1.5,4.°N×4.°×9.°E±.°,h20km±14km,M5.2/17, mB5.5/11,mb5.2/17,MLv5.5/9,Mw(mB)5.0/11*

ISC 23 10:33:20.3±0.5,4.°32N±0.06×92.°88E±0.°05,h10km,n204, σ1§50/165,mb4.7/74,MS3.6/40,2C-2D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSI	**Meulaboh, Aceh**	**3.51**	**91**	P	**Pn**	**10 34 10.6**	**+0.6**
SNSI	**Sinabang, Aceh**	**3.93**	**119**	P	**Pn**	**10 34 20.8**	**+0.1**
SNSI				S	**Sn**	**10 35 01.6**	**-5.3**
LHMI	**Lhok Sumawe**	**4.15**	**77**	P	**Pn**	**10 34 25.4**	**+1.6**
LHMI	**Lhok Sumawe**	**4.15**	**77**	Pn	**Pn**	**10 34 24.3**	**+0.5**
KCSI	**Kotacane, Aceh**	**4.94**	**99**	P	**Pn**	**10 34 35.5**	**+0.8**
GSI	**Gunungsitoli**	**5.56**	**122**	P	**Pn**	**10 34 44.3**	**+1.1**
GSI	**Gunungsitoli**	**5.56**	**122**	Pn	**Pn**	**10 34 44.0**	**+0.8**
GSI	**Gunungsitoli**	**5.56**	**122**	P	**Pn**	**10 34 44.3**	**+1.1**
	177nm,0.6s,3µm1.3nm						
GSI				S	**Sn**	**10 35 42.6**	**-4.7**
	177nm,0.6s,3µm1.3nm						
PBSI	**Pulau Batu**	**6.93**	**129**	P	**Pn**	**10 35 02.8**	**+0.9**
	1µm,0.7s,18µm4.6nm						
PBA	**Port Blair**	**7.29**	**359**	Pn	**Pn**	**10 35 06.1**	**-0.9**
PBA	**Port Blair**	**7.29**	**359**	*e*P	**Pn**	**10 35 07.6**	**+0.6**
PBA				*e*S	Sn	10 36 20.4	-9.5
PBA				IAML		10 36 28.2	
	comp=N,421nm,0.4s						
PBA				IAML		10 36 32.2	
	comp=E,520nm,0.4s						
KULM	**Kulim**	**7.80**	**83**	Pn	**Pn**	**10 35 14.7**	**+0.7**
SRIT	**Nakonsritamara**	**7.92**	**57**	P	**Pn**	**10 35 16.0**	**+0.5**
SRIT	**Nakonsritamara**	**7.92**	**57**	Pn	**Pn**	**10 35 15.6**	**+0.1**
IPM	**Ipoh**	**8.12**	**89**	P	**Pn**	**10 35 18.9**	**+0.5**
IPM	**Ipoh**	**8.12**	**89**	Pn	**Pn**	**10 35 18.8**	**+0.4**
SISI	**Sabi**	**8.36**	**132**	P	**Pn**	**10 35 22.4**	**+0.7**
	comp=E,229nm,0.7s,comp=E,2µm						
BKNI	**Bangkinang**	**9.06**	**116**	Pn	**Pn**	**10 35 29.9**	**-1.4**
PDSI	**Padang**	**9.19**	**124**	P	**Pn**	**10 35 34.0**	**+1.0**
	comp=E,81nm,0.9s,comp=E,2µm						
MYKOM	**Kota Tinggi**	**11.24**	**103**	Pn	**Pn**	**10 36 00.8**	**-0.3**
SRDT	**SRDT**	**11.71**	**31**	P	**Pn**	**10 36 09.0**	**+1.4**
PALK	**Pallekele**	**12.47**	**284**	Pn	**Pn**	**10 36 18.3**	**+0.3**
PALK	**Pallekele**	**12.47**	**284**	Pn	**Pn**	**10 36 17.7**	**-0.3**
	comp=E,1.7nm,0.3s,baz=205,slow=14,SNR=9.9						
PALK				Sn	Sn	10 38 23.0	-14
	comp=E,9.8nm,0.3s,baz=208,slow=19,SNR=27						
PALK				LR	LR	10 40 31.0	
	comp=E,300nm,19.0s,baz=209,slow=35						
	comp=E,6.4nm,0.3s						
MNAI	**Manna**	**13.25**	**130**	Pn	**Pn**	**10 36 28.5**	**-0.2**
KASI	**Kota Agung**	**15.17**	**130**	P	**Pn**	**10 36 55.8**	**+1.0**
	comp=E,33nm,0.7s						
CM31	**Chiang Mai Arr**	**15.25**	**22**		**Pn**	**10 36 55.5**	**-0.4**
CMAR	**Chiang Mai Arr**	**15.25**	**22**		**Pn**	**10 36 55.1**	**-0.9**
CMAR	**Chiang Mai Arr**	**15.25**	**22**	Pn	**Pn**	**10 36 55.0**	**-0.9**
	comp=E,0.8nm,0.3s,baz=218,slow=14,SNR=32						
CMAR				Sn	**Sn**	**10 39 48.1**	**+3.1**
	comp=E,0.3nm,0.3s,baz=285,slow=33,SNR=1.6						
CMAR				LR	LR	10 42 55.1	
	comp=E,130nm,21.8s,baz=165,slow=38						
	comp=E,7.4nm,0.8s						
CHTO	**Chiang Mai**	**15.58**	**22**		**Pn**	**10 36 58.7**	**-1.5**
PHRA	**Phrae**	**15.82**	**26**		**Pn**	**10 37 03.1**	**-0.2**
PHRA				IAmb	IAmb	10 37 08.0	
	comp=Z,144nm,1.0s						
VIS	**Vishakhapatnam**	**16.28**	**326**	*e*P	**Pn**	**10 37 07.4**	**-1.7**
VIS				IAmb	IAmb	10 37 10.1	
	comp=Z,160nm,1.2s						
VIS				*e*S	Sn	10 39 52.2	-18
TRD	**Trivandrum**	**16.36**	**286**	*e*S	Sn	10 39 59.8	-12
KOD	**Kodaikanal**	**16.38**	**292**	*e*P	**Pn**	**10 37 12.2**	**+1.4**
KOD				*e*S	Sn	10 39 56.0	-17
UBPT	**Khong Chiam**	**16.50**	**48**	P	**Pn**	**10 37 12.6**	**+0.6**
UBPT	**Khong Chiam**	**16.50**	**48**		**Pn**	**10 37 11.7**	**-0.2**
UBPT				IAmb	IAmb	10 37 16.9	
	comp=Z,73nm,1.0s						
DLV	**T Lat**	**17.20**	**63**	P	**P**	**10 37 22.5**	**-0.1**
DLV				IAmb	IAmb	10 37 25.6	
	comp=Z,73nm,0.8s						
CRAI	**Chiangrai**	**17.42**	**24**	P	**Pn**	**10 37 22.7**	**-0.9**
RAGD	**RAYAGADA**	**17.46**	**329**	*e*P	**Pn**	**10 37 24.4**	**+0.3**
RAGD				IAmb	IAmb	10 37 28.3	
	comp=Z,86nm,0.7s						
RAGD				*e*S	Sn	10 40 22.8	-16
KSM	**Kuching**	**17.63**	**99**	P	**P**	**10 37 28.8**	**+1.5**
KSM	**Kuching**	**17.63**	**99**	P	**Pn**	**10 37 26.3**	**0.0**
HYB	**Hyderabad**	**19.15**	**314**	*e*P	**P**	**10 37 44.4**	**+0.5**
SBUM	**Sibu**	**19.39**	**95**	P	**P**	**10 37 45.9**	**-0.8**
JHSG	**JHARSUGUGA**	**19.46**	**334**	*e*P	**Pn**	**10 37 51.8**	**+3.3**
JHSG				*ex*	x	10 41 18.6	
SLVN	**Son La**	**20.02**	**31**	P	**P**	**10 37 53.5**	**0.0**
SLVN				IAmb	IAmb	10 37 57.4	
	comp=Z,33nm,1.0s						
IMP	**Imphal**	**20.42**	**3**	*e*P	Pn	10 38 02.6	+2.7
BOK	**Bokaro**	**20.51**	**341**	*e*P	Pn	10 38 04.4	+3.5
BOK				IAmb	IAmb	10 38 09.2	
	comp=Z,106nm,0.7s						
BOK				*ex*	x	10 41 38.1	
SHL	**Shillong**	**21.15**	**358**	P	**P**	**10 38 04.4**	**-1.5**
SHL	**Shillong**	**21.15**	**358**	*ex*	**P**	**10 38 04.5**	**-1.3**
SHL				IAmb	IAmb	10 38 19.2	
	comp=Z,62nm,0.5s						
SHL				*e*S	S	10 41 46.7	-15
KOHI	**KOHIMA**	**21.31**	**3**	*ex*	**P**	**10 38 06.6**	**-0.9**
KOHI				*e*S	S	10 41 48.0	-17
MOKO	**MOKOCHONG**	**21.93**	**4**	*ex*	**P**	**10 38 13.9**	**-0.4**
MOKO				*e*S	S	10 42 03.7	-13
QIZ	**Qiongzhong**	**22.09**	**47**	P	**P**	**10 38 17.2**	**+1.3**
QIZ	**Qiongzhong**	**22.09**	**47**	P	**P**	**10 38 16.0**	**+0.1**
QIZ				S	**S**	**10 42 15.4**	**-4.2**
QIZ				pmax	pmax		
	comp=Z,11nm,1.5s						
QIZ				LR	LR		
	comp=Z,380nm,19.4s						
QIZ				LR	LR		
	comp=Z,280nm,18.5s						
QIZ				LR	LR		
	comp=Z,120nm,15.1s						
QIZ	**Qiongzhong**	**22.09**	**47**	P	**P**	**10 38 16.3**	**+0.4**
AKL	**Akola**	**22.44**	**318**	*e*S	**S**	**10 42 16.8**	**-9.3**
KMI	**Kunming**	**22.75**	**24**	⇑P	**P**	**10 38 23.5**	**+0.4**
KMI				S	**S**	**10 42 30.4**	**-1.8**
KMI				pmax	pmax		
	comp=Z,9.0nm,1.2s						
KMI				LR	LR		
	comp=Z,250nm,16.2s						
KMI				LR	LR		
	comp=Z,340nm,18.3s						
KMI				LR	LR		
	comp=Z,250nm,27.1s						
GTK	**Tadong**	**23.23**	**350**	*ex*	x	10 38 41.9	
GTK				IAmb	IAmb	10 38 46.2	
	comp=Z,47nm,0.9s						
H08S3	**Diego Garcia H**	**23.56**	**240**	T	T	11 03 36.4	
	baz=60,slow=75,SNR=163						
H08S2	**Diego Garcia H**	**23.56**	**240**	T	T	11 03 37.1	
	baz=60,slow=75,SNR=178						
H08S1	**Diego Garcia H**	**23.57**	**240**	T	T	11 03 35.9	
	baz=60,slow=75,SNR=156						
PZH	**PanZhiHua**	**23.64**	**20**	P	**P**	**10 38 37.1**	**+5.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.2s						
PZH				pmax	pmax		
	comp=Z,130nm,5.4s						
BHPL	**Bhopal**	**24.02**	**323**	*ex*	**P**	**10 38 37.3**	**+1.7**
LSA	**Lhasa**	**25.30**	**356**	P	**P**	**10 38 49.0**	**+1.4**
LSA	**Lhasa**	**25.30**	**356**	P	**P**	**10 38 48.1**	**+0.5**
LSA				IAmb	IAmb	10 39 15.9	
	comp=Z,23nm,0.7s						
GYA	**Guiyang**	**25.67**	**30**	⇓P	**P**	**10 38 53.1**	**+2.5**
GYA				pmax	pmax		
	comp=Z,19nm,0.8s						
MPSI	**Mapaga**	**27.28**	**98**	P	**P**	**10 39 06.0**	**+0.8**
DAV	**Davao City (W)**	**32.65**	**84**	LR	LR	10 54 57.0	
	comp=Z,112nm,18.6s,baz=246,slow=40						
XAN	**Xi'an**	**33.12**	**25**	⇑P	**P**	**10 39 55.6**	**-1.2**
XAN				pmax	pmax		
	comp=Z,15nm,0.8s						
XAN				LR	LR		
	comp=Z,390nm,17.4s						
XAN				LR	LR		
	comp=Z,480nm,16.5s						
XAN				LR	LR		
	comp=Z,380nm,17.7s						
NIL	**Nilore**	**34.44**	**330**	P	**P**	**10 40 07.8**	**-0.4**
NJ2	**Nanjing**	**36.80**	**38**	*e*P	**P**	**10 40 28.8**	**+0.3**
NJ2				pP	**sP**	**10 40 32.5**	**+1.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,200nm,4.0s						
KBL	**Kabul**	**37.33**	**327**	P	**P**	**10 40 32.6**	**-0.6**
KSH	**Kashi**	**38.24**	**339**	P	**P**	**10 40 39.3**	**-1.

H01W1	**Cape Leeuwin H**	**43.84**	**154**	T		T		11 28 12.5		
	baz=330,slow=76,SNR=5.7									
XLT	**XiLinHaoTe**	**44.42**	**24**	*e*P		**P**		**10 41 32.5**	**+1.1**	
XLT				pP		pwP		10 41 37.0	-2.1	
XLT				pmax		pmax				
	comp=Z,5.0nm,0.9s									
XLT				pmax		pmax				
	comp=Z,100nm,4.8s									
SONM	**Songino Array**	**44.88**	**13**	P		**P**		**10 41 34.9**	**-0.2**	
SONM				IAmb		IAmb		10 41 57.2		
	comp=Z,10nm,1.0s									
SONM	**Songino Array**	**44.88**	**13**	P		**P**		**10 41 35.6**	**+0.5**	
	comp=Z,2.1nm,0.6s,baz=193,slow=6.1,SNR=4.6									
	comp=Z,2.1nm,0.6s									
ULN	**Ulaanbaatar**	**45.06**	**13**	P		**P**		**10 41 36.6**	**0.0**	
INCN	**Inchon**	**45.18**	**39**	P		**P**		**10 41 36.8**	**-0.8**	
INCN				IAmb		IAmb		10 42 06.1		
	comp=Z,13nm,0.9s									
JNU	**Nakatsue**	**45.56**	**46**	LR		LR		11 01 43.5		
	comp=Z,79nm,18.9s,baz=220,slow=38									
KSRS	**Korea Array**	**45.97**	**39**	LR		LR		11 01 35.0		
	comp=Z,64nm,19.4s,baz=200,slow=37									
GEYT	**Alibeck**	**46.09**	**321**	P		**P**		**10 41 44.6**	**-0.1**	
GEYT	**Alibeck**	**46.09**	**321**	P		**P**		**10 41 45.2**	**+0.5**	
	comp=Z,15nm,0.7s,baz=148,slow=8.7,SNR=24									
	comp=Z,15nm,0.7s									
GYA0B	**ALIBECK ARRAY**	**46.09**	**321**	P		**P**		**10 41 44.2**	**-0.5**	
WRA	**Warramunga Arr**	**47.34**	**122**	P		**P**		**10 41 55.7**	**+1.0**	
	comp=Z,1.4nm,0.8s,baz=300,slow=9.0,SNR=7.1									
	comp=Z,1.4nm,0.8s									
KURBB	**Kurchatov Arra**	**47.70**	**348**	P		**P**		**10 41 56.0**	**-1.0**	
	comp=Z,8.9nm,0.7s,baz=174,slow=7.3,SNR=37									
KURBB				LR		LR		11 05 48.7		
	comp=Z,78nm,18.7s,baz=182,slow=41									
	comp=Z,8.9nm,0.7s									
KURK	**Kurchatov**	**47.77**	**348**	P		**P**		**10 41 56.0**	**-1.6**	
KURK				IAmb		IAmb		10 42 08.2		
	comp=Z,18nm,1.1s									
ASAR	**Alice Springs**	**48.70**	**127**	P		**P**		**10 42 06.4**	**+1.1**	
	comp=Z,0.8nm,0.8s,baz=309,slow=7.8,SNR=4.2									
	comp=Z,0.8nm,0.8s									
RAYN	**Ar Rayn**	**49.50**	**297**	P		**P**		**10 42 11.3**	**-0.2**	
ZAA0	**Zalesovo Array**	**49.91**	**354**	P		**P**		**10 42 14.4**	**+0.5**	
ZAA0				IAmb		IAmb		10 42 14.7		
	comp=Z,9.6nm,0.6s									
ZALV	**Zalesovo Beam**	**49.91**	**354**	P		**P**		**10 42 14.2**	**+0.2**	
	comp=Z,9.5nm,0.5s,baz=174,slow=6.7,SNR=58									
	comp=Z,9.5nm,0.5s									
JGF	**Kuroka**	**51.45**	**47**	P		**P**		**10 42 25.6**	**-0.4**	
JGF				IAmb		IAmb		10 42 26.7		
	comp=Z,11nm,1.1s									
BVAR	**Borovoye Array**	**51.97**	**343**	P		**P**		**10 42 28.4**	**-1.1**	
	comp=Z,6.2nm,0.8s,baz=140,slow=9.4,SNR=12									
BVAR				LR		LR		11 06 31.4		
	comp=Z,52nm,20.9s,baz=147,slow=38									
	comp=Z,6.2nm,0.8s									
BRVK	**Borovoye**	**52.02**	**343**	P		**P**		**10 42 28.8**	**-1.1**	
BRVK				IAmb		IAmb		10 42 38.9		
	comp=Z,7.2nm,0.8s									
GUMO	**Guam**	**52.08**	**76**	P		**P**		**10 42 30.4**	**-0.6**	
GUMO	**Guam**	**52.08**	**76**	LR		LR		11 06 09.5		
	comp=Z,13nm,19.6s,baz=238,slow=38									
JCJ	**Chichijima**	**52.15**	**59**	LR		LR		11 04 39.4		
	comp=Z,28nm,19.1s,baz=136,slow=36									
JHJ	**Hachijo jima 2**	**52.23**	**51**	LR		LR		11 05 56.7		
	comp=Z,38nm,19.4s,baz=314,slow=38									
MJAR	**Matsushiro Arr**	**52.49**	**46**	P		**P**		**10 42 33.9**	**+0.2**	
	comp=Z,1.8nm,0.8s,baz=236,slow=7.1,SNR=3.8									
MJAR				LR		LR		11 06 36.5		
	comp=Z,56nm,18.8s,baz=240,slow=38									
	comp=Z,1.8nm,0.8s									
USA0B	**Ussuriysk Arra**	**52.52**	**35**	P		**P**		**10 42 33.0**	**-0.7**	
USRK	**Ussuriysk Ar.**	**52.52**	**35**	P		**P**		**10 42 33.3**	**-0.4**	
USRK	**Ussuriysk Ar.**	**52.52**	**35**	LR		LR		11 06 03.4		
	comp=Z,47nm,18.1s,baz=203,slow=38									
ABKAR	**Akbulak array**	**52.78**	**333**	P		**P**		**10 42 35.0**	**-0.6**	
HEH	**HeiHe**	**54.22**	**27**	*e*P		P		10 42 53.8	+7.7	
AKTO	**Aktyubinsk**	**54.50**	**333**	P		**P**		**10 42 47.3**	**-0.9**	
	comp=Z,2.8nm,0.8s,baz=135,slow=5.4,SNR=5.1									
	comp=Z,2.8nm,0.8s									
KLR	**Kul'dur**	**55.57**	**30**	LR		LR		11 08 36.9		
	comp=Z,57nm,18.2s,baz=146,slow=38									
PMG	**Port Moresby**	**55.78**	**104**	LR		LR		11 09 25.8		
	comp=Z,71nm,20.6s,baz=322,slow=39									
GNI	**Garni**	**56.08**	**317**	LR		LR		11 09 11.7		
	comp=Z,26nm,18.7s,baz=97,slow=38									
STKA	**Stephens Creek**	**58.64**	**132**	P		**P**		**10 43 19.1**	**+1.1**	
	comp=Z,1.6nm,0.8s,baz=334,slow=14,SNR=3.1									
STKA				LR		LR		11 11 09.5		
	comp=Z,37nm,18.9s,baz=21,slow=39									
	comp=Z,1.6nm,0.8s									
ARU	**Arti**	**58.69**	**338**	P		**P**		**10 43 17.1**	**-0.8**	
	comp=Z,3.8nm,0.2s,baz=166,slow=4.9,SNR=5.2									
ARU				LR		LR		11 11 07.2		
	comp=Z,73nm,19.3s,baz=127,slow=39									
	comp=Z,3.8nm,0.2s									
KBZ	**Khabaz**	**58.91**	**320**	P		**P**		**10 43 19.2**	**-0.4**	
	comp=Z,3.3nm,0.9s,baz=112,slow=7.7,SNR=4.8									
	comp=Z,3.3nm,0.9s									
EIL	**Elat**	**60.16**	**302**	LR		LR		11 10 38.4		
	comp=Z,63nm,18.0s,baz=67,slow=37									
MMAI	**Mount Meron Ar**	**60.59**	**306**	LR		LR		11 11 08.2		
	comp=Z,64nm,19.8s,baz=66,slow=38									
BELG	**Belogornoye**	**60.71**	**330**	LR		LR		11 12 35.2		
	comp=Z,24nm,18.0s,baz=185,slow=39									
H04N2	**CROZET ISLANDS**	**62.05**	**211**	T		T		11 51 45.2		
	baz=48,slow=75,SNR=136									
H04N1	**CROZET ISLANDS**	**62.06**	**211**	T		T		11 51 43.8		
	baz=48,slow=75,SNR=176									
H04N3	**CROZET ISLANDS**	**62.07**	**211**	T		T		11 51 44.6		
	baz=48,slow=75,SNR=123									
MBAR	**Mbarara**	**62.28**	**267**	LR		LR		11 07 03.2		
	comp=Z,22nm,20.0s,baz=86,slow=32									
H04S1	**CROZET ISLANDS**	**62.45**	**211**	T		T		11 52 11.8		
	baz=48,slow=75,SNR=41									
H04S3	**CROZET ISLANDS**	**62.46**	**211**	T		T		11 52 11.6		
	baz=48,slow=75,SNR=81									
H04S2	**CROZET ISLANDS**	**62.47**	**211**	T		T		11 52 12.8		
	baz=48,slow=75,SNR=44									
YAK	**Yakutsk**	**63.74**	**18**	P		**P**		**10 43 51.5**	**-0.5**	
YAK	**Yakutsk**	**63.74**	**18**	LR		LR		11 14 07.1		
	comp=Z,78nm,19.4s,baz=195,slow=38									
BR131	**Keskin Array S**	**63.84**	**312**	P		**P**		**10 43 52.9**	**-0.4**	
BR131				IAmb		IAmb		10 43 54.0		
	comp=Z,6.5nm,0.8s									
BRTR	**Keskin Array B**	**63.84**	**312**	P		**P**		**10 43 53.0**	**-0.4**	
	comp=Z,3.4nm,0.7s,baz=125,slow=8.2,SNR=14									
	comp=Z,3.4nm,0.7s									
MDUB	**Mudurnu**	**65.84**	**313**	P		**P**		**10 44 06.2**	**-0.1**	
AKASG	**Malin Array Be**	**70.18**	**323**	P		**P**		**10 44 31.9**	**-1.3**	
	comp=Z,0.5nm,0.4s,baz=92,slow=4.9,SNR=6.3									
AKASG				LR		LR		11 19 46.1		
	comp=Z,26nm,19.2s,baz=62,slow=40									
	comp=Z,0.5nm,0.4s									
MA2	**Magadan**	**70.48**	**27**	LR		LR		11 19 19.0		
	comp=Z,42nm,18.2s,baz=286,slow=39									
TIXI	**Tiksi**	**70.94**	**11**	P		**P**		**10 44 37.0**	**-0.5**	
TIXI				IAmb		IAmb		10 44 50.0		
	comp=Z,11nm,0.7s									
TIXI	**Tiksi**	**70.94**	**11**	LR		LR		11 20 29.6		
	comp=Z,91nm,18.2s,baz=222,slow=40									
LBTB	**Lobatse**	**71.46**	**242**	LR		LR		11 11 24.1		
	comp=Z,20nm,20.3s,baz=86,slow=32									
PETK	**Petropavlovsk-**	**71.61**	**35**	LR		LR		11 21 12.1		
	comp=Z,22nm,18.2s,baz=203,slow=40									
BURAR	**Bucovina Array**	**71.85**	**319**	P		**P**		**10 44 43.4**	**-0.3**	
BURAR				IAmb		IAmb		10 44 44.9		
	comp=Z,4.6nm,0.8s									
BUR08	**Bucovina Ar. S**	**71.87**	**319**	IAmb		IAmb		10 44 45.1		
	comp=Z,5.6nm,1.0s									
SEY	**Seymchan**	**72.66**	**24**	LR		LR		11 19 28.7		
	comp=Z,75nm,20.5s,baz=216,slow=38									
KOLS	**Kolonicke sedl**	**74.06**	**320**	*e*P		**P**		**10 44 57.6**	**+1.0**	
CRVS	**Cervenica-Dubn**	**74.58**	**320**	*e*P		**P**		**10 45 00.1**	**+0.5**	
STHS	**Stebnicka Huta**	**74.82**	**320**	*e*P		**P**		**10 45 01.9**	**+0.9**	
FINES	**FINESS Array B**	**75.27**	**333**	P		**P**		**10 45 02.2**	**-1.1**	
	comp=Z,3.1nm,0.8s,baz=120,slow=7.3,SNR=8.1									
	comp=Z,3.1nm,0.8s									
OJC	**Ojcow**	**75.89**	**321**	P		**P**		**10 45 07.0**	**-0.1**	
OJC				IAmb		IAmb		10 45 08.2		
	comp=Z,10nm,0.8s									
VYHS	**Vyhne**	**76.22**	**319**	*e*P		**P**		**10 45 09.5**	**+0.4**	
DZM	**Mont Dzumac**	**76.48**	**114**	LR		LR		11 21 13.2		
	comp=Z,57nm,18.1s,baz=188,slow=38									
MODS	**Modra-Piesok**	**77.23**	**319**	*e*P		**P**		**10 45 15.6**	**+0.8**	
MORC	**Moravsky Berou**	**77.26**	**320**	*e*P		**P**		**10 45 15.1**	**+0.2**	
ZST	**Bratislava**	**77.32**	**318**	*e*P		**P**		**10 45 16.0**	**+0.8**	
KRLC	**Kraliky**	**77.79**	**320**	*e*P		**P**		**10 45 18.8**	**+0.9**	
RONA	**Rosalia, Austr**	**77.79**	**318**	*e*P		**P**		**10 45 18.1**	**+0.1**	
	comp=Z,3.3nm,0.8s									
VRAC	**Vranov**	**77.80**	**319**	LR		LR		11 22 51.9		
	comp=Z,19nm,20.9s,baz=54,slow=38									
KRUC	**Moravsky**	**77.90**	**319**	*e*P		**P**		**10 45 18.6**	**+0.1**	
CONA	**Conrad Observa**	**78.11**	**318**	*e*P		**P**		**10 45 20.0**	**+0.3**	
	comp=Z,4.0nm,1.0s									
DPC	**Dobruska-Polom**	**78.12**	**320**	*e*P		**P**		**10 45 20.8**	**+1.1**	
ARCES	**ARCESS Array B**	**78.17**	**341**	P		**P**		**10 45 19.0**	**-0.6**	
	comp=Z,3.9nm,0.9s,baz=104,slow=5.8,SNR=4.1									
ARCES				LR		LR		11 23 37.4		
	comp=Z,76nm,19.7s,baz=92,slow=39									
	comp=Z,3.9nm,0.9s									
ARSA	**Arzberg**	**78.26**	**317**	*i* P		**P**		**10 45 21.5**	**+0.9**	
	comp=Z,7.3nm,0.9s									
SOKA	**Soboth**	**78.53**	**317**	*e*P		**P**		**10 45 22.7**	**+0.5**	
	comp=Z,9.1nm,1.0s,SNR=7.3									
GOPC	**GO Pecny, Ondr**	**79.04**	**320**	*e*P		**P**		**10 45 24.9**	**+0.1**	
MOA	**Molln**	**79.17**	**318**	*e*P		**P**		**10 45 25.7**	**+0.2**	
	comp=Z,5.3nm,1.5s									
MYKA	**Terra Mystica**	**79.48**	**316**	*e*P		**P**		**10 45 27.9**	**+0.5**	
	comp=Z,3.6nm,0.6s									
GEC2	**GERESS Array S**	**79.64**	**319**	IAmb		IAmb		10 45 29.6		
	comp=Z,14nm,0.9s									
GERES	**GERESS Array B**	**79.64**	**319**	P		**P**		**10 45 28.8**	**+0.6**	
	comp=Z,3.5nm,0.3s,baz=106,slow=4.4,SNR=7.6									
	comp=Z,3.5nm,0.3s									
KBA	**Koelnbreinsper**	**79.72**	**317**	*e*P		**P**		**10 45 28.5**	**-0.3**	
	comp=Z,3.3nm,0.8s									
KHC	**Kasperske Hory**	**79.75**	**319**	*e*P		**P**		**10 45 29.2**	**+0.5**	
STAL	**STALIGIAL**	**80.10**	**316**	IAmb		IAmb		10 45 31.4		
	comp=Z,8.5nm,0.9s									
LESA	**Schwarzleotal**	**80.21**	**317**	*e*P		**P**		**10 45 30.8**	**-0.5**	
	comp=Z,4.9nm,0.6s									
ABTA	**Abfaltersbach**	**80.27**	**317**	*e*P		**P**		**10 45 31.2**	**-0.4**	
	comp=Z,4.0nm,0.9s									
CIMO	**Cimolais**	**80.29**	**316**	IAmb		IAmb		10 45 33.4		
	comp=Z,12nm,1.1s									
CLL	**Collm**	**80.31**	**321**	*i* P		**P**		**10 45 31.4**	**-0.2**	
CLL				*ex*		x		10 45 44.0		
CTI	**Castel Tesino**	**80.82**	**316**	IAmb		IAmb		10 45 35.9		
	comp=Z,11nm,0.9s									
HFS	**Hagfors**	**80.89**	**330**	P		**P**		**10 45 34.0**	**-0.5**	
	comp=Z,3.5nm,0.9s,baz=143,slow=3.2,SNR=6.3									
	comp=Z,3.5nm,0.9s									
WTTA	**Wattenberg**	**80.90**	**317**	*e*P		**P**		**10 45 35.0**	**-0.2**	
	comp=Z,12nm,0.8s									
SQTA	**Sankt Quirin**	**81.19**	**317**	*e*P		**P**		**10 45 36.3**	**-0.3**	
	comp=Z,9.5nm,0.7s									
ZCCA	**Zocca**	**81.21**	**314**	IAmb		IAmb		10 45 39.2		
	comp=Z,14nm,0.9s									
MOTA	**Moosalm**	**81.27**	**317**	*e*P		**P**		**10 45 36.9**	**-0.2**	
	comp=Z,10nm,0.9s,SNR=5.3									
FETA	**Feichten**	**81.51**	**317**	*e*P		**P**		**10 45 38.5**	**+0.2**	
	comp=Z,4.8nm,0.8s									
RETA	**Reutte**	**81.51**	**317**	*e*P		**P**		**10 45 38.1**	**-0.1**	
	comp=Z,5.5nm,0.6s,SNR=6.2									
DAVA	**Damuels**	**82.10**	**317**	*e*P		**P**		**10 45 41.9**	**+0.4**	
	comp=Z,11nm,1.1s,SNR=7.2									
NOA	**NORSAR Array B**	**82.20**	**331**	P		**P**		**10 45 40.5**	**-1.0**	
	comp=Z,0.9nm,0.7s,baz=95,slow=5.2,SNR=3.4									
NOA				LR		LR		11 24 46.0		
	comp=Z,25nm,20.9s,baz=325,slow=38									
	comp=Z,0.9nm,0.7s									
KEST	**Kesra**	**82.25**	**305**	P		**P**		**10 45 43.4**	**+1.0**	
	comp=Z,5.1nm,0.9s,baz=75,slow=7.3,SNR=4.2									
	comp=Z,5.1nm,0.9s									
TUE	**Stuetta**	**82.43**	**316**	P		**P**		**10 45 42.0**	**-1.2**	
TUE				IAmb		IAmb		10 45 47.2		
	comp=Z,5.4nm,0.8s									
SPITS	**Spitsbergen Ar**	**83.04**	**348**	P		**P**		**10 45 44.5**	**-1.0**	
	comp=Z,11nm,1.1s,baz=68,slow=9.1,SNR=4.7									
SPITS				LR		LR		11 30 14.0		
	comp=Z,57nm,19.0s,baz=56,slow=41									
	comp=Z,11nm,1.1s									
BNI	**Bardonecchia**	**84.28**	**315**	IAmb		IAmb		10 45 56.5		
	comp=Z,3.8nm,0.8s									
SSB	**Saint Sauveur**	**85.79**	**315**	P		**P**		**10 46 00.1**	**-0.1**	
SSB				IAmb		IAmb		10 46 01.3		
	comp=Z,5.2nm,0.7s									
EKA	**Eskdalemuir Ar**	**89.92**	**325**	P		**P**		**10 46 19.6**	**-0.1**	
	comp=Z,1.7nm,0.7s,baz=116,slow=4.9,SNR=7.7									
	comp=Z,1.7nm,0.7s									
TORD	**Torodi Ar. Bea**	**90.18**	**283**	P		**P**		**10 46 22.4**	**+0.7**	
	comp=Z,0.6nm,0.9s,baz=17,slow=1.5,SNR=2.2									
	comp=Z,0.6nm,0.9s									
ESDC	**Sonseca Array**	**92.53**	**310**	P		**P**		**10 46 32.9**	**+0.6**	
	comp=Z,1.9nm,0.8s,baz=54,slow=4.0,SNR=12									
	comp=Z,1.9nm,0.8s									
BORG	**Borgarnes**	**96.19**	**337**	LR		LR		11 33 39.3		
	comp=Z,66nm,18.1s,baz=39,slow=38									
YKA	**Yellowknife Ar**	**110.15**	**13**	PP		**PP**		**10 52 26.6**	**+1.4**	
	comp=Z,0.3nm,0.9s,baz=337,slow=8.8,SNR=3.6									
TXAR	**Lajitas Array**	**142.96**	**24**	PKhKP		PKPpre		10 52 51.0		
	comp=Z,0.1nm,0.6s,baz=308,slow=4.4,SNR=2.2									

*UPP **23** 11:18:50.9±2.3, 57.65N×22.23E, h0km, ML2.7*
*LVSN **23** 11:18:51.7±2.9, 57.78N×21.68E, h0km±6km, ML2.4*
*DNK **23** 11:18:53.1±0.8, 57.77N×21.98E, h0km, ML2.7(UPP), Suspected explosion*
*IDC **23** 11:18:53.9±2.4, 57.78N×22.03E, h0km, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=24.3km s-min=10.2km az=169.0*
*EST **23** 11:18:54.0±0.2, 57.78N×21.87E, h0km, ML2.2(HEL), Explosion*

ISC 23 11:18:53.1±0.8, 57.77N±0.03×21.85E±0.03, h0km, n50, σ1835//71, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.28**	**120**	*e*P	**Pg**	**11 18 58.7**	**+0.4**
SLIT	**Slitere, Latvi**	**0.28**	**120**	*e*P	**Pg**	**11 18 58.7**	**+0.4**
SLIT				*e*S	**Sg**	**11 19 01.9**	**0.0**
MTSE	**Matsula**	**1.41**	**47**	*e*P	**Pn**	**11 19 20.4**	**+0.5**
MTSE	**Matsula**	**1.41**	**47**	*e*P	**Pn**	**11 19 18.9**	**-1.1**
MTSE				*e*PN	**Pg**	**11 19 20.0**	**-0.1**
MTSE				*e*SN	**Sn**	**11 19 39.9**	**+0.7**
EE01	**Perakula, Nova**	**1.72**	**32**	*e*P	**Pn**	**11 19 24.2**	**-0.1**
EE01				*e*SN	**Sb**	**11 19 47.9**	**+0.3**
PBUR	**Paburge**	**1.75**	**178**	*e*P	**Pn**	**11 19 24.6**	**+0.1**
PBUR	**Paburge**	**1.75**	**178**	*e*P	**Pn**	**11 19 24.7**	**+0.1**
PBUR				*e*S	**Sg**	**11 19 49.6**	**+0.4**
PBUR				AML	AML	11 19 52.2	
	comp=E,76nm,0.3s						
PBUR				AML	AML	11 19 55.6	
	comp=N,56nm,0.2s						
GOTU	**Gotland**	**1.76**	**269**	P	**Pn**	**11 19 25.2**	**+0.4**
GOTU				S	**Sn**	**11 19 49.6**	**+1.8**
GOTU	**Gotland**	**1.76**	**269**	P	**Pn**	**11 19 25.2**	**+0.4**
GOTU				S	**Sn**	**11 19 49.6**	**+1.8**
EE08	**Sarghaua, Vand**	**2.01**	**62**	*e*P	**Pn**	**11 19 28.5**	**+0.3**
EE08				*e*SG	**Sn**	**11 19 54.8**	**+0.9**
EE02	**Kiisa, Saku**	**2.07**	**45**	*e*PG	**Pn**	**11 19 30.8**	**+1.7**
EE02				*e*SG	**Sb**	**11 19 58.1**	**+0.4**
NRTU	**Norrtaelje**	**2.55**	**320**	P	**Pn**	**11 19 36.6**	**+1.1**
NRTU	**Norrtaelje**	**2.55**	**320**	P	**Pn**	**11 19 36.6**	**+1.1**
PABE	**Paberze**	**2.55**	**152**	*e*P	**Pn**	**11 19 35.8**	**+0.1**
PABE	**Paberze**	**2.55**	**152**	*e*P	**Pn**	**11 19 37.1**	**+1.5**
PABE				AML	AML	11 19 44.7	
	comp=Z,38nm,0.2s						
PABE				AML	AML	11 20 12.5	
	comp=E,33nm,0.1s						
PABE				AML	AML	11 20 13.6	
	comp=N,52nm,0.5s						
EE03	**Tooma soojaam,**	**2.59**	**63**	*e*P	**Pn**	**11 19 36.7**	**+0.6**
EE03				*e*PB	**Pb**	**11 19 38.6**	**-1.7**
EE03				*e*SG	**Sb**	**11 20 12.1**	**-0.4**
AAL	**Aland**	**2.60**	**339**	P	**Pn**	**11 19 36.3**	**0.0**
AAL	**Aland**	**2.60**	**339**	P	**Pn**	**11 19 36.3**	**0.0**
VSU	**Vasula**	**2.69**	**73**	*e*P	**Pn**	**11 19 40.1**	**+2.6**
VSU				*e*S	**Sb**	**11 20 15.3**	**-0.1**
VSU				AML	AML	11 20 16.6	
	comp=Z,26nm,0.1s						
VSU				AML	AML	11 20 19.9	
	comp=N,62nm,0.5s						
VSU				AML	AML	11 20 23.5	
	comp=E,50nm,0.3s						
ARBE	**Arbavere**	**2.74**	**51**	*e*P	**Pn**	**11 19 41.0**	**+2.8**
ARBE	**Arbavere**	**2.74**	**51**	*e*P	**Pn**	**11 19 40.7**	**+2.5**
ARBE				*e*S	**Sb**	**11 20 16.1**	**-0.9**
ARBE				AML	AML	11 20 19.7	
	comp=N,412nm,0.1s						
ARBE				AML	AML	11 20 21.1	
	comp=Z,82nm,0.4s						
ARBE				AML	AML	11 20 21.9	
	comp=E,331nm,0.2s						
ARBE	**Arbavere**	**2.74**	**51**	*e*PB	**Pn**	**11 19 40.8**	**+2.5**
ARBE				*e*SB	**Sb**	**11 20 16.4**	**-0.5**
MEF	**Metsahovi**	**2.79**	**27**	*e*P	**Pn**	**11 19 40.3**	**+1.4**
MEF	**Metsahovi**	**2.79**	**27**	*e*P	**Pn**	**11 19 41.8**	**+2.8**
MEF				*e*S	**Sb**	**11 20 18.1**	**-0.3**
MEF				AML	AML	11 20 20.2	
	comp=N,14nm,0.1s						
MEF				AML	AML	11 20 21.2	
	comp=E,20nm,0.3s						
MEF				AML	AML	11 20 21.4	
	comp=Z,14nm,0.3s						
MEF	**Metsahovi**	**2.79**	**27**	*e*P	**Pn**	**11 19 40.8**	**+1.9**
MEF				*e*PB	**Pn**	**11 19 41.8**	**+2.8**
MEF				*e*SB	**Sb**	**11 20 17.3**	**-1.1**
MEF				MSG		11 20 19.7	
	comp=Z,8.8nm,0.1s						
VSTU	**Vaestervik**	**2.85**	**270**	P	**Pn**	**11 19 41.5**	**+1.7**
VSTU	**Vaestervik**	**2.85**	**270**	P	**Pn**	**11 19 41.5**	**+1.7**
HEL1	**Helsinki**	**2.88**	**32**	*e*P	**Pn**	**11 19 41.7**	**+1.5**
NUR	**Nurmijrvi**	**3.11**	**27**	*e*P	**Pn**	**11 19 45.3**	**+2.0**
NUR				*e*SB	**Sb**	**11 20 26.0**	**-1.5**
NUR				MSG		11 20 28.8	
	comp=Z,4.6nm,0.1s						
FIBU	**Brunna**	**3.17**	**314**	P	**Pn**	**11 19 45.5**	**+1.4**
FIBU	**Brunna**	**3.17**	**314**	P	**Pn**	**11 19 45.5**	**+1.4**
ESKU	**Eskilstuna**	**3.22**	**299**	P	**Pn**	**11 19 45.8**	**+1.0**
ESKU	**Eskilstuna**	**3.22**	**299**	P	**Pn**	**11 19 45.8**	**+1.0**
BACU	**Backbrunna**	**3.23**	**312**	P	**Pn**	**11 19 46.2**	**+1.2**
BACU	**Backbrunna**	**3.23**	**312**	P	**Pn**	**11 19 46.2**	**+1.2**
RAF	**Rauma**	**3.27**	**359**	*e*P	**Pn**	**11 19 46.4**	**+0.9**
RAF	**Rauma**	**3.27**	**359**	*e*P	**Pn**	**11 19 46.3**	**+0.9**
RAF				*e*S	**Sn**	**11 20 26.1**	**+1.1**
RAF				AML	AML	11 20 38.8	
	comp=E,14nm,0.4s						
RAF				AML	AML	11 20 42.2	
	comp=Z,7.1nm,0.3s						
RAF				AML	AML	11 20 46.5	
	comp=N,6.7nm,0.3s						
RAF	**Rauma**	**3.27**	**359**	*e*P	**Pn**	**11 19 46.1**	**+0.7**
VJF	**Virojoki**	**4.05**	**44**	*e*P	**Pn**	**11 19 57.6**	**+1.4**
KPF	**Kankaanpaa**	**4.08**	**2**	*e*P	**Pn**	**11 19 57.4**	**+0.7**
FIA0	**FINESS Array S**	**4.27**	**28**	*e*P	**Pn**	**11 20 00.4**	**+1.1**
FINES	**FINESS Array B**	**4.27**	**28**	Pn	**Pn**	**11 20 00.1**	**+0.9**
	comp=N,0.2nm,0.3s,baz=213,slow=12,SNR=9.3						
FINES				Lg	Lg	11 21 06.4	
	comp=N,1.1nm,0.3s,baz=209,slow=29,SNR=9.4						
	comp=N,0.5nm,0.3s						
FIA1	**FINESS Array S**	**4.27**	**28**	*e*P	**Pn**	**11 20 00.0**	**+0.8**
KEF	**Keuruu**	**4.67**	**18**	*e*P	**Pn**	**11 20 05.7**	**+1.0**
BSD	**Bornholm Skovb**	**4.67**	**238**	*e*P	**Pn**	**11 20 04.3**	**-0.5**
HFS	**Hagfors**	**4.84**	**303**	Pn	**Pn**	**11 20 07.8**	**+0.7**
	comp=N,0.7nm,0.3s,baz=114,slow=14,SNR=36						
HFS				Sn	**Sn**	**11 21 05.4**	**+1.6**
	comp=N,0.8nm,0.3s,baz=111,slow=25,SNR=7.7						
HFS				Lg	Lg	11 21 26.3	
	comp=N,1.1nm,0.3s,baz=116,slow=27,SNR=5.8						
	comp=N,1.7nm,0.2s						

GCMP	**Grenada, Carri**	**6.76**	**71**	*eP*		**Pn**	**11 24 46.1**	**-0.2**
GCMP				*eS*		**Sn**	**11 25 55.3**	**-7.2**
SVT	**Saint Vincent**	**7.16**	**66**	*eP*		**Pn**	**11 24 51.1**	**-0.7**
SVT				*ex*		x	11 26 06.1	
SVB	**Belmont**	**7.19**	**65**	*eP*		**Pn**	**11 24 51.3**	**-1.0**
SVB				*ex*		x	11 26 07.4	
ZARC	**Zaragoza, Cauc**	**7.37**	**248**	P		**Pn**	**11 24 53.7**	**-1.1**
	97nm,0.6s,1μm							
ZARC				S		**Sn**	**11 26 12.9**	**-4.9**
	97nm,0.6s,1μm							
MLPR	**Magueyes Islan**	**7.65**	**7**			**Pn**	**11 24 58.5**	**0.0**
CRPR	**Cabo Rojo, PR**	**7.68**	**6**	Pn		**Pn**	**11 24 59.1**	**+0.2**
SLBI	**Saint Lucia, B**	**7.75**	**61**	*eP*		**Pn**	**11 24 57.7**	**-2.2**
SLBI				*ex*		x	11 26 13.8	
OBIP	**Obispado Ponce**	**7.78**	**10**			**Pn**	**11 25 00.3**	**-0.1**
IGPR	**InterUniversit**	**7.80**	**13**	Pn		**Pn**	**11 25 00.5**	**-0.1**
CELP	**Cerrillos**	**7.82**	**10**			**Pn**	**11 25 00.8**	**-0.1**
LUEV	**Luepa**	**7.83**	**124**	*eP*		**Pn**	**11 24 59.9**	**-1.3**
LUEV				*eS*		**Sn**	**11 26 22.8**	**-6.4**
PRSN	**Puerto Rico Se**	**7.88**	**6**			**Pn**	**11 25 00.7**	**-1.0**
BIM	**Bigot**	**7.91**	**58**	Pn		**Pn**	**11 25 01.3**	**-0.9**
BIM	**Bigot**	**7.91**	**58**	*eP*		**Pn**	**11 24 59.1**	**-3.1**
BIM				*ex*		x	11 26 22.6	
FDF	**Fort de France**	**7.96**	**56**			**Pn**	**11 25 02.1**	**-0.8**
UUPR	**Utuado, UPR, P**	**7.97**	**9**			**Pn**	**11 25 03.4**	**+0.5**
SVN	**Savane Anatole**	**8.01**	**55**	Pn		**Pn**	**11 25 02.7**	**-0.8**
SVN	**Savane Anatole**	**8.01**	**55**	*eP*		**Pn**	**11 25 01.5**	**-2.0**
SVN				*ex*		x	11 26 26.9	
MPOM	**Morne Pois Mar**	**8.05**	**59**	Pn		**Pn**	**11 25 02.7**	**-1.4**
MPOM	**Morne Pois Mar**	**8.05**	**59**	*eP*		Pn	11 24 53.2	-11
MPOM				*ex*		x	11 26 34.6	
AOPR	**Arecibo Observ**	**8.06**	**8**			**Pn**	**11 25 04.6**	**+0.5**
AOPR	**Arecibo Observ**	**8.06**	**8**	*eP*		**Pn**	**11 25 04.6**	**+0.5**
AOPR				*ex*		x	11 26 22.3	
AGPR	**Aguadilla, PR**	**8.13**	**6**	Pn		**Pn**	**11 25 05.6**	**+0.4**
GCPR	**Guaynabo City**	**8.14**	**13**	Pn		**Pn**	**11 25 05.0**	**-0.2**
PCDR	**Punta Cana, DR**	**8.15**	**357**	Pn		**Pn**	**11 25 06.2**	**+0.8**
ILAM	**Ilet Lapin Mar**	**8.21**	**57**	Pn		**Pn**	**11 25 05.0**	**-1.2**
ROSC	**El Rosal**	**8.33**	**230**			**Pn**	**11 25 08.0**	**-0.3**
ROSC	**El Rosal**	**8.33**	**230**	Pn		**Pn**	**11 25 09.7**	**+1.4**
	31nm,0.3s,baz=87,slow=12,SNR=25							
ROSC					Sn	**Sn**	**11 26 41.1**	**-0.9**
	2.8nm,0.3s,baz=170,slow=23,SNR=1.1							
	114nm,0.4s							
CVER	**Cruz Verde, Cu**	**8.37**	**227**	P		**Pn**	**11 25 11.1**	**+2.3**
	234nm,0.5s,4μm							
VILC	**Villavicencio,**	**8.39**	**223**	P		**Pn**	**11 25 12.8**	**+3.9**
ABD	**La Joyeuse, An**	**8.77**	**45**	*eP*		Pn	11 25 02.6	-11
ABD				*eS*		Sn	11 26 27.8	-24
ANBD	**Bethesda, Anti**	**8.99**	**41**	*eP*		Pn	11 25 02.4	-15
ANBD				*eS*		**Sn**	**11 26 51.9**	**-5.6**
SDDR	**Presa de Saban**	**9.18**	**340**			**Pn**	**11 25 20.2**	**+0.6**
SDDR	**Presa de Saban**	**9.18**	**340**	*eP*		**Pn**	**11 25 21.0**	**+1.4**
SDDR				*ex*		x	11 26 56.1	
PRAC	**Prado**	**9.51**	**227**	P		**Pn**	**11 25 24.0**	**-0.1**
	71nm,0.4s,2μm							
MACC	**Macarena, Meta**	**10.01**	**216**	P		**Pn**	**11 25 30.0**	**-1.0**
	39nm,0.5s							
BOAV	**Boa Vista**	**10.80**	**136**	Pn		**Pn**	**11 25 40.2**	**-1.6**
GARC	**Garzon, Huila**	**11.02**	**223**	P		**Pn**	**11 25 44.8**	**-0.2**
POPC	**Popayan, Colom**	**11.61**	**229**	P		**Pn**	**11 25 53.9**	**+0.8**
GTBY	**Guantanamo Bay**	**11.77**	**325**	Pn		**Pn**	**11 25 54.8**	**-0.3**
MTDJ	**Mount Denham**	**12.15**	**311**	Pn		**Pn**	**11 25 57.7**	**-2.6**
MDP	**Montagnes des**	**16.04**	**108**	Pn		**Pn**	**11 26 52.8**	**0.0**
	1.7nm,0.3s,baz=295,slow=11,SNR=7.7							
MDP					Sn	**Sn**	**11 29 41.4**	**-8.7**
	0.5nm,0.3s,baz=178,slow=10,SNR=2.2							
MDP					LR	LR	11 33 26.1	
	comp=Z,59nm,18.8s,baz=150,slow=39							
	12nm,0.7s							
SOCE	**Pocosol**	**16.39**	**272**	Pn		**Pn**	**11 26 56.9**	**-0.3**
SOCE				IAmb		IAmb	11 27 04.8	
	comp=Z,38nm,1.2s							
JTS	**Las Juntas de**	**16.72**	**271**			**Pn**	**11 27 00.1**	**-1.2**
JTS	**Las Juntas de**	**16.72**	**271**	Pn		**Pn**	**11 27 00.8**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=103,slow=4.2,SNR=3.9							
	comp=Z,6.2nm,0.8s							
SAML	**Samuel**	**19.73**	**166**			**P**	**11 27 36.8**	**+0.1**
ETMB	**Extrema**	**20.09**	**175**			**P**	**11 27 41.0**	**+0.4**
ATAH	**Atahualpa**	**20.22**	**211**	P		Pn	11 27 43.5	-1.0
	comp=Z,11nm,0.8s,baz=58,slow=11,SNR=5.1							
	comp=Z,11nm,0.8s							
TEIG	**Tepich**	**21.90**	**299**	P		**P**	**11 27 59.8**	**-0.4**
TEIG				IAmb		IAmb	11 28 00.6	
	comp=Z,27nm,1.1s							
TEIG	**Tepich**	**21.90**	**299**	P		**P**	**11 28 00.6**	**+0.5**
	comp=Z,8.2nm,0.6s,baz=135,slow=5.7,SNR=5.8							
	comp=Z,8.2nm,0.6s							
NNA	**Nana**	**23.86**	**202**	LR		LR	11 38 51.8	
	comp=Z,72nm,19.5s,baz=32,slow=40							
CMIG	**Matias Romero**	**26.98**	**287**	LR		LR	11 39 58.2	
	comp=Z,42nm,18.4s,baz=154,slow=38							
BDFB	**Brasilia**	**32.50**	**142**	LR		LR	11 42 55.2	
	comp=Z,58nm,19.4s,baz=45,slow=36							
WHAR	**Wooly Hollow**	**33.28**	**322**	P		**P**	**11 29 44.7**	**+0.4**
WHAR				IAmb		IAmb	11 29 49.5	
	comp=Z,4.9nm,0.9s							
S44A	**Carbondale**	**33.30**	**328**	P		**P**	**11 29 44.5**	**+0.1**
FCAR	**Ozark Folk Cen**	**33.59**	**323**	IAmb		IAmb	11 29 48.6	
	comp=Z,6.8nm,1.0s							
T42A	**Van Buren**	**33.80**	**326**	IAmb		IAmb	11 29 50.7	
	comp=Z,5.0nm,0.6s							
FVM	**French Village**	**34.13**	**327**	P		**P**	**11 29 51.5**	**-0.2**
FVM				IAmb		IAmb	11 29 54.0	
	comp=Z,12nm,1.1s							
MGMO	**Mountain Grove**	**34.55**	**325**	IAmb		IAmb	11 29 58.0	
	comp=Z,5.5nm,0.8s							
HNDO	**Hondo**	**34.92**	**308**	IAmb		IAmb	11 29 59.8	
	comp=Z,5.2nm,0.7s							
R40A	**Maddies Statio**	**35.35**	**326**	IAmb		IAmb	11 30 04.2	
	comp=Z,8.8nm,0.9s							
S39A	**Bolivar**	**35.53**	**324**	P		**P**	**11 30 03.4**	**-0.3**
OK052	**Battle Ridge R**	**36.56**	**319**	P		**P**	**11 30 12.4**	**-0.2**
OK052				IAmb		IAmb	11 30 13.4	
	comp=Z,8.9nm,0.7s							
L42A	**Oliver, Polo**	**36.85**	**333**	IAmb		IAmb	11 30 16.4	
	comp=Z,7.8nm,0.8s							
P38A	**Dawn**	**36.99**	**326**	IAmb		IAmb	11 30 17.7	
	comp=Z,9.6nm,0.8s							
L40A	**Anamosa**	**37.62**	**331**	IAmb		IAmb	11 30 22.4	
	comp=Z,7.8nm,0.6s							
JFWS	**Jewell Farm**	**37.84**	**333**	P		**P**	**11 30 24.0**	**+0.6**
POST	**Post**	**38.24**	**311**	P		**P**	**11 30 27.2**	**+0.2**
TX31	**Lajitas Ar. Si**	**38.32**	**305**	P		**P**	**11 30 27.5**	**-0.2**
TXAR	**Lajitas Array**	**38.32**	**305**	P		**P**	**11 30 28.4**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=128,slow=9.3,SNR=18							
TXAR					PcP	**PcP**	**11 32 42.4**	**+0.9**
	comp=Z,0.7nm,0.7s,baz=125,slow=7.1,SNR=7.3							
	comp=Z,1.0nm,0.6s							
MNHN	**Monahans**	**38.41**	**308**	P		**P**	**11 30 28.4**	**0.0**
MNHN				IAmb		IAmb	11 30 29.6	
	comp=Z,8.2nm,0.7s							
I40A	**Norwalk**	**38.78**	**334**	IAmb		IAmb	11 30 32.6	
	comp=Z,10.0nm,0.6s							
VHRN	**Van Horn**	**39.93**	**306**	P		**P**	**11 30 42.0**	**+0.7**
I37A	**Lemond, Waseca**	**40.14**	**331**	IAmb		IAmb	11 30 44.1	
	comp=Z,11nm,0.8s							
EYMN	**Ely**	**42.41**	**337**	P		**P**	**11 31 01.4**	**+0.3**
ANMO	**Albuquerque**	**42.76**	**311**	P		**P**	**11 31 03.8**	**-0.7**
OGNE	**Ogallala**	**42.80**	**321**	P		**P**	**11 31 03.1**	**-1.5**
F33A	**5 Mile Ranch,**	**42.87**	**331**	P		**P**	**11 31 05.0**	**0.0**
SCHQ	**Schefferville**	**44.40**	**1**	P		**P**	**11 31 18.3**	**+1.1**
	comp=Z,2.6nm,0.4s,baz=178,slow=6.1,SNR=15							
	comp=Z,2.6nm,0.4s							
SMCO	**Snowmass**	**45.06**	**316**	IAmb		IAmb	11 31 25.3	
	comp=Z,2.4nm,0.7s							
X18A	**Snowflake**	**45.22**	**309**	IAmb		IAmb	11 31 30.6	
	comp=Z,4.6nm,0.8s							
K22A	**Casper**	**46.53**	**321**	IAmb		IAmb	11 31 36.2	
	comp=Z,4.1nm,0.7s							
WUAZ	**Wupatki**	**46.67**	**310**	IAmb		IAmb	11 31 38.2	
	comp=Z,4.0nm,0.8s							
HMU	**Henry Mountain**	**47.15**	**313**	IAmb		IAmb	11 31 42.9	
	comp=Z,2.4nm,0.9s							
SRU	**San Rafael Swe**	**47.48**	**314**	IAmb		IAmb	11 31 44.3	
	comp=Z,2.5nm,0.8s							
MTPU	**Mount Pierson**	**48.23**	**312**	IAmb		IAmb	11 31 50.2	
	comp=Z,2.8nm,0.8s							
BSUT	**Blindstream Ca**	**48.27**	**316**	IAmb		IAmb	11 31 50.8	
	comp=Z,9.4nm,1.1s							
KNB	**Kanab**	**48.31**	**311**	IAmb		IAmb	11 31 57.1	
	comp=Z,2.9nm,1.0s							
PD31	**Pinedale Array**	**48.52**	**319**	IAmb		IAmb	11 31 56.3	
	comp=Z,3.3nm,0.8s							
PDAR	**Pinedale Array**	**48.52**	**319**	P		**P**	**11 31 50.0**	**0.0**
PDAR	**Pinedale Array**	**48.52**	**319**	P		**P**	**11 31 50.6**	**+0.6**
	comp=Z,3.0nm,0.6s,baz=117,slow=11,SNR=25							
PDAR				PcP		**PcP**	**11 33 15.9**	**+0.2**
	comp=Z,0.6nm,0.5s,baz=103,slow=4.0,SNR=3.7							
	comp=Z,3.0nm,0.6s							
HWUT	**Hardware Ranch**	**49.29**	**317**	IAmb		IAmb	11 31 58.2	
	comp=Z,5.5nm,0.8s							
V12A	**Nelson**	**49.40**	**309**	IAmb		IAmb	11 31 59.0	
	comp=Z,2.7nm,0.7s							
AHID	**Auburn Hatcher**	**49.51**	**319**	IAmb		IAmb	11 31 59.2	
	comp=Z,5.3nm,0.9s							
LOHW	**Long Hollow**	**49.59**	**320**	IAmb		IAmb	11 31 60.0	
	comp=Z,7.2nm,1.1s							
YMP	**Mirror Lake Pl**	**49.87**	**321**	IAmb		IAmb	11 32 13.8	
	comp=Z,5.4nm,0.8s							
BGU	**Big Grassy Mou**	**49.99**	**316**	IAmb		IAmb	11 32 06.8	
	comp=Z,3.0nm,0.8s							
HVU	**Hansel Valley**	**50.18**	**317**	IAmb		IAmb	11 32 07.5	
	comp=Z,4.3nm,0.8s							
YHH	**Holmes Hill**	**50.32**	**321**	P		**P**	**11 32 05.5**	**+1.7**
PLCA	**Paso Flores**	**50.86**	**183**	P		**P**	**11 32 09.9**	**+2.3**
	comp=Z,1.1nm,0.6s,baz=16,slow=12,SNR=4.0							
	comp=Z,1.1nm,0.6s							
EGMT	**Eagleton**	**51.35**	**325**	IAmb		IAmb	11 32 13.0	
	comp=Z,6.5nm,0.9s							
LYMT	**Lyon Mountain**	**52.27**	**323**	P		**P**	**11 32 16.9**	**-1.4**
NVAR	**Mina Array Bea**	**52.88**	**311**	P		**P**	**11 32 23.5**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=114,slow=6.8,SNR=9.5							
	comp=Z,1.0nm,0.7s							
MFID	**Camas Ranch**	**52.91**	**317**	IAmb		IAmb	11 32 24.9	
	comp=Z,3.9nm,0.9s							
PNTR	**Pine Nut**	**54.05**	**311**	P		**P**	**11 32 31.1**	**-0.4**
PNTR				IAmb		IAmb	11 32 35.0	
	comp=Z,3.0nm,0.7s							
I07A	**Izee**	**55.63**	**317**	IAmb		IAmb	11 32 45.0	
	comp=Z,7.2nm,1.2s							
PINE	**Pine Mountain**	**56.50**	**316**	IAmb		IAmb	11 32 54.4	
	comp=Z,6.0nm,0.8s							
J05D	**Fort Rock, OR**	**56.54**	**315**	IAmb		IAmb	11 32 51.4	
	comp=Z,4.9nm,0.9s							
YKA	**Yellowknife Ar**	**61.87**	**337**	P		**P**	**11 33 25.5**	**-0.2**
	comp=Z,1.5nm,0.7s,baz=114,slow=6.7,SNR=29							
	comp=Z,1.5nm,0.7s							
ESDC	**Sonseca Array**	**63.50**	**51**	P		**P**	**11 33 39.2**	**+2.1**
	comp=Z,0.5nm,1.0s,baz=297,slow=5.6,SNR=1.9							
	comp=Z,0.5nm,1.0s							
TORD	**Torodi Ar. Bea**	**68.07**	**80**	P		**P**	**11 34 06.8**	**-0.1**
TORD				IAmb		IAmb	11 34 13.4	
	comp=Z,2.1nm,0.8s							
TORD	**Torodi Ar. Bea**	**68.07**	**80**	P		**P**	**11 34 07.2**	**+0.3**
	comp=Z,1.5nm,0.7s,baz=292,slow=6.4,SNR=9.0							
	comp=Z,1.5nm,0.7s							
ILAR	**Eielson Array**	**76.00**	**334**	P		**P**	**11 34 52.7**	**-0.8**
	comp=Z,0.3nm,0.7s,baz=110,slow=4.1,SNR=3.7							
	comp=Z,0.3nm,0.7s							
D25K	**Kavik River**	**76.31**	**339**	P		**P**	**11 34 55.8**	**+0.6**
SPITS	**Spitsbergen Ar**	**78.79**	**12**	P		**P**	**11 35 10.2**	**+1.2**
	comp=Z,8.1nm,0.9s,baz=202,slow=4.3,SNR=9.7							
	comp=Z,8.1nm,0.9s							
NJ2	**Nanjing**	**137.36**	**351**	*eP*		**PKPdf**	**11 42 30.0**	**-0.8**
NJ2	**Nanjing**	**137.36**	**351**	pmax		pmax		
	comp=Z,12nm,0.5s							
PZH	**PanZhiHua**	**142.05**	**15**	PKP		**PKPdf**	**11 42 39.4**	**-0.2**
CMAR	**Chiang Mai Arr**	**148.61**	**24**	PKPbc		**PKPbc**	**11 42 54.5**	**-0.1**
	comp=Z,1.9nm,0.8s,baz=322,slow=3.5,SNR=11							
ASAR	**Alice Springs**	**155.29**	**235**	PKP		**PKPdf**	**11 43 01.4**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=126,slow=1.0,SNR=4.4							
WRA	**Warramunga Arr**	**156.47**	**243**	PKP		**PKPdf**	**11 43 04.3**	**+1.8**
	comp=Z,1.0nm,1.1s,baz=100,slow=5.0,SNR=3.5							

*UCR **23** 11:35:44.4±1.0,8.74N×83.59W, h2km±1km, MW3.9*
*UPA **23** 11:35:44.9±1.6,8.78N×83.50W, h0km±6km, MW3.9*
ISC 23 11:35:44.8±1.1,**8.74N**±0.03×**83.59W**±0.03,**h11**km±8km,
n81,σ**0.95**/116,**13C-15D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EDPN	**Palmar Norte**	**0.25**	**31**	⇓*iP*	**Pg**	**11 35 50.5**	**+0.4**
EDPN				*eS*	**Sb**	**11 35 55.3**	**-0.5**
JIME	**Puerto Jimenez**	**0.33**	**128**	⇑*iP*	**Pg**	**11 35 52.4**	**-0.3**
OCHAL	**Ojochal**	**0.36**	**351**	⇓*iP*	**Pg**	**11 35 51.9**	**-0.1**
OCHAL				*eS*	**Sg**	**11 35 57.7**	**+1.0**
PIRO	**Carate, Puerto**	**0.42**	**143**	⇓*eP*	**Pb**	**11 35 53.9**	**-0.3**
PIRO				*eS*	**Sb**	**11 36 01.5**	**+1.0**
EDAD	**Golfito**	**0.43**	**102**	*eP*	**Pg**	**11 35 52.9**	**-0.4**
FITO	**Golfito**	**0.45**	**105**	*eP*	**Pg**	**11 35 53.4**	**-0.2**
FITO				*eS*	**Sg**	**11 36 00.5**	**+1.1**
EDP2	**Potrero Grande**	**0.49**	**56**	*eP*	**Pg**	**11 35 54.8**	**+0.4**
EDP2				*eS*	**Sb**	**11 36 05.6**	**+3.0**
BURE	**Buenos Aires**	**0.49**	**30**	⇓*iP*	**Pg**	**11 35 54.8**	**+0.3**
BURE				*eS*	**Sb**	**11 36 02.7**	**0.0**
EDBA	**Buenos Aires**	**0.52**	**36**	⇑*iP*	**Pg**	**11 35 54.9**	**-0.1**
SRBA	**San Rafael, Bu**	**0.54**	**25**	⇓*iP*	**Pg**	**11 35 55.0**	**-0.3**
SRBA				*eS*	**Sb**	**11 36 03.5**	**-0.5**
DRK0	**Durika**	**0.62**	**33**	⇓*iP*	**Pg**	**11 35 56.4**	**-0.5**
DRK0				*eS*	**Sg**	**11 36 05.2**	**+0.6**
PEZE	**Perez Zeledon,**	**0.64**	**352**	*eP*	**Pg**	**11 35 56.8**	**-0.5**
PEZE				*eS*	**Sg**	**11 36 06.4**	**+0.6**
CDITO	**Canoas**	**0.73**	**103**	*eP*	**Pg**	**11 35 58.1**	**-0.7**
CDITO				*eS*	**Sb**	**11 36 09.6**	**+0.1**
CDITO	**Canoas**	**0.73**	**103**	*eP*	**Pg**	**11 35 58.1**	**-0.7**
CDITO				*eS*	**Sb**	**11 36 09.1**	**-0.3**
CDM	**Cerro de Muert**	**0.82**	**348**	*eP*	**Pg**	**11 36 00.1**	**-0.7**
CDM				*eS*	**Sb**	**11 36 13.2**	**+0.5**
PTPM	**Petroterminale**	**0.88**	**127**	*eP*	**Pg**	**11 36 01.6**	**-0.2**
PTPM				*eS*	**Sn**	**11 36 16.1**	**+0.2**
LLNJ	**Naranjito**	**0.89**	**325**	*eP*	**Pg**	**11 36 00.7**	**-1.2**
LLNJ				*eS*	**Sb**	**11 36 14.5**	**+0.5**
BRU2	**Volcan**	**0.89**	**87**	⇑*eP*	**Pg**	**11 36 01.4**	**-0.5**
BRU2				*eS*	**Sb**	**11 36 15.2**	**+1.0**
BRU2	**Volcan**	**0.89**	**87**	⇑*eP*	**Pg**	**11 36 01.5**	**-0.5**
BRU2				*eS*	**Sb**	**11 36 15.2**	**+1.0**
RAZU	**San Marcos de**	**1.01**	**335**	*eP*	**Pg**	**11 36 03.8**	**-0.5**
BCO2	**Palmira**	**1.05**	**91**	⇓*eP*	**Pg**	**11 36 03.8**	**-1.2**
BCO2				*eS*	**Sn**	**11 36 19.9**	**-0.4**
ABE2	**San Pablo**	**1.06**	**334**	*eP*	**Pg**	**11 36 04.4**	**-0.9**
RITA	**Parrita**	**1.07**	**317**	*eP*	**Pb**	**11 36 05.4**	**+0.2**
RITA				*eS*	**Sn**	**11 36 21.8**	**+1.3**
LCR2	**La Lucha 2**	**1.07**	**338**	*eP*	**Pg**	**11 36 04.3**	**-1.2**
LCR2				*eS*	**Sg**	**11 36 19.0**	**-0.6**
REPA	**Paraso**	**1.11**	**346**	⇓*iP*	**Pn**	**11 36 06.5**	**+0.1**
LNBQ3	**Los Naranjos,**	**1.14**	**87**	⇑*eP*	**Pb**	**11 36 04.9**	**-1.6**
LNBQ3				*eS*	**Sg**	**11 36 21.6**	**+0.1**
VINA	**Juan Vinas**	**1.16**	**352**	*eP*	**Pb**	**11 36 06.0**	**-0.8**
DVD	**David**	**1.17**	**105**	*eP*	**Pb**	**11 36 07.1**	**+0.2**
DVD				*eS*	**Sg**	**11 36 22.7**	**+0.3**
PCAYA	**Pacayas**	**1.19**	**349**	⇓*iP*	**Pb**	**11 36 07.1**	**-0.4**
OCM	**Ochomogo**	**1.20**	**342**	⇑*eP*	**Pb**	**11 36 06.8**	**-0.9**
OCM				*eS*	**Sn**	**11 36 25.1**	**+0.9**
LOCO3	**Loma Colorada,**	**1.20**	**106**	*eP*	**Pn**	**11 36 06.3**	**-1.2**
LOCO3				*eS*	**Sb**	**11 36 22.0**	**-0.4**
RAFA	**San Farael, Vo**	**1.23**	**350**	⇓*iP*	**Pb**	**11 36 07.7**	**-0.5**
RVSTA	**Santa Teresita**	**1.23**	**357**	*eP*	**Pn**	**11 36 07.1**	**-0.8**
VTCV	**VTCV, Calle Va**	**1.24**	**354**	*eP*	**Pn**	**11 36 07.0**	**-1.2**
PSOM3	**Paja de Sombre**	**1.25**	**92**	⇑*eP*	**Pn**	**11 36 06.8**	**-1.5**
PSOM3				*eS*	**Sb**	**11 36 24.2**	**-0.4**
VICA	**Volcano Irazu**	**1.26**	**348**	⇑*eP*	**Pn**	**11 36 08.1**	**-0.7**
CVTV	**Tajo**	**1.26**	**353**	*eP*	**Pn**	**11 36 07.9**	**-0.8**
VTLA	**Turrialba Volc**	**1.27**	**352**	⇓*eP*	**Pn**	**11 36 08.0**	**-0.8**
CVTQ	**Turrialba Volc**	**1.27**	**352**	⇑*iP*	**Pn**	**11 36 08.2**	**-0.6**
VTRT	**Volcan Turrial**	**1.27**	**351**	*eP*	**Pn**	**11 36 07.6**	**-1.1**
LUJA	**Lujan**	**1.27**	**338**	*eP*	**Pb**	**11 36 09.0**	**+0.2**
VTR0	**Volcan Turrial**	**1.28**	**352**	⇑*iP*	**Pn**	**11 36 08.3**	**-0.7**
VTR0				*eS*	**Sg**	**11 36 26.2**	**+0.1**
CVTR	**Volcan Turrial**	**1.28**	**352**	⇑*iP*	**Pn**	**11 36 08.3**	**-0.7**
CVTR				*eS*	**Sb**	**11 36 25.7**	**-0.1**
CORON	**Coronado**	**1.29**	**342**	*eP*	**Pn**	**11 36 08.8**	**-0.1**
CNI2	**El Empalme, Bo**	**1.29**	**58**	*eP*	**Pn**	**11 36 07.6**	**-1.2**
CNI2				*eS*	**Sb**	**11 36 28.3**	**-2.0**
VTLO	**VTLO**	**1.30**	**354**	⇓*eP*	**Pn**	**11 36 08.3**	**-0.8**
CVIMO	**Finca Echandi**	**1.32**	**345**	*eP*	**Pn**	**11 36 09.0**	**-0.4**
LCOCO	**El Coco**	**1.33**	**1**	*eP*	**Pn**	**11 36 09.4**	**0.0**
BITO	**Garabito Jaco**	**1.34**	**311**	*eP*	**Pn**	**11 36 09.2**	**-0.3**
IRES	**Siquirres**	**1.35**	**3**	*eP*	**Pn**	**11 36 09.5**	**0.0**
IRES				*eS*	**Sn**	**11 36 28.0**	**+0.6**
HDC3	**Heredia 3**	**1.35**	**338**	*eP*	**Pn**	**11 36 09.5**	**-0.3**
HDC	**Heredia**	**1.35**	**338**	⇓*iP*	**Pn**	**11 36 09.7**	**0.0**
HDC				*eS*	**Sg**	**11 36 28.8**	**+0.3**
BELE	**Belen**	**1.36**	**334**	*eP*	**Pn**	**11 36 09.2**	**-0.6**
BELE				*eS*	**Sg**	**11 36 29.2**	**+0.5**
BATAN	**Batan**	**1.36**	**9**	*eP*	**Pn**	**11 36 09.5**	**-0.2**
BATAN				*eS*	**Sg**	**11 36 29.0**	**+0.3**
BATAN	**Batan**	**1.36**	**9**	*eP*	**Pn**	**11 36 09.4**	**-0.4**
BATAN				*eS*	**Sg**	**11 36 28.9**	**+0.2**
TCS1	**Tacares**	**1.47**	**332**	*eP*	**Pn**	**11 36 11.0**	**-0.3**
RIFO	**Rio Frio, Sara**	**1.60**	**348**	⇑*iP*	**Pn**	**11 36 13.2**	**+0.2**
CARI	**Cariari**	**1.62**	**355**	*eP*	**Pb**	**11 36 14.8**	**+0.2**
CARI				*eS*	**Sg**	**11 36 37.0**	**+0.1**
ZARE	**Zarcero**	**1.64**	**331**	*eP*	**Pn**	**11 36 14.4**	**+0.7**
CBL1	**Cabuya**	**1.71**	**300**	*eP*	**Pn**	**11 36 12.2**	**-2.2**
CPMI	**Catarata Coope**	**1.72**	**333**	⇓*eP*	**Pn**	**11 36 15.0**	**+0.2**
ITAL	**Pital**	**1.83**	**338**	⇑*eP*	**Pb**	**11 36 18.0**	**-0.3**
TRT1	**Tortuguero**	**1.85**	**357**	*eP*	**Pn**	**11 36 16.5**	**+0.1**
SOCE	**Pocosol**	**1.92**	**328**	*eP*	**Pn**	**11 36 18.4**	**+0.9**
VACR	**Volcan Arenal**	**2.03**	**328**	*eP*	**Pn**	**11 36 20.0**	**+1.1**
ARE1	**Arenal 1**	**2.04**	**327**	*eP*	**Pn**	**11 36 20.4**	**+1.3**
JUNT	**Juntas**	**2.04**	**319**	*eP*	**Pn**	**11 36 20.0**	**+1.0**
JTS	**Las Juntas de**	**2.04**	**319**	*eP*	**Pn**	**11 36 20.3**	**+1.2**
JTS	**Las Juntas de**	**2.04**	**319**	*eP*	**Pn**	**11 36 18.0**	**-1.1**
CEDE	**Laguna Cedeo**	**2.05**	**328**	*eP*	**Pn**	**11 36 20.7**	**+1.4**
COVE	**Coope Vega, Sa**	**2.12**	**338**	*eP*	**Pn**	**11 36 20.6**	**+0.4**
JUD3	**Juan Diaz 3**	**2.39**	**306**	*eP*	**Pn**	**11 36 23.4**	**-0.5**
ORTG	**Ortega, Santa**	**2.45**	**311**	*eP*	**Pn**	**11 36 25.8**	**+1.0**
CUI	**Cuipilapa**	**2.46**	**321**	⇓*eP*	**Pn**	**11 36 25.8**	**+2.0**
GMAL	**Guarumal, Vera**	**2.53**	**112**	*eP*	**Pn**	**11 36 26.3**	**+0.5**
GMAL				*eS*	**Sn**	**11 36 57.2**	**+0.6**
GMAL	**Guarumal, Vera**	**2.53**	**112**	*eP*	**Pn**	**11 36 25.9**	**+0.2**
VMAR	**Armenia, Volca**	**2.55**

*NEIC **23** 11:56:03.1±1.6,55.5°N±0.1×161.8°E±0.2, h35km±2km, mb4.1/29, Error ellipse: s-maj=27.3km s-min=13.5km az=132.0*
*IDC **23** 11:56:04.9±2.3,55.2°N×161.9°E, h69km±22km, mb3.6/15, mbtmp3.9/18, MS3.1/12, Error ellipse: s-maj=19.7km s-min=13.0km az=136.0*

ISC 23 11:56:02.1±1.0,**55.1°N**±0.03°×**162.3°E**±0.03°,**h44**km±11km, **n161**,σ1°**32**/187,**mb4.0**/30,**MS3.1**/7,**4C-2D**,**Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.67**	**213**	*eP*		**Pn**	**11 56 13.3**	**-1.8**
MKZ	**Mys Kozlova**	**0.67**	**213**	PN		**Pn**	**11 56 14.3**	**-1.8**
TUMD	**Tumrok D**	**1.13**	**275**	*eP*		**Pn**	**11 56 20.3**	**-1.2**
TUMD				*eS*		**Sn**	**11 56 34.7**	**-1.1**
KBTR	**Krutoberegovo**	**1.13**	**13**	*eP*		**Pn**	**11 56 21.1**	**-0.3**
KBTR				*eS*		**Sn**	**11 56 37.5**	**+1.7**
KBTR	**Krutoberegovo**	**1.13**	**13**	PN		**Pn**	**11 56 21.1**	**-0.3**
KBTR				S		**Sn**	**11 56 37.5**	**+1.7**
BZGR	**Bezymyannyi-Gr**	**1.26**	**312**	*eP*		**Pn**	**11 56 22.8**	**-0.5**
BZGR				*eS*		**Sn**	**11 56 39.0**	**-0.1**
BZGR	**Bezymyannyi-Gr**	**1.26**	**312**	PN		**Pn**	**11 56 22.8**	**-0.5**
BZGR				S		**Sn**	**11 56 39.0**	**-0.1**
ZLN	**Zelenaya**	**1.26**	**316**	*eP*		**Pn**	**11 56 23.2**	**-0.2**
ZLN	**Zelenaya**	**1.26**	**316**	PN		**Pn**	**11 56 23.2**	**-0.2**
TUMR	**Tumrok**	**1.28**	**279**	*eP*		**Pn**	**11 56 22.9**	**-0.7**
TUMR				*eS*		**Sn**	**11 56 40.8**	**+1.2**
TUMR	**Tumrok**	**1.28**	**279**	PN		**Pn**	**11 56 22.9**	**-0.7**
TUMR				S		**Sn**	**11 56 40.8**	**+1.2**
BZP	**Bezymyannyi-Pe**	**1.31**	**309**	*eP*		**Pn**	**11 56 23.1**	**-0.9**
BZMR	**Bezymyannaya**	**1.34**	**309**	*eP*		**Pn**	**11 56 23.8**	**-0.7**
BZMR	**Bezymyannaya**	**1.34**	**309**	PN		**Pn**	**11 56 23.8**	**-0.7**
LGNR	**Loginova**	**1.36**	**316**	*eP*		**Pn**	**11 56 24.8**	**-0.1**
LGNR	**Loginova**	**1.36**	**316**	PN		**Pn**	**11 56 24.8**	**-0.1**
CIRR	**Tsirk**	**1.36**	**318**	*eP*		**Pn**	**11 56 24.9**	**+0.2**
CIRR	**Tsirk**	**1.36**	**318**	PN		**Pn**	**11 56 24.9**	**+0.2**
BZWR	**Bezymyannyi-We**	**1.36**	**310**	*eP*		**Pn**	**11 56 24.2**	**-0.6**
BZWR	**Bezymyannyi-We**	**1.36**	**310**	PN		**Pn**	**11 56 24.2**	**-0.6**
KMNR	**Kamenistaya**	**1.37**	**299**	*eP*		**Pn**	**11 56 24.2**	**-0.6**
KMNR	**Kamenistaya**	**1.37**	**299**	PN		**Pn**	**11 56 24.2**	**-0.6**
KIRR	**Kirishev**	**1.42**	**307**	*eP*		**Pn**	**11 56 24.9**	**-0.7**
KIRR	**Kirishev**	**1.42**	**307**	PN		**Pn**	**11 56 24.9**	**-0.7**
KPT	**Kopyto**	**1.48**	**306**	*eP*		**Pn**	**11 56 25.7**	**-0.7**
KPT	**Kopyto**	**1.48**	**306**	PN		**Pn**	**11 56 25.7**	**-0.7**
KRSR	**Krestovskiy**	**1.50**	**318**	*eP*		**Pn**	**11 56 25.9**	**-0.8**
KRSR	**Krestovskiy**	**1.50**	**318**	PN		**Pn**	**11 56 25.9**	**-0.8**
KLY	**Klyuchi**	**1.54**	**322**	*eP*		**Pn**	**11 56 25.5**	**-1.6**
KLY				*eS*		**Sn**	**11 56 46.5**	**+0.6**
KLY	**Klyuchi**	**1.54**	**322**	PN		**Pn**	**11 56 25.5**	**-1.6**
KLY				S		**Sn**	**11 56 46.5**	**+0.6**
SRKR	**Sorokina**	**1.68**	**337**	*eP*		**Pn**	**11 56 29.5**	**+0.4**
SRKR	**Sorokina**	**1.68**	**337**	PN		**Pn**	**11 56 29.5**	**+0.4**
KOZ	**Kozyrevsk**	**1.70**	**305**	*eP*		**Pn**	**11 56 29.2**	**-0.1**
KOZ	**Kozyrevsk**	**1.70**	**305**	PN		**Pn**	**11 56 29.2**	**-0.1**
SRDR	**Sredinnyy**	**1.92**	**310**	*eP*		**Pn**	**11 56 32.1**	**-0.3**
SRDR	**Sredinnyy**	**1.92**	**310**	PN		**Pn**	**11 56 32.1**	**-0.3**
BKI	**Bering**	**2.08**	**86**	*eP*		**Pn**	**11 56 34.3**	**-0.1**
BKI				*eS*		**Sn**	**11 56 58.3**	**-0.7**
BKI	**Bering**	**2.08**	**86**	PN		**Pn**	**11 56 34.3**	**-0.1**
BKI				S		**Sn**	**11 56 58.3**	**-0.7**
SPN	**Mys Shipunski**	**2.44**	**215**	*eP*		**Pn**	**11 56 37.8**	**-1.6**
SPN				*eS*		**Sn**	**11 57 05.5**	**-2.5**
SPN	**Mys Shipunski**	**2.44**	**215**	PN		**Pn**	**11 56 37.8**	**-1.6**
SPN				S		**Sn**	**11 57 05.5**	**-2.5**
NLC	**Nalytchevo**	**2.63**	**224**	*eP*		**Pn**	**11 56 41.6**	**-0.4**
NLC				*eS*		**Sn**	**11 57 13.2**	**+0.5**
NLC	**Nalytchevo**	**2.63**	**224**	PN		**Pn**	**11 56 41.6**	**-0.4**
NLC				S		**Sn**	**11 57 13.2**	**+0.5**
SMAR	**Somma**	**2.79**	**230**	*eP*		**Pn**	**11 56 44.8**	**+0.3**
SMAR				*eS*		**Sn**	**11 57 17.1**	**+0.1**
SMAR	**Somma**	**2.79**	**230**	PN		**Pn**	**11 56 44.8**	**+0.3**
SMAR				S		**Sn**	**11 57 17.1**	**+0.1**
KRX	**Arik**	**2.80**	**233**	*eP*		**Pn**	**11 56 44.8**	**+0.4**
KRX				*eS*		**Sn**	**11 57 18.6**	**+1.6**
KRX	**Arik**	**2.80**	**233**	PN		**Pn**	**11 56 44.8**	**+0.4**
KRX				S		**Sn**	**11 57 18.6**	**+1.6**
AVH	**Avacha**	**2.82**	**230**	*eP*		**Pn**	**11 56 45.3**	**+0.6**
AVH				*eS*		**Sn**	**11 57 20.5**	**+3.1**
AVH	**Avacha**	**2.82**	**230**	PN		**Pn**	**11 56 45.3**	**+0.6**
AVH				S		**Sn**	**11 57 20.5**	**+3.1**
UGLR	**Uglovaya**	**2.82**	**229**	*eP*		**Pn**	**11 56 45.2**	**+0.5**
UGLR				*eS*		**Sn**	**11 57 19.1**	**+1.6**
UGLR	**Uglovaya**	**2.82**	**229**	PN		**Pn**	**11 56 45.2**	**+0.5**
UGLR				S		**Sn**	**11 57 19.1**	**+1.6**
KOK	**Koryaka**	**2.85**	**232**	*eP*		**Pn**	**11 56 45.5**	**+0.4**
KOK	**Koryaka**	**2.85**	**232**	PN		**Pn**	**11 56 45.5**	**+0.4**
GNL	**Ganaly**	**2.94**	**243**	*eP*		**Pn**	**11 56 46.8**	**+0.3**
GNL	**Ganaly**	**2.94**	**243**	PN		**Pn**	**11 56 46.8**	**+0.3**
DALK	**Dalny**	**2.98**	**227**	*eP*		**Pn**	**11 56 47.0**	**+0.2**
DALK				*eS*		**Sn**	**11 57 22.1**	**+1.0**
DALK	**Dalny**	**2.98**	**227**	PN		**Pn**	**11 56 47.0**	**+0.2**
DALK				S		**Sn**	**11 57 22.1**	**+1.0**
INSR	**Institute**	**3.01**	**229**	*eP*		**Pn**	**11 56 48.4**	**+1.1**
INSR				*eS*		**Sn**	**11 57 24.3**	**+2.2**
PET	**Petropavlovsk**	**3.02**	**228**			**Pn**	**11 56 48.2**	**+0.7**
PET					Sn	**Sn**	**11 57 24.1**	**+1.8**
PET	**Petropavlovsk**	**3.02**	**228**	*eP*		**Pn**	**11 56 48.0**	**+0.5**
PET				*eS*		**Sn**	**11 57 23.9**	**+1.6**
PET	**Petropavlovsk**	**3.02**	**228**	*cP*	*iPN*	**Pn**	**11 56 48.1**	**+0.7**
PET				*eS*		**Sn**	**11 57 24.4**	**+2.1**
TIGL	**Tigil**	**3.35**	**324**	*eP*		**Pn**	**11 56 52.0**	**+0.1**
KRMR	**Karymshinskiy**	**3.38**	**229**	*eP*		**Pn**	**11 56 53.2**	**+0.8**
KRMR				*eS*		**Sn**	**11 57 32.9**	**+1.7**
KRMR	**Karymshinskiy**	**3.38**	**229**	PN		**Pn**	**11 56 53.2**	**+0.8**
KRMR				S		**Sn**	**11 57 32.9**	**+1.7**
PEA0B	**Petropavlovsk-**	**3.40**	**236**			**Pn**	**11 56 54.3**	**+1.7**
PEA0B	**Petropavlovsk-**	**3.40**	**236**	PN		**Pn**	**11 56 54.3**	**+1.7**
PETK	**Petropavlovsk-**	**3.40**	**236**			**Pn**	**11 56 53.6**	**+1.0**
PETK	**Petropavlovsk-**	**3.40**	**236**	P		**Pn**	**11 56 52.7**	**+0.1**
	15nm,0.4s,baz=71,slow=20,SNR=16							
PETK				S		**Sn**	**11 57 32.7**	**+1.1**
	34nm,0.5s,baz=22,slow=16,SNR=7.7							
PETK				LR		LR	11 58 21.7	
	comp=Z,149nm,20.6s,baz=44,slow=42							
RUS	**Russkaya**	**3.52**	**222**	*eP*		**Pn**	**11 56 54.2**	**0.0**
RUS				*eS*		**Sn**	**11 57 35.3**	**+0.7**
RUS	**Russkaya**	**3.52**	**222**	PN		**Pn**	**11 56 54.2**	**0.0**
RUS				S		**Sn**	**11 57 35.3**	**+0.7**
GRL	**Gorelyy**	**3.61**	**226**	*eP*		**Pn**	**11 56 56.7**	**+1.1**
GRL				*eS*		**Sn**	**11 57 39.5**	**+2.5**
GRL	**Gorelyy**	**3.61**	**226**	PN		**Pn**	**11 56 56.7**	**+1.1**
GRL				S		**Sn**	**11 57 39.5**	**+2.5**
MTVR	**Mutnovka**	**3.61**	**225**	*eP*		**Pn**	**11 56 56.6**	**+0.9**
MTVR				*eS*		**Sn**	**11 57 38.6**	**+1.5**
MTVR	**Mutnovka**	**3.61**	**225**	PN		**Pn**	**11 56 56.6**	**+0.9**
MTVR				S		**Sn**	**11 57 38.6**	**+1.5**
APC	**Apacha**	**3.77**	**237**	*eP*		**Pn**	**11 56 59.9**	**+2.2**
APC	**Apacha**	**3.77**	**237**	PN		**Pn**	**11 56 59.9**	**+2.2**
ASAK	**Asacha**	**3.80**	**226**	*eP*		**Pn**	**11 56 59.7**	**+1.5**
ASAK				*eS*		**Sn**	**11 57 44.9**	**+3.2**
ASAK	**Asacha**	**3.80**	**226**	PN		**Pn**	**11 56 59.7**	**+1.5**
ASAK				S		**Sn**	**11 57 44.9**	**+3.2**
OSSR	**Ossora**	**4.17**	**5**	*eP*		**Pn**	**11 57 03.9**	**+0.8**
OSSR	**Ossora**	**4.17**	**5**	PN		**Pn**	**11 57 03.9**	**+0.8**
KDTR	**Khodutka, Kamc**	**4.18**	**219**	*eP*		**Pn**	**11 57 03.9**	**+0.6**
KDTR				*eS*		**Sn**	**11 57 50.7**	**-0.2**
KDTR	**Khodutka, Kamc**	**4.18**	**219**	PN		**Pn**	**11 57 03.9**	**+0.6**
KDTR				S		**Sn**	**11 57 50.7**	**-0.2**
SKR	**Severo-Kuril's**	**5.82**	**223**	*iP*	*e*PN	**Pn**	**11 57 27.7**	**+1.9**
SHEM	**Shemya Is, Ala**	**7.33**	**104**	LR		LR	12 00 34.4	
	comp=Z,113nm,20.0s,baz=336,slow=36							
MA2	**Magadan**	**7.70**	**310**	LR		LR	12 01 11.4	
	comp=Z,106nm,20.5s,baz=121,slow=41							
JKA	**Kamikawa-asahi**	**16.82**	**237**	Pn		**Pn**	**11 59 54.8**	**+0.6**
JKA				IAmb		IAmb	12 00 36.4	
	comp=Z,25nm,1.3s							
ASAJ	**Asahikawa**	**16.82**	**237**	P		**Pn**	**11 59 54.5**	**+0.3**
	comp=Z,4.3nm,0.5s,baz=50,slow=5.2,SNR=10							
ASAJ	**Asahikawa**	**16.82**	**237**	P		**Pn**	**11 59 54.8**	**+0.6**
ASAJ				pmax		pmax		
	comp=Z,25nm,1.3s							
ERM	**Erimo**	**18.17**	**232**	P		**P**	**12 00 09.9**	**-0.9**
ERM	**Erimo**	**18.17**	**232**	P		**P**	**12 00 09.9**	**-0.9**
ERM				pmax		pmax		
	comp=Z,86nm,1.5s							
YAK	**Yakutsk**	**18.23**	**306**	LR		LR	12 07 40.1	
	comp=Z,62nm,19.1s,baz=66,slow=39							
YAK	**Yakutsk**	**18.23**	**306**	*iP*		**Pn**	**12 00 11.3**	**-0.2**
YAK				pmax		pmax		
	comp=Z,9.0nm,0.5s							
KLR	**Kul'dur**	**19.57**	**265**	P		**P**	**12 00 25.9**	**-0.2**
	comp=Z,0.8nm,0.4s,baz=65,slow=11,SNR=4.8							
KLR				LR		LR	12 08 50.5	
	comp=Z,58nm,18.2s,baz=70,slow=40							
KLR	**Kul'dur**	**19.57**	**265**	*iP*		**Pn**	**12 00 28.3**	**+0.7**
KLR				pmax		pmax		
	comp=Z,2.0nm,1.1s							
K15K	**Wolf Creek Mou**	**19.86**	**54**	P		**P**	**12 00 30.6**	**+1.5**
K15K				IAmb		IAmb	12 01 05.3	
	comp=Z,14nm,1.4s							
JTM	**Tenmabayashi**	**20.10**	**233**	P		Pn	12 00 32.9	-1.0
N15K	**Kwethluk River**	**20.52**	**60**	P		Pn	12 00 39.3	+0.5
F17K	**Baldwin Pennin**	**20.72**	**42**	P		**P**	**12 00 40.2**	**+1.8**
L16K	**Owhat River**	**20.80**	**56**	P		Pn	12 00 42.0	-0.1
H17K	**Granite Mounta**	**20.92**	**47**	P		**P**	**12 00 42.6**	**+2.0**
M16K	**Timber Creek**	**21.05**	**58**	P		**P**	**12 00 43.7**	**+1.6**
M16K				IAmb		IAmb	12 01 05.5	
	comp=Z,11nm,1.4s							
E18K	**Tukpahlearik C**	**21.24**	**40**	P		**P**	**12 00 46.1**	**+2.1**
E18K				IAmb		IAmb	12 01 03.3	
	comp=Z,11nm,1.5s							
K17K	**Iditarod**	**21.39**	**53**	P		**P**	**12 00 47.0**	**+1.4**
K17K				IAmb		IAmb	12 01 06.4	
	comp=Z,6.8nm,1.0s							
H18K	**Honhosa River**	**21.61**	**47**	P		**P**	**12 00 50.2**	**+2.2**
TIXI	**Tiksi**	**21.86**	**332**	P		**P**	**12 00 49.9**	**-0.7**
TIXI				IAmb		IAmb	12 00 55.3	
	comp=Z,4.6nm,0.8s							
TIXI	**Tiksi**	**21.86**	**332**	P		**P**	**12 00 50.6**	**0.0**
	comp=Z,3.6nm,0.6s,baz=121,slow=8.1,SNR=9.2							
TIXI				LR		LR	12 09 40.2	
	comp=Z,38nm,20.2s,baz=146,slow=38							
	comp=Z,3.6nm,0.6s							
TIXI	**Tiksi**	**21.86**	**332**	*iP*	*e*P	**P**	**12 00 49.6**	**-0.9**
TIXI				pmax		pmax		
	comp=Z,5.0nm,0.8s							
F19K	**Shaleruckik Mo**	**22.16**	**42**	P		**P**	**12 00 55.4**	**+1.6**
F19K				IAmb		IAmb	12 00 57.3	
	comp=Z,4.9nm,0.9s							
USA0B	**Ussuriysk Arra**	**22.30**	**253**	P		**P**	**12 00 55.3**	**-0.3**
USA0B	**Ussuriysk Arra**	**22.30**	**253**	P		**P**	**12 00 55.3**	**-0.3**
USA0B				pmax		pmax		
	comp=Z,4.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**22.30**	**253**	P		**P**	**12 00 55.1**	**-0.5**
USRK	**Ussuriysk Ar.**	**22.30**	**253**	P		**P**	**12 00 55.1**	**-0.5**
H19K	**Roundabout Mou**	**22.46**	**46**	P		**P**	**12 00 59.0**	**+2.0**
F21K	**Alatna River**	**23.88**	**42**	P		**P**	**12 01 12.9**	**+1.6**
B21K	**Ikpikpuk River**	**23.97**	**36**	P		**P**	**12 01 13.1**	**+1.1**
E22K	**Anaktuvuk Pass**	**24.66**	**40**	P		**P**	**12 01 19.2**	**+0.9**
E22K				IAmb		IAmb	12 01 20.7	
	comp=Z,4.8nm,0.8s							
MJA0	**Matsu Arr-Jizo**	**24.83**	**232**	*eP*		**P**	**12 01 19.9**	**-0.2**
MJA0				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MJAR	**Matsushiro Arr**	**24.85**	**232**	P		**P**	**12 01 19.4**	**-0.8**
	comp=Z,2.4nm,0.7s,baz=28,slow=8.6,SNR=6.4							
MJAR				LR		LR	12 11 00.4	
	comp=Z,44nm,20.9s,baz=60,slow=36							
	comp=Z,2.4nm,0.7s							
C23K	**Itkillik River**	**25.38**	**36**	P		**P**	**12 01 25.6**	**+0.8**
C23K				IAmb		IAmb	12 01 43.8	
	comp=Z,8.9nm,1.5s							
TOLK	**Toolik Lake Re**	**25.55**	**39**	P		**P**	**12 01 26.6**	**+0.2**
TOLK				IAmb		IAmb	12 01 29.4	
	comp=Z,3.3nm,0.8s							
E24K	**Your Creek**	**25.89**	**41**	P		**P**	**12 01 30.5**	**+1.0**
E24K				IAmb		IAmb	12 01 30.9	
	comp=Z,2.9nm,0.6s							
G24K	**Hadweenzic Riv**	**26.19**	**44**	P		**P**	**12 01 33.4**	**+1.3**
G24K				IAmb		IAmb	12 01 36.3	
	comp=Z,9.3nm,1.5s							
ILAR	**Eielson Array**	**26.46**	**48**	P		**P**	**12 01 35.0**	**+0.4**
	comp=Z,0.5nm,0.8s,baz=266,slow=6.9,SNR=5.4							
	comp=Z,0.5nm,0.8s							
D25K	**Kavik River**	**26.77**	**38**	P		**P**	**12 01 38.2**	**+0.7**
BMAR	**Burnt Mountain**	**27.34**	**42**	P		**P**	**12 01 43.8**	**+1.3**
KSRS	**Korea Array**	**29.22**	**247**	LR		LR	12 13 04.8	
	comp=Z,11nm,20.4s,baz=215,slow=35							
INK	**Inuvik**	**31.46**	**40**	P		**P**	**12 02 19.7**	**+0.8**
INK				IAmb		IAmb	12 02 20.1	
	comp=Z,4.3nm,1.3s							
INK	**Inuvik**	**31.46**	**40**	P		**P**	**12 02 19.7**	**+0.8**
INK				pmax		pmax		
	comp=Z,4.0nm,1.3s							
C36M	**Paulatuk**	**34.63**	**37**	P		**P**	**12 02 47.1**	**+0.6**
SONM	**Songino Array**	**34.76**	**282**	LR		LR	12 18 28.5	
	comp=Z,34nm,20.8s,baz=57,slow=39							
H11N2	**WAKE ISLAND Hy**	**35.49**	**173**	T		T	12 40 14.8	
	baz=355,slow=76,SNR=141							
H11N3	**WAKE ISLAND Hy**	**35.51**	**173**	T		T	12 40 20.0	
	baz=355,slow=76,SNR=100							
H11N1	**WAKE ISLAND Hy**	**35.51**	**173**	T		T	12 40 18.0	
	baz=355,slow=76,SNR=171							
H11S1	**WAKE ISLAND Hy**	**35.69**	**173**	T		T	12 41 42.0	
	baz=352,slow=76,SNR=4.9							
H11S3	**WAKE ISLAND Hy**	**36.70**	**173**	T		T	12 41 50.3	
	baz=352,slow=76,SNR=3.4							
H11S2	**WAKE ISLAND Hy**	**36.71**	**173**	T		T	12 41 53.5	
	baz=352,slow=76,SNR=4.5							
YKA	**Yellowknife Ar**	**40.78**	**45**	P		**P**	**12 03 38.9**	**+0.4**
YKA	**Yellowknife Ar**	**40.78**	**45**	P		**P**	**12 03 39.1**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=301,slow=8.4,SNR=23							
	comp=Z,1.1nm,0.6s							
YKA	**Yellowknife Ar**	**40.78**	**45**	*eP*		**P**	**12 03 39.6**	**+1.1**
YKA				pmax		pmax		
	comp=Z,1.0nm,0.6s							
RES	**Resolute Bay**	**40.94**	**23**	P		**P**	**12 03 40.3**	**+0.6**
RES				IAmb		IAmb	12 04 20.0	
	comp=Z,6.8nm,1.4s							
RES	**Resolute Bay**	**40.94**	**23**	P		**P**	**12 03 40.3**	**+0.6**
RES				pmax		pmax		
	comp=Z,7.0nm,1.4s							
ZALV	**Zalesovo Beam**	**42.82**	**302**	LR		LR	12 22 24.3	
	comp=Z,29nm,18.3s,baz=68,slow=37							
SPITS	**Spitsbergen Ar**	**45.36**	**351**	P		**P**	**12 04 14.1**	**-1.2**
	comp=Z,8.9nm,1.0s,baz=43,slow=8.7,SNR=4.0							
	comp=Z,8.9nm,1.0s							
KURK	**Kurchatov**	**47.80**	**301**	*iP*		**P**	**12 04 37.1**	**+2.3**
KURK				pmax		pmax		
	comp=Z,4.0nm,1.7s							
KURBB	**Kurchatov Arra**	**47.91**	**301**	P		**P**	**12 04 32.1**	**-3.5**
	comp=Z,2.9nm,0.2s,baz=57,slow=7.5,SNR=2.7							
	comp=Z,2.9nm,0.2s							
MK31	**Makanchi Array**	**48.49**	**295**	P		**P**	**12 04 38.1**	**-2.1**
MK31				IAmb		IAmb	12 05 19.0	
	comp=Z,2.6nm,1.0s							
MK31	**Makanchi Array**	**48.49**	**295**	P		**P**	**12 04 38.1**	**-2.1**
MK31				pmax		pmax		
	comp=Z,3.0nm,1.0s							
MKAR	**Makanchi Array**	**48.49**	**295**	P		**P**	**12 04 37.8**	**-2.3**
MKAR	**Makanchi Array**	**48.49**	**295**	P		**P**	**12 04 38.5**	**-1.6**
	comp=Z,0.6nm,0.7s,baz=48,slow=6.0,SNR=2.0							
	comp=Z,0.6nm,0.7s							
MAKZ	**Makanchi**	**48.64**	**296**	P		**P**	**12 04 37.5**	**-3.8**
MAKZ	**Makanchi**	**48.64**	**296**	P		**P**	**12 04 37.5**	**-3.8**
MAKZ				pmax		pmax		
	comp=Z,6.0nm,0.9s							
BVAR	**Borovoye Array**	**50.18**	**308**	P		**P**	**12 04 49.5**	**-3.5**
	comp=Z,1.1nm,0.6s,baz=58,slow=9.1,SNR=4.9							
	comp=Z,1.1nm,0.6s							
ARU	**Arti**	**52.81**	**317**	LR		LR	12 29 13.1	
	comp=Z,53nm,18.9s,baz=14,slow=38							
PDAR	**Pinedale Array**	**55.40**	**63**	P		**P**	**12 05 33.4**	**+1.5**
	comp=Z,0.4nm,0.6s,baz=324,slow=7.2,SNR=4.2							
	comp=Z,0.4nm,0.6s							
CMAR	**Chiang Mai Arr**	**59.89**	**259**	P		**P**	**12 06 02.5**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=22,slow=6.5,SNR=4.6							
CMAR				LR		LR	12 36 48.8	
	comp=Z,14nm,20.3s,baz=135,slow=41							
	comp=Z,0.9nm,0.7s							
CMAR	**Chiang Mai Arr**	**59.89**	**259**	*eP*		**P**	**12 06 02.9**	**-0.5**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**67.55**	**330**	P		**P**	**12 06 51.7**	**-1.7**
	comp=Z,0.5nm,0.4s,baz=28,slow=6.7,SNR=2.7							
	comp=Z,0.5nm,0.4s							
TXAR	**Lajitas Array**	**68.65**	**69**	P		**P**	**12 07 02.1**	**+1.3**
	comp=Z,0.4nm,0.5s,baz=292,slow=4.5,SNR=11							
	comp=Z,0.4nm,0.5s							
WRA	**Warramunga Arr**	**78.48**	**207**	P		**P**	**12 07 57.9**	**-0.5**
	comp=Z,0.8nm,0.8s,baz=21,slow=6.0,SNR=6.4							
	comp=Z,0.8nm,0.8s							
WRA	**Warramunga Arr**	**78.48**	**207**	*eP*		**P**	**12 07 59.4**	**+1.1**
ASAR	**Alice Springs**	**82.16**	**206**	P		**P**	**12 08 18.6**	**+0.6**
	comp=Z,0.9nm,0.5s,baz=16,slow=4.7,SNR=23							
	comp=Z,0.9nm,0.5s							
ESDC	**Sonseca Array**	**84.86**	**349**	P		**P**	**12 08 31.3**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=359,slow=4.4,SNR=11							
	comp=Z,1.2nm,0.8s							

UCR 23 11:56:20.6±1.1,**10.30N**×**85.42W**,**h39**km±3km,**MW3.5, 13C-18D,Costa Rica**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
ORTG	**Ortega, Santa**	**0.08**	**327**	*i*	*P*	**Pn**	**11 56 27.4**	**+0.2**
ORTG				*eS*		**Sn**	**11 56 32.6**	**+0.9**
NICO	**Nicoya**	**0.16**	**191**	*i*	*P*	**Pn**	**11 56 27.5**	**-2.1**
NICO				*eS*		**Sn**	**11 56 33.2**	**-4.6**
SACU	**Santa Cruz**	**0.17**	**259**	*i*	*P*	**Pn**	**11 56 27.9**	**-1.6**
SACU				*eS*		**Sn**	**11 56 33.7**	**-3.8**
JUD3	**Juan Diaz 3**	**0.18**	**224**	*i*	*eP*	**Pn**	**11 56 27.9**	**-1.6**
JUD3				*eS*		**Sn**	**11 56 33.8**	**-3.5**
DELF	**Filadelfia**	**0.20**	**318**	*i*	*P*	**Pn**	**11 56 28.3**	**-0.7**
DELF				*eS*		**Sn**	**11 56 34.4**	**-2.0**
DUNO	**Dulce Nombre,**	**0.23**	**200**	*i*	*P*	**Pn**	**11 56 28.1**	**-0.8**
DUNO				*eS*		**Sn**	**11 56 34.4**	**-1.6**
ALIBA	**Liberia Airpor**	**0.32**	**337**	*i*	*P*	**Pn**	**11 56 30.9**	**+1.9**
ALIBA				*eS*		**Sn**	**11 56 38.4**	**+2.9**
NYURE	**Nandayure**	**0.34**	**152**	*i*	*P*	**Pn**	**11 56 28.7**	**-0.4**
NYURE				*eS*		**Sn**	**11 56 35.3**	**-0.3**
CNAS	**Canas**	**0.34**	**67**	*i*	*P*	**Pn**	**11 56 30.5**	**+1.3**
CNAS				*eS*		**Sn**	**11 56 37.4**	**+1.7**
ELI1	**Hacienda Flor**	**0.37**	**339**	*i*	*P*	**Pn**	**11 56 30.5**	**+1.0**
ELI1				*eS*		**Sn**	**11 56 38.4**	**+2.2**
COLC	**Colonia**	**0.42**	**29**	*i*	*eP*	**Pn**	**11 56 30.4**	**+0.2**
COLC				*eS*		**Sn**	**11 56 38.3**	**+1.2**
CUI	**Cuipilapa**	**0.44**	**34**	*i*	*eP*	**Pn**	**11 56 30.6**	**+0.2**
CUI				*eS*		**Sn**	**11 56 38.4**	**+1.0**
JUNT	**Juntas**	**0.45**	**92**	*eP*		**Pn**	**11 56 30.2**	**-0.3**
HZTE	**Horizontes, Gu**	**0.45**	**337**	*i*	*P*	**Pn**	**11 56 31.4**	**+0.8**
HZTE				*eS*		**Sn**	**11 56 39.7**	**+2.0**
JTS	**Las Juntas de**	**0.46**	**90**	*eP*		**Pn**	**11 56 30.1**	**-0.5**
JTS				*eS*		**Sn**	**11 56 34.9**	**-2.9**
GPS3	**Bodega del ICE**	**0.46**	**6**	*i*	*eP*	**Pn**	**11 56 33.2**	**+2.4**
GPS3				*eS*		**Sn**	**11 56 40.5**	**+2.5**
VRLE	**La Escondida,**	**0.49**	**6**	*i*	*P*	**Pn**	**11 56 31.5**	**+0.2**
GB1A	**Borinquen Arri

VSTU	**Vaestervik**	**2.92**	**271**	P		**Pn**	**12 04 00.5**	**+1.7**
UPP	**Uppsala**	**3.12**	**315**	P		**Pn**	**12 04 02.7**	**+1.2**
UPP	**Uppsala**	**3.12**	**315**	P		**Pn**	**12 04 02.7**	**+1.2**
GRAU	**Graesoe**	**3.17**	**327**	P		**Pn**	**12 04 02.4**	**+0.2**
GRAU	**Graesoe**	**3.17**	**327**	P		**Pn**	**12 04 02.4**	**+0.2**
FLYU	**Flymyra**	**3.22**	**320**	P		**Pn**	**12 04 03.5**	**+0.7**
FLYU	**Flymyra**	**3.22**	**320**	P		**Pn**	**12 04 03.5**	**+0.7**
FIBU	**Brunna**	**3.25**	**314**	P		**Pn**	**12 04 04.2**	**+0.9**
FIBU	**Brunna**	**3.25**	**314**	P		**Pn**	**12 04 04.2**	**+0.9**
ESKU	**Eskilstuna**	**3.30**	**300**	P		**Pn**	**12 04 05.0**	**+1.0**
ESKU	**Eskilstuna**	**3.30**	**300**	P		**Pn**	**12 04 05.0**	**+1.0**
BACU	**Backbrunna**	**3.32**	**312**	P		**Pn**	**12 04 05.4**	**+1.2**
BACU	**Backbrunna**	**3.32**	**312**	P		**Pn**	**12 04 05.4**	**+1.2**
RAF	**Rauma**	**3.32**	**358**	*e*P		**Pn**	**12 04 02.3**	**-2.0**
RAF	**Rauma**	**3.32**	**358**	*e*P		**Pn**	**12 04 05.7**	**+1.5**
RAF					AML	AML	12 04 58.9	
	comp=Z,7.4nm,0.4s							
RAF					AML	AML	12 04 59.0	
	comp=E,18nm,0.6s							
RAF					AML	AML	12 05 05.8	
	comp=N,6.7nm,0.3s							
BLEU	**Blekinge**	**3.65**	**250**	*i* P		**Pn**	**12 04 09.6**	**+0.7**
BLEU				*i* S		**Sn**	**12 04 52.8**	**+0.2**
FINES	**FINESS Array B**	**4.28**	**27**	Pn		**Pn**	**12 04 19.2**	**+1.8**
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=7.6							
FINES				Sn		**Sn**	**12 05 09.4**	**+1.3**
	comp=N,0.5nm,0.3s,baz=213,slow=20,SNR=4.0							
FINES				Lg		Lg	12 05 23.2	
	comp=N,1.1nm,0.3s,baz=214,slow=27,SNR=3.5 comp=N,0.6nm,0.2s							
KEF	**Keuruu**	**4.70**	**17**	*e*P		**Pn**	**12 04 21.7**	**-1.5**
BSD	**Bornholm Skovb**	**4.71**	**239**	*i* P		**Pn**	**12 04 23.0**	**-0.3**
BSD				*i* S		**Sn**	**12 05 14.9**	**-3.6**
BSD				IAML			12 05 52.7	
	comp=Z,2.1nm,0.2s							
HFS	**Hagfors**	**4.93**	**303**	Pn		**Pn**	**12 04 26.7**	**+0.4**
	comp=Z,0.9nm,0.3s,baz=108,slow=14,SNR=37							
HFS				Sn		**Sn**	**12 05 23.2**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=113,slow=25,SNR=6.6							
HFS				Lg		Lg	12 05 44.2	
	comp=Z,1.2nm,0.3s,baz=115,slow=30,SNR=6.9 comp=Z,1.9nm,0.2s							
BORU	**Boraas**	**4.94**	**273**	*i* P		**Pn**	**12 04 28.0**	**+1.5**
BORU				*e*S		Sn	12 05 14.2	-10
LUNU	**Lund**	**5.14**	**250**	*e*P		**Pn**	**12 04 28.3**	**-1.0**
LUNU				*e*S		**Sn**	**12 05 22.6**	**-6.7**
VAF	**Ylistaro**	**5.36**	**3**	*e*P		**Pn**	**12 04 29.5**	**-2.7**
NOA	**NORSAR Array B**	**6.43**	**306**	Pn		**Pn**	**12 04 47.7**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=99,slow=15,SNR=3.9							
NOA				Lg		Lg	12 06 30.9	
	comp=Z,0.1nm,0.3s,baz=123,slow=19,SNR=4.2 comp=Z,0.7nm,0.4s							
JOF	**Joensuu**	**6.98**	**38**	*e*P		**Pn**	**12 04 54.1**	**-0.3**
ARCES	**ARCESS Array B**	**11.96**	**6**	Pn		**Pn**	**12 05 59.2**	**-3.5**
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=5.6 comp=Z,2.8nm,0.9s							

UCR ***23*** *12:42:41.9±0.5, 7.28N×82.69W, h8km±12km, MW5.1*
IDC ***23*** *12:42:41.1±0.5, 7.19N×82.66W, h0km, mb4.6/17, mbtmp4.6/22, ML4.2/5, MS4.2/55, Error ellipse: s-maj=20.9km s-min=11.3km az=55.0*
MOS ***23*** *12:42:42.0±1.0, 7.27N×82.70W, h14km, mb5.2/27, Error ellipse: s-maj=11.2km s-min=6.5km az=115.0*
UPA ***23*** *12:42:43.4±0.9, 7.27N×82.73W, h16km±10km, MW5.1, Fault plane solution: NP1:φs63.00000°, δ16.00000°, λ56.00000°.*
NEIC ***23*** *12:42:44.8, 7.42N×82.74W, h10km*
NEIC ***23*** *12:42:44.2±1.6, 7.38N±0.03×82.72W±0.06, h10km±1km, mb5.1/536, Mwr4.9/42, Error ellipse: s-maj=11.2km s-min=2.9km az=241.0, Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=1.35; Mθθ=-1.17; Mφφ=0.18; Mrθ=0.94; Mθφ=1.74; Mφr=0.41; Fault plane solution: M0=2.38000×10¹⁶ NP1:φs=274.56000°, δ63.91000°, λ44.52000°. NP2:φs=161.16000°, δ50.97000°, λ145.51000°. Principal axes: T 2.1689, Plg49.0000°, Azm134.0000°; N 0.3814, Plg40.0000°, Azm299.0000°; P -2.5503, Plg8.0000°, Azm35.0000°;*
RSNC ***23*** *12:42:44.9±0.7, 7.7N±2.8×8.3W±1.1, h10km±8km, M4.9, mb5.0, mB5.4, ML4.3, Mw(mB)4.9, MwMwp4.9, Mwp5.2*
CATAC ***23*** *12:42:46.5±0.6, 7.47N×82.68W, h16km±6km, MB5.6, mb5.5, ML5.3*
GCMT ***23*** *12:42:48.2±0.2, 7.23N±0.01×82.69W±0.01, h17km, MW5.1/125, Moment Tensor Solution. s85,c122; s125,c221; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.38±.13; Mθθ=3.85±.08; Mφφ=0.53±.09; Mrθ=3.75±.23; Mθφ=2.27±.06; Mrφ=0.32±.24; Best double couple: M0=6.03300×10¹⁶ NP1:φs=283.00000°, δ65.00000°, λ76.00000°. NP2:φs=133.00000°, δ28.00000°, λ117.00000°. Principal axes: T 5.8770, Plg67.0000°, Azm167.0000°; N 0.3060, Plg12.0000°, Azm289.0000°; P -6.1880, Plg19.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 12:42:43.5±1.2, 7.30N±0.03×82.68W±0.03, h15km±7km, n1123, σ1s46/948, mb5.1/295, MS4.3/49, 26C-64D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PTPM	**Petroterminale**		**0.92**	**347**	⇓*e*P		**Pb**	**12 43 00.2**	**-0.9**
PTPM					*e*S		**Sb**	**12 43 13.1**	**0.0**
DVD	**David**	**1.15**	**11**	*e*P			**Pn**	**12 43 04.0**	**-1.0**
DVD					*e*S		**Sb**	**12 43 19.6**	**-0.1**
PIRO	**Carate, Puerto**	**1.28**	**329**	*e*P			**Pn**	**12 43 04.4**	**-2.3**
CDITO	**Canoas**	**1.28**	**351**				**Pn**	**12 43 05.4**	**-1.4**
CDITO					Sg		**Sb**	**12 43 22.1**	**-1.3**
CDITO	**Canoas**	**1.28**	**351**	*i* P			**Pn**	**12 43 05.7**	**-1.1**
CDITO				*i* S			**Sb**	**12 43 21.7**	**-1.8**
CDITO				IAML				12 43 32.9	
	comp=Z,30μm,1.0s								
CDITO	**Canoas**	**1.28**	**351**	*i* P			**Pn**	**12 43 05.2**	**-1.5**
CDITO				*e*S			**Sb**	**12 43 22.2**	**-1.3**
JIME	**Puerto Jimenez**	**1.39**	**332**	*e*P			**Pn**	**12 43 06.7**	**-1.5**
JIME				*e*S			**Sn**	**12 43 25.9**	**-0.4**
FITO	**Golfito**	**1.40**	**340**	*e*P			**Pn**	**12 43 06.6**	**-1.8**
FITO				*e*S			**Sn**	**12 43 25.1**	**-1.4**
BCO2	**Palmira**	**1.42**	**6**	*e*P			**Pn**	**12 43 08.2**	**-0.6**
BCO2				*e*S			**Sb**	**12 43 27.5**	**-0.1**
EDAD	**Golfito**	**1.43**	**340**	*e*P			**Pn**	**12 43 06.7**	**-2.2**
BRU2	**Volcan**	**1.48**	**359**				**Pn**	**12 43 09.1**	**-0.6**
BRU2	**Volcan**	**1.48**	**359**	⇓*e*P			**Pn**	**12 43 09.0**	**-0.8**
BRU2				*e*S			**Sb**	**12 43 29.2**	**-0.4**
BRU2	**Volcan**	**1.48**	**359**	*i* P			**Pn**	**12 43 09.1**	**-0.6**
BRU2				*i* S			**Sn**	**12 43 28.2**	**-0.7**
BRU2				IAML				12 43 38.4	
	comp=Z,30μm,1.0s								
BRU2	**Volcan**	**1.48**	**359**	⇓*i*P			**Pn**	**12 43 09.0**	**-0.8**
BRU2				*e*S			**Sn**	**12 43 27.9**	**-1.0**
LNBQ3	**Los Naranjos,**	**1.50**	**9**	*e*P			**Pn**	**12 43 09.4**	**-0.5**
LNBQ3				*e*S			**Sn**	**12 43 26.5**	**-2.7**
GMAL	**Guarumal, Vera**	**1.50**	**72**	⇓*e*P			**Pn**	**12 43 08.4**	**-1.4**
GMAL				*e*S			**Sn**	**12 43 27.8**	**-1.4**
GMAL	**Guarumal, Vera**	**1.50**	**72**	P			**Pn**	**12 43 08.5**	**-1.4**
GMAL				S			**Sn**	**12 43 27.2**	**-2.0**
GMAL	**Guarumal, Vera**	**1.50**	**72**	*e*P			**Pn**	**12 43 08.4**	**-1.4**
RSUS3	**Rio de Jesus,**	**1.65**	**66**	*e*P			**Pn**	**12 43 11.3**	**-0.5**
RSUS3				*e*S			**Sn**	**12 43 30.7**	**-2.1**
MARI3	**Mariato, Verag**	**1.71**	**78**	*e*P			**Pn**	**12 43 12.1**	**-0.5**
MARI3				*e*S			**Sn**	**12 43 33.9**	**-0.3**
EDP2	**Potrero Grande**	**1.77**	**344**	*e*P			**Pn**	**12 43 13.3**	**-0.3**
EDP2				*e*S			**Sb**	**12 43 37.5**	**-0.3**
CACAO	**El Cacao, Vera**	**1.80**	**88**	⇓*e*P			**Pn**	**12 43 12.8**	**-1.2**
CACAO				*e*S			**Sn**	**12 43 34.3**	**-2.2**
CACAO	**El Cacao, Vera**	**1.80**	**88**	P			**Pn**	**12 43 12.6**	**-1.3**
CACAO				S			**Sn**	**12 43 34.4**	**-2.1**
EDPN	**Palmar Norte**	**1.82**	**335**	*e*P			**Pg**	**12 43 19.6**	**+1.1**
STIA3	**Santiago, Vera**	**1.87**	**65**	*e*P			**Pn**	**12 43 15.1**	**+0.3**
STIA3				*e*S			**Sn**	**12 43 38.6**	**+0.4**
EDBA	**Buenos Aires**	**1.94**	**342**	*e*P			**Pn**	**12 43 15.9**	**0.0**
BURE	**Buenos Aires**	**1.97**	**341**	*e*P			**Pn**	**12 43 16.1**	**-0.3**
SAFE3	**Santa Fe, Vera**	**1.99**	**53**	*e*P			**Pn**	**12 43 17.1**	**+0.4**
SAFE3				*e*S			**Sn**	**12 43 41.5**	**+0.2**
OCHAL	**Ojochal**	**2.03**	**332**	*i* P			**Pn**	**12 43 15.8**	**-1.2**
OCHAL				*i* S			**Sn**	**12 43 41.8**	**-0.3**
OCHAL				IAML				12 43 50.4	
	comp=Z,7μm,1.0s								
OCHAL	**Ojochal**	**2.03**	**332**	⇓*i*P			**Pn**	**12 43 15.8**	**-1.2**
OCHAL					*e*S		**Sn**	**12 43 41.6**	**-0.5**
DRK0	**Durika**	**2.03**	**344**	⇓*i*P			**Pn**	**12 43 16.6**	**-0.7**
SRBA	**San Rafael, Bu**	**2.03**	**341**	Pn			**Pn**	**12 43 16.7**	**-0.6**
SRBA	**San Rafael, Bu**	**2.03**	**341**	⇓*i*P			**Pn**	**12 43 16.6**	**-0.7**
CNI2	**El Empalme, Bo**	**2.12**	**6**	*e*P			**Pn**	**12 43 19.2**	**+0.9**
CNI2					*e*S		**Sb**	**12 43 46.9**	**-0.8**
TOSI3	**Tonosi**	**2.22**	**87**	*e*P			**Pn**	**12 43 17.9**	**-1.8**
TOSI3					*e*S		**Sn**	**12 43 44.4**	**-2.5**
PEZE	**Perez Zeledon,**	**2.29**	**335**				**Pn**	**12 43 20.3**	**-0.5**
PEZE	**Perez Zeledon,**	**2.29**	**335**	⇓*i*P			**Pn**	**12 43 20.2**	**-0.5**
PEZE					*e*S		**Sn**	**12 43 49.4**	**+0.6**
ZELE	**Perez Zeledon**	**2.30**	**334**	⇓*e*P			**Pn**	**12 43 20.4**	**-0.4**
ZELE					*e*S		**Sn**	**12 43 49.3**	**+0.4**
CHIT3	**Chitre**	**2.33**	**74**	*e*P			**Pn**	**12 43 21.3**	**0.0**
CHIT3					*e*S		**Sn**	**12 43 49.3**	**-0.4**
AZU	**Azuero**	**2.43**	**78**	⇓*e*P			**Pn**	**12 43 22.6**	**0.0**
AZU					*e*S		**Sn**	**12 43 54.0**	**+1.9**
CDM	**Cerro de Muert**	**2.48**	**334**	⇓*i*P			**Pn**	**12 43 23.1**	**-0.6**
CDM					*e*S		**Sn**	**12 43 53.5**	**-0.4**
ACHO3	**Achotines, Los**	**2.49**	**87**	*i* P			**Pn**	**12 43 22.8**	**-0.6**
ACHO3					*e*P		**Pn**	**12 43 22.8**	**-0.6**
ACHO3					*e*S		**Sn**	**12 43 52.6**	**-0.9**
PCRI3	**Pocri, Los San**	**2.56**	**82**	*i* P			**Pn**	**12 43 24.4**	**0.0**
PCRI3					*e*P		**Pb**	**12 43 24.5**	**-4.6**
PCRI3					*e*S		**Sn**	**12 43 56.4**	**+1.1**
LLNJ	**Naranjito**	**2.58**	**327**	*e*P			**Pn**	**12 43 23.9**	**-0.7**
SVQ2	**Quepos**	**2.58**	**325**	*e*P			**Pn**	**12 43 21.9**	**-2.8**
PNME	**Penonome**	**2.61**	**63**	*e*P			**Pn**	**12 43 26.3**	**+1.3**
PNME					*e*S		**Sn**	**12 43 58.3**	**+1.8**
RAZU	**San Marcos de**	**2.69**	**330**	*e*P			**Pn**	**12 43 26.5**	**+0.1**
RITA	**Parrita**	**2.75**	**324**	*e*P			**Pn**	**12 43 27.0**	**+0.1**
ABE2	**San Pablo**	**2.75**	**330**	*e*P			**Pn**	**12 43 27.1**	**-0.1**
LCR2	**La Lucha 2**	**2.76**	**332**				**Pn**	**12 43 26.9**	**-0.5**
LCR2	**La Lucha 2**	**2.76**	**332**	⇓*i*P			**Pn**	**12 43 26.8**	**-0.5**
REPA	**Paraso**	**2.77**	**335**	*e*P			**Pn**	**12 43 28.8**	**+1.3**
TURIB	**Turrialba**	**2.77**	**339**	⇑*i*P			**Pn**	**12 43 28.1**	**+0.7**
TURIB					*e*S		**Sn**	**12 44 01.5**	**+0.8**
VINA	**Juan Vinas**	**2.79**	**338**	⇓*i*P			**Pn**	**12 43 27.8**	**+0.2**
RVSTA	**Santa Teresita**	**2.83**	**340**	⇑*i*P			**Pn**	**12 43 30.4**	**+2.2**
PCAYA	**Pacayas**	**2.83**	**337**	*e*P			**Pn**	**12 43 28.6**	**+0.3**
TAGO	**Cartago**	**2.83**	**334**	⇑*e*P			**Pn**	**12 43 29.8**	**+1.5**
TAAN	**Batan**	**2.84**	**347**	⇑*i*P			**Pb**	**12 43 31.2**	**-2.8**
VTCV	**VTCV, Calle Va**	**2.86**	**339**	⇓*i*P			**Pn**	**12 43 28.9**	**+0.2**
BATAN	**Batan**	**2.86**	**346**				**Pn**	**12 43 29.3**	**+0.8**
BATAN	**Batan**	**2.86**	**346**	⇓*e*P			**Pn**	**12 43 29.7**	**+1.1**
BATAN					*e*S		**Sb**	**12 44 06.7**	**-2.4**
BATAN	**Batan**	**2.86**	**346**	⇓*i*P			**Pn**	**12 43 29.8**	**+1.3**
BATAN					*e*S		**Sn**	**12 44 05.8**	**+3.0**
RAFA	**San Farael, Vo**	**2.87**	**337**	⇓*i*P			**Pn**	**12 43 29.0**	**+0.1**
OCM	**Ochomogo**	**2.87**	**334**	⇓*e*P			**Pn**	**12 43 28.6**	**-0.3**
CVTV	**Tajo**	**2.89**	**339**	⇓*i*P			**Pn**	**12 43 29.7**	**+0.5**
CVTQ	**Turrialba Volc**	**2.89**	**338**	*e*P			**Pn**	**12 43 29.4**	**0.0**
IRES	**Siquirres**	**2.90**	**344**	⇓*i*P			**Pn**	**12 43 30.2**	**+1.2**
VTLA	**Turrialba Volc**	**2.90**	**338**	⇓*i*P			**Pn**	**12 43 29.6**	**+0.3**
TRIO	**Tres Rios**	**2.90**	**333**	⇑*i*P			**Pg**	**12 43 38.2**	**-0.9**
TRIO					*e*S		**Sn**	**12 44 03.9**	**+0.1**
LCOCO	**El Coco**	**2.90**	**343**	*e*P			**Pn**	**12 43 30.1**	**+1.0**
VTRT	**Volcan Turrial**	**2.90**	**338**	*e*P			**Pn**	**12 43 29.7**	**+0.3**
VTR0	**Volcan Turrial**	**2.90**	**338**	*e*P			**Pn**	**12 43 29.8**	**+0.3**
CVTR	**Volcan Turrial**	**2.91**	**338**	⇓*i*P			**Pn**	**12 43 29.8**	**+0.3**
VICA	**Volcano Irazu**	**2.91**	**337**	⇓*i*P			**Pn**	**12 43 29.4**	**-0.2**
VTLO	**VTLO**	**2.92**	**339**	*e*P			**Pn**	**12 43 29.8**	**+0.3**
RVLA	**Villa Bonita**	**2.93**	**342**	*e*P			**Pn**	**12 43 30.3**	**+0.8**
LUJA	**Lujan**	**2.95**	**342**	*e*P			**Pn**	**12 43 30.8**	**+0.9**
SJS3	**Mercedes San J**	**2.95**	**333**	*e*P			**Pn**	**12 43 30.3**	**+0.3**
SJS	**Escuela Geolog**	**2.95**	**333**	*e*P			**Pn**	**12 43 30.4**	**+0.4**
CENT	**San Jose**	**2.96**	**332**	*e*P			**Pn**	**12 43 31.2**	**+1.2**
CORON	**Coronado**	**2.96**	**334**	⇓*e*P			**Pn**	**12 43 31.1**	**+1.0**
CORON					*e*S		**Sn**	**12 44 07.8**	**+2.4**
LUPE	**Guadalupe**	**2.96**	**333**	*e*P			**Pn**	**12 43 30.4**	**+0.3**
LUPE					*e*S		**Sn**	**12 44 06.7**	**+1.3**
MEXI	**Barrio Mexico**	**2.97**	**332**	*e*P			**Pn**	**12 43 31.6**	**+1.4**
CVIMO	**Finca Echandi**	**2.98**	**335**	⇓*i*P			**Pn**	**12 43 30.6**	**+0.3**
TIBA	**Tibas**	**2.98**	**333**	*e*P			**Pn**	**12 43 31.9**	**+1.6**
BITO	**Garabito Jaco**	**3.00**	**320**	*e*P			**Pn**	**12 43 29.2**	**-1.2**
DOMI	**Santo Domingo**	**3.01**	**332**	⇓*i*P			**Pn**	**12 43 31.4**	**+0.7**
SANTA	**Santa Ana**	**3.01**	**330**	⇓*i*P			**Pn**	**12 43 30.2**	**-0.5**
HDC3	**Heredia 3**	**3.04**	**332**	*i* P			**Pn**	**12 43 31.4**	**+0.3**
HDC3					IAML			12 43 32.1	
	comp=Z,8μm,1.0s								
HDC3				*i* S			**Sn**	**12 44 07.2**	**0.0**
HDC3	**Heredia 3**	**3.04**	**332**	⇓*i*P			**Sn**	**12 43 31.0**	**-0.1**
HDC3				*e*S			**Sn**	**12 44 07.1**	**-0.2**
HDC	**Heredia**	**3.04**	**332**				**Pn**	**12 43 31.2**	**+0.2**
HDC	**Heredia**	**3.04**	**332**	⇓*i*P			**Pn**	**12 43 31.2**	**+0.2**
HDC					*e*S		**Sn**	**12 44 07.5**	**+0.3**
HDC	**Heredia**	**3.04**	**332**	*i* P			**Pn**	**12 43 31.4**	**+0.3**
HDC					IAML			12 43 32.2	
	comp=Z,8μm,1.0s								
HDC				*i* S			**Sn**	**12 44 07.8**	**+0.6**
HDC	**Heredia**	**3.04**	**332**	*e*P			**Pn**	**12 43 31.6**	**+0.6**
HDC					*e*S		**Sn**	**12 44 07.9**	**+0.6**
HDC	**Heredia**	**3.04**	**332**	⇓*e*P			**Pn**	**12 43 31.2**	**+0.2**
HDC					*e*S		**Sn**	**12 44 07.5**	**+0.3**
BELE	**Belen**	**3.05**	**331**	*e*P			**Pn**	**12 43 31.1**	**-0.1**
JACO	**JACO, Garabito**	**3.06**	**320**				**Pn**	**12 43 29.8**	**-1.4**
TRB2	**Turrubares**	**3.13**	**326**	*e*P			**Pn**	**12 43 31.5**	**-0.8**
TCS1	**Tacares**	**3.16**	**330**	*e*P			**Pn**	**12 43 33.7**	**+0.9**
CARI	**Cariari**	**3.22**	**341**	*e*P			**Pn**	**12 43 35.9**	**+2.5**
ZANG	**Zanguenga, Cho**	**3.23**	**59**	⇓*e*P			**Pn**	**12 43 34.8**	**+1.1**
ZANG					*e*S		**Sn**	**12 44 13.4**	**+1.5**
ZANG	**Zanguenga, Cho**	**3.23**	**59**	⇓*i*P			**Pn**	**12 43 34.7**	**+1.1**
RIFO	**Rio Frio, Sara**	**3.24**	**338**	⇓*i*P			**Pn**	**12 43 34.3**	**+0.5**
VPS6	**Volcano Poas**	**3.26**	**332**	⇑*e*P			**Pn**	**12 43 35.9**	**+1.7**
RAMO	**San Ramon**	**3.29**	**328**	*e*P			**Pn**	**12 43 33.7**	**-0.8**
CBL1	**Cabuya**	**3.30**	**314**	⇓*e*P			**Pn**	**12 43 33.2**	**-1.3**
ZARE	**Zarcero**	**3.33**	**330**	*e*P			**Pn**	**12 43 35.8**	**+0.7**
BCIP	**Isla Barro Col**	**3.37**	**56**	Pn			**Pn**	**12 43 35.9**	**+0.5**
BCIP	**Isla Barro Col**	**3.37**	**56**	⇓*e*P			**Pn**	**12 43 36.3**	**+0.8**
BCIP	**Isla Barro Col**	**3.37**	**56**	P			**Pn**	**12 43 36.0**	**+0.5**
BCIP	**Isla Barro Col**	**3.37**	**56**	*i* P			**Pn**	**12 43 36.4**	**+0.8**
BCIP					*i* S		**Sn**	**12 44 17.5**	**+2.3**
BCIP					IAML			12 44 30.0	
	comp=Z,6μm,1.0s								
BCIP	**Isla Barro Col**	**3.37**	**56**	P			**Pn**	**12 43 35.9**	**+0.5**
BCIP	**Isla Barro Col**	**3.37**	**56**	⇓*e*P			**Pn**	**12 43 36.3**	**+0.8**
MLIR	**Monte Lirio**	**3.40**	**55**	*e*P			**Pn**	**12 43 37.2**	**+1.3**
SARA	**Sarapiqu**	**3.40**	**337**	⇑*i*P			**Pn**	**12 43 37.3**	**+1.4**
CPMI	**Catarata Coope**	**3.41**	**331**	⇓*i*P			**Pn**	**12 43 36.2**	**-0.1**
ARRA3	**Arraijan, Pana**	**3.42**	**61**	*i* P			**Pn**	**12 43 37.1**	**+0.9**
ARRA3					*e*S		**Sn**	**12 44 17.5**	**+1.1**
TRT1	**Tortuguero**	**3.43**	**343**	⇓*i*P			**Pn**	**12 43 36.6**	**+0.3**
FRIJ	**El Hiral**	**3.49**	**57**	*e*P			**Pn**	**12 43 38.0**	**+0.8**
ITAL	**Pital**	**3.50**	**333**	⇓*i*P			**Pn**	**12 43 39.1**	**+1.7**
UPA	**Univ. de Panam**	**3.53**	**62**	⇓*e*P			**Pn**	**12 43 38.5**	**+0.8**
UPA					*e*S		**Sn**	**12 44 19.7**	**+0.5**
SOCE	**Pocosol**	**3.61**	**328**				**Pn**	**12 43 39.4**	**+0.5**
SOCE	**Pocosol**	**3.61**	**328**	*i* P			**Pn**	**12 43 39.3**	**+0.5**
SOCE					IAML			12 43 41.7	
	comp=Z,6μm,1.0s								
SOCE	**Pocosol**	**3.61**	**328**	*e*P			**Pn**	**12 43 39.5**	**+0.5**
NYURE	**Nandayure**	**3.69**	**317**	*e*P			**Pn**	**12 43 39.7**	**-0.3**
TUNA	**La Fortuna**	**3.70**	**328**	⇑*e*P			**Pn**	**12 43 42.0**	**+1.9**
VACR	**Volcan Arenal**	**3.72**	**328**	⇓*e*P			**Pn**	**12 43 39.9**	**-0.5**
VACR					*e*S		**Sn**	**12 44 24.9**	**+0.9**
JUNT	**Juntas**	**3.72**	**323**	*e*P			**Pn**	**12 43 40.0**	**-0.4**
JTS	**Las Juntas de**	**3.73**	**323**	⇓*i*P			**Pn**	**12 43 39.8**	**-0.7**
JTS					*e*S		**Sn**	**12 44 22.5**	**-1.6**
JTS	**Las Juntas de**	**3.73**	**323**	Pn			**Pn**	**12 43 39.7**	**-0.7**
	comp=Z,557nm,0.3s,baz=137,slow=4.6,SNR=1067								
JTS					Sn		**Sn**	**12 44 22.8**	**-1.3**
	comp=Z,146nm,0.3s,baz=283,slow=22,SNR=13								
JTS					LR		LR	12 44 35.0	
	comp=Z,694nm,18.1s,baz=129,slow=30								
JTS	**Las Juntas de**	**3.73**	**323**	P			**Pn**	**12 43 39.8**	**-0.7**
JTS	**Las Juntas de**	**3.73**	**323**	*e*P			**Pn**	**12 43 39.7**	**-0.7**
ARE1	**Arenal 1**	**3.73**	**327**				**Pn**	**12 43 40.9**	**+0.3**
ARE1	**Arenal 1**	**3.73**	**327**	⇓*i*P			**Pn**	**12 43 41.0**	**+0.4**
CEDE	**Laguna Cedeo**	**3.75**	**328**	⇓*e*P			**Pn**	**12 43 41.0**	**+0.2**
COVE	**Coope Vega, Sa**	**3.80**	**333**				**Pn**	**12 43 41.4**	**-0.1**
COVE	**Coope Vega, Sa**	**3.80**	**333**	*i* P			**Pn**	**12 43 41.8**	**+0.3**
COVE					IAML			12 44 54.1	
	comp=Z,3μm,1.0s								
COVE	**Coope Vega, Sa**	**3.80**	**333**	⇓*i*P			**Pn**	**12 43 41.3**	**-0.1**
CNAS	**Canas**	**3.92**	**323**	*e*P			**Pn**	**12 43 44.8**	**+1.7**
DUNO	**Dulce Nombre,**	**3.92**	**315**				**Pn**	**12 43 42.3**	**-0.8**
DUNO	**Dulce Nombre,**	**3.92**	**315**	⇓*i*P			**Pn**	**12 43 41.8**	**-1.3**
NICO	**Nicoya**	**3.93**	**316**	⇓*e*P			**Pn**	**12 43 42.9**	**-0.4**
JUD3	**Juan Diaz 3**	**4.01**	**315**	⇓*e*P			**Pn**	**12 43 43.3**	**-1.1**
TENO	**El Achiote**	**4.07**	**326**	*e*P			**Pn**	**12 43 45.3**	**0.0**
ORTG	**Ortega, Santa**	**4.10**	**318**	Pn			**Pn**	**12 43 45.1**	**-0.5**
ORTG	**Ortega, Santa**	**4.10**	**318**	⇓*i*P			**Pn**	**12 43 44.7**	**-0.9**
ORTG					*e*S		**Sn**	**12 44 31.0**	**-2.4**
VERA	**Finca Concepci**	**4.14**	**329**	⇑*e*P			**Pn**	**12 43 47.2**	**+1.1**
CUI	**Cuipilapa**	**4.14**	**324**	*e*P			**Pn**	**12 43 46.2**	**0.0**
COLC	**Colonia**	**4.17**	**323**	*e*P			**Pn**	**12 43 47.5**	**+0.9**
LCHIL	**Los Chiles**	**4.22**	**332**	*e*P			**Pn**	**12 43 47.1**	**-0.1**
DELF	**Filadelfia**	**4.22**	**318**	⇑*e*P			**Pn**	**12 43 47.7**	**+0.4**
VMAR	**Armenia, Volca**	**4.24**	**326**	⇓*i*P			**Pn**	**12 43 47.9**	**+0.4**
ALIBA	**Liberia Airpor**	**4.33**	**319**	⇓*e*P			**Pn**	**12 43 50.2**	**+1.5**
GPS3	**Bodega del ICE**	**4.34**	**322**	⇑*e*P			**Pn**	**12 43 51.0**	**+2.0**
VRLE	**La Escondida,**	**4.37**	**323**	⇓*i*P			**Pn**	**12 43 49.1**	**-0.2**
ELI1	**Hacienda Flor**	**4.37**	**320**	*e*P			**Pn**	**12 43 50.0**	**+0.7**
VORI	**VORI**	**4.38**	**323**	⇓*i*P

PKGN *i* S **Sn** **12 45 39.4 -0.8**
CRIN San Cristobal 6.88 322 Pn 12 44 24.6 +0.7
CRIN San Cristobal 6.88 322 P **Pn** **12 44 24.6 +0.7**
comp=Z,771nm,0.7s,comp=Z,8µm
CRIN San Cristobal 6.88 322 *i* P **Pn** **12 44 24.4 +0.5**
CRIN IAML 12 44 26.5
comp=Z,880nm,1.0s
CRIN IVmB_BB 12 44 26.5
comp=Z,8µm,1.0s
CRIN IAmb IAmb 12 44 26.9
comp=Z,760nm,0.7s
CRIN *i* S **Sn** **12 45 41.8 -0.2**
CRIN San Cristobal 6.88 322 *eP* **Pn** **12 44 24.9 +1.0**
UREC San Jos de Ur 7.10 86⇑ *eP* **Pn** **12 44 27.9 +1.1**
UREC *eS* **Sn** **12 45 43.8 -3.5**
UREC San Jos de Ur 7.10 86 P **Pn** **12 44 27.8 +1.0**
comp=Z,87nm,0.9s,comp=Z,797nm
HELC Santa Helena 7.18 98 P **Pn** **12 44 29.9 +1.6**
comp=Z,57nm,1.2s,comp=Z,978nm
BBAC Balboa, Cauca 7.54 134 P **Pn** **12 44 35.4 +2.4**
comp=Z,41nm,0.9s
POPC Popayan, Colom 7.62 128 P **Pn** **12 44 36.0 +1.8**
comp=Z,41nm,1.3s,comp=Z,632nm
NORC Norcasia 7.95 102 P **Pn** **12 44 40.7 +2.1**
comp=Z,32nm,0.7s
GCUF Volcan Galeras 8.04 138 P **Pn** **12 44 43.3 +3.1**
comp=Z,45nm,0.7s,comp=Z,1µm
CRUC La Cruz 8.06 135 P **Pn** **12 44 42.9 +2.5**
TGUH Tegucigalpa,Un 8.09 326 Pn **Pn** **12 44 40.9 +0.3**
TGUH Tegucigalpa,Un 8.09 326 P **Pn** **12 44 42.3 +1.7**
comp=Z,187nm,0.9s,comp=Z,2µm
TGUH Tegucigalpa,Un 8.09 326 *i* P **Pn** **12 44 41.3 +0.7**
TGUH IAmb IAmb 12 45 11.2
comp=Z,190nm,0.9s
TGUH IVmB_BB 12 45 19.0
comp=Z,2µm,1.0s
TGUH IAML 12 45 19.6
comp=Z,260nm,1.0s
TULM Tulcn-Chalpat 8.16 143 Pn 12 44 43.8 +2.0
TULM Tulcn-Chalpat 8.16 143 P Pn 12 44 46.7 +4.9
comp=Z,61nm,1.0s,comp=Z,2µm
IMBA Imbabura, San 8.29 147 Pn 12 44 45.6 +2.1
PULU Pululahua 8.34 150 Pn 12 44 47.9 +3.6
PRAC Prado 8.53 114 P **Pn** **12 44 49.6 +3.0**
comp=Z,57nm,1.2s,comp=Z,879nm
ROSC El Rosal 8.66 106 Pn 12 44 51.1 +2.4
ROSC El Rosal 8.66 106 Pn **Pn** **12 44 51.4 +2.7**
comp=Z,2.3nm,0.3s,baz=261,slow=16,SNR=5.4
ROSC Sn Sn 12 46 17.0 -9.3
comp=Z,1.2nm,0.3s,baz=302,slow=23,SNR=1.1
ROSC LR LR 12 47 31.7
comp=Z,955nm,18.4s,baz=292,slow=34
ROSC El Rosal 8.66 106 P **Pn** **12 44 51.1 +2.4**
SLOR San Lorenzo - 9.00 152 Pn 12 44 57.0 +3.6
FLOC Florencia 9.02 129 P **Pn** **12 44 55.8 +2.6**
comp=Z,74nm,1.3s,comp=Z,1µm
BARC Barichara 9.45 94 P Pn 12 45 05.1 +5.7
CHSH Refugio Sur-Vo 9.53 156 Pn **Pn** **12 45 04.6 +3.9**
RUSI La Rusia 9.63 98 *i* P **Pn** **12 45 03.9 +1.8**
RUSI IVmB_BB 12 45 19.7
comp=Z,750nm,1.0s
RUSI IAmb IAmb 12 45 28.7
comp=Z,34nm,1.0s
ESQI Esquipulas 9.74 318 Pn 12 45 01.7 -1.4
ESQI Esquipulas 9.74 318 *i* P **Pn** **12 45 06.7 +3.6**
ESQI IAmb IAmb 12 45 07.1
comp=Z,210nm,0.6s
ESQI IVmB_BB 12 45 44.9
comp=Z,3µm,1.0s
MACC Macarena, Meta 10.18 120 P **Pn** **12 45 11.8 +2.7**
comp=Z,29nm,0.9s
GUNB GUNB 10.45 315 *i* P **Pn** **12 45 15.4 +2.3**
GUNB IVmB_BB 12 45 16.0
comp=Z,3µm,1.0s
GUNB IAmb IAmb 12 45 17.4
comp=Z,300nm,1.4s
APG El Apazote 10.81 316 Pn **Pn** **12 45 20.6 +2.6**
comp=Z,1.5nm,0.3s,baz=129,slow=10,SNR=63
APG LR LR 12 49 15.5
comp=Z,41nm,21.2s,baz=276,slow=36
comp=Z,5.3nm,0.5s
TAMC Tame, Arauca 10.84 94 P **Pn** **12 45 22.6 +4.3**
comp=Z,111nm,0.9s
PAYG Puerto Ayora 10.97 224 Pn **Pn** **12 45 21.7 +1.8**
PAYG Puerto Ayora 10.97 224⇑ *eP* **Pn** **12 45 23.4 +3.4**
RTAL Retalhuleu 11.39 310 *i* P **Pn** **12 45 30.2 +4.4**
RTAL IAmb IAmb 12 45 32.6
comp=Z,320nm,1.2s
QUIS Sacapulas 11.45 315 *i* P **Pn** **12 45 29.1 +2.5**
QUIS IAmb IAmb 12 45 31.9
comp=Z,440nm,0.8s
QUIS IVmB_BB 12 45 42.1
comp=Z,8µm,1.0s
MTDJ Mount Denham 11.96 24 Pn **Pn** **12 45 33.9 +0.4**
SDV Santo Domingo 12.03 82 Pn **Pn** **12 45 36.1 +1.5**
SDV Santo Domingo 12.03 82 Pn **Pn** **12 45 35.7 +1.1**
comp=Z,2.4nm,0.3s,baz=260,slow=10,SNR=5.9
SDV Sn **Sn** **12 47 43.0 -5.7**
comp=Z,1.4nm,0.3s,baz=105,slow=21,SNR=1.3
SDV LR LR 12 50 54.8
comp=Z,1µm,21.2s,baz=262,slow=41
comp=Z,18nm,0.5s
SDV Santo Domingo 12.03 82 *eP* **Pn** **12 45 34.9 +0.3**
CCIG Comitan 12.86 315 Pn 12 45 49.7 +3.8
TEIG Tepich 13.95 338 Pn **P** **12 46 06.9 -1.8**
comp=Z,1.0nm,0.3s,baz=155,slow=18,SNR=3.7
TEIG LR LR 12 51 27.5
comp=Z,2µm,19.6s,baz=152,slow=37
GTBY Guantanamo Bay 14.54 30 Pn 12 46 09.2 +0.4
BAUV El Baul 14.58 83 Pn 12 46 07.6 -1.7
ATAH Atahualpa 14.96 163 Pn **Pn** **12 46 16.6 +1.7**
comp=Z,0.3nm,0.3s,baz=346,slow=9.8,SNR=3.5
ATAH LR LR 12 51 18.4
comp=Z,3µm,20.5s,baz=337,slow=35
CMIG Matias Romero 15.38 310 Pn **Pn** **12 46 20.6 +0.4**
comp=Z,2.3nm,0.3s,baz=118,slow=9.6,SNR=15
comp=Z,9.8nm,0.5s
SOR Soroa 15.40 359 Pn 12 46 19.6 -0.7
SOR IAmb IAmb 12 46 28.0
comp=Z,69nm,0.9s
SOR Soroa 15.40 359 P **Pn** **12 46 19.7 -0.7**
SOR pmax pmax
comp=Z,69nm,0.9s
SDDR Presa de Saban 16.04 43 Pn 12 46 30.0 +1.3
SDDR IAmb IAmb 12 46 36.7
comp=Z,155nm,1.1s
TBTG Tabatinga, AM 17.11 131 P 12 46 44.1 +0.3
TBTG Tabatinga, AM 17.11 131 P **P** **12 46 46.4 +2.6**
comp=Z,274nm,1.1s,comp=Z,3µm
TBTG Tabatinga, AM 17.11 131 *eP* **Pn** **12 46 41.4 -0.7**
CZSB Cruzeiro do Su 17.94 146 P **P** **12 46 52.9 -0.2**
CZSB Cruzeiro do Su 17.94 146 P **P** **12 46 54.3 +1.3**
comp=Z,117nm,0.8s,comp=Z,2µm
CZSB Cruzeiro do Su 17.94 146 *eP* **Pn** **12 46 51.1 -1.4**
PCRV Puerto La Cruz 18.06 80 P **Pn** **12 46 54.0 -0.1**
comp=Z,0.7nm,0.3s,baz=257,slow=5.0,SNR=19
PCRV LR LR 12 55 41.3
comp=Z,542nm,20.4s,slow=43
comp=Z,52nm,0.8s
CRPR Cabo Rojo, PR 18.53 53 P **Pn** **12 47 00.3 +0.6**
CRPR IAmb IAmb 12 47 04.1
comp=Z,78nm,0.8s
MLPR Magueyes Islan 18.56 54 IAmb IAmb 12 47 03.5
comp=Z,202nm,1.1s
OBIP Obispado Ponce 18.95 54 IAmb IAmb 12 47 08.0
comp=Z,79nm,0.7s
CELP Cerrillos 18.99 54 P **Pn** **12 47 06.0 +0.7**
CELP IAmb IAmb 12 47 08.0
comp=Z,99nm,0.8s
IGPR InterUniversit 19.31 55 P **Pn** **12 47 09.2 0.0**
IGPR IAmb IAmb 12 47 12.2
comp=Z,121nm,0.8s
NNA Nana 20.02 163 P Pn 12 47 16.9 -0.8
NNA Nana 20.02 163 P **P** **12 47 15.6 -0.3**
comp=Z,1.4nm,0.3s,baz=314,slow=12,SNR=4.7
NNA LR LR 12 54 26.2
comp=Z,653nm,20.4s,baz=318,slow=35
comp=Z,12nm,0.6s
NNA Nana 20.02 163 P Pn 12 47 16.9 -0.8
NNA pmax pmax
comp=Z,34nm,1.0s
DWPF Disney Wildern 20.73 3 P **P** **12 47 24.2 +0.7**
DWPF Disney Wildern 20.73 3 P **P** **12 47 23.6 +0.1**
baz=184
TEFE Tefe 20.96 120 *eP* **P** **12 47 25.7 -0.4**
SMRT St. Maarten 21.88 59 P **P** **12 47 36.3 +0.3**
SMRT IAmb IAmb 12 47 39.8
comp=Z,129nm,1.1s
FDF Fort de France 22.37 69 P **P** **12 47 42.0 +0.7**
FDF Fort de France 22.37 69 P **P** **12 47 42.0 +0.7**
FDF pmax pmax
comp=Z,102nm,0.8s
CBE Ff, Capester 22.38 65 P **P** **12 47 42.0 +0.6**
BOAV Boa Vista 22.60 101 P **P** **12 47 44.5 +0.8**
BOAV IAmb IAmb 12 47 46.7
comp=Z,40nm,0.9s
BOAV Boa Vista 22.60 101 P **P** **12 47 44.6 +0.8**
BOAV Boa Vista 22.60 101 *eP* **P** **12 47 43.9 +0.1**
BOAV *eS* **S** **12 51 52.5 +1.3**
ETMB Extrema 23.62 136 P **P** **12 47 53.9 -0.2**
ETMB Extrema 23.62 136 *eP* **P** **12 47 54.0 -0.2**
ETMB *eS* **S** **12 52 08.3 0.0**
TIGA Tifton 24.03 358 P **P** **12 47 57.8 -0.1**
TIGA Tifton 24.03 358 P **P** **12 47 58.6 +0.8**
baz=178
BRAL Brewton 24.10 351 P **P** **12 47 58.6 +0.1**
BRAL Brewton 24.10 351 P **P** **12 47 59.7 +1.2**
baz=169,SNR=7.2
MACA Manacapuru-AM 24.29 115 P **P** **12 48 00.9 +0.5**
MACA Manacapuru-AM 24.29 115 *eP* **P** **12 48 00.7 +0.2**
MACA *eS* **S** **12 52 20.3 +1.3**
255A Hazlehurst 24.50 0 IAmb IAmb 12 48 06.1
comp=Z,60nm,0.9s
SAML Samuel 25.26 129 P **P** **12 48 08.6 -0.6**
SAML IAmb IAmb 12 48 11.6
comp=Z,56nm,0.8s
SAML Samuel 25.26 129 P **P** **12 48 08.6 -0.6**
SAML pmax pmax
comp=Z,56nm,0.9s
SAML Samuel 25.26 129 *eP* **P** **12 48 07.8 -1.4**
SAML *eS* **S** **12 52 35.1 +0.5**
HKT Hockley 25.70 333 P **P** **12 48 13.6 +0.6**
HKT IAmb IAmb 12 48 17.4
comp=Z,65nm,1.6s
HKT Hockley 25.70 333⇑ *eP* **P** **12 48 13.7 +0.7**
HKT pmax pmax
comp=Z,43nm,1.5s
VBMS Vicksburg 25.85 345 P **P** **12 48 14.9 +0.5**
baz=162
146A Union 25.90 348 P **P** **12 48 15.3 +0.4**
LRAL Lakeview Retre 25.92 352 P **P** **12 48 15.7 +0.7**
baz=170,SNR=27
GOGA Godfrey 25.99 358 P **P** **12 48 16.6 +0.9**
baz=178,SNR=41
833A Chaparral WMA, 26.21 325 P **P** **12 48 18.4 +0.6**
833A IAmb IAmb 12 48 30.9
comp=Z,41nm,0.9s
833A Chaparral WMA, 26.21 325 P **P** **12 48 17.4 -0.4**
baz=140,SNR=9.8
HNVL Huntsville, TX 26.23 334 P **P** **12 48 18.1 +0.2**
Y49A Blount Mountai 26.65 353 IAmb IAmb 12 48 26.7
comp=Z,27nm,0.8s
NATX Nacogdoches 26.78 337 P **P** **12 48 22.5 -0.4**
baz=153
HODGE Hodges 26.80 1 IAmb IAmb 12 48 25.2
comp=Z,74nm,1.4s
JSC Jenkinsville 26.88 3 IAmb IAmb 12 48 29.8
comp=Z,68nm,1.2s
HNDO Hondo 27.08 327 P **P** **12 48 25.7 +0.1**
Y45A Yeager Farm, C 27.19 347 P **P** **12 48 27.4 +1.0**
X51A Calhoun 27.21 356 IAmb IAmb 12 48 36.2
comp=Z,43nm,1.2s
435B Jarrell 27.22 331 P **P** **12 48 26.8 0.0**
435B IAmb IAmb 12 48 28.6
comp=Z,30nm,0.9s
435B Jarrell 27.22 331 P **P** **12 48 26.7 -0.1**
baz=146
BIRD Birdtown, Kers 27.29 4 P **P** **12 48 28.2 +0.9**
BIRD IAmb IAmb 12 48 33.1
comp=Z,51nm,1.0s
X48A Hartselle 27.32 352 P **P** **12 48 28.1 +0.5**
X48A IAmb IAmb 12 48 33.2
comp=Z,26nm,1.0s
PAULI Pauline 27.40 2 IAmb IAmb 12 48 35.0
comp=Z,52nm,1.1s
Z41A Richland Creek 27.48 341 P **P** **12 48 29.4 +0.3**
Z41A IAmb IAmb 12 48 35.5
comp=Z,61nm,1.4s
LPAZ La Paz 27.51 149 P **P** **12 48 30.2 0.0**
LPAZ La Paz 27.51 149 P **P** **12 48 30.1 -0.1**
comp=Z,5.7nm,0.9s,baz=338,slow=8.4,SNR=14
LPAZ LR LR 13 00 34.2
comp=Z,862nm,20.6s,baz=302,slow=39
comp=Z,5.7nm,0.9s
LPAZ La Paz 27.51 149 P **P** **12 48 30.2 0.0**
LPAZ pmax pmax
comp=Z,32nm,1.6s
LPAZ La Paz 27.51 149 *eP* **P** **12 48 30.0 -0.2**
BG3 Lake Jocassee 27.56 360 IAmb IAmb 12 48 32.3
comp=Z,61nm,1.4s
W52A Murphy 27.68 358 IAmb IAmb 12 48 41.4
comp=Z,31nm,1.1s
KMSC Kings Mountain 27.74 2 IAmb IAmb 12 48 37.6
comp=Z,23nm,1.0s
KMSC Kings Mountain 27.74 2 P **P** **12 48 32.1 +0.7**
baz=183
OXF Oxford 27.78 348 IAmb IAmb 12 49 07.2
comp=Z,40nm,1.1s
OXF Oxford 27.78 348 P **P** **12 48 31.5 -0.3**
baz=166
W57A Gilead 27.83 5 IAmb IAmb 12 48 39.0
comp=Z,76nm,1.6s
W50A Signal Mountai 27.87 355 IAmb IAmb 12 48 36.7
comp=Z,20nm,0.8s
SWET Sewanee 27.94 354 IAmb IAmb 12 48 35.3
comp=Z,20nm,0.8s
PB18 Visviri 27.96 152 P **P** **12 48 35.7 +1.6**
PLAL Pickwick Lake 27.99 351 P **P** **12 48 33.8 +0.1**
PLAL IAmb IAmb 12 48 40.9
comp=Z,30nm,1.1s
CPCT Cooper Cave 28.07 357 IAmb IAmb 12 48 41.3
comp=Z,28nm,1.1s
JCT Junction City 28.10 327 P **P** **12 48 34.5 -0.2**
JCT IAmb IAmb 12 48 36.5
comp=Z,32nm,1.5s
JCT Junction City 28.10 327 P **P** **12 48 34.1 -0.6**
baz=142
JCT Junction City 28.10 327 P **P** **12 48 34.6 -0.2**
JCT pmax pmax
comp=Z,32nm,1.5s
CNNC Cliffs of the 28.15 8 P **P** **12 48 35.1 0.0**
baz=190
WHTX Lake Whitney, 28.16 333 IAmb IAmb 12 49 21.2
comp=Z,52nm,1.6s
WHTX Lake Whitney, 28.16 333 P **P** **12 48 34.8 -0.5**
baz=148
V53A Saluda 28.23 360 IAmb IAmb 12 49 16.4
comp=Z,65nm,1.9s
TKL Tuckaleechee C 28.24 358 IAmb IAmb 12 48 45.6
comp=Z,42nm,1.4s
TKL Tuckaleechee C 28.24 358 LR LR 13 00 38.3
comp=Z,959nm,18.1s,baz=182,slow=38
V52A Sevierville 28.42 358 IAmb IAmb 12 48 39.5
comp=Z,62nm,1.6s
PB12 IPOC Station P 28.49 155 IAmb IAmb 12 48 39.7
comp=Z,38nm,1.2s
V58A Windy Hill, Pi 28.55 6 IAmb IAmb 12 48 40.3
comp=Z,22nm,1.0s
V48A Smith Brothers 28.56 353 IAmb IAmb 12 48 41.0
comp=Z,38nm,0.8s
PB16 IPOC Station P 28.60 153 IAmb IAmb 12 48 42.4
comp=Z,24nm,1.0s
UALR University of 28.75 343 IAmb IAmb 12 48 43.4
comp=Z,26nm,1.1s
CLTN Cedars of Leba 28.85 354 IAmb IAmb 12 48 43.5
comp=Z,19nm,0.8s
MIAR Mount Ida 28.91 341 P **P** **12 48 41.3 -0.6**
MIAR Mount Ida 28.91 341 P **P** **12 48 41.6 -0.4**
baz=157,SNR=8.0
MIAR Mount Ida 28.91 341 P **P** **12 48 41.3 -0.6**
MIAR pmax pmax
comp=Z,18nm,1.1s
U56A King 28.99 4 IAmb IAmb 12 48 54.7
comp=Z,38nm,1.1s
U54A Nelsons Funny 29.09 1 IAmb IAmb 12 48 45.7
comp=Z,49nm,1.4s
TZTN Tazewell 29.12 359 IAmb IAmb 12 48 54.1
comp=Z,43nm,1.1s
TZTN Tazewell 29.12 359 P **P** **12 48 44.0 +0.2**
baz=178,SNR=8.1
U49A Red Boiling Sp 29.21 355 IAmb IAmb 12 48 46.0
comp=Z,22nm,0.9s
PLPT Palo Pinto 29.25 332 IAmb IAmb 12 48 51.1
comp=Z,18nm,0.8s
ITTB Itaituba 29.28 113 *eP* **P** **12 48 46.1 +0.7**
FW03 Perrin-Whitt E 29.32 333 IAmb IAmb 12 48 51.6
comp=Z,15nm,0.7s
TXAR Lajitas Array 29.51 321 P **P** **12 48 46.1 -1.3**
TXAR Lajitas Array 29.51 321 P **P** **12 48 49.1 +1.7**
comp=Z,2.9nm,1.0s,baz=139,slow=8.4,SNR=15
TXAR PcP **PcP** **12 51 54.0 +1.3**
comp=Z,1.8nm,0.9s,baz=155,slow=3.9,SNR=4.8
comp=Z,2.9nm,1.0s
LCAR Lake Charles 29.67 346 P **P** **12 48 48.3 -0.3**
ABTX Abilene, Hawle 29.72 330 P **P** **12 48 48.9 -0.3**
baz=144
T57A Hurt 29.73 6 IAmb IAmb 12 48 51.0
comp=Z,41nm,1.4s
LOOK Love County 29.75 335 IAmb IAmb 12 48 54.6
comp=Z,23nm,0.8s
PB11 IPOC Station P 29.79 155 IAmb IAmb 12 48 51.7
comp=Z,30nm,1.0s
T47A Sharon Grove 29.82 353 IAmb IAmb 12 48 52.4
comp=Z,38nm,1.1s
BLA Blacksburg 29.84 4 IAmb IAmb 12 49 02.2
comp=Z,32nm,1.1s
BLA Blacksburg 29.84 4 P **P** **12 48 50.7 +0.5**
baz=185
T59A Double "B" Far 29.90 8 IAmb IAmb 12 48 52.8
comp=Z,60nm,1.8s
GO01 Chusmiza 29.91 154 IAmb IAmb 12 48 54.0
comp=Z,27nm,1.0s
MDP Montagnes des 29.94 92 LR LR 13 00 39.1
comp=Z,375nm,21.2s,baz=272,slow=36
VILB Vilhena 30.06 132 *eP* **P** **12 48 52.4 +0.1**
PBMO Poplar Bluff 30.18 348 IAmb IAmb 12 48 55.3
comp=Z,18nm,0.7s
S51A Beattyville 30.21 359 IAmb IAmb 12 49 03.5
comp=Z,47nm,1.1s
ALPN Alpine 30.22 322 IAmb IAmb 12 49 05.2
comp=Z,29nm,1.1s
TA01 Diego Aracena 30.30 156 IAmb IAmb 12 48 56.3
comp=Z,28nm,0.9s
MNHN Monahans 30.40 325 IAmb IAmb 12 49 08.2
comp=Z,25nm,1.0s
NPGB Novo Progresso 30.75 117 *eP* **P** **12 48 57.8 -0.7**
R50A Paris 30.88 357 IAmb IAmb 12 49 08.8
comp=Z,31nm,1.1s
TUL3 Leonard 30.91 339 P **P** **12 49 00.1 +0.6**
baz=154
R55A Marlinton 30.93 4 IAmb IAmb 12 49 02.2
comp=Z,38nm,1.4s
WCI Wyandotte Cave 30.96 354 P **P** **12 49 00.2 +0.2**
WCI Wyandotte Cave 30.96 354 P **P** **12 48 59.3 -0.7**
baz=173
WCI Wyandotte Cave 30.96 354 P **P** **12 49 00.2 +0.2**
WCI pmax pmax
comp=Z,36nm,0.8s
MGMO Mountain Grove 30.97 345 P **P** **12 49 00.3 +0.2**
MGMO IAmb IAmb 12 49 11.6
comp=Z,32nm,1.2s
PB01 IPOC Station P 31.00 156 IAmb IAmb 12 49 02.7
comp=Z,23nm,1.1s
WMOK Wichita Mounta 31.07 334 P **P** **12 49 00.0 -1.1**
baz=148
CBN Corbin Frederi 31.14 8 P **P** **12 49 00.7 -0.8**
baz=190
OK031 S. Brethren Rd 31.33 338 IAmb IAmb 12 49 06.8
comp=Z,18nm,0.9s
VHRN Van Horn 31.34 321 IAmb IAmb 12 49 14.5
comp=Z,51nm,1.4s
FVM French Village 31.34 348 IAmb IAmb 12 49 06.1
comp=Z,30nm,0.9s
OK052 Battle Ridge R 31.35 338 IAmb IAmb 12 49 07.5
comp=Z,16nm,0.8s
MCPB Macapa, AP 31.48 103 *eP* **P** **12 49 00.8 -4.1**
SIV San Ignacio 31.52 137 LR LR 13 02 57.8
comp=Z,684nm,19.3s,baz=296,slow=39
Q56A Snyder Ridge, 31.76 5 IAmb IAmb 12 49 11.5
comp=Z,17nm,0.9s
PB09 IPOC Station P 31.78 156 IAmb IAmb 12 49 10.1
comp=Z,37nm,1.1s
PDRB Porto dos Gac 31.93 126 *eP* **P** **12 49 08.2 -0.6**
PDRB *eS* **S** **12 54 20.2 +0.5**
R40A Maddies Statio 32.05 346 IAmb IAmb 12 49 12.0
comp=Z,27nm,1.3s
T35A Sooner Cattle 32.06 339 IAmb IAmb 12 49 12.5
comp=Z,34nm,1.4s
P49A Miami Univ. Ec 32.15 357 IAmb IAmb 12 49 11.0
comp=Z,22nm,0.8s
P49A Miami Univ. Ec 32.15 357 P **P** **12 49 09.7 -0.7**
baz=176,SNR=6.5
P52A Corning 32.20 1 P **P** **12 49 10.8 0.0**
baz=181
MNTX Cornudas Mount 32.21 322 P **P** **12 49 09.8 -1.4**
baz=134,SNR=27
P57A Homestead Farm 32.32 7 IAmb IAmb 12 49 14.8
comp=Z,30nm,1.2s
MCWV Mont Chateau 32.32 4 IAmb IAmb 12 49 14.2
comp=Z,19nm,0.8s
MCWV Mont Chateau 32.32 4 P **P** **12 49 11.9 -0.1**
baz=185
MSTX Muleshoe 32.39 328 P **P** **12 49 12.2 -0.5**
baz=141
PB06 IPOC Station P 32.47 157 IAmb IAmb 12 49 15.5
comp=Z,34nm,0.9s
ELIS Ellis County 32.47 334 IAmb IAmb 12 49 18.3
comp=Z,31nm,1.1s
PTLB Pontes e Lacer 32.48 134 P **P** **12 49 13.8 +0.2**
PTLB IAmb IAmb 12 49 14.3
comp=Z,34nm,0.9s
AMTX Amarillo 32.55 330 P **P** **12 49 13.9 -0.2**
baz=143
LVC Limon Verde 32.64 156 P **P** **12 49 16.8 +1.5**
LVC IAmb IAmb 12 49 18.1
comp=Z,44nm,1.2s
LVC Limon Verde 32.64 156 LR LR 13 03 53.2
comp=Z,397nm,18.9s,baz=312,slow=39
LVC Limon Verde 32.64 156 P **P** **12 49 16.8 +1.5**
LVC pmax pmax
comp=Z,44nm,1.2s
LVC Limon Verde 32.64 156 *eP* **P** **12 49 14.8 -0.5**
BBSD Serra de San D 32.68 138 *eP* **P** **12 49 15.1 -0.2**
O52A Adamsville 32.68 1 IAmb IAmb 12 49 16.7
comp=Z,45nm,1.2s
O49A Covington 32.78 358 IAmb IAmb 12 49 24.7
comp=Z,42nm,1.1s
ACSO Alum Creek Sta 32.79 360 P **P** **12 49 16.4 +0.3**
baz=180,SNR=7.9
O54A Avella 32.80 3 IAmb IAmb 12 49 25.6
comp=Z,48nm,1.2s
O53A New Philadelph 32.83 2 P **P** **12 49 16.5 +0.1**
baz=183,SNR=6.4
O48B Farmland 32.89 357 P **P** **12 49 16.3 -0.6**
baz=176,SNR=8.2
PB15 IPOC Station P 32.96 157 IAmb IAmb 12 49 25.2
comp=Z,20nm,0.9s
MVL Millersville 33.05 9 IAmb IAmb 12 49 21.0
comp=Z,45nm,1.4s
SFIN Lafayette 33.17 354 P **P** **12 49 18.4 -1.0**
baz=172,SNR=13
P40A Paris 33.18 347 IAmb IAmb 12 49 21.2
comp=Z,21nm,0.7s
SSPA Standing Stone 33.47 7 P **P** **12 49 22.7 +0.7**
SSPA IAmb IAmb 12 49 24.2
comp=Z,61nm,1.6s
SSPA Standing Stone 33.47 7 P **P** **12 49 21.6 -0.4**
baz=189
N49A Columbus Grove 33.51 358 IAmb IAmb 12 49 31.0
comp=Z,23nm,0.9s
P38A Dawn 33.63 345 IAmb IAmb 12 49 26.9
comp=Z,22nm,0.6s
HDIL Hopedale 33.64 351 P **P** **12 49 22.6 -0.8**
baz=168,SNR=7.3
N58A Sunbury 33.82 8 IAmb IAmb 12 49 27.4
comp=Z,29nm,1.4s
BBRB Robore, Bolivi 33.99 139 *eP* **P** **12 49 25.9 -0.9**
M53A WI Miller and 34.04 3 P **P** **12 49 26.3 -0.6**
baz=184
KSU1 Kansas State U 34.06 340 IAmb IAmb 12 49 31.0
comp=Z,21nm,0.9s
KSU1 Kansas State U 34.06 340 P **P** **12 49 26.3 -0.9**
baz=155
R32A Long Quarter, 34.21 337 IAmb IAmb 12 49 33.0
comp=Z,24nm,0.6s
121A Cookes Peak, D 34.27 320 P **P** **12 49 29.8 +0.4**
baz=132,SNR=9.9
M44A Midewin, Midew 34.28 353 IAmb IAmb 12 49 29.9
comp=Z,16nm,0.8s

PAL	Palisades	34.46	12	P	P	12 49 29.1	-1.5		
	baz=196								
319A	Douglas	34.51	317	IAmb	IAmb	12 49 44.7			
	comp=Z,28nm,1.1s								
L48A	N Adams	34.53	358	IAmb	IAmb	12 49 39.5			
	comp=Z,25nm,1.1s								
ERPA	Erie	34.76	4	P	P	12 49 31.7	-1.4		
	baz=185								
Y22D	IRIS PASSCAL I	34.80	323	P	P	12 49 32.0	-1.7		
	baz=135								
AAM	Ann Arbor	34.87	359	P	P	12 49 33.6	-0.5		
	baz=178								
CBKS	Cedar Bluff	34.95	336	P	P	12 49 33.8	-1.1		
	baz=150								
L56A	Greenwood	34.99	7	IAmb	IAmb	12 49 37.0			
	comp=Z,57nm,1.6s								
L44A	Lake County Fo	35.04	353	P	P	12 49 33.8	-1.8		
	baz=171								
ANMO	Albuquerque	35.14	325	P	P	12 49 35.6	-1.2		
ANMO	Albuquerque	35.14	325	P	P	12 49 34.7	-2.2		
	baz=136								
ANMO	Albuquerque	35.14	325	LR	LR	13 07 09.0			
	comp=Z,161nm,20.4s,baz=220,slow=42								
ANMO	Albuquerque	35.14	325	iP	P	12 49 38.8	+2.0		
ANMO				pmax	pmax				
	comp=Z,10.0nm,1.1s								
WVNY	West Valley, N	35.15	5	P	P	12 49 36.3	-0.2		
WVNY				IAmb	IAmb	12 49 46.1			
	comp=Z,36nm,1.1s								
M63A	Gales Ferry	35.25	14	IAmb	IAmb	12 49 49.7			
	comp=Z,38nm,1.3s								
BINY	Binghamton	35.26	9	P	P	12 49 36.3	-1.2		
	baz=192								
SALV	Santo Antonio	35.29	131	eP	P	12 49 37.5	-0.5		
L59A	Walton	35.40	10	P	P	12 49 39.2	+0.4		
L59A				IAmb	IAmb	12 49 41.0			
	comp=Z,35nm,1.6s								
PRPB	Parauapebas	35.41	111	eP	P	12 49 39.0	-0.2		
PRPB				eS	S	12 55 14.2	+0.4		
L40A	Anamosa	35.44	349	P	P	12 49 38.2	-0.8		
T25A	Trinidad	35.68	330	P	P	12 49 39.1	-2.3		
	baz=141								
K57A	Scipio Center	35.70	8	P	P	12 49 41.2	-0.1		
K57A				IAmb	IAmb	12 49 50.7			
	comp=Z,31nm,1.1s								
SCIA	State Center	35.71	346	P	P	12 49 38.4	-3.0		
	baz=162								
M65A	Busby, Falmout	35.76	16	P	P	12 49 40.3	-1.4		
	baz=201								
TMAB	Tom-Au,PA,Br	35.82	104	eP	P	12 49 44.1	+1.4		
J47A	Sunmer	35.84	357	P	P	12 49 41.9	-0.6		
J47A				IAmb	IAmb	12 49 51.2			
	comp=Z,38nm,1.3s								
TUC	Tucson	36.09	317	P	P	12 49 46.0	+1.2		
TUC	Tucson	36.09	317	P	P	12 49 42.9	-2.0		
	baz=128								
TUC	Tucson	36.09	317	P	P	12 49 46.1	+1.2		
TUC				pmax	pmax				
	comp=Z,12nm,1.1s								
JFWS	Jewell Farm	36.09	351	P	P	12 49 44.0	-0.6		
JFWS	Jewell Farm	36.09	351	P	P	12 49 43.2	-1.5		
	baz=167,SNR=9.9								
JFWS	Jewell Farm	36.09	351	P	P	12 49 44.0	-0.6		
JFWS				pmax	pmax				
	comp=Z,33nm,0.7s								
L61B	Northampton	36.10	13	P	P	12 49 41.1	-3.6		
	baz=197								
J56A	Wolcott	36.20	7	IAmb	IAmb	12 49 46.9			
	comp=Z,28nm,1.1s								
KSCO	Kaye Shedlock'	36.33	333	P	P	12 49 44.2	-2.7		
	baz=145								
HRV	Adam Dziewonsk	36.41	14	P	P	12 49 45.7	-1.7		
	baz=199								
AC06	Mina Casimiro	36.46	161	IAmb	IAmb	12 49 49.7			
	comp=Z,19nm,0.8s								
J58A	Remsen	36.50	9	IAmb	IAmb	12 49 50.0			
	comp=Z,58nm,1.5s								
SNDB	Serra Nova Dou	36.62	121	eP	P	12 49 48.9	-0.6		
BGNE	Belgrade	36.65	340	P	P	12 49 48.0	-1.4		
	baz=154								
SDCO	Great Sand Dun	36.70	329	P	P	12 49 51.0	+0.7		
	baz=140,SNR=12								
I42A	Draeger Farm,	36.85	352	IAmb	IAmb	12 49 52.5			
	comp=Z,41nm,0.9s								
X18A	Snowflake	36.95	321	IAmb	IAmb	12 50 05.1			
	comp=Z,47nm,1.1s								
I40A	Norwalk	37.10	350	IAmb	IAmb	12 49 54.6			
	comp=Z,31nm,1.0s								
W18A	Petrified Fore	37.20	322	P	P	12 49 56.3	+1.9		
	baz=132,SNR=7.9								
214A	Organ Pipe Nat	37.27	315	P	P	12 49 58.2	+3.3		
214A				IAmb	IAmb	12 50 06.7			
	comp=Z,31nm,1.2s								
214A	Organ Pipe Nat	37.27	315	P	P	12 49 53.2	-1.7		
	baz=125								
H43A	Windswept, Lux	37.29	354	IAmb	IAmb	12 49 55.4			
	comp=Z,36nm,0.7s								
GLMI	Grayling	37.42	358	P	P	12 49 55.2	-0.7		
	baz=177								
SADO	Sadowa	37.45	4	IAmb	IAmb	12 50 04.7			
	comp=Z,54nm,1.8s								
SADO	Sadowa	37.45	4	LR	LR	13 05 37.2			
	comp=Z,677nm,19.3s,baz=236,slow=37								
Q24A	Divide	37.47	331	P	P	12 49 56.3	-0.5		
	baz=142								
BDQN	Bodoquena, MS	37.55	138	eP	P	12 49 55.3	-2.0		
OGNE	Ogallala	37.68	336	IAmb	IAmb	12 50 08.7			
	comp=Z,42nm,1.1s								
OGNE	Ogallala	37.68	336	P	P	12 49 56.6	-1.8		
	baz=148								
G45A	Suttons Bay	37.69	357	IAmb	IAmb	12 50 06.5			
	comp=Z,50nm,1.1s								
LONY	Lake Ozonia	37.84	9	IAmb	IAmb	12 50 01.1			
	comp=Z,44nm,1.7s								
LONY	Lake Ozonia	37.84	9	P	P	12 49 58.1	-1.4		
	baz=193								
MURT	Porto Murtinho	37.86	140	eP	P	12 49 58.5	-1.4		
AC05	El Transito	37.87	162	P	P	12 50 01.4	+1.4		
AC05				IAmb	IAmb	12 50 02.0			
	comp=Z,38nm,0.8s								
VT1	Waterbury	37.89	12	IAmb	IAmb	12 50 02.1			
	comp=Z,40nm,1.3s								
LCO	Las Campanas	37.90	163	P	P	12 50 01.2	+0.7		
LCO	Las Campanas	37.90	163	P	P	12 50 01.2	+0.7		
LCO				pmax	pmax				
	comp=Z,10.0nm,0.8s								
MVCO	Mesa Verde	37.91	326	IAmb	IAmb	12 50 12.4			
	comp=Z,25nm,1.1s								
MVCO	Mesa Verde	37.91	326	P	P	12 49 58.2	-2.3		
	baz=135,SNR=18								
LBNH	Lisbon	37.98	13	P	P	12 49 59.6	-1.0		
	baz=198								
WBO	Williamsburg	38.10	9	IAmb	IAmb	12 50 03.2			
	comp=Z,34nm,1.4s								
ARAG	Araguaiana, MT	38.17	127	eP	P	12 50 02.0	-0.6		
AQDB	Aquidauana	38.28	137	P	P	12 50 03.1	-0.3		
AQDB				IAmb	IAmb	12 50 03.9			
	comp=Z,24nm,1.0s								
AQDB	Aquidauana	38.28	137	eP	P	12 50 02.9	-0.5		
AQDB				eS	S	12 55 56.6	-0.7		
ECSD	EROS Data Cent	38.29	344	P	P	12 50 01.8	-1.5		
	baz=157,SNR=5.8								
ISCO	Idaho Springs	38.34	331	P	P	12 50 02.3	-1.9		
	baz=142								
G40A	Rib Lake	38.38	351	IAmb	IAmb	12 50 05.4			
	comp=Z,28nm,1.1s								
113A	Mohawk Valley,	38.40	316	P	P	12 50 04.3	0.0		
113A				IAmb	IAmb	12 50 16.8			
	comp=Z,34nm,1.2s								
WUAZ	Wupatki	38.48	321	IAmb	IAmb	12 50 18.1			
	comp=Z,49nm,1.1s								
WUAZ	Wupatki	38.48	321	P	P	12 50 02.7	-2.5		
	baz=130,SNR=13								
SMTB	Santa Maria do	38.48	114	eP	P	12 50 05.0	-0.3		
SPMN	Marine on St.	38.79	349	IAmb	IAmb	12 50 08.7			
	comp=Z,48nm,0.8s								
SPMN	Marine on St.	38.79	349	P	P	12 50 06.5	-0.9		
	baz=164,SNR=12								
WVL	Waterville	38.82	15	IAmb	IAmb	12 50 10.8			
	comp=Z,73nm,1.7s								
CO06	Fray Jorge	39.22	165	IAmb	IAmb	12 50 12.8			
	comp=Z,36nm,0.9s								
G62A	West of Eustis	39.22	14	IAmb	IAmb	12 50 21.6			
	comp=Z,34nm,1.1s								
N23A	Red Feather La	39.36	332	P	P	12 50 11.4	-1.2		
	baz=142								
PDMCI	Parker Dam,Lak	39.53	317	P	P	12 50 12.6	-1.2		
	baz=126								
F36A	Milaca	39.55	348	IAmb	IAmb	12 50 14.9			
	comp=Z,32nm,0.7s								
PKME	Peaks-Kenny Pk	39.56	15	P	P	12 50 13.8	-0.1		
	baz=201								
CO03	El Pedregal	39.62	164	IAmb	IAmb	12 50 16.5			
	comp=Z,54nm,1.4s								
U15A	North Rim	39.63	321	IAmb	IAmb	12 50 27.4			
	comp=Z,65nm,1.5s								
SUSD	Miller	39.63	342	P	P	12 50 12.4	-2.1		
	baz=154								
HMU	Henry Mountain	39.70	324	IAmb	IAmb	12 50 27.1			
	comp=Z,55nm,1.2s								
TICA	Tres Isletas	39.87	148	eP	P	12 50 17.6	+0.9		
CO02	Combarbal	39.88	164	IAmb	IAmb	12 50 18.6			
	comp=Z,65nm,0.9s								
O20A	White River Ci	39.90	329	P	P	12 50 14.8	-2.3		
	baz=138								
SWSC	Sam W. Stewart	39.92	314	P	P	12 50 14.2	-2.9		
	baz=122								
D41A	Chassel	39.94	354	IAmb	IAmb	12 50 18.6			
	comp=Z,32nm,0.8s								
IKP	In-Ko-Pah, Jac	39.99	314	P	P	12 50 15.6	-2.2		
	baz=122								
BC3	Big Chuckawall	40.06	315	P	P	12 50 16.1	-2.3		
	baz=124								
NEE2	Needles Airpor	40.12	317	P	P	12 50 15.8	-3.0		
	baz=126								
IRM	Iron Mountain	40.13	316	P	P	12 50 16.4	-2.5		
	baz=124								
F33A	5 Mile Ranch,	40.16	345	IAmb	IAmb	12 50 20.4			
	comp=Z,30nm,0.7s								
PKCU	Pink Cliffs	40.30	323	IAmb	IAmb	12 50 32.9			
	comp=Z,78nm,1.3s								
KNB	Kanab	40.33	322	IAmb	IAmb	12 50 33.0			
	comp=Z,68nm,1.5s								
MONP2	Monument Peak	40.34	314	P	P	12 50 18.1	-2.8		
	baz=122								
SRU	San Rafael Swe	40.38	326	IAmb	IAmb	12 50 32.2			
	comp=Z,98nm,2.0s								
MTPU	Mount Pierson	40.61	323	IAmb	IAmb	12 50 35.0			
	comp=Z,44nm,1.6s								
BELC	Belle Mtn. Jos	40.63	316	P	P	12 50 20.8	-2.4		
	baz=123,SNR=5.6								
H03N2	Juan Fernandez	40.67	175	T	T	13 33 51.6			
	baz=354,slow=76,SNR=46								
H03N1	Juan Fernandez	40.67	175	T	T	13 33 52.5			
	baz=354,slow=76,SNR=76								
H03N3	Juan Fernandez	40.69	175	T	T	13 33 51.3			
	baz=354,slow=76,SNR=90								
TPFO	Pinon Flats	40.74	315	P	P	12 50 21.4	-2.7		
	baz=122								
PFO	Pinyon Flats O	40.74	315	P	P	12 50 24.2	+0.1		
PFO	Pinyon Flats O	40.74	315	P	P	12 50 21.4	-2.7		
	baz=122								
PFO	Pinyon Flats O	40.74	315	LR	LR	13 08 35.8			
	comp=Z,134nm,18.1s,baz=128,slow=38								
PFO	Pinyon Flats O	40.74	315	iP	P	12 50 25.8	+1.7		
PFO				pmax	pmax				
	comp=Z,35nm,1.3s								
109C	Camp Elliot, M	40.83	313	P	P	12 50 22.0	-2.6		
	baz=121								
GMRC	Granite Mounta	40.83	317	P	P	12 50 21.4	-3.4		
	baz=124,SNR=5.5								
ZON	Zonda	40.88	162	IAmb	IAmb	12 50 27.1			
	comp=Z,50nm,1.2s								
VLDQ	Val d'Or	40.91	5	P	P	12 50 25.2	+0.2		
K22A	Casper	41.01	333	P	P	12 50 22.4	-3.7		
	baz=142								
TCRU	Three Creeks R	41.14	324	IAmb	IAmb	12 50 39.0			
	comp=Z,34nm,1.3s								
RSSD	Black Hills	41.15	337	P	P	12 50 28.3	+0.9		
RSSD	Black Hills	41.15	337	P	P	12 50 24.7	-2.7		
	baz=147								
RSSD	Black Hills	41.15	337	P	P	12 50 28.3	+0.9		
RSSD				pmax	pmax				
	comp=Z,28nm,1.6s								
EYMN	Ely	41.19	351	P	P	12 50 25.6	-1.8		
EYMN	Ely	41.19	351	P	P	12 50 23.5	-3.9		
	baz=167,SNR=8.1								
BDFB	Brasilia	41.21	124	P	P	12 50 28.2	+0.2		
BDFB	Brasilia	41.21	124	P	P	12 50 26.9	-1.2		
	comp=Z,15nm,1.0s,baz=291,slow=9.0,SNR=14								
BDFB				LR	LR	13 07 49.8			
	comp=Z,260nm,19.1s,baz=310,slow=37								
	comp=Z,15nm,1.0s								
BDFB	Brasilia	41.21	124	P	P	12 50 28.3	+0.2		
BDFB				pmax	pmax				
	comp=Z,16nm,0.9s								
MURC	Murrieta	41.26	314	P	P	12 50 24.0	-4.2		
	baz=122								
HEC	Hector,Ludlow	41.32	316	P	P	12 50 27.1	-1.6		
	baz=124								
TUQ	Turquoise Moun	41.38	317	P	P	12 50 29.2	-0.1		
	baz=125,SNR=6.2								
LMN	Caledonia Moun	41.40	19	P	P	12 50 30.3	+1.2		
LMN				IAmb	IAmb	12 50 39.2			
	comp=Z,25nm,1.0s								
BBRC	Big Bear Solar	41.42	315	P	P	12 50 31.0	+1.3		
	baz=122								
SHPR	Sheep Range	41.50	319	P	P	12 50 33.3	+3.1		
CPUP	Villa Florida	41.51	145	P	P	12 50 28.6	-1.6		
	comp=Z,3.5nm,0.9s,baz=325,slow=8.9,SNR=5.4								
CPUP				LR	LR	13 10 22.4			
	comp=Z,416nm,19.2s,baz=315,slow=40								
	comp=Z,3.5nm,0.9s								
ITRB	Iturama	41.62	131	eP	P	12 50 31.4	0.0		
RRX	Edison Barstow	41.80	316	P	P	12 50 30.6	-2.0		
	baz=123								
SHOC	Shoshone, Teco	41.88	318	P	P	12 50 33.1	-0.2		
	baz=125								
GSC	Goldstone, Bar	41.90	317	P	P	12 50 31.2	-2.3		
	baz=124,SNR=5.4								
SCI2	San Clemente I	41.92	313	P	P	12 50 31.0	-2.6		
	baz=120								
BFSC	Mount Baldy Ra	41.92	315	P	P	12 50 31.0	-2.7		
	baz=122								
CIS	Catalina Islan	42.03	313	P	P	12 50 30.9	-3.6		
	baz=120								
E28A	Huff	42.08	341	IAmb	IAmb	12 50 37.5			
	comp=Z,42nm,0.8s								
FMP	Fort Macarthur	42.10	314	P	P	12 50 31.1	-4.0		
	baz=121								
PCMB	Pacaembu	42.13	134	eP	P	12 50 34.3	-1.1		
CTU	Camp Tracy	42.16	327	IAmb	IAmb	12 50 46.8			
	comp=Z,61nm,1.9s								
MT08	Bocatoma Ro	42.27	164	IAmb	IAmb	12 50 39.3			
	comp=Z,53nm,1.1s								
IPMB	Ipameri, GO	42.30	127	eP	P	12 50 35.5	-1.4		
MT09	Talagante	42.33	165	P	P	12 50 37.6	+0.6		
MT09				IAmb	IAmb	12 50 38.3			
	comp=Z,34nm,1.1s								
SDBA	SAO DESIDERIO	42.35	117	eP	P	12 50 36.7	-0.6		
AGMN	Agassiz Nation	42.36	347	P	P	12 50 34.5	-2.4		
	baz=160								
DECC	Green Verdugo	42.41	314	P	P	12 50 34.7	-2.9		
	baz=121,SNR=6.6								
DUG	Dugway, Tooele	42.41	325	P	P	12 50 35.8	-1.9		
	baz=132,SNR=8.6								
MT13	San Alfonso	42.48	165	P	P	12 50 39.5	+1.3		
MT13				IAmb	IAmb	12 50 41.2			
	comp=Z,91nm,1.5s								
EDW2	Edwards Air Fo	42.49	315	P	P	12 50 36.5	-1.9		
SPR3	Spring Creek 3	42.51	323	P	P	12 50 38.5	-0.3		
SPR3				IAmb	IAmb	12 50 53.0			
	comp=Z,27nm,1.1s								
PDAR	Pinedale Array	42.52	330	P	P	12 50 38.2	-0.5		
PDAR	Pinedale Array	42.52	330	P	P	12 50 38.5	-0.1		
	comp=Z,1.8nm,0.8s,baz=144,slow=7.8,SNR=13								
PDAR				PcP	PcP	12 52 31.9	+0.6		
	comp=Z,1.2nm,0.8s,baz=147,slow=5.4,SNR=3.7								
PDAR				LR	LR	13 10 24.8			
	comp=Z,188nm,21.6s,baz=136,slow=39								
	comp=Z,1.8nm,0.8s								
FURC	Furnace Creek,	42.59	318	P	P	12 50 38.1	-0.9		
	baz=125								
LRMC	Laurel Mtn Rad	42.60	316	P	P	12 50 37.6	-1.7		
	baz=123,SNR=6.3								
LMEL	Las Melosas	42.60	165	IAmb	IAmb	12 50 41.3			
	comp=Z,26nm,1.1s								
BO04	La Punta	42.63	165	IAmb	IAmb	12 50 40.8			
	comp=Z,81nm,1.4s								
MPMC	Manual Prospec	42.78	317	P	P	12 50 39.1	-1.7		
	baz=124								
Q12A	Willow Creek R	42.84	322	IAmb	IAmb	12 50 53.0			
	comp=Z,36nm,1.2s								
OSI	Osito Audit: C	42.87	314	P	P	12 50 38.5	-2.9		
	baz=121								
RPN	Rapa Nui	42.87	216	LR	LR	13 03 30.3			
	comp=Z,756nm,21.7s,baz=301,slow=29								
R11B	Troy Canyon, C	42.88	321	IAmb	IAmb	12 50 53.7			
	comp=Z,39nm,1.4s								
R11B	Troy Canyon, C	42.88	321	P	P	12 50 40.7	-0.8		
	baz=128,SNR=36								
BO01	Tunca	42.89	166	P	P	12 50 41.8	+0.3		
BO01				IAmb	IAmb	12 50 42.8			
	comp=Z,38nm,1.4s								
MDND	Maddock	42.90	343	P	P	12 50 38.8	-2.5		
	baz=155								
SPUT	South Promonto	42.97	327	IAmb	IAmb	12 50 53.3			
	comp=Z,47nm,1.5s								
BGU	Big Grassy Mou	43.03	326	IAmb	IAmb	12 50 53.9			
	comp=Z,34nm,1.3s								
ARVC	Arvin	43.21	315	P	P	12 50 42.5	-1.5		
	baz=121								
GRAC	Grapevine Rang	43.22	318	IAmb	IAmb	12 51 04.1			
	comp=Z,22nm,0.8s								
GRAC	Grapevine Rang	43.22	318	P	P	12 50 43.2	-1.0		
	baz=125								
GO05	Huala	43.29	167	IAmb	IAmb	12 50 45.5			
	comp=Z,24nm,0.9s								
LDASE	Londrina, Braz	43.38	136	eP	P	12 50 44.2	-1.4		
CWC	Cottonwood Cre	43.39	317	P	P	12 50 44.0	-1.7		
	baz=123								
HVU	Hansel Valley	43.47	327	IAmb	IAmb	12 50 59.4			
	comp=Z,38nm,1.6s								
SBC	Santa Barbara	43.49	314	P	P	12 50 43.0	-3.3		
	baz=120								
VES	Vestal, Richgr	43.76	316	P	P	12 50 48.2	-0.2		
	baz=122								
PKM	Mcpherson Peak	43.78	314	P	P	12 50 48.2	-0.7		
	baz=120								
BB19B	Bebedouro	43.81	131	eP	P	12 50 48.1	-1.0		
TIN	Tinemaha, Big	43.83	318	P	P	12 50 51.3	+2.2		
	baz=124								
JANB	Januaria	44.04	120	eP	P	12 50 50.2	-0.9		
SMMC	Simmler	44.12	315	P	P	12 50 51.9	+0.4		
	baz=120								
H17A	Grant Village	44.23	331	P	P	12 50 50.4	-2.1		
	baz=138								
CRSM	Crissiumal (Br	44.32	142	eP	P	12 50 52.0	-1.1		
ITQB	Itaqui	44.48	147	P	P	12 50 54.6	+0.4		
ITQB	Itaqui	44.48	147	eP	P	12 50 54.7	+0.4		
MLAC	Mammoth, Mammo	44.55	318	P	P	12 50 52.9	-2.2		
	baz=124								
NV11	Mina Array Sit	44.55	319	IAmb	IAmb	12 51 06.9			
	comp=Z,31nm,1.1s								
NVAR	Mina Array Bea	44.65	319	P	P	12 50 57.2	+1.4		
NVAR	Mina Array Bea	44.65	319	P	P	12 50 57.7	+1.9		
	comp=Z,7.1nm,0.6s,baz=123,slow=7.0,SNR=83								
NVAR				PcP	PcP	12 52 39.2	+0.7		
	comp=Z,2.1nm,0.8s,baz=135,slow=4.8,SNR=3.8								
NVAR				LR	LR	13 12 28.7			
	comp=Z,194nm,20.1s,baz=107,slow=40								
	comp=Z,7.1nm,0.6s								
LHV	Little Huntoon	44.68	319	IAmb	IAmb	12 51 08.1			
	comp=Z,28nm,1.1s								
MDPB	Devils Postpil	44.71	318	IAmb	IAmb	12 51 08.6			
	comp=Z,30nm,1.0s								
UNIS	Unistalda (Bra	44.88	145	eP	P	12 50 57.4	-0.2		
DGMT	Dagmar	44.90	340	P	P	12 50 57.8	+0.4		
	baz=149								
RYN	Ryan	44.90	319	IAmb	IAmb	12 51 09.3			
	comp=Z,19nm,1.1s								
PSAL	Palomas, Salto	45.09	149	eP	P	12 50 59.8	+0.8		
ITAB	Concordia	45.31	140	eP	P	12 51 00.1	-0.9		
WAKR	Walker	45.43	319	IAmb	IAmb	12 51 13.8			
	comp=Z,23nm,0.9s								
YERR	Yerington	45.57	319	IAmb	IAmb	12 51 14.6			
	comp=Z,24nm,1.0s								
HLID	Hailey	45.57	328	P	P	12 51 02.3	-0.7		
	baz=133,SNR=26								
BOZ	Bozeman (W)	45.63	332	IAmb	IAmb	12 51 16.5			
	comp=Z,18nm,1.2s								
BOZ	Bozeman (W)	45.63	332	P	P	12 51 02.1	-1.3		
	baz=138,SNR=7.1								
RODS	Rosario do Sul	45.79	146	eP	P	12 51 04.2	-0.4		
PNTR	Pine Nut	45.86	319	IAmb	IAmb	12 51 17.0			
	comp=Z,15nm,0.8s								
ALGR	Alto Alegre (B	45.88	143	eP	P	12 51 04.2	-1.3		
PAHR	Pah Rah Range	46.06	320	IAmb	IAmb	12 51 23.9			
	comp=Z,40nm,1.6s								
VAO	Valinhos	46.12	132	IAmb	IAmb	12 51 07.4			
	comp=Z,22nm,0.9s								
VAO	Valinhos	46.12	132	eP	P	12 51 06.6	-0.9		
DIAM	Diamantina, MG	46.13	124	eP	P	12 51 07.2	-0.5		
MPK	Martis Peak	46.25	319	IAmb	IAmb	12 51 23.7			
	comp=Z,26nm,1.2s								
TBOT	Tacuaremb	46.43	148	eP	P	12 51 10.2	+0.6		
EGMT	Eagleton	46.65	335	IAmb	IAmb	12 51 16.4			
	comp=Z,20nm,1.4s								
EGMT	Eagleton	46.65	335	P	P	12 51 10.7	-0.6		
	baz=142								
CPSB	Cacapava Do Su	46.82	145	eP	P	12 51 12.0	-0.8		
ORV	Oroville	47.34	319	IAmb	IAmb	12 51 29.0			
	comp=Z,25nm,1.1s								
PLID	Pearl Lake	47.45	328	IAmb	IAmb	12 51 28.6			
	comp=Z,21nm,1.1s								
MSO	Missoula	47.62	331	IAmb	IAmb	12 51 32.0			
	comp=Z,13nm,1.2s								
MSO	Missoula	47.62	331	P	P	12 51 16.7	-2.3		
	baz=136								
J08A	Circle Bar Ran	47.68	325	IAmb	IAmb	12 51 30.1			
	comp=Z,20nm,1.0s								
GO06	Cuarrehue	47.79	168	IAmb	IAmb	12 51 20.7			
	comp=Z,34nm,1.6s								
BMO	Blue Mountains	47.98	327	IAmb	IAmb	12 51 32.0			
	comp=Z,16nm,1.1s								
F10A	Beach Ranch, E	48

comp=Z,19nm,0.8s
GNW **Green Mountain** 52.67 327 IAmb IAmb 12 52 07.7
comp=Z,38nm,1.1s
COYC **Coyhaique** 53.48 171 IAmb IAmb 12 52 04.3
comp=Z,33nm,1.1s
BRLDA **Berland Lookou** 54.39 336 IAmb IAmb 12 52 25.4
comp=Z,16nm,1.1s
GO08 **Villa O'Higgin** 56.24 172 IAmb IAmb 12 52 25.2
comp=Z,19nm,1.1s
FRB **Frobisher Bay** 57.26 7 LR LR 13 17 23.6
comp=Z,255nm,18.0s,baz=196,slow=36
BBB **Bella Bella** 58.13 329 LR LR 13 19 41.9
comp=Z,188nm,21.1s,baz=124,slow=38
YKA **Yellowknife Ar** 59.82 343 P **P** **12 52 48.2 +0.3**
YKA **Yellowknife Ar** 59.82 343 P **P** **12 52 47.8 -0.1**
comp=Z,9.8nm,0.9s,baz=135,slow=6.8,SNR=107
YKA LR LR 13 19 30.7
comp=Z,96nm,18.3s,baz=99,slow=37
comp=Z,9.8nm,0.9s
YKA **Yellowknife Ar** 59.82 343 P **P** **12 52 48.2 +0.3**
TOAD **Toad River Com** 60.81 336 P **P** **12 52 54.3 -0.5**
baz=130
GO10 **Punta Arenas** 61.03 172 P **P** **12 52 58.0 +1.7**
U35K **Hyder** 61.14 332 P **P** **12 52 55.1 -1.9**
baz=124
KOTAN **Kotaneelee Air** 61.19 338 P **P** **12 52 55.5 -1.8**
baz=132
LIRD **Liard River Hi** 61.51 336 P **P** **12 52 58.1 -1.5**
baz=129
V35K **Ketchikan** 61.58 331 P **P** **12 52 57.4 -2.6**
baz=122
MG03 **Isla Dawson** 61.79 172 P **P** **12 53 02.8 +1.5**
T35M **Bob Quinn** 61.83 333 P **P** **12 53 00.2 -1.5**
baz=124
CRAG **Craig** 62.39 330 P **P** **12 53 02.6 -2.9**
baz=120
EFI **East Falkland** 62.43 163 *de*P **P** **12 53 05.2 -0.5**
EFI pmax pmax
comp=Z,46nm,1.5s
WRAK **Wrangell Islan** 62.50 331 P **P** **12 53 04.5 -1.7**
baz=122
DLBC **Dease Lake** 62.56 334 IAmb IAmb 12 53 12.9
comp=Z,16nm,0.9s
DLBC **Dease Lake** 62.56 334 P **P** **12 53 05.5 -1.1**
baz=125,SNR=7.0
DLBC **Dease Lake** 62.56 334 LR LR 13 23 34.4
comp=Z,312nm,18.8s,baz=118,slow=39
U33K **Whale Pass** 62.71 331 P **P** **12 53 05.4 -2.2**
baz=121
S34M **Telegraph Cree** 62.75 333 P **P** **12 53 05.7 -2.2**
baz=123
T33K **Petersburg** 62.99 332 P **P** **12 53 07.1 -2.4**
baz=121
WTLY **Watson Lake, Y** 63.02 336 P **P** **12 53 05.8 -3.9**
baz=127,SNR=6.0
WRGLY **Wrigley** 63.08 341 P **P** **12 53 06.4 -3.5**
baz=133
SFJD **Kangerlussuaq** 63.48 13 LR LR 13 23 11.1
comp=Z,178nm,19.2s,baz=220,slow=38
R33M **Jennings River** 63.50 335 P **P** **12 53 13.7 +0.7**
R33M IAmb IAmb 12 53 24.8
comp=Z,20nm,1.1s
R33M **Jennings River** 63.50 335 P **P** **12 53 10.3 -2.7**
baz=124,SNR=6.2
TGTN **Hyland Airport** 63.68 338 P **P** **12 53 12.7 -1.3**
baz=128
R32K **Eaglecrest** 64.47 333 P **P** **12 53 18.4 -0.8**
baz=120
P33M **Teslin, Yukon** 64.73 335 IAmb IAmb 12 53 26.8
comp=Z,12nm,1.1s
P33M **Teslin, Yukon** 64.73 335 P **P** **12 53 19.6 -1.4**
baz=123,SNR=8.9
P32M **Atlin** 64.78 334 P **P** **12 53 20.5 -0.8**
baz=122
S31K **Pelican** 65.11 332 P **P** **12 53 21.3 -2.0**
baz=118
N32M **Quiet Lake** 65.35 336 IAmb IAmb 12 53 30.6
comp=Z,16nm,1.0s
N32M **Quiet Lake** 65.35 336 P **P** **12 53 23.7 -1.3**
baz=123
SKAG **Skagway** 65.43 333 P **P** **12 53 25.0 -0.4**
baz=120
WHY **Whitehorse** 65.84 335 IAmb IAmb 12 53 38.7
comp=Z,22nm,1.6s
WHY **Whitehorse** 65.84 335 P **P** **12 53 26.5 -1.7**
baz=121
PLBC **Pleasant Camp** 65.89 333 P **P** **12 53 28.2 -0.2**
baz=119
FARO **Faro, Yukon** 66.05 337 P **P** **12 53 28.9 -0.5**
baz=123,SNR=5.0
PMPST **Porto Santo, M** 66.25 57 *e*P **P** **12 53 35.2 +4.0**
comp=Z,303nm,1.6s
O30N **Mendenhall** 66.41 335 P **P** **12 53 31.1 -0.7**
baz=120
M31M **Drury Creek, Y** 66.44 336 P **P** **12 53 34.7 +2.7**
baz=122,SNR=6.7
P30M **Million Dollar** 66.47 334 P **P** **12 53 34.6 +2.4**
baz=119
P29M **Windy Craggy** 66.58 333 P **P** **12 53 34.0 +1.1**
baz=118
N31M **Braeburn, Yuko** 66.64 335 P **P** **12 53 33.0 -0.2**
baz=120
HYT **Haines Junctio** 67.04 334 P **P** **12 53 37.7 +1.8**
baz=118
N30M **Aishikik Lake** 67.17 335 IAmb IAmb 12 53 48.8
comp=Z,20nm,1.2s
N30M **Aishikik Lake** 67.17 335 P **P** **12 53 37.5 +0.9**
baz=119,SNR=6.2
PNL **Peninsula** 67.35 333 P **P** **12 53 39.3 +1.5**
baz=116
YUK6 **Outpost Mounta** 67.47 334 P **P** **12 53 40.9 +2.1**
baz=118
C36M **Paulatuk** 67.54 345 P **P** **12 53 38.7 0.0**
baz=135
M30M **Minto, Yukon** 67.60 336 IAmb IAmb 12 53 50.9
comp=Z,17nm,1.1s
M30M **Minto, Yukon** 67.60 336 P **P** **12 53 39.5 +0.2**
baz=120,SNR=6.7
RES **Resolute Bay** 67.71 357 IAmb IAmb 12 53 44.2
comp=Z,7.9nm,0.9s
RES **Resolute Bay** 67.71 357 LR LR 13 24 21.3
comp=Z,496nm,18.0s,baz=191,slow=37
MAYO **Mayo, Yukon** 67.76 337 P **P** **12 53 42.5 +2.2**
baz=121
YUK4 **Talbot Arm** 67.78 334 P **P** **12 53 42.2 +1.6**
baz=118
ICESG **Greenland Ices** 67.78 15 *i* P **P** **12 53 40.6 -0.1**
ICESG IAmb IAmb 12 53 46.2
comp=Z,19nm,0.9s
O28M **Mount Upton** 68.19 334 P **P** **12 53 44.2 +0.8**
baz=116
M29M **Somme Creek** 68.21 336 IAmb IAmb 12 53 55.3
comp=Z,22nm,1.2s
M29M **Somme Creek** 68.21 336 P **P** **12 53 43.3 +0.1**
baz=118,SNR=6.6
YUK8 **Steele Glacier** 68.23 334 P **P** **12 53 42.0 -1.6**
baz=116
H31M **Peel River** 68.37 340 P **P** **12 53 44.4 +0.3**
baz=123,SNR=9.0
L29M **L29M** 68.39 336 P **P** **12 53 44.8 +0.5**
baz=118,SNR=5.8
J30M **Hart River** 68.43 338 P **P** **12 53 45.4 +0.8**
J30M IAmb IAmb 12 53 56.8
comp=Z,19nm,1.1s
J30M **Hart River** 68.43 338 P **P** **12 53 45.4 +0.8**
baz=121,SNR=7.5
K29M **Barlow Dome** 68.51 337 IAmb IAmb 12 53 50.8
comp=Z,11nm,0.9s
K29M **Barlow Dome** 68.51 337 P **P** **12 53 45.7 +0.6**
baz=119,SNR=10.0
MESA **MESA** 68.73 333 P **P** **12 53 47.6 +0.9**
baz=114
YUK3 **Moose Creek** 68.75 334 P **P** **12 53 46.7 -0.1**
baz=116
I30M **Mount Dempster** 68.78 339 P **P** **12 53 47.4 +0.6**
baz=121,SNR=21
CTG **Chitna Glacier** 68.78 333 P **P** **12 53 46.9 0.0**
baz=115
G31M **Satah River** 68.96 341 P **P** **12 53 47.7 0.0**
baz=124,SNR=8.3
F31M **Tsiigehtchic** 69.08 341 P **P** **12 53 50.3 +1.9**
baz=124
DAWY **Dawson** 69.34 337 IAmb IAmb 12 53 54.9
comp=Z,19nm,1.5s
DAWY **Dawson** 69.34 337 P **P** **12 53 51.9 +1.7**
baz=118,SNR=6.2
EPYK **Eagle Plains** 69.49 340 P **P** **12 53 52.6 +1.5**
baz=121,SNR=7.1

INK **Inuvik** 69.51 342 IAmb IAmb 12 53 56.6
comp=Z,22nm,1.1s
INK **Inuvik** 69.51 342 P **P** **12 53 51.5 +0.5**
baz=125,SNR=12
INK **Inuvik** 69.51 342 LR LR 13 27 48.1
comp=Z,279nm,18.5s,baz=182,slow=39
I29M **Ogilvie Camp,** 69.55 338 IAmb IAmb 12 54 03.1
comp=Z,26nm,1.3s
I29M **Ogilvie Camp,** 69.55 338 P **P** **12 53 52.6 +1.2**
baz=119,SNR=6.4
M27K **Edge Creek, AK** 69.60 335 P **P** **12 53 54.2 +2.3**
baz=115
G30M **tAoh Zraii Nji** 69.64 340 P **P** **12 53 53.0 +1.0**
baz=122
A36M **Sachs Harbour** 69.68 347 P **P** **12 53 53.1 +1.0**
baz=134
MCARA **McCarthy VSAT** 69.70 334 P **P** **12 53 53.1 +0.7**
baz=113
KAIM **Kayak Island** 69.78 332 P **P** **12 53 54.0 +1.1**
baz=111
F30M **Barrier River** 69.83 341 P **P** **12 53 55.0 +1.9**
baz=122,SNR=9.2
BCAR **Beaver Creek A** 69.86 335 P **P** **12 53 54.2 +0.8**
L27K **Beaver Creek,** 69.88 335 IAmb IAmb 12 54 05.6
comp=Z,29nm,1.2s
L27K **Beaver Creek,** 69.88 335 P **P** **12 53 52.2 -1.3**
baz=115,SNR=14
H29M **Whitestone** 69.99 339 IAmb IAmb 12 54 06.3
comp=Z,17nm,1.1s
H29M **Whitestone** 69.99 339 P **P** **12 53 54.6 +0.5**
baz=119,SNR=6.7
GLB **Gilahina Butte** 70.07 333 IAmb IAmb 12 54 08.5
comp=Z,12nm,1.0s
M26K **Nabesna, AK** 70.09 335 P **P** **12 53 53.7 -1.2**
baz=114
I28M **Miner Creek** 70.19 338 IAmb IAmb 12 54 08.7
comp=Z,35nm,1.7s
I28M **Miner Creek** 70.19 338 P **P** **12 53 54.3 -1.1**
baz=118,SNR=11
G29M **Pine Creek** 70.22 340 IAmb IAmb 12 54 07.3
comp=Z,23nm,1.1s
G29M **Pine Creek** 70.22 340 P **P** **12 53 55.3 -0.2**
baz=120,SNR=9.7
BMRM **Bremner River** 70.25 333 P **P** **12 53 53.3 -2.5**
baz=112
EGAK **Eagle** 70.35 337 IAmb IAmb 12 54 07.8
comp=Z,12nm,1.1s
EGAK **Eagle** 70.35 337 P **P** **12 53 54.3 -2.0**
baz=116
K27K **Chicken** 70.39 336 IAmb IAmb 12 54 25.9
comp=Z,28nm,1.9s
K27K **Chicken** 70.39 336 P **P** **12 53 55.3 -1.3**
baz=115
SUMG **Summit** 70.45 13 P **P** **12 53 57.3 0.0**
SUMG **Summit** 70.45 13 P **P** **12 53 57.3 0.0**
SUMG pmax pmax
comp=Z,28nm,1.0s
SUMG **Summit** 70.45 13 *i* P **P** **12 53 57.5 +0.2**
SUMG IAmb IAmb 12 54 06.9
comp=Z,14nm,0.9s
N25K **Chitina, Valde** 70.48 333 P **P** **12 53 55.1 -2.2**
baz=112
L26K **Log Cabin Wild** 70.49 335 P **P** **12 53 55.6 -1.6**
baz=114
PPT **Papeete** 70.52 249 LR LR 13 17 41.7
comp=Z,201nm,18.9s,baz=107,slow=30
Q23K **Middleton Isla** 70.53 331 P **P** **12 53 55.8 -1.6**
baz=110
PPT2 **Papeete2** 70.53 249 *e*S **S** **13 03 10.7 -1.0**
comp=Z,105nm,25.8s
PPT2 *e*SS **SS** **13 07 39.6 -3.8**
comp=Z,58nm,30.5s
PPT2 *e*LR LR 13 15 22.2
comp=Z,159nm,23.5s
PPT2 *e*LR LR 13 15 22.8
comp=Z,176nm,27.0s
EYAK **Cordova Ski Ar** 70.62 332 P **P** **12 53 56.2 -1.8**
baz=110
I27K **Kandik River** 70.89 338 P **P** **12 53 58.3 -1.3**
baz=116,SNR=16
E29M **Blow River** 70.92 341 P **P** **12 53 59.9 +0.2**
baz=120,SNR=6.6
HARP **HAARP** 71.02 334 P **P** **12 53 59.6 -0.9**
baz=112
KLU **Klutina** 71.03 333 P **P** **12 54 00.3 -0.3**
baz=110
H27K **Steamboat Moun** 71.13 338 P **P** **12 54 00.5 -0.6**
baz=116,SNR=7.5
SCRK **Sand Creek** 71.13 336 P **P** **12 54 02.4 +1.1**
SCRK IAmb IAmb 12 54 19.8
comp=Z,12nm,1.2s
SCRK **Sand Creek** 71.13 336 P **P** **12 54 01.4 +0.1**
baz=113
J26L **Joseph Creek** 71.17 336 IAmb IAmb 12 54 13.7
comp=Z,30nm,1.4s
J26L **Joseph Creek** 71.17 336 P **P** **12 54 00.3 -1.2**
baz=114,SNR=9.8
F28M **Old Crow** 71.19 340 P **P** **12 54 02.2 +0.8**
F28M IAmb IAmb 12 54 13.0
comp=Z,49nm,2.0s
F28M **Old Crow** 71.19 340 P **P** **12 54 00.4 -1.0**
baz=118,SNR=5.5
I26K **Coal Creek Min** 71.34 337 IAmb IAmb 12 54 14.1
comp=Z,40nm,1.8s
I26K **Coal Creek Min** 71.34 337 P **P** **12 54 01.1 -1.3**
baz=114
GLI **Glacier Island** 71.36 332 P **P** **12 54 01.1 -1.4**
baz=109
M24K **Tolsona, Glenn** 71.36 334 P **P** **12 54 01.4 -1.2**
baz=110
PAX **Paxson** 71.37 335 P **P** **12 54 01.4 -1.2**
baz=111
G27K **Doyon Strip** 71.43 339 P **P** **12 54 01.2 -1.7**
baz=116,SNR=5.2
BORG **Borgarnes** 71.45 23 LR LR 13 23 00.3
comp=Z,293nm,19.3s,baz=200,slow=34
E28M **Babbage River** 71.55 341 P **P** **12 54 01.3 -2.3**
baz=119,SNR=6.9
D28M **Stokes Point** 71.66 342 P **P** **12 54 03.5 -0.6**
baz=120
SCM **Sheep Creek Mo** 71.78 333 P **P** **12 54 04.2 -1.0**
baz=109
K24K **Donnelly Dome** 71.80 335 P **P** **12 54 03.8 -1.4**
baz=111
J25K **Salcha River,** 71.94 336 P **P** **12 54 05.8 -0.3**
baz=112,SNR=6.0
TBI **Tubuai** 71.96 243 *e*S **S** **13 03 26.2 -1.8**
comp=Z,551nm,31.2s
E27K **Coleen River** 72.03 340 P **P** **12 54 06.1 -0.4**
baz=117,SNR=6.4
NEEM **North Greenlan** 72.06 7 *i* P **P** **12 54 07.5 +0.7**
NEEM IAmb IAmb 12 54 17.0
comp=Z,14nm,0.9s
KNK **Knik Glacier** 72.16 333 P **P** **12 54 05.5 -1.9**
baz=108,SNR=5.9
WAT6 **Susitna Watana** 72.21 334 P **P** **12 54 05.7 -2.1**
baz=109,SNR=7.7
DHY **Denali Highway** 72.22 334 P **P** **12 54 06.3 -1.5**
baz=110
SML **Sawmill** 72.22 333 IAmb IAmb 12 54 21.6
comp=Z,18nm,1.0s
SML **Sawmill** 72.22 333 P **P** **12 54 06.1 -1.7**
baz=108
SEW **Seward** 72.23 331 P **P** **12 54 06.8 -0.9**
baz=107
G26K **Porcupine Rive** 72.25 339 P **P** **12 54 06.3 -1.4**
baz=114
D27M **Malcolm River** 72.31 341 P **P** **12 54 06.4 -1.8**
baz=118
PRP **Porcupine Dome** 72.34 337 IAmb IAmb 12 54 20.1
comp=Z,21nm,1.6s
PRP **Porcupine Dome** 72.34 337 P **P** **12 54 06.2 -2.4**
baz=112
O22K **Cooper Landing** 72.47 331 P **P** **12 54 07.3 -1.9**
baz=107
GHO **Glory Hole Cre** 72.48 333 P **P** **12 54 10.7 +1.4**
GHO IAmb IAmb 12 54 16.0
comp=Z,16nm,0.9s
HDA **Harding Lake** 72.50 336 P **P** **12 54 08.7 -0.6**
baz=110,SNR=7.8
PMR **Palmer** 72.52 333 P **P** **12 54 08.1 -1.4**
baz=108
ILAR **Eielson Array** 72.60 336 P **P** **12 54 10.2 +0.3**
ILAR **Eielson Array** 72.60 336 P **P** **12 54 10.7 +0.8**
comp=Z,1.8nm,0.7s,baz=111,slow=4.3,SNR=22
ILAR LR LR 13 28 11.5
comp=Z,141nm,20.6s,baz=80,slow=38
comp=Z,1.8nm,0.7s

RC01 **Rabbit Creek A** 72.65 332 P **P** **12 54 08.4 -1.8**
baz=107
F26K **Sheenjek River** 72.69 339 P **P** **12 54 08.9 -1.5**
baz=114
H25L **Birch Creek** 72.73 338 P **P** **12 54 08.9 -1.8**
baz=112
BMAR **Burnt Mountain** 72.73 339 P **P** **12 54 12.7 +2.0**
BRSE **Bradley Lake S** 72.75 331 P **P** **12 54 10.1 -0.8**
baz=106
PTEO **Sao Teotonio** 72.87 53 *e*P **P** **12 54 14.7 +2.7**
PACT **Alcochete** 72.87 52 *e*P **P** **12 54 14.4 +2.4**
MORF **Marmelete** 72.91 53 *e*P **P** **12 54 14.6 +2.3**
comp=Z,40nm,1.6s
MORF **Marmelete** 72.91 53 IAmb IAmb 12 54 17.8
comp=Z,28nm,1.2s
MORF **Marmelete** 72.91 53 *e*P **P** **12 54 14.4 +2.1**
MORF IAmb IAmb 12 54 18.2
comp=Z,23nm,1.1s
MORF **Marmelete** 72.91 53 *e*P **P** **12 54 14.4 +2.1**
POKR **Poker Plat Res** 72.94 336 P **P** **12 54 09.6 -2.3**
baz=110
RND **Reindeer** 72.96 334 IAmb IAmb 12 54 18.7
comp=Z,28nm,1.1s
M22K **Willow** 73.02 333 P **P** **12 54 09.8 -2.6**
baz=107
COLA **College** 73.02 336 P **P** **12 54 10.7 -1.7**
baz=110
COLA **College** 73.02 336 ⇓ *i* P **P** **12 54 14.8 +2.4**
COLA pmax pmax
comp=Z,16nm,2.1s
G25K **Bearman Lake** 73.03 338 P **P** **12 54 10.2 -2.1**
baz=112,SNR=6.0
PNCL **Nicolau / Gran** 73.06 52 *e*P **P** **12 54 16.0 +2.8**
MCK **McKinley** 73.10 335 P **P** **12 54 10.5 -2.4**
baz=108
HOM **Homer** 73.17 330 P **P** **12 54 10.7 -2.7**
baz=105
F25K **Christian Rive** 73.17 339 P **P** **12 54 12.2 -1.1**
baz=113,SNR=5.7
KDAK **Kodiak Island** 73.19 328 P **P** **12 54 12.0 -1.5**
baz=103
KDAK **Kodiak Island** 73.19 328 LR LR 13 30 02.9
comp=Z,131nm,18.1s,baz=123,slow=39
MDM **Murphy Dome** 73.20 336 IAmb IAmb 12 54 23.8
comp=Z,29nm,1.8s
SUA **Susitna One** 73.22 332 P **P** **12 54 11.2 -2.6**
baz=106
CAPN **Captain Cook N** 73.22 332 P **P** **12 54 11.7 -1.9**
baz=106
PCAS **Casmilo, Conde** 73.23 50 *e*P **P** **12 54 16.1 +1.9**
comp=Z,66nm,1.8s
CUT **Chulitna** 73.27 333 P **P** **12 54 12.5 -1.4**
baz=107
MESJ **Messejana** 73.29 53 *e*P **P** **12 54 16.7 +2.2**
comp=Z,22nm,1.6s
Q20K **Shuyak Island** 73.29 329 P **P** **12 54 12.6 -1.5**
baz=104
C27K **Jago River** 73.35 341 P **P** **12 54 13.7 -0.5**
baz=115
E25K **Arctic Village** 73.35 340 P **P** **12 54 15.1 +0.7**
baz=113,SNR=6.6
H24K **Noodor Dome** 73.36 337 IAmb IAmb 12 54 26.2
comp=Z,30nm,1.6s
H24K **Noodor Dome** 73.36 337 P **P** **12 54 14.3 -0.1**
baz=110,SNR=5.9
PMTG **Montargil** 73.37 52 *e*P **P** **12 54 16.6 +1.6**
comp=Z,24nm,1.3s
PCVE **Castro Verde** 73.42 53 *e*P **P** **12 54 17.3 +2.0**
NEA2 **Nenana** 73.42 336 P **P** **12 54 13.7 -1.1**
baz=108
OHAK **Old Harbor** 73.44 328 P **P** **12 54 14.0 -1.0**
baz=102
EVO **Evora** 73.50 52 *e*P **P** **12 54 17.7 +2.0**
comp=Z,21nm,1.6s
G24K **Hadweenzic Riv** 73.51 338 IAmb IAmb 12 54 27.6
comp=Z,26nm,1.5s
G24K **Hadweenzic Riv** 73.51 338 P **P** **12 54 15.7 +0.4**
baz=111,SNR=6.3
PGAV **Gavieira, Arco** 73.56 48 *e*P **P** **12 54 18.6 +2.4**
TRF **Thorofare Moun** 73.59 334 P **P** **12 54 15.1 -0.8**
baz=107
PVAQ **Vaqueiros** 73.66 53 *e*P **P** **12 54 18.9 +2.2**
I23K **Minto, Yukon-K** 73.72 336 P **P** **12 54 16.1 -0.4**
baz=108,SNR=7.6
SKT **Skwentna** 73.72 333 IAmb IAmb 12 54 21.3
comp=Z,17nm,1.2s
SKT **Skwentna** 73.72 333 P **P** **12 54 16.9 +0.3**
baz=106,SNR=5.5
PVIS **Viseu** 73.74 50 *e*P **P** **12 54 18.3 +1.1**
O20K **Slope Mountain** 73.75 331 P **P** **12 54 16.4 -0.5**
baz=104
SII **Sitkinak Islan** 73.78 327 P **P** **12 54 15.7 -1.3**
baz=102
N20K **Mount Spurr** 73.83 332 P **P** **12 54 17.3 0.0**
baz=105
PESTR **Estremoz** 73.85 52 *e*P **P** **12 54 19.8 +2.0**
comp=Z,32nm,1.3s
PESTR **Estremoz** 73.85 52 P **P** **12 54 18.3 +0.5**
PESTR IAmb IAmb 12 54 22.8
comp=Z,28nm,1.2s
C26K **Camden Bay** 73.85 341 P **P** **12 54 17.0 -0.2**
baz=114
POLO **Lamas de Olo** 73.87 49 *e*P **P** **12 54 19.4 +1.4**
comp=Z,18nm,1.8s
KTH **Kantishna Hill** 73.89 334 IAmb IAmb 12 54 23.4
comp=Z,12nm,1.0s
PVRL **Vila Real** 73.92 49 *e*P **P** **12 54 21.2 +3.0**
comp=Z,24nm,1.5s
F24K **Squaw Lake** 73.95 339 P **P** **12 54 17.0 -0.8**
baz=110
P19K **Oil Pt** 73.95 330 P **P** **12 54 17.5 -0.5**
baz=103
MTE **Manteigas** 73.99 50 *e*P **P** **12 54 20.8 +2.1**
comp=Z,29nm,1.4s
Q19K **Cape Douglas,** 74.00 329 P **P** **12 54 16.5 -1.8**
baz=103
PCBR **Castelo Branco** 74.00 51 *e*P **P** **12 54 19.8 +1.1**
comp=Z,12nm,1.5s
H23K **Yukon River** 74.01 337 IAmb IAmb 12 54 28.8
comp=Z,38nm,1.9s
H23K **Yukon River** 74.01 337 P **P** **12 54 17.1 -1.1**
baz=108
PMRV **Marv??o** 74.04 51 *e*P **P** **12 54 20.8 +1.9**
comp=Z,18nm,2.0s
BPAW **Bear Paw Mtn.** 74.07 335 IAmb IAmb 12 54 24.5
comp=Z,12nm,1.0s
BPAW **Bear Paw Mtn.** 74.07 335 P **P** **12 54 20.0 +1.3**
baz=107,SNR=15
D25K **Kavik River** 74.09 341 IAmb IAmb 12 54 30.4
comp=Z,25nm,1.4s
D25K **Kavik River** 74.09 341 P **P** **12 54 20.1 +1.4**
baz=112,SNR=11
MLY **Manley** 74.24 336 P **P** **12 54 19.4 -0.3**
baz=107,SNR=8.8
PBAR **Barrancos** 74.24 52 *e*P **P** **12 54 21.5 +1.4**
comp=Z,24nm,1.5s
PPLA **Purkeypile** 74.26 334 P **P** **12 54 20.1 +0.2**
baz=105
CAST **Castle Rocks** 74.35 334 P **P** **12 54 19.9 -0.4**
baz=105
E24K **Your Creek** 74.36 339 P **P** **12 54 20.2 -0.1**
baz=110
CHIR **Chirikof Islan** 74.43 326 P **P** **12 54 20.8 0.0**
baz=100
MVO **Moncorvo** 74.43 49 *e*P **P** **12 54 23.1 +1.9**
comp=Z,27nm,1.4s
M20K **Styx River** 74.43 332 IAmb IAmb 12 54 29.9
comp=Z,38nm,1.8s
M20K **Styx River** 74.43 332 P **P** **12 54 20.8 0.0**
baz=104
G23K **Bananza Creek** 74.47 338 IAmb IAmb 12 54 33.3
comp=Z,20nm,1.4s
G23K **Bananza Creek** 74.47 338 P **P** **12 54 22.2 +1.3**
baz=108,SNR=8.4
CHUM **Lake Minchumin** 74.58 335 P **P** **12 54 22.2 +0.6**
baz=105
O19K **Port Alsworth** 74.61 331 P **P** **12 54 23.1 +1.3**
baz=102
PBRG **Braganca** 74.69 49 *e*P **P** **12 54 23.5 +0.8**
comp=Z,32nm,1.7s
COLD **Coldfoot** 74.70 338 P **P** **12 54 22.9 +0.7**
baz=108
H22K **Ishtalitna Cre** 74.75 337 P **P** **12 54 22.6 +0.1**
baz=107
I21K **Tanana** 74.79 336 IAmb IAmb 12 54 40.3
comp=Z,48nm,1.9s
I21K **Tanana** 74.79 336 P **P** **12 54 21.6 -1.1**
baz=106

N19K	**Bonanza Creek**	**74.82**	**331**	IAmb	IAmb	12 54 36.1			
	comp=Z,16nm,1.2s								
N19K	**Bonanza Creek**	**74.82**	**331**	P	**P**	**12 54 22.0**	**-1.1**		
	baz=102								
D24K	**Happy Valley**	**74.84**	**340**	P	**P**	**12 54 22.2**	**-0.8**		
	baz=110								
P18K	**Big Mountain,**	**74.89**	**330**	P	**P**	**12 54 22.0**	**-1.5**		
	baz=101								
L20K	**Farewell, AK**	**74.91**	**333**	P	**P**	**12 54 23.0**	**-0.6**		
	baz=104,SNR=7.1								
TOLK	**Toolik Lake Re**	**74.93**	**340**	P	**P**	**12 54 23.2**	**-0.3**		
	baz=109								
O18K	**Koktuh Hills**	**74.97**	**330**	P	**P**	**12 54 23.1**	**-0.8**		
	baz=102								
C24K	**Franklin Bluff**	**75.00**	**341**	P	**P**	**12 54 23.9**	**0.0**		
	baz=110								
M19K	**Big River Lodg**	**75.02**	**332**	IAmb	IAmb	12 54 49.1			
	comp=Z,41nm,1.9s								
M19K	**Big River Lodg**	**75.02**	**332**	P	**P**	**12 54 23.4**	**-0.7**		
	baz=103								
G22K	**Bettles**	**75.09**	**338**	P	**P**	**12 54 24.2**	**-0.3**		
	baz=107								
K20K	**Telida**	**75.20**	**334**	IAmb	IAmb	12 54 35.1			
	comp=Z,37nm,1.8s								
K20K	**Telida**	**75.20**	**334**	P	**P**	**12 54 25.3**	**+0.1**		
	baz=104								
H21K	**Melozitna Rive**	**75.25**	**336**	P	**P**	**12 54 25.3**	**-0.1**		
	baz=105								
L19K	**White Mountain**	**75.29**	**332**	P	**P**	**12 54 24.3**	**-1.5**		
	baz=102								
D23K	**Nanushuk River**	**75.41**	**340**	P	**P**	**12 54 25.0**	**-1.3**		
	baz=108								
J20K	**Nowinta River**	**75.43**	**335**	P	**P**	**12 54 26.6**	**+0.1**		
	baz=104,SNR=5.2								
P17K	**Kvichak River**	**75.46**	**329**	P	**P**	**12 54 26.7**	**0.0**		
	baz=100								
N18K	**Kilae Creek**	**75.47**	**331**	IAmb	IAmb	12 54 39.8			
	comp=Z,27nm,1.4s								
N18K	**Kilae Creek**	**75.47**	**331**	P	**P**	**12 54 27.5**	**+0.7**		
	baz=101								
Q16K	**King Salmon**	**75.48**	**329**	P	**P**	**12 54 28.1**	**+1.3**		
	baz=100								
F22K	**John River**	**75.51**	**338**	P	**P**	**12 54 27.8**	**+0.9**		
	baz=106								
E22K	**Anaktuvuk Pass**	**75.56**	**339**	P	**P**	**12 54 27.8**	**+0.6**		
	baz=107								
M18K	**Stony River**	**75.60**	**332**	P	**P**	**12 54 27.5**	**+0.1**		
	baz=101								
C23K	**Itkillik River**	**75.66**	**341**	P	**P**	**12 54 29.8**	**+2.1**		
	baz=108,SNR=7.0								
I20K	**Naaghedeneel**	**75.72**	**335**	IAmb	IAmb	12 55 20.4			
	comp=Z,33nm,1.5s								
I20K	**Naaghedeneel**	**75.72**	**335**	P	**P**	**12 54 28.7**	**+0.7**		
	baz=104								
G21K	**Allakaket**	**75.75**	**337**	P	**P**	**12 54 29.1**	**+0.9**		
	baz=105								
R16K	**Pilot Point**	**75.78**	**328**	P	**P**	**12 54 29.3**	**+0.8**		
	baz=99								
O17K	**Koliganek Bris**	**75.89**	**330**	P	**P**	**12 54 28.2**	**-1.0**		
	baz=100,SNR=5.4								
F21K	**Alatna River**	**75.92**	**338**	P	**P**	**12 54 29.4**	**+0.1**		
	baz=105								
J19K	**Poorman**	**76.02**	**334**	P	**P**	**12 54 28.2**	**-1.6**		
	baz=102								
H20K	**Anotleneega Mo**	**76.04**	**336**	P	**P**	**12 54 28.4**	**-1.6**		
	baz=103,SNR=6.6								
CHGN	**Chignik**	**76.05**	**326**	P	**P**	**12 54 30.1**	**0.0**		
	baz=98								
MDT	**Midelt**	**76.07**	**58**	LR	LR	13 25 17.6			
	comp=Z,81nm,19.0s,baz=340,slow=34								
N17K	**Nushagak Hills**	**76.07**	**331**	P	**P**	**12 54 30.0**	**-0.2**		
	baz=100								
D22K	**Ayikyak River**	**76.08**	**339**	P	**P**	**12 54 30.1**	**0.0**		
	baz=106								
L18K	**Granite Mounta**	**76.14**	**332**	P	**P**	**12 54 31.9**	**+1.3**		
	baz=101								
M17K	**Holitna River**	**76.34**	**331**	P	**P**	**12 54 31.4**	**-0.3**		
	baz=100								
O16K	**Kokwok River B**	**76.36**	**330**	P	**P**	**12 54 32.1**	**+0.3**		
	baz=99								
J18K	**Innoko River**	**76.39**	**334**	P	**P**	**12 54 31.8**	**-0.2**		
	baz=101								
PAB	**San Pablo**	**76.40**	**51**	P	**P**	**12 54 36.2**	**+3.6**		
PAB				IAmb	IAmb	12 54 37.8			
	comp=Z,20nm,1.4s								
PAB	**San Pablo**	**76.40**	**51**	P	**P**	**12 54 36.2**	**+3.6**		
PAB				pmax	pmax				
	comp=Z,20nm,1.4s								
E21K	**Killik River**	**76.42**	**339**	P	**P**	**12 54 31.2**	**-0.9**		
	baz=105								
CHNA	**Chernabura Isl**	**76.53**	**325**	P	**P**	**12 54 33.3**	**+0.4**		
	baz=96								
S14K	**Fog Glacier**	**76.68**	**326**	P	**P**	**12 54 34.6**	**+0.8**		
	baz=97								
H19K	**Roundabout Mou**	**76.69**	**336**	IAmb	IAmb	12 54 46.7			
	comp=Z,12nm,1.1s								
H19K	**Roundabout Mou**	**76.69**	**336**	P	**P**	**12 54 33.6**	**0.0**		
	baz=102								
ESDC	**Sonseca Array**	**76.70**	**51**	P	**P**	**12 54 35.6**	**+1.3**		
ESDC				IAmb	IAmb	12 54 39.5			
	comp=Z,27nm,1.4s								
ESDC	**Sonseca Array**	**76.70**	**51**	P	**P**	**12 54 35.3**	**+1.0**		
	comp=Z,11nm,1.1s,baz=275,slow=5.3,SNR=27								
ESDC				LR	LR	13 24 33.7			
	comp=Z,161nm,19.6s,baz=254,slow=33								
	comp=Z,11nm,1.1s								
ESBB	**Sonseca Array**	**76.70**	**51**	IAmb	IAmb	12 54 39.5			
	comp=Z,27nm,1.4s								
GCSA	**Galena City Sc**	**76.71**	**335**	P	**P**	**12 54 32.3**	**-1.3**		
	baz=101								
B22K	**Teshekpuk Lake**	**76.73**	**341**	P	**P**	**12 54 34.0**	**+0.3**		
	baz=106								
N16K	**Nishlik Lake**	**76.83**	**330**	P	**P**	**12 54 34.5**	**0.0**		
	baz=98								
L17K	**Donlin**	**76.87**	**332**	P	**P**	**12 54 35.2**	**+0.5**		
	baz=99								
C21K	**Knifeblade Rid**	**76.88**	**340**	P	**P**	**12 54 35.1**	**+0.4**		
	baz=104								
B21K	**Ikpikpuk River**	**76.94**	**340**	P	**P**	**12 54 34.6**	**-0.3**		
	baz=104								
K17K	**Iditarod**	**76.97**	**333**	P	**P**	**12 54 34.8**	**-0.4**		
	baz=100								
M16K	**Timber Creek**	**77.01**	**331**	P	**P**	**12 54 34.9**	**-0.6**		
	baz=98								
G19K	**Purcell Mounta**	**77.07**	**336**	P	**P**	**12 54 33.6**	**-2.1**		
	baz=101,SNR=7.1								
DAG	**Danmarks Havn**	**77.12**	**12**	*i* P	**P**	**12 54 34.0**	**-1.8**		
DAG				IAmb	IAmb	12 54 39.4			
	comp=Z,3.9nm,1.0s								
DBIC	**Dimbokro**	**77.15**	**85**	P	**P**	**12 54 37.1**	**-0.1**		
	comp=Z,7.6nm,0.9s,baz=247,slow=5.2,SNR=4.1								
DBIC				LR	LR	13 28 18.2			
	comp=Z,52nm,18.4s,baz=248,slow=36								
	comp=Z,7.6nm,0.9s								
E20K	**Nigu River**	**77.17**	**339**	P	**P**	**12 54 35.2**	**-1.2**		
	baz=103								
O15K	**Ungalikthiuk R**	**77.18**	**329**	P	**P**	**12 54 35.5**	**-1.0**		
	baz=97								
L16K	**Owhat River**	**77.35**	**332**	IAmb	IAmb	12 55 06.3			
	comp=Z,31nm,1.6s								
L16K	**Owhat River**	**77.35**	**332**	P	**P**	**12 54 37.9**	**+0.5**		
	baz=98								
E19K	**Redstone River**	**77.39**	**338**	P	**P**	**12 54 38.2**	**+0.6**		
	baz=102								
A22K	**Sinclair Lake**	**77.41**	**341**	P	**P**	**12 54 38.0**	**+0.5**		
	baz=104								
H18K	**Honhosa River**	**77.41**	**335**	IAmb	IAmb	12 54 44.7			
	comp=Z,14nm,1.1s								
H18K	**Honhosa River**	**77.41**	**335**	P	**P**	**12 54 37.2**	**-0.4**		
	baz=100								
D20K	**Etivluk River**	**77.42**	**339**	P	**P**	**12 54 38.9**	**+1.1**		
	baz=102								
J17K	**VABM Dome**	**77.42**	**333**	P	**P**	**12 54 38.8**	**+1.1**		
	baz=99								
N15K	**Kwethluk River**	**77.44**	**330**	P	**P**	**12 54 40.2**	**+2.2**		
	baz=97								
F19K	**Shaleruckik Mo**	**77.47**	**337**	P	**P**	**12 54 38.4**	**+0.4**		
	baz=101								
G18K	**Tagagawik**	**77.65**	**336**	P	**P**	**12 54 39.6**	**+0.6**		
	baz=100,SNR=5.1								
M15K	**Kasigluk River**	**77.80**	**331**	P	**P**	**12 54 39.7**	**-0.2**		
	baz=97								
B20K	**Meade River**	**77.89**	**340**	P	**P**	**12 54 40.2**	**0.0**		
	baz=102								
D19K	**Kuna River**	**77.92**	**339**	P	**P**	**12 54 40.1**	**-0.4**		
	baz=101								
JMIC	**Jan Mayen**	**78.00**	**19**	LR	LR	13 26 43.0			
	comp=Z,86nm,21.8s,baz=208,slow=34								
H17K	**Granite Mounta**	**78.02**	**335**	P	**P**	**12 54 41.7**	**+0.6**		
	baz=98								
EKA	**Eskdalemuir Ar**	**78.07**	**35**	P	**P**	**12 54 42.5**	**+1.0**		
	comp=Z,6.8nm,1.0s,baz=270,slow=4.6,SNR=12								
	comp=Z,6.8nm,1.0s								
J16K	**Anvik River**	**78.09**	**333**	P	**P**	**12 54 42.0**	**+0.5**		
	baz=98								
F18K	**Selawik**	**78.17**	**337**	P	**P**	**12 54 43.0**	**+1.2**		
	baz=99								
I17K	**Unalakleet**	**78.21**	**334**	P	**P**	**12 54 41.9**	**-0.2**		
	baz=98								
N14K	**Kuskokwak Cree**	**78.21**	**330**	P	**P**	**12 54 41.4**	**-0.7**		
	baz=96								
L15K	**Ungalak Mounta**	**78.30**	**331**	P	**P**	**12 54 41.4**	**-1.2**		
	baz=96								
K15K	**Wolf Creek Mou**	**78.39**	**332**	P	**P**	**12 54 42.2**	**-1.0**		
	baz=96								
G17K	**Kiwalik Mounta**	**78.41**	**335**	P	**P**	**12 54 42.5**	**-0.7**		
	baz=98								
M14K	**Bethel**	**78.43**	**330**	P	**P**	**12 54 42.7**	**-0.7**		
	baz=96								
C19K	**Lookout Ridge**	**78.55**	**339**	P	**P**	**12 54 43.4**	**-0.7**		
	baz=100								
E18K	**Tukpahlearik C**	**78.66**	**337**	P	**P**	**12 54 44.5**	**-0.1**		
	baz=98								
F17K	**Baldwin Pennin**	**78.78**	**336**	P	**P**	**12 54 45.1**	**-0.1**		
	baz=98								
L14K	**Kuka Creek**	**78.84**	**331**	P	**P**	**12 54 44.4**	**-1.2**		
	baz=95								
H16K	**Elim**	**78.97**	**334**	P	**P**	**12 54 46.6**	**+0.3**		
	baz=96								
E17K	**Hotham Inlet**	**79.09**	**337**	P	**P**	**12 54 47.0**	**+0.1**		
	baz=97								
G16K	**Koyuk River**	**79.10**	**335**	P	**P**	**12 54 47.1**	**+0.1**		
	baz=96								
J14K	**Nanvaranak Lak**	**79.37**	**332**	P	**P**	**12 54 48.8**	**+0.3**		
	baz=95								
B18K	**Kokolik River**	**79.37**	**339**	P	**P**	**12 54 49.1**	**+0.7**		
	baz=98								
NOR	**Nord**	**79.39**	**8**	*i* P	**P**	**12 54 49.3**	**+1.0**		
NOR				IAmb	IAmb	12 54 52.5			
	comp=Z,1.4nm,1.0s								
RDOG	**Red Dog Mine**	**79.61**	**338**	P	**P**	**12 54 50.4**	**+0.6**		
	baz=96								
D17K	**Noatak River**	**79.64**	**338**	P	**P**	**12 54 50.3**	**+0.4**		
	baz=96								
C17K	**DeLong Mountai**	**79.76**	**338**	P	**P**	**12 54 50.9**	**+0.3**		
	baz=96								
G15K	**Niukluk**	**79.77**	**335**	P	**P**	**12 54 51.0**	**+0.3**		
	baz=95								
K13K	**Kusilvak Mount**	**79.82**	**332**	P	**P**	**12 54 50.5**	**-0.5**		
	baz=94								
F15K	**North Star Dit**	**80.08**	**335**	P	**P**	**12 54 53.4**	**+1.0**		
	baz=94								
ANM	**Nome**	**80.31**	**334**	P	**P**	**12 54 53.6**	**0.0**		
	baz=94								
M11K	**Mekoryuk**	**80.49**	**330**	P	**P**	**12 54 54.6**	**0.0**		
	baz=92								
UNV	**Unalaska Valle**	**80.51**	**323**	P	**P**	**12 54 54.9**	**+0.1**		
	baz=91								
C16K	**Lisburne Hills**	**80.54**	**338**	P	**P**	**12 54 55.1**	**+0.4**		
	baz=94								
CEST	**Esterri de Car**	**80.64**	**48**	IAmb	IAmb	12 55 01.5			
	comp=Z,19nm,1.1s								
RAR	**Rarotonga**	**80.72**	**247**	LR	LR	13 22 55.8			
	comp=Z,172nm,18.0s,baz=114,slow=30								
F14K	**Arctic Creek**	**80.76**	**335**	P	**P**	**12 54 57.1**	**+1.0**		
	baz=93								
TNA	**Tin City**	**81.43**	**335**	P	**P**	**12 55 00.3**	**+0.8**		
	baz=91								
NIKH	**Nikolski High**	**81.92**	**322**	P	**P**	**12 55 03.7**	**+1.3**		
	baz=89								
P08K	**Saint George I**	**82.23**	**326**	P	**P**	**12 55 04.8**	**+0.9**		
	baz=89								
SPIA	**Saint Paul Isl**	**82.60**	**327**	P	**P**	**12 55 07.0**	**+1.1**		
	baz=88								
TOA0	**Torodi Ar. Sit**	**82.92**	**78**	P	**P**	**12 55 08.9**	**+0.5**		
TORD	**Torodi Ar. Bea**	**82.92**	**78**	P	**P**	**12 55 08.7**	**+0.3**		
TORD	**Torodi Ar. Bea**	**82.92**	**78**	P	**P**	**12 55 08.6**	**+0.3**		
	comp=Z,2.4nm,0.6s,baz=294,slow=4.1,SNR=15								
TORD				LR	LR	13 34 15.2			
	comp=Z,38nm,18.1s,baz=318,slow=37								
	comp=Z,2.4nm,0.6s								
GAMB	**Gambell**	**83.07**	**333**	P	**P**	**12 55 09.4**	**+1.2**		
	baz=88								
BNI	**Bardonecchia**	**84.44**	**45**	IAmb	IAmb	12 55 21.0			
	comp=Z,11nm,1.2s								
SPITS	**Spitsbergen Ar**	**84.76**	**12**	LR	LR	13 35 59.9			
	comp=Z,131nm,19.0s,baz=238,slow=38								
BFO	**Black Forest**	**85.27**	**42**	P	**P**	**12 55 19.8**	**0.0**		
BFO				IAmb	IAmb	12 55 23.6			
	comp=Z,14nm,1.3s								
BFO	**Black Forest**	**85.27**	**42**	P	**P**	**12 55 19.8**	**0.0**		
BFO				pmax	pmax				
	comp=Z,14nm,1.3s								
NC204	**NORSAR Array S**	**85.31**	**29**	IAmb	IAmb	12 55 23.9			
	comp=Z,15nm,1.1s								
NB2	**NORSAR Subarra**	**85.56**	**29**	P	**P**	**12 55 20.7**	**-0.2**		
	comp=Z,41nm,1.4s,baz=278,slow=5.1								
NB2	**NORSAR Subarra**	**85.56**	**29**	P	**P**	**12 55 20.7**	**-0.2**		
	baz=278,slow=5.1								
NOA	**NORSAR Array B**	**85.56**	**29**	P	**P**	**12 55 21.5**	**+0.6**		
	comp=Z,6.9nm,1.0s,baz=276,slow=4.6,SNR=9.0								
NOA				LR	LR	13 31 48.0			
	comp=Z,107nm,18.7s,baz=265,slow=34								
	comp=Z,6.9nm,1.0s								
NB201	**NORSAR Array S**	**85.59**	**29**	IAmb	IAmb	12 55 26.2			
	comp=Z,20nm,1.1s								
TUE	**Stuetta**	**86.16**	**44**	IAmb	IAmb	12 55 34.5			
	comp=Z,15nm,1.1s								
DAVOX	**Davos/Dischmat**	**86.49**	**43**	LR	LR	13 28 18.1			
	comp=Z,83nm,21.2s,baz=260,slow=32								
FUORN	**Ofenpass-Fuorn**	**86.77**	**44**	IAmb	IAmb	12 55 32.2			
	comp=Z,12nm,1.1s								
HFS	**Hagfors**	**86.89**	**30**	LR	LR	13 32 39.1			
	comp=Z,76nm,19.6s,baz=282,slow=34								
CTI	**Castel Tesino**	**87.80**	**44**	IAmb	IAmb	12 55 36.4			
	comp=Z,18nm,1.2s								
CLL	**Collm**	**87.90**	**39**	P	**P**	**12 55 32.8**	**+0.3**		
CLL	**Collm**	**87.90**	**39**	*i* P	**P**	**12 55 33.4**	**+0.9**		
CLL				*i*		12 55 41.0			
CLL				*e*S	**S**	**13 06 18.0**	**+2.9**		
CLL				pmax	pmax				
	comp=Z,23nm,1.3s								
CIMO	**Cimolais**	**88.30**	**44**	IAmb	IAmb	12 55 46.4			
	comp=Z,22nm,1.4s								
STAL	**STALIGIAL**	**88.49**	**44**	IAmb	IAmb	12 55 40.3			
	comp=Z,15nm,1.3s								
BRG	**Berggiesshubel**	**88.56**	**39**	*e*P	**P**	**12 55 39.3**	**+3.7**		
BRG				Amp		12 55 41.0			
	comp=Z,15nm,1.4s								
BRG				Amp		13 34 08.0			
	comp=N,0.1nm,14.9s								
BRG				Amp		13 34 12.0			
	comp=E,0.1nm,18.3s								
BRG				Amp		13 34 16.0			
	comp=Z,0.2nm,19.0s								
KHC	**Kasperske Hory**	**88.61**	**41**	IAmb	IAmb	12 55 40.7			
	comp=Z,16nm,1.3s								
KHC	**Kasperske Hory**	**88.61**	**41**	*e*P	**P**	**12 55 38.5**	**+2.5**		
KHC	**Kasperske Hory**	**88.61**	**41**	*c i* P	**P**	**12 55 39.6**	**+3.6**		
KHC				pmax	pmax				
	comp=Z,30nm,1.3s								
GERES	**GERESS Array B**	**88.74**	**41**	P	**P**	**12 55 37.5**	**+0.8**		
GERES	**GERESS Array B**	**88.74**	**41**	LR	LR	13 29 35.8			
	comp=Z,138nm,21.8s,baz=252,slow=32								
GERES	**GERESS Array B**	**88.74**	**41**	P	**P**	**12 55 37.5**	**+0.8**		
ARCES	**ARCESS Array B**	**89.47**	**20**	LR	LR	13 34 45.8			
	comp=Z,96nm,18.2s,baz=256,slow=35								
KRUC	**Moravsky**	**90.45**	**41**	*e*P	**P**	**12 55 47.9**	**+3.3**		
VRAC	**Vranov**	**90.53**	**40**	*e*P	**P**	**12 55 48.4**	**+3.5**		
VRAC	**Vranov**	**90.53**	**40**	LR	LR	13 32 03.0			
	comp=Z,158nm,19.7s,baz=275,slow=33								
BILL	**Bilibino**	**90.98**	**339**	P	**P**	**12 55 47.7**	**+1.0**		
BILL				IAmb	IAmb	12 55 52.0			
	comp=Z,17nm,1.3s								
BILL	**Bilibino**	**90.98**	**339**	*e*P	**P**	**12 55 48.2**	**+1.6**		
BILL				pmax	pmax				
	comp=Z,22nm,1.7s								
MORC	**Moravsky Berou**	**91.03**	**40**	*e*P	**P**	**12 55 49.8**	**+2.5**		
MODS	**Modra-Piesok**	**91.16**	**41**	*e*P	**P**	**12 55 51.8**	**+3.9**		
MODS	**Modra-Piesok**	**91.16**	**41**	*e*P	**P**	**12 55 51.8**	**+3.9**		
VAE	**Valguarnera**	**91.20**	**52**	LR	LR	13 35 39.0			
	comp=Z,197nm,18.0s,baz=310,slow=35								
JAVC	**Velka Javorina**	**91.31**	**41**	*e*P	**P**	**12 55 52.0**	**+3.3**		
VNA3	**Neumayer Olymp**	**91.47**	**162**	⇑P	**P**	**12 55 48.2**	**-0.6**		
	comp=Z,13nm,0.8s								
VNA1	**Neumayer--Stat**	**91.73**	**161**	⇑P	**P**	**12 55 49.9**	**-0.1**		
	comp=Z,12nm,0.9s								
VNA2	**Neumayer--Watz**	**92.08**	**161**	⇑P	**P**	**12 55 50.3**	**-1.4**		
	comp=Z,4.0nm,0.6s,baz=278,slow=4.4								
FINES	**FINESS Array B**	**92.44**	**27**	LR	LR	13 32 35.2			
	comp=Z,114nm,21.9s,baz=254,slow=32								
SNAA	**Sanae**	**93.69**	**162**	P	**P**	**12 55 58.4**	**-0.7**		
SNAA	**Sanae**	**93.69**	**162**	⇑P	**P**	**12 55 58.1**	**-1.0**		
	comp=Z,187nm,0.9s								
SNAA	**Sanae**	**93.69**	**162**	P	**P**	**12 55 58.3**	**-0.7**		
	comp=Z,9.9nm,0.9s,baz=300,slow=4.7,SNR=16								
	comp=Z,9.9nm,0.9s								
SNAA	**Sanae**	**93.69**	**162**	P	**P**	**12 55 58.4**	**-0.7**		
SNAA				pmax	pmax				
	comp=Z,19nm,1.1s								
KWP	**Kalwaria Pacla**	**94.31**	**39**	P	**P**	**12 56 03.6**	**+1.2**		
KWP	**Kalwaria Pacla**	**94.31**	**39**	P	**P**	**12 56 03.6**	**+1.2**		
TROLL	**Troll, Antarti**	**95.41**	**162**	⇑P	**P**	**12 56 06.4**	**-0.6**		
	comp=Z,685nm,0.8s								
QSPA	**South Pole Qui**	**97.30**	**180**	P	Pdif	12 56 16.2	+0.4		
QSPA	**South Pole Qui**	**97.30**	**180**	P	**P**	**12 56 15.3**	**-0.4**		
	comp=Z,3.9nm,0.9s,baz=136,slow=1.7,SNR=13								
QSPA				LR	LR	13 33 18.6			
	comp=Z,106nm,18.2s,baz=172,slow=31								
	comp=Z,3.9nm,0.9s								
MLR	**Muntele Rosu**	**97.65**	**42**	LR	LR	13 41 00.4			
	comp=Z,88nm,18.1s,baz=300,slow=36								
SEY	**Seymchan**	**98.49**	**338**	LR	LR	13 47 15.6			
	comp=Z,147nm,18.9s,baz=70,slow=39								
TIXI	**Tiksi**	**98.51**	**350**	P	Pdif	12 56 21.6	+0.6		
TIXI				IAmb	IAmb	12 59 54.1			
	comp=Z,2.8nm,0.5s								
TIXI	**Tiksi**	**98.51**	**350**	LR	LR	13 45 51.6			
	comp=Z,109nm,18.1s,baz=30,slow=38								
TIXI	**Tiksi**	**98.51**	**350**	‖ *i* P	Pdif	12 56 21.7	+0.7		
TIXI				pmax	pmax				
	comp=Z,10.0nm,3.7s								
IDI	**Anoyia**	**99.92**	**52**	LR	LR	13 34 09.8			
	comp=Z,64nm,21.8s,baz=290,slow=31								
DZM	**Mont Dzumac**	**112.03**	**249**	*e*SS	SS	13 17 48.2	+7.1		
	comp=Z,64nm,25.8s								
DZM	**Mont Dzumac**	**112.03**	**249**	*e*LR	LR	13 34 37.0			
	comp=Z,62nm,26.6s								
KURK	**Kurchatov**	**119.99**	**14**	PKIKP	**PKiKP**	**13 01 35.4**	**+1.8**		
KURBB	**Kurchatov Arra**	**120.06**	**14**	PKP	**PKiKP**	**13 01 35.4**	**+1.7**		
	comp=Z,0.3nm,0.3s,baz=329,slow=1.6,SNR=4.2								
ULN	**Ulaanbaatar**	**124.40**	**352**	‖ *i* PKIKP	**PKPdf**	**13 01 42.3**	**0.0**		
SONM	**Songino Array**	**124.52**	**353**	PKP	**PKPdf**	**13 01 42.1**	**-0.4**		
	comp=Z,1.6nm,0.9s,baz=356,slow=4.8,SNR=3.6								
XLT	**XiLinHaoTe**	**126.28**	**343**	*e*P	**PKPdf**	**13 01 42.6**	**-3.4**		
XLT				pmax	pmax				
	comp=Z,5.0nm,0.8s								
XLT				pmax	pmax				
	comp=Z,100nm,3.8s								
KSRS	**Korea Array**	**127.09**	**329**	PKP	**PKPdf**	**13 01 47.6**	**+0.1**		
	comp=Z,3.9nm,0.7s,baz=13,slow=1.5,SNR=16								
HHC	**Hu-ho-hao-te**	**130.33**	**346**	*e*P	**PKPdf**	**13 01 52.4**	**-1.4**		
STKA	**Stephens Creek**	**132.12**	**233**	PKP	**PKPdf**	**13 01 55.1**	**-2.2**		
	comp=Z,2.9nm,0.7s,baz=120,slow=3.9,SNR=6.0								
STKA	**Stephens Creek**	**132.12**	**233**	‖ *e*PKIKP	**PKPdf**	**13 01 56.4**	**-0.9**		
NJ2	**Nanjing**	**135.80**	**333**	*e*P	**PKiKP**	**13 02 05.0**	**-0.8**		
NJ2				pmax	pmax				
	comp=Z,8.0nm,0.5s								
LZH	**Lanzhou**	**136.41**	**352**	*e*PKP	**PKPdf**	**13 02 02.3**	**-3.1**		
XAN	**Xi'an**	**137.44**	**346**	PKP	**PKiKP**	**13 02 15.0**	**+5.8**		
ASAR	**Alice Springs**	**141.33**	**241**	PKhKP	PKPpre	13 02 08.4			
	comp=Z,2.1nm,0.8s,baz=107,slow=3.3,SNR=21								
ASAR				PKP	**PKPdf**	**13 02 13.3**	**-1.3**		
	comp=Z,5.8nm,0.8s,baz=104,slow=1.6,SNR=29								
WRA	**Warramunga Arr**	**142.00**	**247**	PKhKP	PKPpre	13 02 09.9			
	comp=Z,9.9nm,0.9s,baz=102,slow=2.5,SNR=36								
WRA				PKP	**PKPdf**	**13 02 14.7**	**-1.1**		
	comp=Z,7.4nm,0.8s,baz=107,slow=2.0,SNR=18								
GYA	**Guiyang**	**145.24**	**345**	‖ P	**PKPab**	**13 02 21.3**	**+0.1**		
GYA				pmax	pmax				
	comp=Z,23nm,1.1s								
PZH	**PanZhiHua**	**146.12**	**353**	PKPbc	**PKPbc**	**13 02 23.8**	**-0.1**		
CMAR	**Chiang Mai Arr**	**154.35**	**356**	PKP	**PKPdf**	**13 02 36.1**	**+0.2**		
	comp=Z,0.5nm,0.4s,baz=304,slow=2.5,SNR=7.8								

UPP **23** *12:52:52.1±2.0, 57.65N×22.20E, h0km, ML2.7*
DNK **23** *12:52:53.4±0.8, 57.72N×22.05E, h0km, ML2.7(UPP), Suspected explosion*
IDC **23** *12:52:55.3±2.5, 57.81N×21.92E, h0km, mbtmp3.2/4, ML2.3/4, Error ellipse: s-maj=26.7km s-min=10.2km az=163.0*
LVSN **23** *12:52:56.8±4.6, 57.79N×21.83E, h0km±52km, ML2.6*

ISC 23 12:52:53.7±0.8, 57.71N±0.03×21.90E±0.03, h0km, n48, σ1 9 27/53, Baltic States-Belarus-Northwestern Russia

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

BACU	**Backbrunna**	**3.29**	**313**	P	**Pn**	12 53 47.0	**+0.5**
RAF	**Rauma**	**3.32**	**359**	*e*P	**Pn**	12 53 45.9	**-1.0**
RAF	**Rauma**	**3.32**	**359**	*e*P	**Pn**	12 53 47.8	**+1.0**
FINES	**FINESS Array B**	**4.30**	**28**	Pn	**Pn**	12 54 00.8	**+0.4**
	comp=N,0.2nm,0.3s,baz=217,slow=12,SNR=8.5						
FINES				Sn	**Sn**	12 54 51.8	**+0.6**
	comp=N,0.5nm,0.3s,baz=216,slow=21,SNR=5.4						
FINES				Lg	Lg	12 55 08.0	
	comp=N,1.2nm,0.3s,baz=213,slow=28,SNR=3.9						
	comp=N,0.6nm,0.2s						
BSD	**Bornholm Skovb**	**4.67**	**239**	*e*P	**Pn**	12 54 01.7	**-3.7**
KEF	**Keuruu**	**4.71**	**17**	*e*P	**Pn**	12 54 05.9	**-0.1**
HFS	**Hagfors**	**4.89**	**303**	Pn	**Pn**	12 54 09.0	**+0.5**
	comp=N,0.8nm,0.3s,baz=112,slow=16,SNR=21						
HFS				Sn	**Sn**	12 55 06.0	**+0.2**
	comp=N,0.8nm,0.3s,baz=116,slow=27,SNR=8.0						
HFS				Lg	Lg	12 55 24.6	
	comp=N,1.2nm,0.3s,baz=118,slow=31,SNR=5.9						
	comp=N,2.0nm,0.2s						
VAF	**Ylistaro**	**5.36**	**4**	*e*P	**Pn**	12 54 14.2	**-0.7**
NOA	**NORSAR Array B**	**6.40**	**306**	Pn	**Pn**	12 54 27.2	**-1.9**
	baz=102,slow=10.0,SNR=5.6						
	comp=N,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**11.97**	**6**	Pn	**Pn**	12 55 41.5	**-3.9**
	comp=N,0.1nm,0.3s,baz=185,slow=14,SNR=7.4						
	comp=N,3.2nm,0.9s						

*LDG **23** 12:53:52.1±0.2, 44.˚64N×6.˚82E, h2km, Md0.6/1, Error ellipse: s-maj=6.1km s-min=2.3km az=85.0*
STR 23 12:53:52.6±1.0, 45.˚N±4.˚×±.˚, h3km, MLv0.2/4, Error ellipse: s-maj=0.0km s-min=0.0km az=79.7, preliminary, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.10**	**344**	*e*Pg	Pg	12 53 54.4	-0.3
MBDF				*e*Sg	Sg	12 53 55.9	-0.2
	3.6nm,0.2s						
SURF	**Saint Ours**	**0.15**	**180**	Pg	Pg	12 53 55.3	-0.3
SURF				Sg	Sg	12 53 57.9	+0.3
CREF	**Crivoux**	**0.16**	**239**	Pg	Pg	12 53 55.6	-0.1
CREF				Sg	Sg	12 53 58.1	+0.3
JAUF	**Jausiers**	**0.21**	**192**	Pg	Pg	12 53 57.1	+0.5
JAUF				Sg	Sg	12 53 59.7	+0.3

IDC 23 13:17:02.9±2.0, 36.˚62N×76.˚94E, h0km, mb3.6/3, mbtmp3.6/4, ML3.7/1, Error ellipse: s-maj=40.7km s-min=27.3km az=67.0, Kashmir-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**10.92**	**20**	Pn	Pn	13 19 43.5	+3.1
	0.6nm,0.3s,baz=202,slow=13,SNR=22						
MKAR				Sn	Sn	13 21 40.4	-2.8
	0.7nm,0.3s,baz=184,slow=27,SNR=12						
	0.9nm,0.3s						
SONM	**Songino Array**	**24.37**	**53**	P	P	13 22 22.8	0.0
	0.7nm,0.6s,baz=256,slow=10,SNR=2.8						
	0.7nm,0.6s						
CMAR	**Chiang Mai Arr**	**26.50**	**127**	P	P	13 22 42.1	-0.1
	0.6nm,0.5s,baz=312,slow=9.0,SNR=4.8						
	0.6nm,0.5s						
FINES	**FINESS Array B**	**40.10**	**325**	P	P	13 24 39.6	-0.3
	0.8nm,0.7s,baz=120,slow=8.2,SNR=5.1						
	0.8nm,0.7s						

KRSC 23 13:39:48.6±1.0, 55.˚03N×162.˚43E, h38km±21km, MI3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TUMD	**Tumrok D**	**1.18**	**279**	*e*P	Pn	13 40 09.6	+1.0
TUMD				*e*S	Sn	13 40 23.9	+0.5
KBTR	**Krutoberegovo**	**1.20**	**10**	*e*P	Pn	13 40 09.8	+0.9
KBTR				*e*S	Sn	13 40 25.0	+1.2
TUMR	**Tumrok**	**1.33**	**282**	*e*P	Pn	13 40 12.8	+2.0
TUMR				*e*S	Sn	13 40 29.7	+2.4
BZGR	**Bezymyannyi-Gr**	**1.34**	**313**	*e*P	Pn	13 40 12.3	+1.4
ZLN	**Zelenaya**	**1.35**	**317**	*e*P	Pn	13 40 12.8	+1.7
BZP	**Bezymyannyi-Pe**	**1.39**	**310**	*e*P	Pn	13 40 12.7	+1.1
BZMR	**Bezymyannaya**	**1.43**	**310**	*e*P	Pn	13 40 13.3	+1.2
BZWR	**Bezymyannyi-We**	**1.44**	**311**	*e*P	Pn	13 40 13.7	+1.3
LGNR	**Loginova**	**1.44**	**317**	*e*P	Pn	13 40 14.3	+1.8
CIRR	**Tsirk**	**1.45**	**319**	*e*P	Pn	13 40 14.2	+1.8
KMNR	**Kamenistaya**	**1.45**	**301**	*e*P	Pn	13 40 13.8	+1.5
KMNR				*e*S	Sn	13 40 31.3	+1.2
KIRR	**Kirishev**	**1.50**	**309**	*e*P	Pn	13 40 15.1	+2.0
KPT	**Kopyto**	**1.57**	**308**	*e*P	Pn	13 40 15.6	+1.6
KRSR	**Krestovskiy**	**1.59**	**319**	*e*P	Pn	13 40 15.4	+1.1
KOZ	**Kozyrevsk**	**1.78**	**306**	*e*P	Pn	13 40 18.9	+2.1
KII	**Karymskiy**	**2.00**	**241**	*e*P	Pn	13 40 23.1	+3.1
SRDR	**Sredinnyy**	**2.00**	**311**	*e*P	Pn	13 40 21.6	+1.6
SPN	**Mys Shipunski**	**2.40**	**217**	*e*S	Sn	13 40 56.5	+3.0
KRER	**Koryakskii**	**2.77**	**233**	*e*P	Pn	13 40 34.1	+3.5
SMAR	**Somma**	**2.78**	**232**	*e*P	Pn	13 40 33.8	+3.1
SMAR				*e*S	Sn	13 41 06.6	+3.6
KRX	**Arik**	**2.78**	**234**	*e*P	Pn	13 40 34.4	+3.6
UGLR	**Uglovaya**	**2.80**	**231**	*e*P	Pn	13 40 34.1	+3.1
AVH	**Avacha**	**2.80**	**232**	*e*P	Pn	13 40 34.2	+3.3
AVH				*e*S	Sn	13 41 07.9	+4.4
KOK	**Koryaka**	**2.83**	**234**	*e*P	Pn	13 40 34.3	+2.9
GNL	**Ganaly**	**2.95**	**245**	*e*P	Pn	13 40 36.2	+3.3
DALK	**Dalny**	**2.95**	**229**	*e*P	Pn	13 40 35.8	+2.9
DALK				*e*S	Sn	13 41 10.1	+3.0
PET	**Petropavlovsk**	**3.00**	**229**	*e*P	Pn	13 40 36.5	+2.9
PET				*e*S	Sn	13 41 11.7	+3.4
KRMR	**Karymshinskiy**	**3.37**	**231**	*e*P	Pn	13 40 42.7	+4.1
KRMR				*e*S	Sn	13 41 22.9	+5.6
RUS	**Russkaya**	**3.49**	**223**	*e*P	Pn	13 40 43.5	+3.2
RUS				*e*S	Sn	13 41 23.7	+3.4
GRL	**Gorelyy**	**3.59**	**228**	*e*P	Pn	13 40 46.0	+4.2
GRL				*e*S	Sn	13 41 28.5	+5.6
MTVR	**Mutnovka**	**3.59**	**226**	*e*P	Pn	13 40 45.7	+3.9
MTVR				*e*S	Sn	13 41 27.9	+4.9
ASAK	**Asacha**	**3.78**	**227**	*e*P	Pn	13 40 48.9	+4.5
ASAK				*e*S	Sn	13 41 33.7	+6.1

*IDC **23** 13:43:42.2±4.2, 32.˚35N×48.˚42E, h0km, mb3.7/6, mbtmp3.7/6, MS3.3/4, Error ellipse: s-maj=79.8km s-min=39.2km az=39.0*
*TEH **23** 13:43:42.1, 32.˚27N×48.˚45E, h12km±29km, ML3.8*
*DSN **23** 13:43:50.1±0.9, 31.˚76N×49.˚02E, h15km, ML3.6/2, Error ellipse: s-maj=22.5km s-min=7.5km az=41.0*
*OMAN **23** 13:43:52.1±2.7, 31.˚36N×48.˚73E, h9km, mb4.4/22, ms2.7/1, Error ellipse: s-maj=29.6km s-min=20.4km az=169.0*
ISC 23 13:43:41.6±0.7, 32.˚19N±0.˚04×48.˚47E±0.˚05, h10km, n83, σ2.˚74/93, mb3.7/6, MS3.4/3, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.87**	**170**	Pg	**Pb**	**13 44 00.9**	**+2.0**
AHWZ				Sg	**Sn**	**13 44 15.8**	**+3.1**
IKFM	**Kafar-mosalman**	**1.43**	**339**	**Pg**	**Pg**	**13 44 08.0**	**-1.0**
IDOB	**Doab**	**1.61**	**351**	**Pg**	**Pg**	**13 44 11.7**	**-0.8**
IDOB				Sg	**Sg**	**13 44 35.1**	**+1.7**
JHBN	**Jahan bin**	**1.86**	**88**	Pn	**Pb**	**13 44 17.1**	**+1.1**
HSAM	**Samen**	**2.02**	**3**	Pn	**Pb**	**13 44 17.7**	**-0.8**
ZNGN	**Zangian**	**2.03**	**92**	Pn	**Pb**	**13 44 19.7**	**+1.0**
IPIR	**Pirpir**	**2.11**	**76**	Pn	**Pb**	**13 44 20.4**	**+0.3**
ABEH	**Behbahan**	**2.20**	**136**	Pn	**Pb**	**13 44 22.5**	**+0.9**
IBRJ	**Brojen**	**2.39**	**96**	Pn	**Pb**	**13 44 24.2**	**-0.7**
IGHG	**Ghaleghazi**	**2.66**	**324**	Pn	**Pb**	**13 44 27.2**	**-2.2**
SNQR	**Sonqor, Kerman**	**2.75**	**345**	Pn	**Pn**	**13 44 27.4**	**+1.4**
IKLH	**Kolahrood**	**2.85**	**66**	Pn	**Pb**	**13 44 31.0**	**-1.7**
QAMS	**Qamsar**	**2.91**	**57**	Pn	**Pb**	**13 44 31.5**	**-2.1**
KLNJ	**Kolanjah**	**2.92**	**113**	Pn	**Pn**	**13 44 32.0**	**+3.7**
ILIN	**Lien**	**2.99**	**336**	Pn	**Pn**	**13 44 31.4**	**+2.0**
IDHR	**Dehrash**	**3.04**	**326**	Pn	**Pn**	**13 44 32.2**	**+2.2**
IZEF	**Zefreh**	**3.34**	**77**	Pn	**Pn**	**13 44 37.3**	**+3.2**
IRAM	**Ramesheh**	**3.35**	**96**	Pn	**Pn**	**13 44 37.3**	**+3.1**
IQOM	**Qom**	**3.42**	**39**	Pn	**Pn**	**13 44 37.8**	**+2.5**
IRAZ	**Razeghan**	**3.43**	**20**	Pn	**Pn**	**13 44 38.0**	**+2.7**
KRSH	**Karshahi**	**3.55**	**59**	Pn	**Pn**	**13 44 39.9**	**+3.0**
QABG	**Abgarm-Qazvin**	**3.63**	**15**	Pn	**Pn**	**13 44 40.3**	**+2.3**
ISFB	**Sefidab**	**3.83**	**55**	Pn	**Pn**	**13 44 43.4**	**+2.8**
IVRN	**Varamin**	**3.90**	**43**	Pn	**Pn**	**13 44 44.2**	**+2.5**
ISAD	**Sadrabad**	**4.44**	**92**	Pn	**Pn**	**13 44 52.4**	**+3.2**
IDMV	**Damavand**	**4.49**	**40**	Pn	**Pn**	**13 44 52.4**	**+2.4**
ANAR	**Anarak**	**4.55**	**76**	Pn	**Pn**	**13 44 53.1**	**+2.5**
KLST	**Kelardasht - M**	**4.82**	**26**	Pn	**Pn**	**13 44 57.1**	**+2.6**
ILAS	**Lasjerd**	**4.91**	**48**	Pn	**Pn**	**13 44 58.2**	**+2.5**
IFIR	**Firoozkooh**	**4.95**	**45**	Pn	**Pn**	**13 44 58.7**	**+2.5**
MZPU	**Pul - Mazandar**	**4.95**	**30**	Pn	**Pn**	**13 44 59.4**	**+3.2**
IPRN	**Peran**	**5.16**	**37**	Pn	**Pn**	**13 45 02.5**	**+3.6**
IMEH	**Mehriz**	**5.29**	**97**	Pn	**Pn**	**13 45 05.5**	**+4.5**
SHMA	**Al-Shehemyia**	**6.68**	**160**	P	**Pn**	**13 45 21.7**	**+2.0**
TPRV	**Parvadeh(Tabas**	**6.99**	**81**	Pn	**Pn**	**13 45 27.2**	**+3.2**
SMRA	**Abu-Samra**	**7.71**	**164**	P	**Pn**	**13 45 35.4**	**+1.5**
TRNA	**Turayna**	**7.81**	**161**	P	**Pn**	**13 45 37.0**	**+1.7**
	SNR=8.3						
JRN	**Qarnain Island**	**8.19**	**151**	P	**Pn**	**13 45 41.0**	**+0.6**
SLWR	**Sila**	**8.58**	**160**	P	**Pn**	**13 45 46.3**	**+0.5**
GHWR	**Ruwais**	**9.07**	**154**	P	**Pn**	**13 45 52.5**	**-0.1**
GHWR				S	**Sn**	**13 47 28.9**	**-6.0**
SHME	**Shamm**	**9.08**	**130**	P	**Pn**	**13 45 52.4**	**-0.4**
SHME	**Shamm**	**9.08**	**130**	P	**Pn**	**13 45 53.1**	**+0.4**
SHME				S	**Sn**	**13 47 28.6**	**-6.4**
AJN	**Ajban**	**9.52**	**141**	P	**Pn**	**13 45 59.7**	**+0.9**
AJN				S	**Sn**	**13 47 42.3**	**-3.6**
MASF	**Masafi**	**9.58**	**133**	P	**Pn**	**13 45 59.2**	**-0.3**
MASF				S	Sn	13 47 40.3	-6.9
MSFE	**Esma-Masafi**	**9.58**	**133**	P	**Pn**	**13 45 58.6**	**-1.1**
MSFE				S	Sn	13 47 40.3	-7.2
ASUD	**Al Ashush, Dub**	**9.66**	**140**	P	**Pn**	**13 46 00.7**	**+0.1**
ASUD	**Al Ashush, Dub**	**9.66**	**140**	P	**Pn**	**13 46 01.8**	**+1.1**
ASUD				S	**Sn**	**13 47 45.2**	**-4.0**
FAQ	**Al Faqa, Dubai**	**9.71**	**138**	P	**Pn**	**13 46 00.7**	**-0.6**
FAQ	**Al Faqa, Dubai**	**9.71**	**138**	P	**Pn**	**13 46 02.0**	**+0.6**
FAQ				S	**Sn**	**13 47 45.8**	**-4.7**
MDH	**Madha**	**9.71**	**133**	P	**Pn**	**13 46 00.3**	**-1.1**
MDH	**Madha**	**9.71**	**133**	P	**Pn**	**13 46 02.3**	**+0.8**
MDH				S	Sn	13 47 43.8	-6.8
UOSS	**Minazif**	**9.92**	**135**	P	**Pn**	**13 46 04.1**	**-0.1**
UOSS	**Minazif**	**9.92**	**135**	P	**Pn**	**13 46 04.8**	**+0.6**
UOSS				S	Sn	13 47 48.6	-7.0
HATD	**Hatta, Dubai**	**9.96**	**136**	P	**Pn**	**13 46 03.3**	**-1.5**
HATD	**Hatta, Dubai**	**9.96**	**136**	P	**Pn**	**13 46 05.7**	**+0.9**
HATD				S	**Sn**	**13 47 51.2**	**-5.6**
ASHO	**Ashiyiah**	**10.03**	**136**	P	**Pn**	**13 46 05.1**	**-0.6**
ASHO				S	**Sn**	**13 47 52.0**	**-6.4**
ASHO	**Ashiyiah**	**10.03**	**136**	P	**Pn**	**13 46 06.5**	**+0.8**
ASHO				S	**Sn**	**13 47 52.4**	**-5.9**
MZR	**Muzera**	**10.18**	**153**	P	**Pn**	**13 46 07.6**	**-0.2**
MZR	**Muzera**	**10.18**	**153**	P	**Pn**	**13 46 08.2**	**+0.5**
	SNR=30						
MZR				S	**Sn**	**13 47 56.3**	**-5.6**
ALNE	**Al Ain**	**10.34**	**140**	P	**Pn**	**13 46 11.1**	**+1.0**
ALNE				S	**Sn**	**13 47 59.7**	**-6.4**
UMZA	**Um Al Zommool**	**11.15**	**146**	P	**Pn**	**13 46 21.1**	**0.0**
UMZA				S	Sn	13 48 18.3	-7.7
ARQ	**Araqi**	**11.34**	**139**	P	**Pn**	**13 46 23.3**	**-0.4**
	SNR=5.2						
ARQ				S	**Sn**	**13 48 25.1**	**-5.5**
EIL	**Elat**	**11.87**	**261**	LR	LR	13 52 09.1	
	comp=Z,81nm,19.5s,baz=74,slow=43						
BSY	**Bisya**	**12.19**	**138**	P	**Pn**	**13 46 35.8**	**+0.5**
	SNR=10.0						
BSY				S	Sn	13 48 42.4	-9.0
SMDO	**Samad**	**12.44**	**135**	P	**Pn**	**13 46 38.4**	**-0.5**
SMDO				S	**Sn**	**13 48 51.1**	**-6.5**
JMDO	**Jabal Madar**	**13.00**	**136**	P	**Pn**	**13 46 47.4**	**+1.0**
WBK	**Wadi Bani Khal**	**13.34**	**133**	P	**Pn**	**13 46 50.1**	**-0.9**
MHTO	**MHTO**	**14.02**	**140**	P	**Pn**	**13 46 59.4**	**-0.9**
MHTO				S	Sn	13 49 26.1	-10
DOK	**Doka**	**14.45**	**158**	P	**Pn**	**13 47 04.2**	**-2.0**
WHFO	**Wadi Hawf**	**15.00**	**160**	P	**Pn**	**13 47 10.9**	**-2.8**
ABTO	**Aybut**	**15.41**	**162**	P	**Pn**	**13 47 16.3**	**-2.9**
RBK	**Rabkut**	**15.52**	**159**	P	**Pn**	**13 47 18.2**	**-2.5**
SHAO	**Shalim**	**15.52**	**154**	P	**Pn**	**13 47 18.2**	**-2.3**
DMTO	**DMTO**	**15.56**	**156**	P	**Pn**	**13 47 18.4**	**-2.6**
	SNR=11						
BVAR	**Borovoye Array**	**26.15**	**31**	P	**P**	**13 49 16.6**	**+0.8**
	0.8nm,0.5s,baz=226,slow=9.9,SNR=2.8						
	0.8nm,0.5s						
KURBB	**Kurchatov Arra**	**28.82**	**41**	P	**P**	**13 49 41.9**	**+2.1**
	0.2nm,0.4s,baz=245,slow=9.4,SNR=1.8						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**29.64**	**51**	P	**P**	**13 49 48.4**	**+1.3**
	0.6nm,0.6s,baz=241,slow=8.8,SNR=4.1						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**32.68**	**340**	P	**P**	**13 50 14.4**	**+0.7**
	0.8nm,0.6s,baz=148,slow=11,SNR=3.4						
	0.8nm,0.6s						
ZALV	**Zalesovo Beam**	**33.77**	**39**	P	**P**	**13 50 24.6**	**+1.4**
	0.6nm,0.5s,baz=236,slow=10.0,SNR=2.5						
	0.6nm,0.5s						
CMAR	**Chiang Mai Arr**	**47.23**	**94**	P	**P**	**13 52 17.6**	**+2.6**
	0.3nm,0.4s,baz=297,slow=6.0,SNR=4.1						
	0.3nm,0.4s						
JMIC	**Jan Mayen**	**49.28**	**339**	LR	LR	14 15 35.0	
	comp=Z,28nm,19.8s,baz=192,slow=39						
LBTB	**Lobatse**	**60.93**	**204**	LR	LR	14 22 22.3	
	comp=Z,47nm,20.5s,baz=48,slow=38						
KSRS	**Korea Array**	**63.61**	**61**	LR	LR	14 24 44.3	
	comp=Z,28nm,20.1s,baz=235,slow=39						

TEH 23 13:47:04.1, 32.˚26N×48.˚43E, h8km±54km, ML3.5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.94**	**169**	Pg	Pb	13 47 22.5	-0.2
IKFM	**Kafar-mosalman**	**1.36**	**339**	Pg	Pg	13 47 30.3	+0.2
IDOB	**Doab**	**1.54**	**352**	Pg	Pb	13 47 33.3	+0.2
JHBN	**Jahan bin**	**1.90**	**90**	Pn	Pb	13 47 39.0	+0.2
HSAM	**Samen**	**1.96**	**4**	Pn	Pb	13 47 39.7	-0.4
ZNGN	**Zangian**	**2.06**	**93**	Pn	Pb	13 47 41.1	-0.9
IPIR	**Pirpir**	**2.13**	**78**	Pn	Pb	13 47 42.1	-1.0
IBZA	**Bozab**	**2.26**	**348**	Pn	Pb	13 47 43.7	-1.6
IBRJ	**Brojen**	**2.43**	**97**	Pn	Pn	13 47 45.9	+1.5
SNQR	**Sonqor, Kerman**	**2.68**	**346**	Pn	Pn	13 47 50.0	+2.2
IKLH	**Kolahrood**	**2.86**	**67**	Pn	Pn	13 47 52.3	+2.0
QAMS	**Qamsar**	**2.90**	**59**	Pn	Pn	13 47 53.4	+2.6
ILIN	**Lien**	**2.92**	**336**	Pn	Pn	13 47 53.4	+2.2
IDHR	**Dehrash**	**2.97**	**326**	Pn	Pn	13 47 53.8	+2.0
KLNJ	**Kolanjah**	**2.97**	**114**	Pn	Pn	13 47 53.8	+1.8
IGAR	**Gharneh**	**3.06**	**86**	Pn	Pn	13 47 54.8	+1.7
IZEF	**Zefreh**	**3.36**	**78**	Pn	Pn	13 47 59.0	+1.9
IRAZ	**Razeghan**	**3.38**	**21**	Pn	Pn	13 47 59.6	+2.2
IRAM	**Ramesheh**	**3.39**	**96**	Pn	Pn	13 47 59.3	+1.8
IQOM	**Qom**	**3.40**	**40**	Pn	Pn	13 47 59.6	+1.9
KRSH	**Karshahi**	**3.55**	**60**	Pn	Pn	13 48 01.9	+2.2
QABG	**Abgarm-Qazvin**	**3.58**	**15**	Pn	Pn	13 48 02.1	+2.0
ISFB	**Sefidab**	**3.82**	**56**	Pn	Pn	13 48 05.3	+2.0
IVRN	**Varamin**	**3.88**	**44**	Pn	Pn	13 48 06.3	+2.2
IDMV	**Damavand**	**4.47**	**41**	Pn	Pn	13 48 14.5	+2.0
KLST	**Kelardasht - M**	**4.78**	**26**	Pn	Pn	13 48 18.9	+2.2
ILAS	**Lasjerd**	**4.90**	**49**	Pn	Pn	13 48 19.7	+1.4
MZPU	**Pul - Mazandar**	**4.92**	**31**	Pn	Pn	13 48 20.9	+2.4

*IDC **23** 13:48:57.9±0.8, 21.˚53S×68.˚22W, h120km±8km, mb4.0/9, mbtmp4.3/14, MS3.5/4, Error ellipse: s-maj=14.2km s-min=12.5km az=92.0*
*VAO **23** 13:48:57.5±0.2, 21.˚36S×67.˚93W, h51km±3km, mb4.8*
*GUC **23** 13:48:58.4±0.8, 21.˚53S×68.˚51W, h137km±5km, ML4.6*
*NEIC **23** 13:48:58.3±1.8, 21.˚59S±0.˚04×68.˚39W±0.˚08, h124km±3km, mb4.6/44, Error ellipse: s-maj=10.5km s-min=6.0km az=86.0*
*SJA **23** 13:48:58.3±1.9, 21.˚51S×68.˚48W, h100km, ML3.6, MW3.7*
ISC 23 13:48:56.5±0.6, 21.˚52S±0.˚03×68.˚22W±0.˚04, h111km±6km, n180, σ1.˚89/207, mb4.6/27, 12C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.99**	**254**		**Pn**	**13 49 19.9**	**+2.0**
PB09	**IPOC Station P**	**0.99**	**254**	*e*P	**Pn**	**13 49 19.2**	**+1.3**
PB09	**IPOC Station P**	**0.99**	**254**	↑*i*P	**Pn**	**13 49 19.9**	**+2.0**
PB09				*i* S	**Sn**	**13 49 35.7**	**+1.6**
LVC	**Limon Verde**	**1.26**	**211**		**Pn**	**13 49 23.1**	**+2.0**
LVC	**Limon Verde**	**1.26**	**211**	*e*P	**Pn**	**13 49 23.0**	**+2.0**
LVC				*e*S	**Sn**	**13 49 42.3**	**+2.8**
LVC				IAML		13 49 46.4	
	comp=Z,686nm,0.5s						
LVC	**Limon Verde**	**1.26**	**211**	P	**Pn**	**13 49 23.0**	**+2.0**
	comp=Z,485nm,0.5s,baz=28,slow=8.8,SNR=870						
LVC				S	**Sn**	**13 49 41.9**	**+2.4**
	comp=Z,895nm,0.3s,baz=237,slow=19,SNR=57						
LVC	**Limon Verde**	**1.26**	**211**	*e*P	**Pn**	**13 49 22.5**	**+1.5**
LVC				*i* S	**Sn**	**13 49 41.6**	**+2.0**
LVC				IAML		13 49 43.2	
	comp=Z,6µm,0.4s						
LVC	**Limon Verde**	**1.26**	**211**	*e*P	**Pn**	**13 49 23.1**	**+2.0**
LVC				*e*S	**Sn**	**13 49 42.0**	**+2.4**
PB01	**IPOC Station P**	**1.28**	**292**		**Pn**	**13 49 22.0**	**+1.1**
AF01	**San Pedro de A**	**1.43**	**179**		**Pn**	**13 49 26.4**	**+3.6**
AF01	**San Pedro de A**	**1.43**	**179**	*e*P	**Pn**	**13 49 26.9**	**+4.1**
PB08	**IPOC Station P**	**1.63**	**327**		**Pn**	**13 49 28.0**	**+2.6**
PB08	**IPOC Station P**	**1.63**	**327**	*e*P	**Pn**	**13 49 27.3**	**+2.0**
PB08	**IPOC Station P**	**1.63**	**327**	↑*i*P	**Pn**	**13 49 28.0**	**+2.6**
PB08				*i* S	**Sn**	**13 49 49.8**	**+2.6**
PB06	**IPOC Station P**	**1.72**	**227**		**Pn**	**13 49 27.1**	**+0.8**
PB06	**IPOC Station P**	**1.72**	**227**	*e*P	**Pn**	**13 49 26.7**	**+0.4**
PB06	**IPOC Station P**	**1.72**	**227**	↑*i*P	**Pn**	**13 49 27.3**	**+1.0**
PB06				*i* S	**Sn**	**13 49 49.0**	**0.0**
PB06				IAML		13 49 50.6	
	comp=E,6µm,0.2s						
PATCX	**Punta Patache**	**1.94**	**291**		**Pn**	**13 49 29.8**	**+1.0**
PATCX	**Punta Patache**	**1.94**	**291**	*e*P	**Pn**	**13 49 28.6**	**-0.2**
PATCX	**Punta Patache**	**1.94**	**291**	↑*i*P	**Pn**	**13 49 29.2**	**+0.3**
PATCX				*i* S	**Sn**	**13 49 52.5**	**-1.0**
PATCX				IAML		13 49 54.7	
	comp=N,13µm,0.5s						
PB04	**IPOC Station P**	**1.97**	**245**		**Pn**	**13 49 29.6**	**+0.2**
PB04	**IPOC Station P**	**1.97**	**245**	*e*P	**Pn**	**13 49 29.1**	**-0.2**
PB04	**IPOC Station P**	**1.97**	**245**	↑*i*P	**Pn**	**13 49 29.3**	**0.0**
PB04				*i* S	**Sn**	**13 49 51.6**	**-2.8**
PB04				IAML		13 49 53.3	
HMBC	**Humberstone**	**1.99**	**308**		**Pn**	**13 49 29.9**	**+0.3**
HMBC	**Humberstone**	**1.99**	**308**	*e*P	**Pn**	**13 49 29.3**	**-0.3**
PB15	**IPOC Station P**	**2.04**	**214**		**Pn**	**13 49 31.2**	**+0.9**
PB15	**IPOC Station P**	**2.04**	**214**	*e*P	**Pn**	**13 49 31.3**	**+0.9**
PB15				*e*S	**Sn**	**13 49 57.4**	**+1.3**
PB15				IAML		13 50 00.1	
	comp=Z,6µm,0.2s						
PB15	**IPOC Station P**	**2.04**	**214**	*e*P	**Pn**	**13 49 31.6**	**+1.3**
PB15				*i* S	**Sn**	**13 49 57.3**	**+1.1**
GO01	**Chusmiza**	**2.06**	**333**		**Pn**	**13 49 32.7**	**+1.9**
GO01	**Chusmiza**	**2.06**	**333**	*e*P	**Pn**	**13 49 32.2**	**+1.4**
GO01	**Chusmiza**	**2.06**	**333**	↑*i*P	**Pn**	**13 49 33.2**	**+2.2**
GO01				*i* S	**Sn**	**13 49 58.7**	**+1.9**
GO01				IAML		13 50 03.1	
	comp=N,4µm,0.3s						
TA01	**Diego Aracena**	**2.07**	**297**		**Pn**	**13 49 30.2**	**-0.2**
TA01	**Diego Aracena**	**2.07**	**297**	*e*P	**Pn**	**13 49 29.7**	**-0.7**
TA01	**Diego Aracena**	**2.07**	**297**	↑*i*P	**Pn**	**13 49 30.4**	**0.0**
TA01				*i* S	**Sn**	**13 49 54.9**	**-1.4**
TA02	**Huaiquique**	**2.18**	**304**		**Pn**	**13 49 31.4**	**-0.4**
TA02	**Huaiquique**	**2.18**	**304**	*e*P	**Pn**	**13 49 31.5**	**-0.3**
TA02	**Huaiquique**	**2.18**	**304**	*e*P	**Pn**	**13 49 31.6**	**-0.2**
TA02				*i* S	**Sn**	**13 49 57.5**	**-1.4**
TA02				IAML		13 49 58.

PLTB Pedras Altas 16.56 131 P Pn 13 52 43.4 +1.2
PLTB Pedras Altas 16.56 131 eP Pn 13 52 42.7 +0.6
ARAG Araguaiana, MT 16.58 72 eP P 13 52 43.6 +0.5
ITRB Iturama 16.82 87 eP Pn 13 52 46.3 +0.9
TBTG Tabatinga, AM 17.31 354 eP Pn 13 52 52.5 +1.1
TRQA Tornquist 17.34 163 P 13 52 51.6 +0.3
TRQA IAmb IAmb 13 52 55.2
comp=Z,28nm,1.1s
FRTB Fartura 17.34 100 eP Pn 13 52 52.9 +1.1
GO06 Curarrehue 18.22 188 P 13 53 01.1 0.0
BB19B Bebedouro 18.35 92 eP Pn 13 53 05.2 +1.3
SNDB Serra Nova Dou 18.76 62 eP Pn 13 53 09.0 +0.2
NPGB Novo Progresso 19.01 43 eP Pn 13 53 12.8 +1.0
IPMB Ipameri, GO 19.15 83 eP Pn 13 53 14.0 +0.5
RCLB Rio Claro- Sao 19.21 97 eP Pn 13 53 14.2 +0.1
RCLB eS Sn 13 56 49.0 -0.9
PLCA Paso Flores 19.26 185 P 13 53 11.9 -0.4
PLCA Paso Flores 19.26 185 P P 13 53 12.7 +0.4
comp=Z,6.4nm,0.9s,baz=360,slow=14,SNR=4.0
SPB Sao Paulo 19.31 100 eP Pn 13 53 16.9 +1.8
MACA Manacapuru-AM 19.66 23 P Pn 13 53 18.9 -0.5
MACA Manacapuru-AM 19.66 23 eP Pn 13 53 19.7 +0.3
VAO Valinhos 19.72 98 P P 13 53 18.9 +1.3
VAO Valinhos 19.72 98 eP P 13 53 17.7 +0.1
BDFB Brasilia 20.01 76 P P 13 53 22.4 +1.6
BDFB Brasilia 20.01 76 P P 13 53 22.4 +1.6
comp=Z,7.8nm,0.4s,baz=244,slow=8.5,SNR=13
BDFB LR LR 14 02 37.1
comp=Z,77nm,18.4s,baz=315,slow=41
comp=Z,7.8nm,0.4s
SLOR San Lorenzo - 22.97 333 P P 13 53 52.6 +0.4
SLOR IAmb IAmb 13 54 09.4
comp=Z,22nm,0.9s
TULM Tulcn-Chalpat 24.00 336 P P 13 54 02.2 +0.6
TULM IAmb IAmb 13 54 15.3
comp=Z,13nm,0.9s
BAUV El Baul 30.27 0 P P 13 54 56.6 -0.6
BAUV IAmb IAmb 13 54 57.9
comp=Z,22nm,0.9s
SDV Santo Domingo 30.31 355 LR LR 14 08 25.0
comp=Z,46nm,18.1s,baz=120,slow=38
MDP Montagnes des 30.55 32 LR LR 14 08 42.2
comp=Z,33nm,18.4s,baz=110,slow=39
ZAIG Zacatecas 55.30 321 P P 13 58 19.4 +0.3
BIRD Birdtown, Kers 57.05 348 P P 13 58 31.0 0.0
X48A Hartselle 58.47 342 P P 13 58 40.5 -0.4
TKL Tuckaleechee C 58.75 345 P P 13 58 42.0 -0.8
TKL IAmb IAmb 13 58 43.2
comp=Z,8.8nm,0.9s
U54A Nelsons Funny 59.14 347 P P 13 58 45.6 0.0
DRIO Del Rio 59.49 327 P P 13 58 46.4 -1.8
DRIO IAmb IAmb 13 58 49.2
comp=Z,7.2nm,1.0s
CLTN Cedars of Leba 59.81 343 P P 13 58 49.6 -0.5
VNA3 Neumayer Olymp 59.85 161 ⇑P P 13 58 51.3 +1.2
comp=Z,3.6nm,0.9s
VNA2 Neumayer--Watz 60.42 161 ⇑P P 13 58 54.8 +0.9
comp=Z,4.9nm,0.8s,baz=271,slow=6.9
SAND Sanderson 60.69 326 P P 13 58 56.2 -0.2
SAND IAmb IAmb 13 58 57.4
comp=Z,9.6nm,1.0s
T47A Sharon Grove 60.86 343 P P 13 58 56.7 -0.5
OZNA Ozona 60.97 328 P P 13 58 57.5 -0.7
OZNA IAmb IAmb 13 58 58.2
comp=Z,4.9nm,0.9s
TXAR Lajitas Array 61.02 325 P P 13 58 58.0 -0.6
comp=Z,1.0nm,0.7s,baz=157,slow=8.6,SNR=12
comp=Z,1.0nm,0.7s
LCAR Lake Charles 61.25 339 P P 13 58 59.4 -0.5
LCAR IAmb IAmb 13 58 60.0
comp=Z,7.4nm,1.0s
P53A Whipple 61.92 348 P P 13 59 04.4 +0.1
SNAA Sanae 62.05 161 P P 13 59 05.2 +0.3
SNAA IAmb IAmb 13 59 06.7
comp=Z,5.8nm,0.9s
SNAA Sanae 62.05 161 ⇑P P 13 59 05.7 +0.7
comp=Z,81nm,0.7s
SNAA Sanae 62.05 161 P P 13 59 05.6 +0.6
comp=Z,3.3nm,0.8s,baz=284,slow=7.1,SNR=9.2
comp=Z,3.3nm,0.8s
HHAR Hobbs 62.42 337 P P 13 59 07.2 -0.6
HHAR IAmb IAmb 13 59 08.3
comp=Z,11nm,1.2s
FVM French Village 62.76 340 P P 13 59 09.3 -0.7
S39A Bolivar 63.46 338 P P 13 59 14.2 -0.4
S39A IAmb IAmb 13 59 15.0
comp=Z,9.6nm,0.9s
TROLL Troll, Antarti 63.77 161 ⇑P P 13 59 17.4 +1.0
comp=Z,108nm,0.5s
121A Cookes Peak, D 65.72 324 P P 13 59 29.8 +0.1
121A IAmb IAmb 13 59 31.8
comp=Z,13nm,1.4s
ANMO Albuquerque 66.87 326 P P 13 59 36.7 -0.3
DBIC Dimbokro 68.12 73 P P 13 59 46.1 +1.1
DBIC IAmb IAmb 13 59 46.5
comp=Z,13nm,1.0s
DBIC Dimbokro 68.12 73 P P 13 59 45.9 +0.8
comp=Z,7.2nm,0.9s,baz=224,slow=7.3,SNR=4.4
comp=Z,7.2nm,0.9s
SDCO Great Sand Dun 68.59 329 P P 13 59 48.8 +0.9
QSPA South Pole Qui 68.67 180 P P 13 59 48.1 +0.3
QSPA South Pole Qui 68.67 180 P P 13 59 48.6 +0.8
comp=Z,3.4nm,0.9s,baz=159,slow=3.0,SNR=17
comp=Z,3.4nm,0.9s
WUAZ Wupatki 69.93 324 P P 13 59 56.8 +0.8
WUAZ IAmb IAmb 13 59 58.3
comp=Z,11nm,1.0s
W13A Hualapai Mount 71.05 322 P P 14 00 04.1 +1.2
KNB Kanab 71.82 324 P P 14 00 08.4 +0.9
KNB IAmb IAmb 14 00 10.2
comp=Z,13nm,1.0s
SRU San Rafael Swe 72.14 327 P P 14 00 09.5 +0.2
SRU IAmb IAmb 14 00 10.9
comp=Z,8.5nm,0.7s
P18A Preston Nutter 72.39 327 P P 14 00 11.3 +0.4
P18A IAmb IAmb 14 00 12.9
comp=Z,8.6nm,0.7s
P17A Butcher Ranch, 72.53 327 P P 14 00 12.4 +0.8
P17A IAmb IAmb 14 00 13.4
comp=Z,7.6nm,0.8s
MSU Marysvale 72.56 325 P P 14 00 13.0 +1.1
PDAR Pinedale Array 74.45 330 P P 14 00 22.9 +0.1
comp=Z,0.7nm,0.7s,baz=113,slow=9.8,SNR=5.5
comp=Z,0.7nm,0.7s
NVAR Mina Array Bea 75.91 322 P P 14 00 31.8 +0.5
comp=Z,2.1nm,0.9s,baz=160,slow=6.9,SNR=12
comp=Z,2.1nm,0.9s
TOA0 Torodi Ar. Sit 76.75 70 P P 14 00 36.9 +0.6
TORD Torodi Ar. Bea 76.75 70 P P 14 00 36.4 +0.1
TORD Torodi Ar. Bea 76.75 70 P P 14 00 36.4 +0.1
comp=Z,2.6nm,0.7s,baz=256,slow=5.3,SNR=18
comp=Z,2.6nm,0.7s
PLID Pearl Lake 79.29 328 P P 14 00 50.3 +0.3
PLID IAmb IAmb 14 00 51.6
comp=Z,6.1nm,0.8s
YKA Yellowknife Ar 91.42 340 P P 14 01 49.4 -0.2
comp=Z,3.9nm,0.7s,baz=131,slow=4.0,SNR=75
comp=Z,3.9nm,0.7s
RAO Raoul Island 95.57 236 LR LR 14 38 23.8
comp=Z,187nm,18.0s,baz=294,slow=31

*IDC **23** 14:04:53.0±5.4, 14°.19S×69°.88W, h171km±85km, mb3.8/2, mbtmp4.1/3, Error ellipse: s-maj=183.9km s-min=37.4km az=23.0*

ISC 23 14:04:51.0±1.2, **15°.49S**±0°.09×**70°.8W**±0°.1, **h200**km, **n8,** σ1§**30**/13, **Southern Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	La Paz	2.67	108	P	Pn	14 05 38.2	+0.7
	29nm,0.4s,baz=319,slow=7.4,SNR=143						
LPAZ				S	Sn	14 06 13.3	-0.3
	23nm,0.6s,baz=31,slow=23,SNR=13						
AP01	Chacalluta	2.89	172	eP	Pn	14 05 39.9	+0.6
AP01				*i* S	Sn	14 06 16.6	-0.7
PB12	IPOC Station P	3.13	172	eP	Pn	14 05 43.2	+0.9
PB12				*i* S	Sn	14 06 21.5	-1.1
PB11	IPOC Station P	4.38	166	eP	Pn	14 05 57.4	-0.2
PB11				*i* S	Sn	14 06 48.4	-1.8
GO01	Chusmiza	4.42	160	eP	Pn	14 06 00.2	+1.8
GO01				*i* S	Sn	14 06 53.4	+1.7
TORD	Torodi Ar. Bea	77.13	72	P	P	14 16 21.3	-1.7
	2.2nm,0.4s,baz=270,slow=4.9,SNR=35						
	2.2nm,0.4s						
YKA	Yellowknife Ar	84.96	341	P	P	14 17 03.6	+0.4
	0.8nm,0.7s,baz=135,slow=4.8,SNR=14						
	0.8nm,0.7s						
SONM	Songino Array	147.67	4	PKPbc	PKPbc	14 24 13.0	+1.0
	1.1nm,0.7s,baz=325,slow=2.3,SNR=5.5						

*NEIC **23** 14:11:59.8±1.9, 20°.74S±0°.04×69°.24W±0°.07, h96km±7km, mb4.3/6, Error ellipse: s-maj=9.4km s-min=6.1km az=96.0*
*GUC **23** 14:11:59.8±0.7, 20°.72S×69°.18W, h99km±4km, ML4.0*
*IDC **23** 14:12:01.6±1.9, 20°.75S×68°.83W, h105km±12km, mb3.7/5, mbtmp4.0/7, MS2.7/1, Error ellipse: s-maj=41.7km s-min=13.0km az=108.0*
*VAO **23** 14:12:02.6±0.7, 20°.84S×68°.71W, h91km, mb4.1*

ISC 23 14:11:59.0±0.7, **20°.72S**±0°.03×**69°.18W**±0°.06, **h96**km±6km, **n62,** σ1§**46**/66, **mb4.0**/5, **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB01	IPOC Station P	0.43	221		Pn	14 12 14.3	+0.3
PB08	IPOC Station P	0.57	3		Pn	14 12 16.1	+0.7
PB08	IPOC Station P	0.57	3	eP	Pn	14 12 16.4	+1.0
PB08				*i* S	Sn	14 12 29.0	+1.3
PB08				IAML		14 12 31.0	
	comp=E,6μm,0.2s						
HMBC	Humberstone	0.79	303		Pn	14 12 18.0	+0.9
HMBC	Humberstone	0.79	303	eP	Pn	14 12 17.8	+0.7
HMBC				*i* S	Sn	14 12 31.2	+0.6
PATCX	Punta Patache	0.92	263		Pn	14 12 19.0	+0.6
PATCX	Punta Patache	0.92	263	eP	Pn	14 12 18.9	+0.6
PATCX				*i* S	Sn	14 12 34.0	+1.2
PATCX				IAML		14 12 34.9	
	comp=N,6μm,0.2s						
TA01	Diego Aracena	0.95	279		Pn	14 12 18.7	+0.2
TA01	Diego Aracena	0.95	279	eP	Pn	14 12 19.0	+0.5
TA01				*i* S	Sn	14 12 33.6	+0.4
TA01				IAML		14 12 35.1	
	comp=E,3μm,0.2s						
TA02	Huaiquique	1.00	296	Pn	Pn	14 12 19.3	+0.3
TA02	Huaiquique	1.00	296	eP	Pn	14 12 19.3	+0.3
TA02				*i* S	Sn	14 12 34.8	+0.7
GO01	Chusmiza	1.04	359	Pn	Pn	14 12 21.6	+1.5
GO01	Chusmiza	1.04	359	eP	Pn	14 12 21.2	+1.1
GO01				*i* S	Sn	14 12 37.3	+1.3
PB11	IPOC Station P	1.05	335	Pn	Pn	14 12 20.6	+0.7
PB11	IPOC Station P	1.05	335	eP	Pn	14 12 20.9	+1.0
PB11				*i* S	Sn	14 12 36.6	+1.0
PB11				IAML		14 12 37.7	
	comp=N,15μm,0.2s						
PB09	IPOC Station P	1.07	183		Pn	14 12 21.0	+0.8
PB09	IPOC Station P	1.07	183	eP	Pn	14 12 21.4	+1.2
PB09				*i* S	Sn	14 12 37.5	+1.5
PB09				IAML		14 12 39.0	
	comp=E,5μm,0.4s						
PB04	IPOC Station P	1.84	209		Pn	14 12 30.5	+0.9
PB04	IPOC Station P	1.84	209	eP	Pn	14 12 29.9	+0.2
PB04				*i* S	Sn	14 12 51.0	-1.8
PB04				IAML		14 13 03.2	
	comp=N,2μm,0.1s						
LVC	Limon Verde	1.90	172		Pn	14 12 31.9	+1.5
LVC	Limon Verde	1.90	172	P	Pn	14 12 32.2	+1.7
	comp=N,343nm,0.4s,baz=34,slow=7.7,SNR=540						
LVC				S	Sn	14 12 56.9	+2.5
	comp=N,388nm,0.3s,baz=141,slow=19,SNR=46						
LVC				LR	LR	14 13 14.9	
	comp=N,60nm,19.2s,baz=309,slow=40						
LVC	Limon Verde	1.90	172	eP	Pn	14 12 32.2	+1.7
PB06	IPOC Station P	2.01	190		Pn	14 12 31.8	0.0
PB06	IPOC Station P	2.01	190	eP	Pn	14 12 32.2	+0.5
PB06				*i* S	Sn	14 12 57.0	+0.4
PB06				IAML		14 13 02.9	
	comp=E,1μm,0.2s						
PB12	IPOC Station P	2.36	332	Pn	Pn	14 12 36.0	-0.2
PB12	IPOC Station P	2.36	332	eP	Pn	14 12 36.4	+0.2
PB12				*i* S	Sn	14 13 04.7	0.0
PB12				IAML		14 13 13.9	
	comp=E,1μm,0.2s						
AF01	San Pedro de A	2.41	157		Pn	14 12 38.9	+1.8
PB15	IPOC Station P	2.49	186		Pn	14 12 39.0	+0.9
PB10	IPOC Station P	3.06	204		Pn	14 12 45.0	-0.5
PB18	Visviri	3.12	355		Pn	14 12 50.4	+3.5
PB14	IPOC Station P	4.05	196	Pn	Pn	14 12 58.6	-0.5
GO02	Mina Guanaco	4.44	185	Pn	Pn	14 13 04.2	-0.2
LPAZ	La Paz	4.52	13	Pn	Pn	14 13 08.4	+2.7
LPAZ	La Paz	4.52	13	P	Pn	14 13 08.8	+3.1
	comp=E,7.1nm,0.3s,baz=177,slow=4.3,SNR=28						
LPAZ	La Paz	4.52	13	eP	Pn	14 13 08.8	+3.1
BBSD	Serra de San D	8.84	68	eP	Pn	14 14 02.7	-1.3
SIV	San Ignacio	9.02	60	P	Pn	14 14 04.5	-2.0
	comp=E,2.0nm,0.5s,baz=235,slow=12,SNR=9.6						
BBRB	Robore, Bolivi	9.17	76	eP	Pn	14 14 05.2	-3.2
MURT	Porto Murtinho	10.84	97	eP	Pn	14 14 29.0	-2.1
CPUP	Villa Florida	12.22	119	LR	LR	14 20 30.1	
	comp=E,36nm,19.2s,baz=194,slow=43						
LMEL	Las Melosas	13.11	184	Pn	Pn	14 15 04.4	+2.8
PDRB	Porto dos Gac	14.99	55	eP	P	14 15 29.1	+0.1
ITAB	Concordia	16.87	116	P	P	14 15 49.6	-0.1
ITAB				IAmb	IAmb	14 15 53.5	
	comp=Z,25nm,1.4s						
SNDB	Serra Nova Dou	19.23	66	eP	P	14 16 13.9	-1.8
IPMB	Ipameri, GO	19.97	86	eP	Pn	14 16 23.4	-2.9
BDFB	Brasilia	20.73	79	P	Pn	14 16 32.1	-3.2
	comp=Z,2.5nm,0.4s,baz=225,slow=7.3,SNR=4.8						
	comp=Z,2.5nm,0.4s						
SNAA	Sanae	63.10	161	P	P	14 22 16.5	+0.6
SNAA				IAmb	IAmb	14 22 34.4	
	comp=Z,5.7nm,1.4s						
SNAA	Sanae	63.10	161	P	P	14 22 16.9	+0.9
	comp=Z,0.6nm,0.6s,baz=276,slow=9.2,SNR=1.4						
	comp=Z,0.6nm,0.6s						
DBIC	Dimbokro	68.76	74	P	P	14 22 52.1	-0.9
DBIC	Dimbokro	68.76	74	P	P	14 22 52.9	-0.2
	comp=Z,8.6nm,0.9s,baz=228,slow=9.3,SNR=4.4						
	comp=Z,8.6nm,0.9s						
QSPA	South Pole Qui	69.47	180	P	P	14 22 58.4	+1.6
QSPA				IAmb	IAmb	14 23 25.0	
	comp=Z,6.4nm,1.4s						
QSPA	South Pole Qui	69.47	180	P	P	14 22 58.5	+1.7
	comp=Z,0.3nm,0.4s,baz=137,slow=5.8,SNR=8.5						
	comp=Z,0.3nm,0.4s						
TOA0	Torodi Ar. Sit	77.33	71	P	P	14 23 42.7	-1.0
TOA0				IAmb	IAmb	14 24 22.6	
	comp=Z,8.5nm,1.5s						
TORD	Torodi Ar. Bea	77.33	71	P	P	14 23 43.1	-0.5
TORD	Torodi Ar. Bea	77.33	71	P	P	14 23 43.2	-0.5
	comp=Z,1.0nm,0.5s,baz=253,slow=5.0,SNR=18						
	comp=Z,1.0nm,0.5s						
H11S2	WAKE ISLAND Hyl	27.53	278	T	T	16 50 48.7	
	baz=102,slow=74,SNR=34						
H11S1	WAKE ISLAND Hyl	27.53	278	T	T	16 50 49.2	
	baz=102,slow=74,SNR=28						
H11S3	WAKE ISLAND Hyl	27.54	278	T	T	16 50 49.7	
	baz=102,slow=74,SNR=29						
H11N3	WAKE ISLAND Hyl	27.58	279	T	T	16 50 49.5	
	baz=102,slow=74,SNR=10						
H11N2	WAKE ISLAND Hyl	27.60	279	T	T	16 50 54.5	
	baz=102,slow=74,SNR=9.5						
H11N1	WAKE ISLAND Hyl	27.60	279	T	T	16 50 51.6	
	baz=102,slow=74,SNR=9.4						
MKAR	Makanchi Array	145.15	35	PKP	PKPdf	14 31 26.1	+0.9
	comp=Z,0.3nm,0.5s,baz=346,slow=3.8,SNR=2.1						

*IDC **23** 14:21:05.8±1.1, 5°.98S×142°.72E, h0km, mb4.0/4, mbtmp3.9/6, ML1.6/1, MS3.3/1, Error ellipse: s-maj=35.7km s-min=23.4km az=75.0*

ISC 23 14:21:07.3±0.9, **6°.1S**±0°.1×**142°.6E**±0°.1, **h10**km, **n7,** σ1§**26**/8, **mb4.0**/4, **New Guinea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby	5.62	126	Pn	Pn	14 22 31.4	+0.4
	1.1nm,0.3s,baz=216,slow=21,SNR=1.6						
PMG				Sn	Sn	14 23 35.5	-0.1
	1.9nm,0.3s,baz=235,slow=21,SNR=6.6						
	10.0nm,0.7s						
WRA	Warramunga Arr	15.93	209	Pn	Pn	14 24 49.9	-1.8
	0.3nm,0.3s,baz=30,slow=13,SNR=16						
WRA				Sn	Sn	14 27 37.7	-11
	0.2nm,0.3s,baz=22,slow=21,SNR=3.4						
WRA				Lg	Lg	14 29 33.5	
	0.1nm,0.3s,baz=34,slow=24,SNR=3.9						
ASAR	Alice Springs	19.37	205	P	Pn	14 25 35.4	+0.9
	1.9nm,0.5s,baz=34,slow=11,SNR=22						
ASAR				S	Sn	14 29 00.5	-11
	0.5nm,0.8s,baz=22,slow=27,SNR=2.3						
ASAR				Lg	Lg	14 31 22.9	
	baz=25,slow=29,SNR=2.0						
ASAR				LR	LR	14 32 37.4	
	comp=Z,83nm,20.4s,baz=250,slow=35						
MKAR	Makanchi Array	74.80	322	P	P	14 32 48.9	+1.0
	0.9nm,0.8s,baz=134,slow=4.2,SNR=4.2						
	0.9nm,0.8s						
QSPA	South Pole Qui	83.88	180	P	P	14 33 37.6	+0.4
	0.8nm,0.6s,baz=300,slow=1.1,SNR=9.9						
	0.8nm,0.6s						
BVAR	Borovoye Array	84.27	325	P	P	14 33 39.5	+0.3
	1.3nm,0.7s,baz=104,slow=6.3,SNR=5.7						
	1.3nm,0.7s						
ILAR	Eielson Array	87.32	24	P	P	14 33 52.5	-1.6
	0.6nm,0.7s,baz=262,slow=5.6,SNR=6.5						
	0.6nm,0.7s						

ISC 23 14:30:57.8±1.4, **13°.2N**±0°.1×**88°.18W**±0°.05, **h9**km±8km, **n5,** σ0§**40**/8, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	Jucuarįn	0.07	293	eP	Pg	14 30 59.9	-0.1
JUCU				eS	Sg	14 31 01.8	+0.2
BLLM	Bellamira	0.22	346	*i* P	Pg	14 31 02.3	-0.1
LCND	La Caada	0.29	74	eP	Pg	14 31 03.8	+0.1
CNCH	Conchagua	0.34	82	eP	Pg	14 31 04.7	+0.1
CNCH				eS	Sb	14 31 11.7	0.0
JAYA	Jayaque - finc	1.30	289	eP	Pn	14 31 22.0	-0.4
JAYA				eS	Sb	14 31 40.1	+0.7

ISC 23 14:39:02.6±1.9, **13°.2N**±0°.1×**88°.19W**±0°.05, **h10**km, **n4,** σ0§**08**/6, **El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JUCU	Jucuarįn	0.07	298	eP	Pg	14 39 04.8	0.0
JUCU				eS	Sg	14 39 06.5	0.0
BLLM	Bellamira	0.22	348	*i* P	Pg	14 39 07.2	0.0
LCND	La Caada	0.30	74	*i* P	Pg	14 39 08.6	-0.1
LCND				eP		14 39 08.7	
LCND				eS	Sg	14 39 12.9	+0.1
LCND				eS		14 39 12.9	
CNCH	Conchagua	0.35	81	*i* P	Pg	14 39 09.6	0.0

*JMA **23** 14:54:08.9±0.2, 45°.8N×0°.6×141°.0E±0°.9, h10km±2km, MV2.8/22, SOUTH SAKHALIN*
*SKHL **23** 14:54:09.1±0.2, 45°.80N×141°.30E, h6km±2km, mb4.0/6*

ISC 23 14:54:09.3±1.4, **45°.78N**±0°.04×**141°.15E**±0°.09, **h8**km±12km, **n8,** σ0§**58**/15, **Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JRBN	Rebuntou	0.36	190	*i* P	Pg	14 54 16.4	+0.1
JRBN				S	Sg	14 54 21.4	+0.4
JRR	Rishiri	0.65	170	P	Pb	14 54 22.5	-0.4
JRR				S	Sb	14 54 32.0	-0.1
JWK2	Keihoku	0.70	131	P	Pb	14 54 24.0	+0.3
JWK2				S	Sb	14 54 34.5	+1.0
NEVR	Nevel`sk	1.02	28	ePg	Pn	14 54 29.9	0.0
NEVR				AMB	AMB	14 54 31.2	
	230nm,0.4s						
NEVR				eSg	Sn	14 54 44.9	+0.5
NEVR				A	A	14 54 47.5	
	1μm,0.4s						
NEVR				A	A	14 54 47.5	
	860nm,0.4s						
JSE	Soyaes	1.30	129	P	Pn	14 54 33.2	-0.5
JSE				S	Sb	14 54 51.1	+0.3
JYG	Yagishiri	1.37	172	S	Sb	14 54 52.2	-0.5
KHLM	Kholmsk	1.42	26	ePg	Pg	14 54 36.5	0.0
KHLM				AMB	AMB	14 54 37.0	
	50nm,0.2s						
KHLM				eSg	Sg	14 54 55.7	+0.8
KHLM				A	A	14 54 57.7	
	270nm,0.4s						
KHLM				A	A	14 54 57.7	
	200nm,0.4s						
YSS	Yuzh-Sakhalins	1.62	43	ePg	Pg	14 54 39.5	-0.7
YSS				AMB	AMB	14 54 41.0	
	10.0nm,0.2s						
YSS				eSg	Sg	14 55 00.6	-0.6
YSS				A	A	14 55 01.1	
	70nm,0.5s						
YSS				A	A	14 55 01.1	
	40nm,0.5s						

*IDC **23** 15:12:58.5±0.6, 37°.02S×78°.32E, h0km, mb4.4/15, mbtmp4.4/15, MS4.5/49, Error ellipse: s-maj=22.1km s-min=17.0km az=79.0*
*NEIC **23** 15:13:00.2±1.9, 37°.0S±0°.1×78°.3E±0°.1, h10km±1km, mb4.9/60, Error ellipse: s-maj=18.7km s-min=18.3km az=259.0*
*GCMT **23** 15:13:04.2±0.2, 36°.94S±0°.01×78°.26E±0°.01, h13km±1km, MW5.2/130, Moment Tensor Solution. s68,c99; s130,c221; Duration: 1§0 Moment tensor: Scale 10^{17} Nm; M_{rr}=0.07±.01; $M_{\theta\theta}$=0.73±.01; $M_{\phi\phi}$=0.80±.02; $M_{r\theta}$=0.08±.03; $M_{r\phi}$=0.08±.01; $M_{\theta\phi}$=0.06±.03; Best double couple: M_0=0.77500×10^{17} NP1:ϕ_s=228.00000°, δ=88.00000°, λ=-8.00000°. NP2:ϕ_s=318.00000°, δ=82.00000°, λ=-178.00000°. Principal axes: T 0.8090, Plg=4.0000°, Azm=273.0000°; N -0.0700, Plg=82.0000°, Azm=37.0000°; P -0.7400, Plg=6.0000°, Azm=183.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 23 15:13:01.1±0.4, **36°.99S**±0°.07×**78°.28E**±0°.08, **h15**km, **n154,** σ1§**33**/111, **mb4.9**/50, **MS4.6**/58, **6C, Mid-Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H04N2	CROZET ISLANDS	21.74	237	T	T	15 40 17.1	
	baz=74,slow=75						
H04N1	CROZET ISLANDS	21.75	237	T	T	15 40 28.0	
	baz=74,slow=75						
H04N3	CROZET ISLANDS	21.75	237	T	T	15 40 16.0	
	baz=74,slow=75						
H04S1	CROZET ISLANDS	21.85	235	T	T	15 40 40.3	
	baz=67						
H04S3	CROZET ISLANDS	21.87	235	T	T	15 40 38.7	
	baz=67						
H04S2	CROZET ISLANDS	21.87	235	T	T	15 40 33.6	
	baz=67						
H01W2	Cape Leeuwin H	29.00	97	T	T	15 49 12.1	
	baz=255,slow=75,SNR=2217						
H01W3	Cape Leeuwin H	29.01	97	T	T	15 49 10.4	
	baz=255,slow=75,SNR=1965						
H01W1	Cape Leeuwin H	29.02	97	T	T	15 49 11.3	
	baz=255,slow=75,SNR=2276						
H08S2	Diego Garcia H	29.68	348	T	T	15 50 01.6	
	baz=171,slow=76,SNR=6503						
H08S1	Diego Garcia H	29.69	348	T	T	15 50 01.8	
	baz=171,slow=76,SNR=6973						
H08S3	Diego Garcia H	29.70	348	T	T	15 50 03.0	
	baz=171,slow=76,SNR=7175						
VOI	Vohitsoka	31.09	290	P	P	15 19 19.0	0.0
VOI				IAmb	IAmb	15 19 24.5	
	comp=Z,15nm,0.9s						
MAW	Mawson	31.88	191	LR	LR	15 29 59.2	
	comp=Z,2μm,18.6s,baz=24,slow=32						
NWAO	Narrogin (SRO)	32.03	94	LR	LR	15 29 26.3	
	comp=Z,3μm,20.1s,baz=248,slow=31						
OPO	Ambohidratompo	32.85	295	LR	LR	15 29 16.5	
	comp=Z,742nm,21.9s,baz=355,slow=30						
CASY	Casey	34.73	158	P	P	15 19 51.0	+0.8
CASY				IAmb	IAmb	15 20 00.1	
	comp=Z,20nm,1.3s						
LEM	Lembang	40.20	49	LR	LR	15 35 16.7	
	comp=Z,237nm,18.5s,baz=208,slow=33						
POGA	Pongola	40.24	270	P	P	15 20 37.7	+0.4
FORT	Forrest	41.41	96	P	P	15 20 47.4	+0.4
FORT				IAmb	IAmb	15 21 00.4	
	comp=Z,26nm,0.9s						
PALK	Pallekele	44.09

comp=Z,491nm,18.2s,baz=71,slow=33
LBTB Lobatse 46.18 269 LR LR 15 37 25.8
comp=Z,1μm,19.3s,baz=122,slow=32
SUR Sutherland 46.87 258 P **P** **15 21 31.3 +0.4**
SUR Sutherland 46.87 258 LR LR 15 36 44.4
comp=Z,1μm,21.0s,baz=122,slow=30
KULM Kulim 46.97 31 P **P** **15 21 31.8 +0.2**
BATI Baumata 48.78 69 LR LR 15 41 13.8
comp=Z,502nm,18.8s,baz=240,slow=35
ASAR Alice Springs 49.19 91 P **P** **15 21 48.0 -0.8**
ASAR Alice Springs 49.19 91 P **P** **15 21 48.3 -0.5**
comp=Z,3.9nm,0.9s,baz=241,slow=6.5,SNR=19
ASAR PcP **PcP** **15 23 10.8 -1.1**
comp=Z,1.3nm,0.9s,baz=230,slow=3.0,SNR=1.4
ASAR LR LR 15 40 09.2
comp=Z,2μm,19.7s,baz=253,slow=33
comp=Z,3.9nm,0.9s
AS31 Alice Springs 49.19 91 P **P** **15 21 46.7 -2.1**
LSZ Lusaka 49.26 282 LR LR 15 39 25.1
comp=Z,1μm,19.7s,baz=129,slow=32
KAPI Kappang 49.49 60 LR LR 15 38 44.6
comp=Z,683nm,22.0s,baz=219,slow=31
SRIT Nakonsritamara 49.56 28 P **P** **15 21 52.6 +1.1**
SRIT IAmb IAmb 15 21 57.5
comp=Z,24nm,1.2s
SBUM Sibu 50.35 46 P **P** **15 21 57.3 -0.2**
TROLL Troll, Antarti 50.90 203 ⇑P **P** **15 22 01.9 +0.7**
comp=Z,282nm,0.8s
WRA Warramunga Arr 51.42 87 P **P** **15 22 04.6 -1.1**
WRA Warramunga Arr 51.42 87 P **P** **15 22 05.0 -0.7**
comp=Z,8.3nm,1.0s,baz=238,slow=7.3,SNR=19
WRA PcP **PcP** **15 23 18.8 -1.3**
comp=Z,1.4nm,1.0s,baz=241,slow=3.0,SNR=1.1
comp=Z,8.3nm,1.0s
WB2 Warramunga Arr 51.43 87 P **P** **15 22 04.1 -1.7**
WRAB Tennant Creek 51.43 87 P **P** **15 22 05.5 -0.2**
WRAB IAmb IAmb 15 22 10.8
comp=Z,37nm,1.5s
WB0 Warramunga Arr 51.55 87 P **P** **15 22 05.4 -1.3**
WB0 IAmb IAmb 15 22 18.6
comp=Z,16nm,0.9s
WR0 Warramunga Arr 51.57 87 P **P** **15 22 04.6 -2.2**
WR0 IAmb IAmb 15 22 20.3
comp=Z,16nm,1.2s
STKA Stephens Creek 51.63 104 P **P** **15 22 06.7 -0.5**
STKA Stephens Creek 51.63 104 P **P** **15 22 06.3 -0.8**
comp=Z,2.3nm,0.9s,baz=259,slow=10,SNR=3.7
STKA LR LR 15 40 08.4
comp=Z,1μm,20.3s,baz=241,slow=32
comp=Z,2.3nm,0.9s
SNAA Sanae 52.59 203 P **P** **15 22 12.6 -1.1**
SNAA Sanae 52.59 203 ⇑P **P** **15 22 12.8 -1.0**
SNAA Sanae 52.59 203 P **P** **15 22 13.0 -0.7**
comp=Z,3.5nm,0.8s,baz=97,slow=5.5,SNR=9.4
SNAA LR LR 15 41 16.2
comp=Z,171nm,20.6s,baz=74,slow=32
comp=Z,3.5nm,0.8s
VNDA Vanda 52.82 164 P **P** **15 22 15.1 -0.2**
VNDA Vanda 52.82 164 P **P** **15 22 15.2 -0.1**
comp=Z,1.4nm,0.4s,baz=281,slow=7.8,SNR=12
VNDA LR LR 15 42 22.6
comp=Z,744nm,20.0s,baz=268,slow=33
comp=Z,1.4nm,0.4s
QSPA South Pole Qui 53.16 180 P **P** **15 22 17.7 -0.4**
comp=Z,26nm,1.1s,baz=289,slow=4.9,SNR=30
QSPA LR LR 15 43 30.7
comp=Z,2μm,18.1s,baz=292,slow=34
comp=Z,26nm,1.1s
SBA Scott Base 53.84 165 P **P** **15 22 23.4 +0.7**
SBA IAmb IAmb 15 22 37.9
comp=Z,22nm,1.4s
VNA2 Neumayer--Watz 54.15 204 ⇑P **P** **15 22 25.4 +0.3**
comp=Z,5.2nm,0.8s,baz=91,slow=5.8
VNA1 Neumayer--Stat 54.48 204 ⇑P **P** **15 22 29.7 +2.2**
comp=Z,15nm,1.2s
VNA3 Neumayer Olymp 54.81 203 ⇑P **P** **15 22 30.7 +0.7**
comp=Z,8.1nm,0.8s
TSUM Tsumeb 55.51 271 LR LR 15 42 30.8
comp=Z,2μm,21.6s,baz=138,slow=32
LODK Lodwar 56.65 306 P **P** **15 22 43.6 -0.3**
MBAR Mbarara 56.86 298 LR LR 15 42 59.3
comp=Z,665nm,21.1s,baz=124,slow=32
UBPT Khong Chiam 57.97 31 P **P** **15 22 52.2 -0.8**
CM31 Chiang Mai Arr 58.50 23 P **P** **15 22 55.6 -1.1**
CM31 IAmb IAmb 15 23 08.0
comp=Z,8.1nm,1.1s
CMAR Chiang Mai Arr 58.50 23 P **P** **15 22 55.4 -1.3**
CMAR Chiang Mai Arr 58.50 23 P **P** **15 22 56.6 -0.1**
comp=Z,1.1nm,0.6s,baz=208,slow=7.1,SNR=10
CMAR LR LR 15 44 35.7
comp=Z,260nm,21.0s,baz=200,slow=32
comp=Z,1.1nm,0.6s
ATD Arta Tunnel 58.64 318 P **P** **15 22 58.4 +0.5**
ATD IAmb IAmb 15 23 00.4
comp=Z,16nm,1.0s
ATD Arta Tunnel 58.64 318 LR LR 15 44 08.1
comp=Z,9.2nm,19.4s,baz=154,slow=32
BELA Belgrano 2 58.69 193 P **P** **15 22 57.7 +0.3**
PHRA Phrae 58.95 24 P **P** **15 22 59.1 -0.7**
CRAI Chiangrai 60.62 24 P **P** **15 23 10.6 -0.7**
CRAI IAmb IAmb 15 23 23.9
comp=Z,18nm,1.5s
DAV Davao City (W) 62.25 56 LR LR 15 47 15.7
comp=Z,104nm,21.4s,baz=194,slow=33
WSAR Wadi Sarin 62.71 340 LR LR 15 45 09.4
comp=Z,417nm,20.1s,baz=170,slow=31
SLVN Son La 62.85 27 P **P** **15 23 26.0 -0.4**
SLVN IAmb IAmb 15 23 32.5
comp=Z,7.9nm,1.2s
SHL Shillong 63.53 14 P **P** **15 23 29.5 -1.5**
TNCH TengChong 64.57 20 ⇑P **P** **15 23 38.6 +0.7**
TNCH pP pwP 15 23 49.9 +4.9
TNCH PcP **PcP** **15 24 13.3 +1.5**
TNCH S **S** **15 32 13.6 -3.4**
TNCH sS sS 15 32 32.1 +8.5
TNCH TengChong 64.57 20 SS SS 15 36 28.0 -0.2
TNCH pmax pmax
comp=Z,33nm,0.4s
TNCH pmax pmax
comp=Z,110nm,2.5s
TNCH LR LR
comp=N,220nm,18.8s
TNCH LR LR
comp=E,150nm,19.9s
TNCH LR LR
comp=Z,580nm,21.0s
TGY Tagaytay City 64.78 47 LR LR 15 49 37.0
comp=Z,142nm,22.0s,baz=228,slow=34
RPZ Rata Peaks 67.39 128 LR LR 15 47 09.9
comp=Z,641nm,18.6s,baz=209,slow=30
LSA Lhasa 67.43 12 P **P** **15 23 54.6 -1.9**
LSA IAmb IAmb 15 23 59.0
comp=Z,12nm,1.0s
PMG Port Moresby 67.55 85 LR LR 15 53 13.8
comp=Z,1μm,18.1s,baz=238,slow=36
RAYN Ar Rayn 67.66 328 P **P** **15 23 56.4 -1.1**
RAYN IAmb IAmb 15 24 03.1
comp=Z,16nm,1.5s
NIL Nilore 70.44 356 P **P** **15 24 13.3 -1.3**
NIL IAmb IAmb 15 24 41.1
comp=Z,7.2nm,1.0s
KBL Kabul 71.69 352 P **P** **15 24 22.0 -0.4**
KBL IAmb IAmb 15 24 49.9
comp=Z,18nm,1.2s
ENH Enshi 73.03 28 P **P** **15 24 29.6 -0.6**
PMSA Palmer Station 74.35 196 LR LR 15 56 01.6
comp=Z,218nm,20.9s,baz=168,slow=35
DZM Mont Dzumac 75.67 107 LR LR 15 53 39.9
comp=Z,442nm,18.1s,baz=240,slow=32
CHGR Chuyangaron 75.75 353 P **P** **15 24 45.0 -1.0**
CHGR IAmb IAmb 15 24 50.1
comp=Z,10nm,1.0s
SIMJ Simiganj 75.76 353 P **P** **15 24 44.5 -1.6**
GAR Garm 75.98 354 P **P** **15 24 46.1 -1.2**
GAR IAmb IAmb 15 24 48.5
comp=Z,18nm,1.0s
DRK Karamyk 76.33 355 P **P** **15 24 48.3 -1.2**
LZH Lanzhou 76.49 21 *e*P **P** **15 24 53.1 +2.8**
LZH pP PcP 15 25 01.8 -0.1
LZH S **S** **15 34 39.5 +4.0**
LZH pmax pmax
comp=Z,17nm,1.3s
LZH pmax pmax
comp=Z,150nm,6.2s
LZH LR LR
comp=N,320nm,15.8s
LZH LR LR
comp=E,220nm,17.5s
LZH LR LR
comp=Z,630nm,22.0s
GEYT Alibeck 76.84 344 P **P** **15 24 51.1 -1.0**
GEYT Alibeck 76.84 344 P **P** **15 24 52.6 +0.5**
comp=Z,0.6nm,0.4s,baz=170,slow=8.8,SNR=4.4
GEYT LR LR 15 54 45.4
comp=Z,169nm,18.8s,baz=166,slow=33
comp=Z,0.6nm,0.4s
GYA0B ALIBECK ARRAY 76.84 344 P **P** **15 24 51.8 -0.3**
BTK Batken 76.98 354 P **P** **15 24 52.8 -0.1**
LYN LuoYang 77.97 28 *e*P **P** **15 25 00.3 +1.8**
LYN S **S** **15 34 55.4 +4.0**
LYN pmax pmax
comp=Z,22nm,0.8s
LYN pmax pmax
comp=Z,230nm,5.9s
LYN LR LR
comp=N,410nm,16.7s
LYN LR LR
comp=E,130nm,13.1s
LYN LR LR
comp=Z,490nm,16.5s
ARSB Arslanbob 78.09 356 P **P** **15 24 58.0 -1.1**
GTA Gaotai 78.58 17 P **P** **15 25 04.0 +2.1**
GTA S **S** **15 34 59.3 +1.4**
GTA pmax pmax
comp=Z,5.0nm,1.6s
GTA LR LR
comp=N,170nm,21.4s
GTA LR LR
comp=E,150nm,22.2s
GTA LR LR
comp=Z,230nm,21.4s
KK31 Karatay Array 80.03 354 P **P** **15 25 09.4 -0.2**
KK31 IAmb IAmb 15 25 12.3
comp=Z,23nm,0.9s
KKAR Karatay Array 80.03 354 P **P** **15 25 09.4 -0.2**
GUMO Guam 80.25 65 LR LR 15 59 52.3
comp=Z,32nm,18.7s,baz=229,slow=35
MMAI Mount Meron Ar 80.32 325 LR LR 15 57 01.1
comp=Z,134nm,18.3s,baz=95,slow=33
TIA Tai'an 81.27 31 *e*P **P** **15 25 15.8 -0.6**
TIA pmax pmax
comp=Z,5.0nm,1.1s
TIA LR LR
comp=N,130nm,19.1s
TIA LR LR
comp=E,94nm,22.6s
TIA LR LR
comp=Z,180nm,21.6s
GURO Guroymak-BITLI 82.27 332 P **P** **15 25 22.4 +0.6**
BTO Baotou 82.53 24 *e*P **P** **15 25 24.3 +1.2**
BTO pP **pwP** **15 25 34.6 +4.2**
BTO sP sP 15 25 38.8 +10
BTO PP **PP** **15 28 35.8 +2.8**
BTO Baotou 82.53 24 S **S** **15 35 39.3 0.0**
BTO Baotou 82.53 24 SS SS 15 41 03.0 +1.3
BTO pmax pmax
comp=Z,29nm,1.4s
BTO pmax pmax
comp=Z,230nm,6.1s
BTO LR LR
comp=N,750nm,21.1s
BTO LR LR
comp=E,390nm,15.3s
BTO LR LR
comp=Z,880nm,18.7s
HHC Hu-ho-hao-te 83.26 25 *e*P **P** **15 25 28.6 +1.8**
HHC Hu-ho-hao-te 83.26 25 *e*S **S** **15 35 47.8 +1.1**
HHC pmax pmax
comp=Z,17nm,0.5s
HHC pmax pmax
comp=Z,110nm,6.0s
HHC LR LR
comp=N,270nm,16.9s
HHC LR LR
comp=E,170nm,19.6s
HHC LR LR
comp=Z,230nm,16.0s
MK31 Makanchi Array 83.49 3 P **P** **15 25 26.8 -1.0**
MK31 IAmb IAmb 15 25 29.1
comp=Z,5.8nm,0.9s
MKAR Makanchi Array 83.49 3 P **P** **15 25 26.1 -1.7**
MKAR Makanchi Array 83.49 3 P **P** **15 25 27.2 -0.6**
comp=Z,5.3nm,0.7s,baz=184,slow=4.3,SNR=30
MKAR LR LR 16 00 04.7
comp=Z,600nm,20.9s,baz=196,slow=34
comp=Z,5.3nm,0.7s
MAKZ Makanchi 83.49 3 P **P** **15 25 27.9 +0.1**
MAKZ IAmb IAmb 15 25 29.2
comp=Z,8.4nm,0.9s
ARPR Arapgir-MALATY 84.18 330 P **P** **15 25 31.7 0.0**
ARPR IAmb IAmb 15 25 57.0
comp=Z,9.7nm,1.0s
BNN Bunyan 85.00 328 P **P** **15 25 35.1 -0.6**
KBZ Khabaz 86.53 335 LR LR 15 59 45.8
comp=Z,61nm,20.8s,baz=158,slow=32
BRTR Keskin Array B 86.67 327 P **P** **15 25 43.5 -0.6**
BRTR Keskin Array B 86.67 327 P **P** **15 25 44.7 +0.6**
comp=Z,1.8nm,0.8s,baz=150,slow=6.5,SNR=8.1
comp=Z,1.8nm,0.8s
KSRS Korea Array 87.15 37 LR LR 16 04 44.6
comp=Z,52nm,18.0s,baz=225,slow=36
KURBB Kurchatov Arra 87.24 0 P **P** **15 25 46.3 0.0**
comp=Z,3.6nm,0.7s,baz=191,slow=4.7,SNR=22
KURBB LR LR 16 02 57.2
comp=Z,428nm,18.5s,baz=165,slow=34
comp=Z,3.6nm,0.7s
KURK Kurchatov 87.34 0 P **P** **15 25 46.1 -0.7**
KURK IAmb IAmb 15 26 04.1
comp=Z,9.7nm,1.0s
TORD Torodi Ar. Bea 87.39 288 P **P** **15 25 47.5 -0.5**
comp=Z,0.4nm,0.5s,baz=114,slow=3.6,SNR=5.9
TORD LR LR 16 03 56.5
comp=Z,981nm,18.1s,baz=140,slow=35
comp=Z,0.4nm,0.5s
XLT XiLinHaoTe 87.52 26 *e*P **P** **15 25 51.3 +3.3**
XLT pmax pmax
comp=Z,15nm,0.9s
XLT pmax pmax
comp=Z,81nm,4.2s
JCJ Chichijima 87.57 53 LR LR 16 00 36.8
comp=Z,78nm,20.8s,baz=122,slow=33
SONM Songino Array 88.11 19 P **P** **15 25 49.9 -0.8**
SONM Songino Array 88.11 19 P **P** **15 25 50.5 -0.2**
comp=Z,1.1nm,1.1s,baz=196,slow=3.8,SNR=6.4
comp=Z,1.1nm,1.1s
DBIC Dimbokro 88.51 279 LR LR 16 02 00.8
comp=Z,610nm,20.2s,baz=108,slow=33
AKTO Aktyubinsk 88.87 347 LR LR 16 02 45.7
comp=Z,171nm,21.4s,baz=88,slow=34
BVAR Borovoye Array 89.91 355 P **P** **15 25 56.4 -2.6**
comp=Z,1.3nm,0.8s,baz=168,slow=7.4,SNR=6.8
BVAR LR LR 16 04 15.5
comp=Z,310nm,20.0s,baz=169,slow=34
JHJ Hachijo jima 2 90.30 48 LR LR 16 02 14.1
comp=Z,36nm,21.0s,baz=236,slow=33
ZALV Zalesovo Beam 90.75 4 P **P** **15 26 02.8 0.0**
ZALV Zalesovo Beam 90.75 4 P **P** **15 26 03.3 +0.5**
comp=Z,1.5nm,0.7s,baz=168,slow=3.9,SNR=6.1
ZALV LR LR 16 04 45.6
comp=Z,356nm,20.1s,baz=202,slow=34
comp=Z,1.5nm,0.7s
CN2 Changchun 91.10 32 *e*P **P** **15 26 03.3 -1.4**
MJAR Matsushiro Arr 91.84 44 LR LR 16 04 01.5
comp=Z,77nm,22.0s,baz=230,slow=33
BELG Belogorsk 92.94 342 LR LR 16 03 39.5
comp=Z,64nm,21.5s,baz=168,slow=33
USRK Ussuriysk Ar. 94.33 36 LR LR 16 09 40.5
comp=Z,87nm,18.0s,baz=208,slow=36
ARU Arti 94.56 349 LR LR 16 07 00.6
comp=Z,201nm,20.0s,baz=154,slow=34
MLR Muntele Rosu 94.69 326 P **P** **15 26 22.3 +0.9**
MLR Muntele Rosu 94.69 326 P **P** **15 26 22.8 +1.4**
comp=Z,4.6nm,1.1s,baz=160,slow=3.6,SNR=7.1
comp=Z,4.6nm,1.1s
KEST Kesra 96.55 310 LR LR 16 09 19.3
comp=Z,231nm,18.9s,baz=204,slow=35
KLR Kul'dur 98.05 32 LR LR 16 09 15.0
comp=Z,228nm,20.4s,baz=216,slow=34
KIRV Kirov 98.23 345 LR LR 16 08 12.2
comp=Z,182nm,22.0s,baz=154,slow=34
ASAJ Asahikawa 99.54 41 LR LR 16 06 52.9
comp=Z,41nm,21.1s,baz=179,slow=32
CLL Collm 104.84 324 *e*SS SS 15 46 18.0 -2.0
CLL *e*SSSS 15 53 18.0
CLL AMS AMS 16 23 00.0
comp=Z,100nm,20.5s
G24K Hadweenzic Riv 140.53 27 **PKPdf** **15 32 29.9 +1.1**
ILAR Eielson Array 141.56 29 PKP **PKPdf** **15 32 31.8 +1.1**
comp=Z,0.7nm,0.8s,baz=306,slow=4.1,SNR=6.3
F28M Old Crow 142.62 23 PKPdf **PKPdf** **15 32 32.4 -0.1**
J26L Joseph Creek 142.97 29 PKPdf **PKPdf** **15 32 32.3 -1.0**
L27K Beaver Creek, 144.32 30 PKPdf **PKPdf** **15 32 34.9 -0.8**
G31M Satah River 144.75 22 PKPdf **PKPab** **15 32 34.9 -0.2**
I30M Mount Dempster 145.18 25 **PKPbc** **15 32 36.2 -0.6**
J30M Hart River 145.58 26 PKPdf **PKPdf** **15 32 37.1 -0.7**
K29M Barlow Dome 145.58 27 PKPdf **PKPbc** **15 32 38.0 -0.2**
L29M L29M 145.75 29 PKPdf **PKPdf** **15 32 37.5 -0.7**
YKA Yellowknife Ar 153.26 13 PKPdf **PKPdf** **15 32 49.4 -0.6**
YKA Yellowknife Ar 153.26 13 PKPbc **PKPbc** **15 32 56.0 -1.5**
comp=Z,1.7nm,1.0s,baz=341,slow=2.7,SNR=8.1
NVAR Mina Array Bea 166.79 79 PKP **PKPdf** **15 33 07.0 +0.8**
comp=Z,0.7nm,0.9s,baz=235,slow=4.0,SNR=2.0
NVAR PKPab **PKPab** **15 34 10.2 +0.8**
comp=Z,0.9nm,0.8s,baz=273,slow=5.1,SNR=6.0

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*IDC **23** 15:26:58.1±0.8, 0.°85S×148.°62E, h0km, mb4.1/15, mbtmp4.1/15, Error ellipse: s-maj=30.1km s-min=15.9km az=99.0*
*NEIC **23** 15:27:01.2±1.8, 0.°82S±0.°09×148.°74E±0.°05, h21km±4km, mb4.6/44, Error ellipse: s-maj=13.1km s-min=7.7km az=170.0*
ISC 23 15:27:02.5±0.5, **0.°85S**±0.°07×**148.°67E**±0.°08, **h32**km, **n77**, σ1§**04**/71, **mb4.4**/35, **Admiralty Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	**Manus Island**	**1.76**	**228**	Pn	**Pn**	**15 27 27.7**	**-3.1**
PATS	**Pohnpei**	**12.29**	**51**	Pn	**Pn**	**15 29 52.5**	**-2.9**
HNR	**Honiara**	**14.09**	**128**	Pn	**Pn**	**15 30 19.7**	**-0.3**
FAKI	**Fak Fak**	**16.54**	**263**	P	**P**	**15 30 55.0**	**+0.5**
FAKI				IAmb	IAmb	15 30 56.0	
	comp=Z,39nm,1.2s						
TNTI	**Ternate**	**21.37**	**274**	P	**P**	**15 31 48.1**	**+0.7**
WB0	**Warramunga Arr**	**23.43**	**216**	P	**P**	**15 32 08.7**	**-0.3**
WR0	**Warramunga Arr**	**23.49**	**215**	P	**P**	**15 32 09.2**	**-0.5**
WR0				IAmb	IAmb	15 32 20.8	
	comp=Z,15nm,1.1s						
WRAB	**Tennant Creek**	**23.58**	**216**	P	**P**	**15 32 10.5**	**0.0**
WRAB				IAmb	IAmb	15 32 21.7	
	comp=Z,15nm,0.8s						
WB2	**Warramunga Arr**	**23.59**	**216**	P	**P**	**15 32 09.5**	**-1.1**
WB2				IAmb	IAmb	15 32 22.3	
	comp=Z,15nm,0.9s						
WRA	**Warramunga Arr**	**23.59**	**216**	P	**P**	**15 32 10.8**	**+0.1**
WRA	**Warramunga Arr**	**23.59**	**216**	P	**P**	**15 32 09.7**	**-1.0**
	comp=Z,12nm,1.1s,baz=38,slow=10,SNR=24						
	comp=Z,12nm,1.1s						
EIDS	**Eidsvold**	**24.48**	**175**	P	**P**	**15 32 21.4**	**+2.6**
EIDS				IAmb	IAmb	15 32 34.6	
	comp=Z,14nm,1.1s						
LUWI	**Luwuk**	**25.90**	**269**	P	**P**	**15 32 31.6**	**-0.3**
H11S3	**WAKE ISLAND Hy**	**26.14**	**42**	T	T	15 59 49.0	
	baz=224,slow=75						
H11S2	**WAKE ISLAND Hy**	**26.15**	**42**	T	T	15 59 46.9	
	baz=224,slow=75						
H11S1	**WAKE ISLAND Hy**	**26.16**	**42**	T	T	15 59 47.6	
	baz=224,slow=75						
AS31	**Alice Springs**	**26.82**	**211**	P	**P**	**15 32 41.1**	**+1.0**
ASAR	**Alice Springs**	**26.82**	**211**	P	**P**	**15 32 40.2**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=42,slow=7.5,SNR=16						
	comp=Z,0.8nm,0.5s						
H11N1	**WAKE ISLAND Hy**	**27.15**	**40**	T	T	16 01 23.5	
	baz=221,slow=76,SNR=26						
H11N3	**WAKE ISLAND Hy**	**27.16**	**40**	T	T	16 01 22.8	
	baz=221,slow=76,SNR=39						
H11N2	**WAKE ISLAND Hy**	**27.17**	**40**	T	T	16 01 03.6	
	baz=221,slow=76,SNR=54						
DZM	**Mont Dzumac**	**27.28**	**142**	P	**P**	**15 32 43.3**	**-1.0**
DZM				IAmb	IAmb	15 33 07.2	
	comp=Z,16nm,1.1s						
FITZ	**Fitzroy Crossi**	**28.38**	**232**	P	**P**	**15 32 52.7**	**-1.4**
ARMA	**Armidale**	**29.54**	**175**	P	**P**	**15 33 06.3**	**+1.9**
STKA	**Stephens Creek**	**31.57**	**192**	P	**P**	**15 33 22.8**	**+0.6**
	comp=Z,0.6nm,0.4s,baz=356,slow=12,SNR=3.4						
	comp=Z,0.6nm,0.4s						
JNU	**Nakatsue**	**37.73**	**335**	P	**P**	**15 34 14.0**	**-1.4**
JSD	**Sado**	**39.88**	**347**	P	**P**	**15 34 32.6**	**-0.7**
JSD				IAmb	IAmb	15 34 42.2	
	comp=Z,14nm,1.4s						
KSRS	**Korea Array**	**42.68**	**335**	P	**P**	**15 34 56.0**	**-0.3**
	comp=Z,0.8nm,0.8s,baz=155,slow=9.5,SNR=3.0						
	comp=Z,0.8nm,0.8s						
CM31	**Chiang Mai Arr**	**52.49**	**294**	P	**P**	**15 36 13.8**	**+0.8**
CM31				IAmb	IAmb	15 36 23.6	
	comp=Z,6.6nm,1.1s						
CMAR	**Chiang Mai Arr**	**52.49**	**294**	P	**P**	**15 36 13.0**	**0.0**
CMAR	**Chiang Mai Arr**	**52.49**	**294**	P	**P**	**15 36 12.4**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=117,slow=5.8,SNR=6.8						
	comp=Z,0.9nm,0.7s						
HEH	**HeiHe**	**54.07**	**343**	*e*P	**P**	**15 36 23.8**	**-0.1**
PETK	**Petropavlovsk-**	**54.30**	**7**	P	**P**	**15 36 26.2**	**+0.7**
PETK	**Petropavlovsk-**	**54.30**	**7**	P	**P**	**15 36 26.5**	**+0.9**
	comp=Z,4.7nm,0.7s,baz=161,slow=6.7,SNR=29						
	comp=Z,4.7nm,0.7s						
GTA	**Gaotai**	**59.98**	**318**	P	**P**	**15 37 07.8**	**+1.6**
GTA				pP	pP	15 37 14.8	-0.5
ULN	**Ulaanbaatar**	**60.50**	**329**	P	**P**	**15 37 09.7**	**+0.1**
SONM	**Songino Array**	**60.82**	**329**	P	**P**	**15 37 12.1**	**+0.2**
SONM	**Songino Array**	**60.82**	**329**	P	**P**	**15 37 12.9**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=148,slow=7.4,SNR=5.8						
	comp=Z,0.6nm,0.3s						
YAK	**Yakutsk**	**64.36**	**350**	P	**P**	**15 37 34.7**	**-0.2**
BILL	**Bilibino**	**69.83**	**7**	P	**P**	**15 38 10.3**	**+0.7**
BILL				IAmb	IAmb	15 38 12.0	
	comp=Z,3.9nm,1.0s						
CHGN	**Chignik**	**71.11**	**28**	P	**P**	**15 38 16.8**	**-0.7**
M14K	**Bethel**	**72.13**	**23**	P	**P**	**15 38 23.1**	**-0.5**
MKAR	**Makanchi Array**	**74.66**	**319**	P	**P**	**15 38 39.2**	**+0.3**
MKAR	**Makanchi Array**	**74.66**	**319**	P	**P**	**15 38 40.0**	**+1.0**
	comp=Z,0.9nm,0.5s,baz=96,slow=7.3,SNR=14						
	comp=Z,0.9nm,0.5s						
ZAA0	**Zalesovo Array**	**75.61**	**327**	P	**P**	**15 38 43.0**	**-1.2**
ZALV	**Zalesovo Beam**	**75.61**	**327**	P	**P**	**15 38 42.8**	**-1.4**
ZALV	**Zalesovo Beam**	**75.61**	**327**	P	**P**	**15 38 43.4**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=112,slow=6.6,SNR=4.8						
	comp=Z,0.9nm,0.5s						
L19K	**White Mountain**	**75.76**	**24**	P	**P**	**15 38 45.8**	**+0.9**
L19K				IAmb	IAmb	15 38 47.7	
	comp=Z,6.0nm,0.9s						
M20K	**Styx River**	**76.31**	**24**	P	**P**	**15 38 49.1**	**+1.0**
M20K				IAmb	IAmb	15 38 50.8	
	comp=Z,6.3nm,0.9s						
G18K	**Tagagawik**	**76.38**	**20**	P	**P**	**15 38 49.2**	**+0.9**
VNDA	**Vanda**	**76.92**	**177**	P	**P**	**15 38 52.5**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=328,slow=4.7,SNR=5.7						
	comp=Z,1.2nm,0.8s						
G19K	**Purcell Mounta**	**77.05**	**20**	P	**P**	**15 38 52.6**	**+0.5**
G19K				IAmb	IAmb	15 39 01.4	
	comp=Z,5.6nm,0.8s						
CAST	**Castle Rocks**	**77.48**	**23**	P	**P**	**15 38 54.7**	**+0.1**
E19K	**Redstone River**	**77.74**	**19**	P	**P**	**15 38 56.9**	**+0.9**
KURK	**Kurchatov**	**78.14**	**322**	P	**P**	**15 38 57.3**	**-1.2**
KURK				IAmb	IAmb	15 39 06.9	
	comp=Z,5.9nm,0.9s						
KURBB	**Kurchatov Arra**	**78.17**	**322**	P	**P**	**15 39 00.0**	**+1.3**
	comp=Z,2.4nm,0.2s,baz=102,slow=5.2,SNR=1.1						
	comp=Z,2.4nm,0.2s						
MLY	**Manley**	**78.75**	**22**	P	**P**	**15 39 01.4**	**-0.3**
MLY				IAmb	IAmb	15 39 03.8	
	comp=Z,2.9nm,0.7s						
RND	**Reindeer**	**78.77**	**24**	P	**P**	**15 39 00.7**	**-1.2**
NEA2	**Nenana**	**79.20**	**23**	P	**P**	**15 39 02.1**	**-2.0**
DHY	**Denali Highway**	**79.24**	**25**	P	**P**	**15 39 03.7**	**-0.9**
DHY				IAmb	IAmb	15 39 06.3	
	comp=Z,6.0nm,0.9s						
CCB	**Clear Creek Bu**	**79.71**	**23**	P	**P**	**15 39 06.1**	**-0.7**
CCB				IAmb	IAmb	15 39 14.3	
	comp=Z,4.6nm,0.7s						
G23K	**Bananza Creek**	**79.79**	**21**	P	**P**	**15 39 08.1**	**+0.8**
IL31		**80.12**	**23**	P	**P**	**15 39 08.3**	**-0.7**
ILAR	**Eielson Array**	**80.12**	**23**	P	**P**	**15 39 08.3**	**-0.8**
ILAR	**Eielson Array**	**80.12**	**23**	P	**P**	**15 39 08.8**	**-0.3**
	comp=Z,2.2nm,0.7s,baz=253,slow=5.5,SNR=21						
	comp=Z,2.2nm,0.7s						
J25K	**Salcha River,**	**80.66**	**24**	P	**P**	**15 39 11.6**	**-0.5**
J25K				IAmb	IAmb	15 39 13.4	
	comp=Z,7.6nm,1.0s						

F24K	**Squaw Lake**	**80.89**	**20**	P	**P**	**15 39 12.6**	**-0.6**
F24K				IAmb	IAmb	15 39 16.0	
	comp=Z,3.2nm,0.8s						
M27K	**Edge Creek, AK**	**81.34**	**26**	P	**P**	**15 39 16.2**	**+0.4**
M27K				IAmb	IAmb	15 39 25.0	
	comp=Z,6.2nm,0.8s						
BCAR	**Beaver Creek A**	**81.61**	**26**	P	**P**	**15 39 16.8**	**-0.3**
KK31	**Karatay Array**	**81.94**	**314**	P	**P**	**15 39 19.5**	**+0.2**
KKAR	**Karatay Array**	**81.94**	**314**	P	**P**	**15 39 19.0**	**-0.3**
BVAR	**Borovoye Array**	**83.64**	**323**	P	**P**	**15 39 28.7**	**+0.8**
	comp=Z,1.7nm,0.8s,baz=103,slow=6.5,SNR=8.6						
	comp=Z,1.7nm,0.8s						
K29M	**Barlow Dome**	**83.67**	**25**	P	**P**	**15 39 28.9**	**+1.0**
K29M				IAmb	IAmb	15 39 39.2	
	comp=Z,4.4nm,1.1s						
BRVK	**Borovoye**	**83.70**	**324**	P	**P**	**15 39 28.5**	**+0.3**
BRVK				IAmb	IAmb	15 39 36.8	
	comp=Z,3.0nm,0.8s						
NVAR	**Mina Array Bea**	**92.90**	**52**	P	**P**	**15 40 14.4**	**+1.4**
	comp=Z,0.6nm,0.9s,baz=255,slow=4.5,SNR=3.6						
	comp=Z,0.6nm,0.9s						
YKA	**Yellowknife Ar**	**93.87**	**28**	P	**P**	**15 40 16.6**	**+0.1**
	comp=Z,0.5nm,0.8s,baz=281,slow=5.3,SNR=6.2						
	comp=Z,0.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**145.09**	**292**	PKPbc	**PKPbc**	**15 46 37.0**	**-0.3**
	comp=Z,0.4nm,0.5s,baz=57,slow=5.3,SNR=2.9						

*NEIC **23** 15:34:42.4±1.3, 19°.37N±0°.01×155°.145W±0°.003, h5km±1km, Error ellipse: s-maj=2.9km s-min=2.4km az=177.0*

HVO 23 15:34:42.0±1.1, **19°.34N**±0°.02×**155°.13W**±0°.01, **h5**km±3km, **ML2.6**/12, **ML2.8**/40(NEIC), **Error ellipse: s-maj=3.1km s-min=0.9km az=155.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.05**	**4**	Pg	Pg	15 34 43.6	+0.2
STCH				IAML		15 34 45.2	
	comp=N,10μm,0.4s						
STCH				IAML		15 34 45.3	
	comp=E,11μm,0.2s						
JCUZ	**Jacuzzi**	**0.05**	**28**		Pg	15 34 43.7	+0.2
KNHH	**Kane Nui o Ham**	**0.06**	**318**	Pg	Pg	15 34 43.7	+0.1
NPOC	**North of Pu'u**	**0.06**	**17**		Pg	15 34 43.8	+0.3
PUH	**Pauahi**	**0.09**	**294**	Pg	Pg	15 34 44.0	0.0
PUH				IAML		15 34 46.2	
	comp=E,4μm,0.4s						
JOKA	**Jonika Flow**	**0.15**	**50**	Pg	Pg	15 34 44.8	-0.3
JOKA				IAML		15 34 50.4	
	comp=N,2μm,0.2s						
HLP	**Hilina Pali**	**0.17**	**257**	Pg	Pg	15 34 45.9	+0.4
RSD	**Rainshed**	**0.19**	**312**	Pg	Pg	15 34 46.0	+0.2
RSD				IAML		15 34 49.0	
	comp=N,2μm,0.6s						
PAH	**Pahoa**	**0.23**	**47**	Pg	Pg	15 34 46.4	-0.2
PAH					Sg	15 34 50.0	+0.3
HTC	**Hot Caves**	**0.27**	**249**		Pg	15 34 47.9	+0.5
MLH	**Mauna Loa**	**0.29**	**303**	Pg	Pg	15 34 47.6	-0.1
HMH	**Humu'ula Sheep**	**0.43**	**308**	Pg	Pg	15 34 50.4	+0.1
MWH	**Moku'aweowe**	**0.47**	**289**	Pg	Pg	15 34 50.9	-0.3
MWH				IAML		15 35 06.9	
	comp=E,1μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.47**	**295**	Pg	Pg	15 34 50.9	-0.2
MLOA				Sg	Sg	15 34 57.8	+0.5
KHU	**Kahuku**	**0.47**	**259**	Pg	Pg	15 34 50.7	-0.4
KHU				Sg	Sg	15 34 56.4	-0.9
KHU				IAML		15 34 58.9	
	comp=E,626nm,0.5s						
KHU				IAML		15 35 03.6	
	comp=N,726nm,0.5s						
ALEP	**Alea Permanent**	**0.53**	**293**		Sg	15 34 59.7	+0.5
POHA	**Pohakuloa**	**0.57**	**318**	Sg	Sg	15 34 59.7	-0.7
POHA	**Pohakuloa**	**0.57**	**318**	Pg	Pg	15 34 51.9	-1.1
POHA				IAML		15 35 00.8	
	comp=N,1μm,0.2s						
POHA				IAML		15 35 01.1	
	comp=N,2μm,0.2s						
HUH	**Hualalai**	**0.75**	**298**	Pg	Pg	15 34 54.9	-1.6
CPH	**Captain Cook**	**0.76**	**282**		Pg	15 34 55.8	-0.8
HPAH	**Hawaii Prepara**	**0.87**	**322**	Pg	Pg	15 34 56.1	-2.8
HPAH				IAML		15 35 10.1	
	comp=N,284nm,0.3s						
HPAH				IAML		15 35 10.2	
	comp=E,391nm,0.2s						
MHA	**Mahukona**	**1.12**	**319**	Pg	Pg	15 34 59.7	-3.8
HLK	**Haleakala**	**1.76**	**324**	Pn	Pn	15 35 08.5	-5.0
KHLH	**Kahului Airpor**	**1.97**	**322**	Pn	Pn	15 35 11.9	-4.3
WMR	**Waimanalo Ridg**	**3.10**	**310**	Pn	Pn	15 35 27.3	-4.5
HON	**Honolulu**	**3.34**	**307**	Pn	Pn	15 35 29.8	-5.2

JMA 23 15:36:36.3±0.1, **24°.2N**±0°.4×**123°.8E**±0°.3, **h18**km±1km, **MV0.7/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.14**	**317**	*e*P	Pb	15 36 40.3	-0.1
IRIF				*e*S	Sg	15 36 43.6	+0.4
JKRS	**Kuro-shima**	**0.16**	**87**	P	Pg	15 36 40.6	0.0
JKRS				S	Sb	15 36 43.9	+0.4
HATJ	**Hateruma jima**	**0.18**	**190**	P	Pg	15 36 40.7	-0.1
HATJ				S	Sg	15 36 43.9	0.0
JIJ	**Ishigaki jima**	**0.31**	**65**	*e*P	Pg	15 36 42.7	-0.3
JIJ				*e*S	Sg	15 36 47.2	-0.3
JISG	**Ishigakijimahi**	**0.56**	**50**	*e*P	Pg	15 36 47.4	-0.1
JISG				*e*S	Sb	15 36 55.4	+0.1

TAP 23 15:37:18.0, 24°.54N×121°.84E, h8km**, ML1.2, 4C-5D, B, Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.03**	**11**	⇓*i*P	Pg	15 37 19.7	+0.2
	baz=10.0						
ESAO				*i* S	Sg	15 37 20.6	+0.1
	baz=10.0						
TWC	**Suao**	**0.07**	**10**	⇑*i*P	Pg	15 37 20.1	+0.3
	baz=17						
TWC				S	Sg	15 37 21.3	+0.2
	baz=17						
EWUT	**Wuta**	**0.11**	**209**	⇑*i*P	Pg	15 37 20.8	+0.3
	baz=209						
EWUT				*i* S	Sg	15 37 22.7	+0.5
	baz=209						
NDS	**Dongshan**	**0.14**	**309**	*e*P	Pg	15 37 22.2	+1.2
	baz=300						
NDS				*i* S	Sg	15 37 23.6	+0.5
	baz=300						
ENA	**Nanau**	**0.14**	**217**	⇓*i*P	Pg	15 37 21.4	+0.3
	baz=214						
ENA				S	Sg	15 37 23.4	+0.3
	baz=214						
ILA	**Ilan**	**0.23**	**340**	P	Pg	15 37 23.1	+0.4
	baz=330						
TWE	**Neicheng**	**0.23**	**319**	*e*P	Pg	15 37 24.3	+1.7
	baz=320						
TWE				*e*S	Sg	15 37 26.2	+0.4
	baz=320						
ENTT	**Nioudou**	**0.27**	**291**	⇑*i*P	Pg	15 37 23.9	+0.7
	baz=290						
ENTT				S	Sg	15 37 27.5	+0.7
	baz=290						
LATG	**Datong**	**0.28**	**268**	⇓P	Pg	15 37 24.1	+0.5
	baz=268						
LATG				*e*S	Sb	15 37 29.9	-0.5
	baz=268						
NDT	**Datong Townshi**	**0.30**	**281**	P	Pg	15 37 24.7	+0.8
	baz=281						
NDT				S	Sg	15 37 28.9	+1.0
	baz=281						
NTC	**Toucheng**	**0.31**	**359**	*i* S	Sb	15 37 30.2	-0.8
	baz=358						
FUSB	**Fushanzhiwuyua**	**0.31**	**313**	*e*P	Pb	15 37 25.6	-0.3
	baz=313						
FUSB				*e*S	Sb	15 37 30.4	-0.8
	baz=313						
NWLT	**Wulai**	**0.38**	**307**	⇑*e*P	Pb	15 37 26.8	-0.2
	baz=299						
NWLT				S	Sg	15 37 31.7	+1.2
	baz=299						
TIPB	**Shuangxi**	**0.43**	**359**	⇓*e*P	Pb	15 37 27.4	-0.5
	baz=358						
TIPB				*e*S	Sb	15 37 33.3	-1.2
	baz=358						
ETL	**Fush Village**	**0.43**	**207**	*e*S	Sg	15 37 33.1	+1.1
	baz=207						
NACB	**Ninganchiao**	**0.43**	**211**	*i* P	Pg	15 37 26.3	0.0
	baz=211						
NACB				*e*S	Sg	15 37 32.1	+0.2
	baz=211						
NNSB	**Datong**	**0.43**	**255**	P	Pg	15 37 26.6	+0.2
	baz=254						
NNSB				*e*S	Sb	15 37 34.4	-0.2
	baz=254						
NNS	**Nan Shan**	**0.43**	**256**	P	Pb	15 37 27.3	-0.7
	baz=256						
NNS				*e*S	Sb	15 37 34.5	-0.2
	baz=256						
YHNB	**Yeheng**	**0.44**	**287**	*e*P	Pb	15 37 27.6	-0.4
	baz=292						
YHNB				*e*S	Sg	15 37 31.7	-0.6
	baz=292						
NSK	**Sanguang**	**0.46**	**287**	⇓P	Pg	15 37 27.1	+0.3
	baz=293						
NSK				*e*S	Sg	15 37 32.4	-0.5
	baz=293						
EOS3	**EOS3**	**0.51**	**120**	*e*S	Sb	15 37 35.9	-0.6
	baz=125						
TWD	**Chiawan**	**0.51**	**206**	*i* P	Pg	15 37 28.3	+0.4
	baz=205						
TWD				*e*S	Sb	15 37 36.4	-0.4
	baz=205						
HWA	**Hwalien**	**0.60**	**201**	P	Pg	15 37 30.0	+0.4
	baz=200						
HWA				S	Sb	15 37 39.4	-0.1
	baz=200						
LXIB	**Xiulin Townshi**	**0.65**	**217**	*e*P	Pb	15 37 32.0	+0.3
	baz=217						
LXIB				*e*S	Sg	15 37 39.7	+0.7
	baz=217						
WHF	**Hehuan Shan**	**0.66**	**233**	*e*P	Pb	15 37 32.6	+0.7
	baz=232						
WHF				*i* S	Sg	15 37 40.2	+0.9
	baz=232						

*UPP **23** 15:39:10.7±2.9, 59°.14N×24°.03E, h0km, ML2.7*
*DNK **23** 15:39:10.1±0.9, 59°.09N×24°.06E, h0km, ML2.7(UPP), Suspected explosion*
*HEL **23** 15:39:11.5±0.1, 59°.45N×24°.17E, h0km, ML2.1, Explosion*
*EST **23** 15:39:11.3±0.1, 59°.44N×24°.15E, h0km, ML2.1(HEL), Explosion*
*LVSN **23** 15:39:12.5±3.6, 59°.46N×24°.16E, h0km±35km, ML2.2*
*IDC **23** 15:39:13.0±2.4, 59°.57N×24°.18E, h0km, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=27.7km s-min=7.6km az=146.0*

ISC 23 15:39:10.1±0.7, **59°.45N**±0°.02×**24°.13E**±0°.02, **h0**km, **n51, σ0s87/69, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.36**	**227**	*e*P	**Pg**	**15 39 17.5**	**+0.6**
EE01				*e*S	**Sg**	**15 39 22.2**	**+0.6**
EE02	**Kiisa, Saku**	**0.39**	**132**	*e*P	**Pg**	**15 39 17.8**	**+0.3**
EE02				*e*S	**Sg**	**15 39 22.8**	**+0.3**
MTSE	**Matsula**	**0.76**	**193**	*e*P	**Pg**	**15 39 24.2**	**-0.4**
MTSE	**Matsula**	**0.76**	**193**	*e*P	**Pg**	**15 39 25.0**	**+0.4**
MTSE				*e*S	**Sg**	**15 39 34.6**	**+0.3**
MTSE	**Matsula**	**0.76**	**193**	*e*P	**Pg**	**15 39 24.8**	**+0.3**
MTSE				*e*S	**Sg**	**15 39 34.6**	**+0.3**
MEF	**Metsahovi**	**0.78**	**10**	*e*P	**Pg**	**15 39 25.6**	**+0.6**
MEF	**Metsahovi**	**0.78**	**10**	*e*P	**Pg**	**15 39 25.4**	**+0.4**
MEF				*e*S	**Sg**	**15 39 35.7**	**+0.7**
MEF				AML	AML	15 39 38.3	
	comp=N,20nm,0.3s						
MEF				AML	AML	15 39 42.3	
	comp=Z,22nm,0.6s						
MEF				AML	AML	15 39 45.5	
	comp=E,20nm,0.2s						
MEF	**Metsahovi**	**0.78**	**10**	*e*P	**Pg**	**15 39 25.4**	**+0.4**
MEF				*e*S	**Sg**	**15 39 35.6**	**+0.5**
HEL1	**Helsinki**	**0.82**	**27**	*e*P	**Pg**	**15 39 26.1**	**+0.4**
HEL1				*e*S	**Sg**	**15 39 36.4**	**0.0**
ARBE	**Arbavere**	**0.94**	**90**	*e*P	**Pg**	**15 39 28.4**	**+0.2**
ARBE	**Arbavere**	**0.94**	**90**	*e*P	**Pg**	**15 39 28.4**	**+0.2**
ARBE	**Arbavere**	**0.94**	**90**	*e*P	**Pg**	**15 39 28.2**	**+0.1**
ARBE				*e*SB	**Sg**	**15 39 40.9**	**+0.5**
EE08	**Sarghaua, Vand**	**0.98**	**144**	*e*P	**Pg**	**15 39 28.7**	**-0.1**
NUR	**Nurmijrvi**	**1.09**	**14**	*e*P	**Pg**	**15 39 30.9**	**0.0**
NUR				*e*S	**Sg**	**15 39 45.5**	**+0.4**
EE03	**Tooma soojaam,**	**1.25**	**117**	*e*P	**Pg**	**15 39 33.2**	**-0.6**
EE03				*e*SB	**Sg**	**15 39 50.1**	**0.0**
PVF	**Pernaja**	**1.40**	**38**	*e*P	**Pn**	**15 39 36.5**	**-0.3**
PVF				*e*S	**Sg**	**15 39 54.9**	**0.0**
VSU	**Vasula**	**1.67**	**125**	*e*P	**Pn**	**15 39 41.1**	**+0.5**
VSU				AML	AML	15 39 42.8	
	comp=Z,69nm,0.2s						
VSU				*e*S	**Sb**	**15 40 03.1**	**-0.1**
VSU				AML	AML	15 40 08.6	
	comp=N,97nm,0.3s						
VSU				AML	AML	15 40 08.7	
	comp=E,118nm,0.4s						
VSU	**Vasula**	**1.67**	**125**	*e*P	**Pn**	**15 39 41.0**	**+0.5**
VSU				*e*S	**Sn**	**15 40 02.6**	**-0.1**
RAF	**Rauma**	**1.97**	**324**	*e*P	**Pb**	**15 39 46.7**	**0.0**
RAF	**Rauma**	**1.97**	**324**	*e*P	**Pb**	**15 39 46.6**	**-0.1**
RAF				*e*S	**Sb**	**15 40 11.8**	**0.0**
RAF				AML	AML	15 40 14.1	
	comp=N,16nm,0.2s						
RAF				AML	AML	15 40 15.1	
	comp=Z,17nm,0.3s						
RAF				AML	AML	15 40 15.4	
	comp=E,15nm,0.2s						
RAF	**Rauma**	**1.97**	**324**	*e*P	**Pb**	**15 39 46.4**	**-0.3**
RAF				MSG		15 40 15.9	
	comp=Z,14nm,0.2s						
VJF	**Virojoki**	**2.04**	**56**	*e*P	**Pn**	**15 39 46.0**	**+0.5**
VJF				MSG		15 40 16.9	
	comp=Z,14nm,0.2s						
SLIT	**Slitere, Latvi**	**2.07**	**209**	*e*P	**Pn**	**15 39 45.1**	**-0.9**
SLIT	**Slitere, Latvi**	**2.07**	**209**	*e*P	**Pb**	**15 39 48.0**	**-0.5**
SLIT				AML	AML	15 39 48.0	
	comp=Z,81nm,0.3s						
SLIT				*e*S	**Sb**	**15 40 14.3**	**-0.3**
SLIT				AML	AML	15 40 17.3	
	comp=Z,83nm,0.3s						
SLIT				AML	AML	15 40 18.4	
	comp=N,126nm,0.3s						
SLIT				AML	AML	15 40 18.4	
	comp=N,127nm,0.3s						
SLIT				AML	AML	15 40 20.7	
	comp=E,90nm,0.3s						
SLIT				AML	AML	15 40 25.7	
	comp=E,95nm,0.3s						
SLIT	**Slitere, Latvi**	**2.07**	**209**	*e*PG	**Pb**	**15 39 47.8**	**-0.6**
AAL	**Aland**	**2.21**	**291**	*e*P	**Pb**	**15 39 50.3**	**-0.6**
AAL	**Aland**	**2.21**	**291**	P	**Pb**	**15 39 50.1**	**-0.8**
AAL				S	**Sb**	**15 40 18.8**	**0.0**
AAL	**Aland**	**2.21**	**291**	P	**Pb**	**15 39 50.1**	**-0.8**
AAL				S	**Sb**	**15 40 18.8**	**0.0**
FIA0	**FINESS Array S**	**2.22**	**25**	*e*PB	**Pb**	**15 39 50.5**	**-0.5**
FIA0				MSG		15 40 21.3	
	comp=Z,8.3nm,0.2s						
FINES	**FINESS Array B**	**2.22**	**25**	Pn	**Pb**	**15 39 50.7**	**-0.3**
	comp=Z,4.5nm,0.3s,baz=207,slow=15,SNR=162						
FINES				Lg	Lg	15 40 19.0	
	comp=Z,5.0nm,0.3s,baz=215,slow=27,SNR=20						
	comp=Z,11nm,0.3s						
FIA1	**FINESS Array S**	**2.22**	**25**	MSG		15 40 22.1	
	comp=Z,8.3nm,0.2s						
KPF	**Kankaanpaa**	**2.60**	**338**	*e*PB	**Pb**	**15 39 55.9**	**-1.5**
KEF	**Keuruu**	**2.75**	**7**	*e*P	**Pn**	**15 39 56.3**	**+1.0**
NRTU	**Norrtaelje**	**2.81**	**277**	P	**Pn**	**15 39 57.5**	**+1.4**
NRTU	**Norrtaelje**	**2.81**	**277**	P	**Pn**	**15 39 57.5**	**+1.4**
GRAU	**Graesoe**	**2.96**	**290**	P	**Pn**	**15 39 59.1**	**+1.0**
GRAU	**Graesoe**	**2.96**	**290**	P	**Pn**	**15 39 59.1**	**+1.0**
NYNU	**Nynaeshamn**	**3.18**	**265**	P	**Pn**	**15 40 00.5**	**-0.8**
NYNU	**Nynaeshamn**	**3.18**	**265**	P	**Pn**	**15 40 00.5**	**-0.8**
FLYU	**Flymyra**	**3.23**	**285**	P	**Pn**	**15 40 03.3**	**+1.3**
FLYU	**Flymyra**	**3.23**	**285**	P	**Pn**	**15 40 03.3**	**+1.3**
FIBU	**Brunna**	**3.47**	**280**	P	**Pn**	**15 40 06.1**	**+0.9**
FIBU	**Brunna**	**3.47**	**280**	P	**Pn**	**15 40 06.1**	**+0.9**
BACU	**Backbrunna**	**3.59**	**279**	P	**Pn**	**15 40 07.9**	**+1.1**
BACU	**Backbrunna**	**3.59**	**279**	P	**Pn**	**15 40 07.9**	**+1.1**
VAF	**Ylistaro**	**3.67**	**350**	*e*P	**Pn**	**15 40 09.4**	**+1.4**
PABE	**Paberze**	**3.96**	**181**	*e*P	**Pn**	**15 40 14.7**	**+2.8**
VIKU	**Vikbolandet**	**3.96**	**259**	*e*P	**Pn**	**15 40 13.8**	**+1.7**
HFS	**Hagfors**	**5.32**	**282**	Pn	**Pn**	**15 40 31.8**	**+1.2**
	comp=Z,0.4nm,0.3s,baz=96,slow=12,SNR=12						
HFS				Sn	**Sn**	**15 41 31.9**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=93,slow=25,SNR=6.4						
HFS				Lg	Lg	15 41 53.4	
	comp=Z,0.7nm,0.3s,baz=96,slow=30,SNR=5.5						
	comp=Z,0.9nm,0.3s						
NOA	**NORSAR Array B**	**6.63**	**289**	Pn	**Pn**	**15 40 48.4**	**-0.2**
	baz=95,slow=13,SNR=1.6						
NOA				Sn	**Sn**	**15 42 01.8**	**-3.0**
	baz=65,slow=10,SNR=1.5						
NOA				Lg	Lg	15 42 30.9	
	baz=37,slow=23,SNR=1.7						
	comp=Z,0.1nm,0.3s						
ARCES	**ARCESS Array B**	**10.14**	**3**	Pn	**Pn**	**15 41 36.4**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=181,slow=12,SNR=7.8						
	comp=Z,2.2nm,0.8s						

*JMA **23** 15:45:48.7±0.3, 23°.N±1°.×123°.7E±0°.8, h51km±3km, MV3.5/16, NEAR ISHIGAKIJIMA ISLAND*
*NIED **23** 15:45:48.7, 23°.40N×123°.73E, h51km, MW3.8, Moment Tensor Solution. s2 Moment tensor: Scale 10^14Nm; Mrr0.36; Mθθ3.82; Mφφ-4.18; Mrθ0.08; Mrφ1.81; Mθφ-2.74; Fault plane solution: M0 5.03000×10^14 NP1:ϕs34.00000°, δ80.00000°, λ-156.00000°. NP2:ϕs300.00000°, δ67.00000°, λ-11.00000°.*

ISC 23 15:45:47.4±2.0, **23°.32N**±0°.09×**123°.71E**±0°.05, **h32**km±14km, **n18, σ0s71/26, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.74**	**7**	*i* P	**Pb**	**15 46 01.8**	**0.0**
HATJ				S	**Sb**	**15 46 11.5**	**-0.2**
JKRS	**Kuro-shima**	**0.96**	**17**	P	**Pn**	**15 46 05.3**	**+0.7**
JKRS				S	**Sb**	**15 46 17.5**	**-0.3**
IRIF	**Iriomote-Funau**	**1.01**	**1**	*i* P	**Pn**	**15 46 05.8**	**+0.4**
IRIF				S	**Sn**	**15 46 18.2**	**-0.3**
JIJ	**Ishigaki jima**	**1.11**	**21**	*i* P	**Pn**	**15 46 07.0**	**+0.2**
JIJ				S	**Sn**	**15 46 20.4**	**-0.7**
YOJ	**Yonaguni jima**	**1.31**	**331**	P	**Pn**	**15 46 10.4**	**+0.9**
YOJ	**Yonaguni jima**	**1.31**	**331**	P	**Pn**	**15 46 10.3**	**+0.9**
YOJ				*e*S	**Sn**	**15 46 25.1**	**-0.7**
JYNG	**Yonagunijimaku**	**1.33**	**328**	P	**Pn**	**15 46 10.4**	**+0.7**
JYNG				*e*S	**Sn**	**15 46 25.5**	**-0.8**
JISG	**Ishigakijimahi**	**1.38**	**23**	*i* P	**Pn**	**15 46 10.6**	**+0.1**
JISG				*e*S	**Sn**	**15 46 26.7**	**-0.9**
JTJ	**Tarama**	**1.60**	**34**	*i* P	**Pn**	**15 46 14.2**	**+0.7**
JIRB	**Irabujima**	**2.01**	**41**	P	**Pn**	**15 46 19.6**	**+0.4**
JMJ2	**Miyako jima3**	**2.05**	**46**	P	**Pn**	**15 46 20.2**	**+0.6**
JOGS	**Gusukube**	**2.11**	**47**	P	**Pn**	**15 46 21.4**	**+0.8**
JIKM	**Ikemajima**	**2.13**	**41**	P	**Pn**	**15 46 21.4**	**+0.6**
JIKM				*e*S	**Sn**	**15 46 46.1**	**-0.1**
YULB	**Yu-li**	**2.22**	**272**	P	**Pn**	**15 46 21.8**	**-0.2**
TWGBT	**Beinan**	**2.47**	**259**	P	**Pn**	**15 46 25.3**	**-0.2**
YHNB	**Yeheng**	**2.52**	**303**	P	**Pn**	**15 46 27.5**	**+1.2**
SSLB	**Suanglung**	**2.57**	**281**	P	**Pn**	**15 46 27.0**	**+0.1**
TPUB	**Ta-pu**	**2.83**	**270**	P	**Pn**	**15 46 31.8**	**+1.3**

*NEIC **23** 16:03:43.8±2.1, 18°.6S±0°.1×175°.23W±0°.08, h212km±10km, mb4.6/33, Error ellipse: s-maj=17.7km s-min=6.5km az=148.0*
*IDC **23** 16:03:46.8±4.1, 19°.06S×175°.64W, h214km±36km, mb3.8/11, mbtmp4.3/12, Error ellipse: s-maj=24.2km s-min=12.9km az=88.0*

ISC 23 16:03:43.7±0.6, **18°.91S**±0°.08×**175°.31W**±0°.09, **h200**km, **n54, σ1s59/56, mb4.6/23, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**5.09**	**93**		**Pn**	**16 04 59.1**	**-0.3**
AFI	**Afiamalu**	**6.02**	**35**	Pn	**Pn**	**16 05 07.7**	**-3.7**
MSVF	**Nonsavu**	**6.42**	**279**	Pn	**Pn**	**16 05 20.4**	**+3.8**
PINNC	**Pines Island,**	**16.54**	**254**	P	**Pn**	**16 07 26.8**	**+2.1**
OUENC	**Ouen Island, N**	**17.07**	**255**	P	**Pn**	**16 07 32.2**	**+1.3**
OUENC				IAmb	IAmb	16 07 39.5	
	comp=Z,43nm,1.4s						
DZM	**Mont Dzumac**	**17.38**	**256**	P	**Pn**	**16 07 35.8**	**+1.1**
DZM				IAmb	IAmb	16 07 37.2	
	comp=Z,22nm,1.1s						
DZM	**Mont Dzumac**	**17.38**	**256**	P	**P**	**16 07 31.1**	**-1.9**
	comp=Z,9.7nm,0.9s,baz=87,slow=17,SNR=4.6						
DZM				S	S	16 10 30.9	-13
	comp=Z,6.2nm,1.0s,baz=100,slow=11,SNR=1.9						
KOUNC	**Koumac, New Ca**	**19.28**	**262**	P	**Pn**	**16 07 58.1**	**+1.2**
KOUNC				IAmb	IAmb	16 07 59.4	
	comp=Z,30nm,1.2s						
URZ	**Urewera**	**20.38**	**197**	P	**P**	**16 08 04.2**	**-0.8**
	comp=Z,9.7nm,0.3s,baz=12,slow=4.6,SNR=26						
URZ				S	**S**	**16 11 37.7**	**-4.5**
	comp=Z,8.8nm,0.9s,baz=68,slow=19,SNR=1.6						
	comp=Z,9.7nm,0.3s						
RTZ	**Ruatahuna**	**20.75**	**197**	P	**P**	**16 08 08.0**	**-1.1**
RTZ				IAmb	IAmb	16 08 11.3	
	comp=Z,16nm,0.8s						
BKZ	**Black Stump Fm**	**21.40**	**198**	P	**P**	**16 08 15.7**	**-0.2**
BKZ				IAmb	IAmb	16 08 55.3	
	comp=Z,30nm,1.2s						
TUWZ	**Tuamarina**	**24.25**	**200**	P	**P**	**16 08 44.4**	**+2.1**
LTZ	**Lake Taylor**	**26.02**	**201**	P	**P**	**16 09 00.4**	**+2.1**
WHZ	**Wether Hill Ro**	**30.26**	**204**	P	**P**	**16 09 36.8**	**+0.9**
EIDS	**Eidsvold**	**31.73**	**252**	P	**P**	**16 09 47.9**	**-1.2**
EIDS				IAmb	IAmb	16 09 50.2	
	comp=Z,8.3nm,0.8s						
ARMA	**Armidale**	**32.04**	**243**	P	**P**	**16 09 51.5**	**-0.3**
ARMA				IAmb	IAmb	16 09 54.5	
	comp=Z,31nm,1.4s						
CTAO	**Charters Tower**	**36.20**	**262**	P	**P**	**16 10 27.2**	**-0.5**
CTAO				IAmb	IAmb	16 10 28.3	
	comp=Z,15nm,0.6s						
TOO	**Toolangi**	**38.88**	**233**	P	**P**	**16 10 49.2**	**-0.7**
TOO				IAmb	IAmb	16 11 10.5	
	comp=Z,24nm,1.4s						
**COE

MORW	**Morawa**	**62.78**	**246**	P	**P**	**16 13 46.5**	**-1.8**
MORW				IAmb	IAmb	16 14 27.1	
	comp=Z,14nm,1.4s						
GIRL	**Giralia**	**65.43**	**253**	P	**P**	**16 14 05.0**	**-0.6**
CASY	**Casey**	**66.47**	**205**	P	**P**	**16 14 12.0**	**+0.7**
MJAR	**Matsushiro Arr**	**70.49**	**322**	P	**P**	**16 14 37.2**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=145,slow=6.2,SNR=6.8 comp=Z,1.8nm,0.6s						
QSPA	**South Pole Qui**	**71.15**	**180**	P	**P**	**16 14 41.8**	**+1.4**
QSPA	**South Pole Qui**	**71.15**	**180**	P	**P**	**16 14 41.6**	**+1.1**
	comp=Z,1.0nm,0.7s,baz=73,slow=0.6,SNR=10 comp=Z,1.0nm,0.7s						
PETK	**Petropavlovsk-**	**75.43**	**344**	P	**P**	**16 15 06.2**	**+0.9**
	comp=Z,1.6nm,0.8s,baz=131,slow=9.8,SNR=4.5 comp=Z,1.6nm,0.8s						
KSRS	**Korea Array**	**77.42**	**317**	P	**P**	**16 15 18.2**	**+1.4**
	comp=Z,2.6nm,1.0s,baz=130,slow=4.9,SNR=7.4 comp=Z,2.6nm,1.0s						
ILAR	**Eielson Array**	**86.23**	**12**	P	**P**	**16 16 03.4**	**+1.3**
	comp=Z,0.9nm,1.0s,baz=202,slow=3.9,SNR=5.0 comp=Z,0.9nm,1.0s						
CMAR	**Chiang Mai Arr**	**91.99**	**289**	P	**P**	**16 16 30.9**	**+0.6**
	comp=Z,1.0nm,0.9s,baz=104,slow=2.9,SNR=6.0 comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**142.78**	**334**	PKhKP	PKPpre	16 22 49.0	
	comp=Z,0.3nm,0.3s,baz=37,slow=3.8,SNR=1.7						
BRTR	**Keskin Array B**	**147.56**	**316**	PKPbc	**PKPbc**	**16 23 05.2**	**+0.4**
	comp=Z,1.5nm,0.7s,baz=130,slow=2.3,SNR=4.6						
MMAI	**Mount Meron Ar**	**149.15**	**303**	PKPbc	**PKiKP**	**16 23 10.4**	**+0.3**
	comp=Z,0.7nm,0.4s,baz=70,slow=4.7,SNR=3.7						
GERES	**GERESS Array B**	**149.26**	**348**	PKPbc	**PKiKP**	**16 23 10.0**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=104,slow=4.1,SNR=2.0						

IDC ***23*** *16:25:52.3±1.0,33°.11N×130°.37E, h0km, mb3.3/7, mbtmp3.3/10, ML2.5/3, MS3.0/7, Error ellipse: s-maj=18.4km s-min=7.4km az=8.0*
NEIC ***23*** *16:25:54.0±0.8, 33°.2N±0°.1×130°.48E±0°.03, h10km±2km, mb3.7/2, Error ellipse: s-maj=19.6km s-min=3.1km az=192.0*
JMA ***23*** *16:25:53.7±0.0, 33°.12N±0°.08×130°.5E±0°.1, h10km, MD4.1/20, MW4.1/20, NORTHERN ARIAKEKAI REG*
JMA Felt II J1 at NORTHERN ARIAKEKAI REG .
NIED ***23*** *16:25:53.7, 33°.12N×130°.45E, h10km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.12; Mθθ 0.54; Mφφ -0.42; Mrθ -0.06; Mθφ 1.19; Mφr -0.19; Fault plane solution: Mo 1.30000×10¹⁵ NP1:φs 11.00000°, δ 90.00000°, λ -171.00000°. NP2:φs 281.00000°, δ 81.00000°, λ 0.00000°.*

ISC 23 16:25:53.6±1.0, 33°.11N±0°.04×130°.42E±0°.05, h11km±7km, n39, σ 0°81/31, mb3.4/8, MS3.1/4, 2D, Kyushu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JTA	**Tamana**	**0.18**	**147**	*i* P		**Pg**	**Pg**	**16 25 57.5**	**0.0**
JTA				S		**Sg**	**Sg**	**16 26 00.3**	**+0.1**
JTA	**Tamana**	**0.18**	**147**	A		A	A	16 25 57.5	
	comp=E,30nm,1.8s,comp=N,31nm,3.8s								
JFI	**Itaya**	**0.31**	**355**	*i* P		**Pg**	**Pg**	**16 26 00.1**	**+0.2**
JFI				S		**Sg**	**Sg**	**16 26 04.5**	**+0.4**
JFI	**Itaya**	**0.31**	**355**	A		A	A	16 26 00.1	
	comp=E,51nm,0.7s,comp=N,35nm,0.2s								
JNU	**Nakatsue**	**0.39**	**89**	Pg		**Pg**	**Pg**	**16 26 00.7**	**-0.6**
JNU				Sg		**Sg**	**Sg**	**16 26 05.4**	**-1.0**
JNU	**Nakatsue**	**0.39**	**89**	Pg		**Pg**	**Pg**	**16 26 00.9**	**-0.3**
	comp=N,560nm,0.3s,baz=270,slow=10.0								
JNU				Lg		Lg	Lg	16 26 06.2	
	comp=N,2μm,0.3s,baz=195,slow=20,SNR=53								
JNU	**Nakatsue**	**0.39**	**89**	*i* P		**Pg**	**Pg**	**16 26 01.0**	**-0.3**
JNU				⇓S		**Sg**	**Sg**	**16 26 06.2**	**-0.1**
JNU	**Nakatsue**	**0.39**	**89**	A		A	A	16 26 01.0	
	comp=E,9.0nm,2.2s,comp=N,25nm,1.8s								
JUR	**Ureshino**	**0.39**	**267**	A		A	A	16 26 02.0	
	comp=E,28nm,1.0s,comp=N,42nm,1.9s								
JIU3	**Izumi3**	**0.65**	**149**	*i* P		**Pg**	**Pg**	**16 26 06.0**	**-0.3**
JHD	**Hondo**	**0.69**	**200**	A		A	A	16 26 07.2	
	comp=E,13nm,2.1s,comp=N,8.0nm,2.1s								
JTY	**Toyota**	**1.27**	**25**	A		A	A	16 26 16.7	
	comp=E,5.0nm,1.8s,comp=N,4.0nm,2.0s								
JFU	**Fukue jima 2**	**1.48**	**252**	A		A	A	16 26 20.8	
	comp=E,3.0nm,0.5s,comp=N,5.0nm,0.7s								
JTU	**Tsushima**	**1.64**	**329**	Pn		**Pn**	**Pn**	**16 26 21.2**	**-1.2**
JTU				Sn		**Sn**	**Sn**	**16 26 42.1**	**-1.4**
JTU	**Tsushima**	**1.64**	**329**	A		A	A	16 26 23.0	
	comp=E,2.0nm,0.8s,comp=N,4.0nm,1.1s								
JHGM	**Hagimishima**	**1.77**	**20**	A		A	A	16 26 24.5	
	comp=E,9.0nm,2.6s,comp=N,6.0nm,3.5s								
JMN	**Monobe**	**2.96**	**77**	Pn		**Pn**	**Pn**	**16 26 39.9**	**-0.6**
TJN	**Taejon**	**4.11**	**323**	Pn		**Pn**	**Pn**	**16 26 56.2**	**-0.2**
KSRS	**Korea Array**	**4.79**	**335**	Pn		**Pn**	**Pn**	**16 27 05.7**	**+0.1**
	comp=N,0.5nm,0.3s,baz=154,slow=14,SNR=8.1								
KSRS				Lg		Lg	Lg	16 28 23.6	
	comp=N,5.9nm,0.3s,baz=152,slow=30,SNR=11								
KSRS				LR		LR	LR	16 28 56.0	
	comp=N,122nm,19.6s,baz=210,slow=38 comp=N,1.9nm,0.4s								
KSAR	**Wonju Array Be**	**4.79**	**335**	Pn		**Pn**	**Pn**	**16 27 05.4**	**-0.2**
KS19	**Wonju Array Si**	**4.85**	**335**	Pn		**Pn**	**Pn**	**16 27 05.5**	**-0.9**
INCN	**Inchon**	**5.35**	**326**	Pn		**Pn**	**Pn**	**16 27 12.8**	**-0.5**
INU	**Inuyama**	**5.90**	**66**	Pn		**Pn**	**Pn**	**16 27 20.4**	**-0.6**
JGF	**Kuroka**	**6.25**	**65**	Pn		**Pn**	**Pn**	**16 27 25.8**	**0.0**
MJAR	**Matsushiro Arr**	**7.26**	**60**	Pn		**Pn**	**Pn**	**16 27 42.3**	**+2.6**
	comp=N,0.1nm,0.3s,baz=248,slow=14,SNR=4.8								
MJAR				Lg		Lg	Lg	16 29 44.9	
	baz=250,slow=18,SNR=4.3								
MJAR				LR		LR	LR	16 30 52.5	
	comp=N,69nm,19.7s,baz=200,slow=41 comp=N,1.1nm,0.5s								
USRK	**Ussuriysk Ar.**	**11.14**	**6**	Pn		**Pn**	**Pn**	**16 28 33.7**	**+1.0**
	baz=188,slow=18,SNR=3.0 comp=N,0.9nm,0.7s								
ASAJ	**Asahikawa**	**14.52**	**37**	LR		LR	LR	16 34 34.4	
	comp=N,56nm,19.0s,baz=185,slow=36								
ULN	**Ulaanbaatar**	**22.96**	**317**	P		**P**	**P**	**16 30 58.5**	**+0.4**
ULN				IAmb		IAmb	IAmb	16 31 28.2	
	comp=Z,2.5nm,0.8s								
SONM	**Songino Array**	**23.33**	**316**	P		**P**	**P**	**16 31 02.3**	**+0.5**
SONM				IAmb		IAmb	IAmb	16 31 03.6	
	comp=Z,1.2nm,0.8s								
SONM	**Songino Array**	**23.33**	**316**	P		**P**	**P**	**16 31 02.3**	**+0.5**
	comp=Z,1.1nm,0.6s,baz=124,slow=9.9,SNR=5.7								
SONM				LR		LR	LR	16 40 40.6	
	comp=Z,40nm,21.6s,baz=101,slow=38 comp=Z,1.1nm,0.6s								
GUMO	**Guam**	**23.48**	**142**	LR		LR	LR	16 38 41.6	
	comp=Z,18nm,20.3s,baz=343,slow=33								
KURBB	**Kurchatov Arra**	**41.49**	**311**	P		**P**	**P**	**16 33 40.5**	**0.0**
	comp=Z,0.4nm,0.5s,baz=95,slow=8.6,SNR=2.1 comp=Z,0.4nm,0.5s								
BVAR	**Borovoye Array**	**46.64**	**314**	P		**P**	**P**	**16 34 22.2**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=99,slow=9.5,SNR=4.0 comp=Z,0.6nm,0.5s								
WRA	**Warramunga Arr**	**52.89**	**175**	P		**P**	**P**	**16 35 10.4**	**+0.8**
	comp=Z,0.2nm,0.7s,baz=350,slow=7.9,SNR=1.4 comp=Z,0.2nm,0.7s								
ASAR	**Alice Springs**	**56.56**	**176**	P		**P**	**P**	**16 35 36.2**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=359,slow=8.5,SNR=2.7 comp=Z,0.3nm,0.9s								
ILAR	**Eielson Array**	**57.52**	**30**	P		**P**	**P**	**16 35 43.1**	**+0.5**
	comp=Z,0.2nm,0.7s,baz=264,slow=7.8,SNR=2.0 comp=Z,0.2nm,0.7s								
GEYT	**Alibeck**	**57.68**	**297**	LR		LR	LR	17 04 09.5	
	comp=Z,37nm,19.3s,baz=51,slow=40								
YKA	**Yellowknife Ar**	**71.52**	**26**	P		**P**	**P**	**16 37 13.1**	**-1.0**
	comp=Z,0.1nm,0.5s,baz=311,slow=6.1,SNR=2.1 comp=Z,0.1nm,0.5s								
NOA	**NORSAR Array B**	**74.00**	**334**	LR		LR	LR	17 15 21.3	
	comp=Z,17nm,19.1s,baz=300,slow=40								

KRSC ***23*** *16:32:54.4±0.9, 55°.04N×162°.44E, h41km±17km, Ml3.8*
IDC ***23*** *16:32:57.5±1.6, 53°.75N×162°.90E, h0km, mb3.2/2, mbtmp3.2/3, ML2.7/1, Error ellipse: s-maj=62.6km s-min=27.0km az=153.0*

ISC 23 16:32:55.5±1.9, 55°.10N±0°.03×162°.39E±0°.05, h19km±5km, n42, σ 1°14/60, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.67**	**215**	*e*P		**Pb**	**Pb**	**16 33 08.2**	**-0.3**
MKZ				*e*S		**Sb**	**Sb**	**16 33 17.1**	**-0.2**
KBTR	**Krutoberegovo**	**1.13**	**12**	*e*P		**Pn**	**Pn**	**16 33 16.2**	**-0.1**
KBTR				*e*S		**Sg**	**Sg**	**16 33 32.8**	**+0.4**
TUMD	**Tumrok D**	**1.15**	**276**	*e*P		**Pn**	**Pn**	**16 33 15.5**	**-1.1**
TUMD				*e*S		**Sb**	**Sb**	**16 33 29.5**	**-1.8**
BZGR	**Bezymyannyi-Gr**	**1.28**	**312**	*e*P		**Pn**	**Pn**	**16 33 18.2**	**-0.2**
BZGR				*e*S		**Sb**	**Sb**	**16 33 35.0**	**-0.1**
ZLN	**Zelenaya**	**1.29**	**316**	*e*P		**Pn**	**Pn**	**16 33 18.7**	**+0.1**
ZLN				*e*S		**Sb**	**Sb**	**16 33 36.0**	**+0.6**
TUMR	**Tumrok**	**1.30**	**279**	*e*P		**Pn**	**Pn**	**16 33 18.3**	**-0.5**
BZP	**Bezymyannyi-Pe**	**1.33**	**308**	*e*P		**Pn**	**Pn**	**16 33 18.6**	**-0.7**
BZP				*e*S		**Sn**	**Sn**	**16 33 35.4**	**-1.1**
BZMR	**Bezymyannaya**	**1.37**	**308**	*e*P		**Pn**	**Pn**	**16 33 19.4**	**-0.3**
LGNR	**Loginova**	**1.38**	**316**	*e*P		**Pn**	**Pn**	**16 33 20.4**	**+0.4**
CIRR	**Tsirk**	**1.38**	**318**	*e*P		**Pb**	**Pb**	**16 33 20.4**	**-0.4**
BZWR	**Bezymyannyi-We**	**1.38**	**309**	*e*P		**Pn**	**Pn**	**16 33 19.7**	**-0.2**
KMNR	**Kamenistaya**	**1.39**	**299**	*e*P		**Pn**	**Pn**	**16 33 19.7**	**-0.3**
KMNR				*e*S		**Sn**	**Sn**	**16 33 37.9**	**0.0**
KIRR	**Kirishev**	**1.44**	**307**	*e*P		**Pn**	**Pn**	**16 33 20.5**	**-0.3**
KPT	**Kopyto**	**1.51**	**306**	*e*P		**Pn**	**Pn**	**16 33 21.6**	**0.0**
KRSR	**Krestovskiy**	**1.52**	**318**	*e*P		**Pn**	**Pn**	**16 33 21.6**	**-0.3**
KLY	**Klyuchi**	**1.56**	**322**	*e*P		**Pn**	**Pn**	**16 33 21.1**	**-1.1**
KLY				*e*S		**Sn**	**Sn**	**16 33 39.9**	**-2.0**
KOZ	**Kozyrevsk**	**1.72**	**305**	*e*P		**Pn**	**Pn**	**16 33 24.7**	**+0.3**
SRDR	**Sredinnyy**	**1.94**	**310**	*e*P		**Pn**	**Pn**	**16 33 27.7**	**+0.1**
KII	**Karymskiy**	**2.02**	**239**	*e*P		**Pn**	**Pn**	**16 33 28.2**	**-0.5**
BKI	**Bering**	**2.06**	**86**	*e*S		**Sn**	**Sn**	**16 33 53.3**	**-0.8**
SPN	**Mys Shipunski**	**2.45**	**216**	*e*P		**Pn**	**Pn**	**16 33 32.7**	**-1.7**
SPN				*e*S		**Sn**	**Sn**	**16 34 00.4**	**-3.4**
NLC	**Nalytchevo**	**2.64**	**224**	*e*S		**Sn**	**Sn**	**16 34 08.0**	**-0.5**
KRER	**Koryakskii**	**2.80**	**231**	*e*P		**Pn**	**Pn**	**16 33 40.1**	**+0.7**
SMAR	**Somma**	**2.80**	**230**	*e*P		**Pn**	**Pn**	**16 33 39.7**	**+0.2**
SMAR				*e*S		**Sn**	**Sn**	**16 34 13.6**	**+0.7**
KRX	**Arik**	**2.81**	**233**	*e*P		**Pn**	**Pn**	**16 33 39.6**	**+0.1**
AVH	**Avacha**	**2.83**	**231**	*e*P		**Pn**	**Pn**	**16 33 40.3**	**+0.6**
AVH				*e*S		**Sn**	**Sn**	**16 34 15.3**	**+2.0**
UGLR	**Uglovaya**	**2.83**	**229**	*e*P		**Pn**	**Pn**	**16 33 40.0**	**+0.3**
UGLR				*e*S		**Sn**	**Sn**	**16 34 13.4**	**+0.1**
KOK	**Koryaka**	**2.86**	**232**	*e*P		**Pn**	**Pn**	**16 33 40.3**	**+0.2**
GNL	**Ganaly**	**2.96**	**243**	*e*P		**Pn**	**Pn**	**16 33 42.0**	**+0.5**
DALK	**Dalny**	**2.98**	**227**	*e*P		**Pn**	**Pn**	**16 33 41.3**	**-0.5**
DALK				*e*S		**Sn**	**Sn**	**16 34 16.3**	**-0.7**
PET	**Petropavlovsk**	**3.03**	**228**	*e*P		**Pn**	**Pn**	**16 33 42.8**	**+0.4**
PET				*e*S		**Sn**	**Sn**	**16 34 17.1**	**-1.1**
KRMR	**Karymshinskiy**	**3.40**	**230**	*e*P		**Pn**	**Pn**	**16 33 48.6**	**+1.2**
KRMR				*e*S		**Sn**	**Sn**	**16 34 28.0**	**+0.9**
PETK	**Petropavlovsk-**	**3.41**	**236**	Pn		**Sn**	**Sn**	**16 34 29.8**	**+2.2**
	4.7nm,0.3s,baz=74,slow=15,SNR=46								
PETK				Sn					
	0.6nm,0.3s,baz=86,slow=20,SNR=1.9 0.2nm,0.3s								
RUS	**Russkaya**	**3.53**	**222**	*e*P		**Pn**	**Pn**	**16 33 49.0**	**-0.3**
RUS				*e*S		**Sn**	**Sn**	**16 34 29.0**	**-1.5**
GRL	**Gorelyy**	**3.62**	**227**	*e*P		**Pn**	**Pn**	**16 33 52.3**	**+1.7**
GRL				*e*S		**Sn**	**Sn**	**16 34 35.4**	**+2.6**
MTVR	**Mutnovka**	**3.62**	**225**	*e*P		**Pn**	**Pn**	**16 33 51.3**	**+0.6**
APC	**Apacha**	**3.78**	**237**	*e*P		**Pn**	**Pn**	**16 33 55.0**	**+2.3**
ASAK	**Asacha**	**3.81**	**226**	*e*P		**Pn**	**Pn**	**16 33 54.8**	**+1.5**
ASAK				*e*S		**Sn**	**Sn**	**16 34 40.0**	**+2.5**
OSSR	**Ossora**	**4.17**	**5**	*e*P		**Pn**	**Pn**	**16 33 59.4**	**+1.3**
KDTR	**Khodutka, Kamc**	**4.19**	**220**	*e*P		**Pn**	**Pn**	**16 33 58.5**	**+0.2**
YKA	**Yellowknife Ar**	**40.77**	**45**	P		P	P	16 40 46.2	+11
	0.2nm,0.6s,baz=302,slow=9.4,SNR=3.6 0.2nm,0.6s								
ASAR	**Alice Springs**	**82.16**	**206**	P		**P**	**P**	**16 45 13.9**	**-0.8**
	0.2nm,0.6s,baz=14,slow=4.4,SNR=4.8 0.2nm,0.6s								

NEIC ***23*** *16:40:38.9±2.4, 12°.92S±0°.08×45°.6E±0°.2, h10km±2km, mb4.4/7, Error ellipse: s-maj=28.1km s-min=14.1km az=266.0*

ISC 23 16:40:39.0±0.7, 12°.96S±0°.09×45°.47E±0°.10, h10km, n16, σ 1°22/16, mb4.5/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.26**	**165**	Pn		**Pn**	**Pn**	**16 42 10.7**	**-1.0**
VOI	**Vohitsoka**	**8.99**	**172**	Pn		**Pn**	**Pn**	**16 42 49.2**	**+0.1**
ZOMB	**Zomba**	**10.10**	**255**	*i* PN		**Pn**	**Pn**	**16 43 04.4**	**0.0**
ZOMB				*i* SN		Sn	Sn	16 44 49.0	-8.9
ZOMB	**Zomba**	**10.10**	**255**	*i* PN		**Pn**	**Pn**	**16 43 04.4**	**0.0**
ZOMB				*i* SN		Sn	Sn	16 44 49.0	-8.9
FOMA	**Nahampoana Res**	**12.04**	**173**	Pn		**Pn**	**Pn**	**16 43 30.5**	**-0.3**
RER	**Riviere de l'E**	**12.77**	**131**	Pn		**Pn**	**Pn**	**16 43 38.6**	**-2.3**
KIBK	**Kibwezi**	**12.85**	**325**	Pn		**Pn**	**Pn**	**16 43 39.8**	**-2.3**
LBTB	**Lobatse**	**22.25**	**235**	P		**P**	**P**	**16 45 36.8**	**+0.3**
BOSA	**Boshof**	**24.43**	**227**	P		**P**	**P**	**16 45 57.6**	**-0.5**
BOSA				IAmb		IAmb	IAmb	16 46 01.3	
	comp=Z,8.8nm,1.1s								
SUR	**Sutherland**	**29.73**	**225**	P		**P**	**P**	**16 46 47.0**	**+1.1**
KK31	**Karatay Array**	**60.32**	**21**	P		**P**	**P**	**16 50 48.4**	**+0.3**
KK31				IAmb		IAmb	IAmb	16 50 57.7	
	comp=Z,4.2nm,1.5s								
KKAR	**Karatay Array**	**60.32**	**21**	P		**P**	**P**	**16 50 48.5**	**+0.5**
KKAR				IAmb		IAmb	IAmb	16 50 57.7	
	comp=Z,4.2nm,1.5s								
ABKAR	**Akbulak array**	**63.25**	**11**	P		**P**	**P**	**16 51 08.1**	**+0.5**
ABKAR				IAmb		IAmb	IAmb	16 51 14.4	
	comp=Z,3.2nm,0.9s								
PZH	**PanZhiHua**	**67.29**	**54**	P		**P**	**P**	**16 51 36.3**	**+1.8**
PZH				pmax		pmax			
	comp=Z,7.0nm,0.8s								
PZH				pmax		pmax			
	comp=Z,100nm,5.1s								
QSPA	**South Pole Qui**	**77.14**	**180**	P		**P**	**P**	**16 52 32.0**	**-0.8**
QSPA				IAmb		IAmb	IAmb	16 52 34.5	
	comp=Z,6.1nm,1.4s								
HHC	**Hu-ho-hao-te**	**81.11**	**45**	*e*P		**P**	**P**	**16 52 56.1**	**+1.2**
HHC				pmax		pmax			
	comp=Z,23nm,0.5s								
HHC				pmax		pmax			
	comp=Z,70nm,4.2s								

DNK ***23*** *16:40:54.5±1.7, 57°.57N×22°.65E, h23km±28km, ML2.2*
LVSN ***23*** *16:40:55.9±1.6, 57°.40N×21°.79E, h0km, 9km, ML2.9*
UPP ***23*** *16:40:55.1±1.9, 57°.68N×22°.33E, h0km, ML2.6*
BER ***23*** *16:40:56.0±1.7, 57°.68N×22°.41E, h0km±49km, ML1.4, ML2.1(DNK)*
IDC ***23*** *16:40:59.0±2.2, 57°.84N×21°.93E, h0km, mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=22.9km s-min=8.6km az=166.0*

ISC 23 16:40:57.8±0.9, 57°.67N±0°.04×22°.09E±0°.04, h27km±6km, n64, σ 1°84/83, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SLIT	**Slitere, Latvi**	**0.11**	**109**	*e*P		**Pb**	**Pb**	**16 41 02.0**	**-0.8**
SLIT	**Slitere, Latvi**	**0.11**	**109**	*e*P		**Pb**	**Pb**	**16 41 02.2**	**-0.6**
SLIT				*e*S		**Sb**	**Sb**	**16 41 06.4**	**+0.2**
SLIT				AML		AML	AML	16 41 18.1	
	comp=Z,5μm,0.7s								
SLIT				AML		AML	AML	16 41 18.4	
	comp=N,7μm,0.6s								
SLIT				AML		AML	AML	16 41 18.7	
	comp=E,7μm,0.6s								
MTSE	**Matsula**	**1.39**	**40**	*e*P		**Pn**	**Pn**	**16 41 22.5**	**+1.1**
PBUR	**Paburge**	**1.65**	**183**	*e*P		**Pb**	**Pb**	**16 41 28.7**	**+1.2**
GOTU	**Gotland**	**1.89**	**272**	P		**Pn**	**Pn**	**16 41 29.8**	**+1.6**
GOTU				S		**Sb**	**Sb**	**16 41 55.7**	**+0.9**
GOTU	**Gotland**	**1.89**	**272**	P		**Pn**	**Pn**	**16 41 29.8**	**+1.6**
GOTU				S		**Sb**	**Sb**	**16 41 55.7**	**+0.9**
PABE	**Paberze**	**2.40**	**154**	*e*P		**Pb**	**Pb**	**16 41 40.2**	**-0.1**
NYNU	**Nynaeshamn**	**2.54**	**304**	P		**Pn**	**Pn**	**16 41 38.6**	**+1.5**
NYNU				S		**Sb**	**Sb**	**16 42 13.6**	**+0.2**
NYNU	**Nynaeshamn**	**2.54**	**304**	P		**Pn**	**Pn**	**16 41 38.6**	**+1.5**
NYNU				S		**Sb**	**Sb**	**16 42 13.6**	**+0.2**
VSU	**Vasula**	**2.59**	**70**	*e*P		**Pb**	**Pb**	**16 41 41.6**	**-1.9**
VSU				AML		AML	AML	16 41 44.8	
	comp=Z,70nm,0.1s								
VSU				AML		AML	AML	16 42 19.8	
	comp=N,64nm,0.2s								
VSU				AML		AML	AML	16 42 21.3	
	comp=E,64nm,0.3s								
ARBE	**Arbavere**	**2.70**	**47**	*e*P		**Pb**	**Pb**	**16 41 44.9**	**-0.5**
ARBE	**Arbavere**	**2.70**	**47**	*e*P		**Pb**	**Pb**	**16 41 44.0**	**-1.4**
ARBE				*e*S		**Sb**	**Sb**	**16 42 19.7**	**+1.6**
ARBE				AML		AML	AML	16 42 22.9	
	comp=E,296nm,0.1s								
ARBE				AML		AML	AML	16 42 25.2	
	comp=Z,85nm,0.2s								
ARBE				AML		AML	AML	16 42 28.0	
	comp=N,267nm,0.2s								
NRTU	**Norrtaelje**	**2.71**	**320**	P		**Pn**	**Pn**	**16 41 40.9**	**+1.5**
NRTU	**Norrtaelje**	**2.71**	**320**	P		**Pn**	**Pn**	**16 41 40.9**	**+1.5**
AAL	**Aland**	**2.75**	**338**	*e*P		**Pn**	**Pn**	**16 41 40.7**	**+0.7**
AAL	**Aland**	**2.75**	**338**	P		**Pn**	**Pn**	**16 41 40.7**	**+0.7**
AAL	**Aland**	**2.75**	**338**	P		**Pn**	**Pn**	**16 41 40.7**	**+0.7**
BYXU	**Byxelkrok**	**2.77**	**264**	P		**Pn**	**Pn**	**16 41 43.4**	**+3.1**
BYXU	**Byxelkrok**	**2.77**	**264**	P		**Pn**	**Pn**	**16 41 43.4**	**+3.1**
MEF	**Metsahovi**	**2.82**	**24**	*e*P		**Pn**	**Pn**	**16 41 43.1**	**+2.1**
MEF	**Metsahovi**	**2.82**	**24**	*e*P		**Pb**	**Pb**	**16 41 45.3**	**-2.2**
MEF				*e*S		**Sb**	**Sb**	**16 42 22.0**	**+0.4**
MEF				AML		AML		16 42 23.4	
	comp=E,25nm,0.1s								
MEF				AML		AML		16 42 24.3	
	comp=N,13nm,0.1s								
MEF				AML		AML		16 42 28.1	
	comp=Z,15nm,0.1s								
VIKU	**Vikbolandet**	**2.98**	**289**	P		**Pn**	**Pn**	**16 41 45.8**	**+2.6**
VIKU	**Vikbolandet**	**2.98**	**289**	P		**Pn**	**Pn**	**16 41 45.8**	**+2.6**
VSTU	**Vaestervik**	**2.99**	**272**	P		**Pn**	**Pn**	**16 41 45.7**	**+2.4**
VSTU	**Vaestervik**	**2.99**	**272**	P		**Pn**	**Pn**	**16 41 45.7**	**+2.4**
ISAL	**Salakas**	**3.06**	**132**	*e*P		**Pb**	**Pb**	**16 41 48.8**	**-2.7**
GRAU	**Graesoe**	**3.25**	**327**	P		**Pn**	**Pn**	**16 41 48.2**	**+1.3**
GRAU	**Graesoe**	**3.25**	**327**	P		**Pn**	**Pn**	**16 41 48.2**	**+1.3**
FLYU	**Flymyra**	**3.30**	**320**	P		**Pn**	**Pn**	**16 41 49.0**	**+1.5**
FLYU	**Flymyra**	**3.30**	**320**	P		**Pn**	**Pn**	**16 41 49.0**	**+1.5**
FIBU	**Brunna**	**3.33**	**314**	P		**Pn**	**Pn**	**16 41 49.6**	**+1.6**
FIBU	**Brunna**	**3.33**	**314**	P		**Pn**	**Pn**	**16 41 49.6**	**+1.6**
RAF	**Rauma**	**3.37**	**357**	*e*P		**Pn**	**Pn**	**16 41 50.3**	**+2.0**
RAF	**Rauma**	**3.37**	**357**	*e*P		**Pb**	**Pb**	**16 41 52.3**	**+3.8**
ESKU	**Eskilstuna**	**3.38**	**300**	P		**Pn**	**Pn**	**16 41 50.4**	**+1.7**
ESKU	**Eskilstuna**	**3.38**	**300**	P		**Pn**	**Pn**	**16 41 50.4**	**+1.7**
BACU	**Backbrunna**	**3.40**	**312**	P		**Pn**	**Pn**	**16 41 50.8**	**+1.9**
BACU	**Backbrunna**	**3.40**	**312**	P		**Pn**	**Pn**	**16 41 50.8**	**+1.9**
SUW	**Suwalki**	**3.71**	**170**	*e*P		**Pb**	**Pb**	**16 41 57.9**	**-4.7**
FINES	**FINESS Array B**	**4.30**	**26**	Pn		**Pn**	**Pn**	**16 42 03.7**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=208,slow=12,SNR=19								
FINES				Pg		**Pb**	**Pb**	**16 42 13.5**	**+1.0**
	comp=Z,0.6nm,0.3s,baz=212,slow=13,SNR=13								
FINES				Sn		**Sn**	**Sn**	**16 42 55.1**	**+4.7**
	comp=Z,0.6nm,0.3s,baz=207,slow=25,SNR=6.9								
FINES				Lg		Lg	L

H04N1	**CROZET ISLANDS**	**61.16**	**212**	T	T	18 03 13.2
	baz=51,slow=75,SNR=9.2					
H04N3	**CROZET ISLANDS**	**61.17**	**212**	T	T	18 03 20.4
	baz=51,slow=75,SNR=9.4					
TXAR	**Lajitas Array**	**144.01**	**26**	PKhKP	PKPpre	17 04 27.1
	0.2nm,0.4s,baz=270,slow=0.9,SNR=2.9					

BER ***23*** *16:46:16.8±0.3, 71°.44N×10°.91W, h0km±429km, ML2.5, Confirmed Earthquake*
DNK ***23*** *16:46:18.9±3.7, 71°.69N×12°.77W, h0km±53km, ML1.8*
ISC 23 16:46:12.1±1.1**, 71°.56N**±0°.07×**11°.29W**±0°.06**, h10**km**, n7,**
σ2**°00/13, 1D, Jan Mayen Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMI	**Jan Mayen**	**1.04**	**126**	*e*P	**Pn**	**16 46 33.3**	**+0.6**
JMI				*e*S	**Sg**	**16 46 45.5**	**-0.2**
JMI				IAML		16 46 46.9	
	comp=Z,114nm,0.3s						
JNW	**Jan Mayen West**	**1.07**	**119**	*e*P	**Pn**	**16 46 33.7**	**+0.6**
JNW				IAML		16 46 50.1	
	comp=Z,52nm,0.2s						
JMIC	**Jan Mayen**	**1.07**	**121**	*e*P	**Pn**	**16 46 33.7**	**+0.6**
JMIC				*e*S	**Sg**	**16 46 46.1**	**-0.4**
JMIC				IAML		16 46 47.4	
	comp=Z,187nm,0.3s						
JNE	**Jan Mayen East**	**1.12**	**119**	*e*P	**Pb**	**16 46 34.5**	**+0.9**
JNE				*e*S	**Sg**	**16 46 48.1**	**-0.1**
SCO	**Scoresbysund**	**3.65**	**258**	*i* P	**Pn**	**16 47 10.1**	**+1.6**
SCO				*i* S	**Sn**	**16 47 48.9**	**-2.5**
SCO				IAML		16 47 53.8	
	comp=Z,3.1nm,0.5s						
DBG	**Daneborg**	**3.81**	**321**	*e*P	**Pn**	**16 47 12.4**	**+1.7**
DBG				*e*S	**Sn**	**16 47 52.6**	**-2.9**
DBG				IAML		16 47 54.4	
	comp=Z,8.6nm,0.4s						
DAG	**Danmarks Havn**	**5.61**	**342**	*i*P	**Pn**	**16 47 37.8**	**+2.4**
DAG				*e*S	**Sn**	**16 48 36.3**	**-3.4**
DAG				IAML		16 48 40.2	
	comp=Z,6.1nm,0.3s						

DNK ***23*** *16:50:09.7±2.1, 59°.47N×24°.68E, h0km, ML2.6, Suspected explosion*
UPP ***23*** *16:50:12.1±2.7, 59°.53N×24°.44E, h0km, ML2.8*
HEL ***23*** *16:50:13.2±0.0, 59°.49N×24°.30E, h0km, ML2.5, Explosion*
IDC ***23*** *16:50:13.6±1.9, 59°.55N×24°.43E, h0km, mbtmp3.5/5, ML3.2/5, Error ellipse: s-maj=21.6km s-min=7.3km az=146.0*
EST ***23*** *16:50:13.1±0.0, 59°.49N×24°.30E, h0km, ML2.5(HEL), Explosion*
BER ***23*** *16:50:14.3±3.6, 59°.50N×24°.40E, h0km, ML1.9, ML2.6(DNK), Suspected explosion*
LVSN ***23*** *16:50:15.0±4.3, 59°.56N×24°.48E, h0km±53km, ML2.7*
ISC 23 16:50:11.4±0.7**, 59°.50N**±0°.02×**24°.21E**±0°.02**, h0km, n100,**
σ2**°06/142, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EE02	**Kiisa, Saku**	**0.39**	**141**	*e*P	**Pg**	**16 50 19.4**	**+0.4**
EE02				*e*S	**Sg**	**16 50 24.0**	**0.0**
EE01	**Perakula, Nova**	**0.42**	**226**	*e*P	**Pg**	**16 50 21.0**	**+1.6**
EE01				*e*S	**Sg**	**16 50 26.9**	**+2.0**
MEF	**Metsahovi**	**0.73**	**7**	*e*P	**Pg**	**16 50 26.3**	**+0.9**
MEF				*e*S	**Sg**	**16 50 35.7**	**+0.8**
MEF	**Metsahovi**	**0.73**	**7**	*e*P	**Pg**	**16 50 26.4**	**+0.9**
MEF	**Metsahovi**	**0.73**	**7**	*e*P	**Pg**	**16 50 26.3**	**+0.9**
MEF				*e*S	**Sg**	**16 50 35.7**	**+0.8**
MEF				AML	AML	16 50 37.2	
	comp=E,85nm,0.2s						
MEF				AML	AML	16 50 42.6	
	comp=Z,90nm,0.7s						
MEF				AML	AML	16 50 47.0	
	comp=N,64nm,0.3s						
MEF	**Metsahovi**	**0.73**	**7**	*e*P	**Pg**	**16 50 26.3**	**+0.9**
MEF				*e*S	**Sg**	**16 50 35.7**	**+0.8**
HEL1	**Helsinki**	**0.76**	**26**	*e*P	**Pg**	**16 50 26.5**	**+0.4**
HEL1				*e*S	**Sg**	**16 50 36.4**	**+0.5**
HEL1	**Helsinki**	**0.76**	**26**	*e*P	**Pg**	**16 50 26.5**	**+0.4**
HEL1				*e*S	**Sg**	**16 50 36.4**	**+0.5**
MTSE	**Matsula**	**0.81**	**195**	*e*P	**Pg**	**16 50 27.8**	**+0.9**
MTSE				*e*S	**Sb**	**16 50 39.5**	**-0.2**
MTSE	**Matsula**	**0.81**	**195**	*e*P	**Pg**	**16 50 27.8**	**+0.9**
MTSE	**Matsula**	**0.81**	**195**	*e*P	**Pg**	**16 50 27.8**	**+0.9**
MTSE				*e*SB	**Sb**	**16 50 39.4**	**-0.4**
ARBE	**Arbavere**	**0.91**	**93**	*e*P	**Pg**	**16 50 28.5**	**-0.2**
ARBE				*e*S	**Sg**	**16 50 41.0**	**+0.4**
ARBE	**Arbavere**	**0.91**	**93**	*e*P	**Pg**	**16 50 28.6**	**-0.2**
ARBE	**Arbavere**	**0.91**	**93**	*e*P	**Pg**	**16 50 28.7**	**-0.1**
ARBE				AML	AML	16 50 29.4	
	comp=Z,586nm,0.3s						
ARBE				AML	AML	16 50 29.6	
	comp=E,928nm,0.1s						
ARBE				AML	AML	16 50 48.8	
	comp=N,682nm,0.2s						
ARBE	**Arbavere**	**0.91**	**93**	*e*P	**Pg**	**16 50 28.5**	**-0.2**
ARBE				*e*SB	**Sg**	**16 50 40.7**	**+0.2**
EE08	**Sarghaua, Vand**	**0.99**	**147**	*e*P	**Pg**	**16 50 30.5**	**+0.1**
EE08				*e*S	**Sg**	**16 50 43.4**	**+0.1**
NUR	**Nurmijrvi**	**1.04**	**12**	*e*P	**Pg**	**16 50 31.7**	**+0.4**
NUR	**Nurmijrvi**	**1.04**	**12**	*e*P	**Pg**	**16 50 31.7**	**+0.4**
EE03	**Tooma soojaam,**	**1.23**	**120**	*e*P	**Pg**	**16 50 34.7**	**-0.3**
EE03				*e*SB	**Sg**	**16 50 50.8**	**-0.1**
EE03				*e*SN	**Sn**	**16 50 53.6**	**+0.5**
PVF	**Pernaja**	**1.34**	**37**	*e*P	**Pg**	**16 50 36.8**	**-0.3**
PVF	**Pernaja**	**1.34**	**37**	*e*P	**Pg**	**16 50 36.8**	**-0.3**
VSU	**Vasula**	**1.67**	**127**	*e*P	**Pn**	**16 50 42.3**	**+0.4**
VSU				*e*S	**Sn**	**16 51 03.2**	**-0.7**
VSU	**Vasula**	**1.67**	**127**	*e*P	**Pn**	**16 50 42.2**	**+0.4**
VSU				*e*S	**Sn**	**16 51 03.4**	**-0.5**
VSU				AML	AML	16 51 07.7	
	comp=N,241nm,0.5s						
VSU				AML	AML	16 51 08.2	
	comp=Z,86nm,0.3s						
VSU				AML	AML	16 51 08.5	
	comp=E,160nm,0.4s						
VSU	**Vasula**	**1.67**	**127**	*e*P	**Pn**	**16 50 42.3**	**+0.4**
VSU				*e*S	**Sn**	**16 51 03.2**	**-0.7**
RAF	**Rauma**	**1.96**	**323**	*e*P	**Pb**	**16 50 48.7**	**+0.7**
RAF	**Rauma**	**1.96**	**323**	*e*P	**Pb**	**16 50 48.6**	**+0.7**
RAF				*e*S	**Sg**	**16 51 15.2**	**+0.9**
RAF				AML	AML	16 51 17.5	
	comp=N,102nm,0.2s						
RAF				AML	AML	16 51 17.5	
	comp=E,105nm,0.3s						
RAF				AML	AML	16 51 19.2	
	comp=Z,54nm,0.2s						
RAF	**Rauma**	**1.96**	**323**	*e*P	**Pb**	**16 50 48.3**	**+0.4**
RAF				MSG		16 51 19.2	
	comp=Z,51nm,0.2s						
VJF	**Virojoki**	**1.98**	**57**	*e*P	**Pn**	**16 50 46.5**	**+0.4**
VJF				*e*SG	**Sb**	**16 51 12.7**	**-0.7**
VJF				MSG		16 51 15.1	
	comp=Z,24nm,0.1s						
VJF	**Virojoki**	**1.98**	**57**	*e*P	**Pn**	**16 50 46.5**	**+0.4**
VJF				*e*SG	**Sb**	**16 51 12.7**	**-0.7**
VJF				MSG		16 51 15.1	
	comp=Z,24nm,0.1s						
SLIT	**Slitere, Latvi**	**2.13**	**209**	*e*P	**Pn**	**16 50 49.5**	**+1.4**
SLIT	**Slitere, Latvi**	**2.13**	**209**	*e*P	**Pb**	**16 50 51.0**	**+0.2**
SLIT				AML	AML	16 50 51.5	
	comp=Z,413nm,0.2s						
SLIT				*e*S	**Sg**	**16 51 20.3**	**+0.7**
SLIT				AML	AML	16 51 20.8	
	comp=E,309nm,0.2s						
SLIT				AML	AML	16 51 22.8	
	comp=N,595nm,0.3s						
SLIT	**Slitere, Latvi**	**2.13**	**209**	*e*PG	**Pb**	**16 50 50.9**	**+0.1**
FIA0	**FINESS Array S**	**2.16**	**24**	*e*PB	**Pb**	**16 50 51.2**	**-0.2**
FIA0				MSG		16 51 19.8	
	comp=Z,52nm,0.3s						
FINES	**FINESS Array B**	**2.16**	**24**	Pn	**Pb**	**16 50 51.1**	**-0.2**
	comp=Z,12nm,0.3s,baz=205,slow=15,SNR=904						
FINES				Lg	Lg	16 51 18.2	
	comp=Z,23nm,0.3s,baz=201,slow=28,SNR=74						
	comp=Z,37nm,0.2s						
AAL	**Aland**	**2.24**	**290**	*e*P	**Pb**	**16 50 52.9**	**+0.3**
AAL	**Aland**	**2.24**	**290**	*e*P	**Pb**	**16 50 51.9**	**-0.8**
AAL				*e*PB	**Pg**	**16 50 53.2**	**-1.1**
AAL	**Aland**	**2.24**	**290**	P	**Pb**	**16 50 52.0**	**-0.7**
AAL				S	**Sb**	**16 51 22.4**	**+1.6**
AAL	**Aland**	**2.24**	**290**	P	**Pb**	**16 50 52.0**	**-0.7**
AAL				S	**Sb**	**16 51 22.4**	**+1.6**
KPF	**Kankaanpaa**	**2.57**	**337**	MSG		16 51 32.9	
	comp=Z,16nm,0.2s						
KPF	**Kankaanpaa**	**2.57**	**337**	MSG		16 51 32.9	
	comp=Z,16nm,0.2s						
KEF	**Keuruu**	**2.70**	**7**	*e*P	**Pn**	**16 50 58.1**	**+2.1**
NRTU	**Norrtaelje**	**2.84**	**276**	P	**Pn**	**16 51 00.1**	**+2.0**
NRTU	**Norrtaelje**	**2.84**	**276**	P	**Pn**	**16 51 00.1**	**+2.0**
GRAU	**Graesoe**	**2.98**	**289**	P	**Pn**	**16 51 01.5**	**+1.6**
GRAU	**Graesoe**	**2.98**	**289**	P	**Pn**	**16 51 01.5**	**+1.6**
FORU	**Forsmark**	**3.16**	**289**	P	**Pn**	**16 51 04.1**	**+1.7**
FORU	**Forsmark**	**3.16**	**289**	P	**Pn**	**16 51 04.1**	**+1.7**
NYNU	**Nynaeshamn**	**3.23**	**264**	P	**Pn**	**16 51 05.6**	**+2.4**
NYNU	**Nynaeshamn**	**3.23**	**264**	P	**Pn**	**16 51 05.6**	**+2.4**
FLYU	**Flymyra**	**3.26**	**284**	P	**Pn**	**16 51 05.8**	**+2.1**
FLYU	**Flymyra**	**3.26**	**284**	P	**Pn**	**16 51 05.8**	**+2.1**
UPP	**Uppsala**	**3.36**	**279**	P	**Pn**	**16 51 07.1**	**+2.0**
UPP	**Uppsala**	**3.36**	**279**	P	**Pn**	**16 51 07.1**	**+2.0**
FIBU	**Brunna**	**3.50**	**280**	P	**Pn**	**16 51 09.4**	**+2.3**
FIBU	**Brunna**	**3.50**	**280**	P	**Pn**	**16 51 09.4**	**+2.3**
BACU	**Backbrunna**	**3.62**	**279**	P	**Pn**	**16 51 10.5**	**+1.8**
BACU	**Backbrunna**	**3.62**	**279**	P	**Pn**	**16 51 10.5**	**+1.8**
VAF	**Ylistaro**	**3.64**	**349**	*e*P	**Pn**	**16 51 12.9**	**+4.0**
OSTU	**Oestervaala**	**3.65**	**285**	P	**Pn**	**16 51 10.8**	**+1.8**
OSTU	**Oestervaala**	**3.65**	**285**	P	**Pn**	**16 51 10.8**	**+1.8**
PBUR	**Paburge**	**3.69**	**200**	*e*P	**Pn**	**16 51 12.2**	**+2.5**
PBUR	**Paburge**	**3.69**	**200**	*e*P	**Pn**	**16 51 12.6**	**+2.9**
PBUR				AML	AML	16 52 15.0	
	comp=N,54nm,0.3s						
PBUR				AML	AML	16 52 15.0	
	comp=E,53nm,0.3s						
PBUR				AML	AML	16 52 15.9	
	comp=Z,27nm,0.2s						
IGGU	**Iggoen**	**3.71**	**295**	P	**Pn**	**16 51 11.7**	**+1.8**
IGGU	**Iggoen**	**3.71**	**295**	P	**Pn**	**16 51 11.7**	**+1.8**
PABE	**Paberze**	**4.00**	**182**	*e*P	**Pn**	**16 51 13.4**	**-0.6**
PABE	**Paberze**	**4.00**	**182**	*e*P	**Pn**	**16 51 17.5**	**+3.6**
PABE				*e*S	**Sn**	**16 52 05.2**	**+3.7**
PABE				AML	AML	16 52 23.3	
	comp=E,37nm,0.3s						
PABE				AML	AML	16 52 27.0	
	comp=Z,16nm,0.3s						
PABE				AML	AML	16 52 30.9	
	comp=N,34nm,0.3s						
ESKU	**Eskilstuna**	**4.01**	**270**	P	**Pn**	**16 51 16.4**	**+2.4**
ESKU	**Eskilstuna**	**4.01**	**270**	P	**Pn**	**16 51 16.4**	**+2.4**
VIKU	**Vikbolandet**	**4.01**	**259**	P	**Pn**	**16 51 16.0**	**+1.9**
VIKU	**Vikbolandet**	**4.01**	**259**	P	**Pn**	**16 51 16.0**	**+1.9**
ARNU	**Arnoeviken**	**4.03**	**306**	P	**Pn**	**16 51 16.0**	**+1.8**
ARNU	**Arnoeviken**	**4.03**	**306**	P	**Pn**	**16 51 16.0**	**+1.8**
JOF	**Joensuu**	**4.86**	**42**	*e*P	**Pn**	**16 51 26.1**	**+0.5**
HFS	**Hagfors**	**5.35**	**281**	Pn	**Pn**	**16 51 34.1**	**+1.7**
	comp=N,1.1nm,0.3s,baz=95,slow=16,SNR=54						
HFS				Sn	**Sn**	**16 52 35.4**	**+0.7**
	comp=N,1.1nm,0.3s,baz=93,slow=23,SNR=6.6						
HFS				Lg	Lg	16 52 58.9	
	comp=N,1.2nm,0.3s,baz=99,slow=32,SNR=5.6						
	comp=N,2.5nm,0.2s						
BLEU	**Blekinge**	**5.50**	**238**	*i* P	**Pn**	**16 51 36.0**	**+1.5**
BLEU				*i* S	**Sn**	**16 52 39.2**	**+0.8**
BLEU	**Blekinge**	**5.50**	**238**	*i* P	**Pn**	**16 51 36.0**	**+1.5**
BLEU				*i* S	**Sn**	**16 52 39.2**	**+0.8**
BORU	**Boraas**	**6.27**	**258**	*i* P	**Pn**	**16 51 47.2**	**+2.1**
BORU	**Boraas**	**6.27**	**258**	*i* P	**Pn**	**16 51 47.2**	**+2.1**
NC602	**NORSAR Array S**	**6.46**	**287**	*e*P	**Pn**	**16 51 48.6**	**+1.0**
NB201	**NORSAR Array S**	**6.61**	**289**	*e*P	**Pn**	**16 51 50.1**	**+0.3**
NOA	**NORSAR Array B**	**6.65**	**289**	Pn	**Pn**	**16 51 50.5**	**+0.2**
	comp=N,0.1nm,0.3s,baz=96,slow=12,SNR=18						
NOA				Sn	**Sn**	**16 53 06.6**	**-0.1**
	baz=118,slow=13,SNR=2.8						
NOA				Lg	Lg	16 53 43.2	
	comp=N,0.1nm,0.3s,baz=104,slow=13,SNR=1.6						
	comp=N,0.3nm,0.3s						
BSD	**Bornholm Skovb**	**6.68**	**233**	*i* P	**Pn**	**16 51 50.8**	**+0.2**
BSD				*i* S	**Sn**	**16 53 03.4**	**-4.0**
BSD				*e*S	**Sn**	**16 53 04.0**	**-3.4**
BSD				IAML		16 53 54.1	
	comp=Z,2.2nm,0.2s						
BSD	**Bornholm Skovb**	**6.68**	**233**	*e*P	**Pn**	**16 51 51.6**	**+1.0**
BSD	**Bornholm Skovb**	**6.68**	**233**	*i* P	**Pn**	**16 51 50.8**	**+0.2**
BSD				*i* S	**Sn**	**16 53 03.4**	**-4.0**
BSD				*e*S	**Sn**	**16 53 04.0**	**-3.4**
BSD				IAML		16 53 54.1	
	comp=Z,2.2nm,0.2s						
TJOU	**Tjoern**	**6.71**	**263**	*e*P	**Pn**	**16 51 52.4**	**+1.3**
TJOU				*i* S	**Sn**	**16 53 07.6**	**-0.5**
TJOU	**Tjoern**	**6.71**	**263**	*e*P	**Pn**	**16 51 52.4**	**+1.3**
TJOU				*i* S	**Sn**	**16 53 07.6**	**-0.5**
ONAU	**Onsala**	**6.79**	**257**	*e*P	**Pn**	**16 51 51.6**	**-0.5**
ONAU				*e*S	**Sn**	**16 53 09.3**	**-0.7**
ONAU	**Onsala**	**6.79**	**257**	*e*P	**Pn**	**16 51 51.6**	**-0.5**
ONAU				*e*S	**Sn**	**16 53 09.3**	**-0.7**
NC204	**NORSAR Array S**	**6.90**	**291**	*e*P	**Pn**	**16 51 54.9**	**+1.1**
NC204				*e*S	**Sn**	**16 53 10.8**	**-2.1**
NC204				IAML		16 53 18.7	
	comp=Z,1.5nm,0.3s						
SKAR	**Skarslia**	**8.04**	**285**	*e*S	**Sn**	**16 53 37.3**	**-3.6**
HOMB	**Homborsund**	**8.23**	**268**	*i* P	**Pn**	**16 52 10.4**	**-1.5**
HOMB				*i* S	**Sn**	**16 53 39.6**	**-5.8**
HOMB				*e*S	**Sn**	**16 53 40.5**	**-4.9**
HOMB	**Homborsund**	**8.23**	**268**	*i* P	**Pn**	**16 52 10.4**	**-1.5**
HOMB				*i* S	**Sn**	**16 53 39.6**	**-5.8**
HOMB				*e*S	**Sn**	**16 53 40.5**	**-4.9**
SNART	**Snartemo**	**8.87**	**270**	*i* P	**Pn**	**16 52 16.6**	**-4.1**
SNART				*i* S	**Sn**	**16 53 53.2**	**-8.1**
SNART	**Snartemo**	**8.87**	**270**	*i* P	**Pn**	**16 52 16.6**	**-4.1**
SNART				*i* S	**Sn**	**16 53 53.2**	**-8.1**
HEF	**Hetta**	**8.95**	**359**	*e*P	**Pn**	**16 52 23.5**	**+1.7**
LOF	**Lofoten**	**9.85**	**336**	*e*P	**Pn**	**16 52 34.5**	**+0.5**
ARA0	**ARCESS Array S**	**10.10**	**3**	*e*P	**Pn**	**16 52 38.0**	**+0.6**
ARCES	**ARCESS Array B**	**10.10**	**3**	Pn	**Pn**	**16 52 36.5**	**-1.0**
	comp=Z,0.5nm,0.3s,baz=182,slow=13,SNR=43						
	comp=Z,1.2nm,0.3s						
KEV	**Kevo**	**10.37**	**5**	*e*P	**Pn**	**16 52 40.1**	**-1.0**
EKA	**Eskdalemuir Ar**	**15.27**	**266**	Pn	**P**	**16 53 53.0**	**-0.1**
	baz=65,slow=12						
	comp=Z,0.8nm,0.7s						

IDC ***23*** *16:53:17.3±0.6, 12°.79S×45°.58E, h0km, mb4.0/15, mbtmp4.1/18, ML4.5/3, MS3.6/9, Error ellipse: s-maj=19.4km s-min=16.3km az=125.0*
NEIC ***23*** *16:53:19.6±1.3, 12°.82S±0°.10×45°.6E±0°.2, h10km±1km, mb4.6/13, Error ellipse: s-maj=26.6km s-min=15.4km az=283.0*
ISC 23 16:53:18.4±0.5**, 12°.87S**±0°.06×**45°.55E**±0°.07**, h10**km**, n47,**
σ1**°50/44, mb4.2/19, MS3.7/7, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.89**	**165**	Pn	**Pn**	**16 54 47.4**	**+1.5**
	4.4nm,0.3s,baz=338,slow=13,SNR=182						
OPO				Sn	**Sn**	**16 55 48.8**	**-4.8**
	26nm,0.3s,baz=249,slow=22,SNR=32						
	105nm,0.4s						
ABPO	**Ambohimpanom**	**6.32**	**165**		**Pn**	**16 54 52.9**	**+1.0**
VOI	**Vohitsoka**	**9.07**	**173**	Pn	**Pn**	**16 55 30.2**	**+0.6**
FOMA	**Nahampoana Res**	**12.12**	**174**	Pn	**Pn**	**16 56 11.4**	**+0.2**
MSEY	**Mahe Island**	**12.74**	**51**	Pn	**Pn**	**16 56 19.4**	**-0.5**
RER	**Riviere de l'E**	**12.76**	**132**	Pn	**Pn**	**16 56 18.2**	**-2.0**
KIBK	**Kibwezi**	**12.83**	**324**	Pn	**Pn**	**16 56 17.6**	**-3.5**
KIBK	**Kibwezi**	**12.83**	**324**	*e*P	**Pn**	**16 56 18.7**	**-2.4**
KIBK				*e*S	Sn	16 58 27.6	-17
LSZ	**Lusaka**	**17.01**	**260**	LR	LR	17 03 18.1	
	comp=Z,157nm,20.3s,baz=42,slow=35						
MATP	**Matopo**	**17.97**	**243**	P	**Pn**	**16 57 29.8**	**+1.1**
	0.3nm,0.3s,baz=82,slow=14,SNR=20						
MATP				S	**Sn**	**17 00 44.3**	**-5.1**
	1.8nm,0.8s,baz=135,slow=20,SNR=2.9						
	6.7nm,0.9s						
MBAR	**Mbarara**	**19.08**	**309**	P	**Pn**	**16 57 42.3**	**0.0**
MBAR	**Mbarara**	**19.08**	**309**	P	**P**	**16 57 41.3**	**-0.2**
	1.4nm,0.3s,baz=94,slow=14,SNR=6.5						
MBAR				LR	LR	17 04 09.5	
	comp=Z,86nm,20.7s,baz=114,slow=34						
	3.6nm,0.2s						
LODK	**Lodwar**	**19.09**	**327**	P	**Pn**	**16 57 42.6**	**+0.3**
POGA	**Pongola**	**19.38**	**220**	P	**Pn**	**16 57 46.7**	**+1.1**
POGA				IAmb	IAmb	16 57 56.4	
	comp=Z,22nm,0.9s						
LBTB	**Lobatse**	**22.37**	**234**	P	**P**	**16 58 17.2**	**+0.1**
LBTB				IAmb	IAmb	16 58 20.6	
	comp=Z,17nm,1.0s						
LBTB	**Lobatse**	**22.37**	**234**	P	**P**	**16 58 17.5**	**+0.5**
	comp=Z,14nm,1.0s,baz=56,slow=9.9,SNR=13						
LBTB				LR	LR	17 07 05.4	
	comp=Z,206nm,18.7s,baz=58,slow=37						
	comp=Z,14nm,1.0s						
BOSA	**Boshof**	**24.55**	**227**	P	**P**	**16 58 39.5**	**+0.8**
BOSA				IAmb	IAmb	16 59 11.2	
	comp=Z,20nm,1.2s						
BOSA	**Boshof**	**24.55**	**227**	P	**P**	**16 58 39.1**	**+0.4**
	comp=Z,3.7nm,0.6s,baz=54,slow=9.6,SNR=11						
BOSA				LR	LR	17 08 27.1	
	comp=Z,182nm,19.0s,baz=46,slow=37						
	comp=Z,3.7nm,0.6s						
TSUM	**Tsumeb**	**27.59**	**253**	LR	LR	17 09 46.8	
	comp=Z,182nm,18.4s,baz=86,slow=36						
SUR	**Sutherland**	**29.85**	**225**	P	**P**	**16 59 28.1**	**+1.8**
SUR	**Sutherland**	**29.85**	**225**	LR	LR	17 11 15.4	
	comp=Z,103nm,18.3s,baz=36,slow=36						
PALK	**Pallekele**	**40.25**	**62**	LR	LR	17 13 36.0	
	comp=Z,92nm,18.4s,baz=348,slow=30						
TORD	**Torodi Ar. Bea**	**50.58**	**299**	P	**P**	**17 02 17.9**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=110,slow=6.5,SNR=1.6						
	comp=Z,0.3nm,0.7s						
SIMJ	**Simiganj**	**55.75**	**22**	P	**P**	**17 02 55.6**	**-0.1**
SIMJ				IAmb	IAmb	17 03 09.9	
	comp=Z,10nm,1.1s						
CHGR	**Chuyangaron**	**55.81**	**22**	P	**P**	**17 02 56.1**	**+0.1**
MAW	**Mawson**	**55.87**	**172**	LR	LR	17 22 45.4	
	comp=Z,58nm,19.1s,baz=103,slow=32						
KK31	**Karatay Array**	**60.21**	**21**	P	**P**	**17 03 25.7**	**-0.9**
KK31				IAmb	IAmb	17 03 40.7	
	comp=Z,3.9nm,1.1s						
KKAR	**Karatay Array**	**60.21**	**21**	P	**P**	**17 03 26.6**	**-0.1**
CMAR	**Chiang Mai Arr**	**61.16**	**60**	P	**P**	**17 03 33.6**	**0.0**
	comp=Z,1.7nm,1.0s,baz=254,slow=8.3,SNR=7.2						
CMAR				LR	LR	17 27 17.2	
	comp=Z,45nm,18.1s,baz=120,slow=33						
	comp=Z,1.7nm,1.0s						
ABKAR	**Akbulak array**	**63.14**	**11**	P	**P**	**17 03 46.1**	**-0.2**
MKAR	**Makanchi Array**	**67.90**	**26**	P	**P**	**17 04 16.4**	**-0.8**
	comp=Z,0.4nm,0.7s,baz=215,slow=4.8,SNR=1.7						
	comp=Z,0.4nm,0.7s						
BVAR	**Borovoye Array**	**69.01**	**16**	P	**P**	**17 04 24.2**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=217,slow=7.0,SNR=2.1						
	comp=Z,0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**69.48**	**22**	P	**P**	**17 04 26.2**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=219,slow=7.0,SNR=2.5						
	comp=Z,0.4nm,0.4s						
ESDC	**Sonseca Array**	**69.64**	**321**	P	**P**	**17 04 29.7**	**+1.5**
	comp=Z,0.2nm,0.5s,baz=134,slow=7.3,SNR=1.1						
	comp=Z,0.2nm,0.5s						
ZALV	**Zalesovo Beam**	**74.47**	**23**	P	**P**	**17 04 57.0**	**+0.3**
ZALV	**Zalesovo Beam**	**74.47**	**23**	P	**P**	**17 04 56.8**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=213,slow=8.0,SNR=3.7						
	comp=Z,0.8nm,0.7s						
QSPA	**South Pole Qui**	**77.23**	**180**	P	**P**	**17 05 14.2**	**+1.5**
	comp=Z,2.1nm,0.9s,baz=270,slow=6.1,SNR=6.8						
	comp=Z,2.1nm,0.9s						
SONM	**Songino Array**	**80.99**	**37**	P	**P**	**17 05 34.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=237,slow=5.0,SNR=2.5						
	comp=Z,0.4nm,0.6s						
VNDA	**Vanda**	**82.99**	**169**	P	**P**	**17 05 44.6**	**+1.2**
	comp=Z,0.6nm,0.8s,baz=252,slow=3.2,SNR=5.2						
	comp=Z,0.6nm,0.8s						
ASAR	**Alice Springs**	**83.45**	**113**	P	**P**	**17 05 47.2**	**+0.3**
ASAR	**Alice Springs**	**83.45**	**113**	P	**P**	**17 05 47.4**	**+0.5**
	comp=Z,4.2nm,0.7s,baz=264,slow=4.8,SNR=52						
	comp=Z,4.2nm,0.7s						
AS31	**Alice Springs**	**83.45**	**113**	P	**P**	**17 05 47.2**	**+0.3**
AS31				IAmb	IAmb	17 05 48.3	
	comp=Z,1.7nm,0.7s						
WRA	**Warramunga Arr**	**84.58**	**109**	P	**P**	**17 05 52.8**	**+0.1**
WRA	**Warramunga Arr**	**84.58**	**109**	P	**P**	**17 05 53.4**	**+0.7**
	comp=Z,4.8nm,0.9s,baz=259,slow=3.3,SNR=22						
	comp=Z,4.8nm,0.9s						
WB2	**Warramunga Arr**	**84.59**	**109**	P	**P**	**17 05 53.0**	**+0.2**
WB0	**Warramunga Arr**	**84.67**	**109**	P

FINES				Lg	Lg	17 04 22.8		
	0.2nm,0.3s,baz=343,slow=26,SNR=1.9							
	1.0nm,0.6s							
NOA	**NORSAR Array B**	**7.38**	**220**	Pn	**Pn**	**17 03 01.3**	**-0.7**	
	baz=40,slow=23,SNR=1.4							
NOA				Sn	**Sn**	**17 04 26.4**	**+0.7**	
	baz=34,slow=22,SNR=1.6							
	0.1nm,0.3s							
HFS	**Hagfors**	**7.64**	**208**	Pn	**Pn**	**17 03 05.4**	**-0.2**	
	0.1nm,0.3s,baz=26,slow=14,SNR=1.6							
HFS				Sn	**Sn**	**17 04 30.6**	**-1.5**	
	0.1nm,0.3s,baz=70,slow=22,SNR=6.5							
HFS				Lg	Lg	17 05 11.6		
	0.1nm,0.3s,baz=31,slow=30,SNR=2.2							
	0.7nm,0.6s							
SPITS	**Spitsbergen Ar**	**11.28**	**355**	Pn	**Pn**	**17 03 55.2**	**-0.2**	
	5.2nm,0.8s,baz=164,slow=16,SNR=2.2							

*WEL **23** 17:03:13.0±0.8, 42.˚S×3.˚×17.˚4E±.˚, h11km±6km, M3.1/32, ML3.2/8, MLv3.1/32, Error ellipse: s-maj=0.0km s-min=0.0km az=156.2, confirmed*
*NOU **23** 17:03:16.9, 41.665S×173.99E, h0km, MLv3.8/5, South Island, New Zealand*
ISC 23 17:03:13.7±0.9, 41°61S±0'.03×174°28E±0'.02, h15km±7km, n78, σ0.98/92, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMWZ	**Cape Campbell**	**0.15**	**199**	P	**Pg**	**17 03 17.1**	**-0.6**
CMWZ				S	**Sg**	**17 03 20.9**	**+0.6**
WDFS	**Ward Fire Stat**	**0.24**	**206**	P	**Pg**	**17 03 19.1**	**0.0**
TUWZ	**Tuamarina**	**0.31**	**305**	P	**Pb**	**17 03 20.8**	**-0.1**
TUWZ				S	**Sb**	**17 03 26.5**	**+0.8**
BSWZ	**Blackbirch Sta**	**0.32**	**250**	P	**Pb**	**17 03 20.8**	**-0.3**
BSWZ				S	**Sb**	**17 03 27.3**	**+1.1**
BWRS	**Waikakaho Road**	**0.33**	**300**	P	**Pb**	**17 03 21.1**	**0.0**
BWRS				S	**Sb**	**17 03 27.3**	**+1.1**
QCCS	**Picton Queen C**	**0.38**	**329**	P	**Pg**	**17 03 20.4**	**-1.0**
QCCS				S	**Sb**	**17 03 26.7**	**-1.0**
TCW	**Tory Channel**	**0.40**	**360**	P	**Pb**	**17 03 21.7**	**-0.6**
TCW				S	**Sb**	**17 03 28.5**	**+0.3**
BHW	**Baring Head**	**0.48**	**66**	P	**Pg**	**17 03 22.4**	**-0.9**
BHW				S	**Sg**	**17 03 29.4**	**-0.5**
WEL	**Wellington**	**0.49**	**49**	P	**Pg**	**17 03 22.9**	**-0.5**
WEL				S	**Sg**	**17 03 30.5**	**+0.5**
MKBS	**Makara Bunker**	**0.49**	**40**	P	**Pg**	**17 03 23.0**	**-0.5**
MKBS				S	**Sg**	**17 03 30.3**	**+0.2**
MISS	**Wellington Mir**	**0.50**	**54**	P	**Pg**	**17 03 22.9**	**-0.7**
MISS				S	**Sg**	**17 03 31.1**	**+0.8**
SOMS	**Somes Island**	**0.56**	**52**	P	**Pg**	**17 03 24.0**	**-0.7**
PLWZ	**Palliser**	**0.73**	**87**	P	**Pg**	**17 03 27.0**	**-1.0**
PLWZ				S	**Sb**	**17 03 38.9**	**+1.0**
MSWZ	**Moikau Station**	**0.75**	**76**	P	**Pg**	**17 03 27.3**	**-1.1**
MSWZ				S	**Sb**	**17 03 40.7**	**+2.2**
CAW	**Cannon Point**	**0.77**	**50**	P	**Pg**	**17 03 27.8**	**-0.9**
CAW				S	**Sn**	**17 03 42.9**	**+1.6**
NNZ	**Nelson**	**0.78**	**300**	P	**Pn**	**17 03 29.1**	**-1.0**
DUWZ	**D'Urville Isla**	**0.85**	**341**	P	**Pb**	**17 03 30.0**	**-0.1**
KIW	**Kapiti Island**	**0.88**	**33**	P	**Pg**	**17 03 29.9**	**-0.9**
PAWZ	**Paruwai Farm**	**0.89**	**76**	P	**Pg**	**17 03 29.7**	**-1.2**
PAWZ				S	**Sb**	**17 03 43.7**	**+1.2**
KHZ	**Kahutara**	**0.98**	**214**	P	**Pn**	**17 03 32.8**	**0.0**
KHZ	**Kahutara**	**0.98**	**214**	P	**Pn**	**17 03 32.7**	**-0.1**
MTW	**Mount Morrison**	**1.02**	**64**	P	**Pg**	**17 03 32.2**	**-1.2**
OGW	**Otaki Gorge**	**1.04**	**41**	P	**Pg**	**17 03 32.3**	**-1.4**
THZ	**Tophouse**	**1.04**	**261**	P	**Pn**	**17 03 33.9**	**+0.1**
TRWZ	**Traveller**	**1.08**	**79**	P	**Pg**	**17 03 33.5**	**-1.0**
TKNZ	**Takaka Hill**	**1.15**	**299**	P	**Pn**	**17 03 35.7**	**+0.5**
MRNZ	**Matariki Terra**	**1.16**	**280**	P	**Pn**	**17 03 36.3**	**+1.0**
HOWZ	**Holdsworth Sta**	**1.17**	**53**	P	**Pb**	**17 03 34.9**	**-0.7**
TMWZ	**Te Maipa**	**1.31**	**68**	P	**Pn**	**17 03 36.1**	**-1.3**
MRZ	**Mangatainoka R**	**1.36**	**46**	P	**Pn**	**17 03 37.8**	**-0.3**
TIWZ	**Tintock**	**1.47**	**56**	P	**Pn**	**17 03 38.8**	**-0.8**
QRZ	**Quartz Range**	**1.53**	**300**	P	**Pg**	**17 03 42.3**	**-0.8**
QRZ	**Quartz Range**	**1.53**	**300**	P	**Pg**	**17 03 42.4**	**-0.8**
OHWZ	**Ohakea**	**1.60**	**30**	P	**Pb**	**17 03 43.0**	**+0.1**
CPWZ	**Castlepoint**	**1.61**	**65**	P	**Pg**	**17 03 45.1**	**+0.5**
GVZ	**Greta Valley S**	**1.65**	**214**	P	**Pn**	**17 03 41.7**	**-0.3**
PRWZ	**Pori Road**	**1.65**	**51**	P	**Pn**	**17 03 41.4**	**-0.7**
POWZ	**Post Office Ro**	**1.66**	**43**	P	**Pn**	**17 03 42.0**	**-0.2**
BFZ	**Birch Farm**	**1.75**	**59**	P	**Pn**	**17 03 41.9**	**-1.5**
DSZ	**Denniston Nort**	**1.86**	**265**	P	**Pg**	**17 03 47.2**	**-2.2**
LTZ	**Lake Taylor**	**1.90**	**231**	P	**Pg**	**17 03 48.9**	**+0.3**
WAZ	**Wanganui**	**1.93**	**16**	P	**Pg**	**17 03 49.5**	**-1.1**
DVHZ	**Dannevirke**	**1.94**	**48**	P	**Pn**	**17 03 44.8**	**-1.2**
TSZ	**Takapari Road**	**2.00**	**40**	P	**Pn**	**17 03 46.6**	**-0.4**
ANWZ	**Angora Road**	**2.02**	**56**	P	**Pn**	**17 03 45.5**	**-1.5**
LREZ	**Lake Rotokare**	**2.15**	**3**	P	**Pg**	**17 03 54.8**	**0.0**
PNHZ	**Pukenui**	**2.23**	**41**	P	**Pn**	**17 03 49.4**	**-0.7**
WPHZ	**Waipukurau**	**2.25**	**47**	P	**Pn**	**17 03 48.9**	**-1.4**
OKCZ	**Okains Bay**	**2.30**	**203**	P	**Pn**	**17 03 49.5**	**-1.5**
KHEZ	**Kahui Hut**	**2.32**	**355**	P	**Pg**	**17 03 56.8**	**-1.4**
KHEZ	**Kahui Hut**	**2.32**	**355**	P	**Pg**	**17 03 56.8**	**-1.4**
INZ	**Inchbonnie**	**2.39**	**241**	P	**Pn**	**17 03 53.2**	**+1.0**
MQZ	**McQueen's Vall**	**2.42**	**209**	P	**Pn**	**17 03 50.7**	**-1.9**
PKVZ	**Pokaka**	**2.45**	**20**	P	**Pb**	**17 03 57.8**	**+0.3**
MOVZ	**Moawhango**	**2.47**	**28**	P	**Pb**	**17 03 57.4**	**-0.3**
WNVZ	**Wahianoa**	**2.49**	**24**	P	**Pn**	**17 03 55.7**	**+1.9**
TRVZ	**Turoa**	**2.50**	**23**	P	**Pb**	**17 03 59.0**	**+0.6**
VRZ	**Vera Road**	**2.51**	**9**	P	**Pb**	**17 03 57.7**	**-0.7**
BHHZ	**Black Hill Sta**	**2.51**	**33**	P	**Pb**	**17 03 58.9**	**+0.1**
KRHZ	**Kereru**	**2.52**	**40**	P	**Pn**	**17 03 53.2**	**-0.9**
WHVZ	**Whangaehu Hut**	**2.53**	**24**	P	**Pb**	**17 03 59.8**	**+0.9**
FWVZ	**Far West T-bar**	**2.54**	**23**	P	**Pb**	**17 03 58.9**	**-0.2**
TUVZ	**Tukino**	**2.56**	**25**	P	**Pn**	**17 03 56.9**	**+2.1**
COVZ	**Chateau Observ**	**2.59**	**22**	P	**Pb**	**17 04 00.8**	**+0.9**
NGZ	**Ngauruhoe**	**2.63**	**23**	P	**Pb**	**17 04 00.8**	**+0.3**
SNVZ	**South Ngauruho**	**2.63**	**24**	P	**Pb**	**17 04 01.4**	**+0.9**
OTVZ	**Oturere**	**2.66**	**24**	P	**Pb**	**17 04 01.7**	**+0.7**
NNVZ	**North Ngauruho**	**2.67**	**23**	P	**Pb**	**17 04 01.3**	**0.0**
TWVZ	**Taurewa**	**2.68**	**20**	P	**Pg**	**17 04 03.2**	**-1.9**
WTVZ	**West Tongariro**	**2.68**	**22**	P	**Pb**	**17 04 02.1**	**+0.7**
ETVZ	**East Tongariro**	**2.70**	**24**	P	**Pb**	**17 04 01.9**	**+0.2**
TMVZ	**Te Maari**	**2.71**	**24**	P	**Pb**	**17 04 02.6**	**+0.6**
KRVZ	**Karewarewa**	**2.72**	**23**	P	**Pb**	**17 04 02.6**	**+0.6**
BKZ	**Black Stump Fm**	**2.97**	**35**	P	**Pb**	**17 04 07.2**	**+1.0**
BKZ	**Black Stump Fm**	**2.97**	**35**	P	**Pb**	**17 04 06.6**	**+0.4**
HIZ	**Hauiti**	**3.12**	**8**	P	**Pb**	**17 04 09.1**	**+0.3**
HIZ	**Hauiti**	**3.12**	**8**	P	**Pb**	**17 04 07.4**	**-1.4**
TMZ	**Timaru**	**3.67**	**220**	P	**Pn**	**17 04 09.5**	**-0.4**

*IDC **23** 17:10:11.1±5.7, 6.˚37S×130.˚70E, h128km±51km, mb3.5/4, mbtmp4.0/7, Error ellipse: s-maj=46.5km s-min=16.6km az=61.0*
ISC 23 17:10:11.8±0.8, 6°25S±0'.06×130°72E±0'.08, h150km, n20, σ2.960/23, mb3.6/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.82**	**162**	P	**Pn**	**17 10 44.6**	**-0.2**
BNDI	**Bandanaira**	**1.90**	**335**	P	**Pn**	**17 10 43.2**	**-2.5**
FAKI	**Fak Fak**	**3.64**	**25**	P	**Pn**	**17 11 04.4**	**-3.0**
DRS	**Darwin Rock St**	**6.15**	**178**	P	**Pn**	**17 11 39.9**	**-0.6**
SANI	**Sanana**	**6.30**	**311**	P	**Pn**	**17 11 41.7**	**-0.8**
MTN	**Manton Dam**	**6.57**	**176**	P	**Pn**	**17 11 45.5**	**-0.6**
KDU	**Kakadu**	**6.63**	**165**	P	**Pn**	**17 11 45.7**	**-1.2**
BATI	**Baumata**	**8.02**	**240**	P	**Pn**	**17 12 05.6**	**+0.1**
	6.6nm,0.4s,baz=83,slow=21,SNR=1.5						
BATI				S	**Sn**	**17 13 31.7**	**-3.1**
	9.3nm,0.3s,baz=72,slow=20,SNR=4.1						
WRA	**Warramunga Arr**	**14.06**	**166**	P	**Pn**	**17 13 21.5**	**-3.0**
	1.6nm,0.4s,baz=346,slow=13,SNR=68						
WRA				S	**Sn**	**17 15 55.1**	**-5.4**
	0.9nm,0.4s,baz=0.5,slow=24,SNR=7.5						
COEN	**Coen**	**14.45**	**123**	P	**P**	**17 13 31.9**	**-0.1**
QIS	**Mount Isa**	**16.63**	**150**	P	**Pn**	**17 13 56.7**	**+0.4**
ASAR	**Alice Springs**	**17.59**	**170**	P	**Pn**	**17 14 08.2**	**+0.4**
	2.2nm,0.7s,baz=348,slow=9.6,SNR=39						
ASAR				S	**Sn**	**17 17 20.6**	**-4.4**
	0.5nm,0.6s,baz=346,slow=22,SNR=3.9						
AS01	**Alice Springs**	**17.59**	**170**	P	**Pn**	**17 14 09.2**	**+1.3**
WRKA	**Warakurna**	**18.83**	**187**	P	**Pn**	**17 14 22.9**	**+0.5**
OOD	**Oodnadatta**	**21.94**	**168**	P	**P**	**17 14 57.3**	**+3.9**
MULG	**Mulgathing**	**24.11**	**173**	P	**P**	**17 15 18.0**	**+4.3**
STKA	**Stephens Creek**	**27.45**	**160**	P	**P**	**17 15 43.8**	**+0.1**
	1.0nm,0.5s,baz=342,slow=18,SNR=1.6						
	1.0nm,0.5s						
MKAR	**Makanchi Array**	**68.00**	**326**	P	**P**	**17 20 56.9**	**+2.2**
	1.3nm,0.4s,baz=119,slow=6.9,SNR=32						
	1.3nm,0.4s						
KURBB	**Kurchatov Arra**	**72.25**	**328**	P	**P**	**17 21 22.4**	**+1.8**
	0.3nm,0.4s,baz=123,slow=4.3,SNR=4.7						
	0.3nm,0.4s						
QSPA	**South Pole Qui**	**83.72**	**180**	P	**P**	**17 22 26.1**	**+2.3**
	0.3nm,0.4s,baz=357,slow=4.6,SNR=1.0						
	0.3nm,0.4s						

*JMA **23** 17:11:17.6±0.3, 25.˚N±2.˚×122.˚4E±0.˚5, h119km±2km, MV1.8/8, TAIWAN REGION*
*TAP **23** 17:11:17.8, 24.˚84N×122.˚37E, h121km±1km, ML2.7, D*
ISC 23 17:11:17.9±1.8, 24°82N±0'.06×122°40E±0'.03, h118km±10km, n60, σ0.66/105, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.42**	**296**	P	**Pn**	**17 11 35.4**	**+0.3**
	baz=297						
EOS2	**EOS2**	**0.43**	**201**	*e*P	**Pn**	**17 11 35.9**	**+0.8**
EOS2	baz=196			S	**Sn**	**17 11 49.7**	**+1.8**
	baz=196						
EOS3	**EOS3**	**0.54**	**188**	P	**Pn**	**17 11 36.5**	**+0.9**
EOS3	baz=184			*e*S	**Sn**	**17 11 50.4**	**+1.3**
	baz=184						
TIPB	**Shuangxi**	**0.55**	**286**	P	**Pn**	**17 11 35.5**	**-0.4**
TIPB	baz=285			S	**Sn**	**17 11 49.2**	**-0.3**
	baz=285						
TWC	**Suao**	**0.55**	**247**	P	**Pn**	**17 11 35.8**	**-0.1**
TWC	baz=243			S	**Sn**	**17 11 48.3**	**-1.2**
	baz=243						
SXI1	**Grass Mountain**	**0.55**	**300**	P	**Pn**	**17 11 35.9**	**-0.1**
SXI1	baz=300			*e*S	**Sn**	**17 11 50.0**	**+0.2**
	baz=300						
ESAO	**Su ao**	**0.56**	**244**	*e*P	**Pn**	**17 11 36.2**	**+0.2**
ESAO	baz=241			*e*S	**Sn**	**17 11 47.9**	**-1.8**
	baz=241						
NDS	**Dongshan**	**0.65**	**253**	*e*P	**Pn**	**17 11 37.0**	**+0.4**
	baz=251						
TWE	**Neicheng**	**0.68**	**262**	*i* P	**Pn**	**17 11 36.7**	**-0.1**
	baz=259						
TWE				*i* S	**Sn**	**17 11 50.3**	**-0.8**
	baz=259						
EWUT	**Wuta**	**0.68**	**237**	*e*S	**Sn**	**17 11 51.3**	**+0.1**
	baz=233						
ENA	**Nanau**	**0.72**	**237**	P	**Pn**	**17 11 37.2**	**0.0**
	baz=234						
ENA				S	**Sn**	**17 11 51.8**	**+0.1**
	baz=234						
FUSB	**Fushanzhiwuyua**	**0.74**	**265**	P	**Pn**	**17 11 37.1**	**-0.3**
	baz=263						
FUSB				S	**Sn**	**17 11 51.0**	**-1.3**
	baz=263						
ENTT	**Nioudou**	**0.78**	**257**	*i* P	**Pn**	**17 11 37.8**	**+0.1**
	baz=254						
ENTT				S	**Sn**	**17 11 53.4**	**+0.7**
	baz=254						
NWLT	**Wulai**	**0.82**	**267**	P	**Pn**	**17 11 37.8**	**-0.3**
	baz=265						
NWLT				S	**Sn**	**17 11 53.1**	**-0.2**
	baz=265						
YM01	**YM01**	**0.82**	**293**	*i* P	**Pn**	**17 11 38.1**	**0.0**
	baz=293						
YM08	**YM08**	**0.82**	**296**	*e*P	**Pn**	**17 11 39.0**	**+0.9**
	baz=296						
NDT	**Datong Townshi**	**0.84**	**255**	P	**Pn**	**17 11 38.7**	**+0.5**
	baz=253						
NDT				S	**Sn**	**17 11 54.1**	**+0.5**
	baz=253						
LATG	**Datong**	**0.85**	**250**	*i* P	**Pn**	**17 11 38.6**	**+0.2**
	baz=248						
LATG				S	**Sn**	**17 11 54.3**	**+0.3**
	baz=248						
YHNB	**Yeheng**	**0.95**	**261**	*i* P	**Pn**	**17 11 39.3**	**0.0**
	baz=259						
YHNB				*i* S	**Sn**	**17 11 55.0**	**-0.5**
	baz=259						
NSK	**Sanguang**	**0.96**	**262**	*i* P	**Pn**	**17 11 39.3**	**-0.1**
	baz=259						
NSK				S	**Sn**	**17 11 55.2**	**-0.5**
	baz=259						
ETL	**Fush Village**	**0.97**	**227**	P	**Pn**	**17 11 39.4**	**-0.1**
	baz=225						
ETL				S	**Sn**	**17 11 55.6**	**-0.2**
	baz=225						
NACB	**Ninganchiao**	**0.98**	**229**	P	**Pn**	**17 11 39.3**	**-0.2**
	baz=226						
NACB				S	**Sn**	**17 11 55.2**	**-0.7**
	baz=226						
NNSB	**Datong**	**1.01**	**247**	P	**Pn**	**17 11 40.2**	**+0.3**
	baz=245						
NNSB				S	**Sn**	**17 11 56.5**	**-0.1**
	baz=245						
NNS	**Nan Shan**	**1.01**	**248**	P	**Pn**	**17 11 40.3**	**+0.3**
	baz=246						
NNS				S	**Sn**	**17 11 56.6**	**-0.1**
	baz=246						
TWD	**Chiawan**	**1.04**	**225**	P	**Pn**	**17 11 40.2**	**0.0**
	baz=222						
TWD				*i* S	**Sn**	**17 11 56.6**	**-0.4**
	baz=222						
NFF	**Wufeng Townshi**	**1.19**	**261**	P	**Pn**	**17 11 41.3**	**-0.4**
	baz=259						
NFF				*e*S	**Sn**	**17 11 58.8**	**-0.9**
	baz=259						
ETM	**Tongmen**	**1.19**	**224**	*e*P	**Pn**	**17 11 41.1**	**-0.6**
	baz=222						
ETM				*e*S	**Sn**	**17 11 58.4**	**-1.4**
	baz=222						
LXIB	**Xiulin Townshi**	**1.21**	**229**	P	**Pn**	**17 11 41.6**	**-0.4**
	baz=226						
LXIB				*e*S	**Sn**	**17 11 59.7**	**-0.6**
	baz=226						
WHF	**Hehuan Shan**	**1.24**	**237**	P	**Pn**	**17 11 43.1**	**+0.4**
	baz=235						
WHF				S	**Sn**	**17 12 00.7**	**-0.7**
	baz=235						
TWT	**Tachien**	**1.25**	**243**	*e*S	**Sn**	**17 12 01.6**	**+0.3**
	baz=241						
LIOB	**Emei**	**1.27**	**262**	*i* P	**Pn**	**17 11 42.8**	**+0.1**
	baz=261						
LIOB				S	**Sn**	**17 12 01.5**	**+0.1**
	baz=261						
SHUL	**Shoufeng**	**1.28**	**217**	*e*P	**Pn**	**17 11 42.2**	**-0.5**
	baz=215						
SHUL				*e*S	**Sn**	**17 12 01.3**	**-0.3**
	baz=215						
NSTT	**Nanjuang**	**1.29**	**262**	*i* P	**Pn**	**17 11 42.8**	**0.0**
	baz=260						
NSTT				S	**Sn**	**17 12 01.0**	**-0.7**
	baz=260						
IRIF	**Iriomote-Funau**	**1.30**	**112**	*e*P	**Pn**	**17 11 43.0**	**+0.2**
IRIF				*e*S	**Sn**	**17 12 02.0**	**+0.1**
ESL	**Shilin**	**1.34**	**222**	P	**Pn**	**17 11 42.5**	**-0.8**
	baz=219						
ESL				S	**Sn**	**17 12 01.2**	**-1.5**
	baz=219						
CHGB	**Renai**	**1.35**	**236**	*e*P	**Pn**	**17 11 44.1**	**+0.3**
	baz=234						
CHGB				*e*S	**Sn**	**17 12 03.2**	**-0.1**
	baz=234						
OWD	**Renai**	**1.41**	**233**	*e*P	**Pn**	**17 11 44.6**	**+0.2**
	baz=231						
OWD				*e*S	**Sn**	**17 12 03.6**	**-0.8**
	baz=231						
WHP	**Taichung City**	**1.43**	**248**	P	**Pn**	**17 11 45.0**	**+0.5**
	baz=246						
WHP				S	**Sn**	**17 12 04.9**	**+0.2**
	baz=246						
WUSB	**Renai**	**1.44**	**235**	*e*P	**Pn**	**17 11 45.0**	**+0.4**
	baz=233						
WUSB				*e*S	**Sn**	**17 12 04.2**	**-0.7**
	baz=233						
WARBT	**Fenglin Townsh**	**1.44**	**220**	*e*P	**Pn**	**17 11 43.9**	**-0.6**
	baz=218						
WCS	**Beigang Elemen**	**1.56**	**241**	*e*P	**Pn**	**17 11 46.3**	**+0.4**
	baz=239						
WCS				*e*S	**Sn**	**17 12 07.7**	**+0.5**
	baz=239						
VWDT	**VWDT**	**1.57**	**228**	*e*P	**Pn**	**17 11 46.2**	**+0.2**
	baz=226						
VWDT				*e*S	**Sn**	**17 12 06.8**	**-0.6**
	baz=226						
JKRS	**Kuro-shima**	**1.57**	**111**	*e*P	**Pn**	**17 11 46.5**	**+0.5**
JKRS				*e*S	**Sn**	**17 12 07.7**	**+0.3**
HGSD	**Ruisui**	**1.60**	**214**	*e*P	**Pn**	**17 11 46.3**	**0.0**
	baz=212						
HGSD				*e*S	**Sn**	**17 12 07.4**	**-0.6**
	baz=212						
JIJ	**Ishigaki jima**	**1.65**	**106**	*e*P	**Pn**	**17 11 47.1**	**+0.2**
JIJ				*e*S	**Sn**	**17 12 08.5**	**-0.6**
SMLT	**Sun Moon Lake**	**1.66**	**236**	*e*P	**Pn**	**17 11 48.3**	**+1.1**
	baz=234						
SMLT				*e*S	**Sn**	**17 12 10.2**	**+0.7**
	baz=234						
SSLB	**Suanglung**	**1.68**	**232**	*e*P	**Pn**	**17 11 48.0**	**+0.7**
	baz=230						
SSLB				*e*S	**Sn**	**17 12 09.7**	**0.0**
	baz=230						
TYC	**Yuchr**	**1.68**	**237**	*e*P	**Pn**	**17 11 48.3**	**+1.0**
	baz=235						
TYC				*e*S	**Sn**	**17 12 10.7**	**+0.9**
	baz=235						
YULB	**Yu-li**	**1.75**	**216**	*e*P	**Pn**	**17 11 48.0**	**-0.1**
	baz=214						
YULB				*e*S	**Sn**	**17 12 09.5**	**-1.7**
	baz=214						
JISG	**Ishigakijimahi**	**1.75**	**97**	*e*P	**Pn**	**17 11 47.9**	**-0.2**
JISG				*e*S	**Sn**	**17 12 10.1**	**-1.1**
WHYT	**Xinyi Township**	**1.81**	**232**	*e*P	**Pn**	**17 11 49.2**	**+0.4**
	baz=230						
WNT	**Mingjian**	**1.83**	**239**	*e*P	**Pn**	**17 11 49.5**	**+0.4**
	baz=237						
FULB	**Fuli**	**1.91**	**212**	*e*P	**Pn**	**17 11 51.5**	**+1.4**
	baz=211						
FULB				*e*S	**Sn**	**17 12 14.2**	**-0.5**
	baz=211						
ALS	**Alishan**	**1.96**	**229**	*e*P	**Pn**	**17 11 52.0**	**+0.9**
	baz=227						
CHN5	**Tsauling**	**1.99**	**233**	*e*P	**Pn**	**17 11 52.2**	**+1.0**
	baz=231						
ELDTW	**Lidau**	**2.06**	**218**	*e*P	**Pn**	**17 11 52.3**	**+0.2**
	baz=216						
EDH	**Donghe**	**2.10**	**209**	*e*P	**Pn**	**17 11 52.1**	**-0.4**
	baz=207						
WCKO	**Fanlu**	**2.14**	**230**	*e*P	**Pn**	**17 11 53.6**	**+0.5**
	baz=229						
WCKO				*e*S	**Sn**	**17 12 20.5**	**+0.5**
	baz=229						
CHN4	**Tsaushan**	**2.21**	**229**	*e*P	**Pn**	**17 11 54.9**	**+1.0**
	baz=227						
TPUB	**Ta-pu**	**2.22**	**227**	*e*P	**Pn**	**17 11 53.9**	**-0.1**
	baz=226						

*IDC **23** 17:12:05.1±0.7, 15.˚88S×177.˚69W, h0km, mb3.9/16, mbtmp4.0/18, ML3.1/2, MS4.2/51, Error ellipse: s-maj=23.0km s-min=17.3km az=125.0*
*NEIC **23** 17:12:08.7±2.9, 16.˚1S±0.˚1×177.˚86W±0.˚02, h10km±1km, mb4.9/162, Error ellipse: s-maj=19.9km s-min=2.9km az=354.0*
*GCMT **23** 17:12:14.7±0.2, 16.˚17S±0.˚01×177.˚48W±0.˚01, h17km, MW5.1/137, Moment Tensor Solution. s69,c96; s137,c231; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.13; $M_{\theta\theta}$-4.96±.12; $M_{\phi\phi}$5.33±.12; $M_{r\theta}$0.41±.31; $M_{\theta\phi}$3.88±.10; $M_{\phi r}$-0.04±.28; Best double couple: $M_0$6.45900×10^{16} NP1:φs243.00000°, δ88.00000°, λ-3.00000°. NP2:φs334.00000°, δ87.00000°, λ-178.00000°. Principal axes: T 6.6300, Plg1.0000°, Azm289.0000°; N -0.3490, Plg86.0000°, Azm29.0000°; P -6.2870, Plg4.0000°, Azm198.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 23 17:12:08.6±0.5, 16°09S±0'.08×177°82W±0'.07, h14km±2km, h14km:pP-P, n256, σ1.965/216, mb4.9/102, MS4.2/50, 1C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.28**	**247**		**Pn**	**17 13 11.9**	**-1.5**
AFI	**Afiamalu**	**6.22**	**70**	Pn	**Pn**	**17 13 40.1**	**0.0**
NIUE	**Niue**	**8.09**	**113**	Pn	**Pn**	**17 14 06.6**	**+0.9**
RAO	**Raoul Island**	**13.10**	**180**	LR	LR	17 18 32.7	
	comp=Z,379nm,21.4s,baz=296,slow=29						
DZM	**Mont Dzumac**	**16.02**	**246**	Pn	**Pn**	**17 15 51.4**	**-2.3**
DZM	**Mont Dzumac**	**16.02**	**246**	Pn	**Pn**	**17 15 55.4**	**+1.7**
	0.1nm,0.3s,baz=131,slow=19,SNR=2.8						
DZM				LR	LR	17 21 14.4	
	comp=Z,1μm,20.0s,baz=77,slow=34						
	7.3nm,0.9s						
RAR	**Rarotonga**	**17.84**	**109**		**Pn**	**17 16 14.7**	**-1.8**
RAR	**Rarotonga**	**17.84**	**109**	P	**Pn**	**17 16 14.1**	**-2.4**
	0.5nm,0.3s,baz=223,slow=7.3,SNR=2.1						
RAR				LR	LR	17 21 26.2	
	comp=Z,946nm,20.8s,baz=316,slow=32						
	9.2nm,0.8s						
URZ	**Urewera**	**22.53**	**190**	P	**P**	**17 17 10.1**	**+2.0**
	34nm,1.3s,baz=62,slow=18,SNR=3.9						
URZ				LR	LR	17 24 20.7	
	comp=Z,1μm,20.2s,baz=186,slow=32						
	34nm,1.3s						
PPT	**Papeete**	**27.06**	**97**	LR	LR	17 25 28.8	
	comp=Z,595nm,21.7s,baz=278,slow=30						
CTAO	**Charters Tower**	**34.34**	**258**		**P**	**17 18 55.9**	**+0.6**
CTAO				IAmb	IAmb	17 19 05.3	
	comp=Z,23nm,1.1s						
PMG	**Port Moresby**	**34.77**	**277**	LR	LR	17 31 38.5	
	comp=Z,306nm,19.3s,baz=100,slow=34						
STKA	**Stephens Creek**	**40.02**	**239**	P	**P**	**17 19 41.6**	**-1

KSRS Korea Array 73.74 318 LR LR 17 50 27.3
comp=Z,120nm,22.0s,baz=130,slow=31
QSPA South Pole Qui 73.95 180 P **P** **17 23 43.3 -0.1**
comp=Z,0.9nm,0.8s,baz=15,slow=1.7,SNR=5.6
comp=Z,0.9nm,0.8s
USRK Ussuriysk Ar. 75.45 325 P **P** **17 23 51.7 -0.4**
comp=Z,1.5nm,0.7s,baz=145,slow=5.3,SNR=2.8
USRK LR LR 17 51 32.3
comp=Z,59nm,21.2s,baz=137,slow=31
comp=Z,1.5nm,0.7s
ESJX Sierra Juarez 76.12 51 P **P** **17 23 56.1 -0.5**
ESJX IAmb IAmb 17 24 07.0
comp=Z,15nm,1.5s
CMB Columbia Colle 76.13 43 P **P** **17 23 55.2 -1.1**
AFDM Forest Hills D 76.26 42 P **P** **17 23 59.4 +2.4**
YUH Yuha Desert 76.45 50 P **P** **17 23 57.4 -0.8**
KDAK Kodiak Island 76.51 14 LR LR 17 50 47.3
comp=Z,246nm,21.2s,baz=230,slow=30
PFO Pinyon Flats O 76.54 49 LR LR 17 49 13.7
comp=Z,132nm,20.8s,baz=237,slow=29
YBH Yreka Blue Hor 76.76 39 P **P** **17 23 58.6 -1.2**
YBH IAmb IAmb 17 24 06.4
comp=Z,10nm,1.1s
YBH Yreka Blue Hor 76.76 39 LR LR 17 49 27.9
comp=Z,194nm,21.7s,baz=235,slow=29
MDPB Devils Postpil 76.78 44 P **P** **17 24 02.5 +2.3**
MDPB IAmb IAmb 17 24 13.4
comp=Z,8.6nm,1.2s
WAKR Walker 77.02 43 P **P** **17 24 02.7 +1.2**
WAKR IAmb IAmb 17 24 11.9
comp=Z,9.9nm,1.1s
LPIG La Paz 77.04 60 LR LR 17 50 57.2
comp=Z,83nm,18.4s,baz=229,slow=30
MPK Martis Peak 77.06 42 P **P** **17 24 02.1 +0.3**
MPK IAmb IAmb 17 24 18.0
comp=Z,17nm,1.1s
HUMO Hull Mountain 77.13 38 P **P** **17 24 01.2 -0.6**
HUMO IAmb IAmb 17 24 18.0
comp=Z,11nm,1.2s
GSC Goldstone, Bar 77.14 47 P **P** **17 24 02.1 0.0**
PNTR Pine Nut 77.23 43 P **P** **17 24 03.5 +0.8**
PNTR IAmb IAmb 17 24 11.9
comp=Z,10nm,0.8s
NJ2 Nanjing 77.24 309 *e*P **P** **17 24 03.8 +1.2**
NJ2 pP **pP** **17 24 06.8 +0.3**
NJ2 sP **pwP** **17 24 09.3 +0.3**
NJ2 pmax pmax
comp=Z,11nm,0.8s
NJ2 pmax pmax
comp=Z,160nm,4.5s
DSP Deep Springs 77.39 45 P **P** **17 24 05.9 +2.6**
DSP IAmb IAmb 17 24 19.9
comp=Z,14nm,1.4s
YERR Yerington 77.41 43 P **P** **17 24 05.1 +1.4**
YERR IAmb IAmb 17 24 22.9
comp=Z,8.6nm,1.0s
QSM Queen of Sheba 77.43 47 P **P** **17 24 04.2 +0.6**
QSM IAmb IAmb 17 24 19.7
comp=Z,12nm,1.3s
P18K Big Mountain, 77.44 12 P **P** **17 24 03.6 +0.5**
LHV Little Huntoon 77.50 44 P **P** **17 24 05.2 +1.3**
LHV IAmb IAmb 17 24 17.1
comp=Z,14nm,1.1s
M14K Bethel 77.63 8 P **P** **17 24 04.2 +0.1**
GWY Greenwater Val 77.68 46 P **P** **17 24 05.8 +0.7**
RYN Ryan 77.69 44 P **P** **17 24 04.8 -0.4**
PAHR Pah Rah Range 77.70 42 P **P** **17 24 06.4 +1.1**
NVAR Mina Array Bea 77.73 44 P **P** **17 24 03.0 -2.5**
comp=Z,0.5nm,0.7s,baz=231,slow=8.7,SNR=4.8
NVAR LR LR 17 49 24.8
comp=Z,90nm,20.8s,baz=252,slow=29
comp=Z,0.5nm,0.7s
NV11 Mina Array Sit 77.83 44 P **P** **17 24 04.9 -1.0**
NV11 IAmb IAmb 17 24 22.1
comp=Z,11nm,1.2s
GMN Gold Mountain 77.84 45 P **P** **17 24 04.8 -1.4**
O18K Koktuh Hills 77.87 11 P **P** **17 24 08.1 +2.6**
BLYC Blythe 78.01 50 P **P** **17 24 07.5 +0.6**
BLYC IAmb IAmb 17 24 17.3
comp=Z,6.8nm,0.7s
WCT Wildcat Mounta 78.02 46 P **P** **17 24 08.2 +1.3**
WCT IAmb IAmb 17 24 26.3
comp=Z,23nm,1.9s
113A Mohawk Valley, 78.11 51 P **P** **17 24 09.1 +1.7**
113A IAmb IAmb 17 24 19.6
comp=Z,10nm,1.2s
KVN Kaiserville 78.19 43 P **P** **17 24 06.1 -1.9**
KVN IAmb IAmb 17 24 18.1
comp=Z,11nm,1.3s
TPH Tonopah 78.27 45 P **P** **17 24 08.5 0.0**
ILSW Iliamna Southw 78.40 12 P **P** **17 24 11.1 +2.5**
K05A Summer Lake 78.44 39 P **P** **17 24 11.2 +1.9**
J05D Fort Rock, OR 78.55 38 P **P** **17 24 09.2 -0.7**
J05D IAmb IAmb 17 24 16.4
comp=Z,13nm,1.0s
V12A Nelson 78.73 48 P **P** **17 24 11.8 +0.8**
KLR Kul'dur 78.85 329 LR LR 17 55 32.7
comp=Z,138nm,19.4s,baz=136,slow=33
SHPR Sheep Range 78.89 47 P **P** **17 24 09.3 -2.6**
CN2 Changchun 78.94 322 *e*P **P** **17 24 08.0 -3.8**
PINE Pine Mountain 79.02 38 P **P** **17 24 10.9 -1.5**
S11A Rachel 79.05 46 P **P** **17 24 12.4 -0.4**
S11A IAmb IAmb 17 25 32.5
comp=Z,7.4nm,0.8s
I05D Terrebonne, OR 79.10 38 P **P** **17 24 14.5 +1.7**
I05D IAmb IAmb 17 24 29.1
comp=Z,16nm,1.1s
W13A Hualapai Mount 79.12 49 P **P** **17 24 12.6 -0.6**
Y14A Wickenburg 79.22 50 P **P** **17 24 15.3 +1.7**
BMN Battle Mountai 79.49 43 P **P** **17 24 15.8 +0.7**
R11B Troy Canyon, C 79.52 45 P **P** **17 24 17.6 +2.3**
MA2 Magadan 79.61 344 LR LR 17 53 56.7
comp=Z,120nm,21.9s,baz=154,slow=32
WVOR Wild Horse Val 79.66 40 P **P** **17 24 16.7 +0.8**
L18K Granite Mounta 79.82 10 P **P** **17 24 15.3 -0.8**
L18K IAmb IAmb 17 24 29.9
comp=Z,20nm,1.3s
K17K Iditarod 80.03 9 P **P** **17 24 19.0 +1.7**
K17K IAmb IAmb 17 24 31.1
comp=Z,22nm,1.2s
I07A Izee 80.04 39 P **P** **17 24 19.0 +1.1**
TUC Tucson 80.14 52 P **P** **17 24 19.8 +1.1**
J16K Anvik River 80.25 8 P **P** **17 24 18.3 -0.2**
J16K IAmb IAmb 17 24 30.8
comp=Z,16nm,1.1s
J08A Circle Bar Ran 80.26 40 P **P** **17 24 15.8 -3.4**
Q12A Willow Creek R 80.37 45 P **P** **17 24 17.3 -2.6**
Q12A IAmb IAmb 17 24 35.2
comp=Z,24nm,1.6s
BBB Bella Bella 80.46 28 LR LR 17 53 27.2
comp=Z,160nm,18.3s,baz=226,slow=31
X16A Lo Mia Camp, P 80.59 50 P **P** **17 24 19.3 -1.9**
M22K Willow 80.64 13 P **P** **17 24 21.9 +1.4**
CCUT Cedar City 80.66 47 P **P** **17 24 22.1 +0.5**
SPR3 Spring Creek 3 80.69 45 P **P** **17 24 23.4 +1.6**
KNB Kanab 80.78 47 P **P** **17 24 24.5 +2.3**
KNB IAmb IAmb 17 24 45.9
comp=Z,20nm,1.7s
PSUT Pine Spring 80.79 46 P **P** **17 24 23.1 +0.9**
SZCU Shurtz Canyon 80.87 47 P **P** **17 24 24.4 +1.7**
SZCU IAmb IAmb 17 24 38.4
comp=Z,18nm,1.8s
U15A North Rim 80.89 48 P **P** **17 24 22.1 -0.8**
U15A IAmb IAmb 17 24 37.9
comp=Z,17nm,1.6s
J18K Innoko River 80.98 9 P **P** **17 24 21.4 -1.0**
J18K IAmb IAmb 17 24 36.4
comp=Z,14nm,1.1s
G08A Pilot Rock 81.03 38 P **P** **17 24 23.4 +0.1**
G08A IAmb IAmb 17 24 29.4
comp=Z,9.7nm,1.0s
K20K Telida 81.32 11 P **P** **17 24 24.1 -0.1**
K20K IAmb IAmb 17 24 40.8
comp=Z,12nm,1.2s
PKCU Pink Cliffs 81.34 47 P **P** **17 24 25.1 -0.2**
PKCU IAmb IAmb 17 24 41.1
comp=Z,12nm,1.2s
HEH HeiHe 81.68 328 *e*P P 17 24 33.4 +7.1
MTPU Mount Pierson 81.71 47 P **P** **17 24 29.2 +1.8**
CAST Castle Rocks 81.74 11 P **P** **17 24 25.5 -1.0**
VRDI Verde Repeater 81.79 16 P **P** **17 24 28.9 +1.9**
VRDI IAmb IAmb 17 24 37.6
comp=Z,19nm,1.3s
GLB Gilahina Butte 81.87 16 P **P** **17 24 27.5 +0.2**
GLB IAmb IAmb 17 24 48.9
comp=Z,20nm,1.5s
MVU Marysvale 81.91 46 P **P** **17 24 29.2 +1.0**
MFID Camas Ranch 81.93 41 P **P** **17 24 29.6 +1.5**
MFID IAmb IAmb 17 24 43.5
comp=Z,16nm,1.6s
MSU Marysvale 81.94 46 **P** **17 24 28.0 -0.3**
TRF Thorofare Moun 82.12 12 IAmb IAmb 17 24 42.3
comp=Z,10.0nm,1.0s
SEY Seymchan 82.14 347 LR LR 17 54 26.3
comp=Z,125nm,21.5s,baz=160,slow=31
DUG Dugway, Tooele 82.29 44 P **P** **17 24 30.7 +0.6**
RND Reindeer 82.38 13 P **P** **17 24 31.8 +1.9**
RND IAmb IAmb 17 24 42.9
comp=Z,16nm,1.2s
DHY Denali Highway 82.41 13 P **P** **17 24 30.6 +0.5**
DHY IAmb IAmb 17 24 40.0
comp=Z,11nm,1.3s
F10A Beach Ranch, E 82.42 38 P **P** **17 24 28.7 -1.8**
F10A IAmb IAmb 17 24 40.4
comp=Z,17nm,1.4s
BGU Big Grassy Mou 82.50 44 P **P** **17 24 30.2 -0.9**
BGU IAmb IAmb 17 24 42.3
comp=Z,21nm,2.0s
121A Cookes Peak, D 82.53 53 P **P** **17 24 32.7 +1.1**
121A IAmb IAmb 17 24 42.5
comp=Z,7.9nm,1.1s
HMU Henry Mountain 82.68 47 P **P** **17 24 31.7 -0.6**
HMU IAmb IAmb 17 24 48.3
comp=Z,21nm,1.8s
NLU North Lily Min 82.68 45 P **P** **17 24 34.6 +2.4**
PLID Pearl Lake 82.69 39 P **P** **17 24 30.1 -2.0**
SKAG Skagway 82.81 20 P **P** **17 24 33.2 +1.2**
SKAG IAmb IAmb 17 24 54.8
comp=Z,16nm,1.2s
Q16A Castle Valley 82.82 46 P **P** **17 24 33.4 +0.5**
Q16A IAmb IAmb 17 24 43.8
comp=Z,16nm,1.5s
M26K Nabesna, AK 82.89 16 P **P** **17 24 33.6 +1.1**
M26K IAmb IAmb 17 24 43.5
comp=Z,9.3nm,1.1s
HLID Hailey 82.89 41 P **P** **17 24 30.9 -2.2**
HLID IAmb IAmb 17 24 43.8
comp=Z,6.4nm,1.1s
H19K Roundabout Mou 82.96 9 P **P** **17 24 33.8 +1.1**
TMUT Trail Mountain 82.97 46 P **P** **17 24 33.6 -0.2**
TMUT IAmb IAmb 17 24 50.5
comp=Z,12nm,1.2s
G18K Tagagawik 83.00 8 P **P** **17 24 35.4 +2.4**
G18K IAmb IAmb 17 24 45.8
comp=Z,9.6nm,1.2s
HVU Hansel Valley 83.08 43 P **P** **17 24 34.8 +0.6**
HVU IAmb IAmb 17 24 44.4
comp=Z,8.1nm,1.2s
LYN LuoYang 83.13 309 *e*P **P** **17 24 38.8 +4.5**
LYN pP pwP 17 24 42.9 +2.2
LYN sP sP 17 24 46.9 +7.1
LYN pmax pmax
comp=Z,7.0nm,0.7s
LYN LR LR
comp=N,170nm,17.4s
LYN LR LR
comp=E,170nm,15.5s
LYN LR LR
comp=Z,280nm,15.5s
M27K Edge Creek, AK 83.14 16 P **P** **17 24 35.8 +1.8**
S34M Telegraph Cree 83.16 23 P **P** **17 24 36.6 +2.7**
S34M IAmb IAmb 17 24 40.9
comp=Z,11nm,1.3s
F17K Baldwin Pennin 83.22 7 **P** **17 24 33.6 -0.4**
F17K IAmb IAmb 17 24 47.4
comp=Z,12nm,1.2s
L26K Log Cabin Wild 83.32 15 P **P** **17 24 36.9 +2.1**
L26K IAmb IAmb 17 24 48.1
comp=Z,11nm,1.2s
SRU San Rafael Swe 83.36 46 P **P** **17 24 36.2 +0.5**
SRU IAmb IAmb 17 24 51.7
comp=Z,9.8nm,1.2s
I21K Tanana 83.37 11 P **P** **17 24 34.0 -0.8**
I21K IAmb IAmb 17 24 48.2
comp=Z,14nm,1.2s
P17A Butcher Ranch, 83.37 46 P **P** **17 24 35.0 -0.8**
P17A IAmb IAmb 17 24 52.2
comp=Z,7.8nm,1.2s
NEA2 Nenana 83.39 12 P **P** **17 24 35.3 +0.3**
NEA2 IAmb IAmb 17 24 49.8
comp=Z,16nm,1.8s
JLU Jordanelle 83.40 45 P **P** **17 24 36.6 +0.7**
JLU IAmb IAmb 17 24 51.2
comp=Z,16nm,1.6s
G19K Purcell Mounta 83.45 8 P **P** **17 24 36.5 +1.3**
MLY Manley 83.46 11 P **P** **17 24 36.6 +1.2**
MLY IAmb IAmb 17 24 48.0
comp=Z,9.5nm,1.2s
WRH Wood River Hil 83.48 12 P **P** **17 24 36.5 +1.1**
H21K Melozitna Rive 83.66 10 P **P** **17 24 36.3 -0.1**
HDA Harding Lake 83.67 13 **P** **17 24 37.3 +0.9**
CCB Clear Creek Bu 83.70 13 P **P** **17 24 36.3 -0.3**
NEW Newport 83.71 36 LR LR 17 53 20.2
comp=Z,112nm,20.9s,baz=224,slow=30
ENH Enshi 83.73 304 P **P** **17 24 38.1 +0.5**
L27K Beaver Creek, 83.74 16 P **P** **17 24 39.8 +2.9**
L27K IAmb IAmb 17 24 53.4
comp=Z,10nm,1.4s
BCAR Beaver Creek A 83.75 16 P **P** **17 24 37.1 +0.2**
P18A Preston Nutter 83.78 46 P **P** **17 24 35.9 -2.1**
I23K Minto, Yukon-K 83.83 12 P **P** **17 24 39.2 +2.0**
BSUT Blindstream Ca 83.84 45 P **P** **17 24 39.4 +1.1**
BSUT IAmb IAmb 17 24 53.9
comp=Z,7.8nm,1.1s
MDM Murphy Dome 83.88 12 P **P** **17 24 37.9 +0.4**
BELA Belgrano 2 83.89 173 P **P** **17 24 38.6 +1.1**
COLA College 83.89 12 P **P** **17 24 38.5 +1.0**
PV05 Paradox Valley 83.90 48 P **P** **17 24 39.0 +0.4**
SCRK Sand Creek 83.97 14 P **P** **17 24 38.2 0.0**
SCRK IAmb IAmb 17 24 53.8
comp=Z,6.1nm,1.0s
IL31 84.00 13 P **P** **17 24 36.8 -1.2**
ILAR Eielson Array 84.00 13 P **P** **17 24 35.6 -2.5**
ILAR Eielson Array 84.00 13 P **P** **17 24 35.1 -3.0**
comp=Z,1.0nm,1.0s,baz=225,slow=3.7,SNR=6.2
ILAR LR LR 17 56 20.0
comp=Z,122nm,19.9s,baz=228,slow=32
comp=Z,1.0nm,1.0s
IL03 Eielson Array 84.01 13 P **P** **17 24 36.2 -1.9**
F19K Shaleruckik Mo 84.01 8 P **P** **17 24 34.7 -3.4**
VHRN Van Horn 84.03 56 P **P** **17 24 38.2 -1.1**
VHRN IAmb IAmb 17 24 55.2
comp=Z,12nm,1.2s
MNTX Cornudas Mount 84.07 55 P **P** **17 24 37.1 -2.2**
MNTX IAmb IAmb 17 24 55.0
comp=Z,9.0nm,1.1s
BNM Barren Site 84.08 52 P **P** **17 24 37.9 -1.7**
PV14 Lion Creek, Pa 84.08 47 **P** **17 24 41.0 +1.5**
PV17 East Wray Mesa 84.09 48 P **P** **17 24 38.7 -0.7**
PV20 West Nyswonger 84.11 47 P **P** **17 24 38.3 -1.3**
PV18 Skein Mesa, Pa 84.11 48 P **P** **17 24 36.7 -2.9**
PV23 Carpenter Ridg 84.13 47 P **P** **17 24 37.0 -2.7**
PV16 Nyswonger Mesa 84.13 48 P **P** **17 24 37.6 -2.1**
PV13 Radium Mtn., P 84.14 48 P **P** **17 24 37.8 -1.9**
PV13 IAmb IAmb 17 25 01.9
comp=Z,8.8nm,1.1s
PV11 David Mesa, Pa 84.16 48 P **P** **17 24 38.7 -1.1**
PV11 IAmb IAmb 17 24 53.1
comp=Z,11nm,1.1s
POKR Poker Plat Res 84.19 12 P **P** **17 24 38.9 -0.2**
J25K Salcha River, 84.19 13 P **P** **17 24 38.0 -1.2**
F20K Avaraart Lake 84.49 9 P **P** **17 24 41.3 +0.8**
F20K IAmb IAmb 17 24 53.5
comp=Z,14nm,1.4s
ANMO Albuquerque 84.53 51 P **P** **17 24 40.3 -1.4**
ANMO IAmb IAmb 17 24 57.1
comp=Z,20nm,1.8s
ANMO Albuquerque 84.53 51 LR LR 17 53 43.9
comp=Z,77nm,21.1s,baz=338,slow=30
TXAR Lajitas Array 84.55 58 P **P** **17 24 38.8 -3.1**
comp=Z,0.2nm,0.8s,baz=227,slow=4.8,SNR=2.3
comp=Z,0.2nm,0.8s
BILL Bilibino 84.69 354 P **P** **17 24 43.2 +1.7**
BILL IAmb IAmb 17 24 52.8
comp=Z,7.4nm,1.2s
M30M Minto, Yukon 84.74 18 IAmb IAmb 17 24 48.2
comp=Z,7.9nm,1.1s
XLT XiLinHaoTe 84.77 318 *e*P **P** **17 24 46.8 +4.2**
XLT pP pwP 17 24 50.8 +1.7
XLT sP sP 17 24 52.9 +4.8
XLT pmax pmax
comp=Z,13nm,0.6s
XLT pmax pmax
comp=Z,99nm,5.5s
L29M L29M 84.77 17 P **P** **17 24 42.6 +0.4**
PRP Porcupine Dome 84.94 13 P **P** **17 24 41.7 -1.3**
FXWY Fox Creek 85.09 42 IAmb IAmb 17 25 00.9
comp=Z,19nm,1.6s
G23K Bananza Creek 85.10 11 IAmb IAmb 17 24 57.2
comp=Z,13nm,1.4s
DAWY Dawson 85.19 16 IAmb IAmb 17 24 55.3
comp=Z,12nm,1.2s
PMSA Palmer Station 85.25 157 LR LR 18 00 34.0
comp=Z,48nm,18.1s,baz=240,slow=34
EGAK Eagle 85.32 15 P **P** **17 24 44.5 -0.3**
EGAK IAmb IAmb 17 25 07.3
comp=Z,10nm,1.1s
K29M Barlow Dome 85.52 17 P **P** **17 24 47.0 +1.0**
K29M IAmb IAmb 17 24 56.7
comp=Z,8.3nm,1.1s
XAN Xi'an 85.62 307 ⇑P P 17 24 40.0 -7.0
XAN pP PcP 17 24 44.6 -5.3
XAN pmax pmax
comp=Z,9.0nm,0.5s
BOZ Bozeman (W) 85.62 40 IAmb IAmb 17 25 03.4
comp=Z,9.5nm,1.2s
PD31 Pinedale Array 85.65 43 P **P** **17 24 45.4 -1.8**
PDAR Pinedale Array 85.65 43 P **P** **17 24 45.1 -2.2**
PDAR Pinedale Array 85.65 43 P **P** **17 24 44.9 -2.3**
comp=Z,0.4nm,0.6s,baz=224,slow=2.5,SNR=1.7
PDAR LR LR 17 55 13.3
comp=Z,77nm,20.3s,baz=260,slow=30
comp=Z,0.4nm,0.6s
MAW Mawson 85.75 200 LR LR 17 59 09.9
comp=Z,295nm,21.8s,baz=111,slow=33
E22K Anaktuvuk Pass 86.08 9 P **P** **17 24 48.3 -0.3**
E22K IAmb IAmb 17 24 60.0
comp=Z,12nm,1.4s
I28M Miner Creek 86.17 15 IAmb IAmb 17 25 07.0
comp=Z,12nm,1.5s
HHC Hu-ho-hao-te 86.42 314 *e*P **P** **17 24 52.9 +2.0**
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,58nm,5.4s
HHC LR LR
comp=N,120nm,19.0s
HHC LR LR
comp=E,110nm,16.1s
HHC LR LR
comp=Z,170nm,19.2s
J30M Hart River 86.42 17 P **P** **17 24 52.8 +2.4**
J30M IAmb IAmb 17 25 07.0
comp=Z,12nm,1.5s
MMPY Sheldon Lake, 86.48 20 P **P** **17 24 50.0 -0.6**
MMPY IAmb IAmb 17 25 07.2
comp=Z,16nm,1.3s
BMAR Burnt Mountain 86.77 12 P **P** **17 24 52.6 +0.7**
BTO Baotou 87.39 313 *e*P **P** **17 24 55.8 +0.2**
BTO pP **sP** **17 25 00.6 -0.5**
BTO sP **pwP** **17 25 02.8 +0.7**
BTO pmax pmax
comp=Z,21nm,0.5s
BTO pmax pmax
comp=Z,160nm,4.8s
YAK Yakutsk 88.11 338 LR LR 17 59 40.9
comp=Z,52nm,20.4s,baz=134,slow=32
CMIG Matias Romero 88.13 72 LR LR 17 55 45.2
comp=Z,150nm,19.3s,baz=181,slow=30
PZH PanZhiHua 88.81 298 P P 17 25 11.6 +8.8
PZH pmax pmax
comp=Z,8.0nm,0.9s
PZH pmax pmax
comp=Z,110nm,4.7s
CMAR Chiang Mai Arr 88.81 289 P **P** **17 25 01.4 -1.4**
comp=Z,0.2nm,0.5s,baz=133,slow=4.0,SNR=2.1
CMAR LR LR 18 02 01.1
comp=Z,89nm,20.3s,baz=95,slow=34
comp=Z,0.2nm,0.5s
INK Inuvik 89.99 15 LR LR 17 57 45.7
comp=Z,146nm,21.9s,baz=182,slow=30
ELIB Princess Elisa 91.02 186 *dx* x 17 25 14.9
TROLL Troll, Antarti 92.12 180 ⇓P **P** **17 25 15.8 -1.6**
comp=Z,111nm,1.0s
PLCA Paso Flores 92.17 133 LR LR 17 57 30.9
comp=Z,96nm,21.9s,baz=242,slow=30
SNAA Sanae 92.39 178 ⇓P **P** **17 25 17.4 -1.2**
comp=Z,40nm,1.2s
SNAA Sanae 92.39 178 LR LR 18 05 13.9
comp=Z,57nm,19.2s,baz=202,slow=34
YKA Yellowknife Ar 92.45 25 P **P** **17 25 16.6 -2.1**
comp=Z,0.1nm,0.3s,baz=249,slow=4.5,SNR=1.6
YKA LR LR 17 59 35.3
comp=Z,317nm,20.9s,baz=238,slow=31
comp=Z,0.1nm,0.3s
SONM Songino Array 92.55 319 P **P** **17 25 19.5 -0.2**
comp=Z,0.6nm,0.6s,baz=100,slow=6.0,SNR=2.4
SONM LR LR 18 06 59.3
comp=Z,55nm,18.1s,baz=108,slow=36
comp=Z,0.6nm,0.6s
JTS Las Juntas de 95.52 81 LR LR 17 57 32.0
comp=Z,224nm,22.0s,baz=242,slow=29
ATAH Atahualpa 97.02 99 LR LR 17 59 09.1
comp=Z,264nm,21.4s,baz=248,slow=29
NNA Nana 97.02 105 LR LR 18 00 10.8
comp=Z,100nm,20.6s,baz=216,slow=30
CRVS Cervenica-Dubn 143.68 338 *e*PKP **PKiKP** **17 31 47.7 +1.1**
CLL Collm 143.81 348 *e*PKiKP **PKiKP** **17 31 49.0 +2.2**
CLL *i* x x 17 31 53.4
comp=Z,7.0nm,1.1s
BRTR Keskin Array B 143.88 317 PKP PKPbc 17 31 41.9 +0.2
comp=Z,1.7nm,0.8s,baz=107,slow=1.5,SNR=5.0
MORC Moravsky Berou 144.16 343 *e*PKP **PKiKP** **17 31 47.1 -0.5**
VRAC Vranov 144.85 344 *e*PKP **PKiKP** **17 31 48.0 -1.0**
VYHS Vyhne 144.92 341 *e*PKP **PKiKP** **17 31 50.7 +1.5**
JAVC Velka Javorina 144.95 342 *e*PKP **PKiKP** **17 31 48.5 -0.8**
KRUC Moravsky 145.13 344 *e*PKP **PKPdf** **17 31 47.7 +2.0**
ZVC Zvikov 145.33 346 *e*PKP **PKiKP** **17 31 51.8 +1.8**
MODS Modra-Piesok 145.50 342 *e*PKP **PKiKP** **17 31 53.0 +2.6**
KHC Kasperske Hory 145.76 347 *e*PKP **PKiKP** **17 31 53.1 +2.2**
CKRC Cesky Krumlov 145.88 346 *e*PKP **PKiKP** **17 31 53.3 +2.1**
GERES GERESS Array B 146.00 346 PKPbc **PKPdf** **17 31 45.6 -1.8**
comp=Z,0.5nm,0.6s,baz=14,slow=1.2,SNR=3.6
CONA Conrad Observa 146.31 343 *e*PKP **PKPdf** **17 31 48.6 +0.7**
comp=Z,2.0nm,0.7s
CONA *e*pPKiKP sPKPab 17 31 54.9 -0.4
comp=Z,9.2nm,0.9s
RONA Rosalia, Austr 146.39 343 *e*PKP **PKPbc** **17 31 49.6 +0.3**
comp=Z,3.1nm,1.0s
RONA *e*pPKP sPKPbc 17 31 54.7 -0.1
comp=Z,12nm,1.1s
ARSA Arzberg 147.02 343 *e*PKP **PKPbc** **17 31 50.6 -0.5**
comp=Z,2.6nm,0.8s
ARSA *e*pPKiKP **sPKPab** **17 31 58.2 +0.2**
comp=Z,9.2nm,1.6s
BIOA Bad Ischl, Aus 147.10 346 *e*pPKP **PKiKP** **17 31 56.5 +2.8**
comp=Z,6.1nm,0.9s
LESA Schwarzleotal 147.57 347 *e*pPKiKP **PKiKP** **17 31 58.6 +3.8**
comp=Z,8.5nm,1.2s
SOKA Soboth 147.68 343 *e*PKP **PKPbc** **17 31 52.3 -0.7**
comp=Z,2.4nm,1.0s
SOKA *e*pPKP **sPKPbc** **17 31 58.2 -0.3**
comp=Z,8.4nm,1.0s
KBA Koelnbreinsper 147.74 346 *e*pPKP **PKPab** **17 31 58.5 +3.0**
comp=Z,5.3nm,0.8s
WATA Walderalm 147.89 348 *e*pPKiKP **PKPab** **17 31 59.6 +3.5**
comp=Z,12nm,1.1s
RETA Reutte 147.90 349 *e*pPKiKP **PKPab** **17 31 59.6 +3.6**
comp=Z,4.1nm,0.9s
WTTA Wattenberg 147.94 348 *e*pPKP **PKPab** **17 31 59.6 +3.3**
comp=Z,12nm,0.9s
MOTA Moosalm 147.97 349 *e*PKP **PKPdf** **17 31 50.4 -0.4**
comp=Z,0.5nm,0.6s
MOTA *e*pPKiKP **pPKiKP** **17 31 59.5 -0.4**
comp=Z,7.6nm,1.0s
SQTA Sankt Quirin 148.07 348 *e*PKP **PKPdf** **17 31 50.5 -0.4**
comp=Z,0.7nm,0.4s
SQTA *e*pPKiKP **sPKPbc** **17 31 59.6 -0.1**
comp=Z,8.9nm,1.0s
DAVA Damuels 148.25 350 *e*PKP **PKPbc** **17 31 53.7 -0.8**
comp=Z,3.4nm,1.2s
DAVA *e*pPKP **sPKPbc** **17 32 00.5 +0.4**
comp=Z,6.3nm,0.9s
ABTA Abfaltersbach 148.25 346 *e*pPKiKP **PKPab** **17 31 59.1 +1.6**
comp=Z,12nm,0.9s
PDKS Podkum 148.25 343 *i* PKPbc **PKPab** **17 31 59.6 +2.2**

FETA	**Feichten**	**148.35**	**349**	*e*PKP	**PKPab**	**17 32 00.9**	**+2.9**
	comp=Z,7.6nm,1.0s						
BOJS	**Bojanci**	**148.69**	**342**	*i* PKPbc	**PKPab**	**17 32 01.2**	**+2.0**

*HEL **23** 17:15:02.6±0.1,59.°48N×24.°57E, h0km, ML1.7, Explosion*
*EST **23** 17:15:02.4±0.1,59.°48N×24.°52E, h0km, ML1.7(HEL), Explosion*
*LVSN **23** 17:15:03.2±2.4,59.°51N×24.°47E, h0km±41km, ML2.0*
*IDC **23** 17:15:03.3±2.4,59.°54N×24.°71E, h0km, mbtmp2.9/4, ML2.0/4, Error ellipse: s-maj=26.9km s-min=9.1km az=139.0*

ISC 23 17:15:01.3±0.8, 59.°48N±0.°02×24.°53E±0.°02, h0km, n33, σ0°69/49, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
EE02	**Kiisa, Saku**	**0.30**	**164**	*e*P	**Pg**	**17 15 07.6**	**+0.4**
EE02				*e*S	**Sg**	**17 15 11.4**	**+0.3**
EE01	**Perakula, Nova**	**0.54**	**240**	*e*P	**Pg**	**17 15 11.9**	**+0.2**
EE01				*e*S	**Sg**	**17 15 18.9**	**+0.3**
HEL1	**Helsinki**	**0.72**	**14**	*e*P	**Pg**	**17 15 15.3**	**+0.2**
HEL1				*e*S	**Sg**	**17 15 24.1**	**-0.3**
MEF	**Metsahovi**	**0.74**	**355**	*e*P	**Pg**	**17 15 15.8**	**+0.3**
MEF	**Metsahovi**	**0.74**	**355**	*e*P	**Pg**	**17 15 15.7**	**+0.3**
MEF				*e*S	**Sg**	**17 15 25.6**	**+0.5**
MEF				AML	AML	17 15 35.5	
	comp=N,12nm,0.3s						
MEF				AML	AML	17 15 35.6	
	comp=Z,8.8nm,0.2s						
MEF				AML	AML	17 15 35.9	
	comp=E,9.2nm,0.1s						
MEF	**Metsahovi**	**0.74**	**355**	*e*P	**Pg**	**17 15 15.8**	**+0.3**
MEF				*e*S	**Sg**	**17 15 25.6**	**+0.5**
ARBE	**Arbavere**	**0.74**	**93**	*e*P	**Pg**	**17 15 15.5**	**0.0**
ARBE	**Arbavere**	**0.74**	**93**	*e*P	**Pg**	**17 15 16.0**	**+0.4**
ARBE				*e*S	**Sb**	**17 15 27.3**	**-0.5**
ARBE				AML	AML	17 15 34.0	
	comp=Z,44nm,0.3s						
ARBE				AML	AML	17 15 34.9	
	comp=N,126nm,0.1s						
ARBE				AML	AML	17 15 35.4	
	comp=E,145nm,0.1s						
ARBE	**Arbavere**	**0.74**	**93**	*e*P	**Pg**	**17 15 15.7**	**+0.1**
ARBE				*e*S	**Sg**	**17 15 26.3**	**+1.1**
MTSE	**Matsula**	**0.85**	**206**	*e*P	**Pg**	**17 15 17.8**	**+0.2**
MTSE	**Matsula**	**0.85**	**206**	*e*P	**Pg**	**17 15 17.9**	**+0.2**
MTSE				*e*S	**Sg**	**17 15 29.8**	**+1.1**
MTSE	**Matsula**	**0.85**	**206**	*e*P	**Pg**	**17 15 17.8**	**+0.2**
MTSE				*e*S	**Sg**	**17 15 29.4**	**+0.7**
EE08	**Sarghaua, Vand**	**0.91**	**156**	*e*P	**Pg**	**17 15 18.7**	**+0.1**
EE08				*e*S	**Sg**	**17 15 29.6**	**-0.7**
NUR	**Nurmijrvi**	**1.03**	**3**	*e*P	**Pg**	**17 15 21.3**	**+0.2**
NUR				*e*S	**Sg**	**17 15 35.1**	**+0.7**
EE03	**Tooma soojaam,**	**1.09**	**123**	*e*P	**Pg**	**17 15 21.7**	**-0.4**
EE03				*e*S	**Sg**	**17 15 36.1**	**0.0**
EE03				*e*SN	**Sn**	**17 15 41.7**	**+2.3**
PVF	**Pernaja**	**1.26**	**32**	*e*P	**Pg**	**17 15 25.1**	**-0.3**
VSU	**Vasula**	**1.53**	**131**	*e*P	**Pn**	**17 15 30.2**	**+0.3**
VSU				AML	AML	17 15 32.2	
	comp=Z,14nm,0.3s						
VSU				*e*S	**Sg**	**17 15 50.8**	**+0.3**
VSU				AML	AML	17 15 55.0	
	comp=N,26nm,0.2s						
VSU				AML	AML	17 15 55.8	
	comp=E,22nm,0.4s						
VSU	**Vasula**	**1.53**	**131**	*e*P	**Pn**	**17 15 29.9**	**+0.1**
VSU				*e*S	**Sn**	**17 15 50.1**	**-0.4**
VJF	**Virojoki**	**1.85**	**54**	*e*P	**Pn**	**17 15 34.8**	**+0.5**
VJF				MSG		17 16 01.8	
	comp=Z,4.1nm,0.1s						
FIA0	**FINESS Array S**	**2.11**	**21**	*e*PG	**Pb**	**17 15 39.9**	**-0.5**
FIA0				MSG		17 16 10.8	
	comp=Z,2.8nm,0.1s						
FINES	**FINESS Array B**	**2.11**	**21**	Pn	**Pb**	**17 15 40.0**	**-0.5**
	comp=Z,1.9nm,0.3s,baz=203,slow=15,SNR=67						
FINES				Lg	Lg	17 16 06.7	
	comp=Z,2.0nm,0.3s,baz=202,slow=28,SNR=19 comp=Z,3.9nm,0.3s						
FIA1	**FINESS Array S**	**2.11**	**21**	MSG		17 16 10.8	
	comp=Z,2.3nm,0.1s						
SLIT	**Slitere, Latvi**	**2.20**	**213**	*e*P	**Pn**	**17 15 38.8**	**-0.2**
SLIT	**Slitere, Latvi**	**2.20**	**213**	*e*P	**Pb**	**17 15 41.1**	**-0.8**
SLIT				AML	AML	17 15 41.6	
	comp=Z,94nm,0.1s						
SLIT				AML	AML	17 16 12.5	
	comp=E,94nm,0.3s						
SLIT				AML	AML	17 16 13.7	
	comp=N,132nm,0.3s						
SLIT	**Slitere, Latvi**	**2.20**	**213**	*e*PG	**Pb**	**17 15 41.0**	**-0.9**
AAL	**Aland**	**2.39**	**289**	*e*P	**Pn**	**17 15 42.6**	**+0.9**
AAL				*e*PB	**Pb**	**17 15 44.0**	**-1.2**
KPF	**Kankaanpaa**	**2.65**	**334**	*e*PB	**Pb**	**17 15 47.7**	**-2.0**
KPF				MSG		17 16 25.5	
	comp=Z,4.0nm,0.2s						
KEF	**Keuruu**	**2.70**	**3**	*e*P	**Pn**	**17 15 46.7**	**+0.7**
VAF	**Ylistaro**	**3.68**	**347**	*e*P	**Pn**	**17 15 60.0**	**+0.5**
VIKU	**Vikbolandet**	**4.17**	**260**	*e*P	**Pn**	**17 16 06.2**	**+0.1**
HFS	**Hagfors**	**5.51**	**281**	Pn	**Pn**	**17 16 24.7**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=91,slow=14,SNR=1.7						
HFS				Sn	**Sn**	**17 17 29.0**	**+0.5**
	comp=Z,0.3nm,0.3s,baz=90,slow=26,SNR=5.1 comp=Z,0.7nm,0.6s						
NOA	**NORSAR Array B**	**6.81**	**289**	Pn	**Pn**	**17 16 42.9**	**+0.5**
	baz=100,slow=10.0,SNR=1.5 comp=Z,0.6nm,1.0s						
ARCES	**ARCESS Array B**	**10.10**	**2**	Pn	**Pn**	**17 17 26.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=176,slow=14,SNR=1.3 comp=Z,1.4nm,0.8s						

*FUNV **23** 17:25:32.6, 11.°01N×62.°23W, h23km, MW3.9*
*TRN **23** 17:25:33.0, 10.°99N×62.°09W, h91km, MD3.3, North of the Paria peninsula.*

ISC 23 17:25:29.3±1.7, 10.°90N±0.°05×62.°20W±0.°07, h113km±17km, n15, σ1°72/29, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRN	**Trinidad (W)**	**0.82**	**108**	*e*P	**Pn**	**17 25 50.1**	**+1.0**
TRN				*e*S	**Sn**	**17 26 01.2**	**-2.7**
TPP	**Pointe-a-Pierr**	**0.94**	**128**	*e*P	**Pn**	**17 25 51.5**	**+1.3**
TPP				*e*S	**Sn**	**17 26 07.0**	**+1.1**
GRFF	**Grenada Fort F**	**1.23**	**22**	*e*P	**Pn**	**17 25 54.2**	**+1.0**
GRFF				*e*S	**Sn**	**17 26 09.8**	**-1.6**
GRGR	**Grenville**	**1.34**	**23**	*e*P	**Pn**	**17 25 55.4**	**+0.9**
GRGR				*e*S	**Sn**	**17 26 12.5**	**-1.1**
TPR	**Prospect**	**1.42**	**78**	*e*P	**Pn**	**17 25 56.4**	**+0.9**
TPR				*e*S	**Sn**	**17 26 14.6**	**-0.7**
GRHS	**Sauteurs**	**1.43**	**22**	*e*P	**Pn**	**17 25 56.7**	**+1.2**
GRHS				*e*S	**Sn**	**17 26 13.7**	**-1.6**
GCMP	**Grenada, Carri**	**1.75**	**26**	*e*P	**Pn**	**17 26 00.2**	**+0.9**
GCMP				*e*S	**Sn**	**17 26 20.6**	**-1.6**
SVOC	**Richmond Hill,**	**2.44**	**23**	*e*P	**Pn**	**17 26 10.9**	**+2.8**
SVOC				*e*S	**Sn**	**17 26 36.7**	**-1.0**
SVT	**Saint Vincent**	**2.44**	**22**	*e*P	**Pn**	**17 26 09.5**	**+1.4**
SVT				*e*S	**Sn**	**17 26 36.0**	**-2.0**
PCRV	**Puerto La Cruz**	**2.50**	**254**	*e*P	**Pn**	**17 26 11.1**	**+2.1**
PCRV				*e*S	**Sn**	**17 26 39.7**	**+0.3**
SVB	**Belmont**	**2.53**	**21**	*e*P	**Pn**	**17 26 11.3**	**+1.9**
SVB				*e*S	**Sn**	**17 26 39.1**	**-1.0**
SLBI	**Saint Lucia, B**	**3.33**	**21**	*e*P	**Pn**	**17 26 21.1**	**+1.3**
SLBI				*e*S	**Sn**	**17 26 57.2**	**-1.5**
BIM	**Bigot**	**3.76**	**17**	*e*P	**Pn**	**17 26 27.8**	**+2.2**
BIM				*e*S	**Sn**	**17 27 06.6**	**-2.6**
CACV	**CAICARA DEL OR**	**5.42**	**233**	*e*P	**Pn**	**17 26 46.2**	**-1.6**
CACV				*e*S	Sn	17 27 40.4	-8.7
BAUV	**El Baul**	**6.08**	**252**	*e*P	**Pn**	**17 26 58.4**	**+1.6**
BAUV				*e*S	**Sn**	**17 28 03.0**	**-2.0**

*NOU **23** 17:26:54.4, 33.°61S×117.°90E, h0km, MLv3.8/9, Western Australia*
*AUST **23** 17:26:55.6±0.4, 34.°S±3.°×11.°8E±.°, h10km, M3.7/14, mb3.9/4, Mjma4.0/14, ML3.1/9, MLv3.7/10, Error ellipse: s-maj=6.6km s-min=4.4km az=20.4*
*CUPWA **23** 17:26:55.3±0.7, 33.°63S×117.°89E, h2km±12km, Region: WESTERN AUSTRALIA*

ISC 23 17:26:54.7±1.3, 33.°62S±0.°04×117.°95E±0.°05, h20km±5km, n44, σ1°84/51, Western Australia

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GNOT	**Gnowangerup To**	**0.33**	**163**	P	**Pg**	**17 27 01.7**	**-0.2**
GNOT				S	**Sg**	**17 27 05.3**	**-1.5**
NWAO	**Narrogin (SRO)**	**0.92**	**319**	P	**Pb**	**17 27 11.3**	**-0.6**
NWAO	**Narrogin (SRO)**	**0.92**	**319**	P	**Pb**	**17 27 11.2**	**-0.6**
NWAO				S	**Sb**	**17 27 22.5**	**-1.1**
NWAO	**Narrogin (SRO)**	**0.92**	**319**	P	**Pb**	**17 27 11.2**	**-0.6**
AUKUL	**Kulin High Sch**	**0.96**	**10**	P	**Pb**	**17 27 13.2**	**+0.5**
AUKUL				S	**Sb**	**17 27 25.2**	**+0.2**
RKGY	**Rocky Gully**	**1.28**	**219**	P	**Pb**	**17 27 17.9**	**-0.1**
RKGY	**Rocky Gully**	**1.28**	**219**	P	**Pb**	**17 27 17.8**	**-0.3**
RKGY	**Rocky Gully**	**1.28**	**219**	P	**Pb**	**17 27 17.8**	**-0.3**
RKGY	**Rocky Gully**	**1.28**	**219**	S	**Sb**	**17 27 33.3**	**-0.7**
CORI2	**Corrigin**	**1.54**	**354**	PG	**Pb**	**17 27 23.2**	**+0.7**
CORI2				SG	**Sb**	**17 27 42.5**	**+0.9**
KLBR	**Kellerberrin**	**2.03**	**355**	P	**Pn**	**17 27 29.3**	**+1.5**
KLBR	**Kellerberrin**	**2.03**	**355**	S	**Sb**	**17 27 54.6**	**-1.1**
KLBR	**Kellerberrin**	**2.03**	**355**	P	**Pb**	**17 27 30.1**	**-0.8**
KLBR	**Kellerberrin**	**2.03**	**355**	P	**Pb**	**17 27 30.1**	**-0.8**
KLBR	**Kellerberrin**	**2.03**	**355**	S	**Sb**	**17 27 54.6**	**-1.1**
MUN	**Mundaring**	**2.20**	**318**	P	**Pn**	**17 27 30.8**	**+0.7**
MUN	**Mundaring**	**2.20**	**318**	P	**Pn**	**17 27 31.1**	**+1.0**
MUN	**Mundaring**	**2.20**	**318**	S	**Sn**	**17 27 58.6**	**+1.9**
MUN	**Mundaring**	**2.20**	**318**	P	**Pn**	**17 27 31.1**	**+1.0**
MUN	**Mundaring**	**2.20**	**318**	S	**Sn**	**17 27 58.6**	**+1.9**
CARL	**Carlisle**	**2.36**	**313**	P	**Pb**	**17 27 35.3**	**-1.2**
CARL				S	**Sb**	**17 28 05.1**	**-0.2**
MTKN	**Mount Kenneth**	**2.49**	**312**	S	**Sb**	**17 28 11.1**	**+2.2**
BLDU	**Ballidu**	**3.18**	**340**	P	**Pn**	**17 27 45.0**	**+1.4**
BLDU	**Ballidu**	**3.18**	**340**	P	**Pn**	**17 27 44.8**	**+1.3**
BLDU				S	**Sn**	**17 28 22.0**	**+1.1**
BLDU	**Ballidu**	**3.18**	**340**	S	**Sn**	**17 27 44.8**	**+1.3**
BLDU	**Ballidu**	**3.18**	**340**	S	**Sn**	**17 28 22.0**	**+1.1**
KMBL	**Kambalda**	**4.01**	**57**	P	**Pn**	**17 27 57.8**	**+2.8**
KMBL	**Kambalda**	**4.01**	**57**	P	**Pn**	**17 27 57.0**	**+2.0**
KMBL				S	**Sn**	**17 28 44.0**	**+2.6**
KMBL	**Kambalda**	**4.01**	**57**	P	**Pn**	**17 27 57.8**	**+2.8**
MORW	**Morawa**	**4.82**	**340**	P	**Pn**	**17 28 08.0**	**+1.8**
MORW	**Morawa**	**4.82**	**340**	P	**Pn**	**17 28 07.5**	**+1.2**
MORW				S	**Sn**	**17 29 02.1**	**+0.5**
MORW	**Morawa**	**4.82**	**340**	P	**Pn**	**17 28 07.5**	**+1.2**
MEEK	**Meekatharra**	**6.98**	**5**	P	**Pn**	**17 28 38.0**	**+2.0**
MEEK	**Meekatharra**	**6.98**	**5**	P	**Pn**	**17 28 37.9**	**+2.0**
MEEK				S	**Sn**	**17 29 49.0**	**-5.8**
MEEK	**Meekatharra**	**6.98**	**5**	P	**Pn**	**17 28 37.9**	**+2.0**
	comp=Z,12nm,2.4s,comp=Z,820nmcomp=Z,99µmcomp=Z,0.0nm						
MEEK	**Meekatharra**	**6.98**	**5**	S	**Sn**	**17 29 49.0**	**-5.8**
FORT	**Forrest**	**9.02**	**74**	P	**Pn**	**17 29 05.8**	**+2.0**
FORT	**Forrest**	**9.02**	**74**	P	**Pn**	**17 29 05.4**	**+1.6**
	comp=Z,20nm,0.8s,comp=Z,842nmcomp=Z,0.1nm						
FORT	**Forrest**	**9.02**	**74**	S	**Sn**	**17 30 43.6**	**-1.2**
PSAB3	**Pilbara Seismi**	**12.10**	**8**	S	Sn	17 31 50.2	-10
PSAA1	**Pilbara Seismi**	**12.11**	**8**	S	Sn	17 31 50.5	-10
PSAA2	**Pilbara Seismi**	**12.13**	**8**	P	**Pn**	**17 29 47.4**	**+1.0**
	comp=Z,11nm,1.5s,comp=Z,882nm						
WRKA	**Warakurna**	**12.43**	**49**	P	**Pn**	**17 29 50.7**	**+0.1**
	comp=Z,8.2nm,2.8s,comp=Z,852nm						
MULG	**Mulgathing**	**14.07**	**81**	P	**Pn**	**17 30 13.2**	**+0.2**

*NEIC **23** 17:37:36.1±1.7, 19.°402N±0.°006×155.°298W±0.°008, h5km±1km, Error ellipse: s-maj=2.9km s-min=1.2km az=124.0*

HVO 23 17:37:35.9±2.7, 19.°356N±0.°009×155.°26W±0.°01, h1km±5km, ML2.5/34, ML2.2/40(NEIC), Error ellipse: s-maj=1.7km s-min=1.1km az=127.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.05**	**68**		Pg	17 37 37.8	+0.9
BYL	**Byron's Ledge**	**0.06**	**2**		Pg	17 37 36.9	-0.1
BYL				IAML		17 37 37.7	
	comp=E,2µm,1.3s						
HATHI	**Halema'uma'u T**	**0.07**	**1**		Pg	17 37 38.6	+1.3
HATHI				IAML		17 37 39.7	
	comp=E,3µm,0.7s						
HATHI				IAML		17 37 39.9	
	comp=N,2µm,0.4s						
UWB	**Uwekahuna B**	**0.07**	**348**		Pg	17 37 40.1	+2.8
UWE	**Uwekahuna**	**0.07**	**336**	Pg	Pg	17 37 37.2	-0.1
UWE				IAML		17 37 38.5	
	comp=N,3µm,1.3s						
UWE				IAML		17 37 39.2	
	comp=E,2µm,0.8s						
HLP	**Hilina Pali**	**0.07**	**216**		Pg	17 37 38.5	+1.1
HLP	**Hilina Pali**	**0.07**	**216**	IAML		17 37 39.8	
	comp=N,2µm,0.2s						
HLP				IAML		17 37 40.0	
	comp=E,1µm,0.3s						
KNHH	**Kane Nui o Ham**	**0.09**	**75**		Pg	17 37 38.7	+1.0
RSD	**Rainshed**	**0.11**	**352**		Pg	17 37 37.9	-0.1
STCH	**Steam Cracks**	**0.13**	**77**		Pg	17 37 39.4	+0.9
STCH	**Steam Cracks**	**0.13**	**77**	IAML		17 37 41.8	
	comp=E,536nm,0.6s						
STCH				IAML		17 37 42.9	
	comp=N,766nm,0.4s						
NPOC	**North of Pu'u**	**0.15**	**76**		Pg	17 37 39.6	+0.8
HTC	**Hot Caves**	**0.17**	**227**		Pg	17 37 40.3	+1.0
MLH	**Mauna Loa**	**0.18**	**320**	Pg	Pg	17 37 39.3	-0.2
MLH				IAML		17 37 41.5	
	comp=N,462nm,2.1s						
MLH				IAML		17 37 45.2	
	comp=E,426nm,1.0s						
JOKA	**Jonika Flow**	**0.26**	**72**		Pg	17 37 38.9	-1.9
JOKA				IAML		17 37 47.4	
	comp=N,520nm,1.2s						
HMH	**Humu'ula Sheep**	**0.32**	**320**	Pg	Pg	17 37 40.2	-2.0
HMH				IAML		17 37 47.3	
	comp=E,230nm,2.6s						
HMH				IAML		17 37 48.4	
	comp=N,258nm,1.7s						
MWH	**Moku'aweowe**	**0.34**	**292**		Pg	17 37 41.1	-1.4
MLOA	**Mauna Loa Obse**	**0.35**	**301**	Pg	Pg	17 37 41.2	-1.4
MLOA				IAML		17 37 53.0	
	comp=N,369nm,1.2s						
KHU	**Kahuku**	**0.35**	**252**	Pg	Pg	17 37 41.3	-1.4
KHU				IAML		17 37 49.2	
	comp=N,228nm,3.0s						
KHU				IAML		17 37 51.0	
	comp=E,220nm,0.9s						
POHA	**Pohakuloa**	**0.47**	**327**	Pg	Pg	17 37 44.4	-0.6
POHA				IAML		17 37 58.9	
	comp=E,247nm,0.2s						
POHA				IAML		17 38 00.8	
	comp=E,237nm,0.8s						
HUH	**Hualalai**	**0.63**	**301**		Pg	17 37 47.7	-0.4

*IDC **23** 17:52:24.3±1.5, 11.°41N×95.°35E, h0km, mb3.5/5, mbtmp3.4/6, ML3.2/1, Error ellipse: s-maj=55.6km s-min=23.1km az=55.0*

ISC 23 17:52:25.7±1.4, 11.°4N±0.°2×95.°3E±0.°2, h10km, n6, σ1°06/6, mb3.4/5, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**7.81**	**26**	Pn	**Pn**	**17 54 19.1**	**-0.3**
	0.1nm,0.3s,baz=212,slow=15,SNR=4.4 0.4nm,0.5s						
MKAR	**Makanchi Array**	**36.94**	**345**	P	**P**	**17 59 35.7**	**+0.8**
	0.7nm,0.8s,baz=158,slow=9.0,SNR=2.5 0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**41.44**	**344**	P	**P**	**18 00 12.7**	**+0.2**
	0.2nm,0.5s,baz=152,slow=8.4,SNR=2.2 0.2nm,0.5s						
GEYT	**Alibeck**	**42.45**	**315**	P	**P**	**18 00 20.6**	**-0.4**
	1.4nm,0.5s,baz=150,slow=6.0,SNR=4.2 1.4nm,0.5s						
WRA	**Warramunga Arr**	**49.46**	**129**	P	**P**	**18 01 17.6**	**+1.1**
	0.4nm,0.9s,baz=314,slow=9.0,SNR=2.4 0.4nm,0.9s						
ASAR	**Alice Springs**	**51.37**	**133**	P	**P**	**18 01 29.9**	**-1.1**
	0.4nm,1.0s,baz=312,slow=7.0,SNR=1.8 0.4nm,1.0s						

IDC 23 17:54:34.5±7.8, 11.°79N×93.°94E, h0km, mb3.4/2, mbtmp3.3/3, ML3.2/1, Error ellipse: s-maj=177.2km s-min=44.9km az=96.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CMAR	**Chiang Mai Arr**	**8.20**	**35**	Pn	Pn	17 56 34.7	-0.2
	0.1nm,0.3s,baz=221,slow=16,SNR=1.9 0.5nm,0.6s						
WRA	**Warramunga Arr**	**50.75**	**128**	P	P	18 03 36.4	-0.3
	0.8nm,1.0s,baz=307,slow=8.6,SNR=6.2 0.8nm,1.0s						
ASAR	**Alice Springs**	**52.62**	**132**	P	P	18 03 50.8	+0.2
	0.2nm,0.5s,baz=307,slow=6.8,SNR=7.2 0.2nm,0.5s						

*IDC **23** 18:53:39.9±2.1, 38.°46S×75.°40W, h0km, mb3.6/3, mbtmp3.5/4, ML2.8/1, MS2.7/1, Error ellipse: s-maj=66.3km s-min=28.6km az=47.0*
*GUC **23** 18:53:46.6±0.6, 38.°04S×75.°07W, h41km±3km, ML3.3*

ISC 23 18:53:46.8±1.3, 38.°10S±0.°07×75.°1W±0.°1, h35km, n14, σ1°12/16, mb3.6/3, 1C-1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BI04	**Isla Mocha**	**1.01**	**108**	⇓*i*P	**Pn**	**18 54 04.0**	**-0.4**
BI04				*e*S	**Sn**	**18 54 17.4**	**+0.1**
LC02	**Puerto Saavedr**	**1.52**	**118**	*e*P	**Pn**	**18 54 11.4**	**-0.1**
LC02				*e*S	**Sn**	**18 54 30.2**	**+0.3**
BI05	**Punta Hualpn**	**2.04**	**49**	*e*P	**Pn**	**18 54 17.9**	**-0.6**
BI05				*e*S	**Sn**	**18 54 42.0**	**-0.8**
BI05				IAML		18 54 44.5	
	comp=E,291nm,0.1s						
LR03	**Panguipulli**	**2.64**	**126**	*e*S	**Sn**	**18 54 58.7**	**+1.0**
GO06	**Curarrehue**	**3.20**	**119**	⇑*i*P	**Pn**	**18 54 36.1**	**+1.4**
GO06				*e*S	**Sn**	**18 55 12.4**	**+0.8**
GO06				IAML		18 55 19.0	
	comp=E,43nm,0.7s						
BI02	**San Fabin de**	**3.37**	**66**	*e*P	**Pn**	**18 54 36.9**	**-0.2**
BI02				IAML		18 55 19.9	
	comp=E,54nm,0.6s						
PLCA	**Paso Flores**	**4.40**	**128**	Pn	**Pn**	**18 54 49.6**	**-1.6**
	comp=E,0.1nm,0.3s,baz=292,slow=15,SNR=3.4						
PLCA				Sn	**Sn**	**18 55 39.2**	**-1.9**
	comp=E,0.5nm,0.3s,baz=254,slow=17,SNR=4.1						
PLCA				LR	LR	18 56 38.5	
	comp=E,88nm,20.5s,baz=342,slow=41 comp=E,0.6nm,0.5s						
H03S1	**Juan Fernandez**	**5.25**	**323**	T	T	19 00 19.6	
	baz=151,slow=71						
H03S2	**Juan Fernandez**	**5.26**	**323**	T	T	19 00 10.6	
	baz=151,slow=71						
H03S3	**Juan Fernandez**	**5.27**	**323**	T	T	19 00 21.8	
	baz=151,slow=71						
LPAZ	**La Paz**	**22.58**	**18**	P	**P**	**18 58 47.1**	**+2.2**
	comp=E,1.6nm,0.7s,baz=192,slow=7.2,SNR=5.9 comp=E,1.6nm,0.7s						
TXAR	**Lajitas Array**	**72.21**	**334**	P	**P**	**19 05 08.3**	**+0.1**
	comp=E,0.4nm,0.6s,baz=153,slow=8.1,SNR=5.4 comp=E,0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**87.90**	**72**	P	**P**	**19 06 32.5**	**-0.5**
	comp=E,0.3nm,0.6s,baz=235,slow=5.1,SNR=2.3 comp=E,0.3nm,0.6s						
BVAR	**Borovoye Array**	**151.94**	**47**	PKPbc	**PKPbc**	**19 13 36.7**	**-0.7**
	comp=E,0.5nm,0.6s,baz=336,slow=3.2,SNR=5.0						

IDC 23 18:55:30.3±3.6, 5.°08S×152.°09E, h0km, mb3.5/2, mbtmp3.7/3, ML1.7/1, MS3.3/1, Error ellipse: s-maj=137.4km s-min=47.6km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.51**	**228**	Pn	Pn	18 57 08.8	+1.3
	1.0nm,0.3s,baz=209,slow=15,SNR=1.5						
PMG				Sn	Sn	18 58 15.3	-7.2
	3.3nm,0.3s,baz=161,slow=13,SNR=7.1 11nm,0.7s						
WRA	**Warramunga Arr**	**22.73**	**228**	P	P	19 00 34.2	0.0
	1.1nm,0.6s,baz=52,slow=9.9,SNR=7.7 1.1nm,0.6s						
ASAR	**Alice Springs**	**25.47**	**222**	P	P	19 00 59.8	-0.5
	0.8nm,0.8s,baz=56,slow=8.8,SNR=9.2 0.8nm,0.8s						
KLR	**Kul'dur**	**56.92**	**344**	LR	LR	19 30 23.0	
	comp=Z,25nm,18.3s,baz=197,slow=37						
TORD	**Torodi Ar. Bea**	**149.72**	**287**	PKPbc	PKPbc	19 15 23.1	-0.2
	0.5nm,0.7s,baz=81,slow=2.8,SNR=3.0						

IDC 23 18:55:35.4±1.4, 50.°28S×130.°26E, h0km, mb3.8/5, mbtmp3.8/5, MS3.6/7, Error ellipse: s-maj=94.3km s-min=20.6km az=96.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H01W1	**Cape Leeuwin H**	**19.35**	**317**	T	T	19 19 59.9	
	baz=145,slow=74,SNR=12						
H01W2	**Cape Leeuwin H**	**19.36**	**316**	T	T	19 20 07.9	
	baz=145,slow=74,SNR=12						
H01W3	**Cape Leeuwin H**	**19.37**	**316**	T	T	19 20 11.3	
	baz=145,slow=74,SNR=9.5						
STKA	**Stephens Creek**	**20.23**	**29**	P	P	19 00 11.1	-0.9
	0.9nm,0.5s,baz=185,slow=15,SNR=1.7						
STKA				LR	LR	19 06 46.1	
	comp=Z,113nm,19.7s,baz=203,slow=33 0.9nm,0.5s						
ASAR	**Alice Springs**	**26.72**	**7**	P	P	19 01 16.2	-0.2
	2.0nm,0.8s,baz=180,slow=8.7,SNR=19						
ASAR				LR	LR	19 10 54.0	
	comp=Z,81nm,19.8s,baz=169,slow=34 2.0nm,0.8s						
VNDA	**Vanda**	**29.82**	**167**	P	P	19 01 44.0	+0.3
	1.2nm,0.9s,baz=311,slow=9.2,SNR=7.0						
VNDA				LR	LR	19 11 55.1	
	comp=Z,58nm,20.7s,baz=316,slow=33 1.2nm,0.9s	

CIHU	**Emiliano Zapat**	**1.32**	**43**	*e*P		**Pn**	**19 31 52.2**	**-2.1**
CIHU				*e*S		**Sn**	**19 32 10.7**	**-1.3**
CJM	**Chamela**	**1.34**	**27**	*i* P		**Pn**	**19 31 52.4**	**-2.2**
CJM				*i* S		**Sn**	**19 32 10.6**	**-1.9**
CDAR	**Ciudad de Arme**	**1.72**	**68**	*e*P		**Pn**	**19 31 59.0**	**-0.7**
CDAR				*e*S		**Sn**	**19 32 20.3**	**-1.5**
R15V		**1.84**	**62**	*e*P		**Pn**	**19 32 00.2**	**-1.2**
R15V				*e*S		**Sn**	**19 32 23.0**	**-1.8**
CEGR	**Campo Tres**	**2.05**	**58**	*i* P		**Pn**	**19 32 03.8**	**-0.6**
CEGR				*e*S		**Sn**	**19 32 30.3**	**+0.1**
ESTA	**Talpa de Allen**	**2.23**	**21**	*e*P		**Pn**	**19 32 05.9**	**-1.1**
ESTA				*i* S		**Sn**	**19 32 34.5**	**-0.2**
MNGA	**Volcan de Coli**	**2.28**	**59**	*e*P		**Pn**	**19 32 07.9**	**+0.2**
MNGA				*i* S		**Sn**	**19 32 36.1**	**+0.1**
EZ5V		**2.30**	**59**	*i* P		**Pn**	**19 32 08.2**	**+0.2**
EZ5V				*e*S		**Sn**	**19 32 38.1**	**+1.6**
SOMAC	**Volcano de Col**	**2.30**	**58**	*i* P		**Pn**	**19 32 08.3**	**+0.2**
SOMAC				*e*S		**Sn**	**19 32 37.1**	**+0.4**
INCO	**Volcan de Coli**	**2.32**	**58**	*i* P		**Pn**	**19 32 08.7**	**+0.2**
INCO				*e*S		**Sn**	**19 32 38.6**	**+1.3**
JUBC	**Volcan de Coli**	**2.34**	**59**	*i* P		**Pn**	**19 32 09.1**	**+0.4**
JUBC				*i* S		**Sn**	**19 32 38.7**	**+1.1**
ANIG	**Ahuacatlan**	**2.95**	**22**	*e*P		**Pn**	**19 32 16.9**	**0.0**
ANIG				*e*S		**Sn**	**19 32 53.2**	**+0.7**
LPIG	**La Paz**	**7.20**	**324**	LR		LR	19 35 22.6	
	comp=Z,231nm,21.9s,baz=144,slow=30							
TXAR	**Lajitas Array**	**11.14**	**9**	Pn		**Pn**	**19 34 13.9**	**+4.7**
	0.1nm,0.3s,baz=185,slow=13,SNR=12							
	1.3nm,0.8s							
ANMO	**Albuquerque**	**16.59**	**358**	LR		LR	19 41 57.6	
	comp=Z,60nm,20.4s,baz=267,slow=37							
PFO	**Pinyon Flats O**	**18.04**	**330**	LR		LR	19 41 38.3	
	comp=Z,45nm,21.3s,baz=174,slow=33							
NVAR	**Mina Array Bea**	**22.88**	**334**	P		**P**	**19 36 34.4**	**+0.6**
	0.3nm,0.8s,baz=162,slow=12,SNR=2.2							
	0.3nm,0.8s							
PDAR	**Pinedale Array**	**24.61**	**353**	P		**P**	**19 36 52.4**	**+1.9**
	0.5nm,0.8s,baz=151,slow=8.3,SNR=3.0							
	0.5nm,0.8s							
TKL	**Tuckaleechee C**	**25.99**	**44**	LR		LR	19 49 49.9	
	comp=Z,45nm,20.8s,baz=269,slow=42							
YBH	**Yreka Blue Hor**	**27.51**	**332**	LR		LR	19 47 05.7	
	comp=Z,30nm,18.8s,baz=146,slow=33							
SADO	**Sadowa**	**34.47**	**34**	LR		LR	19 53 32.0	
	comp=Z,54nm,20.7s,baz=338,slow=38							
NNA	**Nana**	**41.42**	**134**	LR		LR	19 52 39.8	
	comp=Z,48nm,21.1s,baz=322,slow=32							
DLBC	**Dease Lake**	**43.88**	**342**	LR		LR	19 58 06.8	
	comp=Z,89nm,18.5s,baz=158,slow=36							
FRB	**Frobisher Bay**	**51.95**	**20**	LR		LR	20 03 21.1	
	comp=Z,66nm,18.8s,baz=263,slow=36							
ILAR	**Eielson Array**	**53.96**	**340**	P		**P**	**19 40 54.0**	**+0.5**
	0.9nm,1.1s,baz=139,slow=4.5,SNR=3.7							
	0.9nm,1.1s							
LVC	**Limon Verde**	**54.28**	**137**	LR		LR	19 58 39.6	
	comp=Z,30nm,20.1s,baz=298,slow=31							
SFJD	**Kangerlussuaq**	**59.95**	**22**	LR		LR	20 09 10.5	
	comp=Z,81nm,18.4s,baz=249,slow=38							
CPUP	**Villa Florida**	**64.61**	**132**	LR		LR	20 10 11.9	
	comp=Z,29nm,19.2s,baz=172,slow=36							
JMIC	**Jan Mayen**	**75.17**	**20**	LR		LR	20 17 02.4	
	comp=Z,43nm,20.1s,baz=180,slow=36							
SPITS	**Spitsbergen Ar**	**78.38**	**10**	P		**P**	**19 43 27.2**	**-2.8**
	8.1nm,0.9s,baz=280,slow=7.8,SNR=11							
HFS	**Hagfors**	**87.89**	**26**	LR		LR	20 23 07.1	
	comp=Z,31nm,18.2s,baz=324,slow=35							
FINES	**FINESS Array B**	**91.74**	**21**	LR		LR	20 25 35.1	
	comp=Z,22nm,18.3s,baz=250,slow=35							
DAVOX	**Davos/Dischmat**	**93.16**	**38**	LR		LR	20 27 15.4	
	comp=Z,28nm,19.0s,baz=262,slow=36							
VRAC	**Vranov**	**95.52**	**34**	LR		LR	20 27 45.2	
	comp=Z,19nm,20.0s,baz=282,slow=35							
MJAR	**Matsushiro Arr**	**98.72**	**313**	LR		LR	20 19 42.9	
	comp=Z,12nm,20.9s,baz=144,slow=29							

IDC 23 20:00:57.5±58.0, 17.46S×171.82W, h0km, mb3.8/3, mbtmp3.8/3, Error ellipse: s-maj=1124.0km s-min=208.7km az=81.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
STKA	**Stephens Creek**	**44.37**	**242**	P	P	20 09 09.3		-0.6
	1.8nm,0.7s,baz=81,slow=13,SNR=1.4							
	1.8nm,0.7s							
WRA	**Warramunga Arr**	**50.88**	**258**	P	P	20 09 60.0		-0.7
	0.5nm,0.9s,baz=96,slow=6.5,SNR=6.0							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**50.95**	**253**	P	P	20 10 01.8		+0.6
	1.5nm,0.7s,baz=90,slow=7.8,SNR=22							
	1.5nm,0.7s							

*IDC **23** 20:22:02.5±4.9, 10.75S×164.69E, h58km±44km, mb3.7/10, mbtmp4.0/11, ML4.6/1, MS3.6/6, Error ellipse: s-maj=30.4km s-min=21.4km az=89.0*
*NEIC **23** 20:22:03.2±2.2, 10.7S±0.1×165.0E±0.1, h62km±9km, mb4.4/8, Error ellipse: s-maj=16.3km s-min=12.9km az=218.0*
ISC 23 20:22:00.9±0.8, 10.70S±0.07×165.0E±0.1, h46km, n37, σ1§66/28, mb4.1/14, MS3.3/4, Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
HNR	**Honiara**	**5.13**	**284**		**Pn**	**20 23 16.8**		**+1.6**
HNR	**Honiara**	**5.13**	**284**	LR	LR	20 25 22.6		
	comp=Z,5μm,20.3s,baz=68,slow=41							
KOUNC	**Koumac, New Ca**	**9.82**	**184**		**Pn**	**20 24 21.6**		**+2.1**
KOUNC					**Sn**	**20 26 07.5**		**-1.0**
LIFNC	**LIFOU**	**10.25**	**168**	Pn	**Pn**	**20 24 26.2**		**+0.7**
DZM	**Mont Dzumac**	**11.40**	**173**		**Pn**	**20 24 43.5**		**+2.3**
DZM	**Mont Dzumac**	**11.40**	**173**	P	**Pn**	**20 24 44.1**		**+2.9**
	4.3nm,0.3s,baz=356,slow=7.3,SNR=37							
DZM				S	**Sn**	**20 26 45.3**		**-1.9**
	3.4nm,0.7s,baz=112,slow=17,SNR=1.5							
	17nm,0.5s							
OUENC	**Ouen Island, N**	**11.79**	**172**	Pn	**Pn**	**20 24 47.0**		**+0.5**
PINNC	**Pines Island,**	**12.08**	**169**	Pn	**Pn**	**20 24 53.1**		**+2.6**
PMG	**Port Moresby**	**17.61**	**273**	LR	LR	20 31 58.7		
	comp=Z,216nm,19.3s,baz=157,slow=34							
COEN	**Coen**	**21.56**	**259**	P	**P**	**20 26 48.4**		**+1.7**
COEN				IAmb	IAmb	20 27 14.7		
	comp=Z,28nm,1.2s							
ARMA	**Armidale**	**23.23**	**210**	P	**P**	**20 27 04.7**		**+0.4**
ARMA				IAmb	IAmb	20 27 41.1		
	comp=Z,16nm,1.3s							
H11S2	**WAKE ISLAND Hy**	**29.05**	**3**	T	T	20 58 15.7		
	baz=184,slow=76,SNR=51							
H11S3	**WAKE ISLAND Hy**	**29.05**	**3**	T	T	20 58 05.1		
	baz=184,slow=76,SNR=49							
H11S1	**WAKE ISLAND Hy**	**29.07**	**3**	T	T	20 58 06.1		
	baz=184,slow=76,SNR=50							
STKA	**Stephens Creek**	**30.20**	**222**	P	**P**	**20 28 03.7**		**-3.4**
	comp=Z,0.9nm,0.5s,baz=45,slow=5.7,SNR=1.5							
	comp=Z,0.9nm,0.5s							
H11N1	**WAKE ISLAND Hy**	**30.27**	**4**	T	T	20 59 55.1		
	baz=183,slow=76,SNR=25							
H11N3	**WAKE ISLAND Hy**	**30.28**	**4**	T	T	20 59 48.1		
	baz=183,slow=76,SNR=28							
H11N2	**WAKE ISLAND Hy**	**30.29**	**4**	T	T	20 59 46.4		
	baz=183,slow=76,SNR=23							
WR0	**Warramunga Arr**	**30.73**	**249**	P	**P**	**20 28 10.7**		**-1.3**
WR0				IAmb	IAmb	20 28 52.9		
	comp=Z,8.9nm,1.2s							
WB0	**Warramunga Arr**	**30.83**	**249**	P	**P**	**20 28 10.9**		**-1.9**
WRA	**Warramunga Arr**	**30.92**	**249**	P	**P**	**20 28 11.7**		**-1.9**
	comp=Z,0.8nm,0.9s,baz=79,slow=9.6,SNR=6.5							
	comp=Z,0.8nm,0.9s							
ASAR	**Alice Springs**	**32.30**	**242**	P	**P**	**20 28 23.4**		**-2.4**
	comp=Z,0.3nm,0.4s,baz=64,slow=10,SNR=11							
ASAR				PcP	**PcP**	**20 31 11.4**		**-1.8**
	comp=Z,0.4nm,0.7s,baz=90,slow=3.7,SNR=2.7							
	comp=Z,0.3nm,0.4s							
RPZ	**Rata Peaks**	**33.31**	**172**	LR	LR	20 39 53.1		
	comp=Z,115nm,19.7s,baz=172,slow=32							
BBOO	**Buckleboo**	**34.53**	**226**	P	**P**	**20 28 45.1**		**0.0**
RAR	**Rarotonga**	**35.37**	**112**	LR	LR	20 41 52.2		
	comp=Z,34nm,18.5s,baz=204,slow=33							
DAV	**Davao City (W)**	**43.02**	**293**	LR	LR	20 48 08.6		
	comp=Z,28nm,18.1s,baz=140,slow=37							
PETK	**Petropavlovsk-**	**63.86**	**355**	P	**P**	**20 32 28.7**		**+0.2**
	comp=Z,1.8nm,0.9s,baz=160,slow=4.6,SNR=3.5							
	comp=Z,1.8nm,0.9s							
VNDA	**Vanda**	**66.83**	**181**	P	**P**	**20 32 48.3**		**+0.8**
	comp=Z,1.2nm,0.8s,baz=339,slow=5.8,SNR=5.5							
	comp=Z,1.2nm,0.8s							

MA2	**Magadan**	**70.97**	**352**	LR	LR	21 00 58.4			
	comp=Z,19nm,18.4s,baz=118,slow=33								
ULN	**Ulaanbaatar**	**77.59**	**324**	P	**P**	**20 33 52.6**		**+0.2**	
ULN				IAmb	IAmb	20 33 53.6			
	comp=Z,4.6nm,0.9s								
SONM	**Songino Array**	**77.95**	**324**	P	**P**	**20 33 54.8**		**+0.5**	
	comp=Z,1.3nm,0.8s,baz=140,slow=5.9,SNR=8.7								
	comp=Z,1.3nm,0.8s								
QSPA	**South Pole Qui**	**79.31**	**180**	P	**P**	**20 34 01.6**		**0.0**	
QSPA	**South Pole Qui**	**79.31**	**180**	P	**P**	**20 34 01.8**		**+0.3**	
	comp=Z,3.9nm,1.0s,baz=351,slow=0.8,SNR=10								
	comp=Z,3.9nm,1.0s								
J18K	**Innoko River**	**79.53**	**16**	P	**P**	**20 34 03.0**		**+0.5**	
ILAR	**Eielson Array**	**83.42**	**19**	P	**P**	**20 34 22.9**		**-0.2**	
	comp=Z,0.3nm,0.6s,baz=246,slow=4.9,SNR=4.6								
	comp=Z,0.3nm,0.6s								
MKAR	**Makanchi Array**	**92.77**	**317**	P	**P**	**20 35 08.0**		**-0.5**	
	comp=Z,1.7nm,0.8s,baz=99,slow=7.6,SNR=6.7								
	comp=Z,1.7nm,0.8s								
ZALV	**Zalesovo Beam**	**92.84**	**324**	P	**P**	**20 35 07.2**		**-1.4**	
	comp=Z,0.4nm,0.5s,baz=98,slow=9.1,SNR=5.0								
	comp=Z,0.4nm,0.5s								

*IDC **23** 20:30:31.3±0.8, 30.07S×179.26W, h187km±13km, mb3.1/5, mbtmp3.7/6, Error ellipse: s-maj=23.3km s-min=19.9km az=78.0*
ISC 23 20:30:31.5±0.9, 30.1S±0.1×179.1W±0.1, h200km, n8, σ1§26/10, mb3.4/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
RAO	**Raoul Island**	**1.34**	**53**	P	**Pn**	**20 31 03.8**		**0.0**
	336nm,0.3s,baz=197,slow=23,SNR=8.6							
RAO				S	**Sn**	**20 31 27.4**		**-1.4**
	403nm,0.2s,baz=75,slow=22,SNR=1.9							
URZ	**Urewera**	**8.73**	**200**	P	**Pn**	**20 32 33.4**		**-0.8**
	8.1nm,0.8s,baz=354,slow=19,SNR=1.8							
URZ				S	**Sn**	**20 34 10.9**		**-1.3**
	14nm,0.5s,baz=285,slow=24,SNR=13							
STKA	**Stephens Creek**	**33.59**	**257**	P	**P**	**20 36 52.2**		**-0.6**
	0.7nm,0.7s,baz=102,slow=14,SNR=1.3							
	0.7nm,0.7s							
ASAR	**Alice Springs**	**42.14**	**267**	P	**P**	**20 38 04.9**		**+0.4**
	0.3nm,0.7s,baz=106,slow=7.3,SNR=4.5							
	0.3nm,0.7s							
WRA	**Warramunga Arr**	**43.10**	**272**	P	**P**	**20 38 12.5**		**+0.3**
	0.6nm,0.5s,baz=111,slow=7.6,SNR=7.6							
	0.6nm,0.5s							
VNDA	**Vanda**	**48.32**	**185**	P	**P**	**20 38 53.6**		**+1.4**
	0.3nm,0.4s,baz=11,slow=7.9,SNR=5.5							
	0.3nm,0.4s							
QSPA	**South Pole Qui**	**60.03**	**180**	P	**P**	**20 40 18.7**		**+1.7**
	1.5nm,0.6s,baz=37,slow=0.6,SNR=14							
	1.5nm,0.6s							
TORD	**Torodi Ar. Bea**	**163.14**	**183**	PKPab	**PKPab**	**20 51 00.3**		**-1.1**
	0.8nm,0.9s,baz=169,slow=3.2,SNR=3.9							

*IDC **23** 20:40:34.9±4.0, 36.17N×71.11E, h93km±36km, mb3.5/8, mbtmp3.9/13, Error ellipse: s-maj=27.3km s-min=23.4km az=7.0*
*NNC **23** 20:40:45.0±7.5, 36.85N×70.65E, h106km±132km, mb3.6, mpv4.2, Error ellipse: s-maj=71.7km s-min=47.0km az=151.0*
ISC 23 20:40:37.0±1.0, 36.35N±0.09×70.83E±0.08, h100km, n24, σ2§25/28, mb3.7/7, 3C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
UCH	**Uchtor**	**6.53**	**25**	P	**Pn**	**20 42 13.1**		**+2.4**
	SNR=19							
EKS2	**Erkin-Say**	**6.70**	**19**	P	**Pn**	**20 42 15.5**		**+2.7**
	SNR=90							
KK31	**Karatay Array**	**6.75**	**358**	⇓P	**Pn**	**20 42 15.9**		**+2.5**
	19nm,0.3s,baz=181,slow=13,SNR=266							
KK31				⇓S	**Sn**	**20 43 27.8**		**-1.0**
	7.6nm,0.5s,baz=185,slow=22,SNR=5.5							
AAK	**Ala-Archa**	**6.89**	**23**	P	**Pn**	**20 42 18.2**		**+2.8**
	SNR=14							
AAK	**Ala-Archa**	**6.89**	**23**	⇓P	**Pn**	**20 42 18.0**		**+2.6**
	7.8nm,0.5s							
AAK				⇓S	**Sn**	**20 43 30.7**		**-1.6**
	22nm,0.8s							
CHMS	**Chumysh**	**7.29**	**23**	P	Pn	20 42 26.8		+5.9
	SNR=8.7							
USP	**Ospenovka**	**7.46**	**21**	P	**Pn**	**20 42 24.8**		**+1.7**
	SNR=21							
TKM2	**Tokmak 2**	**7.52**	**28**	P	**Pn**	**20 42 26.8**		**+2.7**
	SNR=10							
TKM2	**Tokmak 2**	**7.52**	**28**	⇓P	**Pn**	**20 42 26.1**		**+2.1**
	2.9nm,0.3s							
TKM2				⇑S	**Sn**	**20 43 46.3**		**-1.4**
	3.0nm,0.5s							
GEYT	**Alibeck**	**10.28**	**283**	P	**Pn**	**20 43 02.5**		**+1.1**
	2.7nm,0.3s,baz=104,slow=12,SNR=15							
GEYT				S	**Sn**	**20 44 52.7**		**-1.9**
	11nm,0.6s,baz=98,slow=15,SNR=10							
MKAR	**Makanchi Array**	**13.49**	**36**	P	**Pn**	**20 43 43.9**		**-0.3**
	0.6nm,0.6s,baz=215,slow=12,SNR=2.6							
AB31	**Akbulak array**	**15.15**	**332**	⇑P	**Pn**	**20 44 06.7**		**+1.2**
	1.2nm,0.3s							
KURBB	**Kurchatov Arra**	**15.31**	**19**	P	**Pn**	**20 44 06.0**		**-1.4**
	0.4nm,0.3s,baz=213,slow=12,SNR=4.1							
BVA0	**Borovoye Array**	**16.68**	**359**	⇑P	**P**	**20 44 26.4**		**+1.3**
	2.0nm,0.8s,baz=170,slow=9.9,SNR=15							
BVAR	**Borovoye Array**	**16.68**	**359**	P	**Pn**	**20 44 24.5**		**+0.1**
	2.9nm,0.7s,baz=169,slow=12,SNR=17							
AKTO	**Aktyubinsk**	**16.84**	**331**	P	**P**	**20 44 28.4**		**+1.5**
	2.2nm,0.4s,baz=148,slow=10,SNR=4.1							
AKTO				S	**Sn**	**20 47 27.1**		**-6.2**
	1.1nm,0.3s,baz=243,slow=15,SNR=4.4							
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**20 45 02.3**		**-0.2**
	2.6nm,0.3s,baz=214,slow=9.7,SNR=18							
	2.6nm,0.3s							
FINES	**FINESS Array B**	**37.53**	**326**	P	**P**	**20 47 41.2**		**+0.3**
	1.5nm,0.9s,baz=97,slow=11,SNR=1.8							
	1.5nm,0.9s							
ARCES	**ARCESS Array B**	**41.23**	**338**	P	**P**	**20 48 12.4**		**+0.8**
	3.9nm,1.0s,baz=116,slow=8.1,SNR=2.0							
	3.9nm,1.0s							
HFS	**Hagfors**	**43.10**	**322**	P	**P**	**20 48 26.3**		**-0.6**
	1.2nm,0.9s,baz=98,slow=10,SNR=1.6							
	1.2nm,0.9s							
SPITS	**Spitsbergen Ar**	**47.61**	**347**	P	**P**	**20 49 02.9**		**+0.7**
	7.5nm,0.9s,baz=163,slow=7.2,SNR=2.1							
	7.5nm,0.9s							
TORD	**Torodi Ar. Bea**	**65.58**	**269**	P	**P**	**20 51 11.7**		**+1.3**
	0.2nm,0.7s,baz=45,slow=8.2,SNR=1.7							
	0.2nm,0.7s							
WRA	**Warramunga Arr**	**82.03**	**122**	P	**P**	**20 52 43.0**		**-3.3**
	0.6nm,1.0s,baz=325,slow=4.9,SNR=4.8							
	0.6nm,1.0s							
ASAR	**Alice Springs**	**84.28**	**125**	P	**P**	**20 52 55.2**		**-2.6**
	0.3nm,0.7s,baz=308,slow=4.6,SNR=1.9							
	0.3nm,0.7s							

NNC 23 20:49:15.2±5.4, 37.02N×70.72E, h0km, mb3.6, mpv3.4, 5C-2D, Error ellipse: s-maj=55.9km s-min=32.8km az=147.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KK31	**Karatay Array**	**6.08**	**359**	⇑P	Pn	20 50 47.8		+1.5
	0.8nm,0.3s,baz=182,slow=13,SNR=9.4							
KK31				⇑S	Sn	20 51 58.9		+2.3
	0.8nm,0.3s,baz=192,slow=27,SNR=5.4							
AAK	**Ala-Archa**	**6.32**	**26**	⇑P	Pn	20 50 50.1		+0.4
	2.7nm,0.6s							
AAK				⇑S	Sn	20 52 04.3		+1.7
	5.4nm,0.7s							
TKM2	**Tokmak 2**	**6.98**	**31**	⇓P	Pn	20 50 58.7		-0.2
	1.7nm,0.6s							
TKM2				⇓S	Sn	20 52 18.7		-0.4
	3.6nm,0.9s							
AB31	**Akbulak array**	**14.52**	**331**	⇑P	Pn	20 52 39.7		-2.2
	0.1nm,0.3s							

IDC 23 21:12:09.4±2.0, 8.10S×123.15E, h0km, mb3.6/1, mbtmp3.3/3, ML3.2/2, Error ellipse: s-maj=245.3km s-min=32.0km az=56.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
MTN	**Manton Dam**	**9.15**	**122**	P	Pn	21 14 27.2		+4.3
KDU	**Kakadu**	**10.23**	**117**	P	Pn	21 14 40.0		+2.3

WRA	**Warramunga Arr**	**15.99**	**139**	Pn	Pn	21 15 57.1		+1.1	
	0.1nm,0.3s,baz=318,slow=12,SNR=2.6								
	0.4nm,0.5s								
ASAR	**Alice Springs**	**18.59**	**148**	P	P	21 16 27.7		-0.7	
	0.1nm,0.3s,baz=328,slow=12,SNR=1.8								
	0.2nm,0.6s								
MKAR	**Makanchi Array**	**65.62**	**330**	P	P	21 22 55.4		0.0	
	0.5nm,0.7s,baz=136,slow=7.6,SNR=4.5								
	0.5nm,0.7s								

*IDC **23** 21:14:34.3±0.8, 6.40S×143.78E, h0km, mb3.9/12, mbtmp4.0/14, ML2.0/1, MS3.7/1, Error ellipse: s-maj=35.1km s-min=16.8km az=79.0*
*NEIC **23** 21:14:37.1±2.0, 6.50S±0.09×143.6E±0.1, h10km±1km, mb4.2/12, Error ellipse: s-maj=25.8km s-min=13.4km az=72.0*
ISC 23 21:14:39.6±0.6, 6.58S±0.07×143.63E±0.08, h35km, n33, σ1§88/35, mb4.0/15, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
PMG	**Port Moresby**	**4.48**	**129**	Pn	**Pn**	**21 15 45.0**		**-0.1**
	5.7nm,0.3s,baz=310,slow=17,SNR=7.9							
PMG				Sn	**Sn**	**21 16 34.2**		**-1.9**
	3.5nm,0.3s,baz=153,slow=16,SNR=1.8							
	14nm,0.4s							
COEN	**Coen**	**7.35**	**183**	P	**Pn**	**21 16 27.9**		**+3.4**
COEN	**Coen**	**7.35**	**183**	Pn	**Pn**	**21 16 27.1**		**+2.6**
MTN	**Manton Dam**	**13.80**	**242**	Pn	**Pn**	**21 17 51.2**		**-1.7**
WB0	**Warramunga Arr**	**15.89**	**214**	Pn	**Pn**	**21 18 18.5**		**-2.2**
WRA	**Warramunga Arr**	**16.06**	**213**	Pn	**Pn**	**21 18 22.0**		**-0.9**
WRA	**Warramunga Arr**	**16.06**	**213**	Pn	**Pn**	**21 18 21.8**		**-1.2**
	0.5nm,0.3s,baz=31,slow=13,SNR=14							
WRA				Sn	Sn	21 21 09.1		-11
	0.1nm,0.3s,baz=26,slow=23,SNR=2.6							
WRA				Lg	Lg	21 23 01.3		
	0.1nm,0.3s,baz=40,slow=30,SNR=2.4							
AS31	**Alice Springs**	**19.39**	**208**	P	**Pn**	**21 19 05.1**		**+1.0**
AS31				IAmb	IAmb	21 19 07.2		
	comp=Z,5.2nm,0.6s							
ASAR	**Alice Springs**	**19.39**	**208**	P	**Pn**	**21 19 04.9**		**+0.7**
ASAR	**Alice Springs**	**19.39**	**208**	P	**Pn**	**21 19 06.3**		**+2.2**
	comp=Z,15nm,0.6s,baz=35,slow=9.4,SNR=178							
ASAR				S	**S**	**21 22 32.9**		**-7.5**
	comp=Z,0.8nm,1.0s,baz=16,slow=27,SNR=2.5							
ASAR				Lg	Lg	21 24 47.2		
	baz=15,slow=29,SNR=2.8							
ASAR				LR	LR	21 27 12.3		
	comp=Z,182nm,18.4s,baz=89,slow=39							
EIDS	**Eidsvold**	**20.00**	**160**	P	**P**	**21 19 11.1**		**+1.8**
EIDS				IAmb	IAmb	21 19 18.8		
	comp=Z,25nm,1.4s							
FITZ	**Fitzroy Crossi**	**20.95**	**235**	P	**P**	**21 19 19.7**		**0.0**
STKA	**Stephens Creek**	**25.24**	**184**	P	**P**	**21 20 02.2**		**-0.2**
STKA	**Stephens Creek**	**25.24**	**184**	P	**P**	**21 20 03.6**		**+1.2**
	comp=Z,1.7nm,0.7s,baz=336,slow=14,SNR=4.4							
	comp=Z,1.7nm,0.7s							
KSRS	**Korea Array**	**46.20**	**343**	P	**P**	**21 23 01.1**		**0.0**
	comp=Z,1.2nm,0.7s,baz=166,slow=8.8,SNR=5.0							
	comp=Z,1.2nm,0.7s							
CRAI	**Chiangrai**	**50.18**	**303**	P	**P**	**21 23 31.6**		**-0.8**
CRAI				IAmb	IAmb	21 23 34.4		
	comp=Z,4.5nm,1.3s							
CMAR	**Chiang Mai Arr**	**50.61**	**300**	P	**P**	**21 23 35.5**		**-0.1**
CMAR	**Chiang Mai Arr**	**50.61**	**300**	P	**P**	**21 23 36.2**		**+0.7**
	comp=Z,1.0nm,0.7s,baz=109,slow=6.5,SNR=5.5							
	comp=Z,1.0nm,0.7s							
USRK	**Ussuriysk Ar.**	**51.62**	**349**	P	**P**	**21 23 42.1**		**-0.6**
	comp=Z,2.4nm,0.6s,baz=164,slow=6.7,SNR=5.6							
	comp=Z,2.4nm,0.6s							
PETK	**Petropavlovsk-**	**60.65**	**10**	P	**P**	**21 24 46.8**		**-0.2**
	comp=Z,1.2nm,0.7s,baz=175,slow=9.6,SNR=3.9							
	comp=Z,1.2nm,0.7s							
VNDA	**Vanda**	**71.56**	**176**	P	**P**	**21 25 58.0**		**+1.3**
	comp=Z,0.4nm,0.7s,baz=336,slow=8.6,SNR=2.1							
	comp=Z,0.4nm,0.7s							
MK31	**Makanchi Array**	**75.84**	**322**	P	**P**	**21 26 22.5**		**+0.2**
MK31				IAmb	IAmb	21 26 24.0		
	comp=Z,4.4n

comp=Z,1.1nm,0.6s,baz=113,slow=3.4,SNR=4.7
comp=Z,1.3nm,0.5s
WB0 Warramunga Arr 32.01 258 P **P** **21 38 19.9 -0.8**
WB0 IAmb IAmb 21 38 20.6
comp=Z,12nm,1.4s
WRA Warramunga Arr 32.07 257 P **P** **21 38 20.0 -1.2**
comp=Z,0.8nm,0.6s,baz=86,slow=8.8,SNR=12
WRA PcP **PcP** **21 41 08.0 0.0**
comp=Z,0.9nm,1.0s,baz=97,slow=6.7,SNR=5.0
comp=Z,0.8nm,0.6s
AS31 Alice Springs 32.80 251 P **P** **21 38 26.9 -0.7**
ASAR Alice Springs 32.80 251 P **P** **21 38 26.3 -1.3**
ASAR Alice Springs 32.80 251 P **P** **21 38 26.8 -0.8**
comp=Z,3.1nm,0.8s,baz=78,slow=8.7,SNR=19
ASAR PcP **PcP** **21 41 10.2 +0.2**
comp=Z,0.6nm,0.7s,baz=94,slow=4.1,SNR=4.9
ASAR ScP **ScP** **21 44 43.8 +1.0**
comp=Z,0.4nm,0.8s,baz=123,slow=3.4,SNR=2.7
comp=Z,3.1nm,0.8s
BBOO Buckleboo 33.41 233 P **P** **21 38 32.9 +0.1**
BBOO IAmb IAmb 21 38 34.3
comp=Z,8.2nm,0.9s
FITZ Fitzroy Crossi 40.31 260 P **P** **21 39 31.4 0.0**
MORW Morawa 49.30 245 P **P** **21 40 43.0 +0.4**
MORW IAmb IAmb 21 40 55.2
comp=Z,7.6nm,1.0s
MJAR Matsushiro Arr 58.91 332 P **P** **21 41 51.5 -0.5**
comp=Z,3.0nm,0.9s,baz=161,slow=8.0,SNR=5.1
comp=Z,3.0nm,0.9s
JNU Nakatsue 59.91 324 P **P** **21 41 59.5 +0.6**
TPUB Ta-pu 60.16 309 P **P** **21 42 00.6 -0.2**
YHNB Yeheng 60.41 311 P **P** **21 42 02.5 0.0**
VNDA Vanda 61.99 181 P **P** **21 42 13.2 +0.9**
SBA Scott Base 62.25 180 P **P** **21 42 15.3 +1.2**
CASY Casey 62.88 202 P **P** **21 42 18.6 +0.2**
CASY IAmb IAmb 21 42 24.9
comp=Z,9.8nm,1.5s
KSRS Korea Array 64.73 326 P **P** **21 42 31.5 +0.6**
comp=Z,1.0nm,0.8s,baz=142,slow=6.2,SNR=2.6
comp=Z,1.0nm,0.8s
USRK Ussuriysk Ar. 67.89 333 P **P** **21 42 52.0 +1.1**
comp=Z,4.3nm,0.9s,baz=116,slow=5.0,SNR=6.9
comp=Z,4.3nm,0.9s
PETK Petropavlovsk- 68.99 354 P **P** **21 42 58.7 +1.1**
comp=Z,0.7nm,0.6s,baz=168,slow=8.8,SNR=1.6
comp=Z,0.7nm,0.6s
QSPA South Pole Qui 74.41 180 P **P** **21 43 30.8 +0.8**
QSPA IAmb IAmb 21 43 32.6
comp=Z,9.0nm,0.9s
QSPA South Pole Qui 74.41 180 P **P** **21 43 30.9 +0.8**
comp=Z,6.1nm,0.9s,baz=9.5,slow=5.5,SNR=18
comp=Z,6.1nm,0.9s
CRAI Chiangrai 75.16 296 P **P** **21 43 35.6 +0.5**
CMAR Chiang Mai Arr 75.73 294 P **P** **21 43 39.3 +0.9**
CMAR Chiang Mai Arr 75.73 294 P **P** **21 43 39.0 +0.6**
comp=Z,1.6nm,0.7s,baz=136,slow=4.4,SNR=11
comp=Z,1.6nm,0.7s
YAK Yakutsk 83.01 343 P **P** **21 44 18.8 +1.9**
YAK IAmb IAmb 21 44 19.3
comp=Z,9.6nm,0.7s
ULN Ulaanbaatar 83.12 324 P **P** **21 44 18.6 +0.6**
ULN IAmb IAmb 21 44 20.0
comp=Z,8.2nm,0.8s
SONM Songino Array 83.48 323 P **P** **21 44 20.4 +0.6**
SONM IAmb IAmb 21 44 21.6
comp=Z,5.1nm,1.0s
SONM Songino Array 83.48 323 P **P** **21 44 20.8 +1.0**
comp=Z,4.9nm,0.9s,baz=144,slow=6.3,SNR=20
comp=Z,4.9nm,0.9s
SHL Shillong 84.40 298 P **P** **21 44 24.8 -0.2**
SHL IAmb IAmb 21 44 26.1
comp=Z,6.1nm,0.8s
ILAR Eielson Array 87.23 18 P **P** **21 44 36.5 -1.3**
comp=Z,0.3nm,0.5s,baz=235,slow=4.5,SNR=5.8
comp=Z,0.3nm,0.5s
TROLL Troll, Antarti 92.02 185 ⇑P **P** **21 45 00.8 +0.3**
comp=Z,157nm,0.5s
SNAA Sanae 92.69 183 ⇑P **P** **21 45 03.4 -0.1**
comp=Z,42nm,0.6s
SNAA Sanae 92.69 183 P **P** **21 45 03.4 -0.1**
comp=Z,1.7nm,0.6s,baz=215,slow=7.7,SNR=9.0
comp=Z,1.7nm,0.6s
VNA3 Neumayer Olymp 93.33 181 ⇑P **P** **21 45 06.1 -0.3**
comp=Z,4.2nm,0.6s
VNA2 Neumayer--Watz 93.61 182 ⇑P **P** **21 45 07.6 -0.1**
comp=Z,3.8nm,0.6s,baz=184,slow=5.9
YKA Yellowknife Ar 98.12 27 P **P** **21 45 26.5 -1.6**
comp=Z,0.2nm,0.4s,baz=237,slow=5.6,SNR=3.7
comp=Z,0.2nm,0.4s
MKAR Makanchi Array 98.17 316 P Pdif 21 45 29.1 +0.3
comp=Z,0.6nm,0.7s,baz=130,slow=6.3,SNR=3.6
comp=Z,0.6nm,0.7s
ZALV Zalesovo Beam 98.38 324 P **P** **21 45 28.8 -0.7**
comp=Z,1.3nm,0.8s,baz=134,slow=4.2,SNR=4.9
comp=Z,1.3nm,0.8s
BVAR Borovoye Array 106.73 321 PKiKP **PKiKP** **21 50 15.8 -0.6**
comp=Z,0.4nm,0.7s,baz=97,slow=2.5,SNR=3.5
ARCES ARCESS Array B 121.23 345 PKP **PKiKP** **21 50 43.8 +0.2**
comp=Z,1.4nm,0.4s,baz=64,slow=2.1,SNR=22
FINES FINESS Array B 126.72 338 PKP **PKPdf** **21 50 54.1 -0.1**
comp=Z,1.4nm,0.8s,baz=46,slow=4.6,SNR=9.1
NB2 NORSAR Subarra131.60 345 PKPdf **PKiKP** **21 51 04.4 -0.2**
comp=Z,0.7nm,0.7s,baz=31,slow=1.9
NOA NORSAR Array B131.60 345 PKP **PKiKP** **21 51 04.1 -0.5**
comp=Z,0.7nm,0.7s,baz=29,slow=2.0,SNR=4.2
AKASG Malin Array Be 131.73 326 PKP **PKPdf** **21 51 03.7 -0.4**
comp=Z,0.4nm,0.4s,baz=67,slow=1.7,SNR=4.5
BRTR Keskin Array B 133.44 310 PKP **PKPdf** **21 51 06.6 -1.3**
comp=Z,0.8nm,0.7s,baz=90,slow=1.9,SNR=2.3
RONA Rosalia, Austr 140.27 330 *e*PKP **PKiKP** **21 51 21.3 -1.4**
comp=Z,2.2nm,1.1s
CONA Conrad Observa 140.32 330 PKP **PKPdf** **21 51 21.3 +1.0**
comp=Z,1.9nm,0.6s
LESA Schwarzleotal 142.16 332 *e*PKP **PKPdf** **21 51 20.5 -3.1**
comp=Z,2.9nm,1.1s
MOTA Moosalm 142.92 333 *e*PKP **PKPdf** **21 51 22.9 -2.1**
comp=Z,2.8nm,0.9s
SQTA Sankt Quirin 142.97 333 *e*PKP **PKPdf** **21 51 23.3 -1.8**
comp=Z,2.9nm,1.1s
FETA Feichten 143.33 333 *e*PKP PKPbc 21 51 23.4 +0.1
comp=Z,4.8nm,0.8s
DAVA Damuels 143.48 334 *e*PKP PKPbc 21 51 24.1 +0.5
comp=Z,4.5nm,1.3s
KEST Kesra 152.19 320 PKPbc **PKiKP** **21 51 48.3 +0.7**
comp=Z,8.3nm,0.7s,baz=27,slow=0.7,SNR=18
ESDC Sonseca Array 154.96 345 PKPbc **PKiKP** **21 51 53.8 +0.6**
comp=Z,0.3nm,0.9s,baz=160,slow=26,SNR=4.2
ESDC PKPab **PKPab** **21 52 09.1 +0.1**
comp=Z,0.3nm,0.6s,baz=8.6,slow=4.5,SNR=5.7
TORD Torodi Ar. Bea 166.27 261 PKP **PKPdf** **21 51 56.4 -0.8**
comp=Z,0.3nm,0.6s,baz=74,slow=2.4,SNR=2.3
TORD PKPab **PKPab** **21 52 58.2 -0.9**
comp=Z,0.7nm,0.8s,baz=91,slow=2.5,SNR=2.9

KRSC 23 21:39:00.3±1.0, 55.05N×162.41E, h40km±12km, MI3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
MKZ	**Mys Kozlova**	**0.63**	**219**	*e*P		Pn	21 39 13.7	+0.9
MKZ				*e*S		Sn	21 39 22.8	+1.1
TUMD	**Tumrok D**	**1.17**	**278**	*e*P		Pn	21 39 21.2	+1.0
TUMD				*e*S		Sn	21 39 35.8	+0.9
KBTR	**Krutoberegovo**	**1.19**	**11**	*e*P		Pn	21 39 21.4	+1.0
KBTR				*e*S		Sn	21 39 37.5	+2.3
TUMR	**Tumrok**	**1.32**	**281**	*e*P		Pn	21 39 24.0	+1.6
BZGR	**Bezymyannyi-Gr**	**1.32**	**313**	*e*P		Pn	21 39 23.7	+1.3
BZGR				*e*S		Sn	21 39 40.4	+1.5
ZLN	**Zelenaya**	**1.33**	**317**	*e*P		Pn	21 39 24.2	+1.6
ZLN				*e*S		Sn	21 39 41.3	+2.1
BZP	**Bezymyannyi-Pe**	**1.37**	**310**	*e*P		Pn	21 39 24.2	+1.0
BZMR	**Bezymyannaya**	**1.41**	**310**	*e*P		Pn	21 39 24.8	+1.2
BZWR	**Bezymyannyi-We**	**1.43**	**311**	*e*P		Pn	21 39 25.2	+1.4
LGNR	**Loginova**	**1.43**	**317**	*e*P		Pn	21 39 25.8	+1.8
CIRR	**Tsirk**	**1.43**	**319**	*e*P		Pn	21 39 25.8	+1.9
KMNR	**Kamenistaya**	**1.43**	**301**	*e*P		Pn	21 39 25.3	+1.4
KIRR	**Kirishev**	**1.49**	**308**	*e*P		Pn	21 39 26.2	+1.5
KPT	**Kopyto**	**1.55**	**307**	*e*P		Pn	21 39 27.0	+1.6
KRSR	**Krestovskiy**	**1.57**	**319**	*e*P		Pn	21 39 26.9	+1.2
KLY	**Klyuchi**	**1.61**	**323**	*e*S		Sn	21 39 46.0	+0.2
KOZ	**Kozyrevsk**	**1.76**	**306**	*e*P		Pn	21 39 30.4	+2.1
SRDR	**Sredinnyy**	**1.99**	**311**	*e*P		Pn	21 39 33.2	+1.7
KII	**Karymskiy**	**2.00**	**241**	*e*P		Pn	21 39 33.8	+2.1
SPN	**Mys Shipunski**	**2.41**	**217**	*e*P		Pn	21 39 39.2	+2.0
SPN				*e*S		Sn	21 40 06.1	+0.7
NLC	**Nalytchevo**	**2.61**	**225**	*e*P		Pn	21 39 43.4	+3.5
NLC				*e*S		Sn	21 40 13.1	+2.8
KRER	**Koryakskii**	**2.77**	**232**	*e*P		Pn	21 39 46.0	+3.7
KRER				*e*S		Sn	21 40 19.5	+4.8
SMAR	**Somma**	**2.78**	**231**	*e*P		Pn	21 39 45.4	+2.9
SMAR				*e*S		Sn	21 40 19.1	+4.3
KRX	**Arik**	**2.79**	**234**	*e*P		Pn	21 39 46.3	+3.8
KRX				*e*S		Sn	21 40 19.5	+4.6
UGLR	**Uglovaya**	**2.80**	**230**	*e*P		Pn	21 39 45.7	+3.0
AVH	**Avacha**	**2.81**	**232**	*e*P		Pn	21 39 46.0	+3.3
GNL	**Ganaly**	**2.95**	**244**	*e*P		Pn	21 39 47.5	+2.8
PET	**Petropavlovsk**	**3.01**	**229**	*e*P		Pn	21 39 48.6	+3.3
PET				*e*S		Sn	21 40 24.1	+4.0
KRMR	**Karymshinskiy**	**3.37**	**230**	*e*P		Pn	21 39 54.2	+3.9
KRMR				*e*S		Sn	21 40 34.7	+5.7
RUS	**Russkaya**	**3.50**	**223**	*e*P		Pn	21 39 54.8	+2.7
RUS				*e*S		Sn	21 40 36.6	+4.4
GRL	**Gorelyy**	**3.59**	**228**	*e*P		Pn	21 39 57.2	+3.7
MTVR	**Mutnovka**	**3.59**	**226**	*e*P		Pn	21 39 57.0	+3.4
APC	**Apacha**	**3.76**	**238**	*e*P		Pn	21 40 00.7	+5.0
ASAK	**Asacha**	**3.78**	**227**	*e*P		Pn	21 40 00.5	+4.3
ASAK				*e*S		Sn	21 40 45.5	+6.0

*IDC **23** 21:43:15.3±0.9, 51.76N×176.59E, h0km, mb3.8/13, mbtmp3.8/15, ML3.4/2, MS3.0/5, Error ellipse: s-maj=25.3km s-min=14.0km az=4.0*
*AEIC **23** 21:43:17.9±2.5, 51.7N±0.1×176.52E±0.08, h49km±7km, Error ellipse: s-maj=17.4km s-min=6.5km az=188.0*
*NEIC **23** 21:43:19.2±2.3, 51.7N±0.2×176.54E±0.08, h28km±9km, mb4.1/47, ML3.6(AEIC), Error ellipse: s-maj=29.0km s-min=5.9km az=188.0*
ISC 23 21:43:20.5±1.2, 51.8N±0.1×176.70E±0.05, h48km±10km, n310, σ1°68/301, mb4.0/28, MS2.9/3, Rat Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
				Op				
LSNW	**Little Sitkin**	**1.14**	**82**			**Pn**	**21 43 40.0**	**0.0**
LSNW						**Sn**	**21 43 55.8**	**+1.3**
LSSE	**Little Sitkin**	**1.17**	**84**			**Pn**	**21 43 40.3**	**-0.1**
LSPA	**Little Sitkin**	**1.17**	**83**			**Pn**	**21 43 40.6**	**+0.1**
LSPA						**Sn**	**21 43 57.1**	**+1.8**
AMKA	**Amchitka**	**1.68**	**104**			**Pn**	**21 43 46.3**	**-1.1**
AMKA						**Sn**	**21 44 07.6**	**-0.2**
CESW	**Semis' Southwe**	**1.78**	**86**			**Pn**	**21 43 48.8**	**+0.1**
CESW						**Sn**	**21 44 12.6**	**+2.5**
CEAP	**Semis' Anvil P**	**1.79**	**83**			**Pn**	**21 43 49.4**	**+0.4**
CERB	**Semis' Cerberu**	**1.82**	**85**			**Pn**	**21 43 49.1**	**-0.2**
CERB						**Sn**	**21 44 15.2**	**+4.0**
CEPE	**Semis' Perret**	**1.83**	**84**			**Pn**	**21 43 49.6**	**+0.1**
SHEM	**Shemya Is, Ala**	**1.84**	**301**	Pn		Pn	21 43 49.3	-0.2
	231nm,0.3s,baz=159,slow=1.8,SNR=74							
SHEM						Sn	**21 44 11.0**	**-0.5**
	114nm,0.3s,baz=274,slow=19,SNR=18							
ATKA	**Atka Island**	**5.64**	**83**	Pn		**Pn**	**21 44 42.4**	**+0.8**
NIKH	**Nikolski High**	**8.91**	**77**	P		**Pn**	**21 45 23.9**	**-2.5**
	baz=268							
SPIA	**Saint Paul Isl**	**9.29**	**50**	P		**Pn**	**21 45 30.2**	**-1.5**
	baz=240							
P08K	**Saint George I**	**9.37**	**54**	P		**Pn**	**21 45 30.8**	**-1.9**
	baz=245							
UNV	**Unalaska Valle**	**10.37**	**72**	P		**Pn**	**21 45 44.0**	**-2.4**
	baz=265							
PEA0B	**Petropavlovsk-**	**11.66**	**284**	Pn		Pn	21 46 03.4	-0.6
PETK	**Petropavlovsk-**	**11.66**	**284**	Pn		Pn	21 46 03.6	-0.5
PETK	**Petropavlovsk-**	**11.66**	**284**	Pn		**Pn**	**21 46 04.2**	**+0.1**
	0.2nm,0.3s,baz=119,slow=8.7,SNR=9.5							
PETK						Sn	21 48 04.9	-7.7
	0.6nm,0.3s,baz=94,slow=39,SNR=7.2							
PETK					LR	LR	21 50 36.5	
	comp=Z,34nm,20.0s,baz=90,slow=38							
	0.7nm,0.6s							
FALS	**False Pass**	**12.26**	**68**	P		**Pn**	**21 46 10.2**	**-2.0**
	baz=263							
S12K	**Black Hills**	**13.14**	**64**	Pn		**Pn**	**21 46 26.7**	**+2.6**
S12K	**Black Hills**	**13.14**	**64**	P		**Pn**	**21 46 22.0**	**-2.2**
	baz=261							
GAMB	**Gambell**	**13.45**	**23**	P		**Pn**	**21 46 26.4**	**-2.0**
	baz=212							
K13K	**Kusilvak Mount**	**14.31**	**38**	P		**Pn**	**21 46 39.3**	**-0.7**
	baz=233							
CHNA	**Chernabura Isl**	**14.47**	**69**	P		**Pn**	**21 46 41.3**	**-0.8**
	baz=248							
CNBA	**Chernabura Isl**	**14.47**	**69**	Pn		**Pn**	**21 46 42.5**	**+0.4**
O14K	**Tigyukauivet M**	**14.47**	**50**	P		**Pn**	**21 46 41.6**	**-0.6**
	baz=248							
N14K	**Kuskokwak Cree**	**14.54**	**48**	P		**Pn**	**21 46 41.4**	**-1.6**
	baz=245							
S14K	**Fog Glacier**	**14.62**	**63**	P		**Pn**	**21 46 42.4**	**-1.7**
	baz=262							
L14K	**Kuka Creek**	**14.76**	**42**	P		**Pn**	**21 46 44.8**	**-1.1**
	baz=239							
M14K	**Bethel**	**14.78**	**44**	P		**Pn**	**21 46 45.1**	**-1.0**
	baz=242							
O15K	**Ungalikthiuk R**	**15.14**	**52**	P		**Pn**	**21 46 49.7**	**-1.3**
	baz=251							
J14K	**Nanvaranak Lak**	**15.21**	**36**	P		**Pn**	**21 46 50.5**	**-1.3**
	baz=233							
M15K	**Kasigluk River**	**15.31**	**46**	P		**Pn**	**21 46 52.6**	**-0.6**
	baz=244							
N15K	**Kwethluk River**	**15.37**	**48**			**P**	**21 46 59.0**	**+1.2**
N15K	**Kwethluk River**	**15.37**	**48**	P		**Pn**	**21 46 53.4**	**-0.5**
	baz=247							
L15K	**Ungalak Mounta**	**15.43**	**42**	P		**Pn**	**21 46 54.4**	**-0.2**
	baz=240							
K15K	**Wolf Creek Mou**	**15.73**	**40**			**P**	**21 47 02.6**	**+0.9**
K15K					IAmb	IAmb	21 47 07.6	
	comp=Z,20nm,1.4s							
K15K	**Wolf Creek Mou**	**15.73**	**40**	P		**Pn**	**21 46 57.8**	**-0.7**
	baz=238							
ANM	**Nome**	**15.80**	**29**	P		**Pn**	**21 46 59.0**	**-0.5**
	baz=225							
TNA	**Tin City**	**15.85**	**24**	P		**Pn**	**21 46 59.3**	**-0.7**
	baz=217							
P16K	**Nushagak River**	**16.00**	**53**	P		**Pn**	**21 47 01.0**	**-1.0**
	baz=254							
O16K	**Kokwok River B**	**16.12**	**51**			**P**	**21 47 07.9**	**+1.9**
O16K					IAmb	IAmb	21 47 10.8	
	comp=Z,20nm,1.4s							
O16K	**Kokwok River B**	**16.12**	**51**	P		**Pn**	**21 47 03.0**	**-0.5**
	baz=252							
F14K	**Arctic Creek**	**16.20**	**26**	P		**Pn**	**21 47 04.1**	**-0.4**
	baz=220							
M16K	**Timber Creek**	**16.22**	**46**			**P**	**21 47 08.6**	**+1.4**
M16K					IAmb	IAmb	21 47 15.6	
	comp=Z,17nm,1.5s							
M16K	**Timber Creek**	**16.22**	**46**	P		**Pn**	**21 47 04.1**	**-0.7**
	baz=246							
L16K	**Owhat River**	**16.29**	**43**	P		**Pn**	**21 47 05.3**	**-0.3**
	baz=243							
G15K	**Niukluk**	**16.51**	**30**	P		**Pn**	**21 47 07.8**	**-0.6**
	baz=226							
J16K	**Anvik River**	**16.62**	**38**	P		**Pn**	**21 47 09.0**	**-0.8**
	baz=237							
O17K	**Koliganek Bris**	**16.65**	**51**	P		**Pn**	**21 47 08.8**	**-1.4**
	baz=253							
CHIR	**Chirikof Islan**	**16.77**	**65**	P		**Pn**	**21 47 10.5**	**-1.1**
	baz=267							
F15K	**North Star Dit**	**16.84**	**27**	P		**Pn**	**21 47 11.4**	**-1.1**
	baz=223							
N17K	**Nushagak Hills**	**16.85**	**49**	P		**Pn**	**21 47 11.4**	**-1.2**
	baz=250							
H16K	**Elim**	**16.85**	**32**	P		**Pn**	**21 47 11.9**	**-0.6**
	baz=230							
I17K	**Unalakleet**	**16.93**	**36**	P		**Pn**	**21 47 12.8**	**-0.7**
	baz=235							
L17K	**Donlin**	**16.98**	**43**	P		**Pn**	**21 47 12.9**	**-1.3**
	baz=244							
M17K	**Holitna River**	**17.05**	**46**	P		**Pn**	**21 47 14.0**	**-1.1**
	baz=247							
SEY	**Seymchan**	**17.07**	**320**	LR		LR	21 52 60.0	
	comp=Z,40nm,21.1s,baz=23,slow=34							
K17K	**Iditarod**	**17.24**	**41**	P		**Pn**	**21 47 16.8**	**-0.7**
	baz=242							
J17K	**VABM Dome**	**17.27**	**38**	P		**Pn**	**21 47 17.2**	**-0.6**
	baz=239							
G16K	**Koyuk River**	**17.31**	**30**			**P**	**21 47 21.7**	**+2.6**
G16K	**Koyuk River**	**17.31**	**30**	P		**Pn**	**21 47 17.9**	**-0.3**
	baz=228							
P18K	**Big Mountain,**	**17.47**	**53**	P		**Pn**	**21 47 19.6**	**-0.8**
	baz=256							
N18K	**Kilae Creek**	**17.50**	**49**			**P**	**21 47 23.8**	**+2.4**
N18K	**Kilae Creek**	**17.50**	**49**	P		**Pn**	**21 47 20.5**	**-0.3**
	baz=252							
O18K	**Koktuh Hills**	**17.59**	**52**	P		**P**	**21 47 25.7**	**+3.3**
O18K	**Koktuh Hills**	**17.59**	**52**	P		**Pn**	**21 47 20.9**	**-1.0**
	baz=255							
SII	**Sitkinak Islan**	**17.61**	**63**	P		**Pn**	**21 47 21.0**	**-1.1**
	baz=266							
L18K	**Granite Mounta**	**17.70**	**44**			**P**	**21 47 26.1**	**+2.6**
L18K	**Granite Mounta**	**17.70**	**44**	P		**Pn**	**21 47 22.1**	**-1.0**
	baz=246							
M18K	**Stony River**	**17.80**	**46**	P		**Pn**	**21 47 22.9**	**-1.5**
	baz=249							
H17K	**Granite Mounta**	**17.82**	**34**	P		**P**	**21 47 22.8**	**-2.0**
	baz=234							
G17K	**Kiwalik Mounta**	**17.92**	**31**	P		**P**	**21 47 24.9**	**-1.0**
	baz=231							
OHAK	**Old Harbor**	**18.15**	**61**	P		**P**	**21 47 27.6**	**-0.8**
	baz=265							
Q19K	**Cape Douglas,**	**18.18**	**55**	P		**Pn**	**21 47 31.8**	**+2.8**
Q19K	**Cape Douglas,**	**18.18**	**55**	P		**P**	**21 47 27.7**	**-1.1**
	baz=260							
N19K	**Bonanza Creek**	**18.20**	**49**	P		**Pn**	**21 47 32.5**	**+3.1**
N19K	**Bonanza Creek**	**18.20**	**49**	P		**P**	**21 47 27.5**	**-1.7**
	baz=253							
J18K	**Innoko River**	**18.23**	**40**	P		**P**	**21 47 28.4**	**-0.9**
	baz=242							
F17K	**Baldwin Pennin**	**18.35**	**29**	P		**P**	**21 47 30.3**	**-0.3**
	baz=228							
L19K	**White Mountain**	**18.48**	**45**	P		**P**	**21 47 31.8**	**-0.3**
	baz=249							
H18K	**Honhosa River**	**18.48**	**34**	P		**Pn**	**21 47 36.9**	**+4.2**
H18K	**Honhosa River**	**18.48**	**34**	P		**P**	**21 47 32.0**	**-0.1**
	baz=236							
P19K	**Oil Pt**	**18.52**	**53**			**Pn**	**21 47 36.3**	**+3.2**
P19K	**Oil Pt**	**18.52**	**53**	P		**P**	**21 47 31.9**	**-0.7**
	baz=258							
KDAK	**Kodiak Island**	**18.57**	**59**	P		**Pn**	**21 47 33.7**	**-0.1**
KDAK					IAmb	IAmb	21 47 38.5	
	comp=Z,17nm,1.2s							
KDAK	**Kodiak Island**	**18.57**	**59**	P		**P**	**21 47 31.9**	**-1.2**
	baz=264							
KDAK	**Kodiak Island**	**18.57**	**59**	P		**Pn**	**21 47 33.6**	**-0.1**
	comp=Z,0.7nm,0.3s,baz=262,slow=7.2,SNR=8.7							
	comp=Z,4.5nm,0.7s							
M19K	**Big River Lodg**	**18.59**	**46**	P		**P**	**21 47 33.0**	**-0.3**
	baz=250							
E17K	**Hotham Inlet**	**18.62**	**27**	P		**P**	**21 47 33.5**	**-0.1**
	baz=225							
D17K	**Noatak River**	**18.74**	**24**	P		**P**	**21 47 34.9**	**0.0**
	baz=222							
Q20K	**Shuyak Island**	**18.77**	**57**	P		**Pn**	**21 47 35.1**	**-1.0**
	baz=262							
G18K	**Tagagawik**	**18.81**	**32**	P		**P**	**21 47 35.2**	**-0.6**
	baz=233							
J19K	**Poorman**	**18.90**	**39**	P		**P**	**21 47 36.1**	**-0.6**
	baz=243							
O20K	**Slope Mountain**	**18.91**	**52**	P		**Pn**	**21 47 36.9**	**-1.0**
	baz=258							
F18K	**Selawik**	**18.93**	**30**	P		**P**	**21 47 36.0**	**-1.0**
	baz=230							
L20K	**Farewell, AK**	**19.01**	**44**	P		**P**	**21 47 36.9**	**-1.0**
	baz=249							
RDOG	**Red Dog Mine**	**19.05**	**24**	P		**P**	**21 47 37.8**	**-0.5**
	baz=222							
M20K	**Styx River**	**19.14**	**47**	P		**Pn**	**21 47 43.4**	**+2.7**
M20K					IAmb	IAmb	21 47 54.3	
	comp=Z,5.4nm,0.6s							
M20K	**Styx River**	**19.14**	**47**	P		**P**	**21 47 38.8**	**-0.6**
	baz=252							
E18K	**Tukpahlearik C**	**19.20**	**27**	P		**P**	**21 47 39.5**	**-0.5**
	baz=227							
K20K	**Telida**	**19.26**	**42**	P		**P**	**21 47 39.9**	**-0.8**
	baz=247							
C17K	**DeLong Mountai**	**19.30**	**23**	P		**P**	**21 47 40.5**	**-0.5**
	baz=220							
H19K	**Roundabout Mou**	**19.36**	**35**	P		**P**	**21 47 41.1**	**-0.6**
	baz=238							
N20K	**Mount Spurr**	**19.37**	**49**	P		**P**	**21 47 41.6**	**-0.3**
	baz=255							
G19K	**Purcell Mounta**	**19.48**	**33**	P		**P**	**21 47 42.5**	**-0.5**
	baz=235							
CNPM	**China Poot**	**19.50**	**54**	P		**Pn**	**21 47 45.3**	**+0.4**
J20K	**Nowinta River**	**19.57**	**40**	P		**Pn**	**21 47 48.2**	**+2.7**
J20K					IAmb	IAmb	21 47 49.3	
	comp=Z,3.7nm,0.6s							
J20K	**Nowinta River**	**19.57**	**40**	P		**P**	**21 47 43.2**	**-0.7**
	baz=244,SNR=6.3							
F19K	**Shaleruckik Mo**	**19.66**	**30**	P		**Pn**	**21 47 48.6**	**+1.9**
F19K					IAmb	IAmb	21 47 50.2	
	comp=Z,6.7nm,1.0s							
F19K	**Shaleruckik Mo**	**19.66**	**30**	P		**P**	**21 47 45.4**	**+0.5**
	baz=233,SNR=6.9							
BRLK	**Bradley Lake**	**19.71**	**54**	P		**Pn**	**21 47 47.2**	**-0.1**
I20K	**Naaghedeneel**	**19.71**	**38**	P		**P**	**21 47 44.7**	**-0.8**
	baz=242							
BRSE	**Bradley Lake S**	**19.78**	**54**	P		**P**	**21 47 45.5**	**-0.8**
	baz=261							
PPLA	**Purkeypile**	**19.89**	**44**	P		**P**	**21 47 47.0**	**-0.6**
	baz=250							
SKT	**Skwentna**	**19.89**	**47**	P		**Pn**	**21 47 50.6**	**+1.1**
SKT					IAmb	IAmb	21 47 54.6	
	comp=Z,8.0nm,1.0s							
SKT	**Skwentna**	**19.89**	**47**	P		**P**	**21 47 46.2**	**-1.4**
	baz=254,SNR=5.2							
H20K	**Anotleneega Mo**	**19.90**	**36**	P		**P**	**21 47 47.6**	**0.0**
	baz=240							
C18K	**Utukok River**	**19.92**	**24**	P		**P**	**21 47 46.8**	**-1.0**
	baz=223							
CAST	**Castle Rocks**	**20.11**	**43**	P		**Pn**	**21 47 53.7**	**+1.6**
CAST	**Castle Rocks**	**20.11**	**43**	P		**P**	**21 47 49.5**	**-0.4**
	baz=249							
SUA	**Susitna One**	**20.12**	**49**			**Pn**	**21 47 52.8**	**+0.5**
SUA					IAmb	IAmb	21 47 57.2	
	comp=Z,14nm,1.1s		

GLI IAmb IAmb 21 48 13.4
comp=Z,7.6nm,0.6s
GLI Glacier Island 21.75 51 P **P** **21 48 06.3 -1.2**
baz=262
WAT6 Susitna Watana 21.76 47 P **P** **21 48 06.5 -1.3**
baz=257,SNR=7.0
NEA2 Nenana 21.76 41 P **P** **21 48 10.7 +3.1**
NEA2 IAmb IAmb 21 48 13.2
comp=Z,10.0nm,1.1s
NEA2 Nenana 21.76 41 P **P** **21 48 06.7 -1.0**
baz=250,SNR=7.3
SCM Sheep Creek Mo 21.80 49 P **P** **21 48 09.7 +1.6**
SCM Sheep Creek Mo 21.80 49 P **P** **21 48 07.1 -1.0**
baz=259
I23K Minto, Yukon-K 21.84 39 P **P** **21 48 08.2 -0.2**
baz=249
F22K John River 21.85 32 P **P** **21 48 07.6 -1.0**
baz=240
C21K Knifeblade Rid 21.98 27 P **P** **21 48 07.3 -2.7**
baz=232
H23K Yukon River 22.03 38 P **P** **21 48 08.4 -2.1**
baz=247
DHY Denali Highway 22.04 45 P **P** **21 48 13.1 +2.3**
DHY IAmb IAmb 21 48 17.4
comp=Z,4.4nm,0.8s
DHY Denali Highway 22.04 45 P **P** **21 48 08.8 -2.0**
baz=256
G23K Bananza Creek 22.22 35 P **P** **21 48 11.1 -1.5**
baz=244
MDM Murphy Dome 22.23 40 P **P** **21 48 15.6 +3.0**
MDM IAmb IAmb 21 48 17.6
comp=Z,8.0nm,1.3s
E22K Anaktuvuk Pass 22.30 31 P **P** **21 48 11.5 -1.9**
baz=239
B21K Ikpikpuk River 22.32 26 P **P** **21 48 11.9 -1.5**
baz=232
EYAK Cordova Ski Ar 22.36 52 P **P** **21 48 12.1 -1.9**
baz=264
M24K Tolsona, Glenn 22.38 48 P **P** **21 48 12.9 -1.4**
baz=260
KLU Klutina 22.40 50 P **P** **21 48 14.1 -0.4**
baz=261
D22K Ayikyak River 22.43 29 P **P** **21 48 14.2 -0.6**
baz=236
HDA Harding Lake 22.58 42 P **P** **21 48 15.7 -0.6**
baz=253
POKR Poker Plat Res 22.60 40 P **P** **21 48 14.8 -1.8**
baz=251
H24K Noodor Dome 22.67 38 P **P** **21 48 15.9 -1.5**
baz=249,SNR=9.5
ILAR Eielson Array 22.71 41 P **P** **21 48 18.9 +1.2**
comp=Z,1.1nm,0.8s,baz=243,slow=9.5,SNR=9.2
comp=Z,1.1nm,0.8s
PAX Paxson 22.87 46 P **P** **21 48 17.7 -1.8**
baz=258,SNR=7.2
HARP HAARP 22.90 48 P **P** **21 48 18.2 -1.6**
baz=260
K24K Donnelly Dome 22.91 44 P **P** **21 48 18.0 -1.9**
baz=256
A21K Barrow 22.94 22 P **P** **21 48 18.3 -1.8**
baz=226
N25K Chitina, Valde 23.04 50 P **P** **21 48 19.9 -1.4**
baz=262
B22K Teshekpuk Lake 23.09 25 P **P** **21 48 20.4 -1.1**
baz=232
D23K Nanushuk River 23.09 30 P **P** **21 48 20.3 -1.3**
baz=239
A22K Sinclair Lake 23.11 23 P **P** **21 48 20.7 -1.1**
baz=229
G24K Hadweenzic Riv 23.14 36 P **P** **21 48 21.4 -0.7**
baz=248
TOLK Toolik Lake Re 23.27 31 P **P** **21 48 22.3 -1.1**
baz=241
J25K Salcha River, 23.29 42 P **P** **21 48 22.7 -1.0**
baz=255
F24K Squaw Lake 23.32 34 P **P** **21 48 23.2 -0.7**
baz=245
E24K Your Creek 23.36 33 P **P** **21 48 23.5 -0.8**
baz=243
GLB Gilahina Butte 23.40 50 P **P** **21 48 26.7 +2.0**
PRP Porcupine Dome 23.48 40 P **P** **21 48 27.2 +1.6**
PRP Porcupine Dome 23.48 40 P **P** **21 48 24.5 -1.1**
baz=252,SNR=5.6
C23K Itkillik River 23.57 28 P **P** **21 48 25.1 -1.2**
baz=237
G25K Bearman Lake 23.67 37 P **P** **21 48 25.3 -1.8**
baz=249
SCRK Sand Creek 23.73 44 P **P** **21 48 25.6 -2.2**
baz=258
D24K Happy Valley 23.76 30 P **P** **21 48 27.1 -0.9**
baz=241
L26K Log Cabin Wild 23.83 46 P **P** **21 48 27.6 -1.1**
baz=260
J26L Joseph Creek 24.02 43 P **P** **21 48 32.2 +1.7**
J26L IAmb IAmb 21 48 33.5
comp=Z,5.1nm,0.7s
J26L Joseph Creek 24.02 43 P **P** **21 48 29.0 -1.5**
baz=257,SNR=12
C24K Franklin Bluff 24.08 29 P **P** **21 48 29.6 -1.3**
baz=240
F25K Christian River 24.14 35 P **P** **21 48 30.6 -1.0**
baz=248
MESA MESA 24.22 54 P **P** **21 48 30.9 -1.7**
baz=268
I26K Coal Creek Min 24.38 41 P **P** **21 48 33.0 -0.7**
baz=256
BARN Barnard Glacie 24.40 51 P **P** **21 48 36.9 +2.7**
BARN IAmb IAmb 21 48 38.9
comp=Z,6.5nm,0.9s
M27K Edge Creek, AK 24.41 48 P **P** **21 48 32.7 -1.4**
baz=264,SNR=5.7
BMAR Burnt Mountain 24.46 36 P **P** **21 48 37.8 +3.3**
L27K Beaver Creek, 24.52 47 P **P** **21 48 33.3 -1.8**
baz=262,SNR=29
BCAR Beaver Creek A 24.54 47 **P** **21 48 38.2 +3.0**
CTG Chitna Glacier 24.55 52 P **P** **21 48 33.3 -2.1**
baz=267
K27K Chicken 24.56 44 P **P** **21 48 33.8 -1.6**
baz=260
G26K Porcupine Rive 24.60 37 P **P** **21 48 34.1 -1.5**
baz=252
D25K Kavik River 24.61 31 P **P** **21 48 34.5 -1.4**
baz=244
F26K Sheenjek River 24.71 35 P **P** **21 48 35.4 -1.4**
baz=250,SNR=6.6
YUK3 Moose Creek 25.02 50 P **P** **21 48 37.8 -2.0**
baz=266,SNR=9.3
I27K Kandik River 25.07 41 P **P** **21 48 38.6 -1.5**
baz=257
EGAK Eagle 25.09 43 P **P** **21 48 42.2 +2.1**
EGAK Eagle 25.09 43 P **P** **21 48 38.9 -1.2**
baz=259,SNR=7.8
O28M Mount Upton 25.11 52 P **P** **21 48 38.5 -2.2**
baz=268,SNR=5.3
H27K Steamboat Moun 25.26 39 P **P** **21 48 40.7 -1.0**
baz=256
YUK8 Steele Glacier 25.33 51 P **P** **21 48 41.5 -1.1**
baz=268
C26K Camden Bay 25.33 30 P **P** **21 48 41.1 -1.2**
baz=244
G27K Doyon Strip 25.36 38 P **P** **21 48 41.0 -1.6**
baz=254
PNL Peninsula 25.51 55 P **P** **21 48 42.4 -1.6**
baz=272
C27K Jago River 25.59 31 P **P** **21 48 43.7 -0.9**
baz=246
I28M Miner Creek 25.73 41 **P** **21 48 48.2 +2.1**
I28M IAmb IAmb 21 48 51.1
comp=Z,3.9nm,0.6s
I28M Miner Creek 25.73 41 P **P** **21 48 44.8 -1.3**
baz=259,SNR=8.1
DAWY Dawson 25.73 45 P **P** **21 48 44.4 -1.7**
baz=262
E27K Coleen River 25.79 35 P **P** **21 48 45.1 -1.4**
baz=252
YUK4 Talbot Arm 25.87 51 P **P** **21 48 46.4 -1.1**
baz=269
M29M Somme Creek 26.00 48 P **P** **21 48 47.4 -1.2**
baz=267
YUK6 Outpost Mounta 26.00 52 P **P** **21 48 47.6 -1.1**
baz=270
L29M L29M 26.20 47 P **P** **21 48 49.1 -1.2**
baz=266
F28M Old Crow 26.25 37 P **P** **21 48 49.3 -1.3**
baz=255
D27M Malcolm River 26.35 33 P **P** **21 48 50.9 -0.6**
baz=250
P29M Windy Craggy 26.35 55 P **P** **21 48 56.1 +4.5**
P29M IAmb IAmb 21 49 01.3
comp=Z,7.5nm,1.2s
P29M Windy Craggy 26.35 55 P **P** **21 48 50.7 -1.0**
baz=273
HYT Haines Junctio 26.43 52 P **P** **21 48 56.1 +3.7**
HYT IAmb IAmb 21 49 01.4
comp=Z,3.6nm,0.7s
HYT Haines Junctio 26.43 52 P **P** **21 48 51.0 -1.5**
baz=271
H29M Whitestone 26.51 40 P **P** **21 48 52.1 -0.8**
baz=259
K29M Barlow Dome 26.53 45 P **P** **21 48 52.6 -0.8**
baz=265
N30M Aishikik Lake 26.62 51 P **P** **21 48 51.5 -2.6**
baz=270
E28M Babbage River 26.64 34 P **P** **21 48 52.3 -1.8**
baz=253
P30M Million Dollar 26.72 54 P **P** **21 48 53.4 -1.6**
baz=273
G29M Pine Creek 26.78 38 P **P** **21 48 53.9 -1.5**
baz=258
M30M Minto, Yukon 26.78 48 P **P** **21 48 54.2 -1.3**
baz=268
PLBC Pleasant Camp 27.06 55 P **P** **21 48 56.2 -1.8**
baz=274
J30M Hart River 27.12 44 P **P** **21 48 56.8 -1.8**
baz=264
D28M Stokes Point 27.13 33 P **P** **21 48 57.7 -0.8**
baz=253
I30M Mount Dempster 27.17 42 P **P** **21 49 01.2 +2.2**
I30M IAmb IAmb 21 49 15.5
comp=Z,5.5nm,1.4s
I30M Mount Dempster 27.17 42 P **P** **21 48 57.2 -1.8**
baz=263
EPYK Eagle Plains 27.19 40 P **P** **21 48 57.2 -1.9**
baz=261
S31K Pelican 27.29 58 P **P** **21 48 58.6 -1.4**
baz=277
G30M tAoh Zraii Nji 27.49 39 P **P** **21 49 00.1 -1.7**
baz=260
WHY Whitehorse 27.72 52 P **P** **21 49 02.3 -1.7**
baz=273
F30M Barrier River 27.77 37 P **P** **21 49 02.2 -2.1**
baz=259
M31M Drury Creek, Y 27.90 49 P **P** **21 49 04.3 -1.2**
baz=271
SIT Sitka 27.91 60 P **P** **21 49 03.5 -2.0**
baz=280
H31M Peel River 28.07 41 P **P** **21 49 04.7 -2.4**
baz=264
R32K Eaglecrest 28.14 57 P **P** **21 49 05.0 -2.7**
baz=278
S32K Killisnoo 28.24 59 P **P** **21 49 07.1 -1.4**
baz=280
KLR Kudur 28.35 283 LR LR 22 01 33.3
comp=Z,26nm,18.4s,baz=124,slow=39
USA0B Ussuriysk Arra 30.46 273 P **P** **21 49 27.0 -1.3**
USRK Ussuriysk Ar. 30.46 273 P **P** **21 49 27.2 -1.1**
H11N2 WAKE ISLAND Hy 32.94 197 T T 22 24 52.1
baz=11,slow=76,SNR=170
H11N3 WAKE ISLAND Hy 32.95 197 T T 22 24 52.9
baz=11,slow=76,SNR=92
H11N1 WAKE ISLAND Hy 32.95 197 T T 22 24 52.3
baz=11,slow=76,SNR=142
H11S1 WAKE ISLAND Hy 34.16 197 T T 22 26 28.8
baz=11,slow=76,SNR=73
H11S3 WAKE ISLAND Hy 34.18 197 T T 22 26 23.2
baz=11,slow=76,SNR=75
H11S2 WAKE ISLAND Hy 34.18 197 T T 22 26 20.6
baz=11,slow=76,SNR=39
YKA Yellowknife Ar 36.95 46 P **P** **21 50 28.1 +3.6**
comp=Z,1.1nm,0.7s,baz=296,slow=9.6,SNR=5.1
YKA LR LR 22 08 07.3
comp=Z,49nm,18.6s,baz=318,slow=40
comp=Z,1.1nm,0.7s
JNU Nakatsue 37.87 259 LR LR 22 07 11.8
comp=Z,17nm,19.4s,baz=92,slow=38
SONM Songino Array 43.92 294 P **P** **21 51 24.1 +1.8**
comp=Z,1.1nm,0.5s,baz=64,slow=7.6,SNR=8.1
comp=Z,1.1nm,0.5s
NVAR Mina Array Bea 46.26 80 P **P** **21 51 44.0 +2.9**
comp=Z,0.2nm,0.4s,baz=289,slow=8.5,SNR=4.1
comp=Z,0.2nm,0.4s
PDAR Pinedale Array 48.82 70 P **P** **21 52 01.8 +0.8**
comp=Z,0.3nm,0.4s,baz=328,slow=3.2,SNR=2.1
comp=Z,0.3nm,0.4s
TPFO Pinon Flats 50.53 84 P **P** **21 52 11.5 -2.4**
baz=312
IRM Iron Mountain 50.97 82 P **P** **21 52 13.6 -3.6**
baz=312
MONP2 Monument Peak 51.04 84 P **P** **21 52 14.9 -3.0**
baz=313
BC3 Big Chuckawall 51.12 83 P **P** **21 52 15.6 -2.7**
baz=312
RSSD Black Hills 51.16 65 P **P** **21 52 14.8 -3.9**
baz=308
SWSC Sam W. Stewart 51.38 84 P **P** **21 52 18.4 -1.8**
baz=313
IKP In-Ko-Pah, Jac 51.39 84 P **P** **21 52 18.0 -2.4**
baz=313
WUAZ Wupatki 52.37 78 P **P** **21 52 26.0 -1.7**
baz=312
ISCO Idaho Springs 53.00 70 P **P** **21 52 29.3 -3.2**
baz=311
W18A Petrified Fore 53.63 78 P **P** **21 52 34.7 -2.3**
baz=312
T25A Trinidad 55.47 72 P **P** **21 52 47.7 -2.6**
baz=312
121A Cookes Peak, D 56.58 78 P **P** **21 52 56.2 -2.1**
baz=314
KURK Kurchatov 56.65 311 P **P** **21 52 59.4 +1.1**
KURBB Kurchatov Arra 56.75 311 P **P** **21 53 00.1 +1.1**
comp=Z,1.4nm,0.6s,baz=42,slow=6.9,SNR=21
comp=Z,1.4nm,0.6s
CBKS Cedar Bluff 57.06 68 P **P** **21 52 58.2 -3.2**
baz=313
ARCES ARCESS Array B 57.13 348 P **P** **21 53 01.2 -0.2**
comp=Z,3.1nm,1.0s,baz=12,slow=9.2,SNR=6.1
comp=Z,3.1nm,1.0s
MK31 Makanchi Array 57.52 306 P **P** **21 53 04.1 -0.5**
MK31 IAmb IAmb 21 53 29.9
comp=Z,3.5nm,1.1s
MKAR Makanchi Array 57.52 306 P **P** **21 53 05.5 +0.9**
MKAR Makanchi Array 57.52 306 P **P** **21 53 04.8 +0.2**
comp=Z,0.5nm,0.5s,baz=48,slow=4.5,SNR=7.7
comp=Z,0.5nm,0.5s
SCIA State Center 58.60 61 P **P** **21 53 09.5 -2.6**
baz=313
KSU1 Kansas State U 58.64 65 P **P** **21 53 09.8 -2.7**
baz=314
BVAR Borovoye Array 58.70 317 P **P** **21 53 14.0 +1.3**
comp=Z,1.5nm,0.5s,baz=45,slow=7.2,SNR=13
comp=Z,1.5nm,0.5s
BRVK Borovoye 58.72 317 P **P** **21 53 13.6 +0.8**
BRVK IAmb IAmb 21 53 15.7
comp=Z,1.3nm,0.5s
TX31 Lajitas Ar. Si 61.34 78 P **P** **21 53 33.3 +2.1**
TX31 IAmb IAmb 21 53 40.8
comp=Z,2.4nm,1.4s
TXAR Lajitas Array 61.34 78 P **P** **21 53 33.7 +2.5**
TXAR Lajitas Array 61.34 78 P **P** **21 53 33.1 +1.9**
comp=Z,0.3nm,0.4s,baz=310,slow=4.6,SNR=10
comp=Z,0.3nm,0.4s
WHTX Lake Whitney, 63.16 72 P **P** **21 53 41.3 -1.9**
baz=316
FINES FINESS Array B 64.68 345 P **P** **21 53 56.2 +3.5**
comp=Z,1.2nm,0.8s,baz=7.4,slow=31,SNR=1.6
comp=Z,1.2nm,0.8s
ABKAR Akbulak array 65.84 320 P **P** **21 54 02.5 +2.0**
KKAR Karatay Array 65.98 310 P **P** **21 54 02.6 +1.1**
KKAR Karatay Array 65.98 310 P **P** **21 54 02.9 +1.4**
KKAR IAmb IAmb 21 54 04.0
comp=Z,1.1nm,0.6s
SSPA Standing Stone 67.47 53 P **P** **21 54 08.7 -2.4**
baz=320
LRAL Lakeview Retre 68.40 64 P **P** **21 54 14.0 -2.9**
baz=318
L61B Northampton 68.56 48 P **P** **21 54 15.1 -2.7**
baz=321
BLA Blacksburg 68.80 57 P **P** **21 54 16.3 -3.2**
baz=320
WRA Warramunga Arr 80.47 220 P **P** **21 55 27.9 +0.9**
comp=Z,0.5nm,0.8s,baz=29,slow=5.8,SNR=2.1
comp=Z,0.5nm,0.8s
ASAR Alice Springs 83.99 219 P **P** **21 55 46.9 +1.5**
comp=Z,0.6nm,0.7s,baz=23,slow=5.0,SNR=5.4
comp=Z,0.6nm,0.7s

IDC 23 21:51:25.3±2.1, 6°41N×127°35E, h0km, mb3.9/5, mbtmp3.9/5, Error ellipse: s-maj=186.2km s-min=21.8km az=67.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**27.08**	**165**	P	P	21 57 11.0	+1.1
	0.6nm,0.8s,baz=346,slow=10,SNR=1.9						
	0.6nm,0.8s						
ASAR	**Alice Springs**	**30.57**	**168**	P	P	21 57 39.8	-1.1
	0.2nm,0.4s,baz=341,slow=6.9,SNR=2.2						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**55.74**	**324**	P	P	22 01 04.1	+0.3
	0.8nm,0.4s,baz=115,slow=7.8,SNR=22						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**59.84**	**326**	P	P	22 01 32.6	0.0
	1.8nm,0.5s,baz=126,slow=6.9,SNR=28						
	1.8nm,0.5s						
BVAR	**Borovoye Array**	**65.43**	**326**	P	P	22 02 09.6	-0.4
	1.0nm,0.5s,baz=110,slow=5.2,SNR=13						
	1.0nm,0.5s						

ISC 23 22:00:19.1±2.4, 13°.1N±0°.1×89°.35W±0°.07, h43km, n18, σ0°.36/22, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LOMA	**Loma Larga**	**0.57**	**18**	*eP*	**Pn**	**22 00 31.1**	**0.0**
BOQS	**Boqueron**	**0.64**	**6**	*eP*	**Pn**	**22 00 32.2**	**+0.1**
LFU	**La Fuente**	**0.69**	**20**	*eP*	**Pn**	**22 00 32.8**	**+0.1**
COEG	**Centro de Oper**	**0.70**	**41**	*eP*	**Pn**	**22 00 32.1**	**-0.6**
COEG				*eS*	**Sn**	**22 00 42.4**	**-0.1**
TECO	**Alcaldia de Te**	**0.71**	**52**	*eS*	**Sn**	**22 00 42.1**	**-0.6**
PAVA	**Las Pavas**	**0.74**	**33**	*eP*	**Pn**	**22 00 33.1**	**-0.2**
PAVA				*eS*	**Sn**	**22 00 44.1**	**+0.6**
CEVE	**Cerro Verde**	**0.78**	**340**	*eP*	**Pn**	**22 00 33.9**	**0.0**
SBLS	**San Blas**	**0.79**	**341**	*eP*	**Pn**	**22 00 34.1**	**+0.1**
SNJE	**San Jose**	**0.81**	**342**	*eP*	**Pn**	**22 00 34.2**	**-0.1**
RTR	**El Retiro**	**0.85**	**340**	*eP*	**Pn**	**22 00 34.7**	**-0.2**
SCLA	**Alcaldia de Sa**	**0.86**	**45**	*eP*	**Pn**	**22 00 34.6**	**-0.2**
SCLA				*eS*	**Sn**	**22 00 46.8**	**+0.5**
NUBE	**Las Nubes**	**0.91**	**333**	*i* P	**Pn**	**22 00 35.3**	**-0.3**
NUBE				*eS*	**Sn**	**22 00 48.0**	**+0.4**
PACA	**Pacayal**	**1.07**	**69**	*eP*	**Pn**	**22 00 38.3**	**+0.5**
JUCU	**Jucuarjn**	**1.09**	**81**	*eS*	**Sn**	**22 00 52.0**	**+0.1**
BLLM	**Bellamira**	**1.14**	**72**	*eP*	**Pn**	**22 00 38.7**	**0.0**
MTO3	**Montecristo**	**1.30**	**360**	*eP*	**Pn**	**22 00 40.5**	**-0.6**
LCND	**La Caada**	**1.44**	**81**	*eP*	**Pn**	**22 00 42.6**	**-0.1**
CNCH	**Conchagua**	**1.49**	**83**	*eP*	**Pn**	**22 00 43.4**	**-0.2**

ISU 23 22:02:18.1, 40°.86N×72°.98E, h12km, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ANR	**Andizhan**	**0.48**	**258**	P	Pg	22 02 28.0	+0.4
ANR				S	Sb	22 02 35.4	-0.2
FRG	**Fergana**	**1.03**	**242**	P	Pg	22 02 38.0	0.0
FRG				S	Sn	22 02 52.8	0.0
CHMI	**Chimion**	**1.26**	**243**	P	Pn	22 02 41.6	0.0
CHMI				S	Sg	22 02 59.2	+0.6
MINT	**Mingtut**	**1.57**	**256**	P	Pb	22 02 47.0	-0.2
MINT				S	Sg	22 03 08.5	-0.3
CHDK	**Chadak**	**1.69**	**275**	P	Pb	22 02 49.0	-0.2
CHDK				S	Sg	22 03 11.9	-0.7
CHMG	**Chimgan**	**2.34**	**288**	P	Pb	22 02 59.4	-1.0
CHMG				S	Sb	22 03 31.0	+1.6

SOME 23 22:02:53.2, 41°.07N×72°.92E, h0km
NNC 23 22:02:54.2±2.1, 40°.96N×72°.93E, h0km, mb2.9, mpv2.6, Error ellipse: s-maj=17.1km s-min=7.3km az=171.0

KRNET 23 22:02:54.9±0.1, 40°.97N×72°.90E, h24km, mb2.1, 25C-11D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARSB	**Arslanbob**	**0.36**	**10**	⇑*i*P	Pb	22 03 02.6	-0.3
	baz=10.0						
ARSB				⇑*i*S	Sb	22 03 08.1	-0.3
	baz=10.0						
OHH	**Osh**	**0.45**	**191**	⇑*i*P	Pb	22 03 04.1	-0.2
	baz=91						
OHH				⇑*i*S	Sb	22 03 10.4	-0.3
	baz=91						
SFK	**Sufi-Kurgan**	**1.06**	**154**	⇓*i*P	Pb	22 03 14.8	+0.1
	baz=54						
SFK				⇓*i*S	Sn	22 03 29.1	+0.5
	baz=54						
ARLS	**Aral**	**1.40**	**50**	⇑*i*P	Pb	22 03 20.2	-0.2
	baz=50						
ARLS				⇑*i*S	Sb	22 03 38.7	+0.9
	baz=50						
TRKS	**Terek-Say**	**1.44**	**294**	⇑*i*P	Pb	22 03 20.5	-0.6
	baz=91						
TRKS				⇑*i*S	Sb	22 03 39.0	0.0
	baz=91						
MNAS	**Manas**	**1.54**	**349**	⇑*i*P	Pb	22 03 23.2	+0.3
	baz=49						
MNAS				⇑*i*S	Sb	22 03 43.7	+1.6
	baz=49						
DRK	**Karamyk**	**1.71**	**210**	⇓*i*P	Pb	22 03 25.7	-0.1
	baz=10.0						
DRK				⇓*i*S	Sb	22 03 48.0	+1.1
	baz=10.0						
UCH	**Uchtor**	**1.75**	**43**	⇓*i*P	Pb	22 03 26.4	-0.1
	baz=43						
UCH				⇓*i*S	Sb	22 03 49.3	+1.1
	baz=43						
MRKS	**Merke**	**1.79**	**8**	P	Pb	22 03 27.2	+0.1
	3.5nm,0.3s						
MRKS				S	Sb	22 03 51.5	+2.3
	35nm,0.3s						
MRKS	**Merke**	**1.79**	**8**	*eP*	Pb	22 03 27.2	+0.1
	3.5nm,0.3s						
MRKS				*eS*	Sb	22 03 51.5	+2.3
	35nm,0.3s						
EKS2	**Erkin-Say**	**1.81**	**21**	⇑*i*P	Pb	22 03 27.1	-0.4
	baz=21						
EKS2				⇑*i*S	Sb	22 03 50.5	+0.6
	baz=21						
BTK	**Batken**	**1.83**	**241**	⇑*i*P	Pb	22 03 27.2	-0.5
	baz=41						
BTK				⇑*i*S	Sb	22 03 50.7	+0.6
	baz=41						
AAK	**Ala-Archa**	**2.05**	**35**	⇓Pn	Pb	22 03 31.7	+0.1
	1.2nm,0.5s						
AAK				⇑Sn	Sb	22 03 58.3	+1.6
	11nm,0.6s						
AAK	**Ala-Archa**	**2.05**	**35**	⇑*eP*	Pb	22 03 30.5	-1.1
	baz=35						
AAK				⇑*i*S	Sb	22 03 56.1	-0.6
	baz=35						
KBK	**Karagaybulak**	**2.28**	**42**	⇑*eP*	Pb	22 03 33.7	-1.7
	baz=42						
KBK				⇑*i*S	Sb	22 04 01.9	-1.4
	baz=42						
NRN	**Naryn**	**2.39**	**78**	⇑*eP*	Pn	22 03 34.7	+1.9
	baz=78						
NRN				⇑*eS*	Sb	22 04 04.1	-2.4
	baz=78						
IUG	**Iuzhnay**	**2.45**	**300**	Pg	Pb	22 03 39.2	+0.9
	1.2nm,0.1s						
IUG				Lg	Lg	22 04 11.9	
	19nm,0.5s						
IUG	**Iuzhnay**	**2.45**	**300**	*eP*	Pb	22 03 39.2	+0.9
	1.2nm,0.1s						
IUG				*eS*	Sb	22 04 11.9	+3.8
	34nm,0.2s						
USP	**Ospenovka**	**2.59**	**27**	⇑*i*P	Pn	22 03 37.7	+2.4
	baz=27						
USP				⇑*i*S	Sn	22 04 08.9	+2.9
	baz=27						
KK31	**Karatay Array**	**2.77**	**321**	⇑Pg	Pb	22 03 44.7	+0.9
	0.2nm,0.3s,baz=145,slow=16						
KK31				⇑Lg	Lg	22 04 21.0	
	1.0nm,0.2s,baz=135,slow=30,SNR=10						
KKAR	**Karatay Array**	**2.77**	**321**	⇓*i*P	Pn	22 03 40.5	+2.6
	baz=21						
KKAR				⇓*i*S	Sn	22 04 13.6	+3.0
	baz=21						
TKM2	**Tokmak 2**	**2.80**	**45**	⇓Pg	Pb	22 03 44.6	+0.2
	0.6nm,0.3s						
TKM2				⇓Lg	Lg	22 04 18.6	
	2.9nm,0.6s						

BRLS Borolday 3.07 313 Pg Pb 22 03 49.5 +0.6
0.4nm,0.1s
BRLS Lg Lg 22 04 28.9
0.8nm,0.1s
BRLS Borolday 3.07 313 *eP* Pb 22 03 49.3 +0.4
0.4nm,0.1s
BRLS *eS* Sb 22 04 28.9 +2.9
3.1nm,0.1s
KST Kastek 3.08 47 Pg Pb 22 03 49.1 0.0
0.6nm,0.1s
KST Lg Lg 22 04 28.7
3.5nm,0.5s
KST Kastek 3.08 47 *eP* Pb 22 03 49.2 0.0
0.6nm,0.1s
KST *eS* Sb 22 04 28.7 +2.3
3.3nm,0.2s
DGS Degeres 3.12 42 Pg Pb 22 03 50.7 +1.0
1.6nm,0.3s
DGS Lg Lg 22 04 31.1
3.8nm,0.8s
DGS Degeres 3.12 42 *eP* Pb 22 03 50.6 +0.9
1.6nm,0.3s
DGS *eS* Sb 22 04 31.1 +3.7
4.5nm,0.2s
KRBS Karabastau 3.42 36 Pg Pb 22 03 56.0 +1.3
0.3nm,0.2s
KRBS Lg Lg 22 04 40.6
1.9nm,0.3s
KRBS Karabastau 3.42 36 *eP* Pb 22 03 56.1 +1.3
0.3nm,0.2s
KRBS *eS* Sb 22 04 40.6 +4.7
2.6nm,0.3s
KTBS Karatobe 3.92 44 Pg Pb 22 04 05.1 +1.8
0.4nm,0.3s
KTBS Lg Lg 22 04 56.0
3.8nm,0.7s
KTBS Karatobe 3.92 44 *eP* Pb 22 04 05.2 +1.8
0.4nm,0.1s
KTBS *eS* Sb 22 04 56.0 +5.6
3.8nm,0.7s

UPA 23 22:06:31.7±0.9, 7°87'N×82°81'W, h12$^{km}_{\perp}$3^{km}, ML3.3, MW3.1, 1D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIMO3	**Limones**	**0.23**	**347**	*iP*	Pg	22 06 37.3	+0.6
LIMO3				AMP		22 06 38.0	
	comp=Z,3μm,0.1s						
LIMO3				*eS*	Sg	22 06 40.6	+0.6
PTPM	**Petroterminale**	**0.34**	**348**	*eP*	Pg	22 06 38.8	+0.2
PTPM				AMP		22 06 40.9	
	comp=Z,3μm,0.2s						
PTPM				*eS*	Sb	22 06 44.1	-0.8
DVD	**David**	**0.66**	**32**	*eP*	Pg	22 06 38.4	-6.2
DVD	**David**	**0.66**	**32**	*eS*	Sb	22 06 54.4	0.0
CDITO	**Canoas**	**0.70**	**355**	*eP*	Pg	22 06 43.9	-1.4
CDITO	**Canoas**	**0.70**	**355**	*eP*	Pg	22 06 45.1	-0.2
CDITO				*eS*	Sb	22 06 56.0	+0.6
BCO2	**Palmira**	**0.88**	**18**	*eP*	Pg	22 06 44.5	-4.3
BCO2				*eS*	Sb	22 07 01.1	+0.2
BCO2	**Palmira**	**0.88**	**18**	*eP*	Pg	22 06 48.1	-0.8
BCO2				AMP		22 06 50.5	
	comp=Z,3μm,0.1s						
BCO2				*eS*	Sb	22 07 01.1	+0.2
BRU2	**Volcan**	**0.92**	**7**	*eP*	Pg	22 06 45.5	-4.1
BRU2				*eS*	Sn	22 07 03.9	+0.1
BRU2	**Volcan**	**0.92**	**7**	*eP*	Pb	22 06 49.6	-0.1
BRU2				*eS*	Sb	22 07 02.8	+0.9

*ISK **23** 22:10:40.4, 38°17N×42°42'E, h5^{km}, ML4.1/24*
*IDC **23** 22:10:40.8±1.0, 37°98N×42°21'E, h0^{km}, mb3.8/12, mbtmp3.7/21, ML3.2/7, MS3.0/18, Error ellipse: s-maj=17.1km s-min=10.9km az=173.0*
*TEH **23** 22:10:42.2, 38°23N×42°43'E, h8$^{km}_{\pm}$27^{km}, ML3.8*
*MOS **23** 22:10:42.2±1.7, 38°15N×42°24'E, h15^{km}, mb4.2/6, Error ellipse: s-maj=7.8km s-min=5.1km az=82.2*
*AFAD **23** 22:10:43.0±0.0, 38°24N×42°39'E, h4$^{km}_{\pm}$2^{km}, MW4.2*
*MCSM **23** 22:10:44.9±0.5, 38°N±5°×4°E±°, h10^{km}, mb4.1, mB4.1, MLv4.0, Mw(mB)3.2*
*NEIC **23** 22:10:44±1.3, 38°26N±0°04×42°32E±0°05, h10$^{km}_{\pm}$1^{km}, mb4.0/12, Error ellipse: s-maj=6.9km s-min=6.7km az=267.0*
*NSSP **23** 22:11:39.9, 38°17N×42°35E, h10^{km}, Ms4.0*

ISC 23 22:10:42.6±1.0, 38°18N±0°02×42°39E±0°02, h6$^{km}_{\pm}$7^{km}, n196, σ1°47/221, mb3.9/18, MS3.0/10, 5C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GURO	**Guroymak-BITLI**	**0.46**	**323**	Pg	**Pg**	**22 10 50.2**	**-1.4**
GURO	**Guroymak-BITLI**	**0.46**	**323**		**Pg**	**22 10 50.1**	**-1.4**
GURO					**Sg**	**22 10 56.4**	**-1.3**
AKDM	**Akdamar-Van**	**0.49**	**72**	Pg	**Pg**	**22 10 50.8**	**-1.3**
GEVA	**Gevas**	**0.54**	**76**	P	**Pg**	**22 10 52.0**	**-1.1**
GEVA				S	**Sg**	**22 11 01.2**	**+1.0**
GEVA				*i* AML	AML	22 11 02.0	
	comp=N,5μm,0.6s						
GEVA				*i* AML	AML	22 11 04.0	
	comp=E,1μm,0.6s						
GEVA	**Gevas**	**0.54**	**76**	Pg	**Pg**	**22 10 51.7**	**-1.4**
SIRN	**Sırnak**	**0.69**	**178**	P	**Pg**	**22 10 56.0**	**+0.2**
SIRN				S	**Sn**	**22 11 08.0**	**-1.9**
SIRN				*i* AML	AML	22 11 12.0	
	comp=N,9μm,0.8s						
SIRN	**Sırnak**	**0.69**	**178**	Pg	**Pg**	**22 10 55.7**	**-0.1**
TVAN	**Van**	**0.87**	**66**	P	**Pg**	**22 10 57.5**	**-1.9**
TVAN				S	**Sg**	**22 11 10.5**	**-0.2**
TVAN	**Van**	**0.87**	**66**	Pg	**Pg**	**22 10 57.4**	**-1.9**
VANB	**Van**	**0.89**	**62**	Pg	**Pg**	**22 10 57.8**	**-1.9**
BTMN	**Batman**	**0.93**	**252**	P	**Pb**	**22 11 01.0**	**-0.2**
BTMN				S	**Sn**	**22 11 15.6**	**-0.3**
BTMN				*i* AML	AML	22 11 17.0	
	comp=N,6μm,0.4s						
BTMN	**Batman**	**0.93**	**252**	Pg	**Pb**	**22 11 01.0**	**-0.2**
SVAN	**Silvan-Diyarba**	**0.94**	**268**	Pg	**Pg**	**22 11 00.0**	**-0.7**
SVAN				Sg	**Sn**	**22 11 14.4**	**-1.7**
SVAN	**Silvan-Diyarba**	**0.94**	**268**	P	**Pg**	**22 11 00.4**	**-0.2**
SVAN				S	**Sn**	**22 11 14.7**	**-1.4**
SVAN				*i* AML	AML	22 11 17.0	
	comp=N,1μm,0.4s						
SVAN	**Silvan-Diyarba**	**0.94**	**268**	Pg	**Pg**	**22 11 00.4**	**-0.2**
MLAZ	**Malazgirt-MUS**	**0.97**	**7**	Pg	**Pg**	**22 10 59.4**	**-1.8**
ERCV	**ERCIS-VAN**	**1.12**	**41**	Pn	**Pb**	**22 11 02.4**	**-2.1**
HAKT	**HAKKARI**	**1.21**	**120**	P	**Pn**	**22 11 05.5**	**-0.8**
HAKT				S	**Sn**	**22 11 25.6**	**+2.4**
HAKT				*i* AML	AML	22 11 30.0	
	comp=E,2μm,0.4s						
HAKT	**HAKKARI**	**1.21**	**120**	Pg	**Pn**	**22 11 06.2**	**-0.1**
VRTB	**Varto-Mus**	**1.22**	**323**	Pn	**Pb**	**22 11 05.4**	**-0.8**
VRTB				Sn	**Sn**	**22 11 23.6**	**+0.4**
VRTB	**Varto-Mus**	**1.22**	**323**	P	**Pb**	**22 11 04.1**	**-2.1**
VRTB				S	**Sn**	**22 11 22.9**	**-0.3**
CLDR	**Caldiran**	**1.53**	**51**	Pn	**Pn**	**22 11 09.3**	**-1.4**
CLDR				Sn	**Sn**	**22 11 31.6**	**+0.6**
CLDR	**Caldiran**	**1.53**	**51**	P	**Pn**	**22 11 09.0**	**-1.7**
CLDR				S	**Sn**	**22 11 29.3**	**-1.7**
CLDR	**Caldiran**	**1.53**	**51**	Pg	**Pn**	**22 11 09.3**	**-1.4**
KARO	**Karliova-Bingo**	**1.54**	**317**	Pn	**Pn**	**22 11 10.3**	**-0.4**
KARO				Sn	**Sg**	**22 11 32.3**	**+0.2**
MARD	**Mardin**	**1.54**	**236**	P	**Pn**	**22 11 10.7**	**0.0**
MARD				S	**Sg**	**22 11 33.1**	**+0.9**
MARD				*i* AML	AML	22 11 36.0	
	comp=E,1μm,0.4s						
MARD	**Mardin**	**1.54**	**236**	Pg	**Pg**	**22 11 12.9**	**+0.7**
BNGB	**Bingl**	**1.56**	**302**	Pn	**Pn**	**22 11 10.9**	**-0.1**
BNGB				Sn	**Sg**	**22 11 33.1**	**+0.2**
EATA	**Eleskirt**	**1.68**	**3**	P	**Pn**	**22 11 11.7**	**-1.1**
EATA				S	**Sb**	**22 11 36.3**	**+0.7**
EATA	**Eleskirt**	**1.68**	**3**	Pg	**Pn**	**22 11 12.2**	**-0.6**
DYDN	**Diyadin**	**1.70**	**36**	P	**Pn**	**22 11 13.6**	**+0.6**
DYDN	**Diyadin**	**1.70**	**36**	Pg	**Pn**	**22 11 13.5**	**+0.6**
MAZI	**Mazidag**	**1.70**	**245**	Pn	**Pn**	**22 11 12.3**	**-0.6**
MAZI				Sn	**Sg**	**22 11 36.3**	**-0.9**
DYBB	**Diyarbakir**	**1.79**	**263**	Pn	**Pn**	**22 11 13.8**	**-0.3**
DYBB				Sn	**Sg**	**22 11 38.6**	**-1.6**
ECAT	**Cat-ERZURUM**	**1.80**	**323**	P	**Pn**	**22 11 13.9**	**-0.5**
ECAT				S	**Sg**	**22 11 40.6**	**+0.1**
DIYA	**Diyarbakir**	**1.81**	**263**	P	**Pn**	**22 11 13.9**	**-0.4**
DIYA				S	**Sb**	**22 11 38.4**	**-0.6**
KOPR	**Koprukoy-ERZUR**	**1.85**	**347**	Pn	**Pn**	**22 11 15.2**	**+0.1**
ERZM	**Erzurum**	**1.90**	**335**	P	**Pn**	**22 11 16.0**	**+0.2**
ERZM				S	**Sb**	**22 11 42.0**	**+0.2**
HOMI	**Horasan**	**1.90**	**349**	P	**Pn**	**22 11 16.0**	**+0.3**
HOMI				S	**Sg**	**22 11 44.2**	**+0.5**
YEDI	**Yedisu-Bingol**	**1.91**	**312**	Pn	**Pn**	**22 11 15.9**	**+0.1**
EMRE	**Erzurum,Aziziy**	**2.15**	**330**	P	**Pn**	**22 11 20.4**	**+1.2**
EMRE				S	**Sg**	**22 11 56.3**	**+4.6**
VNNZ	**Vanand**	**2.22**	**30**	*eP*	**Pn**	**22 11 21.2**	**+1.2**
VNNZ				*eS*	**Sb**	**22 11 51.4**	**+0.5**
TASB	**TASBURUN-IGDIR**	**2.30**	**38**	Pn	**Pn**	**22 11 21.2**	**+0.1**
KOPT	**Kop Dagi**	**2.35**	**322**	P	**Pn**	**22 11 22.4**	**+0.4**
KOPT				S	**Sg**	**22 11 59.9**	**+1.7**
DIGO	**Kars**	**2.36**	**19**	P	**Pb**	**22 11 25.0**	**-0.6**
DIGO				S	**Sg**	**22 11 59.7**	**+1.4**
METS	**Metsamor**	**2.36**	**33**	*eP*	**Pn**	**22 11 23.3**	**+1.3**
METS				*eS*	**Sb**	**22 11 55.1**	**0.0**
SENK	**Senkaya-Erzuru**	**2.38**	**359**	Pn	**Pn**	**22 11 22.5**	**+0.2**
TNCL	**Tunceli-Merkez**	**2.42**	**294**	P	**Pn**	**22 11 22.0**	**-0.7**
TNCL				S	**Sb**	**22 11 56.4**	**-0.2**
TNCL				*i* AML	AML	22 11 59.0	
	comp=E,1μm,0.8s						
KRIK	**Erzurum-spir**	**2.43**	**333**	P	**Pn**	**22 11 24.4**	**+1.4**
KRIK				S	**Sg**	**22 12 06.0**	**+5.2**
PTK	**Pertek**	**2.46**	**288**	Pn	**Pn**	**22 11 23.6**	**+0.3**
ARUZ	**Aruch**	**2.48**	**32**	*eP*	**Pb**	**22 11 27.4**	**-0.2**
ARUZ				*eS*	**Sg**	**22 12 02.5**	**+0.2**
KARS	**Kars**	**2.50**	**12**	Pn	**Pn**	**22 11 24.1**	**+0.2**
KARS	**Kars**	**2.50**	**12**		**Pn**	**22 11 24.3**	**+0.4**
KARS	**Kars**	**2.50**	**12**	P	**Pn**	**22 11 24.3**	**+0.4**
ERZN	**Erzincan**	**2.51**	**305**	Pn	**Pn**	**22 11 24.4**	**+0.4**
NRKZ	**NAREK**	**2.53**	**44**	*eP*	**Pb**	**22 11 27.6**	**-0.9**
NRKZ				*eS*	**Sb**	**22 12 02.6**	**+2.6**
ISHB	**Shabestar**	**2.54**	**87**	Pn	**Pn**	**22 11 25.3**	**+0.7**
NAX	**Nakhchivan**	**2.62**	**67**	P	**Pn**	**22 11 25.7**	**+0.1**
AMBZ	**Amberd**	**2.64**	**33**	*eP*	**Pb**	**22 11 30.2**	**-0.2**
AMBZ				*eS*	**Sg**	**22 12 07.0**	**-0.4**
BAYB	**BAYBURT**	**2.65**	**322**	P	**Pn**	**22 11 27.6**	**+1.6**
IMRD	**Marand**	**2.66**	**77**	Pn	**Pn**	**22 11 27.1**	**+1.0**
EAK	**Akyaka**	**2.67**	**20**	P	**Pb**	**22 11 31.4**	**+0.5**
EAK				S	**Sb**	**22 12 06.8**	**+2.8**
GNI	**Garni**	**2.68**	**42**	⇑*iP*	**Pb**	**22 11 31.6**	**+0.5**
GNI				⇑*iS*	**Sg**	**22 12 10.3**	**+1.5**
GNI	**Garni**	**2.68**	**42**		**Pn**	**22 11 28.3**	**+1.8**
GNI	**Garni**	**2.68**	**42**	Pn	**Pb**	**22 11 30.7**	**-0.4**
	4.7nm,0.3s,baz=274,slow=2.6,SNR=46						
GNI				Lg	Lg	22 12 11.6	
	9.5nm,0.3s,baz=172,slow=20,SNR=3.7						
GNI				LR	LR	22 12 12.5	
	comp=Z,38nm,19.2s,baz=236,slow=31						
	90nm,0.9s						
GNI	**Garni**	**2.68**	**42**	P	**Pn**	**22 11 28.3**	**+1.8**
GNI	**Garni**	**2.68**	**42**	Pn	**Pn**	**22 11 28.5**	**+2.1**
DDEM	**Demirkent**	**2.75**	**350**	P	**Pn**	**22 11 27.3**	**0.0**
IAZR	**Azarshahr**	**2.88**	**99**	Pn	**Pn**	**22 11 31.2**	**+1.9**
URFA	**Urfa**	**2.92**	**256**	Pn	**Pn**	**22 11 30.3**	**+0.7**
ITBZ	**Tabriz**	**2.96**	**88**	Pn	**Pn**	**22 11 31.1**	**+0.9**
MAHB	**Mahabad**	**2.99**	**117**	Pn	**Pn**	**22 11 32.5**	**+1.8**
CHOM	**Cayeli-Rize**	**3.17**	**337**	Pn	**Pn**	**22 11 33.9**	**+0.9**
ILIC	**Ilic-Erzincan**	**3.24**	**294**	Pn	**Pn**	**22 11 35.1**	**+1.0**
ARPR	**Arapgir-MALATY**	**3.30**	**287**	Pn	**Pn**	**22 11 35.8**	**+0.9**
ARPR	**Arapgir-MALATY**	**3.30**	**287**	Pn	**Pn**	**22 11 35.3**	**+0.4**
BCA	**Borcka**	**3.31**	**350**	Pn	**Pn**	**22 11 35.8**	**+0.8**
AKH	**Akhalkalaki**	**3.33**	**14**	Pn	**Pn**	**22 11 35.9**	**+0.5**
BATM	**Batumi**	**3.46**	**351**	Pn	**Pn**	**22 11 37.7**	**+0.7**
IHRS	**Heris**	**3.67**	**86**	Pn	**Pn**	**22 11 41.5**	**+1.5**
DARE	**Darende-Malaty**	**3.88**	**277**	Pn	**Pn**	**22 11 43.7**	**+0.9**
GZT	**Gaziantep**	**3.91**	**259**	P	**Pn**	**22 11 45.1**	**+1.8**
GANJ	**Ganja**	**3.92**	**50**	P	**Pn**	**22 11 45.4**	**+2.1**
ESPY	**Espiye-Giresun**	**3.93**	**315**	Pn	**Pn**	**22 11 44.8**	**+1.3**
ISRB	**Sarab**	**4.18**	**93**	Pn	**Pn**	**22 11 48.3**	**+1.2**
GAZ	**Gaziantep**	**4.23**	**258**		**Pn**	**22 11 48.7**	**+1.1**
ONI	**Oni**	**4.48**	**10**		**Pn**	**22 11 51.9**	**+0.9**
ONI	**Oni**	**4.48**	**10**	P	**Pn**	**22 11 51.9**	**+0.9**
KGS1	**Ghasr-e-Shirin**	**4.49**	**144**	Pn	**Pn**	**22 11 52.8**	**+1.8**
IDHR	**Dehrash**	**4.74**	**136**	Pn	**Pn**	**22 11 56.1**	**+1.3**
ZKTA	**Zakatala**	**4.74**	**42**	P	**Pn**	**22 11 58.4**	**+3.8**
SEKA	**Sheki**	**4.78**	**49**	P	**Pn**	**22 11 59.8**	**+4.6**
ILIN	**Lien**	**4.92**	**130**	Pn	**Pn**	**22 11 58.2**	**+1.0**
GLG1	**Gilan-e-Gharb**	**4.96**	**144**	Pn	**Pn**	**22 11 59.2**	**+1.5**
LKRN	**Lenkeran, Azer**	**5.04**	**82**	P	Pn	22 12 05.1	+6.4
GAS1	**Astara - Iran**	**5.08**	**86**	Pn	**Pn**	**22 12 01.1**	**+1.9**
IGHG	**Ghaleghazi**	**5.12**	**137**	Pn	**Pn**	**22 12 01.8**	**+1.8**
BNN	**Bunyan**	**5.17**	**279**	Pn	**Pn**	**22 12 00.9**	**+0.2**
NCK	**Nalchik**	**5.39**	**9**	⇓*eP*	**Pn**	**22 12 06.2**	**+2.7**
KBZ	**Khabaz**	**5.55**	**4**	Pn	**Pn**	**22 12 09.7**	**+4.0**
	0.2nm,0.3s,baz=200,slow=16,SNR=2.1						
KBZ				LR	LR	22 14 19.8	
	comp=Z,104nm,21.1s,baz=222,slow=38						
	1.1nm,0.5s						
KBZ	**Khabaz**	**5.55**	**4**	⇓*eP*	**Pn**	**22 12 09.0**	**+3.3**
SOC	**Sochi**	**5.76**	**340**	*eP*	**Pn**	**22 12 08.8**	**+0.2**
SOC				*e*		22 13 16.6	
SOC				MLR	MLR		
	comp=Z,65nm,16.0s						
IBZA	**Bozab**	**5.76**	**128**	Pn	**Pn**	**22 12 10.5**	**+1.6**
KIV	**Kislovodsk**	**5.77**	**2**	Pn	**Pn**	**22 12 08.4**	**-0.4**
KIV	**Kislovodsk**	**5.77**	**2**	*eP*	**Pn**	**22 12 08.7**	**-0.1**
KIV				pmax	pmax		
	comp=Z,3.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,153nm,12.0s						
KVAR	**Kislovodsk Arr**	**5.77**	**2**	Pn	**Pn**	**22 12 12.5**	**+3.6**
	baz=180,slow=14						
	comp=Z,0.7nm,0.4s						
MAK	**Makhachkala**	**6.16**	**38**	*eP*	**Pn**	**22 12 11.6**	**-2.4**
MAK				*eS*	**Sn**	**22 13 22.0**	**-2.7**
MAK				pmax	pmax		
	comp=Z,116nm,1.1s						
MAK				MLR	MLR		
	comp=Z,72nm,13.0s						
BEIL	**Beino**	**6.18**	**236**	*eP*	**Pn**	**22 12 15.0**	**+0.5**
HSAM	**Samen**	**6.40**	**126**	Pn	**Pn**	**22 12 19.0**	**+1.4**
IKFM	**Kafar-mosalman**	**6.42**	**135**	Pn	**Pn**	**22 12 19.3**	**+1.7**
IDOB	**Doab**	**6.42**	**131**	Pn	**Pn**	**22 12 19.5**	**+1.7**
DIKM	**Dikmen**	**6.48**	**305**	Pn	**Pn**	**22 12 20.7**	**+2.2**
	comp=Z,16nm,1.0s,comp=Z,0.1nm						
HWQ	**Hawqa**	**6.50**	**235**	*eP*	**Pn**	**22 12 19.3**	**+0.4**
BR104	**Keskin Array S**	**6.99**	**285**	Pn	**Pn**	**22 12 29.2**	**+3.7**
	comp=Z,4.6nm,0.8s,comp=Z,61nmcomp=Z,0.0nm						
BR131	**Keskin Array S**	**6.99**	**285**	Pn	**Pn**	**22 12 24.5**	**-1.1**
BR131	**Keskin Array S**	**6.99**	**285**	P	**Pn**	**22 12 24.5**	**-1.1**
BRTR	**Keskin Array B**	**6.99**	**285**	Pn	**Pn**	**22 12 25.0**	**-0.6**
BRTR	**Keskin Array B**	**6.99**	**285**	Pn	**Pn**	**22 12 25.4**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=112,slow=14,SNR=9.5						
BRTR				LR	LR	22 15 01.8	
	comp=Z,110nm,21.0s,baz=98,slow=38						
	comp=Z,2.9nm,0.8s						
BR106	**Keskin Array S**	**7.01**	**285**	Pn	**Pn**	**22 12 27.4**	**+1.5**
	comp=Z,5.8nm,0.7s,comp=Z,64nmcomp=Z,0.0nm						
DQRL	**Deir Qamar**	**7.11**	**233**	*eP*	**Pn**	**22 12 29.1**	**+1.9**
SHBL	**Chebaa**	**7.24**	**230**	*eP*	**Pn**	**22 12 30.6**	**+1.5**
ANN	**Anapa**	**7.58**	**332**	*eP*	**Pn**	**22 12 33.4**	**-0.2**
ANN				*eS*	**Sn**	**22 14 00.6**	**+0.8**
ANN				pmax	pmax		
	comp=Z,18nm,1.2s						
MMAI	**Mount Meron Ar**	**7.68**	**230**	Pn	**Pn**	**22 12 35.3**	**+0.3**
	comp=Z,1.1nm,0.3s,baz=61,slow=17,SNR=7.6						
MMAI				Lg	Lg	22 14 43.6	
	comp=Z,2.6nm,0.3s,baz=65,slow=28,SNR=2.0						
MMAI				LR	LR	22 15 18.5	
	comp=Z,86nm,18.9s,baz=356,slow=37						
CSS	**Mathiatis**	**7.96**	**249**	Pn	**Pn**	**22 12 39.7**	**+0.8**
CSS	**Mathiatis**	**7.96**	**249**	Pn	**Pn**	**22 12 40.5**	**+1.6**
	comp=Z,8.8nm,0.6s,comp=Z,0.0nm						
EIL	**Elat**	**10.50**	**218**	LR	LR	22 17 34.4	
	comp=Z,131nm,18.4s,baz=65,slow=40						
GEYT	**Alibeck**	**12.40**	**86**	Pn	**Pn**	**22 13 40.8**	**+1.1**
	comp=Z,0.3nm,0.3s,baz=250,slow=12,SNR=2.4						
GEYT				LR	LR	22 19 53.9	
	comp=Z,80nm,19.7s,baz=72,slow=44						
	comp=Z,1.0nm,0.5s						
ISR	**Istrita**	**13.71**	**305**	Pn	**Pn**	**22 14 00.2**	**+2.7**
	comp=Z,13nm,0.8s						
VRI	**Vrincioaia**	**13.93**	**308**	Pn	**Pn**	**22 14 02.6**	**+2.1**
	comp=Z,4.9nm,1.9s						
MLR	**Muntele Rosu**	**14.26**	**306**	Pn	**Pn**	**22 14 07.0**	**+2.0**
	comp=Z,1.4nm,0.9s,baz=111,slow=8.6						
MLR				LR	LR	22 20 29.0	
	comp=Z,71nm,18.5s,baz=160,slow=41						
MLR	**Muntele Rosu**	**14.26**	**306**	P	**Pn**	**22 14 07.0**	**+2.0**
MLR	**Muntele Rosu**	**14.26**	**306**	Pn	**Pn**	**22 14 06.8**	**+1.8**
	comp=Z,3.6nm,1.2s						
SORM	**Soroca**	**14.26**	**319**	Pn	**Pn**	**22 14 06.8**	**+1.9**
	comp=Z,5.2nm,1.0s						
TESR	**Tescani**	**14.29**	**311**	Pn	**Pn**	**22 14 06.7**	**+1.3**
	comp=Z,4.4nm,2.3s						
IDI	**Anoyia**	**14.33**	**264**	Pn	**Pn**	**22 14 04.8**	**-1.2**
	comp=Z,3.3nm,0.8s,baz=68,slow=4.2,SNR=3.1						
BELG	**Belogornoye**	**14.68**	**13**	⇓*eP*	**Pn**	**22 14 10.4**	**-0.1**
BELG				pmax	pmax		
	comp=Z,1.0nm,0.8s						
VOIR		**14.81**	**305**	Pn	**Pn**	**22 14 13.2**	**+0.7**
	comp=Z,8.4nm,0.9s						
AKASG	**Malin Array Be**	**15.62**	**327**	Pn	**Pn**	**22 14 23.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=139,slow=12,SNR=9.2						
AKASG				LR	LR	22 20 44.4	
	comp=Z,44nm,18.7s,baz=148,slow=38						
	comp=Z,1.9nm,0.8s						
AKBB	**Malin Array Si**	**15.62**	**327**	Pn	**Pn**	**22 14 22.4**	**-0.8**
AKBB				IAmb	IAmb	22 14 30.3	
	comp=Z,7.0nm,1.1s						
AKBB	**Malin Array Si**	**15.62**	**327**	⇓*eP*	**Pn**	**22 14 23.7**	**+0.5**
AKBB				pmax	pmax		
	comp=Z,9.0nm,1.3s						
KIEV	**Kiev**	**15.62**	**327**		**Pn**	**22 14 21.4**	**-1.8**
KIEV				IAmb	IAmb	22 14 30.3	
	comp=Z,6.3nm,1.1s						
KIEV	**Kiev**	**15.62**	**327**	P	**Pn**	**22 14 21.4**	**-1.8**
KIEV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
BURAR	**Bucovina Array**	**15.69**	**312**	Pn	**Pn**	**22 14 24.1**	**-0.1**
BUR08	**Bucovina Ar. S**	**15.72**	**312**		**Pn**	**22 14 24.4**	**-0.2**
AKTO	**Aktyubinsk**	**16.54**	**37**	Pn	**P**	**22 14 37.3**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=213,slow=3.7,SNR=5.9						
AKTO				LR	LR	22 21 56.9	
	comp=Z,65nm,21.6s,baz=147,slow=40						
	comp=Z,2.1nm,0.7s						
ABKAR	**Akbulak array**	**16.79**	**43**		**Pn**	**22 14 38.3**	**+0.1**
ABKAR	**Akbulak array**	**16.79**	**43**	Pn	**Pn**	**22 14 38.1**	**-0.2**
OBN	**Obninsk**	**17.39**	**349**	*eP*	**Pn**	**22 14 46.1**	**+0.5**
OBN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
UOSS	**Minazif**	**17.66**	**134**	Pn	**Pn**	**22 14 46.8**	**-2.3**
UOSS				IAmb	IAmb	22 14 57.7	
	comp=Z,19nm,1.2s						
MORH	**Mrgy, Hungar**	**19.29**	**302**	P	**Pn**	**22 15 09.4**	**+0.5**
	comp=Z,3.0nm,1.4s						
NIE	**Niedzica**	**19.43**	**312**	P	**Pn**	**22 15 11.1**	**+0.5**
	comp=Z,1.7nm,1.3s						
NACGM	**Naroch**	**19.80**	**333**	*eP*	**P**	**22 15 11.1**	**-2.3**
	comp=Z,4.0nm,0.9s,baz=141						
TIP	**Timpagrande**	**20.02**	**281**	P	**P**	**22 15 16.1**	**0.0**
TIP	**Timpagrande**	**20.02**	**281**	P	**P**	**22 15 16.4**	**+0.3**
	comp=Z,25nm,1.2s						
MPLH	**Magyarpolny**	**20.29**	**304**	P	Pn	22 15 20.2	-0.6
	comp=Z,17nm,1.1s						
WSAR	**Wadi Sarin**	**20.37**	**132**	P	**P**	**22 15 18.4**	**-1.5**
	comp=Z,1.4nm,0.6s,baz=294,slow=10.0,SNR=1.1						
WSAR				LR	LR	22 23 46.2	
	comp=Z,102nm,20.8s,baz=293,slow=39						
	comp=Z,1.4nm,0.6s						
CEL	**Celeste**	**20.80**	**278**	P	**P**	**22 15 24.6**	**+0.1**
CEL	**Celeste**	**20.80**	**278**	P	Pn	22 15 25.4	-1.5
	comp=Z,23nm,1.1s						
KIRV	**Kirov**	**20.92**	**10**	⇑*eP*	**P**	**22 15 26.4**	**+0.8**
CHGR	**Chuyangaron**	**20.96**	**80**	P	**P**	**22 15 27.6**	**+1.3**
CHGR				IAmb	IAmb	22 15 35.6	
	comp=Z,6.0nm,0.6s						
CHGR	**Chuyangaron**	**20.96**	**80**	P	**P**	**22 15 27.6**	**+1.3**
CHGR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
ARU	**Arti**	**21.20**	**25**	P	**P**	**22 15 27.8**	**-0.8**
ARU				IAmb	IAmb	22 15 42.7	
	comp=Z,6.2nm,0.8s						
ARU	**Arti**	**21.20**	**25**	P	**P**	**22 15 29.4**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=189,slow=9.7,SNR=6.7						
ARU				LR	LR	22 25 23.7	
	comp=Z,64nm,18.1s,baz=182,slow=41						
	comp=Z,2.7nm,0.5s						
ARU	**Arti**	**21.20**	**25**	⇑*eP*	**P**	**22 15 30.1**	**+1.5**
ARU				pmax	p

0.4nm,0.6s
MKAR **Makanchi Array** **45.71 346** P P 22 33 53.8 -0.1
0.3nm,0.3s,baz=160,slow=8.9,SNR=8.1
0.3nm,0.3s
KURBB **Kurchatov Arra** **50.21 345** P P 22 34 28.4 -0.2
0.4nm,0.4s,baz=171,slow=6.6,SNR=6.2
0.4nm,0.4s
ZALV **Zalesovo Beam** **52.00 351** P P 22 34 42.0 0.0
1.2nm,0.4s,baz=173,slow=7.0,SNR=7.7
1.2nm,0.4s

IDC 23 22:34:40.9±56.0, 20°03S×174°69W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=1055.0km s-min=171.7km az=83.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.79 244**		P	P	22 42 23.6	-0.6
	2.3nm,0.6s,baz=92,slow=10.0,SNR=4.5						
	2.3nm,0.6s						
ASAR	**Alice Springs**	**47.65 256**		P	P	22 43 19.3	0.0
	2.3nm,0.8s,baz=100,slow=8.0,SNR=22						
	2.3nm,0.8s						
WRA	**Warramunga Arr**	**47.74 261**		P	P	22 43 20.2	+0.1
	0.6nm,0.3s,baz=95,slow=8.0,SNR=30						
	0.6nm,0.3s						

*ASIES **23** 22:55:18.2,24°.95N×122°.31E,h17km,ML3.5,Mw3.0, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; M_{rr}-1.64; $M_{\theta\theta}$4.60; $M_{\phi\phi}$-3.38; $M_{r\theta}$0.33; $M_{\theta\phi}$0.13; $M_{\phi r}$-1.77; Fault plane solution: $M_0$4.57097×10^{20} NP1: ϕ_s309.25000°,δ70.23000°,λ-25.92000°. NP2:ϕ_s48.59000°, δ65.71000°,λ-158.22000°. Principal axes: T Plg2.9650°, Azm359.7000°; N Plg57.8230°, Azm94.4230°; P Plg32.0060°, Azm267.8450°;*
*JMA **23** 22:55:18.3±0.1,24°.9N±0.1×122°.4E±0.1,h35km,MV2.8/8, TAIWAN REGION*
*TAP **23** 22:55:18.2,24°.95N×122°.31E,h17km,ML3.5,C*
ISC 23 22:55:17.7±1.1, 24°.95N±0.02×122°.34E±0.02, h17km±8km, n102, σ0°61/167, 2C, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.33 281**		*e*P	**Pb**	**22 55 24.9**	**-0.2**
	baz=282						
TWB1				S	**Sg**	**22 55 29.3**	**-0.1**
	baz=282						
EGS		**0.39 255**		*e*P	**Pb**	**22 55 26.1**	**+0.1**
	baz=247						
EGS				*e*S	**Sb**	**22 55 32.0**	**+0.3**
	baz=247						
SXI1	**Grass Mountain**	**0.45 289**	⇑	*i*P	**Pb**	**22 55 27.5**	**+0.3**
	baz=290						
SXI1				*e*S	**Sb**	**22 55 33.5**	**-0.1**
	baz=290						
TIPB	**Shuangxi**	**0.47 273**		*e*P	**Pb**	**22 55 27.6**	**0.0**
	baz=274						
TIPB				*e*S	**Sb**	**22 55 33.8**	**-0.4**
	baz=274						
NWF	**Wu-fen Shan**	**0.53 284**		P	**Pb**	**22 55 29.0**	**+0.5**
	baz=284						
NWF				S	**Sb**	**22 55 35.8**	**0.0**
	baz=284						
WFSB	**Wu-fen Shan**	**0.53 284**		*i* P	**Pb**	**22 55 28.9**	**+0.4**
	baz=284						
WFSB				S	**Sb**	**22 55 36.0**	**+0.2**
	baz=284						
EOS2	**EOS2**	**0.53 191**		*i* P	**Pb**	**22 55 29.2**	**+0.7**
	baz=210						
EOS2				S	**Sb**	**22 55 37.5**	**+1.7**
	baz=210						
TNOU	**National Taiwa**	**0.56 292**		*i* P	**Pb**	**22 55 29.5**	**+0.5**
	baz=292						
TNOU				S	**Sb**	**22 55 36.6**	**0.0**
	baz=292						
TWC	**Suao**	**0.56 233**	⇑	*i*P	**Pg**	**22 55 28.5**	**-0.4**
	baz=233						
TWC				*e*S	**Sg**	**22 55 36.0**	**-0.4**
	baz=233						
ILA	**Ilan**	**0.57 252**		*e*P	**Pb**	**22 55 29.4**	**+0.3**
	baz=252						
ILA				*e*S	**Sb**	**22 55 37.9**	**+0.9**
	baz=252						
ESAO	**Su ao**	**0.58 231**		*e*P	**Pg**	**22 55 29.2**	**-0.1**
	baz=230						
ESAO				*e*S	**Sg**	**22 55 37.0**	**-0.1**
	baz=230						
NDS	**Dongshan**	**0.65 242**		*e*P	**Pb**	**22 55 30.8**	**+0.2**
	baz=234						
NDS				*e*S	**Sb**	**22 55 39.6**	**+0.3**
	baz=234						
TWE	**Neicheng**	**0.65 250**		*e*P	**Pg**	**22 55 30.4**	**-0.2**
	baz=240						
TWE				*e*S	**Sb**	**22 55 39.9**	**+0.5**
	baz=240						
EOS3	**EOS3**	**0.66 182**		*e*P	**Pb**	**22 55 31.4**	**+0.8**
	baz=178						
EOS3				*e*S	**Sb**	**22 55 41.1**	**+1.8**
	baz=178						
TWA	**Mucha**	**0.69 273**		*e*P	**Pb**	**22 55 31.9**	**+0.6**
	baz=273						
TWA				S	**Sb**	**22 55 41.3**	**+0.8**
	baz=273						
NHY	**Taipei**	**0.71 278**		*e*P	**Pn**	**22 55 32.7**	**-0.2**
	baz=278						
NHY				*e*S	**Sn**	**22 55 42.3**	**-1.1**
	baz=278						
FUSB	**Fushanzhiwuyua**	**0.71 255**		*i* P	**Pb**	**22 55 31.8**	**+0.2**
	baz=255						
FUSB				*e*S	**Sb**	**22 55 41.1**	**0.0**
	baz=255						
EWUT	**Wuta**	**0.72 226**		*e*P	**Pg**	**22 55 31.8**	**0.0**
	baz=211						
EWUT				S	**Sb**	**22 55 41.2**	**0.0**
	baz=211						
PCYT	**Pengchaiyu**	**0.72 340**		*e*P	**Pb**	**22 55 32.2**	**+0.4**
	baz=340						
PCYT				*e*S	**Sb**	**22 55 42.6**	**+1.1**
	baz=340						
YM08	**YM08**	**0.73 290**		*e*P	**Pb**	**22 55 32.2**	**+0.3**
	baz=290						
YM08				*e*S	**Sb**	**22 55 41.7**	**+0.2**
	baz=290						
YM01	**YM01**	**0.73 286**		P	**Pb**	**22 55 32.5**	**+0.5**
	baz=286						
YM01				*e*S	**Sb**	**22 55 42.5**	**+0.9**
	baz=286						
JYNG	**Yonagunijimaku**	**0.73 132**		P	**Pb**	**22 55 31.8**	**-0.2**
JYNG				*e*S	**Sb**	**22 55 40.9**	**-0.9**
NHDH	**Xindian Distri**	**0.74 272**		*i* P	**Pn**	**22 55 32.9**	**-0.4**
	baz=272						
NHDH				*e*S	**Sb**	**22 55 42.6**	**+0.6**
	baz=272						
TWY	**Chenhua**	**0.75 296**		P	**Pg**	**22 55 33.0**	**+0.5**
	baz=285						
TWY				*i* S	**Sn**	**22 55 43.5**	**-0.9**
	baz=285						
ENA	**Nanau**	**0.75 227**		*e*P	**Pb**	**22 55 32.0**	**-0.3**
	baz=212						
ENA				*e*S	**Sb**	**22 55 42.5**	**+0.2**
	baz=212						
TAP	**Taipei**	**0.77 277**		*e*P	**Pg**	**22 55 33.0**	**+0.3**
	baz=277						
TAP				*e*S	**Sg**	**22 55 43.1**	**+0.3**
	baz=277						
ENTT	**Nioudou**	**0.77 247**		*e*P	**Pb**	**22 55 32.6**	**0.0**
	baz=258						
ENTT				*e*S	**Sg**	**22 55 43.1**	**+0.2**
	baz=258						
YOJ	**Yonaguni jima**	**0.77 128**		P	**Pb**	**22 55 32.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.77 128**		*e*P	**Pb**	**22 55 32.4**	**-0.3**
YOJ				*e*S	**Sb**	**22 55 42.0**	**-0.9**
YOJ	**Yonaguni jima**	**0.77 128**		*e*P	**Pb**	**22 55 32.0**	**-0.6**
	baz=116						
YOJ				*e*S	**Sb**	**22 55 43.0**	**+0.1**
	baz=116						
TATO	**Taipei**	**0.78 272**		P	**Pg**	**22 55 33.3**	**+0.4**
NWLT	**Wulai**	**0.78 258**		*e*P	**Pg**	**22 55 33.1**	**+0.1**
	baz=258						
NWLT				*e*S	**Sg**	**22 55 43.1**	**-0.3**
	baz=258						
ANP	**Anpu**	**0.79 288**		P	**Pg**	**22 55 33.3**	**+0.2**
	baz=277						
ANP				*e*S	**Sg**	**22 55 43.5**	**0.0**
	baz=277						
EOS4	**EOS4**	**0.82 182**		*e*P	**Pb**	**22 55 33.6**	**+0.4**
	baz=168						
EOS4				*e*S	**Sg**	**22 55 45.4**	**+1.0**
	baz=168						
EAHA	**Aohua**	**0.82 222**		P	**Pb**	**22 55 33.3**	**-0.2**
	baz=222						
EAHA				S	**Sb**	**22 55 43.8**	**-0.6**
	baz=222						
NDT	**Datong Townshi**	**0.83 246**		*i* P	**Pg**	**22 55 34.1**	**+0.3**
	baz=255						
NDT				*e*S	**Sn**	**22 55 45.4**	**-1.0**
	baz=255						
NTST	**Danshui**	**0.84 285**		*e*P	**Pn**	**22 55 34.5**	**-0.2**
	baz=285						
NTST				*e*S	**Sn**	**22 55 45.9**	**-0.7**
	baz=285						
LATG	**Datong**	**0.85 241**		P	**Pg**	**22 55 34.4**	**+0.2**
	baz=231						
LATG				*e*S	**Sg**	**22 55 45.3**	**-0.2**
	baz=231						
TWS1	**Kuangyinshan**	**0.85 281**		*e*P	**Pg**	**22 55 34.6**	**+0.2**
	baz=281						
TWS1				*i* S	**Sn**	**22 55 46.5**	**-0.5**
	baz=281						
YHNB	**Yeheng**	**0.92 253**		P	**Pb**	**22 55 35.4**	**+0.2**
YHNB	**Yeheng**	**0.92 253**		*e*P	**Pb**	**22 55 35.2**	**0.0**
	baz=267						
YHNB				*e*S	**Sb**	**22 55 46.9**	**-0.4**
	baz=267						
NSK	**Sanguang**	**0.94 254**		*e*P	**Pb**	**22 55 35.4**	**-0.1**
	baz=267						
NSK				*e*S	**Sb**	**22 55 47.4**	**-0.2**
	baz=267						
NNSB	**Datong**	**1.01 240**		*i* P	**Pb**	**22 55 37.1**	**+0.3**
	baz=232						
NNSB				*i* S	**Sg**	**22 55 50.3**	**-0.5**
	baz=232						
NNS	**Nan Shan**	**1.02 241**		*e*P	**Pg**	**22 55 37.2**	**-0.2**
	baz=232						
NNS				*i* S	**Sg**	**22 55 50.5**	**-0.3**
	baz=232						
ETL	**Fush Village**	**1.02 220**		*e*P	**Pb**	**22 55 37.0**	**0.0**
	baz=221						
ETL				*e*S	**Sb**	**22 55 50.1**	**+0.1**
	baz=221						
NACB	**Ninganchiao**	**1.03 222**		P	**Pb**	**22 55 37.0**	**0.0**
NACB	**Ninganchiao**	**1.03 222**		*e*P	**Pb**	**22 55 36.7**	**-0.3**
	baz=223						
NACB				S	**Sb**	**22 55 50.5**	**+0.3**
	baz=223						
NCUH	**Zhongli**	**1.05 271**		*e*P	**Pg**	**22 55 39.0**	**+0.9**
	baz=271						
NCUH				*e*S	**Sg**	**22 55 51.5**	**-0.4**
	baz=271						
TWD	**Chiawan**	**1.10 219**		*i* P	**Pb**	**22 55 38.5**	**+0.3**
	baz=219						
TWD				*e*S	**Sb**	**22 55 52.6**	**+0.4**
	baz=219						
NFF	**Wufeng Townshi**	**1.16 255**		*e*P	**Pb**	**22 55 39.2**	**-0.1**
	baz=266						
NFF				*e*S	**Sb**	**22 55 53.8**	**-0.2**
	baz=266						
HWA	**Hwalien**	**1.18 215**		*e*P	**Pg**	**22 55 41.5**	**+1.0**
	baz=215						
LIOB	**Emei**	**1.24 256**		*e*P	**Pn**	**22 55 40.6**	**+0.3**
	baz=257						
LIOB				*e*S	**Sg**	**22 55 57.7**	**-0.3**
	baz=257						
ETM	**Tongmen**	**1.25 219**		*e*P	**Pb**	**22 55 41.1**	**+0.4**
	baz=219						
LXIB	**Xiulin Townshi**	**1.25 223**		*i* P	**Pb**	**22 55 41.1**	**+0.2**
	baz=224						
LXIB				*e*S	**Sn**	**22 55 57.5**	**+0.5**
	baz=224						
NSTT	**Nanjuang**	**1.26 256**		*e*P	**Pn**	**22 55 40.5**	**0.0**
	baz=256						
NSTT				*e*S	**Sb**	**22 55 56.4**	**-0.5**
	baz=256						
WHF	**Hehuan Shan**	**1.27 231**		P	**Pn**	**22 55 41.2**	**+0.3**
	baz=232						
WHF				S	**Sg**	**22 55 58.4**	**-0.4**
	baz=232						
TWT	**Tachien**	**1.27 237**		*e*P	**Pb**	**22 55 41.5**	**+0.3**
	baz=225						
TWT				*e*S	**Sn**	**22 55 57.9**	**+0.4**
	baz=225						
TEYL	**Yanliau Villag**	**1.27 213**		*e*P	**Pn**	**22 55 41.2**	**+0.6**
	baz=214						
TDCB	**Techi**	**1.28 238**		*i* P	**Pb**	**22 55 41.8**	**+0.4**
	baz=225						
TDCB				S	**Sg**	**22 55 58.3**	**-0.9**
	baz=225						
SHUL	**Shoufeng**	**1.35 212**		*e*P	**Pb**	**22 55 42.7**	**+0.1**
	baz=213						
CHGB	**Renai**	**1.38 231**		P	**Pb**	**22 55 43.8**	**+0.5**
	baz=232						
CHGB				*e*S	**Sb**	**22 56 00.5**	**-0.2**
	baz=232						
ESL	**Shilin**	**1.40 217**		*e*P	**Pb**	**22 55 43.4**	**+0.1**
	baz=231						
ESL				*e*S	**Sn**	**22 56 00.5**	**+0.1**
	baz=231						
WHP	**Taichung City**	**1.44 243**		*e*P	**Pb**	**22 55 44.4**	**+0.4**
	baz=232						
WHP				*e*S	**Sg**	**22 56 03.3**	**-0.8**
	baz=232						
OWD	**Renai**	**1.45 227**		P	**Pb**	**22 55 44.6**	**+0.3**
	baz=236						
OWD				*e*S	**Sg**	**22 56 04.2**	**-0.4**
	baz=236						
WUSB	**Renai**	**1.47 230**		P	**Pb**	**22 55 44.9**	**+0.3**
	baz=231						
WUSB				*e*S	**Sb**	**22 56 03.1**	**+0.1**
	baz=231						
WARBT	**Fenglin Townsh**	**1.50 216**		P	**Pn**	**22 55 43.7**	**-0.1**
	baz=232						
EGFH	**Guangfu**	**1.52 214**		*e*P	**Pb**	**22 55 45.7**	**+0.2**
	baz=197						
TWQ1	**Liyutan**	**1.55 248**		*e*P	**Pb**	**22 55 45.9**	**0.0**
	baz=262						
WCS	**Beigang Elemen**	**1.58 236**		*e*P	**Pb**	**22 55 46.6**	**+0.2**
	baz=225						
VWDT	**VWDT**	**1.61 223**		*e*P	**Pb**	**22 55 46.9**	**-0.1**
	baz=224						
VWDT				*e*S	**Sb**	**22 56 07.3**	**+0.2**
	baz=224						
HGSD	**Ruisui**	**1.67 210**		*e*P	**Pn**	**22 55 46.4**	**+0.2**
	baz=195						
SMLT	**Sun Moon Lake**	**1.69 232**		*e*P	**Pb**	**22 55 48.5**	**+0.2**
	baz=233						
SMLT				*e*S	**Sb**	**22 56 09.3**	**-0.1**
	baz=233						
TYC	**Yuchr**	**1.71 233**		*e*P	**Pb**	**22 55 48.9**	**+0.3**
	baz=234						
EHY	**Hungye**	**1.71 213**		*e*P	**Pn**	**22 55 46.5**	**-0.2**
	baz=214						
SSLB	**Suanglung**	**1.71 228**		P	**Pb**	**22 55 48.7**	**0.0**
SSLB	**Suanglung**	**1.71 228**		*e*P	**Pb**	**22 55 48.4**	**-0.3**
	baz=236						
SSLB				*e*S	**Sb**	**22 56 09.8**	**-0.1**
	baz=236						
YULB	**Yu-li**	**1.82 212**		P	**Pn**	**22 55 48.0**	**-0.2**
YULB	**Yu-li**	**1.82 212**		P	**Pn**	**22 55 47.9**	**-0.3**
	baz=213						
WHYT	**Xinyi Township**	**1.84 228**		*e*P	**Pb**	**22 55 51.2**	**+0.2**
	baz=215						
EYUL	**Yuli**	**1.85 211**		*e*P	**Pn**	**22 55 49.1**	**+0.6**
	baz=228						
EYUL				*e*S	**Sn**	**22 56 12.4**	**+0.9**
	baz=228						
WNT	**Mingjian**	**1.85 235**		*e*P	**Pb**	**22 55 51.7**	**+0.7**
	baz=235						
TWF1	**Yuli**	**1.85 211**		*e*P	**Pn**	**22 55 48.4**	**-0.2**
	baz=212						
CHKH	**Chenggong**	**1.95 207**		*e*P	**Pn**	**22 55 49.8**	**-0.1**
	baz=194						
CHKH				*e*S	**Sn**	**22 56 13.4**	**-0.6**
	baz=194						
ALS	**Alishan**	**2.00 225**		*e*P	**Pb**	**22 55 53.1**	**-0.7**
	baz=214						
ALS				*e*S	**Sb**	**22 56 18.8**	**+0.2**
	baz=214						
CHN5	**Tsauling**	**2.03 229**		*e*P	**Pb**	**22 55 54.1**	**0.0**
	baz=230						
WDLH	**Douliu**	**2.07 233**		*e*P	**Pb**	**22 55 55.0**	**+0.2**
	baz=234						
EHD	**Haiduan**	**2.07 210**		*e*P	**Pn**	**22 55 51.7**	**+0.1**
	baz=211						
ELDTW	**Lidau**	**2.13 215**		*e*P	**Pn**	**22 55 52.6**	**0.0**
	baz=202						
WCKO	**Fanlu**	**2.18 227**		*e*P	**Pb**	**22 55 55.2**	**-1.5**
	baz=228						
WCKO				*e*S	**Sb**	**22 56 23.9**	**+0.4**
	baz=228						
CHN4	**Tsaushan**	**2.25 226**		*e*P	**Pb**	**22 55 57.4**	**-0.6**
	baz=226						
TPUB	**Ta-pu**	**2.27 224**		P	**Pb**	**22 55 57.2**	**-1.0**
TPUB	**Ta-pu**	**2.27 224**		*e*P	**Pb**	**22 55 56.9**	**-1.2**
	baz=209						
STYH	**Taoyuan**	**2.27 219**		*i* P	**Pn**	**22 55 56.6**	**+2.1**
	baz=221						
STYH				*e*S	**Sb**	**22 56 24.5**	**-1.7**
	baz=221						
WTP	**Ta-pu**	**2.31 223**		*e*P	**Pb**	**22 55 57.8**	**-1.2**
	baz=209						
TWK	**Hsinying**	**2.38 226**		*e*P	**Pb**	**22 55 58.5**	**-1.6**
	baz=226						
CHN1	**Nanshi**	**2.41 224**		*e*P	**Pb**	**22 55 59.6**	**-1.0**
	baz=225						
TWGBT	**Beinan**	**2.41 209**		P	**Pb**	**22 55 59.4**	**-1.3**
SGST	**Jiashian**	**2.46 221**		*e*P	**Pn**	**22 55 58.6**	**+1.7**
	baz=222						
ICHU	**Yijhu**	**2.46 231**		*e*P	**Pb**	**22 56 00.3**	**-1.1**
	baz=231						
MATB	**Ma-tsu**	**2.48 300**		*e*P	**Pn**	**22 55 56.9**	**-0.4**
	baz=297						
SLGT	**Liugui**	**2.49 219**		*e*P	**Pn**	**22 55 59.5**	**+2.1**
	baz=220						
ECL	**Taimali**	**2.66 209**		*e*P	**Pn**	**22 55 59.4**	**-0.3**
	baz=210						

*IDC **23** 23:05:30.1±0.9, 41°.49N×29°.67W, h0km, mb3.8/12, mbtmp3.8/13, ML3.7/1, MS3.5/41, Error ellipse: s-maj=26.4km s-min=19.9km az=173.0*
*NEIC **23** 23:05:33.5±0.9, 41°.3N±0°.1×29°.4W±0°.1, h10km±1km, mb4.4/18, Error ellipse: s-maj=23.9km s-min=13.5km az=206.0*
ISC 23 23:05:32.2±0.5, 41°.23N±0°.06×29°.36W±0°.06, h10km, n87, σ1°47/55, mb4.1/19, MS3.5/40, 3C, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H07S1	**FLORES T-PHASE**	**2.33 218**		*e*P	**Pb**	**23 06 14.3**	**0.0**
SRBC	**Serra Branca**	**2.42 155**		*e*P	**Pn**	**23 06 10.3**	**-1.5**
PCED	**Cedros**	**2.65 169**		*e*P	**Pn**	**23 06 16.5**	**+1.5**
ROSA	**Rosais**	**2.65 161**		*e*P	**Pn**	**23 06 15.7**	**+0.7**
ROSA				*e*S	**Sn**	**23 06 45.5**	**-1.8**
ROSA				A	A	23 06 47.3	
	32nm,0.5s						
CALA	**Caldeira**	**2.70 169**		*e*P	**Pn**	**23 06 17.4**	**+1.7**
PMAN	**Manadas**	**2.77 159**		*e*P	**Pn**	**23 06 17.7**	**+1.0**
PICO	**Pico**	**2.82 165**		*e*P	**Pn**	**23 06 18.6**	**+1.2**
PSBA	**Serra de Santa**	**2.92 147**	⇑	*i*P	**Pn**	**23 06 18.1**	**-0.6**
PAGU	**Agualva, Azore**	**2.98 145**	⇑	*i*P	**Pn**	**23 06 18.9**	**-0.6**
PAGU				*e*S	**Sn**	**23 06 51.0**	**-4.2**
PAGU				A	A	23 06 52.6	
	40nm,0.5s						
ADH	**Angra Heroismo**	**3.05 147**		*e*P	**Pn**	**23 06 19.4**	**-1.0**
PSCM	**Serra do Cume**	**3.06 145**		*e*P	**Pn**	**23 06 20.8**	**+0.2**
PSET	**Sete Cidades**	**4.42 139**		*e*P	**Pn**	**23 06 40.0**	**+0.7**
CMLA	**Cha da Macela**	**4.56 138**			**Pn**	**23 06 41.9**	**+0.6**
CMLA	**Cha da Macela**	**4.56 138**	⇑	*i*P	**Pn**	**23 06 41.9**	**+0.6**
BART	**Pico Bartolome**	**4.73 135**		*e*P	**Pn**	**23 06 44.0**	**+0.3**
PSMA	**Santa Maria**	**5.36 141**		*e*P	**Pn**	**23 06 52.8**	**+0.6**
PSMN	**Pico do Norte,**	**5.38 140**		*e*P	**Pn**	**23 06 53.4**	**+0.8**
FUL	**Funchal**	**13.13 127**		*e*P	**Pn**	**23 08 41.1**	**+2.3**
POLO	**Lamas de Olo**	**16.20 82**		*e*P	**P**	**23 09 25.9**	**+2.7**
MORF	**Marmelete**	**16.50 97**		*e*P	**P**	**23 09 26.5**	**+0.1**
MORF	**Marmelete**	**16.50 97**		Pn	**P**	**23 09 25.4**	**-1.0**
MORF				IAmb	IAmb	23 09 49.4	
	comp=Z,18nm,1.3s						
EVO	**Evora**	**16.60 92**		*e*P	**P**	**23 09 27.5**	**0.0**
PCBR	**Castelo Branco**	**16.69 88**		*e*P	**P**	**23 09 29.4**	**+1.0**
MVO	**Moncorvo**	**16.80 83**		*e*P	**P**	**23 09 33.3**	**+3.5**
MVO				*e*LR	LR	23 13 20.1	
	comp=Z,151nm,20.0s						
PCVE	**Castro Verde**	**16.85 95**		*e*P	**P**	**23 09 32.7**	**+2.5**
PAB	**San Pablo**	**19.11 87**		P	**Pn**	**23 09 56.3**	**+0.2**
ESDC	**Sonseca Array**	**19.37 86**		P	**Pn**	**23 10 00.1**	**+1.0**
	baz=293,slow=10,SNR=10						
ESDC				LR	LR	23 15 59.6	
	comp=Z,190nm,20.1s,baz=260,slow=32						
	comp=Z,1.2nm,0.8s						
DRLN	**Deer Lake**	**21.29 302**		P	**P**	**23 10 18.8**	**0.0**
DRLN				IAmb	IAmb	23 10 27.9	
	comp=Z,43nm,1.4s						
MDT	**Midelt**	**21.42 105**		P	**P**	**23 10 22.7**	**+2.3**
	comp=Z,4.2nm,1.1s,baz=326,slow=14,SNR=5.7						
MDT				LR	LR	23 17 12.7	
	comp=Z,97nm,20.2s,baz=297,slow=32						
	comp=Z,4.2nm,1.1s						
EKA	**Eskdalemuir Ar**	**22.25 42**		P	**P**	**23 10 27.0**	**-2.0**
	comp=Z,1.6nm,0.9s,baz=266,slow=11,SNR=4.1						
	comp=Z,1.6nm,0.9s						
BORG	**Borgarnes**	**24.01 8**		LR	LR	23 17 16.6	
	comp=Z,74nm,19.6s,baz=187,slow=30						
SCHQ	**Schefferville**	**28.13 312**		LR	LR	23 20 40.6	
	comp=Z,70nm,20.4s,baz=238,slow=33						
SFJD	**Kangerlussuaq**	**28.36 343**		LR	LR	23 20 26.0	
	comp=Z,86nm,18.7s,baz=148,slow=32						
DAVOX	**Davos/Dischmat**	**28.54 65**		LR	LR	23 21 43.6	
	comp=Z,79nm,18.5s,baz=267,slow=34						
D62A	**Allapoint, All**	**28.84 295**		P	**P**	**23 11 30.3**	**-0.3**
D62A				IAmb	IAmb	23 11 35.3	
	comp=Z,17nm,1.5s						
GERES	**GERESS Array B**	**31.02 61**		LR	LR	23 23 16.1	
	comp=Z,63nm,18.1s,baz=258,slow=34						
NOA	**NORSAR Array B**	**31.52 37**		LR	LR	23 22 30.1	
	comp=Z,29nm,19.9s,baz=255,slow=32						
FRB	**Frobisher Bay**	**32.00 328**		LR	LR	23 21 30.1	
	comp=Z,18nm,20.1s,baz=162,slow=30						
HFS	**Hagfors**	**32.40 40**		LR	LR	23 23 29.3	
	comp=Z,78nm,18.5s,baz=251,slow=33						
VRAC	**Vranov**	**32.90 60**		LR	LR	23 23 35.8	
	comp=Z,59nm,20.6s,baz=269,slow=33						
VAE	**Valguarnera**	**33.78 82**		LR	LR	23 24 25.8	
	comp=Z,173nm,20.4s,baz=320,slow=34						
SADO	**Sadowa**	**36.12 293**		LR	LR	23 26 31.1	
	comp=Z,125nm,19.6s,baz=123,slow=35						
FINES	**FINESS Array B**	**38.61 39**		P	**P**	**23 12 54.1**	**-1.0**
	comp=Z,2.0nm,0.9s,baz=216,slow=6.9,SNR=2.6						
FINES				LR	LR	23 27 21.3	
	comp=Z,56nm,19.1s,baz=250,slow=34						
	comp=Z,2.0nm,0.9s						
BUR08	**Bucovina Ar. S**	**38.79 62**		P	**P**	**23 12 57.4**	**+0.5**
BURAR	**Bucovina Array**	**38.80 62**		P	**P**	**23 12 57.6**	**+0.5**
TORD	**Torodi Ar. Bea**	**38.94 127**		P	**P**	**23 13 00.0**	**+1.6**
TORD	**Torodi Ar. Bea**	**38.94 127**		P	**P**	**23 12 59.6**	**+1.3**
	comp=Z,1.5nm,1.0s,baz=324,slow=8.2,SNR=5.4						
TORD				LR	LR	23 29 28.8	
	comp=Z,42nm,18.5s,baz=126,slow=37						
	comp=Z,1.5nm,1.0s						
ARCES	**ARCESS Array B**	**39.88 27**		LR	LR	23 26 39.6	
	comp=Z,34nm,21.9s,baz=151,slow=32						
DBIC	**Dimbokro**	**40.76 141**		LR	LR	23 28 53.9	
	comp=Z,71nm,18.8s,baz=100,slow=34						
AKASG	**Malin Array Be**	**40.82 56**		LR	LR	23 29 29.2	
	comp=Z,82nm,18.5s,baz=275,slow=35						
E43A	**Lone Tree Farm**	**41.12 297**		P	**P**	**23 13 17.1**	**+0.8**
E43A				IAmb	IAmb	23 13 19.2	
	comp=Z,3.0nm,0.8s						
TKL	**Tuckaleechee C**	**42.40 281**		LR	L

	comp=Z,0.5nm,0.7s						
JTS	**Las Juntas de**	**57.59**	**254**	LR	LR	23 35 52.6	
	comp=Z,45nm,21.4s,baz=30,slow=32						
AKTO	**Aktyubinsk**	**58.20**	**49**	LR	LR	23 38 57.2	
	comp=Z,51nm,21.6s,baz=216,slow=34						
ANMO	**Albuquerque**	**59.15**	**291**	LR	LR	23 41 21.8	
	comp=Z,56nm,18.2s,baz=174,slow=37						
NEW	**Newport**	**59.46**	**309**	LR	LR	23 39 40.5	
	comp=Z,54nm,19.4s,baz=36,slow=35						
TXAR	**Lajitas Array**	**60.12**	**284**	P	**P**	**23 15 37.3**	**-2.8**
	comp=Z,1.6nm,1.1s,baz=90,slow=7.2,SNR=2.2						
	comp=Z,1.6nm,1.1s						
CMIG	**Matias Romero**	**60.62**	**267**	LR	LR	23 41 02.9	
	comp=Z,41nm,18.6s,baz=1.0,slow=35						
J08A	**Circle Bar Ran**	**62.76**	**305**	P	**P**	**23 15 58.3**	**+0.6**
WVOR	**Wild Horse Val**	**63.36**	**304**	P	**P**	**23 16 02.2**	**+0.6**
WVOR				IAmb	IAmb	23 16 04.0	
	comp=Z,6.3nm,1.3s						
BVAR	**Borovoye Array**	**63.50**	**42**	P	**P**	**23 16 02.2**	**-0.1**
	comp=Z,0.8nm,0.6s,baz=332,slow=8.4,SNR=4.4						
	comp=Z,0.8nm,0.6s						
E19K	**Redstone River**	**64.70**	**340**	P	**P**	**23 16 11.1**	**+1.1**
E19K				IAmb	IAmb	23 16 14.0	
	comp=Z,6.0nm,1.4s						
KVN	**Kaiserville**	**64.86**	**301**	P	**P**	**23 16 11.1**	**-0.6**
KVN				IAmb	IAmb	23 16 15.0	
	comp=Z,3.7nm,1.2s						
ATAH	**Atahualpa**	**65.82**	**235**	LR	LR	23 42 21.1	
	comp=Z,32nm,20.6s,baz=31,slow=34						
PFO	**Pinyon Flats O**	**66.82**	**295**	LR	LR	23 45 30.9	
	comp=Z,132nm,19.1s,baz=62,slow=36						
LPAZ	**La Paz**	**67.56**	**221**	P	**P**	**23 16 30.6**	**+1.0**
	comp=Z,0.7nm,0.6s,baz=33,slow=4.9,SNR=2.5						
LPAZ				LR	LR	23 41 54.8	
	comp=Z,36nm,20.3s,baz=34,slow=32						
	comp=Z,0.7nm,0.6s						
LPIG	**La Paz**	**67.97**	**283**	LR	LR	23 47 04.6	
	comp=Z,38nm,18.0s,baz=40,slow=37						
MBAR	**Mbarara**	**68.34**	**111**	LR	LR	23 46 02.2	
	comp=Z,117nm,18.6s,baz=171,slow=35						
NNA	**Nana**	**68.70**	**231**	LR	LR	23 44 05.0	
	comp=Z,17nm,20.1s,baz=342,slow=34						
KURBB	**Kurchatov Arra**	**68.98**	**40**	P	**P**	**23 16 37.3**	**-0.1**
	comp=Z,0.9nm,0.2s,baz=316,slow=6.9,SNR=4.7						
	comp=Z,0.9nm,0.2s						
ZALV	**Zalesovo Beam**	**69.69**	**35**	P	**P**	**23 16 41.3**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=29,slow=19,SNR=1.8						
	comp=Z,0.3nm,0.4s						
LVC	**Limon Verde**	**73.36**	**218**	LR	LR	23 46 11.2	
	comp=Z,23nm,18.5s,baz=308,slow=33						
MKAR	**Makanchi Array**	**73.39**	**42**	P	**P**	**23 17 03.5**	**-0.7**
	comp=Z,0.8nm,0.7s,baz=324,slow=7.5,SNR=3.8						
MKAR				LR	LR	23 50 03.3	
	comp=Z,38nm,18.7s,baz=264,slow=36						
	comp=Z,0.8nm,0.7s						
TSUM	**Tsumeb**	**74.22**	**134**	LR	LR	23 46 12.8	
	comp=Z,58nm,21.2s,baz=139,slow=33						
LSZ	**Lusaka**	**77.37**	**123**	LR	LR	23 51 34.2	
	comp=Z,135nm,18.4s,baz=155,slow=36						
SONM	**Songino Array**	**83.04**	**28**	P	**P**	**23 17 57.0**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=307,slow=5.4,SNR=1.5						
	comp=Z,0.2nm,0.3s						
LBTB	**Lobatse**	**83.29**	**132**	LR	LR	23 54 07.2	
	comp=Z,55nm,18.1s,baz=144,slow=35						

*KRNET **23** 23:11:16.1±0.1,39.°44N×72.°83E,h15km,mb3.2*
*SOME **23** 23:11:19.1,39.°55N×72.°92E,h10km*
*NNC **23** 23:11:20.0±2.2,39.°52N×72.°81E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=17.2km s-min=9.4km az=171.0

ISC 23 23:11:14.1±1.3,39.°46N±0.°04×72.°85E±0.°03,h16km±10km, n49,σ1°89/83,25C-20D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.75**	**42**	⇑*i*P	**Pn**	**23 11 31.1**	**+0.8**
	baz=42						
SFK				⇑*i*S	**Sn**	**23 11 41.6**	**+0.1**
	baz=42						
DRK	**Karamyk**	**0.81**	**272**	⇑*i*P	**Pn**	**23 11 31.4**	**+0.2**
	baz=74						
DRK				⇑*i*S	**Sn**	**23 11 42.2**	**-0.9**
	baz=74						
OHH	**Osh**	**1.07**	**357**	⇑*e*P	**Pn**	**23 11 36.5**	**+2.0**
	baz=58						
OHH				⇑*i*S	**Sn**	**23 11 51.7**	**+2.6**
	baz=58						
BTK	**Batken**	**1.68**	**292**	⇓*i*P	**Pg**	**23 11 47.0**	**+0.7**
	baz=92						
BTK				⇓*i*S	**Sg**	**23 12 09.5**	**+1.4**
	baz=92						
ARSB	**Arslanbob**	**1.87**	**3**	⇑*i*P	**Pg**	**23 11 51.0**	**+1.0**
	baz=4.0						
ARSB				⇑*i*S	**Sg**	**23 12 16.3**	**+2.1**
	baz=4.0						
GAR	**Garm**	**2.02**	**258**	⇓*i*P	**Pg**	**23 11 52.6**	**-0.3**
	baz=58						
GAR				⇓*i*S	**Sg**	**23 12 18.9**	**-0.2**
	baz=58						
TRKS	**Terek-Say**	**2.45**	**328**	⇓*i*P	**Pb**	**23 11 58.0**	**+0.2**
	baz=29						
TRKS				⇓*i*S	**Sb**	**23 12 28.5**	**+0.7**
	baz=29						
ARLS	**Aral**	**2.65**	**25**	⇑*e*P	**Pb**	**23 12 02.0**	**+0.7**
	baz=25						
ARLS				⇑*i*S	**Sb**	**23 12 35.4**	**+1.7**
	baz=25						
CHGR	**Chuyangaron**	**2.98**	**256**	⇑*i*P	**Pb**	**23 12 05.8**	**-1.1**
	baz=56						
CHGR				⇑*i*S	**Sb**	**23 12 42.0**	**-1.2**
	baz=56						
MNAS	**Manas**	**3.04**	**355**	⇓*e*P	**Pb**	**23 12 07.1**	**-0.8**
	baz=56						
MNAS				⇓*i*S	**Sb**	**23 12 44.5**	**-0.3**
	baz=56						
UCH	**Uchtor**	**3.04**	**24**	⇑*i*P	**Pb**	**23 12 07.5**	**-0.7**
	baz=24						
UCH				⇑*i*S	**Sb**	**23 12 45.2**	**0.0**
	baz=24						
NRN	**Naryn**	**3.11**	**50**	⇑*e*P	**Pb**	**23 12 08.0**	**-1.2**
	baz=49						
NRN				⇑*e*S	**Sb**	**23 12 45.8**	**-1.3**
	baz=49						
EKS2	**Erkin-Say**	**3.28**	**12**	⇑*i*P	**Pb**	**23 12 10.8**	**-1.2**
	baz=12						
EKS2				⇑*i*S	**Sb**	**23 12 50.4**	**-1.3**
	baz=12						
MRKS	**Merke**	**3.30**	**5**	Pg	**Pg**	**23 12 19.0**	**+1.7**
	6.2nm,0.2s						
MRKS				Lg	Lg	23 13 02.6	
	47nm,0.4s						
MRKS	**Merke**	**3.30**	**5**	*e*P	**Pg**	**23 12 19.0**	**+1.7**
	6.2nm,0.1s						
MRKS				*e*S	**Sg**	**23 13 02.6**	**+2.6**
	47nm,0.4s						
AAK	**Ala-Archa**	**3.41**	**21**	⇑Pn	**Pb**	**23 12 15.5**	**+1.2**
	6.0nm,0.4s						
AAK				⇓Sn	**Sg**	**23 12 59.7**	**-3.9**
	18nm,0.8s						
AAK	**Ala-Archa**	**3.41**	**21**	⇑*i*P	**Pb**	**23 12 12.5**	**-1.8**
	baz=21						
AAK				⇑*i*S	**Sb**	**23 12 53.7**	**-1.9**
	baz=21						
IUG	**Iuzhnay**	**3.43**	**322**	Pg	**Pg**	**23 12 20.6**	**+0.7**
	11nm,0.2s						
IUG				Lg	Lg	23 13 05.1	
	38nm,0.4s						
IUG	**Iuzhnay**	**3.43**	**322**	*e*P	**Pg**	**23 12 20.6**	**+0.7**
	11nm,0.1s						
IUG				*e*S	**Sg**	**23 13 05.1**	**+0.8**
	38nm,0.4s						
KBK	**Karagaybulak**	**3.57**	**26**	⇓*i*P	**Pb**	**23 12 14.8**	**-2.2**
	baz=26						
KBK				⇓*i*S	**Sb**	**23 12 57.5**	**-2.6**
	baz=26						
CHMS	**Chumysh**	**3.82**	**21**	⇑*i*P	**Pb**	**23 12 18.1**	**-3.0**
	baz=22						
CHMS				⇑*i*S	**Sb**	**23 13 03.3**	**-3.8**
	baz=22						
BOOM	**Boomskoye usch**	**3.83**	**37**	⇑*e*P	**Pb**	**23 12 18.2**	**-3.2**
	baz=37						
BOOM				⇑*i*S	**Sb**	**23 13 03.8**	**-3.8**
	baz=37						
USP	**Ospenovka**	**4.00**	**18**	⇓*i*P	**Pb**	**23 12 20.6**	**-3.7**
	baz=18						
USP				⇓*i*S	**Sb**	**23 13 07.7**	**-4.8**
	baz=18						
TKM2	**Tokmak 2**	**4.03**	**30**	⇓Pn	**Pb**	**23 12 22.8**	**-2.1**
	4.7nm,0.7s						
TKM2				⇓Lg	Lg	23 13 26.6	
	4.2nm,0.5s						
KK31	**Karatay Array**	**4.05**	**335**	⇓Pn	**Pb**	**23 12 22.9**	**-2.1**
	1.8nm,0.3s,baz=148,slow=14,SNR=21						
KK31				⇓Sn	**Sb**	**23 13 12.8**	**-0.9**
	6.1nm,0.4s,baz=150,slow=22,SNR=4.2						
KKAR	**Karatay Array**	**4.05**	**335**	⇓*i*P	**Pb**	**23 12 21.0**	**-4.0**
	baz=35						
KKAR				⇓*i*S	**Sb**	**23 13 08.3**	**-5.4**
	baz=35						
BRLS	**Borolday**	**4.23**	**328**	Pg	**Pg**	**23 12 33.6**	**-1.5**
	1.2nm,0.1s						
BRLS				Lg	Lg	23 13 27.3	
	5.7nm,0.2s						
BRLS	**Borolday**	**4.23**	**328**	*e*P	**Pg**	**23 12 33.6**	**-1.5**
	1.2nm,0.1s						
BRLS				*e*S	**Sg**	**23 13 27.3**	**-2.6**
	5.7nm,0.2s						
KST	**Kastek**	**4.28**	**32**	*e*P	**Pg**	**23 12 34.3**	**-1.8**
	4.1nm,0.5s						
KST				*e*S	**Sg**	**23 13 28.3**	**-3.3**
	4.8nm,0.3s						
DGS	**Degeres**	**4.37**	**29**	Pg	**Pg**	**23 12 38.1**	**+0.3**
	2.8nm,0.5s						
DGS				Lg	Lg	23 13 35.2	
	6.5nm,0.6s						
DGS	**Degeres**	**4.37**	**29**	*e*P	**Pg**	**23 12 38.1**	**+0.3**
	2.8nm,0.2s						
DGS				*e*S	**Sg**	**23 13 35.2**	**+0.7**
	10.0nm,0.3s						
IZV	**Izvestkoviy**	**4.56**	**37**	Pg	**Pg**	**23 12 43.0**	**+1.5**
	1.3nm,0.2s						
IZV				Lg	Lg	23 13 43.1	
	9.7nm,0.3s						
IZV	**Izvestkoviy**	**4.56**	**37**	*e*P	**Pg**	**23 12 42.7**	**+1.2**
	1.6nm,0.2s						
IZV				*e*S	**Sg**	**23 13 43.1**	**+2.5**
	9.7nm,0.3s						
TNSS	**Tian-Shan**	**4.72**	**40**	Pg	**Pg**	**23 12 44.5**	**-0.1**
	2.0nm,0.3s						
TNSS				Lg	Lg	23 13 47.2	
	3.6nm,0.6s						
TNSS	**Tian-Shan**	**4.72**	**40**	*e*P	**Pg**	**23 12 45.2**	**+0.6**
	3.2nm,0.2s						
TNSS				*e*S	**Sg**	**23 13 47.2**	**+1.4**
	4.3nm,0.4s						
KRBS	**Karabastau**	**4.74**	**26**	Pg	**Pg**	**23 12 44.5**	**-0.3**
	1.9nm,0.3s						
KRBS				Lg	Lg	23 13 46.5	
	5.8nm,0.7s						
KRBS	**Karabastau**	**4.74**	**26**	*e*P	**Pg**	**23 12 44.8**	**+0.1**
	1.9nm,0.2s						
KRBS				*e*S	**Sg**	**23 13 46.5**	**+0.4**
	5.8nm,0.7s						
KOTS	**Kotyrbulak**	**4.95**	**39**	Pg	**Pg**	**23 12 49.3**	**+0.3**
	3.1nm,0.5s						
KOTS				Lg	Lg	23 13 54.6	
	17nm,0.6s						
KOTS	**Kotyrbulak**	**4.95**	**39**	*e*P	**Pg**	**23 12 49.7**	**+0.7**
	3.1nm,0.3s						
KOTS				*e*S	**Sg**	**23 13 54.6**	**+1.6**
	17nm,0.6s						
KTBS	**Karatobe**	**5.13**	**33**	Pg	**Pg**	**23 12 52.2**	**-0.1**
	0.9nm,0.3s						
KTBS				Lg	Lg	23 13 59.7	
	4.9nm,0.6s						
KTBS	**Karatobe**	**5.13**	**33**	*e*P	**Pg**	**23 12 52.6**	**+0.3**
	0.9nm,0.3s						
KTBS				*e*S	**Sg**	**23 13 59.7**	**+1.0**
	4.9nm,0.6s						
CHKK	**Chushkaly**	**5.38**	**34**	Pg	**Pg**	**23 12 57.3**	**+0.3**
	0.7nm,0.1s						
CHKK				Lg	Lg	23 14 07.3	
	2.8nm,0.3s						
CHKK	**Chushkaly**	**5.38**	**34**	*e*P	**Pg**	**23 12 57.0**	**-0.1**
	0.7nm,0.1s						
CHKK				*e*S	**Sg**	**23 14 07.3**	**+0.7**
	3.7nm,0.2s						
BTLS	**Baital**	**5.65**	**9**	Pg	**Pg**	**23 13 01.1**	**-1.1**
	1.7nm,0.2s						
BTLS				Lg	Lg	23 14 14.1	
	3.1nm,0.3s						
BTLS	**Baital**	**5.65**	**9**	*e*P	**Pg**	**23 13 01.0**	**-1.3**
	1.7nm,0.2s						
BTLS				*e*S	**Sg**	**23 14 14.1**	**-1.3**
	3.8nm,0.3s						
ARXS	**Arharly**	**6.03**	**36**	Pg	**Pg**	**23 13 09.0**	**-0.6**
	1.1nm,0.5s						
ARXS				Lg	Lg	23 14 27.6	
	4.5nm,0.8s						
ARXS	**Arharly**	**6.03**	**36**	*e*P	**Pg**	**23 13 08.8**	**-0.8**
	1.1nm,0.2s						
ARXS				*e*S	**Sg**	**23 14 27.6**	**0.0**
	4.4nm,0.3s						
BLB	**Baldybastay**	**6.26**	**40**	Pg	**Pg**	**23 13 13.8**	**-0.1**
	4.5nm,0.5s						
BLB				Lg	Lg	23 14 35.7	
	5.4nm,0.7s						
AB31	**Akbulak array**	**13.44**	**321**	⇓P	**Pn**	**23 14 27.6**	**+3.5**
	0.5nm,0.6s						

*NOU **23** 23:12:22.9,37.°96S×176.°13E,h307km,MLv3.6/10,North Island, New Zealand*
*WEL **23** 23:12:28.5±0.7,38.°5S×17.°6E±.°,h252km±6km,M2.9/25, MLv2.9/25,Error ellipse: s-maj=0.0km s-min=0.0km az=83.2,confirmed*

ISC 23 23:12:23.3±2.1,38.°00S±0.°08×175.°95E±0.°07, h291km±12km,n91,σ1°74/100,North Island

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TOZ	**Tahuroa Road**	**0.44**	**307**	P	**Pn**	**23 13 02.6**	**+1.9**
TLZ	**Tolley Road**	**0.46**	**224**	P	**Pn**	**23 13 02.7**	**+1.9**
MRHZ	**Matea Rd**	**0.91**	**156**	P	**Pn**	**23 13 03.6**	**+1.3**
MRHZ				S	**S**	**23 13 30.1**	**-3.2**
URZ	**Urewera**	**0.96**	**106**	P	**Pn**	**23 13 02.7**	**+0.3**
URZ	**Urewera**	**0.96**	**106**	P	**Pn**	**23 13 03.0**	**+0.6**
URZ				S	**S**	**23 13 29.9**	**-3.5**
HIZ	**Hauiti**	**1.00**	**239**	P	**Pn**	**23 13 04.7**	**+2.1**
RTZ	**Ruatahuna**	**1.02**	**127**	P	**Pn**	**23 13 04.0**	**+1.2**
RTZ				S	**S**	**23 13 32.4**	**-1.8**
MKAZ	**Moumakai**	**1.09**	**325**	P	**Pn**	**23 13 04.8**	**+1.6**
MTHZ	**Maungataniwha**	**1.10**	**141**	P	**Pn**	**23 13 04.8**	**+1.5**
MTHZ				S	**S**	**23 13 33.0**	**-1.9**
TWVZ	**Taurewa**	**1.14**	**200**	P	**Pn**	**23 13 05.3**	**+1.8**
WTVZ	**West Tongariro**	**1.15**	**194**	P	**Pn**	**23 13 05.3**	**+1.8**
NNVZ	**North Ngauruho**	**1.16**	**193**	P	**Pn**	**23 13 05.5**	**+1.9**
NGZ	**Ngauruhoe**	**1.21**	**193**	P	**Pn**	**23 13 05.7**	**+1.9**
BKZ	**Black Stump Fm**	**1.24**	**160**	P	**Pn**	**23 13 05.4**	**+1.4**
BKZ	**Black Stump Fm**	**1.24**	**160**	P	**Pn**	**23 13 05.6**	**+1.6**
BKZ				S	**S**	**23 13 34.4**	**-1.8**
KUZ	**Kuaotunu**	**1.26**	**352**	P	**Pn**	**23 13 05.0**	**+0.9**
KUZ	**Kuaotunu**	**1.26**	**352**	P	**Pn**	**23 13 05.0**	**+0.9**
RAHZ	**Arahi**	**1.28**	**136**	P	**Pn**	**23 13 06.1**	**+2.0**
RAHZ				S	**S**	**23 13 35.4**	**-1.2**
NMHZ	**Naumai**	**1.29**	**149**	P	**Pn**	**23 13 06.6**	**+2.4**
NMHZ				S	**S**	**23 13 37.1**	**+0.3**
FWVZ	**Far West T-bar**	**1.29**	**194**	P	**Pn**	**23 13 06.2**	**+1.7**
WHVZ	**Whangaehu Hut**	**1.31**	**192**	P	**Pn**	**23 13 04.7**	**+0.1**
TRVZ	**Turoa**	**1.33**	**193**	P	**Pn**	**23 13 06.2**	**+1.7**
SNGZ	**Shannon Statio**	**1.35**	**126**	P	**Pn**	**23 13 06.2**	**+1.7**
WNVZ	**Wahianoa**	**1.35**	**191**	P	**Pn**	**23 13 06.6**	**+1.8**
WNVZ				S	**S**	**23 13 36.3**	**-1.4**
WIAZ	**Waiheke Island**	**1.37**	**332**	P	**Pn**	**23 13 06.3**	**+1.6**
RUGZ	**Raukumara Rang**	**1.37**	**89**	P	**Pn**	**23 13 04.8**	**-0.1**
MOVZ	**Moawhango**	**1.41**	**186**	P	**Pn**	**23 13 06.5**	**+1.5**
MOVZ				S	**S**	**23 13 36.1**	**-2.1**
VRZ	**Vera Road**	**1.46**	**219**	P	**Pn**	**23 13 07.5**	**+2.3**
KWHZ	**Kaweka Forest**	**1.47**	**165**	P	**Pn**	**23 13 07.4**	**+2.0**
HAZ	**Te Kaha**	**1.47**	**81**	P	**Pn**	**23 13 05.2**	**-0.1**
BHHZ	**Black Hill Sta**	**1.49**	**176**	P	**Pn**	**23 13 07.3**	**+1.8**
ARHZ	**Aropaoanui**	**1.51**	**147**	P	**Pn**	**23 13 07.6**	**+2.1**
RIGZ	**Rimuhau**	**1.59**	**117**	P	**Pn**	**23 13 08.0**	**+1.8**
KRHZ	**Kereru**	**1.68**	**169**	P	**Pn**	**23 13 08.5**	**+1.8**
PKGZ	**Pakihiroa**	**1.69**	**87**	P	**Pn**	**23 13 07.9**	**+0.9**
KNZ	**Kokohu**	**1.70**	**128**	P	**Pn**	**23 13 08.4**	**+1.5**
PRGZ	**Paritu Road**	**1.78**	**122**	P	**Pn**	**23 13 11.7**	**+4.2**
CNGZ	**Carnagh Statio**	**1.85**	**106**	P	**Pn**	**23 13 10.5**	**+2.5**
LREZ	**Lake Rotokare**	**1.89**	**219**	P	**Pn**	**23 13 11.0**	**+2.7**
WAZ	**Wanganui**	**1.91**	**203**	P	**Pn**	**23 13 10.6**	**+2.2**
PNHZ	**Pukenui**	**1.92**	**174**	P	**Pn**	**23 13 10.4**	**+1.8**
KAHZ	**Kahuranaki**	**1.94**	**158**	P	**Pn**	**23 13 10.9**	**+2.2**
WMGZ	**Waiomatatini S**	**1.96**	**86**	P	**Pn**	**23 13 10.0**	**+1.1**
KHEZ	**Kahui Hut**	**1.99**	**229**	P	**Pn**	**23 13 11.9**	**+2.7**
KHEZ	**Kahui Hut**	**1.99**	**229**	P	**Pn**	**23 13 12.1**	**+2.9**
TSZ	**Takapari Road**	**2.06**	**180**	P	**Pn**	**23 13 11.3**	**+1.7**
PXZ	**Pawanui**	**2.15**	**161**	P	**Pn**	**23 13 12.4**	**+2.0**
WCZ	**Waipu Caves**	**2.42**	**328**	P	**Pn**	**23 13 14.9**	**+1.9**
ANWZ	**Angora Road**	**2.49**	**171**	P	**Pn**	**23 13 15.5**	**+2.1**
PRWZ	**Pori Road**	**2.55**	**180**	P	**Pn**	**23 13 15.9**	**+1.9**
MRZ	**Mangatainoka R**	**2.67**	**186**	P	**Pn**	**23 13 16.6**	**+1.4**
BFZ	**Birch Farm**	**2.69**	**175**	P	**Pn**	**23 13 17.1**	**+1.8**
BFZ	**Birch Farm**	**2.69**	**175**	P	**Pn**	**23 13 17.0**	**+1.7**
TIWZ	**Tintock**	**2.77**	**181**	P	**Pn**	**23 13 18.0**	**+1.9**
OGWZ	**Otaki Gorge**	**2.88**	**192**	P	**Pn**	**23 13 18.7**	**+1.6**
KIW	**Kapiti Island**	**2.97**	**195**	P	**Pn**	**23 13 19.4**	**+1.4**
TMWZ	**Te Maipa**	**3.10**	**181**	P	**Pn**	**23 13 20.8**	**+1.4**
CAW	**Cannon Point**	**3.18**	**192**	P	**Pn**	**23 13 21.5**	**+1.3**
DUWZ	**D'Urville Isla**	**3.21**	**209**	P	**Pn**	**23 13 21.8**	**+1.3**
OUZ	**Omahuta**	**3.36**	**325**	P	**Pn**	**23 13 23.8**	**+1.7**
OUZ	**Omahuta**	**3.36**	**325**	P	**Pn**	**23 13 24.0**	**+1.9**
TRWZ	**Traveller**	**3.40**	**183**	P	**Pn**	**23 13 24.0**	**+1.5**
WEL	**Wellington**	**3.41**	**195**	P	**Pn**	**23 13 24.0**	**+1.5**
SNZO	**South Karori**	**3.44**	**196**	P	**Pn**	**23 13 23.8**	**+0.9**
TCW	**Tory Channel**	**3.46**	**201**	P	**Pn**	**23 13 24.5**	**+1.4**
BHW	**Baring Head**	**3.50**	**193**	P	**Pn**	**23 13 23.7**	**+0.2**
PLWZ	**Palliser**	**3.60**	**188**	P	**Pn**	**23 13 25.8**	**+1.1**
TUWZ	**Tuamarina**	**3.76**	**204**	P	**Pn**	**23 13 27.7**	**+1.4**
NNZ	**Nelson**	**3.78**	**211**	P	**Pn**	**23 13 27.4**	**+1.0**
TKNZ	**Takaka Hill**	**3.81**	**216**	P	**Pn**	**23 13 27.2**	**+0.4**
QRZ	**Quartz Range**	**3.87**	**222**	P	**Pn**	**23 13 28.0**	**+0.5**
QRZ	**Quartz Range**	**3.87**	**222**	P	**Pn**	**23 13 27.8**	**+0.3**
BSWZ	**Blackbirch Sta**	**4.04**	**203**	P	**Pn**	**23 13 31.2**	**+1.8**
MRNZ	**Matariki Terra**	**4.19**	**215**	P	**Pn**	**23 13 31.5**	**+0.4**
THZ	**Tophouse**	**4.43**	**211**	P	**Pn**	**23 13 34.9**	**+1.1**
KHZ	**Kahutara**	**4.78**	**202**	P	**Pn**	**23 13 39.4**	**+1.6**
KHZ	**Kahutara**	**4.78**	**202**	P	**Pn**	**23 13 39.4**	**+1.6**
DSZ	**Denniston Nort**	**4.91**	**219**	P	**Pn**	**23 13 39.7**	**+0.2**
GVZ	**Greta Valley S**	**5.44**	**203**	P	**Pn**	**23 13 47.0**	**+1.5**
LTZ	**Lake Taylor**	**5.54**	**209**	P	**Pn**	**23 13 47.5**	**+0.7**
INZ	**Inchbonnie**	**5.84**	**215**	P	**Pn**	**23 13 50.8**	**+0.5**
OXZ	**Oxford**	**6.09**	**208**	P	**Pn**	**23 13 53.4**	**0.0**
OKCZ	**Okains Bay**	**6.12**	**200**	P	**Pn**	**23 13 55.1**	**+1.3**
MQZ	**McQueen's Vall**	**6.22**	**203**	P	**Pn**	**23 13 55.1**	**+0.2**
RACZ	**Rakaia**	**6.41**	**206**	P	**Pn**	**23 13 57.5**	**+0.4**
MHCZ	**Mount Hutt**	**6.45**	**210**	P	**Pn**	**23 13 58.0**	**+0.2**
WACZ	**Wakanui South**	**6.70**	**206**	P	**Pn**	**23 14 02.0**	**+1.3**
ARCZ	**Arundel**	**6.95**	**210**	P	**Pn**	**23 14 02.4**	**-1.4**
TMZ	**Timaru**	**7.38**	**209**	P	**Pn**	**23 14 10.2**	**+1.0**
ODZ	**Otahua Downs**	**8.08**	**208**	P	**Pn**	**23 14 19.2**	**+1.5**
SYZ	**Scrubby Hill**	**9.91**	**208**	P	**Pn**	**23 14 44.2**	**+4.1**

*IDC **23** 23:19:56.0±4.7,25.°17S×179.°93W,h422km±48km,mb3.0/6, mbtmp3.9/8,Error ellipse: s-maj=30.3km s-min=25.2km az=58.0*

ISC 23 23:19:57.9±0.8,25.°2S±0.°1×179.°9E±0.°1,h450km,n13, σ1°34/14,mb3.4/6,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.70**	**282**	P	**P**	**23 22 43.9**	**-0.6**
	6.6nm,1.0s,baz=131,slow=20,SNR=2.0						
URZ	**Urewera**	**13.21**	**190**	P	**P**	**23 22 50.3**	**+0.6**
	16nm,0.5s,baz=48,slow=15,SNR=16						
URZ				S	**S**	**23 25 09.9**	**-1.7**
	3.1nm,0.5s,baz=326,slow=16,SNR=1.7						
ASAR	**Alice Springs**	**41.72**	**262**	P	**P**	**23 27 08.0**	**+1.7**
	0.2nm,0.5s,baz=89,slow=9.5,SNR=4.0						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**42.22**	**268**	P	**P**	**23 27 11.6**	**+1.4**
	0.6nm,0.8s,baz=101,slow=7.8,SNR=3.4						
	0.6nm,0.8s						
QSPA	**South Pole Qui**	**64.87**	**180**	P	**P**	**23 29 52.2**	**+1.0**
	0.9nm,0.7s,baz=342,slow=2.6,SNR=6.7						
	0.9nm,0.7s						
NVAR	**Mina Array Bea**	**85.78**	**44**	P	**P**	**23 31 49.1**	**+0.3**
	0.5nm,0.7s,baz=224,slow=7.6,SNR=3.8						
	0.5nm,0.7s						
TXAR	**Lajitas Array**	**91.22**	**58**	P	**P**	**23 32 14.4**	**+0.1**
	0.8nm,0.5s,baz=187,slow=1.5,SNR=2.0						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**93.33**	**14**	P	**P**	**23 32 23.1**	**0.0**
	0.4nm,0.9s,baz=212,slow=5.0,SNR=1.3						
	0.4nm,0.9s						
NB2	**NORSAR Subarra**	**143.36**	**351**	PKP	**PKPdf**	**23 38 38.9**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=16,slow=3.3						
NOA	**NORSAR Array B**	**143

BO02	**Sierra Bellavi**	**2.00**	**222**		**Pb**	**23**	**21**	**49.1 +0.3**
BO02	**Sierra Bellavi**	**2.00**	**222**	*e*P	**Pb**	**23**	**21**	**49.1 +0.3**
BO02				*i* S	**Sg**	**23**	**22**	**15.6 -0.4**
VA05	**Santo Domingo**	**2.08**	**260**		**Pb**	**23**	**21**	**49.7 -0.6**
VA01	**Torpederas**	**2.11**	**277**		**Pb**	**23**	**21**	**50.3 -0.4**
VA01	**Torpederas**	**2.11**	**277**	*e*P	**Pb**	**23**	**21**	**50.4 -0.3**
VA01				*i* S	**Sg**	**23**	**22**	**18.3 -1.3**
CO02	**Combarbal**	**2.62**	**323**		**Pb**	**23**	**21**	**58.1 -1.4**
CO03	**El Pedregal**	**2.79**	**332**		**Pn**	**23**	**21**	**59.7 +2.3**
GO05	**Huala**	**2.86**	**233**	Pn	**Pn**	**23**	**21**	**59.7 +1.5**
ML02	**Panimavida**	**3.08**	**217**		**Pn**	**23**	**22**	**02.0 +0.7**
CO06	**Fray Jorge**	**3.37**	**321**		**Pn**	**23**	**22**	**06.8 +1.5**
CO01	**Juntas del Tor**	**3.42**	**346**		**Pn**	**23**	**22**	**09.8 +3.6**
GO04	**Tololo Observa**	**3.43**	**335**		**Pn**	**23**	**22**	**07.9 +1.5**
LCO	**Las Campanas**	**4.49**	**342**	Pn	**Pn**	**23**	**22**	**22.4 +1.5**
AC05	**El Transito**	**4.56**	**348**	Pn	**Pn**	**23**	**22**	**23.9 +2.0**
BI05	**Punta Hualpn**	**4.76**	**223**	Pn	**Pn**	**23**	**22**	**25.0 +0.5**
AC04	**Llanos de Chal**	**5.35**	**342**	Pn	**Pn**	**23**	**22**	**33.9 +1.4**
TRQA	**Tornquist**	**7.51**	**131**	Pn	**Pn**	**23**	**23**	**01.1 -1.2**
GO02	**Mina Guanaco**	**8.13**	**357**	Pn	**Pn**	**23**	**23**	**11.5 +0.5**
LPAZ	**La Paz**	**16.98**	**3**	Pn	**Pn**	**23**	**25**	**10.5 -0.4**
SNAA	**Sanae**	**51.32**	**158**	P	**P**	**23**	**30**	**15.6 -1.3**
SNAA				IAmb	IAmb	23	30	38.0
	comp=Z,6.3nm,1.4s							
QSPA	**South Pole Qui**	**56.92**	**180**	P	**P**	**23**	**30**	**56.6 -1.4**
TOA0	**Torodi Ar. Sit**	**81.72**	**68**	P	**P**	**23**	**33**	**33.6 +1.6**
TOA0				IAmb	IAmb	23	33	42.6
	comp=Z,3.5nm,1.2s							
TORD	**Torodi Ar. Bea**	**81.72**	**68**	P	**P**	**23**	**33**	**33.1 +1.1**
TORD				IAmb	IAmb	23	33	42.5
	comp=Z,1.5nm,1.2s							

IDC 23 23:22:48.3±5.4, 21°.93S×173°.53W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=225.2km s-min=41.3km az=141.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.98**	**246**	P	P	23 30 32.3	-0.8
	0.7nm,0.4s,baz=103,slow=9.8,SNR=3.5 0.7nm,0.4s						
ASAR	**Alice Springs**	**48.27**	**257**	P	P	23 31 31.2	-0.3
	0.5nm,0.4s,baz=92,slow=7.2,SNR=6.0 0.5nm,0.4s						
WRA	**Warramunga Arr**	**48.54**	**262**	P	P	23 31 34.0	+0.4
	2.0nm,0.5s,baz=100,slow=8.0,SNR=22 2.0nm,0.5s						
ILAR	**Eielson Array**	**88.84**	**11**	P	P	23 35 43.7	-0.1
	0.6nm,1.0s,baz=201,slow=4.8,SNR=2.8 0.6nm,1.0s						

*IDC **23** 23:23:39.1±2.0, 20°.59S×167°.88E, h0km, mb3.9/3, mbtmp3.8/3, MS3.4/2, Error ellipse: s-maj=66.6km s-min=27.3km az=136.0*

ISC 23 23:23:40.4±1.5, 20°.5S±0°.2×167°.9E±0°.3, h10km, n8, σ0s83/6, mb3.9/3, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**2.03**	**221**	Pn	**Pn**	**23 24 13.9**	**-0.8**
	3.3nm,0.3s,baz=105,slow=13,SNR=60						
DZM				Sn	**Sn**	**23 24 40.9**	**+0.7**
	14nm,0.3s,baz=339,slow=22,SNR=8.8						
PMG	**Port Moresby**	**22.83**	**296**	LR	LR	23 35 42.7	
	comp=Z,70nm,18.8s,baz=292,slow=32						
WRA	**Warramunga Arr**	**31.43**	**265**	P	**P**	**23 30 01.9**	**-0.3**
	0.3nm,0.6s,baz=84,slow=6.8,SNR=1.5 0.3nm,0.6s						
ASAR	**Alice Springs**	**31.58**	**258**	P	**P**	**23 30 04.2**	**+0.8**
	1.0nm,0.6s,baz=87,slow=9.0,SNR=9.9 1.0nm,0.6s						
CMAR	**Chiang Mai Arr**	**77.86**	**295**	LR	LR	00 11 18.1	
	comp=Z,23nm,18.8s,baz=205,slow=37						
TXAR	**Lajitas Array**	**98.51**	**62**	P	**P**	**23 37 20.0**	**+0.3**
	0.3nm,0.4s,baz=213,slow=6.5,SNR=1.8 0.3nm,0.4s						
HFS	**Hagfors**	**136.39**	**342**	PKhKP	PKPpre	23 42 57.3	
	0.8nm,0.4s,baz=49,slow=4.5,SNR=11						
GERES	**GERESS Array B**	**144.99**	**330**	PKPbc	**PKPbc**	**23 43 17.1**	**-0.2**
	0.3nm,0.3s,baz=107,slow=3.4,SNR=2.7						

*NEIC **23** 23:26:34.7±2.8, 14°.65N±0°.07×94°.18W±0°.05, h10km±2km, mb3.7/3, Md4.3/42(MEX), Error ellipse: s-maj=11.8km s-min=6.9km az=203.0*

*MEX **23** 23:26:38.9±0.6, 14°.70N×94°.18W, h16km±11km, MD4.3*

ISC 23 23:26:33.0±2.6, 14°.63N±0°.06×94°.19W±0°.03, h0km±17km, n46, σ2s19/69, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PCIG		**1.42**	**41**		Pn	23 26 59.7	-0.4
PCIG					**Sg**	**23 27 16.3**	**-2.4**
PCIG		**1.42**	**41**	*i* P	Pn	23 26 59.7	-0.4
PCIG				*i* S	**Sg**	**23 27 16.3**	**-2.4**
CARR	**Arriaga**	**1.63**	**9**	*e*P	**Pn**	**23 27 02.8**	**-0.2**
CARR				*e*S	Sn	23 27 20.5	-4.1
THIG		**1.88**	**81**		**Pn**	**23 27 06.5**	**+0.1**
THIG					**Sn**	**23 27 29.2**	**-1.6**
THIG		**1.88**	**81**	*e*P	**Pn**	**23 27 06.5**	**+0.1**
THIG				*e*S	**Sn**	**23 27 29.2**	**-1.6**
PATR	**El Naranjo**	**1.95**	**75**	*e*P	**Pn**	**23 27 07.7**	**+0.1**
PATR				*e*S	**Sn**	**23 27 31.1**	**-1.8**
PAVE	**Pavencul**	**2.02**	**74**	*e*P	**Pn**	**23 27 08.9**	**+0.3**
PAVE				*e*S	**Sn**	**23 27 31.1**	**-3.6**
CHUJ	**Union Juarez**	**2.06**	**77**	*e*P	**Pn**	**23 27 09.9**	**+0.7**
CHUJ				*e*S	**Sn**	**23 27 33.1**	**-2.6**
HUIG	**Huatulco**	**2.17**	**302**		**Pn**	**23 27 10.6**	**+0.2**
HUIG	**Huatulco**	**2.17**	**302**	*e*P	**Pn**	**23 27 10.6**	**+0.2**
HUIG				*e*S	**Sn**	**23 27 32.6**	**-5.4**
TGIG		**2.37**	**26**		**Pn**	**23 27 14.3**	**+1.1**
TGIG					**Sn**	**23 27 42.0**	**-1.0**
TGIG		**2.37**	**26**	*e*P	**Pn**	**23 27 14.3**	**+1.1**
TGIG				*e*S	**Sn**	**23 27 42.0**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.38**	**26**		**Pn**	**23 27 14.6**	**+1.3**
TGBT					**Sn**	**23 27 42.1**	**-1.0**
TGBT	**Tuxtla Gutierr**	**2.38**	**26**	*e*P	**Pn**	**23 27 14.6**	**+1.3**
TGBT				*e*S	**Sn**	**23 27 42.1**	**-1.0**
RTAL	**Retalhuleu**	**2.42**	**92**	Pn	**Pn**	**23 27 14.0**	**+0.1**
RTAL				Sn	**Sn**	**23 27 42.0**	**-2.2**
CMIG	**Matias Romero**	**2.53**	**345**		**Pn**	**23 27 15.5**	**+0.1**
CMIG					**Sn**	**23 27 43.7**	**-3.3**
CMIG	**Matias Romero**	**2.53**	**345**	*e*P	**Pn**	**23 27 15.5**	**+0.1**
CMIG				*e*S	**Sn**	**23 27 43.7**	**-3.3**
CCIG	**Comitan**	**2.57**	**50**		**Pn**	**23 27 17.2**	**+1.1**
CCIG	**Comitan**	**2.57**	**50**	*e*P	**Pn**	**23 27 18.4**	**+2.3**
CCIG				*e*S	**Sn**	**23 27 49.3**	**+1.2**
UXUV	**UXUV**	**2.67**	**1**	*e*P	**Pn**	**23 27 19.3**	**+2.0**
UXUV				*e*S	**Sn**	**23 27 48.1**	**-2.3**
HUEH	**Huehuetenango**	**2.69**	**75**		**Pn**	**23 27 18.8**	**+1.1**
PEIG	**Puerto Escondi**	**3.16**	**296**		**Pn**	**23 27 24.6**	**+0.5**
PEIG	**Puerto Escondi**	**3.16**	**296**	*e*P	**Pn**	**23 27 24.6**	**+0.5**
PEIG				*e*S	**Sn**	**23 27 56.7**	**-5.8**
OXIG	**Oaxaca**	**3.45**	**315**		**Pn**	**23 27 27.8**	**-0.3**
OXIG					**Sn**	**23 28 07.7**	**-2.1**
VHO	**Vista Hermosa**	**3.45**	**315**	*e*P	**Pn**	**23 27 27.8**	**-0.3**
VHO				*e*S	**Sn**	**23 28 07.7**	**-2.1**
YOIG	**Yosondua**	**3.92**	**305**		**Pn**	**23 27 37.7**	**+3.0**
YOIG	**Yosondua**	**3.92**	**305**	*e*P	**Pn**	**23 27 37.7**	**+3.0**
YOIG				*e*S	**Sn**	**23 28 18.0**	**-3.4**
PNIG	**Pinotepa**	**4.18**	**295**		**Pn**	**23 27 40.0**	**+1.9**
PNIG	**Pinotepa**	**4.18**	**295**	*e*P	**Pn**	**23 27 40.0**	**+1.9**
PNIG				*e*S	Sn	23 28 21.2	-6.5
TXIG	**Tlaxiaco**	**4.32**	**308**		**Pn**	**23 27 43.3**	**+3.1**
TXIG	**Tlaxiaco**	**4.32**	**308**	*e*P	**Pn**	**23 27 43.3**	**+3.1**
TXIG				*e*S	**Sn**	**23 28 27.7**	**-3.7**
HLIG	**Huajuapan de L**	**4.71**	**313**		**Pn**	**23 27 48.3**	**+2.8**
HLIG					**Sn**	**23 28 41.7**	**+0.8**
HLIG	**Huajuapan de L**	**4.71**	**313**	*e*P	**Pn**	**23 27 48.3**	**+2.8**
HLIG				*e*S	**Sn**	**23 28 41.7**	**+0.8**
PETF	**Flores**	**4.74**	**61**		**Pn**	**23 27 47.0**	**+1.2**
FTIG	**Fresnillo de T**	**4.99**	**311**		**Pn**	**23 27 52.5**	**+3.1**
FTIG	**Fresnillo de T**	**4.99**	**311**	*e*P	**Pn**	**23 27 52.5**	**+3.1**
FTIG				*e*S	Sn	23 28 40.5	-7.4
MGIG	**Malinaltepec**	**5.00**	**302**		**Pn**	**23 27 52.2**	**+2.8**
MGIG					**Sn**	**23 28 46.2**	**-1.8**
MGIG	**Malinaltepec**	**5.00**	**302**	*e*P	**Pn**	**23 27 52.2**	**+2.8**
MGIG				*e*S	**Sn**	**23 28 46.2**	**-1.8**
TLIG	**Tlapa**	**5.12**	**305**		**Pn**	**23 27 51.5**	**+0.4**
TEIG	**Tepich**	**7.92**	**45**		Pn	23 28 29.1	-0.4
JACO	**JACO, Garabito**	**10.54**	**117**	Pn	**Pn**	**23 29 06.9**	**+1.4**
SOR	**Soroa**	**13.34**	**51**	Pn	**Pn**	**23 29 44.5**	**+0.8**
TXAR	**Lajitas Array**	**17.05**	**331**		**Pn**	**23 30 35.7**	**+2.7**
OZNA	**Ozona**	**17.42**	**340**		**Pn**	**23 30 39.6**	**+2.0**
OZNA				IAmb	IAmb	23 30 42.0	
	comp=Z,8.0nm,1.2s						
MNHN	**Monahans**	**18.39**	**336**	P	**Pn**	**23 30 50.7**	**+1.1**
MNHN				IAmb	IAmb	23 30 58.1	
	comp=Z,3.5nm,1.0s						
121A	**Cookes Peak, D**	**21.70**	**328**	P	**P**	**23 31 25.5**	**-0.4**
121A				IAmb	IAmb	23 31 31.7	
	comp=Z,5.9nm,0.9s						

*UPP **23** 23:31:25.9±0.1, 67°.85N×20°.20E, h5km±4km, ML2.0, Unknown*

*IDC **23** 23:31:26.9±1.4, 67°.85N×20°.79E, h0km, mbtmp2.5/3, ML1.9/3, Error ellipse: s-maj=19.6km s-min=7.6km az=116.0*

*HEL **23** 23:31:26.7±0.4, 67°.89N×20°.24E, h0km, ML1.7, Explosion*

ISC 23 23:31:25.8±0.9, 67°.85N±0°.03×20°.21E±0°.03, h0km, n28, σ1s28/41, Sweden

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KUA	**Kurravaara**	**0.11**	**26**	P	**Pg**	**23 31 28.2**	**+0.3**
KUA				S	**Sg**	**23 31 29.8**	**+0.4**
RATU	**Laukkuluspa**	**0.23**	**263**	P	**Pg**	**23 31 30.4**	**+0.1**
KOVU	**Salmi**	**0.37**	**357**	P	**Pg**	**23 31 33.0**	**+0.1**
LANU	**Lannavaara**	**0.70**	**73**	P	**Pg**	**23 31 39.0**	**-0.3**
DUNU	**Dundret**	**0.75**	**169**	P	**Pg**	**23 31 39.6**	**-0.5**
MASU	**Masugnsbyn**	**0.79**	**119**	P	**Pg**	**23 31 40.6**	**-0.3**
KIF	**Kilpisjarvi**	**1.18**	**10**	*e*P	**Pg**	**23 31 44.5**	**-3.8**
KIF	**Kilpisjarvi**	**1.18**	**10**	PG	**Pg**	**23 31 48.1**	**-0.3**
KIF				MSG		23 32 02.5	
	comp=Z,11nm,0.2s						
KIF				SN	**Sn**	**23 32 06.1**	**-0.1**
PAJU	**Pajala**	**1.40**	**125**	P	**Pg**	**23 31 51.3**	**-1.3**
HEF	**Hetta**	**1.41**	**65**	*e*P	**Pg**	**23 31 51.6**	**-1.2**
HEF	**Hetta**	**1.41**	**65**	PG	**Pg**	**23 31 51.8**	**-1.0**
HEF				MSG		23 32 08.4	
	comp=Z,4.8nm,0.2s						
HEF				SG	**Sg**	**23 32 10.2**	**-0.8**
ERTU	**Ertsjaerv**	**1.52**	**148**	P	**Pn**	**23 31 53.4**	**-0.8**
HARU	**Harads**	**1.72**	**170**	P	**Pn**	**23 31 56.8**	**-0.2**
TRO	**Tromso**	**1.85**	**346**	PG	**Pn**	**23 31 59.4**	**+0.7**
	baz=165						
TRO				SG	**Sb**	**23 32 23.8**	**-0.3**
TOF	**Tornio**	**2.41**	**136**	PB	**Pn**	**23 32 07.9**	**+1.5**
	baz=318						
TOF				MSG		23 32 38.5	
	comp=Z,2.8nm,0.2s						
TOF				SG	**Sb**	**23 32 40.4**	**+0.3**
SGF	**Sodankyl**	**2.45**	**97**	PB	**Pn**	**23 32 08.9**	**+1.9**
	baz=281						
SGF				SB	**Sn**	**23 32 39.4**	**+1.8**
ARCES	**ARCESS Array B**	**2.57**	**46**	Pn	**Pn**	**23 32 09.3**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=227,slow=15,SNR=26						
ARCES				Lg	Lg	23 32 41.5	
	comp=Z,0.9nm,0.3s,baz=231,slow=23,SNR=14 comp=Z,0.7nm,0.3s						
RNF	**Rovaniemi**	**2.58**	**116**	PB	**Pn**	**23 32 10.5**	**+1.7**
	baz=305						
RNF				SG	**Sb**	**23 32 44.9**	**-0.2**
RAJF	**Raja-Jooseppi**	**3.09**	**75**	PN	**Pn**	**23 32 16.4**	**+0.6**
RAJF				SB	**Sb**	**23 32 59.1**	**-0.8**
KEV	**Kevo**	**3.12**	**49**	PN	**Pn**	**23 32 17.0**	**+0.7**
KEV				MSG		23 32 57.6	
	comp=Z,2.1nm,0.2s						
RANF	**Ranua**	**3.18**	**122**	PN	**Pn**	**23 32 18.3**	**+1.3**
	baz=310						
RANF				SG	**Sb**	**23 33 02.8**	**+0.4**
VRF	**Varrio**	**3.57**	**87**	PG	**Pb**	**23 32 30.1**	**+0.3**
VRF				SG	**Sb**	**23 33 14.6**	**+1.0**
OUL	**Oulu**	**3.59**	**138**	PG	**Pb**	**23 32 30.8**	**+0.6**
OUL				SB	**Sb**	**23 33 14.7**	**+0.5**
OLKF	**Oulanka, Finla**	**3.91**	**109**	PN	**Pn**	**23 32 28.2**	**+1.1**
MSF	**Maaselka**	**3.99**	**115**	PG	**Pb**	**23 32 38.5**	**+1.6**
KU6	**Riekki**	**4.23**	**111**	PN	**Pn**	**23 32 33.1**	**+1.7**
KU6				SG	**Sg**	**23 33 38.0**	**-3.5**
FINES	**FINESS Array B**	**6.91**	**156**	Pn	**Pn**	**23 33 09.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=338,slow=21,SNR=1.4						
FINES				Sn	**Sn**	**23 34 25.3**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=340,slow=22,SNR=4.3						
FINES				Lg	Lg	23 34 59.9	
	comp=Z,0.3nm,0.3s,baz=345,slow=30,SNR=2.3 comp=Z,0.9nm,0.8s						
NOA	**NORSAR Array B**	**7.86**	**214**	Pn	**Pn**	**23 33 21.5**	**+0.2**
	baz=24,slow=11,SNR=1.5						
NOA				Lg	Lg	23 35 35.0	
	baz=34,slow=19,SNR=2.2 comp=Z,0.2nm,0.8s						

*NOU **23** 23:40:48.3, 20°.99S×168°.93E, h0km, MLv3.9/8, Loyalty Islands*

*IDC **23** 23:40:50.4±2.6, 22°.01S×168°.94E, h0km, mb4.0/3, mbtmp3.9/4, ML3.3/1, Error ellipse: s-maj=147.6km s-min=26.2km az=166.0*

*NEIC **23** 23:40:57.2±1.6, 21°.25S±0°.05×168°.3E±0°.1, h10km±1km, mb4.3/5, Error ellipse: s-maj=19.2km s-min=8.5km az=79.0.*

ISC 23 23:40:56.0±1.4, 21°.19S±0°.07×168°.4E±0°.1, h10km, n25, σ0s99/25, mb4.2/6, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**0.41**	**226**	P	**Pb**	**23 41 06.7**	**+1.3**
LIFNC	**LIFOU**	**1.12**	**292**	P	**Pb**	**23 41 16.6**	**-0.8**
LIFNC	**LIFOU**	**1.12**	**292**	Pn	**Pb**	**23 41 16.4**	**-1.0**
YATNC	**Mamie plateau,**	**1.61**	**237**	P	**Pn**	**23 41 24.8**	**+0.4**
PINNC	**Pines Island,**	**1.64**	**211**	P	**Pn**	**23 41 24.1**	**-0.8**
PINNC	**Pines Island,**	**1.64**	**211**		**Pn**	**23 41 23.3**	**-1.6**
OUENC	**Ouen Island, N**	**1.86**	**229**	P	**Pn**	**23 41 28.8**	**+0.9**
OUENC	**Ouen Island, N**	**1.86**	**229**		**Pn**	**23 41 28.2**	**+0.3**
DZM	**Mont Dzumac**	**1.98**	**243**	P	**Pn**	**23 41 30.8**	**+1.1**
DZM	**Mont Dzumac**	**1.98**	**243**		**Pn**	**23 41 29.9**	**+0.3**
DZM	**Mont Dzumac**	**1.98**	**243**	Pn	**Pn**	**23 41 30.7**	**+1.1**
	7.6nm,0.3s,baz=107,slow=8.8,SNR=88						
DZM				Sn	**Sg**	**23 41 58.5**	**-1.0**
	30nm,0.3s,baz=148,slow=23,SNR=7.9 20nm,0.2s						
ONTNC	**Ouen Toro**	**2.08**	**237**	P	**Pb**	**23 41 33.8**	**-0.1**
ONTNC	**Ouen Toro**	**2.08**	**237**		**Pn**	**23 41 31.8**	**+0.8**
NOUC	**Port Laguerre**	**2.11**	**244**	P	**Pb**	**23 41 33.5**	**-0.8**
KOUNC	**Koumac, New Ca**	**3.85**	**279**	Pn	**Pn**	**23 41 56.5**	**+1.2**
WB0	**Warramunga Arr**	**31.81**	**266**	P	**P**	**23 47 20.8**	**-0.2**
WB0				IAmb	IAmb	23 47 21.9	
	comp=Z,3.6nm,0.9s						
WRA	**Warramunga Arr**	**31.83**	**266**	P	**P**	**23 47 20.4**	**-0.9**
WRA	**Warramunga Arr**	**31.83**	**266**	P	**P**	**23 47 20.2**	**-1.0**
	comp=Z,1.3nm,0.8s,baz=104,slow=8.0,SNR=5.2 comp=Z,1.3nm,0.8s						
AS31	**Alice Springs**	**31.89**	**259**	P	**P**	**23 47 21.1**	**-0.6**
AS31				IAmb	IAmb	23 47 22.6	
	comp=Z,1.8nm,0.7s						
ASAR	**Alice Springs**	**31.89**	**259**	P	**P**	**23 47 21.5**	**-0.2**
ASAR	**Alice Springs**	**31.89**	**259**	P	**P**	**23 47 21.8**	**0.0**
	comp=Z,4.0nm,0.7s,baz=84,slow=9.1,SNR=43 comp=Z,4.0nm,0.7s						
ULN	**Ulaanbaatar**	**87.93**	**324**		**P**	**23 53 47.9**	**+1.8**
SONM	**Songino Array**	**88.28**	**323**	P	**P**	**23 53 48.5**	**+0.8**
SONM				IAmb	IAmb	23 54 13.9	
	comp=Z,2.9nm,1.2s						
NVAR	**Mina Array Bea**	**90.71**	**49**	P	P	23 53 55.7	-3.8
	comp=Z,0.1nm,0.4s,baz=230,slow=7.0,SNR=1.7 comp=Z,0.1nm,0.4s						
GERES	**GERESS Array B**	**145.78**	**330**	PKPbc	**PKPdf**	**00 00 34.0**	**-1.0**
	comp=Z,1.8nm,0.8s,baz=29,slow=3.3,SNR=7.6						

*DJA **23** 23:44:28.2±0.2, 3°.3S±2°.1×12°.8E±°, h10km, M4.7/13, mB5.0/6, mb5.0/13, MLv4.7/12, Mw(mB)4.3/6*

*NEIC **23** 23:44:30.8±2.4, 2°.85S±0°.07×128°.12E±0°.07, h49km±6km, mb4.5/27, Error ellipse: s-maj=11.5km s-min=8.6km az=54.0*

*IDC **23** 23:44:32.6±2.2, 2°.98S×128°.06E, h61km±19km, mb3.9/15, mbtmp4.3/18, MS3.5/8, Error ellipse: s-maj=24.9km s-min=12.2km az=76.0*

ISC 23 23:44:29.9±0.4, 2°.93S±0°.05×128°.05E±0°.05, h38km, n96, σ1s72/95, mb4.4/23, MS3.5/6, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**0.99**	**252**	P	**Pn**	**23 44 47.6**	**+0.3**
NLAI				S	**Sn**	**23 45 02.8**	**+2.7**
SANI	**Sanana**	**2.24**	**293**	P	**Pn**	**23 45 05.0**	**+0.6**
SANI	**Sanana**	**2.24**	**293**	P	**Pn**	**23 45 02.3**	**-2.1**
SANI				S	**Sn**	**23 45 27.3**	**-3.5**
LBMI	**Labuha**	**2.34**	**347**	P	**Pn**	**23 45 04.8**	**-1.1**
BNDI	**Bandanaira**	**2.44**	**131**	P	Pn	23 45 12.3	+5.2
BNDI	**Bandanaira**	**2.44**	**131**	P	**Pn**	**23 45 11.6**	**+4.5**
TNTI	**Ternate**	**3.74**	**350**		**Pn**	**23 45 24.4**	**-0.7**
TNTI	**Ternate**	**3.74**	**350**	P	**Pn**	**23 45 24.2**	**-0.9**
SWI	**Sorong**	**3.81**	**57**	P	**Pn**	**23 45 24.9**	**-1.2**
FAKI	**Fak Fak**	**4.20**	**90**	P	**Pn**	**23 45 31.5**	**+0.1**
FAKI	**Fak Fak**	**4.20**	**90**		**Pn**	**23 45 30.6**	**-0.8**
FAKI	**Fak Fak**	**4.20**	**90**	P	**Pn**	**23 45 31.4**	**+0.1**
KMSI	**Cibinong**	**5.35**	**311**	P	**Pn**	**23 45 46.3**	**-1.0**
	304nm,0.5s,9.5nm						
LUWI	**Luwuk**	**5.60**	**289**	P	**Pn**	**23 45 50.9**	**+0.3**
LUWI	**Luwuk**	**5.60**	**289**		**Pn**	**23 45 49.9**	**-0.7**
LUWI	**Luwuk**	**5.60**	**289**	P	**Pn**	**23 45 49.9**	**-0.7**
	154nm,0.5s,3µm1.9nm						
SOEI	**Soe**	**7.75**	**209**	Pn	**Pn**	**23 46 23.9**	**+3.6**
SOEI	**Soe**	**7.75**	**209**	P	**Pn**	**23 46 25.1**	**+4.8**
	174nm,0.9s,0.6nm						
MMRI	**Maumere**	**8.09**	**225**	Pn	**Pn**	**23 46 27.4**	**+2.5**
BKSI	**Bulukumba**	**8.25**	**253**	P	**Pn**	**23 46 29.7**	**+2.6**
	47nm,0.5s,656nm						
TOLI2	**Tolitoli**	**8.30**	**299**	P	**Pn**	**23 46 28.2**	**+0.4**
TOLI2	**Tolitoli**	**8.30**	**299**		**Pn**	**23 46 27.2**	**-0.6**
BATI	**Baumata**	**8.44**	**211**	P	**Pn**	**23 46 33.8**	**+4.1**
	22nm,0.5s,baz=99,slow=13,SNR=3.5						
BATI				LR	LR	23 49 56.6	
	comp=Z,292nm,20.7s,baz=56,slow=39						
BATI	**Baumata**	**8.44**	**211**	P	**Pn**	**23 46 33.9**	**+4.2**
	76nm,0.7s						
KAPI	**Kappang**	**8.53**	**256**		**Pn**	**23 46 32.7**	**+1.8**
KAPI	**Kappang**	**8.53**	**256**	P	**Pn**	**23 46 33.4**	**+2.5**
	26nm,0.8s,baz=122,slow=6.9,SNR=10						
KAPI				S	**Sn**	**23 48 05.0**	**-0.9**
	3.3nm,0.3s,baz=60,slow=17,SNR=1.1						
KAPI				LR	LR	23 50 09.5	
	comp=Z,462nm,19.5s,baz=71,slow=40						
EDFI	**Ende, Flores**	**8.57**	**227**	P	**Pn**	**23 46 35.7**	**+4.2**
	50nm,0.7s,628nm						
MPSI	**Mapaga**	**8.77**	**292**	P	**Pn**	**23 46 33.9**	**-0.3**
	24nm,0.6s,2µm						
DRS	**Darwin Rock St**	**9.85**	**163**	P	Pn	23 46 54.4	+5.4
MTN	**Manton Dam**	**10.31**	**163**		**Pn**	**23 46 57.4**	**+2.1**
KDU	**Kakadu**	**10.64**	**156**	P	**Pn**	**23 47 02.9**	**+3.1**
BKB	**Balikpapan**	**11.27**	**278**	Pn	**Pn**	**23 47 06.7**	**-1.7**
PLAI	**Plampang**	**11.77**	**240**	P	Pn	23 47 21.1	+5.7
PLAI	**Plampang**	**11.77**	**240**	P	**Pn**	**23 47 18.9**	**+3.5**
	45nm,0.9s						
JAY	**Jayapura**	**12.65**	**88**	P	**Pn**	**23 47 28.7**	**+1.3**
JAGI	**Jajag, Banyuwa**	**14.88**	**248**	Pn	**Pn**	**23 47 57.0**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.26**	**189**	P	**P**	**23 48 06.7**	**-0.3**
FITZ	**Fitzroy Crossi**	**15.26**	**189**		**Pn**	**23 48 03.4**	**+0.7**
WB0	**Warramunga Arr**	**17.84**	**160**		**Pn**	**23 48 34.6**	**-0.8**
WB0				IAmb	IAmb	23 49 03.6	
	comp=Z,25nm,1.1s						
WRA	**Warramunga Arr**	**17.99**	**160**		**Pn**	**23 48 35.7**	**-1.5**
WRA	**Warramunga Arr**	**17.99**	**160**	P	**Pn**	**23 48 37.0**	**-0.2**
	comp=Z,6.0nm,0.4s,baz=341,slow=12,SNR=64						
WRA				S	**Sn**	**23 51 52.7**	**-4.2**
	comp=Z,2.5nm,0.6s,baz=336,slow=22,SNR=3.8						
WRA				ScP	**ScP**	**23 56 41.5**	**-2.4**
	comp=Z,0.4nm,0.9s,baz=311,slow=2.8,SNR=1.3						
WR0	**Warramunga Arr**	**18.07**	**160**	P	**Pn**	**23 48 36.2**	**-1.9**
UGM	**Wanagama**	**18.13**	**253**	P	**Pn**	**23 48 39.0**	**0.0**
UGM	**Wanagama**	**18.13**	**253**	P	**Pn**	**23 48 38.6**	**-0.3**
KSM	**Kuching**	**18.27**	**284**	P	**Pn**	**23 48 41.2**	**+0.6**
KSM				IAmb	IAmb

KURK IAmb IAmb 23 55 30.8
comp=Z,6.5nm,0.9s
BVAR Borovoye Array 73.61 328 P **P** **23 55 59.4 +0.2**
comp=Z,2.6nm,0.9s,baz=134,slow=6.4,SNR=7.7
comp=Z,2.6nm,0.9s
BRVK Borovoye 73.68 328 P **P** **23 55 58.9 -0.7**
BRVK IAmb IAmb 23 56 01.3
comp=Z,3.0nm,1.0s
VNDA Vanda 76.70 173 P **P** **23 56 15.9 -0.7**
VNDA Vanda 76.70 173 P **P** **23 56 16.4 -0.2**
comp=Z,1.0nm,0.9s,baz=319,slow=7.0,SNR=5.6
comp=Z,1.0nm,0.9s
ABKAR Akbulak array 78.13 322 P **P** **23 56 24.0 -1.1**
GNI Garni 86.75 310 LR LR 00 44 17.4
comp=Z,23nm,18.3s,baz=169,slow=41
KDAK Kodiak Island 86.80 32 LR LR 00 34 07.5
comp=Z,33nm,18.7s,baz=248,slow=34
QSPA South Pole Qui 87.02 180 P **P** **23 57 10.1 -1.1**
comp=Z,2.2nm,0.8s,baz=27,slow=4.3,SNR=12
comp=Z,2.2nm,0.8s
MID Middleton Isla 90.27 31 P **P** **23 57 25.9 -0.5**
MID IAmb IAmb 23 57 26.1
comp=Z,2.9nm,0.8s
ILAR Eielson Array 90.52 25 P **P** **23 57 26.5 -1.1**
comp=Z,0.5nm,0.9s,baz=248,slow=4.8,SNR=3.5
comp=Z,0.5nm,0.9s
TORD Torodi Ar. Bea 126.03 284 PKP **PKiKP** **00 03 29.8 +0.3**
comp=Z,0.7nm,0.7s,baz=51,slow=4.0,SNR=4.1
CPUP Villa Florida 150.45 170 PKPbc **PKiKP** **00 04 18.9 -0.1**
comp=Z,1.9nm,0.8s,baz=132,slow=3.0,SNR=5.6

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*NNC **23** 23:44:44.5±4.6, 36.°40N×71.°03E, h142km±104km, mb3.0, mpv3.8, Error ellipse: s-maj=44.6km s-min=38.3km az=142.0*

ISC 23 23:44:45.0±3.9, 36.°4N±0.°2×71.°0E±0.°2, h150km, n9, σ0s78/12, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UCH	**Uchtor**	**6.41**	**24**	P	**Pn**	**23 46 17.4**	**-0.1**
	SNR=5.9						
EKS2	**Erkin-Say**	**6.60**	**18**	P	**Pn**	**23 46 20.7**	**+1.0**
	SNR=7.0						
KK31	**Karatay Array**	**6.70**	**357**	⇑P	**Pn**	**23 46 20.5**	**-0.5**
	7.4nm,0.3s,baz=176,slow=12,SNR=96						
KK31				⇑S	**Sn**	**23 47 35.8**	**-0.4**
	3.7nm,0.5s,baz=187,slow=24,SNR=5.6						
AAK	**Ala-Archa**	**6.77**	**22**	⇑P	**Pn**	**23 46 22.0**	**-0.1**
	3.2nm,0.6s						
AAK				⇓S	**Sn**	**23 47 39.6**	**+1.4**
	3.9nm,0.8s						
CHMS	**Chumysh**	**7.18**	**22**	P	**Pn**	**23 46 27.8**	**+0.4**
	SNR=5.5						
USP	**Ospenovka**	**7.35**	**20**	P	**Pn**	**23 46 29.2**	**-0.5**
	SNR=7.8						
TKM2	**Tokmak 2**	**7.40**	**27**	P	**Pn**	**23 46 30.2**	**-0.3**
	SNR=9.4						
TKM2	**Tokmak 2**	**7.40**	**27**	⇓P	**Pn**	**23 46 29.9**	**-0.6**
	0.4nm,0.2s						
TKM2				⇑S	**Sn**	**23 47 52.2**	**-1.1**
	0.9nm,0.6s						
AB31	**Akbulak array**	**15.17**	**331**	⇑P	**Pn**	**23 48 11.7**	**+0.4**
	0.3nm,0.3s						

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*IDC **23** 23:49:27.7±3.9, 36.°55N×71.°73E, h62km±33km, mb3.4/11, mbtmp3.8/16, ML3.5/5, Error ellipse: s-maj=32.0km s-min=17.6km az=171.0*

*NEIC **23** 23:49:36.5±1.4, 37.°06N±0.°03×71.°34E±0.°06, h108km±5km, mb4.2/11, Error ellipse: s-maj=7.9km s-min=3.0km az=111.0*

*NNC **23** 23:49:38.7±3.6, 37.°30N×71.°07E, h112km±97km, mb3.6, mpv4.2, Error ellipse: s-maj=37.0km s-min=23.8km az=145.0*

ISC 23 23:49:35.6±0.7, 37.°06N±0.°07×71.°31E±0.°06, h106km, n60, σ1s47/65, mb3.8/15, 4C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GAR	**Garm**	**2.09**	**338**		**Pn**	**23 50 11.1**	**+1.5**
GAR				Sn	**Sn**	**23 50 36.6**	**+1.0**
CHGR	**Chuyangaron**	**2.33**	**314**	Pn	**Pn**	**23 50 13.5**	**+0.8**
SIMJ	**Simiganj**	**2.42**	**312**	Pn	**Pn**	**23 50 15.0**	**+1.1**
DRK	**Karamyk**	**2.45**	**9**		**Pn**	**23 50 15.7**	**+1.2**
BTK	**Batken**	**3.02**	**353**	Pn	**Pn**	**23 50 23.5**	**+1.8**
KBL	**Kabul**	**3.12**	**217**	Pn	**Pn**	**23 50 25.1**	**+1.9**
NIL	**Nilore**	**3.76**	**154**		**Pn**	**23 50 32.3**	**+0.7**
ARSB	**Arslanbob**	**4.45**	**16**		**Pn**	**23 50 41.8**	**+0.7**
UCH	**Uchtor**	**5.72**	**25**	P	**Pn**	**23 50 59.5**	**+1.0**
	SNR=18						
EKS2	**Erkin-Say**	**5.91**	**18**	P	**Pn**	**23 51 02.2**	**+1.5**
	SNR=13						
KK31	**Karatay Array**	**6.07**	**354**	⇑P	**Pn**	**23 51 04.0**	**+1.3**
	6.8nm,0.4s,baz=177,slow=13,SNR=63						
KK31				⇑S	**Sn**	**23 52 08.9**	**-1.8**
	12nm,0.5s,baz=179,slow=22,SNR=4.5						
KKAR	**Karatay Array**	**6.07**	**354**	Pn	**Pn**	**23 51 04.1**	**+1.4**
KKAR	**Karatay Array**	**6.07**	**354**	Pn	**Pn**	**23 51 04.0**	**+1.2**
AAK	**Ala-Archa**	**6.08**	**23**	P	**Pn**	**23 51 04.7**	**+1.5**
	SNR=22						
AAK	**Ala-Archa**	**6.08**	**23**	⇓P	**Pn**	**23 51 04.5**	**+1.4**
	14nm,0.4s						
AAK				⇓S	**Sn**	**23 52 11.4**	**0.0**
	12nm,0.5s						
KBK	**Karagaybulak**	**6.25**	**25**	P	**Pn**	**23 51 06.7**	**+1.3**
	SNR=5.2						
FRU1	**Bishkek**	**6.28**	**23**	Pn	**Pn**	**23 51 07.2**	**+1.5**
ULHL	**Ulahol**	**6.43**	**35**	P	**Pn**	**23 51 08.8**	**+1.0**
	SNR=19						
BOOM	**Boomskoye usch**	**6.49**	**32**	Pn	**Pn**	**23 51 08.9**	**+0.3**
CHMS	**Chumysh**	**6.49**	**23**	P	**Pn**	**23 51 09.6**	**+1.1**
	SNR=18						
CHMS	**Chumysh**	**6.49**	**23**	⇓P	**Pn**	**23 51 09.1**	**+0.6**
	26nm,0.9s						
CHMS				⇓S	**Sn**	**23 52 20.9**	**-0.2**
	10nm,0.7s						
USP	**Ospenovka**	**6.66**	**21**	P	**Pn**	**23 51 11.4**	**+0.5**
	SNR=17						
TKM2	**Tokmak 2**	**6.71**	**28**	P	**Pn**	**23 51 12.6**	**+0.9**
	SNR=19						
TKM2	**Tokmak 2**	**6.71**	**28**	⇓P	**Pn**	**23 51 12.4**	**+0.7**
	9.0nm,0.5s						
TKM2				⇑S	**Sn**	**23 52 28.2**	**+1.4**
	5.3nm,0.6s						
PRZ	**Przheval'sk**	**7.69**	**43**	Pn	**Pn**	**23 51 25.7**	**+0.7**
GEYT	**Alibeck**	**10.52**	**279**	P	**Pn**	**23 52 01.4**	**-1.9**
	12nm,0.3s,baz=109,slow=11,SNR=47						
GEYT				S	**Sn**	**23 53 54.8**	**-4.3**
	2.4nm,0.4s,baz=121,slow=22,SNR=3.2						
GYA0B	**ALIBECK ARRAY**	**10.52**	**279**	Pn	**Pn**	**23 52 01.2**	**-2.0**
MKAR	**Makanchi Array**	**12.69**	**37**	Pn	**Pn**	**23 52 31.3**	**-0.8**
MKAR	**Makanchi Array**	**12.69**	**37**	P	**Pn**	**23 52 28.4**	**-3.8**
	0.1nm,0.3s,baz=223,slow=14,SNR=4.8						
	0.7nm,0.6s						
KURBB	**Kurchatov Arra**	**14.51**	**19**	P	**Pn**	**23 52 55.1**	**-0.5**
	0.1nm,0.3s,baz=207,slow=10,SNR=4.8						
	1.3nm,0.7s						
KURK	**Kurchatov**	**14.62**	**19**	Pn	**Pn**	**23 52 58.3**	**+1.3**
AB31	**Akbulak array**	**14.72**	**329**	⇑P	**Pn**	**23 52 57.5**	**-0.8**
	1.4nm,0.3s						
ABKAR	**Akbulak array**	**14.72**	**329**	Pn	**Pn**	**23 52 57.6**	**-0.7**
ABKAR	**Akbulak array**	**14.72**	**329**	Pn	**Pn**	**23 52 57.0**	**-1.2**
BVAR	**Borovoye Array**	**15.98**	**358**	P	**Pn**	**23 53 13.2**	**-0.8**
	0.1nm,0.3s,baz=162,slow=12,SNR=7.4						
	0.9nm,0.4s						
BRVK	**Borovoye**	**16.01**	**358**	Pn	**Pn**	**23 53 15.0**	**+0.6**
AKTO	**Aktyubinsk**	**16.42**	**329**	P	**Pn**	**23 53 20.1**	**+0.6**
	1.1nm,0.3s,baz=133,slow=9.2,SNR=15						
	5.6nm,0.5s						
ZAA0	**Zalesovo Array**	**19.30**	**25**	P	**P**	**23 53 52.1**	**+0.1**
ZAA0				IAmb	IAmb	23 53 52.5	
	comp=Z,4.3nm,0.5s						
ZALV	**Zalesovo Beam**	**19.30**	**25**	P	**P**	**23 53 52.0**	**0.0**
ZALV	**Zalesovo Beam**	**19.30**	**25**	P	**P**	**23 53 51.7**	**-0.2**
	comp=Z,1.7nm,0.3s,baz=221,slow=11,SNR=20						
	comp=Z,4.5nm,0.3s						
GNI	**Garni**	**20.96**	**287**	P	**P**	**23 54 11.4**	**+1.2**
	comp=Z,3.7nm,0.7s,baz=190,slow=15,SNR=2.8						
	comp=Z,3.7nm,0.7s						
KBZ	**Khabaz**	**22.57**	**296**	P	**P**	**23 54 28.5**	**+1.6**
	comp=Z,1.0nm,0.6s,baz=180,slow=3.0,SNR=2.0						
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**27.82**	**56**	P	**P**	**23 55 12.1**	**-2.7**
	comp=Z,0.8nm,0.9s,baz=230,slow=6.8,SNR=2.4						
	comp=Z,0.8nm,0.9s						
ELL	**Elmali**	**32.92**	**282**	P	**P**	**23 56 02.6**	**+2.7**
FINES	**FINESS Array B**	**37.16**	**326**	P	**P**	**23 56 37.6**	**+1.8**
	comp=Z,2.1nm,1.0s,baz=120,slow=7.5,SNR=4.5						
	comp=Z,2.1nm,1.0s						
ARCES	**ARCESS Array B**	**40.72**	**337**	P	**P**	**23 57 06.4**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=113,slow=9.1,SNR=1.9						
	comp=Z,2.9nm,0.9s						
HFS	**Hagfors**	**42.78**	**322**	P	**P**	**23 57 23.9**	**+1.6**
	comp=Z,0.7nm,0.4s,baz=115,slow=10.0,SNR=5.3						
	comp=Z,0.7nm,0.4s						
STAL	**STALIGIAL**	**43.83**	**301**	P	**P**	**23 57 31.1**	**+0.1**
STAL				IAmb	IAmb	23 57 41.8	
	comp=Z,7.2nm,1.5s						
NC303	**NORSAR Array S**	**44.02**	**323**	P	**P**	**23 57 33.6**	**+1.3**
NOA	**NORSAR Array B**	**44.08**	**323**	P	**P**	**23 57 33.9**	**+1.1**
	comp=Z,0.3nm,0.5s,baz=94,slow=7.9,SNR=3.8						
	comp=Z,0.3nm,0.5s						
USA0B	**Ussuriysk Arra**	**45.68**	**61**	P	**P**	**23 57 46.2**	**+0.5**
USA0B				IAmb	IAmb	23 57 56.4	
	comp=Z,4.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**45.68**	**61**	P	**P**	**23 57 46.5**	**+0.9**
ESDC	**Sonseca Array**	**57.41**	**298**	P	**P**	**23 59 14.5**	**+1.4**
	comp=Z,0.3nm,0.8s,baz=52,slow=6.1,SNR=2.0						
	comp=Z,0.3nm,0.8s						
PETK	**Petropavlovsk-**	**59.40**	**44**	P	**P**	**23 59 23.2**	**-3.4**
	comp=Z,0.2nm,0.3s,baz=4.6,slow=3.7,SNR=1.1						
	comp=Z,0.2nm,0.3s						
TOA0	**Torodi Ar. Sit**	**65.98**	**269**	P	**P**	**00 00 10.0**	**-0.9**
TOA0				IAmb	IAmb	00 00 26.6	
	comp=Z,6.2nm,1.5s						
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P	**P**	**00 00 09.9**	**-1.0**
TORD	**Torodi Ar. Bea**	**65.98**	**269**	P	**P**	**00 00 09.5**	**-1.4**
	comp=Z,0.2nm,0.5s,baz=54,slow=5.6,SNR=4.7						
	comp=Z,0.2nm,0.5s						
D19K	**Kuna River**	**68.53**	**18**	P	**P**	**00 00 26.0**	**-0.2**
D19K				IAmb	IAmb	00 00 27.5	
	comp=Z,11nm,1.4s						
PSA00	**Pilbara Seismi**	**74.12**	**134**	P	**P**	**00 01 01.2**	**+0.9**
PSA00				IAmb	IAmb	00 01 25.5	
	comp=Z,4.5nm,1.1s						
WRA	**Warramunga Arr**	**82.08**	**122**	P	P	00 01 38.6	-5.8
	comp=Z,0.3nm,0.6s,baz=330,slow=4.9,SNR=1.9						
	comp=Z,0.3nm,0.6s						

IDC 24 00:10:18.4±46.0, 15.°41S×171.°76W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=908.5km s-min=200.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**45.41**	**240**	P	P	00 18 38.5	-0.5
	0.7nm,0.3s,baz=100,slow=8.6,SNR=3.0						
	0.7nm,0.3s						
WRA	**Warramunga Arr**	**51.38**	**257**	P	P	00 19 25.4	-0.1
	0.4nm,0.6s,baz=91,slow=6.9,SNR=6.5						
	0.4nm,0.6s						
ASAR	**Alice Springs**	**51.61**	**252**	P	P	00 19 27.2	+0.1
	2.7nm,0.4s,baz=89,slow=8.1,SNR=43						
	2.7nm,0.4s						

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*NEIC **24** 00:13:00.8±1.8, 12.°75S±0.°08×45.°58E±0.°05, h10km±1km, mb4.3/11, Error ellipse: s-maj=14.5km s-min=8.6km az=346.0*

ISC 24 00:13:00.5±0.6, 12.°80S±0.°08×45.°59E±0.°09, h10km, n24, σ1s13/23, mb4.4/10, 1D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ABPO	**Ambohimpanom**	**6.38**	**166**	Pn	**Pn**	**00 14 34.7**	**-0.1**
VOI	**Vohitsoka**	**9.13**	**173**	Pn	**Pn**	**00 15 12.4**	**-0.1**
ZOMB	**Zomba**	**10.26**	**254**	*e*Pn	**Pn**	**00 15 27.6**	**-0.4**
ZOMB				eSN	Sn	00 17 12.0	-11
ZOMB	**Zomba**	**10.26**	**254**	*e*Pn	**Pn**	**00 15 27.6**	**-0.4**
ZOMB				eSN	Sn	00 17 12.0	-11
FOMA	**Nahampoana Res**	**12.18**	**174**	Pn	**Pn**	**00 15 53.5**	**-0.8**
RER	**Riviere de l'E**	**12.78**	**132**	Pn	**Pn**	**00 16 00.5**	**-2.0**
KiBK	**Kibwezi**	**12.79**	**324**	Pn	**Pn**	**00 16 00.7**	**-2.0**
LSZ	**Lusaka**	**17.06**	**260**	P	**Pn**	**00 17 00.0**	**+0.6**
MBAR	**Mbarara**	**19.07**	**308**	P	**Pn**	**00 17 24.0**	**-0.2**
LBTB	**Lobatse**	**22.44**	**234**		**P**	**00 17 59.8**	**-0.1**
LBTB				IAmb	IAmb	00 18 23.4	
	comp=Z,7.8nm,1.1s						
BOSA	**Boshof**	**24.62**	**227**	P	**P**	**00 18 20.1**	**-1.3**
BOSA				IAmb	IAmb	00 18 42.0	
	comp=Z,13nm,1.4s						
SUR	**Sutherland**	**29.92**	**225**	P	**P**	**00 19 09.2**	**+0.2**
AGG	**Agios Georgios**	**55.94**	**338**	P	**P**	**00 22 38.7**	**-0.2**
AGG				IAmb	IAmb	00 23 08.3	
	comp=Z,5.5nm,1.3s						
KK31	**Karatay Array**	**60.13**	**21**		**P**	**00 23 08.3**	**0.0**
KK31				IAmb	IAmb	00 23 21.4	
	comp=Z,1.6nm,0.8s						
KKAR	**Karatay Array**	**60.13**	**21**	P	**P**	**00 23 08.2**	**0.0**
KKAR				IAmb	IAmb	00 23 21.4	
	comp=Z,1.6nm,0.8s						
ELIB	**Princess Elisa**	**60.62**	**188**	*d*P	**P**	**00 23 10.5**	**-0.8**
ABKAR	**Akbulak array**	**63.07**	**10**	P	**P**	**00 23 27.7**	**-0.3**
ABKAR				IAmb	IAmb	00 23 36.4	
	comp=Z,3.3nm,0.8s						
SNAA	**Sanae**	**65.57**	**195**	P	**P**	**00 23 45.1**	**+0.9**
SNAA				IAmb	IAmb	00 24 18.4	
	comp=Z,0.7nm,0.8s						
PZH	**PanZhiHua**	**67.10**	**54**	P	**P**	**00 23 56.8**	**+2.0**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,100nm,4.7s						
CLL	**Collm**	**69.84**	**339**	*e*P	**P**	**00 24 13.0**	**+1.8**
QSPA	**South Pole Qui**	**77.30**	**180**	P	**P**	**00 24 55.5**	**+0.3**
HHC	**Hu-ho-hao-te**	**80.92**	**45**	*e*P	**P**	**00 25 13.6**	**-1.8**
HHC				sP	PcP	00 25 22.5	+0.6
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,54nm,4.5s						
NJ2	**Nanjing**	**82.98**	**55**	*e*P	**P**	**00 25 27.8**	**+1.6**
NJ2	**Nanjing**	**82.98**	**55**	pmax	pmax		
	comp=Z,6.0nm,0.5s						

DJA 24 00:18:25.9±0.9, 3.°S±9.°×12.°8E±.°, h27km±14km, M3.7/7, mb3.7/1, MLv3.7/7, MwMwp4.4/1, Mwp4.8/1, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NLAI	**Namlea**	**1.00**	**250**	P	Pb	00 18 45.2	+0.6
SANI	**Sanana**	**2.21**	**292**	P	Pn	00 18 59.2	-1.7
LBMI	**Labuha**	**2.30**	**346**	P	Pn	00 19 03.0	+0.9
FAKI	**Fak Fak**	**4.20**	**91**	P	Pn	00 19 28.6	+0.3
GTOI	**Gorontalo**	**6.13**	**305**	P	Pn	00 19 56.7	+2.0
	7.3nm,1.0s,0.1nm						

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*IDC **24** 00:22:59.5±1.9, 22.°22N×143.°21E, h213km±16km, mb3.5/14, mbtmp4.0/15, Error ellipse: s-maj=35.7km s-min=12.3km az=82.0*

ISC 24 00:22:57.8±1.1, 22.°1N±0.°1×143.°2E±0.°3, h200km, n15, σ0s93/18, mb3.8/13, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.03**	**350**	P	**Pn**	**00 24 12.9**	**+0.4**
	33nm,0.4s,baz=33,slow=22,SNR=6.2						
JCJ				S	**Sn**	**00 25 11.9**	**+0.4**
	35nm,0.3s,baz=298,slow=21,SNR=9.6						
KSRS	**Korea Array**	**20.18**	**323**	P	**P**	**00 27 18.3**	**+1.3**
	2.3nm,0.7s,baz=146,slow=9.5,SNR=8.8						
	2.3nm,0.7s						
USRK	**Ussuriysk Ar.**	**23.88**	**340**	P	**P**	**00 27 53.0**	**+0.1**
	1.0nm,0.7s,baz=146,slow=42,SNR=1.7						
	1.0nm,0.7s						
PETK	**Petropavlovsk-**	**32.85**	**16**	P	**P**	**00 29 13.5**	**+1.0**
	0.5nm,0.8s,baz=346,slow=41,SNR=1.2						
	0.5nm,0.8s						
SONM	**Songino Array**	**39.02**	**320**	P	**P**	**00 30 05.4**	**+0.3**
	1.1nm,0.5s,baz=128,slow=8.1,SNR=8.7						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**42.71**	**192**	P	**P**	**00 30 36.4**	**+1.1**
	1.0nm,0.5s,baz=8.8,slow=8.5,SNR=22						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**46.42**	**192**	P	**P**	**00 31 05.5**	**+0.9**
	0.5nm,0.6s,baz=14,slow=11,SNR=7.8						
	0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**53.88**	**321**	P	**P**	**00 31 59.9**	**-0.4**
	1.6nm,0.4s,baz=108,slow=8.0,SNR=10.0						
ZALV				PcP	**PcP**	**00 33 01.9**	**-1.2**
	0.4nm,0.4s,baz=225,slow=1.0,SNR=2.1						
	1.6nm,0.4s						
MKAR	**Makanchi Array**	**54.42**	**312**	P	**P**	**00 32 04.1**	**-0.1**
	0.7nm,0.7s,baz=88,slow=8.4,SNR=2.6						
MKAR				PcP	**PcP**	**00 33 04.8**	**-0.6**
	0.3nm,0.5s,baz=80,slow=4.0,SNR=5.0						
	0.7nm,0.7s						
KURBB	**Kurchatov Arra**	**57.22**	**317**	P	**P**	**00 32 23.7**	**-0.3**
	2.3nm,0.6s,baz=94,slow=7.6,SNR=22						
	2.3nm,0.6s						
BVAR	**Borovoye Array**	**62.35**	**319**	P	**P**	**00 32 58.7**	**-0.3**
	2.3nm,0.4s,baz=87,slow=6.7,SNR=22						
	2.3nm,0.4s						
ARCES	**ARCESS Array B**	**78.52**	**341**	P	**P**	**00 34 37.1**	**+0.6**
	1.9nm,0.7s,baz=74,slow=8.9,SNR=7.3						
	1.9nm,0.7s						
FINES	**FINESS Array B**	**82.80**	**334**	P	**P**	**00 34 58.6**	**-0.7**
	1.5nm,0.3s,baz=57,slow=4.8,SNR=29						
	1.5nm,0.3s						
HFS	**Hagfors**	**88.33**	**337**	P	**P**	**00 35 25.2**	**-1.3**
	0.6nm,0.5s,baz=28,slow=6.5,SNR=1.8						
	0.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**97.68**	**341**	P	**P**	**00 36 07.8**	**-1.8**
	0.2nm,0.4s,baz=44,slow=7.3,SNR=2.4						
	0.2nm,0.4s						

IDC 24 00:31:25.8±3.3, 17.°81S×179.°54E, h0km, mb4.1/4, mbtmp4.0/4, Error ellipse: s-maj=163.9km s-min=35.6km az=145.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.98**	**240**	P	P	00 38 38.6	+1.6
	1.0nm,0.4s,baz=108,slow=19,SNR=3.7						
	1.0nm,0.4s						
WRA	**Warramunga Arr**	**42.73**	**260**	P	P	00 39 25.1	0.0
	0.6nm,0.4s,baz=98,slow=7.5,SNR=13						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**42.94**	**254**	P	P	00 39 25.4	-1.4
	2.3nm,0.6s,baz=89,slow=8.7,SNR=19						
	2.3nm,0.6s						
YKA	**Yellowknife Ar**	**95.06**	**25**	P	P	00 44 50.1	-0.1
	0.5nm,0.7s,baz=244,slow=5.9,SNR=6.1						
	0.5nm,0.7s						

ISC 24 00:56:13.5±1.3, 13.°3N±0.°1×88.°05W±0.°03, h13km±8km, n10, σ0s63/13, El Salvador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCND	**La Caada**	**0.16**	**68**	*i* P	**Pg**	**00 56 17.5**	**+0.2**
LCND				*e*P		00 56 17.6	
LCND				*e*S	**Sg**	**00 56 19.8**	**-0.2**
JUCU	**Jucuarįn**	**0.20**	**272**	*e*P	**Pg**	**00 56 17.9**	**-0.1**
JUCU				*e*S	**Sg**	**00 56 21.1**	**+0.1**
CNCH	**Conchagua**	**0.21**	**82**	*e*P	**Pg**	**00 56 18.4**	**+0.3**
BLLM	**Bellamira**	**0.27**	**316**	*e*P	**Pb**	**00 56 19.6**	**-0.7**
PACA	**Pacayal**	**0.35**	**309**	*e*P	**Pb**	**00 56 20.7**	**-1.0**
AMPH	**Amapala**	**0.38**	**84**	*e*P	**Pb**	**00 56 21.4**	**-0.7**
AMPH				*e*S	**Sb**	**00 56 27.6**	**-0.4**
TECA	**Tecapa**	**0.51**	**299**	*e*P	**Pb**	**00 56 24.0**	**-0.5**
TECO	**Alcaldia de Te**	**0.77**	**292**	*e*S	**Sb**	**00 56 38.9**	**-0.4**
SCLA	**Alcaldia de Sa**	**0.80**	**304**	*e*P	**Pb**	**00 56 29.2**	**-0.2**
MTO3	**Montecristo**	**1.71**	**312**	*e*P	**Pn**	**00 56 44.4**	**+1.0**

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*IDC **24** 01:04:18.2±1.1, 32.°34S×178.°82W, h0km, mb4.0/4, mbtmp4.1/5, ML4.0/1, Error ellipse: s-maj=35.4km s-min=29.0km az=71.0*

*NEIC **24** 01:04:26.0±1.6, 32.°66S±0.°08×179.°0W±0.°2, h47km±3km, mb4.7/13, Error ellipse: s-maj=20.9km s-min=10.1km az=107.0*

ISC 24 01:04:24.5±0.8, 32.°61S±0.°09×179.°1W±0.°1, h35km, n34, σ1s11/29, mb4.5/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**3.50**	**17**	Pn	**Pn**	**01 05 18.1**	**+1.5**
MXZ	**Matakaoa Point**	**5.37**	**202**	Pn	**Pn**	**01 05 44.0**	**+1.8**
URZ	**Urewera**	**6.42**	**208**	Pn	**Pn**	**01 05 58.1**	**+1.6**
	2.8nm,0.3s,baz=351,slow=4.9,SNR=7.1						
URZ				Sn	**Sn**	**01 07 07.7**	**-0.8**
	5.8nm,0.3s,baz=35,slow=22,SNR=8.5						
	6.8nm,0.2s						
TOZ	**Tahuroa Road**	**6.75**	**219**	Pn	**Pn**	**01 06 02.0**	**+1.0**
RTZ	**Ruatahuna**	**6.78**	**207**	Pn	**Pn**	**01 06 01.8**	**+0.2**
BKZ	**Black Stump Fm**	**7.45**	**207**	Pn	**Pn**	**01 06 13.1**	**+2.3**
MRZ	**Mangatainoka R**	**9.09**	**206**	Pn	**Pn**	**01 06 33.8**	**+0.6**
CTAO	**Charters Tower**	**33.30**	**283**	P	**P**	**01 10 57.4**	**-1.6**
CTAO				IAmb	IAmb	01 11 10.5	
	comp=Z,28nm,1.4s						
ASAR	**Alice Springs**	**42.10**	**270**	P	**P**	**01 12 14.1**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=114,slow=7.8,SNR=7.7						
	comp=Z,0.5nm,0.4s						
WR0	**Warramunga Arr**	**43.11**	**275**	P	**P**	**01 12 22.4**	**+0.7**
WR0				IAmb	IAmb	01 12 28.0	
	comp=Z,16nm,1.5s						
WB2	**Warramunga Arr**	**43.28**	**275**	P	**P**	**01 12 23.6**	**+0.6**
WB2				IAmb	IAmb	01 12 33.9	
	comp=Z,12nm,1.5s						
WRA	**Warramunga Arr**	**43.29**	**275**	P	**P**	**01 12 22.4**	**-0.6**
WRA	**Warramunga Arr**	**43.29**	**275**	P	**P**	**01 12 23.6**	**+0.5**
	comp=Z,2.6nm,0.3s,baz=114,slow=8.0,SNR=22						
	com

CHMS	**Chumysh**	**9.08**	**26**	⇓P		Pn	01 35 10.8	-0.5	
	1.7nm,0.5s								
CHMS				⇑S		Sn	01 36 55.5	+1.2	
	4.4nm,0.8s								
TKM2	**Tokmak 2**	**9.35**	**30**	⇓P		Pn	01 35 13.8	-1.2	
	0.9nm,0.5s								
TKM2				⇓S		Sn	01 37 00.4	-0.6	
	2.3nm,1.1s								

IDC ***24*** *01:45:09.3±0.4, 12°.24S×71°.57W, h0km, mb4.5/15, mbtmp4.5/21, ML4.4/5, MS4.0/42, Error ellipse: s-maj=14.8km s-min=9.5km az=67.0*
VAO ***24*** *01:45:10.7±0.6, 12°.43S×71°.73W, h10km±3km, mb4.8*
NEIC ***24*** *01:45:12.6±1.2, 12°.31S±0°.06×71°.67W±0°.07, h17km±4km, mb4.9/302, Error ellipse: s-maj=10.5km s-min=8.1km az=64.0*
ISC 24 01:45:13.4±0.9,**12°.35S**±0°.04×**71°.68W**±0°.04,**h24**km±5km, **n605,** σ0°**95**/469,**mb4.9**/156,**MS4.0**/37,**5C**,**Central Peru**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	**Cruzeiro do Su**	**4.70**	**347**	Pn	**Pn**	**01 46 23.5**	**+0.7**
CZSB	**Cruzeiro do Su**	**4.70**	**347**	*eP*	**Pn**	**01 46 23.6**	**+0.7**
CZSB				*eS*	**Sn**	**01 47 18.0**	**+1.5**
I08BO	**LAS PENAS INFR**	**4.96**	**141**	Pg	**Pb**	**01 46 41.0**	**+1.1**
	baz=348,slow=24						
I08BO				Lg	Lg	01 47 49.6	
	baz=2.1,slow=28						
NNA	**Nana**	**5.06**	**273**		**Pn**	**01 46 28.6**	**+0.7**
NNA	**Nana**	**5.06**	**273**	Pn	**Pn**	**01 46 28.8**	**+0.9**
	36nm,0.3s,baz=102,slow=9.3,SNR=55						
NNA				Sn	**Sn**	**01 47 30.0**	**+4.3**
	88nm,0.3s,baz=311,slow=22,SNR=5.8						
NNA				LR	LR	01 48 47.4	
	comp=Z,3μm,19.5s,baz=80,slow=42 87nm,0.4s						
LPAZ	**La Paz**	**5.21**	**139**	Pn	**Pn**	**01 46 33.0**	**+2.5**
	4.6nm,0.3s,baz=331,slow=11,SNR=72						
LPAZ				Lg	Lg	01 47 55.0	
	42nm,0.3s,baz=330,slow=4.5,SNR=3.5						
LPAZ				LR	LR	01 49 07.5	
	comp=Z,1μm,20.5s,baz=318,slow=46						
LPAZ	**La Paz**	**5.21**	**139**	*eP*	**Pn**	**01 46 28.4**	**-2.0**
PB18	**Visviri**	**5.63**	**158**		**Pn**	**01 46 36.9**	**+0.8**
ETMB	**Extrema**	**5.92**	**65**	Pn	**Pn**	**01 46 41.4**	**+1.7**
ETMB	**Extrema**	**5.92**	**65**	*eP*	**Pn**	**01 46 40.6**	**+0.9**
PB12	**IPOC Station P**	**6.37**	**168**		**Pn**	**01 46 46.0**	**+0.1**
PB11	**IPOC Station P**	**7.62**	**165**	Pn	**Pn**	**01 47 04.3**	**+1.1**
GO01	**Chusmiza**	**7.66**	**162**	Pn	**Pn**	**01 47 06.6**	**+2.6**
TA02	**Huaiquique**	**8.02**	**170**		**Pn**	**01 47 08.7**	**+0.2**
HMBC	**Humberstone**	**8.07**	**168**		**Pn**	**01 47 08.8**	**-0.5**
PB08	**IPOC Station P**	**8.12**	**163**		**Pn**	**01 47 11.5**	**+1.3**
TBTG	**Tabatinga, AM**	**8.29**	**12**	Pn	**Pn**	**01 47 12.5**	**+0.3**
TBTG	**Tabatinga, AM**	**8.29**	**12**	*eP*	**Pn**	**01 47 12.6**	**+0.4**
TBTG				*eS*	**Sn**	**01 48 45.8**	**+0.6**
TA01	**Diego Aracena**	**8.30**	**170**	Pn	**Pn**	**01 47 12.1**	**-0.2**
ATAH	**Atahualpa**	**8.40**	**307**	Pn	**Pn**	**01 47 14.8**	**+0.7**
	2.9nm,0.3s,baz=111,slow=5.4,SNR=15						
ATAH				Sn	**Sn**	**01 48 51.1**	**+2.6**
	baz=113,slow=20						
ATAH				LR	LR	01 50 19.7	
	comp=Z,263nm,18.8s,baz=131,slow=37 19nm,0.6s						
PATCX	**Punta Patache**	**8.55**	**170**	Pn	**Pn**	**01 47 15.1**	**-0.8**
SAML	**Samuel**	**9.01**	**69**	Pn	**Pn**	**01 47 21.9**	**-0.2**
SAML	**Samuel**	**9.01**	**69**	*eP*	**Pn**	**01 47 21.8**	**-0.2**
SAML				*eS*	**Sn**	**01 49 06.1**	**+3.4**
PB09	**IPOC Station P**	**9.68**	**166**		**Pn**	**01 47 32.1**	**+0.7**
LVC	**Limon Verde**	**10.54**	**166**	Pn	**Pn**	**01 47 43.4**	**0.0**
LVC	**Limon Verde**	**10.54**	**166**	Pn	**Pn**	**01 47 43.2**	**-0.2**
	0.9nm,0.3s,baz=324,slow=7.7,SNR=13						
LVC				Sn	**Sn**	**01 49 42.2**	**+1.2**
	0.4nm,0.3s,baz=154,slow=20,SNR=1.2						
LVC				LR	LR	01 51 37.2	
	comp=Z,276nm,20.3s,baz=320,slow=36 8.4nm,0.6s						
LVC	**Limon Verde**	**10.54**	**166**	*eP*	**Pn**	**01 47 41.7**	**-1.7**
LVC				*eS*	**Sn**	**01 49 37.3**	**-3.7**
SIV	**San Ignacio**	**10.90**	**111**	Pn	**Pn**	**01 47 47.6**	**-0.4**
	0.6nm,0.3s,baz=290,slow=12,SNR=117						
SIV				Sn	**Sn**	**01 49 49.9**	**+0.5**
	1.0nm,0.3s,baz=254,slow=22,SNR=2.1						
SIV				Lg	Lg	01 50 54.1	
	2.5nm,0.3s,baz=218,slow=19,SNR=3.5						
SIV				LR	LR	01 52 31.0	
	comp=Z,942nm,20.4s,baz=302,slow=41 21nm,0.5s						
PB15	**IPOC Station P**	**11.01**	**169**		**Pn**	**01 47 49.8**	**+0.2**
TEFE	**Tefe**	**11.21**	**39**	*eP*	**Pn**	**01 47 52.4**	**+0.2**
TEFE				*eS*	**Sn**	**01 50 00.9**	**+4.0**
VILB	**Vilhena**	**11.22**	**94**	Pn	**Pn**	**01 47 51.8**	**-0.6**
VILB	**Vilhena**	**11.22**	**94**	*eP*	**Pn**	**01 47 51.5**	**-0.9**
VILB				*eS*	**Sn**	**01 49 59.8**	**+2.7**
BBSD	**Serra de San D**	**11.74**	**116**	*eP*	**Pn**	**01 47 59.1**	**-0.3**
BBSD				*eS*	**Sn**	**01 50 10.3**	**+0.5**
ARNL	**Arenillas**	**12.05**	**316**		**Pn**	**01 48 02.6**	**-1.2**
PTLB	**Pontes e Lacer**	**12.56**	**106**	Pn	**Pn**	**01 48 09.0**	**-1.7**
PTLB	**Pontes e Lacer**	**12.56**	**106**	*eP*	**Pn**	**01 48 08.6**	**-2.1**
PTLB				*eS*	**Sn**	**01 50 31.7**	**+1.8**
BBRB	**Robore, Bolivi**	**12.88**	**119**	*eP*	**Pn**	**01 48 14.2**	**-0.9**
BBRB				*eS*	**Sn**	**01 50 38.2**	**+0.5**
CHSH	**Refugio Sur-Vo**	**12.93**	**326**		**Pn**	**01 48 15.3**	**-0.9**
SLOR	**San Lorenzo -**	**13.38**	**329**		**Pn**	**01 48 20.6**	**-1.6**
PULU	**Pululahua**	**14.03**	**331**	Pn	**Pn**	**01 48 28.9**	**-2.2**
IMBA	**Imbabura, San**	**14.11**	**332**	Pn	**Pn**	**01 48 31.4**	**-0.9**
MACA	**Manacapuru-AM**	**14.20**	**51**	Pn	**Pn**	**01 48 30.9**	**-2.2**
MACA	**Manacapuru-AM**	**14.20**	**51**	*eP*	**Pn**	**01 48 30.3**	**-2.9**
TULM	**Tulcn-Chalpat**	**14.32**	**335**	Pn	**Pn**	**01 48 34.4**	**-0.8**
PDRB	**Porto dos Gac**	**14.64**	**89**	*eP*	**Pn**	**01 48 36.6**	**-2.6**
CLDB	**Colider**	**15.63**	**86**	*eP*	**Pn**	**01 48 51.9**	**-0.3**
SALV	**Santo Antonio**	**15.90**	**105**	*eP*	**Pn**	**01 48 53.4**	**-2.3**
MURT	**Porto Murtinho**	**16.32**	**126**	*eP*	**Pn**	**01 48 57.6**	**-3.5**
BDQN	**Bodoquena, MS**	**16.42**	**121**	*eP*	**Pn**	**01 49 01.9**	**-0.5**
AC05	**El Transito**	**16.46**	**176**	Pn	**Pn**	**01 49 02.6**	**-0.3**
LCO	**Las Campanas**	**16.61**	**177**	Pn	**Pn**	**01 49 05.0**	**+0.1**
ROSC	**El Rosal**	**17.27**	**351**		**Pn**	**01 49 12.8**	**-0.8**
ROSC	**El Rosal**	**17.27**	**351**	P	**Pn**	**01 49 12.3**	**-1.2**
	8.3nm,0.5s,baz=187,slow=11,SNR=4.7						
ROSC				S	**Sn**	**01 52 24.9**	**-0.4**
	11nm,0.5s,baz=91,slow=23,SNR=1.4						
ROSC				Lg	Lg	01 54 16.4	
	2.7nm,0.3s,baz=329,slow=15,SNR=6.1						
ROSC				LR	LR	01 56 13.8	
	comp=Z,1μm,19.9s,baz=220,slow=39						
AQDB	**Aquidauana**	**17.32**	**120**	Pn	**Pn**	**01 49 13.1**	**-0.6**
TICA	**Tres Isletas**	**17.55**	**144**	*eP*	**Pn**	**01 49 15.6**	**-0.9**
CO01	**Juntas del Tor**	**17.61**	**175**		**P**	**01 49 17.7**	**-0.6**
ITTB	**Itaituba**	**17.64**	**65**	*eP*	**Pn**	**01 49 14.7**	**-3.0**
BOAV	**Boa Vista**	**18.37**	**38**	P	**P**	**01 49 25.2**	**-1.3**
BOAV	**Boa Vista**	**18.37**	**38**	*eP*	**Pn**	**01 49 26.4**	**-0.2**
CO03	**El Pedregal**	**18.43**	**177**	P	**Pn**	**01 49 27.9**	**+0.5**
CO02	**Combarbal**	**18.78**	**178**	P	**P**	**01 49 30.8**	**-0.3**
CO02				IAmb	IAmb	01 49 34.8	
	comp=Z,123nm,1.8s						
ZON	**Zonda**	**19.31**	**172**		**P**	**01 49 36.6**	**-0.3**
CPUP	**Villa Florida**	**19.39**	**138**	P	**P**	**01 49 35.8**	**-1.8**
CPUP	**Villa Florida**	**19.39**	**138**	P	**P**	**01 49 37.4**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=311,slow=10.0,SNR=11 comp=Z,7.2nm,0.7s						
ARAG	**Araguaiana, MT**	**19.56**	**102**	*eP*	**Pn**	**01 49 40.8**	**-0.2**
SNDB	**Serra Nova Dou**	**19.93**	**91**	*eP*	**Pn**	**01 49 44.9**	**-0.6**
VA03	**San Esteban**	**20.35**	**177**	P	**P**	**01 49 47.7**	**-0.5**
PEL	**Peldehue**	**20.72**	**178**	P	**P**	**01 49 50.9**	**-1.3**
MT02	**Curacav**	**20.82**	**179**	P	**P**	**01 49 53.2**	**0.0**
MT08	**Bocatoma Ro**	**21.06**	**176**	P	**P**	**01 49 55.6**	**-0.4**
MT08				IAmb	IAmb	01 50 02.3	
	comp=Z,36nm,0.8s						
SDV	**Santo Domingo**	**21.12**	**3**	P	**P**	**01 49 54.4**	**-2.4**
SDV				IAmb	IAmb	01 50 01.1	
	comp=Z,35nm,0.9s						
SDV	**Santo Domingo**	**21.12**	**3**	P	**P**	**01 49 55.8**	**-0.9**
	comp=Z,26nm,0.8s,baz=193,slow=9.8,SNR=14						
SDV				S	**S**	**01 53 51.2**	**+0.4**
	comp=Z,7.3nm,0.8s,baz=223,slow=15,SNR=1.7						
SDV				Lg	Lg	01 56 17.1	
	comp=Z,1.2nm,0.3s,baz=89,slow=20,SNR=3.1						
SDV				LR	LR	01 58 28.9	
	comp=Z,282nm,21.7s,baz=194,slow=38 comp=Z,26nm,0.8s						
SDV	**Santo Domingo**	**21.12**	**3**	*eP*	**P**	**01 49 58.1**	**+1.3**
MT13	**San Alfonso**	**21.34**	**177**	P	**P**	**01 49 58.1**	**-0.8**
MT09	**Talagante**	**21.34**	**178**	P	**P**	**01 49 58.7**	**-0.3**
MT09				IAmb	IAmb	01 50 03.4	
	comp=Z,47nm,1.1s						
MT01	**Popeta**	**21.42**	**179**	P	**P**	**01 50 00.1**	**+0.4**
LMEL	**Las Melosas**	**21.45**	**177**	P	**P**	**01 50 00.6**	**+0.5**
BAUV	**El Baul**	**21.46**	**10**	P	**P**	**01 50 00.1**	**0.0**
BO04	**La Punta**	**21.57**	**178**	P	**P**	**01 50 01.2**	**-0.1**
BO04				IAmb	IAmb	01 50 18.2	
	comp=Z,31nm,0.8s						
PCMB	**Pacaembu**	**21.57**	**118**	*eP*	**P**	**01 50 02.6**	**+1.2**
ITRB	**Iturama**	**21.74**	**112**	*eP*	**P**	**01 50 04.7**	**+1.4**
BO01	**Tunca**	**21.95**	**179**	P	**P**	**01 50 05.6**	**+0.2**
BO01				IAmb	IAmb	01 50 09.0	
	comp=Z,50nm,1.1s						
VA04	**Juan Fernndez**	**22.18**	**196**	P	**P**	**01 50 08.2**	**+0.3**
ITQB	**Itaqui**	**22.20**	**143**	P	**P**	**01 50 06.8**	**-1.2**
ITQB				IAmb	IAmb	01 50 09.9	
	comp=Z,72nm,1.3s						
ITQB	**Itaqui**	**22.20**	**143**	*eP*	**P**	**01 50 06.9**	**-1.2**
PTGB	**Pitanga**	**22.26**	**126**	*eP*	**P**	**01 50 08.2**	**-0.7**
CRSM	**Crissiumal (Br**	**22.36**	**135**	*eP*	**P**	**01 50 07.8**	**-2.1**
BO02	**Sierra Bellavi**	**22.36**	**178**	P	**P**	**01 50 09.5**	**-0.4**
LDASE	**Londrina, Braz**	**22.41**	**122**	*eP*	**P**	**01 50 10.3**	**-0.1**
PRPB	**Parauapebas**	**22.42**	**76**	*eP*	**P**	**01 50 10.1**	**-0.5**
GO05	**Huala**	**22.56**	**181**	P	**P**	**01 50 12.9**	**+1.0**
UNIS	**Unistalda (Bra**	**22.71**	**140**	*eP*	**P**	**01 50 12.3**	**-1.3**
PSAL	**Palomas, Salto**	**22.73**	**147**	*eP*	**P**	**01 50 12.3**	**-1.4**
MCPB	**Macapa, AP**	**22.82**	**60**	*eP*	**P**	**01 50 15.3**	**+0.5**
BDFB	**Brasilia**	**23.19**	**101**	P	**P**	**01 50 18.6**	**-0.1**
BDFB	**Brasilia**	**23.19**	**101**	P	**P**	**01 50 18.7**	**-0.1**
	comp=Z,4.8nm,0.9s,baz=275,slow=15,SNR=8.1						
BDFB				Lg	Lg	01 57 22.9	
	comp=Z,0.4nm,0.3s,baz=12,slow=25,SNR=3.9						
BDFB				LR	LR	01 59 56.5	
	comp=Z,923nm,19.9s,baz=293,slow=38 comp=Z,4.8nm,0.9s						
IPMB	**Ipameri, GO**	**23.32**	**107**	*eP*	**P**	**01 50 18.6**	**-1.4**
IPMB				*eS*	**S**	**01 54 33.5**	**+2.0**
PCRV	**Puerto La Cruz**	**23.44**	**18**	LR	LR	02 00 20.8	
	comp=Z,1μm,19.7s,slow=39						
RODS	**Rosario do Sul**	**23.54**	**142**	*eP*	**P**	**01 50 20.1**	**-1.8**
RODS				*eS*	**S**	**01 54 35.8**	**+1.3**
ITAB	**Concordia**	**23.56**	**132**	P	**P**	**01 50 22.1**	**-0.1**
ITAB	**Concordia**	**23.56**	**132**	*eP*	**P**	**01 50 20.7**	**-1.5**
BB19B	**Bebedouro**	**23.78**	**114**	*eP*	**P**	**01 50 23.5**	**-0.9**
ALGR	**Alto Alegre (B**	**23.88**	**136**	*eP*	**P**	**01 50 23.3**	**-2.0**
SMTB	**Santa Maria do**	**23.93**	**84**	*eP*	**P**	**01 50 26.6**	**+0.8**
SMTB				*eS*	**S**	**01 54 43.8**	**+2.6**
TBOT	**Tacuaremb**	**24.09**	**145**	*eP*	**P**	**01 50 25.8**	**-1.3**
TBOT				*eS*	**S**	**01 54 44.5**	**+1.1**
SRBA	**San Rafael, Bu**	**24.38**	**331**	P	**P**	**01 50 30.9**	**+0.9**
CPSB	**Cacapava Do Su**	**24.66**	**140**	*eP*	**P**	**01 50 31.9**	**-0.5**
LCR2	**La Lucha 2**	**25.13**	**330**	P	**P**	**01 50 36.8**	**-0.1**
LCR2				IAmb	IAmb	01 50 51.7	
	comp=Z,31nm,1.1s						
TMAB	**Tom-Au,PA,Br**	**25.37**	**69**	*eP*	**P**	**01 50 40.9**	**+2.0**
PLTB	**Pedras Altas**	**25.50**	**142**	P	**P**	**01 50 38.8**	**-1.2**
PLTB				IAmb	IAmb	01 50 40.0	
	comp=Z,30nm,1.0s						
PLTB	**Pedras Altas**	**25.50**	**142**	*eP*	**P**	**01 50 39.2**	**-0.8**
JTS	**Las Juntas de**	**26.07**	**329**	LR	LR	02 01 32.5	
	comp=Z,187nm,18.8s,baz=149,slow=38						
SDBA	**SAO DESIDERIO**	**26.15**	**93**	*eP*	**P**	**01 50 44.7**	**-1.4**
JANB	**Januaria**	**26.72**	**99**	*eP*	**P**	**01 50 51.8**	**+0.5**
GO06	**Curarehue**	**27.13**	**180**	P	**P**	**01 50 54.7**	**-0.1**
LR05	**Currie**	**27.78**	**181**	P	**P**	**01 50 60.0**	**-0.4**
PLCA	**Paso Flores**	**28.29**	**178**	P	**P**	**01 51 05.5**	**+0.4**
PLCA	**Paso Flores**	**28.29**	**178**	P	**P**	**01 51 05.3**	**+0.2**
	comp=Z,4.5nm,0.9s,baz=354,slow=12,SNR=10 comp=Z,4.5nm,0.9s						
PLCA	**Paso Flores**	**28.29**	**178**	*eP*	**P**	**01 51 05.0**	**-0.1**
LL04	**Puerto Octay**	**28.46**	**181**	P	**P**	**01 51 06.3**	**-0.2**
LL01	**San Ignacio de**	**29.93**	**181**	P	**P**	**01 51 19.3**	**-0.2**
LL02	**Futaleuf**	**30.73**	**180**	P	**P**	**01 51 26.3**	**-0.3**
NBPB	**Pedra_Branca-C**	**32.39**	**81**	*eP*	**P**	**01 51 42.7**	**+1.1**
COYC	**Coyhaique**	**33.12**	**181**	P	**P**	**01 51 47.1**	**-0.3**
COYC				IAmb	IAmb	01 51 48.5	
	comp=Z,15nm,0.9s						
NBAN	**Anadia - AL**	**34.84**	**89**	*eP*	**P**	**01 52 03.4**	**+0.5**
RCBR	**Riachuelo**	**35.89**	**83**	LR	LR	02 07 58.2	
	comp=Z,176nm,19.5s,baz=157,slow=38						
CMIG	**Matias Romero**	**37.16**	**321**	LR	LR	02 06 01.0	
	comp=Z,136nm,20.9s,baz=176,slow=34						
BRAL	**Brewton**	**45.71**	**341**	P	**P**	**01 53 32.4**	**-0.2**
	baz=159						
GOGA	**Godfrey**	**46.87**	**346**	P	**P**	**01 53 42.2**	**+0.5**
	baz=164						
HBVL	**Hebbronville**	**47.13**	**326**	P	**P**	**01 53 44.0**	**+0.2**
LRAL	**Lakeview Retre**	**47.44**	**342**	P	**P**	**01 53 45.6**	**-0.5**
	baz=160						
KMSC	**Kings Mountain**	**48.11**	**349**	P	**P**	**01 53 51.5**	**+0.2**
	baz=167						
833A	**Chaparral WMA,**	**48.52**	**327**	P	**P**	**01 53 54.4**	**-0.2**
833A	**Chaparral WMA,**	**48.52**	**327**	P	**P**	**01 53 54.3**	**-0.2**
	baz=143						
TKL	**Tuckaleechee C**	**49.09**	**347**	LR	LR	02 17 56.7	
	comp=Z,89nm,18.2s,baz=166,slow=40						
V52A	**Sevierville**	**49.23**	**347**	P	**P**	**01 53 59.5**	**-0.5**
V52A				IAmb	IAmb	01 54 11.9	
	comp=Z,8.4nm,0.8s						
HNDO	**Hondo**	**49.42**	**328**	P	**P**	**01 54 01.9**	**+0.4**
237A	**Washetta, Mont**	**49.79**	**333**	P	**P**	**01 54 03.7**	**-0.5**
TZTN	**Tazewell**	**49.90**	**347**	P	**P**	**01 54 04.2**	**-0.8**
	baz=165						
DRIO	**Del Rio**	**50.04**	**327**	P	**P**	**01 54 06.2**	**-0.1**
DRIO				IAmb	IAmb	01 54 06.7	
	comp=Z,18nm,0.9s						
JCT	**Junction City**	**50.45**	**328**	P	**P**	**01 54 08.6**	**-0.7**
	baz=143						
TREL	**Terrell**	**50.53**	**333**	P	**P**	**01 54 09.5**	**-0.4**
WHTX	**Lake Whitney,**	**50.53**	**331**	P	**P**	**01 54 10.0**	**+0.1**
WHTX	**Lake Whitney,**	**50.53**	**331**	P	**P**	**01 54 09.7**	**-0.2**
	baz=147,SNR=5.2						
BRDY	**Brady**	**50.69**	**329**	P	**P**	**01 54 10.7**	**-0.5**
FW13	**Cleburne**	**50.82**	**332**	P	**P**	**01 54 11.7**	**-0.4**
FW13				IAmb	IAmb	01 54 12.8	
	comp=Z,16nm,0.8s						
MIAR	**Mount Ida**	**51.06**	**337**	P	**P**	**01 54 12.4**	**-1.4**
MIAR	**Mount Ida**	**51.06**	**337**	P	**P**	**01 54 13.3**	**-0.5**
	baz=152						
WHAR	**Wooly Hollow**	**51.24**	**338**	P	**P**	**01 54 14.2**	**-1.0**
FW07	**Weatherford**	**51.27**	**332**	P	**P**	**01 54 15.9**	**+0.4**
FW06	**Azle**	**51.39**	**332**	P	**P**	**01 54 15.9**	**-0.5**
FW06				IAmb	IAmb	01 54 17.5	
	comp=Z,26nm,0.9s						
OZNA	**Ozona**	**51.49**	**327**	P	**P**	**01 54 16.6**	**-0.6**
OZNA				IAmb	IAmb	01 54 17.6	
	comp=Z,14nm,0.7s						
Z35A	**Perchaven, San**	**51.56**	**333**	P	**P**	**01 54 17.2**	**-0.4**
PLPT	**Palo Pinto**	**51.61**	**331**	P	**P**	**01 54 16.4**	**-1.7**
PLPT				IAmb	IAmb	01 54 20.1	
	comp=Z,14nm,0.8s						
TXAR	**Lajitas Array**	**51.67**	**324**	P	**P**	**01 54 17.7**	**-1.0**
TXAR	**Lajitas Array**	**51.67**	**324**	P	**P**	**01 54 18.3**	**-0.3**
	comp=Z,2.8nm,0.7s,baz=149,slow=8.9,SNR=34						
TXAR				PcP	**PcP**	**01 55 32.2**	**+0.1**
	comp=Z,1.6nm,0.6s,baz=153,slow=6.1,SNR=4.2						
TXAR				ScP	**ScP**	**01 59 28.7**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=135,slow=4.3,SNR=3.5						
TXAR				LR	LR	02 15 42.2	
	comp=Z,43nm,19.2s,baz=131,slow=36 comp=Z,2.8nm,0.7s						
FW03	**Perrin-Whitt E**	**51.68**	**332**	IAmb	IAmb	01 54 20.6	
	comp=Z,18nm,0.7s						
FCAR	**Ozark Folk Cen**	**51.72**	**339**	P	**P**	**01 54 17.0**	**-1.7**
FCAR				PcP	**PcP**	**01 55 30.9**	**-1.0**
X37A	**Clayton**	**51.82**	**335**	IAmb	IAmb	01 54 27.9	
	comp=Z,20nm,0.9s						
PBMO	**Poplar Bluff**	**51.96**	**341**	P	**P**	**01 54 18.5**	**-2.0**
PBMO				PcP	**PcP**	**01 55 32.1**	**-0.7**
PBMO				IAmb	IAmb	01 55 32.8	
	comp=Z,8.4nm,0.8s						
ABTX	**Abilene, Hawle**	**52.10**	**330**	P	**P**	**01 54 21.6**	**-0.1**
	baz=145,SNR=17						
WCI	**Wyandotte Cave**	**52.14**	**345**	P	**P**	**01 54 21.4**	**-0.4**
	baz=162						
S44A	**Carbondale**	**52.44**	**342**	IAmb	IAmb	01 54 23.7	
	comp=Z,9.8nm,0.6s						
SIUC	**Southern Illin**	**52.45**	**342**	IAmb	IAmb	01 54 35.7	
	comp=Z,11nm,0.8s						
MNHN	**Monahans**	**52.69**	**326**	IAmb	IAmb	01 54 26.8	
	comp=Z,15nm,1.1s						
APMT	**Aspermont**	**52.90**	**330**	IAmb	IAmb	01 54 28.4	
	comp=Z,24nm,0.8s						
MGMO	**Mountain Grove**	**52.91**	**339**	IAmb	IAmb	01 54 27.1	
	comp=Z,12nm,0.8s						
SN05	**Snyder 5**	**52.92**	**329**	IAmb	IAmb	01 54 28.6	
	comp=Z,14nm,1.1s						
RLO	**Rose Lookout**	**53.05**	**336**	IAmb	IAmb	01 54 40.0	
	comp=Z,16nm,1.0s						
FVM	**French Village**	**53.06**	**341**	IAmb	IAmb	01 54 40.6	
	comp=Z,9.0nm,0.7s						
SN07	**Snyder 07**	**53.09**	**329**	IAmb	IAmb	01 54 29.5	
	comp=Z,13nm,0.8s						
TUL3	**Leonard**	**53.13**	**336**	IAmb	IAmb	01 54 37.1	
	comp=Z,18nm,0.8s						
TUL3	**Leonard**	**53.13**	**336**	P	**P**	**01 54 28.4**	**-0.8**
	baz=150						
ODSA	**Odessa**	**53.18**	**327**	IAmb	IAmb	01 54 29.9	
	comp=Z,21nm,1.1s						
ACSO	**Alum Creek Sta**	**53.35**	**349**	P	**P**	**01 54 30.6**	**-0.2**
	baz=166						
POST	**Post**	**53.38**	**329**	IAmb	IAmb	01 54 32.2	
	comp=Z,32nm,1.1s						
CCM	**Cathedral Cave**	**53.38**	**341**	P	**P**	**01 54 30.1**	**-1.0**
	baz=156						
WMOK	**Wichita Mounta**	**53.42**	**332**	P	**P**	**01 54 30.5**	**-0.9**
	baz=146,SNR=9.6						
VHRN	**Van Horn**	**53.52**	**324**	IAmb	IAmb	01 54 32.8	
	comp=Z,13nm,1.2s						
DKNS	**Dickens**	**53.57**	**330**	IAmb	IAmb	01 54 33.1	
	comp=Z,20nm,0.8s						
S39A	**Bolivar**	**53.76**	**339**	IAmb	IAmb	01 54 33.2	
	comp=Z,10nm,0.7s						
R40A	**Maddies Static**	**53.93**	**340**	IAmb	IAmb	01 54 34.1	
	comp=Z,7.9nm,0.6s						
M53A	**WI Miller and**	**54.16**	**352**	P	**P**	**01 54 35.6**	**-1.1**
	baz=169						
T35A	**Sooner Cattle**	**54.29**	**336**	IAmb	IAmb	01 54 46.8	
	comp=Z,18nm,0.9s						
P43A	**Skaggs, Pawnee**	**54.32**	**343**	IAmb	IAmb	01 54 37.5	
	comp=Z,16nm,0.7s						
BINY	**Binghamton**	**54.42**	**356**	P	**P**	**01 54 38.6**	**+0.1**
	baz=175						
MNTX	**Cornudas Mount**	**54.42**	**324**	P	**P**	**01 54 38.0**	**-0.8**
	baz=138						
ELIS	**Ellis County**	**54.81**	**333**	IAmb	IAmb	01 54 42.5	
	comp=Z,20nm,0.9s						
OK032	**Salt Plains WL**	**54.90**	**334**	IAmb	IAmb	01 54 50.5	
	comp=Z,21nm,0.8s						
HDIL	**Hopedale**	**55.11**	**344**	P	**P**	**01 54 42.3**	**-1.2**
	baz=159						
N41A	**Harden Midland**	**55.69**	**342**	IAmb	IAmb	01 54 56.4	
	comp=Z,14nm,1.0s						
KSU1	**Kansas State U**	**56.22**	**337**	IAmb	IAmb	01 54 52.2	
	comp=Z,14nm,0.6s						
KSU1	**Kansas State U**	**56.22**	**337**	P	**P**	**01 54 50.9**	**-0.6**
	baz=150						
121A	**Cooks Peak, D**	**56.41**	**323**	P	**P**	**01 54 53.2**	**-0.1**
	baz=136						
R32A	**Long Quarter,**	**56.48**	**335**	P	**P**	**01 54 53.0**	**-0.6**
319A	**Douglas**	**56.49**	**321**	P	**P**	**01 54 53.3**	**-0.5**
319A				IAmb	IAmb	01 55 59.3	
	comp=Z,10nm,1.0s						
LONY	**Lake Ozonia**	**56.76**	**358**	P	**P**	**01 54 55.5**	**+0.2**
	baz=177						
L40A	**Anamosa**	**57.05**	**343**	IAmb	IAmb	01 55 06.2	
	comp=Z,32nm,1.4s						
CBKS	**Cedar Bluff**	**57.24**	**334**	P	**P**	**01 54 58.6**	**-0.3**
CBKS	**Cedar Bluff**	**57.24**	**334**	P	**P**	**01 54 59

CCUT **Cedar City** 63.19 324 IAmb IAmb 01 55 41.8
comp=Z,7,8nm,1.0s
HEC **Hector,Ludlow** 63.19 320 P **P** **01 55 40.6 +0.8**
baz=130
RDMU **Red Mountain** 63.27 328 IAmb IAmb 01 55 41.1
comp=Z,12nm,0.9s
TUQ **Turquoise Moun** 63.32 320 P **P** **01 55 41.2 +0.4**
baz=130
K22A **Casper** 63.37 332 IAmb IAmb 01 55 41.7
comp=Z,7,8nm,0.8s
K22A **Casper** 63.37 332 P **P** **01 55 41.2 +0.2**
baz=141,SNR=5.2
RSSD **Black Hills** 63.44 334 P **P** **01 55 40.9 -0.6**
RSSD **Black Hills** 63.44 334 P **P** **01 55 42.4 +1.0**
baz=144
SCI2 **San Clemente I** 63.48 317 P **P** **01 55 41.3 -0.4**
baz=127
B35A **Bob, Littlefor** 63.53 344 IAmb IAmb 01 55 40.9
comp=Z,6.2nm,0.6s
GSC **Goldstone, Bar** 63.79 320 P **P** **01 55 43.6 -0.1**
GSC **Goldstone, Bar** 63.79 320 P **P** **01 55 44.2 +0.5**
baz=130
BSUT **Blindstream Ca** 63.86 328 IAmb IAmb 01 55 45.6
comp=Z,11nm,1.2s
AGMN **Agassiz Nation** 64.08 342 P **P** **01 55 44.1 -1.2**
baz=154,SNR=8.3
PSUT **Pine Spring** 64.14 324 IAmb IAmb 01 55 54.8
comp=Z,6.4nm,0.9s
EDW2 **Edwards Air Fo** 64.28 319 P **P** **01 55 46.3 -0.7**
baz=128
FURC **Furnace Creek,** 64.57 321 P **P** **01 55 49.1 +0.4**
baz=130
WCT **Wildcat Mounta** 64.63 321 IAmb IAmb 01 55 51.0
comp=Z,12nm,1.3s
MPMC **Manual Prospec** 64.70 320 P **P** **01 55 49.5 -0.3**
baz=129
DUG **Dugway, Tooele** 64.71 326 IAmb IAmb 01 55 51.2
comp=Z,11nm,1.0s
DUG **Dugway, Tooele** 64.71 326 P **P** **01 55 49.6 -0.2**
baz=135,SNR=9.1
MDND **Maddock** 64.88 340 P **P** **01 55 50.9 +0.4**
baz=150
PDAR **Pinedale Array** 64.90 330 P **P** **01 55 50.6 -0.5**
PDAR **Pinedale Array** 64.90 330 P **P** **01 55 50.5 -0.6**
comp=Z,1.4nm,0.6s,baz=131,slow=6.7,SNR=14
comp=Z,1.4nm,0.6s
ARVC **Arvin** 64.97 318 P **P** **01 55 51.9 +0.5**
baz=128
R11B **Troy Canyon, C** 65.02 323 IAmb IAmb 01 55 53.6
comp=Z,8.9nm,1.1s
R11B **Troy Canyon, C** 65.02 323 P **P** **01 55 52.6 +0.7**
baz=132,SNR=14
HWUT **Hardware Ranch** 65.05 328 IAmb IAmb 01 55 52.6
comp=Z,8.7nm,1.1s
GRAC **Grapevine Rang** 65.21 321 P **P** **01 55 53.4 +0.4**
baz=130
CWC **Cottonwood Cre** 65.31 320 P **P** **01 55 54.3 +0.5**
baz=129
BGU **Big Grassy Mou** 65.34 327 IAmb IAmb 01 55 54.7
comp=Z,9.9nm,1.2s
PKM **Mcpherson Peak** 65.47 318 P **P** **01 55 55.0 +0.1**
baz=127
VES **Vestal, Richgr** 65.58 319 P **P** **01 55 55.8 +0.6**
baz=128
AHID **Auburn Hatcher** 65.66 329 IAmb IAmb 01 55 56.3
comp=Z,5.4nm,0.8s
DSP **Deep Springs** 65.82 321 IAmb IAmb 01 55 59.2
comp=Z,6.8nm,1.0s
SMMC **Simmler** 65.85 318 P **P** **01 55 57.5 +0.3**
baz=127
SNOW **Snow King Moun** 66.00 330 IAmb IAmb 01 55 58.9
comp=Z,4.6nm,0.7s
IMW **Indian Meadow** 66.41 330 IAmb IAmb 01 56 01.8
comp=Z,9.3nm,1.1s
FLWY **Flagg Ranch** 66.43 330 IAmb IAmb 01 56 02.2
comp=Z,17nm,1.1s
NVAR **Mina Array Bea** 66.70 322 P **P** **01 56 03.4 +0.6**
comp=Z,1.9nm,0.9s,baz=140,slow=7.0,SNR=11
NVAR PcP **PcP** **01 56 31.4 -0.3**
comp=Z,1.9nm,0.7s,baz=145,slow=5.7,SNR=6.4
NVAR LR LR 02 23 57.2
comp=Z,98nm,18.3s,baz=153,slow=35
comp=Z,1.9nm,0.9s
YHH **Holmes Hill** 67.03 331 P **P** **01 56 04.7 -0.1**
SCHQ **Schefferville** 67.04 3 LR LR 02 27 16.8
comp=Z,74nm,20.1s,baz=224,slow=38
DGMT **Dagmar** 67.06 337 P **P** **01 56 05.1 +0.5**
baz=145
WAKR **Walker** 67.44 321 IAmb IAmb 01 56 09.4
comp=Z,8.4nm,1.2s
PNTR **Pine Nut** 67.90 321 IAmb IAmb 01 56 12.1
comp=Z,13nm,1.2s
HLID **Hailey** 67.92 328 IAmb IAmb 01 56 18.8
comp=Z,8.7nm,1.2s
HLID **Hailey** 67.92 328 P **P** **01 56 10.6 +0.3**
baz=134,SNR=9.4
BOZ **Bozeman (W)** 68.00 331 IAmb IAmb 01 56 11.8
comp=Z,8.2nm,1.1s
BOZ **Bozeman (W)** 68.00 331 P **P** **01 56 10.8 0.0**
baz=138,SNR=9.7
BELA **Belgrano 2** 68.13 172 P **P** **01 56 11.5 +0.6**
PAHR **Pah Rah Range** 68.16 322 IAmb IAmb 01 56 13.6
comp=Z,15nm,1.1s
EGMT **Eagleton** 68.97 334 P **P** **01 56 16.9 +0.2**
baz=140,SNR=11
DBIC **Dimbokro** 69.05 78 P **P** **01 56 17.1 -0.7**
comp=Z,6.5nm,0.7s,baz=246,slow=7.3,SNR=8.4
DBIC LR LR 02 23 40.1
comp=Z,290nm,21.8s,baz=228,slow=34
comp=Z,6.5nm,0.7s
ORV **Oroville** 69.35 321 IAmb IAmb 01 56 21.5
comp=Z,14nm,1.0s
VNA3 **Neumayer Olymp** 69.55 162 ⇑P **P** **01 56 20.3 +0.5**
comp=Z,4.0nm,0.8s
VNA1 **Neumayer--Stat** 69.75 161 ⇑P **P** **01 56 22.1 +1.0**
comp=Z,8.4nm,0.8s
MSO **Missoula** 70.00 331 IAmb IAmb 01 56 24.5
comp=Z,15nm,1.1s
MSO **Missoula** 70.00 331 P **P** **01 56 23.6 +0.5**
baz=136,SNR=5.0
VNA2 **Neumayer--Watz** 70.12 162 ⇑P **P** **01 56 23.9 +0.5**
comp=Z,2.9nm,0.6s,baz=286,slow=8.2
BMO **Blue Mountains** 70.32 327 IAmb IAmb 01 56 25.9
comp=Z,21nm,2.0s
K05A **Summer Lake** 70.93 324 IAmb IAmb 01 56 44.7
comp=Z,21nm,1.4s
I07A **Izee** 71.00 326 IAmb IAmb 01 56 31.0
comp=Z,13nm,1.3s
F10A **Beach Ranch, E** 71.03 328 IAmb IAmb 01 56 46.8
comp=Z,10nm,1.0s
YBH **Yreka Blue Hor** 71.39 322 LR LR 02 27 34.0
comp=Z,98nm,19.4s,baz=126,slow=36
L04D **Klamath Falls** 71.44 323 IAmb IAmb 01 57 23.2
comp=Z,29nm,1.7s
J05D **Fort Rock, OR** 71.47 324 IAmb IAmb 01 56 33.5
comp=Z,10.0nm,1.1s
KHMM **Horse Mountain** 71.51 321 IAmb IAmb 01 57 27.1
comp=Z,13nm,1.0s
FFC **Flin Flon** 71.56 342 P **P** **01 56 31.6 -0.7**
PINE **Pine Mountain** 71.62 325 IAmb IAmb 01 56 34.9
comp=Z,12nm,1.0s
SNAA **Sanae** 71.75 162 P **P** **01 56 33.9 +0.5**
SNAA IAmb IAmb 01 56 34.6
comp=Z,7.1nm,0.7s
SNAA **Sanae** 71.75 162 ⇑P **P** **01 56 33.9 +0.5**
comp=Z,140nm,0.6s
SNAA **Sanae** 71.75 162 P **P** **01 56 33.9 +0.5**
comp=Z,5.4nm,0.7s,baz=272,slow=7.3,SNR=52
comp=Z,5.4nm,0.7s
I05D **Terrebonne, OR** 72.19 325 IAmb IAmb 01 56 38.0
comp=Z,9.1nm,0.8s
K02D **Willamette Mer** 72.53 322 IAmb IAmb 01 56 41.1
comp=Z,16nm,1.1s
NEW **Newport** 72.54 330 P **P** **01 56 38.9 +0.6**
baz=133
NEW **Newport** 72.54 330 LR LR 02 35 03.2
comp=Z,79nm,18.0s,baz=143,slow=41
FCC **Fort Churchill** 73.17 348 IAmb IAmb 01 56 49.0
comp=Z,13nm,1.1s
TROLL **Troll, Antarti** 73.47 162 ⇑P **P** **01 56 44.5 +0.8**
comp=Z,150nm,0.5s
TBI **Tubuai** 74.11 249 *e*S S 02 06 28.4 +8.3
comp=Z,175nm,26.0s
TBI **Tubuai** 74.11 249 *e*LR LR 02 19 34.8
comp=Z,500nm,25.8s
D05A **Enumclaw** 74.32 327 IAmb IAmb 01 56 50.0
comp=Z,15nm,0.9s
PPT2 **Papeete2** 74.98 255 *e*S **S** **02 06 32.3 +2.1**
comp=Z,62nm,24.5s
PPT2 **Papeete2** 74.98 255 *e*LR LR 02 19 52.0
comp=Z,76nm,28.2s
PPT **Papeete** 74.98 255 LR LR 02 23 20.4
comp=Z,38nm,19.7s,baz=94,slow=30
FRB **Frobisher Bay** 75.90 1 LR LR 02 30 00.7
comp=Z,75nm,21.4s,baz=200,slow=36
MORF **Marmelete** 76.98 47 *e*P **P** **01 57 05.1 +0.8**
comp=Z,27nm,1.7s
MORF *e*pP **PcP** **01 57 14.7 -0.6**
MORF **Marmelete** 76.98 47 P **P** **01 57 04.0 -0.4**
MORF IAmb IAmb 01 57 07.4
comp=Z,12nm,0.9s
MORF **Marmelete** 76.98 47 *e*P **P** **01 57 04.5 +0.2**
MORF IAmb IAmb 01 57 07.1
comp=Z,11nm,0.8s
TOA0 **Torodi Ar. Sit** 77.04 73 P **P** **01 57 04.2 -0.8**
TOA0 IAmb IAmb 01 57 05.7
comp=Z,12nm,0.9s
TORD **Torodi Ar. Bea** 77.04 73 P **P** **01 57 04.1 -0.9**
TORD IAmb IAmb 01 57 05.6
comp=Z,11nm,0.9s
TORD **Torodi Ar. Bea** 77.04 73 P **P** **01 57 04.0 -1.1**
comp=Z,10.0nm,0.9s,baz=268,slow=4.6,SNR=76
comp=Z,10.0nm,0.9s
PTEO **Sao Teotonio** 77.04 47 *e*P **P** **01 57 05.5 +0.9**
PTEO *e*pP **pP** **01 57 13.8 +1.1**
PNCL **Nicolau / Gran** 77.43 46 *e*P **P** **01 57 06.4 -0.4**
MESJ **Messejana** 77.53 47 *e*P **P** **01 57 08.9 +1.6**
MESJ **Messejana** 77.53 47 *e*P **P** **01 57 07.5 +0.2**
MESJ IAmb IAmb 01 57 11.1
comp=Z,12nm,1.2s
PCVE **Castro Verde** 77.57 47 *e*P **P** **01 57 08.2 +0.7**
PVAQ **Vaqueiros** 77.70 47 *e*P **P** **01 57 08.7 +0.4**
PVAQ **Vaqueiros** 77.70 47 *e*LR LR 02 26 19.8
comp=Z,129nm,20.0s
QSPA **South Pole Qui** 77.79 180 P **P** **01 57 09.7 +1.2**
QSPA IAmb IAmb 01 57 10.1
comp=Z,10nm,0.8s
QSPA **South Pole Qui** 77.79 180 P **P** **01 57 09.4 +0.9**
comp=Z,10nm,1.0s,baz=150,slow=1.6,SNR=34
comp=Z,10nm,1.0s
PBEJ **Beja** 77.86 46 *e*P **P** **01 57 09.6 +0.4**
PSBE **So Bento** 77.88 45 *e*P **P** **01 57 09.9 +0.6**
EVO **Evora** 77.98 46 *e*P **P** **01 57 10.6 +0.7**
EVO *e*pP **PcP** **01 57 20.3 +0.8**
PMTG **Montargil** 78.08 45 *e*P **P** **01 57 10.5 +0.2**
MDT **Midelt** 78.11 52 LR LR 02 27 48.9
comp=Z,149nm,21.1s,baz=239,slow=33
PBAR **Barrancos** 78.52 47 *e*P **P** **01 57 13.5 +0.7**
PMRV **Marv??o** 78.81 45 *e*LQ LQ 02 25 10.2
PMRV *e*LR LR 02 26 32.2
comp=Z,178nm,18.0s
PCBR **Castelo Branco** 78.94 45 *e*P **P** **01 57 14.6 -0.5**
PVIS **Viseu** 79.04 44 *e*P **P** **01 57 16.0 +0.3**
MTE **Manteigas** 79.14 44 *e*LQ LQ 02 25 03.6
MTE *e*LR LR 02 26 04.0
comp=Z,173nm,20.0s
PGAV **Gavieira, Arco** 79.36 43 *e*LR LR 02 25 53.6
comp=Z,181nm,20.0s
POLO **Lamas de Olo** 79.41 43 *e*P **P** **01 57 17.6 -0.1**
PVRL **Vila Real** 79.42 44 *e*P **P** **01 57 17.5 -0.2**
MVO **Moncorvo** 79.83 44 *e*P **P** **01 57 19.7 -0.3**
MVO **Moncorvo** 79.83 44 *e*LR LR 02 26 16.9
comp=Z,129nm,18.0s
PBRG **Braganca** 80.31 43 *e*P **P** **01 57 23.0 +0.4**
SFJD **Kangerlussuaq** 80.62 8 LR LR 02 34 21.7
comp=Z,50nm,19.0s,baz=214,slow=37
ESDC **Sonseca Array** 81.32 46 P **P** **01 57 27.6 -0.4**
comp=Z,1.5nm,0.8s,baz=257,slow=5.0,SNR=12
comp=Z,1.5nm,0.8s
YKA **Yellowknife Ar** 81.72 341 P **P** **01 57 28.7 -0.8**
YKA **Yellowknife Ar** 81.72 341 P **P** **01 57 28.6 -1.0**
comp=Z,7.1nm,0.8s,baz=136,slow=5.5,SNR=77
YKA LR LR 02 36 25.0
comp=Z,82nm,19.7s,baz=6.0,slow=38
comp=Z,7.1nm,0.8s
TOAD **Toad River Com** 83.09 335 P **P** **01 57 36.5 -0.4**
baz=128,SNR=7.2
KOTAN **Kotaneelee Air** 83.41 336 P **P** **01 57 38.9 +0.5**
baz=129
LIRD **Liard River Hi** 83.79 335 P **P** **01 57 40.4 0.0**
baz=127
V35K **Ketchikan** 83.95 330 P **P** **01 57 41.0 -0.3**
baz=122
T35M **Bob Quinn** 84.19 332 IAmb IAmb 01 57 44.0
comp=Z,12nm,0.8s
T35M **Bob Quinn** 84.19 332 P **P** **01 57 42.4 -0.1**
baz=123,SNR=6.7
CRAG **Craig** 84.76 330 P **P** **01 57 45.3 -0.1**
baz=120
WRAK **Wrangell Islan** 84.87 331 P **P** **01 57 45.8 0.0**
baz=121
DLBC **Dease Lake** 84.89 333 IAmb IAmb 01 57 47.3
comp=Z,11nm,0.8s
DLBC **Dease Lake** 84.89 333 P **P** **01 57 46.0 -0.1**
baz=123,SNR=11
S34M **Telegraph Cree** 85.10 333 P **P** **01 57 47.3 +0.3**
baz=122
WRGLY **Wrigley** 85.16 339 P **P** **01 57 47.2 0.0**
baz=130
TSUM **Tsumeb** 85.33 109 LR LR 02 33 18.4
comp=Z,170nm,19.1s,baz=222,slow=34
VNDA **Vanda** 85.35 190 P **P** **01 57 49.6 +1.5**
comp=Z,4.1nm,0.8s,baz=132,slow=4.2,SNR=23
VNDA LR LR 02 32 26.8
comp=Z,102nm,19.2s,baz=217,slow=33
comp=Z,4.1nm,0.8s
SUR **Sutherland** 85.57 122 LR LR 02 34 10.3
comp=Z,145nm,19.0s,baz=187,slow=34
BORG **Borgnes** 85.67 19 LR LR 02 32 04.9
comp=Z,67nm,21.6s,baz=223,slow=33
R33M **Jennings River** 85.82 334 IAmb IAmb 01 57 52.1
comp=Z,14nm,1.4s
R33M **Jennings River** 85.82 334 P **P** **01 57 50.8 0.0**
baz=123,SNR=6.4
TGTN **Hyland Airport** 85.91 336 P **P** **01 57 51.6 +0.5**
baz=125
JIS **Juneau Island** 86.77 332 IAmb IAmb 01 58 13.2
comp=Z,9.7nm,0.7s
P33M **Teslin, Yukon** 87.05 334 IAmb IAmb 01 57 57.3
comp=Z,6.3nm,1.0s
P33M **Teslin, Yukon** 87.05 334 P **P** **01 57 56.7 -0.1**
baz=121,SNR=6.8
P32M **Atlin** 87.12 333 IAmb IAmb 01 57 57.6
comp=Z,5.0nm,0.8s
P32M **Atlin** 87.12 333 P **P** **01 57 57.6 +0.5**
baz=120
S31K **Pelican** 87.47 331 P **P** **01 57 59.5 +0.8**
baz=118
SUMG **Summit** 87.50 10 P **P** **01 57 57.8 -1.2**
SUMG IAmb IAmb 01 58 09.4
comp=Z,15nm,1.0s
N32M **Quiet Lake** 87.65 335 P **P** **01 57 59.6 +0.1**
baz=121
MMPY **Sheldon Lake,** 87.69 336 IAmb IAmb 01 58 00.7
comp=Z,6.2nm,0.7s
MMPY **Sheldon Lake,** 87.69 336 P **P** **01 57 59.7 0.0**
baz=122,SNR=10
RES **Resolute Bay** 88.06 354 LR LR 02 40 29.9
comp=Z,60nm,18.3s,baz=120,slow=38
WHY **Whitehorse** 88.16 334 P **P** **01 58 01.8 -0.3**
baz=119
PLBC **Pleasant Camp** 88.24 332 P **P** **01 58 02.6 +0.2**
baz=118
FARO **Faro, Yukon** 88.31 336 IAmb IAmb 01 58 03.8
comp=Z,6.7nm,0.8s
FARO **Faro, Yukon** 88.31 336 P **P** **01 58 03.0 +0.4**
baz=121,SNR=8.6
M31M **Drury Creek, Y** 88.72 335 P **P** **01 58 04.9 +0.3**
baz=120
O30N **Mendenhall** 88.74 334 IAmb IAmb 01 58 06.0
comp=Z,5.7nm,0.7s
O30N **Mendenhall** 88.74 334 P **P** **01 58 05.2 +0.5**
baz=118,SNR=7.8
P30M **Million Dollar** 88.81 333 P **P** **01 58 05.7 +0.5**
baz=117
P29M **Windy Craggy** 88.94 332 P **P** **01 58 06.2 +0.5**
baz=117,SNR=11
N31M **Braeburn, Yuko** 88.94 334 IAmb IAmb 01 58 06.7
comp=Z,10nm,0.8s
N31M **Braeburn, Yuko** 88.94 334 P **P** **01 58 06.3 +0.6**
baz=118
HYT **Haines Junctio** 89.38 333 P **P** **01 58 08.5 +0.7**
baz=117
N30M **Aishikik Lake** 89.49 334 IAmb IAmb 01 58 09.8
comp=Z,11nm,1.2s
N30M **Aishikik Lake** 89.49 334 P **P** **01 58 09.0 +0.7**
baz=117,SNR=6.7
PNL **Peninsula** 89.71 332 P **P** **01 58 09.9 +0.6**
baz=115
YUK6 **Outpost Mounta** 89.81 333 P **P** **01 58 10.3 +0.3**
baz=116
M30M **Minto, Yukon** 89.88 335 IAmb IAmb 01 58 18.2
comp=Z,3.9nm,1.9s
M30M **Minto, Yukon** 89.88 335 P **P** **01 58 10.5 +0.5**
baz=118
KEST **Kesra** 89.97 53 LR LR 02 39 10.2
comp=Z,136nm,18.8s,baz=260,slow=36
YUK4 **Talbot Arm** 90.11 334 P **P** **01 58 11.5 +0.2**
baz=116
BOSA **Boshof** 90.14 119 LR LR 02 35 40.5
comp=Z,184nm,20.0s,baz=192,slow=34
H31M **Peel River** 90.49 339 P **P** **01 58 13.4 +0.5**
baz=120
M29M **Somme Creek** 90.51 335 IAmb IAmb 01 58 14.3
comp=Z,6.3nm,0.9s
M29M **Somme Creek** 90.51 335 P **P** **01 58 13.2 +0.1**
baz=116,SNR=8.8
O28M **Mount Upton** 90.54 333 P **P** **01 58 13.7 +0.2**
baz=115
YUK8 **Steele Glacier** 90.57 333 P **P** **01 58 13.3 -0.2**
baz=115
J30M **Hart River** 90.63 337 IAmb IAmb 01 58 14.7
comp=Z,4.6nm,0.8s
J30M **Hart River** 90.63 337 P **P** **01 58 13.5 -0.1**
baz=118,SNR=8.6
L29M **L29M** 90.67 335 P **P** **01 58 13.4 -0.4**
baz=116,SNR=15
K29M **Barlow Dome** 90.76 336 P **P** **01 58 14.3 +0.1**
baz=117,SNR=6.6
I30M **Mount Dempster** 90.95 338 IAmb IAmb 01 58 16.0
comp=Z,3.0nm,0.8s
I30M **Mount Dempster** 90.95 338 P **P** **01 58 15.1 0.0**
baz=118,SNR=12
G31M **Satah River** 91.03 340 P **P** **01 58 14.9 -0.3**
baz=120,SNR=9.0
YUK3 **Moose Creek** 91.08 334 P **P** **01 58 15.3 -0.5**
baz=114
MESA **MESA** 91.10 332 P **P** **01 58 15.8 -0.1**
baz=113,SNR=6.6
F31M **Tsiigehtchic** 91.11 340 P **P** **01 58 15.3 -0.3**
baz=120
A36M **Sachs Harbour** 91.22 346 P **P** **01 58 16.2 +0.1**
baz=128
INK **Inuvik** 91.48 341 IAmb IAmb 01 58 17.8
comp=Z,11nm,1.0s
INK **Inuvik** 91.48 341 P **P** **01 58 16.8 -0.5**
baz=120,SNR=8.6
INK **Inuvik** 91.48 341 LR LR 02 43 35.4
comp=Z,85nm,18.0s,baz=204,slow=38
DAWY **Dawson** 91.60 336 IAmb IAmb 01 58 18.3
comp=Z,5.5nm,1.1s
DAWY **Dawson** 91.60 336 P **P** **01 58 17.6 -0.4**
baz=115
EPYK **Eagle Plains** 91.62 339 IAmb IAmb 01 58 20.6
comp=Z,4.7nm,0.7s
EPYK **Eagle Plains** 91.62 339 P **P** **01 58 17.7 -0.4**
baz=118
G30M **tAoh Zraii Nji** 91.73 339 P **P** **01 58 18.5 -0.1**
baz=118
I29M **Ogilvie Camp,** 91.74 337 IAmb IAmb 01 58 19.0
comp=Z,6.4nm,0.7s
I29M **Ogilvie Camp,** 91.74 337 P **P** **01 58 18.3 -0.3**
baz=116,SNR=8.6
F30M **Barrier River** 91.88 340 P **P** **01 58 19.0 -0.2**
baz=118,SNR=12
M27K **Edge Creek, AK** 91.92 334 IAmb IAmb 01 58 20.3
comp=Z,4.6nm,0.8s
M27K **Edge Creek, AK** 91.92 334 P **P** **01 58 19.5 -0.2**
baz=113
MCARA **McCarthy VSAT** 92.05 333 P **P** **01 58 20.4 +0.3**
baz=112
H29M **Whitestone** 92.14 338 P **P** **01 58 19.7 -0.8**
baz=116,SNR=18
BCAR **Beaver Creek A** 92.16 335 P **P** **01 58 20.6 0.0**
L27K **Beaver Creek,** 92.18 335 IAmb IAmb 01 58 21.5
comp=Z,4.4nm,0.8s
L27K **Beaver Creek,** 92.18 335 P **P** **01 58 20.9 +0.2**
baz=113,SNR=10
G29M **Pine Creek** 92.33 339 P **P** **01 58 20.4 -0.9**
baz=116,SNR=12
I28M **Miner Creek** 92.39 337 IAmb IAmb 01 58 32.5
comp=Z,3.6nm,0.9s
I28M **Miner Creek** 92.39 337 P **P** **01 58 20.9 -0.8**
baz=115
M26K **Nabesna, AK** 92.42 334 P **P** **01 58 21.5 -0.4**
baz=112
EGAK **Eagle** 92.59 336 IAmb IAmb 01 58 29.8
comp=Z,3.9nm,0.9s
EGAK **Eagle** 92.59 336 P **P** **01 58 22.4 -0.1**
baz=114
K27K **Chicken** 92.66 335 IAmb IAmb 01 58 23.9
comp=Z,7.7nm,0.8s
K27K **Chicken** 92.66 335 P **P** **01 58 22.5 -0.4**
baz=113
N25K **Chitina, Valde** 92.83 333 P **P** **01 58 23.2 -0.6**
baz=111
E29M **Blow River** 92.94 340 P **P** **01 58 23.6 -0.5**
baz=116,SNR=23
EYAK **Cordova Ski Ar** 92.99 332 P **P** **01 58 23.9 -0.5**
baz=110
I27K **Kandik River** 93.10 337 P **P** **01 58 24.4 -0.5**
baz=113
DAVOX **Davos/Dischmat** 93.20 43 LR LR 02 38 17.1
comp=Z,111nm,19.2s,baz=260,slow=34
F28M **Old Crow** 93.28 339 IAmb IAmb 01 58 25.7
comp=Z,7.2nm,0.7s
F28M **Old Crow** 93.28 339 P **P** **01 58 25.2 -0.4**
baz=115,SNR=11
H27K **Steamboat Moun** 93.31 338 P **P** **01 58 25.0 -0.9**
baz=113
KLU **Klutina** 93.39 332 P **P** **01 58 26.1 -0.3**
baz=110
SCRK **Sand Creek** 93.42 335 IAmb IAmb 01 58 26.7
comp=Z,3.2nm,0.7s
SCRK **Sand Ceek** 93.42 335 P **P** **01 58 26.2 -0.3**
baz=111
J26L **Joseph Creek** 93.44 336 IAmb IAmb 01 58 26.9
comp=Z,4.5nm,0.8s
J26L **Joseph Creek** 93.44 336 P **P** **01 58 26.2 -0.4**
baz=112,SNR=5.6
I26K **Coal Creek Min** 93.58 336 P **P** **01 58 26.6 -0.4**
baz=112
E28M **Babbage River** 93.58 340 P **P** **01 58 26.2 -0.9**
baz=115
G27K **Doyon Strip** 93.59 338 IAmb IAmb 01 58 26.9
comp=Z,3.0nm,0.7s
G27K **Doyon Strip** 93.59 338 P **P** **01 58 26.5 -0.7**
baz=113,SNR=5.5
MAW **Mawson** 93.81 164 P **P** **01 58 28.7 +0.5**
comp=Z,1.5nm,0.3s,baz=188,slow=4.9,SNR=4.2
comp=Z,1.5nm,0.3s
E27K **Coleen River** 94.11 339 IAmb IAmb 01 58 29.7
comp=Z,4.4nm,0.7s
E27K **Coleen River** 94.11 339 P **P** **01 58 29.1 -0.4**
baz=113
J25K **Salcha River,** 94.21 335 IAmb IAmb 01 58 30.3
comp=Z,4.3nm,0.8s
J25K **Salcha River,** 94.21 335 P **P** **01 58 29.3 -0.7**
baz=110,SNR=7.9
M23K **Glacier View** 94.30 332 P **P** **01 58 30.4 -0.1**
baz=108
D27M **Malcolm River** 94.32 340 P **P** **01 58 30.1 -0.4**
baz=114
WAT6 **Susitna Watana** 94.55 333 P **P** **01 58 31.0 -0.8**
baz=108
PRP **Porcupine Dome** 94.58 336 P **P** **01 58 30.8 -1.1**
baz=110
SML **Sawmill** 94.58 332 P **P** **01 58 31.0 -0.8**
baz=108
HDA **Harding Lake** 94.79 335 P **P** **01 58 31.8 -0.8**
baz=108
F26K **Sheenjek River** 94.82 339 P **P** **01 58 32.4 -0.3**
baz=111
ILAR **Eielson Array** 94.88 335 P **P** **01 58 32.5 -0.6**
comp=Z,1.0nm,0.8s,baz=151,slow=2.6,SNR=12
ILAR LR LR 02 46 19.2
comp=Z,40nm,18.8s,baz=163,slow=39
comp=Z,1.0nm,0.8s
PMR **Palmer** 94.88 332 P **P** **01 58 32.7 -0.4**
baz=107
H25L **Birch Creek** 94.94 337 P **P** **01 58 33.0 -0.3**
baz=109
RC01 **Rabbit Creek A** 95.02 331 P **P** **01 58 33.5 -0.3**
baz=106

BRSE	Bradley Lake S baz=106	95.12	330	P		P	01 58 33.9	-0.4
POKR	Poker Plat Res baz=108	95.21	336	P		P	01 58 34.5	0.0
CCB	Clear Creek Bu comp=Z,4.4nm,0.7s	95.21	335	IAmb		IAmb	01 58 34.8	
G25K	Bearman Lake baz=109	95.22	337	P		P	01 58 34.4	-0.2
F25K	Christian Rive baz=109	95.32	338	P		P	01 58 35.4	+0.3
C27K	Jago River baz=111	95.36	340	P		P	01 58 35.2	+0.1
M22K	Willow baz=106	95.38	332	P		P	01 58 35.4	+0.1
MCK	McKinley baz=107	95.41	334	P		P	01 58 35.4	-0.2
E25K	Arctic Village baz=109	95.47	339	P		P	01 58 35.5	-0.2
KDAK	Kodiak Island baz=104	95.55	328	P		P	01 58 36.4	+0.2
KDAK	Kodiak Island comp=Z,73nm,18.8s,baz=91,slow=38	95.55	328	LR		LR	02 46 04.7	
SUA	Susitna One baz=105	95.59	332	P		P	01 58 36.4	-0.1
H24K	Noodor Dome baz=108	95.61	336	P		P	01 58 35.8	-0.6
G24K	Hadweenzic Riv baz=108	95.71	337	P		P	01 58 36.6	-0.3
NEA2	Nenana comp=Z,4.3nm,0.6s	95.72	335	IAmb		IAmb	01 58 36.6	
NEA2	Nenana baz=107,SNR=5.5	95.72	335	P		P	01 58 36.2	-0.7
C26K	Camden Bay baz=110	95.86	341	P		P	01 58 37.6	+0.2
TRF	Thorofare Moun baz=106	95.92	334	P		P	01 58 36.6	-1.4
I23K	Minto, Yukon-K comp=Z,3.2nm,0.7s	96.00	335	IAmb		IAmb	01 58 38.2	
I23K	Minto, Yukon-K baz=106	96.00	335	P		P	01 58 37.2	-0.9
SKT	Skwentna baz=105	96.08	332	P		P	01 58 37.7	-1.0
LSZ	Lusaka comp=Z,126nm,19.1s,baz=162,slow=35	96.08	107	LR		LR	02 41 40.3	
F24K	Squaw Lake baz=107	96.11	338	P		P	01 58 38.5	-0.2
O20K	Slope Mountain baz=104	96.13	330	P		P	01 58 37.2	-1.7
D25K	Kavik River comp=Z,3.6nm,0.7s	96.14	340	IAmb		IAmb	01 58 39.2	
D25K	Kavik River baz=108,SNR=6.4	96.14	340	P		P	01 58 37.7	-1.1
GERES	GERESS Array B comp=Z,63nm,18.4s,baz=283,slow=35	96.17	41	LR		LR	02 40 53.8	
N20K	Mount Spurr baz=104	96.20	331	P		P	01 58 37.9	-1.4
CLL	Collm CLL comp=Z,100nm,19.3s	96.23	39	*e*P AMS		P AMS	01 58 41.0 02 39 00.0	+1.5
P19K	Oil Pt baz=104	96.32	330	P		P	01 58 38.8	-1.0
Q19K	Cape Douglas, baz=103	96.36	329	P		P	01 58 38.8	-1.2
BPAW	Bear Paw Mtn. comp=Z,5.3nm,0.8s	96.39	334	IAmb		IAmb	01 58 39.6	
BPAW	Bear Paw Mtn. baz=105,SNR=6.5	96.39	334	P		P	01 58 38.9	-1.0
E24K	Your Creek comp=Z,17nm,1.9s	96.50	338	IAmb		IAmb	02 02 09.6	
E24K	Your Creek baz=107	96.50	338	P		P	01 58 39.8	-0.7
MLY	Manley baz=105	96.53	335	P		P	01 58 40.2	-0.4
PPLA	Purkeypile baz=104	96.61	333	P		P	01 58 40.6	-0.6
G23K	Bananza Creek baz=106	96.69	337	P		P	01 58 40.4	-0.9
CAST	Castle Rocks comp=Z,3.9nm,0.7s	96.69	333	IAmb		IAmb	01 58 40.7	
CAST	Castle Rocks baz=104	96.69	333	P		P	01 58 40.9	-0.5
M20K	Styx River baz=103	96.79	332	P		P	01 58 41.7	-0.3
COLD	Coldfoot baz=105	96.89	337	P		P	01 58 42.1	-0.1
E23K	Chandalar baz=106	96.90	338	P		P	01 58 41.9	-0.4
CHUM	Lake Minchumin baz=104	96.90	334	P		P	01 58 41.9	-0.3
D24K	Happy Valley baz=106	96.92	339	P		P	01 58 42.0	-0.3
H22K	Ishtalitna Cre baz=104	97.00	336	P		P	01 58 42.4	-0.4
C24K	Franklin Bluff baz=106	97.04	340	P		P	01 58 42.2	-0.6
TOLK	Toolik Lake Re baz=106	97.04	339	P		P	01 58 42.3	-0.6
I21K	Tanana baz=104	97.07	335	P		Pdif	01 58 43.4	+0.3
N19K	Bonanza Creek baz=102	97.19	331	P		Pdif	01 58 43.5	-0.4
L20K	Farewell, AK baz=103	97.27	332	P		P	01 58 43.0	-1.1
NOA	NORSAR Array B comp=Z,38nm,21.8s,baz=255,slow=32	97.28	29	LR		LR	02 37 50.0	
O18K	Koktuh Hills baz=102	97.34	330	P		P	01 58 43.7	-0.7
M19K	Big River Lodg baz=102	97.38	332	P		Pdif	01 58 44.3	-0.3
D23K	Nanuskuk River baz=105	97.52	339	P		Pdif	01 58 45.2	+0.2
H21K	Melozitna Rive baz=103	97.52	336	P		Pdif	01 58 45.3	+0.1
L19K	White Mountain baz=102	97.65	332	P		Pdif	01 58 46.1	+0.3
C23K	Itkillik River baz=105	97.71	340	P		Pdif	01 58 45.8	0.0
E22K	Anaktuvuk Pass baz=104	97.72	338	P		Pdif	01 58 45.8	-0.2
J20K	Nowinta River baz=102	97.75	334	P		Pdif	01 58 47.0	+0.8
G21K	Allakaket baz=102	97.99	336	P		Pdif	01 58 47.6	+0.4
F21K	Alatna River baz=102	98.13	337	P		Pdif	01 58 48.3	+0.4
D22K	Ayikyak River baz=103	98.20	339	P		Pdif	01 58 48.0	-0.1
O17K	Koliganek Bris baz=100	98.26	329	P		Pdif	01 58 48.3	-0.2
HFS	Hagfors comp=Z,55nm,19.8s,baz=272,slow=33	98.31	30	LR		LR	02 39 32.8	
H20K	Anotleneega Mo baz=101	98.33	335	P		P	01 58 48.2	-0.5
J19K	Poorman baz=101	98.35	334	P		P	01 58 47.2	-1.6
L18K	Granite Mounta baz=100	98.50	332	P		P	01 58 47.9	-1.6
E21K	Killik River baz=102	98.57	338	P		Pdif	01 58 49.7	-0.1
B22K	Teshekpuk Lake baz=102	98.77	340	P		Pdif	01 58 50.6	+0.1
H19K	Roundabout Mou baz=100	98.98	335	P		Pdif	01 58 51.7	+0.2
C21K	Knifeblade Rid baz=101	99.00	339	P		Pdif	01 58 51.8	+0.2
B21K	Ikpikpuk River baz=101	99.03	339	P		Pdif	01 58 52.1	+0.4
E20K	Nigu River baz=100	99.34	338	P		Pdif	01 58 52.1	-1.1
M16K	Timber Creek baz=98	99.38	330	P		Pdif	01 58 52.8	-0.7
E19K	Redstone River baz=99	99.60	337	P		Pdif	01 58 54.3	0.0
H18K	Honhosa River baz=98	99.71	335	P		Pdif	01 58 54.5	-0.3
F19K	Shaleruckik Mo baz=98	99.72	336	P		Pdif	01 58 54.8	0.0
L16K	Owhat River baz=98	99.72	331	P		Pdif	01 58 53.8	-1.2
G18K	Tagagawik baz=98	99.94	335	P		Pdif	01 58 55.7	-0.2
D19K	Kuna River baz=98	100.08	338	P		Pdif	01 58 56.6	+0.1
M15K	Kasigluk River baz=97	100.17	330	P		Pdif	01 58 56.9	-0.1
H17K	Granite Mounta baz=97	100.33	334	P		Pdif	01 58 57.9	+0.3
F18K	Selawik	100.43	336	P		Pdif	01 58 58.0	0.0
I17K	Unalakleet baz=96	100.55	333	P		Pdif	01 58 58.3	-0.3
M14K	Bethel baz=96	100.80	330	P		Pdif	01 58 59.3	-0.5
E17K	Hotham Inlet baz=95	101.33	336	P		Pdif	01 59 02.0	-0.1
G15K	Niukluk baz=93	102.09	334	P		Pdif	01 59 05.3	-0.1
UNV	Unalaska Valle baz=94	102.70	323	P		Pdif	01 59 08.6	+0.2
C16K	Lisburne Hills baz=91	102.73	338	P		Pdif	01 59 08.5	+0.3
M11K	Mekoryuk baz=92	102.86	329	P		Pdif	01 59 08.8	-0.2
NACGM	Naroch comp=Z,7.0nm,0.8s,baz=269	104.86	36	*e*Pdif		Pdif	01 59 13.7	-4.3
DZM	Mont Dzumac comp=Z,147nm,21.6s	113.53	239	*e*LR		LR	02 37 48.6	
STKA	Stephens Creek comp=Z,2.5nm,0.7s,baz=333,slow=2.2,SNR=4.4	125.69	215	PKP		PKiKP	02 04 13.5	-0.4
BVAR	Borovoye Array comp=Z,0.6nm,0.6s,baz=316,slow=0.2,SNR=2.8	129.41	29	PKP		PKPdf	02 04 19.4	-0.5
ZALV	Zalesovo Beam comp=Z,4.4nm,0.8s,baz=276,slow=1.7,SNR=14	134.51	19	PKP		PKPdf	02 04 29.0	-0.5
ZALV				SKPbc		SKPbc	02 07 57.5	-0.4
KURBB	Kurchatov Arra comp=Z,0.6nm,0.3s,baz=318,slow=2.4,SNR=1.7	134.75	26	PKP		PKPdf	02 04 29.8	-0.2
KURBB				SKPbc		SKPbc	02 07 58.6	-0.2
ASAR	Alice Springs comp=Z,0.7nm,0.4s,baz=316,slow=5.2,SNR=6.4	136.33	215	PKP		PKPdf	02 04 33.4	-0.5
ASAR				SKPbc		SKPbc	02 08 06.0	+1.2
WRA	Warramunga Arr comp=Z,4.3nm,0.6s,baz=137,slow=2.0,SNR=26	138.95	219	PKP		PKPdf	02 04 38.9	+0.1
WRA				SKPbc		SKiKP	02 08 13.3	-2.5
MKAR	Makanchi Array comp=Z,0.5nm,0.6s,baz=306,slow=4.8,SNR=2.9	139.26	28	PKP		PKPdf	02 04 38.1	-0.5
MKAR				SKPbc		SKPbc	02 08 11.8	-0.7
USRK	Ussuriysk Ar. comp=Z,2.0nm,0.8s,baz=110,slow=2.2,SNR=4.5	142.31	332	SKPbc		SKiKP	02 08 21.1	-0.8
MJAR	Matsushiro Arr comp=Z,4.4nm,0.6s,baz=99,slow=2.0,SNR=12	143.92	317	PKP		PKPbc	02 04 45.1	+0.1
SONM	Songino Array comp=Z,1.2nm,0.4s,baz=329,slow=2.9,SNR=9.7	144.59	2	PKP		PKPbc	02 04 46.6	-0.2
SONM				SKPbc		SKiKP	02 08 27.2	+0.6
KSRS	Korea Array comp=Z,14nm,0.7s,baz=71,slow=2.4,SNR=10	149.45	328	PKP		PKPdf	02 04 56.0	-0.4
KSRS				PKPbc		PKiKP	02 05 01.2	-0.8
HHC	Hu-ho-hao-te comp=Z,16nm,0.7s,baz=19,slow=2.3,SNR=28	151.46	355	*e*P		PKPdf	02 04 58.3	-1.3
GTA	Gaotai	152.01	14	PKPbc		PKPbc	02 05 05.9	-1.2
NJ2	Nanjing NJ2 comp=Z,12nm,0.5s	158.12	335	*e*P pmax		PKPdf pmax	02 05 08.9	0.0
PZH	PanZhiHua	164.62	23	PKP		PKPdf	02 05 14.1	-2.0

IDC ***24*** *02:03:50.5±3.1, 32.°00N×48.°54E, h0km, mb3.6/5, mbtmp3.6/5, MS3.1/3, Error ellipse: s-maj=70.0km s-min=29.6km az=138.0*
TEH ***24*** *02:03:51.8, 31.°94N×48.°68E, h8km±38km, ML3.6*
ISC 24 02:03:51.5±0.8, 31.°80N±0.°05×48.°60E±0.°05, h10km, n45, σ1s01/42, mb3.6/5, Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	Ahwaz	0.47	176	Pg	Pn	02 04 04.1	-0.3
JHBN	Jahan bin	1.80	76	Pg	Pn	02 04 23.5	+0.5
IKFM	Kafar-mosalman	1.83	340	Pg	Pb	02 04 24.7	-0.4
ABEH	Behbahan	1.85	130	Pn	Pg	02 04 28.5	+1.4
ZNGN	Zangian	1.94	80	Pn	Pn	02 04 25.2	+0.4
IDOB	Doab	2.01	350	Pn	Pb	02 04 27.3	-1.0
IPIR	Pirpir	2.13	65	Pn	Pn	02 04 28.2	+0.7
IBRJ	Brojen	2.26	87	Pn	Pn	02 04 30.6	+1.4
HSAM	Samen	2.40	360	Pn	Pn	02 04 32.3	+1.1
KLNJ	Kolanjah	2.67	106	Pn	Pn	02 04 36.3	+1.3
IBZA	Bazab	2.73	347	Pn	Pn	02 04 36.6	+0.9
KCHF	Cheshme Sefid,	2.79	332	Pn	Pn	02 04 37.8	+1.3
IKLH	Kolahrood	2.93	58	Pn	Pn	02 04 39.3	+0.8
IGAR	Gharneh	2.98	77	Pn	Pn	02 04 40.1	+1.0
QAMS	Qamsar	3.04	50	Pn	Pn	02 04 41.3	+1.3
HAGD	Aghdareh	3.04	8	Pn	Pn	02 04 40.8	+0.8
IGHG	Ghaleghazi	3.04	326	Pn	Pn	02 04 42.1	+2.1
SNQR	Sonqor, Kerman	3.15	345	Pn	Pn	02 04 42.9	+1.3
IRAM	Ramesheh	3.22	89	Pn	Pn	02 04 43.6	+1.3
GLG1	Gilan-e-Gharb	3.23	316	Pn	Pn	02 04 43.3	+0.9
IZEF	Zefreh	3.34	70	Pn	Pn	02 04 44.4	+0.4
ILIN	Lien	3.40	337	Pn	Pn	02 04 46.5	+1.6
IDHR	Dehrash	3.43	328	Pn	Pn	02 04 46.5	+1.2
IQOM	Qom	3.67	34	Pn	Pn	02 04 49.3	+0.7
KRSH	Karshahi	3.67	53	Pn	Pn	02 04 49.3	+0.7
IRAZ	Razeghan	3.76	17	Pn	Pn	02 04 50.9	+1.1
ISFB	Sefidab	3.97	49	Pn	Pn	02 04 52.7	+0.1
QABG	Abgarm-Qazvin	3.98	12	Pn	Pn	02 04 53.6	+0.7
IVRN	Varanin	4.12	39	Pn	Pn	02 04 55.0	+0.4
IMHD	Mahdasht	4.24	23	Pn	Pn	02 04 56.8	+0.6
ISAD	Sadrabad	4.33	87	Pn	Pn	02 04 58.0	+0.4
ANAR	Anarak	4.55	71	Pn	Pn	02 05 01.0	+0.5
IDMV	Damavand	4.73	36	Pn	Pn	02 05 03.5	+0.3
ILAS	Lasjerd	5.09	44	Pn	Pn	02 05 08.4	+0.3
KLST	Kelardasht - M	5.12	23	Pn	Pn	02 05 09.3	+0.6
IMEH	Mehriz	5.14	93	Pn	Pn	02 05 10.1	+1.3
MZPU	Pul - Mazandar	5.24	27	Pn	Pn	02 05 10.8	+0.7
GEYT	Alibeck comp=Z,119nm,18.8s,baz=288,slow=42	9.92	49	LR	LR	02 10 45.5	
EIL	Elat comp=Z,62nm,19.0s,baz=67,slow=44	11.94	263	LR	LR	02 12 29.3	
BVAR	Borovoye Array 1.0nm,0.5s,baz=225,slow=8.6,SNR=5.8 1.0nm,0.5s	26.42	30	P	P	02 09 27.6	-0.6
FINES	FINESS Array B 0.5nm,0.4s,baz=159,slow=8.9,SNR=4.4 0.5nm,0.4s	33.09	340	P	P	02 10 25.8	-1.4
ZALV	Zalesovo Beam comp=Z,35nm,18.8s,baz=32,slow=40	34.00	39	LR	LR	02 26 08.8	
HFS	Hagfors 0.3nm,0.3s,baz=143,slow=10,SNR=5.2 0.3nm,0.3s	36.53	331	P	P	02 10 55.4	-1.6
ESDC	Sonseca Array 0.4nm,0.7s,baz=80,slow=8.1,SNR=1.6 0.4nm,0.7s	42.87	296	P	P	02 11 50.3	+0.2
TORD	Torodi Ar. Bea 0.2nm,0.3s,baz=57,slow=7.2,SNR=12 0.2nm,0.3s	46.75	258	P	P	02 12 21.5	+0.2

IDC ***24*** *02:06:12.4±0.6, 12.°23S×71.°58W, h0km, mb3.8/10, mbtmp3.8/15, ML4.0/5, MS3.3/5, Error ellipse: s-maj=21.5km s-min=14.4km az=40.0*
NEIC ***24*** *02:06:15.1±1.2, 12.°35S±0.°04×71.°61W±0.°08, h10km±1km, mb4.4/18, Error ellipse: s-maj=13.4km s-min=5.4km az=249.0*
ISC 24 02:06:14.3±0.5, 12.°32S±0.°06×71.°61W±0.°07, h10km, n58, σ1s08/56, mb4.2/18, Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CZSB	Cruzeiro do Su	4.69	347	Pn	Pn	02 07 26.1	+0.9
NNA	Nana	5.13	273	Pn	Pn	02 07 31.0	-0.3
NNA	Nana 8.0nm,0.3s,baz=97,slow=10,SNR=14	5.13	273	Pn	Pn	02 07 30.8	-0.5
NNA				Sn	Sn	02 08 31.3	+0.6
NNA	14nm,0.3s,baz=319,slow=20,SNR=2.2			LR	LR	02 09 50.4	
LPAZ	comp=Z,303nm,19.4s,baz=102,slow=42 25nm,0.5s La Paz	5.19	140	Pn	Pn	02 07 33.2	+0.6
LPAZ	La Paz 3.9nm,0.3s,baz=328,slow=8.4,SNR=48	5.19	140	Pn	Pn	02 07 35.9	+3.2
LPAZ	6.7nm,0.3s,baz=198,slow=23,SNR=2.5			Lg	Lg	02 09 00.7	
LPAZ	comp=Z,125nm,21.8s,baz=312,slow=45			LR	LR	02 10 10.4	
PB18	Visviri	5.62	159	Pn	Pn	02 07 39.0	+0.5
ETMB	Extrema	5.85	65	Pn	Pn	02 07 43.1	+1.9
PB12	IPOC Station P	6.38	169	Pn	Pn	02 07 49.2	+0.7
GO01	Chusmiza	7.66	163		Pn	02 08 06.7	+0.2
TBTG	Tabatinga, AM	8.26	12	Pn	Pn	02 08 14.8	+0.6
ATAH	Atahualpa	8.44	307	Pn	Pn	02 08 17.7	+0.5
	1.8nm,0.3s,baz=112,slow=5.6,SNR=12 2.7nm,0.3s						
SAML	Samuel	8.94	69	Pn	Pn	02 08 24.5	+1.0
LVC	Limon Verde 0.4nm,0.3s,baz=249,slow=6.8,SNR=3.7 3.3nm,0.6s	10.55	166	Pn	Pn	02 08 47.4	+1.4
SIV	San Ignacio 0.2nm,0.3s,baz=296,slow=11,SNR=26	10.85	111	Pn	Pn	02 08 50.3	+0.4
SIV	0.6nm,0.3s,baz=227,slow=19,SNR=4.7			Lg	Lg	02 11 58.0	
SIV	comp=Z,188nm,19.5s,baz=7.5,slow=41 4.6nm,0.4s			LR	LR	02 13 32.9	
VILB	Vilhena	11.15	94	Pn	Pn	02 08 54.7	+0.7
PTLB	Pontes e Lacer	12.50	106	Pn	Pn	02 09 11.2	-1.2
CHSH	Refugio Sur-Vo	12.95	326		Pn	02 09 19.1	0.0
MACA	Manacapuru-AM	14.14	51	Pn	Pn	02 09 34.5	-0.3
TULM	Tulcn-Chalpat	14.33	334	Pn	Pn	02 09 38.7	+0.7
AC06	Mina Casimiro	15.00	176	Pn	Pn	02 09 45.4	-1.2
ROSC	El Rosal 1.2nm,0.3s,baz=321,slow=17,SNR=6.9	17.26	351	Lg	Lg	02 15 21.0	
BOAV	Boa Vista	18.31	38	P	Pn	02 10 29.2	+0.6
CO03	El Pedregal	18.45	177	P	P	02 10 30.6	+0.4
CPUP	Villa Florida 0.1nm,0.3s,baz=324,slow=15,SNR=1.7 0.6nm,0.3s	19.36	138	P	P	02 10 40.7	+0.5
MT02	Curacav	20.84	179	P	P	02 10 56.9	+0.6
MT02	comp=Z,18nm,1.2s			IAmb	IAmb	02 11 17.0	
SDV	Santo Domingo comp=Z,2.1nm,0.4s,baz=179,slow=18,SNR=1.6	21.09	3	P	P	02 11 00.7	+1.4
SDV				Lg	Lg	02 17 21.4	
MT09	comp=Z,0.5nm,0.3s,baz=267,slow=18,SNR=2.4 Talagante	21.36	179	P	P	02 11 01.8	-0.3
MT09	comp=Z,23nm,1.4s			IAmb	IAmb	02 11 19.6	
BAUV	El Baul	21.42	10	P	P	02 11 03.3	+0.6
LMEL	Las Melosas	21.46	177	P	P	02 11 03.9	+0.7
ITQB	Itaqui	22.18	143	P	P	02 11 10.1	-0.6
ITQB	comp=Z,25nm,1.2s			IAmb	IAmb	02 11 33.2	
BDFB	Brasilia comp=Z,2.0nm,0.7s,baz=83,slow=15,SNR=2.1	23.13	101	P	P	02 11 21.5	+0.5
BDFB				Lg	Lg	02 18 27.5	
ITAB	Concordia comp=Z,2.0nm,0.3s,baz=334,slow=22,SNR=1.8 comp=Z,2.0nm,0.7s	23.53	132	P	P	02 11 23.4	-1.4
ITAB	comp=Z,24nm,1.3s			IAmb	IAmb	02 11 50.5	
PLTB	Pedras Altas	25.48	142	P	P	02 11 42.2	-0.6
PLTB	comp=Z,15nm,1.3s			IAmb	IAmb	02 11 54.7	
MDP	Montagnes des comp=Z,57nm,20.1s,baz=242,slow=39	25.60	49	LR	LR	02 22 47.3	
TRQA	Tornquist comp=Z,7.6nm,1.2s	27.03	163	P	P	02 11 56.2	-0.6
TRQA				IAmb	IAmb	02 12 25.3	
PLCA	Paso Flores comp=Z,0.9nm,0.7s,baz=339,slow=11,SNR=3.2 comp=Z,0.9nm,0.7s	28.31	178	P	P	02 12 09.1	+0.8
HNDO	Hondo	49.44	328	P	P	02 15 04.8	+0.1
TXAR	Lajitas Array	51.70	324	P	P	02 15 22.2	+0.3
TXAR	Lajitas Array comp=Z,0.3nm,0.7s,baz=154,slow=9.0,SNR=3.4	51.70	324	P	P	02 15 21.9	-0.1
TXAR				PcP	PcP	02 16 34.4	-1.1
RSSD	comp=Z,0.3nm,0.7s,baz=207,slow=3.8,SNR=2.3 comp=Z,0.3nm,0.7s Black Hills	63.45	334	P	P	02 16 45.1	+0.4
RSSD	comp=Z,1.8nm,0.6s			IAmb	IAmb	02 16 45.3	
PDAR	Pinedale Array comp=Z,0.2nm,0.4s,baz=138,slow=8.6,SNR=2.3 comp=Z,0.2nm,0.4s	64.91	330	P	P	02 16 54.0	-0.3
DBIC	Dimbokro comp=Z,68nm,19.5s,baz=174,slow=34	68.98	78	LR	LR	02 45 04.4	
SNAA	Sanae	71.75	162	P	P	02 17 36.9	+0.4
SNAA	comp=Z,7.0nm,1.3s			IAmb	IAmb	02 17 59.3	
SNAA	Sanae comp=Z,0.8nm,0.5s,baz=268,slow=8.8,SNR=9.5 comp=Z,0.8nm,0.5s	71.75	162	P	P	02 17 36.4	-0.2
FCC	Fort Churchill	73.17	348	P	P	02 17 43.5	-1.4
IVI	Ivigtut	75.61	11	P	P	02 17 57.2	-1.9
TOA0	Torodi Ar. Sit TOA0 comp=Z,4.9nm,1.3s	76.96	73	P IAmb	P IAmb	02 18 06.5 02 18 39.1	-1.3
TORD	Torodi Ar. Bea	76.96	73	P	P	02 18 06.5	-1.4
TORD	Torodi Ar. Bea comp=Z,1.0nm,0.5s,baz=251,slow=4.3,SNR=24 comp=Z,1.0nm,0.5s	76.96	73	P	P	02 18 06.7	-1.2
QSPA	South Pole Qui QSPA comp=Z,4.6nm,1.3s	77.81	180	P IAmb	P IAmb	02 18 12.3 02 18 25.8	+0.4
QSPA	South Pole Qui comp=Z,0.6nm,0.7s,baz=163,slow=2.0,SNR=5.9 comp=Z,0.6nm,0.7s	77.81	180	P	P	02 18 11.8	-0.1
ESDC	Sonseca Array comp=Z,0.4nm,0.8s,baz=246,slow=5.5,SNR=4.3 comp=Z,0.4nm,0.8s	81.26	46	P	P	02 18 30.5	-0.5
YKA	Yellowknife Ar comp=Z,6.0nm,0.7s,baz=134,slow=5.2,SNR=9.6 comp=Z,6.0nm,0.7s	81.72	341	P	P	02 18 31.5	-1.2
VNDA	Vanda comp=Z,1.0nm,1.1s,baz=296,slow=6.8,SNR=2.7 comp=Z,1.0nm,1.1s	85.39	190	P	P	02 18 52.3	+0.7
ZALV	Zalesovo Beam comp=Z,1.2nm,0.6s,baz=232,slow=1.6,SNR=4.1	134.47	19	PKP	PKPdf	02 25 32.0	-0.7
ASAR	Alice Springs comp=Z,0.2nm,0.3s,baz=102,slow=2.4,SNR=4.5	136.39	215	PKP	PKPdf	02 25 35.9	-1.4
SONM	Songino Array comp=Z,0.4nm,0.3s,baz=328,slow=4.0,SNR=2.5	144.56	2	PKP	PKPab	02 25 49.0	-0.8
KSRS	Korea Array comp=Z,2.6nm,0.6s,baz=39,slow=2.7,SNR=9.2	149.47	328	PKPbc	PKPdf	02 26 03.7	+3.9

IDC 24 02:15:51.4±3.0, 18.°43S×174.°26W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=330.7km s-min=34.5km az=158.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr 0.1nm,0.3s,baz=97,slow=7.5,SNR=5.4 0.1nm,0.3s	48.42	259	P	P	02 24 35.8	-0.1
ASAR	Alice Springs 0.5nm,0.5s,baz=92,slow=8.4,SNR=6.6 0.5nm,0.5s	48.45	254	P	P	02 24 36.0	-0.1
TXAR	Lajitas Array 0.5nm,0.6s,baz=243,slow=8.0,SNR=4.0 0.5nm,0.6s	82.97	56	P	P	02 28 18.9	0.0

IDC ***24*** *02:17:09.2±0.9, 24.°86N×127.°91E, h0km, mb4.0/13, mbtmp4.0/15, ML3.8/2, MS3.1/6, Error ellipse: s-maj=37.5km s-min=16.7km az=76.0*
NIED ***24*** *02:17:12.0, 24.°87N×127.°83E, h72km, MW4.0, Moment Tensor Solution. s2 Moment tensor: Scale 10^15^Nm; Mrr-1.00; Mθθ0.65; Mφφ0.35; Mrθ0.02; Mθφ0.74; Mrφ0.01; Fault plane solution: M0 1.13000×10^15^ NP1: φs231.00000°, δ46.00000°, λ-89.00000°. NP2:φs50.00000°, δ44.00000°, λ-91.00000°.*
JMA ***24*** *02:17:12.0±0.3, 25.°N±1.°×12.°8E±.°, h72km, MV4.0/25, NEAR OKINAWAJIMA ISLAND*
ISC 24 02:17:15.1±0.7, 24.°87N±0.°06×127.°87E±0.°05, h50km, n46, σ2s80/58, mb3.9/13, MS3.3/4, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JJT3	Tamagusuku3	1.27	356	P	Pn	02 17 34.7	-1.9
JJT3				S	Sn	02 17 50.4	-2.2
JNTH	Nagotoyohara	1.65	5	P	Pn	02 17 39.3	-2.4
JKE	Kume jima 2	1.75	326	P	Pn	02 17 40.9	-2.2
JKE				*e*S	Sn	02 18 01.1	-3.1
JAGN	Aguni-jima	1.81	342	*e*P	Pn	02 17 41.9

JOGS				*e*S		**Sn**	02 18 12.7	-3.5
JMJ2	**Miyako jima3**	**2.31**	**267**	*e*P		**Pn**	02 17 48.0	-2.8
JMJ2				*e*S		**Sn**	02 18 14.7	-3.3
JIKM	**Ikemajima**	**2.38**	**272**	*e*P		**Pn**	02 17 49.5	-2.2
JIRB	**Irabujima**	**2.45**	**270**	*e*P		**Pn**	02 17 50.0	-2.7
JIRB				*e*S		**Sn**	02 18 16.7	-4.6
JOKE	**Okinoerabujima**	**2.56**	**14**	*e*P		**Pn**	02 17 52.2	-2.0
JTJ	**Tarama**	**2.89**	**266**	P		**Pn**	02 17 56.0	-2.6
JTJ				*e*S		**Sn**	02 18 27.1	-5.0
JTK	**Tokunoshima**	**3.06**	**18**	*e*P		**Pn**	02 17 58.9	-2.1
JTK				*e*S		**Sn**	02 18 32.1	-4.3
JMZ	**Minamidaito 2**	**3.18**	**72**	*e*P		**Pn**	02 17 59.0	-3.6
JISG	**Ishigakijima**	**3.25**	**266**	*e*P		**Pn**	02 18 00.6	-3.0
JISG				*e*S		**Sn**	02 18 34.6	-6.4
JKDJ	**Kitadaitoujima**	**3.28**	**70**	*e*P		**Pn**	02 18 00.7	-3.3
JKDJ				*e*S		**Sn**	02 18 36.9	-4.8
JIJ	**Ishigaki jima**	**3.43**	**262**	*e*P		**Pn**	02 18 01.8	-4.3
JAMN	**Amaminishikomi**	**3.56**	**19**	*e*P		**Pn**	02 18 05.9	-1.9
JKRS	**Kuro-shima**	**3.57**	**261**	*e*P		**Pn**	02 18 05.2	-2.8
JAM	**Amami Oshima**	**3.86**	**23**	*e*P		**Pn**	02 18 10.3	-1.6
YOJ	**Yonaguni jima**	**4.44**	**266**	P		**Pn**	02 18 17.9	-2.0
NACB	**Ninganchiao**	**5.76**	**264**	P		**Pn**	02 18 34.1	-3.9
YHNB	**Yeheng**	**5.91**	**269**	P		**Pn**	02 18 38.8	-1.3
SSLB	**Suanglung**	**6.40**	**262**	P		**Pn**	02 18 42.8	-4.0
TPUB	**Ta-pu**	**6.80**	**258**	P		**Pn**	02 18 49.6	-2.7
JNU	**Nakatsue**	**8.64**	**17**	Pn		**Pn**	02 19 16.5	-1.0
	1.5nm,0.3s,baz=183,slow=10,SNR=7.4							
JNU				Sn		**Sn**	02 20 48.5	-4.9
	0.4nm,0.3s,baz=281,slow=16,SNR=1.8							
	8.7nm,0.5s							
KSRS	**Korea Array**	**12.55**	**0**	Pn		**Pn**	02 20 09.7	-1.2
	0.3nm,0.3s,baz=176,slow=13,SNR=2.0							
KSRS				LR		LR	02 25 51.9	
	comp=Z,32nm,19.3s,baz=190,slow=42							
	0.5nm,0.3s							
JCJ	**Chichijima**	**13.07**	**77**	LR		LR	02 24 28.7	
	comp=Z,43nm,20.4s,baz=134,slow=34							
SONM	**Songino Array**	**28.53**	**329**	P		**P**	02 23 07.2	+1.1
	0.3nm,0.6s,baz=152,slow=11,SNR=2.8							
SONM				PcP		**PcP**	02 26 17.1	+0.6
	0.8nm,0.8s,baz=321,slow=2.0,SNR=2.5							
SONM				LR		LR	02 36 01.2	
	comp=Z,69nm,18.7s,baz=190,slow=40							
	0.3nm,0.6s							
MKAR	**Makanchi Array**	**42.21**	**313**	P		**P**	02 25 03.7	+0.5
	0.8nm,0.5s,baz=97,slow=9.4,SNR=12							
	0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**43.14**	**324**	P		**P**	02 25 11.8	+1.3
	1.1nm,0.5s,baz=116,slow=9.9,SNR=4.4							
ZALV				PcP		**PcP**	02 27 00.2	+0.8
	0.8nm,0.5s,baz=134,slow=4.2,SNR=1.8							
	1.1nm,0.5s							
WRA	**Warramunga Arr**	**44.98**	**171**	P		**P**	02 25 26.3	+0.7
	2.6nm,0.8s,baz=350,slow=8.9,SNR=11							
	2.6nm,0.8s							
KURBB	**Kurchatov Arra**	**45.62**	**317**	P		**P**	02 25 30.6	+0.2
	1.1nm,0.7s,baz=104,slow=9.1,SNR=4.5							
	1.1nm,0.7s							
PALK	**Pallekele**	**48.30**	**257**	LR		LR	02 46 34.6	
	comp=Z,27nm,18.3s,baz=218,slow=36							
ASAR	**Alice Springs**	**48.60**	**173**	P		**P**	02 25 55.0	+1.1
	0.8nm,0.8s,baz=358,slow=7.5,SNR=6.3							
	0.8nm,0.8s							
BVAR	**Borovoye Array**	**51.08**	**319**	P		**P**	02 26 13.8	+1.4
	0.5nm,0.4s,baz=97,slow=10,SNR=2.7							
	0.5nm,0.4s							
AKTO	**Aktyubinsk**	**58.56**	**315**	P		**P**	02 27 07.9	+1.3
	1.0nm,0.5s,baz=80,slow=6.1,SNR=2.9							
	1.0nm,0.5s							
GEYT	**Ailbeck**	**59.70**	**301**	P		**P**	02 27 16.9	+2.2
	2.2nm,0.6s,baz=74,slow=5.1,SNR=2.9							
	2.2nm,0.6s							
KBZ	**Khabaz**	**69.77**	**310**	P		**P**	02 28 22.2	+2.1
	3.4nm,0.8s,baz=164,slow=4.4,SNR=5.1							
	3.4nm,0.8s							
FINES	**FINESS Array B**	**73.89**	**331**	P		**P**	02 28 46.0	+1.6
	1.5nm,0.4s,baz=59,slow=5.8,SNR=14							
	1.5nm,0.4s							
AKASG	**Malin Array Be**	**76.36**	**320**	P		**P**	02 29 00.2	+1.3
	1.0nm,0.6s,baz=58,slow=6.0,SNR=5.7							
	1.0nm,0.6s							
NB2	**NORSAR Subarra**	**80.39**	**334**	P		**P**	02 29 22.1	+1.1
	comp=Z,0.4nm,0.7s,baz=54,slow=5.3							
NOA	**NORSAR Array B**	**80.39**	**334**	P		**P**	02 29 22.0	+1.0
	comp=Z,0.9nm,0.8s,baz=54,slow=5.3,SNR=5.4							
NOA				LR		LR	03 07 34.4	
	comp=Z,17nm,19.5s,baz=310,slow=38							
	comp=Z,0.9nm,0.8s							
BORG	**Borgarnes**	**87.53**	**347**	LR		LR	03 11 24.7	
	comp=Z,13nm,19.7s,baz=188,slow=37							

NEIC ***24*** *02:21:26.1±1.0,19.41N±0.01×155.257W±0.008, h5km±1km, Error ellipse: s-maj=2.5km s-min=2.3km az=7.0*

HVO 24 02:21:25.9±0.6, 19.41N±0.01×155.27W±0.01, h0km±4km, ML3.0/18, ML2.2/23(NEIC), Error ellipse: s-maj=2.1km s-min=1.5km az=170.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**86**		Pg	02 21 26.4	+0.2
KKO	**Keanakako'i**	**0.01**	**161**		Pg	02 21 26.6	+0.3
OBL	**Observatory Le**	**0.01**	**297**		Pg	02 21 26.5	+0.2
HATHI	**Halema'uma'u T**	**0.01**	**38**		Pg	02 21 26.6	+0.3
RIM	**Rim**	**0.02**	**191**		Pg	02 21 26.6	+0.3
SBLHI	**Steaming Bluff**	**0.02**	**10**		Pg	02 21 26.5	+0.2
UWE	**Uwekahuna**	**0.02**	**295**		Pg	02 21 26.8	+0.4
RSD	**Rainshed**	**0.05**	**352**		Pg	02 21 27.0	+0.1
PUH	**Pauahi**	**0.06**	**126**		Pg	02 21 27.6	+0.5
PUH				IAML		02 21 28.6	
	comp=E,2μm,0.2s						
PUH				IAML		02 21 29.2	
	comp=N,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**108**		Pg	02 21 28.6	+0.8
HLP	**Hilina Pali**	**0.12**	**197**		Pg	02 21 28.8	+0.6
HLP				IAML		02 21 31.7	
	comp=N,1μm,0.7s						
HLP				IAML		02 21 32.0	
	comp=E,1μm,0.7s						
MLH	**Mauna Loa**	**0.14**	**307**		Pg	02 21 29.6	+1.0
MLH				IAML		02 21 33.1	
	comp=N,1μm,0.3s						
STCH	**Steam Cracks**	**0.14**	**101**		Pg	02 21 29.3	+0.7
STCH				IAML		02 21 31.2	
	comp=N,1μm,0.2s						
HTC	**Hot Caves**	**0.21**	**215**		Pg	02 21 30.8	+0.9
JOKA	**Jonika Flow**	**0.25**	**85**	Pg	Pg	02 21 31.0	+0.3
JOKA				IAML		02 21 38.1	
	comp=E,358nm,0.9s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	02 21 32.6	+0.7
MLOA				IAML		02 21 39.9	
	comp=N,342nm,1.1s						
MLOA				IAML		02 21 42.6	
	comp=E,393nm,0.6s						
MWH	**Moku'aweowe**	**0.32**	**283**	Pg	Pg	02 21 32.8	+0.8
KHU	**Kahuku**	**0.36**	**243**		Pg	02 21 33.5	+0.7
ALEP	**Alea Permanent**	**0.38**	**290**		Pg	02 21 33.6	+0.5
HUH	**Hualalai**	**0.60**	**297**		Pg	02 21 37.5	+0.1

IDC ***24*** *02:24:15.8±1.4,31.90N×48.53E, h0km, mb3.8/11, mbtmp3.8/16, ML3.5/4, MS3.0/2, Error ellipse: s-maj=27.6km s-min=19.4km az=158.0*

TEH ***24*** *02:24:16.2,31.92N×48.71E, h8km±56km, ML3.8*

ISC 24 02:24:17.3±0.7, 31.86N±0.05×48.61E±0.06, h10km, n55, σ1s02/54, mb3.9/10, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.53**	**177**	Pg	**Pb**	**02 24 29.0**	**+0.4**
IKFM	**Kafar-mosalman**	**1.78**	**339**	Pg	**Pb**	02 24 50.2	+0.2
JHBN	**Jahan bin**	**1.79**	**77**	Pg	**Pn**	02 24 48.3	-0.1
ABEH	**Behbahan**	**1.89**	**131**	Pn	**Pb**	02 24 52.2	+0.4
ZNGN	**Zangian**	**1.93**	**82**	Pn	**Pn**	02 24 51.0	+0.6
IDOB	**Doab**	**1.96**	**349**	Pn	**Pb**	02 24 53.1	0.0
IPIR	**Pirpir**	**2.10**	**66**	Pn	**Pn**	02 24 53.6	+0.8
IBRJ	**Brojen**	**2.26**	**88**	Pn	**Pn**	02 24 55.5	+0.6
HSAM	**Samen**	**2.35**	**360**	Pn	**Pn**	02 24 57.4	+1.3
KLNJ	**Kolanjah**	**2.69**	**108**	Pn	**Pn**	02 25 01.9	+1.0
IKLH	**Kolahrood**	**2.90**	**59**	Pn	**Pn**	02 25 04.8	+1.1
IGAR	**Gharneh**	**2.96**	**79**	Pn	**Pn**	02 25 05.5	+0.9
HAGD	**Aghdareh**	**2.99**	**8**	Pn	**Pn**	02 25 06.4	+1.4
IGHG	**Ghaleghazi**	**3.00**	**326**	Pn	**Pn**	02 25 07.1	+2.0
QAMS	**Qamsar**	**3.00**	**51**	Pn	**Pn**	02 25 06.3	+1.1
SNQR	**Sonqor, Kerman**	**3.10**	**345**	Pn	**Pn**	02 25 08.8	+2.3
IRAM	**Ramesheh**	**3.21**	**90**	Pn	**Pn**	02 25 08.7	+0.7
IZEF	**Zefreh**	**3.31**	**71**	Pn	**Pn**	02 25 10.4	+1.0
ILIN	**Lien**	**3.35**	**336**	Pn	**Pn**	02 25 11.6	+1.7
IDHR	**Dehrash**	**3.39**	**327**	Pn	**Pn**	02 25 11.7	+1.3
IQOM	**Qom**	**3.62**	**34**	Pn	**Pn**	02 25 14.0	+0.4
KRSH	**Karshahi**	**3.64**	**54**	Pn	**Pn**	02 25 14.6	+0.8
KGS1	**Ghasr-e-Shirin**	**3.66**	**317**	Pn	**Pn**	02 25 15.5	+1.5
IRAZ	**Razeghan**	**3.70**	**17**	Pn	**Pn**	02 25 16.3	+1.6
QABG	**Abgarm-Qazvin**	**3.92**	**12**	Pn	**Pn**	02 25 19.4	+1.6
ISFB	**Sefidab**	**3.93**	**50**	Pn	**Pn**	02 25 18.4	+0.6
IVRN	**Varamin**	**4.07**	**39**	Pn	**Pn**	02 25 20.7	+1.0
IMHD	**Mahdasht**	**4.18**	**24**	Pn	**Pn**	02 25 22.7	+1.5
ISAD	**Sadrabad**	**4.32**	**88**	Pn	**Pn**	02 25 23.7	+0.4
ANAR	**Anarak**	**4.52**	**72**	Pn	**Pn**	02 25 26.4	+0.5
IDMV	**Damavand**	**4.68**	**37**	Pn	**Pn**	02 25 28.7	+0.5
ICHK	**Chekchek**	**4.94**	**84**	Pn	**Pn**	02 25 31.9	+0.1
ILAS	**Lasjerd**	**5.05**	**45**	Pn	**Pn**	02 25 34.0	+0.7
KLST	**Kelardasht - M**	**5.07**	**23**	Pn	**Pn**	02 25 34.6	+1.0
IMEH	**Mehriz**	**5.14**	**94**	Pn	**Pn**	02 25 35.4	+0.8
MZPU	**Pul - Mazandar**	**5.19**	**27**	Pn	**Pn**	02 25 36.3	+1.1
IPRN	**Peran**	**5.36**	**34**	Pn	**Pn**	02 25 38.2	+0.8
IHRS	**Heris**	**6.57**	**349**	Pn	**Pn**	02 25 55.7	+1.6
GNI	**Garni**	**8.85**	**340**	Pn	**Pn**	02 26 25.3	0.0
	0.5nm,0.3s,baz=155,slow=17,SNR=1.3						
	2.6nm,0.4s						
GEYT	**Alibeck**	**9.88**	**50**	Pn	**Pn**	02 26 39.9	+0.5
	0.4nm,0.3s,baz=237,slow=13,SNR=3.5						
GEYT				LR	LR	02 31 12.3	
	comp=Z,98nm,19.9s,baz=256,slow=42						
	1.9nm,0.7s						
EIL	**Elat**	**11.95**	**263**	LR	LR	02 32 51.8	
	comp=Z,51nm,20.1s,baz=67,slow=43						
WSAR	**Wadi Sarin**	**12.35**	**132**	Pn	**Pn**	02 27 14.0	+0.7
	0.3nm,0.3s,baz=323,slow=5.1,SNR=1.5						
	2.2nm,0.6s						
AKTO	**Aktobinsk**	**19.83**	**18**	P	**P**	02 28 48.6	+0.6
	0.1nm,0.3s,baz=216,slow=9.6,SNR=2.9						
	1.4nm,0.6s						
IDI	**Anoyia**	**20.05**	**286**	P	**P**	02 28 50.7	+0.1
	5.1nm,0.7s,baz=99,slow=12,SNR=6.0						
BELG	**Belogornoye**	**20.53**	**358**	P	**P**	02 28 56.8	+1.2
	7.1nm,0.6s,baz=180,slow=4.0,SNR=2.8						
	7.1nm,0.6s						
MLR	**Mutnels Rosu**	**22.23**	**314**	P	**P**	02 29 12.9	-1.2
	0.5nm,0.3s,baz=113,slow=13,SNR=1.8						
	0.5nm,0.3s						
AKASG	**Malin Array Be**	**23.68**	**328**	P	**P**	02 29 28.4	-0.5
	0.2nm,0.4s,baz=129,slow=8.3,SNR=4.3						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**26.37**	**30**	P	**P**	02 29 53.1	-0.4
	1.7nm,0.6s,baz=224,slow=8.3,SNR=14						
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**28.99**	**41**	P	**P**	02 30 16.9	0.0
	0.6nm,0.7s,baz=243,slow=9.0,SNR=2.8						
	0.6nm,0.7s						
FINES	**FINESS Array B**	**33.04**	**340**	P	**P**	02 30 51.0	-1.5
	0.7nm,0.5s,baz=134,slow=8.1,SNR=1.7						
	0.7nm,0.5s						
HFS	**Hagfors**	**36.49**	**331**	P	**P**	02 31 21.2	-1.1
	1.0nm,0.6s,baz=126,slow=11,SNR=6.5						
	1.0nm,0.6s						
ARCES	**ARCESS Array B**	**39.92**	**348**	P	**P**	02 31 51.2	+0.1
	2.9nm,1.1s,baz=148,slow=7.1,SNR=1.3						
	2.9nm,1.1s						
ESDC	**Sonseca Array**	**42.85**	**296**	P	**P**	02 32 15.0	-0.6
	0.3nm,0.6s,baz=76,slow=8.8,SNR=6.0						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**46.77**	**258**	P	**P**	02 32 46.4	-0.7
	0.7nm,0.5s,baz=60,slow=7.8,SNR=11						
	0.7nm,0.5s						
SPITS	**Spitsbergen Ar**	**48.52**	**352**	P	**P**	02 32 59.7	-0.2
	2.8nm,0.7s,baz=148,slow=11,SNR=1.5						
	2.8nm,0.7s						

IDC 24 02:32:10.3±1.8, 1.72N×127.69E, h0km, mb3.7/5, mbtmp3.8/5, Error ellipse: s-maj=160.8km s-min=21.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.49**	**163**	P	P	02 37 12.2	+0.7
	2.4nm,0.4s,baz=342,slow=11,SNR=34						
	2.4nm,0.4s						
ASAR	**Alice Springs**	**25.94**	**167**	P	P	02 37 44.1	-0.5
	0.7nm,0.4s,baz=348,slow=7.4,SNR=9.4						
	0.7nm,0.4s						
STKA	**Stephens Creek**	**35.92**	**160**	P	P	02 39 12.2	-0.3
	2.3nm,0.5s,baz=336,slow=12,SNR=4.7						
	2.3nm,0.5s						
MKAR	**Makanchi Array**	**59.75**	**326**	P	P	02 42 18.2	+1.1
	0.3nm,0.7s,baz=108,slow=8.5,SNR=1.7						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**63.94**	**328**	P	P	02 42 44.2	-1.0
	0.2nm,0.6s,baz=128,slow=8.3,SNR=2.0						
	0.2nm,0.6s						

IDC ***24*** *02:52:10.3±6.2,6.43S×150.22E, h56km±52km, mb3.4/4, mbtmp3.9/5, ML2.8/1, MS3.3/2, Error ellipse: s-maj=75.9km s-min=36.5km az=126.0*

ISC 24 02:52:08.1±1.9, 6.45S±0.4×150.45E±0.5, h35km, n7, σ1s05/7, mb3.5/3, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**4.36**	**227**	P	**Pn**	**02 53 12.6**	**+0.7**
	40nm,0.3s,baz=24,slow=12,SNR=34						
PMG				S	**Sn**	02 54 00.9	-0.6
	104nm,0.3s,baz=90,slow=20,SNR=13						
	87nm,0.3s						
WRA	**Warramunga Arr**	**20.58**	**228**	P	**P**	02 56 43.3	-0.9
	7.3nm,0.6s,baz=53,slow=11,SNR=57						
	7.3nm,0.6s						
ASAR	**Alice Springs**	**23.34**	**221**	P	**P**	02 57 13.4	-0.2
	1.0nm,0.7s,baz=54,slow=9.1,SNR=15						
ASAR				LR	LR	03 07 01.8	
	comp=Z,53nm,18.4s,baz=149,slow=38						
	1.0nm,0.7s						
KLR	**Kul'dur**	**57.79**	**346**	LR	LR	03 24 35.8	
	comp=Z,38nm,19.5s,baz=330,slow=34						
MKAR	**Makanchi Array**	**80.01**	**320**	P	**P**	03 04 14.2	+0.1
	0.4nm,0.6s,baz=100,slow=8.4,SNR=2.1						
	0.4nm,0.6s						
ILAR	**Eielson Array**	**84.57**	**22**	P	**P**	03 04 36.6	-0.9
	0.3nm,0.9s,baz=258,slow=4.2,SNR=2.5						
	0.3nm,0.9s						
TORD	**Torodi Ar. Bea**	**148.48**	**285**	PKPbc	**PKPdf**	03 11 50.1	+1.4
	1.4nm,0.4s,baz=80,slow=2.6,SNR=12						

DNK ***24*** *02:53:02.4±1.4,84.23N×0.26E, h5km±28km, ML2.2*

BER ***24*** *02:53:08.2±4.2,83.87N×0.05W, h20km±328km, mb(Pn)3.9, ML2.8(NAO), Confirmed Earthquake*

FCIAR ***24*** *02:53:10.0,83.84N×0.73E, h10km, station ZFI2 has station magnitude of 3.80*

ISC 24 02:53:04.1±1.4, 83.81N±0.08×0.05E±0.07, h10km, n18, σ2s94/28, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**3.07**	**232**	Pn	**Pn**	**02 53 53.5**	**+1.0**
NOR	**Nord**	**3.07**	**232**	*e*P	**Pn**	02 53 53.3	+0.8
NOR	**Nord**	**3.07**	**232**	*i* P	**Pn**	02 53 54.1	+1.6
KBS	**Kingsbay**	**5.21**	**154**	Pn	**Pn**	02 54 25.0	+3.1
KBS				S	**Sn**	02 55 19.3	-2.7
KBS	**Kingsbay**	**5.21**	**154**	*e*P	**Pn**	02 54 24.7	+2.8
KBS				*e*S	**Sn**	02 55 19.2	-2.7
KBS				IAML		02 55 25.0	
	comp=Z,7.8nm,0.3s						
KBS	**Kingsbay**	**5.21**	**154**	*e*P	**Pn**	02 54 25.0	+3.1
KBS				*e*S	**Sn**	02 55 22.1	+0.1
KBS	**Kingsbay**	**5.21**	**154**	*i* P	**Pn**	02 54 25.0	+3.1
BRBB	**Barentsburg B**	**6.13**	**152**	Pn	**Pn**	02 54 36.9	+2.3
BRBB				S	**Sn**	02 55 41.6	-3.0
BRBB	**Barentsburg B**	**6.13**	**152**	Pn	**Pn**	02 54 36.9	+2.3
BRBB				S	**Sn**	02 55 41.6	-3.0
SPA0	**Spitsbergen Ar**	**6.17**	**147**	Pn	**Pn**	02 54 37.4	+2.3
	baz=6.3,slow=8.6						
SPA0				Sn	**Sn**	02 55 44.5	-1.1
	baz=345,slow=28						
SPA0	**Spitsbergen Ar**	**6.17**	**147**	Pn	**Pn**	02 54 37.4	+2.3
	baz=6.3,slow=8.6						
SPA0				Sn	**Sn**	02 55 44.5	-1.1
	baz=345,slow=28						
SPA0	**Spitsbergen Ar**	**6.17**	**147**	*e*P	**Pn**	02 54 37.5	+2.4
SPA0				*e*S	**Sn**	02 55 43.0	-2.6
ZFI2	**Zemlya Franca-**	**6.82**	**90**	*e*P	**Pn**	**02 54 47.8**	**+3.9**
ZFI2				*e*S	**Sn**	02 55 58.9	-2.6
	comp=Z,32nm,1.0s						
OMEGA	**Omega**	**6.85**	**90**	*e*P	**Pn**	02 54 48.9	+4.5
OMEGA				*e*S	**Sn**	02 55 58.9	-3.2
DAG	**Danmarks Havn**	**7.68**	**214**	*e*P	**Pn**	02 54 58.2	+2.5
DAG	**Danmarks Havn**	**7.68**	**214**	*i* P	**Pn**	02 54 58.5	+2.8
HOPEN	**Hopen**	**8.35**	**137**	*e*S	**Sn**	02 56 33.3	-5.7
NEEM	**North Greenlan**	**9.96**	**260**	*i* P	**Pn**	02 55 24.6	-2.7
NEEM				*i* S	Sn	02 57 09.4	-10
NEEM				IAML		02 57 16.0	
	comp=Z,4.5nm,0.8s						

NEIC ***24*** *03:04:59.6±2.0,4.33S±0.05×140.52E±0.08, h10km±1km, mb4.6/28, Error ellipse: s-maj=13.7km s-min=7.9km az=105.0*

DJA ***24*** *03:05:04.0±0.6,5.3S×14.0E±°, h18km±5km, M5.0/7, mB5.4/1, mb4.6/7, MLv5.1/4, Mw(mB)4.9/1*

IDC ***24*** *03:05:10.4±2.9,4.60S×140.54E, h108km±28km, mb3.6/7, mbtmp4.2/9, MS3.0/2, Error ellipse: s-maj=24.4km s-min=13.0km az=88.0*

ISC 24 03:05:09.2±0.4, 4.58S±0.05×140.35E±0.06, h100km, n75, σ1s97/76, mb4.3/19, 3C, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TABU	**Tabubil**	**1.11**	**128**	P	**Pn**	**03 05 31.0**	**+0.1**
GENI	**Genyem**	**1.98**	**355**	P	**Pn**	03 05 38.5	-3.2
GENI	**Genyem**	**1.98**	**355**	P	**Pn**	03 05 38.4	-3.2
JAY	**Jayapura**	**2.08**	**10**	P	Pn	03 05 38.4	-4.6
JAY				S	**Sn**	03 06 02.0	-6.8
MMPI	**Merauke**	**3.86**	**179**	P	**Pn**	03 06 02.9	-3.6
FAKI	**Fak Fak**	**8.25**	**281**	P	**Pn**	03 07 06.4	+0.2
FAKI	**Fak Fak**	**8.25**	**281**	Pn	**Pn**	03 07 02.7	-3.5
FAKI				Sn	**Sn**	03 08 35.6	-2.1
FAKI	**Fak Fak**	**8.25**	**281**	P	**Pn**	03 07 05.1	-1.1
	36nm,0.7s						
PMG	**Port Moresby**	**8.29**	**126**	P	**Pn**	03 07 06.8	+0.1
	55nm,0.7s,baz=302,slow=12,SNR=12						
PMG				S	**Sn**	03 08 34.2	-4.4
	12nm,0.6s,baz=288,slow=9.6,SNR=1.5						
PMG				LR	LR	03 11 02.8	
	comp=Z,86nm,21.0s,baz=196,slow=43						
COEN	**Coen**	**9.72**	**164**	P	**Pn**	03 07 26.1	-0.2
COEN	**Coen**	**9.72**	**164**		**Pn**	03 07 23.5	-2.8
KDU	**Kakadu**	**11.20**	**224**	P	**Pn**	03 07 45.6	-0.6
DRS	**Darwin Rock St**	**12.16**	**230**	P	**Pn**	03 08 00.2	+1.0
	22nm,0.4s						
MTN	**Manton Dam**	**12.26**	**227**	P	**Pn**	03 07 59.5	-0.9
MTN	**Manton Dam**	**12.26**	**227**		**Pn**	03 07 59.2	-1.2
QIS	**Mount Isa**	**15.89**	**183**	P	**Pn**	03 08 46.8	-0.5
WB0	**Warramunga Arr**	**16.17**	**201**		**Pn**	03 08 49.9	-0.9
WR0	**Warramunga Arr**	**16.30**	**200**	Pn	**Pn**	03 08 51.7	-0.6
WR0				IAmb	IAmb	03 08 58.3	
	comp=Z,29nm,1.1s						
WRAB	**Tennant Creek**	**16.34**	**200**		**P**	03 08 53.6	-0.3
WRAB				IAmb	IAmb	03 08 57.9	
	comp=Z,23nm,0.7s						
WB2	**Warramunga Arr**	**16.35**	**200**		**Pn**	03 08 53.0	+0.1
WB2				IAmb	IAmb	03 08 58.0	
	comp=Z,25nm,0.7s						
WRA	**Warramunga Arr**	**16.35**	**200**		**Pn**	03 08 52.1	-0.8
WRA	**Warramunga Arr**	**16.35**	**200**	P	**Pn**	03 08 53.2	+0.3
	comp=Z,18nm,0.6s,baz=22,slow=12,SNR=25						
WRA				S	**Sn**	03 11 44.8	-10
	comp=Z,5.7nm,0.8s,baz=7.2,slow=24,SNR=5.6						
CTAO	**Charters Tower**	**16.45**	**160**		**Pn**	03 08 54.6	+0.4
SOEI	**Soe**	**16.76**	**251**	P	**P**	03 08 58.8	+0.1
SOEI	**Soe**	**16.76**	**251**	Pn	**Pn**	03 08 57.0	-1.1
SOEI	**Soe**	**16.76**	**251**	P	**P**	03 08 59.3	+0.6
	comp=Z,97nm,1.2s						
BATI	**Baumata**	**17.46**	**250**	P	**Pn**	03 09 08.7	+2.1
	comp=Z,80nm,0.7s,baz=71,slow=6.0,SNR=7.6						
BATI	**Baumata**	**17.46**	**250**	P	**Pn**	03 09 07.6	+1.0
	comp=Z,73nm,0.6s						
EDFI	**Ende, Flores**	**18.98**	**256**

C23K	**Itkillik River**	**87.18**	**19**	P	**P**	**03 17 43.7**	**-0.1**
C23K				IAmb	IAmb	03 18 11.4	
	comp=Z,2.9nm,1.1s						
ABKAR	**Akbulak array**	**87.20**	**320**	P	**P**	**03 17 43.3**	**-1.1**
BMAR	**Burnt Mountain**	**88.52**	**22**	P	**P**	**03 17 51.2**	**+0.9**
BCAR	**Beaver Creek A**	**88.58**	**26**	P	**P**	**03 17 51.0**	**+0.3**
TORD	**Torodi Ar. Bea**	**138.32**	**285**	PKP	**PKPdf**	**03 24 23.7**	**-0.3**
	comp=Z,0.9nm,1.1s,baz=92,slow=1.6,SNR=3.5						
CPUP	**Villa Florida**	**144.82**	**152**	PKP	**PKPab**	**03 24 34.1**	**-0.3**
	comp=Z,2.3nm,1.1s,baz=225,slow=2.9,SNR=2.9						
LPAZ	**La Paz**	**145.02**	**127**	PKP	**PKPdf**	**03 24 37.5**	**+0.8**
	comp=Z,3.0nm,0.7s,baz=271,slow=1.9,SNR=15						
KIC	**Kosan Boka**	**145.21**	**275**	⇑*i*PKP1	**PKPbc**	**03 24 36.4**	**+0.3**
	comp=Z,7.5nm,0.4s						
DBIC	**Dimbokro**	**145.31**	**275**	PKPbc	**PKPdf**	**03 24 36.9**	**+0.4**
	comp=Z,6.6nm,0.6s,baz=86,slow=4.4,SNR=13						
TIC	**Toumodi**	**145.48**	**275**	⇑*i*PKP1	**PKPdf**	**03 24 37.2**	**+0.4**
	comp=Z,11nm,0.3s						
LIC	**Lamto**	**145.49**	**274**	⇑*i*PKP1	**PKPbc**	**03 24 37.3**	**+0.3**
	comp=Z,9.4nm,0.4s						

*IDC **24** 03:10:55.5±0.8,55°18N×162°17E,h0km,mb3.8/10, mbtmp3.8/12,ML3.4/2,MS3.3/22,Error ellipse: s-maj=27.9km s-min=16.9km az=143.0*
*KRSC **24** 03:10:57.7±0.9,55°03N×162°51E,h42km±24km,Ml4.6 MOS **24** 03:10:59.6±0.6,55°08N×162°44E,h41km,mb4.1/4,Error ellipse: s-maj=8.8km s-min=5.3km az=77.4*
*NEIC **24** 03:11:01.5±1.9,55°2N±0°1×162°1E±0°2,h35km±2km, mb4.1/48,Error ellipse: s-maj=28.6km s-min=15.8km az=144.0*

ISC 24 03:11:01.4±1.0,55°08N±0°03×162°43E±0°04,h42km±11km, n159,σ1§31/161,mb4.1/33,MS3.5/17,2D,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKZ	**Mys Kozlova**	**0.66**	**218**	*e*P	**Pn**	**03 11 11.8**	**-2.5**
MKZ	**Mys Kozlova**	**0.66**	**218**	PN	**Pn**	**03 11 11.8**	**-2.5**
KBTR	**Krutoberegovo**	**1.15**	**11**	*e*P	**Pn**	**03 11 19.5**	**-1.5**
KBTR	**Krutoberegovo**	**1.15**	**11**	PN	**Pn**	**03 11 19.5**	**-1.5**
TUMD	**Tumrok D**	**1.17**	**277**	*e*P	**Pn**	**03 11 19.4**	**-1.9**
TUMD				*e*S	**Sn**	**03 11 33.7**	**-2.4**
BZGR	**Bezymyannyi-Gr**	**1.31**	**312**	*e*P	**Pn**	**03 11 22.0**	**-1.3**
BZGR	**Bezymyannyi-Gr**	**1.31**	**312**	PN	**Pn**	**03 11 22.0**	**-1.3**
ZLN	**Zelenaya**	**1.32**	**316**	*e*P	**Pn**	**03 11 22.3**	**-1.1**
ZLN	**Zelenaya**	**1.32**	**316**	PN	**Pn**	**03 11 22.3**	**-1.1**
TUMR	**Tumrok**	**1.32**	**280**	*e*P	**Pn**	**03 11 22.1**	**-1.4**
TUMR				*e*S	**Sn**	**03 11 40.3**	**+0.3**
TUMR	**Tumrok**	**1.32**	**280**	PN	**Pn**	**03 11 22.1**	**-1.4**
TUMR				S	**Sn**	**03 11 40.3**	**+0.3**
BZP	**Bezymyannyi-Pe**	**1.36**	**309**	*e*P	**Pn**	**03 11 22.4**	**-1.7**
BZMR	**Bezymyannaya**	**1.40**	**309**	*e*P	**Pn**	**03 11 23.1**	**-1.4**
BZMR	**Bezymyannaya**	**1.40**	**309**	PN	**Pn**	**03 11 23.1**	**-1.4**
LGNR	**Loginova**	**1.41**	**316**	*e*P	**Pn**	**03 11 23.8**	**-1.0**
LGNR	**Loginova**	**1.41**	**316**	PN	**Pn**	**03 11 23.8**	**-1.0**
CIRR	**Tsirk**	**1.41**	**318**	*e*P	**Pn**	**03 11 23.6**	**-1.0**
CIRR	**Tsirk**	**1.41**	**318**	PN	**Pn**	**03 11 23.6**	**-1.0**
BZWR	**Bezymyannyi-We**	**1.41**	**310**	*e*P	**Pn**	**03 11 23.4**	**-1.3**
BZWR	**Bezymyannyi-We**	**1.41**	**310**	PN	**Pn**	**03 11 23.4**	**-1.3**
KMNR	**Kamenistaya**	**1.42**	**299**	*i*P	**Pn**	**03 11 23.5**	**-1.3**
KMNR	**Kamenistaya**	**1.42**	**299**	PN	**Pn**	**03 11 23.5**	**-1.3**
KIRR	**Kirishev**	**1.47**	**307**	*e*P	**Pn**	**03 11 24.0**	**-1.5**
KIRR	**Kirishev**	**1.47**	**307**	PN	**Pn**	**03 11 24.0**	**-1.5**
KPT	**Kopyto**	**1.54**	**306**	*e*P	**Pn**	**03 11 25.2**	**-1.2**
KPT	**Kopyto**	**1.54**	**306**	PN	**Pn**	**03 11 25.2**	**-1.2**
KRSR	**Krestovskiy**	**1.55**	**318**	*e*P	**Pn**	**03 11 25.0**	**-1.6**
KRSR	**Krestovskiy**	**1.55**	**318**	PN	**Pn**	**03 11 25.0**	**-1.6**
SRDR	**Sredinnyy**	**1.97**	**310**	*e*P	**Pn**	**03 11 31.4**	**-0.9**
SRDR	**Sredinnyy**	**1.97**	**310**	PN	**Pn**	**03 11 31.4**	**-0.9**
KII	**Karymskiy**	**2.03**	**240**	*e*P	**Pn**	**03 11 32.2**	**-0.9**
KII	**Karymskiy**	**2.03**	**240**	PN	**Pn**	**03 11 32.2**	**-0.9**
BKI	**Bering**	**2.04**	**85**	*e*S	**Sn**	**03 11 55.9**	**-1.4**
SPN	**Mys Shipunski**	**2.44**	**216**	*i*P	**Pn**	**03 11 36.3**	**-2.3**
SPN				*e*S	**Sn**	**03 12 04.0**	**-3.2**
SPN	**Mys Shipunski**	**2.44**	**216**	PN	**Pn**	**03 11 36.3**	**-2.3**
SPN				S	**Sn**	**03 12 04.0**	**-3.2**
KRER	**Koryakskii**	**2.80**	**232**	*e*P	**Pn**	**03 11 44.2**	**+0.4**
KRER	**Koryakskii**	**2.80**	**232**	PN	**Pn**	**03 11 44.2**	**+0.4**
SMAR	**Somma**	**2.80**	**231**	*i*P	**Pn**	**03 11 43.6**	**-0.3**
SMAR				*e*S	**Sn**	**03 12 17.8**	**+1.2**
SMAR	**Somma**	**2.80**	**231**	PN	**Pn**	**03 11 43.6**	**-0.3**
SMAR				S	**Sn**	**03 12 17.8**	**+1.2**
KRX	**Arik**	**2.81**	**234**	*i*P	**Pn**	**03 11 44.1**	**+0.2**
KRX	**Arik**	**2.81**	**234**	PN	**Pn**	**03 11 44.1**	**+0.2**
AVH	**Avacha**	**2.83**	**232**	*e*P	**Pn**	**03 11 44.1**	**0.0**
AVH				*e*S	**Sn**	**03 12 19.1**	**+2.1**
AVH	**Avacha**	**2.83**	**232**	PN	**Pn**	**03 11 44.1**	**0.0**
AVH				S	**Sn**	**03 12 19.1**	**+2.1**
UGLR	**Uglovaya**	**2.83**	**230**	*e*P	**Pn**	**03 11 43.9**	**-0.2**
UGLR				*e*S	**Sn**	**03 12 18.0**	**+0.9**
UGLR	**Uglovaya**	**2.83**	**230**	PN	**Pn**	**03 11 43.9**	**-0.2**
UGLR				S	**Sn**	**03 12 18.0**	**+0.9**
GNL	**Ganaly**	**2.97**	**244**	*e*P	**Pn**	**03 11 46.1**	**+0.1**
GNL	**Ganaly**	**2.97**	**244**	PN	**Pn**	**03 11 46.1**	**+0.1**
DALK	**Dalny**	**2.98**	**228**	*e*S	**Sn**	**03 12 20.2**	**-0.4**
PET	**Petropavlovsk**	**3.03**	**229**		**Pn**	**03 11 46.8**	**0.0**
PET				Sn	**Sn**	**03 12 19.6**	**-2.2**
PET	**Petropavlovsk**	**3.03**	**229**	*e*P	**Pn**	**03 11 46.8**	**0.0**
PET				*e*S	**Sn**	**03 12 22.3**	**+0.5**
PET	**Petropavlovsk**	**3.03**	**229**	*e*PN	**Pn**	**03 11 46.9**	**+0.1**
PET				*e*S	**Sn**	**03 12 21.6**	**-0.2**
PET				pmax	pmax		
	comp=Z,149nm,0.5s						
PET				smax	smax		
	comp=N,871nm,0.6s						
PET				smax	smax		
	comp=E,1μm,0.5s						
PET				MLR	MLR		
	comp=Z,200nm,17.0s						
KRMR	**Karymshinskiy**	**3.40**	**230**	*e*P	**Pn**	**03 11 52.3**	**+0.5**
KRMR				*e*S	**Sn**	**03 12 31.5**	**+0.7**
KRMR	**Karymshinskiy**	**3.40**	**230**	PN	**Pn**	**03 11 52.3**	**+0.5**
KRMR				S	**Sn**	**03 12 31.5**	**+0.7**
PEA0B	**Petropavlovsk-**	**3.42**	**237**		**Pn**	**03 11 52.0**	**-0.1**
PEA0B	**Petropavlovsk-**	**3.42**	**237**	*d i*PN	**Pn**	**03 11 53.4**	**+1.3**
PETK	**Petropavlovsk-**	**3.42**	**237**		**Pn**	**03 11 52.0**	**-0.1**
PETK	**Petropavlovsk-**	**3.42**	**237**	Pn	**Pn**	**03 11 51.1**	**-1.0**
	comp=Z,4.9nm,0.3s,baz=68,slow=16,SNR=27						
PETK				Sn	**Sn**	**03 12 32.6**	**+1.3**
	comp=Z,8.5nm,0.3s,baz=46,slow=15,SNR=6.1						
PETK				LR	LR	03 13 18.1	
	comp=Z,182nm,20.8s,baz=49,slow=43						
	comp=Z,6.9nm,0.4s						
RUS	**Russkaya**	**3.53**	**223**	*e*P	**Pn**	**03 11 52.4**	**-1.2**
RUS				*e*S	**Sn**	**03 12 34.7**	**+0.7**
RUS	**Russkaya**	**3.53**	**223**	PN	**Pn**	**03 11 52.4**	**-1.2**
RUS				S	**Sn**	**03 12 34.7**	**+0.7**
GRL	**Gorelyy**	**3.62**	**227**	*e*P	**Pn**	**03 11 55.3**	**+0.4**
GRL				*e*S	**Sn**	**03 12 39.0**	**+2.6**
GRL	**Gorelyy**	**3.62**	**227**	PN	**Pn**	**03 11 55.3**	**+0.4**
GRL				S	**Sn**	**03 12 39.0**	**+2.6**
MTVR	**Mutnovka**	**3.62**	**226**	*e*P	**Pn**	**03 11 54.6**	**-0.4**
MTVR				*e*S	**Sn**	**03 12 36.8**	**+0.3**
MTVR	**Mutnovka**	**3.62**	**226**	PN	**Pn**	**03 11 54.6**	**-0.4**
MTVR				S	**Sn**	**03 12 36.8**	**+0.3**
ASAK	**Asacha**	**3.81**	**227**	*e*P	**Pn**	**03 11 58.5**	**+0.9**
ASAK				*e*S	**Sn**	**03 12 43.9**	**+2.7**
ASAK	**Asacha**	**3.81**	**227**	PN	**Pn**	**03 11 58.5**	**+0.9**
ASAK				S	**Sn**	**03 12 43.9**	**+2.7**
KDTR	**Khodutka, Kamc**	**4.18**	**220**	*e*P	**Pn**	**03 12 02.4**	**-0.2**
KDTR				*e*S	**Sn**	**03 12 49.6**	**-0.6**
KDTR	**Khodutka, Kamc**	**4.18**	**220**	PN	**Pn**	**03 12 02.4**	**-0.2**
KDTR				S	**Sn**	**03 12 49.6**	**-0.6**
SKR	**Severo-Kuril's**	**5.83**	**224**	*e*PN	Pn	03 12 19.4	-5.8
SKR				pmax	pmax		
	comp=Z,100nm,4.1s						
SKR				MLR	MLR		
	comp=Z,200nm,18.0s						
SHEM	**Shemya Is, Ala**	**7.29**	**104**	Pn	**Pn**	**03 12 45.4**	**+0.3**
	comp=Z,2.4nm,0.3s,baz=261,slow=19,SNR=1.2						
SHEM				Sn	Sn	03 14 03.5	-2.9
	comp=Z,1.5nm,0.3s,baz=251,slow=20,SNR=2.0						
SHEM				LR	LR	03 15 08.6	
	comp=Z,72nm,21.2s,baz=315,slow=34						
	comp=Z,26nm,0.7s						
MA2	**Magadan**	**7.75**	**310**	LR	LR	03 16 11.6	
	comp=Z,147nm,20.5s,baz=122,slow=42						
BILL	**Bilibino**	**13.13**	**6**	*e*PN	**Pn**	**03 14 07.3**	**+2.4**
ASAJ	**Asahikawa**	**16.84**	**238**	LR	LR	03 21 14.7	
	comp=Z,73nm,18.6s,baz=156,slow=37						

YAK	**Yakutsk**	**18.28**	**306**	LR	LR	03 22 26.1	
	comp=Z,60nm,18.8s,baz=111,slow=38						
K15K	**Wolf Creek Mou**	**19.85**	**54**	P	**P**	**03 15 30.1**	**+1.7**
K15K				IAmb	IAmb	03 15 31.4	
	comp=Z,9.2nm,1.0s						
G16K	**Koyuk River**	**20.00**	**45**	P	Pn	03 15 32.2	+0.3
J16K	**Anvik River**	**20.37**	**51**	P	Pn	03 15 36.2	-0.2
I17K	**Unalakleet**	**20.41**	**50**		**P**	**03 15 36.3**	**+1.9**
N15K	**Kwethluk River**	**20.50**	**60**	P	**P**	**03 15 37.7**	**+2.3**
F17K	**Baldwin Pennin**	**20.71**	**42**	P	Pn	03 15 39.7	-0.6
F17K				IAmb	IAmb	03 15 40.3	
	comp=Z,10nm,0.8s						
H17K	**Granite Mounta**	**20.91**	**47**		**P**	**03 15 40.2**	**+0.3**
H17K				IAmb	IAmb	03 15 42.6	
	comp=Z,9.3nm,1.0s						
J17K	**VABM Dome**	**21.07**	**51**	P	**P**	**03 15 43.4**	**+1.9**
J17K				IAmb	IAmb	03 15 51.0	
	comp=Z,12nm,1.3s						
E18K	**Tukpahlearik C**	**21.24**	**40**	P	**P**	**03 15 44.8**	**+1.5**
K17K	**Iditarod**	**21.37**	**53**	P	**P**	**03 15 46.1**	**+1.3**
K17K				IAmb	IAmb	03 15 49.9	
	comp=Z,12nm,1.1s						
H18K	**Honhosa River**	**21.60**	**47**	P	**P**	**03 15 49.0**	**+1.8**
H18K				IAmb	IAmb	03 15 52.8	
	comp=Z,10nm,1.4s						
G18K	**Tagagawik**	**21.61**	**44**	P	**P**	**03 15 49.7**	**+2.3**
M17K	**Holitna River**	**21.76**	**57**	P	**P**	**03 15 50.7**	**+1.8**
TIXI	**Tiksi**	**21.91**	**332**	P	**P**	**03 15 50.6**	**+0.2**
TIXI				IAmb	IAmb	03 16 04.9	
	comp=Z,6.9nm,0.9s						
TIXI	**Tiksi**	**21.91**	**332**	P	**P**	**03 15 50.6**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,0.9s						
C19K	**Lookout Ridge**	**22.14**	**36**	P	**P**	**03 15 54.0**	**+1.0**
C19K				IAmb	IAmb	03 16 00.2	
	comp=Z,13nm,1.2s						
F19K	**Shaleruckik Mo**	**22.15**	**42**	P	**P**	**03 15 54.2**	**+1.0**
F19K				IAmb	IAmb	03 15 56.3	
	comp=Z,7.0nm,1.0s						
G19K	**Purcell Mounta**	**22.29**	**44**	P	**P**	**03 15 56.2**	**+1.6**
G19K				IAmb	IAmb	03 16 17.6	
	comp=Z,10.0nm,1.5s						
H19K	**Roundabout Mou**	**22.45**	**46**	P	**P**	**03 15 58.2**	**+1.9**
H19K				IAmb	IAmb	03 15 59.5	
	comp=Z,10nm,1.1s						
D19K	**Kuna River**	**22.45**	**38**	P	**P**	**03 15 57.2**	**+0.8**
D19K				IAmb	IAmb	03 16 00.1	
	comp=Z,6.9nm,1.1s						
E19K	**Redstone River**	**22.50**	**41**	P	**P**	**03 15 58.1**	**+1.2**
E19K				IAmb	IAmb	03 15 59.9	
	comp=Z,8.4nm,1.2s						
J19K	**Poorman**	**22.65**	**50**	P	**P**	**03 15 59.3**	**+0.9**
F20K	**Avaraart Lake**	**22.99**	**42**	P	**P**	**03 16 02.8**	**+0.9**
B20K	**Meade River**	**23.25**	**34**	P	**P**	**03 16 05.0**	**+0.5**
J20K	**Nowinta River**	**23.30**	**50**		**P**	**03 16 06.1**	**+0.9**
K20K	**Telida**	**23.32**	**52**		**P**	**03 16 06.0**	**+0.7**
G21K	**Allakaket**	**23.77**	**44**	P	**P**	**03 16 10.2**	**+0.7**
F21K	**Alatna River**	**23.88**	**42**		**P**	**03 16 11.5**	**+0.9**
F21K				IAmb	IAmb	03 16 12.4	
	comp=Z,7.2nm,0.9s						
B21K	**Ikpikpuk River**	**23.98**	**36**		**P**	**03 16 12.1**	**+0.8**
ILSW	**Iliamna Southw**	**23.98**	**60**	P	**P**	**03 16 12.7**	**+1.0**
CAST	**Castle Rocks**	**24.21**	**51**	P	**P**	**03 16 14.8**	**+1.1**
CAST				IAmb	IAmb	03 16 16.2	
	comp=Z,5.5nm,0.8s						
I21K	**Tanana**	**24.28**	**47**	P	**P**	**03 16 15.8**	**+1.6**
I21K				IAmb	IAmb	03 16 16.6	
	comp=Z,6.2nm,1.1s						
D22K	**Ayikyak River**	**24.47**	**38**	P	**P**	**03 16 16.2**	**+0.2**
D22K				IAmb	IAmb	03 16 18.2	
	comp=Z,4.8nm,0.9s						
SKT	**Skwentna**	**24.54**	**55**	P	**P**	**03 16 18.4**	**+1.7**
SKT				IAmb	IAmb	03 16 19.9	
	comp=Z,6.3nm,1.1s						
E22K	**Anaktuvuk Pass**	**24.65**	**40**	P	**P**	**03 16 16.9**	**-0.8**
BPAW	**Bear Paw Mtn.**	**24.69**	**50**	P	**P**	**03 16 18.4**	**+0.4**
KTH	**Kantishna Hill**	**24.73**	**51**	P	**P**	**03 16 19.2**	**+0.8**
MLY	**Manley**	**24.80**	**48**		**P**	**03 16 19.4**	**+0.4**
MJAR	**Matsushiro Arr**	**24.86**	**232**	LR	LR	03 26 33.5	
	comp=Z,28nm,21.7s,baz=64,slow=38						
G23K	**Bananza Creek**	**25.17**	**44**	P	**P**	**03 16 23.8**	**+1.4**
H23K	**Yukon River**	**25.32**	**46**	P	**P**	**03 16 23.9**	**+0.2**
H23K				IAmb	IAmb	03 16 39.8	
	comp=Z,5.4nm,1.1s						
C23K	**Itkillik River**	**25.38**	**36**	P	**P**	**03 16 24.4**	**+0.2**
C23K				IAmb	IAmb	03 16 28.6	
	comp=Z,5.9nm,0.9s						
NEA2	**Nenana**	**25.52**	**49**	P	**P**	**03 16 27.6**	**+2.1**
TOLK	**Toolik Lake Re**	**25.55**	**39**		**P**	**03 16 26.0**	**+0.2**
TOLK				IAmb	IAmb	03 16 28.4	
	comp=Z,4.7nm,0.8s						
E24K	**Your Creek**	**25.88**	**41**		**P**	**03 16 28.9**	**+0.1**
COLA	**College**	**26.03**	**48⇓**	*e*P	**P**	**03 16 30.6**	**+0.5**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CCB	**Clear Creek Bu**	**26.06**	**48**	P	**P**	**03 16 31.2**	**+0.8**
CCB				IAmb	IAmb	03 16 31.5	
	comp=Z,6.5nm,1.2s						
G24K	**Hadweenzic Riv**	**26.19**	**44**		**P**	**03 16 32.4**	**+0.8**
G24K				IAmb	IAmb	03 16 33.6	
	comp=Z,5.4nm,1.0s						
ILAR	**Eielson Array**	**26.45**	**48**	P	**P**	**03 16 33.1**	**-0.8**
	comp=Z,0.8nm,0.9s,baz=267,slow=8.4,SNR=7.4						
	comp=Z,0.8nm,0.9s						
ILAR	**Eielson Array**	**26.45**	**48**	*e*P	**P**	**03 16 33.4**	**-0.5**
ILAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
D25K	**Kavik River**	**26.77**	**38**	P	**P**	**03 16 36.8**	**0.0**
BMAR	**Burnt Mountain**	**27.33**	**42**	P	**P**	**03 16 41.9**	**0.0**
KSRS	**Korea Array**	**29.25**	**247**	LR	LR	03 28 56.2	
	comp=Z,20nm,20.7s,baz=210,slow=37						
L29M	**L29M**	**30.50**	**50**	P	**P**	**03 17 11.7**	**+1.7**
L29M				IAmb	IAmb	03 17 28.0	
	comp=Z,3.3nm,1.1s						
INK	**Inuvik**	**31.45**	**40**	LR	LR	03 31 23.9	
	comp=Z,54nm,19.5s,baz=14,slow=39						
C36M	**Paulatuk**	**34.63**	**37**	P	**P**	**03 17 46.1**	**+0.2**
H11N2	**WAKE ISLAND Hy**	**35.45**	**173**	T	T	03 55 15.7	
	baz=355,slow=76,SNR=44						
H11N3	**WAKE ISLAND Hy**	**35.47**	**173**	T	T	03 55 18.8	
	baz=355,slow=76,SNR=46						
H11N1	**WAKE ISLAND Hy**	**35.47**	**173**	T	T	03 55 17.2	
	baz=355,slow=76,SNR=45						
JOW	**Kunigami**	**37.58**	**235**	LR	LR	03 34 02.2	
	comp=Z,74nm,20.6s,baz=332,slow=37						
YKA	**Yellowknife Ar**	**40.77**	**45**	P	**P**	**03 18 38.5**	**+0.7**
	comp=Z,1.2nm,0.7s,baz=299,slow=8.1,SNR=12						
	comp=Z,1.2nm,0.7s						
NEW	**Newport**	**47.74**	**63**	LR	LR	03 40 02.1	
	comp=Z,32nm,19.0s,baz=292,slow=36						
KURBB	**Kurchatov Arra**	**47.96**	**301**	P	**P**	**03 19 31.9**	**-3.5**
	comp=Z,0.6nm,0.7s,baz=55,slow=7.6,SNR=2.6						
KURBB				LR	LR	03 40 46.4	
	comp=Z,56nm,19.4s,baz=170,slow=38						
MKAR	**Makanchi Array**	**48.54**	**295**	P	**P**	**03 19 39.6**	**-0.4**
MKAR	**Makanchi Array**	**48.54**	**295**	P	**P**	**03 19 39.6**	**-0.4**
ARU	**Arti**	**52.86**	**317**	LR	LR	03 45 19.5	
	comp=Z,48nm,18.9s,baz=98,slow=39						
NVAR	**Mina Array Bea**	**53.81**	**73**	P	**P**	**03 20 21.4**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=300,slow=8.8,SNR=5.7						
	comp=Z,0.5nm,0.6s						
KIRV	**Kirov**	**54.61**	**324**	LR	LR	03 46 58.7	
	comp=Z,56nm,18.6s,baz=30,slow=40						
PDAR	**Pinedale Array**	**55.38**	**63**	P	**P**	**03 20 32.5**	**+1.4**
	comp=Z,1.5nm,0.9s,baz=294,slow=4.8,SNR=7.0						
	comp=Z,1.5nm,0.9s						
SFJD	**Kangerlussuaq**	**55.74**	**15**	LR	LR	03 47 53.7	
	comp=Z,56nm,18.2s,baz=284,slow=40						
ABKAR	**Akbulak array**	**57.55**	**311**	P	**P**	**03 20 43.6**	**-2.6**
PFO	**Pinyon Flats O**	**58.34**	**76**	*i*P	**P**	**03 20 51.6**	**-0.5**
FINES	**FINESS Array B**	**58.83**	**337**	P	**P**	**03 20 55.3**	**+0.4**
	comp=Z,1.3nm,0.8s,baz=17,slow=10,SNR=2.1						
FINES				LR	LR	03 53 11.6	
	comp=Z,18nm,18.1s,baz=36,slow=43						
	comp=Z,1.3nm,0.8s						
NOA	**NORSAR Array B**	**62.00**	**345**	P	**P**	**03 21 14.6**	**-2.1**
	comp=Z,0.4nm,0.7s,baz=18,slow=6.9,SNR=2.9						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**62.46**	**343**	LR	LR	03 49 21.2	
	comp=Z,22nm,21.7s,baz=1.0,slow=37						
AKASG	**Malin Array Be**	**67.60**	**330**	LR	LR	03 56 48.3	
	comp=Z,23nm,18.1s,baz=35,slow=41						
TXAR	**Lajitas Array**	**68.62**	**69**	P	**P**	**03 22 01.1**	**+1.1**
	comp=Z,0.8nm,0.6s,baz=310,slow=5.8,SNR=7.5						
	comp=Z,0.8nm,0.6s						
KBZ	**Khabaz**	**69.02**	**318**	LR	LR	03 55 33.4	
	comp=Z,36nm,18.2s,baz=30,slow=39						
GNI	**Garni**	**71.30**	**314**	LR	LR	03 56 31.6	
	comp=Z,36nm,18.8s,baz=75,slow=38						
VRAC	**Vranov**	**72.11**	**337**	LR	LR	03 58 35.0	
	comp=Z,24nm,18.3s,baz=43,slow=40						
TKL	**Tuckaleechee C**	**73.39**	**51**	LR	LR	03 58 16.2	
	comp=Z,27nm,18.1s,baz=343,slow=39						
WRA	**Warramunga Arr**	**78.47**	**207**	P	**P**	**03 22 57.6**	**-0.1**
	comp=Z,0.6nm,0.9s,baz=25,slow=6.1,SNR=2.3						
	comp=Z,0.6nm,0.9s						
MMAI	**Mount Meron Ar**	**81.21**	**317**	LR	LR	04 05 38.1	
	comp=Z,36nm,18.1s,baz=99,slow=40						
ASAR	**Alice Springs**	**82.15**	**206**	P	**P**	**03 23 17.8**	**+0.4**
	comp=Z,0.6nm,0.5s,baz=17,slow=5.8,SNR=6.7						
	comp=Z,0.6nm,0.5s						
ESDC	**Sonseca Array**	**84.90**	**349**	P	**P**	**03 23 31.2**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=2.0,slow=4.9,SNR=11						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**144.83**	**180**	PKP	**PKPbc**	**03 30 30.3**	**-1.1**
	comp=Z,1.9nm,0.6s,baz=290,slow=1.0,SNR=20						

*HVO **24** 03:11:57.4±1.2,19°.419N±0°.010×155°.284W±0°.007, h-0km±5km,ML3.5/46,ML3.3/41(NEIC),Error ellipse: s-maj=1.3km s-min=0.9km az=179.0*

NEIC 24 03:11:58.4±1.3,19°.429N±0°.009×155°.290W±0°.008, h1km±5km,Error ellipse: s-maj=1.3km s-min=1.0km az=177.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UWE	**Uwekahuna**	**0.01**	**200**		Pg	03 11 58.1	-0.8
UWB	**Uwekahuna B**	**0.01**	**110**		Pg	03 11 58.4	-0.5
OBL	**Observatory Le**	**0.01**	**153**		Pg	03 11 57.8	-1.2
SBLHI	**Steaming Bluff**	**0.02**	**95**		Pg	03 11 59.7	+0.7
HATHI	**Halema'uma'u T**	**0.03**	**102**		Pg	03 11 58.9	-0.1
BYL	**Byron's Ledge**	**0.03**	**120**		Pg	03 11 58.6	-0.4
RIM	**Rim**	**0.04**	**155**		Pg	03 11 59.8	+0.7
KKO	**Keanakako`i**	**0.04**	**144**		Pg	03 11 59.9	+0.7
PUH	**Pauahi**	**0.09**	**128**		Pg	03 12 00.1	-0.1
PUH	**Pauahi**	**0.09**	**128**		Sg	03 12 02.7	+1.4
PUH	**Pauahi**	**0.09**	**128**	IAML		03 12 01.5	
	comp=N,4μm,0.3s						
PUH				IAML		03 12 01.5	
	comp=E,7μm,0.5s						
MLH	**Mauna Loa**	**0.11**	**306**		Pg	03 12 01.1	+0.5
MLH	**Mauna Loa**	**0.11**	**306**	IAML		03 12 03.1	
	comp=E,9μm,0.5s						
MLH				IAML		03 12 03.3	
	comp=N,6μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.12**	**113**		Pg	03 12 00.7	-0.1
HLP	**Hilina Pali**	**0.13**	**187**		Pg	03 12 00.9	0.0
HLP	**Hilina Pali**	**0.13**	**187**		Sg	03 12 04.2	+1.5
HLP	**Hilina Pali**	**0.13**	**187**	IAML		03 12 03.0	
	comp=N,5μm,1.1s						
HLP				IAML		03 12 03.7	
	comp=E,10μm,0.6s						
STCH	**Steam Cracks**	**0.16**	**105**		Pg	03 12 01.3	-0.2
STCH					Sg	03 12 04.6	+1.0
STCH	**Steam Cracks**	**0.16**	**105**	IAML		03 12 05.2	
	comp=E,12μm,1.1s						
STCH				IAML		03 12 05.5	
	comp=N,5μm,0

h4km±1km, Error ellipse: s-maj=1.4km s-min=0.9km az=168.0

HVO 24 03:26:48.9±1.1, 19°.409N±0°.008×155°.269W±0°.007, h0km±3km, Md2.6/7, ML2.3/23(NEIC), **Error ellipse: s-maj=1.3km s-min=0.8km az=155.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**72**		**Pg**	03 26 49.5	+0.3
KKO	**Keanakako`i**	**0.01**	**166**		**Pg**	03 26 50.2	+0.9
RIM	**Rim**	**0.01**	**199**		**Pg**	03 26 50.2	+0.9
HATHI	**Halema`uma`u T**	**0.02**	**29**		**Pg**	03 26 49.9	+0.6
OBL	**Observatory Le**	**0.02**	**300**		**Pg**	03 26 50.2	+0.9
SBLHI	**Steaming Bluff**	**0.02**	**3**		**Pg**	03 26 50.4	+1.1
UWB	**Uwekahuna B**	**0.02**	**331**		**Pg**	03 26 50.2	+0.9
UWE	**Uwekahuna**	**0.03**	**298**		**Pg**	03 26 50.0	+0.5
UWE	comp=N,6μm,0.3s			IAML		03 26 50.3	
RSD	**Rainshed**	**0.05**	**351**		**Pg**	03 26 50.9	+1.0
PUH	**Pauahi**	**0.06**	**125**		**Pg**	03 26 51.0	+0.9
PUH	comp=E,2μm,1.1s			IAML		03 26 51.4	
PUH	comp=N,2μm,0.8s			IAML		03 26 51.5	
KNHH	**Kane Nui o Ham**	**0.10**	**107**		**Pg**	03 26 51.8	+1.0
HLP	**Hilina Pali**	**0.12**	**198**	IAML		03 26 51.9	
HLP	comp=N,986nm,1.8s				**Pg**	03 26 52.2	+1.1
HLP	**Hilina Pali**	**0.12**	**198**		**Sg**	03 26 54.8	+2.1
STCH	**Steam Cracks**	**0.14**	**100**		**Pg**	03 26 52.4	+0.9
STCH					**Sg**	03 26 55.0	+1.7
STCH	**Steam Cracks**	**0.14**	**100**	IAML		03 26 55.3	
STCH	comp=E,2μm,0.3s			IAML		03 26 56.1	
MLH	**Mauna Loa**	**0.14**	**307**		**Pg**	03 26 52.8	+1.2
MLH					**Sg**	03 26 55.7	+2.3
MLH	**Mauna Loa**	**0.14**	**307**	IAML		03 26 56.4	
MLH	comp=N,2μm,0.7s			IAML		03 26 56.7	
NPOC	**North of Pu`u**	**0.15**	**96**		**Pg**	03 26 52.6	+0.9
NPOC					**Sg**	03 26 55.5	+1.7
JCUZ	**Jacuzzi**	**0.16**	**99**		**Pg**	03 26 54.2	+2.3
HTC	**Hot Caves**	**0.21**	**215**		**Pg**	03 26 54.1	+1.2
JOKA	**Jonika Flow**	**0.25**	**84**	Pg	**Pg**	03 26 54.0	+0.3
JOKA	comp=E,666nm,1.0s			IAML		03 26 59.7	
MLOA	**Mauna Loa Obse**	**0.32**	**294**		**Pg**	03 26 55.2	+0.3
MLOA	comp=E,487nm,0.8s			IAML		03 27 05.5	
MLOA	comp=N,575nm,1.1s			IAML		03 27 05.6	
KHU	**Kahuku**	**0.36**	**244**		**Pg**	03 26 56.1	+0.3
HUH	**Hualalai**	**0.60**	**297**		**Pg**	03 27 00.6	+0.2

*IDC **24** 03:53:26.9±2.2, 12°.96N×145°.14E, h53km±19km, mb3.1/5, mbtmp3.4/5, Error ellipse: s-maj=47.7km s-min=21.1km az=101.0*

ISC 24 03:53:27.3±1.1, 12°.9N±0°.1×145°.2E±0°.3, h57km, n6, σ0s54/7, mb3.5/5, **South of Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.71**	**338**	P	**Pn**	**03 53 41.4**	**-0.1**
GUMO	137nm,0.3s,baz=149,slow=12,SNR=14			S	**Sn**	**03 53 52.1**	**+0.2**
WRA	517nm,0.4s,baz=162,slow=20,SNR=8.7 **Warramunga Arr**	**34.35**	**198**	P	**P**	**04 00 08.7**	**-0.2**
ASAR	0.8nm,1.0s,baz=22,slow=9.8,SNR=4.7 0.8nm,1.0s **Alice Springs**	**38.00**	**197**	P	**P**	**04 00 40.3**	**+0.3**
KURBB	0.2nm,0.6s,baz=24,slow=9.2,SNR=1.9 0.2nm,0.6s **Kurchatov Arra**	**65.30**	**320**	P	**P**	**04 04 03.2**	**-0.2**
ILAR	0.2nm,0.4s,baz=103,slow=7.1,SNR=1.9 0.2nm,0.4s **Eielson Array**	**69.04**	**25**	P	**P**	**04 04 26.1**	**-0.7**
YKA	0.6nm,0.9s,baz=244,slow=5.8,SNR=4.9 0.6nm,0.9s **Yellowknife Ar**	**83.32**	**27**	P	**P**	**04 05 48.6**	**+0.7**
	0.1nm,0.5s,baz=291,slow=5.7,SNR=3.2 0.1nm,0.5s						

*NEIC **24** 04:12:11.8±1.2, 54°.78N±0°.05×160°.51W±0°.07, h26km±11km, ML3.5/12, ML3.1(AEIC), Error ellipse: s-maj=8.1km s-min=5.5km az=183.0*

*AEIC **24** 04:12:12.4±1.2, 54°.78N±0°.06×160°.55W±0°.06, h15km±4km, Error ellipse: s-maj=9.9km s-min=4.0km az=161.0*

ISC 24 04:12:11.3±1.5, 54°.77N±0°.05×160°.56W±0°.03, h21km±4km, n60, σ0s53/62, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNBA	**Chernabura Isl**	**0.56**	**85**		**Pb**	**04 12 22.2**	**-0.3**
CNBA					**Sb**	**04 12 29.9**	**-0.2**
CNBA	**Chernabura Isl**	**0.56**	**85**	IAML		04 12 30.2	
CNBA	comp=E,482nm,0.2s			IAML		04 12 39.0	
CHNA	comp=N,453nm,0.3s **Chernabura Isl**	**0.56**	**84**	P	**Pb**	**04 12 22.2**	**-0.3**
SDPT	baz=266 **Sand Point**	**0.58**	**5**		**Pb**	**04 12 22.9**	**+0.2**
SDPT	**Sand Point**	**0.58**	**5**		**Sb**	**04 12 31.2**	**+0.6**
SDPT	**Sand Point**	**0.58**	**5**	P	**Pb**	**04 12 22.9**	**+0.2**
SDPT	baz=185			S	**Sb**	**04 12 31.2**	**+0.6**
PVV	baz=185 **Pavlof Volcano**	**0.93**	**311**		**Pb**	**04 12 28.1**	**-0.5**
PVV					**Sb**	**04 12 40.5**	**0.0**
PS1A	**Pavlof South-1**	**0.94**	**314**		**Pb**	**04 12 28.5**	**-0.3**
PS1A					**Sb**	**04 12 41.5**	**+0.6**
PS4A	**Pavlof South-4**	**0.94**	**308**		**Pb**	**04 12 28.3**	**-0.6**
PS4A					**Sb**	**04 12 41.2**	**+0.3**
HAG	**Hague Volcano**	**0.95**	**306**		**Pb**	**04 12 28.5**	**-0.4**
S12K	**Black Hills**	**1.27**	**318**		**Pn**	**04 12 33.4**	**-0.3**
S12K					**Sn**	**04 12 49.8**	**-0.3**
S12K	**Black Hills**	**1.27**	**318**	IAML		04 12 55.7	
S12K	comp=E,593nm,0.4s **Black Hills**	**1.27**	**318**	P	**Pn**	**04 12 33.4**	**-0.3**
S12K	baz=136			S	**Sn**	**04 12 49.8**	**-0.3**
VNWF	baz=136 **Veniaminof 8**	**1.49**	**22**		**Pn**	**04 12 36.9**	**0.0**
VNSS	**Veniaminof 8**	**1.58**	**23**		**Pn**	**04 12 38.6**	**+0.3**
S14K	**Fog Glacier** baz=201	**1.62**	**20**	P	**Pn**	**04 12 39.2**	**+0.6**
VNFG	**Fog Glacier, M**	**1.62**	**20**		**Pn**	**04 12 39.2**	**+0.6**
VNFG	**Fog Glacier, M** comp=N,685nm,0.7s	**1.62**	**20**	IAML		04 13 10.9	
VNFG	comp=E,629nm,0.8s			IAML		04 13 13.5	
VNHG	**Veniaminof 1**	**1.65**	**28**		**Pn**	**04 12 39.2**	**+0.1**
FALS	**False Pass**	**1.66**	**274**		**Pn**	**04 12 39.0**	**0.0**
FALS	**False Pass** baz=91	**1.66**	**274**	P	**Pn**	**04 12 39.0**	**0.0**
ISLZ	**Isanotski Laza**	**1.83**	**270**		**Pn**	**04 12 41.7**	**+0.2**
ISNN	**Isanotski Nort**	**1.87**	**273**		**Pn**	**04 12 42.7**	**+0.8**
CHGN	**Chignik**	**1.96**	**38**		**Pn**	**04 12 43.6**	**+0.5**
CHGN	**Chignik** comp=E,401nm,0.6s	**1.96**	**38**	IAML		04 13 11.7	
CHGN	comp=N,258nm,0.3s			IAML		04 13 13.8	
SSLS	**Shishaldin Sou**	**2.00**	**270**		**Pn**	**04 12 44.4**	**+0.6**
WESE	**West Dahl East**	**2.36**	**264**		**Pn**	**04 12 49.7**	**+0.9**
WEBT	**Westdahl Beart**	**2.44**	**267**		**Pn**	**04 12 50.9**	**+1.0**
WECS	**Westdahl Cape**	**2.46**	**266**		**Pn**	**04 12 51.1**	**+1.0**
CHIR	**Chirikof Islan**	**3.01**	**68**		**Pn**	**04 12 57.2**	**-0.4**
CHIR	**Chirikof Islan** comp=N,118nm,0.9s	**3.01**	**68**	IAML		04 13 49.0	
AKSA	**Akutan Strait**	**3.07**	**260**		**Pn**	**04 12 59.5**	**+1.1**
AKSA	**Akutan Strait**	**3.07**	**260**		**Pn**	**04 12 59.6**	**+1.1**
AKBBA	**Akutan Broad B**	**3.21**	**260**		**Pn**	**04 13 00.8**	**+0.4**
LVA	**Lava Point**	**3.25**	**261**		**Pn**	**04 13 01.7**	**+0.6**
UNV	**Unalaska Valle**	**3.61**	**257**		**Pn**	**04 13 06.0**	**+0.2**
UNV	**Unalaska Valle** baz=72	**3.61**	**257**	P	**Pn**	**04 13 06.0**	**+0.2**
MSW	**Makushin Switc**	**3.74**	**259**		**Pn**	**04 13 07.7**	**0.0**
MAPS	**Pakushin Search**	**3.86**	**258**		**Pn**	**04 13 09.7**	**+0.3**
ANCK	**Angle Creek**	**4.43**	**37**		**Pn**	**04 13 18.2**	**+1.0**
O15K	**Ungalikthiuk R**	**4.43**	**5**		**Pn**	**04 13 17.3**	**+0.2**
O15K	**Ungalikthiuk R**	**4.43**	**5**	P	**Pn**	**04 13 18.0**	**+0.8**
	baz=186						
O14K	**Tigyukauivet M**	**4.51**	**355**		**Pn**	**04 13 18.4**	**+0.2**
O14K	**Tigyukauivet M** baz=175	**4.51**	**355**	P	**Pn**	**04 13 18.4**	**+0.2**
O16K	**Kokwok River B**	**5.01**	**14**		**Pn**	**04 13 25.6**	**+0.4**
O16K	**Kokwok River B** baz=197	**5.01**	**14**	P	**Pn**	**04 13 25.6**	**+0.4**
N14K	**Kuskokwak Cree**	**5.20**	**354**		**Pn**	**04 13 27.9**	**+0.2**
N14K	**Kuskokwak Cree** baz=173	**5.20**	**354**	P	**Pn**	**04 13 27.9**	**+0.2**
KDAK	**Kodiak Island**	**5.37**	**53**		**Pn**	**04 13 29.8**	**-0.2**
N15K	**Kwethluk River**	**5.42**	**2**		**Pn**	**04 13 30.9**	**+0.3**
N16K	**Nishlik Lake**	**5.80**	**9**		**Pn**	**04 13 35.9**	**0.0**
N16K	**Nishlik Lake** baz=190	**5.80**	**9**	P	**Pn**	**04 13 35.9**	**0.0**
M14K	**Bethel**	**6.04**	**353**		**Pn**	**04 13 38.0**	**-1.2**
M16K	**Timber Creek**	**6.32**	**7**		**Pn**	**04 13 42.8**	**-0.3**
M16K	**Timber Creek** baz=188	**6.32**	**7**	P	**Pn**	**04 13 42.8**	**-0.3**
L14K	**Kuka Creek**	**6.68**	**351**		**Pn**	**04 13 47.6**	**-0.3**
L14K	**Kuka Creek** baz=169	**6.68**	**351**	P	**Pn**	**04 13 47.7**	**-0.3**
M18K	**Stony River**	**7.18**	**18**		**Pn**	**04 13 55.5**	**+0.6**
M18K	**Stony River** baz=202	**7.18**	**18**	P	**Pn**	**04 13 55.5**	**+0.6**
J16K	**Anvik River**	**8.54**	**360**	Pn	**Pn**	**04 14 13.2**	**-0.3**

*IDC **24** 04:23:55.3±0.4, 12°.81S×45°.66E, h0km, mb4.3/27, mbtmp4.3/30, ML4.8/4, MS3.9/34, Error ellipse: s-maj=16.8km s-min=11.7km az=81.0*

*NEIC **24** 04:23:57.5±1.9, 12°.81S±0°.07×45°.6E±0°.1, h10km±1km, mb4.8/46, Error ellipse: s-maj=17.4km s-min=12.4km az=270.0*

ISC 24 04:23:56.9±0.3, 12°.88S±0°.05×45°.63E±0°.07, h10km, n186, σ1s12/167, mb4.8/76, **MS3.9**/33, **6C-2D, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.86**	**165**	Pn	**Pn**	**04 25 24.5**	**+0.5**
OPO	12nm,0.3s,baz=339,slow=12,SNR=877			Sn	**Sn**	**04 26 25.3**	**-6.0**
OPO	7.2nm,0.3s,baz=350,slow=14,SNR=4.0 comp=Z,760nm,21.8s,baz=194,slow=34			LR	LR	04 27 19.1	
ABPO	**Ambohimpanom**	**6.30**	**166**	Pn	**Pn**	**04 25 30.1**	**+0.1**
ABPO	**Ambohimpanom**	**6.30**	**166**	⇑*i* P	**Pn**	**04 25 30.1**	**+0.1**
VOI	**Vohitsoka**	**9.05**	**173**	Pn	**Pn**	**04 26 08.1**	**+0.3**
VOI	**Vohitsoka**	**9.05**	**173**	*e*P	**Pn**	**04 26 07.6**	**-0.2**
ZOMB	**Zomba**	**10.27**	**255**	*e*PN	**Pn**	**04 26 23.5**	**-1.1**
ZOMB				*e*SN	Sn	04 28 08.3	-12
ZOMB	**Zomba**	**10.27**	**255**	*e*PN	**Pn**	**04 26 23.5**	**-1.1**
ZOMB				*e*SN	Sn	04 28 08.3	-12
FOMA	**Nahampoana Res**	**12.10**	**174**	Pn	**Pn**	**04 26 49.1**	**-0.4**
MSEY	**Mahe Island**	**12.69**	**51**	Pn	**Pn**	**04 26 55.4**	**-2.3**
MSEY	**Mahe Island**	**12.69**	**51**	*e*P	**Pn**	**04 26 53.2**	**-4.5**
RER	**Riviere de l'E**	**12.70**	**132**	Pn	**Pn**	**04 26 57.5**	**-0.3**
KIBK	**Kibwezi**	**12.88**	**324**	Pn	**Pn**	**04 26 58.0**	**-2.3**
KIBK	**Kibwezi**	**12.88**	**324**	*e*P	**Pn**	**04 26 57.8**	**-2.4**
KIBK				*e*S	Sn	04 29 08.7	-15
CHIPN	**CHIPINGE**	**14.43**	**238**	*i* P	**Pn**	**04 27 18.1**	**-3.3**
CHIPN	**CHIPINGE**	**14.43**	**238**	*i* P	Pn	04 27 09.1	-12
KRI	**Karoi**	**15.97**	**254**	*i* P	**Pn**	**04 27 41.7**	**-0.2**
KRI	**Karoi**	**15.97**	**254**	*i* P	Pn	04 27 27.8	-14
LSZ	**Lusaka**	**17.08**	**260**	P	**Pn**	**04 27 56.0**	**-0.2**
LSZ	**Lusaka**	**17.08**	**260**	*i* P	**Pn**	**04 27 56.8**	**+0.7**
LSZ	**Lusaka**	**17.08**	**260**	P	**Pn**	**04 27 55.9**	**-0.2**
LSZ	1.5nm,0.3s,baz=98,slow=10,SNR=8.8			S	Sn	04 30 54.4	-12
LSZ	6.2nm,0.4s,baz=5.6,slow=22,SNR=3.6			LR	LR	04 34 11.0	
MOPA	comp=Z,422nm,19.7s,baz=103,slow=36 7.7nm,0.5s **Mopani**	**17.15**	**230**	*i* P	**Pn**	**04 27 56.0**	**-0.9**
MOPA	**Mopani**	**17.15**	**230**	*e*P	**Pn**	**04 27 55.0**	**-1.8**
MUSN	**Musina, Limpop**	**17.69**	**236**	*i* P	**Pn**	**04 28 04.4**	**+0.8**
MUSN	**Musina, Limpop**	**17.69**	**236**	*e*P	**Pn**	**04 28 02.7**	**-0.9**
MPHEP	**Siloam, Limpop**	**17.73**	**234**	*e*P	**Pn**	**04 28 03.4**	**-0.9**
HOED	**Hoedspruit, Li**	**18.02**	**228**	*e*P	**Pn**	**04 28 07.5**	**-0.1**
MATP	**Matopo**	**18.03**	**243**	*i* P	**P**	**04 28 09.4**	**+1.0**
MATP	**Matopo**	**18.03**	**243**	P	**Pn**	**04 28 08.0**	**+0.1**
MATP	0.3nm,0.3s,baz=60,slow=12,SNR=9.7 3.1nm,0.9s,baz=148,slow=16,SNR=2.4			S	Sn	04 31 17.8	-11
PILG	2.8nm,0.6s **Pilgrimsrest,**	**18.50**	**227**	*e*P	**P**	**04 28 13.1**	**-0.5**
LODK	**Lodwar**	**19.14**	**327**		**Pn**	**04 28 21.2**	**-0.1**
DULL	**Dullstroom, Mp**	**19.14**	**227**	*e*P	**P**	**04 28 20.1**	**-0.6**
MBAR	**Mbarara**	**19.14**	**308**	P	**P**	**04 28 20.4**	**-0.2**
MBAR	**Mbarara**	**19.14**	**308**	*e*P	**P**	**04 28 19.8**	**-0.9**
MBAR	**Mbarara**	**19.14**	**308**	P	**Pn**	**04 28 20.9**	**-0.6**
MBAR	1.8nm,0.3s,baz=112,slow=12,SNR=18 comp=Z,452nm,18.9s,baz=118,slow=36 4.2nm,0.2s			LR	LR	04 35 28.5	
POGA	**Pongola**	**19.41**	**220**	P	**P**	**04 28 22.5**	**-0.9**
POGA	comp=Z,50nm,1.1s			IAmb	IAmb	04 28 28.1	
POGA	**Pongola**	**19.41**	**220**	*e*P	**Pn**	**04 28 25.4**	**+0.9**
WTBG	**Waterberg Wild**	**19.45**	**232**	*e*P	**Pn**	**04 28 25.2**	**+0.1**
LEPH	**Lephalale, Lim**	**20.11**	**235**	*e*P	**P**	**04 28 32.1**	**+0.9**
LEPH	comp=Z,19nm,0.9s			IAmb	IAmb	04 28 33.1	
RUST	**Rust De Winter**	**20.28**	**230**	*e*P	**P**	**04 28 32.6**	**-0.3**
RUST	comp=Z,12nm,0.9s			IAmb	IAmb	04 28 42.2	
NWCL	**Newcastle**	**20.85**	**222**	*e*P	**P**	**04 28 39.5**	**+0.3**
NWCL	comp=Z,99nm,1.5s			IAmb	IAmb	04 28 44.4	
NHAM	**Northam, North**	**21.03**	**233**	*e*P	**P**	**04 28 40.0**	**-1.0**
NYAT	**Nyati, Northwe**	**21.07**	**231**	*e*P	**P**	**04 28 41.1**	**-0.4**
HRAC	**HartRAO**	**21.27**	**230**	*e*P	**P**	**04 28 41.0**	**-0.7**
PMBG	**Pietermaritzbu**	**21.70**	**218**	*e*P	**P**	**04 28 49.5**	**+1.4**
PMBG	comp=Z,44nm,0.9s			IAmb	IAmb	04 28 53.9	
PRYS	**Parys**	**22.10**	**228**	*e*P	**P**	**04 28 51.6**	**-1.0**
PRYS	comp=Z,26nm,1.0s			IAmb	IAmb	04 28 57.8	
LBTB	**Lobatse**	**22.43**	**235**	P	**P**	**04 28 55.7**	**-0.4**
LBTB	comp=Z,34nm,1.1s			IAmb	IAmb	04 28 58.6	
LBTB	**Lobatse**	**22.43**	**235**	*i* P	**P**	**04 28 54.7**	**-1.4**
LBTB	**Lobatse**	**22.43**	**235**	*e*P	**P**	**04 28 55.6**	**-0.5**
LBTB	comp=Z,35nm,1.1s			IAmb	IAmb	04 28 58.3	
LBTB	**Lobatse** comp=Z,282nm,20.3s,baz=58,slow=37	**22.43**	**235**	LR	LR	04 37 44.3	
SNKL	**Senekal, Frees**	**22.62**	**225**	*e*P	**P**	**04 28 56.8**	**-1.5**
SNKL	comp=Z,34nm,0.8s			IAmb	IAmb	04 29 04.6	
ATD	**Arta Tunnel** comp=Z,9.6nm,21.7s,baz=173,slow=34	**24.41**	**353**	LR	LR	04 37 40.7	
BOSA	**Boshof**	**24.59**	**227**	*i* P	**P**	**04 29 18.1**	**+0.5**
BOSA	**Boshof**	**24.59**	**227**	*e*P	**P**	**04 29 16.8**	**-0.8**
BOSA	comp=Z,22nm,1.0s			IAmb	IAmb	04 29 31.4	
BOSA	**Boshof** comp=Z,3.3nm,0.5s,baz=50,slow=8.5,SNR=15	**24.59**	**227**	P	**P**	**04 29 17.5**	**0.0**
BOSA	comp=Z,295nm,19.6s,baz=40,slow=37 comp=Z,3.3nm,0.5s			LR	LR	04 39 13.6	
TSUM	**Tsumeb** comp=Z,180nm,18.2s,baz=82,slow=35	**27.65**	**253**	LR	LR	04 40 15.9	
SUR	**Sutherland**	**29.89**	**225**	P	**P**	**04 30 05.2**	**+0.1**
SUR	**Sutherland**	**29.89**	**225**	*e*P	**P**	**04 30 05.3**	**+0.1**
SUR	comp=Z,19nm,0.8s			IAmb	IAmb	04 30 06.7	
RAYN	**Ar Rayn**	**36.18**	**360**	P	**P**	**04 30 59.8**	**-0.1**
WSAR	**Wadi Sarin** comp=Z,228nm,19.1s,baz=218,slow=32	**38.09**	**20**	LR	LR	04 44 04.8	
PALK	**Pallekele** comp=Z,108nm,18.1s,baz=346,slow=31	**40.19**	**62**	LR	LR	04 44 51.3	
EIL	**Elat** comp=Z,79nm,21.8s,baz=224,slow=33	**43.53**	**346**	LR	LR	04 48 08.6	
MMAI	**Mount Meron Ar** comp=Z,0.6nm,0.3s,baz=194,slow=10.0,SNR=2.0	**46.67**	**348**	P	**P**	**04 32 26.2**	**+0.3**
MMAI	comp=Z,142nm,18.2s,baz=108,slow=37 comp=Z,0.6nm,0.3s			LR	LR	04 52 43.5	
TOA0	**Torodi Ar. Sit**	**50.65**	**299**	P	**P**	**04 32 56.2**	**-0.6**
TORD	**Torodi Ar. Bea**	**50.65**	**299**	P	**P**	**04 32 56.2**	**-0.5**
TORD	**Torodi Ar. Bea** comp=Z,4.2nm,1.0s,baz=112,slow=6.9,SNR=13	**50.65**	**299**	P	**P**	**04 32 56.6**	**-0.1**
TORD	comp=Z,176nm,18.1s,baz=127,slow=38 comp=Z,4.2nm,1.0s			LR	LR	04 55 35.5	
GEYT	**Alibeck** comp=Z,1.9nm,0.6s,baz=224,slow=12,SNR=4.3 comp=Z,1.9nm,0.6s	**51.88**	**13**	P	**P**	**04 33 05.5**	**-0.1**
BNN	**Bunyan**	**52.26**	**350**	P	**P**	**04 33 08.1**	**-0.5**
GNI	**Garni** comp=Z,137nm,21.0s,baz=170,slow=37	**52.76**	**359**	LR	LR	04 56 20.4	
TAM	**Tamanrasset**	**52.91**	**312**	P	**P**	**04 33 14.8**	**+1.1**
BRTR	**Keskin Array B** comp=Z,3.2nm,0.9s,baz=177,slow=8.5,SNR=11	**53.51**	**349**	P	**P**	**04 33 17.5**	**-0.3**
BRTR	comp=Z,62nm,20.1s,baz=137,slow=37 comp=Z,3.2nm,0.9s			LR	LR	04 56 34.3	
DBIC	**Dimbokro** comp=Z,144nm,18.2s,baz=89,slow=36	**53.78**	**288**	LR	LR	04 56 18.1	
SIMJ	**Simiganj**	**55.74**	**22**	P	**P**	**04 33 32.4**	**-1.6**
SIMJ	comp=Z,16nm,1.1s			IAmb	IAmb	04 33 46.8	
MAW	**Mawson** comp=Z,2.5nm,0.6s,baz=320,slow=7.2,SNR=4.4	**55.84**	**172**	P	**P**	**04 33 34.6**	**+0.4**
MAW	comp=Z,144nm,18.2s,baz=8.0,slow=33 comp=Z,2.5nm,0.6s			LR	LR	04 55 01.2	
AGG	**Agios Georgios**	**56.02**	**338**	P	**P**	**04 33 35.9**	**0.0**
AGG	comp=Z,13nm,1.0s			IAmb	IAmb	04 33 37.0	
KBZ	**Khabaz** comp=Z,3.6nm,0.8s,baz=192,slow=5.7,SNR=6.6 comp=Z,3.6nm,0.8s	**56.39**	**358**	P	**P**	**04 33 38.6**	**+0.3**
GAR	**Garm**	**56.52**	**23**	P	**P**	**04 33 38.0**	**-1.6**
FNA	**Florina**	**57.92**	**338**	P	**P**	**04 33 49.5**	**+0.2**
FNA	comp=Z,21nm,1.3s			IAmb	IAmb	04 33 50.6	
VAE	**Valguarnera** comp=Z,89nm,20.0s,baz=124,slow=38	**58.04**	**331**	LR	LR	05 01 04.9	
KEST	**Kesra**	**59.28**	**326**	P	**P**	**04 33 59.5**	**+0.5**
KEST	comp=Z,13nm,1.1s			IAmb	IAmb	04 34 01.8	
KEST	**Kesra** comp=Z,6.1nm,0.9s,baz=185,slow=1.8,SNR=7.4	**59.28**	**326**	P	**P**	**04 33 59.8**	**+0.8**
KEST	comp=Z,95nm,19.1s,baz=316,slow=37 comp=Z,6.1nm,0.9s			LR	LR	05 00 51.7	
PUK	**Puka**	**59.56**	**338**	P	**P**	**04 34 01.0**	**+0.3**
KK31	**Karatay Array**	**60.19**	**21**	P	**P**	**04 34 05.8**	**+0.8**
KK31	comp=Z,5.7nm,1.0s			IAmb	IAmb	04 34 13.1	
KKAR	**Karatay Array**	**60.19**	**21**	P	**P**	**04 34 05.4**	**+0.4**
KKAR	comp=Z,5.6nm,1.0s			IAmb	IAmb	04 34 13.1	
KKAR	**Karatay Array**	**60.19**	**21**	P	**P**	**04 34 04.8**	**-0.2**
ELIB	**Princess Elisa** comp=Z,4.5nm,1.1s	**60.54**	**188**	*d*P	**P**	**04 34 08.8**	**+1.5**
CMAR	**Chiang Mai Arr** comp=Z,0.7nm,0.3s,baz=265,slow=8.3,SNR=4.4 comp=Z,0.7nm,0.3s	**61.10**	**60**	P	**P**	**04 34 12.2**	**+0.5**
BURAR	**Bucovina Array**	**62.92**	**345**	P	**P**	**04 34 22.8**	**-0.6**
BUR08	**Bucovina Ar. S**	**62.95**	**345**	P	**P**	**04 34 23.9**	**+0.2**
BUR08	comp=Z,14nm,1.5s			IAmb	IAmb	04 34 25.4	
ABKAR	**Akbulak array**	**63.14**	**10**	P	**P**	**04 34 24.4**	**-0.4**
ABKAR	comp=Z,10nm,1.0s			IAmb	IAmb	04 34 32.8	
ABKAR	**Akbulak array**	**63.14**	**10**	P	**P**	**04 34 24.5**	**-0.3**
TROLL	**Troll, Antarti** comp=Z,156nm,0.5s	**64.42**	**194**	⇑P	**P**	**04 34 35.1**	**+1.9**
PSZ	**Piszkesteto**	**64.72**	**341**	P	**P**	**04 34 33.9**	**-1.4**
PSZ	comp=Z,5.0nm,0.7s			IAmb	IAmb	04 34 35.9	
AKASG	**Malin Array Be** comp=Z,2.3nm,0.7s,baz=175,slow=6.0,SNR=9.9	**64.91**	**349**	P	**P**	**04 34 35.7**	**-0.7**
AKASG	comp=Z,43nm,18.9s,baz=141,slow=37 comp=Z,2.3nm,0.7s			LR	LR	05 04 11.7	
SOKA	**Soboth** comp=Z,6.4nm,0.9s,SNR=5.2	**65.33**	**337**	*e*P	**P**	**04 34 39.9**	**+0.6**
OBKA	**Obir**	**65.37**	**337**	*e*P	**P**	**04 34 40.0**	**+0.5**
SNAA	comp=Z,7.1nm,0.9s **Sanae**	**65.50**	**195**	P	**P**	**04 34 41.0**	**+0.9**
SNAA	comp=Z,16nm,1.7s			IAmb	IAmb	04 34 42.6	
SNAA	**Sanae** comp=Z,39nm,0.8s	**65.50**	**195**	⇑P	**P**	**04 34 41.3**	**+1.2**
SNAA	**Sanae** comp=Z,2.0nm,0.9s,baz=75,slow=7.6,SNR=3.8	**65.50**	**195**	P	**P**	**04 34 40.9**	**+0.8**
SNAA	comp=Z,95nm,19.4s,baz=36,slow=32 comp=Z,2.0nm,0.9s			LR	LR	04 58 53.3	
VYHS	**Vyhne**	**65.56**	**341**	*e*P	**P**	**04 34 40.8**	**+0.1**
ARSA	**Arzberg** comp=Z,6.5nm,0.8s	**65.63**	**338**	*i* P	**P**	**04 34 41.6**	**+0.4**
RONA	**Rosalia, Austr** comp=Z,11nm,0.7s,SNR=7.8	**65.73**	**339**	*i* P	**P**	**04 34 42.1**	**+0.3**
STAL	**STALIGIAL**	**65.89**	**336**	P	**P**	**04 34 41.9**	**-1.0**
LANS	**Liptovska Anna**	**65.94**	**342**	*e*P	**P**	**04 34 42.9**	**-0.2**
MODS	**Modra-Piesok**	**65.97**	**340**	*e*P	**P**	**04 34 43.4**	**+0.1**
CIMO	**Cimolais**	**66.04**	**335**	P	**P**	**04 34 43.8**	**-0.1**
CIMO	comp=Z,6.5nm,0.9s			IAmb	IAmb	04 34 44.6	
MDT	**Midelt** comp=Z,150nm,18.2s,baz=140,slow=37	**66.06**	**315**	LR	LR	05 04 48.2	
CONA	**Conrad Observa** comp=Z,7.2nm,1.0s	**66.08**	**339**	*e*P	**P**	**04 34 44.2**	**0.0**
CTI	**Castel Tesino**	**66.15**	**335**	P	**P**	**04 34 44.1**	**-0.5**
VNA2	**Neumayer--Watz** comp=Z,4.3nm,0.6s,baz=33,slow=7.5	**66.30**	**197**	⇑P	**P**	**04 34 46.8**	**+1.7**
KBA	**Koelnbreinsper** comp=Z,6.6nm,0.8s	**66.31**	**337**	*e*P	**P**	**04 34 45.4**	**-0.3**
ABTA	**Abfaltersbach** comp=Z,6.4nm,1.1s	**66.37**	**336**	*e*P	**P**	**04 34 46.2**	**+0.3**
VNA1	**Neumayer--Stat** comp=Z,9.0nm,0.9s	**66.40**	**197**	⇑P	**P**	**04 34 48.0**	**+2.2**
MOA	**Molln** comp=Z,9

WMQ					LR	LR			
	comp=Z,86nm,20.1s								
SSB	**Saint Sauveur**	**68.77**	**330**		P	**P**	**04 35 01.2**	**0.0**	
BVAR	**Borovoye Array**	**69.00**	**16**		P	**P**	**04 35 01.5**	**-0.9**	
	comp=Z,1.2nm,0.7s,baz=220,slow=8.9,SNR=6.0								
	comp=Z,1.2nm,0.7s								
KURBB	**Kurchatov Arra**	**69.47**	**22**		P	**P**	**04 35 04.7**	**-0.6**	
	comp=Z,0.3nm,0.3s,baz=286,slow=21,SNR=1.7								
	comp=Z,0.3nm,0.3s								
ESBB	**Sonseca Array**	**69.69**	**321**		P	**P**	**04 35 06.7**	**-0.3**	
ESBB					IAmb	IAmb	04 35 08.6		
	comp=Z,8.4nm,1.1s								
ESDC	**Sonseca Array**	**69.69**	**321**		P	**P**	**04 35 07.6**	**+0.6**	
ESDC	**Sonseca Array**	**69.69**	**321**		P	**P**	**04 35 07.6**	**+0.6**	
	comp=Z,3.8nm,0.9s,baz=131,slow=5.3,SNR=24								
ESDC					LR	LR	05 07 52.2		
	comp=Z,100nm,18.9s,baz=133,slow=38								
	comp=Z,3.8nm,0.9s								
ECH	**Echery**	**69.76**	**334**		P	**P**	**04 35 07.3**	**+0.1**	
ECH					IAmb	IAmb	04 35 07.9		
	comp=Z,6.2nm,1.0s								
PAB	**San Pablo**	**69.85**	**321**		P	**P**	**04 35 08.6**	**+0.6**	
PAB					IAmb	IAmb	04 35 10.2		
	comp=Z,8.9nm,1.2s								
CLL	**Collm**	**69.93**	**339**	*i* P		**P**	**04 35 07.8**	**-0.3**	
CLL				*ex*		x	04 35 14.0		
KIRV	**Kirov**	**71.28**	**2**		LR	LR	05 09 50.0		
	comp=Z,92nm,18.6s,baz=223,slow=39								
LZH	**Lanzhou**	**73.37**	**46**	*eP*		**P**	**04 35 31.8**	**+2.3**	
LZH				sP		pwP	04 35 39.8	+4.2	
LZH				pmax		pmax			
	comp=Z,14nm,1.0s								
KAPI	**Kappang**	**73.44**	**91**		LR	LR	05 04 14.9		
	comp=Z,40nm,18.1s,baz=291,slow=33								
ZALV	**Zalesovo Beam**	**74.45**	**23**		P	**P**	**04 35 33.6**	**-1.5**	
	comp=Z,0.7nm,0.4s,baz=231,slow=11,SNR=3.5								
	comp=Z,0.7nm,0.4s								
BELA	**Belgrano 2**	**75.44**	**192**		P	**P**	**04 35 41.9**	**+1.2**	
FINES	**FINESS Array B**	**75.68**	**350**		P	**P**	**04 35 41.8**	**-0.2**	
FINES	**FINESS Array B**	**75.68**	**350**		P	**P**	**04 35 41.6**	**-0.4**	
	comp=Z,3.8nm,0.8s,baz=141,slow=12,SNR=9.0								
FINES					LR	LR	05 09 16.5		
	comp=Z,35nm,18.2s,baz=188,slow=36								
	comp=Z,3.8nm,0.8s								
XAN	**Xi'an**	**76.08**	**50**	⇓P		**P**	**04 35 43.3**	**-1.8**	
XAN				pmax		pmax			
	comp=Z,8.0nm,0.5s								
HFS	**Hagfors**	**77.14**	**344**		P	**P**	**04 35 49.8**	**-0.6**	
	comp=Z,5.2nm,0.8s,baz=144,slow=5.3,SNR=14								
HFS					LR	LR	05 13 52.1		
	comp=Z,44nm,18.1s,baz=131,slow=39								
	comp=Z,5.2nm,0.8s								
QSPA	**South Pole Qui**	**77.22**	**180**		P	**P**	**04 35 51.9**	**+0.8**	
QSPA					IAmb	IAmb	04 35 52.8		
	comp=Z,11nm,1.1s								
QSPA	**South Pole Qui**	**77.22**	**180**		P	**P**	**04 35 51.4**	**+0.4**	
	comp=Z,9.7nm,1.0s,baz=267,slow=3.4,SNR=17								
QSPA					LR	LR	05 07 53.9		
	comp=Z,140nm,18.5s,baz=276,slow=34								
	comp=Z,9.7nm,1.0s								
KONO	**Kongsberg**	**77.89**	**342**		P	**P**	**04 35 54.6**	**0.0**	
KONO					IAmb	IAmb	04 35 55.6		
	comp=Z,12nm,1.0s								
NB201	**NORSAR Array S**	**78.56**	**344**		P	**P**	**04 35 58.6**	**+0.3**	
NB2	**NORSAR Subarra**	**78.57**	**344**		P	**P**	**04 35 58.1**	**-0.3**	
	comp=Z,11nm,1.1s,baz=137,slow=5.6								
NOA	**NORSAR Array B**	**78.57**	**344**		P	**P**	**04 35 58.2**	**-0.2**	
	comp=Z,2.0nm,0.9s,baz=137,slow=5.9,SNR=8.0								
NOA					LR	LR	05 15 58.9		
	comp=Z,28nm,18.6s,baz=115,slow=40								
	comp=Z,2.0nm,0.9s								
LYN	**LuoYang**	**78.96**	**51**	*eP*		P	04 36 06.9	+5.8	
LYN				pmax		pmax			
	comp=Z,13nm,0.6s								
LYN				pmax		pmax			
	comp=Z,82nm,4.4s								
EKA	**Eskdalemuir Ar**	**79.32**	**334**		P	**P**	**04 36 02.5**	**0.0**	
	comp=Z,2.2nm,0.8s,baz=128,slow=6.5,SNR=7.3								
	comp=Z,2.2nm,0.8s								
ESK	**Eskdalemuir**	**79.32**	**334**		P	**P**	**04 36 02.9**	**+0.3**	
HHC	**Hu-ho-hao-te**	**80.95**	**45**	*eP*		**P**	**04 36 12.6**	**+0.7**	
HHC				pmax		pmax			
	comp=Z,11nm,0.6s								
HHC				pmax		pmax			
	comp=Z,52nm,4.2s								
SONM	**Songino Array**	**80.96**	**37**		P	**P**	**04 36 11.3**	**-0.4**	
	comp=Z,1.0nm,0.8s,baz=226,slow=5.2,SNR=5.4								
	comp=Z,1.0nm,0.8s								
VNDA	**Vanda**	**82.97**	**169**		P	**P**	**04 36 23.3**	**+1.5**	
VNDA					IAmb	IAmb	04 36 23.6		
	comp=Z,14nm,1.8s								
VNDA	**Vanda**	**82.97**	**169**		P	**P**	**04 36 22.9**	**+1.1**	
	comp=Z,1.0nm,0.8s,baz=275,slow=5.9,SNR=12								
VNDA					LR	LR	05 10 17.9		
	comp=Z,151nm,19.5s,baz=261,slow=34								
	comp=Z,1.0nm,0.8s								
NJ2	**Nanjing**	**82.99**	**55**	*eP*		**P**	**04 36 24.4**	**+1.7**	
NJ2				pmax		pmax			
	comp=Z,10.0nm,0.5s								
ASAR	**Alice Springs**	**83.38**	**113**		P	**P**	**04 36 25.4**	**+0.3**	
	comp=Z,3.3nm,0.6s,baz=262,slow=4.8,SNR=32								
ASAR					LR	LR	05 07 56.0		
	comp=Z,186nm,20.1s,baz=264,slow=32								
	comp=Z,3.3nm,0.6s								
ARCES	**ARCESS Array B**	**83.41**	**353**		LR	LR	05 16 22.1		
	comp=Z,44nm,18.1s,baz=134,slow=38								
WRA	**Warramunga Arr**	**84.51**	**109**		P	**P**	**04 36 31.2**	**+0.4**	
WRA	**Warramunga Arr**	**84.51**	**109**		P	**P**	**04 36 30.8**	**0.0**	
	comp=Z,2.3nm,0.8s,baz=261,slow=3.5,SNR=19								
	comp=Z,2.3nm,0.8s								
WB2	**Warramunga Arr**	**84.52**	**109**		P	**P**	**04 36 30.2**	**-0.7**	
WB0	**Warramunga Arr**	**84.59**	**109**		P	**P**	**04 36 30.4**	**-0.8**	
WB0					IAmb	IAmb	04 38 15.3		
	comp=Z,12nm,1.3s								
XLT	**XiLinHaoTe**	**85.25**	**43**	*eP*		**P**	**04 36 36.5**	**+2.5**	
XLT				pmax		pmax			
	comp=Z,9.0nm,0.8s								
XLT				pmax		pmax			
	comp=Z,60nm,4.6s								
STKA	**Stephens Creek**	**88.28**	**122**		P	**P**	**04 36 48.6**	**-0.4**	
	comp=Z,1.2nm,0.3s,baz=262,slow=11,SNR=3.8								
STKA					LR	LR	05 10 48.9		
	comp=Z,139nm,19.7s,baz=208,slow=32								
	comp=Z,1.2nm,0.3s								
KLR	**Kul'dur**	**97.12**	**41**		LR	LR	05 18 25.7		
	comp=Z,46nm,21.4s,baz=316,slow=34								
DZM	**Mont Dzumac**	**112.38**	**121**	*e*	LR	LR	05 16 11.2		
	comp=Z,124nm,22.3s								
ILAR	**Eielson Array**	**127.45**	**7**		PKP	**PKPdf**	**04 43 00.5**	**-1.2**	
	comp=Z,0.5nm,0.9s,baz=318,slow=1.2,SNR=3.9								
YKA	**Yellowknife Ar**	**128.48**	**348**		PKP	**PKPdf**	**04 43 02.2**	**-1.4**	
	comp=Z,0.4nm,0.8s,baz=25,slow=1.7,SNR=4.8								
YKA					PP	**PP**	**04 45 06.2**	**-2.0**	
	comp=Z,0.4nm,0.9s,baz=21,slow=6.9,SNR=4.8								
TBI	**Tubuai**	**141.09**	**158**	*e*	LR	LR	05 29 17.6		
	comp=Z,422nm,36.5s								
PDAR	**Pinedale Array**	**143.28**	**329**		PKP	PKPbc	04 43 30.3	+1.3	
	comp=Z,1.2nm,0.8s,baz=110,slow=2.2,SNR=7.8								
PPT2	**Papeete2**	**146.21**	**153**	*e*	LR	LR	05 31 31.5		
	comp=Z,50nm,23.2s								
TXAR	**Lajitas Array**	**147.14**	**305**		PKPbc	**PKPdf**	**04 43 39.7**	**+0.8**	
	comp=Z,1.0nm,0.8s,baz=87,slow=3.3,SNR=8.5								
NVAR	**Mina Array Bea**	**150.81**	**334**		PKP	**PKPdf**	**04 43 46.1**	**+1.4**	
	comp=Z,1.3nm,0.8s,baz=105,slow=1.7,SNR=6.3								
NVAR					PKPbc	**PKPbc**	**04 43 50.4**	**+0.1**	
	comp=Z,1.3nm,0.8s,baz=77,slow=2.2,SNR=7.6								

IDC 24 04:30:47.9±49.0, 18.81S×177.85W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=907.5km s-min=161.2km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.67**	**242**	P	P	04 38 13.8	+0.2
	1.1nm,0.5s,baz=82,slow=7.1,SNR=1.7						
	1.1nm,0.5s						
WRA	**Warramunga Arr**	**45.00**	**260**	P	P	04 39 05.4	-0.1
	1.7nm,0.6s,baz=96,slow=7.5,SNR=34						
	1.7nm,0.6s						
ASAR	**Alice Springs**	**45.07**	**255**	P	P	04 39 05.7	-0.4
	2.4nm,0.7s,baz=93,slow=8.3,SNR=28						
	2.4nm,0.7s						

*NEIC **24** 04:32:09.1±0.8, 19°.21N±0°.02×155°.52W±0°.02, h35km±4km, Error ellipse: s-maj=3.6km s-min=2.8km az=199.0*

HVO 24 04:32:09.7±0.9, 19°.20N±0°.03×155°.51W±0°.02, h40km±3km, Md2.3/17, ML2.6/22(NEIC), Error ellipse: s-maj=4.9km s-min=3.2km az=186.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHU	**Kahuku**	**0.11**	**298**		Pn	04 32 15.7	-1.7
KHU					Sn	04 32 19.3	-3.8
HTC	**Hot Caves**	**0.12**	**69**		Pn	04 32 15.9	-1.2
MWH	**Moku'aweowe**	**0.30**	**345**		Pn	04 32 17.1	-1.5
MWH	**Moku'aweowe**	**0.30**	**345**	IAML		04 32 34.3	
	comp=N,666nm,1.5s						
MLH	**Mauna Loa**	**0.32**	**22**		Pn	04 32 17.5	-1.0
MLH	**Mauna Loa**	**0.32**	**22**	IAML		04 32 26.3	
	comp=N,498nm,1.7s						
MLH				IAML		04 32 28.7	
	comp=E,354nm,1.1s						
PUH	**Pauahi**	**0.33**	**58**		Pn	04 32 17.4	-1.1
PUH	**Pauahi**	**0.33**	**58**	IAML		04 32 26.2	
	comp=N,1μm,1.2s						
PUH				IAML		04 32 31.6	
	comp=E,600nm,1.3s						
ALEP	**Alea Permanent**	**0.37**	**340**		Pn	04 32 17.7	-1.4
ALEP					Sn	04 32 23.8	-2.0
HMH	**Humu'ula Sheep**	**0.41**	**4**	IAML		04 32 37.4	
	comp=E,242nm,1.0s						
HMH	**Humu'ula Sheep**	**0.41**	**4**		Pn	04 32 18.7	-0.9
HMH					Sn	04 32 25.5	-0.9
JOKA	**Jonika Flow**	**0.54**	**64**		Pn	04 32 19.7	-1.3
JOKA					Sn	04 32 27.0	-1.9
JOKA	**Jonika Flow**	**0.54**	**64**	IAML		04 32 33.6	
	comp=E,250nm,1.3s						
HUH	**Hualalai**	**0.57**	**328**		Pn	04 32 20.6	-1.2
HUH					Sn	04 32 29.1	-1.1
HUH	**Hualalai**	**0.57**	**328**	IAML		04 32 33.2	
	comp=N,268nm,1.6s						
HUH				IAML		04 32 44.4	
	comp=E,357nm,3.2s						
HPAH	**Hawaii Prepara**	**0.85**	**348**		Sn	04 32 33.8	-2.8

*IDC **24** 04:32:18.4±0.8, 83°.66N×4°.00W, h0km, mb3.4/13, mbtmp3.5/16, ML3.3/3, MS3.5/19, Error ellipse: s-maj=29.4km s-min=14.1km az=44.0*
*BER **24** 04:32:24.7±2.8, 83°.57N×0°.25W, h15km±177km, mb(Pn)3.7, Confirmed Earthquake*
*FCIAR **24** 04:32:30.0, 83°.99N×6°.47E, h10km, station ZFI2 has station magnitude of 3.30*

ISC 24 04:32:20.0±0.7, 83°.68N±0°.07×0°.55W±0°.05, h10km, n50, σ2s 19/46, mb3.5/13, MS3.3/16, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.94**	**233**	Pn	**Pn**	**04 33 07.2**	**+0.7**
NOR				Sn	**Sn**	**04 33 41.3**	**-0.4**
NOR	**Nord**	**2.94**	**233**	*eP*	**Pn**	**04 33 07.0**	**+0.5**
NOR				*eS*	**Sn**	**04 33 41.4**	**-0.3**
NOR	**Nord**	**2.94**	**233**	*eP*	**Pn**	**04 33 07.2**	**+0.7**
NOR				*i* S	**Sn**	**04 33 42.7**	**+0.9**
NOR				IAML		04 33 48.7	
	comp=Z,14nm,0.6s						
KBS	**Kingsbay**	**5.12**	**152**	Pn	**Pn**	**04 33 37.7**	**+1.1**
KBS	**Kingsbay**	**5.12**	**152**	*eP*	**Pn**	**04 33 37.6**	**+1.0**
KBS				*eS*	**Sn**	**04 34 29.5**	**-6.1**
KBS				IAML		04 34 37.9	
	comp=Z,8.4nm,0.7s						
KBS	**Kingsbay**	**5.12**	**152**	*i* P	**Pn**	**04 33 37.9**	**+1.3**
BRBB	**Barentsburg B**	**6.05**	**150**	Pn	**Pn**	**04 33 51.2**	**+1.9**
BRBB	**Barentsburg B**	**6.05**	**150**	*eP*	**Pn**	**04 33 49.5**	**+0.2**
BRBA	**Barentsburg A**	**6.09**	**150**	Pn	**Pn**	**04 33 51.2**	**+1.5**
SPA0	**Spitsbergen Ar**	**6.10**	**146**	Pn	**Pn**	**04 33 50.5**	**+0.5**
	baz=5.7,slow=9.3						
SPA0				Sn	**Sn**	**04 34 58.0**	**-1.7**
	baz=11,slow=22						
SPA0	**Spitsbergen Ar**	**6.10**	**146**	*eP*	**Pn**	**04 33 50.3**	**+0.3**
SPA0				*eS*	**Sn**	**04 34 57.6**	**-2.1**
SPA0				IAML		04 35 06.9	
	comp=Z,3.3nm,0.8s						
SPA0	**Spitsbergen Ar**	**6.10**	**146**	*eP*	**Pn**	**04 33 50.0**	**0.0**
SPA0				*eS*	**Sn**	**04 34 54.6**	**-5.1**
SPITS	**Spitsbergen Ar**	**6.10**	**146**	Pn	**Pn**	**04 33 50.2**	**+0.2**
	baz=356,slow=10						
SPITS				Sn	**Sn**	**04 34 57.8**	**-1.9**
	baz=11,slow=16						
	comp=Z,1.0nm,0.3s						
ZFI2	**Zemlya Franca-**	**6.89**	**89**	*eP*	**Pn**	**04 33 59.3**	**-1.4**
ZFI2				*eS*	Sn	04 35 04.6	-14
	comp=Z,13nm,3.0s						
OMEGA	**Omega**	**6.91**	**89**	*eP*	**Pn**	**04 33 59.5**	**-1.6**
OMEGA				*eS*	Sn	04 35 04.7	-15
HSPB	**Hornsund (broa**	**7.19**	**150**	Pn	**Pn**	**04 34 06.6**	**+1.8**
HSPB	**Hornsund (broa**	**7.19**	**150**	*eP*	**Pn**	**04 34 08.8**	**+3.9**
DAG	**Danmarks Havn**	**7.53**	**213**	*eP*	**Pn**	**04 34 10.6**	**+1.0**
DAG	**Danmarks Havn**	**7.53**	**213**	*i* P	**Pn**	**04 34 10.3**	**+0.7**
DAG				*eS*	**Sn**	**04 35 35.9**	**+1.1**
DAG				IAML		04 35 38.6	
	comp=Z,2.2nm,0.6s						
HOPEN	**Hopen**	**8.30**	**135**	P	**Pn**	**04 34 21.0**	**+0.9**
HOPEN				S	**Sn**	**04 35 47.4**	**-6.2**
NEEM	**North Greenlan**	**9.88**	**260**	*i* P	Pn	04 34 38.7	-3.2
NEEM				*eS*	Sn	04 36 22.4	-10
NEEM				IAML		04 36 24.7	
	comp=Z,5.0nm,0.6s						
DBG	**Daneborg**	**10.03**	**212**	Pn	**Pn**	**04 34 43.5**	**-0.3**
DBG	**Daneborg**	**10.03**	**212**	*eP*	**Pn**	**04 34 43.6**	**-0.1**
SUMG	**Summit**	**13.10**	**235**	*eP*	**Pn**	**04 35 25.0**	**-1.0**
ARCES	**ARCESS Array B**	**15.13**	**144**	Pn	**Pn**	**04 35 54.1**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=359,slow=7.3,SNR=4.1						
ARCES				LR	LR	04 41 56.6	
	comp=Z,155nm,18.8s,baz=296,slow=38						
	comp=Z,4.8nm,1.0s						
RES	**Resolute Bay**	**17.08**	**296**	Pn	Pn	04 36 12.0	-6.4
	comp=Z,0.1nm,0.3s,baz=95,slow=15,SNR=1.3						
RES				Sn	Sn	04 39 07.8	-20
	baz=25,slow=10.0,SNR=1.5						
RES				LR	LR	04 42 55.1	
	comp=Z,163nm,20.4s,baz=18,slow=38						
	comp=Z,0.9nm,0.6s						
SFJD	**Kangerlussuaq**	**19.64**	**244**	LR	LR	04 43 51.3	
	comp=Z,82nm,20.1s,baz=11,slow=36						
NOA	**NORSAR Array B**	**22.93**	**165**	P	**P**	**04 37 25.9**	**+2.2**
	comp=Z,0.6nm,0.9s,baz=353,slow=8.7,SNR=1.2						
NOA				LR	LR	04 44 44.5	
	comp=Z,52nm,21.0s,baz=355,slow=32						
	comp=Z,0.6nm,0.9s						
FINES	**FINESS Array B**	**23.20**	**147**	P	**P**	**04 37 27.6**	**+1.3**
	comp=Z,1.9nm,1.0s,baz=349,slow=13,SNR=1.7						
FINES				LR	LR	04 46 15.6	
	comp=Z,89nm,18.6s,baz=18,slow=36						
	comp=Z,1.9nm,1.0s						
HFS	**Hagfors**	**23.92**	**162**	LR	LR	04 45 36.9	
	comp=Z,58nm,19.1s,baz=357,slow=33						
FRB	**Frobisher Bay**	**24.69**	**261**	LR	LR	04 47 20.5	
	comp=Z,74nm,18.0s,baz=290,slow=37						
INK	**Inuvik**	**26.55**	**323**	LR	LR	04 48 36.5	
	comp=Z,66nm,21.6s,baz=6.5,slow=37						
YKA	**Yellowknife Ar**	**30.77**	**304**	P	P	04 38 31.1	-3.7
	comp=Z,0.2nm,0.7s,baz=18,slow=8.0,SNR=1.7						
YKA				LR	LR	04 51 31.9	
	comp=Z,69nm,18.6s,baz=338,slow=38						
	comp=Z,0.2nm,0.7s						
ILAR	**Eielson Array**	**30.86**	**332**	P	**P**	**04 38 34.0**	**-1.7**
	comp=Z,0.3nm,0.7s,baz=0.9,slow=7.1,SNR=4.7						
ILAR				LR	LR	04 51 15.8	
	comp=Z,52nm,18.1s,baz=336,slow=37						
	comp=Z,0.3nm,0.7s						
ARU	**Arti**	**30.91**	**112**	LR	LR	04 53 28.6	
	comp=Z,122nm,18.4s,baz=198,slow=41						
AKASG	**Malin Array Be**	**34.09**	**146**	P	**P**	**04 39 04.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=336,slow=2.0,SNR=1.3						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**35.52**	**101**	LR	LR	04 57 50.5	
	comp=Z,52nm,18.6s,baz=310,slow=43						
ZALV	**Zalesovo Beam**	**36.20**	**86**	LR	LR	04 56 47.3	
	comp=Z,62nm,19.9s,baz=42,slow=40						
AKTO	**Aktyubinsk**	**36.77**	**114**	LR	LR	04 56 50.9	
	comp=Z,115nm,19.4s,baz=170,slow=40						
KURBB	**Kurchatov Arra**	**38.78**	**93**	P	**P**	**04 39 46.0**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=360,slow=7.1,SNR=2.5						
KURBB				LR	LR	04 58 01.5	
	comp=Z,51nm,20.9s,baz=180,slow=39						
	comp=Z,0.2nm,0.3s						
KBZ	**Khabaz**	**42.02**	**132**	P	**P**	**04 40 13.4**	**+2.5**
	comp=Z,0.9nm,0.6s,baz=63,slow=4.5,SNR=1.4						
	comp=Z,0.9nm,0.6s						
MKAR	**Makanchi Array**	**42.98**	**90**	LR	LR	05 02 15.9	
	comp=Z,57nm,18.1s,baz=339,slow=42						
ESDC	**Sonseca Array**	**44.17**	**184**	P	**P**	**04 40 27.9**	**-0.5**
	comp=Z,0.2nm,0.5s,baz=319,slow=3.7,SNR=2.0						
	comp=Z,0.2nm,0.5s						
SADO	**Sadowa**	**44.51**	**265**	LR	LR	04 58 57.9	
	comp=Z,56nm,18.3s,baz=22,slow=36						
SONM	**Songino Array**	**44.55**	**67**	P	**P**	**04 40 35.0**	**+3.5**
	comp=Z,0.3nm,0.3s,baz=0.0,slow=4.3,SNR=2.0						
	comp=Z,0.3nm,0.3s						
BRTR	**Keskin Array B**	**45.31**	**142**	P	**P**	**04 40 41.0**	**+3.4**
	comp=Z,0.2nm,0.4s,baz=45,slow=0.4,SNR=1.4						
	comp=Z,0.2nm,0.4s						
PDAR	**Pinedale Array**	**49.77**	**294**	P	**P**	**04 41 09.9**	**-2.5**
	comp=Z,0.1nm,0.4s,baz=5.7,slow=10.0,SNR=1.3						
PDAR				LR	LR	05 02 28.8	
	comp=Z,100nm,18.6s,baz=332,slow=37						
	comp=Z,0.1nm,0.4s						
NVAR	**Mina Array Bea**	**54.92**	**302**	P	**P**	**04 41 49.6**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=32,slow=5.3,SNR=1.6						
	comp=Z,0.3nm,0.5s						
ANMO	**Albuquerque**	**57.20**	**290**	LR	LR	05 07 16.9	
	comp=Z,95nm,18.5s,baz=70,slow=37						
TORD	**Torodi Ar. Bea**	**70.58**	**178**	P	**P**	**04 43 34.2**	**-0.8**
	comp=Z,0.6nm,1.0s,baz=350,slow=7.3,SNR=2.5						
	comp=Z,0.6nm,1.0s						

*IDC **24** 04:37:17.2±0.9, 0°.49S×131°.96E, h0km, mb4.1/11, mbtmp4.1/12, ML4.0/1, MS3.2/3, Error ellipse: s-maj=59.8km s-min=14.8km az=72.0*
*NEIC **24** 04:37:18.9±1.7, 0°.55S±0°.10×131°.8E±0°.1, h10km±1km, mb4.3/21, Error ellipse: s-maj=20.6km s-min=12.7km az=52.0*
*DJA **24** 04:37:18.6±0.5, 1°S±4°×13°2E±°, h10km, M4.5/9, mb4.5/3, MLv4.4/9*

ISC 24 04:37:18.7±0.5, 0°.66S±0°.06×131°.68E±0°.06, h10km, n55, σ1s 31/54, mb4.3/21, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWI	**Sorong**	**0.46**	**244**	P	**Pg**	**04 37 27.0**	**-0.8**
SWI				S	**Sg**	**04 37 32.6**	**-1.3**
FAKI	**Fak Fak**	**2.32**	**166**		**Pn**	**04 37 58.5**	**+1.6**
FAKI	**Fak Fak**	**2.32**	**166**	P	**Pn**	**04 37 57.8**	**+0.8**
KMPI	**Kaimana, Papua**	**3.61**	**146**	P	**Pn**	**04 38 13.5**	**-1.2**
LBMI	**Labuha**	**4.17**	**270**	P	**Pn**	**04 38 22.2**	**-0.3**
BNDI	**Bandanaira**	**4.23**	**205**	P	**Pn**	**04 38 22.8**	**-0.4**
TNTI	**Ternate**	**4.54**	**288**	P	**Pn**	**04 38 26.7**	**-0.8**
SANI	**Sanana**	**5.85**	**256**	P	**Pn**	**04 38 45.1**	**-0.5**
	18nm,0.6s,0.1nm						
LUWI	**Luwuk**	**8.91**	**267**	Pn	**Pn**	**04 39 29.1**	**+1.5**
TOLI2	**Tolitoli**	**11.03**	**279**	Pn	**Pn**	**04 39 56.6**	**-0.1**
MTN	**Manton Dam**	**12.12**	**183**		**Pn**	**04 40 09.8**	**-1.7**
COEN	**Coen**	**17.44**	**140**	P	**Pn**	**04 41 21.6**	**-0.6**
COEN				IAmb	IAmb	04 41 51.0	
	comp=Z,21nm,1.1s						
FITZ	**Fitzroy Crossi**	**18.32**	**199**		**Pn**	**04 41 29.4**	**-3.7**
WB0	**Warramunga Arr**	**19.18**	**172**	P	**P**	**04 41 39.1**	**-3.5**
GUMO	**Guam**	**19.27**	**42**	LR	LR	04 47 55.5	
	comp=Z,19nm,18.8s,baz=73,slow=34						
WRA	**Warramunga Arr**	**19.34**	**172**	P	**P**	**04 41 44.5**	**0.0**
WRA	**Warramunga Arr**	**19.34**	**172**	P	**P**	**04 41 44.5**	**0.0**
	comp=Z,0.5nm,0.3s,baz=352,slow=12,SNR=20						
WRA				S	Sn	04 45 11.4	-11
	comp=Z,0.8nm,0.6s,baz=6.5,slow=22,SNR=4.6						
	comp=Z,3.4nm,0.7s						
WB2	**Warramunga Arr**	**19.34**	**172**	P	**P**	**04 41 42.7**	**-1.8**
WR0	**Warramunga Arr**	**19.39**	**172**	P	**P**	**04 41 45.5**	**+0.5**
AS31	**Alice Springs**	**22.97**	**175**	P	**P**	**04 42 23.1**	**-0.5**
ASAR	**Alice Springs**	**22.97**	**175**	P	**P**	**04 42 24.8**	**+1.1**
ASAR	**Alice Springs**	**22.97**	**175**	P	**P**	**04 42 24.1**	**+0.5**
	comp=Z,3.4nm,0.6s,baz=352,slow=11,SNR=18						
ASAR				S	**S**	**04 46 35.6**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=346,slow=22,SNR=1.3						
	comp=Z,3.4nm,0.6s						
PSA00	**Pilbara Seismi**	**23.77**	**208**	P	**P**	**04 42 32.1**	**+0.5**
PSA00				IAmb	IAmb	04 42 57.9	
	comp=Z,20nm,1.4s						
CTAO	**Charters Tower**	**24.01**	**144**	P	**P**	**04 42 33.9**	**0.0**
CTAO				IAmb	IAmb	04 42 55.6	
	comp=Z,10nm,1.1s						
STKA	**Stephens Creek**	**32.44**	**164**	P	**P**	**04 43 48.9**	**-0.3**
	comp=Z,2.0nm,0.5s,baz=330,slow=14,SNR=5

M_{rr}-3.17; $M_{\theta\theta}$1.54; $M_{\phi\phi}$1.63; $M_{r\theta}$0.09; $M_{\theta\phi}$0.09; $M_{r\phi}$0.51;
Fault plane solution: $M_0$2.48000×10^{16} NP1: ϕ_s206.38000°,δ50.74000°,λ-92.50000°. NP2:ϕ_s30.33000°, δ39.32000°,λ-86.94000°. Principal axes: T 1.7323, Plg6.0000°, Azm298.0000°; N 1.4914, Plg2.0000°, Azm208.0000°; P -3.2236, Plg84.0000°, Azm99.0000°;
*NEIC **24** 04:43:50.1, 19°.31N×155°.23W, h12km*
*GCMT **24** 04:44:12.9±0.3, 19°.29N±0°.03×155°.29W±0°.03, h12km, MW4.9/112, Moment Tensor Solution. s20,c22; s112,c134; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.52±.07; $M_{\theta\theta}$1.36±.08; $M_{\phi\phi}$1.16±.07; $M_{r\theta}$0.75±.38; $M_{\theta\phi}$0.87±.06; $M_{r\phi}$0.67±.33; Best double couple: $M_0$2.53700×10^{16} NP1:ϕ_s228.00000°,δ57.00000°, λ-90.00000°. NP2:ϕ_s48.00000°,δ33.00000°,λ-90.00000°. Principal axes: T 2.3450, Plg12.0000°, Azm318.0000°; N 0.3830, Plg0.0000°, Azm228.0000°; P -2.7290, Plg78.0000°, Azm138.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

HVO 24 04:43:49.9±1.4, 19°.405N±0°.010×155°.281W±0°.009, h0km±2km, ML2.5/1, ML1.9/22(NEIC), Mww4.9/8(NEIC)
Error ellipse: s-maj=3.1km s-min=1.7km az=75.0,
Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**146**		Pg	04 43 50.6	+0.4
OBL	**Observatory Le**	**0.01**	**347**		Pg	04 43 51.5	+1.3
KKO	**Keanakako`i**	**0.02**	**117**		Pg	04 43 50.7	+0.5
UWB	**Uwekahuna B**	**0.02**	**8**		Pg	04 43 51.3	+0.9
UWE	**Uwekahuna**	**0.02**	**325**	IAML		04 43 50.5	
	comp=E,3μm,0.8s						
UWE				Pg	Pg	04 43 52.0	+1.7
BYL	**Byron's Ledge**	**0.02**	**71**	Pg	Pg	04 43 51.7	+1.3
SBLHI	**Steaming Bluff**	**0.03**	**29**		Pg	04 43 51.8	+1.4
HATHI	**Halema`uma`u T**	**0.03**	**47**	IAML		04 43 50.8	
	comp=N,2μm,0.8s						
HATHI				Pg	Pg	04 43 51.3	+0.9
RSD	**Rainshed**	**0.06**	**3**	IAML		04 43 51.5	
	comp=N,932nm,1.5s						
RSD				Pg	Pg	04 43 52.4	+1.3
PUH	**Pauahi**	**0.07**	**117**	Pg	Pg	04 43 51.7	+0.4
PUH				IAML		04 43 51.8	
	comp=N,1μm,1.2s						
KNHH	**Kane Nui o Ham**	**0.11**	**104**		Pg	04 43 51.8	-0.2
HLP	**Hilina Pali**	**0.11**	**193**	Pg	Pg	04 43 51.6	-0.5
HLP				IAML		04 43 53.4	
	comp=E,821nm,1.2s						
MLH	**Mauna Loa**	**0.13**	**312**	Pg	Pg	04 43 51.8	-0.7
MLH				IAML		04 43 55.5	
	comp=E,240nm,1.2s						
MLH				IAML		04 43 55.6	
	comp=N,406nm,1.1s						
STCH	**Steam Cracks**	**0.15**	**98**	Pg	Pg	04 43 52.8	0.0
STCH				IAML		04 43 55.2	
	comp=E,376nm,1.2s						
STCH				IAML		04 43 56.8	
	comp=N,453nm,1.2s						
HMH	**Humu`ula Sheep**	**0.27**	**316**	Pg	Pg	04 43 55.0	-0.2
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg	Pg	04 43 55.9	0.0
MWH	**Moku`aweowe**	**0.31**	**285**	Pg	Pg	04 43 55.2	-0.6
KHU	**Kahuku**	**0.35**	**243**	Pg	Pg	04 43 56.6	-0.1
PPT2	**Papeete2**	**37.19**	**171**	*e*LR	LR	05 00 55.1	
	comp=N,303nm,32.5s						
PPT2				*e*LR	LR	05 00 57.8	
	comp=N,474nm,31.8s						
TBI	**Tubuai**	**42.87**	**172**	*e*LR	LR	05 03 32.1	
	comp=N,456nm,42.8s						
TBI				*e*LR	LR	05 03 43.6	
	comp=N,1μm,34.0s						
DZM	**Mont Dzumac**	**55.67**	**224**	*e*LR	LR	05 09 37.1	
	comp=N,129nm,24.4s						

*NEIC **24** 05:07:18.1±0.6, 17°.5S±0°.2×178°.43W±0°.08, h577km±11km, mb4.1/15, Error ellipse: s-maj=33.9km s-min=6.1km az=163.0*
*IDC **24** 05:07:23.1±9.6, 17°.24S×178°.98W, h618km±131km, mb3.2/7, mbtmp4.2/8, Error ellipse: s-maj=85.2km s-min=39.6km az=160.0*
ISC 24 05:07:20.9±0.8, 17°.5S±0°.2×178°.8W±0°.1, h600km, n28, σ0s83/26, mb4.0/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**3.05**	**265**	P	**P**	**05 08 37.3**	**-3.1**
AFI	**Afiamalu**	**7.62**	**63**	P	P	05 09 10.1	-6.7
NIUE	**Niue**	**8.53**	**102**	P	P	05 09 18.2	-7.1
DZM	**Mont Dzumac**	**14.64**	**250**	P	**P**	**05 10 27.1**	**+1.2**
	4.2nm,0.4s,baz=120,slow=20,SNR=1.9						
ARMA	**Armidale**	**29.85**	**239**	P	**P**	**05 12 42.0**	**+0.5**
ARMA				IAmb	IAmb	05 12 42.5	
	comp=Z,5.6nm,0.8s						
CTAO	**Charters Tower**	**33.18**	**260**	P	**P**	**05 13 09.8**	**0.0**
CTAO				IAmb	IAmb	05 13 37.1	
	comp=Z,8.2nm,1.1s						
COEN	**Coen**	**36.77**	**270**	P	**P**	**05 13 40.0**	**+0.4**
TOO	**Toolangi**	**37.16**	**230**	P	**P**	**05 13 42.9**	**+0.4**
TOO				IAmb	IAmb	05 13 43.5	
	comp=Z,6.9nm,0.8s						
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**05 13 54.2**	**+0.6**
STKA	**Stephens Creek**	**38.53**	**241**	P	**P**	**05 13 54.1**	**+0.5**
	comp=Z,3.7nm,0.5s,baz=96,slow=9.6,SNR=10						
	comp=Z,3.7nm,0.5s						
BBOO	**Buckleboo**	**43.31**	**241**	P	**P**	**05 14 31.7**	**+0.3**
WR0	**Warramunga Arr**	**44.19**	**259**	P	**P**	**05 14 38.8**	**+0.5**
WR0				IAmb	IAmb	05 14 53.8	
	comp=Z,6.9nm,1.1s						
WB0	**Warramunga Arr**	**44.34**	**259**	P	**P**	**05 14 39.5**	**-0.1**
WB0				IAmb	IAmb	05 14 59.1	
	comp=Z,4.3nm,0.9s						
WB2	**Warramunga Arr**	**44.37**	**259**	P	**P**	**05 14 39.5**	**-0.2**
WB2				IAmb	IAmb	05 15 01.8	
	comp=Z,4.0nm,1.0s						
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**05 14 39.6**	**-0.2**
WRA	**Warramunga Arr**	**44.38**	**259**	P	**P**	**05 14 39.4**	**-0.4**
	comp=Z,1.2nm,0.2s,baz=94,slow=6.9,SNR=56						
	comp=Z,1.2nm,0.2s						
AS31	**Alice Springs**	**44.58**	**254**	P	**P**	**05 14 41.8**	**+0.5**
AS31				IAmb	IAmb	05 14 42.1	
	comp=Z,5.6nm,0.7s						
ASAR	**Alice Springs**	**44.58**	**254**	P	**P**	**05 14 41.7**	**+0.4**
	comp=Z,14nm,0.4s,baz=89,slow=8.2,SNR=120						
	comp=Z,14nm,0.4s						
MTN	**Manton Dam**	**48.48**	**268**	P	**P**	**05 15 11.1**	**+0.4**
MTN				IAmb	IAmb	05 15 39.6	
	comp=Z,6.1nm,1.1s						
FORT	**Forrest**	**49.88**	**244**		**P**	**05 15 20.6**	**-0.2**
PSA00	**Pilbara Seismi**	**57.69**	**255**	P	**P**	**05 16 16.1**	**+0.3**
MBWA	**Marble Bar**	**57.85**	**256**	P	**P**	**05 16 17.2**	**+0.3**
MBWA				IAmb	IAmb	05 16 33.1	
	comp=Z,6.9nm,1.1s						
SBA	**Scott Base**	**60.79**	**183**	P	**P**	**05 16 35.4**	**0.0**
QSPA	**South Pole Qui**	**72.53**	**180**	P	**P**	**05 17 47.2**	**-0.7**
NVAR	**Mina Array Bea**	**79.37**	**44**	P	**P**	**05 18 26.5**	**+0.4**
	comp=Z,0.6nm,0.7s,baz=233,slow=8.6,SNR=5.6						
	comp=Z,0.6nm,0.7s						
ILAR	**Eielson Array**	**85.58**	**13**	P	**P**	**05 18 55.9**	**-0.5**
	comp=Z,0.2nm,0.4s,baz=228,slow=5.2,SNR=6.2						
	comp=Z,0.2nm,0.4s						
TXAR	**Lajitas Array**	**86.07**	**58**	P	**P**	**05 19 00.5**	**+0.9**
	comp=Z,0.8nm,0.8s,baz=216,slow=5.7,SNR=11						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**87.30**	**44**	P	**P**	**05 19 05.8**	**+0.5**
	comp=Z,0.4nm,0.5s,baz=186,slow=5.7,SNR=3.0						
	comp=Z,0.4nm,0.5s						

*TEH **24** 05:18:31.2, 33°.88N×45°.57E, h14km±67km, ML2.5*
*ISN **24** 05:18:32.3±1.0, 33°.88N×45°.29E, h25km, ML2.5*
ISC 24 05:18:31.0±2.9, 33°.92N±0°.08×45°.5E±0°.2, h10km, n8, σ0s66/10, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.36**	**57**	Pg	**Pg**	**05 18 38.4**	**+0.2**
GLG1				Sg	**Sb**	**05 18 44.7**	**-0.7**
IBDR	**Badra**	**0.87**	**158**	*e*Pg	**Pn**	**05 18 49.0**	**-0.2**
	baz=325						
IBDR				*e*Sg	**Sn**	**05 19 03.0**	**+1.0**
IBDR				AML	AML	05 19 03.4	
	comp=N,4.0nm,1.0s						
IGHG	**Ghaleghazi**	**0.95**	**64**	Pg	**Pg**	**05 18 49.4**	**+0.1**
IDHR	**Dehrash**	**1.05**	**42**	Pg	**Pn**	**05 18 52.0**	**0.0**
KCHF	**Cheshme Sefid,**	**1.30**	**74**	Pg	**Pb**	**05 18 55.6**	**0.0**
ILIN	**Lien**	**1.54**	**49**	Pg	**Pg**	**05 19 00.4**	**-0.2**
IKFM	**Kafar-mosalman**	**1.96**	**101**	Pn	**Pb**	**05 19 05.9**	**-0.8**
IBZA	**Bozab**	**2.00**	**73**	Pn	**Pn**	**05 19 05.9**	**+0.8**

IDC 24 05:24:51.0±3.5, 54°.17N×87°.32E, h0km, mbtmp2.5/2, ML2.1/2, Error ellipse: s-maj=30.9km s-min=21.5km az=44.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.49**	**262**	I	I	05 33 30.0	
	baz=80,slow=330,SNR=1.3						
ZALV	**Zalesovo Beam**	**1.49**	**262**	Pg	Pn	05 25 17.9	-1.1
	0.6nm,0.3s,baz=78,slow=13,SNR=5.5						
ZALV				Lg	Lg	05 25 37.6	
	0.4nm,0.3s,baz=77,slow=26,SNR=2.3						
KURBB	**Kurchatov Arra**	**6.45**	**240**	Pn	Pn	05 26 29.1	+2.0
	baz=53,slow=13,SNR=2.0						
KURBB				Lg	Lg	05 28 16.5	
	baz=48,slow=29,SNR=1.4						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**8.05**	**205**	Pn	Pn	05 26 49.3	+0.1
	0.1nm,0.3s,baz=28,slow=15,SNR=1.8						
	0.1nm,0.3s						

KRSC 24 05:55:49.2±1.5, 49°.99N×156°.79E, h22km±16km, MI3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.82**	**329**	*e*S	Sb	05 56 15.2	-0.2
PAU	**Pauzhetka**	**1.48**	**1**	*e*S	Sb	05 56 36.1	+1.7
KDTR	**Khodutka, Kamc**	**2.00**	**24**	*e*P	Pb	05 56 23.3	-1.6
KDTR				*e*S	Sb	05 56 48.9	-0.3
ASAK	**Asacha**	**2.50**	**16**	*e*P	Pb	05 56 31.3	-2.2
MTVR	**Mutnovka**	**2.65**	**19**	*e*P	Pn	05 56 33.4	+2.6
RUS	**Russkaya**	**2.68**	**23**	*e*P	Pn	05 56 32.6	+1.6
RUS				*e*S	Sn	05 57 04.8	+2.0
GRL	**Gorelyy**	**2.69**	**17**	*e*P	Pn	05 56 33.6	+2.2
AVH	**Avacha**	**3.50**	**20**	*e*P	Pb	05 56 46.6	-3.9
KOK	**Koryaka**	**3.51**	**18**	*e*P	Pn	05 56 46.3	+3.8
SMAR	**Somma**	**3.51**	**20**	*e*P	Pb	05 56 47.6	-3.2
KRX	**Arik**	**3.57**	**18**	*e*P	Pb	05 56 47.8	-4.0
GNL	**Ganaly**	**3.78**	**10**	*e*P	Pb	05 56 50.9	-4.5

IDC 24 06:00:24.0±3.0, 54°.36N×87°.07E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=24.8km s-min=19.0km az=48.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.39**	**254**	I	I	06 08 50.0	
	baz=73,slow=330,SNR=0.4						
ZALV	**Zalesovo Beam**	**1.39**	**253**	Pg	Pg	06 00 49.5	-1.1
	1.1nm,0.3s,baz=70,slow=16,SNR=11						
ZALV				Lg	Lg	06 01 09.0	
	1.4nm,0.3s,baz=72,slow=26,SNR=7.8						
KURBB	**Kurchatov Arra**	**6.42**	**238**	Pn	Pn	06 01 59.2	-0.5
	baz=55,slow=14,SNR=3.3						
KURBB				Sn	Sn	06 03 11.8	-1.8
	baz=50,slow=25,SNR=1.2						
KURBB				Lg	Lg	06 03 50.8	
	baz=56,slow=35,SNR=2.6						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**8.16**	**204**	Pn	Pn	06 02 25.7	+2.0
	0.1nm,0.3s,baz=21,slow=12,SNR=4.5						
	0.3nm,0.5s						

*IDC **24** 06:05:08.7±1.2, 24°.01S×65°.05W, h0km, mb3.6/3, mbtmp3.6/6, ML2.2/2, MS2.9/5, Error ellipse: s-maj=27.9km s-min=19.7km az=31.0*
*SJA **24** 06:05:13.6±1.1, 24°.03S×65°.02W, h19km±4km, ML3.9, MW4.0*
*VAO **24** 06:05:19.0±0.5, 23°.90S×64°.42W, h10km, mb4.3*
ISC 24 06:05:13.2±0.9, 24°.02S±0°.04×64°.95W±0°.06, h27km±7km, n28, σ1s70/40, mb3.6/3, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AZAP	**Zapla**	**0.23**	**208**	*e*P	**Pb**	**06 05 19.3**	**-0.4**
AZAP				*e*S	**Sb**	**06 05 23.5**	**-0.6**
AZAP				IAML		06 05 26.5	
	comp=Z,30μm,0.4s						
ASTB	**Santa Barbara**	**0.46**	**81**	*e*P	**Pn**	**06 05 24.8**	**+0.6**
SLA	**San Lorenzo**	**0.86**	**216**	*e*P	**Pn**	**06 05 30.6**	**+0.9**
SLA				*e*S	**Sn**	**06 05 43.7**	**+2.2**
SLA				IAML		06 05 48.7	
	comp=Z,4μm,0.4s						
ALOL	**LOMAS DE OLMED**	**0.91**	**77**	*e*P	**Pn**	**06 05 32.4**	**+2.2**
YJA	**Yavi**	**1.91**	**344**	*e*P	**Pn**	**06 05 43.4**	**-1.0**
YJA				*e*S	**Sb**	**06 06 13.8**	**+2.6**
YJA				IAML		06 06 17.8	
	comp=Z,718nm,0.4s						
FSA	**Cafayete**	**2.28**	**204**	*e*P	**Pb**	**06 05 52.0**	**-1.8**
FSA				*e*S	**Sb**	**06 06 22.2**	**+0.5**
AHML	**Horco Molle**	**2.77**	**187**	*e*P	**Pn**	**06 05 57.8**	**+1.8**
AHML				*e*S	**Sn**	**06 06 31.4**	**+2.8**
AHML				IAML		06 06 44.4	
	comp=Z,295nm,0.7s						
LVC	**Limon Verde**	**3.91**	**290**	Pn	**Pn**	**06 06 10.8**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=155,slow=23,SNR=1.0						
LVC				LR	LR	06 07 24.0	
	comp=Z,43nm,20.2s,baz=120,slow=35						
LVC	**Limon Verde**	**3.91**	**290**	*e*P	Pb	06 06 25.3	+3.7
CYA	**Choya**	**4.47**	**190**	*e*P	**Pn**	**06 06 16.7**	**-2.5**
CYA				*e*S	**Sb**	**06 07 25.2**	**+0.8**
CYA				IAML		06 07 37.1	
	comp=Z,118nm,0.5s						
TICA	**Tres Isletas**	**4.76**	**121**	*e*P	**Pn**	**06 06 25.5**	**+2.4**
TICA				*e*S	**Sn**	**06 07 18.7**	**+1.3**
MURT	**Porto Murtinho**	**7.16**	**72**	*e*P	**Pn**	**06 06 57.7**	**+1.4**
MURT				*e*S	**Sn**	**06 08 13.8**	**-3.0**
CPUP	**Villa Florida**	**7.27**	**110**	Pn	**Pn**	**06 06 58.5**	**+0.8**
	comp=Z,5.5nm,0.6s,baz=281,slow=11,SNR=26						
CPUP				Lg	Lg	06 09 01.9	
	comp=Z,9.4nm,0.3s,baz=203,slow=20,SNR=3.9						
CPUP				LR	LR	06 10 22.3	
	comp=Z,100nm,18.7s,baz=3.0,slow=43						
BBRB	**Robore, Bolivi**	**7.46**	**41**	*e*P	**Pn**	**06 06 59.6**	**-0.7**
BBRB				*e*S	**Sn**	**06 08 24.0**	**-0.1**
LPAZ	**La Paz**	**8.26**	**338**	Pn	**Pn**	**06 07 10.3**	**-1.5**
	baz=62,slow=1.9,SNR=1.7						
LPAZ				Sn	**Sn**	**06 08 45.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=248,slow=16,SNR=2.4						
LPAZ				LR	LR	06 11 13.9	
	comp=Z,69nm,19.9s,baz=110,slow=44						
	comp=Z,0.8nm,1.0s						
BDQN	**Bodoquena, MS**	**8.38**	**66**	*e*P	**Pn**	**06 07 14.7**	**+1.7**
BDQN				*e*S	**Sn**	**06 08 44.8**	**-2.0**
SIV	**San Ignacio**	**8.78**	**25**	Pn	**Pn**	**06 07 18.5**	**+0.1**
	comp=Z,2.8nm,0.3s,baz=234,slow=7.6,SNR=47						
SIV				Sn	**Sn**	**06 08 55.4**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=234,slow=14,SNR=2.4						
SIV				Lg	Lg	06 09 46.8	
	baz=298,slow=21,SNR=1.1						
AQDB	**Aquidauana**	**9.26**	**69**	*e*P	**Pn**	**06 07 26.3**	**+1.3**
AQDB				*e*S	**Sn**	**06 09 06.2**	**-2.2**
PTLB	**Pontes e Lacer**	**10.13**	**34**	*e*P	**Pn**	**06 07 39.7**	**+2.8**
PTLB				*e*S	**Sn**	**06 09 30.6**	**+0.9**
SALV	**Santo Antonio**	**11.87**	**49**	*e*P	**Pn**	**06 08 02.6**	**+1.9**
SALV				*e*S	**Sn**	**06 10 11.8**	**-0.6**
VILB	**Vilhena**	**11.89**	**23**	*e*S	**Sn**	**06 10 15.3**	**+2.3**
BDFB	**Brasilia**	**17.97**	**65**	Lg	Lg	06 14 40.9	
	comp=Z,0.2nm,0.3s,baz=159,slow=13,SNR=3.3						
BDFB				LR	LR	06 17 49.9	
	comp=Z,56nm,19.1s,baz=142,slow=42						
PCRV	**Puerto La Cruz**	**33.99**	**1**	LR	LR	06 25 27.3	
	comp=Z,38nm,18.8s,slow=36						
TXAR	**Lajitas Array**	**64.81**	**323**	P	**P**	**06 15 49.1**	**-0.7**
	comp=Z,0.1nm,0.6s,baz=123,slow=4.5,SNR=1.3						
	comp=Z,0.1nm,0.6s						
TORD	**Torodi Ar. Bea**	**74.83**	**68**	P	**P**	**06 16 52.4**	**+0.7**
	comp=Z,1.2nm,0.5s,baz=255,slow=5.6,SNR=17						
	comp=Z,1.2nm,0.5s						
YKA	**Yellowknife Ar**	**94.80**	**339**	P	**P**	**06 18 29.6**	**-2.3**
	comp=Z,0.2nm,0.8s,baz=126,slow=4.1,SNR=2.6						
	comp=Z,0.2nm,0.8s						
ASAR	**Alice Springs**	**129.19**	**202**	PKP	**PKPdf**	**06 24 19.0**	**-0.7**
	comp=Z,0.5nm,0.8s,baz=180,slow=2.8,SNR=2.9						
WRA	**Warramunga Arr**	**132.43**	**205**	PKP	**PKPdf**	**06 24 25.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=151,slow=1.6,SNR=2.0						

*IDC **24** 06:37:34.1±1.3, 5°.35S×151°.87E, h0km, mb4.0/5, mbtmp4.0/6, ML2.0/1, MS2.9/3, Error ellipse: s-maj=49.5km s-min=25.5km az=121.0*
ISC 24 06:37:40.9±1.1, 5°.4S±0°.2×151°.8E±0°.2, h45km, n9, σ0s95/8, mb4.0/5, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.11**	**229**	Pn	**Pn**	**06 39 08.9**	**+0.2**
	2.2nm,0.3s,baz=351,slow=19,SNR=2.1						
PMG				Sn	**Sn**	**06 40 18.0**	**+0.7**
	12nm,0.3s,baz=227,slow=19,SNR=7.6						
PMG				LR	LR	06 41 26.5	
	comp=Z,118nm,20.3s,baz=254,slow=38						
	14nm,0.5s						
WRA	**Warramunga Arr**	**22.33**	**228**	P	**P**	**06 42 33.9**	**-1.1**
	4.1nm,0.6s,baz=52,slow=9.8,SNR=42						
	4.1nm,0.6s						
ASAR	**Alice Springs**	**25.07**	**222**	P	**P**	**06 43 01.4**	**+0.1**
	2.7nm,0.6s,baz=57,slow=8.7,SNR=43						
	2.7nm,0.6s						
DAV	**Davao City (W)**	**28.95**	**295**	LR	LR	06 53 41.4	
	comp=Z,29nm,20.5s,baz=166,slow=33						
JNU	**Nakatsue**	**43.13**	**334**	LR	LR	07 00 23.1	
	comp=Z,9.2nm,21.2s,baz=110,slow=32						
SONM	**Songino Array**	**66.29**	**328**	P	**P**	**06 48 25.0**	**+0.2**
	0.9nm,0.6s,baz=134,slow=4.2,SNR=3.8						
	0.9nm,0.6s						
QSPA	**South Pole Qui**	**84.59**	**180**	P	**P**	**06 50 09.1**	**-0.2**
	1.4nm,1.0s,baz=349,slow=5.2,SNR=2.3						
	1.4nm,1.0s						
NVAR	**Mina Array Bea**	**93.21**	**52**	P	**P**	**06 50 51.9**	**+0.8**
	0.4nm,0.6s,baz=241,slow=3.7,SNR=3.7						
	0.4nm,0.6s						
TORD	**Torodi Ar. Bea**	**149.54**	**287**	PKPbc	**PKPbc**	**06 57 25.0**	**-1.4**
	1.5nm,0.7s,baz=76,slow=2.2,SNR=9.1						

*SKHL **24** 06:43:05.4±0.4, 46°.80N×142°.00E, h14km±1km, mb4.6/5*
*JMA **24** 06:43:05.5±0.6, 47°.N±2°.×14°.2E±°, h36km, MV3.3/10, SOUTH SAKHALIN*
ISC 24 06:43:05.5±1.3, 46°.93N±0°.06×142°.02E±0°.07, h30km±9km, n6, σ0s87/11, Sakhalin Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHLM	**Kholmsk**	**0.13**	**10**	*i* Pg	**Pn**	**06 43 11.4**	**-0.1**
KHLM				AMB	AMB	06 43 11.5	
	1μm,0.2s						
KHLM				*e*Sg	**Sb**	**06 43 15.9**	**+1.1**
KHLM				A	A	06 43 16.9	
	9μm,0.3s						
KHLM				A	A	06 43 16.9	
	10μm,0.3s						
NEVR	**Nevel`sk**	**0.27**	**204**	*i* Pg	**Pb**	**06 43 12.2**	**-0.4**
NEVR				AMB	AMB	06 43 12.6	
	1μm,0.4s						
NEVR				*e*Sg	**Sb**	**06 43 16.8**	**-0.6**
NEVR				A	A	06 43 17.4	
	10μm,0.6s						
NEVR				A	A	06 43 17.4	
	10μm,0.6s						
YSS	**Yuzh-Sakhalins**	**0.51**	**87**	*i* Pg	**Pb**	**06 43 15.8**	**-0.2**
YSS				AMB	AMB	06 43 16.0	
	190nm,0.5s						
YSS				*e*Sg	**Sb**	**06 43 23.0**	**-0.2**
YSS				A	A	06 43 23.4	
	750nm,0.3s						
YSS				A	A	06 43 23.4	
	1μm,0.3s						
YSS				AMS	AMS	06 43 38.0	
	1μm,7.0s						
JWK2	**Keihoku**	**1.61**	**183**	*e*P	**Pb**	**06 43 34.7**	**+0.2**
JWK2				*e*S	**Sb**	**06 43 56.2**	**+1.7**
JRBN	**Rebuntou**	**1.64**	**204**	*e*P	**Pb**	**06 43 34.5**	**-0.6**
JRBN				*e*S	**Sb**	**06 43 55.9**	**+0.5**
JSE	**Soyaes**	**2.01**	**168**	*e*S	**Sb**	**06 44 05.5**	**-0.3**

IDC 24 06:55:37.3±3.5, 53°.28N×87°.83E, h0km, mbtmp2.5/2, ML1.7/2, Error ellipse: s-maj=34.9km s-min=19.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.91**	**292**	I	I	07 06 30.0	
	0.1nm,0.7s,baz=107,slow=333,SNR=3.9						
ZALV	**Zalesovo Beam**	**1.91**	**292**	Pn	Pb	06 56 12.8	-0.2
	0.3nm,0.3s,baz=109,slow=15,SNR=8.2						
ZALV				Lg	Lg	06 56 37.5	
	0.7nm,0.3s,baz=105,slow=27,SNR=2.5						
KURBB	**Kurchatov Arra**	**6.33**	**249**	Pn	Pn	06 57 12.0	+0.2
	baz=60,slow=15,SNR=1.6						
	0.1nm,0.3s						
MKAR	**Makanchi Array**	**7.41**	**211**	Pn	Pn	06 57 27.4	+0.7
	baz=22,slow=30,SNR=1.4						
	0.2nm,0.6s						

IDC 24 07:00:24.5±2.9, 55°.43N×86°.14E, h0km, mbtmp3.3/3, ML2.8/3, Error ellipse: s-maj=26.4km s-min=19.0km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.67**	**208**	I	I	07 10 30.0	
	baz=24,slow=330,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.67**	**208**	Pg	Pn	07 00 54.4	-0.7
	12nm,0.3s,baz=23,slow=16,SNR=34						
ZALV				Lg	Lg	07 01 18.6	
	6.6nm,0.3s,baz=27,slow=28,SNR=8.4						
KURBB	**Kurchatov Arra**	**6.65**	**227**	Pn	Pn	07 02 03.4	0.0
	0.2nm,0.3s,baz=43,slow=14,SNR=3.6						
KURBB				Lg	Lg	07 03 55.0	
	0.1nm,0.3s,baz=46,slow=30,SNR=2.4						
	0.8nm,0.4s						
MKAR	**Makanchi Array**	**8.98**	**197**	Pn	Pn	07 02 34.7	-0.7

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I35NA	**TSUMEB INFRASO**	**2.89**	**79**	Pg	**Pb**	**07 09 05.0**	**+0.4**
	baz=239,slow=26						
I35NA				I	I	07 25 20.0	
	baz=256,slow=319,SNR=1.0						
TSUM	**Tsumeb**	**2.89**	**80**	*i* P	**Pn**	**07 08 57.6**	**-1.5**
TSUM				*i* S	**Sn**	**07 09 35.8**	**+1.8**
TSUM				IAML		07 09 47.9	
	comp=Z,3μm,0.5s						
TSUM	**Tsumeb**	**2.89**	**80**	Pn	**Pn**	**07 08 57.7**	**-1.5**
TSUM	**Tsumeb**	**2.89**	**80**	*i* P	**Pn**	**07 08 58.2**	**-1.0**
TSUM	**Tsumeb**	**2.89**	**80**	⇓*i* P	**Pn**	**07 08 57.9**	**-1.2**
TSUM				*e*S	**Sn**	**07 09 29.6**	**-4.5**
TSUM				IAML		07 09 51.7	
	comp=Z,2μm,0.3s						
TSUM	**Tsumeb**	**2.89**	**80**	Pn	**Pn**	**07 08 57.2**	**-1.9**
	comp=Z,136nm,0.3s,baz=259,slow=11,SNR=358						
TSUM				Pg	**Pb**	**07 09 05.1**	**+0.5**
	comp=Z,411nm,0.3s,baz=244,slow=15,SNR=61						
TSUM				Sn	**Sn**	**07 09 31.0**	**-3.1**
	comp=Z,149nm,0.3s,baz=192,slow=19,SNR=6.6						
TSUM				Lg	Lg	07 09 43.0	
	comp=Z,675nm,0.3s,baz=345,slow=10.0,SNR=17						
TSUM	**Tsumeb**	**2.89**	**80**	*i* P	**Pn**	**07 08 57.9**	**-1.2**
TSUM				*i* S	**Sn**	**07 09 35.9**	**+1.8**
TSUM				IAML		07 09 52.7	
	comp=Z,150μm,0.3s						
TSUM	**Tsumeb**	**2.89**	**80**	*i* P	Pn	07 08 53.3	-5.8
WIN	**Windhoek**	**3.66**	**140**		**Pn**	**07 09 09.9**	**+0.1**
WIN	**Windhoek**	**3.66**	**140**	*i* P	**Pn**	**07 09 09.6**	**-0.2**
WIN				*i* S	**Sn**	**07 09 49.8**	**-3.4**
WIN	**Windhoek**	**3.66**	**140**	P	**Pn**	**07 09 09.9**	**+0.1**
KOOLE	**Kule**	**6.15**	**123**	*i* P	**Pn**	**07 09 43.1**	**-0.9**
KOOLE				*e*S	**Sn**	**07 11 01.5**	**+6.9**
KOOLE				IAML		07 11 31.7	
	comp=Z,2μm,0.7s						
GRTLG	**Ghanzi**	**6.43**	**106**	*i* P	**Pn**	**07 09 46.2**	**-1.5**
GRTLG				*e*S	Sn	07 11 09.4	+8.1
GRTLG				IAML		07 11 38.7	
	comp=Z,950nm,1.0s						
AUSN	**Aus**	**7.06**	**168**	*i* P	**Pn**	**07 09 56.1**	**-0.4**
AUSN				*i* S	**Sn**	**07 11 23.8**	**+6.9**
AUSN				IAML		07 12 03.8	
	comp=Z,237nm,0.4s						
KGCAE	**Kacgae**	**7.76**	**115**	*i* P	**Pn**	**07 10 03.9**	**-2.1**
KGCAE				*e*S	**Sn**	**07 11 41.6**	**+7.6**
KGCAE				IAML		07 12 17.3	
	comp=Z,782nm,0.8s						
ARMS	**Ukamas**	**9.51**	**151**	*i* P	**Pn**	**07 10 28.3**	**-1.7**
ARMS				*i* S	**Sn**	**07 12 22.5**	**+5.5**
ARMS				IAML		07 13 11.0	
	comp=Z,116nm,0.3s						
SKOMA	**Sekoma**	**9.88**	**120**	*i* P	**Pn**	**07 10 33.6**	**-1.5**
SKOMA				*e*S	**Sn**	**07 12 31.4**	**+5.1**
SKOMA				IAML		07 13 49.8	
	comp=Z,167nm,0.7s						
KDWAN	**Kaudwane**	**10.06**	**113**	*i* P	**Pn**	**07 10 36.1**	**-1.4**
KDWAN				*e*S	**Sn**	**07 12 35.2**	**+4.7**
KDWAN				IAML		07 13 43.2	
	comp=Z,181nm,1.2s						
AUGR	**Augrabies**	**10.25**	**150**	*e*P	**Pn**	**07 10 39.0**	**-1.1**
AUGR				IAML		07 13 50.0	
	comp=Z,128nm,0.5s						
KOMG	**Komaggas**	**10.35**	**166**	*e*P	**Pn**	**07 10 41.0**	**-0.4**
KEIM	**Keimoes**	**10.65**	**148**	*e*P	**Pn**	**07 10 45.0**	**-0.7**
SOOWA	**Sowa**	**10.97**	**96**	*i* P	**Pn**	**07 10 48.0**	**-2.0**
SOOWA				*e*S	**Sn**	**07 12 54.8**	**+1.9**
SOOWA				IAML		07 14 07.0	
	comp=Z,314nm,0.4s						
MAKGR	**Makgori**	**11.20**	**124**	*i* P	**Pn**	**07 10 51.4**	**-1.8**
MAKGR				*e*S	**Sn**	**07 13 05.4**	**+6.9**
MAKGR				IAML		07 14 29.4	
	comp=Z,100nm,0.6s						
LBTB	**Lobatse**	**11.46**	**119**	*i* P	**Pn**	**07 10 54.8**	**-2.0**
LBTB				*e*S	**Sn**	**07 13 09.3**	**+4.3**
LBTB				IAML		07 14 27.4	
	comp=Z,253nm,1.2s						
LBTB	**Lobatse**	**11.46**	**119**	Pn	**Pn**	**07 10 53.9**	**-2.9**
LBTB	**Lobatse**	**11.46**	**119**	Pn	**Pn**	**07 10 54.0**	**-2.8**
	comp=Z,1.8nm,0.3s,baz=294,slow=12,SNR=16						
LBTB				Lg	Lg	07 14 03.0	
	comp=Z,11nm,0.3s,baz=13,slow=22,SNR=11						
LBTB				LR	LR	07 15 27.4	
	comp=Z,750nm,18.4s,baz=291,slow=38						
	comp=Z,8.0nm,0.5s						
MREMI	**Moremi**	**12.33**	**105**	*i* P	**Pn**	**07 11 05.0**	**-3.8**
MREMI				*e*S	Sn	07 13 35.4	+9.1
MREMI				IAML		07 14 56.2	
	comp=Z,164nm,0.6s						
CVNA	**Calvinia**	**12.58**	**159**	*e*P	**Pn**	**07 11 11.1**	**-1.0**
CVNA				IAML		07 14 51.1	
	comp=Z,110nm,0.5s						
NHAM	**Northam, North**	**12.86**	**116**	*e*P	**Pn**	**07 11 12.8**	**-3.1**
LEPH	**Lephalale, Lim**	**12.94**	**111**	*e*P	**Pn**	**07 11 13.3**	**-3.8**
MATP	**Matopo**	**13.10**	**95**	*i* P	**Pn**	**07 11 16.4**	**-2.9**
MATP	**Matopo**	**13.10**	**95**	Pn	**Pn**	**07 11 15.8**	**-3.5**
	comp=Z,1.0nm,0.3s,baz=272,slow=11,SNR=11						
MATP	**Matopo**	**13.10**	**95**	*i* P	Pn	07 11 08.3	-11
BOSA	**Boshof**	**13.14**	**134**	*i* P	**Pn**	**07 11 18.8**	**-1.0**
BOSA				*e*S	**S**	**07 14 03.0**	**-8.3**
BOSA				IAML		07 16 30.9	
	comp=Z,175nm,3.6s						
BOSA	**Boshof**	**13.14**	**134**	Pn	**Pn**	**07 11 18.1**	**-1.7**
BOSA	**Boshof**	**13.14**	**134**	*i* P	**Pn**	**07 11 18.7**	**-1.0**
BOSA	**Boshof**	**13.14**	**134**	Pn	**Pn**	**07 11 17.7**	**-2.0**
	comp=Z,1.7nm,0.3s,baz=318,slow=13,SNR=19						
BOSA				Sn	**Sn**	**07 13 52.1**	**+6.0**
	comp=Z,1.5nm,0.3s,baz=325,slow=8.9,SNR=2.6						
BOSA				Lg	Lg	07 14 54.9	
	comp=Z,4.1nm,0.3s,baz=221,slow=20,SNR=3.7						
	comp=Z,5.7nm,0.4s						
BOSA	**Boshof**	**13.14**	**134**	*i* P	Pn	07 11 12.5	-7.3
BOSA	**Boshof**	**13.14**	**134**	P	**Pn**	**07 11 18.1**	**-1.7**
NYAT	**Nyati, Northwe**	**13.24**	**117**	*e*P	**Pn**	**07 11 17.8**	**-3.3**
HRAO	**HartRAO**	**13.54**	**119**	*e*P	**Pn**	**07 11 25.1**	**-0.2**
FRAZ	**Fraserburg**	**13.59**	**155**	*e*P	**Pn**	**07 11 25.3**	**-0.6**
TSWA	**Tswaing Meteor**	**13.69**	**117**	*e*P	**Pn**	**07 11 27.1**	**-0.1**
LSZ	**Lusaka**	**13.72**	**73**		**Pn**	**07 11 23.9**	**-3.9**
LSZ	**Lusaka**	**13.72**	**73**	*i* P	Pn	07 11 20.8	-7.0
LSZ	**Lusaka**	**13.72**	**73**	Pn	**Pn**	07 11 22.7	-5.1
	comp=Z,1.7nm,0.3s,baz=258,slow=13,SNR=7.5						
LSZ				Sn	Sn	07 13 48.8	-12
	comp=Z,5.6nm,0.3s,baz=262,slow=19,SNR=7.7						
LSZ				Lg	Lg	07 15 18.4	
	comp=Z,2.3nm,0.3s,baz=177,slow=22,SNR=1.8						
LSZ				LR	LR	07 17 08.6	
	comp=Z,864nm,18.6s,baz=266,slow=39						
LSZ	**Lusaka**	**13.72**	**73**	*i* P	Pn	07 11 20.8	-7.0
LSZ	**Lusaka**	**13.72**	**73**	P	**Pn**	**07 11 23.9**	**-3.9**
PRYS	**Parys**	**13.74**	**124**	*e*P	**Pn**	**07 11 25.3**	**-2.7**
SUR	**Sutherland**	**13.77**	**157**	*i* P	**Pn**	**07 11 27.4**	**-0.9**
SUR				IAML		07 15 43.1	
	comp=Z,185nm,1.3s						
SUR	**Sutherland**	**13.77**	**157**	Pn	**Pn**	**07 11 25.4**	**-2.9**
SUR	**Sutherland**	**13.77**	**157**	*i* P	**Pn**	**07 11 28.3**	**0.0**
SUR	**Sutherland**	**13.77**	**157**	*e*P	**Pn**	**07 11 28.5**	**+0.2**
SUR	**Sutherland**	**13.77**	**157**	Pn	**Pn**	**07 11 26.6**	**-1.7**
	comp=Z,1.9nm,0.3s,baz=331,slow=14,SNR=13						
SUR				Sn	**Sn**	**07 14 00.5**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=324,slow=19,SNR=2.0						
SUR				Lg	Lg	07 15 17.4	
	comp=Z,7.6nm,0.3s,baz=49,slow=21,SNR=10.0						
	comp=Z,4.6nm,0.5s						
SUR	**Sutherland**	**13.77**	**157**	*i* P	**Pn**	**07 11 28.3**	**0.0**
PRTV	**Porterville,We**	**13.86**	**164**	*e*P	**Pn**	**07 11 30.2**	**+0.7**
RUST	**Rust De Winter**	**14.00**	**116**	*e*P	**Pn**	**07 11 28.9**	**-2.6**
BRAK	**Brakfontein**	**14.12**	**150**	*e*P	**Pn**	**07 11 30.6**	**-2.5**
CER	**Ceres**	**14.20**	**164**	*e*P	**Pn**	**07 11 35.1**	**+1.0**
GRAN	**Grantham**	**14.24**	**153**	*e*P	**P**	**07 11 41.8**	**-0.3**
MERW	**Merweville**	**14.29**	**156**	*e*P	**Pn**	**07 11 35.7**	**+0.2**
MATJ	**Matjiesfontein**	**14.49**	**159**	*e*P	**Pn**	**07 11 37.6**	**-0.5**
MUSN	**Musina, Limpop**	**14.49**	**103**	*i* P	Pn	07 11 33.3	-5.0
MUSN	**Musina, Limpop**	**14.49**	**103**	*e*P	**Pn**	**07 11 36.9**	**-1.4**
MUSN	**Musina, Limpop**	**14.49**	**103**	*i* P	Pn	07 11 26.8	-11
BFON	**Badsfontein, M**	**14.53**	**147**	*e*P	**Pn**	**07 11 37.8**	**-0.9**
KRI	**Karoi**	**14.58**	**81**	*i* P	**Pn**	**07 11 36.5**	**-2.9**
KRI	**Karoi**	**14.58**	**81**	*i* P	Pn	07 11 34.1	-5.4
HVD	**Gariep Dam**	**14.64**	**140**	*e*P	**Pn**	**07 11 38.9**	**-1.4**
SNKL	**Senekal, Frees**	**14.74**	**128**	*e*P	**Pn**	**07 11 39.5**	**-2.1**
MPHEP	**Siloam, Limpop**	**14.88**	**105**	*e*P	**Pn**	**07 11 40.4**	**-3.1**
ROOI	**Rooidraai Farm**	**15.03**	**149**	*e*P	**Pn**	**07 11 44.4**	**-1.0**
GRAF	**Camdeboo Natio**	**15.32**	**146**	*e*P	**Pn**	**07 11 48.1**	**-1.3**
DULL	**Dullstroom, Mp**	**15.45**	**114**	*e*P	**Pn**	**07 11 51.8**	**+0.5**
PILG	**Pilgrimsrest,**	**15.79**	**112**	*e*P	**Pn**	**07 11 52.2**	**-3.5**
HOED	**Hoedspruit, Li**	**15.85**	**110**	*e*P	**Pn**	**07 11 54.9**	**-1.4**
MOPA	**Mopani**	**16.08**	**106**	*i* P	**Pn**	**07 11 55.6**	**-3.7**
MOPA	**Mopani**	**16.08**	**106**	*i* P	Pn	07 11 51.6	-7.6
NWCL	**Newcastle**	**16.11**	**122**	*e*P	**P**	**07 12 02.1**	**-0.8**
CHIPN	**CHIPINGE**	**17.00**	**95**	*i* P	**Pn**	**07 12 07.5**	**-3.4**
CHIPN	**CHIPINGE**	**17.00**	**95**	*i* P	**Pn**	**07 12 05.0**	**-6.0**
GRHM	**Grahamstown, E**	**17.10**	**144**	Pn	**Pn**	**07 12 09.9**	**-2.2**
GRHM	**Grahamstown, E**	**17.10**	**144**	*e*P	**P**	**07 12 13.1**	**-0.8**
KSTD	**Kokstad**	**17.15**	**132**	*e*P	**P**	**07 12 14.9**	**+0.3**
POGA	**Pongola**	**17.42**	**119**	*i* P	**Pn**	**07 12 12.4**	**-3.7**
POGA				*e*S	**S**	**07 15 40.9**	**+2.3**
POGA				IAML		07 17 28.2	
	comp=Z,160nm,1.6s						
POGA	**Pongola**	**17.42**	**119**	Pn	**Pn**	**07 12 13.0**	**-3.2**
POGA	**Pongola**	**17.42**	**119**	*e*P	**Pn**	**07 12 15.6**	**-0.6**
PMBG	**Pietermaritzbu**	**17.43**	**127**	*e*P	**P**	**07 12 17.1**	**-0.4**
SHEL	**Horse Pasture**	**19.70**	**278**	P	**P**	**07 12 42.4**	**-0.2**
SHEL				IAmb	IAmb	07 12 51.6	
	comp=Z,116nm,1.1s						
SHEL	**Horse Pasture**	**19.70**	**278**	P	**P**	**07 12 42.4**	**-0.2**
SHEL				pmax	pmax		
	comp=Z,116nm,1.1s						
MBAR	**Mbarara**	**24.75**	**42**	P	**P**	**07 13 35.0**	**0.0**
MBAR	**Mbarara**	**24.75**	**42**	*e*P	**P**	**07 13 35.1**	**0.0**
MBAR	**Mbarara**	**24.75**	**42**	LR	LR	07 23 45.9	
	comp=Z,629nm,19.2s,baz=202,slow=38						
MBAR	**Mbarara**	**24.75**	**42**	P	**P**	**07 13 35.1**	**0.0**
MBAR				pmax	pmax		
	comp=Z,18nm,0.8s						
KIC	**Kosan Boka**	**32.17**	**322**	⇓*i* PKP1	**P**	**07 14 40.7**	**-0.3**
	comp=Z,29nm,0.6s						
LIC	**Lamto**	**32.22**	**321**	⇑*i* PKP1	**P**	**07 14 41.6**	**+0.1**
	comp=Z,8.8nm,0.5s						
DBIC	**Dimbokro**	**32.48**	**322**	P	**P**	**07 14 42.6**	**-1.2**
DBIC	**Dimbokro**	**32.48**	**322**	P	**P**	**07 14 42.1**	**-1.7**
	comp=Z,11nm,0.8s,baz=127,slow=9.5,SNR=8.2						
DBIC				LR	LR	07 25 46.5	
	comp=Z,128nm,19.9s,baz=146,slow=33						
	comp=Z,11nm,0.8s						
DBIC	**Dimbokro**	**32.48**	**322**	P	**P**	**07 14 42.6**	**-1.2**
DBIC				pmax	pmax		
	comp=Z,60nm,1.7s						
TIC	**Toumodi**	**32.56**	**322**	⇑*e*PKP1	**P**	**07 14 41.7**	**-2.8**
	comp=Z,7.1nm,0.3s						
TOA0	**Torodi Ar. Sit**	**35.06**	**338**	P	**P**	**07 15 05.7**	**-0.5**
TORD	**Torodi Ar. Bea**	**35.06**	**338**	P	**P**	**07 15 04.5**	**-1.8**
	comp=Z,6.9nm,0.7s,baz=161,slow=8.3,SNR=22						
TORD				PcP	**PcP**	**07 17 37.9**	**-0.3**
	comp=Z,2.6nm,0.7s,baz=131,slow=1.1,SNR=5.4						
	comp=Z,6.9nm,0.7s						
ATD	**Arta Tunnel**	**41.73**	**44**	LR	LR	07 33 56.4	
	comp=Z,6.5nm,18.0s,baz=182,slow=37						
TAM	**Tamanrasset**	**43.20**	**348**	P	**P**	**07 16 14.6**	**+0.3**
TAM	**Tamanrasset**	**43.20**	**348**	P	**P**	**07 16 14.6**	**+0.3**
TAM				pmax	pmax		
	comp=Z,4.0nm,1.1s						
NBAN	**Anadia - AL**	**50.03**	**274**	*e*P	**P**	**07 17 05.9**	**-2.2**
NBCA	**Caruaru-PE**	**50.23**	**276**	*e*P	**P**	**07 17 08.5**	**-1.1**
RCBR	**Riachuelo**	**50.93**	**279**	P	**P**	**07 17 15.2**	**+0.3**
RCBR	**Riachuelo**	**50.93**	**279**	LR	LR	07 35 40.1	
	comp=Z,49nm,18.8s,baz=152,slow=32						
RCBR	**Riachuelo**	**50.93**	**279**	P	**P**	**07 17 15.2**	**+0.3**
RCBR				pmax	pmax		
	comp=Z,60nm,1.6s						
RCBR	**Riachuelo**	**50.93**	**279**	*e*P	**P**	**07 17 15.5**	**+0.6**
NBLA	**Lagarto - SE**	**51.07**	**272**	*e*P	**P**	**07 17 15.3**	**-0.6**
CMC01	**Camacan, BA**	**51.59**	**266**	*e*P	**P**	**07 17 18.3**	**-1.5**
GUA01	**Guaratinga, BA**	**51.59**	**264**	*e*P	**P**	**07 17 19.1**	**-0.7**
GDU01	**Guandu, BA**	**52.03**	**268**	*e*P	**P**	**07 17 22.8**	**-0.3**
ELIB	**Princess Elisa**	**52.45**	**177**	*d*P	**P**	**07 17 24.1**	**-1.5**
	comp=Z,6.4nm,1.0s						
RAYN	**Ar Rayn**	**52.53**	**36**	P	**P**	**07 17 27.6**	**+0.9**
RAYN	**Ar Rayn**	**52.53**	**36**	P	**P**	**07 17 27.6**	**+0.9**
RAYN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
VNA1	**Neumayer--Stat**	**52.70**	**189**	⇑P	**P**	**07 17 28.6**	**+1.4**
	comp=Z,11nm,0.9s						
TROLL	**Troll, Antarti**	**52.73**	**185**	⇑P	**P**	**07 17 27.9**	**+0.2**
	comp=Z,100nm,0.5s						
VNA2	**Neumayer--Watz**	**52.81**	**189**	⇑P	**P**	**07 17 29.1**	**+1.1**
	comp=Z,8.6nm,0.8s,baz=26,slow=6.2						
SNAA	**Sanae**	**52.91**	**187**	P	**P**	**07 17 28.5**	**-0.4**
SNAA	**Sanae**	**52.91**	**187**	*e*P	**P**	**07 17 29.6**	**+0.7**
SNAA	**Sanae**	**52.91**	**187**	⇑P	**P**	**07 17 29.0**	**+0.2**
	comp=Z,136nm,0.9s						
SNAA	**Sanae**	**52.91**	**187**	P	**P**	**07 17 28.1**	**-0.8**
	comp=Z,8.2nm,1.1s,baz=16,slow=6.3,SNR=12						
	comp=Z,8.2nm,1.1s						
SNAA	**Sanae**	**52.91**	**187**	*ce*P	**P**	**07 17 29.1**	**+0.2**
SNAA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
VNA3	**Neumayer Olymp**	**53.44**	**190**	⇑P	**P**	**07 17 32.1**	**-0.6**
	comp=Z,8.1nm,0.7s						
NBCL	**Cascavel-CE**	**53.73**	**280**	*e*P	**P**	**07 17 36.3**	**+0.7**
NBPB	**Pedra_Branca-C**	**54.46**	**277**	*e*P	**P**	**07 17 41.3**	**+0.3**
KEST	**Kesra**	**55.40**	**355**	P	**P**	**07 17 47.9**	**+0.5**
KEST				IAmb	IAmb	07 17 56.8	
	comp=Z,7.0nm,0.6s						
KEST	**Kesra**	**55.40**	**355**	LR	LR	07 41 29.7	
	comp=Z,92nm,19.1s,baz=285,slow=36						
MMAI	**Mount Meron Ar**	**56.12**	**21**	LR	LR	07 43 02.7	
	comp=Z,82nm,21.0s,baz=155,slow=37						
JANB	**Januaria**	**56.16**	**265**	*e*P	**P**	**07 17 52.4**	**-0.9**
MAW	**Mawson**	**56.61**	**160**	P	**P**	**07 17 55.1**	**-0.5**
	comp=Z,7.9nm,0.8s,baz=294,slow=4.3,SNR=7.6						
	comp=Z,7.9nm,0.8s						
VAO	**Valinhos**	**57.04**	**255**	P	**P**	**07 18 00.7**	**+1.2**
ITM	**Ithomi**	**57.05**	**7**	P	**P**	**07 18 01.0**	**+1.9**
ITM				IAmb	IAmb	07 18 55.8	
	comp=Z,25nm,1.2s						
CSS	**Mathiatis**	**57.25**	**18**	P	**P**	**07 18 02.4**	**+1.8**
	comp=Z,22nm,1.9s						
PMNB	**Patos De Minas**	**57.37**	**260**	*e*P	**P**	**07 18 01.0**	**-0.9**
SDBA	**SAO DESIDERIO**	**57.38**	**268**	*e*P	**P**	**07 18 00.7**	**-1.3**
TIP	**Timpagrande**	**58.65**	**2**	P	**P**	**07 18 12.5**	**+2.1**
TIP				IAmb	IAmb	07 18 13.7	
	comp=Z,16nm,1.0s						
TIP	**Timpagrande**	**58.65**	**2**	P	**P**	**07 18 12.8**	**+2.4**
	comp=Z,15nm,1.1s						
IPMB	**Ipameri, GO**	**59.13**	**260**	*e*P	**P**	**07 18 13.6**	**-0.6**
VSL	**Villasalto**	**59.13**	**355**	P	**P**	**07 18 14.2**	**+0.5**
VSL				IAmb	IAmb	07 19 51.9	
	comp=Z,21nm,1.6s						
BDFB	**Brasilia**	**59.48**	**263**	P	**P**	**07 18 14.5**	**-2.3**
	comp=Z,8.0nm,0.9s,baz=90,slow=6.6,SNR=12						
BDFB				LR	LR	07 40 36.4	
	comp=Z,100nm,18.2s,baz=136,slow=33						
	comp=Z,8.0nm,0.9s						
ROSB	**Rosrio**	**59.63**	**278**	*e*P	**P**	**07 18 17.6**	**0.0**
FUL	**Funchal**	**60.17**	**329**	*e*P	**P**	**07 18 21.6**	**+0.7**
FNA	**Florina**	**60.55**	**6**	P	**P**	**07 18 24.3**	**+0.8**
FNA				IAmb	IAmb	07 18 28.1	
	comp=Z,9.4nm,1.1s						
FNA	**Florina**	**60.55**	**6**	P	**P**	**07 18 24.3**	**+0.8**
FNA				pmax	pmax		
	comp=Z,9.0nm,1.1s						
WSAR	**Wadi Sarin**	**60.60**	**47**	LR	LR	07 44 18.7	
	comp=Z,94nm,18.5s,baz=239,slow=36						
PCVE	**Castro Verde**	**60.92**	**340**	*e*P	**P**	**07 18 27.2**	**+1.3**
	comp=Z,17nm,1.6s						
SMTB	**Santa Maria do**	**60.92**	**271**	*e*P	**P**	**07 18 25.9**	**-0.6**
PBAR	**Barrancos**	**61.09**	**341**	*e*P	**P**	**07 18 28.8**	**+1.7**
	comp=Z,17nm,1.9s						
MESJ	**Messejana**	**61.16**	**340**	*e*P	**P**	**07 18 29.5**	**+1.9**
	comp=Z,24nm,1.3s						
MESJ	**Messejana**	**61.16**	**340**	P	**P**	**07 18 28.8**	**+1.2**
MESJ	**Messejana**	**61.16**	**340**	P	**P**	**07 18 28.8**	**+1.2**
MESJ				pmax	pmax		
	comp=Z,33nm,1.5s						
PBEJ	**Beja**	**61.22**	**340**	*e*P	**P**	**07 18 29.6**	**+1.6**
	comp=Z,15nm,1.6s						
PNCL	**Nicolau / Gran**	**61.51**	**339**	*e*P	**P**	**07 18 31.8**	**+1.9**
	comp=Z,1.9nm,0.6s						
PAB	**San Pablo**	**61.58**	**343**	P	**P**	**07 18 30.8**	**+0.3**
PAB				IAmb	IAmb	07 18 32.6	
	comp=Z,11nm,1.1s						
PAB	**San Pablo**	**61.58**	**343**	P	**P**	**07 18 30.8**	**+0.3**
PAB				pmax	pmax		
	comp=Z,11nm,1.1s						
ESDC	**Sonseca Array**	**61.60**	**344**	P	**P**	**07 18 29.0**	**-1.6**
	comp=Z,5.8nm,1.0s,baz=167,slow=6.2,SNR=22						
	comp=Z,5.8nm,1.0s						
PUK	**Puka**	**61.68**	**4**	P	**P**	**07 18 32.4**	**+1.3**
PUK				IAmb	IAmb	07 18 33.4	
	comp=Z,18nm,1.2s						
PLTB	**Pedras Altas**	**61.69**	**244**	P	**P**	**07 18 32.2**	**+0.7**
EVO	**Evora**	**61.73**	**340**	*e*P	**P**	**07 18 33.4**	**+2.0**
	comp=Z,8.9nm,2.5s						
BR105	**Keskin Array S**	**61.77**	**17**	P	**P**	**07 18 33.6**	**+1.7**
	comp=Z,3.9nm,0.8s						
BRTR	**Keskin Array B**	**61.79**	**17**	P	**P**	**07 18 30.1**	**-1.9**
	comp=Z,1.8nm,0.7s,baz=308,slow=38,SNR=1.8						
BRTR				LR	LR	07 45 50.3	
	comp=Z,48nm,21.4s,baz=199,slow=37						
	comp=Z,1.8nm,0.7s						
BRTR	**Keskin Array B**	**61.79**	**17**	*ce*P	**P**	**07 18 34.4**	**+2.4**
BRTR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
BR106	**Keskin Array S**	**61.79**	**17**	P	**P**	**07 18 34.3**	**+2.3**
	comp=Z,4.3nm,0.9s						
PESTR	**Estremoz**	**61.90**	**340**	*e*P	**P**	**07 18 34.4**	**+1.8**
	comp=Z,29nm,1.4s						
PESTR	**Estremoz**	**61.90**	**340**	P	**P**	**07 18 34.1**	**+1.5**
CAMP	**Campotosto**	**61.98**	**359**	P	**P**	**07 18 34.6**	**+1.4**
CAMP				IAmb	IAmb	07 18 37.5	
	comp=Z,9.6nm,0.8s						
NRCA	**Norcia**	**62.28**	**359**	P	**P**	**07 18 35.1**	**0.0**
NRCA				IAmb	IAmb	07 18 39.3	
	comp=Z,13nm,0.9s						
PMTG	**Montargil**	**62.28**	**340**	*e*P	**P**	**07 18 37.2**	**+2.1**
	comp=Z,23nm,1.6s						
PMRV	**Marv??o**	**62.35**	**341**	*e*P	**P**	**07 18 37.0**	**+1.4**
	comp=Z,15nm,1.9s						
BELA	**Belgrano 2**	**62.72**	**190**	P	**P**	**07 18 36.8**	**-0.8**
PCBR	**Castelo Branco**	**62.75**	**341**	*e*P	**P**	**07 18 39.9**	**+1.7**
	comp=Z,24nm,1.6s						
ARAG	**Araguaiana, MT**	**63.02**	**262**	*e*P	**P**	**07 18 40.5**	**0.0**
RODS	**Rosario do Sul**	**63.23**	**245**	*e*P	**P**	**07 18 42.4**	**+0.6**
CEST	**Esterri de Car**	**63.24**	**349**	P	**P**	**07 18 42.9**	**+1.3**
CEST				IAmb	IAmb	07 18 46.2	
	comp=Z,10.0nm,0.8s						
PCAS	**Casmilo, Conde**	**63.27**	**340**	*e*P	**P**	**07 18 43.1**	**+1.4**
	comp=Z,48nm,1.7s						
MTE	**Manteigas**	**63.29**	**341**	*e*P	**P**	**07 18 43.2**	**+1.3**
	comp=Z,21nm,0.8s						
MTE	**Manteigas**	**63.29**	**341**	P	**P**	**07 18 42.5**	**+0.6**
SNDB	**Serra Nova Dou**	**63.51**	**266**	*e*P	**P**	**07 18 42.8**	**-1.0**
TMAB	**Tom-Au,PA,Br**	**63.52**	**277**	*e*P	**P**	**07 18 44.7**	**+0.7**
PVIS	**Viseu**	**63.68**	**341**	*e*P	**P**	**07 18 45.7**	**+1.2**
MVO	**Moncorvo**	**63.84**	**342**	*e*P	**P**	**07 18 47.1**	**+1.6**
	comp=Z,20nm,1.2s						
PRPB	**Parauapebas**	**63.85**	**273**	*e*P	**P**	**07 18 45.9**	**-0.3**
DIKM	**Dikmen**	**64.02**	**17**	P	**P**	**07 18 48.5**	**+1.9**
	comp=Z,12nm,1.0s						
PBRG	**Braganca**	**64.34**	**342**	*e*P	**P**	**07 18 51.0**	**+2.2**
	comp=Z,16nm,1.3s						
ITQB	**Itaqui**	**64.56**	**246**	*e*P	**P**	**07 18 50.0**	**-0.6**
PCAB	**Cabril**	**64.63**	**341**	*e*P	**P**	**07 18 52.2**	**+1.5**
	comp=Z,24nm,1.9s						
FRGS	**Fruska Gora**	**64.77**	**4**	P	**P**	**07

	comp=Z,9.1nm,1.1s								
PSZ	**Piszkesteto**	**67.52**	**4**	P		**P**	**07 19 09.6**	**+0.4**	
PSZ				pmax		pmax			
	comp=Z,9.0nm,1.1s								
MCPB	**Macapa, AP**	**67.93**	**278**	*e*P		**P**	**07 19 13.0**	**+0.6**	
ECH	**Echery**	**67.98**	**355**	P		**P**	**07 19 12.3**	**+0.3**	
ECH				IAmb		IAmb	07 19 15.3		
	comp=Z,8.4nm,0.8s								
ECH	**Echery**	**67.98**	**355**	P		**P**	**07 19 12.3**	**+0.3**	
ECH				pmax		pmax			
	comp=Z,8.0nm,0.8s								
BFO	**Black Forest**	**68.00**	**356**	P		**P**	**07 19 13.4**	**+1.3**	
BFO				IAmb		IAmb	07 19 14.7		
	comp=Z,5.7nm,0.7s								
BFO	**Black Forest**	**68.00**	**356**	P		**P**	**07 19 13.4**	**+1.3**	
BFO				pmax		pmax			
	comp=Z,6.0nm,0.7s								
VYHS	**Vyhne**	**68.04**	**3**	*e*P		**P**	**07 19 15.0**	**+2.7**	
VYHS	**Vyhne**	**68.04**	**3**	*e*P		**P**	**07 19 15.0**	**+2.7**	
CLDB	**Colider**	**68.05**	**266**	*e*P		**P**	**07 19 13.6**	**+0.4**	
SHA1	**Shidzhatmaz**	**68.23**	**22**	*ce*P		**P**	**07 19 16.1**	**+2.2**	
CKRC	**Cesky Krumlov**	**68.26**	**360**	*e*P		**P**	**07 19 14.5**	**+0.8**	
CKRC	**Cesky Krumlov**	**68.26**	**360**	*e*P		**P**	**07 19 14.5**	**+0.8**	
GERES	**GERESS Array B**	**68.29**	**359**	P		**P**	**07 19 13.2**	**-0.8**	
	comp=Z,5.0nm,0.8s,baz=192,slow=5.1,SNR=13								
	comp=Z,5.0nm,0.8s								
KBZ	**Khabaz**	**68.30**	**22**	P		**P**	**07 19 12.6**	**-1.4**	
	comp=Z,6.3nm,1.0s,baz=224,slow=2.1,SNR=13								
	comp=Z,6.3nm,1.0s								
KBZ	**Khabaz**	**68.30**	**22**	*ce*P		**P**	**07 19 15.5**	**+1.5**	
KBZ				pmax		pmax			
	comp=Z,14nm,0.9s								
JAVC	**Velka Javorina**	**68.35**	**2**	*e*P		**P**	**07 19 16.8**	**+2.5**	
KIV	**Kislovodsk**	**68.43**	**21**	*ce*P		**P**	**07 19 16.2**	**+1.2**	
KIV				*e*			07 19 38.0		
KIV				*e*			07 21 47.5		
KIV				*e*SSS		SSS	07 35 46.6		
KIV				pmax		pmax			
	comp=Z,26nm,1.7s								
KRUC	**Moravsky**	**68.52**	**1**	*e*P		**P**	**07 19 15.4**	**+0.1**	
KHC	**Kasperske Hory**	**68.57**	**359**	P		**P**	**07 19 16.8**	**+1.1**	
KHC	**Kasperske Hory**	**68.57**	**359**	*e*P		**P**	**07 19 17.9**	**+2.2**	
KHC	**Kasperske Hory**	**68.57**	**359**	P		**P**	**07 19 16.8**	**+1.1**	
KHC				pmax		pmax			
	comp=Z,6.0nm,0.9s								
PDRB	**Porto dos Gac**	**68.72**	**265**	*e*P		**P**	**07 19 17.6**	**+0.2**	
LANS	**Liptovska Anna**	**68.73**	**3**	*e*P		**P**	**07 19 19.5**	**+2.8**	
LANS	**Liptovska Anna**	**68.73**	**3**	*e*P		**P**	**07 19 19.5**	**+2.8**	
VRAC	**Vranov**	**68.77**	**1**	*e*P		**P**	**07 19 17.7**	**+0.8**	
VRAC	**Vranov**	**68.77**	**1**	LR		LR	07 49 58.4		
	comp=Z,30nm,18.2s,baz=148,slow=36								
VRAC	**Vranov**	**68.77**	**1**	P		**P**	**07 19 16.8**	**-0.1**	
VRAC				pmax		pmax			
	comp=Z,5.0nm,0.8s								
NPGB	**Novo Progresso**	**68.80**	**270**	*e*P		**P**	**07 19 17.7**	**-0.2**	
MORC	**Moravsky Berou**	**69.27**	**2**	P		**P**	**07 19 20.5**	**+0.5**	
MORC	**Moravsky Berou**	**69.27**	**2**	*e*P		**P**	**07 19 20.6**	**+0.6**	
MORC	**Moravsky Berou**	**69.27**	**2**	P		**P**	**07 19 20.5**	**+0.5**	
MORC				pmax		pmax			
	comp=Z,9.0nm,1.2s								
WLF	**Walferdange**	**69.51**	**354**	P		**P**	**07 19 21.7**	**+0.3**	
WLF	**Walferdange**	**69.51**	**354**	*d*P		**P**	**07 19 22.2**	**+0.8**	
WLF	**Walferdange**	**69.51**	**354**	P		**P**	**07 19 21.7**	**+0.3**	
WLF				pmax		pmax			
	comp=Z,18nm,1.0s								
BBRB	**Robore, Bolivi**	**69.78**	**257**	*e*P		**P**	**07 19 24.2**	**+0.3**	
PTLB	**Pontes e Lacer**	**69.90**	**260**	P		**P**	**07 19 24.9**	**+0.3**	
PTLB				IAmb		IAmb	07 19 28.6		
	comp=Z,9.1nm,0.9s								
PTLB	**Pontes e Lacer**	**69.90**	**260**	*e*P		**P**	**07 19 24.9**	**+0.3**	
ITTB	**Itaituba**	**70.01**	**273**	*e*P		**P**	**07 19 25.7**	**+0.4**	
CHVC	**Chvalec**	**70.04**	**1**	*e*P		**P**	**07 19 26.3**	**+1.6**	
CHVC	**Chvalec**	**70.04**	**1**	*e*P		**P**	**07 19 26.3**	**+1.6**	
HSKC	**Hora Svate Kat**	**70.05**	**359**	*e*P		**P**	**07 19 25.6**	**+0.8**	
RCHB	**Rochefort**	**70.08**	**354**	*d*P		**P**	**07 19 25.3**	**+0.3**	
DOU	**Dourbes**	**70.09**	**353**	*d*P		**P**	**07 19 25.5**	**+0.5**	
MOX	**Moxa**	**70.13**	**358**	P		**P**	**07 19 25.6**	**+0.3**	
MOX				pmax		pmax			
	comp=Z,6.0nm,1.3s								
BMRD	**Maredsous**	**70.28**	**353**	*d*P		**P**	**07 19 27.2**	**+1.1**	
BRG	**Berggiesshubel**	**70.31**	**360**	*e*P		**P**	**07 19 26.7**	**+0.4**	
BRG				Amp			07 19 29.3		
	comp=Z,3.7nm,0.8s								
BCLA	**Clavier**	**70.34**	**354**	*d*P		**P**	**07 19 27.1**	**+0.6**	
PALK	**Pallekele**	**70.37**	**74**	LR		LR	07 46 43.2		
	comp=Z,75nm,20.0s,baz=341,slow=33								
QSPA	**South Pole Qui**	**70.42**	**180**	P		**P**	**07 19 26.5**	**-0.6**	
	comp=Z,15nm,0.8s,baz=248,slow=2.1,SNR=42								
	comp=Z,15nm,0.8s								
BTNL	**Ternell**	**70.42**	**354**	*d*P		**P**	**07 19 28.1**	**+1.0**	
MEM	**Membach**	**70.46**	**354**	*d*P		**P**	**07 19 28.3**	**+1.0**	
GEYT	**Alibeck**	**70.47**	**35**	P		**P**	**07 19 27.0**	**-0.7**	
	comp=Z,6.3nm,0.7s,baz=238,slow=5.1,SNR=10								
GEYT				LR		LR	07 50 31.3		
	comp=Z,61nm,19.6s,baz=294,slow=36								
	comp=Z,6.3nm,0.7s								
GEYT	**Alibeck**	**70.47**	**35**	P		**P**	**07 19 27.0**	**-0.7**	
MDP	**Montagnes des**	**70.51**	**283**	LR		LR	07 45 09.6		
	comp=Z,37nm,21.1s,baz=106,slow=32								
CLL	**Collm**	**70.76**	**359**	P		**P**	**07 19 29.6**	**+0.5**	
CLL				IAmb		IAmb	07 19 32.7		
	comp=Z,8.3nm,1.0s								
CLL	**Collm**	**70.76**	**359**	*i* P		**P**	**07 19 29.7**	**+0.6**	
	comp=Z,7.0nm,0.9s								
CLL	**Collm**	**70.76**	**359**	*i* P		**P**	**07 19 29.7**	**+0.6**	
CLL				pmax		pmax			
	comp=Z,7.0nm,0.9s								
BBSD	**Serra de San D**	**70.80**	**258**	*e*P		**P**	**07 19 30.4**	**+0.3**	
AKASG	**Malin Array Be**	**71.32**	**10**	P		**P**	**07 19 31.4**	**-1.1**	
AKASG				LR		LR	07 54 21.6		
	comp=Z,3.9nm,0.7s,baz=197,slow=6.0,SNR=13								
	comp=Z,12nm,19.3s,baz=211,slow=39								
	comp=Z,3.9nm,0.7s								
AKASG	**Malin Array Be**	**71.32**	**10**	*i* P		**P**	**07 19 32.0**	**-0.5**	
AKASG				pmax		pmax			
	comp=Z,4.0nm,0.7s								
AKBB	**Malin Array Si**	**71.32**	**10**	*ce*P		**P**	**07 19 33.4**	**+0.9**	
AKBB				pmax		pmax			
	comp=Z,6.0nm,0.9s								
SIV	**San Ignacio**	**71.55**	**259**	P		**P**	**07 19 34.3**	**-0.5**	
	comp=Z,2.2nm,0.8s,baz=99,slow=5.5,SNR=10								
SIV				LR		LR	07 47 11.6		
	comp=Z,83nm,19.9s,baz=285,slow=33								
	comp=Z,2.2nm,0.8s								
VILB	**Vilhena**	**71.58**	**263**	P		**P**	**07 19 35.9**	**+0.9**	
VILB	**Vilhena**	**71.58**	**263**	*e*P		**P**	**07 19 36.1**	**+1.2**	
KHAM	**Kharkiv**	**72.05**	**15**	P		**P**	**07 19 39.1**	**+2.2**	
HYB	**Hyderabad**	**72.87**	**64**	*e*P		**P**	**07 19 42.8**	**+0.2**	
PLCA	**Paso Flores**	**73.79**	**232**	LR		LR	07 49 59.1		
	comp=Z,27nm,18.4s,baz=132,slow=34								
MNK	**Minsk**	**74.83**	**8**	*i* P		**P**	**07 19 52.2**	**-0.9**	
MNK				*i*			07 20 06.0		
MNK				*i*			07 22 39.0		
MNK				*i* PPP		PPP	07 24 24.6		
MNK				*i* S		**S**	**07 29 29.3**	**-0.5**	
MNK				*i*			07 30 03.8		
MNK				*i* SS		**SS**	**07 34 17.8**	**-0.6**	
MNK				*i* SSS		SSS	07 37 39.9		
MNK				pmax		pmax			
	comp=N,20nm,0.9s								
MNK				pmax		pmax			
	comp=E,7.0nm,0.9s								
MNK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
MNK				MLR		MLR			
	comp=N,131nm,19.0s								
MNK				MLR		MLR			
	comp=E,99nm,18.0s								
MNK				MLR		MLR			
	comp=Z,60nm,19.0s								
MACA	**Manacapuru-AM**	**75.06**	**272**	*e*P		**P**	**07 19 55.1**	**-0.4**	
PABE	**Paberze**	**75.38**	**6**	P		**P**	**07 19 56.9**	**+0.6**	
SAML	**Samuel**	**75.57**	**266**	P		**P**	**07 19 57.6**	**-0.8**	
SAML				IAmb		IAmb	07 20 01.9		
	comp=Z,12nm,1.0s								
SAML	**Samuel**	**75.57**	**266**	P		**P**	**07 19 57.6**	**-0.8**	
SAML				pmax		pmax			
	comp=Z,12nm,1.0s								
SAML	**Samuel**	**75.57**	**266**	*e*P		**P**	**07 19 58.3**	**-0.1**	
EKA	**Eskdalemuir Ar**	**76.29**	**350**	P		**P**	**07 20 00.5**	**-1.0**	
	comp=Z,7.8nm,0.7s,baz=164,slow=6.3,SNR=27								
	comp=Z,7.8nm,0.7s								
BOAV	**Boa Vista**	**76.81**	**277**	*e*P		**P**	**07 20 05.2**	**-0.3**	
LVC	**Limon Verde**	**76.87**	**251**	P		**P**	**07 20 04.5**	**-1.6**	
	comp=Z,4.1nm,0.6s,baz=62,slow=17,SNR=3.7								
LVC				LR		LR	07 51 48.8		
	comp=Z,38nm,18.3s,baz=172,slow=34								
	comp=Z,4.1nm,0.6s								
LVC	**Limon Verde**	**76.87**	**251**	*e*P		**P**	**07 20 06.5**	**+0.4**	
OBN	**Obninsk**	**76.89**	**13**	*ce*P		**P**	**07 20 05.8**	**+0.9**	
OBN				*e*			07 20 17.2		
OBN				*e*			07 22 56.2		
OBN				*e*PPP		PPP	07 24 47.3		
OBN				*e*S		**S**	**07 29 44.9**	**-7.6**	
OBN				pmax		pmax			
	comp=Z,7.0nm,1.0s								
OBN				MLR		MLR			
	comp=Z,50nm,15.0s								
PB15	**IPOC Station P**	**77.20**	**250**	P		**P**	**07 20 08.1**	**+0.3**	
PB15				IAmb		IAmb	07 20 11.4		
	comp=Z,15nm,0.9s								
SIMJ	**Simiganj**	**77.29**	**41**	P		**P**	**07 20 08.0**	**+0.2**	
SIMJ				IAmb		IAmb	07 20 11.4		
	comp=Z,11nm,1.2s								
BELG	**Belogornoye**	**77.39**	**20**	*i* P		**P**	**07 20 09.4**	**+1.7**	
BELG				pmax		pmax			
	comp=Z,7.0nm,1.0s								
LPAZ	**La Paz**	**77.97**	**257**	P		**P**	**07 20 11.0**	**-1.7**	
	comp=Z,5.7nm,0.8s,baz=102,slow=5.2,SNR=13								
LPAZ				LR		LR	07 52 24.0		
	comp=Z,53nm,18.7s,baz=58,slow=34								
	comp=Z,5.7nm,0.8s								
LPAZ	**La Paz**	**77.97**	**257**	P		**P**	**07 20 11.0**	**-1.7**	
ETMB	**Extrema**	**78.14**	**264**	P		**P**	**07 20 11.8**	**-1.1**	
ETMB				IAmb		IAmb	07 20 15.9		
	comp=Z,10nm,0.9s								
ETMB	**Extrema**	**78.14**	**264**	*e*P		**P**	**07 20 12.5**	**-0.4**	
VSU	**Vasula**	**78.57**	**6**	*ce*P		**P**	**07 20 14.8**	**+0.6**	
VSU				pmax		pmax			
	comp=Z,39nm,2.5s								
TEFE	**Tefe**	**78.67**	**270**	*e*P		**P**	**07 20 15.2**	**-0.7**	
PB18	**Visviri**	**78.82**	**255**	P		**P**	**07 20 17.1**	**-0.1**	
PB18				IAmb		IAmb	07 20 20.9		
	comp=Z,14nm,0.9s								
KONO	**Kongsberg**	**79.21**	**357**	*ce*P		**P**	**07 20 18.0**	**+0.3**	
KONO				pmax		pmax			
	comp=Z,25nm,2.5s								
HFS	**Hagfors**	**79.60**	**360**	P		**P**	**07 20 18.4**	**-1.4**	
	comp=Z,2.2nm,0.6s,baz=149,slow=6.9,SNR=6.0								
	comp=Z,2.2nm,0.6s								
ABKAR	**Akbulak array**	**79.64**	**28**	P		**P**	**07 20 21.1**	**+0.8**	
AKTO	**Aktyubinsk**	**79.68**	**27**	P		**P**	**07 20 18.9**	**-1.7**	
	comp=Z,1.4nm,0.6s,baz=214,slow=7.7,SNR=4.6								
	comp=Z,1.4nm,0.6s								
NOA	**NORSAR Array B**	**80.55**	**358**	P		**P**	**07 20 23.8**	**-1.2**	
	comp=Z,1.3nm,0.7s,baz=182,slow=5.3,SNR=4.0								
NOA				LR		LR	07 56 41.3		
	comp=Z,15nm,19.5s,baz=355,slow=36								
	comp=Z,1.3nm,0.7s								
KKAR	**Karatay Array**	**80.93**	**38**	P		**P**	**07 20 28.3**	**+0.9**	
KKAR	**Karatay Array**	**80.93**	**38**	P		**P**	**07 20 28.3**	**+0.9**	
KKAR				pmax		pmax			
	comp=Z,9.0nm,1.0s								
VNDA	**Vanda**	**81.06**	**173**	P		**P**	**07 20 26.4**	**-1.3**	
	comp=Z,3.3nm,0.7s,baz=268,slow=5.1,SNR=24								
	comp=Z,3.3nm,0.7s								
SBA	**Scott Base**	**81.27**	**174**	P		**P**	**07 20 28.9**	**+0.2**	
SBA	**Scott Base**	**81.27**	**174**	P		**P**	**07 20 28.9**	**+0.2**	
SBA				pmax		pmax			
	comp=Z,9.0nm,1.0s								
FINES	**FINESS Array B**	**81.44**	**6**	P		**P**	**07 20 27.7**	**-1.9**	
	comp=Z,6.2nm,0.7s,baz=164,slow=7.5,SNR=16								
FINES				LR		LR	08 03 33.8		
	comp=Z,22nm,18.3s,baz=62,slow=41								
	comp=Z,6.2nm,0.7s								
FINES	**FINESS Array B**	**81.44**	**6**	*ce*P		**P**	**07 20 30.3**	**+0.7**	
FINES				pmax		pmax			
	comp=Z,6.0nm,0.7s								
VALR	**Valaam**	**81.88**	**8**	*i* P		**P**	**07 20 33.9**	**+1.9**	
VALR				pmax		pmax			
	comp=Z,22nm,0.9s								
KSH	**Kashi**	**82.19**	**43**	P		**P**	**07 20 35.3**	**+0.9**	
KSH				pmax		pmax			
	comp=Z,8.0nm,1.1s								
KIRV	**Kirov**	**83.18**	**18**	LR		LR	08 01 51.2		
	comp=Z,21nm,18.6s,baz=204,slow=39								
KIRV	**Kirov**	**83.18**	**18**	*ce*P		**P**	**07 20 41.6**	**+2.8**	
TBTG	**Tabatinga, AM**	**83.42**	**268**	*e*P		**P**	**07 20 41.4**	**+0.2**	
ARU	**Arti**	**84.42**	**23**	P		**P**	**07 20 43.7**	**-1.6**	
	comp=Z,3.8nm,0.2s,baz=213,slow=6.7,SNR=4.7								
ARU				LR		LR	08 00 16.9		
	comp=Z,35nm,18.5s,baz=222,slow=37								
	comp=Z,3.8nm,0.2s								
ARU	**Arti**	**84.42**	**23**	*c i* P		**P**	**07 20 47.9**	**+2.6**	
ARU							07 23 56.8		
ARU				S		**S**	**07 31 11.3**	**0.0**	
ARU				SS		**SS**	**07 36 44.1**	**+1.9**	
ARU				pmax		pmax			
	comp=Z,17nm,1.7s								
CZSB	**Cruzeiro do Su**	**84.88**	**264**	P		**P**	**07 20 47.6**	**-1.1**	
CZSB				IAmb		IAmb	07 20 51.5		
	comp=Z,12nm,0.9s								
CZSB	**Cruzeiro do Su**	**84.88**	**264**	*e*P		**P**	**07 20 48.1**	**-0.6**	
BRVK	**Borovoye**	**86.99**	**30**	*i* P		**P**	**07 20 59.5**	**+1.4**	
BRVK				pmax		pmax			
	comp=Z,6.0nm,1.9s								
BVAR	**Borovoye Array**	**87.02**	**30**	P		**P**	**07 20 58.1**	**-0.1**	
	comp=Z,1.6nm,0.6s,baz=242,slow=3.1,SNR=7.6								
BVAR				LR		LR	08 02 13.0		
	comp=Z,36nm,20.1s,baz=229,slow=37								
	comp=Z,1.6nm,0.6s								
NNA	**Nana**	**87.33**	**258**	LR		LR	07 57 48.9		
	comp=Z,18nm,18.9s,baz=116,slow=34								
MKAR	**Makanchi Array**	**89.92**	**39**	LR		LR	08 03 12.2		
	comp=Z,40nm,19.3s,baz=225,slow=37								
ATAH	**Atahualpa**	**90.40**	**262**	LR		LR	08 00 02.4		
	comp=Z,122nm,18.1s,baz=121,slow=34								
ROSC	**El Rosal**	**90.58**	**275**	LR		LR	07 59 44.2		
	comp=Z,151nm,18.6s,baz=83,slow=34								
CMAR	**Chiang Mai Arr**	**91.03**	**71**	P		**P**	**07 21 17.2**	**-0.8**	
	comp=Z,1.8nm,0.8s,baz=244,slow=5.1,SNR=6.3								
CMAR				LR		LR	08 00 12.9		
	comp=Z,39nm,19.9s,baz=250,slow=34								
	comp=Z,1.8nm,0.8s								
CMAR	**Chiang Mai Arr**	**91.03**	**71**	*ce*P		**P**	**07 21 20.7**	**+2.7**	
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
WMQ	**Urumqi**	**91.94**	**44**	*e*P		**P**	**07 21 22.8**	**+1.1**	
ZALV	**Zalesovo Beam**	**94.75**	**34**	LR		LR	08 08 01.3		
	comp=Z,37nm,19.2s,baz=130,slow=38								
PZH	**PanZhiHua**	**96.17**	**64**	P		**P**	**07 21 43.0**	**+1.3**	
PZH				pmax		pmax			
	comp=Z,9.0nm,0.7s								
PZH				pmax		pmax			
	comp=Z,100nm,4.5s								
KMI	**Kunming**	**96.58**	**66**	⇑P		**P**	**07 21 44.8**	**+1.1**	
KMI				pmax		pmax			
	comp=Z,14nm,0.6s								
TXAR	**Lajitas Array**	**123.56**	**293**	PKP		**PKPdf**	**07 27 10.1**	**-1.2**	
	comp=Z,1.1nm,0.7s,baz=144,slow=2.3,SNR=14								
YKA	**Yellowknife Ar**	**125.01**	**334**	PKP		**PKPdf**	**07 27 11.0**	**-1.9**	
	comp=Z,2.0nm,0.7s,baz=37,slow=2.0,SNR=26								
YKA	**Yellowknife Ar**	**125.01**	**334**	*c i* PKIKP		**PKPdf**	**07 27 12.6**	**-0.3**	
YKA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MNTX	**Cornudas Mount**	**125.21**	**295**	P		**PKiKP**	**07 27 14.7**	**+0.1**	
	baz=93								
SDCO	**Great Sand Dun**	**125.38**	**303**	P		**PKPdf**	**07 27 13.7**	**-1.0**	
	baz=88								
N23A	**Red Feather La**	**125.57**	**307**	P		**PKiKP**	**07 27 16.4**	**+1.0**	
	baz=86								
ANMO	**Albuquerque**	**126.19**	**299**	P		**PKiKP**	**07 27 16.9**	**+0.2**	
	baz=90								
ANMO	**Albuquerque**	**126.19**	**299**	*c i* PKIKP		**PKiKP**	**07 27 17.7**	**+1.0**	
ANMO				pmax		pmax			
	comp=Z,5.0nm,2.5s								
EGMT	**Eagleton**	**127.27**	**316**	P		**PKiKP**	**07 27 19.4**	**+1.1**	
	baz=78								
121A	**Cookes Peak, D**	**127.27**	**296**	P		**PKiKP**	**07 27 19.7**	**+0.8**	
	baz=91								
MVCO	**Mesa Verde**	**127.78**	**302**	P		**PKiKP**	**07 27 19.9**	**+0.1**	
	baz=87								
PDAR	**Pinedale Array**	**128.06**	**309**	PKP		**PKPdf**	**07 27 16.5**	**-3.2**	
	comp=Z,2.7nm,0.7s,baz=114,slow=3.6,SNR=15								
SEY	**Seymchan**	**128.16**	**23**	*c i* PKIKP		**PKiKP**	**07 27 22.5**	**+3.0**	
SEY				pmax		pmax			
	comp=Z,7.0nm,2.5s								
E29M	**Blow River**	**128.42**	**347**	P		**PKPdf**	**07 27 19.4**	**+0.1**	
	baz=34								
BILL	**Bilibino**	**128.55**	**13**	*e*PKIKP		**PKiKP**	**07 27 21.4**	**+1.3**	
B22K	**Teshekpuk Lake**	**128.90**	**355**	P		**PKiKP**	**07 27 21.0**	**+0.2**	
	baz=14								
C24K	**Franklin Bluff**	**129.00**	**353**	P		**PKiKP**	**07 27 21.8**	**+0.8**	
	baz=20								
D25K	**Kavik River**	**129.07**	**351**	P		**PKiKP**	**07 27 21.4**	**+0.2**	
	baz=23								
C23K	**Itkillik River**	**129.11**	**353**	P		**PKiKP**	**07 27 21.9**	**+0.7**	
	baz=18								
MA2	**Magadan**	**129.43**	**27**	*i* PKIKP		**PKiKP**	**07 27 22.6**	**+0.5**	
MA2				pmax		pmax			
	comp=Z,4.0nm,1.0s								
F28M	**Old Crow**	**129.48**	**348**	P		**PKPdf**	**07 27 21.7**	**+0.3**	
	baz=32								
D24K	**Happy Valley**	**129.55**	**352**	P		**PKiKP**	**07 27 23.3**	**+1.2**	
	baz=20								
H31M	**Peel River**	**129.68**	**344**	P		**PKiKP**	**07 27 22.4**	**-0.2**	
	baz=39								
EPYK	**Eagle Plains**	**129.82**	**345**	P		**PKPdf**	**07 27 22.0**	**-0.1**	
	baz=36								
D23K	**Nanushuk River**	**129.95**	**353**	P		**PKiKP**	**07 27 24.2**	**+1.3**	
	baz=18								
E25K	**Arctic Village**	**130.05**	**350**	P		**PKiKP**	**07 27 23.7**	**+0.5**	
	baz=25								
YSS	**Yuzh-Sakhalins**	**130.06**	**45**	*i* PKIKP		**PKiKP**	**07 27 23.7**	**-0.1**	
YSS				pmax		pmax			
	comp=Z,18nm,1.5s								
TOLK	**Toolik Lake Re**	**130.13**	**352**	P		**PKiKP**	**07 27 24.4**	**+1.0**	
	baz=20								
F26K	**Sheenjek River**	**130.20**	**350**	P		**PKiKP**	**07 27 23.7**	**+0.2**	
	baz=26								
D22K	**Ayikyak River**	**130.24**	**354**	P		**PKiKP**	**07 27 24.5**	**+1.0**	
	baz=16								
H29M	**Whitestone**	**130.33**	**346**	P		**PKPdf**	**07 27 23.3**	**+0.4**	
	baz=34								
C19K	**Lookout Ridge**	**130.52**	**357**	P		**PKiKP**	**07 27 25.8**	**+1.7**	
	baz=7.1								
G27K	**Doyon Strip**	**130.53**	**348**	P		**PKiKP**	**07 27 24.4**	**+0.2**	
	baz=30								
I30M	**Mount Dempster**	**130.66**	**344**	P		**PKiKP**	**07 27 24.3**	**-0.3**	
	baz=37								
E21K	**Killik River**	**130.79**	**354**	P		**PKPdf**	**07 27 23.8**	**0.0**	
	baz=14								
H27K	**Steamboat Moun**	**131.00**	**347**	P		**PKiKP**	**07 27 25.4**	**+0.2**	
	baz=30								
I29M	**Ogilvie Camp,**	**131.03**	**345**	P		**PKPdf**	**07 27 24.7**	**+0.4**	
	baz=35								
D19K	**Kuna River**	**131.05**	**356**	P		**PKPdf**	**07 27 24.7**	**+0.3**	
	baz=9.0								
E20K	**Nigu River**	**131.16**	**355**	P		**PKiKP**	**07 27 26.3**	**+0.8**	
	baz=12								
I28M	**Miner Creek**	**131.33**	**346**	P		**PKPdf**	**07 27 25.5**	**+0.5**	
	baz=32								
TOAD	**Toad River Com**	**131.37**	**333**	P		**PKiKP**	**07 27 26.9**	**+0.7**	
	baz=54								
F22K	**John River**	**131.51**	**353**	P		**PKiKP**	**07 27 27.3**	**+1.1**	
	baz=17								
G24K	**Hadweenzic Riv**	**131.65**	**351**	P		**PKiKP**	**07 27 27.0**	**+0.6**	
	baz=23								
K29M	**Barlow Dome**	**132.07**	**344**	P		**PKiKP**	**07 27 27.0**	**-0.5**	
	baz=36								
I26K	**Coal Creek Min**	**132.14**	**348**	P		**PKiKP**	**07 27 28.2**	**+0.7**	
	baz=29								
EGAK	**Eagle**	**132.18**	**346**	P		**PKiKP**	**07 27 28.1**	**+0.6**	
	baz=31								
DAWY	**Dawson**	**132.36**	**345**	P		**PKPdf**	**07 27 27.4**	**+0.4**	
	baz=34								
H24K	**Noodor Dome**	**132.52**	**350**	P		**PKiKP**	**07 27 28.6**	**+0.3**	
	baz=22								
F19K	**Shaleruckik Mo**	**132.68**	**356**	P		**PKiKP**	**07 27 29.4**	**+1.0**	
	baz=9.7								
H23K	**Yukon River**	**132.78**	**351**	P		**PKiKP**	**07 27 29.9**	**+1.1**	
	baz=20								
J26L	**Joseph Creek**	**132.94**	**347**	P		**PKiKP**	**07 27 29.9**	**+0.7**	
	baz=28								
J25K	**Salcha River,**	**133.20**	**348**	P		**PKiKP**	**07 27 30.9**	**+1.2**	
	baz=26								
R11B	**Troy Canyon, C**	**133.25**	**304**	P

KURBB	**Kurchatov Arra**	**6.41**	**241**	Pn	Pn	07 37 23.5	+0.7
	0.1nm,0.3s,baz=55,slow=14,SNR=5.1							
KURBB				Lg	Lg	07 39 10.7		
	baz=55,slow=47,SNR=1.6							
	0.5nm,0.4s							
MKAR	**Makanchi Array**	**7.98**	**206**	Pn	Pn	07 37 46.1	+1.6	
	0.1nm,0.3s,baz=26,slow=14,SNR=1.5							
	0.5nm,0.8s							

*LVSN **24** 07:50:45.2±0.7,57.92N×22.42E,h0km±3km,ML2.5*
*HEL **24** 07:50:46.3±0.3,57.95N×22.27E,h0km,ML2.2,Explosion*
*EST **24** 07:50:46.0±0.1,57.94N×22.31E,h0km,ML2.2(HEL),*
Explosion

ISC 24 07:50:43.1±0.8,**57.98N**±0.03×**22.20E**±0.03,**h0**km,**n24,**
σ1§**35**/31,**Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SLIT	**Slitere, Latvi**	**0.35**	**172**	*e*P	**Pb**	**07 50 51.1**	**-1.0**
SLIT	**Slitere, Latvi**	**0.35**	**172**	*e*P	**Pb**	**07 50 51.2**	**-1.0**
SLIT				*e*S	**Sb**	**07 50 56.1**	**-2.1**
SLIT				AML	AML	07 51 08.9	
	comp=E,913nm,0.4s						
SLIT				AML	AML	07 51 16.9	
	comp=Z,806nm,0.6s						
SLIT				AML	AML	07 51 19.1	
	comp=N,2μm,0.5s						
SLIT	**Slitere, Latvi**	**0.35**	**172**	*e*P	**Pb**	**07 50 51.2**	**-1.0**
SLIT				*e*S	**Sg**	**07 50 54.5**	**+0.2**
MTSE	**Matsula**	**1.13**	**48**	*e*P	**Pn**	**07 51 05.8**	**-0.3**
MTSE	**Matsula**	**1.13**	**48**	*e*P	**Pn**	**07 51 05.9**	**-0.2**
MTSE				*e*SN	**Sn**	**07 51 26.0**	**+3.6**
EE01	**Perakula, Nova**	**1.44**	**30**	*e*P	**Pb**	**07 51 10.6**	**-0.2**
EE01				*e*SN	**Sn**	**07 51 32.5**	**+2.4**
EE08	**Sarghaua, Vand**	**1.74**	**66**	*e*P	**Pg**	**07 51 16.5**	**0.0**
EE08				*e*SN	**Sg**	**07 51 39.3**	**+0.2**
EE02	**Kiisa, Saku**	**1.79**	**46**	*e*P	**Pb**	**07 51 16.2**	**-0.5**
EE02				*e*SN	**Sg**	**07 51 40.8**	**+0.3**
PBUR	**Paburge**	**1.96**	**184**	*e*P	**Pb**	**07 51 19.0**	**-0.7**
GOTU	**Gotland**	**1.96**	**263**	*e*P	**Pg**	**07 51 21.2**	**+0.5**
GOTU				*e*SG	**Sg**	**07 51 48.1**	**+2.0**
EE03	**Tooma soojaam,**	**2.32**	**65**	*e*PB	**Pb**	**07 51 26.1**	**+0.3**
EE03				*e*SG	**Sg**	**07 51 56.5**	**-1.1**
VSU	**Vasula**	**2.45**	**77**	AML	AML	07 52 02.2	
	comp=E,58nm,0.5s						
VSU				AML	AML	07 52 02.2	
	comp=Z,24nm,0.5s						
VSU				AML	AML	07 52 05.1	
	comp=N,42nm,0.3s						
VSU	**Vasula**	**2.45**	**77**	*e*SG	**Sb**	**07 51 59.4**	**+0.7**
ARBE	**Arbavere**	**2.46**	**52**	*e*S	**Sg**	**07 52 00.8**	**-1.2**
ARBE				AML	AML	07 52 03.3	
	comp=Z,70nm,0.6s						
ARBE				AML	AML	07 52 03.7	
	comp=N,170nm,0.6s						
ARBE				AML	AML	07 52 07.9	
	comp=E,132nm,0.5s						
ARBE	**Arbavere**	**2.46**	**52**	*e*SG	**Sg**	**07 52 00.8**	**-1.2**
MEF	**Metsahovi**	**2.52**	**26**	*e*P	**Pn**	**07 51 25.3**	**+0.1**
MEF	**Metsahovi**	**2.52**	**26**	*e*S	**Sg**	**07 52 03.6**	**-0.4**
MEF				AML	AML	07 52 08.2	
	comp=Z,16nm,0.5s						
MEF				AML	AML	07 52 08.9	
	comp=E,18nm,0.3s						
MEF				AML	AML	07 52 09.0	
	comp=N,11nm,0.3s						
MEF	**Metsahovi**	**2.52**	**26**	*e*P	**Pb**	**07 51 27.6**	**-1.6**
MEF				*e*SG	**Sg**	**07 52 03.7**	**-0.3**
MEF				MSG		07 52 06.4	
	comp=Z,8.1nm,0.3s						
PABE	**Paberze**	**2.66**	**158**	*e*SB	**Sb**	**07 52 04.4**	**-0.3**
NUR	**Nurmijrvi**	**2.84**	**25**	MSG		07 52 19.0	
	comp=Z,7.4nm,0.3s						
VIKU	**Vikbolandet**	**2.96**	**283**	*e*P	**Pb**	**07 51 35.5**	**-1.1**
RAF	**Rauma**	**3.07**	**356**	*e*P	**Pb**	**07 51 37.5**	**-1.0**
RAF	**Rauma**	**3.07**	**356**	*e*SB	**Sg**	**07 52 18.8**	**-2.8**
PVF	**Pernaja**	**3.19**	**35**	*e*SG	**Sg**	**07 52 24.0**	**-1.5**

TAP 24 07:51:46.6,22.56N×121.30E,h28km,ML2.1,1C-4D,B,
Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LDUT	**Ludao**	**0.19**	**53**	⇓*i*P	Pb	07 51 52.4	-0.1
LDUT	baz=53			S	Sb	07 51 56.6	+0.1
	baz=53						
TTN	**Taitung**	**0.24**	**324**	P	Pb	07 51 53.0	-0.1
TTN	baz=324			*e*S	Sb	07 51 57.6	0.0
	baz=324						
ECL	**Taimali**	**0.32**	**277**	⇓P	Pb	07 51 54.0	-0.2
ECL	baz=276			*i* S	Sb	07 51 59.2	-0.1
	baz=276						
TWGBT	**Beinan**	**0.33**	**322**	P	Pb	07 51 54.2	-0.1
TWGBT	baz=321			S	Sb	07 51 59.4	-0.2
	baz=321						
TWG	**Pinlang**	**0.34**	**321**	⇑*i*P	Pb	07 51 54.1	-0.3
TWG	baz=321			S	Sb	07 51 59.4	-0.4
	baz=321						
LONT	**Longtian**	**0.38**	**335**	P	Pb	07 51 54.7	-0.4
LONT	baz=335			*i* S	Sb	07 52 00.7	-0.1
	baz=335						
TAW	**Tawu**	**0.42**	**242**	*i* P	Pb	07 51 55.4	-0.3
TAW	baz=241			*i* S	Sb	07 52 01.9	-0.1
	baz=241						
TAWH	**Dawu Township**	**0.44**	**241**	*i* P	Pb	07 51 55.7	-0.3
TAWH	baz=240			S	Sb	07 52 02.3	-0.1
	baz=240						
EAST	**Anshuo**	**0.46**	**248**	S	Sb	07 52 02.3	-0.4
CHKT	baz=247 **Chengkung**	**0.54**	**6**	*i* P	Pb	07 51 57.3	-0.3
CHKT	baz=6.0			*e*S	Sb	07 52 04.5	-0.7
	baz=6.0						
LAY	**Lan-yu**	**0.57**	**156**	S	Sb	07 52 05.6	-0.2
	baz=155						
CHKH	**Chenggong**	**0.64**	**8**	⇓*i*P	Pb	07 51 58.8	-0.4
CHKH	baz=7.0			*e*S	Sb	07 52 07.1	-0.7
	baz=7.0						
FULB	**Fuli**	**0.64**	**359**	*e*S	Sb	07 52 08.2	+0.3
SSD	baz=359 **Sandimen**	**0.65**	**287**	*e*P	Pb	07 51 59.3	-0.1
SLGT	baz=286 **Liugui**	**0.74**	**306**	⇓*e*P	Pb	07 52 01.1	+0.1
SLGT	baz=305			*i* S	Sb	07 52 10.8	-0.1
	baz=305						
STYH	**Taoyuan**	**0.78**	**322**	*i* P	Pb	07 52 01.2	-0.3
STYH	baz=322			S	Sb	07 52 11.6	-0.2
	baz=322						

TAP 24 07:52:01.6,22.66N×120.74E,h16km,ML1.1,1C,B,
Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TSMG	**Majia**	**0.10**	**297**	*e*S	Sg	07 52 08.3	+1.0
TSMG	baz=283 **Majia**	**0.10**	**297**	P	Pg	07 52 05.5	+0.4
TSMG	baz=297			*e*S	Sg	07 52 08.4	+1.1
MASBT	baz=297 **Mashibuluo**	**0.11**	**244**	⇑P	Pb	07 52 05.6	+0.3
MASBT	baz=244			*i* S	Sb	07 52 08.5	+0.7
	baz=244						
SSD	**Sandimen**	**0.13**	**311**	*i* P	Pb	07 52 05.8	+0.1
SSD	baz=312			*e*S	Sb	07 52 08.8	+0.4
	baz=312						
SSD	**Sandimen**	**0.13**	**311**	*e*S	Sb	07 52 08.8	+0.4
SGLT	baz=286 **Jiouru**	**0.24**	**286**	*e*P	Pb	07 52 07.6	+0.1
SGLT	baz=285			*i* S	Sb	07 52 11.8	+0.3
EAST	**Anshuo**	**0.29**	**160**	*e*P	Pb	07 52 08.9	+0.4
EAST	baz=158			*e*S	Sb	07 52 13.9	+0.8
SCZT	baz=158 **Fangliau**	**0.31**	**201**	*e*P	Pb	07 52 08.5	-0.1
SCZT	baz=199			S	Sb	07 52 14.1	+0.6
TWGBT	baz=199 **Beinan**	**0.35**	**63**	*e*P	Pg	07 52 09.0	+0.2
LONT	baz=63 **Longtian**	**0.43**	**56**	*e*P	Pb	07 52 10.9	+0.1
	baz=55						

*IDC **24** 08:30:14.9±1.3,13.35S×171.86E,h0km,mb3.9/8,*
mbtmp3.9/8,MS3.5/13,Error ellipse: s-maj=63.9km
s-min=20.3km az=141.0

ISC 24 08:30:20.2±1.1,**13.4S**±0.3×**171.8E**±0.3,**h35**km,**n27,**
σ0§**51**/9,**mb3.9**/8,**MS3.6**/11,**Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**10.07**	**210**	LR	LR	08 35 57.0	
	comp=Z,286nm,18.8s,baz=351,slow=34						
HNR	**Honiara**	**12.28**	**287**	LR	LR	08 37 38.7	
	comp=Z,1μm,18.7s,baz=131,slow=36						
PMG	**Port Moresby**	**24.49**	**277**	LR	LR	08 43 59.6	
	comp=Z,48nm,18.4s,baz=87,slow=34						
H11S2	**WAKE ISLAND Hy**	**32.04**	**351**	T	T	09 11 05.8	
	baz=171						
H11S3	**WAKE ISLAND Hy**	**32.05**	**351**	T	T	09 11 08.2	
	baz=171						
H11S1	**WAKE ISLAND Hy**	**32.06**	**351**	T	T	09 11 07.3	
	baz=171						
H11N1	**WAKE ISLAND Hy**	**33.21**	**351**	T	T	09 12 34.4	
	baz=170						
H11N3	**WAKE ISLAND Hy**	**33.22**	**352**	T	T	09 12 33.5	
	baz=170						
H11N2	**WAKE ISLAND Hy**	**33.23**	**352**	T	T	09 12 39.5	
	baz=170						
STKA	**Stephens Creek**	**33.27**	**231**	P	**P**	**08 36 54.6**	**+0.1**
	1.5nm,0.6s,baz=33,slow=12,SNR=4.8						
	1.5nm,0.6s						
WRA	**Warramunga Arr**	**36.45**	**255**	P	**P**	**08 37 21.9**	**-0.2**
	1.1nm,0.8s,baz=88,slow=8.0,SNR=5.7						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**37.29**	**248**	P	**P**	**08 37 29.1**	**-0.1**
	5.1nm,0.8s,baz=75,slow=9.3,SNR=66						
	5.1nm,0.8s						
ASAJ	**Asahikawa**	**63.09**	**337**	LR	LR	09 03 46.2	
	comp=Z,42nm,19.9s,baz=150,slow=32						
KSRS	**Korea Array**	**65.22**	**323**	LR	LR	09 08 30.7	
	comp=Z,8.2nm,18.5s,baz=150,slow=35						
PETK	**Petropavlovsk-**	**67.30**	**351**	P	**P**	**08 41 11.0**	**-0.3**
	1.1nm,0.7s,baz=164,slow=7.7,SNR=3.9						
PETK				LR	LR	09 04 24.6	
	comp=Z,26nm,21.8s,baz=131,slow=30						
	1.1nm,0.7s						
RPN	**Rapa Nui**	**74.22**	**115**	LR	LR	09 08 57.8	
	comp=Z,37nm,18.1s,baz=204,slow=31						
MA2	**Magadan**	**74.65**	**349**	LR	LR	09 09 27.4	
	comp=Z,32nm,22.0s,baz=130,slow=32						
QSPA	**South Pole Qui**	**76.67**	**180**	LR	LR	09 13 04.2	
	comp=Z,34nm,18.1s,baz=44,slow=34						
SEY	**Seymchan**	**77.54**	**351**	LR	LR	09 10 02.2	
	comp=Z,28nm,22.0s,baz=114,slow=31						
CMAR	**Chiang Mai Arr**	**78.48**	**292**	LR	LR	09 17 19.3	
	comp=Z,12nm,18.3s,baz=205,slow=36						
YBH	**Yreka Blue Hor**	**81.35**	**44**	LR	LR	09 13 00.8	
	comp=Z,34nm,18.4s,baz=174,slow=32						
NVAR	**Mina Array Bea**	**83.05**	**48**	P	**P**	**08 42 42.3**	**-0.3**
	0.3nm,0.6s,baz=225,slow=8.2,SNR=3.5						
	0.3nm,0.6s						
ILAR	**Eielson Array**	**83.91**	**17**	P	**P**	**08 42 46.3**	**+0.2**
	1.0nm,0.7s,baz=233,slow=5.5,SNR=12						
	1.0nm,0.7s						
TXAR	**Lajitas Array**	**91.75**	**60**	P	**P**	**08 43 25.0**	**+0.2**
	0.3nm,0.8s,baz=234,slow=4.0,SNR=4.9						
	0.3nm,0.8s						
PALK	**Palekelei**	**92.74**	**277**	LR	LR	09 29 07.2	
	comp=Z,45nm,18.4s,baz=254,slow=38						
YKA	**Yellowknife Ar**	**94.33**	**27**	P	**P**	**08 43 35.5**	**-0.3**
	0.3nm,0.8s,baz=263,slow=4.3,SNR=5.1						
	0.3nm,0.8s						
ESDC	**Sonseca Array**	**153.52**	**353**	PKPab	**PKPab**	**08 50 28.9**	**+1.1**
	3.0nm,1.3s,baz=337,slow=3.4,SNR=5.1						

IDC 24 08:35:00.6±2.3,**7.18S**×**128.44E**,**h0**km,**mb4.2**/2,
mbtmp3.9/4,**ML3.8**/2,**Error ellipse: s-maj=287.2km**
s-min=29.5km az=66.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.91**	**156**	Pn	Pn	08 38 18.4	-0.8
	0.7nm,0.3s,baz=334,slow=13,SNR=50						
WRA				Sn	Sn	08 40 41.8	-13
	0.9nm,0.3s,baz=336,slow=22,SNR=11						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**17.21**	**163**	P	Pn	08 39 03.3	+0.7
	0.2nm,0.3s,baz=340,slow=10,SNR=14						
ASAR				S	Sn	08 42 02.1	-13
	0.4nm,0.5s,baz=320,slow=17,SNR=3.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**67.54**	**328**	P	P	08 45 58.7	-0.1
	0.8nm,0.4s,baz=120,slow=7.7,SNR=13						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**71.87**	**329**	P	P	08 46 25.6	+0.3
	0.8nm,0.2s,baz=130,slow=5.3,SNR=4.1						
	0.8nm,0.2s						

*ISN **24** 08:56:28.9±1.3,33.73N×46.56E,h8km±6km,ML2.7*
*TEH **24** 08:56:30.0,33.71N×46.54E,h8km,ML2.8*

ISC 24 08:56:30.4±0.9,**33.69N**±0.04×**46.54E**±0.03,**h10**km,**n14,**
σ0§**67**/18,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IGHG	**Ghaleghazi**	**0.64**	**2**	Pg	**Pg**	**08 56 42.6**	**-0.2**
GLG1	**Gilan-e-Gharb**	**0.67**	**309**	Pg	**Pg**	**08 56 42.6**	**-0.8**
KCHF	**Cheshme Sefid,**	**0.71**	**36**	Pg	**Pg**	**08 56 43.4**	**-0.9**
IBDR	**Badra**	**0.77**	**221**	*e*Pg	**Pg**	**08 56 44.0**	**-1.3**
IBDR				*e*Sg	**Sg**	**08 56 56.0**	**+0.6**
IBDR				AML	AML	08 57 12.4	
	comp=N,152nm,0.5s						
IBDR				AML	AML	08 57 13.9	
	comp=E,158nm,0.4s						
IDHR	**Dehrash**	**1.01**	**353**	Pg	**Pg**	**08 56 49.7**	**-0.2**
IKFM	**Kafar-mosalman**	**1.11**	**98**	Pg	**Pb**	**08 56 51.1**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**1.13**	**316**	Pg	**Pb**	**08 56 51.6**	**-0.5**
ILIN	**Lien**	**1.27**	**16**	Pg	**Pn**	**08 56 54.5**	**-0.1**
IBZA	**Bozab**	**1.34**	**54**	Pg	**Pn**	**08 56 55.6**	**+0.1**
IDOB	**Doab**	**1.37**	**86**	Pg	**Pg**	**08 56 57.1**	**+0.3**
SNQR	**Sonqor, Kerman**	**1.47**	**38**	Pg	**Pn**	**08 56 57.3**	**0.0**
BHD	**Baghdad**	**1.85**	**257**	*e*Pn	**Pb**	**08 57 04.0**	**-0.4**
BHD				*e*Sn	**Sb**	**08 57 28.0**	**+0.4**
RAFI	**Al-Rafai**	**2.00**	**190**	*e*Pn	**Pn**	**08 57 05.0**	**+0.8**
RAFI				*e*Sn	**Sb**	**08 57 32.0**	**+0.2**
IKRK	**Kirkuk**	**2.49**	**314**	*e*Pn	**Pn**	**08 57 12.0**	**+1.0**
IKRK				*e*Sn	**Sn**	**08 57 42.0**	**+0.6**
IKRK				AML	AML	08 57 53.3	
	comp=N,100nm,0.4s						
IKRK				AML	AML	08 57 58.5	
	comp=E,128nm,0.3s						

*LVSN **24** 09:04:40.2±2.4,56.97N×26.14E,h0km±229km,ML1.7*

EST 24 09:04:39.6±0.3,**58.74N**×**29.53E**,**h0**km,**ML1.7**(HEL),
Explosion,Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
VSU	**Vasula**	**1.49**	**260**	*e*P	Pn	09 05 06.2	-1.3
VSU				*e*S	Sg	09 05 25.7	-1.7
VSU				AML	AML	09 05 30.4	
	comp=N,29nm,0.3s						
VSU				AML	AML	09 05 30.6	
	comp=E,31nm,0.3s						
VSU				AML	AML	09 05 30.7	
	comp=Z,12nm,0.3s						
VSU	**Vasula**	**1.49**	**260**	*e*P	Pn	09 05 06.1	-1.5
VSU				*e*S	Sg	09 05 25.6	-1.7
EE03	**Tooma soojaam,**	**1.70**	**276**	*e*P	Pn	09 05 08.9	-1.6
EE03				*e*S	Sn	09 05 30.7	-2.1
ARBE	**Arbavere**	**1.96**	**292**	*e*PB	Pn	09 05 14.2	+0.2
ARBE				*e*SG	Sn	09 05 40.1	+0.9
VJF	**Virojoki**	**2.06**	**332**	*e*PB	Pn	09 05 16.1	+0.7
VJF				*e*SG	Sb	09 05 43.3	-0.6
VJF				MSG		09 05 45.5	
	comp=Z,5.6nm,0.1s						
EE08	**Sarghaua, Vand**	**2.24**	**270**	*e*P	Pn	09 05 18.1	+0.2
EE08				*e*SB	Sn	09 05 47.1	+1.0
EE02	**Kiisa, Saku**	**2.54**	**282**	*e*PB	Pn	09 05 23.3	+1.3
EE02				*e*SB	Sb	09 05 56.1	-1.7
PVF	**Pernaja**	**2.59**	**316**	*e*PG	Pb	09 05 25.4	-1.6
PVF				*e*SG	Sb	09 05 58.9	-0.4
PVF				MSG		09 06 00.7	
	comp=Z,2.3nm,0.1s						
RUF	**Ruokolahti**	**2.71**	**354**	*e*P	Pn	09 05 24.0	-0.3
RUF				*e*S	Sn	09 05 57.8	+0.1
RUF				MSG		09 05 60.0	
	comp=Z,1.6nm,0.1s						
MTSE	**Matsula**	**2.98**	**272**	*e*P	Pn	09 05 28.4	+0.4
MEF	**Metsahovi**	**3.01**	**302**	*e*P	Pb	09 05 34.2	+0.3
MEF	**Metsahovi**	**3.01**	**302**	*e*PG	Pb	09 05 34.0	+0.1
MEF				*e*S	Sn	09 06 05.5	+0.4
EE01	**Perakula, Nova**	**3.09**	**281**	*e*P	Pn	09 05 30.4	+0.8
EE01				*e*SB	Sb	09 06 11.5	-2.1
FIA0	**FINESS Array S**	**3.21**	**329**	*e*P	Pn	09 05 30.9	-0.3
JOF	**Joensuu**	**4.28**	**11**	*e*P	Pn	09 05 46.1	+0.3
RAF	**Rauma**	**4.53**	**304**	*e*P	Pn	09 05 49.8	+0.5
RAF				AML	AML	09 06 07.2	
	comp=Z,2.0nm,0.7s						
RAF				AML	AML	09 06 10.8	
	comp=E,2.2nm,0.6s						
RAF				AML	AML	09 06 47.2	
	comp=N,2.2nm,0.3s						
RAF	**Rauma**	**4.53**	**304**	*e*P	Pn	09 05 49.7	+0.4
RAF				*e*S	Sn	09 06 41.8	-0.8
RAF				MSG		09 06 44.7	
	comp=Z,1.2nm,0.1s						
KPF	**Kankaanpaa**	**4.83**	**313**	MSG		09 06 52.0	
	comp=Z,0.6nm,0.1s						

*SDD **24** 09:49:28.2±2.2,20.06N×70.65W,h23km±12km,MD3.5,*
ML2.8,MW3.3
*OSPL **24** 09:49:28.7±2.1,20.06N×70.78W,h10km±11km,ML2.6*

ISC 24 09:49:26.1±1.2,**20.04N**±0.03×**70.57W**±0.03,**h6**km±10km,
n21,σ0§**96**/40,**Dominican Republic region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SODR	**Sosua Marina B**	**0.29**	**181**	*e*Pg	**Pn**	**09 49 35.6**	**-1.2**
SODR				*e*Sg	**Sb**	**09 49 39.2**	**+0.6**
SODR				IAML		09 49 43.2	
	comp=N,779nm,0.4s						
LUDR	**Luperon**	**0.39**	**248**	*e*Pg	**Pg**	**09 49 34.1**	**+0.5**
LUDR				*e*Sg	**Sg**	**09 49 40.6**	**+1.9**
LUDR				IAML		09 49 43.4	
	comp=N,1μm,0.2s						
SC01	**Santiago de lo**	**0.63**	**194**	*i* P	**Pb**	**09 49 39.3**	**-0.1**
SC01				*e*S	**Sb**	**09 49 49.6**	**+1.1**
SC01				IAML		09 49 53.2	
	comp=Z,303nm,0.6s						
NADR	**Nagua**	**0.96**	**135**	*e*Pg	**Pn**	**09 49 46.1**	**+0.1**
NADR				*e*Sg	**Sn**	**09 50 01.3**	**+1.3**
NADR				IAML		09 50 05.5	
	comp=N,275nm,0.7s						
REDR	**Restauracion**	**1.17**	**222**	*e*Pg	**Pn**	**09 49 49.9**	**+1.0**
REDR				*e*Sg	**Sn**	**09 50 06.0**	**+0.8**
REDR				IAML		09 50 08.9	
	comp=N,290nm,0.3s						
DR08	**Loma La Naviza**	**1.19**	**154**	*e*Pg	**Pn**	**09 49 49.5**	**+0.2**
DR08				*e*Sg	**Sn**	**09 50 05.6**	**-0.3**
DR08				IAML		09 50 05.9	
	comp=N,731nm,0.1s						
ABDR	**Alto Bandera**	**1.22**	**183**	*e*Pg	**Pb**	**09 49 49.3**	**-0.5**
ABDR				*e*Sg	**Sb**	**09 50 06.2**	**+0.2**
ABDR				IAML		09 50 07.1	
	comp=N,131nm,0.2s						
SDDR	**Presa de Saban**	**1.25**	**213**	*e*Pg	**Pg**	**09 49 48.8**	**-1.4**
SDDR				*e*Sg	**Sg**	**09 50 05.6**	**-0.7**
SDDR				IAML		09 50 06.8	
	comp=N,127nm,0.3s						
SDDR	**Presa de Saban**	**1.25**	**213**	*i* P	**Pg**	**09 49 48.7**	**-1.4**
SDDR				IAML		09 50 05.6	
	comp=Z,64nm,0.5s						
SMDR	**Samana, DR**	**1.50**	**120**	*e*Pg	**Pg**	**09 49 56.0**	**+1.2**
SMDR				*e*Sg	**Sg**	**09 50 16.9**	**+2.6**
SMDR				IAML		09 50 19.1	
	comp=N,46nm,0.3s						
GRTK	**Grand Turk**	**1.56**	**340**	*e*Pg	**Pn**	**09 49 54.2**	**-0.1**
GRTK				*e*Sg	**Sb**	**09 50 15.1**	**-0.1**
GRTK				IAML		09 50 27.2	
	comp=N,86nm,0.1s						
GRTK	**Grand Turk**	**1.56**	**340**	*i* P	**Pb**	**09 49 54.4**	**-0.9**
GRTK				IAML		09 50 15.0	
	comp=Z,98nm,1.4s						
BANI	**BANI**	**1.65**	**173**	*e*Pg	**Pb**	**09 49 56.9**	**-0.1**
BANI				*e*Sg	**Sg**	**09 50 20.4**	**+1.2**
BANI				IAML		09 50 21.2	
	comp=N,212nm,0.3s						
HATOM	**Hato Mayor del**	**1.68**	**138**	*e*Pg	**Pg**	**09 49 57.1**	**-1.1**
HATOM				*e*Sg	**Sg**	**09 50 19.7**	**-0.2**
HATOM				IAML		09 50 24.5	
	comp=N,53nm,0.2s						
SDD	**Santo Domingo**	**1.69**	**158**	*i* P	**Pg**	**09 49 57.9**	**-0.7**
SDD				*e*S	**Sb**	**09 50 19.0**	**-0.1**
NEDR	**Neiba UASD**	**1.74**	**208**	*e*Pg	**Pg**	**09 49 59.0**	**-0.5**
NEDR				*e*Sg	**Sb**	**09 50 20.8**	**+0.1**
NEDR				IAML		09 50 24.6	
	comp=N,56nm,0.3s						
JIDR	**Jimani**	**1.96**	**218**	*e*Pg	**Pb**	**09 50 01.2**	**-0.9**
JIDR				*e*Sg	**Sb**	**09 50 26.6**	**-0.2**
JIDR				IAML		09 50 32.6	
	comp=N,78nm,1.4s						
PODR	**Polo**	**1.98**	**200**	*e*Pg	**Pb**	**09 50 02.0**	**-0.7**
PODR				*e*Sg	**Sb**	**09 50 27.9**	**+0.2**
PODR				IAML		09 50 36.7	
	comp=N,64nm,0.4s						
PODR	**Polo**	**1.98**	**200**	*i* P	**Pb**	**09 50 02.6**	**-0.1**
PODR				*e*S	**Sb**	**09 50 27.6**	**-0.2**
LOBA2	**Hotel Casa Bon**	**2.01**	**194**	*e*Pg	**Pb**	**09 50 03.4**	**+0.4**
LOBA2				*e*Sg	**Sb**	**09 50 28.9**	**+0.5**
HIDR	**Higuey Centro**	**2.27**	**129**	*e*Pg	**Pb**	**09 50 06.5**	**-0.9**
HIDR				*e*Sg	**Sg**	**09 50 37.0**	**-1.9**
HIDR				IAML		09 50 42.0	
	comp=N,123nm,0.2s						

*IDC **24** 10:21:38.4±3.8,8.14S×106.68E,h0km,mb3.8/3,*
mbtmp3.8/3,MS3.1/1,Error ellipse: s-maj=75.2km
s-min=24.5km az=98.0
*DJA **24** 10:21:46.8±0.6,8.3°S±3.3°×10.7°E±°,h32km±8km,M4.5/15,*
mb5.0/3,MLv4.2/15

ISC 24 10:21:47.7±0.9,**8.05S**±0.05×**107.23E**±0.04,**h46**km,**n33,**
σ1§**10**/33,**mb3.4**/3,**Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BBJI	**Bungbulang**	**0.72**	**36**	P	**Pn**	**10 22 00.1**	**-1.5**
CNJI	**Cibinong**	**0.74**	**353**	P	**Pn**	**10 22 00.6**	**-1.2**
SKJI	**

KASI				S		Sn	10 23 23.7	-0.9	
NGJI	**Ngawi**	**4.25**	**81**	P		Pn	10 22 48.9	-1.0	
PWJI	**Pagerwojo**	**4.53**	**90**	P		Pn	10 22 53.9	+0.1	
PWJI				S		Sn	10 23 45.2	-0.1	
MNAI	**Manna**	**5.61**	**311**	P		Pn	10 23 08.3	-0.3	
	85nm,0.9s,0.6nm								
JAGI	**Jajag, Banyuwa**	**6.87**	**94**	P		**Pn**	**10 23 27.3**	**+1.4**	
	47nm,0.4s								
JAGI	**Jajag, Banyuwa**	**6.87**	**94**	P		**Pn**	**10 23 26.3**	**+0.4**	
PLAI	**Plampang**	**10.47**	**95**	P		**Pn**	**10 24 15.6**	**+0.4**	
	26nm,0.8s								
CMAR	**Chiang Mai Arr**	**27.58**	**343**	LR		LR	10 40 38.8		
	comp=Z,33nm,18.2s,baz=215,slow=42								
WRA	**Warramunga Arr**	**28.79**	**117**	P		**P**	**10 27 40.5**	**-1.0**	
	0.4nm,0.8s,baz=287,slow=9.9,SNR=2.1								
	0.4nm,0.8s								
ASAR	**Alice Springs**	**29.91**	**124**	P		**P**	**10 27 52.2**	**+0.8**	
	0.7nm,1.0s,baz=297,slow=9.0,SNR=4.6								
	0.7nm,1.0s								
H08S2	**Diego Garcia H**	**34.40**	**268**	T		T	11 05 29.2		
	baz=93,slow=76,SNR=15								
H08S3	**Diego Garcia H**	**34.41**	**268**	T		T	11 05 29.2		
	baz=93,slow=76,SNR=13								
H08S1	**Diego Garcia H**	**34.42**	**268**	T		T	11 05 29.2		
	baz=93,slow=76,SNR=16								
STKA	**Stephens Creek**	**39.78**	**131**	P		**P**	**10 29 16.9**	**+0.6**	
	3.3nm,0.7s,baz=283,slow=8.3,SNR=6.9								
	3.3nm,0.7s								
H04N2	**CROZET ISLANDS**	**60.62**	**221**	T		T	11 38 21.8		
	baz=69,slow=75,SNR=28								
H04N1	**CROZET ISLANDS**	**60.63**	**221**	T		T	11 38 21.4		
	baz=69,slow=75,SNR=32								
H04N3	**CROZET ISLANDS**	**60.64**	**221**	T		T	11 38 22.8		
	baz=69,slow=75,SNR=20								
TXAR	**Lajitas Array**	**144.08**	**50**	PKP		**PKPab**	**10 41 15.9**	**-0.8**	
	0.4nm,0.9s,baz=222,slow=1.2,SNR=3.7								

*NEIC **24** 10:22:30.9±0.5, 23.8°S±0.3× 179.7°E±0.1, h585km±14km, mb4.4/14, Error ellipse: s-maj=42.5km s-min=19.0km az=178.0*

*IDC **24** 10:22:37.8±5.1, 23.51°S× 179.18°E, h676km±62km, mb3.1/6, mbtmp4.2/7, Error ellipse: s-maj=80.6km s-min=31.3km az=154.0*

ISC 24 10:22:31.4±0.8, 23.6°S±0.2× 179.6°E±0.1, h600km, n27, σ1s08/27, mb4.3/14, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**5.98**	**346**	P		**P**	**10 24 10.3**	**-2.3**
PINNC	**Pines Island,**	**11.18**	**273**	P		**P**	**10 25 02.0**	**0.0**
DZM	**Mont Dzumac**	**12.18**	**275**	P		**P**	**10 25 12.5**	**+0.3**
DZM	**Mont Dzumac**	**12.18**	**275**	P		**P**	**10 25 13.2**	**+1.1**
	22nm,0.9s,baz=80,slow=18,SNR=5.0							
ARMA	**Armidale**	**25.75**	**249**	P		**P**	**10 27 15.7**	**-0.7**
ARMA				IAmb		IAmb	10 27 37.2	
	comp=Z,15nm,1.4s							
EIDS	**Eidsvold**	**25.95**	**260**	P		**P**	**10 27 18.5**	**+0.4**
EIDS				IAmb		IAmb	10 27 41.3	
	comp=Z,13nm,1.4s							
CTAO	**Charters Tower**	**31.06**	**270**	P		**P**	**10 28 04.0**	**+1.6**
STKA	**Stephens Creek**	**34.46**	**248**	P		**P**	**10 28 30.1**	**-0.8**
STKA	**Stephens Creek**	**34.46**	**248**	P		**P**	**10 28 30.0**	**-0.8**
	comp=Z,1.7nm,0.5s,baz=92,slow=11,SNR=7.8							
	comp=Z,1.7nm,0.5s							
BBOO	**Buckleboo**	**39.19**	**247**	P		**P**	**10 29 07.6**	**-1.9**
BBOO				IAmb		IAmb	10 29 23.5	
	comp=Z,17nm,1.3s							
AS31	**Alice Springs**	**41.68**	**260**	P		**P**	**10 29 29.8**	**+0.4**
ASAR	**Alice Springs**	**41.68**	**260**	P		**P**	**10 29 29.5**	**+0.1**
ASAR	**Alice Springs**	**41.68**	**260**	P		**P**	**10 29 29.0**	**-0.4**
	comp=Z,2.0nm,0.5s,baz=93,slow=6.7,SNR=52							
	comp=Z,2.0nm,0.5s							
WR0	**Warramunga Arr**	**41.83**	**266**	P		**P**	**10 29 31.0**	**+0.4**
WR0				IAmb		IAmb	10 29 33.7	
	comp=Z,11nm,1.4s							
WB2	**Warramunga Arr**	**42.01**	**266**	P		**P**	**10 29 32.4**	**+0.4**
WB2				IAmb		IAmb	10 29 33.0	
	comp=Z,7.1nm,0.6s							
WB0	**Warramunga Arr**	**42.01**	**266**	P		**P**	**10 29 32.4**	**+0.5**
WB0				IAmb		IAmb	10 29 33.0	
	comp=Z,6.9nm,0.6s							
WRAB	**Tennant Creek**	**42.01**	**266**	P		**P**	**10 29 32.5**	**+0.5**
WRAB				IAmb		IAmb	10 29 33.0	
	comp=Z,10nm,1.1s							
WRA	**Warramunga Arr**	**42.02**	**266**	P		**P**	**10 29 32.4**	**+0.4**
WRA	**Warramunga Arr**	**42.02**	**266**	P		**P**	**10 29 32.5**	**+0.4**
	comp=Z,6.2nm,0.5s,baz=98,slow=8.2,SNR=82							
	comp=Z,6.2nm,0.5s							
PTCN	**Pitcairn Islan**	**45.69**	**103**	P		**P**	**10 29 59.0**	**-1.2**
FORT	**Forrest**	**46.04**	**249**	P		**P**	**10 30 01.3**	**-1.4**
MTN	**Manton Dam**	**47.02**	**274**	P		**P**	**10 30 11.6**	**+1.2**
MTN				IAmb		IAmb	10 30 19.1	
	comp=Z,22nm,1.3s							
NVAR	**Mina Array Bea**	**84.81**	**44**	P		**P**	**10 34 05.5**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=215,slow=8.5,SNR=3.8							
	comp=Z,0.3nm,0.6s							
TXAR	**Lajitas Array**	**90.61**	**58**	P		**P**	**10 34 33.1**	**+1.8**
	comp=Z,0.8nm,0.8s,baz=208,slow=6.8,SNR=12							
	comp=Z,0.8nm,0.8s							
ILAR	**Eielson Array**	**91.82**	**14**	P		**P**	**10 34 35.8**	**0.0**
	comp=Z,0.4nm,1.1s,baz=212,slow=5.0,SNR=2.0							
	comp=Z,0.4nm,1.1s							
HFS	**Hagfors**	**142.15**	**349**	PKP		**PKPdf**	**10 40 54.7**	**-1.1**
	comp=Z,0.9nm,0.4s,baz=38,slow=2.6,SNR=6.0							
EKA	**Eskdalemuir Ar**	**148.22**	**3**	PKPbc		**PKPdf**	**10 41 06.9**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=289,slow=3.8,SNR=5.0							

*OSPL **24** 10:36:03.1±1.4, 19.°85N× 65.°20W, h0km±94km, ML3.1*
*NEIC **24** 10:36:04.8±0.7, 19.°95N±0.°07× 65.°26W±0.°08, h35km±2km, ML3.3/26, Md3.3/12(RSPR), Error ellipse: s-maj=16.2km s-min=3.1km az=132.0*
*RSPR **24** 10:36:05.7, 19.°99N× 65.°34W, h44km±16km, MD3.2/12*

ISC 24 10:36:02.9±3.0, 20.0°N±0.1× 65.°21W±0.09, h35km, n56, σ0s74/67, 6C-8D, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
GCPR	**Guaynabo City**	**1.89**	**206**	eP		**Pn**	**10 36 33.3**	**+0.5**
GCPR	**Guaynabo City**	**1.89**	**206**	eS		**Sn**	**10 36 54.8**	**-0.6**
GCPR	**Guaynabo City**	**1.89**	**206**			**Pn**	**10 36 33.3**	**+0.5**
GCPR						**Sn**	**10 36 54.8**	**-0.6**
GCPR	**Guaynabo City**	**1.89**	**206**	IAML			10 36 57.0	
	comp=N,197nm,0.5s							
GCPR				IAML			10 36 57.3	
	comp=E,214nm,0.4s							
HUMP	**Col San Antoni**	**1.96**	**198**	eP		**Pn**	**10 36 34.5**	**+0.8**
HUMP	**Col San Antoni**	**1.96**	**198**	eS		**Sn**	**10 36 56.4**	**-0.8**
HUMP	**Col San Antoni**	**1.96**	**198**			**Pn**	**10 36 34.5**	**+0.8**
HUMP						**Sn**	**10 36 56.4**	**-0.8**
HUMP	**Col San Antoni**	**1.96**	**198**	IAML			10 36 58.4	
	comp=N,286nm,0.2s							
HUMP				IAML			10 36 58.7	
	comp=E,586nm,0.2s							
EMPR	**Esperanza - Ma**	**1.98**	**219**	eP		**Pn**	**10 36 34.6**	**+0.7**
EMPR	**Esperanza - Ma**	**1.98**	**219**	eS		**Sn**	**10 36 57.0**	**-0.5**
EMPR	**Esperanza - Ma**	**1.98**	**219**			**Pn**	**10 36 34.6**	**+0.7**
EMPR						**Sn**	**10 36 57.0**	**-0.5**
EMPR	**Esperanza - Ma**	**1.98**	**219**	IAML			10 36 59.5	
	comp=N,460nm,0.2s							
EMPR				IAML			10 37 03.1	
	comp=E,294nm,0.6s							
IGPR	**InterUniversit**	**2.21**	**203**	eP		**Pn**	**10 36 38.0**	**+0.8**
IGPR	**InterUniversit**	**2.21**	**203**	eS		**Sn**	**10 37 03.0**	**-0.3**
IGPR	**InterUniversit**	**2.21**	**203**			**Pn**	**10 36 38.0**	**+0.8**
IGPR						**Sn**	**10 37 03.0**	**-0.3**
AOPR	**Arecibo Observ**	**2.21**	**222**	eP		**Pn**	**10 36 37.6**	**+0.4**
AOPR	**Arecibo Observ**	**2.21**	**222**			**Pn**	**10 36 37.6**	**+0.4**
AOPR						**Sn**	**10 37 03.1**	**-0.3**
AOPR	**Arecibo Observ**	**2.21**	**222**	IAML			10 37 07.9	
	comp=N,266nm,0.3s							
AOPR	**Arecibo Observ**	**2.21**	**222**	eP		**Pn**	**10 36 37.9**	**+0.7**
AOPR				eS		**Sn**	**10 37 03.1**	**-0.3**
UUPR	**Utuado, UPR, P**	**2.26**	**219**	eP		**Pn**	**10 36 38.3**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.26**	**219**	eS		**Sn**	**10 37 03.0**	**-0.8**
UUPR	**Utuado, UPR, P**	**2.26**	**219**			**Pn**	**10 36 38.3**	**+0.4**
UUPR						**Sn**	**10 37 03.0**	**-0.8**
CELP	**Cerrillos**	**2.33**	**214**	eP		**Pn**	**10 36 39.5**	**+0.7**
CELP	**Cerrillos**	**2.33**	**214**	eS		**Sn**	**10 37 05.9**	**-0.3**
CELP	**Cerrillos**	**2.33**	**214**			**Pn**	**10 36 39.5**	**+0.7**
CELP						**Sn**	**10 37 05.9**	**-0.3**
CELP	**Cerrillos**	**2.33**	**214**	IAML			10 37 11.2	
	comp=N,110nm,0.6s							

AGPR	**Aguadilla, PR**	**2.37**	**230**	eP		**Pn**	**10 36 39.2**	**-0.1**	
AGPR	**Aguadilla, PR**	**2.37**	**230**	eS		**Sn**	**10 37 06.0**	**-1.2**	
AGPR	**Aguadilla, PR**	**2.37**	**230**			**Pn**	**10 36 39.2**	**-0.1**	
AGPR						**Sn**	**10 37 06.0**	**-1.2**	
AGPR	**Aguadilla, PR**	**2.37**	**230**	IAML			10 37 08.6		
	comp=N,151nm,1.6s								
AGPR				IAML			10 37 11.4		
	comp=E,108nm,0.4s								
AGPR	**Aguadilla, PR**	**2.37**	**230**	i P		**Pn**	**10 36 39.5**	**+0.2**	
AGPR				eS		**Sn**	**10 37 06.2**	**-0.9**	
AGPR				IAML			10 37 10.6		
	comp=Z,66nm,0.1s								
OBIP	**Obispado Ponce**	**2.37**	**214**	eP		**Pn**	**10 36 40.3**	**+1.0**	
OBIP	**Obispado Ponce**	**2.37**	**214**	eS		**Sn**	**10 37 06.7**	**-0.5**	
OBIP	**Obispado Ponce**	**2.37**	**214**			**Pn**	**10 36 40.3**	**+1.0**	
OBIP						**Sn**	**10 37 06.7**	**-0.5**	
OBIP	**Obispado Ponce**	**2.37**	**214**	IAML			10 37 11.6		
	comp=E,101nm,0.4s								
LSP	**Las Mesas**	**2.55**	**224**	eP		**Pn**	**10 36 42.5**	**+0.6**	
LSP	**Las Mesas**	**2.55**	**224**	eS		**Sn**	**10 37 11.3**	**-0.4**	
LSP	**Las Mesas**	**2.55**	**224**			**Pn**	**10 36 42.5**	**+0.6**	
LSP						**Sn**	**10 37 11.3**	**-0.4**	
PRSN	**Puerto Rico Se**	**2.56**	**226**			**Pn**	**10 36 42.4**	**+0.4**	
PRSN				IAML			10 37 15.6		
	comp=E,200nm,0.2s								
PRSN				IAML			10 37 18.7		
	comp=N,233nm,0.2s								
GBPR	**Guanica, Bosqu**	**2.58**	**218**	eP		**Pn**	**10 36 43.1**	**+1.0**	
GBPR	**Guanica, Bosqu**	**2.58**	**218**			**Pn**	**10 36 43.1**	**+1.0**	
MLPR	**Magueyes Islan**	**2.68**	**221**	eP		**Pn**	**10 36 44.3**	**+0.7**	
MLPR	**Magueyes Islan**	**2.68**	**221**	eS		**Sn**	**10 37 13.7**	**-1.1**	
MLPR	**Magueyes Islan**	**2.68**	**221**			**Pn**	**10 36 44.3**	**+0.7**	
MLPR						**Sn**	**10 37 13.7**	**-1.1**	
CRPR	**Cabo Rojo, PR**	**2.69**	**222**	eP		**Pn**	**10 36 44.6**	**+0.8**	
CRPR	**Cabo Rojo, PR**	**2.69**	**222**	eS		**Sn**	**10 37 14.8**	**-0.3**	
CRPR	**Cabo Rojo, PR**	**2.69**	**222**			**Pn**	**10 36 44.6**	**+0.8**	
CRPR						**Sn**	**10 37 14.8**	**-0.3**	
CRPR	**Cabo Rojo, PR**	**2.69**	**222**	i P		**Pn**	**10 36 44.7**	**+1.0**	
CRPR				eS		**Sn**	**10 37 15.2**	**0.0**	
CRPR				IAML			10 37 24.0		
	comp=Z,84nm,0.5s								
PCDR	**Punta Cana, DR**	**3.35**	**244**	eP		**Pn**	**10 36 53.2**	**+0.4**	
PCDR	**Punta Cana, DR**	**3.35**	**244**	eS		**Sn**	**10 37 30.4**	**-1.0**	
PCDR	**Punta Cana, DR**	**3.35**	**244**			**Pn**	**10 36 53.2**	**+0.4**	
PCDR						**Sn**	**10 37 30.4**	**-1.0**	
PCDR	**Punta Cana, DR**	**3.35**	**244**	IAML			10 38 03.5		
	comp=E,106nm,2.4s								
PCDR	**Punta Cana, DR**	**3.35**	**244**	i P		**Pn**	**10 36 53.0**	**+0.2**	
PCDR				eS		**Sn**	**10 37 31.4**	**0.0**	
PCDR				IAML			10 37 37.1		
	comp=Z,120nm,2.1s								
ANBD	**Bethesda, Anti**	**4.41**	**132**	eP		**Pn**	**10 37 07.7**	**+0.3**	
ANBD				eS		**Sn**	**10 37 55.6**	**-1.9**	
SDDR	**Presa de Saban**	**5.83**	**261**			**Pn**	**10 37 28.0**	**+1.1**	
SDDR	**Presa de Saban**	**5.83**	**261**	i P		**Pn**	**10 37 28.1**	**+1.2**	
SDDR				eS		**Sn**	**10 38 31.7**	**-0.9**	

*IDC **24** 10:49:52.3±6.2, 10.°65S× 161.°09E, h85km±60km, mb3.5/9, mbtmp3.9/10, ML3.6/1, MS3.5/3, Error ellipse: s-maj=35.6km s-min=23.3km az=117.0*

ISC 24 10:49:50.2±0.8, 10.°6S±0.1× 161.°0E±0.2, h62km, n13, σ0s81/10, mb3.8/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.58**	**156**	P		**Pn**	**10 52 47.1**	**+0.6**
	0.3nm,0.3s,baz=264,slow=16,SNR=1.1							
	3.9nm,0.6s							
WRA	**Warramunga Arr**	**27.32**	**247**	P		**P**	**10 55 29.8**	**+0.4**
	0.6nm,0.5s,baz=76,slow=9.0,SNR=4.2							
	0.6nm,0.5s							
STKA	**Stephens Creek**	**27.78**	**217**	P		**P**	**10 55 32.0**	**-1.3**
	0.6nm,0.3s,baz=45,slow=16,SNR=1.4							
	0.6nm,0.3s							
ASAR	**Alice Springs**	**28.92**	**240**	P		**P**	**10 55 44.2**	**+0.5**
	0.7nm,0.7s,baz=64,slow=10,SNR=8.5							
	0.7nm,0.7s							
BATI	**Baumata**	**36.71**	**267**	LR		LR	11 12 54.8	
	comp=Z,136nm,18.0s,baz=165,slow=38							
MJAR	**Matsushiro Arr**	**51.53**	**337**	P		**P**	**10 58 49.9**	**+0.1**
	0.8nm,0.8s,baz=214,slow=10,SNR=2.3							
	0.8nm,0.8s							
JNU	**Nakatsue**	**52.07**	**328**	LR		LR	11 18 36.1	
	comp=Z,40nm,20.4s,baz=188,slow=33							
KSRS	**Korea Array**	**56.94**	**329**	LR		LR	11 18 33.5	
	comp=Z,34nm,21.8s,baz=185,slow=30							
PETK	**Petropavlovsk-**	**63.48**	**358**	P		**P**	**11 00 13.9**	**+0.3**
	0.9nm,0.6s,baz=157,slow=8.6,SNR=6.1							
	0.9nm,0.6s							
SONM	**Songino Array**	**75.57**	**325**	P		**P**	**11 01 29.3**	**+0.9**
	1.3nm,0.5s,baz=134,slow=5.5,SNR=5.4							
	1.3nm,0.5s							
QSPA	**South Pole Qui**	**79.44**	**180**	P		**P**	**11 01 49.3**	**-0.4**
	2.1nm,1.2s,baz=90,slow=11,SNR=2.3							
	2.1nm,1.2s							
ILAR	**Eielson Array**	**84.59**	**20**	P		**P**	**11 02 15.5**	**-0.9**
	0.2nm,0.6s,baz=240,slow=4.3,SNR=4.4							
	0.2nm,0.6s							
KURBB	**Kurchatov Arra**	**93.34**	**321**	P		**P**	**11 02 58.1**	**-0.2**
	0.2nm,0.3s,baz=57,slow=3.4,SNR=2.1							
	0.2nm,0.3s							

*MEX **24** 10:55:58.6±2.3, 16.°50N× 95.°21W, h94km±34km, MD4.3*
*IDC **24** 10:56:01.5±1.0, 17.°44N× 94.°55W, h0km, mb3.8/4, mbtmp3.7/6, ML3.3/3, MS3.3/1, Error ellipse: s-maj=16.5km s-min=8.1km az=131.0*

ISC 24 10:55:58.2±1.5, 16.°56N±0.03× 95.°20W±0.02, h6km±10km, n44, σ2s08/78, mb3.7/4, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
CMIG	**Matias Romero**	**0.61**	**30**	Pg		**Pg**	**10 56 09.2**	**-0.7**
	159nm,0.3s,baz=209,slow=15,SNR=800							
CMIG				Lg		Lg	10 56 18.2	
	436nm,0.3s,baz=132,slow=23,SNR=42							
CMIG	**Matias Romero**	**0.61**	**30**	eP		**Pg**	**10 56 09.4**	**-0.6**
CMIG				eS		**Sg**	**10 56 18.1**	**+0.1**
HUIG	**Huatulco**	**1.18**	**228**	eP		**Pn**	**10 56 18.3**	**-2.9**
HUIG				eS		**Sb**	**10 56 34.2**	**-2.2**
UXUV	**UXUV**	**1.26**	**53**	eP		**Pn**	**10 56 20.8**	**-1.5**
UXUV				eS		**Sb**	**10 56 38.5**	**-0.4**
CARR	**Arriaga**	**1.27**	**104**	eP		**Pn**	**10 56 20.9**	**-1.7**
CARR				eS		**Sb**	**10 56 37.9**	**-1.4**
NEUV	**Arroyo Zacate**	**1.28**	**333**	eP		**Pn**	**10 56 21.1**	**-1.6**
NEUV				eS		**Sb**	**10 56 39.4**	**-0.2**
OXLC	**Oaxaca**	**1.53**	**289**	eP		**Pn**	**10 56 25.1**	**-1.2**
OXLC				eS		**Sn**	**10 56 45.5**	**-0.9**
OXBJ	**Oaxaca**	**1.54**	**289**	eP		**Pn**	**10 56 24.9**	**-1.6**
OXBJ				eS		**Sn**	**10 56 45.5**	**-1.5**
VHO	**Vista Hermosa**	**1.56**	**289**	eP		**Pn**	**10 56 26.1**	**-0.6**
VHO				eS		**Sn**	**10 56 46.2**	**-1.0**
TUIG	**Tuzandepetl**	**1.64**	**27**	eP		**Pn**	**10 56 27.5**	**-0.1**
TUIG				eS		**Sb**	**10 56 50.9**	**+1.0**
PEIG	**Puerto Escondi**	**1.95**	**254**	eP		**Pn**	**10 56 29.9**	**-2.1**
PEIG				eS		**Sn**	**10 56 56.9**	**+0.1**
PMUV	**Sontecomapan**	**1.98**	**2**	eP		**Pn**	**10 56 29.9**	**-2.4**
PMUV				i S		**Sn**	**10 56 49.0**	**-8.4**
TGIG		**2.00**	**83**	eP		**Pn**	**10 56 32.9**	**+0.3**
TGIG				eS		**Sn**	**10 56 59.0**	**+1.0**
TGBT	**Tuxtla Gutierr**	**2.03**	**84**	eP		**Pn**	**10 56 34.3**	**+1.3**
TGBT				eS		**Sb**	**10 57 00.8**	**-0.3**
PCIG		**2.08**	**114**	eP		**Pn**	**10 56 32.7**	**-1.0**
PCIG				eS		**Sn**	**10 57 00.1**	**+0.1**
YOIG	**Yosondua**	**2.27**	**278**	eP		**Pn**	**10 56 36.8**	**+0.3**
YOIG				eS		**Sn**	**10 57 06.9**	**+2.0**
TOIG	**Toxpalan**	**2.35**	**311**	eP		**Pn**	**10 56 38.9**	**+1.4**
TOIG				eS		**Sb**	**10 57 09.7**	**-0.6**
TXIG	**Tlaxiaco**	**2.55**	**286**	eP		**Pn**	**10 56 42.0**	**+1.5**
TXIG				eS		**Sb**	**10 57 17.1**	**+0.7**
TPIG	**Tehuac#an**	**2.77**	**312**	eP		**Pn**	**10 56 45.3**	**+2.0**
TPIG				eS		**Sn**	**10 57 16.6**	**-0.6**
HLIG	**Huajuapan de L**	**2.79**	**297**	eP		**Pn**	**10 56 44.9**	**+1.3**
HLIG				eS		**Sb**	**10 57 22.6**	**-0.6**
PNIG	**Pinotepa**	**2.81**	**267**	eP		**Pn**	**10 56 42.5**	**-1.3**
PNIG				eS		**Sn**	**10 57 15.9**	**-2.1**
CCIG	**Comitan**	**2.95**	**95**	eP		**Pn**	**10 56 48.2**	**+2.4**
CCIG				i S		**Sn**	**10 57 22.7**	**+1.0**
FTIG	**Fresnillo de T**	**3.11**	**296**	eP		**Pn**	**10 56 49.9**	**+2.0**
FTIG				eS		**Sb**	**10 57 31.1**	**-1.1**
JAUV	**Jalcomulco**	**3.18**	**332**	eP		**Pn**	**10 56 47.1**	**-1.7**
JAUV				eS		**Sn**	**10 57 26.0**	**-1.2**

PATR	**El Naranjo**	**3.19**	**116**	eP		**Pn**	**10 56 48.7**	**-0.5**	
PATR				i S		**Sn**	**10 57 25.8**	**-1.9**	
PAVE	**Pavencul**	**3.21**	**115**	eP		**Pn**	**10 56 49.7**	**+0.3**	
PAVE				eS		**Sn**	**10 57 26.4**	**-1.7**	
THIG		**3.27**	**120**	eP		**Pn**	**10 56 50.5**	**+0.5**	
THIG				eS		**Sn**	**10 57 27.5**	**-1.7**	
LVIG	**Laguna Verde**	**3.35**	**340**	eP		Pn	10 56 45.8	-5.3	
LVIG				i S		**Sn**	**10 57 26.7**	**-4.6**	
MGIG	**Malinaltepec**	**3.36**	**282**	eP		**Pn**	**10 56 51.9**	**+0.5**	
MGIG				i S		**Sn**	**10 57 36.3**	**+4.7**	
TLIG	**Tlapa**	**3.37**	**288**	eP		**Pn**	**10 56 52.1**	**+0.6**	
TLIG				eS		**Sn**	**10 57 35.7**	**+3.7**	
CRIG	**Cruz Grande**	**3.77**	**273**	eP		**Pn**	**10 56 55.7**	**-1.2**	
CRIG				i S		**Sn**	**10 57 46.2**	**+4.5**	
PPM	**Popocatepetl**	**4.11**	**308**	eP		**Pn**	**10 57 04.4**	**+2.4**	
DAIG	**Los Arroyos**	**4.29**	**277**	eP		**Pn**	**10 57 01.2**	**-2.8**	
DAIG				eS		**Sn**	**10 57 53.3**	**-1.1**	
YAIG	**Yautepec**	**4.34**	**302**	eP		**Pn**	**10 57 06.5**	**+1.7**	
YAIG				i S		**Sn**	**10 57 57.6**	**+1.7**	
MEIG	**Mezcala**	**4.44**	**288**	eP		**Pn**	**10 57 06.6**	**+0.4**	
PLIG	**Platanillo**	**4.49**	**295**	eP		**Pn**	**10 57 07.5**	**+0.6**	
PLIG				eS		**Sn**	**10 58 02.0**	**+2.4**	
APG	**El Apazote**	**4.81**	**108**	Pn		**Pn**	**10 57 13.3**	**+1.8**	
	0.2nm,0.3s,baz=153,slow=8.8,SNR=13								
APG						**Sn**	**10 58 08.6**	**+0.9**	
	1.8nm,0.3s,baz=87,slow=16,SNR=13								
APG				Lg		Lg	10 58 29.1		
	1.2nm,0.3s,baz=65,slow=22,SNR=8.4								
TEIG	**Tepich**	**7.51**	**60**	Pn		**Pn**	**10 57 46.9**	**-1.5**	
	6.7nm,0.3s,baz=45,slow=1.7,SNR=46								
TEIG						**Sn**	**10 59 09.5**	**-4.5**	
	8.6nm,0.3s,baz=326,slow=22,SNR=16								
JTS	**Las Juntas de**	**11.75**	**121**	Pn		**Pn**	**10 58 50.0**	**+3.5**	
	0.7nm,0.3s,baz=302,slow=19,SNR=2.5								
	2.0nm,0.4s								
TXAR	**Lajitas Array**	**14.90**	**330**	Pn		**Pn**	**10 59 31.5**	**+1.9**	
	baz=150,slow=10,SNR=6.0								
	0.6nm,1.0s								
NVAR	**Mina Array Bea**	**29.75**	**322**	P		**P**	**11 02 07.8**	**+2.0**	
	1.0nm,0.8s,baz=136,slow=8.9,SNR=10.0								
NVAR				LR		LR	11 15 23.6		
	comp=Z,59nm,19.5s,baz=201,slow=40								
	1.0nm,0.8s								
YKA	**Yellowknife Ar**	**47.87**	**348**	P		**P**	**11 04 35.8**	**-0.9**	
	0.3nm,0.6s,baz=151,slow=7.1,SNR=6.3								
	0.3nm,0.6s								
SPITS	**Spitsbergen Ar**	**78.20**	**11**	P		**P**	**11 07 56.6**	**-1.6**	
	2.3nm,0.8s,baz=295,slow=6.3,SNR=1.1								
	2.3nm,0.8s								
TORD	**Torodi Ar. Bea**	**92.76**	**76**	P		**P**	**11 09 13.0**	**+0.8**	
	0.2nm,0.5s,baz=277,slow=2.3,SNR=1.3								
	0.2nm,0.5s								

*IDC **24** 10:57:33.6±4.3, 29.°02N× 141.°98E, h0km, mb3.5/4, mbtmp3.4/5, ML2.7/1, MS3.4/1, Error ellipse: s-maj=189.6km s-min=18.8km az=74.0*

ISC 24 10:57:35.7±3.8, 29.°1N±0.2× 14.°2E±., h27km, n7, σ2s04/7, mb3.7/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**2.01**	**183**

JJT3 *eS* **Sn** **11 13 06.4 +0.3**
JJT3 Tamagusuku3 1.55 180 A A 11 12 45.2
comp=E,42nm,1.2s,comp=N,75nm,3.8s
JKE Kume jima 2 1.64 213 *i* P **Pn** **11 12 45.2 -0.5**
JKE S **Sn** **11 13 06.6 -1.2**
JKE Kume jima 2 1.64 213 A A 11 12 45.2
comp=E,16nm,0.8s,comp=N,17nm,2.0s
JAM Amami Oshima 1.75 66 *i* P **Pn** **11 12 47.0 0.0**
JAM *eS* **Sn** **11 13 09.8 -0.5**
JAM Amami Oshima 1.75 66 A A 11 12 47.0
comp=E,9.0nm,5.8s,comp=N,6.0nm,2.6s
JTAJ Takarajima 1.91 40 *i* P **Pn** **11 12 49.2 +0.2**
JTAJ S **Sn** **11 13 13.8 0.0**
JZK Kikaishima 2.02 72 P **Pn** **11 12 51.2 +0.9**
JZK S **Sn** **11 13 17.5 +1.2**
JZK Kikaishima 2.02 72 A A 11 12 51.2
comp=E,40nm,4.5s,comp=N,30nm,5.7s
JNN Nakanoshima 2.81 40 *e*P **Pn** **11 13 00.7 +0.3**
JKC Kuchinoerabu 3.47 37 *e*P **Pn** **11 13 09.1 +0.1**
JYAK Yakushimahirau 3.48 43 *e*P **Pn** **11 13 09.2 +0.1**
JYAK *eS* **Sn** **11 13 47.8 -2.1**
JKDJ Kitadaitoujima 3.59 118 P **Pn** **11 13 09.9 -0.7**
JKDJ *eS* **Sn** **11 13 49.2 -3.2**
JKDJ Kitadaitoujima 3.59 118 A A 11 13 09.9
comp=E,16nm,2.4s,comp=N,9.0nm,3.1s
JMZ Minamidaito 2 3.60 121 P **Pn** **11 13 11.4 +0.6**
JMZ Minamidaito 2 3.60 121 Pn **Pn** **11 13 10.7 -0.1**
JMZ Minamidaito 2 3.60 121 P **Pn** **11 13 09.8 -1.0**
JMZ *eS* **Sn** **11 13 48.2 -4.5**
JMZ Minamidaito 2 3.60 121 A A 11 13 09.8
comp=E,8.0nm,3.6s,comp=N,11nm,2.9s
JMTN Minamitane 3.83 45 P **Pn** **11 13 14.6 +0.8**
JMTN *eS* **Sn** **11 13 57.2 -1.0**
JTN Tanegashima 3 4.06 43 P **Pn** **11 13 17.7 +0.8**
YOJ Yonaguni jima 5.37 234 Pn **Pn** **11 13 33.1 -1.4**
YOJ Yonaguni jima 5.37 234 P **Pn** **11 13 33.1 -1.4**
JNU Nakatsue 6.03 26 P **Pn** **11 13 45.2 +1.8**
JNU Nakatsue 6.03 26 Pn **Pn** **11 13 45.1 +1.8**
JNU Nakatsue 6.03 26 P **Pn** **11 13 43.1 -0.3**
comp=N,49nm,0.5s,baz=247,slow=2.8,SNR=97
JNU S **Sn** **11 14 47.1 -4.0**
comp=N,14nm,0.6s,baz=247,slow=6.9,SNR=0.6
YHNB Yeheng 6.50 244 P **Pn** **11 13 50.4 +0.5**
YHNB Yeheng 6.50 244 **Pn** **11 13 49.4 -0.5**
JTU Tsushima 6.94 11 P **Pn** **11 13 58.8 +3.2**
JTU Tsushima 6.94 11 Pn **Pn** **11 13 56.7 +1.0**
YULB Yu-li 7.26 235 **Pn** **11 13 55.7 -4.4**
SSLB Suanglung 7.29 239 Pn **Pn** **11 13 57.4 -3.1**
TWG Pinlang 7.78 233 **Pn** **11 14 04.2 -2.9**
TPUB Ta-pu 7.81 237 **Pn** **11 14 04.8 -2.7**
JMN Monobe 7.97 40 Pn **Pn** **11 14 07.9 -1.7**
TJN Taejon 8.66 358 P **Pn** **11 14 21.3 +2.5**
TJN Taejon 8.66 358 Pn **Pn** **11 14 20.0 +1.2**
TJN Taejon 8.66 358 P **Pn** **11 14 20.0 +1.2**
NJ2 Nanjing 8.88 301 ⇓ *i* P **Pn** **11 14 22.8 +0.9**
NJ2 sP 11 14 55.3
NJ2 S **Sn** **11 16 04.1 +3.8**
NJ2 pmax pmax
comp=N,78nm,0.7s
KSAR Wonju Array Be 9.71 0 **Pn** **11 14 34.4 +1.3**
KSAR Wonju Array Be 9.71 0 P **Pn** **11 14 34.4 +1.3**
KSRS Korea Array 9.73 1 P **Pn** **11 14 33.0 -0.2**
comp=N,35nm,0.8s,baz=179,slow=13,SNR=104
KS19 Wonju Array Si 9.78 0 **Pn** **11 14 34.5 +0.6**
INCN Inchon 9.80 355 Pn **Pn** **11 14 34.7 +0.4**
INCN Inchon 9.80 355 P **Pn** **11 14 34.7 +0.4**
JGF Kuroka 11.33 44 **Pn** **11 14 55.2 +0.4**
JHJ Hachijo jima 2 11.67 60 P **Pn** **11 14 59.6 +0.2**
comp=N,46nm,0.5s,baz=104,slow=20,SNR=1.5
JHJ LR LR 11 19 25.5
comp=N,56nm,21.9s,baz=262,slow=37
WHN Wuhan 12.09 287 P **Pn** **11 15 06.3 +1.5**
DL2 Dalian 12.30 337 P **P** **11 15 12.0 -2.6**
DL2 S **Sn** **11 17 29.8 +6.9**
DL2 pmax pmax
comp=N,130nm,0.8s
TIA Tai'an 12.40 316 *e*P **Pn** **11 15 09.8 +0.9**
TIA pmax pmax
comp=N,5.0nm,1.4s
TIA pmax pmax
comp=N,45nm,5.1s
TIA LR LR
comp=N,110nm,15.7s
TIA LR LR
comp=N,82nm,9.8s
TIA LR LR
comp=N,120nm,11.8s
MAJO Matsushiro 12.47 42 P **P** **11 15 13.1 -3.5**
MAJO Matsushiro 12.47 42 **Pn** **11 15 09.8 0.0**
MAJO Matsushiro 12.47 42 *i* P **Pn** **11 15 11.9 +2.1**
MAJO pmax pmax
comp=Z,18nm,1.0s
MJAR Matsushiro Arr 12.47 42 P **Pn** **11 15 09.2 -0.6**
comp=Z,1.3nm,0.7s,baz=239,slow=14,SNR=7.7
MJAR Matsushiro Arr 12.47 42 P **P** **11 15 17.9 +1.3**
comp=Z,21nm,1.0s,baz=218,slow=8.9,SNR=47
MJB9 Matsu-Tunnel 12.47 42 **Pn** **11 15 10.0 +0.2**
JCJ Chichijima 12.81 89 P **Pn** **11 15 16.0 +1.8**
JCJ Chichijima 12.81 89 P **Pn** **11 15 13.5 -0.7**
comp=Z,35nm,0.3s,baz=286,slow=20,SNR=13
JCJ LR LR 11 19 38.3
comp=Z,158nm,19.9s,baz=294,slow=35
JSD Sado 13.54 38 P **P** **11 15 27.9 -0.6**
SNY Shenyang 14.51 347 ⇑ P **P** **11 15 41.0 +1.9**
SNY S **Sn** **11 18 16.3 +0.1**
SNY pmax pmax
comp=Z,100nm,0.9s
SNY pmax pmax
comp=Z,260nm,3.5s
SNY LR LR
comp=Z,170nm,5.5s
SNY LR LR
comp=Z,330nm,5.9s
SNY LR LR
comp=Z,170nm,11.8s
HNS HongShan 14.66 315 ⇓ P **Pn** **11 15 38.9 +1.0**
HNS *eS* **S** **11 18 25.3 -5.0**
HNS pmax pmax
comp=Z,58nm,1.2s
HNS LR LR
comp=Z,120nm,6.8s
HNS LR LR
comp=Z,190nm,7.2s
HNS LR LR
comp=Z,220nm,15.9s
LYN LuoYang 14.78 301 *e*P **P** **11 15 40.6 -1.7**
LYN S **Sn** **11 18 25.0 +2.0**
MSHR Mys Shultsa 15.10 10 *i* P **Pn** **11 15 44.2 +0.8**
MSHR pmax pmax
comp=Z,37nm,1.6s
BJT Baijiatuau 15.61 325 P **P** **11 15 52.5 +1.2**
BJT Baijiatuau 15.61 325 P **P** **11 15 50.9 -0.4**
BJT Baijiatuau 15.61 325 P **P** **11 15 50.9 -0.4**
BJI Beijing 15.62 325 P **P** **11 15 50.9 -0.6**
BJI sP **sP** **11 16 26.0 -2.6**
BJI S **Sn** **11 18 39.0 -3.9**
BJI pmax pmax
comp=Z,9.0nm,0.8s
BJI pmax pmax
comp=Z,140nm,5.7s
BJI LR LR
comp=Z,57nm,13.4s
BJI LR LR
comp=Z,60nm,10.1s
BJI LR LR
comp=Z,88nm,11.6s
CN2 Changchun 16.18 354 ⇑ P **P** **11 15 58.6 +1.0**
CN2 *es*P sP 11 16 36.0 +1.6
CN2 *eS* **Sn** **11 18 53.4 -3.0**
CN2 pmax pmax
comp=Z,40nm,0.8s
CN2 pmax pmax
comp=Z,300nm,3.0s
ENH Enshi 16.22 283 P **P** **11 15 59.0 +0.7**
ENH Enshi 16.22 283 P **P** **11 15 58.4 +0.1**
TIY Taiyuan 16.31 312 P **P** **11 16 02.4 +3.1**
TIY sP **sP** **11 16 33.5 -2.9**
TIY S **Sn** **11 18 54.8 -5.0**
TIY pmax pmax
comp=Z,53nm,0.5s
USRK Ussuriysk Ar. 16.81 10 P **P** **11 16 04.4 -0.2**
USRK Ussuriysk Ar. 16.81 10 P **Pn** **11 16 03.0 -1.5**
comp=Z,5.7nm,0.7s,baz=185,slow=8.7,SNR=21
USRK LR LR 11 22 38.1
comp=Z,39nm,20.0s,baz=179,slow=37
USRK Ussuriysk Ar. 16.81 10 P **P** **11 16 04.4 -0.2**
USA0B Ussuriysk Arra 16.81 10 P **P** **11 16 04.8 +0.2**
USA0B Ussuriysk Arra 16.81 10 P **P** **11 16 04.8 +0.2**
MDJ Mudanjiang 16.94 4 P **P** **11 16 08.3 +2.2**
MDJ Mudanjiang 16.94 4 P **P** **11 16 07.8 +1.7**
MDJ S **Sn** **11 19 13.1 -1.7**
MDJ PcP **PcP** **11 20 48.6 +3.3**
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,67nm,3.8s
XAN Xi'an 17.38 296 ⇓ P **Pn** **11 16 11.5 0.0**
XAN S **Sn** **11 19 22.4 -3.0**
XAN pmax pmax
comp=Z,78nm,0.7s
XAN pmax pmax
comp=Z,230nm,4.2s
XAN LR LR
comp=Z,150nm,4.9s
XAN LR LR
comp=Z,290nm,11.6s
XAN LR LR
comp=Z,360nm,19.6s
BNX BinXian 18.01 359 ⇓ P **Pn** **11 16 18.6 -0.3**
BNX S **Sn** **11 19 40.3 0.0**
BNX pmax pmax
comp=Z,26nm,0.8s
BNX pmax pmax
comp=Z,290nm,5.4s
QIZ Qiongzhong 18.58 246 P **P** **11 16 23.8 -0.5**
QIZ S **S** **11 19 50.8 +0.8**
QIZ pmax pmax
comp=Z,12nm,0.9s
QIZ pmax pmax
comp=Z,110nm,10.3s
QIZ LR LR
comp=Z,110nm,10.8s
QIZ LR LR
comp=Z,85nm,9.3s
QIZ LR LR
comp=Z,120nm,11.8s
XLT XiLinHaoTe 18.71 333 *e*P **Pn** **11 16 26.3 -1.1**
XLT S **S** **11 19 52.3 -0.1**
XLT pmax pmax
comp=Z,70nm,1.2s
XLT pmax pmax
comp=Z,190nm,3.6s
HHC Hu-ho-hao-te 18.72 319 ⇑ P **Pn** **11 16 27.1 -0.4**
HHC sP sP 11 17 05.6 +2.5
HHC S **S** **11 19 48.8 -3.7**
HHC pmax pmax
comp=Z,24nm,0.6s
HHC pmax pmax
comp=Z,120nm,4.0s
GYA Guiyang 18.85 271 P **Pn** **11 16 30.0 +0.8**
GYA sP sP 11 17 09.3 +5.0
GYA S **Sn** **11 19 58.1 -2.9**
GYA pmax pmax
comp=Z,13nm,0.9s
GYA pmax pmax
comp=Z,150nm,7.2s
BTO Baotou 19.50 316 *e*P **Pn** **11 16 36.5 -0.1**
BTO pP **pP** **11 17 00.3 +4.0**
BTO S **S** **11 20 05.3 -2.6**
BTO pmax pmax
comp=Z,47nm,1.1s
BTO pmax pmax
comp=Z,330nm,3.8s
BTO LR LR
comp=Z,230nm,12.1s
BTO LR LR
comp=Z,210nm,12.4s
BTO LR LR
comp=Z,270nm,12.1s
ASAJ Asahikawa 20.25 32 P **P** **11 16 41.2 -0.9**
comp=Z,2.9nm,0.4s,baz=225,slow=9.9,SNR=7.6
ASAJ LR LR 11 24 51.9
comp=Z,54nm,19.2s,baz=180,slow=37
DAV Davao City (W) 20.62 186 LR LR 11 24 28.8
comp=Z,96nm,21.9s,baz=31,slow=35
CD2 Chengdu 21.19 284 P **P** **11 16 50.9 -1.5**
CD2 S **S** **11 20 43.1 +1.9**
CD2 pmax pmax
comp=Z,20nm,0.4s
CD2 LR LR
comp=Z,230nm,10.2s
CD2 LR LR
comp=Z,180nm,10.6s
GUMO Guam 21.23 128 P **P** **11 16 54.6 +1.7**
GUMO Guam 21.23 128 P **P** **11 16 55.0 +2.1**
GUMO Guam 21.23 128 P **P** **11 16 53.9 +1.0**
comp=Z,62nm,0.7s,baz=180,slow=15,SNR=6.4
GUMO LR LR 11 23 44.6
comp=Z,76nm,18.4s,baz=269,slow=32
comp=Z,62nm,0.7s
GUMO Guam 21.23 128 P **P** **11 16 55.0 +2.1**
KLR Kul'dur 21.71 7 P **P** **11 16 56.9 -0.9**
comp=Z,2.0nm,0.4s,baz=214,slow=6.6,SNR=11
KLR ScP **ScP** **11 24 20.5 +0.8**
comp=Z,0.6nm,0.5s,baz=251,slow=3.1,SNR=3.6
comp=Z,2.0nm,0.4s
KLR Kul'dur 21.71 7 *ce*P **P** **11 16 58.5 +0.7**
KLR pmax pmax
comp=Z,4.0nm,0.8s
LZH Lanzhou 21.94 298 *e*P P 11 16 52.8 -7.7
LZH sP pP 11 17 25.5 +2.3
LZH S **S** **11 20 55.8 +0.7**
LZH SS **SnSn** **11 21 42.0 +8.7**
LZH pmax pmax
comp=Z,17nm,1.0s
HEH HeiHe 22.52 359 *e*P **P** **11 17 07.4 +1.4**
HEH pP **pP** **11 17 32.6 +3.8**
HEH S **S** **11 21 08.1 +4.0**
HEH ScP **ScP** **11 24 22.4 +0.7**
HEH pmax pmax
comp=Z,12nm,0.6s
HEH pmax pmax
comp=Z,100nm,4.2s
YSS Yuzh-Sakhalins 22.53 27 P **P** **11 17 07.9 +1.7**
YSS Yuzh-Sakhalins 22.53 27 P **P** **11 17 06.6 +0.5**
YSS Yuzh-Sakhalins 22.53 27 *e*P **P** **11 17 05.4 -0.8**
YSS *eS* **S** **11 20 59.9 -4.3**
YSS pmax pmax
comp=Z,100nm,3.1s
YSS pmax pmax
comp=Z,10.0nm,0.9s
YSS smax smax
comp=N,100nm,3.7s
YSS MLR MLR
comp=Z,200nm,17.0s
YSS MLR MLR
comp=N,100nm,18.0s
PZH PanZhiHua 23.21 273 P **P** **11 17 12.0 -1.0**
PZH pmax pmax
comp=N,20nm,0.6s
PZH pmax pmax
comp=N,100nm,4.7s
UBPT Khong Chiam 24.12 244 P **P** **11 17 21.9 +0.8**
UBPT Khong Chiam 24.12 244 P **P** **11 17 21.3 +0.1**
TYV Tymovskoe 25.74 22 *e*P P 11 17 51.0 +15
TYV pmax pmax
comp=Z,200nm,2.8s
TYV pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 25.81 327 P **P** **11 17 35.9 -0.5**
ULN IAmb IAmb 11 17 39.3
comp=Z,55nm,0.7s
ULN **pP** **11 18 03.7 +1.4**
ULN Ulaanbaatar 25.81 327 P **P** **11 17 35.9 -0.5**
ULN *PP **pP** **11 18 03.7 +1.4**
ULN pmax pmax
comp=Z,55nm,0.7s
GTA Gaotai 25.97 304 P **P** **11 17 37.0 -0.9**
GTA pP pP 11 18 04.9 +1.0
GTA PcP **PcP** **11 21 04.4 +1.2**
GTA pmax pmax
comp=Z,19nm,1.0s
GTA LR LR
comp=Z,84nm,14.9s
GTA LR LR
comp=Z,95nm,13.4s
GTA LR LR
comp=Z,130nm,15.6s
ZEA Zeya 26.02 359 *i* P **P** **11 17 40.2 +2.2**
CRAI Chiangrai 26.09 259 P **P** **11 17 38.2 -0.8**
SONM Songino Array 26.11 326 P **P** **11 17 38.1 -1.0**
SONM IAmb IAmb 11 17 42.3
comp=Z,56nm,1.0s
SONM Songino Array 26.11 326 P **P** **11 17 38.1 -1.0**
comp=Z,56nm,1.0s,baz=141,slow=9.3,SNR=81
SONM PcP **PcP** **11 21 04.9 +1.5**
comp=Z,2.3nm,0.7s,baz=151,slow=2.8,SNR=5.8
SONM ScP **ScP** **11 24 32.4 +0.5**
comp=Z,0.7nm,0.6s,baz=141,slow=5.0,SNR=4.0
SONM LR LR 11 29 49.4
comp=Z,75nm,18.5s,baz=133,slow=40
comp=Z,56nm,1.0s
TNCH TengChong 26.33 271 *e*P **P** **11 17 40.9 -0.5**
TNCH pmax pmax
comp=Z,80nm,0.4s
CHTO Chiang Mai 27.88 258 P **P** **11 17 54.5 -0.6**
CHTO Chiang Mai 27.88 258 P **P** **11 17 54.5 -0.6**
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 28.03 257 P **P** **11 17 56.0 -0.4**
comp=Z,1.6nm,0.7s,baz=57,slow=7.8,SNR=9.6
CMAR PcP **PcP** **11 21 10.1 +1.8**
comp=Z,3.3nm,0.7s,baz=40,slow=1.6,SNR=17
CMAR ScP **ScP** **11 24 39.1 +1.1**
comp=Z,0.8nm,0.3s,baz=72,slow=0.2,SNR=7.9
comp=Z,1.6nm,0.7s
CMAR Chiang Mai Arr 28.03 257 *i* P **P** **11 17 56.9 +0.5**
CMAR pmax pmax
comp=Z,2.0nm,0.7s
FAKI Fak Fak 30.74 171 P **P** **11 18 20.7 +0.3**
FAKI IAmb IAmb 11 18 22.1
comp=Z,32nm,0.6s
MOY Mondy 31.27 327 *e*P **P** **11 18 24.7 -0.2**
MOY pmax pmax
comp=Z,12nm,1.8s
SRIT Nakonsritamara 32.70 240 P **P** **11 18 39.0 +1.4**
PETK Petropavlovsk- 33.67 33 P **P** **11 18 44.6 -1.0**
comp=Z,3.6nm,0.6s,baz=208,slow=4.4,SNR=8.9
PETK PcP **PcP** **11 21 22.1 -0.6**
comp=Z,2.2nm,0.6s,baz=200,slow=3.9,SNR=4.0
comp=Z,3.6nm,0.6s
PET Petropavlovsk 34.08 34 *e*P **P** **11 18 48.4 -0.7**
PET pmax pmax
comp=Z,20nm,1.3s
YAK Yakutsk 34.35 2 *e*P **P** **11 18 51.8 +0.5**
YAK *e*PP **pP** **11 19 15.0 -2.8**
YAK *e* 11 21 24.4
YAK *eS* **S** **11 24 12.7 +3.0**
YAK *e* 11 28 57.8
YAK pmax pmax
comp=Z,16nm,0.9s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK smax smax
comp=N,2.0nm,0.8s
YAK smax smax
comp=E,5.0nm,1.0s
MYKOM Kota Tinggi 34.48 226 P **P** **11 18 51.6 -1.4**
MA2 Magadan 35.56 20 LR LR 11 33 54.7
comp=E,21nm,18.3s,baz=166,slow=37
MA2 Magadan 35.56 20 *i* P **P** **11 19 02.7 +0.9**
MA2 pmax pmax
comp=Z,4.0nm,0.9s
WMQ Urumqi 35.90 307 *e*P **P** **11 19 06.3 +1.3**
ZSN Zaisan 38.72 312 *e*P **P** **11 19 28.9 +0.3**
baz=312
ZSN Zaisan 38.72 312 *e*P **P** **11 19 28.9 +0.3**
SEY Seymchan 38.74 18 *i* P **P** **11 19 27.1 -1.4**
SEY pmax pmax
comp=Z,3.0nm,0.9s
MK31 Makanchi Array 40.27 311 P **P** **11 19 40.8 -0.8**
MK31 Makanchi Array 40.27 311 P **P** **11 19 40.8 -0.8**
MK31 pmax pmax
comp=Z,11nm,0.9s
MKAR Makanchi Array 40.27 311 P **P** **11 19 40.8 -0.7**
MKAR Makanchi Array 40.27 311 P **P** **11 19 40.7 -0.9**
comp=Z,7.8nm,0.6s,baz=97,slow=10,SNR=43
MKAR pP **pP** **11 20 08.8 +0.2**
comp=Z,9.2nm,0.7s,baz=101,slow=10.0,SNR=10.0
MKAR PcP **PcP** **11 21 43.2 +0.2**
comp=Z,4.6nm,0.5s,baz=91,slow=1.9,SNR=13
MKAR ScP **ScP** **11 25 21.5 +0.5**
comp=Z,0.9nm,0.7s,baz=75,slow=6.3,SNR=4.7
MKAR LR LR 11 37 51.3
comp=Z,47nm,18.4s,baz=83,slow=38
comp=Z,7.8nm,0.6s
MTN Manton Dam 40.43 175 P **P** **11 19 43.4 +0.3**
MTN Manton Dam 40.43 175 P **P** **11 19 43.0 0.0**
MTN IAmb IAmb 11 19 44.4
comp=Z,30nm,0.8s
MAKZ Makanchi 40.49 311 P **P** **11 19 42.2 -1.1**
MAKZ Makanchi 40.49 311 P **P** **11 19 42.2 -1.1**
MAKZ pmax pmax
comp=Z,18nm,1.1s
MAKZ Makanchi 40.49 311 P **P** **11 19 41.9 -1.4**
MAKZ pP **pP** **11 20 11.9 +1.4**
MAKZ sP **sP** **11 20 27.5 +3.3**
MAKZ PcP **PcP** **11 21 43.4 -0.2**
ZAA0 Zalesovo Array 40.85 322 P **P** **11 19 44.0 -2.1**
ZAA0 **pP** **11 20 13.6 +0.3**
ZALV Zalesovo Beam 40.85 322 P **P** **11 19 43.5 -2.6**
ZALV pP **pP** **11 20 12.4 -0.9**
ZALV Zalesovo Beam 40.85 322 P **P** **11 19 44.6 -1.5**
comp=Z,5.4nm,0.5s,baz=108,slow=8.9,SNR=18
ZALV pP **pP** **11 20 13.3 +0.1**
comp=Z,8.2nm,0.9s,baz=117,slow=8.5,SNR=4.2
ZALV PcP **PcP** **11 21 44.1 -0.5**
comp=Z,3.6nm,0.4s,baz=129,slow=2.1,SNR=9.0
ZALV ScP **ScP** **11 25 22.2 -0.7**
comp=Z,3.4nm,0.7s,baz=106,slow=4.0,SNR=10
comp=Z,5.4nm,0.5s
PMG Port Moresby 41.38 150 LR LR 11 35 47.2
comp=Z,97nm,21.1s,baz=208,slow=34
SHLS Shalkode 41.71 305 *e*P **P** **11 19 50.4 -3.2**
baz=305
SHLS Shalkode 41.71 305 *e*P **P** **11 19 50.3 -3.2**
UZB Uzynbulak 42.03 305 *e*P **P** **11 19 55.2 -0.9**
baz=305
UZB Uzynbulak 42.03 305 *e*P **P** **11 19 55.6 -0.5**
UZB pmax pmax
comp=Z,3.0nm,0.5s
SATY Saty 42.47 305 *e*P **P** **11 19 58.7 -1.1**
baz=304
SATY Saty 42.47 305 *e*P **P** **11 19 58.6 -1.1**
TDK Taldyqorghan 42.66 307 *e*P **P** **11 20 00.3 -0.8**
comp=Z,8.6nm,0.4s,baz=307
TDK Taldyqorghan 42.66 307 *e*P **P** **11 20 00.2 -0.8**
TDK pmax pmax
comp=Z,9.0nm,0.4s
ARXS Arharly 42.99 306 *e*P **P** **11 20 02.7 -1.1**
MDOK Medeo 43.47 305 *e*P **P** **11 20 06.9 -0.9**
baz=305
MDOK Medeo 43.47 305 *e*P **P** **11 20 06.8 -0.9**
KURK Kurchatov 43.49 316 P **P** **11 20 06.4 -1.2**
KURK **pP** **11 20 35.5 +0.5**
KURK Kurchatov 43.49 316 *ce*P **P** **11 20 08.4 +0.8**
KURK pmax pmax
comp=Z,12nm,1.7s
KURK Kurchatov 43.49 316 P **P** **11 20 06.9 -0.7**
KURK pP **pP** **11 20 36.9 +1.9**
KURK PcP **PcP** **11 21 53.4 -0.1**
KURBB Kurchatov Arra 43.53 316 P **P** **11 20 06.6 -1.3**
comp=Z,13nm,0.4s,baz=102,slow=9.0,SNR=68
KURBB pP **pP** **11 20 35.1 -0.2**
comp=Z,6.3nm,0.9s,baz=104,slow=8.1,SNR=4.0
KURBB PcP **PP** **11 21 52.3 +0.9**
comp=Z,6.4nm,0.9s,baz=110,slow=3.5,SNR=12
KURBB ScP **ScP** **11 25 33.3 -0.5**
comp=Z,0.1nm,0.3s,baz=98,slow=1.9,SNR=1.8
comp=Z,13nm,0.4s
TNSS Tian-Shan 43.53 304 *e*P **P** **11 20 07.3 -1.3**
baz=304
TNSS Tian-Shan 43.53 304 *e*P **P** **11 20 07.3 -1.3**
CHKK Chushkaly 43.56 306 *e*P **P** **11 20 07.8 -0.5**
baz=306
CHKK Chushkaly 43.56 306 *e*P **P** **11 20 07.8 -0.5**
TIXI Tiksi 44.00 0 P **P** **11 20 10.2 -1.1**
TIXI IAmb IAmb 11 21 55.6
comp=Z,14nm,0.7s
TIXI Tiksi 44.00 0 LR LR 11 38 49.9
comp=Z,39nm,20.0s,baz=191,slow=36
TIXI Tiksi 44.00 0 *ce*P **P** **11 20 11.1 -0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.0s
TIXI Tiksi 44.00 0 P **P** **11 20 11.7 +0.4**

TIXI PcP **PcP** **11 21 53.9 -0.9**
KSH Kashi 44.19 299 P **P** **11 20 18.0 +4.5**
KSH pP pP 11 20 44.4 +3.4
KSH PcP **PP** **11 21 58.8 0.0**
KSH SS SS 11 29 54.5 -5.3
KSH LR LR
comp=Z,3µm,16.7s
KSH LR LR
comp=Z,820nm,16.3s
AAK Ala-Archa 45.32 304 P **P** **11 20 22.1 -0.4**
comp=Z,2.4nm,0.5s,baz=50,slow=20,SNR=2.8
AAK PcP **PcP** **11 22 00.5 +0.4**
comp=Z,9.0nm,0.8s,baz=152,slow=1.3,SNR=6.6
AAK LR LR 11 40 51.7
comp=Z,35nm,20.1s,baz=96,slow=38
comp=Z,2.4nm,0.5s
BTLS Baital 45.74 307 *e*P **P** **11 20 25.3 -0.4**
baz=307
BTLS Baital 45.74 307 *e*P **P** **11 20 25.2 -0.4**
BTLS pmax pmax
comp=Z,4.0nm,0.6s
BILL Bilibino 46.41 19 P **P** **11 20 29.5 -1.0**
BILL IAmb IAmb 11 22 05.1
comp=Z,14nm,0.7s
BILL Bilibino 46.41 19 P **P** **11 20 30.1 -0.3**
BILL PcP **PcP** **11 22 04.1 +0.9**
NIL Nilore 46.83 291 P **P** **11 20 34.1 -0.2**
NIL IAmb IAmb 11 22 07.4
comp=Z,19nm,0.7s
NIL Nilore 46.83 291 P **P** **11 20 34.1 -0.2**
NIL pmax pmax
comp=Z,19nm,0.7s
BRZS Berezniki 47.11 314 *e*P **P** **11 20 36.3 0.0**
baz=314
BRZS Berezniki 47.11 314 *e*P **P** **11 20 37.1 +0.9**
BRZS pmax pmax
comp=Z,4.0nm,0.5s
DZA Taraz 47.65 304 *e*P **P** **11 20 40.1 -0.4**
comp=Z,4.5nm,0.5s,baz=304
DZA Taraz 47.65 304 *e*P **P** **11 20 40.1 -0.4**
DZA pmax pmax
comp=Z,4.0nm,0.5s
WRAB Tennant Creek 47.78 172 *i*P **P** **11 20 41.9 +0.3**
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WRA Warramunga Arr 47.78 172 P **P** **11 20 42.0 +0.3**
WRA Warramunga Arr 47.78 172 P **P** **11 20 42.4 +0.8**
comp=Z,5.7nm,0.6s,baz=354,slow=8.6,SNR=67
WRA pP **pP** **11 21 09.3 -0.4**
comp=Z,4.0nm,0.6s,baz=353,slow=8.3,SNR=6.5
WRA PcP **PcP** **11 22 09.6 +0.8**
comp=Z,0.9nm,0.9s,baz=345,slow=3.9,SNR=0.8
comp=Z,5.7nm,0.6s
KK31 Karatay Array 48.25 304 P **P** **11 20 44.9 -0.2**
KK31 Karatay Array 48.25 304 P **P** **11 20 44.9 -0.2**
KK31 pmax pmax
comp=Z,12nm,0.8s
KKAR Karatay Array 48.25 304 P **P** **11 20 44.1 -1.0**
KKAR pP **pP** **11 21 13.8 +0.7**
MTSU Mount Surprise 48.30 159 P **P** **11 20 46.0 +0.4**
IUG Iuzhnay 48.63 303 *e*P **P** **11 20 47.8 -0.3**
baz=303
IUG Iuzhnay 48.63 303 *e*P **P** **11 20 47.8 -0.3**
BRLS Boroldaу 48.75 304 *e*P **P** **11 20 49.4 +0.4**
baz=304
BRLS Boroldaу 48.75 304 *e*P **P** **11 20 49.3 +0.4**
PALK Pallekele 48.92 255 LR LR 11 43 25.6
comp=Z,35nm,18.6s,baz=180,slow=38
BVAR Borovoye Array 48.92 318 P **P** **11 20 49.2 -0.8**
comp=Z,11nm,0.5s,baz=74,slow=9.5,SNR=28
BVAR pP **pP** **11 21 18.1 +0.1**
comp=Z,3.4nm,0.8s,baz=80,slow=8.3,SNR=2.3
BVAR PcP **PcP** **11 22 12.5 0.0**
comp=Z,9.7nm,0.4s,baz=106,slow=3.1,SNR=16
BVAR ScP **ScP** **11 25 57.0 +0.7**
comp=Z,0.5nm,0.4s,baz=85,slow=1.7,SNR=2.4
BVAR LR LR 11 41 48.5
comp=Z,86nm,20.9s,baz=104,slow=36
comp=Z,11nm,0.5s
BRVK Borovoye 48.99 318 P **P** **11 20 48.7 -1.9**
BRVK IAmb IAmb 11 20 52.8
comp=Z,16nm,0.8s
BRVK Borovoye 48.99 318 *ce*P **P** **11 20 50.0 -0.6**
BRVK pmax pmax
comp=Z,21nm,1.0s
BRVK Borovoye 48.99 318 P **P** **11 20 49.1 -1.5**
BRVK pP **pP** **11 21 20.8 +2.2**
BRVK PcP **PcP** **11 22 12.8 +0.1**
QIS Mount Isa 49.32 165 P **P** **11 20 53.7 +0.3**
SIMJ Simiganj 49.65 299 P **P** **11 20 54.6 -1.4**
SIMJ IAmb IAmb 11 22 16.7
comp=Z,22nm,0.9s
KBL Kabul 50.15 293 P **P** **11 20 59.2 -0.8**
KBL IAmb IAmb 11 22 18.8
comp=Z,22nm,0.8s
KBL Kabul 50.15 293 P **P** **11 20 59.2 -0.8**
KBL pmax pmax
comp=Z,22nm,0.8s
AS31 Alice Springs 51.41 173 P **P** **11 21 09.3 +0.2**
ASAR Alice Springs 51.41 173 P **P** **11 21 10.2 +1.0**
comp=Z,2.9nm,0.5s,baz=354,slow=8.2,SNR=79
ASAR pP **pP** **11 21 37.5 0.0**
comp=Z,3.6nm,0.6s,baz=1.5,slow=11,SNR=7.4
ASAR ScP **ScP** **11 26 08.5 +1.2**
comp=Z,0.5nm,0.8s,baz=352,slow=5.6,SNR=4.0
ASAR LR LR 11 42 49.5
comp=Z,48nm,20.6s,baz=114,slow=36
comp=Z,2.9nm,0.5s
AS01 Alice Springs 51.41 173 P **P** **11 21 10.6 +1.5**
SPIA Saint Paul Isl 52.06 38 P **P** **11 21 13.8 +0.2**
baz=263
P08K Saint George I 52.38 38 P **P** **11 21 15.9 0.0**
baz=264
NIKH Nikolski High 52.50 43 P **P** **11 21 17.2 +0.3**
baz=267
GAMB Gambell 52.54 29 P **P** **11 21 17.4 +0.5**
baz=257
UNV Unalaska Valle 53.94 42 P **P** **11 21 27.6 +0.2**
baz=269
TNA Tin City 54.51 27 P **P** **11 21 31.7 +0.4**
baz=259
M11K Mekoryuk 54.52 34 P **P** **11 21 31.9 +0.4**
baz=264
F14K Arctic Creek 55.15 28 P **P** **11 21 36.1 +0.1**
baz=260,SNR=9.1
ABKAR Akbulak array 55.36 312 P **P** **11 21 36.3 -1.4**
ANM Nome 55.41 29 IAmb IAmb 11 21 39.8
comp=Z,21nm,0.7s
ANM Nome 55.41 29 P **P** **11 21 38.3 +0.5**
baz=262,SNR=5.0
K13K Kusilvak Mount 55.42 32 P **P** **11 21 38.2 +0.2**
baz=264
F15K North Star Dit 55.88 28 IAmb IAmb 11 21 42.9
comp=Z,19nm,0.8s
F15K North Star Dit 55.88 28 P **P** **11 21 41.6 +0.4**
baz=262,SNR=6.9
M13K Dall Lake 55.94 34 P **P** **11 21 41.6 0.0**
baz=267
ARU Arti 56.00 321 P **P** **11 21 40.4 -1.8**
comp=Z,4.5nm,0.2s,baz=111,slow=14,SNR=3.7
ARU PcP **PcP** **11 22 37.8 -1.3**
comp=Z,5.3nm,0.2s,baz=39,slow=2.9,SNR=5.9
comp=Z,4.5nm,0.2s
ARU Arti 56.00 321 *i*P **P** **11 21 42.0 -0.2**
ARU pmax pmax
comp=Z,11nm,1.3s
J14K Nanvaranak Lak 56.01 31 IAmb IAmb 11 21 43.9
comp=Z,23nm,1.0s
J14K Nanvaranak Lak 56.01 31 P **P** **11 21 42.5 +0.4**
baz=265
C16K Lisburne Hills 56.02 24 IAmb IAmb 11 21 42.8
comp=Z,9.7nm,0.8s
C16K Lisburne Hills 56.02 24 P **P** **11 21 42.0 -0.2**
baz=260
G15K Niukluk 56.04 28 P **P** **11 21 42.8 +0.5**
baz=263,SNR=11
L14K Kuka Creek 56.32 33 P **P** **11 21 45.4 +1.1**
L14K Kuka Creek 56.32 33 P **P** **11 21 45.4 +1.1**
baz=267,SNR=10
S12K Black Hills 56.52 40 P **P** **11 21 46.4 +0.5**
baz=271
AKTO Aktyubinsk 56.53 314 P **P** **11 21 46.6 +0.5**
comp=Z,2.6nm,0.8s,baz=74,slow=13,SNR=4.3
AKTO PcP **PcP** **11 22 40.9 -0.5**
comp=Z,3.9nm,0.5s,baz=112,slow=3.5,SNR=5.8
AKTO LR LR 11 45 57.0
comp=Z,43nm,18.1s,baz=261,slow=36
comp=Z,2.6nm,0.8s
M14K Bethel 56.64 34 P **P** **11 21 47.5 +0.9**
M14K IAmb IAmb 11 21 48.6
comp=Z,26nm,1.0s
M14K Bethel 56.64 34 P **P** **11 21 47.0 +0.5**
baz=268
N14K Kuskokwak Cree 56.75 35 P **P** **11 21 48.2 +0.8**
baz=268
H16K Elim 56.76 29 P **P** **11 21 48.0 +0.6**
baz=265,SNR=15
D17K Noatak River 56.77 25 P **P** **11 21 47.9 +0.5**
baz=262,SNR=7.6
G16K Koyuk River 56.79 28 P **P** **11 21 48.1 +0.5**
baz=264
C17K DeLong Mountai 56.85 24 P **P** **11 21 47.9 -0.1**
baz=262
L15K Ungalak Mounta 56.91 33 P **P** **11 21 48.8 +0.3**
baz=268
K15K Wolf Creek Mou 56.91 32 IAmb IAmb 11 21 50.7
comp=Z,13nm,0.8s
K15K Wolf Creek Mou 56.91 32 P **P** **11 21 49.1 +0.5**
baz=267,SNR=5.5
O14K Tigyukauivet M 56.95 35 P **P** **11 21 49.1 +0.3**
baz=269
E17K Hotham Inlet 57.18 26 P **P** **11 21 50.8 +0.4**
baz=264,SNR=8.1
M15K Kasigluk River 57.26 34 P **P** **11 21 51.2 +0.2**
baz=269,SNR=5.2
F17K Baldwin Pennin 57.34 27 P **P** **11 21 52.3 +0.8**
baz=265,SNR=6.7
I17K Unalakleet 57.38 30 P **P** **11 21 52.5 +0.7**
baz=267,SNR=9.6
J16K Anvik River 57.39 31 IAmb IAmb 11 21 53.7
comp=Z,12nm,0.8s
J16K Anvik River 57.39 31 P **P** **11 21 53.0 +1.1**
baz=267,SNR=5.5
SDPT Sand Point 57.43 40 P **P** **11 21 52.8 +0.5**
baz=272
B18K Kokolik River 57.47 23 P **P** **11 21 52.7 +0.3**
baz=262
G17K Kiwalik Mounta 57.51 28 P **P** **11 21 53.2 +0.5**
baz=266,SNR=17
N15K Kwethluk River 57.55 34 P **P** **11 21 54.0 +0.9**
baz=270,SNR=7.6
C18K Utukok River 57.59 24 IAmb IAmb 11 21 54.1
comp=Z,11nm,0.7s
C18K Utukok River 57.59 24 P **P** **11 21 53.0 -0.3**
baz=263
E18K Tukpahlearik C 57.69 26 IAmb IAmb 11 21 55.5
comp=Z,11nm,0.8s
E18K Tukpahlearik C 57.69 26 P **P** **11 21 54.0 +0.1**
baz=265,SNR=9.5
O15K Ungalikthiuk R 57.69 36 P **P** **11 21 54.9 +0.8**
baz=271
H17K Granite Mounta 57.78 29 IAmb IAmb 11 21 56.4
comp=Z,35nm,1.2s
H17K Granite Mounta 57.78 29 P **P** **11 21 55.5 +0.9**
baz=267,SNR=14
A19K Wainwright 57.83 22 P **P** **11 21 55.9 +1.1**
baz=262
L16K Owhat River 57.87 32 IAmb IAmb 11 21 56.4
comp=Z,11nm,0.8s
L16K Owhat River 57.87 32 P **P** **11 21 55.9 +0.7**
baz=269,SNR=7.2
S14K Fog Glacier 57.91 39 P **P** **11 21 56.4 +0.6**
baz=273
CHNA Chernabura Isl 57.97 41 P **P** **11 21 55.9 -0.2**
baz=274
CNBA Chernabura Isl 57.97 41 P **P** **11 21 55.6 -0.5**
F18K Selawik 57.99 27 P **P** **11 21 56.8 +0.7**
baz=266,SNR=24
J17K VABM Dome 58.08 31 P **P** **11 21 57.9 +1.2**
baz=269,SNR=27
M16K Timber Creek 58.11 33 IAmb IAmb 11 21 58.9
comp=Z,11nm,0.8s
M16K Timber Creek 58.11 33 P **P** **11 21 57.8 +0.8**
baz=270
N16K Nishlik Lake 58.21 34 P **P** **11 21 58.6 +0.9**
baz=271,SNR=8.9
C19K Lookout Ridge 58.22 24 IAmb IAmb 11 22 50.0
comp=Z,10nm,0.8s
C19K Lookout Ridge 58.22 24 P **P** **11 21 58.3 +0.6**
baz=265
GEYT Alibeck 58.22 299 P **P** **11 21 57.8 -0.4**
comp=Z,2.4nm,0.5s,baz=15,slow=6.4,SNR=4.0
GEYT PcP **PcP** **11 22 48.8 +0.5**
comp=Z,4.4nm,0.6s,baz=11,slow=1.5,SNR=5.6
GEYT LR LR 11 51 35.7
comp=Z,39nm,18.3s,baz=84,slow=41
comp=Z,2.4nm,0.5s
G18K Tagagawik 58.35 28 P **P** **11 21 59.0 +0.4**
baz=268,SNR=38
K17K Iditarod 58.42 31 P **P** **11 22 00.4 +1.2**
baz=270,SNR=16
L17K Donlin 58.42 32 P **P** **11 22 00.8 +1.6**
baz=270,SNR=13
H18K Honhosa River 58.45 28 IAmb IAmb 11 22 00.8
comp=Z,16nm,0.9s
H18K Honhosa River 58.45 28 P **P** **11 21 59.8 +0.5**
baz=268,SNR=9.9
CHGN Chignik 58.55 39 P **P** **11 21 60.0 -0.1**
baz=274
O16K Kokwok River B 58.56 35 IAmb IAmb 11 22 02.1
comp=Z,21nm,0.9s
O16K Kokwok River B 58.56 35 P **P** **11 22 01.2 +1.0**
baz=272,SNR=7.1
P16K Nushagak River 58.64 36 P **P** **11 22 01.6 +1.0**
baz=272
D19K Kuna River 58.71 25 P **P** **11 22 01.3 +0.2**
baz=266,SNR=16
F19K Shaleruckik Mo 58.75 26 IAmb IAmb 11 22 01.8
comp=Z,8.1nm,0.7s
F19K Shaleruckik Mo 58.75 26 P **P** **11 22 01.4 +0.1**
baz=268,SNR=14
M17K Holitna River 58.84 33 P **P** **11 22 03.5 +1.4**
baz=271,SNR=12
R16K Pilot Point 58.93 37 P **P** **11 22 03.9 +1.2**
baz=274
E19K Redstone River 58.99 26 IAmb IAmb 11 22 04.3
comp=Z,19nm,0.8s
E19K Redstone River 58.99 26 P **P** **11 22 03.6 +0.7**
baz=268,SNR=35
N17K Nushagak Hills 58.99 34 IAmb IAmb 11 22 05.5
comp=Z,20nm,0.9s
N17K Nushagak Hills 58.99 34 P **P** **11 22 04.4 +1.3**
baz=272,SNR=9.6
G19K Purcell Mounta 59.00 27 IAmb IAmb 11 22 04.4
comp=Z,26nm,1.2s
G19K Purcell Mounta 59.00 27 P **P** **11 22 03.3 +0.2**
baz=269,SNR=12
O17K Koliganek Bris 59.06 35 P **P** **11 22 04.3 +0.7**
baz=273
GCSA Galena City Sc 59.07 29 P **P** **11 22 03.7 +0.2**
baz=270
J18K Innoko River 59.15 30 IAmb IAmb 11 22 05.7
comp=Z,12nm,1.0s
J18K Innoko River 59.15 30 P **P** **11 22 04.6 +0.5**
baz=271,SNR=8.2
B20K Meade River 59.15 23 P **P** **11 22 04.1 +0.1**
baz=266
L18K Granite Mounta 59.18 32 P **P** **11 22 05.7 +1.4**
baz=272,SNR=17
H19K Roundabout Mou 59.26 28 P **P** **11 22 05.7 +0.9**
baz=270,SNR=58
D20K Etivluk River 59.27 24 P **P** **11 22 05.4 +0.5**
baz=268,SNR=18
Q16K King Salmon 59.35 36 P **P** **11 22 06.2 +0.6**
baz=274
E20K Nigu River 59.41 25 P **P** **11 22 06.3 +0.4**
baz=268,SNR=38
A21K Barrow 59.41 21 P **P** **11 22 06.9 +1.1**
baz=266
P17K Kvichak River 59.43 35 P **P** **11 22 06.7 +0.7**
baz=274,SNR=7.0
F20K Avaraart Lake 59.56 26 IAmb IAmb 11 22 09.4
comp=Z,8.2nm,0.7s
F20K Avaraart Lake 59.56 26 P **P** **11 22 07.1 +0.3**
baz=270
M18K Stony River 59.61 33 P **P** **11 22 08.3 +1.0**
baz=273,SNR=9.8
N18K Kilae Creek 59.62 34 IAmb IAmb 11 22 09.7
comp=Z,12nm,0.9s
N18K Kilae Creek 59.62 34 P **P** **11 22 08.7 +1.2**
baz=273,SNR=6.8
J19K Poorman 59.62 30 P **P** **11 22 08.1 +0.8**
baz=271,SNR=43
H20K Anotleneega Mo 59.91 28 P **P** **11 22 10.1 +0.8**
baz=271,SNR=34
A22K Sinclair Lake 59.93 22 P **P** **11 22 09.5 +0.2**
baz=268
C21K Knifeblade Rid 59.94 24 P **P** **11 22 10.2 +0.7**
baz=269,SNR=9.5
O18K Koktuh Hills 60.01 35 P **P** **11 22 11.3 +1.2**
baz=274,SNR=12
B21K Ikpikpuk River 60.01 23 IAmb IAmb 11 22 11.3
comp=Z,16nm,0.7s
B21K Ikpikpuk River 60.01 23 P **P** **11 22 10.4 +0.5**
baz=269,SNR=14
P18K Big Mountain, 60.03 35 IAmb IAmb 11 22 12.1
comp=Z,18nm,0.8s
P18K Big Mountain, 60.03 35 P **P** **11 22 11.0 +0.7**
baz=274
L19K White Mountain 60.04 32 IAmb IAmb 11 22 12.4
comp=Z,18nm,0.8s
L19K White Mountain 60.04 32 P **P** **11 22 11.4 +1.1**
baz=273,SNR=13
I20K Naaghedeneel 60.10 29 P **P** **11 22 12.0 +1.5**
baz=272,SNR=22
CHIR Chirikof Islan 60.15 39 P **P** **11 22 11.7 +0.7**
baz=276
E21K Killik River 60.23 25 P **P** **11 22 11.9 +0.3**
baz=270
J20K Nowinta River 60.26 30 P **P** **11 22 13.0 +1.3**
baz=273,SNR=54
M19K Big River Lodg 60.27 32 P **P** **11 22 13.2 +1.3**
baz=274,SNR=6.6
N19K Bonanza Creek 60.30 33 IAmb IAmb 11 22 58.8
comp=Z,12nm,0.8s
N19K Bonanza Creek 60.30 33 P **P** **11 22 13.4 +1.2**
baz=274
K20K Telida 60.34 31 P **P** **11 22 13.7 +1.4**
baz=273,SNR=43
O19K Port Alsworth 60.43 34 P **P** **11 22 13.8 +0.9**
baz=275,SNR=7.8
B22K Teshekpuk Lake 60.43 22 IAmb IAmb 11 22 13.8
comp=Z,16nm,0.7s
B22K Teshekpuk Lake 60.43 22 P **P** **11 22 13.0 +0.3**
baz=270,SNR=8.2
F21K Alatna River 60.44 26 P **P** **11 22 13.4 +0.4**
baz=271,SNR=9.3
G21K Allakaket 60.45 27 P **P** **11 22 13.7 +0.7**
baz=272,SNR=36
L20K Farewell, AK 60.48 32 P **P** **11 22 14.5 +1.2**
baz=274,SNR=28
STKA Stephens Creek 60.69 167 P **P** **11 22 15.5 +0.5**
STKA Stephens Creek 60.69 167 P **P** **11 22 15.8 +0.8**
STKA Stephens Creek 60.69 167 P **P** **11 22 16.0 +1.0**
comp=Z,5.3nm,0.6s,baz=348,slow=6.6,SNR=18
STKA LR LR 11 49 08.4
comp=Z,62nm,20.5s,baz=34,slow=36
comp=Z,5.3nm,0.6s
STKA Stephens Creek 60.69 167 P **P** **11 22 15.8 +0.8**
STKA pmax pmax
comp=Z,1.0nm,0.7s
D22K Ayikyak River 60.70 24 P **P** **11 22 15.4 +0.7**
baz=271,SNR=31
H21K Melozitna River 60.77 28 P **P** **11 22 16.2 +1.0**
baz=273,SNR=36
SII Sitkinak Islan 60.86 38 P **P** **11 22 18.1 +2.1**
SII Sitkinak Islan 60.86 38 P **P** **11 22 16.8 +0.8**
baz=277,SNR=5.3
M20K Styx River 60.87 32 IAmb IAmb 11 22 18.3
comp=Z,15nm,0.7s
M20K Styx River 60.87 32 P **P** **11 22 17.4 +1.4**
baz=275
Q19K Cape Douglas, 60.89 36 P **P** **11 22 16.0 -0.2**
baz=276
F22K John River 60.93 26 P **P** **11 22 17.3 +1.0**
baz=272
P19K Oil Pt 61.03 35 P **P** **11 22 17.3 +0.3**
baz=276
ILSW Iliamna Southw 61.04 34 IAmb IAmb 11 22 22.0
comp=Z,14nm,1.2s
E22K Anaktuvuk Pass 61.05 25 IAmb IAmb 11 22 18.6
comp=Z,22nm,0.8s
E22K Anaktuvuk Pass 61.05 25 P **P** **11 22 17.7 +0.7**
baz=272
CHUM Lake Minchumin 61.09 30 P **P** **11 22 18.6 +1.3**
baz=274,SNR=23
I21K Tanana 61.14 28 P **P** **11 22 18.1 +0.5**
I21K Tanana 61.14 28 P **P** **11 22 18.9 +1.3**
baz=274
G22K Bettles 61.22 26 P **P** **11 22 18.5 +0.3**
baz=273
PPLA Purkeypile 61.22 31 P **P** **11 22 19.6 +1.1**
baz=275,SNR=7.4
CAST Castle Rocks 61.23 30 P **P** **11 22 19.2 +0.9**
baz=275,SNR=31
OHAK Old Harbor 61.27 37 P **P** **11 22 20.5 +1.9**
OHAK Old Harbor 61.27 37 P **P** **11 22 18.9 +0.3**
OHAK IAmb IAmb 11 22 19.9
comp=Z,20nm,0.7s
OHAK Old Harbor 61.27 37 P **P** **11 22 18.9 +0.3**
baz=277,SNR=6.7
O20K Slope Mountain 61.29 34 P **P** **11 22 19.6 +0.8**
baz=276
H22K Ishtalitna Cre 61.34 28 P **P** **11 22 20.4 +1.3**
baz=274
N20K Mount Spurr 61.37 33 P **P** **11 22 20.2 +0.8**
baz=276,SNR=16
C23K Ikkillik River 61.40 23 P **P** **11 22 19.6 +0.3**
baz=273,SNR=8.2
D23K Nanushuk River 61.42 24 P **P** **11 22 20.2 +0.7**
baz=273
Q20K Shuyak Island 61.57 36 P **P** **11 22 20.5 -0.1**
baz=277
KDAK Kodiak Island 61.58 37 P **P** **11 22 21.3 +0.6**
KDAK Kodiak Island 61.58 37 P **P** **11 22 21.0 +0.3**
baz=278
KDAK Kodiak Island 61.58 37 P **P** **11 22 21.3 +0.6**
KDAK pmax pmax
comp=Z,58nm,0.8s
KDAK Kodiak Island 61.58 37 P **P** **11 22 21.0 +0.3**
KDAK PcP **PcP** **11 23 01.3 +0.1**
SKT Skwentna 61.61 32 IAmb IAmb 11 22 22.0
comp=Z,19nm,1.0s
SKT Skwentna 61.61 32 P **P** **11 22 21.2 +0.2**
baz=276,SNR=9.2
BPAW Bear Paw Mtn. 61.65 30 P **P** **11 22 21.6 +0.4**
BPAW IAmb IAmb 11 22 23.0
comp=Z,15nm,0.7s
BPAW Bear Paw Mtn. 61.65 30 P **P** **11 22 22.1 +0.9**
baz=275,SNR=22
MLY Manley 61.67 28 IAmb IAmb 11 22 23.2
comp=Z,19nm,0.7s
MLY Manley 61.67 28 P **P** **11 22 22.4 +1.1**
baz=275,SNR=49
COLD Coldfoot 61.71 26 P **P** **11 22 22.1 +0.6**
baz=274,SNR=8.7
KTH Kantishna Hill 61.73 30 IAmb IAmb 11 22 23.5
comp=Z,19nm,1.1s
G23K Bananza Creek 61.82 27 P **P** **11 22 23.1 +0.8**
baz=275,SNR=17
HOM Homer 61.83 35 P **P** **11 22 23.1 +0.7**
baz=277
TOLK Toolik Lake Re 61.84 24 IAmb IAmb 11 22 23.9
comp=Z,13nm,0.8s
TOLK Toolik Lake Re 61.84 24 P **P** **11 22 23.0 +0.6**
baz=274,SNR=12
WSAR Wadi Sarin 61.86 283 P **P** **11 22 23.5 +0.3**
comp=Z,5.4nm,0.9s,baz=62,slow=6.6,SNR=2.5
WSAR PcP **PcP** **11 23 03.6 +0.5**
comp=Z,6.6nm,0.8s,baz=150,slow=3.9,SNR=3.7
comp=Z,5.4nm,0.9s
E23K Chandalar 61.87 25 P **P** **11 22 23.6 +1.0**
baz=274
CAPN Captain Cook N 61.93 33 P **P** **11 22 24.0 +1.0**
baz=277
TRF Thorofare Moun 62.03 30 IAmb IAmb 11 22 27.7
comp=Z,14nm,1.2s
TRF Thorofare Moun 62.03 30 P **P** **11 22 24.0 +0.1**
baz=276,SNR=7.4
SUA Susitna One 62.04 33 P **P** **11 22 23.9 0.0**
baz=277,SNR=12
CNPM China Poot 62.05 35 IAmb IAmb 11 22 26.8
comp=Z,28nm,1.0s
C24K Franklin Bluff 62.08 23 P **P** **11 22 24.2 +0.4**
baz=274
D24K Happy Valley 62.08 24 P **P** **11 22 24.5 +0.6**
baz=275,SNR=31
H23K Yukon River 62.10 28 P **P** **11 22 25.6 +1.5**
baz=276,SNR=50
CUT Chulitna 62.16 31 P **P** **11 22 24.6 +0.1**
baz=277,SNR=5.2
I23K Minto, Yukon-K 62.24 28 IAmb IAmb 11 22 26.8
comp=Z,28nm,1.2s

I23K	**Minto, Yukon-K**	62.24	28	P	P	11 22 26.1	+1.0
	baz=276,SNR=20						
BRSE	**Bradley Lake S**	62.27	34	P	P	11 22 26.1	+0.7
	baz=278,SNR=6.3						
E24K	**Your Creek**	62.29	25	IAmb	IAmb	11 22 27.2	
	comp=Z,18nm,0.7s						
E24K	**Your Creek**	62.29	25	P	P	11 22 26.2	+0.7
	baz=276						
M22K	**Willow**	62.30	32	P	P	11 22 25.4	0.0
	baz=277,SNR=13						
NEA2	**Nenana**	62.43	29	P	P	11 22 27.0	+0.7
	baz=277,SNR=76						
F24K	**Squaw Lake**	62.58	26	P	P	11 22 28.3	+0.9
	baz=276,SNR=38						
RC01	**Rabbit Creek A**	62.58	33	P	P	11 22 27.1	-0.2
	baz=278						
MCK	**McKinley**	62.59	30	P	P	11 22 27.2	-0.3
	baz=277,SNR=18						
O22K	**Cooper Landing**	62.67	34	P	P	11 22 27.9	-0.1
	baz=278						
BELG	**Belogornoye**	62.73	317	P	P	11 22 26.8	-1.7
	comp=Z,10nm,0.8s,baz=30,slow=4.0,SNR=4.5						
BELG				PcP	PcP	11 23 05.5	-0.5
	comp=Z,14nm,0.6s,baz=48,slow=3.4,SNR=5.5						
BELG				LR	LR	11 51 43.5	
	comp=Z,61nm,18.2s,baz=64,slow=38						
	comp=Z,10nm,0.8s						
BELG	**Belogornoye**	62.73	317	*i* P	P	11 22 27.7	-0.8
BELG				pmax	pmax		
	comp=Z,2.0nm,0.8s						
H24K	**Noodor Dome**	62.78	27	IAmb	IAmb	11 22 30.9	
	comp=Z,22nm,0.8s						
H24K	**Noodor Dome**	62.78	27	P	P	11 22 30.0	+1.3
	baz=277,SNR=35						
PMR	**Palmer**	62.80	32	P	P	11 22 30.4	+1.7
PMR	**Palmer**	62.80	32	P	P	11 22 28.2	-0.5
PMR				IAmb	IAmb	11 22 29.6	
	comp=Z,10nm,0.7s						
PMR	**Palmer**	62.80	32	P	P	11 22 28.7	0.0
	baz=278,SNR=9.6						
PMR	**Palmer**	62.80	32	P	P	11 22 28.3	-0.5
PMR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
G24K	**Hadweenzic Riv**	62.83	26	P	P	11 22 30.2	+1.2
	baz=277,SNR=17						
SEW	**Seward**	62.86	34	P	P	11 22 29.2	+0.1
	baz=279,SNR=6.9						
WRH	**Wood River Hil**	62.87	29	IAmb	IAmb	11 22 32.1	
	comp=Z,15nm,0.7s						
GHO	**Glory Hole Cre**	62.87	32	IAmb	IAmb	11 22 30.4	
	comp=Z,13nm,0.8s						
COLA	**College**	62.91	29	P	P	11 22 31.4	+1.9
COLA	**College**	62.91	29	P	P	11 22 30.2	+0.7
COLA	**College**	62.91	29	P	P	11 22 29.7	+0.2
	baz=278						
COLA	**College**	62.91	29	P	P	11 22 30.2	+0.7
COLA				pmax	pmax		
	comp=Z,22nm,0.6s						
COLA	**College**	62.91	29	P	P	11 22 29.7	+0.2
COLA				PcP	PcP	11 23 07.0	+0.5
D25K	**Kavik River**	62.93	23	IAmb	IAmb	11 22 31.0	
	comp=Z,12nm,0.8s						
D25K	**Kavik River**	62.93	23	P	P	11 22 30.0	+0.4
	baz=277,SNR=15						
CCB	**Clear Creek Bu**	62.96	29	IAmb	IAmb	11 22 31.0	
	comp=Z,14nm,0.6s						
POKR	**Poker Flat Res**	63.06	28	P	P	11 22 31.6	+1.1
	baz=278,SNR=48						
SML	**Sawmill**	63.14	32	P	P	11 22 31.2	0.0
SML				IAmb	IAmb	11 22 32.3	
	comp=Z,21nm,0.8s						
SML	**Sawmill**	63.14	32	P	P	11 22 31.2	0.0
	baz=279,SNR=9.8						
SML	**Sawmill**	63.14	32	P	P	11 22 31.2	0.0
SML				pmax	pmax		
	comp=Z,21nm,0.8s						
KNK	**Knik Glacier**	63.14	32	P	P	11 22 31.2	+0.1
	baz=279,SNR=12						
WAT6	**Susitna Watana**	63.29	31	P	P	11 22 32.2	0.0
	baz=279,SNR=14						
IL31		63.34	29	P	P	11 22 31.6	-0.7
IL31				IAmb	IAmb	11 22 34.5	
	comp=Z,9.5nm,0.7s						
ILAR	**Eielson Array**	63.34	29	P	P	11 22 31.6	-0.7
	comp=Z,5.0nm,0.7s,baz=266,slow=4.0,SNR=94						
	comp=Z,5.0nm,0.7s						
C26K	**Camden Bay**	63.36	23	P	P	11 22 33.5	+1.2
	baz=278						
G25K	**Bearman Lake**	63.37	26	P	P	11 22 33.9	+1.5
	baz=278,SNR=12						
HDA	**Harding Lake**	63.37	29	P	P	11 22 31.8	-0.7
	baz=279,SNR=46						
E25K	**Arctic Village**	63.38	25	P	P	11 22 33.7	+1.1
	baz=278,SNR=8.6						
DHY	**Denali Highway**	63.38	30	P	P	11 22 32.5	-0.3
	baz=279,SNR=9.8						
F25K	**Christian Rive**	63.42	25	P	P	11 22 34.5	+1.6
	baz=278,SNR=30						
M23K	**Glacier View**	63.43	32	P	P	11 22 33.1	+0.1
	baz=279,SNR=8.7						
H25L	**Birch Creek**	63.55	27	P	P	11 22 35.1	+1.4
	baz=279,SNR=20						
SCM	**Sheep Creek Mo**	63.61	32	IAmb	IAmb	11 22 35.6	
	comp=Z,30nm,0.9s						
SCM	**Sheep Creek Mo**	63.61	32	P	P	11 22 34.7	+0.5
	baz=280,SNR=16						
FYU	**Fort Yukon**	63.74	26	IAmb	IAmb	11 22 40.8	
	comp=Z,56nm,1.7s						
PRP	**Porcupine Dome**	63.79	28	IAmb	IAmb	11 22 37.5	
	comp=Z,15nm,0.7s						
PRP	**Porcupine Dome**	63.79	28	P	P	11 22 35.3	-0.2
	baz=280,SNR=23						
C27K	**Jago River**	63.82	23	P	P	11 22 36.3	+0.9
	baz=279,SNR=5.8						
BMAR	**Burnt Mountain**	63.85	25	P	P	11 22 36.7	+1.0
GLI	**Glacier Island**	63.88	33	IAmb	IAmb	11 22 37.1	
	comp=Z,25nm,0.8s						
GLI	**Glacier Island**	63.88	33	P	P	11 22 36.1	+0.2
	baz=280,SNR=5.7						
P23K	**Montague Islan**	63.89	34	P	P	11 22 36.1	0.0
	baz=281						
K24K	**Donnelly Dome**	63.97	30	P	P	11 22 36.5	0.0
	baz=280,SNR=17						
F26K	**Sheenjek River**	63.97	25	P	P	11 22 37.9	+1.4
	baz=280,SNR=35						
J25K	**Salcha River,**	64.01	29	P	P	11 22 35.4	-1.4
	baz=280,SNR=13						
M24K	**Tolsona, Glenn**	64.09	31	P	P	11 22 38.4	+1.0
	baz=281,SNR=9.0						
FID	**Port Fidalgo**	64.20	33	IAmb	IAmb	11 22 38.8	
	comp=Z,16nm,0.7s						
G26K	**Porcupine Rive**	64.24	26	P	P	11 22 39.5	+1.4
	baz=280,SNR=14						
PAX	**Paxson**	64.26	30	P	P	11 22 38.7	+0.2
	baz=281,SNR=26						
KLU	**Klutina**	64.33	32	IAmb	IAmb	11 22 40.4	
	comp=Z,15nm,0.8s						
KLU	**Klutina**	64.33	32	P	P	11 22 39.4	+0.4
	baz=281,SNR=8.8						
HARP	**HAARP**	64.51	31	P	P	11 22 41.0	+1.0
	baz=281,SNR=7.9						
EYAK	**Cordova Ski Ar**	64.59	33	P	P	11 22 42.7	+2.1
EYAK	**Cordova Ski Ar**	64.59	33	P	P	11 22 40.3	-0.2
	baz=282						
SCRK	**Sand Creek**	64.72	29	P	P	11 22 41.5	0.0
	baz=282,SNR=42						
J26L	**Joseph Creek**	64.79	29	P	P	11 22 41.6	-0.3
	baz=282,SNR=70						
I26K	**Coal Creek Min**	64.80	28	IAmb	IAmb	11 22 42.6	
	comp=Z,14nm,0.8s						
I26K	**Coal Creek Min**	64.80	28	P	P	11 22 41.8	-0.1
	baz=282						
E27K	**Coleen River**	64.83	24	IAmb	IAmb	11 22 44.1	
	comp=Z,13nm,0.8s						
E27K	**Coleen River**	64.83	24	P	P	11 22 42.9	+0.9
	baz=282,SNR=13						
D27M	**Malcolm River**	64.84	23	P	P	11 22 43.2	+1.0
	baz=282						
N25K	**Chitina, Valde**	64.92	32	P	P	11 22 43.6	+0.8
	baz=282,SNR=9.3						
MENT	**Mentasta**	65.05	30	P	P	11 22 44.6	+1.0
BMRM	**Bremner River**	65.06	33	P	P	11 22 44.4	+0.7
	baz=282,SNR=15						
G27K	**Doyon Strip**	65.09	26	P	P	11 22 45.0	+1.3
	baz=282,SNR=14						
L26K	**Log Cabin Wild**	65.19	30	IAmb	IAmb	11 22 46.3	
	comp=Z,20nm,0.8s						
L26K	**Log Cabin Wild**	65.19	30	P	P	11 22 45.3	+0.8
	baz=282,SNR=24						
H27K	**Steamboat Moun**	65.27	27	P	P	11 22 46.3	+1.4
	baz=283,SNR=23						
GLB	**Gilahina Butte**	65.33	32	IAmb	IAmb	11 22 47.0	
	comp=Z,21nm,0.7s						
I27K	**Kandik River**	65.37	27	P	P	11 22 46.8	+1.2
	baz=283,SNR=37						
KAIM	**Kayak Island**	65.38	34	P	P	11 22 46.5	+0.9
	baz=283						
E28M	**Babbage River**	65.48	24	IAmb	IAmb	11 22 48.2	
	comp=Z,16nm,0.9s						
E28M	**Babbage River**	65.48	24	P	P	11 22 47.1	+0.9
	baz=283,SNR=12						
M26K	**Nabesna, AK**	65.49	31	P	P	11 22 47.4	+0.9
	baz=283,SNR=58						
K27K	**Chicken**	65.53	29	IAmb	IAmb	11 22 48.5	
	comp=Z,21nm,0.8s						
K27K	**Chicken**	65.53	29	P	P	11 22 47.6	+1.0
	baz=283						
F28M	**Old Crow**	65.59	25	IAmb	IAmb	11 22 49.1	
	comp=Z,21nm,0.9s						
F28M	**Old Crow**	65.59	25	P	P	11 22 48.0	+1.0
	baz=284,SNR=20						
D28M	**Stokes Point**	65.59	23	P	P	11 22 47.8	+1.0
	baz=284						
MCARA	**McCarthy VSAT**	65.71	32	P	P	11 22 48.8	+0.9
	baz=284,SNR=20						
EGAK	**Eagle**	65.74	28	IAmb	IAmb	11 22 49.1	
	comp=Z,16nm,0.8s						
EGAK	**Eagle**	65.74	28	P	P	11 22 48.2	+0.2
	baz=284,SNR=23						
L27K	**Beaver Creek,**	65.86	30	IAmb	IAmb	11 22 50.9	
	comp=Z,17nm,0.8s						
L27K	**Beaver Creek,**	65.86	30	P	P	11 22 49.9	+1.1
	baz=284,SNR=29						
BCAR	**Beaver Creek A**	65.88	30	P	P	11 22 49.8	+0.8
BGLC	**Bering Glacier**	65.89	33	P	P	11 22 49.0	+0.1
	baz=284						
M27K	**Edge Creek, AK**	66.01	31	IAmb	IAmb	11 22 51.5	
	comp=Z,24nm,0.8s						
M27K	**Edge Creek, AK**	66.01	31	P	P	11 22 50.6	+0.7
	baz=284,SNR=27						
WAX	**Waxell Ridge**	66.02	33	IAmb	IAmb	11 22 51.5	
	comp=Z,29nm,0.8s						
I28M	**Miner Creek**	66.08	27	IAmb	IAmb	11 22 52.4	
	comp=Z,28nm,0.8s						
I28M	**Miner Creek**	66.08	27	P	P	11 22 51.5	+1.2
	baz=284,SNR=60						
E29M	**Blow River**	66.12	24	P	P	11 22 51.1	+0.8
	baz=285,SNR=11						
ISLE	**Juniper Island**	66.22	33	P	P	11 22 51.0	-0.3
ISLE				IAmb	IAmb	11 22 52.4	
	comp=Z,18nm,0.8s						
APA	**Apatity**	66.36	335	*i* P	P	11 22 54.3	+2.5
APA				*i* *PP	pP	11 23 19.7	-1.6
APA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BARN	**Barnard Glacie**	66.43	32	P	P	11 22 52.7	0.0
BARN				IAmb	IAmb	11 22 54.3	
	comp=Z,18nm,0.7s						
G29M	**Pine Creek**	66.46	25	P	P	11 22 53.7	+1.2
	baz=285,SNR=30						
H29M	**Whitestone**	66.51	26	IAmb	IAmb	11 22 54.9	
	comp=Z,22nm,0.8s						
H29M	**Whitestone**	66.51	26	P	P	11 22 54.0	+1.1
	baz=285,SNR=19						
MESA	**MESA**	66.52	33	P	P	11 22 54.0	+0.8
	baz=285						
CTG	**Chitna Glacier**	66.61	32	P	P	11 22 54.5	+0.8
	baz=285,SNR=23						
CTGM	**Chitina Glacie**	66.61	32	IAmb	IAmb	11 22 55.5	
	comp=Z,31nm,0.9s						
DAWY	**Dawson**	66.67	29	P	P	11 22 53.9	-0.1
DAWY				IAmb	IAmb	11 22 55.4	
	comp=Z,14nm,0.7s						
DAWY	**Dawson**	66.67	29	P	P	11 22 54.6	+0.7
	baz=285,SNR=31						
I29M	**Ogilvie Camp,**	66.77	27	IAmb	IAmb	11 22 56.4	
	comp=Z,20nm,0.8s						
I29M	**Ogilvie Camp,**	66.77	27	P	P	11 22 55.3	+0.8
	baz=286,SNR=35						
LOGN	**Logan Glacier**	66.80	32	IAmb	IAmb	11 23 02.0	
	comp=Z,14nm,0.8s						
YUK3	**Mose Creek**	66.80	31	P	P	11 22 55.7	+0.7
	baz=286,SNR=19						
J29N	**Klondike Camp**	67.05	28	P	P	11 22 57.8	+1.4
	baz=286,SNR=5.6						
F30M	**Barrier River**	67.10	24	P	P	11 22 57.4	+0.9
	baz=287,SNR=30						
EPYK	**Eagle Plains**	67.11	26	P	P	11 22 57.4	+0.7
	baz=287,SNR=54						
G30M	**tAoh Zrail Nji**	67.12	25	P	P	11 22 57.1	+0.3
	baz=287,SNR=40						
O28M	**Mount Upton**	67.20	32	P	P	11 22 58.5	+0.9
	baz=286,SNR=25						
YUK8	**Steele Glacier**	67.26	32	P	P	11 22 58.8	+0.9
	baz=286,SNR=14						
SPITS	**Spitsbergen Ar**	67.31	348	P	P	11 22 57.7	-0.1
	comp=Z,2.3nm,0.5s,baz=84,slow=7.9,SNR=14						
SPITS				PcP	PcP	11 23 24.6	0.0
	comp=Z,3.0nm,0.4s,baz=82,slow=7.7,SNR=11						
	comp=Z,2.3nm,0.5s						
L29M	**L29M**	67.47	29	P	P	11 23 00.7	+1.7
	baz=287,SNR=33						
M29M	**Somme Creek**	67.52	30	IAmb	IAmb	11 23 01.9	
	comp=Z,20nm,0.8s						
M29M	**Somme Creek**	67.52	30	P	P	11 23 01.0	+1.5
	baz=287,SNR=28						
K29M	**Barlow Dome**	67.52	29	IAmb	IAmb	11 23 01.5	
	comp=Z,20nm,0.9s						
K29M	**Barlow Dome**	67.52	29	P	P	11 23 00.4	+1.0
	baz=287,SNR=28						
I30M	**Mount Dempster**	67.58	27	IAmb	IAmb	11 23 01.5	
	comp=Z,20nm,0.8s						
I30M	**Mount Dempster**	67.58	27	P	P	11 23 00.7	+0.9
	baz=288,SNR=44						
BCPM	**Bancas Point**	67.70	33	IAmb	IAmb	11 24 53.4	
	comp=Z,24nm,0.8s						
INK	**Inuvik**	67.70	23	IAmb	IAmb	11 23 01.6	
	comp=Z,38nm,1.2s						
INK	**Inuvik**	67.70	23	P	P	11 23 00.6	+0.4
	baz=289,SNR=24						
YUK4	**Talbot Arm**	67.76	31	P	P	11 23 02.2	+1.1
	baz=287						
J30M	**Hart River**	67.80	28	IAmb	IAmb	11 23 03.0	
	comp=Z,12nm,0.6s						
J30M	**Hart River**	67.80	28	P	P	11 23 02.2	+1.0
	baz=288,SNR=34						
G31M	**Satah River**	67.87	25	IAmb	IAmb	11 23 02.3	
	comp=Z,19nm,0.8s						
G31M	**Satah River**	67.87	25	P	P	11 23 01.3	-0.1
	baz=289,SNR=20						
PNL	**Peninsula**	67.89	33	P	P	11 23 03.6	+1.9
PNL	**Peninsula**	67.89	33	P	P	11 23 02.7	+1.0
	baz=287,SNR=8.0						
F31M	**Tsiigehtchic**	67.90	24	IAmb	IAmb	11 23 02.5	
	comp=Z,25nm,0.9s						
F31M	**Tsiigehtchic**	67.90	24	P	P	11 23 01.7	+0.1
	baz=289,SNR=7.8						
KBZ	**Khabaz**	67.93	309	P	P	11 23 01.9	-0.2
	comp=Z,7.6nm,0.8s,baz=149,slow=2.2,SNR=11						
KBZ				LR	LR	11 56 29.8	
	comp=Z,22nm,18.3s,baz=62,slow=39						
	comp=Z,7.6nm,0.8s						
KBZ	**Khabaz**	67.93	309	*ce*P	P	11 23 03.2	+1.1
KBZ				pmax	pmax		
	comp=Z,11nm,0.9s						
KIV	**Kislovodsk**	68.01	309	*ce*P	P	11 23 03.8	+1.0
KIV				*e* *PP	pP	11 23 35.5	+3.1
KIV				*e*		11 25 32.5	
KIV				*e*PPP	PPP	11 27 15.6	
KIV				*e*S	S	11 32 14.7	+22
KIV				pmax	pmax		
	comp=Z,25nm,1.7s						
YUK6	**Outpost Mounta**	68.01	32	P	P	11 23 03.9	+1.2
	baz=288,SNR=12						
SHA1	**Shidzhatmaz**	68.09	309	*ce*P	P	11 23 05.2	+1.7
H31M	**Peel River**	68.21	26	P	P	11 23 04.0	+0.4
	baz=289,SNR=25						
M30M	**Minto, Yukon**	68.22	30	IAmb	IAmb	11 23 06.0	
	comp=Z,10nm,0.7s						
M30M	**Minto, Yukon**	68.22	30	P	P	11 23 05.0	+1.3
	baz=288,SNR=22						
MAYO	**Mayo, Yukon**	68.29	29	P	P	11 23 05.3	+1.2
	baz=289,SNR=12						
OBN	**Obninsk**	68.43	322	*de*P	P	11 23 03.9	-1.2
OBN				*e* *PP	pP	11 23 37.5	+2.8
OBN				*e*		11 25 41.4	
OBN				*e*PPP	PPP	11 27 18.1	
OBN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
N30M	**Aishikik Lake**	68.44	31	P	P	11 23 06.4	+1.3
	baz=288,SNR=14						
HYT	**Haines Junctio**	68.44	32	P	P	11 23 06.4	+1.2
	baz=288,SNR=22						
ARCES	**ARCESS Array B**	68.50	338	P	P	11 23 05.3	+0.1
	comp=Z,2.8nm,0.8s,baz=90,slow=6.1,SNR=4.2						
	comp=Z,2.8nm,0.8s						
P29M	**Windy Craggy**	68.71	33	IAmb	IAmb	11 23 09.3	
	comp=Z,24nm,0.7s						
P29M	**Windy Craggy**	68.71	33	P	P	11 23 08.4	+1.6
	baz=288,SNR=17						
P30M	**Million Dollar**	68.92	32	P	P	11 23 09.3	+1.1
	baz=289						
ERBR	**Yeremizino-Bor**	68.95	311	*e*P	P	11 23 06.2	-2.3
ERBR				*e*S	S	11 31 57.1	-6.2
ERBR				pmax	pmax		
	comp=Z,19nm,0.3s						
A36M	**Sachs Harbour**	68.96	19	P	P	11 23 08.2	+0.2
	baz=295,SNR=14						
N31M	**Braeburn, Yuko**	69.02	31	IAmb	IAmb	11 23 11.1	
	comp=Z,29nm,0.9s						
N31M	**Braeburn, Yuko**	69.02	31	P	P	11 23 10.1	+1.4
	baz=289,SNR=21						
O30N	**Mendenhall**	69.12	31	P	P	11 23 10.3	+0.9
	baz=289,SNR=13						
LABN	**Labinsk**	69.13	310	*e*P	P	11 23 06.6	-3.1
LABN				*e* *PP	pP	11 23 37.9	-1.5
LABN				*e*S	S	11 32 03.6	-1.9
LABN				pmax	pmax		
	comp=Z,19nm,0.4s						
M31M	**Drury Creek, Y**	69.40	30	IAmb	IAmb	11 23 12.9	
	comp=Z,14nm,0.7s						
M31M	**Drury Creek, Y**	69.40	30	P	P	11 23 12.0	+1.0
	baz=290,SNR=12						
PLBC	**Pleasant Camp**	69.43	33	P	P	11 23 12.4	+1.2
	baz=290,SNR=18						
WHY	**Whitehorse**	69.71	31	P	P	11 23 14.4	+1.3
WHY				IAmb	IAmb	11 23 15.3	
	comp=Z,16nm,0.8s						
WHY	**Whitehorse**	69.71	31	P	P	11 23 14.3	+1.2
	baz=290,SNR=26						
FARO	**Faro, Yukon**	69.85	30	P	P	11 23 14.9	+1.1
	baz=291,SNR=70						
SKAG	**Skagway**	69.92	33	P	P	11 23 16.0	+1.8
SKAG	**Skagway**	69.92	33	IAmb	IAmb	11 23 16.6	
	comp=Z,30nm,0.8s						
SKAG	**Skagway**	69.92	33	P	P	11 23 15.5	+1.3
	baz=290,SNR=8.0						
S31K	**Pelican**	70.00	34	P	P	11 23 15.9	+1.2
	baz=290						
SOC	**Sochi**	70.16	309	*e*P	P	11 23 13.7	-2.3
SOC				*e* *PP	pP	11 23 43.5	-2.3
SOC				*e* *SP	sP	11 23 56.3	-2.5
SOC				*e*PPP	PPP	11 27 33.2	
SOC				*e*S	S	11 32 15.1	-2.5
SOC				*e*SS	SS	11 36 48.7	-0.6
SOC				pmax	pmax		
	comp=Z,17nm,0.7s						
N32M	**Quiet Lake**	70.36	31	IAmb	IAmb	11 23 18.9	
	comp=Z,27nm,0.9s						
N32M	**Quiet Lake**	70.36	31	P	P	11 23 17.9	+1.0
	baz=292						
C36M	**Paulatuk**	70.47	21	P	P	11 23 17.2	-0.1
C36M	**Paulatuk**	70.47	21	P	P	11 23 17.7	+0.3
	baz=297,SNR=18						
P32M	**Atlin**	70.64	32	P	P	11 23 19.3	+0.6
P32M				IAmb	IAmb	11 23 20.8	
	comp=Z,13nm,0.8s						
P32M	**Atlin**	70.64	32	P	P	11 23 19.8	+1.2
	baz=292,SNR=5.8						
R32K	**Eaglecrest**	70.74	34	IAmb	IAmb	11 23 21.7	
	comp=Z,19nm,1.0s						
R32K	**Eaglecrest**	70.74	34	P	P	11 23 20.5	+1.3
	baz=292,SNR=7.3						
SIT	**Sitka**	70.78	35	P	P	11 23 21.0	+1.6
	baz=291						
JIS	**Juneau Island**	70.81	34	P	P	11 23 21.6	+2.0
JIS	**Juneau Island**	70.81	34	IAmb	IAmb	11 23 22.0	
	comp=Z,24nm,0.9s						
P33M	**Teslin, Yukon**	70.83	31	IAmb	IAmb	11 23 22.1	
	comp=Z,22nm,0.9s						
P33M	**Teslin, Yukon**	70.83	31	P	P	11 23 21.0	+1.1
	baz=292,SNR=20						
S32K	**Killisnoo**	71.01	34	P	P	11 23 22.0	+1.2
	baz=292						
ANN	**Anapa**	71.29	311	*e*P	P	11 23 23.2	+0.5
ANN				*e* *PP	pP	11 23 51.8	-0.8
ANN				*e*S	S	11 32 29.6	-0.9
ANN				pmax	pmax		
	comp=Z,23nm,0.8s						
FINES	**FINESS Array B**	71.39	330	P	P	11 23 21.2	-1.9
FINES	**FINESS Array B**	71.39	330	P	P	11 23 21.5	-1.6
	comp=Z,3.3nm,0.3s,baz=60,slow=5.7,SNR=33						
	comp=Z,3.3nm,0.3s						
R33M	**Jennings River**	72.01	32	IAmb	IAmb	11 23 29.6	
	comp=Z,14nm,0.8s						
R33M	**Jennings River**	72.01	32	P	P	11 23 28.6	+1.6
	baz=294,SNR=17						
T33K	**Petersburg**	72.08	35	P	P	11 23 28.4	+1.2
	baz=293						
U33K	**Whale Pass**	72.27	35	IAmb	IAmb	11 23 30.7	
	comp=Z,24nm,0.7s						
U33K	**Whale Pass**	72.27	35	P	P	11 23 29.8	+1.4
	baz=293,SNR=7.3						
TGTN	**Hyland Airport**	72.33	29	P	P	11 23 29.9	+1.2
	baz=296,SNR=10.0						
CRAG	**Craig**	72.52	36	P	P	11 23 31.2	+1.4
	baz=294						
S34M	**Telegraph Cree**	72.54	33	P	P	11 23 31.8	+1.8
	baz=294,SNR=11						
WRAK	**Wrangell Islan**	72.54	35	P	P	11 23 31.3	+1.3
	baz=294,SNR=5.1						
WTLY	**Watson Lake, Y**	72.71	31	P	P	11 23 32.5	+1.5
	baz=296,SNR=27						
DLBC	**Dease Lake**	72.85	33	P	P	11 23 33.5	+1.6
	baz=295,SNR=12						
RAYN	**Ar Rayn**	72.98	288	P	P	11 23 32.4	-0.9
RAYN	**Ar Rayn**	72.98	288	P	P	11 23 32.4	-0.9
RAYN				pmax	pmax		
	comp=Z,7.0nm,0.9s						
MNK	**Minsk**	73.34	323	*i* P	P	11 23 33.9	-0.9
MNK				*i*		11 23 49.4	
MNK				*i* *PP	pP	11 24 03.8	-1.0
MNK				*i*		11 26 18.4	
MNK				*i* PPP	PPP	11 28 07.0	
MNK				*i* S	S	11 32 53.1	-0.5
MNK				*i*		11 33 31.0	
MNK				*i* *SS	sS	11 33 45.3	-0.5
MNK				*i* SS	SS	11 37 39.8	+2.5
MNK				pmax	pmax		
	comp=N,21nm,0.8s						
MNK				pmax	pmax		
	comp=E,13nm,0.9s						
MNK		

KIEV pmax pmax
comp=Z,9.0nm,0.6s
LIRD Liard River Hi 74.25 31 P **P** **11 23 41.4 +1.4**
baz=298,SNR=18
KOTAN Kotaneelee Air 74.81 30 P **P** **11 23 44.2 +0.9**
baz=299
TOAD Toad River Com 74.91 31 P **P** **11 23 45.0 +1.1**
baz=299,SNR=23
BR131 Keskin Array S 75.83 308 P **P** **11 23 49.4 -0.2**
BR131 Keskin Array S 75.83 308 P **P** **11 23 49.4 -0.2**
BR131 pmax pmax
comp=Z,8.0nm,0.8s
BRTR Keskin Array B 75.83 308 P **P** **11 23 47.7 -1.9**
BRTR pP **pP** **11 24 20.7 +1.0**
BRTR Keskin Array B 75.83 308 P **P** **11 23 50.0 +0.4**
comp=Z,6.8nm,0.9s,baz=107,slow=4.8,SNR=18
comp=Z,6.8nm,0.9s
MMAI Mount Meron Ar 77.31 301 LR LR 12 03 01.9
comp=Z,33nm,18.1s,baz=66,slow=39
HFS Hagfors 77.34 332 P **P** **11 23 57.2 -0.3**
comp=Z,3.3nm,0.4s,baz=108,slow=3.3,SNR=16
HFS LR LR 11 59 43.2
comp=Z,42nm,18.8s,baz=47,slow=37
comp=Z,3.3nm,0.4s
YKA Yellowknife Ar 77.36 25 P **P** **11 23 58.0 +0.4**
YKA Yellowknife Ar 77.36 25 P **P** **11 23 58.2 +0.6**
comp=Z,24nm,0.9s,baz=303,slow=5.9,SNR=302
comp=Z,24nm,0.9s
YKA Yellowknife Ar 77.36 25 *i* P **P** **11 23 58.2 +0.6**
YKA pmax pmax
comp=Z,25nm,0.9s
NC405 NORSAR Array S 77.58 333 IAmb IAmb 11 23 59.9
comp=Z,21nm,1.1s
VRI Vrincioaia 77.77 315 P **P** **11 24 00.0 -0.2**
VRI pmax pmax
comp=Z,19nm,1.1s
NB2 NORSAR Subarra 77.83 334 P **P** **11 24 00.1 -0.2**
comp=Z,2.6nm,0.6s,baz=53,slow=5.3
NOA NORSAR Array B 77.83 334 P **P** **11 24 00.1 -0.2**
comp=Z,7.0nm,0.8s,baz=51,slow=5.4,SNR=23
NOA LR LR 12 02 10.1
comp=Z,24nm,18.1s,baz=50,slow=38
comp=Z,7.0nm,0.8s
BURAR Bucovina Array 77.88 318 P **P** **11 24 00.4 -0.6**
BURAR Bucovina Array 77.88 318 P **P** **11 24 00.8 -0.2**
MLR Muntele Rosu 78.42 315 P **P** **11 24 03.5 -0.5**
MLR pmax pmax
comp=Z,10.0nm,1.2s
KOLS Kolonicke sedl 78.98 320 *eP* **P** **11 24 07.9 +1.1**
KOLS Kolonicke sedl 78.98 320 *eP* **P** **11 24 07.9 +1.1**
SUMG Summit 79.55 356 P **P** **11 24 10.0 +0.1**
SUMG Summit 79.55 356 P **P** **11 24 10.0 +0.1**
SUMG pmax pmax
comp=Z,9.0nm,0.7s
DRGR 79.78 318 P **P** **11 24 11.9 +0.6**
BRLDA Berland Lookou 81.11 33 IAmb IAmb 11 24 20.0
comp=Z,35nm,0.9s
VYHS Vyhne 81.16 320 *eP* **P** **11 24 19.5 +0.9**
VYHS Vyhne 81.16 320 *eP* **P** **11 24 19.5 +0.9**
VYHS pmax pmax
comp=Z,12nm,0.8s
MORC Moravsky Berou 81.19 322 P **P** **11 24 19.1 +0.4**
MORC Moravsky Berou 81.19 322 *eP* **P** **11 24 20.8 +2.1**
MORC Moravsky Berou 81.19 322 P **P** **11 24 19.1 +0.4**
MORC pmax pmax
comp=Z,6.0nm,0.7s
KRLC Kraliky 81.44 323 *eP* **P** **11 24 21.0 +0.9**
KRLC Kraliky 81.44 323 *eP* **P** **11 24 21.0 +0.9**
DPC Dobruska-Polom 81.54 323 *eP* **P** **11 24 22.0 +1.4**
DPC Dobruska-Polom 81.54 323 *eP* **P** **11 24 22.0 +1.4**
JAVC Velka Javorina 81.62 321 *eP* **P** **11 24 24.0 +3.0**
SMOL Smolenice 81.94 321 *eP* **P** **11 24 24.2 +1.6**
VRAC Vranov 81.97 322 *eP* **P** **11 24 24.9 +2.1**
VRAC Vranov 81.97 322 LR LR 12 04 03.2
comp=Z,35nm,19.3s,baz=56,slow=38
VRAC Vranov 81.97 322 P **P** **11 24 24.0 +1.2**
VRAC pmax pmax
comp=Z,22nm,0.9s
E03A Lebam 82.02 41 IAmb IAmb 11 24 26.1
comp=Z,35nm,1.0s
MODS Modra-Piesok 82.10 321 *eP* **P** **11 24 23.7 +0.2**
MODS Modra-Piesok 82.10 321 *eP* **P** **11 24 23.7 +0.2**
MODS pmax pmax
comp=Z,19nm,1.0s
KRUC Moravsky 82.21 322 *eP* **P** **11 24 25.8 +1.8**
BRG Berggiesshubel 82.49 324 *eP* **P** **11 24 27.6 +2.1**
BRG Amp 11 24 28.0
comp=Z,6.6nm,1.1s
D05A Enumclaw 82.58 40 P **P** **11 24 27.1 +1.1**
D05A IAmb IAmb 11 24 28.9
comp=Z,28nm,0.8s
CLL Collm 82.72 325 IAmb IAmb 11 24 28.5
comp=Z,15nm,0.9s
CLL Collm 82.72 325 *e*(pP) pP 11 24 54.0 -3.3
CLL Collm 82.72 325 *i* P **P** **11 24 27.6 +0.9**
CLL *e**SP sP 11 25 17.0 +6.9
CLL pmax pmax
comp=Z,14nm,0.6s
CLL Collm 82.72 325 *i* P **P** **11 24 27.6 +0.9**
comp=Z,14nm,0.6s
CONA Conrad Observa 83.14 321 *e*PcP **P** **11 24 30.2 +1.3**
comp=Z,5.7nm,0.7s
LTY Liberty 83.29 40 IAmb IAmb 11 24 31.6
comp=Z,14nm,0.9s
B08A Colville Reser 83.42 38 P **P** **11 24 31.0 +0.6**
CKRC Cesky Krumlov 83.48 322 *eP* **P** **11 24 32.0 +1.3**
CKRC Cesky Krumlov 83.48 322 *eP* **P** **11 24 32.0 +1.3**
H04D Lebanon 83.59 43 IAmb IAmb 11 24 34.8
comp=Z,38nm,1.5s
I03D Drain, OR 83.66 44 IAmb IAmb 11 24 34.5
comp=Z,18nm,1.0s
KHC Kasperske Hory 83.69 323 *eP* **P** **11 24 33.0 +1.2**
KHC Kasperske Hory 83.69 323 *ceP* **P** **11 24 32.5 +0.7**
KHC pmax pmax
comp=Z,32nm,1.7s
ARSA Arzberg 83.71 321 *e*PcP **P** **11 24 33.3 +1.5**
comp=Z,2.9nm,0.7s
GERES GERESS Array B 83.80 323 P **P** **11 24 31.7 -0.6**
GERES GERESS Array B 83.80 323 P **P** **11 24 33.0 +0.6**
comp=Z,2.5nm,0.6s,baz=35,slow=4.9,SNR=11
comp=Z,2.5nm,0.6s
GERES GERESS Array B 83.80 323 P **P** **11 24 33.0 +0.6**
HOOD Mount Hood Mea 83.80 42 IAmb IAmb 11 24 38.1
comp=Z,29nm,0.8s
MOX Moxa 83.83 325 P **P** **11 24 32.7 +0.4**
MOX pmax pmax
comp=Z,9.0nm,0.9s
H04A Detroit Lake 83.83 42 IAmb IAmb 11 24 34.7
comp=Z,16nm,1.0s
K02D Willamette Mer 84.00 45 IAmb IAmb 11 24 36.0
comp=Z,27nm,1.6s
DBO Dodson Butte 84.04 44 IAmb IAmb 11 27 31.5
comp=Z,64nm,1.9s
MOA Molln 84.06 322 *e*PcP **P** **11 24 35.2 +1.6**
comp=Z,11nm,1.2s
PDG Podgorica 84.14 315 IAmb IAmb 11 24 35.4
comp=Z,16nm,0.7s
I04A Tendick Farm, 84.18 43 IAmb IAmb 11 24 36.7
comp=Z,28nm,1.1s
SOKA Soboth 84.31 320 *e*PcP **P** **11 24 35.5 +0.5**
comp=Z,7.3nm,1.1s
C09A Chrisman Ranch 84.32 38 IAmb IAmb 11 24 37.1
comp=Z,29nm,1.1s
D08A Wollman Farm, 84.39 39 IAmb IAmb 11 24 37.5
comp=Z,29nm,0.8s
HAWA Hanford 84.43 40 IAmb IAmb 11 24 37.9
comp=Z,22nm,0.8s
BIOA Bad Ischl, Aus 84.50 322 *e*PcP **P** **11 24 37.3 +1.5**
comp=Z,3.1nm,0.4s
I05D Terrebonne, OR 84.53 42 P **P** **11 24 37.1 +1.0**
I05D IAmb IAmb 11 24 38.5
comp=Z,24nm,0.9s
NEW Newport 84.67 37 IAmb IAmb 11 24 38.8
comp=Z,22nm,0.8s
NEW Newport 84.67 37 P **P** **11 24 37.8 +1.1**
baz=306
OBKA Obir 84.68 320 *e*PcP **P** **11 24 37.2 +0.4**
comp=Z,3.4nm,0.9s
KBA Koelnbreinsper 85.02 321 *e*PcP **P** **11 24 38.9 +0.2**
comp=Z,6.1nm,0.9s
PINE Pine Mountain 85.07 43 IAmb IAmb 11 24 42.0
comp=Z,39nm,1.1s
L04D Klamath Falls 85.11 45 P **P** **11 24 40.7 +1.5**
J05D Fort Rock, OR 85.17 43 IAmb IAmb 11 24 42.2
comp=Z,49nm,1.4s
LESA Schwarzleotal 85.19 322 *e*PcP **P** **11 24 39.4 +0.1**
comp=Z,12nm,1.3s
RAR Rarotonga 85.22 117 LR LR 11 55 24.3
comp=Z,57nm,21.7s,baz=268,slow=30
SFJD Kangerlussuaq 85.59 359 P **P** **11 24 40.5 -0.4**
SFJD IAmb IAmb 11 24 41.1
comp=Z,18nm,0.6s
SFJD Kangerlussuaq 85.59 359 P **P** **11 24 40.5 -0.4**
SFJD pmax pmax
comp=Z,18nm,0.6s
ABTA Abfaltersbach 85.68 321 *eP* **P** **11 24 40.7 -1.1**
comp=Z,8.5nm,0.8s
K05A Summer Lake 85.69 44 IAmb IAmb 11 24 45.1
comp=Z,30nm,1.3s
WATA Walderalm 85.84 322 *e*PcP **P** **11 24 43.4 +0.7**
comp=Z,3.4nm,0.5s
WTTA Wattenberg 85.85 322 *e*PcP **P** **11 24 43.5 +0.7**
comp=Z,11nm,1.1s
F10A Beach Ranch, E 85.97 39 P **P** **11 24 44.0 +0.7**
CIMO Cimolais 85.98 321 IAmb IAmb 11 24 43.2
comp=Z,4.7nm,0.8s
MOTA Moosalm 86.09 322 *e*PcP **P** **11 24 44.6 +0.6**
comp=Z,6.0nm,0.6s
SQTA Sankt Quirin 86.11 322 *e*PcP **P** **11 24 44.6 +0.6**
comp=Z,4.1nm,0.6s
RETA Reutte 86.19 323 *e*PcP **P** **11 24 45.4 +1.1**
comp=Z,4.3nm,0.9s
FETA Feichten 86.49 322 *e*PcP **P** **11 24 46.2 +0.3**
comp=Z,3.1nm,0.6s
BMO Blue Mountains 86.59 40 IAmb IAmb 11 24 48.6
comp=Z,12nm,0.9s
DAVA Damuels 86.78 323 *e*PcP **P** **11 24 47.1 -0.2**
comp=Z,7.0nm,0.5s
J08A Circle Bar Ran 86.79 42 IAmb IAmb 11 24 50.1
baz=Z,19nm,1.0s
BFO Black Forest 86.94 324 P **P** **11 24 46.5 -1.4**
BFO Black Forest 86.94 324 P **P** **11 24 46.5 -1.4**
BFO pmax pmax
comp=Z,6.0nm,1.0s
FUORN Ofenpass-Fuorn 86.99 322 IAmb IAmb 11 24 50.0
comp=Z,13nm,0.8s
ORV Oroville 87.08 46 IAmb IAmb 11 24 50.4
comp=Z,33nm,1.6s
DAVOX Davos/Dischmat 87.09 323 LR LR 12 08 00.9
comp=Z,48nm,18.6s,baz=83,slow=38
WLF Walferdange 87.18 326 *dP* **P** **11 24 49.3 +0.4**
MSO Missoula 87.26 37 IAmb IAmb 11 24 51.4
comp=Z,11nm,0.9s
MSO Missoula 87.26 37 P **P** **11 24 50.4 +0.8**
baz=309,SNR=11
EKA Eskdalemuir Ar 87.28 334 P **P** **11 24 48.8 -0.6**
comp=Z,1.7nm,0.4s,baz=49,slow=5.0,SNR=26
comp=Z,1.7nm,0.4s
RCHB Rochefort 87.30 327 *dP* **P** **11 24 49.5 -0.1**
BMRD Maredsous 87.42 327 *dP* **P** **11 24 49.8 -0.4**
FFC Flin Flon 87.45 26 P **P** **11 24 50.7 +0.5**
FFC Flin Flon 87.45 26 P **P** **11 24 50.7 +0.5**
FFC pmax pmax
comp=Z,42nm,0.8s
FDMO Fiordimonte 87.55 318 IAmb IAmb 11 24 52.6
comp=Z,18nm,0.8s
DOU Dourbes 87.64 327 *dP* **P** **11 24 50.8 -0.3**
comp=Z,6.7nm,0.9s
NRCA Norcia 87.65 318 IAmb IAmb 11 24 53.6
comp=Z,18nm,1.1s
CAMP Campotosto 87.65 318 P **P** **11 24 51.5 -0.1**
CAMP IAmb IAmb 11 24 53.3
comp=Z,21nm,1.0s
INTR Introdacqua 87.66 317 IAmb IAmb 11 24 53.6
comp=Z,9.6nm,0.7s
MPK Martis Peak 88.17 46 IAmb IAmb 11 24 56.8
comp=Z,17nm,1.3s
MFID Camas Ranch 88.31 41 IAmb IAmb 11 24 57.3
comp=Z,15nm,1.0s
PAHR Pah Rah Range 88.35 45 IAmb IAmb 11 24 57.3
comp=Z,16nm,1.4s
PNTR Pine Nut 88.56 46 IAmb IAmb 11 24 58.8
comp=Z,25nm,1.6s
EGMT Eagleton 88.67 35 P **P** **11 24 57.3 +1.2**
baz=312,SNR=25
YERR Yerington 88.85 46 IAmb IAmb 11 24 59.9
comp=Z,31nm,1.9s
HLID Hailey 89.03 40 P **P** **11 24 59.7 +1.6**
HLID IAmb IAmb 11 25 01.1
comp=Z,13nm,0.8s
HLID Hailey 89.03 40 P **P** **11 25 00.1 +2.1**
baz=308,SNR=28
BOZ Bozeman (W) 89.28 37 IAmb IAmb 11 25 01.6
comp=Z,15nm,1.1s
BOZ Bozeman (W) 89.28 37 P **P** **11 25 00.7 +1.5**
baz=310,SNR=11
NVAR Mina Array Bea 89.77 46 P **P** **11 25 02.8 +1.1**
comp=Z,1.3nm,0.7s,baz=296,slow=5.4,SNR=15
comp=Z,1.3nm,0.7s
LODK Lodwar 90.58 274 P **P** **11 25 06.9 +1.2**
H17A Grant Village 90.63 38 P **P** **11 25 09.2 +3.5**
baz=311,SNR=18
IMW Indian Meadow 90.76 38 IAmb IAmb 11 25 09.6
comp=Z,11nm,1.0s
VES Vestal, Richgr 90.77 48 P **P** **11 25 07.5 +1.4**
baz=306
PKM Mcpherson Peak 90.83 49 P **P** **11 25 08.1 +1.4**
baz=305
KIBK Kibwezi 90.85 268 P **P** **11 25 07.2 +0.3**
MOOW Moose Ponds 90.96 38 P **P** **11 25 08.9 +1.8**
MOOW IAmb IAmb 11 25 10.3
comp=Z,22nm,1.6s
TPAW Teton Pass 91.02 38 P **P** **11 25 07.3 -0.2**
TPAW IAmb IAmb 11 25 10.5
comp=Z,9.8nm,0.9s
DGMT Dagmar 91.05 32 P **P** **11 25 08.3 +1.1**
baz=316
CWC Cottonwood Cre 91.08 47 P **P** **11 25 09.2 +1.4**
baz=306
HVU Hansel Valley 91.09 41 IAmb IAmb 11 25 10.6
comp=Z,10.0nm,1.0s
SBC Santa Barbara 91.15 50 P **P** **11 25 08.7 +0.8**
baz=305
AHID Auburn Hatcher 91.41 39 IAmb IAmb 11 25 11.7
comp=Z,9.5nm,1.1s
R11B Troy Canyon, C 91.53 45 P **P** **11 25 11.2 +1.3**
baz=308,SNR=9.2
MPMC Manual Prospec 91.69 47 P **P** **11 25 11.9 +1.2**
baz=306,SNR=6.1
PPT2 Papeete2 91.75 109 *e*LR LR 11 54 46.8
comp=Z,153nm,39.0s
PPT2 *e*LR LR 11 54 56.1
comp=Z,78nm,32.2s
FURC Furnace Creek, 91.85 47 P **P** **11 25 12.8 +1.7**
baz=307
S11A Rachel 91.86 45 IAmb IAmb 11 25 14.0
comp=Z,11nm,1.1s
LRMC Laurel Mtn Rad 91.91 48 P **P** **11 25 13.2 +1.6**
baz=306
EDW2 Edwards Air Fo 92.05 49 P **P** **11 25 13.7 +1.6**
baz=306
DUG Dugway, Tooele 92.07 42 IAmb IAmb 11 25 15.2
comp=Z,15nm,1.2s
DUG Dugway, Tooele 92.07 42 P **P** **11 25 13.9 +1.6**
baz=310,SNR=9.8
GWY Greenwater Val 92.15 47 IAmb IAmb 11 25 15.0
comp=Z,9.1nm,1.4s
QSM Queen of Sheba 92.15 47 IAmb IAmb 11 25 15.0
comp=Z,9.7nm,1.0s
PD31 Pinedale Array 92.26 38 IAmb IAmb 11 25 15.0
comp=Z,7.0nm,0.9s
PDAR Pinedale Array 92.26 38 P **P** **11 25 13.7 +0.5**
PDAR Pinedale Array 92.26 38 P **P** **11 25 14.2 +1.0**
comp=Z,4.5nm,0.8s,baz=347,slow=0.5,SNR=37
comp=Z,4.5nm,0.8s
PRN Pahroc Range 92.44 45 IAmb IAmb 11 25 16.9
comp=Z,7.4nm,1.2s
SHOC Shshone, Teco 92.58 47 P **P** **11 25 16.0 +1.5**
baz=307
GSC Goldstone, Bar 92.59 48 IAmb IAmb 11 25 17.0
comp=Z,7.3nm,1.0s
GSC Goldstone, Bar 92.59 48 P **P** **11 25 16.2 +1.5**
baz=307,SNR=5.8
CIS Catalina Islan 92.63 50 P **P** **11 25 15.9 +1.1**
baz=306
BFSC Mount Baldy Ra 92.65 49 P **P** **11 25 16.2 +1.1**
baz=306
NLU North Lily Min 92.66 42 IAmb IAmb 11 25 17.8
comp=Z,7.8nm,1.1s
MPU Maple Canyon 92.88 41 IAmb IAmb 11 25 18.7
comp=Z,14nm,1.5s
BSUT Blindstream Ca 93.05 41 IAmb IAmb 11 25 20.0
comp=Z,12nm,1.5s
TUQ Turquoise Moun 93.08 47 P **P** **11 25 18.4 +1.4**
baz=307
BBRC Big Bear Solar 93.13 49 P **P** **11 25 18.7 +1.3**
baz=307
HEC Hector,Ludlow 93.18 48 P **P** **11 25 19.1 +1.7**
baz=307,SNR=5.4
MURC Murrieta 93.34 49 P **P** **11 25 19.5 +1.4**
baz=307
MDND Maddock 93.59 30 P **P** **11 25 20.0 +1.1**
baz=319
GMRC Granite Mounta 93.65 48 P **P** **11 25 21.0 +1.3**
baz=308
P17A Butcher Ranch, 93.76 41 IAmb IAmb 11 25 22.7
comp=Z,7.6nm,0.8s
LCMT Little Creek M 93.82 45 IAmb IAmb 11 25 23.3
comp=Z,20nm,1.9s
PFO Pinyon Flats O 93.83 49 P **P** **11 25 21.7 +1.3**
baz=307
TPFO Pinon Flats 93.83 49 P **P** **11 25 21.2 +0.8**
baz=307
BELC Belle Mtn. Jos 93.90 48 P **P** **11 25 21.8 +1.0**
baz=307
P18A Preston Nutter 93.94 41 IAmb IAmb 11 25 23.8
comp=Z,9.9nm,0.9s
K22A Casper 93.98 37 IAmb IAmb 11 25 22.8
comp=Z,6.8nm,0.9s
K22A Casper 93.98 37 P **P** **11 25 21.9 +0.8**
baz=314
KNB Kanab 94.08 44 IAmb IAmb 11 25 25.4
comp=Z,11nm,1.3s
SRU San Rafael Swe 94.12 42 IAmb IAmb 11 25 24.0
comp=Z,4.7nm,0.8s
RSSD Black Hills 94.24 35 P **P** **11 25 22.9 +0.6**
RSSD Black Hills 94.24 35 P **P** **11 25 23.0 +0.8**
baz=316
RSSD Black Hills 94.24 35 P **P** **11 25 22.9 +0.6**
RSSD pmax pmax
comp=Z,35nm,1.6s
MONP2 Monument Peak 94.28 49 P **P** **11 25 24.3 +1.7**
baz=307
IRM Iron Mountain 94.37 48 P **P** **11 25 24.6 +1.8**
baz=308
BC3 Big Chuckawall 94.47 48 P **P** **11 25 25.2 +1.8**
baz=308
IKP In-Ko-Pah, Jac 94.64 49 P **P** **11 25 25.7 +1.6**
baz=307
O20A White River Ci 94.76 40 IAmb IAmb 11 25 27.1
comp=Z,4.3nm,0.9s
O20A White River Ci 94.76 40 P **P** **11 25 26.3 +1.6**
baz=313
AGMN Agassiz Nation 94.83 28 P **P** **11 25 25.4 +0.8**
baz=322
PDMCI Parker Dam,Lak 94.93 47 P **P** **11 25 27.0 +1.7**
baz=308
N23A Red Feather La 95.51 38 P **P** **11 25 29.5 +1.3**
baz=314
B35A Bob, Littlefor 95.64 26 IAmb IAmb 11 25 29.3
comp=Z,8.8nm,0.8s
WUAZ Wupatki 95.93 45 P **P** **11 25 31.7 +1.6**
baz=310
ISCO Idaho Springs 96.46 38 P **P** **11 25 33.8 +1.2**
baz=314
MVCO Mesa Verde 96.57 42 P **P** **11 25 34.0 +0.9**
baz=312
EYMN Ely 96.84 25 IAmb IAmb 11 25 34.6
comp=Z,6.6nm,1.0s
EYMN Ely 96.84 25 P **P** **11 25 34.1 +0.4**
baz=326
SCHQ Schefferville 96.85 8 P **P** **11 25 32.4 -1.2**
comp=Z,5.5nm,0.8s,baz=279,slow=5.8,SNR=12
comp=Z,5.5nm,0.8s
ECSD EROS Data Cent 98.09 31 P Pdif 11 25 40.4 +0.9
baz=321
SPMN Marine on St. 98.55 28 P Pdif 11 25 41.8 +0.3
baz=324
ESDC Sonseca Array 99.30 324 P **Pdif** **11 25 44.6 -0.4**
comp=Z,1.7nm,0.8s,baz=27,slow=4.9,SNR=10
ESDC LR LR 12 16 22.8
comp=Z,23nm,19.1s,baz=182,slow=39
comp=Z,1.7nm,0.8s
ANMO Albuquerque 99.32 42 P **Pdif** **11 25 46.7 +1.3**
baz=313
TXAR Lajitas Array 104.90 45 Pdiff **Pdif** **11 26 11.3 +1.2**
comp=Z,0.4nm,0.7s,baz=294,slow=2.9,SNR=6.1
TXAR PKiKP **PKiKP** **11 30 24.8 +0.1**
comp=Z,0.1nm,0.4s,baz=5.7,slow=0.9,SNR=2.3
WHTX Lake Whitney, 106.66 39 P **PKiKP** **11 30 26.7 -1.1**
baz=319
L61B Northampton 107.69 16 P **PKiKP** **11 30 28.3 -1.1**
baz=341
SSPA Standing Stone 107.95 20 P **PKiKP** **11 30 29.1 -0.8**
baz=336
TZTN Tazewell 109.62 26 P **PKiKP** **11 30 33.3 +0.2**
baz=331
BOSA Boshof 112.92 249 PKiKP **PKiKP** **11 30 39.2 -0.4**
comp=Z,1.2nm,0.5s,baz=136,slow=11,SNR=3.7
TORD Torodi Ar. Bea 113.85 301 PKiKP **PKiKP** **11 30 40.9 -0.8**
comp=Z,1.4nm,0.5s,baz=28,slow=3.0,SNR=14
QSPA South Pole Qui 117.47 180 PKP **PKPdf** **11 30 46.8 -0.4**
comp=Z,2.0nm,0.8s,baz=253,slow=0.6,SNR=12
DBIC Dimbokro 122.91 300 PKP **PKPdf** **11 30 58.6 -0.5**
comp=Z,2.8nm,0.5s,baz=63,slow=2.9,SNR=5.4
TROLL Troll, Antarti 126.77 198 ⇑PKPdf **PKiKP** **11 31 06.2 +0.7**
comp=Z,204nm,1.1s
SNAA Sanae 128.41 198 ⇑PKPdf **PKiKP** **11 31 08.6 -0.1**
comp=Z,20nm,0.6s
SNAA Sanae 128.41 198 PKP **PKPdf** **11 31 08.1 +0.1**
comp=Z,1.3nm,0.9s,baz=219,slow=6.1,SNR=5.8
VNA2 Neumayer--Watz 130.05 198 ⇑PKPdf **PKiKP** **11 31 11.6 -0.3**
comp=Z,6.2nm,0.5s,baz=114,slow=1.5
VNA3 Neumayer Olymp 130.46 197 ⇑PKPdf **PKPdf** **11 31 11.5 -0.3**
comp=Z,1.4nm,0.5s
SOCE Pocosol 130.82 44 **PKPdf** **11 31 12.5 -1.8**
ROSC El Rosal 141.25 37 PKP **PKPdf** **11 31 32.5 -1.6**
comp=Z,8.8nm,0.6s,baz=105,slow=23,SNR=1.9
TULM Tulcn-Chalpat 142.56 45 **PKPdf** **11 31 33.6 -3.0**
ETMB Extrema 157.85 39 PKPab **PKPab** **11 32 31.2 -1.5**
SAML Samuel 158.66 31 PKPab **PKPab** **11 32 34.7 -1.5**
SAML Samuel 158.66 31 PKP2 **PKPab** **11 32 34.7 -1.5**
LPAZ La Paz 161.40 56 PKP **PKPdf** **11 32 04.8 +0.5**
comp=Z,3.0nm,1.1s,baz=322,slow=5.7,SNR=5.7
LPAZ PKPab **PKPab** **11 32 49.0 +0.1**
comp=Z,3.2nm,0.9s,baz=308,slow=3.1,SNR=5.6
BDFB Brasilia 167.38 341 PKPab **PKPab** **11 33 12.9 -1.6**
comp=Z,1.4nm,0.5s,baz=130,slow=1.5,SNR=4.1

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*IDC **24** 11:12:52.8±2.9, 36°.21N×70°.87E, h214km±26km, mb3.5/12, mbtmp4.1/18, Error ellipse: s-maj=21.6km s-min=16.8km az=179.0*
*NEIC **24** 11:12:57.5±1.1, 36°.61N±0°.08×70°.8E±0°.1, h242km±9km, mb4.2/4, Error ellipse: s-maj=13.7km s-min=10.7km az=75.0*
*NNC **24** 11:13:03.0±3.4, 37°.21N×70°.83E, h317km±43km, mb3.0, mpv4.5, Error ellipse: s-maj=35.0km s-min=27.5km az=24.0*

ISC 24 11:12:57.3±0.8, 36°.59N±0°.07×70°.86E±0°.08, h250km, n51, σ1°.54/58, mb3.6/11, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**2.45**	**350**				**Pn**	**11 13 43.3**	**-0.8**
CHGR	**Chuyangaron**	**2.47**	**327**				**Pn**	**11 13 42.8**	**-1.4**
KBL	**Kabul**	**2.52**	**216**				**Pn**	**11 13 44.1**	**-0.9**
SIMJ	**Simiganj**	**2.54**	**325**				**Pn**	**11 13 43.7**	**-1.3**
DRK	**Karamyk**	**2.98**	**14**				**Pn**	**11 13 49.9**	**+0.1**
BTK	**Batken**	**3.47**	**360**	Pn			**Pn**	**11 13 55.3**	**+0.3**
NIL	**Nilore**	**3.52**	**145**	Pn			**Pn**	**11 13 56.3**	**+0.6**
UCH	**Uchtor** SNR=68	**6.30**	**26**	P			**Pn**	**11 14 29.6**	**+0.1**
EKS2	**Erkin-Say** SNR=42	**6.47**	**19**	P			**Pn**	**11 14 31.5**	**+0.2**
KK31	**Karatay Array** 15nm,0.5s,baz=178,slow=12,SNR=242	**6.52**	**358**	⇓P			**Pn**	**11 14 30.9**	**-0.9**
KK31	27nm,0.8s,baz=188,slow=23,SNR=3.7			⇑S			**S**	**11 15 43.4**	**-4.1**
KK31	**Karatay Array**	**6.52**	**358**				**Pn**	**11 14 31.1**	**-0.6**
KKAR	**Karatay Array**	**6.52**	**358**				**Pn**	**11 14 31.1**	**-0.6**
KKAR	**Karatay Array**	**6.52**	**358**				**Pn**	**11 14 31.0**	**-0.7**
AAK	**Ala-Archa** SNR=44	**6.66**	**24**	P			**Pn**	**11 14 34.1**	**+0.4**
AAK	**Ala-Archa** 31nm,0.5s	**6.66**	**24**	⇓P			**Pn**	**11 14 33.6**	**-0.2**
AAK	101nm,0.8s			⇓S			**S**	**11 15 49.3**	**-1.8**
AAK	**Ala-Archa** 33nm,0.3s,baz=200,slow=7.2,SNR=58	**6.66**	**24**	P			**Pn**	**11 14 34.0**	**+0.2**

AAK					S		**S**	**11 15 48.2**	**-2.9**
	42nm,0.6s,baz=314,slow=20,SNR=11								
KBK	**Karagaybulak**	**6.83**	**26**	P			**Pn**	**11 14 36.9**	**+0.9**
	SNR=10								
CHMS	**Chumysh**	**7.07**	**24**	P			**Pn**	**11 14 38.9**	**+0.1**
	SNR=10.0								
CHMS	**Chumysh**	**7.07**	**24**	⇑P			**Pn**	**11 14 38.8**	**+0.1**
	14nm,0.5s								
CHMS					⇑S		**S**	**11 15 56.2**	**-4.1**
	22nm,0.8s								
BOOM	**Boomskoye usch**	**7.08**	**32**	Pn			**Pn**	**11 14 39.1**	**+0.1**
USP	**Ospenovka**	**7.24**	**22**	P			**Pn**	**11 14 40.2**	**-0.6**
	SNR=7.1								
TKM2	**Tokmak 2**	**7.30**	**29**	P			**Pn**	**11 14 42.1**	**+0.2**
	SNR=39								
TKM2	**Tokmak 2**	**7.30**	**29**	⇓P			**Pn**	**11 14 41.6**	**-0.3**
	25nm,0.5s								
TKM2					⇑S		**S**	**11 16 02.4**	**-3.5**
	73nm,0.9s								
HRA	**Herat**	**7.36**	**255**	Pn			**Pn**	**11 14 42.3**	**-0.4**
GEYT	**Alibeck**	**10.24**	**281**	P			**Pn**	**11 15 15.5**	**-3.4**
	3.3nm,0.5s,baz=99,slow=9.5,SNR=5.3								
MAKZ	**Makanchi**	**13.15**	**36**	P			**Pn**	**11 15 55.1**	**+0.2**
MK31	**Makanchi Array**	**13.29**	**36**	P			**Pn**	**11 15 57.0**	**+0.4**
MKAR	**Makanchi Array**	**13.29**	**36**	P			**Pn**	**11 15 56.5**	**-0.1**
	2.3nm,0.6s,baz=223,slow=14,SNR=20								
AB31	**Akbulak array**	**14.95**	**331**	P			**P**	**11 16 16.1**	**-0.2**
	0.8nm,0.5s,baz=163,slow=11,SNR=26								
AB31					⇓S		S	11 18 47.5	-14
	1.2nm,0.6s,baz=348,slow=27,SNR=6.2								
ABKAR	**Akbulak array**	**14.95**	**331**	P			**P**	**11 16 15.8**	**-0.5**
ABKAR	**Akbulak array**	**14.95**	**331**	P			**Pn**	**11 16 17.5**	**+0.9**
KURBB	**Kurchatov Arra**	**15.08**	**19**	P			**Pn**	**11 16 18.1**	**-0.1**
	3.2nm,0.6s,baz=210,slow=11,SNR=18								
KURK	**Kurchatov**	**15.19**	**19**	P			**Pn**	**11 16 19.2**	**-0.2**
KURK					IAmb		IAmb	11 16 21.5	
	comp=Z,8.2nm,1.1s								
BVAR	**Borovoye Array**	**16.44**	**359**	P			**Pn**	**11 16 34.9**	**+0.6**
	comp=Z,3.7nm,0.5s,baz=168,slow=12,SNR=18								
BVAR					S		**S**	**11 19 35.9**	**+4.3**
	comp=Z,3.1nm,0.9s,baz=171,slow=22,SNR=4.0								
BRVK	**Borovoye**	**16.48**	**359**	P			**Pn**	**11 16 34.0**	**-0.7**
AKTO	**Aktyubinsk**	**16.65**	**330**	P			**Pn**	**11 16 36.0**	**-0.7**
	comp=Z,8.5nm,0.7s,baz=142,slow=9.0,SNR=21								
AKTO					S		**S**	**11 19 36.9**	**+1.1**
	comp=Z,2.7nm,1.0s,baz=201,slow=17,SNR=3.7								
ZAA0	**Zalesovo Array**	**19.89**	**25**	P			**P**	**11 17 11.1**	**+1.3**
ZALV	**Zalesovo Beam**	**19.89**	**25**	P			**P**	**11 17 10.4**	**+0.6**
ZALV	**Zalesovo Beam**	**19.89**	**25**	P			**P**	**11 17 11.1**	**+1.3**
	comp=Z,3.5nm,0.4s,baz=215,slow=10,SNR=13								
	comp=Z,3.5nm,0.4s								
ARU	**Arti**	**21.52**	**341**	P			**P**	**11 17 29.4**	**+3.0**
	comp=Z,4.3nm,0.2s,baz=206,slow=3.4,SNR=5.3								
	comp=Z,4.3nm,0.2s								
BELG	**Belogornoye**	**22.75**	**321**	P			**P**	**11 17 39.5**	**+1.7**
	comp=Z,22nm,0.9s,baz=84,slow=1.5,SNR=5.3								
	comp=Z,22nm,0.9s								
AKASG	**Malin Array Be**	**32.80**	**309**	P			**P**	**11 19 07.8**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=78,slow=7.1,SNR=4.4								
	comp=Z,0.2nm,0.3s								
FINES	**FINESS Array B**	**37.35**	**326**	P			**P**	**11 19 46.9**	**+1.4**
	comp=Z,1.0nm,0.6s,baz=111,slow=10,SNR=3.7								
	comp=Z,1.0nm,0.6s								
ARCES	**ARCESS Array B**	**41.02**	**338**	P			**P**	**11 20 17.2**	**+1.4**
	comp=Z,1.4nm,0.5s,baz=108,slow=7.8,SNR=6.3								
	comp=Z,1.4nm,0.5s								
HFS	**Hagfors**	**42.93**	**322**	P			**P**	**11 20 32.4**	**+1.1**
	comp=Z,2.0nm,0.6s,baz=96,slow=9.1,SNR=6.9								
	comp=Z,2.0nm,0.6s								
NB2	**NORSAR Subarra**	**44.24**	**323**	P			**P**	**11 20 42.2**	**+0.5**
	comp=Z,0.7nm,0.6s,baz=94,slow=7.9								
NOA	**NORSAR Array B**	**44.24**	**323**	P			**P**	**11 20 42.5**	**+0.8**
	comp=Z,1.1nm,0.7s,baz=97,slow=7.9,SNR=6.0								
	comp=Z,1.1nm,0.7s								
SPITS	**Spitsbergen Ar**	**47.38**	**347**	P			**P**	**11 21 07.4**	**+1.5**
	comp=Z,5.4nm,0.8s,baz=355,slow=7.7,SNR=17								
	comp=Z,5.4nm,0.8s								
TORD	**Torodi Ar. Bea**	**65.61**	**269**	P			**P**	**11 23 14.1**	**-0.8**
	comp=Z,0.7nm,0.5s,baz=50,slow=6.7,SNR=11								
	comp=Z,0.7nm,0.5s								
WRA	**Warramunga Arr**	**82.13**	**122**	P			**P**	**11 24 49.3**	**-1.0**
	comp=Z,0.5nm,0.7s,baz=328,slow=4.4,SNR=2.4								
	comp=Z,0.5nm,0.7s								
ASAR	**Alice Springs**	**84.40**	**125**	P			**P**	**11 24 59.9**	**-1.8**
	comp=Z,0.3nm,0.8s,baz=204,slow=15,SNR=1.6								
	comp=Z,0.3nm,0.8s								

*IDC **24** 11:14:00.9±8.2, 32°.11N×137°.04E, h375km±250km, mb3.4/2, mbtmp4.1/3, MS3.5/2, Error ellipse: s-maj=317.0km s-min=237.9km az=129.0*
*JMA **24** 11:14:26.6±0.1, 29°.20N±0°.09×139°.9E±0°.2, h462km, MV3.7/23, NEAR TORISHIMA IS*
ISC 24 11:14:27.0±1.1, 29°.20N±0°.09×139°.9E±0°.2, h450km, n13, σ1s40/15, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CBIJ	**Chichi jima**	**2.93**	**135**	*e*P		**S**	**11 15 33.5**	**0.0**
CBIJ				*e*S		**S**	**11 16 27.4**	**-0.1**
JHH2	**Haha-jima-NKT2**	**3.27**	**141**	*e*S		**S**	**11 16 32.0**	**-0.2**
JIE	**Ise**	**5.83**	**333**	P		**S**	**11 16 01.5**	**+2.1**
JKN2	**Miekihoku**	**5.88**	**330**	*e*P		**P**	**11 16 01.8**	**+1.8**
JHU	**Hanno**	**6.65**	**356**	*e*S		**S**	**11 17 28.3**	**-2.2**
JRY	**Ryogami san**	**6.85**	**353**	P		**P**	**11 16 11.1**	**+1.2**
JRY				*e*S		**S**	**11 17 33.2**	**-1.2**
JAG	**Ashikaga**	**7.21**	**357**	*e*P		**P**	**11 16 14.0**	**+0.2**
JAG				S		**S**	**11 17 39.8**	**-1.7**
JHO	**Hitachi**	**7.42**	**4**	*e*P		**P**	**11 16 17.7**	**+1.8**
JHO				*e*S		**S**	**11 17 45.1**	**-0.2**
MJAR	**Matsushiro Arr**	**7.45**	**350**	S		**P**	**11 16 17.6**	**+1.2**
	1.7nm,0.3s,baz=171,slow=11,SNR=6.6							
SEY	**Seymchan**	**34.71**	**10**	LR		LR	11 34 15.6	
	comp=Z,41nm,18.6s,baz=141,slow=38							
WRA	**Warramunga Arr**	**49.15**	**187**	P		**P**	**11 22 31.7**	**-0.6**
	2.3nm,0.3s,baz=1.5,slow=7.7,SNR=17							
	2.3nm,0.3s							
ASAR	**Alice Springs**	**52.87**	**187**	P		**P**	**11 22 59.0**	**-0.6**
	0.5nm,0.4s,baz=1.8,slow=7.1,SNR=4.6							
	0.5nm,0.4s							
OBN	**Obninsk**	**73.64**	**324**	LR		LR	11 56 30.3	
	comp=Z,49nm,19.3s,baz=9.0,slow=36							

VIE 24 11:23:15.0±0.4, 47°.87N×16°.07E, h0km, mb0.8/4, ml1.4/4, Error ellipse: s-maj=3.8km s-min=1.8km az=43.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
CONA	**Conrad Observa**	**0.15**	**295**	*i* Pg		Pg	11 23 17.8	-0.1
	3.3nm,0.2s							
CONA				*e*Sg		Sg	11 23 20.7	+0.9
	65nm,0.5s							
RONA	**Rosalia, Austr**	**0.23**	**137**	*i* Pg		Pg	11 23 19.6	+0.3
	2.1nm,0.2s							
RONA				*i* Sg		Sg	11 23 21.7	-0.5
	13nm,0.3s							
ARSA	**Arzberg**	**0.72**	**211**	Pg		Pg	11 23 28.9	+0.2
	0.8nm,0.2s							
ARSA				*e*Sg		Sg	11 23 38.3	+0.3
	2.1nm,0.2s							

IDC 24 11:25:11.9±1.1, 0°.65N×126°.58E, h0km, mb3.4/5, mbtmp3.5/5, Error ellipse: s-maj=66.2km s-min=21.9km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
WRA	**Warramunga Arr**	**21.83**	**160**	P		P	11 30 06.0	-0.1
	0.5nm,0.6s,baz=335,slow=11,SNR=6.4							
	0.5nm,0.6s							
ASAR	**Alice Springs**	**25.20**	**164**	P		P	11 30 39.7	+0.2
	0.6nm,0.7s,baz=344,slow=9.0,SNR=7.8							
	0.6nm,0.7s							
PETK	**Petropavlovsk-**	**58.33**	**21**	P		P	11 35 07.6	-1.1
	0.9nm,0.8s,baz=182,slow=4.3,SNR=1.7							
	0.9nm,0.8s							
MKAR	**Makanchi Array**	**60.00**	**326**	P		P	11 35 21.1	+0.6
	0.4nm,0.6s,baz=124,slow=10,SNR=3.6							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**64.25**	**328**	P		P	11 35 49.1	+0.2
	0.3nm,0.6s,baz=133,slow=5.6,SNR=4.4							
	0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**123.68**	**286**	PKP		PKPdf	11 44 12.2	-0.5
	0.1nm,0.3s,baz=96,slow=0.9,SNR=2.7							

*HEL **24** 11:53:19.0±0.1, 64°.67N×30°.72E, h0km, ML1.7, Suspected explosion*
*IDC **24** 11:53:20.2±2.9, 64°.58N×30°.80E, h0km, mbtmp3.0/3, ML1.8/3, Error ellipse: s-maj=42.1km s-min=9.6km az=104.0*
ISC 24 11:53:18.1±1.0, 64°.70N±0°.02×30°.71E±0°.05, h0km, n23, σ1s29/37, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
RMF	**Romuvaara**	**0.59**	**215**	PG		**Pg**	**11 53 29.2**	**-0.2**
RMF				MSG			11 53 37.2	
	comp=Z,10nm,0.2s							
RMF				SG		**Sg**	**11 53 37.4**	**+0.3**
KU6	**Riekki**	**1.37**	**346**	PG		**Pg**	**11 53 44.3**	**-0.1**
	baz=164							
KU6				MSG			11 54 01.2	
	comp=Z,4.1nm,0.2s							
KU6				SG		**Sb**	**11 54 02.5**	**-0.2**
MSF	**Maaselka**	**1.40**	**331**	PG		**Pn**	**11 53 44.7**	**-0.2**
	baz=154							
MSF				SG		**Sg**	**11 54 03.2**	**+0.1**
OLKF	**Oulanka, Finla**	**1.72**	**342**	PG		**Pb**	**11 53 50.5**	**+0.1**
OLKF				MSG			11 54 11.1	
	comp=Z,5.2nm,0.2s							
OLKF				SN		**Sg**	**11 54 13.4**	**+0.3**
JOF	**Joensuu**	**1.81**	**171**	PG		**Pn**	**11 53 50.6**	**+0.2**
	baz=350							
JOF				SN		**Sb**	**11 54 14.8**	**-0.4**
NIF	**Nilsia**	**1.83**	**225**	PG		**Pn**	**11 53 51.5**	**+0.7**
	baz=39							
NIF				SN		**Sg**	**11 54 17.5**	**+0.6**
OUL	**Oulu**	**2.09**	**283**	PG		**Pb**	**11 53 56.5**	**-0.3**
OUL				SG		**Sb**	**11 54 23.3**	**+0.1**
RANF	**Ranua**	**2.11**	**310**	PG		**Pb**	**11 53 57.2**	**+0.1**
RANF				SG		**Sb**	**11 54 24.1**	**+0.3**
OBF4	**Vikkela, Lumij**	**2.41**	**275**	PG		**Pb**	**11 54 01.7**	**-0.5**
	baz=90							
OBF4				MSG			11 54 30.3	
	comp=Z,4.4nm,0.2s							
OBF4				SG		**Sb**	**11 54 33.5**	**+1.2**
OUF	**Merijarvi**	**2.61**	**265**	PB		**Pn**	**11 54 02.8**	**+1.4**
	baz=84							
OUF				MSG			11 54 36.0	
	comp=Z,5.8nm,0.2s							
OUF				SG		**Sb**	**11 54 38.1**	**0.0**
RNF	**Rovaniemi**	**2.73**	**317**	PN		**Pn**	**11 54 04.6**	**+1.5**
RNF				SG		**Sb**	**11 54 42.9**	**+1.2**
OBF0	**Syolatti, Pyha**	**2.80**	**269**	PB		**Pb**	**11 54 07.8**	**-1.1**
OBF0				MSG			11 54 41.4	
	comp=Z,4.7nm,0.2s							
OBF0				SG		**Sb**	**11 54 44.2**	**+0.6**
SUF	**Sumiainen**	**2.84**	**228**	PG		**Pb**	**11 54 08.2**	**-1.5**
SUF				MSG			11 54 42.2	
	comp=Z,1.5nm,0.2s							
TOF	**Tornio**	**3.01**	**300**	MSG			11 54 47.9	
	comp=Z,0.8nm,0.2s							
TOF				SG		**Sb**	**11 54 50.9**	**+1.2**
SGF	**Sodankyl**	**3.24**	**330**	SB		**Sb**	**11 54 56.3**	**+0.1**
LVZ	**Lovozero**	**3.58**	**25**	SN		**Sn**	**11 54 59.2**	**+1.4**
KLF	**Kolari**	**3.75**	**316**	SG		**Sg**	**11 55 15.9**	**-2.6**
FINES	**FINESS Array B**	**3.89**	**215**	Pn		**Pn**	**11 54 19.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=1.8							
FINES				Sn		**Sn**	**11 55 06.1**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=35,slow=22,SNR=2.5							
FINES				Lg		Lg	11 55 18.1	
	comp=Z,0.5nm,0.3s,baz=35,slow=27,SNR=6.7							
	comp=Z,1.2nm,0.8s							
RAJF	**Raja-Jooseppi**	**3.91**	**347**	PN		**Pn**	**11 54 21.5**	**+2.2**
RAJF				SB		**Sb**	**11 55 13.8**	**-1.8**
HEF	**Hetta**	**4.67**	**326**	SG		**Sg**	**11 55 43.0**	**-4.8**
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn		**Pn**	**11 54 39.1**	**+1.3**
	comp=Z,0.1nm,0.3s,baz=154,slow=12,SNR=6.1							
ARCES				Sn		**Sn**	**11 55 38.6**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=161,slow=25,SNR=1.3							
ARCES				Lg		Lg	11 56 00.1	
	comp=Z,0.2nm,0.3s,baz=164,slow=30,SNR=2.0							
	comp=Z,6.9nm,1.2s							
I37NO	**I37NO**	**6.47**	**318**	I		I	12 35 00.0	
	baz=129,slow=327,SNR=1.3							
HFS	**Hagfors**	**9.11**	**248**	Pn		**Pn**	**11 55 30.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=54,slow=14,SNR=1.4							
	comp=Z,0.3nm,0.3s							

*IDC **24** 11:53:35.3±4.2, 36°.28N×70°.24E, h191km±38km, mb3.2/7, mbtmp3.8/12, Error ellipse: s-maj=30.7km s-min=19.8km az=21.0*
*NNC **24** 11:53:38.5±3.6, 36°.80N×70°.24E, h0km, mb4.5, mpv4.1, Error ellipse: s-maj=33.4km s-min=26.8km az=119.0*
ISC 24 11:53:38.1±1.1, 36°.5N±0°.1×70°.2E±0°.1, h213km, n24, σ0s95/29, mb3.3/6, 3C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**6.62**	**2**	⇓P		**Pn**	**11 55 13.2**	**-0.2**
	2.8nm,0.3s,baz=196,slow=16,SNR=90							
KK31				S		**S**	**11 56 26.6**	**-2.4**
	5.3nm,0.7s,baz=202,slow=26,SNR=3.8							
UCH	**Uchtor**	**6.63**	**29**	P		**Pn**	**11 55 14.1**	**+0.2**
	SNR=51							
EKS2	**Erkin-Say**	**6.75**	**23**	P		**Pn**	**11 55 15.7**	**+0.5**
	SNR=18							
AAK	**Ala-Archa**	**6.97**	**27**	P		**Pn**	**11 55 18.5**	**+0.4**
	SNR=12							
AAK	**Ala-Archa**	**6.97**	**27**	⇓P		**Pn**	**11 55 18.9**	**+0.8**
	5.9nm,0.3s							
AAK				⇑S		**S**	**11 56 36.5**	**-1.1**
	10nm,0.6s							
AAK	**Ala-Archa**	**6.97**	**27**	P		**Pn**	**11 55 18.3**	**+0.3**
	13nm,0.3s,baz=192,slow=4.2,SNR=43							
AAK				S		**S**	**11 56 37.6**	**0.0**
	5.9nm,0.6s,baz=148,slow=23,SNR=1.7							
KBK	**Karagaybulak**	**7.16**	**29**	P		**Pn**	**11 55 21.6**	**+1.1**
	SNR=12							
CHMS	**Chumysh**	**7.38**	**27**	P		**Pn**	**11 55 23.4**	**+0.2**
	SNR=8.2							
CHMS	**Chumysh**	**7.38**	**27**	⇓P		**Pn**	**11 55 23.2**	**-0.1**
	8.9nm,0.5s							
CHMS				⇓S		**S**	**11 56 45.3**	**-1.7**
	4.4nm,0.6s							
ULHL	**Ulahol**	**7.40**	**37**	P		**Pn**	**11 55 24.4**	**+0.8**
	SNR=5.6							
USP	**Ospenovka**	**7.53**	**25**	P		**Pn**	**11 55 25.1**	**0.0**
	SNR=10							
TKM2	**Tokmak 2**	**7.64**	**31**	P		**Pn**	**11 55 27.6**	**+0.8**
	SNR=6.0							
TKM2	**Tokmak 2**	**7.64**	**31**	⇑P		**Pn**	**11 55 26.7**	**-0.1**
	4.6nm,0.3s							
TKM2				⇑S		**S**	**11 56 53.7**	**+0.2**
	2.0nm,0.6s							
MKAR	**Makanchi Array**	**13.67**	**37**	P		**Pn**	**11 56 42.9**	**-0.5**
	2.0nm,0.6s,baz=225,slow=14,SNR=14							
KURBB	**Kurchatov Arra**	**15.35**	**20**	P		**Pn**	**11 57 03.1**	**-0.6**
	0.9nm,0.4s,baz=209,slow=11,SNR=12							
AKTO	**Aktyubinsk**	**16.49**	**332**	P		**Pn**	**11 57 17.7**	**+0.2**
	1.1nm,0.4s,baz=147,slow=6.1,SNR=2.9							
BVAR	**Borovoye Array**	**16.54**	**0**	P		**Pn**	**11 57 18.1**	**+0.1**
	1.7nm,0.4s,baz=170,slow=10,SNR=8.9							
ZALV	**Zalesovo Beam**	**20.19**	**26**	P		**P**	**11 57 57.0**	**+0.6**
	1.3nm,0.4s,baz=218,slow=12,SNR=6.2							
	1.3nm,0.4s							
KBZ	**Khabaz**	**22.06**	**298**	P		**P**	**11 58 17.1**	**+1.6**
	1.8nm,0.6s,baz=218,slow=0.6,SNR=2.0							
	1.8nm,0.6s							
ARCES	**ARCESS Array B**	**40.92**	**338**	P		**P**	**12 01 00.5**	**+1.2**
	3.0nm,1.0s,baz=123,slow=8.8,SNR=5.2							
	3.0nm,1.0s							
TORD	**Torodi Ar. Bea**	**65.10**	**268**	P		**P**	**12 03 54.5**	**-1.7**
	0.4nm,0.6s,baz=40,slow=5.8,SNR=4.9							
	0.4nm,0.6s							
YKA	**Yellowknife Ar**	**81.29**	**2**	P		**P**	**12 05 30.6**	**+0.6**
	0.3nm,0.8s,baz=347,slow=6.2,SNR=5.6							
	0.3nm,0.8s							
WRA	**Warramunga Arr**	**82.51**	**121**	P		**P**	**12 05 37.0**	**-0.1**
	0.3nm,0.6s,baz=5.7,slow=7.6,SNR=7.5							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**84.75**	**124**	P		**P**	**12 05 47.1**	**-1.4**
	0.3nm,0.6s,baz=319,slow=5.6,SNR=6.4							
	0.3nm,0.6s							

*IDC **24** 12:04:43.6±0.7, 19°.76S×14°.64E, h0km, mb4.0/8, mbtmp4.0/13, ML3.6/4, MS3.2/3, Error ellipse:*

s-maj=16.9km s-min=13.9km az=24.0
*NEIC **24** 12:04:45.5±1.4, 19°.74S±0°.04×14°.7E±0°.1, h10km±1km, mb4.2/6, Error ellipse: s-maj=18.9km s-min=7.1km az=269.0*
*NAM **24** 12:04:47.7±2.4, 20°.35S×14°.22E, h23km±575km, ML4.2*
ISC 24 12:04:45.1±0.6, 19°.87S±0°.05×14°.80E±0°.05, h10km, n56, σ2s95/62, mb4.1/11, Namibia

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
I35NA	**TSUMEB INFRASO**	**2.70**	**76**	Lg		Lg	12 06 13.1	
	baz=241,slow=30							
TSUM	**Tsumeb**	**2.71**	**76**	*i* P		**Pn**	**12 05 30.8**	**+1.9**
TSUM				*i* S		**Sn**	**12 06 02.3**	**+0.5**
TSUM				IAML			12 06 29.8	
	comp=Z,730nm,0.7s							
TSUM	**Tsumeb**	**2.71**	**76**	Pn		**Pn**	**12 05 30.4**	**+1.6**
	comp=Z,45nm,0.3s,baz=256,slow=12,SNR=111							
TSUM				Pg		**Pg**	**12 05 37.0**	**0.0**
	comp=Z,98nm,0.3s,baz=234,slow=14,SNR=81							
TSUM				Sn		**Sn**	**12 06 03.6**	**+1.9**
	comp=Z,71nm,0.3s,baz=277,slow=15,SNR=5.5							
TSUM				Lg		Lg	12 06 14.0	
	comp=Z,85nm,0.3s,baz=2.9,slow=15,SNR=9.4							
TSUM				LR		LR	12 06 49.1	
	comp=Z,164nm,18.5s,baz=328,slow=44							
WIN	**Windhoek**	**3.44**	**142**	Pn		**Pn**	**12 05 42.8**	**+3.9**
WIN	**Windhoek**	**3.44**	**142**	*i* P		**Pn**	**12 05 43.0**	**+4.1**
WIN				*i* S		**Sn**	**12 06 19.8**	**-0.1**
WIN				IAML			12 06 45.1	
	comp=Z,5μm,0.3s							
KOOLE	**Kule**	**5.91**	**123**	*i* P		Pn	12 06 20.7	+7.8
KOOLE				*e*S		**Sb**	**12 07 34.8**	**-4.4**
KOOLE				IAML			12 08 05.8	
	comp=Z,544nm,0.6s							
GRTLG	**Ghanzi**	**6.19**	**105**	*i* P		**Pn**	**12 06 21.0**	**+4.3**
GRTLG				*e*S		**Sb**	**12 07 38.9**	**-8.4**
GRTLG				IAML			12 08 14.6	
	comp=Z,224nm,0.7s							
AUSN	**Aus**	**6.90**	**169**	*i* P		**Pn**	**12 06 29.1**	**+2.5**
AUSN				*i* S		**Sn**	**12 07 47.4**	**+2.1**
AUSN				IAML			12 08 33.8	
	comp=Z,105nm,0.3s							
KGCAE	**Kacgae**	**7.51**	**115**	*i* P		Pn	12 06 41.3	+6.4
KGCAE				*e*S		Sb	12 08 14.4	-11
KGCAE				IAML			12 08 58.8	
	comp=Z,176nm,0.6s							
ARMS	**Ukamas**	**9.30**	**152**	*i* P		**Pn**	**12 06 59.7**	**+0.2**
ARMS				*i* S		**Sn**	**12 08 37.5**	**-6.7**
ARMS				IAML			12 09 55.8	
	comp=Z,62nm,1.2s							
SKOMA	**Sekoma**	**9.64**	**120**	*i* P		Pn	12 07 10.7	+6.6
SKOMA				*e*S		Sn	12 09 07.0	+14
SKOMA				IAML			12 10 06.5	
	comp=Z,30nm,0.8s							
KDWAN	**Kaudwane**	**9.81**	**113**	*i* P		**Pn**	**12 07 10.0**	**+3.6**
KDWAN				*e*S		Sn	12 09 10.1	+13
KDWAN				IAML			12 10 06.5	
	comp=Z,67nm,0.8s							
SOOWA	**Sowa**	**10.74**	**96**	*i* P		**Pn**	**12 07 21.1**	**+1.9**
SOOWA				*e*S		Sn	12 09 30.6	+11
SOOWA				IAML			12 10 43.3	
	comp=Z,70nm,0.8s							
MAKGR	**Makgori**	**10.95**	**125**	*i* P		Pn	12 07 27.9	+5.8
MAKGR				*e*S		Sn	12 09 37.7	+13
MAKGR				IAML			12 10 50.0	
	comp=Z,30nm,0.7s							
LBTB	**Lobatse**	**11.22**	**119**	*i* P		Pn	12 07 30.7	+5.0
LBTB				*e*S		Sn	12 09 42.6	+11
LBTB				IAML			12 10 55.1	
	comp=Z,55nm,0.9s							
LBTB	**Lobatse**	**11.22**	**119**	Pn		**Pn**	**12 07 27.2**	**+1.5**
LBTB	**Lobatse**	**11.22**	**119**	*i* P		**Pn**	**12 07 25.5**	**-0.2**
LBTB	**Lobatse**	**11.22**	**119**	Pn		**Pn**	**12 07 26.9**	**+1.2**
	comp=Z,0.3nm,0.3s,baz=281,slow=12,SNR=5.1							
LBTB				Sn		**Sn**	**12 09 37.4**	**+6.1**
	comp=Z,0.7nm,0.3s,baz=274,slow=21,SNR=2.2							
LBTB				Lg		Lg	12 10 33.9	
	comp=Z,3.0nm,0.3s,baz=26,slow=17,SNR=10							
	comp=Z,2.4nm,0.6s							
LBTB	**Lobatse**	**11.22**	**119**	*i* P		**Pn**	**12 07 27.0**	**+1.3**
MREMI	**Moremi**	**12.10**	**105**	*i* P		**Pn**	**12 07 42.1**	**+4.4**
MREMI				*e*S		Sn	12 10 04.7	+12
MREMI				IAML			12 11 33.0	
	comp=Z,30nm,0.7s							
MATP	**Matopo**	**12.88**	**95**	*i* P		**Pn**	**12 07 46.4**	**-2.0**
MATP	**Matopo**	**12.88**	**95**	Pn		**Pn**	**12 07 49.3**	**+0.8**
	comp=Z,0.4nm,0.3s,baz=272,slow=12,SNR=6.7							
MATP				Sn		**Sn**

comp=Z,0.7nm,0.7s
SBA Scott Base 81.13 174 P **P** 12 17 01.6 **+1.3**
SBA IAmb IAmb 12 17 06.0
comp=Z,1.9nm,1.0s
FINES FINESS Array B 81.53 5 P **P** **12 17 03.0 +0.5**
comp=Z,1.3nm,0.7s,baz=174,slow=1.9,SNR=4.7
comp=Z,1.3nm,0.7s
PZH PanZhiHua 96.02 64 P **P** **12 18 14.3 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,100nm,4.6s
TXAR Lajitas Array 123.81 293 PKP **PKPdf** **12 23 43.4 -0.6**
comp=Z,0.3nm,0.8s,baz=106,slow=2.9,SNR=2.9
YKA Yellowknife Ar 125.22 334 PKP **PKPdf** **12 23 45.4 -0.2**
comp=Z,0.4nm,0.6s,baz=31,slow=1.9,SNR=5.6
PDAR Pinedale Array 128.30 309 PKP **PKPdf** **12 23 52.1 -0.2**
comp=Z,0.5nm,0.5s,baz=102,slow=5.1,SNR=4.1

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*CATAC **24** 12:17:03.9±0.5, 13°.92N×91°.33W, h37$^{km}_{\pm}$13^{km}, ML4.6*
*NEIC **24** 12:17:04.5±1.8, 13°.98N±0°.08×91°.36W±0°.07, h49$^{km}_{\pm}$14^{km}, mb4.1/18, Error ellipse: s-maj=12.4km s-min=7.1km az=215.0*
*IDC **24** 12:17:04.2±2.3, 13°.99N×91°.13W, h88$^{km}_{\pm}$16^{km}, mb3.5/5, mbtmp3.8/8, MS3.0/9, Error ellipse: s-maj=35.1km s-min=18.9km az=35.0*
*GCG **24** 12:17:04.1±0.7, 14°.01N×91°.35W, h54^{km}, MD4.1*
ISC 24 12:17:03.7±0.9, 13°.98N±0°.06×91°.32W±0°.05, h72$^{km}_{\pm}$7^{km}, n87, σ1°23/95, mb4.0/10, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SULM	**Suchitepequez,**	**0.40**	**323**	*i* P	**Pn**	**12 17 16.1**	**+0.3**
RTAL	**Retalhuleu**	**0.65**	**326**	P	**Pn**	**12 17 17.3**	**-0.9**
RTAL	**Retalhuleu**	**0.65**	**326**	*i* P	**Pn**	**12 17 17.1**	**-1.1**
RTAL				*i* S	**Sn**	**12 17 27.8**	**-1.2**
RTAL				IAML		12 17 46.9	
	comp=Z,6μm,1.0s						
FUG	**Fuego 3**	**0.65**	**45**	*i* P	**Pn**	**12 17 18.2**	**-0.3**
STG3	**Santiaguito 3,**	**0.76**	**341**	*i* P	**Pn**	**12 17 19.4**	**-0.3**
PCG	**Pacaya**	**0.80**	**59**	*i* P	**Pn**	**12 17 20.1**	**-0.1**
CHTG	**Tecpan**	**0.84**	**23**	*i* P	**Pn**	**12 17 20.3**	**-0.4**
CHTG				*i* S	**Sn**	**12 17 32.7**	**-0.5**
CHTG				IAML		12 17 34.8	
	comp=Z,60μm,1.0s						
GUMI	**Mixco**	**0.94**	**47**	*i* P	**Pn**	**12 17 21.4**	**-0.4**
GUMI				*i* S	**Sn**	**12 17 35.5**	**+0.3**
GUMI				IAML		12 17 39.1	
	comp=Z,31μm,1.0s						
GCG4	**OSOP**	**0.97**	**52**	*i* P	**Pn**	**12 17 21.6**	**-0.5**
GCG4				IAML		12 17 22.7	
	comp=Z,12μm,1.0s						
GCG4				*i* S	**Sn**	**12 17 35.9**	**+0.1**
SMSP	**San Marcos**	**1.08**	**336**	*i* P	**Pn**	**12 17 23.3**	**-0.3**
SMSP				*i* S	**Sn**	**12 17 37.6**	**-0.9**
SMSP				IAML		12 17 38.9	
	comp=Z,32μm,1.0s						
NBG	**Las Nubes**	**1.12**	**57**	*i* P	**Pn**	**12 17 25.0**	**+0.9**
GUNB	**GUNB**	**1.12**	**57**	*i* P	**Pn**	**12 17 24.0**	**-0.2**
GUNB				IAML		12 17 24.4	
	comp=Z,8μm,1.0s						
GUNB				*i* S	**Sn**	**12 17 39.6**	**+0.2**
APG	**El Apazote**	**1.31**	**39**	P	**Pn**	**12 17 26.1**	**-0.3**
	comp=Z,18nm,0.4s,baz=210,slow=16,SNR=169						
APG				S	**Sn**	**12 17 45.5**	**+2.0**
	comp=Z,36nm,0.3s,baz=238,slow=23,SNR=10						
APG				LR	LR	12 18 09.4	
	comp=Z,14nm,20.3s,baz=298,slow=54						
QUIS	**Sacapulas**	**1.32**	**10**	*i* P	**Pn**	**12 17 27.1**	**+0.6**
QUIS				IAML		12 17 29.0	
	comp=Z,3μm,1.0s						
QUIS				*i* S	**Sn**	**12 17 45.2**	**+1.6**
HUEH	**Huehuetenango**	**1.34**	**352**		**Pn**	**12 17 26.9**	**0.0**
HUEH	**Huehuetenango**	**1.34**	**352**	*i* P	**Pn**	**12 17 27.2**	**+0.3**
HUEH				*i* S	**Sn**	**12 17 45.5**	**+1.3**
HUEH				IAML		12 17 52.3	
	comp=Z,4μm,1.0s						
NUBE	**Las Nubes**	**1.50**	**93**	*e*S	**Sn**	**12 17 46.0**	**-1.7**
RTR	**El Retiro**	**1.63**	**93**	*e*P	**Pn**	**12 17 31.4**	**+0.8**
CEVE	**Cerro Verde**	**1.65**	**95**	*i* P	**Pn**	**12 17 31.3**	**+0.3**
CEVE				*e*S	**Sn**	**12 17 51.7**	**+0.1**
SBLS	**San Blas**	**1.65**	**95**	*e*P	**Pn**	**12 17 31.2**	**+0.2**
SNJE	**San Jose**	**1.67**	**94**	*e*P	**Pn**	**12 17 31.5**	**+0.4**
AVCB	**Coban**	**1.72**	**31**	*i* P	**Pn**	**12 17 32.7**	**+0.8**
AVCB				IAML		12 18 04.8	
	comp=Z,4μm,1.0s						
MRL	**Marmol**	**1.92**	**55**	*i* P	**Pn**	**12 17 35.1**	**+0.5**
MTO3	**Montecristo**	**1.94**	**77**	*e*P	**Pn**	**12 17 33.9**	**-0.9**
BOQS	**Boqueron**	**2.00**	**97**	*e*P	**Pn**	**12 17 35.4**	**-0.1**
ESQI	**Esquipulas**	**2.00**	**73**		**Pn**	**12 17 35.1**	**-0.5**
LALI	**Alcalda de L**	**2.00**	**104**	*e*P	**Pn**	**12 17 35.5**	**+0.1**
PAVA	**Las Pavas**	**2.33**	**96**	*e*P	**Pn**	**12 17 39.8**	**-0.1**
COEG	**Centro de Oper**	**2.40**	**98**	*e*P	**Pn**	**12 17 41.4**	**+0.5**
CCIG	**Comitan**	**2.42**	**341**		**Pn**	**12 17 41.5**	**+0.2**
TECO	**Alcaldia de Te**	**2.50**	**100**	*e*P	**Pn**	**12 17 42.3**	**+0.1**
SCLA	**Alcaldia de Sa**	**2.53**	**96**	*e*P	**Pn**	**12 17 42.4**	**-0.2**
COEB	**Comit de Eme**	**2.75**	**100**	*e*P	**Pn**	**12 17 46.0**	**+0.3**
BLLM	**Bellamira**	**3.04**	**100**	*e*P	**Pn**	**12 17 51.0**	**+1.4**
PETF	**Flores**	**3.23**	**25**		**Pn**	**12 17 52.3**	**+0.1**
PETF	**Flores**	**3.23**	**25**	*i* P	**Pn**	**12 17 52.0**	**-0.2**
LCND	**La Caada**	**3.40**	**101**	*e*P	**Pn**	**12 17 54.7**	**+0.3**
CNCH	**Conchagua**	**3.46**	**101**	*e*P	**Pn**	**12 17 55.7**	**+0.4**
TGUH	**Tegucigalpa,Un**	**3.93**	**88**		**Pn**	**12 18 03.5**	**+1.8**
CRIN	**San Cristobal**	**4.35**	**107**		**Pn**	**12 18 09.0**	**+1.6**
CRIN	**San Cristobal**	**4.35**	**107**	*i* P	**Pn**	**12 18 10.3**	**+2.9**
CRIN				*i* S	**Sn**	**12 18 57.6**	**+0.7**
CRIN				IAML		12 19 14.0	
	comp=Z,1μm,1.0s						
PKGN	**Cerro Pekin**	**4.42**	**107**	*i* P	**Pn**	**12 18 09.8**	**+1.4**
PKGN				*i* S	**Sn**	**12 18 57.7**	**-0.9**
PKGN				IAML		12 19 08.2	
	comp=Z,840nm,1.0s						
CMIG	**Matias Romero**	**4.62**	**312**	P	**Pn**	**12 18 11.7**	**+0.7**
	comp=Z,12nm,0.4s,baz=130,slow=10.0,SNR=28						
CMIG				S	**Sn**	**12 19 04.4**	**+0.9**
	comp=Z,30nm,0.6s,baz=273,slow=23,SNR=4.0						
CNGA	**Al SSO del Vol**	**4.73**	**108**	*i* P	**Pn**	**12 18 12.4**	**-0.3**
CNGA				IAML		12 19 16.1	
	comp=Z,260nm,1.0s						
CNGN	**Cerro Negro**	**4.73**	**108**		**Pn**	**12 18 13.2**	**+0.5**
CNGN	**Cerro Negro**	**4.73**	**108**	*i* P	**Pn**	**12 18 13.4**	**+0.7**
CNGN				*i* S	**Sn**	**12 19 05.9**	**-0.4**
CNGN				IAML		12 19 30.8	
	comp=Z,300nm,1.0s						
MACN	**El Madrono**	**4.77**	**108**	*i* P	**Pn**	**12 18 14.4**	**+1.3**
MACN				*i* S	**Sn**	**12 19 07.1**	**0.0**
MACN				IAML		12 19 14.1	
	comp=Z,150nm,1.0s						
LIMN	**Finca el Limon**	**4.90**	**100**	*i* P	**Pn**	**12 18 15.3**	**+0.3**
LIMN				IAML		12 19 36.1	
	comp=Z,100nm,1.0s						
COPN	**Copaltepe**	**4.94**	**111**	*i* P	**Pn**	**12 18 16.2**	**+0.7**
COPN				IAML		12 19 20.1	
	comp=Z,160nm,1.0s						
MOM2	**El Cardon**	**4.95**	**108**	*i* P	**Pn**	**12 18 16.8**	**+1.2**
MOM2				*i* S	**Sn**	**12 19 09.6**	**-2.0**
MOM2				IAML		12 19 25.0	
	comp=Z,170nm,1.0s						
ACON	**Acoyapa**	**6.32**	**108**		**Pn**	**12 18 35.2**	**+0.9**
ORTG	**Ortega, Santa**	**6.76**	**121**		**Pn**	**12 18 40.6**	**+0.1**
TEIG	**Tepich**	**6.86**	**25**		**Pn**	**12 18 41.6**	**-0.1**
TEIG	**Tepich**	**6.86**	**25**	P	**Pn**	**12 18 42.3**	**+0.7**
	comp=Z,151nm,0.6s,baz=298,slow=0.9,SNR=146						
TEIG				S	**Sn**	**12 19 54.6**	**-3.6**
	comp=Z,38nm,0.8s,baz=239,slow=20,SNR=0.9						
TEIG				LR	LR	12 22 00.0	
	comp=Z,86nm,21.5s,baz=238,slow=44						
DUNO	**Dulce Nombre,**	**6.89**	**124**		**Pn**	**12 18 42.7**	**+0.5**
JTS	**Las Juntas de**	**7.22**	**120**		**Pn**	**12 18 47.8**	**+1.1**
JTS	**Las Juntas de**	**7.22**	**120**	P	**Pn**	**12 18 45.8**	**-0.9**
	comp=Z,2.5nm,0.4s,baz=304,slow=23,SNR=2.0						
JTS				LR	LR	12 20 44.4	
	comp=Z,15nm,21.6s,baz=288,slow=31						
LCR2	**La Lucha 2**	**8.31**	**120**		**Pn**	**12 19 04.8**	**+3.1**
SRBA	**San Rafael, Bu**	**9.11**	**120**		**Pn**	**12 19 15.0**	**+2.3**
SOR	**Soroa**	**11.79**	**41**	Pn	**Pn**	**12 19 49.8**	**+0.8**
553A	**Crawfordville**	**17.34**	**20**		**P**	**12 21 03.2**	**+1.8**
TX31	**Lajitas Ar. Si**	**19.08**	**325**	P	**Pn**	**12 21 23.1**	**+0.9**
TXAR	**Lajitas Array**	**19.08**	**325**	P	**Pn**	**12 21 23.2**	**+1.0**
TXAR	**Lajitas Array**	**19.08**	**325**	P	**P**	**12 21 22.1**	**+1.5**
	comp=Z,0.7nm,0.8s,baz=136,slow=10,SNR=11						
OZNA	**Ozona**	**19.12**	**333**	P	**P**	**12 21 23.0**	**+1.9**
PLPT	**Palo Pinto**	**19.80**	**342**	IAmb	IAmb	12 21 30.6	
	comp=Z,9.5nm,0.7s						
MNHN	**Monahans**	**20.22**	**331**	P	**P**	**12 21 34.8**	**+1.7**
MNHN				IAmb	IAmb	12 21 35.8	
	comp=Z,6.9nm,0.7s						
APMT	**Aspermont**	**20.86**	**339**	P	**P**	**12 21 40.4**	**+0.6**
APMT				IAmb	IAmb	12 22 08.8	
	comp=Z,8.5nm,0.8s						
SDV	**Santo Domingo**	**20.89**	**102**	P	**P**	**12 21 37.2**	**-3.3**
	comp=Z,1.6nm,0.4s,baz=312,slow=6.7,SNR=2.6						
	comp=Z,1.6nm,0.4s						
POST	**Post**	**21.14**	**336**	IAmb	IAmb	12 22 03.6	
	comp=Z,4.6nm,0.6s						
FCAR	**Ozark Folk Cen**	**21.83**	**358**	IAmb	IAmb	12 21 50.7	
	comp=Z,5.0nm,0.8s						
TKL	**Tuckaleechee C**	**22.62**	**16**	P	**P**	**12 21 57.5**	**-1.3**
	comp=Z,4.0nm,0.6s,baz=180,slow=12,SNR=8.6						
TKL				LR	LR	12 31 40.1	
	comp=Z,46nm,18.1s,baz=175,slow=39						
	comp=Z,4.0nm,0.6s						
R40A	**Maddies Statio**	**24.23**	**358**	IAmb	IAmb	12 22 14.3	
	comp=Z,7.0nm,0.8s						
ANMO	**Albuquerque**	**24.95**	**329**	LR	LR	12 33 17.1	
	comp=Z,34nm,18.3s,baz=314,slow=39						
PCRV	**Puerto La Cruz**	**26.36**	**95**	LR	LR	12 34 25.1	
	comp=Z,30nm,18.1s,slow=40						
V12A	**Nelson**	**30.26**	**320**	P	**P**	**12 23 10.5**	**+2.5**
V12A				IAmb	IAmb	12 23 12.1	
	comp=Z,3.0nm,0.8s						
PSUT	**Pine Spring**	**31.55**	**325**	IAmb	IAmb	12 23 24.8	
	comp=Z,2.4nm,0.7s						
SADO	**Sadowa**	**32.39**	**16**	LR	LR	12 38 19.0	
	comp=Z,32nm,18.8s,baz=236,slow=39						
PDAR	**Pinedale Array**	**32.71**	**335**	LR	LR	12 38 06.7	
	comp=Z,21nm,19.5s,baz=230,slow=38						
NVAR	**Mina Array Bea**	**34.10**	**321**	P	**P**	**12 23 42.3**	**+0.5**
	comp=Z,1.8nm,0.7s,baz=133,slow=8.7,SNR=18						
NVAR				PcP	**PcP**	**12 26 18.4**	**+0.6**
	comp=Z,0.3nm,0.6s,baz=167,slow=4.5,SNR=2.9						
	comp=Z,1.8nm,0.7s						
KVN	**Kaiserville**	**34.37**	**322**	P	**P**	**12 23 46.6**	**+2.5**
KVN				IAmb	IAmb	12 23 48.0	
	comp=Z,1.4nm,0.8s						
J08A	**Circle Bar Ran**	**37.41**	**327**	P	**P**	**12 24 11.4**	**+1.5**
SCHQ	**Schefferville**	**45.01**	**20**	LR	LR	12 45 13.7	
	comp=Z,39nm,18.8s,baz=282,slow=38						
YKA	**Yellowknife Ar**	**51.20**	**346**	P	**P**	**12 25 58.4**	**-1.1**
	comp=Z,0.6nm,0.7s,baz=151,slow=6.8,SNR=13						
YKA				PcP	**PcP**	**12 27 11.3**	**-2.5**
	comp=Z,0.3nm,0.7s,baz=154,slow=3.3,SNR=6.1						
	comp=Z,0.6nm,0.7s						
SFJD	**Kangerlussuaq**	**59.33**	**17**	LR	LR	12 53 07.5	
	comp=Z,26nm,19.0s,baz=232,slow=36						
ILAR	**Eielson Array**	**63.12**	**337**	P	**P**	**12 27 21.9**	**-1.7**
	comp=Z,0.2nm,0.5s,baz=172,slow=4.2,SNR=7.2						
	comp=Z,0.2nm,0.5s						
WRA	**Warramunga Arr**	**136.03**	**256**	PKP	**PKPdf**	**12 36 16.1**	**-1.4**
	comp=Z,0.3nm,0.8s,baz=84,slow=2.1,SNR=1.9						

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*NEIC **24** 12:31:57.6±0.3, 35°.85N±0°.01×96°.695W±0°.009, h5$^{km}_{\pm}$1^{km}, Error ellipse: s-maj=2.9km s-min=1.8km az=100.0*
TUL 24 12:31:57.9±0.4, 35°.86N±0°.01×96°.69W±0°.01, h6$^{km}_{\pm}$5^{km}, ML2.4, mb_Lg2.3/20(NEIC), ML2.6/44(NEIC), Error ellipse: s-maj=1.8km s-min=1.2km az=147.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK031	**S. Brethren Rd**	**0.15**	**308**		**Pg**	**12 32 01.5**	**+0.5**
OK031				IAML		12 32 03.9	
	2μm,0.3s						
DEOK	**Depew**	**0.16**	**96**	Pg	Pg	12 32 01.5	+0.4
OK052	**Battle Ridge R**	**0.16**	**326**		Pg	12 32 01.5	+0.3
QUOK	**Quay**	**0.31**	**357**	Pg	Pg	12 32 04.5	+0.5
ADOK	**Arcadia Dam**	**0.59**	**250**	Pg	Pg	12 32 08.9	-0.4
OK048	**Pawnee Station**	**0.59**	**340**	Pg	Pg	12 32 09.5	+0.2
OK048				Sg	Sg	12 32 17.4	+0.4
OK048				IAML		12 32 17.9	
	212nm,0.1s						
OK029	**Liberty Lake**	**0.62**	**264**		Pg	12 32 10.0	+0.1
OK051	**E0350 and S346**	**0.66**	**350**		Pg	12 32 10.6	+0.1
OK051				IAML		12 32 26.8	
	198nm,0.2s						
TUL3	**Leonard**	**0.73**	**86**		Pg	12 32 12.0	0.0
BLOK	**Blackwell**	**0.99**	**335**		Pg	12 32 16.9	-0.1
BLOK				Sg	Sg	12 32 29.8	-0.1
T35A	**Sooner Cattle**	**1.06**	**8**		Pg	12 32 17.8	-0.5
T35A				Sg	Sg	12 32 32.3	+0.2
T35A				IAML		12 32 32.8	
	comp=N,156nm,0.2s						
T35A				IAML		12 32 32.9	
	comp=E,123nm,0.3s						
CROK	**Carrier**	**1.23**	**302**	Pg	Pg	12 32 21.1	-0.4
KAN13	**South Haven SW**	**1.31**	**331**		Pn	12 32 22.4	-0.4
GC02	**Grant County #**	**1.37**	**317**		Pn	12 32 22.6	-1.0
RLO	**Rose Lookout**	**1.39**	**77**	Pg	Pn	12 32 23.6	-0.2
KAN09	**Caldwell North**	**1.48**	**330**		Pn	12 32 25.1	0.0
KAN14	**Manchester OK**	**1.50**	**317**		Pn	12 32 25.4	+0.1
KAN01	**Argonia South**	**1.55**	**327**		Pn	12 32 26.3	+0.2
CSTR	**Hydro, Custer**	**1.64**	**263**		Pn	12 32 27.4	+0.1
X37A	**Clayton**	**1.67**	**139**	Pg	Pb	12 32 28.3	-0.7
KAN06	**Argonia West S**	**1.68**	**326**		Pn	12 32 28.4	+0.7
KAN08	**Anthony NE Sta**	**1.71**	**323**		Pn	12 32 28.9	+0.6
KAN12	**Harper NE Stat**	**1.78**	**324**	Pn	Pb	12 32 30.2	-0.7
LOOK	**Love County**	**1.91**	**192**	Pn	Pn	12 32 31.2	+0.3
U32A	**Winter Ranch,**	**1.94**	**286**	Pn	Pn	12 32 32.3	+0.8
U38A	**Gravette**	**1.95**	**72**		Pn	12 32 32.3	+0.7
WMOK	**Wichita Mounta**	**2.04**	**237**	Pn	Pn	12 32 32.9	+0.1
SMWD	**Samnorwood**	**3.00**	**256**	IAmb_Lg		12 33 39.2	
	comp=Z,5.4nm,0.8s						
FCAR	**Ozark Folk Cen**	**3.71**	**88**	IAmb_Lg		12 33 58.5	
	comp=Z,6.2nm,0.8s						
CBKS	**Cedar Bluff**	**3.82**	**321**	IAmb_Lg		12 34 10.1	
	comp=Z,8.2nm,0.8s						
R40A	**Maddies Statio**	**4.29**	**54**	IAmb_Lg		12 34 17.7	
	comp=Z,8.4nm,0.7s						
P38A	**Dawn**	**4.52**	**33**	IAmb_Lg		12 34 22.0	
	comp=Z,8.6nm,0.8s						
SN05	**Snyder 5**	**4.57**	**231**	IAmb_Lg		12 34 23.7	
	comp=Z,5.7nm,0.9s						
T42A	**Van Buren**	**4.66**	**74**	IAmb_Lg		12 34 22.8	
	comp=Z,3.7nm,0.7s						
CCM	**Cathedral Cave**	**4.88**	**62**	IAmb_Lg		12 34 36.1	
	comp=Z,6.9nm,0.9s						
PBMO	**Poplar Bluff**	**5.14**	**78**	IAmb_Lg		12 34 47.9	
	comp=Z,4.6nm,0.8s						
P40A	**Paris**	**5.19**	**44**	IAmb_Lg		12 34 42.4	
	comp=Z,6.2nm,0.7s						

AFAD 24 12:35:07.7±0.0, 38°.54N×39°.56E, h7$^{km}_{\pm}$2^{km}, ML1.2, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOVA	**Elazig, Kovanc**	**0.26**	**49**	P	Pg	12 35 13.0	+0.1
KOVA				S	Sg	12 35 17.1	+0.7
KOVA				*i* AML	AML	12 35 18.0	
	comp=E,37nm,0.5s						
KOVA				*i* AML	AML	12 35 19.0	
	comp=N,22nm,0.5s						
ELZG	**Elazig**	**0.45**	**265**	P	Pg	12 35 16.5	0.0
ELZG				S	Sb	12 35 24.5	-0.6
ELZG				*i* AML	AML	12 35 26.0	
	comp=E,28nm,0.4s						
ELZG				*i* AML	AML	12 35 29.0	
	comp=N,20nm,0.8s						
HANI	**Diyarbakir_Han**	**0.67**	**100**	S	Sg	12 35 21.8	-7.6

IDC 24 12:36:00.1±2.6, 0°.55N×25°.12W, h0^{km}, mb3.8/3, mbtmp3.9/3, MS3.6/7, Error ellipse: s-maj=91.8km s-min=51.9km az=139.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H10N3	**ASCENSION HYDR**	**13.48**	**128**	T	T	12 52 57.5	
	baz=307,slow=74,SNR=38						
H10N2	**ASCENSION HYDR**	**13.48**	**128**	T	T	12 53 00.6	
	baz=307,slow=74,SNR=44						
H10N1	**ASCENSION HYDR**	**13.50**	**128**	T	T	12 52 57.7	
	baz=307,slow=74,SNR=51						
H10S3	**ASCENSION HYDR**	**14.06**	**132**	T	T	12 53 44.4	
	baz=270,slow=74,SNR=18						
H10S2	**ASCENSION HYDR**	**14.08**	**132**	T	T	12 53 43.0	
	baz=310,slow=74,SNR=6.7						
DBIC	**Dimbokro**	**21.11**	**73**	P	P	12 40 47.3	+0.7
	4.3nm,0.8s,baz=248,slow=11,SNR=1.7						
DBIC				LR	LR	12 47 05.7	
	comp=Z,51nm,21.5s,baz=316,slow=32						
	4.3nm,0.8s						
BDFB	**Brasilia**	**27.76**	**234**	LR	LR	12 51 51.5	
	comp=Z,83nm,20.2s,baz=326,slow=34						
TORD	**Torodi Ar. Bea**	**29.37**	**64**	P	P	12 42 04.5	-0.7
	0.7nm,0.8s,baz=253,slow=10,SNR=3.9						
TORD				LR	LR	12 52 10.3	
	comp=Z,100nm,21.2s,baz=198,slow=33						
	0.7nm,0.8s						
KEST	**Kesra**	**47.44**	**39**	LR	LR	13 04 42.3	
	comp=Z,82nm,20.3s,baz=292,slow=36						
VAE	**Valguarnera**	**51.73**	**40**	LR	LR	13 09 00.9	
	comp=Z,146nm,18.0s,baz=164,slow=38						
MLR	**Muntele Rosu**	**63.33**	**38**	LR	LR	13 16 56.5	
	comp=Z,46nm,18.7s,baz=340,slow=39						
AKASG	**Malin Array Be**	**67.79**	**34**	P	P	12 47 00.0	+0.2
	0.7nm,0.5s,baz=241,slow=5.5,SNR=1.7						
	0.7nm,0.5s						
OPO	**Ambohidratompo**	**73.43**	**109**	LR	LR	13 16 46.2	
	comp=Z,111nm,19.6s,baz=28,slow=33						
ASAR	**Alice Springs**	**149.31**	**140**	PKPbc	PKPbc	12 55 51.4	-0.5
	1.1nm,0.9s,baz=222,slow=1.2,SNR=4.9						

ISK 24 12:36:05.7, 39°.02N×37°.41E, h0^{km}, ML2.2/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DARE	**Darende-Malaty**	**0.45**	**173**	Pg	Pg	12 36 15.1	+0.7
DARE				Sg	Sb	12 36 22.2	-1.7
ARPR	**Arapgir-MALATY**	**0.72**	**84**	Pg	Pb	12 36 20.4	-0.8
ARPR				Sg	Sb	12 36 30.8	-0.9
SARI	**SarD1z-Kayseri**	**0.99**	**232**	Pg	Pb	12 36 25.3	-0.6
SARI				Sg	Sb	12 36 39.6	+0.1

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*IDC **24** 12:39:09.0±2.7, 9°.60N×104°.28W, h0^{km}, mb3.5/5, mbtmp3.5/6, ML3.1/1, MS3.4/21, Error ellipse: s-maj=118.3km s-min=27.3km az=58.0*
ISC 24 12:39:10.9±2.3, 9°.7N±0°.4×104°.2W±0°.5, h10^{km}, n28, σ0°55/6, mb3.5/5, MS3.4/18, Northern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H06E1	**SOCORRO T-PHAS**	**1.19**	**325**	T	T	12 53 11.1	
CMIG	**Matias Romero**	**11.66**	**50**	LR	LR	12 45 02.4	
	comp=Z,177nm,20.3s,baz=216,slow=30						
LPIG	**La Paz**	**15.51**	**339**	LR	LR	12 47 05.0	
	comp=Z,212nm,20.4s,baz=160,slow=31						
JTS	**Las Juntas de**	**18.93**	**86**	LR	LR	12 48 22.1	
	comp=Z,124nm,21.1s,baz=263,slow=29						
TXAR	**Lajitas Array**	**19.58**	**1**	P	**P**	**12 43 39.2**	**-0.1**
	baz=181,slow=14,SNR=6.0						
	0.9nm,1.1s						
PFO	**Pinyon Flats O**	**26.39**	**336**	LR	LR	12 53 23.0	
	comp=Z,55nm,18.8s,baz=144,slow=32						
ATAH	**Atahualpa**	**30.62**	**122**	LR	LR	12 55 10.4	
	comp=Z,229nm,19.2s,baz=271,slow=31						
NVAR	**Mina Array Bea**	**31.34**	**338**	P	**P**	**12 45 32.3**	**+0.4**
	0.2nm,0.6s,baz=160,slow=8.2,SNR=2.2						
NVAR				LR	LR	12 55 52.8	
	comp=Z,104nm,21.0s,baz=176,slow=32						
	0.2nm,0.6s						
TKL	**Tuckaleechee C**	**31.85**	**33**	LR	LR	13 00 24.7	
	comp=Z,18nm,18.8s,baz=223,slow=40						
SDV	**Santo Domingo**	**33.09**	**89**	LR	LR	12 58 39.7	
	comp=Z,70nm,18.1s,baz=302,slow=35						
PDAR	**Pinedale Array**	**33.32**	**353**	P	**P**	**12 45 49.2**	**0.0**
	0.5nm,0.8s,baz=157,slow=8.0,SNR=4.8						
	0.5nm,0.8s						
NNA	**Nana**	**34.64**	**128**	LR	LR	12 56 06.8	
	comp=Z,27nm,20.7s,baz=312,slow=29						
YBH	**Yreka Blue Hor**	**35.88**	**336**	LR	LR	12 58 47.3	
	comp=Z,52nm,18.6s,baz=154,slow=33						
RPN	**Rapa Nui**	**36.91**	**188**	LR	LR	12 56 55.9	
	comp=Z,48nm,20.4s,baz=188,slow=29						
NEW	**Newport**	**40.00**	**347**	LR	LR	13 01 34.5	
	comp=Z,56nm,18.9s,baz=202,slow=34						
SADO	**Sadowa**	**41.11**	**27**	LR	LR	13 05 36.5	
	comp=Z,23nm,18.8s,baz=348,slow=38						
LPAZ	**La Paz**	**44.00**	**126**	P	**P**	**12 47 19.7**	**+0.1**
	0.6nm,0.3s,baz=320,slow=7.1,SNR=4.3						
LPAZ				LR	LR	13 03 37.4	
	comp=Z,78nm,20.7s,baz=345,slow=33						
	0.6nm,0.3s						
BBB	**Bella Bella**	**46.67**	**340**	LR	LR	13 04 39.2	
	comp=

comp=Z,2.3nm,0.7s
H10S2 ASCENSION HYDR 47.91 23 T T 13 47 43.2
H10S3 ASCENSION HYDR 47.92 23 T T 13 47 45.3
baz=27,slow=74,SNR=8.6
H10N1 ASCENSION HYDR 49.03 23 T T 13 49 04.6
baz=192,slow=76,SNR=10
H10N3 ASCENSION HYDR 49.03 23 T T 13 49 05.7
baz=192,slow=76,SNR=11
H10N2 ASCENSION HYDR 49.04 23 T T 13 49 04.3
baz=192,slow=76,SNR=8.8
CASY Casey 55.84 163 P **P** **12 56 41.1 +0.2**
TORD Torodi Ar. Bea 73.58 34 P **P** **12 58 37.1 -0.1**
TORD IAmb IAmb 12 58 46.0
comp=Z,4.2nm,1.4s
TORD Torodi Ar. Bea 73.58 34 P **P** **12 58 37.1 -0.1**
comp=Z,0.5nm,0.6s,baz=201,slow=5.0,SNR=6.0
comp=Z,0.5nm,0.6s
TEIG Tepich 88.82 309 P **P** **12 59 57.2 -0.7**
YKA Yellowknife Ar 133.52 321 PKP **PKPdf** **13 06 18.7 -0.4**
comp=Z,0.1nm,0.6s,baz=109,slow=2.6,SNR=4.6
ZALV Zalesovo Beam 144.39 65 PKP **PKPab** **13 06 36.8 -0.6**
comp=Z,0.9nm,0.5s,baz=225,slow=5.4,SNR=4.2
L27K Beaver Creek, 144.69 312 **PKPab** **13 06 37.5 -0.7**
K27K Chicken 145.11 314 **PKPbc** **13 06 39.4 -0.3**
ILAR Eielson Array 147.33 314 PKPbc **PKPdf** **13 06 45.1 +1.2**
comp=Z,0.7nm,0.7s,baz=121,slow=2.0,SNR=6.5
BPAW Bear Paw Mtn. 148.91 312 PKPdf **PKPdf** **13 06 45.6 -1.0**
BPAW **sPKPdf** **13 06 49.5 +0.9**
BPAW PKPab **PKPab** **13 06 55.6 +1.0**
TOLK Toolik Lake Re 149.05 321 **PKPbc** **13 06 51.1 +0.3**
PPLA Purkeypile 149.17 309 PKPbc **PKPbc** **13 06 51.1 -0.3**
SONM Songino Array 153.45 88 PKPbc **PKPbc** **13 07 00.6 -1.2**
comp=Z,0.7nm,0.8s,baz=268,slow=3.6,SNR=1.7
C16K Lisburne Hills 154.87 320 **PKPbc** **13 07 04.4 +0.4**

*ISN **24** 12:51:33.6±1.2, 31°.98N×47°.89E, h21km±10km, ML3.0*
*TEH **24** 12:51:36.2, 32°.24N×48°.39E, h9km±74km, ML2.9*
ISC 24 12:51:33.1±1.2, 32°.07N±0°.08×47°.95E±0°.05, h10km, n14, σ0°65/16, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IKFM	**Kafar-mosalman**	**1.45**	**357**	Pg	**Pg**	**12 52 02.0**	**+1.0**
RAFI	**Al-Rafai**	**1.60**	**258**	*e*Pg	**Pn**	**12 52 01.0**	**-0.4**
	baz=80						
RAFI				*e*Sg	**Sn**	**12 52 22.0**	**-0.1**
RAFI				AML	AML	12 52 42.4	
	comp=N,7.3nm,0.6s						
IDOB	**Doab**	**1.72**	**6**	Pg	**Pg**	**12 52 06.3**	**+0.1**
IBDR	**Badra**	**1.99**	**302**	*e*Pn	**Pn**	**12 52 07.5**	**+0.6**
IBDR				*e*Sn	**Sb**	**12 52 34.0**	**-0.4**
HSAM	**Samen**	**2.21**	**14**	Pn	**Pb**	**12 52 12.5**	**-0.7**
JHBN	**Jahan bin**	**2.31**	**85**	Pn	**Pn**	**12 52 11.7**	**+0.2**
ZNGN	**Zangian**	**2.47**	**88**	Pn	**Pn**	**12 52 14.1**	**+0.4**
IBRJ	**Brojen**	**2.82**	**92**	Pn	**Pn**	**12 52 18.8**	**+0.3**
KLNJ	**Kolanjah**	**3.29**	**108**	Pn	**Pn**	**12 52 26.1**	**+1.1**
IKLH	**Kolahrood**	**3.31**	**67**	Pn	**Pn**	**12 52 24.5**	**-0.6**
IRAM	**Rameshеh**	**3.78**	**93**	Pn	**Pn**	**12 52 31.5**	**-0.1**
IZEF	**Zefreh**	**3.79**	**76**	Pn	**Pn**	**12 52 31.4**	**-0.5**
IQOM	**Qom**	**3.80**	**43**	Pn	**Pn**	**12 52 31.7**	**-0.3**
QABG	**Abgarm-Qazvin**	**3.88**	**20**	Pn	**Pn**	**12 52 33.9**	**+0.9**

*MDD **24** 13:08:56.4±1.7, 35°.05N×8°.04W, h0km, mb_Lg2.3/3, Error ellipse: s-maj=13.5km s-min=9.5km az=8.0*
*IGIL **24** 13:09:04.8, 36°.69N×11°.19W, h31km, ML1.5*
INMG 24 13:09:04.3±1.3, 36°.64N×11°.13W, h24km±28km, ML1.7, 1C, Error ellipse: s-maj=29.9km s-min=7.3km az=80.0, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PFVI	**Vila Bisbo**	**1.91**	**74**	⇑*i*P	Pn	13 09 33.6	-1.8
PFVI				*e*S	Sn	13 09 55.5	-3.2
PFVI				A	A	13 09 59.5	
	6.4nm,0.7s						
PFVI	**Vila Bisbo**	**1.91**	**74**	Pn	Pn	13 09 33.6	-1.8
PFVI				Sn	Sn	13 09 55.2	-3.5
MORF	**Marmelete**	**2.09**	**71**	*e*P	Pn	13 09 36.1	-1.8
MORF				*e*S	Sn	13 09 59.0	-4.3
MORF				A	A	13 10 04.5	
	3.9nm,0.2s						
MORF	**Marmelete**	**2.09**	**71**	*e*P	Pn	13 09 36.1	-1.8
MORF				*e*S	Sn	13 09 59.0	-4.3
MORF				IAML		13 10 00.8	
	comp=E,3.1nm,0.1s						
PTEO	**Sao Teotonio**	**2.13**	**64**	*e*P	Pn	13 09 36.7	-1.6
PTEO				*e*S	Sn	13 10 01.3	-2.7
PNCL	**Nicolau / Gran**	**2.54**	**54**	*e*P	Pn	13 09 42.5	-1.5
PNCL				*e*S	Sn	13 10 10.8	-3.4
PNCL				A	A	13 10 14.4	
	comp=E,1.9nm,0.2s						
PNCL	**Nicolau / Gran**	**2.54**	**54**	Pn	Pn	13 09 42.0	-2.0
PNCL				Sn	Sn	13 10 10.3	-3.9
MESJ	**Messejana**	**2.61**	**62**	*e*P	Pn	13 09 43.4	-1.7
MESJ				*e*S	Sn	13 10 12.4	-3.6
MESJ				A	A	13 10 18.2	
	comp=E,1.7nm,0.1s						
MESJ	**Messejana**	**2.61**	**62**	*e*P	Pn	13 09 43.2	-1.8
PBDV	**Barranco-do-Ve**	**2.63**	**76**	*e*P	Pn	13 09 44.0	-1.4
PCVE	**Castro Verde**	**2.66**	**67**	*e*P	Pn	13 09 44.1	-1.6
PCVE				*e*S	Sn	13 10 14.0	-3.2
PCVE	**Castro Verde**	**2.66**	**67**	Pn	Pn	13 09 44.1	-1.7
PCVE				Sn	Sn	13 10 13.1	-4.1
PVAQ	**Vaqueiros**	**2.84**	**73**	*e*P	Pn	13 09 46.7	-1.4
PVAQ				*e*S	Sn	13 10 18.3	-3.2
PVAQ				A	A	13 10 23.6	
	comp=E,2.3nm,0.5s						
PVAQ	**Vaqueiros**	**2.84**	**73**	Pn	Pn	13 09 46.6	-1.5
PVAQ				Sn	Sn	13 10 18.2	-3.3
EGRO	**El Granado**	**3.05**	**72**	Pn	Pn	13 09 49.4	-1.6
EGRO				Sn	Sn	13 10 22.9	-3.9
EGRO	**El Granado**	**3.05**	**72**	Pn	Pn	13 09 37.1	-14
EGRO				Sn	Sn	13 10 07.6	-19
EGRO				*i* Vmb_Lg		13 10 28.1	
EVO	**Evora**	**3.12**	**52**	Sn	Sn	13 10 24.6	-3.8
PMTG	**Montargil**	**3.34**	**43**	*e*P	Pn	13 09 52.8	-2.3
PMTG				*e*S	Sn	13 10 30.8	-3.2
PBAR	**Barrancos**	**3.60**	**64**	*e*S	Sn	13 10 36.5	-3.9
PBAR				A	A	13 10 40.3	
	comp=E,1.2nm,0.2s						
EMIN	**Mina Concepcio**	**3.73**	**71**	Pn	Pn	13 09 58.7	-1.7
EBAD	**Badajoz**	**3.89**	**56**	Pn	Pn	13 10 00.7	-1.9
EBAD				Sn	Sn	13 10 42.4	-5.1
EBAD	**Badajoz**	**3.89**	**56**	Pn	Pn	13 09 57.4	-5.2
EBAD				Sn	Sn	13 10 41.0	-6.5
EBAD				*i* Vmb_Lg		13 10 49.3	
PMRV	**Marv??o**	**4.06**	**46**	*e*P	Pn	13 10 02.2	-2.7
PMRV				*e*S	Sn	13 10 46.8	-4.9
ESPR	**Espera**	**4.24**	**85**	Pn	Pn	13 10 06.1	-1.3
ECAB	**El Cabril**	**4.77**	**71**	Pn	Pn	13 10 12.8	-1.9
ECAB				Sn	Sn	13 11 03.4	-5.9
ECAB	**El Cabril**	**4.77**	**71**	Pn	Pn	13 09 54.1	-21
ECAB				Sn	Sn	13 10 37.0	-32
ECAB				*i* Vmb_Lg		13 10 43.0	
EADA	**Adamuz**	**5.44**	**72**	Pn	Pn	13 10 22.3	-1.6

*NEIC **24** 13:34:07.5±0.6, 37°.16N±0°.07×97°.57W±0°.03, h25km±8km, Error ellipse: s-maj=11.7km s-min=3.2km az=207.0*
NEIC 24 13:34:07.8±0.6, 37°.16N±0°.07×97°.57W±0°.03, h24km±8km, mb_Lg2.1/9, ML2.8/52, ML2.6/16, Error ellipse: s-maj=10.1km s-min=3.1km az=191.0, Kansas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAN09	**Caldwell North**	**0.04**	**239**		Pb	13 34 11.9	0.0
KAN09					Sb	13 34 14.8	+0.1
KAN09				IAML		13 34 15.6	
	comp=N,2μm,0.2s						
KS21	**Milan North St**	**0.15**	**330**		Pb	13 34 12.7	0.0
KS21					Sb	13 34 16.1	0.0
KS21				IAML		13 34 16.4	
	comp=N,2μm,0.1s						
KAN01	**Argonia South**	**0.15**	**268**		Pb	13 34 12.8	0.0
KAN01					Sb	13 34 16.2	+0.1
KAN01				IAML		13 34 16.4	
	comp=N,2μm,0.1s						
KAN13	**South Haven SW**	**0.16**	**153**		Pb	13 34 12.9	0.0
KAN13					Sb	13 34 16.6	+0.3
KAN13				IAML		13 34 16.7	
	comp=N,2μm,0.3s						
KAN05	**Bluff City Nor**	**0.24**	**258**		Pb	13 34 14.0	0.0
KAN05					Sb	13 34 18.3	+0.2
KAN06	**Argonia West S**	**0.25**	**291**		Pb	13 34 13.9	0.0
KAN06					Sb	13 34 18.3	+0.1
KAN06				IAML		13 34 18.4	
	comp=E,1μm,0.2s						
KAN08	**Anthony NE Sta**	**0.33**	**282**		Pb	13 34 15.2	+0.1
KAN08					Sb	13 34 20.3	+0.2
KAN12	**Harper NE Stat**	**0.37**	**292**		Pb	13 34 15.8	0.0
KAN12					Sb	13 34 21.4	+0.2
KAN14	**Manchester OK**	**0.37**	**237**		Pb	13 34 15.9	0.0
KAN14					Sb	13 34 21.7	+0.3
KAN14				IAML		13 34 21.8	
	comp=N,855nm,0.2s						
KAN14				IAML		13 34 21.9	
	comp=E,1μm,0.1s						
GC02	**Grant County #**	**0.38**	**217**		Pb	13 34 16.0	0.0
GC02					Sb	13 34 21.9	+0.3
KAN10	**Anthony SW Sta**	**0.42**	**265**		Pb	13 34 16.7	+0.1
BLOK	**Blackwell**	**0.49**	**144**		Pb	13 34 17.8	0.0
BLOK					Sb	13 34 24.9	+0.4
BLOK				IAML		13 34 25.4	
	comp=N,605nm,0.2s						
BLOK				IAML		13 34 25.5	
	comp=E,838nm,0.2s						
OK032	**Salt Plains WL**	**0.62**	**236**		Pb	13 34 20.0	0.0
OK032				IAML		13 34 29.1	
	comp=E,509nm,0.2s						
OK032				IAML		13 34 31.1	
	comp=E,330nm,0.2s						
CROK	**Carrier**	**0.73**	**207**		Pb	13 34 21.8	0.0
CROK					Sb	13 34 32.0	+0.6
CROK				IAML		13 34 34.3	
	comp=N,543nm,0.2s						
OK051	**E0350 and S346**	**0.88**	**138**		Pb	13 34 24.4	0.0
T35A	**Sooner Cattle**	**0.88**	**106**		Pb	13 34 24.2	-0.2
T35A					Pn	13 34 24.5	-0.2
T35A					Sn	13 34 36.6	-0.2
T35A				IAML		13 34 36.9	
	comp=E,401nm,0.2s						
OK048	**Pawnee Station**	**0.90**	**146**		Pb	13 34 24.4	-0.2
OK035	**E0210 Rd and N**	**1.02**	**244**		Pn	13 34 26.6	0.0
OK035				IAML		13 34 40.8	
	comp=E,147nm,0.3s						
OK035				IAML		13 34 41.1	
	comp=E,155nm,0.3s						
OK038	**West end E0370**	**1.16**	**234**		Pb	13 34 28.9	-0.2
OK038				IAML		13 34 45.7	
	comp=E,287nm,0.4s						
QUOK	**Quay**	**1.21**	**145**		Pb	13 34 29.9	-0.1
QUOK				IAML		13 34 47.9	
	comp=E,170nm,0.2s						
QUOK				IAML		13 34 48.6	
	comp=N,191nm,0.1s						
NOKA	**Waynoka**	**1.21**	**245**		Pb	13 34 29.9	-0.1
OK052	**Battle Ridge R**	**1.32**	**152**		Pb	13 34 31.6	-0.3
OK052				IAML		13 34 50.8	
	comp=N,232nm,0.3s						
OK052				IAML		13 34 51.5	
	comp=N,110nm,0.2s						
OK031	**S. Brethren Rd**	**1.34**	**154**	Pn	Pb	13 34 31.7	-0.5
OK031				IAML		13 34 51.5	
	comp=N,160nm,0.4s						
OK031				IAML		13 34 51.5	
	comp=N,162nm,0.3s						
OK029	**Liberty Lake**	**1.36**	**176**	Pn	Pn	13 34 31.1	-0.2
R32A	**Long Quarter,**	**1.55**	**325**	Pn	Pb	13 34 35.0	-0.8
DEOK	**Depew**	**1.57**	**146**	Pn	Pn	13 34 34.8	+0.6
TUL3	**Leonard**	**1.90**	**130**	IAmb_Lg		13 35 13.0	
	comp=Z,8.7nm,0.8s						
WMOK	**Wichita Mounta**	**2.61**	**202**	IAmb_Lg		13 35 36.7	
	comp=Z,6.3nm,1.1s						
S39A	**Bolivar**	**3.42**	**80**	IAmb_Lg		13 35 57.3	
	comp=Z,5.7nm,0.9s						
DKNS	**Dickens**	**4.43**	**219**	IAmb_Lg		13 36 28.4	
	comp=Z,4.4nm,1.0s						
FCAR	**Ozark Folk Cen**	**4.57**	**104**	IAmb_Lg		13 36 34.5	
	comp=Z,3.8nm,0.8s						

*PRU **24** 13:40:25.9, 44°.92N×17°.06E, h10km*
*PDG **24** 13:40:25.7±0.6, 45°.01N×17°.08E, h11km±1km, ML3.4/12, Error ellipse: s-maj=1.0km s-min=1.6km az=0.0*
*LDG **24** 13:40:26.0±0.1, 45°.00N×17°.09E, h10km, Ml3.5/13, Error ellipse: s-maj=4.6km s-min=3.0km az=27.0*
*RHSSO **24** 13:40:26.2±0.2, 44°.97N×17°.09E, h3km±1km, ML3.4/19*
*NEIC **24** 13:40:26.4±2.1, 45°.00N±0°.05×17°.09E±0°.04, h10km±1km, ML3.4/44, Error ellipse: s-maj=9.2km s-min=5.2km az=13.0*
*BEO **24** 13:40:26.6±0.5, 44°.95N×17°.16E, h8km±2km, ML3.3/15*
*BGR **24** 13:40:27.6±0.7, 45°.00N×17°.01E, h10km, ML3.5/10, Error ellipse: s-maj=20.0km s-min=12.2km az=50.0*
ISC 24 13:40:26.2±0.8, 44°.97N±0°.01×17°.04E±0°.02, h14km±5km, n195, σ1s95/315, 22C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
A051A	**Mrakovica**	**0.10**	**293**	⇑*i*Pg	**Pg**	**13 40 29.5**	**+0.1**
A051A				*e*Sg	**Sg**	**13 40 31.7**	**+0.1**
PRIJ	**Prijedor**	**0.23**	**271**	⇑*i*Pg	**Pg**	**13 40 31.5**	**+0.3**
PRIJ				*e*Sg	**Sg**	**13 40 35.4**	**+0.8**
BLY	**Banja Luka**	**0.25**	**155**	*e*Pg	**Pg**	**13 40 30.9**	**-0.6**
BLY				*e*Sg	**Sg**	**13 40 33.9**	**-1.2**
BLY	**Banja Luka**	**0.25**	**155**	⇓*i*Pg	**Pg**	**13 40 30.9**	**-0.6**
BLY				*e*Sg	**Sg**	**13 40 33.6**	**-1.5**
A052A	**Srbac**	**0.36**	**69**	⇑*i*Pg	**Pg**	**13 40 32.9**	**-0.6**
A052A				*e*Sg	**Sg**	**13 40 37.1**	**-1.4**
MGRS	**Mrkonjic Grad**	**0.56**	**177**	⇓*i*Pg	**Pg**	**13 40 36.9**	**-0.2**
MGRS				*e*Sg	**Sg**	**13 40 44.0**	**-0.5**
A050A	**Klekovaca**	**0.61**	**216**	⇑*i*Pg	**Pg**	**13 40 37.7**	**-0.4**
A050A				*e*Sg	**Sg**	**13 40 45.7**	**-0.5**
MOSL	**Moslavina**	**0.67**	**343**	*e*Pg	**Pg**	**13 40 39.4**	**+0.1**
MOSL				Sg	**Sg**	**13 40 48.3**	**+0.1**
DOB	**Doboj**	**0.79**	**107**	*e*Pg	**Pg**	**13 40 39.7**	**-1.8**
DOB				*e*Sg	**Sg**	**13 40 50.5**	**-1.5**
PLIT	**Plitvice**	**1.01**	**265**	*e*Pg	**Pg**	**13 40 44.7**	**-1.0**
PLIT				Sg	**Sg**	**13 40 57.0**	**-1.8**
UDBI	**Udbina**	**1.01**	**244**	*i* Pg	**Pg**	**13 40 45.0**	**-0.7**
UDBI				Sg	**Sg**	**13 40 57.5**	**-1.4**
KIJV	**Kijevo**	**1.07**	**205**	*e*Pg	**Pb**	**13 40 45.9**	**-0.5**
ZAG	**Zagreb**	**1.13**	**319**	*e*Pg	**Pb**	**13 40 47.5**	**+0.1**
ZAG				Sg	**Sn**	**13 41 03.8**	**+1.0**
KALN	**Kalnik**	**1.23**	**341**	*e*Pg	**Pn**	**13 40 48.6**	**-0.4**
KALN				Sg	**Sn**	**13 41 05.7**	**+0.3**
OZLJ	**Ozalj**	**1.28**	**301**	*e*Pg	**Pn**	**13 40 49.7**	**+0.1**
OZLJ				Sg	**Sb**	**13 41 07.2**	**+0.8**
GCIS	**Gornji Cirnik**	**1.34**	**313**	*i* Pn	**Pn**	**13 40 50.3**	**-0.1**
GCIS				*i* Pg	**Pg**	**13 40 51.9**	**+0.1**
GCIS				*i* Sn	**Sg**	**13 41 09.3**	**0.0**
GCIS				IAML		13 41 15.5	
	comp=Z,262nm,0.3s						
LOBO	**Lobor**	**1.36**	**330**	*e*Pn	**Pn**	**13 40 50.7**	**-0.1**
LOBO				Sn	**Sg**	**13 41 09.7**	**-0.4**
BOJS	**Bojanci**	**1.37**	**293**	*i* Pn	**Pn**	**13 40 51.1**	**+0.3**
BOJS				*i* Pg	**Pb**	**13 40 52.5**	**+0.9**
BOJS				*i* Sn	**Sb**	**13 41 09.6**	**+0.7**
BOJS				IAML		13 41 13.7	
	comp=Z,290nm,0.2s						
BOJS	**Bojanci**	**1.37**	**293**	*e*Pg	**Pn**	**13 40 51.0**	**+0.2**
BOJS				*e*Sg	**Sn**	**13 41 10.2**	**+1.4**
CRES	**Cresnjev**	**1.40**	**308**	*i* Pn	**Pn**	**13 40 51.5**	**+0.1**
CRES				*i* Pg	**Pg**	**13 40 53.2**	**+0.1**
CRES				IAML		13 41 16.3	
	comp=Z,290nm,0.3s						
CRES	**Cresnjev**	**1.40**	**308**	⇓*i*Pg	**Pn**	**13 40 51.4**	**+0.1**
CRES				*e*Sg	**Sb**	**13 41 11.2**	**+1.3**
GOLS	**Golise**	**1.44**	**317**	*i* Pn	**Pn**	**13 40 52.0**	**+0.1**
GOLS				*i* Pg	**Pg**	**13 40 53.8**	**0.0**
GOLS				IAML		13 41 18.9	
	comp=Z,278nm,0.3s						
MORI	**Morici**	**1.46**	**221**	*e*Pn	**Pn**	**13 40 53.1**	**+1.0**
CESS	**Cesta pri Krsk**	**1.49**	**313**	*i* Pn	**Pn**	**13 40 52.8**	**+0.3**
CESS				IAML		13 41 19.8	
	comp=Z,254nm,0.2s						
BEHE	**Becsehely**	**1.51**	**353**	*e*Pn	**Pn**	**13 40 53.3**	**+0.5**
BEHE				*e*Sn	**Sg**	**13 41 14.5**	**-0.3**
VIRC	**Vir**	**1.57**	**245**	*i* Pn	**Pn**	**13 40 54.9**	**+1.3**
VIRC				Sn	**Sb**	**13 41 16.2**	**+1.5**
KOGS	**Kog**	**1.57**	**340**	*i* Pn	**Pn**	**13 40 53.8**	**+0.2**
KOGS				IAML		13 41 20.1	
	comp=Z,536nm,0.3s						
BLJ	**Bijeljina**	**1.60**	**96**	*e*Pn	**Pn**	**13 40 54.0**	**+0.1**
BLJ				*e*Sn	**Sn**	**13 41 14.2**	**-0.1**
NVLJ	**Novalja**	**1.60**	**256**	*e*Pn	**Pn**	**13 40 55.4**	**+1.5**
DOBS	**Dobrina**	**1.61**	**317**	*i* Pn	**Pn**	**13 40 54.3**	**+0.1**
DOBS				*i* Pg	**Pg**	**13 40 57.0**	**-0.1**
DOBS				IAML		13 41 24.0	
	comp=Z,156nm,0.2s						
RABC	**Rab**	**1.62**	**263**	*e*Pn	**Pn**	**13 40 55.6**	**+1.4**
HAPS	**Han Pijesak,Bl**	**1.63**	**122**	*e*Pg	**Pn**	**13 40 54.9**	**+0.4**
HAPS				*e*Sg	**Sn**	**13 41 15.3**	**-0.1**
HAPS	**Han Pijesak,Bl**	**1.63**	**122**	⇑*i*Pn	**Pn**	**13 40 54.8**	**+0.3**
HAPS				*e*Sn	**Sn**	**13 41 15.9**	**+0.5**
ZIRJ	**Zirje**	**1.66**	**218**	*e*Pn	**Pn**	**13 40 56.5**	**+1.8**
MORH	**Mrgy, Hungar**	**1.68**	**42**	⇓P	**Pb**	**13 40 56.3**	**-0.5**
MORH	**Mrgy, Hungar**	**1.68**	**42**	*e*Pn	**Pn**	**13 40 55.2**	**+0.1**
MORH				*e*Sn	**Sb**	**13 41 17.8**	**0.0**
MAKA	**Makarska**	**1.69**	**180**	*e*Pn	**Pn**	**13 40 56.5**	**+1.4**
MAKA				Sn	**Sb**	**13 41 18.9**	**+1.0**
DUGI	**Dugi Otok**	**1.72**	**236**	*e*Pn	**Pn**	**13 40 57.5**	**+1.8**
PDKS	**Podkum**	**1.80**	**308**	*i* Pn	**Pn**	**13 40 57.2**	**+0.4**
PDKS				IAML		13 41 36.6	
	comp=Z,258nm,0.6s						
TEKS	**Tekeris**	**1.82**	**103**	*e*Pn	**Pn**	**13 40 56.4**	**-0.7**
TEKS				*e*Sn	**Sn**	**13 41 20.4**	**+0.4**
TEKS	**Tekeris**	**1.82**	**103**	*e*Sn	**Sb**	**13 41 21.3**	**-0.7**
GROS	**Grobnik**	**1.84**	**325**	*i* Pn	**Pn**	**13 40 57.3**	**0.0**
GROS				*i* Pg	**Pg**	**13 41 01.9**	**+0.5**
GROS				IAML		13 41 31.1	
	comp=Z,125nm,0.3s						
RIY	**Rijeka**	**1.84**	**282**	*e*Pn	**Pn**	**13 40 59.2**	**+1.9**
HVAR	**Hvar**	**1.84**	**194**	*i* Pn	**Pb**	**13 40 59.6**	**0.0**
HVAR				Sn	**Sb**	**13 41 23.7**	**+1.2**
FRGS	**Fruska Gora**	**1.97**	**84**	⇓P	**Pn**	**13 40 59.5**	**+0.4**
FRGS	**Fruska Gora**	**1.97**	**84**	*e*Pn	**Pn**	**13 40 58.2**	**-1.0**
FRGS				*e*Sn	**Sn**	**13 41 24.3**	**+0.6**
FRGS	**Fruska Gora**	**1.97**	**84**	*e*Pn	**Pn**	**13 40 59.6**	**+0.4**
FRGS				*e*Sn	**Sn**	**13 41 24.7**	**+1.0**
CEY	**Cerknica**	**1.99**	**294**	*e*Pn	**Pn**	**13 41 01.6**	**+2.1**
CEY				*e*Sn	**Sb**	**13 41 27.4**	**+0.5**
BBLS	**Lazi&#263i**	**2.02**	**122**	*e*Pg	**Pn**	**13 40 59.9**	**0.0**
BBLS				*e*Sg	**Sg**	**13 41 31.8**	**+0.5**
BBLS	**Lazi&#263i**	**2.02**	**122**	⇑*i*Pn	**Pg**	**13 41 00.2**	**+0.3**
BBLS				*e*Sn	**Sn**	**13 41 26.3**	**+1.2**
SMRN	**Sveta Marina**	**2.05**	**273**	*e*Pn	**Pn**	**13 41 01.4**	**+1.3**
KLINJ	**Klinje**	**2.12**	**148**	*e*Pn	**Pn**	**13 41 01.9**	**+0.6**
KLINJ				*e*Sn	**Sn**	**13 41 28.8**	**+1.4**
RUDO	**Rudo**	**2.15**	**128**	*e*Pn	**Pn**	**13 41 02.1**	**+0.5**
RUDO				*e*Sn	**Sn**	**13 41 29.0**	**+0.9**
STON	**Ston**	**2.15**	**167**	*e*Pn	**Pn**	**13 41 03.3**	**+1.7**
STON				*e*Sn	**Sb**	**13 41 30.9**	**-0.5**
STON	**Ston**	**2.15**	**167**	*e*Pn	**Pn**	**13 41 03.1**	**+1.5**
STON				*e*Sn	**Sn**	**13 41 29.6**	**+1.5**
LSTV	**Lastovo**	**2.21**	**183**	*i* Pn	**Pn**	**13 41 04.0**	**+1.7**
SOKA	**Soboth**	**2.21**	**321**	*e*Pn	**Pn**	**13 41 02.7**	**+0.2**
	comp=Z,7.6nm,0.3s,SNR=8.9						
SOKA				*e*Sn	**Sn**	**13 41 28.4**	**-1.2**
	comp=Z,69nm,0.4s						
DIVS	**Divibare**	**2.29**	**111**	*e*Pn	**Pn**	**13 41 03.0**	**-0.5**
DIVS				*e*Sn	**Sn**	**13 41 30.9**	**-0.6**
OBKA	**Obir**	**2.32**	**312**	*e*Pn	**Pn**	**13 41 04.7**	**+0.7**
	comp=Z,12nm,0.4s,SNR=9.3						
OBKA				*i* Sn	**Sg**	**13 41 40.5**	**-0.3**
	comp=Z,149nm,0.4s						
OBKA	**Obir**	**2.32**	**312**	*e*Sn	**Sb**	**13 41 35.4**	**-1.1**
OBKA	**Obir**	**2.32**	**312**	*e*Pn	**Pn**	**13 41 04.7**	**+0.7**
OBKA				*e*Sg	**Sg**	**13 41 40.7**	**-0.1**
BRJN	**Brijuni**	**2.33**	**270**	*e*Pn	**Pn**	**13 41 05.1**	**+1.0**
BRY	**Bratogost**	**2.34**	**152**	*e*Pn	**Pn**	**13 41 05.5**	**+1.2**
BRY				*e*Sn	**Sn**	**13 41 34.1**	**+1.3**
BRY	**Bratogost**	**2.34**	**152**	⇓*i*Pn	**Pn**	**13 41 06.4**	**+2.1**
BRY				*i* Sn	**Sb**	**13 41 36.1**	**-0.8**
PLE	**Pljevlja**	**2.36**	**133**	⇑*i*Pn	**Pn**	**13 41 06.0**	**+1.5**
PLE				*i* Sn	**Sb**	**13 41 37.0**	**-0.5**
DBRK	**Dubrovnik**	**2.44**	**160**	*e*Pn	**Pn**	**13 41 07.7**	**+2.1**
TREB	**Trebinje**	**2.45**	**157**	*e*Pg	**Pn**	**13 41 07.7**	**+2.0**
TREB				*e*Sg	**Sb**	**13 41 40.3**	**+0.4**
TREB	**Trebinje**	**2.45**	**157**	*e*Pn	**Pn**	**13 41 07.5**	**+1.8**
TREB				*e*Sn	**Sn**	**13 41 37.3**	**+2.0**
ARSA	**Arzberg**	**2.51**	**336**	*i* Pn	**Pn**	**13 41 07.1**	**+0.6**
	comp=Z,54nm,0.4s,SNR=41						
ARSA				*e*Sn	**Sg**	**13 41 48.1**	**+1.2**
	comp=Z,38nm,0.3s						
ARSA	**Arzberg**	**2.51**	**336**	*e*Sn	**Sb**	**13 41 40.1**	**-1.7**
ARSA	**Arzberg**	**2.51**	**336**	*e*Pn	**Pn**	**13 41 07.2**	**+

ULC	**Ulcinj**	**3.41**	**151**	⇑	*i* Pn	**Pn**	**13 41 20.1**	**+1.2**
ULC					*i* Sn	**Sn**	**13 42 02.1**	**+3.0**
SELS	**Selova**	**3.42**	**119**		*e*Pn	**Pn**	**13 41 19.2**	**+0.1**
SELS					*e*Sn	**Sn**	**13 41 59.2**	**-0.3**
FDMO	**Fiordimonte**	**3.44**	**237**		Pn	**Pn**	**13 41 20.1**	**+0.7**
FDMO	comp=E,53nm,0.8s				IAML		13 42 24.2	
MOA	**Molln**	**3.46**	**327**		*i* Pn	**Pn**	**13 41 21.1**	**+1.5**
MOA	comp=E,28nm,0.3s,SNR=31				*i* Sn	**Sn**	**13 42 01.0**	**+0.7**
CIMO	**Cimolais**	**3.49**	**294**		Pn	**Pn**	**13 41 21.4**	**+1.4**
CIMO	comp=N,75nm,0.9s				IAML		13 42 22.5	
CIMO	comp=E,57nm,1.2s				IAML		13 42 25.1	
PSZ	**Piszkesteto**	**3.55**	**33**	⇑	P	**Pn**	**13 41 21.7**	**+0.8**
PSZ	**Piszkesteto**	**3.55**	**33**		Pn	**Pn**	**13 41 20.1**	**-0.7**
PSZ	comp=E,71nm,0.5s				IAML		13 42 21.1	
PSZ	comp=N,73nm,0.5s				IAML		13 42 21.6	
NRCA	**Norcia**	**3.55**	**234**		Pn	**Pn**	**13 41 21.6**	**+0.7**
NRCA	comp=E,48nm,0.8s				IAML		13 42 29.2	
NRCA	comp=N,55nm,0.8s				IAML		13 42 35.8	
CAMP	**Campotosto**	**3.58**	**228**		Pn	**Pn**	**13 41 22.4**	**+1.0**
CAMP	comp=E,48nm,0.9s				IAML		13 42 46.7	
PUK	**Puka**	**3.59**	**144**		Pn	**Pn**	**13 41 23.3**	**+1.8**
BIOA	**Bad Ischl, Aus**	**3.60**	**320**		*e*Pn	**Pn**	**13 41 22.6**	**+1.1**
BIOA	comp=E,7.9nm,0.2s,SNR=5.4				*i* Sn	**Sn**	**13 42 04.1**	**+0.3**
BOVS	**Bovan**	**3.61**	**110**	⇑	P	**Pn**	**13 41 21.7**	**+0.1**
BOVS	**Bovan**	**3.61**	**110**		*e*Pn	**Pn**	**13 41 21.1**	**-0.5**
BOVS	comp=E,2.2nm,0.2s				*e*Sn	**Sn**	**13 42 01.5**	**-2.5**
ABTA	**Abfaltersbach**	**3.63**	**301**		*e*Pn	**Pn**	**13 41 25.5**	**+3.5**
ABTA	comp=E,15nm,0.4s				*e*Sn	**Sb**	**13 42 18.6**	**+4.7**
SURR	**Surduc**	**3.67**	**76**	⇓	P	**Pn**	**13 41 23.7**	**+1.2**
VYHS	**Vyhne**	**3.73**	**19**		*e*PN	**Pn**	**13 41 23.8**	**+0.5**
VYHS					*e*SN	**Sn**	**13 42 05.4**	**-1.7**
INTR	**Introdacqua**	**3.74**	**219**		Pn	**Pn**	**13 41 25.9**	**+2.5**
INTR	comp=E,43nm,0.9s				IAML		13 42 36.7	
INTR	comp=N,99nm,0.9s				IAML		13 42 49.2	
TEOL	**Teolo**	**3.82**	**278**		Pn	**Pn**	**13 41 26.3**	**+1.8**
HERR	**Herculane**	**3.82**	**89**	⇑	P	**Pn**	**13 41 24.4**	**-0.1**
LESA	**Schwarzleotal**	**3.90**	**311**		*i* Pn	**Pn**	**13 41 27.2**	**+1.6**
LESA	comp=N,7.8nm,0.2s				*i* Sn	**Sn**	**13 42 13.0**	**+1.8**
LESA	comp=N,36nm,0.3s				IAML		13 42 53.5	
ZAGS	**Zajecar**	**3.90**	**105**		*e*Pn	**Pn**	**13 41 25.2**	**-0.4**
JAVC	**Velka Javorina**	**3.91**	**6**		*e*PN	**Pn**	**13 41 26.5**	**+0.7**
CTI	**Castel Tesino**	**3.94**	**288**		Pn	**Pn**	**13 41 26.9**	**+0.7**
CESX	**Cesi**	**4.00**	**235**		Pn	**Pn**	**13 41 27.8**	**+0.8**
CESX	comp=N,40nm,0.6s				IAML		13 42 56.6	
CESX	comp=E,41nm,1.1s				IAML		13 42 56.6	
RJOB	**Jochberg**	**4.03**	**315**		*e*Pn	**Pn**	**13 41 29.5**	**+2.0**
RJOB					*e*Sn	**Sn**	**13 42 15.8**	**+1.3**
BARS	**Barje**	**4.07**	**120**		*e*Pn	**Pn**	**13 41 28.5**	**+0.5**
BARS					*e*Sn	**Sn**	**13 42 12.8**	**-2.6**
GZR	**Gura Zlata**	**4.08**	**82**	⇑	P	**Pn**	**13 41 29.1**	**+0.9**
KRUC	**Moravsky**	**4.12**	**354**		*e*PN	**Pn**	**13 41 28.5**	**-0.1**
KRUC					*e*SN	**Sn**	**13 42 17.4**	**+0.9**
TIR	**Tirane**	**4.17**	**149**		Pn	**Pn**	**13 41 30.6**	**+1.2**
TIR	comp=N,48nm,1.2s				IAML		13 42 55.0	
TIR	comp=E,56nm,1.4s				IAML		13 42 56.4	
KECS	**Kecovo**	**4.24**	**33**		*e*PN	**Pn**	**13 41 31.4**	**+1.1**
KECS					*e*PG	**Pg**	**13 41 49.4**	**+2.1**
KECS					*e*SG	**Sg**	**13 42 40.1**	**-2.0**
BLKB	**Belogradchik**	**4.27**	**106**	⇑	P	**Pn**	**13 41 31.2**	**+0.5**
CKRC	**Cesky Krumlov**	**4.28**	**335**		*e*PN	**Pn**	**13 41 32.0**	**+1.2**
MATE	**Matera**	**4.33**	**183**	⇑	P	**Pn**	**13 41 30.1**	**-1.4**
VRAC	**Vranov**	**4.35**	**356**	⇓	P	**Pn**	**13 41 31.7**	**-0.1**
VRAC	**Vranov**	**4.35**	**356**		*e*PN	**Pn**	**13 41 31.5**	**-0.3**
VRAC					*e*SN	**Sn**	**13 42 22.3**	**0.0**
ZCCA	**Zocca**	**4.37**	**264**		Pn	**Pn**	**13 41 33.0**	**+0.9**
ZCCA	comp=E,29nm,0.5s				IAML		13 42 28.8	
ZCCA	comp=N,28nm,1.9s				IAML		13 43 11.7	
ZAPS	**Zavoj**	**4.37**	**111**		*e*Pn	**Pn**	**13 41 32.4**	**+0.2**
WTTA	**Wattenberg**	**4.40**	**303**		*e*Pn	**Pn**	**13 41 35.0**	**+2.4**
WTTA	comp=N,8.5nm,0.3s				*i* Sn	**Sn**	**13 42 25.6**	**+1.8**
WTTA	comp=N,15nm,0.4s							
PRVS	**Prvonek**	**4.40**	**122**		*e*Pn	**Pn**	**13 41 32.7**	**+0.1**
PRVS					*e*Sn	**Sn**	**13 42 21.5**	**-2.2**
MAUC	**Maruska**	**4.43**	**7**		*e*PN	**Pn**	**13 41 33.4**	**+0.5**
WATA	**Walderalm**	**4.47**	**304**		*e*Sn	**Sn**	**13 42 26.5**	**+1.0**
GEC2	**GERESS Array S**	**4.50**	**331**		Pn	**Pn**	**13 41 33.6**	**-0.3**
GERES	**GERESS Array B**	**4.50**	**331**		Pn	**Pn**	**13 41 34.1**	**+0.1**
MARR	**Marisel-Cluj**	**4.58**	**66**	⇑	P	**Pn**	**13 41 36.3**	**+1.2**
MOTA	**Moosalm**	**4.76**	**302**		*e*Pn	**Pn**	**13 41 38.6**	**+1.1**
MOTA	comp=N,1.6nm,0.3s				*e*Sn	**Sn**	**13 42 35.8**	**+3.3**
KHC	**Kasperske Hory**	**4.78**	**332**		Pn	**Pn**	**13 41 37.9**	**+0.1**
KHC	**Kasperske Hory**	**4.78**	**332**		*e*PN	**Pn**	**13 41 39.0**	**+1.2**
KHC					*e*SN	**Sn**	**13 42 32.3**	**-0.7**
MORC	**Moravsky Berou**	**4.82**	**4**	⇑	P	**Pn**	**13 41 38.9**	**+0.6**
MORC	**Moravsky Berou**	**4.82**	**4**		Pn	**Pn**	**13 41 38.9**	**+0.6**
MORC	**Moravsky Berou**	**4.82**	**4**		*e*PN	**Pn**	**13 41 38.8**	**+0.5**
MORC					*e*SN	**Sn**	**13 42 31.8**	**-2.1**
FETA	**Feichten**	**4.85**	**297**		*e*Pn	**Pn**	**13 41 42.2**	**+3.4**
FETA	comp=N,2.0nm,0.4s,SNR=5.4				*e*Sn	**Sg**	**13 42 56.6**	**-5.2**
FETA	comp=N,8.2nm,0.7s							
BE1	**Monatshausen**	**4.98**	**308**		*e*Pn	**Pn**	**13 41 42.0**	**+1.5**
BE1					*e*Pg	**Pg**	**13 42 00.6**	**-0.9**
BE1					*e*Sg	**Sg**	**13 43 06.1**	**+0.2**
FUORN	**Ofenpass-Fuorn**	**5.01**	**292**		Pn	**Pn**	**13 41 42.6**	**+1.4**
FUORN	comp=E,24nm,0.8s				IAML		13 43 11.4	
FUORN	comp=N,23nm,0.8s				IAML		13 43 15.7	
WET	**Wettzell**	**5.05**	**327**		*e*Pn	**Pn**	**13 41 42.7**	**+1.3**
WET					*e*Sn	**Sn**	**13 42 37.3**	**-2.3**
GOPC	**GO Pecny, Ondr**	**5.17**	**344**		*e*PN	**Pn**	**13 41 43.6**	**+0.5**
FNA	**Florina**	**5.26**	**141**		Pn	**Pn**	**13 41 47.2**	**+2.8**
FNA	comp=N,14nm,1.0s				IAML		13 43 38.2	
PRU	**Pruhonice**	**5.30**	**342**		*e*PN	**Pn**	**13 41 45.8**	**+1.0**
KOLS	**Kolonicke sedl**	**5.34**	**40**		*e*PG	**Pg**	**13 42 09.3**	**+0.9**
KOLS					*e*SG	**Sg**	**13 43 23.5**	**+6.0**
DAVA	**Damuels**	**5.49**	**297**		*e*Pn	**Pn**	**13 41 51.1**	**+3.5**
UBR	**Ueberruh**	**5.51**	**302**		*e*Pn	**Pn**	**13 41 49.0**	**+1.2**
TUE	**Stuetta**	**5.59**	**288**		Pn	**Pn**	**13 41 51.3**	**+2.2**
VOIR		**5.68**	**82**	⇓	P	**Pn**	**13 41 50.7**	**+0.6**
NORI	**Noerdlinger Ri**	**5.78**	**313**		*e*Pn	**Pn**	**13 41 51.6**	**+0.2**
NORI					*e*Sn	**Sn**	**13 42 54.4**	**-3.1**
TIP	**Timpagrande**	**5.79**	**182**	⇓	P	**Pn**	**13 41 50.1**	**-1.6**
HSKC	**Hora Svate Kat**	**6.14**	**338**		*e*PN	**Pn**	**13 41 56.4**	**0.0**
BUR08	**Bucovina Ar. S**	**6.25**	**62**		Pn	**Pn**	**13 41 58.9**	**+0.9**
PGF	**Pioggiola**	**6.30**	**250**		*e*Pn	**Pn**	**13 41 59.2**	**+0.4**
PGF	comp=N,3.2nm,0.5s				*e*Sn	**Sn**	**13 43 05.6**	**-5.0**
LIT	**Litokhoron**	**6.32**	**139**		Pn	**Pn**	**13 42 00.2**	**+1.3**
ELND	**Elena**	**6.70**	**105**	⇑	P	**Pn**	**13 42 04.9**	**+0.8**
MOX	**Moxa**	**6.75**	**329**		*e*Pn	**Pn**	**13 42 05.9**	**+1.2**
MOX					*e*Sn	**Sn**	**13 43 18.7**	**-2.5**
BFO	**Black Forest**	**6.87**	**302**		Pn	**Pn**	**13 42 05.9**	**-0.6**
BFO	**Black Forest**	**6.87**	**302**		*e*Pn	**Pn**	**13 42 06.3**	**-0.1**
BFO					*e*Sn	**Sn**	**13 43 20.6**	**-3.7**
CLL	**Collm**	**6.89**	**338**		Pn	**Pn**	**13 42 04.8**	**-1.8**
CLL	**Collm**	**6.89**	**338**		*e*Pn	**Pn**	**13 42 07.0**	**+0.4**
CLL					*e*(Pg)	**Pg**	**13 42 38.0**	**+0.1**
CLL					*e*Sn	**Sn**	**13 43 17.0**	**-7.8**
CLL					*ex*	x	13 43 26.0	
CLL					*ex*	x	13 43 34.0	
CLL					*e*Sb	**Sb**	**13 43 53.0**	**+5.4**
CLL					*e*Sg	**Sg**	**13 44 05.0**	**-2.1**
	comp=Z,23nm,1.3s							
SBF	**Sospel**	**6.96**	**264**		*e*Pn	**Pn**	**13 42 07.0**	**-0.8**
SBF	comp=Z,11nm,0.5s				*e*Sn	**Sn**	**13 43 21.5**	**-5.3**
AGG	**Agios Georgios**	**7.13**	**145**		Pn	**Pn**	**13 42 10.1**	**0.0**
LPG	**La Plagne**	**7.28**	**278**		*e*P	**Pn**	**13 42 15.6**	**+3.3**
LPL	**La Plagne**	**7.29**	**278**		*e*P	**Pn**	**13 42 16.3**	**+3.8**
LPL	comp=Z,7.9nm,0.4s				*e*Sn	**Sn**	**13 43 29.2**	**-5.9**
MBDF	**Montbardon**	**7.30**	**272**		*e*Pn	**Pn**	**13 42 12.2**	**-0.3**
MBDF	comp=Z,7.3nm,0.4s				*e*Sn	**Sn**	**13 43 29.2**	**-6.0**
BNI	**Bardonecchia**	**7.34**	**274**		Pn	**Pn**	**13 42 13.3**	**+0.3**
ECH	**Echery**	**7.54**	**299**		Pn	**Pn**	**13 42 15.0**	**-0.6**
CDF	**Champ du Feu**	**7.54**	**301**		*e*Pn	**Pn**	**13 42 15.5**	**-0.2**
CDF	comp=Z,3.5nm,0.4s				*e*Sn	**Sn**	**13 43 33.9**	**-7.1**
HINF	**Hinteralfeld**	**7.59**	**296**		*e*Pn	**Pn**	**13 42 14.8**	**-1.6**
HINF	comp=Z,7.0nm,0.5s				*e*Sn	**Sn**	**13 43 36.4**	**-5.8**
LMR	**La Mourre**	**7.75**	**261**		*e*Pn	**Pn**	**13 42 17.0**	**-1.4**
LMR	comp=Z,10nm,0.8s				*e*Sn	**Sn**	**13 43 40.0**	**-5.9**
TNS	**Taunus Mts**	**7.83**	**315**		*e*Pn	**Pn**	**13 42 20.7**	**+1.2**
TNS					*e*Sn	**Sn**	**13 43 42.2**	**-5.7**
CABF	**La Chapelle**	**7.83**	**286**		*e*Pn	**Pn**	**13 42 19.4**	**-0.2**
ORIF	**Oris-en-Rattie**	**7.92**	**274**		*e*P	Pn	13 42 25.9	+5.0
ORIF	comp=Z,19nm,0.7s				*e*Sn	**Sn**	**13 43 44.5**	**-5.8**
SMRF	**Simiane la Rot**	**8.26**	**267**		*e*P	**Pn**	**13 42 28.9**	**+3.4**
SMRF	comp=Z,2.5nm,0.4s				*e*Sn	**Sn**	**13 43 52.2**	**-6.4**
VIVF	**Saint-Julien-l**	**8.78**	**274**		*e*P	**Pn**	**13 42 35.7**	**+3.1**
VIVF	comp=Z,4.3nm,0.5s				*e*Sn	**Sn**	**13 44 05.5**	**-5.8**
LOR	**Lormes**	**9.44**	**289**		*e*Pn	**Pn**	**13 42 40.0**	**-1.6**
LOR	comp=Z,4.0nm,0.6s				*e*Sn	**Sn**	**13 44 20.0**	**-7.5**
BGF	**Bois d'Agland**	**10.04**	**284**		*e*Pn	**Pn**	**13 42 49.0**	**-0.9**
BGF	comp=Z,6.3nm,0.5s				*e*Sn	Sn	13 44 34.8	-7.6

*IDC **24** 13:45:23.4±0.9, 56°.44N×148°.76W, h0km, mb3.7/10, mbtmp3.7/15, ML3.6/5, MS3.5/30, Error ellipse: s-maj=21.8km s-min=15.3km az=33.0*
*NEIC **24** 13:45:23.4±1.4, 56°.39N±0°.04×148°.8W±0°.1, h18km±5km, mb4.2/4, ML3.8/58, ML3.7(AEIC), Error ellipse: s-maj=8.8km s-min=5.4km az=118.0*
*AEIC **24** 13:45:26.3±1.5, 56°.38N±0°.05×148°.83W±0°.10, h5km±5km, Error ellipse: s-maj=9.1km s-min=5.2km az=124.0*
ISC 24 13:45:23.7±0.6, 56°.48N±0°.06×148°.83W±0°.04, h10km, n285, σ1°22/262, mb3.8/11, MS3.5/25, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.43**	**304**	Pn	**Pn**	**13 46 02.2**	**-1.1**
KDAK	**Kodiak Island**	**2.43**	**304**		**Sn**	**13 46 30.2**	**-2.9**
KDAK	**Kodiak Island** baz=126	**2.43**	**304**	S	**Sn**	**13 46 30.2**	**-2.9**
KDAK	**Kodiak Island** 12nm,0.3s,baz=148,slow=5.4,SNR=115	**2.43**	**304**	Pn	**Pn**	**13 46 02.6**	**-0.8**
KDAK	19nm,0.3s,baz=19,slow=22,SNR=6.0			Sn	**Sn**	**13 46 30.0**	**-3.1**
KDAK	comp=Z,1μm,19.3s,baz=179,slow=46 34nm,0.4s			LR	LR	13 47 16.4	
OHAK	**Old Harbor**	**2.56**	**289**	P	**Pn**	**13 46 03.6**	**-1.6**
OHAK	**Old Harbor**	**2.56**	**289**	Pn	**Pn**	**13 46 03.5**	**-1.6**
OHAK	**Old Harbor**	**2.56**	**289**		**Sn**	**13 46 32.4**	**-3.9**
OHAK	**Old Harbor** baz=110	**2.56**	**289**	P	**Pn**	**13 46 03.5**	**-1.6**
OHAK	baz=110			S	**Sn**	**13 46 32.4**	**-3.9**
SYI	**Shuyak Island**	**2.87**	**320**		**Pn**	**13 46 09.2**	**-0.2**
SYI	comp=N,313nm,0.5s			IAML		13 46 44.8	
SYI	comp=E,255nm,0.9s			IAML		13 46 45.3	
SYI	**Shuyak Island**	**2.87**	**320**		**Sn**	**13 46 42.5**	**-1.6**
Q20K	**Shuyak Island** baz=140	**2.87**	**320**	P	**Pn**	**13 46 08.7**	**-0.8**
Q20K	baz=140			S	**Sn**	**13 46 42.4**	**-1.6**
SII	**Sitkinak Islan**	**2.97**	**274**	P	**Pn**	**13 46 09.6**	**-1.2**
SII	**Sitkinak Islan**	**2.97**	**274**		**Pn**	**13 46 09.0**	**-1.8**
SII	**Sitkinak Islan**	**2.97**	**274**		**Sn**	**13 46 43.1**	**-3.3**
SII	**Sitkinak Islan** baz=94	**2.97**	**274**	P	**Pn**	**13 46 08.9**	**-1.9**
SII	baz=94			S	**Sn**	**13 46 43.1**	**-3.3**
Q23K	**Middleton Isla**	**3.24**	**23**	Pn	**Pn**	**13 46 13.7**	**-0.8**
Q23K	comp=E,178nm,0.9s			IAML		13 47 00.8	
Q23K	**Middleton Isla** baz=204	**3.24**	**23**	P	**Pn**	**13 46 13.6**	**-0.9**
MID	**Middleton Isla**	**3.24**	**23**		**Pn**	**13 46 13.7**	**-0.9**
CNPM	**China Poot**	**3.31**	**338**	Pn	**Pn**	**13 46 15.0**	**-0.6**
CNPM	comp=E,163nm,0.5s			IAML		13 47 00.4	
CNPM	**China Poot**	**3.31**	**338**		**Sn**	**13 46 53.4**	**-1.6**
BRSE	**Bradley Lake S**	**3.43**	**344**		**Pn**	**13 46 16.6**	**-0.5**
BRSE					**Sn**	**13 46 56.3**	**-1.5**
BRSE	**Bradley Lake S** baz=164	**3.43**	**344**	P	**Pn**	**13 46 16.6**	**-0.5**
BRSE	baz=164			S	**Sn**	**13 46 56.3**	**-1.5**
BRLK	**Bradley Lake**	**3.47**	**343**		**Pn**	**13 46 17.1**	**-0.7**
BRLK	comp=N,196nm,0.7s			IAML		13 47 00.9	
BRLK	comp=E,169nm,0.6s			IAML		13 47 02.1	
HOM	**Homer** baz=156	**3.52**	**336**	P	**Pn**	**13 46 18.1**	**-0.3**
Q19K	**Cape Douglas,**	**3.56**	**316**		**Pn**	**13 46 19.6**	**+0.6**
Q19K	**Cape Douglas,** baz=114	**3.56**	**316**	P	**Pn**	**13 46 18.9**	**-0.1**
P23K	**Montague Islan**	**3.61**	**11**		**Sn**	**13 47 00.1**	**-2.2**
P23K	**Montague Islan** baz=192	**3.61**	**11**	P	**Pn**	**13 46 19.2**	**-0.4**
P23K	baz=192			S	**Sn**	**13 47 00.0**	**-2.2**
SEW	**Seward**	**3.65**	**355**		**Sn**	**13 47 01.0**	**-2.2**
SEW	**Seward**	**3.65**	**355**	Pn	**Pn**	**13 46 19.5**	**-0.6**
SEW	**Seward** baz=175	**3.65**	**355**	P	**Pn**	**13 46 19.7**	**-0.4**
SEW	baz=175			S	**Sn**	**13 47 01.0**	**-2.2**
CHIR	**Chirikof Islan**	**3.86**	**263**		**Pn**	**13 46 21.0**	**-2.0**
CHIR	**Chirikof Islan** comp=E,188nm,1.1s	**3.86**	**263**	IAML		13 47 03.9	
CHIR	comp=N,142nm,0.6s			IAML		13 47 05.2	
CHIR	**Chirikof Islan** baz=80	**3.86**	**263**	P	**Pn**	**13 46 21.0**	**-2.0**
P19K	**Oil Pt**	**3.95**	**326**		**Pn**	**13 46 24.7**	**+0.4**
P19K	**Oil Pt** baz=144	**3.95**	**326**	P	**Pn**	**13 46 24.3**	**0.0**
ANCK	**Angle Creek**	**4.00**	**298**		**Pn**	**13 46 25.7**	**+0.7**
O22K	**Cooper Landing**	**4.04**	**354**		**Pn**	**13 46 25.2**	**-0.3**
O22K	**Cooper Landing** baz=174	**4.04**	**354**	P	**Pn**	**13 46 25.1**	**-0.5**
SLKM	**Skilak Lake**	**4.11**	**350**		**Pn**	**13 46 25.9**	**-0.6**
O20K	**Slope Mountain**	**4.13**	**333**		**Pn**	**13 46 26.6**	**-0.2**
O20K	**Slope Mountain** baz=151	**4.13**	**333**	P	**Pn**	**13 46 26.6**	**-0.2**
KAIM	**Kayak Island**	**4.17**	**32**	Pn	**Pn**	**13 46 27.1**	**-0.2**
KAIM	comp=E,147nm,1.2s			IAML		13 47 16.9	
KAIM	comp=N,162nm,1.1s			IAML		13 47 17.0	
KAIM	**Kayak Island** baz=215	**4.17**	**32**	P	**Pn**	**13 46 26.8**	**-0.5**
IVE	**Iliamna Volcan**	**4.18**	**330**		**Pn**	**13 46 27.1**	**-0.4**
ILSW	**Iliamna Southw**	**4.19**	**329**		**Pn**	**13 46 27.4**	**-0.3**
ILSW	comp=N,162nm,0.8s			IAML		13 47 19.6	
ILSW	comp=E,168nm,1.0s			IAML		13 47 24.5	
EYAK	**Cordova Ski Ar**	**4.39**	**20**	P	**Pn**	**13 46 30.0**	**-0.3**
EYAK	**Cordova Ski Ar** baz=202	**4.39**	**20**	P	**Pn**	**13 46 29.9**	**-0.4**
FID	**Port Fidalgo**	**4.46**	**15**		**Pn**	**13 46 30.4**	**-0.9**
FID				IAML		13 47 24.2	
	comp=E,89nm,0.4s						
FID	comp=N,79nm,0.4s			IAML		13 47 26.3	
RED	**Redoubt Volcan**	**4.46**	**334**		**Pn**	**13 46 30.7**	**-0.7**
P18K	**Big Mountain,**	**4.49**	**313**		**Pn**	**13 46 31.3**	**-0.4**
P18K	**Big Mountain,** baz=130	**4.49**	**313**	P	**Pn**	**13 46 31.0**	**-0.7**
RSO	**Redoubt South**	**4.50**	**334**		**Pn**	**13 46 31.5**	**-0.4**
GLI	**Glacier Island**	**4.51**	**11**	Pn	**Pn**	**13 46 31.6**	**-0.4**
GLI	comp=E,98nm,1.0s			IAML		13 47 23.4	
GLI	comp=N,72nm,0.9s			IAML		13 47 23.5	
GLI	**Glacier Island** baz=192	**4.51**	**11**	P	**Pn**	**13 46 31.6**	**-0.4**
RDWB	**Redoubt West**	**4.54**	**334**		**Pn**	**13 46 31.8**	**-0.7**
HMT	**Hamilton**	**4.55**	**30**		**Pn**	**13 46 32.3**	**-0.3**
DFR	**Drift River**	**4.59**	**336**		**Pn**	**13 46 32.5**	**-0.7**
NCT	**North Crescent**	**4.62**	**334**		**Pn**	**13 46 32.9**	**-0.7**
GOAT	**Goat Mountain**	**4.64**	**26**		**Pn**	**13 46 33.3**	**-0.5**
RC01	**Rabbit Creek A**	**4.65**	**355**	Pn	**Pn**	**13 46 33.7**	**-0.1**
RC01	comp=N,80nm,0.4s			IAML		13 47 27.4	
RC01	comp=E,95nm,0.6s			IAML		13 47 30.8	
RC01	**Rabbit Creek A** baz=174	**4.65**	**355**	P	**Pn**	**13 46 33.9**	**0.0**
BGLC	**Bering Glacier**	**4.68**	**36**		**Pn**	**13 46 33.7**	**-0.5**
BGLC	**Bering Glacier** baz=220	**4.68**	**36**	P	**Pn**	**13 46 33.7**	**-0.5**
O18K	**Koktuh Hills**	**4.78**	**318**	Pn	**Pn**	**13 46 35.0**	**-0.8**
O18K	comp=N,54nm,0.9s			IAML		13 47 33.7	
O18K	**Koktuh Hills** baz=134	**4.78**	**318**	P	**Pn**	**13 46 34.9**	**-0.8**
GRIN	**Grindle Hills**	**4.79**	**35**		**Pn**	**13 46 35.3**	**-0.6**
SNH	**Sunshine Point** comp=E,81nm,1.2s	**4.87**	**38**	IAML		13 47 52.5	
SNH	comp=N,82nm,1.3s			IAML		13 47 59.8	
P17K	**Kvichak River** baz=123	**4.89**	**307**	P	**Pn**	**13 46 37.5**	**+0.4**
DIV	**Divide**	**4.93**	**18**		**Pn**	**13 46 37.5**	**-0.2**
KNK	**Knik Glacier**	**4.96**	**2**		**Pn**	**13 46 38.0**	**-0.1**
KNK	comp=N,48nm,0.9s			IAML		13 47 37.9	
KNK	comp=E,65nm,0.9s			IAML		13 47 41.1	
KNK	**Knik Glacier** baz=183	**4.96**	**2**	P	**Pn**	**13 46 37.5**	**-0.6**
BMRM	**Bremner River**	**5.01**	**24**	Pn	**Pn**	**13 46 38.9**	**0.0**
BMRM	**Bremner River** baz=207	**5.01**	**24**	P	**Pn**	**13 46 38.6**	**-0.3**
N20K	**Mount Spurr** baz=159	**5.05**	**341**	P	**Pn**	**13 46 39.2**	**-0.3**
WAX	**Waxell Ridge**	**5.07**	**36**	Pn	**Pn**	**13 46 39.1**	**-0.6**
SUA	**Susitna One**	**5.10**	**350**	Pn	**Pn**	**13 46 39.4**	**-0.7**
SUA	comp=E,52nm,0.6s			IAML		13 47 40.5	
SUA	**Susitna One** baz=169	**5.10**	**350**	P	**Pn**	**13 46 39.7**	**-0.4**
SPCP	**Crater Peak Br**	**5.10**	**342**		**Pn**	**13 46 39.9**	**-0.3**
PMR	**Palmer**	**5.13**	**358**	P	**Pn**	**13 46 40.7**	**+0.2**
PMR	**Palmer**	**5.13**	**358**		**Pn**	**13 46 40.4**	**-0.1**
PMR	**Palmer** comp=E,47nm,1.1s	**5.13**	**358**	IAML		13 47 37.5	
PMR	**Palmer** baz=179	**5.13**	**358**	P	**Pn**	**13 46 40.4**	**-0.1**
MESA	**MESA**	**5.19**	**41**		**Pn**	**13 46 41.3**	**-0.1**
MESA	comp=E,83nm,1.1s			IAML		13 47 56.2	
MESA	comp=N,85nm,0.2s			IAML		13 49 21.7	
MESA	**MESA** baz=226	**5.19**	**41**	P	**Pn**	**13 46 41.0**	**-0.5**
KLU	**Klutina**	**5.25**	**15**		**Pn**	**13 46 41.8**	**-0.4**
KLU	**Klutina** comp=E,63nm,0.4s	**5.25**	**15**	IAML		13 47 46.0	
KLU	comp=N,54nm,0.7s			IAML		13 47 46.7	
KLU	**Klutina** baz=198	**5.25**	**15**	P	**Pn**	**13 46 41.8**	**-0.4**
N19K	**Bonanza Creek**	**5.25**	**328**		**Pn**	**13 46 41.7**	**-0.6**
N19K	**Bonanza Creek** comp=N,38nm,0.7s	**5.25**	**328**	IAML		13 47 45.8	
N19K	**Bonanza Creek** baz=145	**5.25**	**328**	P	**Pn**	**13 46 41.7**	**-0.6**
STLK	**Strandline Lak**	**5.27**	**344**		**Pn**	**13 46 42.2**	**-0.3**
SPNN	**North Nagishla**	**5.30**	**339**		**Pn**	**13 46 42.7**	**-0.2**
GHO	**Glory Hole Cre**	**5.31**	**360**	Pn	**Pn**	**13 46 43.5**	**+0.5**
SML	**Sawmill**	**5.35**	**3**		**Pn**	**13 46 43.5**	**-0.1**
SML	**Sawmill** baz=183	**5.35**	**3**	P	**Pn**	**13 46 43.4**	**-0.1**
M23K	**Glacier View**	**5.36**	**6**		**Pn**	**13 46 44.1**	**+0.5**
M23K	**Glacier View** baz=187	**5.36**	**6**	P	**Pn**	**13 46 44.2**	**+0.5**
SCM	**Sheep Creek Mo**	**5.43**	**8**		**Pn**	**13 46 45.2**	**+0.6**
SCM	**Sheep Creek Mo** baz=189	**5.43**	**8**	P	**Pn**	**13 46 45.2**	**+0.6**
O17K	**Koliganek Bris** baz=125	**5.49**	**310**	P	**Pn**	**13 46 45.6**	**+0.3**
VRDI	**Verde Repeater**	**5.52**	**28**	Pn	**Pn**	**13 46 45.6**	**-0.4**
P16K	**Nushagak River**	**5.53**	**301**		**Pn**	**13 46 44.9**	**-1.1**
P16K	**Nushagak River** baz=116	**5.53**	**301**	P	**Pn**	**13 46 44.9**	**-1.1**
N25K	**Chitina, Valde**	**5.59**	**21**	Pn	**Pn**	**13 46 46.8**	**0.0**
N25K	**Chitina, Valde** baz=204	**5.59**	**21**	P	**Pn**	**13 46 46.7**	**-0.1**
N18K	**Kilae Creek**	**5.60**	**322**		**Pn**	**13 46 46.2**	**-0.7**
N18K	**Kilae Cre

SDPT	**Sand Point**	**6.65**	**265**	P		**Pn**	**13 47 00.0**	**-1.2**
	baz=77								
DHY	**Denali Highway**	**6.66**	**6**	Pn		**Pn**	**13 47 02.5**	**+0.9**
DHY	**Denali Highway**	**6.66**	**6**	P		**Pn**	**13 47 01.8**	**+0.2**
	baz=187								
P29M	**Windy Craggy**	**6.68**	**57**			**Pn**	**13 47 01.1**	**-0.7**
P29M	**Windy Craggy**	**6.68**	**57**	P		**Pn**	**13 47 01.1**	**-0.7**
	baz=245								
M27K	**Edge Creek, AK**	**6.88**	**28**			**Pn**	**13 47 04.3**	**-0.2**
M27K	**Edge Creek, AK**	**6.88**	**28**	P		**Pn**	**13 47 04.3**	**-0.2**
	baz=214								
RND	**Reindeer**	**6.95**	**360**	Pn		**Pn**	**13 47 06.3**	**+0.8**
M16K	**Timber Creek**	**6.96**	**315**			**Pn**	**13 47 05.2**	**-0.4**
M16K	**Timber Creek**	**6.96**	**315**	P		**Pn**	**13 47 05.2**	**-0.4**
	baz=128								
MENT	**Mentasta**	**6.97**	**20**	Pn		**Pn**	**13 47 06.7**	**+0.8**
S31K	**Pelican**	**7.00**	**73**	P		**Pn**	**13 47 04.0**	**-2.1**
	baz=262								
L18K	**Granite Mounta**	**7.02**	**328**	P		**Pn**	**13 47 05.9**	**-0.5**
	baz=143								
TRF	**Thorofare Moun**	**7.03**	**355**	P		**Pn**	**13 47 06.6**	**-0.2**
	baz=174								
CAST	**Castle Rocks**	**7.15**	**348**	Pn		**Pn**	**13 47 07.6**	**-0.6**
KTH	**Kantishna Hill**	**7.17**	**352**			**Pn**	**13 47 08.9**	**+0.3**
HYT	**Haines Junctio**	**7.34**	**49**			**Pn**	**13 47 10.4**	**-0.5**
HYT	**Haines Junctio**	**7.34**	**49**	P		**Pn**	**13 47 10.4**	**-0.5**
	baz=237								
S12K	**Black Hills**	**7.44**	**270**			**Pn**	**13 47 11.1**	**-1.2**
S12K	**Black Hills**	**7.44**	**270**	P		**Pn**	**13 47 11.1**	**-1.2**
	baz=80								
SIT	**Sitka**	**7.45**	**80**	P		**Pn**	**13 47 09.0**	**-3.2**
L27K	**Beaver Creek,**	**7.49**	**25**			**Pn**	**13 47 12.4**	**-0.4**
L27K	**Beaver Creek,**	**7.49**	**25**	P		**Pn**	**13 47 12.4**	**-0.4**
	baz=211								
M15K	**Kasigluk River**	**7.50**	**309**			**Pn**	**13 47 12.5**	**-0.4**
M15K	**Kasigluk River**	**7.50**	**309**	P		**Pn**	**13 47 12.5**	**-0.4**
	baz=121								
BCAR	**Beaver Creek A**	**7.50**	**25**			**Pn**	**13 47 13.3**	**+0.2**
L16K	**Owhat River**	**7.58**	**318**			**Pn**	**13 47 13.6**	**-0.4**
L16K	**Owhat River**	**7.58**	**318**	P		**Pn**	**13 47 13.6**	**-0.4**
	baz=130								
BPAW	**Bear Paw Mtn.**	**7.72**	**353**			**Pn**	**13 47 15.5**	**-0.6**
BPAW	**Bear Paw Mtn.**	**7.72**	**353**	P		**Pn**	**13 47 15.5**	**-0.6**
	baz=172								
SKAG	**Skagway**	**7.78**	**62**	P		**Pn**	**13 47 16.5**	**-0.2**
BESE	**Bessie Mountai**	**7.81**	**69**			**Pn**	**13 47 16.1**	**-1.2**
N30M	**Aishikik Lake**	**7.85**	**46**			**Pn**	**13 47 17.5**	**-0.4**
N30M	**Aishikik Lake**	**7.85**	**46**	P		**Pn**	**13 47 17.5**	**-0.4**
	baz=235								
S32K	**Killisnoo**	**7.85**	**77**			**Pn**	**13 47 16.1**	**-1.7**
S32K	**Killisnoo**	**7.85**	**77**	P		**Pn**	**13 47 16.0**	**-1.7**
	baz=267								
K17K	**Iditarod**	**7.88**	**326**			**Pn**	**13 47 17.4**	**-0.8**
K17K	**Iditarod**	**7.88**	**326**	P		**Pn**	**13 47 17.4**	**-0.8**
	baz=139								
O30N	**Mendenhall**	**7.92**	**52**	Pn		**Pn**	**13 47 18.8**	**+0.1**
M29M	**Somme Creek**	**7.97**	**37**			**Pn**	**13 47 19.4**	**-0.2**
M29M	**Somme Creek**	**7.97**	**37**	P		**Pn**	**13 47 19.4**	**-0.2**
	baz=225								
HDA	**Harding Lake**	**8.01**	**6**			**Pn**	**13 47 20.1**	**+0.1**
HDA	**Harding Lake**	**8.01**	**6**	P		**Pn**	**13 47 20.1**	**+0.1**
	baz=188								
JIS	**Juneau Island**	**8.01**	**71**	P		**Pn**	**13 47 19.1**	**-0.9**
WRH	**Wood River Hil**	**8.03**	**2**			**Pn**	**13 47 20.4**	**+0.2**
J16K	**Innoko River**	**8.04**	**334**	Pn		**Pn**	**13 47 19.7**	**-0.7**
J20K	**Nowinta River**	**8.16**	**343**			**Pn**	**13 47 22.2**	**+0.2**
J20K	**Nowinta River**	**8.16**	**343**	P		**Pn**	**13 47 22.2**	**+0.2**
	baz=159								
J19K	**Poorman**	**8.26**	**339**			**Pn**	**13 47 22.6**	**-0.7**
J19K	**Poorman**	**8.26**	**339**	P		**Pn**	**13 47 22.6**	**-0.7**
	baz=154								
J25K	**Salcha River,**	**8.34**	**10**			**Pn**	**13 47 24.2**	**-0.3**
J25K	**Salcha River,**	**8.34**	**10**	P		**Pn**	**13 47 24.2**	**-0.3**
	baz=193								
IL31		**8.38**	**6**			**Pn**	**13 47 25.2**	**+0.2**
ILAR	**Eielson Array**	**8.38**	**6**	Pn		**Pn**	**13 47 25.7**	**+0.7**
ILAR	**Eielson Array**	**8.38**	**6**	Pn		**Pn**	**13 47 24.9**	**-0.1**
	comp=N,0.4nm,0.3s,baz=186,slow=13,SNR=24								
ILAR				Sn		**Sn**	**13 48 55.1**	**-4.4**
	comp=N,0.7nm,0.3s,baz=195,slow=25,SNR=9.4								
ILAR				LR		LR	13 50 43.3		
	comp=N,190nm,19.3s,baz=252,slow=38								
	comp=N,1.5nm,0.5s								
N31M	**Braeburn, Yuko**	**8.40**	**48**			**Pn**	**13 47 24.7**	**-0.6**
N31M	**Braeburn, Yuko**	**8.40**	**48**	P		**Pn**	**13 47 24.7**	**-0.6**
	baz=238								
WHY	**Whitehorse**	**8.40**	**54**			**Pn**	**13 47 25.8**	**+0.3**
FALS	**False Pass**	**8.41**	**265**			**Pn**	**13 47 23.5**	**-1.8**
FALS	**False Pass**	**8.41**	**265**	P		**Pn**	**13 47 23.5**	**-1.8**
	baz=74								
COLA	**College**	**8.44**	**3**	P		**Pn**	**13 47 27.9**	**+2.1**
J26L	**Joseph Creek**	**8.46**	**16**			**Pn**	**13 47 26.4**	**+0.3**
J26L	**Joseph Creek**	**8.46**	**16**	P		**Pn**	**13 47 26.4**	**+0.3**
	baz=200								
L29M	**L29M**	**8.55**	**35**			**Pn**	**13 47 27.7**	**+0.3**
L29M	**L29M**	**8.55**	**35**	P		**Pn**	**13 47 27.7**	**+0.3**
	baz=223								
P32M	**Atlin**	**8.60**	**62**	Pn		**Pn**	**13 47 28.0**	**-0.1**
P32M	**Atlin**	**8.60**	**62**	P		**Pn**	**13 47 27.5**	**-0.6**
	baz=254								
ISLZ	**Isanotski Laza**	**8.61**	**264**			**Pn**	**13 47 26.4**	**-1.8**
ISNN	**Isanotski Nort**	**8.61**	**265**			**Pn**	**13 47 26.7**	**-1.6**
J17K	**VABM Dome**	**8.63**	**328**	P		**Pn**	**13 47 27.9**	**-0.5**
	baz=140								
M30M	**Minto, Yukon**	**8.64**	**40**			**Pn**	**13 47 28.4**	**-0.2**
M30M	**Minto, Yukon**	**8.64**	**40**	P		**Pn**	**13 47 28.4**	**-0.2**
	baz=230								
I23K	**Minto, Yukon-K**	**8.70**	**359**			**Pn**	**13 47 29.9**	**+0.5**
I23K	**Minto, Yukon-K**	**8.70**	**359**	P		**Pn**	**13 47 29.2**	**-0.2**
	baz=178								
U33K	**Whale Pass**	**8.75**	**86**			**Pn**	**13 47 26.8**	**-3.3**
U33K	**Whale Pass**	**8.75**	**86**	P		**Pn**	**13 47 26.8**	**-3.3**
	baz=278								
CRAG	**Craig**	**8.87**	**90**	P		**Pn**	**13 47 28.8**	**-2.9**
J16K	**Anvik River**	**9.02**	**324**			**Pn**	**13 47 31.9**	**-1.9**
J16K	**Anvik River**	**9.02**	**324**	P		**Pn**	**13 47 31.9**	**-1.9**
	baz=135								
P33M	**Teslin, Yukon**	**9.21**	**59**			**Pn**	**13 47 36.0**	**-0.4**
P33M	**Teslin, Yukon**	**9.21**	**59**	P		**Pn**	**13 47 35.1**	**-1.3**
	baz=252								
K29M	**Barlow Dome**	**9.28**	**33**			**Pn**	**13 47 37.6**	**+0.1**
K29M	**Barlow Dome**	**9.28**	**33**	P		**Pn**	**13 47 37.6**	**+0.1**
	baz=222								
H21K	**Melozitna Rive**	**9.41**	**350**	P		**Pn**	**13 47 38.7**	**-0.4**
	baz=167								
R33M	**Jennings River**	**9.93**	**65**			**Pn**	**13 47 45.8**	**-0.7**
I28M	**Miner Creek**	**9.97**	**22**			**Pn**	**13 47 48.9**	**+2.0**
G21K	**Allakaket**	**10.31**	**349**			**Pn**	**13 47 51.3**	**-0.2**
DLBC	**Dease Lake**	**10.32**	**71**	Pn		**Pn**	**13 47 51.4**	**-0.2**
	comp=N,0.7nm,0.3s,baz=265,slow=9.8,SNR=5.7								
DLBC				Sn		**Sn**	**13 49 40.2**	**-7.0**
	comp=N,0.2nm,0.3s,baz=115,slow=13,SNR=1.5								
	comp=N,1.8nm,0.3s								
UNV	**Unalaska Valle**	**10.45**	**263**	P		**Pn**	**13 47 52.1**	**-1.2**
I30M	**Mount Dempster**	**10.64**	**29**			**Pn**	**13 47 57.9**	**+1.8**
F20K	**Avaraart Lake**	**11.09**	**346**			**Pn**	**13 48 02.2**	**+0.1**
E24K	**Your Creek**	**11.64**	**1**			**Pn**	**13 48 10.9**	**+1.2**
BBB	**Bella Bella**	**12.81**	**101**	LR		LR	13 52 11.6		
	comp=N,257nm,18.7s,baz=302,slow=32								
E29M	**Blow River**	**12.95**	**18**			**Pn**	**13 48 28.5**	**+1.0**
C23K	**Itkillik River**	**13.43**	**357**	Pn		**Pn**	**13 48 36.5**	**+2.5**
B21K	**Ikpikpuk River**	**13.44**	**351**	Pn		**Pn**	**13 48 33.9**	**-0.2**
INK	**Inuvik**	**13.76**	**24**	Pn		**Pn**	**13 48 40.2**	**+1.7**
	comp=N,0.1nm,0.3s,baz=204,slow=15,SNR=12								
INK				LR		LR	13 54 19.6		
	comp=N,147nm,18.3s,baz=188,slow=39								
	comp=N,6.4nm,1.0s								
C36M	**Paulatuk**	**16.95**	**31**	Pn		**Pn**	**13 49 19.9**	**-0.5**
YKA	**Yellowknife Ar**	**18.22**	**57**	P		**P**	**13 49 36.9**	**+0.3**
	comp=N,0.2nm,0.3s,baz=264,slow=11,SNR=19								
YKA				LR		LR	13 56 26.6		
	comp=N,117nm,19.4s,baz=302,slow=36								
	comp=N,2.5nm,0.9s								
A36M	**Sachs Harbour**	**18.40**	**23**	P		**Pn**	**13 49 38.7**	**+0.3**
A36M				IAmb		IAmb	13 49 43.1		
	comp=Z,15nm,0.8s								
SHEM	**Shemya Is, Ala**	**21.62**	**276**	LR		LR	13 56 54.4		
	comp=Z,25nm,21.1s,baz=305,slow=32								
L04D	**Klamath Falls**	**22.22**	**119**	P		**P**	**13 50 22.2**	**+1.9**
YBH	**Yreka Blue Hor**	**22.39**	**120**	LR		LR	13 56 52.5		
	comp=Z,182nm,20.0s,baz=324,slow=31								
BILL	**Bilibino**	**23.26**	**318**	P		**P**	**13 50 32.7**	**+1.8**
BILL				IAmb		IAmb	13 50 41.4		
	comp=Z,6.5nm,1.0s								
NVAR	**Mina Array Bea**	**27.08**	**119**	P		**P**	**13 51 07.4**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=301,slow=9.5,SNR=8.5								
NVAR				LR		LR	13 59 50.5		
	comp=Z,107nm,19.7s,baz=360,slow=32								
	comp=Z,1.4nm,0.9s								
RES	**Resolute Bay**	**27.27**	**28**	LR		LR	14 02 31.2		
	comp=Z,112nm,18.3s,baz=218,slow=38								
PDAR	**Pinedale Array**	**28.46**	**102**	P		**P**	**13 51 19.6**	**+0.7**
	comp=Z,0.2nm,0.4s,baz=306,slow=9.7,SNR=1.9								
PDAR				LR		LR	14 01 47.5		
	comp=Z,47nm,18.3s,baz=309,slow=35								
	comp=Z,0.2nm,0.4s								
SEY	**Seymchan**	**29.39**	**307**	LR		LR	14 04 26.8		
	comp=Z,173nm,18.7s,baz=130,slow=39								
PETK	**Petropavlovsk-**	**30.36**	**287**	P		**P**	**13 51 35.4**	**+0.1**
	comp=Z,0.7nm,0.8s,baz=72,slow=12,SNR=1.4								
PETK				LR		LR	14 05 23.9		
	comp=Z,31nm,18.1s,baz=83,slow=40								
	comp=Z,0.7nm,0.8s								
MA2	**Magadan**	**31.17**	**301**	LR		LR	14 04 51.9		
	comp=Z,96nm,20.4s,baz=94,slow=37								
PFO	**Pinyon Flats O**	**31.85**	**122**	LR		LR	14 02 20.3		
	comp=Z,117nm,19.4s,baz=334,slow=32								
TIXI	**Tiksi**	**35.64**	**327**	LR		LR	14 10 08.8		
	comp=Z,45nm,18.4s,baz=50,slow=42								
ANMO	**Albuquerque**	**35.79**	**109**	LR		LR	14 06 50.5		
	comp=Z,46nm,18.2s,baz=37,slow=36								
FRB	**Frobisher Bay**	**38.11**	**45**	LR		LR	14 08 35.8		
	comp=Z,111nm,18.8s,baz=16,slow=36								
YAK	**Yakutsk**	**39.43**	**313**	LR		LR	14 09 24.0		
	comp=Z,47nm,19.5s,baz=50,slow=36								
TXAR	**Lajitas Array**	**41.66**	**111**	P		**P**	**13 53 12.5**	**+0.3**
	comp=Z,0.5nm,1.0s,baz=316,slow=3.5,SNR=3.5								
	comp=Z,0.5nm,1.0s								
LPIG	**La Paz**	**42.73**	**123**	LR		LR	14 07 48.3		
	comp=Z,51nm,19.6s,baz=298,slow=32								
SFJD	**Kangerlussuaq**	**42.79**	**35**	LR		LR	14 10 57.0		
	comp=Z,79nm,20.6s,baz=326,slow=36								
SCHQ	**Schefferville**	**43.67**	**56**	LR		LR	14 11 46.7		
	comp=Z,55nm,18.7s,baz=332,slow=36								
KLR	**Kul'dur**	**45.97**	**296**	LR		LR	14 15 04.6		
	comp=Z,32nm,18.4s,baz=71,slow=39								
TKL	**Tuckaleechee C**	**47.67**	**87**	LR		LR	14 14 06.9		
	comp=Z,108nm,18.8s,baz=249,slow=36								
H11N2	**WAKE ISLAND Hy**	**49.20**	**240**	T		T	14 47 59.3		
	baz=29,slow=76,SNR=7.1								
H11N3	**WAKE ISLAND Hy**	**49.20**	**240**	T		T	14 47 59.7		
	baz=29,slow=76,SNR=7.7								
H11N1	**WAKE ISLAND Hy**	**49.22**	**240**	T		T	14 48 00.7		
	baz=29,slow=76,SNR=5.9								
JMIC	**Jan Mayen**	**49.76**	**16**	LR		LR	14 17 17.8		
	comp=Z,26nm,19.0s,baz=271,slow=38								
H11S1	**WAKE ISLAND Hy**	**50.34**	**240**	T		T	14 49 25.6		
	baz=29,slow=76,SNR=8.9								
H11S2	**WAKE ISLAND Hy**	**50.35**	**240**	T		T	14 49 25.9		
	baz=29,slow=76,SNR=4.8								
H11S3	**WAKE ISLAND Hy**	**50.36**	**240**	T		T	14 49 28.1		
	baz=29,slow=76,SNR=3.4								
BORG	**Borgarnes**	**52.65**	**25**	LR		LR	14 18 01.7		
	comp=Z,36nm,18.4s,baz=355,slow=37								
TEIG	**Tepich**	**57.17**	**103**	LR		LR	14 24 27.9		
	comp=Z,26nm,18.0s,baz=5.0,slow=41								
SONM	**Songino Array**	**58.70**	**310**	P		**P**	**13 55 23.6**	**+2.4**
	comp=Z,0.9nm,0.7s,baz=31,slow=8.6,SNR=5.1								
	comp=Z,0.9nm,0.7s								
ZALV	**Zalesovo Beam**	**61.53**	**327**	P		**P**	**13 55 42.7**	**+2.4**
	comp=Z,0.3nm,0.4s,baz=52,slow=7.5,SNR=1.7								
	comp=Z,0.3nm,0.4s								
BVAR	**Borovoye Array**	**66.21**	**335**	P		**P**	**13 56 12.8**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=72,slow=4.8,SNR=3.8								
	comp=Z,0.5nm,0.5s								
MKAR	**Makanchi Array**	**68.58**	**325**	P		**P**	**13 56 27.6**	**+1.4**
	comp=Z,0.3nm,0.6s,baz=3.4,slow=5.7,SNR=2.7								
	comp=Z,0.3nm,0.6s								
AKASG	**Malin Array Be**	**73.17**	**1**	P		**P**	**13 56 54.6**	**+0.6**
	comp=Z,0.3nm,0.2s,baz=9.9,slow=6.2,SNR=4.9								
	comp=Z,0.3nm,0.2s								
AAK	**Ala-Archa**	**74.71**	**328**	LR		LR	14 33 29.2		
	comp=Z,53nm,18.4s,baz=58,slow=39								
ESDC	**Sonseca Array**	**79.70**	**27**	P		**P**	**13 57 32.9**	**+1.6**
	comp=Z,0.7nm,0.7s,baz=342,slow=5.0,SNR=4.6								
ESDC				LR		LR	14 32 16.6		
	comp=Z,31nm,20.2s,baz=165,slow=35								
	comp=Z,0.7nm,0.7s								
GEYT	**Alibeck**	**83.22**	**339**	LR		LR	14 41 35.9		
	comp=Z,27nm,18.9s,baz=262,slow=40								
CMAR	**Chiang Mai Arr**	**86.41**	**298**	LR		LR	14 41 53.2		
	comp=Z,11nm,19.0s,baz=210,slow=39								
QSPA	**South Pole Qui**	**146.27**	**180**	PKPbc		**PKiKP**	**14 05 05.8**	**-0.1**
	comp=Z,1.2nm,1.1s,baz=128,slow=10,SNR=1.4								

*IDC **24** 13:55:25.4±0.7,33.87N×89.41E,h0km,mb4.0/17, mbtmp4.0/22,ML3.5/5,MS3.4/25,Error ellipse: s-maj=25.5km s-min=13.4km az=48.0*
*MOS **24** 13:55:25.5±1.3,33.87N×89.29E,h15km,mb4.4/18,Error ellipse: s-maj=9.7km s-min=4.9km az=122.7*
*NEIC **24** 13:55:26.2±2.8,33.99N±0.09×89.3E±0.1,h10km±2km, mb4.2/16,Error ellipse: s-maj=24.2km s-min=3.0km az=52.0*
*BJI **24** 13:55:28.9±0.0,33.75N×89.34E,h9km,mb4.6/14, mB4.4/4,ML3.6/2,Ms4.1/11,Ms7 3.9/11*
ISC 24 13:55:26.6±0.4,33.83N±0.06×89.19E±0.06,h10km,n133,
σ1§84/118,mb4.2/40,MS3.4/25,13C-1D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
LSA	**Lhasa**	**4.44**	**157**	Pg	**Pb**	**13 56 40.8**	**-4.2**
GOMU	**GeErMu**	**5.18**	**61**	Pn	Pn	13 56 51.0	+6.4
SHL	**Shillong**	**8.56**	**163**	Pn	**Pn**	**13 57 32.6**	**+1.8**
SHL	**Shillong**	**8.56**	**163**	P	**Pn**	**13 57 32.6**	**+1.8**
WMQ	**Urumqi**	**10.05**	**354**	*e*P	**Pn**	**13 57 51.5**	**+0.5**
WMQ				LR	LR		
	comp=N,760nm,12.1s						
WMQ				LR	LR		
	comp=E,610nm,13.7s						
WMQ				LR	LR		
	comp=Z,220nm,12.1s						
TNCH	**TengChong**	**11.95**	**135**	*e*P	**Pn**	**13 58 18.9**	**+1.6**
TNCH				S	**Sn**	**14 00 36.4**	**+5.7**
TNCH				LR	LR		
	comp=Z,350nm,9.1s						
TNCH				LR	LR		
	comp=Z,290nm,7.3s						
TNCH				LR	LR		
	comp=Z,450nm,12.5s						
TARG	**Taragay, Kyrgy**	**11.97**	**315**	P	**Pn**	**13 58 21.0**	**+3.4**
SHLS	**Shalkode**	**12.03**	**324**	*e*P	**Pn**	**13 58 19.0**	**+0.8**
KSH	**Kashi**	**12.03**	**302**	P	**Pn**	**13 58 20.1**	**+1.8**
PZH	**PanZhiHua**	**13.07**	**121**	P	**Pn**	**13 58 34.6**	**+2.0**
PZH				pmax	pmax		
	comp=Z,7.0nm,0.9s						
PZH				pmax	pmax		
	comp=Z,100nm,4.3s						
NIL	**Nilore**	**13.27**	**274**	P	**Pn**	**13 58 35.6**	**+0.4**
BOOM	**Boomskoye usch**	**13.53**	**314**		**Pn**	**13 58 39.2**	**+0.4**
BOOM	**Boomskoye usch**	**13.53**	**314**	P	**Pn**	**13 58 39.2**	**+0.4**
ARXS	**Arharly**	**13.61**	**323**	*e*P	**Pn**	**13 58 42.7**	**+3.0**
MK31	**Makanchi Array**	**13.97**	**340**	Pn	**Pn**	**13 58 42.7**	**-2.0**
MK31	**Makanchi Array**	**13.97**	**340**	*ce*P	**Pn**	**13 58 43.3**	**-1.3**
MKAR	**Makanchi Array**	**13.97**	**340**	Pn	**Pn**	**13 58 41.5**	**-3.2**
MKAR	**Makanchi Array**	**13.97**	**340**	Pn	**Pn**	**13 58 43.5**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=145,slow=15,SNR=6.0						
MKAR				LR	LR	14 04 22.4	
	comp=Z,65nm,19.9s,baz=188,slow=38						
	comp=Z,1.5nm,1.1s						
MAKZ	**Makanchi**	**14.08**	**339**	P	**Pn**	**13 58 45.0**	**-1.1**
AAK	**Ala-Archa**	**14.50**	**312**	Pn	**Pn**	**13 58 53.5**	**+1.5**
	comp=Z,0.3nm,0.3s,baz=113,slow=22,SNR=4.1						
AAK				LR	LR	14 05 43.1	
	comp=Z,219nm,20.5s,baz=119,slow=42						
	comp=Z,0.8nm,0.3s						
KMI	**Kunming**	**14.63**	**123**	⇑P	**Pn**	**13 58 56.6**	**+2.6**
KMI				pmax	pmax		
	comp=Z,19nm,0.7s						
KMI				LR	LR		
	comp=Z,450nm,9.6s						
KMI				LR	LR		
	comp=Z,430nm,10.6s						
KMI				LR	LR		
	comp=Z,550nm,11.3s						
ARSB	**Arslanbob**	**14.86**	**305**	Pn	**Pn**	**13 58 53.9**	**-3.1**
ARSB	**Arslanbob**	**14.86**	**305**	P	**Pn**	**13 58 53.9**	**-3.1**
ARK	**Arkit**	**15.75**	**305**	P	**P**	**13 59 12.5**	**-0.2**
BTK	**Batken**	**15.94**	**298**	P	**P**	**13 59 17.7**	**+3.0**
BTLS	**Baital**	**16.17**	**318**	*e*P	**P**	**13 59 18.1**	**+1.0**
KBL	**Kabul**	**16.69**	**278**		**Pn**	**13 59 20.3**	**-0.5**
KBL	**Kabul**	**16.69**	**278**	P	**Pn**	**13 59 20.3**	**-0.5**
KBL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
GYA	**Guiyang**	**16.79**	**111**	*e*P	**P**	**13 59 25.6**	**+1.4**
GYA				S	**Sn**	**14 02 32.5**	**+3.8**
GYA				pmax	pmax		
	comp=Z,47nm,1.0s						
GYA				pmax	pmax		
	comp=Z,120nm,5.0s						
GYA				LR	LR		
	comp=Z,180nm,9.5s						
GYA				LR	LR		
	comp=Z,330nm,7.7s						
GYA				LR	LR		
	comp=Z,450nm,8.4s						
CHGR	**Chuyangaron**	**16.86**	**292**		**Pn**	**13 59 21.7**	**-1.1**
CHGR				IAmb	IAmb	13 59 29.2	
	comp=Z,23nm,0.7s						
CHGR	**Chuyangaron**	**16.86**	**292**	P	**Pn**	**13 59 21.7**	**-1.1**
CHGR				pmax	pmax		
	comp=Z,23nm,0.7s						
SIMJ	**Simiganj**	**16.98**	**292**		**Pn**	**13 59 22.8**	**-1.6**
SIMJ				IAmb	IAmb	13 59 30.4	
	comp=Z,10.0nm,0.8s						
IUG	**luzhnay**	**17.21**	**304**	*e*P	**Pn**	**13 59 28.0**	**+0.7**
KKAR	**Karatay Array**	**17.29**	**308**		**Pn**	**13 59 26.8**	**-1.2**
KKAR	**Karatay Array**	**17.29**	**308**	P	**Pn**	**13 59 26.8**	**-1.2**
CHTO	**Chiang Mai**	**17.30**	**147**	Pn	**Pn**	**13 59 26.9**	**-1.5**
CHTO	**Chiang Mai**	**17.30**	**147**	P	**Pn**	**13 59 26.9**	**-1.5**
CM31	**Chiang Mai Arr**	**17.61**	**148**		**Pn**	**13 59 31.6**	**-0.6**
CM31				IAmb	IAmb	13 59 36.7	
	comp=Z,11nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.61**	**148**	Pn	**Pn**	**13 59 31.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.61**	**148**	P	**Pn**	**13 59 32.7**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=335,slow=12,SNR=30						
CMAR				LR	LR	14 06 29.4	
	comp=Z,61nm,19.3s,baz=355,slow=38						
	comp=Z,5.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.61**	**148**	*ce*P	**P**	**13 59 33.0**	**-0.3**
CMAR				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SLVN	**Son La**	**18.00**	**130**		**Pn**	**13 59 37.4**	**+0.3**
SLVN				IAmb	IAmb	13 59 42.3	
	comp=Z,19nm,0.9s						
KURBB	**Kurchatov Array**	**18.52**	**338**	P	**P**	**13 59 42.9**	**-0.1**
	baz=147,slow=11,SNR=22						
KURBB				LR	LR	14 07 41.8	
	comp=Z,109nm,18.8s,baz=177,slow=40						
	comp=Z,2.8nm,0.9s						
KURK	**Kurchatov**	**18.57**	**339**		**P**	**13 59 42.3**	**-1.2**
KURK	**Kurchatov**	**18.57**	**339**	P	**P**	**13 59 42.3**	**-1.2**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.3s						
SONM	**Songino Array**	**19.05**	**38**	P	**P**	**13 59 48.5**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=218,slow=9.4,SNR=8.6						
SONM				LR	LR	14 07 49.0	
	comp=Z,72nm,21.9s,baz=214,slow=39						
	comp=Z,0.6nm,0.3s						
HHC	**Hu-ho-hao-te**	**19.09**	**62**	*e*P	**P**	**13 59 47.8**	**-1.7**
HHC				sP	pP	13 59 53.8	-0.1
HHC				pmax	pmax		
	comp=Z,13nm,0.6s						
HHC				pmax	pmax		
	comp=Z,50nm,4.6s						
HHC				LR	LR		
	comp=N,110nm,8.6s						
HHC				LR	LR		
	comp=E,160nm,11.6s						
HHC				LR	LR		
	comp=Z,120nm,9.2s						
ULN	**Ulaanbaatar**	**19.41**	**38**	*ce*P	**P**	**13 59 52.9**	**-0.1**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.3s						
BRZS	**Berezniki**	**20.21**	**328**	*e*P	**P**	**14 00 02.5**	**+0.9**
GULI	**GuiLin**	**20.26**	**109**	⇑P	**P**	**14 00 00.8**	**-1.5**
GULI				S	Sn	14 04 01.9	+9.5
GULI				pmax	pmax		
	comp=Z,10.0nm,1.1s						
GULI				LR	LR		
	comp=N,170nm,10.8s						
GULI				LR	LR		
	comp=E,320nm,10.8s						
GULI				LR	LR		
	comp=Z,440nm,10.8s						
ZAA0	**Zalesovo Array**	**20.35**	**353**		**P**	**14 00 02.5**	**-0.5**
ZAA0				IAmb	IAmb	14 00 08.8	

comp=Z,42nm,19.5s,baz=90,slow=42
GNI Garni 35.77 293 *i* P **P** **14 02 25.0 -1.0**
GNI pmax pmax
comp=Z,10.0nm,1.2s
KIRV Kirov 36.19 325 LR LR 14 17 33.6
comp=Z,24nm,19.0s,baz=115,slow=37
KBZ Khabaz 37.00 299 *i* P **P** **14 02 35.9 -0.3**
KBZ pmax pmax
comp=Z,1.0nm,0.9s
KIV Kislovodsk 37.15 300⇑ *e*P **P** **14 02 38.5 +0.8**
KIV *e* 14 04 00.1
KIV pmax pmax
comp=Z,2.0nm,0.8s
KIV MLR MLR
comp=Z,52nm,16.0s
OBN Obninsk 41.94 317 *de*P **P** **14 03 16.9 -0.4**
OBN *e* 14 04 55.8
OBN *e*PPP PPP 14 05 23.8
OBN *e*SS SnSn 14 13 10.1 +17
OBN pmax pmax
comp=Z,9.0nm,0.5s
OBN MLR MLR
comp=Z,121nm,17.0s
ERM Erimo 42.74 63 *ce*P **P** **14 03 22.6 -1.4**
ERM pmax pmax
comp=Z,215nm,2.5s
DAV Davao City (W) 42.87 120 LR LR 14 23 43.1
comp=Z,78nm,18.2s,baz=349,slow=40
TIXI Tiksi 43.24 17 LR LR 14 22 13.8
comp=Z,38nm,20.0s,baz=18,slow=37
TIXI Tiksi 43.24 17 *ce*P **P** **14 03 26.9 -0.7**
TIXI pmax pmax
comp=Z,7.0nm,2.5s
BRTR Keskin Array B 44.29 294 P **P** **14 03 34.9 -1.8**
BRTR Keskin Array B 44.29 294 P **P** **14 03 37.6 +0.9**
comp=Z,3.0nm,1.0s,baz=98,slow=6.0,SNR=8.1
comp=Z,3.0nm,1.0s
BR104 Keskin Array S 44.29 294 P **P** **14 03 36.8 +0.1**
comp=Z,3.0nm,1.0s
BR106 Keskin Array S 44.30 294 P **P** **14 03 37.1 +0.3**
comp=Z,4.5nm,1.0s
BR105 Keskin Array S 44.30 294 P **P** **14 03 37.1 +0.2**
comp=Z,4.3nm,1.0s
MMAI Mount Meron Ar 44.47 285 LR LR 14 26 00.2
comp=Z,36nm,20.0s,baz=22,slow=41
JCJ Chichijima 45.75 84 LR LR 14 22 41.9
comp=Z,19nm,21.1s,baz=44,slow=36
EIL Elat 45.87 280 LR LR 14 28 09.5
comp=Z,38nm,18.6s,baz=66,slow=43
AK09 Malin Array Si 46.13 310 P **P** **14 03 50.9 -0.1**
AK10 Malin Array Si 46.15 310 P **P** **14 03 51.0 -0.2**
AKASG Malin Array Be 46.17 310 P **P** **14 03 51.7 +0.4**
comp=Z,1.5nm,0.7s,baz=79,slow=7.3,SNR=3.0
comp=Z,1.5nm,0.7s
AKBB Malin Array Si 46.17 310 *ce*P **P** **14 03 50.6 -0.7**
AKBB pmax pmax
comp=Z,4.0nm,1.0s
AKBB Malin Array Si 46.17 310 P **P** **14 03 51.5 +0.2**
KIEV Kiev 46.18 310 P **P** **14 03 51.5 +0.2**
AK02 Malin Array Si 46.18 310 P **P** **14 03 51.6 +0.2**
MI30 MI30.Zelenitsa 46.82 310 P **P** **14 03 56.4 0.0**
FINES FINESS Array B 48.18 325 P **P** **14 04 08.7 +1.9**
comp=Z,1.8nm,0.8s,baz=77,slow=8.9,SNR=1.9
FINES LR LR 14 25 39.7
comp=Z,42nm,19.2s,baz=226,slow=38
comp=Z,1.8nm,0.8s
VRI Vrincioaia 48.30 304 P **P** **14 04 12.7 +4.7**
VRI pmax pmax
comp=Z,13nm,1.0s
SEY Seymchan 48.36 33 *i* P **P** **14 04 07.4 -0.8**
SEY pmax pmax
comp=Z,2.0nm,1.0s
MLR Muntele Rosu 48.90 304 P **P** **14 04 15.6 +2.8**
MLR pmax pmax
comp=Z,19nm,1.3s
BURAR Bucovina Array 49.07 306 P **P** **14 04 12.6 -1.5**
BURAR IAmb IAmb 14 04 19.9
comp=Z,2.1nm,0.8s
BURAR Bucovina Array 49.07 306 P **P** **14 04 12.6 -1.5**
BURAR pmax pmax
comp=Z,2.0nm,0.8s
ARCES ARCESS Array B 49.57 336 LR LR 14 27 10.6
comp=Z,76nm,18.4s,baz=158,slow=38
VYHS Vyhne 53.14 308 *e*P **P** **14 04 48.9 +4.4**
VYHS Vyhne 53.14 308 *e*P **P** **14 04 48.9 +4.4**
GUMO Guam 54.14 98 LR LR 14 29 50.6
comp=Z,33nm,18.0s,baz=64,slow=38
HFS Hagfors 54.27 323 P **P** **14 04 52.8 +0.3**
comp=Z,2.0nm,0.7s,baz=101,slow=7.7,SNR=6.2
HFS LR LR 14 29 52.5
comp=Z,114nm,19.5s,baz=64,slow=38
comp=Z,2.0nm,0.7s
DPC Dobruska-Polom 54.37 311 P **P** **14 04 54.3 +0.8**
DPC pmax pmax
comp=Z,7.0nm,1.2s
VRAC Vranov 54.42 310 LR LR 14 30 25.9
comp=Z,86nm,18.5s,baz=37,slow=38
UPC Upice 54.53 311 P **P** **14 04 58.5 +3.9**
UPC pmax pmax
comp=Z,11nm,1.3s
NB2 NORSAR Subarra 55.36 325 P **P** **14 05 01.2 +0.7**
comp=Z,3.4nm,0.9s,baz=82,slow=7.4
NOA NORSAR Array B 55.36 325 P **P** **14 05 00.7 +0.2**
comp=Z,1.8nm,0.8s,baz=83,slow=7.1,SNR=4.4
comp=Z,1.8nm,0.8s
PRU Pruhonice 55.57 311 P **P** **14 05 06.2 +4.1**
PRU pmax pmax
comp=Z,6.0nm,1.5s
CLL Collm 56.22 313 *i* Px Px 14 05 10.1
comp=Z,10.0nm,1.3s
CLL Collm 56.22 313 *i* P **P** **14 05 10.1 +3.4**
CLL pmax pmax
comp=Z,10.0nm,1.3s
GERES GERESS Array B 56.38 310 P **P** **14 05 09.0 +1.0**
comp=Z,2.2nm,0.7s,baz=78,slow=7.0,SNR=9.0
comp=Z,2.2nm,0.7s
KHC Kasperske Hory 56.38 310 *ce*P **P** **14 05 07.7 -0.3**
KHC pmax pmax
comp=Z,6.0nm,1.1s
DAVOX Davos/Dischmat 59.43 308 LR LR 14 33 29.2
comp=Z,48nm,19.7s,baz=253,slow=38
EKA Eskdalemuir Ar 64.20 321 P **P** **14 06 02.1 +0.8**
comp=Z,2.1nm,0.8s,baz=64,slow=8.0,SNR=6.3
comp=Z,2.1nm,0.8s
WRA Warramunga Arr 68.62 134 P **P** **14 06 30.2 +0.1**
comp=Z,1.5nm,0.7s,baz=326,slow=6.8,SNR=20
comp=Z,1.5nm,0.7s
WRA Warramunga Arr 68.62 134 *ce*P **P** **14 06 30.2 +0.1**
WRA pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 71.26 137 P **P** **14 06 46.7 +0.4**
comp=Z,1.5nm,0.8s,baz=319,slow=5.3,SNR=11
comp=Z,1.5nm,0.8s
ESDC Sonseca Array 71.52 306 P **P** **14 06 48.6 +0.8**
comp=Z,0.9nm,0.8s,baz=39,slow=6.6,SNR=5.4
comp=Z,0.9nm,0.8s
ILAR Eielson Array 72.45 22 P **P** **14 06 52.2 -0.6**
comp=Z,0.8nm,1.1s,baz=279,slow=4.6,SNR=5.6
comp=Z,0.8nm,1.1s
TORD Torodi Ar. Bea 80.76 280 P **P** **14 07 42.2 +1.5**
comp=Z,1.1nm,1.0s,baz=60,slow=6.8,SNR=3.6
comp=Z,1.1nm,1.0s
STKA Stephens Creek 81.90 137 P **P** **14 07 44.7 -1.6**
comp=Z,1.7nm,0.7s,baz=342,slow=3.2,SNR=3.1
comp=Z,1.7nm,0.7s
YKA Yellowknife Ar 82.12 11 P **P** **14 07 46.4 -0.7**
comp=Z,0.2nm,0.5s,baz=332,slow=6.3,SNR=4.0
comp=Z,0.2nm,0.5s

*SJA **24** 13:58:09.9±0.7,22.°88S×66.°76W,h230km±6km, ML3.4, MW3.5*
*GUC **24** 13:58:13.2±0.7,22.°86S×67.°15W,h240km±9km, ML3.7*
ISC 24 13:58:10.3±2.1, 22.°95S±0.°05×66.°82W±0.°05, h225km±17km, n25, σ1§22/45, 2C, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
YJA	**Yavi**	**1.43**	**58**	*e*P		**Pn**	**13 58 46.9**	**+0.6**
YJA				*e*S		**S**	**13 59 13.3**	**-0.8**
YJA	**Yavi**	**1.43**	**58**	*i* P		**Pn**	**13 58 46.8**	**+0.5**
LVC	**Limon Verde**	**1.96**	**279**	*e*P		**Pn**	**13 58 51.7**	**+0.9**
LVC				*e*S		**S**	**13 59 23.1**	**+0.9**
LVC	**Limon Verde**	**1.96**	**279**	*e*P		**Pn**	**13 58 51.7**	**+0.9**
LVC				*e*S		**S**	**13 59 20.6**	**-1.5**
LVC				IAML			13 59 22.8	
	225nm,0.7s							
AZAP	**Zapla**	**2.05**	**129**	*e*P		**Pn**	**13 58 51.6**	**+0.1**
SLA	**San Lorenzo**	**2.14**	**146**	*e*P		**Pn**	**13 58 53.4**	**+1.1**
ASTB	**Santa Barbara**	**2.39**	**115**	*e*P		**Pn**	**13 58 55.5**	**+0.6**
PB15	**IPOC Station P**	**2.46**	**263**	*e*P		**Pn**	**13 58 56.5**	**+0.9**
PB15				*e*S		**S**	**13 59 31.4**	**+0.6**
PB15	**IPOC Station P**	**2.46**	**263**	*e*P		**Pn**	**13 58 56.5**	**+0.9**
PB15				*e*S		**S**	**13 59 29.9**	**-0.9**
PB09	**IPOC Station P**	**2.52**	**297**	*e*P		**Pn**	**13 58 57.7**	**+1.5**
PB09				*e*S		**S**	**13 59 31.5**	**-0.5**
PB09				IAML			13 59 34.0	
	comp=Z,81nm,0.4s							
PB09	**IPOC Station P**	**2.52**	**297**	*e*P		**Pn**	**13 58 57.5**	**+1.3**
PB09				*e*S		**S**	**13 59 30.5**	**-1.5**
PB06	**IPOC Station P**	**2.55**	**275**	*e*P		**Pn**	**13 58 57.2**	**+0.7**
PB06				*e*S		**S**	**13 59 33.0**	**+0.5**
PB06				IAML			13 59 34.2	
	comp=Z,113nm,0.2s							
PB06	**IPOC Station P**	**2.55**	**275**	*e*P		**Pn**	**13 58 57.4**	**+0.9**
PB06				*e*S		**S**	**13 59 31.2**	**-1.3**
PB06				IAML			13 59 34.4	
	comp=N,170nm,0.2s							
ALOL	**LOMAS DE OLMED**	**2.75**	**109**	*e*P		**Pn**	**13 58 58.6**	**+0.1**
PB04	**IPOC Station P**	**3.13**	**281**	*e*P		**Pn**	**13 59 03.9**	**+0.8**
PB04				*e*S		**S**	**13 59 43.0**	**-1.2**
PB04				IAML			13 59 45.9	
	comp=Z,114nm,0.1s							
PB04	**IPOC Station P**	**3.13**	**281**	*e*P		**Pn**	**13 59 03.6**	**+0.6**
PB04				*e*S		**S**	**13 59 41.8**	**-2.5**
PB04				IAML			13 59 45.7	
	comp=N,182nm,0.3s							
GO02	**Mina Guanaco**	**3.36**	**228**	*e*P		**Pn**	**13 59 06.8**	**+1.1**
GO02				*e*S		**S**	**13 59 49.6**	**+0.5**
GO02	**Mina Guanaco**	**3.36**	**228**⇑	*i*P		**Pn**	**13 59 06.6**	**+0.9**
GO02				*e*S		**S**	**13 59 48.1**	**-1.1**
PB10	**IPOC Station P**	**3.48**	**260**	*e*P		**Pn**	**13 59 07.0**	**+0.1**
PB10				*e*S		**S**	**13 59 50.9**	**-0.3**
PB10				IAML			13 59 52.7	
	comp=Z,28nm,0.4s							
PB10	**IPOC Station P**	**3.48**	**260**⇑	*i*P		**Pn**	**13 59 07.5**	**+0.6**
PB10				*e*S		**S**	**13 59 48.3**	**-2.8**
PB08	**IPOC Station P**	**3.54**	**322**	*e*P		**Pn**	**13 59 09.6**	**+1.6**
PB08				*e*S		**S**	**13 59 53.7**	**+0.6**
PB08				IAML			13 59 56.4	
	comp=Z,24nm,0.3s							
PB08	**IPOC Station P**	**3.54**	**322**	*e*P		**Pn**	**13 59 09.3**	**+1.4**
PB08				*e*S		**S**	**13 59 52.3**	**-0.8**
PB14	**IPOC Station P**	**3.68**	**242**	*e*P		**Pn**	**13 59 10.2**	**+0.6**
PB14				*e*S		**S**	**13 59 55.3**	**-0.7**
PB14				IAML			13 59 58.4	
	comp=Z,49nm,0.4s							
PATCX	**Punta Patache**	**3.75**	**304**	*e*P		**Pn**	**13 59 11.1**	**+0.9**
PATCX				*e*S		**S**	**13 59 55.2**	**-1.9**
PATCX				IAML			13 59 59.2	
	comp=Z,49nm,0.3s							
PATCX	**Punta Patache**	**3.75**	**304**	*e*P		**Pn**	**13 59 10.9**	**+0.8**
PATCX				*e*S		**S**	**13 59 54.3**	**-2.8**

*NEIC **24** 14:09:05.0±0.2,36.°28N±0.°01×98.°241W±0.°009,h5km±1km, Error ellipse: s-maj=2.8km s-min=2.1km az=28.0*
TUL 24 14:09:05.2±0.3, 36.°288N±0.°010×98.°24W±0.°01, h5km±3km, ML2.6, mb_Lg2.4/40(NEIC), ML2.8/48(NEIC), Error ellipse: s-maj=1.5km s-min=1.2km az=161.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CROK	**Carrier**	**0.30**	**43**			Pg	14 09 11.6	+0.6
CROK				Sg		Sg	14 09 16.1	+1.2
CROK				IAML			14 09 16.3	
	comp=N,2μm,0.3s							
OK038	**West end E0370**	**0.45**	**295**			Pg	14 09 14.2	+0.3
OK038				IAML			14 09 23.6	
	comp=N,1μm,0.3s							
OK032	**Salt Plains WL**	**0.52**	**2**	Pg		Pg	14 09 15.5	+0.3
OK032				IAML			14 09 26.8	
	comp=N,631nm,0.1s							
OK032				IAML			14 09 29.9	
	comp=N,615nm,0.2s							
OK035	**E0210 Rd and N**	**0.57**	**318**	Pg		Pg	14 09 16.4	+0.3
OK035				IAML			14 09 24.7	
	comp=N,825nm,0.3s							
OK035				IAML			14 09 27.4	
	comp=N,532nm,0.3s							
U32A	**Winter Ranch,**	**0.62**	**279**	Pg		Pg	14 09 17.4	+0.1
GC02	**Grant County #**	**0.64**	**28**			Pg	14 09 17.6	+0.1
NOKA	**Waynoka**	**0.66**	**302**	Pg		Pg	14 09 17.5	-0.4
NOKA				Sg		Sg	14 09 27.2	+0.8
NOKA				IAML			14 09 27.4	
	comp=N,456nm,0.4s							
NOKA				IAML			14 09 35.3	
	comp=E,345nm,0.3s							
KAN14	**Manchester OK**	**0.70**	**18**			Pg	14 09 18.8	+0.1
CSTR	**Hydro, Custer**	**0.74**	**210**	Pg		Pg	14 09 19.6	+0.2
OK029	**Liberty Lake**	**0.80**	**128**	Pg		Pg	14 09 20.5	-0.1
OK029				IAML			14 09 34.6	
	comp=E,302nm,0.6s							
OK029				IAML			14 09 36.2	
	comp=E,250nm,0.2s							
KAN10	**Anthony SW Sta**	**0.84**	**8**	Pg		Pg	14 09 21.4	0.0
KAN05	**Bluff City Nor**	**0.87**	**20**			Pg	14 09 21.7	-0.2
KAN01	**Argonia South**	**0.94**	**24**	Pg		Pg	14 09 23.1	-0.2
KAN13	**South Haven SW**	**0.95**	**40**	Pg		Pg	14 09 23.2	-0.2
BLOK	**Blackwell**	**0.95**	**60**	Pg		Pg	14 09 23.2	-0.2
KAN08	**Anthony NE Sta**	**0.96**	**13**			Pg	14 09 23.5	-0.1
KAN09	**Caldwell North**	**0.98**	**30**			Pg	14 09 23.8	-0.3
KAN06	**Argonia West S**	**1.00**	**17**			Pg	14 09 24.2	-0.3
KAN12	**Harper NE Stat**	**1.03**	**11**			Pg	14 09 24.7	-0.2
OK048	**Pawnee Station**	**1.05**	**83**			Pg	14 09 25.0	-0.4
OK051	**E0350 and S346**	**1.15**	**79**			Pg	14 09 26.7	-0.5
OK031	**S. Brethren Rd**	**1.18**	**106**			Pg	14 09 27.1	-0.7
OK031				IAML			14 09 45.2	
	comp=E,272nm,0.1s							
OK052	**Battle Ridge R**	**1.20**	**104**			Pg	14 09 27.4	-0.8
OK052				IAML			14 09 44.3	
	comp=E,274nm,0.2s							
OK052				IAML			14 09 46.2	
	comp=E,228nm,0.2s							
FNO	**Franklin**	**1.23**	**146**	Pg		Pg	14 09 28.0	-0.9
QUOK	**Quay**	**1.24**	**95**			Pg	14 09 28.3	-0.7
QUOK				IAML			14 09 50.0	
	comp=E,219nm,0.2s							
DEOK	**Depew**	**1.48**	**107**	Pg		Pn	14 09 32.1	-0.4
T35A	**Sooner Cattle**	**1.52**	**65**	Pg		Pn	14 09 33.2	+0.1
WMOK	**Wichita Mounta**	**1.61**	**196**			Pn	14 09 33.9	-0.4
TUL3	**Leonard**	**2.02**	**100**	Pn		Pn	14 09 40.1	+0.3
R32A	**Long Quarter,**	**2.16**	**350**	Pn		Pn	14 09 43.1	+1.1
X37A	**Clayton**	**2.89**	**125**	IAmb_Lg			14 10 43.2	
	comp=Z,12nm,0.7s							
Z35A	**Perchaven, San**	**3.06**	**164**	IAmb_Lg			14 10 43.8	
	comp=Z,9.1nm,0.8s							
U38A	**Gravette**	**3.11**	**86**	IAmb_Lg			14 10 52.5	
	comp=Z,8.0nm,0.7s							
SN07	**Snyder 07**	**3.87**	**215**	IAmb_Lg			14 11 11.8	
	comp=Z,8.3nm,0.9s							
S39A	**Bolivar**	**4.18**	**69**	IAmb_Lg			14 11 18.5	
	comp=Z,8.4nm,0.7s							
MIAR	**Mount Ida**	**4.18**	**113**	IAmb_Lg			14 11 25.6	
	comp=Z,7.0nm,0.8s							
POST	**Post**	**4.19**	**221**	IAmb_Lg			14 11 28.5	
	comp=Z,6.0nm,0.9s							
MSTX	**Muleshoe**	**4.38**	**239**	IAmb_Lg			14 11 24.8	
	comp=Z,6.1nm,1.0s							
KSCO	**Kaye Shedlock'**	**4.42**	**309**	IAmb_Lg			14 11 28.8	
	comp=Z,10.0nm,0.7s							
X40A	**Basin Creek Fa**	**4.76**	**111**	IAmb_Lg			14 11 39.7	
	comp=Z,7.6nm,0.8s							
WHAR	**Wooly Hollow**	**4.94**	**100**	IAmb_Lg			14 11 51.9	
	comp=Z,7.7nm,0.7s							
SGCY	**Sterling City**	**4.98**	**210**	IAmb_Lg			14 11 52.2	
	comp=Z,7.9nm,0.9s							
P38A	**Dawn**	**4.99**	**47**	IAmb_Lg			14 11 57.4	
	comp=Z,6.1nm,0.8s							
T25A	**Trinidad**	**5.03**	**282**	IAmb_Lg			14 11 45.7	
	comp=Z,7.7nm,0.9s							
T42A	**Van Buren**	**5.79**	**81**	IAmb_Lg			14 12 15.7	
	comp=Z,4.8nm,0.9s							
CCM	**Cathedral Cave**	**5.86**	**70**	IAmb_Lg			14 12 26.9	
	comp=Z,7.6nm,1.2s							
PBMO	**Poplar Bluff**	**6.30**	**83**	IAmb_Lg			14 12 25.0	
	comp=Z,6.2nm,0.8s							
PHWY	**Pilot Hill**	**7.54**	**314**	IAmb_Lg			14 13 13.7	
	comp=Z,4.4nm,1.1s							
N23A	**Red Feather La**	**7.59**	**310**	IAmb_Lg			14 13 16.4	
	comp=Z,6.6nm,0.9s							
RSSD	**Black Hills**	**8.99**	**332**	IAmb_Lg			14 14 14.5	
	comp=Z,5.0nm,0.9s							

*IDC **24** 14:13:51.0±3.6,44.°42N×105.°54W,h0km,mbtmp2.6/2, ML2.8/2, Error ellipse: s-maj=54.3km s-min=18.2km az=136.0*
*NEIC **24** 14:13:51.2±2.4,44.°33N±0.°05×105.°51W±0.°03,h0km±1km, ML2.7/28, Error ellipse: s-maj=8.9km s-min=4.2km az=193.0*
ISC 24 14:13:52.1±1.0, 44.°36N±0.°05×105.°50W±0.°04, h0km, n21, σ1§37/20, Wyoming

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RSSD	**Black Hills**	**1.08**	**102**	Pg		**Pg**	**14 14 12.5**	**-0.3**
RSSD				IAML			14 14 35.1	
	49nm,0.7s							
RSSD				IAML			14 14 35.1	
	50nm,0.7s							
RSSD				IAML			14 14 43.8	
	44nm,0.8s							
RSSD				IAML			14 14 43.9	
	44nm,0.8s							
K22A	**Casper**	**1.87**	**204**			**Pn**	**14 14 23.8**	**-1.6**
K22A				IAML			14 14 55.7	
	comp=E,88nm,0.8s							
LAO	**LASA Array**	**2.38**	**348**	Pn		**Pn**	**14 14 33.1**	**+0.7**
RWWY	**Rawlins**	**2.95**	**206**			**Pn**	**14 14 39.4**	**-1.0**
RWWY				IAML			14 15 27.8	
	comp=E,25nm,1.1s							
RWWY				IAML			14 15 33.4	
	comp=E,25nm,0.9s							
PHWY	**Pilot Hill**	**3.06**	**179**			**Pn**	**14 14 42.5**	**+0.5**
GCMT	**Greycliff**	**3.28**	**297**	Pg		**Pg**	**14 14 54.0**	**-0.9**
YMP	**Mirror Lake Pl**	**3.35**	**278**	Pn		**Pn**	**14 14 46.8**	**+0.8**
YMP				IAML			14 15 47.9	
	comp=E,27nm,0.9s							
BW06	**Boulder Array**	**3.35**	**243**	Pg		**Pg**	**14 14 55.1**	**-1.2**
BW06				IAML			14 15 41.7	
	comp=E,16nm,0.9s							
BW06				IAML			14 15 43.1	
	comp=E,15nm,0.9s							
PD31	**Pinedale Array**	**3.35**	**243**			**Pn**	**14 14 45.9**	**-0.1**
PDAR	**Pinedale Array**	**3.35**	**243**			**Pn**	**14 14 45.3**	**-0.6**
PDAR	**Pinedale Array**	**3.35**	**243**	Pn		**Pn**	**14 14 48.1**	**+2.1**
	comp=E,0.2nm,0.3s,baz=67,slow=16,SNR=3.1							
PDAR				Lg		Lg	14 15 35.0	
	comp=E,1.5nm,0.3s,baz=64,slow=32,SNR=16							
	comp=E,0.9nm,0.7s							
N23A	**Red Feather La**	**3.48**	**186**	Pn		**Pn**	**14 14 48.6**	**+0.9**
N23A				IAML			14 16 03.8	
	comp=E,19nm,1.0s							
N23A				IAML			14 16 07.4	
	comp=N,22nm,1.8s							
H17A	**Grant Village**	**3.64**	**272**			**Pn**	**14 14 51.1**	**+1.2**
H17A				IAML			14 15 14.8	
	comp=N,13nm,0.2s							
H17A				IAML			14 15 34.8	
	comp=E,10nm,0.1s							
LOHW	**Long Hollow**	**3.76**	**260**			**Pg**	**14 15 03.4**	**-0.7**
LOHW				IAML			14 15 57.6	
	comp=E,10nm,1.5s							
YHH	**Holmes Hill**	**3.85**	**278**			**Pn**	**14 14 50.7**	**-2.1**
REDW	**Red Top Meadow**	**4.00**	**257**			**Pn**	**14 14 54.3**	**-0.5**
FXWY	**Fox Creek**	**4.05**	**262**			**Pn**	**14 14 57.3**	**+1.8**
FXWY				IAML			14 16 21.2	
	comp=E,6.6nm,3.7s							
DGMT	**Dagmar**	**4.21**	**12**	Pn		**Pn**	**14 14 57.3**	**-0.2**
AHID	**Auburn Hatcher**	**4.37**	**251**	Pg		**Pb**	**14 15 12.2**	**+2.4**
AHID				IAML			14 16 16.1	
	comp=E,11nm,2.2s							
AHID				IAML			14 16 24.4	
	comp=E,13nm,1.1s							
I56US	**NEWPORT INFRAS**	**8.94**	**300**	I		I	15 08 30.0	
	baz=114,slow=318,SNR=7.7							
YKA	**Yellowknife Ar**	**18.92**	**347**	P		**P**	**14 18 12.2**	**-1.9**
	baz=161,slow=12,SNR=3.0							
	comp=E,0.2nm,0.6s							

*IDC **24** 14:25:14.2±1.3,29.°79N×80.°73E,h0km,mb3.6/9, mbtmp3.7/11,ML3.9/2,MS2.9/4, Error ellipse: s-maj=33.9km s-min=21.6km az=56.0*
*NDI **24** 14:25:18.9±2.4,29.°74N×80.°59E,h10km,ML3.4,MW3.4*
ISC 24 14:25:16.1±0.7, 29.°78N±0.°04×80.°72E±0.°05, h10km, n29, σ1§98/40, mb3.7/7, MS2.9/4, Nepal-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
PTH	**Pithoragarh**	**0.49**	**242**	*e*P		**Pg**	**14 25 25.7**	**0.0**
PTH				*e*S		**Sg**	**14 25 32.4**	**+0.2**
LGTI	**Lohaghat**	**0.53**	**231**	*e*P		**Pb**	**14 25 29.5**	**+2.1**
LGTI				*e*S		**Sb**	**14 25 38.1**	**+3.1**
LGTI				IAML			14 25 39.5	
	comp=E,1μm,0.2s							
LGTI				IAML			14 25 40.5	
	comp=N,1μm,0.1s							
DDI	**Dehra Dun**	**2.37**	**284**	*e*P		**Pb**	**14 25 59.7**	**+0.8**
DDI				*e*S		**Sn**	**14 26 24.5**	**+0.3**
DDI				IAML			14 26 25.7	
	comp=E,2μm,0.4s							
DDI				IAML			14 26 26.1	
	comp=N,3μm,0.3s							
NDI	**New Delhi**	**3.25**	**251**	*e*P		**Pn**	**14 26 08.2**	**+1.1**
NDI				*e*S		**Sn**	**14 26 45.7**	**-0.1**
NDI				IAML			14 26 46.9	
	comp=E,160nm,0.4s							
NDI				IAML			14 26 48.0	
	comp=Z,77nm,0.3s							
SMLA	**Simla**	**3.34**	**295**	*e*P		**Pn**	**14 26 10.8**	**+2.4**
SMLA				*e*S		**Sn**	**14 26 47.5**	**-0.7**
SMLA				IAML			14 26 48.1	
	comp=Z,201nm,0.3s							
SMLA				IAML			14 26 49.2	
	comp=E,282nm,0.5s							
SONA	**Sohna**	**3.53**	**245**	*e*P		**Pn**	**14 26 12.5**	**+1.5**
SONA				*e*S		**Sn**	**14 26 51.7**	**-1.0**
SONA				*e*S		Sb	14 26 52.1	-9.4
KUDL	**Kundal**	**4.05**	**247**	*e*P		**Pn**	**14 26 18.2**	**+0.2**
KUDL				*e*S		**Sn**	**14 27 02.5**	**-3.0**
BHK	**Bhakra**	**4.05**	**295**	*e*P		**Pn**	**14 26 19.9**	**+1.7**
BHK				*e*S		**Sn**	**14 27 04.5**	**-1.1**
BHK				IAML			14 27 05.6	
	comp=E,208nm,0.3s							
BHK				IAML			14 27 05.7	
	comp=N,127nm,0.3s							
DHRM	**DHARAMSHALA**	**4.52**	**304**	*e*P		**Pn**	**14 26 29.2**	**+4.4**
DHRM				*e*S		**Sn**	**14 27 15.3**	**-2.2**
ALBI	**Allahabad**	**4.56**	**167**	*e*P		**Pn**	**14 26 27.4**	**+2.2**
ALBI				*e*S		**Sn**	**14 27 18.7**	**+0.5**
JHNI	**Jhansi**	**4.71**	**205**	*e*P		**Pn**	**14 26 28.0**	**+0.7**
JHNI				*e*S		**Sn**	**14 27 20.0**	**-2.0**
JHNI				IAML			14 27 23.2	
	comp=N,72nm,0.1s							
JHNI				IAML			14 27 24.0	
	comp=E,84nm,0.2s							
THN	**Thein Dam**	**5.04**	**303**	*e*P		**Pn**	**14 26 33.1**	**+1.4**
THN				*e*S		**Sn**	**14 27 26.6**	**-3.3**
THN				IAML			14 27 31.4	
	comp=E,121nm,0.7s							
THN				IAML			14 27 31.8	
	comp=N,49nm,0.2s							
JMU	**Jammu**	**5.77**	**302**	*e*S		**Sn**	**14 27 47.4**	**-0.7**
AJM	**Ajmer**	**6.29**	**240**	*e*P		**Pn**	**14 26 50.5**	**+1.5**
AJM				*e*S		**Sn**	**14 27 57.8**	**-3.2**
AJM				IAML			14 28 00.6	
	comp=N,15nm,0.3s							
AJM				IAML			14 28 01.4	
	comp=E,27nm,0.3s							

comp=E,46nm,19.9s,baz=140,slow=39
ZALV Zalesovo Beam 24.33 6 P P 14 30 33.3 -0.6
comp=E,2.2nm,0.6s,baz=194,slow=9.2,SNR=10
ZALV LR LR 14 40 50.4
comp=E,13nm,20.3s,baz=356,slow=38
comp=E,2.2nm,0.6s
BVAR Borovoye Array 24.43 345 P P 14 30 33.3 -1.5
comp=E,1.8nm,0.7s,baz=159,slow=8.9,SNR=8.8
comp=E,1.8nm,0.7s
SONM Songino Array 26.74 40 P P 14 30 57.2 +1.3
comp=E,0.5nm,0.5s,baz=235,slow=9.6,SNR=2.1
comp=E,0.5nm,0.5s
ARU Arti 30.88 336 LR LR 14 43 19.5
comp=E,24nm,21.6s,baz=184,slow=35
MMAI Mount Meron Ar 38.59 287 LR LR 14 51 17.1
comp=E,37nm,19.8s,baz=82,slow=40
FINES FINESS Array B 47.53 328 P P 14 33 50.5 -0.7
comp=E,0.5nm,0.4s,baz=118,slow=9.9,SNR=7.7
comp=E,0.5nm,0.4s
HFS Hagfors 53.29 325 P P 14 34 36.1 +1.1
comp=E,0.3nm,0.3s,baz=102,slow=11,SNR=1.7
comp=E,0.3nm,0.3s
WRA Warramunga Arr 71.49 127 P P 14 36 36.6 -0.6
comp=E,0.2nm,0.8s,baz=322,slow=6.2,SNR=1.5
comp=E,0.2nm,0.8s
TORD Torodi Ar. Bea 74.16 276 P P 14 36 53.3 0.0
comp=E,0.2nm,0.6s,baz=38,slow=5.7,SNR=1.3
comp=E,0.2nm,0.6s

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*IDC **24** 14:42:10.5±1.3,56°.48N×148°.73W,h0km,mb3.8/9, mbtmp3.8/14,ML3.2/4,MS3.4/18,Error ellipse: s-maj=29.7km s-min=18.8km az=11.0*
*NEIC **24** 14:42:11.1±1.5,56°.38N±0°.08×148°.8W±0°.1,h24km±9km, mb4.1/2,ML3.8/64,ML3.6(AEIC),Error ellipse: s-maj=11.6km s-min=7.5km az=157.0*
*AEIC **24** 14:42:14.5±1.3,56°.42N±0°.08×148°.9W±0°.1,h8km±7km, Error ellipse: s-maj=12.7km s-min=7.3km az=160.0*
ISC 24 14:42:10.8±0.8,56°.49N±0°.07×148°.83W±0°.05,h10km, n248,σ1§10/232,mb3.8/9,MS3.4/13,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.42**	**304**		**Pn**	**14 42 49.8**	**-0.6**
KDAK	**Kodiak Island**	**2.42**	**304**		**Sn**	**14 43 17.1**	**-3.0**
KDAK	**Kodiak Island** baz=122	**2.42**	**304**	S	**Sn**	**14 43 17.1**	**-3.0**
KDAK	**Kodiak Island** 5.0nm,0.3s,baz=123,slow=5.6,SNR=58	**2.42**	**304**	Pn	**Pn**	**14 42 49.8**	**-0.6**
KDAK	7.0nm,0.3s,baz=199,slow=21,SNR=13			Sn	**Sn**	**14 43 15.3**	**-4.8**
KDAK	comp=Z,857nm,20.1s,baz=141,slow=46 14nm,0.3s			LR	LR	14 44 03.5	
OHAK	**Old Harbor**	**2.56**	**289**	P	**Pn**	**14 42 51.2**	**-1.0**
OHAK	**Old Harbor**	**2.56**	**289**		**Pn**	**14 42 51.0**	**-1.2**
OHAK					**Sn**	**14 43 20.1**	**-3.2**
OHAK	**Old Harbor** baz=106	**2.56**	**289**	P	**Pn**	**14 42 51.0**	**-1.2**
OHAK	baz=106			S	**Sn**	**14 43 20.1**	**-3.2**
SYI	**Shuyak Island**	**2.87**	**320**		**Pn**	**14 42 56.0**	**-0.5**
SYI					**Sn**	**14 43 29.9**	**-1.1**
Q20K	**Shuyak Island** baz=138	**2.87**	**319**	P	**Pn**	**14 42 56.0**	**-0.6**
Q20K	baz=138			S	**Sn**	**14 43 29.9**	**-1.1**
SII	**Sitkinak Islan**	**2.96**	**274**	P	**Pn**	**14 42 57.5**	**-0.4**
SII	**Sitkinak Islan**	**2.96**	**274**		**Pn**	**14 42 56.9**	**-1.0**
SII					**Sn**	**14 43 30.2**	**-3.4**
SII	**Sitkinak Islan** comp=N,465nm,1.0s	**2.96**	**274**	IAML		14 43 36.5	
SII	comp=E,362nm,1.2s			IAML		14 43 38.5	
SII	**Sitkinak Islan** baz=90	**2.96**	**274**	P	**Pn**	**14 42 56.9**	**-1.0**
SII	baz=90			S	**Sn**	**14 43 30.2**	**-3.4**
Q23K	**Middleton Isla**	**3.24**	**23**		**Pn**	**14 43 00.9**	**-0.7**
Q23K					**Sn**	**14 43 37.9**	**-2.2**
Q23K	**Middleton Isla** comp=E,162nm,1.4s	**3.24**	**23**	IAML		14 43 48.3	
Q23K	**Middleton Isla** baz=205	**3.24**	**23**	P	**Pn**	**14 43 00.9**	**-0.7**
Q23K	baz=205			S	**Sn**	**14 43 37.9**	**-2.2**
CNPM	**China Poot**	**3.31**	**338**		**Pn**	**14 43 02.1**	**-0.5**
CNPM					**Sn**	**14 43 40.5**	**-1.5**
BRSE	**Bradley Lake S**	**3.42**	**344**		**Pn**	**14 43 03.7**	**-0.4**
BRSE					**Sn**	**14 43 44.0**	**-0.7**
BRSE	**Bradley Lake S** baz=163	**3.42**	**344**	P	**Pn**	**14 43 03.7**	**-0.4**
BRSE	baz=163			S	**Sn**	**14 43 44.0**	**-0.7**
BRLK	**Bradley Lake**	**3.46**	**343**		**Pn**	**14 43 04.2**	**-0.6**
BRLK	**Bradley Lake** comp=N,281nm,0.1s	**3.46**	**343**	IAML		14 44 00.9	
HOM	**Homer**	**3.51**	**336**		**Pn**	**14 43 05.5**	**0.0**
HOM	**Homer** baz=154	**3.51**	**336**	P	**Pn**	**14 43 05.5**	**0.0**
Q19K	**Cape Douglas,**	**3.56**	**316**		**Pn**	**14 43 05.7**	**-0.4**
Q19K	**Cape Douglas,** baz=132	**3.56**	**316**	P	**Pn**	**14 43 05.7**	**-0.4**
P23K	**Montague Islan**	**3.60**	**12**		**Pn**	**14 43 06.1**	**-0.5**
P23K					**Sn**	**14 43 47.2**	**-2.0**
P23K	**Montague Islan** baz=193	**3.60**	**12**	P	**Pn**	**14 43 06.1**	**-0.5**
P23K	baz=193			S	**Sn**	**14 43 47.2**	**-2.0**
SEW	**Seward** baz=175	**3.65**	**355**	P	**Pn**	**14 43 06.9**	**-0.3**
CHIR	**Chirikof Islan**	**3.85**	**263**		**Pn**	**14 43 08.9**	**-1.2**
CHIR	**Chirikof Islan** comp=E,132nm,1.0s	**3.85**	**263**	IAML		14 43 57.5	
CHIR	comp=N,130nm,1.6s			IAML		14 43 59.1	
CHIR	**Chirikof Islan** baz=78	**3.85**	**263**	P	**Pn**	**14 43 08.9**	**-1.2**
P19K	**Oil Pt**	**3.94**	**326**		**Pn**	**14 43 11.4**	**+0.1**
P19K	**Oil Pt** comp=E,199nm,0.8s	**3.94**	**326**	IAML		14 44 05.8	
P19K	comp=N,165nm,0.8s			IAML		14 44 06.9	
P19K	**Oil Pt** baz=143	**3.94**	**326**	P	**Pn**	**14 43 11.5**	**+0.1**
O22K	**Cooper Landing**	**4.04**	**354**		**Pn**	**14 43 12.5**	**-0.1**
O22K	**Cooper Landing** baz=173	**4.04**	**354**	P	**Pn**	**14 43 12.5**	**-0.1**
SLKM	**Skilak Lake**	**4.10**	**350**		**Pn**	**14 43 13.7**	**+0.1**
SLKM					**Sn**	**14 43 59.4**	**-2.1**
HIN	**Hinchinbrook I**	**4.11**	**16**		**Pn**	**14 43 13.7**	**0.0**
HIN	**Hinchinbrook I** comp=N,160nm,0.8s	**4.11**	**16**	IAML		14 44 01.0	
HIN	comp=E,153nm,0.9s			IAML		14 44 02.7	
O20K	**Slope Mountain**	**4.12**	**333**		**Pn**	**14 43 13.6**	**-0.3**
O20K	**Slope Mountain** baz=150	**4.12**	**333**	P	**Pn**	**14 43 13.6**	**-0.3**
KAIM	**Kayak Island**	**4.17**	**32**		**Pn**	**14 43 14.2**	**-0.2**
KAIM	**Kayak Island** baz=216	**4.17**	**32**	P	**Pn**	**14 43 14.5**	**+0.1**
ILSW	**Iliamna Southw**	**4.18**	**329**		**Pn**	**14 43 14.4**	**-0.4**
ILSW	**Iliamna Southw** comp=N,112nm,0.7s	**4.18**	**329**	IAML		14 44 07.0	
ILSW	comp=E,115nm,1.0s			IAML		14 44 10.9	
EYAK	**Cordova Ski Ar**	**4.38**	**20**	P	**Pn**	**14 43 16.8**	**-0.6**
EYAK	**Cordova Ski Ar** baz=203	**4.38**	**20**	P	**Pn**	**14 43 17.5**	**+0.1**
FID	**Port Fidalgo**	**4.45**	**15**		**Pn**	**14 43 17.9**	**-0.4**
FID	**Port Fidalgo** comp=E,74nm,0.4s	**4.45**	**15**	IAML		14 44 12.6	
FID	comp=N,73nm,0.4s			IAML		14 44 13.2	
RED	**Redoubt Volcan**	**4.45**	**334**		**Pn**	**14 43 18.0**	**-0.4**
SUCK	**Suckling Hills**	**4.48**	**34**		**Pn**	**14 43 18.1**	**-0.6**
SUCK	comp=E,89nm,1.0s			IAML		14 44 32.9	
SUCK	comp=N,121nm,0.9s			IAML		14 44 32.9	
RAGM	**Ragged Mountai**	**4.48**	**27**		**Pn**	**14 43 19.1**	**+0.3**
P18K	**Big Mountain,**	**4.48**	**313**		**Pn**	**14 43 18.2**	**-0.6**
P18K	**Big Mountain,** baz=129	**4.48**	**313**	P	**Pn**	**14 43 18.2**	**-0.6**
GLI	**Glacier Island**	**4.50**	**11**		**Pn**	**14 43 18.9**	**-0.1**
GLI	**Glacier Island** comp=N,75nm,1.1s	**4.50**	**11**	IAML		14 44 11.0	
GLI	comp=E,98nm,0.9s			IAML		14 44 13.2	
GLI	**Glacier Island** baz=192	**4.50**	**11**	P	**Pn**	**14 43 18.9**	**-0.1**
RDT	**Redoubt**	**4.51**	**337**		**Pn**	**14 43 18.6**	**-0.5**
HMT	**Hamilton**	**4.55**	**30**		**Pn**	**14 43 19.9**	**+0.2**
DFR	**Drift River**	**4.59**	**336**		**Pn**	**14 43 19.8**	**-0.5**
GOAT	**Goat Mountain**	**4.64**	**26**		**Pn**	**14 43 20.9**	**0.0**
RC01	**Rabbit Creek A**	**4.64**	**355**		**Pn**	**14 43 20.9**	**0.0**
RC01	comp=E,86nm,0.6s			IAML		14 44 14.1	
RC01	comp=N,78nm,0.5s			IAML		14 44 15.2	
O19K	**Port Alsworth**	**4.71**	**324**		**Pn**	**14 43 21.4**	**-0.4**
O18K	**Koktuh Hills**	**4.77**	**318**		**Pn**	**14 43 22.6**	**-0.2**
O18K	**Koktuh Hills** baz=133	**4.77**	**318**	P	**Pn**	**14 43 22.5**	**-0.2**
SNH	**Sunshine Point**	**4.87**	**38**		**Pn**	**14 43 24.1**	**0.0**
SNH	**Sunshine Point** comp=E,63nm,1.4s	**4.87**	**38**	IAML		14 45 03.7	
SNH	comp=N,78nm,1.7s			IAML		14 45 04.8	
KNK	**Knik Glacier**	**4.95**	**2**		**Pn**	**14 43 25.9**	**+0.7**
KNK	comp=N,40nm,1.3s			IAML		14 44 24.3	
KNK	comp=E,58nm,0.7s			IAML		14 44 28.0	
BMRM	**Bremner River** baz=208	**5.01**	**24**	P	**Pn**	**14 43 26.0**	**+0.1**
N20K	**Mount Spurr** baz=159	**5.04**	**341**	P	**Pn**	**14 43 26.2**	**-0.3**
SPCR	**Spurr Chakacha**	**5.04**	**341**		**Pn**	**14 43 26.2**	**-0.3**
WAX	**Waxell Ridge**	**5.07**	**36**		**Pn**	**14 43 26.7**	**-0.1**
WAX	**Waxell Ridge** comp=E,92nm,0.7s	**5.07**	**36**	IAML		14 44 28.8	
SUA	**Susitna One**	**5.09**	**350**		**Pn**	**14 43 26.9**	**-0.3**
SUA	**Susitna One** comp=N,46nm,0.7s	**5.09**	**350**	IAML		14 44 28.9	
SUA	comp=E,40nm,1.0s			IAML		14 44 45.3	
SUA	**Susitna One** baz=168	**5.09**	**350**	P	**Pn**	**14 43 26.9**	**-0.3**
SPCP	**Crater Peak Br**	**5.09**	**342**		**Pn**	**14 43 27.2**	**0.0**
SPCG	**Spurr Capps Gl**	**5.10**	**342**		**Pn**	**14 43 27.3**	**0.0**
PMR	**Palmer**	**5.12**	**358**		**Pn**	**14 43 28.0**	**+0.4**
PMR	comp=E,39nm,0.7s			IAML		14 44 24.5	
MESA	**MESA**	**5.18**	**42**		**Pn**	**14 43 28.4**	**-0.2**
MESA	**MESA** comp=N,50nm,0.7s	**5.18**	**42**	IAML		14 44 40.9	
MESA	comp=E,58nm,1.3s			IAML		14 44 59.1	
MESA	**MESA** baz=227	**5.18**	**42**	P	**Pn**	**14 43 28.3**	**-0.2**
KLU	**Klutina**	**5.24**	**15**		**Pn**	**14 43 29.3**	**0.0**
KLU	**Klutina** comp=E,57nm,0.4s	**5.24**	**15**	IAML		14 44 31.9	
KLU	comp=N,55nm,0.7s			IAML		14 44 36.9	
KLU	**Klutina** baz=198	**5.24**	**15**	P	**Pn**	**14 43 29.3**	**0.0**
N19K	**Bonanza Creek**	**5.25**	**328**		**Pn**	**14 43 29.0**	**-0.3**
N19K	**Bonanza Creek** baz=144	**5.25**	**328**	P	**Pn**	**14 43 29.0**	**-0.3**
STLK	**Strandline Lak**	**5.26**	**344**		**Pn**	**14 43 29.3**	**-0.2**
SPNN	**North Nagishla**	**5.29**	**339**		**Pn**	**14 43 29.8**	**-0.1**
GHO	**Glory Hole Cre**	**5.30**	**360**		**Pn**	**14 43 30.3**	**+0.2**
SML	**Sawmill**	**5.34**	**3**		**Pn**	**14 43 30.9**	**+0.2**
SML	**Sawmill** baz=183	**5.34**	**3**	P	**Pn**	**14 43 30.9**	**+0.2**
ISLE	**Juniper Island**	**5.35**	**37**		**Pn**	**14 43 30.4**	**-0.3**
SCM	**Sheep Creek Mo**	**5.42**	**8**		**Pn**	**14 43 32.4**	**+0.7**
SCM	**Sheep Creek Mo** baz=189	**5.42**	**8**	P	**Pn**	**14 43 32.4**	**+0.7**
O17K	**Koliganek Bris**	**5.48**	**310**		**Pn**	**14 43 32.2**	**-0.2**
O17K	**Koliganek Bris** baz=124	**5.48**	**310**	P	**Pn**	**14 43 32.2**	**-0.2**
VRDI	**Verde Repeater**	**5.51**	**28**	Pn	**Pn**	**14 43 32.9**	**-0.2**
N25K	**Chitina, Valde**	**5.58**	**21**	Pn	**Pn**	**14 43 34.2**	**+0.4**
N25K	**Chitina, Valde** baz=205	**5.58**	**21**	P	**Pn**	**14 43 34.0**	**+0.1**
N18K	**Kilae Creek**	**5.59**	**322**		**Pn**	**14 43 33.6**	**-0.4**
N18K	**Kilae Creek** baz=136	**5.59**	**322**	P	**Pn**	**14 43 33.5**	**-0.5**
SAMH	**Samovar Hills**	**5.60**	**46**		**Pn**	**14 43 34.3**	**+0.1**
GLB	**Gilahina Butte**	**5.61**	**26**		**Pn**	**14 43 34.2**	**0.0**
MCARA	**McCarthy VSAT**	**5.76**	**29**		**Pn**	**14 43 36.3**	**+0.1**
MCARA	**McCarthy VSAT** baz=214	**5.76**	**29**	P	**Pn**	**14 43 36.3**	**+0.1**
M24K	**Tolsona, Glenn**	**5.80**	**12**		**Pn**	**14 43 36.9**	**0.0**
M24K	**Tolsona, Glenn** baz=195	**5.80**	**12**	P	**Pn**	**14 43 36.9**	**0.0**
O16K	**Kokwok River B**	**5.82**	**306**		**Pn**	**14 43 37.0**	**-0.1**
O16K	**Kokwok River B** baz=119	**5.82**	**306**	P	**Pn**	**14 43 37.0**	**-0.1**
M20K	**Styx River**	**5.85**	**340**	Pn	**Pn**	**14 43 37.7**	**+0.2**
M20K	**Styx River** baz=156	**5.85**	**340**	P	**Pn**	**14 43 37.3**	**-0.2**
BARN	**Barnard Glacie**	**5.91**	**36**		**Pn**	**14 43 38.4**	**-0.1**
PNL	**Peninsula**	**5.94**	**54**	P	**Pn**	**14 43 38.3**	**-0.4**
PNL	**Peninsula** baz=241	**5.94**	**54**	P	**Pn**	**14 43 39.0**	**+0.3**
CTG	**Chitna Glacier** baz=224	**5.95**	**38**	P	**Pn**	**14 43 38.9**	**-0.1**
CTGM	**Chitina Glacie**	**5.95**	**38**		**Pn**	**14 43 38.9**	**-0.1**
N17K	**Nushagak Hills**	**5.96**	**316**	Pn	**Pn**	**14 43 39.2**	**+0.1**
N17K	**Nushagak Hills** baz=130	**5.96**	**316**	P	**Pn**	**14 43 38.9**	**-0.2**
LOGN	**Logan Glacier**	**5.97**	**40**		**Pn**	**14 43 38.9**	**-0.4**
BCPM	**Bancas Point**	**5.97**	**51**		**Pn**	**14 43 39.4**	**+0.2**
M19K	**Big River Lodg**	**6.14**	**335**		**Pn**	**14 43 41.0**	**-0.4**
M19K	**Big River Lodg** baz=150	**6.14**	**335**	P	**Pn**	**14 43 41.0**	**-0.4**
WAT6	**Susitna Watana** baz=186	**6.14**	**5**	P	**Pn**	**14 43 42.0**	**+0.4**
M18K	**Stony River** baz=142	**6.18**	**327**	P	**Pn**	**14 43 41.4**	**-0.7**
O28M	**Mount Upton**	**6.23**	**43**		**Pn**	**14 43 42.8**	**-0.2**
O28M	**Mount Upton** baz=230	**6.23**	**43**	P	**Pn**	**14 43 42.8**	**-0.2**
WAT7	**Susitna Watana**	**6.37**	**360**		**Pn**	**14 43 44.6**	**-0.1**
L19K	**White Mountain**	**6.49**	**334**	Pn	**Pn**	**14 43 45.5**	**-0.7**
L19K	**White Mountain** baz=150	**6.49**	**334**	P	**Pn**	**14 43 45.6**	**-0.7**
N16K	**Nishlik Lake**	**6.56**	**312**		**Pn**	**14 43 47.0**	**-0.3**
N16K	**Nishlik Lake** baz=124	**6.56**	**312**	P	**Pn**	**14 43 47.0**	**-0.3**
M17K	**Holitna River**	**6.64**	**321**		**Pn**	**14 43 47.7**	**-0.6**
M17K	**Holitna River** baz=135	**6.64**	**321**	P	**Pn**	**14 43 47.7**	**-0.6**
SDPT	**Sand Point**	**6.64**	**265**	P	**Pn**	**14 43 48.2**	**-0.2**
SDPT	**Sand Point**	**6.64**	**265**	Pn	**Pn**	**14 43 48.2**	**-0.2**
DHY	**Denali Highway**	**6.65**	**6**		**Pn**	**14 43 49.6**	**+0.9**
DHY	**Denali Highway** baz=187	**6.65**	**6**	P	**Pn**	**14 43 49.6**	**+0.9**
P29M	**Windy Craggy**	**6.68**	**57**	Pn	**Pn**	**14 43 48.8**	**-0.1**
P29M	**Windy Craggy** baz=246	**6.68**	**57**	P	**Pn**	**14 43 48.9**	**-0.1**
M27K	**Edge Creek, AK**	**6.87**	**28**		**Pn**	**14 43 51.7**	**0.0**
M27K	**Edge Creek, AK** baz=214	**6.87**	**28**	P	**Pn**	**14 43 51.7**	**0.0**
M16K	**Timber Creek**	**6.96**	**315**		**Pn**	**14 43 52.7**	**0.0**
M16K	**Timber Creek** baz=127	**6.96**	**315**	P	**Pn**	**14 43 52.7**	**0.0**
S31K	**Pelican**	**7.00**	**73**		**Pn**	**14 43 51.2**	**-2.1**
S31K	**Pelican** baz=263	**7.00**	**73**	P	**Pn**	**14 43 51.2**	**-2.1**
TRF	**Thorofare Moun**	**7.03**	**355**		**Pn**	**14 43 55.0**	**+1.2**
CAST	**Castle Rocks**	**7.14**	**348**		**Pn**	**14 43 55.9**	**+0.7**
O14K	**Tigyukauivet M**	**7.19**	**298**	Pn	**Pn**	**14 43 56.8**	**+1.0**
HYT	**Haines Junctio**	**7.33**	**49**	Pn	**Pn**	**14 43 58.3**	**+0.4**
S12K	**Black Hills**	**7.44**	**269**	Pn	**Pn**	**14 43 59.4**	**0.0**
L27K	**Beaver Creek,**	**7.48**	**25**		**Pn**	**14 43 59.8**	**-0.1**
L27K	**Beaver Creek,** baz=211	**7.48**	**25**	P	**Pn**	**14 43 59.8**	**-0.1**
BCAR	**Beaver Creek A**	**7.49**	**25**	Pn	**Pn**	**14 44 00.9**	**+0.8**
L16K	**Owhat River**	**7.58**	**318**		**Pn**	**14 44 00.6**	**-0.5**
L16K	**Owhat River** baz=130	**7.58**	**318**	P	**Pn**	**14 44 00.6**	**-0.5**
BPAW	**Bear Paw Mtn.**	**7.71**	**353**		**Pn**	**14 44 03.0**	**-0.1**
BPAW	**Bear Paw Mtn.** baz=171	**7.71**	**353**	P	**Pn**	**14 44 03.0**	**-0.1**
SKAG	**Skagway**	**7.77**	**62**	P	**Pn**	**14 44 02.8**	**-1.0**
N30M	**Aishikik Lake**	**7.85**	**46**		**Pn**	**14 44 04.9**	**-0.1**
N30M	**Aishikik Lake** baz=236	**7.85**	**46**	P	**Pn**	**14 44 04.9**	**-0.1**
S32K	**Killisnoo**	**7.85**	**77**		**Pn**	**14 44 04.5**	**-0.4**
S32K	**Killisnoo** baz=268	**7.85**	**77**	P	**Pn**	**14 44 04.5**	**-0.4**
M29M	**Somme Creek**	**7.97**	**37**		**Pn**	**14 44 07.0**	**+0.3**
M29M	**Somme Creek** baz=226	**7.97**	**37**	P	**Pn**	**14 44 07.0**	**+0.3**
HDA	**Harding Lake**	**8.01**	**6**		**Pn**	**14 44 08.4**	**+1.3**
JIS	**Juneau Island**	**8.01**	**71**	Pn	**Pn**	**14 44 06.5**	**-0.6**
WRH	**Wood River Hil**	**8.02**	**2**	Pn	**Pn**	**14 44 08.8**	**+1.6**
J18K	**Innoko River**	**8.03**	**334**	Pn	**Pn**	**14 44 06.7**	**-0.7**
J20K	**Nowinta River**	**8.15**	**343**	Pn	**Pn**	**14 44 09.8**	**+0.7**
CCB	**Clear Creek Bu**	**8.21**	**3**		**Pn**	**14 44 11.1**	**+1.3**
J19K	**Poorman**	**8.25**	**339**		**Pn**	**14 44 10.2**	**-0.2**
J19K	**Poorman** baz=153	**8.25**	**339**	P	**Pn**	**14 44 10.2**	**-0.2**
K27K	**Chicken**	**8.28**	**21**		**Pn**	**14 44 11.7**	**+0.9**
ILAR	**Eielson Array** comp=N,0.2nm,0.3s,baz=190,slow=13,SNR=11	**8.37**	**6**	Pn	**Pn**	**14 44 11.2**	**-0.8**
ILAR	comp=N,0.5nm,0.3s,baz=191,slow=18,SNR=5.2			Sn	**Sn**	**14 45 41.7**	**-4.8**
ILAR	comp=N,86nm,20.8s,baz=288,slow=38 comp=N,1.2nm,0.6s			LR	LR	14 47 32.0	
WHY	**Whitehorse**	**8.40**	**54**	Pn	**Pn**	**14 44 13.2**	**+0.6**
J26L	**Joseph Creek**	**8.45**	**16**		**Pn**	**14 44 13.0**	**-0.2**
J26L	**Joseph Creek** baz=200	**8.45**	**16**	P	**Pn**	**14 44 13.0**	**-0.2**
MDM	**Murphy Dome**	**8.51**	**2**		**Pn**	**14 44 15.3**	**+1.3**
L29M	**L29M**	**8.55**	**35**		**Pn**	**14 44 14.5**	**-0.1**
L29M	**L29M** baz=224	**8.55**	**35**	P	**Pn**	**14 44 14.5**	**-0.1**
P32M	**Atlin**	**8.60**	**63**		**Pn**	**14 44 14.9**	**-0.4**
P32M	**Atlin** baz=255	**8.60**	**63**	P	**Pn**	**14 44 14.9**	**-0.4**
ISLZ	**Isanotski Laza**	**8.61**	**264**		**Pn**	**14 44 13.9**	**-1.5**
J17K	**VABM Dome**	**8.62**	**328**	Pn	**Pn**	**14 44 14.7**	**-0.8**
MLY	**Manley**	**8.62**	**355**	Pn	**Pn**	**14 44 16.9**	**+1.3**
M30M	**Minto, Yukon**	**8.63**	**40**		**Pn**	**14 44 15.6**	**-0.1**
M30M	**Minto, Yukon** baz=230	**8.63**	**40**	P	**Pn**	**14 44 15.6**	**-0.1**
L14K	**Kuka Creek**	**8.65**	**310**		**Pn**	**14 44 16.5**	**+0.6**
I23K	**Minto, Yukon-K**	**8.70**	**359**		**Pn**	**14 44 16.1**	**-0.4**
I23K	**Minto, Yukon-K** baz=178	**8.70**	**359**	P	**Pn**	**14 44 16.1**	**-0.4**
K15K	**Wolf Creek Mou**	**8.70**	**317**	Pn	**Pn**	**14 44 15.2**	**-1.4**
U33K	**Whale Pass**	**8.75**	**86**		**Pn**	**14 44 13.6**	**-3.6**
U33K	**Whale Pass** baz=279	**8.75**	**86**	P	**Pn**	**14 44 13.6**	**-3.6**
I21K	**Tanana**	**8.86**	**351**		**Pn**	**14 44 18.8**	**+0.1**
I21K	**Tanana** baz=169	**8.86**	**351**	P	**Pn**	**14 44 18.8**	**+0.1**
CRAG	**Craig**	**8.87**	**90**	P	**Pn**	**14 44 18.1**	**-0.8**
J16K	**Anvik River**	**9.01**	**324**	Pn	**Pn**	**14 44 19.6**	**-1.2**
P33M	**Teslin, Yukon**	**9.21**	**59**	Pn	**Pn**	**14 44 22.3**	**-1.2**
P33M	**Teslin, Yukon** baz=253	**9.21**	**59**	P	**Pn**	**14 44 23.3**	**-0.3**
K29M	**Barlow Dome** baz=222	**9.27**	**33**	P	**Pn**	**14 44 25.2**	**+0.7**
H24K	**Noodor Dome**	**9.40**	**2**	Pn	**Pn**	**14 44 28.0**	**+1.9**
H21K	**Melozitna Rive**	**9.40**	**350**		**Pn**	**14 44 25.8**	**-0.4**
H21K	**Melozitna Rive** baz=167	**9.40**	**350**	P	**Pn**	**14 44 25.8**	**-0.4**
I28M	**Miner Creek**	**9.96**	**22**	Pn	**Pn**	**14 44 33.9**	**-0.1**
J30M	**Hart River**	**10.17**	**32**	Pn	**Pn**	**14 44 37.9**	**+1.1**
G23K	**Bananza Creek**	**10.28**	**357**	Pn	**Pn**	**14 44 37.5**	**-0.7**
G21K	**Allakaket**	**10.31**	**349**		**Pn**	**14 44 39.0**	**+0.4**
DLBC	**Dease Lake** comp=N,0.2nm,0.3s,baz=259,slow=16,SNR=2.1	**10.31**	**71**	Pn	**Pn**	**14 44 38.5**	**-0.2**
DLBC	comp=N,0.1nm,0.3s,baz=173,slow=19,SNR=1.2 comp=N,1.0nm,0.5s			Sn	**Sn**	**14 46 30.2**	**-4.1**
I30M	**Mount Dempster**	**10.64**	**29**		**Pn**	**14 44 44.8**	**+1.6**
F20K	**Avaraart Lake**	**11.08**	**346**	Pn	**Pn**	**14 44 49.2**	**+0.1**
G29M	**Pine Creek**	**11.63**	**22**	Pn	**Pn**	**14 44 58.5**	**+1.9**
E24K	**Your Creek**	**11.63**	**1**	Pn	**Pn**	**14 44 56.7**	**-0.1**
F15K	**North Star Dit**	**11.96**	**327**	Pn	**Pn**	**14 45 00.2**	**-0.9**
E21K	**Killik River**	**12.23**	**351**		**Pn**	**14 45 05.8**	**+1.0**
BBB	**Bella Bella** comp=N,141nm,19.8s,baz=326,slow=32	**12.82**	**101**	LR	LR	14 48 59.7	
C23K	**Itkillik River**	**13.43**	**357**	Pn	**Pn**	**14 45 20.8**	**-0.3**
INK	**Inuvik** comp=N,5.7nm,1.0s,baz=195,slow=13,SNR=7.0	**13.76**	**24**	Pn	**Pn**	**14 45 26.8**	**+1.2**
INK	comp=N,101nm,21.6s,baz=188,slow=36			LR	LR	14 50 20.6	
C36M	**Paulatuk** comp=Z,20nm,1.2s	**16.94**	**31**		**Pn**	**14 46 07.4**	**-0.2**
C36M				IAmb	IAmb	14 46 21.9	
YKA	**Yellowknife Ar** comp=Z,0.1nm,0.3s,baz=264,slow=11,SNR=19	**18.22**	**57**	P	**P**	**14 46 23.5**	**-0.2**
YKA	comp=Z,94nm,19.6s,baz=330,slow=36 comp=Z,3.0nm,1.0s			LR	LR	14 53 14.1	
A36M	**Sachs Harbour** comp=Z,13nm,0.8s	**18.39**	**23**	P	**Pn**	**14 46 24.9**	**-0.6**
A36M				IAmb	IAmb	14 46 30.1	
NEW	**Newport** comp=Z,63nm,20.8s,baz=302,slow=33	**20.88**	**100**	LR	LR	14 53 43.0	
YBH	**Yreka Blue Hor** comp=Z,141nm,19.3s,baz=309,slow=31	**22.40**	**120**	LR	LR	14 53 38.8	
NVAR	**Mina Array Bea** comp=Z,0.8nm,0.8s,baz=310,slow=8.2,SNR=4.9	**27.09**	**119**	P	**P**	**14 47 55.1**	**+1.4**
NVAR	comp=Z,102nm,21.7s,baz=322,slow=32 comp=Z,0.8nm,0.8s			LR	LR	14 56 26.2	
RES	**Resolute Bay** comp=Z,78nm,18.6s,baz=20,slow=38	**27.27**	**28**	LR	LR	14 59 18.8	
SEY	**Seymchan** comp=Z,101nm,18.0s,baz=134,slow=39	**29.38**	**307**	LR	LR	15 01 15.0	
PETK	**Petropavlovsk-** comp=Z,1.0nm,0.8s,baz=63,slow=8.5,SNR=2.7 comp=Z,1.0nm,0.8s	**30.36**	**287**	P	**P**	**14 48 24.9**	**+2.5**
MA2	**Magadan** comp=Z,77nm,20.4s,baz=87,slow=37	**31.17**	**301**	LR	LR	15 01 17.6	
PFO	**Pinyon Flats O** comp=Z,78nm,19.7s,baz=302,slow=31	**31.85**	**122**	LR	LR	14 58 46.4	
FRB	**Frobisher Bay** comp=Z,99nm,18.9s,baz=351,slow=37	**38.11**	**45**	LR	LR	15 05 23.2	
SFJD	**Kangerlussuaq**

*MOS **24** 14:48:48.7±1.0,21˚.32S×178˚.22W,h458km,mb5.2/26, Error ellipse: s-maj=8.9km s-min=7.5km az=106.0*

*NEIC **24** 14:48:51.2,21˚.26S×178˚.18W,h500km*

*NEIC **24** 14:48:51.6±2.0,21˚.26S±0˚.08×178˚.16W±0˚.08, h473km×4km,mb5.3/464,Mww5.4/13, Error ellipse: s-maj=13.8km s-min=9.3km az=137.0*

*NEIC **24** 14:48:51.2,21˚.26S×178˚.18W,h500km,Moment Tensor Solution. Duration: 2s5 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.24; $M_{\theta\theta}$0.60; $M_{\phi\phi}$0.64; $M_{r\theta}$-0.71; $M_{r\phi}$0.67; $M_{\theta\phi}$-0.69; Fault plane solution: $M_0$1.60000×10^{17} NP1:ϕs45.22000°, δ64.07000°,λ-88.96000°. NP2:ϕs222.85000°,δ25.95000°, λ-92.14000°. Principal axes: T 1.6285, Plg19.0000°, Azm134.0000°; N -0.0474, Plg1.0000°, Azm225.0000°; P -1.5812, Plg71.0000°, Azm317.0000°;*

*IDC **24** 14:48:51.3±0.9,21˚.30S×178˚.17W,h475km±8km,mb4.7/32, mbtmp5.5/35 Error ellipse: s-maj=9.0km s-min=8.0km az=153.0*

*NOU **24** 14:48:53.2,21˚.34S×178˚.18W,h490km,ML5.1/156,Fiji Islands Region*

*GCMT **24** 14:48:54.2±0.2,21˚.34S±0˚.02×178˚.11W±0˚.02, h498km±1km, MW5.4/113,Moment Tensor Solution. s113,c196; Duration: 1s2 Moment tensor: Scale 10^{17} Nm; M_{rr}-1.29±.03; $M_{\theta\theta}$0.33±.05; $M_{\phi\phi}$0.96±.05; $M_{r\theta}$-0.69±.05; $M_{r\phi}$0.60±.04; $M_{\theta\phi}$-0.31±.05; Best double couple: $M_0$1.51100×10^{17} NP1:ϕs47.00000°,δ60.00000°, λ-73.00000°. NP2:ϕs196.00000°,δ34.00000°, λ-116.00000°. Principal axes: T 1.4730, Plg13.0000°, Azm125.0000°; N 0.0820, Plg14.0000°, Azm218.0000°; P -1.5500, Plg70.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. Triangular moment-rate function*

ISC 24 14:48:51.3±0.3,21˚.36S±0˚.03×178˚.16W±0˚.03, h477km±3km,h478km:pP-P,n1486,σ1s17/1398,mb5.3/318, 55C-130D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.08**	**315**	P	**P**	**P**	**14 50 19.5**	**+1.5**
MSVF	**Nonsavu**	**5.08**	**315**	P	**P**	**P**	14 50 19.5	+1.5
MSVF	**Nonsavu**	**5.08**	**315**	*i* P	**P**	**P**	14 50 17.3	-0.7
RAO	**Raoul Island**	**7.86**	**178**	P	**P**	**P**	14 50 42.6	-3.0
RAO	**Raoul Island**	**7.86**	**178**	S	**S**	**S**	14 52 18.7	-0.8
	754nm,0.3s,baz=73,slow=19,SNR=3.8							
RAO	**Raoul Island**	**7.86**	**178**	P	**P**	**P**	14 50 42.6	-3.0
NIUE	**Niue**	**8.06**	**75**	P	**P**	**P**	14 50 48.9	+1.0
NIUE	**Niue**	**8.06**	**75**	P	**P**	**P**	14 50 48.2	+0.3
AFI	**Afiamalu**	**9.59**	**40**	P	**P**	**P**	14 51 06.3	+2.0
AFI	**Afiamalu**	**9.59**	**40**	P	**P**	**P**	14 51 01.4	-2.9
AFI	**Afiamalu**	**9.59**	**40**	P	**P**	**P**	14 51 01.4	-2.9
MARNC	**Mare, Loyalty**	**12.86**	**267**	P	**P**	**P**	14 51 41.4	+2.2
FUNA	**Funafuti**	**13.01**	**348**	P	**P**	**P**	14 51 41.6	+0.7
FUNA	**Funafuti**	**13.01**	**348**	P	**P**	**P**	14 51 37.0	-3.9
DVP	**Devils Point**	**13.37**	**283**	P	**P**	**P**	14 51 47.1	+2.5
PINNC	**Pines Island,**	**13.41**	**262**	P	**P**	**P**	14 51 48.1	+3.0
PINNC	**Pines Island,**	**13.41**	**262**	P	**P**	**P**	14 51 45.3	+0.3
LIFNC	**LIFOU**	**13.64**	**270**	P	**P**	**P**	14 51 48.7	+1.2
LIFNC	**LIFOU**	**13.64**	**270**	P	**P**	**P**	14 51 46.4	-1.1
YATNC	**Mamie plateau,**	**13.91**	**264**	P	**P**	**P**	14 51 52.1	+1.7
OUENC	**Ouen Island, N**	**13.96**	**263**	P	**P**	**P**	14 51 53.5	+2.5
OUENC	**Ouen Island, N**	**13.96**	**263**	P	**P**	**P**	14 51 50.6	-0.3
ONTNC	**Ouen Toro**	**14.32**	**263**	P	**P**	**P**	14 51 56.3	+1.6
ONTNC	**Ouen Toro**	**14.32**	**263**	P	**P**	**P**	14 51 55.1	+0.4
DZM	**Mont Dzumac**	**14.32**	**264**	P	**P**	**P**	14 51 56.6	+1.7
DZM	**Mont Dzumac**	**14.32**	**264**	*e*P	**P**	**P**	14 51 56.3	+1.4
	221nm,1.1s							
DZM				*e*S	**S**	**S**	14 54 25.1	-1.4
	150nm,1.5s							
DZM	**Mont Dzumac**	**14.32**	**264**	P	**P**	**P**	14 51 54.5	-0.5
DZM	**Mont Dzumac**	**14.32**	**264**	P	**P**	**P**	14 51 55.9	+0.9
	73nm,0.8s,baz=246,slow=23,SNR=28							
DZM				S	**S**	**S**	14 54 27.3	+0.9
	37nm,1.1s,baz=347,slow=18,SNR=2.9							
NOUC	**Port Laguerre**	**14.46**	**264**	P	**P**	**P**	14 51 58.1	+1.9
KOUNC	**Koumac, New Ca**	**16.42**	**270**	P	**P**	**P**	14 52 18.7	+1.8
KOUNC	**Koumac, New Ca**	**16.42**	**270**	P	**P**	**P**	14 52 16.9	0.0
MXZ	**Matakaoa Point**	**16.43**	**190**	P	**P**	**P**	14 52 15.8	-1.1
OPRZ	**Ohinepanea**	**17.05**	**194**	P	**P**	**P**	14 52 24.9	+1.5
RAR	**Rarotonga**	**17.14**	**93**	P	**P**	**P**	14 52 26.2	+1.7
RAR	**Rarotonga**	**17.14**	**93**	P	**P**	**P**	14 52 24.6	+0.2
RAR	**Rarotonga**	**17.14**	**93**	P	**P**	**P**	14 52 24.3	-0.1
	160nm,1.1s,baz=258,slow=6.5,SNR=31							
RAR	**Rarotonga**	**17.14**	**93**	P	**P**	**P**	14 52 24.6	+0.2
TOZ	**Tahuroa Road**	**17.21**	**197**	P	**P**	**P**	14 52 25.1	+0.2
URZ	**Urewera**	**17.33**	**193**	P	**P**	**P**	14 52 27.4	+1.3
URZ	**Urewera**	**17.33**	**193**	P	**P**	**P**	14 52 25.5	-0.6
	22nm,0.4s,baz=11,slow=2.9,SNR=33							
URZ				S	**S**	**S**	14 55 17.3	-5.1
	41nm,0.6s,baz=185,slow=17,SNR=10							
RRRZ	**Republican Road**	**17.54**	**194**	P	**P**	**P**	14 52 29.0	+0.8
HRRZ	**Handcock Road**	**17.64**	**195**	P	**P**	**P**	14 52 30.1	+0.8
RTZ	**Ruatahuna**	**17.70**	**193**	P	**P**	**P**	14 52 28.8	-1.0
PRRZ	**Plateau Road**	**17.71**	**194**	P	**P**	**P**	14 52 29.9	0.0
ALRZ	**Allen Road**	**17.79**	**194**	P	**P**	**P**	14 52 30.8	+0.1
PRGZ	**Paritu Road**	**17.83**	**190**	P	**P**	**P**	14 52 32.5	+1.4
MTHZ	**Maungataniwha**	**17.96**	**193**	P	**P**	**P**	14 52 34.7	+2.4
KNZ	**Kokohu**	**17.96**	**191**	P	**P**	**P**	14 52 32.5	+0.2
WHHZ	**Waihua**	**18.10**	**192**	P	**P**	**P**	14 52 35.6	+2.1
HIZ	**Hauiti**	**18.12**	**198**	P	**P**	**P**	14 52 33.5	-0.3
HIZ	**Hauiti**	**18.12**	**198**	P	**P**	**P**	14 52 36.1	+2.3
NMHZ	**Naumai**	**18.20**	**193**	P	**P**	**P**	14 52 35.9	+1.2
BKZ	**Black Stump Fm**	**18.33**	**193**	P	**P**	**P**	14 52 32.6	-3.3
BKZ	**Black Stump Fm**	**18.33**	**193**	P	**P**	**P**	14 52 34.3	-1.5
TMVZ	**Te Maari**	**18.46**	**195**	P	**P**	**P**	14 52 36.8	-0.3
WTVZ	**West Tongariro**	**18.49**	**195**	P	**P**	**P**	14 52 35.6	-1.8
NNVZ	**North Ngauruho**	**18.50**	**195**	P	**P**	**P**	14 52 31.0	-6.6
OTVZ	**Oturere**	**18.52**	**195**	P	**P**	**P**	14 52 37.1	-0.6
MCHZ	**McNeill Hill**	**18.56**	**193**	P	**P**	**P**	14 52 36.1	-1.8
KWHZ	**Kaweka Forest**	**18.59**	**193**	P	**S**	**S**	14 55 42.1	-1.3
WNVZ	**Wahianoa**	**18.69**	**195**	P	**P**	**P**	14 52 38.7	-0.6
MOVZ	**Moawhango**	**18.73**	**195**	P	**P**	**P**	14 52 38.8	-0.8
BHHZ	**Black Hill Sta**	**18.74**	**194**	P	**P**	**P**	14 52 37.1	-2.5
KRHZ	**Kereru**	**18.82**	**193**	P	**P**	**P**	14 52 39.5	-0.7
KRHZ	**Kereru**	**18.82**	**193**	P	**S**	**S**	14 55 44.5	-2.5
KAHZ	**Kahuranaki**	**18.86**	**192**	P	**P**	**P**	14 52 40.8	+0.1
KAHZ	**Kahuranaki**	**18.86**	**192**	P	**S**	**S**	14 55 51.0	+3.3
PXZ	**Pawanui**	**19.09**	**192**	P	**P**	**P**	14 52 43.0	+0.3
PXZ	**Pawanui**	**19.09**	**192**	P	**S**	**S**	14 55 53.0	+1.7
PNHZ	**Pukenui**	**19.11**	**193**	P	**P**	**P**	14 52 42.1	-0.9
PNHZ	**Pukenui**	**19.11**	**193**	P	**S**	**S**	14 55 49.6	-2.2
WPHZ	**Waipukurau**	**19.21**	**193**	P	**S**	**S**	14 55 54.0	+0.7
TSZ	**Takapari Road**	**19.30**	**194**	P	**P**	**P**	14 52 44.6	-0.1
TSZ	**Takapari Road**	**19.30**	**194**	P	**S**	**S**	14 55 52.7	-2.2
DVHZ	**Dannevirke**	**19.49**	**193**	P	**P**	**P**	14 52 46.1	-0.3
ANWZ	**Angora Road**	**19.58**	**192**	P	**P**	**P**	14 52 46.9	-0.3
ANWZ	**Angora Road**	**19.58**	**192**	P	**S**	**S**	14 55 59.8	+0.6
POWZ	**Post Office Ro**	**19.66**	**194**	P	**S**	**S**	14 55 58.2	-2.5
BFZ	**Birch Farm**	**19.84**	**193**	P	**P**	**P**	14 52 47.6	-2.0
BFZ	**Birch Farm**	**19.84**	**193**	P	**P**	**P**	14 52 48.0	-1.6
BFZ	**Birch Farm**	**19.84**	**193**	P	**S**	**S**	14 56 04.8	+1.3
MRZ	**Mangatainoka R**	**19.96**	**194**	P	**P**	**P**	14 52 49.2	-1.5
MRZ	**Mangatainoka R**	**19.96**	**194**	P	**S**	**S**	14 56 04.6	-0.9
CAW	**Cannon Point**	**20.51**	**195**	P	**S**	**S**	14 56 09.2	-5.0
PAWZ	**Paruwai Farm**	**20.68**	**194**	P	**S**	**S**	14 56 13.3	-3.9
MSWZ	**Moikau Station**	**20.76**	**194**	P	**S**	**S**	14 56 15.2	-3.1
SNZO	**South Karori**	**20.79**	**195**	P	**P**	**P**	14 52 56.9	-1.3
TCW	**Tory Channel**	**20.80**	**196**	P	**S**	**S**	14 56 13.0	-5.9
PLWZ	**Palliser**	**20.90**	**194**	P	**S**	**S**	14 56 16.8	-3.9
QRZ	**Quartz Range**	**20.95**	**200**	P	**P**	**P**	14 53 01.1	+1.4
QRZ	**Quartz Range**	**20.95**	**200**	P	**P**	**P**	14 52 59.5	-0.2
TUWZ	**Tuamarina**	**21.09**	**197**	P	**P**	**P**	14 52 58.9	-2.0
TUWZ	**Tuamarina**	**21.09**	**197**	P	**S**	**S**	14 56 17.6	-6.0
THZ	**Tophouse**	**21.69**	**198**	P	**P**	**P**	14 53 05.5	-0.9
GVZ	**Greta Valley S**	**22.77**	**197**	P	**P**	**P**	14 53 15.0	-1.1
LTZ	**Lake Taylor**	**22.82**	**198**	P	**P**	**P**	14 53 14.7	-1.9
OXZ	**Oxford**	**23.38**	**198**	P	**P**	**P**	14 53 19.5	-2.0
TARA	**Tarawa**	**24.20**	**338**	P	**P**	**P**	14 53 29.8	+0.6
TARA	**Tarawa**	**24.20**	**338**	P	**P**	**P**	14 53 28.6	-0.6
ODZ	**Otahua Downs**	**25.36**	**199**	P	**P**	**P**	14 53 40.4	+1.3
GC1S	**Gold Coast 1 S**	**26.56**	**250**	P	**P**	**P**	14 53 51.7	+1.8
TBI	**Tubuai**	**26.60**	**100**	*e*P	**P**	**P**	14 53 50.6	+0.2
	166nm,22.0s							
TBI	**Tubuai**	**26.60**	**100**	*e*P	**P**	**P**	14 53 51.6	+1.2
	191nm,1.0s							
TBI				*e*pP	**pP**	**pP**	14 55 11.7	+1.7
	926nm,27.0s							
TBI				*e*S	**S**	**S**	14 57 56.7	+5.8
	2µm,41.8s							
TBI				*es*S	sS	sS	15 00 10.8	-11
	700nm,27.2s							
	3µm,42.5s							
AUWSH	**Wavell State H**	**26.87**	**251**	P	**P**	**P**	**14 53 54.1**	**+1.4**
PAE	**Paea**	**27.17**	**87**	*e*P	**P**	**P**	14 53 56.6	+1.1
	33nm,1.1s							
PPT2	**Papeete2**	**27.19**	**87**	*e*P	**P**	**P**	14 53 54.7	-1.1
	30nm,21.2s							
PPT2				*ep*P	**pP**	**pP**	14 55 17.7	+2.4
	185nm,28.0s							
PPT2				*e*S	**S**	**S**	14 57 59.5	-0.9
	243nm,27.5s							
PPT2				*es*S	**sS**	**sS**	15 00 26.2	-5.1
	553nm,41.2s							
PPT2				*es*S	**SS**	**SS**	15 00 31.8	-10
	518nm,24.2s							
PPT	**Papeete**	**27.20**	**87**	P	**P**	**P**	**14 53 54.8**	**-0.9**
	102nm,1.1s,baz=305,slow=10,SNR=6.6							
	102nm,1.1s							
PPTF	**Pamatai, Papee**	**27.20**	**87**	P	**P**	**P**	**14 53 57.6**	**+1.8**
PPTF	**Pamatai, Papee**	**27.20**	**87**	P	**P**	**P**	14 53 55.2	-0.6
TVO	**Taravao**	**27.45**	**88**	*e*P	**P**	**P**	14 53 58.9	+0.9
	15nm,0.7s							
EIDS	**Eidsvold**	**28.48**	**256**	P	**P**	**P**	**14 54 07.6**	**+0.7**
EIDS	**Eidsvold**	**28.48**	**256**	P	**P**	**P**	14 54 06.8	-0.1
ARMA	**Armidale**	**28.56**	**245**	P	**P**	**P**	14 54 09.1	+1.4
ARMA	**Armidale**	**28.56**	**245**	P	**P**	**P**	14 54 09.0	+1.3
RK1H	**Rockhampton Ha**	**29.03**	**260**	P	**P**	**P**	14 54 12.5	+0.8
NTLH	**Newcastle Hard**	**29.08**	**240**	P	**P**	**P**	14 54 13.8	+1.8
AUPHS	**Peel High Scho**	**29.32**	**244**	P	**P**	**P**	14 54 15.4	+1.2
VAH	**Vaihoa**	**29.59**	**83**	*e*P	**P**	**P**	14 54 17.4	+0.7
	19nm,0.9s							
MGCD	**Mangrove Creek**	**29.64**	**240**	P	**P**	**P**	**14 54 18.8**	**+1.9**
SYDH	**Sydney Hard Ro**	**30.09**	**239**	P	**P**	**P**	14 54 22.1	+1.3
WOLH	**Wollongong Har**	**30.17**	**238**	P	**P**	**P**	14 54 22.4	+0.9
AUUHS	**Ulladulla High**	**30.78**	**236**	P	**P**	**P**	14 54 28.4	+1.7
XMAS	**Kiritimati**	**30.85**	**44**	P	**P**	**P**	14 54 28.2	+0.6
XMAS	**Kiritimati**	**30.85**	**44**	P	**P**	**P**	14 54 26.9	-0.7
XMAS					IAmb	IAmb	14 54 28.7	
	comp=Z,136nm,0.9s							
AUDCS	**Dubbo College**	**31.44**	**243**	P	**P**	**P**	**14 54 33.8**	**+1.3**
AULRC	**Lightning Ridg**	**31.54**	**248**	P	**P**	**P**	14 54 34.5	+1.1
CNB	**Canberra Magne**	**31.62**	**237**	P	**P**	**P**	14 54 35.5	+1.4
CAN	**Canberra**	**31.91**	**237**	P	**P**	**P**	14 54 37.8	+1.2
CAN	**Canberra**	**31.91**	**237**	P	**P**	**P**	14 54 37.5	+1.0
CAN	**Canberra**	**31.91**	**237**	P	**P**	**P**	14 54 37.6	+1.0
CAN					pmax	pmax		
	comp=Z,178nm,1.0s							
CAN	**Canberra**	**31.91**	**237**	P	**P**	**P**	**14 54 37.5**	**+1.0**
YNG	**Young**	**32.11**	**239**	P	**P**	**P**	14 54 39.6	+1.4
AUAYR	**Ayr State High**	**32.27**	**267**	P	**P**	**P**	14 54 41.3	+1.6
MILA	**Mila**	**32.34**	**234**	P	**P**	**P**	14 54 41.2	+1.0
TV1H	**Townsville Har**	**32.89**	**267**	P	**P**	**P**	14 54 45.7	+0.7
CTAO	**Charters Tower**	**33.26**	**266**	P	**P**	**P**	14 54 48.7	+0.4
CTAO	**Charters Tower**	**33.26**	**266**	P	**P**	**P**	14 54 48.6	+0.3
CTAO					IAmb	IAmb	14 54 49.8	
	comp=Z,176nm,1.4s							
CTAO					PcP	**PcP**	14 57 17.1	0.0
CTAO	**Charters Tower**	**33.26**	**266**	⇓P	**P**	**P**	14 54 48.5	+0.3
CTAO					PcP	**PcP**	14 54 47.8	+0.2
RABL	**Rabaul**	**33.48**	**296**	P	**P**	**P**	14 54 49.3	-0.9
RABL	**Rabaul**	**33.48**	**296**	P	**P**	**P**	14 54 49.0	-1.2
RABL					IAmb	IAmb	14 55 06.3	
	comp=Z,58nm,0.7s							
CMSA	**Cobar Meteorol**	**33.78**	**245**	P	**P**	**P**	**14 54 53.2**	**+0.7**
QLP	**Quilpie**	**34.67**	**254**	P	**P**	**P**	14 55 00.9	+0.9
TOO	**Toolangi**	**35.27**	**235**	P	**P**	**P**	14 55 05.9	+0.9
TOO	**Toolangi**	**35.27**	**235**	P	**P**	**P**	14 55 05.9	+0.9
TOO					IAmb	IAmb	14 55 06.9	
	comp=Z,130nm,1.0s							
TOO	**Toolangi**	**35.27**	**235**	P	**P**	**P**	**14 55 05.9**	**+0.9**
TOO					pmax	pmax		
	comp=Z,130nm,1.0s							
PMG	**Port Moresby**	**35.40**	**284**	P	**P**	**P**	**14 55 06.3**	**+0.1**
	comp=Z,94nm,0.8s,baz=69,slow=7.6,SNR=23							
	comp=Z,94nm,0.8s							
MTSU	**Mount Surprise**	**35.41**	**268**	P	**P**	**P**	14 55 07.3	+1.0
AUMAG	**Moama Anglican**	**35.45**	**237**	P	**P**	**P**	14 55 08.1	+1.7
PATS	**Pohnpei**	**36.31**	**318**	P	**P**	**P**	14 55 14.2	+0.4
PATS					IAmb	IAmb	14 55 16.8	
	comp=Z,102nm,0.9s							
GEXS	**Deakin Univers**	**36.36**	**234**	P	**P**	**P**	**14 55 14.8**	**+0.8**
BRAT	**Ballarat**	**36.46**	**235**	P	**P**	**P**	14 55 15.7	+0.9
STKA	**Stephens Creek**	**37.28**	**245**	P	**P**	**P**	14 55 22.8	+1.1
STKA	**Stephens Creek**	**37.28**	**245**	P	**P**	**P**	14 55 22.3	+0.5
STKA	**Stephens Creek**	**37.28**	**245**	P	**P**	**P**	14 55 22.2	+0.5
	comp=Z,56nm,0.5s,baz=81,slow=10,SNR=123							
STKA					S	**S**	15 00 32.0	-2.4
	comp=Z,4.0nm,0.8s,baz=153,slow=22,SNR=2.9							
	comp=Z,56nm,0.5s							
STKA	**Stephens Creek**	**37.28**	**245**	*d* P	**P**	**P**	**14 55 20.2**	**-1.5**
COEN	**Coen**	**37.49**	**275**	P	**P**	**P**	14 55 24.4	+0.8
COEN	**Coen**	**37.49**	**275**	P	**P**	**P**	14 55 24.1	+0.5
COEN					IAmb	IAmb	14 55 25.4	
	comp=Z,150nm,1.1s							
INKA	**Innaminka**	**37.78**	**252**	P	**P**	**P**	**14 55 27.2**	**+1.3**
ARPS	**Mount Arapiles**	**37.89**	**237**	P	**P**	**P**	14 55 27.2	+0.6
MANU	**Manus Island**	**38.66**	**295**	P	**P**	**P**	14 55 34.6	+1.4
MANU	**Manus Island**	**38.66**	**295**	P	**P**	**P**	14 55 32.9	-0.3
MANU					IAmb	IAmb	14 55 34.9	
	comp=Z,198nm,1.4s							
QIS	**Mount Isa**	**39.36**	**263**	P	**P**	**P**	**14 55 39.2**	**+0.3**
HTT	**Hallett**	**39.70**	**243**	P	**P**	**P**	14 55 41.8	+0.4
LCRK	**Leigh Creek**	**40.06**	**248**	P	**P**	**P**	14 55 44.8	+0.4
PTPS	**Port Pirie**	**40.44**	**244**	P	**P**	**P**	14 55 48.1	+0.8
WHYH	**Whyalla**	**40.78**	**244**	P	**P**	**P**	14 55 50.5	+0.4
BBOO	**Buckleboo**	**42.03**	**244**	P	**P**	**P**	14 56 00.1	0.0
BBOO	**Buckleboo**	**42.03**	**244**	P	**P**	**P**	14 55 59.8	-0.2
OOD	**Oodnadatta**	**42.26**	**252**	P	**P**	**P**	14 56 02.7	+0.8
TABU	**Tabubil**	**42.47**	**286**	P	**P**	**P**	14 56 04.5	+0.7
WAKE	**Wake Island**	**43.04**	**339**	P	**P**	**P**	14 56 08.9	+0.9
WAKE	**Wake Island**	**43.04**	**339**	P	**P**	**P**	14 56 07.6	-0.4
WAKE	**Wake Island**	**43.04**	**339**	P	**P**	**P**	14 56 08.0	0.0
H11N3	**WAKE ISLAND Hy**	**43.36**	**339**	P	**P**	**P**	14 56 10.4	+0.1
	baz=177,slow=8.9,SNR=6.8							
H11N1	**WAKE ISLAND Hy**	**43.36**	**339**	P	**P**	**P**	14 56 09.8	-0.6
	baz=177,slow=8.9,SNR=3.6							
H11N2	**WAKE ISLAND Hy**	**43.38**	**339**	P	**P**	**P**	14 56 10.5	+0.1
	baz=177,slow=8.9,SNR=6.1							
MULG	**Mulgathing**	**43.65**	**248**	P	**P**	**P**	14 56 12.8	0.0
AS01	**Alice Springs**	**44.14**	**258**	P	**P**	**P**	14 56 16.8	0.0
WR0	**Warramunga Arr**	**44.15**	**263**	P	**P**	**P**	14 56 15.8	-1.0
WR0					IAmb	IAmb	14 56 17.2	
	comp=Z,104nm,1.2s							
JAY	**Jayapura**	**44.18**	**289**	P	**P**	**P**	**14 56 17.0**	**-0.2**
	comp=Z,294nm,1.0s,comp=Z,2µm							
JAY					pP	**PcP**	14 57 52.2	+0.2
	comp=Z,294nm,1.0s,comp=Z,2µm							
AS31	**Alice Springs**	**44.18**	**258**	P	**P**	**P**	**14 56 16.7**	**-0.4**
	comp=Z,56nm,0.5s							
ASAR	**Alice Springs**	**44.18**	**258**	P	**P**	**P**	**14 56 16.7**	**-0.4**
	comp=Z,88nm,0.4s,baz=93,slow=8.3,SNR=1091							
ASAR					PcP	**PcP**	14 57 51.8	-0.1
	comp=Z,13nm,0.6s,baz=98,slow=4.6,SNR=8.7							
ASAR					ScP	**ScP**	15 00 59.2	+1.3
	comp=Z,2.7nm,0.7s,baz=103,slow=4.6,SNR=3.2							
ASAR					S	**S**	15 02 11.8	-3.3
	comp=Z,13nm,0.9s,baz=94,slow=15,SNR=25							
ASAR					PKiKP	**PKiKP**	15 04 49.5	-1.3
	comp=Z,0.5nm,0.4s,baz=101,slow=1.5,SNR=5.5							
	comp=Z,88nm,0.4s							
WB0	**Warramunga Arr**	**44.32**	**263**	P	**P**	**P**	**14 56 17.3**	**-0.9**
WB0					IAmb	IAmb	14 56 18.6	
	comp=Z,154nm,1.0s							
WB2	**Warramunga Arr**	**44.33**	**263**	IAmb	IAmb	IAmb	14 56 18.7	
	comp=Z,137nm,0.9s							
WRAB	**Tennant Creek**	**44.33**	**263**	P	**P**	**P**	**14 56 17.3**	**-1.0**
WRAB					IAmb	IAmb	14 56 18.6	
	comp=Z,130nm,0.9s							
WRAB	**Tennant Creek**	**44.33**	**263**	P	**P**	**P**	**14 56 17.3**	**-1.0**
WRAB					pmax	pmax		
	comp=Z,130nm,1.0s							
WRA	**Warramunga Arr**	**44.34**	**263**	P	**P**	**P**	**14 56 17.8**	**-0.5**
WRA	**Warramunga Arr**	**44.34**	**263**	P	**P**	**P**	14 56 17.4	-1.0
	comp=Z,111nm,1.0s,baz=96,slow=7.4,SNR=807							
WRA					PcP	**PcP**	14 57 52.6	+0.2
	comp=Z,10nm,0.6s,baz=92,slow=4.6,SNR=7.4							
WRA					ScP	**ScP**	15 00 59.3	+0.7
	comp=Z,2.2nm,0.9s,baz=95,slow=4.4,SNR=2.8							
WRA					S	**S**	15 02 11.8	-5.5
	comp=Z,9.9nm,0.9s,baz=98,slow=13,SNR=10							
WRA					PKiKP	**PKiKP**	15 04 49.5	-1.6
	comp=Z,0.4nm,0.3s,baz=71,slow=0.4,SNR=9.0							
	comp=Z,111nm,1.0s							
WRA	**Warramunga Arr**	**44.34**	**263**	P	**P**	**P**	**14 56 17.8**	**-0.5**
WRA					pmax	pmax		
	comp=Z,17nm,1.0s							
GENI	**Genyem**	**44.61**	**289**	P	**P**	**P**	**14 56 20.8**	**+0.3**
GENI	**Genyem**	**44.61**	**289**	P	**P**	**P**	**14 56 21.1**	**+0.6**
	comp=Z,285nm,1.0s,comp=Z,3µm							
HPAH	**Hawaii Prepara**	**46.63**	**30**	P	**P**	**P**	**14 56 34.9**	**-1.0**
MHA	**Mahukona**	**46.68**	**29**	P	**P**	**P**	14 56 35.7	-0.4
MHA	**Mahukona**	**46.68**	**29**	P	**P**	**P**	14 56 35.7	-0.4
DHH	**Diamond Head**	**46.80**	**26**	P	**P**	**P**	14 56 37.0	0.0
DHH	**Diamond Head**	**46.80**	**26**	P	**P**	**P**	14 56 37.0	0.0
KIP	**Kipapa**	**46.85**	**26**	*ce*P	**P**	**P**	**14 56 38.1**	**+0.7**
KIP					pmax	pmax		
	comp=Z,199nm,2.5s							
KDU	**Kakadu**	**47.82**	**272**	P	**P**	**P**	**14 56 43.5**	**-1.5**
FORT	**Forrest**	**48.82**	**247**	P	**P**	**P**	**14 56 52.6**	**+0.4**
MTN	**Manton Dam**	**49.02**	**271**	P	**P**	**P**	**14 56 53.1**	**-0.9**
MTN	**Manton Dam**	**49.02**	**271**	IAmb	IAmb	IAmb	14 56 54.1	
	comp=Z,93nm,0.9s							
WRKA	**Warakurna**	**49.09**	**255**	P	**P**	**P**	**14 56 54.0**	**-0.4**
DRS	**Darwin Rock St**	**49.36**	**272**	P	**P**	**P**	**14 56 56.1**	**-0.4**
GUMO	**Guam**	**50.24**	**310**	P	**P**	**P**	**14 57 03.6**	**+0.7**
GUMO	**Guam**	**50.24**	**310**	P	**P**	**P**	**14 57 03.5**	**+0.7**
GUMO	**Guam**	**50.24**	**310**	P	**P**	**P**	**14 57 03.5**	**+0.7**
GUMO					pmax	pmax		
	comp=Z,546nm,0.9s							
GUMO	**Guam**	**50.24**	**310**	P	**P**	**P**	**14 57 03.1**	**+0.3**
GUMO					PcP	**PcP**	**14 58 13.8**	**+0.1**
GUMO					pP	**pP**	**14 58 36.1**	**+1.6**
FAKI	**Fak Fak**	**51.55**	**284**	P	**P**	**P**	**14 57 12.6**	**0.0**
FAKI	**Fak Fak**	**51.55**	**284**	P	**P**	**P**	**14 57 11.8**	**-0.8**
FAKI					IAmb	IAmb	14 57 13.3	

	comp=Z,149nm,1.1s								
INU	**Inuyama**	70.61	322		P		**P**	14 59 18.4	+0.6
INU	**Inuyama**	70.61	322		P		**P**	14 59 16.5	-1.3
MJAR	**Matsushiro Arr**	70.81	324		P		**P**	14 59 18.4	-0.6
	comp=Z,16nm,0.5s,baz=163,slow=5.7,SNR=57								
	comp=Z,16nm,0.5s								
MAJO	**Matsushiro**	70.81	324		P		**P**	14 59 19.4	+0.4
MAJO	**Matsushiro**	70.81	324		P		**P**	14 59 18.2	-0.8
MAJO					IAmb		IAmb	14 59 20.3	
	comp=Z,134nm,1.6s								
MAJO	**Matsushiro**	70.81	324	*d*	iP		**P**	14 59 18.4	-0.6
MAJO					pmax		pmax		
	comp=Z,44nm,1.2s								
MAJO	**Matsushiro**	70.81	324		P		**P**	14 59 18.8	-0.2
MJB9	**Matsu-Tunnel**	70.81	324		IAmb		IAmb	14 59 21.3	
	comp=Z,125nm,1.5s								
JMN	**Monobe**	71.33	319		P		**P**	14 59 23.8	+1.6
JMN	**Monobe**	71.33	319		P		**P**	14 59 22.0	-0.2
JMN					IAmb		IAmb	14 59 24.3	
	comp=Z,176nm,1.4s								
JMJ	**Miyako jima 2**	71.59	307		P		**P**	14 59 24.5	+0.7
JSD	**Sado**	71.88	325		P		**P**	14 59 26.5	+1.3
JSD	**Sado**	71.88	325		IAmb		IAmb	14 59 26.8	
	comp=Z,94nm,1.2s								
AMKA	**Amchitka**	72.45	358		P		**P**	14 59 27.1	-1.1
JTM	**Tenmabayashi**	72.52	329		P		**P**	14 59 29.8	+0.9
BBJI	**Bungbulang**	72.63	269		P		**P**	14 59 29.8	-0.4
JNU	**Nakatsue**	72.80	317		P		**P**	14 59 31.0	+0.3
LEM	**Lembang**	72.87	269		P		**P**	14 59 31.8	+0.1
	comp=Z,185nm,0.9s,baz=90,slow=7.1,SNR=32								
	comp=Z,185nm,0.9s								
YOJ	**Yonaguni jima**	73.11	305		P		**P**	14 59 33.2	+0.6
ATKA	**Atka Island**	73.33	3		P		**P**	14 59 34.1	+0.9
ATKA	**Atka Island**	73.33	3		IAmb		IAmb	14 59 33.4	
	comp=Z,120nm,0.9s								
KSM	**Kuching**	73.38	278		P		**P**	14 59 35.2	+0.7
KSM	**Kuching**	73.38	278		IAmb		IAmb	14 59 36.0	
	comp=Z,104nm,0.8s								
TWGBT	**Beinan**	73.71	303		P		**P**	14 59 35.2	-0.9
TWG	**Pinlang**	73.72	303		IAmb		IAmb	14 59 35.4	
	comp=Z,95nm,1.0s								
YULB	**Yu-li**	73.84	304		P		**P**	14 59 36.9	0.0
YULB	**Yu-li**	73.84	304		IAmb		IAmb	14 59 41.1	
	comp=Z,88nm,1.2s								
NACB	**Ninganchiao**	74.03	304		P		**P**	14 59 38.1	+0.2
SHEM	**Shemya Is, Ala**	74.08	355		P		**P**	14 59 36.5	-1.0
	comp=Z,64nm,0.8s,baz=44,slow=8.2,SNR=2.8								
	comp=Z,64nm,0.8s								
TPUB	**Ta-pu**	74.31	303		P		**P**	14 59 39.2	-0.4
SSLB	**Suanglung**	74.32	304		P		**P**	14 59 39.3	-0.3
JKA	**Kamikawa-asahi**	74.41	332		IAmb		IAmb	14 59 43.5	
	comp=Z,76nm,0.9s								
NIKH	**Nikolski High**	74.46	6		P		**P**	14 59 40.4	+0.7
NIKH	**Nikolski High**	74.46	6		P		**P**	14 59 39.0	-0.7
	baz=189,SNR=8.8								
YHNB	**Yeheng**	74.47	305		P		**P**	14 59 40.9	+0.4
YHNB	**Yeheng**	74.47	305		IAmb		IAmb	14 59 41.4	
	comp=Z,148nm,1.1s								
TATO	**Taipei**	74.55	305		P		**P**	14 59 41.1	+0.3
SKR	**Severo-Kuril's**	75.23	343	*ce*	P		**P**	14 59 43.4	-0.7
UNV	**Unalaska Valle**	75.57	7		P		**P**	14 59 45.7	-0.1
UNV	**Unalaska Valle**	75.57	7		P		**P**	14 59 44.9	-0.9
	baz=191,SNR=7.6								
YSS	**Yuzh-Sakhalins**	76.59	334		P		**P**	14 59 53.4	+1.7
YSS	**Yuzh-Sakhalins**	76.59	334		P		**P**	14 59 53.0	+1.2
YSS					IAmb		IAmb	14 59 53.9	
	comp=Z,65nm,0.9s								
YSS	**Yuzh-Sakhalins**	76.59	334	*ke*	P		**P**	14 59 52.7	+1.0
YSS				*e**	PP		**pwP**	15 01 37.9	+0.7
YSS				*e**	SP		**sP**	15 02 25.7	+1.9
YSS				*e*	PPP		PPP	15 04 44.4	
YSS				*e*	S		**S**	15 08 59.3	+0.9
YSS				*e*	SS		**SS**	15 14 07.2	0.0
YSS					pmax		pmax		
	comp=Z,300nm,5.7s								
YSS					pmax		pmax		
	comp=Z,20nm,0.9s								
YSS					smax		smax		
	comp=N,200nm,4.0s								
YSS					smax		smax		
	comp=E,100nm,3.2s								
KNMB	**Chin-men Tao**	76.67	303		IAmb		IAmb	14 59 54.2	
	comp=Z,81nm,0.8s								
QZH	**Quanzhou**	76.76	304	⇓	*i*P		**P**	14 59 53.8	+0.7
QZH					S		**S**	15 09 01.4	+0.3
QZH					pmax		pmax		
	comp=Z,150nm,1.2s								
PET	**Petropavlovsk**	76.76	346		*e*P		**P**	14 59 51.9	-0.6
PET					*e*			15 02 58.6	
PET					*e*S		**S**	15 09 01.2	+1.3
PET					*e*SP		**SPn**	15 09 43.5	+1.5
PET					pmax		pmax		
	comp=Z,300nm,9.9s								
PET					pmax		pmax		
	comp=Z,35nm,1.4s								
PET					pmax		pmax		
	comp=Z,100nm,12.2s								
FALS	**False Pass**	76.95	9		P		**P**	14 59 54.2	+0.7
FALS	**False Pass**	76.95	9		P		**P**	14 59 52.6	-0.9
	baz=194								
PEA0B	**Petropavlovsk-**	77.06	345		IAmb		IAmb	14 59 55.4	
	comp=Z,191nm,1.4s								
PEA0B	**Petropavlovsk-**	77.06	345	*ce*	P		**P**	14 59 54.4	+0.2
PETK	**Petropavlovsk-**	77.06	345		P		**P**	14 59 53.0	-1.1
PETK	**Petropavlovsk-**	77.06	345		P		**P**	14 59 53.4	-0.8
	comp=Z,63nm,1.1s,baz=120,slow=6.4,SNR=64								
PETK					PKiKP		**PKiKP**	15 05 29.7	-1.2
	comp=Z,1.3nm,0.7s,baz=97,slow=4.3,SNR=5.0								
	comp=Z,63nm,1.1s								
TJN	**Taejon**	77.10	318		P		**P**	14 59 55.4	+0.7
TJN	**Taejon**	77.10	318	*ce*	P		**P**	14 59 55.4	+0.7
KSRS	**Korea Array**	77.43	319		P		**P**	14 59 56.9	+0.3
	comp=Z,14nm,0.7s,baz=127,slow=6.0,SNR=34								
	comp=Z,14nm,0.7s								
CNBA	**Chernabura Isl**	77.52	11		P		**P**	14 59 55.8	-0.8
CNBA					IAmb		IAmb	14 59 57.3	
	comp=Z,84nm,1.2s								
CHNA	**Chernabura Isl**	77.53	11		P		**P**	14 59 56.1	-0.6
	baz=198								
SDPT	**Sand Point**	77.88	10		P		**P**	14 59 58.7	+0.2
SDPT	**Sand Point**	77.88	10		P		**P**	14 59 57.8	-0.7
	baz=197,SNR=8.0								
S12K	**Black Hills**	77.97	9		P		**P**	14 59 58.4	-0.7
	baz=195,SNR=7.2								
P08K	**Saint George I**	77.99	5		P		**P**	14 59 58.9	-0.2
	baz=188								
INCN	**Inchon**	78.24	318		P		**P**	15 00 01.9	+0.9
SCI2	**San Clemente I**	78.46	48		P		**P**	15 00 03.7	+1.4
	baz=235,SNR=8.3								
SBC	**Santa Barbara**	78.51	46		P		**P**	15 00 03.9	+1.4
	baz=234								
SPIA	**Saint Paul Isl**	78.51	4		P		**P**	15 00 02.1	+0.2
	baz=188								
UGL	**Uglegorsk**	78.56	335	⇑	*i*P		**P**	15 00 03.4	+1.0
UGL					pmax		pmax		
	comp=Z,120nm,0.8s								
PKM	**Mcpherson Peak**	78.70	46		P		**P**	15 00 05.2	+1.5
	baz=234								
MCCM	**Marconi Confer**	78.70	41		IAmb		IAmb	15 00 05.8	
	comp=Z,195nm,1.5s								
BELA	**Belgrano 2**	78.73	173		P		**P**	15 00 03.5	+0.5
SAO	**San Andreas Ge**	78.75	43		IAmb		IAmb	15 00 06.4	
	comp=Z,84nm,0.9s								
CIS	**Catalina Islan**	78.79	47		P		**P**	15 00 05.0	+0.9
	baz=235,SNR=9.2								
SMMC	**Simmler**	78.83	45		P		**P**	15 00 06.0	+1.8
	baz=234								
MSHR	**Mys Shultsa**	78.92	324	*ce*	P		**P**	15 00 05.4	+0.9
MSHR					pmax		pmax		
	comp=Z,70nm,1.3s								
S14K	**Fog Glacier**	78.93	10		P		**P**	15 00 04.4	+0.1
	baz=198,SNR=5.6								
HKPS	**Hong Kong Po S**	78.98	299		P		**P**	15 00 07.4	+2.2
BCW	**Bitter Crk WRg**	79.00	46		IAmb		IAmb	15 00 08.1	
	comp=Z,94nm,0.9s								
FMP	**Fort Macarthur**	79.05	47		P		**P**	15 00 05.2	-0.2
	baz=235								
HOPS	**Hopland Field**	79.12	41		IAmb		IAmb	15 00 08.3	
	comp=Z,123nm,1.0s								
CHGN	**Chignik**	79.14	11		IAmb		IAmb	15 00 05.9	
	comp=Z,122nm,1.0s								
CHGN	**Chignik**	79.14	11		P		**P**	15 00 04.9	-0.3
	baz=199,SNR=10								
PSTR	**Posyet**	79.16	324	*i*	P		**P**	15 00 06.7	+1.0
CHIR	**Chirikof Islan**	79.22	13		P		**P**	15 00 06.1	+0.3
	baz=201								
DLV	**T Lat**	79.23	287		P		**P**	15 00 08.9	+1.9
KCPM	**Cahto Peak**	79.25	40		P		**P**	15 00 07.5	+1.0
KCPM					IAmb		IAmb	15 00 09.2	
	comp=Z,112nm,1.0s								
OSI	**Osito Audit: C**	79.27	46		P		**P**	15 00 08.1	+1.5
	baz=235								
DECC	**Green Verdugo**	79.33	47		P		**P**	15 00 07.8	+0.9
	baz=235								
PASC	**Pasadena Art C**	79.38	47		IAmb		IAmb	15 00 09.2	
	comp=Z,60nm,0.8s								
BTDF	**Bukit Timah Da**	79.39	276		P		**P**	15 00 08.6	+1.0
CBX	**Cerro Bola**	79.40	49		IAmb		IAmb	15 00 09.9	
	comp=Z,68nm,0.9s								
109C	**Camp Elliot, M**	79.41	49		P		**P**	15 00 08.5	+1.2
	baz=236								
MYKOM	**Kota Tinggi**	79.47	276		IAmb		IAmb	15 00 09.8	
	comp=Z,96nm,1.0s								
ARVC	**Arvin**	79.50	46		P		**P**	15 00 09.1	+1.3
	baz=235								
USA0B	**Ussuriysk Arra**	79.59	326		IAmb		IAmb	15 00 10.2	
	comp=Z,73nm,0.9s								
USA0B	**Ussuriysk Arra**	79.59	326	*d*	iP		**P**	15 00 08.1	+0.1
USRK	**Ussuriysk Ar.**	79.59	326		P		**P**	15 00 08.3	+0.3
USRK	**Ussuriysk Ar.**	79.59	326		P		**P**	15 00 08.9	+1.0
	comp=Z,46nm,0.8s,baz=122,slow=3.1,SNR=93								
	comp=Z,46nm,0.8s								
USRK	**Ussuriysk Ar.**	79.59	326		P		**P**	15 00 09.0	+1.0
JCC	**Jacoby Creek,**	79.70	39		IAmb		IAmb	15 00 11.5	
	comp=Z,134nm,1.4s								
MURC	**Murrieta**	79.74	48		P		**P**	15 00 10.4	+1.3
	baz=236,SNR=11								
VES	**Vestal, Richgr**	79.74	45		P		**P**	15 00 10.1	+1.1
	baz=234,SNR=8.0								
TYV	**Tymovskoe**	79.76	336	*e*	P		**P**	15 00 09.4	+0.7
TYV					pmax		pmax		
	comp=Z,52nm,1.1s								
TYV					pmax		pmax		
	comp=Z,300nm,3.5s								
BFSC	**Mount Baldy Ra**	79.78	47		P		**P**	15 00 10.5	+1.0
	baz=236,SNR=17								
MONP2	**Monument Peak**	79.89	49		P		**P**	15 00 11.7	+1.6
	baz=236,SNR=51								
KHMM	**Horse Mountain**	79.92	39		IAmb		IAmb	15 00 12.9	
	comp=Z,66nm,0.9s								
EDW2	**Edwards Air Fo**	79.92	46		P		**P**	15 00 11.5	+1.5
	baz=235,SNR=85								
KRPM	**Rodgers**	79.93	38		IAmb		IAmb	15 00 13.1	
	comp=Z,110nm,1.1s								
RMX	**La Rumorosa**	79.97	49		IAmb		IAmb	15 00 13.1	
	comp=Z,64nm,0.9s								
IKP	**In-Ko-Pah, Jac**	79.97	49		P		**P**	15 00 12.0	+1.5
	baz=237,SNR=23								
SRIG	**Santa Rosalia**	80.03	56		IAmb		IAmb	15 00 13.1	
	comp=Z,88nm,1.0s								
SII	**Sitkinak Islan**	80.21	13		P		**P**	15 00 12.7	+1.7
SII	**Sitkinak Islan**	80.21	13		P		**P**	15 00 10.6	-0.4
SII	**Sitkinak Islan**	80.21	13		P		**P**	15 00 11.4	+0.4
	baz=203,SNR=9.2								
KRMB	**Red Mountain**	80.23	38		IAmb		IAmb	15 00 14.6	
	comp=Z,89nm,1.1s								
PFO	**Pinyon Flats O**	80.26	48		P		**P**	15 00 13.1	+1.1
	baz=236,SNR=17								
PFO	**Pinyon Flats O**	80.26	48	*d*	iP		**P**	15 00 13.2	+1.3
PFO					pmax		pmax		
	comp=Z,84nm,1.3s								
TPFO	**Pinon Flats**	80.26	48		P		**P**	15 00 13.2	+1.2
	baz=236,SNR=17								
BBRC	**Big Bear Solar**	80.30	47		P		**P**	15 00 13.4	+1.2
	baz=236								
NJ2	**Nanjing**	80.31	310	⇓	*i*P		**P**	15 00 12.9	+0.8
NJ2					pmax		pmax		
	comp=Z,63nm,1.2s								
SWSC	**Sam W. Stewart**	80.35	49		P		**P**	15 00 13.6	+1.3
	baz=237,SNR=9.4								
KSXB	**Camp Six Broad**	80.44	38		IAmb		IAmb	15 00 15.6	
	comp=Z,85nm,1.0s								
LRMC	**Laurel Mtn Rad**	80.47	46		P		**P**	15 00 14.2	+1.2
	baz=235,SNR=35								
PMSA	**Palmer Station**	80.56	157		P		**P**	15 00 14.4	+1.6
PMSA					IAmb		IAmb	15 02 55.4	
	comp=Z,146nm,1.2s								
RRX	**Edison Barstow**	80.59	47		P		**P**	15 00 14.8	+1.3
	baz=236								
MAW	**Mawson**	80.71	200		P		**P**	15 00 14.0	+0.5
	comp=Z,26nm,0.9s,baz=119,slow=5.6,SNR=29								
	comp=Z,26nm,0.9s								
CWC	**Cottonwood Cre**	80.75	45		P		**P**	15 00 15.8	+1.3
	baz=235								
MDPB	**Devils Postpil**	80.79	44		IAmb		IAmb	15 00 17.2	
	comp=Z,76nm,1.0s								
BELC	**Belle Mtn. Jos**	80.79	48		P		**P**	15 00 16.0	+1.3
	baz=237,SNR=42								
L02F	**Cave Junction**	80.80	38		IAmb		IAmb	15 00 17.4	
	comp=Z,94nm,1.3s								
MPMC	**Manual Prospec**	80.92	46		P		**P**	15 00 16.7	+1.3
	baz=235,SNR=64								
MLAC	**Mammoth, Mammo**	80.94	44		P		**P**	15 00 17.0	+1.4
	baz=234								
GSC	**Goldstone, Bar**	80.96	47		P		**P**	15 00 16.6	+1.1
	baz=236,SNR=30								
BC3	**Big Chuckawall**	80.98	49		P		**P**	15 00 17.4	+1.7
	baz=237,SNR=25								
TIN	**Tinemaha, Big**	81.00	45		P		**P**	15 00 17.3	+1.5
	baz=235,SNR=5.9								
HEC	**Hector,Ludlow**	81.02	47		P		**P**	15 00 17.0	+1.2
	baz=236,SNR=28								
OHAK	**Old Harbor**	81.02	13		P		**P**	15 00 16.6	+1.5
OHAK	**Old Harbor**	81.02	13		IAmb		IAmb	15 00 16.6	
	comp=Z,137nm,1.6s								
OHAK	**Old Harbor**	81.02	13		P		**P**	15 00 17.2	+2.1
	baz=203,SNR=6.7								
YBH	**Yreka Blue Hor**	81.05	39		IAmb		IAmb	15 00 18.7	
	comp=Z,87nm,0.9s								
YBH	**Yreka Blue Hor**	81.05	39		P		**P**	15 00 16.8	+1.0
	comp=Z,46nm,0.8s,baz=190,slow=2.3,SNR=128								
	comp=Z,65nm,0.8s								
QIZ	**Qiongzhong**	81.07	294		P		**P**	15 00 17.1	+0.8
QIZ					S		**SKSac**	15 09 49.5	-0.2
QIZ					sS		**sS**	15 12 46.3	-4.5
QIZ					pmax		pmax		
	comp=Z,18nm,1.4s								
QIZ					pmax		pmax		
	comp=Z,180nm,3.9s								
WAKR	**Walker**	81.07	43		IAmb		IAmb	15 00 18.9	
	comp=Z,120nm,1.0s								
K02D	**Willamette Mer**	81.11	37		IAmb		IAmb	15 00 18.9	
	comp=Z,72nm,1.1s								
MDJ	**Mudanjiang**	81.13	325		P		**P**	15 00 17.9	+1.8
MDJ	**Mudanjiang**	81.13	325		P		**P**	15 00 17.0	+0.9
MDJ					S		**S**	15 09 45.4	-0.5
MDJ					pmax		pmax		
	comp=Z,85nm,1.0s								
MDJ					pmax		pmax		
	comp=Z,410nm,3.8s								
HATC	**Hat Creek Radi**	81.22	40		P		**P**	15 00 16.9	+0.1
J01E	**Myrtle Point**	81.27	37		IAmb		IAmb	15 00 19.4	
	comp=Z,102nm,0.9s								
PNTR	**Pine Nut**	81.32	42		P		**P**	15 00 18.7	+1.2
GMRC	**Granite Mounta**	81.45	48		P		**P**	15 00 19.3	+1.2
	baz=237,SNR=35								
HUMO	**Hull Mountain**	81.46	38		IAmb		IAmb	15 00 20.9	
	comp=Z,148nm,1.2s								
IRM	**Iron Mountain**	81.47	48		P		**P**	15 00 19.8	+1.7
	baz=237,SNR=49								
YERR	**Yerington**	81.48	42		IAmb		IAmb	15 00 20.5	
	comp=Z,86nm,0.9s								
O14K	**Tigyukauivet M**	81.51	9		P		**P**	15 00 17.4	-0.2
	baz=196								
LHV	**Little Huntoon**	81.52	43		IAmb		IAmb	15 00 21.0	
	comp=Z,91nm,1.0s								
GRAC	**Grapevine Rang**	81.54	45		IAmb		IAmb	15 00 21.1	
	comp=Z,147nm,1.3s								
GRAC	**Grapevine Rang**	81.54	45		P		**P**	15 00 19.9	+1.5
	baz=235,SNR=34								
FURC	**Furnace Creek,**	81.57	46		P		**P**	15 00 19.5	+1.1
	baz=236,SNR=9.2								
DBO	**Dodson Butte**	81.62	37		IAmb		IAmb	15 00 21.5	
	comp=Z,91nm,1.1s								
TUQ	**Turquoise Moun**	81.63	47		P		**P**	15 00 20.4	+1.3
	baz=236,SNR=44								
SHOC	**Shoshone, Teco**	81.65	46		P		**P**	15 00 20.0	+1.0
	baz=236,SNR=6.0								
O15K	**Ungalikthiuk R**	81.65	9		P		**P**	15 00 18.0	-0.4
	baz=197,SNR=7.6								
KDAK	**Kodiak Island**	81.68	14		P		**P**	15 00 18.5	0.0
KDAK					IAmb		IAmb	15 00 20.0	
	comp=Z,150nm,1.6s								
KDAK	**Kodiak Island**	81.68	14		P		**P**	15 00 18.8	+0.2
	baz=204								
KDAK	**Kodiak Island**	81.68	14		P		**P**	15 00 18.5	0.0
KDAK					pmax		pmax		
	comp=Z,150nm,1.6s								
113A	**Mohawk Valley,**	81.70	50		IAmb		IAmb	15 00 22.0	
	comp=Z,67nm,1.0s								
Q16K	**King Salmon**	81.70	11		P		**P**	15 00 18.8	+0.1
	baz=200,SNR=9.9								
RYN	**Ryan**	81.73	43		IAmb		IAmb	15 00 21.8	
	comp=Z,158nm,1.7s								
NVAR	**Mina Array Bea**	81.75	43		P		**P**	15 00 20.0	+0.3
NVAR	**Mina Array Bea**	81.75	43		P		**P**	15 00 20.8	+1.1
	comp=Z,46nm,0.8s,baz=224,slow=8.7,SNR=294								
NVAR					PKKPbc		**PKKPbc**	15 18 49.3	+0.5
	comp=Z,1.2nm,0.8s,baz=81,slow=2.9,SNR=7.9								
	comp=Z,46nm,0.8s								
P16K	**Nushagak River**	81.81	10		P		**P**	15 00 19.0	-0.1
	baz=199,SNR=10								
PAHR	**Pah Rah Range**	81.82	42		IAmb		IAmb	15 00 22.2	
	comp=Z,88nm,1.1s								
NV11	**Mina Array Sit**	81.85	43		IAmb		IAmb	15 00 22.4	
	comp=Z,85nm,1.0s								
214A	**Organ Pipe Nat**	81.97	51		P		**P**	15 00 22.4	+1.7
	baz=239								
M11K	**Mekoryuk**	82.03	6		P		**P**	15 00 21.4	+1.2
	baz=191,SNR=5.3								
N14K	**Kuskokwak Cree**	82.10	8		P		**P**	15 00 21.1	+0.5
	baz=196,SNR=24								
NEE2	**Needles Airpor**	82.16	48		P		**P**	15 00 23.2	+1.6
	baz=237,SNR=6.7								
GRNR	**Gornyy**	82.20	333	⇓	*i*P		**P**	15 00 22.0	+0.6
GRNR					pmax		pmax		
	comp=Z,40nm,1.0s								
P17K	**Kvichak River**	82.23	11		P		**P**	15 00 21.1	-0.1
	baz=200,SNR=50								
KVN	**Kaiser Ville**	82.24	43		IAmb		IAmb	15 00 24.2	
	comp=Z,80nm,1.0s								
PDMCI	**Parker Dam,Lak**	82.25	49		P		**P**	15 00 23.7	+1.7
	baz=238,SNR=33								
O16K	**Kokwok River B**	82.32	10		IAmb		IAmb	15 00 22.0	
	comp=Z,70nm,0.9s								
O16K	**Kokwok River B**	82.32	10		P		**P**	15 00 21.0	-0.8
	baz=199,SNR=26								
M13K	**Dall Lake**	82.37	7		IAmb		IAmb	15 00 25.3	
	comp=Z,62nm,1.0s								
M13K	**Dall Lake**	82.37	7		P		**P**	15 00 23.0	+1.1
	baz=194,SNR=8.2								
Q20K	**Shuyak Island**	82.48	13		P		**P**	15 00 22.7	+0.1
	baz=204								
SYI	**Shuyak Island**	82.48	13		IAmb		IAmb	15 00 23.9	
	comp=Z,80nm,1.1s								
Q19K	**Cape Douglas,**	82.51	13		P		**P**	15 00 22.8	-0.1
	baz=203,SNR=8.5								
N15K	**Kwethluk River**	82.56	9		P		**P**	15 00 23.6	+0.6
N15K	**Kwethluk River**	82.56	9		P		**P**	15 00 23.7	+0.7
	baz=197,SNR=42								
P18K	**Big Mountain,**	82.64	12		IAmb		IAmb	15 00 24.0	
	comp=Z,69nm,0.9s								
P18K	**Big Mountain,**	82.64	12		P		**P**	15 00 22.9	-0.6
	baz=202,SNR=13								
O17K	**Koliganek Bris**	82.66	11		P		**P**	15 00 22.9	-0.6
	baz=200,SNR=19								
WHN	**Wuhan**	82.83	307	⇓	P		**P**	15 00 25.8	+0.8
WHN					pmax		pmax		
	comp=Z,290nm,1.4s								
Y14A	**Wickenburg**	82.86	49		IAmb		IAmb	15 00 27.8	
	comp=Z,71nm,1.0s								
M14K	**Bethel**	82.87	8		IAmb		IAmb	15 00 26.2	
	comp=Z,99nm,1.0s								
M14K	**Bethel**	82.87	8		P		**P**	15 00 25.2	+0.7
	baz=195,SNR=24								
CN2	**Changchun**	82.89	323	⇓	P		**P**	15 00 25.4	+0.4
CN2					*e*S		**S**	15 10 04.4	+0.9
CN2					pmax		pmax		
	comp=Z,40nm,0.8s								
CN2					pmax		pmax		
	comp=Z,400nm,4.0s								
MG03	**Isla Dawson**	82.89	145		P		**P**	15 00 24.8	-0.2
MG03					IAmb		IAmb	15 01 20.3	
	comp=Z,190nm,1.9s								
M15K	**Kasigluk River**	82.98	9		P		**P**	15 00 25.8	+0.7
	baz=196,SNR=48								
BNX	**BinXian**	83.04	325	⇓	P		**P**	15 00 25.6	-0.1
BNX					pmax		pmax		
	comp=Z,84nm,0.9s								
BNX					pmax		pmax		
	comp=Z,120nm,4.3s								
N16K	**Nishlik Lake**	83.05	10		P		**P**

	comp=Z,73nm,1.0s							
M17K	**Holitna River**	**84.14**	**10**	IAmb	IAmb	15 00 33.1		
	comp=Z,100nm,1.1s							
M17K	**Holitna River**	**84.14**	**10**	P	**P**	**15 00 31.8**	**+0.9**	
	baz=199,SNR=35							
X16A	**Lo Mia Camp, P**	**84.21**	**50**	IAmb	IAmb	15 00 35.0		
	comp=Z,66nm,1.0s							
I07A	**Izee**	**84.35**	**38**	IAmb	IAmb	15 00 35.0		
	comp=Z,78nm,1.0s							
G06A	**Carlson Farm,**	**84.41**	**37**	IAmb	IAmb	15 00 34.9		
	comp=Z,61nm,1.0s							
K15K	**Wolf Creek Mou**	**84.41**	**8**	P	**P**	**15 00 33.0**	**+0.8**	
	comp=Z,85nm,0.8s							
K15K	**Wolf Creek Mou**	**84.41**	**8**	P	**P**	**15 00 33.0**	**+0.8**	
	baz=196,SNR=34							
SEW	**Seward**	**84.48**	**14**	P	**P**	**15 00 32.2**	**-0.4**	
	baz=207,SNR=7.6							
M18K	**Stony River**	**84.49**	**11**	P	**P**	**15 00 33.0**	**+0.4**	
	baz=201,SNR=21							
CCUT	**Cedar City**	**84.51**	**46**	IAmb	IAmb	15 00 36.2		
	comp=Z,91nm,1.5s							
J08A	**Circle Bar Ran**	**84.52**	**39**	IAmb	IAmb	15 00 35.8		
	comp=Z,80nm,1.3s							
MA2	**Magadan**	**84.57**	**345**	P	**P**	**15 00 32.7**	**-0.4**	
MA2	**Magadan**	**84.57**	**345**	P	**P**	**15 00 32.6**	**-0.4**	
MA2				IAmb	IAmb	15 00 33.8		
	comp=Z,158nm,1.7s							
MA2	**Magadan**	**84.57**	**345**	*de*P	**P**	**15 00 32.0**	**-1.0**	
MA2				pmax	pmax			
	comp=Z,83nm,1.7s							
KNB	**Kanab**	**84.59**	**47**	IAmb	IAmb	15 00 36.6		
	comp=Z,116nm,1.5s							
J14K	**Nanvaranak Lak**	**84.62**	**7**	P	**P**	**15 00 33.4**	**+0.3**	
	baz=194,SNR=6.0							
Q23K	**Middleton Isla**	**84.63**	**16**	P	**P**	**15 00 33.5**	**+0.3**	
	baz=210							
U15A	**North Rim**	**84.65**	**48**	IAmb	IAmb	15 00 37.1		
	comp=Z,86nm,0.9s							
GNW	**Green Mountain**	**84.69**	**34**	IAmb	IAmb	15 00 36.2		
	comp=Z,48nm,0.9s							
L17K	**Donlin**	**84.70**	**9**	P	**P**	**15 00 34.6**	**+1.0**	
	baz=199,SNR=19							
CAPN	**Captain Cook N**	**84.71**	**13**	P	**P**	**15 00 34.6**	**+0.9**	
	baz=205							
SZCU	**Shurtz Canyon**	**84.72**	**46**	IAmb	IAmb	15 00 37.2		
	comp=Z,92nm,1.5s							
O22K	**Cooper Landing**	**84.76**	**14**	P	**P**	**15 00 33.8**	**-0.1**	
	baz=206							
WUAZ	**Wupatki**	**84.82**	**49**	IAmb	IAmb	15 00 37.7		
	comp=Z,57nm,1.1s							
WUAZ	**Wupatki**	**84.82**	**49**	P	**P**	**15 00 36.5**	**+1.4**	
	baz=239							
CLRS	**Cowichan Lake**	**84.83**	**32**	IAmb	IAmb	15 00 36.7		
	comp=Z,70nm,1.0s							
P23K	**Montague Islan**	**84.86**	**15**	P	**P**	**15 00 34.3**	**-0.1**	
	baz=209							
N20K	**Mount Spurr**	**84.89**	**12**	P	**P**	**15 00 33.7**	**-1.0**	
	baz=204,SNR=39							
GAMB	**Gambell**	**85.00**	**3**	P	**P**	**15 00 35.6**	**+0.6**	
	baz=186							
CBB	**Campbell River**	**85.03**	**31**	IAmb	IAmb	15 00 37.8		
	comp=Z,66nm,1.0s							
L18K	**Granite Mounta**	**85.03**	**10**	IAmb	IAmb	15 00 37.0		
	comp=Z,56nm,0.9s							
L18K	**Granite Mounta**	**85.03**	**10**	P	**P**	**15 00 35.9**	**+0.6**	
	baz=200,SNR=34							
PGC	**Sidney**	**85.06**	**33**	IAmb	IAmb	15 00 37.8		
	comp=Z,81nm,1.0s							
GSI	**Gunungsitoli**	**85.12**	**273**	P	**P**	**15 00 38.2**	**+1.3**	
M19K	**Big River Lodg**	**85.13**	**11**	P	**P**	**15 00 35.4**	**-0.3**	
	baz=202							
PKCU	**Pink Cliffs**	**85.16**	**47**	IAmb	IAmb	15 00 40.1		
	comp=Z,90nm,1.0s							
BBB	**Bella Bella**	**85.23**	**28**	P	**P**	**15 00 36.0**	**-0.4**	
	comp=Z,29nm,0.9s,baz=243,slow=7.1,SNR=6.3							
	comp=Z,29nm,0.9s							
K17K	**Iditarod**	**85.26**	**9**	P	**P**	**15 00 36.8**	**+0.4**	
	baz=198,SNR=14							
RC01	**Rabbit Creek A**	**85.30**	**13**	IAmb	IAmb	15 00 37.5		
	comp=Z,122nm,1.2s							
RC01	**Rabbit Creek A**	**85.30**	**13**	P	**P**	**15 00 36.4**	**-0.2**	
	baz=206,SNR=17							
L19K	**White Mountain**	**85.31**	**11**	IAmb	IAmb	15 00 38.0		
	comp=Z,77nm,1.1s							
L19K	**White Mountain**	**85.31**	**11**	P	**P**	**15 00 36.8**	**+0.1**	
	baz=202,SNR=33							
M20K	**Styx River**	**85.34**	**12**	P	**P**	**15 00 35.8**	**-1.1**	
	baz=203,SNR=12							
G08A	**Pilot Rock**	**85.39**	**37**	IAmb	IAmb	15 00 39.8		
	comp=Z,87nm,1.0s							
SUA	**Susitna One**	**85.43**	**13**	IAmb	IAmb	15 00 37.9		
	comp=Z,66nm,0.8s							
SUA	**Susitna One**	**85.43**	**13**	P	**P**	**15 00 36.9**	**-0.5**	
	baz=206,SNR=27							
HIN	**Hinchinbrook I**	**85.43**	**15**	IAmb	IAmb	15 00 38.2		
	comp=Z,115nm,1.4s							
J16K	**Anvik River**	**85.49**	**8**	P	**P**	**15 00 37.8**	**+0.4**	
	baz=196,SNR=13							
KAIM	**Kayak Island**	**85.55**	**16**	P	**P**	**15 00 38.4**	**+0.6**	
	baz=211							
CRAG	**Craig**	**85.56**	**24**	P	**P**	**15 00 39.6**	**+1.7**	
CRAG	**Craig**	**85.56**	**24**	P	**P**	**15 00 39.0**	**+1.1**	
	baz=221,SNR=6.1							
MTPU	**Mount Pierson**	**85.56**	**46**	IAmb	IAmb	15 00 41.9		
	comp=Z,43nm,0.9s							
LTY	**Liberty**	**85.63**	**35**	IAmb	IAmb	15 00 40.5		
	comp=Z,50nm,0.9s							
GLI	**Glacier Island**	**85.71**	**15**	P	**P**	**15 00 38.3**	**-0.3**	
	baz=209,SNR=18							
SKT	**Skwentna**	**85.74**	**12**	P	**P**	**15 00 37.2**	**-1.5**	
	baz=205,SNR=16							
FID	**Port Fidalgo**	**85.75**	**15**	IAmb	IAmb	15 00 39.5		
	comp=Z,84nm,1.2s							
EYAK	**Cordova Ski Ar**	**85.75**	**15**	P	**P**	**15 00 38.3**	**-0.4**	
EYAK	**Cordova Ski Ar**	**85.75**	**15**	P	**P**	**15 00 38.7**	**0.0**	
	baz=210,SNR=14							
L20K	**Farewell, AK**	**85.75**	**11**	P	**P**	**15 00 38.5**	**-0.3**	
	baz=203,SNR=32							
ELIB	**Princess Elisa**	**85.78**	**187**	*d*P	**P**	**15 00 39.2**	**+0.1**	
	comp=Z,50nm,0.9s							
ELIB				*dp*P	**pP**	**15 02 25.5**	**+1.1**	
W18A	**Petrified Fore**	**85.78**	**50**	P	**P**	**15 00 41.0**	**+1.2**	
	baz=240,SNR=15							
MVU	**Marysvale**	**85.78**	**46**	P	**P**	**15 00 40.5**	**+0.7**	
J17K	**VABM Dome**	**85.80**	**8**	P	**P**	**15 00 39.3**	**+0.4**	
	baz=198,SNR=12							
M22K	**Willow**	**85.82**	**13**	P	**P**	**15 00 38.6**	**-0.4**	
	baz=206,SNR=49							
KNK	**Knik Glacier**	**85.87**	**14**	IAmb	IAmb	15 00 40.3		
	comp=Z,62nm,0.9s							
KNK	**Knik Glacier**	**85.87**	**14**	P	**P**	**15 00 39.3**	**-0.1**	
	baz=208,SNR=19							
PMR	**Palmer**	**85.89**	**13**	P	**P**	**15 00 39.2**	**-0.2**	
PMR	**Palmer**	**85.89**	**13**	IAmb	IAmb	15 00 40.2		
	comp=Z,122nm,1.3s							
PMR	**Palmer**	**85.89**	**13**	P	**P**	**15 00 39.1**	**-0.2**	
	baz=207,SNR=18							
SRIT	**Nakonsritamara**	**85.94**	**281**	P	**P**	**15 00 42.2**	**+1.4**	
HMT	**Hamilton**	**85.94**	**16**	IAmb	IAmb	15 00 41.0		
	comp=Z,60nm,1.0s							
121A	**Cookes Peak, D**	**85.95**	**53**	P	**P**	**15 00 42.5**	**+1.8**	
	baz=242,SNR=30							
HEH	**HeiHe**	**85.96**	**328**	⇓*i*P	**P**	**15 00 40.1**	**+0.1**	
HEH				S	**S**	**15 10 36.0**	**+2.9**	
HEH				pmax	pmax			
	comp=Z,52nm,1.2s							
HEH				pmax	pmax			
	comp=Z,420nm,4.3s							
SIT	**Sitka**	**85.97**	**22**	P	**P**	**15 00 40.4**	**+0.5**	
SIT	**Sitka**	**85.97**	**22**	P	**P**	**15 00 40.8**	**+0.9**	
	baz=219							
HNS	**HongShan**	**86.01**	**313**	⇓P	**P**	**15 00 41.4**	**+0.8**	
HNS				*e*S	**S**	**15 10 38.5**	**+4.3**	
HNS				pmax	pmax			
	comp=Z,65nm,1.0s							
HNS				pmax	pmax			
	comp=Z,280nm,5.3s							
BGLC	**Bering Glacier**	**86.02**	**17**	P	**P**	**15 00 41.5**	**+1.5**	
	baz=212							
V35K	**Ketchikan**	**86.03**	**25**	IAmb	IAmb	15 00 42.4		
	comp=Z,71nm,1.1s							
V35K	**Ketchikan**	**86.03**	**25**	P	**P**	**15 00 41.3**	**+1.1**	
	baz=223,SNR=12							
U33K	**Whale Pass**	**86.05**	**23**	IAmb	IAmb	15 00 42.5		
	comp=Z,74nm,0.9s							
U33K	**Whale Pass**	**86.05**	**23**	P	**P**	**15 00 41.4**	**+1.1**	
	baz=221,SNR=15							
E08A	**Dider Farm, El**	**86.05**	**36**	IAmb	IAmb	15 00 42.8		
	comp=Z,74nm,1.0s							
I17K	**Unalakleet**	**86.06**	**8**	P	**P**	**15 00 40.5**	**+0.4**	
	baz=196							
LYN	**LuoYang**	**86.18**	**309**	⇓P	**P**	**15 00 42.8**	**+1.4**	
LYN				S	**S**	**15 10 39.5**	**+3.6**	
LYN				pmax	pmax			
	comp=Z,130nm,1.0s							
LYN				pmax	pmax			
	comp=Z,610nm,3.7s							
J18K	**Innoko River**	**86.21**	**9**	IAmb	IAmb	15 00 42.2		
	comp=Z,72nm,1.2s							
J18K	**Innoko River**	**86.21**	**9**	P	**P**	**15 00 41.0**	**0.0**	
	baz=200,SNR=33							
ANM	**Nome**	**86.22**	**5**	P	**P**	**15 00 40.9**	**0.0**	
	baz=192							
SML	**Sawmill**	**86.25**	**14**	P	**P**	**15 00 40.8**	**-0.4**	
	baz=208,SNR=9.4							
DUG	**Dugwy, Tooele**	**86.27**	**44**	P	**P**	**15 00 42.5**	**+0.5**	
	baz=236,SNR=8.2							
S31K	**Pelican**	**86.37**	**21**	IAmb	IAmb	15 00 43.8		
	comp=Z,59nm,1.1s							
S31K	**Pelican**	**86.37**	**21**	P	**P**	**15 00 42.6**	**+0.9**	
	baz=219,SNR=8.3							
M23K	**Glacier View**	**86.37**	**14**	P	**P**	**15 00 41.4**	**-0.4**	
	baz=208,SNR=18							
CUT	**Chulitna**	**86.38**	**13**	P	**P**	**15 00 41.4**	**-0.3**	
	baz=206,SNR=24							
BJT	**Baijiatuau**	**86.39**	**315**	P	**P**	**15 00 42.9**	**+0.6**	
BJI	**Beijing**	**86.39**	**316**	P	**P**	**15 00 42.8**	**+0.5**	
BJI				SKS	**SKSac**	**15 10 21.8**	**-0.9**	
BJI				S	**S**	**15 10 39.0**	**+1.3**	
BJI				pmax	pmax			
	comp=Z,190nm,4.3s							
ENH	**Enshi**	**86.39**	**304**	P	**P**	**15 00 43.7**	**+1.1**	
BMRM	**Bremner River**	**86.40**	**16**	P	**P**	**15 00 42.1**	**+0.1**	
	baz=211,SNR=32							
MESA	**MESA**	**86.43**	**17**	P	**P**	**15 00 43.1**	**+0.8**	
	baz=214,SNR=15							
PPLA	**Purkeypile**	**86.45**	**12**	P	**P**	**15 00 40.6**	**-1.6**	
	baz=204,SNR=10							
D08A	**Wollman Farm,**	**86.46**	**36**	IAmb	IAmb	15 00 44.8		
	comp=Z,75nm,0.9s							
HMU	**Henry Mountain**	**86.49**	**47**	IAmb	IAmb	15 00 45.1		
	comp=Z,72nm,1.5s							
SCM	**Sheep Creek Mo**	**86.50**	**14**	P	**P**	**15 00 42.5**	**+0.1**	
	baz=209,SNR=40							
KLU	**Klutina**	**86.53**	**15**	IAmb	IAmb	15 00 43.7		
	comp=Z,62nm,1.2s							
KLU	**Klutina**	**86.53**	**15**	P	**P**	**15 00 42.4**	**-0.2**	
	baz=210,SNR=22							
K20K	**Telida**	**86.53**	**11**	IAmb	IAmb	15 00 43.5		
	comp=Z,93nm,1.2s							
K20K	**Telida**	**86.53**	**11**	P	**P**	**15 00 42.4**	**-0.1**	
	baz=202,SNR=35							
S32K	**Killisnoo**	**86.55**	**22**	P	**P**	**15 00 43.2**	**+0.6**	
	baz=220,SNR=7.0							
WRAK	**Wrangell Islan**	**86.56**	**24**	IAmb	IAmb	15 00 44.8		
	comp=Z,60nm,0.9s							
WRAK	**Wrangell Islan**	**86.56**	**24**	P	**P**	**15 00 43.6**	**+0.9**	
	baz=222,SNR=21							
H16K	**Elim**	**86.60**	**7**	P	**P**	**15 00 42.7**	**0.0**	
	baz=195,SNR=10							
T33K	**Petersburg**	**86.63**	**23**	P	**P**	**15 00 44.3**	**+1.3**	
	baz=222							
ISLE	**Juniper Island**	**86.68**	**17**	IAmb	IAmb	15 00 44.7		
	comp=Z,81nm,1.0s							
Q16A	**Castle Valley**	**86.69**	**46**	IAmb	IAmb	15 00 46.9		
	comp=Z,76nm,1.5s							
PNL	**Peninsula**	**86.74**	**19**	P	**P**	**15 00 45.0**	**+1.5**	
PNL	**Peninsula**	**86.74**	**19**	P	**P**	**15 00 44.1**	**+0.5**	
	baz=216,SNR=18							
G15K	**Niukluk**	**86.76**	**6**	P	**P**	**15 00 43.5**	**+0.1**	
	baz=193,SNR=15							
TMUT	**Trail Mountain**	**86.86**	**46**	IAmb	IAmb	15 00 47.6		
	comp=Z,69nm,1.0s							
J19K	**Poman**	**86.87**	**10**	P	**P**	**15 00 44.4**	**+0.3**	
	baz=201,SNR=20							
TROLL	**Troll, Antarti**	**86.88**	**180**	⇓P	**P**	**15 00 44.3**	**0.0**	
	comp=Z,1μm,0.6s							
R31K	**City Hall, Gus**	**86.89**	**21**	P	**P**	**15 00 45.1**	**+0.9**	
	baz=219							
BCPM	**Bancas Point**	**86.90**	**18**	IAmb	IAmb	15 00 45.8		
	comp=Z,58nm,0.9s							
VRDI	**Verde Repeater**	**86.91**	**16**	IAmb	IAmb	15 00 45.8		
	comp=Z,109nm,1.3s							
GYA	**Guiyang**	**86.94**	**300**	⇓*i*P	**P**	**15 00 45.8**	**+0.4**	
GYA				S	**S**	**15 10 46.4**	**+2.7**	
GYA				SS	**SS**	**15 16 43.4**	**+2.8**	
GYA				pmax	pmax			
	comp=Z,47nm,1.1s							
GYA				pmax	pmax			
	comp=Z,190nm,6.1s							
CAST	**Castle Rocks**	**86.95**	**11**	IAmb	IAmb	15 00 44.1		
	comp=Z,81nm,0.9s							
CAST	**Castle Rocks**	**86.95**	**11**	P	**P**	**15 00 43.0**	**-1.4**	
	baz=204,SNR=99							
N25K	**Chitina, Valde**	**86.95**	**15**	P	**P**	**15 00 44.8**	**+0.2**	
	baz=211,SNR=43							
TNA	**Tin City**	**87.00**	**4**	P	**P**	**15 00 44.6**	**+0.1**	
	baz=190							
M24K	**Tolsona, Glenn**	**87.00**	**14**	P	**P**	**15 00 45.4**	**+0.6**	
	baz=210,SNR=16							
GLB	**Gilahina Butte**	**87.00**	**16**	IAmb	IAmb	15 00 46.0		
	comp=Z,114nm,1.4s							
B08A	**Colville Reser**	**87.02**	**35**	P	**P**	**15 00 45.6**	**+0.5**	
B08A				IAmb	IAmb	15 00 46.6		
	comp=Z,72nm,0.8s							
F14K	**Arctic Creek**	**87.03**	**5**	P	**P**	**15 00 44.8**	**+0.1**	
	baz=191							
WAT6	**Susitna Watana**	**87.07**	**14**	P	**P**	**15 00 44.9**	**-0.2**	
	baz=208,SNR=64							
HLID	**Hailey**	**87.07**	**41**	P	**P**	**15 00 47.0**	**+1.3**	
	baz=237,SNR=48							
U35K	**Hyder**	**87.08**	**25**	P	**P**	**15 00 46.4**	**+1.3**	
	baz=224							
WAT1	**Susitna Watana**	**87.11**	**13**	P	**P**	**15 00 45.0**	**-0.2**	
	baz=208							
LHMI	**Lhok Sumawe**	**87.14**	**277**	P	**P**	**15 00 47.3**	**+0.8**	
MCARA	**McCarthy VSAT**	**87.16**	**16**	IAmb	IAmb	15 00 47.0		
	comp=Z,82nm,1.1s							
MCARA	**McCarthy VSAT**	**87.16**	**16**	P	**P**	**15 00 45.9**	**+0.5**	
	baz=212,SNR=22							
SNAA	**Sanae**	**87.16**	**179**	P	**P**	**15 00 45.2**	**-0.3**	
SNAA	**Sanae**	**87.16**	**179**	⇓P	**P**	**15 00 45.2**	**-0.3**	
	comp=Z,164nm,0.7s							
SNAA	**Sanae**	**87.16**	**179**	P	**P**	**15 00 45.2**	**-0.3**	
	comp=Z,5.1nm,0.7s,baz=207,slow=6.5,SNR=31							
	comp=Z,5.1nm,0.7s							
SNAA	**Sanae**	**87.16**	**179**	P	**P**	**15 00 45.3**	**-0.3**	
SNAA				pmax	pmax			
	comp=Z,59nm,1.9s							
H17K	**Granite Mounta**	**87.16**	**8**	P	**P**	**15 00 45.2**	**-0.2**	
	baz=197,SNR=16							
SEY	**Seymchan**	**87.17**	**347**	*de*P	**P**	**15 00 45.2**	**-0.2**	
SEY				pmax	pmax			
	comp=Z,78nm,1.3s							
R32K	**Eaglecrest**	**87.19**	**21**	P	**P**	**15 00 46.5**	**+0.9**	
	baz=220							
P29M	**Windy Craggy**	**87.21**	**19**	IAmb	IAmb	15 00 47.9		
	comp=Z,52nm,0.9s							
P29M	**Windy Craggy**	**87.21**	**19**	P	**P**	**15 00 46.7**	**+1.0**	
	baz=217,SNR=27							
SRU	**San Rafael Swe**	**87.22**	**46**	IAmb	IAmb	15 00 48.5		
	comp=Z,94nm,0.9s							
LOGN	**Logan Glacier**	**87.23**	**17**	IAmb	IAmb	15 00 47.4		
	comp=Z,88nm,1.0s							
JIS	**Juneau Island**	**87.24**	**21**	P	**P**	**15 00 46.5**	**+0.7**	
CTG	**Chitna Glacier**	**87.25**	**17**	P	**P**	**15 00 46.5**	**+0.5**	
	baz=214,SNR=33							
CTGM	**Chitina Glacie**	**87.25**	**17**	IAmb	IAmb	15 00 47.5		
	comp=Z,72nm,0.9s							
C09A	**Chrisman Ranch**	**87.26**	**36**	IAmb	IAmb	15 00 48.1		
	comp=Z,71nm,0.9s							
VHRN	**Van Horn**	**87.26**	**56**	IAmb	IAmb	15 00 49.6		
	comp=Z,86nm,1.0s							
J20K	**Nowinta River**	**87.28**	**10**	P	**P**	**15 00 45.9**	**0.0**	
	baz=202,SNR=27							
KTH	**Kantishna Hill**	**87.29**	**12**	IAmb	IAmb	15 00 46.0		
	comp=Z,67nm,0.9s							
VNA3	**Neumayer Olymp**	**87.30**	**176**	⇓P	**P**	**15 00 46.1**	**0.0**	
	comp=Z,53nm,0.5s							
Y22D	**IRIS PASSCAL I**	**87.31**	**52**	P	**P**	**15 00 48.8**	**+1.8**	
	baz=242							
TRF	**Thorofare Moun**	**87.32**	**12**	P	**P**	**15 00 45.6**	**-0.7**	
	baz=206,SNR=92							
G16K	**Koyuk River**	**87.32**	**7**	P	**P**	**15 00 46.0**	**-0.1**	
	baz=195,SNR=6.1							
CHUM	**Lake Minchumin**	**87.33**	**11**	P	**P**	**15 00 45.3**	**-0.9**	
	baz=204,SNR=8.2							
MNTX	**Cornudas Mount**	**87.37**	**55**	P	**P**	**15 00 48.7**	**+1.5**	
	baz=243,SNR=126							
GCSA	**Galena City Sc**	**87.39**	**9**	P	**P**	**15 00 46.6**	**+0.2**	
	baz=200,SNR=17							
F15K	**North Star Dit**	**87.40**	**6**	P	**P**	**15 00 46.3**	**-0.2**	
	baz=193							
O28M	**Mount Upton**	**87.41**	**18**	P	**P**	**15 00 47.5**	**+0.5**	
	baz=215,SNR=32							
HARP	**HAARP**	**87.50**	**15**	P	**P**	**15 00 47.1**	**+0.1**	
	baz=211,SNR=8.7							
PLBC	**Pleasant Camp**	**87.50**	**20**	P	**P**	**15 00 48.0**	**+1.0**	
	baz=218,SNR=25							
H18K	**Honhosa River**	**87.57**	**8**	P	**P**	**15 00 46.8**	**-0.5**	
	baz=198							
DHY	**Denali Highway**	**87.58**	**13**	IAmb	IAmb	15 00 48.5		
	comp=Z,67nm,1.4s							
DHY	**Denali Highway**	**87.58**	**13**	P	**P**	**15 00 47.2**	**-0.4**	
	baz=208,SNR=27							
G17K	**Kiwalik Mounta**	**87.62**	**7**	P	**P**	**15 00 47.4**	**-0.1**	
	baz=196,SNR=19							
TX31	**Lajitas Ar. Si**	**87.64**	**57**	IAmb	IAmb	15 00 51.5		
	comp=Z,74nm,1.1s							
TXAR	**Lajitas Array**	**87.64**	**57**	P	**P**	**15 00 49.9**	**+1.3**	
TXAR	**Lajitas Array**	**87.64**	**57**	P	**P**	**15 00 50.1**	**+1.4**	
	comp=Z,44nm,1.0s,baz=217,slow=5.6,SNR=291							
TXAR				PKKPbc	**PKKPbc**	**15 18 34.3**	**+0.1**	
	comp=Z,1.4nm,0.8s,baz=170,slow=2.7,SNR=9.7							
	comp=Z,44nm,1.0s							
MVCO	**Mesa Verde**	**87.67**	**49**	P	**P**	**15 00 49.1**	**+0.4**	
	baz=241							
TIY	**Taiyuan**	**87.74**	**312**	P	**P**	**15 00 50.1**	**+1.3**	
TIY				S	**S**	**15 10 55.8**	**+5.2**	
TIY				pmax	pmax			
	comp=Z,45nm,0.5s							
VNA2	**Neumayer--Watz**	**87.74**	**177**	⇓P	**P**	**15 00 48.3**	**+0.1**	
	comp=Z,31nm,0.6s,baz=189,slow=4.4							
T35M	**Bob Quinn**	**87.76**	**24**	P	**P**	**15 00 49.7**	**+1.3**	
	baz=224,SNR=9.2							
BPAW	**Bear Paw Mtn.**	**87.77**	**12**	IAmb	IAmb	15 00 48.0		
	comp=Z,92nm,2.0s							
BPAW	**Bear Paw Mtn.**	**87.77**	**12**	P	**P**	**15 00 46.7**	**-1.5**	
	baz=205,SNR=18							
BSUT	**Blindstream Ca**	**87.79**	**45**	IAmb	IAmb	15 00 51.6		
	comp=Z,77nm,1.4s							
I20K	**Naaghedeneel**	**87.81**	**10**	IAmb	IAmb	15 00 49.7		
	comp=Z,65nm,0.9s							
I20K	**Naaghedeneel**	**87.81**	**10**	P	**P**	**15 00 48.7**	**+0.4**	
	baz=202,SNR=15							
SKAG	**Skagway**	**87.84**	**20**	P	**P**	**15 00 49.8**	**+1.2**	
SKAG	**Skagway**	**87.84**	**20**	P	**P**	**15 00 49.9**	**+1.2**	
	baz=219,SNR=5.9							
MCK	**McKinley**	**87.84**	**13**	P	**P**	**15 00 48.2**	**-0.4**	
	baz=207,SNR=42							
P30M	**Million Dollar**	**87.84**	**19**	P	**P**	**15 00 49.8**	**+1.0**	
	baz=218							
NVL	**N'lazarevskaya**	**87.86**	**183**	⇑*i*P	**P**	**15 00 48.0**	**-0.7**	
NVL				pmax	pmax			
	comp=Z,41nm,0.7s							
PAX	**Paxson**	**87.92**	**14**	P	**P**	**15 00 48.5**	**-0.5**	
	baz=210,SNR=23							
YUK8	**Steele Glacier**	**87.95**	**17**	P	**P**	**15 00 50.2**	**+0.7**	
	baz=215,SNR=45							
VNA1	**Neumayer--Stat**	**87.97**	**177**	⇓P	**P**	**15 00 49.3**	**+0.1**	
	comp=Z,69nm,0.8s							
M26K	**Nabesna, AK**	**88.03**	**16**	IAmb	IAmb	15 00 51.0		
	comp=Z,71nm,1.0s							
M26K	**Nabesna, AK**	**88.03**	**16**	P	**P**	**15 00 49.9**	**+0.3**	
	baz=212,SNR=61							
ANMO	**Albuquerque**	**88.06**	**51**	P	**P**	**15 00 51.3**	**+0.8**	
ANMO				IAmb	IAmb	15 00 52.7		
	comp=Z,47nm,1.1s							
ANMO	**Albuquerque**	**88.06**	**51**	P	**P**	**15 00 51.5**	**+0.9**	
	baz=242							
ANMO	**Albuquerque**	**88.06**	**51**	P	**P**	**15 00 51.3**	**+0.8**	
ANMO				pmax	pmax			
	comp=Z,47nm,1.1s							
YUK6	**Outpost Mounta**	**88.08**	**18**	P	**P**	**15 00 50.6**	**+0.6**	
	baz=217							
S34M	**Telegraph Cree**	**88.11**	**23**	IAmb	IAmb	15 00 52.4		
	comp=Z,75nm,0.9s							
S34M	**Telegraph Cree**	**88.11**	**23**	P	**P**	**15 00 51.4**	**+1.4**	
	baz=223,SNR=42							
NEW	**Newport**	**88.16**	**36**	P	**P**	**15 00 50.9**	**+0.4**	
	baz=235,SNR=8.2							
NEW	**Newport**	**88.16**	**36**	P	**P**	**15 00 50.6**	**+0.1**	
	comp=Z,24nm,0.9s,baz=255,slow=4.0,SNR=16							
	comp=Z,24nm,0.9s							
YUK3	**Moose Creek**	**88.16**	**17**	P	**P**	**15 00 51.1**	**+0.6**	
	baz=215							
H19K	**Roundabout Mou**	**88.19**	**9**	IAmb	IAmb	15 00 51.4		
	comp=Z,55nm,0.9s							
H19K	**Roundabout Mou**	**88.19**	**9**	P	**P**	**15 00 50.3**	**+0.1**	
	baz=200,SNR=49							
HYT	**Haines Junctio**	**88.23**	**19**	P	**P**	**15 00 51.4**	**+0.7**	
	baz=217							
G18K	**Tagagawik**	**88.24**	**8**	P	**P**	**15 00 50.0**	**-0.4**	
	baz=198							
M27K	**Edge Creek, AK**	**88.27**	**16**	P	**P**	**15 00 51.5**	**+0.7**	
	baz=214,SNR=124							
MENT	**Mentasta**	**88.30**	**15**	P	**P**	**15 00 51.3**	**+0.5**	
MENT	**Mentasta**	**88.30**	**15**	IAmb	IAmb	15 00 52.2		
	comp=Z,52nm,1.0s							
ZEA	**Zeya**	**88.30**	**331**	*e*P	**P**	**15 00 51.4**	**+0.4**	
ZEA				pmax	pmax			
	comp=N,10.0nm,1.1s							
ZEA				pmax	pmax			
	comp=Z,20nm,1.0s							
YUK4

H21K **Melozitna Rive** 88.88 10 P P 15 00 53.5 +0.1
baz=204,SNR=47
CCB **Clear Creek Bu** 88.88 13 P P 15 00 52.6 -0.8
BCAR **Beaver Creek A** 88.89 16 P P 15 00 52.9 -0.7
DLBC **Dease Lake** 88.90 23 IAmb IAmb 15 00 55.8
comp=Z,39nm,0.9s
DLBC **Dease Lake** 88.90 23 P P 15 00 54.7 +1.0
baz=224,SNR=26
DLBC **Dease Lake** 88.90 23 P P 15 00 54.5 +0.7
comp=Z,26nm,0.9s,baz=225,slow=6.5,SNR=49
comp=Z,26nm,0.9s
WHY **Whitehorse** 88.91 20 IAmb IAmb 15 00 55.6
comp=Z,41nm,0.9s
WHY **Whitehorse** 88.91 20 P P 15 00 54.4 +0.6
baz=220,SNR=30
E17K **Hotham Inlet** 89.02 6 P P 15 00 54.0 +0.1
baz=195,SNR=21
I23K **Minto, Yukon-K** 89.03 12 P P 15 00 53.1 -1.0
baz=207,SNR=27
COLA **College** 89.08 12 P P 15 00 53.8 -0.5
COLA **College** 89.08 12 P P 15 00 54.0 -0.2
COLA **College** 89.08 12 P P 15 00 53.7 -0.6
baz=208
COLA **College** 89.08 12 P P 15 00 54.1 -0.2
COLA pmax pmax
comp=Z,107nm,0.9s
MDM **Murphy Dome** 89.08 12 P P 15 00 53.5 -0.9
SCRK **Sand Creek** 89.13 14 P P 15 00 54.8 0.0
baz=212,SNR=52
MSO **Missoula** 89.14 38 P P 15 00 55.1 -0.1
baz=237,SNR=6.3
TPAW **Teton Pass** 89.17 42 IAmb IAmb 15 00 57.8
comp=Z,47nm,0.9s
IL31 89.18 13 IAmb IAmb 15 00 55.2
comp=Z,83nm,1.2s
ILAR **Eielson Array** 89.18 13 P P 15 00 53.9 -0.9
ILAR **Eielson Array** 89.18 13 P P 15 00 54.0 -0.8
comp=Z,23nm,0.7s,baz=219,slow=5.3,SNR=238
ILAR PKiKP **PKiKP** 15 05 48.9 -1.1
comp=Z,0.6nm,0.3s,baz=276,slow=2.7,SNR=10
comp=Z,23nm,0.7s
P33M **Teslin, Yukon** 89.23 21 P P 15 00 55.8 +0.6
baz=222,SNR=36
F19K **Shaleruckik Mo** 89.25 8 IAmb IAmb 15 00 55.9
comp=Z,48nm,0.9s
F19K **Shaleruckik Mo** 89.25 8 P P 15 00 54.8 -0.3
baz=199,SNR=49
M29M **Somme Creek** 89.26 17 P P 15 00 55.9 +0.6
baz=217,SNR=102
R33M **Jennings River** 89.26 22 IAmb IAmb 15 00 57.7
comp=Z,75nm,1.4s
R33M **Jennings River** 89.26 22 P P 15 00 56.5 +1.1
baz=223,SNR=33
O20A **White River Ci** 89.26 46 P P 15 00 56.6 +0.6
baz=241
N31M **Braeburn, Yuko** 89.27 19 P P 15 00 56.1 +0.7
baz=219,SNR=12
HIA **Hailar** 89.30 325 P P 15 00 56.2 +0.4
H22K **Ishtalitna Cre** 89.33 11 P P 15 00 55.4 -0.1
baz=205,SNR=73
J25K **Salcha River,** 89.37 14 IAmb IAmb 15 00 56.6
comp=Z,41nm,0.9s
J25K **Salcha River,** 89.37 14 P P 15 00 55.5 -0.2
baz=210,SNR=47
POKR **Poker Flat Res** 89.37 12 IAmb IAmb 15 00 55.9
comp=Z,36nm,0.8s
POKR **Poker Flat Res** 89.37 12 P P 15 00 54.9 -0.8
baz=208,SNR=32
MOOW **Moose Ponds** 89.43 42 IAmb IAmb 15 00 58.8
comp=Z,104nm,1.9s
LOHW **Long Hollow** 89.45 42 IAmb IAmb 15 00 58.9
comp=Z,29nm,0.8s
E18K **Tukpahlearik C** 89.47 7 IAmb IAmb 15 00 57.3
comp=Z,48nm,0.9s
E18K **Tukpahlearik C** 89.47 7 P P 15 00 56.2 +0.1
baz=196,SNR=32
D17K **Noatak River** 89.49 6 P P 15 00 56.5 +0.4
baz=194,SNR=26
G21K **Allakaket** 89.56 10 IAmb IAmb 15 00 57.6
comp=Z,57nm,0.8s
G21K **Allakaket** 89.56 10 P P 15 00 56.6 +0.1
baz=203
H23K **Yukon River** 89.60 11 P P 15 00 56.0 -0.8
baz=206,SNR=17
KMI **Kunming** 89.60 297 ⇓P P 15 00 59.4 +1.4
KMI pmax pmax
comp=Z,80nm,0.9s
K27K **Chicken** 89.62 15 IAmb IAmb 15 00 58.7
comp=Z,62nm,0.9s
K27K **Chicken** 89.62 15 P P 15 00 57.7 +0.8
baz=213
SMCO **Snowmass** 89.67 47 IAmb IAmb 15 01 00.1
comp=Z,35nm,1.1s
J26L **Joseph Creek** 89.67 14 P P 15 00 57.8 +0.5
baz=212,SNR=188
CRAI **Chiangrai** 89.69 292 IAmb IAmb 15 01 00.6
comp=Z,47nm,1.0s
PD31 **Pinedale Array** 89.69 43 IAmb IAmb 15 00 59.5
comp=Z,44nm,0.9s
PDAR **Pinedale Array** 89.69 43 P P 15 00 58.4 +0.4
PDAR **Pinedale Array** 89.69 43 P P 15 00 58.2 +0.2
comp=Z,34nm,0.8s,baz=213,slow=3.0,SNR=197
PDAR PKKP **PKKPdf** 15 18 26.2 +0.5
comp=Z,0.4nm,0.4s,baz=98,slow=3.3,SNR=5.3
comp=Z,34nm,0.8s
F20K **Avaraart Lake** 89.72 9 IAmb IAmb 15 00 58.4
comp=Z,44nm,0.9s
F20K **Avaraart Lake** 89.72 9 P P 15 00 57.4 +0.1
baz=201,SNR=73
M30M **Minto, Yukon** 89.83 18 P P 15 00 58.2 +0.3
baz=218,SNR=92
BOZ **Bozeman (W)** 89.84 40 IAmb IAmb 15 01 00.8
comp=Z,50nm,0.9s
BOZ **Bozeman (W)** 89.84 40 P P 15 00 59.5 +1.0
baz=239,SNR=45
HHC **Hu-ho-hao-te** 89.84 314 ⇓iP P 15 00 59.6 +1.0
HHC S S 15 11 13.9 +4.0
HHC pmax pmax
comp=Z,38nm,1.1s
HHC pmax pmax
comp=Z,89nm,5.3s
N32M **Quiet Lake** 89.85 20 P P 15 00 58.8 +0.7
baz=221
RDOG **Red Dog Mine** 89.86 6 IAmb IAmb 15 00 59.1
comp=Z,34nm,1.0s
RDOG **Red Dog Mine** 89.86 6 P P 15 00 58.0 +0.1
baz=194,SNR=15
C16K **Lisburne Hills** 89.87 5 IAmb IAmb 15 00 59.0
comp=Z,36nm,1.1s
C16K **Lisburne Hills** 89.87 5 P P 15 00 57.7 -0.1
baz=192,SNR=11
H17A **Grant Village** 89.87 42 P P 15 01 01.1 +2.3
baz=240,SNR=29
BILL **Bilibino** 89.87 354 P P 15 00 56.5 -1.4
L29M **L29M** 89.88 17 P P 15 00 59.0 +0.8
baz=217,SNR=104
E19K **Redstone River** 89.91 8 P P 15 00 58.3 +0.1
baz=200
H24K **Noodor Dome** 89.92 12 P P 15 00 56.6 -1.7
baz=208,SNR=10
SDCO **Great Sand Dun** 90.03 49 P P 15 01 00.4 +0.6
baz=243,SNR=44
LKWY **Lake** 90.06 41 IAmb IAmb 15 01 03.2
comp=Z,49nm,0.9s
CMIG **Matias Romero** 90.08 72 P P 15 01 00.6 +0.6
comp=Z,17nm,1.0s,baz=273,slow=4.9,SNR=17
comp=Z,17nm,1.0s
PRP **Porcupine Dome** 90.12 13 IAmb IAmb 15 01 01.2
comp=Z,52nm,1.1s
PRP **Porcupine Dome** 90.12 13 P P 15 00 58.8 -0.5
baz=210,SNR=46
F21K **Alatna River** 90.21 9 P P 15 00 59.4 -0.2
baz=203,SNR=28
C17K **DeLong Mountai** 90.24 5 P P 15 00 59.6 -0.1
baz=194,SNR=7.2
M31M **Drury Creek, Y** 90.25 19 P P 15 00 59.8 0.0
baz=220,SNR=24
G22K **Bettles** 90.25 10 P P 15 00 59.9 +0.2
baz=205,SNR=46
CMAR **Chiang Mai Arr** 90.26 290 P P 15 01 02.1 +1.2
CMAR **Chiang Mai Arr** 90.26 290 P P 15 01 02.5 +1.6
comp=Z,51nm,0.9s,baz=126,slow=3.1,SNR=172
CMAR PP **PP** 15 04 42.5 -0.9
comp=Z,1.5nm,0.7s,baz=126,slow=6.1,SNR=4.6
CMAR PKKP **PKKPbc** 15 18 26.7 -0.6
comp=Z,2.1nm,0.8s,baz=287,slow=4.8,SNR=8.0
comp=Z,51nm,0.9s

G23K **Bananza Creek** 90.31 11 P P 15 00 60.0 -0.1
baz=206,SNR=32
DAWY **Dawson** 90.32 16 P P 15 01 00.5 +0.3
baz=216,SNR=46
MSTX **Muleshoe** 90.34 54 P P 15 01 01.6 +0.5
baz=244,SNR=21
CHTO **Chiang Mai** 90.39 290 P P 15 01 00.7 -0.8
CHTO **Chiang Mai** 90.39 290 P P 15 01 00.7 -0.8
CHTO pmax pmax
comp=Z,59nm,0.8s
I26K **Coal Creek Min** 90.45 14 IAmb IAmb 15 01 02.0
comp=Z,74nm,1.2s
I26K **Coal Creek Min** 90.45 14 P P 15 01 00.9 +0.2
baz=212
EGAK **Eagle** 90.47 15 P P 15 01 00.9 +0.2
baz=214,SNR=123
T25A **Trinidad** 90.53 50 P P 15 01 02.4 +0.4
baz=244,SNR=15
WTLY **Watson Lake, Y** 90.54 22 P P 15 01 02.1 +0.9
baz=225
FARO **Faro, Yukon** 90.58 19 P P 15 01 01.5 +0.1
baz=221,SNR=16
C18K **Utukok River** 90.60 6 IAmb IAmb 15 01 02.2
comp=Z,33nm,1.1s
C18K **Utukok River** 90.60 6 P P 15 01 01.2 -0.2
baz=196,SNR=12
833A **Chaparral WMA,** 90.62 60 IAmb IAmb 15 01 04.3
comp=Z,65nm,1.1s
833A **Chaparral WMA,** 90.62 60 P P 15 01 03.1 +0.8
baz=246
K29M **Barlow Dome** 90.64 17 P P 15 01 02.2 +0.5
baz=217,SNR=83
F22K **John River** 90.68 10 P P 15 01 01.8 +0.1
baz=204
RWWY **Rawlins** 90.69 45 IAmb IAmb 15 01 04.3
comp=Z,60nm,1.1s
H25L **Birch Creek** 90.71 13 P P 15 01 00.5 -1.3
baz=210
SGCY **Sterling City** 90.73 56 IAmb IAmb 15 01 06.2
comp=Z,34nm,1.0s
COLD **Coldfoot** 90.75 11 P P 15 01 02.4 +0.3
baz=206,SNR=46
BTO **Baotou** 90.76 314 eP P 15 01 04.3 +1.4
BTO PP **PP** 15 04 51.1 +4.1
BTO S **S** 15 11 11.6 -6.5
BTO SS **SS** 15 17 40.0 +5.0
BTO pmax pmax
comp=Z,73nm,1.2s
BTO pmax pmax
comp=Z,370nm,9.5s
G24K **Hadweenzic Riv** 90.77 12 P P 15 01 01.6 -0.6
baz=208
D19K **Kuna River** 90.78 7 IAmb IAmb 15 01 03.2
comp=Z,57nm,0.9s
D19K **Kuna River** 90.78 7 P P 15 01 02.2 0.0
baz=199
E20K **Nigu River** 90.80 8 P P 15 01 02.5 +0.2
baz=200
Q24A **Divide** 90.83 48 IAmb IAmb 15 01 05.5
comp=Z,49nm,1.4s
Q24A **Divide** 90.83 48 P P 15 01 04.2 +0.7
baz=243,SNR=11
ISCO **Idaho Springs** 90.89 47 P P 15 01 04.5 +0.8
baz=243,SNR=7.9
MAYO **Mayo, Yukon** 90.89 18 P P 15 01 03.6 +0.8
baz=219,SNR=7.2
POST **Post** 90.92 55 IAmb IAmb 15 01 05.0
comp=Z,46nm,0.9s
J29N **Klondike Camp** 90.94 16 IAmb IAmb 15 01 04.9
comp=Z,52nm,0.9s
J29N **Klondike Camp** 90.94 16 P P 15 01 03.9 +0.9
baz=217
PZH **PanZhiHua** 90.98 298 ⇓P P 15 01 04.8 +0.6
PZH S S 15 11 19.6 -1.1
PZH pmax pmax
comp=Z,50nm,1.0s
PZH pmax pmax
comp=Z,150nm,4.1s
TOAD **Toad River Com** 90.99 25 P P 15 01 04.2 +0.8
baz=228,SNR=51
LIRD **Liard River Hi** 91.04 24 P P 15 01 04.4 +0.8
baz=227,SNR=10
I27K **Kandik River** 91.05 14 P P 15 01 03.4 -0.1
baz=214,SNR=32
G25K **Bearman Lake** 91.09 12 P P 15 01 03.0 -0.5
baz=210
CD2 **Chengdu** 91.12 303 P P 15 01 06.0 +1.3
CD2 pmax pmax
comp=Z,10.0nm,0.6s
N23A **Red Feather La** 91.17 46 IAmb IAmb 15 01 07.0
comp=Z,35nm,1.1s
N23A **Red Feather La** 91.17 46 P P 15 01 05.9 +1.0
baz=243,SNR=21
JCT **Junction City** 91.17 58 IAmb IAmb 15 01 06.3
comp=Z,31nm,0.9s
JCT **Junction City** 91.17 58 P P 15 01 05.2 +0.3
baz=246
D20K **Etivluk River** 91.17 8 P P 15 01 04.1 +0.1
baz=200
C19K **Lookout Ridge** 91.20 7 P P 15 01 04.5 +0.4
baz=197,SNR=23
B18K **Kokolik River** 91.23 6 P P 15 01 04.5 +0.3
baz=195,SNR=7.3
E21K **Killik River** 91.27 9 IAmb IAmb 15 01 05.3
comp=Z,37nm,1.1s
E21K **Killik River** 91.27 9 P P 15 01 04.2 -0.3
baz=202
E22K **Anaktuvuk Pass** 91.31 10 IAmb IAmb 15 01 05.8
comp=Z,50nm,1.1s
E22K **Anaktuvuk Pass** 91.31 10 P P 15 01 04.7 0.0
baz=204
SN05 **Snyder 5** 91.31 55 IAmb IAmb 15 01 06.7
comp=Z,37nm,0.8s
I28M **Miner Creek** 91.32 15 IAmb IAmb 15 01 05.8
comp=Z,30nm,0.8s
I28M **Miner Creek** 91.32 15 P P 15 01 04.7 -0.1
baz=215,SNR=44
SN07 **Snyder 07** 91.39 55 IAmb IAmb 15 01 07.0
comp=Z,23nm,0.9s
F24K **Squaw Lake** 91.41 11 P P 15 01 05.4 +0.3
baz=208,SNR=20
RTBA **Rita Blanca** 91.43 51 IAmb IAmb 15 01 07.1
comp=Z,30nm,1.0s
J30M **Hart River** 91.54 17 P P 15 01 06.2 +0.3
baz=218,SNR=19
AMTX **Amarillo** 91.55 53 IAmb IAmb 15 01 08.1
comp=Z,30nm,1.0s
AMTX **Amarillo** 91.55 53 P P 15 01 07.0 +0.4
baz=245
K22A **Casper** 91.59 44 IAmb IAmb 15 01 08.4
comp=Z,51nm,1.1s
K22A **Casper** 91.59 44 P P 15 01 07.3 +0.6
baz=242,SNR=16
H27K **Steamboat Moun** 91.59 14 P P 15 01 06.3 +0.3
baz=214,SNR=24
I29M **Ogilvie Camp,** 91.65 16 IAmb IAmb 15 01 07.1
comp=Z,52nm,1.4s
I29M **Ogilvie Camp,** 91.65 16 P P 15 01 06.0 -0.2
baz=217,SNR=26
G26K **Porcupine Rive** 91.71 13 P P 15 01 06.8 +0.4
baz=212,SNR=16
TGTN **Hyland Airport** 91.72 22 P P 15 01 07.5 +0.7
baz=226,SNR=7.8
E24K **Your Creek** 91.80 11 P P 15 01 07.2 +0.2
baz=208,SNR=8.3
C21K **Knifeblade Rid** 91.83 8 P P 15 01 07.4 +0.5
baz=202,SNR=19
D22K **Ayikyak River** 91.86 9 IAmb IAmb 15 01 08.6
comp=Z,30nm,0.8s
D22K **Ayikyak River** 91.86 9 P P 15 01 07.5 +0.4
baz=204,SNR=24
F25K **Christian Rive** 91.90 12 P P 15 01 07.9 +0.5
baz=210,SNR=9.2
BMAR **Burnt Mountain** 91.96 12 P P 15 01 08.2 +0.5
I30M **Mount Dempster** 92.03 16 IAmb IAmb 15 01 09.2
comp=Z,35nm,1.0s
I30M **Mount Dempster** 92.03 16 P P 15 01 08.1 0.0
baz=218,SNR=44
G27K **Doyon Strip** 92.05 14 P P 15 01 08.2 +0.2
baz=214,SNR=13
APMT **Aspermont** 92.08 55 IAmb IAmb 15 01 10.4
comp=Z,28nm,0.8s
A19K **Wainwright** 92.11 6 P P 15 01 08.5 +0.3
baz=196
TOLK **Toolik Lake Re** 92.12 10 P P 15 01 08.5 +0.1
baz=206,SNR=10
ABTX **Abilene, Hawle** 92.16 56 P P 15 01 09.9 +0.5
baz=246

EGMT **Eagleton** 92.18 39 P P 15 01 09.6 +0.4
baz=240,SNR=10
D23K **Nanushuk River** 92.24 10 P P 15 01 09.2 +0.4
baz=206
F26K **Sheenjek River** 92.28 12 P P 15 01 09.7 +0.6
baz=212,SNR=13
B21K **Ikpikpuk River** 92.28 8 P P 15 01 09.1 +0.1
baz=202,SNR=6.0
KOTAN **Kotaneelee Air** 92.29 24 P P 15 01 09.8 +0.5
baz=229,SNR=7.4
H29M **Whitestone** 92.32 15 P P 15 01 09.4 +0.1
baz=217,SNR=41
B20K **Meade River** 92.33 7 IAmb IAmb 15 01 10.5
comp=Z,36nm,0.9s
B20K **Meade River** 92.33 7 P P 15 01 09.3 +0.1
baz=200
E25K **Arctic Village** 92.37 12 P P 15 01 09.9 +0.3
baz=210
KSCO **Kaye Shedlock'** 92.61 49 P P 15 01 12.1 +0.7
baz=245
D24K **Happy Valley** 92.71 10 P P 15 01 11.4 +0.4
baz=207
YAK **Yakutsk** 92.85 338 di P P 15 01 10.5 -1.3
YAK e 15 04 59.0
YAK eS **SKSac** 15 10 56.4 -2.4
YAK e 15 11 34.0
YAK pmax pmax
comp=Z,32nm,1.0s
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK pmax pmax
comp=Z,71nm,2.0s
YAK pmax pmax
comp=E,35nm,1.6s
YAK pmax pmax
comp=N,17nm,1.5s
YAK smax smax
comp=N,39nm,2.9s
YAK smax smax
comp=E,17nm,2.2s
EPYK **Eagle Plains** 92.85 15 P P 15 01 11.8 0.0
EPYK IAmb IAmb 15 01 12.7
comp=Z,36nm,1.0s
EPYK **Eagle Plains** 92.85 15 P P 15 01 11.7 0.0
baz=218,SNR=22
EDM **Edmonton** 92.91 33 P P 15 01 12.1 -0.3
EDM IAmb IAmb 15 01 13.4
comp=Z,47nm,1.1s
EDM **Edmonton** 92.91 33 P P 15 01 12.1 -0.3
EDM pmax pmax
comp=Z,47nm,1.1s
G29M **Pine Creek** 92.96 15 IAmb IAmb 15 01 13.2
comp=Z,22nm,0.9s
G29M **Pine Creek** 92.96 15 P P 15 01 12.3 +0.1
baz=217,SNR=14
H31M **Peel River** 93.02 17 P P 15 01 12.0 -0.5
baz=220
C23K **Itkillik River** 93.04 9 IAmb IAmb 15 01 13.9
comp=Z,26nm,1.0s
C23K **Itkillik River** 93.04 9 P P 15 01 12.9 +0.4
baz=206,SNR=20
435B **Jarrell** 93.04 58 P P 15 01 14.3 +0.8
baz=247
B22K **Teshekpuk Lake** 93.11 8 IAmb IAmb 15 01 13.9
comp=Z,40nm,1.1s
B22K **Teshekpuk Lake** 93.11 8 P P 15 01 12.7 -0.1
baz=203,SNR=9.7
F28M **Old Crow** 93.11 14 P P 15 01 12.9 0.0
baz=215,SNR=13
LZH **Lanzhou** 93.17 307 ⇓P P 15 01 15.3 +1.2
LZH S S 15 11 49.0 +9.4
LZH pmax pmax
comp=Z,51nm,1.1s
LZH pmax pmax
comp=Z,230nm,4.0s
E27K **Coleen River** 93.21 13 P P 15 01 13.8 +0.4
baz=214,SNR=5.8
C24K **Franklin Bluff** 93.23 10 P P 15 01 13.6 +0.2
baz=207
APG **El Apazote** 93.27 75 P P 15 01 15.8 +0.7
comp=Z,1.3nm,1.1s,baz=187,slow=12,SNR=5.1
D25K **Kavik River** 93.27 11 P P 15 01 13.1 -0.5
baz=210,SNR=10
G30M **tAoh Zrail Nji** 93.45 15 P P 15 01 14.3 -0.3
baz=219,SNR=37
A22K **Sinclair Lake** 93.53 7 P P 15 01 14.7 +0.1
baz=202,SNR=11
WHTX **Lake Whitney,** 93.61 57 P P 15 01 16.4 +0.3
baz=247
A21K **Barrow** 93.64 7 P P 15 01 15.3 +0.1
baz=200
WMOK **Wichita Mounta** 93.67 54 P P 15 01 16.0 -0.3
baz=247
ELIS **Ellis County** 93.72 53 IAmb IAmb 15 01 18.2
comp=Z,34nm,1.1s
OGNE **Ogallala** 93.85 47 IAmb IAmb 15 01 18.5
comp=Z,30nm,1.1s
OGNE **Ogallala** 93.85 47 P P 15 01 17.2 +0.2
baz=245
RSSD **Black Hills** 93.88 44 P P 15 01 17.3 0.0
baz=244
G31M **Satah River** 93.90 16 P P 15 01 16.4 -0.1
baz=220,SNR=22
E28M **Babbage River** 93.99 13 P P 15 01 16.7 -0.2
E28M IAmb IAmb 15 01 18.1
comp=Z,22nm,0.9s
E28M **Babbage River** 93.99 13 P P 15 01 17.0 +0.1
baz=216,SNR=14
C27K **Jago River** 94.01 11 P P 15 01 17.2 +0.2
baz=212,SNR=10
C26K **Camden Bay** 94.05 11 P P 15 01 17.6 +0.5
baz=211,SNR=10
F30M **Barrier River** 94.05 15 P P 15 01 16.8 -0.4
baz=219,SNR=10
U32A **Winter Ranch,** 94.15 53 IAmb IAmb 15 01 20.0
comp=Z,36nm,1.0s
E29M **Blow River** 94.18 14 IAmb IAmb 15 01 18.3
comp=Z,32nm,1.6s
E29M **Blow River** 94.18 14 P P 15 01 17.2 -0.6
baz=217,SNR=11
D27M **Malcolm River** 94.22 12 IAmb IAmb 15 03 14.1
comp=Z,76nm,1.9s
D27M **Malcolm River** 94.22 12 P P 15 01 18.2 +0.2
baz=214
F31M **Tsiigehtchic** 94.43 16 P P 15 01 18.6 -0.3
baz=221,SNR=10
WRGLY **Wrigley** 94.53 22 P P 15 01 19.3 -0.1
baz=230
CBKS **Cedar Bluff** 94.58 50 P P 15 01 20.6 +0.2
baz=246
D28M **Stokes Point** 94.75 13 P P 15 01 20.1 -0.2
baz=216
OK032 **Salt Plains WL** 94.90 52 IAmb IAmb 15 01 23.1
comp=Z,23nm,0.9s
INK **Inuvik** 95.14 15 IAmb IAmb 15 01 22.6
comp=Z,22nm,1.1s
INK **Inuvik** 95.14 15 P P 15 01 21.4 -0.6
baz=221,SNR=20
INK **Inuvik** 95.14 15 P P 15 01 21.2 -0.9
comp=Z,14nm,1.0s,baz=202,slow=4.1,SNR=20
comp=Z,14nm,1.0s
KAN09 **Caldwell North** 95.47 52 IAmb IAmb 15 01 27.6
comp=Z,30nm,1.3s
DGMT **Dagmar** 95.68 40 P P 15 01 26.0 +0.9
baz=244,SNR=8.1
ULN **Ulaanbaatar** 95.91 319 deP P 15 01 25.4 -0.9
ULN pmax pmax
comp=Z,4.0nm,0.9s
SONM **Songino Array** 96.30 319 P P 15 01 26.7 -1.3
comp=Z,3.2nm,1.0s,baz=106,slow=3.7,SNR=8.2
SONM PP **PP** 15 05 25.6 -4.0
comp=Z,4.1nm,1.1s,baz=119,slow=8.6,SNR=5.1
comp=Z,3.2nm,1.0s
TUL3 **Leonard** 96.37 54 P P 15 01 28.9 +0.5
baz=248
BGNE **Belgrade** 96.72 48 P P 15 01 30.7 +0.8
baz=248
KSU1 **Kansas State U** 96.94 51 P P 15 01 31.7 +0.7
baz=248
SUSD **Miller** 97.33 45 P Pdif 15 01 34.5 +1.9
baz=247
YKA **Yellowknife Ar** 97.35 25 P Pdif 15 01 31.0 -1.2
comp=Z,4.2nm,0.9s,baz=246,slow=4.3,SNR=34
YKA PP **PP** 15 05 34.7 -2.3
comp=Z,0.5nm,0.8s,baz=245,slow=7.4,SNR=4.5
comp=Z,4.2nm,0.9s

GTA **Gaotai** 97.40 309 *e*P Pdif 15 01 33.8 +0.6
GTA pmax pmax
comp=Z,10.0nm,1.4s
HOPE **Hope Point** 97.79 158 *i* P Pdif 15 01 30.4 -4.1
MDND **Maddock** 98.23 42 P **P** 15 01 37.9 +1.4
baz=247
C36M **Paulatuk** 98.31 17 P **P** 15 01 37.5 +1.2
baz=230
ECSD **EROS Data Cent** 98.64 46 P Pdif 15 01 38.3 -0.1
baz=249
TIXI **Tiksi** 99.53 345 *ce*P **Pdif** 15 01 40.7 -1.0
TIXI pmax pmax
comp=Z,4.0nm,1.1s
A36M **Sachs Harbour** 99.74 15 P **Pdif** 15 01 42.6 0.0
baz=229
SDV **Santo Domingo** 109.45 88 PKiKP **PKiKP** 15 06 27.7 -0.3
comp=Z,2.7nm,0.3s,baz=306,slow=5.8,SNR=3.0
ZSN **Zaisan** 110.04 314 *e*PKiKP **PKiKP** 15 06 26.6 -1.3
baz=314
ZALV **Zalesovo Beam** 111.06 321 PKiKP **PKiKP** 15 06 27.9 -1.6
comp=Z,3.7nm,0.4s,baz=139,slow=1.3,SNR=27
ZALV **Zalesovo Beam** 111.06 321 *i* PKiKP **PKiKP** 15 06 28.0 -1.6
MK31 **Makanchi Array** 111.67 313 PKiKP **PKiKP** 15 06 29.3 -1.7
MKAR **Makanchi Array** 111.67 313 PKiKP **PKiKP** 15 06 29.6 -1.4
comp=Z,5.0nm,0.6s,baz=126,slow=0.9,SNR=66
BINY **Binghamton** 112.86 52 P **PKiKP** 15 06 33.2 -0.2
baz=262
SHLS **Shalkode** 113.14 309 *e*PKiKP **PKiKP** 15 06 31.9 -2.2
baz=309
SHLS **Shalkode** 113.14 309 *i* PKiKP **PKiKP** 15 06 31.8 -2.2
PDGK **Podgornoye** 113.14 309 PKiKP **PKiKP** 15 06 32.3 -1.8
UZB **Uzynbulak** 113.46 309 *e*PKiKP **PKiKP** 15 06 33.4 -1.4
baz=309
UZB **Uzynbulak** 113.46 309 *i* PKiKP **PKiKP** 15 06 33.3 -1.4
ZHN **Zhinishke** 113.89 309 *e*PKiKP **PKiKP** 15 06 34.1 -1.4
baz=309
ZHN **Zhinishke** 113.89 309 *i* PKiKP **PKiKP** 15 06 34.1 -1.4
SATY **Saty** 113.89 309 *e*PKiKP **PKiKP** 15 06 34.3 -1.2
baz=309
SATY *e*PP **PP** 15 07 35.5 -2.7
baz=309
SATY **Saty** 113.89 309 *i* PKiKP **PKiKP** 15 06 34.3 -1.2
SATY *e* 15 07 35.4
TDK **Taldyqorghan** 114.13 311 *e*PKiKP PKPdf 15 06 34.0 -1.7
baz=311
TDK **Taldyqorghan** 114.13 311 *i* PKIKP PKPdf 15 06 34.0 -1.8
LONY **Lake Ozonia** 114.19 50 P PKPdf 15 06 35.4 -0.4
baz=263
ARXS **Arharly** 114.45 310 *e*PKiKP PKPdf 15 06 34.6 -1.9
KURK **Kurchatov** 114.52 317 PKiKP PKPdf 15 06 34.5 -1.8
KURBB **Kurchatov Arra** 114.57 317 PKP PKPdf 15 06 34.5 -1.8
comp=Z,8.5nm,0.8s,baz=96,slow=1.8,SNR=68
KURBB SKP 15 09 25.6
comp=Z,2.3nm,0.8s,baz=95,slow=2.2,SNR=5.7
KURBB PKKPbc **PKKPbc** 15 17 15.4 -2.0
comp=Z,1.0nm,0.8s,baz=265,slow=4.5,SNR=6.3
MDOK **Medeo** 114.89 309 *e*PKP PKPdf 15 06 35.8 -1.7
baz=309
MDOK **Medeo** 114.89 309 *e*PKiKP PKPdf 15 06 35.7 -1.8
TNSS **Tian-Shan** 114.95 309 *e*PKP PKPdf 15 06 35.8 -2.1
baz=309
TNSS **Tian-Shan** 114.95 309 *e*PKiKP PKPdf 15 06 35.7 -2.2
AAA **Alma-Ata** 114.99 309 *e*PKP PKPdf 15 06 36.1 -1.4
baz=309
AAA **Alma-Ata** 114.99 309 *e*PKiKP PKPdf 15 06 36.1 -1.4
KSH **Kashi** 115.25 305 PKP **PKPdf** 15 06 37.8 -0.4
L61B **Northampton** 115.32 52 P **PKPdf** 15 06 37.4 -0.6
baz=264
BOOM **Boomskoye usch** 115.63 308 PKPdf **PKPdf** 15 06 38.5 -0.4
BOOM **Boomskoye usch** 115.63 308 PKiKP **PKPdf** 15 06 38.6 -0.4
TKM2 **Tokmak 2** 115.92 308 PKiKP **PKPdf** 15 06 37.5 -2.0
LBNH **Lisbon** 116.05 50 P **PKPdf** 15 06 39.3 -0.1
baz=265
HRV **Adam Dziewonsk** 116.15 52 P **PKiKP** 15 06 39.7 0.0
baz=264
SGDS **Sogindy** 116.68 309 *e*PKP **PKPdf** 15 06 39.5 -1.4
baz=309
SGDS **Sogindy** 116.68 309 *e*PKiKP **PKPdf** 15 06 39.4 -1.4
AAK **Ala-Archa** 116.71 308 PKPdf **PKPdf** 15 06 39.9 -1.1
BTLS **Baital** 117.21 311 *e*PKP **PKPdf** 15 06 40.5 -1.2
baz=311
BTLS *e*PP **PP** 15 07 59.5 -1.4
baz=311
BTLS **Baital** 117.21 311 *e*PKiKP **PKPdf** 15 06 40.4 -1.2
BTLS *e* 15 07 59.4
PKME **Peaks-Kenny Pk** 117.99 49 P **PKPdf** 15 06 42.4 -0.7
baz=267,SNR=5.4
D62A **Allapoint, All** 118.22 47 **PKPdf** 15 06 42.6 -0.9
BRZS **Berezniki** 118.30 316 *e*PKP **PKPdf** 15 06 41.9 -1.8
baz=316
BRZS **Berezniki** 118.30 316 *e*PKiKP **PKPdf** 15 06 41.8 -1.8
NEEM **North Greenlan** 118.45 11 *i* P **PKPdf** 15 06 42.6 -0.9
BDFB **Brasilia** 118.82 123 **PKPdf** 15 06 45.3 -0.5
BDFB **Brasilia** 118.82 123 PKP **PKPdf** 15 06 45.0 -0.8
comp=Z,3.9nm,0.3s,baz=216,slow=1.9,SNR=9.5
BDFB PKKPab **PKKPab** 15 17 07.4 +0.1
comp=Z,3.2nm,0.6s,baz=44,slow=5.8,SNR=4.3
BDFB **Brasilia** 118.82 123 PKiKP **PKPdf** 15 06 45.3 -0.5
DZA **Taraz** 119.05 308 *e*PKP **PKPdf** 15 06 44.1 -1.3
baz=308
DZA **Taraz** 119.05 308 *e*PKiKP **PKPdf** 15 06 44.0 -1.3
NOR **Nord** 119.22 3 *i* P **PKPdf** 15 06 43.4 -1.1
SCHQ **Schefferville** 119.44 38 PKP **PKPdf** 15 06 44.5 -1.2
comp=Z,5.6nm,0.6s,baz=289,slow=2.9,SNR=10
UPNV **Upernavik** 119.53 17 *i* P **PKPdf** 15 06 44.4 -0.9
BVA0 **Borovoye Array** 119.63 320 PKiKP **PKPdf** 15 06 44.7 -1.4
BVAR **Borovoye Array** 119.63 320 PKP **PKPdf** 15 06 44.9 -1.1
comp=Z,22nm,0.3s,baz=111,slow=2.6,SNR=104
BVAR SKP 15 09 35.9
comp=Z,2.8nm,0.7s,baz=98,slow=3.0,SNR=4.2
KK31 **Karatay Array** 119.66 308 *i* PKiKP **PKPdf** 15 06 45.1 -1.4
KKAR **Karatay Array** 119.66 308 PKPdf **PKPdf** 15 06 45.5 -0.9
KKAR **Karatay Array** 119.66 308 PKiKP **PKPdf** 15 06 45.5 -0.9
BRVK **Borovoye** 119.70 320 PKPdf **PKPdf** 15 06 45.0 -1.2
BRVK **Borovoye** 119.70 320 PKiKP **PKPdf** 15 06 45.0 -1.2
IUG **Iuzhnay** 119.97 307 *e*PKP **PKPdf** 15 06 46.3 -1.0
baz=307
IUG **Iuzhnay** 119.97 307 *e*PKiKP **PKPdf** 15 06 46.2 -1.0
BRLS **Borolday** 120.15 308 *e*PKP **PKPdf** 15 06 46.5 -0.9
baz=308
BRLS **Borolday** 120.15 308 *e*PKiKP **PKPdf** 15 06 46.5 -0.9
KBL **Kabul** 120.16 298 PKPdf **PKPdf** 15 06 47.7 -0.3
KBL **Kabul** 120.16 298 PKiKP **PKPdf** 15 06 47.7 -0.3
CHM **Chimkent** 120.30 307 *e*PKP **PKPdf** 15 06 46.5 -1.2
baz=307
CHM **Chimkent** 120.30 307 *e*PKiKP **PKPdf** 15 06 46.5 -1.2
NUUG **Nuugaatsiaq** 120.89 18 *i* P **PKPdf** 15 06 46.8 -1.1
UMMG **Uummannaq** 121.60 18 *i* P **PKPdf** 15 06 48.0 -1.3
KBS **Kingsbay** 122.19 358 **PKPdf** 15 06 50.3 0.0
KBS **Kingsbay** 122.19 358 *e*P **PKPdf** 15 06 50.3 0.0
KBS **Kingsbay** 122.19 358 PKiKP **PKPdf** 15 06 50.3 0.0
KBS **Kingsbay** 122.19 358 *i* P **PKPdf** 15 06 49.9 -0.4
SPA0 **Spitsbergen Ar** 122.71 356 *e*P **PKPdf** 15 06 50.7 -0.6
SPITS **Spitsbergen Ar** 122.71 356 PKP **PKPdf** 15 06 50.7 -0.6
comp=Z,52nm,0.7s,baz=36,slow=6.2,SNR=90
SPITS PKKPbc **PKKPab** 15 16 47.1 +0.6
comp=Z,8.6nm,1.0s,baz=166,slow=6.7,SNR=19
SPITS **Spitsbergen Ar** 122.71 356 PKiKP **PKPdf** 15 06 50.8 -0.6
SUR **Sutherland** 123.56 199 PKiKP **PKiKP** 15 06 55.0 0.0
DAG **Danmarks Havn** 123.60 6 *i* P **PKPdf** 15 06 51.0 -2.0
POGA **Pongola** 123.61 212 PKPdf **PKiKP** 15 06 54.8 -0.1
SFJD **Kangerlussuaq** 123.79 22 PKPdf **PKPdf** 15 06 53.1 -0.5
SFJD **Kangerlussuaq** 123.79 22 PKiKP **PKPdf** 15 06 53.1 -0.5
SFJD **Kangerlussuaq** 123.79 22 *i* P **PKPdf** 15 06 52.0 -1.6
SUMG **Summit** 124.02 14 *i* P **PKPdf** 15 06 54.1 -0.4
NUUK **Nuuk** 124.61 25 *i* P **PKPdf** 15 06 55.0 -0.2
BOSA **Boshof** 125.42 205 PKP **PKPdf** 15 06 57.5 -0.7
comp=Z,17nm,1.1s,baz=97,slow=2.4,SNR=26
DY2G **Dye2** 125.56 22 *i* P **PKPdf** 15 06 56.6 -0.8
DBG **Daneborg** 125.70 7 *i* P **PKPdf** 15 06 56.4 -0.7
ARU **Arti** 125.82 325 PKPdf **PKPdf** 15 06 57.5 -0.2
ARU **Arti** 125.82 325 *i* PKiKP **PKPdf** 15 06 57.6 -0.2
ARU 15 08 54.0
ARU 15 13 23.5
ICESG **Greenland Ices** 126.06 17 *i* P **PKPdf** 15 06 57.1 -1.2
AB31 **Akbulak array** 126.60 316 *i* PKiKP **PKPdf** 15 06 58.0 -1.5
ABKAR **Akbulak array** 126.60 316 PKPdf **PKPdf** 15 06 59.1 -0.4
IVI **Ivigtut** 127.36 28 *i* P **PKPdf** 15 06 59.5 -1.1
ISOG **Isortoq, Green** 128.53 20 *i* P **PKPdf** 15 07 02.1 -0.6
NRS **Narsarsuaq** 128.57 27 *i* P **PKPdf** 15 07 01.4 -1.5
SCO **Scoresbysund** 128.88 10 *i* P **PKPdf** 15 07 03.3 0.0
ANGG **Ammassalik, Gr** 128.91 20 *i* P **PKPdf** 15 07 02.5 -0.9
HAMF **Hammerfest** 129.04 351 *e*P **PKPdf** 15 07 01.9 -1.6
GEYT **Alibeck** 129.11 302 PKP **PKPdf** 15 07 04.8 0.0
comp=Z,10nm,0.6s,baz=233,slow=1.5,SNR=23
GEYT PP **PP** 15 09 19.0 -1.4
comp=Z,9.8nm,1.0s,baz=83,slow=4.6,SNR=11
APA **Apatity** 129.73 345 *i*PKIKP **PKPdf** 15 07 03.0 -1.9
APA pmax pmax
comp=Z,11nm,1.3s
ARA0 **ARCESS Array S** 129.73 349 *e*P **PKPdf** 15 07 04.3 -0.6
ARCES **ARCESS Array B** 129.73 349 PKPdf **PKPdf** 15 07 04.3 -0.6
ARCES **ARCESS Array B** 129.73 349 PKP **PKPdf** 15 07 04.1 -0.8
comp=Z,27nm,0.7s,baz=73,slow=1.8,SNR=79
ARCES **ARCESS Array B** 129.73 349 PKIKP **PKPdf** 15 07 04.3 -0.6
SOHO **SOHO** 129.75 284 *i* PKiKP **PKPdf** 15 07 06.0 -0.3
SNR=16
MDH **Madha** 130.12 286 PKPdf **PKPdf** 15 07 06.0 -1.0
UOSS **Minazif** 130.16 285 *i* PKPdf **PKPdf** 15 07 06.3 -0.8
SNR=7.2
HATD **Hatta, Dubai** 130.20 285 *i* PKiKP **PKPdf** 15 07 06.9 -0.3
SNR=12
MSFE **Esma-Masafi** 130.25 286 *i* PKiKP **PKPdf** 15 07 07.0 -0.3
SNR=7.9
ASHO **Ashiyiah** 130.25 285 *i* PKiKP **PKPdf** 15 07 06.7 -0.6
SNR=9.9
SHME **Shamm** 130.35 287 PKPdf **PKPdf** 15 07 06.7 -0.7
ALNE **Al Ain** 130.44 284 *i* PKiKP **PKPdf** 15 07 07.3 -0.3
SNR=7.9
TRO **Tromso** 130.62 352 *e*P **PKPdf** 15 07 05.7 -0.9
NAZ **Nazwa, Dubai** 130.65 285 PKiKP **PKPdf** 15 07 08.2 +0.2
FAQ **Al Faqa, Dubai** 130.68 285 PKiKP **PKPdf** 15 07 07.8 -0.3
ASUD **Al Ashush, Dub** 130.90 285 PKiKP **PKPdf** 15 07 08.5 0.0
MZR **Muzera** 132.35 282 *i* PKiKP **PKPdf** 15 07 11.4 +0.1
SNR=6.9
KLMR **Klimovskoe** 132.60 336 *e*PKiKP **PKPdf** 15 07 09.3 -1.2
KLMR *e* 15 09 51.4
KLMR pmax pmax
comp=Z,43nm,1.2s
STEI **Steigen** 132.68 353 *e*P **PKPdf** 15 07 09.7 -0.7
BELG **Belogornoye** 133.19 323 *i* PKIKP **PKPdf** 15 07 11.6 -0.3
FAUS **Fauske** 133.20 353 *e*P **PKPdf** 15 07 10.8 -0.7
KONS **Konsvik** 134.29 354 *e*P **PKPdf** 15 07 13.2 -0.4
STOK **Stokkvaagen** 134.46 354 *e*P **PKPdf** 15 07 12.9 -0.9
MOR8 **Moi Rana** 134.46 353 *e*P **PKPdf** 15 07 12.5 -1.4
VALR **Valaam** 135.23 341 *i* PKIKP **PKPdf** 15 07 14.9 -0.5
VALR pmax pmax
comp=Z,56nm,0.9s
NSS **Namsos** 136.32 354 *e*P **PKPdf** 15 07 17.7 +0.4
FINES **FINESS Array B** 136.55 343 PKhKP PKPpre 15 07 05.4
comp=Z,1.2nm,0.3s,baz=46,slow=6.2,SNR=14
FINES PKP **PKPdf** 15 07 16.6 -1.2
comp=Z,17nm,0.7s,baz=67,slow=3.6,SNR=17
FINES SKPbc **SKPbc** 15 10 05.5 +0.4
comp=Z,9.1nm,0.8s,baz=64,slow=4.4,SNR=9.8
MOS **Moscow** 136.57 331 *i* PKIKP **PKPdf** 15 07 16.5 -1.6
MOS *e* 15 09 03.9
MOS *e* 15 13 45.9
MOS pmax pmax
comp=Z,63nm,0.8s
VRH **Novokhopyorsk** 137.01 324 *e*PKiKP **PKPdf** 15 07 16.5 -2.5
VRH pmax pmax
comp=Z,20nm,0.9s
OBN **Obninsk** 137.43 331 *e*PKiKP **PKPdf** 15 07 19.1 -0.6
OBN *e* 15 10 08.4
OBN *e*SSS SSS 15 32 58.9
OBN pmax pmax
comp=Z,69nm,1.6s
LPSR **Galich'ya Gora** 137.77 327 *e*PKIKP **PKPdf** 15 07 17.7 -2.7
LPSR pmax pmax
comp=Z,40nm,1.0s
VSR **Storozhevoye** 138.39 325 *e*PKiKP **PKPdf** 15 07 20.2 -1.4
VSR pmax pmax
comp=Z,50nm,1.0s
VORD **Divnogorie** 138.45 325 *e*PKiKP **PKPdf** 15 07 19.8 -1.9
VORD pmax pmax
comp=Z,20nm,0.7s
VSU **Vasula** 138.80 340 *i* PKIKP **PKPdf** 15 07 22.5 +0.4
VSU pmax pmax
comp=Z,16nm,0.9s
AKN **Aaknes** 139.05 356 *e*P PKPpre 15 07 16.2
KBZ **Khabaz** 139.37 313 *i* PKiKP **PKiKP** 15 07 25.0 -1.1
KIV **Kislovodsk** 139.44 313 *e*PKiKP **PKPdf** 15 07 23.0 -0.9
KIV *e* 15 10 28.7
KIV *e*PPP PPP 15 13 36.5
KIV *e* 15 13 54.5
KIV *e*SS SS 15 28 38.7 +33
KIV pmax pmax
comp=Z,9.0nm,1.0s
NB2 **NORSAR Subarra** 139.81 353 SKPa 15 10 15.1
comp=Z,1.6nm,0.7s,baz=11,slow=2.8
NB2 PKP PKPpre 15 07 15.5
comp=Z,2.1nm,0.4s,baz=16,slow=3.2
NOA **NORSAR Array B** 139.81 353 PKhKP PKPpre 15 07 15.7
comp=Z,8.6nm,0.7s,baz=18,slow=2.4,SNR=37
NOA PKP **PKPdf** 15 07 24.4 +0.4
comp=Z,1.1nm,0.4s,baz=8.1,slow=3.1,SNR=6.3
NOA SKPbc **SKPbc** 15 10 14.6 +0.2
comp=Z,5.0nm,1.0s,baz=15,slow=4.4,SNR=5.8
NC602 **NORSAR Array S** 140.07 353 *e*P PKPpre 15 07 16.5
ERBR **Yeremizino-Bor** 140.21 317 *e*PKiKP **PKPdf** 15 07 24.3 -0.8
ERBR pmax pmax
comp=Z,14nm,0.3s
SUE **Sulen** 140.28 358 *e*P PKPpre 15 07 18.1
HFS **Hagfors** 140.36 351 PKhKP PKPpre 15 07 17.0
comp=Z,15nm,0.3s,baz=62,slow=3.7,SNR=152
HFS SKPbc **SKPbc** 15 10 16.0 +0.2
comp=Z,7.7nm,0.9s,baz=54,slow=3.8,SNR=6.7
SKAR **Skarslia** 140.45 355 *e*P PKPpre 15 07 19.0
LABN **Labinsk** 140.49 315 *e*PKIKP **PKPdf** 15 07 23.9 -1.8
LABN pmax pmax
comp=Z,32nm,0.6s
ASK **Askoy** 140.84 357 *e*P PKPpre 15 07 19.5
BER **Bergen** 140.93 357 *e*P PKPpre 15 07 19.9
BCA **Borcka** 141.01 310 P PKPpre 15 07 21.0
ODD1 **Odda** 141.33 356 *e*P PKPpre 15 07 21.2
KONO **Kongsberg** 141.35 354 *e*P PKPpre 15 07 21.1
KONO **Kongsberg** 141.35 354 *i*PKHKP PKPpre 15 07 21.2
MNK **Minsk** 141.50 336 *i* PKHKP PKPpre 15 07 23.1
MNK *i* 15 10 32.3
MNK *i* 15 13 47.7
MNK *i* 15 23 09.7
MNK *i* SS SS 15 28 25.1 -2.4
MNK *i* SSS SSS 15 33 50.4
MNK pmax pmax
comp=Z,46nm,0.9s
MNK pmax pmax
comp=N,12nm,0.6s
MNK pmax pmax
comp=E,8.0nm,0.8s
MNK MLR MLR
comp=N,380nm,19.0s
MNK MLR MLR
comp=E,179nm,19.0s
MNK MLR MLR
comp=Z,217nm,20.0s
BLS5 **Blasjo** 141.83 356 *e*P PKPpre 15 07 23.3
KMY **Karmoy** 142.11 357 *e*P PKPpre 15 07 23.9
ANN **Anapa** 142.55 317 *e*PKHKP PKPpre 15 07 25.0
ANN *i* 15 07 31.4
ANN pmax pmax
comp=Z,59nm,1.0s
ANN pmax pmax
comp=Z,45nm,1.4s
HOMB **Hornbersund** 142.81 354 *e*P PKPpre 15 07 26.2
SNART **Snartemo** 142.86 355 *e*P **PKPdf** 15 07 26.6 -2.8
LODK **Lodwar** 142.86 246 PKPdf **PKPdf** 15 07 28.8 -2.1
SUW **Suwalki** 143.58 339 *e*PKP PKPab 15 07 28.7 -0.5
MCD **Coleburn Disti** 143.63 5 *e*P PKPab 15 07 27.7 -1.5
KPL **Plockton** 143.65 7 *e*P PKPab 15 07 27.8 -1.4
AKASG **Malin Array Be** 143.69 330 PKP PKPab 15 07 28.6 -1.1
comp=Z,30nm,0.4s,baz=41,slow=4.4,SNR=260
AKASG SKPbc **SKPbc** 15 10 23.6 -0.7
comp=Z,10nm,0.9s,baz=42,slow=2.2,SNR=11
AKBB **Malin Array Si** 143.69 330 *i* PKIKP PKPab 15 07 28.5 -1.2
KIEV **Kiev** 143.70 330 P PKPab 15 07 28.6 -1.1
KIEV **Kiev** 143.70 330 PKPdf PKPab 15 07 28.7 -1.0
KIEV **Kiev** 143.70 330 *i* PKPbc PKPab 15 07 28.7 -1.1
SNR=14
KIEV **Kiev** 143.70 330 PKIKP PKPab 15 07 28.7 -1.0
MBAR **Mbarara** 144.31 236 *d i*PKIKP **PKPdf** 15 07 33.8 +0.2
DRUM **Mains of Drumt** 144.35 4 *e*P PKPbc 15 07 30.5 -1.2
MUD **Monsted U'grnd** 144.53 353 *i* P PKPbc 15 07 32.1 -0.1
SIM **Simferopol'** 144.54 319 *e*PKIKP **PKPab** 15 07 33.0 -0.1
SIM pmax pmax
comp=Z,196nm,0.8s
INVG **Invergeldie, C** 144.71 6 *e*P **PKPdf** 15 07 31.9 -0.8
LAWE **Loch Awe, Argy** 144.73 7 *e*P **PKPdf** 15 07 32.0 -0.7
COP **Copenhagen** 144.82 350 *i* P PKPbc 15 07 33.0 -0.1
BSD **Bornholm Skovb** 144.89 347 *i* P **PKPdf** 15 07 33.0 0.0
LLD **Lille Linde** 145.19 350 *i* P **PKPdf** 15 07 33.6 +0.1
EDI **Edinburgh** 145.28 5 *e*P **PKPbc** 15 07 34.3 -0.3
ESY **Stoneypath** 145.33 4 *e*P **PKPdf** 15 07 32.9 -0.9
DIKM **Dikmen** 145.37 313 P **PKPbc** 15 07 35.6 +0.2
SORM **Soroca** 145.85 328 P **PKPbc** 15 07 36.1 -0.4
SORM **Soroca** 145.85 328 PKP2 **PKPbc** 15 07 36.1 -0.4
EKA **Eskdalemuir Ar** 145.87 5 PKPbc **PKPbc** 15 07 35.5 -0.8
comp=Z,57nm,0.9s,baz=329,slow=2.3,SNR=132
ESK **Eskdalemuir** 145.88 5 **PKPbc** 15 07 36.1 -0.3
ESK **Eskdalemuir** 145.88 5 PKP2 **PKPbc** 15 07 36.1 -0.3
GAL1 **Galloway** 146.18 7 *e*P **PKPdf** 15 07 34.1 -1.1
BEL **Belsk** 146.20 339 *e*PKP **PKPbc** 15 07 37.5 +0.2
MILM **Milestii Mici** 146.42 326 P **PKPbc** 15 07 37.4 -0.7
MILM **Milestii Mici** 146.42 326 *i*PKP **PKPbc** 15 07 37.4 -0.7
comp=Z,320nm,1.4s
MILM **Milestii Mici** 146.42 326 PKIKP **PKPbc** 15 07 37.4 -0.7
EDMD **Edmundbyers** 146.46 4 *e*P **PKPdf** 15 07 35.8 +0.1
H07N1 **FLORES T-PHASE** 146.49 49 *e*PKP **PKPbc** 15 07 38.4 -0.2
H07S1 **FLORES T-PHASE** 146.56 50 *e*PKP **PKPbc** 15 07 39.0 +0.2
LVV **L'vov** 146.61 334 *e*PKiKP **PKPdf** 15 07 37.0 +0.9
KESW **Keswick, Cumbr** 146.61 5 *e*P **PKPdf** 15 07 37.1 +1.2
DRBR **Darabani** 146.65 329 P **PKPbc** 15 07 38.1 -0.6
IOMK **Kirk Michael** 146.79 7 *e*P **PKPdf** 15 07 36.4 +0.1
WIM **Isle of Man** 146.89 7 *e*P **PKPdf** 15 07 35.8 -0.7
GDLE **Glaisdale, N Y** 146.93 3 *e*P **PKPdf** 15 07 37.8 +1.3
BEIL **Beino** 147.10 301 *e*P **PKPbc** 15 07 40.6 +0.2
VASR **Vaslui** 147.13 326 P **PKPbc** 15 07 40.3 +0.2
BR131 **Keskin Array S** 147.29 311 **PKPbc** 15 07 40.5 -0.5
BR131 **Keskin Array S** 147.29 311 PKP2 **PKPbc** 15 07 40.5 -0.5
BRTR **Keskin Array B** 147.29 311 **PKPbc** 15 07 40.6 -0.3
BRTR **Keskin Array B** 147.29 311 PKPbc **PKPbc** 15 07 40.4 -0.6
comp=Z,26nm,0.8s,baz=134,slow=4.5,SNR=63
BRTR **Keskin Array B** 147.29 311 PKP2 **PKPbc** 15 07 40.7 -0.3
HPK **Haverah Park** 147.35 4 *e*P **PKPbc** 15 07 39.3 -1.1
HWQ **Hawqa** 147.36 301 *e*P **PKPbc** 15 07 40.8 -0.4
VLDR **Vladesti** 147.50 325 P **PKPbc** 15 07 41.5 +0.4
TLCR 147.51 323 P **PKPbc** 15 07 40.9 -0.2
TLCR 147.51 323 PKP2 **PKPbc** 15 07 40.9 -0.2
ZAHL **Zahle** 147.51 300 *e*P **PKPbc** 15 07 41.9 +0.2
VARL **Varlezi** 147.58 325 P **PKPbc** 15 07 41.4 +0.1
RCY **Rachaya** 147.64 299 *e*P **PKPbc** 15 07 41.9 -0.1
WFS **Camaes, Angles** 147.65 7 *e*P **PKPbc** 15 07 37.0 -0.7
SCTR **Scanteiesti** 147.65 325 P **PKPbc** 15 07 42.0 +0.6
WME **Myndd Eilian** 147.67 7 *e*P **PKPdf** 15 07 37.2 -0.5
BHL **Bhannes** 147.69 300 *e*P **PKPbc** 15 07 41.9 -0.2
GHRR 147.71 326 P **PKiKP** 15 07 42.7 -0.5
BUR08 **Bucovina Ar. S** 147.72 330 **PKPbc** 15 07 42.1 +0.4
BURAR **Bucovina Array** 147.73 330 P **PKPbc** 15 07 41.7 -0.1
BURAR **Bucovina Array** 147.73 330 **PKPbc** 15 07 42.3 +0.6
JURR **Jurilovca** 147.73 323 P **PKPbc** 15 07 41.3 -0.4
QRWL **Qaraoun** 147.75 299 *e*P **PKPbc** 15 07 42.4 +0.1
WLF1 **Llynfaes** 147.77 7 *e*P **PKPdf** 15 07 37.1 -0.8
NEGRR **Negrea** 147.80 325 P **PKPbc** 15 07 42.1 +0.2
TESR **Tescani** 147.80 327 P **PKPbc** 15 07 41.5 -0.4
DQRL **Deir Qamar** 147.80 300 *e*P **PKPbc** 15 07 42.8 +0.4
SCHLR **Schela** 147.87 325 P **PKPbc** 15 07 41.8 -0.2
CFR **Carcaliu** 147.89 324 P **PKPbc** 15 07 42.0 -0.1
CFR **Carcaliu** 147.89 324 PKP2 **PKPbc** 15 07 42.0 -0.1
LBWR **Ladybower, Pea** 147.90 4 *e*P **PKPdf** 15 07 38.6 +0.5
OJC **Ojcow** 147.90 338 *e*PKP **PKPbc** 15 07 41.7 -0.3
YLL **Lanberis** 147.94 7 *e*P **PKPdf** 15 07 37.4 -0.8
PANC **Panciu** 147.97 326 P **PKiKP** 15 07 43.0 -0.7
KOLS **Kolonicke sedl** 148.02 334 *e*PKP **PKPdf** 15 07 39.4 +0.9
KOLS *e* 15 07 43.0
STHS **Stebnicka Huta** 148.04 336 *e*PKP **PKPbc** 15 07 42.0 -0.4
STHS *e* 15 07 46.3
STHS **Stebnicka Huta** 148.04 336 *e*PKP2 **PKPbc** 15 07 42.0 -0.4
ODBI **Odobesti** 148.09 326 P **PKiKP** 15 07 44.0 +0.1
MMAI **Mount Meron Ar** 148.10 298 PKPbc **PKPbc** 15 07 43.4 +0.3
comp=Z,26nm,0.3s,baz=72,slow=5.4,SNR=119
VRI **Vrincioaia** 148.20 326 P **PKPbc** 15 07 42.8 -0.1
VRI **Vrincioaia** 148.20 326 PKP2 **PKPbc** 15 07 42.8 -0.1
PLOR **Plostina** 148.25 326 P **PKPbc** 15 07 42.4 -0.7
PLOR **Plostina** 148.25 326 PKP2 **PKPbc** 15 07 42.7 -0.4
EFOR **EFORIE** 148.29 322 P **PKPbc** 15 07 43.7 +0.6
FOEL **Foel Wylfa** 148.29 6 *e*P **PKPdf** 15 07 38.5 -0.3
HARR **Harsova** 148.31 323 P **PKPbc** 15 07 43.1 -0.1
HARR **Harsova** 148.31 323 PKP2 **PKPbc** 15 07 43.1 -0.1
TLBR **Topalu** 148.34 323 P **PKPbc** 15 07 43.3 +0.1
MFTR **Murfatlar** 148.35 322 P **PKPbc** 15 07 43.3 +0.1
CRVS **Cervenica-Dubn** 148.37 335 *e*PKP **PKPbc** 15 07 43.7 +0.5
CRVS **Cervenica-Dubn** 148.37 335 *e*PKP2 **PKPbc** 15 07 43.7 +0.5
NIE **Niedzica** 148.39 337 *e*PKP **PKiKP** 15 07 43.9 -0.6
TURR **Turia** 148.44 327 P **PKPbc** 15 07 43.5 0.0
BMR **Baia Mare** 148.47 332 P **PKPbc** 15 07 43.7 +0.2
BMR **Baia Mare** 148.47 332 PKP2 **PKPbc** 15 07 43.7 +0.2
COVR **Voineasa-Covas** 148.48 327 P **PKPbc** 15 07 43.5 -0.2
OZUR 148.52 327 P **PKPbc** 15 07 44.0 +0.3
PCED **Cedros** 148.64 50 *e*PKP **PKPbc** 15 07 44.2 0.0
CALA **Caldeira** 148.66 50 *e*PKP **PKPbc** 15 07 44.6 +0.2
HLM1 **Long Mynd** 148.68 6 *e*P **PKPdf** 15 07 39.0 -0.5
AMRR **Amara** 148.69 324 P **PKPbc** 15 07 44.6 +0.5
AMRR **Amara** 148.69 324 PKP2 **PKPbc** 15 07 44.5 +0.5
NEHR **Nehoiu** 148.72 326 P **PKPbc** 15 07 44.0 -0.2
OSTC **Ostas** 148.74 342 *e*PKPDF **PKPdf** 15 07 40.5 +0.8
OSTC P *e*PKP **PKiKP** 15 07 44.8 -0.4
CHVC **Chvalec** 148.76 342 P *e*PKP **PKPbc** 15 07 44.3 +0.1
CHVC **Chvalec** 148.76 342 *e*PKP2 **PKPbc** 15 07 44.3 +0.1
OKC **Ostrava-Krasne** 148.78 339 P *e*PKP **PKPbc** 15 07 44.5 +0.3
OKC **Ostrava-Krasne** 148.78 339 *e*PKP2 **PKPbc** 15 07 44.5 +0.3
ISR **Istrita** 148.79 325 P **PKiKP** 15 07 45.0 -0.5
ISR **Istrita** 148.79 325 PKP2 **PKiKP** 15 07 45.0 -0.5
DOPR **Dopca** 148.81 327 P **PKPbc** 15 07 44.7 +0.3
PSN **Preselentsi** 148.84 322 *i*P **PKPbc** 15 07 44.4 -0.1
UPC **Upice** 148.84 342 *e*PKP **PKPbc** 15 07 44.6 +0.3
UPC **Upice** 148.84 342 *e*PKP2 **PKPbc** 15 07 44.6 +0.3
MLR **Muntele Rosu** 148.85 326 P **PKPbc** 15 07 44.2 -0.5
CLL **Collm** 148.86 346 **PKPbc** 15 07 44.4 +0.1
CLL **Collm** 148.86 346 *e*PKPdf **PKPdf** 15 07 39.0 -0.8
comp=Z,26nm,1.3s
CLL *i*PKPbc **PKPbc** 15 07 44.3 0.0
comp=Z,182nm,1.0s
CLL *ex* x 15 07 48.0
CLL *i* PKPab **PKPab** 15 07 49.5 -0.6
comp=Z,47nm,1.0s
CLL *ex* x 15 07 58.0
CLL *e*PKPab **pPKPab** 15 09 40.0 +1.0
CLL *e*PKSdf **PKSdf** 15 11 14.0 -0.5
CLL **Collm** 148.86 346 *e*PKIKP **PKPdf** 15 07 39.0 -0.8
CLL *i* 15 07 49.5
CLL pmax pmax
comp=Z,26nm,1.3s
CLL pmax pmax
comp=Z,47nm,1.0s
PCAN **Candelaria** 148.87 50 *e*PKP **PKPbc** 15 07 45.2 +0.4
PICO **Pico** 148.89 50 *e*PKP **PKiKP** 15 07 45.5 -0.4
DPC **Dobruska-Polom** 148.89 342 *e*PKP **PKPbc** 15 07 45.0 +0.5
DPC **Dobruska-Polom** 148.89 342 *e*PKP2 **PKPbc** 15 07 45.0 +0.5
ROSA **Rosais** 148.93 49 *e*PKP **PKiKP** 15 07 45.5 -0.4
PGRA **Graciosa** 148.98 49 *e*PKP **PKPab** 15 07 55.3 +4.3
KRLC **Kraliky** 149.00 341 P *e*PKP **PKPbc** 15 07 44.9 +0.1
KRLC **Kraliky** 149.00 341 *e*PKP2 **PKPbc** 15 07 44.9 +0.1
PPNO **Prainha do Nor** 149.02 50 *e*PKP **PKPbc** 15 07 45.2 0.0
MORC **Moravsky Berou** 149.03 340 P **PKPbc** 15 07 44.9 0.0
MORC **Moravsky Berou** 149.03 340 *e*PKP **PKPdf** 15 07 39.9 -0.3
MORC *e* 15 07 44.7
MORC *e* 15 09 41.7
MORC **Moravsky Berou** 149.03 340 PKP2 **PKPbc** 15 07 44.9 0.0
R

MAUC	**Maruska**	**149.29**	**339**	⇑*e*PKP	**PKiKP**	**15 07 46.1**	**-0.3**
RICC	**Richard**	**149.31**	**345**	⇑*e*PKP	**PKiKP**	**15 07 45.9**	**-0.4**
VOIR		**149.35**	**327**	⇑P	**PKPbc**	**15 07 44.2**	**-1.6**
MONM	**Monmouth**	**149.36**	**6**	*e*P	**PKPdf**	**15 07 39.9**	**-0.7**
MARR	**Marisel-Cluj**	**149.39**	**331**	⇓P	**PKPbc**	**15 07 45.6**	**-0.3**
STRD	**Stroud**	**149.48**	**5**	*e*P	**PKPbc**	**15 07 45.4**	**-0.4**
DRGR		**149.49**	**331**	⇑P	**PKPbc**	**15 07 45.9**	**-0.2**
PRD	**Provadia**	**149.55**	**321**	P	**PKPbc**	**15 07 46.3**	**+0.1**
PSBA	**Serra de Santa**	**149.56**	**49**	*e*PKP	**PKiKP**	**15 07 47.6**	**+0.3**
NEF	**NEVSHA**	**149.56**	**322**	P	**PKPbc**	**15 07 46.3**	**0.0**
ARR	**Arges**	**149.61**	**327**	⇓P	**PKiKP**	**15 07 47.1**	**-0.1**
PAGU	**Agualva, Azore**	**149.66**	**49**	*e*PKP	**PKPbc**	**15 07 46.7**	**0.0**
PRA	**Prague**	**149.66**	**344**	⇑*e*PKP	**PKPbc**	**15 07 46.6**	**+0.3**
VYHS	**Vyhne**	**149.69**	**337**	*e*PKP	**PKPdf**	**15 07 40.8**	**-0.4**
VYHS				*e*		15 07 46.7	
VYHS				*e*		15 07 54.0	
VYHS	**Vyhne**	**149.69**	**337**	*e*PKIKP	**PKPdf**	**15 07 40.8**	**-0.4**
VYHS				*e*		15 07 54.0	
PRU	**Pruhonice**	**149.71**	**344**	⇑*e*PKP	**PKPbc**	**15 07 46.2**	**-0.2**
PRU				*e*PKPAB	**PKPab**	**15 07 54.3**	**+0.7**
GOPC	**GO Pecny, Ondr**	**149.72**	**343**	⇑*e*PKP	**PKPbc**	**15 07 46.7**	**+0.2**
VRAC	**Vranov**	**149.74**	**341**	⇑P	**PKPbc**	**15 07 46.5**	**0.0**
VRAC	**Vranov**	**149.74**	**341**	*e*PKP	**PKPdf**	**15 07 41.1**	**-0.2**
VRAC				*e*		15 07 46.6	
VRAC				*e*		15 09 43.3	
PSZ	**Piszkesteto**	**149.78**	**336**	⇑P	**PKPbc**	**15 07 46.1**	**-0.7**
JAVC	**Velka Javorina**	**149.78**	**339**	*e*PKP	**PKPdf**	**15 07 42.3**	**+0.9**
JAVC				*e*		15 07 47.8	
JAVC				*e*		15 09 44.6	
LOT	**Lotru**	**149.98**	**328**	⇓P	**PKPbc**	**15 07 46.7**	**-0.7**
HTL	**Hartland**	**150.01**	**8**	*e*P	**PKPdf**	**15 07 41.3**	**-0.2**
HUMR	**Humele**	**150.01**	**326**	⇓P	**PKPbc**	**15 07 46.8**	**-0.6**
KRUC	**Moravsky**	**150.02**	**341**	*e*PKP	**PKPdf**	**15 07 41.2**	**-0.5**
KRUC				*e*		15 07 47.1	
KRUC				*e*		15 09 43.9	
DEV	**Deva**	**150.08**	**330**	⇓P	**PKPbc**	**15 07 47.0**	**-0.4**
DEV	**Deva**	**150.08**	**330**	⇓PKIKP	**PKPbc**	**15 07 47.0**	**-0.4**
SZH	**Strazhitsa**	**150.30**	**323**	⇓*i*P	**PKPbc**	**15 07 47.8**	**-0.3**
MODS	**Modra-Piesok**	**150.34**	**339**	*e*PKP	**PKiKP**	**15 07 48.7**	**+0.2**
MODS	**Modra-Piesok**	**150.34**	**339**	*e*PKIKP	**PKiKP**	**15 07 48.7**	**+0.2**
SRO	**Srobarova**	**150.46**	**337**	*e*PKP	**PKiKP**	**15 07 49.0**	**+0.3**
SRO				*e*		15 07 58.1	
SRO	**Srobarova**	**150.46**	**337**	*e*PKIKP	**PKiKP**	**15 07 49.0**	**+0.3**
JMB	**Yambol**	**150.47**	**321**	P	**PKPbc**	**15 07 48.2**	**-0.2**
GZR	**Gura Zlata**	**150.50**	**329**	⇓P	**PKPbc**	**15 07 48.1**	**-0.4**
GZR	**Gura Zlata**	**150.50**	**329**	⇓PKIKP	**PKPbc**	**15 07 48.1**	**-0.4**
SURR	**Surduc**	**150.54**	**330**	⇓P	**PKPbc**	**15 07 48.1**	**-0.4**
ZST	**Bratislava**	**150.55**	**339**	*e*PKP	**PKiKP**	**15 07 48.8**	**-0.1**
ZST	**Bratislava**	**150.55**	**339**	*e*PKIKP	**PKiKP**	**15 07 48.8**	**-0.1**
ELND	**Elena**	**150.57**	**322**	⇓P	**PKPbc**	**15 07 48.9**	**+0.2**
MEM	**Membach**	**150.62**	**355**	*d*PKPdf	**PKPdf**	**15 07 42.5**	**-0.1**
MEM				*d*PKP	**PKPbc**	**15 07 48.4**	**-0.2**
BTNL	**Ternell**	**150.64**	**354**	*d*PKPdf	**PKPdf**	**15 07 42.4**	**-0.2**
BTNL				*d*PKP	**PKPbc**	**15 07 48.5**	**-0.2**
VLAD	**Vladila**	**150.68**	**326**	⇓P	**PKiKP**	**15 07 49.4**	**+0.1**
BSTI	**Sart Tilman**	**150.69**	**355**	*d*PKP	**PKPbc**	**15 07 48.7**	**+0.1**
KHC	**Kasperske Hory**	**150.75**	**344**	PKPbc	**PKPbc**	**15 07 49.0**	**+0.1**
KHC	**Kasperske Hory**	**150.75**	**344**	*e*PKPDF	**PKPdf**	**15 07 42.6**	**-0.3**
KHC				⇑*e*PKP	**PKPbc**	**15 07 49.0**	**+0.1**
KHC				*e*PKPAB	**PKPab**	**15 07 58.9**	**+0.8**
KHC				*e*pPKP	**pPKPab**	**15 09 45.0**	**-1.8**
KHC	**Kasperske Hory**	**150.75**	**344**	*e*PKIKP	**PKPdf**	**15 07 42.6**	**-0.3**
KHC				*e*		15 07 58.9	
SRE	**Strehaia**	**150.82**	**328**	⇓P	**PKPbc**	**15 07 49.3**	**+0.1**
SRE	**Strehaia**	**150.82**	**328**	⇓PKIKP	**PKPbc**	**15 07 49.3**	**+0.1**
CKRC	**Cesky Krumlov**	**150.84**	**343**	*e*PKP	**PKPbc**	**15 07 48.3**	**-0.8**
CKRC				⇑*e*PKP	**PKiKP**	**15 07 49.0**	**-0.6**
CKRC	**Cesky Krumlov**	**150.84**	**343**	*e*PKIKP	**PKPbc**	**15 07 48.3**	**-0.8**
PVL	**Pavlikeni**	**150.84**	**323**	P	**PKPbc**	**15 07 49.0**	**-0.3**
BCLA	**Clavier**	**150.87**	**355**	*d*PKP	**PKPbc**	**15 07 48.7**	**-0.4**
BZS	**Buzias**	**150.87**	**331**	⇓P	**PKPbc**	**15 07 48.9**	**-0.4**
BZS	**Buzias**	**150.87**	**331**	⇓PKIKP	**PKPbc**	**15 07 48.9**	**-0.4**
BHOU	**Houvegnez**	**150.88**	**355**	*d*PKPdf	**PKPdf**	**15 07 43.4**	**+0.4**
BHOU				*d*PKP	**PKPbc**	**15 07 49.2**	**+0.1**
BHOU				*d*PKPab	**PKPab**	**15 07 58.1**	**-0.4**
BGES	**Gesves**	**150.92**	**356**	*d*PKPdf	**PKPdf**	**15 07 43.0**	**-0.1**
BGES				*d*PKP	**PKPbc**	**15 07 48.7**	**-0.6**
BGES				*d*PKPab	**PKPab**	**15 07 57.7**	**-0.9**
BGES				*d*pPKPdf	**pPKPdf**	**15 09 34.2**	**-2.9**
GEC2	**GERESS Array S**	**150.98**	**344**	PKPbc	**PKPbc**	**15 07 49.5**	**-0.1**
GERES	**GERESS Array B**	**150.98**	**344**	PKPbc	**PKPbc**	**15 07 49.2**	**-0.3**
GERES	**GERESS Array B**	**150.98**	**344**	PKP	**PKPdf**	**15 07 43.0**	**-0.3**
	comp=Z,4.9nm,0.9s,baz=36,slow=2.5,SNR=7.1						
GERES				PKPbc	**PKPbc**	**15 07 49.6**	**0.0**
	comp=Z,55nm,0.9s,baz=40,slow=2.3,SNR=58						
BMRD	**Maredsous**	**151.02**	**356**	*d*PKPdf	**PKPdf**	**15 07 43.3**	**+0.1**
BMRD				*d*PKP	**PKPbc**	**15 07 49.2**	**-0.3**
BMRD				*d*PKPab	**PKPab**	**15 07 58.1**	**-1.0**
HERR	**Herculane**	**151.05**	**329**	⇑P	**PKPbc**	**15 07 49.3**	**-0.4**
RCHB	**Rochefort**	**151.14**	**355**	*d*PKPdf	**PKPdf**	**15 07 43.4**	**+0.1**
RCHB				*d*PKP	**PKPbc**	**15 07 49.4**	**-0.3**
CONA	**Conrad Observa**	**151.19**	**340**	*i* PKP	**PKPdf**	**15 07 43.3**	**-0.3**
	comp=Z,7.8nm,1.1s,SNR=10						
CONA				*e*PKP	**PKPbc**	**15 07 50.1**	**+0.1**
	comp=Z,74nm,0.8s						
CONA				*e*PKP	**PKPab**	**15 08 01.4**	**+1.4**
	comp=Z,58nm,1.4s						
DOU	**Dourbes**	**151.24**	**356**	*d*PKPdf	**PKPdf**	**15 07 43.7**	**+0.2**
DOU				*d*PKP	**PKPbc**	**15 07 49.5**	**-0.4**
DOU				*d*pPKP	**pPKPab**	**15 09 47.2**	**-1.5**
RONA	**Rosalia, Austr**	**151.25**	**339**	*i* PKP	**PKPdf**	**15 07 43.0**	**-0.7**
	comp=Z,7.1nm,1.2s,SNR=34						
RONA				*e*PKP	**PKPbc**	**15 07 50.3**	**+0.1**
	comp=Z,72nm,0.6s						
RONA				*e*PKP	**PKPab**	**15 08 01.1**	**+0.9**
	comp=Z,22nm,0.8s						
BANR	**Banloc**	**151.27**	**331**	⇑P	**PKiKP**	**15 07 51.0**	**+0.5**
CMLA	**Cha da Macela**	**151.27**	**49**	*e*PKP	**PKiKP**	**15 07 51.3**	**+0.5**
DIM	**Dimitrovgrad**	**151.30**	**321**	P	**PKPbc**	**15 07 50.4**	**0.0**
VALD	**Valchedram**	**151.40**	**326**	P	**PKPbc**	**15 07 50.5**	**0.0**
MDVR	**Moldovita**	**151.46**	**330**	⇓P	**PKPbc**	**15 07 50.3**	**-0.4**
MPEP	**Malo Peshtene**	**151.47**	**325**	⇓*i*P	**PKPbc**	**15 07 50.5**	**-0.2**
BART	**Pico Bartolome**	**151.52**	**49**	*e*PKP	**PKiKP**	**15 07 53.1**	**+1.7**
WLF	**Walferdange**	**151.55**	**354**	*d*PKPdf	**PKPdf**	**15 07 44.4**	**+0.5**
WLF				*d*PKP	**PKiKP**	**15 07 50.9**	**-0.1**
WLF				*d*PKPab	**PKPab**	**15 07 59.8**	**-1.5**
MORH	**Mrgy, Hungar**	**151.66**	**335**	⇓P	**PKPbc**	**15 07 50.6**	**-0.4**
KDZ	**Kurdzhali**	**151.70**	**321**	P	**PKPbc**	**15 07 50.6**	**-0.7**
PLD	**Plovdiv**	**151.71**	**322**	P	**PKPbc**	**15 07 50.5**	**-0.8**
ALN	**Alexandroupoli**	**151.72**	**319**		**PKPbc**	**15 07 50.2**	**-1.1**
ALN	**Alexandroupoli**	**151.72**	**319**	PKIKP	**PKPbc**	**15 07 50.2**	**-1.1**
MOA	**Molln**	**151.74**	**342**	*i* PKP	**PKPdf**	**15 07 44.0**	**-0.4**
	comp=Z,4.3nm,1.0s,SNR=9.4						
MOA				*e*PKP	**PKPbc**	**15 07 51.2**	**0.0**
	comp=Z,20nm,0.6s						
MOA				*e*PKP	**PKPab**	**15 08 03.2**	**+1.0**
	comp=Z,37nm,1.4s						
PGB	**Panagyurishte**	**151.80**	**324**	⇓*i*P	**PKPbc**	**15 07 50.9**	**-0.6**
BLKB	**Belogradchik**	**151.83**	**327**	⇓P	**PKPbc**	**15 07 51.4**	**-0.1**
ARSA	**Arzberg**	**151.89**	**340**	*e*PKP	**PKPdf**	**15 07 43.7**	**-0.9**
	comp=Z,8.2nm,1.4s						
ARSA				*i* PKP	**PKPbc**	**15 07 51.4**	**-0.2**
	comp=Z,22nm,1.2s,SNR=5.5						
PSMN	**Pico do Norte,**	**151.94**	**50**	*e*PKP	**PKPdf**	**15 07 44.9**	**-0.1**
RZN	**Rozhen**	**152.01**	**322**	⇓*i*P	**PKPbc**	**15 07 51.6**	**-0.6**
FRGS	**Fruska Gora**	**152.03**	**332**	⇑P	**PKPbc**	**15 07 51.8**	**-0.2**
FRGS	**Fruska Gora**	**152.03**	**332**	*e*P	**PKPdf**	**15 07 43.8**	**-1.1**
BIOA	**Bad Ischl, Aus**	**152.06**	**343**	*e*PKP	**PKPdf**	**15 07 44.2**	**-0.7**
	comp=Z,12nm,1.4s						
BIOA				*i* PKP	**PKPbc**	**15 07 51.2**	**-0.7**
	comp=Z,36nm,0.9s,SNR=9.4						
VTS	**Vitosha**	**152.24**	**325**	⇓*i*P	**PKPbc**	**15 07 52.2**	**-0.5**
SOKA	**Soboth**	**152.56**	**340**	*i* PKP	**PKPdf**	**15 07 44.0**	**-1.7**
	comp=Z,9.5nm,1.3s,SNR=5.6						
SOKA				*e*PKP	**PKPbc**	**15 07 52.6**	**-0.5**
	comp=Z,46nm,1.0s						
SOKA				*e*PKP	**PKPab**	**15 08 06.4**	**+0.6**
	comp=Z,37nm,1.5s						
LESA	**Schwarzleotal**	**152.56**	**344**	*e*PKP	**PKPdf**	**15 07 45.1**	**-0.6**
	comp=Z,18nm,1.2s						
LESA				*e*PKP	**PKPbc**	**15 07 52.8**	**-0.3**
	comp=Z,42nm,1.0s						
LESA				*e*PKP	**PKPab**	**15 08 06.8**	**+1.0**
	comp=Z,35nm,1.1s						
BFO	**Black Forest**	**152.59**	**351**	PKPbc	**PKiKP**	**15 07 53.7**	**+0.5**
BFO	**Black Forest**	**152.59**	**351**	PKIKP	**PKiKP**	**15 07 53.7**	**+0.5**
TEKS	**Tekeris**	**152.64**	**332**	*e*P	**PKPdf**	**15 07 44.4**	**-1.4**
MMB	**Musomishta**	**152.67**	**322**	⇓*i*P	**PKPbc**	**15 07 52.8**	**-0.7**
KBA	**Koelnbreinsper**	**152.70**	**343**	*i* PKP	**PKPdf**	**15 07 45.0**	**-1.0**
	comp=Z,12nm,1.4s,SNR=6.4						
KBA				*e*PKP	**PKPbc**	**15 07 52.8**	**-0.8**
	comp=Z,33nm,0.9s						
KBA				*e*PKP	**PKPbc**	**15 07 52.8**	**+1.3**
	comp=Z,17nm,0.7s						
KKB	**Krupnik**	**152.82**	**324**	⇓*i*P	**PKPbc**	**15 07 53.0**	**-0.8**
OBKA	**Obir**	**152.86**	**341**	*e*PKP	**PKPdf**	**15 07 45.4**	**-0.8**
	comp=Z,7.3nm,1.4s						
OBKA				*e*PKP	**PKPbc**	**15 07 53.1**	**-0.7**
	comp=Z,11nm,0.8s						
OBKA	**Obir**	**152.86**	**341**	*e*P	**PKPdf**	**15 07 44.7**	**-1.5**
WATA	**Walderalm**	**152.91**	**345**	*e*PKP	**PKPdf**	**15 07 45.7**	**-0.6**
	comp=Z,14nm,1.2s						
WATA				*i* PKP	**PKPbc**	**15 07 53.6**	**-0.4**
	comp=Z,65nm,1.4s,SNR=9.9						
WATA				*e*PKP	**PKPab**	**15 08 07.1**	**-0.3**
	comp=Z,51nm,1.4s						
RETA	**Reutte**	**152.95**	**347**	*e*PKP	**PKPdf**	**15 07 45.4**	**-0.9**
	comp=Z,6.3nm,1.1s						
RETA				*i* PKP	**PKPbc**	**15 07 53.5**	**-0.5**
	comp=Z,22nm,0.9s,SNR=8.3						
RETA				*e*PKP	**PKPab**	**15 08 07.0**	**-0.4**
	comp=Z,23nm,1.0s						
WTTA	**Wattenberg**	**152.97**	**345**	*i* PKP	**PKPdf**	**15 07 45.6**	**-0.8**
	comp=Z,17nm,1.0s,SNR=7.4						
WTTA				*e*PKP	**PKPbc**	**15 07 53.8**	**-0.3**
	comp=Z,44nm,0.7s						
WTTA				*e*PKP	**PKPab**	**15 08 07.9**	**+0.3**
	comp=Z,35nm,0.7s						
MOTA	**Moosalm**	**153.01**	**346**	*i* PKP	**PKPdf**	**15 07 45.4**	**-1.0**
	comp=Z,17nm,1.0s,SNR=6.9						
MOTA				*i* PKP	**PKPbc**	**15 07 53.9**	**-0.3**
	comp=Z,43nm,0.9s						
MOTA				*e*PKP	**PKPab**	**15 08 07.8**	**0.0**
	comp=Z,31nm,0.8s						
MYKA	**Terra Mystica**	**153.02**	**342**	*e*PKP	**PKPdf**	**15 07 44.8**	**-1.6**
	comp=Z,7.8nm,1.0s						
MYKA				*i* PKP	**PKPbc**	**15 07 53.0**	**-1.1**
	comp=Z,21nm,0.6s,SNR=10						
MYKA				*e*PKP	**PKPab**	**15 08 07.7**	**-0.1**
	comp=Z,8.6nm,0.6s						
SQTA	**Sankt Quirin**	**153.10**	**346**	*i* PKP	**PKPdf**	**15 07 45.8**	**-0.8**
	comp=Z,13nm,0.8s,SNR=6.0						
SQTA				*i* PKP	**PKPbc**	**15 07 54.3**	**-0.1**
	comp=Z,41nm,0.9s						
SQTA				*e*PKP	**PKPab**	**15 08 07.7**	**-0.5**
	comp=Z,7.0nm,0.5s						
CRES	**Cresnjev**	**153.17**	**339**	*e*P	**PKPdf**	**15 07 45.1**	**-1.4**
ABTA	**Abfaltersbach**	**153.23**	**344**	*i* PKP	**PKPdf**	**15 07 45.3**	**-1.4**
	comp=Z,27nm,1.0s,SNR=12						
ABTA				*e*PKP	**PKPbc**	**15 07 53.6**	**-1.0**
	comp=Z,71nm,0.8s						
BBLS	**Lazi&#263i**	**153.23**	**331**	*e*P	**PKPdf**	**15 07 44.6**	**-2.1**
HAPS	**Han Pijesak,Bl**	**153.26**	**332**	*e*P	**PKPdf**	**15 07 46.0**	**-0.8**
LJU	**Ljubljana**	**153.28**	**340**	*e*PKPdf	**PKPdf**	**15 07 45.8**	**-0.8**
DAVA	**Damuels**	**153.33**	**348**	*i* PKP	**PKPdf**	**15 07 46.5**	**-0.4**
	comp=Z,8.1nm,1.0s						
DAVA				*i* PKP	**PKiKP**	**15 07 55.1**	**+0.1**
	comp=Z,46nm,1.0s,SNR=7.3						
DAVA				*e*PKP	**PKPab**	**15 08 09.1**	**-0.1**
	comp=Z,24nm,1.0s						
CRNS	**Crni Vrh**	**153.33**	**341**	*i* PKPbc	**PKPbc**	**15 07 53.9**	**-0.9**
A051A	**Mrakovica**	**153.34**	**336**	*e*P	**PKPdf**	**15 07 45.7**	**-1.2**
CADS	**Cadrg**	**153.36**	**341**	*i* PKPdf	**PKPdf**	**15 07 45.5**	**-1.4**
CADS				*i* PKPbc	**PKPbc**	**15 07 53.3**	**-1.5**
VISS	**Visnje**	**153.39**	**339**	*e*PKPbc	**PKPbc**	**15 07 54.3**	**-0.6**
VISS				*i* PKPab	**PKPab**	**15 08 08.2**	**-1.1**
FETA	**Feichten**	**153.40**	**346**	*i* PKP	**PKPdf**	**15 07 46.7**	**-0.3**
	comp=Z,22nm,0.9s,SNR=14						
FETA				*i* PKP	**PKiKP**	**15 07 55.1**	**0.0**
	comp=Z,46nm,1.0s						
FETA				*e*PKP	**PKPab**	**15 08 09.6**	**+0.1**
	comp=Z,33nm,1.0s						
SJES	**Sjenica**	**153.43**	**329**	*e*P	**PKPdf**	**15 07 45.1**	**-2.0**
RUDO	**Rudo**	**153.44**	**331**	*e*P	**PKPdf**	**15 07 45.8**	**-1.2**
BLY	**Banja Luka**	**153.45**	**335**	*e*P	**PKPdf**	**15 07 47.5**	**+0.6**
VAY	**Valandovo**	**153.48**	**323**	*i* P	**PKPbc**	**15 07 54.1**	**-1.1**
BOJS	**Bojanci**	**153.52**	**339**	*e*PKPdf	**PKPdf**	**15 07 46.4**	**-0.6**
BOJS				*i* PKPbc	**PKPbc**	**15 07 55.1**	**-0.1**
BOJS	**Bojanci**	**153.52**	**339**	*e*P	**PKPdf**	**15 07 45.5**	**-1.5**
CEY	**Cerknica**	**153.58**	**340**	*e*P	**PKPdf**	**15 07 45.2**	**-1.9**
SKO	**Skopje**	**153.65**	**326**	*i* P	**PKPdf**	**15 07 46.4**	**-0.9**
A050A	**Klekovaca**	**153.93**	**336**	*e*P	**PKPdf**	**15 07 46.6**	**-1.1**
BRY	**Bratogost**	**154.38**	**331**	*e*P	**PKPdf**	**15 07 45.1**	**-3.4**
PUK	**Puka**	**154.39**	**328**	PKPbc	**PKiKP**	**15 07 56.8**	**-0.4**
PDG	**Podgorica**	**154.41**	**329**	*e*P	**PKPdf**	**15 07 47.7**	**-0.6**
OHR	**Ohrid**	**154.59**	**325**	*i* P	**PKPdf**	**15 07 48.2**	**+0.5**
DRME	**Dracevica, Mon**	**154.62**	**329**	*e*P	**PKPdf**	**15 07 47.7**	**-0.9**
HCY	**Herceg Novi**	**154.75**	**330**	*e*P	**PKPdf**	**15 07 41.2**	**-7.6**
MFF	**Saint Martin d**	**154.77**	**3**	*e*PKIKP	**PKPdf**	**15 07 47.8**	**-0.9**
MFF				pmax	pmax		
	comp=Z,17nm,1.1s						
STON	**Ston**	**154.77**	**332**	*e*P	**PKPdf**	**15 07 46.3**	**-2.5**
LPL	**La Plagne**	**155.57**	**352**	*e*PKIKP	**PKPdf**	**15 07 49.6**	**-0.5**
LPL				pmax	pmax		
	comp=Z,25nm,1.5s						
CAF	**Calviac**	**156.50**	**360**	*e*PKIKP	**PKPdf**	**15 07 50.6**	**-0.5**
CAF				pmax	pmax		
	comp=Z,13nm,1.2s						
PGAV	**Gavieira, Arco**	**157.76**	**20**	*e*PKPdf	**PKPdf**	**15 07 53.1**	**+0.3**
PGAV	**Gavieira, Arco**	**157.76**	**20**	*e*PKPab	**PKPab**	**15 08 28.7**	**+0.4**
PCAB	**Cabril**	**158.07**	**20**	*e*PKPdf	**PKPdf**	**15 07 53.2**	**+0.1**
PCAB	**Cabril**	**158.07**	**20**	*e*PKPab	**PKPab**	**15 08 29.3**	**-0.3**
TIP	**Timpagrande**	**158.11**	**328**	⇓P	**PKPdf**	**15 07 52.6**	**-0.7**
PBRG	**Braganca**	**158.37**	**18**	*e*PKPdf	**PKPdf**	**15 07 53.1**	**-0.4**
PBRG	**Braganca**	**158.37**	**18**	*e*PKPab	**PKPab**	**15 08 31.0**	**+0.1**
POLO	**Lamas de Olo**	**158.45**	**20**	*e*PKPdf	**PKPdf**	**15 07 53.9**	**+0.2**
POLO	**Lamas de Olo**	**158.45**	**20**	*e*PKPab	**PKPab**	**15 08 31.3**	**0.0**
MVO	**Moncorvo**	**158.88**	**19**	*e*PKPdf	**PKPdf**	**15 07 53.8**	**-0.4**
MVO	**Moncorvo**	**158.88**	**19**	*e*PKPab	**PKPab**	**15 08 33.1**	**-0.1**
PVIS	**Viseu**	**159.01**	**21**	*e*PKPdf	**PKPdf**	**15 07 54.5**	**+0.2**
PVIS	**Viseu**	**159.01**	**21**	*e*PKPab	**PKPab**	**15 08 33.7**	**0.0**
PCAS	**Casmilo, Conde**	**159.38**	**23**	*e*PKPdf	**PKPdf**	**15 07 53.8**	**-0.9**
PCAS	**Casmilo, Conde**	**159.38**	**23**	*e*PKPab	**PKPab**	**15 08 35.3**	**0.0**
MTE	**Manteigas**	**159.41**	**21**	*e*PKPdf	**PKPdf**	**15 07 54.3**	**-0.5**
MTE	**Manteigas**	**159.41**	**21**	*e*PKPab	**PKPab**	**15 08 35.4**	**-0.1**
PMOZ	**Porto Moniz, M**	**159.60**	**52**	*e*PKPab	**PKPab**	**15 08 35.6**	**-1.2**
PSBE	**So Bento**	**159.74**	**24**	*e*PKPdf	**PKPdf**	**15 07 56.0**	**+0.9**
PSBE	**So Bento**	**159.74**	**24**	*e*PKPab	**PKPab**	**15 08 37.2**	**+0.2**
PCBR	**Castelo Branco**	**159.93**	**21**	*e*PKPdf	**PKPdf**	**15 07 55.7**	**+0.4**
PCBR	**Castelo Branco**	**159.93**	**21**	*e*PKPab	**PKPab**	**15 08 37.7**	**0.0**
PMAFR	**Mafra**	**160.03**	**26**	*e*PKPab	**PKPab**	**15 08 38.3**	**+0.1**
PMRV	**Marv??o**	**160.33**	**22**	*e*PKPdf	**PKPdf**	**15 07 55.9**	**+0.1**
PMRV	**Marv??o**	**160.33**	**22**	*e*PKPab	**PKPab**	**15 08 39.6**	**+0.1**
PMTG	**Montargil**	**160.35**	**24**	*e*PKPdf	**PKPdf**	**15 07 56.1**	**+0.3**
PMTG	**Montargil**	**160.35**	**24**	*e*PKPab	**PKPab**	**15 08 39.3**	**-0.3**
PESTR	**Estremoz**	**160.76**	**23**	*e*PKPdf	**PKPdf**	**15 07 56.1**	**-0.2**
PESTR	**Estremoz**	**160.76**	**23**	*e*PKPab	**PKPab**	**15 08 41.3**	**-0.1**
EVO	**Evora**	**160.90**	**24**	*e*PKPdf	**PKPdf**	**15 07 55.8**	**-0.6**
EVO	**Evora**	**160.90**	**24**	*e*PKPab	**PKPab**	**15 08 41.9**	**-0.1**
PNCL	**Nicolau / Gran**	**161.06**	**26**	*e*PKPdf	**PKPdf**	**15 07 56.6**	**+0.1**
PNCL	**Nicolau / Gran**	**161.06**	**26**	*e*PKPab	**PKPab**	**15 08 42.3**	**-0.4**
ESDC	**Sonseca Array**	**161.08**	**14**	PKP	**PKPdf**	**15 07 54.8**	**-1.9**
	comp=Z,4.3nm,1.0s,baz=350,slow=2.9,SNR=23						
ESDC				PKPab	**PKPab**	**15 08 42.2**	**-0.6**
	comp=Z,17nm,1.1s,baz=342,slow=4.1,SNR=26						
ESDC				PP	**PP**	**15 12 26.4**	**-0.2**
	comp=Z,3.0nm,1.2s,baz=337,slow=5.6,SNR=7.3						
PAB	**San Pablo**	**161.11**	**15**	⇑PKIKP	**PKPdf**	**15 07 57.4**	**+0.7**
PBEJ	**Beja**	**161.39**	**25**	*e*PKPdf	**PKPdf**	**15 07 58.0**	**+1.1**
PBEJ	**Beja**	**161.39**	**25**	*e*PKPab	**PKPab**	**15 08 44.2**	**0.0**
MESJ	**Messejana**	**161.41**	**26**	*e*PKPdf	**PKPdf**	**15 07 57.9**	**+0.9**
MESJ	**Messejana**	**161.41**	**26**	*e*PKPdf	**PKPdf**	**15 07 57.0**	**0.0**
MESJ				*e*PKPab	**PKPab**	**15 08 44.5**	**+0.2**
PTEO	**Sao Teotonio**	**161.46**	**27**	*e*PKPdf	**PKPdf**	**15 07 57.7**	**+0.7**
PTEO	**Sao Teotonio**	**161.46**	**27**	*e*PKPab	**PKPab**	**15 08 44.3**	**-0.2**
PBAR	**Barrancos**	**161.57**	**23**	*e*PKPdf	**PKPdf**	**15 07 57.7**	**+0.6**
PBAR	**Barrancos**	**161.57**	**23**	*e*PKPab	**PKPab**	**15 08 44.9**	**0.0**
PCVE	**Castro Verde**	**161.67**	**26**	*e*PKPdf	**PKPdf**	**15 07 58.0**	**+0.8**
PCVE	**Castro Verde**	**161.67**	**26**	*e*PKPab	**PKPab**	**15 08 45.5**	**+0.1**
MORF	**Marmelete**	**161.69**	**28**	*e*PKPdf	**PKPdf**	**15 07 58.2**	**+0.9**
MORF	**Marmelete**	**161.69**	**28**	*e*PKPdf	**PKPdf**	**15 07 57.4**	**+0.1**
MORF				*e*PKPab	**PKPab**	**15 08 45.7**	**+0.1**
PFVI	**Vila Bisbo**	**161.76**	**28**	*e*PKPdf	**PKPdf**	**15 07 58.1**	**+0.8**
PFVI	**Vila Bisbo**	**161.76**	**28**	*e*PKPab	**PKPab**	**15 08 46.1**	**+0.3**
PVAQ	**Vaqueiros**	**161.99**	**25**	*e*PKPdf	**PKPdf**	**15 07 58.1**	**+0.6**
PVAQ	**Vaqueiros**	**161.99**	**25**	*e*PKPab	**PKPab**	**15 08 46.7**	**-0.1**
PBDV	**Barranco-do-Ve**	**162.04**	**26**	*e*PKPdf	**PKPdf**	**15 07 57.6**	**0.0**
PBDV	**Barranco-do-Ve**	**162.04**	**26**	*e*PKPab	**PKPab**	**15 08 47.6**	**+0.5**
LIC	**Lamto**	**163.55**	**155**	⇓*i*PKIKP	**PKPdf**	**15 07 58.8**	**-0.9**
	comp=Z,100nm,1.0s						
LIC	**Lamto**	**163.55**	**155**	⇑*i*PKP1	**PKPab**	**15 08 55.5**	**+1.3**
	comp=Z,17nm,0.4s						
KIC	**Kosan Boka**	**163.79**	**156**	⇓*i*PKIKP	**PKPdf**	**15 07 59.1**	**-0.9**
	comp=Z,90nm,0.9s						
KIC	**Kosan Boka**	**163.79**	**156**	⇑*i*PKP1	**PKPab**	**15 08 56.5**	**+1.3**
	comp=Z,39nm,1.0s						
TIC	**Toumodi**	**163.94**	**155**	⇓*i*PKIKP	**PKPdf**	**15 07 59.4**

CBL1	Cabuya	0.64	201	eP		Pn		14 59 57.4	-1.8	
VERA	Finca Concepci	0.66	359	eP		Pn		14 59 58.9	-0.7	
JUD3	Juan Diaz 3	0.67	268	eP		Pn		14 59 59.2	-0.5	
VMAR	Armenia, Volca	0.67	338	eP		Pn		14 59 59.2	-0.5	
BELE	Belen	0.69	108	eP		Pn		14 59 58.9	-1.1	
COVE	Coope Vega, Sa	0.69	40	eP		Pn		14 59 59.0	-0.9	
DELF	Filadelfia	0.73	291	eP		Pn		15 00 00.5	+0.1	
GPS3	Bodega del ICE	0.75	319	eP		Pn		15 00 02.3	+1.5	
HDC	Heredia	0.76	104	eP		Pn		15 00 00.0	-0.8	
HDC3	Heredia 3	0.76	104	eP		Pn		15 00 00.0	-0.9	
VRLE	La Escondida,	0.78	320	eP		Pn		15 00 00.4	-0.7	
ALIBA	Liberia Airpor	0.79	301	eP		Pn		15 00 02.5	+1.4	
VORI	VORI	0.79	323	eP		Pn		15 00 00.7	-0.7	
LUJA	Lujan	0.82	108	eP		Pn		15 00 01.6	-0.1	
GB1A	Boringuen Arri	0.82	320	eP		Pn		15 00 01.1	-0.6	
LUPE	Guadalupe	0.82	107	eP		Pn		15 00 00.9	-0.9	
SJS3	Mercedes San J	0.83	107	eP		Pn		15 00 01.0	-0.8	
SARA	Sarapiqu	0.86	72	eP		Pn		15 00 01.1	-1.1	
CORON	Coronado	0.87	104	eP		Pn		15 00 01.8	-0.6	
HZTE	Horizontes, Gu	0.90	306	eP		Pn		15 00 02.4	-0.2	
TRIO	Tres Rios	0.90	108	eP		Pn		15 00 01.7	-1.0	
CVIMO	Finca Echandi	0.92	100	eP		Pn		15 00 02.3	-0.7	
ABE2	San Pablo	0.93	121	eP		Pn		15 00 02.2	-1.0	
RIFO	Rio Frio, Sara	0.93	82	eP		Pn		15 00 02.2	-0.8	
LCR2	La Lucha 2	0.95	118	eP		Pn		15 00 02.3	-1.2	
VICA	Volcano Irazu	1.02	101	eP		Pn		15 00 03.7	-0.9	
REPA	Paraso	1.04	110	eP		Pn		15 00 05.0	+0.4	
RAFA	San Farael, Vo	1.05	102	iP		Pn		15 00 04.4	-0.7	
RAFA				iS		Sn		15 00 19.7	+0.8	
RAFA	San Farael, Vo	1.05	102	eP		Pn		15 00 04.3	-0.7	
PCAYA	Pacayas	1.06	104	eP		Pn		15 00 04.6	-0.5	
VTRT	Volcan Turrial	1.06	100	eP		Pn		15 00 04.4	-0.8	
CVTQ	Turrialba Volc	1.09	99	eP		Pn		15 00 05.0	-0.5	
CVTR	Volcan Turrial	1.09	99	eP		Pn		15 00 04.9	-0.8	
VTR0	Volcan Turrial	1.09	99	eP		Pn		15 00 05.0	-0.7	
CVTV	Tajo	1.11	99	eP		Pn		15 00 05.0	-0.7	
VTLO	VTLO	1.12	97	eP		Pn		15 00 05.2	-0.7	
VTCV	VTCV, Calle Va	1.13	100	eP		Pn		15 00 05.5	-0.4	
LCRUZ	La Cruz	1.17	320	eP		Pn		15 00 06.8	+0.5	
VERB	Verbena	1.17	102	eP		Pn		15 00 06.1	-0.3	
TURIB	Turrialba	1.19	103	eP		Pn		15 00 05.9	-0.7	
RVSTA	Santa Teresita	1.21	100	eP		Pn		15 00 06.6	-0.3	
TRT1	Tortuguero	1.21	70	eP		Pn		15 00 05.3	-1.5	
CDM	Cerro de Muert	1.25	120	eP		Pn		15 00 06.5	-1.2	
LCOCO	El Coco	1.28	94	eP		Pn		15 00 07.4	-0.4	
PEZE	Perez Zeledon,	1.41	124	eP		Pn		15 00 08.9	-0.8	
BATAN	Batan	1.46	93	eP		Pn		15 00 09.8	-0.5	
BATAN				eS		Sn		15 00 32.0	+3.7	
OMEN	Al SSO del Vol	1.52	330	iP		Pn		15 00 09.7	-1.3	
JAPN	Al SSO del Vol	1.56	329	iP		Pn		15 00 11.3	-0.2	
MORN	Al O del Volca	1.56	330	iP		Pn		15 00 11.3	-0.3	
CONN	Concepcion	1.56	331	iP		Pn		15 00 11.7	0.0	
CONN				iS		Sn		15 00 30.4	-0.4	
SRBA	San Rafael, Bu	1.75	123	eP		Pn		15 00 13.1	-1.3	
ACON	Acoyapa	1.80	350	iP		Pn		15 00 14.1	-0.7	
ACON				iS		Sn		15 00 36.2	-0.3	
ACON	Acoyapa	1.80	350	eP		Pn		15 00 14.1	-0.7	
DRK0	Durika	1.84	120	eP		Pn		15 00 14.4	-1.1	
ESPN	Las Esperanzas	2.07	15	iP		Pn		15 00 17.9	-0.6	
ESPN				iS		Sn		15 00 43.3	+0.1	
ESPN	Las Esperanzas	2.07	15	eP		Pn		15 00 17.9	-0.6	
PIRO	Carate, Puerto	2.32	140	eP		Pn		15 00 22.5	+0.4	
CNI2	El Empalme, Bo	2.47	108	eS		Sn		15 00 54.4	+1.4	
SAPS	Ciudad Sandino	2.49	323	iP		Pn		15 00 24.7	+0.4	
SAPS				iS		Sn		15 00 55.6	+2.1	
HUEN		2.50	329	iP		Pn		15 00 24.1	-0.3	
HUEN				iS		Sn		15 00 55.9	+2.2	
CDITO	Canoas	2.53	129	eP		Pn		15 00 25.0	+0.1	
BRU2	Volcan	2.55	123	eP		Pn		15 00 25.2	-0.1	
CCOL	Caracol de Cor	2.57	133	eP		Pn		15 00 26.4	+1.1	
COPN	Copaltepe	2.61	320	iP		Pn		15 00 26.2	+0.2	
BCO2	Palmira	2.72	122	eP		Pn		15 00 27.7	0.0	
BCO2				eS		Sn		15 01 03.4	+3.9	
MOM2	El Cardon	2.75	325	iS		Sn		15 01 01.6	+1.8	
PTPM	Petroterminale	2.77	135	eP		Pn		15 00 28.7	+0.5	
PTPM				eS		Sn		15 01 03.5	+3.0	
MACN	El Madrono	2.88	322	iP		Pn		15 00 29.9	+0.2	
CNGA	Al SSO del Vol	2.92	322	iP		Pn		15 00 30.2	-0.1	
CNGN	Cerro Negro	2.92	322	iP		Pn		15 00 30.7	+0.4	
CNGN	Cerro Negro	2.92	322	eP		Pn		15 00 30.5	+0.2	
LIMN	Finca el Limon	3.22	333	iP		Pn		15 00 34.0	-0.4	
CRIN	San Cristobal	3.29	320	iP		Pn		15 00 35.9	+0.5	
CMIG	Matias Romero	11.91	306	Pn		Pn		15 02 33.9	+0.3	
	comp=Z,0.9nm,0.3s,baz=145,slow=6.4,SNR=6.3									
	comp=Z,2.5nm,0.4s									
SDV	Santo Domingo	14.09	94	LR		LR		15 09 56.5		
	comp=Z,16nm,20.2s,baz=2.0,slow=44									
TXAR	Lajitas Array	25.93	320	P		P		15 05 14.7	+0.6	
	comp=Z,0.5nm,0.3s,baz=139,slow=10,SNR=15									
	comp=Z,0.5nm,0.3s									
ASAR	Alice Springs	140.71	245	PKP		PKPdf		15 19 08.4	-2.9	
	comp=Z,0.3nm,0.8s,baz=90,slow=0.9,SNR=1.9									
WRA	Warramunga Arr	141.01	251	PKP		PKPdf		15 19 09.2	-2.7	
	comp=Z,0.4nm,0.7s,baz=98,slow=2.5,SNR=5.9									

*BJI **24** 15:04:10.7±0.0,45.˙77S×95.˙79E, h28km, mb4.8/51, mB5.1/26, Ms5.1/41, Ms7 5.0/42*

*IDC **24** 15:04:11.4±0.5,45.˙13S×95.˙87E, h0km, mb4.6/15, mbtmp4.5/15, MS4.6/47, Error ellipse: s-maj=20.2km s-min=15.3km az=112.0*

*MOS **24** 15:04:11.2±0.9,45.˙10S×95.˙80E, h10km, mb5.1/25, Error ellipse: s-maj=17.1km s-min=9.4km az=91.1*

*NEIC **24** 15:04:12.8, 44.˙00S×96.˙15E, h12km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^16^Nm; Mrr-1.59; Mθθ8.68; Mϕϕ-7.09; Mrθ-2.27; Mθϕ-4.70; Mϕr3.15; Fault plane solution: M0 9.98000×10^16^ NP1: ϕs149.16000°, δ86.84000°, λ-23.62000°. NP2: ϕs240.54000°, δ66.42000°, λ-176.56000°. Principal axes: T 10.7378, Plg14.0000°, Azm197.0000°; N -1.5196, Plg66.0000°, Azm322.0000°; P -9.2182, Plg19.0000°, Azm102.0000°;*

*NEIC **24** 15:04:12.8, 45.˙10S×95.˙72E, h12km*

*NEIC **24** 15:04:12.8±1.8, 45.˙10S±0.˙10×95.˙8E±0.˙2, h10km±1km, mb5.1/63, Mww5.3/29, Error ellipse: s-maj=18.2km s-min=16.6km az=279.0*

*GCMT **24** 15:04:15.8±0.1, 45.˙05S±0.˙01×95.˙97E±0.˙01, h12km, MW5.3/139, Moment Tensor Solution. s95,c144; s139,c248; Duration: 1s1 Moment tensor: Scale 10^17^ Nm; Mrr-0.21±.02; Mθθ1.07±.02; Mϕϕ-0.86±.02; Mrθ-0.14±.04; Mrϕ-0.49±.01; Mθϕ-0.02±.04; Best double couple: M0 1.09400×10^17^ NP1: ϕs239.00000°, δ89.00000°, λ173.00000°. NP2: ϕs329.00000°, δ83.00000°, λ1.00000°. Principal axes: T 1.2000, Plg5.0000°, Azm193.0000°; N -0.2140, Plg83.0000°, Azm51.0000°; P -0.9870, Plg4.0000°, Azm284.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 15:04:13.0±0.3, **45.˙23S**±0.˙05×**95.˙82E**±0.˙07, **h10**km, **n242,** σ1**9**?**70**/226, **mb5.0**/79, **MS4.8**/69, **6C-6D, Southeast Indian Ridge**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
H01W2	Cape Leeuwin H	17.37	60	T	T		15 25 49.3	
	baz=227,slow=74,SNR=326							
H01W3	Cape Leeuwin H	17.38	60	T	T		15 25 50.3	
	baz=227,slow=74,SNR=401							
H01W1	Cape Leeuwin H	17.38	60	T	T		15 25 50.6	
	baz=227,slow=74,SNR=445							
NWAO	Narrogin (SRO)	20.60	61	LR	LR		15 14 55.2	
	comp=Z,1μm,20.4s,baz=228,slow=31							
CASY	Casey	22.54	164	P	P		15 09 13.4	+0.7
CASY				IAmb	IAmb		15 09 16.6	
	comp=Z,69nm,1.2s							
MORW	Morawa	22.71	52	P	P		15 09 15.5	+0.7
MORW				IAmb	IAmb		15 09 22.6	
	comp=Z,118nm,1.5s							
MAW	Mawson	28.26	206	P	P		15 10 06.4	+0.5
	comp=Z,6.7nm,0.9s,baz=59,slow=9.7,SNR=5.4							
MAW				LR	LR		15 18 56.7	
	comp=Z,3μm,21.3s,baz=49,slow=31							
	comp=Z,6.7nm,0.9s							
PSA00	Pilbara Seismi	30.75	48	P	P		15 10 26.2	-2.1
PSA00	Pilbara Seismi	30.75	48	P	P		15 10 27.9	-0.5
PSA00				IAmb	IAmb		15 10 29.5	
	comp=Z,32nm,1.1s							
TAU	Tasmania Unive	36.56	105	P	P		15 11 21.0	+2.3
TAU				pmax	pmax			
	comp=Z,261nm,1.9s							
FITZ	Fitzroy Crossi	36.72	52	P	P		15 11 19.9	-0.4
ROCAM	Rodrigues Isla	36.93	303	P	P		15 11 20.9	-1.2
TOO	Toolangi	37.53	96	P	P		15 11 28.8	+1.7
TOO				IAmb	IAmb		15 11 58.4	
	comp=Z,36nm,1.5s							
TOO	Toolangi	37.53	96	P	P		15 11 28.8	+1.7
TOO				pmax	pmax			
	comp=Z,36nm,1.5s							
ASAR	Alice Springs	37.59	68	P	P		15 11 26.8	-0.9
ASAR	Alice Springs	37.59	68	P	P		15 11 26.7	-1.0
	comp=Z,7.7nm,0.9s,baz=222,slow=7.2,SNR=28							
ASAR				PcP	PcP		15 13 45.0	-0.5
	comp=Z,0.8nm,0.8s,baz=218,slow=1.9,SNR=4.8							
ASAR				LR	LR		15 24 52.6	
	comp=Z,824nm,20.0s,baz=220,slow=33							
	comp=Z,7.7nm,0.9s							
AS31	Alice Springs	37.59	68	P	P		15 11 26.3	-1.4
STKA	Stephens Creek	37.70	85	P	P		15 11 29.1	+0.5
STKA	Stephens Creek	37.70	85	P	P		15 11 28.3	-0.3
	comp=Z,1.6nm,0.6s,baz=211,slow=5.7,SNR=5.0							
STKA				PcP	PcP		15 13 45.5	-0.1
	comp=Z,1.5nm,0.7s,baz=143,slow=4.4,SNR=3.4							
STKA				LR	LR		15 23 58.6	
	comp=Z,2μm,20.9s,baz=230,slow=32							
	comp=Z,1.6nm,0.6s							
STKA	Stephens Creek	37.70	85	P	P		15 11 29.1	+0.5
STKA				pmax	pmax			
	comp=Z,4.0nm,1.6s							
LEM	Lembang	39.61	19	LR	LR		15 25 10.4	
	comp=Z,2μm,19.5s,baz=171,slow=32							
JAGI	Jajag, Banyuwa	39.91	29	P	P		15 11 46.7	-0.4
JAGI				IAmb	IAmb		15 12 25.5	
	comp=Z,58nm,1.3s							
WRA	Warramunga Arr	40.53	64	P	P		15 11 50.1	-2.3
WRA	Warramunga Arr	40.53	64	P	P		15 11 51.5	-0.9
	comp=Z,11nm,0.9s,baz=223,slow=7.9,SNR=42							
WRA				LR	LR		15 26 56.7	
	comp=Z,841nm,18.8s,baz=284,slow=34							
	comp=Z,11nm,0.9s							
WRA	Warramunga Arr	40.53	64	eP	P		15 11 51.8	-0.5
WRA				pmax	pmax			
	comp=Z,16nm,0.9s							
WB2	Warramunga Arr	40.54	64	P	P		15 11 50.2	-2.2
WRAB	Tennant Creek	40.55	64	P	P		15 11 51.4	-1.0
WRAB	Tennant Creek	40.55	64	iP	P		15 11 51.5	-1.0
WRAB				pmax	pmax			
	comp=Z,17nm,0.9s							
WR0	Warramunga Arr	40.65	65	P	P		15 11 51.7	-1.6
WB0	Warramunga Arr	40.70	64	P	P		15 11 52.5	-1.2
VNDA	Vanda	41.14	162	P	P		15 11 57.2	+0.5
VNDA	Vanda	41.14	162	P	P		15 11 56.9	+0.2
	comp=Z,7.0nm,0.8s,baz=282,slow=8.4,SNR=33							
VNDA				LR	LR		15 27 43.5	
	comp=Z,2μm,18.3s,baz=288,slow=34							
	comp=Z,7.0nm,0.8s							
VNDA	Vanda	41.14	162	P	P		15 11 57.2	+0.5
VNDA				pmax	pmax			
	comp=Z,11nm,1.0s							
SBA	Scott Base	42.23	163	P	P		15 12 06.6	+1.0
SBA				IAmb	IAmb		15 12 10.6	
	comp=Z,51nm,1.8s							
SBA	Scott Base	42.23	163	P	P		15 12 06.6	+1.0
SBA				pmax	pmax			
	comp=Z,51nm,1.8s							
BATI	Baumata	42.30	43	LR	LR		15 28 23.2	
	comp=Z,1μm,20.6s,baz=216,slow=34							
ELIB	Princess Elisa	42.38	206	dP	P		15 12 06.5	-0.6
	comp=Z,7.4nm,1.6s							
H08S2	Diego Garcia H	42.55	325	T	T		15 57 18.3	
	baz=156,slow=76,SNR=35							
H08S1	Diego Garcia H	42.56	324	T	T		15 57 18.2	
	baz=156,slow=76,SNR=21							
H08S3	Diego Garcia H	42.57	325	T	T		15 57 19.7	
	baz=156,slow=76,SNR=50							
EDFI	Ende, Flores	42.66	40	P	P		15 12 09.4	-0.4
	comp=Z,64nm,1.0s,comp=Z,848nm							
DGAR	Diego Garcia	42.78	325	iP	P		15 12 09.8	-0.9
DGAR				pmax	pmax			
	comp=Z,57nm,1.1s							
SOEI	Soe	42.98	44	P	P		15 12 10.7	-1.9
SOEI				IAmb	IAmb		15 12 36.9	
	comp=Z,36nm,1.0s							
SISI	Saibi	43.82	5	P	P		15 12 20.7	+1.6
	comp=Z,53nm,1.2s							
PPBI	Pangkal Pinang	43.84	15	P	P		15 12 19.0	-0.3
MTN	Manton Dam	44.05	54	P	P		15 12 19.8	-1.3
MTN				IAmb	IAmb		15 12 53.8	
	comp=Z,59nm,1.6s							
QSPA	South Pole Qui	44.91	180	P	P		15 12 27.9	+0.3
QSPA				IAmb	IAmb		15 12 30.1	
	comp=Z,29nm,1.1s							
QSPA	South Pole Qui	44.91	180	P	P		15 12 28.2	+0.6
	comp=Z,15nm,1.0s,baz=289,slow=2.4,SNR=48							
QSPA				LR	LR		15 30 03.0	
	comp=Z,5μm,18.9s,baz=315,slow=34							
	comp=Z,15nm,1.0s							
KAPI	Kappang	45.18	35	P	P		15 12 29.3	-0.7
KAPI	Kappang	45.18	35	LR	LR		15 28 06.4	
	comp=Z,749nm,21.5s,baz=206,slow=32							
KAPI	Kappang	45.18	35	P	P		15 12 29.3	-0.7
KAPI				pmax	pmax			
	comp=Z,52nm,1.6s							
BKNI	Bangkinang	45.60	7	P	P		15 12 34.0	+0.7
ARMA	Armidale	45.61	91	P	P		15 12 34.3	+0.8
ARMA				IAmb	IAmb		15 12 47.4	
	comp=Z,18nm,1.2s							
NVL	N'lazarevskaya	46.20	207	eP	P		15 12 39.3	+1.8
NVL				eS	S		15 19 30.1	+6.8
NVL				pmax	pmax			
	comp=Z,29nm,1.2s							
STKI	Sintang	47.19	22	P	P		15 12 45.9	+0.1
MYKOM	Kota Tinggi	47.36	11	P	P		15 12 45.7	-1.4
MYKOM				IAmb	IAmb		15 12 48.5	
	comp=Z,18nm,1.0s							
OPO	Ambohidratompo	48.17	287	LR	LR		15 28 49.0	
	comp=Z,230nm,19.1s,baz=340,slow=31							
KSM	Kuching	48.25	20	P	P		15 12 53.2	-0.8
KSM				IAmb	IAmb		15 12 55.8	
	comp=Z,18nm,1.1s							
EIDS	Eidsvold	48.26	85	P	P		15 12 54.5	+0.4
KCSI	Kotacane, Aceh	48.57	3	P	P		15 12 56.7	+0.2
	comp=Z,21nm,1.2s							
TROLL	Troll, Antarti	48.70	204	⇓P	P		15 12 58.4	+1.3
	comp=Z,680nm,0.8s							
SBUM	Sibu	49.67	22	P	P		15 13 04.1	-0.8
SNAA	Sanae	50.39	204	P	P		15 13 10.6	+0.7
SNAA				IAmb	IAmb		15 13 12.7	
	comp=Z,26nm,1.0s							
SNAA	Sanae	50.39	204	⇓P	P		15 13 11.2	+1.4
	comp=Z,330nm,0.9s							
SNAA	Sanae	50.39	204	P	P		15 13 11.0	+1.1
	comp=Z,15nm,0.8s,baz=127,slow=8.4,SNR=31							
SNAA				LR	LR		15 33 06.8	
	comp=Z,2μm,18.8s,baz=100,slow=34							
	comp=Z,15nm,0.8s							
SNAA	Sanae	50.39	204	P	P		15 13 10.6	+0.7
SNAA				pmax	pmax			
	comp=Z,26nm,1.0s							
SANI	Sanana	50.53	41	P	P		15 13 12.5	+1.0
	comp=Z,18nm,1.0s							
TOLI2	Tolitoli	51.18	33	P	P		15 13 13.8	-2.5
GTOI	Gorontalo	51.63	36	P	P		15 13 21.2	+1.5
	comp=Z,12nm,1.3s,comp=Z,170nm							
RPZ	Rata Peaks	51.84	117	LR	LR		15 30 49.7	
	comp=Z,1μm,21.4s,baz=228,slow=31							
VNA2	Neumayer--Watz	52.04	204	⇓P	P		15 13 23.1	+1.0
	comp=Z,11nm,0.6s,baz=119,slow=6.4							
VNA2				⇓ScP	ScP		15 18 31.7	+0.7
LBMI	Labuha	52.47	41	P	P		15 13 26.7	+0.7
	comp=Z,33nm,1.9s,comp=Z,1μm							
VNA3	Neumayer Olymp	52.52	203	⇓P	P		15 13 27.1	+1.4
	comp=Z,21nm,0.9s							
VNA3				⇑ScP	ScP		15 18 32.6	-0.5
BELA	Belgrano 2	53.51	192	P	P		15 13 32.5	-0.5
BELA				IAmb	IAmb		15 13 34.9	
	comp=Z,15nm,1.1s							
PALK	Pallekele	54.00	341	LR	LR		15 31 22.5	
	comp=Z,1μm,20.9s,baz=275,slow=30							
PALK	Pallekele	54.00	341	iP	P		15 13 37.3	0.0
PMG	Port Moresby	56.60	67	LR	LR		15 36 16.1	
	comp=Z,650nm,19.6s,baz=222,slow=34							
BOSA	Boshof	57.06	261	LR	LR		15 34 06.9	
	comp=Z,214nm,18.6s,baz=152,slow=31							
SUR	Sutherland	57.88	255	LR	LR		15 32 24.6	
	comp=Z,307nm,21.9s,baz=144,slow=29							
DAV	Davao City (W)	58.51	35	LR	LR		15 36 34.7	
	comp=Z,377nm,21.5s,baz=205,slow=33							
URZ	Urewera	58.63	114	LR	LR		15 35 54.5	
	comp=Z,1μm,18.2s,baz=6.5,slow=32							
LBTB	Lobatse	59.04	265	LR	LR		15 34 26.8	
	comp=Z,514nm,20.4s,baz=136,slow=31							
MATP	Matopo	59.93	271	P	P		15 14 19.5	0.0
	comp=Z,3.1nm,0.9s,baz=139,slow=9.6,SNR=6.8							
MATP				LR	LR		15 35 31.8	
	comp=Z,505nm,19.6s,baz=102,slow=31							
	comp=Z,3.1nm,0.9s							
UBPT	Khong Chiam	60.86	11	P	P		15 14 24.3	-1.2
UBPT				IAmb	IAmb		15 14 27.1	
	comp=Z,14nm,1.1s							
DZM	Mont Dzumac	61.20	93	LR	LR		15 36 14.5	
	comp=Z,687nm,20.8s,baz=255,slow=31							
TGY	Tagaytay City	63.29	27	LR	LR		15 39 13.3	
	comp=Z,346nm,22.0s,baz=246,slow=33							
CM31	Chiang Mai Arr	63.45	3	P	P		15 14 42.3	-0.6
CMAR	Chiang Mai Arr	63.45	3	P	P		15 14 42.3	-0.6
CMAR	Chiang Mai Arr	63.45	3	P	P		15 14 43.0	+0.2
	comp=Z,17nm,1.1s,baz=200,slow=6.0,SNR=51							
CMAR				LR	LR		15 37 32.8	
	comp=Z,1μm,21.9s,baz=190,slow=32							
	comp=Z,17nm,1.1s							
PHRA	Phrae	63.55	5	P	P		15 14 42.8	-0.7
RABL	Rabaul	63.77	68	P	P		15 14 44.3	-1.0
CHTO	Chiang Mai	63.80	3	P	P		15 14 44.1	-1.1
CHTO				IAmb	IAmb		15 14 46.6	
	comp=Z,9.4nm,1.1s							
CHTO	Chiang Mai	63.80	3	P	P		15 14 44.1	-1.1
CHTO				pmax	pmax			
	comp=Z,9.0nm,1.1s							
HNR	Honiara	65.20	78	LR	LR		15 41 23.6	
	comp=Z,11μm,19.2s,baz=220,slow=34							
QIZ	Qiongzhong	65.21	15	P	P		15 14 55.4	+1.0
QIZ				S	S		15 23 40.0	+2.4
QIZ				SS	SS		15 27 52.8	+2.0
QIZ				pmax	pmax			
	comp=Z,160nm,6.9s							
QIZ				LR	LR			
	comp=Z,750nm,20.3s							
QIZ				LR	LR			
	comp=Z,290nm,18.7s							
QIZ				LR	LR			
	comp=Z,1μm,20.3s							
CRAI	Chiangrai	65.28	5	P	P		15 14 54.1	-0.7
KIBK	Kibwezi	66.10	292	P	P		15 14 59.9	-0.6
KIBK				IAmb	IAmb		15 15 40.2	
	comp=Z,22nm,1.6s							
SLVN	Son La	66.65	8	P	P		15 15 02.1	-1.6
SLVN				IAmb	IAmb		15 15 05.8	
	comp=Z,11nm,1.1s							
RAO	Raoul Island	67.40	109	LR	LR		15 40 52.4	
	comp=Z,504nm,19.1s,baz=252,slow=33							
TSUM	Tsumeb	68.44	264	LR	LR		15 40 09.3	
	comp=Z,644nm,20.5s,baz=151,slow=32							
PMSA	Palmer Station	69.20	189	LR	LR		15 46 38.6	
	comp=Z,2μm,18.2s,baz=162,slow=37							
TNCH	TengChong	69.97	3	eP	P		15 15 26.8	+2.2
TNCH				S	S		15 24 37.1	+2.3
TNCH				ScS	ScS		15 25 25.8	-1.0
TNCH				SS	SS		15 29 08.0	+3.3
TNCH				pmax	pmax			
	comp=Z,29nm,0.5s							
TNCH				pmax	pmax			
	comp=Z,65nm,4.1s							
TNCH				LR	LR			
	comp=Z,220nm,16.1s							
TNCH				LR	LR			
	comp=Z,240nm,16.4s							
TNCH				LR	LR			
	comp=Z,550nm,17.8s							
KMI	Kunming	70.30	7	⇑P	P		15 15 28.8	+2.1
KMI				pmax	pmax			
	comp=Z,12nm,0.7s							
KMI				LR	LR			
	comp=Z,950nm,20.6s							
KMI				LR	LR			
	comp=Z,600nm,18.8s							
KMI				LR	LR			
	comp=Z,1μm,18.2s							
SHL	Shillong	70.55	356	P	P		15 15 27.4	-0.7
SHL				IAmb	IAmb		15 15 31.7	
	comp=Z,20nm,1.2s							
SHL	Shillong	70.55	356	P	P		15 15 27.4	-0.7
SHL				pmax	pmax			
	comp=Z,20nm,1.2s							
PZH	PanZhiHua	71.59	6	P	P		15 15 36.8	+2.4
PZH				pmax	pmax			
	comp=Z,10.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,110nm,4.2s							
GYA	Guiyang	72.03	10	⇑P	P		15 15 38.3	+1.3
GYA				S	S		15 25 01.3	+2.7
GYA				SKS	SKSac		15 25 36.8	-4.2
GYA				pmax	pmax			
	comp=Z,15nm,1.3s							
GYA				pmax	pmax			
	comp=Z,

XAN					LR	LR			
	comp=Z,1μm,19.9s								
LYN	**LuoYang**	**80.83**	**14**	*e*P		**P**	**15 16 30.1**	**+3.5**
LYN				pP		PcP	15 16 40.8	+7.7
LYN				sP		pwP	15 16 44.4	+12
LYN				PP		**PP**	**15 19 37.9**	**+6.5**
LYN				S		**S**	**15 26 36.4**	**+1.8**
LYN				SKS		**SKSac**	**15 26 42.6**	**-2.2**
LYN				pmax		pmax			
	comp=Z,13nm,0.5s								
LYN				pmax		pmax			
	comp=Z,120nm,4.8s								
LYN				LR		LR			
	comp=Z,1μm,22.3s								
LYN				LR		LR			
	comp=Z,910nm,19.6s								
LYN				LR		LR			
	comp=Z,2μm,22.3s								
NIL	**Nilore**	**81.14**	**341**	P		**P**	**15 16 26.5**	**-1.8**
NIL				IAmb		IAmb	15 16 33.5		
	comp=Z,23nm,0.9s								
NIL	**Nilore**	**81.14**	**341**	P		**P**	**15 16 26.5**	**-1.8**
NIL				pmax		pmax			
	comp=Z,23nm,0.9s								
LZH	**Lanzhou**	**81.27**	**7**	*e*P		**P**	**15 16 29.5**	**+0.4**
LZH				pmax		pmax			
	comp=Z,23nm,0.9s								
LZH				LR		LR			
	comp=Z,250nm,14.1s								
LZH				LR		LR			
	comp=Z,540nm,17.2s								
LZH				LR		LR			
	comp=Z,480nm,19.0s								
RAYN	**Ar Rayn**	**82.34**	**315**	P		**P**	**15 16 34.0**	**-0.9**
RAYN				IAmb		IAmb	15 18 03.2		
	comp=Z,32nm,1.9s								
RAYN	**Ar Rayn**	**82.34**	**315**	P		**P**	**15 16 34.0**	**-0.9**
RAYN				pmax		pmax			
	comp=Z,33nm,2.0s								
KBL	**Kabul**	**83.03**	**338**	P		**P**	**15 16 37.0**	**-1.4**
KBL				IAmb		IAmb	15 16 40.1		
	comp=Z,14nm,0.9s								
KBL	**Kabul**	**83.03**	**338**	P		**P**	**15 16 37.1**	**-1.4**
KBL				pmax		pmax			
	comp=Z,14nm,1.0s								
JCJ	**Chichijima**	**83.45**	**40**	LR		LR	15 49 35.7		
	comp=Z,142nm,21.1s,baz=196,slow=33								
HNS	**HongShan**	**84.00**	**15**	*e*P		**P**	**15 16 43.8**	**+0.8**
HNS				S		**S**	**15 27 09.1**	**+2.2**
HNS				LR		LR			
	comp=Z,390nm,23.9s								
HNS				LR		LR			
	comp=Z,200nm,22.3s								
HNS				LR		LR			
	comp=Z,520nm,22.7s								
GTA	**Gaotai**	**84.34**	**3**	*e*P		**P**	**15 16 45.0**	**+0.1**
GTA				S		**S**	**15 27 10.8**	**+0.3**
GTA				SS		**SS**	**15 32 44.6**	**+3.2**
GTA				pmax		pmax			
	comp=Z,6.0nm,1.3s								
GTA				LR		LR			
	comp=Z,280nm,21.5s								
GTA				LR		LR			
	comp=Z,200nm,19.6s								
GTA				LR		LR			
	comp=Z,430nm,20.0s								
RAR	**Rarotonga**	**84.81**	**115**	LR		LR	15 47 37.3		
	comp=Z,180nm,21.1s,baz=194,slow=31								
HRA	**Herat**	**84.89**	**333**	P		**P**	**15 16 47.3**	**-0.6**
HRA				IAmb		IAmb	15 17 54.0		
	comp=Z,14nm,1.4s								
KSH	**Kashi**	**86.23**	**345**	P		**P**	**15 16 52.5**	**-1.9**
KSH				S		**SKSac**	**15 27 20.8**	**+0.5**
KSH				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KSH				LR		LR			
	comp=Z,340nm,17.4s								
KSH				LR		LR			
	comp=Z,650nm,17.9s								
KSH				LR		LR			
	comp=Z,610nm,18.2s								
BTO	**Baotou**	**86.40**	**11**	*e*P		**P**	**15 16 56.3**	**+1.2**
BTO				pP		**pwP**	**15 17 06.9**	**+5.4**
BTO				sP		sP	15 17 10.9	+13
BTO				PP		**PP**	**15 20 21.6**	**+4.6**
BTO				S		**S**	**15 27 30.3**	**-0.4**
BTO				sS		**ScS**	**15 27 48.3**	**+9.1**
BTO				SS		**SS**	**15 33 13.0**	**+1.4**
BTO				pmax		pmax			
	comp=Z,22nm,1.0s								
BTO				pmax		pmax			
	comp=Z,320nm,8.7s								
BTO				LR		LR			
	comp=Z,2μm,21.1s								
BTO				LR		LR			
	comp=Z,980nm,20.2s								
BTO				LR		LR			
	comp=Z,2μm,19.9s								
BJI	**Beijing**	**86.84**	**16**	P		**P**	**15 16 58.3**	**+1.2**
BJI				pmax		pmax			
	comp=Z,4.0nm,0.9s								
HHC	**Hu-ho-hao-te**	**86.85**	**12**	*e*P		**P**	**15 16 57.0**	**-0.4**
HHC				*e*S		**S**	**15 27 29.6**	**-5.5**
HHC				pmax		pmax			
	comp=Z,23nm,0.5s								
HHC				pmax		pmax			
	comp=Z,69nm,4.9s								
HHC				LR		LR			
	comp=Z,800nm,19.7s								
HHC				LR		LR			
	comp=Z,660nm,18.9s								
HHC				LR		LR			
	comp=Z,1μm,20.8s								
CHGR	**Chuyangaron**	**86.89**	**339**			**P**	**15 16 55.9**	**-1.7**
CHGR	**Chuyangaron**	**86.89**	**339**	P		**P**	**15 16 55.9**	**-1.7**
CHGR				pmax		pmax			
	comp=Z,19nm,1.0s								
SIMJ	**Simiganj**	**86.93**	**339**			**P**	**15 16 55.6**	**-2.2**
SIMJ				IAmb		IAmb	15 17 03.4		
	comp=Z,9.2nm,0.8s								
GAR	**Garm**	**86.94**	**340**	P		**P**	**15 16 56.7**	**-1.1**
DRK	**Karamyk**	**87.05**	**342**	P		**P**	**15 16 57.8**	**-0.8**
DRK				IAmb		IAmb	15 17 04.0		
	comp=Z,14nm,1.0s								
DRK	**Karamyk**	**87.05**	**342**	P		**P**	**15 16 57.8**	**-0.8**
DRK				pmax		pmax			
	comp=Z,14nm,1.0s								
KSRS	**Korea Array**	**87.26**	**25**	LR		LR	15 56 19.8		
	comp=Z,175nm,19.7s,baz=205,slow=36								
JHJ	**Hachijo jima 2**	**87.59**	**36**	LR		LR	15 51 03.3		
	comp=Z,231nm,21.1s,baz=265,slow=32								
ARSB	**Arslanbob**	**88.57**	**343**			**P**	**15 17 04.4**	**-1.2**
ARSB	**Arslanbob**	**88.57**	**343**	P		**P**	**15 17 04.4**	**-1.2**
ARSB				pmax		pmax			
	comp=Z,5.0nm,1.3s								
WMQ	**Urumqi**	**88.96**	**354**	*e*P		**P**	**15 17 08.5**	**+1.2**
WMQ				pmax		pmax			
	comp=Z,14nm,1.1s								
WMQ				LR		LR			
	comp=Z,400nm,14.9s								
WMQ				LR		LR			
	comp=Z,480nm,22.7s								
GEYT	**Alibeck**	**89.49**	**331**	P		**P**	**15 17 09.3**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=145,slow=5.3,SNR=4.6								
GEYT				LR		LR	15 52 08.6		
	comp=Z,239nm,21.8s,baz=151,slow=32								
	comp=Z,2.4nm,0.7s								
AAK	**Ala-Archa**	**89.53**	**344**	P		**P**	**15 17 09.4**	**-0.7**
AAK				IAmb		IAmb	15 17 16.8		
	comp=Z,6.3nm,0.9s								
AAK	**Ala-Archa**	**89.53**	**344**	LR		LR	15 54 21.4		
	comp=Z,429nm,19.1s,baz=168,slow=34								
AAK	**Ala-Archa**	**89.53**	**344**	P		**P**	**15 17 09.4**	**-0.7**
AAK				pmax		pmax			
	comp=Z,6.0nm,0.9s								
MJAR	**Matsushiro Arr**	**89.95**	**33**	P		**P**	**15 17 11.1**	**-1.0**
	comp=Z,0.9nm,0.7s,baz=195,slow=1.5,SNR=2.6								
	comp=Z,0.9nm,0.7s								
XLT	**XiLinHaoTe**	**90.56**	**14**	*e*P		**P**	**15 17 12.4**	**-2.4**
XLT				pmax		pmax			
	comp=Z,11nm,0.9s								
XLT				pmax		pmax			
	comp=Z,94nm,5.4s								
XLT				LR		LR			
	comp=Z,48nm,19.6s								
XLT				LR		LR			
	comp=Z,270nm,18.1s								
XLT				LR		LR			
	comp=Z,670nm,19.4s								
MK31	**Makanchi Array**	**92.41**	**351**			**P**	**15 17 21.6**	**-1.7**
MK31	**Makanchi Array**	**92.41**	**351**	P		**P**	**15 17 21.6**	**-1.7**
MK31				pmax		pmax			
	comp=Z,3.0nm,0.9s								
MKAR	**Makanchi Array**	**92.41**	**351**			**P**	**15 17 22.2**	**-1.1**
MKAR	**Makanchi Array**	**92.41**	**351**	P		**P**	**15 17 22.0**	**-1.2**
	comp=Z,2.9nm,1.0s,baz=160,slow=4.6,SNR=12								
	comp=Z,2.9nm,1.0s								
MKAR	**Makanchi Array**	**92.41**	**351**	*e*P		**P**	**15 17 22.6**	**-0.7**
MKAR				pmax		pmax			
	comp=Z,3.0nm,1.0s								
MAKZ	**Makanchi**	**92.46**	**351**	P		**P**	**15 17 22.0**	**-1.5**
MAKZ				IAmb		IAmb	15 17 25.6		
	comp=Z,9.0nm,1.1s								
MAKZ	**Makanchi**	**92.46**	**351**	P		**P**	**15 17 22.0**	**-1.5**
MAKZ				pmax		pmax			
	comp=Z,9.0nm,1.1s								
EIL	**Elat**	**92.82**	**310**	LR		LR	15 53 39.6		
	comp=Z,270nm,18.1s,baz=88,slow=32								
SONM	**Songino Array**	**93.15**	**7**	P		**P**	**15 17 25.1**	**-1.7**
SONM	**Songino Array**	**93.15**	**7**	P		**P**	**15 17 25.0**	**-1.7**
	comp=Z,3.0nm,1.0s,baz=196,slow=4.2,SNR=9.5								
SONM				LR		LR	15 57 09.4		
	comp=Z,511nm,21.9s,baz=182,slow=34								
	comp=Z,3.0nm,1.0s								
SONM	**Songino Array**	**93.15**	**7**	*e*P		**P**	**15 17 27.0**	**+0.2**
SONM				pmax		pmax			
	comp=Z,3.0nm,1.0s								
PLCA	**Paso Flores**	**93.55**	**190**	LR		LR	16 00 32.8		
	comp=Z,636nm,18.3s,baz=174,slow=36								
PPT	**Papeete**	**93.92**	**120**	LR		LR	15 50 41.2		
	comp=Z,266nm,21.9s,baz=216,slow=30								
MDJ	**Mudanjiang**	**94.35**	**23**	P		**P**	**15 17 30.8**	**-1.4**
MDJ				pmax		pmax			
	comp=Z,12nm,1.5s								
MDJ				pmax		pmax			
	comp=Z,97nm,3.5s								
USRK	**Ussuriysk Ar.**	**94.66**	**25**	LR		LR	16 03 13.1		
	comp=Z,86nm,18.1s,baz=205,slow=38								
MMAI	**Mount Meron Ar**	**95.20**	**313**	LR		LR	15 54 45.1		
	comp=Z,284nm,19.9s,baz=78,slow=32								
HIA	**Hailar**	**96.40**	**16**	*i* P		**P**	**15 17 41.4**	**-0.1**
HIA				pmax		pmax			
	comp=Z,5.0nm,0.9s								
GNI	**Garni**	**96.56**	**323**	LR		LR	15 58 00.5		
	comp=Z,182nm,20.1s,baz=150,slow=34								
GNI	**Garni**	**96.56**	**323**	*i* P		**P**	**15 17 42.0**	**-0.6**
GNI				pmax		pmax			
	comp=Z,6.0nm,1.1s								
KURBB	**Kurchatov Arra**	**96.65**	**349**	P		**P**	**15 17 42.1**	**-0.4**
	comp=Z,0.9nm,0.9s,baz=190,slow=4.1,SNR=5.5								
KURBB				LR		LR	15 56 57.8		
	comp=Z,256nm,20.9s,baz=174,slow=33								
	comp=Z,0.9nm,0.9s								
KURK	**Kurchatov**	**96.72**	**349**	*i* P		**P**	**15 17 42.9**	**0.0**
KURK				pmax		pmax			
	comp=Z,2.0nm,1.1s								
ASAJ	**Asahikawa**	**98.18**	**32**	LR		LR	15 58 31.9		
	comp=Z,95nm,21.9s,baz=190,slow=33								
KLR	**Kul'dur**	**99.16**	**23**	LR		LR	16 03 18.5		
	comp=Z,115nm,19.2s,baz=219,slow=36								
ZALV	**Zalesovo Beam**	**99.25**	**353**	P		**Pdif**	**15 17 52.9**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=219,slow=3.7,SNR=3.9								
ZALV				LR		LR	15 59 05.6		
	comp=Z,332nm,21.6s,baz=168,slow=33								
	comp=Z,0.3nm,0.3s								
ZALV	**Zalesovo Beam**	**99.25**	**353**	*i* P		**Pdif**	**15 17 52.2**	**-1.9**
ZALV				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KBZ	**Khabaz**	**100.29**	**324**	P		**Pdif**	**15 17 59.2**	**+0.3**
	comp=Z,5.0nm,1.0s,baz=178,slow=3.6,SNR=5.1								
KBZ	**Khabaz**	**100.29**	**324**	*i* P		**Pdif**	**15 17 58.9**	**-0.1**
KBZ				pmax		pmax			
	comp=Z,5.0nm,1.0s								
KIV	**Kislovodsk**	**100.56**	**324**	⇑ *e*P		**Pdif**	**15 17 59.6**	**-0.8**
KIV				*e*			15 22 09.0		
KIV				*i* SS		SS	15 36 37.0	+2.8
KIV				pmax		pmax			
	comp=Z,2.0nm,0.9s								
KIV				MLR		MLR			
	comp=Z,207nm,18.0s								
OBN	**Obninsk**	**111.81**	**328**	⇑ *i*PKIKP		**PKiKP**	**15 22 48.2**	**+1.2**
OBN				*e*			15 23 28.2		
OBN				pmax		pmax			
	comp=Z,5.0nm,0.9s								
OBN				MLR		MLR			
	comp=Z,322nm,20.0s								
MNK	**Minsk**	**114.83**	**323**	*i* P		**Pdif**	**15 19 01.5**	**-1.9**
MNK				*i*			15 23 49.2		
MNK				*i* PPP		PPP	15 26 14.3		
MNK				*i*			15 30 03.7		
MNK				*i* PS		**PS**	**15 33 28.2**	**-2.0**
MNK				*i* SS		SS	15 39 45.1	-1.8
MNK				*i* SSS		SSS	15 44 00.5		
MNK				pmax		pmax			
	comp=E,9.0nm,0.7s								
MNK				pmax		pmax			
	comp=Z,16nm,0.6s								
MNK				pmax		pmax			
	comp=N,9.0nm,0.8s								
MNK				MLR		MLR			
	comp=Z,194nm,20.0s								
MNK				MLR		MLR			
	comp=E,211nm,19.0s								
MNK				MLR		MLR			
	comp=N,257nm,21.0s								
ESDC	**Sonseca Array**	**122.86**	**295**	PKP		**PKiKP**	**15 23 09.8**	**+0.7**
	comp=N,0.3nm,0.4s,baz=42,slow=1.0,SNR=4.0								
I20K	**Naaghedeneel**	**137.85**	**37**			**PKPdf**	**15 23 35.2**	**-1.1**
ILAR	**Eielson Array**	**141.09**	**37**	PKhKP		PKPpre	15 23 38.9		
	comp=N,0.5nm,0.9s,baz=241,slow=3.7,SNR=3.6								
RAGM	**Ragged Mountai**	**141.91**	**44**			**PKPdf**	**15 23 40.6**	**-3.3**
I28M	**Miner Creek**	**144.00**	**36**			PKPbc	15 23 46.0	+0.5
I28M	**Miner Creek**	**144.00**	**36**	P		**PKPdf**	**15 23 46.7**	**-0.9**
	baz=277								
E29M	**Blow River**	**144.31**	**31**	PKPdf		**PKPdf**	**15 23 47.0**	**-0.8**
E29M	**Blow River**	**144.31**	**31**	P		**PKPdf**	**15 23 47.6**	**-0.2**
	baz=283								
DAWY	**Dawson**	**144.37**	**38**			**PKPdf**	**15 23 47.2**	**-1.0**
H29M	**Whitestone**	**144.53**	**35**			**PKPdf**	**15 23 47.4**	**-0.9**
H29M	**Whitestone**	**144.53**	**35**	P		**PKPdf**	**15 23 47.4**	**-0.9**
	baz=279								
G29M	**Pine Creek**	**144.55**	**33**			PKPbc	15 23 46.9	-0.2
G29M	**Pine Creek**	**144.55**	**33**	P		**PKPdf**	**15 23 47.5**	**-0.9**
	baz=280								
I29M	**Ogilvie Camp,**	**144.69**	**36**			PKPbc	15 23 47.6	0.0
I29M	**Ogilvie Camp,**	**144.69**	**36**	P		**PKPdf**	**15 23 48.4**	**-0.2**
	baz=278								
YUK4	**Talbot Arm**	**144.88**	**43**	P		**PKPdf**	**15 23 50.6**	**+1.2**
	baz=272								
M29M	**Somme Creek**	**144.91**	**41**	PKPdf		**PKPab**	**15 23 48.1**	**-0.4**
M29M	**Somme Creek**	**144.91**	**41**	P		**PKPdf**	**15 23 50.1**	**+0.8**
	baz=274								
L29M	**L29M**	**145.01**	**40**	PKPdf		**PKPdf**	**15 23 49.1**	**-0.2**
L29M	**L29M**	**145.01**	**40**	P		**PKPdf**	**15 23 50.2**	**+0.8**
	baz=275								
EPYK	**Eagle Plains**	**145.16**	**34**			**PKPbc**	**15 23 47.8**	**-1.3**
EPYK	**Eagle Plains**	**145.16**	**34**	P		**PKPdf**	**15 23 50.5**	**+1.1**
	baz=281								
K29M	**Barlow Dome**	**145.21**	**39**			**PKPbc**	**15 23 48.7**	**-0.7**
K29M	**Barlow Dome**	**145.21**	**39**	P		**PKPdf**	**15 23 50.9**	**+1.1**
	baz=277								
G30M	**tAoh Zraii Nji**	**145.24**	**33**			**PKPbc**	**15 23 47.7**	**-1.6**
G30M	**tAoh Zraii Nji**	**145.24**	**33**	P		**PKPdf**	**15 23 50.1**	**+0.5**
	baz=282								
ORTG	**Ortega, Santa**	**145.24**	**178**			**PKPbc**	**15 23 50.2**	**-0.6**
F30M	**Barrier River**	**145.26**	**32**	P		**PKPdf**	**15 23 50.6**	**+1.1**
	baz=284								
SUMG	**Summit**	**145.42**	**338**			**PKPbc**	**15 23 49.6**	**-0.6**
SUMG	**Summit**	**145.42**	**338**	PKIKP		**PKPbc**	**15 23 49.6**	**-0.6**
HYT	**Haines Junctio**	**145.45**	**44**			**PKPdf**	**15 23 49.9**	**-0.4**
HYT	**Haines Junctio**	**145.45**	**44**	P		**PKiKP**	**15 23 52.1**	**-2.1**
	baz=272								
I30M	**Mount Dempster**	**145.51**	**36**			**PKPab**	**15 23 50.1**	**-0.5**
I30M	**Mount Dempster**	**145.51**	**36**	P		**PKPab**	**15 23 51.7**	**+1.1**
	baz=280								
N30M	**Aishikik Lake**	**145.62**	**43**	P		**PKiKP**	**15 23 53.1**	**-1.4**
	baz=274								
J30M	**Hart River**	**145.63**	**37**			**PKPdf**	**15 23 50.0**	**-0.4**
J30M	**Hart River**	**145.63**	**37**	P		**PKPab**	**15 23 52.1**	**+1.0**
	baz=279								
M30M	**Minto, Yukon**	**145.67**	**41**	P		**PKPab**	**15 23 52.5**	**+1.3**
	baz=276								
ACON	**Acoyapa**	**146.84**	**178**			**PKPdf**	**15 23 53.5**	**-0.4**
FARO	**Faro, Yukon**	**147.31**	**41**			**PKPbc**	**15 23 54.3**	**-1.3**
FARO	**Faro, Yukon**	**147.31**	**41**	P		**PKPab**	**15 23 57.0**	**-0.5**
	baz=278								
RES	**Resolute Bay**	**150.07**	**6**			**PKPbc**	**15 24 01.9**	**-0.4**
RES	**Resolute Bay**	**150.07**	**6**	PKP2		**PKPbc**	**15 24 01.9**	**-0.4**
BBGB	**Big Mountain B**	**151.04**	**94**	PKPdf		**PKPdf**	**15 23 58.4**	**-1.7**
BBGB						**PKPab**	**15 24 13.1**	**-0.5**
HUMO	**Hull Mountain**	**152.12**	**81**	PKPdf		**PKPdf**	**15 23 59.6**	**-1.8**
HUMO						**PKPbc**	**15 24 06.4**	**-1.7**
AFDM	**Forest Hills D**	**152.16**	**90**			**PKPbc**	**15 24 06.7**	**-1.6**
EDW2	**Edwards Air Fo**	**152.31**	**100**	P		**PKiKP**	**15 24 10.0**	**+0.9**
	baz=238								
L04D	**Klamath Falls**	**152.45**	**83**	PKPdf		**PKPdf**	**15 24 00.7**	**-1.4**
LRMC	**Laurel Mtn Rad**	**152.84**	**99**	P		**PKiKP**	**15 24 11.3**	**+1.0**
	baz=239								
CWC	**Cottonwood Cre**	**153.05**	**97**	P		**PKiKP**	**15 24 11.6**	**+0.9**
	baz=241								
MPMC	**Manual Prospec**	**153.27**	**98**	P		**PKiKP**	**15 24 12.1**	**+0.9**
	baz=240								
NVAR	**Mina Array Bea**	**153.82**	**93**	PKPbc		**PKiKP**	**15 24 12.8**	**+0.5**
	comp=N,1.3nm,0.7s,baz=230,slow=4.3,SNR=12								
NV11	**Mina Array Sit**	**153.93**	**93**	PKPdf		**PKPdf**	**15 24 01.9**	**-2.5**
NV11						**pPKPbc**	**15 24 13.6**	**-1.3**
YKA	**Yellowknife Ar**	**155.45**	**34**	PKPbc		PKPdf	15 24 14.0	+8.5
	comp=N,0.3nm,0.6s,baz=270,slow=31,SNR=3.5								
TXAR	**Lajitas Array**	**157.90**	**129**	PKP		**PKPdf**	**15 24 09.3**	**-0.6**
	comp=N,0.1nm,0.4s,baz=190,slow=3.8,SNR=3.8								
TXAR				PKPab		**PKPab**	**15 24 43.5**	**+0.7**
	comp=N,1.0nm,0.8s,baz=193,slow=7.1,SNR=6.8								

*THE **24** 15:26:23.8,41.°29N×19.°64E,h32km±50km,ML2.6/5,Error ellipse: s-maj=50.3km s-min=2.6km az=0.0*
*TIR **24** 15:26:23.4,41.°17N×19.°81E,h36km,Md3.3,Ml2.9*
*PDG **24** 15:26:24.7±0.2,41.°17N×19.°79E,h0km±11km,ML2.8/12, Error ellipse: s-maj=0.3km s-min=0.5km az=0.0*
*SKO **24** 15:26:24.8,41.°02N×19.°77E,h0km,ML2.3*
*ATH **24** 15:26:25.1,41.°04N×19.°82E,h8km±2km,ML2.5/6,Error ellipse: s-maj=3.5km s-min=1.5km az=1.0*
*BEO **24** 15:26:25.4±0.5,41.°28N×19.°91E,h15km±3km,ML2.4/11*
ISC 24 15:26:22.2±1.1,41.16N±0.02×19.80E±0.02,h8km±10km, n79,σ1.9 08/134,3C-7D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.73**	**199**	P	**Pn**	**15 26 38.9**	**+0.1**
	baz=199						
VLO				S	**Sn**	**15 26 49.8**	**-0.2**
	baz=199						
VLO				AMP			
	comp=N,3.0nm,0.4s,baz=199						
OHR	**Ohrid**	**0.75**	**93**	*e*Pg	**Pn**	**15 26 38.3**	**-1.0**
OHR				*e*Sg	**Sn**	**15 26 49.6**	**-1.3**
OHR	**Ohrid**	**0.75**	**93**	*i* Pg	**Pn**	**15 26 39.0**	**-0.2**
OHR				*i* Sg	**Sn**	**15 26 51.0**	**+0.1**
OHR				*e*Lg	Lg	15 26 54.3	
	comp=E,200nm,1.0s						
PUK	**Puka**	**0.89**	**4**	P	**Pb**	**15 26 40.1**	**+0.1**
	baz=4.0						
PUK				S	**Sb**	**15 26 53.5**	**+1.4**
	baz=4.0						
PUK				AMP			
	comp=E,1.6nm,0.4s,baz=4.0						
ULC	**Ulcinj**	**0.91**	**333**	⇓ *i*Pg	**Pg**	**15 26 39.9**	**+0.2**
ULC				*i* Sg	**Sb**	**15 26 53.8**	**+1.2**
KBN	**Korca**	**0.92**	**125**	P	**Pn**	**15 26 41.5**	**-0.1**
	baz=126						
KBN				S	**Sn**	**15 26 55.0**	**+0.1**
	baz=126						
KBN				AMP			
	comp=E,0.8nm,0.6s,baz=126						
DRME	**Dracevica, Mon**	**1.13**	**336**	*e*Pn	**Pb**	**15 26 44.2**	**+0.2**
DRME	**Dracevica, Mon**	**1.13**	**336**	*e*Pg	**Pb**	**15 26 44.2**	**+0.2**
DRME				*i* Sg	**Sb**	**15 26 59.8**	**+0.9**
LSK	**Leskovik**	**1.17**	**149**	P	**Pn**	**15 26 45.9**	**+0.9**
	baz=149						
LSK				S	**Sn**	**15 27 02.7**	**+1.4**
	baz=149						
LSK				AMP			
	comp=N,1.3nm,0.7s,baz=149						
LSK	**Leskovik**	**1.17**	**149**	P	**Pn**	**15 26 45.7**	**+0.6**
LSK				S	**Sn**	**15 27 04.5**	**+3.2**
	comp=N,402nm,0.6s						
NEST	**Nestorio**	**1.20**	**128**	P	**Pn**	**15 26 46.5**	**+1.0**
NEST				S	**Sn**	**15 27 03.6**	**+1.6**
	comp=N,115nm,0.4s						
NEST	**Nestorio**	**1.20**	**128**	P	**Pn**	**15 26 46.4**	**+1.0**
NEST				S	**Sn**	**15 27 01.6**	**-0.4**
NEST				AML	AML	15 27 07.0	
	comp=N,284μm,0.5s						
NEST				AML	AML	15 27 10.4	
	comp=E,245μm,0.4s						
BCI	**Bajram Curri**	**1.23**	**9**	P	**Pn**	**15 26 46.5**	**+0.8**
	baz=9.0						
BCI				S	**Sn**	**15 27 03.5**	**+1.0**
	baz=9.0						
BCI				AMP			
	comp=N,1.4nm,0.8s,baz=9.0						
FNA	**Florina**	**1.25**	**107**	P	**Pn**	**15 26 46.6**	**+0.6**
	baz=107						
FNA				S	**Sn**	**15 27 04.5**	**+1.4**
	baz=107						
FNA				AMP			
	comp=E,0.3nm,0.6s,baz=107						
FNA	**Florina**	**1.25**	**107**	P	**Pn**	**15 26 46.3**	**+0.2**
FNA				S	**Sn**	**15 27 04.5**	**+1.4**
	comp=E,215nm,0.4s						
FNA	**Florina**	**1.25**	**107**	*e*Pg	**Pn**	**15 26 46.4**	**+0.3**
FNA				*e*Sg	**Sn**	**15 27 03.8**	**+0.7**
FNA	**Florina**	**1.25**	**107**	*i* Pg	**Pn**	**15 26 46.7**	**+0.6**
FNA				*i* Sg	**Sn**	**15 27 04.4**	**+1.3**
FNA	**Florina**	**1.25**	**107**	P	**Pn**	**15 26 46.9**	**+0.9**
FNA				S	**Sn**	**15 27 04.5**	**+1.4**
FNA				AML	AML	15 27 09.1	
	comp=E,490μm,0.5s						
FNA				AML	AML	15 27 09.7	
	comp=N,372μm,0.3s						
SRN	**Sarande**	**1.28**	**173**	P	**Pn**	**15 26 47.4**	**+1.0**
	baz=173						
SRN				S	**Sn**	**15 27 06.0**	**+2.1**
	baz=173						
SRN	

comp=E,0.7nm,0.5s,baz=166
IGT Igoumenitsa 1.67 166 P Pg 15 26 53.2 -1.1
IGT S Sg 15 27 15.1 -0.9
comp=E,155nm,0.6s
IGT Igoumenitsa 1.67 166 *i* Pn **Pg 15 26 53.4 -0.8**
IGT *i* Sn **Sg 15 27 16.6 +0.7**
IGT Igoumenitsa 1.67 166 P **Pg 15 26 53.0 -1.3**
IGT S **Sn 15 27 12.9 -0.6**
IGT AML AML 15 27 17.3
comp=E,340μm,0.6s
IGT AML AML 15 27 25.1
comp=N,282μm,0.7s
KPRO Kipourio 1.69 135 P Pb 15 26 52.5 -1.1
KPRO S **Sn 15 27 12.6 -1.4**
KPRO AML AML 15 27 30.1
comp=E,208μm,0.5s
KPRO AML AML 15 27 30.5
comp=N,162μm,0.9s
KOME Kolasin 1.71 353⇓ *i* Pn **Pb 15 26 53.7 -0.2**
KOME *i* Sn **Sg 15 27 17.1 0.0**
IVA Berane 1.71 2⇑ *i* Pn **Pb 15 26 54.2 +0.1**
IVA *i* Sn **Sg 15 27 17.9 +0.5**
NKME Niksic 1.73 339⇑ *i* Pn **Pb 15 26 54.1 -0.2**
NKME *i* Sn **Sg 15 27 18.0 +0.2**
TREB Trebinje 1.90 326 *e*Pn **Pb 15 26 57.1 0.0**
DBRK Dubrovnik 1.95 321 *e*Pn **Pb 15 26 57.8 -0.2**
GRG Griva 1.98 95 P **Pn 15 26 56.6 +0.6**
GRG Griva 1.98 95 *i* Pn **Pn 15 26 56.5 +0.4**
GRG *i* Sn **Sb 15 27 23.1 -0.2**
BRY Bratogost 1.98 332 *e*Pn **Pn 15 26 56.4 +0.2**
BRY Bratogost 1.98 332⇓ *i* Pn **Pb 15 26 58.5 -0.1**
BRY *i* Sn **Sg 15 27 25.4 -0.5**
SJES Sjenica 2.11 3 *e*Pn **Pn 15 26 59.1 +1.2**
SJES *e*Sn **Sn 15 27 24.1 -0.3**
SJES Sjenica 2.11 3 *e*Pn **Pb 15 26 59.7 -1.1**
UPM Unac-Piva 2.15 342 *e*Pn **Pb 15 27 01.3 -0.3**
UPM Unac-Piva 2.15 342 *e*Pn **Pb 15 27 01.2 -0.3**
UPM *i* Sn **Sb 15 27 29.5 +1.0**
PRVS Prvonek 2.17 51 *e*Pn **Pb 15 26 59.0 +0.3**
PRVS *e*Sn **Sn 15 27 25.4 -0.4**
PLE Pljevlja 2.19 352 *e*Pn **Pb 15 27 02.6 +0.4**
PLE *i* Sn **Sb 15 27 31.0 +1.4**
BARS Barje 2.24 41 *e*Pn **Pn 15 27 00.8 +1.2**
BARS *e*Sn **Sn 15 27 26.7 -0.7**
SELS Selova 2.28 25 *e*Pn **Pn 15 27 00.8 +0.5**
SELS *e*Sn **Sn 15 27 26.3 -2.3**
THL Klokotos Trika 2.32 133 P **Pn 15 27 01.1 +0.4**
THL S **Sn 15 27 28.8 -0.6**
STON Ston 2.32 318 *e*Pn **Pn 15 27 00.8 0.0**
STON Ston 2.32 318 *e*Pn **Pn 15 27 00.1 -0.6**
IVAS Ivanjica 2.43 6 *e*Pn **Pn 15 27 02.5 +0.1**
IVAS *e*Sn **Sn 15 27 29.5 -2.8**
LKD2 Lefkada island 2.46 164 P **Pn 15 27 02.8 +0.2**
LKD2 S **Sn 15 27 31.6 -1.2**
RUDO Rudo 2.48 353 *e*Pn **Pn 15 27 04.9 +1.9**
LSTV Lastovo 2.70 308 *e*Pn **Pn 15 27 04.2 -1.8**
BBLS Lazi&#263i 2.72 354 *e*Pn **Pn 15 27 08.5 +2.1**
BBLS *e*Sn **Sn 15 27 37.3 -2.2**
BBLS Lazi&#263i 2.72 354 *e*Pn **Pb 15 27 11.1 -0.1**
BOVS Bovan 2.85 29 *e*Pn **Pn 15 27 07.3 -0.7**
AGG Agios Georgios 2.88 137 P **Pn 15 27 09.8 +1.3**
AGG S **Sn 15 27 42.3 -1.0**
DIVS Divibare 2.94 3 *e*Pn **Pn 15 27 10.2 +0.8**
MAKA Makarska 2.97 317 *e*Pn **Pn 15 27 09.2 -0.4**
MAKA Sn **Sn 15 27 41.5 -3.9**
ZAPS Zavoj 2.98 44 *e*Pn **Pn 15 27 10.2 +0.3**
ZAPS *e*Sn **Sn 15 27 43.6 -2.3**
HAPS Han Pijesak,BI 3.00 348 *e*Pn **Pb 15 27 16.3 +0.4**
ANX Ano Chora 3.04 147 P **Pn 15 27 12.5 +1.8**
ANX S **Sn 15 27 45.3 -1.9**
ANX AML AML 15 28 08.8
comp=E,66μm,0.7s
ANX AML AML 15 28 09.9
comp=N,55μm,0.5s
ZAGS Zajecar 3.21 33 *e*Pn **Pn 15 27 13.5 +0.6**
KUBS Kucevo 3.53 22 *e*Pn **Pn 15 27 17.6 +0.2**
KUBS *e*Sn **Sn 15 27 57.1 -2.3**
KIJV Kijevo 3.79 320 *e*Pn **Pn 15 27 19.8 -1.2**
KIJV Sn **Sn 15 28 05.0 -0.9**
ZIRJ Zirje 3.96 310 *e*Pn **Pn 15 27 23.7 +0.4**
MORI Morici 4.06 313 *e*Pn **Pn 15 27 24.9 +0.2**
A050A Klekovaca 4.10 325 *e*Pn **Pn 15 27 25.1 -0.2**
A051A Mrakovica 4.40 332 *e*Pn Pn 15 27 23.5 -5.9
DUGI Dugi Otok 4.50 311 *e*Pn **Pn 15 27 31.2 +0.4**

TAP 24 15:30:49.9,24.39N×121.91E,h16km,ML1.8,1D,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EWUT	**Wuta**	**0.14**	**295**	P	Pg	15 30 53.6	-0.1
	baz=295						
EWUT				S	Sg	15 30 56.5	+0.3
	baz=295						
ENA	**Nanau**	**0.16**	**285⇓**	*i* P	Pg	15 30 53.8	-0.2
	baz=284						
ENA				*i* S	Sg	15 30 56.9	+0.1
	baz=284						
EAHA	**Aohua**	**0.17**	**250**	P	Pg	15 30 53.6	-0.5
	baz=250						
EAHA				*e*S	Sg	15 30 57.4	+0.4
	baz=250						
ESAO	**Su ao**	**0.20**	**341**	P	Pg	15 30 54.3	-0.3
	baz=341						
ESAO				S	Sg	15 30 57.4	-0.4
	baz=341						
TWC	**Suao**	**0.23**	**345**	P	Pg	15 30 54.8	-0.3
	baz=347						
TWC				*e*S	Sg	15 30 58.0	-0.6
	baz=347						
EOS2	**EOS2**	**0.29**	**84**	*e*P	Pg	15 30 55.9	-0.1
	baz=83						
EOS2				*e*S	Sb	15 31 01.0	-0.3
	baz=83						
NDS	**Dongshan**	**0.30**	**324**	P	Pg	15 30 56.3	0.0
	baz=323						
NDS				*e*S	Sg	15 31 00.7	-0.1
	baz=323						
NACB	**Ninganchiao**	**0.36**	**234**	P	Pg	15 30 56.6	-0.7
	baz=234						
NACB				*e*S	Sg	15 31 02.2	-0.2
	baz=234						
EOS3	**EOS3**	**0.38**	**105**	*e*P	Pg	15 30 57.2	-0.4
	baz=105						
EOS3				*e*S	Sg	15 31 03.2	+0.3
	baz=105						
LATG	**Datong**	**0.38**	**293**	*i* P	Pg	15 30 57.6	-0.1
	baz=292						
LATG				S	Sg	15 31 03.1	0.0
	baz=292						
TWE	**Neicheng**	**0.40**	**326**	P	Pg	15 30 58.0	-0.1
	baz=327						
TWE				S	Sg	15 31 03.4	-0.2
	baz=327						
ENTT	**Nioudou**	**0.41**	**309**	*i* P	Pg	15 30 58.1	0.0
	baz=308						
ENTT				S	Sg	15 31 03.6	-0.1
	baz=308						
TWD	**Chiawan**	**0.42**	**224**	*e*P	Pg	15 30 57.7	-0.7
	baz=222						
NDT	**Datong Townshi**	**0.42**	**300**	P	Pg	15 30 58.5	+0.1
	baz=300						
NDT				S	Sg	15 31 04.5	+0.3
	baz=300						
EOS4	**EOS4**	**0.45**	**126**	*e*P	Pg	15 30 58.6	-0.2
	baz=125						
FUSB	**Fushanzhiwuyua**	**0.47**	**321**	P	Pg	15 30 59.4	0.0
	baz=321						
FUSB				*e*S	Sg	15 31 05.7	-0.2
	baz=321						
NNSB	**Datong**	**0.49**	**275**	P	Pg	15 30 59.4	-0.3
	baz=274						
NNSB				*e*S	Sg	15 31 06.0	-0.2
	baz=274						
NNS	**Nan Shan**	**0.50**	**276**	*e*P	Pg	15 30 59.2	-0.6
	baz=275						
NNS				*e*S	Sg	15 31 06.2	-0.3
	baz=275						
NWLT	**Wulai**	**0.54**	**316**	*e*P	Pg	15 31 00.2	-0.4
	baz=316						
NWLT				*e*S	Sg	15 31 07.4	-0.4
	baz=316						
YHNB	**Yeheng**	**0.56**	**300**	P	Pg	15 31 00.9	-0.1
	baz=299						
YHNB				*e*S	Sg	15 31 08.2	-0.4
	baz=299						
NSK	**Sanguang**	**0.58**	**300**	P	Pg	15 31 01.1	-0.3
	baz=299						
NSK				*e*S	Sg	15 31 08.4	-0.8
	baz=299						
LXIB	**Xiulin Townshi**	**0.58**	**232**	*e*P	Pg	15 31 01.0	-0.5
	baz=231						
TIPB	**Shuangxi**	**0.59**	**352**	P	Pg	15 31 01.1	-0.4
	baz=352						
TIPB				*e*S	Sg	15 31 08.7	-0.7
	baz=352						
FUSS	**Fushou**	**0.63**	**257**	*e*P	Pg	15 31 01.7	-0.6
	baz=257						
WHF	**Hehuan Shan**	**0.64**	**248**	*e*P	Pg	15 31 02.1	-0.5
	baz=247						
SXI1	**Grass Mountain**	**0.70**	**357**	P	Pg	15 31 03.4	-0.4
	baz=357						
SXI1				*e*S	Sg	15 31 12.7	-0.4
	baz=357						
CHGB	**Renai**	**0.75**	**244**	*e*P	Pg	15 31 04.1	-0.5
	baz=244						
WARBT	**Fenglin Townsh**	**0.82**	**216**	*e*P	Pb	15 31 04.9	-0.9
	baz=215						
WUSB	**Renai**	**0.83**	**242**	*e*P	Pb	15 31 05.8	-0.1
	baz=241						
WHP	**Taichung City**	**0.89**	**263**	*e*P	Pb	15 31 06.8	-0.2
	baz=263						

JMA 24 15:31:36.2+0.1,24.3N+0.3×123.8E+0.4,h16km±1km, MV1.0/6,NEAR ISHIGAKIJIMA ISLAND,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**330**	P	Pg	15 31 39.6	0.0
IRIF				S	Sb	15 31 42.2	-0.1
HATJ	**Hateruma jima**	**0.19**	**175**	P	Pg	15 31 40.7	-0.2
HATJ				S	Sg	15 31 44.1	+0.2
JKRS	**Kuro-shima**	**0.20**	**93**	P	Pg	15 31 41.0	0.0
JKRS				S	Sg	15 31 44.6	+0.3
JIJ	**Ishigaki jima**	**0.35**	**70**	P	Pg	15 31 43.3	-0.2
JIJ				S	Sg	15 31 48.0	-0.3
JISG	**Ishigakijimahi**	**0.59**	**55**	P	Pg	15 31 47.8	0.0
JISG				*e*S	Sg	15 31 55.8	+0.2

*IDC **24** 15:46:01.7±0.9,51.61N×15.90E,h0km,mbtmp3.1/7, ML2.9/7,Error ellipse: s-maj=14.1km s-min=8.2km az=114.0*
*IPEC **24** 15:46:01.3±0.2,51.59N×16.16E,h1km,ML2.6/4,Error ellipse: s-maj=2.0km s-min=1.2km az=36.0*
*PRU **24** 15:46:04.2,51.48N×16.04E,h0km*
*VIE **24** 15:46:06.0,51.29N×16.09E,h0km,ML2.8/3,Suspected Mining induced.*

ISC 24 15:46:00.1±0.8,51.63N±0.04×16.10E±0.03,h0km,n38, σ1s06/72,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHVC	**Chvalec**	**1.05**	**182**	*e*PG	**Pg**	**15 46 20.7**	**+0.6**
CHVC				*e*SG	**Sg**	**15 46 33.5**	**-0.2**
	comp=Z,58nm,0.5s						
OSTC	**Ostas**	**1.08**	**176**	*e*PG	**Pg**	**15 46 21.5**	**+0.7**
OSTC				*e*SG	**Sg**	**15 46 34.3**	**-0.5**
	comp=Z,71nm,0.6s						
UPC	**Upice**	**1.13**	**183**	*e*PG	**Pg**	**15 46 22.2**	**+0.5**
UPC				*e*SG	**Sg**	**15 46 35.8**	**-0.5**
	comp=Z,99nm,0.6s						
DPC	**Dobruska-Polom**	**1.29**	**174**	*e*PG	**Pg**	**15 46 24.7**	**-0.2**
DPC				*e*SG	**Sg**	**15 46 40.3**	**-1.3**
	comp=Z,54nm,0.6s						
PVCC	**Panska Ves**	**1.47**	**222**	*e*PG	**Pg**	**15 46 28.6**	**+0.4**
PVCC				*e*SG	**Sg**	**15 46 47.4**	**+0.2**
	comp=Z,200nm,0.3s						
BRG	**Berggiesshubel**	**1.55**	**241**	Pg	**Pg**	**15 46 30.6**	**+0.7**
BRG				Sg	**Sb**	**15 46 50.6**	**+0.7**
BRG				Amp		15 46 51.4	
	comp=Z,109nm,0.4s						
BRG				Amp		16 12 37.0	
	comp=Z,0.2nm,19.2s						
KRLC	**Kraliky**	**1.62**	**164**	*e*PG	**Pn**	**15 46 30.4**	**+0.5**
KRLC				*e*SG	**Sn**	**15 46 50.7**	**-0.8**
	comp=Z,57nm,0.6s						
PRA	**Prague**	**1.89**	**215**	*e*PG	**Pn**	**15 46 33.9**	**+0.3**
PRU	**Pruhonice**	**1.92**	**212**	*e*SG	**Sn**	**15 46 59.9**	**+1.0**
	comp=Z,45nm,0.4s						
CLL	**Collm**	**1.96**	**262**	*e*Pn	**Pn**	**15 46 35.0**	**+0.4**
	comp=Z,18nm,0.5s						
CLL				*i* Pg	**Pg**	**15 46 38.4**	**+0.7**
CLL				*i* x	x	15 46 41.6	
CLL				*e*Sg	**Sg**	**15 47 04.0**	**+0.9**
	comp=Z,33nm,0.4s						
HSKC	**Hora Svate Kat**	**1.97**	**240**	*e*PG	**Pb**	**15 46 37.4**	**+0.6**
HSKC				*e*SG	**Sb**	**15 47 02.4**	**+0.5**
	comp=Z,65nm,0.5s						
MORC	**Moravsky Berou**	**2.07**	**153**	*e*Pn	**Pn**	**15 46 36.3**	**+0.1**
	baz=335						
MORC				*e*Sg	**Sb**	**15 47 04.6**	**-0.3**
	comp=Z,29nm,0.4s,baz=335						
OKC	**Ostrava-Krasne**	**2.22**	**143**	*e*SG	**Sb**	**15 47 09.5**	**+0.4**
	comp=Z,69nm,0.6s						
VRAC	**Vranov**	**2.35**	**172**	*e*PN	**Pn**	**15 46 40.4**	**+0.4**
VRAC				*e*SG	**Sb**	**15 47 13.4**	**+0.6**
VRAC	**Vranov**	**2.35**	**172**	Pn	**Pn**	**15 46 40.9**	**+1.0**
	comp=Z,2.8nm,0.3s,baz=347,slow=15,SNR=14						
VRAC				Pg	**Pg**	**15 46 45.5**	**+0.4**
	comp=Z,3.2nm,0.3s,baz=349,slow=16,SNR=8.2						
VRAC				Lg	Lg	15 47 13.7	
	comp=Z,3.8nm,0.3s,baz=239,slow=17,SNR=4.6						
	comp=Z,6.2nm,0.3s						
VRAC	**Vranov**	**2.35**	**172**	*e*Pn	**Pn**	**15 46 40.3**	**+0.3**
	baz=353						
VRAC				*e*Sg	**Sb**	**15 47 13.3**	**+0.5**
	comp=Z,27nm,0.6s,baz=353						
KRUC	**Moravsky**	**2.58**	**176**	*e*Pn	**Pn**	**15 46 43.6**	**+0.5**
	baz=357						
KRUC				*e*Sg	**Sb**	**15 47 20.7**	**+1.2**
	comp=Z,30nm,0.7s,baz=357						
OJC	**Ojcow**	**2.74**	**120**	*e*Pg	**Pg**	**15 46 52.7**	**+0.2**
OJC				*e*Sg	**Sg**	**15 47 28.4**	**+0.4**
JAVC	**Velka Javorina**	**2.96**	**159**	*e*Pn	**Pn**	**15 46 48.8**	**+0.5**
	baz=341						
KHC	**Kasperske Hory**	**2.98**	**214**	*e*PN	**Pn**	**15 46 48.8**	**+0.2**
KHC				*e*PG	**Pb**	**15 46 54.7**	**+0.6**
KHC				*e*SG	**Sb**	**15 47 32.9**	**+1.9**
	comp=Z,17nm,0.6s						
CKRC	**Cesky Krumlov**	**3.04**	**203**	*e*PN	**Pn**	**15 46 50.1**	**+0.6**
CKRC				*e*PG	**Pb**	**15 46 56.2**	**+1.1**
CKRC				*e*SG	**Sb**	**15 47 34.6**	**+1.8**
	comp=Z,14nm,0.5s						
GERES	**GERESS Array B**	**3.19**	**210**	Pn	**Pn**	**15 46 52.2**	**+0.7**
	comp=Z,0.9nm,0.3s,baz=32,slow=14,SNR=14						
GERES				Pg	**Pb**	**15 46 57.9**	**+0.2**
	comp=Z,3.0nm,0.3s,baz=24,slow=17,SNR=17						
GERES				Sn	**Sn**	**15 47 30.0**	**-0.3**
	comp=Z,1.4nm,0.3s,baz=17,slow=32,SNR=4.3						
GERES				Lg	Lg	15 47 39.8	
	comp=Z,3.2nm,0.3s,baz=29,slow=25,SNR=5.3						
	comp=Z,2.1nm,0.3s						
MODS	**Modra-Piesok**	**3.35**	**166**	*e*PG	**Pg**	**15 47 04.0**	**-0.3**
MODS				*e*SG	**Sg**	**15 47 46.2**	**-1.5**
VYHS	**Vyhne**	**3.60**	**150**	*e*PN	**Pn**	**15 46 57.3**	**+0.1**
VYHS				*e*PG	**Pg**	**15 47 09.8**	**+0.7**
VYHS				*e*SG	**Sb**	**15 47 49.8**	**+0.9**
CONA	**Conrad Observa**	**3.71**	**182**	*i* Pn	**Pn**	**15 46 59.6**	**+0.9**
	comp=Z,1.3nm,0.3s						
CONA				*e*Sg	**Sg**	**15 47 56.4**	**-2.9**
	comp=Z,15nm,0.5s						
RONA	**Rosalia, Austr**	**3.94**	**178**	*e*Pn	**Pn**	**15 47 03.2**	**+1.3**
	comp=Z,0.4nm,0.2s						
RONA				*e*Sg	**Sg**	**15 48 04.8**	**-1.8**
	comp=Z,13nm,0.5s						
STHS	**Stebnicka Huta**	**3.96**	**122**	*e*PG	**Pg**	**15 47 17.1**	**+1.1**
STHS				*e*SG	**Sg**	**15 48 10.5**	**+3.2**
MOA	**Molln**	**3.97**	**198**	*i* Pn	**Pn**	**15 47 02.9**	**+0.6**
	comp=Z,4.6nm,0.3s						
MOA				*e*Sg	**Sg**	**15 48 06.0**	**-1.6**
	comp=Z,24nm,0.8s						
BIOA	**Bad Ischl, Aus**	**4.26**	**203**	*e*Pn	**Pg**	**15 47 22.2**	**+0.5**
	comp=Z,6.7nm,0.4s						
BIOA				*e*Sg	**Sg**	**15 48 14.3**	**-2.5**
	comp=Z,23nm,0.5s						
ARSA	**Arzberg**	**4.40**	**185**	*e*Pg	**Pg**	**15 47 23.7**	**-0.8**
	comp=Z,2.8nm,0.5s						
ARSA				*e*Sg	**Sg**	**15 48 20.6**	**-0.9**
	comp=Z,19nm,0.7s						
LESA	**Schwarzleotal**	**4.77**	**209**	*e*Pn	**Pn**	**15 47 13.9**	**+0.7**
	comp=Z,0.7nm,0.2s						
LESA				*e*Sg	**Sg**	**15 48 32.5**	**-0.6**
	comp=Z,5.9nm,0.5s						
KBA	**Koelnbreinsper**	**4.90**	**203**	*i* Pn	**Pn**	**15 47 16.1**	**+1.0**
	comp=Z,3.8nm,0.4s						
KBA				*e*Sg	**Sg**	**15 48 38.0**	**+0.5**
	comp=Z,14nm,0.8s						
SOKA	**Soboth**	**5.01**	**188**	*e*Pn	**Pn**	**15 47 18.6**	**+2.0**
	comp=Z,0.5nm,0.3s						
SOKA				Sg	**Sg**	**15 48 42.4**	**+1.4**
	comp=Z,2.6nm,0.6s						
DAVOX	**Davos/Dischmat**	**6.34**	**222**	Pn	**Pn**	**15 47 35.6**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=55,slow=12,SNR=1.1						
DAVOX				Lg	Lg	15 49 20.9	
	comp=Z,0.1nm,0.3s,baz=343,slow=19,SNR=1.5						
	comp=Z,1.1nm,0.4s						
AKASG	**Malin Array Be**	**8.30**	**91**	Pn	**Pn**	**15 48 01.2**	**-0.4**
	comp=Z,0.9nm,0.3s,baz=281,slow=12,SNR=5.1						
	comp=Z,0.2nm,0.3s						
HFS	**Hagfors**	**8.63**	**352**	Pn	**Pn**	**15 48 05.0**	**-1.1**
	comp=Z,0.1nm,0.3s,baz=177,slow=29,SNR=2.9						
	comp=Z,0.7nm,0.7s						
FINES	**FINESS Array B**	**11.25**	**25**	Pn	**Pn**	**15 48 40.5**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=213,slow=10,SNR=4.1						
	comp=Z,0.8nm,0.7s						
EKA	**Eskdalemuir Ar**	**12.05**	**295**	Pn	**Pn**	**15 48 51.3**	**-1.6**
	baz=104,slow=13						
	comp=Z,0.4nm,0.5s						

*IDC **24** 15:50:40.9±0.5,35.50S×78.36E,h0km,mb4.6/21, mbtmp4.6/21,MS4.1/40,Error ellipse: s-maj=17.6km s-min=16.2km az=80.0*
*MOS **24** 15:50:40.2±0.8,35.54S×78.30E,h10km,mb5.0/36,Error ellipse: s-maj=13.6km s-min=7.7km az=91.9*
*BJI **24** 15:50:42.2±0.0,35.28S×78.22E,h14km,mb4.9/52, mB5.1/19,Ms4.6/4,Ms7 4.3/4*
*NEIC **24** 15:50:42.4±1.4,35.5S±0.1×78.3E±0.1,h10km±1km, mb5.0/80,Error ellipse: s-maj=18.0km s-min=16.4km az=143.0*
*GCMT **24** 15:50:45.4±0.3,35.65S±0.02×78.43E±0.02,h15km±1km, MW5.0/85,Moment Tensor Solution. s21,c27; s85,c115; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.00±.22; $M_{\theta\theta}$-1.96±.12; $M_{\phi\phi}$3.95±.17; $M_{r\theta}$1.97±.58; $M_{\theta\phi}$-0.36±.11; $M_{\phi r}$-1.36±.40; Best double couple: M_o4.18300×10^{16} NP1:ϕ322.00000°,δ70.00000°,λ-133.00000°. NP2: ϕ212.00000°,δ46.00000°,λ-28.00000°. Principal axes: T 4.3480, Plg14.0000°, Azm82.0000°: N -0.3400, Plg40.0000°, Azm340.0000°; P -4.0170, Plg47.0000°, Azm188.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 15:50:42.8±0.3,35.57S±0.07×78.30E±0.07,h14km,n280, σ1s06/241,mb4.9/95,MS4.1/45,10C-9D,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	**CROZET ISLANDS**	**22.56**	**234**	T	T	16 19 15.9	
	baz=72,slow=74						
H04N1	**CROZET ISLANDS**	**22.58**	**234**	T	T	16 19 17.1	
	baz=72,slow=74						
H04N3	**CROZET ISLANDS**	**22.58**	**234**	T	T	16 19 20.6	
	baz=72,slow=74						
H04S1	**CROZET ISLANDS**	**22.71**	**232**	T	T	16 19 27.3	
	baz=61,slow=76						
H04S3	**CROZET ISLANDS**	**22.73**	**232**	T	T	16 19 32.9	
	baz=61,slow=76						
H04S2	**CROZET ISLANDS**	**22.73**	**232**	T	T	16 19 31.0	
	baz=61,slow=76						
H08S2	**Diego Garcia H**	**28.30**	**348**	T	T	16 26 02.8	
	baz=170,slow=76						
H08S1	**Diego Carcia H**	**28.30**	**348**	T	T	16 26 03.1	
	baz=170,slow=76						
H08S3	**Diego Garcia H**	**28.32**	**348**	T	T	16 26 04.3	
	baz=170,slow=76						
DGAR	**Diego Garcia**	**28.54**	**348**	*i* P	**P**	**15 56 36.7**	**-1.3**
DGAR				pmax	pmax		
	comp=Z,84nm,1.1s						
H01W2	**Cape Leeuwin H**	**29.18**	**99**	T	T	16 27 06.5	
	baz=258,slow=74						
H01W3	**Cape Leeuwin H**	**29.18**	**99**	T	T	16 27 12.3	
	baz=258,slow=74						
H01W1	**Cape Leeuwin H**	**29.19**	**99**	T	T	16 27 13.5	
	baz=258,slow=74						
VOI	**Vohitsoka**	**30.65**	**288**	P	**P**	**15 56 56.7**	**-0.3**
VOI				IAmb	IAmb	15 56 58.8	
	comp=Z,17nm,1.1s						
ABPO	**Ambohimpanom**	**31.99**	**293**	P	**P**	**15 57 07.9**	**-0.9**
ABPO				IAmb	IAmb	15 57 38.2	
	comp=Z,25nm,1.3s						
ABPO	**Ambohimpanom**	**31.99**	**293**	P	**P**	**15 57 07.9**	**-0.9**
ABPO				pmax	pmax		
	comp=Z,25nm,1.3s						
NWAO	**Narrogin (SRO)**	**32.15**	**97**	P	**P**	**15 57 08.8**	**-1.1**
NWAO	**Narrogin (SRO)**	**32.15**	**97**	LR	LR	16 07 09.1	
	comp=Z,798nm,20.5s,baz=254,slow=31						
NWAO	**Narrogin (SRO)**	**32.15**	**97**	P	**P**	**15 57 08.8**	**-1.1**
OPO	**Ambohidratompo**	**32.29**	**293**	LR	LR	16 06 44.7	
	comp=Z,275nm,19.8s,baz=20,slow=30						
MAW	**Mawson**	**33.27**	**191**	P	**P**	**15 57 20.0**	**+0.7**
	comp=Z,8.0nm,0.9s,baz=36,slow=12,SNR=7.0						
	comp=Z,8.0nm,0.9s						
LEM	**Lembang**	**39.26**	**50**	LR	LR	16 11 23.7	
	comp=Z,184nm,19.6s,baz=174,slow=32						
LEM	**Lembang**	**39.26**	**50**	P	**P**	**15 58 13.2**	**+1.9**
LEM				pmax	pmax		
	comp=Z,41nm,1.7s						
POGA	**Pongola**	**40.28**	**268**	P	**P**	**15 58 20.2**	**+0.7**
GRHM	**Grahamstown, E**	**42.49**	**258**	P	**P**	**15 58 36.9**	**-0.7**
PALK	**Pallekele**	**42.67**	**4**	P	**P**	**15 58 38.4**	**-0.8**
PALK				IAmb	IAmb	15 58 40.6	
	comp=Z,32nm,1.1s						
PALK	**Pallekele**	**42.67**	**4**	LR	LR	16 12 12.0	
	comp=Z,173nm,20.7s,baz=279,slow=30						
PALK	**Pallekele**	**42.67**	**4**	*i* P	**P**	**15 58 38.5**	**-0.7**
PALK				pmax	pmax		
	comp=Z,22nm,0.9s						
MYKOM	**Kota Tinggi**	**44.18**	**38**	P	**P**	**15 58 49.3**	**-2.0**
LHMI	**Lhok Sumawe**	**44.21**	**27**	P	**P**	**15 58 51.0**	**-0.5**
BOSA	**Boshof**	**45.02**	**263**	P	**P**	**15 58 58.2**	**0.0**
BOSA				IAmb	IAmb	16 00 09.8	
	comp=Z,64nm,1.9s						
BOSA	**Boshof**	**45.02**	**263**	P	**P**	**15 58 59.2**	**+1.0**
	comp=Z,6.3nm,0.9s,baz=111,slow=5.9,SNR=6.8						
BOSA				LR	LR	16 13 34.2	
	comp=Z,534nm,21.9s,baz=126,slow=30						
	comp=Z,6.3nm,0.9s						
BOSA	**Boshof**	**45.02**	**263**	P	**P**	**15 58 58.2**	**0.0**
BOSA				pmax	pmax		
	comp=Z,64nm,2.0s						
FITZ	**Fitzroy Crossi**	**45.23**	**80**	P	**P**	**15 58 58.8**	**-0.9**
KULM	**Kulim**	**45.75**	**32**	P	**P**	**15 59 04.0**	**+0.2**
MATP	**Matopo**	**46.02**	**275**	LR	LR	16 15 02.7	
	comp=Z,200nm,20.6s,baz=63,slow=32						
LBTB	**Lobatse**	**46.24**	**268**	P	**P**	**15 59 07.3**	**-0.5**
LBTB				IAmb	IAmb	15 59 09.5	
	comp=Z,14nm,1.1s						
LBTB	**Lobatse**	**46.24**	**268**	LR	LR	16 14 31.3	
	comp=Z,325nm

ASAR LR LR 16 17 50.6
comp=Z,391nm,19.9s,baz=254,slow=33
comp=Z,3.4nm,0.8s
AS31 Alice Springs 49.20 92 P P 15 59 29.6 -1.1
SBUM Sibu 49.36 47 P P 15 59 31.6 -0.3
SBUM IAmb IAmb 15 59 34.8
comp=Z,12nm,1.0s
WRA Warramunga Arr 51.33 88 P P 15 59 46.9 0.0
WRA Warramunga Arr 51.33 88 P P 15 59 47.1 +0.3
comp=Z,6.7nm,0.9s,baz=241,slow=7.7,SNR=20
WRA LR LR 16 19 09.5
comp=Z,373nm,21.7s,baz=289,slow=33
comp=Z,6.7nm,0.9s
WRA Warramunga Arr 51.33 88 P P 15 59 46.9 0.0
WRA pmax pmax
comp=Z,2.0nm,1.7s
WB2 Warramunga Arr 51.34 88 P P 15 59 46.2 -0.7
WB2 IAmb IAmb 15 59 56.1
comp=Z,34nm,1.4s
WRAB Tennant Creek 51.34 88 P P 15 59 46.6 -0.4
WRAB IAmb IAmb 15 59 56.3
comp=Z,36nm,1.6s
WRAB Tennant Creek 51.34 88 P P 15 59 46.6 -0.4
WRAB pmax pmax
comp=Z,36nm,1.6s
WB0 Warramunga Arr 51.46 88 P P 15 59 47.3 -0.6
WB0 IAmb IAmb 15 59 51.1
comp=Z,20nm,1.2s
WR0 Warramunga Arr 51.49 88 P P 15 59 47.8 -0.2
WR0 IAmb IAmb 15 59 49.7
comp=Z,15nm,1.1s
STKA Stephens Creek 51.97 105 P P 15 59 51.9 +0.4
STKA Stephens Creek 51.97 105 P P 15 59 51.6 +0.1
comp=Z,8.3nm,1.0s,baz=249,slow=8.6,SNR=8.3
STKA LR LR 16 18 16.7
comp=Z,402nm,20.4s,baz=216,slow=32
comp=Z,8.3nm,1.0s
STKA Stephens Creek 51.97 105 P P 15 59 51.9 +0.4
STKA pmax pmax
comp=Z,4.0nm,1.2s
TROLL Troll, Antarti 52.21 202 ⇓P P 15 59 54.4 +1.5
comp=Z,146nm,0.8s
HYB Hyderabad 52.70 0 *e*P **P 15 59 56.9 -0.1**
HYB IVmB_BB 15 59 57.5
comp=Z,331nm,1.0s
SNAA Sanae 53.91 203 P P 16 00 05.7 +0.4
SNAA Sanae 53.91 203 ⇓P P 16 00 05.7 +0.4
comp=Z,42nm,0.9s
SNAA Sanae 53.91 203 P P 16 00 06.3 +1.0
comp=Z,1.6nm,0.8s,baz=61,slow=12,SNR=4.0
comp=Z,1.6nm,0.8s
SNAA Sanae 53.91 203 P P 16 00 05.7 +0.4
SNAA pmax pmax
comp=Z,16nm,1.6s
VNDA Vanda 54.18 165 P P 16 00 07.0 -0.2
VNDA Vanda 54.18 165 LR LR 16 20 58.9
comp=Z,127nm,18.3s,baz=280,slow=34
VNDA Vanda 54.18 165 P P 16 00 07.0 -0.2
VNDA pmax pmax
comp=Z,27nm,0.8s
QSPA South Pole Qui 54.58 180 P P 16 00 10.9 +0.5
QSPA IAmb IAmb 16 00 14.4
comp=Z,18nm,0.9s
QSPA South Pole Qui 54.58 180 P P 16 00 10.9 +0.5
comp=Z,15nm,1.0s,baz=279,slow=2.7,SNR=31
QSPA LR LR 16 21 42.2
comp=Z,492nm,18.8s,baz=296,slow=34
comp=Z,15nm,1.0s
DLV T Lat 55.21 37 P P 16 00 15.7 +0.1
DLV IAmb IAmb 16 00 17.9
comp=Z,15nm,1.0s
VNA2 Neumayer--Watz 55.45 203 ⇓P P 16 00 17.6 +1.2
comp=Z,1.6nm,0.6s,baz=98,slow=5.2
TSUM Tsumeb 55.52 270 P P 16 00 17.7 -0.1
TSUM IAmb IAmb 16 00 20.5
comp=Z,17nm,1.1s
TSUM Tsumeb 55.52 270 LR LR 16 20 44.9
comp=Z,501nm,19.6s,baz=142,slow=32
LODK Lodwar 55.85 305 P P 16 00 20.4 +0.3
VNA3 Neumayer Olymp 56.13 203 ⇓P P 16 00 22.2 +0.9
comp=Z,0.8nm,1.0s
MBAR Mbarara 56.21 297 P P 16 00 23.0 +0.2
MBAR Mbarara 56.21 297 LR LR 16 21 34.2
comp=Z,213nm,18.0s,baz=114,slow=33
MBAR Mbarara 56.21 297 P P 16 00 23.0 +0.2
MBAR pmax pmax
comp=Z,5.0nm,0.9s
CM31 Chiang Mai Arr 57.19 23 P P 16 00 29.1 -0.3
CM31 IAmb IAmb 16 00 31.1
comp=Z,18nm,1.3s
CMAR Chiang Mai Arr 57.19 23 P P 16 00 28.8 -0.6
CMAR Chiang Mai Arr 57.19 23 P P 16 00 28.9 -0.5
comp=Z,3.3nm,0.9s,baz=213,slow=6.9,SNR=18
CMAR LR LR 16 20 04.6
comp=Z,46nm,21.2s,baz=195,slow=31
comp=Z,3.3nm,0.9s
CMAR Chiang Mai Arr 57.19 23 *ce*P **P 16 00 29.7 +0.3**
CMAR pmax pmax
comp=Z,7.0nm,1.1s
CHTO Chiang Mai 57.52 23 P P 16 00 31.7 0.0
CHTO Chiang Mai 57.52 23 P P 16 00 31.7 0.0
CHTO pmax pmax
comp=Z,14nm,1.5s
PHRA Phrae 57.66 25 P P 16 00 32.2 -0.4
TNTI Ternate 58.24 63 P P 16 00 36.4 -0.6
TNTI IAmb IAmb 16 01 32.1
comp=Z,14nm,1.2s
CRAI Chiangrai 59.31 24 P P 16 00 43.9 -0.3
CRAI IAmb IAmb 16 00 46.0
comp=Z,16nm,0.9s
BELA Belgrano 2 60.07 193 P P 16 00 49.0 +0.2
BELA IAmb IAmb 16 00 50.8
comp=Z,14nm,1.0s
WSAR Wadi Sarin 61.39 339 LR LR 16 21 08.0
comp=Z,147nm,21.3s,baz=199,slow=30
DAV Davao City (W) 61.44 56 LR LR 16 24 29.7
comp=Z,127nm,21.9s,baz=214,slow=33
SLVN Son La 61.58 27 P P 16 00 60.0 +0.2
SLVN IAmb IAmb 16 01 01.8
comp=Z,13nm,0.8s
SHL Shillong 62.15 14 P P 16 01 03.2 -0.5
SHL Shillong 62.15 14 P P 16 01 03.2 -0.5
SHL pmax pmax
comp=Z,25nm,1.0s
TNCH TengChong 63.24 21 P P 16 01 12.1 +1.2
TNCH pP pP 16 01 14.3 -0.1
TNCH S **S 16 09 45.3 +2.9**
TNCH pmax pmax
comp=Z,15nm,1.2s
TNCH pmax pmax
comp=Z,100nm,4.4s
TNCH LR LR
comp=Z,140nm,13.6s
TNCH LR LR
comp=Z,88nm,13.0s
TNCH LR LR
comp=Z,110nm,20.8s
KMI Kunming 64.64 25 ⇓P P 16 01 21.4 +1.2
KMI pmax pmax
comp=Z,13nm,1.0s
KMI LR LR
comp=Z,110nm,15.9s
KMI LR LR
comp=Z,92nm,18.4s
KMI LR LR
comp=Z,170nm,17.8s
PZH PanZhiHua 65.59 23 P P 16 01 26.1 -0.2
PZH pmax pmax
comp=Z,10.0nm,1.1s
PZH pmax pmax
comp=Z,110nm,4.3s
LSA Lhasa 66.04 12 P P 16 01 28.4 -1.1
LSA IAmb IAmb 16 01 31.5
comp=Z,11nm,0.7s
LSA Lhasa 66.04 12 P P 16 01 28.4 -1.1
LSA pmax pmax
comp=Z,11nm,0.7s
RAYN Ar Rayn 66.48 327 P P 16 01 32.1 +0.2
RAYN IAmb IAmb 16 01 33.9
comp=Z,8.5nm,0.9s
RAYN Ar Rayn 66.48 327 P P 16 01 32.1 +0.2
RAYN pmax pmax
comp=Z,9.0nm,0.9s
GYA Guiyang 67.27 27 ⇓P P 16 01 37.8 +0.8
GYA pmax pmax
comp=Z,23nm,0.9s
GYA pmax pmax
comp=Z,180nm,9.3s
PMG Port Moresby 67.41 85 LR LR 16 29 49.3
comp=Z,479nm,18.9s,baz=241,slow=35
NIL Nilore 69.03 355 P P 16 01 47.4 -0.4
NIL IAmb IAmb 16 02 14.8
comp=Z,10nm,1.1s
NIL Nilore 69.03 355 P P 16 01 47.4 -0.4
NIL pmax pmax
comp=Z,10.0nm,1.1s
KBL Kabul 70.29 352 P P 16 01 55.9 +0.2
KBL Kabul 70.29 352 P P 16 01 55.9 +0.2
KBL pmax pmax
comp=Z,26nm,0.9s
CD2 Chengdu 70.33 23 *e*P **P 16 01 58.0 +2.1**
HRA Herat 71.20 346 P P 16 02 00.3 -1.0
SSLB Suanglung 71.52 41 P P 16 02 02.5 -0.8
SSLB IAmb IAmb 16 02 05.6
comp=Z,12nm,0.9s
ENH Enshi 71.77 28 P P 16 02 04.0 -0.7
ENH IAmb IAmb 16 02 12.8
comp=Z,23nm,1.1s
WHN Wuhan 73.99 32 P P 16 02 19.5 +1.8
SIMJ Simiganj 74.36 352 P P 16 02 19.1 -0.8
GAR Garm 74.57 354 P P 16 02 19.8 -1.3
GAR IAmb IAmb 16 02 21.5
comp=Z,15nm,1.0s
DRK Karamyk 74.92 355 P P 16 02 22.7 -0.7
DRK Karamyk 74.92 355 P P 16 02 22.7 -0.7
DRK pmax pmax
comp=Z,14nm,1.4s
XAN Xi'an 74.94 26 ⇓P P 16 02 21.8 -1.4
XAN sP sP 16 02 28.5 +0.4
XAN pmax pmax
comp=Z,70nm,1.0s
XAN pmax pmax
comp=Z,210nm,4.0s
LZH Lanzhou 75.16 21 P P 16 02 25.6 +1.0
LZH pP pwP 16 02 31.3 -1.0
LZH pmax pmax
comp=Z,33nm,1.0s
GEYT Alibeck 75.49 344 P P 16 02 26.4 +0.1
GEYT Alibeck 75.49 344 P P 16 02 26.8 +0.4
comp=Z,4.7nm,0.9s,baz=175,slow=8.3,SNR=8.8
comp=Z,4.7nm,0.9s
GEYT Alibeck 75.49 344 P P 16 02 26.4 +0.1
GEYT pmax pmax
comp=Z,8.0nm,1.1s
GYA0B ALIBECK ARRAY 75.49 344 P P 16 02 26.0 -0.4
BTK Batken 75.58 354 P P 16 02 26.4 -0.4
BTK IAmb IAmb 16 02 28.8
comp=Z,16nm,0.8s
BTK Batken 75.58 354 P P 16 02 26.4 -0.4
BTK pmax pmax
comp=Z,17nm,0.9s
PMSA Palmer Station 75.72 196 LR LR 16 34 38.8
comp=Z,76nm,20.0s,baz=194,slow=35
DZM Mont Dzumac 76.06 107 *e*LR LR 16 26 02.0
comp=Z,339nm,24.7s
DZM Mont Dzumac 76.06 107 LR LR 16 33 20.4
comp=Z,192nm,18.7s,baz=292,slow=34
EIL Elat 76.66 322 LR LR 16 30 49.8
comp=Z,72nm,20.1s,baz=90,slow=31
LYN LuoYang 76.72 28 *e*P **P 16 02 34.4 +1.1**
LYN pmax pmax
comp=Z,33nm,1.0s
LYN pmax pmax
comp=Z,160nm,4.5s
GTA Gaotai 77.21 17 P P 16 02 36.5 +0.3
GTA pmax pmax
comp=Z,6.0nm,1.0s
NJ2 Nanjing 77.28 34 *e*P **P 16 02 37.0 +0.4**
NJ2 pmax pmax
comp=Z,15nm,0.9s
ULHL Ulahol 77.47 358 P P 16 02 38.6 +0.9
SNR=7.2
UCH Uchtor 77.50 357 P P 16 02 38.5 +0.4
SNR=8.6
BOOM Boomskoye usch 77.72 358 P P 16 02 37.8 -1.2
BOOM Boomskoye usch 77.72 358 P P 16 02 37.8 -1.2
BOOM pmax pmax
comp=Z,5.0nm,1.0s
HNR Honiara 77.81 93 LR LR 16 34 20.5
comp=Z,826nm,21.7s,baz=215,slow=34
AAK Ala-Archa 77.91 357 P P 16 02 40.9 +0.9
SNR=8.6
AAK Ala-Archa 77.91 357 P P 16 02 40.0 -0.1
AAK IAmb IAmb 16 02 41.9
comp=Z,7.7nm,0.8s
AAK Ala-Archa 77.91 357 LR LR 16 34 07.4
comp=Z,107nm,20.5s,baz=174,slow=34
AAK Ala-Archa 77.91 357 P P 16 02 40.0 -0.1
AAK pmax pmax
comp=Z,8.0nm,0.9s
JOW Kunigami 77.97 44 LR LR 16 34 34.2
comp=Z,26nm,20.5s,baz=195,slow=34
EKS2 Erkin-Say 77.97 357 P P 16 02 41.4 +1.0
SNR=21
TKM2 Tokmak 2 78.16 358 P P 16 02 42.0 +0.5
SNR=6.8
CHMS Chumysh 78.27 357 P P 16 02 42.3 +0.4
SNR=6.0
UZB Uzynbulak 78.35 1 *e*P **P 16 02 41.4 -1.1**
UZB pmax pmax
comp=Z,13nm,1.9s
SHLS Shalkode 78.36 1 *e*P **P 16 02 42.4 -0.1**
SHLS pmax pmax
comp=Z,11nm,1.3s
USP Ospenovka 78.54 357 P P 16 02 44.0 +0.6
SNR=20
KK31 Karatay Array 78.62 354 P P 16 02 43.8 0.0
KK31 Karatay Array 78.62 354 P P 16 02 43.8 0.0
KK31 pmax pmax
comp=Z,31nm,0.9s
KKAR Karatay Array 78.62 354 P P 16 02 44.1 +0.3
KKAR Karatay Array 78.62 354 P P 16 02 44.1 +0.3
KKAR pmax pmax
comp=Z,31nm,0.9s
MMAI Mount Meron Ar 79.18 324 P P 16 02 48.7 +1.5
comp=Z,2.4nm,0.5s,baz=128,slow=6.5,SNR=6.9
MMAI LR LR 16 33 25.3
comp=Z,49nm,20.5s,baz=111,slow=32
comp=Z,2.4nm,0.5s
ARXS Arharly 79.41 360 *e*P **P 16 02 47.3 -0.9**
WMQ Urumqi 79.48 7 *e*P **P 16 02 48.9 +0.4**
WMQ pmax pmax
comp=Z,18nm,1.3s
GUMO Guam 79.63 65 LR LR 16 35 36.9
comp=Z,20nm,21.4s,baz=218,slow=34
TIA Tai'an 80.04 31 ⇑P P 16 02 52.1 +0.4
TIA pmax pmax
comp=Z,13nm,1.0s
HNS HongShan 80.08 29 ⇓P P 16 02 52.4 +0.6
HNS pmax pmax
comp=Z,25nm,1.2s
BTLS Baital 80.33 357 *e*P **P 16 02 52.9 -0.1**
BTLS pmax pmax
comp=Z,8.0nm,0.9s
GURO Guroymak-BITLI 81.03 332 P P 16 02 56.5 -0.7
BTO Baotou 81.23 24 *e*P **P 16 02 58.8 +0.7**
BTO pP **pwP 16 03 09.3 +3.5**
BTO sP PcP 16 03 13.0 +8.7
BTO PP **PP 16 06 07.5 +3.4**
BTO pmax pmax
comp=Z,30nm,1.1s
BTO pmax pmax
comp=Z,170nm,4.5s
GNI Garni 81.45 335 *ce*P **P 16 02 59.5 +0.2**
GNI pmax pmax
comp=Z,36nm,2.5s
HHC Hu-ho-hao-te 81.97 25 *e*P **P 16 03 04.4 +2.4**
HHC pmax pmax
comp=Z,14nm,0.5s
MK31 Makanchi Array 82.07 3 P P 16 03 01.4 -0.9
MK31 Makanchi Array 82.07 3 P P 16 03 01.4 -0.9
MK31 pmax pmax
comp=Z,7.0nm,1.0s
MKAR Makanchi Array 82.07 3 P P 16 03 03.5 +1.2
MKAR Makanchi Array 82.07 3 P P 16 03 01.2 -1.1
comp=Z,19nm,0.5s,baz=172,slow=5.5,SNR=0.5
MKAR LR LR 16 36 36.6
comp=Z,81nm,21.3s,baz=200,slow=34
comp=Z,19nm,0.5s
MKAR Makanchi Array 82.07 3 P P 16 03 03.5 +1.2
MAKZ Makanchi 82.07 3 P P 16 03 01.4 -0.9
MAKZ Makanchi 82.07 3 P P 16 03 01.4 -0.9
MAKZ pmax pmax
comp=Z,9.0nm,1.1s
ONI Oni 84.06 335 P P 16 03 12.7 0.0
ONI IAmb IAmb 16 03 14.9
comp=Z,4.7nm,0.7s
ONI Oni 84.06 335 P P 16 03 12.7 0.0
ONI pmax pmax
comp=Z,5.0nm,0.7s
JNU Nakatsue 84.22 42 P P 16 03 13.1 -0.6
JNU IAmb IAmb 16 03 21.5
comp=Z,28nm,1.5s
JNU Nakatsue 84.22 42 LR LR 16 36 47.2
comp=Z,43nm,21.9s,baz=216,slow=33
KBZ Khabaz 85.25 335 P P 16 03 19.4 +0.8
comp=Z,3.1nm,0.8s,baz=66,slow=3.5,SNR=5.8
comp=Z,3.1nm,0.8s
KBZ Khabaz 85.25 335 *ce*P **P 16 03 18.9 +0.3**
KBZ pmax pmax
comp=Z,4.0nm,0.9s
BRZS Berezniki 85.33 356 *e*P P 16 03 13.9 -5.0
BRZS pmax pmax
comp=Z,5.0nm,0.8s
SHA1 Shidzhatmaz 85.34 335 *ce*P **P 16 03 21.5 +2.1**
BR104 Keskin Array S 85.48 327 P P 16 03 20.3 +0.2
comp=Z,7.3nm,0.9s,comp=Z,47nm
BR131 Keskin Array S 85.50 327 P P 16 03 19.4 -0.7
BR131 IAmb IAmb 16 03 21.7
comp=Z,6.0nm,0.8s
BR131 Keskin Array S 85.50 327 P P 16 03 19.4 -0.7
BR131 pmax pmax
comp=Z,6.0nm,0.8s
BRTR Keskin Array B 85.50 327 P P 16 03 19.6 -0.5
BRTR Keskin Array B 85.50 327 P P 16 03 20.4 +0.2
comp=Z,4.8nm,0.8s,baz=148,slow=7.3,SNR=22
comp=Z,4.8nm,0.8s
BRTR Keskin Array B 85.50 327 *ce*P **P 16 03 20.8 +0.7**
BRTR pmax pmax
comp=Z,5.0nm,0.8s
KIV Kislovodsk 85.52 335 ⇓ *e*P **P 16 03 19.5 -0.6**
KIV *e* 16 06 41.5
KIV *e*S **S 16 13 50.6 -0.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s
KIV MLR MLR
comp=Z,47nm,14.0s
KURBB Kurchatov Arra 85.83 0 P P 16 03 21.8 +0.5
comp=Z,19nm,0.8s,baz=192,slow=4.8,SNR=157
comp=Z,19nm,0.8s
KURK Kurchatov 85.92 0 P P 16 03 21.6 -0.1
KURK Kurchatov 85.92 0 *ce*P **P 16 03 22.2 +0.5**
KURK pmax pmax
comp=Z,35nm,1.0s
KSAR Wonju Array Be 85.98 37 P P 16 03 22.1 -0.3
KSAR Wonju Array Be 85.98 37 P P 16 03 22.1 -0.3
KSRS Korea Array 86.01 37 P P 16 03 22.4 -0.2
comp=Z,2.3nm,1.0s,baz=232,slow=4.1,SNR=6.1
comp=Z,2.3nm,1.0s
ABKAR Akbulak array 86.02 348 P P 16 03 21.9 -0.3
ABKAR Akbulak array 86.02 348 P P 16 03 22.2 -0.1
XLT XiLinHaoTe 86.24 26 *e*P **P 16 03 23.6 0.0**
XLT pP pwP 16 03 29.9 -1.5
XLT pmax pmax
comp=Z,12nm,0.7s
XLT pmax pmax
comp=Z,290nm,13.9s
SONM Songino Array 86.76 19 P P 16 03 25.2 -0.9
SONM IAmb IAmb 16 03 27.5
comp=Z,7.3nm,1.0s
SONM Songino Array 86.76 19 P P 16 03 26.1 0.0
comp=Z,5.2nm,0.9s,baz=201,slow=5.3,SNR=22
SONM LR LR 16 40 44.8
comp=Z,78nm,19.6s,baz=226,slow=35
comp=Z,5.2nm,0.9s
SONM Songino Array 86.76 19 P P 16 03 25.2 -0.9
SONM pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 86.96 19 *e*P **P 16 03 25.5 -1.7**
ULN pmax pmax
comp=Z,7.0nm,1.0s
TORD Torodi Ar. Bea 86.96 288 P P 16 03 28.1 +0.3
comp=Z,1.2nm,0.9s,baz=90,slow=6.0,SNR=4.6
TORD LR LR 16 39 59.2
comp=Z,420nm,20.4s,baz=141,slow=34
comp=Z,1.2nm,0.9s
AKTO Aktyubinsk 87.49 347 LR LR 16 39 04.9
comp=Z,55nm,21.7s,baz=95,slow=33
DBIC Dimbokro 88.30 279 LR LR 16 38 16.8
comp=Z,269nm,21.8s,baz=125,slow=32
ZAK Zakamensk 88.38 16 *e*P **P 16 03 33.5 -0.4**
ZAK pmax pmax
comp=Z,5.0nm,1.7s
BVAR Borovoye Array 88.50 355 P P 16 03 33.3 -0.9
comp=Z,4.1nm,0.7s,baz=150,slow=6.3,SNR=18
comp=Z,4.1nm,0.7s
BRVK Borovoye 88.54 355 P P 16 03 33.5 -0.9
BRVK IAmb IAmb 16 03 35.2
comp=Z,5.0nm,0.8s
BRVK Borovoye 88.54 355 *ce*P **P 16 03 34.4 0.0**
BRVK pmax pmax
comp=Z,4.0nm,0.8s
JHJ Hachijo jima 2 89.33 48 LR LR 16 42 29.4
comp=Z,23nm,18.4s,baz=128,slow=35
ZAA0 Zalesovo Array 89.33 4 P P 16 03 37.6 -0.5
ZAA0 IAmb IAmb 16 03 39.8
comp=Z,6.5nm,0.8s
ZALV Zalesovo Beam 89.33 4 P P 16 03 37.1 -1.0
ZALV Zalesovo Beam 89.33 4 P P 16 03 37.8 -0.3
comp=Z,6.0nm,0.8s,baz=192,slow=4.5,SNR=20
ZALV LR LR 16 41 59.5
comp=Z,50nm,20.1s,baz=250,slow=34
comp=Z,6.0nm,0.8s
ZALV Zalesovo Beam 89.33 4 *i*P **P 16 03 38.0 -0.1**
ZALV pmax pmax
comp=Z,6.0nm,0.8s
CN2 Changchun 89.89 32 *e*P **P 16 03 44.0 +3.1**
CN2 pmax pmax
comp=Z,10.0nm,0.8s
MJAR Matsushiro Arr 90.81 44 P P 16 03 45.2 -0.3
comp=Z,3.0nm,1.1s,baz=220,slow=3.4,SNR=6.6
MJAR LR LR 16 43 00.3
comp=Z,22nm,18.3s,baz=174,slow=35
comp=Z,3.0nm,1.1s
HIA Hailar 92.14 26 *i*P **P 16 03 50.4 -0.9**
HIA pmax pmax
comp=Z,5.0nm,1.1s
USRK Ussuriysk Ar. 93.16 35 LR LR 16 45 29.5
comp=Z,62nm,19.3s,baz=235,slow=35
ARU Arti 93.17 349 LR LR 16 44 03.7
comp=Z,59nm,19.9s,baz=226,slow=34
ARU Arti 93.17 349 *ce*P **P 16 03 55.3 -0.5**
ARU pmax pmax
comp=Z,3.0nm,1.0s
MLR Muntele Rosu 93.52 326 P P 16 03 57.3 -0.6
MLR IAmb IAmb 16 04 06.9
comp=Z,8.0nm,1.0s
MLR Muntele Rosu 93.52 326 P P 16 03 57.3 -0.6
MLR pmax pmax
comp=Z,8.0nm,1.0s
MLR Muntele Rosu 93.52 326 P P 16 03 56.9 -1.0
HEH HeiHe 95.83 29 *e*P **P 16 04 07.3 -0.9**
HEH pmax pmax
comp=Z,5.0nm,1.0s
AKASG Malin Array Be 96.17 331 P P 16 04 10.1 +0.4
comp=Z,0.2nm,0.4s,baz=101,slow=0.9,SNR=3.9
comp=Z,0.2nm,0.4s
KLR Kul'dur 96.84 32 *i*P **P 16 04 13.8 +1.0**
KLR pmax pmax
comp=Z,1.0nm,1.1s
OBN Obninsk 97.15 337 ⇑ *e*P Pdif 16 04 13.8 -0.3
OBN *e* 16 08 08.0
OBN pmax pmax
comp=Z,3.0nm,0.8s
OBN MLR MLR
comp=Z,52nm,15.0s
MNK Minsk 99.64 333 *i*P **Pdif 16 04 23.6 -1.7**
MNK *i* 16 08 27.6
MNK *i* PPP PPP 16 10 34.1
MNK *i* S **SKSac 16 15 02.2 -0.7**
MNK *i* PS **PS 16 17 34.3 +7.0**
MNK *i* SS **SS 16 22 49.3 -0.5**
MNK *i* SSS SSS 16 26 38.4
MNK pmax pmax
comp=N,10.0nm,0.8s
MNK pmax pmax
comp=Z,8.0nm,0.6s
MNK pmax pmax

	comp=E,6.0nm,0.7s								
MNK					MLR	MLR			
	comp=E,16nm,13.0s								
MNK					MLR	MLR			
	comp=N,88nm,21.0s								
MNK					MLR	MLR			
	comp=Z,75nm,15.0s								
TBI	**Tubuai**	**105.99**	**135**	*e*LR	LR	16 39 38.7			
	comp=Z,497nm,35.5s								
PPT2	**Papeete2**	**110.34**	**131**	*e*LR	LR	16 41 46.7			
	comp=Z,49nm,23.0s								
TIXI	**Tiksi**	**112.66**	**15**	*i* PKIKP	**PKiKP**	**16 09 19.7**	**+2.1**		
TIXI				pmax	pmax				
	comp=Z,1.0nm,1.0s								
B22K	**Teshekpuk Lake**	**135.72**	**22**	PKPdf	**PKiKP**	**16 10 03.0**	**-0.3**		
H29M	**Whitestone**	**142.61**	**24**	P	**PKPdf**	**16 10 10.7**	**-3.7**		
	baz=307								
EPYK	**Eagle Plains**	**143.05**	**23**	P	**PKPdf**	**16 10 12.0**	**-3.3**		
	baz=309								
I29M	**Ogilvie Camp,**	**143.14**	**25**	P	PKPbc	16 10 12.4	+0.1		
	baz=306								
G31M	**Satah River**	**143.42**	**21**	P	PKPbc	16 10 13.3	+0.3		
	baz=313								
I30M	**Mount Dempster**	**143.87**	**24**	PKPdf	PKPbc	16 10 14.4	-0.2		
I30M	**Mount Dempster**	**143.87**	**24**	P	PKPbc	16 10 15.2	+0.6		
	baz=308								
H31M	**Peel River**	**144.15**	**22**	PKPdf	PKPbc	16 10 14.9	-0.4		
H31M	**Peel River**	**144.15**	**22**	P	**PKPdf**	**16 10 16.6**	**-0.6**		
	baz=311								
J30M	**Hart River**	**144.29**	**25**	PKPdf	PKPbc	16 10 15.7	-0.2		
J30M	**Hart River**	**144.29**	**25**	P	**PKPdf**	**16 10 17.2**	**-0.4**		
	baz=308								
K29M	**Barlow Dome**	**144.30**	**26**	PKPdf	PKPbc	16 10 16.5	+0.5		
K29M	**Barlow Dome**	**144.30**	**26**	P	**PKPdf**	**16 10 17.1**	**-0.5**		
	baz=305								
L29M	**L29M**	**144.49**	**28**	PKPdf	**PKPdf**	**16 10 17.5**	**-0.4**		
L29M	**L29M**	**144.49**	**28**	P	**PKPdf**	**16 10 17.5**	**-0.4**		
	baz=304								
M29M	**Somme Creek**	**144.73**	**29**	P	**PKPdf**	**16 10 18.3**	**-0.1**		
	baz=302								
YUK8	**Steele Glacier**	**144.79**	**31**	P	**PKPdf**	**16 10 19.4**	**+0.7**		
	baz=299								
O28M	**Mount Upton**	**144.86**	**32**	P	**PKPdf**	**16 10 20.0**	**+1.1**		
	baz=298								
YUK4	**Talbot Arm**	**145.23**	**31**	P	**PKPdf**	**16 10 19.8**	**+0.4**		
	baz=301								
M30M	**Minto, Yukon**	**145.30**	**28**		**PKPdf**	**16 10 19.1**	**-0.2**		
M30M	**Minto, Yukon**	**145.30**	**28**	P	**PKPdf**	**16 10 19.5**	**+0.2**		
	baz=305								
YUK6	**Outpost Mounta**	**145.56**	**31**	P	**PKPab**	**16 10 21.0**	**+0.6**		
	baz=301								
PNL	**Peninsula**	**145.73**	**33**	P	**PKiKP**	**16 10 22.3**	**-1.9**		
	baz=298								
N30M	**Aishikik Lake**	**145.81**	**30**	P	**PKPab**	**16 10 22.1**	**+1.0**		
	baz=303								
HYT	**Haines Junctio**	**145.98**	**31**	P	**PKiKP**	**16 10 23.1**	**-1.6**		
	baz=302								
M31M	**Drury Creek, Y**	**146.43**	**27**	P	**PKPab**	**16 10 23.0**	**-0.5**		
	baz=307								
P29M	**Windy Craggy**	**146.49**	**33**	PKPdf	**PKPbc**	**16 10 22.6**	**-0.2**		
P29M	**Windy Craggy**	**146.49**	**33**	P	**PKPab**	**16 10 23.8**	**0.0**		
	baz=300								
O30N	**Mendenhall**	**146.59**	**30**	P	**PKPab**	**16 10 24.7**	**+0.5**		
	baz=303								
FARO	**Faro, Yukon**	**146.80**	**27**	P	**PKPab**	**16 10 24.4**	**-0.5**		
	baz=309								
MMPY	**Sheldon Lake,**	**147.28**	**25**		**PKPbc**	**16 10 25.4**	**+0.4**		
MMPY	**Sheldon Lake,**	**147.28**	**25**	P	**PKPab**	**16 10 26.3**	**-0.6**		
	baz=312								
P32M	**Atlin**	**148.24**	**31**	P	**PKiKP**	**16 10 29.0**	**-0.4**		
	baz=305								
P33M	**Teslin, Yukon**	**148.24**	**29**		**PKPbc**	**16 10 28.1**	**+0.4**		
P33M	**Teslin, Yukon**	**148.24**	**29**	P	**PKiKP**	**16 10 28.7**	**-0.7**		
	baz=307								
WRGLY	**Wrigley**	**149.23**	**19**	PKPdf	**PKPdf**	**16 10 25.0**	**-0.7**		
WRGLY					**sPKPdf**	**16 10 30.4**	**-0.3**		
SCHQ	**Schefferville**	**149.25**	**320**	PKPbc	**PKPbc**	**16 10 29.4**	**-1.0**		
	comp=Z,3.2nm,0.7s,baz=51,slow=4.7,SNR=5.4								
R33M	**Jennings River**	**149.48**	**30**	PKPdf	**PKPdf**	**16 10 25.1**	**-1.3**		
R33M					**sPKPdf**	**16 10 31.4**	**0.0**		
R33M	**Jennings River**	**149.48**	**30**	P	**PKiKP**	**16 10 32.4**	**+0.4**		
	baz=308								
S34M	**Telegraph Cree**	**150.31**	**32**	PKPdf	**PKPdf**	**16 10 26.6**	**-1.0**		
S34M				PKPbc	**PKiKP**	**16 10 34.6**	**+1.1**		
S34M				PKPab	**pPKPab**	**16 10 40.8**	**-1.9**		
S34M	**Telegraph Cree**	**150.31**	**32**	P	**PKiKP**	**16 10 34.9**	**+1.3**		
	baz=306								
ORTG	**Ortega, Santa**	**150.88**	**214**	PKPab	**PKPab**	**16 10 42.4**	**-0.4**		
T35M	**Bob Quinn**	**151.25**	**33**	PKPdf	**PKPdf**	**16 10 29.3**	**+0.2**		
T35M	**Bob Quinn**	**151.25**	**33**	P	**PKiKP**	**16 10 37.0**	**+1.4**		
	baz=306								
YKA	**Yellowknife Ar**	**151.87**	**13**	PKPdf	**PKPdf**	**16 10 29.8**	**0.0**		
YKA	**Yellowknife Ar**	**151.87**	**13**	PKPbc	**PKiKP**	**16 10 36.5**	**-0.2**		
	comp=Z,2.0nm,0.9s,baz=342,slow=3.2,SNR=17								
YKA	**Yellowknife Ar**	**151.87**	**13**	PKIKP	**PKPdf**	**16 10 29.8**	**0.0**		
BPMT	**Black Pine Rid**	**166.00**	**36**	PKPab	**PKPab**	**16 11 46.7**	**-0.7**		
NVAR	**Mina Array Bea**	**166.42**	**73**	PKPab	**PKPab**	**16 11 49.8**	**+0.2**		
	comp=Z,0.5nm,0.7s,baz=251,slow=4.7,SNR=5.0								
PDAR	**Pinedale Array**	**170.58**	**38**	PKPab	**PKPab**	**16 12 07.5**	**-0.3**		
	comp=Z,0.1nm,0.3s,baz=276,slow=5.1,SNR=3.9								
N23A	**Red Feather La**	**173.72**	**31**	PKPdf	**PKPdf**	**16 10 49.2**	**-2.7**		
N23A				PKPab	**PKPab**	**16 12 19.2**	**-2.6**		

*IDC **24** 17:06:14.3±48.0, 22°.08S×174°.79W, h0km, mb4.3/3, mbtmp4.3/3, Error ellipse: s-maj=907.2km s-min=168.1km az=86.0*

*NEIC **24** 17:06:21.0±0.9, 22°.1S±0°.1×175°.9W±0°.1, h35km±2km, mb4.8/16, Error ellipse: s-maj=26.2km s-min=17.7km az=136.0*

ISC 24 17:06:20.2±0.8, 22°.0S±0°.1×175°.0W±0°.1, h33km, n24, σ0°73/24, mb4.8/11, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	**Niue**	**5.57**	**59**	Pn	**Pn**	**17 07 41.2**	**+0.4**
AFI	**Afiamalu**	**8.64**	**21**	Pn	**Pn**	**17 08 23.3**	**+0.3**
EIDS	**Eidsvold**	**31.21**	**257**	P	**P**	**17 12 36.9**	**+0.2**
EIDS				IAmb	IAmb	17 13 15.2	
	comp=Z,27nm,1.4s						
CTAO	**Charters Tower**	**36.17**	**266**	P	**P**	**17 13 21.2**	**+1.2**
CTAO				IAmb	IAmb	17 13 49.0	
	comp=Z,31nm,1.4s						
CTAO	**Charters Tower**	**36.17**	**266**	P	**P**	**17 13 21.5**	**+1.6**
TOO	**Toolangi**	**37.34**	**237**	P	**P**	**17 13 30.2**	**+0.6**
TOO				IAmb	IAmb	17 14 34.6	
	comp=Z,38nm,1.7s						
STKA	**Stephens Creek**	**39.71**	**246**	P	**P**	**17 13 49.5**	**-0.1**
STKA	**Stephens Creek**	**39.71**	**246**	P	**P**	**17 13 50.0**	**+0.4**
	comp=Z,2.4nm,0.7s,baz=100,slow=9.6,SNR=4.5						
	comp=Z,2.4nm,0.7s						
BBOO	**Buckleboo**	**44.43**	**245**	P	**P**	**17 14 28.0**	**-0.2**
BBOO				IAmb	IAmb	17 14 33.1	
	comp=Z,25nm,1.3s						
AS31	**Alice Springs**	**46.94**	**258**	P	**P**	**17 14 47.1**	**-1.0**
ASAR	**Alice Springs**	**46.94**	**258**	P	**P**	**17 14 47.7**	**-0.4**
ASAR	**Alice Springs**	**46.94**	**258**	P	**P**	**17 14 48.1**	**0.0**
	comp=Z,2.9nm,0.8s,baz=94,slow=7.3,SNR=80						
	comp=Z,2.9nm,0.8s						
WB0	**Warramunga Arr**	**47.19**	**263**	P	**P**	**17 14 50.0**	**-0.1**
WB0				IAmb	IAmb	17 16 30.4	
	comp=Z,22nm,1.6s						
WB2	**Warramunga Arr**	**47.19**	**263**	P	**P**	**17 14 50.1**	**0.0**
WB2				IAmb	IAmb	17 15 56.0	
	comp=Z,15nm,1.4s						
WRA	**Warramunga Arr**	**47.20**	**263**	P	**P**	**17 14 50.1**	**-0.1**
WRA	**Warramunga Arr**	**47.20**	**263**	P	**P**	**17 14 50.1**	**-0.1**
	comp=Z,3.2nm,0.6s,baz=103,slow=8.2,SNR=65						
	comp=Z,3.2nm,0.6s						
FORT	**Forrest**	**51.30**	**248**	P	**P**	**17 15 21.1**	**-0.3**
MTN	**Manton Dam**	**52.01**	**271**	P	**P**	**17 15 25.3**	**-1.6**
FITZ	**Fitzroy Crossi**	**55.63**	**263**	P	**P**	**17 15 54.5**	**+1.2**
VNDA	**Vanda**	**56.65**	**186**	P	**P**	**17 15 59.8**	**+0.1**
VNDA				IAmb	IAmb	17 17 45.2	
	comp=Z,9.7nm,1.8s						
VNDA	**Vanda**	**56.65**	**186**	P	**P**	**17 16 00.2**	**+0.5**
MBWA	**Marble Bar**	**60.28**	**258**	P	**P**	**17 16 26.3**	**+0.4**
CASY	**Casey**	**63.79**	**206**	P	**P**	**17 16 47.9**	**-0.8**
QSM	**Queen of Sheba**	**79.66**	**44**	P	**P**	**17 18 24.0**	**-0.5**
QSM				IAmb	IAmb	17 18 49.4	
	comp=Z,7.4nm,1.5s						

NNC 24 17:07:24.6±0.7, 48°.03N×70°.86E, h2km±5km, mb3.7,

mpv3.4,15C-14D,Error ellipse: s-maj=4.8km s-min=3.2km az=98.0,Suspected Mining explosion., Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OTUK	**Ortayu**	**1.01**	**77**	P	Pg	17 07 44.2	+0.1
	5.7nm,0.2s						
OTUK				S	Sb	17 07 58.1	-0.5
	30nm,0.6s						
OTUK	**Ortayu**	**1.01**	**77**	⇓P	Pg	17 07 44.1	+0.1
	5.8nm,0.2s						
OTUK				⇓S	Sg	17 07 57.3	+0.2
	30nm,0.5s						
BRZS	**Berezniki**	**2.29**	**31**	Pg	Pb	17 08 06.5	-0.2
	15nm,0.2s						
BRZS				Lg	Lg	17 08 37.4	
	66nm,0.7s						
BTLS	**Baital**	**3.71**	**143**	Pg	Pb	17 08 32.5	+1.7
	4.6nm,0.4s						
BTLS				Lg	Lg	17 09 20.2	
	12nm,0.7s						
KK31	**Karatay Array**	**4.93**	**183**	⇓Pn	Pn	17 08 39.9	+0.2
	0.7nm,0.3s,baz=360,slow=14,SNR=12						
KK31				⇑Sn	Sn	17 09 36.4	-0.8
	0.9nm,0.3s						
KK31				⇑Lg	Lg	17 09 58.5	
	8.4nm,0.6s,baz=3.0,slow=27,SNR=4.4						
BRLS	**Borolday**	**5.05**	**189**	Pg	Pg	17 09 00.4	-1.0
	0.8nm,0.4s						
BRLS				Lg	Lg	17 10 09.3	
	4.6nm,0.5s						
BRVK	**Borovoye**	**5.05**	**356**	⇑Pn	Pn	17 08 42.1	+0.8
	2.3nm,0.6s						
BRVK				⇑Sn	Sn	17 09 39.7	-0.5
	5.4nm,0.6s						
BRVK				⇑Lg	Lg	17 10 01.5	
	8.3nm,0.6s						
KUU	**Kurty**	**5.63**	**135**	Pg	Pb	17 09 07.6	+4.1
	2.2nm,0.1s						
KUU				Lg	Lg	17 10 21.3	
	13nm,0.5s						
KURBB	**Kurchatov Arra**	**5.65**	**60**	⇑Pn	Pn	17 08 49.8	+0.3
	1.8nm,0.7s						
KURBB				⇑Pg	Pb	17 09 07.0	+3.3
	2.5nm,0.6s						
KURBB				⇓Lg	Lg	17 10 22.8	
	38nm,0.6s						
CHMS	**Chumysh**	**5.72**	**150**	⇓Pg	Pg	17 09 10.8	-3.4
	1.3nm,0.5s						
CHMS				⇑Lg	Lg	17 10 26.7	
	12nm,0.7s						
KURK	**Kurchatov**	**5.74**	**59**	⇓Pn	Pn	17 08 51.7	+1.1
	2.6nm,0.7s						
KURK				⇓Pg	Pb	17 09 09.3	+4.0
	1.6nm,0.6s						
KURK				⇓Lg	Lg	17 10 25.2	
	11nm,0.7s						
DGS	**Degeres**	**5.89**	**142**	Pg	Pb	17 09 12.5	+4.3
DGS				Lg	Lg	17 10 30.2	
	15nm,1.2s						
KTBS	**Karatobe**	**5.93**	**135**	Pg	Pb	17 09 12.4	+3.8
	2.0nm,0.3s						
KTBS				Lg	Lg	17 10 29.7	
	7.7nm,0.8s						
AAK	**Ala-Archa**	**5.97**	**153**	⇓Pg	Pg	17 09 15.2	-3.7
	1.5nm,0.7s						
AAK				⇑Lg	Lg	17 10 33.1	
	7.3nm,0.6s						
TKM2	**Tokmak 2**	**6.09**	**145**	⇓Sn	Sn	17 10 06.9	+0.7
	0.9nm,0.5s						
TKM2				⇓Lg	Lg	17 10 36.6	
	15nm,0.8s						
KST	**Kastek**	**6.14**	**142**	Pg	Pg	17 09 17.3	-4.9
	1.2nm,0.3s						
KST				Lg	Lg	17 10 38.0	
	14nm,1.0s						
MTBS	**Maitube**	**6.26**	**139**	Pg	Pg	17 09 21.2	-3.4
	1.5nm,0.2s						
MTBS				Lg	Lg	17 10 44.4	
	8.1nm,0.8s						
IZV	**Izvestkoviy**	**6.42**	**139**	Pg	Pg	17 09 24.3	-3.3
	0.7nm,0.1s						
IZV				Lg	Lg	17 10 49.6	
	3.9nm,0.6s						
KOTS	**Kotyrbulak**	**6.49**	**135**	Pg	Pg	17 09 25.5	-3.5
	2.4nm,0.5s						
KOTS				Lg	Lg	17 10 51.9	
	28nm,0.9s						
MDOK	**Medeo**	**6.52**	**136**	Pg	Pb	17 09 24.0	+5.3
	1.2nm,0.6s						
MDOK				Lg	Lg	17 10 49.1	
	7.5nm,0.6s						
TNSS	**Tian-Shan**	**6.57**	**137**	Pg	Pb	17 09 25.0	+5.3
	1.0nm,0.4s						
TNSS				Lg	Lg	17 10 51.2	
	2.9nm,0.7s						
SEM	**Semipalatinsk**	**6.59**	**65**	Pg	Pg	17 09 27.8	-3.2
SEM				Lg	Lg	17 10 56.9	
KNOS	**Konyrlen**	**6.84**	**119**	Pg	Pg	17 09 30.6	-5.0
	0.9nm,0.2s						
KNOS				Lg	Lg	17 11 00.6	
	9.4nm,0.8s						
AB31	**Akbulak array**	**7.34**	**284**	⇑Pn	Pn	17 09 15.2	+2.5
	0.6nm,0.7s,baz=102,slow=7.6,SNR=6.1						
AB31				⇑Sn	Sn	17 10 37.0	+0.6
	0.8nm,0.7s,baz=101,slow=17,SNR=3.6						
AB31				⇓Lg	Lg	17 11 13.7	
	1.0nm,0.5s,baz=96,slow=26,SNR=4.3						
MAKZ	**Makanchi**	**7.64**	**95**	⇑Pn	Pn	17 09 18.2	+1.3
	1.0nm,0.5s						
MAKZ				⇑Lg	Lg	17 11 23.8	
	2.7nm,0.8s						
PDGK	**Podgornoye**	**7.65**	**125**	⇓Sn	Sn	17 10 48.1	+3.7
	1.2nm,0.5s						
PDGK				⇓Lg	Lg	17 11 24.6	
	9.2nm,0.7s						
MK31	**Makanchi Array**	**7.85**	**95**	⇑Pn	Pn	17 09 21.3	+1.5
	1.3nm,0.5s,baz=280,slow=12,SNR=23						
MK31				⇑Lg	Lg	17 11 30.2	
	3.4nm,0.8s,baz=286,slow=25,SNR=6.6						

*DNK **24** 17:13:54.7±2.8, 82°.35N×5°.72W, h22km±39km, ML2.6*
*BER **24** 17:13:55.4±2.1, 82°.25N×5°.71W, h10km, mb(Pn)3.9, Confirmed Earthquake*
*IDC **24** 17:13:56.2±2.0, 81°.25N×8°.85W, h0km, mb3.3/2, mbtmp3.6/4, ML3.5/2, MS3.1/4, Error ellipse: s-maj=88.6km s-min=21.9km az=26.0*
*FCIAR **24** 17:13:56.0, 82°.19N×4°.66W, h10km, station ZFI2 has station magnitude of 3.70 station OMEGA has station magnitude of 3.70*

ISC 24 17:13:54.3±1.1, 82°.02N±0°.09×5°.79W±0°.04, h10km, n32, σ1°86/41, MS3.1/3, 1C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**1.61**	**260**	Pn	**Pn**	**17 14 22.4**	**-0.3**
NOR				Sn	**Sn**	**17 14 41.8**	**-1.9**
NOR	**Nord**	**1.61**	**260**	⇑*i*P	**Pn**	**17 14 22.5**	**-0.3**
NOR				*e*S	**Sn**	**17 14 41.9**	**-1.7**
NOR	**Nord**	**1.61**	**260**	*i* P	**Pn**	**17 14 22.6**	**-0.3**
NOR				*i* S	**Sn**	**17 14 42.2**	**-1.4**
NOR				IAML		17 14 47.4	
	comp=Z,214nm,0.4s						
KBS	**Kingsbay**	**4.26**	**128**	Pn	**Pn**	**17 15 00.1**	**+1.0**
KBS	**Kingsbay**	**4.26**	**128**	*e*P	**Pn**	**17 14 59.7**	**+0.6**
KBS				*e*S	**Sn**	**17 15 46.1**	**-2.6**
KBS				IAML		17 15 55.9	
	comp=Z,6.1nm,0.5s						
KBS	**Kingsbay**	**4.26**	**128**	*e*P	**Pn**	**17 14 59.3**	**+0.3**
KBS				*e*S	**Sn**	**17 15 46.3**	**-2.4**
KBS	**Kingsbay**	**4.26**	**128**	*i* P	**Pn**	**17 14 59.7**	**+0.6**
BRBB	**Barentsburg B**	**5.21**	**129**	Pn	**Pn**	**17 15 13.6**	**+1.5**
BRBB	**Barentsburg B**	**5.21**	**129**	*e*P	**Pn**	**17 15 13.3**	**+1.2**
BRBB				*e*S	**Sn**	**17 16 10.2**	**-1.9**
BRBA	**Barentsburg A**	**5.24**	**129**	Pn	**Pn**	**17 15 14.3**	**+1.7**
BRBA	**Barentsburg A**	**5.24**	**129**	*e*P	**Pn**	**17 15 14.4**	**+1.9**
SPA0	**Spitsbergen Ar**	**5.38**	**124**	Pn	**Pn**	**17 15 15.1**	**+0.6**
	baz=355,slow=12						
SPA0	**Spitsbergen Ar**	**5.38**	**124**	*e*P	**Pn**	**17 15 15.2**	**+0.7**
SPA0				*e*S	**Sn**	**17 16 13.8**	**-2.5**
SPA0				IAML		17 16 27.8	
	comp=Z,4.8nm,0.7s						
SPA0	**Spitsbergen Ar**	**5.38**	**124**	*e*P	**Pn**	**17 15 15.0**	**+0.5**
SPA0				*e*S	**Sn**	**17 16 12.1**	**-4.2**
SPITS	**Spitsbergen Ar**	**5.38**	**124**	Pn	**Pn**	**17 15 15.3**	**+0.7**
	baz=336,slow=5.2						
SPITS				Sn	**Sn**	**17 16 16.6**	**+0.2**
	baz=227,slow=5.6						
	comp=Z,2.9nm,0.3s						
DAG	**Danmarks Havn**	**5.76**	**211**	*e*P	**Pn**	**17 15 22.1**	**+2.4**
DAG				*e*S	**Sn**	**17 16 25.0**	**-0.7**
DAG	**Danmarks Havn**	**5.76**	**211**	*i* P	**Pn**	**17 15 21.4**	**+1.7**
DAG				*i* S	**Sn**	**17 16 25.7**	**-0.1**
DAG				IAML		17 16 35.8	
	comp=Z,9.5nm,0.7s						
HSPB	**Hornsund (broa**	**6.30**	**131**	Pn	**Pn**	**17 15 29.3**	**+2.2**
HSPB	**Hornsund (broa**	**6.30**	**131**	*e*P	**Pn**	**17 15 29.1**	**+2.0**
HSPB				IAML		17 15 31.1	
	comp=Z,13nm,0.4s						
HOPEN	**Hopen**	**7.82**	**118**	Pn	**Pn**	**17 15 49.2**	**+1.3**
HOPEN	**Hopen**	**7.82**	**118**	*e*P	**Pn**	**17 15 46.9**	**-1.1**
HOPEN				*e*S	Sn	17 17 08.2	-8.1
ZFI2	**Zemlya Franca-**	**7.83**	**72**	*e*P	Pn	17 15 42.4	-5.6
ZFI2				*e*S	Sn	17 17 02.0	-14
	comp=Z,20nm,0.6s						
OMEGA	**Omega**	**7.85**	**72**	*e*P	Pn	17 15 42.6	-5.7
OMEGA				*e*S	Sn	17 17 02.0	-15
	comp=Z,21nm,0.9s						
DBG	**Daneborg**	**8.25**	**208**	Pn	**Pn**	**17 15 54.8**	**+0.9**
DBG				Sn	**Sn**	**17 17 24.1**	**-2.9**
DBG	**Daneborg**	**8.25**	**208**	*e*P	**Pn**	**17 15 54.9**	**+1.1**
DBG				*e*S	**Sn**	**17 17 22.4**	**-4.6**
DBG	**Daneborg**	**8.25**	**208**	*i* P	**Pn**	**17 15 55.0**	**+1.1**
DBG				*e*S	**Sn**	**17 17 24.9**	**-2.0**
DBG				IAML		17 17 29.1	
	comp=Z,6.8nm,0.6s						
NEEM	**North Greenlan**	**8.99**	**264**	*i* P	**Pn**	**17 16 02.8**	**-1.4**
NEEM				*e*S	Sn	17 17 35.6	-10
NEEM				IAML		17 17 37.6	
	comp=Z,37nm,0.7s						
ARCES	**ARCESS Array B**	**14.32**	**132**	Pn	**Pn**	**17 17 17.5**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=343,slow=10,SNR=4.2						
ARCES				LR	LR	17 22 00.8	
	comp=Z,42nm,20.9s,baz=326,slow=34						
	comp=Z,3.0nm,0.7s						
FINES	**FINESS Array B**	**22.27**	**138**	LR	LR	17 26 49.3	
	comp=Z,34nm,21.2s,baz=338,slow=35						
YKA	**Yellowknife Ar**	**31.12**	**302**	P	**P**	**17 20 15.2**	**+2.9**
	comp=Z,0.1nm,0.3s,baz=11,slow=9.7,SNR=4.4						
YKA				LR	LR	17 34 02.6	
	comp=Z,76nm,19.4s,baz=27,slow=39						
	comp=Z,0.1nm,0.3s						
AKASG	**Malin Array Be**	**33.18**	**138**	LR	LR	17 33 39.3	
	comp=Z,34nm,18.0s,baz=353,slow=36						
MKAR	**Makanchi Array**	**43.72**	**83**	P	P	17 22 08.2	+9.1
	comp=Z,0.5nm,0.7s,baz=359,slow=6.3,SNR=4.1						
	comp=Z,0.5nm,0.7s						

*EAF **24** 17:29:00.5±0.9, 18°.73S×35°.05E, h0km±31km, MD3.4*
*BUL **24** 17:29:13.4±2.9, 19°.51S×34°.81E, h10km±36km, MD3.5*

PRE 24 17:29:21.1±0.9, 19°.05S×33°.28E, h5km, ML2.2, Mozambique

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHIPN	**CHIPINGE**	**1.32**	**207**	*i* P	Pb	17 29 48.1	+1.6
CHIPN				*i* S	Sn	17 30 12.1	+7.7
CHIPN	**CHIPINGE**	**1.32**	**207**	*i* P	Pn	17 29 42.5	-3.8
CHIPN				*i* S	Sn	17 30 12.1	+7.7
KRI	**Karoi**	**4.13**	**302**	*i* P	Pn	17 30 28.4	+3.4
KRI				*i* S	Sn	17 31 17.5	+3.8
KRI	**Karoi**	**4.13**	**302**	*i* P	Pn	17 30 15.7	-9.3
KRI				*i* S	Sn	17 31 11.0	-2.8
MUSN	**Musina, Limpop**	**4.54**	**224**	*i* P	Pn	17 30 29.1	-1.6
MUSN				*i* S	Sn	17 31 29.2	+5.3
MUSN	**Musina, Limpop**	**4.54**	**224**	*e*P	Pn	17 30 31.5	+0.9
MUSN				*e*S	Sn	17 31 22.7	-1.1
MUSN				IAML		17 32 05.5	
	comp=Z,16nm,0.6s						
MUSN	**Musina, Limpop**	**4.54**	**224**	*i* P	Pn	17 30 29.1	-1.6
MUSN				*i* S	Sb	17 31 32.7	-3.8
MATP	**Matopo**	**4.71**	**252**	*i* P	Pb	17 30 39.2	-5.0
MATP				*i* S	Sb	17 31 41.6	+0.3
MATP	**Matopo**	**4.71**	**252**	*i* P	Pn	17 30 34.9	+2.0
MATP				*i* S	Sb	17 31 43.9	+2.6
MOPA	**Mopani**	**4.78**	**201**	*i* P	Pn	17 30 27.8	-6.1
MOPA	**Mopani**	**4.78**	**201**	*e*P	Pn	17 30 35.7	+1.8
MOPA				*e*S	Sn	17 31 28.5	-1.2
MOPA				IAML		17 32 06.0	
	comp=Z,8.7nm,0.5s						
MOPA	**Mopani**	**4.78**	**201**	*i* P	Pn	17 30 27.1	-6.7
MOPA				*i* S	Sn	17 31 31.7	+2.0
PILG	**Pilgrimsrest,**	**6.32**	**202**	*e*P	Pn	17 30 55.9	+0.7
PILG				*e*S	Sn	17 32 05.5	-2.5
PILG				IAML		17 32 26.2	
	comp=Z,1.3nm,0.6s						
LEPH	**Lephalale, Lim**	**7.00**	**226**	*e*P	Pn	17 31 04.8	+0.4
LEPH				*e*S	Sn	17 32 22.4	-2.1
LEPH				IAML		17 32 41.0	
	comp=Z,1.5nm,0.4s						

*SOME **24** 18:16:51.8, 41°.33N×83°.75E, h0km*
*NNC **24** 18:16:55.4±1.5, 41°.50N×83°.73E, h21km±5km, mb3.9, mpv3.6,Error ellipse: s-maj=10.3km s-min=8.0km az=152.0*

**ISC 24 18:16:57.3±2.1, 41°.54N±0°.09×83°.48E±0°.07, h10km, n37, σ2°62/52, 13C-10D, Southern Xinj

	6.7nm,0.5s							
KAPS				*e*S		**Sg**	**18 19 33.3**	**+2.1**
	17nm,0.7s							
ARXS	**Arharly**	**4.94**	**305**	Pg		**Pg**	**18 18 28.5**	**-3.3**
	3.6nm,0.4s							
ARXS				Lg		Lg	18 19 38.5	
	21nm,0.6s							
ARXS	**Arharly**	**4.94**	**305**	*e*P		**Pg**	**18 18 28.5**	**-3.3**
	3.6nm,0.4s							
ARXS				*e*S		**Sg**	**18 19 38.5**	**+2.8**
	21nm,0.6s							
MDOK	**Medeo**	**5.03**	**291**	Pn		**Pn**	**18 18 14.1**	**+1.1**
	2.7nm,0.5s							
MDOK				⇑Pg		**Pb**	**18 18 29.6**	**+4.1**
	4.5nm,0.6s							
MDOK				Pg		**Pg**	**18 18 31.4**	**-2.3**
	4.7nm,0.3s							
MDOK				Lg		Lg	18 19 43.5	
	21nm,0.7s							
MDOK				Lg		Lg	18 19 44.9	
	23nm,0.7s							
MDOK	**Medeo**	**5.03**	**291**	*e*P		**Pg**	**18 18 31.4**	**-2.3**
	4.7nm,0.3s							
MDOK				*e*S		**Sg**	**18 19 43.5**	**+4.6**
	21nm,0.7s							
TNSS	**Tian-Shan**	**5.07**	**289**	Pg		**Pb**	**18 18 28.8**	**+2.5**
	4.2nm,0.6s							
TNSS				Lg		Lg	18 19 38.6	
	8.6nm,0.5s							
TNSS	**Tian-Shan**	**5.07**	**289**	*e*P		**Pb**	**18 18 28.8**	**+2.5**
	4.2nm,0.6s							
TNSS				*e*S		**Sg**	**18 19 38.6**	**-1.4**
	8.6nm,0.5s							
KNDC	**Almaty**	**5.11**	**291**	⇓Pg		**Pg**	**18 18 34.3**	**-0.8**
	31nm,0.6s							
KNDC				⇑Lg		Lg	18 19 45.3	
	76nm,1.0s							
MK31	**Makanchi Array**	**5.32**	**351**	⇓Pn		**Pn**	**18 18 15.3**	**-1.5**
	0.1nm,0.2s,baz=161,slow=13,SNR=16							
MK31				⇓Pg		**Pb**	**18 18 33.8**	**+3.5**
	1.9nm,0.6s,baz=166,slow=15,SNR=4.9							
MK31				⇑Lg		Lg	18 19 49.3	
	23nm,0.6s,baz=174,slow=28,SNR=5.4							
MAKZ	**Makanchi**	**5.37**	**349**	⇓Pn		**Pn**	**18 18 14.5**	**-2.9**
	0.4nm,0.5s							
MAKZ				⇑Sn		**Sn**	**18 19 18.1**	**-1.3**
	7.7nm,0.7s							
MAKZ				⇓Lg		Lg	18 19 51.9	
	26nm,0.7s							
KTBS	**Karatobe**	**5.46**	**296**	Pg		**Pb**	**18 18 36.4**	**+3.7**
	5.6nm,0.8s							
KTBS				Lg		Lg	18 19 51.3	
	20nm,0.7s							
KTBS	**Karatobe**	**5.46**	**296**	*e*P		**Pb**	**18 18 36.4**	**+3.7**
	5.6nm,0.8s							
KTBS				*e*S		**Sg**	**18 19 51.3**	**-1.3**
	20nm,0.7s							
KST	**Kastek**	**5.77**	**288**	Pg		**Pb**	**18 18 41.1**	**+3.0**
	6.5nm,0.6s							
KST				Lg		Lg	18 19 60.0	
	48nm,1.0s							
KST	**Kastek**	**5.77**	**288**	*e*P		**Pb**	**18 18 41.1**	**+3.0**
	6.5nm,0.6s							
KST				*e*S		**Sg**	**18 19 60.0**	**-2.6**
	48nm,1.0s							
DGS	**Degeres**	**5.95**	**289**	Pg		**Pg**	**18 18 47.8**	**-3.5**
	4.9nm,0.5s							
DGS				Lg		Lg	18 20 11.5	
	22nm,0.6s							
DGS	**Degeres**	**5.95**	**289**	*e*P		**Pg**	**18 18 47.8**	**-3.5**
	4.9nm,0.5s							
DGS				*e*S		**Sg**	**18 20 11.5**	**+3.2**
	22nm,0.6s							
ZSN	**Zaisan**	**5.99**	**9**	Pg		**Pb**	**18 18 46.2**	**+4.5**
	2.3nm,0.7s							
ZSN				Lg		Lg	18 20 08.2	
	35nm,1.4s							
ZSN	**Zaisan**	**5.99**	**9**	*e*P		**Pb**	**18 18 46.2**	**+4.5**
	2.3nm,0.7s							
ZSN				*e*S		**Sg**	**18 20 08.2**	**-1.3**
	35nm,1.4s							
TKM2	**Tokmak 2**	**6.01**	**286**	⇓Pn		**Pn**	**18 18 25.2**	**-1.2**
	1.6nm,0.4s							
TKM2				⇓Lg		Lg	18 20 13.1	
	20nm,0.7s							
CHMS	**Chumysh**	**6.64**	**286**	⇓Pg		**Pg**	**18 19 02.5**	**-1.8**
	0.8nm,0.5s							
CHMS				⇑Lg		Lg	18 20 32.4	
	9.4nm,0.8s							
AAK	**Ala-Archa**	**6.77**	**282**	⇑Pg		**Pg**	**18 19 03.4**	**-3.5**
	3.2nm,0.7s							
AAK				⇑Lg		Lg	18 20 38.1	
	16nm,0.8s							
KURBB	**Kurchatov Arra**	**9.71**	**341**	⇓Lg		Lg	18 22 03.8	
	18nm,0.8s							
KK31	**Karatay Array**	**9.73**	**284**	⇑Pg		Pn	18 20 00.5	+43
	0.3nm,0.5s,baz=92,slow=18,SNR=3.7							
KK31				⇑Lg		Lg	18 22 16.3	
	1.1nm,0.5s,baz=100,slow=28,SNR=3.6							
KURK	**Kurchatov**	**9.77**	**342**	⇑Lg		Lg	18 22 05.6	
	14nm,0.9s							

*IDC **24** 18:27:35.6±1.5,34°.52N×136°.98E,h326km±30km, mb2.6/3, mbtmp3.2/5, Error ellipse: s-maj=61.1km s-min=24.8km az=48.0*
*JMA **24** 18:27:35.4±0.5,35°.N±1°.×137°.7E±°, h341km±4km, MV2.4/14, MIKAWA BAY REGION*
ISC 24 18:27:35.9±1.0,34°.6N±0°.1×137°.0E±0°.1, h336km±10km, n13, σ0ˢ32/15, mb2.8/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JAA	**Atsumi**	**0.09**	**92**	*e*P		**Pn**	**18 28 18.4**	**+0.3**
JIE	**Ise**	**0.36**	**228**	P		**Pn**	**18 28 18.6**	**+0.1**
JYTA	**Yamagatataniai**	**0.99**	**346**	P		**Pn**	**18 28 20.0**	**-0.1**
JWY	**Kouya**	**1.26**	**251**	P		**Pn**	**18 28 21.5**	**0.0**
JTNC	**Tanabenakahech**	**1.43**	**236**	P		**Pn**	**18 28 22.4**	**0.0**
JWT	**Wachi**	**1.49**	**296**	P		**Pn**	**18 28 22.3**	**-0.2**
JOD2	**Odawara 2**	**1.80**	**69**	*e*P		**Pn**	**18 28 24.7**	**+0.2**
JOD2				*e*S		**S**	**18 29 03.7**	**+0.2**
JRY	**Ryogami san**	**2.06**	**47**	P		**Pn**	**18 28 26.7**	**+0.3**
JRY				S		**S**	**18 29 06.3**	**-0.5**
MJAR	**Matsushiro Arr**	**2.13**	**26**	P		**Pn**	**18 28 26.6**	**-0.3**
	4.7nm,0.5s,baz=211,slow=8.7,SNR=13							
KSRS	**Korea Array**	**7.90**	**293**	P		**Pn**	**18 29 28.8**	**+0.2**
	0.8nm,0.7s,baz=119,slow=13,SNR=1.6							
MKAR	**Makanchi Array**	**42.43**	**304**	P		**P**	**18 34 59.0**	**+0.4**
	0.2nm,0.5s,baz=81,slow=9.3,SNR=2.4							
	0.2nm,0.5s							
WRA	**Warramunga Arr**	**54.34**	**183**	P		**P**	**18 36 28.3**	**-0.5**
	0.2nm,0.3s,baz=360,slow=7.6,SNR=8.0							
	0.2nm,0.3s							
ASAR	**Alice Springs**	**58.06**	**183**	P		**P**	**18 36 54.8**	**-0.1**
	0.1nm,0.3s,baz=1.0,slow=6.5,SNR=7.8							
	0.1nm,0.3s							

*IDC **24** 18:32:12.5±2.0,0°.93S×127°.63E, h0km, mb3.7/4, mbtmp3.8/4, Error ellipse: s-maj=145.9km s-min=25.8km az=67.0*
*DJA **24** 18:32:22.3±0.3,1°.S±4°.×12°.8E±°, h39km±9km, M3.8/12, mb3.9/4, MLv3.8/12*
ISC 24 18:32:19.6±0.8,1°.24S±0°.07×127°.56E±0°.06, h31km, n20, σ2ˢ08/20, mb3.9/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBMI	**Labuha**	**0.60**	**355**	P		**Pn**	**18 32 33.7**	**+1.7**
LBMI				S		**Sn**	**18 32 42.2**	**+1.6**
SANI	**Sanana**	**1.76**	**243**	P		**Pb**	**18 32 51.2**	**-0.1**
SANI	**Sanana**	**1.76**	**243**	P		**Pn**	**18 32 51.1**	**-0.2**
SANI				S		**Sb**	**18 33 12.6**	**-0.4**
TNTI	**Ternate**	**2.00**	**355**	P		**Pn**	**18 32 51.1**	**-0.2**
TNTI	**Ternate**	**2.00**	**355**	P		**Pn**	**18 32 50.9**	**-0.4**
SWI	**Sorong**	**3.72**	**84**	P		**Pn**	**18 33 16.8**	**+1.9**
KMSI	**Cibinong**	**4.00**	**297**	P		**Pn**	**18 33 20.3**	**+1.5**
LUWI	**Luwuk**	**4.79**	**272**	P		**Pn**	**18 33 32.0**	**+2.4**
LUWI	**Luwuk**	**4.79**	**272**	P		**Pn**	**18 33 31.8**	**+2.2**
GTOI	**Gorontalo**	**4.91**	**292**	P		**Pn**	**18 33 35.6**	**+4.3**
	12nm,0.6s,0.1nm							
FAKI	**Fak Fak**	**4.98**	**110**	P		**Pn**	**18 33 34.4**	**+2.2**
FAKI	**Fak Fak**	**4.98**	**110**	P		**Pn**	**18 33 34.2**	**+2.0**
	15nm,1.2s,0.1nm							
TOLI2	**Tolitoli**	**7.17**	**289**	P		**Pn**	**18 34 04.1**	**+1.8**
SOEI	**Soe**	**9.07**	**201**	P		Pn	18 34 34.7	+6.1
MTN	**Manton Dam**	**12.06**	**163**	P		Pn	18 35 13.9	+4.4
KDU	**Kakadu**	**12.38**	**157**	P		**Pn**	**18 35 15.5**	**+1.8**
WRA	**Warramunga Arr**	**19.74**	**161**	P		**Pn**	**18 36 47.0**	**-1.6**
	1.3nm,0.4s,baz=340,slow=11,SNR=30							
	1.3nm,0.4s							
ASAR	**Alice Springs**	**23.13**	**165**	P		**P**	**18 37 23.8**	**+0.4**
	1.9nm,0.5s,baz=346,slow=12,SNR=62							
	1.9nm,0.5s							
MKAR	**Makanchi Array**	**62.10**	**326**	P		**P**	**18 42 33.9**	**-3.7**
	0.1nm,0.3s,baz=111,slow=7.8,SNR=5.4							
	0.1nm,0.3s							
QSPA	**South Pole Qui**	**88.70**	**180**	P		**P**	**18 45 08.6**	**-1.3**
	0.6nm,0.7s,baz=0.0,slow=1.0,SNR=1.3							
	0.6nm,0.7s							

NNC 24 18:44:57.5±2.9,38°.61N×69°.89E, h0km, mb3.8, mpv3.5, 6C-5D, Error ellipse: s-maj=26.0km s-min=14.9km az=169.0, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KK31	**Karatay Array**	**4.51**	**6**	⇓Pn		Pn	18 46 07.9	+0.8
	2.6nm,0.4s,baz=176,slow=12,SNR=45							
KK31				⇑Pg		Pb	18 46 19.7	+2.1
	1.8nm,0.3s,baz=177,slow=15,SNR=7.8							
KK31				⇓Lg		Lg	18 47 19.5	
	12nm,0.6s,baz=178,slow=28,SNR=8.4							
AAK	**Ala-Archa**	**5.33**	**40**	⇑Pn		Pn	18 46 18.2	-0.3
	3.2nm,0.5s							
AAK				⇑Sn		Sn	18 47 23.7	+3.0
	4.2nm,0.7s							
CHMS	**Chumysh**	**5.73**	**39**	⇓Pn		Pn	18 46 23.4	-0.4
	3.2nm,0.5s							
CHMS				⇓Sn		Sn	18 47 29.4	-0.9
	5.5nm,0.8s							
TKM2	**Tokmak 2**	**6.11**	**43**	⇑Pn		Pn	18 46 28.2	-0.9
	3.3nm,0.6s							
TKM2				⇓Sn		Sn	18 47 41.6	+1.8
	2.0nm,0.7s							
AB31	**Akbulak array**	**12.82**	**329**	⇑Pn		Pn	18 48 01.5	+0.7
	0.5nm,0.4s,baz=151,slow=11,SNR=22							
AB31				⇑Sn		Sn	18 50 24.0	-0.1
	0.8nm,0.5s,baz=148,slow=24,SNR=12							

*IDC **24** 18:48:47.9±2.3,6°.34S×131°.95E, h0km, mb3.3/1, mbtmp3.9/4, ML4.2/3, Error ellipse: s-maj=63.2km s-min=32.0km az=78.0*
*DJA **24** 18:48:49.2±0.5,6°.S±4°.×13°.2E±°, h10km, M4.3/9, mb4.3/6, mB4.9/1, MLv4.3/9, Mw(mB)4.2/1*
ISC 24 18:48:45.2±0.9,5°.86S±0°.05×131°.85E±0°.07, h10km, n21, σ2ˢ72/20, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SAUI	**Saumlaki**	**2.18**	**195**	P		**Pg**	**18 49 28.4**	**+1.3**
SAUI	**Saumlaki**	**2.18**	**195**	P		**Pb**	**18 49 25.2**	**+0.4**
BNDI	**Bandanaira**	**2.35**	**304**	P		**Pb**	**18 49 28.0**	**+0.3**
BNDI	**Bandanaira**	**2.35**	**304**	P		**Pn**	**18 49 26.6**	**+2.7**
KMPI	**Kaimana, Papua**	**2.86**	**40**	P		**Pb**	**18 49 35.9**	**-0.5**
FAKI	**Fak Fak**	**2.94**	**8**	P		**Pb**	**18 49 35.7**	**-2.2**
FAKI	**Fak Fak**	**2.94**	**8**	P		**Pn**	**18 49 35.4**	**+3.3**
SWI	**Sorong**	**5.00**	**353**	P		**Pn**	**18 50 02.1**	**+1.8**
DRS	**Darwin Rock St**	**6.60**	**188**	P		**Pn**	**18 50 23.9**	**+1.5**
LBMI	**Labuha**	**6.76**	**320**	P		**Pn**	**18 50 26.2**	**+1.5**
	20nm,0.4s,0.1nm							
KDU	**Kakadu**	**6.81**	**175**	P		**Pn**	**18 50 27.0**	**+1.7**
SANI	**Sanana**	**6.97**	**303**	P		**Pn**	**18 50 29.2**	**+1.8**
SANI	**Sanana**	**6.97**	**303**	P		**Pn**	**18 50 29.4**	**+2.0**
	10nm,0.7s,0.1nm							
MTN	**Manton Dam**	**6.98**	**186**	P		**Pn**	**18 50 29.3**	**+1.7**
SOEI	**Soe**	**8.45**	**242**	P		**Pn**	**18 50 51.0**	**+3.0**
SOEI	**Soe**	**8.45**	**242**	P		**Pn**	**18 50 51.8**	**+3.8**
	28nm,1.3s							
BATI	**Baumata**	**9.19**	**241**	Pn		**Pn**	**18 50 59.7**	**+1.7**
	2.1nm,0.3s,baz=21,slow=8.6,SNR=4.4							
BATI				Sn		**Sn**	**18 52 35.0**	**-6.5**
	1.5nm,0.3s,baz=52,slow=19,SNR=1.8							
	8.3nm,0.4s							
BATI	**Baumata**	**9.19**	**241**	P		Pn	18 51 03.5	+5.5
WRA	**Warramunga Arr**	**14.21**	**170**	Pn		**Pn**	**18 52 04.0**	**-2.7**
	1.5nm,0.3s,baz=353,slow=13,SNR=52							
WRA				Sn		Sn	18 54 33.6	-11
	0.6nm,0.3s,baz=358,slow=24,SNR=3.6							
	2.0nm,0.3s							
ASAR	**Alice Springs**	**17.82**	**174**	P		**Pn**	**18 52 51.5**	**-1.9**
	0.7nm,0.3s,baz=356,slow=11,SNR=35							
ASAR				S		Sn	18 56 02.2	-10
	0.5nm,0.6s,baz=1.8,slow=24,SNR=3.2							
	1.5nm,0.6s							
MKAR	**Makanchi Array**	**68.30**	**326**	P		P	18 59 53.8	+7.2
	0.1nm,0.3s,baz=110,slow=8.0,SNR=4.9							
	0.1nm,0.3s							

*NEIC **24** 18:53:18.5±1.3, 10°.88N±0°.05×62°.1W±0°.1, h106km±12km, mb4.2/3, Error ellipse: s-maj=15.1km s-min=6.6km az=78.0*
*TRN **24** 18:53:20.4, 10°.97N×62°.16W, h97km, MD4.1, North of the Paria peninsula. Felt in Trinidad, MMI IV, V and VI.*
*FUNV **24** 18:53:20.4, 10°.91N×62°.08W, h98km, MW4.3*
ISC 24 18:53:18.3±0.8, 10°.88N±0°.04×62°.14W±0°.04, h112km±8km, n66, σ1ˢ82/105, 2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
TCE	**Chacachacare**	**0.42**	**116**	⇓*e*P		**Pn**	**18 53 36.5**	**+1.6**
TRN	**Trinidad (W)**	**0.76**	**108**	⇓*i*P		**Pn**	**18 53 38.2**	**+0.9**
TRN				*e*S		**Sn**	**18 53 50.1**	**-1.6**
TPP	**Pointe-a-Pierr**	**0.88**	**130**	*e*P		**Pn**	**18 53 41.1**	**+2.6**
TPP				*e*S		**Sn**	**18 53 54.1**	**+0.4**
CRUV	**Carupano**	**1.10**	**259**	*e*P		**Pn**	**18 53 42.0**	**+1.4**
CRUV				*e*S		**Sn**	**18 53 56.9**	**-0.6**
CRUV	**Carupano**	**1.10**	**259**	*e*P		**Pn**	**18 53 41.4**	**+0.7**
CRUV				*e*S		**Sn**	**18 53 57.3**	**-0.2**
TBH	**Brigand Hill**	**1.13**	**111**	*e*P		**Pn**	**18 53 43.4**	**+2.4**
TBH				*e*S		**Sn**	**18 53 59.0**	**+0.8**
GRFF	**Grenada Fort F**	**1.22**	**19**	*e*P		**Pn**	**18 53 42.1**	**+0.1**
GRFF				*e*S		**Sn**	**18 53 58.4**	**-1.6**
GRGR	**Grenville**	**1.33**	**21**	Pn		**Pn**	**18 53 43.3**	**0.0**
GRGR				Sn		**Sn**	**18 54 00.9**	**-1.3**
GRGR	**Grenville**	**1.33**	**21**	*e*P		**Pn**	**18 53 43.5**	**+0.3**
GRGR				*e*S		**Sn**	**18 54 00.9**	**-1.3**
GRW	**Mount Saint Ca**	**1.35**	**20**	*e*P		**Pn**	**18 53 43.9**	**+0.3**
GRW				*e*S		**Sn**	**18 54 01.6**	**-1.2**
TPR	**Prospect**	**1.37**	**77**	*i* P		**Pn**	**18 53 45.5**	**+1.8**
TPR				*e*S		**Sn**	**18 54 03.0**	**0.0**
GRHS	**Sauteurs**	**1.42**	**20**	*e*P		**Pn**	**18 53 44.3**	**0.0**
GRHS				*e*S		**Sn**	**18 54 02.1**	**-1.8**
GRIC	**Isle de Caille**	**1.50**	**21**	*e*P		**Pn**	**18 53 46.6**	**+1.5**
GRIC				*e*S		**Sn**	**18 54 05.2**	**-0.4**
GRSS	**Sisters**	**1.50**	**20**	*e*P		**Pn**	**18 53 45.4**	**+0.2**
GRSS				*e*S		**Sn**	**18 54 04.7**	**-0.9**
GCMP	**Grenada, Carri**	**1.74**	**24**	*i* P		**Pn**	**18 53 48.5**	**+0.4**
GCMP				*e*S		**Sn**	**18 54 08.9**	**-2.0**
CUMV	**Cumana_UDO**	**2.07**	**257**	*e*P		**Pn**	**18 53 54.6**	**+2.4**
CUMV				*e*S		**Sn**	**18 54 18.3**	**+0.1**
SVOC	**Richmond Hill,**	**2.43**	**22**	*e*P		**Pn**	**18 53 56.7**	**-0.1**
SVOC				*e*S		**Sn**	**18 54 26.1**	**-0.4**
SVT	**Saint Vincent**	**2.44**	**21**	*e*P		**Pn**	**18 53 57.5**	**+0.5**
SVT				*e*S		**Sn**	**18 54 24.6**	**-2.0**
SVB	**Belmont**	**2.53**	**20**	*e*P		**Pn**	**18 54 00.6**	**+2.4**
SVB				*e*S		**Sn**	**18 54 26.6**	**-2.2**
PCRV	**Puerto La Cruz**	**2.55**	**254**	*e*P		**Pn**	**18 54 00.3**	**+1.8**
PCRV				*e*S		**Sn**	**18 54 28.8**	**-0.6**
PCRV	**Puerto La Cruz**	**2.55**	**254**	*e*P		**Pn**	**18 54 00.5**	**+1.9**
PCRV				*e*S		**Sn**	**18 54 30.4**	**+1.0**
SSV	**Crater Summit**	**2.60**	**21**	*e*P		**Pn**	**18 53 59.4**	**+0.2**
SSV				*e*S		**Sn**	**18 54 28.0**	**-2.6**
SLB	**Belfond**	**3.12**	**20**	*e*S		**Sn**	**18 54 40.9**	**-1.8**
SLB	**Belfond**	**3.12**	**20**	*e*P		**Pn**	**18 54 06.9**	**+1.0**
BCHC	**Barbados, Cave**	**3.32**	**47**	*e*P		**Pn**	**18 54 05.3**	**-3.3**
BCHC				*e*S		**Sn**	**18 54 42.5**	**-5.0**
SLBI	**Saint Lucia, B**	**3.32**	**20**	*e*P		**Pn**	**18 54 09.1**	**+0.5**
SLBI				*e*S		**Sn**	**18 54 45.6**	**-1.9**
BBGH	**Gun Hill**	**3.38**	**48**	Pn		**Pn**	**18 54 09.3**	**-0.1**
BBGH	**Gun Hill**	**3.38**	**48**	*e*P		**Pn**	**18 54 10.4**	**+1.0**
BBGH				*e*S		**Sn**	**18 54 47.4**	**-1.5**
MPOM	**Morne Pois Mar**	**3.75**	**19**	Pn		**Pn**	**18 54 11.6**	**-2.7**
BIM	**Bigot**	**3.76**	**16**	Pn		**Pn**	**18 54 14.7**	**+0.2**
BIM	**Bigot**	**3.76**	**16**	*e*P		**Pn**	**18 54 15.1**	**+0.7**
BIM				*e*S		**Sn**	**18 54 56.7**	**-1.3**
FDF	**Fort de France**	**3.95**	**14**	Pn		**Pn**	**18 54 16.6**	**-0.4**
SVN	**Savane Anatole**	**4.05**	**13**	Pn		**Pn**	**18 54 18.2**	**-0.1**
SVN	**Savane Anatole**	**4.05**	**13**	*e*P		**Pn**	**18 54 18.5**	**+0.1**
SVN				*e*S		**Sn**	**18 55 03.0**	**-1.9**
ILAM	**Ilet Lapin Mar**	**4.06**	**18**	Pn		**Pn**	**18 54 17.0**	**-1.5**
ILAM	**Ilet Lapin Mar**	**4.06**	**18**	*e*P		**Pn**	**18 54 19.5**	**+1.0**
ILAM				*e*S		**Sn**	**18 55 02.9**	**-2.3**
MERV	**Las Mercedes**	**4.40**	**249**	*e*P		**Pn**	**18 54 24.4**	**+1.3**
MERV				*e*S		**Sn**	**18 55 12.6**	**-0.9**
TACV	**Tcata**	**4.86**	**262**	*e*P		**Pn**	**18 54 30.5**	**+1.2**
TACV				*e*S		**Sn**	**18 55 22.3**	**-2.3**
TDBA	**Terre de Bas,**	**4.96**	**6**	*e*P		**Pn**	**18 54 34.0**	**+3.5**
TDBA				*e*S		**Sn**	**18 55 29.4**	**+2.5**
TBG	**Guadaloupe-3**	**4.96**	**6**	*e*P		**Pn**	**18 54 32.3**	**+1.7**
TBG				*e*S		**Sn**	**18 55 24.6**	**-2.3**
LUEV	**Luepa**	**5.05**	**172**	*e*P		**Pn**	**18 54 32.2**	**+0.1**
LUEV				*e*S		**Sn**	**18 55 25.7**	**-3.7**
MAGL	**Barre de l'ile**	**5.10**	**9**	Pn		**Pn**	**18 54 33.2**	**+0.7**
CBE	**Ff, Capester**	**5.18**	**6**	Pn		**Pn**	**18 54 34.1**	**+0.5**
CBE	**Ff, Capester**	**5.18**	**6**	*e*P		**Pn**	**18 54 36.9**	**+3.3**
CBE				*e*S		Sn	18 55 40.5	+8.3
GDHS	**Morne Mazeau,**	**5.37**	**4**	Pn		**Pn**	**18 54 38.0**	**+1.8**
BENV	**Beln**	**5.45**	**261**	*e*P		**Pn**	**18 54 38.9**	**+1.7**
BENV				*e*S		**Sn**	**18 55 36.7**	**-2.0**
CACV	**CAICARA DEL OR**	**5.45**	**233**	*e*P		**Pn**	**18 54 33.8**	**-3.4**
CACV				*e*S		Sn	18 55 27.1	-12
GDSD	**La Dsirade Is**	**5.50**	**11**	Pn		**Pn**	**18 54 38.6**	**+0.7**
ABD	**La Joyeuse, An**	**5.59**	**6**	Pn		**Pn**	**18 54 40.0**	**+0.9**
TURV	**Turiamo**	**5.62**	**266**	*e*P		**Pn**	**18 54 40.3**	**+0.8**
TURV				*e*S		**Sn**	**18 55 39.5**	**-3.3**
BAUV	**El Baul**	**6.13**	**252**	Pn		**Pn**	**18 54 46.1**	**-0.3**
BAUV	**El Baul**	**6.13**	**252**	*e*P		**Pn**	**18 54 46.3**	**-0.1**
BAUV				*e*S		**Sn**	**18 55 50.4**	**-4.7**
BAUV	**El Baul**	**6.13**	**252**	*e*P		**Pn**	**18 54 46.3**	**-0.1**
BAUV				*e*S		**Sn**	**18 55 52.7**	**-2.5**
ANBD	**Bethesda, Anti**	**6.14**	**3**	*e*P		**Pn**	**18 54 47.9**	**+1.4**
ANBD				*e*S		**Sn**	**18 55 51.5**	**-3.9**
MAPV	**Macapo**	**6.30**	**261**	*e*P		**Pn**	**18 54 49.3**	**+0.5**
MAPV				*e*S		**Sn**	**18 55 55.4**	**-4.1**
TEPV	**Terepaima**	**7.00**	**263**	*e*P		**Pn**	**18 54 58.4**	**+0.2**
CURV	**Curarigua**	**7.74**	**264**	*e*P		**Pn**	**18 55 08.7**	**+0.4**
CELP	**Cerrillos**	**8.34**	**329**	Pn		**Pn**	**18 55 13.9**	**-2.5**
BOAV	**Boa Vista**	**8.59**	**169**	Pn		**Pn**	**18 55 19.7**	**-0.1**
BOAV				Sn		**Sn**	**18 56 50.9**	**-4.0**
AOPR	**Arecibo Observ**	**8.66**	**330**	Pn		**Pn**	**18 55 19.6**	**-1.1**
AOPR	**Arecibo Observ**	**8.66**	**330**	*e*P		**Pn**	**18 55 22.3**	**+1.6**
AGPR	**Aguadilla, PR**	**8.94**	**328**	Pn		**Pn**	**18 55 24.6**	**+0.1**
GRTK	**Grand Turk**	**13.64**	**322**	Pn		**Pn**	**18 56 27.4**	**+0.3**
SAML	**Samuel**	**19.73**	**183**			**P**	**18 57 39.0**	**-0.2**
SAML						IAmb	IAmb	18 57 46.3	
	comp=Z,2.7nm,0.7s							
JSC	**Jenkinsville**	**29.11**	**326**	P		**P**	**18 59 09.1**	**+0.6**
JSC						IAmb	IAmb	18 59 18.6	
	comp=Z,4.7nm,0.6s							
HMBC	**Humberstone**	**31.89**	**194**	P		**P**	**18 59 33.4**	**+0.2**
HMBC						IAmb	IAmb	18 59 59.2	
	comp=Z,6.5nm,1.0s							

*IDC **24** 19:15:02.8±0.6,25°.47N×126°.39E, h0km, mb3.9/18, mbtmp3.9/22, ML3.8/4, MS3.5/45, Error ellipse: s-maj=18.3km s-min=14.1km az=82.0*
*JMA **24** 19:15:08.7±0.1,26°.N±1°.×126°.5E±1°.0, h71km±3km, MD4.5/21, MV4.2/21, NEAR OKINAWAJIMA ISLAND*
JMA Felt I J1 at NEAR OKINAWAJIMA ISLAND .
*NIED **24** 19:15:08.7, 25°.63N×126°.46E, h71km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr-0.90; Mθθ-1.08; Mϕϕ1.98; Mrθ3.78; Mθϕ-0.75; Mϕr-3.06; Fault plane solution: M0 5.21000×10¹⁵ NP1: ϕs310.00000°, δ85.00000°, λ-108.00000°. NP2: ϕs205.00000°, δ19.00000°, λ-17.00000°.*
*NEIC **24** 19:15:09.5±2.0, 25°.51N±0°.10×126°.58E±0°.09, h46km±8km, mb4.5/52 Error ellipse: s-maj=15.8km s-min=8.6km az=146.0*
*BJI **24** 19:15:10.3±0.0, 25°.59N×126°.39E, h45km, mb4.1/24, mB4

JNU	Nakatsue	8.50	25	Pn	Pn	19 17 08.4	-1.3
JNU	Nakatsue	8.50	25	Pn	Pn	19 17 09.2	-0.5
	comp=N,0.8nm,0.3s,baz=207,slow=13,SNR=11						
JNU				LR	LR	19 20 48.3	
	comp=N,207nm,19.2s,baz=178,slow=40						
	comp=N,12nm,0.9s						
NJ2	Nanjing	9.47	316	eP	Pn	19 17 22.3	-0.6
NJ2				pmax	pmax		
	comp=N,7.0nm,0.5s						
JMN	Monobe	10.39	36	P	Pn	19 17 34.4	-1.1
JMN	Monobe	10.39	36	Pn	Pn	19 17 32.8	-2.7
KSRS	Korea Array	12.02	5	Pn	Pn	19 17 57.3	-0.5
	comp=N,0.2nm,0.3s,baz=183,slow=14,SNR=5.3						
KSRS				LR	LR	19 22 43.4	
	comp=N,193nm,20.1s,baz=180,slow=38						
	comp=N,2.2nm,0.9s						
JHJ	Hachijo jima 2	13.79	53	LR	LR	19 23 37.0	
	comp=N,95nm,18.3s,baz=234,slow=37						
JCJ	Chichijima	14.06	80	LR	LR	19 23 02.2	
	comp=N,69nm,21.8s,baz=258,slow=34						
MAJO	Matsushiro	14.85	39	Pn	Pn	19 18 36.8	+0.7
MJAR	Matsushiro Arr	14.85	39	Pn	P	19 18 41.4	+0.5
	comp=N,0.1nm,0.3s,baz=229,slow=11,SNR=9.4						
HNS	HongShan	15.64	322	⇓P	Pn	19 18 46.0	-0.3
HNS				SS	S	19 21 54.9	+3.3
HNS				pmax	pmax		
	comp=N,15nm,0.5s						
HNS				LR	LR		
	comp=N,160nm,16.3s						
HNS				LR	LR		
	comp=N,170nm,17.1s						
HNS				LR	LR		
	comp=N,160nm,15.9s						
QIZ	Qiongzhong	16.79	251	P	P	19 19 02.3	-0.1
QIZ				S	Sn	19 22 07.0	+0.5
QIZ				pmax	pmax		
	comp=N,76nm,6.3s						
QIZ				LR	LR		
	comp=N,130nm,14.3s						
QIZ				LR	LR		
	comp=N,140nm,18.5s						
QIZ				LR	LR		
	comp=N,210nm,18.5s						
JMM	Marumori	17.26	41	Pn	Pn	19 19 05.1	-1.5
GYA	Guiyang	17.98	278	eP	P	19 19 15.1	-0.6
GYA				pmax	pmax		
	comp=N,3.0nm,0.6s						
GYA				pmax	pmax		
	comp=N,110nm,4.0s						
DAV	Davao City (W)	18.30	183	LR	LR	19 26 19.9	
	comp=N,85nm,21.6s,baz=7.0,slow=37						
USRK	Ussuriysk Ar.	19.21	12	P	P	19 19 29.0	0.0
	comp=N,0.1nm,0.3s,baz=184,slow=10.0,SNR=3.2						
USRK				LR	LR	19 26 18.7	
	comp=N,74nm,19.7s,baz=203,slow=35						
	comp=N,1.1nm,0.7s						
MDJ	Mudanjiang	19.28	6	P	Pn	19 19 30.3	-0.7
MDJ				pmax	pmax		
	comp=N,8.0nm,2.1s						
MDJ				pmax	pmax		
	comp=N,46nm,3.6s						
HHC	Hu-ho-hao-te	19.82	324	eP	Pn	19 19 42.3	+4.6
HHC				pmax	pmax		
	comp=N,12nm,0.5s						
HHC				pmax	pmax		
	comp=N,59nm,6.1s						
HHC				LR	LR		
	comp=N,110nm,11.8s						
HHC				LR	LR		
	comp=N,150nm,12.9s						
HHC				LR	LR		
	comp=N,130nm,12.2s						
GUMO	Guam	20.83	121	LR	LR	19 27 18.2	
	comp=N,39nm,18.9s,baz=314,slow=35						
LZH	Lanzhou	22.21	304	eP	P	19 20 02.8	+1.2
LZH				pP	pP	19 20 11.3	-1.7
LZH				pmax	pmax		
	comp=N,15nm,1.1s						
LZH				LR	LR		
	comp=N,170nm,14.4s						
LZH				LR	LR		
	comp=N,130nm,14.1s						
LZH				LR	LR		
	comp=N,120nm,13.7s						
PZH	PanZhiHua	22.38	278	P	P	19 20 08.4	+4.9
PZH				pmax	pmax		
	comp=N,10.0nm,1.1s						
PZH				pmax	pmax		
	comp=N,110nm,5.3s						
ASAJ	Asahikawa	22.71	31	LR	LR	19 29 40.8	
	comp=N,106nm,20.4s,baz=318,slow=38						
JKA	Kamikawa-asahi	22.71	31	P	P	19 20 05.0	-1.7
JKA				IAmb	IAmb	19 20 08.3	
	comp=Z,16nm,1.1s						
KLR	Kul'dur	24.08	8	LR	LR	19 29 35.1	
	comp=Z,61nm,19.4s,baz=178,slow=36						
TNTI	Ternate	24.54	178	P	P	19 20 24.4	+0.1
TNTI				IAmb	IAmb	19 20 29.6	
	comp=Z,24nm,1.2s						
TNTI	Ternate	24.54	178	P	P	19 20 26.6	+2.3
	comp=Z,17nm,1.0s,comp=Z,599nm						
CRAI	Chiangrai	24.72	263	P	P	19 20 25.8	-0.1
TOLI2	Tolitoli	24.84	194	P	P	19 20 28.1	+1.1
TOLI2				IAmb	IAmb	19 20 30.0	
	comp=Z,24nm,1.0s						
TNCH	TengChong	25.41	275	eP	P	19 20 33.3	+1.0
TNCH				pP	pP	19 20 45.9	+0.9
TNCH				pmax	pmax		
	comp=Z,4.0nm,0.4s						
MPSI	Mapaga	25.79	196	P	P	19 20 37.7	+2.1
	comp=Z,13nm,1.0s,comp=Z,1μm						
CHTO	Chiang Mai	26.44	261	P	P	19 20 42.3	+0.8
CMAR	Chiang Mai Arr	26.56	260	P	P	19 20 41.9	-0.8
	comp=Z,0.3nm,0.4s,baz=66,slow=9.1,SNR=1.3						
CMAR				LR	LR	19 32 13.1	
	comp=Z,42nm,18.5s,baz=85,slow=39						
	comp=Z,0.3nm,0.4s						
SANI	Sanana	27.34	181	P	P	19 20 50.1	+0.5
	comp=Z,24nm,1.0s						
SONM	Songino Array	27.46	330	P	P	19 20 49.4	-1.1
	comp=Z,0.8nm,0.6s,baz=137,slow=11,SNR=2.1						
SONM				LR	LR	19 33 06.3	
	comp=Z,104nm,19.2s,baz=126,slow=40						
	comp=Z,0.8nm,0.6s						
KAPI	Kappang	31.01	193	LR	LR	19 32 53.8	
	comp=Z,103nm,20.7s,baz=22,slow=35						
PLAI	Plampang	35.14	195	P	P	19 21 58.8	+0.6
	comp=Z,26nm,1.1s						
BATI	Baumata	35.55	185	LR	LR	19 41 34.5	
	comp=Z,94nm,18.2s,baz=176,slow=45						
PETK	Petropavlovsk-	36.12	32	LR	LR	19 36 08.9	
	comp=Z,46nm,21.6s,baz=230,slow=35						
YAK	Yakutsk	36.63	2	LR	LR	19 37 56.4	
	comp=Z,100nm,18.4s,baz=185,slow=38						
H11N1	WAKE ISLAND Hy	37.52	90	T	T	20 02 26.3	
	baz=283,slow=74,SNR=6.1						
H11N2	WAKE ISLAND Hy	37.52	90	T	T	20 02 19.2	
	baz=283,slow=74,SNR=10						
H11N3	WAKE ISLAND Hy	37.53	90	T	T	20 02 28.0	
	baz=283,slow=74,SNR=8.1						
MA2	Magadan	38.03	20	LR	LR	19 38 17.4	
	comp=Z,60nm,20.3s,baz=202,slow=37						
PMG	Port Moresby	40.00	147	LR	LR	19 36 05.2	
	comp=Z,81nm,21.7s,baz=267,slow=32						
MKAR	Makanchi Array	40.99	313	P	P	19 22 45.5	-1.7
MKAR	Makanchi Array	40.99	313	P	P	19 22 46.0	-1.2
	comp=Z,0.5nm,0.4s,baz=92,slow=9.0,SNR=16						
MKAR				LR	LR	19 41 10.0	
	comp=Z,35nm,19.6s,baz=86,slow=38						
	comp=Z,0.5nm,0.4s						
SEY	Seymchan	41.19	18	LR	LR	19 40 30.9	
	comp=Z,93nm,18.6s,baz=190,slow=37						
ZALV	Zalesovo Beam	42.01	324	P	P	19 22 54.7	-0.7
	comp=Z,0.9nm,0.6s,baz=92,slow=7.4,SNR=1.8						
ZALV				LR	LR	19 41 06.5	
	comp=Z,45nm,20.7s,baz=92,slow=37						
	comp=Z,0.9nm,0.6s						
FITZ	Fitzroy Crossi	43.29	181	P	P	19 23 06.7	+0.6
KURBB	Kurchatov Arra	44.43	317	P	P	19 23 13.4	-1.6
	comp=Z,0.3nm,0.2s,baz=107,slow=9.4,SNR=2.8						
	comp=Z,0.3nm,0.2s						
WB0	Warramunga Arr	45.58	170	P	P	19 23 25.3	+1.0
WRAB	Tennant Creek	45.73	170	P	P	19 23 26.0	+0.4
AAK	Ala-Archa	45.73	306	LR	LR	19 43 34.0	
	comp=Z,36nm,18.6s,baz=74,slow=38						
WRA	Warramunga Arr	45.74	170	P	P	19 23 26.6	+0.9
WRA	Warramunga Arr	45.74	170	P	P	19 23 26.6	+0.9
	comp=Z,6.4nm,0.8s,baz=351,slow=8.8,SNR=41						
	comp=Z,6.4nm,0.8s						
WB2	Warramunga Arr	45.74	170	P	P	19 23 26.8	+1.1
WR0	Warramunga Arr	45.79	170	P	P	19 23 26.0	0.0
WR0				IAmb	IAmb	19 23 51.9	
	comp=Z,14nm,1.4s						
TIXI	Tiksi	46.25	1	LR	LR	19 44 16.7	
	comp=Z,117nm,19.3s,baz=192,slow=38						
KKAR	Karatay Array	48.69	306	P	P	19 23 48.5	0.0
AS31	Alice Springs	49.33	171	P	P	19 23 53.8	+0.3
ASAR	Alice Springs	49.33	171		P	19 23 53.8	+0.3
ASAR	Alice Springs	49.33	171	P	P	19 23 54.9	+1.3
	comp=Z,4.0nm,0.9s,baz=358,slow=7.1,SNR=20						
ASAR				PcP	PcP	19 25 15.8	+0.2
	comp=Z,0.8nm,0.9s,baz=350,slow=2.8,SNR=2.6						
ASAR				LR	LR	19 44 19.4	
	comp=Z,72nm,19.9s,baz=116,slow=36						
	comp=Z,4.0nm,0.9s						
BVAR	Borovoye Array	49.90	319	P	P	19 23 56.9	-0.7
	comp=Z,0.5nm,0.3s,baz=107,slow=10,SNR=4.7						
BVAR				LR	LR	19 46 13.1	
	comp=Z,40nm,19.2s,baz=92,slow=38						
	comp=Z,0.5nm,0.3s						
ABKAR	Akbulak array	56.13	314	P	P	19 24 43.1	-0.4
ARU	Arti	57.11	322	LR	LR	19 51 15.4	
	comp=Z,90nm,18.4s,baz=89,slow=38						
GEYT	Allbeck	58.43	300	P	P	19 24 59.1	-0.9
	comp=Z,1.1nm,0.7s,baz=176,slow=5.6,SNR=1.7						
	comp=Z,1.1nm,0.7s						
STKA	Stephens Creek	58.77	165	P	P	19 25 02.7	+0.5
	comp=Z,2.5nm,0.8s,baz=343,slow=1.6,SNR=4.0						
	comp=Z,2.5nm,0.8s						
J17K	VABM Dome	60.55	30	P	P	19 25 14.2	+0.1
DZM	Mont Dzumac	61.02	137	eLR	LR	19 43 18.7	
	comp=Z,120nm,21.7s						
WSAR	Wadi Sarin	61.36	284	LR	LR	19 54 03.5	
	comp=Z,51nm,18.2s,baz=111,slow=38						
E19K	Redstone River	61.46	25	IAmb	IAmb	19 25 42.5	
	comp=Z,3.9nm,0.8s						
H19K	Roundabout Mou	61.73	27	P	P	19 25 23.3	+1.3
KIRV	Kirov	62.04	325	LR	LR	19 53 10.5	
	comp=Z,64nm,18.6s,baz=93,slow=37						
J19K	Poorman	62.09	29	P	P	19 25 25.5	+1.0
J19K				IAmb	IAmb	19 25 41.5	
	comp=Z,6.1nm,1.1s						
B21K	Ikpikpuk River	62.49	23	P	P	19 25 28.5	+1.5
B21K				IAmb	IAmb	19 25 42.7	
	comp=Z,6.3nm,1.1s						
E21K	Killik River	62.71	24	P	P	19 25 30.2	+1.6
J20K	Nowinta River	62.73	29	P	P	19 25 30.9	+2.1
J20K				IAmb	IAmb	19 25 44.6	
	comp=Z,4.1nm,0.9s						
B22K	Teshekpuk Lake	62.91	22	P	P	19 25 31.9	+2.1
B22K				IAmb	IAmb	19 25 38.9	
	comp=Z,8.2nm,1.4s						
F21K	Alatna River	62.91	26	P	P	19 25 32.0	+2.1
D22K	Ayikyak River	63.18	24	P	P	19 25 33.0	+1.3
H21K	Melozitna River	63.24	27	P	P	19 25 33.7	+1.6
H21K				IAmb	IAmb	19 25 47.8	
	comp=Z,3.6nm,0.9s						
C23K	Itkillik River	63.88	23	P	P	19 25 36.8	+0.5
MLY	Manley	64.15	28	P	P	19 25 38.6	+0.4
MLY				IAmb	IAmb	19 25 53.9	
	comp=Z,4.9nm,1.2s						
H23K	Yukon River	64.57	27	IAmb	IAmb	19 25 58.7	
	comp=Z,7.8nm,1.1s						
E24K	Your Creek	64.77	24	P	P	19 25 43.7	+1.5
E24K				IAmb	IAmb	19 25 59.5	
	comp=Z,4.3nm,1.1s						
NEA2	Nenana	64.90	28	P	P	19 25 42.2	-0.8
F24K	Squaw Lake	65.05	25	P	P	19 25 44.6	+0.6
F24K				IAmb	IAmb	19 25 58.9	
	comp=Z,3.1nm,0.8s						
RND	Reindeer	65.14	30	P	P	19 25 44.6	-0.1
RND				IAmb	IAmb	19 26 00.8	
	comp=Z,7.2nm,1.1s						
MDM	Murphy Dome	65.21	28	P	P	19 25 46.5	+1.4
H24K	Noodor Dome	65.25	27	P	P	19 25 46.5	+1.2
H24K				IAmb	IAmb	19 26 03.0	
	comp=Z,4.3nm,1.1s						
D25K	Kavik River	65.40	23	P	P	19 25 48.4	+2.1
D25K				IAmb	IAmb	19 26 02.6	
	comp=Z,4.2nm,1.0s						
ILAR	Eielson Array	65.81	28	P	P	19 25 49.9	+1.0
	comp=Z,0.4nm,0.6s,baz=276,slow=7.0,SNR=4.8						
ILAR				LR	LR	19 55 34.4	
	comp=Z,36nm,18.9s,baz=267,slow=37						
	comp=Z,0.4nm,0.6s						
BMAR	Burnt Mountain	66.33	25	P	P	19 25 52.8	+0.6
SCRK	Sand Creek	67.19	29	P	P	19 25 58.5	+0.6
J26L	Joseph Creek	67.26	28	P	P	19 25 59.4	+1.0
J26L				IAmb	IAmb	19 26 12.7	
	comp=Z,3.6nm,0.8s						
E27K	Coleen River	67.30	24		P	19 25 58.8	+0.4
E27K				IAmb	IAmb	19 26 16.1	
	comp=Z,7.6nm,1.2s						
G27K	Doyon Strip	67.57	25	P	P	19 25 59.3	-0.8
M26K	Nabesna, AK	67.95	30	P	P	19 26 02.0	-0.7
M26K				IAmb	IAmb	19 26 27.2	
	comp=Z,5.3nm,1.2s						
E28M	Babbage River	67.96	23	P	P	19 26 02.7	+0.2
E28M				IAmb	IAmb	19 26 18.3	
	comp=Z,5.3nm,0.9s						
BCAR	Beaver Creek A	68.35	29	P	P	19 26 04.8	-0.3
KBZ	Khabaz	68.53	309	LR	LR	20 01 04.6	
	comp=Z,20nm,18.0s,baz=122,slow=40						
I28M	Miner Creek	68.56	27	P	P	19 26 06.6	+0.1
KIV	Kislovodsk	68.62	310	P	P	19 26 05.1	-2.1
KIV				IAmb	IAmb	19 26 22.2	
	comp=Z,6.5nm,0.9s						
G29M	Pine Creek	68.94	25	P	P	19 26 08.8	+0.1
G29M				IAmb	IAmb	19 26 26.2	
	comp=Z,9.6nm,1.1s						
I29M	Ogilvie Camp,	69.24	27	P	P	19 26 10.6	0.0
I29M				IAmb	IAmb	19 26 27.2	
	comp=Z,7.4nm,1.4s						
SPITS	Spitsbergen Ar	69.29	348	LR	LR	20 02 43.0	
	comp=Z,16nm,18.0s,baz=16,slow=41						
G30M	tAoh Zraii Nji	69.60	25	P	P	19 26 13.5	+0.7
G30M				IAmb	IAmb	19 26 29.8	
	comp=Z,7.5nm,1.1s						
I30M	Mount Dempster	70.06	26	P	P	19 26 16.8	+1.0
I30M				IAmb	IAmb	19 26 39.9	
	comp=Z,5.8nm,1.2s						
INK	Inuvik	70.17	23	LR	LR	20 00 17.4	
	comp=Z,35nm,18.0s,baz=216,slow=39						
ARCES	ARCESS Array B	70.20	338	LR	LR	20 01 50.4	
	comp=Z,35nm,18.5s,baz=50,slow=40						
J30M	Hart River	70.27	27	P	P	19 26 18.3	+1.2
M30M	Minto, Yukon	70.69	29	P	P	19 26 17.3	-2.2
FINES	FINESS Array B	72.83	330	P	P	19 26 32.3	0.0
	comp=Z,0.7nm,0.4s,baz=67,slow=6.4,SNR=8.1						
FINES				LR	LR	19 59 33.1	
	comp=Z,26nm,19.6s,baz=45,slow=37						
	comp=Z,0.7nm,0.4s						
AKASG	Malin Array Be	75.18	319	P	P	19 26 45.6	-0.6
	comp=Z,0.3nm,0.4s,baz=63,slow=5.7,SNR=2.4						
AKASG				LR	LR	20 02 25.3	
	comp=Z,53nm,18.0s,baz=43,slow=38						
	comp=Z,0.3nm,0.4s						
BRTR	Keskin Array B	76.36	308	P	P	19 26 51.3	-2.2
BRTR	Keskin Array B	76.36	308	P	P	19 26 53.5	0.0
	comp=Z,0.6nm,0.6s,baz=101,slow=6.4,SNR=3.5						
	comp=Z,0.6nm,0.6s						
RES	Resolute Bay	76.58	10	LR	LR	20 02 49.0	
	comp=Z,28nm,20.1s,baz=0.5,slow=37						
HFS	Hagfors	78.83	332	P	P	19 27 06.6	0.0
	comp=Z,0.9nm,0.7s,baz=54,slow=23,SNR=2.0						
HFS				LR	LR	20 07 15.9	
	comp=Z,116nm,19.0s,baz=74,slow=40						
	comp=Z,0.9nm,0.7s						
NB2	NORSAR Array B	79.37	333	P	P	19 27 09.3	-0.3
	comp=Z,2.3nm,1.0s,baz=59,slow=5.3						
NOA	NORSAR Array B	79.37	333	P	P	19 27 09.2	-0.4
	comp=Z,0.4nm,0.7s,baz=55,slow=5.2,SNR=3.3						
NOA				LR	LR	20 06 43.2	
	comp=Z,32nm,18.9s,baz=20,slow=39						
	comp=Z,0.4nm,0.7s						
YKA	Yellowknife Ar	79.84	24	P	P	19 27 13.1	+1.1
	comp=Z,0.2nm,0.4s,baz=298,slow=5.6,SNR=4.3						
	comp=Z,0.2nm,0.4s						
VRAC	Vranov	83.08	322	LR	LR	20 07 42.8	
	comp=Z,25nm,21.8s,baz=73,slow=38						
GERES	GERESS Array B	84.94	322	LR	LR	20 07 11.1	
	comp=Z,46nm,20.5s,baz=77,slow=37						
BORG	Borgarnes	86.71	347	LR	LR	20 12 13.6	
	comp=Z,20nm,18.4s,baz=352,slow=40						
SFJD	Kangerlussuaq	87.82	359	LR	LR	20 10 21.4	
	comp=Z,19nm,18.5s,baz=322,slow=38						
DAVOX	Davos/Dischmat	88.23	322	LR	LR	20 12 12.6	
	comp=Z,36nm,19.9s,baz=74,slow=39						
FRB	Frobisher Bay	90.31	7	LR	LR	20 09 13.5	
	comp=Z,31nm,21.3s,baz=351,slow=36						
PPT2	Papeete2	92.02	108	eLR	LR	19 57 47.5	
	comp=Z,40nm,23.8s						
MDPB	Devils Postpil	92.04	46	P	P	19 28 11.8	-1.5
NVAR	Mina Array Bea	92.09	45	P	P	19 28 10.8	-2.8
NVAR	Mina Array Bea	92.09	45	P	P	19 28 13.6	0.0
	comp=Z,0.3nm,0.5s,baz=256,slow=1.9,SNR=3.9						
	comp=Z,0.3nm,0.5s						
SCHQ	Schefferville	99.22	8	LR	LR	20 18 00.5	
	comp=Z,27nm,18.0s,baz=311,slow=38						

SCB ***24*** *19:20:34.9±0.9, 22°.06S×67°.49W, h190km±10km, ML3.3/4, MW3.6, Error ellipse: s-maj=5.3km s-min=3.1km az=0.0*
GUC ***24*** *19:20:36.4±0.6, 22°.08S×67°.72W, h205km±5km, ML3.6*
ISC 24 19:20:33.8±1.9, 22°.10S±0°.04×67°.52W±0°.06, h201km±16km, n22, σ1°22/40, 6C, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	Limon Verde	1.39	248	eP	Pn	19 21 07.8	+0.9
LVC				i S	Sn	19 21 31.8	-0.9
PB09	IPOC Station P	1.63	280	⇑iP	Pn	19 21 10.2	+1.2
PB09				i S	Sn	19 21 35.8	-0.3
PB09	IPOC Station P	1.63	280	Pg	Pn	19 21 10.3	+1.4
MOCB	Mochara	1.94	64	Pg	Pn	19 21 12.6	+0.3
MOCB				Sg	Sn	19 21 40.7	-1.4
MOCB				IAML		19 21 48.7	
	88nm,0.6s						
PB06	IPOC Station P	2.00	252	⇑iP	Pn	19 21 13.4	+1.0
PB06				i S	Sn	19 21 41.8	-0.7
PB06				IAML		19 21 44.2	
	comp=N,227nm,0.1s						
PB15	IPOC Station P	2.12	238	⇑eP	Pn	19 21 15.1	+1.3
PB15				i S	Sn	19 21 44.4	-0.5
PB15	IPOC Station P	2.12	238	Pg	Pn	19 21 15.0	+1.3
PB01	IPOC Station P	2.12	300	⇑iP	Pn	19 21 14.6	+0.9
PB01				i S	Sn	19 21 43.4	-1.2
PB01				IAML		19 21 44.6	
	comp=N,271nm,0.5s						
PB01	IPOC Station P	2.12	300	Pg	Pn	19 21 14.8	+1.1
PB01				Sg	Sn	19 21 44.3	-0.4
PB01				IAML		19 21 45.1	
	comp=N,245nm,0.3s						
PB04	IPOC Station P	2.45	264	eP	Pn	19 21 18.5	+1.2
PB04				i S	Sn	19 21 49.9	-1.4
PB04				IAML		19 21 52.4	
	comp=N,182nm,0.4s						
PB08	IPOC Station P	2.48	322	⇑iP	Pn	19 21 19.9	+1.9
PB08				i S	Sn	19 21 52.5	+0.2
PB08				IAML		19 21 54.2	
	comp=N,73nm,0.3s						
PB08	IPOC Station P	2.48	322	Pg	Pn	19 21 19.0	+1.1
PB08				Sg	Sn	19 21 52.0	-0.3
PB08				IAML		19 21 56.5	
	comp=N,38nm,0.2s						
PATCX	Punta Patache	2.77	297	eP	Pn	19 21 21.6	+0.8
PATCX				i S	Sn	19 21 56.2	-1.4
PATCX				IAML		19 21 58.4	
	comp=N,240nm,0.4s						
GO01	Chusmiza	2.89	327	eP	Pn	19 21 24.1	+1.5
GO01				i S	Sn	19 22 00.5	-0.2
GO01				IAML		19 22 04.8	
	comp=N,138nm,0.0s						
GO01	Chusmiza	2.89	327	Pg	Pn	19 21 23.5	+0.8
TA01	Diego Aracena	2.92	301	eP	Pn	19 21 23.0	+0.5
TA01				i S	Sn	19 21 58.5	-2.0
TA01				IAML		19 22 00.1	
	comp=E,230nm,0.3s						
PB11	IPOC Station P	3.07	319	eP	Pn	19 21 24.9	+0.4
PB11				i S	Sn	19 22 02.3	-1.9
PB11				IAML		19 22 03.8	
	comp=E,182nm,0.2s						
PB11	IPOC Station P	3.07	319	Pg	Pn	19 21 24.8	+0.3
PB11				Sg	Sn	19 22 02.9	-1.2
PB11				IAML		19 22 03.7	
	comp=E,149nm,0.2s						
PB10	IPOC Station P	3.14	243	eP	Pn	19 21 26.0	+0.9
PB10				i S	Sn	19 22 03.3	-1.8
PB10				IAML		19 22 08.0	
	comp=N,46nm,0.2s						
GO02	Mina Guanaco	3.59	212	⇑iP	Pn	19 21 32.2	+1.4
GO02				i S	Sn	19 22 14.8	-0.8
PB14	IPOC Station P	3.65	226	eP	Pn	19 21 32.8	+1.1
PB14				i S	Sn	19 22 14.6	-2.4
AOEA	Aiquile	4.45	29	Pg	Pn	19 21 42.5	+0.9

IDC 24 19:29:16.3±2.3, 13°.52N×92°.92E, h0km, mb3.3/3, mbtmp3.1/4, ML3.1/1, MS3.3/1, Error ellipse: s-maj=66.9km s-min=30.2km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMAR	Chiang Mai Arr	7.59	49	Pn	Pn	19 31 07.5	-0.7
	0.1nm,0.3s,baz=235,slow=16,SNR=1.4						
CMAR				Sn	Sn	19 32 28.5	-6.6
	0.2nm,0.3s,baz=240,slow=27,SNR=5.2						
	0.3nm,0.7s						
H08S3	Diego Garcia H	29.21	225	T	T	20 05 40.3	
	baz=41						
H08S2	Diego Garcia H	29.22	225	T	T	20 05 17.2	
	baz=41						
H08S1	Diego Carcia H	29.23	225	T	T	20 06 04.6	
	baz=41						
MKAR	Makanchi Array	34.35	347	P	P	19 36 04.7	-0.1
	0.1nm,0.4s,baz=170,slow=8.6,SNR=1.9						
	0.1nm,0.4s						
JHJ	Hachijo jima 2	46.81	57	LR	LR	19 59 18.1	
	comp=Z,33nm,18.7s,baz=88,slow=38						
WRA	Warramunga Arr	52.60	128	P	P	19 38 32.4	+0.1
	0.2nm,0.5s,baz=303,slow=9.3,SNR=5.4						
	0.2nm,0.5s						
ASAR	Alice Springs	54.52	132	P	P	19 38 46.4	0.0
	0.3nm,0.5s,baz=310,slow=7.4,SNR=4.0						
	0.3nm,0.5s						

IDC ***24*** *19:45:22.4±3.0, 7°.88N×71°.30W, h20km±20km, mb3.7/7, mbtmp4.0/9, ML3.6/2, Error ellipse: s-maj=22.8km s-min=13.9km az=110.0*
FUNV ***24*** *19:45:22.0, 7°.95N×71°.43W, h5km, MW4.2*
RSNC ***24*** *19:45:23.1±0.0, 8°N±2°×7°1W±°, h100km±6km, M4.3, mb4.5, mB5.1, ML3.8, Mw(mB)4

TEPV				eS	Sn	19 46 44.2	+0.4	
SIQV	**Siquisique**	**3.17**	**28⇑**	*eP*	**Pn**	19 46 11.7	+1.4	
SIQV				eS	Sn	19 46 47.2	-1.0	
PTBC	**PUERTO BERRIO,**	**3.36**	**247**	P	**Pn**	19 46 12.5	-0.4	
PTBC				S	Sn	19 46 52.1	-0.8	
BAUV	**El Baul**	**3.44**	**71⇓**	*eP*	**Pn**	19 46 15.1	+1.1	
BAUV				eS	Sn	19 46 54.8	-0.1	
MAPV	**Macapo**	**3.46**	**55**	*eP*	**Pn**	19 46 15.6	+1.2	
MAPV				eS	Sn	19 46 55.8	+0.3	
SPBC	**San Pablo de B**	**3.48**	**231**	P	**Pn**	19 46 16.4	+1.6	
SPBC				P	Pb	19 46 16.7	-5.6	
SPBC				P	Pb	19 46 16.7	-5.6	
SPBC				S	Sn	19 46 58.2	+2.0	
ARGC	**Ariguani, Magd**	**3.50**	**305**	P	**Pb**	19 46 19.0	-3.5	
ARGC				S	Sb	19 47 04.3	-0.8	
CRJC	**Cerrejon, Guaj**	**3.50**	**334**	P	**Pn**	19 46 15.4	+0.4	
CRJC				S	Sn	19 46 57.2	+0.7	
ZARC	**Zaragoza, Cauc**	**3.51**	**264**	P	**Pn**	19 46 15.0	0.0	
ZARC				S	Sn	19 46 58.3	+1.7	
PTGC	**Puerto Gaitan,**	**3.71**	**192**	P	**Pn**	19 46 18.6	+0.8	
PTGC				S	Sg	19 47 16.0	-3.7	
URIC	**Uribia, Colomb**	**3.88**	**350**	P	**Pn**	19 46 19.5	-0.7	
URIC				S	Sn	19 47 03.9	-1.9	
CHIC	**Chingaza**	**3.99**	**217**	P	**Pn**	19 46 23.2	+1.2	
CHIC				P	Pn	19 46 23.2	+1.2	
CHIC				S	Sn	19 47 08.8	-0.2	
JACV	**Jacura**	**4.06**	**37⇑**	*eP*	**Pn**	19 46 22.9	+0.3	
JACV				eS	Sn	19 47 08.5	-1.8	
UREC	**San Jos de Ur**	**4.16**	**269**	P	**Pn**	19 46 25.4	+1.4	
UREC				S	Sn	19 47 14.6	+1.9	
NORC	**Norcasia**	**4.18**	**237**	P	**Pn**	19 46 24.6	+0.3	
NORC				S	Sn	19 47 12.7	-0.5	
ROSC	**El Rosal**	**4.21**	**225**	Pn	**Pn**	19 46 27.9	+2.9	
	19nm,0.3s,baz=310,slow=19,SNR=18							
ROSC				Sn	Sn	19 47 16.1	+1.6	
	22nm,0.3s,baz=313,slow=23,SNR=2.5							
	46nm,0.3s							
ROSC	**El Rosal**	**4.21**	**225**	P	**Pn**	19 46 28.2	+3.2	
ROSC				S	Sn	19 47 18.6	+4.1	
BENV	**Beln**	**4.25**	**60**	*eP*	**Pn**	19 46 28.1	+2.9	
BENV				eS	Sn	19 47 14.6	-0.5	
SJCC	**San Jacinto, C**	**4.31**	**298**	P	**Pn**	19 46 27.5	+1.4	
SJCC				S	Sn	19 47 19.2	+2.8	
TURV	**Turiamo**	**4.31**	**53**	*eP*	**Pn**	19 46 27.7	+1.6	
TURV				eS	Sn	19 47 15.4	-1.1	
SMRC	**Santa Marta, M**	**4.35**	**319**	P	**Pn**	19 46 26.4	-0.2	
SMRC				S	Sn	19 47 14.4	-3.1	
VILC	**Villavicencio,**	**4.39**	**212**	P	**Pn**	19 46 28.4	+1.1	
VILC				S	Sn	19 47 17.3	-1.3	
HELC	**Santa Helena**	**4.47**	**249**	P	**Pn**	19 46 30.8	+2.2	
HELC				S	Sn	19 47 21.1	+0.1	
CACV	**CAICARA DEL OR**	**4.76**	**93⇓**	*eP*	**Pb**	19 46 41.1	-2.9	
CACV				eS	Sb	19 47 40.9	-0.6	
TACV	**Tcata**	**4.83**	**62⇓**	*eP*	**Pn**	19 46 34.6	+1.4	
TACV				eS	Sn	19 47 27.7	-1.6	
DBBC	**Dabeiba**	**4.90**	**261**	P	Pn	19 46 38.0	+3.7	
RECRC	**Villamaria, Ca**	**4.91**	**235**	P	**Pn**	19 46 36.7	+1.8	
RECRC				S	Sn	19 47 33.2	+1.1	
FUNV	**FUNVISIS**	**5.17**	**59**	*eP*	**Pn**	19 46 38.8	+0.8	
FUNV				eS	Sn	19 47 35.7	-2.2	
MERV	**Las Mercedes**	**5.18**	**74**	*eP*	**Pn**	19 46 39.2	+1.2	
MERV				eS	Sn	19 47 36.6	-1.2	
APAC	**Apartado, Choc**	**5.19**	**271**	P	**Pn**	19 46 39.9	+1.7	
	67nm,0.7s							
APAC				S	Sn	19 47 41.6	+3.4	
	67nm,0.7s							
ANIL	**Santa Ana**	**5.24**	**231**	P	**Pn**	19 46 40.8	+1.7	
ANIL				S	Sn	19 47 39.2	-0.6	
PRAC	**Prado**	**5.42**	**221**	P	**Pn**	19 46 42.2	+0.9	
	38nm,0.5s,940nm							
PRAC				S	Sn	19 47 43.9	+0.1	
	38nm,0.5s,940nm							
URMC	**La Uribe, Meta**	**5.48**	**214**	P	**Pn**	19 46 44.0	+1.7	
	40nm,0.5s,2μm							
URMC				S	Sn	19 47 43.8	-1.7	
	40nm,0.5s,2μm							
PLMC	**San Jos del P**	**5.72**	**240**	P	**Pn**	19 46 48.3	+2.8	
	48nm,0.4s,1μm							
PLMC				S	Sn	19 47 51.2	-0.1	
	48nm,0.4s,1μm							
GARC	**Garzon, Huila**	**6.98**	**217**	P	**Pn**	19 47 04.1	+1.1	
GARC				S	Sg	19 48 57.8	-6.9	
PCRV	**Puerto La Cruz**	**7.01**	**70**	*eP*	**Pn**	19 47 04.4	+1.2	
PCRV				eS	Sn	19 48 20.1	-3.0	
PCRV	**Puerto La Cruz**	**7.01**	**70**	Pn	**Pn**	19 47 04.9	+1.6	
	7.8nm,0.3s,baz=272,slow=3.7,SNR=88							
PCRV				Sn	Sn	19 48 22.8	-0.4	
	6.9nm,0.3s,baz=260,slow=22,SNR=12							
	20nm,0.4s							
POPC	**Popayan, Colom**	**7.49**	**225**	P	**Pn**	19 47 12.3	+2.3	
FLOC	**Florencia**	**7.56**	**215**	P	**Pn**	19 47 11.4	+0.6	
CRUV	**Carupano**	**8.47**	**70**	*eP*	**Pn**	19 47 24.1	+0.8	
LUEV	**Luepa**	**10.01**	**101**	*eP*	**Pn**	19 47 44.5	0.0	
NNA	**Nana**	**20.45**	**196**	P	Pn	19 49 59.7	-0.7	
	5.0nm,0.3s,baz=289,slow=11,SNR=1.9							
	5.0nm,0.3s							
LPAZ	**La Paz**	**24.19**	**172**	P	**P**	19 50 38.5	+0.6	
	1.5nm,0.6s,baz=323,slow=10,SNR=7.4							
	1.5nm,0.6s							
SIV	**San Ignacio**	**25.78**	**157**	P	**P**	19 50 52.5	+0.8	
	1.4nm,0.5s,baz=341,slow=11,SNR=7.4							
	1.4nm,0.5s							
SADO	**Sadowa**	**37.40**	**351**	P	**P**	19 52 34.1	+0.6	
	4.8nm,0.7s,baz=146,slow=3.6,SNR=4.7							
	4.8nm,0.7s							
SCHQ	**Schefferville**	**46.99**	**4**	P	**P**	19 53 54.3	+2.7	
	0.9nm,0.4s,baz=200,slow=12,SNR=3.8							
PDAR	**Pinedale Array**	**48.32**	**322**	P	**P**	19 54 02.8	+0.4	
	0.2nm,0.4s,baz=122,slow=13,SNR=1.7							
	0.2nm,0.4s							
YKA	**Yellowknife Ar**	**62.93**	**339**	P	**P**	19 55 48.0	+1.3	
	0.2nm,0.5s,baz=124,slow=6.3,SNR=2.5							
	0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**71.80**	**79**	P	**P**	19 56 45.3	+1.4	
	0.4nm,0.9s,baz=287,slow=6.8,SNR=1.7							
	0.4nm,0.9s							
ASAR	**Alice Springs**	**151.14**	**234**	PKPbc	**PKiKP**	20 05 14.2	-1.2	
	0.1nm,0.4s,baz=91,slow=3.7,SNR=1.2							
CMAR	**Chiang Mai Arr**	**152.16**	**20**	PKPbc	**PKiKP**	20 05 16.4	-1.2	
	0.3nm,0.5s,baz=313,slow=3.3,SNR=2.1							
WRA	**Warramunga Arr**	**152.38**	**242**	PKPbc	**PKPbc**	20 05 16.0	-1.8	
	0.7nm,1.0s,baz=105,slow=2.7,SNR=2.8							

*TAP **24** 19:53:09.0,24.67N×122.58E,h97km,ML2.6,D*
*JMA **24** 19:53:10.1±0.2,24.2°N±2.2°×122.1°E±0.5,h8km±1km,*
MV1.9/10,NW OFF ISHIGAKIJIMA IS
ISC 24 19:53:09.7±1.7,**24.56N**±0.05°×**122.55E**±0.04,**h93**km±9km,
n57,σ0**976**/97,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.33**	**244**	*i* P	**Pn**	**19 53 23.9**	**+0.5**
	baz=242						
EOS2				*i* S	Sn	19 53 35.0	+1.3
	baz=242						
EOS3	**EOS3**	**0.35**	**218**	*i* P	**Pn**	19 53 24.2	+0.7
	baz=222						
EOS3				eS	Sn	19 53 35.3	+1.4
	baz=222						
JYNG	**Yonagunijimaku**	**0.37**	**107**	P	**Pn**	**19 53 23.8**	**0.0**
JYNG				eS	Sn	19 53 33.7	-0.7
YOJ	**Yonaguni jima**	**0.43**	**104**	P	**Pn**	**19 53 24.2**	**0.0**
YOJ				eS	Sn	19 53 34.3	-0.7
YOJ	**Yonaguni jima**	**0.43**	**104**	P	**Pn**	19 53 24.3	+0.1
	baz=123						
YOJ				S	Sn	19 53 34.6	-0.4
	baz=123						
EOS4	**EOS4**	**0.49**	**206**	*eP*	**Pn**	**19 53 24.5**	**+0.2**
	baz=208						
EOS4				eS	Sn	19 53 36.1	+1.0
	baz=208						
TWC	**Suao**	**0.64**	**274**	*eP*	**Pn**	**19 53 25.7**	**-0.3**
	baz=262						
TWC				eS	Sn	19 53 36.9	-1.1
	baz=262						
ESAO	**Su ao**	**0.65**	**271**	*eP*	**Pn**	**19 53 25.9**	**-0.1**
	baz=260						
ESAO				eS	Sn	19 53 37.3	-0.8
	baz=260						
EWUT	**Wuta**	**0.71**	**261**	P	**Pn**	**19 53 26.8**	**+0.2**
	baz=251						
EWUT				eS	Sn	19 53 39.3	+0.1
	baz=251						
ENA	**Nanau**	**0.75**	**260**	*eP*	**Pn**	**19 53 27.0**	**+0.1**
	baz=252						
ENA				eS	Sn	19 53 40.1	+0.2
	baz=252						
SXI1	**Grass Mountain**	**0.81**	**311**	*eP*	**Pn**	**19 53 27.7**	**0.0**
	baz=297						
SXI1				*i* S	Sn	19 53 41.2	+0.1
	baz=297						
TWE	**Neicheng**	**0.82**	**281**	*eP*	**Pn**	**19 53 27.3**	**-0.4**
	baz=273						
TWE				eS	Sn	19 53 41.1	0.0
	baz=273						
FUSB	**Fushanzhiwuyua**	**0.90**	**283**	*eP*	**Pn**	**19 53 28.3**	**-0.3**
	baz=281						
FUSB				eS	Sn	19 53 42.0	-0.8
	baz=281						
ENTT	**Nioudou**	**0.90**	**275**	*eP*	**Pn**	**19 53 28.8**	**+0.3**
	baz=271						
ENTT				eS	Sn	19 53 42.9	+0.2
	baz=271						
LATG	**Datong**	**0.94**	**269**	*eP*	**Pn**	**19 53 29.2**	**+0.1**
	baz=262						
LATG				eS	Sn	19 53 43.6	+0.1
	baz=262						
ETL	**Fush Village**	**0.94**	**245**	*eP*	**Pn**	**19 53 28.6**	**-0.3**
	baz=233						
NDT	**Datong Townshi**	**0.95**	**273**	*eP*	**Pn**	**19 53 29.3**	**+0.3**
	baz=265						
NDT				eS	Sn	19 53 43.7	+0.2
	baz=265						
NACB	**Ninganchiao**	**0.96**	**246**	*eP*	**Pn**	**19 53 28.9**	**-0.3**
	baz=241						
NACB				eS	Sn	19 53 42.9	-0.7
	baz=241						
NWLT	**Wulai**	**0.98**	**283**	*eP*	**Pn**	**19 53 28.4**	**-1.0**
	baz=283						
NWLT				eS	Sn	19 53 43.8	-0.4
	baz=283						
TWD	**Chiawan**	**1.00**	**241**	*eP*	**Pn**	**19 53 29.9**	**+0.3**
	baz=232						
TWD				eS	Sn	19 53 43.4	-1.1
	baz=232						
HWA	**Hwalien**	**1.04**	**236**	*eP*	**Pn**	**19 53 30.6**	**+0.5**
	baz=232						
YM01	**YM01**	**1.06**	**303**	*eP*	**Pn**	**19 53 29.4**	**-1.0**
	baz=289						
YM01				eS	Sn	19 53 45.8	-0.1
	baz=289						
NNSB	**Datong**	**1.07**	**263**	*eP*	**Pn**	**19 53 30.5**	**-0.1**
	baz=252						
NNSB				eS	Sn	19 53 45.8	-0.5
	baz=252						
YHNB	**Yeheng**	**1.08**	**276**	*eP*	**Pn**	**19 53 30.7**	**+0.1**
	baz=263						
YHNB				eS	Sn	19 53 46.0	-0.2
	baz=263						
NNS	**Nan Shan**	**1.08**	**264**	*eP*	**Pn**	**19 53 30.7**	**0.0**
	baz=252						
NNS				eS	Sn	19 53 45.6	-0.8
	baz=252						
NSK	**Sanguang**	**1.09**	**276**	*eP*	**Pn**	**19 53 31.1**	**+0.4**
	baz=264						
NSK				eS	Sn	19 53 46.2	-0.4
	baz=264						
IRIF	**Iriomote-Funau**	**1.10**	**102**	P	**Pn**	**19 53 30.9**	**+0.2**
TEYL	**Yanliau Villag**	**1.11**	**232**	*eP*	**Pn**	**19 53 30.2**	**-0.7**
	baz=225						
ETM	**Tongmen**	**1.14**	**239**	*eP*	**Pn**	**19 53 30.5**	**-0.7**
	baz=228						
ETM				eS	Sn	19 53 46.4	-1.0
	baz=228						
LXIB	**Xiulin Townshi**	**1.17**	**243**	*eP*	**Pn**	**19 53 31.0**	**-0.7**
	baz=239						
SHUL	**Shoufeng**	**1.19**	**230**	*eP*	**Pn**	**19 53 31.1**	**-0.7**
	baz=227						
SHUL				eS	Sn	19 53 50.3	+1.9
	baz=227						
WHF	**Hehuan Shan**	**1.25**	**251**	*eP*	**Pn**	**19 53 32.8**	**-0.1**
	baz=247						
WHF				eS	Sn	19 53 49.4	-0.9
	baz=247						
ESL	**Shilin**	**1.27**	**234**	*eP*	**Pn**	**19 53 31.9**	**-0.9**
	baz=226						
ESL				eS	Sn	19 53 48.7	-1.4
	baz=226						
TDCB	**Techi**	**1.31**	**257**	*eP*	**Pn**	**19 53 34.1**	**+0.8**
	baz=246						
TDCB				*i* S	Sn	19 53 50.8	-0.5
	baz=246						
CHGB	**Renai**	**1.35**	**249**	P	**Pn**	**19 53 34.1**	**+0.1**
	baz=239						
CHGB				S	Sn	19 53 51.2	-1.1
	baz=239						
WARBT	**Fenglin Townsh**	**1.36**	**232**	P	**Pn**	**19 53 33.2**	**-0.7**
	baz=225						
JKRS	**Kuro-shima**	**1.37**	**103**	*eP*	**Pn**	**19 53 34.5**	**+0.6**
OWD	**Renai**	**1.40**	**245**	*eP*	**Pn**	**19 53 34.6**	**+0.1**
	baz=236						
OWD				S	Sn	19 53 52.0	-1.1
	baz=236						
LIOB	**Emei**	**1.40**	**274**	*eP*	**Pn**	**19 53 35.5**	**+1.1**
	baz=269						
LIOB				eS	Sn	19 53 53.4	+0.3
	baz=269						
NSTT	**Nanjuang**	**1.41**	**273**	*eP*	**Pn**	**19 53 35.0**	**+0.4**
	baz=269						
NSTT				eS	Sn	19 53 53.6	+0.3
	baz=269						
WUSB	**Renai**	**1.43**	**247**	*eP*	**Pn**	**19 53 35.2**	**+0.4**
	baz=239						
WUSB				eS	Sn	19 53 53.2	-0.6
	baz=239						
JIJ	**Ishigaki jima**	**1.46**	**97**	P	**Pn**	**19 53 35.2**	**0.0**
HGSD	**Ruisui**	**1.48**	**224**	*eP*	**Pn**	**19 53 35.6**	**+0.2**
	baz=218						
WHP	**Taichung City**	**1.49**	**259**	*eP*	**Pn**	**19 53 36.9**	**+1.3**
	baz=253						
WHP				eS	Sn	19 53 56.1	+0.9
	baz=253						
VWDT	**VWDT**	**1.52**	**238**	*eP*	**Pn**	**19 53 36.1**	**+0.2**
	baz=230						
VWDT				eS	Sn	19 53 54.2	-1.4
	baz=230						
EHY	**Hungye**	**1.54**	**227**	*eP*	**Pn**	**19 53 35.5**	**-0.7**
	baz=232						
WCS	**Beigang Elemen**	**1.58**	**252**	*eP*	**Pn**	**19 53 38.3**	**+1.7**
	baz=248						
WCS				eS	Sn	19 53 57.8	+0.8
	baz=248						
JISG	**Ishigakijimahi**	**1.60**	**89**	*eP*	**Pn**	**19 53 36.9**	**+0.1**
YULB	**Yu-li**	**1.64**	**225**	*eP*	**Pn**	**19 53 36.5**	**-0.9**
	baz=230						
YULB				eS	Sn	19 53 56.2	-2.1
	baz=230						
SSLB	**Suanglung**	**1.65**	**242**	*eP*	**Pn**	**19 53 38.6**	**+1.0**
	baz=234						
SMLT	**Sun Moon Lake**	**1.65**	**246**	*eP*	**Pn**	**19 53 39.2**	**+1.5**
	baz=237						
SMLT				eS	Sn	19 53 59.8	+0.9
	baz=237						
TWF1	**Yuli**	**1.67**	**224**	*eP*	**Pn**	**19 53 37.4**	**-0.3**
	baz=230						
WHYT	**Xinyi Township**	**1.78**	**241**	*eP*	**Pn**	**19 53 40.5**	**+1.3**
	baz=234						
WHYT				eS	Sn	19 54 03.1	+1.5
	baz=234						
FULB	**Fuli**	**1.78**	**221**	*eP*	**Pn**	**19 53 40.1**	**+0.9**
	baz=214						
EHD	**Haiduan**	**1.87**	**221**	*eP*	**Pn**	**19 53 40.5**	**+0.1**
	baz=227						
ECS	**Chishang**	**1.90**	**220**	*eP*	**Pn**	**19 53 41.0**	**+0.2**
	baz=227						
ELDTW	**Lidau**	**1.96**	**226**	*eP*	**Pn**	**19 53 41.0**	**-0.6**
	baz=225						

*FUNV **24** 19:55:52.4,7.95N×71.43W,h5km,MW3.8*
*RSNC **24** 19:55:54.8±0.0,8°N±3°×7°W±°,h88km±9km,M2.9,ML2.9*
ISC 24 19:55:50.2±1.4,**7.90N**±0.03°×**71.34W**±0.02,**h1**km±12km,
n27,σ1**944**/53,**6C-2D**,**Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOCV	**Socops**	**0.61**	**52⇓**	*eP*	**Pb**	**19 56 04.4**	**+0.7**
SOCV				eS	Sb	19 56 13.9	+1.1
CAPV	**Capacho**	**0.96**	**268⇓**	*eP*	**Pg**	**19 56 07.9**	**-0.7**
CAPV				eS	Sg	19 56 20.8	-0.4
SDV	**Santo Domingo**	**1.20**	**36**	P	**Pn**	**19 56 14.7**	**+0.4**
SDV				S	Sn	19 56 31.5	+0.2
PAMC	**Pamplona, Colo**	**1.46**	**248**	P	**Pn**	**19 56 17.5**	**-0.5**
PAMC				P	Pn	19 56 17.5	-0.5
PAMC				S	Sg	19 56 37.5	+0.4
TAMC	**Tame, Arauca**	**1.52**	**197**	P	**Pg**	**19 56 19.5**	**+0.1**
TAMC				S	Sn	19 56 37.3	-1.7
OCAC	**Ocana**	**1.99**	**280**	P	**Pb**	**19 56 27.1**	**-0.1**
OCAC				S	Sb	19 56 52.0	-0.5
BARC	**Barichara**	**2.24**	**235**	P	**Pb**	**19 56 31.5**	**-0.1**
BARC				S	Sb	19 57 00.2	+0.3
MCQV	**Machiques**	**2.44**	**331⇑**	*eP*	**Pn**	**19 56 31.1**	**0.0**
MCQV				eS	Sn	19 56 59.7	-1.8
CURV	**Curarigua**	**2.50**	**33**	*eP*	**Pn**	**19 56 33.4**	**+1.3**
CURV				eS	Sn	19 57 03.3	0.0
RUSC	**La Rusia**	**2.64**	**221**	P	**Pn**	**19 56 35.3**	**+1.0**
RUSC				S	Sb	19 57 11.5	-0.2
TEPV	**Terepaima**	**2.95**	**46**	*eP*	**Pn**	**19 56 40.3**	**+2.1**
TEPV				eS	Sn	19 57 13.7	-0.6
SIQV	**Siquisique**	**3.12**	**29**	*eP*	**Pn**	**19 56 41.6**	**+1.1**
SIQV				eS	Sn	19 57 17.1	-1.4
PTBC	**PUERTO BERRIO,**	**3.37**	**247**	P	**Pn**	**19 56 43.3**	**-0.7**
PTBC				S	Sb	19 57 32.1	-0.2
BAUV	**El Baul**	**3.42**	**72⇑**	*eP*	**Pn**	**19 56 45.7**	**+1.0**
BAUV				eS	Sn	19 57 25.5	-0.5
MAPV	**Macapo**	**3.44**	**56**	*eP*	**Pn**	**19 56 45.9**	**+1.0**
MAPV				eS	Sn	19 57 25.6	-0.7
CRJC	**Cerrejon, Guaj**	**3.45**	**334**	P	**Pn**	**19 56 46.2**	**+1.1**
CRJC				S	Sn	19 57 28.3	+1.6
PTGC	**Puerto Gaitan,**	**3.76**	**192**	P	**Pb**	**19 56 58.2**	**+0.8**
PTGC				S	Sb	19 57 46.7	+3.2
URIC	**Uribia, Colomb**	**3.83**	**350**	P	**Pn**	**19 56 49.9**	**-0.4**
URIC				S	Sn	19 57 35.0	-0.9
NORC	**Norcasia**	**4.20**	**237**	P	**Pn**	**19 56 55.4**	**-0.1**
NORC				S	Sn	19 57 44.5	-0.7
BENV	**Beln**	**4.23**	**61⇑**	*eP*	**Pn**	**19 56 58.7**	**+2.9**
BENV				eS	Sn	19 57 44.2	-1.6
ROSC	**El Rosal**	**4.24**	**224**	P	**Pn**	**19 57 00.7**	**+4.4**
SJCC	**San Jacinto, C**	**4.28**	**298**	P	**Pn**	**19 56 58.4**	**+1.9**
SJCC				S	Sn	19 57 48.4	+1.3
TURV	**Turiamo**	**4.29**	**54⇑**	*eP*	**Pn**	**19 56 58.6**	**+2.1**
TURV				eS	Sn	19 57 45.8	-1.4
CACV	**CAICARA DEL OR**	**4.77**	**94⇑**	*eP*	**Pb**	**19 57 12.1**	**-2.5**
CACV				eS	Sb	19 58 10.8	-1.8
TACV	**Tcata**	**4.81**	**62⇑**	*eP*	**Pn**	**19 57 05.1**	**+1.4**
TACV				eS	Sn	19 57 58.0	-2.1
MERV	**Las Mercedes**	**5.17**	**75**	*eP*	**Pn**	**19 57 09.5**	**+0.8**
MERV				eS	Sn	19 58 07.3	-1.6
PCRV	**Puerto La Cruz**	**7.00**	**71**	*eP*	**Pn**	**19 57 34.7**	**+0.9**

*AEIC **24** 20:02:32.0±1.5,56.1°N±0.1°×149.2°W±0.1°,h6km±8km,Error ellipse: s-maj=16.5km s-min=9.6km az=167.0*
NEIC 24 20:02:28.1±1.9,**56.14N**±0.08°×**149.28W**±0.09,**h10**km±2km,
ML3.1/30,**MLB3.0**(AEIC),**Error ellipse: s-maj=14.9km**
s-min=4.3km az=148.0,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	**Kodiak Island**	**2.45**	**314**		Pn	20 03 08.7	+0.6
KDAK					Sn	20 03 36.8	-1.2
OHAK	**Old Harbor**	**2.46**	**298**		Pn	20 03 08.5	+0.2
OHAK					Sn	20 03 36.2	-2.2
SII	**Sitkinak Islan**	**2.76**	**281**		Pn	20 03 12.2	-0.3
SII					Sn	20 03 44.3	-1.6
SII	**Sitkinak Islan**	**2.76**	**281**	IAML		20 03 56.1	
	comp=N,43nm,1.0s						
SII				IAML		20 05 01.7	
	comp=E,45nm,1.2s						
SYI	**Shuyak Island**	**3.00**	**327**		Pn	20 03 16.1	+0.5
SYI					Sn	20 03 50.9	-0.7
CNPM	**China Poot**	**3.55**	**344**		Pn	20 03 23.2	-0.1
CNPM					Sn	20 04 03.3	-2.1
Q19K	**Cape Douglas,**	**3.66**	**322**	Pn	Pn	20 03 25.9	+1.1
Q19K				IAML		20 04 25.2	
	comp=N,59nm,1.1s						
BRSE	**Bradley Lake S**	**3.70**	**348**		Pn	20 03 25.1	-0.2
BRSE					Sn	20 04 05.9	-2.9
BRLK	**Bradley Lake**	**3.73**	**347**		Pn	20 03 25.4	-0.4
SEW	**Seward**	**3.98**	**359**		Pn	20 03 28.7	-0.4
P23K	**Montague Islan**	**4.00**	**14**		Pn	20 03 29.4	0.0
P23K					Sn	20 04 11.7	-4.5
P19K	**Oil Pt**	**4.11**	**331**		Pn	20 03 30.9	0.0
P19K					Sn	20 04 17.5	-1.4
ILSW	**Iliamna Southw**	**4.37**	**334**		Pn	20 03 34.5	-0.1
KAIM	**Kayak Island**	**4.59**	**32**		Pn	20 03 37.2	-0.4
EYAK	**Cordova Ski Ar**	**4.80**	**21**		Pn	20 03 40.3	-0.1
FID	**Port Fidalgo**	**4.85**	**16**		Pn	20 03 40.8	-0.3
O18K	**Koktuh Hills**	**4.88**	**322**		Pn	20 03 41.9	+0.4
GLI	**Glacier Island**	**4.89**	**13**		Pn	20 03 41.7	0.0
GLI	**Glacier Island**	**4.89**	**13**	IAML		20 05 35.3	
	comp=N,13nm,1.3s						
GOAT	**Goat Mountain**	**5.06**	**26**		Pn	20 03 44.3	+0.3
SNH	**Sunshine Point**	**5.29**	**37**	Pn	Pn	20 03 47.6	+0.3
KNK	**Knik Glacier**	**5.31**	**4**	IAML		20 06 47.0	
	comp=E,10nm,0.8s						
KNK				IAML		20 06 52.6	
	comp=N,8.6nm,1.3s						
KHIT	**Khitrov Hills**	**5.36**	**34**		Pn	20 03 47.9	-0.3
N19K	**Bonanza Creek**	**5.42**	**332**		Pn	20 03 48.9	-0.1
WAX	**Waxell Ridge**	**5.49**	**35**		Pn	20 03 49.8	-0.1
BARK	**Barkley Ridge**	**5.58**	**37**		Pn	20 03 51.1	-0.1
KLU	**Klutina**	**5.64**	**17**	Pn	Pn	20 03 52.7	+0.6
M22K	**Willow**	**5.65**	**356**		Pn	20 03 51.1	-0.9
N18K	**Kilae Creek**	**5.73**	**325**		Pn	20 03 53.2	+0.1
ISLE	**Juniper Island**	**5.77**	**36**		Pn	20 03 53.5	-0.4
O16K	**Kokwok River B**	**5.84**	**310**		Pn	20 03 55.0	-0.4
N25K	**Chitina, Valde**	**6.00**	**22**	Pn	P

CNPM						Sn	20 05 50.1	-3.3	
CNPM	**China Poot**	**3.65**	**347**		IAML		20 05 51.4		
	comp=E,38nm,0.3s								
CNPM					IAML		20 05 52.6		
	comp=N,24nm,0.7s								
Q19K	**Cape Douglas,**	**3.66**	**325**			Pn	20 05 10.8	+0.2	
Q19K	**Cape Douglas,**	**3.66**	**325**		IAML		20 05 55.7		
	comp=N,61nm,0.7s								
Q19K					IAML		20 06 02.8		
	comp=E,114nm,0.9s								
BRSE	**Bradley Lake S**	**3.81**	**351**			Pn	20 05 11.3	-1.2	
BRSE						Sn	20 05 53.4	-4.0	
BRLK	**Bradley Lake**	**3.84**	**350**		IAML		20 05 55.2		
	comp=N,33nm,0.1s								
BRLK					IAML		20 05 56.6		
	comp=E,24nm,0.3s								
BRLK	**Bradley Lake**	**3.84**	**350**			Sn	20 05 53.5	-4.8	
BRLK	**Bradley Lake**	**3.84**	**350**	Pn		Pn	20 05 11.6	-1.4	
BRLK	**Bradley Lake**	**3.84**	**350**		IAML		20 05 55.2		
	comp=N,33nm,0.1s								
BRLK					IAML		20 05 56.6		
	comp=E,24nm,0.3s								
Q23K	**Middleton Isla**	**3.87**	**26**			Pn	20 05 12.6	-0.7	
SEW	**Seward**	**4.12**	**1**			Pn	20 05 15.6	-1.2	
P19K	**Oil Pt**	**4.15**	**334**	Pn		Pn	20 05 17.3	0.0	
P19K					IAML		20 06 06.0		
	comp=N,50nm,0.3s								
P19K					IAML		20 06 09.8		
	comp=E,42nm,0.7s								
P23K	**Montague Islan**	**4.19**	**15**			Pn	20 05 17.1	-0.6	
ILSW	**Iliamna Southw**	**4.42**	**336**	Pn		Pn	20 05 20.1	-0.9	
ILSW					IAML		20 06 11.2		
	comp=N,20nm,0.4s								
ILSW					IAML		20 06 13.6		
	comp=E,18nm,0.5s								
SLKM	**Skilak Lake**	**4.54**	**356**			Pn	20 05 21.8	-0.9	
P18K	**Big Mountain,**	**4.55**	**321**	Pn		Pn	20 05 21.8	-1.0	
KAIM	**Kayak Island**	**4.82**	**33**			Pn	20 05 26.5	+0.1	
O18K	**Koktuh Hills**	**4.89**	**325**		IAML		20 06 21.6		
	comp=N,11nm,1.0s								
O18K					IAML		20 06 28.4		
	comp=E,9.4nm,1.5s								
O18K	**Koktuh Hills**	**4.89**	**325**			Pn	20 05 26.6	-0.8	
O18K	**Koktuh Hills**	**4.89**	**325**		IAML		20 06 21.6		
	comp=N,11nm,1.0s								
O18K					IAML		20 06 28.5		
	comp=E,9.4nm,1.5s								
CHGN	**Chignik**	**4.93**	**277**	Pn		Pn	20 05 28.3	+0.4	
FID	**Port Fidalgo**	**5.05**	**18**	Pn		Pn	20 05 28.4	-1.1	
FID					IAML		20 06 24.4		
	comp=E,17nm,0.9s								
FID					IAML		20 06 29.1		
	comp=N,15nm,1.4s								
GLI	**Glacier Island**	**5.08**	**14**			Pn	20 05 29.3	-0.6	
GLI	**Glacier Island**	**5.08**	**14**		IAML		20 06 26.2		
	comp=E,18nm,1.0s								
GLI					IAML		20 06 26.3		
	comp=N,12nm,0.9s								
GLI	**Glacier Island**	**5.08**	**14**		IAML		20 06 26.2		
	comp=E,18nm,1.0s								
HMT	**Hamilton**	**5.20**	**31**	Pn		Pn	20 05 31.9	+0.3	
HMT					IAML		20 06 33.3		
	comp=N,33nm,0.6s								
N19K	**Bonanza Creek**	**5.47**	**334**	Pn		Pn	20 05 36.0	+0.6	
SUA	**Susitna One**	**5.52**	**354**	Pn		Pn	20 05 36.0	-0.1	
SNH	**Sunshine Point**	**5.53**	**38**	Pn		Pn	20 05 36.2	+0.1	
BMRM	**Bremner River**	**5.64**	**26**			Pn	20 05 37.3	-0.4	
WAX	**Waxell Ridge**	**5.72**	**36**			Pn	20 05 39.1	+0.3	
N18K	**Kilae Creek**	**5.75**	**327**	Pn		Pn	20 05 38.6	-0.6	
O16K	**Kokwok River B**	**5.79**	**312**	Pn		Pn	20 05 40.4	+0.6	
CNBA	**Chernabura Isl**	**5.80**	**262**	Pn		Pn	20 05 40.3	+0.4	
KLU	**Klutina**	**5.84**	**18**			Pn	20 05 40.4	-0.2	
MESA	**MESA**	**5.84**	**41**	Pn		Pn	20 05 41.1	+0.5	
SML	**Sawmill**	**5.87**	**6**	Pn		Pn	20 05 40.5	-0.4	
SCM	**Sheep Creek Mo**	**5.98**	**10**	Pn		Pn	20 05 43.1	+0.8	
VRDI	**Verde Repeater**	**6.16**	**29**			Pn	20 05 44.6	-0.4	
N25K	**Chitina, Valde**	**6.20**	**23**			Pn	20 05 45.7	+0.2	
GLB	**Gilahina Butte**	**6.24**	**27**	Pn		Pn	20 05 46.6	+0.6	
O15K	**Ungalikthiuk R**	**6.35**	**304**			Pn	20 05 47.9	+0.4	
M24K	**Tolsona, Glenn**	**6.38**	**15**	Pn		Pn	20 05 49.8	+1.8	
MCARA	**McCarthy VSAT**	**6.40**	**30**	Pn		Pn	20 05 48.6	+0.4	
BARN	**Barnard Glacie**	**6.57**	**36**			Pn	20 05 50.9	+0.3	
PNL	**Peninsula**	**6.58**	**52**			Pn	20 05 50.8	+0.1	
CTGM	**Chitina Glacie**	**6.61**	**38**	Pn		Pn	20 05 51.6	+0.5	
LOGN	**Logan Glacier**	**6.63**	**39**	Pn		Pn	20 05 51.7	+0.3	
M17K	**Holitna River**	**6.78**	**326**	Pn		Pn	20 05 53.3	-0.1	
N15K	**Kwethluk River**	**6.95**	**311**			Pn	20 05 56.7	+1.0	
S12K	**Black Hills**	**7.02**	**273**	Pn		Pn	20 05 57.0	+0.4	
M16K	**Timber Creek**	**7.03**	**320**	Pn		Pn	20 05 57.4	+0.8	
P29M	**Windy Craggy**	**7.31**	**55**			Pn	20 06 00.8	+0.1	
S31K	**Pelican**	**7.57**	**69**			Pn	20 06 03.5	-0.6	
L16K	**Owhat River**	**7.68**	**322**	Pn		Pn	20 06 05.2	-0.4	
L27K	**Beaver Creek,**	**8.11**	**26**	Pn		Pn	20 06 11.7	0.0	
BCAR	**Beaver Creek A**	**8.13**	**26**	Pn		Pn	20 06 11.9	0.0	
M29M	**Somme Creek**	**8.62**	**37**			Pn	20 06 19.2	+0.5	
L14K	**Kuka Creek**	**8.66**	**314**	Pn		Pn	20 06 20.3	+1.2	
J26K	**Joseph Creek**	**9.04**	**17**	Pn		Pn	20 06 24.3	-0.2	
L29M	**L29M**	**9.20**	**34**	Pn		Pn	20 06 26.6	0.0	
U33K	**Whale Pass**	**9.23**	**82**	Pn		Pn	20 06 26.3	-0.6	

*BJI **24** 20:12:28.0±0.0, 48°.38N×153°.75E, h157km, mb4.5/18, mB4.6/6*
*SKHL **24** 20:12:28.8±0.1, 48°.20N×153°.80E, h141km±9km, mb4.9/5, msha5.8/4*
*NEIC **24** 20:12:29.7±1.2, 48°.4N±0°.1×153°.4E±0°.2, h137km±7km, mb4.4/69, Error ellipse: s-maj=25.3km s-min=9.7km az=143.0*
*IDC **24** 20:12:29.8±1.8, 48°.38N×153°.45E, h142km±16km, mb3.7/22, mbtmp4.1/27, Error ellipse: s-maj=14.2km s-min=9.2km az=149.0*
*MOS **24** 20:12:29.2±0.9, 48°.45N×153°.52E, h152km, mb4.1/17, Error ellipse: s-maj=9.5km s-min=4.2km az=66.8*
*JMA **24** 20:12:32.0±0.9, 47°.9°×15°.4E±1°.0, h2km, MV3.9/12, FAR FIELD*

ISC 24 20:12:29.4±0.5, 48°.20N±0°.07×153°.61E±0°.06, h150km, n317, σ1.88/313, mb4.3/64, 6C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.97**	**32**	*e*P	**Pn**	**20 13 14.5**	**-1.8**
SKR				AMB	AMB	20 13 15.0	
	120nm,0.5s						
SKR				*e*S	**Sn**	**20 13 48.9**	**-3.8**
SKR				A	A	20 13 52.9	
	370nm,0.4s						
SKR				A	A	20 13 52.9	
	400nm,0.4s						
SKR	**Severo-Kuril's**	**2.97**	**32**	*e*PN	**Pn**	**20 13 14.5**	**-1.8**
SKR				*e*S	**Sn**	**20 13 48.9**	**-3.8**
SKR				pmax	pmax		
	comp=Z,112nm,0.5s						
SKR				smax	smax		
	comp=E,400nm,0.4s						
SKR				smax	smax		
	comp=N,373nm,0.4s						
PAU	**Pauzhetka**	**3.87**	**31**	*e*P	**Pn**	**20 13 27.1**	**-0.8**
PAU				AMB	AMB	20 13 27.7	
	comp=N,50nm,0.3s						
PAU				*e*S	**Sn**	**20 14 10.2**	**-3.1**
PAU				A	A	20 14 11.4	
	comp=N,680nm,0.3s						
PAU				A	A	20 14 11.4	
	comp=N,800nm,0.3s						
PAU	**Pauzhetka**	**3.87**	**31**	PN	**Pn**	**20 13 27.1**	**-0.8**
PAU				S	**Sn**	**20 14 10.2**	**-3.1**
KDTR	**Khodutka, Kamc**	**4.62**	**37**	*e*P	Pn	20 13 33.8	-3.9
KDTR	**Khodutka, Kamc**	**4.62**	**37**	PN	Pn	20 13 33.8	-3.9
KDTR				S	Sn	20 14 23.1	-7.8
KUR	**Kuril'sk**	**4.94**	**235**	*e*P	**Pn**	**20 13 43.6**	**+1.6**
KUR				AMB	AMB	20 14 00.7	
	comp=N,30nm,0.5s						
KUR				*e*S	**Sn**	**20 14 39.2**	**+0.7**
KUR				A	A	20 14 45.2	
	comp=N,110nm,0.4s						
KUR				A	A	20 14 45.2	
	comp=N,110nm,0.4s						
KUR	**Kuril'sk**	**4.94**	**235**	*e*PN	**Pn**	**20 13 44.1**	**+2.1**
KUR				*e*S	**Sn**	**20 14 40.3**	**+1.8**
KUR				pmax	pmax		
	comp=Z,34nm,0.5s						
KUR				smax	smax		

	comp=N,105nm,0.4s								
ASAK	**Asacha**	**5.01**	**32**	PN		**Pn**	**20 13 40.9**	**-2.0**	
ASAK				S		**Sn**	**20 14 36.8**	**-3.4**	
MTVR	**Mutnovka**	**5.19**	**33**	PN		**Pn**	**20 13 43.4**	**-2.0**	
MTVR				S		**Sn**	**20 14 39.7**	**-5.0**	
GRL	**Gorelyy**	**5.21**	**32**	PN		**Pn**	**20 13 44.2**	**-1.4**	
GRL				S		**Sn**	**20 14 41.6**	**-3.4**	
APC	**Apacha**	**5.24**	**24**	PN		**Pn**	**20 13 45.6**	**-0.3**	
RUS	**Russkaya**	**5.27**	**35**	PN		Pn	20 13 42.4	-3.9	
RUS				S		Sn	20 14 38.4	-8.0	
KRMR	**Karymshinskiy**	**5.46**	**30**	PN		**Pn**	**20 13 47.3**	**-1.4**	
PEA0B	**Petropavlovsk-**	**5.56**	**26**			**Pn**	**20 13 49.0**	**-1.0**	
PEA0B	**Petropavlovsk-**	**5.56**	**26**	PN		**Pn**	**20 13 49.1**	**-1.0**	
PETK	**Petropavlovsk-**	**5.56**	**26**	Pn		**Pn**	**20 13 48.3**	**-1.8**	
PETK	**Petropavlovsk-**	**5.56**	**26**	P		**Pn**	**20 13 48.1**	**-2.0**	
	comp=N,6.6nm,0.5s,baz=191,slow=12,SNR=19								
PETK				S		**Sn**	**20 14 50.1**	**-3.1**	
	comp=N,1.6nm,0.4s,baz=246,slow=32,SNR=1.4								
PET	**Petropavlovsk**	**5.80**	**32**	*e*S		**Sn**	**20 14 54.3**	**-4.5**	
UGLR	**Uglovaya**	**6.01**	**31**	PN		**Pn**	**20 13 54.1**	**-2.1**	
KOK	**Koryaka**	**6.01**	**30**	PN		**Pn**	**20 13 53.9**	**-2.3**	
AVH	**Avacha**	**6.02**	**31**	PN		**Pn**	**20 13 54.6**	**-1.8**	
SMAR	**Somma**	**6.04**	**31**	PN		**Pn**	**20 13 55.1**	**-1.7**	
KRER	**Koryakskii**	**6.06**	**31**	PN		**Pn**	**20 13 55.4**	**-1.6**	
KRX	**Arik**	**6.07**	**30**	PN		**Pn**	**20 13 55.4**	**-1.7**	
GNL	**Ganaly**	**6.14**	**25**	PN		**Pn**	**20 13 56.8**	**-1.2**	
SPN	**Mys Shipunski**	**6.38**	**37**	PN		Pn	20 13 57.2	-3.8	
SHO	**Shikotan**	**6.41**	**230**	*e*P		**Pn**	**20 14 00.9**	**-0.5**	
SHO				*e*S		**Sn**	**20 15 06.5**	**-7.0**	
SHO	**Shikotan**	**6.41**	**230**	*e*PN		**Pn**	**20 13 58.6**	**-2.8**	
YUK	**Yuzh-Kuril'sk**	**6.81**	**235**	*e*P		**Pn**	**20 14 06.3**	**-0.6**	
YUK				AMB		AMB	20 14 12.4		
	comp=N,70nm,0.2s								
YUK				*e*S		**Sn**	**20 15 21.7**	**-1.4**	
YUK	**Yuzh-Kuril'sk**	**6.81**	**235**	*e*PN		**Pn**	**20 14 06.2**	**-0.6**	
YUK				*e*S		**Sn**	**20 15 20.9**	**-2.2**	
YUK				pmax		pmax			
	comp=Z,68nm,0.2s								
RUSJ	**Misakicho**	**7.11**	**238**	*e*PN		**Pn**	**20 14 13.9**	**+3.1**	
RUSJ				*e*S		**Sn**	**20 15 33.7**	**+3.4**	
JRA	**Rausu**	**7.28**	**237**	*e*P		**Pn**	**20 14 12.7**	**-0.4**	
NEM2	**Nemuro 2**	**7.32**	**232**	P		**Pn**	**20 14 10.4**	**-3.2**	
NEM2				*e*S		**Sn**	**20 15 27.7**	**-7.8**	
NMR	**Nemuro--Hokkai**	**7.33**	**232**	*e*P		**Pn**	**20 14 10.5**	**-3.2**	
NMR	**Nemuro--Hokkai**	**7.33**	**232**	*e*PN		**Pn**	**20 14 10.8**	**-2.9**	
YSS	**Yuzh-Sakhalins**	**7.45**	**264**			**Pn**	**20 14 15.2**	**-0.2**	
YSS	**Yuzh-Sakhalins**	**7.45**	**264**	*e*P		**Pn**	**20 14 17.5**	**+2.2**	
YSS	**Yuzh-Sakhalins**	**7.45**	**264**	*e*PN		**Pn**	**20 14 17.5**	**+2.2**	
YSS				*e*S		**Sn**	**20 15 37.9**	**-0.6**	
YSS				pmax		pmax			
	comp=Z,20nm,0.9s								
YSS				smax		smax			
	comp=E,10.0nm,0.8s								
JNK	**Nakash**	**7.73**	**237**	*e*P		**Pn**	**20 14 20.3**	**+1.2**	
JTKR	**Abashiri--Toko**	**7.96**	**241**	*e*P		**Pn**	**20 14 22.1**	**0.0**	
JAK	**Akkeshi**	**8.13**	**233**	*e*P		**Pn**	**20 14 21.3**	**-3.1**	
JAK				*e*S		**Sn**	**20 15 46.5**	**-8.5**	
TUMR	**Tumrok**	**8.17**	**27**	PN		**Pn**	**20 14 24.1**	**-0.9**	
JAR	**Ashorobuto**	**8.45**	**238**	*e*P		**Pn**	**20 14 28.0**	**-0.7**	
KMNR	**Kamenistaya**	**8.60**	**26**	PN		**Pn**	**20 14 29.9**	**-0.8**	
JKA	**Kamikawa-asahi**	**8.66**	**246**	Pn		**Pn**	**20 14 32.4**	**+0.8**	
JKA	**Kamikawa-asahi**	**8.66**	**246**	*e*P		**Pn**	**20 14 33.1**	**+1.5**	
JOB	**Onbets**	**8.66**	**236**	P		**Pn**	**20 14 30.3**	**-1.2**	
JOB				*e*S		**Sn**	**20 16 02.1**	**-5.7**	
ASAJ	**Asahikawa**	**8.67**	**246**	P		**Pn**	**20 14 33.1**	**+1.5**	
	comp=E,9.7nm,0.6s,baz=90,slow=15,SNR=18								
JKK2	**Kamakawa 2**	**8.71**	**244**	*e*P		**Pn**	**20 14 33.1**	**+1.0**	
BZMR	**Bezymyannaya**	**8.82**	**26**	PN		**Pn**	**20 14 32.7**	**-1.0**	
JCH	**Churui**	**9.12**	**236**	P		**Pn**	**20 14 35.0**	**-2.6**	
JCH				*e*S		**Sn**	**20 16 11.0**	**-7.7**	
ERM	**Erimo**	**9.63**	**234**	Pn		**Pn**	**20 14 41.0**	**-3.5**	
ERM	**Erimo**	**9.63**	**234**	PN		**Pn**	**20 14 41.0**	**-3.5**	
JNBK	**Urakawa-nobuka**	**9.68**	**236**	*e*P		**Pn**	**20 14 41.5**	**-3.5**	
KBTR	**Krutoberegovo**	**9.80**	**32**	PN		Pn	20 14 42.5	-4.1	
MA2	**Magadan**	**11.52**	**353**	*e*P		**Pn**	**20 15 06.4**	**-2.7**	
MA2	**Magadan**	**11.52**	**353**	*ce*PN		**Pn**	**20 15 06.4**	**-2.7**	
MA2				pmax		pmax			
	comp=Z,6.0nm,2.5s								
JTM	**Tenmabayashi**	**11.62**	**235**	Pn		Pn	20 15 04.6	-6.0	
JANG	**Nango**	**11.67**	**232**	*e*P		Pn	20 15 05.6	-5.7	
JANG				*e*S		Sn	20 17 06.9	-13	
KLR	**Kul'dur**	**14.46**	**282**	P		**P**	**20 15 49.9**	**+0.4**	
	comp=Z,3.9nm,0.5s,baz=81,slow=10,SNR=20								
KLR	**Kul'dur**	**14.46**	**282**	*e*P		**Pn**	**20 15 47.6**	**+0.6**	
KLR	**Kul'dur**	**14.46**	**282**	*ce*P		**Pn**	**20 15 47.6**	**+0.6**	
KLR				pmax		pmax			
	comp=Z,10.0nm,1.3s								
SEY	**Seymchan**	**14.78**	**358**	P		**Pn**	**20 15 51.1**	**+0.3**	
	comp=Z,0.9nm,0.5s,baz=183,slow=22,SNR=2.5								
SEY	**Seymchan**	**14.78**	**358**	*e*P		**Pn**	**20 15 48.2**	**-2.6**	
SEY	**Seymchan**	**14.78**	**358**	*i* P		**Pn**	**20 15 48.2**	**-2.6**	
SEY				pmax		pmax			
	comp=Z,9.0nm,3.3s								
USA0B	**Ussuriysk Arra**	**15.48**	**263**			**P**	**20 16 00.9**	**+0.1**	
USA0B	**Ussuriysk Arra**	**15.48**	**263**	P		**P**	**20 16 00.9**	**+0.1**	
USA0B				pmax		pmax			
	comp=Z,5.0nm,0.8s								
USRK	**Ussuriysk Ar.**	**15.48**	**263**	Pn		**Pn**	**20 15 57.4**	**-2.2**	
USRK	**Ussuriysk Ar.**	**15.48**	**263**	P		**P**	**20 16 00.2**	**-0.6**	
	comp=Z,2.4nm,0.5s,baz=62,slow=10,SNR=7.6								
USRK	**Ussuriysk Ar.**	**15.48**	**263**	*e*P		**P**	**20 16 00.5**	**-0.3**	
MJA0	**Matsu Arr-Jizo**	**16.23**	**230**	*e*P		**P**	**20 16 14.9**	**+5.7**	
MJA0				pmax		pmax			
	comp=Z,1.0nm,0.6s								
MAJO	**Matsushiro**	**16.25**	**230**	*i* P		**P**	**20 16 12.7**	**+3.3**	
MJAR	**Matsushiro Arr**	**16.25**	**230**	P		**P**	**20 16 10.2**	**+0.8**	
	comp=Z,1.6nm,0.6s,baz=34,slow=9.6,SNR=4.4								
MDJ	**Mudanjiang**	**16.93**	**267**	P		**P**	**20 16 16.4**	**-0.3**	
MDJ				IAmb		IAmb	20 16 56.8		
	comp=Z,22nm,1.5s								
HEH	**HeiHe**	**17.21**	**287**	*e*P		**Pn**	**20 16 21.5**	**+1.0**	
HEH				pmax		pmax			
	comp=Z,11nm,0.6s								
HEH				pmax		pmax			
	comp=Z,89nm,4.0s								
ZEA	**Zeya**	**17.45**	**298**	*e*P		**P**	**20 16 23.0**	**+0.7**	
ZEA	**Zeya**	**17.45**	**298**	*e*P		**P**	**20 16 23.0**	**+0.7**	
BILL	**Bilibino**	**20.90**	**13**	P		**P**	**20 16 58.1**	**-1.4**	
KSRS	**Korea Array**	**21.59**	**250**	P		**P**	**20 17 07.5**	**+0.4**	
	comp=Z,1.8nm,0.5s,baz=54,slow=10,SNR=9.0								
	comp=Z,1.8nm,0.5s								
KSRS	**Korea Array**	**21.59**	**250**	*e*P		**P**	**20 17 08.4**	**+1.2**	
KSRS	**Korea Array**	**21.59**	**250**	*e*P		**P**	**20 17 08.4**	**+1.2**	
KSRS				pmax		pmax			
	comp=Z,2.0nm,0.5s								
K13K	**Kusilvak Mount**	**27.00**	**44**	P		**P**	**20 17 57.7**	**+0.8**	
	baz=259								
RDOG	**Red Dog Mine**	**29.40**	**32**	P		**P**	**20 18 19.7**	**+1.6**	
	baz=250								
L16K	**Owhat River**	**29.40**	**45**	P		**P**	**20 18 19.0**	**+0.9**	
	baz=265								
C17K	**DeLong Mountai**	**29.46**	**31**	P		**P**	**20 18 20.0**	**+1.3**	
	baz=249								
E17K	**Hotham Inlet**	**29.48**	**34**	P		**P**	**20 18 19.8**	**+1.0**	
	baz=253								
G17K	**Kiwalik Mounta**	**29.51**	**37**	P		**P**	**20 18 20.2**	**+1.1**	
	baz=257								
F17K	**Baldwin Pennin**	**29.51**	**35**	P		**P**	**20 18 18.1**	**-0.9**	
	baz=255								
M16K	**Timber Creek**	**29.59**	**47**	P		**P**	**20 18 20.5**	**+0.6**	
	baz=267								
N16K	**Nishlik Lake**	**29.65**	**48**	P		**P**	**20 18 21.7**	**+1.2**	
	baz=268								
H17K	**Granite Mounta**	**29.69**	**39**	P		**P**	**20 18 19.4**	**-1.3**	
	baz=259								
L17K	**Donlin**	**30.00**	**44**	P		**P**	**20 18 24.7**	**+1.3**	
	baz=265								
F18K	**Selawik**	**30.17**	**35**	P		**P**	**20 18 26.4**	**+1.5**	
	baz=256								
C18K	**Utukok River**	**30.20**	**31**	P		**P**	**20 18 26.1**	**+0.8**	
	baz=251								
M17K	**Holitna River**	**30.35**	**46**	P		**P**	**20 18 28.3**	**+1.7**	
	baz=267								
H11N2	**WAKE ISLAND Hy**	**30.37**	**155**	T		T	20 50 34.1		
	baz=342,slow=76,SNR=178								
H18K	**Honhosa River**	**30.38**	**38**	P		**P**	**20 18 27.6**	**+0.8**	
	baz=260								
H11N1	**WAKE ISLAND Hy**	**30.39**	**155**	T		T	20 50 34.5		
	baz=342,slow=76,SNR=182								
H11N3	**WAKE ISLAND Hy**	**30.39**	**155**	T		T	20 50 35.0		
	baz=342,slow=76,SNR=89								
G18K	**Tagagawik**	**30.41**	**37**	P		**P**	**20 18 27.6**	**+0.6**	
G18K				IAmb		IAmb	20 18 28.6		
	comp=Z,4.2nm,0.7s								

G18K	**Tagagawik**	**30.41**	**37**	P		**P**	**20 18 27.9**	**+0.9**	
	baz=258								
L18K	**Granite Mounta**	**30.75**	**44**	P		**P**	**20 18 31.8**	**+1.6**	
	baz=267								
ULN	**Ulaanbaatar**	**30.77**	**287**	*e*P		**P**	**20 18 29.8**	**-0.8**	
ULN	**Ulaanbaatar**	**30.77**	**287**	*ce*P		**P**	**20 18 29.8**	**-0.8**	
ULN				pmax		pmax			
	comp=Z,1.0nm,0.5s								
J18K	**Innoko River**	**30.85**	**42**	P		**P**	**20 18 31.9**	**+0.9**	
	baz=265								
F19K	**Shaleruckik Mo**	**30.95**	**35**	P		**P**	**20 18 32.1**	**+0.4**	
F19K	**Shaleruckik Mo**	**30.95**	**35**	P		**P**	**20 18 32.4**	**+0.7**	
	baz=258								
N18K	**Kilae Creek**	**31.08**	**47**	P		**P**	**20 18 34.9**	**+1.9**	
	baz=270								
G19K	**Purcell Mounta**	**31.08**	**37**	P		**P**	**20 18 33.3**	**+0.4**	
G19K	**Purcell Mounta**	**31.08**	**37**	P		**P**	**20 18 33.8**	**+0.9**	
	baz=260								
M18K	**Stony River**	**31.13**	**46**	P		**P**	**20 18 34.6**	**+1.2**	
	baz=269								
D19K	**Kuna River**	**31.23**	**32**	P		**P**	**20 18 35.0**	**+0.7**	
D19K					IAmb	IAmb	20 18 35.7		
	comp=Z,5.4nm,0.9s								
D19K	**Kuna River**	**31.23**	**32**	P		**P**	**20 18 35.1**	**+0.8**	
	baz=255								
H19K	**Roundabout Mou**	**31.23**	**38**	P		**P**	**20 18 35.3**	**+1.1**	
H19K					IAmb	IAmb	20 18 36.3		
	comp=Z,6.8nm,0.8s								
H19K	**Roundabout Mou**	**31.23**	**38**	P		**P**	**20 18 36.2**	**+2.0**	
	baz=261								
E19K	**Redstone River**	**31.30**	**34**	P		**P**	**20 18 35.7**	**+0.8**	
E19K					IAmb	IAmb	20 18 36.8		
	comp=Z,4.1nm,0.6s								
E19K	**Redstone River**	**31.30**	**34**	P		**P**	**20 18 35.8**	**+1.0**	
	baz=258								
J19K	**Poorman**	**31.39**	**41**	P		**P**	**20 18 36.2**	**+0.6**	
J19K	**Poorman**	**31.39**	**41**	P		**P**	**20 18 36.0**	**+0.3**	
	baz=265								
P18K	**Big Mountain,**	**31.43**	**50**	P		**P**	**20 18 40.0**	**+3.8**	
	baz=273								
H11S1	**WAKE ISLAND Hy**	**31.48**	**156**	T		T	20 51 53.8		
	baz=343,slow=76,SNR=390								
H11S3	**WAKE ISLAND Hy**	**31.49**	**156**	T		T	20 51 54.3		
	baz=343,slow=76,SNR=358								
H11S2	**WAKE ISLAND Hy**	**31.50**	**156**	T		T	20 51 53.8		
	baz=343,slow=76,SNR=230								
F20K	**Avaraart Lake**	**31.79**	**35**	P		**P**	**20 18 39.7**	**+0.6**	
	baz=260								
D20K	**Etivluk River**	**31.82**	**32**	P		**P**	**20 18 40.4**	**+1.0**	
	baz=256								
M19K	**Big River Lodg**	**31.82**	**45**	P		**P**	**20 18 41.1**	**+1.6**	
	baz=269								
E20K	**Nigu River**	**31.86**	**33**	P		**P**	**20 18 41.0**	**+1.2**	
	baz=257								
B20K	**Meade River**	**31.99**	**29**	P		**P**	**20 18 42.3**	**+1.5**	
	baz=254								
K20K	**Telida**	**32.03**	**42**	P		**P**	**20 18 41.9**	**+0.6**	
	baz=267								
J20K	**Nowinta River**	**32.05**	**41**	P		**P**	**20 18 42.2**	**+0.8**	
	baz=266								
M20K	**Styx River**	**32.42**	**45**	P		**P**	**20 18 46.6**	**+1.8**	
	baz=270								
P19K	**Oil Pt**	**32.44**	**49**	P		**P**	**20 18 49.4**	**+4.5**	
	baz=274								
G21K	**Allakaket**	**32.57**	**36**	P		**P**	**20 18 46.8**	**+0.8**	
G21K					IAmb	IAmb	20 18 48.0		
	comp=Z,5.0nm,0.7s								
G21K	**Allakaket**	**32.57**	**36**	P		**P**	**20 18 47.0**	**+1.0**	
	baz=263								
C21K	**Knifeblade Rid**	**32.57**	**31**	P		**P**	**20 18 47.0**	**+1.1**	

ILAR	**Eielson Array**	**35.21**	**40**	P		**P**		**20 19 09.0**	**+0.3**
ILAR	**Eielson Array**	**35.21**	**40**	P		**P**		**20 19 09.5**	**+0.7**
	comp=Z,1.4nm,0.6s,baz=258,slow=6.1,SNR=30								
	comp=Z,1.4nm,0.6s								
G25K	**Bearman Lake**	**35.53**	**36**	P		**P**		**20 19 13.0**	**+1.6**
	baz=270								
D25K	**Kavik River**	**35.55**	**32**	P		**P**		**20 19 11.6**	**-0.1**
D25K	**Kavik River**	**35.55**	**32**	P		**P**		**20 19 12.9**	**+1.2**
	baz=266,SNR=9.4								
H25L	**Birch Creek**	**35.64**	**37**	P		**P**		**20 19 13.9**	**+1.5**
	baz=270								
M24K	**Tolsona, Glenn**	**35.69**	**44**	P		**P**		**20 19 14.6**	**+1.6**
	baz=276								
F25K	**Christian Rive**	**35.73**	**35**	P		**P**		**20 19 14.7**	**+1.5**
	baz=269								
K24K	**Donnelly Dome**	**35.73**	**41**	P		**P**		**20 19 13.9**	**+0.6**
	baz=274								
PRP	**Porcupine Dome**	**35.77**	**39**	P		**P**		**20 19 14.9**	**+1.2**
PRP				IAmb		IAmb		20 19 15.9	
	comp=Z,6.4nm,0.7s								
PRP	**Porcupine Dome**	**35.77**	**39**	P		**P**		**20 19 15.2**	**+1.5**
	baz=272,SNR=14								
E25K	**Arctic Village**	**35.77**	**34**	P		**P**		**20 19 15.4**	**+1.8**
	baz=268								
J25K	**Salcha River,**	**35.87**	**40**	IAmb		IAmb		20 19 15.6	
	comp=Z,3.3nm,0.7s								
J25K	**Salcha River,**	**35.87**	**40**	P		**P**		**20 19 14.4**	**0.0**
	baz=273,SNR=6.3								
FYU	**Fort Yukon**	**35.88**	**37**	P		**P**		**20 19 16.1**	**+1.7**
C26K	**Camden Bay**	**36.11**	**31**	P		**P**		**20 19 19.1**	**+2.8**
	baz=266								
BMAR	**Burnt Mountain**	**36.13**	**35**	P		**P**		**20 19 18.4**	**+1.8**
F26K	**Sheenjek River**	**36.30**	**35**	P		**P**		**20 19 19.8**	**+1.7**
	baz=270								
G26K	**Porcupine Rive**	**36.45**	**36**	P		**P**		**20 19 21.3**	**+2.1**
	baz=271,SNR=5.1								
SCRK	**Sand Creek**	**36.51**	**41**	P		**P**		**20 19 20.4**	**+0.4**
SCRK	**Sand Creek**	**36.51**	**41**	P		**P**		**20 19 20.6**	**+0.7**
	baz=275								
C27K	**Jago River**	**36.51**	**32**	P		**P**		**20 19 21.3**	**+1.5**
	baz=268								
J26L	**Joseph Creek**	**36.65**	**40**	P		**P**		**20 19 21.7**	**+0.6**
J26L	**Joseph Creek**	**36.65**	**40**	P		**P**		**20 19 22.3**	**+1.1**
	baz=275								
M26K	**Nabesna, AK**	**37.13**	**44**	P		**P**		**20 19 26.7**	**+1.5**
M26K	**Nabesna, AK**	**37.13**	**44**	P		**P**		**20 19 27.3**	**+2.2**
	baz=278								
E27K	**Coleen River**	**37.26**	**34**	P		**P**		**20 19 27.2**	**+1.0**
	baz=272								
G27K	**Doyon Strip**	**37.29**	**36**	P		**P**		**20 19 27.6**	**+1.2**
	baz=274								
K27K	**Chicken**	**37.34**	**41**	IAmb		IAmb		20 19 29.1	
	comp=Z,6.3nm,0.8s								
K27K	**Chicken**	**37.34**	**41**	P		**P**		**20 19 28.1**	**+1.3**
	baz=277								
BGLC	**Bering Glacier**	**37.35**	**47**	P		**P**		**20 19 30.3**	**+3.3**
	baz=281								
H27K	**Steamboat Moun**	**37.38**	**37**	P		**P**		**20 19 29.6**	**+2.4**
	baz=274,SNR=6.9								
I27K	**Kandik River**	**37.39**	**38**	P		**P**		**20 19 29.6**	**+2.3**
	baz=275								
D27M	**Malcolm River**	**37.48**	**32**	P		**P**		**20 19 29.7**	**+1.7**
	baz=271								
L27K	**Beaver Creek,**	**37.57**	**42**	P		**P**		**20 19 30.4**	**+1.5**
L27K				IAmb		IAmb		20 19 32.3	
	comp=Z,5.5nm,0.8s								
L27K	**Beaver Creek,**	**37.57**	**42**	P		**P**		**20 19 30.8**	**+2.0**
	baz=278,SNR=10								
BCAR	**Beaver Creek A**	**37.59**	**42**	P		**P**		**20 19 30.5**	**+1.5**
M27K	**Edge Creek, AK**	**37.65**	**44**	P		**P**		**20 19 32.1**	**+2.5**
	baz=279								
EGAK	**Eagle**	**37.66**	**40**	IAmb		IAmb		20 19 30.8	
	comp=Z,6.5nm,0.8s								
EGAK	**Eagle**	**37.66**	**40**	P		**P**		**20 19 30.1**	**+0.6**
	baz=277,SNR=8.0								
F28M	**Old Crow**	**37.94**	**35**	P		**P**		**20 19 33.7**	**+1.8**
F28M				IAmb		IAmb		20 19 34.6	
	comp=Z,4.0nm,0.7s								
F28M	**Old Crow**	**37.94**	**35**	P		**P**		**20 19 34.1**	**+2.3**
	baz=274								
E28M	**Babbage River**	**38.01**	**33**	P		**P**		**20 19 34.2**	**+1.8**
	baz=273								
I28M	**Miner Creek**	**38.10**	**38**	IAmb		IAmb		20 19 35.6	
	comp=Z,5.6nm,0.8s								
I28M	**Miner Creek**	**38.10**	**38**	P		**P**		**20 19 34.9**	**+1.5**
	baz=277,SNR=8.4								
E29M	**Blow River**	**38.63**	**34**	IAmb		IAmb		20 19 40.4	
	comp=Z,5.3nm,0.9s								
E29M	**Blow River**	**38.63**	**34**	P		**P**		**20 19 39.9**	**+2.4**
	baz=275,SNR=5.3								
H29M	**Whitestone**	**38.65**	**37**	P		**P**		**20 19 39.6**	**+1.8**
H29M				IAmb		IAmb		20 19 40.5	
	comp=Z,5.9nm,0.9s								
H29M	**Whitestone**	**38.65**	**37**	P		**P**		**20 19 40.0**	**+2.2**
	baz=277								
G29M	**Pine Creek**	**38.71**	**36**	IAmb		IAmb		20 19 41.4	
	comp=Z,6.6nm,0.8s								
G29M	**Pine Creek**	**38.71**	**36**	P		**P**		**20 19 40.8**	**+2.4**
	baz=276								
I29M	**Ogilvie Camp,**	**38.79**	**38**	IAmb		IAmb		20 19 41.2	
	comp=Z,5.0nm,0.9s								
I29M	**Ogilvie Camp,**	**38.79**	**38**	P		**P**		**20 19 40.7**	**+1.8**
	baz=278,SNR=7.1								
M29M	**Somme Creek**	**39.20**	**43**	P		**P**		**20 19 44.9**	**+2.4**
	baz=282								
L29M	**L29M**	**39.23**	**42**	P		**P**		**20 19 45.3**	**+2.7**
	baz=281								
K29M	**Barlow Dome**	**39.36**	**41**	P		**P**		**20 19 45.5**	**+1.6**
	baz=281								
G30M	**tAoh Zraii Nji**	**39.41**	**36**	P		**P**		**20 19 44.9**	**+0.8**
G30M				IAmb		IAmb		20 19 46.3	
	comp=Z,4.6nm,0.9s								
G30M	**tAoh Zraii Nji**	**39.41**	**36**	P		**P**		**20 19 45.3**	**+1.2**
	baz=278								
F30M	**Barrier River**	**39.50**	**35**	P		**P**		**20 19 46.9**	**+2.1**
	baz=278								
I30M	**Mount Dempster**	**39.61**	**38**	P		**P**		**20 19 46.6**	**+0.7**
I30M				IAmb		IAmb		20 19 48.2	
	comp=Z,7.7nm,0.9s								
I30M	**Mount Dempster**	**39.61**	**38**	P		**P**		**20 19 47.5**	**+1.6**
	baz=280,SNR=12								
J30M	**Hart River**	**39.74**	**39**	P		**P**		**20 19 48.8**	**+1.8**
	baz=281								
M30M	**Minto, Yukon**	**39.93**	**43**	P		**P**		**20 19 51.1**	**+2.6**
	baz=283								
G31M	**Satah River**	**40.18**	**36**	P		**P**		**20 19 51.9**	**+1.5**
	baz=280								
INK	**Inuvik**	**40.25**	**33**	P		**P**		**20 19 52.1**	**+1.2**
INK				IAmb		IAmb		20 19 52.9	
	comp=Z,4.2nm,0.6s								
INK	**Inuvik**	**40.25**	**33**	P		**P**		**20 19 52.2**	**+1.3**
	baz=279								
INK	**Inuvik**	**40.25**	**33**	P		**P**		**20 19 52.1**	**+1.2**
INK				pmax		pmax			
	comp=Z,4.0nm,0.6s								
H31M	**Peel River**	**40.34**	**37**	P		**P**		**20 19 53.3**	**+1.5**
	baz=281								
ZALV	**Zalesovo Beam**	**42.05**	**305**	P		**P**		**20 20 04.8**	**-1.1**
	comp=Z,1.1nm,0.3s,baz=68,slow=5.5,SNR=7.0								
	comp=Z,1.1nm,0.3s								
ZALV	**Zalesovo Beam**	**42.05**	**305**	*e*P		**P**		**20 20 05.0**	**-0.8**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.3s								
MK31	**Makanchi Array**	**46.59**	**296**	*ce*P		**P**		**20 20 41.1**	**-0.9**
MKAR	**Makanchi Array**	**46.59**	**296**	P		**P**		**20 20 41.1**	**-0.9**
MKAR	**Makanchi Array**	**46.59**	**296**	P		**P**		**20 20 41.6**	**-0.4**
	comp=Z,1.7nm,0.4s,baz=72,slow=6.7,SNR=33								
	comp=Z,1.7nm,0.4s								
MAKZ	**Makanchi**	**46.77**	**297**	P		**P**		**20 20 42.6**	**-0.7**
MAKZ	**Makanchi**	**46.77**	**297**	P		**P**		**20 20 42.7**	**-0.7**
MAKZ				pmax		pmax			
	comp=Z,5.0nm,1.3s								
KURK	**Kurchatov**	**46.85**	**303**	P		**P**		**20 20 43.0**	**-1.0**
KURK	**Kurchatov**	**46.85**	**303**	*e*P		**P**		**20 20 43.7**	**-0.3**
KURK	**Kurchatov**	**46.85**	**303**	*ce*P		**P**		**20 20 43.7**	**-0.3**
KURK				pmax		pmax			
	comp=Z,7.0nm,0.6s								
KURBB	**Kurchatov Arra**	**46.95**	**303**	P		**P**		**20 20 44.5**	**-0.2**
	comp=Z,7.9nm,0.6s,baz=68,slow=8.5,SNR=58								
	comp=Z,7.9nm,0.6s								
YKA	**Yellowknife Ar**	**49.56**	**38**	P		**P**		**20 21 05.8**	**+1.2**
	comp=Z,1.7nm,0.7s,baz=300,slow=7.7,SNR=12								
	comp=Z,1.7nm,0.7s								
YKA	**Yellowknife Ar**	**49.56**	**38**	*e*P		**P**		**20 21 06.0**	**+1.5**
YKA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
BVAR	**Borovoye Array**	**50.20**	**309**	P		**P**		**20 21 09.4**	**-0.1**
	comp=Z,4.0nm,0.4s,baz=52,slow=7.8,SNR=28								
	comp=Z,4.0nm,0.4s								
BRVK	**Borovoye**	**50.24**	**309**	P		**P**		**20 21 07.6**	**-2.2**
BRVK				IAmb		IAmb		20 21 10.1	
	comp=Z,4.1nm,0.6s								
BRVK	**Borovoye**	**50.24**	**309**	P		**P**		**20 21 07.6**	**-2.2**
BRVK				pmax		pmax			
	comp=Z,4.0nm,0.6s								
SHL	**Shillong**	**52.76**	**268**	P		**P**		**20 21 29.3**	**+0.2**
SHL	**Shillong**	**52.76**	**268**	P		**P**		**20 21 29.3**	**+0.2**
SHL				pmax		pmax			
	comp=Z,5.0nm,0.6s								
CHTO	**Chiang Mai**	**52.79**	**256**	P		**P**		**20 21 30.8**	**+1.6**
CHTO	**Chiang Mai**	**52.79**	**256**	P		**P**		**20 21 30.8**	**+1.6**
CHTO				pmax		pmax			
	comp=Z,2.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**53.05**	**256**	P		**P**		**20 21 33.1**	**+2.0**
	comp=Z,0.8nm,0.7s,baz=32,slow=7.4,SNR=6.6								
	comp=Z,0.8nm,0.7s								
CMAR	**Chiang Mai Arr**	**53.05**	**256**	*e*P		**P**		**20 21 33.6**	**+2.5**
CMAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
AAK	**Ala-Archa**	**53.50**	**296**	P		**P**		**20 21 34.6**	**+0.3**
	comp=Z,1.6nm,0.5s,baz=136,slow=5.4,SNR=5.4								
	comp=Z,1.6nm,0.5s								
ARU	**Arti**	**54.17**	**317**	*e*P		**P**		**20 21 38.2**	**-0.6**
ARU	**Arti**	**54.17**	**317**	*i* P		**P**		**20 21 38.2**	**-0.6**
ARU				pmax		pmax			
	comp=Z,1.0nm,1.0s								
ARCES	**ARCESS Array B**	**56.59**	**341**	P		**P**		**20 21 55.0**	**-0.9**
	comp=Z,4.1nm,1.0s,baz=17,slow=9.5,SNR=1.7								
	comp=Z,4.1nm,1.0s								
PLID	**Pearl Lake**	**58.58**	**56**	P		**P**		**20 22 11.6**	**+1.2**
WVOR	**Wild Horse Val**	**58.73**	**60**	P		**P**		**20 22 13.1**	**+1.7**
WVOR	**Wild Horse Val**	**58.73**	**60**	P		**P**		**20 22 13.1**	**+1.7**
WVOR				pmax		pmax			
	comp=Z,2.0nm,0.9s								
BPMT	**Black Pine Rid**	**59.13**	**54**	P		**P**		**20 22 15.6**	**+1.4**
SIMJ	**Simiganj**	**59.23**	**295**	P		**P**		**20 22 14.7**	**-0.2**
SIMJ				IAmb		IAmb		20 22 16.3	
	comp=Z,4.7nm,0.8s								
FFC	**Flin Flon**	**59.41**	**41**	P		**P**		**20 22 16.9**	**+1.2**
FFC				IAmb		IAmb		20 22 17.7	
	comp=Z,2.6nm,0.8s								
FFC	**Flin Flon**	**59.41**	**41**	P		**P**		**20 22 16.9**	**+1.2**
FFC				pmax		pmax			
	comp=Z,3.0nm,0.8s								
BOZ	**Bozeman (W)**	**60.64**	**53**	P		**P**		**20 22 25.4**	**+1.0**
BOZ	**Bozeman (W)**	**60.64**	**53**	P		**P**		**20 22 25.4**	**+1.0**
BOZ				pmax		pmax			
	comp=Z,4.0nm,0.6s								
KVN	**Kaiserville**	**61.19**	**63**	P		**P**		**20 22 29.9**	**+1.6**
KVN				IAmb		IAmb		20 22 31.0	
	comp=Z,3.8nm,1.0s								
KVN	**Kaiserville**	**61.19**	**63**	P		**P**		**20 22 29.9**	**+1.6**
KVN				pmax		pmax			
	comp=Z,4.0nm,1.0s								
NVAR	**Mina Array Bea**	**61.47**	**63**	P		**P**		**20 22 32.0**	**+1.8**
	comp=Z,1.4nm,0.5s,baz=296,slow=7.6,SNR=9.4								
	comp=Z,1.4nm,0.5s								
FINES	**FINESS Array B**	**62.87**	**335**	P		**P**		**20 22 38.2**	**-0.7**
	comp=Z,1.4nm,0.4s,baz=34,slow=7.6,SNR=34								
	comp=Z,1.4nm,0.4s								
FINES	**FINESS Array B**	**62.87**	**335**	*e*P		**P**		**20 22 38.3**	**-0.5**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.4s								
PDAR	**Pinedale Array**	**63.62**	**55**	P		**P**		**20 22 45.4**	**+0.9**
PDAR	**Pinedale Array**	**63.62**	**55**	P		**P**		**20 22 45.8**	**+1.3**
	comp=Z,1.6nm,0.7s,baz=323,slow=2.2,SNR=13								
	comp=Z,1.6nm,0.7s								
SRU	**San Rafael Swe**	**65.56**	**58**	P		**P**		**20 22 58.6**	**+1.7**
SRU				IAmb		IAmb		20 22 59.9	
	comp=Z,4.8nm,0.7s								
SRU	**San Rafael Swe**	**65.56**	**58**	P		**P**		**20 22 58.7**	**+1.7**
SRU				pmax		pmax			
	comp=Z,5.0nm,0.7s								
GEYT	**Alibeck**	**66.15**	**301**	P		**P**		**20 23 00.9**	**+0.3**
GEYT				IAmb		IAmb		20 23 02.9	
	comp=Z,2.5nm,0.7s								
GEYT	**Alibeck**	**66.15**	**301**	P		**P**		**20 23 00.7**	**+0.1**
	comp=Z,1.9nm,0.6s,baz=47,slow=3.0,SNR=6.6								
	comp=Z,1.9nm,0.6s								
GEYT	**Alibeck**	**66.15**	**301**	P		**P**		**20 23 00.9**	**+0.3**
GEYT				pmax		pmax			
	comp=Z,3.0nm,0.7s								
NB2	**NORSAR Subarra**	**66.96**	**341**	P		**P**		**20 23 05.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=25,slow=6.5								
NOA	**NORSAR Array B**	**66.96**	**341**	P		**P**		**20 23 05.3**	**0.0**
	comp=Z,0.6nm,0.6s,baz=29,slow=6.7,SNR=6.8								
	comp=Z,0.6nm,0.6s								
HFS	**Hagfors**	**67.21**	**340**	P		**P**		**20 23 06.7**	**-0.1**
	comp=Z,1.4nm,0.5s,baz=46,slow=4.3,SNR=14								
	comp=Z,1.4nm,0.5s								
WRA	**Warramunga Arr**	**70.00**	**199**	P		**P**		**20 23 25.7**	**+1.1**
	comp=Z,1.0nm,0.6s,baz=18,slow=6.8,SNR=10								
	comp=Z,1.0nm,0.6s								
KBZ	**Khabaz**	**70.10**	**314**	*e*P		**P**		**20 23 25.1**	**+0.1**
KBZ	**Khabaz**	**70.10**	**314**	*i* P		**P**		**20 23 25.1**	**+0.1**
KBZ				pmax		pmax			
	comp=Z,1.0nm,0.9s								
AKASG	**Malin Array Be**	**70.53**	**326**	P		**P**		**20 23 27.0**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=31,slow=6.6,SNR=2.9								
	comp=Z,0.3nm,0.4s								
ANMO	**Albuquerque**	**70.79**	**59**	*ce*P		**P**		**20 23 30.3**	**+0.6**
ANMO				pmax		pmax			
	comp=Z,1.0nm,1.0s								
SCHQ	**Schefferville**	**71.84**	**23**	P		**P**		**20 23 36.0**	**+0.6**
	comp=Z,2.8nm,0.7s,baz=310,slow=5.6,SNR=10.0								
	comp=Z,2.8nm,0.7s								
ASAR	**Alice Springs**	**73.69**	**199**	P		**P**		**20 23 48.5**	**+1.9**
	comp=Z,0.3nm,0.5s,baz=14,slow=5.7,SNR=7.4								
	comp=Z,0.3nm,0.5s								
EKA	**Eskdalemuir Ar**	**75.01**	**347**	P		**P**		**20 23 54.0**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=21,slow=4.9,SNR=1.9								
	comp=Z,0.2nm,0.4s								
TXAR	**Lajitas Array**	**76.49**	**61**	P		**P**		**20 24 04.3**	**+1.4**
	comp=Z,2.6nm,0.5s,baz=297,slow=4.8,SNR=39								
	comp=Z,2.6nm,0.5s								
QSPA	**South Pole Qui**	**137.94**	**180**	PKP		**PKPdf**		**20 31 34.4**	**-0.4**
	comp=Z,1.8nm,1.1s,baz=144,slow=14,SNR=2.1								
H03N2	**Juan Fernandez**	**138.41**	**89**	T		T		23 05 26.6	
	baz=310,slow=77,SNR=11								
H03N1	**Juan Fernandez**	**138.42**	**89**	T		T		23 05 28.0	
	baz=310,slow=77,SNR=14								
H03N3	**Juan Fernandez**	**138.42**	**89**	T		T		23 05 27.5	
	baz=310,slow=77,SNR=10								
CPUP	**Villa Florida**	**147.44**	**59**	PKPbc		**PKPbc**		**20 31 56.2**	**+0.7**
	comp=Z,1.5nm,0.5s,baz=299,slow=4.0,SNR=3.8								
PLCA	**Paso Flores**	**147.98**	**93**	PKPbc		**PKPbc**		**20 31 57.4**	**+0.8**
	comp=Z,1.7nm,0.6s,baz=273,slow=2.9,SNR=6.8								

*IDC **24** 20:13:38.2±4.7,35.96N×68.57E,h0km,mb3.7/1, mbtmp3.4/6,ML3.1/5, Error ellipse: s-maj=72.7km s-min=24.8km az=158.0*

*NNC **24** 20:13:40.9±3.7,35.81N×68.27E,h65km±132km,mb3.4, mpv3.5, Error ellipse: s-maj=39.1km s-min=25.2km az=146.0*

ISC 24 20:13:42.0±2.1,35.9N±0.2×68.50E±0.0,h30km,n11, σ2s39/18,4C-6D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KK31	**Karatay Array**	**7.35**	**12**	⇓P	**Pn**	**20 15 28.2**	**+0.9**
	0.5nm,0.2s,baz=200,slow=15,SNR=17						
KK31				⇓S	**Sn**	**20 16 51.0**	**+1.4**
	1.1nm,0.3s,baz=191,slow=14,SNR=5.8						
AAK	**Ala-Archa**	**8.17**	**33**	⇓P	**Pn**	**20 15 39.1**	**+0.5**
	1.3nm,0.5s						
AAK				⇓S	**Sn**	**20 17 15.8**	**+5.9**
	3.6nm,0.7s						
AAK	**Ala-Archa**	**8.17**	**33**	Pn	**Pn**	**20 15 38.1**	**-0.5**
	0.7nm,0.3s,baz=219,slow=8.6,SNR=11						
AAK				Sn	**Sn**	**20 17 10.8**	**+0.8**
	0.2nm,0.3s,baz=167,slow=22,SNR=1.6						
	2.6nm,0.5s						
GEYT	**Alibeck**	**8.56**	**287**	Pn	**Pn**	**20 15 44.3**	**+0.4**
	0.5nm,0.3s,baz=131,slow=9.2,SNR=7.4						
GEYT				Sn	**Sn**	**20 17 22.5**	**+3.1**
	0.3nm,0.3s,baz=99,slow=28,SNR=2.0						
	0.9nm,0.4s						
CHMS	**Chumysh**	**8.57**	**32**	⇑P	**Pn**	**20 15 44.3**	**+0.2**
	1.4nm,0.5s						
CHMS				⇓S	**Sn**	**20 17 22.1**	**+2.4**
	2.7nm,0.7s						
TKM2	**Tokmak 2**	**8.89**	**36**	⇑P	**Pn**	**20 15 48.4**	**-0.2**
	0.8nm,0.5s						
TKM2				⇑S	**Sn**	**20 17 28.3**	**+0.4**
	0.6nm,0.5s						
AB31	**Akbulak array**	**14.74**	**337**	⇑P	**Pn**	**20 17 06.8**	**-1.4**
	0.2nm,0.3s,baz=159,slow=12,SNR=18						
AB31				⇓S	**Sn**	**20 19 47.3**	**-3.1**
	0.7nm,0.6s,baz=154,slow=23,SNR=5.2						
MKAR	**Makanchi Array**	**14.99**	**39**	Pn	**Pn**	**20 17 09.9**	**-1.7**
	baz=222,slow=12,SNR=2.6						
	0.3nm,0.7s						
KURBB	**Kurchatov Arra**	**16.39**	**23**	Pn	**Pn**	**20 17 26.1**	**-3.6**
	baz=213,slow=10.0,SNR=1.7						
	0.2nm,0.6s						
BVAR	**Borovoye Array**	**17.16**	**4**	P	**Pn**	**20 17 38.1**	**-1.4**
	baz=167,slow=11,SNR=3.0						
	0.8nm,0.5s						
ZALV	**Zalesovo Beam**	**21.33**	**27**	P	**P**	**20 18 25.1**	**-1.2**
	1.1nm,0.3s,baz=217,slow=9.9,SNR=6.8						
	1.1nm,0.3s						

*IDC **24** 20:40:29.5±0.9,55.61S×26.76W,h0km,mb4.2/6, mbtmp4.1/7,ML3.4/1,MS3.4/3,Error ellipse: s-maj=36.6km s-min=19.7km az=66.0*

*NEIC **24** 20:40:37.0±1.4,55.8S±0.1×27.2W±0.2,h36km±8km, mb4.4/18,Error ellipse: s-maj=19.4km s-min=16.9km az=84.0*

ISC 24 20:40:33.9±0.7,55.7S±0.1×26.8W±0.2,h25km,n39, σ0.73/32,mb4.4/10,MS3.5/3,4C,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.75**	**280**	Pn	**Pn**	**20 41 56.8**	**-0.8**
VNA3	**Neumayer Olymp**	**17.29**	**161**	⇑P	**Pn**	**20 44 33.5**	**+0.3**
	comp=Z,2.8nm,0.9s						
VNA2	**Neumayer--Watz**	**17.47**	**159**	⇑P	**P**	**20 44 36.2**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=321,slow=13						
SNAA	**Sanae**	**19.01**	**157**	⇑P	**P**	**20 44 53.8**	**+0.3**
	comp=Z,12nm,0.4s						
SNAA	**Sanae**	**19.01**	**157**	P	**P**	**20 44 53.4**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=2.3						
	comp=Z,0.8nm,0.5s						
TROLL	**Troll, Antarti**	**20.50**	**154**	⇑P	**P**	**20 45 09.0**	**-0.8**
	comp=Z,33nm,0.5s						
QSPA	**South Pole Qui**	**34.59**	**180**	P	**P**	**20 47 20.7**	**+0.3**
QSPA				IAmb	IAmb	20 47 33.2	
	comp=Z,3.3nm,0.8s						
QSPA	**South Pole Qui**	**34.59**	**180**	P	**P**	**20 47 20.0**	**-0.5**
	comp=Z,2.4nm,0.7s,baz=205,slow=5.2,SNR=5.2						
	comp=Z,2.4nm,0.7s						
CPUP	**Villa Florida**	**36.73**	**310**	P	**P**	**20 47 38.6**	**-0.3**
CPUP				IAmb	IAmb	20 48 04.3	
	comp=Z,6.7nm,1.4s						
CPUP	**Villa Florida**	**36.73**	**310**	P	**P**	**20 47 38.5**	**-0.4**
	comp=Z,1.7nm,0.7s,baz=118,slow=5.4,SNR=3.2						
CPUP				LR	LR	21 02 59.4	
	comp=Z,30nm,19.7s,baz=167,slow=37						
	comp=Z,1.7nm,0.7s						
CO01	**Juntas del Tor**	**39.87**	**292**	P	**P**	**20 48 05.6**	**0.0**
SUR	**Sutherland**	**40.32**	**75**	LR	LR	21 01 52.7	
	comp=Z,66nm,18.7s,baz=177,slow=32						
AC01	**Pan de Azucar**	**43.22**	**295**	P	**P**	**20 48 32.5**	**-0.3**
AC01				IAmb	IAmb	20 48 58.3	
	comp=Z,11nm,1.1s						
GO02	**Mina Guanaco**	**43.51**	**297**	P	**P**	**20 48 35.8**	**+0.2**
GO02				IAmb	IAmb	20 48 36.9	
	comp=Z,8.1nm,0.8s						
LVC	**Limon Verde**	**45.30**	**299**	P	**P**	**20 48 50.3**	**+0.4**
LVC				IAmb	IAmb	20 48 52.5	
	comp=Z,4.2nm,0.6s						
LVC	**Limon Verde**	**45.30**	**299**	P	**P**	**20 48 48.8**	**-1.2**
	comp=Z,4.3nm,0.5s,baz=74,slow=16,SNR=5.7						
	comp=Z,4.3nm,0.5s						
BOSA	**Boshof**	**45.66**	**76**	LR	LR	21 04 27.0	
	comp=Z,75nm,18.5s,baz=192,slow=32						
SBA	**Scott Base**	**46.48**	**184**	P	**P**	**20 48 59.6**	**+1.4**
PB01	**IPOC Station P**	**46.91**	**300**	P	**P**	**20 49 02.9**	**+0.6**
VNDA	**Vanda**	**46.97**	**183**	P	**P**	**20 49 01.9**	**-0.1**
VNDA				IAmb	IAmb	20 49 04.3	
	comp=Z,2.7nm,0.8s						
VNDA	**Vanda**	**46.97**	**183**	P	**P**	**20 49 02.0**	**-0.1**
	comp=Z,3.6nm,0.8s,baz=181,slow=7.1,SNR=25						
	comp=Z,3.6nm

WB2	**Warramunga Arr**	**31.95**	**253**	P	**P**	**20 52 27.1**	**-0.7**
WB2				IAmb	IAmb	20 52 53.2	
	comp=Z,6.7nm,1.2s						
WRA	**Warramunga Arr**	**31.96**	**253**	P	**P**	**20 52 27.1**	**-0.9**
	comp=Z,1.3nm,0.5s,baz=86,slow=9.2,SNR=23						
	comp=Z,1.3nm,0.5s						
AS31	**Alice Springs**	**33.00**	**247**	P	**P**	**20 52 36.0**	**-1.0**
ASAR	**Alice Springs**	**33.00**	**247**	P	**P**	**20 52 35.8**	**-1.2**
ASAR	**Alice Springs**	**33.00**	**247**	P	**P**	**20 52 36.1**	**-0.9**
	comp=Z,7.7nm,0.5s,baz=76,slow=9.1,SNR=58						
	comp=Z,2.7nm,0.5s						
BBOO	**Buckleboo**	**34.35**	**230**	P	**P**	**20 52 47.5**	**-0.9**
BBOO				IAmb	IAmb	20 53 28.8	
	comp=Z,30nm,1.5s						
MTN	**Manton Dam**	**34.90**	**266**	P	**P**	**20 52 52.2**	**-1.2**
MTN				IAmb	IAmb	20 53 09.9	
	comp=Z,35nm,1.5s						
FORT	**Forrest**	**39.88**	**237**	P	**P**	**20 53 33.7**	**-1.3**
FORT				IAmb	IAmb	20 53 54.8	
	comp=Z,27nm,0.9s						
FITZ	**Fitzroy Crossi**	**40.05**	**257**	P	**P**	**20 53 35.4**	**-1.2**
PSA00	**Pilbara Seismi**	**45.61**	**253**	P	**P**	**20 54 21.4**	**+0.2**
PSA00				IAmb	IAmb	20 54 34.2	
	comp=Z,21nm,1.4s						
MBWA	**Marble Bar**	**45.70**	**253**	P	**P**	**20 54 21.7**	**-0.2**
MBWA				IAmb	IAmb	20 54 53.7	
	comp=Z,16nm,1.3s						
NWAO	**Narrogin (SRO)**	**49.33**	**238**	P	**P**	**20 54 49.0**	**-0.7**
PETK	**Petropavlovsk-**	**66.46**	**354**	P	**P**	**20 56 48.8**	**+0.6**
	comp=Z,1.4nm,0.8s,baz=145,slow=5.3,SNR=2.7						
	comp=Z,1.4nm,0.8s						
QSPA	**South Pole Qui**	**76.88**	**180**	P	**P**	**20 57 49.5**	**-0.9**
	comp=Z,2.1nm,1.0s,baz=287,slow=1.4,SNR=8.6						
	comp=Z,2.1nm,1.0s						
MLY	**Manley**	**84.18**	**17**	P	**P**	**20 58 28.3**	**-0.7**
CCB	**Clear Creek Bu**	**84.75**	**18**	P	**P**	**20 58 30.5**	**-1.2**
CCB				IAmb	IAmb	20 58 31.9	
	comp=Z,2.0nm,0.5s						
HDA	**Harding Lake**	**84.84**	**18**	P	**P**	**20 58 31.1**	**-1.0**
IL31		**85.11**	**18**	P	**P**	**20 58 32.0**	**-1.5**
ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**20 58 32.5**	**-1.1**
ILAR	**Eielson Array**	**85.11**	**18**	P	**P**	**20 58 32.2**	**-1.4**
	comp=Z,1.2nm,0.6s,baz=238,slow=5.2,SNR=14						
	comp=Z,1.2nm,0.6s						
IL03	**Eielson Array**	**85.12**	**18**	P	**P**	**20 58 32.5**	**-1.1**
J25K	**Salcha River,**	**85.47**	**19**	P	**P**	**20 58 35.0**	**-0.4**
SCRK	**Sand Creek**	**85.47**	**20**	P	**P**	**20 58 34.8**	**-0.7**
NVAR	**Mina Array Bea**	**86.46**	**49**	P	**P**	**20 58 44.0**	**+2.9**
	comp=Z,0.2nm,0.4s,baz=224,slow=6.3,SNR=1.9						
	comp=Z,0.2nm,0.4s						
D22K	**Ayikyak River**	**86.64**	**14**	P	**P**	**20 58 41.7**	**+0.7**
D22K				IAmb	IAmb	20 59 25.5	
	comp=Z,6.2nm,1.4s						
B21K	**Ikpikpuk River**	**86.80**	**13**	P	**P**	**20 58 41.9**	**+0.2**
B21K				IAmb	IAmb	20 58 43.1	
	comp=Z,4.1nm,1.0s						
D05A	**Enumclaw**	**87.09**	**40**	P	**P**	**20 58 42.4**	**-1.2**
TOLK	**Toolik Lake Re**	**87.20**	**15**	P	**P**	**20 58 44.1**	**+0.4**
TOLK				IAmb	IAmb	20 59 06.4	
	comp=Z,4.1nm,1.2s						
BMAR	**Burnt Mountain**	**87.65**	**17**	P	**P**	**20 58 44.5**	**-1.3**

*NOU **24** 20:53:07.2, 14°.84S×166°.85E, h0km, mb4.1/6, Vanuatu Islands*
*IDC **24** 20:53:08.4±5.1, 14°.87S×167°.31E, h100km±42km, mb3.9/8, mbtmp4.2/9, Error ellipse: s-maj=30.5km s-min=26.5km az=47.0*
*NEIC **24** 20:53:12.7±2.7, 15°.2S±0°.1×167°.3E±0°.2, h123km±9km, mb4.5/7, Error ellipse: s-maj=22.6km s-min=15.8km az=95.0*
ISC 24 20:53:11.6±0.7,**15°.05S**±0°.08×**167°.3E**±0°.1,**h129**km,**n37,** σ1§**39**/39,**mb4.3**/11,**Vanuatu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.80**	**162**	P	**Pn**	**20 53 58.4**	**+2.8**
LIFNC	**LIFOU**	**5.69**	**180**	Pn	**Pn**	**20 54 31.8**	**-2.2**
LIFNC				Sn	**Sn**	**20 55 34.2**	**-4.1**
KOUNC	**Koumac, New Ca**	**6.16**	**207**	P	**Pn**	**20 54 39.8**	**-0.4**
KOUNC	**Koumac, New Ca**	**6.16**	**207**	Pn	**Pn**	**20 54 41.0**	**+0.8**
KOUNC				Sn	**Sn**	**20 55 50.0**	**+0.6**
YATNC	**Mamie plateau,**	**6.98**	**183**	P	**Pn**	**20 54 52.4**	**+1.1**
DZM	**Mont Dzumac**	**7.02**	**186**	P	**Pn**	**20 54 53.7**	**+1.7**
DZM	**Mont Dzumac**	**7.02**	**186**	Pn	**Pn**	**20 54 53.2**	**+1.2**
DZM				Sn	**Sn**	**20 56 08.7**	**-1.8**
DZM	**Mont Dzumac**	**7.02**	**186**	P	**Pn**	**20 54 52.8**	**+0.8**
	3.7nm,0.3s,baz=306,slow=16,SNR=2.0						
DZM				S	**Sn**	**20 56 10.0**	**-0.5**
	5.5nm,0.6s,baz=350,slow=5.6,SNR=1.8						
ONTNC	**Ouen Toro**	**7.25**	**186**	Pn	**Pn**	**20 54 54.5**	**-0.6**
OUENC	**Ouen Island, N**	**7.34**	**183**	P	**Pn**	**20 54 58.8**	**+2.7**
OUENC	**Ouen Island, N**	**7.34**	**183**	Pn	**Pn**	**20 54 57.3**	**+1.2**
PINNC	**Pines Island,**	**7.52**	**179**	Pn	**Pn**	**20 54 58.8**	**+0.1**
BKZ	**Black Stump Fm**	**25.36**	**163**	P	**P**	**20 58 26.2**	**-0.5**
BKZ				IAmb	IAmb	20 58 44.8	
	comp=Z,40nm,1.5s						
STKA	**Stephens Creek**	**28.78**	**230**	P	**P**	**20 58 59.8**	**+2.4**
	comp=Z,5.2nm,0.4s,baz=44,slow=8.9,SNR=34						
	comp=Z,5.2nm,0.4s						
WB0	**Warramunga Arr**	**31.68**	**257**	P	**P**	**20 59 22.8**	**-0.3**
WB0				IAmb	IAmb	20 59 39.9	
	comp=Z,10.0nm,1.4s						
WB2	**Warramunga Arr**	**31.73**	**256**	P	**P**	**20 59 23.4**	**-0.1**
WB2				IAmb	IAmb	21 00 02.1	
	comp=Z,14nm,1.5s						
WRA	**Warramunga Arr**	**31.74**	**256**	P	**P**	**20 59 22.7**	**-1.0**
	comp=Z,0.8nm,0.7s,baz=86,slow=9.3,SNR=9.5						
WRA				PcP	**PcP**	**21 02 12.4**	**+0.2**
	comp=Z,0.2nm,0.5s,baz=90,slow=3.4,SNR=1.5						
	comp=Z,0.8nm,0.7s						
AS31	**Alice Springs**	**32.55**	**250**	P	**P**	**20 59 28.9**	**-1.8**
ASAR	**Alice Springs**	**32.55**	**250**	P	**P**	**20 59 31.0**	**+0.3**
ASAR	**Alice Springs**	**32.55**	**250**	P	**P**	**20 59 30.7**	**0.0**
	comp=Z,1.5nm,0.6s,baz=77,slow=9.2,SNR=20						
	comp=Z,1.5nm,0.6s						
BBOO	**Buckleboo**	**33.37**	**232**	P	**P**	**20 59 38.5**	**+0.8**
BBOO				IAmb	IAmb	20 59 44.9	
	comp=Z,44nm,1.4s						
FORT	**Forrest**	**39.12**	**240**	P	**P**	**21 00 28.2**	**+1.5**
QSPA	**South Pole Qui**	**74.97**	**180**	P	**P**	**21 04 39.9**	**+1.3**
QSPA				IAmb	IAmb	21 04 44.9	
	comp=Z,2.2nm,1.0s						
QSPA	**South Pole Qui**	**74.97**	**180**	P	**P**	**21 04 40.1**	**+1.5**
	comp=Z,3.2nm,0.8s,baz=296,slow=0.7,SNR=16						
	comp=Z,3.2nm,0.8s						
ILAR	**Eielson Array**	**86.84**	**18**	P	**P**	**21 05 40.0**	**-1.2**
	comp=Z,0.3nm,0.6s,baz=238,slow=5.2,SNR=3.5						
	comp=Z,0.3nm,0.6s						
SNAA	**Sanae**	**93.22**	**183**	P	**P**	**21 06 11.0**	**-0.2**
	comp=Z,1.1nm,0.7s,baz=237,slow=5.3,SNR=8.1						
	comp=Z,1.1nm,0.7s						
MKAR	**Makanchi Array**	**97.43**	**316**	P	Pdif	21 06 31.1	+0.3
	comp=Z,0.4nm,0.7s,baz=79,slow=5.1,SNR=5.0						
	comp=Z,0.4nm,0.7s						
ZALV	**Zalesovo Beam**	**97.65**	**324**	P	**P**	**21 06 30.8**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=98,slow=7.9,SNR=1.9						
	comp=Z,0.3nm,0.3s						
ARCES	**ARCESS Array B**	**120.56**	**345**	PKP	**PKPdf**	**21 11 47.2**	**-0.2**
	comp=Z,2.9nm,0.9s,baz=74,slow=1.5,SNR=8.6						
FINES	**FINESS Array B**	**126.02**	**338**	PKP	**PKPdf**	**21 11 57.4**	**-0.7**
	comp=Z,0.7nm,0.8s,baz=70,slow=2.2,SNR=3.7						
FUORN	**Ofenpass-Fuorn**	**143.13**	**333**	PKPdf	**PKPdf**	**21 12 29.8**	**-1.0**
DAVOX	**Davos/Dischmat**	**143.16**	**334**	PKP	PKPbc	21 12 28.4	+0.4
	comp=Z,1.9nm,0.6s,baz=82,slow=14,SNR=5.3						
NRCA	**Norcia**	**144.53**	**326**	PKPdf	**PKPdf**	**21 12 32.4**	**-0.7**
SENIN	**Lac Senin/Sane**	**144.56**	**336**		**PKPdf**	**21 12 32.9**	**-0.3**
INTR	**Introdacqua**	**144.65**	**325**		PKPbc	21 12 32.4	0.0
TIP	**Timpagrande**	**144.68**	**319**		**PKPdf**	**21 12 33.5**	**0.0**
TORD	**Torodi Ar. Bea**	**165.87**	**264**	PKP	**PKPdf**	**21 13 02.5**	**+0.4**
	comp=Z,0.7nm,1.1s,baz=123,slow=4.1,SNR=2.0						

*IDC **24** 21:06:12.0±1.6, 43°.20N×133°.72E, h456km±18km, mb2.7/3, mbtmp3.7/6, Error ellipse: s-maj=34.2km s-min=29.0km az=157.0*
*JMA **24** 21:06:13.3±0.6, 43°.N±2°.×13°.4E±°, h496km, MV3.4/37, NEAR VLADIVOSTOK*
ISC 24 21:06:11.0±0.9,**43°.11N**±0°.10×**133°.97E**±0°.08,**h450**km,**n17,** σ1§**76**/21,**mb3.1**/3,**Primorye**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
USRK	**Ussuriysk Ar.**	**1.80**	**308**	P	**P**	**21 07 10.8**	**+0.5**
	1.5nm,0.3s,baz=109,slow=2.8,SNR=16						
JOT	**Ohata**	**5.53**	**106**	*e*P	**P**	**21 07 43.1**	**+2.5**
JAHD	**Aomorihigashid**	**5.78**	**106**	*e*P	**P**	**21 07 43.8**	**+0.8**
JANG	**Nango**	**6.27**	**113**	*e*P	**P**	**21 07 50.9**	**+2.8**
KLR	**Kul'dur**	**6.31**	**347**	P	**P**	**21 07 48.5**	**+0.3**
	6.6nm,0.4s,baz=174,slow=9.9,SNR=30						
ASAJ	**Asahikawa**	**6.34**	**78**	P	**P**	**21 07 51.5**	**+2.8**
	6.2nm,0.4s,baz=251,slow=8.4,SNR=16						
JKEN	**Kujiedanarisaw**	**6.49**	**114**	P		**21 07 52.2**	**+2.0**
JKEN				*e*S	**S**	**21 09 10.7**	**-0.7**
JTH	**Tanohata**	**6.72**	**115**	*e*S	**S**	**21 09 13.8**	**-2.3**
JMK	**Ichinoseki**	**6.88**	**125**	*e*P	**P**	**21 07 55.6**	**+1.2**
MIYJ	**Miyakonagasawa**	**6.88**	**118**	*e*P	**P**	**21 07 55.5**	**+1.0**
MIYJ				*e*S	**S**	**21 09 17.1**	**-2.1**
JCH	**Churui**	**6.92**	**91**	P	**P**	**21 07 55.5**	**+0.6**
JCH				*e*S	**S**	**21 09 18.3**	**-1.5**
KSRS	**Korea Array**	**7.30**	**221**	P	**P**	**21 08 00.0**	**+1.1**
	1.3nm,0.5s,baz=44,slow=9.7,SNR=4.3						
JMM	**Marumori**	**7.38**	**133**	*e*P	**P**	**21 08 01.5**	**+1.7**
JMM				*e*S	**S**	**21 09 27.2**	**-1.7**
NEM2	**Nemuro 2**	**8.60**	**84**	*e*P	**P**	**21 08 14.2**	**+1.5**
ZALV	**Zalesovo Beam**	**33.65**	**306**	P	**P**	**21 12 10.9**	**-1.5**
	0.4nm,0.5s,baz=86,slow=8.9,SNR=2.1						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**36.22**	**294**	P	**P**	**21 12 33.0**	**-1.1**
	0.4nm,0.6s,baz=90,slow=8.8,SNR=3.3						
	0.4nm,0.6s						
KURBB	**Kurchatov Arra**	**37.85**	**301**	P	**P**	**21 12 46.4**	**-1.1**
	0.9nm,0.5s,baz=80,slow=8.5,SNR=5.3						
	0.9nm,0.5s						

*IDC **24** 21:08:30.8±2.1, 2°.68N×125°.36E, h0km, mb3.2/3, mbtmp3.2/3, MS3.0/1, Error ellipse: s-maj=183.8km s-min=28.2km az=65.0*
*DJA **24** 21:08:38.3±0.7, 3°.N±7°.×12°.6E±°, h55km±21km, M3.6/9, mb3.7/2, mB4.5/1, MLv3.6/9, Mw(mB)3.7/1*
ISC 24 21:08:37.0±1.2,**3°.04N**±0°.10×**126°.1E**±0°.1,**h35**km,**n9,** σ2§**48**/9,**mb3.3**/3,**Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**0.89**	**316**	P	**Pn**	**21 08 54.7**	**+1.7**
SGSI				S	**Sn**	**21 09 07.0**	**+2.3**
TNTI	**Ternate**	**2.56**	**151**	P	**Pn**	**21 09 18.9**	**+2.8**
LBMI	**Labuha**	**3.90**	**160**	P	**Pn**	**21 09 36.8**	**+2.4**
GTOI	**Gorontalo**	**3.94**	**233**	P	**Pn**	**21 09 36.7**	**+1.8**
SANI	**Sanana**	**5.05**	**182**	P	**Pn**	**21 09 50.7**	**+0.3**
KAPI	**Kappang**	**10.23**	**219**	LR	LR	21 14 44.2	
	comp=Z,80nm,18.4s,baz=126,slow=39						
WRA	**Warramunga Arr**	**24.21**	**161**	P	**P**	**21 13 48.6**	**-2.0**
	0.5nm,0.5s,baz=338,slow=11,SNR=14						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**27.60**	**164**	P	**P**	**21 14 19.7**	**-1.5**
	0.2nm,0.6s,baz=342,slow=10,SNR=5.4						
	0.2nm,0.6s						
MKAR	**Makanchi Array**	**57.79**	**326**	P	**P**	**21 18 22.5**	**-2.4**
	0.1nm,0.3s,baz=125,slow=6.1,SNR=1.5						
	0.1nm,0.3s						

IDC 24 21:18:15.0±1.7,**19°.91S**×**176°.91W**,**h0**km,**mb3.6**/4, **mbtmp3.6**/4,**Error ellipse: s-maj=46.2km s-min=41.9km az=170.0**,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**45.65**	**256**	P	P	21 26 37.9	+0.1
	0.5nm,0.6s,baz=92,slow=7.6,SNR=6.5						
	0.5nm,0.6s						
WRA	**Warramunga Arr**	**45.70**	**261**	P	P	21 26 37.9	-0.2
	0.1nm,0.3s,baz=96,slow=7.6,SNR=8.7						
	0.1nm,0.3s						
QSPA	**South Pole Qui**	**70.16**	**180**	P	P	21 29 29.3	-0.1
	1.2nm,0.9s,baz=133,slow=18,SNR=5.6						
	1.2nm,0.9s						
ILAR	**Eielson Array**	**87.52**	**12**	P	P	21 31 04.4	+0.1
	0.2nm,0.4s,baz=205,slow=6.0,SNR=2.2						
	0.2nm,0.4s						

*GUC **24** 21:24:33.6±0.6, 21°.35S×67°.36W, h193km±12km, ML2.7*
*SCB **24** 21:24:36.1±0.8, 21°.29S×67°.61W, h169km±22km, ML2.8/2, MW3.7, Error ellipse: s-maj=5.0km s-min=3.2km az=1.0*
ISC 24 21:24:35.1±3.3,**21°.32S**±0°.06×**67°.58W**±0°.08, **h191**km±32km,**n15,** σ0§**76**/23,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB09	**IPOC Station P**	**1.61**	**253**	Pg	**Pn**	**21 25 08.7**	**-0.6**
LVC	**Limon Verde**	**1.78**	**224**	*e*P	**Pn**	**21 25 10.7**	**-0.4**
LVC				*e*S	**Sn**	**21 25 39.0**	**0.0**
LVC				IAML		21 25 41.0	
	26nm,0.3s						
PB01	**IPOC Station P**	**1.80**	**279**	*e*P	**Pn**	**21 25 11.4**	**+0.5**
PB01				IAML		21 25 42.5	
	comp=E,19nm,0.2s						
PB01	**IPOC Station P**	**1.80**	**279**	Pg	**Pn**	**21 25 10.5**	**-0.5**
MOCB	**Mochara**	**1.81**	**88**	Pg	**Pn**	**21 25 11.7**	**+0.2**
PB08	**IPOC Station P**	**1.88**	**308**	*e*P	**Pn**	**21 25 12.7**	**+0.5**
PB08				IAML		21 25 45.8	
	comp=N,10.0nm,0.2s						
PB08	**IPOC Station P**	**1.88**	**308**	Pg	**Pn**	**21 25 12.5**	**+0.3**
GO01	**Chusmiza**	**2.23**	**317**	Pg	**Pn**	**21 25 15.6**	**-0.4**
PB06	**IPOC Station P**	**2.30**	**233**	*e*P	**Pn**	**21 25 16.1**	**-0.3**
PB06				*e*S	**Sn**	**21 25 49.2**	**+0.7**
PB06				IAML		21 25 51.3	
	comp=E,21nm,0.3s						
HMBC	**Humberstone**	**2.39**	**295**	*e*P	**Pn**	**21 25 17.2**	**-0.2**
HMBC				*e*S	**Sn**	**21 25 51.0**	**+0.8**
HMBC				IAML		21 25 52.8	
	comp=E,32nm,0.2s						
PATCX	**Punta Patache**	**2.45**	**281**	*e*P	**Pn**	**21 25 18.3**	**+0.3**
PATCX				*e*S	**Sn**	**21 25 52.6**	**+1.3**
PATCX				IAML		21 25 55.5	
	comp=N,20nm,0.2s						
PB11	**IPOC Station P**	**2.49**	**308**	*e*P	**Pn**	**21 25 18.4**	**-0.1**
PB11				*e*S	**Sn**	**21 25 52.8**	**+0.6**
PB11				IAML		21 25 55.2	
	comp=N,31nm,0.2s						
PB11	**IPOC Station P**	**2.49**	**308**	Pg	**Pn**	**21 25 18.1**	**-0.4**
PB11				Sg	**Sn**	**21 25 50.1**	**-2.1**
PB11				IAML		21 25 55.5	
	comp=N,18nm,0.1s						
PB15	**IPOC Station P**	**2.57**	**223**	*e*P	**Pn**	**21 25 19.2**	**-0.2**
PB15				*e*S	**Sn**	**21 25 54.2**	**+0.2**
PB15	**IPOC Station P**	**2.57**	**223**	Pg	**Pn**	**21 25 20.1**	**+0.7**
PB15				Sg	**Sn**	**21 25 53.0**	**-1.0**
PB15				IAML		21 26 02.0	
	comp=N,42nm,0.2s						

*MOS **24** 21:31:34.5±1.2, 34°.31N×24°.92E, h14km, mb4.6/33, Error ellipse: s-maj=6.1km s-min=3.3km az=86.3*
*IDC **24** 21:31:34.1±0.6, 34°.37N×25°.05E, h0km, mb4.4/23, mbtmp4.3/35, ML3.9/8, MS3.4/23, Error ellipse: s-maj=12.1km s-min=11.7km az=50.0*
*NEIC **24** 21:31:36.1±1.7, 34°.35N±0°.04×24°.96E±0°.07, h10km±1km, mb4.5/99, Error ellipse: s-maj=10.5km s-min=5.7km az=245.0*
*ISK **24** 21:31:37.3, 34°.24N×25°.00E, h66km, ML3.8/25*
*THE **24** 21:31:38.3, 34°.36N×25°.00E, h0km±1km, ML3.9/5, Error ellipse: s-maj=3.2km s-min=0.7km az=176.0*
*ATH **24** 21:31:39.1, 34°.39N×25°.01E, h11km±1km, ML3.8/10, Error ellipse: s-maj=3.8km s-min=1.3km az=354.0*
*MCSM **24** 21:31:39.4±0.7, 34°.N±6°.×2°.5E±°, h42km±8km, mb4.3, mB4.7, MLv4.0, Mw(mB)3.9*
*MED_RC **24** 21:31:41.0±0.8, 34°.43N×24°.95E, h54km±5km, MW4.2/16, Moment Tensor Solution. Mantle waves: s16,c17; Duration: 1§0 Moment tensor: Scale 10^15 Nm; Mrr 1.81±.34; Mθθ -2.17±.26; Mϕϕ 0.37±.34; Mrθ 0.98±.14; Mθϕ 1.58±.67; Mϕr 0.25±.13; Best double couple: M≥2.67000×10^15 NP1:ϕs91.00000°, δ60.00000°, λ57.00000°. NP2:ϕs324.00000°, δ43.00000°, λ133.00000°. Principal axes: T 2.2800, Plg60.0000°, Azm311.0000°; N 0.7800, Plg28.0000°, Azm109.0000°; P -3.0500, Plg9.0000°, Azm204.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
*NIC **24** 21:31:41.2, 33°.97N×25°.52E, h104km±8km, Ml4.0/10*
*GII **24** 21:31:41.7±0.3, 34°.364N±0°.002×25°.473E±0°.001, h40km, Mws4.3, confirmed*
*NAO **24** 21:31:45.8, 35°.08N×24°.47E, h33km, mb4.2*
ISC 24 21:31:37.8±0.7,**34°.27N**±0°.04×**25°.03E**±0°.03,**h29**km±4km, **h29**km:**pP-P**,**n553,** σ1§**63**/573,**mb4.5**/107,**MS3.5**/15, **28C-28D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMBK	**Timbaki Herakl**	**0.82**	**345**	P	**Pb**	**21 31 53.2**	**-0.5**
TMBK	**Timbaki Herakl**	**0.82**	**345**	P	**Pb**	**21 31 53.1**	**-0.5**
TMBK				S	**Sb**	**21 32 02.3**	**-2.2**
FRMA	**Ierapetra Chan**	**0.94**	**38**	P	**Pb**	**21 31 56.7**	**+1.1**
FRMA				S	**Sn**	**21 32 11.6**	**+4.1**
	2μm,0.8s						
FRMA	**Ierapetra Chan**	**0.94**	**38**	P	**Pb**	**21 31 56.6**	**+1.1**
FRMA				S	**Sn**	**21 32 11.0**	**+3.5**
FRMA				AML	AML	21 32 18.7	
	comp=N,10214μm,0.6s						
FRMA				AML	AML	21 32 23.5	
	comp=E,7784μm,0.6s						
GVD	**Gavdhos**	**0.96**	**306**	Pg	**Pn**	**21 31 55.6**	**+0.2**
GVD	**Gavdhos**	**0.96**	**306**	P	**Pn**	**21 31 55.5**	**+0.2**
GVD				S	**Sn**	**21 32 08.6**	**+0.5**
	comp=E,12μm,0.5s						
GVD	**Gavdhos**	**0.96**	**306**	P	**Pn**	**21 31 55.5**	**+0.2**
GVD				S	**Sn**	**21 32 08.6**	**+0.5**
GVD				AML	AML	21 32 16.9	
	comp=E,25041μm,0.4s						
GVD				AML	AML	21 32 20.3	
	comp=N,19613μm,0.4s						
GVDS	**Gavdos**	**0.96**	**306**	Pg	**Pb**	**21 31 55.7**	**-0.2**
GVDS				Sg	**Sn**	**21 32 10.0**	**+1.9**
GVDS	**Gavdos**	**0.96**	**306**	P	**Pb**	**21 31 55.8**	**-0.2**
GVDS				S	**Sn**	**21 32 10.6**	**+2.5**
	comp=N,9μm,0.5s						
IDI	**Anoyia**	**1.02**	**354**	Pg	**Pn**	**21 31 55.9**	**-0.3**
IDI	**Anoyia**	**1.02**	**354**	P	**Pn**	**21 31 55.7**	**-0.5**
IDI	**Anoyia**	**1.02**	**354**	Pn	**Pn**	**21 31 55.6**	**-0.6**
IDI	**Anoyia**	**1.02**	**354**	Pn	**Pn**	**21 31 55.8**	**-0.3**
	comp=N,206nm,0.3s,baz=172,slow=21,SNR=262						
IDI				Sn	**Sn**	**21 32 10.6**	**+1.1**
	comp=N,259nm,0.3s,baz=272,slow=20,SNR=9.3						
IDI	**Anoyia**	**1.02**	**354**	P	**Pn**	**21 31 55.9**	**-0.3**
IDI				AML	AML	21 32 21.7	
	comp=N,7482μm,0.9s						
IDI				AML	AML	21 32 25.5	
	comp=E,8223μm,0.6s						
KSTL	**Kastelli Herak**	**1.03**	**2**	P	**Pn**	**21 31 55.8**	**-0.5**
KSTL	**Kastelli Herak**	**1.03**	**2**	P	**Pn**	**21 31 55.5**	**-0.7**
KSTL				S	**Sb**	**21 32 07.5**	**-2.7**
KSTL				AML	AML	21 32 17.9	
	comp=N,12666μm,0.6s						
KSTL				AML	AML	21 32 23.0	
	comp=E,5915μm,0.4s						
IACM	**Heraklion**	**1.03**	**2**	P	**Pb**	**21 31 56.8**	**-0.3**
PRNS	**Prines Rethymn**	**1.17**	**338**	P	**Pb**	**21 31 58.8**	**-0.7**
PRNS				S	**Sb**	**21 32 15.1**	**+0.8**
	comp=E,3μm,0.9s						
ZKR	**Zakros**	**1.29**	**49**	Pn	**Pb**	**21 32 00.9**	**-0.6**
ZKR	**Zakros**	**1.29**	**49**	P	**Pb**	**21 32 01.4**	**-0.1**
ZKR	**Zakros**	**1.29**	**49**	P	**Pb**	**21 32 01.5**	**+0.1**
ZKR				S	**Sb**	**21 32 24.2**	**+6.6**
ZKR				AML	AML	21 32 32.5	
	comp=E,6.1nm,0.7s						
ZKR				AML	AML	21 32 35.2	
	comp=E,3.3nm,1.0s						
ZKR	**Zakros**	**1.29**	**49**	P	**Pb**	**21 32 01.4**	**-0.1**
ZKR				S	**Sb**	**21 32 17.9**	**+0.3**
ZKR				AML	AML	21 32 33.7	
	comp=E,6232μm,0.7s						
ZKR				AML	AML	21 32 36.3	
	comp=N,3371μm,1.0s						
KNDR	**Palaiochora Ch**	**1.46**	**311**	Pn	**Pn**	**21 32 03.2**	**+1.0**
KNDR	**Palaiochora Ch**	**1.46**	**311**	P	**Pb**	**21 32 04.5**	**0.0**
KNDR				AML	AML	21 32 43.3	
	comp=N,8114μm,0.7s						
KNDR				AML	AML	21 32 54.4	
	comp=E,8933μm,1.0s						
IMMV	**Iera Moni Meta**	**1.46**	**324**	Pn	**Pn**	**21 32 03.1**	**+0.8**
IMMV	**Iera Moni Meta**	**1.46**	**324**	P	**Pb**	**21 32 03.7**	**-0.7**
IMMV				S	**Sb**	**21 32 23.7**	**+1.0**
	comp=E,5μm,0.6s						
IMMV	**Iera Moni Meta**	**1.46**	**324**	P	**Pn**	**21 32 03.2**	**+0.8**
IMMV				AML	AML	21 32 33.4	
	comp=N,9306μm,0.7s						
IMMV				AML	AML	21 32 40.2	
	comp=E,8568μm,0.9s						
CHAN	**Chania**	**1.48**	**327**	P	**Pb**	**21 32 04.3**	**-0.5**
CHAN				AML	AML	21 32 39.4	
	comp=N,9275μm,0.7s						
CHAN				AML	AML	21 32 39.9	
	comp=E,8418μm,0.5s						
RODP	**Rodopos**	**1.66**	**321**	Pn	**Pn**	**21 32 05.5**	**+0.6**
RODP	**Rodopos**	**1.66**	**321**	P	**Pb**	**21 32 07.2**	**-0.5**
THR6	**Thira Island,**	**2.10**	**8**	P	**Pn**	**21 32 12.3**	**+1.3**
ANKY	**Antikythira Is**	**2.13**	**319**	P	**Pn**	**21 32 13.3**	**+1.9**

CAME	**Cameli-Denizli**	**4.38**	**51**	Pn	**Pn**	**21 32 44.7**	**+2.2**
BLCB	**Balcova**	**4.41**	**21**	Pn	**Pn**	**21 32 44.5**	**+1.7**
ELL	**Elmali**	**4.68**	**57**	Pn	**Pn**	**21 32 48.7**	**+2.0**
ELL	**Elmali**	**4.68**	**57**	Pn	**Pn**	**21 32 48.1**	**+1.4**
ELL	**Elmali**	**4.68**	**57**	P	**Pn**	**21 32 48.6**	**+2.0**
ELL				AML	AML	21 33 46.5	
	comp=E,1.2nm,0.8s						
ELL				AML	AML	21 33 52.7	
	comp=E,1.3nm,0.7s						
ELL	**Elmali**	**4.68**	**57**	P	**Pn**	**21 32 48.1**	**+1.4**
ODEM	**Odemis-Izmir**	**4.69**	**31**	Pn	**Pn**	**21 32 49.3**	**+2.6**
APMY	**Acipayam-Deniz**	**4.71**	**46**	Pn	**Pn**	**21 32 48.7**	**+1.7**
ANX	**Ano Chora**	**4.99**	**331**	P	**Pn**	**21 32 52.8**	**+2.0**
AGG	**Agios Georgios**	**5.21**	**336**	P	**Pn**	**21 32 55.2**	**+1.4**
AGG	**Agios Georgios**	**5.21**	**336**	Pn	**Pn**	**21 32 55.2**	**+1.4**
AGG	**Agios Georgios**	**5.21**	**336**	P	**Pn**	**21 32 55.2**	**+1.4**
XOR	**Xorichti**	**5.29**	**344**	P	**Pn**	**21 32 55.6**	**+0.7**
ISP	**Isparta**	**5.69**	**50**	*i* P	**Pn**	**21 33 03.0**	**+2.6**
AKMS	**Akamas**	**6.07**	**81**	P	**Pn**	**21 33 05.2**	**-0.3**
AKMS				S	**Sn**	**21 34 10.4**	**-3.6**
AKMS				AML	AML	21 34 13.0	
	comp=E,0.3nm,0.4s						
AKMS				AML	AML	21 34 16.3	
	comp=E,0.1nm,0.8s						
LIT	**Litokhoron**	**6.16**	**342**	Pn	**Pn**	**21 33 07.0**	**+0.2**
LIT	**Litokhoron**	**6.16**	**342**	P	**Pn**	**21 33 07.0**	**+0.2**
NATA	**Nata**	**6.24**	**83**	P	**Pn**	**21 33 08.4**	**+0.4**
NATA				S	**Sn**	**21 34 15.3**	**-3.1**
NATA				AML	AML	21 34 22.1	
	comp=E,0.5nm,0.4s						
NATA				AML	AML	21 34 38.7	
	comp=E,0.3nm,0.6s						
TROD	**Troodos**	**6.50**	**82**	S	**Sn**	**21 34 20.5**	**-4.4**
TROD				AML	AML	21 34 28.8	
	comp=E,0.1nm,0.5s						
TROD				AML	AML	21 34 31.9	
	comp=E,0.2nm,0.5s						
ASGA	**Asgata**	**6.80**	**83**	P	**Pn**	**21 33 16.3**	**+0.7**
ASGA				AML	AML	21 34 35.0	
	comp=E,0.3nm,0.5s						
ASGA				AML	AML	21 34 36.5	
	comp=E,0.3nm,0.8s						
RDO	**Rodhopi**	**6.87**	**3**	Pn	**Pn**	**21 33 16.8**	**+0.2**
CSS	**Mathiatis**	**6.88**	**82**	Pn	**Pn**	**21 33 16.4**	**-0.3**
CSS	**Mathiatis**	**6.88**	**82**	P	**Pn**	**21 33 15.9**	**-0.8**
CSS				AML	AML	21 34 40.1	
	comp=E,0.1nm,0.6s						
CSS				AML	AML	21 34 41.9	
	comp=E,0.1nm,0.8s						
CSS	**Mathiatis**	**6.88**	**82**	P	**Pn**	**21 33 19.2**	**+2.5**
CSS	**Mathiatis**	**6.88**	**82**	P	**Pn**	**21 33 16.0**	**-0.8**
FNA	**Florina**	**7.12**	**337**	Pn	**Pn**	**21 33 20.6**	**+0.6**
FNA	**Florina**	**7.12**	**337**	P	**Pn**	**21 33 20.6**	**+0.6**
MVOU	**Mavrovouni**	**7.13**	**82**	P	**Pn**	**21 33 20.3**	**+0.2**
MVOU				S	**Sn**	**21 34 38.1**	**-2.0**
MVOU				AML	AML	21 34 45.2	
	comp=E,0.1nm,0.6s						
MVOU				AML	AML	21 34 47.9	
	comp=E,0.1nm,0.6s						
KBN	**Korca**	**7.18**	**333**	Pn	**Pn**	**21 33 19.9**	**-0.9**
KBN	**Korca**	**7.18**	**333**	P	**Pn**	**21 33 19.9**	**-0.9**
OHR	**Ohrid**	**7.60**	**335**	*i* Pn	**Pn**	**21 33 29.3**	**+2.7**
OHR				*i* Sn	**Sn**	**21 34 48.2**	**-3.6**
SCTE	**Santa Cesarea**	**7.80**	**320**	Pn	**Pn**	**21 33 28.5**	**-0.9**
TIP	**Timpagrande**	**8.25**	**309**	⇑P	**Pn**	**21 33 33.3**	**-2.2**
TIP	**Timpagrande**	**8.25**	**309**	Pn	**Pn**	**21 33 34.3**	**-1.2**
TIP	**Timpagrande**	**8.25**	**309**	P	**Pn**	**21 33 35.6**	**+0.1**
	comp=E,13nm,1.0s						
CEL	**Celeste**	**8.38**	**301**	Pn	**Pn**	**21 33 36.8**	**-0.5**
OFRI	**`Ofer**	**8.48**	**98**	S	**Sn**	**21 35 08.6**	**-4.9**
OFRI	**`Ofer**	**8.48**	**98**	P	**Pn**	**21 33 38.0**	**-0.7**
KZIT	**Kziot**	**8.59**	**110**	P	**Pn**	**21 33 40.8**	**+0.6**
KZIT	**Kziot**	**8.59**	**110**	S	**Sn**	**21 35 12.6**	**-3.4**
KZIT	**Kziot**	**8.59**	**110**	P	**Pn**	**21 33 40.1**	**-0.1**
SLTI	**Sal'it**	**8.62**	**101**	P	**Pn**	**21 33 41.2**	**+0.5**
SLTI	**Sal'it**	**8.62**	**101**	P	**Pn**	**21 33 40.1**	**-0.6**
SLTI	**Sal'it**	**8.62**	**101**	S	**Sn**	**21 35 11.9**	**-5.1**
MMC7	**Mount Meron ar**	**8.73**	**95**	P	**Pn**	**21 33 41.4**	**-0.7**
MMA0	**Mount Meron ar**	**8.74**	**95**	P	Pn	21 33 46.5	+4.2
MMA0B	**Mount Meron ar**	**8.74**	**95**	S	**Sn**	**21 35 15.6**	**-4.3**
MMA0B	**Mount Meron ar**	**8.74**	**95**	P	**Pn**	**21 33 41.8**	**-0.6**
MMAI	**Mount Meron Ar**	**8.74**	**95**	Pn	**Pn**	**21 33 41.1**	**-1.2**
	comp=E,1.9nm,0.3s,baz=275,slow=12,SNR=14						
MMAI				Sn	**Sn**	**21 35 15.1**	**-4.8**
	comp=E,7.1nm,0.3s,baz=272,slow=25,SNR=14						
	comp=E,1.2nm,0.3s						
PUK	**Puka**	**8.74**	**334**	Pn	**Pn**	**21 33 42.4**	**0.0**
AMAZ	**Amatzia**	**8.75**	**105**	P	**Pn**	**21 33 42.1**	**-0.3**
AMAZ	**Amatzia**	**8.75**	**105**	S	**Sn**	**21 35 15.6**	**-4.5**
AMAZ	**Amatzia**	**8.75**	**105**	P	**Pn**	**21 33 41.6**	**-0.8**
BRTR	**Keskin Array B**	**8.77**	**49**	Pn	**Pn**	**21 33 41.8**	**-1.0**
	comp=E,1.5nm,0.7s,baz=229,slow=13,SNR=4.7						
BRTR				LR	LR	21 38 04.0	
	comp=E,220nm,19.4s,baz=239,slow=45						
BRTR	**Keskin Array B**	**8.77**	**49**	*ce*P	**Pn**	**21 33 47.0**	**+4.2**
BRTR				pmax	pmax		
	comp=E,7.0nm,0.9s						
BR131	**Keskin Array S**	**8.77**	**49**	*i* P	**Pn**	**21 33 45.3**	**+2.5**
SALP	**Salfit**	**8.80**	**102**	P	**Pn**	**21 33 43.3**	**+0.2**
SALP	**Salfit**	**8.80**	**102**	P	**Pn**	**21 33 42.3**	**-0.8**
SALP	**Salfit**	**8.80**	**102**	S	**Sn**	**21 35 17.0**	**-4.3**
MMLI	**Mount Malkishu**	**8.88**	**99**	S	**Sn**	**21 35 18.7**	**-4.6**
MMLI	**Mount Malkishu**	**8.88**	**99**	P	**Pn**	**21 33 43.6**	**-0.6**
GEM	**Giv'at Ha'Em**	**8.92**	**94**	P	**Pn**	**21 33 44.1**	**-0.6**
GEM	**Giv'at Ha'Em**	**8.92**	**94**	S	**Sn**	**21 35 19.3**	**-4.9**
YTIR	**Yattir**	**8.97**	**106**	P	**Pn**	**21 33 46.0**	**+0.5**
YTIR	**Yattir**	**8.97**	**106**	P	**Pn**	**21 33 45.0**	**-0.5**
NATI	**Neve Ativ**	**8.97**	**93**	P	**Pn**	**21 33 47.1**	**+1.7**
NATI	**Neve Ativ**	**8.97**	**93**	P	**Pn**	**21 33 44.8**	**-0.6**
NATI	**Neve Ativ**	**8.97**	**93**	S	**Sn**	**21 35 21.0**	**-4.5**
HMDT	**Nahal Hemdat**	**9.02**	**100**	P	**Pn**	**21 33 47.9**	**+1.9**
HMDT	**Nahal Hemdat**	**9.02**	**100**	S	**Sn**	**21 35 21.9**	**-4.7**
HMDT	**Nahal Hemdat**	**9.02**	**100**	P	**Pn**	**21 33 45.3**	**-0.7**
QRNJ	**Al-Qirein**	**9.04**	**99**	P	**Pn**	**21 33 45.9**	**-0.4**
UJAP	**Al Uja**	**9.05**	**102**	P	**Pn**	**21 33 45.9**	**-0.6**
UJAP	**Al Uja**	**9.05**	**102**	S	**Sn**	**21 35 23.2**	**-4.2**
KSHT	**Keshet**	**9.08**	**95**	P	**Pn**	**21 33 46.0**	**-1.0**
KSHT	**Keshet**	**9.08**	**95**	S	**Sn**	**21 35 23.5**	**-4.8**
DSI	**Dead Sea**	**9.11**	**104**	P	**Pn**	**21 33 47.9**	**+0.6**
DSI	**Dead Sea**	**9.11**	**104**	S	**Sn**	**21 35 24.5**	**-4.4**
DSI	**Dead Sea**	**9.11**	**104**	P	**Pn**	**21 33 46.8**	**-0.5**
RAFF	**Raffo Rosso**	**9.16**	**292**	Pn	**Pn**	**21 33 47.0**	**-1.0**
MSBI	**Mazada**	**9.18**	**106**	P	**Pn**	**21 33 48.6**	**+0.3**
MSBI	**Mazada**	**9.18**	**106**	P	**Pn**	**21 33 47.6**	**-0.6**
MSBI	**Mazada**	**9.18**	**106**	S	**Sn**	**21 35 25.9**	**-4.7**
VAE	**Valguarnera**	**9.19**	**293**	Pn	**Pn**	**21 33 49.4**	**+1.0**
	comp=E,6.1nm,0.6s,baz=175,slow=21,SNR=2.3						
VAE				Sn	**Sn**	**21 35 26.7**	**-4.2**
	comp=E,2.0nm,0.3s,baz=194,slow=20,SNR=2.1						
KRMI	**Paran Flat**	**9.20**	**114**	S	**Sn**	**21 35 27.2**	**-3.9**
KRMI	**Paran Flat**	**9.20**	**114**	P	**Pn**	**21 33 48.1**	**-0.4**
PRNI	**Paran**	**9.30**	**112**	P	**Pn**	**21 33 51.1**	**+1.1**
PRNI	**Paran**	**9.30**	**112**	S	**Sn**	**21 35 29.5**	**-4.1**
PRNI	**Paran**	**9.30**	**112**	P	**Pn**	**21 33 49.7**	**-0.3**
LISJ	**El Lisan**	**9.31**	**106**	P	**Pn**	**21 33 51.1**	**+1.2**
CUC	**Castrocucco**	**9.31**	**310**	Pn	**Pn**	**21 33 49.6**	**-0.4**
PDG	**Podgorica**	**9.32**	**333**	Pn	**Pn**	**21 33 48.7**	**-1.4**
ZFRI	**Zfri**	**9.35**	**111**	P	**Pn**	**21 33 52.8**	**+2.3**
ZFRI	**Zfri**	**9.35**	**111**	P	**Pn**	**21 33 50.1**	**-0.4**
ZFRI	**Zfri**	**9.35**	**111**	S	**Sn**	**21 35 30.2**	**-4.4**
GHAJ	**Ghor Haditha**	**9.35**	**106**	Pn	**Pn**	**21 33 51.0**	**+0.4**
GHAJ	**Ghor Haditha**	**9.35**	**106**	P	**Pn**	**21 33 52.2**	**+1.6**
GHAJ	**Ghor Haditha**	**9.35**	**106**	P	**Pn**	**21 33 50.0**	**-0.6**
GHAJ	**Ghor Haditha**	**9.35**	**106**	S	**Sn**	**21 35 30.4**	**-4.4**
HRFI	**Mount Harif**	**9.47**	**114**	P	**Pn**	**21 33 53.4**	**+1.0**
HRFI	**Mount Harif**	**9.47**	**114**	S	**Sn**	**21 35 34.3**	**-3.6**
HRFI	**Mount Harif**	**9.47**	**114**	P	**Pn**	**21 33 52.1**	**-0.2**
MBRI	**Mt Berech**	**9.50**	**115**	P	**Pn**	**21 33 53.3**	**+0.5**
BLKB	**Belogradchik**	**9.51**	**350**	⇓P	**Pn**	**21 33 53.1**	**+0.3**
EIL	**Elat**	**9.59**	**116**	Pn	**Pn**	**21 33 54.1**	**+0.2**
	comp=E,4.2nm,0.3s,baz=1.8,slow=0.9,SNR=26						
EIL				Sn	**Sn**	**21 35 33.6**	**-7.1**
	comp=E,0.8nm,0.3s,baz=334,slow=17,SNR=2.5						
	comp=E,11nm,0.4s						
EIL	**Elat**	**9.59**	**116**	P	**Pn**	**21 33 54.3**	**+0.3**
EIL	**Elat**	**9.59**	**116**	S	**Sn**	**21 35 37.0**	**-3.8**
EIL	**Elat**	**9.59**	**116**	P	**Pn**	**21 33 53.9**	**-0.1**
AQBJ	**Aqaba**	**9.64**	**115**	P	**Pn**	**21 33 55.5**	**+0.9**
BOVS	**Bovan**	**9.70**	**346**	⇓P	**Pn**	**21 33 55.9**	**+0.6**
BNN	**Bunyan**	**9.82**	**59**	Pn	**Pn**	**21 33 58.4**	**+1.2**
SGRT	**San Giovanni R**	**10.46**	**318**	Pn	**Pn**	**21 34 03.0**	**-2.7**
HERR	**Herculane**	**10.78**	**350**	⇑P	**Pn**	**21 34 11.1**	**+0.9**
MLR	**Muntele Rosu**	**11.22**	**3**	⇑P	**Pn**	**21 34 17.3**	**+0.9**
MLR	**Muntele Rosu**	**11.22**	**3**	Pn	**Pn**	**21 34 16.3**	**-0.1**
	baz=90,slow=24,SNR=3.9						
MLR				LR	LR	21 39 25.5	
	comp=Z,158nm,18.4s,baz=180,slow=42						
	comp=Z,2.6nm,1.0s						
MLR	**Muntele Rosu**	**11.22**	**3**	⇑P	**Pn**	**21 34 17.3**	**+0.9**
GZR	**Gura Zlata**	**11.24**	**352**	⇓P	**Pn**	**21 34 16.5**	**0.0**
GZR	**Gura Zlata**	**11.24**	**352**	⇓P	**Pn**	**21 34 16.5**	**0.0**
BZS	**Buzias**	**11.63**	**348**	⇑P	**Pn**	**21 34 21.3**	**-0.4**
BZS	**Buzias**	**11.63**	**348**	⇑P	**Pn**	**21 34 21.3**	**-0.4**
PLOR	**Plostina**	**11.63**	**6**	⇑P	**Pn**	**21 34 24.2**	**+2.4**
PLOR	**Plostina**	**11.63**	**6**	⇑P	**Pn**	**21 34 24.2**	**+2.4**
VRI	**Vrincioaia**	**11.65**	**6**	⇓P	**Pn**	**21 34 24.6**	**+2.6**
VRI	**Vrincioaia**	**11.65**	**6**	⇓P	**Pn**	**21 34 24.6**	**+2.6**
SURR	**Surduc**	**11.68**	**350**	⇑P	**Pn**	**21 34 22.7**	**+0.3**
MARR	**Marisel-Cluj**	**12.47**	**354**	⇓P	**Pn**	**21 34 33.9**	**+0.6**
MORH	**Mrgy, Hungar**	**12.88**	**340**	⇑P	**Pn**	**21 34 38.0**	**-0.8**
BURAR	**Bucovina Array**	**13.33**	**1**	⇓P	**Pn**	**21 34 47.0**	**+2.0**
MPLH	**Magyarpolny**	**14.07**	**339**	P	**Pn**	**21 34 56.2**	**+1.2**
	comp=Z,31nm,0.9s						
SORM	**Soroca**	**14.07**	**9**	⇑P	**Pn**	**21 34 56.7**	**+1.7**
SORM	**Soroca**	**14.07**	**9**	⇑P	**Pn**	**21 34 56.7**	**+1.7**
PSZ	**Piszkesteto**	**14.16**	**346**	Pn	**Pn**	**21 34 55.4**	**-1.0**
PSZ	**Piszkesteto**	**14.16**	**346**	P	**Pn**	**21 34 55.4**	**-1.0**
SOKA	**Soboth**	**14.52**	**332**	*e*Pn	**P**	**21 35 08.4**	**+0.8**
	comp=Z,1.4nm,0.6s,SNR=6.0						
SABO	**M.te Sabotino**	**14.58**	**327**	Pn	**Pn**	**21 35 00.5**	**-1.6**
OBKA	**Obir**	**14.58**	**330**	*e*Pn	**P**	**21 35 09.3**	**+1.0**
	comp=Z,8.1nm,0.9s						
SOC	**Sochi**	**14.71**	**46**	*e*P	**Pn**	**21 35 04.7**	**+0.9**
SOC				*e*		21 37 46.3	
SOC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
SOC				MLR	MLR		
	comp=Z,89nm,16.0s						
KOLS	**Kolonicke sedl**	**14.79**	**353**	*e*P	**Pn**	**21 35 05.7**	**+0.8**
KOLS				*e*		21 44 37.0	
KOLS	**Kolonicke sedl**	**14.79**	**353**	*e*P	**Pn**	**21 35 05.7**	**+0.8**
ARSA	**Arzberg**	**14.81**	**334**	*e*Pn	**Pn**	**21 35 06.7**	**+1.5**
	comp=Z,5.7nm,0.6s						
RONA	**Rosalia, Austr**	**14.93**	**337**	*i* Pn	**Pn**	**21 35 07.6**	**+0.8**
	comp=Z,12nm,0.7s,SNR=7.7						
VYHS	**Vyhne**	**14.94**	**344**	*e*P	**P**	**21 35 11.9**	**-0.3**
VYHS	**Vyhne**	**14.94**	**344**	*e*P	**P**	**21 35 11.9**	**-0.3**
HORU	**Horodok**	**14.96**	**4**	P	**Pn**	**21 35 07.1**	**-0.1**
TEOL	**Teolo**	**15.07**	**321**	Pn	**Pn**	**21 35 07.5**	**-1.2**
STAL	**STALIGIAL**	**15.20**	**326**	Pn	**Pn**	**21 35 08.9**	**-1.5**
MODS	**Modra-Piesok**	**15.23**	**340**	*e*P	**P**	**21 35 15.5**	**+0.1**
MODS	**Modra-Piesok**	**15.23**	**340**	*e*P	**P**	**21 35 15.5**	**+0.1**
CONA	**Conrad Observa**	**15.27**	**336**	*e*Pn	**P**	**21 35 17.0**	**+1.0**
	comp=Z,3.7nm,1.1s						
SMOL	**Smolenice**	**15.31**	**341**	*e*P	**P**	**21 35 16.9**	**+0.6**
CIMO	**Cimolais**	**15.36**	**325**	Pn	**Pn**	**21 35 11.6**	**-0.9**
CIMO				IAmb	IAmb	21 35 20.8	
	comp=Z,4.7nm,0.6s						
STHS	**Stebnicka Huta**	**15.39**	**351**	*e*P	**P**	**21 35 17.7**	**+0.6**
STHS	**Stebnicka Huta**	**15.39**	**351**	*e*P	**P**	**21 35 17.7**	**+0.6**
CTI	**Castel Tesino**	**15.56**	**323**	Pn	**Pn**	**21 35 11.6**	**-3.5**
CTI				IAmb	IAmb	21 35 20.5	
	comp=Z,14nm,0.7s						
CTI	**Castel Tesino**	**15.56**	**323**	P	**Pn**	**21 35 11.6**	**-3.5**
CTI				pmax	pmax		
	comp=Z,14nm,0.7s						
JAVC	**Velka Javorina**	**15.57**	**342**	*e*P	**P**	**21 35 19.7**	**+0.5**
ABTA	**Abfaltersbach**	**15.65**	**326**	*i* Pn	**P**	**21 35 21.6**	**+1.5**
	comp=Z,20nm,0.6s,SNR=11						
KARS	**Kars**	**15.66**	**61**	Pn	**Pn**	**21 35 16.7**	**+0.1**
KARS	**Kars**	**15.66**	**61**	P	**Pn**	**21 35 16.7**	**+0.1**
KARS				pmax	pmax		
	comp=Z,57nm,0.9s						
LUBAR	**Lubar, Ukraine**	**15.76**	**7**	P	**Pn**	**21 35 17.2**	**-0.4**
MOA	**Molln**	**15.78**	**332**	*e*Pn	**P**	**21 35 21.9**	**+0.4**
	comp=Z,11nm,0.7s,SNR=8.1						
BIOA	**Bad Ischl, Aus**	**15.90**	**331**	*e*Pn	**P**	**21 35 22.8**	**-0.1**
	comp=Z,7.9nm,0.9s						
MAUC	**Maruska**	**15.99**	**343**	*e*P	**P**	**21 35 24.9**	**+1.0**
LESA	**Schwarzleotal**	**16.09**	**328**	*e*Pn	**P**	**21 35 25.9**	**+0.9**
	comp=Z,14nm,0.6s						
KRUC	**Moravsky**	**16.11**	**339**	*e*P	**P**	**21 35 24.0**	**-1.1**
VRAC	**Vranov**	**16.27**	**340**	⇑P	**Pn**	**21 35 24.7**	**+0.6**
VRAC	**Vranov**	**16.27**	**340**	*e*P	**Pn**	**21 35 24.5**	**+0.4**
VRAC	**Vranov**	**16.27**	**340**	Pn	**Pn**	**21 35 23.6**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=140,slow=8.8,SNR=13						
VRAC				LR	LR	21 43 17.4	
	comp=Z,97nm,18.7s,baz=181,slow=43						
	comp=Z,9.2nm,0.9s						
VRAC	**Vranov**	**16.27**	**340**	⇑P	**Pn**	**21 35 24.7**	**+0.6**
OJC	**Ojcow**	**16.39**	**348**	Pn	**Pn**	**21 35 24.0**	**-1.6**
OJC	**Ojcow**	**16.39**	**348**	P	**Pn**	**21 35 24.0**	**-1.6**
OJC				pmax	pmax		
	comp=Z,3.0nm,0.6s						
WTTA	**Wattenberg**	**16.44**	**326**	Pn	**Pn**	**21 35 26.1**	**-0.3**
	comp=Z,34nm,1.3s,SNR=14						
MORC	**Moravsky Berou**	**16.45**	**343**	Pn	**Pn**	**21 35 24.1**	**-2.3**
MORC	**Moravsky Berou**	**16.45**	**343**	*e*P	**P**	**21 35 27.8**	**-1.1**
MORC	**Moravsky Berou**	**16.45**	**343**	P	**Pn**	**21 35 24.1**	**-2.3**
MORC				pmax	pmax		
	comp=Z,5.0nm,0.7s						
WATA	**Walderalm**	**16.52**	**326**	*i* Pn	**P**	**21 35 29.1**	**-0.7**
	comp=Z,20nm,1.2s,SNR=8.1						
CKRC	**Cesky Krumlov**	**16.57**	**334**	*e*P	**P**	**21 35 31.0**	**+0.7**
CKRC	**Cesky Krumlov**	**16.57**	**334**	*e*P	**P**	**21 35 31.0**	**+0.7**
SQTA	**Sankt Quirin**	**16.61**	**325**	*i* Pn	**P**	**21 35 31.0**	**+0.2**
	comp=Z,11nm,0.7s,SNR=9.1						
ONI	**Oni**	**16.63**	**55**	Pn	**Pn**	**21 35 29.2**	**+0.4**
ONI	**Oni**	**16.63**	**55**	P	**Pn**	**21 35 29.2**	**+0.4**
ONI				pmax	pmax		
	comp=Z,13nm,1.1s						
AK12	**Malin Array Si**	**16.64**	**9**	P	**Pn**	**21 35 29.6**	**+0.9**
AK08	**Malin Array Si**	**16.64**	**9**	P	**Pn**	**21 35 29.7**	**+1.0**
FUORN	**Ofenpass-Fuorn**	**16.65**	**322**	Pn	**Pn**	**21 35 28.1**	**-1.1**
KIEV	**Kiev**	**16.69**	**9**	⇓P	**P**	**21 35 30.6**	**-0.9**
KIEV	**Kiev**	**16.69**	**9**	⇓P	**P**	**21 35 30.6**	**-0.9**
KIEV	**Kiev**	**16.69**	**9**	P	**Pn**	**21 35 29.4**	**0.0**
	comp=Z,200nm,1.2s						
FETA	**Feichten**	**16.70**	**324**	*i* Pn	**P**	**21 35 31.3**	**-0.5**
	comp=Z,20nm,0.9s,SNR=9.7						
AKBB	**Malin Array Si**	**16.70**	**9**	Pn	**Pn**	**21 35 28.1**	**-1.4**
AKBB				IAmb	IAmb	21 35 31.0	
	comp=Z,34nm,0.7s						
AKBB	**Malin Array Si**	**16.70**	**9**	*ce*P	**Pn**	**21 35 29.0**	**-0.5**
AKBB	**Malin Array Si**	**16.70**	**9**	P	**Pn**	**21 35 29.8**	**+0.3**
AKASG	**Malin Array Be**	**16.70**	**9**	Pn	**Pn**	**21 35 28.1**	**-1.4**
	comp=Z,2.0nm,0.3s,baz=200,slow=11,SNR=46						
AKASG				LR	LR	21 42 08.9	
	comp=Z,84nm,20.5s,baz=195,slow=38						
KIV	**Kislovodsk**	**16.74**	**50**	⇑P	**P**	**21 35 34.1**	**+1.9**
KIV	**Kislovodsk**	**16.74**	**50**		**Pn**	**21 35 31.1**	**+0.9**
KIV				IAmb	IAmb	21 35 43.7	
	comp=Z,44nm,1.1s						
KIV	**Kislovodsk**	**16.74**	**50**	*ce*P	**P**	**21 35 31.9**	**-0.3**
KIV				pmax	pmax		
	comp=Z,48nm,1.3s						
KIV				MLR	MLR		
	comp=Z,52nm,15.0s						
KIV	**Kislovodsk**	**16.74**	**50**	P	**P**	**21 35 33.7**	**+1.5**
	comp=Z,32nm,1.1s,comp=Z,317nm						
KVAR	**Kislovodsk Arr**	**16.75**	**50**	Pn	**Pn**	**21 35 30.5**	**+0.3**
	baz=264,slow=22						
	comp=Z,3.4nm,0.5s						
MOTA	**Moosalm**	**16.75**	**325**	*e*Pn	**P**	**21 35 33.0**	**+0.7**
	comp=Z,5.9nm,0.9s						
GNI	**Garni**	**16.75**	**64**		**P**	**21 35 32.5**	**0.0**
GNI	**Garni**	**16.75**	**64**	Pn	**P**	**21 35 31.8**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=309,slow=5.2,SNR=4.4						
GNI				LR	LR	21 43 27.7	
	comp=Z,176nm,18.8s,baz=274,slow=43						
	comp=Z,2.7nm,0.6s						
GNI	**Garni**	**16.75**	**64**	P	**P**	**21 35 32.5**	**0.0**
GNI				pmax	pmax		
	comp=Z,13nm,1.2s						
GNI	**Garni**	**16.75**	**64**	P	**P**	**21 35 32.4**	**0.0**
	comp=Z,9.1nm,1.6s						
KBZ	**Khabaz**	**16.76**	**50**	Pn	**P**	**21 35 31.9**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=255,slow=6.3,SNR=22						
KBZ				LR	LR	21 43 42.7	
	comp=Z,48nm,20.3s,baz=280,slow=44						
	comp=Z,20nm,0.9s						
KBZ	**Khabaz**	**16.76**	**50**	*ce*P	**P**	**21 35 31.8**	**-0.5**
KBZ				pmax	pmax		
	comp=Z,29nm,1.0s						
GEC2	**GERESS Array S**	**16.82**	**333**	Pn	**Pn**	**21 35 29.4**	**-1.8**
GEC2				IAmb	IAmb	21 35 34.5	
	comp=Z,22nm,0.7s						
GERES	**GERESS Array B**	**16.82**	**333**	Pn	**Pn**	**21 35 30.2**	**-0.9**
GERES	**GERESS Array B**	**16.82**	**333**	Pn	**Pn**	**21 35 30.5**	**-0.7**
	comp=Z,16nm,0.6s,baz=143,slow=11,SNR=64						
GERES				LR	LR	21 43 41.4	
	comp=Z,112nm,21.7s,baz=118,slow=43						
KRLC	**Kraliky**	**16.91**	**341**	*e*P	**P**	**21 35 34.3**	**+0.2**
KRLC				*ex*	x	21 35 48.6	
KRLC	**Kraliky**	**16.91**	**341**	*e*P	**P**	**21 35 34.3**	**+0.2**
DAVOX	**Davos/Dischmat**	**16.95**	**322**	Pn	**Pn**	**21 35 33.6**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=141,slow=22,SNR=14						
DAVOX				LR	LR	21 43 57.1	
	comp=Z,54nm,19.8s,baz=101,slow=44						
	comp=Z,6.8nm,0.8s						
RETA	**Reutte**	**17.01**	**325**	*e*Pn	**P**	**21 35 36.6**	**+1.4**
	comp=Z,5.3nm,0.7s						
TUE	**Stuetta**	**17.03**	**320**		**P**	**21 35 35.2**	**-0.3**
KHC	**Kasperske Hory**	**17.10**	**334**		**Pn**	**21 35 35.0**	**+0.4**
KHC	**Kasperske Hory**	**17.10**	**334**	*e*P	**P**	**21 35 36.8**	**+0.7**
KHC				AMS	AMS	21 43 10.0	
	comp=Z,300nm,12.9s						
KHC	**Kasperske Hory**	**17.10**	**334**	P	**Pn**	**21 35 35.0**	**+0.4**
KHC				pmax	pmax		
	comp=Z,13nm,0.8s						
KHC	**Kasperske Hory**	**17.10**	**334**	P	**P**	**21 35 36.3**	**+0.2**
	comp=Z,19nm,1.2s						
NCK	**Nalchik**	**17.11**	**52**	*i* P	**P**	**21 35 36.1**	**-0.1**
NCK				pmax	pmax		
	comp=Z,12nm,1.2s						
RNPP9	**Sopachiv**	**17.14**	**2**	P	**Pn**	**21 35 34.2**	**-0.8**
DPC	**Dobruska-Polom**	**17.29**	**341**	*e*P	**Pn**	**21 35 37.0**	**+0.1**
DPC	**Dobruska-Polom**	**17.29**	**341**	*e*P	**Pn**	**21 35 37.0**	**+0.1**
DPC	**Dobruska-Polom**	**17.29**	**341**	P	**P**	**21 35 38.1**	**-0.1**
	comp=Z,7.4nm,0.8s						
DAVA	**Damuels**	**17.30**	**323**	*e*Pn	**P**	**21 35 38.9**	**+0.5**
	comp=Z,11nm,0.8s						
PRU	**Pruhonice**	**17.49**	**337**	*e*P	**Pn**	**21 35 40.

BGES Gesves 21.72 324 *d*P P **21 36 30.3 +3.8**
DOU Dourbes 21.78 323 *d*P P **21 36 27.3 +0.2**
DOU *d*pP **sP** **21 36 37.6 -0.2**
BMRD Maredsous 21.83 323 *d*P P **21 36 30.8 +3.2**
PBUR Paburge 21.86 355 *e*P P **21 36 26.8 -1.1**
CLF Chambon-Foret 21.86 316 P P **21 36 28.4 +0.4**
CLF IAmb IAmb 21 36 30.6
comp=Z,35nm,1.5s
OBN Obninsk 22.34 18 P P **21 36 32.7 -0.3**
OBN Obninsk 22.34 18 P P **21 36 33.9 +0.9**
comp=Z,15nm,0.4s,baz=190,slow=23,SNR=8.4
OBN LR LR 21 45 15.9
comp=Z,92nm,21.6s,baz=226,slow=37
comp=Z,15nm,0.4s
OBN Obninsk 22.34 18⇓ *e*P P **21 36 33.9 +0.9**
OBN *e* 21 36 55.9
OBN *e*S **S** **21 40 38.2 +1.5**
OBN pmax pmax
comp=Z,42nm,1.3s
OBN MLR MLR
comp=Z,63nm,15.0s
OBN Obninsk 22.34 18 P P **21 36 34.2 +1.2**
comp=Z,38nm,1.2s
MFF Saint Martin d 22.67 310 *e*P P **21 36 36.9 +0.2**
MFF pmax pmax
comp=Z,13nm,0.9s
MOS Moscow 23.16 18 *e*P P **21 36 41.0 -0.7**
MOS *e* 21 40 51.2
ESDC Sonseca Array 23.73 292 P P **21 36 47.0 -0.4**
ESDC Sonseca Array 23.73 292 P P **21 36 47.5 +0.1**
comp=Z,4.7nm,0.8s,baz=82,slow=9.2,SNR=39
comp=Z,4.7nm,0.8s
BELG Belogornoye 24.29 35 *i*P P **21 36 52.7 +0.3**
BELG pmax pmax
comp=Z,8.0nm,1.1s
MUD Monsted U'grnd 24.70 339 *i*P P **21 36 55.0 -1.1**
MUD IAmb IAmb 21 36 56.1
comp=Z,13nm,0.9s
ONAU Onsala 24.78 343 *i*P P **21 36 55.2 -1.6**
TJOU Tjoern 25.42 343 *i*P P **21 37 01.1 -1.5**
MEF Metsahovi 25.96 359 *e*P P **21 37 06.5 -1.0**
PBRG Braganca 26.02 296 *e*P P **21 37 09.0 +0.6**
comp=Z,18nm,2.0s
PBAR Barrancos 26.09 288 *e*P P **21 37 09.8 +0.9**
comp=Z,13nm,1.9s
MVO Moncorvo 26.17 295 *e*P P **21 37 11.2 +1.4**
comp=Z,22nm,0.9s
PMRV Marv??o 26.36 291 *e*P P **21 37 11.9 +0.5**
comp=Z,11nm,1.4s
STRU Stroemstad 26.42 344 *i*P P **21 37 09.1 -2.5**
HOMB Homborsund 26.43 340 *e*P P **21 37 11.3 -0.5**
HOMB Homborsund 26.43 340 *i*P P **21 37 11.0 -0.8**
PCBR Castelo Branco 26.44 292 *e*P P **21 37 13.3 +1.2**
MTE Manteigas 26.51 293 *e*P P **21 37 13.3 +0.5**
comp=Z,22nm,2.0s
PESTR Estremoz 26.51 289 *e*P P **21 37 13.5 +0.7**
comp=Z,10nm,0.9s
PESTR Estremoz 26.51 289 P P **21 37 13.5 +0.7**
PESTR IAmb IAmb 21 37 32.5
comp=Z,7.6nm,0.8s
PVAQ Vaqueiros 26.66 286 *e*P P **21 37 14.7 +0.6**
comp=Z,17nm,1.5s
PVRL Vila Real 26.70 295 *e*P P **21 37 14.8 +0.3**
comp=Z,13nm,1.4s
PBEJ Beja 26.75 288 *e*P P **21 37 18.1 +3.2**
comp=Z,3.0nm,0.7s
POLO Lamas de Olo 26.77 295 *e*P P **21 37 18.4 +3.3**
PVIS Viseu 26.80 294 *e*P P **21 37 16.0 +0.6**
PBDV Barranco-do-Ve 26.84 286 *e*P P **21 37 16.6 +0.9**
comp=Z,5.4nm,0.6s
RAF Rauma 26.85 356 *e*P P **21 37 13.9 -1.6**
SNART Snartemo 26.86 339 *e*P P **21 37 16.0 +0.4**
SNART Snartemo 26.86 339 *i*P P **21 37 15.4 -0.3**
PCVE Castro Verde 26.90 287 *e*P P **21 37 17.7 +1.4**
comp=Z,14nm,1.4s
HFS Hagfors 26.91 347 P P **21 37 14.8 -1.4**
comp=Z,3.8nm,0.6s,baz=145,slow=9.0,SNR=18
HFS LR LR 21 50 19.6
comp=Z,72nm,19.4s,baz=160,slow=42
comp=Z,3.8nm,0.6s
PMTG Montargil 27.01 290 *e*P P **21 37 19.9 +2.7**
MESJ Messejana 27.03 287 *e*P P **21 37 20.9 +3.4**
FINES FINESS Array B 27.20 1 P P **21 37 17.1 -1.5**
FINES FINESS Array B 27.20 1 P P **21 37 17.4 -1.2**
comp=Z,2.1nm,0.4s,baz=161,slow=11,SNR=43
FINES PcP **PcP** **21 40 38.2 +0.1**
comp=Z,1.1nm,0.5s,baz=149,slow=1.8,SNR=8.2
FINES LR LR 21 47 58.2
comp=Z,60nm,21.3s,baz=190,slow=36
comp=Z,2.1nm,0.4s
FINES FINESS Array B 27.20 1 *ce*P P **21 37 17.3 -1.3**
FINES pmax pmax
comp=Z,2.0nm,0.4s
FIA1 FINESS Array S 27.20 1 P P **21 37 16.8 -1.8**
PNCL Nicolau / Gran 27.27 288 *e*P P **21 37 23.3 +3.8**
OSL Oslo 27.34 344 *e*P P **21 37 18.8 -1.0**
KONO Kongsberg 27.34 343 P P **21 37 18.4 -1.6**
KONO IAmb IAmb 21 37 19.4
comp=Z,11nm,1.0s
KONO Kongsberg 27.34 343 *e*P P **21 37 18.8 -1.2**
KONO Kongsberg 27.34 343 *ce*P P **21 37 18.8 -1.2**
KONO pmax pmax
comp=Z,11nm,1.3s
VALR Valaam 27.36 6 *i*P P **21 37 18.5 -1.6**
VALR pmax pmax
comp=Z,15nm,0.8s
PTEO Sao Teotonio 27.45 287 *e*P P **21 37 22.5 +1.3**
comp=Z,4.6nm,0.7s
NC602 NORSAR Array S 27.88 346 P P **21 37 23.5 -1.3**
NC602 IAmb IAmb 21 37 24.4
comp=Z,12nm,1.2s
NC602 NORSAR Array S 27.88 346 *e*P P **21 37 24.0 -0.8**
BLS5 Blasjo 27.98 340 *e*P P **21 37 25.4 -0.3**
NAO01 NORSAR Array S 28.12 345 P P **21 37 25.9 -1.0**
NAO01 IAmb IAmb 21 37 27.3
comp=Z,13nm,0.8s
KLMR Klimovskoe 28.20 15 *e*P P **21 37 25.6 -2.0**
KLMR pmax pmax
comp=Z,14nm,0.9s
NB2 NORSAR Subarra 28.23 346 P P **21 37 27.1 -0.8**
comp=Z,3.0nm,0.7s,baz=156,slow=9.3
NOA NORSAR Array B 28.23 346 P P **21 37 27.1 -0.8**
comp=Z,1.9nm,0.7s,baz=173,slow=10,SNR=18
NOA LR LR 21 50 32.9
comp=Z,40nm,19.4s,baz=155,slow=40
comp=Z,1.9nm,0.7s
NBO00 NORSAR Array S 28.31 345 P P **21 37 28.3 -0.3**
NBO00 IAmb IAmb 21 37 29.2
comp=Z,7.3nm,0.7s
ODD1 Odda 28.34 340 *e*P P **21 37 31.4 +2.4**
SKAR Skarslia 28.56 343 *e*P P **21 37 31.2 +0.3**
EKA Eskdalemuir Ar 28.71 326 P P **21 37 31.7 -0.5**
comp=Z,4.8nm,0.8s,baz=132,slow=8.9,SNR=17
comp=Z,4.8nm,0.8s
KIRV Kirov 29.24 26 *ce*P P **21 37 36.0 -0.9**
DOMB Dombas 29.58 345 *e*P P **21 37 40.4 +0.4**
TOA0 Torodi Ar. Sit 29.84 231 P P **21 37 44.3 +1.6**
TOA0 IAmb IAmb 21 37 45.4
comp=Z,7.7nm,0.6s
TORD Torodi Ar. Bea 29.84 231 P P **21 37 44.3 +1.6**
TORD IAmb IAmb 21 37 45.5
comp=Z,3.7nm,0.7s
TORD Torodi Ar. Bea 29.84 231 P P **21 37 44.4 +1.7**
comp=Z,7.4nm,0.6s,baz=38,slow=10.0,SNR=53
comp=Z,7.4nm,0.6s
AKN Aaknes 30.18 343 *e*P P **21 37 44.9 -0.2**
ARU Arti 31.83 36 *d i*P P **21 37 59.5 -0.3**
ARU S **S** **21 43 05.6 -2.6**
ARU pmax pmax
comp=Z,9.0nm,0.7s
SVE Sverdlovsk 33.03 36 *e*P P **21 38 10.8 +0.5**
SVE pmax pmax
comp=Z,22nm,0.6s
LVZ Lovozero 34.12 6 P P **21 38 18.4 -1.3**
LVZ Lovozero 34.12 6 P P **21 38 18.4 -1.3**
LVZ pmax pmax
comp=Z,25nm,1.1s
STEI Steigen 34.17 353 *e*P P **21 38 19.3 -0.7**
MBAR Mbarara 35.10 170 LR LR 21 52 56.7
comp=Z,60nm,18.6s,baz=350,slow=36
ARCES ARCESS Array B 35.31 0 P P **21 38 28.0 -2.0**
ARCES ARCESS Array B 35.31 0 P P **21 38 28.4 -1.6**
comp=Z,1.5nm,0.4s,baz=176,slow=9.3,SNR=29
ARCES PcP **PcP** **21 41 00.1 +0.3**
comp=Z,0.9nm,0.6s,baz=145,slow=3.3,SNR=1.1
ARCES LR LR 21 53 04.7
comp=Z,87nm,18.9s,baz=192,slow=37
comp=Z,1.5nm,0.4s
ARCES ARCESS Array B 35.31 0 P P **21 38 28.0 -2.0**
ARCES pmax pmax
comp=Z,34nm,1.5s
KK31 Karatay Array 36.20 62 P P **21 38 38.2 +0.3**
KK31 IAmb IAmb 21 38 40.5
comp=Z,5.5nm,0.9s
KK31 Karatay Array 36.20 62 P P **21 38 38.2 +0.3**
KK31 pmax pmax
comp=Z,6.0nm,0.9s
KKAR Karatay Array 36.20 62 P P **21 38 38.2 +0.3**
KKAR Karatay Array 36.20 62 P P **21 38 38.2 +0.3**
GAR Garm 36.36 69 P P **21 38 40.6 +1.1**
GAR IAmb IAmb 21 38 44.5
comp=Z,5.0nm,0.8s
BRVK Borovoye 36.98 45 *ce*P P **21 38 46.0 +1.6**
BRVK pmax pmax
comp=Z,2.0nm,0.7s
BVAR Borovoye Array 37.04 46 P P **21 38 43.8 -1.1**
comp=Z,3.0nm,0.9s,baz=240,slow=5.0,SNR=13
comp=Z,3.0nm,0.9s
DBIC Dimbokro 38.93 232 P P **21 39 02.0 +0.7**
comp=Z,8.7nm,0.9s,baz=101,slow=0.6,SNR=3.3
comp=Z,8.7nm,0.9s
DBIC Dimbokro 38.93 232 P P **21 39 02.0 +0.7**
AAK Ala-Archa 39.15 63 P P **21 39 04.3 +1.2**
AAK Ala-Archa 39.15 63 LR LR 21 56 32.9
comp=Z,36nm,18.1s,baz=272,slow=38
AAK Ala-Archa 39.15 63 *ce*P P **21 39 04.8 +1.7**
AAK pmax pmax
comp=Z,3.0nm,0.8s
BOOM Boomskoye usch 40.23 63 P P **21 39 14.0 +1.9**
BOOM Boomskoye usch 40.23 63 P P **21 39 14.0 +1.9**
BOOM pmax pmax
comp=Z,4.0nm,1.1s
KSH Kashi 40.63 67 P P **21 39 15.3 -0.1**
KSH pP pP 21 39 22.9 -0.2
KSH pmax pmax
comp=Z,4.0nm,1.1s
KURBB Kurchatov Arra 41.76 50 P P **21 39 25.0 +0.7**
comp=Z,8.3nm,0.7s,baz=278,slow=8.7,SNR=50
comp=Z,8.3nm,0.7s
KURK Kurchatov 41.82 50 P P **21 39 25.0 +0.2**
KURK IAmb IAmb 21 39 26.5
comp=Z,9.5nm,0.8s
KURK Kurchatov 41.82 50 *ce*P P **21 39 25.1 +0.3**
KURK pmax pmax
comp=Z,16nm,1.3s
PRZ Przheval'sk 42.04 62 P P **21 39 28.1 +1.2**
PRZ Przheval'sk 42.04 62 P P **21 39 28.1 +1.2**
PRZ pmax pmax
comp=Z,4.0nm,0.8s
MAKZ Makanchi 44.14 56 P P **21 39 44.8 +1.2**
MAKZ Makanchi 44.14 56 P P **21 39 44.8 +1.2**
MAKZ pmax pmax
comp=Z,4.0nm,1.1s
SPITS Spitsbergen Ar 44.16 357 P P **21 39 43.4 0.0**
comp=Z,1.6nm,0.3s,baz=154,slow=12,SNR=30
comp=Z,1.6nm,0.3s
MK31 Makanchi Array 44.35 56 P P **21 39 46.3 +0.9**
MK31 IAmb IAmb 21 39 47.3
comp=Z,6.4nm,0.9s
MK31 Makanchi Array 44.35 56 P P **21 39 46.3 +0.9**
MK31 pmax pmax
comp=Z,6.0nm,1.0s
MKAR Makanchi Array 44.35 56 P P **21 39 46.4 +1.0**
comp=Z,6.7nm,0.7s,baz=277,slow=6.7,SNR=64
MKAR PcP **PcP** **21 41 29.7 +0.7**
comp=Z,0.9nm,0.7s,baz=280,slow=2.7,SNR=2.6
comp=Z,6.7nm,0.7s
ZAA0 Zalesovo Array 45.70 46 P P **21 39 55.5 -0.4**
ZALV Zalesovo Beam 45.70 46 P P **21 39 55.3 -0.6**
ZALV Zalesovo Beam 45.70 46 P P **21 39 56.0 +0.1**
comp=Z,11nm,0.5s,baz=270,slow=8.9,SNR=51
comp=Z,11nm,0.5s
SOEG Soedalen 46.28 335 *i*P P **21 40 01.4 +1.1**
SOEG IAmb IAmb 21 40 02.4
comp=Z,7.5nm,0.8s
DAG Danmarks Havn 46.89 347 P P **21 40 03.9 -1.0**
DAG Danmarks Havn 46.89 347 *i*P P **21 40 04.8 -0.1**
DAG IAmb IAmb 21 40 06.1
comp=Z,7.3nm,0.8s
ICESG Greenland Ices 49.43 335 *i*P P **21 40 25.4 +0.3**
SUMG Summit 49.77 339 P P **21 40 27.9 +0.2**
SUMG IAmb IAmb 21 40 29.4
comp=Z,4.4nm,0.7s
SUMG Summit 49.77 339 P P **21 40 27.9 +0.2**
SUMG pmax pmax
comp=Z,4.0nm,0.7s
SUMG Summit 49.77 339 *i*P P **21 40 28.2 +0.5**
SUMG IAmb IAmb 21 40 29.6
comp=Z,5.0nm,0.7s
NOR Nord 49.81 353 *i*P P **21 40 26.7 -0.7**
NOR IAmb IAmb 21 40 27.7
comp=Z,8.4nm,0.5s
DY2G Dye2 51.68 331 *i*P P **21 40 43.3 +1.3**
DY2G IAmb IAmb 21 40 43.9
comp=Z,11nm,0.6s
SFJD Kangerlussuaq 53.41 332 LR LR 22 04 37.2
comp=Z,50nm,18.1s,baz=137,slow=37
TSUM Tsumeb 53.65 189 LR LR 22 07 33.5
comp=Z,152nm,20.4s,baz=341,slow=40
ZAK Zakamensk 57.41 48 *e*P P **21 41 25.0 +1.3**
ZAK pmax pmax
comp=Z,7.0nm,1.0s
GTA Gaotai 58.48 61 P P **21 41 32.3 +0.9**
GTA pmax pmax
comp=Z,4.0nm,1.1s
LBTB Lobatse 58.97 179 P P **21 41 36.4 +1.7**
LBTB IAmb IAmb 21 41 59.7
comp=Z,6.5nm,1.2s
LBTB Lobatse 58.97 179 LR LR 22 09 55.1
comp=Z,64nm,19.0s,baz=54,slow=39
LBTB Lobatse 58.97 179 P P **21 41 36.4 +1.7**
LBTB pmax pmax
comp=Z,7.0nm,1.3s
SONM Songino Array 60.13 50 P P **21 41 44.0 +1.4**
SONM IAmb IAmb 21 41 44.8
comp=Z,7.1nm,1.2s
SONM Songino Array 60.13 50 P P **21 41 44.1 +1.4**
comp=Z,3.6nm,0.7s,baz=285,slow=8.1,SNR=18
comp=Z,3.6nm,0.7s
SONM Songino Array 60.13 50 P P **21 41 44.1 +1.4**
SONM pmax pmax
comp=Z,7.0nm,1.2s
ULN Ulaanbaatar 60.54 50 P P **21 41 46.1 +0.7**
ULN Ulaanbaatar 60.54 50 *ce*P P **21 41 46.6 +1.1**
ULN pmax pmax
comp=Z,7.0nm,1.3s
BOD Bodaibo 61.22 38 *e*P P **21 41 49.6 -0.1**
BOD pmax pmax
comp=Z,7.0nm,0.9s
FRB Frobisher Bay 61.37 330 LR LR 22 12 29.0
comp=Z,32nm,18.6s,baz=214,slow=40
TIXI Tiksi 62.03 20 LR LR 22 11 56.1
comp=Z,40nm,18.0s,baz=24,slow=39
TIXI Tiksi 62.03 20 *ce*P P **21 41 54.5 -0.5**
TIXI pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 62.55 180 P P **21 42 00.8 +1.8**
BOSA IAmb IAmb 21 42 24.5
comp=Z,8.0nm,1.4s
BOSA Boshof 62.55 180 P P **21 42 00.9 +1.8**
comp=Z,3.0nm,1.0s,baz=350,slow=8.5,SNR=6.9
comp=Z,3.0nm,1.0s
BOSA Boshof 62.55 180 P P **21 42 00.8 +1.8**
BOSA pmax pmax
comp=Z,8.0nm,1.5s
SCHQ Schefferville 63.79 320 P P **21 42 06.8 -0.1**
SCHQ Schefferville 63.79 320 P P **21 42 07.3 +0.3**
comp=Z,6.5nm,0.6s,baz=64,slow=4.9,SNR=22
comp=Z,6.5nm,0.6s
PZH PanZhiHua 65.20 74 P P **21 42 18.3 +1.5**
PZH pmax pmax
comp=Z,7.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,5.1s
HAL Halifax 66.00 309 P P **21 42 22.2 +0.7**
HAL Halifax 66.00 309 P P **21 42 22.2 +0.7**
HAL pmax pmax
comp=Z,36nm,1.5s
HHC Hu-ho-hao-te 66.22 56 *e*P P **21 42 25.4 +2.3**
HHC pmax pmax
comp=Z,13nm,0.6s
HHC pmax pmax
comp=Z,50nm,3.9s
SUR Sutherland 66.42 184 LR LR 22 15 08.4
comp=Z,95nm,20.1s,baz=18,slow=39
BATG Bathurst New B 66.43 312 P P **21 42 24.5 +0.3**
CMAR Chiang Mai Arr 66.78 83 P P **21 42 26.9 0.0**
comp=Z,0.6nm,0.7s,baz=289,slow=7.5,SNR=4.2
comp=Z,0.6nm,0.7s
XAN Xi'an 67.32 63 ⇓P P 21 42 25.3 -4.9
XAN pmax pmax
comp=Z,6.0nm,0.8s
D62A Allapoint, All 68.35 313 P P **21 42 35.0 -1.4**
F64A Sherman 68.48 311 P P **21 42 36.8 -0.4**
HEH HeiHe 71.59 41 *e*P P **21 42 57.3 +1.1**
HEH pmax pmax
comp=Z,12nm,0.7s
HEH pmax pmax
comp=Z,86nm,3.7s
A36M Sachs Harbour 72.00 351 P P **21 42 58.3 0.0**
BNX BinXian 73.99 45 ⇓P P **21 43 11.4 +0.9**
BNX pmax pmax
comp=Z,6.0nm,0.7s
BNX pmax pmax
comp=Z,57nm,5.7s
KLR Kul'dur 74.50 41 *ce*P P **21 43 14.4 +0.9**
KLR pmax pmax
comp=Z,3.0nm,1.3s
NJ2 Nanjing 75.57 61 *e*P P **21 43 19.1 -0.8**
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
B22K Teshekpuk Lake 75.68 359 P P **21 43 20.3 +0.5**
B20K Meade River 76.01 1 P P **21 43 22.0 +0.3**
C23K Itkillik River 76.14 358 P P **21 43 23.6 +1.1**
C23K IAmb IAmb 21 43 25.0
comp=Z,4.6nm,0.8s
M57A Sunshine Farm, 76.26 311 P P **21 43 24.4 +0.7**
B21K Ikpikpuk River 76.41 360 P P **21 43 25.1 +1.2**
B21K IAmb IAmb 21 43 28.8
comp=Z,9.1nm,1.2s
D25K Kavik River 76.52 357 P P **21 43 25.5 +0.8**
D25K IAmb IAmb 21 43 52.5
comp=Z,4.3nm,1.2s
E29M Blow River 76.85 354 P P **21 43 27.1 +0.5**
E29M IAmb IAmb 21 43 28.4
comp=Z,5.0nm,0.9s
C19K Lookout Ridge 76.87 2 P P **21 43 26.8 +0.1**
D22K Ayikyak River 77.14 359 P P **21 43 29.8 +1.6**
D22K IAmb IAmb 21 43 41.7
comp=Z,5.8nm,1.1s
C18K Utukok River 77.28 2 P P **21 43 29.1 +0.1**
USRK Ussuriysk Ar. 77.54 45 P P **21 43 30.6 -0.3**
USRK Ussuriysk Ar. 77.54 45 P P **21 43 31.3 +0.5**
comp=Z,5.3nm,0.6s,baz=290,slow=5.0,SNR=14
comp=Z,5.3nm,0.6s
E21K Killik River 77.59 360 P P **21 43 31.5 +0.8**
E21K IAmb IAmb 21 43 32.5
comp=Z,2.7nm,0.6s
E25K Arctic Village 77.67 356 P P **21 43 32.9 +1.7**
E25K IAmb IAmb 21 43 45.4
comp=Z,5.3nm,1.2s
E24K Your Creek 77.85 358 P P **21 43 32.7 +0.5**
E24K IAmb IAmb 21 43 58.0
comp=Z,5.1nm,1.4s
YKA Yellowknife Ar 78.26 342 P P **21 43 35.0 +0.6**
comp=Z,0.3nm,0.6s,baz=46,slow=5.3,SNR=3.8
comp=Z,0.3nm,0.6s
G29M Pine Creek 78.30 353 P P **21 43 33.7 -1.0**
G29M IAmb IAmb 21 43 36.1
comp=Z,8.3nm,1.1s
BMAR Burnt Mountain 78.31 356 P P **21 43 36.2 +1.4**
F24K Squaw Lake 78.38 357 P P **21 43 36.7 +1.6**
F24K IAmb IAmb 21 43 37.6
comp=Z,2.9nm,0.8s
E18K Tukpahlearik C 78.53 2 P P **21 43 37.3 +1.4**
E18K IAmb IAmb 21 43 37.5
comp=Z,3.2nm,0.8s
E19K Redstone River 78.57 1 P P **21 43 36.8 +0.7**
E19K IAmb IAmb 21 43 38.3
comp=Z,5.7nm,0.8s
G27K Doyon Strip 78.72 355 P P **21 43 38.1 +1.0**
F21K Alatna River 78.81 359 P P **21 43 38.5 +0.9**
F21K IAmb IAmb 21 43 39.7
comp=Z,3.6nm,0.9s
KSRS Korea Array 78.91 52 P P **21 43 39.1 +0.6**
comp=Z,3.4nm,0.7s,baz=305,slow=4.8,SNR=9.3
KSRS LR LR 22 22 12.8
comp=Z,9.1nm,18.4s,baz=180,slow=39
comp=Z,3.4nm,0.7s
F20K Avaraart Lake 78.99 0 P P **21 43 39.0 +0.5**
F20K IAmb IAmb 21 44 11.9
comp=Z,4.7nm,1.4s
G23K Bananza Creek 79.26 358 P P **21 43 40.3 +0.3**
G23K IAmb IAmb 21 43 41.9
comp=Z,2.9nm,0.9s
I30M Mount Dempster 79.77 352 P P **21 43 42.9 0.0**
G19K Purcell Mounta 79.89 1 P P **21 43 43.9 +0.5**
G19K IAmb IAmb 21 43 59.0
comp=Z,9.9nm,1.5s
H23K Yukon River 80.14 358 P P **21 43 46.2 +1.4**
H23K IAmb IAmb 21 43 47.4
comp=Z,3.0nm,0.8s
H21K Melozitna River 80.38 359 P P **21 43 47.1 +1.0**
H21K IAmb IAmb 21 43 48.6
comp=Z,4.3nm,0.8s
J30M Hart River 80.39 352 P P **21 43 46.9 +0.6**
J30M IAmb IAmb 21 43 48.4
comp=Z,6.2nm,1.2s
COWI Conover 80.40 320 P P **21 43 46.8 +0.3**
COWI IAmb IAmb 21 43 48.3
comp=Z,5.3nm,0.8s
MDM Murphy Dome 80.95 357 P P **21 43 50.0 +0.9**
MDM IAmb IAmb 21 43 51.0
comp=Z,3.1nm,0.7s
ILAR Eielson Array 81.08 357 P P **21 43 50.5 +0.7**
comp=Z,0.5nm,0.7s,baz=353,slow=4.5,SNR=6.0
comp=Z,0.5nm,0.7s
J20K Nowinta River 81.88 360 P P **21 43 54.8 +0.8**
J20K IAmb IAmb 21 43 56.1
comp=Z,4.6nm,0.9s
J19K Poorman 82.06 0 P P **21 43 56.3 +1.3**
J19K IAmb IAmb 21 43 57.4
comp=Z,5.0nm,1.1s
S51A Beattyville 82.47 311 P P **21 43 56.5 -1.2**
M29M Somme Creek 82.70 352 P P **21 43 59.1 +0.6**
M29M IAmb IAmb 21 44 03.2
comp=Z,3.2nm,0.8s
K17K Iditarod 83.31 2 P P **21 44 02.1 +0.6**
JNU Nakatsue 83.39 54 LR LR 22 26 45.9
comp=Z,30nm,19.1s,baz=213,slow=40
L19K White Mountain 83.88 360 P P **21 44 05.5 +1.0**
L19K IAmb IAmb 21 44 19.1
comp=Z,5.8nm,1.3s
SKT Skwentna 84.04 358 P P **21 44 05.0 -0.3**
SUA Susitna One 84.54 358 P P **21 44 08.2 +0.3**
MJAR Matsushiro Ar 86.00 48 P P **21 44 16.5 +0.9**
comp=Z,2.7nm,0.8s,baz=303,slow=6.0,SNR=6.1
comp=Z,2.7nm,0.8s
WRA Warramunga Arr 116.59 97 PKP **PKPdf** **21 50 19.5 +0.1**
comp=Z,0.2nm,0.5s,baz=319,slow=1.9,SNR=1.6

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*IDC **24** 21:40:58.9±0.7, 34.37N×24.99E, h0km, mb4.2/19, mbtmp4.2/28, ML4.2/9, MS3.1/8, Error ellipse: s-maj=13.9km s-min=13.1km az=51.0*
*MOS **24** 21:40:59.5±1.4, 34.21N×25.02E, h18km, mb4.3/16, Error ellipse: s-maj=7.5km s-min=3.8km az=88.3*
*HLW **24** 21:41:01.0, 34.37N×25.15E, h10km±38km, Ml4.1*
*NEIC **24** 21:41:02.2±2.0, 34.33N±0.08×24.99E±0.06, h18km±5km, mb4.3/47, Error ellipse: s-maj=11.8km s-min=6.8km az=175.0*
*ISK **24** 21:41:02.2, 34.39N×25.08E, h9km, ML3.6/24*
*THE **24** 21:41:03.6, 34.40N×25.01E, h0km±1km, ML3.4/8, Error ellipse: s-maj=2.1km s-min=0.6km az=175.0*
*ATH **24** 21:41:03.7, 34.37N×24.99E, h9km±2km, ML3.6/11, Error ellipse: s-maj=5.1km s-min=1.4km az=355.0*
*MCSM **24** 21:41:05.2±1.0, 34°N±8"×2°5E±°, h58km±9km, mb4.2, mB4.5, MLv3.9, Mw(mB)3.7*
*GII **24** 21:41:06.3±0.4, 34.41N±0.02×25.479E±0.008, h40km, Mws4.3, confirmed*
*NIC **24** 21:41:07.1, 33.96N×25.62E, h89km±6km, Ml3.7/10*
*NAO **24** 21:41:10.6, 35.08N×24.47E, h33km, mb3.8*
ISC 24 21:41:02.5±0.8, **34.31N**±0.04×**25.06E**±0.02, **h27**km±5km,

n411,σ1$80/440, mb4.3/62, MS3.0/4, 9C-14D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TMBK	**Timbaki Herakl**	**0.80**	**343**	P	**Pn**	**21 41 18.0**	**0.0**
TMBK	**Timbaki Herakl**	**0.80**	**343**	P	**Pn**	**21 41 18.0**	**0.0**
FRMA	**Ierapetra Chan**	**0.90**	**38**	P	**Pn**	**21 41 21.7**	**+2.3**
FRMA				S	**Sn**	**21 41 36.1**	**+4.6**
	1μm,0.6s						
FRMA	**Ierapetra Chan**	**0.90**	**38**	P	**Pn**	**21 41 21.2**	**+1.9**
FRMA				S	**Sn**	**21 41 35.3**	**+3.9**
FRMA				AML	AML	21 41 43.4	
	comp=N,7753μm,0.8s						
FRMA				AML	AML	21 41 52.9	
	comp=E,5719μm,0.9s						
GVD	**Gavdhos**	**0.96**	**304**	Pg	**Pb**	**21 41 20.5**	**0.0**
GVD	**Gavdhos**	**0.96**	**304**	P	**Pn**	**21 41 20.1**	**-0.1**
GVD				S	**Sn**	**21 41 34.6**	**+1.6**
	comp=E,9μm,0.4s						
GVD	**Gavdhos**	**0.96**	**304**	P	**Pn**	**21 41 20.1**	**-0.1**
GVD				S	**Sb**	**21 41 32.1**	**-0.7**
GVD				AML	AML	21 41 41.5	
	comp=E,19753μm,0.4s						
GVD				AML	AML	21 41 51.2	
	comp=N,18944μm,0.4s						
GVDS	**Gavdos**	**0.96**	**304**	Pg	**Pb**	**21 41 20.8**	**+0.3**
GVDS	**Gavdos**	**0.96**	**304**	P	**Pb**	**21 41 20.5**	**0.0**
GVDS				S	**Sn**	**21 41 35.1**	**+2.1**
	comp=N,5μm,0.4s						
IDI	**Anoyia**	**0.98**	**352**	Pg	**Pn**	**21 41 20.5**	**-0.2**
IDI	**Anoyia**	**0.98**	**352**	P	**Pn**	**21 41 20.5**	**-0.2**
IDI				S	**Sn**	**21 41 34.4**	**+0.6**
	comp=N,2μm,0.6s						
IDI	**Anoyia**	**0.98**	**352**		**Pn**	**21 41 20.3**	**-0.4**
IDI	**Anoyia**	**0.98**	**352**	Pn	**Pn**	**21 41 20.6**	**-0.2**
	comp=N,211nm,0.3s,baz=185,slow=7.6,SNR=430						
IDI				Sn	**Sn**	**21 41 34.9**	**+1.1**
	comp=N,211nm,0.3s,baz=179,slow=23,SNR=7.4						
IDI	**Anoyia**	**0.98**	**352**	P	**Pn**	**21 41 20.5**	**-0.2**
IDI				S	**Sn**	**21 41 34.0**	**+0.2**
IDI				AML	AML	21 41 43.6	
	comp=E,5142μm,0.6s						
IDI				AML	AML	21 41 46.4	
	comp=N,4418μm,0.7s						
KSTL	**Kastelli Herak**	**0.99**	**1**	P	**Pn**	**21 41 20.4**	**-0.3**
KSTL				S	**Sb**	**21 41 33.3**	**-0.4**
	comp=N,1μm,0.5s						
KSTL	**Kastelli Herak**	**0.99**	**1**	P	**Pn**	**21 41 20.3**	**-0.3**
KSTL				AML	AML	21 41 45.9	
	comp=N,8273μm,0.5s						
KSTL				AML	AML	21 41 46.4	
	comp=E,4064μm,0.4s						
PRNS	**Prines Rethymn**	**1.15**	**337**	P	**Pb**	**21 41 23.5**	**-0.2**
PRNS				S	**Sb**	**21 41 38.9**	**+0.7**
	comp=E,1μm,0.6s						
ZKR	**Zakros**	**1.25**	**50**	Pn	**Pb**	**21 41 25.3**	**-0.1**
ZKR	**Zakros**	**1.25**	**50**	P	**Pb**	**21 41 26.2**	**+0.7**
ZKR				S	**Sb**	**21 41 43.1**	**+2.0**
	comp=E,1μm,0.6s						
ZKR	**Zakros**	**1.25**	**50**	S	**Sb**	**21 41 47.8**	**+6.7**
ZKR				AML	AML	21 41 54.8	
	comp=E,2.0nm,0.6s						
ZKR				AML	AML	21 41 56.4	
	comp=E,3.7nm,1.0s						
ZKR	**Zakros**	**1.25**	**50**	P	**Pb**	**21 41 26.1**	**+0.7**
ZKR				S	**Sb**	**21 41 43.2**	**+2.2**
ZKR				AML	AML	21 41 56.0	
	comp=N,2171μm,0.6s						
ZKR				AML	AML	21 41 57.6	
	comp=E,3812μm,1.0s						
IMMV	**Iera Moni Meta**	**1.45**	**323**	Pn	**Pb**	**21 41 28.8**	**0.0**
IMMV	**Iera Moni Meta**	**1.45**	**323**	P	**Pb**	**21 41 28.6**	**-0.3**
IMMV				S	**Sb**	**21 41 47.6**	**+0.8**
	comp=E,3μm,0.5s						
IMMV	**Iera Moni Meta**	**1.45**	**323**	P	**Pb**	**21 41 28.5**	**-0.3**
IMMV				AML	AML	21 41 58.8	
	comp=N,5980μm,0.6s						
IMMV				AML	AML	21 42 11.6	
	comp=E,8210μm,0.7s						
KNDR	**Palaiochora Ch**	**1.46**	**310**	Pn	**Pb**	**21 41 29.5**	**+0.6**
KNDR	**Palaiochora Ch**	**1.46**	**310**	P	**Pb**	**21 41 29.2**	**+0.2**
KNDR				AML	AML	21 42 06.9	
	comp=E,5504μm,0.5s						
KNDR				AML	AML	21 42 09.9	
	comp=N,5067μm,1.1s						
CHAN	**Chania**	**1.47**	**326**	P	**Pb**	**21 41 28.9**	**-0.2**
CHAN				AML	AML	21 42 04.0	
	comp=N,6424μm,0.7s						
CHAN				AML	AML	21 42 07.3	
	comp=E,4101μm,0.7s						
RODP	**Rodopos**	**1.64**	**320**	Pn	**Pb**	**21 41 31.5**	**-0.6**
RODP	**Rodopos**	**1.64**	**320**	P	**Pb**	**21 41 31.8**	**-0.3**
THR6	**Thira Island,**	**2.06**	**8**	P	**Pn**	**21 41 37.3**	**+1.9**
SNT5	**Nea Kammeni, S**	**2.11**	**7**	P	**Pn**	**21 41 37.3**	**+1.3**
THR3	**Thira Island,**	**2.11**	**8**	P	**Pb**	**21 41 38.2**	**-1.9**
THR5	**Thira Island,**	**2.12**	**6**	P	**Pn**	**21 41 38.0**	**+1.8**
ANKY	**Antikythira Is**	**2.12**	**318**	P	**Pn**	**21 41 38.0**	**+1.8**
ANKY	**Antikythira Is**	**2.12**	**318**	P	**Pn**	**21 41 37.6**	**+1.4**
ANKY				AML	AML	21 42 23.9	
	comp=N,1291μm,1.3s						
ANKY				AML	AML	21 42 34.6	
	comp=E,1453μm,1.4s						
THR8	**Santorini-Mono**	**2.12**	**9**	P	**Pn**	**21 41 37.2**	**+1.0**
SNT1	**Gialos, Santor**	**2.12**	**8**	P	**Pn**	**21 41 37.3**	**+1.0**
KARP	**Karpathos**	**2.12**	**54**	Pn	**Pb**	**21 41 38.8**	**-1.5**
KARP	**Karpathos**	**2.12**	**54**	P	**Pb**	**21 41 40.2**	**-0.1**
KARP	**Karpathos**	**2.12**	**54**		**Pb**	**21 41 40.0**	**-0.4**
KARP	**Karpathos**	**2.12**	**54**	P	**Pb**	**21 41 40.1**	**-0.1**
KARP				S	**Sb**	**21 42 04.9**	**-1.4**
KARP				AML	AML	21 42 23.6	
	comp=E,0.7nm,0.5s						
KARP				AML	AML	21 42 29.2	
	comp=E,0.8nm,0.5s						
KARP	**Karpathos**	**2.12**	**54**	P	**Pb**	**21 41 40.8**	**+0.5**
KARP	**Karpathos**	**2.12**	**54**	P	**Pb**	**21 41 40.0**	**-0.4**
KARP				AML	AML	21 42 31.9	
	comp=E,1451μm,0.5s						
KARP				AML	AML	21 42 33.6	
	comp=N,903μm,0.3s						
KARP	**Karpathos**	**2.12**	**54**	P	**Pb**	**21 41 40.3**	**-0.1**
THR2	**Thira island,**	**2.15**	**8**	P	**Pn**	**21 41 38.3**	**+1.6**
CMBO	**Columbo, Santo**	**2.17**	**7**	P	**Pn**	**21 41 38.8**	**+1.8**
MHLO	**Agia Marina, M**	**2.43**	**348**	P	**Pn**	**21 41 41.5**	**+1.0**
MHLO	**Agia Marina, M**	**2.43**	**348**	P	**Pn**	**21 41 41.3**	**+0.8**
APE	**Apeiranthos**	**2.78**	**8**	⇑P	**Pn**	**21 41 46.4**	**+1.1**
APE	**Apeiranthos**	**2.78**	**8**	Pn	**Pn**	**21 41 46.4**	**+1.1**
APE	**Apeiranthos**	**2.78**	**8**	P	**Pn**	**21 41 46.5**	**+1.1**
APE	**Apeiranthos**	**2.78**	**8**	*i* P	**Pn**	**21 41 46.3**	**+1.0**
APE	**Apeiranthos**	**2.78**	**8**	P	**Pn**	**21 41 46.0**	**+0.7**
SLUM	**Salum**	**2.81**	**177**	P	**Pn**	**21 41 46.9**	**+1.1**
	baz=178						
SLUM				S	**Sn**	**21 42 19.6**	**+0.8**
	baz=178						
VLI	**Veliai**	**2.96**	**325**	P	**Pn**	**21 41 48.5**	**+0.8**
VLI	**Veliai**	**2.96**	**325**	P	**Pn**	**21 41 48.6**	**+0.8**
VLI				AML	AML	21 42 34.1	
	comp=E,475μm,0.7s						
VLI				AML	AML	21 42 48.5	
	comp=N,429μm,0.7s						
ARG	**Arkhangelos**	**3.15**	**52**	Pn	**Pn**	**21 41 52.6**	**+2.2**
ARG	**Arkhangelos**	**3.15**	**52**	P	**Pn**	**21 41 53.4**	**+3.0**
ARG	**Arkhangelos**	**3.15**	**52**	Pn	**Pn**	**21 41 52.6**	**+2.2**
ARG	**Arkhangelos**	**3.15**	**52**	P	**Pn**	**21 41 53.4**	**+3.0**
ARG				S	**Sn**	**21 42 30.4**	**+3.3**
ARG				AML	AML	21 42 49.5	
	comp=N,0.3nm,0.6s						
ARG				AML	AML	21 43 14.8	
	comp=N,0.4nm,1.1s						
ARG	**Arkhangelos**	**3.15**	**52**	P	**Pn**	**21 41 52.6**	**+2.2**
DAT	**Datca**	**3.17**	**40**	Pn	**Pn**	**21 41 52.8**	**+2.0**
BODT	**Bodrum**	**3.30**	**33**	Pn	**Pn**	**21 41 54.6**	**+2.1**
KRND	**KRANIDI**	**3.43**	**334**	P	**Pn**	**21 41 55.1**	**+0.8**
KRND	**KRANIDI**	**3.43**	**334**	P	**Pn**	**21 41 55.0**	**+0.7**
TURN	**Turunc**	**3.58**	**46**	Pn	**Pn**	**21 41 58.4**	**+2.2**
EPID	**Epidavros**	**3.65**	**335**	P	**Pn**	**21 41 58.1**	**+0.8**
VLY	**Voula,Athens**	**3.68**	**344**	P	**Pn**	**21 41 58.9**	**+1.2**
VLY	**Voula,Athens**	**3.68**	**344**	P	**Pn**	**21 41 58.6**	**+0.9**
SMG	**Samos**	**3.69**	**23**	P	**Pn**	**21 41 59.5**	**+1.7**
SMG	**Samos**	**3.69**	**23**	P	**Pn**	**21 41 59.4**	**+1.6**
ATH	**Athens Observa**	**3.81**	**344**	P	**Pn**	**21 42 00.6**	**+1.1**
GCAM	**G?zelcaml?**	**3.81**	**27**	Pn	**Pn**	**21 42 01.9**	**+2.4**
ITM	**Ithomi**	**3.83**	**319**	Pn	**Pn**	**21 42 00.5**	**+0.7**
PTL	**Penteli**	**3.85**	**346**	P	**Pn**	**21 42 02.0**	**+1.9**
DALY	**Dalyan (Mula)**	**3.85**	**49**	Pn	**Pn**	**21 42 02.6**	**+2.6**
DION	**Dionisos Attik**	**3.87**	**347**	P	**Pn**	**21 42 02.4**	**+2.1**
FETY	**Fethiye**	**4.02**	**54**	Pn	**Pn**	**21 42 05.1**	**+2.7**
CHOS	**Chios island**	**4.15**	**11**	Pn	**Pn**	**21 42 06.3**	**+2.1**
AKAS	**Kas**	**4.19**	**61**	Pn	**Pn**	**21 42 07.3**	**+2.5**
URLA	**Izmir**	**4.23**	**17**	Pn	**Pn**	**21 42 07.3**	**+2.1**
GUR	**Goura**	**4.23**	**330**	P	**Pn**	**21 42 06.0**	**+0.6**
AYDB	**Zeytinkoy-Aydi**	**4.29**	**31**	Pn	**Pn**	**21 42 08.8**	**+2.6**
CAME	**Cameli-Denizli**	**4.34**	**52**	Pn	**Pn**	**21 42 09.3**	**+2.4**
BLCB	**Balcova**	**4.37**	**21**	Pn	**Pn**	**21 42 08.7**	**+1.6**
DB3	**El Dabaa**	**4.39**	**137**	P	**Pn**	**21 42 07.8**	**+0.3**
	baz=138						
DB3				S	**Sn**	**21 42 56.4**	**-1.4**
	baz=138						
ELL	**Elmali**	**4.64**	**57**	Pn	**Pn**	**21 42 13.9**	**+2.9**
ELL	**Elmali**	**4.64**	**57**	Pn	**Pn**	**21 42 13.5**	**+2.4**
ELL	**Elmali**	**4.64**	**57**	P	**Pn**	**21 42 14.3**	**+3.2**
ELL				AML	AML	21 43 11.3	
	comp=N,0.7nm,0.9s						
ELL				AML	AML	21 43 17.4	
	comp=N,0.6nm,0.7s						
ELL	**Elmali**	**4.64**	**57**	P	**Pn**	**21 42 13.5**	**+2.4**
APMY	**Acipayam-Deniz**	**4.67**	**46**	Pn	**Pn**	**21 42 14.3**	**+2.9**
SWA2		**5.06**	**176**	P	**Pn**	**21 42 17.2**	**+0.5**
	baz=176						
SWA2				S	**Sn**	**21 43 13.0**	**-1.3**
	baz=176						
AGG	**Agios Georgios**	**5.19**	**336**	P	**Pn**	**21 42 20.4**	**+2.0**
AGG	**Agios Georgios**	**5.19**	**336**	Pn	**Pn**	**21 42 20.2**	**+1.8**
AGG	**Agios Georgios**	**5.19**	**336**	P	**Pn**	**21 42 20.2**	**+1.8**
EZN	**Ezine**	**5.60**	**10**	P	**Pn**	**21 42 25.8**	**+1.8**
	comp=N,19nm,0.9s,comp=N,0.1nm						
AKMS	**Akamas**	**6.04**	**81**	P	**Pn**	**21 42 30.1**	**0.0**
AKMS				S	**Sn**	**21 43 34.9**	**-3.5**
AKMS				AML	AML	21 43 41.9	
	comp=N,0.1nm,0.3s						
AKMS				AML	AML	21 43 54.2	
	comp=N,0.1nm,0.4s						
LIT	**Litokhoron**	**6.13**	**341**	Pn	**Pn**	**21 42 32.3**	**+0.9**
LIT	**Litokhoron**	**6.13**	**341**	P	**Pn**	**21 42 32.3**	**+0.9**
NATA	**Nata**	**6.22**	**84**	P	**Pn**	**21 42 32.5**	**-0.1**
NATA				S	**Sn**	**21 43 39.4**	**-3.4**
NATA				AML	AML	21 43 50.8	
	comp=N,0.3nm,0.5s						
NATA				AML	AML	21 43 51.2	
	comp=N,0.2nm,0.7s						
TROD	**Troodos**	**6.47**	**82**	S	**Sn**	**21 43 44.9**	**-4.3**
TROD				AML	AML	21 43 58.5	
	comp=N,0.1nm,0.5s						
TROD				AML	AML	21 44 04.0	
	comp=N,0.1nm,0.5s						
ALN	**Alexandroupoli**	**6.62**	**7**	Pn	**Pn**	**21 42 38.8**	**+0.8**
ALN	**Alexandroupoli**	**6.62**	**7**	P	**Pn**	**21 42 38.8**	**+0.8**
ASGA	**Asgata**	**6.78**	**84**	P	**Pn**	**21 42 39.8**	**-0.4**
ASGA				AML	AML	21 44 01.0	
	comp=N,0.2nm,0.4s						
ASGA				AML	AML	21 44 01.5	
	comp=N,0.1nm,0.4s						
RDO	**Rodhopi**	**6.83**	**3**	Pn	**Pn**	**21 42 42.6**	**+1.7**
CSS	**Mathiatis**	**6.85**	**82**	Pn	**Pn**	**21 42 41.1**	**-0.2**
CSS	**Mathiatis**	**6.85**	**82**	P	**Pn**	**21 42 41.5**	**+0.2**
CSS				AML	AML	21 44 06.7	
	comp=N,0.1nm,0.7s						
CSS				AML	AML	21 44 17.9	
	comp=N,0.1nm,0.8s						
CSS	**Mathiatis**	**6.85**	**82**	P	**Pn**	**21 42 39.9**	**-1.3**
CSS	**Mathiatis**	**6.85**	**82**	S	**Sn**	**21 43 53.0**	**-5.4**
RYAN	**Fayoum**	**6.85**	**138**	P	**Pn**	**21 42 41.4**	**+0.1**
	baz=139						
RYAN				S	**Sn**	**21 43 54.0**	**-4.4**
	baz=139						
FNA	**Florina**	**7.09**	**337**	Pn	**Pn**	**21 42 45.0**	**+0.4**
FNA	**Florina**	**7.09**	**337**	P	**Pn**	**21 42 45.0**	**+0.4**
MVOU	**Mavrovouni**	**7.10**	**82**	P	**Pn**	**21 42 45.0**	**+0.3**
MVOU				AML	AML	21 44 12.7	
	comp=N,0.1nm,0.6s						
MVOU				AML	AML	21 44 13.4	
	comp=N,0.1nm,0.5s						
KBN	**Korca**	**7.16**	**333**	Pn	**Pn**	**21 42 47.7**	**+2.2**
KBN	**Korca**	**7.16**	**333**	P	**Pn**	**21 42 47.7**	**+2.2**
TIP	**Timpagrande**	**8.24**	**309**	⇑P	**Pn**	**21 43 00.4**	**0.0**
TIP	**Timpagrande**	**8.24**	**309**	Pn	**Pn**	**21 42 59.3**	**-1.1**
TAMRE	**El Minia**	**8.30**	**141**	P	**Pn**	**21 43 01.6**	**+0.4**
	baz=141						
CEL	**Celeste**	**8.38**	**301**	Pn	**Pn**	**21 43 01.8**	**-0.5**
KZIT	**Kziot**	**8.58**	**111**	P	**Pn**	**21 43 06.1**	**+1.1**
KZIT	**Kziot**	**8.58**	**111**	S	**Sn**	**21 44 37.0**	**-3.9**
KZIT	**Kziot**	**8.58**	**111**	P	**Pn**	**21 43 04.4**	**-0.6**
SLTI	**Sal'it**	**8.61**	**101**	P	**Pn**	**21 43 04.7**	**-0.8**
SLTI	**Sal'it**	**8.61**	**101**	S	**Sn**	**21 44 37.2**	**-4.4**
ELND	**Elena**	**8.63**	**4**	⇑P	**Pn**	**21 43 06.6**	**+1.0**
MMC7	**Mount Meron ar**	**8.71**	**96**	P	**Pn**	**21 43 06.4**	**-0.4**
MMA0B	**Mount Meron ar**	**8.72**	**96**	P	**Pn**	**21 43 06.2**	**-0.8**
MMA0B	**Mount Meron ar**	**8.72**	**96**	S	**Sn**	**21 44 39.7**	**-4.7**
MMAI	**Mount Meron Ar**	**8.72**	**96**	Pn	**Pn**	**21 43 06.0**	**-1.0**
	comp=N,2.1nm,0.3s,baz=262,slow=12,SNR=9.5						
MMAI				Sn	**Sn**	**21 44 39.2**	**-5.3**
	comp=N,4.7nm,0.3s,baz=268,slow=30,SNR=9.3						
	comp=N,1.0nm,0.3s						
PUK	**Puka**	**8.72**	**334**	Pn	**Pn**	**21 43 06.7**	**-0.2**
BR131	**Keskin Array S**	**8.73**	**49**	*i* P	**Pn**	**21 43 08.9**	**+1.7**
BRTR	**Keskin Array B**	**8.73**	**49**	Pn	**Pn**	**21 43 08.5**	**+1.3**
	comp=N,0.1nm,0.3s,baz=233,slow=12,SNR=3.1						
BRTR				LR	LR	21 47 30.1	
	comp=N,112nm,20.8s,baz=254,slow=45						
AMAZ	**Amatzia**	**8.74**	**106**	P	**Pn**	**21 43 08.1**	**+0.9**
AMAZ	**Amatzia**	**8.74**	**106**	S	**Sn**	**21 44 40.6**	**-4.2**
AMAZ	**Amatzia**	**8.74**	**106**	P	**Pn**	**21 43 06.9**	**-0.3**
SALP	**Salfit**	**8.78**	**102**	P	**Pn**	**21 43 08.8**	**+1.0**
SALP	**Salfit**	**8.78**	**102**	P	**Pn**	**21 43 06.7**	**-1.1**
SALP	**Salfit**	**8.78**	**102**	S	**Sn**	**21 44 41.5**	**-4.5**
MMLI	**Mount Malkishu**	**8.87**	**99**	S	**Sn**	**21 44 43.0**	**-5.0**
MMLI	**Mount Malkishu**	**8.87**	**99**	P	**Pn**	**21 43 07.9**	**-1.1**
ASUT		**8.87**	**139**	P	**Pn**	**21 43 09.4**	**+0.4**
	baz=139						
GEM	**Giv'at Ha'Em**	**8.90**	**94**	P	**Pn**	**21 43 08.3**	**-1.0**
GEM	**Giv'at Ha'Em**	**8.90**	**94**	S	**Sn**	**21 44 43.2**	**-5.5**
NATI	**Neve Ativ**	**8.95**	**94**	P	**Pn**	**21 43 09.2**	**-0.9**
NATI	**Neve Ativ**	**8.95**	**94**	S	**Sn**	**21 44 45.5**	**-4.5**
YTIR	**Yattir**	**8.96**	**106**	P	**Pn**	**21 43 12.6**	**+2.3**
YTIR				S	Sn	21 44 37.5	-13
YTIR	**Yattir**	**8.96**	**106**	P	**Pn**	**21 43 09.6**	**-0.7**
YTIR	**Yattir**	**8.96**	**106**	S	**Sn**	**21 44 46.3**	**-4.1**
HMDT	**Nahal Hemdat**	**9.00**	**100**	P	**Pn**	**21 43 09.9**	**-0.9**
HMDT	**Nahal Hemdat**	**9.00**	**100**	S	**Sn**	**21 44 46.8**	**-4.5**
QRNJ	**Al-Qirein**	**9.02**	**100**	P	**Pn**	**21 43 11.7**	**+0.7**
UJAP	**Al Uja**	**9.04**	**102**	P	**Pn**	**21 43 10.2**	**-1.1**
UJAP	**Al Uja**	**9.04**	**102**	S	**Sn**	**21 44 47.8**	**-4.4**
KSHT	**Keshet**	**9.06**	**95**	P	**Pn**	**21 43 11.2**	**-0.5**
KSHT	**Keshet**	**9.06**	**95**	S	**Sn**	**21 44 48.0**	**-4.9**
DSI	**Dead Sea**	**9.10**	**105**	P	**Pn**	**21 43 12.9**	**+0.8**
DSI	**Dead Sea**	**9.10**	**105**	P	**Pn**	**21 43 11.3**	**-0.8**
DSI	**Dead Sea**	**9.10**	**105**	S	**Sn**	**21 44 49.5**	**-4.1**
RAFF	**Raffo Rosso**	**9.16**	**292**	Pn	**Pn**	**21 43 11.3**	**-1.6**
MDBI	**Mazsada**	**9.17**	**106**	P	**Pn**	**21 43 11.9**	**-1.1**
MSBI	**Mazada**	**9.17**	**106**	P	**Pn**	**21 43 13.8**	**+0.8**
MSBI	**Mazada**	**9.17**	**106**	P	**Pn**	**21 43 12.2**	**-0.9**
MSBI	**Mazada**	**9.17**	**106**	S	**Sn**	**21 44 51.3**	**-4.1**
KRMI	**Paran Flat**	**9.20**	**114**	P	**Pn**	**21 43 12.9**	**-0.5**
KRMI	**Paran Flat**	**9.20**	**114**	S	**Sn**	**21 44 51.0**	**-5.1**
VAE	**Valguarnera**	**9.20**	**293**	Sn	**Sn**	**21 44 50.0**	**-6.1**
	comp=N,0.8nm,0.3s,baz=85,slow=13,SNR=1.7						
LISJ	**El Lisan**	**9.29**	**106**	P	**Pn**	**21 43 16.3**	**+1.6**
PDG	**Podgorica**	**9.29**	**332**	Pn	**Pn**	**21 43 13.3**	**-1.5**
PRNI	**Paran**	**9.29**	**112**	P	**Pn**	**21 43 15.7**	**+0.9**
PRNI	**Paran**	**9.29**	**112**	P	**Pn**	**21 43 14.2**	**-0.7**
PRNI	**Paran**	**9.29**	**112**	S	**Sn**	**21 44 54.8**	**-3.8**
CUC	**Castrocucco**	**9.30**	**310**	Pn	**Pn**	**21 43 15.0**	**+0.1**
GHAJ	**Ghor Haditha**	**9.34**	**106**	Pn	**Pn**	**21 43 15.3**	**0.0**
GHAJ	**Ghor Haditha**	**9.34**	**106**	P	**Pn**	**21 43 17.7**	**+2.3**
GHAJ	**Ghor Haditha**	**9.34**	**106**	P	**Pn**	**21 43 14.9**	**-0.5**
GHAJ	**Ghor Haditha**	**9.34**	**106**	S	**Sn**	**21 44 55.3**	**-4.3**
HRFI	**Mount Harif**	**9.47**	**114**	P	**Pn**	**21 43 18.1**	**+0.9**
HRFI	**Mount Harif**	**9.47**	**114**	P	**Pn**	**21 43 16.9**	**-0.3**
HRFI	**Mount Harif**	**9.47**	**114**	S	**Sn**	**21 44 59.3**	**-3.6**
BLKB	**Belogradchik**	**9.48**	**349**	⇓P	**Pn**	**21 43 20.7**	**+3.4**
MBRI	**Mt Berech**	**9.50**	**116**	P	**Pn**	**21 43 18.4**	**+0.7**
HDK1	**Dakhla**	**9.52**	**156**	P	**Pn**	**21 43 19.1**	**+1.2**
	baz=156						
EIL2	**Elat**	**9.59**	**116**	P	**Pn**	**21 43 18.5**	**-0.4**
EIL2	**Elat**	**9.59**	**116**	S	**Sn**	**21 45 02.5**	**-3.2**
EIL	**Elat**	**9.59**	**116**	Pn	**Pn**	**21 43 18.9**	**+0.1**
	comp=N,1.9nm,0.3s,baz=282,slow=6.4,SNR=13						
EIL				Sn	**Sn**	**21 45 00.5**	**-5.2**
	comp=N,1.3nm,0.3s,baz=266,slow=18,SNR=2.5						
	comp=N,4.6nm,0.4s						
EIL	**Elat**	**9.59**	**116**	P	**Pn**	**21 43 19.0**	**+0.1**
EIL	**Elat**	**9.59**	**116**	P	**Pn**	**21 43 18.4**	**-0.4**
EIL	**Elat**	**9.59**	**116**	S	**Sn**	**21 45 02.8**	**-3.0**
AQBJ	**Aqaba**	**9.63**	**116**	P	**Pn**	**21 43 20.2**	**+0.8**
BOVS	**Bovan**	**9.67**	**345**	⇓P	**Pn**	**21 43 19.8**	**0.0**
BNN	**Bunyan**	**9.79**	**59**	Pn	**Pn**	**21 43 22.7**	**+1.0**
MLR	**Muntele Rosu**	**11.19**	**3**	⇓P	**Pn**	**21 43 42.5**	**+1.8**
MLR	**Muntele Rosu**	**11.19**	**3**	Pn	**Pn**	**21 43 42.0**	**+1.3**
	comp=N,0.1nm,0.3s,baz=270,slow=24,SNR=2.1						
MLR				LR	LR	21 48 43.2	
	comp=N,75nm,21.9s,baz=180,slow=42						
	comp=N,0.8nm,0.6s						
MLR	**Muntele Rosu**	**11.19**	**3**	⇓P	**Pn**	**21 43 42.5**	**+1.8**
GZR	**Gura Zlata**	**11.21**	**352**	⇓P	**Pn**	**21 43 42.1**	**+1.1**
GZR	**Gura Zlata**	**11.21**	**352**	⇓P	**Pn**	**21 43 42.1**	**+1.1**
PLOR	**Plostina**	**11.59**	**6**	⇓P	Pn	21 43 51.6	+5.4
PLOR	**Plostina**	**11.59**	**6**	⇓P	Pn	21 43 51.6	+5.4
VRI	**Vrincioaia**	**11.61**	**6**	⇑P	Pn	21 43 51.3	+4.8
VRI	**Vrincioaia**	**11.61**	**6**	⇑P	Pn	21 43 51.3	+4.8
NRCA	**Norcia**	**12.63**	**316**	Pn	**Pn**	**21 44 01.9**	**+1.5**
MORH	**Mrgy, Hungar**	**12.85**	**340**	⇑P	**Pn**	**21 44 02.6**	**-0.8**
BURAR	**Bucovina Array**	**13.29**	**0**	⇓P	**P**	**21 44 15.3**	**-3.7**
BURAR	**Bucovina Array**	**13.29**	**0**	Pn	**Pn**	**21 44 11.3**	**+1.8**
BURAR	**Bucovina Array**	**13.29**	**0**	P	**Pn**	**21 44 11.3**	**+1.8**
BUR08	**Bucovina Ar. S**	**13.32**	**0**	Pn	**Pn**	**21 44 12.8**	**+2.9**
SORM	**Soroca**	**14.03**	**9**	P	**Pn**	**21 44 22.8**	**+3.4**
SOKA	**Soboth**	**14.50**	**331**	*e*Pn	**Pn**	**21 44 24.4**	**-1.6**
	comp=N,0.3nm,0.3s						
OBKA	**Obir**	**14.56**	**330**	*i* Pn	**P**	**21 44 33.7**	**+0.7**
	comp=N,1.0nm,0.3s						
SABO	**M.te Sabotino**	**14.56**	**327**	Pn	**Pn**	**21 44 24.5**	**-2.2**
ARSA	**Arzberg**	**14.79**	**334**	*e*Pn	**P**	**21 44 36.9**	**+1.3**
	comp=N,2.6nm,0.4s						
CRVS	**Cervenica-Dubn**	**14.82**	**351**	*e*P	**P**	**21 44 34.2**	**-1.7**
CRVS	**Cervenica-Dubn**	**14.82**	**351**	*e*P	**P**	**21 44 34.2**	**-1.7**
RONA	**Rosalia, Austr**	**14.91**	**336**	⇑*i*Pn	**P**	**21 44 37.1**	**+0.3**
	comp=N,0.6nm,0.4s,SNR=6.1						
VYHS	**Vyhne**	**14.91**	**344**	*e*P	**P**	**21 44 37.9**	**+1.1**
VYHS	**Vyhne**	**14.91**	**344**	*e*P	**P**	**21 44 37.9**	**+1.1**
STAL	**STALIGIAL**	**15.18**	**325**	P	**P**	**21 44 39.7**	**-0.2**
MODS	**Modra-Piesok**	**15.20**	**340**	*e*P	**P**	**21 44 40.9**	**+0.8**
MODS	**Modra-Piesok**	**15.20**	**340**	*e*P	**P**	**21 44 40.9**	**+0.8**
CIMO	**Cimolais**	**15.35**	**325**	P	**P**	**21 44 41.3**	**-0.4**
CIMO				IAmb	IAmb	21 44 45.8	
	comp=Z,3.1nm,0.7s						
CTI	**Castel Tesino**	**15.54**	**323**	P	**P**	**21 44 44.0**	**0.0**
CTI

SENIN	**Lac Senin/Sane**	**18.07**	**317**		**P**		**21 45 12.4**	**+0.4**
SENIN				IAmb	IAmb		21 45 21.4	
	comp=Z,17nm,0.8s							
BRG	**Berggiesshubel**	**18.43**	**337**	*eP*	**P**		**21 45 15.7**	**0.0**
BRG				Amp			21 45 17.3	
	comp=Z,3.1nm,0.7s							
BFO	**Black Forest**	**18.76**	**323**	P	**P**		**21 45 19.7**	**+0.3**
BFO	**Black Forest**	**18.76**	**323**	P	**P**		**21 45 19.7**	**+0.3**
BFO				pmax	pmax			
	comp=Z,3.0nm,0.7s							
MOX	**Moxa**	**19.05**	**333**	P	**Pn**		**21 45 23.2**	**-0.2**
MOX				pmax	pmax			
	comp=Z,7.0nm,1.0s							
CLL	**Collm**	**19.11**	**336**	*eP*	**P**		**21 45 23.0**	**-0.1**
CLL				*i* pP	**pP**		**21 45 28.0**	**-1.7**
CLL	**Collm**	**19.11**	**336**	*eP*	**P**		**21 45 23.0**	**-0.1**
ECH	**Echery**	**19.27**	**321**	P	**Pn**		**21 45 26.3**	**+0.1**
ECH	**Echery**	**19.27**	**321**	P	**Pn**		**21 45 26.3**	**+0.1**
ECH				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SUW	**Suwalki**	**19.74**	**357**	P	**P**		**21 45 28.5**	**-1.6**
SUW				pmax	pmax			
	comp=Z,73nm,0.8s							
MNK	**Minsk**	**20.29**	**5**	*i* P	**P**		**21 45 34.2**	**-1.7**
	comp=E,5.0nm,0.9s,baz=175							
MNK				*i* P	**P**		**21 45 34.2**	**-1.7**
	comp=N,7.0nm,0.8s,baz=175							
MNK				*i* P	**P**		**21 45 34.2**	**-1.7**
	comp=Z,6.0nm,0.8s,baz=175							
MNK				*i* pP	**pwP**		**21 45 44.2**	**-1.0**
	baz=175							
MNK				*i* PP	**PnPn**		**21 45 51.4**	**-1.6**
	baz=175							
MNK				*i* S	**S**		**21 49 18.7**	**-3.3**
	baz=175							
MNK				*i* sS	**pS**		**21 49 35.3**	**-0.6**
	baz=175							
MNK				*i* SS	**SnSn**		**21 49 38.7**	**-1.6**
	baz=175							
MNK				*i* LQ	LQ		21 51 43.2	
	baz=175							
MNK				*i* LR	LR		21 53 15.1	
	baz=175							
MNK				*i* LRM	MLR		21 54 37.9	
	comp=N,43nm,12.7s,baz=175							
MNK				*i* LRM	MLR		21 54 42.5	
	comp=Z,33nm,10.1s,baz=175							
MNK				*i* LRM	MLR		21 54 44.2	
	comp=E,10.0nm,9.8s,baz=175							
MNK	**Minsk**	**20.29**	**5**	*i* P	**P**		**21 45 34.2**	**-1.7**
MNK				*i* *PP	**pwP**		**21 45 44.2**	**-1.0**
MNK				*i*			21 45 51.4	
MNK				*i* S	**S**		**21 49 18.7**	**-3.3**
MNK				pmax	pmax			
	comp=N,7.0nm,0.9s							
MNK				pmax	pmax			
	comp=Z,6.0nm,0.9s							
MNK				pmax	pmax			
	comp=E,5.0nm,0.9s							
MNK				MLR	MLR			
	comp=N,43nm,13.0s							
MNK				MLR	MLR			
	comp=Z,33nm,10.0s							
MNK				MLR	MLR			
	comp=E,10.0nm,10.0s							
CEST	**Esterri de Car**	**20.35**	**301**	P	**P**		**21 45 37.8**	**+0.8**
CEST				IAmb	IAmb		21 45 42.7	
	comp=Z,12nm,1.2s							
CAF	**Calviac**	**20.57**	**308**	*eP*	Pn		21 45 41.5	-0.1
TAM	**Tamanrasset**	**20.60**	**241**	P	**P**		**21 45 39.8**	**-0.1**
TAM	**Tamanrasset**	**20.60**	**241**	P	**P**		**21 45 39.8**	**-0.1**
TAM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
NACGM	**Naroch**	**20.63**	**3**	*eP*	**P**		**21 45 40.1**	**+0.4**
	comp=N,600nm,0.8s							
IDID	**Didziasalis**	**21.04**	**3**	*eP*	**P**		**21 45 44.2**	**+0.2**
PABE	**Paberze**	**21.21**	**358**	IAmb	IAmb		21 45 49.7	
	comp=Z,12nm,0.6s							
PABE	**Paberze**	**21.21**	**358**	*eP*	**P**		**21 45 44.2**	**-1.7**
ISAL	**Salakas**	**21.27**	**2**	*eP*	**P**		**21 45 46.3**	**-0.3**
BTNL	**Ternell**	**21.34**	**325**	*dP*	**P**		**21 45 47.9**	**+0.5**
MEM	**Membach**	**21.41**	**325**	*dP*	**P**		**21 45 48.9**	**+0.7**
	comp=Z,9.4nm,1.0s							
LFF	**La Frestale**	**21.45**	**307**	*eP*	**P**		**21 45 51.8**	**+3.2**
LFF				pmax	pmax			
	comp=Z,5.0nm,0.7s							
RCHB	**Rochefort**	**21.49**	**323**	*dP*	**P**		**21 45 53.5**	**+4.5**
DOU	**Dourbes**	**21.77**	**323**	*dP*	**P**		**21 45 52.9**	**+0.9**
BSD	**Bornholm Skovb**	**21.97**	**344**	*eP*	**P**		**21 45 51.2**	**-2.8**
BSD	**Bornholm Skovb**	**21.97**	**344**	*i* P	**P**		**21 45 50.0**	**-4.1**
OBN	**Obninsk**	**22.29**	**18**	*eP*	**P**		**21 45 57.6**	**0.0**
OBN				*e*			21 46 19.5	
OBN				*eS*	**S**		**21 49 52.9**	**-8.2**
OBN				pmax	pmax			
	comp=Z,13nm,1.0s							
OBN				MLR	MLR			
	comp=Z,55nm,15.0s							
MFF	**Saint Martin d**	**22.66**	**310**	*eP*	**P**		**21 46 02.1**	**+0.5**
MFF				pmax	pmax			
	comp=Z,7.0nm,0.8s							
DEL	**Delary**	**23.45**	**344**	*eP*	**P**		**21 46 07.2**	**-2.3**
DEL	**Delary**	**23.45**	**344**	*i* P	**P**		**21 46 06.5**	**-3.0**
ESDC	**Sonseca Array**	**23.73**	**292**	P	**P**		**21 46 11.6**	**-0.9**
	comp=Z,2.6nm,0.8s,baz=83,slow=9.5,SNR=20							
	comp=Z,2.6nm,0.8s							
BELG	**Belogornoye**	**24.24**	**35**	*i* P	**P**		**21 46 17.1**	**+0.1**
BELG				pmax	pmax			
	comp=Z,5.0nm,1.1s							
MTSE	**Matsula**	**24.43**	**358**	*eP*	**P**		**21 46 18.1**	**-0.5**
MUD	**Monsted U'grnd**	**24.68**	**339**	*i* P	**P**		**21 46 20.0**	**-0.9**
MUD				IAmb	IAmb		21 46 22.7	
	comp=Z,6.6nm,0.8s							
VIKU	**Vikbolandet**	**24.84**	**350**	*eP*	**P**		**21 46 20.7**	**-1.7**
ARBE	**Arbavere**	**25.14**	**1**	*eP*	**P**		**21 46 24.2**	**-0.9**
TJOU	**Tjoern**	**25.39**	**343**	*i* P	**P**		**21 46 26.6**	**-0.8**
MEF	**Metsahovi**	**25.92**	**359**	*eP*	**P**		**21 46 31.7**	**-0.5**
PBRG	**Braganca**	**26.02**	**296**	*eP*	**P**		**21 46 33.8**	**+0.4**
	comp=Z,17nm,1.6s							
PBAR	**Barrancos**	**26.10**	**288**	*eP*	**P**		**21 46 36.3**	**+2.2**
MVO	**Moncorvo**	**26.18**	**295**	*eP*	**P**		**21 46 36.8**	**+1.9**
	comp=Z,6.4nm,0.7s							
PMRV	**Marv??o**	**26.37**	**291**	*eP*	**P**		**21 46 36.7**	**+0.2**
	comp=Z,2.3nm,0.6s							
HOMB	**Homborsund**	**26.41**	**340**	*i* P	**P**		**21 46 35.0**	**-1.6**
MTE	**Manteigas**	**26.52**	**293**	*eP*	**P**		**21 46 38.1**	**+0.2**
	comp=Z,1.9nm,0.7s							
PESTR	**Estremoz**	**26.52**	**289**	*eP*	**P**		**21 46 38.1**	**+0.2**
	comp=Z,9.5nm,3.0s							
PVAQ	**Vaqueiros**	**26.67**	**286**	*eP*	**P**		**21 46 39.8**	**+0.6**
	comp=Z,14nm,1.6s							
PBEJ	**Beja**	**26.76**	**288**	*eP*	**P**		**21 46 42.9**	**+2.9**
	comp=Z,2.1nm,0.7s							
PVIS	**Viseu**	**26.80**	**294**	*eP*	**P**		**21 46 41.2**	**+0.7**
	comp=Z,2.3nm,0.7s							
RAF	**Rauma**	**26.81**	**356**	*eP*	**P**		**21 46 39.1**	**-1.1**
SNART	**Snartemo**	**26.84**	**339**	*i* P	**P**		**21 46 40.1**	**-0.3**
HFS	**Hagfors**	**26.88**	**347**	P	**P**		**21 46 39.7**	**-1.2**
	comp=Z,2.1nm,0.5s,baz=152,slow=12,SNR=24							
	comp=Z,2.1nm,0.5s							
FINES	**FINESS Array B**	**27.16**	**1**	P	**P**		**21 46 41.5**	**-1.8**
FINES	**FINESS Array B**	**27.16**	**1**	P	**P**		**21 46 42.0**	**-1.3**
	comp=Z,1.7nm,0.3s,baz=163,slow=10,SNR=38							
FINES				PcP	**PcP**		**21 50 03.8**	**+0.6**
	comp=Z,0.7nm,0.4s,baz=197,slow=2.3,SNR=7.3							
FINES				LR	LR		21 59 36.0	
	comp=Z,48nm,18.7s,baz=190,slow=41							
	comp=Z,1.7nm,0.3s							
FIA1	**FINESS Array S**	**27.16**	**1**	P	**P**		**21 46 40.9**	**-2.5**
KONO	**Kongsberg**	**27.31**	**343**	P	**P**		**21 46 43.3**	**-1.4**
KONO	**Kongsberg**	**27.31**	**343**	P	**P**		**21 46 43.3**	**-1.4**
KONO				pmax	pmax			
	comp=Z,17nm,1.5s							
VALR	**Valaam**	**27.32**	**6**	*i* P	**P**		**21 46 44.2**	**-0.6**
VALR				pmax	pmax			
	comp=Z,9.0nm,0.9s							
NC602	**NORSAR Array S**	**27.85**	**346**	P	**P**		**21 46 48.3**	**-1.2**
NC602				IAmb	IAmb		21 46 52.8	
	comp=Z,7.4nm,1.2s							
KEF	**Keuruu**	**27.88**	**360**	*eP*	**P**		**21 46 49.0**	**-0.8**
NAO01	**NORSAR Array S**	**28.09**	**345**	P	**P**		**21 46 50.1**	**-1.6**
KLMR	**Klimovskoe**	**28.16**	**15**	*eP*	**P**		**21 46 50.1**	**-2.2**
NB2	**NORSAR Subarra**	**28.20**	**346**	P	**P**		**21 46 51.9**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**28.20**	**346**	P	**P**		**21 46 51.1**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=142,slow=9.5,SNR=16							
	comp=Z,0.4nm,0.3s							

EKA	**Eskdalemuir Ar**	**28.69**	**326**	P	**P**		**21 46 56.8**	**-0.3**
	comp=Z,2.4nm,0.8s,baz=128,slow=9.6,SNR=9.3							
	comp=Z,2.4nm,0.8s							
VAF	**Ylistaro**	**28.79**	**358**	*eP*	**P**		**21 46 56.9**	**-0.9**
JOF	**Joensuu**	**28.90**	**6**	*eP*	**P**		**21 46 57.5**	**-1.3**
TOA0	**Torodi Ar. Sit**	**29.88**	**231**	P	**P**		**21 47 08.5**	**+0.5**
TOA0				IAmb	IAmb		21 47 10.5	
	comp=Z,4.9nm,0.6s							
TORD	**Torodi Ar. Bea**	**29.88**	**231**	P	**P**		**21 47 08.8**	**+0.8**
	comp=Z,5.0nm,0.5s,baz=33,slow=9.0,SNR=30							
	comp=Z,5.0nm,0.5s							
ARU	**Arti**	**31.79**	**36**	P	**P**		**21 47 24.5**	**+0.1**
ARU				IAmb	IAmb		21 47 25.6	
	comp=Z,4.7nm,0.8s							
ARU	**Arti**	**31.79**	**36**	LR	LR		22 00 50.6	
	comp=Z,21nm,18.7s,baz=272,slow=38							
ARU	**Arti**	**31.79**	**36** *c*	*i* P	**P**		**21 47 23.5**	**-1.0**
ARU				S	**S**		**21 52 30.7**	**-2.2**
ARU				pmax	pmax			
	comp=Z,11nm,1.5s							
ARU	**Arti**	**31.79**	**36**	P	**P**		**21 47 24.6**	**+0.1**
	comp=Z,7.6nm,0.8s							
SVE	**Sverdlovsk**	**32.99**	**36**	*eP*	**P**		**21 47 35.6**	**+0.6**
SVE				pmax	pmax			
	comp=Z,12nm,0.5s							
ARCES	**ARCESS Array B**	**35.28**	**0**	P	**P**		**21 47 53.1**	**-1.6**
ARCES	**ARCESS Array B**	**35.28**	**0**	P	**P**		**21 47 52.9**	**-1.8**
	comp=Z,2.4nm,0.7s,baz=178,slow=8.6,SNR=20							
	comp=Z,2.4nm,0.7s							
ARCES	**ARCESS Array B**	**35.28**	**0**	P	**P**		**21 47 53.1**	**-1.6**
ARCES				pmax	pmax			
	comp=Z,22nm,1.5s							
KKAR	**Karatay Array**	**36.17**	**62**	P	**P**		**21 48 04.0**	**+1.3**
KKAR	**Karatay Array**	**36.17**	**62**	P	**P**		**21 48 04.0**	**+1.3**
GAR	**Garm**	**36.32**	**69**	P	**P**		**21 48 05.9**	**+1.7**
GAR				IAmb	IAmb		21 48 17.8	
	comp=Z,3.6nm,0.9s							
BRVK	**Borovoye**	**36.94**	**45**	*i* P	**P**		**21 48 09.1**	**0.0**
BRVK				pmax	pmax			
	comp=Z,2.0nm,1.0s							
BVAR	**Borovoye Array**	**37.00**	**46**	P	**P**		**21 48 09.2**	**-0.4**
	comp=Z,0.6nm,0.5s,baz=268,slow=4.3,SNR=5.9							
	comp=Z,0.6nm,0.5s							
KURBB	**Kurchatov Arra**	**41.72**	**50**	P	**P**		**21 48 50.0**	**+1.0**
	comp=Z,2.4nm,0.4s,baz=277,slow=8.8,SNR=45							
	comp=Z,2.4nm,0.4s							
KURK	**Kurchatov**	**41.78**	**50**	P	**P**		**21 48 49.4**	**-0.1**
KURK				IAmb	IAmb		21 48 51.2	
	comp=Z,4.9nm,0.8s							
KURK	**Kurchatov**	**41.78**	**50**	*i* P	**P**		**21 48 49.5**	**0.0**
KURK				pmax	pmax			
	comp=Z,4.0nm,0.9s							
SPB2	**Spitsbergen Ar**	**44.13**	**357**	P	**P**		**21 49 07.4**	**-0.8**
SPITS	**Spitsbergen Ar**	**44.13**	**357**	P	**P**		**21 49 08.1**	**-0.1**
	comp=Z,1.5nm,0.3s,baz=152,slow=11,SNR=48							
	comp=Z,1.5nm,0.3s							
SPITS	**Spitsbergen Ar**	**44.13**	**357**	P	**P**		**21 49 08.3**	**+0.1**
MK31	**Makanchi Array**	**44.32**	**56**	P	**P**		**21 49 11.0**	**+0.8**
MK31				IAmb	IAmb		21 49 12.1	
	comp=Z,3.5nm,1.0s							
MK31	**Makanchi Array**	**44.32**	**56**	P	**P**		**21 49 11.0**	**+0.8**
MK31				pmax	pmax			
	comp=Z,4.0nm,1.0s							
MKAR	**Makanchi Array**	**44.32**	**56**	P	**P**		**21 49 11.3**	**+1.1**
	comp=Z,2.8nm,0.7s,baz=267,slow=7.5,SNR=31							
	comp=Z,2.8nm,0.7s							
ZAA0	**Zalesovo Array**	**45.66**	**46**	P	**P**		**21 49 20.5**	**-0.1**
ZALV	**Zalesovo Beam**	**45.66**	**46**	P	**P**		**21 49 20.5**	**-0.1**
ZALV	**Zalesovo Beam**	**45.66**	**46**	P	**P**		**21 49 20.8**	**+0.2**
	comp=Z,6.1nm,0.4s,baz=272,slow=8.7,SNR=29							
	comp=Z,6.1nm,0.4s							
DAG	**Danmarks Havn**	**46.86**	**347**	*i* P	**P**		**21 49 28.8**	**-0.9**
DAG				IAmb	IAmb		21 49 30.8	
	comp=Z,4.0nm,0.8s							
WMQ	**Urumqi**	**48.51**	**59**	*eP*	**P**		**21 49 46.4**	**+3.3**
WMQ				pP	sP		21 49 54.0	+0.3
WMQ				pmax	pmax			
	comp=Z,17nm,0.7s							
ICESG	**Greenland Ices**	**49.41**	**335**	*i* P	**P**		**21 49 50.1**	**+0.1**
SUMG	**Summit**	**49.74**	**339**	P	**P**		**21 49 53.5**	**+1.0**
SUMG				IAmb	IAmb		21 50 10.9	
	comp=Z,4.0nm,1.0s							
SUMG	**Summit**	**49.74**	**339**	P	**P**		**21 49 53.5**	**+1.0**
SUMG				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SUMG	**Summit**	**49.74**	**339**	*i* P	**P**		**21 49 52.9**	**+0.4**
SUMG				IAmb	IAmb		21 49 54.1	
	comp=Z,2.6nm,0.7s							
NOR	**Nord**	**49.77**	**353**	*i* P	**P**		**21 49 51.6**	**-0.6**
NOR				IAmb	IAmb		21 49 53.8	
	comp=Z,4.6nm,0.7s							
DY2G	**Dye2**	**51.66**	**331**	*i* P	**P**		**21 50 08.0**	**+1.1**
DY2G				IAmb	IAmb		21 50 08.6	
	comp=Z,5.7nm,0.8s							
SONM	**Songino Array**	**60.09**	**50**	P	**P**		**21 51 07.8**	**+0.4**
	comp=Z,1.6nm,0.6s,baz=293,slow=9.1,SNR=9.1							
	comp=Z,1.6nm,0.6s							
SONM	**Songino Array**	**60.09**	**50**	*eP*	**P**		**21 51 08.4**	**+0.9**
SONM				pmax	pmax			
	comp=Z,2.0nm,0.6s							
ULN	**Ulaanbaatar**	**60.50**	**50**	*i* P	**P**		**21 51 09.9**	**-0.4**
ULN				pmax	pmax			
	comp=Z,3.0nm,1.0s							
TIXI	**Tiksi**	**61.99**	**20**	*i* P	**P**		**21 51 19.2**	**-0.5**
TIXI				pmax	pmax			
	comp=Z,1.0nm,1.0s							
BOSA	**Boshof**	**62.58**	**180**	P	**P**		**21 51 25.4**	**+1.1**
BOSA	**Boshof**	**62.58**	**180**	P	**P**		**21 51 25.3**	**+1.0**
	comp=Z,2.3nm,1.0s,baz=342,slow=6.2,SNR=5.1							
	comp=Z,2.3nm,1.0s							
BOSA	**Boshof**	**62.58**	**180**	P	**P**		**21 51 25.4**	**+1.0**
BOSA				pmax	pmax			
	comp=Z,12nm,1.4s							
SCHQ	**Schefferville**	**63.78**	**320**	P	**P**		**21 51 32.0**	**0.0**
SCHQ				IAmb	IAmb		21 51 45.2	
	comp=Z,3.0nm,0.9s							
SCHQ	**Schefferville**	**63.78**	**320**	P	**P**		**21 51 32.0**	**0.0**
	comp=Z,2.8nm,0.4s,baz=72,slow=5.2,SNR=16							
	comp=Z,2.8nm,0.4s							
PZH	**PanZhiHua**	**65.17**	**74**	P	**P**		**21 51 43.6**	**+1.9**
PZH				pmax	pmax			
	comp=Z,7.0nm,0.7s							
PZH				pmax	pmax			
	comp=Z,90nm,4.3s							
HHC	**Hu-ho-hao-te**	**66.18**	**56**	*eP*	**P**		**21 51 49.6**	**+1.6**
HHC				pmax	pmax			
	comp=Z,58nm,4.4s							
HEH	**HeiHe**	**71.55**	**41**	*eP*	**P**		**21 52 21.9**	**+0.9**
HEH				pmax	pmax			
	comp=Z,6.0nm,0.8s							
HEH				pmax	pmax			
	comp=Z,73nm,5.1s							
C23K	**Itkillik River**	**76.11**	**358**	P	**P**		**21 52 48.4**	**+1.0**
C23K				IAmb	IAmb		21 53 12.1	
	comp=Z,3.2nm,1.1s							
B21K	**Ikpikpuk River**	**76.37**	**360**	P	**P**		**21 52 49.5**	**+0.6**
B21K				IAmb	IAmb		21 52 51.0	
	comp=Z,4.5nm,0.9s							
E29M	**Blow River**	**76.82**	**354**	P	**P**		**21 52 52.2**	**+0.8**
D19K	**Kuna River**	**77.48**	**1**	P	**P**		**21 52 55.5**	**+0.3**
USRK	**Ussuriysk Ar.**	**77.50**	**45**	P	**P**		**21 52 56.1**	**+0.4**
	comp=Z,3.0nm,0.6s,baz=301,slow=5.1,SNR=7.0							
	comp=Z,3.0nm,0.6s							
E24K	**Your Creek**	**77.81**	**358**	P	**P**		**21 52 57.6**	**+0.5**
BMAR	**Burnt Mountain**	**78.27**	**356**	P	**P**		**21 53 01.3**	**+1.7**
E19K	**Redstone River**	**78.53**	**1**	P	**P**		**21 53 01.2**	**+0.1**
E19K				IAmb	IAmb		21 53 02.7	
	comp=Z,3.0nm,0.8s							
F21K	**Alatna River**	**78.78**	**359**	P	**P**		**21 53 03.0**	**+0.6**
F21K				IAmb	IAmb		21 53 04.4	
	comp=Z,2.7nm,0.9s							
KSRS	**Korea Array**	**78.87**	**52**	P	**P**		**21 53 04.5**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=308,slow=5.4,SNR=4.8							
	comp=Z,1.2nm,0.7s							
F20K	**Avaraart Lake**	**78.96**	**0**	P	**P**		**21 53 03.6**	**+0.3**
F20K				IAmb	IAmb		21 53 36.5	
	comp=Z,4.8nm,1.5s							
G21K	**Allakaket**	**79.49**	**359**	P	**P**		**21 53 06.8**	**+0.5**
G21K				IAmb	IAmb		21 53 14.7	
	comp=Z,5.8nm,1.4s							
I28M	**Miner Creek**	**79.88**	**354**	P	**P**		**21 53 08.5**	**-0.1**
I28M				IAmb	IAmb		21 53 51.4	
	comp=Z,2.4nm,1.2s							
H21K	**Melozitna Rive**	**80.34**	**359**	P	**P**		**21 53 12.4**	**+1.5**
H21K				IAmb	IAmb		21 53 13.3	
	comp=Z,1.9nm,0.7s							

H19K	**Roundabout Mou**	**80.48**	**1**	P	**P**		**21 53 11.8**	**+0.2**
MLY	**Manley**	**80.93**	**358**	P	**P**		**21 53 15.1**	**+1.0**
ILAR	**Eielson Array**	**81.04**	**357**	P	**P**		**21 53 15.8**	**+1.1**
	comp=Z,0.4nm,0.8s,baz=346,slow=6.1,SNR=4.3							
	comp=Z,0.4nm,0.8s							
ILAR	**Eielson Array**	**81.04**	**357**	*eP*	**P**		**21 53 15.3**	**+0.6**
J20K	**Nowinta River**	**81.84**	**360**	P	**P**		**21 53 19.1**	**+0.2**
J20K				IAmb	IAmb		21 53 47.4	
	comp=Z,3.1nm,1.1s							
BCAR	**Beaver Creek A**	**82.39**	**354**	P	**P**		**21 53 23.3**	**+1.5**
MJAR	**Matsushiro Arr**	**85.95**	**48**	P	**P**		**21 53 41.9**	**+1.4**
	comp=Z,1.4nm,0.7s,baz=318,slow=1.6,SNR=2.3							
	comp=Z,1.4nm,0.7s							

NEIC ***24*** *21:51:51.9±1.0, 19.39N±0.03×154.92W±0.02, h5km±1km, Error ellipse: s-maj=5.1km s-min=2.9km az=333.0*

HVO 24 21:51:51.6±1.3, 19.40N±0.03×154.91W±0.02, h3km±6km, ML2.5/8, ML2.6/25(NEIC), Error ellipse: s-maj=4.8km s-min=1.5km az=141.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.09**	**11**		Pg	21 51 55.3	+1.8
PHO	**Puu Honuaula**	**0.09**	**11**		Pg	21 51 53.8	+0.3
JOKA	**Jonika Flow**	**0.10**	**293**	Pg	Pg	21 51 54.0	+0.3
JOKA					Sg	21 51 56.1	+1.0
PAH	**Pahoa**	**0.11**	**340**	Pg	Pg	21 51 54.1	+0.4
NPOC	**North of Pu'u**	**0.19**	**269**		Pg	21 51 58.2	+2.8
STCH	**Steam Cracks**	**0.21**	**267**	Pg	Pg	21 51 55.8	+0.2
KNHH	**Kane Nui o Ham**	**0.25**	**267**	Pg	Pg	21 51 57.0	+0.6
PUH	**Pauahi**	**0.29**	**266**	Pg	Pg	21 51 57.5	+0.2
PUH				Sg	Sg	21 52 01.9	+0.7
PUH				IAML		21 52 06.6	
	comp=N,1μm,0.9s						
RSD	**Rainshed**	**0.36**	**281**	Pg	Pg	21 51 58.4	-0.2
RSD				Sg	Sg	21 52 03.7	+0.5
RSD				IAML		21 52 05.5	
	comp=N,1μm,1.0s						
MLH	**Mauna Loa**	**0.46**	**282**	Pg	Pg	21 52 00.2	-0.3
MLH				Sg	Sg	21 52 07.6	+1.0
MLH				IAML		21 52 07.8	
	comp=E,426nm,1.4s						
MLH				IAML		21 52 12.8	
	comp=N,668nm,1.2s						
HMH	**Humu'ula Sheep**	**0.58**	**291**	Pg	Pg	21 52 02.7	-0.1
HMH				IAML		21 52 16.9	
	comp=E,582nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.65**	**283**	Pg	Pg	21 52 02.9	-1.2
MLOA				Sg	Sg	21 52 12.4	-0.1
MLOA				IAML		21 52 15.1	
	comp=N,244nm,1.0s						
MLOA				IAML		21 52 20.4	
	comp=E,264nm,1.4s						
MWH	**Moku'aweowe**	**0.66**	**278**	Pg	Pg	21 52 02.8	-1.4
KHU	**Kahuku**	**0.68**	**258**	Pg	Pg	21 52 03.9	-0.9
KHU				IAML		21 52 08.6	
	comp=N,270nm,1.4s						
KHU				IAML		21 52 21.8	
	comp=E,259nm,1.3s						
HUH	**Hualalai**	**0.92**	**288**	Pg	Pg	21 52 09.3	0.0

IDC 24 21:53:35.3±9.2, 3.61S×138.80E, h0km, mb3.2/2, mbtmp3.3/3, ML3.4/1, Error ellipse: s-maj=383.8km s-min=34.0km az=86.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.81**	**195**	Pn	P	21 57 33.7	-0.8
	0.1nm,0.3s,baz=14,slow=12,SNR=8.4						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**20.49**	**193**	P	P	21 58 14.3	-0.7
	0.5nm,0.5s,baz=15,slow=10,SNR=7.8						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**70.56**	**323**	P	P	22 04 52.4	+0.1
	0.2nm,0.6s,baz=136,slow=7.0,SNR=2.1						
	0.2nm,0.6s						

TEH ***24*** *22:09:44.9, 37.19N×55.90E, h8km, 29km, ML3.4*
IDC ***24*** *22:09:45.9±2.4, 37.08N×55.88E, h0km, mb3.0/2, mbtmp3.3/4, ML3.0/2, Error ellipse: s-maj=27.9km s-min=16.1km az=6.0*

ISC 24 22:09:47.4±0.8, 37.25N±0.06×55.89E±0.04, h10km, n37, σ1.9 10/39, 1C-3D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMND	**Minoodasht**	**0.39**	**272**	Pg	**Pg**	**22 09 54.2**	**-0.8**
SBZV	**Sabzevar**	**1.63**	**121**	Pg	**Pn**	**22 10 15.7**	**-0.6**
ISFR	**Sfrayin**	**1.70**	**96**	Pg	**Pn**	**22 10 17.1**	**-0.3**
IGLO	**Ghaloghah**	**1.81**	**246**	Pg	**Pn**	**22 10 19.2**	**+0.3**
GEYT	**Alibeck**	**1.90**	**68**	Pg	**Pb**	**22 10 22.1**	**0.0**
	44nm,0.3s,baz=245,

PUH				IAML		22 23 48.2		
	comp=N,6μm,0.6s							
PUH				IAML		22 23 48.4		
	comp=E,6μm,0.3s							
KNHH	**Kane Nui o Ham**	**0.10**	**108**	Pg	Pg	22 23 47.4	+0.8	
HLP	**Hilina Pali**	**0.12**	**197**	Pg	Pg	22 23 47.9	+0.9	
HLP				IAML		22 23 50.8		
	comp=E,3μm,0.5s							
MLH	**Mauna Loa**	**0.14**	**307**	Pg	Pg	22 23 48.5	+1.2	
MLH				IAML		22 23 51.8		
	comp=N,2μm,0.6s							
MLH				IAML		22 23 52.1		
	comp=E,3μm,0.5s							
STCH	**Steam Cracks**	**0.14**	**101**	Pg	Pg	22 23 47.9	+0.5	
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	22 23 48.4	+0.8	
JCUZ	**Jacuzzi**	**0.16**	**100**		Pg	22 23 48.7	+0.9	
HTC	**Hot Caves**	**0.21**	**215**		Pg	22 23 49.8	+1.1	
JOKA	**Jonika Flow**	**0.25**	**85**	Pg	Pg	22 23 50.3	+0.8	
JOKA				IAML		22 23 58.0		
	comp=E,1μm,0.8s							
HMH	**Humu'ula Sheep**	**0.28**	**313**	Pg	Pg	22 23 50.5	+0.5	
HMH				Sg	Sg	22 23 54.1	+0.5	
HMH				IAML		22 23 58.8		
	comp=E,739nm,0.7s							
HMH				IAML		22 23 59.4		
	comp=N,941nm,0.9s							
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	22 23 51.6	+0.9	
MLOA				IAML		22 23 59.5		
	comp=N,650nm,0.8s							
MWH	**Moku'aweowe**	**0.32**	**283**	Pg	Pg	22 23 51.6	+0.8	
KHU	**Kahuku**	**0.36**	**243**	Pg	Pg	22 23 52.1	+0.5	
KHU				IAML		22 24 04.5		
	comp=E,510nm,1.4s							
ALEP	**Alea Permanent**	**0.38**	**290**		Pg	22 23 52.6	+0.7	
HUH	**Hualalai**	**0.60**	**297**	Pg	Pg	22 23 57.0	+0.9	

IDC 24 22:38:11.6±5.8, 30°68S×178°34W, h0km, mb3.7/2, mbtmp3.7/2, Error ellipse: s-maj=216.1km s-min=63.5km az=155.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.80**	**267**	P	P	22 46 10.3	-1.0
	0.4nm,0.5s,baz=109,slow=7.4,SNR=2.6						
	0.4nm,0.5s						
WRA	**Warramunga Array**	**43.82**	**273**	P	P	22 46 20.0	+0.4
	0.4nm,0.3s,baz=113,slow=8.1,SNR=13						
	0.4nm,0.3s						
FINES	**FINESS Array B**	**145.31**	**340**	PKPbc	PKPbc	22 57 49.6	-0.8
	1.2nm,0.9s,baz=62,slow=3.8,SNR=2.0						

IDC 24 23:02:17.6±1.4, 18°91N×145°60E, h0km, mb3.7/4, mbtmp3.7/4, Error ellipse: s-maj=52.3km s-min=30.3km az=87.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.16**	**197**	P	P	23 09 55.5	-0.2
	0.5nm,0.3s,baz=17,slow=8.5,SNR=14						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**58.25**	**314**	P	P	23 12 13.6	-0.3
	0.6nm,0.9s,baz=99,slow=5.5,SNR=2.4						
	0.6nm,0.9s						
BVAR	**Borovoye Array**	**66.25**	**320**	P	P	23 13 07.9	+0.4
	0.5nm,0.5s,baz=90,slow=7.1,SNR=5.0						
	0.5nm,0.5s						
NVAR	**Mina Array Bea**	**83.09**	**52**	P	P	23 14 45.6	-0.2
	0.4nm,0.5s,baz=267,slow=5.2,SNR=2.5						
	0.4nm,0.5s						

*JMA **24** 23:04:04.2±0.6, 47°N×3°×14°8E±°, h424km, MV3.8/31, SOUTHERN SEA OF OKHOTSK*
*MOS **24** 23:04:04.0±1.1, 47°64N×147°37E, h398km, mb3.8/2, Error ellipse: s-maj=16.7km s-min=9.7km az=69.0*
*IDC **24** 23:04:05.8±1.1, 47°75N×147°27E, h394km±13km, mb3.1/13, mbtmp3.9/21, Error ellipse: s-maj=16.8km s-min=11.2km az=150.0*
*SKHL **24** 23:04:05.3±0.3, 47°60N×147°20E, h385km±4km, mb5.1/5, msha5.1/5*
*NEIC **24** 23:04:06.7±1.5, 47°6N±0°1×147°4E±0°2, h403km±9km, mb4.0/114, Error ellipse: s-maj=19.7km s-min=14.2km az=146.0*

ISC 24 23:04:04.2±0.4, 47°54N±0°06×147°45E±0°06, h375km, n328, σ1°22/343, mb3.9/72, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**3.25**	**261**		**Pn**	**23 05 10.5**	**+3.0**
YSS	**Yuzh-Sakhalins**	**3.25**	**261**	*e*P	**Pn**	**23 05 09.7**	**+2.2**
YSS				AMB	AMB	23 05 12.1	
	110nm,0.4s						
YSS				*e*S	**S**	**23 05 59.8**	**+1.1**
YSS				A	A	23 06 03.4	
	40nm,0.4s						
YSS				A	A	23 06 03.4	
	40nm,0.4s						
YSS	**Yuzh-Sakhalins**	**3.25**	**261**	*e*PN	**Pn**	**23 05 10.5**	**+3.0**
YSS				*e*S	**S**	**23 06 00.1**	**+1.4**
YSS				pmax	pmax		
	comp=Z,110nm,0.8s						
YUK	**Yuzh-Kuril'sk**	**3.68**	**198**	*e*P	**Pn**	**23 05 15.1**	**+3.5**
YUK				AMB	AMB	23 05 16.8	
	comp=Z,200nm,0.4s						
YUK				*e*S	**S**	**23 06 09.6**	**+3.5**
YUK				A	A	23 06 13.0	
	comp=Z,170nm,0.4s						
YUK				A	A	23 06 13.0	
	comp=Z,290nm,0.4s						
SHO	**Shikotan**	**3.70**	**187**	*e*P	**Pn**	**23 05 12.3**	**+0.5**
SHO				AMB	AMB	23 05 13.4	
	comp=Z,180nm,0.3s						
SHO				*e*S	**S**	**23 06 05.0**	**-1.4**
SHO				A	A	23 06 10.3	
	comp=Z,170nm,0.3s						
SHO				A	A	23 06 10.3	
	comp=Z,220nm,0.3s						
SHO	**Shikotan**	**3.70**	**187**	*e*PN	**Pn**	**23 05 12.1**	**+0.3**
JRA	**Rausu**	**3.96**	**205**	*e*P	**Pn**	**23 05 16.2**	**+2.0**
JNSB	**Nemuroshibetsu**	**4.14**	**205**	*e*P	**Pn**	**23 05 17.1**	**+1.0**
JSE	**Soyaes**	**4.25**	**234**	*e*P	**Pn**	**23 05 20.9**	**+3.8**
NMR	**Nemuro--Hokkai**	**4.34**	**197**	*e*P	**Pn**	**23 05 19.8**	**+1.6**
JTKR	**Abashiri--Toko**	**4.35**	**216**	*e*P	**Pn**	**23 05 20.9**	**+2.7**
JTKR				*e*S	**S**	**23 06 20.7**	**+2.7**
NEM2	**Nemuro 2**	**4.35**	**197**	P	**Pn**	**23 05 17.9**	**-0.2**
NEM2				S	**S**	**23 06 11.0**	**-2.1**
JNK	**Nakash**	**4.40**	**207**	P	**Pn**	**23 05 20.5**	**+1.8**
JNK				*e*S	**S**	**23 06 21.0**	**+1.9**
JWK2	**Keihoku**	**4.43**	**242**	*e*P	Pn	23 05 24.1	+5.1
JMP	**Maruseppu**	**4.55**	**220**	*e*P	**Pn**	**23 05 23.1**	**+2.9**
TYV	**Tymovskoe**	**4.57**	**318**	*e*P	**Pn**	**23 05 20.6**	**+0.3**
JKA	**Kamikawa-asahi**	**4.82**	**226**		**Pn**	**23 05 25.1**	**+2.1**
ASAJ	**Asahikawa**	**4.82**	**226**	P	**Pn**	**23 05 25.2**	**+2.2**
	comp=Z,30nm,0.8s,baz=38,slow=7.5,SNR=15						
ASAJ				S	**S**	**23 06 31.3**	**+4.3**
	comp=Z,2.6nm,0.4s,baz=99,slow=19,SNR=1.1						
JKK2	**Kamakawa 2**	**4.93**	**224**	*e*P	**Pn**	**23 05 27.6**	**+3.4**
JAK	**Akkeshi**	**4.94**	**204**	P	**Pn**	**23 05 24.7**	**+0.4**
JAK				S	**S**	**23 06 27.5**	**-1.9**
JAR	**Ashorobuto**	**4.97**	**213**	P	**Pn**	**23 05 26.6**	**+2.0**
JAR				*e*S	**S**	**23 06 31.4**	**+1.4**
JFR	**Furan**	**5.55**	**220**	*e*P	**Pn**	**23 05 33.5**	**+2.5**
JCH	**Churui**	**5.71**	**212**	*e*P	**Pn**	**23 05 32.9**	**+0.2**
JCH				*e*S	**S**	**23 06 41.2**	**-3.4**
JBT2	**Biratori 2**	**5.97**	**219**	*e*P	**Pn**	**23 05 37.1**	**+1.6**
JBT2				*e*S	**S**	**23 06 51.5**	**+1.8**
JNBK	**Urakawa-nobuka**	**6.23**	**214**	P	**Pn**	**23 05 38.1**	**-0.3**
JNBK				*e*S	**S**	**23 06 50.9**	**-4.2**
ERM	**Erimo**	**6.31**	**210**		**Pn**	**23 05 40.7**	**+1.3**
ERM	**Erimo**	**6.31**	**210**	PN	**Pn**	**23 05 40.7**	**+1.3**
JTM	**Tenmabayashi**	**8.16**	**216**		**Pn**	**23 06 01.2**	**+0.6**
JSI2	**Shiura 2**	**8.21**	**220**	P	**Pn**	**23 06 01.8**	**+0.7**
JSI2				*e*S	**S**	**23 07 30.6**	**-6.3**
JANG	**Nango**	**8.34**	**213**	P	**Pn**	**23 06 03.0**	**+0.2**
PEA0B	**Petropavlovsk-**	**8.60**	**46**	P	**P**	**23 06 08.0**	**+1.2**
PEA0B	**Petropavlovsk-**	**8.60**	**46**	PN	**P**	**23 06 08.0**	**+1.2**
PETK	**Petropavlovsk-**	**8.60**	**46**	P	**Pn**	**23 06 05.3**	**-0.2**
	comp=Z,1.2nm,0.4s,baz=220,slow=8.5,SNR=8.6						
JIW	**Iwasaki**	**8.77**	**220**	P	**Pn**	**23 06 08.4**	**+0.8**
JMK	**Ichinoseki**	**9.71**	**210**	*e*P	**P**	**23 06 20.5**	**+1.2**
KLR	**Kul'dur**	**10.58**	**285**	P	**P**	**23 06 29.5**	**+0.7**
	comp=Z,1.5nm,0.4s,baz=103,slow=7.4,SNR=9.1						
KLR				S	**S**	**23 08 26.3**	**-0.9**
	comp=Z,0.4nm,0.5s,baz=189,slow=19,SNR=1.1						
KLR	**Kul'dur**	**10.58**	**285**	*e*P	**P**	**23 06 28.9**	**+0.1**
KLR	**Kul'dur**	**10.58**	**285**	*e*PN	**P**	**23 06 28.9**	**+0.1**
KLR				pmax	pmax		
	comp=Z,3.0nm,0.9s						
JMM	**Marumori**	**10.83**	**209**	P	**Pn**	**23 06 34.0**	**+2.0**
USRK	**Usuriysk Ar.**	**11.28**	**258**	P	**Pn**	**23 06 37.4**	**+0.3**
	comp=Z,1.5nm,0.5s,baz=73,slow=15,SNR=3.4						
MJAR	**Matsushiro Arr**	**12.95**	**215**	P	**Pn**	**23 06 57.7**	**+1.0**
	comp=Z,1.1nm,0.3s,baz=28,slow=13,SNR=4.9						
SEY	**Seymchan**	**15.67**	**8**	P	**P**	**23 07 25.1**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=215,slow=6.6,SNR=6.4						
SEY	**Seymchan**	**15.67**	**8**	*e*P	**P**	**23 07 24.6**	**+0.1**
SEY	**Seymchan**	**15.67**	**8**	*e*P	**P**	**23 07 24.6**	**+0.1**
SEY				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KSRS	**Korea Array**	**17.53**	**242**	P	**P**	**23 07 47.0**	**+2.3**
	comp=Z,2.9nm,0.8s,baz=41,slow=11,SNR=8.6						
KSRS	**Korea Array**	**17.53**	**242**	*e*P	**P**	**23 07 47.0**	**+2.3**
KSRS	**Korea Array**	**17.53**	**242**	P	**P**	**23 07 47.0**	**+2.3**
YAK	**Yakutsk**	**17.67**	**332**	P	**P**	**23 07 45.0**	**-0.9**
	comp=Z,11nm,0.3s,baz=111,slow=1.6,SNR=6.9						
YAK	**Yakutsk**	**17.67**	**332**	*e*P	**P**	**23 07 45.0**	**-0.9**
YAK	**Yakutsk**	**17.67**	**332**	P	**P**	**23 07 45.0**	**-0.9**
C16K	**Lisburne Hills**	**31.35**	**32**	P	**P**	**23 09 50.0**	**-0.9**
C16K				IAmb	IAmb	23 10 20.7	
	comp=Z,14nm,1.4s						
M14K	**Bethel**	**31.58**	**46**	P	**P**	**23 09 53.1**	**+0.1**
M14K				IAmb	IAmb	23 09 54.9	
	comp=Z,9.9nm,0.8s						
M14K	**Bethel**	**31.58**	**46**	P	**P**	**23 09 53.8**	**+0.8**
	baz=269						
N14K	**Kuskokwak Cree**	**31.70**	**48**	P	**P**	**23 09 54.7**	**+0.6**
	baz=270						
H16K	**Elim**	**31.77**	**39**	P	**P**	**23 09 54.0**	**-0.6**
	baz=262						
G16K	**Koyuk River**	**31.84**	**38**	P	**P**	**23 09 55.1**	**-0.1**
G16K				IAmb	IAmb	23 10 37.8	
	comp=Z,6.8nm,1.1s						
G16K	**Koyuk River**	**31.84**	**38**	P	**P**	**23 09 55.5**	**+0.4**
	baz=261						
L15K	**Ungalak Mounta**	**31.84**	**45**	P	**P**	**23 09 55.9**	**+0.7**
	baz=268						
K15K	**Wolf Creek Mou**	**31.85**	**44**	P	**P**	**23 09 55.8**	**+0.4**
O14K	**Tigyukauivet M**	**31.93**	**49**	P	**P**	**23 09 56.7**	**+0.7**
	baz=272						
C17K	**DeLong Mountai**	**32.18**	**32**	P	**P**	**23 09 57.9**	**-0.3**
	baz=255						
M15K	**Kasigluk River**	**32.20**	**47**	P	**P**	**23 09 59.4**	**+1.0**
	baz=270						
I17K	**Unalakleet**	**32.36**	**41**	P	**P**	**23 10 00.2**	**+0.6**
N15K	**Kwethluk River**	**32.50**	**48**	P	**P**	**23 10 02.4**	**+1.4**
N15K	**Kwethluk River**	**32.50**	**48**	P	**P**	**23 10 02.2**	**+1.2**
	baz=271						
G17K	**Kiwalik Mounta**	**32.56**	**38**	P	**P**	**23 10 01.8**	**+0.4**
	baz=262						
L16K	**Owhat River**	**32.80**	**45**	P	**P**	**23 10 04.2**	**+0.7**
L16K				IAmb	IAmb	23 10 08.7	
	comp=Z,16nm,1.6s						
L16K	**Owhat River**	**32.80**	**45**	P	**P**	**23 10 04.4**	**+0.9**
	baz=269						
E18K	**Tukpahlearik C**	**32.89**	**34**	P	**P**	**23 10 04.3**	**+0.1**
E18K				IAmb	IAmb	23 10 29.9	
	comp=Z,12nm,1.6s						
E18K	**Tukpahlearik C**	**32.89**	**34**	P	**P**	**23 10 04.0**	**-0.2**
	baz=259						
C18K	**Utukok River**	**32.93**	**32**	P	**P**	**23 10 03.9**	**-0.7**
C18K				IAmb	IAmb	23 10 48.8	
	comp=Z,14nm,1.5s						
C18K	**Utukok River**	**32.93**	**32**	P	**P**	**23 10 03.2**	**-1.4**
	baz=257						
J17K	**VABM Dome**	**33.04**	**42**	P	**P**	**23 10 06.2**	**+0.7**
J17K	**VABM Dome**	**33.04**	**42**	P	**P**	**23 10 06.0**	**+0.4**
	baz=267						
M16K	**Timber Creek**	**33.05**	**46**	P	**P**	**23 10 06.7**	**+1.0**
M16K				IAmb	IAmb	23 10 42.0	
	comp=Z,17nm,1.6s						
M16K	**Timber Creek**	**33.05**	**46**	P	**P**	**23 10 06.4**	**+0.8**
	baz=271						
N16K	**Nishlik Lake**	**33.15**	**47**	P	**P**	**23 10 07.9**	**+1.4**
	baz=272						
A19K	**Wainwright**	**33.36**	**29**	P	**P**	**23 10 05.0**	**-3.1**
	baz=255						
L17K	**Donlin**	**33.36**	**44**	P	**P**	**23 10 08.4**	**+0.1**
	baz=270						
K17K	**Iditarod**	**33.37**	**43**	P	**P**	**23 10 09.4**	**+1.1**
K17K				IAmb	IAmb	23 10 17.2	
	comp=Z,16nm,1.6s						
K17K	**Iditarod**	**33.37**	**43**	P	**P**	**23 10 08.1**	**-0.2**
	baz=269						
G18K	**Tagagawik**	**33.43**	**37**	P	**P**	**23 10 08.8**	**-0.1**
G18K				IAmb	IAmb	23 10 09.9	
	comp=Z,6.5nm,1.1s						
G18K	**Tagagawik**	**33.43**	**37**	P	**P**	**23 10 08.8**	**-0.1**
	baz=264						
H18K	**Honhosa River**	**33.48**	**38**	P	**P**	**23 10 09.5**	**+0.3**
H18K				IAmb	IAmb	23 10 10.3	
	comp=Z,4.9nm,0.9s						
H18K	**Honhosa River**	**33.48**	**38**	P	**P**	**23 10 09.1**	**-0.2**
	baz=265						
C19K	**Lookout Ridge**	**33.60**	**31**	P	**P**	**23 10 10.1**	**-0.2**
M17K	**Holitna River**	**33.78**	**45**	P	**P**	**23 10 13.3**	**+1.5**
M17K				IAmb	IAmb	23 10 14.0	
	comp=Z,8.6nm,0.7s						
M17K	**Holitna River**	**33.78**	**45**	P	**P**	**23 10 13.1**	**+1.3**
	baz=272						
F19K	**Shaleruckik Mo**	**33.89**	**35**	P	**P**	**23 10 12.9**	**+0.2**
F19K				IAmb	IAmb	23 11 10.4	
	comp=Z,11nm,1.6s						
F19K	**Shaleruckik Mo**	**33.89**	**35**	P	**P**	**23 10 11.7**	**-1.1**
	baz=263						
N17K	**Nushagak Hills**	**33.93**	**47**	P	**P**	**23 10 14.5**	**+1.2**
N17K				IAmb	IAmb	23 11 03.4	
	comp=Z,25nm,1.9s						
N17K	**Nushagak Hills**	**33.93**	**47**	P	**P**	**23 10 14.4**	**+1.2**
	baz=273						
D19K	**Kuna River**	**34.01**	**32**	P	**P**	**23 10 13.2**	**-0.6**
D19K	**Kuna River**	**34.01**	**32**	P	**P**	**23 10 13.4**	**-0.4**
	baz=260						
G19K	**Purcell Mounta**	**34.09**	**37**	P	**P**	**23 10 13.8**	**-0.6**
G19K	**Purcell Mounta**	**34.09**	**37**	P	**P**	**23 10 14.3**	**-0.2**
	baz=265						
J18K	**Innoko River**	**34.10**	**42**	P	**P**	**23 10 14.8**	**+0.2**
J18K				IAmb	IAmb	23 10 39.6	
	comp=Z,12nm,1.8s						
J18K	**Innoko River**	**34.10**	**42**	P	**P**	**23 10 14.9**	**+0.2**
	baz=269						
L18K	**Granite Mounta**	**34.12**	**44**	P	**P**	**23 10 15.8**	**+1.1**
L18K				IAmb	IAmb	23 10 16.6	
	comp=Z,17nm,1.4s						
L18K	**Granite Mounta**	**34.12**	**44**	P	**P**	**23 10 15.7**	**+1.0**
	baz=271						
E19K	**Redstone River**	**34.18**	**34**	P	**P**	**23 10 15.2**	**0.0**
E19K	**Redstone River**	**34.18**	**34**	P	**P**	**23 10 15.1**	**-0.2**
	baz=263						
H19K	**Roundabout Mou**	**34.30**	**38**	P	**P**	**23 10 16.6**	**+0.3**
H19K				IAmb	IAmb	23 10 16.9	
	comp=Z,4.4nm,0.7s						
H19K	**Roundabout Mou**	**34.30**	**38**	P	**P**	**23 10 16.4**	**+0.1**
	baz=266						
M18K	**Stony River**	**34.55**	**45**	P	**P**	**23 10 19.0**	**+0.6**
	baz=273						
N18K	**Kilae Creek**	**34.56**	**46**	P	**P**	**23 10 19.6**	**+1.1**
N18K				IAmb	IAmb	23 10 20.8	
	comp=Z,5.0nm,0.8s						
N18K	**Kilae Creek**	**34.56**	**46**	P	**P**	**23 10 19.8**	**+1.3**
	baz=274						
D20K	**Etivluk River**	**34.59**	**32**	P	**P**	**23 10 18.0**	**-0.7**
	baz=261						
J19K	**Poorman**	**34.60**	**41**	P	**P**	**23 10 18.9**	**+0.1**
J19K				IAmb	IAmb	23 10 28.7	
	comp=Z,12nm,1.8s						
J19K	**Poorman**	**34.60**	**41**	P	**P**	**23 10 18.9**	**+0.1**
	baz=269						
B20K	**Meade River**	**34.62**	**30**	P	**P**	**23 10 18.2**	**-0.6**
E20K	**Nigu River**	**34.68**	**33**	P	**P**	**23 10 18.9**	**-0.6**
	baz=262						
F20K	**Avaraart Lake**	**34.72**	**35**	P	**P**	**23 10 19.8**	**0.0**
	baz=265						
H20K	**Anotleneega Mo**	**34.96**	**38**	P	**P**	**23 10 21.6**	**-0.2**
	baz=268						
O18K	**Koktuh Hills**	**34.97**	**48**	P	**P**	**23 10 21.4**	**-0.7**
L19K	**White Mountain**	**34.98**	**44**	P	**P**	**23 10 22.6**	**+0.6**
L19K				IAmb	IAmb	23 11 07.8	
	comp=Z,20nm,1.9s						
L19K	**White Mountain**	**34.98**	**44**	P	**P**	**23 10 22.2**	**+0.2**
	baz=273						
N19K	**Bonanza Creek**	**35.24**	**46**	P	**P**	**23 10 25.6**	**+1.1**
N19K				IAmb	IAmb	23 11 02.9	
	comp=Z,13nm,1.4s						
J20K	**Nowinta River**	**35.25**	**40**	P	**P**	**23 10 24.7**	**+0.4**
J20K				IAmb	IAmb	23 10 25.6	
	comp=Z,3.8nm,0.7s						
J20K	**Nowinta River**	**35.25**	**40**	P	**P**	**23 10 24.5**	**+0.3**
	baz=270,SNR=5.2						
K20K	**Telida**	**35.30**	**42**	P	**P**	**23 10 25.2**	**+0.5**
K20K				IAmb	IAmb	23 10 36.9	
	comp=Z,12nm,1.9s						
K20K	**Telida**	**35.30**	**42**	P	**P**	**23 10 25.3**	**+0.5**
	baz=272						
C21K	**Knifeblade Rid**	**35.30**	**32**	P	**P**	**23 10 24.1**	**-0.6**
	baz=263						
CHIR	**Chirikof Islan**	**35.33**	**55**	P	**P**	**23 10 25.9**	**+0.8**
B21K	**Ikpikpuk River**	**35.42**	**31**	P	**P**	**23 10 25.5**	**-0.2**
B21K	**Ikpikpuk River**	**35.42**	**31**	P	**P**	**23 10 25.4**	**-0.2**
	baz=262						
E21K	**Killik River**	**35.52**	**33**	P	**P**	**23 10 25.9**	**-0.6**
	baz=264						
A22K	**Sinclair Lake**	**35.52**	**28**	P	**P**	**23 10 25.5**	**-1.0**
	baz=260						
G21K	**Allakaket**	**35.56**	**36**	P	**P**	**23 10 27.0**	**+0.1**
G21K	**Allakaket**	**35.56**	**36**	P	**P**	**23 10 26.8**	**-0.1**
	baz=268,SNR=6.1						
F21K	**Alatna River**	**35.60**	**35**	P	**P**	**23 10 27.2**	**-0.1**
F21K	**Alatna River**	**35.60**	**35**	P	**P**	**23 10 27.0**	**-0.3**
	baz=267						
M20K	**Styx River**	**35.80**	**44**	P	**P**	**23 10 30.4**	**+1.2**
M20K				IAmb	IAmb	23 10 31.2	
	comp=Z,16nm,1.8s						
M20K	**Styx River**	**35.80**	**44**	P	**P**	**23 10 30.1**	**+1.0**
	baz=274						
H21K	**Melozitna Rive**	**35.82**	**38**	P	**P**	**23 10 29.2**	**+0.1**
H21K	**Melozitna Rive**	**35.82**	**38**	P	**P**	**23 10 29.1**	**0.0**
	baz=270						
B22K	**Teshekpuk Lake**	**35.93**	**30**	P	**P**	**23 10 29.4**	**-0.5**
B22K	**Teshekpuk Lake**	**35.93**	**30**	P	**P**	**23 10 29.4**	**-0.5**
	baz=262						
D22K	**Ayikyak River**	**36.02**	**32**	P	**P**	**23 10 30.7**	**-0.1**
D22K				IAmb	IAmb	23 10 54.5	
	comp=Z,22nm,1.9s						
D22K	**Ayikyak River**	**36.02**	**32**	P	**P**	**23 10 30.2**	**-0.6**
	baz=265						
F22K	**John River**	**36.12**	**35**	P	**P**	**23 10 31.2**	**-0.5**
	baz=268						
I21K	**Tanana**	**36.17**	**39**	P	**P**	**23 10 32.4**	**+0.4**
	baz=271						
PPLA	**Purkeypile**	**36.17**	**42**	P	**P**	**23 10 33.4**	**+1.2**
PPLA	**Purkeypile**	**36.17**	**42**	P	**P**	**23 10 33.6**	**+1.3**
	baz=274						
CAST	**Castle Rocks**	**36.19**	**42**	P	**P**	**23 10 33.0**	**+0.8**
CAST				IAmb	IAmb	23 10 33.4	
	comp=Z,2.9nm,0.6s						
CAST	**Castle Rocks**	**36.19**	**42**	P	**P**	**23 10 32.9**	**+0.6**
	baz=273						
E22K	**Anaktuvuk Pass**	**36.29**	**34**	P	**P**	**23 10 32.8**	**-0.3**
E22K	**Anaktuvuk Pass**	**36.29**	**34**	P	**P**	**23 10 32.6**	**-0.5**
	baz=267						
OHAK	**Old Harbor**	**36.34**	**52**	P	**P**	**23 10 34.4**	**+0.9**
G22K	**Bettles**	**36.37**	**36**	P	**P**	**23 10 33.2**	**-0.4**
	baz=269						
H22K	**Ishtalitna Cre**	**36.41**	**37**	P	**P**	**23 10 33.6**	**-0.5**
	baz=270						
SKT	**Skwentna**	**36.55**	**44**	P	**P**	**23 10 35.6**	**+0.3**
SKT				IAmb	IAmb	23 10 56.6	
	comp=Z,22nm,1.8s						
BPAW	**Bear Paw Mtn.**	**36.63**	**40**	P	**P**	**23 10 36.2**	**+0.2**
BPAW				IAmb	IAmb	23 11 17.6	
	comp=Z,19nm,2.0s						
BPAW	**Bear Paw Mtn.**	**36.63**	**40**	P	**P**	**23 10 35.9**	**-0.1**
	baz=273						
KTH	**Kantishna Hill**	**36.70**	**41**	P	**P**	**23 10 37.4**	**+0.9**
KTH				IAmb	IAmb	23 10 38.0	
	comp=Z,6.1nm,1.2s						
MLY	**Manley**	**36.70**	**39**	P	**P**	**23 10 38.3**	**+1.8**
D23K	**Nanushuk River**	**36.75**	**32**	P	**P**	**23 10 36.7**	**-0.2**
	baz=267						
C23K	**Itkillik River**	**36.83**	**31**	P	**P**	**23 10 37.2**	**-0.3**
C23K				IAmb	IAmb	23 10 39.3	
	comp=Z,14nm,1.6s						
C23K	**Itkillik River**	**36.83**	**31**	P	**P**	**23 10 36.8**	**-0.7**
	baz=266						
COLD	**Coldfoot**	**36.88**	**35**	P	**P**	**23 10 37.6**	**-0.4**
	baz=270						
G23K	**Bananza Creek**	**36.95**	**36**	P	**P**	**23 10 38.3**	**-0.4**
G23K	**Bananza Creek**	**36.95**	**36**	P	**P**	**23 10 38.2**	**-0.4**
	baz=271,SNR=5.1						
SUA	**Susitna One**	**36.98**	**45**	P	**P**	**23 10 39.0**	**+0.1**
TRF	**Thorofare Moun**	**36.99**	**41**	P	**P**	**23 10 39.3**	**+0.2**
TRF				IAmb	IAmb	23 10 50.1	
	comp=Z,17nm,1.7s						
TRF	**Thorofare Moun**	**36.99**	**41**	P	**P**	**23 10 39.3**	**+0.2**
	baz=275						
CNPM	**China Poot**	**37.01**	**48**	P	**P**	**23 10 39.0**	**-0.2**
CUT	**Chulitna**	**37.10**	**43**	P	**P**	**23 10 40.1**	**+0.3**
	baz=276						
TOLK	**Toolik Lake Re**	**37.14**	**33**	P	**P**	**23 10 39.7**	**-0.5**
TOLK				IAmb	IAmb	23 10 40.5	
	comp=Z,7.5nm,1.4s						
TOLK	**Toolik Lake Re**	**37.14**	**33**	P	**P**	**23 10 40.0**	**-0.2**
	baz=268						
H23K	**Yukon River**	**37.17**	**37**	P	**P**	**23 10 40.4**	**0.0**
	baz=272						
BRSE	**Bradley Lake S**	**37.22**	**48**	P	**P**

DHY					pP		23 12 05.9	+4.3
DHY	**Denali Highway**	**38.34**	**42**	P	**P**		23 10 50.0	-0.2
	baz=278							
IL31		**38.35**	**39**	P	**P**		23 10 50.2	+0.1
ILAR	**Eielson Array**	**38.35**	**39**	P	**P**		23 10 49.6	-0.5
	comp=Z,1.1nm,0.3s,baz=257,slow=5.8,SNR=25							
	comp=Z,1.1nm,0.3s							
HDA	**Harding Lake**	**38.37**	**40**	P	**P**		23 10 50.0	-0.3
HDA				IAmb	IAmb		23 10 50.4	
	comp=Z,2.6nm,0.4s							
HDA					pP		23 12 13.7	+12
HDA	**Harding Lake**	**38.37**	**40**	P	**P**		23 10 49.5	-0.7
	baz=276							
SCM	**Sheep Creek Mo**	**38.54**	**44**	P	**P**		23 10 53.0	+1.1
	baz=279							
E25K	**Arctic Village**	**38.63**	**34**	P	**P**		23 10 53.1	+0.6
E25K	**Arctic Village**	**38.63**	**34**	P	**P**		23 10 52.5	0.0
	baz=273							
F25K	**Christian Rive**	**38.63**	**34**	P	**P**		23 10 52.6	+0.1
	baz=273							
H25L	**Birch Creek**	**38.66**	**37**	P	**P**		23 10 53.3	+0.7
	baz=275							
PRP	**Porcupine Dome**	**38.85**	**38**	P	**P**		23 10 54.7	+0.3
PRP					**PcP**		23 12 57.5	+1.0
PRP	**Porcupine Dome**	**38.85**	**38**	P	**P**		23 10 54.4	0.0
	baz=276,SNR=6.2							
J25K	**Salcha River,**	**39.02**	**39**		pP		23 12 15.4	+8.0
J25K	**Salcha River,**	**39.02**	**39**	P	**P**		23 10 55.2	-0.5
	baz=277							
BMAR	**Burnt Mountain**	**39.05**	**35**	P	**P**		23 10 56.6	+0.7
F26K	**Sheenjek River**	**39.20**	**34**	P	**P**		23 10 56.9	-0.1
	baz=275							
C27K	**Jago River**	**39.23**	**31**	P	**P**		23 10 56.9	-0.4
	baz=273							
KLU	**Klutina**	**39.26**	**44**	P	**P**		23 10 58.3	+0.6
KLU				IAmb	IAmb		23 10 59.5	
	comp=Z,7.4nm,1.2s							
KLU	**Klutina**	**39.26**	**44**	P	**P**		23 10 57.6	-0.1
	baz=281							
G26K	**Porcupine Rive**	**39.40**	**35**	P	**P**		23 10 59.0	+0.3
	baz=276							
HARP	**HAARP**	**39.45**	**43**	P	**P**		23 10 59.9	+0.6
	baz=280							
EYAK	**Cordova Ski Ar**	**39.53**	**46**	P	**P**		23 10 59.6	-0.2
	baz=282							
SCRK	**Sand Creek**	**39.71**	**40**	P	**P**		23 11 00.3	-1.1
SCRK	**Sand Creek**	**39.71**	**40**	P	**P**		23 11 00.6	-0.8
	baz=279							
J26L	**Joseph Creek**	**39.81**	**39**	P	**P**		23 11 01.9	-0.2
	baz=279							
N25K	**Chitina, Valde**	**39.86**	**44**	P	**P**		23 11 02.8	+0.1
	baz=282							
BMRM	**Bremner River**	**39.99**	**45**	P	**P**		23 11 03.9	+0.2
	baz=282							
MENT	**Mentasta**	**40.01**	**42**	P	**P**		23 11 04.6	+0.9
E27K	**Coleen River**	**40.11**	**33**	P	**P**		23 11 05.9	+1.4
E27K				IAmb	IAmb		23 11 06.4	
	comp=Z,24nm,1.9s							
G27K	**Doyon Strip**	**40.26**	**35**	P	**P**		23 11 08.0	+2.3
G27K	**Doyon Strip**	**40.26**	**35**	P	**P**		23 11 08.6	+1.1
	baz=278							
GLB	**Gilahina Butte**	**40.27**	**44**	P	**P**		23 11 06.4	+0.6
GLB				IAmb	IAmb		23 11 09.2	
	comp=Z,12nm,1.4s							
H27K	**Steamboat Moun**	**40.39**	**36**	P	**P**		23 11 07.5	+0.7
	baz=279							
M26K	**Nabesna, AK**	**40.44**	**42**	P	**P**		23 11 08.4	+1.2
	baz=282							
I27K	**Kandik River**	**40.45**	**37**	P	**P**		23 11 08.3	+1.0
	baz=279							
VRDI	**Verde Repeater**	**40.48**	**44**	P	**P**		23 11 08.2	+0.4
VRDI				IAmb	IAmb		23 11 36.0	
	comp=Z,17nm,1.7s							
K27K	**Chicken**	**40.53**	**40**	P	**P**		23 11 08.4	+0.5
K27K				IAmb	IAmb		23 11 09.1	
	comp=Z,5.8nm,1.1s							
K27K	**Chicken**	**40.53**	**40**	P	**P**		23 11 07.9	0.0
	baz=281							
MCARA	**McCarthy VSAT**	**40.65**	**44**	P	**P**		23 11 10.5	+1.6
MCARA	**McCarthy VSAT**	**40.65**	**44**	P	**P**		23 11 10.5	+1.6
	baz=283							
EGAK	**Eagle**	**40.78**	**38**	P	**P**		23 11 09.4	-0.6
EGAK	**Eagle**	**40.78**	**38**	P	**P**		23 11 10.1	+0.2
	baz=281							
E28M	**Babbage River**	**40.82**	**32**	P	**P**		23 11 10.0	-0.2
E28M	**Babbage River**	**40.82**	**32**	P	**P**		23 11 10.3	+0.1
	baz=278							
F28M	**Old Crow**	**40.83**	**34**	P	**P**		23 11 10.3	0.0
	baz=278							
L27K	**Beaver Creek,**	**40.83**	**41**	P	**P**		23 11 11.0	+0.6
L27K				IAmb	IAmb		23 11 12.7	
	comp=Z,7.6nm,1.2s							
L27K	**Beaver Creek,**	**40.83**	**41**	P	**P**		23 11 11.1	+0.7
	baz=282,SNR=5.6							
BCAR	**Beaver Creek A**	**40.85**	**41**	P	**P**		23 11 11.4	+0.8
BCAR					**pP**		23 12 27.6	+4.7
M27K	**Edge Creek, AK**	**40.96**	**42**	P	**P**		23 11 12.6	+1.0
M27K				IAmb	IAmb		23 11 13.0	
	comp=Z,4.5nm,0.5s							
M27K	**Edge Creek, AK**	**40.96**	**42**	P	**P**		23 11 12.3	+0.8
	baz=283,SNR=6.7							
SNH	**Sunshine Point**	**41.02**	**46**	P	**P**		23 11 12.4	+0.4
ISLE	**Juniper Island**	**41.16**	**45**	P	**P**		23 11 14.0	+0.8
I28M	**Miner Creek**	**41.17**	**37**		**P**		23 11 13.5	+0.3
I28M				IAmb	IAmb		23 11 14.5	
	comp=Z,6.0nm,1.1s							
I28M	**Miner Creek**	**41.17**	**37**	P	**P**		23 11 13.6	+0.5
	baz=281,SNR=8.1							
BARN	**Barnard Glacie**	**41.37**	**44**	P	**P**		23 11 15.6	+0.7
BARN				IAmb	IAmb		23 11 16.5	
	comp=Z,5.4nm,0.7s							
E29M	**Blow River**	**41.45**	**33**	P	**P**		23 11 15.7	+0.5
E29M				IAmb	IAmb		23 12 07.8	
	comp=Z,14nm,1.9s							
E29M	**Blow River**	**41.45**	**33**	P	**P**		23 11 15.7	+0.5
	baz=279							
CTG	**Chitna Glacier**	**41.54**	**44**	P	**P**		23 11 17.3	+1.0
	baz=285							
CTGM	**Chitina Glacie**	**41.54**	**44**	P	**P**		23 11 16.9	+0.6
CTGM				IAmb	IAmb		23 11 17.8	
	comp=Z,7.7nm,0.7s							
H29M	**Whitestone**	**41.65**	**36**	P	**P**		23 11 17.3	+0.4
H29M				IAmb	IAmb		23 12 09.8	
	comp=Z,21nm,1.9s							
H29M	**Whitestone**	**41.65**	**36**	P	**P**		23 11 16.6	-0.3
	baz=281							
G29M	**Pine Creek**	**41.66**	**35**	P	**P**		23 11 17.4	+0.5
G29M				IAmb	IAmb		23 11 26.5	
	comp=Z,26nm,1.9s							
G29M	**Pine Creek**	**41.66**	**35**	P	**P**		23 11 17.9	+0.9
	baz=281							
LOGN	**Logan Glacier**	**41.74**	**44**	P	**P**		23 11 18.3	+0.5
LOGN				IAmb	IAmb		23 11 29.6	
	comp=Z,5.7nm,1.0s							
YUK3	**Moose Creek**	**41.75**	**43**	P	**P**		23 11 17.7	-0.2
	baz=284							
I29M	**Ogilvie Camp,**	**41.85**	**37**	P	**P**		23 11 18.6	+0.1
	baz=282							
O28M	**Mount Upton**	**42.13**	**44**	P	**P**		23 11 21.5	+0.3
	baz=286							
EPYK	**Eagle Plains**	**42.27**	**36**	P	**P**		23 11 21.8	-0.1
	baz=282							
G30M	**tAoh Zraii Nji**	**42.34**	**35**	P	**P**		23 11 22.5	+0.1
	baz=282							
F30M	**Barrier River**	**42.37**	**34**	P	**P**		23 11 23.5	+0.9
	baz=282							
L29M	**L29M**	**42.46**	**40**		**P**		23 11 24.4	+1.0
L29M				IAmb	IAmb		23 11 25.6	
	comp=Z,10nm,1.3s							
L29M	**L29M**	**42.46**	**40**	P	**P**		23 11 24.2	+0.8
	baz=285,SNR=5.6							
M29M	**Somme Creek**	**42.48**	**41**	P	**P**		23 11 24.6	+0.9
M29M				IAmb	IAmb		23 12 09.3	
	comp=Z,12nm,1.9s							
M29M	**Somme Creek**	**42.48**	**41**	P	**P**		23 11 25.2	+1.4
	baz=285							
K29M	**Barlow Dome**	**42.53**	**39**	P	**P**		23 11 24.6	+0.5
K29M				IAmb	IAmb		23 11 41.4	
	comp=Z,10nm,1.8s							
K29M	**Barlow Dome**	**42.53**	**39**	P	**P**		23 11 24.8	+0.7
	baz=284							
I30M	**Mount Dempster**	**42.67**	**37**		**P**		23 11 24.7	-0.5
I30M	**Mount Dempster**	**42.67**	**37**	P	**P**		23 11 25.8	+0.5
	baz=284							
YUK4	**Talbot Arm**	**42.70**	**43**	P	**P**		23 11 26.6	+1.1
	baz=286							
J30M	**Hart River**	**42.85**	**38**	P	**P**		23 11 27.4	+0.8
J30M	**Hart River**	**42.85**	**38**	P	**P**		23 11 27.3	+0.6
	baz=285							
INK	**Inuvik**	**43.05**	**32**	P	**P**		23 11 27.4	-0.5
INK	**Inuvik**	**43.05**	**32**	P	**P**		23 11 27.2	-0.8
	baz=283							
INK	**Inuvik**	**43.05**	**32**	P	**P**		23 11 27.5	-0.5
INK				pmax	pmax			
	comp=Z,6.0nm,1.4s							
G31M	**Satah River**	**43.10**	**34**	P	**P**		23 11 28.1	-0.2
G31M				IAmb	IAmb		23 11 37.5	
	comp=Z,20nm,1.6s							
MKAR	**Makanchi Array**	**43.11**	**294**	P	**P**		23 11 26.9	-2.0
	comp=Z,1.1nm,0.9s,baz=72,slow=9.1,SNR=6.2							
	comp=Z,1.1nm,0.9s							
M30M	**Minto, Yukon**	**43.19**	**41**	P	**P**		23 11 30.5	+1.2
M30M				IAmb	IAmb		23 12 27.3	
	comp=Z,8.4nm,1.6s							
M30M	**Minto, Yukon**	**43.19**	**41**	P	**P**		23 11 30.0	+0.7
	baz=286							
H31M	**Peel River**	**43.35**	**36**	P	**P**		23 11 30.7	+0.3
H31M	**Peel River**	**43.35**	**36**	P	**P**		23 11 31.0	+0.6
	baz=285							
HYT	**Haines Junctio**	**43.38**	**44**	P	**P**		23 11 32.6	+1.8
HYT				IAmb	IAmb		23 11 33.3	
	comp=Z,9.7nm,0.8s							
HYT	**Haines Junctio**	**43.38**	**44**	P	**P**		23 11 32.2	+1.4
	baz=288							
P29M	**Windy Craggy**	**43.64**	**45**		**P**		23 11 34.7	+1.9
P29M	**Windy Craggy**	**43.64**	**45**	P	**P**		23 11 35.3	+2.4
	baz=289							
KURK	**Kurchatov**	**43.67**	**301**	*eP*	**P**		23 11 31.5	-1.6
KURK	**Kurchatov**	**43.67**	**301**	P	**P**		23 11 31.5	-1.6
KURK							23 13 12.1	
KURBB	**Kurchatov Arra**	**43.76**	**301**	P	**P**		23 11 31.5	-2.3
	comp=Z,0.3nm,0.3s,baz=74,slow=8.5,SNR=5.2							
KURBB				PcP	**PcP**		23 13 12.1	-0.7
	comp=Z,0.3nm,0.6s,baz=65,slow=3.4,SNR=4.0							
	comp=Z,0.3nm,0.3s							
P30M	**Million Dollar**	**43.86**	**44**	P	**P**		23 11 35.8	+1.3
	baz=289							
O30N	**Mendenhall**	**44.06**	**43**	P	**P**		23 11 36.8	+0.7
	baz=289							
PLBC	**Pleasant Camp**	**44.36**	**45**	P	**P**		23 11 40.1	+1.7
	baz=290							
M31M	**Drury Creek, Y**	**44.37**	**41**	P	**P**		23 11 38.5	0.0
	baz=289							
WHY	**Whitehorse**	**44.65**	**43**	P	**P**		23 11 41.7	+0.9
WHY	**Whitehorse**	**44.65**	**43**	P	**P**		23 11 41.7	+0.9
	baz=290							
SIT	**Sitka**	**45.75**	**48**	P	**P**		23 11 49.6	+0.4
	baz=293							
P33M	**Teslin, Yukon**	**45.77**	**43**	P	**P**		23 11 49.9	+0.4
P33M				IAmb	IAmb		23 11 51.4	
	comp=Z,11nm,1.6s							
P33M	**Teslin, Yukon**	**45.77**	**43**	P	**P**		23 11 50.8	+1.3
	baz=292							
C36M	**Paulatuk**	**46.05**	**30**	P	**P**		23 11 50.5	-0.9
CMAR	**Chiang Mai Arr**	**48.89**	**251**	P	**P**		23 12 13.7	+0.1
	comp=Z,1.1nm,0.3s,baz=19,slow=5.7,SNR=1.4							
	comp=Z,1.1nm,0.3s							
TOAD	**Toad River Com**	**49.85**	**43**	P	**P**		23 12 21.9	+1.6
	baz=298							
YKA	**Yellowknife Ar**	**52.56**	**35**	P	**P**		23 12 38.7	-1.3
	comp=Z,0.5nm,0.6s,baz=305,slow=7.5,SNR=3.9							
	comp=Z,0.5nm,0.6s							
UWB	**Uwekahuna B**	**53.93**	**101**	P	**P**		23 12 48.6	-2.1
KKO	**Keanakako`i**	**53.95**	**101**	P	**P**		23 12 48.7	-2.2
STCH	**Steam Cracks**	**54.06**	**101**	P	**P**		23 12 52.1	+0.6
FINES	**FINESS Array B**	**61.60**	**332**	P	**P**		23 13 40.2	-2.5
	comp=Z,0.8nm,0.5s,baz=38,slow=7.2,SNR=12							
	comp=Z,0.8nm,0.5s							
GEYT	**Alibeck**	**62.84**	**297**	P	**P**		23 13 49.5	-1.8
	comp=Z,2.5nm,0.8s,baz=90,slow=4.4,SNR=5.1							
	comp=Z,2.5nm,0.8s							
NVAR	**Mina Array Bea**	**65.43**	**59**	P	**P**		23 14 08.6	+0.4
	comp=Z,0.2nm,0.3s,baz=267,slow=1.8,SNR=2.0							
	comp=Z,0.2nm,0.3s							
NB2	**NORSAR Subarra**	**66.14**	**338**	P	**P**		23 14 10.2	-1.9
	comp=Z,0.2nm,0.4s,baz=29,slow=6.5							
NOA	**NORSAR Array B**	**66.14**	**338**	P	**P**		23 14 10.2	-1.9
	comp=Z,0.2nm,0.4s,baz=32,slow=6.6,SNR=5.1							
	comp=Z,0.2nm,0.4s							
HFS	**Hagfors**	**66.28**	**337**	P	**P**		23 14 10.7	-2.1
	comp=Z,0.6nm,0.3s,baz=61,slow=7.0,SNR=9.2							
	comp=Z,0.6nm,0.3s							
PDAR	**Pinedale Array**	**67.33**	**51**	P	**P**		23 14 19.8	-0.2
	comp=Z,0.9nm,0.5s,baz=57,slow=1.2,SNR=7.8							
	comp=Z,0.9nm,0.5s							
WRA	**Warramunga Arr**	**68.20**	**193**	P	**P**		23 14 25.3	+0.1
	comp=Z,0.4nm,0.9s,baz=7.8,slow=6.6,SNR=1.7							
	comp=Z,0.4nm,0.9s							
MSVF	**Nonsavu**	**70.54**	**149**			pwP	23 16 08.7	+4.7
TUC	**Tucson**	**74.08**	**60**			pP	23 16 27.9	+4.9
COWI	**Ccovver**	**74.42**	**37**	P	**P**		23 15 01.6	-0.2
319A	**Douglas**	**75.64**	**59**			pP	23 16 34.2	+2.0
TXAR	**Lajitas Array**	**80.39**	**57**	P	**P**		23 15 35.3	+0.3
	comp=Z,0.3nm,0.4s,baz=287,slow=3.7,SNR=0.9							
	comp=Z,0.3nm,0.4s							
W50A	**Signal Mountai**	**85.05**	**41**	P	**P**		23 15 57.4	-1.1

*NEIC **24** 23:07:39.8±0.6, 19.˚408N±0.˚008×155.˚284W±0.˚007, h3km±1km, Error ellipse: s-maj=1.3km s-min=0.9km az=204.0*

HVO 24 23:07:39.2±0.7, 19.˚42N±0.˚01×155.˚279W±0.˚008, h1km±2km, ML2.9/10, ML1.9/26(NEIC), Error ellipse: s-maj=1.9km s-min=0.9km az=199.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**294**		Pg	23 07 40.5	+0.9
UWB	**Uwekahuna B**	**0.01**	**4**		Pg	23 07 40.5	+0.7
SBLHI	**Steaming Bluff**	**0.01**	**41**		Pg	23 07 40.8	+1.0
UWE	**Uwekahuna**	**0.01**	**293**	IAML		23 07 39.9	
	comp=N,3µm,0.6s						
UWE					Pg	23 07 40.1	+0.3
BYL	**Byron's Ledge**	**0.02**	**101**	Pg	Pg	23 07 40.0	+0.2
HATHI	**Halema`uma`u T**	**0.02**	**65**	Pg	Pg	23 07 40.1	+0.3
RIM	**Rim**	**0.02**	**167**		Pg	23 07 41.1	+1.3
KKO	**Keanakako`i**	**0.02**	**145**		Pg	23 07 41.0	+1.2
RSD	**Rainshed**	**0.05**	**1**	Pg	Pg	23 07 40.6	+0.4
PUH	**Pauahi**	**0.07**	**125**	Pg	Pg	23 07 41.5	+0.8
PUH				IAML		23 07 41.7	
	comp=N,1µm,1.3s						
KNHH	**Kane Nui o Ham**	**0.11**	**109**	Pg	Pg	23 07 41.9	+0.5
HLP	**Hilina Pali**	**0.12**	**193**	Pg	Pg	23 07 42.1	+0.6
HLP				IAML		23 07 43.5	
	comp=N,624nm,2.1s						
MLH	**Mauna Loa**	**0.13**	**308**	Pg	Pg	23 07 42.6	+0.9
MLH				IAML		23 07 46.0	
	comp=E,510nm,0.1s						
MLH				IAML		23 07 46.1	
	comp=N,540nm,0.1s						
STCH	**Steam Cracks**	**0.15**	**102**	Pg	Pg	23 07 42.4	+0.3
STCH				IAML		23 07 46.2	
	comp=N,283nm,1.0s						
STCH				IAML		23 07 47.0	
	comp=E,420nm,1.0s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	23 07 43.0	+0.7
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	23 07 45.0	+0.8
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	23 07 45.0	+0.6
HMH				IAML		23 07 51.0	
	comp=E,280nm,1.8s						
HMH				IAML		23 07 51.7	
	comp=N,254nm,1.6s						
MLOA	**Mauna Loa Obse**	**0.30**	**293**	Pg	Pg	23 07 45.6	+0.5
MLOA				IAML		23 07 52.8	
	comp=N,293nm,1.4s						
MLOA				IAML		23 07 54.8	
	comp=E,218nm,1.2s						
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	23 07 46.0	+0.8
KHU	**Kahuku**	**0.36**	**242**	Pg	Pg	23 07 46.4	+0.3
HUH	**Hualalai**	**0.59**	**297**	Pg	Pg	23 07 51.1	+0.6

*TEH **24** 23:08:20.5, 28.˚01N×51.˚55E, h9km±23km, ML3.3*
*DSN **24** 23:08:24.2±1.4, 27.˚83N×51.˚81E, h10km, ML2.9/7, Error ellipse: s-maj=17.4km s-min=13.3km az=19.0*

ISC 24 23:08:20.1±1.4, 27.˚90N±0.˚07×51.˚52E±0.˚10, h10km, n29, σ1ᵠ11/30, Persian Gulf

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSBU	**Dashti - Bushe**	**0.51**	**333**	Pg	**Pg**	**23 08 29.2**	**-0.9**
QIR1	**Qir**	**1.46**	**67**	Pg	**Pb**	**23 08 47.3**	**-0.1**
KAZ2	**Kazeron-Fars-I**	**1.71**	**4**	Pg	**Pb**	**23 08 51.1**	**-0.5**
JHRM	**Jahrom**	**1.91**	**71**	Pn	**Pb**	**23 08 54.6**	**-0.5**
SHI	**Shiraz**	**1.94**	**26**	Pn	**Pn**	**23 08 54.1**	**+0.9**
KLNJ	**Kolanjah**	**3.10**	**1**	Pn	**Pn**	**23 09 10.1**	**+0.8**
IRAM	**Ramesheh**	**3.96**	**11**	Pn	**Pn**	**23 09 21.8**	**+0.6**
IBRJ	**Brojen**	**4.00**	**357**	Pn	**Pn**	**23 09 22.6**	**+1.0**
ZNGN	**Zangian**	**4.24**	**352**	Pn	**Pn**	**23 09 26.6**	**+1.6**
IMEH	**Mehriz**	**4.39**	**37**	Pn	**Pn**	**23 09 28.5**	**+1.4**
ISAD	**Sadrabad**	**4.42**	**25**	Pn	**Pn**	**23 09 28.7**	**+1.3**
SHME	**Shamm**	**4.52**	**113**	P	**Pn**	**23 09 28.8**	**+0.2**
NAZ	**Nazwa, Dubai**	**4.71**	**127**	P	**Pn**	**23 09 32.8**	**+1.5**
ASUD	**Al Ashush, Dub**	**4.72**	**133**	P	**Pn**	**23 09 34.1**	**+2.7**
IPIR	**Pirpir**	**4.80**	**354**	Pn	**Pn**	**23 09 33.1**	**+0.4**
MSFE	**Esma-Masafi**	**4.86**	**120**	P	**Pn**	**23 09 33.6**	**+0.3**
NGRK	**Negar Kerman**	**4.89**	**68**	Pn	**Pn**	**23 09 34.6**	**+0.6**
KHGB	**Koh Gabri**	**4.99**	**59**	Pn	**Pn**	**23 09 36.2**	**+1.0**
ICHK	**Chekchek**	**5.00**	**29**	Pn	**Pn**	**23 09 36.1**	**+0.7**
MDH	**Madha**	**5.00**	**120**	P	**Pn**	**23 09 35.9**	**+0.7**
IZEF	**Zefreh**	**5.03**	**8**	Pn	**Pn**	**23 09 36.8**	**+1.0**
IBAF	**Bafgh**	**5.09**	**43**	Pn	**Pn**	**23 09 37.5**	**+0.9**
UOSS	**Minazif**	**5.13**	**124**	P	**Pn**	**23 09 36.8**	**-0.1**
HATD	**Hatta, Dubai**	**5.15**	**126**	P	**Pn**	**23 09 38.2**	**+1.0**
ASHO	**Ashiyiah**	**5.18**	**127**	P	**Pn**	**23 09 38.2**	**+0.4**
ASHO					**Sn**	**23 10 36.7**	**-0.9**
MZR	**Muzera**	**5.19**	**160**	P	**Pn**	**23 09 39.5**	**+1.7**
IKLH	**Kolahrood**	**5.40**	**1**	Pn	**Pn**	**23 09 42.3**	**+1.4**
CHMN	**Cheshme madani**	**5.62**	**68**	Pn	**Pn**	**23 09 45.2**	**+1.1**
SOHO	**SOHO**	**5.87**	**129**	P	**Pn**	**23 09 47.6**	**+0.6**

*IDC **24** 23:09:12.6±0.8, 43.˚77N×128.˚04W, h0km, mb3.9/19, mbtmp4.0/25, ML3.8/6, MS3.8/17, Error ellipse: s-maj=22.1km s-min=10.4km az=39.0*

*GCMT **24** 23:09:13.5±0.5, 43.˚52N±0.˚03×128.˚38W±0.˚03, h19km±2km, MW4.8/70, Moment Tensor Solution. s7,c10; s70,c98; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.07±.15; $M_{\theta\theta}$-1.67±.13; $M_{\phi\phi}$1.60±.11; $M_{r\theta}$-0.32±.28; $M_{\theta\phi}$-1.37±.10; $M_{\phi r}$-0.12±.24; Best double couple: M_{o}2.15900×10^{16} NP1:ϕs115.00000°, δ84.00000°, λ-174.00000°. NP2: ϕs25.00000°, δ84.00000°, λ-6.00000°. Principal axes: T 2.0980, Plg0.0000°, Azm250.0000°; N 0.1160, Plg81.0000°, Azm160.0000°; P -2.2190, Plg9.0000°, Azm340.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **24** 23:09:16.6±1.6, 43.˚71N±0.˚07×127.˚8W±0.˚1, h10km±1km, mb4.6/296, ML3.8/86, Mwr4.4/43 Error ellipse: s-maj=14.8km s-min=9.7km az=241.0, Moment Tensor Solution. Moment tensor: Scale 10^{15}Nm; M_{rr}-1.38; $M_{\theta\theta}$-1.94; $M_{\phi\phi}$3.33; $M_{r\theta}$1.80; $M_{\theta\phi}$-3.37; $M_{\phi r}$-0.07; Fault plane solution: M_{o}4.80000×10^{15} NP1:ϕs196.11000°, δ64.59000°, λ-15.12000°. NP2:ϕs292.72000°, δ76.37000°, λ-153.80000°. Principal axes: T 5.0911, Plg8.0000°, Azm63.0000°; N -0.6579, Plg61.0000°, Azm318.0000°; P -4.4333, Plg28.0000°, Azm157.0000°;*

*NEIC **24** 23:09:16.5, 43.˚71N×127.˚83W, h10km*

ISC 24 23:09:15.1±0.5, 43.˚70N±0.˚07×127.˚95W±0.˚07, h11km, n751, σ0ᵠ94/643, mb4.6/146, MS3.7/9, 1D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
J01E	**Myrtle Point**	**2.98**	**99**	Pn	**Pn**	**23 10 00.6**	**-1.6**
J01E				IAML		23 10 41.0	
	comp=E,410nm,0.4s						
J01E				IAML		23 10 41.1	
	comp=N,233nm,0.3s						
KBO	**Bosley Butte**	**3.11**	**117**	Pn	**Pn**	**23 10 02.9**	**-1.3**
K02D	**Willamette Mer**	**3.29**	**106**		**Pn**	**23 10 04.4**	**-2.2**
K02D				IAML		23 10 47.4	
	comp=E,233nm,0.4s						
K02D				IAML		23 10 47.8	
	comp=N,247nm,0.3s						
I03D	**Drain, OR**	**3.33**	**88**	Pn	**Pn**	**23 10 06.2**	**-1.0**
I03D				IAML		23 10 50.8	
	comp=E,206nm,1.0s						
I03D				IAML		23 10 51.7	
	comp=N,297nm,0.8s						
HEBO	**Mount Hebo**	**3.36**	**62**	Pn	**Pn**	**23 10 07.5**	**-0.2**
HEBO				IAML		23 10 51.7	
	comp=N,149nm,1.1s						
HEBO				IAML		23 11 34.3	
	comp=E,181nm,1.9s						
COR	**Corvallis**	**3.46**	**74**	Pn	**Pn**	**23 10 08.3**	**-0.6**
DBO	**Dodson Butte**	**3.48**	**98**	Pn	**Pn**	**23 10 08.3**	**-0.9**
DBO				IAML		23 10 54.6	
	comp=E,187nm,1.0s						
DBO				IAML		23 10 55.6	
	comp=N,162nm,1.0s						
KSXB	**Camp Six Broad**	**3.53**	**121**	Pn	**Pn**	**23 10 08.2**	**-1.7**
L02F	**Cave Junction**	**3.58**	**115**		**Pn**	**23 10 09.9**	**-0.7**
BUCK	**Buck Mountain**	**3.62**	**80**	Pn	**Pn**	**23 10 10.8**	**-0.3**
BUCK				IAML		23 11 08.2	
	comp=N,130nm,1.6s						

K04D Chiloquin, OR 4.66 101 Pn Pn 23 10 26.9 +1.4
NLWA Neilton Lookou 4.67 36 Pn Pn 23 10 26.2 +0.6
KMRM Mail Ridge 4.70 136 Pn Pn 23 10 26.1 +0.1
HOOD Mount Hood Mea 4.79 68 Pn Pn 23 10 28.3 +1.0
HOOD IAML 23 11 28.8
comp=N,136nm,0.8s
I05D Terrebonne, OR 4.81 80 Pn Pn 23 10 27.8 +0.3
I05D IAML 23 11 45.4
comp=E,70nm,2.2s
I05D IAML 23 11 58.9
comp=N,73nm,1.6s
C03A Quillayute Air 4.86 28 Pn Pn 23 10 28.3 +0.3
J05D Fort Rock, OR 4.90 93 Pn Pn 23 10 28.1 -0.8
J05D IAML 23 11 35.7
comp=E,50nm,1.2s
J05D IAML 23 11 45.4
comp=N,57nm,2.3s
G05A Wamic 4.99 70 Pn Pn 23 10 30.8 +0.9
G05A IAML 23 11 06.2
comp=N,103nm,0.7s
G05A IAML 23 11 07.5
comp=E,98nm,1.7s
PINE Pine Mountain 5.08 87 Pn Pn 23 10 31.7 +0.4
PINE IAML 23 11 40.0
comp=N,44nm,1.3s
PINE IAML 23 12 25.3
comp=E,40nm,2.1s
KCPM Cahto Peak 5.17 139 Pn Pn 23 10 32.7 +0.1
K05A Summer Lake 5.25 98 Pn Pn 23 10 33.2 -0.4
K05A IAML 23 11 57.1
comp=E,54nm,1.9s
GNW Green Mountain 5.28 41 Pn Pn 23 10 33.6 -0.2
GNW IAML 23 11 38.4
comp=N,55nm,0.8s
D05A Enumclaw 5.45 48 Pn Pn 23 10 37.1 +0.8
G06A Carlson Farm, 5.45 71 Pn Pn 23 10 36.8 +0.4
G06A IAML 23 11 20.8
comp=E,31nm,2.3s
OZB Mount Ozzard 5.53 17 Pn Pn 23 10 38.0 +0.7
CLRS Cowichan Lake 5.76 26 Pn Pn 23 10 40.1 -0.4
PGC Sidney 5.85 31 Pn Pn 23 10 41.0 -0.7
HOPS Hopland Field 5.96 140 Pn 23 10 43.9 +0.6
F07A Phinny Hill Vi 6.11 66 Pn 23 10 46.0 +0.6
I07A Izee 6.11 84 Pn Pn 23 10 45.2 -0.3
LTY Liberty 6.23 53 Pn 23 10 47.7 +0.7
GDXM Geysers 6.24 140 Pn 23 10 47.0 -0.2
ORV Oroville 6.36 128 Pn 23 10 50.7 +2.0
E07A Sunnyside 6.40 61 Pn 23 10 50.4 +1.1
HAWA Hanford 6.54 63 Pn Pn 23 10 51.6 +0.4
CBB Campbell River 6.58 15 Pn Pn 23 10 53.1 +1.5
G08A Pilot Rock 6.62 73 Pn Pn 23 10 52.8 +0.4
E08A Dider Farm, El 6.88 63 Pn 23 10 56.7 +0.8
J08A Circle Bar Ran 6.89 90 Pn Pn 23 10 56.6 +0.4
WVOR Wild Horse Val 6.94 97 Pn 23 10 56.7 0.0
HOLB Holberg 6.95 359 Pn Pn 23 10 58.3 +1.5
AFDM Forest Hills D 7.08 130 Pn Pn 23 10 58.9 +0.2
B08A Colville Reser 7.59 49 Pn Pn 23 11 03.4 -2.2
F10A Beach Ranch, E 7.95 70 Pn Pn 23 11 11.2 +0.5
CMB Columbia Colle 8.05 132 Pn Pn 23 11 12.8 +0.8
YERR Yerington 8.07 123 Pn 23 11 13.0 +0.6
WAKR Walker 8.26 126 Pn Pn 23 11 15.7 +0.7
BBB Bella Bella 8.49 359 Pn Pn 23 11 20.0 +2.1
BBB Bella Bella 8.49 359 Pn Pn 23 11 20.1 +2.2
comp=E,3.3nm,0.3s,baz=190,slow=4.4,SNR=32
BBB Sn Sn 23 12 51.4 -2.3
comp=E,1.1nm,0.3s,baz=214,slow=15,SNR=7.4
BBB LR LR 23 13 59.2
comp=E,572nm,18.5s,baz=172,slow=34
SAO San Andreas Ge 8.52 142 Pn Pn 23 11 17.9 -0.5
BMN Battle Mountai 8.62 109 Pn Pn 23 11 19.6 -0.3
PLID Pearl Lake 8.67 77 Pn Pn 23 11 20.7 +0.1
RYN Ryan 8.73 122 Pn 23 11 21.3 0.0
KVN Kaiserville 8.74 119 Pn Pn 23 11 22.3 +0.8
MFID Camas Ranch 8.81 88 Pn Pn 23 11 22.1 -0.3
NEW Newport 8.81 55 Pn Pn 23 11 21.9 -0.5
NEW Newport 8.81 55 P Pn 23 11 21.7 -0.6
baz=242,SNR=13
NEW Newport 8.81 55 Pn Pn 23 11 22.4 +0.1
comp=E,2.6nm,0.3s,baz=246,slow=11,SNR=15
NEW LR LR 23 14 45.9
comp=E,981nm,20.2s,baz=233,slow=38
comp=E,27nm,0.8s
BBGB Big Mountain B 8.86 141 Pn Pn 23 11 23.1 -0.1
HG4B Hotspring 8.87 347 Pn Pn 23 11 25.1 +2.0
LHV Little Huntoon 8.98 124 Pn 23 11 24.8 +0.2
NVAR Mina Array Bea 8.98 123 Pn Pn 23 11 24.3 -0.7
NVAR Mina Array Bea 8.98 123 Pn Pn 23 11 28.1 +3.2
comp=E,0.3nm,0.3s,baz=294,slow=14,SNR=31
NVAR LR LR 23 14 52.7
comp=E,654nm,19.4s,baz=300,slow=37
comp=E,8.5nm,0.8s
MDPB Devils Postpil 9.06 129 Pn 23 11 26.1 +0.1
NV11 Mina Array Sit 9.07 122 Pn Pn 23 11 27.8 +1.7
PMPB Monarch Peak 9.27 141 Pn Pn 23 11 29.4 +0.7
Q09A Carvers 9.45 117 Pn Pn 23 11 32.9 +1.6
HLID Hailey 9.82 86 Pn Pn 23 11 36.3 -0.1
HLID Hailey 9.82 86 P Pn 23 11 35.2 -1.1
baz=276,SNR=11
TPH Tonopah 9.87 121 Pn Pn 23 11 39.0 +1.9
DSP Deep Springs 9.88 126 Pn Pn 23 11 37.9 +0.9
DIB Dawson Inlet, 9.97 344 Pn Pn 23 11 41.0 +2.8
GRNB Grenville Isla 10.24 353 Pn Pn 23 11 43.6 +1.7
GMN Gold Mountain 10.34 125 Pn Pn 23 11 43.9 +0.3
MSO Missoula 10.36 68 Pn Pn 23 11 42.5 -1.1
MSO Missoula 10.36 68 P Pn 23 11 43.3 -0.3
baz=257,SNR=13
VES Vestal, Richgr 10.39 136 P Pn 23 11 44.3 +0.2
baz=322,SNR=11
CWC Cottonwood Cre 10.47 130 P Pn 23 11 45.6 +0.3
baz=317
GRAC Grapevine Rang 10.48 126 Pn 23 11 45.8 +0.4
GRAC Grapevine Rang 10.48 126 P Pn 23 11 45.2 -0.1
baz=313,SNR=5.9
BPMT Black Pine Rid 10.62 70 Pn Pn 23 11 47.5 +0.2
RUBB Prince Rupert 10.74 353 Pn Pn 23 11 49.7 +1.0
R11B Troy Canyon, C 10.76 116 Pn Pn 23 11 49.4 +0.3
R11B Troy Canyon, C 10.76 116 P Pn 23 11 49.5 +0.3
baz=304,SNR=8.6
PKM Mcpherson Peak 10.82 142 P Pn 23 11 51.1 +1.0
baz=327
Q12A Willow Creek R 10.90 111 Pn Pn 23 11 51.4 +0.2
BCW Bitter Crk WRg 10.96 140 Pn Pn 23 11 52.7 +0.8
OVMT Ovando 11.04 67 Pn 23 11 52.6 -0.4
S11A Rachel 11.06 119 Pn Pn 23 11 53.0 -0.4
WCT Wildcat Mounta 11.06 125 Pn Pn 23 11 52.8 -0.5
MPMC Manual Prospec 11.08 130 P Pn 23 11 53.7 +0.1
baz=317,SNR=10
ARVC Arvin 11.09 138 P Pn 23 11 52.9 -0.6
baz=324,SNR=6.4
FURC Furnace Creek, 11.14 127 P Pn 23 11 53.7 -0.5
baz=314,SNR=12
SPR3 Spring Creek 3 11.26 110 Pn Pn 23 11 56.8 +0.6
HVU Hansel Valley 11.32 95 Pn Pn 23 11 57.1 +0.1
BGU Big Grassy Mou 11.39 99 Pn Pn 23 11 59.2 +1.3
GWY Greenwater Val 11.45 127 Pn Pn 23 11 58.7 0.0
CCAC Calif City Air 11.47 135 Pn 23 11 59.5 +0.6
QSM Queen of Sheba 11.49 129 Pn 23 12 00.4 +1.3
PRN Pahroc Range 11.64 118 Pn Pn 23 12 01.1 -0.2
SPUT South Promonto 11.69 96 Pn 23 12 01.5 -0.4
EDW2 Edwards Air Fo 11.70 135 P Pn 23 12 02.3 +0.3
baz=322
BOZ Bozeman (W) 11.78 75 Pn 23 12 02.1 -1.0
BOZ Bozeman (W) 11.78 75 P Pn 23 12 02.8 -0.3
baz=266,SNR=14
DUG Dugway, Tooele 11.80 102 Pn 23 12 03.8 +0.3
DUG Dugway, Tooele 11.80 102 P Pn 23 12 03.2 -0.2
baz=292
PSUT Pine Spring 11.81 111 Pn Pn 23 12 03.0 -0.7
SHOC Shoshone, Teco 11.88 127 P Pn 23 12 06.3 +1.9
baz=315
V35K Ketchikan 11.88 350 Pn Pn 23 12 06.0 +1.7
V35K Ketchikan 11.88 350 P Pn 23 12 06.1 +1.8
baz=167,SNR=8.7
GSC Goldstone, Bar 12.01 131 Pn Pn 23 12 06.5 +0.3
GSC Goldstone, Bar 12.01 131 P Pn 23 12 06.5 +0.3
baz=318,SNR=6.9
SHPR Sheep Range 12.14 122 Pn Pn 23 12 08.0 0.0
HWUT Hardware Ranch 12.24 94 Pn Pn 23 12 10.2 +0.7
FXWY Fox Creek 12.26 84 Pn Pn 23 12 10.7 +0.9
IMW Indian Meadow 12.30 83 Pn Pn 23 12 10.2 -0.1
YHH Holmes Hill 12.31 79 Pn Pn 23 12 11.7 +1.1
AHID Auburn Hatcher 12.33 89 Pn 23 12 10.5 -0.2
TPAW Teton Pass 12.33 85 Pn Pn 23 12 11.3 +0.5

YFT Old Faithful 12.33 81 Pn Pn 23 12 11.2 +0.4
BFSC Mount Baldy Ra 12.37 136 P Pn 23 12 11.6 +0.3
baz=323
TUQ Turquoise Moun 12.41 128 P Pn 23 12 10.9 -0.8
baz=316
REDW Red Top Meadow 12.42 86 Pn 23 12 11.9 -0.1
WTNK Soaring Height 12.43 123 Pn Pn 23 12 13.6 +1.6
YNR Norris Junctio 12.44 79 Pn Pn 23 12 12.6 +0.4
MOOW Moose Ponds 12.45 84 Pn 23 12 13.9 +1.5
FLWY Flagg Ranch 12.45 82 Pn Pn 23 12 11.9 -0.5
SNOW Snow King Moun 12.47 85 Pn Pn 23 12 13.1 +0.3
BRLDA Berland Lookou 12.48 30 Pn Pn 23 12 14.9 +2.2
TCUT Toone Canyon 12.49 96 Pn Pn 23 12 13.7 +0.6
H17A Grant Village 12.52 81 Pn 23 12 12.3 -1.0
H17A Grant Village 12.52 81 P Pn 23 12 12.7 -0.7
baz=273
LOHW Long Hollow 12.57 84 Pn 23 12 13.3 -0.6
HEC Hector,Ludlow 12.62 131 P Pn 23 12 14.3 -0.2
baz=318,SNR=5.9
LKWY Lake 12.64 80 Pn Pn 23 12 15.2 +0.2
CCUT Cedar City 12.66 114 Pn Pn 23 12 14.9 -0.4
CIS Catalina Islan 12.69 141 P Pn 23 12 16.1 +0.5
baz=327
MPU Maple Canyon 12.71 101 Pn Pn 23 12 15.1 -0.7
TCRU Three Creeks R 12.74 108 Pn Pn 23 12 16.3 0.0
YMP Mirror Lake Pl 12.81 79 Pn Pn 23 12 17.3 -0.1
SZCU Shurtz Canyon 12.82 113 Pn Pn 23 12 16.9 -0.5
V12A Nelson 12.84 124 Pn Pn 23 12 17.6 0.0
U33K Whale Pass 12.86 347 P Pn 23 12 19.5 +1.9
baz=163
MVU Marysvale 12.95 108 Pn Pn 23 12 18.8 -0.4
ELS Elsinore Mount 12.96 137 Pn 23 12 19.6 +0.3
SCI2 San Clemente I 12.99 142 P Pn 23 12 20.0 +0.4
baz=329
GMRC Granite Mounta 13.03 129 P Pn 23 12 19.5 -0.7
baz=317
WRAK Wrangell Islan 13.04 349 Pn Pn 23 12 23.2 +3.1
WRAK Wrangell Islan 13.04 349 P Pn 23 12 21.4 +1.3
baz=165
LCMT Little Creek M 13.04 116 Pn 23 12 20.3 -0.1
MURC Murrieta 13.11 137 P Pn 23 12 21.1 -0.2
baz=324
BSUT Blindstream Ca 13.14 98 Pn Pn 23 12 22.1 +0.1
MTPU Mount Pierson 13.20 110 Pn Pn 23 12 22.9 +0.2
KNB Kanab 13.32 115 Pn Pn 23 12 24.6 +0.4
T35M Bob Quinn 13.38 355 Pn 23 12 26.8 +2.1
T35M Bob Quinn 13.38 355 P Pn 23 12 26.0 +1.2
baz=172
EGMT Eagleton 13.39 65 Pn Pn 23 12 24.7 -0.4
EGMT Eagleton 13.39 65 P Pn 23 12 24.0 -1.0
baz=258
PKCU Pink Cliffs 13.42 112 Pn Pn 23 12 24.7 -1.0
BELC Belle Mtn. Jos 13.42 132 P Pn 23 12 25.5 -0.1
baz=320
RLMT Red Lodge 13.43 77 Pn Pn 23 12 25.4 -0.4
PD31 Pinedale Array 13.45 88 Pn Pn 23 12 26.1 +0.1
PDAR Pinedale Array 13.45 88 Pn Pn 23 12 26.8 +0.8
PDAR Pinedale Array 13.45 88 Pn Pn 23 12 28.9 +2.9
comp=E,0.1nm,0.3s,baz=277,slow=12,SNR=17
PDAR LR LR 23 17 55.7
comp=E,689nm,18.7s,baz=282,slow=39
comp=E,4.7nm,0.9s
PFO Pinyon Flats O 13.48 135 P Pn 23 12 27.0 +0.7
baz=322
PFO Pinyon Flats O 13.48 135 Pn Pn 23 12 28.1 +1.7
comp=E,0.1nm,0.3s,baz=308,slow=9.4,SNR=7.4
PFO LR LR 23 17 24.9
comp=E,503nm,19.1s,baz=304,slow=36
comp=E,4.3nm,0.7s
Q16A Castle Valley 13.48 105 Pn Pn 23 12 27.3 +0.9
TPFO Pinon Flats 13.49 135 P Pn 23 12 27.1 +0.6
baz=322
PMD Palm Desert 13.49 134 Pn Pn 23 12 26.8 +0.4
P17A Butcher Ranch, 13.55 102 Pn Pn 23 12 28.5 +1.2
IRM Iron Mountain 13.77 129 P Pn 23 12 30.5 +0.2
baz=318,SNR=11
P18A Preston Nutter 13.84 101 Pn Pn 23 12 33.2 +1.7
W13A Hualapai Mount 13.84 124 Pn Pn 23 12 30.9 -0.5
SRU San Rafael Swe 13.85 103 Pn Pn 23 12 33.1 +1.6
BC3 Big Chuckawall 13.98 132 P Pn 23 12 33.2 0.0
baz=320,SNR=7.9
RDMU Red Mountain 13.99 97 Pn 23 12 32.8 -0.6
U15A North Rim 14.01 116 Pn Pn 23 12 33.0 -0.7
MONP2 Monument Peak 14.07 136 P Pn 23 12 34.8 +0.3
baz=324,SNR=14
BAR Barrett 14.11 137 Pn Pn 23 12 35.0 +0.1
HMU Henry Mountain 14.23 108 Pn Pn 23 12 35.8 -1.0
PDMCI Parker Dam,Lak 14.24 127 P Pn 23 12 37.3 +0.6
baz=316
SWSC Sam W. Stewart 14.34 134 P Pn 23 12 39.0 +1.0
baz=322
S34M Telegraph Cree 14.37 353 Pn Pn 23 12 39.5 +1.2
S34M Telegraph Cree 14.37 353 P Pn 23 12 40.7 +2.4
baz=170
S32K Killisnoo 14.40 345 Pn Pn 23 12 40.4 +1.7
S32K Killisnoo 14.40 345 P Pn 23 12 39.5 +0.8
baz=160
CBX Cerro Bola 14.42 138 Pn 23 12 39.5 +0.3
IKP In-Ko-Pah, Jac 14.42 136 P Pn 23 12 40.0 +0.8
baz=324,SNR=7.7
BLYC Blythe 14.42 129 Pn Pn 23 12 39.8 +0.7
RMX La Rumorosa 14.47 136 Pn Pn 23 12 42.4 +2.4
YUH Yuha Desert 14.52 135 Pn Pn 23 12 39.9 -0.5
CCX Cicese 14.78 139 Pn Pn 23 12 44.2 +0.1
DLBC Dease Lake 14.81 356 Pn Pn 23 12 46.0 +1.6
DLBC Dease Lake 14.81 356 P Pn 23 12 46.5 +2.1
baz=174,SNR=7.2
DLBC Dease Lake 14.81 356 Pn Pn 23 12 46.9 +2.4
comp=E,0.1nm,0.3s,baz=192,slow=9.6,SNR=8.2
DLBC LR LR 23 17 41.5
comp=E,321nm,19.8s,baz=206,slow=34
ESJX Sierra Juarez 15.02 137 Pn 23 12 47.9 +0.5
O20A White River Ci 15.09 97 Pn 23 12 48.8 +0.4
O20A IAmb IAmb 23 13 07.7
comp=Z,16nm,1.0s
O20A White River Ci 15.09 97 P Pn 23 12 48.6 +0.2
baz=290
JIS Juneau Island 15.13 347 Pn Pn 23 12 49.8 +1.2
JIS IAmb IAmb 23 12 56.6
comp=Z,15nm,1.0s
WUAZ Wupatki 15.15 117 Pn Pn 23 12 49.8 +0.7
WUAZ IAmb IAmb 23 13 05.3
comp=Z,29nm,1.3s
WUAZ Wupatki 15.15 117 P Pn 23 12 50.0 +0.9
baz=308
R32K Eaglecrest 15.16 347 P Pn 23 12 51.2 +2.3
baz=161
Y14A Wickenburg 15.17 125 Pn Pn 23 12 50.2 +0.9
Y14A IAmb IAmb 23 13 01.5
comp=Z,25nm,1.5s
TOAD Toad River Com 15.26 5 P Pn 23 12 52.1 +1.7
baz=187
113A Mohawk Valley, 15.57 130 Pn Pn 23 12 54.5 -0.1
LAO LASA Array 15.60 71 Pn Pn 23 12 55.4 +0.5
LAO IAmb IAmb 23 13 03.3
comp=Z,36nm,0.9s
VTX Valle De La Tr 15.60 138 Pn Pn 23 12 56.2 +1.2
K22A Casper 15.66 86 Pn Pn 23 12 56.5 +0.7
K22A Casper 15.66 86 P Pn 23 12 55.6 -0.3
baz=281
X16A Lo Mia Camp, P 15.80 120 Pn Pn 23 12 58.1 +0.5
R33M Jennings River 15.83 354 Pn 23 12 58.3 +0.5
R33M Jennings River 15.83 354 P Pn 23 12 59.5 +1.7
baz=172,SNR=11
MVCO Mesa Verde 16.14 107 Pn Pn 23 13 02.4 +0.2
MVCO Mesa Verde 16.14 107 P Pn 23 13 02.4 +0.2
baz=300
P32M Atlin 16.30 350 Pn 23 13 05.1 +1.3
P32M Atlin 16.30 350 P Pn 23 13 04.6 +0.8
baz=165
HILA High Level 16.34 21 Pn Pn 23 13 05.7 +1.4
SFX San Felipe 16.35 136 Pn Pn 23 13 04.5 0.0
SFX IAmb IAmb 23 13 11.6
comp=Z,26nm,1.0s
SMCO Snowmass 16.35 99 Pn 23 13 04.8 -0.2
SKAG Skagway 16.42 347 Pn Pn 23 13 06.0 +0.8
SKAG Skagway 16.42 347 P Pn 23 13 07.0 +1.8
baz=160
WTLY Watson Lake, Y 16.45 358 P Pn 23 13 07.5 +1.9
baz=178
W18A Petrified Fore 16.45 115 P P 23 13 09.1 +0.3
W18A Petrified Fore 16.45 115 P Pn 23 13 05.4 -0.7
baz=307
N23A Red Feather La 16.51 92 Pn Pn 23 13 06.7 -0.2
N23A Red Feather La 16.51 92 P Pn 23 13 06.3 -0.6
baz=287,SNR=8.0
PLBC Pleasant Camp 16.60 345 P Pn 23 13 09.2 +1.6
baz=158
KOTAN Kotaneelee Air 16.62 7 P P 23 13 10.1 -0.3
baz=190
PIX Pinacate 16.66 132 Pn Pn 23 13 08.9 +0.5
X18A Snowflake 16.67 117 Pn Pn 23 13 08.3 -0.5
214A Organ Pipe Nat 16.71 129 Pn Pn 23 13 10.0 +0.7
214A Organ Pipe Nat 16.71 129 P Pn 23 13 10.0 +0.7
baz=319
PHWY Pilot Hill 16.75 90 Pn Pn 23 13 09.2 -0.7
P33M Teslin, Yukon 16.80 352 P P 23 13 12.2 -0.1
baz=167
P29M Windy Craggy 17.04 343 P P 23 13 16.0 +1.1
baz=155
ISCO Idaho Springs 17.10 96 P Pn 23 13 13.8 -0.6
baz=291,SNR=15
DGMT Dagmar 17.13 66 P Pn 23 13 14.4 +0.1
baz=263
RSSD Black Hills 17.23 80 Pn 23 13 16.5 +0.7
RSSD Black Hills 17.23 80 P Pn 23 13 15.7 -0.1
baz=277
P30M Million Dollar 17.33 345 P P 23 13 18.3 0.0
baz=157
PNL Peninsula 17.45 340 P P 23 13 19.7 +0.2
baz=151,SNR=5.4
WHY Whitehorse 17.49 349 P P 23 13 21.0 +0.9
baz=163
TUC Tucson 17.63 124 P 23 13 22.8 +1.0
TUC Tucson 17.63 124 P Pn 23 13 21.1 +0.3
baz=315
Q24A Divide 17.75 98 Pn 23 13 22.5 +0.1
Q24A IAmb IAmb 23 13 36.0
comp=Z,42nm,1.1s
Q24A Divide 17.75 98 P Pn 23 13 22.0 -0.4
baz=293
N32M Quiet Lake 17.75 352 P P 23 13 24.4 +1.7
baz=167
O30N Mendenhall 17.78 347 P P 23 13 24.4 +1.2
baz=160
TGTN Hyland Airport 17.86 359 P P 23 13 24.6 +0.6
baz=179
SDCO Great Sand Dun 18.00 102 P Pn 23 13 25.0 -0.5
baz=296,SNR=20
HYT Haines Junctio 18.09 345 P P 23 13 27.4 +0.8
HYT Haines Junctio 18.09 345 P P 23 13 27.8 +1.2
baz=157
YUK6 Outpost Mounta 18.36 344 P P 23 13 30.7 +1.0
baz=155,SNR=7.9
N31M Braeburn, Yuko 18.41 348 P Pn 23 13 31.8 +1.6
N31M IAmb IAmb 23 13 42.1
comp=Z,38nm,1.3s
DUN6 Lazy B Ranch 18.50 121 P Pn 23 13 31.7 +0.2
DUN6 IAmb IAmb 23 13 48.2
comp=Z,48nm,1.2s
MESA MESA 18.55 338 IAmb IAmb 23 13 35.2
comp=Z,47nm,1.1s
MESA MESA 18.55 338 P P 23 13 31.7 -0.1
baz=146
N30M Aishikik Lake 18.60 346 P Pn 23 13 33.2 +0.8
baz=159
O28M Mount Upton 18.61 341 P P 23 13 32.6 +0.1
baz=151,SNR=8.7
ANMO Albuquerque 18.75 111 P Pn 23 13 36.1 +1.6
ANMO Albuquerque 18.75 111 P P 23 13 33.6 -0.5
baz=304
ANMO Albuquerque 18.75 111 P Pn 23 13 35.9 +1.4
comp=Z,0.1nm,0.3s,baz=24,slow=20,SNR=7.1
ANMO LR LR 23 21 12.4
comp=Z,262nm,18.0s,baz=30,slow=38
comp=Z,2.0nm,0.8s
YUK4 Talbot Arm 18.79 344 P Pn 23 13 36.3 +1.5
baz=155
FARO Faro, Yukon 18.83 352 P Pn 23 13 35.9 +0.7
FARO Faro, Yukon 18.83 352 P Pn 23 13 35.8 +0.6
baz=168
LENM Lemitar 18.85 113 P Pn 23 13 36.9 +1.1
LOGN Logan Glacier 18.86 340 IAmb IAmb 23 13 45.4
comp=Z,64nm,1.5s
M31M Drury Creek, Y 18.92 351 P P 23 13 36.5 +0.9
M31M Drury Creek, Y 18.92 351 P P 23 13 36.5 +0.9
baz=165
YUK8 Steele Glacier 18.97 342 P P 23 13 37.1 +0.6
baz=153
ISLE Juniper Island 19.02 338 IAmb IAmb 23 13 51.3
comp=Z,75nm,1.5s
WAX Waxell Ridge 19.03 337 IAmb IAmb 23 13 41.3
comp=Z,69nm,1.2s
T25A Trinidad 19.05 102 P P 23 13 37.9 +0.4
T25A Trinidad 19.05 102 P P 23 13 36.5 -1.0
baz=298
MMPY Sheldon Lake, 19.05 355 Pn 23 13 39.2 +1.3
MMPY IAmb IAmb 23 13 47.7
comp=Z,27nm,1.2s
MMPY Sheldon Lake, 19.05 355 P Pn 23 13 38.3 +0.4
baz=172,SNR=8.2
CTGM Chitina Glacie 19.06 340 P Pn 23 13 38.9 +0.9
CTGM IAmb IAmb 23 13 46.4
comp=Z,39nm,1.3s
CTG Chitna Glacier 19.06 340 P Pn 23 13 38.8 +0.7
baz=149,SNR=8.4
KAIM Kayak Island 19.08 334 P Pn 23 13 39.7 +1.6
baz=141
BNM Barren Site 19.09 113 P Pn 23 13 39.8 +1.1
CRNM Carthage 19.14 113 P Pn 23 13 40.4 +1.2
319A Douglas 19.20 124 Pn 23 13 39.9 0.0
319A IAmb IAmb 23 13 55.4
comp=Z,59nm,1.3s
BARN Barnard Glacie 19.22 340 IAmb IAmb 23 13 43.4
comp=Z,23nm,0.8s
OGNE Ogallala 19.34 89 P P 23 13 41.0 +0.5
OGNE IAmb IAmb 23 13 43.8
comp=Z,19nm,0.8s
OGNE Ogallala 19.34 89 P P 23 13 40.5 +0.1
baz=287
121A Cookes Peak, D 19.34 118 P Pn 23 13 42.6 +0.9
121A IAmb IAmb 23 13 54.0
comp=Z,59nm,1.4s
121A Cookes Peak, D 19.34 118 P P 23 13 40.8 +0.2
baz=311,SNR=10
E28A Huff 19.40 72 Pn 23 13 43.0 +0.8
KSCO Kaye Shedlock' 19.55 95 P P 23 13 43.3 +0.5
baz=292
YUK3 Moose Creek 19.56 342 P Pn 23 13 44.2 +0.1
baz=152,SNR=6.6
M30M Minto, Yukon 19.60 348 Pn 23 13 44.5 0.0
M30M Minto, Yukon 19.60 348 P Pn 23 13 45.0 +0.5
baz=160,SNR=7.3
WRGLY Wrigley 19.74 6 P Pn 23 13 46.6 +0.7
M29M Somme Creek 19.76 345 P P 23 13 46.3 +1.4
baz=157
MCARA McCarthy VSAT 19.85 338 IAmb IAmb 23 14 04.8
comp=Z,47nm,1.4s
MCARA McCarthy VSAT 19.85 338 P P 23 13 47.2 +1.4
baz=146,SNR=5.6
BMRM Bremner River 19.96 336 P P 23 13 48.3 +1.3
BMRM IAmb IAmb 23 13 56.7
comp=Z,34nm,1.3s
BMRM Bremner River 19.96 336 P Pn 23 13 49.0 +0.3
baz=142
EYAK Cordova Ski Ar 19.99 334 P Pn 23 13 49.2 +0.2
baz=139
HSIG 19.99 132 P P 23 13 47.8 +0.2
FFC Flin Flon 20.11 48 P P 23 13 50.0 +1.3
GLB Gilahina Butte 20.11 338 P P 23 13 49.5 +0.8
P23K Montague Islan 20.14 331 P P 23 13 49.7 +0.8
baz=135
MDND Maddock 20.15 68 P P 23 13 48.7 -0.5
baz=269
YKAB2 New Yellowknif 20.32 18 P P 23 13 52.2 +1.4
L29M L29M 20.32 347 P P 23 13 51.9 +1.0
baz=158
FID Port Fidalgo 20.37 333 P P 23 13 52.7 +1.2
FID IAmb IAmb 23 13 56.6
comp=Z,58nm,1.4s
YKA Yellowknife Ar 20.38 18 P P 23 13 51.6 +0.1
YKA Yellowknife Ar 20.38 18 P P 23 13 51.9 +0.4
comp=Z,3.7nm,0.8s,baz=208,slow=11,SNR=15
YKA LR LR 23 21 11.5
comp=Z,76nm,18.4s,baz=37,slow=35
comp=Z,3.7nm,0.8s
M27K Edge Creek, AK 20.39 341 P P 23 13 53.5 +1.6
M27K IAmb IAmb 23 13 56.6
comp=Z,27nm,1.2s
M27K Edge Creek, AK 20.39 341 P P 23 13 53.2 +1.3
baz=150,SNR=12
DIV Divide 20.44 335 P P 23 13 53.6 +1.3

N25K Chitina, Valde 20.47 337 Pn 23 13 54.4 -0.3
N25K Chitina, Valde 20.47 337 P P 23 13 54.0 +1.4
baz=143
RTBA Rita Blanca 20.56 102 P P 23 13 54.5 +0.7
RTBA IAmb IAmb 23 14 03.2
comp=Z,19nm,1.1s
K30B Basset 20.65 83 P 23 13 55.7 +1.0
EPT El Paso 20.66 118 P P 23 13 55.8 +0.9
EPT IAmb IAmb 23 14 10.2
comp=Z,24nm,0.9s
GLI Glacier Island 20.67 333 P P 23 13 56.1 +1.4
baz=137
M26K Nabesna, AK 20.70 340 P Pn 23 13 57.2 -0.3
M26K IAmb IAmb 23 14 06.1
comp=Z,22nm,1.2s
M26K Nabesna, AK 20.70 340 P P 23 13 56.4 +1.3
baz=148,SNR=8.3
KLU Klutina 20.77 335 P P 23 13 56.6 +0.8
baz=141
SUSD Miller 20.80 78 P P 23 13 56.1 -0.2
baz=278
KDAK Kodiak Island 20.85 321 P P 23 13 58.0 +1.4
baz=122
KDAK Kodiak Island 20.85 321 LR LR 23 19 52.6
comp=Z,433nm,20.4s,baz=140,slow=31
OHAK Old Harbor 20.89 319 P P 23 13 58.6 +1.5
baz=119
K29M Barlow Dome 20.91 348 P P 23 13 59.0 +1.6
K29M IAmb IAmb 23 14 09.8
comp=Z,31nm,1.5s
K29M Barlow Dome 20.91 348 P P 23 13 58.1 +0.7
baz=160
SEW Seward 20.95 329 P Pn 23 13 59.6 -0.6
baz=132
BCAR Beaver Creek A 20.99 342 P P 23 13 58.7 +0.5
L27K Beaver Creek, 21.00 342 P P 23 13 59.9 +1.6
baz=151
BRSE Bradley Lake S 21.21 327 P P 23 14 02.2 +1.6
baz=129
Q20K Shuyak Island 21.22 323 P P 23 14 02.1 +1.5
baz=124
CNPM China Poot 21.27 326 IAmb IAmb 23 14 08.3
comp=Z,26nm,1.0s
BRLK Bradley Lake 21.28 327 IAmb IAmb 23 14 02.8
comp=Z,30nm,0.9s
O22K Cooper Landing 21.31 330 P P 23 14 01.3 -0.2
O22K Cooper Landing 21.31 330 P P 23 14 03.2 +1.6
baz=132
L26K Log Cabin Wild 21.32 341 P P 23 14 03.9 +2.2
baz=148
M24K Tolsona, Glenn 21.32 336 P P 23 14 03.0 +1.2
baz=141
DAWY Dawson 21.42 346 P P 23 14 03.8 +1.0
baz=157
MNTX Cornudas Mount 21.43 116 P P 23 14 04.7 +1.6
MNTX Cornudas Mount 21.43 116 P P 23 14 02.8 -0.3
baz=311
J30M Hart River 21.45 350 P P 23 14 04.4 +1.2
baz=163,SNR=8.5
SCM Sheep Creek Mo 21.46 335 IAmb IAmb 23 14 23.9
comp=Z,41nm,1.2s
SCM Sheep Creek Mo 21.46 335 P P 23 14 04.3 +1.0
baz=139
KNK Knik Glacier 21.52 333 P P 23 14 04.1 +0.3
KNK IAmb IAmb 23 14 17.8
comp=Z,27nm,1.1s
KNK Knik Glacier 21.52 333 P P 23 14 04.3 +0.5
baz=136,SNR=5.9
M23K Glacier View 21.56 334 P P 23 14 04.5 +0.3
baz=138,SNR=7.3
CBKS Cedar Bluff 21.71 93 P P 23 14 06.9 +0.8
CBKS IAmb IAmb 23 14 22.7
comp=Z,22nm,1.0s
RC01 Rabbit Creek A 21.73 331 P P 23 14 06.7 +0.7
baz=133
SML Sawmill 21.76 334 P P 23 14 06.9 +0.5
SML IAmb IAmb 23 14 12.5
comp=Z,22nm,1.0s
SML Sawmill 21.76 334 P P 23 14 06.6 +0.1
baz=137
GDL2 Guadalupe Moun 21.78 114 P P 23 14 08.4 +1.4
MSTX Muleshoe 21.81 108 P P 23 14 07.6 +0.3
MSTX Muleshoe 21.81 108 P P 23 14 05.9 -1.4
baz=304
PAX Paxson 21.81 338 P P 23 14 06.8 -0.3
baz=144
PMR Palmer 21.87 332 P P 23 14 07.7 +0.1
baz=135
K27K Chicken 21.90 343 IAmb IAmb 23 14 21.3
comp=Z,15nm,1.1s
K27K Chicken 21.90 343 P P 23 14 08.0 +0.1
baz=152
D32A Dogwood Acres, 21.91 70 P P 23 14 09.2 +1.1
D32A IAmb IAmb 23 14 12.2
comp=Z,44nm,1.0s
GHO Glory Hole Cre 21.93 333 IAmb IAmb 23 14 17.3
comp=Z,26nm,1.1s
Q19K Cape Douglas, 21.94 323 P P 23 14 07.9 -0.5
baz=122
I30M Mount Dempster 22.08 351 IAmb IAmb 23 14 20.2
comp=Z,25nm,1.4s
I30M Mount Dempster 22.08 351 P P 23 14 10.7 +0.8
baz=163,SNR=11
AMTX Amarillo 22.08 105 P P 23 14 10.5 +0.3
AMTX IAmb IAmb 23 14 24.5
comp=Z,22nm,1.1s
AMTX Amarillo 22.08 105 P P 23 14 09.5 -0.7
baz=302
WAT6 Susitna Watana 22.16 335 P P 23 14 11.8 +1.0
baz=139,SNR=8.1
P19K Oil Pt 22.17 325 P P 23 14 12.0 +1.2
baz=125
O20K Slope Mountain 22.17 326 P P 23 14 11.3 +0.4
baz=126
VHRN Van Horn 22.28 118 P P 23 14 13.0 +0.6
VHRN IAmb IAmb 23 14 24.7
comp=Z,15nm,1.1s
SCRK Sand Creek 22.28 341 P P 23 14 12.4 +0.2
baz=148
M22K Willow 22.32 332 P P 23 14 13.4 +1.0
baz=134
ILSW Iliamna Southw 22.32 326 IAmb IAmb 23 14 19.8
comp=Z,31nm,1.3s
SUA Susitna One 22.34 331 P P 23 14 12.8 0.0
baz=132
EGAK Eagle 22.39 345 P P 23 14 14.4 +1.2
EGAK Eagle 22.39 345 P P 23 14 13.6 +0.4
baz=154
DHY Denali Highway 22.43 337 IAmb IAmb 23 14 16.7
comp=Z,25nm,1.1s
DHY Denali Highway 22.43 337 P P 23 14 14.1 +0.4
baz=141,SNR=13
H31M Peel River 22.43 353 IAmb IAmb 23 14 16.6
comp=Z,25nm,1.1s
H31M Peel River 22.43 353 P P 23 14 13.9 +0.3
baz=168,SNR=18
I29M Ogilvie Camp, 22.46 349 P P 23 14 14.5 +0.6
baz=160
F33A 5 Mile Ranch, 22.50 73 P P 23 14 15.8 +1.3
F33A IAmb IAmb 23 14 21.8
comp=Z,23nm,1.1s
K24K Donnelly Dome 22.57 339 P P 23 14 16.0 +0.8
baz=144
ECSD EROS Data Cent 22.58 79 P P 23 14 14.8 -0.6
ECSD IAmb IAmb 23 14 23.2
comp=Z,15nm,0.9s
ECSD EROS Data Cent 22.58 79 P P 23 14 14.7 -0.8
baz=281
WAT1 Susitna Watana 22.59 335 P P 23 14 16.3 +0.9
baz=138
R32A Long Quarter, 22.60 93 P P 23 14 16.6 +0.9
R32A IAmb IAmb 23 14 21.2
comp=Z,35nm,1.1s
J26L Joseph Creek 22.64 342 P P 23 14 17.2 +1.3
J26L Joseph Creek 22.64 342 P P 23 14 16.5 +0.6
baz=149
AGMN Agassiz Nation 22.66 67 P P 23 14 16.9 +0.7
AGMN IAmb IAmb 23 14 25.5
comp=Z,20nm,0.9s
AGMN Agassiz Nation 22.66 67 P P 23 14 15.1 -1.1
baz=270
N20K Mount Spurr 22.70 329 P P 23 14 16.7 +0.2
baz=129,SNR=8.6
I28M Miner Creek 22.79 347 P P 23 14 17.5 -0.1
baz=157,SNR=5.8
CUT Chulitna 22.83 333 P P 23 14 18.3 +0.6
baz=135

P18K Big Mountain, 22.88 323 P P 23 14 19.0 +0.6
baz=121
O19K Port Alsworth 22.93 325 IAmb IAmb 23 14 27.6
comp=Z,25nm,1.1s
O19K Port Alsworth 22.93 325 P P 23 14 19.6 +0.8
baz=124
SKT Skwentna 22.96 331 P P 23 14 20.4 +1.1
SKT IAmb IAmb 23 14 26.9
comp=Z,20nm,1.4s
SKT Skwentna 22.96 331 P P 23 14 19.9 +0.7
baz=132
SMWD Samnorwood 22.98 103 P P 23 14 20.3 +0.6
SMWD IAmb IAmb 23 14 32.0
comp=Z,27nm,0.9s
ODSA Odessa 23.04 112 P P 23 14 19.3 -1.1
ODSA IAmb IAmb 23 14 32.0
comp=Z,30nm,1.4s
CHGN Chignik 23.07 314 P P 23 14 21.6 +1.3
baz=110
ELIS Ellis County 23.10 100 P P 23 14 21.2 +0.2
ELIS IAmb IAmb 23 14 31.1
comp=Z,17nm,0.9s
O18K Koktuh Hills 23.11 324 IAmb IAmb 23 14 29.9
comp=Z,29nm,1.3s
O18K Koktuh Hills 23.11 324 P P 23 14 21.5 +0.7
baz=122
J25K Salcha River, 23.14 341 P P 23 14 21.6 +0.5
baz=146
Q16K King Salmon 23.17 320 P P 23 14 22.5 +1.2
baz=118
NOKA Waynoka 23.19 98 P P 23 14 22.6 +0.8
POST Post 23.20 108 P P 23 14 22.1 +0.1
POST IAmb IAmb 23 14 36.9
comp=Z,11nm,1.0s
EPYK Eagle Plains 23.22 351 P P 23 14 22.4 +0.5
EPYK IAmb IAmb 23 14 26.7
comp=Z,17nm,1.1s
EPYK Eagle Plains 23.22 351 P P 23 14 22.6 +0.7
baz=154,SNR=7.1
I27K Kandik River 23.22 346 P P 23 14 22.5 +0.5
baz=154,SNR=5.2
I26K Coal Creek Min 23.25 344 P P 23 14 22.9 +0.8
I26K IAmb IAmb 23 14 38.3
comp=Z,15nm,1.4s
I26K Coal Creek Min 23.25 344 P P 23 14 22.6 +0.4
baz=151
CHNA Chernabura Isl 23.25 310 P P 23 14 22.8 +0.6
baz=105
DKNS Dickes 23.26 106 P P 23 14 23.2 +0.5
H29M Whitestone 23.28 349 IAmb IAmb 23 14 31.4
comp=Z,32nm,1.5s
H29M Whitestone 23.28 349 P P 23 14 23.0 +0.6
baz=160,SNR=6.4
P17K Kvichak River 23.32 322 P P 23 14 23.3 +0.5
baz=119
OK035 E0210 Rd and N 23.32 97 P 23 14 24.0 +0.9
N19K Bonanza Creek 23.34 326 IAmb IAmb 23 14 32.0
comp=Z,13nm,0.9s
N19K Bonanza Creek 23.34 326 P P 23 14 23.3 +0.1
baz=125
HDA Harding Lake 23.37 339 P P 23 14 23.5 +0.2
baz=143
MCK McKinley 23.39 336 P P 23 14 23.6 +0.1
baz=139
OK038 West end E0370 23.40 98 P P 23 14 25.5 +1.6
M20K Styx River 23.48 330 IAmb IAmb 23 14 41.1
comp=Z,12nm,1.1s
M20K Styx River 23.48 330 P P 23 14 24.8 +0.2
baz=129
G31M Satah River 23.53 354 IAmb IAmb 23 14 29.1
comp=Z,11nm,1.1s
G31M Satah River 23.53 354 P P 23 14 24.8 0.0
baz=168
KAN12 Harper NE Stat 23.57 95 P P 23 14 26.9 +1.3
TRF Thorofare Moun 23.58 335 P P 23 14 25.9 +0.2
baz=136
SN07 Snyder 07 23.61 108 P P 23 14 26.6 +0.6
KAN08 Anthony NE Sta 23.62 96 P P 23 14 26.5 +0.4
OK032 Salt Plains WL 23.64 97 P P 23 14 26.7 +0.5
IL03 Eielson Array 23.64 340 P P 23 14 26.2 +0.2
IL31 23.65 340 P P 23 14 27.6 +1.6
ILAR Eielson Array 23.65 340 P P 23 14 25.4 -0.7
ILAR Eielson Array 23.65 340 P P 23 14 26.1 +0.1
comp=Z,1.2nm,0.7s,baz=152,slow=8.6,SNR=11
ILAR PcP PcP 23 18 08.8 -1.4
comp=Z,0.3nm,0.6s,baz=170,slow=1.6,SNR=2.4
ILAR LR LR 23 22 15.3
comp=Z,225nm,18.7s,baz=142,slow=33
comp=Z,1.2nm,0.7s
S14K Fog Glacier 23.66 313 P P 23 14 26.9 +0.5
baz=109
KAN06 Argonia West S 23.70 95 P P 23 14 26.4 -0.4
KAN06 IAmb IAmb 23 14 39.5
comp=Z,29nm,0.9s
WRH Wood River Hil 23.72 338 IAmb IAmb 23 14 38.3
comp=Z,8.7nm,0.9s
KAN14 Manchester OK 23.75 96 P P 23 14 28.3 +1.0
G30M tAoh Zraii Nji 23.76 352 P P 23 14 27.4 +0.2
baz=165
H27K Steamboat Moun 23.78 346 P P 23 14 27.6 +0.2
baz=155
CCB Clear Creek Bu 23.78 339 IAmb IAmb 23 14 29.0
comp=Z,17nm,1.4s
PPLA Purkeypile 23.81 332 P P 23 14 27.7 -0.1
baz=132
CSTR Hydro, Custer 23.82 100 P P 23 14 29.4 +1.4
N18K Kilae Creek 23.84 325 IAmb IAmb 23 14 32.4
comp=Z,15nm,1.1s
N18K Kilae Creek 23.84 325 P P 23 14 27.7 -0.4
baz=123
BWN Browne 23.87 337 P P 23 14 27.8 -0.5
KSU1 Kansas State U 23.87 90 P P 23 14 29.2 +0.7
KSU1 IAmb IAmb 23 14 34.0
comp=Z,24nm,1.0s
KSU1 Kansas State U 23.87 90 P P 23 14 26.9 -1.6
baz=291
SDPT Sand Point 23.88 311 P P 23 14 28.6 +0.2
baz=106
O17K Koliganek Bris 23.89 323 P P 23 14 28.6 +0.1
baz=119
G29M Pine Creek 23.90 350 IAmb IAmb 23 14 38.3
comp=Z,13nm,1.0s
G29M Pine Creek 23.90 350 P P 23 14 28.2 -0.3
baz=162,SNR=6.2
KAN09 Caldwell North 23.92 96 P P 23 14 28.7 -0.2
CROK Carrier 23.93 97 P P 23 14 30.3 +1.2
PRP Porcupine Dome 23.94 342 P P 23 14 29.2 +0.1
baz=147
P16K Nushagak River 23.95 320 P P 23 14 30.2 +1.3
baz=116
M19K Big River Lodg 23.96 329 IAmb IAmb 23 14 40.3
comp=Z,13nm,0.9s
M19K Big River Lodg 23.96 329 P P 23 14 29.0 -0.1
baz=127,SNR=6.4
COLA College 23.98 339 P P 23 14 29.1 -0.1
baz=142
F31M Tsiigehtchic 24.00 355 P P 23 14 29.4 +0.1
baz=169
POKR Poker Plat Res 24.06 340 P P 23 14 30.8 +0.7
baz=143
NEA2 Nenana 24.08 338 IAmb IAmb 23 14 33.0
comp=Z,18nm,1.1s
NEA2 Nenana 24.08 338 P P 23 14 30.3 0.0
baz=140,SNR=12
TX31 Lajitas Ar. Si 24.10 118 IAmb IAmb 23 14 41.8
comp=Z,14nm,1.2s
TXAR Lajitas Array 24.10 118 P P 23 14 32.1 +1.3
TXAR Lajitas Array 24.10 118 P P 23 14 32.2 +1.4
comp=Z,1.4nm,0.7s,baz=303,slow=7.0,SNR=11
TXAR PcP PcP 23 18 12.6 +0.7
comp=Z,0.2nm,0.5s,baz=289,slow=2.8,SNR=2.0
TXAR LR LR 23 24 13.3
comp=Z,88nm,18.1s,baz=300,slow=37
comp=Z,1.4nm,0.7s
L20K Farewell, AK 24.12 330 P P 23 14 30.7 0.0
baz=129,SNR=8.2
SGCY Sterling City 24.13 110 IAmb IAmb 23 14 42.8
comp=Z,13nm,1.0s
CAST Castle Rocks 24.13 333 P P 23 14 30.8 +0.1
baz=133
MDM Murphy Dome 24.14 339 P P 23 14 31.2 +0.4
WMOK Wichita Mounta 24.20 102 IAmb IAmb 23 14 44.0
comp=Z,23nm,1.1s
WMOK Wichita Mounta 24.20 102 P P 23 14 31.0 -0.7
baz=301,SNR=16
O16K Kokwok River B 24.25 322 IAmb IAmb 23 14 34.4
comp=Z,13nm,0.8s

O16K Kokwok River B 24.25 322 P P 23 14 31.9 +0.1
baz=117,SNR=6.1
M18K Stony River 24.27 327 P P 23 14 31.5 -0.4
baz=124
BPAW Bear Paw Mtn. 24.27 335 P P 23 14 31.6 -0.4
baz=136,SNR=7.8
L19K White Mountain 24.30 329 IAmb IAmb 23 14 39.4
comp=Z,11nm,0.9s
L19K White Mountain 24.30 329 P P 23 14 32.0 -0.3
baz=127,SNR=7.0
N17K Nushagak Hills 24.31 324 P P 23 14 33.0 +0.7
baz=120,SNR=7.0
G27K Doyon Strip 24.32 347 P P 23 14 32.3 -0.2
baz=155
F30M Barrier River 24.33 353 P P 23 14 32.4 -0.1
baz=166
LPIG La Paz 24.33 138 LR LR 23 23 05.9
comp=Z,239nm,19.4s,baz=236,slow=34
F36A Milaca 24.42 73 IAmb IAmb 23 14 51.1
comp=Z,12nm,0.9s
CHUM Lake Minchumin 24.53 334 P P 23 14 34.9 +0.6
baz=134
HPIG 24.59 126 P P 23 14 36.1 +0.7
I23K Minto, Yukon-K 24.59 338 IAmb IAmb 23 14 46.7
comp=Z,26nm,1.5s
I23K Minto, Yukon-K 24.59 338 P P 23 14 35.2 +0.4
baz=140
H25L Birch Creek 24.64 343 P P 23 14 35.9 +0.6
baz=148
SAND Sanderson 24.69 115 IAmb IAmb 23 14 48.3
comp=Z,16nm,1.1s
ABTX Abilene, Hawle 24.73 107 P P 23 14 35.7 -0.8
baz=305
K20K Telida 24.75 332 IAmb IAmb 23 14 38.4
comp=Z,8.9nm,0.8s
K20K Telida 24.75 332 P P 23 14 36.6 +0.2
baz=130,SNR=11
H24K Noodor Dome 24.76 340 IAmb IAmb 23 14 50.2
comp=Z,15nm,1.4s
H24K Noodor Dome 24.76 340 P P 23 14 37.1 +0.6
baz=144,SNR=6.7
F28M Old Crow 24.80 349 P P 23 14 37.1 +0.3
baz=159
G26K Porcupine Rive 24.83 345 P P 23 14 38.0 +1.0
baz=152
INK Inuvik 24.84 355 P P 23 14 37.6 +0.6
baz=170
INK Inuvik 24.84 355 LR LR 23 23 54.1
comp=Z,369nm,18.1s,baz=183,slow=36
S12K Black Hills 24.84 311 P P 23 14 37.9 +0.6
baz=104
O15K Ungalikthiuk R 24.86 320 P P 23 14 37.8 +0.4
baz=114
M17K Holitna River 24.87 326 P P 23 14 37.6 +0.2
baz=122,SNR=7.2
MLY Manley 24.88 337 IAmb IAmb 23 14 39.9
comp=Z,8.0nm,0.9s
MLY Manley 24.88 337 P P 23 14 37.2 -0.3
baz=138,SNR=16
WTFS Witchita Falls 24.93 103 P P 23 14 39.9 +1.6
N16K Nishlik Lake 24.96 323 P P 23 14 38.3 0.0
baz=118,SNR=8.8
L18K Granite Mounta 25.02 328 IAmb IAmb 23 14 48.4
comp=Z,14nm,0.8s
L18K Granite Mounta 25.02 328 P P 23 14 38.2 -0.5
baz=124,SNR=19
G25K Bearman Lake 25.12 343 P P 23 14 39.7 0.0
baz=148
H23K Yukon River 25.16 339 IAmb IAmb 23 14 53.0
comp=Z,8.1nm,1.0s
H23K Yukon River 25.16 339 P P 23 14 40.4 +0.3
baz=141
E29M Blow River 25.30 351 IAmb IAmb 23 14 57.8
comp=Z,18nm,1.5s
E29M Blow River 25.30 351 P P 23 14 41.8 +0.6
baz=163
M16K Timber Creek 25.31 324 IAmb IAmb 23 14 44.9
comp=Z,18nm,1.1s
M16K Timber Creek 25.31 324 P P 23 14 42.1 +0.7
baz=119,SNR=7.3
J20K Nowinta River 25.32 333 IAmb IAmb 23 14 53.0
comp=Z,6.8nm,0.8s
J20K Nowinta River 25.32 333 P P 23 14 41.5 0.0
baz=131,SNR=9.9
I21K Tanana 25.35 336 IAmb IAmb 23 14 56.6
comp=Z,11nm,1.1s
I21K Tanana 25.35 336 P P 23 14 41.4 -0.3
baz=136
G24K Hadweenzic Riv 25.37 342 IAmb IAmb 23 14 43.7
comp=Z,7.7nm,0.9s
G24K Hadweenzic Riv 25.37 342 P P 23 14 41.8 -0.1
baz=145,SNR=6.2
N15K Kwethluk River 25.41 322 P P 23 14 43.2 +0.8
baz=116
F26K Sheenjek River 25.55 346 P P 23 14 44.1 +0.5
baz=152
E27K Coleen River 25.58 348 IAmb IAmb 23 14 47.4
comp=Z,16nm,1.2s
E27K Coleen River 25.58 348 P P 23 14 43.4 -0.5
baz=156,SNR=5.3
EYMN Ely 25.60 68 P P 23 14 44.4 +0.3
EYMN IAmb IAmb 23 14 58.2
comp=Z,15nm,1.1s
EYMN Ely 25.60 68 P P 23 14 43.1 -1.1
baz=274,SNR=9.2
L17K Donlin 25.60 327 P P 23 14 44.5 +0.5
baz=122,SNR=8.6
FW03 Perrin-Whitt E 25.60 104 IAmb IAmb 23 14 56.5
comp=Z,28nm,1.4s
E38A The Farm, Brul 25.68 71 IAmb IAmb 23 15 01.0
comp=Z,19nm,1.2s
E28M Babbage River 25.69 350 P P 23 14 44.6 -0.2
baz=160
J19K Poorman 25.70 332 IAmb IAmb 23 14 45.9
comp=Z,13nm,0.8s
J19K Poorman 25.70 332 P P 23 14 45.0 +0.2
baz=129,SNR=14
H22K Ishtalitna Cre 25.71 338 P P 23 14 45.5 +0.5
baz=138
LOOK Love County 25.72 102 IAmb IAmb 23 14 58.0
comp=Z,20nm,1.0s
F25K Christian Rive 25.74 344 P P 23 14 45.8 +0.5
baz=149
J18K Innoko River 25.75 330 IAmb IAmb 23 14 46.5
comp=Z,13nm,0.8s
J18K Innoko River 25.75 330 P P 23 14 45.1 -0.4
baz=126,SNR=10
TUL3 Leonard 25.78 97 P P 23 14 44.7 -1.2
baz=298
C36M Paulatuk 25.79 3 P P 23 14 45.8 +0.2
baz=186
I20K Naaghedeneel 25.84 334 P P 23 14 46.1 -0.1
I20K Naaghedeneel 25.84 334 P P 23 14 46.0 -0.1
baz=132
L16K Owhat River 25.86 325 IAmb IAmb 23 14 52.2
comp=Z,18nm,0.9s
L16K Owhat River 25.86 325 P P 23 14 46.2 -0.2
baz=120,SNR=12
JCT Junction City 25.90 111 P P 23 14 46.3 -0.8
baz=309
M15K Kasigluk River 25.91 322 P P 23 14 46.9 0.0
baz=116
K17K Iditarod 25.92 328 P P 23 14 46.5 -0.5
baz=123,SNR=7.9
H21K Melozitna Rive 25.93 337 IAmb IAmb 23 14 58.4
comp=Z,15nm,1.4s
H21K Melozitna Rive 25.93 337 P P 23 14 46.7 -0.3
baz=136,SNR=5.2
BRDY Brady 25.96 109 IAmb IAmb 23 14 57.9
comp=Z,8.5nm,1.0s
G23K Bananza Creek 25.98 340 P P 23 14 47.8 +0.3
baz=141,SNR=8.2
DRIO Del Rio 26.02 114 IAmb IAmb 23 15 05.3
comp=Z,10nm,0.8s
N14K Kuskokwak Cree 26.03 320 P P 23 14 48.6 +0.6
baz=113
F24K Squaw Lake 26.14 343 P P 23 14 49.2 +0.3
baz=146
E25K Arctic Village 26.19 345 P P 23 14 49.6 +0.2
baz=150
D28M Stokes Point 26.29 351 P P 23 14 50.4 +0.2
baz=162
COLD Coldfoot 26.43 341 P P 23 14 51.8 +0.3
baz=142
H20K Anotleneega Mo 26.44 335 P P 23 14 52.0 +0.4
baz=132,SNR=12
M14K Bethel 26.50 322 IAmb IAmb 23 15 03.0
comp=Z,20nm,1.1s

M14K	**Bethel**	**26.50**	**322**	P	**P**	**23 14 52.3**	**+0.2**
	baz=114						
G22K	**Bettles**	**26.52**	**339**	P	**P**	**23 14 53.0**	**+0.7**
	baz=139						
U38A	**Gravette**	**26.56**	**94**	IAmb	IAmb	23 14 57.5	
	comp=Z,20nm,1.1s						
J17K	**VABM Dome**	**26.59**	**329**	P	**P**	**23 14 53.7**	**+0.8**
	baz=123						
WHTX	**Lake Whitney,**	**26.62**	**106**	P	**P**	**23 14 51.9**	**-1.6**
	baz=305						
L15K	**Ungalak Mounta**	**26.69**	**324**	P	**P**	**23 14 54.1**	**+0.2**
	baz=117						
X37A	**Clayton**	**26.71**	**99**	IAmb	IAmb	23 14 59.5	
	comp=Z,14nm,1.2s						
E24K	**Your Creek**	**26.73**	**343**	P	**P**	**23 14 54.5**	**+0.2**
	baz=145						
G21K	**Allakaket**	**26.75**	**337**	IAmb	IAmb	23 15 08.0	
	comp=Z,14nm,1.2s						
G21K	**Allakaket**	**26.75**	**337**	P	**P**	**23 14 54.9**	**+0.4**
	baz=136,SNR=6.1						
S39A	**Bolivar**	**26.80**	**91**	IAmb	IAmb	23 15 00.5	
	comp=Z,13nm,1.2s						
HHAR	**Hobbs**	**26.95**	**94**	IAmb	IAmb	23 15 11.9	
	comp=Z,7.0nm,1.0s						
H19K	**Roundabout Mou**	**26.95**	**334**	P	**P**	**23 14 55.8**	**-0.4**
H19K				IAmb	IAmb	23 15 07.9	
	comp=Z,10nm,0.9s						
H19K	**Roundabout Mou**	**26.95**	**334**	P	**P**	**23 14 56.5**	**+0.3**
	baz=130,SNR=7.3						
L14K	**Kuka Creek**	**27.06**	**323**	P	**P**	**23 14 57.6**	**+0.4**
	baz=115						
J16K	**Anvik River**	**27.11**	**328**	P	**P**	**23 14 58.6**	**+1.0**
	baz=121						
F22K	**John River**	**27.14**	**340**	P	**P**	**23 14 58.8**	**+1.0**
	baz=139						
C27K	**Jago River**	**27.21**	**348**	P	**P**	**23 14 59.3**	**+0.8**
	baz=154						
F21K	**Alatna River**	**27.26**	**339**	P	**P**	**23 14 60.0**	**+1.0**
	baz=137						
JFWS	**Jewell Farm**	**27.29**	**78**	P	**P**	**23 14 59.2**	**-0.3**
	baz=285						
R40A	**Maddies Statio**	**27.32**	**89**	IAmb	IAmb	23 15 09.9	
	comp=Z,8.4nm,1.0s						
H18K	**Honhosa River**	**27.34**	**332**	P	**P**	**23 15 00.2**	**+0.5**
	baz=127						
D25K	**Kavik River**	**27.38**	**346**	P	**P**	**23 15 00.8**	**+0.7**
	baz=150						
TOLK	**Toolik Lake Re**	**27.43**	**343**	IAmb	IAmb	23 15 14.8	
	comp=Z,11nm,1.3s						
TOLK	**Toolik Lake Re**	**27.43**	**343**	P	**P**	**23 15 01.0**	**+0.4**
	baz=144						
I17K	**Unalakleet**	**27.46**	**329**	P	**P**	**23 15 01.8**	**+1.0**
	baz=122						
E22K	**Anaktuvuk Pass**	**27.53**	**341**	P	**P**	**23 15 02.0**	**+0.6**
	baz=140						
G19K	**Purcell Mounta**	**27.55**	**335**	IAmb	IAmb	23 15 07.3	
	comp=Z,19nm,1.5s						
G19K	**Purcell Mounta**	**27.55**	**335**	P	**P**	**23 15 01.9**	**+0.3**
	baz=130,SNR=6.1						
833A	**Chaparral WMA,**	**27.55**	**114**	P	**P**	**23 15 01.4**	**-0.5**
	baz=312						
C26K	**Camden Bay**	**27.66**	**347**	P	**P**	**23 15 02.8**	**+0.2**
	baz=153						
D41A	**Chassel**	**27.66**	**69**	IAmb	IAmb	23 15 05.5	
	comp=Z,20nm,1.2s						
D24K	**Happy Valley**	**27.70**	**344**	P	**P**	**23 15 01.9**	**-1.0**
	baz=146						
H17K	**Granite Mounta**	**27.75**	**331**	P	**P**	**23 15 04.1**	**+0.7**
	baz=124						
F20K	**Avaraart Lake**	**27.75**	**337**	P	**P**	**23 15 02.7**	**-0.7**
	baz=133						
MGMO	**Mountain Grove**	**27.78**	**91**	IAmb	IAmb	23 15 16.1	
	comp=Z,9.3nm,1.1s						
G18K	**Tagagawik**	**27.89**	**333**	P	**P**	**23 15 04.8**	**+0.1**
	baz=128						
D23K	**Nanushuk River**	**27.93**	**343**	P	**P**	**23 15 05.2**	**+0.2**
	baz=143						
MIAR	**Mount Ida**	**28.02**	**97**	P	**P**	**23 15 05.2**	**-0.9**
	baz=300						
C24K	**Franklin Bluff**	**28.15**	**345**	P	**P**	**23 15 06.9**	**+0.1**
	baz=147						
CCM	**Cathedral Cave**	**28.16**	**89**	P	**P**	**23 15 06.5**	**-0.8**
CCM				IAmb	IAmb	23 15 18.1	
	comp=Z,14nm,1.1s						
CCM	**Cathedral Cave**	**28.16**	**89**	P	**P**	**23 15 06.2**	**-1.0**
	baz=293						
K13K	**Kusilvak Mount**	**28.16**	**323**	P	**P**	**23 15 07.5**	**+0.4**
	baz=113						
F19K	**Shaleruckik Mo**	**28.21**	**335**	P	**P**	**23 15 07.9**	**+0.5**
	baz=130						
M11K	**Mekoryuk**	**28.31**	**320**	P	**P**	**23 15 09.3**	**+0.9**
	baz=105						
D22K	**Ayikyak River**	**28.31**	**341**	P	**P**	**23 15 08.7**	**+0.3**
	baz=140						
G17K	**Kiwalik Mounta**	**28.33**	**332**	P	**P**	**23 15 09.1**	**+0.6**
	baz=124						
A36M	**Sachs Harbour**	**28.40**	**2**	P	**P**	**23 15 09.2**	**+0.1**
	baz=184						
E19K	**Redstone River**	**28.46**	**337**	P	**P**	**23 15 09.7**	**-0.1**
	baz=132						
WHAR	**Wooly Hollow**	**28.59**	**95**	IAmb	IAmb	23 15 22.7	
	comp=Z,9.9nm,0.9s						
C23K	**Itkillik River**	**28.62**	**344**	P	**P**	**23 15 11.5**	**+0.5**
	baz=144						
E20K	**Nigu River**	**28.72**	**338**	P	**P**	**23 15 11.8**	**-0.3**
	baz=134						
E43A	**Lone Tree Farm**	**28.84**	**70**	IAmb	IAmb	23 15 15.0	
	comp=Z,7.3nm,0.8s						
G16K	**Koyuk River**	**28.87**	**331**	P	**P**	**23 15 13.2**	**-0.1**
	baz=122						
C21K	**Knifeblade Rid**	**29.02**	**341**	P	**P**	**23 15 14.4**	**-0.2**
	baz=137						
F17K	**Baldwin Pennin**	**29.07**	**333**	P	**P**	**23 15 14.9**	**-0.1**
	baz=125						
D20K	**Etivluk River**	**29.16**	**339**	P	**P**	**23 15 15.8**	**-0.1**
	baz=134						
G15K	**Niukluk**	**29.27**	**329**	P	**P**	**23 15 16.5**	**-0.5**
	baz=119						
B21K	**Ikpikpuk River**	**29.32**	**341**	P	**P**	**23 15 16.8**	**-0.5**
	baz=138						
D19K	**Kuna River**	**29.41**	**338**	IAmb	IAmb	23 15 30.3	
	comp=Z,11nm,1.2s						
D19K	**Kuna River**	**29.41**	**338**	P	**P**	**23 15 17.8**	**-0.4**
	baz=132						
E18K	**Tukpahlearik C**	**29.44**	**335**	P	**P**	**23 15 17.8**	**-0.6**
	baz=127						
SPIA	**Saint Paul Isl**	**29.59**	**312**	P	**P**	**23 15 19.3**	**-0.5**
	baz=99						
B22K	**Teshekpuk Lake**	**29.61**	**343**	P	**P**	**23 15 18.8**	**-1.0**
	baz=141						
E17K	**Hotham Inlet**	**29.62**	**334**	P	**P**	**23 15 19.6**	**-0.4**
	baz=125						
C19K	**Lookout Ridge**	**30.21**	**338**	P	**P**	**23 15 25.6**	**+0.3**
	baz=131						
SFIN	**Lafayette**	**30.30**	**82**	IAmb	IAmb	23 15 28.6	
	comp=Z,20nm,1.2s						
SFIN	**Lafayette**	**30.30**	**82**	P	**P**	**23 15 24.7**	**-1.6**
	baz=290						
A22K	**Sinclair Lake**	**30.45**	**343**	P	**P**	**23 15 28.1**	**+0.9**
	baz=139						
A21K	**Barrow**	**31.04**	**343**	P	**P**	**23 15 33.0**	**+0.5**
	baz=137						
A19K	**Wainwright**	**31.33**	**339**	P	**P**	**23 15 35.9**	**+0.9**
	baz=130						
C16K	**Lisburne Hills**	**31.41**	**334**	P	**P**	**23 15 36.8**	**+1.1**
	baz=122						
T47A	**Sharon Grove**	**31.60**	**88**	IAmb	IAmb	23 15 39.4	
	comp=Z,8.8nm,0.9s						
WCI	**Wyandotte Cave**	**31.68**	**85**	P	**P**	**23 15 37.3**	**-1.1**
	baz=294						
O48B	**Farmland**	**31.74**	**81**	P	**P**	**23 15 38.7**	**-0.2**
	baz=291						
P48A	**Milroy**	**31.83**	**83**	P	**P**	**23 15 40.2**	**+0.5**
GAMB	**Gambell**	**31.84**	**324**	P	**P**	**23 15 41.1**	**+1.5**
	baz=108						
P49A	**Miami Univ. Ec**	**32.31**	**82**	P	**P**	**23 15 43.8**	**-0.3**
	baz=292						
CLTN	**Cedars of Leba**	**32.55**	**89**	IAmb	IAmb	23 15 48.1	
	comp=Z,6.2nm,0.8s						
U49A	**Red Boiling Sp**	**32.76**	**88**	IAmb	IAmb	23 15 50.1	
	comp=Z,9.9nm,1.1s						
X48A	**Hartselle**	**32.79**	**92**	IAmb	IAmb	23 15 51.6	
	comp=Z,5.1nm,1.0s						
SWET	**Sewanee**	**33.23**	**90**	IAmb	IAmb	23 15 54.3	
	comp=Z,16nm,1.4s						
ACSO	**Alum Creek Sta**	**33.30**	**80**	P	**P**	**23 15 52.7**	**0.0**
	baz=291						
LRAL	**Lakeview Retre**	**33.52**	**94**	P	**P**	**23 15 54.5**	**-0.2**
	baz=301						
P52A	**Corning**	**34.13**	**81**	P	**P**	**23 15 59.3**	**-0.6**
	baz=292						
CPCT	**Cooper Cave**	**34.15**	**89**	IAmb	IAmb	23 16 01.9	
	comp=Z,7.9nm,0.9s						
O52A	**Adamsville**	**34.16**	**80**	P	**P**	**23 15 59.6**	**-0.5**
TZTN	**Tazewell**	**34.36**	**87**	IAmb	IAmb	23 16 06.4	
	comp=Z,11nm,1.1s						
TZTN	**Tazewell**	**34.36**	**87**	P	**P**	**23 16 01.8**	**-0.2**
	baz=296						
M53A	**WI Miller and**	**34.52**	**77**	P	**P**	**23 16 03.0**	**-0.2**
	baz=290						
O53A	**New Philadelph**	**34.56**	**79**	P	**P**	**23 16 03.3**	**-0.3**
	baz=292						
ERPA	**Erie**	**34.78**	**76**	P	**P**	**23 16 04.9**	**-0.6**
	baz=289						
152A	**Waverly Hall**	**35.36**	**93**	IAmb	IAmb	23 16 14.7	
	comp=Z,11nm,1.2s						
BG3	**Lake Jocassee**	**35.51**	**89**	IAmb	IAmb	23 16 13.8	
	comp=Z,11nm,0.8s						
WVNY	**West Valley, N**	**35.65**	**75**	P	**P**	**23 16 12.9**	**-0.1**
WVNY				IAmb	IAmb	23 16 15.4	
	comp=Z,17nm,1.2s						
MCWV	**Mont Chateau**	**35.76**	**80**	P	**P**	**23 16 13.4**	**-0.5**
	baz=293						
M55A	**Ridgway**	**35.86**	**76**	IAmb	IAmb	23 16 16.9	
	comp=Z,14nm,0.9s						
GOGA	**Godfrey**	**35.89**	**91**	P	**P**	**23 16 14.5**	**-0.6**
	baz=300,SNR=7.9						
BLA	**Blacksburg**	**36.34**	**84**	IAmb	IAmb	23 16 21.2	
	comp=Z,15nm,0.9s						
BLA	**Blacksburg**	**36.34**	**84**	P	**P**	**23 16 17.8**	**-1.2**
	baz=296						
HODGE	**Hodges**	**36.36**	**89**	IAmb	IAmb	23 16 20.8	
	comp=Z,9.0nm,0.9s						
Q56A	**Snyder Ridge,**	**36.47**	**80**	IAmb	IAmb	23 16 26.6	
	comp=Z,12nm,1.0s						
L56A	**Greenwood**	**36.48**	**75**	IAmb	IAmb	23 16 21.8	
	comp=Z,13nm,1.1s						
J56A	**Wolcott**	**36.59**	**72**	P	**P**	**23 16 21.5**	**+0.6**
KMSC	**Kings Mountain**	**36.60**	**87**	IAmb	IAmb	23 16 23.0	
	comp=Z,11nm,0.9s						
KMSC	**Kings Mountain**	**36.60**	**87**	P	**P**	**23 16 21.2**	**0.0**
	baz=298,SNR=5.6						
SSPA	**Standing Stone**	**36.78**	**77**	P	**P**	**23 16 22.8**	**+0.2**
	baz=292						
JSC	**Jenkinsville**	**37.06**	**89**	IAmb	IAmb	23 16 26.5	
	comp=Z,15nm,0.8s						
P57A	**Homestead Farm**	**37.13**	**79**	IAmb	IAmb	23 16 28.1	
	comp=Z,14nm,1.0s						
S57A	**Dark Hollow, R**	**37.16**	**82**	IAmb	IAmb	23 16 44.4	
	comp=Z,8.4nm,1.1s						
N58A	**Sunbury**	**37.53**	**76**	P	**P**	**23 16 29.4**	**+0.4**
BINY	**Binghamton**	**37.55**	**74**	P	**P**	**23 16 29.1**	**-0.1**
	baz=290						
W57A	**Gilead**	**37.57**	**86**	IAmb	IAmb	23 16 30.8	
	comp=Z,11nm,0.9s						
LONY	**Lake Ozonia**	**37.72**	**69**	IAmb	IAmb	23 16 32.0	
	comp=Z,9.6nm,0.8s						
LONY	**Lake Ozonia**	**37.72**	**69**	P	**P**	**23 16 29.7**	**-0.9**
	baz=288						
V58A	**Windy Hill, Pi**	**37.91**	**85**	IAmb	IAmb	23 16 34.1	
	comp=Z,14nm,0.9s						
NCB	**Newcomb**	**38.17**	**70**	IAmb	IAmb	23 16 37.3	
	comp=Z,5.8nm,0.8s						
FRNY	**Flat Rock**	**38.33**	**69**	IAmb	IAmb	23 16 37.1	
	comp=Z,7.8nm,0.8s						
T59A	**Double "B" Far**	**38.50**	**82**	IAmb	IAmb	23 16 39.4	
	comp=Z,17nm,0.9s						
SHEM	**Shemya Is, Ala**	**38.69**	**304**	LR	LR	23 30 06.1	
	comp=Z,38nm,21.1s,baz=347,slow=32						
VT1	**Waterbury**	**39.05**	**69**	IAmb	IAmb	23 16 44.3	
	comp=Z,18nm,1.0s						
PAL	**Palisades**	**39.44**	**75**	P	**P**	**23 16 44.5**	**-0.5**
	baz=292						
LBNH	**Lisbon**	**39.65**	**69**	IAmb	IAmb	23 16 49.2	
	comp=Z,14nm,0.8s						
LBNH	**Lisbon**	**39.65**	**69**	P	**P**	**23 16 46.6**	**-0.1**
	baz=290						
LMQ	**La Malbaie**	**39.69**	**64**	IAmb	IAmb	23 16 48.4	
	comp=Z,13nm,0.8s						
L61B	**Northampton**	**39.75**	**72**	P	**P**	**23 16 47.3**	**-0.3**
	baz=291						
SCHQ	**Schefferville**	**40.16**	**52**	P	**P**	**23 16 51.0**	**+0.1**
	comp=Z,2.7nm,0.8s,baz=255,slow=6.0,SNR=3.2						
	comp=Z,2.7nm,0.8s						
E62A	**Clayton Lake**	**40.49**	**65**	P	**P**	**23 16 54.7**	**+1.0**
E62A				IAmb	IAmb	23 16 55.6	
	comp=Z,11nm,0.9s						
NEEM	**North Greenlan**	**44.94**	**18**	*i* P	**P**	**23 17 33.4**	**+3.6**
NEEM				IAmb	IAmb	23 17 37.0	
	comp=Z,11nm,1.0s						
DY2G	**Dye2**	**47.73**	**32**	*i* P	**P**	**23 17 51.8**	**0.0**
DY2G				IAmb	IAmb	23 17 53.3	
	comp=Z,4.6nm,0.6s						
SEY	**Seymchan**	**47.80**	**323**	P	**P**	**23 17 50.6**	**-1.5**
	comp=Z,2.4nm,0.2s,baz=69,slow=17,SNR=1.8						
SEY				LR	LR	23 36 31.8	
	comp=Z,94nm,18.9s,baz=96,slow=34						
	comp=Z,2.4nm,0.2s						
PETK	**Petropavlovsk-**	**48.15**	**309**	P	**P**	**23 17 53.4**	**-1.5**
	comp=Z,3.5nm,0.9s,baz=90,slow=7.9,SNR=5.1						
	comp=Z,3.3nm,0.9s						
SUMG	**Summit**	**48.82**	**24**	P	**P**	**23 18 00.5**	**+0.2**
SUMG				IAmb	IAmb	23 18 08.7	
	comp=Z,5.9nm,0.8s						
SUMG	**Summit**	**48.82**	**24**	*i* P	**P**	**23 18 00.9**	**+0.6**
SUMG				IAmb	IAmb	23 18 01.9	
	comp=Z,3.7nm,0.8s						
ICESG	**Greenland Ices**	**49.44**	**28**	*i* P	**P**	**23 18 05.2**	**+0.2**
MA2	**Magadan**	**49.57**	**319**	LR	LR	23 37 47.7	
	comp=Z,110nm,18.4s,baz=141,slow=35						
DAG	**Danmarks Havn**	**52.06**	**16**	*i* P	**P**	**23 18 24.5**	**+0.2**
DAG				IAmb	IAmb	23 18 25.9	
	comp=Z,2.4nm,0.8s						
DBG	**Daneborg**	**52.96**	**19**	*i* P	**P**	**23 18 34.0**	**+3.1**
DBG				IAmb	IAmb	23 18 38.8	
	comp=Z,20nm,1.5s						
H11N3	**WAKE ISLAND Hy**	**58.79**	**268**	T	T	00 22 38.0	
	baz=49,slow=75,SNR=2547						
H11N2	**WAKE ISLAND Hy**	**58.80**	**268**	T	T	00 22 33.4	
	baz=49,slow=75,SNR=743						
H11N1	**WAKE ISLAND Hy**	**58.81**	**268**	T	T	00 22 36.4	
	baz=49,slow=75,SNR=513						
H11S1	**WAKE ISLAND Hy**	**59.72**	**267**	T	T	00 23 43.1	
	baz=50,slow=75,SNR=577						
H11S2	**WAKE ISLAND Hy**	**59.73**	**267**	T	T	00 23 39.3	
	baz=50,slow=75,SNR=459						
H11S3	**WAKE ISLAND Hy**	**59.74**	**267**	T	T	00 23 42.7	
	baz=50,slow=75,SNR=396						
HEH	**HeiHe**	**65.78**	**317**	*eP*	**P**	**23 20 02.8**	**+2.9**
HEH				pmax	pmax		
	comp=Z,8.0nm,1.0s						
NB2	**NORSAR Subarra**	**70.47**	**20**	P	**P**	**23 20 29.6**	**+0.4**
	comp=Z,10nm,1.2s,baz=332,slow=5.9						
NOA	**NORSAR Array B**	**70.47**	**20**	P	**P**	**23 20 29.6**	**+0.4**
	comp=Z,0.9nm,0.9s,baz=332,slow=5.8,SNR=7.0						
	comp=Z,0.9nm,0.9s						
NAO01	**NORSAR Array S**	**70.56**	**20**	P	**P**	**23 20 31.4**	**+1.7**
NAO01				IAmb	IAmb	23 20 40.8	
	comp=Z,7.3nm,0.9s						
EKA	**Eskdalemuir Ar**	**70.82**	**30**	P	**P**	**23 20 29.0**	**-2.4**
	comp=Z,0.5nm,0.6s,baz=325,slow=6.1,SNR=1.8						
	comp=Z,0.5nm,0.6s						
KONO	**Kongsberg**	**71.26**	**21**	P	**P**	**23 20 36.3**	**+2.4**
KONO				IAmb	IAmb	23 20 53.8	
	comp=Z,6.7nm,1.1s						
HFS	**Hagfors**	**71.86**	**19**	P	**P**	**23 20 37.2**	**-0.3**
	comp=Z,2.4nm,0.9s,baz=37,slow=13,SNR=4.3						
	comp=Z,2.4nm,0.9s						
FINES	**FINESS Array B**	**73.11**	**13**	P	**P**	**23 20 44.5**	**-0.5**
	comp=Z,1.3nm,0.8s,baz=336,slow=3.0,SNR=2.9						
	comp=Z,1.3nm,0.8s						
SONM	**Songino Array**	**77.06**	**326**	P	**P**	**23 21 05.7**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=20,slow=4.6,SNR=1.6						
	comp=Z,0.8nm,0.3s						
ZALV	**Zalesovo Beam**	**78.77**	**341**	P	**P**	**23 21 16.2**	**-1.2**
	comp=Z,0.3nm,0.5s,baz=358,slow=7.1,SNR=1.5						
	comp=Z,0.3nm,0.5s						
CLL	**Collm**	**79.49**	**24**	*i* P	**P**	**23 21 22.4**	**+1.0**
CLL				*es*P	**pwP**	**23 21 28.0**	**-0.1**
BRG	**Berggiesshubel**	**80.15**	**23**	*eP*	**P**	**23 21 24.3**	**-0.7**
BRG				Amp		23 21 26.7	
	comp=Z,2.4nm,0.9s						
BRG	**Berggiesshubel**	**80.15**	**23**	P	P	23 21 32.3	+7.3
BRG				Amp		23 21 32.9	
	comp=Z,4.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**80.25**	**318**	*eP*	**P**	**23 21 26.4**	**+0.6**
HHC				pmax	pmax		
	comp=Z,9.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,42nm,5.4s						
LPAZ	**La Paz**	**80.89**	**123**	P	**P**	**23 21 28.6**	**-1.4**
	comp=Z,2.8nm,0.7s,baz=49,slow=9.3,SNR=2.2						
	comp=Z,2.8nm,0.7s						
GEC2	**GERESS Array S**	**81.89**	**24**	P	**P**	**23 21 34.1**	**-0.3**
GERES	**GERESS Array B**	**81.89**	**24**	P	**P**	**23 21 33.8**	**-0.6**
GERES	**GERESS Array B**	**81.89**	**24**	P	**P**	**23 21 33.4**	**-1.1**
	comp=Z,0.7nm,0.7s,baz=330,slow=3.4,SNR=3.5						
	comp=Z,0.7nm,0.7s						
BRVK	**Borovoye**	**82.35**	**349**	P	**P**	**23 21 38.3**	**+1.7**
BRVK				IAmb	IAmb	23 21 52.7	
	comp=Z,2.6nm,0.8s						
BVAR	**Borovoye Array**	**82.37**	**349**	P	**P**	**23 21 36.1**	**-0.6**
	comp=Z,0.8nm,0.6s,baz=12,slow=7.6,SNR=5.3						
	comp=Z,0.8nm,0.6s						
ESDC	**Sonseca Array**	**82.83**	**40**	P	**P**	**23 21 37.6**	**-1.8**
	comp=Z,0.6nm,0.8s,baz=302,slow=3.2,SNR=1.7						
	comp=Z,0.6nm,0.8s						
NJ2	**Nanjing**	**83.05**	**308**	*eP*	**P**	**23 21 41.8**	**+1.2**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KURBB	**Kurchatov Arra**	**83.27**	**343**	P	**P**	**23 21 39.7**	**-1.8**
	comp=Z,0.7nm,0.7s,baz=19,slow=5.0,SNR=7.3						
	comp=Z,0.7nm,0.7s						
AKASG	**Malin Array Be**	**83.90**	**14**	P	**P**	**23 21 41.8**	**-2.8**
	comp=Z,0.2nm,0.2s,baz=338,slow=4.3,SNR=1.7						
	comp=Z,0.2nm,0.2s						
MKAR	**Makanchi Array**	**86.00**	**340**	P	**P**	**23 21 53.9**	**-1.5**
	comp=Z,0.3nm,0.8s,baz=37,slow=4.7,SNR=1.8						
	comp=Z,0.3nm,0.8s						
XAN	**Xi'an**	**86.88**	**316**	⇓P	**P**	**23 22 03.3**	**+3.3**
XAN				pmax	pmax		
	comp=Z,6.0nm,1.2s						
PZH	**PanZhiHua**	**96.60**	**317**	P	**P**	**23 22 45.6**	**+0.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=Z,90nm,4.3s						

MOS **24** *23:11:45.1±0.8, 0.77N×29.52W, h14km, mb5.1/56, MS4.8/33, Error ellipse: s-maj=12.1km s-min=4.5km az=52.0*

IDC **24** *23:11:45.1±0.4, 0.79N×29.54W, h0km, mb4.6/27, mbtmp4.6/28, ML5.0/1, MS4.8/69, Error ellipse: s-maj=14.8km s-min=9.9km az=141.0*

BJI **24** *23:11:46.0±0.0, 0.80N×29.60W, h10km, mb5.3/4, Ms5.4/10, Ms7 5.2/10*

NEIC **24** *23:11:47.2, 0.82N×29.54W, h26km, Moment Tensor Solution. Duration: 3s3 Moment tensor: Scale 10^17Nm; Mrr=0.31; Mθθ 0.60; Mφφ=0.28; Mrθ 1.31; Mθφ=3.06; Mφr 0.33; Fault plane solution: M0 3.39000×10^17 NP1: φs=267.23000°, δ84.35000°, λ=-156.37000°. NP2: φs=174.76000°, δ66.50000°, λ=-6.16000°. Principal axes: T 3.4185, Plg12.0000°, Azm39.0000°; N -0.0656, Plg66.0000°, Azm280.0000°; P -3.3529, Plg21.0000°, Azm133.0000°;*

NEIC **24** *23:11:47.2, 0.82N×29.54W, h26km*

IPGP **24** *23:11:47.0, 0.79N×29.53W, h14km, Mw5.6, Fault plane solution: NP1:φs 359.00000°, δ75.00000°, λ 5.00000°. NP2:φs 268.00000°, δ85.00000°, λ 165.00000°.*

NEIC **24** *23:11:47.2± 1.5, 0.82N± 0.06×29.54W± 0.09, h10km± 1km, mb5.1/237, Ms_20 5.0/643, Mww5.6/36, Error ellipse: s-maj=14.7km s-min=10.3km az=281.0*

GCMT **24** *23:11:52.2± 0.1, 0.88N± 0.01×29.37W± 0.01, h19km, MW5.6/149, Moment Tensor Solution. s134,c261; s149,c319; Duration: 1s6 Moment tensor: Scale 10^17 Nm; Mrr=0.23±.03; Mθθ 0.54±.04; Mφφ=0.30±.03; Mrθ 0.31±.07; Mθφ=3.26±.03; Mφr 0.47±.07; Best double couple: M0 3.33900×10^17 NP1:φs=176.00000°, δ84.00000°, λ=-8.00000°. NP2:φs=267.00000°, δ82.00000°, λ=-174.00000°. Principal axes: T 3.4030, Plg1.0000°, Azm221.0000°; N -0.1290, Plg80.0000°, Azm318.0000°; P -3.2750, Plg10.0000°, Azm131.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 24 23:11:47.1±0.3, 0.76N±0.05×29.57W±0.05, h12km, n882, σ1§35/498, mb5.0/220, MS4.9/399, 33C-28D, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCBR	**Riachuelo**	**9.10**	**224**		**Pn**	**23 13 57.6**	**-0.8**
RCBR	**Riachuelo**	**9.10**	**224**	Pn	**Pn**	**23 13 56.9**	**-1.5**
	15nm,0.3s,baz=63,slow=14,SNR=137						
RCBR				Sn	Sn	23 15 32.3	-8.7
	10.0nm,0.3s,baz=63,slow=11,SNR=2.5						
RCBR				LR	LR	23 16 55.2	
	comp=Z,6μm,18.7s,baz=336,slow=34						
	74nm,0.5s						
RCBR	**Riachuelo**	**9.10**	**224**	P	**Pn**	**23 13 57.6**	**-0.8**
RCBR	**Riachuelo**	**9.10**	**224**	*eP*	**Pn**	**23 13 57.3**	**-1.1**
NBCL	**Cascavel-CE**	**10.03**	**240**	*eP*	**Pn**	**23 14 08.2**	**-2.8**
NBCA	**Caruaru-PE**	**11.00**	**216**	*eP*	**Pn**	**23 14 24.4**	**-0.1**
NBPB	**Pedra_Branca-C**	**11.80**	**238**	*eP*	**Pn**	**23 14 33.7**	**-1.7**
NBAN	**Anadia - AL**	**12.33**	**213**	*eP*	**Pn**	**23 14 42.5**	**-0.1**
NBLA	**Lagarto - SE**	**14.25**	**215**	*eP*	**Pn**	**23 15 08.6**	**-0.4**
ROSB	**Rosrio**	**15.00**	**256**	*eP*	**Pn**	**23 15 17.0**	**-2.1**
SACV	**Santiago Islan**	**15.30**	**22**	Pn	**Pn**	**23 15 21.0**	**-2.1**
H10N3	**ASCENSION HYDR**	**17.28**	**120**	T	T	23 33 25.8	
	baz=300,slow=75,SNR=944						
H10N2	**ASCENSION HYDR**	**17.29**	**120**	T	T	23 33 09.1	
	baz=300,slow=75,SNR=109						
H10N1	**ASCENSION HYDR**	**17.30**	**120**	T	T	23 33 27.4	
	baz=300,slow=75,SNR=623						
ASCN	**Ascension**	**17.45**	**120**		**Pn**	**23 15 50.3**	**-

comp=Z,81nm,0.8s
PMNB Patos De Minas 25.36 220 *e*P **P 23 17 15.4 +1.1**
CAM01 Campos-RJ 25.36 207 *e*P **P 23 17 15.6 +1.3**
KIC Kosan Boka 25.38 77 *i*P **P 23 17 13.3 -1.3**
comp=Z,86nm,0.9s
DUB01 Friburgo-RJ 25.91 208 *e*P **P 23 17 19.7 +0.4**
IPMB Ipameri, GO 26.15 224 *e*P **P 23 17 21.9 +0.5**
BSCB Bom Sucesso 26.25 214 *e*P **P 23 17 22.8 +0.4**
ITTB Itaituba 26.64 259 *e*P **P 23 17 25.9 0.0**
NPGB Novo Progresso 26.88 253 *e*P **P 23 17 27.3 -0.8**
MAN01 Angra dos Reis 27.35 210 *e*P **P 23 17 34.0 +1.7**
ARAG Araguaiana, MT 27.40 232 *e*P **P 23 17 33.4 +0.6**
ITRB Iturama 28.80 224 *e*P **P 23 17 46.0 +0.7**
PDRB Porto dos Gac 29.66 245 *e*P **P 23 17 53.8 +0.9**
SPB Sao Paulo 29.79 215 *e*P **P 23 17 54.1 +0.2**
SALV Santo Antonio 30.66 236 *e*P **P 23 18 02.5 +0.8**
PCMB Pacaembu 30.71 222 *e*P **P 23 18 03.4 +1.2**
FRTB Fartura 30.86 218 *e*P **P 23 18 04.7 +1.2**
BOAV Boa Vista 30.99 273 P **P 23 18 05.5 +0.7**
BOAV IAmb IAmb 23 18 08.4
comp=Z,28nm,1.3s
BOAV Boa Vista 30.99 273 *e*P **P 23 18 06.1 +1.3**
MACA Manacapuru-AM 31.35 263 IAMs_20 IAMs_20 23 29 42.0
comp=Z,3µm,19.0s
MACA Manacapuru-AM 31.35 263 *e*P **P 23 18 09.1 +1.2**
RVDE Rio Verde (Bra 31.74 230 *e*P **P 23 18 12.3 +1.0**
LDASE Londrina, Braz 31.87 220 *e*P **P 23 18 13.6 +1.2**
TRCB Terra Rica 32.45 222 *e*P **P 23 18 18.7 +1.2**
AQDB Aquidauana 33.17 229 P **P 23 18 24.4 +0.6**
AQDB IAmb IAmb 23 18 26.2
comp=Z,42nm,1.3s
AQDB Aquidauana 33.17 229 *e*P **P 23 18 25.1 +1.4**
TOC5 Torodi Ar. Sit 33.30 67 IAMs_20 IAMs_20 23 31 04.2
comp=Z,2µm,18.0s
VILB Vilhena 33.30 245 P **P 23 18 25.7 +0.7**
VILB IAmb IAmb 23 18 28.2
comp=Z,54nm,1.4s
VILB Vilhena 33.30 245 *e*P **P 23 18 26.7 +1.7**
TOC4 Torodi Ar. Sit 33.32 67 IAMs_20 IAMs_20 23 31 05.7
comp=Z,2µm,18.0s
TORD Torodi Ar. Bea 33.32 67 P **P 23 18 23.4 -1.7**
comp=Z,9.7nm,1.0s,baz=259,slow=8.4,SNR=26
TORD PcP **PcP 23 21 06.4 -0.9**
comp=Z,0.8nm,0.7s,baz=332,slow=1.3,SNR=1.6
TORD LR LR 23 29 50.0
comp=Z,2µm,21.7s,baz=246,slow=33
comp=Z,9.7nm,1.0s
TOB3 Torodi Ar. Sit 33.33 67 IAMs_20 IAMs_20 23 31 06.0
comp=Z,2µm,18.0s
PTLB Pontes e Lacer 33.37 240 P **P 23 18 26.6 +1.1**
PTLB Pontes e Lacer 33.37 240 *e*P **P 23 18 26.7 +1.1**
PTGB Pitanga 33.42 219 *e*P **P 23 18 27.2 +1.2**
H05S1 Guadeloupe/Mar 33.77 295 T T 23 54 17.1
SNR=59
BDQN Bodoquena, MS 33.95 230 *e*P **P 23 18 31.9 +1.3**
PMOZ Porto Moniz, M 33.95 19 *e*S **S 23 24 01.1 +5.7**
PMOZ *e*LR LR 23 27 06.0
comp=Z,1µm,22.0s
TER01 Tubaro-SC 34.64 211 *e*P **P 23 18 38.2 +1.8**
H05N1 Guadeloupe/Mar 34.67 298 T T 23 55 22.5
SNR=29
SAML Samuel 34.85 253 P **P 23 18 38.3 -0.2**
SAML IAmb IAmb 23 18 41.1
comp=Z,36nm,1.1s
SAML Samuel 34.85 253 P **P 23 18 38.3 -0.2**
SAML pmax pmax
comp=Z,36nm,1.1s
SAML MLR MLR
comp=Z,1µm,21.0s
SAML Samuel 34.85 253 *e*P **P 23 18 39.6 +1.1**
BBRB Robore, Bolivi 35.25 236 *e*P **P 23 18 43.2 +1.3**
SIV San Ignacio 35.28 240 LR LR 23 32 46.7
comp=Z,8µm,18.0s,baz=84,slow=36
ITAB Concordia 35.30 216 *e*P **P 23 18 43.6 +1.5**
MURT Porto Murtinho 35.30 229 *e*P **P 23 18 43.5 +1.2**
TEFE Tefe 35.31 263 *e*P **P 23 18 44.0 +1.6**
BBSD Serra de San D 35.41 238 *e*P **P 23 18 44.7 +1.4**
PCRV Puerto La Cruz 36.10 286 LR LR 23 32 11.3
comp=Z,849nm,22.0s,slow=34
PSMA Santa Maria 36.29 6 *e*T T 23 56 39.3
PSMN Pico do Norte, 36.30 6 *e*T T 23 56 39.6
CRSM Crissiumal (Br 36.64 218 *e*P **P 23 18 55.2 +1.5**
TIO Tiouine 36.70 33 P **P 23 18 53.8 -0.6**
CMLA Cha da Macela 37.01 5 *e*T T 23 57 35.8
PGRON Lagoa das Cont 37.03 6 *e*T T 23 57 35.5
BART Pico Bartolome 37.06 6 *e*T T 23 57 38.6
ETMB Extrema 37.96 253 P **P 23 19 05.1 0.0**
ETMB Extrema 37.96 253 *e*P **P 23 19 05.8 +0.7**
CPUP Villa Florida 37.98 223 P **P 23 19 05.2 +0.1**
comp=Z,12nm,1.0s,baz=42,slow=7.9,SNR=20
CPUP LR LR 23 34 27.0
comp=Z,7µm,19.3s,baz=66,slow=36
comp=Z,12nm,1.0s
CPUP Villa Florida 37.98 223 *e*P **P 23 19 06.2 +1.1**
UNIS Unistalda (Bra 38.40 217 *e*P **P 23 19 09.4 +0.8**
CPSB Cacapava Do Su 38.44 214 *e*P **P 23 19 10.2 +1.3**
AVE Averroes 38.48 30 IAMs_20 IAMs_20 23 33 32.2
comp=Z,2µm,19.0s
AVE Averroes 38.48 30 P **P 23 19 09.4 +0.2**
BAUV El Baul 39.16 283 P **P 23 19 15.9 +0.8**
BAUV IAmb IAmb 23 19 19.5
comp=Z,56nm,1.3s
RODS Rosario do Sul 39.41 216 *e*P **P 23 19 18.2 +1.2**
PLTB Pedras Altas 39.56 213 P **P 23 19 18.4 +0.2**
PLTB Pedras Altas 39.56 213 *e*P **P 23 19 18.2 -0.1**
MDT Midelt 39.60 34 LR LR 23 33 47.5
comp=Z,2µm,21.2s,baz=238,slow=33
ITQB Itaqui 39.78 218 P **P 23 19 20.7 +0.6**
ITQB IAmb IAmb 23 19 22.7
comp=Z,46nm,1.3s
ITQB IAMs_20 IAMs_20 23 35 15.6
comp=Z,2µm,20.0s
ITQB Itaqui 39.78 218 *e*P **P 23 19 21.0 +0.9**
IFR Ifrane 39.85 33 P **P 23 19 21.0 +0.2**
TICA Tres Isletas 40.14 225 *e*P **P 23 19 25.4 +2.3**
TAM Tamanrasset 40.52 55 P **P 23 19 25.8 -0.8**
TAM IAmb IAmb 23 19 28.3
comp=Z,34nm,1.2s
TAM Tamanrasset 40.52 55 P **P 23 19 25.8 -0.8**
TAM pmax pmax
comp=Z,34nm,1.2s
TAM MLR MLR
comp=Z,4µm,20.0s
TBTG Tabatinga, AM 40.61 263 IAMs_20 IAMs_20 23 35 33.4
comp=Z,2µm,20.0s
TBOT Tacuaremb 40.81 215 *e*P **P 23 19 30.1 +1.4**
H09N1 TRISTAN DA CUN 40.90 159 T T 00 03 12.7
SNR=39
H09W1 TRISTAN DA CUN 40.91 159 T T 00 03 13.5
SNR=52
PFVI Vila Bisbo 40.95 26 *e*P **P 23 19 30.0 +0.3**
MORF Marmelete 41.17 26 *e*P **P 23 19 31.8 +0.2**
comp=Z,58nm,1.8s
MORF Marmelete 41.17 26 IAmb IAmb 23 19 33.1
comp=Z,44nm,1.1s
MORF Marmelete 41.17 26 *e*P **P 23 19 31.5 -0.1**
MORF IAmb IAmb 23 19 32.8
comp=Z,33nm,1.0s
MORF *e*S **S 23 25 45.7 +0.9**
MORF Marmelete 41.17 26 *e*P **P 23 19 31.5 -0.1**
MORF *e*S **S 23 25 45.7 +0.9**
PTEO Sao Teotonio 41.34 25 *e*P **P 23 19 34.2 +1.3**
comp=Z,58nm,1.4s
PSAL Palomas, Salto 41.38 218 *e*P **P 23 19 34.2 +0.9**
PBDV Barranco-do-Ve 41.44 26 *e*P **P 23 19 33.8 +0.1**
comp=Z,31nm,1.5s
PBDV Barranco-do-Ve 41.44 26 P **P 23 19 33.5 -0.2**
CEU Ceuta 41.56 30 P **P 23 19 34.9 +0.2**
LPAZ La Paz 41.66 244 P **P 23 19 36.3 -0.2**
LPAZ IAmb IAmb 23 19 39.2
comp=Z,47nm,1.1s
LPAZ IAMs_20 IAMs_20 23 35 59.3
comp=Z,2µm,20.0s
LPAZ La Paz 41.66 244 P **P 23 19 37.6 +1.1**
comp=Z,33nm,1.1s,baz=48,slow=6.8,SNR=66
LPAZ LR LR 23 36 10.9
comp=Z,2µm,21.4s,baz=74,slow=35
comp=Z,33nm,1.1s
LPAZ La Paz 41.66 244 P **P 23 19 36.3 -0.2**
LPAZ pmax pmax
comp=Z,47nm,1.1s
LPAZ MLR MLR
comp=Z,2µm,20.0s
PVAQ Vaqueiros 41.66 26 *e*P **P 23 19 35.3 -0.3**
comp=Z,38nm,2.0s
PVAQ *e*S **S 23 25 53.6 +1.5**
PVAQ *e*SS **SnSn 23 29 03.6 -4.3**
PVAQ *e*LR LR 23 30 59.5
comp=Z,993nm,20.0s
PVAQ Vaqueiros 41.66 26 P **P 23 19 35.5 0.0**
SDV Santo Domingo 41.67 282 P **P 23 19 38.2 +2.0**
SDV Santo Domingo 41.67 282 *e*P **P 23 19 37.9 +1.7**
PCVE Castro Verde 41.71 26 *e*P **P 23 19 36.6 +0.6**
comp=Z,37nm,1.5s
PCVE Castro Verde 41.71 26 P **P 23 19 36.5 +0.6**
MESJ Messejana 41.81 26 *e*P **P 23 19 37.6 +0.9**
comp=Z,2.1nm,0.7s
MESJ Messejana 41.81 26 *e*P **P 23 19 36.8 +0.1**
MESJ IAmb IAmb 23 19 39.4
comp=Z,18nm,1.3s
MESJ *e*S **S 23 25 55.2 +1.0**
MESJ Messejana 41.81 26 *e*P **P 23 19 36.8 +0.1**
MESJ *e*S **S 23 25 55.2 +1.0**
EGRO El Granado 41.88 27 P **P 23 19 37.4 +0.1**
PNCL Nicolau / Gran 41.90 25 *e*P **P 23 19 37.9 +0.4**
comp=Z,16nm,1.9s
PNCL Nicolau / Gran 41.90 25 P **P 23 19 38.1 +0.6**
ESPR Espera 42.09 29 P **P 23 19 39.9 +0.9**
PBEJ Beja 42.12 26 *e*P **P 23 19 39.8 +0.6**
comp=Z,1.8nm,0.9s
EMIJ Mijas 42.38 30 P **P 23 19 41.3 -0.2**
PBAR Barrancos 42.60 26 *e*P **P 23 19 43.5 +0.3**
comp=Z,19nm,1.9s
PMTG Montargil 42.84 25 *e*P **P 23 19 45.7 +0.6**
comp=Z,23nm,1.9s
PESTR Estremoz 42.94 25 *e*P **P 23 19 46.0 +0.1**
comp=Z,23nm,1.5s
PESTR Estremoz 42.94 25 IAMs_20 IAMs_20 23 33 56.1
comp=Z,2µm,19.0s
PB18 Visviri 43.32 243 P **P 23 19 50.1 +0.2**
PB18 IAmb IAmb 23 19 52.1
comp=Z,70nm,1.4s
PMRV Marv??o 43.49 25 *e*P **P 23 19 51.1 +0.7**
comp=Z,44nm,1.8s
PMRV *e*S **S 23 26 22.1 +3.1**
PMRV *e*LR LR 23 31 52.9
comp=Z,859nm,20.0s
PCAS Casmilo, Conde 43.56 24 *e*P **P 23 19 50.3 -0.6**
comp=Z,23nm,1.7s
PCBR Castelo Branco 43.80 25 *e*P **P 23 19 53.9 +1.1**
GO01 Chusmiza 43.84 240 P **P 23 19 52.5 -1.5**
CZSB Cruzeiro do Su 43.84 258 *e*P **P 23 19 53.5 -0.1**
MTE Manteigas 44.24 24 *e*P **P 23 19 56.7 +0.2**
comp=Z,32nm,1.2s
MTE *e*S **S 23 26 31.3 +1.3**
MTE *e*SS **SS 23 29 45.7 -2.7**
MTE *e*LR LR 23 32 08.8
comp=Z,898nm,22.0s
PB11 IPOC Station P 44.27 240 IAmb IAmb 23 21 40.9
comp=Z,56nm,1.2s
AP01 Chacalluta 44.36 243 IAMs_20 IAMs_20 23 38 27.0
comp=Z,2µm,20.0s
PVIS Viseu 44.37 24 *e*P **P 23 19 57.9 +0.4**
comp=Z,4.6nm,0.8s
SDDR Presa de Saban 44.73 296 P **P 23 20 00.5 -0.2**
SDDR IAmb IAmb 23 20 19.7
comp=Z,29nm,1.1s
PB09 IPOC Station P 44.74 237 IAmb IAmb 23 20 01.4
comp=Z,18nm,0.9s
LVC Limon Verde 44.80 236 P **P 23 20 01.2 -0.4**
LVC IAmb IAmb 23 20 02.5
comp=Z,31nm,1.4s
LVC Limon Verde 44.80 236 IAMs_20 IAMs_20 23 39 04.8
comp=Z,2µm,19.0s
LVC Limon Verde 44.80 236 LR LR 23 39 17.0
comp=Z,2µm,19.7s,baz=61,slow=37
LVC Limon Verde 44.80 236 P **P 23 20 01.2 -0.4**
LVC pmax pmax
comp=Z,31nm,1.4s
LVC MLR MLR
comp=Z,2µm,19.0s
LVC Limon Verde 44.80 236 *e*P **P 23 20 01.2 -0.4**
ROSC El Rosal 44.87 276 IAmb IAmb 23 20 07.4
comp=Z,24nm,0.9s
ROSC El Rosal 44.87 276 P **P 23 20 03.4 +1.1**
comp=Z,20nm,0.8s,baz=67,slow=6.6,SNR=7.3
ROSC LR LR 23 37 38.7
comp=Z,3µm,21.0s,baz=106,slow=35
comp=Z,20nm,0.8s
PAB San Pablo 44.94 28 P **P 23 20 00.6 -1.5**
PAB San Pablo 44.94 28 IAMs_20 IAMs_20 23 35 13.2
comp=Z,1µm,18.0s
PAB San Pablo 44.94 28 P **P 23 20 00.6 -1.5**
PAB pmax pmax
comp=Z,14nm,1.0s
PAB MLR MLR
comp=Z,1µm,18.0s
POLO Lamas de Olo 44.96 23 *e*P **P 23 20 00.3 -2.0**
comp=Z,14nm,2.1s
TA01 Diego Aracena 45.04 240 IAMs_20 IAMs_20 23 38 40.9
comp=Z,1µm,20.0s
MVO Moncorvo 45.09 24 *e*P **P 23 20 04.0 +0.7**
comp=Z,20nm,1.4s
MVO *e*S **S 23 26 43.8 +1.4**
MVO *e*SS **SS 23 30 08.9 +4.1**
MVO *e*LR LR 23 32 47.0
comp=Z,912nm,20.0s
PATCX Punta Patache 45.11 239 IAMs_20 IAMs_20 23 38 49.0
comp=Z,2µm,20.0s
PCAB Cabril 45.16 23 *e*P **P 23 20 04.4 +0.6**
comp=Z,47nm,1.8s
ESDC Sonseca Array 45.22 28 P **P 23 20 04.5 +0.1**
ESDC Sonseca Array 45.22 28 P **P 23 20 04.9 +0.6**
comp=Z,13nm,0.9s,baz=225,slow=8.8,SNR=81
ESDC LR LR 23 36 17.5
comp=Z,525nm,21.4s,baz=202,slow=33
comp=Z,13nm,0.9s
ESBB Sonseca Array 45.23 28 IAmb IAmb 23 20 05.7
comp=Z,18nm,0.9s
PGAV Gavieira, Arco 45.28 22 *e*P **P 23 20 05.1 +0.3**
comp=Z,41nm,1.8s
PGAV *e*S **S 23 26 47.4 +2.2**
PGAV *e*SS **SS 23 30 11.0 +2.7**
PGAV *e*LR LR 23 32 47.0
comp=Z,1µm,22.0s
PB06 IPOC Station P 45.40 236 IAMs_20 IAMs_20 23 39 19.5
comp=Z,2µm,19.0s
PBRG Braganca 45.75 24 *e*P **P 23 20 09.0 +0.5**
comp=Z,21nm,1.9s
PB05 IPOC Station P 45.99 237 IAmb IAmb 23 20 12.0
comp=Z,37nm,1.1s
UCM Universidad Co 46.06 28 P **P 23 20 10.4 -0.5**
PB10 IPOC Station P 46.56 236 IAMs_20 IAMs_20 23 40 24.2
comp=Z,2µm,19.0s
AC01 Pan de Azucar 47.77 233 IAmb IAmb 23 20 29.5
comp=Z,15nm,1.0s
AC06 Mina Casimiro 48.14 231 IAmb IAmb 23 20 28.5
comp=Z,12nm,0.8s
AC06 IAMs_20 IAMs_20 23 41 08.1
comp=Z,1µm,20.0s
TULM Tulcn-Chalpat 48.22 270 IAMs_20 IAMs_20 23 39 09.8
comp=Z,1µm,20.0s
NNA Nana 48.62 253 P **P 23 20 30.3 -1.0**
NNA Nana 48.62 253 LR LR 23 41 36.3
comp=Z,703nm,18.1s,baz=58,slow=37
NNA Nana 48.62 253 P **P 23 20 30.3 -1.0**
NNA pmax pmax
comp=Z,78nm,1.7s
AC05 El Transito 48.80 230 IAMs_20 IAMs_20 23 39 20.6
comp=Z,2µm,21.0s
TRQA Tornquist 48.83 214 P **P 23 20 32.8 +0.3**
TRQA IAmb IAmb 23 20 35.3
comp=Z,27nm,1.2s
TRQA IAMs_20 IAMs_20 23 38 18.3
comp=Z,1µm,22.0s
TRQA Tornquist 48.83 214 P **P 23 20 32.8 +0.3**
TRQA pmax pmax
comp=Z,27nm,1.3s
TRQA MLR MLR
comp=Z,1µm,22.0s
ZON Zonda 49.04 226 IAmb IAmb 23 20 37.9
comp=Z,29nm,1.6s
AC04 Llanos de Chal 49.10 231 IAMs_20 IAMs_20 23 39 35.7
comp=Z,2µm,21.0s
LCO Las Campanas 49.21 230 P **P 23 20 35.2 -0.7**
LCO IAmb IAmb 23 20 37.7
comp=Z,29nm,1.5s
LCO Las Campanas 49.21 230 P **P 23 20 35.2 -0.7**
LCO pmax pmax
comp=Z,29nm,1.5s
LCO MLR MLR
comp=Z,2µm,18.0s
TATN Tataouine 49.24 46 IAmb IAmb 23 20 39.3
comp=Z,22nm,0.9s
ATAH Atahualpa 49.34 260 LR LR 23 41 23.5
comp=Z,2µm,21.0s,baz=77,slow=36
CEST Esterri de Car 49.99 30 IAmb IAmb 23 20 43.1
comp=Z,17nm,1.0s
CO03 El Pedregal 50.12 227 IAmb IAmb 23 20 44.6
comp=Z,39nm,1.4s
KEST Kesra 50.16 42 P **P 23 20 42.3 -0.4**
KEST IAmb IAmb 23 20 46.6
comp=Z,20nm,1.1s
KEST Kesra 50.16 42 P **P 23 20 42.9 +0.2**
comp=Z,14nm,0.9s,baz=176,slow=4.8,SNR=9.2
KEST LR LR 23 41 30.3
comp=Z,2µm,21.9s,baz=206,slow=36
comp=Z,14nm,0.9s
TSUM Tsumeb 50.33 116 P **P 23 20 44.1 -0.3**
TSUM Tsumeb 50.33 116 IAMs_20 IAMs_20 23 37 42.9
comp=Z,2µm,19.0s
TSUM Tsumeb 50.33 116 LR LR 23 37 55.4
comp=Z,1µm,20.0s,baz=290,slow=31
WIN Windhoek 51.00 120 IAMs_20 IAMs_20 23 37 13.6
comp=Z,2µm,21.0s
MT08 Bocatoma Ro 51.03 224 IAmb IAmb 23 20 52.5
comp=Z,34nm,1.2s
VA03 San Esteban 51.03 225 IAmb IAmb 23 20 51.4
comp=Z,14nm,0.8s
PEL Peldehue 51.33 225 IAmb IAmb 23 20 53.0
comp=Z,32nm,1.2s
LMEL Las Melosas 51.38 224 IAmb IAmb 23 20 54.6
comp=Z,23nm,1.3s
LFF La Frestale 51.51 27 *e*P **P 23 20 53.0 +0.3**
LFF pmax pmax
comp=Z,31nm,1.1s
BO04 La Punta 51.74 224 IAmb IAmb 23 20 56.5
comp=Z,24nm,0.9s
MT09 Talagante 51.89 224 P **P 23 20 55.4 -0.5**
VA01 Torpederas 51.95 226 IAMs_20 IAMs_20 23 42 35.8
comp=Z,2µm,22.0s
CAF Calviac 52.11 28 *e*P **P 23 20 57.3 +0.1**
CAF pmax pmax
comp=Z,22nm,1.4s
MT01 Popeta 52.12 225 IAmb IAmb 23 20 58.1
comp=Z,26nm,1.2s
MFF Saint Martin d 52.41 25 *e*P **P 23 20 59.1 -0.2**
MFF pmax pmax
comp=Z,15nm,1.2s
SSB Saint Sauveur 53.57 29 P **P 23 21 07.5 -0.5**
SSB Saint Sauveur 53.57 29 IAMs_20 IAMs_20 23 41 18.5
comp=Z,1µm,21.0s
SSB Saint Sauveur 53.57 29 P **P 23 21 07.5 -0.5**
SSB pmax pmax
comp=Z,14nm,1.2s
SSB MLR MLR
comp=Z,1µm,21.0s
SMF Signal de Mont 54.22 28 *e*P **P 23 21 12.9 +0.2**
SMF pmax pmax
comp=Z,13nm,1.2s
BNI Bardonecchia 54.48 31 P **P 23 21 14.6 -0.2**
BNI IAmb IAmb 23 21 26.2
comp=Z,21nm,1.1s
BNI Bardonecchia 54.48 31 P **P 23 21 14.6 -0.2**
BNI pmax pmax
comp=Z,21nm,1.2s
BNI MLR MLR
comp=Z,700nm,19.0s
VAE Valguarnera 54.52 43 LR LR 23 43 40.2
comp=Z,1µm,21.9s,baz=308,slow=35
LPL La Plagne 54.83 31 *e*P **P 23 21 18.0 +0.6**
LPL pmax pmax
comp=Z,20nm,1.5s
GO06 Curarrehue 55.48 219 P **P 23 21 22.0 -0.1**
PLCA Paso Flores 55.60 217 IAmb IAmb 23 21 24.9
comp=Z,40nm,1.6s
PLCA IAMs_20 IAMs_20 23 42 13.4
comp=Z,1µm,20.0s
PLCA Paso Flores 55.60 217 P **P 23 21 23.3 +0.5**
comp=Z,4.3nm,0.7s,baz=37,slow=3.6,SNR=8.7
PLCA LR LR 23 44 52.1
comp=Z,977nm,19.1s,baz=63,slow=36
comp=Z,4.3nm,0.7s
PLCA Paso Flores 55.60 217 *e*P **P 23 21 23.5 +0.6**
VLC Villacollemand 55.89 34 P **P 23 21 23.5 -1.3**
CEL Celeste 55.93 43 IAmb IAmb 23 21 26.6
comp=Z,32nm,1.1s
HRV Adam Dziewonsk 56.05 323 P **P 23 21 26.5 +0.5**
baz=126
Y60A Bolivia 56.21 311 IAMs_20 IAMs_20 23 38 54.1
comp=Z,1µm,22.0s
ZCCA Zocca 56.34 34 IAmb IAmb 23 21 31.5
comp=Z,21nm,1.0s
PAOL Paolisi 56.53 39 IAMs_20 IAMs_20 23 46 41.1
comp=Z,1µm,18.0s
NRCA Norcia 56.66 37 P **P 23 21 29.0 -1.4**
I62A Tamworth 56.74 325 IAMs_20 IAMs_20 23 39 56.5
comp=Z,865nm,19.0s
FDMO Fiordimonte 56.76 36 IAmb IAmb 23 21 42.9
comp=Z,24nm,1.6s
CUC Castrocucco 56.77 41 IAMs_20 IAMs_20 23 46 56.6
comp=Z,1µm,18.0s
TUE Stuetta 56.82 31 IAMs_20 IAMs_20 23 42 22.7
comp=Z,975nm,20.0s
W59A Clinton 56.88 313 IAMs_20 IAMs_20 23 39 12.8
comp=Z,1µm,21.0s
ECH Echery 56.92 29 IAmb IAmb 23 21 33.7
comp=Z,31nm,1.5s
LL03 Petrohue 56.96 218 IAMs_20 IAMs_20 23 45 36.6
comp=Z,1µm,20.0s
TIP Timpagrande 56.98 42 P **P 23 21 30.9 -1.9**
T59A Double "B" Far 57.05 315 P **P 23 21 32.3 -0.9**
DOU Dourbes 57.12 26 *d*P **P 23 21 32.4 -1.0**
HNH Hanover 57.19 324 P **P 23 21 33.4 -0.7**
HNH IAmb IAmb 23 21 37.3
comp=Z,47nm,1.5s
Y58A Scranton 57.27 311 IAMs_20 IAMs_20 23 40 10.0
comp=Z,941nm,21.0s
X58A Rowland 57.29 312 IAMs_20 IAMs_20 23 39 25.6
comp=Z,1µm,22.0s
DAVOX Davos/Dischmat 57.30 31 LR LR 23 44 44.6
comp=Z,745nm,18.1s,baz=244,slow=35
BMRD Maredsous 57.34 25 *d*P **P 23 21 35.2 +0.2**
RCHB Rochefort 57.43 26 *d*P **P 23 21 35.0 -0.6**
WLF Walferdange 57.48 27 IAMs_20 IAMs_20 23 42 17.1
comp=Z,1µm,21.0s
EFI East Falkland 57.53 201 *i* P **P 23 21 37.0 +0.7**
EFI pmax pmax
comp=Z,21nm,1.1s
BGES Gesves 57.54 26 *d*P **P 23 21 35.8 -0.6**
257A Skidaway Islan 57.56 308 IAMs_20 IAMs_20 23 40 45.0
comp=Z,1µm,20.0s
BFO Black Forest 57.56 29 P **P 23 21 35.8 -0.9**
BFO Black Forest 57.56 29 P **P 23 21 35.8 -0.9**
BFO pmax pmax
comp=Z,56nm,1.7s
BFO MLR MLR
comp=Z,900nm,21.0s
DAVA Damuels 57.63 31 *i* P **P 23 21 37.0 -0.3**
comp=Z,37nm,1.7s,SNR=12
V58A Windy Hill, Pi 57.65 313 P **P 23 21 37.9 +0.4**
V58A IAmb IAmb 23 21 39.2
comp=Z,48nm,1.7s
BCLA Clavier 57.66 26 *d*P **P 23 21 37.8 +0.6**
LL01 San Ignacio de 57.70 217 P **P 23 21 37.3 -0.4**
LL01 IAMs_20 IAMs_20 23 47 36.0
comp=Z,992nm,20.0s
CTI Castel Tesino 57.77 33 IAmb IAmb 23 21 38.6
comp=Z,11nm,0.9s
SUR Sutherland 57.82 130 LR LR 23 40 46.0
comp=Z,821nm,21.4s,baz=288,slow=30
LL02 Futaleuf 57.86 216 P **P 23 21 38.9 +0.1**
LL02 IAMs_20 IAMs_20 23 47 58.1
comp=Z,933nm,19.0s
Y57A Sumter 57.86 310 IAMs_20 IAMs_20 23 40 27.8
comp=Z,989nm,21.0s
BSTI Sart Tilman 57.90 26 *d*P **P 23 21 39.2 +0.3**
FETA Feichten 57.90 31 *i* P **P 23 21 38.6 -0.6**
comp=Z,20nm,1.3s,SNR=11
456A Hilliard 57.90 306 IAMs_20 IAMs_20 23 40 26.1
comp=Z,1µm,21.0s
W57A Gilead 58.03 312 IAMs_20 IAMs_20 23 39 57.1
comp=Z,1µm,22.0s
MEM Membach 58.10 26 *d*P **P 23 21 41.4 +1.0**
BTNL Ternell 58.14 26 *d*P **P 23 21 41.5 +0.8**
BIRD Birdtown, Kers 58.17 311 IAMs_20 IAMs_20 23 40 36.9
comp=Z,1µm,21.0s

RETA	**Reutte**	58.22	31	*i* P		P		23 21 40.5	-0.8	
	comp=Z,23nm,1.9s,SNR=14									
SQTA	**Sankt Quirin**	58.28	32	*i* P		P		23 21 41.2	-0.6	
	comp=Z,35nm,1.4s,SNR=14									
MOTA	**Moosalm**	58.30	31	*i* P		P		23 21 41.2	-0.8	
	comp=Z,27nm,1.8s,SNR=9.1									
CIMO	**Cimolais**	58.36	33	IAMs_20	IAMs_20	23 44 24.6				
	comp=Z,495nm,20.0s									
EKA	**Eskdalemuir Ar**	58.50	17	P		P		23 21 42.0	-1.0	
	comp=Z,2.3nm,0.7s,baz=219,slow=6.7,SNR=9.4									
	comp=Z,2.3nm,0.7s									
EKA	**Eskdalemuir Ar**	58.50	17	P		P		23 21 42.0	-1.0	
WTTA	**Wattenberg**	58.53	32	*eP*		P		23 21 43.0	-0.6	
	comp=Z,18nm,1.5s									
WATA	**Walderalm**	58.54	32	*eP*		P		23 21 43.1	-0.6	
	comp=Z,23nm,1.5s									
BINY	**Binghamton**	58.60	321	P		P		23 21 44.6	+0.6	
	baz=122									
JSC	**Jenkinsville**	58.63	310	IAMs_20	IAMs_20	23 40 40.1				
	comp=Z,1µm,22.0s									
ABTA	**Abfaltersbach**	58.67	33	*i* P		P		23 21 44.7	+0.2	
	comp=Z,21nm,1.0s,SNR=15									
J58A	**Remsen**	58.79	322	IAMs_20	IAMs_20	23 40 02.8				
	comp=Z,1µm,22.0s									
SABO	**M.te Sabotino**	58.80	34	IAmb	IAmb	23 21 47.4				
	comp=Z,131nm,2.0s									
KMSC	**Kings Mountain**	59.02	311	IAMs_20	IAMs_20	23 41 13.5				
	comp=Z,1µm,20.0s									
KMSC	**Kings Mountain**	59.02	311	P		P		23 21 47.8	+0.7	
	baz=114									
LBTB	**Lobatse**	59.16	120	P		P		23 21 47.8	-0.5	
LBTB				IAmb	IAmb	23 21 52.4				
	comp=Z,12nm,0.8s									
LBTB	**Lobatse**	59.16	120	LR	LR	23 42 18.5				
	comp=Z,865nm,21.3s,baz=284,slow=31									
LBTB	**Lobatse**	59.16	120	P		P		23 21 47.8	-0.5	
LBTB				pmax	pmax					
	comp=Z,12nm,0.8s									
LBTB				MLR	MLR					
	comp=Z,800nm,20.0s									
LESA	**Schwarzleotal**	59.18	32	*eP*		P		23 21 47.8	-0.3	
	comp=Z,18nm,1.1s									
MYKA	**Terra Mystica**	59.22	33	*i* P		P		23 21 48.8	+0.5	
	comp=Z,27nm,1.2s,SNR=13									
V55A	**Taylorsville**	59.22	312	IAMs_20	IAMs_20	23 40 43.8				
	comp=Z,1µm,22.0s									
LSZ	**Lusaka**	59.24	108	IAMs_20	IAMs_20	23 42 24.0				
	comp=Z,1µm,20.0s									
PAULI	**Pauline**	59.26	311	IAMs_20	IAMs_20	23 40 58.8				
	comp=Z,996nm,22.0s									
KBA	**Koelnbreinsper**	59.33	33	*eP*		P		23 21 48.8	-0.4	
	comp=Z,16nm,1.4s									
HODGE	**Hodges**	59.37	310	IAmb	IAmb	23 21 51.5				
	comp=Z,47nm,1.9s									
HODGE				IAMs_20	IAMs_20	23 42 17.8				
	comp=Z,886nm,20.0s									
TIGA	**Tifton**	59.41	307	IAMs_20	IAMs_20	23 41 11.0				
	comp=Z,1µm,22.0s									
154A	**Montrose**	59.43	308	IAMs_20	IAMs_20	23 41 21.6				
	comp=Z,984nm,22.0s									
VLO	**Vlora**	59.44	42	IAMs_20	IAMs_20	23 46 24.4				
	comp=Z,981nm,21.0s									
COYC	**Coyhaique**	59.45	213	IAMs_20	IAMs_20	23 46 38.3				
	comp=Z,1µm,20.0s									
OBKA	**Obir**	59.65	34	*eP*		P		23 21 49.7	-1.6	
	comp=Z,9.2nm,0.9s									
553A	**Crawfordville**	59.68	305	IAMs_20	IAMs_20	23 40 57.3				
	comp=Z,925nm,22.0s									
BIOA	**Bad Ischl, Aus**	59.86	32	*i* P		P		23 21 51.9	-0.8	
	comp=Z,24nm,1.2s,SNR=14									
GRFO	**Grafenberg**	59.89	29	P		P		23 21 52.0	-0.8	
GRFO				IAmb	IAmb	23 21 53.4				
	comp=Z,12nm,1.0s									
GRFO	**Grafenberg**	59.89	29	P		P		23 21 52.0	-0.8	
GRFO				pmax	pmax					
	comp=Z,12nm,1.0s									
GRFO				MLR	MLR					
	comp=Z,700nm,21.0s									
U54A	**Nelsons Funny**	59.94	313	IAmb	IAmb	23 21 55.4				
	comp=Z,42nm,1.7s									
TRQ	**Mont Tremblant**	59.97	325	P		P		23 21 52.4	-1.1	
TRQ				IAmb	IAmb	23 21 54.2				
	comp=Z,32nm,1.7s									
BOSA	**Boshof**	59.98	124	P		P		23 21 52.7	-1.3	
BOSA				IAmb	IAmb	23 21 58.0				
	comp=Z,21nm,0.9s									
BOSA	**Boshof**	59.98	124	P		P		23 21 53.8	-0.3	
	comp=Z,13nm,0.9s,baz=288,slow=6.0,SNR=18									
BOSA				LR	LR	23 42 10.9				
	comp=Z,956nm,22.0s,baz=291,slow=30									
	comp=Z,13nm,0.9s									
BOSA	**Boshof**	59.98	124	P		P		23 21 52.7	-1.3	
BOSA				pmax	pmax					
	comp=Z,21nm,1.0s									
GOGA	**Godfrey**	60.00	309	IAMs_20	IAMs_20	23 41 47.5				
	comp=Z,1µm,21.0s									
SOKA	**Soboth**	60.01	34	*i* P		P		23 21 53.8	-0.1	
	comp=Z,21nm,1.1s,SNR=13									
TIR	**Tirane**	60.11	41	IAMs_20	IAMs_20	23 47 31.0				
	comp=Z,963nm,22.0s									
BG3	**Lake Jocassee**	60.17	311	IAmb	IAmb	23 21 57.4				
	comp=Z,39nm,1.7s									
BG3				IAMs_20	IAMs_20	23 41 28.0				
	comp=Z,1µm,22.0s									
PDG	**Podgorica**	60.25	40	⇓P		P		23 21 54.7	-0.6	
PDG	**Podgorica**	60.25	40	P		P		23 21 55.3	0.0	
PDG				IAmb	IAmb	23 21 57.3				
	comp=Z,17nm,0.9s									
PDG				IAMs_20	IAMs_20	23 48 52.6				
	comp=Z,897nm,19.0s									
MOA	**Molln**	60.29	32	*i* P		P		23 21 55.0	-0.6	
	comp=Z,11nm,0.8s,SNR=7.9									
MBAR	**Mbarara**	60.32	91	LR	LR	23 45 25.9				
	comp=Z,886nm,18.0s,baz=250,slow=34									
MBAR	**Mbarara**	60.32	91	*i* P		P		23 21 57.3	+0.7	
MBAR				pmax	pmax					
	comp=Z,2.0nm,0.9s									
V53A	**Saluda**	60.34	311	IAMs_20	IAMs_20	23 41 54.4				
	comp=Z,1µm,20.0s									
WVNY	**West Valley, N**	60.38	320	P		P		23 21 55.7	-0.6	
WVNY				IAmb	IAmb	23 21 57.8				
	comp=Z,33nm,1.4s									
PUK	**Puka**	60.47	41	IAmb	IAmb	23 22 07.9				
	comp=Z,18nm,1.3s									
PUK				IAMs_20	IAMs_20	23 49 21.4				
	comp=Z,878nm,20.0s									
352A	**Blakely**	60.50	306	IAMs_20	IAMs_20	23 41 55.9				
	comp=Z,1µm,22.0s									
MATP	**Matopo**	60.56	114	LR	LR	23 44 02.6				
	comp=Z,654nm,20.1s,baz=261,slow=32									
GERES	**GERESS Array B**	60.60	31	P		P		23 21 56.9	-0.9	
GERES	**GERESS Array B**	60.60	31	P		P		23 21 57.5	-0.3	
	comp=Z,4.2nm,0.7s,baz=232,slow=6.6,SNR=20									
GERES				LR	LR	23 46 09.6				
	comp=Z,528nm,20.4s,baz=238,slow=34									
	comp=Z,4.2nm,0.7s									
ARSA	**Arzberg**	60.62	34	*eP*		P		23 21 57.5	-0.4	
	comp=Z,5.9nm,0.8s									
Y52A	**Lilburn**	60.63	309	IAMs_20	IAMs_20	23 42 16.1				
	comp=Z,1µm,21.0s									
KHC	**Kasperske Hory**	60.72	31	IAMs_20	IAMs_20	23 45 50.7				
	comp=Z,859nm,19.0s									
KHC	**Kasperske Hory**	60.72	31	*eP*		P		23 21 58.1	-0.4	
KHC				*eS*		S		23 30 16.6	+1.4	
KHC				AMS	AMS	23 45 30.0				
	comp=Z,800nm,17.5s									
KHC	**Kasperske Hory**	60.72	31	*eP*		P		23 21 58.1	-0.4	
KHC				*eS*		S		23 30 16.6	+1.4	
KHC				MLR	MLR					
	comp=Z,800nm,17.5s									
152A	**Waverly Hall**	60.73	307	IAMs_20	IAMs_20	23 42 32.8				
	comp=Z,912nm,21.0s									
AGG	**Agios Georgios**	60.73	45	P		P		23 21 59.1	+0.3	
AGG				IAmb	IAmb	23 21 60.0				
	comp=Z,12nm,1.1s									
AGG	**Agios Georgios**	60.73	45	P		P		23 21 59.1	+0.3	
AGG				pmax	pmax					
	comp=Z,12nm,1.1s									
DELO	**Deloro Mine**	60.83	322	P		P		23 21 59.9	+0.5	
DELO				IAmb	IAmb	23 22 04.4				
	comp=Z,17nm,1.3s									
FNA	**Florina**	60.86	42	P		P		23 21 59.5	-0.2	
FNA				IAmb	IAmb	23 22 01.4				
	comp=Z,20nm,1.0s									
FNA	**Florina**	60.86	42	P		P		23 21 59.5	-0.2	
FNA				pmax	pmax					
	comp=Z,20nm,1.0s									
451A	**Vernon**	60.89	305	IAMs_20	IAMs_20	23 42 33.4				
	comp=Z,1µm,22.0s									
CKRC	**Cesky Krumlov**	60.90	32	*eP*		P		23 21 58.9	-0.9	
CKRC				*eS*		S		23 30 20.2	+2.6	
CKRC				AMS	AMS	23 44 00.0				
	comp=Z,800nm,22.5s									
CKRC	**Cesky Krumlov**	60.90	32	*eP*		P		23 21 58.9	-0.9	
CKRC				*eS*		S		23 30 20.2	+2.6	
CKRC				MLR	MLR					
	comp=Z,800nm,22.5s									
W52A	**Murphy**	60.97	310	IAMs_20	IAMs_20	23 43 06.1				
	comp=Z,920nm,21.0s									
V52A	**Sevierville**	61.00	311	IAMs_20	IAMs_20	23 41 51.8				
	comp=Z,1µm,21.0s									
TKL	**Tuckaleechee C**	61.06	311	IAMs_20	IAMs_20	23 41 54.5				
	comp=Z,1µm,22.0s									
TKL	**Tuckaleechee C**	61.06	311	LR	LR	23 42 39.0				
	comp=Z,919nm,21.4s,baz=116,slow=30									
N53A	**Lisbon**	61.09	317	IAmb	IAmb	23 22 02.8				
	comp=Z,41nm,1.6s									
O53A	**New Philadelph**	61.10	317	IAmb	IAmb	23 22 02.8				
	comp=Z,22nm,1.4s									
O53A	**New Philadelph**	61.10	317	P	P	23 22 02.2	+0.9			
	baz=116									
IDI	**Anoyia**	61.11	49	LR	LR	23 50 26.7				
	comp=Z,912nm,18.5s,baz=268,slow=38									
CONA	**Conrad Observa**	61.20	33	*i* P	P	23 22 01.9	0.0			
	comp=Z,21nm,1.3s,SNR=10									
TZTN	**Tazewell**	61.23	312	P	P	23 22 02.1	-0.2			
TZTN				IAmb	IAmb	23 22 04.1				
	comp=Z,28nm,1.6s									
TZTN				IAMs_20	IAMs_20	23 41 58.9				
	comp=Z,880nm,22.0s									
Q52A	**Bidwell**	61.27	315	IAmb	IAmb	23 22 04.0				
	comp=Z,17nm,1.3s									
RONA	**Rosalia, Austr**	61.31	34	*i* P	P	23 22 02.7	+0.1			
	comp=Z,23nm,1.0s,SNR=14									
O52A	**Adamsville**	61.47	316	IAmb	IAmb	23 22 05.4				
	comp=Z,35nm,1.6s									
X51A	**Calhoun**	61.49	309	IAMs_20	IAMs_20	23 42 43.0				
	comp=Z,1µm,21.0s									
CPCT	**Cooper Cave**	61.55	311	IAMs_20	IAMs_20	23 42 43.5				
	comp=Z,917nm,20.0s									
HSKC	**Hora Svate Kat**	61.57	30	*eS*	S	23 30 32.0	+6.0			
HSKC				AMS	AMS	23 45 00.0				
	comp=Z,600nm,17.7s									
S51A	**Beattyville**	61.69	313	IAMs_20	IAMs_20	23 42 13.0				
	comp=Z,925nm,22.0s									
PRA	**Prague**	61.73	31	AMS	AMS	23 45 30.0				
	comp=Z,500nm,19.5s									
PRU	**Pruhonice**	61.74	31	*eS*	S	23 30 32.0	+3.9			
PRU				AMS	AMS	23 44 50.0				
	comp=Z,600nm,18.2s									
CLL	**Collm**	61.80	29	*i* P	P	23 22 05.6	-0.2			
CLL				*eS*	S	23 30 29.0	+0.2			
CLL				pmax	pmax					
	comp=Z,46nm,2.1s									
GOPC	**GO Pecny, Ondr**	61.82	31	*eS*	S	23 30 38.1	+8.9			
GOPC				AMS	AMS	23 45 20.0				
	comp=Z,700nm,18.4s									
SCHQ	**Schefferville**	61.89	337	P	P	23 22 05.6	-0.8			
	comp=Z,3.8nm,0.9s,baz=77,slow=4.3,SNR=7.3									
SCHQ				LR	LR	23 46 35.3				
	comp=Z,297nm,19.0s,baz=136,slow=34									
	comp=Z,3.8nm,0.9s									
SADO	**Sadowa**	61.90	322	LR	LR	23 43 27.8				
	comp=Z,703nm,20.6s,baz=130,slow=31									
FRGS	**Fruska Gora**	61.97	37	⇓P	P	23 22 07.6	+0.5			
BRG	**Berggiesshubel**	61.99	30	*eP*	P	23 22 06.9	-0.1			
BRG				Amp		23 22 07.8				
	comp=Z,6.4nm,1.0s									
BRG	**Berggiesshubel**	61.99	30	P	P	23 22 17.0	+10			
BRG				Amp		23 22 18.0				
	comp=Z,3.3nm,0.9s									
BRG	**Berggiesshubel**	61.99	30	S	S	23 30 40.0	+8.8			
BRG	**Berggiesshubel**	61.99	30	SS	SS	23 34 35.0	+1.2			
ZST	**Bratislava**	62.04	33	*eP*	P	23 22 07.8	+0.4			
ZST	**Bratislava**	62.04	33	*eP*	P	23 22 07.8	+0.4			
ZST				pmax	pmax					
	comp=Z,204nm,1.9s									
W50A	**Signal Mountai**	62.06	310	IAmb	IAmb	23 22 09.8				
	comp=Z,33nm,1.6s									
W50A				IAMs_20	IAMs_20	23 43 11.1				
	comp=Z,882nm,21.0s									
FPAL	**Fort Paine**	62.07	309	IAMs_20	IAMs_20	23 43 12.2				
	comp=Z,918nm,21.0s									
PVCC	**Panska Ves**	62.08	30	*eP*	P	23 22 08.2	+0.5			
PVCC	**Panska Ves**	62.08	30	*eP*	P	23 22 08.2	+0.5			
BRAL	**Brewton**	62.13	305	IAMs_20	IAMs_20	23 43 10.1				
	comp=Z,1µm,22.0s									
KRUC	**Moravsky**	62.15	32	*eP*	P	23 22 07.0	-1.2			
MODS	**Modra-Piesok**	62.23	33	*eP*	P	23 22 08.9	+0.1			
MODS	**Modra-Piesok**	62.23	33	*eP*	P	23 22 08.9	+0.1			
MODS				pmax	pmax					
	comp=Z,46nm,1.0s									
ACSO	**Alum Creek Sta**	62.31	316	P	P	23 22 11.1	+1.7			
	baz=115									
T50A	**Nancy**	62.37	312	IAMs_20	IAMs_20	23 42 34.0				
	comp=Z,1µm,21.0s									
BOVS	**Bovan**	62.40	40	⇓P	P	23 22 09.8	-0.1			
VRAC	**Vranov**	62.40	32	⇑P	P	23 22 09.1	-0.8			
VRAC	**Vranov**	62.40	32	*eP*	P	23 22 09.0	-0.9			
VRAC	**Vranov**	62.40	32	LR	LR	23 49 00.9				
	comp=Z,373nm,19.2s,baz=235,slow=36									
VRAC	**Vranov**	62.40	32	P	P	23 22 09.1	-0.8			
Y49A	**Blount Mountai**	62.46	308	IAMs_20	IAMs_20	23 44 16.7				
	comp=Z,1µm,19.0s									
SRO	**Srobarova**	62.50	34	*eP*	P	23 22 11.2	+0.7			
SRO	**Srobarova**	62.50	34	*eP*	P	23 22 11.3	+0.7			
SRO				pmax	pmax					
	comp=Z,17nm,1.0s									
SWET	**Sewanee**	62.55	310	P	P	23 22 10.8	-0.3			
SWET				IAmb	IAmb	23 22 12.1				
	comp=Z,13nm,1.0s									
SWET				IAMs_20	IAMs_20	23 43 36.9				
	comp=Z,865nm,21.0s									
LRAL	**Lakeview Retre**	62.66	307	P	P	23 22 11.6	-0.3			
LRAL				IAmb	IAmb	23 22 13.6				
	comp=Z,23nm,1.6s									
LRAL				IAMs_20	IAMs_20	23 43 24.1				
	comp=Z,893nm,21.0s									
LRAL	**Lakeview Retre**	62.66	307	P	P	23 22 11.9	0.0			
	baz=108									
JAVC	**Velka Javorina**	62.73	33	*eP*	P	23 22 12.1	0.0			
UPC	**Upice**	62.80	31	*eS*	S	23 30 52.4	+11			
UPC				AMS	AMS	23 46 10.0				
	comp=Z,600nm,20.4s									
DPC	**Dobruska-Polom**	62.87	31	*eP*	P	23 22 13.2	+0.2			
DPC				*eS*	S	23 30 51.1	+8.6			
DPC				AMS	AMS	23 46 40.0				
	comp=Z,600nm,20.0s									
DPC	**Dobruska-Polom**	62.87	31	*eP*	P	23 22 13.2	+0.2			
DPC				*eS*	S	23 30 51.1	+8.6			
DPC				MLR	MLR					
	comp=Z,600nm,20.0s									
CHVC	**Chvalec**	62.87	31	*eP*	P	23 22 13.4	+0.4			
CHVC				AMS	AMS	23 46 10.0				
	comp=Z,500nm,16.3s									
CHVC	**Chvalec**	62.87	31	*eP*	P	23 22 13.4	+0.4			
CHVC				MLR	MLR					
	comp=Z,500nm,16.3s									
U49A	**Red Boiling Sp**	62.89	311	IAmb	IAmb	23 22 15.0				
	comp=Z,35nm,1.6s									
U49A				IAMs_20	IAMs_20	23 43 24.8				
	comp=Z,944nm,21.0s									
KARP	**Karpathos**	62.94	50	IAMs_20	IAMs_20	23 51 13.1				
	comp=Z,1µm,20.0s									
OSTC	**Ostas**	62.94	31	*eP*	P	23 22 13.5	+0.1			
OSTC				AMS	AMS	23 46 10.0				
	comp=Z,600nm,21.4s									
OSTC	**Ostas**	62.94	31	*eP*	P	23 22 13.5	+0.1			
OSTC				MLR	MLR					
	comp=Z,600nm,21.4s									
KRLC	**Kraliky**	62.95	32	*eP*	P	23 22 13.9	+0.4			
KRLC				*eS*	S	23 30 56.1	+13			
KRLC	**Kraliky**	62.95	32	*eP*	P	23 22 13.9	+0.4			
KRLC				*eS*	S	23 30 56.1	+13			
MDVR	**Moldovita**	62.95	39	⇑P	P	23 22 14.4	+0.7			
BLKB	**Belogradchik**	63.02	40	⇑P	P	23 22 14.7	+0.6			
X48A	**Hartselle**	63.15	309	IAMs_20	IAMs_20	23 44 07.0				
	comp=Z,1µm,20.0s									
CLTN	**Cedars of Leba**	63.16	311	P	P	23 22 15.3	+0.1			
CLTN				IAmb	IAmb	23 22 16.7				
	comp=Z,28nm,1.6s									
CLTN				IAMs_20	IAMs_20	23 43 34.9				
	comp=Z,894nm,22.0s									
VYHS	**Vyhne**	63.16	34	*eP*	P	23 22 14.8	-0.2			
VYHS	**Vyhne**	63.16	34	*eP*	P	23 22 14.8	-0.2			
VYHS				pmax	pmax					
	comp=Z,16nm,1.2s									
MORC	**Moravsky Berou**	63.18	32	⇓P	P	23 22 15.0	0.0			
MORC	**Moravsky Berou**	63.18	32	P	P	23 22 14.8	-0.3			
MORC	**Moravsky Berou**	63.18	32	*eP*	P	23 22 14.8	-0.3			
MORC	**Moravsky Berou**	63.18	32	P	P	23 22 14.8	-0.3			
MORC				pmax	pmax					
	comp=Z,53nm,1.8s									
MORC				MLR	MLR					
	comp=Z,500nm,18.0s									
BZS	**Buzias**	63.30	38	⇑P	P	23 22 16.6	+0.6			
BZS	**Buzias**	63.30	38	P	P	23 22 16.5	+0.6			
V48A	**Smith Brothers**	63.41	310	IAMs_20	IAMs_20	23 43 42.7				
	comp=Z,961nm,22.0s									
PSZ	**Piszkesteto**	63.45	35	⇑P	P	23 22 17.4	+0.4			
PSZ	**Piszkesteto**	63.45	35	P	P	23 22 16.6	-0.4			
PSZ	**Piszkesteto**	63.45	35	P	P	23 22 16.6	-0.4			
PSZ				pmax	pmax					
	comp=Z,35nm,1.0s									
PSZ				MLR	MLR					
	comp=Z,800nm,21.0s									
SURR	**Surduc**	63.68	38	⇑P	P	23 22 18.8	+0.4			
RDO	**Rodhopi**	63.85	44	IAMs_20	IAMs_20	23 50 46.1				
	comp=Z,959nm,21.0s									
WCI	**Wyandotte Cave**	63.89	313	IAMs_20	IAMs_20	23 43 32.2				
	comp=Z,883nm,21.0s									
GZR	**Gura Zlata**	63.91	38	⇑P	P	23 22 19.9	-0.1			
GZR	**Gura Zlata**	63.91	38	P	P	23 22 19.9	-0.1			
T47A	**Sharon Grove**	64.05	311	IAmb	IAmb	23 22 22.3				
	comp=Z,22nm,1.3s									
T47A				IAMs_20	IAMs_20	23 43 37.6				
	comp=Z,1µm,22.0s									
RGN	**Rugen**	64.05	26	IAMs_20	IAMs_20	23 45 19.8				
	comp=Z,1µm,22.0s									
BORG	**Borgarnes**	64.13	4	LR	LR	23 43 59.1				
	comp=Z,542nm,21.6s,baz=188,slow=30									
PLAL	**Pickwick Lake**	64.13	309	IAmb	IAmb	23 22 22.6				
	comp=Z,38nm,1.9s									
PLAL				IAMs_20	IAMs_20	23 44 03.7				
	comp=Z,912nm,21.0s									
DEV	**Deva**	64.22	38	⇓P	P	23 22 22.7	+0.7			
DEV	**Deva**	64.22	38	P	P	23 22 22.6	+0.7			
DRGR		64.54	37	⇓P	P	23 22 24.3	+0.2			
DRGR		64.54	37	P	P	23 22 24.3	+0.2			
OJC	**Ojcow**	64.63	33	*eP*	P	23 22 25.5	+0.9			
OJC	**Ojcow**	64.63	33	IAmb	IAmb	23 22 25.6				
	comp=Z,15nm,1.0s									
MARR	**Marisel-Cluj**	64.73	37	⇑P	P	23 22 25.4	-0.1			
ELND	**Elena**	64.81	42	⇓P	P	23 22 25.7	-0.2			
CRVS	**Cervenica-Dubn**	64.86	35	*eP*	P	23 22 26.5	+0.4			
CRVS	**Cervenica-Dubn**	64.86	35	*eP*	P	23 22 26.5	+0.4			
CRVS				pmax	pmax					
	comp=Z,27nm,1.5s									
HUMR	**Humele**	64.91	40	⇑P	P	23 22 26.9	+0.4			
STHS	**Stebnicka Huta**	65.00	34	*eP*	P	23 22 27.3	+0.3			
STHS				*e*		23 48 32.9				
STHS	**Stebnicka Huta**	65.00	34	*eP*	P	23 22 27.3	+0.3			
OXF	**Oxford**	65.03	308	IAMs_20	IAMs_20	23 45 04.6				
	comp=Z,1µm,21.0s									
P46A	**Rosedale**	65.06	314	IAMs_20	IAMs_20	23 44 22.1				
	comp=Z,809nm,22.0s									
UTMT	**University of**	65.17	310	IAMs_20	IAMs_20	23 44 45.3				
	comp=Z,1µm,22.0s									
T45A	**Paducah**	65.22	311	IAMs_20	IAMs_20	23 44 46.6				
	comp=Z,851nm,21.0s									
VOIR		65.35	39	⇑P	P	23 22 29.4	-0.1			
VOIR		65.35	39	P	P	23 22 29.4	-0.1			
HALT	**Halls**	65.40	310	IAMs_20	IAMs_20	23 44 41.4				
	comp=Z,902nm,22.0s									
BMR	**Baia Mare**	65.43	36	⇓P	P	23 22 30.1	+0.2			
BMR	**Baia Mare**	65.43	36	P	P	23 22 30.0	+0.2			
GLAT	**Glass**	65.47	310	IAMs_20	IAMs_20	23 45 05.3				
	comp=Z,864nm,20.0s									
LNXT	**Lenox**	65.57	310	IAMs_20	IAMs_20	23 45 09.0		

CCM	**Cathedral Cave**	**67.51**	**311**	P	**P**	**23 22 41.4**	**-1.9**
CCM				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CCM				MLR	MLR		
	comp=Z,900nm,21.0s						
WHAR	**Wooly Hollow**	**67.52**	**308**	IAmb	IAmb	23 22 43.7	
	comp=Z,41nm,1.9s						
WHAR				IAMs_20	IAMs_20	23 46 19.5	
	comp=Z,876nm,22.0s						
FCAR	**Ozark Folk Cen**	**67.55**	**309**	IAmb	IAmb	23 22 49.5	
	comp=Z,13nm,1.6s						
FCAR				IAMs_20	IAMs_20	23 45 56.4	
	comp=Z,830nm,22.0s						
EIL	**Elat**	**67.61**	**58**	LR	LR	23 52 54.6	
	comp=Z,2µm,18.6s,baz=254,slow=36						
KIBK	**Kibwezi**	**67.67**	**93**	IAMs_20	IAMs_20	23 49 22.9	
	comp=Z,720nm,18.0s						
NB2	**NORSAR Subarra**	**67.67**	**20**	P	**P**	**23 22 43.7**	**-0.2**
	comp=Z,12nm,0.9s,baz=226,slow=6.5						
NOA	**NORSAR Array B**	**67.67**	**20**	P	**P**	**23 22 43.9**	**0.0**
	comp=Z,6.0nm,0.9s,baz=224,slow=6.3,SNR=17						
NOA				LR	LR	23 47 17.0	
	comp=Z,688nm,21.9s,baz=225,slow=32						
	comp=Z,6.0nm,0.9s						
X40A	**Basin Creek Fa**	**67.73**	**307**	IAMs_20	IAMs_20	23 46 40.3	
	comp=Z,762nm,21.0s						
SFJD	**Kangerlussuaq**	**67.74**	**351**	LR	LR	23 45 34.4	
	comp=Z,442nm,19.3s,baz=166,slow=30						
WLAR	**White Oak Lake**	**67.75**	**306**	IAMs_20	IAMs_20	23 47 17.8	
	comp=Z,1µm,21.0s						
NC303	**NORSAR Array S**	**67.85**	**20**	IAmb	IAmb	23 22 45.9	
	comp=Z,19nm,1.1s						
NC405	**NORSAR Array S**	**67.89**	**20**	IAmb	IAmb	23 22 46.5	
	comp=Z,16nm,1.1s						
HFS	**Hagfors**	**67.92**	**22**	P	**P**	**23 22 44.7**	**-0.8**
	comp=Z,1.7nm,0.6s,baz=210,slow=5.1,SNR=9.0						
HFS				LR	LR	23 48 00.6	
	comp=Z,781nm,21.7s,baz=230,slow=32						
	comp=Z,1.7nm,0.6s						
MGMO	**Mountain Grove**	**68.02**	**310**	IAmb	IAmb	23 22 46.5	
	comp=Z,7.9nm,0.8s						
MGMO				IAMs_20	IAMs_20	23 46 32.8	
	comp=Z,897nm,20.0s						
MIAR	**Mount Ida**	**68.34**	**307**	IAMs_20	IAMs_20	23 47 00.4	
	comp=Z,805nm,21.0s						
MIAR	**Mount Ida**	**68.34**	**307**	P	**P**	**23 22 48.3**	**-0.4**
	baz=105						
MILM	**Milestii Mici**	**68.35**	**39**	*e*P	**P**	**23 22 47.0**	**-1.4**
MILM				*e*L	L	23 44 07.0	
MILM				LQM		23 51 10.0	
	comp=Z,400nm,18.0s						
MILM				LRM	MLR	23 54 52.0	
	comp=Z,500nm,17.0s						
MILM	**Milestii Mici**	**68.35**	**39**	*e*P	**P**	**23 22 47.0**	**-1.4**
MILM				*e*S	**S**	**23 31 49.0**	**-0.4**
MILM				*e*		23 32 20.0	
MILM				MLR	MLR		
	comp=Z,500nm,17.0s						
KIS	**Kishinev**	**68.38**	**39**	*e*P	**P**	**23 22 47.6**	**-1.0**
KIS	comp=Z,20nm,0.7s						
KIS				*e*L	L	23 47 53.0	
KIS				LRM	MLR	23 54 52.0	
	comp=Z,200nm,16.0s						
KIS	**Kishinev**	**68.38**	**39**	*e*P	**P**	**23 22 47.6**	**-1.0**
KIS				*e*		23 32 25.0	
KIS				pmax	pmax		
	comp=Z,20nm,0.7s						
KIS				MLR	MLR		
	comp=Z,200nm,16.0s						
SUW	**Suwalki**	**68.42**	**30**	*e*P	**P**	**23 22 48.7**	**0.0**
ICESG	**Greenland Ices**	**68.55**	**356**	*e*P	**P**	**23 22 51.2**	**+1.5**
ICESG				IAmb	IAmb	23 22 58.1	
	comp=Z,21nm,1.2s						
P40A	**Paris**	**68.55**	**313**	IAMs_20	IAMs_20	23 46 40.7	
	comp=Z,710nm,21.0s						
MMAI	**Mount Meron Ar**	**68.74**	**55**	P	**P**	**23 22 51.0**	**-0.3**
	comp=Z,3.2nm,0.8s,baz=242,slow=5.4,SNR=5.5						
MMAI				LR	LR	23 54 20.4	
	comp=Z,490nm,19.1s,baz=236,slow=37						
	comp=Z,3.2nm,0.8s						
PURM	**Purcari**	**68.86**	**40**	⇑P	**P**	**23 22 50.9**	**-0.8**
S39A	**Bolivar**	**68.98**	**310**	IAMs_20	IAMs_20	23 47 13.0	
	comp=Z,771nm,21.0s						
FRB	**Frobisher Bay**	**69.06**	**343**	LR	LR	23 46 07.3	
	comp=Z,281nm,21.8s,baz=160,slow=30						
HHAR	**Hobbs**	**69.07**	**309**	IAMs_20	IAMs_20	23 47 38.7	
	comp=Z,674nm,19.0s						
BR131	**Keskin Array S**	**69.14**	**47**	P	**P**	**23 22 53.0**	**-0.7**
BR131				IAmb	IAmb	23 22 54.4	
	comp=Z,12nm,0.9s						
BR131	**Keskin Array S**	**69.14**	**47**	P	**P**	**23 22 53.1**	**-0.7**
BR131				pmax	pmax		
	comp=Z,12nm,1.0s						
BRTR	**Keskin Array B**	**69.14**	**47**	P	**P**	**23 22 52.9**	**-0.9**
BRTR	**Keskin Array B**	**69.14**	**47**	P	**P**	**23 22 53.7**	**0.0**
	comp=Z,6.0nm,0.8s,baz=233,slow=6.0,SNR=38						
BRTR				LR	LR	23 54 27.5	
	comp=Z,912nm,19.2s,baz=256,slow=37						
	comp=Z,6.0nm,0.8s						
G40A	**Rib Lake**	**69.17**	**319**	IAMs_20	IAMs_20	23 46 45.7	
	comp=Z,758nm,22.0s						
U38A	**Gravette**	**69.46**	**309**	IAMs_20	IAMs_20	23 47 29.0	
	comp=Z,735nm,22.0s						
P38A	**Dawn**	**69.68**	**312**	IAMs_20	IAMs_20	23 47 36.5	
	comp=Z,701nm,20.0s						
N38A	**Joes South For**	**69.80**	**314**	IAMs_20	IAMs_20	23 47 05.7	
	comp=Z,777nm,22.0s						
RLO	**Rose Lookout**	**69.89**	**308**	IAmb	IAmb	23 22 58.0	
	comp=Z,13nm,0.7s						
PMSA	**Palmer Station**	**70.04**	**195**	LR	LR	23 49 01.7	
	comp=Z,306nm,19.7s,baz=24,slow=32						
SCIA	**State Center**	**70.12**	**315**	IAMs_20	IAMs_20	23 47 13.1	
	comp=Z,834nm,21.0s						
KIEV	**Kiev**	**70.13**	**35**	⇑P	**P**	**23 22 59.2**	**-0.2**
KIEV	**Kiev**	**70.13**	**35**	P	**P**	**23 22 58.6**	**-0.8**
KIEV	**Kiev**	**70.13**	**35**	P	**P**	**23 22 58.6**	**-0.8**
KIEV				pmax	pmax		
	comp=Z,25nm,1.0s						
AKASG	**Malin Array Be**	**70.14**	**35**	P	**P**	**23 22 59.1**	**-0.3**
	comp=Z,16nm,0.7s,baz=244,slow=6.6,SNR=16						
	comp=Z,16nm,0.7s						
AKBB	**Malin Array Si**	**70.14**	**35***ce*	P	**P**	**23 22 58.4**	**-1.1**
AKBB				pmax	pmax		
	comp=Z,25nm,1.0s						
TUL3	**Leonard**	**70.43**	**308**	P	**P**	**23 23 01.2**	**-0.4**
	baz=104						
FW13	**Cleburne**	**70.98**	**304**	IAmb	IAmb	23 23 05.2	
	comp=Z,15nm,0.7s						
Z35A	**Perchaven, San**	**71.03**	**305**	IAMs_20	IAMs_20	23 49 23.9	
	comp=Z,765nm,22.0s						
MNK	**Minsk**	**71.06**	**31**	*i* P	**P**	**23 23 03.1**	**-1.9**
MNK				*i*		23 23 23.1	
MNK				*i*		23 25 40.3	
MNK				*i* PPP	PPP	23 27 23.2	
MNK				*i* S	**S**	**23 32 20.0**	**-1.1**
MNK				*i*		23 33 07.1	
MNK				*i* SS	**SS**	**23 36 54.1**	**-0.4**
MNK				pmax	pmax		
	comp=E,7.0nm,0.9s						
MNK				pmax	pmax		
	comp=N,11nm,0.9s						
MNK				pmax	pmax		
	comp=Z,27nm,0.9s						
MNK				MLR	MLR		
	comp=N,229nm,19.0s						
MNK				MLR	MLR		
	comp=Z,349nm,17.0s						
MNK				MLR	MLR		
	comp=E,104nm,16.0s						
SIM	**Simferopol'**	**71.09**	**42**	*e*P	**P**	**23 23 03.4**	**-2.0**
SIM				S	**S**	**23 32 27.6**	**+5.8**
SIM				pmax	pmax		
	comp=Z,20nm,1.3s						
LOOK	**Love County**	**71.11**	**306**	IAmb	IAmb	23 23 06.0	
	comp=Z,13nm,0.7s						
GAZ	**Gaziantep**	**71.16**	**51**	IAmb	IAmb	23 23 07.5	
	comp=Z,14nm,1.0s						
MTSE	**Matsula**	**71.19**	**26**	*e*P	**P**	**23 23 05.6**	**0.0**
FW06	**Azle**	**71.21**	**305**	IAMs_20	IAMs_20	23 48 31.6	
	comp=Z,833nm,22.0s						
T35A	**Sooner Cattle**	**71.24**	**309**	IAMs_20	IAMs_20	23 48 01.0	
	comp=Z,816nm,21.0s						
OK052	**Battle Ridge R**	**71.25**	**308**	IAMs_20	IAMs_20	23 49 27.4	
	comp=Z,642nm,19.0s						
OK031	**S. Brethren Rd**	**71.27**	**308**	IAmb	IAmb	23 23 06.8	
	comp=Z,18nm,0.9s						
OK051	**E0350 and S346**	**71.39**	**308**	IAmb	IAmb	23 23 07.9	
	comp=Z,10nm,0.8s						
JMIC	**Jan Mayen**	**71.44**	**7**	LR	LR	23 48 18.5	
	comp=Z,235nm,20.3s,baz=202,slow=31						
OK048	**Pawnee Station**	**71.46**	**308**	IAmb	IAmb	23 23 07.9	
	comp=Z,15nm,0.7s						
FNO	**Franklin**	**71.56**	**307**	IAMs_20	IAMs_20	23 48 38.7	
	comp=Z,977nm,21.0s						
F36A	**Milaca**	**71.57**	**319**	IAMs_20	IAMs_20	23 49 53.1	
	comp=Z,820nm,20.0s						
RAF	**Rauma**	**71.59**	**24**	*e*P	**P**	**23 23 07.7**	**-0.3**
KSU1	**Kansas State U**	**71.84**	**311**	IAmb	IAmb	23 23 09.6	
	comp=Z,9.2nm,0.7s						
KSU1				IAMs_20	IAMs_20	23 49 42.7	
	comp=Z,594nm,19.0s						
SUMG	**Summit**	**71.93**	**357**	P	**P**	**23 23 09.2**	**-1.2**
SUMG				IAmb	IAmb	23 23 11.2	
	comp=Z,13nm,1.2s						
SUMG	**Summit**	**71.93**	**357**	P	**P**	**23 23 09.2**	**-1.2**
SUMG				pmax	pmax		
	comp=Z,13nm,1.2s						
SUMG	**Summit**	**71.93**	**357**	*i* P	**P**	**23 23 10.0**	**-0.4**
833A	**Chaparral WMA,**	**71.93**	**299**	IAmb	IAmb	23 23 11.6	
	comp=Z,12nm,0.8s						
833A	**Chaparral WMA,**	**71.93**	**299**	P	**P**	**23 23 11.6**	**+0.8**
	baz=99						
HNDO	**Hondo**	**72.03**	**301**	IAmb	IAmb	23 23 12.3	
	comp=Z,8.6nm,0.8s						
BRDY	**Brady**	**72.09**	**303**	IAmb	IAmb	23 23 12.2	
	comp=Z,12nm,0.7s						
MEF	**Metsahovi**	**72.23**	**25**	*e*P	**P**	**23 23 11.7**	**-0.2**
CROK	**Carrier**	**72.29**	**308**	IAMs_20	IAMs_20	23 49 30.0	
	comp=Z,666nm,21.0s						
ARPR	**Arapgir-MALATY**	**72.48**	**49**	IAMs_20	IAMs_20	23 57 34.7	
	comp=Z,809nm,20.0s						
WMOK	**Wichita Mounta**	**72.56**	**306**	IAMs_20	IAMs_20	23 49 47.2	
	comp=Z,959nm,21.0s						
WMOK	**Wichita Mounta**	**72.56**	**306**	P	**P**	**23 23 13.7**	**-0.8**
	baz=102						
ATD	**Arta Tunnel**	**72.62**	**78**	LR	LR	23 52 49.1	
	comp=Z,16nm,20.6s,baz=263,slow=34						
JCT	**Junction City**	**72.63**	**302**	IAmb	IAmb	23 23 15.5	
	comp=Z,14nm,0.8s						
JCT	**Junction City**	**72.63**	**302**	P	**P**	**23 23 15.3**	**+0.3**
	baz=100						
ABTX	**Abilene, Hawle**	**72.87**	**304**	P	**P**	**23 23 16.4**	**0.0**
	baz=100						
OK038	**West Ind E0370**	**72.89**	**308**	IAmb	IAmb	23 23 16.6	
	comp=Z,15nm,0.9s						
VNA2	**Neumayer--Watz**	**73.02**	**173**	⇑P	**P**	**23 23 17.0**	**+0.6**
	comp=Z,5.1nm,0.8s,baz=349,slow=3.4						
ECSD	**EROS Data Cent**	**73.04**	**316**	P	**P**	**23 23 16.3**	**-0.8**
	baz=106						
VNA3	**Neumayer Olymp**	**73.04**	**173**	⇑P	**P**	**23 23 17.4**	**+0.8**
	comp=Z,2.9nm,0.8s						
U32A	**Winter Ranch,**	**73.07**	**308**	IAMs_20	IAMs_20	23 50 56.6	
	comp=Z,609nm,20.0s						
VAF	**Ylistaro**	**73.09**	**22**	*e*P	**P**	**23 23 17.0**	**0.0**
R32A	**Long Quarter,**	**73.28**	**310**	IAMs_20	IAMs_20	23 49 12.9	
	comp=Z,928nm,22.0s						
ANN	**Anapa**	**73.30**	**43**	*e*P	**P**	**23 23 17.2**	**-1.4**
ANN				*e*S	**S**	**23 32 48.4**	**+1.3**
ANN				*e*SS	**SS**	**23 37 33.9**	**+4.8**
ANN				pmax	pmax		
	comp=Z,35nm,1.6s						
ANN				MLR	MLR		
	comp=Z,435nm,18.0s						
KEF	**Keuruu**	**73.47**	**23**	*e*P	**P**	**23 23 19.1**	**-0.1**
BGNE	**Belgrade**	**73.54**	**313**	IAMs_20	IAMs_20	23 49 57.7	
	comp=Z,780nm,21.0s						
FINES	**FINESS Array B**	**73.58**	**24**	P	**P**	**23 23 19.2**	**-0.7**
FINES	**FINESS Array B**	**73.58**	**24**	P	**P**	**23 23 20.0**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=215,slow=2.3,SNR=19						
FINES				LR	LR	23 52 07.9	
	comp=Z,940nm,21.1s,baz=244,slow=33						
	comp=Z,5.9nm,0.8s						
FINES	**FINESS Array B**	**73.58**	**24**	*e*P	**P**	**23 23 20.2**	**+0.3**
FINES				pmax	pmax		
	comp=Z,6.0nm,0.8s						
SMWD	**Samnorwood**	**73.81**	**306**	IAmb	IAmb	23 23 22.4	
	comp=Z,12nm,0.7s						
SN05	**Snyder 5**	**73.94**	**304**	IAmb	IAmb	23 23 23.8	
	comp=Z,9.5nm,0.7s						
SN07	**Snyder 07**	**73.98**	**304**	IAmb	IAmb	23 23 58.0	
	comp=Z,38nm,2.0s						
CBKS	**Cedar Bluff**	**74.15**	**310**	IAMs_20	IAMs_20	23 50 23.9	
	comp=Z,877nm,21.0s						
SNAA	**Sanae**	**74.33**	**172**	P	**P**	**23 23 24.6**	**+0.3**
SNAA	**Sanae**	**74.33**	**172**	⇑P	**P**	**23 23 24.9**	**+0.7**
	comp=Z,55nm,0.6s						
SNAA	**Sanae**	**74.33**	**172**	⇑P	PKiKP	23 29 08.0	-10
	comp=Z,2.2nm,0.2s						
SNAA	**Sanae**	**74.33**	**172**	P	**P**	**23 23 24.8**	**+0.7**
	comp=Z,2.8nm,0.7s,baz=308,slow=6.7,SNR=16						
	comp=Z,2.8nm,0.7s						
SNAA	**Sanae**	**74.33**	**172**	*i* P	**P**	**23 23 25.9**	**+1.7**
SNAA				pmax	pmax		
	comp=Z,6.0nm,1.1s						
POST	**Post**	**74.48**	**304**	IAmb	IAmb	23 23 26.8	
	comp=Z,9.8nm,0.8s						
SAND	**Sanderson**	**74.53**	**301**	IAmb	IAmb	23 23 27.1	
	comp=Z,11nm,0.7s						
SOC	**Sochi**	**74.57**	**45**	*e*P	**P**	**23 23 23.7**	**-2.4**
SOC				*e*PPP	PPP	23 27 55.0	
SOC				*e*S	**S**	**23 32 58.7**	**-2.8**
SOC				*e*SSS	SSS	23 41 04.1	
SOC				pmax	pmax		
	comp=Z,12nm,1.0s						
SOC				MLR	MLR		
	comp=Z,193nm,19.0s						
VSLR	**Vesyoloye**	**74.76**	**45**	*i* P	**P**	**23 23 27.4**	**+0.2**
VSLR				pmax	pmax		
	comp=Z,11nm,1.0s						
K30B	**Basset**	**74.90**	**314**	IAMs_20	IAMs_20	23 52 59.6	
	comp=Z,627nm,20.0s						
AMTX	**Amarillo**	**74.93**	**306**	IAMs_20	IAMs_20	23 51 13.1	
	comp=Z,882nm,21.0s						
TROLL	**Troll, Antarti**	**75.48**	**170**	⇑P	**P**	**23 23 32.1**	**+1.2**
	comp=Z,83nm,0.6s						
TROLL	**Troll, Antarti**	**75.48**	**170**	⇑P	**PKiKP**	**23 29 18.9**	**-0.5**
	comp=Z,8.1nm,0.1s						
VALR	**Valaam**	**75.57**	**26**	*i* P	**P**	**23 23 31.4**	**0.0**
VALR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
ERBR	**Yeremizino-Bor**	**75.61**	**43**	*e*P	**P**	**23 23 31.0**	**-1.1**
ERBR				*e*S	**S**	**23 33 12.5**	**-0.6**
ERBR				pmax	pmax		
	comp=Z,38nm,1.5s						
MSTX	**Muleshoe**	**75.68**	**305**	IAmb	IAmb	23 23 33.7	
	comp=Z,20nm,1.2s						
MSTX				IAMs_20	IAMs_20	23 52 32.8	
	comp=Z,642nm,20.0s						
TXAR	**Lajitas Array**	**75.78**	**300**	P	**P**	**23 23 32.0**	**-1.5**
TXAR	**Lajitas Array**	**75.78**	**300**	P	**P**	**23 23 33.6**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=121,slow=7.0,SNR=32						
	comp=Z,2.4nm,0.8s						
OBN	**Obninsk**	**75.92**	**33**	⇓*e*P	**P**	**23 23 33.6**	**0.0**
OBN				*e*		23 23 47.7	
OBN				*e*		23 26 26.8	
OBN				*e*PPP	PPP	23 28 11.7	
OBN				*i* S	**S**	**23 33 12.7**	**-3.3**
OBN				*i* SS	**SS**	**23 38 16.1**	**+7.6**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.9s						
RAYN	**Ar Rayn**	**76.01**	**66**	P	**P**	**23 23 35.0**	**+0.1**
RAYN	**Ar Rayn**	**76.01**	**66**	P	**P**	**23 23 35.0**	**+0.1**
RAYN				pmax	pmax		
	comp=Z,12nm,1.3s						
DAG	**Danmarks Havn**	**76.18**	**3**	*i* P	**P**	**23 23 34.0**	**-0.6**
DAG				IAmb	IAmb	23 23 35.5	
	comp=Z,6.3nm,1.0s						
VSR	**Storozhevoye**	**76.21**	**37**	*e*P	**P**	**23 23 33.8**	**-1.5**
VSR				pmax	pmax		
	comp=Z,20nm,1.4s						
VORD	**Divnogorie**	**76.22**	**37**	*e*P	**P**	**23 23 33.8**	**-1.6**
VORD				pmax	pmax		
	comp=Z,30nm,1.4s						
PECS	**Pecos**	**76.22**	**302**	IAmb	IAmb	23 23 37.5	
	comp=Z,10nm,0.6s						
VORR	**Voronezh**	**76.36**	**37**	*e*P	**P**	**23 23 34.6**	**-1.6**
VORR				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FCC	**Fort Churchill**	**76.39**	**331**	IAMs_20	IAMs_20	23 49 36.7	
	comp=Z,885nm,22.0s						
KSCO	**Kaye Shedlock'**	**76.40**	**310**	IAMs_20	IAMs_20	23 51 46.5	
	comp=Z,689nm,20.0s						
JOF	**Joensuu**	**76.44**	**24**	*e*P	**P**	**23 23 36.3**	**-0.1**
LPSR	**Galich'ya Gora**	**76.47**	**36**	*e*P	**P**	**23 23 34.4**	**-2.3**
LPSR				pmax	pmax		
	comp=Z,10.0nm,1.3s						
SHA1	**Shidzhatmaz**	**76.68**	**45***ce*	P	**P**	**23 23 40.0**	**+1.5**
MOS	**Moscow**	**76.70**	**32**	*e*P	**P**	**23 23 37.5**	**-0.5**
MOS				*e*		23 26 29.9	
MOS				*e*S	**S**	**23 33 26.5**	**+1.9**
MOS				pmax	pmax		
	comp=Z,31nm,1.0s						
MOS				MLR	MLR		
	comp=Z,400nm,20.0s						
KIV	**Kislovodsk**	**76.75**	**45**	P	**P**	**23 23 37.9**	**-0.8**
KIV				IAmb	IAmb	23 23 40.4	
	comp=Z,13nm,1.1s						
KIV	**Kislovodsk**	**76.75**	**45***ce*	P	**P**	**23 23 38.6**	**-0.1**
KIV				*e*		23 23 49.1	
KIV				*e*		23 26 26.3	
KIV				*i* SS	SS	23 38 18.3	-3.5
KIV				pmax	pmax		
	comp=Z,10.0nm,1.3s						
KIV				MLR	MLR		
	comp=Z,436nm,21.0s						
KVAR	**Kislovodsk Arr**	**76.75**	**45**	LR	LR	23 58 48.9	
	comp=Z,384nm,21.2s,baz=128,slow=37						
KBZ	**Khabaz**	**76.85**	**45**	P	**P**	**23 23 39.7**	**+0.6**
	comp=Z,3.1nm,0.9s,baz=236,slow=6.6,SNR=6.4						
KBZ				LR	LR	23 59 17.3	
	comp=Z,452nm,21.2s,baz=250,slow=37						
	comp=Z,3.1nm,0.9s						
KBZ	**Khabaz**	**76.85**	**45**	*e*P	**P**	**23 23 37.2**	**-1.9**
KBZ				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ONI	**Oni**	**77.02**	**46**	IAmb	IAmb	23 23 50.8	
	comp=Z,15nm,1.2s						
T25A	**Trinidad**	**77.48**	**308**	P	**P**	**23 23 44.0**	**+0.8**
	baz=99						
NEEM	**North Greenlan**	**77.50**	**355**	*i* P	**P**	**23 23 42.1**	**-0.4**
NEEM				IAmb	IAmb	23 23 44.0	
	comp=Z,10.0nm,0.9s						
GNI	**Garni**	**77.54**	**49**	IAMs_20	IAMs_20	23 59 12.6	
	comp=Z,676nm,21.0s						
GNI	**Garni**	**77.54**	**49***ce*	P	**P**	**23 23 42.3**	**-1.0**
GNI				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MNTX	**Cornudas Mount**	**77.54**	**302**	P	**P**	**23 23 43.2**	**-0.1**
	baz=97						
ARCES	**ARCESS Array B**	**77.66**	**17**	LR	LR	23 52 35.7	
	comp=Z,557nm,21.1s,baz=240,slow=32						
VRH	**Novokhopyorsk**	**77.76**	**38**	*e*P	**P**	**23 23 40.7**	**-3.3**
VRH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
Q24A	**Divide**	**78.33**	**310**	IAMs_20	IAMs_20	23 52 26.6	
	comp=Z,757nm,22.0s						
Q24A	**Divide**	**78.33**	**310**	P	**P**	**23 23 48.8**	**+0.9**
	baz=98						
SDCO	**Great Sand Dun**	**78.43**	**308**	IAMs_20	IAMs_20	23 54 06.2	
	comp=Z,630nm,21.0s						
SDCO	**Great Sand Dun**	**78.43**	**308**	P	**P**	**23 23 49.5**	**+1.0**
	baz=98						
BELA	**Belgrano 2**	**78.60**	**181**	P	**P**	**23 23 48.7**	**+0.5**
BELA				IAmb	IAmb	23 24 02.8	
	comp=Z,26nm,1.6s						
ISCO	**Idaho Springs**	**78.81**	**310**	IAMs_20	IAMs_20	23 53 26.3	
	comp=Z,696nm,21.0s						
ANMO	**Albuquerque**	**78.83**	**305**	P	**P**	**23 23 50.3**	**-0.3**
ANMO	**Albuquerque**	**78.83**	**305**	P	**P**	**23 23 51.7**	**+1.1**
	baz=97						
ANMO	**Albuquerque**	**78.83**	**305**	P	**P**	**23 23 50.5**	**-0.1**
	comp=Z,1.2nm,0.7s,baz=45,slow=14,SNR=5.6						
ANMO				LR	LR	23 53 50.3	
	comp=Z,925nm,21.8s,baz=188,slow=32						
	comp=Z,1.2nm,0.7s						
ANMO	**Albuquerque**	**78.83**	**305**	P	**P**	**23 23 50.3**	**-0.3**
ANMO				pmax	pmax		
	comp=Z,14nm,1.9s						
ANMO				MLR	MLR		
	comp=Z,900nm,21.0s						
PHWY	**Pilot Hill**	**78.91**	**312**	IAMs_20	IAMs_20	23 53 21.0	
	comp=Z,683nm,22.0s						
Y22D	**IRIS PASSCAL I**	**79.10**	**304**	IAMs_20	IAMs_20	23 54 43.6	
	comp=Z,657nm,21.0s						
N23A	**Red Feather La**	**79.22**	**311**	P	**P**	**23 23 53.7**	**+1.0**
	baz=98						
APA	**Apatity**	**79.25**	**20**	⇓*i* P	**P**	**23 23 51.6**	**-0.3**
APA				*i*		23 24 00.4	
APA				*i*		23 27 00.0	
APA				*i* S	**S**	**23 33 48.0**	**-3.7**
APA				*i* PS	**PnS**	**23 34 35.0**	**+0.1**
APA				*i* SSS	SSS	23 42 23.0	
KLMR	**Klimovskoe**	**79.27**	**28**	*e*P	**P**	**23 23 51.1**	**-1.1**
ELIB	**Princess Elisa**	**79.89**	**165**	*d*P	**P**	**23 23 58.3**	**+2.8**
	comp=Z,7.4nm,0.9s						
MAK	**Makhachkala**	**80.03**	**47**	*e*P	P	23 23 51.3	-5.4
MAK				*e*		23 26 53.8	
MAK				*e*PPP	PPP	23 28 44.4	
MAK				*e*S	S	23 33 51.5	-9.3
MAK				*e*SS	**SS**	**23 39 09.4**	**-1.5**
MAK				*e*SSS	SSS	23 42 31.2	
MAK				MLR	MLR		
	comp=Z,508nm,18.0s						
MVCO	**Mesa Verde**	**80.73**	**307**	P	**P**	**23 24 02.0**	**+1.1**
	baz=96						
O20A	**White River Ci**	**80.85**	**310**	IAMs_20	IAMs_20	23 56 12.3	
	comp=Z,561nm,20.0s						
SPITS	**Spitsbergen Ar**	**81.01**	**9**	LR	LR	23 53 33.7	
	comp=Z,237nm,19.6s,baz=197,slow=31						
LPIG	**La Paz**	**81.24**	**294**	LR	LR	23 58 12.7	
	comp=Z,144nm,21.2s,baz=56,slow=34						
RPN	**Rapa Nui**	**81.24**	**243**	LR	LR	23 56 22.0	
	comp=Z,342nm,20.7s,baz=90,slow=33						
W18A	**Petrified Fore**	**81.52**	**305**	IAMs_20	IAMs_20	23 55 36.3	
	comp=Z,799nm,22.0s						
X18A	**Snowflake**	**81.64**	**305**	IAMs_20	IAMs_20	23 55 23.7	
	comp=Z,697nm,21.0s						
RDMU	**Red Mountain**	**81.91**	**311**	IAMs_20	IAMs_

MTPU	Mount Pierson	83.71	308	IAmb	IAmb	23 24 25.0				
	comp=Z,10.0nm,1.2s									
MSU	Marysvale	83.74	308	P	P	23 24 16.5	-0.2			
MSU	Marysvale	83.74	308	P	P	23 24 16.5	-0.2			
TCRU	Three Creeks R	83.96	309	IAMs_20	IAMs_20	23 56 25.6				
	comp=Z,714nm,22.0s									
Y14A	Wickenburg	84.13	304	IAMs_20	IAMs_20	23 58 25.5				
	comp=Z,653nm,20.0s									
SPUT	South Promonto	84.15	311	IAMs_20	IAMs_20	23 56 22.4				
	comp=Z,714nm,22.0s									
KNB	Kanab	84.15	307	IAMs_20	IAMs_20	23 56 27.9				
	comp=Z,561nm,21.0s									
DUG	Dugway, Tooele	84.35	310	P	P	23 24 20.7	+1.0			
	baz=94									
HVU	Hansel Valley	84.42	312	IAMs_20	IAMs_20	23 56 15.7				
	comp=Z,707nm,22.0s									
LCMT	Little Creek M	84.49	307	IAMs_20	IAMs_20	23 56 25.8				
	comp=Z,550nm,21.0s									
BGU	Big Grassy Mou	84.56	311	IAMs_20	IAMs_20	23 56 46.3				
	comp=Z,564nm,21.0s									
CCUT	Cedar City	84.61	307	IAmb	IAmb	23 24 23.1				
	comp=Z,19nm,1.9s									
PSUT	Pine Spring	85.06	308	IAMs_20	IAMs_20	23 59 29.7				
	comp=Z,552nm,19.0s									
EDM	Edmonton	85.66	323	P	P	23 24 24.7	-1.1			
EDM	Edmonton	85.66	323	P	P	23 24 24.7	-1.1			
EDM				pmax	pmax					
	comp=Z,47nm,1.3s									
EDM				MLR	MLR					
	comp=Z,1μm,21.0s									
HLID	Hailey	85.74	313	IAMs_20	IAMs_20	23 57 10.3				
	comp=Z,629nm,22.0s									
HLID	Hailey	85.74	313	P	P	23 24 27.6	+1.0			
	baz=93									
UOSS	Minazif	85.84	65	P	P	23 24 26.2	-1.1			
UOSS				IAmb	IAmb	23 24 39.7				
	comp=Z,12nm,0.9s									
IRM	Iron Mountain	85.91	304	P	P	23 24 28.7	+1.2			
	baz=92									
R11B	Troy Canyon, C	86.41	308	P	P	23 24 30.8	+0.8			
	baz=92									
S11A	Rachel	86.51	307	IAMs_20	IAMs_20	23 58 27.3				
	comp=Z,601nm,20.0s									
MFID	Camas Ranch	86.76	313	IAMs_20	IAMs_20	23 57 53.4				
	comp=Z,658nm,20.0s									
PMD	Palm Desert	86.92	303	IAMs_20	IAMs_20	23 57 32.6				
	comp=Z,645nm,22.0s									
PLID	Pearl Lake	86.94	315	IAMs_20	IAMs_20	00 02 25.0				
	comp=Z,625nm,19.0s									
YKAW1	Yellowknife Wh	86.97	332	IAMs_20	IAMs_20	23 57 02.3				
	comp=Z,635nm,21.0s									
PFO	Pinyon Flats O	86.99	303	LR	LR	23 59 45.6				
	comp=Z,347nm,21.3s,baz=88,slow=33									
YKA	Yellowknife Ar	87.03	332	P	P	23 24 31.8	-0.5			
	comp=Z,0.3nm,0.6s,baz=92,slow=4.3,SNR=2.4									
YKA				LR	LR	23 59 16.4				
	comp=Z,462nm,21.5s,baz=91,slow=33									
	comp=Z,0.3nm,0.6s									
YKAW3	Yellowknife Wh	87.04	332	IAMs_20	IAMs_20	23 57 05.0				
	comp=Z,622nm,21.0s									
GWY	Greenwater Val	87.21	306	IAMs_20	IAMs_20	00 00 06.0				
	comp=Z,631nm,19.0s									
QSM	Queen of Sheba	87.37	306	IAMs_20	IAMs_20	23 58 31.2				
	comp=Z,586nm,22.0s									
GEYT	Alibeck	87.70	52	LR	LR	00 05 55.1				
	comp=Z,296nm,20.6s,baz=277,slow=37									
GYA0B	ALIBECK ARRAY	87.70	52	IAMs_20	IAMs_20	00 01 03.8				
	comp=Z,508nm,21.0s									
NEW	Newport	87.81	318	LR	LR	00 01 45.0				
	comp=Z,348nm,18.3s,baz=91,slow=34									
MPMC	Manual Prospec	87.88	306	P	P	23 24 38.2	+1.0			
	baz=90									
WSAR	Wadi Sarin	88.04	67	LR	LR	00 04 45.6				
	comp=Z,626nm,18.0s,baz=288,slow=36									
DSP	Deep Springs	88.27	307	IAmb	IAmb	23 24 49.4				
	comp=Z,13nm,1.8s									
ARU	Arti	88.33	34	LR	LR	00 02 07.3				
	comp=Z,419nm,21.2s,baz=275,slow=34									
ARU	Arti	88.33	34 *d*	P	P	23 24 38.6	0.0			
ARU						23 28 04.7				
ARU				S	SKSac	23 35 07.4	+0.1			
ARU				SS	SS	23 41 11.5	-1.4			
ARU				pmax	pmax					
	comp=Z,9.0nm,1.4s									
NV11	Mina Array Sit	88.43	308	IAmb	IAmb	23 24 58.4				
	comp=Z,12nm,1.6s									
NVAR	Mina Array Bea	88.54	308	P	P	23 24 39.3	-1.1			
NVAR	Mina Array Bea	88.54	308	P	P	23 24 40.4	0.0			
	comp=Z,1.9nm,0.8s,baz=104,slow=6.4,SNR=9.8									
NVAR				LR	LR	23 59 35.3				
	comp=Z,316nm,21.6s,baz=92,slow=32									
	comp=Z,1.9nm,0.8s									
J08A	Circle Bar Ran	88.69	313	IAMs_20	IAMs_20	23 59 04.4				
	comp=Z,637nm,21.0s									
LHV	Little Huntoon	88.70	308	IAMs_20	IAMs_20	23 58 23.2				
	comp=Z,562nm,20.0s									
WVOR	Wild Horse Val	88.81	312	IAmb	IAmb	23 25 19.6				
	comp=Z,26nm,2.0s									
WVOR				IAMs_20	IAMs_20	23 59 18.6				
	comp=Z,553nm,19.0s									
G08A	Pilot Rock	89.04	315	IAMs_20	IAMs_20	23 58 48.5				
	comp=Z,493nm,22.0s									
MDPB	Devils Postpil	89.16	307	IAMs_20	IAMs_20	23 59 50.3				
	comp=Z,470nm,20.0s									
B08A	Colville Reser	89.28	318	IAMs_20	IAMs_20	00 01 08.6				
	comp=Z,492nm,19.0s									
PAHR	Pah Rah Range	89.38	310	IAMs_20	IAMs_20	23 59 28.1				
	comp=Z,600nm,20.0s									
I07A	Izee	89.43	314	IAMs_20	IAMs_20	23 59 05.0				
	comp=Z,576nm,21.0s									
PNTR	Pine Nut	89.55	309	IAMs_20	IAMs_20	00 01 09.7				
	comp=Z,487nm,21.0s									
MPK	Martis Peak	89.89	309	IAMs_20	IAMs_20	00 03 22.6				
	comp=Z,598nm,20.0s									
CMB	Columbia Colle	90.19	308	IAMs_20	IAMs_20	00 00 45.5				
	comp=Z,448nm,19.0s									
AFDM	Forest Hills D	90.62	309	IAMs_20	IAMs_20	00 03 45.0				
	comp=Z,440nm,20.0s									
J05D	Fort Rock, OR	90.70	313	IAMs_20	IAMs_20	23 59 46.7				
	comp=Z,539nm,21.0s									
QSPA	South Pole Qui	90.83	180	P	P	23 24 50.0	-0.3			
	comp=Z,2.6nm,1.0s,baz=183,slow=1.5,SNR=8.1									
QSPA				LR	LR	23 59 27.0				
	comp=Z,236nm,20.5s,baz=180,slow=32									
	comp=Z,2.6nm,1.0s									
ORV	Oroville	91.02	309	IAMs_20	IAMs_20	00 01 32.4				
	comp=Z,455nm,20.0s									
MAW	Mawson	91.63	157	LR	LR	23 59 25.6				
	comp=Z,253nm,18.5s,baz=278,slow=31									
YBH	Yreka Blue Hor	91.85	312	LR	LR	00 01 32.7				
	comp=Z,472nm,21.8s,baz=84,slow=32									
CLRS	Cowichan Lake	92.45	319	IAMs_20	IAMs_20	00 02 32.3				
	comp=Z,528nm,20.0s									
INK	Inuvik	94.44	339	LR	LR	00 02 37.4				
	comp=Z,802nm,22.0s,baz=79,slow=32									
BBB	Bella Bella	94.65	322	LR	LR	00 03 34.2				
	comp=Z,448nm,20.7s,baz=84,slow=33									
DLBC	Dease Lake	94.84	329	LR	LR	00 07 03.5				
	comp=Z,246nm,18.1s,baz=85,slow=35									
T35M	Bob Quinn	95.19	327	IAMs_20	IAMs_20	00 03 04.0				
	comp=Z,496nm,20.0s									
BRVK	Borovoye	95.32	37	IAMs_20	IAMs_20	00 07 50.0				
	comp=Z,450nm,19.0s									
BRVK	Borovoye	95.32	37 *i*	P	P	23 25 13.0	+1.9			
BRVK				pmax	pmax					
	comp=Z,1.0nm,0.9s									
BVAR	Borovoye Array	95.39	37	LR	LR	00 06 58.3				
	comp=Z,410nm,21.4s,baz=282,slow=35									
N32M	Quiet Lake	95.84	332	IAMs_20	IAMs_20	00 02 26.9				
	comp=Z,525nm,19.0s									
P33M	Teslin, Yukon	95.91	331	IAMs_20	IAMs_20	00 04 14.8				
	comp=Z,413nm,20.0s									
E29M	Blow River	95.98	339	IAMs_20	IAMs_20	00 03 28.0				
	comp=Z,636nm,22.0s									
EPYK	Eagle Plains	96.13	337	IAMs_20	IAMs_20	00 05 15.0				
	comp=Z,566nm,20.0s									
M31M	Drury Creek, Y	96.22	333	IAMs_20	IAMs_20	00 04 40.7				
	comp=Z,434nm,20.0s									
I30M	Mount Dempster	96.31	336	IAMs_20	IAMs_20	00 03 15.9				
	comp=Z,556nm,21.0s									
J30M	Hart River	96.47	335	IAMs_20	IAMs_20	00 03 36.0				
	comp=Z,544nm,22.0s									
E28M	Babbage River	96.49	340	IAMs_20	IAMs_20	00 03 36.3				
	comp=Z,519nm,22.0s									
KBL	Kabul	96.67	55	IAMs_20	IAMs_20	00 09 53.4				
	comp=Z,475nm,18.0s									
WHY	Whitehorse	96.81	331	IAMs_20	IAMs_20	00 06 38.5				
	comp=Z,527nm,19.0s									

R32K	Eaglecrest	97.19	329	IAMs_20	IAMs_20	00 00 57.7				
	comp=Z,436nm,20.0s									
E27K	Coleen River	97.35	340	IAMs_20	IAMs_20	00 04 23.1				
	comp=Z,594nm,21.0s									
O30N	Mendenhall	97.36	332	IAMs_20	IAMs_20	00 03 24.0				
	comp=Z,500nm,20.0s									
N30M	Aishikik Lake	97.64	332	IAMs_20	IAMs_20	00 05 15.4				
	comp=Z,489nm,20.0s									
I28M	Miner Creek	97.67	337	IAMs_20	IAMs_20	00 04 29.7				
	comp=Z,500nm,21.0s									
M29M	Somme Creek	97.99	334	IAMs_20	IAMs_20	00 03 37.4				
	comp=Z,594nm,21.0s									
EGAK	Eagle	98.38	336	IAMs_20	IAMs_20	00 05 02.6				
	comp=Z,517nm,19.0s									
I26K	Coal Creek Min	98.98	337	IAMs_20	IAMs_20	00 03 48.4				
	comp=Z,447nm,21.0s									
BCPM	Bancas Point	99.28	331	IAMs_20	IAMs_20	00 04 24.8				
	comp=Z,484nm,21.0s									
M27K	Edge Creek, AK	99.52	334	IAMs_20	IAMs_20	00 06 45.9				
	comp=Z,429nm,20.0s									
LOGN	Logan Glacier	99.65	332	IAMs_20	IAMs_20	00 06 36.4				
	comp=Z,441nm,21.0s									
CTGM	Chitina Glacie	99.75	333	IAMs_20	IAMs_20	00 07 53.2				
	comp=Z,466nm,18.0s									
E24K	Your Creek	99.75	341	IAMs_20	IAMs_20	00 07 18.5				
	comp=Z,362nm,20.0s									
F24K	Squaw Lake	99.80	340	IAMs_20	IAMs_20	00 06 11.9				
	comp=Z,558nm,21.0s									
AAK	Ala-Archa	99.81	47	IAMs_20	IAMs_20	00 14 26.7				
	comp=Z,466nm,20.0s									
AAK	Ala-Archa	99.81	47	LR	LR	00 14 30.1				
	comp=Z,366nm,19.7s,baz=288,slow=38									
PRP	Porcupine Dome	99.81	338	IAMs_20	IAMs_20	00 07 50.3				
	comp=Z,375nm,18.0s									
TOLK	Toolik Lake Re	99.84	341	IAMs_20	IAMs_20	00 06 15.8				
	comp=Z,374nm,21.0s									
BARN	Barnard Glacie	99.87	333	IAMs_20	IAMs_20	00 08 06.3				
	comp=Z,481nm,18.0s									
FRU1	Bishkek	99.88	46	IAMs_20	IAMs_20	00 09 42.4				
	comp=Z,432nm,22.0s									
M26K	Nabesna, AK	99.99	334	IAMs_20	IAMs_20	00 05 50.3				
	comp=Z,378nm,21.0s									
J25K	Salcha River,	100.12	337	IAMs_20	IAMs_20	00 06 05.5				
	comp=Z,391nm,20.0s									
ISLE	Juniper Island	100.34	332	IAMs_20	IAMs_20	00 06 58.7				
	comp=Z,456nm,20.0s									
MCARA	McCarthy VSAT	100.38	333	IAMs_20	IAMs_20	00 07 06.5				
	comp=Z,416nm,20.0s									
VRDI	Verde Repeater	100.62	333	IAMs_20	IAMs_20	00 07 13.1				
	comp=Z,423nm,20.0s									
WAX	Waxell Ridge	100.63	332	IAMs_20	IAMs_20	00 08 38.4				
	comp=Z,463nm,18.0s									
ILAR	Eielson Array	100.65	337	P	Pdif	23 25 35.0	+0.1			
	comp=Z,0.3nm,0.8s,baz=43,slow=7.2,SNR=4.1									
D22K	Ayikyak River	100.70	342	IAMs_20	IAMs_20	00 07 33.5				
	comp=Z,436nm,20.0s									
GLB	Gilahina Butte	100.70	334	IAMs_20	IAMs_20	00 07 06.3				
	comp=Z,446nm,20.0s									
POKR	Poker Flat Res	100.71	338	IAMs_20	IAMs_20	00 05 15.0				
	comp=Z,416nm,21.0s									
E22K	Anaktuvuk Pass	100.82	341	IAMs_20	IAMs_20	00 06 44.5				
	comp=Z,413nm,22.0s									
KURBB	Kurchatov Arra	100.82	38	PP	PP	23 29 40.7	-2.7			
	comp=Z,0.8nm,0.9s,baz=282,slow=8.3,SNR=6.8									
KURK	Kurchatov	100.85	38	IAMs_20	IAMs_20	00 09 46.4				
	comp=Z,389nm,20.0s									
COLA	College	100.98	337	IAMs_20	IAMs_20	00 05 32.1				
	comp=Z,362nm,20.0s									
N25K	Chitina, Valde	100.99	334	IAMs_20	IAMs_20	00 07 35.8				
	comp=Z,447nm,21.0s									
CCB	Clear Creek Bu	101.06	337	IAMs_20	IAMs_20	00 06 34.3				
	comp=Z,453nm,20.0s									
MDM	Murphy Dome	101.08	338	IAMs_20	IAMs_20	00 06 42.8				
	comp=Z,394nm,20.0s									
H23K	Yukon River	101.17	339	IAMs_20	IAMs_20	00 06 45.1				
	comp=Z,525nm,20.0s									
WRH	Wood River Hil	101.25	337	IAMs_20	IAMs_20	00 06 40.2				
	comp=Z,397nm,20.0s									
KSH	Kashi	101.47	50	P	Pdif	23 25 37.1	-2.2			
NEA2	Nenana	101.57	337	IAMs_20	IAMs_20	00 06 59.7				
	comp=Z,392nm,22.0s									
DHY	Denali Highway	101.58	336	IAMs_20	IAMs_20	00 09 37.0				
	comp=Z,391nm,20.0s									
F21K	Alatna River	101.84	341	IAMs_20	IAMs_20	00 07 22.5				
	comp=Z,567nm,22.0s									
MLY	Manley	101.99	338	IAMs_20	IAMs_20	00 09 17.9				
	comp=Z,431nm,18.0s									
HIN	Hinchinbrook I	102.33	333	IAMs_20	IAMs_20	00 08 06.1				
	comp=Z,467nm,20.0s									
H21K	Melozitna Rive	102.43	339	IAMs_20	IAMs_20	00 09 07.3				
	comp=Z,487nm,21.0s									
SML	Sawmill	102.53	335	IAMs_20	IAMs_20	00 06 30.3				
	comp=Z,546nm,22.0s									
BPAW	Bear Paw Mtn.	102.54	337	IAMs_20	IAMs_20	00 07 48.4				
	comp=Z,433nm,19.0s									
TRF	Thorofare Moun	102.58	337	IAMs_20	IAMs_20	00 07 22.5				
	comp=Z,350nm,20.0s									
KNK	Knik Glacier	102.76	334	IAMs_20	IAMs_20	00 08 01.4				
	comp=Z,563nm,22.0s									
E19K	Redstone River	102.91	342	IAMs_20	IAMs_20	00 08 05.9				
	comp=Z,567nm,22.0s									
CUT	Chulitna	103.07	336	IAMs_20	IAMs_20	00 08 51.4				
	comp=Z,467nm,21.0s									
CAST	Castle Rocks	103.30	337	IAMs_20	IAMs_20	00 08 02.5				
	comp=Z,444nm,21.0s									
RC01	Rabbit Creek A	103.46	334	IAMs_20	IAMs_20	00 06 50.9				
	comp=Z,474nm,20.0s									
I20K	Naaghedeneel	103.48	339	IAMs_20	IAMs_20	00 09 46.2				
	comp=Z,515nm,20.0s									
ZAA0	Zaievo Array	103.50	34	IAMs_20	IAMs_20	00 13 21.0				
	comp=Z,359nm,20.0s									
J20K	Nowinta River	103.69	338	IAMs_20	IAMs_20	00 08 10.8				
	comp=Z,486nm,22.0s									
H19K	Roundabout Mou	103.77	340	IAMs_20	IAMs_20	00 08 21.7				
	comp=Z,508nm,22.0s									
SKT	Skwentna	103.79	336	IAMs_20	IAMs_20	00 09 23.6				
	comp=Z,394nm,21.0s									
E18K	Tukpahlearik C	103.97	343	IAMs_20	IAMs_20	00 08 47.7				
	comp=Z,399nm,22.0s									
MAKZ	Makanchi	104.04	41	IAMs_20	IAMs_20	00 11 29.1				
	comp=Z,356nm,19.0s									
M20K	Styx River	104.50	336	IAMs_20	IAMs_20	00 11 09.2				
	comp=Z,426nm,19.0s									
H18K	Honhosa River	104.64	340	IAMs_20	IAMs_20	00 08 58.7				
	comp=Z,547nm,22.0s									
F17K	Baldwin Pennin	104.79	342	IAMs_20	IAMs_20	00 09 33.4				
	comp=Z,385nm,20.0s									
J18K	Imiko River	105.04	338	IAMs_20	IAMs_20	00 11 11.3				
	comp=Z,408nm,19.0s									
H17K	Granite Mounta	105.30	340	IAMs_20	IAMs_20	00 09 20.0				
	comp=Z,439nm,21.0s									
N19K	Bonanza Creek	105.61	335	IAMs_20	IAMs_20	00 10 32.7				
	comp=Z,326nm,19.0s									
J17K	VABM Dome	105.94	339	IAMs_20	IAMs_20	00 11 32.2				
	comp=Z,408nm,20.0s									
I17K	Unalakleet	106.22	340	IAMs_20	IAMs_20	00 11 43.4				
	comp=Z,494nm,21.0s									
P18K	Big Mountain,	106.68	334	IAMs_20	IAMs_20	00 11 20.1				
	comp=Z,474nm,21.0s									
ANM	Nome	107.32	342	IAMs_20	IAMs_20	00 10 32.4				
	comp=Z,383nm,21.0s									
TBI	Tubuai	117.60	244	*e*SS	SS	23 47 48.2	-10			
	comp=Z,988nm,39.8s									
TBI	Tubuai	117.60	244	*e*LR	LR	00 06 13.2				
	comp=Z,3μm,31.8s									
PPT2	Papeete2	118.75	250	*e*SS	SS	23 48 15.5	+1.6			
	comp=Z,380nm,29.5s									
PPT2	Papeete2	118.75	250	*e*LR	LR	00 06 46.2				
	comp=Z,381nm,27.2s									
PPT2				*e*LR	LR	00 06 47.0				
	comp=Z,566nm,24.0s									
HIA	Hailar	123.59	24	IAMs_20	IAMs_20	00 24 35.6				
	comp=Z,323nm,20.0s									
BTO	Baotou	124.83	37	*e*PKP	PKPdf	23 30 44.6	-2.9			
BTO				PP	PP	23 32 33.8	-0.9			
BTO				SS	SS	23 49 26.0	-3.3			
BTO				LR	LR					
	comp=Z,770nm,22.7s									
BTO				LR	LR					
	comp=Z,420nm,21.4s									
BTO				LR	LR					
	comp=Z,950nm,24.8s									
HHC	Hu-ho-hao-te	125.59	36	*e*PKP	PKPdf	23 30 46.5	-2.5			
HHC				PP	PP	23 32 41.6	+1.9			
HHC				AMB	AMB					
	comp=Z,65nm,8.5s									
HHC				LR	LR					
	comp=Z,380nm,20.8s									

HHC				LR	LR					
	comp=Z,250nm,19.6s									
HHC				LR	LR					
	comp=Z,620nm,17.8s									
CD2	Chengdu	125.66	50	PKP	PKPdf	23 30 48.0	-1.3			
CD2				AMB	AMB					
	comp=Z,110nm,7.0s									
CD2				LR	LR					
	comp=Z,190nm,15.3s									
CD2				LR	LR					
	comp=Z,220nm,12.2s									
PZH	PanZhiHua	125.85	56	PKP	PKPdf	23 30 49.0	-0.9			
PZH				PP	PP	23 32 44.5	+2.2			
PZH				AMB	AMB					
	comp=Z,70nm,8.8s									
PZH				LR	LR					
	comp=Z,270nm,21.4s									
PZH				LR	LR					
	comp=Z,200nm,21.0s									
PZH				LR	LR					
	comp=Z,290nm,20.8s									
CMAR	Chiang Mai Arr	125.93	67	PKP	PKPdf	23 30 50.4	+0.4			
	comp=Z,0.6nm,0.4s,baz=288,slow=2.5,SNR=5.1									
CMAR	Chiang Mai Arr	125.93	67 *c*	*i*PKIKP	PKiKP	23 30 52.2	+1.7			
CMAR				pmax	pmax					
	comp=Z,1.0nm,0.4s									
KLR	Kul'dur	127.66	15 *c*	*i*PKIKP	PKiKP	23 30 53.3	+0.2			
KLR				pmax	pmax					
	comp=Z,6.0nm,2.5s									
XAN	Xi'an	127.91	44	PKP	PKiKP	23 30 56.3	+2.2			
BJT	Baijiatuau	128.77	34	IAMs_20	IAMs_20	00 28 28.6				
	comp=Z,355nm,21.0s									
HNS	HongShan	129.68	37	*e*PKP	PKPdf	23 30 56.8	+0.1			
HNS				LR	LR					
	comp=Z,500nm,19.1s									
HNS				LR	LR					
	comp=Z,310nm,19.9s									
HNS				LR	LR					
	comp=Z,690nm,22.3s									
ENH	Enshi	130.30	48	IAMs_20	IAMs_20	00 29 18.0				
	comp=Z,313nm,22.0s									
CN2	Changchun	130.33	24	*e*PKP	PKPdf	23 30 56.8	-1.0			
MDJ	Mudanjiang	131.16	20	IAMs_20	IAMs_20	00 24 40.5				
	comp=Z,264nm,22.0s									
USA0B	Ussuriysk Arra	132.31	18	IAMs_20	IAMs_20	00 35 03.7				
	comp=Z,308nm,21.0s									
UBPT	Khong Chiam	132.79	68	IAMs_20	IAMs_20	00 25 28.6				
	comp=Z,304nm,19.0s									
MYKOM	Kota Tinggi	133.35	87	IAMs_20	IAMs_20	00 24 32.7				
	comp=Z,319nm,21.0s									
JKA	Kamikawa-asahi	134.78	8	IAMs_20	IAMs_20	00 36 41.5				
	comp=Z,296nm,21.0s									
QIZ	Qiongzhong	135.56	62	PKP	PKPdf	23 31 07.6	-0.7			
QIZ				PP	PP	23 33 46.0	+0.6			
QIZ				SS	SS	23 51 37.5	-5.4			
QIZ				LR	LR					
	comp=Z,140nm,17.7s									
QIZ				LR	LR					
	comp=Z,200nm,19.6s									
QIZ				LR	LR					
	comp=Z,220nm,23.5s									
QIZ	Qiongzhong	135.56	62	IAMs_20	IAMs_20	00 36 02.3				
	comp=Z,224nm,20.0s									
NJ2	Nanjing	135.76	40	*e*PKP	PKPdf	23 31 07.8	-0.5			
INCN	Inchon	136.04	28	IAMs_20	IAMs_20	00 34 24.3				
	comp=Z,285nm,20.0s									
HKPS	Hong Kong Po S	137.86	55	IAMs_20	IAMs_20	00 38 17.2				
	comp=Z,309nm,20.0s									
JSD	Sado	139.79	15	IAMs_20	IAMs_20	00 34 33.6				
	comp=Z,247nm,20.0s									
KNMB	Chin-men Tao	140.08	49	IAMs_20	IAMs_20	00 38 21.1				
	comp=Z,278nm,18.0s									
MAJO	Matsushiro	141.19	16	IAMs_20	IAMs_20	00 32 38.5				
	comp=Z,263nm,22.0s									
SSLB	Suanglung	142.38	48	IAMs_20	IAMs_20	00 37 01.9				

BYL					Sg		23 40 15.3	+0.6
OBL	**Observatory Le**	**0.02**	**332**		Pg		23 40 15.5	+1.1
UWB	**Uwekahuna B**	**0.02**	**353**		Pg		23 40 15.6	+1.2
HATHI	**Halema'uma'u T**	**0.03**	**32**	IAML			23 40 14.6	
	comp=N,3μm,0.8s							
HATHI				Pg	Pg		23 40 14.8	+0.4
HATHI				IAML			23 40 15.2	
	comp=E,3μm,0.2s							
HATHI				Sg	Sg		23 40 15.3	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**15**		Pg		23 40 15.8	+1.3
UWE	**Uwekahuna**	**0.03**	**319**	Pg	Pg		23 40 14.8	+0.3
UWE				IAML			23 40 14.9	
	comp=N,2μm,0.5s							
UWE				IAML			23 40 14.9	
	comp=E,3μm,0.6s							
UWE				Sg	Sg		23 40 15.9	+1.0
RSD	**Rainshed**	**0.06**	**357**	IAML			23 40 15.6	
	comp=N,986nm,1.9s							
RSD				Pg	Pg		23 40 15.7	+0.6
PUH	**Pauahi**	**0.06**	**116**	IAML			23 40 15.6	
	comp=N,1μm,1.0s							
PUH				Pg	Pg		23 40 15.6	+0.6
PUH				Sg	Sg		23 40 17.2	+1.3
KNHH	**Kane Nui o Ham**	**0.10**	**102**	Pg	Pg		23 40 16.4	+0.6
HLP	**Hilina Pali**	**0.11**	**197**	Pg	Pg		23 40 16.5	+0.6
HLP					Sg		23 40 18.5	+1.1
MLH	**Mauna Loa**	**0.14**	**311**	Pg	Pg		23 40 17.0	+0.5
MLH					Sg	Sg	23 40 19.6	+1.2
MLH				IAML			23 40 21.1	
	comp=N,648nm,1.1s							
STCH	**Steam Cracks**	**0.14**	**97**	Pg	Pg		23 40 16.8	+0.2
STCH				Sg	Sg		23 40 18.4	0.0
STCH				IAML			23 40 20.2	
	comp=E,674nm,0.6s							
NPOC	**North of Pu'u**	**0.16**	**93**		Pg		23 40 17.5	+0.7
NPOC					Sg		23 40 20.1	+1.2
HTC	**Hot Caves**	**0.20**	**215**		Pg		23 40 18.5	+0.8
KHU	**Kahuku**	**0.36**	**244**	Pg	Pg		23 40 20.9	+0.3
HUH	**Hualalai**	**0.60**	**298**	Pg	Pg		23 40 26.2	+0.9

*IDC **24** 23:40:31.7±1.4,0.7°74S×137.35E, h0km, mb3.8/6, mbtmp3.8/7, ML3.4/1, MS3.5/2, Error ellipse: s-maj=52.1km s-min=22.0km az=83.0*

ISC 24 23:40:36.4±1.3,**0.8S**±0.1×**137.4E**±0.3, **h35**km, **n9,** σ1**9**.**45**/7, **mb3.9**/6, **Irian Jaya region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**19.22**	**189**	P	**Pn**	**23 44 57.1**	**-1.7**
	0.1nm,0.3s,baz=9.3,slow=11,SNR=12						
	2.2nm,0.7s						
ASAR	**Alice Springs**	**22.94**	**188**	P	**P**	**23 45 39.7**	**+1.9**
	3.3nm,0.8s,baz=16,slow=12,SNR=17						
	3.3nm,0.8s						
JOW	**Kunigami**	**28.87**	**343**	LR	LR	23 55 51.3	
	comp=Z,39nm,21.9s,baz=120,slow=32						
CMAR	**Chiang Mai Arr**	**42.36**	**299**	P	**P**	**23 48 26.9**	**-0.7**
	0.5nm,0.4s,baz=120,slow=5.4,SNR=4.1						
	0.5nm,0.4s						
RAR	**Rarotonga**	**64.48**	**113**	LR	LR	00 17 20.7	
	comp=Z,106nm,20.9s,baz=132,slow=34						
MKAR	**Makanchi Array**	**67.50**	**322**	P	**P**	**23 51 29.6**	**+0.6**
	0.5nm,0.5s,baz=120,slow=7.7,SNR=8.6						
	0.5nm,0.5s						
KURBB	**Kurchatov Arra**	**71.44**	**325**	P	**P**	**23 51 53.3**	**0.0**
	0.8nm,0.7s,baz=115,slow=6.0,SNR=7.7						
	0.8nm,0.7s						
BVAR	**Borovoye Array**	**77.02**	**325**	P	**P**	**23 52 26.4**	**+0.7**
	1.8nm,0.7s,baz=104,slow=6.3,SNR=9.4						
	1.8nm,0.7s						
ILAR	**Eielson Array**	**84.70**	**25**	P	**P**	**23 53 05.9**	**-0.6**
	0.4nm,0.7s,baz=258,slow=4.5,SNR=3.6						
	0.4nm,0.7s						

*IPEC **24** 23:47:16.2±0.2,51°69N×16°11E, h1km, ML2.3/4, Error ellipse: s-maj=2.8km s-min=1.4km az=59.0*
*PRU **24** 23:47:18.9,51°58N×15°98E, h0km*
*DNK **24** 23:47:18.8±0.6,51°81N×16°06E, h0km±225km, ML2.7*
*VIE **24** 23:47:20.1±1.4,51°40N×15°94E, h0km, mb2.2/5, ml2.4/5, Error ellipse: s-maj=10.3km s-min=8.6km az=97.0, Suspected Mining induced.*

ISC 24 23:47:16.3±0.8,**51°68N**±0°03×**16°04E**±0°03, **h0**km, **n33,** σ1**°28**/**58, Poland**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**1.09**	**179**	*e*PG	**Pg**	**23 47 37.4**	**+0.2**
CHVC				*e*SG	**Sg**	**23 47 51.4**	**+0.1**
	comp=Z,35nm,0.4s						
OSTC	**Ostas**	**1.13**	**174**	*e*PG	**Pg**	**23 47 38.1**	**+0.2**
OSTC				*e*SG	**Sg**	**23 47 52.2**	**-0.3**
	comp=Z,32nm,0.4s						
UPC	**Upice**	**1.17**	**181**	*e*PG	**Pg**	**23 47 38.5**	**-0.2**
UPC				*e*SG	**Sg**	**23 47 53.8**	**-0.1**
DPC	**Dobruska-Polom**	**1.34**	**172**	*e*PG	**Pg**	**23 47 41.5**	**-0.5**
DPC				*e*SG	**Sg**	**23 47 58.5**	**-0.9**
	comp=Z,27nm,0.4s						
PVCC	**Panska Ves**	**1.48**	**219**	*e*PG	**Pg**	**23 47 44.4**	**-0.2**
PVCC				*e*SG	**Sg**	**23 48 02.8**	**-0.9**
	comp=Z,97nm,0.4s						
BRG	**Berggiesshubel**	**1.54**	**239**	Pg	**Pg**	**23 47 45.7**	**-0.1**
BRG				Amp		23 47 52.0	
	comp=E,0.4nm,16.2s						
BRG				Amp		23 47 55.0	
	comp=Z,0.7nm,15.7s						
BRG				Amp		23 47 57.0	
	comp=N,0.3nm,14.1s						
BRG	**Berggiesshubel**	**1.54**	**239**	Sg	**Sg**	**23 48 06.0**	**+0.2**
BRG				Amp		23 48 06.7	
	comp=Z,33nm,0.3s						
KRLC	**Kraliky**	**1.67**	**163**	*e*PG	**Pn**	**23 47 46.6**	**-0.3**
KRLC				*e*SG	**Sn**	**23 48 09.0**	**0.0**
	comp=Z,34nm,0.3s						
CLL	**Collm**	**1.93**	**260**	*i* Pn	**Pn**	**23 47 50.0**	**-0.4**
	comp=Z,6.0nm,0.4s						
CLL				*i* Pg	**Pg**	**23 47 53.0**	**-0.3**
CLL				*i* x	x	23 47 54.8	
CLL				*i* x	x	23 47 56.9	
CLL				*i* x	x	23 48 08.3	
CLL				*e*Sg	**Sg**	**23 48 19.0**	**+0.7**
	comp=Z,15nm,0.5s						
PRU	**Pruhonice**	**1.94**	**210**	*e*SG	**Sn**	**23 48 14.7**	**-0.8**
	comp=Z,15nm,0.4s						
HSKC	**Hora Svate Kat**	**1.96**	**238**	*e*PG	**Pn**	**23 47 51.5**	**+0.7**
HSKC				*e*SG	**Sb**	**23 48 18.4**	**+0.5**
	comp=Z,25nm,0.4s						
MORC	**Moravsky Berou**	**2.13**	**153**	*e*Pn	**Pn**	**23 47 52.8**	**-0.3**
	baz=335						
MORC				*e*Sg	**Sb**	**23 48 22.6**	**-0.2**
	comp=Z,17nm,0.3s,baz=335						
VRAC	**Vranov**	**2.40**	**171**	*e*Pn	**Pn**	**23 47 56.9**	**+0.1**
	baz=353						
VRAC				*e*Sg	**Sb**	**23 48 31.7**	**+1.2**
	comp=Z,12nm,0.5s,baz=353						
KRUC	**Moravsky**	**2.63**	**175**	*e*PN	**Pn**	**23 47 59.8**	**-0.2**
KRUC				*e*SG	**Sb**	**23 48 38.6**	**+1.5**
KRUC	**Moravsky**	**2.63**	**175**	*e*Pn	**Pn**	**23 47 59.7**	**-0.2**
	baz=356						
KRUC				*e*Sg	**Sb**	**23 48 38.5**	**+1.5**
	comp=Z,16nm,0.7s,baz=356						
OJC	**Ojcow**	**2.79**	**120**	*e*Pg	**Pg**	**23 48 10.2**	**+0.5**
OJC				*e*Sg	**Sg**	**23 48 45.8**	**-0.1**
KHC	**Kasperske Hory**	**3.00**	**213**	*e*PN	**Pn**	**23 48 05.0**	**0.0**
KHC				*e*PG	**Pb**	**23 48 11.5**	**+1.0**
KHC				*e*Sg	**Sg**	**23 48 50.1**	**-2.4**
	comp=Z,5.8nm,0.3s						
JAVC	**Velka Javorina**	**3.01**	**159**	*e*Pn	**Pn**	**23 48 05.0**	**-0.3**
	baz=341						
CKRC	**Cesky Krumlov**	**3.07**	**202**	*e*PN	**Pn**	**23 48 06.5**	**+0.5**
CKRC				*e*PG	**Pb**	**23 48 13.0**	**+1.3**
MODS	**Modra-Piesok**	**3.41**	**166**	*e*SG	**Sg**	**23 49 02.8**	**-2.8**
BSD	**Bornholm Skovb**	**3.51**	**349**	*i* P	**Pn**	**23 48 12.7**	**+0.8**
BSD				*i* S	**Sn**	**23 48 52.6**	**-1.5**
BSD				IAML		23 49 00.9	
	comp=Z,10nm,0.7s						
NIE	**Niedzica**	**3.54**	**128**	*e*Pg	**Pg**	**23 48 24.3**	**+0.3**
NIE				*e*Sg	**Sg**	**23 49 10.1**	**+0.2**
VYHS	**Vyhne**	**3.66**	**149**	*e*PN	**Pn**	**23 48 14.1**	**-0.1**
VYHS				*e*SG	**Sb**	**23 49 09.5**	**+2.7**
CONA	**Conrad Observa**	**3.76**	**182**	*i* Pn	**Pn**	**23 48 15.9**	**+0.3**
	comp=Z,0.5nm,0.2s						
CONA				Sg	**Sg**	**23 49 15.2**	**-1.7**
	comp=Z,4.0nm,0.3s						
RONA	**Rosalia, Austr**	**3.99**	**177**	*e*Pn	**Pn**	**23 48 19.2**	**+0.5**
	comp=Z,0.3nm,0.1s						
RONA				*e*Sg	**Sg**	**23 49 20.2**	**-4.0**
	comp=Z,2.8nm,0.4s						
MOA	**Molln**	**4.00**	**197**	*e*Pn	**Pn**	**23 48 19.0**	**+0.2**
	comp=Z,1.8nm,0.3s						
MOA				*e*Sg	**Sg**	**23 49 23.8**	**-1.0**
	comp=Z,3.1nm,0.3s						
STHS	**Stebnicka Huta**	**4.02**	**122**	*e*SG	**Sg**	**23 49 22.3**	**-3.0**
LUNU	**Lund**	**4.25**	**340**	*e*S	**Sn**	**23 49 10.9**	**-1.5**
ARSA	**Arzberg**	**4.45**	**185**	Sg	**Sg**	**23 49 36.3**	**-2.7**
	comp=Z,3.5nm,0.5s						
BLEU	**Blekinge**	**4.64**	**358**	*e*P	**Pn**	**23 48 29.0**	**+1.6**
BLEU				*e*S	**Sn**	**23 49 19.6**	**-2.3**
BJUU	**Bjuv**	**4.75**	**339**	*e*S	**Sn**	**23 49 22.7**	**-2.1**
KOLS	**Kolonicke sedl**	**4.85**	**122**	*e*	**Pn**	**23 48 31.1**	**+0.6**
KBA	**Koelnbreinsper**	**4.93**	**202**	*e*Pn	**Pn**	**23 48 32.4**	**+0.7**
	comp=Z,2.5nm,0.6s						
KBA				Sg	**Sg**	**23 49 54.3**	**-0.2**
	comp=Z,2.9nm,0.6s						

*UPA **24** 23:49:57.6±1.3,9.°79N×86.°02W, h37km±56km, MW4.5*
*UCR **24** 23:50:10.6±0.9,9.°63N×84.°81W, h17km±3km, MW4.4*
*CATAC **24** 23:50:10.0±1.0,9.°59N×84.°77W, h4km±6km, ML4.1*

ISC 24 23:50:10.1±1.1,**9.°62N**±0.°03×**84.°81W**±0.°02, **h16**km±11km, **n98,** σ0°92/107, **1C, Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JACO	**JACO, Garabito**	**0.15**	**73**	*e*P	**Pb**	**23 50 14.4**	**-0.1**
JACO				*e*S	**Sb**	**23 50 17.7**	**+0.2**
BITO	**Garabito Jaco**	**0.18**	**89**	*e*P	**Pb**	**23 50 14.9**	**-0.2**
BITO				*e*S	**Sb**	**23 50 18.7**	**+0.3**
CBL1	**Cabuya**	**0.28**	**264**	*e*P	**Pb**	**23 50 16.6**	**-0.2**
CBL1				*e*S	**Sb**	**23 50 21.7**	**+0.4**
TRB2	**Turrubares**	**0.46**	**50**	*e*P	**Pg**	**23 50 19.3**	**-0.1**
SRA1	**San Ramn**	**0.57**	**35**	*e*P	**Pg**	**23 50 21.2**	**-0.2**
NYURE	**Nandayure**	**0.58**	**311**	*e*P	**Pb**	**23 50 21.6**	**-0.3**
SARCI	**Sarchi**	**0.65**	**44**	*e*P	**Pb**	**23 50 23.2**	**0.0**
TCS1	**Tacares**	**0.65**	**50**	*e*P	**Pb**	**23 50 23.2**	**0.0**
JUNT	**Juntas**	**0.68**	**347**	*e*P	**Pg**	**23 50 22.9**	**-0.5**
JTS	**Las Juntas de**	**0.68**	**348**	*i* P	**Pg**	**23 50 23.0**	**-0.6**
JTS				*e*S	**Sb**	**23 50 32.4**	**-0.5**
JTS	**Las Juntas de**	**0.68**	**348**	*e*P	**Pg**	**23 50 23.0**	**-0.6**
SANTA	**Santa Ana**	**0.69**	**63**	*e*P	**Pg**	**23 50 22.6**	**-1.1**
ZARE	**Zarcero**	**0.70**	**36**	*e*P	**Pb**	**23 50 24.1**	**+0.1**
BELE	**Belen**	**0.71**	**60**	*e*P	**Pg**	**23 50 23.6**	**-0.4**
LLNJ	**Naranjito**	**0.71**	**101**	*e*P	**Pb**	**23 50 23.9**	**-0.2**
ABE2	**San Pablo**	**0.75**	**83**	*e*P	**Pg**	**23 50 24.1**	**-0.7**
MEXI	**Barrio Mexico**	**0.78**	**66**	*e*P	**Pb**	**23 50 25.0**	**-0.4**
CPMI	**Catarata Coope**	**0.78**	**32**	*e*P	**Pg**	**23 50 25.2**	**-0.3**
HDC	**Heredia**	**0.78**	**61**	*e*P	**Pb**	**23 50 25.2**	**-0.3**
SOCE	**Pocosol**	**0.78**	**14**	*i* P	**Pg**	**23 50 25.1**	**-0.3**
SOCE				*i* S	**Sg**	**23 50 36.3**	**+0.5**
SOCE				IAML		23 50 39.0	
	comp=Z,15μm,1.0s						
SOCE	**Pocosol**	**0.78**	**14**	*e*P	**Pg**	**23 50 25.1**	**-0.3**
AMPA	**Desamparados**	**0.79**	**69**	*e*P	**Pb**	**23 50 25.0**	**-0.5**
HDC3	**Heredia 3**	**0.79**	**61**	*i* P	**Pb**	**23 50 24.9**	**-0.6**
HDC3				*i* S	**Sg**	**23 50 36.4**	**+0.5**
HDC3				IAML		23 50 43.3	
	comp=Z,6μm,1.0s						
HDC3	**Heredia 3**	**0.79**	**61**	*e*P	**Pb**	**23 50 25.2**	**-0.3**
LUJA	**Lujan**	**0.79**	**67**	*e*P	**Pn**	**23 50 26.0**	**-0.6**
DOMI	**Santo Domingo**	**0.79**	**63**	*e*P	**Pb**	**23 50 25.3**	**-0.3**
LCR2	**La Lucha 2**	**0.80**	**81**	*e*P	**Pb**	**23 50 24.9**	**-0.8**
VPS6	**Volcano Poas**	**0.80**	**45**	*e*P	**Pg**	**23 50 25.7**	**-0.2**
SJS	**Escuela Geolog**	**0.81**	**67**	*e*P	**Pb**	**23 50 25.6**	**-0.3**
SJS3	**Mercedes San J**	**0.81**	**67**	*e*P	**Pb**	**23 50 25.6**	**-0.2**
LUPE	**Guadalupe**	**0.81**	**66**	*e*P	**Pb**	**23 50 25.5**	**-0.4**
DUNO	**Dulce Nombre,**	**0.82**	**304**	*e*P	**Pb**	**23 50 25.2**	**-0.7**
ARE1	**Arenal 1**	**0.84**	**6**	*e*P	**Pg**	**23 50 26.4**	**-0.2**
TRIO	**Tres Rios**	**0.85**	**70**	*e*P	**Pb**	**23 50 26.1**	**-0.5**
CNAS	**Canas**	**0.86**	**341**	*e*P	**Pn**	**23 50 27.1**	**-0.4**
VACR	**Volcan Arenal**	**0.86**	**9**	*e*P	**Pg**	**23 50 26.6**	**-0.3**
CORON	**Coronado**	**0.87**	**66**	*e*P	**Pb**	**23 50 26.7**	**-0.2**
CEDE	**Laguna Cedeo**	**0.87**	**7**	*e*P	**Pg**	**23 50 26.8**	**-0.2**
OCM	**Ochomogo**	**0.88**	**72**	*e*P	**Pb**	**23 50 26.3**	**-0.8**
JUD3	**Juan Diaz 3**	**0.90**	**307**	*e*P	**Pb**	**23 50 26.8**	**-0.7**
CVIMO	**Finca Echandi**	**0.94**	**65**	*e*P	**Pb**	**23 50 28.0**	**-0.2**
REPA	**Paraso**	**0.95**	**77**	*e*P	**Pn**	**23 50 28.8**	**-0.1**
ORTG	**Ortega, Santa**	**0.98**	**319**	*e*P	**Pn**	**23 50 28.1**	**-0.7**
ITAL	**Pital**	**0.98**	**32**	*e*P	**Pn**	**23 50 29.4**	**+0.2**
VICA	**Volcano Irazu**	**1.02**	**69**	*e*P	**Pb**	**23 50 29.1**	**-0.5**
PCAYA	**Pacayas**	**1.03**	**73**	*e*P	**Pb**	**23 50 29.4**	**-0.3**
CDM	**Cerro de Muert**	**1.03**	**93**	*e*P	**Pb**	**23 50 29.1**	**-0.7**
RAFA	**San Farael, Vo**	**1.04**	**71**	*i* P	**Pb**	**23 50 29.5**	**-0.4**
RAFA				*i* S	**Sb**	**23 50 43.1**	**-0.3**
RAFA				IAML		23 50 48.1	
	comp=Z,14μm,1.0s						
RAFA	**San Farael, Vo**	**1.04**	**71**	*e*P	**Pb**	**23 50 29.6**	**-0.4**
CUI	**Cuipilapa**	**1.09**	**341**	*e*P	**Pb**	**23 50 30.0**	**-0.7**
TENO	**El Achiote**	**1.09**	**351**	*e*P	**Pb**	**23 50 29.6**	**-1.1**
CVTD	**Turrialba Volc**	**1.09**	**69**	*e*P	**Pb**	**23 50 30.7**	**-0.2**
DELF	**Finalelfia**	**1.10**	**318**	*e*P	**Pb**	**23 50 30.4**	**-0.5**
VTR0	**Volcan Turrial**	**1.11**	**69**	*e*P	**Pb**	**23 50 30.9**	**-0.2**
CVTR	**Volcan Turrial**	**1.11**	**69**	*e*P	**Pb**	**23 50 30.9**	**-0.3**
CVTV	**Tajo**	**1.11**	**70**	*e*P	**Pb**	**23 50 31.0**	**-0.1**
COLC	**Colonia**	**1.11**	**339**	*e*P	**Pb**	**23 50 30.2**	**-0.8**
VTCV	**VTCV, Calle Va**	**1.12**	**71**	*e*P	**Pb**	**23 50 31.0**	**-0.3**
SARA	**Sarapiqu**	**1.14**	**43**	*e*P	**Pn**	**23 50 30.9**	**-0.4**
PEZE	**Perez Zeledon,**	**1.14**	**102**	*e*P	**Pn**	**23 50 30.8**	**-0.7**
VERB	**Verbena**	**1.14**	**73**	*e*P	**Pn**	**23 50 31.3**	**-0.2**
COVE	**Coope Vega, Sa**	**1.17**	**20**	*e*P	**Pn**	**23 50 31.2**	**-0.6**
ALIBA	**Liberia Airpor**	**1.21**	**323**	*e*P	**Pg**	**23 50 33.3**	**-0.2**
VMAR	**Armenia, Volca**	**1.23**	**346**	*e*P	**Pb**	**23 50 32.5**	**-0.5**
VERA	**Finca Concepci**	**1.23**	**357**	*e*P	**Pb**	**23 50 32.4**	**-0.6**
GPS3	**Bodega del ICE**	**1.26**	**334**	*e*P	**Pb**	**23 50 33.0**	**-0.5**
OCHAL	**Ojochal**	**1.26**	**114**	*i* P	**Pn**	**23 50 31.8**	**-1.2**
OCHAL				IAML		23 50 51.5	
	comp=Z,1μm,1.0s						
VRLE	**La Escondida,**	**1.29**	**335**	*e*P	**Pn**	**23 50 33.0**	**-0.5**
VORI	**VORI**	**1.31**	**336**	*e*P	**Pn**	**23 50 33.4**	**-0.5**
GB1A	**Borinquen Arri**	**1.33**	**334**	*e*P	**Pn**	**23 50 33.7**	**-0.4**
HZTE	**Horizontes, Gu**	**1.34**	**325**	*e*P	**Pb**	**23 50 34.2**	**-0.6**
LCHIL	**Los Chiles**	**1.41**	**4**	*e*P	**Pg**	**23 50 36.8**	**-0.6**
TRT1	**Tortuguero**	**1.46**	**48**	*e*P	**Pn**	**23 50 35.9**	**+0.1**
SRBA	**San Rafael, Bu**	**1.48**	**105**	*e*P	**Pn**	**23 50 36.2**	**0.0**
BATAN	**Batan**	**1.49**	**71**	*e*P	**Pb**	**23 50 37.3**	**-0.1**
DRK0	**Durika**	**1.58**	**103**	*e*P	**Pn**	**23 50 37.7**	**+0.1**
LCRUZ	**La Cruz**	**1.66**	**331**	*e*P	**Pb**	**23 50 40.3**	**-0.1**
PIRO	**Carate, Puerto**	**1.89**	**130**	*e*P	**Pg**	**23 50 45.4**	**-1.0**
OMEN	**AI SSO del Vol**	**2.05**	**337**	*i* P	**Pb**	**23 50 45.3**	**-1.6**
OMEN				IAML		23 50 55.3	
	comp=Z,930nm,1.0s						
JAPN	**AI SSO del Vol**	**2.08**	**336**	*i* P	**Pb**	**23 50 46.4**	**-1.1**
JAPN				IAML		23 50 56.5	
	comp=Z,760nm,1.0s						
MORN	**AI O del Volca**	**2.09**	**337**	*i* P	**Pb**	**23 50 46.0**	**-1.6**
MORN				IAML		23 50 55.3	
	comp=Z,1μm,1.0s						
CONN	**Concepcion**	**2.10**	**337**	*i* P	**Pb**	**23 50 46.1**	**-1.7**
CONN				IAML		23 50 48.1	
	comp=Z,8μm,1.0s						
BRU2	**Volcan**	**2.24**	**111**	*e*P	**Pb**	**23 50 50.1**	**-0.3**
BRU2	**Volcan**	**2.24**	**111**	*i* P	**Pn**	**23 50 48.1**	**+1.4**
BRU2				IAML		23 51 31.8	
	comp=Z,1μm,1.0s						
ACON	**Acoyapa**	**2.36**	**351**	*i* P	**Pn**	**23 50 49.1**	**+0.9**
ACON				*i* S	**Sb**	**23 51 21.1**	**-0.2**
ACON				IAML		23 51 31.0	
	comp=Z,800nm,1.0s						
ACON	**Acoyapa**	**2.36**	**351**	*e*P	**Pn**	**23 50 49.3**	**+1.1**
PTPM	**Petroterminale**	**2.37**	**126**	*e*P	**Pn**	**23 50 48.5**	**+0.3**
PTPM				*e*S	**Sg**	**23 51 28.8**	**+2.5**
BCO2	**Palmira**	**2.42**	**111**	*i* P	**Pb**	**23 50 51.8**	**-1.6**
ESPN	**Las Esperanzas**	**2.61**	**11**	*i* P	**Pn**	**23 50 53.1**	**+1.5**
ESPN				IAML		23 51 46.5	
	comp=Z,840nm,1.0s						
ESPN	**Las Esperanzas**	**2.61**	**11**	*e*P	**Pn**	**23 50 53.2**	**+1.6**
SAPS	**Ciudad Sandino**	**2.98**	**328**	*i* P	**Pb**	**23 50 59.8**	**-3.1**
SAPS				IAML		23 51 05.5	
	comp=Z,260nm,1.0s						
HUEN		**3.02**	**334**	*i* P	**Pn**	**23 50 58.1**	**+0.9**
HUEN				IAML		23 52 00.3	
	comp=Z,180nm,1.0s						
COPN	**Copaltepe**	**3.09**	**326**	*i* P	**Pn**	**23 51 00.0**	**+1.7**
COPN				IAML		23 51 08.5	
	comp=Z,140nm,1.0s						
MACN	**El Madrono**	**3.37**	**327**	*i* P	**Pn**	**23 51 04.6**	**+2.4**
MACN				IAML		23 51 06.2	
	comp=Z,190nm,1.0s						
CNGA	**AI SSO del Vol**	**3.41**	**327**	*i* P	**Pn**	**23 51 03.7**	**+1.0**
CNGA				IAML		23 51 11.7	
	comp=Z,140nm,1.0s						
CNGN	**Cerro Negro**	**3.41**	**327**	*i* P	**Pn**	**23 51 05.9**	**+3.2**
CNGN				IAML		23 51 13.3	
	comp=Z,150nm,1.0s						
ROCN	**Rota Cerro Neg**	**3.45**	**327**	*i* P	**Pn**	**23 51 06.3**	**+3.0**
ROCN				IAML		23 51 16.5	
	comp=Z,88nm,1.0s						
LIMN	**Finca el Limon**	**3.75**	**336**	*i* P	**Pn**	**23 51 08.5**	**+1.1**
LIMN				IAML		23 52 19.8	
	comp=Z,140nm,1.0s						

*IGIL **24** 23:51:39.7,37°80N×9°36W, h0km, ML1.7*
*INMG **24** 23:51:39.6±1.6,37°81N×9°37W, h3km±4km, ML1.7, Error ellipse: s-maj=6.5km s-min=2.6km az=78.0*
*CNRM **24** 23:51:39.9,37°71N×9°51W, h29km, ML1.5*
*MDD **24** 23:51:39.1±1.1,37°77N×9°44W, h0km, mb_Lg2.6/2, Error ellipse: s-maj=9.1km s-min=4.0km az=71.0*
*SFS **24** 23:51:39.5,37°78N×9°38W, h0km, ML2.0/9, ML2.2/7, MLv1.9/9*

ISC 24 23:51:37.7±1.3,**37°80N**±0°02×**9°44W**±0°04, **h11**km±9km, **n40,** σ0°79/69, **2C-1D, Portugal**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PTEO	**Sao Teotonio**	**0.62**	**114**	*e*Pg	**Pg**	**23 51 49.9**	**+0.2**
PTEO				*e*Sg	**Sg**	**23 51 57.6**	**-0.3**
PTEO				A	A	23 52 00.9	
	18nm,0.4s						
PNCL	**Nicolau / Gran**	**0.79**	**66**	*e*P	**Pg**	**23 51 53.1**	**+0.3**
PNCL				*e*S	**Sg**	**23 52 02.5**	**-0.7**
PNCL				A	A	23 52 06.4	
	14nm,0.2s						
PNCL	**Nicolau / Gran**	**0.79**	**66**	Pg	**Pg**	**23 51 53.2**	**+0.3**
PNCL				Sg	**Sg**	**23 52 02.4**	**-0.7**
MORF	**Marmelete**	**0.80**	**128**	*e*P	**Pg**	**23 51 53.2**	**+0.2**
MORF				*e*S	**Sb**	**23 52 04.4**	**+0.1**
MORF				A	A	23 52 04.9	
	12nm,0.1s						
MORF	**Marmelete**	**0.80**	**128**	*e*P	**Pg**	**23 51 53.2**	**+0.2**
MORF				*e*S	**Sg**	**23 52 02.9**	**-0.5**
MORF				IAML		23 52 04.6	
	comp=E,23nm,0.2s						
PFVI	**Vila Bisbo**	**0.82**	**143**	*e*P	**Pg**	**23 51 54.0**	**+0.5**
PFVI				*e*S	**Sg**	**23 52 04.3**	**0.0**
PFVI				A	A	23 52 07.2	
	comp=E,12nm,0.1s						
PFVI	**Vila Bisbo**	**0.82**	**143**	Pg	**Pg**	**23 51 53.9**	**+0.3**
PFVI				Sg	**Sg**	**23 52 04.3**	**0.0**
PFVI	**Vila Bisbo**	**0.82**	**143**	P	**Pg**	**23 51 54.1**	**+0.9**
PFVI	**Vila Bisbo**	**0.82**	**143**	S	**Sb**	**23 52 06.2**	**+1.2**
MESJ	**Messejana**	**0.97**	**87**	*e*S	**Sg**	**23 52 07.8**	**-1.1**
MESJ				IAML		23 52 09.2	
	comp=N,15nm,0.2s						
PCVE	**Castro Verde**	**1.12**	**98**	*e*P	**Pg**	**23 51 58.9**	**-0.3**
PCVE				*e*S	**Sb**	**23 52 14.0**	**+0.3**
PCVE				A	A	23 52 15.2	
	comp=N,9.1nm,0.2s						
PCVE	**Castro Verde**	**1.12**	**98**	Pg	**Pg**	**23 51 59.0**	**-0.3**
PCVE				Sg	**Sg**	**23 52 13.0**	**-0.8**
PMAFR	**Mafra**	**1.16**	**6**	*e*P	**Pg**	**23 52 00.4**	**+0.3**
PMAFR				*e*S	**Sb**	**23 52 16.4**	**+1.5**
PMAFR				A	A	23 52 17.6	
	comp=N,12nm,0.2s						
PMAFR	**Mafra**	**1.16**	**6**	Sg	**Sb**	**23 52 15.9**	**+1.0**
PMAFR				Pg	**Pg**	**23 52 00.2**

NPOC					Sg		00 05 02.5	+1.3
HTC	**Hot Caves**	**0.20**	**211**		Pg		00 05 00.4	+0.7
HMH	**Humu'ula Sheep**	**0.26**	**316**	Pg	Pg		00 05 01.4	+0.5
HMH				IAML			00 05 08.5	
	comp=E,1μm,0.3s							
JOKA	**Jonika Flow**	**0.27**	**86**	Pg	Pg		00 05 01.3	+0.4
JOKA				IAML			00 05 07.6	
	comp=N,1μm,1.1s							
JOKA				IAML			00 05 10.2	
	comp=E,835nm,0.8s							
MLOA	**Mauna Loa Obse**	**0.30**	**294**	Pg	Pg		00 05 02.2	+0.8
MWH	**Moku'aweowe**	**0.30**	**284**	Pg	Pg		00 05 02.4	+0.8
PAH	**Pahoa**	**0.33**	**76**		Sg		00 05 06.0	-0.5
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg		00 05 03.1	+0.6
KHU				IAML			00 05 10.5	
	comp=E,648nm,0.3s							
KHU				IAML			00 05 11.5	
	comp=N,482nm,0.4s							
ALEP	**Alea Permanent**	**0.36**	**291**		Pg		00 05 03.3	+0.6
ALEP					Sg		00 05 07.4	+0.1
HPO	**Honuapo**	**0.41**	**218**		Sb		00 05 11.1	-1.5
POHA	**Pohakuloa**	**0.41**	**326**	Pg	Pg		00 05 04.6	+0.9
POHA	**Pohakuloa**	**0.41**	**326**		Sg		00 05 10.7	+1.6
HUH	**Hualalai**	**0.58**	**298**	Pg	Pg		00 05 07.4	+0.5
CPH	**Captain Cook**	**0.60**	**277**		Pg		00 05 07.2	0.0
HPAH	**Hawaii Prepara**	**0.72**	**328**	Pg	Pg		00 05 08.4	-1.3
HPAH				IAML			00 05 26.0	
	comp=E,377nm,0.9s							
MHA	**Mahukona**	**0.96**	**323**	Pg	Pg		00 05 12.4	-1.9

*NEIC **25** 00:41:12.0±1.4, 19°.38N±0°.01×155°.268W±0°.009, h5km±1km, Error ellipse: s-maj=2.4km s-min=1.8km az=40.0*

HVO 25 00:41:11.4±0.9, 19°.396N±0°.010×155°.273W±0°.008, h0km±2km, ML2.7/15, ML2.1/24(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.00**	**214**		Pg	00 41 12.2	+0.6
KKO	**Keanakako'i**	**0.01**	**78**		Pg	00 41 12.1	+0.5
BYL	**Byron's Ledge**	**0.02**	**39**	Pg	Pg	00 41 12.4	+0.5
OBL	**Observatory Le**	**0.02**	**334**		Pg	00 41 12.5	+0.6
HATHI	**Halema'uma'u T**	**0.03**	**24**	IAML		00 41 12.5	
	comp=N,3μm,0.8s						
HATHI				Pg	Pg	00 41 12.5	+0.4
UWB	**Uwekahuna B**	**0.03**	**351**		Pg	00 41 13.6	+1.6
SBLHI	**Steaming Bluff**	**0.03**	**9**		Pg	00 41 12.7	+0.7
UWE	**Uwekahuna**	**0.03**	**323**	IAML		00 41 12.3	
	comp=E,3μm,0.5s						
UWE				Pg	Pg	00 41 12.7	+0.6
PUH	**Pauahi**	**0.06**	**112**	Pg	Pg	00 41 13.3	+0.7
PUH				IAML		00 41 14.2	
	comp=N,2μm,1.1s						
PUH				IAML		00 41 14.3	
	comp=E,1μm,0.8s						
RSD	**Rainshed**	**0.07**	**356**	Pg	Pg	00 41 13.6	+0.9
KNHH	**Kane Nui o Ham**	**0.10**	**100**	Pg	Pg	00 41 14.4	+1.1
HLP	**Hilina Pali**	**0.10**	**198**	IAML		00 41 13.8	
	comp=E,2μm,1.5s						
HLP				Pg	Pg	00 41 14.2	+0.8
STCH	**Steam Cracks**	**0.14**	**94**	Pg	Pg	00 41 14.8	+0.7
STCH				IAML		00 41 18.3	
	comp=E,765nm,0.5s						
STCH				IAML		00 41 18.4	
	comp=N,596nm,0.3s						
MLH	**Mauna Loa**	**0.14**	**312**	Pg	Pg	00 41 15.5	+1.3
MLH				IAML		00 41 18.4	
	comp=N,646nm,1.4s						
MLH				IAML		00 41 18.9	
	comp=E,751nm,0.9s						
NPOC	**North of Pu'u**	**0.15**	**91**		Pg	00 41 16.0	+1.6
HTC	**Hot Caves**	**0.20**	**217**		Pg	00 41 17.0	+1.7
JOKA	**Jonika Flow**	**0.26**	**82**	Pg	Pg	00 41 16.8	+0.4
JOKA				IAML		00 41 21.8	
	comp=E,371nm,1.1s						
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg	Pg	00 41 18.1	+1.2
HMH				IAML		00 41 19.6	
	comp=E,286nm,1.9s						
HMH				IAML		00 41 26.6	
	comp=N,462nm,1.5s						
MWH	**Moku'aweowe**	**0.32**	**286**	Pg	Pg	00 41 18.3	+0.8
KHU	**Kahuku**	**0.36**	**245**	Pg	Pg	00 41 18.4	+0.2
ALEP	**Alea Permanent**	**0.38**	**292**		Pb	00 41 20.1	-1.2
ALEP					Sb	00 41 26.2	-1.7

*NEIC **25** 00:46:36.4±2.4, 36°.39N±0°.07×70°.64E±0°.10, h150km±5km, mb4.2/8, Error ellipse: s-maj=12.6km s-min=7.9km az=125.0*

*BJI **25** 00:46:36.1±0.0, 36°.31N×70°.78E, h142km, mb4.6/9, mB4.7/5*

*IDC **25** 00:46:37.7±4.5, 36°.40N×70°.87E, h148km±35km, mb3.5/12, mbtmp4.0/17, Error ellipse: s-maj=47.7km s-min=23.4km az=146.0*

*NNC **25** 00:46:37.8±3.9, 36°.92N×70°.52E, h0km, mb4.9, mpv4.6, Error ellipse: s-maj=32.0km s-min=25.5km az=156.0*

ISC 25 00:46:36.9±0.5, 36°.41N±0°.05×70°.67E±0°.05, h150km, n73, σ2s46/85, mb3.7/14, 4C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.29**	**216**	Pn	**Pn**	**00 47 16.1**	**+0.5**
CHGR	**Chuyangaron**	**2.55**	**332**	Pn	**Pn**	**00 47 17.9**	**-0.7**
GAR	**Garm**	**2.60**	**354**	Pn	**Pn**	**00 47 18.9**	**-0.4**
SIMJ	**Simiganj**	**2.61**	**330**	Pn	**Pn**	**00 47 18.7**	**-0.7**
DRK	**Karamyk**	**3.20**	**16**	Pn	**Pn**	**00 47 27.6**	**+0.7**
BTK	**Batken**	**3.65**	**2**	Pn	**Pn**	**00 47 32.6**	**0.0**
JMU	**Jammu**	**5.07**	**135**	*eP*	**Pn**	**00 47 52.3**	**+1.1**
JMU				*eS*	**Sn**	**00 48 47.8**	**-1.4**
KSH	**Kashi**	**5.22**	**52**	P	**Pn**	**00 47 50.1**	**-3.1**
KSH				S	Sn	00 48 43.8	-9.0
KSH				smax	smax		
	comp=N,710nm,0.6s						
KSH				smax	smax		
	comp=E,340nm,0.5s						
ARSB	**Arslanbob**	**5.23**	**19**	Pn	**Pn**	**00 47 52.2**	**-1.3**
THN	**Thein Dam**	**5.75**	**132**	*eP*	**Pn**	**00 48 01.2**	**+0.9**
THN				*eS*	**Sn**	**00 49 05.0**	**-0.4**
THN				IAML		00 49 07.9	
	comp=N,258nm,0.3s						
THN				IAML		00 49 08.4	
	comp=E,269nm,0.3s						
DHRM	**DHARAMSHALA**	**6.24**	**130**	*eP*	**Pn**	**00 48 07.2**	**+0.2**
DHRM				*eS*	**Sn**	**00 49 15.2**	**-2.2**
DHRM				IAML		00 49 17.8	
	comp=E,744nm,0.6s						
DHRM				IAML		00 49 18.0	
	comp=N,514nm,0.4s						
UCH	**Uchtor**	**6.53**	**26**	P	**Pn**	**00 48 10.9**	**-0.1**
	SNR=97						
KK31	**Karatay Array**	**6.69**	**359**	P	**Pn**	**00 48 12.1**	**-0.6**
	comp=N,18nm,0.5s,baz=184,slow=14,SNR=272						
KK31				⇓S	**Sn**	**00 49 24.3**	**-3.5**
	comp=N,39nm,0.7s,baz=188,slow=23,SNR=11						
KK31	**Karatay Array**	**6.69**	**359**	Pn	**Pn**	**00 48 11.6**	**-1.1**
KKAR	**Karatay Array**	**6.69**	**359**	Pn	**Pn**	**00 48 12.0**	**-0.7**
EKS2	**Erkin-Say**	**6.69**	**20**	P	**Pn**	**00 48 12.9**	**+0.1**
	SNR=27						
AAK	**Ala-Archa**	**6.89**	**24**	P	**Pn**	**00 48 15.3**	**-0.2**
	SNR=74						
AAK	**Ala-Archa**	**6.89**	**24**	⇑P	**Pn**	**00 48 15.0**	**-0.5**
	comp=N,40nm,0.5s						
AAK				⇑S	**Sn**	**00 49 30.0**	**-2.9**
	comp=N,90nm,0.9s						
AAK	**Ala-Archa**	**6.89**	**24**	Pn	**Pn**	**00 48 15.1**	**-0.5**
AAK	**Ala-Archa**	**6.89**	**24**	P	**Pn**	**00 48 16.0**	**+0.5**
	comp=N,76nm,0.5s,baz=209,slow=12,SNR=187						
AAK				S	**Sn**	**00 49 31.8**	**-1.0**
	comp=N,36nm,0.7s,baz=162,slow=22,SNR=12						
BHK	**Bhakra**	**6.90**	**135**	*eS*	**Sn**	**00 49 29.8**	**-3.1**
BHK				IAML		00 49 34.2	
	comp=N,117nm,0.1s						
BHK				IAML		00 49 34.8	
	comp=E,105nm,0.2s						
KBK	**Karagaybulak**	**7.06**	**27**	P	**Pn**	**00 48 18.6**	**+0.8**
	SNR=18						
FRU1	**Bishkek**	**7.09**	**24**	Pn	**Pn**	**00 48 18.3**	**+0.2**
HRA	**Herat**	**7.17**	**256**	Pn	**Pn**	**00 48 20.7**	**+1.4**
ULHL	**Ulahol**	**7.26**	**35**	P	**Pn**	**00 48 20.6**	**+0.2**
	SNR=6.8						
CHMS	**Chumysh**	**7.30**	**24**	P	**Pn**	**00 48 21.1**	**+0.2**
	SNR=15						
CHMS	**Chumysh**	**7.30**	**24**	⇓P	**Pn**	**00 48 20.1**	**-0.7**
	comp=E,22nm,0.5s						
CHMS				⇓S	**Sn**	**00 49 40.4**	**-2.0**
	comp=E,40nm,0.7s						
BOOM	**Boomskoye usch**	**7.32**	**32**	Pn	**Pn**	**00 48 20.5**	**-0.7**
USP	**Ospenovka**	**7.46**	**22**	P	**Pn**	**00 48 23.5**	**+0.5**
TKM2	**Tokmak 2**	**7.53**	**29**	P	**Pn**	**00 48 24.4**	**+0.2**
	SNR=11						
TKM2	**Tokmak 2**	**7.53**	**29**	⇑P	**Pn**	**00 48 23.6**	**-0.5**
TKM2				⇓S	**Sn**	**00 49 45.4**	**-2.9**
	comp=E,33nm,1.0s						
SMLA	**Simla**	**7.55**	**132**	*eP*	**Pn**	**00 48 23.8**	**-0.4**
SMLA				*eS*	**Sn**	**00 49 43.5**	**-5.0**
SMLA				IAML		00 49 49.8	
	comp=N,194nm,0.7s						
SMLA				IAML		00 49 49.9	
	comp=E,180nm,0.4s						
PRZ	**Przheval'sk**	**8.52**	**42**	Pn	**Pn**	**00 48 35.0**	**-2.3**
KUDL	**Kundal**	**9.60**	**147**	*eP*	**Pn**	**00 48 50.4**	**-1.1**
KUDL				*eS*	**Sn**	**00 50 29.6**	**-8.3**
SONA	**Sohna**	**9.77**	**144**	*eS*	**Sn**	**00 50 35.7**	**-6.5**
GEYT	**Alibeck**	**10.13**	**282**	Pn	**Pn**	**00 48 56.6**	**-1.9**
GEYT	**Alibeck**	**10.13**	**282**	P	**Pn**	**00 48 57.0**	**-1.5**
	comp=E,6.0nm,0.4s,baz=111,slow=8.6,SNR=29						
GEYT				S	**Sn**	**00 50 47.1**	**-3.7**
	comp=E,5.4nm,0.4s,baz=69,slow=20,SNR=4.3						
AJM	**Ajmer**	**10.46**	**160**	*eP*	**Pn**	**00 49 02.9**	**-0.2**
AJM				*eS*	**Sn**	**00 50 53.8**	**-5.1**
AJM				IAML		00 50 58.0	
	comp=N,21nm,0.6s						
PTH	**Pithoragarh**	**10.53**	**128**	*eP*	**Pn**	**00 49 03.5**	**-0.6**
MK31	**Makanchi Array**	**13.53**	**36**	Pn	**Pn**	**00 49 42.1**	**-0.5**
MKAR	**Makanchi Array**	**13.53**	**36**	Pn	**Pn**	**00 49 40.9**	**-1.7**
MKAR	**Makanchi Array**	**13.53**	**36**	P	**Pn**	**00 49 42.7**	**+0.1**
	comp=N,1,4nm,0.7s,baz=221,slow=14,SNR=17						
BHPL	**Bhopal**	**14.36**	**154**	*eP*	**P**	**00 49 55.0**	**-1.0**
BHPL				*eS*	Sn	00 52 20.8	-12
WMQ	**Urumqi**	**14.97**	**55**	*eP*	**P**	**00 50 01.8**	**-0.9**
AB31	**Akbulak array**	**15.04**	**332**	⇑P	**Pn**	**00 50 01.4**	**-0.1**
	comp=N,2.2nm,0.3s,baz=149,slow=12,SNR=183						
AB31				⇓S	**Sn**	**00 52 43.2**	**-5.3**
	comp=N,6.8nm,0.6s,baz=151,slow=23,SNR=9.1						
KURBB	**Kurchatov Arra**	**15.30**	**19**	P	**Pn**	**00 50 03.3**	**-1.5**
	comp=N,0.7nm,0.6s,baz=211,slow=12,SNR=9.1						
KURK	**Kurchatov**	**15.41**	**19**	Pn	**Pn**	**00 50 03.7**	**-2.4**
BVAR	**Borovoye Array**	**16.62**	**359**	P	**Pn**	**00 50 21.8**	**+0.9**
	comp=N,3.8nm,0.6s,baz=165,slow=12,SNR=13						
BRVK	**Borovoye**	**16.65**	**359**		**P**	**00 50 20.5**	**-0.6**
BRVK				IAmb	IAmb	00 50 25.1	
	comp=Z,3.7nm,0.6s						
AKTO	**Aktyubinsk**	**16.73**	**331**	P	**Pn**	**00 50 23.9**	**+1.6**
	comp=Z,8.0nm,0.6s,baz=141,slow=10,SNR=29						
AKTO				S	**S**	**00 53 17.8**	**-10**
	comp=Z,4.9nm,0.7s,baz=336,slow=24,SNR=6.0						
ZAA0	**Zalesovo Array**	**20.11**	**25**	P	**P**	**00 50 59.3**	**+0.6**
ZAA0				IAmb	IAmb	00 51 04.6	
	comp=Z,8.9nm,0.7s						
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**00 50 58.9**	**+0.2**
ZALV	**Zalesovo Beam**	**20.11**	**25**	P	**P**	**00 50 59.9**	**+1.1**
	comp=Z,8.6nm,0.5s,baz=222,slow=11,SNR=50						
	comp=Z,8.6nm,0.5s						
GNI	**Garni**	**20.67**	**288**	P	Pn	00 51 08.4	-0.8
GNI				IAmb	IAmb	00 51 14.3	
	comp=Z,13nm,0.8s						
GNI	**Garni**	**20.67**	**288**	P	Pn	00 51 09.1	0.0
	comp=Z,12nm,0.8s,baz=18,slow=7.0,SNR=4.0						
	comp=Z,12nm,0.8s						
ARU	**Arti**	**21.64**	**342**	P	**P**	**00 51 16.8**	**+1.8**
	comp=Z,1.6nm,0.6s,baz=139,slow=3.2,SNR=2.4						
	comp=Z,1.6nm,0.6s						
KBZ	**Khabaz**	**22.41**	**298**	P	**P**	**00 51 24.7**	**+1.8**
	comp=Z,1.3nm,0.7s,baz=122,slow=8.7,SNR=2.1						
	comp=Z,1.3nm,0.7s						
PZH	**PanZhiHua**	**28.18**	**102**	P	**P**	**00 52 19.4**	**+3.9**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,100nm,6.3s						
BRTR	**Keskin Array B**	**29.21**	**288**	P	**P**	**00 52 27.6**	**+3.1**
	comp=Z,0.3nm,0.7s,baz=93,slow=8.9,SNR=3.0						
	comp=Z,0.3nm,0.7s						
HHC	**Hu-ho-hao-te**	**32.05**	**69**	*eP*	**P**	**00 52 51.8**	**+2.4**
HHC				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,110nm,6.0s						
AKASG	**Malin Array Be**	**32.80**	**309**	P	**P**	**00 52 57.5**	**+1.9**
	comp=Z,0.8nm,0.5s,baz=80,slow=7.3,SNR=4.8						
	comp=Z,0.8nm,0.5s						
BURAR	**Bucovina Array**	**35.11**	**303**	P	**P**	**00 53 17.1**	**+1.4**
XLT	**XiLinHaoTe**	**35.15**	**63**	*eP*	**P**	**00 53 20.0**	**+3.9**
XLT				sP	sP	00 54 05.5	-2.1
XLT				pmax	pmax		
	comp=Z,5.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,67nm,4.9s						
FIA1	**FINESS Array S**	**37.41**	**326**	P	**P**	**00 53 36.2**	**+1.2**
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**00 53 35.8**	**+0.8**
FINES	**FINESS Array B**	**37.41**	**326**	P	**P**	**00 53 36.5**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=141,slow=9.3,SNR=6.9						
	comp=Z,0.5nm,0.5s						
ARCES	**ARCESS Array B**	**41.13**	**338**	P	**P**	**00 54 07.5**	**+1.8**
	comp=Z,3.1nm,0.9s,baz=119,slow=7.4,SNR=4.3						
	comp=Z,3.1nm,0.9s						
HFS	**Hagfors**	**42.97**	**322**	P	**P**	**00 54 22.5**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=96,slow=14,SNR=6.1						
	comp=Z,1.0nm,0.5s						
NC303	**NORSAR Array S**	**44.24**	**323**	P	**P**	**00 54 32.4**	**+1.5**
NC303				IAmb	IAmb	00 54 52.5	
	comp=Z,13nm,1.4s						
NB2	**NORSAR Subarra**	**44.29**	**323**	P	**P**	**00 54 32.6**	**+1.2**
	comp=Z,2.3nm,0.9s,baz=97,slow=8.6						
NOA	**NORSAR Array B**	**44.29**	**323**	P	**P**	**00 54 33.0**	**+1.6**
	comp=Z,0.7nm,0.6s,baz=97,slow=7.9,SNR=9.0						
	comp=Z,0.7nm,0.6s						
SPITS	**Spitsbergen Ar**	**47.52**	**347**	P	**P**	**00 54 58.4**	**+2.0**
	comp=Z,8.7nm,1.0s,baz=114,slow=9.6,SNR=1.5						
	comp=Z,8.7nm,1.0s						
TORD	**Torodi Ar. Bea**	**65.45**	**268**	P	**P**	**00 57 05.4**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=47,slow=5.9,SNR=4.7						
	comp=Z,0.5nm,0.7s						

*IDC **25** 00:47:38.2±1.9, 16°.21N×120°.27E, h119km±17km, mb3.4/8, mbtmp3.8/9, MS3.2/1, Error ellipse: s-maj=48.2km s-min=14.9km az=59.0*

ISC 25 00:47:36.5±0.9, 16°.4N±0°.1×120°.4E±0°.3, h100km, n12, σ1s20/14, mb3.7/7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**2.31**	**167**	P	**Pn**	**00 48 14.5**	**+1.2**
	336nm,0.3s,baz=309,slow=6.5,SNR=4.7						
TGY				S	**Sn**	**00 48 42.2**	**+0.8**
	586nm,0.4s,baz=316,slow=23,SNR=9.6						
CMAR	**Chiang Mai Arr**	**20.57**	**279**	P	**P**	**00 52 06.8**	**-0.7**
	1.7nm,0.5s,baz=95,slow=7.6,SNR=14						
	1.7nm,0.5s						
GUMO	**Guam**	**23.80**	**93**	LR	LR	01 01 40.8	
	comp=Z,60nm,19.5s,baz=208,slow=35						
SONM	**Songino Array**	**33.43**	**343**	P	**P**	**00 54 06.6**	**+0.7**
	1.1nm,0.4s,baz=169,slow=10,SNR=2.1						
	1.1nm,0.4s						
WRA	**Warramunga Arr**	**38.60**	**159**	P	**P**	**00 54 48.1**	**-2.0**
	0.9nm,0.8s,baz=336,slow=9.1,SNR=10						
	0.9nm,0.8s						
ASAR	**Alice Springs**	**41.92**	**161**	P	**P**	**00 55 15.7**	**-1.8**
	0.5nm,0.4s,baz=341,slow=7.0,SNR=8.1						
ASAR				PcP	**PcP**	**00 57 12.9**	**+1.5**
	0.1nm,0.4s,baz=350,slow=3.8,SNR=1.4						
	0.1nm,0.4s						
MKAR	**Makanchi Array**	**43.74**	**322**	P	**P**	**00 55 31.6**	**-0.3**
	0.2nm,0.4s,baz=119,slow=12,SNR=3.2						
MKAR				PcP	**PP**	**00 57 16.8**	**+1.3**
	0.4nm,0.7s,baz=116,slow=3.4,SNR=3.5						
	0.2nm,0.4s						
ZALV	**Zalesovo Beam**	**46.57**	**332**	PcP	**PcP**	**00 57 26.3**	**-0.5**
	0.3nm,0.3s,baz=155,slow=4.8,SNR=1.7						
KURBB	**Kurchatov Arra**	**47.83**	**325**	P	**P**	**00 56 04.0**	**0.0**
	0.6nm,0.4s,baz=123,slow=8.7,SNR=2.2						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**77.82**	**331**	P	**P**	**00 59 22.9**	**+0.1**
	0.7nm,0.6s,baz=75,slow=6.5,SNR=6.3						
	0.7nm,0.6s						
NB2	**NORSAR Subarra**	**84.77**	**333**	P	**P**	**00 59 58.7**	**-0.9**
	comp=Z,0.2nm,0.5s,baz=64,slow=4.8						
NOA	**NORSAR Array B**	**84.77**	**333**	P	**P**	**00 59 59.0**	**-0.6**
	comp=Z,0.4nm,0.6s,baz=67,slow=4.8,SNR=3.8						
	comp=Z,0.4nm,0.6s						

*NEIC **25** 00:48:23.2±1.0, 19°.35N±0°.02×155°.14W±0°.01, h5km±1km, Error ellipse: s-maj=3.5km s-min=2.6km az=330.0*

HVO 25 00:48:23.0±1.1, 19°.35N±0°.01×155°.12W±0°.01, h7km±3km, ML2.6/11, ML2.6/40(NEIC), Error ellipse: s-maj=2.0km s-min=1.3km az=136.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.04**	**350**		Pg	00 48 24.2	-0.2
STCH				IAML		00 48 26.1	
	comp=E,5μm,0.2s						
STCH				IAML		00 48 26.5	
	comp=N,4μm,0.4s						
JCUZ	**Jacuzzi**	**0.04**	**25**		Pg	00 48 24.6	+0.2
KNHH	**Kane Nui o Ham**	**0.06**	**301**	Pg	Pg	00 48 24.6	-0.1
PUH	**Pauahi**	**0.10**	**285**	Pg	Pg	00 48 25.2	-0.1
PUH				IAML		00 48 27.4	
	comp=N,2μm,0.5s						
JOKA	**Jonika Flow**	**0.14**	**52**	Pg	Pg	00 48 25.7	-0.2
BYL	**Byron's Ledge**	**0.15**	**295**	Pg	Pg	00 48 26.0	-0.1
BYL				IAML		00 48 27.2	
	comp=N,2μm,1.2s						
HATHI	**Halema'uma'u T**	**0.15**	**298**	Pg	Pg	00 48 25.9	-0.3
RSD	**Rainshed**	**0.19**	**307**		Sg	00 48 30.2	+0.8
RSD	**Rainshed**	**0.19**	**307**	Pg	Pg	00 48 26.6	-0.2
RSD				IAML		00 48 29.2	
	comp=N,1μm,1.7s						
RSD	**Rainshed**	**0.19**	**307**	IAML		00 48 33.7	
	comp=E,1μm,3.8s						
HTC	**Hot Caves**	**0.29**	**247**		Pg	00 48 29.3	+0.7
MLH	**Mauna Loa**	**0.29**	**300**		Sb	00 48 34.4	-1.5
MLH	**Mauna Loa**	**0.29**	**300**	Pg	Pg	00 48 28.4	-0.4
MLH				IAML		00 48 30.1	
	comp=N,474nm,1.3s						
MLH	**Mauna Loa**	**0.29**	**300**	IAML		00 48 37.9	
	comp=E,420nm,0.9s						
HMH	**Humu'ula Sheep**	**0.43**	**306**	Pg	Pg	00 48 31.2	-0.2
MLOA	**Mauna Loa Obse**	**0.47**	**293**	Pg	Pg	00 48 32.0	-0.2
MLOA					Sg	00 48 38.8	+0.4
MWH	**Moku'aweowe**	**0.47**	**287**	Pg	Pg	00 48 32.1	-0.1
MWH					Sg	00 48 38.9	+0.4
KHU	**Kahuku**	**0.48**	**258**	Pg	Pg	00 48 31.7	-0.6
KHU				IAML		00 48 37.3	
	comp=E,485nm,2.0s						
KHU				IAML		00 48 39.5	
	comp=N,356nm,0.9s						
ALEP	**Alea Permanent**	**0.53**	**291**		Pg	00 48 32.8	-0.5
ALEP					Sg	00 48 40.4	+0.1
POHA	**Pohakuloa**	**0.56**	**316**	Sg	Sg	00 48 40.6	-0.7
POHA	**Pohakuloa**	**0.56**	**316**	Pg	Pg	00 48 33.3	-0.6
POHA				IAML		00 48 41.7	
	comp=N,384nm,0.1s						
POHA				IAML		00 48 53.5	
	comp=N,298nm,1.3s						
HUH	**Hualalai**	**0.75**	**296**	Pg	Pg	00 48 36.4	-1.1
HUH				IAML		00 48 40.0	
	comp=N,324nm,3.4s						

*NEIC **25** 00:50:20.9±0.7, 37°.18N±0°.01×98°.04W±0°.02, h12km±1km, Error ellipse: s-maj=2.0km s-min=1.7km az=80.0*

NEIC 25 00:50:21.5±0.7, 37°.17N±0°.01×98°.03W±0°.01, h9km±2km, mb_Lg2.2/11, ML2.5/44, ML2.3/15, Error ellipse: s-maj=1.8km s-min=1.5km az=47.0, Kansas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAN10	**Anthony SW Sta**	**0.07**	**228**	Pg	Pg	00 50 23.6	+0.1
KAN10					Sg	00 50 25.1	+0.2
KAN10				IAML		00 50 25.2	
	comp=E,3μm,0.3s						
KAN10				IAML		00 50 25.2	
	comp=N,3μm,0.2s						
KAN08	**Anthony NE Sta**	**0.08**	**41**	Pg	Pg	00 50 23.7	+0.1
KAN08					Sg	00 50 25.3	+0.1
KAN08				IAML		00 50 25.4	
	comp=E,2μm,0.3s						
KAN12	**Harper NE Stat**	**0.13**	**12**		Pg	00 50 24.7	+0.2
KAN12					Sg	00 50 27.0	+0.4
KAN12				IAML		00 50 27.3	
	comp=N,1μm,0.4s						
KAN05	**Bluff City Nor**	**0.14**	**115**		Pg	00 50 24.8	+0.2
KAN05					Sg	00 50 27.1	+0.4
KAN06	**Argonia West S**	**0.16**	**60**		Pg	00 50 25.1	+0.2
KAN06					Sg	00 50 27.6	+0.3
KAN06				IAML		00 50 27.7	
	comp=N,968nm,0.2s						
KAN06				IAML		00 50 27.7	
	comp=E,1μm,0.2s						
KAN14	**Manchester OK**	**0.22**	**165**		Pg	00 50 26.1	+0.2
KAN14					Sg	00 50 29.3	+0.4
KAN14				IAML		00 50 29.5	
	comp=N,787nm,0.2s						
KAN01	**Argonia South**	**0.22**	**94**		Pg	00 50 26.1	+0.2
KAN01					Sg	00 50 29.3	+0.4
KAN01				IAML		00 50 29.4	
	comp=E,1μm,0.2s						
KS21	**Milan North St**	**0.32**	**68**		Pg	00 50 27.6	-0.2
KS21					Sg	00 50 32.2	+0.2
KAN09	**Caldwell North**	**0.33**	**95**		Pg	00 50 28.2	+0.2
KAN09					Sg	00 50 32.8	+0.4
KAN09	

IDC 25 00:54:44.2±2.0, 6°09'S×143°16'E, h0km, mb3.8/3, mbtmp3.8/4, ML3.9/1, Error ellipse: s-maj=79.8km s-min=30.2km az=107.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.22**	**211**	Pn	Pn	00 58 29.8	-4.0
	0.1nm,0.3s,baz=32,slow=13,SNR=3.2						
WRA				Sn	Sn	01 01 17.1	-17
	0.1nm,0.3s,baz=31,slow=24,SNR=2.5						
WRA				Lg	Lg	01 03 15.8	
	0.1nm,0.3s,baz=27,slow=29,SNR=4.0						
ASAR	**Alice Springs**	**19.62**	**206**	P	P	00 59 14.4	0.0
	0.4nm,0.3s,baz=32,slow=9.7,SNR=24						
ASAR				Lg	Lg	01 05 06.7	
	0.1nm,0.3s,baz=31,slow=32,SNR=2.2						
	3.1nm,0.7s						
MKAR	**Makanchi Array**	**75.17**	**322**	P	P	01 06 28.5	-0.1
	0.2nm,0.5s,baz=117,slow=5.3,SNR=2.6						
	0.2nm,0.5s						
BVAR	**Borovoye Array**	**84.61**	**325**	P	P	01 07 20.1	+0.5
	1.2nm,0.6s,baz=111,slow=8.1,SNR=5.0						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**87.08**	**24**	P	P	01 07 31.2	-0.4
	0.5nm,0.8s,baz=243,slow=6.0,SNR=4.0						
	0.5nm,0.8s						

*NEIC **25** 01:02:21.9±1.3, 19°.402N±0°.009×155°.277W±0°.006, h6km±1km, Error ellipse: s-maj=1.3km s-min=0.6km az=159.0*

HVO 25 01:02:21.3±1.1, 19°.399N±0°.009×155°.272W±0°.007, h0km±3km, ML2.8/33, ML2.6/23(NEIC), Error ellipse: s-maj=1.3km s-min=0.9km az=169.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.00**	**214**		Pg	01 02 22.1	+0.6
KKO	**Keanakako`i**	**0.01**	**101**		Pg	01 02 22.3	+0.7
BYL	**Byron's Ledge**	**0.02**	**40**		Pg	01 02 22.3	+0.5
OBL	**Observatory Le**	**0.02**	**328**		Pg	01 02 22.9	+1.1
HATHI	**Halema'uma'u T**	**0.03**	**22**		Pg	01 02 22.4	+0.6
UWB	**Uwekahuna B**	**0.03**	**347**		Pg	01 02 23.3	+1.4
SBLHI	**Steaming Bluff**	**0.03**	**7**		Pg	01 02 23.8	+1.9
UWE	**Uwekahuna**	**0.03**	**318**		Pg	01 02 22.6	+0.7
UWE				IAML		01 02 23.1	
	comp=E,9μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.10**	**101**		Pg	01 02 24.3	+1.1
HLP	**Hilina Pali**	**0.11**	**199**		Pg	01 02 24.6	+1.2
HLP	**Hilina Pali**	**0.11**	**199**		Sg	01 02 27.3	+2.5
HLP	**Hilina Pali**	**0.11**	**199**	IAML		01 02 26.3	
	comp=N,1μm,0.8s						
HLP				IAML		01 02 26.6	
	comp=E,2μm,0.8s						
STCH	**Steam Cracks**	**0.14**	**96**		Pg	01 02 24.9	+0.9
STCH	**Steam Cracks**	**0.14**	**96**	IAML		01 02 27.8	
	comp=E,3μm,0.5s						
STCH				IAML		01 02 28.0	
	comp=N,3μm,0.4s						
MLH	**Mauna Loa**	**0.14**	**311**		Pg	01 02 25.5	+1.4
MLH					Sg	01 02 28.9	+2.9
MLH	**Mauna Loa**	**0.14**	**311**	IAML		01 02 29.1	
	comp=N,4μm,0.7s						
MLH				IAML		01 02 29.3	
	comp=E,4μm,0.7s						
NPOC	**North of Pu'u**	**0.15**	**92**		Pg	01 02 25.2	+1.0
NPOC					Sg	01 02 28.2	+2.0
JCUZ	**Jacuzzi**	**0.16**	**95**		Pg	01 02 25.4	+1.0
JCUZ					Sg	01 02 28.5	+2.0
HTC	**Hot Caves**	**0.20**	**217**		Pg	01 02 26.3	+1.1
JOKA	**Jonika Flow**	**0.25**	**82**		Pg	01 02 26.5	+0.3
JOKA				IAML		01 02 32.9	
	comp=E,737nm,0.6s						
HMH	**Humu'ula Sheep**	**0.28**	**316**		Pg	01 02 27.4	+0.6
HMH				IAML		01 02 33.1	
	comp=N,841nm,0.5s						
HMH				IAML		01 02 35.6	
	comp=E,522nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.32**	**295**		Pg	01 02 28.6	+1.1
MLOA				IAML		01 02 37.5	
	comp=E,841nm,0.6s						
MLOA				IAML		01 02 37.8	
	comp=N,891nm,0.8s						
MWH	**Moku'aweowe**	**0.32**	**286**	Pg	Pg	01 02 28.4	+0.9
KHU	**Kahuku**	**0.36**	**245**		Pg	01 02 28.6	+0.4
ALEP	**Alea Permanent**	**0.38**	**292**		Pb	01 02 29.9	-1.2
POHA	**Pohakuloa**	**0.43**	**325**	Pg	Pg	01 02 29.9	+0.3
POHA				IAML		01 02 38.2	
	comp=N,705nm,0.8s						
POHA				IAML		01 02 42.1	
	comp=N,798nm,0.5s						
HUH	**Hualalai**	**0.60**	**298**		Pg	01 02 33.5	+0.6
CPH	**Captain Cook**	**0.62**	**278**		Pg	01 02 33.9	+0.7

*NAO **25** 01:03:32.3±1.8, 76°.63N×7°.12E, ML2.3*
*BER **25** 01:03:35.1±3.6, 76°.60N×7°.55E, h10km, mb(Pn)3.6, ML2.3(NAO), Confirmed Earthquake*
*DNK **25** 01:03:36.9±0.4, 77°.01N×6°.29E, h9km±10km, ML1.7*

ISC 25 01:03:30.8±1.1, 76°.59N±0°.07×6°.99E±0°.05, h10km, n21, σ2s82/32, Svalbard region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HSPB	**Hornsund (broa**	**2.01**	**74**	Pn	**Pn**	**01 04 06.0**	**+1.3**
HSPB				Sn	**Sn**	**01 04 26.3**	**-3.5**
HSPB	**Hornsund (broa**	**2.01**	**74**	*eP*	**Pn**	**01 04 05.6**	**+0.9**
HSPB				*eS*	**Sn**	**01 04 26.5**	**-3.2**
HSPB				IAML		01 04 27.1	
	comp=Z,7.0nm,0.1s						
BRBA	**Barentsburg A**	**2.17**	**44**	*eP*	**Pn**	**01 04 08.7**	**+1.8**
BRBB	**Barentsburg B**	**2.19**	**43**	*eP*	**Pn**	**01 04 08.4**	**+1.1**
KBS	**Kingsbay**	**2.58**	**22**	Pn	**Pn**	**01 04 15.1**	**+2.6**
KBS	**Kingsbay**	**2.58**	**22**	*eP*	**Pn**	**01 04 15.1**	**+2.6**
KBS				*eS*	**Sn**	**01 04 41.1**	**-2.7**
KBS	**Kingsbay**	**2.58**	**22**	*i* P	**Pn**	**01 04 14.2**	**+1.7**
KBS				*i* S	**Sn**	**01 04 41.5**	**-2.3**
SPA0	**Spitsbergen Ar**	**2.60**	**48**	Pn	**Pn**	**01 04 15.2**	**+2.3**
	baz=227,slow=14						
SPA0				Sn	**Sn**	**01 04 42.9**	**-1.6**
	baz=210,slow=22						
SPA0	**Spitsbergen Ar**	**2.60**	**48**	Pn	**Pn**	**01 04 15.2**	**+2.3**
	baz=227,slow=14						
SPA0				Sn	**Sn**	**01 04 42.9**	**-1.6**
	baz=210,slow=22						
HOPEN	**Hopen**	**4.20**	**82**	Pn	**Pn**	**01 04 36.8**	**+2.0**
HOPEN				Sn	**Sn**	**01 05 21.2**	**-2.6**
HOPEN	**Hopen**	**4.20**	**82**	*eP*	**Pn**	**01 04 36.8**	**+2.0**
HOPEN				*eS*	**Sn**	**01 05 20.6**	**-3.2**
HOPEN				IAML		01 05 24.6	
	comp=Z,16nm,0.6s						
DAG	**Danmarks Havn**	**5.90**	**284**	*eP*	**Pn**	**01 05 01.1**	**+2.9**
DAG				*eS*	**Sn**	**01 06 02.6**	**-3.1**
DAG	**Danmarks Havn**	**5.90**	**284**	*i* P	**Pn**	**01 05 00.0**	**+1.9**
DAG				*i* P	**Pn**	**01 05 00.0**	**+1.9**
DAG				*i* S	**Sn**	**01 06 01.8**	**-3.9**
DAG				IAML		01 06 05.0	
	comp=Z,2.2nm,0.3s						
NOR	**Nord**	**6.67**	**329**	Pn	**Pn**	**01 05 11.1**	**+2.5**
NOR	**Nord**	**6.67**	**329**	*eP*	**Pn**	**01 05 11.2**	**+2.6**
DBG	**Daneborg**	**7.18**	**265**	Pn	**Pn**	**01 05 18.3**	**+2.7**
DBG				Sn	**Sn**	**01 06 33.7**	**-3.3**
DBG	**Daneborg**	**7.18**	**265**	*eP*	**Pn**	**01 05 19.8**	**+4.2**
DBG				*eS*	**Sn**	**01 06 34.0**	**-3.0**
DBG	**Daneborg**	**7.18**	**265**	*i* P	**Pn**	**01 05 18.9**	**+3.3**
DBG				IAML		01 06 39.3	
	comp=Z,2.6nm,0.9s						
TRO	**Tromso**	**7.78**	**148**	Pn	**Pn**	**01 05 28.6**	**+4.8**
ARA0	**ARCESS Array S**	**8.85**	**133**	Pn	Pn	01 05 40.2	+1.7
	baz=329,slow=11						
ARA0				Sn	Sn	01 07 12.9	-5.2
	baz=343,slow=28						
ARA0	**ARCESS Array S**	**8.85**	**133**	Pn	Pn	01 05 40.2	+1.7
	baz=329,slow=11						
ARA0				Sn	Sn	01 07 12.9	-5.2
	baz=343,slow=28						

*HVO **25** 01:04:56.1±1.4, 19°.404N±0°.010×155°.288W±0°.007, h-0km±3km, ML3.1/40, ML3.0/43(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=171.0*

NEIC 25 01:04:57.2±1.3, 19°.396N±0°.008×155°.309W±0°.006, h4km±2km, Error ellipse: s-maj=1.3km s-min=0.7km az=160.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.03**	**31**		Pg	01 04 57.1	-1.2
OBL	**Observatory Le**	**0.03**	**48**		Pg	01 04 58.1	-0.2
RIM	**Rim**	**0.03**	**90**		Pg	01 04 58.5	+0.2
KKO	**Keanakako`i**	**0.04**	**87**		Pg	01 04 58.1	-0.3
UWB	**Uwekahuna B**	**0.04**	**45**		Pg	01 04 58.2	-0.2
BYL	**Byron's Ledge**	**0.05**	**71**		Pg	01 04 57.3	-1.2
SBLHI	**Steaming Bluff**	**0.05**	**51**		Pg	01 04 58.4	-0.2
HATHI	**Halema'uma'u T**	**0.05**	**59**		Pg	01 04 57.9	-0.7
RSD	**Rainshed**	**0.07**	**24**		Pg	01 04 58.2	-0.7
PUH	**Pauahi**	**0.09**	**104**		Pg	01 04 58.7	-0.5
PUH	**Pauahi**	**0.09**	**104**		Sg	01 05 00.8	+0.3
PUH	**Pauahi**	**0.09**	**104**	IAML		01 04 59.5	
	comp=N,4μm,0.3s						
PUH				IAML		01 05 00.1	
	comp=E,3μm,0.6s						
HLP	**Hilina Pali**	**0.10**	**179**		Pg	01 04 59.5	+0.2
HLP				IAML		01 05 02.6	
	comp=N,11μm,0.4s						
HLP	**Hilina Pali**	**0.10**	**179**		Sg	01 05 02.4	+1.7
HLP	**Hilina Pali**	**0.10**	**179**	IAML		01 05 02.0	
	comp=E,5μm,0.8s						
MLH	**Mauna Loa**	**0.12**	**323**		Pg	01 04 60.0	+0.2
MLH	**Mauna Loa**	**0.12**	**323**		Sg	01 05 03.5	+2.0
MLH	**Mauna Loa**	**0.12**	**323**	IAML		01 05 02.7	
	comp=N,4μm,0.3s						
MLH				IAML		01 05 02.9	
	comp=E,6μm,1.1s						
KNHH	**Kane Nui o Ham**	**0.13**	**97**		Pg	01 04 59.4	-0.5
STCH	**Steam Cracks**	**0.17**	**93**		Pg	01 05 00.1	-0.6
STCH	**Steam Cracks**	**0.17**	**93**	IAML		01 05 04.1	
	comp=E,5μm,1.3s						
STCH				IAML		01 05 04.4	
	comp=N,3μm,0.4s						
HTC	**Hot Caves**	**0.18**	**208**		Pg	01 05 01.0	+0.3
NPOC	**North of Pu'u**	**0.19**	**91**		Pg	01 05 00.3	-0.6
NPOC					Sg	01 05 04.1	+0.7
JCUZ	**Jacuzzi**	**0.20**	**93**		Pg	01 05 01.3	+0.3
HMH	**Humu'ula Sheep**	**0.26**	**322**		Pg	01 05 02.9	+0.5
HMH				IAML		01 05 09.7	
	comp=E,2μm,0.8s						
HMH				IAML		01 05 09.9	
	comp=N,2μm,0.6s						
MWH	**Moku'aweowe**	**0.29**	**288**		Pg	01 05 03.5	+0.6
MLOA	**Mauna Loa Obse**	**0.29**	**299**		Pg	01 05 03.5	+0.6
MLOA				IAML		01 05 08.2	
	comp=E,2μm,0.8s						
MLOA				IAML		01 05 12.3	
	comp=N,4μm,1.1s						
JOKA	**Jonika Flow**	**0.29**	**82**		Pg	01 05 01.1	-1.7
JOKA				IAML		01 05 08.4	
	comp=N,3μm,0.9s						
KHU	**Kahuku**	**0.33**	**243**		Pb	01 05 04.7	-0.9
KHU				IAML		01 05 11.5	
	comp=N,1μm,0.7s						
KHU				IAML		01 05 14.4	
	comp=E,2μm,1.0s						
ALEP	**Alea Permanent**	**0.35**	**295**		Sg	01 05 08.3	-0.3
PAH	**Pahoa**	**0.36**	**74**		Pg	01 05 04.1	0.0
HPO	**Honuapo**	**0.38**	**217**		Sg	01 05 09.4	-0.1
POHA	**Pohakuloa**	**0.42**	**330**		Pg	01 05 05.0	-0.3
POHA				IAML		01 05 13.0	
	comp=E,2μm,0.2s						
POHA	**Pohakuloa**	**0.42**	**330**		Sg	01 05 12.0	+1.2
HUH	**Hualalai**	**0.57**	**300**		Pg	01 05 07.3	-1.0
CPH	**Captain Cook**	**0.58**	**279**		Pg	01 05 08.2	-0.2
HPAH	**Hawaii Prepara**	**0.73**	**330**		Pg	01 05 10.0	-1.2
HPAH				IAML		01 05 31.9	
	comp=E,786nm,1.1s						
HPAH				IAML		01 05 35.5	
	comp=N,855nm,1.4s						

*IDC **25** 01:08:30.7±5.9, 6°.19N×127°.22E, h92km±49km, mb3.6/6, mbtmp4.1/7, MS2.7/2, Error ellipse: s-maj=95.4km s-min=13.4km az=63.0*

ISC 25 01:08:31.7±1.3, 6°.1N±0°.2×127°.1E±0°.2, h100km, n10, σ0s57/9, mb3.9/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.80**	**301**	P	**Pn**	**01 09 02.4**	**+0.6**
	218nm,0.3s,baz=63,slow=18,SNR=2.1						
DAV				S	**Sn**	**01 09 24.3**	**-0.3**
	407nm,0.4s,baz=272,slow=21,SNR=13						
DAV				LR	LR	01 10 00.4	
	comp=Z,62nm,19.8s,baz=160,slow=48						
BATI	**Baumata**	**16.61**	**192**	P	**P**	**01 12 19.2**	**-0.2**
	26nm,0.5s,baz=340,slow=9.0,SNR=3.7						
WRA	**Warramunga Arr**	**26.87**	**165**	P	**P**	**01 14 02.8**	**-0.5**
	0.5nm,0.4s,baz=347,slow=10,SNR=11						
	0.5nm,0.4s						
JNU	**Natsitsue**	**27.07**	**7**	LR	LR	01 25 11.8	
	comp=Z,14nm,20.2s,baz=130,slow=37						
ASAR	**Alice Springs**	**30.36**	**168**	P	**P**	**01 14 33.7**	**-0.5**
	1.0nm,0.6s,baz=345,slow=7.1,SNR=11						
	1.0nm,0.6s						
MJAR	**Matsushiro Arr**	**31.91**	**17**	LR	LR	01 26 35.6	
	comp=Z,16nm,21.5s,baz=114,slow=34						
STKA	**Stephens Creek**	**40.24**	**161**	P	**P**	**01 15 59.7**	**+0.9**
	3.4nm,1.0s,baz=338,slow=15,SNR=3.3						
	3.4nm,1.0s						
MKAR	**Makanchi Array**	**55.83**	**324**	P	**P**	**01 17 58.5**	**-0.2**
	1.0nm,0.5s,baz=120,slow=7.7,SNR=17						
	1.0nm,0.5s						
KURBB	**Kurchatov Arra**	**59.95**	**326**	P	**P**	**01 18 27.4**	**0.0**
	0.9nm,0.6s,baz=125,slow=7.0,SNR=13						
	0.9nm,0.6s						
BVAR	**Borovoye Array**	**65.54**	**326**	P	**P**	**01 19 04.3**	**-0.3**
	0.2nm,0.3s,baz=124,slow=2.6,SNR=2.1						
	0.2nm,0.3s						

*NEIC **25** 01:37:09.1±1.3, 19°.405N±0°.009×155°.280W±0°.009, h6km±1km, Error ellipse: s-maj=1.4km s-min=1.2km az=143.0*

HVO 25 01:37:09.1±0.9, 19°.403N±0°.009×155°.291W±0°.006, h1km±2km, ML3.3/12, ML2.3/27(NEIC), Error ellipse: s-maj=1.3km s-min=0.8km az=183.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.02**	**22**		Pg	01 37 10.1	+0.4
RIM	**Rim**	**0.02**	**115**		Pg	01 37 10.1	+0.5
UWE	**Uwekahuna**	**0.02**	**353**		Pg	01 37 10.0	+0.4
KKO	**Keanakako`i**	**0.02**	**101**		Pg	01 37 10.3	+0.6
UWB	**Uwekahuna B**	**0.03**	**28**		Pg	01 37 10.2	+0.5
BYL	**Byron's Ledge**	**0.03**	**72**		Pg	01 37 09.9	+0.2
BYL				IAML		01 37 10.3	
	comp=E,4μm,0.8s						
SBLHI	**Steaming Bluff**	**0.03**	**41**		Pg	01 37 10.4	+0.6
HATHI	**Halema'uma'u T**	**0.04**	**54**	IAML		01 37 10.6	
	comp=N,4μm,0.9s						
HATHI					Pg	01 37 10.6	+0.8
RSD	**Rainshed**	**0.06**	**11**		Pg	01 37 11.1	+0.7
PUH	**Pauahi**	**0.08**	**112**		Pg	01 37 11.4	+0.8
PUH				IAML		01 37 12.7	
	comp=N,1μm,0.6s						
HLP	**Hilina Pali**	**0.11**	**189**		Pg	01 37 12.1	+0.9
HLP					Sg	01 37 14.5	+1.9
HLP				IAML		01 37 14.8	
	comp=N,1μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.12**	**101**		Pg	01 37 12.1	+0.7
MLH	**Mauna Loa**	**0.13**	**315**		Pg	01 37 12.5	+0.9
MLH					Sg	01 37 15.2	+1.9
MLH				IAML		01 37 15.9	
	comp=N,1μm,0.3s						
MLH				IAML		01 37 16.0	
	comp=E,2μm,0.5s						
STCH	**Steam Cracks**	**0.16**	**96**		Pg	01 37 12.8	+0.6
STCH				IAML		01 37 15.9	
	comp=E,1μm,0.8s						
STCH				IAML		01 37 16.1	
	comp=N,813nm,1.0s						
NPOC	**North of Pu'u**	**0.17**	**93**		Pg	01 37 13.4	+0.9
HTC	**Hot Caves**	**0.19**	**212**		Pg	01 37 13.6	+0.8
HMH	**Humu'ula Sheep**	**0.27**	**318**		Pg	01 37 15.2	+0.9
HMH	**Humu'ula Sheep**	**0.27**	**318**	IAML		01 37 20.2	
	comp=E,323nm,1.3s						
HMH				IAML		01 37 22.6	
	comp=N,431nm,1.3s						
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	01 37 15.0	+0.1
KHU	**Kahuku**	**0.34**	**243**		Pg	01 37 15.9	+0.2
KHU				IAML		01 37 26.4	
	comp=E,418nm,1.0s						
KHU				IAML		01 37 27.2	
	comp=N,482nm,1.4s						
POHA	**Pohakuloa**	**0.42**	**327**	Pg	Pg	01 37 17.1	-0.1
POHA	**Pohakuloa**	**0.42**	**327**	IAML		01 37 25.2	
	comp=N,390nm,0.3s						
POHA				IAML		01 37 31.0	
	comp=N,390nm,0.9s						
HUH	**Hualalai**	**0.59**	**299**		Pg	01 37 20.7	+0.3

*NOU **25** 01:45:32.8, 31°.76S×138°.29E, h0km, MLv3.5/9, South Australia*
*IDC **25** 01:45:33.5±5.5, 31°.55S×138°.37E, h0km, mbtmp3.1/3, ML3.1/3, Error ellipse: s-maj=97.2km s-min=18.6km az=28.0*

ISC 25 01:45:32.7±1.0, 31°.68S±0°.06×138°.22E±0°.05, h10km, n12, σ2s34/16, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**1.23**	**0**	P	**Pg**	**01 45 57.6**	**+1.4**
WHYH	**Whyalla**	**1.46**	**202**	P	**Pn**	**01 45 58.7**	**-0.3**
HTT	**Hallett**	**1.85**	**161**	P	**Pn**	**01 46 04.3**	**-0.2**
BBOO	**Buckleboo**	**2.15**	**238**	P	**Pn**	**01 46 09.9**	**+1.3**
STKA	**Stephens Creek**	**2.88**	**95**	P	**Pn**	**01 46 19.0**	**+0.3**
STKA	**Stephens Creek**	**2.88**	**95**	Pn	**Pn**	**01 46 18.9**	**+0.1**
	0.8nm,0.3s,baz=281,slow=12,SNR=9.4						
STKA				Pg	**Pb**	**01 46 25.1**	**+0.8**
	3.4nm,0.3s,baz=272,slow=16,SNR=12						
STKA				Sn	**Sn**	**01 46 53.8**	**+0.3**
	4.3nm,0.3s,baz=274,slow=16,SNR=5.2						
STKA				Lg	Lg	01 47 00.8	
	7.2nm,0.3s,baz=310,slow=16,SNR=8.5						
	2.7nm,0.3s						
MULG	**Mulgathing**	**3.83**	**290**	P	**Pn**	**01 46 33.7**	**+2.0**
OOD	**Oodnadatta**	**4.45**	**330**	P	**Pn**	**01 46 42.9**	**+2.7**
INKA	**Innaminka**	**4.50**	**30**	P	**Pn**	**01 46 42.4**	**+1.5**
CMSA	**Cobar Meteorol**	**6.38**	**91**	P	**Pn**	**01 47 06.5**	**-0.2**
ASAR	**Alice Springs**	**8.85**	**333**	Pn	**Pn**	**01 47 43.0**	**+2.4**
	0.6nm,0.3s,baz=153,slow=12,SNR=3.6						
ASAR				Sn	**Sn**	**01 49 18.4**	**-2.0**
	0.6nm,0.3s,baz=155,slow=22,SNR=8.8						
	0.5nm,0.4s						
WRA	**Warramunga Arr**	**12.19**	**342**	Pn	**Pn**	**01 48 26.2**	**-0.3**
	0.2nm,0.3s,baz=170,slow=13,SNR=12						
WRA				Sn	**Sn**	**01 50 36.0**	**-6.6**
	0.1nm,0.3s,baz=167,slow=24,SNR=4.6						
	0.3nm,0.3s						

*IDC **25** 01:49:32.9±1.3, 83°.71N×4°.37W, h0km, mb3.5/8, mbtmp3.5/11, ML3.2/3, MS3.3/36, Error ellipse: s-maj=33.9km s-min=19.2km az=59.0*
*DNK **25** 01:49:33.1±4.2, 84°.07N×0°.10E, h34km±53km, ML2.1*
*BER **25** 01:49:34.9±4.3, 83°.96N×0°.23E, h21km±365km, mb(Pn)4.3, ML3.4(NAO), Confirmed Earthquake*
*FCIAR **25** 01:49:36.0, 84°.08N×0°.48E, h10km, station OMEGA has station magnitude of 3.50 station ZFI2 has station magnitude of 3.50*

ISC 25 01:49:33.4±0.8, 83°.81N±0°.07×0°.81W±0°.05, h10km, n64, σ3s24/52, mb3.5/9, MS3.3/33, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.99**	**231**	Pn	**Pn**	**01 50 20.5**	**-0.2**
NOR				Sn	**Sn**	**01 50 53.6**	**-2.8**
NOR	**Nord**	**2.99**	**231**	*eP*	**Pn**	**01 50 20.7**	**0.0**
NOR				*eS*	**Sn**	**01 50 55.9**	**-0.6**
NOR	**Nord**	**2.99**	**231**	*i* P	**Pn**	**01 50 20.0**	**-0.7**
NOR				*i* S	**Sn**	**01 50 52.3**	**-4.2**
NOR				IAML		01 51 03.0	
	comp=Z,16nm,0.7s						
KBS	**Kingsbay**	**5.25**	**152**	Pn	**Pn**	**01 50 51.3**	**-0.3**
KBS				Sn	**Sn**	**01 51 48.0**	**-4.0**
KBS	**Kingsbay**	**5.25**	**152**	P	**Pn**	**01 50 51.3**	**-0.3**
KBS				S	**Sn**	**01 51 47.5**	**-4.4**
KBS	**Kingsbay**	**5.25**	**152**	*eP*	**Pn**	**01 50 51.7**	**0.0**
KBS				*eS*	**Sn**	**01 51 47.6**	**-4.4**
KBS				IAML		01 51 50.9	
	comp=Z,21nm,0.3s						
KBS	**Kingsbay**	**5.25**	**152**	*eP*	**Pn**	**01 50 51.0**	**-0.6**
KBS				*eS*	**Sn**	**01 51 49.8**	**-2.3**
KBS	**Kingsbay**	**5.25**	**152**	*i* P	**Pn**	**01 50 50.6**	**-1.0**
KBS				*i* S	**Sn**	**01 51 47.9**	**-4.1**
BRBB	**Barentsburg B**	**6.17**	**150**	Pn	**Pn**	**01 51 04.0**	**-0.4**
BRBB				Sn	**Sn**	**01 52 11.2**	**-3.6**
BRBB	**Barentsburg B**	**6.17**	**150**	P	**Pn**	**01 51 04.6**	**+0.2**
BRBB				S	**Sn**	**01 52 09.4**	**-5.4**
BRBB	**Barentsburg B**	**6.17**	**150**	*eP*	**Pn**	**01 51 03.9**	**-0.4**
BRBA	**Barentsburg A**	**6.21**	**150**	Pn	**Pn**	**01 51 05.1**	**+0.2**
BRBA				Sn	Sn	01 52 07.1	-8.6
SPA0	**Spitsbergen Ar**	**6.22**	**146**	Pn	**Pn**	**01 51 04.3**	**-0.6**
	slow=14						
SPA0				Sn	**Sn**	**01 52 11.6**	**-4.4**
	baz=7.9,slow=18						
SPA0	**Spitsbergen Ar**	**6.22**	**146**	Pn	**Pn**	**01 51 04.3**	**-0.6**
	slow=14						
SPA0				Sn	**Sn**	**01 52 11.6**	**-4.4**
	baz=7.9,slow=18						
SPA0	**Spitsbergen Ar**	**6.22**	**146**	*eP*	**Pn**	**01 51 04.3**	**-0.6**
SPA0				*eS*	**Sn**	**01 52 11.8**	**-4.2**
SPITS	**Spitsbergen Ar**	**6.22**	**146**	P	**Pn**	**01 51 04.4**	**-0.6**
SPITS				S	Sn	01 52 03.0	-13
SPITS	**Spitsbergen Ar**	**6.22**	**146**	Pn	**Pn**	**01 51 04.5**	**-0.6**
	baz=352,slow=29						
SPITS				Sn	**Sn**	**01 52 08.9**	**-7.1**
	baz=355,slow=15						
	comp=Z,3.7nm,0.7s						
ZFI2	**Zemlya Franca-**	**6.91**	**89**	*eP*	**Pn**	**01 51 13.5**	**-1.0**
ZFI2				S	**Sn**	**01 52 24.3**	**-8.7**
	comp=Z,14nm,3.2s						
OMEGA	**Omega**	**6.94**	**89**	*eP*	**Pn**	**01 51 13.2**	**-1.7**
OMEGA				*eS*	**Sn**	**01 52 24.8**	**-8.8**
	comp=Z,14nm,0.8s						
HSPB	**Hornsund (broa**	**7.31**	**150**	*eP*	**Pn**	**01 51 21.3**	**+1.4**
DAG	**Danmarks Havn**	**7.62**	**212**	*eP*	**Pn**	**01 51 24.9**	**+0.7**
DAG	**Danmarks Havn**	**7.62**	**212**	*i* P	**Pn**	**01 51 24.0**

comp=Z,71nm,19.8s,baz=2.5,slow=32
FRB Frobisher Bay 24.68 260 LR LR 02 04 10.8
comp=Z,32nm,21.1s,baz=335,slow=36
INK Inuvik 26.44 322 LR LR 02 06 13.8
comp=Z,41nm,21.6s,baz=3.5,slow=38
YKA Yellowknife Ar 30.67 304 LR LR 02 08 36.5
comp=Z,92nm,18.0s,baz=284,slow=38
ILAR Eielson Array 30.74 332 P **P** **01 55 48.1 +0.1**
comp=Z,0.5nm,0.9s,baz=5.0,slow=12,SNR=5.3
ILAR LR LR 02 07 22.8
comp=Z,40nm,21.6s,baz=195,slow=35
comp=Z,0.5nm,0.9s
ARU Arti 30.98 112 LR LR 02 10 41.5
comp=Z,102nm,18.2s,baz=345,slow=40
YAK Yakutsk 32.50 42 LR LR 02 08 53.0
comp=Z,34nm,18.8s,baz=257,slow=35
SEY Seymchan 32.90 22 LR LR 02 10 08.4
comp=Z,35nm,18.2s,baz=258,slow=37
BELG Belogornoye 33.93 125 LR LR 02 12 55.0
comp=Z,47nm,18.6s,baz=248,slow=41
AKASG Malin Array Be 34.21 146 P **P** **01 56 22.2 +3.7**
comp=Z,0.6nm,0.5s,baz=352,slow=8.6,SNR=1.9
AKASG LR LR 02 10 32.3
comp=Z,61nm,18.4s,baz=356,slow=37
comp=Z,0.6nm,0.5s
VRAC Vranov 34.97 160 LR LR 02 10 03.8
comp=Z,46nm,18.8s,baz=0.5,slow=35
GERES GERESS Array B 35.34 163 LR LR 02 09 26.0
comp=Z,32nm,18.9s,baz=3.0,slow=34
BVAR Borovoye Array 35.57 101 LR LR 02 15 03.5
comp=Z,56nm,18.7s,baz=353,slow=43
ZALV Zalesovo Beam 36.22 86 P P 01 56 40.8 +5.0
comp=Z,0.4nm,0.4s,baz=335,slow=17,SNR=1.7
ZALV LR LR 02 13 47.2
comp=Z,46nm,18.2s,baz=17,slow=40
comp=Z,0.4nm,0.4s
AKTO Aktyubinsk 36.85 114 LR LR 02 14 03.8
comp=Z,92nm,19.3s,baz=132,slow=40
KURBB Kurchatov Arra 38.82 93 LR LR 02 15 58.1
comp=Z,46nm,19.2s,baz=164,slow=40
MLR Muntele Rosu 39.21 150 LR LR 02 13 36.3
comp=Z,72nm,20.6s,baz=0.0,slow=37
BBB Bella Bella 42.03 313 LR LR 02 14 26.5
comp=Z,44nm,18.4s,baz=354,slow=36
MKAR Makanchi Array 43.01 90 P **P** **01 57 35.8 +3.5**
comp=Z,0.3nm,0.8s,baz=331,slow=8.4,SNR=2.7
MKAR LR LR 02 18 00.8
comp=Z,36nm,18.2s,baz=51,slow=39
comp=Z,0.3nm,0.8s
SONM Songino Array 44.52 67 P **P** **01 57 47.9 +3.2**
comp=Z,0.6nm,0.4s,baz=348,slow=12,SNR=2.4
comp=Z,0.6nm,0.4s
BRTR Keskin Array B 45.42 142 P **P** **01 57 55.2 +3.3**
comp=Z,0.4nm,0.9s,baz=346,slow=3.6,SNR=2.4
BRTR LR LR 02 18 07.9
comp=Z,42nm,20.4s,baz=6.0,slow=38
comp=Z,0.4nm,0.9s
GNI Garni 45.83 130 LR LR 02 17 48.2
comp=Z,31nm,19.7s,baz=308,slow=37
AAK Ala-Archa 46.27 99 LR LR 02 21 38.4
comp=Z,41nm,18.5s,baz=14,slow=41
GEYT Alibeck 49.24 117 LR LR 02 22 29.5
comp=Z,45nm,20.4s,baz=344,slow=40
PDAR Pinedale Array 49.70 294 LR LR 02 18 58.5
comp=Z,70nm,19.6s,baz=358,slow=36
YBH Yreka Blue Hor 51.96 306 LR LR 02 20 49.9
comp=Z,50nm,18.6s,baz=341,slow=36
MMAI Mount Meron Ar 52.21 141 LR LR 02 21 46.5
comp=Z,32nm,21.1s,baz=67,slow=37
ANMO Albuquerque 57.13 290 LR LR 02 24 22.7
comp=Z,106nm,19.8s,baz=85,slow=37
PFO Pinyon Flats O 59.44 299 LR LR 02 26 07.0
comp=Z,43nm,18.8s,baz=206,slow=37
LPIG La Paz 68.25 292 LR LR 02 29 21.2
comp=Z,55nm,20.3s,baz=44,slow=35
CMAR Chiang Mai Arr 72.82 78 P P 02 01 05.9 +4.1
comp=Z,1.3nm,0.3s,baz=345,slow=6.5,SNR=2.0
CMAR LR LR 02 34 04.0
comp=Z,20nm,22.0s,baz=100,slow=36

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*IDC **25** 02:12:22.1±0.7, 16˚.35N×145˚.51E, h0km, mb4.4/19, mbtmp4.4/20, ML4.5/2, MS4.0/63, Error ellipse: s-maj=22.0km s-min=14.6km az=82.0*
*BJI **25** 02:12:23.9±0.0, 16˚.04N×145˚.62E, h36km, mb4.7/41, mB5.0/27, Ms4.4/28, Ms7 4.2/28*
*NEIC **25** 02:12:28.3±1.2, 16˚.24N±0˚.08×145˚.4E±0˚.1, h36km±8km, mb4.8/56, Error ellipse: s-maj=14.7km s-min=11.0km az=74.0*
*GCMT **25** 02:12:29.3±0.2, 16˚.36N±0˚.01×145˚.23E±0˚.02, h17km, MW5.0/115, Moment Tensor Solution. s45,c53; s115,c186; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=4.09±.18; Mθθ=4.57±.12; Mϕϕ=0.47±.11; Mrθ=1.11±.24; Mθϕ=0.02±.08; Mϕr=1.13±.35; Best double couple: Mo=4.62700×10^16^ NP1=ϕs255.00000°, δ54.00000°, λ=-109.00000°. NP2=ϕs106.00000°, δ40.00000°, λ=-66.00000°. Principal axes: T 4.7130, Plg7.0000°, Azm359.0000°; N -0.1710, Plg15.0000°, Azm267.0000°; P -4.5410, Plg73.0000°, Azm114.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 02:12:27.4±0.4, 16°23N±0°.06×145°.44E±0°.07, h35km, h36km; pP-P, n159, σ1§47/129, mb4.7/56, MS4.1/73, 1C, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time h m s	Res ISC
GUMO	**Guam**	**2.68**	**192**	Pn	**Pn**	**02 13 08.7**	**+0.6**
	524nm,0.3s,baz=346,slow=8.3,SNR=99						
GUMO				Sn	**Sn**	**02 13 39.6**	**+0.2**
	213nm,0.3s,baz=0.0,slow=20,SNR=2.4						
JCJ	**Chichijima**	**11.23**	**345**	LR	LR	02 18 01.3	
	comp=Z,239nm,19.4s,baz=147,slow=30						
PATS	**Pohnpei**	**15.68**	**125**	Pn	**Pn**	**02 16 07.4**	**+1.5**
JHJ	**Hachijo jima 2**	**17.58**	**344**	LR	LR	02 22 16.8	
	comp=Z,1μm,21.1s,baz=157,slow=34						
JOW	**Kunigami**	**19.12**	**306**	P	**P**	**02 16 47.8**	**+0.2**
JOW	**Kunigami**	**19.12**	**306**	P	**P**	**02 16 47.7**	**+0.2**
	1.0nm,0.3s,baz=130,slow=9.7,SNR=7.2						
JOW				LR	LR	02 22 31.0	
	comp=Z,541nm,20.8s,baz=160,slow=32						
	9.0nm,0.7s						
H11S3	**WAKE ISLAND Hy**	**20.40**	**81**	T	T	02 38 19.4	
	baz=269,slow=75						
H11S1	**WAKE ISLAND Hy**	**20.42**	**81**	T	T	02 38 23.5	
	baz=269,slow=75						
H11S2	**WAKE ISLAND Hy**	**20.42**	**81**	T	T	02 38 20.4	
	baz=269,slow=75						
JGF	**Kuroka**	**20.60**	**341**	P	**P**	**02 17 04.1**	**+0.5**
H11N1	**WAKE ISLAND Hy**	**20.69**	**77**	T	T	02 38 39.2	
	baz=264,slow=74,SNR=403						
H11N2	**WAKE ISLAND Hy**	**20.70**	**77**	T	T	02 38 39.4	
	baz=264,slow=74,SNR=350						
H11N3	**WAKE ISLAND Hy**	**20.71**	**77**	T	T	02 38 40.2	
	baz=264,slow=74,SNR=358						
MJAR	**Matsushiro Arr**	**21.23**	**344**	P	**P**	**02 17 08.9**	**-1.4**
	4.9nm,0.7s,baz=164,slow=11,SNR=6.6						
MJAR				LR	LR	02 24 22.2	
	comp=Z,1μm,21.4s,baz=168,slow=34						
	4.9nm,0.7s						
MAJO	**Matsushiro**	**21.23**	**344**	P	**P**	**02 17 09.1**	**-1.3**
MJB9	**Matsu-Tunnel**	**21.24**	**344**	P	**P**	**02 17 09.7**	**-0.8**
JNU	**Nakatsue**	**21.36**	**325**	P	**P**	**02 17 12.4**	**+0.5**
JNU	**Nakatsue**	**21.36**	**325**	P	**P**	**02 17 11.6**	**-0.3**
	6.7nm,0.7s,baz=316,slow=3.6,SNR=7.1						
	6.7nm,0.7s						
JMM	**Marumori**	**21.94**	**350**	P	**P**	**02 17 18.1**	**+0.1**
FAKI	**Fak Fak**	**23.06**	**216**	P	**P**	**02 17 30.1**	**+0.1**
TNTI	**Ternate**	**23.52**	**231**	P	**P**	**02 17 34.5**	**0.0**
YULB	**Yu-li**	**23.79**	**291**	P	**P**	**02 17 36.2**	**-0.9**
YULB				IAmb	IAmb	02 17 37.8	
	comp=Z,54nm,1.6s						
TWG	**Pinlang**	**23.87**	**290**	P	**P**	**02 17 35.2**	**-2.6**
TWG				IAmb	IAmb	02 18 03.6	
	comp=Z,14nm,0.4s						
SSLB	**Suanglung**	**24.18**	**292**	P	**P**	**02 17 38.6**	**-2.2**
SSLB				IAmb	IAmb	02 17 51.2	
	comp=Z,47nm,1.4s						
PMG	**Port Moresby**	**25.52**	**176**	LR	LR	02 26 27.4	
	comp=Z,289nm,20.8s,baz=359,slow=33						
KSRS	**Korea Array**	**26.21**	**327**	P	**P**	**02 17 58.0**	**-0.9**
	comp=Z,7.1nm,0.8s,baz=144,slow=10,SNR=23						
KSRS				LR	LR	02 27 48.8	
	comp=Z,464nm,18.4s,baz=150,slow=35						
	comp=Z,7.1nm,0.8s						

KSAR	**Wonju Array Be**	**26.22**	**327**	P	**P**	**02 17 58.0**	**-1.0**
KS19	**Wonju Array Si**	**26.27**	**327**	P	**P**	**02 17 59.3**	**-0.2**
ASAJ	**Asahikawa**	**27.91**	**356**	LR	LR	02 28 21.3	
	comp=Z,346nm,21.8s,baz=173,slow=34						
TOLI2	**Tolitoli**	**28.57**	**241**	P	**P**	**02 18 19.7**	**-0.6**
NJ2	**Nanjing**	**28.82**	**308**	*e*P	**P**	**02 18 23.4**	**+1.0**
NJ2				pmax	pmax		
	comp=Z,9.0nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,160nm,5.0s						
NJ2				LR	LR		
	comp=Z,350nm,19.9s						
NJ2				LR	LR		
	comp=Z,260nm,17.1s						
NJ2				LR	LR		
	comp=Z,350nm,22.3s						
HNR	**Honiara**	**29.26**	**150**	LR	LR	02 28 52.7	
	comp=Z,5μm,21.1s,baz=330,slow=34						
USRK	**Ussuriysk Ar.**	**30.12**	**341**	LR	LR	02 29 21.3	
	comp=Z,704nm,21.0s,baz=153,slow=34						
KAPI	**Kappang**	**33.03**	**232**	LR	LR	02 32 30.7	
	comp=Z,110nm,18.9s,baz=28,slow=36						
BATI	**Baumata**	**33.98**	**221**	LR	LR	02 31 49.0	
	comp=Z,248nm,21.0s,baz=70,slow=34						
QIZ	**Qiongzhong**	**34.01**	**280**	P	**P**	**02 19 08.6**	**+0.4**
QIZ				S	**S**	**02 24 30.6**	**-0.9**
QIZ				LR	LR		
	comp=Z,110nm,13.7s						
QIZ				LR	LR		
	comp=Z,120nm,11.8s						
QIZ				LR	LR		
	comp=Z,110nm,13.5s						
HNS	**HongShan**	**34.35**	**314**	⇑P	**P**	**02 19 12.0**	**+1.0**
HNS				*e*S	**S**	**02 24 35.3**	**-1.1**
HNS				pmax	pmax		
	comp=Z,11nm,1.0s						
HNS				LR	LR		
	comp=Z,530nm,21.5s						
HNS				LR	LR		
	comp=Z,230nm,19.1s						
HNS				LR	LR		
	comp=Z,280nm,23.9s						
LYN	**LuoYang**	**34.72**	**308**	*e*P	**P**	**02 19 16.3**	**+2.1**
LYN				S	**S**	**02 24 43.3**	**+1.2**
LYN				LR	LR		
	comp=Z,400nm,13.4s						
LYN				LR	LR		
	comp=Z,240nm,15.9s						
LYN				LR	LR		
	comp=Z,420nm,19.2s						
KLR	**Kul'dur**	**34.76**	**344**	LR	LR	02 32 40.0	
	comp=Z,397nm,18.9s,baz=159,slow=35						
HEH	**HeiHe**	**36.93**	**341**	*e*P	**P**	**02 19 32.8**	**-0.2**
HEH				LR	LR		
	comp=Z,220nm,17.4s						
HEH				LR	LR		
	comp=Z,320nm,16.6s						
HEH				LR	LR		
	comp=Z,600nm,20.6s						
XLT	**XiLinHaoTe**	**37.14**	**324**	*e*P	**P**	**02 19 32.5**	**-2.5**
XLT				pP	pP	02 19 45.8	+1.6
XLT				pmax	pmax		
	comp=Z,9.0nm,0.7s						
XLT				pmax	pmax		
	comp=Z,82nm,4.5s						
GYA	**Guiyang**	**37.40**	**292**	*e*P	**P**	**02 19 37.0**	**-0.4**
GYA				pP	pP	02 19 46.8	+0.2
GYA				sP	sP	02 19 51.0	+0.6
GYA				S	**S**	**02 25 25.5**	**+1.9**
GYA				pmax	pmax		
	comp=Z,13nm,0.8s						
GYA				pmax	pmax		
	comp=Z,250nm,4.2s						
GYA				LR	LR		
	comp=Z,200nm,21.2s						
GYA				LR	LR		
	comp=Z,220nm,23.7s						
GYA				LR	LR		
	comp=Z,300nm,17.9s						
WR0	**Warramunga Arr**	**37.52**	**197**	P	**P**	**02 19 38.8**	**+0.5**
WR0				IAmb	IAmb	02 19 40.3	
	comp=Z,16nm,1.1s						
WB2	**Warramunga Arr**	**37.56**	**197**	P	**P**	**02 19 39.4**	**+0.8**
WB2				IAmb	IAmb	02 19 40.6	
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**37.56**	**197**	P	**P**	**02 19 38.8**	**+0.1**
WRA	**Warramunga Arr**	**37.56**	**197**	P	**P**	**02 19 39.2**	**+0.5**
	comp=Z,8.3nm,1.0s,baz=18,slow=9.7,SNR=30						
WRA				PcP	**PcP**	**02 21 57.0**	**+0.7**
	comp=Z,0.9nm,0.8s,baz=8.8,slow=3.0,SNR=5.6						
WRA				LR	LR	02 35 39.7	
	comp=Z,352nm,18.8s,baz=356,slow=37						
	comp=Z,8.3nm,1.0s						
PETK	**Petropavlovsk-**	**38.05**	**12**	LR	LR	02 32 57.0	
	comp=Z,348nm,21.4s,baz=194,slow=33						
HHC	**Hu-ho-hao-te**	**38.19**	**317**	*e*P	**P**	**02 19 46.3**	**+2.4**
HHC				sP	pwP	02 20 00.8	+3.3
HHC				S	**S**	**02 25 35.6**	**+0.4**
HHC				pmax	pmax		
	comp=Z,13nm,0.8s						
HHC				pmax	pmax		
	comp=Z,99nm,5.7s						
HHC				LR	LR		
	comp=Z,130nm,14.1s						
HHC				LR	LR		
	comp=Z,170nm,15.3s						
HHC				LR	LR		
	comp=Z,130nm,15.2s						
BTO	**Baotou**	**39.10**	**316**	*e*P	**P**	**02 19 53.3**	**+1.8**
BTO				pP	**pwP**	**02 20 05.6**	**+0.4**
BTO				sP	**sP**	**02 20 11.1**	**+6.6**
BTO				PP	**PnPn**	**02 21 28.1**	**+3.9**
BTO				S	**S**	**02 25 51.5**	**+2.6**
BTO				sS	sS	02 26 12.9	+8.7
BTO				SS	**SS**	**02 28 36.0**	**-6.1**
BTO				pmax	pmax		
	comp=Z,18nm,1.1s						
BTO				pmax	pmax		
	comp=Z,270nm,9.5s						
BTO				LR	LR		
	comp=Z,770nm,19.2s						
BTO				LR	LR		
	comp=Z,590nm,15.8s						
BTO				LR	LR		
	comp=Z,570nm,20.6s						
CD2	**Chengdu**	**40.66**	**299**	P	**P**	**02 20 03.5**	**-1.1**
CD2				PP	**PP**	**02 21 41.0**	**+2.4**
CD2				S	**S**	**02 26 11.3**	**-1.1**
CD2				pmax	pmax		
	comp=Z,10.0nm,1.0s						
CD2				pmax	pmax		
	comp=Z,80nm,5.4s						
CD2				LR	LR		
	comp=Z,220nm,11.6s						
CD2				LR	LR		
	comp=Z,280nm,15.6s						
CD2				LR	LR		
	comp=Z,220nm,16.3s						
ASAR	**Alice Springs**	**41.22**	**196**	P	**P**	**02 20 10.0**	**+0.9**
	comp=Z,1.0nm,0.7s,baz=23,slow=8.6,SNR=7.3						
ASAR				LR	LR	02 36 29.6	
	comp=Z,396nm,21.9s,baz=20,slow=35						
	comp=Z,1.0nm,0.7s						
PZH	**PanZhiHua**	**41.79**	**292**	P	**P**	**02 20 14.1**	**+0.1**
PZH				pmax	pmax		
	comp=Z,20nm,0.5s						
PZH				pmax	pmax		
	comp=Z,140nm,5.6s						
LZH	**Lanzhou**	**41.86**	**306**	*e*P	**P**	**02 20 19.1**	**+4.6**
LZH				pP	sP	02 20 26.9	-0.6
LZH				sP	pwP	02 20 32.9	+4.6
LZH				S	**S**	**02 26 35.0**	**+4.6**
LZH				pmax	pmax		
	comp=Z,21nm,1.2s						
LZH				LR	LR		
	comp=Z,460nm,14.8s						
LZH				LR	LR		
	comp=Z,270nm,14.1s						
LZH				LR	LR		
	comp=Z,300nm,15.8s						
SHEM	**Shemya Is, Ala**	**42.85**	**25**	LR	LR	02 34 58.6	
	comp=Z,260nm,21.9s,baz=300,slow=32						
DZM	**Mont Dzumac**	**43.27**	**151**	*e*S	**S**	**02 26 49.2**	**-1.8**
DZM				*e*LR	LR	02 32 26.1	
	comp=Z,463nm,25.4s						
DZM	**Mont Dzumac**	**43.27**	**151**	LR	LR	02 36 41.9	
	comp=Z,355nm,21.9s,baz=334,slow=34						
CMAR	**Chiang Mai Arr**	**44.35**	**280**	P	**P**	**02 20 33.6**	**-1.1**
CMAR	**Chiang Mai Arr**	**44.35**	**280**	P	**P**	**02 20 35.0**	**+0.4**
	comp=Z,4.0nm,0.7s,baz=72,slow=7.2,SNR=20						
CMAR				PcP	**PcP**	**02 22 18.6**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=78,slow=2.8,SNR=1.6						
	comp=Z,4.0nm,0.7s						
SONM	**Songino Array**	**44.94**	**323**	P	**P**	**02 20 37.5**	**-1.6**
SONM	**Songino Array**	**44.94**	**323**	P	**P**	**02 20 38.7**	**-0.4**
	comp=Z,1.1nm,0.4s,baz=139,slow=8.8,SNR=4.4						
SONM				LR	LR	02 39 52.2	
	comp=Z,177nm,18.8s,baz=96,slow=37						
	comp=Z,1.1nm,0.4s						
GTA	**Gaotai**	**45.89**	**310**	P	**P**	**02 20 46.5**	**-0.3**
GTA				PcP	**PcP**	**02 22 25.3**	**+1.7**
GTA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
GTA				LR	LR		
	comp=Z,210nm,21.4s						
GTA				LR	LR		
	comp=Z,290nm,21.1s						
GTA				LR	LR		
	comp=Z,190nm,20.7s						
SEY	**Seymchan**	**46.91**	**4**	LR	LR	02 38 47.4	
	comp=Z,196nm,20.8s,baz=172,slow=34						
YAK	**Yakutsk**	**47.09**	**350**	LR	LR	02 41 50.4	
	comp=Z,86nm,21.0s,baz=141,slow=38						
STKA	**Stephens Creek**	**47.97**	**184**	LR	LR	02 42 23.6	
	comp=Z,148nm,18.4s,baz=11,slow=38						
GSI	**Gunungsitoli**	**49.41**	**257**	P	**P**	**02 21 13.4**	**-0.9**
LSA	**Lhasa**	**51.34**	**295**	P	**P**	**02 21 28.6**	**-0.7**
WMQ	**Urumqi**	**55.76**	**312**	*e*P	**P**	**02 22 01.8**	**+0.8**
WMQ				pmax	pmax		
	comp=Z,16nm,0.7s						
WMQ				LR	LR		
	comp=Z,300nm,17.3s						
WMQ				LR	LR		
	comp=Z,140nm,17.9s						
NWAO	**Narrogin (SRO)**	**55.82**	**209**	LR	LR	02 45 56.5	
	comp=Z,119nm,21.9s,baz=6.0,slow=36						
TIXI	**Tiksi**	**56.29**	**354**	LR	LR	02 46 53.9	
	comp=Z,69nm,20.2s,baz=182,slow=37						
RAO	**Raoul Island**	**57.41**	**142**	LR	LR	02 45 16.6	
	comp=Z,132nm,19.1s,baz=16,slow=34						
ZALV	**Zalesovo Beam**	**59.83**	**323**	P	**P**	**02 22 28.7**	**-0.5**
	comp=Z,3.2nm,0.7s,baz=101,slow=7.5,SNR=5.2						
ZALV				LR	LR	02 48 39.9	
	comp=Z,139nm,19.0s,baz=102,slow=36						
	comp=Z,3.2nm,0.7s						
MK31	**Makanchi Array**	**60.01**	**315**	P	**P**	**02 22 30.6**	**-0.1**
MK31				PcP	**PcP**	**02 23 16.7**	**+0.2**
MK31				lAmb	lAmb	02 23 17.5	
	comp=Z,5.1nm,1.0s						
MKAR	**Makanchi Array**	**60.01**	**315**	P	**P**	**02 22 30.2**	**-0.5**
MKAR	**Makanchi Array**	**60.01**	**315**	P	**P**	**02 22 30.4**	**-0.3**
	comp=Z,3.5nm,0.6s,baz=94,slow=8.8,SNR=41						
MKAR				PcP	**PcP**	**02 23 16.3**	**-0.2**
	comp=Z,3.6nm,0.8s,baz=96,slow=5.9,SNR=5.3						
MKAR				LR	LR	02 49 47.4	
	comp=Z,116nm,19.9s,baz=91,slow=37						
	comp=Z,3.5nm,0.6s						
MAKZ	**Makanchi**	**60.22**	**315**	P	**P**	**02 22 32.1**	**-0.1**
MAKZ				pP	**pP**	**02 22 40.8**	**-1.1**
KDAK	**Kodiak Island**	**61.56**	**33**	LR	LR	02 45 57.2	
	comp=Z,110nm,21.6s,baz=256,slow=33						
URZ	**Urewera**	**61.81**	**152**	LR	LR	02 45 46.0	
	comp=Z,199nm,20.9s,baz=31,slow=32						
J20K	**Nowinta River**	**62.78**	**25**	P	**P**	**02 22 49.3**	**+0.2**
J20K				lAmb	lAmb	02 22 53.2	
	comp=Z,23nm,1.9s						
KURK	**Kurchatov**	**62.95**	**319**	P	**P**	**02 22 50.2**	**-0.2**
KURK	**Kurchatov**	**62.95**	**319**	P	**P**	**02 22 49.9**	**-0.5**
KURBB	**Kurchatov Arra**	**63.00**	**319**	P	**P**	**02 22 50.2**	**-0.5**
	comp=Z,20nm,0.8s,baz=98,slow=7.1,SNR=165						
KURBB				LR	LR	02 50 29.1	
	comp=Z,246nm,18.6s,baz=182,slow=36						
	comp=Z,20nm,0.8s						
D19K	**Kuna River**	**63.00**	**20**	P	**P**	**02 22 51.9**	**+1.4**
D19K				lAmb	lAmb	02 23 07.2	
	comp=Z,16nm,1.4s						
CAST	**Castle Rocks**	**63.40**	**26**	P	**P**	**02 22 53.1**	**-0.1**
CAST				lAmb	lAmb	02 23 16.9	
	comp=Z,4.5nm,0.8s						
KSH	**Kashi**	**64.11**	**306**	P	**P**	**02 23 02.0**	**+3.5**
BOOM	**Boomskoye usch**	**64.17**	**310**	P	**P**	**02 22 58.1**	**-0.8**
BOOM				lAmb	lAmb	02 23 41.8	
	comp=Z,14nm,1.6s						
AAK	**Ala-Archa**	**65.24**	**310**	LR	LR	02 54 00.0	
	comp=Z,129nm,18.0s,baz=84,slow=38						
AAK	**Ala-Archa**	**65.24**	**310**	P	**P**	**02 23 05.2**	**-0.6**
COLA	**College**	**65.59**	**26**	P	**P**	**02 23 08.1**	**+0.6**
COLA				sP	**sP**	**02 23 20.9**	**0.0**
ILAR	**Eielson Array**	**65.96**	**26**	P	**P**	**02 23 07.9**	**-2.0**
	comp=Z,0.5nm,0.6s,baz=248,slow=5.4,SNR=7.3						
ILAR				LR	LR	02 50 54.7	
	comp=Z,96nm,19.6s,baz=262,slow=35						
	comp=Z,0.5nm,0.6s						
ARSB	**Arslanbob**	**66.38**	**308**	P	**P**	**02 23 13.3**	**+0.1**
D25K	**Kavik River**	**67.27**	**21**	P	**P**	**02 23 16.9**	**-1.3**
KK31	**Karatay Array**	**68.16**	**310**	P	**P**	**02 23 23.8**	**-0.5**
KK31				lAmb	lAmb	02 23 25.6	
	comp=Z,5.9nm,0.9s						
KKAR	**Karatay Array**	**68.16**	**310**	P	**P**	**02 23 24.3**	**0.0**
BVAR	**Borovoye Array**	**68.22**	**321**	P	**P**	**02 23 23.9**	**-0.5**
	comp=Z,17nm,0.6s,baz=100,slow=9.1,SNR=70						
BVAR				LR	LR	02 54 13.8	
	comp=Z,105nm,18.9s,baz=81,slow=37						
	comp=Z,17nm,0.6s						
BRVK	**Borovoye**	**68.29**	**321**	P	**P**	**02 23 25.2**	**+0.4**
BRVK	**Borovoye**	**68.29**	**321**	P	**P**	**02 23 24.5**	**-0.3**
BRVK				pP	**pP**	**02 23 33.4**	**-1.2**
BRVK				sP	**pwP**	**02 23 37.5**	**-1.4**
GAR	**Garm**	**68.52**	**306**	P	**P**	**02 23 26.5**	**-0.2**
GAR				lAmb	lAmb	02 23 27.9	
	comp=Z,12nm,1.0s						
M29M	**Somme Creek**	**69.32**	**29**	P	**P**	**02 23 31.6**	**+0.3**
CHGR	**Chuyangaron**	**69.44**	**306**	P	**P**	**02 23 32.3**	**-0.2**
L29M	**L29M**	**69.52**	**28**	P	**P**	**02 23 33.0**	**+0.6**
L29M				lAmb	lAmb	02 24 09.2	
	comp=Z,7.4nm,0.9s						
SIMJ	**Simiganj**	**69.56**	**306**	P	**P**	**02 23 32.8**	**-0.5**
SIMJ				lAmb	lAmb	02 23 34.4	
	comp=Z,7.5nm,0.8s						
SIMJ	**Simiganj**	**69.56**	**306**	P	**P**	**02 23 33.0**	**-0.3**
SIMJ				pP	**pP**	**02 23 41.8**	**-1.3**
K29M	**Barlow Dome**	**69.85**	**27**	P	**P**	**02 23 35.5**	**+1.0**
K29M				lAmb	lAmb	02 23 51.3	
	comp=Z,7.7nm,1.1s						
INK	**Inuvik**	**71.73**	**23**	LR	LR	02 53 36.9	
	comp=Z,87nm,21.0s,baz=185,slow=35						
PPT	**Papeete**	**72.29**	**115**	LR	LR	02 51 24.3	
	comp=Z,46nm,19.4s,baz=269,slow=32						
PPT2	**Papeete2**	**72.30**	**115**	*e*LR	LR	02 45 31.3	
	comp=Z,123nm,31.0s						
PPT2				*e*LR	LR	02 45 53.6	
	comp=Z,104nm,24.8s						
DLBC	**Dease Lake**	**73.48**	**33**	LR	LR	02 56 42.8	
	comp=Z,54nm,18.4s,baz=268,slow=36						
TBI	**Tubuai**	**74.79**	**120**	*e*LR	LR	02 47 12.6	
TBI				*e*LR	LR	02 47 14.7	
	comp=Z,323nm,27.2s						
	comp=Z,969nm,28.5s						
ARU	**Arti**	**74.93**	**325**	P	**P**	**02 24 04.4**	**-0.4**
ARU				lAmb	lAmb	02 24 13.6	
	comp=Z,25nm,1.4s						
ARU	**Arti**	**74.93**	**325**	LR	LR	02 58 46.2	
	comp=Z,148nm,18.1s,baz=97,slow=37						
ABKAR	**Akbulak array**	**74.98**	**317**	P	**P**	**02 24 04.2**	**-1.0**
BBB	**Bella Bella**	**75.20**	**39**	LR	LR	02 51 50.9	
	comp=Z,122nm,20.4s,baz=270,slow=32						
AKTO	**Aktyubinsk**	**76.05**	**319**	LR	LR	02 58 04.4	
	comp=Z,139nm,21.2s,baz=70,slow=36						
GEYT	**Alibeck**	**78.14**	**306**	P	**P**	**02 24 23.4**	**0.0**
GEYT

YKA Yellowknife Ar 80.28 28 P **P** 02 24 35.5 +1.1
comp=Z,0.6nm,0.6s,baz=276,slow=5.5,SNR=6.2
YKA LR LR 02 57 35.6
comp=Z,129nm,21.9s,baz=308,slow=34
comp=Z,0.6nm,0.6s
YBH Yreka Blue Hor 80.74 49 LR LR 02 52 03.0
comp=Z,79nm,21.3s,baz=298,slow=30
SPITS Spitsbergen Ar 81.55 351 LR LR 02 59 52.0
comp=Z,68nm,22.0s,baz=14,slow=35
RES Resolute Bay 81.87 13 LR LR 03 00 29.5
comp=Z,84nm,21.9s,baz=7.0,slow=35
BELG Belogornoye 81.99 322 LR LR 03 02 37.8
comp=Z,117nm,18.6s,baz=50,slow=37
NEW Newport 82.90 42 LR LR 02 54 14.6
comp=Z,132nm,21.8s,baz=287,slow=30
BMO Blue Mountains 83.75 45 P **P** 02 24 53.3 +0.1
BMO IAmb IAmb 02 24 56.3
comp=Z,16nm,1.8s
ARCES ARCESS Array B 84.76 342 P **P** 02 24 56.8 -1.0
comp=Z,1.7nm,0.7s,baz=50,slow=8.4,SNR=4.4
ARCES LR LR 03 05 52.8
comp=Z,177nm,20.1s,baz=72,slow=38
comp=Z,1.7nm,0.7s
NVAR Mina Array Bea 84.86 52 P **P** 02 24 59.8 +0.7
NVAR Mina Array Bea 84.86 52 P **P** 02 24 59.3 +0.2
comp=Z,1.4nm,0.6s,baz=266,slow=6.6,SNR=9.0
NVAR LR LR 02 54 55.3
comp=Z,60nm,21.0s,baz=270,slow=30
comp=Z,1.4nm,0.6s
MFID Camas Ranch 85.19 46 P **P** 02 25 01.3 +0.7
HLID Hailey 86.12 46 P **P** 02 25 06.0 +0.7
HLID IAmb IAmb 02 25 30.0
comp=Z,6.1nm,1.1s
R11B Troy Canyon, C 86.92 51 P **P** 02 25 09.7 +0.4
R11B IAmb IAmb 02 25 39.5
comp=Z,12nm,1.7s
OBN Obninsk 87.20 327 LR LR 03 06 10.9
comp=Z,169nm,19.4s,baz=354,slow=37
GNI Garni 87.61 311 LR LR 03 07 48.3
comp=Z,29nm,20.3s,baz=52,slow=38
KBZ Khabaz 87.71 315 P **P** 02 25 12.7 0.0
comp=Z,3.2nm,1.0s,baz=61,slow=3.1,SNR=6.8
KBZ LR LR 03 07 45.2
comp=Z,106nm,19.3s,baz=68,slow=38
comp=Z,3.2nm,1.0s
ONI Oni 87.71 314 P **P** 02 25 12.3 -0.6
ONI IAmb IAmb 02 25 15.0
comp=Z,7.8nm,1.0s
PSUT Pine Spring 88.15 50 P **P** 02 25 14.4 -0.9
PSUT IAmb IAmb 02 25 45.8
comp=Z,5.8nm,1.0s
SPUT South Promonto 88.24 47 P **P** 02 25 16.6 +1.1
SPUT IAmb IAmb 02 25 42.5
comp=Z,4.5nm,1.0s
DUG Dugway, Tooele 88.35 49 P **P** 02 25 16.8 +0.7
FINES FINESS Array B 89.02 335 P **P** 02 25 16.8 -1.7
comp=Z,1.3nm,0.8s,baz=54,slow=3.3,SNR=3.7
FINES LR LR 03 07 56.7
comp=Z,53nm,18.6s,baz=46,slow=38
comp=Z,1.3nm,0.8s
KNB Kanab 89.42 52 P **P** 02 25 21.7 +0.5
KNB IAmb IAmb 02 26 03.2
comp=Z,11nm,1.4s
PDAR Pinedale Array 89.73 45 LR LR 03 00 25.2
comp=Z,39nm,20.3s,baz=316,slow=32
GURO Guroymak-BITLI 90.13 310 P **P** 02 25 24.1 -0.4
GURO IAmb IAmb 02 25 33.4
comp=Z,4.9nm,1.0s
JMIC Jan Mayen 91.17 352 LR LR 03 06 40.2
comp=Z,17nm,21.7s,baz=48,slow=36
ARPR Arapgir-MALATY 92.61 312 P **P** 02 25 35.1 -0.9
SMCO Snowmass 92.92 48 P **P** 02 25 37.6 -0.2
SMCO IAmb IAmb 02 25 59.4
comp=Z,5.4nm,1.0s
AKASG Malin Array Be 93.19 325 LR LR 03 10 17.7
comp=Z,118nm,19.5s,baz=57,slow=37
VNDA Vanda 94.05 176 LR LR 03 08 50.0
comp=Z,36nm,18.2s,baz=333,slow=36
HFS Hagfors 94.57 338 LR LR 03 10 25.6
comp=Z,42nm,21.5s,baz=44,slow=37
NOA NORSAR Array B 94.79 340 LR LR 03 11 32.5
comp=Z,66nm,19.4s,baz=40,slow=38
ANMO Albuquerque 94.98 52 LR LR 03 01 49.6
comp=Z,47nm,20.1s,baz=38,slow=31
BR131 Keskin Array S 95.65 314 P **P** 02 25 49.2 -0.7
BR131 IAmb IAmb 02 25 50.2
comp=Z,3.8nm,1.0s
BRTR Keskin Array B 95.65 314 P **P** 02 25 48.3 -1.6
BRTR Keskin Array B 95.65 314 P **P** 02 25 48.7 -1.2
comp=Z,1.7nm,0.8s,baz=96,slow=2.3,SNR=13
BRTR LR LR 03 12 22.9
comp=Z,41nm,19.8s,baz=70,slow=38
comp=Z,1.7nm,0.8s
LPIG La Paz 95.93 63 LR LR 03 00 50.4
comp=Z,72nm,20.0s,baz=258,slow=30
FRB Frobisher Bay 96.06 14 LR LR 03 12 20.8
comp=Z,34nm,19.5s,baz=355,slow=38
SFJD Kangerlussuaq 96.17 6 LR LR 03 08 45.9
comp=Z,66nm,21.8s,baz=341,slow=35
MMAI Mount Meron Ar 97.24 307 LR LR 03 15 52.4
comp=Z,22nm,18.4s,baz=355,slow=39
MLR Muntele Rosu 97.78 322 LR LR 03 12 36.5
comp=Z,97nm,18.3s,baz=0.0,slow=37
TORD Torodi Ar. Bea 133.79 307 PKP **PKPdf** 02 31 42.6 +0.9
comp=Z,0.3nm,0.6s,baz=220,slow=3.7,SNR=2.1
LPAZ La Paz 147.79 95 PKPbc **PKPbc** 02 32 09.9 -0.5
comp=Z,1.8nm,0.7s,baz=16,slow=2.8,SNR=7.6

*MCSM **25** 02:32:48.5±0.7,46°N±5°×2°7E±°, h17km±3km, mb4.0, MLv2.5*
*BUC **25** 02:32:48.8±0.1,45°43N×27°01E, h18km±1km, ml2.5/40, Error ellipse: s-maj=1.3km s-min=0.9km az=9.0*
ISC 25 02:32:48.7±0.9,**45°44N**±0°02×**27°02E**±0°01,**h19**km±2km,
n59,σ0°74/97,**44C-33D, Romania**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GRER		**0.07**	**211**	↑P		**Pg**		**02 32 52.2**	**-0.2**
GRER				↑S		**Sg**		**02 32 55.9**	**+1.2**
BISRR	**Bisoca**	**0.25**	**297**	↓P		**Pb**		**02 32 53.6**	**-0.8**
BISRR				↑S		**Sb**		**02 32 58.4**	**+0.3**
BISRR	**Bisoca**	**0.25**	**297**	P		**Pb**		**02 32 53.5**	**-0.9**
ODBI	**Odobesti**	**0.33**	**4**	↓P		**Pg**		**02 32 55.8**	**0.0**
ODBI	**Odobesti**	**0.33**	**4**	P		**Pb**		**02 32 56.9**	**+0.8**
SPBR	**Spulber**	**0.37**	**329**	↓P		**Pg**		**02 32 55.7**	**-0.9**
PANC	**Panciu**	**0.45**	**11**	↓P		**Pb**		**02 32 58.7**	**+0.6**
ISR	**Istrita**	**0.46**	**227**	↑P		**Pb**		**02 32 58.5**	**+0.1**
ISR				↓S		**Sb**		**02 33 05.5**	**+0.6**
ISR	**Istrita**	**0.46**	**227**	P		**Pb**		**02 32 58.6**	**+0.2**
VRI	**Vrincioaia**	**0.48**	**335**	↑P		**Pg**		**02 32 57.8**	**-0.7**
VRI				↑S		**Sg**		**02 33 05.2**	**+0.1**
VRI	**Vrincioaia**	**0.48**	**335**	P		**Pg**		**02 32 57.3**	**-1.2**
PLOR5	**Plostina Array**	**0.48**	**329**	P		**Pg**		**02 32 57.3**	**-1.3**
TUDR		**0.48**	**71**	↓P		**Pb**		**02 32 58.9**	**+0.3**
TUDR				↓S		**Sb**		**02 33 06.3**	**+1.0**
PLOR	**Plostina**	**0.49**	**328**	↑P		**Pg**		**02 32 57.9**	**-0.8**
PLOR				↑S		**Sb**		**02 33 06.5**	**+0.9**
PLOR3	**Plostina Array**	**0.49**	**328**	P		**Pg**		**02 32 57.3**	**-1.5**
NEHR	**Nehoiu**	**0.51**	**269**	↑P		**Pg**		**02 32 58.7**	**-0.4**
IZVR	**Izvoarele**	**0.54**	**78**	↓P		**Pb**		**02 32 59.2**	**-0.2**
IZVR				↓S		**Sg**		**02 33 07.5**	**+0.7**
SLCR	**Slobozia Conac**	**0.55**	**73**	↓P		**Pb**		**02 32 59.6**	**-0.1**
SLCR				↓S		**Sg**		**02 33 07.9**	**+0.7**
SCHLR	**Schela**	**0.57**	**86**	↓P		**Pb**		**02 32 59.8**	**-0.2**
SCHLR				↑S		**Sg**		**02 33 09.0**	**+1.1**
SCHL	**Schela**	**0.57**	**83**	↓P		**Pb**		**02 32 59.8**	**-0.2**
SCHL				↑S		**Sn**		**02 33 09.6**	**-1.1**
NEGRR	**Negrea**	**0.61**	**80**	↑P		**Pb**		**02 33 00.6**	**-0.1**
NEGRR				↓S		**Sn**		**02 33 10.7**	**-0.9**
GHRR		**0.68**	**23**	P		**Pb**		**02 33 01.9**	**-0.1**
COVR	**Voineasa-Covas**	**0.70**	**306**	↑P		**Pb**		**02 32 02.5**	**+0.1**
COVR				↓S		**Sn**		**02 33 13.4**	**-0.7**
SCTR	**Scanteiesti**	**0.72**	**70**	↑P		**Pg**		**02 33 03.2**	**+0.2**
TATR	**Tataraca**	**0.74**	**77**	↓P		**Pb**		**02 33 02.8**	**-0.2**
TATR				↓S		**Sn**		**02 33 14.3**	**-0.6**
VARL	**Varlezi**	**0.74**	**51**	↑P		**Pb**		**02 33 02.8**	**-0.2**
VARL				↓S		**Sn**		**02 33 14.5**	**-0.4**
MLR	**Muntele Rosu**	**0.76**	**275**	↓P		**Pb**		**02 33 02.8**	**-0.6**
MLR				↑S		**Sg**		**02 33 14.3**	**+0.4**
MLR	**Muntele Rosu**	**0.76**	**275**	P		**Pb**		**02 33 03.0**	**-0.4**
CFR	**Carcaliu**	**0.83**	**108**	↓P		**Pb**		**02 33 03.4**	**-1.1**
CFR				↑S		**Sg**		**02 33 15.8**	**-0.1**
GIUM	**Giurgiulesti**	**0.84**	**86**	↑P		**Pb**		**02 33 04.4**	**-0.2**
GIUM				↓S		**Sg**		**02 33 16.7**	**+0.5**
AMRR	**Amara**	**0.85**	**165**	↓P		**Pb**		**02 33 04.1**	**-0.9**
AMRR				↓S		**Sn**		**02 33 17.5**	**-0.2**
SULR		**0.93**	**216**	↑P		**Pb**		**02 33 05.8**	**-0.4**
SULR				↑S		**Sn**		**02 33 20.3**	**+0.7**
TURR	**Turia**	**0.94**	**312**	↑P		**Pb**		**02 33 06.3**	**-0.1**
HARR	**Harsova**	**0.99**	**139**	↑P		**Pb**		**02 33 06.1**	**-1.1**
OZUR		**1.09**	**308**	↑P		**Pb**		**02 33 08.4**	**-0.6**
OZUR				↑S		**Sg**		**02 33 24.6**	**+0.4**
TESR	**Tescani**	**1.11**	**347**	↑P		**Pn**		**02 33 08.8**	**-0.5**
TESR				↑S		**Sg**		**02 33 25.5**	**+0.7**
TESR	**Tescani**	**1.11**	**347**	P		**Pn**		**02 33 08.4**	**-0.8**
BOSR	**Bodos**	**1.15**	**304**	↑P		**Pn**		**02 33 09.3**	**-0.5**
BOSR				↓S		**Sg**		**02 33 26.0**	**-0.1**
TLBR	**Topalu**	**1.15**	**140**	↑P		**Pn**		**02 33 09.5**	**-0.3**
TLBR				↑S		**Sg**		**02 33 25.7**	**-0.4**
DOPR	**Dopca**	**1.26**	**296**	↑P		**Pn**		**02 33 11.0**	**-0.4**
DOPR				↓S		**Sg**		**02 33 29.0**	**-0.7**
TLCR		**1.29**	**101**	↑P		**Pn**		**02 33 11.8**	**+0.1**
TLCR				↑S		**Sb**		**02 33 29.3**	**+0.8**
CVDA	**Cernavoda**	**1.32**	**146**	↑P		**Pn**		**02 33 12.0**	**-0.1**
CVDA				↓S		**Sb**		**02 33 30.0**	**+0.7**
LEOM	**Leova**	**1.34**	**39**	↑P		**Pb**		**02 33 13.0**	**-0.3**
LEOM				↑S		**Sg**		**02 33 31.4**	**-0.9**
VOIR		**1.39**	**271**	↓P		**Pn**		**02 33 12.9**	**-0.2**
VOIR				↑S		**Sb**		**02 33 32.6**	**+1.2**
VOIR		**1.39**	**271**	P		**Pn**		**02 33 13.0**	**-0.2**
SGRR	**Singureni**	**1.42**	**212**	↓P		**Pn**		**02 33 13.6**	**+0.1**
SGRR				↑S		**Sb**		**02 33 33.1**	**+0.7**
ARR	**Arges**	**1.68**	**269**	↓P		**Pn**		**02 33 18.0**	**+0.8**
ARR				↑S		**Sb**		**02 33 40.2**	**+0.3**
HUMR	**Humele**	**1.71**	**239**	↑P		**Pn**		**02 33 18.1**	**+0.7**
HUMR				↓S		**Sb**		**02 33 40.3**	**-0.3**
MILM	**Milestii Mici**	**1.94**	**39**	*e*P		**Pn**		**02 33 20.0**	**-0.6**
MILM				*e*S		**Sb**		**02 33 48.0**	**+0.9**
20nm,0.3s									
LOT	**Lotru**	**2.29**	**271**	↑P		**Pn**		**02 33 25.2**	**-0.4**
BUR01	**Bucovina Ar. S**	**2.51**	**331**	↓P		**Pn**		**02 33 29.1**	**+0.5**
BUR01				↑S		**Sn**		**02 34 00.2**	**+1.5**
BURAR	**Bucovina Array**	**2.51**	**331**	↓P		**Pn**		**02 33 29.1**	**+0.5**
BURAR				↑S		**Sn**		**02 34 00.2**	**+1.5**
SORM	**Soroca**	**2.85**	**18**	P		**Pn**		**02 33 31.5**	**-1.6**
MARR	**Marisel-Cluj**	**2.99**	**296**	↓P		**Pn**		**02 33 35.1**	**-0.1**
MARR				↑S		**Sn**		**02 34 10.5**	**+0.1**
NDNU	**Novodnistrovsk**	**3.17**	**4**	P		**Pn**		**02 33 36.3**	**-1.2**
TARU	**Tarkhankut**	**3.88**	**89**	*e*P		**Pn**		**02 33 48.2**	**+0.9**
TARU				*e*S		**Sn**		**02 34 32.7**	**+0.4**
TARU				Sm				02 34 35.0	
comp=N,2.0nm,0.2s									
TARU				Sm				02 34 35.0	
comp=E,7.0nm,0.4s									
SEV	**Sevastopol'**	**4.80**	**98**	*e*P		**Pn**		**02 33 59.7**	**-0.2**
SEV				Pm				02 34 02.7	
comp=Z,3.0nm,0.5s									
SEV				*e*S		**Sn**		**02 34 53.2**	**-1.7**
SEV				Sm				02 35 00.7	
comp=N,1.0nm,0.3s									
SEV				Sm				02 35 00.7	
comp=E,3.0nm,0.4s									
FRGS	**Fruska Gora**	**5.10**	**269**	P		**Pn**		**02 34 02.7**	**-1.3**
SUDU	**Sudak**	**5.67**	**93**	*e*P		**Pn**		**02 34 11.6**	**-0.3**
SUDU				Pm				02 34 12.6	
comp=Z,5.0nm,0.5s									
SUDU				*e*S		**Sn**		**02 35 15.4**	**-1.0**
SUDU				Sm				02 35 18.8	
comp=N,5.0nm,0.2s									
SUDU				Sm				02 35 18.8	
comp=E,6.0nm,0.5s									

NOU 25 02:37:42.3,18°87S×168°89E,h80km,MLv4.1/10,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.32**	**329**	P		Pn		02 38 06.7	+1.4
LIFNC	**LIFOU**	**2.45**	**219**	P		Pn		02 38 19.7	-0.5
MARNC	**Mare, Loyalty**	**2.72**	**197**	P		Pn		02 38 23.7	-0.2
YATNC	**Mamie plateau,**	**3.69**	**210**	P		Pn		02 38 35.5	-1.5
DZM	**Mont Dzumac**	**3.92**	**215**	P		Pn		02 38 40.3	0.0
OUENC	**Ouen Island, N**	**4.02**	**208**	P		Pn		02 38 41.9	+0.4
NOUC	**Port Laguerre**	**4.03**	**217**	P		Pn		02 38 42.4	+0.8
ONTNC	**Ouen Toro**	**4.11**	**213**	P		Pn		02 38 43.3	+0.5
KOUNC	**Koumac, New Ca**	**4.65**	**248**	P		Pn		02 38 49.6	-0.5

*SDD **25** 02:56:03.0±2.1, 19°42N×67°88W, h23km±106km, MD3.4, ML2.6, MW3.1*
*NEIC **25** 02:56:03.5±1.2, 19°57N±0°08×67°89W±0°07, h35km±2km, ML2.7/24, Md2.9/15(RSPR), Error ellipse: s-maj=13.5km s-min=11.5km az=201.0*
*OSPL **25** 02:56:05.8±0.9, 19°20N×67°91W, h0km±5km, ML2.4*
*RSPR **25** 02:56:05.2, 19°47N×67°85W, h7km±3km, MD2.9/15*
ISC 25 02:56:02.6±1.7,**19°38N**±0°07×**67°88W**±0°02,**h12**km±10km,
n74,σ0°66/98,**23C-11D, Mona Passage**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCDR	**Punta Cana, DR**	**0.98**	**209**	↓*e*P		**Pb**		**02 56 20.4**	**-1.1**
PCDR	**Punta Cana, DR**	**0.98**	**209**	*e*S		**Sn**		**02 56 37.4**	**+1.4**
PCDR	**Punta Cana, DR**	**0.98**	**209**			**Pb**		**02 56 20.4**	**-1.1**
PCDR	**Punta Cana, DR**	**0.98**	**209**	IAML				02 56 33.2	
comp=N,172nm,1.9s									
PCDR				IAML				02 56 42.8	
comp=E,111nm,2.2s									
PCDR	**Punta Cana, DR**	**0.98**	**209**			**Sn**		**02 56 37.4**	**+1.4**
PCDR	**Punta Cana, DR**	**0.98**	**209**	↑*e*Pg		**Pb**		**02 56 20.3**	**-1.3**
PCDR				↑*e*Sg		**Sb**		**02 56 34.2**	**-0.3**
PCDR				IAML				02 56 36.1	
comp=N,146nm,0.8s									
PCDR				IAML				02 56 36.2	
comp=Z,113nm,0.8s									
PCDR	**Punta Cana, DR**	**0.98**	**209**	*i* P		**Pb**		**02 56 20.2**	**-1.3**
PCDR				IAML				02 56 36.2	
comp=Z,122nm,0.8s									
HIDR	**Higuey Centro**	**1.11**	**225**	*e*Pg		**Pb**		**02 56 23.1**	**-0.7**
HIDR				*e*Sg		**Sb**		**02 56 38.0**	**-0.2**
HIDR				IAML				02 56 40.0	
comp=N,330nm,0.7s									
HIDR	**Higuey Centro**	**1.11**	**225**	↑*e*Pg		**Pb**		**02 56 22.5**	**-1.2**
HIDR				↓*e*Sg		**Sb**		**02 56 37.9**	**-0.4**
HIDR				IAML				02 56 40.0	
comp=N,330nm,0.7s									
HIDR				IAML				02 56 40.9	
comp=E,173nm,0.2s									
AGPR	**Aguadilla, PR**	**1.17**	**141**	↑*e*P		**Pn**		**02 56 23.8**	**-0.9**
AGPR	**Aguadilla, PR**	**1.17**	**141**	*e*S		**Sn**		**02 56 40.3**	**-0.3**
AGPR	**Aguadilla, PR**	**1.17**	**141**			**Pn**		**02 56 23.8**	**-0.9**
AGPR						**Sn**		**02 56 40.3**	**-0.3**
AGPR	**Aguadilla, PR**	**1.17**	**141**	IAML				02 56 40.6	
comp=N,120nm,0.2s									
AGPR				IAML				02 56 49.8	
comp=E,131nm,1.0s									
AGPR	**Aguadilla, PR**	**1.17**	**141**	*e*Pg		**Pn**		**02 56 24.1**	**-0.7**
AGPR				*e*Sg		**Sn**		**02 56 40.3**	**-0.3**
AGPR				IAML				02 56 40.5	
comp=N,116nm,0.2s									
AGPR	**Aguadilla, PR**	**1.17**	**141**	↑*e*Pg		**Pn**		**02 56 23.6**	**-1.1**
AGPR				↓*e*Sg		**Sn**		**02 56 40.3**	**-0.3**
AGPR				IAML				02 56 40.5	
comp=N,116nm,0.2s									
AGPR				IAML				02 56 45.4	
comp=E,113nm,0.6s									
AGPR	**Aguadilla, PR**	**1.17**	**141**	*i* P		**Pn**		**02 56 24.0**	**-0.7**
AGPR				*e*S		**Sb**		**02 56 38.7**	**-1.0**
AGPR				IAML				02 56 40.6	
comp=Z,84nm,0.2s									
SMDR	**Samana, DR**	**1.24**	**266**	↑*e*Pg		**Pn**		**02 56 25.5**	**-0.2**
SMDR				↑*e*Sg		**Sn**		**02 56 42.1**	**-0.1**
SMDR				IAML				02 56 46.0	
comp=E,26nm,0.8s									
SMDR				IAML				02 56 53.9	
comp=N,59nm,1.6s									
PRSN	**Puerto Rico Se**	**1.35**	**149**	↓*e*P		**Pg**		**02 56 28.8**	**+0.2**
PRSN	**Puerto Rico Se**	**1.35**	**149**	*e*S		**Sb**		**02 56 45.6**	**+0.4**
PRSN	**Puerto Rico Se**	**1.35**	**149**			**Pg**		**02 56 28.8**	**+0.2**
PRSN						**Sb**		**02 56 45.6**	**+0.4**
PRSN	**Puerto Rico Se**	**1.35**	**149**	*e*Pg		**Pb**		**02 56 28.4**	**+0.6**
PRSN				*e*Sg		**Sg**		**02 56 46.7**	**+0.4**
PRSN				IAML				02 56 50.8	
comp=N,261nm,0.2s									
LSP	**Las Mesas**	**1.42**	**148**	↑*e*P		**Pb**		**02 56 28.8**	**-0.2**
LSP	**Las Mesas**	**1.42**	**148**	*e*S		**Sg**		**02 56 48.3**	**0.0**
LSP	**Las Mesas**	**1.42**	**148**			**Pb**		**02 56 28.8**	**-0.2**
LSP						**Sg**		**02 56 48.3**	**0.0**
AOPR	**Arecibo Observ**	**1.49**	**134**	↓*e*P		**Pn**		**02 56 28.8**	**-0.4**
AOPR	**Arecibo Observ**	**1.49**	**134**	*e*S		**Sb**		**02 56 48.7**	**-0.3**
AOPR	**Arecibo Observ**	**1.49**	**134**			**Pn**		**02 56 28.8**	**-0.4**
AOPR						**Sb**		**02 56 48.7**	**-0.3**
AOPR	**Arecibo Observ**	**1.49**	**134**	IAML				02 56 59.2	
comp=N,89nm,0.3s									
AOPR	**Arecibo Observ**	**1.49**	**134**	*e*Pg		**Pn**		**02 56 28.6**	**-0.5**
AOPR				*e*Sg		**Sb**		**02 56 49.5**	**+0.5**
AOPR				IAML				02 57 00.0	
comp=N,78nm,0.2s									
AOPR	**Arecibo Observ**	**1.49**	**134**	↑*e*Pg		**Pn**		**02 56 28.7**	**-0.4**
AOPR				↑*e*Sg		**Sb**		**02 56 49.5**	**+0.5**
AOPR				IAML				02 56 53.5	
comp=E,121nm,0.6s									
AOPR				IAML				02 57 00.0	
comp=N,78nm,0.2s									
HATOM	**Hato Mayor del**	**1.54**	**248**	*e*Pg		**Pn**		**02 56 30.4**	**+0.6**
HATOM				*e*Sg		**Sb**		**02 56 50.4**	**0.0**
HATOM				IAML				02 56 54.2	
comp=N,24nm,0.2s									
HATOM	**Hato Mayor del**	**1.54**	**248**	↑*e*Pg		**Pn**		**02 56 30.2**	**+0.5**
HATOM				↑*e*Sg		**Sb**		**02 56 50.8**	**+0.4**
HATOM				IAML				02 56 54.1	
comp=N,24nm,0.2s									
HATOM				IAML				02 56 55.6	
comp=E,25nm,0.9s									
CRPR	**Cabo Rojo, PR**	**1.55**	**152**	↓*e*P		**Pb**		**02 56 31.1**	**-0.1**
CRPR	**Cabo Rojo, PR**	**1.55**	**152**	*e*S		**Sb**		**02 56 51.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.55**	**152**			**Pb**		**02 56 31.1**	**-0.1**
CRPR						**Sb**		**02 56 51.1**	**+0.3**
CRPR	**Cabo Rojo, PR**	**1.55**	**152**	*i* P		**Pb**		**02 56 30.9**	**-0.4**
CRPR				*e*Sg		**Sg**		**02 56 52.5**	**-0.1**
CRPR				IAML				02 56 54.4	
comp=N,58nm,0.6s									
CRPR	**Cabo Rojo, PR**	**1.55**	**152**	↑*e*Pg		**Pb**		**02 56 31.3**	**0.0**
CRPR				↑*e*Sg		**Sb**		**02 56 51.3**	**+0.4**
CRPR				IAML				02 56 54.4	
comp=N,55nm,0.6s									
CRPR				IAML				02 56 56.4	
comp=E,46nm,0.5s									
CRPR	**Cabo Rojo, PR**	**1.55**	**152**	*i* P		**Pb**		**02 56 31.2**	**-0.1**
CRPR				*e*S		**Sn**		**02 56 49.0**	**-1.1**
CRPR				IAML				02 56 57.9	
comp=Z,67nm,0.6s									
EMPR	**Esperanza - Ma**	**1.57**	**125**	↓*e*P		**Pb**		**02 56 31.4**	**-0.1**
EMPR	**Esperanza - Ma**	**1.57**	**125**	*e*S		**Sb**		**02 56 51.8**	**+0.6**
EMPR	**Esperanza - Ma**	**1.57**	**125**			**Pn**		**02 56 30.0**	**-0.2**
EMPR				IAML				02 57 07.7	
comp=N,87nm,2.4s									
EMPR				IAML				02 57 27.2	
comp=E,99nm,2.0s									
EMPR	**Esperanza - Ma**	**1.57**	**125**			**Sb**		**02 56 51.8**	**+0.6**
UUPR	**Utuado, UPR, P**	**1.57**	**135**	↓*e*P		**Pn**		**02 56 31.0**	**+0.7**
UUPR	**Utuado, UPR, P**	**1.57**	**135**	*e*S		**Sb**		**02 56 51.6**	**+0.2**
UUPR	**Utuado, UPR, P**	**1.57**	**135**			**Pn**		**02 56 31.0**	**+0.7**
UUPR						**Sb**		**02 56 51.6**	**+0.2**
MLPR	**Magueyes Islan**	**1.62**	**150**	↑*e*P		**Pn**		**02 56 31.7**	**+0.9**
MLPR	**Magueyes Islan**	**1.62**	**150**	*e*S		**Sb**		**02 56 52.8**	**+0.2**
MLPR	**Magueyes Islan**	**1.62**	**150**	IAML				02 56 55.0	
comp=N,47nm,0.6s									
MLPR				IAML				02 56 56.3	
comp=E,54nm,0.3s									
MLPR	**Magueyes Islan**	**1.62**	**150**			**Pn**		**02 56 31.7**	**+0.9**
MLPR						**Sb**		**02 56 52.8**	**+0.2**
MLPR	**Magueyes Islan**	**1.62**	**150**	*e*Pg		**Pn**		**02 56 31.6**	**+0.8**
MLPR				*e*Sg		**Sb**		**02 56 53.2**	**+0.5**
MLPR				IAML				02 56 54.9	
comp=N,46nm,0.9s									
MLPR	**Magueyes Islan**	**1.62**	**150**	↑*e*Pg		**Pn**		**02 56 31.0**	**+0.2**
MLPR				↑*e*Sg		**Sb**		**02 56 52.6**	**-0.1**
MLPR				IAML				02 56 54.9	
comp=N,46nm,0.9s									
MLPR				IAML				02 56 56.2	
comp=E,52nm,0.3s									
GBPR	**Guanica, Bosqu**	**1.69**	**146**	↓*e*P		**Pb**		**02 56 34.0**	**+0.4**
GBPR	**Guanica, Bosqu**	**1.69**	**146**	*e*S		**Sb**		**02 56 54.2**	**-0.6**
GBPR	**Guanica, Bosqu**	**1.69**	**146**			**Pb**		**02 56 34.0**	**+0.4**
GBPR						**Sb**		**02 56 54.2**	**-0.6**
CELP	**Cerrillos**	**1.79**	**136**	↓*e*P		**Pn**		**02 56 34.4**	**+1.0**
CELP	**Cerrillos**	**1.79**	**136**	*e*S		**Sb**		**02 56 57.2**	**-0.6**
CELP	**Cerrillos**	**1.79**	**136**			**Pn**		**02 56 34.4**	**+1.0**
CELP						**Sb**		**02 56 57.2**	**-0.6**
CELP	**Cerrillos**	**1.79**	**136**	IAML				02 57 01.2	
comp=N,49nm,0.2s									
CELP	**Cerrillos**	**1.79**	**136**	*e*Pg		**Pn**		**02 56 33.8**	**+0.4**
CELP				*e*Sg		**Sb**		**02 56 58.1**	**+0.3**
CELP	**Cerrillos**	**1.79**	**136**	↑*e*Pg		**Pb**		**02 56 35.1**	**-0.3**
CELP				↑*e*Sg		**Sn**		**02 56

baz=60
KRUC eSg Sn 03 01 08.3 +1.1
23nm,0.4s,baz=60
MODS Modra-Piesok 1.60 210 ePG Pg 03 00 48.7 +0.1
MODS eSG Sg 03 01 10.3 +1.0
MODS eLG Lg 03 01 18.4
OSTC Ostas 1.66 300 ePG Pn 03 00 48.2 -0.3
OSTC eSG Sn 03 01 10.4 -0.1
comp=Z,33nm,1.0s
UPC Upice 1.75 296 ePG Pn 03 00 50.3 +0.5
UPC eSG Sb 03 01 13.8 +0.1
comp=Z,18nm,0.5s
CHVC Chvalec 1.77 299 ePG Pn 03 00 50.2 +0.3
CHVC eSG Sn 03 01 12.8 -0.3
STHS Stebnicka Huta 1.83 100 ePN Pn 03 00 51.5 +0.7
STHS eSG Sg 03 01 18.3 +1.4
STHS eLG Lg 03 01 21.1
KECS Kecovo 1.84 133 ePN Pn 03 00 50.9 0.0
GOPC GO Pecny, Ondr 2.40 275 eSG Sb 03 01 32.6 +0.5
comp=Z,7.7nm,0.3s
RONA Rosalia, Austr 2.52 216 Pn Pn 03 01 01.6 +1.3
0.5nm,0.1s
RONA eSn Sb 03 01 34.3 -1.3
4.8nm,0.4s
CONA Conrad Observa 2.52 224 ePn Pn 03 01 00.4 +0.1
0.4nm,0.2s
CONA Sn Sn 03 01 31.7 -0.1
4.0nm,0.5s
PRU Pruhonice 2.56 277 eSG Sb 03 01 37.7 +0.9
comp=Z,9.3nm,0.8s
CKRC Cesky Krumlov 2.89 253 ePG Pg 03 01 12.5 -0.9
CKRC eSG Sg 03 01 49.4 -1.4
comp=Z,7.3nm,0.4s
BRG Berggiesshubel 3.11 293 Pg Pb 03 01 15.0 +0.7
BRG Sg Sg 03 01 56.3 -1.8
BRG Amp 03 01 57.6
comp=Z,7.8nm,0.5s
BRG Amp 03 12 51.0
comp=N,0.1nm,14.4s
BRG Amp 03 12 58.0
comp=Z,0.2nm,15.2s
BRG Amp 03 12 58.0
comp=E,0.1nm,17.2s
ARSA Arzberg 3.19 219 Pn Pb 03 01 13.8 -1.8
comp=E,0.4nm,0.2s
KHC Kasperske Hory 3.26 261 ePG Pg 03 01 19.5 -1.0
KHC eSG Sg 03 02 01.0 -1.7
comp=E,7.3nm,0.6s
MOA Molln 3.38 237 ePn Pn 03 01 12.9 +0.8
comp=E,0.3nm,0.2s
MOA Sg Sg 03 02 06.8 +0.3
comp=E,4.4nm,0.6s
BIOA Bad Ischl, Aus 3.81 239 eSg Sg 03 02 19.2 -1.4
comp=E,5.5nm,0.4s
CLL Collm 3.82 296 ePg Pg 03 01 33.0 +1.7
CLL eSG Sg 03 02 19.0 -1.8
comp=Z,5.0nm,0.7s
NKC Novy Kostel 3.92 279 eSG Sg 03 02 22.0 -1.9
comp=Z,5.6nm,0.5s
LESA Schwarzleotal 4.50 241 eSg Sg 03 02 41.9 -0.8
comp=Z,2.7nm,0.5s
RETA Reutte 5.60 249 eSg Sg 03 03 19.4 +1.6
comp=Z,2.4nm,0.6s
DAVA Damuels 6.22 250 eSg Sg 03 03 38.6 +0.7
comp=Z,1.1nm,0.4s

*NEIC **25** 03:11:44.4±1.0, 19°.420N±0°.009×155°.276W±0°.007, h5km±1km, Error ellipse: s-maj=1.8km s-min=1.4km az=219.0*

HVO 25 03:11:44.1±1.1, 19°.411N±0°.008×155°.271W±0°.005, h1km±3km, ML2.7/38, ML2.8/27(NEIC), Error ellipse: s-maj=1.2km s-min=0.6km az=181.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**85**		Pg	03 11 44.8	+0.4
KKO	**Keanakako`i**	**0.01**	**162**		Pg	03 11 45.5	+1.0
OBL	**Observatory Le**	**0.01**	**296**		Pg	03 11 45.5	+1.0
HATHI	**Halema'uma'u T**	**0.01**	**37**		Pg	03 11 45.0	+0.5
UWB	**Uwekahuna B**	**0.01**	**332**		Pg	03 11 45.4	+0.8
RIM	**Rim**	**0.02**	**192**		Pg	03 11 45.5	+0.9
SBLHI	**Steaming Bluff**	**0.02**	**9**		Pg	03 11 45.4	+0.9
UWE	**Uwekahuna**	**0.02**	**295**	Pg	Pg	03 11 45.2	+0.6
RSD	**Rainshed**	**0.05**	**352**		Pg	03 11 46.0	+0.8
PUH	**Pauahi**	**0.06**	**126**	Pg	Pg	03 11 46.0	+0.7
PUH	comp=E,6µm,1.0s			IAML		03 11 46.7	
KNHH	**Kane Nui o Ham**	**0.10**	**108**		Pg	03 11 47.0	+1.0
HLP	**Hilina Pali**	**0.12**	**197**		Pg	03 11 47.5	+1.1
HLP					Sg	03 11 50.1	+2.1
HLP	**Hilina Pali**	**0.12**	**197**	IAML		03 11 50.2	
HLP	comp=E,5µm,0.5s			IAML		03 11 50.2	
MLH	**Mauna Loa**	**0.14**	**307**		Pg	03 11 47.9	+1.2
MLH					Sg	03 11 51.2	+2.6
MLH	**Mauna Loa**	**0.14**	**307**	IAML		03 11 51.2	
MLH	comp=N,3µm,0.5s			IAML		03 11 51.6	
STCH	**Steam Cracks**	**0.14**	**101**		Pg	03 11 47.6	+0.8
STCH	**Steam Cracks**	**0.14**	**101**	IAML		03 11 50.9	
STCH	comp=E,6µm,0.3s			IAML		03 11 51.0	
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	03 11 47.8	+0.8
JCUZ	**Jacuzzi**	**0.16**	**100**		Pg	03 11 48.0	+0.8
HTC	**Hot Caves**	**0.21**	**215**		Pg	03 11 49.1	+1.0
JOKA	**Jonika Flow**	**0.25**	**85**		Pg	03 11 48.8	-0.1
JOKA	comp=E,2µm,0.8s			IAML		03 11 56.6	
HMH	**Humu'ula Sheep**	**0.28**	**314**		Pg	03 11 49.9	+0.5
HMH	comp=N,1µm,0.7s			IAML		03 11 58.3	
HMH	comp=E,1µm,0.7s			IAML		03 11 58.3	
MLOA	**Mauna Loa Obse**	**0.31**	**293**		Pg	03 11 50.0	-0.1
MLOA	comp=N,1µm,0.9s			IAML		03 11 59.4	
MLOA	comp=E,1µm,0.6s			IAML		03 12 01.2	
PAH	**Pahoa**	**0.32**	**75**	Pg	Pg	03 11 50.0	-0.1
MWH	**Moku'aweowe**	**0.32**	**283**		Pg	03 11 50.6	+0.5
KHU	**Kahuku**	**0.36**	**243**		Pg	03 11 51.1	+0.1
ALEP	**Alea Permanent**	**0.38**	**290**		Pg	03 11 52.0	+0.7
POHA	**Pohakuloa**	**0.42**	**324**		Pg	03 11 52.4	+0.1
POHA	comp=E,825nm,0.7s			IAML		03 12 07.0	
HUH	**Hualalai**	**0.60**	**297**		Pg	03 11 55.4	-0.2
HPAH	**Hawaii Prepara**	**0.74**	**327**		Pg	03 11 58.2	0.0

*DJA **25** 03:16:35.8±0.6, 7°.S±6°×12°.4E±°, h586km±9km, M4.0/9, mb3.9/6, mB5.2/1, MLv4.1/9, Mw(mB)4.6/1*
*IDC **25** 03:16:38.4±1.5, 7°.28S×123°.86E, h576km±22km, mb3.0/6, mbtmp3.9/9, Error ellipse: s-maj=93.6km s-min=14.2km az=57.0*

ISC 25 03:16:38.1±0.7, 7°.5S±0°.1×123°.7E±0°.1, h600km, n19, σ2s83/21, mb3.4/6, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEI	**Soe**	**2.35**	**166**	P	**P**	**03 17 52.2**	**-1.9**
BATI	**Baumata**	**2.73**	**181**	P	**P**	**03 17 54.5**	**-1.3**
BATI	118nm,0.3s,baz=27,slow=1.7,SNR=13			S	**S**	**03 18 51.5**	**-7.6**
	97nm,0.5s,baz=324,slow=1.6,SNR=8.2						
BATI	**Baumata**	**2.73**	**181**	P	**P**	**03 17 54.5**	**-1.3**
BASI	**Baing, Sumba**	**4.13**	**228**	P	**P**	**03 18 03.3**	**-1.1**
BKSI	**Bulukumba**	**4.14**	**301**	P	**P**	**03 18 00.8**	**-3.7**
KAPI	**Kappang**	**4.61**	**301**	P	**P**	**03 18 07.9**	**-0.1**
	18nm,0.4s,baz=135,slow=7.9,SNR=9.3						
PLAI	**Plampang**	**6.02**	**256**	P	**P**	**03 18 17.2**	**-2.2**
	69nm,0.9s,0.3nm						
TWSI	**Taliwang, Sumb**	**6.87**	**259**	P	**P**	**03 18 25.7**	**-1.2**
	31nm,0.6s,0.2nm						
JAGI	**Jajag, Banyuwa**	**9.51**	**263**	P	**P**	**03 18 50.6**	**-1.5**
FAKI	**Fak Fak**	**9.63**	**63**	P	**P**	**03 18 49.4**	**-3.9**
	27nm,0.8s						
WRA	**Warramunga Arr**	**16.14**	**141**	P	**P**	**03 19 57.7**	**+0.9**
	2.2nm,0.6s,baz=320,slow=11,SNR=36						
WRA				S	**S**	**03 22 41.9**	**+3.2**
	1.1nm,1.0s,baz=318,slow=17,SNR=3.9						
ASAR	**Alice Springs**	**18.86**	**150**	P	**P**	**03 20 23.7**	**+2.1**
	0.7nm,0.4s,baz=328,slow=8.5,SNR=15						
STKA	**Stephens Creek**	**29.47**	**148**	P	**P**	**03 21 57.5**	**+2.2**
	1.0nm,0.4s,baz=322,slow=9.2,SNR=5.2						
SONM	**Songino Array**	**57.13**	**346**	P	**P**	**03 25 30.4**	**+1.5**
	1.0nm,0.6s,baz=174,slow=6.0,SNR=3.8						
	1.0nm,0.6s						
MKAR	**Makanchi Array**	**65.33**	**330**	P	**P**	**03 26 24.0**	**+1.8**
	1.8nm,0.7s,baz=131,slow=7.9,SNR=18						
	1.8nm,0.7s						
ZALV	**Zalesovo Beam**	**69.37**	**337**	P	**P**	**03 26 47.8**	**+1.2**
	0.6nm,0.4s,baz=107,slow=4.8,SNR=1.8						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**69.76**	**331**	P	**P**	**03 26 50.5**	**+1.5**
	0.6nm,0.6s,baz=146,slow=5.5,SNR=6.9						
	0.6nm,0.6s						
BVAR	**Borovoye Array**	**75.22**	**330**	P	**P**	**03 27 22.6**	**+2.3**
	0.5nm,0.5s,baz=127,slow=3.8,SNR=2.0						
	0.5nm,0.5s						
TORD	**Torodi Ar. Bea**	**122.76**	**281**	PKP	**PKiKP**	**03 34 30.3**	**+2.3**
	0.5nm,0.9s,baz=64,slow=3.4,SNR=2.5						

*CATAC **25** 03:27:43.5±0.7, 13°.04N×88°.82W, h56km±78km, ML3.8*
*SNET **25** 03:27:43.2±1.2, 12°.94N×88°.90W, h37km, ML3.8*

ISC 25 03:27:42.6±1.5, 12°.9N±0°.1×88°.91W±0°.06, h53km±26km, n27, σ0s79/42, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEB	**Comit de Eme**	**0.70**	**32**	*e*P	**Pn**	**03 27 56.7**	**+0.1**
COEB				eS	**Sn**	**03 28 07.2**	**+0.4**
LALI	**Alcalda de L**	**0.70**	**326**	*e*P	**Pn**	**03 27 56.5**	**0.0**
LALI				eS	**Sn**	**03 28 06.3**	**-0.3**
COEG	**Centro de Oper**	**0.71**	**2**	*e*P	**Pn**	**03 27 56.6**	**-0.2**
COEG				eS	**Sn**	**03 28 07.0**	**0.0**
JUCU	**Jucuarįn**	**0.73**	**62**	*e*P	**Pn**	**03 27 56.8**	**-0.2**
JUCU				eS	**Sn**	**03 28 07.7**	**+0.2**
AEIL	**Aeropuerto Ilo**	**0.81**	**346**	*e*P	**Pn**	**03 27 56.5**	**-1.6**
AEIL				eS	**Sn**	**03 28 09.0**	**-0.3**
BOQS	**Boqueron**	**0.90**	**337**	*e*P	**Pn**	**03 27 59.6**	**+0.3**
JAYA	**Jayaque - finc**	**0.91**	**325**	*e*P	**Pn**	**03 27 59.1**	**-0.3**
JAYA				eS	**Sn**	**03 28 12.2**	**+0.4**
CNCH	**Conchagua**	**1.11**	**71**	*i*P	**Pn**	**03 28 02.0**	**0.0**
CNCH				eS	**Sn**	**03 28 17.7**	**+1.2**
CEVE	**Cerro Verde**	**1.15**	**323**	*e*P	**Pn**	**03 28 03.0**	**+0.3**
CEVE				eS	**Sn**	**03 28 20.0**	**+2.4**
ESQI	**Esquipulas**	**1.70**	**346**	*i*P	**Pn**	**03 28 10.5**	**+0.5**
ESQI	comp=Z,220nm,1.0s			IAML		03 28 26.7	
ESQI				*i*S	**Sn**	**03 28 28.7**	**-2.0**
CRIN	**San Cristobal**	**1.83**	**96**	*i*P	**Pn**	**03 28 12.2**	**+0.5**
CRIN				*i*S	**Sn**	**03 28 34.5**	**+0.7**
CRIN	comp=Z,2µm,1.0s			IAML		03 28 40.1	
PKGN	**Cerro Pekin**	**1.90**	**97**	*i*P	**Pn**	**03 28 12.7**	**0.0**
PKGN				*i*S	**Sn**	**03 28 34.7**	**-0.8**
PKGN	comp=Z,4µm,1.0s			IAML		03 28 38.2	
QUEN	**Al S del Volca**	**2.03**	**99**	*i*P	**Pn**	**03 28 14.8**	**+0.3**
QUEN				*i*S	**Sn**	**03 28 39.2**	**+0.4**
QUEN	comp=Z,2µm,1.0s			IAML		03 28 41.6	
PACN	**Al O del Volca**	**2.11**	**101**	*i*P	**Pn**	**03 28 15.5**	**0.0**
PACN				*i*S	**Sn**	**03 28 41.5**	**+1.0**
PACN	comp=Z,860nm,1.0s			IAML		03 28 45.2	
ROCN	**Rota Cerro Neg**	**2.15**	**100**	*i*P	**Pn**	**03 28 16.1**	**0.0**
ROCN	comp=Z,320nm,1.0s			IAML		03 28 51.7	
CNGA	**Al SSO del Vol**	**2.19**	**100**	*i*P	**Pn**	**03 28 15.8**	**-0.9**
CNGA				*i*S	**Sn**	**03 28 42.0**	**-0.8**
CNGA	comp=Z,790nm,1.0s			IAML		03 28 45.2	
CNGN	**Cerro Negro**	**2.20**	**100**	*i*P	**Pn**	**03 28 16.8**	**0.0**
CNGN				*i*S	**Sn**	**03 28 41.7**	**-1.1**
CNGN	comp=Z,690nm,1.0s			IAML		03 28 49.2	
MACN	**El Madrono**	**2.23**	**101**	*i*P	**Pn**	**03 28 17.2**	**+0.1**
MACN	comp=Z,250nm,1.0s			IAML		03 28 59.3	
LEVN	**Ruinas Leon Vi**	**2.29**	**102**	*i*P	**Pn**	**03 28 18.1**	**+0.1**
LEVN	comp=Z,370nm,1.0s			IAML		03 28 55.6	
COPN	**Copaltepe**	**2.38**	**107**	*i*P	**Pn**	**03 28 18.8**	**-0.4**
COPN	comp=Z,190nm,1.0s			IAML		03 28 51.1	
MOM2	**El Cardon**	**2.41**	**101**	*i*P	**Pn**	**03 28 20.5**	**+0.8**
MOM2	comp=Z,170nm,1.0s			IAML		03 28 51.6	
LIMN	**Finca el Limon**	**2.49**	**86**	*i*P	**Pn**	**03 28 20.8**	**0.0**
LIMN	comp=Z,130nm,1.0s			IAML		03 29 00.5	
SAPS	**Ciudad Sandino**	**2.56**	**106**	*i*P	**Pn**	**03 28 21.7**	**+0.1**
SAPS				*i*S	**Sn**	**03 28 51.8**	**+0.3**
SAPS	comp=Z,390nm,1.0s			IAML		03 29 05.7	
HUEN		**2.73**	**102**	*i*P	**Pn**	**03 28 24.1**	**+0.1**
AVCB	**Coban**	**2.93**	**331**	*i*P	Pn	03 28 33.9	+7.0
MORN	**Al O del Volca**	**3.46**	**113**	*i*P	**Pn**	**03 28 35.1**	**+1.0**
OCHAL	**Ojochal**	**6.41**	**126**	*i*P	**Pn**	**03 29 13.2**	**-1.3**

*IDC **25** 03:44:01.2±1.4, 2°.42S×140°.76E, h0km, mb3.8/6, mbtmp3.8/7, ML4.0/1, Error ellipse: s-maj=61.4km s-min=23.1km az=90.0*
*DJA **25** 03:44:05.1±0.9, 3°.S±7°×14°.0E±°, h10km, M3.9/2, mb4.0/1, MLv3.8/2*

ISC 25 03:44:05.8±0.8, 2°.67S±0°.10×140°.30E±0°.06, h24km, n16, σ1s70/13, mb3.8/6, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GENI	**Genyem**	**0.15**	**300**	P	**Pb**	**03 44 11.1**	**+0.3**
GENI				S	**Sb**	**03 44 14.8**	**+0.6**
JAY	**Jayapura**	**0.43**	**69**	P	**Pb**	**03 44 15.5**	**+0.6**
JAY				S	**Sb**	**03 44 21.0**	**0.0**
FAKI	**Fak Fak**	**8.05**	**268**	P	**Pn**	**03 46 01.7**	**+0.4**
WRA	**Warramunga Arr**	**18.13**	**198**	P	**P**	**03 48 18.0**	**+1.7**
	0.5nm,0.3s,baz=21,slow=11,SNR=24						
WRA				S	**Sn**	**03 51 34.5**	**-3.5**
	0.2nm,0.6s,baz=36,slow=23,SNR=1.7						
	1.5nm,0.5s						
ASAR	**Alice Springs**	**21.77**	**196**	P	**P**	**03 48 58.9**	**+2.9**
	2.2nm,0.6s,baz=29,slow=11,SNR=20						
	2.2nm,0.6s						
H11S3	**WAKE ISLAND Hy 33.42**	**50**		T	T	04 25 52.3	
	baz=231,slow=74,SNR=32						
H11S2	**WAKE ISLAND Hy 33.43**	**50**		T	T	04 25 51.3	
	baz=231,slow=74,SNR=17						
H11S1	**WAKE ISLAND Hy 33.44**	**50**		T	T	04 25 51.3	
	baz=231,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy 34.30**	**48**		T	T	04 26 56.5	
	baz=233,slow=12,SNR=18						
H11N2	**WAKE ISLAND Hy 34.32**	**48**		T	T	04 26 58.7	
	baz=233,slow=12,SNR=21						
H11N3	**WAKE ISLAND Hy 34.32**	**48**		T	T	04 27 03.3	
	baz=233,slow=12,SNR=10.0						
MKAR	**Makanchi Array**	**70.73**	**322**	P	**P**	**03 55 19.9**	**-0.2**
	0.6nm,0.6s,baz=104,slow=6.5,SNR=6.6						
	0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**74.61**	**324**	P	**P**	**03 55 42.6**	**-0.3**
	0.1nm,0.3s,baz=113,slow=5.1,SNR=1.6						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**80.19**	**325**	P	**P**	**03 56 13.8**	**-0.4**
	0.5nm,0.4s,baz=108,slow=9.3,SNR=3.6						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**85.14**	**24**	P	**P**	**03 56 37.7**	**-2.0**
	0.3nm,0.6s,baz=256,slow=3.6,SNR=2.5						
	0.3nm,0.6s						
QSPA	**South Pole Qui**	**87.28**	**180**	P	**P**	**03 56 50.8**	**+0.4**
	0.9nm,0.9s,baz=18,slow=2.1,SNR=1.6						
	0.9nm,0.9s						

IDC 25 03:50:41.2±5.5, 14°.86S×174°.59W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=211.5km s-min=54.9km az=134.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.32**	**239**	P	P	03 58 44.5	-0.7
	1.1nm,0.6s,baz=101,slow=9.8,SNR=3.0						
	1.1nm,0.6s						
WRA	**Warramunga Arr**	**48.85**	**256**	P	P	03 59 29.0	0.0
	0.7nm,0.5s,baz=91,slow=7.1,SNR=24						
	0.7nm,0.5s						
ASAR	**Alice Springs**	**49.19**	**251**	P	P	03 59 31.7	+0.1
	4.9nm,0.7s,baz=85,slow=8.4,SNR=33						
	4.9nm,0.7s						
BRTR	**Keskin Array B**	**145.01**	**320**	PKPbc	PKPbc	04 10 19.5	-0.9
	1.3nm,0.8s,baz=50,slow=2.0,SNR=8.3						

*BJI **25** 03:54:19.5±0.0, 51°.80N×175°.73W, h65km, mb5.1/54, mB4.9/22, Ms4.4/6, Ms7 4.0/7*
*MOS **25** 03:54:21.2±0.8, 51°.86N×175°.80W, h64km, mb5.1/24, Error ellipse: s-maj=9.2km s-min=7.5km az=106.3*
*AEIC **25** 03:54:21.1±2.8, 51°.71N±0°.10×175°.86W±0°.07, h35km±4km, Error ellipse: s-maj=14.5km s-min=5.8km az=168.0*
*IDC **25** 03:54:22.9±1.8, 51°.90N×175°.87W, h64km±14km, mb4.1/31, mbtmp4.5/35, MS3.5/56, Error ellipse: s-maj=13.3km s-min=8.6km az=162.0*
*NEIC **25** 03:54:22.5±2.0, 51°.70N±0°.09×175°.85W±0°.08, h60km±5km, mb4.8/409, ML4.7(AEIC), Error ellipse: s-maj=13.3km s-min=6.4km az=167.0*

ISC 25 03:54:22.3±0.5, 51°.75N±0°.07×175°.79W±0°.03, h63km±3km, h63km:pP-P, n844, σ1s22/710, mb4.9/232, 20C-4D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**1.09**	**64**		**Pn**	**03 54 40.3**	**-1.3**
ATKA	**Atka Island**	**1.09**	**64**	Sn	**Sn**	**03 54 53.8**	**-2.0**
KOKL	**Mount Kliuchef**	**1.14**	**59**		**Pn**	**03 54 42.2**	**-0.1**
KOFP	**Korovin Flat P**	**1.17**	**62**		**Pn**	**03 54 42.3**	**-0.4**
KOKV	**Korovin Volcan**	**1.18**	**58**		**Pn**	**03 54 42.4**	**-0.4**
KOSE	**Korovin Southe**	**1.23**	**60**		**Pn**	**03 54 43.5**	**0.0**
CEPE	**Semis' Perret**	**2.84**	**276**		**Pn**	**03 55 04.5**	**-0.7**
CEAP	**Semis' Anvil P**	**2.88**	**277**		**Pn**	**03 55 05.3**	**-0.5**
CEAP					**Sn**	**03 55 39.7**	**+0.4**
CESW	**Semis' Southwe**	**2.89**	**275**		**Pn**	**03 55 04.9**	**-0.9**
CESW					**Sn**	**03 55 40.4**	**+1.1**
AMKA	**Amchitka**	**3.08**	**265**	Pn	**Pn**	**03 55 07.2**	**-1.3**
AMKA				Sn	**Sn**	**03 55 43.6**	**-0.5**
LSPA	**Little Sitkin**	**3.50**	**276**		**Pn**	**03 55 14.0**	**-0.3**
LSPA					**Sn**	**03 55 54.1**	**-0.3**
LSSE	**Little Sitkin**	**3.50**	**275**		**Pn**	**03 55 14.0**	**-0.2**
LSNW	**Little Sitkin**	**3.54**	**276**		**Pn**	**03 55 14.2**	**-0.5**
LSNW					**Sn**	**03 55 56.5**	**+1.2**
CLES	**Cleveland East**	**3.78**	**71**		**Sn**	**03 56 04.1**	**+3.0**
CLES	**Cleveland East**	**3.78**	**71**	Pn	**Pn**	**03 55 18.7**	**+0.7**
NIKH	**Nikolski High**	**4.42**	**71**	P	**Pn**	**03 55 28.2**	**+1.4**
NIKH	**Nikolski High**	**4.42**	**71**		**Pn**	**03 55 27.9**	**+1.1**
NIKH	**Nikolski High**	**4.42**	**71**	P	**Pn**	**03 55 29.0**	**+2.2**
	baz=255,SNR=20						
OKTU	**Okmok Mt. Tuli**	**5.00**	**68**		**Pn**	**03 55 36.6**	**+1.8**
MAPS	**Pakushin South**	**5.75**	**66**		**Pn**	**03 55 46.9**	**+1.8**
MSW	**Makushin Switc**	**5.88**	**65**		**Pn**	**03 55 48.2**	**+1.5**
MNAT	**Makushin Natee**	**5.92**	**65**		**Pn**	**03 55 48.7**	**+1.4**
UNV	**Unalaska Valle**	**6.01**	**66**	P	**Pn**	**03 55 52.0**	**+3.5**
UNV	**Unalaska Valle**	**6.01**	**66**		**Pn**	**03 55 50.2**	**+1.6**
UNV	**Unalaska Valle**	**6.01**	**66**	P	**Pn**	**03 55 51.8**	**+3.3**
	baz=252,SNR=18						
P08K	**Saint George I**	**6.09**	**35**		**Pn**	**03 55 50.8**	**+1.2**
P08K	**Saint George I**	**6.09**	**35**	P	**Pn**	**03 55 50.9**	**+1.3**
	baz=219						
SHEM	**Shemya Is, Ala**	**6.29**	**283**	P	**Pn**	**03 55 51.2**	**-1.1**
	68nm,0.3s,baz=42,slow=3.5,SNR=44						
SHEM				S	**Sn**	**03 57 02.7**	**0.0**
	46nm,0.5s,baz=127,slow=20,SNR=1.3						
SPIA	**Saint Paul Isl**	**6.33**	**29**	P	**Pn**	**03 55 54.3**	**+1.5**
SPIA	**Saint Paul Isl**	**6.33**	**29**		**Pn**	**03 55 54.6**	**+1.8**
SPIA	**Saint Paul Isl**	**6.33**	**29**	P	**Pn**	**03 55 55.2**	**+2.4**
	baz=213,SNR=25						
LVA	**Lava Point**	**6.37**	**64**		**Pn**	**03 55 55.2**	**+1.7**
ZRO	**Akutan Zero**	**6.38**	**65**		**Pn**	**03 55 55.7**	**+2.1**
AKBBA	**Akutan Broad B**	**6.41**	**65**		**Pn**	**03 55 57.1**	**+3.1**
AHB	**Akutan Harbor**	**6.48**	**65**		**Pn**	**03 55 58.3**	**+3.4**
AKSA	**Akutan Strait**	**6.55**	**65**		**Pn**	**03 55 58.9**	**+3.0**
SSLS	**Shishaldin Sou**	**7.67**	**63**		**Pn**	**03 56 14.0**	**+2.6**
ISLZ	**Isanotski Laza**	**7.84**	**63**		**Pn**	**03 56 15.4**	**+1.9**
FALS	**False Pass**	**8.04**	**62**	P	**Pn**	**03 56 19.6**	**+3.4**
FALS	**False Pass**	**8.04**	**62**		**Pn**	**03 56 17.8**	**+1.5**
FALS	**False Pass**	**8.04**	**62**	P	**Pn**	**03 56 18.6**	**+2.3**
	baz=252,SNR=6.3						
HAG	**Hague Volcano**	**9.01**	**61**		**Pn**	**03 56 32.1**	**+2.6**
HAG	**Hague Volcano**	**9.01**	**61**	P	**Pn**	**03 56 32.1**	**+2.6**
S12K	**Black Hills**	**9.05**	**59**	Pn	**Pn**	**03 56 28.2**	**-1.8**
S12K	**Black Hills**	**9.05**	**59**	P	**Pn**	**03 56 32.5**	**+2.4**
	baz=249						
SDPT	**Sand Point**	**9.80**	**62**	P	**Pn**	**03 56 41.0**	**+0.7**
SDPT	**Sand Point**	**9.80**	**62**	Pn	**Pn**	**03 56 40.6**	**+0.4**
SDPT	**Sand Point**	**9.80**	**62**	P	**Pn**	**03 56 41.9**	**+1.7**
	baz=254						
M11K	**Mekoryuk**	**10.17**	**28**	P	**Pn**	**03 56 48.3**	**+3.0**
	baz=216,SNR=11						
CNBA	**Chernabura Isl**	**10.18**	**66**	Pn	**Pn**	**03 56 44.6**	**-0.8**
CHNA	**Chernabura Isl**	**10.18**	**66**	P	**Pn**	**03 56 47.2**	**+1.8**
	baz=258						
S14K	**Fog Glacier**	**10.57**	**58**	P	**Pn**	**03 56 53.4**	**+2.5**
	baz=251						
M13K	**Dall Lake**	**11.10**	**34**	Pn	**Pn**	**03 57 01.4**	**+3.4**
M13K	**Dall Lake**	**11.10**	**34**	P	**Pn**	**03 57 00.9**	**+2.9**
	baz=224						
O14K	**Tigyukauivet M**	**11.13**	**42**	Pn	**Pn**	**03 56 59.3**	**+0.8**
O14K	**Tigyukauivet M**	**11.13**	**42**	P	**Pn**	**03 57 01.6**	**+3.1**
	baz=234,SNR=8.5						
CHGN	**Chignik**	**11.18**	**59**	Pn	**Pn**	**03 57 00.4**	**+1.3**
CHGN	**Chignik**	**11.18**	**59**	P	**Pn**	**03 57 00.8**	**+1.7**
	baz=253						
N14K	**Kuskokwak Cree**	**11.38**	**38**	P	**Pn**	**03 57 04.7**	**+3.0**
	baz=230,SNR=6.5						
O15K	**Ungalikthiuk R**	**11.70**	**44**	P	**Pn**	**03 57 09.1**	**+2.8**
	baz=237,SNR=12						
M14K	**Bethel**	**11.83**	**35**	Pn	**Pn**	**03 57 11.4**	**+3.5**
M14K	**Bethel**	**11.83**	**35**	P	**Pn**	**03 57 11.4**	**+3.5**
	baz=226,SNR=8.2						
K13K	**Kusilvak Mount**	**11.87**	**26**	Pn	**Pn**	**03 57 10.5**	**+2.0**
K13K	**Kusilvak Mount**	**11.87**	**26**	P	**Pn**	**03 57 11.6**	**+3.1**
	baz=216,SNR=6.7						
L14K	**Kuka Creek**	**12.01**	**32**	Pn	**Pn**	**03 57 11.5**	**+1.2**
L14K	**Kuka Creek**	**12.01**	**32**	P	**Pn**	**03 57 14.2**	**+3.9**
	baz=222						
R16K	**Pilot Point**	**12.03**	**54**	P	**Pn**	**03 57 13.9**	**+3.2**
	baz=248						
N15K	**Kwethluk River**	**12.16**	**40**	Pn	**Pn**	**03 57 15.8**

P18K **Big Mountain,** 13.88 49 Pn Pn 03 57 36.9 +1.2
P18K **Big Mountain,** 13.88 49 P Pn 03 57 39.0 +3.2
baz=245
M17K **Holitna River** 13.94 39 Pn Pn 03 57 40.3 +3.8
M17K **Holitna River** 13.94 39 P Pn 03 57 40.3 +3.8
baz=234,SNR=7.8
ANM **Nome** 13.95 19 Pn Pn 03 57 36.3 -0.3
ANM **Nome** 13.95 19 P Pn 03 57 36.3 -0.3
L17K **Donlin** 14.07 36 P Pn 03 57 38.8 +0.6
baz=230,SNR=6.9
O18K **Koktuh Hills** 14.09 47 P Pn 03 57 38.9 +0.4
baz=244
J16K **Anvik River** 14.10 29 Pn Pn 03 57 39.6 +1.0
J16K **Anvik River** 14.10 29 P Pn 03 57 39.7 +1.1
baz=222
OHAK **Old Harbor** 14.15 58 P Pn 03 57 40.5 +1.3
baz=256
N18K **Kilae Creek** 14.18 43 P Pn 03 57 41.0 +1.3
baz=240
TNA **Tin City** 14.43 13 P Pn 03 57 43.7 +0.8
baz=200
K17K **Iditarod** 14.45 34 Pn Pn 03 57 45.9 +2.7
K17K **Iditarod** 14.45 34 P Pn 03 57 44.5 +1.4
baz=228
Q19K **Cape Douglas,** 14.46 52 Pn Pn 03 57 42.7 -0.6
Q19K **Cape Douglas,** 14.46 52 P Pn 03 57 44.4 +1.0
baz=250
I17K **Unalakleet** 14.53 27 P Pn 03 57 45.2 +1.0
baz=220
F14K **Arctic Creek** 14.60 16 P Pn 03 57 46.0 +1.0
baz=204
G15K **Niukluk** 14.60 20 P Pn 03 57 46.3 +1.1
baz=210
M18K **Stony River** 14.63 40 P Pn 03 57 47.2 +1.6
baz=237,SNR=12
O19K **Port Alsworth** 14.64 46 P Pn 03 57 47.2 +1.6
baz=244
KDAK **Kodiak Island** 14.65 57 Pn Pn 03 57 44.4 -1.5
KDAK **Kodiak Island** 14.65 57 P Pn 03 57 47.5 +1.7
baz=255
KDAK **Kodiak Island** 14.65 57 P Pn 03 57 44.2 -1.6
7.3nm,0.3s,baz=244,slow=1.9,SNR=25
KDAK LR LR 04 03 59.5
comp=Z,438nm,20.9s,baz=263,slow=40
KDAK **Kodiak Island** 14.65 57 *i* P Pn 03 57 44.9 -0.9
J17K **VABM Dome** 14.66 31 P Pn 03 57 47.4 +1.6
baz=225,SNR=26
L18K **Granite Mounta** 14.71 37 P Pn 03 57 47.9 +1.3
baz=233,SNR=14
H16K **Elim** 14.72 23 P Pn 03 57 48.0 +1.4
baz=215
N19K **Bonanza Creek** 14.85 44 Pn Pn 03 57 50.4 +2.0
N19K **Bonanza Creek** 14.85 44 P Pn 03 57 49.8 +1.3
baz=242,SNR=17
P19K **Oil Pt** 14.92 49 P Pn 03 57 50.7 +1.4
baz=248,SNR=6.4
Q20K **Shuyak Island** 14.97 54 P Pn 03 57 51.6 +1.6
baz=252
SYI **Shuyak Island** 14.97 54 Pn Pn 03 57 48.2 -1.8
F15K **North Star Dit** 15.11 18 Pn Pn 03 57 53.4 +1.7
F15K **North Star Dit** 15.11 18 P Pn 03 57 52.8 +1.1
baz=207
G16K **Koyuk River** 15.32 22 P Pn 03 57 55.4 +1.0
baz=213
O20K **Slope Mountain** 15.37 48 P Pn 03 57 56.0 +0.9
baz=247
L19K **White Mountain** 15.40 39 IAmb IAmb 03 58 03.1
comp=Z,68nm,1.0s
L19K **White Mountain** 15.40 39 P Pn 03 57 55.9 +0.5
baz=237,SNR=57
M19K **Big River Lodg** 15.43 40 Pn 03 57 58.4 +2.5
M19K IAmb IAmb 03 58 03.6
comp=Z,47nm,1.2s
M19K **Big River Lodg** 15.43 40 P Pn 03 57 56.9 +1.0
baz=238,SNR=26
J18K **Innoko River** 15.48 33 P 03 57 59.1 -0.7
J18K **Innoko River** 15.48 33 P Pn 03 57 56.7 +0.1
baz=229,SNR=21
H17K **Granite Mounta** 15.56 26 Pn Pn 03 57 58.0 +0.6
H17K **Granite Mounta** 15.56 26 P Pn 03 57 58.2 +0.8
baz=219
PET **Petropavlovsk** 15.63 285 *i* P Pn 03 57 59.3 +0.9
PET pmax pmax
comp=Z,16nm,0.9s
HOM **Homer** 15.67 50 P Pn 03 57 59.9 +0.9
baz=250
G17K **Kiwalik Mounta** 15.81 24 P Pn 03 58 01.7 +1.0
baz=216
CNPM **China Poot** 15.83 51 Pn Pn 03 58 00.8 -0.1
M20K **Styx River** 15.93 42 P Pn 03 58 03.6 +1.2
baz=240,SNR=9.3
L20K **Farewell, AK** 15.94 39 P Pn 03 58 03.4 +1.0
baz=237,SNR=18
N20K **Mount Spurr** 16.01 45 P Pn 03 58 04.4 +1.1
baz=244,SNR=6.3
BRLK **Bradley Lake** 16.07 50 Pn Pn 03 58 03.8 -0.3
BRSE **Bradley Lake S** 16.13 51 P Pn 03 58 06.2 +1.5
baz=251
H18K **Honhosa River** 16.15 27 P P 03 58 09.0 +1.9
H18K **Honhosa River** 16.15 27 P Pn 03 58 06.4 +1.4
baz=222
J19K **Poorman** 16.20 33 P P 03 58 08.6 +1.0
J19K **Poorman** 16.20 33 P Pn 03 58 06.9 +1.4
baz=230,SNR=20
PETK **Petropavlovsk-** 16.20 285 P Pn 03 58 06.0 +0.4
comp=Z,5.1nm,0.6s,baz=88,slow=12,SNR=17
PETK PcP PcP 04 02 57.2 +0.6
comp=Z,2.1nm,0.6s,baz=78,slow=2.9,SNR=4.5
PETK LR LR 04 03 54.6
comp=Z,141nm,20.9s,baz=89,slow=36
GCSA **Galena City Sc** 16.30 30 P Pn 03 58 07.8 +1.0
baz=226
CAPN **Captain Cook N** 16.30 47 P Pn 03 58 07.9 +1.0
baz=247
K20K **Telida** 16.36 36 P P 03 58 09.7 +0.3
K20K **Telida** 16.36 36 P Pn 03 58 08.3 +0.8
baz=235,SNR=18
F17K **Baldwin Pennin** 16.45 21 P P 03 58 11.7 +1.3
F17K **Baldwin Pennin** 16.45 21 P Pn 03 58 09.1 +0.5
baz=213
G18K **Tagagawik** 16.64 25 P P 03 58 15.0 +2.6
G18K **Tagagawik** 16.64 25 P P 03 58 12.7 +0.2
baz=220,SNR=14
SKT **Skwentna** 16.65 43 P P 03 58 13.1 +0.5
baz=243,SNR=20
SUA **Susitna One** 16.76 45 P P 03 58 14.7 +0.7
baz=246
J20K **Nowinta River** 16.82 34 P P 03 58 15.2 +0.8
J20K **Nowinta River** 16.82 34 P P 03 58 15.3 +0.8
baz=232,SNR=14
PPLA **Purkeypile** 16.82 39 P P 03 58 15.3 +0.6
baz=239,SNR=8.5
O22K **Cooper Landing** 16.86 49 P Pn 03 58 15.3 +1.6
O22K IAmb IAmb 03 58 22.6
comp=Z,60nm,0.5s
O22K **Cooper Landing** 16.86 49 P P 03 58 16.0 +1.1
baz=250
SEW **Seward** 16.86 50 P Pn 03 58 13.0 -0.8
baz=252
E17K **Hotham Inlet** 16.87 19 P P 03 58 15.4 +0.4
baz=211,SNR=6.0
F18K **Selawik** 16.95 22 P P 03 58 16.7 +0.9
baz=216,SNR=5.2
H19K **Roundabout Mou** 16.98 28 P P 03 58 17.9 +1.7
H19K **Roundabout Mou** 16.98 28 P P 03 58 17.3 +1.1
baz=225,SNR=6.2
RC01 **Rabbit Creek A** 17.07 47 P P 03 58 18.3 +1.1
baz=248
I20K **Naaghedeneel** 17.10 32 P Pn 03 58 17.4 +0.8
I20K **Naaghedeneel** 17.10 32 P P 03 58 18.6 +1.1
baz=230
CAST **Castle Rocks** 17.14 38 P P 03 58 19.4 +1.3
baz=238,SNR=24
M22K **Willow** 17.15 44 P Pn 03 58 18.6 +1.2
baz=246
D17K **Noatak River** 17.17 17 P P 03 58 19.3 +1.0
baz=208
G19K **Purcell Mounta** 17.25 26 P 03 58 20.4 +1.2
G19K PcP 04 02 59.2 +1.2
G19K **Purcell Mounta** 17.25 26 P P 03 58 20.0 +0.8
baz=222,SNR=6.1
CHUM **Lake Minchumin** 17.30 36 P P 03 58 20.6 +0.8
baz=236
C16K **Lisburne Hills** 17.34 13 P P 03 58 21.7 +1.5
baz=202
E18K **Tukpahlearik C** 17.41 20 P P 03 58 21.7 +0.7
baz=213

H20K **Anotleneega Mo** 17.43 30 P Pn 03 58 21.4 +0.7
baz=228,SNR=13
RDOG **Red Dog Mine** 17.52 16 P Pn 03 58 22.4 +0.6
baz=207
PMR **Palmer** 17.52 45 P Pn 03 58 23.0 +1.1
baz=248
F19K **Shaleruckik Mo** 17.59 24 P P 03 58 25.4 +2.5
F19K PcP 04 02 59.1 +0.6
F19K **Shaleruckik Mo** 17.59 24 P P 03 58 23.8 +0.9
baz=219,SNR=10
KTH **Kantishna Hill** 17.65 38 IAmb IAmb 03 58 29.1
comp=Z,43nm,0.6s
KNK **Knik Glacier** 17.76 46 P P 03 58 25.1 +0.2
baz=249,SNR=5.3
P23K **Montague Islan** 17.82 51 P Pn 03 58 26.7 +1.2
baz=255
TRF **Thorofare Moun** 17.85 39 P P 03 58 26.9 +0.8
TRF PcP 04 02 59.6 +0.3
TRF **Thorofare Moun** 17.85 39 P Pn 03 58 27.3 +1.2
baz=241,SNR=12
C17K **DeLong Mountai** 17.85 15 P Pn 03 58 26.9 +0.9
baz=206
BPAW **Bear Paw Mtn.** 17.91 37 IAmb IAmb 03 58 33.2
comp=Z,23nm,0.4s
BPAW **Bear Paw Mtn.** 17.91 37 P Pn 03 58 27.7 +1.0
baz=238,SNR=31
SML **Sawmill** 17.96 45 P P 03 58 27.8 +0.7
baz=248,SNR=5.2
I21K **Tanana** 18.17 33 P Pn 03 58 31.9 +2.1
I21K PcP 04 03 00.8 +1.3
I21K **Tanana** 18.17 33 P Pn 03 58 30.9 +1.2
baz=234
H21K **Melozitna Rive** 18.19 31 P Pn 03 58 31.1 +1.1
baz=231,SNR=24
Q23K **Middleton Isla** 18.20 54 P P 03 58 30.1 +0.3
baz=258
E19K **Redstone River** 18.21 23 P Pn 03 58 31.6 +1.4
E19K PcP 04 03 00.8 +1.2
E19K **Redstone River** 18.21 23 P Pn 03 58 31.1 +0.8
baz=219,SNR=27
GLI **Glacier Island** 18.21 49 P P 03 58 30.8 +0.9
baz=253
M23K **Glacier View** 18.22 46 P P 03 58 30.8 +0.8
baz=249,SNR=17
WAT1 **Susitna Watana** 18.27 42 P P 03 58 31.4 +0.9
baz=245
F20K **Avaraart Lake** 18.28 25 P P 03 58 31.4 +0.9
baz=223
C18K **Utukok River** 18.35 17 P P 03 58 32.0 +0.6
baz=210,SNR=8.0
RND **Reindeer** 18.40 40 IAmb IAmb 03 58 34.5
comp=Z,39nm,0.5s
SCM **Sheep Creek Mo** 18.41 46 IAmb IAmb 03 58 36.1
comp=Z,63nm,1.6s
SCM **Sheep Creek Mo** 18.41 46 P P 03 58 32.7 +0.5
baz=250,SNR=5.8
WAT6 **Susitna Watana** 18.51 43 P P 03 58 33.8 +0.5
baz=247
MLY **Manley** 18.51 34 IAmb IAmb 03 58 36.4
comp=Z,37nm,0.6s
MLY **Manley** 18.51 34 P Pn 03 58 34.8 +0.8
baz=236,SNR=74
MCK **McKinley** 18.52 39 P P 03 58 34.3 +1.1
baz=242,SNR=16
BILL **Bilibino** 18.52 339 Pn 03 58 35.7 +1.7
BILL IAmb IAmb 03 58 36.4
comp=Z,33nm,0.7s
BWN **Browne** 18.52 38 IAmb IAmb 03 58 41.1
comp=Z,42nm,0.5s
G21K **Allakaket** 18.53 29 P Pn 03 58 36.0 +1.8
G21K PcP 04 03 01.5 +1.3
G21K **Allakaket** 18.53 29 P Pn 03 58 34.8 +0.6
baz=228,SNR=37
EYAK **Cordova Ski Ar** 18.76 50 P P 03 58 37.4 +1.6
baz=255
H22K **Ishtalitna Cre** 18.80 32 P Pn 03 58 37.8 +0.4
baz=233
D19K **Kuna River** 18.83 20 P Pn 03 58 38.2 +0.4
baz=216,SNR=19
DHY **Denali Highway** 18.86 42 IAmb IAmb 03 58 42.5
comp=Z,36nm,0.4s
DHY **Denali Highway** 18.86 42 P P 03 58 37.7 +0.5
baz=246,SNR=49
B18K **Kokolik River** 18.87 15 P Pn 03 58 38.2 0.0
baz=208
NEA2 **Nenana** 18.88 37 P P 03 58 38.0 +0.7
NEA2 PcP 04 03 01.4 +0.6
NEA2 **Nenana** 18.88 37 P P 03 58 38.2 +1.0
baz=240,SNR=12
KLU **Klutina** 18.94 47 P P 03 58 38.3 +0.4
KLU **Klutina** 18.94 47 P P 03 58 38.9 +1.0
baz=252,SNR=7.5
M24K **Tolsona, Glenn** 19.02 45 P P 03 58 40.0 +1.2
baz=250
F21K **Alatna River** 19.02 27 P Pn 03 58 40.2 +0.1
baz=226,SNR=27
C19K **Lookout Ridge** 19.04 18 P Pn 03 58 40.3 0.0
baz=212
I23K **Minto, Yukon-K** 19.07 35 IAmb IAmb 03 58 43.0
comp=Z,38nm,0.7s
I23K **Minto, Yukon-K** 19.07 35 P Pn 03 58 41.0 +0.5
baz=238,SNR=48
E20K **Nigu River** 19.08 22 P Pn 03 58 40.9 +0.1
baz=220,SNR=36
WRH **Wood River Hil** 19.19 38 IAmb IAmb 03 58 44.4
comp=Z,17nm,0.5s
KAIM **Kayak Island** 19.27 53 P Pn 03 58 43.6 +0.7
baz=259
D20K **Etivluk River** 19.34 21 P Pn 03 58 43.6 -0.2
baz=218
H23K **Yukon River** 19.37 33 IAmb IAmb 03 58 46.0
comp=Z,33nm,0.8s
H23K **Yukon River** 19.37 33 P Pn 03 58 44.7 +0.5
baz=236,SNR=40
CCB **Clear Creek Bu** 19.39 37 P P 03 58 42.3 -0.4
CCB IAmb IAmb 03 58 49.3
comp=Z,30nm,0.8s
CCB PcP 04 03 01.9 +0.2
G22K **Bettles** 19.40 29 P P 03 58 44.3 +1.5
baz=230
BMRM **Bremner River** 19.41 49 P P 03 58 44.3 +1.3
baz=256
COLA **College** 19.48 37 P Pn 03 58 47.1 +1.7
COLA **College** 19.48 37 P P 03 58 42.7 -1.0
COLA IAmb IAmb 03 58 49.8
comp=Z,29nm,0.3s
COLA **College** 19.48 37 P P 03 58 44.2 +0.6
baz=241
COLA **College** 19.48 37 *i* P P 03 58 44.8 +1.2
COLA pmax pmax
comp=Z,19nm,0.9s
HARP **HAARP** 19.57 45 P Pn 03 58 46.7 +0.2
baz=251,SNR=9.2
N25K **Chitina, Valde** 19.58 48 P P 03 58 45.5 +0.6
baz=254
F22K **John River** 19.59 27 P Pn 03 58 47.0 +0.3
baz=228
HDA **Harding Lake** 19.60 39 IAmb IAmb 03 58 48.0
comp=Z,24nm,0.6s
HDA **Harding Lake** 19.60 39 P P 03 58 46.2 +1.1
baz=243,SNR=38
PAX **Paxson** 19.62 43 P P 03 58 47.2 +1.8
baz=249,SNR=24
G23K **Bananza Creek** 19.73 31 P P 03 58 48.1 +1.7
baz=233,SNR=27
A19K **Wainwright** 19.74 15 P Pn 03 58 48.2 -0.2
baz=208
POKR **Poker Plat Res** 19.75 36 IAmb IAmb 03 58 49.6
comp=Z,27nm,0.6s
POKR **Poker Plat Res** 19.75 36 P P 03 58 47.3 +0.7
baz=241,SNR=8.5
E21K **Killik River** 19.76 24 P P 03 58 48.0 +1.2
E21K PcP 04 03 03.4 +1.1
E21K **Killik River** 19.76 24 P P 03 58 48.0 +1.2
baz=223
IL31 19.79 38 IAmb IAmb 03 58 53.0
comp=Z,18nm,0.5s
ILAR **Eielson Array** 19.79 38 P P 03 58 46.3 -0.8
ILAR **Eielson Array** 19.79 38 P P 03 58 46.4 -0.7
comp=Z,7.1nm,0.5s,baz=240,slow=9.6,SNR=62
ILAR S S 04 02 25.9 -0.5
comp=Z,0.8nm,0.9s,baz=222,slow=12,SNR=1.9
ILAR PcP PcP 04 03 02.6 +0.3
comp=Z,0.5nm,0.4s,baz=234,slow=3.7,SNR=5.4
ILAR ScP ScP 04 06 32.9 +0.2
comp=Z,0.3nm,0.4s,baz=264,slow=2.8,SNR=6.1
ILAR LR LR 04 07 35.4
comp=Z,140nm,18.8s,baz=240,slow=40
K24K **Donnelly Dome** 19.81 41 P P 03 58 47.9 +0.6
baz=246,SNR=48
BGLC **Bering Glacier** 19.86 52 P P 03 58 49.3 +1.5
baz=259
H24K **Noodor Dome** 19.96 34 IAmb IAmb 03 58 52.2
comp=Z,45nm,0.7s
H24K **Noodor Dome** 19.96 34 P P 03 58 49.9 +1.0
baz=238,SNR=88
COLD **Coldfoot** 19.99 29 P P 03 58 50.6 +1.4
baz=232,SNR=21
C21K **Knifeblade Rid** 20.10 22 P Pn 03 58 52.4 -0.4
baz=220,SNR=12
E22K **Anaktuvuk Pass** 20.11 26 P P 03 58 51.9 +1.3
baz=227
MA2 **Magadan** 20.24 306 P P 03 58 51.0 -1.0
MA2 **Magadan** 20.24 306 P P 03 58 52.0 +0.1
comp=Z,4.3nm,0.5s,baz=115,slow=18,SNR=1.8
MA2 LR LR 04 06 10.2
comp=Z,127nm,21.5s,baz=112,slow=35
comp=Z,4.3nm,0.5s
MA2 **Magadan** 20.24 306 *i* P P 03 58 52.9 +0.9
MA2 pmax pmax
comp=Z,12nm,1.4s
MCARA **McCarthy VSAT** 20.25 49 P P 03 58 53.4 +1.3
MCARA **McCarthy VSAT** 20.25 49 P P 03 58 53.2 +1.1
baz=256
SEY **Seymchan** 20.26 316 P P 03 58 52.6 +0.4
comp=Z,6.9nm,0.6s,baz=106,slow=12,SNR=11
SEY PcP PcP 04 03 03.4 +0.1
comp=Z,4.5nm,0.6s,baz=147,slow=7.2,SNR=5.8
SEY ScP ScP 04 06 33.8 -0.1
comp=Z,2.0nm,0.2s,baz=70,slow=10.0,SNR=4.2
SEY LR LR 04 06 53.3
comp=Z,347nm,18.8s,baz=120,slow=37
comp=Z,6.9nm,0.6s
SEY **Seymchan** 20.26 316 *ce* P P 03 58 53.4 +1.2
SEY pmax pmax
comp=Z,12nm,1.0s
B20K **Meade River** 20.27 18 P P 03 58 53.4 +1.3
B20K **Meade River** 20.27 18 P P 03 58 52.3 +0.1
baz=215
J25K **Salcha River,** 20.31 39 IAmb IAmb 03 58 55.3
comp=Z,33nm,0.5s
J25K **Salcha River,** 20.31 39 P P 03 58 52.2 -0.6
baz=245,SNR=60
MENT **Mentasta** 20.37 44 P Pn 03 58 59.3 +3.3
MENT **Mentasta** 20.37 44 IAmb IAmb 03 59 06.5
comp=Z,15nm,0.5s
D22K **Ayikyak River** 20.41 24 P Pn 03 58 55.7 -0.7
D22K IAmb IAmb 03 59 00.5
comp=Z,22nm,0.7s
D22K PcP 04 03 05.3 +1.8
D22K **Ayikyak River** 20.41 24 P P 03 58 54.0 +0.3
baz=224,SNR=25
ISLE **Juniper Island** 20.41 51 P P 03 58 53.7 -0.3
B21K **Ikpikpuk River** 20.50 21 IAmb IAmb 03 59 02.2
comp=Z,41nm,0.4s
B21K **Ikpikpuk River** 20.50 21 P P 03 58 55.3 +0.7
baz=220,SNR=27
M26K **Nabesna, AK** 20.52 46 P P 03 58 56.7 +1.6
baz=254,SNR=8.9
MESA **MESA** 20.53 53 P P 03 58 55.9 +0.6
baz=261
G24K **Hadweenzic Riv** 20.56 33 IAmb IAmb 03 59 16.6
comp=Z,44nm,0.9s
G24K **Hadweenzic Riv** 20.56 33 P P 03 58 56.5 +1.1
baz=237,SNR=22
L26K **Log Cabin Wild** 20.56 44 P P 03 58 56.8 +1.4
baz=252,SNR=11
SCRK **Sand Creek** 20.61 41 IAmb IAmb 03 58 57.7
comp=Z,44nm,0.6s
SCRK **Sand Creek** 20.61 41 P P 03 58 56.3 +0.2
baz=248,SNR=60
PRP **Porcupine Dome** 20.65 37 P P 03 58 57.4 +0.9
baz=243,SNR=11
E23K **Chandalar** 20.69 28 P P 03 58 58.1 +1.2
baz=231
F24K **Squaw Lake** 20.88 30 P P 03 59 00.7 +1.8
F24K IAmb IAmb 03 59 20.3
comp=Z,60nm,1.0s
F24K PcP 04 03 06.0 +1.6
F24K **Squaw Lake** 20.88 30 P P 03 59 00.2 +1.3
baz=235,SNR=21
H25L **Birch Creek** 20.90 35 P P 03 59 00.6 +1.6
baz=240,SNR=15
CTG **Chitna Glacier** 20.96 50 P P 03 58 60.0 0.0
baz=259
J26L **Joseph Creek** 20.98 40 IAmb IAmb 03 59 02.3
comp=Z,42nm,0.6s
J26L **Joseph Creek** 20.98 40 P P 03 59 00.8 +0.8
baz=248,SNR=88
D23K **Nanushuk River** 20.99 25 P P 03 59 00.6 +0.6
baz=227
M27K **Edge Creek, AK** 21.02 47 IAmb IAmb 03 59 24.0
comp=Z,30nm,0.9s
M27K **Edge Creek, AK** 21.02 47 P P 03 59 01.1 +0.6
baz=255,SNR=7.6
E24K **Your Creek** 21.03 29 IAmb IAmb 03 59 20.8
comp=Z,29nm,0.8s
E24K **Your Creek** 21.03 29 P P 03 59 00.9 +0.4
baz=232,SNR=17
G25K **Bearman Lake** 21.05 33 P P 03 59 01.0 +0.4
baz=239
TOLK **Toolik Lake Re** 21.07 27 P P 03 59 02.0 +1.0
TOLK IAmb IAmb 03 59 21.6
comp=Z,109nm,1.1s
TOLK **Toolik Lake Re** 21.07 27 P P 03 59 02.0 +1.0
baz=230,SNR=19
LOGN **Logan Glacier** 21.10 51 IAmb IAmb 03 59 11.9
comp=Z,60nm,1.8s
L27K **Beaver Creek,** 21.23 45 P P 03 59 03.4 +0.8
baz=253,SNR=11
BCAR **Beaver Creek A** 21.25 45 P P 03 59 03.3 +0.4
FYU **Fort Yukon** 21.25 34 IAmb IAmb 03 59 24.1
comp=Z,105nm,1.7s
B22K **Teshekpuk Lake** 21.31 21 IAmb IAmb 03 59 25.6
comp=Z,46nm,0.8s
B22K **Teshekpuk Lake** 21.31 21 P P 03 59 04.5 +1.1
baz=221
K27K **Chicken** 21.42 42 IAmb IAmb 03 59 08.4
comp=Z,25nm,0.7s
K27K **Chicken** 21.42 42 P P 03 59 05.7 +1.1
baz=251
I26K **Coal Creek Min** 21.45 38 IAmb IAmb 03 59 27.6
comp=Z,24nm,0.8s
I26K **Coal Creek Min** 21.45 38 P P 03 59 05.3 +0.4
baz=246
O28M **Mount Upton** 21.48 51 P P 03 59 05.9 +0.3
baz=261,SNR=13
A22K **Sinclair Lake** 21.51 19 P P 03 59 06.4 +1.0
baz=217
YUK3 **Moose Creek** 21.53 49 P P 03 59 07.2 +1.1
baz=258,SNR=14
C23K **Itkillik River** 21.60 24 P P 03 59 07.9 +1.4
C23K PcP PcP 04 03 07.4 +1.7
C23K **Itkillik River** 21.60 24 P P 03 59 08.0 +1.4
baz=226,SNR=29
D24K **Happy Valley** 21.61 26 IAmb IAmb 03 59 29.3
comp=Z,53nm,0.8s
D24K **Happy Valley** 21.61 26 P P 03 59 07.6 +1.0
baz=230,SNR=13
F25K **Christian Rive** 21.64 31 P P 03 59 07.8 +0.8
baz=238,SNR=21
PNL **Peninsula** 21.74 54 P P 03 59 08.5 +0.4
baz=265
YUK8 **Steele Glacier** 21.77 50 P P 03 59 08.7 0.0
baz=260
G26K **Porcupine Rive** 21.94 34 P P 03 59 10.3 +0.1
baz=242,SNR=10
E25K **Arctic Village** 21.95 30 IAmb IAmb 03 59 33.0
comp=Z,42nm,1.2s
E25K **Arctic Village** 21.95 30 P P 03 59 10.9 +0.6
baz=237,SNR=9.9
C24K **Franklin Bluff** 22.02 25 P P 03 59 11.2 +0.3
baz=229
EGAK **Eagle** 22.04 40 IAmb IAmb 03 59 34.8
comp=Z,40nm,0.7s
EGAK **Eagle** 22.04 40 P P 03 59 11.8 +0.5
baz=250,SNR=25
I27K **Kandik River** 22.16 38 P P 03 59 12.3 -0.4
baz=248
F26K **Sheenjek River** 22.18 32 P P 03 59 13.4 +0.5
baz=240,SNR=16
YUK4 **Talbot Arm** 22.31 50 P P 03 59 15.1 +0.6
baz=261
YUK6 **Outpost Mounta** 22.39 51 P P 03 59 14.5 -0.9
baz=262

D25K	**Kavik River**	**22.40**	**27**	IAmb	IAmb	03 59 37.1			**ERM**	**Erimo**	**29.35**	**267**	P	**P**	**04 00 19.3 +0.4**		**TJN**	**Taejon**	**42.53**	**272**	P	**P**	**04 02 11.7 +0.3**
	comp=Z,27nm,0.8s								ERM				pmax	pmax			**TJN**	**Taejon**	**42.53**	**272**	P	**P**	**04 02 11.7 +0.3**
D25K	**Kavik River**	**22.40**	**27**	P	**P**	**03 59 14.9 -0.2**				comp=Z,21nm,0.9s							**TPH**	**Tonopah**	**42.53**	**85**	IAmb	IAmb	04 02 38.2
	baz=233,SNR=9.8								**WRGLY**	**Wrigley**	**29.50**	**47**	P	**P**	**04 00 20.5 +0.5**			comp=Z,20nm,0.8s					
H27K	**Steamboat Moun**	**22.44**	**37**	P	**P**	**03 59 15.2 -0.4**				baz=272							**VES**	**Vestal, Richgr**	**42.79**	**89**	P	**P**	**04 02 14.5 +1.0**
	baz=246								**C36M**	**Paulatuk**	**29.66**	**34**	P	**P**	**04 00 21.8 +0.4**			baz=310					
DAWY	**Dawson**	**22.56**	**43**	P	**P**	**03 59 17.2 +0.4**				baz=260							**H17A**	**Grant Village**	**42.87**	**73**	IAmb	IAmb	04 02 29.9
	baz=254,SNR=24								**A36M**	**Sachs Harbour**	**29.85**	**29**	P	**P**	**04 00 22.8 -0.2**			comp=Z,16nm,1.2s					
P29M	**Windy Craggy**	**22.58**	**55**	P	**P**	**03 59 16.5 -0.7**				baz=255							**H17A**	**Grant Village**	**42.87**	**73**	P	**P**	**04 02 15.5 +1.2**
P29M	**Windy Craggy**	**22.58**	**55**	P	**P**	**03 59 17.4 +0.2**			**YAK**	**Yakutsk**	**30.59**	**311**	LR	LR	04 12 48.4			baz=304,SNR=7.4					
	baz=266									comp=Z,142nm,20.9s,baz=90,slow=36							**CWC**	**Cottonwood Cre**	**43.03**	**87**	P	**P**	**04 02 16.1 +0.5**
M29M	**Somme Creek**	**22.59**	**47**	P	**P**	**03 59 17.7 +0.4**			**TIXI**	**Tiksi**	**31.25**	**330**	LR	LR	04 14 53.1			baz=310					
M29M	**Somme Creek**	**22.59**	**47**	P	**P**	**03 59 17.0 -0.2**				comp=Z,95nm,18.1s,baz=52,slow=40							**HVU**	**Hansel Valley**	**43.04**	**78**	IAmb	IAmb	04 02 31.0
	baz=259,SNR=7.9								**TIXI**	**Tiksi**	**31.25**	**330**	*ce*P	**P**	**04 00 35.5 +0.1**			comp=Z,7.8nm,0.7s					
G27K	**Doyon Strip**	**22.63**	**35**	P	**P**	**03 59 17.6 0.0**			TIXI				pmax	pmax			**R11B**	**Troy Canyon, C**	**43.38**	**83**	P	**P**	**04 02 18.6 +0.1**
	baz=245									comp=Z,3.0nm,1.4s								baz=308,SNR=9.4					
I28M	**Miner Creek**	**22.76**	**39**	P	**P**	**03 59 18.4 -0.7**			**KLR**	**Kul'dur**	**32.88**	**287**	P	**P**	**04 00 49.5 -0.5**		**MPMC**	**Manual Prospec**	**43.64**	**87**	P	**P**	**04 02 19.4 -1.2**
I28M					PcP	**04 03 09.8 +1.5**				comp=Z,13nm,0.4s,baz=71,slow=7.4,SNR=90								baz=310					
I28M	**Miner Creek**	**22.76**	**39**	P	**P**	**03 59 18.8 -0.2**			KLR				LR	LR	04 14 28.2		**LRMC**	**Laurel Mtn Rad**	**43.89**	**88**	P	**P**	**04 02 22.1 -0.4**
	baz=250,SNR=23									comp=Z,43nm,21.9s,baz=57,slow=37								baz=310					
HYT	**Haines Junctio**	**22.80**	**52**	P	**P**	**03 59 19.3 -0.2**				comp=Z,13nm,0.4s							**DUG**	**Dugway, Tooele**	**43.95**	**79**	IAmb	IAmb	04 02 38.6
	baz=264								**KLR**	**Kul'dur**	**32.88**	**287**	*ce*P	**P**	**04 00 49.8 -0.1**			comp=Z,30nm,1.2s					
L29M	**L29M**	**22.87**	**46**	P	**P**	**03 59 20.4 +0.2**			KLR				pmax	pmax			**DUG**	**Dugway, Tooele**	**43.95**	**79**	P	**P**	**04 02 22.4 -0.6**
	baz=258,SNR=8.6									comp=Z,9.0nm,0.6s								baz=307,SNR=6.0					
P30M	**Million Dollar**	**23.00**	**53**	P	**P**	**03 59 21.3 -0.2**			**YKA**	**Yellowknife Ar**	**33.61**	**47**	PcP	**PcP**	**04 03 36.0 +1.2**		**TULEG**	**Thule**	**44.03**	**19**	*i* P	**P**	**04 02 19.4 -3.7**
	baz=266								**YKA**	**Yellowknife Ar**	**33.61**	**47**	P	**P**	**04 00 56.1 0.0**		TULEG				IAmb	IAmb	04 02 22.0
N30M	**Aishikik Lake**	**23.07**	**50**	P	**P**	**03 59 22.0 -0.2**				comp=Z,3.0nm,0.7s,baz=288,slow=9.1,SNR=29								comp=Z,36nm,0.9s					
	baz=263								YKA				PcP	**PcP**	**04 03 36.1 +1.3**		**EDW2**	**Edwards Air Fo**	**44.09**	**89**	P	**P**	**04 02 24.7 +0.6**
J29N	**Klondike Camp**	**23.16**	**42**	P	**P**	**03 59 23.6 +0.6**				comp=Z,8.4nm,0.7s,baz=294,slow=3.3,SNR=45								baz=311					
	baz=254								YKA				ScP	**ScP**	**04 07 13.8 +0.2**		**TCUT**	**Toone Canyon**	**44.26**	**77**	IAmb	IAmb	04 02 40.9
C26K	**Camden Bay**	**23.17**	**27**	P	**P**	**03 59 23.2 +0.2**				comp=Z,0.7nm,0.8s,baz=301,slow=3.4,SNR=3.9								comp=Z,68nm,1.8s					
	baz=234,SNR=21								YKA				LR	LR	04 16 23.2		**PRN**	**Pahroc Range**	**44.29**	**84**	IAmb	IAmb	04 02 48.8
E27K	**Coleen River**	**23.27**	**32**	P	**P**	**03 59 24.6 +0.7**				comp=Z,92nm,18.5s,baz=285,slow=39								comp=Z,12nm,0.6s					
E27K					PcP	**04 03 10.8 +1.7**				comp=Z,3.0nm,0.7s							**PSUT**	**Pine Spring**	**44.33**	**82**	IAmb	IAmb	04 02 49.3
E27K	**Coleen River**	**23.27**	**32**	P	**P**	**03 59 24.0 0.0**			**GNW**	**Green Mountain**	**33.91**	**76**	IAmb	IAmb	04 01 14.7			comp=Z,6.3nm,0.6s					
	baz=242									comp=Z,8.2nm,0.8s							**DGMT**	**Dagmar**	**44.34**	**65**	IAmb	IAmb	04 02 27.3
K29M	**Barlow Dome**	**23.30**	**44**	P	**P**	**03 59 24.0 -0.4**			**H11N2**	**WAKE ISLAND Hy**	**34.72**	**209**	T	T	04 37 38.6			comp=Z,12nm,0.8s					
K29M				IAmb	IAmb	03 59 26.1				baz=18,slow=76,SNR=9150							**DGMT**	**Dagmar**	**44.34**	**65**	P	**P**	**04 02 25.1 -0.7**
	comp=Z,21nm,0.7s								**H11N3**	**WAKE ISLAND Hy**	**34.73**	**209**	T	T	04 37 39.3			baz=302					
K29M					PcP	**04 03 11.0 +1.6**				baz=18,slow=76,SNR=5280							**PD31**	**Pinedale Array**	**44.40**	**74**	IAmb	IAmb	04 02 42.2
K29M	**Barlow Dome**	**23.30**	**44**	P	**P**	**03 59 24.2 -0.3**			**H11N1**	**WAKE ISLAND Hy**	**34.73**	**209**	T	T	04 37 40.0			comp=Z,8.4nm,0.8s					
	baz=257,SNR=43									baz=18,slow=76,SNR=4362							**PDAR**	**Pinedale Array**	**44.40**	**74**	P	**P**	**04 02 27.9 +1.1**
C27K	**Jago River**	**23.35**	**28**	P	**P**	**03 59 24.7 0.0**			**HEH**	**HeiHe**	**35.00**	**291**	*e*P	P	04 01 03.8 -4.5			comp=Z,6.2nm,0.7s,baz=304,slow=5.5,SNR=40					
	baz=236,SNR=5.2								HEH				pmax	pmax			PDAR				LR	LR	04 18 42.1
M30M	**Minto, Yukon**	**23.37**	**47**	P	**P**	**03 59 25.0 -0.1**				comp=Z,9.0nm,0.9s								comp=Z,53nm,19.9s,baz=294,slow=33					
	baz=260								**USA0B**	**Ussuriysk Arra**	**35.10**	**279**	IAmb	IAmb	04 01 11.4			comp=Z,6.2nm,0.7s					
I29M	**Ogilvie Camp,**	**23.38**	**40**	IAmb	IAmb	03 59 26.5				comp=Z,21nm,1.4s							**GSC**	**Goldstone, Bar**	**44.55**	**88**	P	**P**	**04 02 27.4 -0.4**
	comp=Z,22nm,0.5s								**USA0B**	**Ussuriysk Arra**	**35.10**	**279**	*i* P	**P**	**04 01 09.7 +0.5**			baz=311					
I29M	**Ogilvie Camp,**	**23.38**	**40**	P	**P**	**03 59 24.5 -0.5**			**USRK**	**Ussuriysk Ar.**	**35.10**	**279**	P	**P**	**04 01 09.0 -0.2**		**NLU**	**North Lily Min**	**44.55**	**79**	IAmb	IAmb	04 02 43.2
	baz=252,SNR=39									comp=Z,7.9nm,0.7s,baz=67,slow=5.8,SNR=10								comp=Z,9.5nm,0.8s					
O30N	**Mendenhall**	**23.48**	**52**	P	**P**	**03 59 26.0 -0.1**			USRK				PcP	**PcP**	**04 03 40.0 +0.5**		**FMP**	**Fort Macarthur**	**44.67**	**91**	P	**P**	**04 02 29.0 +0.4**
	baz=265									comp=Z,4.0nm,0.7s,baz=56,slow=0.5,SNR=5.8								baz=312					
F28M	**Old Crow**	**23.60**	**34**	P	**P**	**03 59 27.7 +0.6**			USRK				LR	LR	04 15 10.5		**BFSC**	**Mount Baldy Ra**	**44.72**	**90**	P	**P**	**04 02 30.2 +1.0**
F28M					PcP	**04 03 11.2 +1.3**				comp=Z,71nm,21.2s,baz=42,slow=36								baz=311					
F28M	**Old Crow**	**23.60**	**34**	P	**P**	**03 59 26.9 -0.1**				comp=Z,7.9nm,0.7s							**MPU**	**Maple Canyon**	**44.78**	**79**	IAmb	IAmb	04 02 51.8
	baz=246,SNR=19								**B08A**	**Ville Reser**	**35.64**	**73**	IAmb	IAmb	04 01 29.6			comp=Z,7.9nm,0.6s					
H29M	**Whitestone**	**23.63**	**38**	P	**P**	**03 59 26.8 -0.5**				comp=Z,10nm,0.7s							**XLT**	**XiLinHaoTe**	**44.88**	**288**	*e*P	**P**	**04 02 29.8 -0.5**
H29M				IAmb	IAmb	03 59 28.8			**MAJO**	**Matsushiro**	**35.70**	**263**	P	**P**	**04 01 14.5 +0.1**		XLT				pP	pP	04 02 44.5 -1.8
	comp=Z,18nm,0.8s								MAJO				IAmb	IAmb	04 01 15.9		XLT				sP	sP	04 02 51.5 -2.1
H29M				PcP	**PcP**	**04 03 11.3 +1.4**				comp=Z,26nm,1.2s							XLT				pmax	pmax	
H29M	**Whitestone**	**23.63**	**38**	P	**P**	**03 59 26.8 -0.5**			**MAJO**	**Matsushiro**	**35.70**	**263**	*i* P	**P**	**04 01 15.5 +1.1**			comp=Z,5.0nm,0.7s					
	baz=250,SNR=20								MAJO				pmax	pmax			XLT				pmax	pmax	
N31M	**Braeburn, Yuko**	**23.70**	**50**	P	**P**	**03 59 29.1 +1.1**				comp=Z,20nm,1.2s								comp=Z,70nm,4.9s					
	baz=264								**MJAR**	**Matsushiro Arr**	**35.70**	**263**	P	**P**	**04 01 14.8 +0.3**		**BSUT**	**Blindstream Ca**	**45.00**	**78**	IAmb	IAmb	04 02 54.2
D27M	**Malcolm River**	**23.98**	**30**	P	**P**	**03 59 31.1 +0.6**				comp=Z,4.4nm,0.7s,baz=48,slow=7.7,SNR=14								comp=Z,6.8nm,0.7s					
	baz=241								MJAR				LR	LR	04 14 10.8		**CCUT**	**Cedar City**	**45.25**	**83**	IAmb	IAmb	04 02 49.4
J30M	**Hart River**	**23.98**	**42**	P	**P**	**03 59 29.9 -0.7**				comp=Z,63nm,20.6s,baz=64,slow=33								comp=Z,15nm,1.7s					
J30M				IAmb	IAmb	03 59 33.3				comp=Z,4.4nm,0.7s							**MVU**	**Marysvale**	**45.36**	**81**	IAmb	IAmb	04 02 50.1
	comp=Z,18nm,0.8s								**MJB9**	**Matsu-Tunnel**	**35.70**	**263**	IAmb	IAmb	04 01 16.9			comp=Z,26nm,0.9s					
J30M					PcP	**04 03 12.2 +1.4**				comp=Z,25nm,1.2s							**GMRC**	**Granite Mounta**	**45.60**	**87**	P	**P**	**04 02 35.7 -0.4**
J30M	**Hart River**	**23.98**	**42**	P	**P**	**03 59 31.4 +0.8**			**H04A**	**Detroit Lake**	**35.70**	**80**	IAmb	IAmb	04 01 30.0			baz=311					
	baz=256,SNR=26								**VLA**	**Vladivostok**	**35.74**	**277**	*i* P	**P**	**04 01 15.9 +1.2**		**P17A**	**Butcher Ranch,**	**45.66**	**79**	IAmb	IAmb	04 02 51.6
G29M	**Pine Creek**	**23.99**	**36**	P	**P**	**03 59 31.4 +0.7**			VLA				pmax	pmax				comp=Z,9.6nm,0.7s					
	baz=249,SNR=12									comp=Z,22nm,0.8s							**RDMU**	**Red Mountain**	**45.70**	**77**	IAmb	IAmb	04 02 52.3
WHY	**Whitehorse**	**24.07**	**52**	P	**P**	**03 59 31.4 0.0**			**H11S1**	**WAKE ISLAND Hy**	**35.93**	**209**	T	T	04 39 10.2			comp=Z,14nm,0.7s					
	baz=267									baz=18,slow=76,SNR=1817							**Q16A**	**Castle Valley**	**45.74**	**80**	IAmb	IAmb	04 02 53.1
I30M	**Mount Dempster**	**24.12**	**41**	P	**P**	**03 59 30.9 -1.0**			**H11S2**	**WAKE ISLAND Hy**	**35.94**	**209**	T	T	04 39 14.0			comp=Z,30nm,1.3s					
I30M				IAmb	IAmb	03 59 34.2				baz=18,slow=76,SNR=1663							**P18A**	**Preston Nutter**	**45.87**	**78**	IAmb	IAmb	04 02 55.4
	comp=Z,21nm,0.8s								**H11S3**	**WAKE ISLAND Hy**	**35.95**	**209**	T	T	04 39 11.7			comp=Z,20nm,1.3s					
I30M	**Mount Dempster**	**24.12**	**41**	P	**P**	**03 59 31.4 -0.5**				baz=18,slow=76,SNR=950							**PFO**	**Pinyon Flats O**	**45.88**	**89**	LR	LR	04 17 41.6
	baz=255,SNR=42								**I04A**	**Tendick Farm,**	**36.03**	**81**	P	**P**	**04 01 19.0 +1.8**			comp=Z,68nm,20.4s,baz=248,slow=30					
E28M	**Babbage River**	**24.14**	**32**	P	**P**	**03 59 32.9 +1.0**			I04A				IAmb	IAmb	04 01 35.8		**BELC**	**Belle Mtn. Jos**	**45.91**	**89**	P	**P**	**04 02 36.4 -2.1**
E28M					PcP	**04 03 12.1 +1.1**				comp=Z,14nm,1.0s								baz=312					
E28M	**Babbage River**	**24.14**	**32**	P	**P**	**03 59 32.3 +0.4**			**I05D**	**Terrebonne, OR**	**36.40**	**80**	IAmb	IAmb	04 01 35.6		**KNB**	**Kanab**	**45.92**	**83**	IAmb	IAmb	04 02 54.8
	baz=244,SNR=7.3									comp=Z,34nm,1.4s								comp=Z,11nm,1.3s					
R32K	**Eaglecrest**	**24.23**	**58**	P	**P**	**03 59 34.3 +1.5**			**HAWA**	**Hanford**	**36.45**	**76**	IAmb	IAmb	04 01 36.0		**109C**	**Camp Elliot, M**	**45.96**	**91**	P	**P**	**04 02 38.4 -0.4**
R32K				IAmb	IAmb	03 59 49.4				comp=Z,14nm,0.8s								baz=312					
	comp=Z,14nm,0.6s								**PSTR**	**Posyet**	**36.66**	**277**	*i* P	**P**	**04 01 23.3 +0.7**		**PKCU**	**Pink Cliffs**	**45.96**	**82**	IAmb	IAmb	04 03 02.2
R32K	**Eaglecrest**	**24.23**	**58**	P	**P**	**03 59 33.0 +0.2**			**JGF**	**Kuroka**	**36.83**	**263**		**P**	**04 01 24.8 +0.7**			comp=Z,31nm,1.8s					
	baz=272								JGF				IAmb	IAmb	04 01 28.6		**SRU**	**San Rafael Swe**	**46.02**	**79**	IAmb	IAmb	04 02 55.1
S32K	**Killisnoo**	**24.25**	**60**	P	**P**	**03 59 33.4 +0.5**				comp=Z,7.2nm,0.6s								comp=Z,15nm,0.7s					
	baz=274								**YBH**	**Yreka Blue Hor**	**36.97**	**84**	LR	LR	04 13 23.8		**K22A**	**Casper**	**46.28**	**73**	IAmb	IAmb	04 02 56.0
EPYK	**Eagle Plains**	**24.31**	**38**	P	**P**	**03 59 32.8 -0.7**				comp=Z,79nm,19.9s,baz=282,slow=31								comp=Z,19nm,1.4s					
	baz=252,SNR=19								**NEW**	**Newport**	**36.99**	**72**	IAmb	IAmb	04 01 27.8		**K22A**	**Casper**	**46.28**	**73**	P	**P**	**04 02 40.4 -1.0**
M31M	**Drury Creek, Y**	**24.43**	**49**	P	**P**	**03 59 35.4 +0.8**				comp=Z,11nm,0.8s								baz=306					
	baz=264								**NEW**	**Newport**	**36.99**	**72**	P	**P**	**04 01 25.3 -0.1**		**IRM**	**Iron Mountain**	**46.33**	**88**	P	**P**	**04 02 41.9 +0.1**
E29M	**Blow River**	**24.59**	**33**	P	**P**	**03 59 36.5 +0.4**			**NEW**	**Newport**	**36.99**	**72**	LR	LR	04 13 44.9			baz=312					
E29M				IAmb	IAmb	03 59 39.8				baz=298,SNR=7.3							**NOR**	**Nord**	**46.42**	**4**	*i* P	**P**	**04 02 43.0 +1.1**
	comp=Z,14nm,0.7s								**NEW**	**Newport**	**36.99**	**72**	P	**P**	**04 01 25.3 -0.1**		NOR				IAmb	IAmb	04 03 02.3
E29M					PcP	**04 03 13.0 +1.0**				comp=Z,61nm,20.0s,baz=288,slow=31								comp=Z,6.8nm,0.9s					
E29M	**Blow River**	**24.59**	**33**	P	**P**	**03 59 36.7 +0.6**			**J05D**	**Fort Rock, OR**	**37.02**	**81**	P	**P**	**04 01 27.1 +1.3**		**RWWY**	**Rawlins**	**46.45**	**74**	IAmb	IAmb	04 02 59.3
	baz=246,SNR=14								J05D				IAmb	IAmb	04 01 42.4			comp=Z,7.1nm,1.0s					
P32M	**Atlin**	**24.62**	**55**	P	**P**	**03 59 37.0 +0.5**				comp=Z,36nm,1.5s							**BC3**	**Big Chuckawall**	**46.47**	**88**	P	**P**	**04 02 43.8 +0.8**
	baz=270								**K05A**	**Summer Lake**	**37.54**	**82**	P	**P**	**04 01 30.6 +0.3**			baz=312					
G30M	**tAoh Zraii Nji**	**24.69**	**37**	P	**P**	**03 59 36.3 -0.7**			K05A				IAmb	IAmb	04 01 52.4		**U15A**	**North Rim**	**46.62**	**83**	IAmb	IAmb	04 03 07.2
G30M					PcP	**04 03 12.6 +0.4**				comp=Z,16nm,1.0s								comp=Z,6.8nm,0.6s					
G30M	**tAoh Zraii Nji**	**24.69**	**37**	P	**P**	**03 59 37.3 +0.3**			**I07A**	**Izee**	**37.66**	**79**	IAmb	IAmb	04 01 46.7		**NEEM**	**North Greenlan**	**46.62**	**14**	*i* P	**P**	**04 02 42.9 -1.0**
	baz=251									comp=Z,10.0nm,0.8s							NEEM				IAmb	IAmb	04 03 04.6
D28M	**Stokes Point**	**24.72**	**31**	P	**P**	**03 59 37.6 +0.5**			**F10A**	**Beach Ranch, E**	**38.05**	**75**	IAmb	IAmb	04 02 09.1			comp=Z,38nm,1.1s					
	baz=244									comp=Z,4.6nm,0.7s							**O20A**	**White River Ci**	**46.77**	**77**	P	**P**	**04 02 46.6 +1.2**
FARO	**Faro, Yukon**	**24.92**	**49**	P	**P**	**03 59 40.2 +1.1**			**RES**	**Resolute Bay**	**38.63**	**25**	LR	LR	04 19 39.8			baz=308,SNR=15					
	baz=265									comp=Z,70nm,21.1s,baz=244,slow=39							**PDMCI**	**Parker Dam,Lak**	**46.86**	**87**	P	**P**	**04 02 45.8 0.0**
N32M	**Quiet Lake**	**24.97**	**51**	P	**P**	**03 59 40.2 +0.6**			**J08A**	**Circle Bar Ran**	**38.67**	**79**	IAmb	IAmb	04 01 55.2			baz=311					
	baz=267									comp=Z,14nm,0.7s							**RSSD**	**Black Hills**	**46.88**	**70**	P	**P**	**04 02 46.9 +0.7**
F30M	**Barrier River**	**25.05**	**36**	P	**P**	**03 59 40.8 +0.6**			**WVOR**	**Wild Horse Val**	**39.09**	**81**	IAmb	IAmb	04 01 58.4		RSSD				IAmb	IAmb	04 02 47.7
	baz=251									comp=Z,14nm,0.8s								comp=Z,12nm,1.3s					
P33M	**Teslin, Yukon**	**25.07**	**53**	P	**P**	**03 59 40.5 -0.1**			**MSO**	**Missoula**	**39.57**	**72**	IAmb	IAmb	04 01 49.3		**RSSD**	**Black Hills**	**46.88**	**70**	P	**P**	**04 02 45.7 -0.5**
	baz=269									comp=Z,10nm,0.9s								baz=306					
H31M	**Peel River**	**25.08**	**40**	P	**P**	**03 59 40.1 -0.4**			**MSO**	**Missoula**	**39.57**	**72**	P	**P**	**04 01 46.8 -0.3**		**RSSD**	**Black Hills**	**46.88**	**70**	P	**P**	**04 02 46.9 +0.7**
H31M					PcP	**04 03 13.6 +0.5**				baz=301,SNR=13							RSSD				pmax	pmax	
H31M	**Peel River**	**25.08**	**40**	P	**P**	**03 59 41.1 +0.6**			**HIA**	**Hailar**	**39.88**	**293**	P	**P**	**04 01 49.0 -0.6**			comp=Z,12nm,1.3s					
	baz=256								HIA				IAmb	IAmb	04 01 50.9		**RSSD**	**Black Hills**	**46.88**	**70**	P	**P**	**04 02 46.6 +0.5**
U33K	**Whale Pass**	**25.19**	**63**	P	**P**	**03 59 42.6 +1.1**				comp=Z,12nm,0.6s							RSSD				pP	**pP**	**04 03 00.7 -1.6**
	baz=278								**HIA**	**Hailar**	**39.88**	**293**	P	**P**	**04 01 49.0 -0.6**		**MDND**	**Maddock**	**47.24**	**63**	P	**P**	**04 02 48.2 -0.5**
T33K	**Petersburg**	**25.19**	**61**	P	**P**	**03 59 42.6 +1.1**			HIA				pmax	pmax				baz=305					
	baz=277									comp=Z,12nm,0.6s							**N23A**	**Red Feather La**	**47.69**	**74**	IAmb	IAmb	04 03 08.5
CRAG	**Craig**	**25.29**	**65**	IAmb	IAmb	03 59 47.0			**JCJ**	**Chichijima**	**39.95**	**248**	LR	LR	04 15 29.3			comp=Z,12nm,1.1s					
	comp=Z,22nm,0.6s									comp=Z,41nm,20.8s,baz=122,slow=32							**N23A**	**Red Feather La**	**47.69**	**74**	P	**P**	**04 02 52.6 0.0**
CRAG	**Craig**	**25.29**	**65**	P	**P**	**03 59 43.0 +0.6**			**MFID**	**Camas Ranch**	**40.26**	**77**	P	**P**	**04 01 54.0 +1.1**			baz=308					
	baz=279								MFID				IAmb	IAmb	04 02 07.9		**WUAZ**	**Wupatki**	**47.78**	**84**	IAmb	IAmb	04 03 16.0
G31M	**Satah River**	**25.40**	**38**	P	**P**	**03 59 43.2 -0.2**				comp=Z,20nm,1.7s								comp=Z,5.9nm,0.7s					
G31M					PcP	**04 03 14.9 +1.1**			**HLID**	**Hailey**	**41.03**	**76**	P	**P**	**04 01 59.5 +0.2**		**WUAZ**	**Wupatki**	**47.78**	**84**	P	**P**	**04 02 52.9 -0.3**
G31M	**Satah River**	**25.40**	**38**	P	**P**	**03 59 44.1 +0.8**				baz=304,SNR=8.4								baz=311					
	baz=254								**EGMT**	**Eagleton**	**41.41**	**68**	IAmb	IAmb	04 02 04.1		**SMCO**	**Snowmass**	**48.13**	**77**	IAmb	IAmb	04 03 18.1
WRAK	**Wrangell Islan**	**25.57**	**62**	P	**P**	**03 59 45.1 +0.1**				comp=Z,34nm,1.3s								comp=Z,4.8nm,0.6s					
	baz=278								**EGMT**	**Eagleton**	**41.41**	**68**	P	**P**	**04 02 01.7 -0.5**		**SONM**	**Songino Array**	**48.15**	**298**	P	**P**	**04 02 55.2 -0.7**
MMPY	**Sheldon Lake,**	**25.92**	**48**	P	**P**	**03 59 48.1 0.0**				baz=301,SNR=12								comp=Z,1.6nm,0.6s,baz=51,slow=8.4,SNR=5.6					
	baz=266								**KSRS**	**Korea Array**	**41.51**	**273**	P	**P**	**04 02 03.9 +0.9**		SONM				PcP	**PcP**	**04 04 22.5 +0.2**
R33M	**Jennings River**	**26.03**	**55**	P	**P**	**03 59 49.3 0.0**				comp=Z,14nm,0.7s,baz=54,slow=8.1,SNR=48								comp=Z,3.1nm,0.6s,baz=62,slow=3.6,SNR=7.7					
	baz=273								KSRS				PcP	**PcP**	**04 04 00.3 +0.9**		SONM				ScP	**ScP**	**04 08 10.6 -0.6**
S34M	**Telegraph Cree**	**26.05**	**59**	P	**P**	**03 59 49.6 +0.2**				comp=Z,2.5nm,0.8s,baz=51,slow=3.9,SNR=4.7								comp=Z,0.8nm,0.5s,baz=64,slow=3.4,SNR=3.7					
	baz=276								KSRS				LR	LR	04 18 54.4		SONM				LR	LR	04 24 59.8
INK	**Inuvik**	**26.08**	**35**	P	**P**	**03 59 49.2 -0.2**				comp=Z,19nm,21.3s,baz=50,slow=36								comp=Z,47nm,18.4s,baz=106,slow=38					
INK				PcP	**PcP**	**04 03 16.3 +1.0**				comp=Z,14nm,0.7s								comp=Z,1.6nm,0.6s					
INK	**Inuvik**	**26.08**	**35**	P	**P**	**03 59 50.1 +0.6**			**KS19**	**Wonju Array Si**	**41.51**	**273**	IAmb	IAmb	04 02 05.0		**ZAK**	**Zakamensk**	**48.36**	**302**	*e*P	**P**	**04 02 56.7 -0.7**
	baz=252									comp=Z,16nm,0.8s							ZAK				pmax	pmax	
INK	**Inuvik**	**26.08**	**35**	LR	LR	04 11 33.0			**KSAR**	**Wonju Array Be**	**41.54**	**273**		**P**	**04 02 04.2 +0.9**			comp=Z,4.0nm,1.2s					
	comp=Z,137nm,19.2s,baz=188,slow=40								**KSAR**	**Wonju Array Be**	**41.54**	**273**	P	**P**	**04 02 04.2 +0.9**		**MVCO**	**Mesa Verde**	**48.45**	**80**	IAmb	IAmb	04 03 15.6
V35K	**Ketchikan**	**26.16**	**65**	P	**P**	**03 59 50.4 +0.1**			**BOZ**	**Bozeman (W)**	**41.58**	**72**	IAmb	IAmb	04 02 05.9			comp=Z,12nm,1.2s					
	baz=280									comp=Z,10.0nm,1.0s							**MVCO**	**Mesa Verde**	**48.45**	**80**	P	**P**	**04 02 58.0 -0.4**
DLBC	**Dease Lake**	**26.58**	**57**	P	**P**	**03 59 54.4 +0.2**			**BOZ**	**Bozeman (W)**	**41.58**	**72**	P	**P**	**04 02 02.6 -1.2**			baz=310					
	baz=275									baz=302,SNR=13							**ISCO**	**Idaho Springs**	**48.56**	**75**	P	**P**	**04 02 58.2 -1.2**
T35M	**Bob Quinn**	**26.64**	**61**	P	**P**	**03 59 54.4 -0.3**			**NVAR**	**Mina Array Bea**	**41.65**	**85**	P	**P**	**04 02 05.7 +1.3**			baz=309					
	baz=278								**NVAR**	**Mina Array Bea**	**41.65**	**85**	P	**P**	**04 02 06.3 +1.8**		**TIA**	**Tai'an**	**48.97**	**279**	P	**P**	**04 03 02.5 +0.3**
YSS	**Yuzh-Sakhalins**	**27.15**	**276**	*e*P	**P**	**04 00 01.2 +1.9**				comp=Z,1.2nm,0.8s,baz=293,slow=7.6,SNR

SUSD	**Miller**	**49.61**	**66**	P	**P**	04 03 07.4	**+0.4**
	baz=307,SNR=8.7									
HNS	**HongShan**	**49.68**	**282**	⇑P	**P**	**04 03 08.4**	**+0.9**
HNS				pP	**pP**	**04 03 26.4**	**+2.6**
HNS				PcP	**PcP**	**04 04 28.8**	**+0.9**
HNS				*e*S	**S**	**04 10 10.8**	**-0.6**
HNS				pmax	pmax		
	comp=Z,27nm,0.6s						
HNS				LR	LR		
	comp=Z,110nm,18.3s						
HNS				LR	LR		
	comp=Z,120nm,19.1s						
HNS				LR	LR		
	comp=Z,170nm,21.5s						
SDCO	**Great Sand Dun**	**49.93**	**77**	IAmb	IAmb	04 03 25.3	
	comp=Z,12nm,1.1s						
SDCO	**Great Sand Dun**	**49.93**	**77**	P	**P**	**04 03 09.7**	**-0.2**
	baz=310,SNR=7.8						
SPITS	**Spitsbergen Ar**	**50.13**	**357**	P	**P**	**04 03 10.0**	**-0.5**
	comp=Z,2.2nm,0.5s,baz=40,slow=4.7,SNR=17						
SPITS				LR	LR	04 24 22.9	
	comp=Z,97nm,20.5s,baz=340,slow=36						
	comp=Z,2.2nm,0.5s						
SPITS	**Spitsbergen Ar**	**50.13**	**357**	P	**P**	**04 03 10.0**	**-0.5**
F33A	**5 Mile Ranch,**	**50.26**	**63**	IAmb	IAmb	04 03 12.3	
	comp=Z,11nm,1.1s						
TUC	**Tucson**	**50.28**	**86**	P	**P**	**04 03 13.0**	**+0.7**
TUC	**Tucson**	**50.28**	**86**	P	**P**	**04 03 12.1**	**-0.2**
	baz=313						
TUC	**Tucson**	**50.28**	**86**	P	**P**	**04 03 13.0**	**+0.7**
TUC				pmax	pmax		
	comp=Z,3.0nm,0.8s						
TUC	**Tucson**	**50.28**	**86**	P	**P**	**04 03 13.6**	**+1.3**
TUC				pP	**pP**	**04 03 27.3**	**-1.1**
TUC				sP	sP	04 03 32.4	-3.2
TUC				PcP	**PcP**	**04 04 31.7**	**+1.4**
BTO	**Baotou**	**50.45**	**288**	*e*P	**P**	**04 03 13.8**	**+0.3**
BTO				pP	**pP**	**04 03 29.4**	**-0.3**
BTO				sP	**sP**	**04 03 36.6**	**-0.3**
BTO				PP	**PP**	**04 05 10.6**	**+1.3**
BTO				pmax	pmax		
	comp=Z,22nm,0.6s						
BTO				pmax	pmax		
	comp=Z,140nm,11.2s						
NUUG	**Nuugaatsiaq**	**50.52**	**20**	*i* P	**P**	**04 03 12.8**	**-0.7**
NUUG				IAmb	IAmb	04 03 14.3	
	comp=Z,6.8nm,0.5s						
NJ2	**Nanjing**	**50.67**	**274**	⇓P	**P**	**04 03 15.4**	**+0.3**
NJ2				pmax	pmax		
	comp=Z,29nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,100nm,4.5s						
KSCO	**Kaye Shedlock'**	**50.85**	**74**	IAmb	IAmb	04 03 32.7	
	comp=Z,13nm,0.9s						
KSCO	**Kaye Shedlock'**	**50.85**	**74**	P	**P**	**04 03 16.5**	**-0.1**
	baz=310						
DAG	**Danmarks Havn**	**50.93**	**7**	*i* P	**P**	**04 03 15.0**	**-1.4**
DAG				IAmb	IAmb	04 03 16.0	
	comp=Z,2.0nm,0.7s						
T25A	**Trinidad**	**50.99**	**77**	P	**P**	**04 03 17.4**	**-0.3**
	baz=311,SNR=6.1						
ANMO	**Albuquerque**	**51.18**	**81**	P	**P**	**04 03 18.5**	**-0.7**
	baz=312						
ANMO	**Albuquerque**	**51.18**	**81**	LR	LR	04 23 12.7	
	comp=Z,44nm,21.1s,baz=20,slow=34						
ANMO	**Albuquerque**	**51.18**	**81**	*i* P	**P**	**04 03 19.8**	**+0.6**
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.3s						
ECSD	**EROS Data Cent**	**51.38**	**66**	IAmb	IAmb	04 03 20.7	
	comp=Z,21nm,1.2s						
ECSD	**EROS Data Cent**	**51.38**	**66**	P	**P**	**04 03 20.0**	**-0.3**
	baz=309,SNR=16						
EYMN	**Ely**	**51.58**	**59**	P	**P**	**04 03 21.6**	**-0.2**
	baz=308						
FRB	**Frobisher Bay**	**51.72**	**33**	LR	LR	04 26 53.8	
	comp=Z,46nm,18.4s,baz=332,slow=38						
BGNE	**Belgrade**	**51.96**	**69**	P	**P**	**04 03 24.9**	**+0.2**
	baz=310						
121A	**Cookes Peak, D**	**51.98**	**84**	P	**P**	**04 03 25.4**	**+0.2**
	baz=313						
E38A	**The Farm, Brul**	**52.38**	**60**	IAmb	IAmb	04 03 28.0	
	comp=Z,10nm,0.9s						
SUMG	**Summit**	**52.47**	**15**	P	**P**	**04 03 28.7**	**+0.2**
SUMG				IAmb	IAmb	04 03 30.3	
	comp=Z,17nm,1.3s						
SUMG	**Summit**	**52.47**	**15**	P	**P**	**04 03 28.7**	**+0.2**
SUMG				pmax	pmax		
	comp=Z,17nm,1.3s						
SUMG	**Summit**	**52.47**	**15**	*i* P	**P**	**04 03 28.0**	**-0.5**
SUMG				IAmb	IAmb	04 03 29.4	
	comp=Z,7.2nm,0.7s						
SPMN	**Marine on St.**	**52.57**	**62**	IAmb	IAmb	04 03 30.4	
	comp=Z,6.5nm,0.9s						
SPMN	**Marine on St.**	**52.57**	**62**	P	**P**	**04 03 29.2**	**+0.1**
	baz=309						
CBKS	**Cedar Bluff**	**52.70**	**72**	P	**P**	**04 03 30.7**	**+0.5**
	baz=311						
LYN	**LuoYang**	**52.92**	**281**	⇓P	**P**	**04 03 32.6**	**+0.8**
LYN				pmax	pmax		
	comp=Z,54nm,1.1s						
DBG	**Daneborg**	**53.16**	**8**	*e*P	**P**	**04 03 31.8**	**-1.2**
G40A	**Rib Lake**	**53.96**	**61**	IAmb	IAmb	04 04 45.8	
	comp=Z,12nm,1.2s						
MNTX	**Cornudas Mount**	**54.04**	**83**	P	**P**	**04 03 41.3**	**+1.2**
	baz=314,SNR=9.7						
MSTX	**Muleshoe**	**54.09**	**79**	P	**P**	**04 03 40.2**	**-0.4**
	baz=313,SNR=7.2						
AMTX	**Amarillo**	**54.13**	**77**	IAmb	IAmb	04 03 55.8	
	comp=Z,10.0nm,0.7s						
AMTX	**Amarillo**	**54.13**	**77**	P	**P**	**04 03 40.7**	**-0.2**
	baz=312						
KSU1	**Kansas State U**	**54.35**	**70**	P	**P**	**04 03 42.3**	**0.0**
	baz=311						
SCIA	**State Center**	**54.47**	**65**	P	**P**	**04 03 43.4**	**+0.4**
	baz=311						
WHN	**Wuhan**	**54.50**	**276**	⇑P	**P**	**04 03 43.3**	**-0.1**
WHN				pmax	pmax		
	comp=Z,61nm,0.6s						
SFJD	**Kangerlussuaq**	**54.59**	**23**	LR	LR	04 30 45.1	
	comp=Z,50nm,18.4s,baz=310,slow=40						
SFJD	**Kangerlussuaq**	**54.59**	**23**	*i* P	**P**	**04 03 42.9**	**-0.6**
SFJD				IAmb	IAmb	04 03 44.2	
	comp=Z,6.4nm,0.4s						
I40A	**Norwalk**	**54.62**	**62**	IAmb	IAmb	04 03 44.8	
	comp=Z,11nm,0.8s						
VHRN	**Van Horn**	**54.91**	**83**	IAmb	IAmb	04 04 09.9	
	comp=Z,6.2nm,0.9s						
E43A	**Lone Tree Farm**	**54.95**	**58**	IAmb	IAmb	04 03 47.2	
	comp=Z,8.1nm,0.7s						
ZALV	**Zalesovo Beam**	**55.12**	**315**	P	**P**	**04 03 47.6**	**0.0**
	comp=Z,0.9nm,0.3s,baz=51,slow=7.2,SNR=4.0						
ZALV				PcP	**PcP**	**04 04 48.5**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=48,slow=6.1,SNR=5.0						
	comp=Z,0.9nm,0.3s						
ICESG	**Greenland Ices**	**55.24**	**18**	*i* P	**P**	**04 03 47.1**	**-1.5**
ICESG				IAmb	IAmb	04 03 49.0	
	comp=Z,11nm,0.9s						
DKNS	**Dickens**	**55.42**	**78**	IAmb	IAmb	04 04 05.1	
	comp=Z,15nm,0.8s						
XAN	**Xi'an**	**55.42**	**283**	⇓P	**P**	**04 03 49.8**	**-0.3**
XAN				pmax	pmax		
	comp=Z,21nm,0.7s						
XAN				pmax	pmax		
	comp=Z,160nm,8.4s						
JFWS	**Jewell Farm**	**55.47**	**63**	P	**P**	**04 03 49.9**	**-0.3**
	baz=311,SNR=7.8						
POST	**Post**	**55.48**	**79**	IAmb	IAmb	04 04 05.4	
	comp=Z,14nm,0.8s						
L40A	**Anamosa**	**55.49**	**64**	IAmb	IAmb	04 03 52.5	
	comp=Z,9.1nm,0.8s						
I42A	**Draeger Farm,**	**55.55**	**61**	IAmb	IAmb	04 03 51.5	
	comp=Z,9.4nm,0.7s						
SN07	**Snyder 07**	**55.83**	**78**	IAmb	IAmb	04 04 07.8	
	comp=Z,8.6nm,0.8s						
MNHN	**Monahans**	**55.90**	**81**	IAmb	IAmb	04 04 14.6	
	comp=Z,11nm,0.8s						
WMOK	**Wichita Mounta**	**55.99**	**75**	IAmb	IAmb	04 04 09.0	
	comp=Z,7.9nm,0.9s						
WMOK	**Wichita Mounta**	**55.99**	**75**	P	**P**	**04 03 54.2**	**+0.1**
	baz=313						
ALPN	**Alpine**	**56.03**	**83**	IAmb	IAmb	04 04 14.4	
	comp=Z,5.4nm,0.9s						
DY2G	**Dye2**	**56.05**	**22**	*i* P	**P**	**04 03 53.5**	**-0.8**
DY2G				IAmb	IAmb	04 03 54.8	
	comp=Z,5.2nm,0.7s						
APMT	**Aspermont**	**56.14**	**78**	IAmb	IAmb	04 04 10.1	
	comp=Z,17nm,1.1s						
LPIG	**La Paz**	**56.37**	**93**	LR	LR	04 22 43.5	
	comp=Z,43nm,19.8s,baz=272,slow=30						
L42A	**Oliver, Polo**	**56.39**	**63**	IAmb	IAmb	04 03 57.9	
	comp=Z,15nm,0.9s						
K43A	**Burlington**	**56.66**	**62**	IAmb	IAmb	04 03 59.1	
	comp=Z,12nm,0.9s						
TX31	**Lajitas Ar. Si**	**56.74**	**84**	IAmb	IAmb	04 04 20.7	
	comp=Z,6.8nm,1.1s						
TXAR	**Lajitas Array**	**56.74**	**84**	P	**P**	**04 04 00.3**	**+0.6**
TXAR	**Lajitas Array**	**56.74**	**84**	P	**P**	**04 04 00.4**	**+0.8**
	comp=Z,2.1nm,0.6s,baz=301,slow=5.0,SNR=29						
TXAR				PcP	**PcP**	**04 04 55.8**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=271,slow=1.6,SNR=3.8						
	comp=Z,2.1nm,0.6s						
ABTX	**Abilene, Hawle**	**56.92**	**78**	P	**P**	**04 04 00.5**	**-0.3**
	baz=314						
TUL3	**Leonard**	**56.97**	**72**	P	**P**	**04 04 01.4**	**+0.3**
	baz=313						
LZH	**Lanzhou**	**57.07**	**288**	⇑P	**P**	**04 04 02.8**	**+0.8**
LZH				PcP	**PcP**	**04 04 57.1**	**+0.9**
LZH				pmax	pmax		
	comp=Z,20nm,1.3s						
LZH				LR	LR		
	comp=Z,130nm,15.8s						
LZH				LR	LR		
	comp=Z,140nm,16.1s						
LZH				LR	LR		
	comp=Z,100nm,17.2s						
OZNA	**Ozona**	**57.19**	**80**	IAmb	IAmb	04 04 23.7	
	comp=Z,6.2nm,0.7s						
S39A	**Bolivar**	**57.21**	**69**	IAmb	IAmb	04 04 02.3	
	comp=Z,4.4nm,0.8s						
GLMI	**Grayling**	**57.23**	**58**	P	**P**	**04 04 02.4**	**-0.4**
	baz=312						
JMIC	**Jan Mayen**	**57.23**	**5**	LR	LR	04 29 22.2	
	comp=Z,27nm,19.7s,baz=258,slow=37						
L44A	**Lake County Fo**	**57.24**	**62**	P	**P**	**04 04 02.6**	**-0.3**
	baz=312						
U38A	**Gravette**	**57.44**	**71**	IAmb	IAmb	04 04 17.9	
	comp=Z,35nm,1.9s						
HDIL	**Hopedale**	**57.57**	**64**	P	**P**	**04 04 05.2**	**0.0**
	baz=313						
ENH	**Enshi**	**57.69**	**279**	P	**P**	**04 04 05.7**	**-0.5**
ENH				PcP	**PcP**	**04 04 58.8**	**+0.2**
HHAR	**Hobbs**	**57.81**	**71**	IAmb	IAmb	04 04 19.5	
	comp=Z,3.9nm,0.7s						
ARCES	**ARCESS Array B**	**58.03**	**351**	P	**P**	**04 04 07.4**	**-0.6**
	comp=Z,3.8nm,0.9s,baz=11,slow=8.0,SNR=8.7						
ARCES				PcP	**PcP**	**04 04 58.9**	**-0.3**
	comp=Z,4.7nm,1.1s,baz=24,slow=4.7,SNR=5.2						
ARCES				LR	LR	04 29 51.2	
	comp=Z,36nm,21.4s,baz=326,slow=37						
	comp=Z,3.8nm,0.9s						
CCM	**Cathedral Cave**	**58.17**	**68**	P	**P**	**04 04 08.6**	**-0.8**
CCM				IAmb	IAmb	04 04 09.5	
	comp=Z,8.0nm,0.9s						
CCM	**Cathedral Cave**	**58.17**	**68**	P	**P**	**04 04 09.2**	**-0.2**
	baz=313						
CCM	**Cathedral Cave**	**58.17**	**68**	P	**P**	**04 04 08.6**	**-0.8**
CCM				pmax	pmax		
	comp=Z,8.0nm,0.9s						
CCM	**Cathedral Cave**	**58.17**	**68**	P	**P**	**04 04 08.7**	**-0.8**
MGMO	**Mountain Grove**	**58.19**	**69**	IAmb	IAmb	04 04 09.5	
	comp=Z,9.4nm,0.8s						
BRDY	**Brady**	**58.24**	**79**	IAmb	IAmb	04 04 24.8	
	comp=Z,7.7nm,1.0s						
JCT	**Junction City**	**58.31**	**80**	P	**P**	**04 04 10.8**	**+0.2**
	baz=315						
ISOG	**Isortoq, Green**	**58.43**	**20**	*i* P	**P**	**04 04 08.8**	**-2.0**
ISOG				IAmb	IAmb	04 04 10.9	
	comp=Z,56nm,1.6s						
SCHQ	**Schefferville**	**58.53**	**40**	P	**P**	**04 04 11.2**	**-0.6**
	comp=Z,2.0nm,0.6s,baz=335,slow=6.7,SNR=8.1						
SCHQ				LR	LR	04 30 51.5	
	comp=Z,96nm,18.7s,baz=298,slow=37						
	comp=Z,2.0nm,0.6s						
DRIO	**Del Rio**	**58.56**	**81**	IAmb	IAmb	04 04 12.8	
	comp=Z,4.3nm,0.5s						
VLDQ	**Val d'Or**	**58.60**	**51**	IAmb	IAmb	04 04 11.2	
	comp=Z,6.7nm,0.8s						
ANGG	**Ammassalik, Gr**	**58.65**	**19**	*i* P	**P**	**04 04 09.8**	**-2.5**
WHTX	**Lake Whitney,**	**58.68**	**77**	IAmb	IAmb	04 04 27.8	
	comp=Z,16nm,0.9s						
WHTX	**Lake Whitney,**	**58.68**	**77**	P	**P**	**04 04 14.2**	**+1.1**
	baz=315,SNR=7.2						
SFIN	**Lafayette**	**58.92**	**63**	P	**P**	**04 04 15.0**	**+0.4**
	baz=314,SNR=13						
T42A	**Van Buren**	**58.96**	**68**	IAmb	IAmb	04 04 14.5	
	comp=Z,19nm,1.4s						
FCAR	**Ozark Folk Cen**	**59.15**	**70**	IAmb	IAmb	04 04 28.7	
	comp=Z,12nm,0.8s						
MIAR	**Mount Ida**	**59.23**	**72**	P	**P**	**04 04 17.5**	**+0.7**
	baz=314,SNR=6.9						
L48A	**N Adams**	**59.30**	**60**	IAmb	IAmb	04 04 18.4	
	comp=Z,7.4nm,0.7s						
HNDO	**Hondo**	**59.30**	**80**	IAmb	IAmb	04 04 37.7	
	comp=Z,3.8nm,0.7s						
N47A	**Urbana**	**59.35**	**62**	IAmb	IAmb	04 04 17.9	
	comp=Z,16nm,1.1s						
WHAR	**Wooly Hollow**	**59.47**	**71**	IAmb	IAmb	04 04 32.2	
	comp=Z,13nm,1.4s						
LCAR	**Lake Charles**	**59.59**	**69**	IAmb	IAmb	04 04 22.3	
	comp=Z,8.9nm,1.2s						
CGM3	**Cape Girardeau**	**59.60**	**67**	IAmb	IAmb	04 04 19.5	
	comp=Z,4.9nm,0.7s						
X40A	**Basin Creek Fa**	**59.70**	**72**	IAmb	IAmb	04 04 34.2	
	comp=Z,12nm,1.6s						
IVI	**Ivigtut**	**59.90**	**26**	*i* P	**P**	**04 04 19.1**	**-1.8**
BLO	**Bloomington**	**60.07**	**64**	P	**P**	**04 04 22.8**	**+0.2**
BLO	**Bloomington**	**60.07**	**64**	P	**P**	**04 04 22.8**	**+0.2**
BLO				pmax	pmax		
	comp=Z,79nm,1.7s						
O48B	**Farmland**	**60.07**	**62**	P	**P**	**04 04 21.9**	**-0.6**
	baz=314,SNR=10						
833A	**Chaparral WMA,**	**60.09**	**81**	P	**P**	**04 04 23.6**	**+0.8**
	baz=316						
SADO	**Sadowa**	**60.10**	**55**	IAmb	IAmb	04 05 09.2	
	comp=Z,7.5nm,0.6s						
KURK	**Kurchatov**	**60.11**	**315**	P	**P**	**04 04 22.3**	**-0.3**
KURK				IAmb	IAmb	04 04 24.3	
	comp=Z,7.5nm,0.7s						
KURK	**Kurchatov**	**60.11**	**315**	*ce*P	**P**	**04 04 21.1**	**-1.5**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
N49A	**Columbus Grove**	**60.14**	**61**	IAmb	IAmb	04 04 23.7	
	comp=Z,13nm,1.1s						
KURBB	**Kurchatov Arra**	**60.21**	**315**	P	**P**	**04 04 22.4**	**-0.9**
	comp=Z,4.9nm,0.5s,baz=44,slow=6.6,SNR=62						
KURBB				LR	LR	04 32 33.8	
	comp=Z,122nm,18.1s,baz=178,slow=38						
	comp=Z,4.9nm,0.5s						
USIN	**University of**	**60.27**	**65**	P	**P**	**04 04 24.2**	**+0.3**
WMQ	**Urumqi**	**60.70**	**304**	*e*P	P	04 04 31.4	+4.5
CD2	**Chengdu**	**60.73**	**284**	P	**P**	**04 04 28.1**	**+0.9**
CD2				pmax	pmax		
	comp=Z,20nm,0.7s						
P49A	**Miami Univ. Ec**	**60.82**	**62**	P	**P**	**04 04 27.3**	**-0.4**
	baz=315,SNR=9.3						
WCI	**Wyandotte Cave**	**60.86**	**64**	P	**P**	**04 04 27.7**	**-0.2**
WCI	**Wyandotte Cave**	**60.86**	**64**	P	**P**	**04 04 28.6**	**+0.6**
	baz=315						
WCI	**Wyandotte Cave**	**60.86**	**64**	P	**P**	**04 04 27.7**	**-0.2**
WCI				pmax	pmax		
	comp=Z,25nm,1.1s						
WCI	**Wyandotte Cave**	**60.86**	**64**	P	**P**	**04 04 28.2**	**+0.3**
MK31	**Makanchi Array**	**61.26**	**310**	IAmb	IAmb	04 04 30.3	
	comp=Z,2.9nm,0.6s						
MK31	**Makanchi Array**	**61.26**	**310**	*ce*P	**P**	**04 04 29.2**	**-1.4**
MKAR	**Makanchi Array**	**61.26**	**310**	P	**P**	**04 04 29.4**	**-1.1**
	comp=Z,3.2nm,0.5s,baz=48,slow=6.2,SNR=47						
MKAR				LR	LR	04 33 20.4	
	comp=Z,58nm,18.5s,baz=68,slow=38						
	comp=Z,3.2nm,0.5s						
ACSO	**Alum Creek Sta**	**61.28**	**61**	IAmb	IAmb	04 04 31.8	
	comp=Z,11nm,0.8s						
ACSO	**Alum Creek Sta**	**61.28**	**61**	P	**P**	**04 04 30.7**	**-0.1**
	baz=315						
MAKZ	**Makanchi**	**61.40**	**310**	P	**P**	**04 04 30.9**	**-0.6**
MAKZ				IAmb	IAmb	04 04 31.5	
	comp=Z,4.1nm,0.6s						
MAKZ	**Makanchi**	**61.40**	**310**	P	**P**	**04 04 30.9**	**-0.6**
MAKZ				pmax	pmax		
	comp=Z,4.0nm,0.6s						
WVT	**Waverly**	**61.46**	**67**	P	**P**	**04 04 32.2**	**+0.2**
WVT				pP	**pP**	**04 04 46.2**	**-2.6**
WVT				PcP	**PcP**	**04 05 12.4**	**-1.1**
ERPA	**Erie**	**61.54**	**57**	P	**P**	**04 04 32.6**	**+0.1**
	baz=315						
M53A	**WI Miller and**	**61.66**	**58**	P	**P**	**04 04 34.1**	**+0.8**
	baz=315,SNR=7.7						
OXF	**Oxford**	**61.70**	**69**	P	**P**	**04 04 33.2**	**-0.4**
	baz=315,SNR=7.2						
BVAR	**Borovoye Array**	**61.80**	**321**	P	**P**	**04 04 33.4**	**-0.7**
	comp=Z,5.1nm,0.5s,baz=42,slow=6.7,SNR=29						
BVAR				PcP	**PcP**	**04 05 14.6**	**0.0**
	comp=Z,3.2nm,0.5s,baz=56,slow=3.6,SNR=4.2						
	comp=Z,5.1nm,0.5s						
BRVK	**Borovoye**	**61.82**	**321**	P	**P**	**04 04 34.6**	**+0.4**
BRVK				IAmb	IAmb	04 04 36.9	
	comp=Z,4.8nm,0.7s						
BRVK	**Borovoye**	**61.82**	**321**	*ce*P	**P**	**04 04 35.3**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRVK	**Borovoye**	**61.82**	**321**	P	**P**	**04 04 34.9**	**+0.7**
BRVK				sP	**pP**	**04 04 55.2**	**+4.3**
BRVK				PcP	**PcP**	**04 05 15.4**	**+0.8**
BRVK				ScP	**ScP**	**04 09 10.2**	**-0.4**
N53A	**Lisbon**	**62.02**	**59**	IAmb	IAmb	04 04 36.9	
	comp=Z,12nm,1.1s						
PLAL	**Pickwick Lake**	**62.13**	**68**	IAmb	IAmb	04 04 37.4	
	comp=Z,12nm,0.7s						
GYA	**Guiyang**	**62.14**	**278**	⇑P	**P**	**04 04 37.0**	**+0.1**
GYA				pmax	pmax		
	comp=Z,39nm,0.7s						
GYA				pmax	pmax		
	comp=Z,120nm,6.0s						
BORG	**Borgarnes**	**62.17**	**12**	LR	LR	04 35 05.9	
	comp=Z,27nm,18.0s,baz=351,slow=39						
O53A	**New Philadelph**	**62.22**	**60**	IAmb	IAmb	04 04 38.6	
	comp=Z,11nm,0.9s						
O53A	**New Philadelph**	**62.22**	**60**	P	**P**	**04 04 37.5**	**+0.4**
	baz=316,SNR=5.1						
V48A	**Smith Brothers**	**62.32**	**67**	IAmb	IAmb	04 04 38.8	
	comp=Z,6.0nm,0.8s						
J56A	**Wolcott**	**62.32**	**55**	IAmb	IAmb	04 05 11.6	
	comp=Z,9.6nm,0.8s						
LONY	**Lake Ozonia**	**62.48**	**52**	P	**P**	**04 04 37.9**	**-0.9**
	baz=317						
M55A	**Ridgway**	**62.64**	**57**	IAmb	IAmb	04 04 41.2	
	comp=Z,9.2nm,0.8s						
K57A	**Scipio Center**	**62.89**	**55**	IAmb	IAmb	04 04 42.5	
	comp=Z,8.5nm,0.7s						
X48A	**Hartselle**	**63.11**	**68**	IAmb	IAmb	04 04 44.1	
	comp=Z,5.7nm,0.6s						
SWET	**Sewanee**	**63.20**	**67**	IAmb	IAmb	04 04 44.3	
	comp=Z,6.5nm,0.6s						
ARU	**Arti**	**63.26**	**330**	*i* P	**P**	**04 04 44.2**	**+0.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s						
MCWV	**Mont Chateau**	**63.37**	**59**	IAmb	IAmb	04 04 46.1	
	comp=Z,13nm,0.8s						
MCWV	**Mont Chateau**	**63.37**	**59**	P	**P**	**04 04 44.7**	**-0.1**
	baz=316						
Z47A	**Carrollton**	**63.41**	**70**	IAmb	IAmb	04 04 46.0	
	comp=Z,11nm,0.8s						
BINY	**Binghamton**	**63.54**	**55**	P	**P**	**04 04 46.1**	**+0.2**
	baz=317						
TZTN	**Tazewell**	**63.59**	**64**	IAmb	IAmb	04 04 47.8	
	comp=Z,14nm,0.9s						
TZTN	**Tazewell**	**63.59**	**64**	P	**P**	**04 04 47.1**	**+0.8**
	baz=316,SNR=6.2						
SSPA	**Standing Stone**	**63.70**	**57**	P	**P**	**04 04 47.1**	**+0.2**
SSPA				IAmb	IAmb	04 04 48.1	
	comp=Z,17nm,1.1s						
SSPA	**Standing Stone**	**63.70**	**57**	P	**P**	**04 04 47.9**	**+1.0**
	baz=317						
SSPA	**Standing Stone**	**63.70**	**57**	P	**P**	**04 04 47.0**	**+0.2**
SSPA				pP	**pP**	**04 05 00.4**	**-3.3**
SSPA				sP	sP	04 05 07.0	-3.7
CPCT	**Cooper Cave**	**63.83**	**65**	IAmb	IAmb	04 04 48.3	
	comp=Z,6.2nm,0.5s						
KIRV	**Kirov**	**64.04**	**336**	LR	LR	04 34 48.1	
	comp=Z,52nm,21.7s,baz=38,slow=38						
LBNH	**Lisbon**	**64.06**	**51**	P	**P**	**04 04 48.4**	**-0.8**
	baz=318						
V52A	**Sevierville**	**64.07**	**65**	IAmb	IAmb	04 04 50.9	
	comp=Z,19nm,1.1s						
TKL	**Tuckaleechee C**	**64.10**	**65**	IAmb	IAmb	04 04 50.8	
	comp=Z,14nm,0.9s						
TKL	**Tuckaleechee C**	**64.10**	**65**	LR	LR	04 30 52.1	
	comp=Z,48nm,21.3s,baz=326,slow=34						
LRAL	**Lakeview Retre**	**64.15**	**69**	P	**P**	**04 04 49.7**	**-0.3**
	baz=316						
Q56A	**Snyder Ridge,**	**64.17**	**59**	IAmb	IAmb	04 04 51.3	
	comp=Z,6.2nm,0.8s						
R55A	**Marlinton**	**64.22**	**60**	IAmb	IAmb	04 04 52.1	
	comp=Z,14nm,0.9s						
X51A	**Calhoun**	**64.28**	**66**	IAmb	IAmb	04 04 51.9	
	comp=Z,12nm,0.9s						
W52A	**Murphy**	**64.42**	**65**	IAmb	IAmb	04 04 52.9	
	comp=Z,12nm,1.1s						
V53A	**Saluda**	**64.63**	**64**	IAmb	IAmb	04 04 54.8	
	comp=Z,18nm,1.1s						
BLA	**Blacksburg**	**64.84**	**61**	P	**P**	**04 04 55.0**	**+0.6**
	baz=317,SNR=11						
L61B	**Northampton**	**65.02**	**53**	P	**P**	**04 04 54.6**	**-0.9**
	baz=318						
PZH	**PanZhiHua**	**65.12**	**282**	P	**P**	**04 04 57.3**	**+0.8**
PZH				pmax	pmax		
	comp=Z,40nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,5.0s						
S57A	**Dark Hollow, R**	**65.23**	**60**	IAmb	IAmb	04 04 58.6	
	comp=Z,8.8nm,0.7s						
Y52A	**Lilburn**	**65.24**	**66**	IAmb	IAmb	04 04 58.2	
	comp=Z,9.5nm,0.8s						
250A	**Grady**	**65.34**	**69**	IAmb	IAmb	04 04 58.8	
	comp=Z,17nm,0.9s						
DAV	**Davao City (W)**	**65.36**	**249**	LR	LR	04 32 00.9	
	comp=Z,8.6nm,20.0

BOOM	**Boomskoye usch**	**67.48**	**311**	P	**P**	**04 05 11.2**	**-0.3**
BOOM	comp=Z,10.0nm,0.6s			pmax	pmax			
SLVN	**Son La**	**67.61**	**276**	P	**P**	**04 05 12.4**	**0.0**
CNNC	**Cliffs of the**	**67.67**	**61**	P	**P**	**04 05 12.4**	**0.0**
CNNC	**Cliffs of the**	**67.67**	**61**	P	**P**	**04 05 13.4**	**+0.9**
	baz=318							
Y58A	**Scranton**	**67.68**	**63**	P	**P**	**04 05 12.7**	**+0.1**
AAK	**Ala-Archa**	**68.05**	**312**	P	**P**	**04 05 14.7**	**-0.4**
AAK	comp=Z,8.4nm,0.6s			IAmb	IAmb	04 05 16.1		
AAK	**Ala-Archa**	**68.05**	**312**	LR	LR	04 37 07.4		
	comp=Z,51nm,18.5s,baz=27,slow=38							
AAK	**Ala-Archa**	**68.05**	**312** *ce*	P	**P**	**04 05 15.5**	**+0.5**
AAK	comp=Z,5.0nm,0.5s			pmax	pmax			
AAK	**Ala-Archa**	**68.05**	**312**	P	**P**	**04 05 15.2**	**+0.2**
HFS	**Hagfors**	**68.21**	**355**	P	**P**	**04 05 14.3**	**-1.2**
	comp=Z,1.3nm,0.5s,baz=0.0,slow=3.0,SNR=15							
HFS				LR	LR	04 33 12.6		
	comp=Z,40nm,22.0s,baz=359,slow=34							
	comp=Z,1.3nm,0.5s							
PMG	**Port Moresby**	**68.75**	**220**	LR	LR	04 37 23.5		
	comp=Z,31nm,18.1s,baz=141,slow=38							
ABKAR	**Akbulak array**	**68.75**	**324**	P	**P**	**04 05 18.3**	**-0.8**
KK31	**Karatay Array**	**69.50**	**314**	IAmb	IAmb	04 05 24.6		
	comp=Z,6.5nm,0.5s							
KKAR	**Karatay Array**	**69.50**	**314**	IAmb	IAmb	04 05 24.6		
	comp=Z,6.5nm,0.5s							
KSH	**Kashi**	**69.76**	**308**	P	**P**	**04 05 29.0**	**+3.3**
KSH	comp=Z,18nm,0.5s			pmax	pmax			
OBN	**Obninsk**	**70.16**	**341** *e*	P	**P**	**04 05 27.8**	**+0.2**
OBN	comp=Z,3.0nm,0.7s			pmax	pmax			
OBN				MLR	MLR			
	comp=Z,68nm,19.0s							
CRAI	**Chiangrai**	**70.61**	**278**	P	**P**	**04 05 30.0**	**-1.0**
UBPT	**Khong Chiam**	**71.20**	**271**	P	**P**	**04 05 34.0**	**-0.5**
UBPT	comp=Z,14nm,1.0s			IAmb	IAmb	04 05 54.1		
SHL	**Shillong**	**71.74**	**288**	P	**P**	**04 05 38.0**	**+0.1**
SHL	**Shillong**	**71.74**	**288**	P	**P**	**04 05 38.0**	**+0.1**
SHL	comp=Z,20nm,0.7s			pmax	pmax			
BTK	**Batken**	**71.78**	**312**	P	**P**	**04 05 37.1**	**-0.7**
BTK	comp=Z,5.0nm,0.7s			IAmb	IAmb	04 05 39.2		
BTK	**Batken**	**71.78**	**312**	P	**P**	**04 05 37.2**	**-0.7**
BTK	comp=Z,5.0nm,0.7s			pmax	pmax			
PHRA	**Phrae**	**72.01**	**277**	P	**P**	**04 05 39.9**	**+0.5**
CHTO	**Chiang Mai**	**72.56**	**278**	P	**P**	**04 05 42.6**	**0.0**
CHTO	comp=Z,19nm,1.2s			IAmb	IAmb	04 05 43.6		
CHTO	**Chiang Mai**	**72.56**	**278**	P	**P**	**04 05 42.7**	**0.0**
CHTO	comp=Z,19nm,1.3s			pmax	pmax			
PPT	**Papeete**	**72.72**	**154**	LR	LR	04 30 56.3		
	comp=Z,68nm,21.2s,baz=316,slow=30							
CMAR	**Chiang Mai Arr**	**72.83**	**278**	P	**P**	**04 05 45.2**	**+1.0**
CMAR	**Chiang Mai Arr**	**72.83**	**278**	P	**P**	**04 05 44.6**	**+0.3**
	comp=Z,13nm,0.7s,baz=27,slow=7.2,SNR=47							
CMAR				LR	LR	04 38 39.5		
	comp=Z,20nm,21.1s,baz=175,slow=36							
	comp=Z,13nm,0.7s							
CMAR	**Chiang Mai Arr**	**72.83**	**278** *ce*	P	**P**	**04 05 44.7**	**+0.4**
CMAR	comp=Z,15nm,0.7s			pmax	pmax			
GAR	**Garm**	**72.86**	**312**	P	**P**	**04 05 44.0**	**-0.3**
GAR				IAmb	IAmb	04 05 46.1		
	comp=Z,15nm,0.7s							
EKA	**Eskdalemuir Ar**	**73.11**	**4**	P	**P**	**04 05 45.7**	**+0.3**
	comp=Z,0.9nm,0.6s,baz=357,slow=4.6,SNR=6.6							
	comp=Z,0.9nm,0.6s							
CHGR	**Chuyangaron**	**73.67**	**312**	P	**P**	**04 05 48.9**	**-0.2**
CHGR	**Chuyangaron**	**73.67**	**312**	P	**P**	**04 05 48.9**	**-0.2**
CHGR	comp=Z,35nm,1.3s			pmax	pmax			
SIMJ	**Simiganj**	**73.74**	**312**	P	**P**	**04 05 49.2**	**-0.3**
SIMJ	comp=Z,7.3nm,0.6s			IAmb	IAmb	04 05 51.1		
RAR	**Rarotonga**	**73.99**	**164**	LR	LR	04 31 41.6		
	comp=Z,105nm,19.3s,baz=341,slow=30							
NIL	**Nilore**	**75.73**	**307**	P	**P**	**04 06 01.1**	**+0.1**
NIL	**Nilore**	**75.73**	**307**	P	**P**	**04 06 01.1**	**+0.1**
NIL	comp=Z,16nm,0.6s			pmax	pmax			
AKASG	**Malin Array Be**	**75.75**	**344**	P	**P**	**04 05 58.9**	**-1.8**
	comp=Z,0.6nm,0.3s,baz=17,slow=5.8,SNR=5.9							
AKASG				LR	LR	04 42 53.3		
	comp=Z,51nm,19.8s,baz=18,slow=38							
	comp=Z,0.6nm,0.3s							
AKASG	**Malin Array Be**	**75.75**	**344** *ce*	P	**P**	**04 06 00.2**	**-0.5**
AKASG	comp=Z,1.0nm,0.3s			pmax	pmax			
CLL	**Collm**	**77.05**	**354** *e*	P	**P**	**04 06 08.0**	**-0.1**
CLL	**Collm**	**77.05**	**354** *e*	P	**P**	**04 06 07.0**	**-1.1**
KBL	**Kabul**	**77.07**	**310**	P	**P**	**04 06 07.7**	**-1.1**
KBL				IAmb	IAmb	04 06 08.8		
	comp=Z,8.9nm,0.6s							
KBL	**Kabul**	**77.07**	**310**	P	**P**	**04 06 07.7**	**-1.1**
KBL	comp=Z,9.0nm,0.6s			pmax	pmax			
VRAC	**Vranov**	**78.77**	**352**	LR	LR	04 42 50.4		
	comp=Z,28nm,20.2s,baz=346,slow=37							
MTN	**Manton Dam**	**78.97**	**233**	P	**P**	**04 06 19.9**	**+0.8**
GEYT	**Alibeck**	**79.06**	**319**	P	**P**	**04 06 19.6**	**0.0**
	comp=Z,2.4nm,0.6s,baz=20,slow=4.7,SNR=4.3							
GEYT				LR	LR	04 44 03.3		
	comp=Z,102nm,20.9s,baz=46,slow=38							
	comp=Z,2.4nm,0.6s							
GERES	**GERESS Array B**	**79.46**	**354**	LR	LR	04 42 08.0		
	comp=Z,21nm,20.5s,baz=30,slow=36							
RAO	**Raoul Island**	**80.67**	**182**	P	**P**	**04 06 28.6**	**+0.7**
RAO	**Raoul Island**	**80.67**	**182**	P	**P**	**04 06 28.6**	**+0.7**
MLR	**Muntele Rosu**	**81.34**	**345**	LR	LR	04 45 26.2		
	comp=Z,38nm,21.3s,baz=0.0,slow=38							
DAVOX	**Davos/Dischmat**	**81.73**	**356**	LR	LR	04 41 52.3		
	comp=Z,24nm,22.0s,baz=76,slow=35							
WB2	**Warramunga Arr**	**83.60**	**226**	P	**P**	**04 06 42.2**	**-1.3**
WB2				IAmb	IAmb	04 06 44.7		
	comp=Z,8.0nm,0.8s							
WRA	**Warramunga Arr**	**83.60**	**226**	P	**P**	**04 06 43.2**	**-0.4**
	comp=Z,5.3nm,0.8s,baz=31,slow=5.7,SNR=44							
	comp=Z,5.3nm,0.8s							
WRA	**Warramunga Arr**	**83.60**	**226** *i*	P	**P**	**04 06 43.2**	**-0.4**
WRA	comp=Z,6.0nm,0.8s			pmax	pmax			
BRTR	**Keskin Array B**	**85.36**	**338**	P	**P**	**04 06 51.4**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=47,slow=2.7,SNR=6.6							
BRTR				LR	LR	04 51 23.7		
	comp=Z,38nm,18.5s,baz=12,slow=40							
	comp=Z,0.8nm,0.6s							
BRTR	**Keskin Array B**	**85.36**	**338** *ce*	P	**P**	**04 06 51.9**	**-0.6**
BRTR	comp=Z,1.0nm,0.6s			pmax	pmax			
FITZ	**Fitzroy Crossi**	**86.19**	**234**	P	**P**	**04 06 56.9**	**+0.3**
ASAR	**Alice Springs**	**87.05**	**225**	P	**P**	**04 07 00.6**	**-0.2**
ASAR	**Alice Springs**	**87.05**	**225**	P	**P**	**04 07 00.9**	**+0.2**
	comp=Z,5.2nm,0.8s,baz=28,slow=4.7,SNR=30							
ASAR				LR	LR	04 47 21.4		
	comp=Z,37nm,18.4s,baz=122,slow=36							
	comp=Z,5.2nm,0.8s							
ESDC	**Sonseca Array**	**88.68**	**6**	LR	LR	04 45 15.8		
	comp=Z,20nm,21.7s,baz=354,slow=34							
MMAI	**Mount Meron Ar**	**91.27**	**334**	LR	LR	04 53 01.3		
	comp=Z,24nm,18.1s,baz=344,slow=39							
STKA	**Stephens Creek**	**91.28**	**215**	P	**P**	**04 07 21.2**	**+0.8**
	comp=Z,4.9nm,0.6s,baz=5.7,slow=7.9,SNR=13							
	comp=Z,4.9nm,0.6s							
PALK	**Pallekele**	**92.61**	**285**	LR	LR	04 54 36.3		
	comp=Z,26nm,18.9s,baz=206,slow=39							
EIL	**Elat**	**94.55**	**333**	LR	LR	04 54 31.8		
	comp=Z,13nm,18.9s,baz=46,slow=38							
TORD	**Torodi Ar. Bea**	**115.34**	**3**	PKP	**PKiKP**	**04 12 56.1**	**-0.7**
	comp=Z,1.6nm,0.5s,baz=359,slow=2.7,SNR=36							
H03N2	**Juan Fernandez**	**119.45**	**108**	T	T	06 24 24.9		
	baz=317,slow=77,SNR=268							
H03N1	**Juan Fernandez**	**119.46**	**108**	T	T	06 24 26.2		
	baz=317,slow=77,SNR=359							
H03N3	**Juan Fernandez**	**119.47**	**108**	T	T	06 24 25.5		
	baz=317,slow=77,SNR=425							
DBIC	**Dimbokro**	**121.30**	**11**	PKP	**PKPdf**	**04 13 07.9**	**-0.4**
	comp=Z,3.0nm,0.3s,baz=355,slow=2.5,SNR=18							
BDFB	**Brasilia**	**125.22**	**69**	PKP	**PKPdf**	**04 13 15.9**	**0.0**
	comp=Z,1.0nm,0.5s,baz=297,slow=2.3,SNR=5.4							
CPUP	**Villa Florida**	**127.69**	**86**	PKP	**PKPdf**	**04 13 19.9**	**-0.2**
	comp=Z,2.2nm,0.9s,baz=347,slow=3.4,SNR=6.8							
PLCA	**Paso Flores**	**129.29**	**109**	PKP	**PKPdf**	**04 13 23.4**	**+0.6**
	comp=Z,3.2nm,0.9s,baz=258,slow=2.2,SNR=7.0							
QSPA	**South Pole Qui**	**141.50**	**180**	PKhKP	PKPpre	04 13 39.7		
	comp=Z,1.8nm,0.5s,baz=269,slow=1.3,SNR=6.0							
MAW	**Mawson**	**147.93**	**218**	PKPbc	**PKPbc**	**04 13 59.1**	**+0.4**
	comp=Z,10.0nm,0.8s,baz=91,slow=1.8,SNR=15							
BOSA	**Boshof**	**152.04**	**318**	PKPbc	**PKPbc**	**04 14 10.3**	**+0.1**
	comp=Z,18nm,0.6s,baz=24,slow=2.4,SNR=68							
ELIB	**Princess Elisa**	**158.02**	**196** *d*	PKP	**PKPab**	**04 14 43.6**	**-0.6**
VNA3	**Neumayer Olymp**	**159.45**	**167**	⇑PKPab	**PKPab**	**04 14 50.2**	**-0.1**
	comp=Z,0.9nm,0.6s							
TROLL	**Troll, Antarti**	**159.65**	**178**	⇑PKPab	**PKPab**	**04 14 50.8**	**-0.5**
	comp=Z,166nm,0.5s							
SNAA	**Sanae**	**159.76**	**174**	⇑PKPab	**PKPab**	**04 14 49.9**	**-1.8**
	comp=Z,50nm,0.8s							
SNAA	**Sanae**	**159.76**	**174**	PKPab	**PKPab**	**04 14 51.6**	**0.0**
	comp=Z,0.8nm,0.5s,baz=198,slow=11,SNR=12							
VNA2	**Neumayer--Watz**	**160.04**	**169**	⇑PKPab	**PKPab**	**04 14 50.8**	**-2.0**
	comp=Z,2.0nm,0.6s,baz=315,slow=3.6							
VNA1	**Neumayer--Stat**	**160.19**	**168**	⇑PKPab	**PKPab**	**04 14 53.4**	**0.0**
	comp=Z,3.2nm,0.6s							

DJA 25 03:58:56.3±0.6, 6°S±9'×10°7E±°, h225km±6km, M3.6/8, mb3.5/1, MLv3.6/8, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKJI	**Sukabumi**	**0.80**	**215**	P	Pn	03 59 27.2	-0.4
CNJI	**Cibinong**	**0.96**	**173**	P	Pn	03 59 29.1	+0.7
CNJI				S	S	03 59 54.0	+0.4
CMJI	**Cimerak**	**2.01**	**135**	P	Pn	03 59 37.1	+0.3
CMJI				S	S	04 00 08.9	+0.5
KASI	**Kota Agung**	**2.64**	**288**	P	Pn	03 59 43.3	0.0
UGM	**Wanagama**	**3.81**	**114**	P	Pn	03 59 56.5	-0.3
MNAI	**Manna**	**4.50**	**296**	P	Pn	04 00 05.2	0.0
PWJI	**Pagerwojo**	**5.03**	**110**	P	Pn	04 00 11.6	-0.1

*SJA **25** 04:11:23.6±0.8, 21°.20S×69°.06W, h118km±4km, ML3.6, MW3.5*
*GUC **25** 04:11:25.8±0.6, 21°.22S×69°.05W, h104km±3km, ML3.6*
*IDC **25** 04:11:26.7±1.5, 21°.24S×68°.62W, h97km±18km, mb3.3/2, mbtmp3.7/4, Error ellipse: s-maj=44.3km s-min=17.9km az=107.0*

ISC 25 04:11:25.3±0.9, 21°.19S±0°.03×69°.07W±0°.06, h109km±7km, n40, σ0s87/60, 8C-3D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.62**	**195**	*e*P	**Pn**	**04 11 43.5**	**+0.3**
PB09				*e*S	**Sn**	**04 11 56.8**	**+0.3**
PB09				IAML		04 11 57.4		
	comp=Z,2µm,0.6s							
PB09	**IPOC Station P**	**0.62**	**195**	⇑*i*P	**Pn**	**04 11 42.5**	**-0.6**
PB09				*i* S	**Sn**	**04 11 55.9**	**-0.6**
PB09				IAML		04 11 57.8		
	comp=E,2µm,0.5s							
PB08	**IPOC Station P**	**1.05**	**356**	*e*P	**Pn**	**04 11 47.3**	**0.0**
PB08				*e*S	**Sn**	**04 12 04.7**	**+0.8**
PB08				IAML		04 12 06.4		
	comp=Z,518nm,0.3s							
PB08	**IPOC Station P**	**1.05**	**356**	⇓*i*P	**Pn**	**04 11 47.3**	**0.0**
PB08				*i* S	**Sn**	**04 12 03.9**	**+0.1**
PB08				IAML		04 12 05.7		
	comp=E,1µm,0.2s							
PATCX	**Punta Patache**	**1.08**	**290**	*e*P	**Pn**	**04 11 47.5**	**+0.2**
PATCX				*e*S	**Sn**	**04 12 04.7**	**+0.8**
PATCX				IAML		04 12 05.8		
	comp=Z,802nm,0.1s							
PATCX	**Punta Patache**	**1.08**	**290**	⇑*i*P	**Pn**	**04 11 47.4**	**+0.2**
PATCX				*i* S	**Sn**	**04 12 03.8**	**-0.1**
PATCX				IAML		04 12 05.2		
	comp=E,4µm,0.3s							
HMBC	**Humberstone**	**1.19**	**320**	*e*P	**Pn**	**04 11 48.2**	**-0.3**
HMBC				*e*S	**Sn**	**04 12 07.1**	**+1.0**
HMBC				IAML		04 12 07.6		
	comp=Z,953nm,0.4s							
HMBC	**Humberstone**	**1.19**	**320**	⇑*i*P	**Pn**	**04 11 48.2**	**-0.3**
HMBC				*i* S	**Sn**	**04 12 05.8**	**-0.3**
HMBC				IAML		04 12 07.3		
	comp=E,2µm,0.4s							
TA01	**Diego Aracena**	**1.21**	**301**	*e*P	**Pn**	**04 11 48.5**	**-0.2**
TA01				*e*S	**Sn**	**04 12 06.8**	**+0.5**
TA01				IAML		04 12 08.6		
	comp=Z,417nm,0.3s							
TA01	**Diego Aracena**	**1.21**	**301**	⇑*i*P	**Pn**	**04 11 48.4**	**-0.2**
TA01				*i* S	**Sn**	**04 12 06.1**	**-0.2**
TA01				IAML		04 12 07.3		
	comp=N,2µm,0.3s							
TA02	**Huaiquique**	**1.35**	**312**	*e*P	**Pn**	**04 11 50.3**	**+0.1**
TA02				*e*S	**Sn**	**04 12 09.8**	**+0.6**
TA02				IAML		04 12 12.9		
	comp=Z,993nm,0.1s							
TA02	**Huaiquique**	**1.35**	**312**	⇑*i*P	**Pn**	**04 11 49.9**	**-0.3**
TA02				*i* S	**Sn**	**04 12 08.7**	**-0.5**
TA02				IAML		04 12 12.8		
TA02				IAML		04 12 15.8		
	comp=N,2µm,0.1s							
LVC	**Limon Verde**	**1.42**	**174**	P	**Pn**	**04 11 51.6**	**+0.1**
	comp=N,84nm,0.4s,baz=9.4,slow=11,SNR=291							
LVC				S	**Sn**	**04 12 10.6**	**-0.6**
	comp=N,300nm,0.3s,baz=72,slow=20,SNR=67							
GO01	**Chusmiza**	**1.52**	**355**	*e*P	**Pn**	**04 11 53.3**	**+0.5**
GO01				*e*S	**Sn**	**04 12 13.7**	**+0.2**
GO01				*e*S	**Sn**	**04 12 13.7**	**+0.2**
GO01	**Chusmiza**	**1.52**	**355**	*e*P	**Pn**	**04 11 53.0**	**+0.3**
GO01				*i* S	**Sn**	**04 12 14.1**	**+0.7**
GO01				IAML		04 12 18.5		
	comp=N,1µm,0.2s							
PB04	**IPOC Station P**	**1.52**	**221**	*e*P	**Pn**	**04 11 52.0**	**-0.4**
PB04				*e*S	**Sn**	**04 12 14.4**	**+1.4**
PB04				IAML		04 12 17.3		
	comp=Z,539nm,0.1s							
PB04	**IPOC Station P**	**1.52**	**221**	⇑*i*P	**Pn**	**04 11 52.0**	**-0.4**
PB04				*i* S	**Sn**	**04 12 12.7**	**-0.3**
PB04				IAML		04 12 17.3		
	comp=E,860nm,0.2s							
PB11	**IPOC Station P**	**1.52**	**339**	*e*P	**Pn**	**04 11 52.3**	**-0.2**
PB11				*e*S	**Sn**	**04 12 13.7**	**+0.6**
PB11				IAML		04 12 17.6		
	comp=Z,406nm,0.2s							
PB11	**IPOC Station P**	**1.52**	**339**	⇓*i*P	**Pn**	**04 11 52.3**	**-0.2**
PB11				*i* S	**Sn**	**04 12 13.4**	**+0.3**
PB11				IAML		04 12 18.6		
	comp=E,889nm,0.2s							
PB06	**IPOC Station P**	**1.58**	**197**	*e*P	**Pn**	**04 11 52.8**	**-0.4**
PB06				*e*S	**Sn**	**04 12 14.8**	**+0.5**
PB06				IAML		04 12 17.9		
	comp=Z,577nm,0.2s							
PB06	**IPOC Station P**	**1.58**	**197**	⇑*i*P	**Pn**	**04 11 52.8**	**-0.4**
PB06				*i* S	**Sn**	**04 12 14.0**	**-0.3**
PB06				IAML		04 12 20.3		
	comp=N,870nm,0.3s							
PB15	**IPOC Station P**	**2.04**	**190**	*e*P	**Pn**	**04 11 58.8**	**-0.3**
PB15				*e*S	**Sn**	**04 12 26.4**	**+1.7**
PB15				IAML		04 12 31.3		
	comp=Z,2µm,0.2s							
PB15	**IPOC Station P**	**2.04**	**190**	⇑*i*P	**Pn**	**04 11 58.7**	**-0.3**
PB15				*i* S	**Sn**	**04 12 24.5**	**-0.2**
PB10	**IPOC Station P**	**2.69**	**210**	*e*P	**Pn**	**04 12 06.6**	**-0.6**
PB10				*e*S	Sn	04 12 25.8	-14
PB12	**IPOC Station P**	**2.82**	**335**	*e*P	**Pn**	**04 12 08.1**	**-1.0**
PB12				*e*S	**Sn**	**04 12 42.4**	**-0.3**
PB12				IAML		04 13 01.8		
	comp=Z,80nm,0.2s							
PB12	**IPOC Station P**	**2.82**	**335**	⇓*i*P	**Pn**	**04 12 07.9**	**-1.1**
PB12				IAML		04 12 53.4		
	comp=E,137nm,0.3s							
YJA	**Yavi**	**3.45**	**107**	*e*P	**Pn**	**04 12 19.3**	**+1.7**
PB14	**IPOC Station P**	**3.63**	**200**	*e*P	**Pn**	**04 12 19.1**	**-0.9**
PB14				IAML		04 13 25.5		
	comp=Z,63nm,0.4s							
GO02	**Mina Guanaco**	**3.98**	**187**	*e*P	**Pn**	**04 12 23.6**	**-1.0**
GO02				*e*S	**Sn**	**04 13 10.9**	**+0.3**
GO02				IAML		04 13 40.2		
	comp=Z,82nm,0.6s							
LPAZ	**La Paz**	**4.96**	**10**	P	**Pn**	**04 12 39.8**	**+1.7**
	comp=Z,4.3nm,0.3s,baz=179,slow=3.9,SNR=65							
SIV	**San Ignacio**	**9.18**	**57**	P	**Pn**	**04 13 30.7**	**-4.0**
	comp=Z,1.6nm,0.6s,baz=237,slow=9.6,SNR=11							
H03N1	**Juan Fernandez**	**15.00**	**214**	T	T	04 30 12.0		
	baz=40							
H03N2	**Juan Fernandez**	**15.01**	**214**	T	T	04 29 48.7		
	baz=40							
H03N3	**Juan Fernandez**	**15.02**	**214**	T	T	04 29 49.2		
	baz=40							
BDFB	**Brasilia**	**20.71**	**78**	P	**P**	**04 15 56.0**	**-1.2**
	comp=Z,2.4nm,0.5s,baz=249,slow=7.0,SNR=8.7							
	comp=Z,2.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**77.39**	**70**	P	**P**	**04 23 09.2**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=253,slow=5.1,SNR=1.3							
	comp=Z,0.2nm,0.6s							
H11S2	**WAKE ISLAND Hyl**	**27.69**	**277**	T	T	06 50 17.1		
	baz=102,SNR=5.6							
H11S1	**WAKE ISLAND Hyl**	**27.70**	**277**	T	T	06 50 17.2		
	baz=102							
H11S3	**WAKE ISLAND Hyl**	**27.71**	**277**	T	T	06 50 17.8		
	baz=102							
MKAR	**Makanchi Array**	**145.47**	**36**	PKPbc	**PKPbc**	**04 30 52.0**	**+1.2**
	comp=Z,0.1nm,0.4s,baz=322,slow=4.4,SNR=2.4							

IDC 25 04:12:54.9±2.3, 2°.72N×127°.35E, h0km, mb3.4/3, mbtmp3.4/3, MS2.3/2, Error ellipse: s-maj=155.8km s-min=28.7km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**4.67**	**338**	LR	LR	04 16 16.6	
	comp=Z,16nm,19.4s,baz=346,slow=43						
WRA	**Warramunga Arr**	**23.55**	**163**	P	P	04 18 07.7	+0.6
	0.7nm,0.6s,baz=343,slow=10,SNR=6.7						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**26.99**	**167**	P	P	04 18 37.6	-1.1
	0.2nm,0.3s,baz=347,slow=12,SNR=1.8						
	0.2nm,0.3s						
JHJ	**Hachijo jima 2**	**32.41**	**20**	LR	LR	04 34 27.7	
	comp=Z,12nm,18.2s,baz=2.5,slow=40						
MKAR	**Makanchi Array**	**58.73**	**325**	P	P	04 22 54.9	+0.3
	0.1nm,0.3s,baz=126,slow=7.3,SNR=2.7						
	0.1nm,0.3s						

IDC 25 05:00:35.9±1.6, 7°.50S×130°.85E, h0km, mb3.8/2, mbtmp3.7/4, ML3.8/2, MS2.7/1, Error ellipse: s-maj=70.1km s-min=30.6km az=79.0, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**12.82**	**165**	Pn	Pn	05 03 39.0	-0.5
	0.6nm,0.3s,baz=348,slow=13,SNR=32						
WRA				Sn	Sn	05 05 55.9	-7.3
	0.7nm,0.3s,baz=358,slow=23,SNR=8.9						
	0.8nm,0.5s						
ASAR	**Alice Springs**	**16.34**	**170**	Pn	Pn	05 04 27.4	+0.6
	0.3nm,0.3s,baz=352,slow=8.6,SNR=9.3						
ASAR				Sn	Sn	05 07 23.0	-5.9
	0.1nm,0.3s,baz=0.7,slow=27,SNR=2.3						
	0.3nm,0.3s						
JOW	**Kunigami**	**34.22**	**356**	LR	LR	05 23 58.7	
	comp=Z,12nm,18.5s,baz=353,slow=41						
PETK	**Petropavlovsk-**	**64.54**	**18**	P	P	05 11 14.7	0.0
	0.9nm,0.4s,baz=123,slow=7.1,SNR=4.8						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**69.11**	**327**	P	P	05 11 43.9	0.0
	0.3nm,0.5s,baz=141,slow=7.1,SNR=4.9						
	0.3nm,0.5s						

*JMA **25** 05:08:04.5±0.1, 23°.8N±0°.7×122°.1E±0°.6, h31km±3km, MV3.2/13, TAIWAN REGION*
*TAP **25** 05:08:05.4, 23°.87N×122°.06E, h40km, ML3.6, C*

ISC 25 05:08:04.9±1.1, 23°.82N±0°.02×122°.11E±0°.02, h33km±3km, n129, σ1s27/225, 2C-11D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.35**	**32**	*i* P	**Pb**	**05 08 13.5**	**+0.4**
	baz=43						
EOS4				*i* S	**Sb**	**05 08 19.8**	**+1.2**
	baz=43						
HWA	**Hwalien**	**0.49**	**288**	P	**Pb**	**05 08 14.9**	**-0.4**
	baz=278						
HWA				S	**Sb**	**05 08 23.3**	**+0.8**
	baz=278						
EOS3	**EOS3**	**0.50**	**22**	*i* P	**Pb**	**05 08 15.6**	**+0.2**
	baz=21						
EOS3				*i* S	**Sb**	**05 08 23.6**	**+1.0**
	baz=21						
SHUL	**Shoufeng**	**0.50**	**266**	*i* P	**Pb**	**05 08 15.6**	**0.0**
	baz=260						
SHUL				S	**Sb**	**05 08 23.6**	**+0.8**
	baz=260						
TWD	**Chiawan**	**0.54**	**299**	⇓*i*P	**Pb**	**05 08 15.2**	**-0.9**
	baz=297						
TWD				*i* S	**Sb**	**05 08 22.6**	**-1.2**
	baz=297						
ETL	**Fush Village**	**0.56**	**307**	*i* P	**Pb**	**05 08 15.5**	**-1.0**
	baz=306						
ETL				S	**Sb**	**05 08 23.7**	**-0.8**
	baz=306						
ETM	**Tongmen**	**0.58**	**284**	*i* P	**Pb**	**05 08 15.9**	**-0.9**
	baz=273						
ETM				*i* S	**Sb**	**05 08 24.2**	**-0.9**
	baz=273						
NACB	**Ninganchiao**	**0.59**	**307**	P	**Pb**	**05 08 15.8**	**-1.1**
**NAC

WHF	**Hehuan Shan**	**0.84**	**293**	⇓	*i* P	**Pn**	**05 08 20.2**	**-0.6**
	baz=282								
WHF					*i* S	**Sb**	**05 08 30.9**	**-1.6**
	baz=282								
YULB	**Yu-li**	**0.86**	**240**		P	**Pn**	**05 08 20.3**	**-0.4**
YULB	**Yu-li**	**0.86**	**240**	⇓	*i* P	**Pn**	**05 08 20.6**	**-0.2**
	baz=249								
YULB					S	**Sn**	**05 08 32.0**	**-0.2**
	baz=249								
OWD	**Renai**	**0.87**	**279**		*i* P	**Pn**	**05 08 20.5**	**-0.4**
	baz=276								
OWD					S	**Sn**	**05 08 31.4**	**-1.1**
	baz=276								
EYUL	**Yuli**	**0.87**	**237**		P	**Pn**	**05 08 20.6**	**-0.2**
	baz=225								
EYUL					*e*S	**Sn**	**05 08 33.7**	**+1.4**
	baz=225								
TWF1	**Yuli**	**0.88**	**238**		*i* P	**Pn**	**05 08 21.1**	**+0.1**
	baz=226								
TWF1					S	**Sn**	**05 08 32.8**	**+0.1**
	baz=226								
NDS	**Dongshan**	**0.88**	**336**		P	**Pn**	**05 08 20.9**	**-0.1**
	baz=338								
NDS					*e*S	**Sn**	**05 08 33.7**	**+1.0**
	baz=338								
LATG	**Datong**	**0.89**	**323**	⇑	*i* P	**Pn**	**05 08 20.6**	**-0.6**
	baz=324								
LATG					S	**Sn**	**05 08 31.6**	**-1.4**
	baz=324								
CHGB	**Renai**	**0.89**	**286**	⇓	*i* P	**Pn**	**05 08 20.9**	**-0.4**
	baz=283								
CHGB					S	**Sn**	**05 08 31.8**	**-1.4**
	baz=283								
VWDT	**VWDT**	**0.89**	**266**	⇓	*i* P	**Pn**	**05 08 21.2**	**+0.1**
	baz=262								
VWDT					S	**Sn**	**05 08 33.1**	**+0.2**
	baz=262								
NNSB	**Datong**	**0.90**	**312**		P	**Pn**	**05 08 20.8**	**-0.6**
	baz=312								
NNSB					S	**Sn**	**05 08 31.8**	**-1.5**
	baz=312								
CHKH	**Chenggong**	**0.91**	**226**		P	**Pn**	**05 08 20.6**	**-0.8**
	baz=214								
CHKH					S	**Sn**	**05 08 31.9**	**-1.4**
	baz=214								
NNS	**Nan Shan**	**0.91**	**312**		P	**Pn**	**05 08 21.0**	**-0.5**
	baz=312								
NNS					*i* S	**Sn**	**05 08 32.8**	**-0.9**
	baz=312								
WUSB	**Renai**	**0.93**	**281**	⇓	*i* P	**Pn**	**05 08 21.5**	**-0.2**
	baz=278								
WUSB					*i* S	**Sn**	**05 08 33.4**	**-0.6**
	baz=278								
NDT	**Datong Townshi**	**0.95**	**325**		P	**Pn**	**05 08 21.9**	**-0.1**
	baz=326								
NDT					S	**Sn**	**05 08 33.9**	**-0.5**
	baz=326								
ENTT	**Nioudou**	**0.95**	**329**		*i* P	**Pn**	**05 08 21.7**	**-0.3**
	baz=330								
ENTT					S	**Sn**	**05 08 33.4**	**-1.1**
	baz=330								
TWT	**Tachien**	**0.96**	**297**		*i* P	**Pn**	**05 08 22.0**	**-0.2**
	baz=294								
TWT					*i* S	**Sn**	**05 08 34.3**	**-0.5**
	baz=294								
TDCB	**Techi**	**0.97**	**296**		P	**Pn**	**05 08 22.2**	**-0.2**
	baz=287								
TDCB					S	**Sn**	**05 08 33.6**	**-1.5**
	baz=287								
FULB	**Fuli**	**0.97**	**231**		P	**Pn**	**05 08 21.8**	**-0.5**
	baz=216								
FULB					*e*S	**Sn**	**05 08 35.0**	**0.0**
	baz=216								
TWE	**Neicheng**	**0.98**	**336**		P	**Pn**	**05 08 22.2**	**-0.2**
	baz=338								
TWE					S	**Sn**	**05 08 34.7**	**-0.4**
	baz=338								
JYNG	**Yonagunijimaku**	**0.99**	**50**		*i* P	**Pn**	**05 08 22.8**	**+0.3**
JYNG					*e*S	**Sn**	**05 08 35.1**	**-0.1**
CHKT	**Chengkung**	**0.99**	**224**		*i* P	**Pn**	**05 08 21.7**	**-0.8**
	baz=212								
CHKT					S	**Sn**	**05 08 33.8**	**-1.6**
	baz=212								
EGS		**1.03**	**351**		P	**Pn**	**05 08 23.2**	**+0.2**
	baz=4.0								
YOJ	**Yonaguni jima**	**1.04**	**52**		P	**Pn**	**05 08 23.5**	**+0.3**
YOJ					*e*S	**Sn**	**05 08 36.6**	**+0.1**
YOJ	**Yonaguni jima**	**1.04**	**52**		*i* P	**Pn**	**05 08 23.5**	**+0.3**
	baz=55								
YOJ					*i* S	**Sn**	**05 08 37.1**	**+0.6**
	baz=55								
FUSB	**Fushanzhiwuyua**	**1.05**	**333**		P	**Pn**	**05 08 23.3**	**0.0**
	baz=334								
FUSB					*e*S	**Sn**	**05 08 36.8**	**-0.1**
	baz=334								
SSLB	**Suanglung**	**1.06**	**268**		P	**Pn**	**05 08 23.5**	**0.0**
SSLB	**Suanglung**	**1.06**	**268**		P	**Pn**	**05 08 23.5**	**0.0**
	baz=265								
SSLB					S	**Sn**	**05 08 36.5**	**-0.6**
	baz=265								
EHD	**Haiduan**	**1.07**	**231**		*e*P	**Pn**	**05 08 23.1**	**-0.5**
	baz=239								
EHD					*e*S	**Sn**	**05 08 36.7**	**-0.6**
	baz=239								
YHNB	**Yeheng**	**1.08**	**322**		P	**Pn**	**05 08 23.8**	**0.0**
YHNB	**Yeheng**	**1.08**	**322**		P	**Pn**	**05 08 23.6**	**-0.2**
	baz=311								
YHNB					S	**Sn**	**05 08 36.4**	**-1.2**
	baz=311								
ECS	**Chishang**	**1.09**	**229**		*e*P	**Pn**	**05 08 24.0**	**0.0**
	baz=217								
ECS					*e*S	**Sn**	**05 08 38.4**	**+0.4**
	baz=217								
NSK	**Sanguang**	**1.09**	**321**		*i* P	**Pn**	**05 08 23.9**	**-0.1**
	baz=311								
NSK					*i* S	**Sn**	**05 08 37.1**	**-0.9**
	baz=311								
NWLT	**Wulai**	**1.10**	**330**		*i* P	**Pn**	**05 08 24.2**	**+0.1**
	baz=331								
NWLT					S	**Sn**	**05 08 37.4**	**-0.8**
	baz=331								
SMLT	**Sun Moon Lake**	**1.11**	**273**	⇓	*i* P	**Pn**	**05 08 24.6**	**+0.3**
	baz=270								
SMLT					*i* S	**Sn**	**05 08 38.3**	**-0.2**
	baz=270								
WCS	**Beigang Elemen**	**1.12**	**282**		P	**Pn**	**05 08 24.7**	**+0.3**
	baz=286								
TYC	**Yuchr**	**1.15**	**274**		P	**Pn**	**05 08 24.8**	**+0.1**
	baz=271								
TYC					S	**Sn**	**05 08 39.3**	**0.0**
	baz=271								
WHP	**Taichung City**	**1.16**	**293**		P	**Pn**	**05 08 25.9**	**+1.0**
	baz=291								
WHP					*i* S	**Sn**	**05 08 40.3**	**+0.7**
	baz=291								
WHYT	**Xinyi Township**	**1.16**	**264**		*e*P	**Pn**	**05 08 25.2**	**+0.3**
	baz=261								
TIPB	**Shuangxi**	**1.17**	**347**		*i* P	**Pn**	**05 08 25.7**	**+0.6**
TIPB					*i* S	**Sn**	**05 08 39.8**	**-0.1**
ELDTW	**Lidau**	**1.19**	**238**		P	**Pn**	**05 08 24.7**	**-0.6**
	baz=224								
ELDTW					S	**Sn**	**05 08 39.3**	**-1.1**
	baz=224								
TWB1	**Santiao Chiao**	**1.19**	**355**		*e*P	**Pn**	**05 08 24.9**	**-0.3**
	baz=357								
TWB1					*e*S	**Sn**	**05 08 39.3**	**-0.9**
	baz=357								
NFF	**Wufeng Townshi**	**1.21**	**312**		P	**Pn**	**05 08 26.1**	**+0.5**
	baz=311								
NFF					*e*S	**Sn**	**05 08 41.6**	**+0.6**
	baz=311								
ALS	**Alishan**	**1.24**	**256**		*i* P	**Pn**	**05 08 27.2**	**+1.0**
	baz=252								
ALS					S	**Sn**	**05 08 42.4**	**+0.5**
	baz=252								
TWA	**Mucha**	**1.25**	**337**		P	**Pn**	**05 08 27.0**	**+0.9**
	baz=339								
TWA					*e*S	**Sn**	**05 08 42.7**	**+0.9**
	baz=339								
NHDH	**Xindian Distri**	**1.25**	**335**		*e*S	**Sn**	**05 08 42.7**	**+0.8**
	baz=324								
WJS	**Zhushan**	**1.27**	**270**		P	**Pn**	**05 08 27.5**	**+1.2**
	baz=268								
NWF	**Wu-fen Shan**	**1.28**	**346**		*e*P	**Pn**	**05 08 26.9**	**+0.4**
	baz=3.0								
WFSB	**Wu-fen Shan**	**1.28**	**346**		P	**Pn**	**05 08 27.3**	**+0.8**
	baz=3.0								
LONT	**Longtian**	**1.28**	**225**		P	**Pn**	**05 08 25.9**	**-0.6**
	baz=231								
LONT					*e*S	**Sn**	**05 08 42.9**	**+0.3**
	baz=231								
SXI1	**Grass Mountain**	**1.28**	**350**		P	**Pn**	**05 08 26.6**	**0.0**
	baz=6.0								
SXI1					S	**Sn**	**05 08 42.1**	**-0.6**
	baz=6.0								
LDUT	**Ludao**	**1.29**	**207**		*e*P	**Pn**	**05 08 25.8**	**-0.8**
	baz=204								
LDUT					*e*S	**Sn**	**05 08 40.9**	**-1.7**
	baz=204								
LIOB	**Emei**	**1.29**	**310**		P	**Pn**	**05 08 28.0**	**+1.3**
	baz=309								
LIOB					*e*S	**Sn**	**05 08 44.3**	**+1.4**
	baz=309								
NSTT	**Nanjuang**	**1.29**	**309**		*e*P	**Pn**	**05 08 26.9**	**+0.2**
	baz=308								
NSTT					S	**Sn**	**05 08 43.5**	**+0.7**
	baz=308								
WNT	**Mingjian**	**1.31**	**273**		*e*P	**Pn**	**05 08 28.5**	**+1.7**
	baz=271								
TWQ1	**Liyutan**	**1.33**	**293**		P	**Pn**	**05 08 28.5**	**+1.3**
	baz=292								
TWQ1					S	**Sn**	**05 08 45.5**	**+1.7**
	baz=292								
CHN5	**Tsauling**	**1.33**	**261**		*e*P	**Pn**	**05 08 28.4**	**+1.1**
	baz=257								
CHN5					*e*S	**Sn**	**05 08 46.6**	**+2.7**
	baz=257								
TCU	**Taichung**	**1.35**	**284**		*e*P	**Pn**	**05 08 28.9**	**+1.5**
	baz=282								
TCU					*e*S	**Sn**	**05 08 46.7**	**+2.5**
	baz=282								
TNOU	**National Taiwa**	**1.36**	**347**		*e*P	**Pn**	**05 08 28.6**	**+1.0**
	baz=3.0								
TNOU					*e*S	**Sn**	**05 08 45.1**	**+0.7**
	baz=3.0								
NSY	**Sanyi**	**1.37**	**296**		P	**Pn**	**05 08 28.9**	**+1.1**
	baz=294								
NSY					S	**Sn**	**05 08 47.7**	**+2.9**
	baz=294								
TWGBT	**Beinan**	**1.38**	**224**		P	**Pn**	**05 08 27.7**	**-0.2**
TWGBT	**Beinan**	**1.38**	**224**		P	**Pn**	**05 08 27.0**	**-0.8**
	baz=230								
TWGBT					*e*S	**Sn**	**05 08 43.7**	**-1.3**
	baz=230								
TWG	**Pinlang**	**1.38**	**224**		P	**Pn**	**05 08 27.6**	**-0.3**
	baz=229								
TWG					S	**Sn**	**05 08 43.9**	**-1.1**
	baz=229								
STYH	**Taoyuan**	**1.39**	**242**		*e*P	**Pn**	**05 08 28.2**	**+0.3**
	baz=232								
STYH					*e*S	**Sn**	**05 08 46.5**	**+1.3**
	baz=232								
NMLH	**Miaoli**	**1.40**	**301**		*e*P	**Pn**	**05 08 30.1**	**+2.0**
	baz=287								
NMLH					*e*S	**Sn**	**05 08 48.4**	**+2.9**
	baz=287								
YM01	**YM01**	**1.41**	**340**		P	**Pn**	**05 08 29.3**	**+1.0**
	baz=355								
YM01					S	**Sn**	**05 08 46.5**	**+0.7**
	baz=355								
SBCB	**Hsinchu**	**1.41**	**313**		*e*P	**Pn**	**05 08 30.1**	**+1.9**
	baz=313								
SBCB					*e*S	**Sn**	**05 08 47.8**	**+2.0**
	baz=313								
TWS1	**Kuangyinshan**	**1.42**	**334**		*e*P	**Pn**	**05 08 30.3**	**+1.9**
	baz=335								
TWS1					*e*S	**Sn**	**05 08 47.0**	**+1.0**
	baz=335								
WGK	**Gukeng**	**1.43**	**265**		P	**Pn**	**05 08 30.2**	**+1.8**
	baz=262								
WCKO	**Fanlu**	**1.43**	**255**		*e*P	**Pn**	**05 08 30.0**	**+1.3**
	baz=252								
WCKO					*e*S	**Sn**	**05 08 49.0**	**+2.7**
	baz=252								
YM08	**YM08**	**1.44**	**341**		*e*P	**Pn**	**05 08 28.4**	**-0.3**
	baz=342								
WDJ	**Dajia District**	**1.44**	**292**		*e*S	**Sn**	**05 08 49.0**	**+2.4**
	baz=290								
WCHH	**Zhanghua**	**1.44**	**281**		*e*P	**Pn**	**05 08 30.1**	**+1.4**
	baz=278								
WCHH					*e*S	**Sn**	**05 08 48.4**	**+1.9**
	baz=278								
WDLH	**Douliu**	**1.45**	**265**		*e*P	**Pn**	**05 08 30.2**	**+1.5**
	baz=263								
TPUB	**Ta-pu**	**1.46**	**249**		P	**Pn**	**05 08 30.5**	**+1.6**
TPUB	**Ta-pu**	**1.46**	**249**		*e*P	**Pn**	**05 08 30.5**	**+1.6**
	baz=246								
TPUB					*e*S	**Sn**	**05 08 49.0**	**+2.2**
	baz=246								
NTST	**Danshui**	**1.47**	**336**		*e*P	**Pn**	**05 08 29.1**	**+0.1**
	baz=337								
CHN4	**Tsaushan**	**1.47**	**252**		*e*P	**Pn**	**05 08 31.0**	**+1.9**
	baz=248								
CHN4					*e*S	**Sn**	**05 08 50.2**	**+3.0**
	baz=248								
WTP	**Ta-pu**	**1.49**	**248**		P	**Pn**	**05 08 31.3**	**+1.9**
	baz=244								
WTP					S	**Sn**	**05 08 50.7**	**+3.0**
	baz=244								
TWY	**Chenhua**	**1.52**	**342**		*e*P	**Pn**	**05 08 30.5**	**+0.7**
	baz=344								
CHN2	**Minshiung**	**1.53**	**259**		*e*P	**Pn**	**05 08 31.7**	**+1.8**
	baz=256								
CHN2					*e*S	**Sn**	**05 08 52.2**	**+3.6**
	baz=256								
HATJ	**Hateruma jima**	**1.57**	**81**		P	**Pn**	**05 08 31.0**	**+0.6**
HATJ					*e*S	**Sn**	**05 08 50.3**	**+0.7**
SLGT	**Liugui**	**1.58**	**239**		*e*P	**Pn**	**05 08 31.8**	**+1.2**
	baz=229								
SLGT					*e*S	**Sn**	**05 08 51.9**	**+2.0**
	baz=229								
WTK	**Tuku**	**1.58**	**265**		*e*P	**Pn**	**05 08 32.7**	**+2.1**
	baz=263								
WTK					*e*S	**Sn**	**05 08 52.3**	**+2.3**
	baz=263								
SGST	**Jiashian**	**1.58**	**243**		P	**Pn**	**05 08 32.2**	**+1.5**
	baz=229								
SGST					*e*S	**Sn**	**05 08 52.3**	**+2.2**
	baz=229								
CHN1	**Nanshi**	**1.59**	**247**		P	**Pn**	**05 08 32.8**	**+2.1**
	baz=243								
CHN1					S	**Sn**	**05 08 53.2**	**+3.1**
	baz=243								
TWK	**Hsinying**	**1.59**	**250**		P	**Pn**	**05 08 32.8**	**+2.0**
	baz=246								
TWK					*e*S	**Sn**	**05 08 53.0**	**+2.8**
	baz=246								
WRL	**Guolierlin Hig**	**1.59**	**273**		*e*P	**Pn**	**05 08 31.8**	**+1.1**
	baz=270								
WRL					*e*S	**Sn**	**05 08 52.5**	**+2.3**
	baz=270								
SNST	**Tainan City**	**1.60**	**248**		*e*P	**Pn**	**05 08 32.9**	**+2.0**
	baz=245								
SNST					*e*S	**Sn**	**05 08 53.6**	**+3.3**
	baz=245								
SSD	**Sandimen**	**1.73**	**232**		*e*P	**Pn**	**05 08 34.2**	**+1.5**
	baz=223								
WSF	**Szhu**	**1.74**	**264**		*e*P	**Pn**	**05 08 34.7**	**+1.8**
	baz=261								
WSF					*e*S	**Sn**	**05 08 56.6**	**+2.7**
	baz=261								
ICHU	**Yijhu**	**1.74**	**255**		*e*P	**Pn**	**05 08 34.3**	**+1.4**
	baz=253								
TSMG	**Majia**	**1.75**	**231**		*e*P	**Pn**	**05 08 35.0**	**+2.1**
	baz=221								
SCST	**Cishan**	**1.75**	**238**		*e*P	**Pn**	**05 08 35.9**	**+2.8**
	baz=225								
JKRS	**Kuro-shima**	**1.78**	**76**		P	**Pn**	**05 08 34.5**	**+1.1**
JKRS					S	**Sn**	**05 08 55.9**	**+0.9**
SHHT	**Tainan City**	**1.81**	**244**		*e*P	**Pn**	**05 08 36.8**	**+3.1**
	baz=242								
CHN8	**Yiju**	**1.81**	**255**		*e*P	**Pn**	**05 08 35.4**	**+1.7**
	baz=252								
CHN8					*e*S	**Sn**	**05 08 58.1**	**+2.6**
	baz=252								
MASBT	**Mashibuluo**	**1.82**	**229**		*e*P	**Pn**	**05 08 35.0**	**+1.1**
	baz=219								
LYUB	**Lan-yu**	**1.88**	**195**		*e*P	**Pn**	**05 08 33.3**	**-1.4**
	baz=193								
JIJ	**Ishigaki jima**	**1.93**	**73**		P	**Pn**	**05 08 35.6**	**+0.2**
JIJ					*e*S	**Sn**	**05 08 58.3**	**-0.3**
TSCK	**Chigu Township**	**1.98**	**251**		*e*P	**Pn**	**05 08 37.9**	**+1.8**
	baz=248								
SCZT	**Fangliau**	**1.99**	**224**		*e*P	**Pn**	**05 08 39.1**	**+2.8**
	baz=218								
JISG	**Ishigakijimahi**	**2.15**	**69**		*i* P	**Pn**	**05 08 38.5**	**+0.1**
PHUB	**P'eng-hu**	**2.35**	**263**		*e*P	**Pn**	**05 08 41.8**	**+0.6**
	baz=274								
PNG	**Penghu**	**2.36**	**264**		*e*P	**Pn**	**05 08 42.1**	**+0.8**
	baz=263								

IDC ***25*** *05:36:10.8±0.6, 12°.89S×45°.55E, h0km, mb3.9/18, mbtmp3.9/21, ML4.4/4, Error ellipse: s-maj=19.2km s-min=15.0km az=104.0*

ISC 25 05:36:12.0±0.5, 13°.03S±0°.07×45°.41E±0°.08, h10km, n27, σ1ş95/29, mb4.0/18, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.78**	**163**	Pn	**Pn**	**05 37 38.9**	**+1.0**
	5.5nm,0.3s,baz=348,slow=11,SNR=6.7						
OPO				Sn	**Sn**	**05 38 39.6**	**-4.7**
	20nm,0.3s,baz=253,slow=20,SNR=20						
ZOMB	**Zomba**	**10.03**	**255**	*e*PN	**Pn**	**05 38 36.3**	**0.0**
ZOMB				*e*SN	Sn	05 40 18.1	-11
ZOMB	**Zomba**	**10.03**	**255**	*e*PN	**Pn**	**05 38 36.3**	**0.0**
ZOMB				*e*SN	Sn	05 40 18.1	-11
KMBO	**Kilima Mbogo**	**14.32**	**325**	Pn	**Pn**	**05 39 33.9**	**-1.3**
	2um,0.3s,baz=86,slow=24,SNR=2.0						
LSZ	**Lusaka**	**16.85**	**260**	Pn	**Pn**	**05 40 10.1**	**+1.9**
	0.4nm,0.3s,baz=86,slow=8.1,SNR=12						
LSZ				Sn	Sn	05 43 04.2	-11
	0.6nm,0.3s,baz=2.4,slow=15,SNR=3.6						
	7.5nm,0.7s						
MATP	**Matopo**	**17.78**	**243**	P	**Pn**	**05 40 21.7**	**+1.9**
	0.2nm,0.3s,baz=48,slow=12,SNR=7.8						
MATP				S	**Sn**	**05 43 31.8**	**-6.4**
	1.1nm,0.6s,baz=36,slow=19,SNR=1.8						
	1.4nm,0.7s						
MBAR	**Mbarara**	**19.07**	**309**	P	**P**	**05 40 35.2**	**+0.3**
	0.9nm,0.3s,baz=119,slow=16,SNR=5.3						
	3.9nm,0.2s						
BOSA	**Boshof**	**24.34**	**227**	P	**P**	**05 41 31.9**	**+1.7**
	4.3nm,0.6s,baz=60,slow=9.1,SNR=8.5						
	4.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**50.53**	**299**	P	**P**	**05 45 12.2**	**+1.3**
	0.8nm,1.1s,baz=119,slow=8.4,SNR=2.1						
	0.8nm,1.1s						
GEYT	**Alibeck**	**52.07**	**13**	P	**P**	**05 45 21.8**	**-0.4**
	1.0nm,0.4s,baz=282,slow=7.2,SNR=1.6						
	1.0nm,0.4s						
BRTR	**Keskin Array B**	**53.61**	**349**	P	**P**	**05 45 33.2**	**-0.4**
	0.3nm,0.5s,baz=193,slow=5.9,SNR=1.6						
	0.3nm,0.5s						
DBIC	**Dimbokro**	**53.63**	**288**	P	**P**	**05 45 34.8**	**+0.7**
	6.7nm,1.0s,baz=144,slow=12,SNR=1.8						
	6.7nm,1.0s						
MAW	**Mawson**	**55.73**	**172**	P	**P**	**05 45 50.7**	**+2.3**
	1.7nm,0.8s,baz=276,slow=9.5,SNR=2.1						
	1.7nm,0.8s						
KBZ	**Khabaz**	**56.52**	**358**	P	**P**	**05 45 53.8**	**-0.6**
	0.6nm,0.3s,baz=90,slow=2.0,SNR=1.7						
	0.6nm,0.3s						
KEST	**Kesra**	**59.28**	**326**	P	**P**	**05 46 13.8**	**-0.2**
	1.2nm,0.7s,baz=145,slow=19,SNR=1.5						
	1.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**61.36**	**60**	P	**P**	**05 46 26.4**	**-2.2**
	1.0nm,0.3s,baz=253,slow=9.2,SNR=4.4						
	1.0nm,0.3s						
AKTO	**Aktyubinsk**	**64.15**	**9**	P	**P**	**05 46 45.6**	**-0.9**
	1.1nm,0.7s,baz=242,slow=6.2,SNR=2.2						
	1.1nm,0.7s						
SNAA	**Sanae**	**65.31**	**195**	P	**P**	**05 46 56.0**	**+2.1**
	0.8nm,0.8s,baz=60,slow=16,SNR=1.6						
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**68.11**	**26**	P	**P**	**05 47 12.2**	**+0.1**
	0.3nm,0.7s,baz=211,slow=5.0,SNR=2.7						
	0.3nm,0.7s						
BVAR	**Borovoye Array**	**69.20**	**16**	P	**P**	**05 47 17.8**	**-0.9**
	0.4nm,0.4s,baz=212,slow=5.1,SNR=2.1						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**69.68**	**22**	P	**P**	**05 47 22.3**	**+0.6**
	0.5nm,1.0s,baz=217,slow=7.5,SNR=2.1						
	0.5nm,1.0s						
ZALV	**Zalesovo Beam**	**74.67**	**23**	P	**P**	**05 47 51.6**	**+0.2**
	0.5nm,0.5s,baz=295,slow=7.6,SNR=2.1						
	0.5nm,0.5s						
QSPA	**South Pole Qui**	**77.07**	**180**	P	**P**	**05 48 07.0**	**+1.6**
	0.7nm,0.7s,baz=326,slow=1.6,SNR=3.2						
	0.7nm,0.7s						
SONM	**Songino Array**	**81.20**	**37**	P	**P**	**05 48 28.2**	**0.0**
	0.2nm,0.4s,baz=199,slow=7.0,SNR=1.7						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**83.52**	**113**	P	**P**	**05 48 39.8**	**-1.0**
	1.0nm,0.6s,baz=260,slow=5.3,SNR=7.3						
	1.0nm,0.6s						
TXAR	**Lajitas Array**	**147.05**	**304**	PKPbc	**PKPbc**	**05 55 55.8**	**-0.1**
	0.2nm,0.9s,baz=36,slow=4.7,SNR=1.9						
NVAR	**Mina Array Bea**	**150.85**	**333**	PKPbc	**PKiKP**	**05 56 06.3**	**+0.2**
	0.3nm,0.7s,baz=187,slow=0.7,SNR=2.3						

IDC ***25*** *05:42:33.7±1.4, 6°.38S×130°.13E, h0km, mb3.9/4, mbtmp4.0/7, ML4.2/3, Error ellipse: s-maj=43.0km s-min=26.0km az=95.0*

ISC 25 05:42:42.1±0.9, 7°.02S±0°.09×130°.2E±0°.2, h100km, n7, σ3ş25/9, mb3.7/4, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**7.19**	**243**	Pn	**Pn**	**05 44 23.7**	**-0.9**
	4.3nm,0.3s,baz=91,slow=16,SNR=1.5						
BATI				Sn	Sn	05 45 31.2	-14
	1.7nm,0.3s,baz=309,slow=21,SNR=1.4						
	15nm,0.3s						
WRA	**Warramunga Arr**	**13.47**	**163**	Pn	**P**	**05 45 54.5**	**-0.3**
	1.2nm,0.3s,baz=345,slow=13,SNR=43						
WRA				Sn	**Sn**	**05 48 16.8**	**-0.6**
	1.7nm,0.3s,baz=329,slow=22,SNR=13						
	1.6nm,0.4s						
ASAR	**Alice Springs**	**16.94**	**168**	P	**P**	**05 46 40.2**	**+6.8**
	0.5nm,0.3s,baz=345,slow=12,SNR=12						
ASAR				S	**Sn**	**05 49 38.1**	**-3.1**
	0.5nm,0.6s,baz=336,slow=36,SNR=3.7						
	0.9nm,0.4s						
MJAR	**Matsushiro Arr**	**43.98**	**9**	P	**P**	**05 50 37.7**	**-1.7**
	2.0nm,0.4s,baz=159,slow=11,SNR=4.1						
	2.0nm,0.4s						
PETK	**Petropavlovsk-**	**64.28**	**18**	P	**P**	**05 53 06.4**	**-0.2**
	1.8nm,0.9s,baz=229,slow=13,SNR=2.0						
	1.8nm,0.9s						
MKAR	**Makanchi Array**	**68.34**	**327**	P	**P**	**05 53 34.1**	**+1.4**
	0.2nm,0.3s,baz=120,slow=7.2,SNR=2.9						
	0.2nm,0.3s						
KURBB	**Kurchatov Arra**	**72.62**	**328**

comp=Z,1.3nm,0.3s,baz=79,slow=9.2,SNR=12
LSZ Sn Sn 05 50 45.8 -13
comp=Z,0.5nm,0.3s,baz=353,slow=12,SNR=3.9
LSZ LR LR 05 53 54.3
comp=Z,146nm,18.9s,baz=130,slow=36
comp=Z,17nm,0.7s
MOPA Mopani 17.05 230 *i* P **Pn** **05 47 49.9 -0.2**
MOPA Mopani 17.05 230 *i* P Pn 05 47 36.8 -13
MUSN Musina, Limpop 17.59 236 *i* P **Pn** **05 47 57.2 +0.4**
MATP Matopo 17.94 243 *i* P **Pn** **05 48 02.7 +1.5**
MATP Matopo 17.94 243 P **Pn** **05 48 01.4 +0.2**
comp=Z,0.8nm,0.3s,baz=63,slow=12,SNR=16
MATP S Sn 05 51 09.5 -12
comp=Z,1.9nm,0.7s,baz=331,slow=19,SNR=2.2
comp=Z,4.2nm,0.5s
MATP Matopo 17.94 243 *i* P Pn 05 47 50.1 -11
MBAR Mbarara 19.14 309 **P** **05 48 13.4 -1.6**
MBAR Mbarara 19.14 309 P **P** **05 48 14.7 -0.4**
comp=Z,2.0nm,0.3s,baz=103,slow=18,SNR=2.8
MBAR S Sn 05 51 38.6 -12
comp=Z,12nm,0.2s,baz=195,slow=20,SNR=7.5
MBAR LR LR 05 54 24.9
comp=Z,59nm,21.1s,baz=120,slow=33
comp=Z,4.9nm,0.2s
LODK Lodwar 19.16 327 **P** **05 48 15.2 +0.1**
POGA Pongola 19.32 220 P **P** **05 48 17.0 +0.3**
POGA IAmb IAmb 05 48 21.4
comp=Z,64nm,1.3s
LBTB Lobatse 22.33 235 P **P** **05 48 49.0 -0.5**
LBTB IAmb IAmb 05 48 55.8
comp=Z,15nm,0.8s
LBTB Lobatse 22.33 235 *i* P **P** **05 48 49.6 +0.1**
LBTB Lobatse 22.33 235 LR LR 05 58 21.0
comp=Z,78nm,18.7s,baz=60,slow=39
ATD Arta Tunnel 24.47 354 P **P** **05 49 10.8 0.0**
ATD IAmb IAmb 05 49 12.0
comp=Z,34nm,1.5s
BOSA Boshof 24.50 227 P **P** **05 49 11.2 +0.1**
BOSA IAmb IAmb 05 49 14.3
comp=Z,8.6nm,0.7s
BOSA Boshof 24.50 227 *i* P **P** **05 49 11.6 +0.5**
BOSA Boshof 24.50 227 P **P** **05 49 11.5 +0.4**
comp=Z,7.1nm,0.5s,baz=55,slow=9.1,SNR=22
comp=Z,7.1nm,0.5s
BOSA Boshof 24.50 227 *i* P P 05 49 01.5 -10
GRHM Grahamstown, E 26.75 218 P **P** **05 49 32.4 +1.0**
SUR Sutherland 29.79 225 P **P** **05 49 59.2 +0.5**
TORD Torodi Ar. Bea 50.63 299 P **P** **05 52 50.3 -0.7**
comp=Z,1.0nm,1.0s,baz=132,slow=7.8,SNR=3.6
TORD LR LR 06 15 37.1
comp=Z,61nm,18.7s,baz=142,slow=38
comp=Z,1.0nm,1.0s
GNI Garni 52.83 359 LR LR 06 15 12.8
comp=Z,23nm,19.6s,baz=169,slow=36
BRTR Keskin Array B 53.56 349 P **P** **05 53 12.3 -0.3**
comp=Z,1.1nm,0.7s,baz=167,slow=8.4,SNR=4.8
comp=Z,1.1nm,0.7s
SIMJ Simiganj 55.83 22 P **P** **05 53 27.0 -2.1**
SIMJ IAmb IAmb 05 53 40.2
comp=Z,6.3nm,0.9s
CHGR Chuyangaron 55.88 22 P **P** **05 53 29.6 +0.1**
GAR Garm 56.62 23 P **P** **05 53 33.4 -1.3**
GAR IAmb IAmb 05 53 50.3
comp=Z,7.5nm,1.0s
CMAR Chiang Mai Arr 61.19 60 P **P** **05 54 06.6 -0.1**
comp=Z,0.6nm,0.3s,baz=255,slow=6.5,SNR=1.5
comp=Z,0.6nm,0.3s
BOOM Boomskoye usch 61.82 25 P **P** **05 54 10.1 -0.7**
BURAR Bucovina Array 62.97 345 P **P** **05 54 17.9 -0.3**
ABKAR Akbulak array 63.22 11 P **P** **05 54 18.4 -1.3**
ABKAR IAmb IAmb 05 54 26.4
comp=Z,4.2nm,0.8s
AKTO Aktyubinsk 64.05 9 P **P** **05 54 24.7 -0.5**
comp=Z,0.6nm,0.5s,baz=171,slow=13,SNR=1.6
comp=Z,0.6nm,0.5s
AKASG Malin Array Be 64.97 349 P **P** **05 54 30.1 -1.1**
comp=Z,0.2nm,0.3s,baz=115,slow=6.3,SNR=2.0
AKASG LR LR 06 22 15.1
comp=Z,11nm,18.6s,baz=54,slow=36
comp=Z,0.2nm,0.3s
SNAA Sanae 65.42 195 P **P** **05 54 36.0 +2.0**
comp=Z,1.8nm,1.1s,baz=45,slow=13,SNR=2.4
comp=Z,1.8nm,1.1s
CTI Castel Tesino 66.19 335 P **P** **05 54 38.8 -0.5**
CTI IAmb IAmb 05 54 40.2
comp=Z,3.6nm,0.9s
PZH PanZhiHua 67.21 54 P **P** **05 54 47.3 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.1s
DAVOX Davos/Dischmat 67.51 334 LR LR 06 28 30.6
comp=Z,22nm,18.2s,baz=84,slow=40
GERES GERESS Array B 67.68 338 P **P** **05 54 47.6 -1.2**
comp=Z,17nm,0.3s,baz=176,slow=2.9,SNR=3.8
MK31 Makanchi Array 67.97 26 ⇓Pn P 05 54 57.6 +7.0
comp=Z,3.0nm,1.2s,baz=84,slow=17
MK31 ⇓Lg Lg 05 56 22.8
comp=Z,3.3nm,0.8s,baz=86,slow=28
MKAR Makanchi Array 67.97 26 P **P** **05 54 49.9 -0.7**
comp=Z,0.3nm,0.6s,baz=220,slow=8.0,SNR=2.6
comp=Z,0.3nm,0.6s
BVAR Borovoye Array 69.08 16 P **P** **05 54 58.2 +0.9**
comp=Z,0.4nm,0.4s,baz=151,slow=3.3,SNR=1.4
comp=Z,0.4nm,0.4s
KURBB Kurchatov Arra 69.56 22 P **P** **05 55 01.2 +0.9**
comp=Z,0.1nm,0.3s,baz=221,slow=6.0,SNR=2.1
comp=Z,0.1nm,0.3s
ESDC Sonseca Array 69.70 321 P **P** **05 55 01.2 -0.3**
comp=Z,0.9nm,0.9s,baz=134,slow=7.3,SNR=2.6
comp=Z,0.9nm,0.9s
LZH Lanzhou 73.47 46 *e*P **P** **05 55 23.3 -1.2**
LZH sP sP 05 55 30.9 +3.1
LZH pmax pmax
comp=Z,20nm,1.2s
ZALV Zalesovo Beam 74.54 23 P **P** **05 55 32.1 +2.1**
comp=Z,0.3nm,0.3s,baz=210,slow=8.3,SNR=1.9
comp=Z,0.3nm,0.3s
FINES FINESS Array B 75.74 350 P **P** **05 55 35.5 -1.4**
comp=Z,0.8nm,0.7s,baz=176,slow=7.6,SNR=2.5
comp=Z,0.8nm,0.7s
XAN Xi'an 76.18 50 ⇓P P 05 55 29.8 -10
XAN pP pP 05 55 34.5 -8.0
XAN pmax pmax
comp=Z,7.0nm,0.7s
QSPA South Pole Qui 77.15 180 P **P** **05 55 46.5 +1.4**
QSPA IAmb IAmb 05 56 04.4
comp=Z,10.0nm,1.3s
QSPA South Pole Qui 77.15 180 P **P** **05 55 45.5 +0.4**
comp=Z,1.2nm,1.0s,baz=208,slow=11,SNR=2.0
comp=Z,1.2nm,1.0s
HFS Hagfors 77.19 344 P **P** **05 55 44.7 -0.5**
comp=Z,1.6nm,0.6s,baz=131,slow=10,SNR=4.4
comp=Z,1.6nm,0.6s
NB201 NORSAR Array S 78.61 344 P **P** **05 55 53.5 +0.5**
NOA NORSAR Array B 78.62 344 P **P** **05 55 53.1 -0.1**
comp=Z,0.2nm,0.5s,baz=136,slow=6.0,SNR=1.8
comp=Z,0.2nm,0.5s
HHC Hu-ho-hao-te 81.05 45 *e*P **P** **05 56 06.8 0.0**
HHC pmax pmax
comp=Z,9.0nm,0.7s
HHC pmax pmax
comp=Z,93nm,5.0s
SONM Songino Array 81.05 37 P **P** **05 56 09.0 +2.2**
comp=Z,0.3nm,0.5s,baz=232,slow=4.7,SNR=2.1
comp=Z,0.3nm,0.5s
NJ2 Nanjing 83.09 55 *e*P **P** **05 56 17.8 +0.2**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,120nm,3.8s
ASAR Alice Springs 83.42 113 P **P** **05 56 19.2 -0.5**
ASAR Alice Springs 83.42 113 P **P** **05 56 20.1 +0.4**
comp=Z,1.2nm,0.6s,baz=264,slow=4.9,SNR=13
comp=Z,1.2nm,0.6s
WRA Warramunga Arr 84.55 109 P **P** **05 56 24.5 -0.9**
WRA Warramunga Arr 84.55 109 P **P** **05 56 25.8 +0.3**
comp=Z,0.8nm,0.8s,baz=259,slow=3.3,SNR=6.3
comp=Z,0.8nm,0.8s
WB2 Warramunga Arr 84.56 109 P **P** **05 56 24.4 -1.1**
XLT XiLinHaoTe 85.35 43 *e*P **P** **05 56 32.0 +3.0**
XLT pP pwP 05 56 36.1 +1.1
XLT sP sP 05 56 41.3 +9.0
XLT pmax pmax
comp=Z,9.0nm,0.7s
XLT pmax pmax
comp=Z,58nm,4.1s
TXAR Lajitas Array 147.13 305 PKPbc **PKPdf** **06 03 35.0 +1.6**
comp=Z,0.4nm,0.7s,baz=101,slow=3.9,SNR=3.7
NVAR Mina Array Bea 150.85 333 PKPbc **PKPdf** **06 03 44.2 +4.9**
comp=Z,0.1nm,0.3s,baz=28,slow=2.1,SNR=1.7

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*GCG **25** 06:14:22.1±0.6, 15°.86N×91°.29W, h6km±999km, MD3.8*
*CATAC **25** 06:14:25.8±0.4, 15°.68N×91°.01W, h3km±2km, ML3.6*
ISC 25 06:14:24.4±1.7, 15°.74N±0°.06×91°.08W±0°.06, h4km±12km, n12, σ0s61/21, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
QUIS	**Sacapulas**	**0.45**	**182**	*i* P	**Pg**		**06 14 33.2**	**+0.1**
QUIS				*i* S	**Sg**		**06 14 39.2**	**+0.2**
QUIS				IAML			06 14 40.2	
comp=Z,3μm,1.0s								
HUEH	**Huehuetenango**	**0.59**	**224**	*i* P	**Pb**		**06 14 37.4**	**0.0**
HUEH				*i* S	**Sb**		**06 14 46.4**	**+0.2**
HUEH				IAML			06 14 48.9	
comp=Z,2μm,1.0s								
AVCB	**Coban**	**0.70**	**113**	*i* P	**Pg**		**06 14 37.9**	**0.0**
AVCB				*i* S	**Sg**		**06 14 47.1**	**+0.1**
AVCB				IAML			06 14 59.7	
comp=Z,3μm,1.0s								
CHTG	**Tecpan**	**0.98**	**175**	*i* P	**Pg**		**06 14 43.4**	**+0.2**
CHTG				*i* S	**Sg**		**06 14 55.8**	**-0.2**
CHTG				IAML			06 15 08.0	
comp=Z,1μm,1.0s								
GUMI	**Mixco**	**1.19**	**158**	*i* P	**Pg**		**06 14 47.4**	**+0.1**
GUMI				*i* S	**Sg**		**06 15 01.6**	**-1.2**
GUMI				IAML			06 15 05.0	
comp=Z,2μm,1.0s								
FUG	**Fuego 3**	**1.31**	**170**	*e*P	**Pn**		**06 14 48.6**	**-1.0**
FUG				*e*S	**Sb**		**06 15 07.5**	**+0.6**
NBG	**Las Nubes**	**1.35**	**148**	*e*P	**Pn**		**06 14 50.8**	**+0.5**
PCG	**Pacaya**	**1.42**	**161**	*e*P	**Pn**		**06 14 51.5**	**+0.3**
AVPA	**Panzos**	**1.43**	**104**	*i* P	**Pn**		**06 14 50.6**	**-0.4**
AVPA				*i* S	**Sn**		**06 15 09.2**	**-1.0**
MRL	**Marmol**	**1.50**	**116**	*e*P	**Pn**		**06 14 52.9**	**+0.7**
PETF	**Flores**	**1.65**	**45**	*i* P	**Pb**		**06 14 55.1**	**-0.2**
PETF				*i* S	**Sb**		**06 15 16.8**	**+0.4**
PETF				IAML			06 15 20.2	
comp=Z,660nm,1.0s								
ESQI	**Esquipulas**	**2.05**	**125**	*i* P	**Pn**		**06 15 00.8**	**+1.1**
ESQI				*i* S	**Sn**		**06 15 25.8**	**0.0**
ESQI				IAML			06 15 37.3	
comp=Z,680nm,1.0s								

IDC 25 06:25:11.4±3.3, 53°.48N×87°.44E, h0km, mbtmp2.7/2, ML2.4/2, Error ellipse: s-maj=31.8km s-min=16.2km az=59.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.63**	**288**	I	I		06 35 50.4	
baz=105,slow=323,SNR=9.3								
ZALV	**Zalesovo Beam**	**1.63**	**288**	Pg	Pn		06 25 40.2	-1.1
0.9nm,0.3s,baz=110,slow=14,SNR=11								
ZALV				Lg	Lg		06 26 03.1	
1.0nm,0.3s,baz=108,slow=27,SNR=5.6								
KURBB	**Kurchatov Arra**	**6.19**	**246**	Pn	Pn		06 26 44.8	+0.8
0.1nm,0.3s,baz=65,slow=13,SNR=1.4								
0.4nm,0.2s								
MKAR	**Makanchi Array**	**7.46**	**208**	Pn	Pn		06 27 02.7	+1.2
0.1nm,0.3s,baz=30,slow=13,SNR=5.7								
0.1nm,0.3s								

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*NEIC **25** 06:29:36.7±1.4, 19°.5N±0°.1×64°.5W±0°.1, h35km±2km, ML2.5/22, Md3.3/4(RSPR), Error ellipse: s-maj=29.1km s-min=3.1km az=141.0*
*RSPR **25** 06:29:37.2, 19°.14N×64°.59W, h133km±11km, MD3.3/4*
ISC 25 06:29:34.4±2.8, 19°.6N±0°.2×64°.50W±0°.07, h27km, n22, σ0s74/24, 2C-1D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
HUMP	**Col San Antoni**	**1.91**	**222**	⇓*e*P	**Pn**		**06 30 06.2**	**+1.1**
HUMP	**Col San Antoni**	**1.91**	**222**	*e*S	**Sn**		**06 30 28.3**	**0.0**
HUMP	**Col San Antoni**	**1.91**	**222**		**Pn**		**06 30 06.2**	**+1.1**
HUMP					**Sn**		**06 30 28.3**	**0.0**
HUMP	**Col San Antoni**	**1.91**	**222**	IAML			06 30 35.0	
comp=E,24nm,0.2s								
GCPR	**Guaynabo City**	**1.95**	**230**	Pn	**Pn**		**06 30 05.8**	**0.0**
SJG	**San Juan**	**2.13**	**228**	Pn	**Pn**		**06 30 08.4**	**+0.1**
IGPR	**InterUniversit**	**2.20**	**224**	*e*S	**Sn**		**06 30 34.7**	**-0.9**
IGPR	**InterUniversit**	**2.20**	**224**		**Sn**		**06 30 34.7**	**-0.9**
IGPR	**InterUniversit**	**2.20**	**224**	Pn	**Pn**		**06 30 09.8**	**+0.6**
IGPR				IAML			06 30 39.5	
comp=N,31nm,0.6s								
IGPR				IAML			06 30 50.4	
comp=E,33nm,0.3s								
AOPR	**Arecibo Observ**	**2.45**	**241**	Pn	**Pn**		**06 30 13.7**	**+1.0**
AOPR				IAML			06 30 48.1	
comp=N,28nm,0.5s								
CELP	**Cerrillos**	**2.46**	**233**	⇑*e*P	**Pn**		**06 30 13.8**	**+0.9**
CELP	**Cerrillos**	**2.46**	**233**	*e*S	**Sn**		**06 30 41.1**	**-1.0**
CELP	**Cerrillos**	**2.46**	**233**		**Pn**		**06 30 13.8**	**+0.9**
CELP					**Sn**		**06 30 41.1**	**-1.0**
CELP	**Cerrillos**	**2.46**	**233**	IAML			06 30 49.3	
comp=E,19nm,2.8s								
CELP				IAML			06 31 34.6	
comp=N,16nm,2.8s								
UUPR	**Utuado, UPR, P**	**2.47**	**239**	⇑*e*P	**Pn**		**06 30 13.7**	**+0.7**
UUPR	**Utuado, UPR, P**	**2.47**	**239**	*e*S	**Sn**		**06 30 42.7**	**+0.4**
UUPR	**Utuado, UPR, P**	**2.47**	**239**		**Pn**		**06 30 13.7**	**+0.7**
UUPR					**Sn**		**06 30 42.7**	**+0.4**
OBIP	**Obispado Ponce**	**2.50**	**233**	Pn	**Pn**		**06 30 13.5**	**+0.1**
OBIP				IAML			06 30 47.2	
comp=N,19nm,2.3s								
OBIP				IAML			06 30 56.1	
comp=E,22nm,2.5s								
AGPR	**Aguadilla, PR**	**2.70**	**247**	Pn	**Pn**		**06 30 16.0**	**-0.1**
MLPR	**Magueyes Islan**	**2.89**	**237**	Pn	**Pn**		**06 30 18.7**	**+0.1**
MLPR				IAML			06 30 54.5	
comp=N,23nm,2.9s								
MLPR				IAML			06 31 25.1	
comp=E,23nm,2.6s								
CRPR	**Cabo Rojo, PR**	**2.92**	**238**	Pn	**Pn**		**06 30 19.8**	**+0.7**
CRPR				IAML			06 31 11.9	
comp=N,24nm,2.1s								
CRPR				IAML			06 31 15.4	
comp=E,27nm,2.2s								
ANBD	**Bethesda, Anti**	**3.61**	**133**	*e*P	**Pb**		**06 30 36.8**	**-0.7**
ANBD				*e*S	**Sb**		**06 31 21.5**	**+0.7**

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*MOS **25** 06:36:01.9±1.0, 12°.86S×45°.57E, h14km, mb5.0/30, Error ellipse: s-maj=12.1km s-min=6.7km az=83.3*
*IDC **25** 06:36:01.9±0.4, 12°.78S×45°.72E, h0km, mb4.2/27, mbtmp4.2/28, ML5.4/2, MS4.0/57, Error ellipse: s-maj=19.3km s-min=12.1km az=78.0*
*BJI **25** 06:36:03.4±0.0, 12°.90S×45°.70E, h10km, mb4.6/34, mB5.1/15, Ms4.7/8, Ms7 4.3/10*
*NEIC **25** 06:36:04.2±1.3, 12°.82S±0°.06×45°.59E±0°.08, h10km±1km, mb5.0/58, Error ellipse: s-maj=14.2km s-min=9.4km az=243.0*
*GCMT **25** 06:36:06.2±0.2, 12°.81S±0°.01×45°.60E±0°.01, h31km±1km, MW5.1/119, Moment Tensor Solution. s57,c74; s119,c172; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.69±.21; $M_{\theta\theta}$1.85±.16; $M_{\phi\phi}$-2.54±.18; $M_{r\theta}$-1.87±.25; $M_{\theta\phi}$-5.43±.14; $M_{r\phi}$0.30±.25; Best double couple: M_o6.18100×10^{16} NP1:ϕ_s258.00000°, δ82.00000°, λ162.00000°. NP2:ϕ_s350.00000°, δ73.00000°, λ8.00000°. Principal axes: T 6.0650, Plg18.0000°, Azm213.0000°; N 0.2260, Plg71.0000°, Azm55.0000°; P -6.2970, Plg7.0000°, Azm305.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 25 06:36:03.1±0.3, 12°.87S±0°.04×45°.58E±0°.06, h10km, n237, σ1s59/185, mb4.9/88, MS4.1/62, 9C-4D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.88**	**165**	Pn	**Pn**		**06 37 29.9**	**-0.6**
38nm,0.3s,baz=335,slow=12,SNR=567								
OPO				Sn	**Sn**		**06 38 30.7**	**-7.4**
29nm,0.3s,baz=351,slow=14,SNR=4.0								
ABPO	**Ambohimpanom**	**6.32**	**166**	Pn	**Pn**		**06 37 35.6**	**-1.0**

ABPO Ambohimpanom 6.32 166 P **Pn** **06 37 35.6 -1.0**
VOI Vohitsoka 9.06 173 Pn **Pn** **06 38 13.2 -1.0**
ZOMB Zomba 10.23 255 *i* PN **Pn** **06 38 27.9 -2.4**
ZOMB *i* SN Sn 06 40 08.3 -17
ZOMB Zomba 10.23 255 *i* PN **Pn** **06 38 27.9 -2.4**
ZOMB *i* SN Sn 06 40 08.3 -17
FOMA Nahampoana Res 12.12 174 Pn **Pn** **06 38 54.2 -1.8**
MSEY Mahe Island 12.72 51 Pn **Pn** **06 39 01.2 -3.1**
MSEY Mahe Island 12.72 51 P **Pn** **06 39 01.2 -3.1**
RER Riviere de l'E 12.74 132 Pn **Pn** **06 39 02.0 -2.6**
KIBK Kibwezi 12.85 324 Pn **Pn** **06 39 02.9 -3.1**
KIBK Kibwezi 12.85 324 *e*P **Pn** **06 39 01.2 -4.8**
KIBK Kibwezi 12.85 324 *e*S **SKiKP** **06 56 13.6 +3.1**
CHIPN CHIPINGE 14.39 238 *i* P **Pn** **06 39 23.3 -3.9**
CHIPN CHIPINGE 14.39 238 *i* P Pn 06 39 15.6 -12
LSZ Lusaka 17.04 260 **Pn** **06 40 00.3 -1.4**
LSZ Lusaka 17.04 260 S Sn 06 42 56.8 -15
16nm,0.5s,baz=33,slow=11,SNR=4.0
LSZ LR LR 06 46 08.5
comp=Z,1μm,20.1s,baz=88,slow=35
LSZ Lusaka 17.04 260 P **Pn** **06 40 00.4 -1.4**
LSZ pmax pmax
comp=Z,58nm,1.0s
MOPA Mopani 17.12 230 *i* P **Pn** **06 40 01.4 -1.3**
MOPA Mopani 17.12 230 *i* P Pn 06 39 51.2 -12
MUSN Musina, Limpop 17.66 236 *i* P **Pn** **06 40 08.8 -0.6**
MATP Matopo 18.00 243 *i* P **Pn** **06 40 14.4 +0.7**
MATP Matopo 18.00 243 P **Pn** **06 40 12.9 -0.8**
comp=Z,9.2nm,0.6s,baz=66,slow=12,SNR=44
MATP S Sn 06 43 20.8 -14
comp=Z,1.6nm,0.3s,baz=333,slow=22,SNR=1.7
MATP LR LR 06 47 03.0
comp=Z,425nm,19.6s,baz=68,slow=36
LODK Lodwar 19.10 327 **P** **06 40 25.8 -0.5**
MBAR Mbarara 19.10 308 P **P** **06 40 26.1 -0.4**
MBAR IAmb IAmb 06 40 33.6
comp=Z,187nm,1.9s
MBAR Mbarara 19.10 308 P **P** **06 40 26.5 +0.1**
comp=Z,3.4nm,0.3s,baz=113,slow=11,SNR=25
MBAR S Sn 06 43 44.6 -17
comp=Z,5.5nm,0.2s,baz=207,slow=23,SNR=1.2
MBAR LR LR 06 47 22.5
comp=Z,312nm,21.9s,baz=118,slow=36
comp=Z,7.0nm,0.3s
MBAR Mbarara 19.10 308 *e*P **Pn** **06 40 28.8 +1.5**
MBAR pmax pmax
comp=Z,102nm,2.2s
POGA Pongola 19.39 220 **P** **06 40 29.8 +0.4**
POGA IAmb IAmb 06 40 33.0
comp=Z,146nm,1.3s
LBTB Lobatse 22.39 234 P **P** **06 41 00.6 -1.4**
LBTB IAmb IAmb 06 41 04.2
comp=Z,48nm,0.9s
LBTB Lobatse 22.39 234 *i* P **P** **06 41 01.4 -0.6**
LBTB Lobatse 22.39 234 LR LR 06 49 35.5
comp=Z,426nm,18.7s,baz=57,slow=36
LBTB Lobatse 22.39 234 *i* P P 06 40 50.2 -12
LBTB Lobatse 22.39 234 P **P** **06 41 00.6 -1.4**
LBTB pmax pmax
comp=Z,49nm,0.9s
FURI Furi 22.68 342 P **P** **06 41 06.2 +0.9**
ATD Arta Tunnel 24.39 354 P **P** **06 41 20.7 -1.2**
ATD IAmb IAmb 06 41 33.5
comp=Z,26nm,1.1s
ATD Arta Tunnel 24.39 354 LR LR 06 50 02.9
comp=Z,7.8nm,18.6s,baz=188,slow=35
BOSA Boshof 24.57 227 P **P** **06 41 22.4 -1.1**
BOSA IAmb IAmb 06 41 25.8
comp=Z,31nm,0.7s
BOSA Boshof 24.57 227 *i* P **P** **06 41 23.2 -0.3**
BOSA Boshof 24.57 227 P **P** **06 41 22.6 -0.9**
comp=Z,27nm,0.6s,baz=56,slow=9.2,SNR=77
BOSA S **S** **06 45 42.8 -1.9**
comp=Z,2.5nm,0.9s,baz=7.5,slow=18,SNR=1.5
BOSA LR LR 06 50 59.3
comp=Z,825nm,21.1s,baz=55,slow=36
BOSA Boshof 24.57 227 *i* P **P** **06 41 22.7 -0.9**
BOSA Boshof 24.57 227 P **P** **06 41 22.4 -1.1**
BOSA pmax pmax
comp=Z,31nm,0.7s
TSUM Tsumeb 27.61 253 P **P** **06 41 51.9 +0.7**
SUR Sutherland 29.87 225 P **P** **06 42 11.5 +0.3**
SUR Sutherland 29.87 225 LR LR 06 54 07.7
comp=Z,514nm,21.1s,baz=49,slow=36
RAYN Ar Rayn 36.17 360 P **P** **06 43 06.2 +0.2**
RAYN IAmb IAmb 06 43 13.2
comp=Z,31nm,1.9s
RAYN Ar Rayn 36.17 360 P **P** **06 43 06.2 +0.2**
RAYN pmax pmax
comp=Z,31nm,1.9s
WSAR Wadi Sarin 38.09 20 LR LR 06 56 02.9
comp=Z,336nm,19.7s,baz=208,slow=32
UOSS Minazif 38.99 15 P **P** **06 43 29.1 -0.7**
PALK Pallekele 40.23 62 LR LR 06 56 31.0
comp=Z,317nm,18.1s,baz=345,slow=31
EIL Elat 43.51 347 LR LR 07 01 38.0
comp=Z,168nm,19.1s,baz=174,slow=35
HYB Hyderabad 44.34 48 *e*P **P** **06 44 13.8 0.0**
MMAI Mount Meron Ar 46.65 348 LR LR 07 03 15.4
comp=Z,191nm,19.1s,baz=116,slow=35
TORD Torodi Ar. Bea 50.60 299 P **P** **06 45 03.9 +1.3**
comp=Z,2.2nm,1.0s,baz=114,slow=7.4,SNR=7.0
TORD LR LR 07 09 11.5
comp=Z,142nm,18.9s,baz=114,slow=39
comp=Z,2.2nm,1.0s
GEYT Alibeck 51.88 13 P **P** **06 45 12.5 +0.7**
GEYT IAmb IAmb 06 45 19.0
comp=Z,13nm,1.2s
GEYT Alibeck 51.88 13 P **P** **06 45 13.1 +1.3**
comp=Z,1.9nm,0.4s,baz=224,slow=6.2,SNR=6.4
GEYT LR LR 07 07 54.2
comp=Z,127nm,20.7s,baz=184,slow=37
comp=Z,1.9nm,0.4s
GEYT Alibeck 51.88 13 P **P** **06 45 12.5 +0.7**
GEYT pmax pmax
comp=Z,13nm,1.2s
GYA0 ALIBECK ARRAY 51.88 13 P **P** **06 45 12.0 +0.1**
GYA0 pmax pmax
comp=Z,9.0nm,1.0s
GYA0B ALIBECK ARRAY 51.88 13 P **P** **06 45 12.0 +0.1**
KBL Kabul 52.15 25 P **P** **06 45 14.1 -0.1**
KBL IAmb IAmb 06 45 25.4
comp=Z,22nm,1.1s
KBL Kabul 52.15 25 P **P** **06 45 14.1 -0.1**
KBL pmax pmax
comp=Z,22nm,1.2s
GNI Garni 52.75 359 P **P** **06 45 19.4 +1.0**
GNI IAmb IAmb 06 45 26.6
comp=Z,31nm,1.4s
GNI Garni 52.75 359 LR LR 07 08 49.1
comp=Z,168nm,20.4s,baz=176,slow=37
GNI Garni 52.75 359 P **P** **06 45 19.5 +1.0**
GNI pmax pmax
comp=Z,31nm,1.4s
NIL Nilore 53.25 29 P **P** **06 45 21.9 -0.2**
NIL IAmb IAmb 06 45 33.1
comp=Z,29nm,1.1s
NIL Nilore 53.25 29 P **P** **06 45 21.9 -0.2**
NIL pmax pmax
comp=Z,29nm,1.1s
BR131 Keskin Array S 53.49 349 P **P** **06 45 24.3 +0.4**
BR131 Keskin Array S 53.49 349 P **P** **06 45 24.3 +0.4**
BR131 pmax pmax
comp=Z,5.0nm,1.0s
BRTR Keskin Array B 53.49 349 P **P** **06 45 24.2 +0.4**
comp=Z,0.9nm,0.5s,baz=168,slow=10.0,SNR=6.8
comp=Z,0.9nm,0.5s
DBIC Dimbokro 53.74 288 LR LR 07 09 10.3
comp=Z,339nm,18.1s,baz=106,slow=37
PPSI Pulau Pagai 54.75 84 P **P** **06 45 36.4 +3.0**
comp=Z,76nm,0.9s
ONI Oni 55.22 358 P **P** **06 45 37.0 +0.7**
ONI Oni 55.22 358 P **P** **06 45 37.0 +0.7**
ONI pmax pmax
comp=Z,5.0nm,0.8s
MAK Makhachkala 55.58 2 *e*P P 06 45 33.6 -5.2
MAK *e* 06 47 38.5
MAK *e*S **S** **06 53 16.8 -7.7**
MAK *e*SSS SSS 06 59 15.8
MAK pmax pmax
comp=Z,86nm,0.9s
MAK MLR MLR
comp=Z,236nm,17.0s
SIMJ Simiganj 55.74 22 P **P** **06 45 40.3 0.0**
CHGR Chuyangaron 55.80 22 P **P** **06 45 41.4 +0.8**

CHGR Chuyangaron 55.80 22 P P 06 45 41.4 +0.8
CHGR pmax pmax
comp=Z,70nm,1.0s
MAW Mawson 55.86 172 P P 06 45 41.8 +1.2
comp=Z,2.8nm,0.6s,baz=330,slow=8.5,SNR=7.1
MAW LR LR 07 07 30.7
comp=Z,444nm,18.1s,baz=345,slow=34
comp=Z,2.8nm,0.6s
KBZ Khabaz 56.37 358 P P 06 45 42.6 -1.8
comp=Z,2.2nm,0.8s,baz=154,slow=9.2,SNR=4.2
KBZ LR LR 07 11 37.2
comp=Z,174nm,19.0s,baz=178,slow=38
comp=Z,2.2nm,0.8s
KBZ Khabaz 56.37 358 *i* P **P 06 45 42.8 -1.7**
KBZ pmax pmax
comp=Z,3.0nm,0.9s
SHA1 Shidzhatmaz 56.39 357 ⇓*i* P **P 06 45 45.4 +0.5**
SOC Sochi 56.43 355 *e*P **P 06 45 42.3 -2.6**
SOC *e* 06 47 49.4
SOC *e*PPP PPP 06 49 02.7
SOC *e*S **S 06 53 33.6 -2.2**
SOC *e*SS **SS 06 57 24.8 +1.5**
SOC MLR MLR
comp=Z,125nm,19.0s
GAR Garm 56.53 23 P P 06 45 46.2 +0.3
KIV Kislovodsk 56.61 357 P P 06 45 47.6 +1.3
KIV IAmb IAmb 06 45 54.6
comp=Z,32nm,1.2s
KIV Kislovodsk 56.61 357 ⇑*e*P P 06 45 53.1 +6.8
KIV *e*S **S 06 53 30.7 -7.7**
KIV pmax pmax
comp=Z,20nm,1.3s
KIV MLR MLR
comp=Z,186nm,18.0s
VAE Valguarnera 58.01 331 LR LR 07 12 17.3
comp=Z,454nm,18.2s,baz=98,slow=38
KEST Kesra 59.24 326 P P 06 46 06.9 +2.0
comp=Z,1.7nm,0.6s,baz=138,slow=15,SNR=2.0
KEST LR LR 07 11 07.7
comp=Z,70nm,18.2s,baz=349,slow=36
comp=Z,1.7nm,0.6s
KSH Kashi 59.31 27 P P 06 46 06.5 +1.1
KSH pP pwP 06 46 12.8 +1.1
CUC Castrocucco 59.42 334 P P 06 46 06.6 +0.5
CUC IAmb IAmb 06 46 31.3
comp=Z,8.2nm,1.2s
PUK Puka 59.53 338 P P 06 46 08.4 +1.5
PUK IAmb IAmb 06 46 25.3
comp=Z,8.0nm,1.0s
ARSB Arslanbob 59.57 24 P P 06 46 07.3 +0.1
ARSB Arslanbob 59.57 24 P P 06 46 07.3 +0.1
ARSB pmax pmax
comp=Z,5.0nm,1.2s
ELIB Princess Elisa 60.55 188 *d*P **P 06 46 14.8 +1.3**
comp=Z,7.1nm,1.1s
ELIB *d*PP **PP 06 48 26.7 -0.1**
MLR Muntele Rosu 60.74 344 LR LR 07 14 18.8
comp=Z,91nm,18.8s,baz=176,slow=38
CM31 Chiang Mai Arr 61.14 60 P P 06 46 18.4 +0.2
CM31 IAmb IAmb 06 46 19.5
comp=Z,14nm,1.1s
CMAR Chiang Mai Arr 61.14 60 P P 06 46 18.4 +0.2
CMAR Chiang Mai Arr 61.14 60 P P 06 46 18.5 +0.3
comp=Z,4.5nm,0.8s,baz=249,slow=8.1,SNR=18
CMAR LR LR 07 10 09.2
comp=Z,100nm,18.2s,baz=265,slow=34
comp=Z,4.5nm,0.8s
AAK Ala-Archa 61.28 24 P P 06 46 18.4 -0.5
AAK IAmb IAmb 06 46 30.7
comp=Z,16nm,1.3s
AAK Ala-Archa 61.28 24 LR LR 07 10 26.8
comp=Z,52nm,21.6s,baz=228,slow=34
AAK Ala-Archa 61.28 24 P P 06 46 18.4 -0.5
AAK pmax pmax
comp=Z,16nm,1.3s
CHTO Chiang Mai 61.30 60 P P 06 46 19.4 +0.2
CHTO IAmb IAmb 06 46 27.5
comp=Z,16nm,1.1s
CHTO Chiang Mai 61.30 60 P P 06 46 19.5 +0.2
CHTO pmax pmax
comp=Z,16nm,1.1s
LEM Lembang 61.30 91 LR LR 07 11 01.0
comp=Z,90nm,18.1s,baz=136,slow=34
NVL N'lazarevskaya 61.48 192 *e*P **P 06 46 20.3 +0.7**
NVL pmax pmax
comp=Z,16nm,0.7s
BOOM Boomskoye usch 61.74 25 P P 06 46 22.3 +0.3
BOOM IAmb IAmb 06 46 33.5
comp=Z,22nm,1.4s
BOOM Boomskoye usch 61.74 25 P P 06 46 22.3 +0.3
BOOM pmax pmax
comp=Z,22nm,1.4s
INTR Introdacqua 61.90 334 P P 06 46 23.5 +0.6
INTR IAmb IAmb 06 46 36.8
comp=Z,11nm,1.0s
PHRA Phrae 62.25 61 P P 06 46 25.8 +0.2
CAMP Campotosto 62.54 334 P P 06 46 27.8 +0.5
BURAR Bucovina Array 62.89 345 P P 06 46 29.9 +0.4
BURAR Bucovina Array 62.89 345 P P 06 46 29.9 +0.4
BURAR pmax pmax
comp=Z,4.0nm,1.2s
CRAI Chiangrai 63.13 59 P P 06 46 31.6 0.0
CRAI IAmb IAmb 06 46 39.3
comp=Z,21nm,1.4s
VRH Novokhopyorsk 63.89 357 *e*P P 06 46 27.7 -8.2
VRH pmax pmax
comp=Z,30nm,2.0s
AKTO Aktyubinsk 63.97 9 LR LR 07 14 24.1
comp=Z,120nm,21.2s,baz=268,slow=36
TROLL Troll, Antarti 64.42 194 ⇑P **P 06 46 41.2 +1.8**
comp=Z,1μm,0.8s
VORR Voronezh 64.51 356 P P 06 46 37.3 -2.6
VORR pmax pmax
comp=Z,20nm,1.4s
AKASG Malin Array Be 64.89 349 P P 06 46 41.6 -0.9
comp=Z,0.3nm,0.4s,baz=175,slow=5.6,SNR=4.0
AKASG LR LR 07 16 10.7
comp=Z,84nm,19.4s,baz=171,slow=37
comp=Z,0.3nm,0.4s
AKBB Malin Array Si 64.89 349 ⇑*i*P **P 06 46 40.6 -1.9**
AKBB pmax pmax
comp=Z,6.0nm,1.7s
BELG Belogornoye 65.02 1 LR LR 07 18 11.7
comp=Z,131nm,18.8s,baz=153,slow=39
BELG Belogornoye 65.02 1 ⇑*i*P **P 06 46 42.9 -0.3**
BELG pmax pmax
comp=Z,3.0nm,0.9s
SOKA Soboth 65.30 337 *e*P P 06 46 57.1 +12
comp=Z,8.6nm,1.3s
OBKA Obir 65.34 337 *e*P P 06 46 58.8 +13
comp=Z,14nm,1.3s
SNAA Sanae 65.50 195 P P 06 46 47.4 +1.0
SNAA Sanae 65.50 195 ⇑P **P 06 46 47.1 +0.8**
comp=Z,74nm,0.8s
SNAA Sanae 65.50 195 P P 06 46 46.9 +0.6
comp=Z,3.3nm,0.9s,baz=85,slow=13,SNR=12
SNAA LR LR 07 13 56.8
comp=Z,176nm,18.0s,baz=109,slow=35
comp=Z,3.3nm,0.9s
SNAA Sanae 65.50 195 P P 06 46 47.4 +1.0
SNAA pmax pmax
comp=Z,5.0nm,0.9s
ARSA Arzberg 65.60 338 *e*P P 06 46 59.1 +12
comp=Z,8.0nm,0.9s
RONA Rosalia, Austr 65.71 339 *e*P P 06 47 01.0 +13
comp=Z,17nm,1.2s
MYKA Terra Mystica 65.80 336 *e*P P 06 47 00.2 +12
comp=Z,7.3nm,1.0s
MDT Midelt 66.02 315 LR LR 07 17 18.7
comp=Z,129nm,18.1s,baz=126,slow=38
CONA Conrad Observa 66.06 339 *e*P P 06 47 02.7 +13
comp=Z,15nm,1.3s
KBA Koelnbreinsper 66.28 337 *e*P P 06 47 03.6 +12
comp=Z,9.0nm,1.0s
VNA2 Neumayer--Watz 66.29 197 ⇑P **P 06 46 52.7 +1.3**
comp=Z,4.5nm,0.6s,baz=37,slow=6.1
ABTA Abfaltersbach 66.34 336 *e*P P 06 47 03.6 +12
comp=Z,10nm,1.3s
VNA1 Neumayer--Stat 66.40 197 ⇑P **P 06 46 53.9 +1.9**
comp=Z,13nm,1.1s
MOA Molln 66.57 338 *e*P P 06 47 04.6 +11
comp=Z,16nm,1.3s
KRUC Moravsky 66.84 340 *e*P P 06 47 04.3 +9.2
VRAC Vranov 66.98 340 *e*P P 06 47 04.2 +8.2
MORC Moravsky Berou 67.07 341 *e*P P 06 47 04.8 +8.2
VNA3 Neumayer Olymp 67.09 197 ⇑P **P 06 46 57.8 +1.3**
comp=Z,17nm,0.7s
WTTA Wattenberg 67.11 336 *e*P P 06 47 08.2 +11
comp=Z,8.9nm,1.3s
PZH PanZhiHua 67.15 54 P P 06 47 00.3 +2.6
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,7.0s
FETA Feichten 67.28 335 *e*P P 06 47 11.0 +13
comp=Z,14nm,1.0s
MOTA Moosalm 67.39 335 *e*P P 06 47 10.2 +11
comp=Z,9.1nm,1.2s
DAVOX Davos/Dischmat 67.45 334 LR LR 07 21 12.5
comp=Z,107nm,18.1s,baz=108,slow=40
GERES GERESS Array B 67.61 338 P P 06 47 00.4 +0.3
GERES GERESS Array B 67.61 338 P P 06 46 59.2 -0.9
comp=Z,0.5nm,0.2s,baz=203,slow=41,SNR=2.9
comp=Z,0.5nm,0.2s
GERES GERESS Array B 67.61 338 P P 06 47 00.4 +0.3
RETA Reutte 67.64 335 *e*P P 06 47 12.6 +12
comp=Z,13nm,1.1s
MAKZ Makanchi 67.77 26 P P 06 47 02.1 +1.0
MAKZ Makanchi 67.77 26 P P 06 47 02.1 +1.0
MAKZ pmax pmax
comp=Z,39nm,1.6s
NWAO Narrogin (SRO) 67.80 120 LR LR 07 12 55.5
comp=Z,99nm,18.1s,baz=212,slow=33
DAVA Damuels 67.85 335 *e*P P 06 47 13.9 +12
comp=Z,18nm,1.3s
MK31 Makanchi Array 67.89 26 P P 06 47 01.3 -0.5
MK31 IAmb IAmb 06 47 08.8
comp=Z,21nm,1.6s
MK31 Makanchi Array 67.89 26 P P 06 47 01.3 -0.5
MK31 pmax pmax
comp=Z,21nm,1.6s
MKAR Makanchi Array 67.89 26 P P 06 47 00.9 -0.9
comp=Z,1.2nm,0.8s,baz=211,slow=6.9,SNR=10
MKAR LR LR 07 15 00.5
comp=Z,46nm,20.3s,baz=182,slow=34
comp=Z,1.2nm,0.8s
WMQ Urumqi 68.23 32 *e*P **P 06 47 06.8 +2.7**
SSB Saint Sauveur 68.74 330 P P 06 47 07.0 -0.2
SSB IAmb IAmb 06 47 21.2
comp=Z,14nm,1.3s
SSB Saint Sauveur 68.74 330 P P 06 47 07.0 -0.2
SSB pmax pmax
comp=Z,14nm,1.3s
BVAR Borovoye Array 69.00 16 P P 06 47 07.9 -0.7
comp=Z,1.5nm,0.8s,baz=217,slow=7.2,SNR=6.4
BVAR LR LR 07 17 09.0
comp=Z,67nm,21.4s,baz=224,slow=36
comp=Z,1.5nm,0.8s
BRVK Borovoye 69.00 16 P P 06 47 08.9 +0.3
BRVK IAmb IAmb 06 47 15.7
comp=Z,14nm,1.4s
BRVK Borovoye 69.00 16 *e*P **P 06 47 09.7 +1.1**
BRVK pmax pmax
comp=Z,9.0nm,2.0s
KURBB Kurchatov Arra 69.47 22 P P 06 47 11.1 -0.5
comp=Z,0.5nm,0.7s,baz=214,slow=6.7,SNR=6.4
KURBB LR LR 07 16 42.1
comp=Z,52nm,19.6s,baz=175,slow=35
comp=Z,0.5nm,0.7s
KURK Kurchatov 69.58 22 P P 06 47 13.7 +1.5
KURK IAmb IAmb 06 47 18.6
comp=Z,9.9nm,1.4s
KURK Kurchatov 69.58 22 P P 06 47 13.7 +1.5
KURK pmax pmax
comp=Z,10.0nm,1.4s
ESDC Sonseca Array 69.65 321 P P 06 47 14.5 +1.5
comp=Z,1.1nm,0.9s,baz=113,slow=7.7,SNR=6.1
ESDC LR LR 07 19 17.1
comp=Z,180nm,18.2s,baz=126,slow=37
comp=Z,1.1nm,0.9s
ARU Arti 69.88 8 P P 06 47 14.1 +0.1
ARU Arti 69.88 8 LR LR 07 19 40.0
comp=Z,50nm,20.1s,baz=184,slow=38
ARU Arti 69.88 8*d i*P **P 06 47 14.0 +0.1**
ARU 06 49 45.3
ARU S **S 06 56 24.5 +0.9**
ARU pmax pmax
comp=Z,10.0nm,1.1s
QIZ Qiongzhong 70.80 64 P P 06 47 20.5 +0.1
QIZ S **S 06 56 37.5 +1.7**
QIZ LR LR
comp=Z,150nm,15.1s
QIZ LR LR
comp=Z,110nm,12.1s
QIZ LR LR
comp=Z,110nm,31.8s
CD2 Chengdu 70.80 51 P P 06 47 21.3 +1.0
GYA Guiyang 71.06 56 *e*P **P 06 47 24.0 +2.0**
GYA pmax pmax
comp=Z,13nm,0.5s
KIRV Kirov 71.27 2 LR LR 07 20 34.8
comp=Z,100nm,19.7s,baz=190,slow=38
KIRV Kirov 71.27 2 *e*P **P 06 47 23.3 +1.0**
GTA Gaotai 72.44 41 P P 06 47 36.8 +6.7
GTA pmax pmax
comp=Z,4.0nm,1.2s
GTA LR LR
comp=Z,110nm,15.6s
GTA LR LR
comp=Z,98nm,16.4s
GTA LR LR
comp=Z,120nm,14.5s
LZH Lanzhou 73.40 46 *e*P P 06 47 45.3 +9.4
LZH pP PcP 06 47 49.5 -2.6
LZH pmax pmax
comp=Z,18nm,1.3s
KAPI Kappang 73.49 91 LR LR 07 16 28.5
comp=Z,69nm,19.3s,baz=240,slow=33
KLMR Klimovskoe 73.63 357 *e*P **P 06 47 35.7 -0.7**
KLMR pmax pmax
comp=Z,19nm,1.3s
ZAA0 Zalesovo Array 74.46 23 P P 06 47 41.3 -0.1
ZALV Zalesovo Beam 74.46 23 P P 06 47 41.9 +0.5
ZALV Zalesovo Beam 74.46 23 P P 06 47 40.6 -0.8
comp=Z,0.6nm,0.4s,baz=205,slow=6.4,SNR=6.1
comp=Z,0.6nm,0.4s
ZALV Zalesovo Beam 74.46 23 *i* P **P 06 47 43.0 +1.6**
ZALV pmax pmax
comp=Z,3.0nm,0.8s
BELA Belgrano 2 75.44 192 P P 06 47 47.3 +0.4
FINES FINESS Array B 75.66 350 P P 06 47 47.8 -0.4
FINES FINESS Array B 75.66 350 P P 06 47 48.0 -0.2
comp=Z,1.4nm,0.7s,baz=208,slow=2.7,SNR=4.5
FINES LR LR 07 22 23.9
comp=Z,50nm,20.3s,baz=182,slow=37
comp=Z,1.4nm,0.7s
FINES FINESS Array B 75.66 350 P P 06 47 48.0 -0.2
XAN Xi'an 76.11 50 ⇑P **P 06 47 51.8 +0.3**
XAN S **S 06 57 37.0 +1.5**
XAN sS sS 06 57 44.3 +4.9
XAN pmax pmax
comp=Z,9.0nm,0.8s
XAN pmax pmax
comp=Z,140nm,4.4s
FITZ Fitzroy Crossi 76.80 106 P P 06 47 55.4 -0.2
HFS Hagfors 77.12 344 P P 06 47 57.1 +0.6
comp=Z,1.5nm,0.5s,baz=168,slow=8.8,SNR=3.5
HFS LR LR 07 24 03.1
comp=Z,44nm,18.5s,baz=152,slow=37
comp=Z,1.5nm,0.5s
QSPA South Pole Qui 77.23 180 P P 06 47 58.1 +0.8
QSPA IAmb IAmb 06 47 59.9
comp=Z,23nm,1.2s
QSPA South Pole Qui 77.23 180 P P 06 47 58.5 +1.1
comp=Z,14nm,1.0s,baz=256,slow=2.3,SNR=27
QSPA LR LR 07 19 40.3
comp=Z,313nm,19.2s,baz=266,slow=34
comp=Z,14nm,1.0s
NB2 NORSAR Subarra 78.55 344 P P 06 48 04.4 -0.1
comp=Z,2.6nm,1.2s,baz=146,slow=5.6
NOA NORSAR Array B 78.55 344 P P 06 48 04.9 +0.3
comp=Z,0.5nm,0.8s,baz=134,slow=6.0,SNR=3.8
NOA LR LR 07 24 50.8
comp=Z,45nm,20.7s,baz=125,slow=37
comp=Z,0.5nm,0.8s
EKA Eskdalemuir Ar 79.29 334 P P 06 48 09.0 +0.4
comp=Z,1.3nm,0.7s,baz=128,slow=6.4,SNR=4.0
comp=Z,1.3nm,0.7s
EKA Eskdalemuir Ar 79.29 334 P P 06 48 09.0 +0.4
HHC Hu-ho-hao-te 80.97 45 *e*P **P 06 48 19.3 +1.1**
HHC pmax pmax
comp=Z,19nm,0.8s
HHC pmax pmax
comp=Z,63nm,4.2s
HHC LR LR
comp=Z,120nm,19.1s
HHC LR LR
comp=Z,120nm,19.1s
HHC LR LR
comp=Z,120nm,18.3s
SONM Songino Array 80.97 37 P P 06 48 18.2 +0.1
comp=Z,0.7nm,0.6s,baz=208,slow=4.9,SNR=2.2
comp=Z,0.7nm,0.6s
HNS HongShan 81.79 49 *e*P P 06 48 29.5 +7.0
HNS *e*S **SKSac 06 58 44.3 +1.5**
HNS LR LR
comp=Z,100nm,15.1s
HNS LR LR
comp=Z,100nm,21.5s
HNS LR LR
comp=Z,140nm,17.5s
DAV Davao City (W) 81.89 81 LR LR 07 24 01.2
comp=Z,30nm,18.2s,baz=244,slow=35
VNDA Vanda 82.99 169 P P 06 48 29.6 +1.5
VNDA IAmb IAmb 06 48 30.4
comp=Z,16nm,1.7s
VNDA Vanda 82.99 169 P P 06 48 29.4 +1.3
comp=Z,1.1nm,0.7s,baz=256,slow=6.3,SNR=11
VNDA LR LR 07 21 13.7
comp=Z,182nm,21.9s,baz=244,slow=33
comp=Z,1.1nm,0.7s
VNDA Vanda 82.99 169 P P 06 48 29.6 +1.5
VNDA pmax pmax
comp=Z,16nm,1.7s
NJ2 Nanjing 83.02 55 *e*P **P 06 48 30.8 +1.7**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,350nm,4.8s
ARCES ARCESS Array B 83.39 353 P P 06 48 31.5 +1.3
ARCES ARCESS Array B 83.39 353 P P 06 48 29.5 -0.6
comp=Z,2.3nm,0.9s,baz=155,slow=6.6,SNR=4.0
ARCES LR LR 07 28 39.1
comp=Z,49nm,18.5s,baz=168,slow=38
comp=Z,2.3nm,0.9s
ARCES ARCESS Array B 83.39 353 P P 06 48 31.5 +1.3
ARCES pmax pmax
comp=Z,49nm,1.7s
ASAR Alice Springs 83.43 113 P P 06 48 31.5 0.0
ASAR Alice Springs 83.43 113 P P 06 48 31.7 +0.2
comp=Z,6.5nm,0.6s,baz=263,slow=4.8,SNR=83
ASAR LR LR 07 19 25.1
comp=Z,166nm,20.1s,baz=250,slow=31
comp=Z,6.5nm,0.6s
AS31 Alice Springs 83.43 113 P P 06 48 31.4 -0.1
WRA Warramunga Arr 84.56 109 P P 06 48 37.6 +0.3
WRA Warramunga Arr 84.56 109 P P 06 48 37.2 -0.1
comp=Z,4.7nm,0.7s,baz=261,slow=3.3,SNR=44
WRA LR LR 07 25 06.5
comp=Z,82nm,18.8s,baz=295,slow=35
comp=Z,4.7nm,0.7s
WRA Warramunga Arr 84.56 109 P P 06 48 37.6 +0.3
WB2 Warramunga Arr 84.57 109 P P 06 48 37.2 -0.2
XLT XiLinHaoTe 85.27 43 *e*P **P 06 48 37.5 -2.9**
XLT pmax pmax
comp=Z,10.0nm,0.9s
XLT pmax pmax
comp=Z,53nm,4.3s
STKA Stephens Creek 88.32 122 P P 06 48 54.4 -1.2
comp=Z,2.6nm,0.8s,baz=286,slow=3.8,SNR=3.6
comp=Z,2.6nm,0.8s
JOW Kunigami 89.34 62 LR LR 07 26 24.1
comp=Z,33nm,20.9s,baz=22,slow=34
BDFB Brasilia 89.98 254 P P 06 49 04.4 +0.7
BDFB IAmb IAmb 06 51 23.5
comp=Z,36nm,2.0s
BDFB Brasilia 89.98 254 P P 06 49 05.1 +1.4
comp=Z,2.0nm,0.7s,baz=129,slow=4.6,SNR=5.0
BDFB LR LR 07 26 48.4
comp=Z,126nm,19.4s,baz=124,slow=34
comp=Z,2.0nm,0.7s
BDFB Brasilia 89.98 254 P P 06 49 04.4 +0.7
BDFB pmax pmax
comp=Z,36nm,2.0s
PLTB Pedras Altas 90.95 237 P P 06 49 09.2 +1.4
KSRS Korea Array 91.75 52 LR LR 07 30 36.5
comp=Z,53nm,18.9s,baz=255,slow=36
BORG Borgarnes 92.05 337 LR LR 07 36 16.2
comp=Z,44nm,18.7s,baz=132,slow=39
SPITS Spitsbergen Ar 92.35 354 LR LR 07 34 06.0
comp=Z,47nm,18.6s,baz=120,slow=38
JNU Nakatsue 93.05 57 LR LR 07 30 35.9
comp=Z,63nm,18.8s,baz=263,slow=35
CPUP Villa Florida 95.62 242 LR LR 07 30 29.6
comp=Z,163nm,18.4s,baz=118,slow=34
USRK Ussuriysk Ar. 96.30 46 LR LR 07 32 18.9
comp=Z,41nm,18.7s,baz=247,slow=35
KLR Kul'GLR 97.15 41 LR LR 07 33 20.9
comp=Z,61nm,19.7s,baz=254,slow=36
YAK Yakutsk 98.50 28 LR LR 07 33 32.1
comp=Z,48nm,20.6s,baz=268,slow=35
PMG Port Moresby 99.05 102 LR LR 07 34 59.6
comp=Z,64nm,18.2s,baz=189,slow=36
MJAR Matsushiro Arr 99.63 55 LR LR 07 36 25.4
comp=Z,24nm,18.5s,baz=254,slow=36
DZM Mont Dzumac 112.42 121 *e*LR LR 07 28 05.2
comp=Z,119nm,25.6s
ILAR Eielson Array 127.45 7 PKP **PKPdf 06 55 06.7 -1.2**
comp=Z,0.2nm,0.8s,baz=352,slow=1.8,SNR=2.4
YKA Yellowknife Ar 128.46 348 PKP **PKiKP 06 55 11.3 +0.7**
comp=Z,0.2nm,0.6s,baz=350,slow=3.2,SNR=1.9
TBI Tubuai 141.11 158 *e*LR LR 07 41 21.6
comp=Z,378nm,23.8s
PDAR Pinedale Array 143.25 329 PKP **PKPdf 06 55 38.4 +0.1**
comp=Z,0.2nm,0.4s,baz=55,slow=3.4,SNR=1.7
PPT2 Papeete2 146.24 153 *e*LR LR 07 43 53.5
comp=Z,77nm,23.8s
TXAR Lajitas Array 147.10 305 PKPbc **PKPbc 06 55 47.5 +0.3**
comp=Z,1.0nm,0.7s,baz=95,slow=3.5,SNR=17
NVAR Mina Array Bea 150.78 333 PKP **PKPdf 06 55 52.6 +1.6**
comp=Z,0.3nm,0.5s,baz=64,slow=2.1,SNR=2.7

IDC 25 06:48:13.4±2.0, 4°35S×142°09E, h0km, mb3.3/2, mbtmp3.3/3, ML3.3/1, Error ellipse: s-maj=294.0km s-min=34.0km az=113.0, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**17.24**	**205**	P		Pn 06 52 16.6	+0.7
	0.1nm,0.3s,baz=26,slow=13,SNR=6.7						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**20.77**	**202**	P		P 06 52 55.7	-0.4
	0.4nm,0.7s,baz=31,slow=11,SNR=3.2						
	0.4nm,0.7s						
ILAR	**Eielson Array**	**85.93**	**24**	P		P 07 00 55.1	0.0
	0.4nm,0.7s,baz=258,slow=4.5,SNR=3.6						
	0.4nm,0.7s						

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*IDC **25** 06:59:36.6±3.0, 54°16N×87°42E, h0km, mbtmp3.3/2, ML2.9/2, Error ellipse: s-maj=25.5km s-min=16.8km az=56.0*

NNC 25 06:59:20.8±4.1, 54°29N×88°75E, h0km, mb3.5, mpv3.1, 7C-3D, Error ellipse: s-maj=35.6km s-min=32.3km az=14.0, Suspected Mining explosion., Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**2.34**	**263**	I		I 07 08 43.7	
	0.1nm,0.8s,baz=76,slow=322,SNR=11						
ZAA0	**Zalesovo Array**	**2.34**	**263**	⇓Pn		Pn 06 59 59.8	-0.7
	0.4nm,0.3s						
ZAA0				⇑Lg		Lg 07 00 37.8	
	15nm,1.4s						
ZALV	**Zalesovo Beam**	**2.34**	**263**	Pg		Pg 07 00 04.9	-0.7
	3.0nm,0.3s,baz=76,slow=16,SNR=17						
ZALV				Lg		Lg 07 00 26.8	
	2.6nm,0.3s,baz=80,slow=28,SNR=7.4						
KURK	**Kurchatov**	**7.14**	**244**	⇑Pn		Pn 07 01 07.7	+1.2
	4.8nm,0.9s						
KURK				⇑Lg		Lg 07 03 06.3	
	7.9nm,1.2s						
KURBB	**Kurchatov Arra**	**7.24**	**244**	⇑Pn		Pn 07 01 08.3	+0.5
	2.6nm,0.6s						
KURBB				⇓Sn		Sn 07 02 29.2	-1.6
	2.6nm,0.8s						
KURBB				⇓Lg		Lg 07 03 09.0	
	6.8nm,0.6s						

KURBB	**Kurchatov Arra**	**7.24**	**244**	Pn	Pn	07 01 13.6	+5.7
	0.2nm,0.3s,baz=57,slow=14,SNR=15						
KURBB				Lg	Lg	07 03 01.4	
	0.1nm,0.3s,baz=45,slow=31,SNR=4.3						
	2.9nm,0.6s						
MK31	**Makanchi Array**	**8.56**	**211**	⇑Pn	Pn	07 01 28.8	+2.9
	0.4nm,0.5s,baz=31,slow=14						
MK31				⇑Sn	Sn	07 03 03.6	+0.4
	1.6nm,1.1s						
MK31				⇑Lg	Lg	07 03 56.2	
	7.5nm,1.3s						
MKAR	**Makanchi Array**	**8.56**	**211**	Pn	Pn	07 01 36.8	+11
	0.2nm,0.3s,baz=24,slow=14,SNR=7.6						
MKAR				Sn	Sn	07 03 04.5	+1.4
	baz=31,slow=27						
MKAR				Lg	Lg	07 03 50.2	
	0.1nm,0.3s,baz=24,slow=28,SNR=2.1						
	0.3nm,0.3s						

CATAC ***25*** *07:01:19.5±0.7, 13.44N×88.15W, h5km±8km, ML3.8*
SNET ***25*** *07:01:21.7±1.5, 13.27N×88.07W, h2km, ML4.0*

ISC 25 07:01:22.9±1.1**, 13.3N**±0.1**×88.04W**±0.05**, h18**km±3km**, n30, σ0.75/41, 1C-1D, El Salvador**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CNRM	**Centro Naciona**	**0.18**	**317**	*i* P		**Pg**	**07 01 27.4**	**-0.2**
CNRM				*e*S		**Sg**	**07 01 31.7**	**+0.8**
CNCH	**Conchagua**	**0.21**	**107**	⇓*i*P		**Pb**	**07 01 27.7**	**-0.4**
CNCH				*e*S		**Sb**	**07 01 31.6**	**+0.2**
BLLM	**Bellamira**	**0.22**	**298**	⇑*i*P		**Pg**	**07 01 27.9**	**-0.3**
COEB	**Comit de Eme**	**0.50**	**288**	*i* P		**Pg**	**07 01 32.6**	**-0.5**
COEB				*e*S		**Sg**	**07 01 39.9**	**0.0**
COEG	**Centro de Oper**	**0.86**	**289**	*e*P		**Pb**	**07 01 38.9**	**-0.5**
COEG				*e*S		**Sb**	**07 01 50.9**	**+0.3**
CRIN	**San Cristobal**	**1.16**	**123**	*i* P		**Pn**	**07 01 44.3**	**0.0**
CRIN				IAML			07 01 45.0	
	comp=Z,16μm,1.0s							
PKGN	**Cerro Pekin**	**1.23**	**123**	*i* P		**Pn**	**07 01 44.8**	**-0.4**
PKGN				IAML			07 01 47.6	
	comp=Z,10μm,1.0s							
BOQS	**Boqueron**	**1.27**	**288**	*e*P		**Pb**	**07 01 46.5**	**+0.2**
QUEN	**Al S del Volca**	**1.38**	**123**	*i* P		**Pn**	**07 01 46.9**	**-0.4**
QUEN				IAML			07 01 47.8	
	comp=Z,4μm,1.0s							
JAYA	**Jayaque - finc**	**1.40**	**283**	*e*P		**Pn**	**07 01 47.8**	**+0.1**
JAYA				*e*S		**Sb**	**07 02 06.8**	**+0.5**
PACN	**Al O del Volca**	**1.48**	**124**	*i* P		**Pn**	**07 01 48.2**	**-0.4**
PACN				*i* S		**Sb**	**07 02 09.4**	**+1.1**
PACN				IAML			07 02 10.1	
	comp=Z,2μm,1.0s							
ROCN	**Rota Cerro Neg**	**1.50**	**123**	*i* P		**Pn**	**07 01 48.4**	**-0.6**
ROCN				*i* S		**Sb**	**07 02 10.6**	**+1.5**
ROCN				IAML			07 02 24.3	
	comp=Z,770nm,1.0s							
CNGA	**Al SSO del Vol**	**1.55**	**123**	*i* P		**Pn**	**07 01 48.8**	**-0.9**
CNGA				IAML			07 02 15.7	
	comp=Z,1μm,1.0s							
CNGN	**Cerro Negro**	**1.55**	**122**	*i* P		**Pn**	**07 01 48.9**	**-0.8**
CNGN				IAML			07 02 16.2	
	comp=Z,1μm,1.0s							
MACN	**El Madrono**	**1.59**	**123**	*i* P		**Pn**	**07 01 49.4**	**-0.8**
MACN				IAML			07 01 54.7	
	comp=Z,1μm,1.0s							
LIMN	**Finca el Limon**	**1.66**	**99**	*i* P		**Pn**	**07 01 51.0**	**-0.1**
LIMN				IAML			07 02 18.6	
	comp=Z,1μm,1.0s							
LEVN	**Ruinas Leon Vi**	**1.67**	**124**	*i* P		**Pn**	**07 01 50.9**	**-0.4**
LEVN				IAML			07 02 20.1	
	comp=Z,1μm,1.0s							
MOM2	**El Cardon**	**1.76**	**120**	*i* P		**Pn**	**07 01 52.0**	**-0.5**
MOM2				IAML			07 01 55.1	
	comp=Z,450nm,1.0s							
MOM2				*i* S		**Sb**	**07 02 18.0**	**+1.5**
COPN	**Copaltepe**	**1.82**	**129**	*i* P		**Pn**	**07 01 53.2**	**-0.2**
COPN				IAML			07 02 24.8	
	comp=Z,400nm,1.0s							
SAPS	**Ciudad Sandino**	**1.98**	**126**	*i* P		**Pn**	**07 01 55.7**	**+0.2**
SAPS				*i* S		**Sb**	**07 02 22.9**	**+0.3**
SAPS				IAML			07 02 29.0	
	comp=Z,850nm,1.0s							
HUEN		**2.08**	**118**	*i* P		**Pn**	**07 01 56.5**	**-0.4**
HUEN				IAML			07 02 00.3	
	comp=Z,310nm,1.0s							
TISN	**Laguna Tiscapa**	**2.10**	**124**	*i* P		**Pn**	**07 01 57.0**	**-0.2**
TISN				IAML			07 02 33.0	
	comp=Z,62nm,1.0s							
RB28C	**Hialeah**	**2.10**	**125**	*i* P		**Pn**	**07 01 57.3**	**+0.1**
RB28C				IAML			07 02 28.6	
	comp=Z,3μm,1.0s							
R4DEC	**Barrio San Lui**	**2.11**	**124**	*i* P		**Pn**	**07 01 56.8**	**-0.5**
R4DEC				IAML			07 02 00.2	
	comp=Z,530nm,1.0s							
R4DEC				*i* S		**Sb**	**07 02 26.9**	**+0.3**
R0529	**La Mascota**	**2.13**	**124**	*i* P		**Pn**	**07 01 57.4**	**-0.3**
R0529				IAML			07 02 00.6	
	comp=Z,430nm,1.0s							
MAS3	**Al N del Volca**	**2.24**	**125**	*i* P		**Pn**	**07 02 00.0**	**+0.8**
MAS3				*i* S		**Sb**	**07 02 30.0**	**-0.3**
MAS3				IAML			07 02 33.6	
	comp=Z,660nm,1.0s							
RB213	**Mirador 2 Volc**	**2.27**	**126**	*i* P		**Pn**	**07 01 56.9**	**-2.7**
RB213				IAML			07 01 59.0	
	comp=Z,780nm,1.0s							
CONN	**Concepcion**	**2.95**	**127**	*i* P		**Pn**	**07 02 09.8**	**+0.9**
CONN				IAML			07 02 51.4	
	comp=Z,1μm,1.0s							
OMEN	**Al SSO del Vol**	**2.98**	**127**	*i* P		**Pn**	**07 02 09.7**	**+0.4**
OMEN				IAML			07 02 52.5	
	comp=Z,240nm,1.0s							
ACON	**Acoyapa**	**3.11**	**116**	*i* P		**Pn**	**07 02 10.7**	**-0.4**
ACON				IAML			07 03 07.9	
	comp=Z,230nm,1.0s							

SFS ***25*** *07:02:21.9, 34.65N×5.64W, h0km, ML3.2/9, ML3.3/9, MLv3.2/9*
MDD ***25*** *07:02:25.0±1.0, 34.52N×5.71W, h13km±11km, mb_Lg3.1/12, Error ellipse: s-maj=7.4km s-min=4.7km az=7.0*
IGIL ***25*** *07:02:24.5, 34.54N×5.70W, h6km, ML1.8*
INMG ***25*** *07:02:25.6±1.3, 34.54N×5.71W, h22km±5km, ML2.1, Error ellipse: s-maj=6.1km s-min=2.2km az=70.0*
CNRM ***25*** *07:02:25.1, 34.52N×5.91W, h22km, ML2.5*

ISC 25 07:02:25.5±0.9**, 34.60N**±0.02**×5.73W**±0.03**, h22**km**, n59, σ1.9/31/82, 1C, Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
RSA	**Sarsar**	**0.29**	**345**	P		**Pb**	**07 02 32.6**	**+0.4**
RSA	**Sarsar**	**0.29**	**345**	S		**Sn**	**07 02 40.6**	**+0.3**
CHEFC	**Chefchaouen**	**0.60**	**32**	P		**Pb**	**07 02 37.6**	**+0.2**
CHEFC	**Chefchaouen**	**0.60**	**32**	S		**Sn**	**07 02 50.4**	**+2.5**
RTC	**Rabat Centre**	**1.11**	**237**	Pg		**Pn**	**07 02 45.7**	**-0.1**
RTC				Sg		**Sb**	**07 03 01.5**	**+1.4**
SMIR	**Smir Dam**	**1.12**	**15**	P		**Pb**	**07 02 47.1**	**+1.0**
SMIR	**Smir Dam**	**1.12**	**15**	S		**Sn**	**07 03 02.6**	**+2.0**
IFR	**Ifrane**	**1.19**	**155**	Pg		**Pn**	**07 02 44.7**	**-2.3**
IFR				Sg		**Sb**	**07 02 59.6**	**-2.8**
ZHG	**ZHG**	**1.38**	**214**	P		**Pn**	**07 02 48.4**	**-1.0**
ZHG	**ZHG**	**1.38**	**214**	S		**Sn**	**07 03 07.6**	**+0.6**
AKLM	**AKL**	**1.54**	**93**	P		**Pn**	**07 02 52.2**	**+0.5**
AKLM	**AKL**	**1.54**	**93**	S		**Sb**	**07 03 12.8**	**+0.2**
CZD	**Col de Zad**	**1.67**	**160**	P		**Pn**	**07 02 53.5**	**-0.1**
CZD	**Col de Zad**	**1.67**	**160**	S		**Sn**	**07 03 14.7**	**+0.3**
AVE	**Averroes**	**1.91**	**228**	Pg		**Pn**	**07 02 59.3**	**+2.7**
MD31	**MD31**	**1.91**	**155**	P		**Pn**	**07 02 55.9**	**-0.8**
MD31	**MD31**	**1.91**	**155**	S		**Sn**	**07 03 21.4**	**+1.2**
EMAL	**Malaga-Limoner**	**2.41**	**26**	Sn		**Sn**	**07 03 31.8**	**-0.5**
SRHM	**Skhour des Reh**	**2.79**	**221**	P		**Pn**	**07 03 10.3**	**+1.4**
SRHM	**Skhour des Reh**	**2.79**	**221**	S		**Sn**	**07 03 45.7**	**+3.8**
ELGU	**Los Guajares,**	**2.84**	**36**	P		**Pn**	**07 03 09.5**	**0.0**
ELGU				S		**Sn**	**07 03 44.4**	**+1.3**
ELGU				*i* Vmb_Lg			07 04 50.9	
TISM	**Timmit**	**2.93**	**192**	P		**Pn**	**07 03 09.3**	**-1.4**
TISM	**Timmit**	**2.93**	**192**	S		**Sn**	**07 03 44.4**	**-0.8**
PVAQ	**Vaqueiros**	**3.23**	**331**	⇑*e*P		**Pn**	**07 03 14.9**	**+0.1**
PVAQ				*e*S		**Sn**	**07 03 52.1**	**-0.5**
PVAQ				A		A	07 03 53.3	
	9.7nm,0.2s							
PVAQ	**Vaqueiros**	**3.23**	**331**	Pn		**Pn**	**07 03 14.9**	**+0.1**
PVAQ				Sn		**Sn**	**07 03 51.9**	**-0.7**
EMIN	**Mina Concepcio**	**3.25**	**347**	P		**Pn**	**07 03 15.9**	**+0.7**
EMIN				S		**Sn**	**07 03 53.7**	**+0.5**
EMIN				*i* Vmb_Lg			07 04 06.9	
EGRO	**El Granado**	**3.25**	**335**	Sn		**Sn**	**07 03 52.8**	**-0.5**
EGRO				Pn		**Pn**	**07 03 15.1**	**-0.1**
EGRO	**El Granado**	**3.25**	**335**	P		**Pn**	**07 03 15.3**	**+0.1**
EGRO				S		**Sn**	**07 03 52.7**	**-0.5**
EGRO				*i* Vmb_Lg			07 03 55.7	
EBER	**Berja**	**3.26**	**44**	S		**Sn**	**07 03 55.6**	**+2.1**
ECAB	**El Cabril**	**3.48**	**4**	Sn		**Sn**	**07 03 56.6**	**-2.3**
ECAB				Pn		**Pn**	**07 03 17.6**	**-0.7**
ECAB	**El Cabril**	**3.48**	**4**	P		**Pn**	**07 03 19.0**	**+0.7**
ECAB				S		**Sn**	**07 03 56.9**	**-1.9**
PCVE	**Castro Verde**	**3.56**	**329**	*e*P		**Pn**	**07 03 19.4**	**+0.1**
PCVE				*e*S		**Sn**	**07 03 59.9**	**-0.8**
PCVE				A		A	07 04 00.8	
	2.7nm,0.2s							
PCVE	**Castro Verde**	**3.56**	**329**	Sn		**Sn**	**07 04 00.1**	**-0.6**
PCVE				Pn		**Pn**	**07 03 19.4**	**+0.1**
PFVI	**Vila Bisbo**	**3.57**	**316**	*e*S		**Sn**	**07 04 00.1**	**-0.8**
PFVI				A		A	07 04 05.9	
	6.8nm,0.9s							
PFVI	**Vila Bisbo**	**3.57**	**316**	Pn		**Pn**	**07 03 20.0**	**+0.5**
PFVI	**Vila Bisbo**	**3.57**	**316**	P		**Pn**	**07 03 18.2**	**-1.2**
PFVI	**Vila Bisbo**	**3.57**	**316**	S		**Sn**	**07 04 00.6**	**-0.3**
MORF	**Marmelete**	**3.59**	**320**	*e*P		**Pn**	**07 03 19.7**	**-0.2**
MORF				*e*S		**Sn**	**07 04 01.3**	**-0.3**
MORF				A		A	07 04 04.5	
	5.0nm,0.1s							
MORF	**Marmelete**	**3.59**	**320**	*e*P		**Pn**	**07 03 19.7**	**-0.2**
MORF				*e*S		**Sn**	**07 04 00.3**	**-1.4**
MORF				IAML			07 04 02.3	
	comp=N,2.4nm,0.2s							
EADA	**Adamuz**	**3.68**	**14**	Sn		**Sn**	**07 04 02.6**	**-1.3**
EADA				Pn		**Pn**	**07 03 20.7**	**-0.4**
EADA	**Adamuz**	**3.68**	**14**	P		**Pn**	**07 03 21.4**	**+0.3**
EADA				S		**Sn**	**07 04 02.8**	**-1.1**
EADA				*i* Vmb_Lg			07 04 07.6	
PBAR	**Barrancos**	**3.72**	**344**	*e*P		**Pn**	**07 03 21.6**	**0.0**
PBAR				*e*S		**Sn**	**07 04 03.7**	**-1.1**
PBAR				A		A	07 04 08.4	
	comp=N,1.9nm,0.4s							
PBAR	**Barrancos**	**3.72**	**344**	Pn		**Pn**	**07 03 20.7**	**-1.0**
OUZM	**OUZ**	**3.78**	**194**	P		**Pn**	**07 03 22.0**	**-0.6**
OUZM	**OUZ**	**3.78**	**194**	S		**Sn**	**07 04 08.2**	**+1.8**
MESJ	**Messejana**	**3.81**	**329**	*e*P		**Pn**	**07 03 22.9**	**+0.1**
MESJ				*e*S		**Sn**	**07 04 05.5**	**-1.4**
MESJ				A		A	07 04 08.4	
	comp=N,2.2nm,0.3s							
MESJ	**Messejana**	**3.81**	**329**	*e*P		**Pn**	**07 03 22.9**	**+0.1**
PTEO	**Sao Teotonio**	**3.81**	**321**	*e*S		**Sn**	**07 04 06.3**	**-0.7**
PTEO				A		A	07 04 11.4	
	comp=N,4.0nm,0.5s							
EQES	**Quesada**	**3.85**	**33**	S		**Sn**	**07 04 09.5**	**+1.4**
EQES				*i* Vmb_Lg			07 04 16.4	
PNCL	**Nicolau / Gran**	**4.17**	**328**	*e*P		**Pn**	**07 03 27.7**	**-0.1**
PNCL				*e*S		**Sn**	**07 04 14.2**	**-1.6**
PNCL				A		A	07 04 16.9	
	comp=N,2.0nm,0.7s							
PNCL	**Nicolau / Gran**	**4.17**	**328**	Pn		**Pn**	**07 03 26.8**	**-1.0**
EBAD	**Badajoz**	**4.28**	**346**	P		**Pn**	**07 03 30.4**	**+1.2**
EBAD				S		**Sn**	**07 04 16.9**	**-1.5**
EBAD				*i* Vmb_Lg			07 04 20.5	
PSIM	**Granatula de C**	**4.50**	**20**	P		**Pn**	**07 03 33.1**	**+0.7**
PSIM				S		**Sn**	**07 04 22.0**	**-2.1**
PESTR	**Estremoz**	**4.51**	**341**	*e*P		**Pn**	**07 03 34.0**	**+1.5**
PESTR				*e*S		**Sn**	**07 04 23.6**	**-0.7**
PESTR	**Estremoz**	**4.51**	**341**	Sn		**Sn**	**07 04 22.9**	**-1.4**
TTIG	**Tnine Tigouga,**	**4.64**	**210**	P		**Pn**	**07 03 31.2**	**-3.1**
TTIG	**Tnine Tigouga,**	**4.64**	**210**	S		**Sn**	**07 04 24.5**	**-3.2**
PMRV	**Marv??o**	**5.00**	**345**	*e*P		**Pn**	**07 03 40.1**	**+0.9**
PMRV				*e*S		**Sn**	**07 04 34.6**	**-1.7**
PMRV				A		A	07 04 41.6	
	comp=N,1.4nm,0.6s							
EPLA	**Plasencia**	**5.46**	**357**	P		**Pn**	**07 03 46.4**	**+0.8**
EPLA				*i* Vmb_Lg			07 06 46.0	

IDC ***25*** *07:22:46.2±1.0, 31.58N×78.17E, h0km, mb3.6/8, mbtmp3.5/10, ML3.0/2, MS2.9/3, Error ellipse: s-maj=36.9km s-min=18.4km az=52.0*
NDI ***25*** *07:22:51.4±3.1, 31.53N×78.19E, h5km, ML3.5, MW3.6*

ISC 25 07:22:48.9±1.6**, 31.61N**±0.05**×78.28E**±0.05**, h11**km±10**km, n26, σ2.9/14/31, mb3.6/8, Western Xizang-India border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
SMLA	**Simla**	**1.06**	**244**	*e*P		**Pg**	**07 23 08.1**	**-1.2**
SMLA				*e*S		**Sg**	**07 23 22.8**	**-0.3**
SMLA				IAML			07 23 26.3	
	comp=N,606nm,0.3s							
SMLA				IAML			07 23 26.4	
	comp=E,386nm,0.4s							
DDI	**Dehra Dun**	**1.29**	**189**	*e*P		**Pg**	**07 23 14.0**	**+0.3**
DDI				*e*S		**Sn**	**07 23 31.7**	**+1.5**
DDI				IAML			07 23 37.3	
	comp=E,1μm,0.4s							
DDI				IAML			07 23 37.3	
	comp=N,1μm,0.3s							
BHK	**Bhakra**	**1.60**	**264**	*e*P		**Pn**	**07 23 19.3**	**+2.2**
BHK				*e*S		**Sg**	**07 23 40.8**	**+0.5**
BHK				IAML			07 23 44.6	
	comp=N,1μm,0.4s							
BHK				IAML			07 23 45.4	
	comp=E,890nm,0.3s							
DHRM	**DHARAMSHALA**	**1.80**	**291**	*e*P		**Pn**	**07 23 21.9**	**+1.9**
DHRM				*e*S		**Sb**	**07 23 46.4**	**+1.8**
DHRM				IAML			07 23 48.5	
	comp=E,2μm,0.6s							
DHRM				IAML			07 23 48.7	
	comp=N,2μm,0.4s							
THN	**Thein Dam**	**2.33**	**291**	*e*P		**Pn**	**07 23 28.7**	**+1.6**
THN				*e*S		**Sn**	**07 23 59.8**	**+4.2**
THN				IAML			07 24 04.2	
	comp=N,336nm,0.3s							
THN				IAML			07 24 05.2	
	comp=E,446nm,0.4s							
PTH	**Pithoragarh**	**2.64**	**140**	*e*P		**Pn**	**07 23 33.6**	**+2.0**
PTH				*e*S		**Sn**	**07 24 07.9**	**+4.1**
LGTI	**Lohaghat**	**2.74**	**141**	*e*S		**Sn**	**07 24 07.1**	**+1.3**
NDI	**New Delhi**	**3.05**	**198**	*e*P		**Pn**	**07 23 39.3**	**+2.2**
NDI				*e*S		**Sn**	**07 24 16.0**	**+2.4**
NDI				IAML			07 24 23.4	
	comp=E,107nm,0.4s							
JMU	**Jammu**	**3.07**	**292**	*e*P		**Pn**	**07 23 40.9**	**+3.6**
JMU				*e*S		**Sb**	**07 24 21.1**	**+0.2**
SONA	**Sohna**	**3.50**	**198**	*e*P		**Pn**	**07 23 45.8**	**+2.6**
SONA				*e*S		**Sn**	**07 24 25.8**	**+1.2**
KUDL	**Kundal**	**3.78**	**205**	*e*P		**Pn**	**07 23 48.5**	**+1.4**
KUDL				*e*S		**Sn**	**07 24 29.8**	**-1.8**
AJM	**Ajmer**	**6.02**	**213**	*e*S		**Sn**	**07 25 26.7**	**-0.1**
BHPL	**Bhopal**	**8.37**	**185**	*e*S		**Sn**	**07 26 20.3**	**-4.3**
AAK	**Ala-Archa**	**11.42**	**346**	LR		LR	07 29 56.8	
	comp=E,33nm,18.3s,baz=192,slow=38							
MKAR	**Makanchi Array**	**15.48**	**10**	Pn		**Pn**	**07 26 25.9**	**-1.2**
	comp=E,0.1nm,0.3s,baz=184,slow=14,SNR=3.9							
MKAR				Sn		Sn	07 29 11.2	-7.3
	comp=E,0.1nm,0.3s,baz=183,slow=26,SNR=3.7							
	comp=E,0.1nm,0.3s							
KURBB	**Kurchatov Arra**	**19.00**	**0**	P		**P**	**07 27 08.4**	**-2.0**
	baz=187,slow=12,SNR=4.7							
	comp=E,0.2nm,0.4s							
BVAR	**Borovoye Array**	**22.16**	**347**	P		**P**	**07 27 43.7**	**-0.9**
	comp=E,0.5nm,0.3s,baz=156,slow=12,SNR=5.3							
	comp=E,0.5nm,0.3s							
CMAR	**Chiang Mai Arr**	**22.80**	**120**	P		**P**	**07 27 51.6**	**-0.1**
	comp=E,0.6nm,0.4s,baz=313,slow=11,SNR=4.2							
	comp=E,0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**22.82**	**10**	LR		LR	07 37 58.0	
	comp=E,30nm,20.5s,baz=288,slow=40							
SONM	**Songino Array**	**26.82**	**45**	LR		LR	07 39 18.1	
	comp=E,55nm,20.3s,baz=279,slow=37							
AKASG	**Malin Array Be**	**40.70**	**313**	P		P	07 30 27.8	-1.5
	comp=E,0.2nm,0.3s,baz=100,slow=9.6,SNR=1.8							
	comp=E,0.2nm,0.3s							
FINES	**FINESS Array B**	**44.88**	**327**	P		**P**	**07 31 02.4**	**-0.6**
	comp=E,0.9nm,0.8s,baz=120,slow=8.5,SNR=3.9							
	comp=E,0.9nm,0.8s							
HFS	**Hagfors**	**50.60**	**324**	P		P	07 31 46.0	-1.4
	comp=E,1.1nm,0.6s,baz=92,slow=11,SNR=3.8							
	comp=E,1.1nm,0.6s							
TORD	**Torodi Ar. Bea**	**71.90**	**275**	P		**P**	**07 34 10.8**	**-1.6**
	comp=E,0.5nm,0.8s,baz=56,slow=6.3,SNR=2.3							
	comp=E,0.5nm,0.8s							
WRA	**Warramunga Arr**	**74.26**	**126**	P		**P**	**07 34 25.7**	**-0.5**
	comp=E,0.9nm,0.8s,baz=315,slow=6.0,SNR=4.8							
	comp=E,0.9nm,0.8s							
ASAR	**Alice Springs**	**76.50**	**129**	P		**P**	**07 34 38.4**	**-0.7**
	comp=E,0.1nm,0.3s,baz=309,slow=5.9,SNR=1.8							
	comp=E,0.1nm,0.3s							

IDC ***25*** *07:24:49.0±1.3, 31.09S×72.81W, h0km, mb3.7/4, mbtmp3.7/6, ML3.8/2, Error ellipse: s-maj=62.2km s-min=25.7km az=85.0*
GUC ***25*** *07:24:52.6±0.8, 30.92S×72.48W, h21km±5km, ML3.0*

ISC 25 07:24:50.2±2.3**, 31.12S**±0.04**×72.51W**±0.08**, h9**km±13**km, n23, σ1.25/32, mb3.9/4, 10C-1D, Off coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
CO06	**Fray Jorge**	**0.87**	**60**	⇑*i*P		**Pb**	**07 25 07.5**	**0.0**
CO06				*e*S		**Sb**	**07 25 17.5**	**-1.8**
CO02	**Combarbal**	**1.30**	**94**	⇑*e*P		**Pg**	**07 25 15.1**	**0.0**
CO02				*e*S		**Sg**	**07 25 32.9**	**+0.9**
CO02				IAML			07 25 36.4	
	comp=N,1μm,0.3s							
CO03	**El Pedregal**	**1.59**	**80**	⇑*e*P		**Pb**	**07 25 19.1**	**-0.7**
CO03				*e*S		**Sb**	**07 25 39.6**	**-0.3**
CO03				IAML			07 25 44.6	
	comp=N,196nm,0.4s							
CO05	**La Serena**	**1.62**	**43**	⇑*e*P		**Pn**	**07 25 17.7**	**-1.3**
CO05				*e*S		**Sn**	**07 25 36.6**	**-3.4**
CO05				IAML			07 25 38.7	
	comp=N,264nm,0.3s							
GO04	**Tololo Observa**	**1.75**	**58**	⇑*i*P		**Pn**	**07 25 20.7**	**-0.2**
GO04				*e*S		**Sn**	**07 25 42.6**	**-0.9**
GO04				IAML			07 25 48.5	
	comp=E,538nm,0.4s							
ROCH	**El Roble**	**2.24**	**146**	⇑*i*P		**Pn**	**07 25 28.2**	**+0.5**
VA03	**San Esteban**	**2.33**	**135**	⇑*i*P		**Pb**	**07 25 30.2**	**-2.3**
CO01	**Juntas del Tor**	**2.38**	**62**	⇑*i*P		**Pn**	**07 25 30.3**	**+0.8**
CO01				*e*S		**Sn**	**07 25 59.9**	**+0.9**
CO01				IAML			07 26 01.2	
	comp=N,68nm,0.4s							
MT02	**Curacav**	**2.43**	**152**	*e*P		**Pn**	**07 25 30.5**	**+0.5**
MT02				*e*S		**Sn**	**07 25 59.7**	**-0.2**
MT02				IAML			07 26 00.2	
	comp=N,108nm,0.5s							
VA05	**Santo Domingo**	**2.64**	**164**	⇓*i*P		**Pn**	**07 25 32.7**	**-0.2**
VA05				*e*S		**Sn**	**07 26 02.8**	**-2.3**
AC05	**El Transito**	**2.99**	**41**	⇑*i*P		**Pn**	**07 25 37.8**	**-0.2**
AC05				*e*S		**Sn**	**07 26 13.0**	**-0.9**
AC05				IAML			07 26 14.7	
	comp=N,51nm,0.2s							
BO04	**La Punta**	**3.28**	**151**	⇑*i*P		**Pn**	**07 25 43.1**	**+1.3**
BO04				*e*S		**Sn**	**07 26 21.7**	**+0.7**
BO01	**Tunca**	**3.48**	**160**	*e*P		**Pn**	**07 25 44.5**	**+0.1**
BO01				*e*S		**Sn**	**07 26 24.0**	**-1.7**
BO02	**Sierra Bellavi**	**3.94**	**159**	*e*P		**Pn**	**07 25 51.7**	**+0.8**
BO02				*e*S		**Sn**	**07 26 36.4**	**-0.9**
H03N1	**Juan Fernandez**	**5.89**	**245**	T		T	07 32 13.1	
	baz=71,slow=71,SNR=5.8							
H03N3	**Juan Fernandez**	**5.91**	**245**	T		T	07 32 11.6	
	baz=71,slow=71,SNR=9.0							
H03N2	**Juan Fernandez**	**5.91**	**245**	T		T	07 32 14.7	
	baz=71,slow=71,SNR=3.1							
PLCA	**Paso Flores**	**9.72**	**171**	Pn		**Pn**	**07 27 10.1**	**-0.2**
	comp=N,0.2nm,0.3s,baz=345,slow=12,SNR=10							
	comp=N,1.3nm,0.6s							
LPAZ	**La Paz**	**15.30**	**16**	Pn		**Pn**	**07 28 27.6**	**+0.7**
	comp=N,0.2nm,0.3s,baz=188,slow=7.1,SNR=15							
	comp=N,2.2nm,0.6s							
SNAA	**Sanae**	**54.40**	**159**	P		**P**	**07 34 17.8**	**+0.7**
	comp=N,2.0nm,1.1s,baz=270,slow=20,SNR=2.2							
	comp=N,2.0nm,1.1s							
QSPA	**South Pole Qui**	**59.11**	**180**	P		**P**	**07 34 51.8**	**+1.0**
	comp=N,1.5nm,0.8s,baz=128,slow=17,SNR=6.4							
	comp=N,1.5nm,0.8s							
TXAR	**Lajitas Array**	**67.04**	**331**	P		**P**	**07 35 42.8**	**-0.9**
	comp=N,0.2nm,0.7s,baz=157,slow=9.5,SNR=2.6							
	comp=N,0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**83.62**	**71**	P		**P**	**07 37 21.0**	**+1.7**
	comp=N,0.6nm,0.8s,baz=

B023					Sg	07 26 04.8	+0.1
ALST	**Alston**	**0.33**	**146**		Pg	07 26 00.4	0.0
RADR	**Rader Ridge**	**0.35**	**276**		Pg	07 26 00.6	-0.1
RADR					Sb	07 26 06.3	+0.1
RADR	**Rader Ridge**	**0.35**	**276**	IAML		07 26 07.1	
	comp=E,2µm,0.2s						
RADR				IAML		07 26 07.2	
	comp=N,2µm,0.3s						
B019	**Raymond**	**0.36**	**318**		Pg	07 26 01.2	+0.2
F04D	**Rainier, OR**	**0.36**	**146**		Pg	07 26 01.0	0.0
F04D					Sg	07 26 06.7	+0.5
F04D	**Rainier, OR**	**0.36**	**146**	IAML		07 26 06.9	
	comp=N,3µm,0.5s						
F04D				IAML		07 26 09.7	
	comp=E,3µm,0.4s						
RRHS	**Rochester High**	**0.45**	**23**		Pg	07 26 02.4	-0.2
F03A	**Seaside**	**0.49**	**202**		Pg	07 26 02.9	-0.3
F03A					Sb	07 26 10.7	+0.6
F03A	**Seaside**	**0.49**	**202**	IAML		07 26 10.8	
	comp=E,4µm,0.4s						
F03A				IAML		07 26 15.2	
	comp=N,3µm,0.4s						
LCW	**Lucas Creek**	**0.51**	**55**		Pg	07 26 03.2	-0.3
SEAS	**Seaside SMO**	**0.58**	**228**		Pb	07 26 04.5	-0.4
SEAS					Sg	07 26 13.3	+0.7
CPW	**Capitol Peak**	**0.60**	**11**		Pb	07 26 04.6	-0.7
CPW					Sb	07 26 13.3	-0.1
B022	**Seaside**	**0.61**	**226**		Pb	07 26 04.8	-0.6
B017	**Montesano**	**0.64**	**344**		Pb	07 26 05.6	-0.2
ERK	**Elk Rock**	**0.67**	**96**		Pb	07 26 05.8	-0.7
FL2	**Flat Top 2**	**0.69**	**106**		Pb	07 26 06.3	-0.5
B203	**Quarry, Mount**	**0.71**	**107**		Pb	07 26 06.5	-0.6
B203					Sb	07 26 16.2	-0.3
B201	**Coldwater, Mou**	**0.72**	**96**		Pb	07 26 06.6	-0.8
EGRN	**Evergreen Coll**	**0.72**	**18**		Pb	07 26 06.7	-0.8
EGRN					Sb	07 26 17.2	+0.3
TDL	**Tradedollar La**	**0.75**	**92**		Pb	07 26 07.3	-0.7
JRO	**Jston Ridge Ob**	**0.76**	**98**		Pb	07 26 07.4	-0.7
KMOR	**Kings Mountain**	**0.76**	**190**		Pb	07 26 07.0	-1.1
F04A	**Amboy**	**0.76**	**126**		Pb	07 26 07.4	-0.6
F04A					Sb	07 26 17.9	-0.2
STD	**Studebaker Rid**	**0.76**	**101**		Pb	07 26 07.5	-0.7
STD					Sb	07 26 17.9	-0.3
SHW	**Mount Saint He**	**0.76**	**104**		Pb	07 26 07.8	-0.4
SHW					Sb	07 26 18.7	+0.5
KOSW	**Kosmos**	**0.77**	**84**		Pb	07 26 07.7	-0.6
SWF2	**Southwest Flan**	**0.78**	**105**		Pb	07 26 08.0	-0.5
VALT	**Mount Saint He**	**0.79**	**102**		Pb	07 26 08.1	-0.5
SEPW	**September Lobe**	**0.79**	**103**		Pb	07 26 08.3	-0.4
BOLM	**Sugar Bowl**	**0.80**	**102**		Pb	07 26 08.4	-0.4
WISH	**Wishkah**	**0.80**	**337**		Pb	07 26 08.5	-0.2
WISH	**Wishkah**	**0.80**	**337**	IAML		07 26 24.2	
	comp=E,382nm,0.6s						
WISH				IAML		07 26 24.6	
	comp=N,370nm,0.5s						
HSR	**South Ridge**	**0.81**	**105**		Pb	07 26 08.5	-0.4
SOSW	**Source of Smit**	**0.82**	**99**		Pb	07 26 08.5	-0.6
ESD	**East Dome**	**0.82**	**103**		Pb	07 26 08.7	-0.5
JLK	**June Lake**	**0.83**	**106**		Pb	07 26 08.7	-0.6
MTMW	**Mount Mitchell**	**0.84**	**115**		Pb	07 26 08.9	-0.5
PCFR	**Pierce County**	**0.85**	**44**		Pb	07 26 08.7	-0.8
WPO	**West Portland**	**0.89**	**156**		Pb	07 26 09.6	-0.5
CDFW	**Cedar Flats**	**0.91**	**107**		Pb	07 26 10.1	-0.5
SMW	**South Mountain**	**0.94**	**358**		Pb	07 26 10.4	-0.7
B941	**Kapowsin**	**0.96**	**51**		Pb	07 26 10.2	-1.3
GHW	**Garrison Hill**	**0.97**	**47**		Pb	07 26 10.4	-1.1
RVC	**Mount Rainier-**	**1.07**	**58**		Pb	07 26 12.7	-0.8
LON	**Longmire**	**1.09**	**70**		Pb	07 26 13.0	-0.8
REMR	**Mount Rainier-**	**1.10**	**66**		Pb	07 26 13.1	-0.8
OBSR	**Observation Ro**	**1.15**	**63**		Pn	07 26 14.0	-0.7
G03D	**McMinnville, O**	**1.17**	**179**		Pn	07 26 13.7	-1.2
G03D				IAML		07 26 31.2	
	comp=E,570nm,0.6s						
G03D				IAML		07 26 31.6	
	comp=N,441nm,0.3s						
RCM	**Mount Rainier-**	**1.17**	**67**		Pn	07 26 14.4	-0.7
OLQ	**Olympics--Lake**	**1.19**	**343**		Pn	07 26 14.1	-0.9
VVHS	**Vashon High Sc**	**1.19**	**29**		Pn	07 26 14.6	-0.5
ASR	**Mount Adams--S**	**1.21**	**101**		Pn	07 26 15.2	-0.2
D05A	**Enumclaw**	**1.21**	**48**		Pn	07 26 15.0	-0.3
D05A				IAML		07 26 32.0	
	comp=E,189nm,0.5s						
HEBO	**Mount Hebo**	**1.21**	**195**		Pn	07 26 14.4	-1.1
HEBO				IAML		07 26 31.7	
	comp=N,272nm,0.2s						
HEBO				IAML		07 26 35.5	
	comp=E,367nm,0.5s						
GMW	**Gold Mountain**	**1.22**	**17**		Pn	07 26 14.3	-1.1
GNW	**Green Mountain**	**1.23**	**15**		Pn	07 26 14.3	-1.2
GNW				IAML		07 26 35.2	
	comp=N,159nm,0.6s						
FMW	**Mount Fremont**	**1.25**	**63**		Pn	07 26 15.6	-0.5
APM	**Augspurger Mou**	**1.30**	**119**		Pn	07 26 16.9	+0.2
G04A	**Mulino**	**1.31**	**154**		Pn	07 26 13.3	-0.4
C04A	**Brinnon**	**1.35**	**10**		Pn	07 26 16.7	-0.6
F05D	**White Salmon**	**1.38**	**111**		Pn	07 26 17.9	+0.3
SP2	**Seward Park 2**	**1.38**	**31**		Pn	07 26 17.9	+0.3
HIYU	**Hiyu Mountain**	**1.41**	**132**		Pn	07 26 18.1	-0.1
B013	**Quilcene**	**1.45**	**10**		Pn	07 26 18.1	-0.5
B013	**Quilcene**	**1.45**	**10**		Pn	07 26 18.1	-0.5
VLL	**Laurance Lake**	**1.46**	**129**		Pn	07 26 19.2	+0.3
OSD	**Olympics--Snow**	**1.46**	**349**		Pn	07 26 19.4	+0.3
RATT	**Rattlesnake La**	**1.46**	**44**		Pn	07 26 18.9	0.0
TDH	**Tom, Dick, Har**	**1.52**	**135**		Pn	07 26 19.8	0.0
SHRK	**Shell Rock**	**1.54**	**126**		Pn	07 26 20.5	+0.5
HOOD	**Mount Hood Mea**	**1.57**	**132**		Pn	07 26 20.2	-0.2
HOOD				IAML		07 26 45.6	
	comp=N,91nm,0.5s						
HOOD				IAML		07 26 48.9	
	comp=E,95nm,1.0s						
B04A	**Port Angeles**	**1.68**	**355**		Pn	07 26 22.6	+0.8
B04A	**Port Angeles**	**1.68**	**355**		Pn	07 26 23.1	+1.3
NAC	**Naches**	**1.74**	**78**		Pb	07 26 25.0	+0.2
P403	**Sandy Floe Qua**	**1.77**	**342**		Pn	07 26 23.2	+0.2
VBEM	**Beaver Butte**	**1.79**	**137**		Pn	07 26 24.7	+1.3
COR	**Corvallis**	**1.80**	**180**		Pn	07 26 23.6	+0.2
COR				IAML		07 26 50.3	
	comp=E,107nm,0.4s						
COR				IAML		07 26 51.9	
	comp=E,121nm,0.6s						
G05A	**Wamic**	**1.80**	**129**		Pn	07 26 24.6	+1.1
H04A	**Detroit Lake**	**1.87**	**155**		Pn	07 26 24.7	+0.2
TRW	**Toppenish Ridg**	**1.91**	**92**		Pb	07 26 28.4	+0.6
EBG	**Ellensburg**	**1.96**	**73**		Pb	07 26 27.8	-0.6
LTY	**Liberty**	**2.01**	**63**		Pn	07 26 27.0	+0.6
TBM	**Table Mountain**	**2.02**	**66**		Pb	07 26 29.4	-0.2
VGZ	**Gonzales**	**2.03**	**360**	P	Pn	07 26 27.0	+0.4
JCW	**Jim Creek**	**2.04**	**27**		Pn	07 26 28.1	+1.3
MXC	**Moxie City**	**2.09**	**84**		Pb	07 26 31.2	+0.5
BROR	**Big Rock Looko**	**2.20**	**164**		Pn	07 26 30.9	+2.0
SYMB	**Survey Mountai**	**2.20**	**351**	P	Pn	07 26 29.2	+0.1
WRW	**Wenatchee Ridg**	**2.21**	**47**		Pb	07 26 31.9	-1.0
B009	**North Saanich**	**2.27**	**358**	P	Pn	07 26 30.4	+0.5
B011	**North Saanich**	**2.27**	**358**		Pn	07 26 30.5	+0.7
B011	**North Saanich**	**2.27**	**358**	P	Pn	07 26 30.4	+0.5
B010	**North Saanich**	**2.27**	**358**	P	Pn	07 26 30.2	+0.4
PGC	**Sidney**	**2.27**	**358**	P	Pn	07 26 30.4	+0.5
PTRF	**Port Renfrew**	**2.29**	**341**	P	Pn	07 26 29.6	-0.5
MCW	**Mount Constitu**	**2.32**	**8**		Pn	07 26 31.9	+1.2
PFB	**Port Renfrew**	**2.32**	**341**	P	Pn	07 26 30.3	-0.3
ETW	**Entiat**	**2.37**	**58**		Pb	07 26 35.2	-0.3
SNB	**Saturna Island**	**2.39**	**2**	P	Pn	07 26 32.6	+1.0
RPW	**Rockport**	**2.40**	**30**		Pn	07 26 33.7	+2.0
CLRS	**Cowichan Lake**	**2.50**	**347**	P	Pn	07 26 33.0	-0.1
GOBB	**Galiano Island**	**2.57**	**357**	P	Pn	07 26 34.3	+0.3
MBW	**Mount Baker**	**2.58**	**21**		Pn	07 26 36.2	+1.9
NLW	**Nelson Butte**	**2.64**	**49**		Pb	07 26 39.5	-0.6
WTV	**Waterville**	**2.64**	**59**		Pb	07 26 39.7	-0.4
B928	**Bamfield**	**2.75**	**334**	P	Pn	07 26 36.1	-0.3
BFSB	**Bamfield**	**2.75**	**334**	P	Pn	07 26 36.1	-0.3
NLLB	**Nanaimo Lost L**	**2.88**	**351**	P	Pn	07 26 38.8	+0.5
HNBB	**Haney**	**2.95**	**9**	P	Pn	07 26 40.2	+1.0
OZB	**Mount Ozzard**	**2.97**	**331**	P	Pn	07 26 39.0	-0.6
BIB	**Bowen Island**	**3.02**	**360**		Pn	07 26 41.7	+1.4
BIB	**Bowen Island**	**3.02**	**360**	P	Pn	07 26 41.7	+1.4
SHB	**Sechelt**	**3.24**	**353**	P	Pn	07 26 44.0	+0.7
WPB	**Watts Point**	**3.28**	**1**	P	Pn	07 26 44.8	+1.1
WOSB	**Woss**	**4.36**	**331**	P	Pn	07 26 59.5	+0.8

*IDC **25** 07:36:11.9±16.0, 7°.29S×13°.52W, h0km, mb3.8/4, mbtmp3.8/4, MS3.8/1, Error ellipse: s-maj=522.4km s-min=107.3km az=157.0*

ISC 25 07:36:12.0±1.1, 7°.5S±0°.2×13°.7W±0°.2, h10km, n10, σ0§38/9, mb3.8/4, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**0.88**	**247**	Pn	**Pn**	**07 36 30.1**	**-0.1**
	baz=79,slow=15						
H10N2				T	T	07 37 45.0	
	baz=74						
H10N1	**ASCENSION HYDR**	**0.88**	**246**	Pn	**Pn**	**07 36 30.0**	**-0.3**
	baz=79,slow=15						
H10N1				T	T	07 37 45.0	
	baz=74						
H10N3	**ASCENSION HYDR**	**0.90**	**246**	Pn	**Pn**	**07 36 30.6**	**+0.2**
	baz=79,slow=15						
H10N3				T	T	07 37 45.5	
	baz=74						
H10S2	**ASCENSION HYDR**	**1.76**	**213**	Pn	**Pn**	**07 36 42.3**	**-0.1**
H10S2				T	T	07 39 08.3	
	baz=40,slow=74,SNR=68						
H10S3	**ASCENSION HYDR**	**1.76**	**214**	Pn	**Pn**	**07 36 42.4**	**0.0**
H10S3				T	T	07 38 48.7	
	baz=180,slow=74,SNR=99						
TORD	**Torodi Ar, Bea**	**25.55**	**37**	P	**P**	**07 41 40.6**	**-0.7**
	1.1nm,0.6s,baz=214,slow=10,SNR=7.2 1.1nm,0.6s						
IDI	**Anoyia**	**55.95**	**38**	LR	LR	08 10 16.6	
	comp=Z,92nm,20.4s,baz=112,slow=37						
AKASG	**Malin Array Be**	**68.77**	**28**	P	**P**	**07 47 16.3**	**+0.1**
	0.1nm,0.3s,baz=231,slow=7.0,SNR=2.0 0.1nm,0.3s						
HFS	**Hagfors**	**70.80**	**14**	P	**P**	**07 47 28.7**	**+0.2**
	0.8nm,0.6s,baz=198,slow=7.1,SNR=2.5 0.8nm,0.6s						
FINES	**FINESS Array B**	**75.35**	**19**	P	**P**	**07 47 55.8**	**+0.5**
	0.9nm,0.7s,baz=225,slow=1.6,SNR=4.5 0.9nm,0.7s						

*FUNV **25** 07:36:33.5, 7°.99N×71°.46W, h5km, MW3.4*
*RSNC **25** 07:36:34.9±0.0, 8°.1N±3°×7°.1W±°, h1km±5km, M2.5, ML2.5*

ISC 25 07:36:31.0±1.3, 7°.90N±0°.04×71°.34W±0°.03, h3km±12km, n20, σ1§87/40, 3D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SOCV	**Socops**	**0.61**	**51**	*i*P	**Pn**	**07 36 46.1**	**-0.5**
SOCV				*e*S	**Sn**	**07 36 54.5**	**-2.6**
CAPV	**Capacho**	**0.97**	**268**	*e*P	**Pg**	**07 36 49.3**	**-0.3**
CAPV				*e*S	**Sg**	**07 37 01.4**	**-0.7**
SDV	**Santo Domingo**	**1.20**	**35**	P	**Pg**	**07 36 56.3**	**+2.2**
SDV				S	**Sn**	**07 37 13.4**	**+1.5**
PAMC	**Pamplona, Colo**	**1.46**	**248**	P	**Pb**	**07 36 58.7**	**-0.4**
PAMC				P	**Pg**	**07 36 59.1**	**+0.1**
PAMC				P	**Pn**	**07 36 59.2**	**+0.5**
PAMC				S	**Sb**	**07 37 17.7**	**-0.6**
TAMC	**Tame, Arauca**	**1.52**	**197**	P	**Pg**	**07 37 01.0**	**+0.7**
TAMC				S	**Sg**	**07 37 20.6**	**+0.6**
BARC	**Barichara**	**2.24**	**235**	P	**Pb**	**07 37 13.1**	**+0.7**
BARC				S	**Sg**	**07 37 41.7**	**-1.5**
MCQV	**Machiques**	**2.44**	**331**	*e*P	**Pn**	**07 37 11.7**	**-0.1**
MCQV				*e*S	**Sn**	**07 37 39.5**	**-2.7**
TEPV	**Terepaima**	**2.95**	**46**	*e*P	**Pb**	**07 37 22.0**	**-2.3**
TEPV				*e*S	**Sn**	**07 37 55.2**	**+0.3**
SIQV	**Siquisique**	**3.12**	**29**	*e*P	**Pn**	**07 37 22.3**	**+1.1**
SIQV				*e*S	**Sn**	**07 37 57.7**	**-1.4**
BAUV	**El Baul**	**3.42**	**72**	*e*P	**Pn**	**07 37 27.4**	**+2.1**
BAUV				*e*S	**Sn**	**07 38 07.0**	**+0.5**
CRJC	**Cerrejon, Guaj**	**3.45**	**334**	P	**Pn**	**07 37 28.5**	**+2.7**
ARGC	**Ariguani, Magd**	**3.47**	**304**	P	**Pn**	**07 37 27.8**	**+1.8**
ARGC				S	**Sb**	**07 38 17.3**	**+1.6**
ZARC	**Zaragoza, Cauc**	**3.51**	**264**	P	**Pb**	**07 37 30.1**	**-3.8**
JACV	**Jacura**	**4.02**	**38**	*e*P	**Pn**	**07 37 34.5**	**+1.0**
JACV				*e*S	**Sn**	**07 38 20.1**	**-1.2**
BENV	**Beln**	**4.22**	**61**	*e*P	**Pn**	**07 37 40.3**	**+3.9**
BENV				*e*S	**Sn**	**07 38 26.0**	**-0.4**
SJCC	**San Jacinto, C**	**4.28**	**298**	P	**Pn**	**07 37 40.2**	**+3.0**
SJCC				P	**Pn**	**07 37 40.3**	**+3.0**
SJCC				S	**Sn**	**07 38 30.1**	**+2.3**
TURV	**Turiamo**	**4.28**	**53**	*e*P	**Pn**	**07 37 38.3**	**+1.2**
TURV				*e*S	**Sn**	**07 38 26.6**	**-1.1**
CACV	**CAICARA DEL OR**	**4.77**	**94**	*e*P	**Pb**	**07 37 52.9**	**-2.4**
CACV				*e*S	**Sb**	**07 38 52.5**	**-0.6**
TACV	**Tcata**	**4.80**	**62**	*e*P	**Pn**	**07 37 45.5**	**+1.1**
TACV				*e*S	**Sn**	**07 38 39.2**	**-1.5**
PCRV	**Puerto La Cruz**	**7.00**	**71**	*e*P	**Pn**	**07 38 16.9**	**+2.4**

*IGQ **25** 07:40:59.9±2.1, 0°.1N±7°×8°.1W±1°.4, h5km, M4.3/8*
*IDC **25** 07:41:01.0±0.8, 0°.39N×80°.64W, h0km, mb3.8/6, mbtmp3.8/8, ML3.7/2, MS3.5/1, Error ellipse: s-maj=54.8km s-min=16.8km az=71.0*
*NEIC **25** 07:41:03.6±1.8, 0°.32N±0°.06×80°.72W±0°.07, h10km±1km, mb4.3/18, Error ellipse: s-maj=11.7km s-min=10.5km az=236.0*
*RSNC **25** 07:41:05.5±0.8, 1°.1N±4°×8°.1W±°, h0km, M3.1, ML3.1*

ISC 25 07:41:02.8±0.5, 0°.38N±0°.05×80°.69W±0°.05, h11km, n96, σ1§44/104, mb4.1/15, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AMA1	**Acelerografo,**	**1.11**	**60**	P	**Pn**	**07 41 24.8**	**+0.4**
AMA1				S	**Sn**	**07 41 43.2**	**+3.5**
AV21	**Acelerografo,**	**1.18**	**76**	P	**Pn**	**07 41 25.8**	**+0.6**
AV18	**Acelerografo,**	**1.22**	**93**	P	**Pg**	**07 41 27.1**	**+0.9**
PECV	**Mancha de Ca P**	**1.31**	**151**	P	Pn	07 41 22.4	-4.7
RVRD	**Rio Verde**	**1.48**	**62**	P	**Pb**	**07 41 30.4**	**+0.1**
PAC1	**Pacto, Paraso**	**1.90**	**93**	P	**Pn**	**07 41 36.4**	**+1.1**
PAC1				S	**Sb**	**07 42 01.8**	**+0.3**
PAC1	**Pacto, Paraso**	**1.90**	**93**	P	**Pn**	**07 41 35.6**	**+0.2**
SNLR	**San Lorenzo-Es**	**2.06**	**64**	P	**Pn**	**07 41 38.4**	**+1.1**
HPAL	**Hacienda Las P**	**2.12**	**106**	P	**Pn**	**07 41 38.6**	**0.0**
PINO	**Pino**	**2.15**	**104**	P	**Pn**	**07 41 39.0**	**+0.2**
GGPT	**Toaza - Volcan**	**2.16**	**106**	P	**Pn**	**07 41 38.9**	**-0.1**
TERV	**Terraza Guagua**	**2.16**	**105**	P	**Pn**	**07 41 39.2**	**0.0**
JUA2	**San Juan 2**	**2.17**	**106**	P	**Pn**	**07 41 39.4**	**+0.1**
YANA	**Yana**	**2.18**	**103**	P	**Pn**	**07 41 39.1**	**-0.3**
PULU	**Pululahua**	**2.22**	**99**		**Pn**	**07 41 39.7**	**-0.2**
PULU	**Pululahua**	**2.22**	**99**	P	**Pn**	**07 41 40.5**	**+0.6**
ILLI	**Illinizas Sur**	**2.24**	**119**	P	**Pn**	**07 41 39.9**	**-0.4**
CUSE	**Cuicocha Este**	**2.29**	**92**	P	**Pn**	**07 41 42.8**	**+1.8**
CUSE				S	**Sb**	**07 42 11.5**	**-1.5**
CUSE	**Cuicocha Este**	**2.29**	**92**	P	**Pn**	**07 41 42.4**	**+1.4**
PAST	**Pastocalle**	**2.31**	**117**	P	**Pn**	**07 41 43.5**	**+2.3**
CUIC	**Cuicocha-Domo**	**2.33**	**92**	P	**Pn**	**07 41 42.8**	**+1.3**
COTA	**Cotacachi**	**2.35**	**91**	P	**Pn**	**07 41 43.8**	**+2.0**
SUCR	**Mariscal Sucre**	**2.42**	**115**	P	**Pn**	**07 41 43.7**	**+1.0**
CAMI	**Rancho Maria**	**2.42**	**116**	P	**Pn**	**07 41 43.7**	**+0.9**
URCU	**Urcuqui**	**2.44**	**89**	P	**Pn**	**07 41 44.6**	**+1.6**
PITA	**Cotopaxi Volc**	**2.44**	**112**	P	**Pn**	**07 41 43.9**	**+0.8**
SLOR	**San Lorenzo -**	**2.46**	**117**		**Pn**	**07 41 44.0**	**+0.8**
SLOR	**San Lorenzo -**	**2.46**	**117**	P	**Pn**	**07 41 44.4**	**+1.2**
BREF	**Cotopaxi Volca**	**2.48**	**115**	P	**Pn**	**07 41 44.9**	**+1.2**
BMOR	**Cotopaxi Volca**	**2.49**	**116**	P	**Pn**	**07 41 44.9**	**+1.1**
IMBA	**Imbabura, San**	**2.50**	**92**		**Pn**	**07 41 45.4**	**+1.6**
IMBA	**Imbabura, San**	**2.50**	**92**	P	**Pn**	**07 41 45.7**	**+2.0**
BRRN	**Barrancas-Volc**	**2.50**	**117**	P	**Pn**	**07 41 44.0**	**+0.2**
BVC2	**Cotopaxi Volca**	**2.50**	**114**	P	**Pn**	**07 41 44.3**	**+0.3**
VC1	**Cotopaxi 1**	**2.50**	**114**	P	**Pn**	**07 41 45.6**	**+1.7**
BTAM	**Cotopaxi Volca**	**2.52**	**114**	P	**Pn**	**07 41 45.6**	**+1.4**
VCES	**Cotopaxi**	**2.58**	**117**	P	**Pn**	**07 41 46.1**	**+1.2**
ANTG	**Antisana-Guama**	**2.59**	**110**	P	**Pn**	**07 41 47.0**	**+1.9**
CHSH	**Refugio Sur-Vo**	**2.60**	**136**		**Pn**	**07 41 45.3**	**0.0**
CHSH	**Refugio Sur-Vo**	**2.60**	**136**	P	**Pn**	**07 41 45.9**	**+0.6**
YAHU	**Yahuarcocha**	**2.62**	**90**	P	**Pb**	**07 41 48.5**	**-1.5**
PORT	**Chimborazo Vol**	**2.65**	**134**	P	**Pn**	**07 41 46.6**	**+0.6**
ANTI	**Antisana**	**2.66**	**108**	P	**Pn**	**07 41 48.1**	**+1.9**
TAMH	**Tambohuasha Ch**	**2.70**	**135**	P	**Pn**	**07 41 47.6**	**+1.1**
ANGU	**Angureal**	**2.70**	**97**	P	**Pb**	**07 41 51.5**	**0.0**
CAYR	**Refugio Cayamb**	**2.71**	**98**	P	**Pb**	**07 41 51.0**	**-0.7**
LNGL	**El Angel-Carch**	**2.71**	**82**	P	**Pn**	**07 41 48.6**	**+1.8**
CAYA	**Cayambe**	**2.72**	**96**	P	**Pb**	**07 41 50.3**	**-1.4**
ECEN	**Cerro Negro**	**2.76**	**81**	P	**Pn**	**07 41 49.0**	**+1.5**
CHL1	**Volcın Chiles**	**2.78**	**81**	P	**Pn**	**07 41 49.2**	**+1.5**
CHL2	**Volcın Chiles**	**2.81**	**81**	P	**Pn**	**07 41 49.6**	**+1.5**
BMAS	**Trigal station**	**2.90**	**130**	P	**Pn**	**07 41 51.1**	**+1.9**
CMBC	**Cumbal**	**2.92**	**79**	P	**Pn**	**07 41 51.3**	**+1.8**
TULM	**Tulcn-Chalpat**	**2.92**	**83**		**Pn**	**07 41 52.0**	**+2.3**
TULM	**Tulcn-Chalpat**	**2.92**	**83**	P	**Pn**	**07 41 52.6**	**+2.9**
TULM				S	**Sb**	**07 42 30.2**	**-1.0**
TULM	**Tulcn-Chalpat**	**2.92**	**83**	P	**Pn**	**07 41 52.5**	**+2.9**
ARDO	**Archidona, Ten**	**3.20**	**115**	P	**Pn**	**07 41 55.5**	**+2.4**
GR1C	**Gorgona, Isla**	**3.63**	**44**	P	**Pn**	**07 41 58.4**	**-0.5**
GR1C				S	**Sn**	**07 42 40.1**	**-1.7**
BBAC	**Balboa, Cauca**	**3.81**	**65**	P	**Pn**	**07 42 02.7**	**+1.0**
BBAC				S	**Sn**	**07 42 48.3**	**+1.7**
BBAC	**Balboa, Cauca**	**3.81**	**65**	P	**Pn**	**07 42 02.4**	**+0.8**
CRUC	**La Cruz**	**3.92**	**72**	P	**Pn**	**07 42 07.5**	**+4.2**
CRUC				S	**Sb**	**07 42 54.6**	**-5.3**
ARNL	**Arenillas**	**3.95**	**171**	Pn	**Pn**	**07 42 02.5**	**-0.8**
POPC	**Popayan, Colom**	**4.55**	**62**	P	**Pn**	**07 42 14.2**	**+2.3**
POPC				S	**Sn**	**07 43 06.9**	**+1.9**
JAMC	**Jamundi, Valle**	**4.91**	**55**	P	**Pn**	**07 42 18.0**	**+1.3**
JAMC				S	**Sn**	**07 43 12.4**	**-1.3**
ROSC	**El Rosal**	**7.76**	**55**	Pn	**Pn**	**07 42 56.6**	**+0.6**
ATAH	**Atahualpa**	**7.81**	**163**	Pn	**Pn**	**07 42 58.0**	**+1.2**
	0.6nm,0.3s,baz=350,slow=11,SNR=3.4						
ATAH				Sn	**Sn**	**07 44 25.7**	**+0.3**
	0.4nm,0.3s,baz=349,slow=5.2,SNR=2.0 3.7nm,0.8s						
BCIP	**Isla Barro Col**	**8.77**	**6**	Pn	**Pn**	**07 43 11.2**	**+1.6**
PAYG	**Puerto Ayora**	**9.65**	**264**	Pn	**Pn**	**07 43 21.4**	**-0.3**
CZSB	**Cruzeiro do Su**	**11.33**	**135**	Pn	**Pn**	**07 43 45.2**	**+0.5**
NNA	**Nana**	**12.87**	**163**	Pn	**Pn**	**07 44 05.4**	**-0.4**
	0.8nm,0.3s,baz=350,slow=12,SNR=1.7 2.0nm,0.4s						
ETMB	**Extrema**	**17.61**	**125**		**Pn**	**07 45 06.7**	**-1.7**
SAML	**Samuel**	**19.75**	**118**	P	**P**	**07 45 32.2**	**-0.7**
VILB	**Vilhena**	**24.26**	**124**	P	**P**	**07 46 20.9**	**+0.7**
VILB				IAmb	IAmb	07 46 38.5	
	comp=Z,12nm,0.9s						
PTLB	**Pontes e Lacer**	**26.47**	**127**	P	**P**	**07 46 41.9**	**+1.6**
LMEL	**Las Melosas**	**35.44**	**165**	P	**P**	**07 48 01.4**	**+2.0**
TXAR	**Lajitas Array**	**36.19**	**325**	P	**P**	**07 48 06.2**	**+0.4**
	comp=Z,0.5nm,1.0s,baz=138,slow=9.6,SNR=4.4 comp=Z,0.5nm,1.0s						
VHRN	**Van Horn**	**38.03**	**325**	P	**P**	**07 48 21.9**	**+0.5**
VHRN				IAmb	IAmb	07 48 29.9	
	comp=Z,8.0nm,1.2s						
S39A	**Bolivar**	**38.92**	**344**	P	**P**	**07 48 27.9**	**-0.7**
PLCA	**Paso Flores**	**41.95**	**168**	P	**P**	**07 48 53.2**	**-0.5**
	comp=Z,1.7nm,0.9s,baz=352,slow=11,SNR=5.0 comp=Z,1.7nm,0.9s						
ANMO	**Albuquerque**	**41.97**	**328**	P	**P**	**07 48 55.2**	**+1.1**
ANMO				IAmb	IAmb	07 48 56.4	
	comp=Z,2.8nm,0.8s						
SDCO	**Great Sand Dun**	**43.65**	**331**	P	**P**	**07 49 08.2**	**+0.3**
SDCO				IAmb	IAmb	07 49 10.5	
	comp=Z,3.2nm,0.8s						
RCBR	**Riachuelo**	**45.14**	**99**	LR	LR	08 09 00.9	
	comp=Z,57nm,20.4s,baz=153,slow=37						
WUAZ	**Wupatki**	**45.14**	**324**	P	**P**	**07 49 20.6**	**+0.8**
WUAZ				IAmb	IAmb	07 49 22.3	
	comp=Z,5.2nm,1.0s						
ISCO	**Idaho Springs**	**45.35**	**333**	P	**P**	**07 49 21

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SYI	**Shuyak Island**	**0.76**	**291**		**Pn**	**08 16 45.3**	**0.0**
SYI	**Shuyak Island**	**0.76**	**291**		**Sg**	**08 16 54.9**	**+0.4**
Q20K	**Shuyak Island** baz=111	**0.77**	**291**	P	**Pg**	**08 16 45.0**	**+0.6**
Q20K				S	**Sg**	**08 16 54.9**	**+0.3**
KDAK	**Kodiak Island**	**1.00**	**236**	Pn	**Pg**	**08 16 49.0**	**+0.1**
KDAK	835nm,0.4s			IAML		08 17 02.3	
KDAK	915nm,0.6s			IAML		08 17 04.6	
KDAK	**Kodiak Island**	**1.00**	**236**		**Sg**	**08 17 01.5**	**-0.5**
KDAK	**Kodiak Island** 147nm,0.3s,baz=51,slow=16,SNR=2448	**1.00**	**236**	Pg	**Pg**	**08 16 49.3**	**+0.4**
KDAK	119nm,0.3s,baz=342,slow=20,SNR=28			Lg	Lg	08 17 00.6	
CNPM	**China Poot**	**1.19**	**355**		**Pn**	**08 16 51.7**	**+0.5**
CNPM	comp=E,761nm,0.6s			IAML		08 17 10.9	
CNPM	comp=N,619nm,0.7s			IAML		08 17 12.1	
CNPM	**China Poot**	**1.19**	**355**		**Sb**	**08 17 07.1**	**+0.6**
HOM	**Homer**	**1.35**	**347**		**Pb**	**08 16 54.4**	**+0.1**
HOM	**Homer** baz=166	**1.35**	**347**	P	**Pb**	**08 16 54.7**	**+0.4**
BRSE	**Bradley Lake S**	**1.41**	**6**		**Pn**	**08 16 54.9**	**+0.7**
BRSE					**Sn**	**08 17 12.4**	**+0.1**
BRSE	**Bradley Lake S** baz=186	**1.41**	**6**	P	**Pn**	**08 16 54.9**	**+0.7**
BRSE	baz=186			S	**Sn**	**08 17 12.4**	**+0.1**
BRLK	**Bradley Lake**	**1.43**	**3**		**Pn**	**08 16 54.6**	**+0.1**
BRLK	comp=N,465nm,0.1s			IAML		08 17 12.9	
BRLK	comp=E,476nm,0.5s			IAML		08 17 21.9	
BRLK	**Bradley Lake**	**1.43**	**3**		**Sn**	**08 17 12.1**	**-0.7**
Q19K	**Cape Douglas,**	**1.49**	**294**	Pn	**Pn**	**08 16 56.0**	**+0.6**
Q19K	**Cape Douglas,**	**1.49**	**294**		**Sb**	**08 17 16.2**	**+1.1**
Q19K	**Cape Douglas,** baz=113	**1.49**	**294**	P	**Pn**	**08 16 55.8**	**+0.4**
Q19K	baz=113			S	**Sb**	**08 17 16.2**	**+1.1**
AU22	**Augustine Moun**	**1.59**	**311**		**Pn**	**08 16 57.4**	**+0.8**
AUL	**Augustine Lava**	**1.63**	**311**		**Pb**	**08 16 58.4**	**-0.5**
OHAK	**Old Harbor**	**1.65**	**228**	P	**Pn**	**08 16 57.3**	**-0.2**
OHAK	**Old Harbor**	**1.65**	**228**	Pn	**Pn**	**08 16 57.4**	**-0.2**
OHAK	**Old Harbor** baz=47	**1.65**	**228**	P	**Pn**	**08 16 57.7**	**+0.2**
P19K	**Oil Pt**	**1.74**	**320**		**Pn**	**08 16 60.0**	**+1.2**
P19K	**Oil Pt** baz=138	**1.74**	**320**	P	**Pn**	**08 16 60.0**	**+1.2**
O20K	**Slope Mountain**	**1.93**	**335**		**Pn**	**08 17 02.3**	**+0.9**
O20K	**Slope Mountain** baz=154	**1.93**	**335**	P	**Pn**	**08 17 02.3**	**+0.9**
SEW	**Seward**	**1.94**	**24**		**Pn**	**08 17 01.8**	**+0.3**
SEW	**Seward** baz=205	**1.94**	**24**	P	**Pn**	**08 17 01.7**	**+0.3**
ILSW	**Iliamna Southw**	**1.97**	**327**		**Pn**	**08 17 02.4**	**+0.4**
ILSW	comp=N,414nm,0.8s			IAML		08 17 33.4	
ILSW	comp=E,428nm,1.0s			IAML		08 17 38.3	
KAHC	**Katmai Hardscr**	**2.11**	**280**		**Pn**	**08 17 04.4**	**+0.4**
KAHC	**Katmai Hardscr** baz=97	**2.11**	**280**	P	**Pn**	**08 17 04.4**	**+0.4**
SLKM	**Skilak Lake**	**2.21**	**10**		**Pn**	**08 17 05.6**	**+0.4**
O22K	**Cooper Landing**	**2.24**	**17**		**Pn**	**08 17 06.0**	**+0.3**
O22K	**Cooper Landing** baz=198	**2.24**	**17**	P	**Pn**	**08 17 06.0**	**+0.3**
ACHA	**Angle Creek He**	**2.27**	**268**		**Pn**	**08 17 06.7**	**+0.5**
RSO	**Redoubt South**	**2.30**	**338**		**Pn**	**08 17 06.7**	**0.0**
RDWB	**Redoubt West**	**2.34**	**337**		**Pn**	**08 17 07.4**	**+0.3**
RDT	**Redoubt**	**2.34**	**343**		**Pn**	**08 17 07.2**	**+0.1**
ANCK	**Angle Creek**	**2.37**	**268**		**Pn**	**08 17 07.9**	**+0.5**
P18K	**Big Mountain,**	**2.42**	**297**		**Pn**	**08 17 08.1**	**-0.1**
P18K	**Big Mountain,** comp=N,160nm,0.7s	**2.42**	**297**	IAML		08 17 53.4	
P18K	**Big Mountain,** baz=114	**2.42**	**297**	P	**Pn**	**08 17 08.1**	**-0.1**
NCT	**North Crescent**	**2.43**	**337**		**Pn**	**08 17 08.4**	**+0.1**
CAPN	**Captain Cook N**	**2.43**	**359**		**Pn**	**08 17 10.3**	**+2.1**
CAPN	**Captain Cook N** baz=178	**2.43**	**359**	P	**Pn**	**08 17 10.3**	**+2.1**
SII	**Sitkinak Islan**	**2.47**	**225**	P	**Pn**	**08 17 08.8**	**-0.1**
SII	**Sitkinak Islan**	**2.47**	**225**		**Pn**	**08 17 08.8**	**-0.1**
SII	**Sitkinak Islan** comp=E,253nm,0.7s	**2.47**	**225**	IAML		08 18 04.7	
SII	comp=N,234nm,0.8s			IAML		08 18 17.2	
P23K	**Montague Islan**	**2.50**	**47**		**Pn**	**08 17 09.8**	**+0.7**
P23K	**Montague Islan** baz=230	**2.50**	**47**	P	**Pn**	**08 17 09.8**	**+0.7**
O19K	**Port Alsworth**	**2.51**	**319**		**Pn**	**08 17 09.4**	**+0.1**
O19K	**Port Alsworth** baz=136	**2.51**	**319**	P	**Pn**	**08 17 09.4**	**+0.1**
O18K	**Koktuh Hills** baz=124	**2.63**	**307**	P	**Pn**	**08 17 11.2**	**+0.1**
RC01	**Rabbit Creek A**	**2.83**	**13**	Pn	**Pn**	**08 17 14.1**	**+0.4**
RC01	comp=E,182nm,0.7s			IAML		08 18 03.9	
RC01	comp=N,134nm,1.0s			IAML		08 18 13.0	
RC01	**Rabbit Creek A** baz=194	**2.83**	**13**	P	**Pn**	**08 17 14.4**	**+0.7**
N20K	**Mount Spurr** baz=168	**2.93**	**349**	P	**Pn**	**08 17 15.4**	**+0.3**
SPCR	**Spurr Chakacha**	**2.93**	**349**		**Pn**	**08 17 15.4**	**+0.3**
P17K	**Kvichak River**	**2.94**	**289**		**Pn**	**08 17 15.7**	**+0.5**
P17K	**Kvichak River** baz=105	**2.94**	**289**	P	**Pn**	**08 17 15.7**	**+0.5**
SPCN	**Chakachatna No**	**2.95**	**349**		**Pn**	**08 17 15.8**	**+0.4**
SPCP	**Crater Peak Br**	**2.98**	**349**		**Pn**	**08 17 16.6**	**+0.6**
SPCG	**Spurr Capps Gl**	**3.00**	**351**		**Pn**	**08 17 16.5**	**+0.3**
SPBG	**Spurr Blockage**	**3.00**	**348**		**Pn**	**08 17 16.5**	**+0.3**
N19K	**Bonanza Creek**	**3.04**	**326**	Pn	**Pn**	**08 17 17.2**	**+0.5**
N19K	comp=E,104nm,0.9s			IAML		08 18 05.1	
N19K	comp=N,98nm,0.8s			IAML		08 18 06.7	
N19K	**Bonanza Creek** baz=143	**3.04**	**326**	P	**Pn**	**08 17 17.1**	**+0.5**
SUA	**Susitna One**	**3.13**	**2**	Pn	**Pn**	**08 17 18.4**	**+0.5**
SUA	comp=E,102nm,0.9s			IAML		08 18 11.2	
SUA	comp=N,96nm,0.8s			IAML		08 18 23.0	
SUA	**Susitna One** baz=183	**3.13**	**2**	P	**Pn**	**08 17 18.5**	**+0.5**
SPNN	**North Nagishla**	**3.15**	**345**		**Pn**	**08 17 18.7**	**+0.4**
STLK	**Strandline Lak**	**3.19**	**353**		**Pn**	**08 17 19.4**	**+0.7**
GLI	**Glacier Island**	**3.23**	**36**		**Pn**	**08 17 19.4**	**+0.1**
GLI	**Glacier Island** comp=N,81nm,0.7s	**3.23**	**36**	IAML		08 18 30.3	
GLI	**Glacier Island** baz=220	**3.23**	**36**	P	**Pn**	**08 17 19.4**	**+0.1**
KNK	**Knik Glacier**	**3.34**	**22**		**Pn**	**08 17 21.2**	**+0.5**
KNK	**Knik Glacier** comp=E,113nm,1.0s	**3.34**	**22**	IAML		08 18 26.4	
KNK	comp=N,105nm,0.6s			IAML		08 18 28.0	
KNK	**Knik Glacier** baz=204	**3.34**	**22**	P	**Pn**	**08 17 21.2**	**+0.5**
FID	**Port Fidalgo**	**3.34**	**42**		**Pn**	**08 17 20.9**	**+0.1**
PMR	**Palmer**	**3.39**	**15**	P	**Pn**	**08 17 21.9**	**+0.5**
PMR	**Palmer**	**3.39**	**15**		**Pn**	**08 17 21.7**	**+0.3**
PMR	**Palmer** baz=197	**3.39**	**15**	P	**Pn**	**08 17 21.7**	**+0.3**
N18K	**Kilae Creek**	**3.41**	**315**	Pn	**Pn**	**08 17 21.9**	**+0.2**
N18K	comp=N,134nm,0.8s			IAML		08 18 19.9	
N18K	comp=E,92nm,0.9s			IAML		08 18 19.9	
N18K	**Kilae Creek** baz=132	**3.41**	**315**	P	**Pn**	**08 17 21.9**	**+0.2**
O17K	**Koliganek Bris**	**3.44**	**297**		**Pn**	**08 17 22.4**	**+0.3**
O17K	**Koliganek Bris** baz=112	**3.44**	**297**	P	**Pn**	**08 17 22.4**	**+0.3**
M22K	**Willow**	**3.45**	**7**		**Pn**	**08 17 22.8**	**+0.6**
M22K	**Willow** baz=188	**3.45**	**7**	P	**Pn**	**08 17 22.8**	**+0.6**
EYAK	**Cordova Ski Ar**	**3.48**	**48**	P	**Pn**	**08 17 24.2**	**+1.5**
EYAK	**Cordova Ski Ar** baz=233	**3.48**	**48**		**Pn**	**08 17 23.4**	**+0.8**
CHIR	**Chirikof Islan**	**3.56**	**227**		**Pn**	**08 17 23.0**	**-0.8**
CHIR	**Chirikof Islan** comp=N,105nm,2.2s	**3.56**	**227**	IAML		08 18 40.9	
CHIR	comp=E,126nm,2.5s			IAML		08 18 42.0	
CHIR	**Chirikof Islan** baz=43	**3.56**	**227**	P	**Pn**	**08 17 23.0**	**-0.8**
GHO	**Glory Hole Cre**	**3.60**	**16**	Pn	**Pn**	**08 17 24.8**	**+0.4**
SVW2	**Sparrevohn**	**3.60**	**322**		**Pn**	**08 17 24.0**	**-0.3**
SVW2	**Sparrevohn** comp=N,57nm,0.8s	**3.60**	**322**	IAML		08 18 28.3	
SVW2	comp=E,82nm,0.6s			IAML		08 18 30.6	
SKT	**Skwentna**	**3.66**	**356**		**Pn**	**08 17 25.6**	**+0.6**
SKT	**Skwentna** comp=N,73nm,0.5s	**3.66**	**356**	IAML		08 18 25.8	
SKT	comp=E,76nm,1.0s			IAML		08 18 33.3	
SKT	**Skwentna** baz=176	**3.66**	**356**	P	**Pn**	**08 17 25.6**	**+0.6**
P16K	**Nushagak River**	**3.70**	**284**		**Pn**	**08 17 25.9**	**+0.3**
P16K	**Nushagak River** baz=98	**3.70**	**284**	P	**Pn**	**08 17 25.9**	**+0.3**
M20K	**Styx River**	**3.70**	**344**		**Pn**	**08 17 25.7**	**-0.1**
M20K	**Styx River** baz=163	**3.70**	**344**	P	**Pn**	**08 17 25.7**	**-0.1**
SML	**Sawmill**	**3.73**	**20**		**Pn**	**08 17 26.9**	**+0.8**
SML	**Sawmill** comp=N,104nm,1.1s	**3.73**	**20**	IAML		08 18 41.3	
SML	comp=E,118nm,0.9s			IAML		08 18 44.3	
SML	**Sawmill** baz=202	**3.73**	**20**	P	**Pn**	**08 17 26.9**	**+0.8**
N17K	**Nushagak Hills**	**3.83**	**307**		**Pn**	**08 17 27.8**	**+0.3**
N17K	**Nushagak Hills** comp=E,53nm,0.7s	**3.83**	**307**	IAML		08 18 40.0	
N17K	comp=N,61nm,0.7s			IAML		08 18 40.3	
N17K	**Nushagak Hills** baz=122	**3.83**	**307**	P	**Pn**	**08 17 27.8**	**+0.3**
M23K	**Glacier View**	**3.83**	**24**		**Pn**	**08 17 28.3**	**+0.8**
M23K	**Glacier View** baz=207	**3.83**	**24**	P	**Pn**	**08 17 28.3**	**+0.8**
DIV	**Divide**	**3.86**	**41**		**Pn**	**08 17 29.2**	**+1.3**
O16K	**Kokwok River B**	**3.87**	**292**		**Pn**	**08 17 28.5**	**+0.5**
O16K	**Kokwok River B** comp=E,53nm,0.7s	**3.87**	**292**	IAML		08 18 33.7	
O16K	comp=N,72nm,0.7s			IAML		08 18 35.1	
O16K	**Kokwok River B** baz=106	**3.87**	**292**	P	**Pn**	**08 17 28.5**	**+0.5**
GOAT	**Goat Mountain**	**3.92**	**52**		**Pn**	**08 17 29.9**	**+1.1**
M19K	**Big River Lodg**	**3.95**	**336**		**Pn**	**08 17 29.3**	**+0.2**
M19K	**Big River Lodg** baz=153	**3.95**	**336**	P	**Pn**	**08 17 29.3**	**+0.2**
SCM	**Sheep Creek Mo**	**3.96**	**26**		**Pn**	**08 17 30.3**	**+1.0**
SCM	**Sheep Creek Mo** comp=N,95nm,0.9s	**3.96**	**26**	IAML		08 18 35.3	
SCM	**Sheep Creek Mo** baz=209	**3.96**	**26**	P	**Pn**	**08 17 30.3**	**+1.0**
M18K	**Stony River**	**3.97**	**325**		**Pn**	**08 17 29.7**	**+0.2**
M18K	**Stony River** baz=141	**3.97**	**325**	P	**Pn**	**08 17 29.7**	**+0.2**
KLU	**Klutina**	**4.07**	**37**		**Pn**	**08 17 31.6**	**+0.8**
KLU	**Klutina** baz=221	**4.07**	**37**	P	**Pn**	**08 17 32.2**	**+1.4**
BMRM	**Bremner River**	**4.19**	**48**		**Pn**	**08 17 33.5**	**+1.1**
BMRM	**Bremner River** baz=234	**4.19**	**48**	P	**Pn**	**08 17 33.5**	**+1.1**
L19K	**White Mountain**	**4.29**	**335**	Pn	**Pn**	**08 17 34.1**	**+0.2**
L19K	comp=E,36nm,0.9s			IAML		08 18 54.2	
L19K	**White Mountain** baz=152	**4.29**	**335**	P	**Pn**	**08 17 34.0**	**+0.2**
L20K	**Farewell, AK**	**4.38**	**342**		**Pn**	**08 17 35.3**	**+0.3**
L20K	**Farewell, AK** baz=160	**4.38**	**342**	P	**Pn**	**08 17 35.3**	**+0.3**
GRIN	**Grindle Hills**	**4.40**	**61**		**Pn**	**08 17 36.5**	**+1.2**
M17K	**Holitna River**	**4.45**	**316**		**Pn**	**08 17 36.3**	**+0.3**
M17K	**Holitna River** baz=131	**4.45**	**316**	P	**Pn**	**08 17 36.3**	**+0.3**
M24K	**Tolsona, Glenn**	**4.48**	**31**		**Pn**	**08 17 37.8**	**+1.3**
M24K	**Tolsona, Glenn** baz=215	**4.48**	**31**	P	**Pn**	**08 17 37.7**	**+1.3**
N16K	**Nishlik Lake**	**4.50**	**302**		**Pn**	**08 17 36.6**	**0.0**
N16K	**Nishlik Lake** baz=115	**4.50**	**302**	P	**Pn**	**08 17 36.6**	**0.0**
CHGN	**Chignik**	**4.50**	**246**	Pn	**Pn**	**08 17 36.6**	**0.0**
KHIT	**Khitrov Hills**	**4.50**	**59**		**Pn**	**08 17 37.6**	**+0.9**
WAT6	**Susitna Watana**	**4.55**	**20**		**Pn**	**08 17 37.8**	**+0.3**
WAT6	**Susitna Watana** baz=202	**4.55**	**20**	P	**Pn**	**08 17 37.8**	**+0.3**
SNH	**Sunshine Point**	**4.59**	**63**		**Pn**	**08 17 39.1**	**+1.2**
SNH	**Sunshine Point** comp=E,55nm,1.7s	**4.59**	**63**	IAML		08 20 31.7	
N25K	**Chitina, Valde**	**4.59**	**42**		**Pn**	**08 17 39.3**	**+1.2**
N25K	**Chitina, Valde** baz=227	**4.59**	**42**	P	**Pn**	**08 17 39.3**	**+1.2**
PPLA	**Purkeypile**	**4.60**	**353**		**Pn**	**08 17 38.5**	**+0.3**
PPLA	**Purkeypile** baz=172	**4.60**	**353**	P	**Pn**	**08 17 38.5**	**+0.3**
WAT7	**Susitna Watana**	**4.63**	**12**		**Pn**	**08 17 39.3**	**+0.8**
O15K	**Ungalikthiuk R**	**4.66**	**284**		**Pn**	**08 17 39.2**	**+0.4**
O15K	**Ungalikthiuk R** baz=97	**4.66**	**284**	P	**Pn**	**08 17 39.2**	**+0.4**
WAT1	**Susitna Watana**	**4.66**	**14**		**Pn**	**08 17 39.4**	**+0.5**
WAT1	**Susitna Watana** baz=196	**4.66**	**14**	P	**Pn**	**08 17 39.4**	**+0.5**
WAX	**Waxell Ridge**	**4.68**	**60**		**Pn**	**08 17 40.4**	**+1.2**
WAX	**Waxell Ridge** comp=E,31nm,1.6s	**4.68**	**60**	IAML		08 18 37.9	
WAX	comp=N,56nm,0.5s			IAML		08 20 03.1	
GLB	**Gilahina Butte**	**4.78**	**46**		**Pn**	**08 17 41.2**	**+0.7**
VRDI	**Verde Repeater**	**4.79**	**50**		**Pn**	**08 17 41.8**	**+0.9**
L18K	**Granite Mounta**	**4.80**	**326**		**Pn**	**08 17 40.9**	**+0.2**
L18K	**Granite Mounta** comp=N,42nm,1.1s	**4.80**	**326**	IAML		08 19 03.0	
L18K	comp=E,30nm,1.1s			IAML		08 19 23.1	
L18K	**Granite Mounta** baz=142	**4.80**	**326**	P	**Pn**	**08 17 40.9**	**+0.2**
M16K	**Timber Creek**	**4.83**	**307**		**Pn**	**08 17 41.5**	**+0.3**
M16K	**Timber Creek** comp=N,50nm,2.3s	**4.83**	**307**	IAML		08 19 06.5	
M16K	comp=E,52nm,1.0s			IAML		08 19 07.0	
M16K	**Timber Creek** baz=120	**4.83**	**307**	P	**Pn**	**08 17 41.6**	**+0.3**
VNHG	**Veniaminof 1**	**4.90**	**248**		**Pn**	**08 17 43.2**	**+0.9**
WACK	**Wrangell Chich**	**4.95**	**40**		**Pn**	**08 17 44.0**	**+0.9**
WASW	**Wrangell South**	**4.96**	**41**		**Pn**	**08 17 44.6**	**+1.4**
N15K	**Kwethluk River**	**5.00**	**295**		**Pn**	**08 17 44.3**	**+0.7**
N15K	**Kwethluk River** comp=N,48nm,1.3s	**5.00**	**295**	IAML		08 19 13.4	
N15K	comp=E,36nm,0.8s			IAML		08 19 21.5	
N15K	**Kwethluk River** baz=108	**5.00**	**295**	P	**Pn**	**08 17 44.3**	**+0.7**
HARP	**HAARP**	**5.00**	**33**		**Pn**	**08 17 45.0**	**+1.4**
HARP	**HAARP** baz=218	**5.00**	**33**	P	**Pn**	**08 17 45.0**	**+1.4**
MESA	**MESA**	**5.01**	**65**		**Pn**	**08 17 45.4**	**+1.6**
MESA	**MESA** comp=E,38nm,2.9s	**5.01**	**65**	IAML		08 20 18.6	
MESA	**MESA** baz=252	**5.01**	**65**	P	**Pn**	**08 17 45.4**	**+1.6**
S14K	**Fog Glacier** baz=63	**5.06**	**250**	P	**Pn**	**08 17 45.4**	**+0.9**
VNFG	**Fog Glacier, M**	**5.06**	**250**		**Pn**	**08 17 45.4**	**+0.9**
DHY	**Denali Highway**	**5.07**	**19**		**Pn**	**08 17 45.8**	**+1.1**
DHY	**Denali Highway** comp=E,30nm,0.8s	**5.07**	**19**	IAML		08 18 45.3	
DHY	comp=N,32nm,1.1s			IAML		08 19 19.7	
DHY	**Denali Highway** baz=202	**5.07**	**19**	P	**Pn**	**08 17 45.8**	**+1.1**
KIAG	**Kiagna River**	**5.10**	**56**		**Pn**	**08 17 46.1**	**+1.0**
CAST	**Castle Rocks**	**5.12**	**355**	Pn	**Pn**	**08 17 45.6**	**+0.4**
TRF	**Thorofare Moun**	**5.13**	**4**		**Pn**	**08 17 46.3**	**+0.8**
TRF	**Thorofare Moun** comp=N,32nm,0.5s	**5.13**	**4**	IAML		08 18 45.2	
TRF	comp=E,28nm,1.8s			IAML		08 19 35.7	
TRF	**Thorofare Moun** baz=184	**5.13**	**4**	P	**Pn**	**08 17 46.3**	**+0.8**
PTPK	**Patty Peak**	**5.18**	**53**		**Pn**	**08 17 47.2**	**+1.0**
RND	**Reindeer**	**5.19**	**11**		**Pn**	**08 17 46.9**	**+0.7**
RND	**Reindeer** comp=E,28nm,1.4s	**5.19**	**11**	IAML		08 19 23.8	
RND	comp=N,20nm,1.2s			IAML		08 19 33.2	
KTH	**Kantishna Hill**	**5.23**	**1**		**Pn**	**08 17 47.2**	**+0.5**
KTH	**Kantishna Hill** comp=E,25nm,0.5s	**5.23**	**1**	IAML		08 18 48.2	
KTH	comp=N,35nm,0.9s			IAML		08 19 10.2	
K20K	**Telida**	**5.24**	**345**		**Pn**	**08 17 46.8**	**-0.1**
K20K	**Telida** baz=162	**5.24**	**345**	P	**Pn**	**08 17 47.2**	**+0.3**
L17K	**Donlin**	**5.25**	**319**		**Pn**	**08 17 47.3**	**+0.3**
L17K	**Donlin** baz=133	**5.25**	**319**	P	**Pn**	**08 17 47.3**	**+0.3**
PAX	**Paxson**	**5.38**	**28**		**Pn**	**08 17 50.0**	**+1.2**
PAX	**Paxson** baz=213	**5.38**	**28**	P	**Pn**	**08 17 50.0**	**+1.2**
O14K	**Tigyukauivet M**	**5.40**	**284**		**Pn**	**08 17 49.8**	**+0.8**
O14K	**Tigyukauivet M** baz=96	**5.40**	**284**	P	**Pn**	**08 17 49.8**	**+0.8**
L16K	**Owhat River**	**5.42**	**312**		**Pn**	**08 17 49.5**	**+0.3**
L16K	**Owhat River** baz=125	**5.42**	**312**	P	**Pn**	**08 17 49.5**	**+0.3**
BARN	**Barnard Glacie**	**5.47**	**56**		**Pn**	**08 17 51.3**	**+1.1**
MCK	**McKinley**	**5.50**	**10**		**Pn**	**08 17 50.9**	**+0.5**
MCK	**McKinley** baz=192	**5.50**	**10**	P	**Pn**	**08 17 50.9**	**+0.5**
SAMH	**Samovar Hills**	**5.55**	**67**		**Pn**	**08 17 52.8**	**+1.5**
CTG	**Chitna Glacier** baz=246	**5.57**	**58**	P	**Pn**	**08 17 52.2**	**+0.8**
CTGM	**Chitina Glacie**	**5.57**	**58**		**Pn**	**08 17 52.2**	**+0.7**
K17K	**Iditarod**	**5.67**	**324**		**Pn**	**08 17 53.0**	**+0.4**
K17K	**Iditarod** baz=138	**5.67**	**324**	P	**Pn**	**08 17 53.0**	**+0.4**
N14K	**Kuskokwak Cree**	**5.71**	**291**		**Pn**	**08 17 53.9**	**+0.7**
N14K	**Kuskokwak Cree** baz=102	**5.71**	**291**	P	**Pn**	**08 17 53.9**	**+0.7**
BPAW	**Bear Paw Mtn.**	**5.78**	**0**		**Pn**	**08 17 54.2**	**0.0**
BPAW	**Bear Paw Mtn.** baz=180	**5.78**	**0**	P	**Pn**	**08 17 54.2**	**0.0**
J18K	**Innoko River**	**5.84**	**334**		**Pn**	**08 17 55.5**	**+0.5**
J18K	**Innoko River** baz=149	**5.84**	**334**	P	**Pn**	**08 17 55.5**	**+0.5**
O28M	**Mount Upton**	**6.02**	**62**		**Pn**	**08 17 58.8**	**+1.0**
O28M	**Mount Upton** baz=251	**6.02**	**62**	P	**Pn**	**08 17 58.8**	**+1.0**
J20K	**Nowinta River**	**6.04**	**347**		**Pn**	**08 17 58.0**	**+0.2**
J20K	**Nowinta River** baz=164	**6.04**	**347**	P	**Pn**	**08 17 58.0**	**+0.2**
M27K	**Edge Creek, AK**	**6.06**	**45**		**Pn**	**08 17 58.6**	**+0.3**
M27K	**Edge Creek, AK** baz=232	**6.06**	**45**	P	**Pn**	**08 17 58.6**	**+0.3**
J19K	**Poorman**	**6.09**	**341**		**Pn**	**08 17 58.5**	**+0.1**
J19K	**Poorman** baz=157	**6.09**	**341**	P	**Pn**	**08 17 58.5**	**+0.1**
PNL	**Peninsula**	**6.15**	**73**	P	**Pn**	**08 18 00.7**	**+1.4**
PNL	**Peninsula**	**6.15**	**73**		**Pn**	**08 18 00.8**	**+1.4**
PNL	**Peninsula** baz=262	**6.15**	**73**	P	**Pn**	**08 18 00.8**	**+1.4**
WRH	**Wood River Hil**	**6.31**	**12**		**Pn**	**08 18 02.4**	**+0.9**
NEA2	**Nenana**	**6.34**	**8**		**Pn**	**08 18 02.2**	**+0.3**
NEA2	**Nenana** baz=189	**6.34**	**8**	P	**Pn**	**08 18 02.2**	**+0.3**
HDA	**Harding Lake**	**6.39**	**16**		**Pn**	**08 18 03.4**	**+0.7**
HDA	**Harding Lake** baz=200	**6.39**	**16**	P	**Pn**	**08 18 03.4**	**+0.7**
J17K	**VABM Dome**	**6.41**	**326**		**Pn**	**08 18 03.0**	**+0.2**
J17K	**VABM Dome** baz=139	**6.41**	**326**	P	**Pn**	**08 18 03.0**	**+0.2**
CCB	**Clear Creek Bu**	**6.51**	**12**		**Pn**	**08 18 04.3**	**+0.1**
PS1A	**Pavlof South-1**	**6.56**	**248**		**Pn**	**08 18 05.4**	**+0.4**
S12K	**Black Hills**	**6.58**	**251**		**Pn**	**08 18 05.5**	**+0.3**
S12K	**Black Hills** baz=62	**6.58**	**251**	P	**Pn**	**08 18 05.5**	**+0.3**
L14K	**Kuka Creek**	**6.60**	**302**	Pn	**Pn**	**08 18 05.9**	**+0.5**
HAG	**Hague Volcano**	**6.70**	**248**		**Pn**	**08 18 07.7**	**+0.9**
MLY	**Manley**	**6.71**	**1**		**Pn**	**08 18 07.4**	**+0.4**
MLY	**Manley** baz=181	**6.71**	**1**	P	**Pn**	**08 18 07.4**	**+0.4**
COLA	**College**	**6.72**	**12**	P	**Pn**	**08 18 07.6**	**+0.5**
COLA	**College**	**6.72**	**12**		**Pn**	**08 18 07.5**	**+0.3**
IL31		**6.74**	**15**		**Pn**	**08 18 07.8**	**+0.4**
ILAR	**Eielson Array**	**6.74**	**15**	Pn	**Pn**	**08 18 07.9**	**+0.5**
ILAR	**Eielson Array** comp=N,0.4nm,0.3s,baz=207,slow=13,SNR=19	**6.74**	**15**	Pn	**Pn**	**08 18 08.8**	**+1.3**
ILAR	comp=N,0.9nm,0.3s,baz=204,slow=24,SNR=6.1 comp=N,0.7nm,0.3s			Sn	**Sn**	**08 19 19.8**	**-3.8**
MDM	**Murphy Dome**	**6.77**	**10**		**Pn**	**08 18 08.6**	**+0.8**
J16K	**Anvik River**	**6.81**	**321**		**Pn**	**08 18 08.7**	**+0.3**
J16K	**Anvik River** baz=132	**6.81**	**321**	P	**Pn**	**08 18 08.7**	**+0.3**
J25K	**Salcha River,**	**6.84**	**21**		**Pn**	**08 18 09.5**	**+0.6**
J25K	**Salcha River,** baz=206	**6.84**	**21**	P	**Pn**	**08 18 09.5**	**+0.6**
I23K	**Minto, Yukon-K**	**6.87**	**6**		**Pn**	**08 18 09.7**	**+0.5**
I23K	**Minto, Yukon-K** baz=187	**6.87**	**6**	P	**Pn**	**08 18 09.7**	**+0.5**
I21K	**Tanana**	**6.88**	**357**		**Pn**	**08 18 09.4**	**+0.2**
I21K	**Tanana** baz=176	**6.88**	**357**	P	**Pn**	**08 18 09.4**	**+0.2**
POKR	**Poker Plat Res**	**7.01**	**13**		**Pn**	**08 18 11.5**	**+0.5**
POKR	**Poker Plat Res** baz=196	**7.01**	**13**	P	**Pn**	**08 18 11.5**	**+0.5**
J26L	**Joseph Creek**	**7.13**	**27**		**Pn**	**08 18 13.3**	**+0.4**
J26L	**Joseph Creek** baz=213	**7.13**	**27**	P	**Pn**	**08 18 13.3**	**+0.4**
I17K	**Unalakleet**	**7.26**	**324**		**Pn**	**08 18 14.6**	**+0.1**
I17K	**Unalakleet** baz=136	**7.26**	**324**	P	**Pn**	**08 18 14.8**	**+0.3**
H21K	**Melozitna Rive**	**7.39**	**354**		**Pn**	**08 18 16.4**	**+0.1**
H21K	**Melozitna Rive** baz=173	**7.39**	**354**	P	**Pn**	**08 18 16.4**	**+0.1**
M29M	**Somme Creek**	**7.45**	**51**		**Pn**	**08 18 17.8**	**+0.5**
M29M	**Somme Creek** baz=242	**7.45**	**51**	P	**Pn**	**08 18 17.8**	**+0.5**
H23K	**Yukon River**	**7.54**	**5**		**Pn**	**08 18 19.1**	**+0.7**
H23K	**Yukon River** baz=186	**7.54**	**5**	P	**Pn**	**08 18 19.1**	**+0.7**
PRP	**Porcupine Dome**	**7.65**	**17**		**Pn**	**08 18 20.5**	**+0.5**
PRP	**Porcupine

CUMV					*e*S	**Sb**	**08 21 53.0**	**+1.4**
GRFF	**Grenada Fort F**	**1.86**	**21**	*e*P	**Pn**	**08 21 28.6**	**-0.3**
GRFF					*e*S	**Sn**	**08 21 52.7**	**+0.3**
GRGR	**Grenville**	**1.96**	**22**	*e*P	**Pn**	**08 21 29.9**	**-0.4**
GRGR					*e*S	**Sn**	**08 21 54.8**	**-0.2**
GRW	**Mount Saint Ca**	**1.99**	**22**	*e*P	**Pn**	**08 21 31.5**	**+0.7**
GRW					*e*S	**Sn**	**08 21 55.8**	**+0.1**
GRHS	**Sauteurs**	**2.05**	**21**	*e*P	**Pn**	**08 21 31.6**	**0.0**
GRHS					*e*S	**Sn**	**08 21 56.2**	**-1.0**
GRIC	**Isle de Caille**	**2.13**	**22**	*e*P	**Pn**	**08 21 32.2**	**-0.4**
GRIC					*e*S	**Sn**	**08 21 58.9**	**-0.1**
GRSS	**Sisters**	**2.13**	**21**	*e*P	**Pn**	**08 21 33.3**	**+0.7**
GRSS					*e*S	**Sn**	**08 21 58.3**	**-0.8**
PCRV	**Puerto La Cruz**	**2.20**	**267⇓**	*e*P	**Pn**	**08 21 34.1**	**+0.5**
PCRV					*e*S	**Sn**	**08 22 02.0**	**+1.2**
PCRV	**Puerto La Cruz**	**2.20**	**267**	*e*P	**Pn**	**08 21 34.5**	**+0.9**
PCRV					*e*S	**Sn**	**08 22 01.5**	**+0.8**
GCMP	**Grenada, Carri**	**2.37**	**24**	*e*P	**Pn**	**08 21 36.1**	**+0.1**
GCMP					*e*S	**Sn**	**08 22 04.0**	**-1.1**
SVOC	**Richmond Hill,**	**3.06**	**22**	*e*P	**Pn**	**08 21 45.4**	**0.0**
SVOC					*e*S	**Sn**	**08 22 22.1**	**+0.1**
SVT	**Saint Vincent**	**3.07**	**22**	*e*P	**Pn**	**08 21 46.2**	**+0.7**
SVT					*e*S	**Sn**	**08 22 21.7**	**-0.6**
SVB	**Belmont**	**3.16**	**21**	*e*P	**Pn**	**08 21 48.2**	**+1.4**
SVB					*e*S	**Sn**	**08 22 23.0**	**-1.6**
SLBI	**Saint Lucia, B**	**3.95**	**21**	*e*P	**Pn**	**08 21 58.7**	**+1.0**
SLBI					*e*S	**Sn**	**08 22 43.3**	**-0.8**
BIM	**Bigot**	**4.39**	**17**	*e*P	**Pn**	**08 22 04.3**	**+0.5**
BIM					*e*S	**Sn**	**08 22 53.4**	**-1.4**
LUEV	**Luepa**	**4.53**	**168⇓**	*e*P	**Pn**	**08 22 03.6**	**-2.3**
LUEV					*e*S	**Sn**	**08 22 54.0**	**-4.6**
TACV	**Tcata**	**4.55**	**268⇓**	*e*P	**Pn**	**08 22 05.9**	**-0.1**
TACV					*e*S	**Sn**	**08 22 58.6**	**-0.2**
SVN	**Savane Anatole**	**4.67**	**15**	*e*P	**Pn**	**08 22 08.6**	**+1.0**
SVN					*e*S	**Sn**	**08 22 59.8**	**-2.1**
CACV	**CAICARA DEL OR**	**4.91**	**237⇓**	*e*P	Pn	08 22 04.8	-6.0
CACV					*e*S	Sn	08 22 55.5	-12
BENV	**Beln**	**5.12**	**267⇓**	*e*P	**Pn**	**08 22 15.0**	**+1.1**
TURV	**Turiamo**	**5.34**	**272⇓**	*e*P	**Pn**	**08 22 16.8**	**-0.1**
TDBA	**Terre de Bas,**	**5.56**	**8**	*e*P	**Pn**	**08 22 20.3**	**+0.4**
BAUV	**El Baul**	**5.72**	**257⇓**	*e*P	**Pn**	**08 22 21.2**	**-0.8**
BAUV					*e*S	**Sn**	**08 23 25.3**	**-2.3**
BAUV	**El Baul**	**5.72**	**257**	*e*P	**Pn**	**08 22 22.5**	**+0.5**
CBE	**Ff, Capester**	**5.79**	**8**	*e*P	**Pn**	**08 22 27.0**	**+4.1**
MBFL	**Flemmings, Mon**	**6.41**	**2**	*e*P	**Pn**	**08 22 32.7**	**+1.2**
ANBD	**Bethesda, Anti**	**6.73**	**5**	*e*P	**Pn**	**08 22 37.5**	**+1.6**
ANBD					*e*S	**Sn**	**08 23 49.0**	**-3.7**
ANBD	**Bethesda, Anti**	**6.73**	**5**	*e*P	**Pn**	**08 22 37.9**	**+2.0**

HEL 25 08:25:20.2±0.1, 61°.53N×23°.97E, h0km, ML1.0, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEF	**Keuruu**	**0.77**	**33**	PG	Pg	08 25 34.0	-0.9
KEF				MSG		08 25 44.1	
	comp=Z,1.5nm,0.2s						
KEF				SG	Sg	08 25 44.3	-0.5
KPF	**Kankaanpaa**	**0.96**	**289**	PB	Pg	08 25 38.2	-0.3
FIA0	**FINESS Array S**	**1.01**	**94**	PG	Pg	08 25 38.5	-1.1
FIA0				MSG		08 25 51.1	
	comp=Z,0.9nm,0.2s						
NUR	**Nurmijrvi**	**1.08**	**162**	PB	Pg	08 25 40.1	-0.7
NUR				MSG		08 25 53.1	
	comp=Z,0.8nm,0.2s						
RAF	**Rauma**	**1.18**	**245**	PG	Pg	08 25 41.2	-1.6
RAF				MSG		08 25 56.0	
	comp=Z,0.9nm,0.2s						
KAF	**Kangasniemi** baz=243	**1.25**	**61**	PG	Pg	08 25 42.5	-1.6
KAF				MSG		08 25 58.0	
	comp=Z,1.1nm,0.2s						
SUF	**Sumiainen**	**1.57**	**40**	PN	Pn	08 25 48.9	-0.5
SUF				MSG		08 26 07.4	
	comp=Z,0.6nm,0.2s						
SUF				SN	Sn	08 26 10.1	-0.3
VAF	**Ylistaro**	**1.64**	**339**	MSG		08 26 09.2	
	comp=Z,0.8nm,0.2s						
VAF				SN	Sg	08 26 12.8	+0.1
ARBE	**Arbavere**	**2.32**	**154**	PG	Pb	08 26 01.9	-1.0
ARBE				SG	Sb	08 26 31.6	-0.5
HEMU	**Hemsoen**	**3.02**	**295**	SB	Sb	08 26 49.5	-2.6

*NNC **25** 09:04:09.2±3.6,54°.11N×86°.75E, h0km, mb3.0, mpv2.9, Error ellipse: s-maj=39.9km s-min=17.0km az=9.0, Suspected Mining explosion.*
*IDC **25** 09:04:12.5±2.3,54°.03N×86°.55E, h0km, mbtmp3.4/2, ML2.9/2, Error ellipse: s-maj=18.9km s-min=11.8km az=61.0*
ISC 25 09:04:12.5±3.9, 54°.0N±0°.2×86°.5E±0°.2, h0km, n8, σ1§49/11, 6C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA** baz=84,slow=317,SNR=6.0	**0.98**	**266**	I	I	09 11 28.8	
ZAA0	**Zalesovo Array** 0.6nm,0.7s	**0.98**	**266**	⇑P	**Pg**	**09 04 30.7**	**-0.5**
ZAA0				⇑S	**Sb**	**09 04 46.9**	**+1.2**
	3.7nm,0.8s						
ZALV	**Zalesovo Beam** 1.6nm,0.3s,baz=85,slow=17,SNR=13	**0.98**	**266**	Pg	**Pb**	**09 04 31.1**	**-1.2**
ZALV				Lg	Lg	09 04 46.7	
	3.2nm,0.3s,baz=82,slow=29,SNR=14						
KURK	**Kurchatov** 2.0nm,0.7s	**5.84**	**238**	⇓Pn	**Pn**	**09 05 40.7**	**+0.4**
KURK				⇑Lg	Lg	09 07 18.0	
	3.4nm,1.0s						
KURBB	**Kurchatov Arra** 4.8nm,0.6s	**5.95**	**238**	⇓Pn	**Pn**	**09 05 43.2**	**+1.5**
KURBB				⇓Lg	Lg	09 07 25.2	
	5.8nm,0.7s						
KURBB	**Kurchatov Arra** 0.2nm,0.3s,baz=56,slow=14,SNR=18	**5.95**	**238**	Pn	**Pn**	**09 05 43.0**	**+1.3**
KURBB				Sn	**Sn**	**09 06 50.4**	**-0.1**
	0.1nm,0.3s,baz=218,slow=42,SNR=1.6						
KURBB				Lg	Lg	09 07 23.6	
	0.1nm,0.3s,baz=57,slow=33,SNR=6.2						
	2.7nm,0.5s						
MK31	**Makanchi Array** 0.1nm,0.2s,baz=25,slow=13	**7.72**	**202**	⇑Pn	**Pn**	**09 06 06.2**	**0.0**
MK31				⇑Sn	**Sn**	**09 07 35.2**	**+0.9**
	0.4nm,0.5s						
MK31				⇑Lg	Lg	09 08 17.5	
	4.5nm,1.2s,baz=26,slow=30						
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=24,slow=12,SNR=16	**7.72**	**202**	Pn	**Pn**	**09 06 08.1**	**+1.9**
MKAR				Sn	**Sn**	**09 07 31.8**	**-2.5**
	0.1nm,0.3s,baz=21,slow=25,SNR=2.5						
MKAR				Lg	Lg	09 08 19.1	
	0.1nm,0.3s,baz=26,slow=30,SNR=6.1						
	0.5nm,0.3s						

*SDD **25** 09:11:58.1±1.1, 19°.27N×75°.37W, h18km±175km, MD3.6, ML3.8, MW3.6*
*OSPL **25** 09:12:00.1±2.1, 19°.81N×75°.71W, h6km±12km, ML3.7*
*SSNC **25** 09:12:01.3±1.2, 19°.80N×75°.61W, h16km±4km, MD3.5, ML3.5, MW3.6*
*JSN **25** 09:12:01.0±0.6, 19°.70N×75°.61W, h10km±21km, MD3.8*
ISC 25 09:11:59.6±1.0, 19°.75N±0°.04×75°.61W±0°.02, h23km±10km, n32, σ1§89/54, 3C-1D, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCC	**Rio Carpintero**	**0.26**	**342**	*e*P	**Pb**	**09 12 05.9**	**+0.1**
RCC				*e*S	**Sb**	**09 12 09.0**	**-1.0**
MARVS	**Santiago de Cu**	**0.37**	**313**	*e*P	**Pb**	**09 12 07.9**	**+0.4**
MARVS				*e*S	**Sb**	**09 12 12.8**	**-0.2**
MARVS				IAML		09 12 13.1	
	comp=E,2μm,0.4s						
MARVS				IAML		09 12 13.6	
	comp=N,1μm,0.2s						
GTBY	**Guantanamo Bay**	**0.50**	**69⇓**	*i*P	**Pn**	**09 12 10.8**	**-0.7**
GTBY				*i* S	**Sb**	**09 12 17.4**	**+0.6**
GTBY	**Guantanamo Bay**	**0.50**	**69**	*e*Pg	**Pn**	**09 12 10.8**	**-0.7**
GTBY				IAML		09 12 18.5	
	comp=N,9μm,0.3s						
GTBY	**Guantanamo Bay**	**0.50**	**69**	*e*P	**Pn**	**09 12 10.7**	**-0.8**
GTBY				*e*S	**Sb**	**09 12 17.2**	**+0.5**
GTBY				IAML		09 12 18.4	
	comp=N,6μm,0.2s						
GTBY				IAML		09 12 18.6	
	comp=N,9μm,0.3s						
GTBY	**Guantanamo Bay**	**0.50**	**69**	*i*P	**Pn**	**09 12 10.8**	**-0.7**
GTBY				*e*S	**Sb**	**09 12 17.4**	**+0.6**
GTBY				IAML		09 12 18.2	
	comp=Z,2μm,0.1s						
SABCS	**La Quijada**	**0.67**	**25**	*e*P	**Pb**	**09 12 12.2**	**-0.5**
SABCS				*e*S	**Sb**	**09 12 20.6**	**-1.0**
SABCS				IAML		09 12 24.1	
	comp=N,1μm,0.5s						
SABCS				IAML		09 12 25.8	
	comp=E,3μm,0.5s						
CHIV	**Chivirico**	**0.79**	**287**	*e*P	**Pn**	**09 12 14.9**	**-0.5**
CHIV				*e*S	**Sb**	**09 12 25.2**	**+0.3**
CHIV				IAML		09 12 28.2	
	comp=E,395nm,0.3s						
CHIV				IAML		09 12 29.8	
	comp=N,504nm,0.2s						
QMBU	**Quimbuelo**	**0.88**	**59**	*e*P	**Pb**	**09 12 15.4**	**-0.8**
QMBU				*e*S	**Sb**	**09 12 25.6**	**-1.9**
QMBU				IAML		09 12 32.7	
	comp=E,2μm,0.3s						
QMBU				IAML		09 12 34.5	
	comp=N,2μm,0.4s						
MOAC	**Moa**	**1.09**	**34**	*e*P	**Pn**	**09 12 18.1**	**-1.4**
MOAC				*e*S	**Sn**	**09 12 31.8**	**-2.2**
MOAC				IAML		09 12 39.6	
	comp=E,356nm,0.2s						
MOAC				IAML		09 12 41.8	
	comp=N,619nm,0.2s						
HLGC	**Holguin**	**1.21**	**340**	*e*P	**Pb**	**09 12 22.4**	**+0.6**
HLGC				*e*S	**Sb**	**09 12 40.0**	**+2.9**
HLGC				IAML		09 12 41.7	
	comp=E,1μm,0.7s						
HLGC				IAML		09 12 42.4	
	comp=N,668nm,0.4s						
LMGC	**Las Mercedes**	**1.35**	**284**	*e*P	**Pn**	**09 12 23.0**	**0.0**
LMGC				*e*S	**Sn**	**09 12 38.5**	**-1.7**
LMGC				IAML		09 12 39.8	
	comp=E,25μm,0.1s						
LMGC				IAML		09 12 43.3	
	comp=N,29μm,0.1s						
MASC	**Masc**	**1.37**	**72**	*e*P	**Pn**	**09 12 22.3**	**-1.0**
MASC				*e*S	**Sn**	**09 12 39.7**	**-1.0**
MASC				IAML		09 12 42.0	
	comp=N,569nm,0.1s						
MASC				IAML		09 12 45.2	
	comp=E,752nm,0.5s						
MASC	**Masc**	**1.37**	**72**	*i*P	**Pn**	**09 12 22.9**	**-0.4**
MASC				IAML		09 12 48.1	
	comp=Z,449nm,0.2s						
STH	**Stony Hill**	**2.01**	**214⇑**	*i*P	**Pn**	**09 12 33.0**	**+0.7**
STH	**Stony Hill**	**2.01**	**214**	*e*P	**Pn**	**09 12 33.0**	**+0.7**
STH				*e*S	**Sn**	**09 12 54.3**	**-2.4**
MTDJ	**Mount Denham**	**2.37**	**231**	*i*P	**Pn**	**09 12 38.4**	**+1.2**
MTDJ	**Mount Denham**	**2.37**	**231**	*e*Pg	**Pn**	**09 12 37.4**	**+0.2**
MTDJ				IAML		09 13 08.9	
	comp=N,116nm,1.2s						
MTDJ	**Mount Denham**	**2.37**	**231**	*e*P	**Pn**	**09 12 37.4**	**+0.2**
MTDJ				*e*S	**Sn**	**09 13 03.2**	**-2.3**
MTDJ	**Mount Denham**	**2.37**	**231**	*i*P	**Pn**	**09 12 38.1**	**+0.9**
MTDJ				*e*S	**Sn**	**09 13 04.0**	**-1.6**
MTDJ				IAML		09 13 09.2	
	comp=Z,92nm,0.8s						
PAPH	**Port-au-Prince**	**3.36**	**111**	*e*P	**Pb**	**09 12 56.7**	**-1.8**
PAPH				*e*S	**Sb**	**09 13 38.4**	**-0.6**
PAPH	**Port-au-Prince**	**3.36**	**111**	*i*P	**Pn**	**09 12 53.0**	**+2.2**
PAPH				IAML		09 13 41.3	
	comp=Z,208nm,0.2s						
MCDR	**Montecristi**	**3.73**	**87**	*e*Pg	**Pn**	**09 12 59.1**	**+3.3**
MCDR				⇑*e*Sg	**Sn**	**09 13 43.0**	**+4.0**
MCDR				IAML		09 13 53.3	
	comp=N,420nm,0.6s						
REDR	**Restauracion**	**4.02**	**98**	*e*Pg	**Pn**	**09 12 57.6**	**-2.2**
REDR				⇑*e*Sg	**Sn**	**09 13 40.6**	**-5.7**
REDR				IAML		09 13 41.6	
	comp=N,185nm,0.2s						
SDDR	**Presa de Saban**	**4.15**	**100**	*i*P	**Pn**	**09 13 03.4**	**+1.7**
SDDR	**Presa de Saban**	**4.15**	**100**	*e*Pg	**Pn**	**09 13 04.4**	**+2.7**
SDDR				*e*Sg	**Sn**	**09 13 53.5**	**+3.9**
SDDR				IAML		09 13 59.5	
	comp=N,104nm,0.3s						
SDDR	**Presa de Saban**	**4.15**	**100**	*e*P	**Pn**	**09 13 03.3**	**+1.6**
SDDR				*e*S	**Sn**	**09 13 52.3**	**+2.6**
SDDR	**Presa de Saban**	**4.15**	**100**	*i*P	**Pn**	**09 13 03.5**	**+1.7**
SDDR				IAML		09 13 54.0	
	comp=Z,81nm,0.3s						
PODR	**Polo**	**4.39**	**110**	*i*P	**Pn**	**09 13 06.8**	**+1.7**
GRTK	**Grand Turk**	**4.55**	**67**	*i*P	**Pn**	**09 13 08.8**	**+1.8**
GRTK				*e*S	**Sn**	**09 13 58.9**	**-0.3**
GRTK				IAML		09 14 14.2	
	comp=Z,94nm,2.1s						
SC01	**Santiago de lo**	**4.62**	**93**	*i*P	**Pn**	**09 13 10.9**	**+2.9**
SC01				IAML		09 14 21.0	
	comp=Z,65nm,1.4s						
MGV	**Manicaragua**	**4.71**	**301**	*e*P	**Pn**	**09 13 11.5**	**+2.2**
MGV				*e*S	**Sn**	**09 14 04.0**	**+0.7**
MGV				IAML		09 14 06.6	
	comp=N,7.8nm,0.8s						
MGV				IAML		09 14 11.5	
	comp=E,19nm,0.4s						

*IDC **25** 09:12:44.3±1.0, 23°.17S×179°.81E, h534km±10km, mb3.7/16, mbtmp4.5/17, Error ellipse: s-maj=11.1km s-min=10.2km az=145.0*
*NOU **25** 09:12:44.3, 23°.29S×180°.00W, h540km, mb4.6/44, South of Fiji Islands*
*NEIC **25** 09:12:45.3±1.6, 23°.25S±0°.09×179°.9E±0°.1, h534km±5km, mb4.5/171, Error ellipse: s-maj=14.6km s-min=13.0km az=92.0*
ISC 25 09:12:45.0±0.6, 23°.32S±0°.05×179°.91E±0°.06, h545km±6km, n660, σ1§40/679, mb4.5/105, 31C-10D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.83**	**342**	P	**P**	**09 14 20.5**	**-1.5**
MSVF	**Nonsavu**	**5.83**	**342**	P	**P**	**09 14 20.5**	**-1.5**
RAO	**Raoul Island**	**6.22**	**162**	P	**P**	**09 14 24.7**	**-0.6**
RAO	**Raoul Island**	**6.22**	**162**	P	**P**	**09 14 25.0**	**-0.2**
	738nm,0.7s,baz=101,slow=14,SNR=2.8						
RAO				S	**S**	**09 15 48.3**	**+0.9**
	202nm,0.5s,baz=85,slow=23,SNR=1.4						
FUTU	**Fugatoga**	**9.15**	**12**	P	**P**	**09 14 53.3**	**-1.0**
NIUE	**Niue**	**10.37**	**68**	P	**P**	**09 15 05.6**	**-1.1**
MARNC	**Mare, Loyalty**	**11.14**	**277**	P	**P**	**09 15 14.6**	**-0.1**
PINNC	**Pines Island,**	**11.51**	**271**	P	**P**	**09 15 19.1**	**+0.7**
PINNC	**Pines Island,**	**11.51**	**271**	P	**P**	**09 15 19.1**	**+0.7**
LIFNC	**LIFOU**	**12.02**	**280**	P	**P**	**09 15 23.0**	**-0.8**
LIFNC	**LIFOU**	**12.02**	**280**	P	**P**	**09 15 23.1**	**-0.6**
OUENC	**Ouen Island, N**	**12.09**	**272**	P	**P**	**09 15 25.2**	**+0.8**
DVP	**Devils Point**	**12.31**	**295**	P	**P**	**09 15 26.9**	**+0.1**
DZM	**Mont Dzumac**	**12.50**	**273**	P	**P**	**09 15 30.0**	**+1.2**
DZM	**Mont Dzumac** 61nm,1.4s	**12.50**	**273**	*e*Pn	**P**	**09 15 30.8**	**+2.0**
DZM	**Mont Dzumac**	**12.50**	**273**	P	**P**	**09 15 28.9**	**+0.1**
DZM	**Mont Dzumac** 15nm,0.7s,baz=77,slow=20,SNR=8.9	**12.50**	**273**	P	**P**	**09 15 28.3**	**-0.4**
OUZ	**Omahuta**	**13.07**	**203**	P	**P**	**09 15 35.4**	**+1.0**
KUZ	**Kuaotunu**	**13.86**	**194**	P	**P**	**09 15 42.6**	**0.0**
MXZ	**Matakaoa Point**	**14.26**	**185**	P	**P**	**09 15 45.7**	**-1.0**
MXZ	**Matakaoa Point**	**14.26**	**185**	P	**P**	**09 15 47.6**	**+0.9**
HAZ	**Te Kaha**	**14.51**	**187**	P	**P**	**09 15 48.6**	**-0.6**
HAZ				S	**S**	**09 18 17.6**	**-3.4**
WMGZ	**Waiomatatini S**	**14.51**	**185**	P	**P**	**09 15 47.3**	**-1.9**
WMGZ				S	**S**	**09 18 21.0**	**-0.2**
PKGZ	**Pakihiroa**	**14.61**	**186**	P	**P**	**09 15 47.8**	**-2.6**
PKGZ				S	**S**	**09 18 21.1**	**-2.1**
RUGZ	**Raukumara Rang**	**14.72**	**187**	P	**P**	**09 15 50.0**	**-1.6**
RUGZ				S	**S**	**09 18 20.8**	**-4.7**
PUZ	**Puketiti**	**14.77**	**185**	P	**P**	**09 15 50.9**	**-1.1**
PUZ				S	**S**	**09 18 23.9**	**-2.3**
TWGZ	**Tauwhareparae**	**14.90**	**186**	P	**P**	**09 15 52.0**	**-1.4**
TWGZ				S	**S**	**09 18 27.3**	**-1.4**
URZ	**Urewera**	**15.08**	**189**	P	**P**	**09 15 54.7**	**-0.5**
URZ	**Urewera** 107nm,0.5s,baz=98,slow=2.2,SNR=55	**15.08**	**189**	P	**P**	**09 15 53.5**	**-1.7**
URZ				S	**S**	**09 18 29.5**	**-2.3**
	52nm,0.5s,baz=264,slow=22,SNR=12						
URZ	**Urewera**	**15.08**	**189**	P	**P**	**09 15 52.4**	**-2.8**
URZ				S	**S**	**09 18 26.1**	**-5.7**

MWZ	**Matawai**	**15.11**	**187**	P	**P**	**09 15 54.2**	**-1.2**
MWZ				S	**S**	**09 18 28.8**	**-3.5**
RAGZ	**Rawiri**	**15.28**	**187**	P	**P**	**09 15 55.3**	**-2.0**
RIGZ	**Rimuhau**	**15.45**	**186**	P	**P**	**09 15 57.1**	**-1.9**
RIGZ				S	**S**	**09 18 32.3**	**-5.9**
RTZ	**Ruatahuna**	**15.45**	**189**	P	**P**	**09 15 54.8**	**-4.3**
SNGZ	**Shannon Statio**	**15.57**	**188**	P	**P**	**09 15 58.0**	**-2.2**
SNGZ				S	**S**	**09 18 35.9**	**-4.4**
PRGZ	**Paritu Road**	**15.65**	**186**	P	**P**	**09 16 00.8**	**-0.3**
PRGZ				S	**S**	**09 18 37.5**	**-4.2**
MTHZ	**Maungataniwha**	**15.70**	**189**	P	**P**	**09 15 58.8**	**-2.8**
MTHZ				S	**S**	**09 18 38.7**	**-4.0**
RAHZ	**Arahi**	**15.73**	**188**	P	**P**	**09 15 59.2**	**-2.6**
RAHZ				S	**S**	**09 18 37.5**	**-5.6**
HIZ	**Hauiti**	**15.75**	**195**	P	**P**	**09 16 01.8**	**-0.2**
KNZ	**Kokohu**	**15.77**	**186**	P	**P**	**09 15 57.6**	**-4.6**
KNZ				S	**S**	**09 18 39.7**	**-3.9**
WHHZ	**Waihua**	**15.87**	**188**	P	**P**	**09 16 00.6**	**-2.7**
WHHZ				S	**S**	**09 18 40.8**	**-4.6**
NMHZ	**Naumai**	**15.95**	**189**	P	**P**	**09 15 59.2**	**-4.9**
NMHZ				S	**S**	**09 18 43.2**	**-3.6**
BKZ	**Black Stump Fm**	**16.06**	**190**	P	**P**	**09 16 03.6**	**-1.5**
BKZ	**Black Stump Fm**	**16.06**	**190**	P	**P**	**09 16 00.3**	**-4.9**
BKZ				S	**S**	**09 18 43.2**	**-5.5**
ARHZ	**Aropaoanui**	**16.09**	**188**	P	**P**	**09 16 02.8**	**-2.5**
ARHZ				S	**S**	**09 18 44.9**	**-4.1**
OTVZ	**Oturere**	**16.20**	**192**	P	**P**	**09 16 02.5**	**-4.1**
OTVZ				S	**S**	**09 18 47.0**	**-4.3**
MCHZ	**McNeill Hill**	**16.31**	**189**	P	**P**	**09 16 02.9**	**-4.5**
KWHZ	**Kaweka Forest**	**16.33**	**190**	P	**P**	**09 16 06.2**	**-1.5**
KWHZ				S	**S**	**09 18 50.2**	**-2.9**
WNVZ	**Wahianoa**	**16.38**	**192**	P	**P**	**09 16 03.7**	**-4.6**
WNVZ				S	**S**	**09 18 48.9**	**-5.2**
MOVZ	**Moawhango**	**16.42**	**191**	P	**P**	**09 16 05.0**	**-3.5**
BHHZ	**Black Hill Sta**	**16.45**	**191**	P	**P**	**09 16 03.6**	**-5.2**
CKHZ	**Cape Kidnapper**	**16.47**	**188**	P	**P**	**09 16 05.2**	**-3.6**
KRHZ	**Kereru**	**16.55**	**190**	P	**P**	**09 16 06.8**	**-2.9**
KRHZ				S	**S**	**09 18 53.0**	**-3.7**
KAHZ	**Kahuranaki**	**16.62**	**188**	P	**P**	**09 16 05.7**	**-4.7**
PNHZ	**Pukenui**	**16.84**	**190**	P	**P**	**09 16 08.0**	**-4.4**
PNHZ				S	**S**	**09 18 58.9**	**-2.6**
PXZ	**Pawanui**	**16.86**	**188**	P	**P**	**09 16 11.4**	**-1.1**
PXZ				S	**S**	**09 18 57.2**	**-4.5**
WAZ	**Wanganui**	**16.91**	**193**	P	**P**	**09 16 13.1**	**+0.1**
WAZ				S	**S**	**09 19 01.3**	**-1.3**
TSZ	**Takapari Road**	**17.02**	**190**	P	**P**	**09 16 10.0**	**-4.0**
TSZ				S	**S**	**09 18 59.8**	**-4.7**
DVHZ	**Dannevirke**	**17.22**	**190**	P	**P**	**09 16 12.4**	**-3.4**
ANWZ	**Angora Road**	**17.33**	**189**	P	**P**	**09 16 14.7**	**-2.1**
POWZ	**Post Office Ro**	**17.38**	**191**	P	**P**	**09 16 16.5**	**-0.7**
PRWZ	**Pori Road**	**17.50**	**190**	P	**P**	**09 16 17.8**	**-0.5**
BFZ	**Birch Farm**	**17.59**	**189**	P	**P**	**09 16 15.3**	**-3.8**
MRZ	**Mangatainoka R**	**17.67**	**191**	P	**P**	**09 16 16.6**	**-3.3**
TIWZ	**Tintock**	**17.73**	**190**	S	**S**	**09 19 11.8**	**-4.2**
OGWZ	**Otaki Gorge**	**17.90**	**192**	P	**P**	**09 16 18.6**	**-3.3**
HOWZ	**Holdsworth Sta**	**17.91**	**191**	P	**P**	**09 16 18.6**	**-3.5**
HOWZ				S	**S**	**09 19 15.0**	**-4.0**
KIW	**Kapiti Island**	**17.99**	**192**	P	**P**	**09 16 18.9**	**-4.0**
TMWZ	**Te Maipa**	**18.05**	**190**	P	**P**	**09 16 21.4**	**-2.0**
DUWZ	**D'Urville Isla**	**18.15**	**195**	P	**P**	**09 16 21.9**	**-2.4**
MTW	**Mount Morrison**	**18.17**	**191**	P	**P**	**09 16 20.7**	**-3.7**
CAW	**Cannon Point**	**18.20**	**192**	P	**P**	**09 16 22.1**	**-2.6**
TCW	**Tory Channel**	**18.46**	**194**	P	**P**	**09 16 28.1**	**+1.0**
TCW	**Tory Channel**	**18.46**	**194**	P	**P**	**09 16 25.1**	**-1.9**
SNZO	**South Karori**	**18.46**	**192**	P	**P**	**09 16 27.1**	**0.0**
QRZ	**Quartz Range**	**18.53**	**198**	P	**P**	**09 16 28.1**	**+0.4**
QRZ	**Quartz Range**	**18.53**	**198**	P	**P**	**09 16 28.8**	**+1.1**
PLWZ	**Palliser**	**18.61**	**191**	P	**P**	**09 16 27.8**	**-0.8**
NNZ	**Nelson**	**18.67**	**196**	P	**P**	**09 16 26.8**	**-2.2**
TUWZ	**Tuamarina**	**18.74**	**194**	P	**P**	**09 16 27.7**	**-1.9**
MRNZ	**Matariki Terra**	**19.00**	**197**	P	**P**	**09 16 31.1**	**-0.9**
THZ	**Tophouse**	**19.30**	**196**	P	**P**	**09 16 34.1**	**-0.7**
KHZ	**Kahutara**	**19.77**	**194**	P	**P**	**09 16 38.2**	**-0.8**
KHZ	**Kahutara**	**19.77**	**194**	P	**P**	**09 16 37.6**	**-1.4**
GVZ	**Greta Valley S**	**20.41**	**195**	P	**P**	**09 16 43.3**	**-1.5**
LTZ	**Lake Taylor**	**20.42**	**196**	P	**P**	**09 16 44.8**	**-0.2**
LTZ				S	**S**	**09 19 55.2**	**-4.1**
INZ	**Inchbonnie**	**20.59**	**198**	P	**P**	**09 16 45.1**	**-1.3**
INZ				S	**S**	**09 19 59.1**	**-2.8**
OXZ	**Oxford**	**20.99**	**196**	P	**P**	**09 16 48.4**	**-1.6**
OXZ				S	**S**	**09 20 05.6**	**-2.7**
RPZ	**Rata Peaks**	**21.61**	**198**	P	**P**	**09 16 55.6**	**-0.1**
RPZ	**Rata Peaks** 14nm,0.4s,baz=5.7,slow=3.0,SNR=12	**

VNDA **Vanda** 54.95 185 P P 09 21 26.0 +1.8
VNDA **Vanda** 54.95 185 P P 09 21 25.7 +1.5
comp=Z,4.0nm,0.8s,baz=356,slow=7.2,SNR=16
VNDA PcP PcP 09 22 18.2 +0.5
comp=Z,3.7nm,0.6s,baz=331,slow=3.6,SNR=8.6
comp=Z,4.0nm,0.8s
SBA **Scott Base** 54.95 183 P P 09 21 26.8 +2.6
SBA IAmb IAmb 09 21 28.1
comp=Z,26nm,0.9s
SBA PcP PcP 09 22 19.8 +2.1
KLBR **Kellerberrin** 55.14 247 P P 09 21 26.2 -0.2
PSA00 **Pilbara Seismi** 55.19 259 P P 09 21 26.6 -0.2
MBWA **Marble Bar** 55.40 260 P P 09 21 28.0 -0.2
MBWA **Marble Bar** 55.40 260 P P 09 21 28.1 -0.2
NWAO **Narrogin (SRO)** 55.40 245 P P 09 21 28.1 -0.1
BLDU **Ballidu** 56.17 248 P P 09 21 33.0 -0.5
MUN **Mundaring** 56.39 246 P P 09 21 35.2 +0.2
MORW **Morawa** 57.00 250 P P 09 21 39.0 -0.2
MORW **Morawa** 57.00 250 P P 09 21 39.9 +0.7
CASY **Casey** 60.60 206 P P 09 22 02.9 +0.3
CASY IAmb IAmb 09 22 03.5
comp=Z,15nm,0.8s
QSPA **South Pole Qui** 66.76 180 P P 09 22 43.7 +1.5
QSPA **South Pole Qui** 66.76 180 P P 09 22 43.6 +1.5
comp=Z,46nm,0.6s,baz=328,slow=0.4,SNR=370
JOW **Kunigami** 70.55 312 P P 09 23 06.2 +0.7
JOW **Kunigami** 70.55 312 P P 09 23 06.0 +0.5
JOW IAmb IAmb 09 23 07.3
comp=Z,9.4nm,0.8s
JGF **Kuroka** 71.11 324 P P 09 23 07.5 -1.2
MJAR **Matsushiro Arr** 71.38 326 P P 09 23 09.4 -0.7
comp=Z,2.1nm,0.8s,baz=154,slow=6.2,SNR=4.8
comp=Z,2.1nm,0.8s
MJB9 **Matsu-Tunnel** 71.38 326 P P 09 23 10.4 +0.2
YOJ **Yonaguni jima** 72.82 307 P P 09 23 19.6 +0.8
ERM **Erimo** 73.36 332 P P 09 23 21.3 -0.1
ERM IAmb IAmb 09 23 21.9
comp=Z,28nm,1.2s
PMBI **Palembang** 75.20 273 P P 09 23 32.7 +0.2
NIKH **Nikolski High** 76.59 7 P P 09 23 39.0 -0.2
NIKH **Nikolski High** 76.59 7 P P 09 23 38.1 -1.1
baz=191
SMAI **San Martin Ant** 76.67 159 P P 09 23 41.5 +1.9
BELA **Belgrano 2** 77.02 173 P P 09 23 41.6 +0.2
UNV **Unalaska Valle** 77.74 8 P P 09 23 44.9 -0.5
baz=193
KSRS **Korea Array** 77.75 320 P P 09 23 46.2 +0.3
comp=Z,0.6nm,0.6s,baz=80,slow=14,SNR=2.2
comp=Z,0.6nm,0.6s
MAW **Mawson** 78.26 200 P P 09 23 49.3 +1.1
comp=Z,18nm,0.7s,baz=122,slow=5.3,SNR=36
comp=Z,18nm,0.7s
PETK **Petropavlovsk-** 78.52 347 P P 09 23 49.1 -0.6
PETK **Petropavlovsk-** 78.52 347 P P 09 23 48.5 -1.2
comp=Z,2.2nm,0.7s,baz=131,slow=6.1,SNR=5.2
comp=Z,2.2nm,0.7s
FALS **False Pass** 79.16 10 P P 09 23 52.0 -1.0
baz=196
CHNA **Chernabura Isl** 79.80 12 P P 09 23 56.4 +0.1
baz=199
P08K **Saint George I** 80.10 6 P P 09 23 57.8 -0.1
baz=190
SDPT **Sand Point** 80.12 11 P P 09 23 57.6 -0.5
SDPT **Sand Point** 80.12 11 P P 09 23 57.9 -0.2
SDPT **Sand Point** 80.12 11 P P 09 23 57.4 -0.7
baz=198
S12K **Black Hills** 80.19 10 P P 09 23 57.9 -0.5
S12K IAmb IAmb 09 24 05.5
comp=Z,22nm,1.2s
S12K **Black Hills** 80.19 10 P P 09 23 58.0 -0.4
baz=197
SPIA **Saint Paul Isl** 80.61 5 P P 09 23 60.0 -0.5
baz=189
SBC **Santa Barbara** 81.14 47 P P 09 24 02.7 -1.2
baz=234
S14K **Fog Glacier** 81.18 11 P P 09 24 03.0 -0.6
baz=199
PKM **Mcpherson Peak** 81.34 46 P P 09 24 04.2 -1.0
baz=234
SAO **San Andreas Ge** 81.40 44 P P 09 24 06.0 +0.8
CHGN **Chignik** 81.41 12 P P 09 24 05.0 +0.4
baz=200
CIS **Catalina Islan** 81.42 48 P P 09 24 04.1 -1.3
baz=235
SMMC **Simmler** 81.47 46 P P 09 24 05.4 -0.2
baz=234
PMPB **Monarch Peak** 81.48 45 P P 09 24 06.9 +1.3
CHIR **Chirikof Islan** 81.53 14 P P 09 24 05.4 +0.1
baz=203
IPM **Ipoh** 81.60 279 P P 09 24 07.2 +0.5
IPM IAmb IAmb 09 24 07.7
comp=Z,9.7nm,0.8s
BCW **Bitter Crk WRg** 81.63 46 P P 09 24 08.3 +1.7
BCW IAmb IAmb 09 24 08.8
comp=Z,12nm,0.8s
HOPS **Hopland Field** 81.76 41 P P 09 24 07.8 +0.8
HOPS IAmb IAmb 09 24 10.4
comp=Z,17nm,1.1s
TJX **Tijuana** 81.85 50 P P 09 24 09.2 +1.6
CBX **Cerro Bola** 82.02 50 P P 09 24 09.7 +1.1
CBX IAmb IAmb 09 24 10.2
comp=Z,8.4nm,0.8s
109C **Camp Elliot, M** 82.03 49 P P 09 24 09.8 +1.3
109C IAmb IAmb 09 24 10.3
comp=Z,17nm,1.4s
ARVC **Arvin** 82.13 47 P P 09 24 09.3 +0.4
baz=234
KMRM **Mail Ridge** 82.15 40 P P 09 24 10.8 +1.8
ELS **Elsinore Mount** 82.23 48 P P 09 24 10.8 +1.2
MG05 **Puerto Natales** 82.23 143 P P 09 24 10.3 +1.0
MG05 IAmb IAmb 09 24 11.0
comp=Z,14nm,0.8s
ESJX **Sierra Juarez** 82.35 50 P P 09 24 11.6 +1.3
MURC **Murrieta** 82.37 49 P P 09 24 10.4 +0.2
baz=236
VES **Vestal, Richgr** 82.38 46 P P 09 24 10.9 +0.7
baz=234
BFSC **Mount Baldy Ra** 82.41 48 P P 09 24 11.2 +0.7
baz=235
MONP2 **Monument Peak** 82.51 50 P P 09 24 11.9 +0.7
baz=236,SNR=6.3
SII **Sitkinak Islan** 82.53 14 P P 09 24 11.2 +0.8
baz=204
EDW2 **Edwards Air Fo** 82.55 47 P P 09 24 12.4 +1.2
baz=235
IKP **In-K-O-Pah, Jac** 82.59 50 P P 09 24 12.1 +0.6
baz=236
O02D **Mt. Diablo Mer** 82.67 41 P P 09 24 13.1 +1.5
O02D IAmb IAmb 09 24 14.5
comp=Z,24nm,1.2s
YUH **Yuha Desert** 82.72 50 P P 09 24 12.8 +0.8
YUH IAmb IAmb 09 24 14.2
comp=Z,13nm,1.2s
CMB **Columbia Colle** 82.83 43 P P 09 24 12.9 +0.5
CMB IAmb IAmb 09 24 14.2
comp=Z,9.5nm,0.9s
PFO **Pinyon Flats O** 82.88 49 P P 09 24 13.7 +0.8
PFO **Pinyon Flats O** 82.88 49 P P 09 24 13.8 +0.8
baz=236
TPFO **Pinon Flats** 82.88 49 P P 09 24 13.5 +0.6
baz=236
PMD **Palm Desert** 82.96 49 P P 09 24 13.7 +0.6
SWSC **Sam W. Stewart** 82.97 50 P P 09 24 14.5 +1.3
baz=236
AFDM **Forest Hills D** 83.02 42 P P 09 24 14.2 +0.8
ORV **Oroville** 83.06 42 P P 09 24 14.8 +1.2
LRMC **Laurel Mtn Rad** 83.10 47 P P 09 24 15.0 +1.0
baz=235
CWC **Cottonwood Cre** 83.39 46 P P 09 24 15.9 +0.5
baz=235
BELC **Belle Mtn. Jos** 83.42 49 P P 09 24 16.3 +0.7
baz=236
MDPB **Devils Postpil** 83.43 44 P P 09 24 17.2 +1.5
MPMC **Manual Prospec** 83.56 46 P P 09 24 17.2 +0.9
baz=235,SNR=8.0
EMB **Emerald Bay** 83.58 43 P P 09 24 17.6 +1.2
EMB IAmb IAmb 09 24 18.1
comp=Z,21nm,1.5s
GSC **Goldstone, Bar** 83.59 47 P P 09 24 17.5 +1.2
GSC IAmb IAmb 09 24 18.2
comp=Z,9.4nm,0.9s
GSC **Goldstone, Bar** 83.59 47 P P 09 24 17.6 +1.2
baz=236,SNR=8.5
BC3 **Big Chuckawall** 83.61 49 P P 09 24 17.6 +1.1
baz=237
ELIB **Princess Elisa** 83.63 187 *d*P P 09 24 15.9 -0.1
comp=Z,10nm,0.5s
HEC **Hector,Ludlow** 83.65 48 P P 09 24 17.4 +0.8
baz=236,SNR=13
YBH **Yreka Blue Hor** 83.69 39 P P 09 24 17.9 +1.2
WAKR **Walker** 83.72 43 P P 09 24 18.2 +1.2
WAKR IAmb IAmb 09 24 19.2
comp=Z,11nm,1.0s
O14K **Tigyukauivet M** 83.72 10 P P 09 24 17.8 +1.5
baz=197
MPK **Martis Peak** 83.81 43 P P 09 24 18.7 +1.0
MPK IAmb IAmb 09 24 19.6
comp=Z,13nm,1.0s
HATC **Hat Creek Radi** 83.86 41 P P 09 24 18.9 +1.4
HATC IAmb IAmb 09 24 19.6
comp=Z,12nm,0.8s
O15K **Ungalikthiuk R** 83.88 10 P P 09 24 18.6 +1.5
baz=199
QSM **Queen of Sheba** 83.92 47 P P 09 24 18.6 +0.7
PNTR **Pine Nut** 83.96 43 P P 09 24 19.0 +0.7
PNTR IAmb IAmb 09 24 20.2
comp=Z,15nm,0.9s
Q16K **King Salmon** 83.97 12 P P 09 24 19.2 +1.8
baz=202
DSP **Deep Springs** 84.00 45 P P 09 24 19.2 +1.0
DSP IAmb IAmb 09 24 20.3
comp=Z,9.2nm,1.2s
P16K **Nushagak River** 84.06 11 P P 09 24 19.9 +2.0
baz=200
GMRC **Granite Mounta** 84.08 48 P P 09 24 19.9 +1.1
baz=236,SNR=7.0
IRM **Iron Mountain** 84.09 49 P P 09 24 19.8 +0.9
baz=237,SNR=9.3
HUMO **Hull Mountain** 84.10 39 P P 09 24 20.2 +1.6
HUMO IAmb IAmb 09 24 21.3
comp=Z,15nm,1.4s
YERR **Yerington** 84.12 43 IAmb IAmb 09 24 20.8
comp=Z,6.7nm,0.8s
LHV **Little Huntoon** 84.16 44 P P 09 24 20.5 +1.5
LHV IAmb IAmb 09 24 21.2
comp=Z,8.0nm,1.0s
M11K **Mekoryuk** 84.17 7 P P 09 24 18.8 +0.4
baz=193
GRAC **Grapevine Rang** 84.18 46 IAmb IAmb 09 24 21.9
comp=Z,21nm,1.4s
GRAC **Grapevine Rang** 84.18 46 P P 09 24 20.3 +1.2
baz=235,SNR=7.1
GWY **Greenwater Val** 84.18 47 P P 09 24 20.3 +0.9
FURC **Furnace Creek,** 84.21 46 P P 09 24 19.1 -0.1
baz=236
L04D **Klamath Falls** 84.23 39 IAmb IAmb 09 24 20.9
comp=Z,9.0nm,0.9s
TUQ **Turquoise Moun** 84.26 48 P P 09 24 19.1 -0.6
baz=236
SHOC **Shoshone, Teco** 84.28 47 P P 09 24 19.2 -0.5
baz=236
N14K **Kuskokwak Cree** 84.30 9 P P 09 24 19.3 +0.2
baz=197
BLYC **Blythe** 84.31 50 P P 09 24 20.9 +1.1
BLYC IAmb IAmb 09 24 22.1
comp=Z,10nm,0.9s
NVAR **Mina Array Bea** 84.39 44 P P 09 24 20.7 +0.2
NVAR **Mina Array Bea** 84.39 44 P P 09 24 21.1 +0.6
comp=Z,4.4nm,0.9s,baz=222,slow=7.7,SNR=21
comp=Z,4.4nm,0.9s
HSIG 84.45 55 P P 09 24 21.6 +1.0
HSIG IAmb IAmb 09 24 22.6
comp=Z,13nm,0.9s
NV11 **Mina Array Sit** 84.49 44 P P 09 24 21.3 +0.5
P17K **Kvichak River** 84.50 12 P P 09 24 19.9 -0.2
baz=202
M13K **Dall Lake** 84.54 8 P P 09 24 20.4 +0.1
baz=195
O16K **Kokwok River B** 84.57 11 P P 09 24 20.4 -0.1
baz=200
214A **Organ Pipe Nat** 84.58 52 IAmb IAmb 09 24 23.3
comp=Z,6.5nm,0.8s
214A **Organ Pipe Nat** 84.58 52 P P 09 24 20.8 -0.4
baz=238
N15K **Kwethluk River** 84.78 10 P P 09 24 22.1 +0.6
N15K IAmb IAmb 09 24 23.1
comp=Z,11nm,0.8s
N15K **Kwethluk River** 84.78 10 P P 09 24 21.8 +0.3
baz=198,SNR=5.6
Q20K **Shuyak Island** 84.80 14 P P 09 24 21.5 -0.1
baz=205
Q19K **Cape Douglas,** 84.81 13 P P 09 24 21.5 -0.2
baz=204
PDMCI **Parker Dam,Lak** 84.87 49 P P 09 24 22.2 -0.4
baz=237
KVN **Kaiserville** 84.88 44 P P 09 24 23.0 +0.2
TROLL **Troll, Antarti** 84.91 181 ⇑P P 09 24 22.3 0.0
comp=Z,1μm,0.4s
O17K **Koliganek Bris** 84.92 11 P P 09 24 22.2 +0.1
baz=201
P18K **Big Mountain,** 84.92 12 P P 09 24 22.0 -0.2
baz=203
M14K **Bethel** 85.06 9 P P 09 24 22.5 -0.3
baz=197
V12A **Nelson** 85.15 48 P P 09 24 25.1 +1.0
M15K **Kasigluk River** 85.19 9 P P 09 24 23.2 -0.2
baz=198
SNAA **Sanae** 85.25 179 P P 09 24 23.1 -0.7
SNAA IAmb IAmb 09 24 24.2
comp=Z,6.8nm,0.6s
SNAA **Sanae** 85.25 179 ⇑P P 09 24 23.4 -0.4
comp=Z,165nm,0.5s
SNAA **Sanae** 85.25 179 P P 09 24 23.4 -0.4
comp=Z,6.2nm,0.5s,baz=207,slow=8.9,SNR=109
comp=Z,6.2nm,0.5s
N16K **Nishlik Lake** 85.28 10 P P 09 24 23.7 -0.3
baz=200
O18K **Koktuh Hills** 85.35 12 P P 09 24 24.0 -0.2
O18K IAmb IAmb 09 24 24.8
comp=Z,10.0nm,0.7s
O18K **Koktuh Hills** 85.35 12 P P 09 24 24.1 -0.2
baz=203
K05A **Sumner Lake** 85.36 39 IAmb IAmb 09 24 26.8
comp=Z,11nm,1.0s
COYC **Coyhaique** 85.38 138 P P 09 24 26.8 +1.8
VNA3 **Neumayer Olymp** 85.46 177 ⇑P P 09 24 24.4 -0.4
comp=Z,8.2nm,0.4s
J05D **Fort Rock, OR** 85.51 39 P P 09 24 26.9 +1.3
J05D IAmb IAmb 09 24 27.4
comp=Z,9.8nm,0.8s
L14K **Kuka Creek** 85.53 8 P P 09 24 24.7 -0.3
baz=196
P19K **Oil Pt** 85.56 13 P P 09 24 24.7 -0.6
baz=205
N17K **Nushagak Hills** 85.60 11 P P 09 24 25.2 -0.3
baz=201
M16K **Timber Creek** 85.77 10 P P 09 24 26.1 -0.1
baz=199
O19K **Port Alsworth** 85.84 13 P P 09 24 25.5 -1.0
baz=204
K13K **Kusilvak Mount** 85.85 7 P P 09 24 26.4 -0.2
baz=194
VNA2 **Neumayer--Watz** 85.87 178 ⇑P P 09 24 26.6 -0.2
comp=Z,17nm,0.6s,baz=186,slow=4.5
HOM **Homer** 85.92 14 P P 09 24 26.7 -0.2
baz=206
PRN **Pahroc Range** 85.94 46 IAmb IAmb 09 24 30.0
comp=Z,6.6nm,1.0s
N18K **Kilae Creek** 85.98 12 P P 09 24 26.6 -0.7
baz=202
PINE **Pine Mountain** 85.99 39 P P 09 24 28.8 +0.9
PINE IAmb IAmb 09 24 29.8
comp=Z,6.8nm,0.8s
MA2 **Magadan** 86.00 346 P P 09 24 27.2 -0.2
MA2 IAmb IAmb 09 24 28.1
comp=Z,6.7nm,0.9s
L15K **Ungalak Mounta** 86.01 9 P P 09 24 27.3 0.0
baz=197
O20K **Slope Mountain** 86.08 13 P P 09 24 27.2 -0.7
baz=205
I05D **Terrebonne, OR** 86.10 38 IAmb IAmb 09 24 29.8
comp=Z,7.8nm,1.0s
R11B **Troy Canyon, C** 86.10 45 P P 09 24 27.6 -1.0
baz=236
VNA1 **Neumayer--Stat** 86.11 177 ⇑P P 09 24 27.8 -0.1
comp=Z,10.0nm,1.0s
BRSE **Bradley Lake S** 86.19 14 P P 09 24 28.3 0.0
baz=207
BMN **Battle Mountai** 86.23 43 IAmb IAmb 09 24 30.9
comp=Z,6.2nm,1.0s
TUC **Tucson** 86.23 53 P P 09 24 30.9 +1.6
TUC IAmb IAmb 09 24 32.1
comp=Z,11nm,0.9s
TUC **Tucson** 86.23 53 P P 09 24 27.8 -1.4
baz=240
L16K **Owhat River** 86.34 10 P P 09 24 28.9 0.0
baz=199
N19K **Bonanza Creek** 86.37 12 P P 09 24 28.1 -1.1
baz=204
M17K **Holitna River** 86.38 11 P P 09 24 28.3 -0.8
baz=201
WVOR **Wild Horse Val** 86.52 41 IAmb IAmb 09 24 32.4
comp=Z,8.1nm,1.1s
K15K **Wolf Creek Mou** 86.60 9 P P 09 24 29.6 -0.5
baz=197
LL02 **Futaleuf** 86.67 136 P P 09 24 32.7 +1.5
M18K **Stony River** 86.75 11 P P 09 24 29.9 -0.9
baz=202
J14K **Nanvaranak Lak** 86.78 8 P P 09 24 30.2 -0.7
baz=195
SEW **Seward** 86.81 15 P P 09 24 31.1 -0.1
baz=208
X16A **Lo Mia Camp, P** 86.83 50 P P 09 24 33.6 +1.5
L17K **Donlin** 86.93 10 P P 09 24 32.0 +0.3
baz=200
Q12A **Willow Creek R** 86.98 45 IAmb IAmb 09 24 34.4
comp=Z,11nm,1.3s
I07A **Izee** 86.99 39 P P 09 24 33.8 +1.2
I07A IAmb IAmb 09 24 34.8
comp=Z,11nm,1.0s
Q23K **Middleton Isla** 87.00 17 P P 09 24 32.7 +0.7
baz=211
CAPN **Captain Cook N** 87.02 14 P P 09 24 31.7 -0.4
baz=206
GAMB **Gambell** 87.05 4 P P 09 24 32.0 -0.2
baz=188
O22K **Cooper Landing** 87.09 15 P P 09 24 32.4 -0.1
baz=208
N20K **Mount Spurr** 87.19 13 P P 09 24 32.0 -1.1
baz=206
P23K **Montague Islan** 87.22 16 P P 09 24 33.2 +0.1
baz=210
KNB **Kanab** 87.23 48 P P 09 24 34.8 +0.8
KNB IAmb IAmb 09 24 36.2
comp=Z,6.2nm,1.0s
L18K **Granite Mounta** 87.27 11 P P 09 24 33.5 +0.2
baz=201
SPR3 **Spring Creek 3** 87.28 45 P P 09 24 34.8 +0.4
M19K **Big River Lodg** 87.39 12 P P 09 24 33.8 -0.2
baz=204
WUAZ **Wupatki** 87.44 50 IAmb IAmb 09 24 37.2
comp=Z,7.0nm,1.1s
WUAZ **Wupatki** 87.44 50 P P 09 24 33.9 -1.0
baz=239
K17K **Iditarod** 87.48 10 P P 09 24 34.3 0.0
baz=200
D05A **Enumclaw** 87.51 35 P P 09 24 34.9 +0.1
HPIG 87.53 59 IAmb IAmb 09 24 37.5
comp=Z,7.8nm,0.9s
L19K **White Mountain** 87.56 12 P P 09 24 35.1 +0.4
L19K IAmb IAmb 09 24 35.8
comp=Z,6.6nm,0.9s
L19K **White Mountain** 87.56 12 P P 09 24 35.3 +0.6
baz=203,SNR=5.6
M20K **Styx River** 87.62 12 P P 09 24 34.9 -0.1
baz=205
RC01 **Rabbit Creek A** 87.62 14 P P 09 24 34.6 -0.4
baz=208
J16K **Anvik River** 87.67 9 P P 09 24 35.1 0.0
baz=198
SUA **Susitna One** 87.73 14 P P 09 24 35.0 -0.6
baz=207
J17K **VABM Dome** 88.00 9 P P 09 24 36.7 0.0
baz=199
L20K **Farewell, AK** 88.02 12 P P 09 24 37.1 +0.3
baz=204
SKT **Skwentna** 88.03 13 P P 09 24 36.4 -0.5
baz=206
GLI **Glacier Island** 88.06 15 P P 09 24 36.8 -0.2
baz=210
CRAG **Craig** 88.07 25 P P 09 24 37.1 0.0
baz=222
EYAK **Cordova Ski Ar** 88.11 16 P P 09 24 36.9 -0.3
baz=211
M22K **Willow** 88.13 14 P P 09 24 36.9 -0.3
baz=207
ZAIG **Zacatecas** 88.17 64 IAmb IAmb 09 24 41.4
comp=Z,11nm,1.3s
MTPU **Mount Pierson** 88.19 47 P P 09 24 40.1 +1.5
MTPU IAmb IAmb 09 24 40.9
comp=Z,6.2nm,0.8s
KNK **Knik Glacier** 88.20 15 P P 09 24 37.1 -0.7
baz=209
PMR **Palmer** 88.21 14 P P 09 24 37.3 -0.3
baz=208
I17K **Unalakleet** 88.24 8 P P 09 24 37.6 -0.1
baz=198
W18A **Petrified Fore** 88.40 51 IAmb IAmb 09 24 41.6
comp=Z,13nm,1.4s
W18A **Petrified Fore** 88.40 51 P P 09 24 38.4 -1.1
baz=240
J18K **Innoko River** 88.43 10 P P 09 24 38.6 -0.2
J18K IAmb IAmb 09 24 39.7
comp=Z,5.3nm,0.9s
J18K **Innoko River** 88.43 10 P P 09 24 38.3 -0.4
baz=201,SNR=5.4
SIT **Sitka** 88.45 23 P P 09 24 38.5 -0.4
baz=220
121A **Cookes Peak, D** 88.54 54 IAmb IAmb 09 24 42.8
comp=Z,6.3nm,0.9s
121A **Cookes Peak, D** 88.54 54 P P 09 24 38.6 -1.6
baz=241
U33K **Whale Pass** 88.55 24 P P 09 24 39.6 +0.2
baz=222
V35K **Ketchikan** 88.55 25 P P 09 24 39.5 +0.1
baz=224
SML **Sawmill** 88.58 14 P P 09 24 39.2 -0.3
baz=209
CUT **Chulitna** 88.68 13 P P 09 24 39.5 -0.3
baz=207
M23K **Glacier View** 88.71 15 P P 09 24 39.6 -0.4
baz=210
BMO **Blue Mountains** 88.72 39 P P 09 24 40.9 +0.3
PLCA **Paso Flores** 88.72 134 P P 09 24 42.2 +1.3
comp=Z,5.0nm,0.9s,baz=246,slow=5.0,SNR=12
comp=Z,5.0nm,0.9s
PPLA **Purkeypile** 88.73 12 P P 09 24 39.6 -0.6
baz=206
H16K **Elim** 88.76 8 P P 09 24 40.1 -0.1
baz=196
BMRM **Bremner River** 88.77 16 P P 09 24 40.1 -0.3
baz=212
MFID **Camas Ranch** 88.78 41 P P 09 24 41.6 +0.7
MFID IAmb IAmb 09 24 42.8
comp=Z,10.0nm,0.9s
K20K **Telida** 88.79 11 P P 09 24 40.7 +0.3
baz=204
XLT **XiLinHaoTe** 88.79 320 *e*P P 09 24 42.8 +1.8
XLT pmax pmax
comp=Z,8.0nm,0.9s
XLT pmax pmax
comp=Z,62nm,3.8s
MESA **MESA** 88.83 18 P P 09 24 40.7 -0.1
baz=215
SCM **Sheep Creek Mo** 88.83 15 P P 09 24 40.6 -0.1
baz=210
S31K **Pelican** 88.84 22 P P 09 24 41.7 +1.1
baz=220
KLU **Klutina** 88.88 16 P P 09 24 40.5 -0.4
baz=211
G15K **Niukluk** 88.90 7 P P 09 24 40.8 0.0
baz=195
DUG **Dugway, Tooele** 88.91 45 P P 09 24 41.5 -0.1
baz=238
S32K **Killisnoo** 89.03 23 P P 09 24 41.5 -0.1
baz=221
WRAK **Wrangell Islan** 89.07 24 P P 09 24 42.0 +0.2
baz=223
J19K **Poorman** 89.11 11 P P 09 24 41.8 0.0
baz=202
F14K **Arctic Creek** 89.14 6 P P 09 24 42.1 +0.2
baz=193
PNL **Peninsula** 89.16 19 P P 09 24 41.4 -0.9
baz=217
CAST **Castle Rocks** 89.22 12 P P 09 24 41.3 -1.1
CAST IAmb IAmb 09 24 41.8
comp=Z,6.8nm,0.9s
CAST **Castle Rocks** 89.22 12 P P 09 24 41.5 -0.9
baz=206,SNR=6.7
CMAR **Chiang Mai Arr** 89.25 290 P P 09 24 44.9 +1.3
comp=Z,1.0nm,0.4s,baz=122,slow=3.0,SNR=9.0

comp=Z,1.0nm,0.4s
NLU North Lily Min 89.27 45 lAmb lAmb 09 24 45.3
comp=Z,3.9nm,1.0s
N25K Chitina, Valde 89.31 16 P **P** **09 24 41.9 -1.0**
baz=212
Q16A Castle Valley 89.33 47 lAmb lAmb 09 24 46.9
comp=Z,9.1nm,1.0s
H17K Granite Mounta 89.35 8 P **P** **09 24 42.6 -0.3**
baz=198
M24K Tolsona, Glenn 89.35 15 P **P** **09 24 42.5 -0.5**
baz=211
R31K City Hall, Gus 89.35 22 P **P** **09 24 42.9 -0.1**
baz=220
WAT6 Susitna Watana 89.39 14 P **P** **09 24 43.4 0.0**
baz=210
F10A Beach Ranch, E 89.41 38 P **P** **09 24 44.0 +0.3**
F10A lAmb lAmb 09 24 45.0
comp=Z,4.9nm,0.8s
WAT1 Susitna Watana 89.43 14 P **P** **09 24 43.1 -0.3**
baz=209
G16K Koyuk River 89.47 7 P **P** **09 24 42.5 -1.0**
baz=196
F15K North Star Dit 89.53 6 P **P** **09 24 42.7 -1.1**
baz=194
J20K Nowinta River 89.53 11 P **P** **09 24 43.1 -0.7**
baz=204
MCARA McCarthy VSAT 89.53 17 P **P** **09 24 43.3 -0.5**
baz=214
MPU Maple Canyon 89.59 46 lAmb lAmb 09 24 46.9
comp=Z,6.2nm,0.9s
CHUM Lake Minchumin 89.60 12 P **P** **09 24 43.0 -1.0**
baz=205
TRF Thorofare Moun 89.61 13 P **P** **09 24 43.9 -0.5**
TRF lAmb lAmb 09 24 45.6
comp=Z,7.5nm,1.0s
TRF Thorofare Moun 89.61 13 P **P** **09 24 43.2 -1.2**
baz=207
P29M Windy Craggy 89.65 20 P **P** **09 24 43.6 -0.9**
baz=218
CTG Chitna Glacier 89.65 18 P **P** **09 24 43.0 -1.6**
baz=215
R32K Eaglecrest 89.66 22 P **P** **09 24 43.8 -0.7**
baz=221
HLID Hailey 89.72 41 lAmb lAmb 09 24 46.9
comp=Z,3.5nm,0.8s
HLID Hailey 89.72 41 P **P** **09 24 44.4 -1.0**
baz=237
H18K Honhosa River 89.77 9 P **P** **09 24 44.1 -0.7**
baz=200
HVU Hansel Valley 89.78 44 P **P** **09 24 46.4 +0.7**
G17K Kiwalik Mounta 89.79 8 P **P** **09 24 44.0 -0.9**
baz=198
O28M Mount Upton 89.82 18 P **P** **09 24 44.1 -1.4**
baz=216
VHRN Van Horn 89.83 56 lAmb lAmb 09 24 48.0
comp=Z,3.9nm,0.8s
SRU San Rafael Swe 89.86 47 P **P** **09 24 46.9 +0.7**
CTU Camp Tracy 89.86 45 P **P** **09 24 47.4 +1.3**
P17A Butcher Ranch, 89.90 46 lAmb lAmb 09 24 48.4
comp=Z,7.8nm,1.0s
MNTX Cornudas Mount 89.95 55 P **P** **09 24 45.8 -0.8**
baz=242
PLBC Pleasant Camp 89.95 21 P **P** **09 24 45.0 -0.8**
baz=219
HHC Hu-ho-hao-te 89.95 315 *e*P **P** **09 24 47.5 +1.0**
HHC pmax pmax
comp=Z,13nm,0.8s
HHC pmax pmax
comp=Z,73nm,4.6s
I20K Naaghedeneel 90.04 11 P **P** **09 24 46.0 -0.1**
baz=203
BPAW Bear Paw Mtn. 90.05 12 P **P** **09 24 46.1 -0.1**
baz=207
MCK McKinley 90.14 13 P **P** **09 24 46.5 -0.2**
baz=208
TX31 Lajitas Ar. Si 90.19 58 P **P** **09 24 48.8 +0.9**
TX31 lAmb lAmb 09 24 50.2
comp=Z,6.3nm,0.9s
TXAR Lajitas Array 90.19 58 P **P** **09 24 48.6 +0.8**
TXAR Lajitas Array 90.19 58 P **P** **09 24 49.0 +1.2**
comp=Z,4.2nm,0.8s,baz=214,slow=6.6,SNR=44
TXAR PKKPbc **PKKPbc** **09 42 15.8 +1.2**
comp=Z,0.3nm,0.6s,baz=97,slow=2.3,SNR=5.9
comp=Z,4.2nm,0.8s
PAX Paxson 90.26 15 P **P** **09 24 46.7 -0.6**
baz=212
T35M Bob Quinn 90.27 25 P **P** **09 24 46.1 -1.4**
baz=225
P30M Million Dollar 90.28 20 P **P** **09 24 46.4 -1.1**
baz=219
MVCO Mesa Verde 90.30 49 P **P** **09 24 46.8 -1.5**
baz=241
TCUT Toone Canyon 90.31 45 P **P** **09 24 48.9 +0.7**
P18A Preston Nutter 90.31 46 P **P** **09 24 49.0 +0.6**
P18A lAmb lAmb 09 24 50.0
comp=Z,5.3nm,0.9s
PZH PanZhiHua 90.33 299 P **P** **09 24 50.5 +1.9**
PZH pmax pmax
comp=Z,20nm,0.5s
PZH pmax pmax
comp=Z,130nm,5.1s
YUK8 Steele Glacier 90.36 18 P **P** **09 24 47.2 -0.8**
baz=216
M26K Nabesna, AK 90.39 16 P **P** **09 24 47.4 -0.5**
baz=214
H19K Roundabout Mou 90.40 10 P **P** **09 24 47.9 +0.1**
baz=202
G18K Tagagawik 90.43 9 P **P** **09 24 47.7 -0.2**
baz=200
HWUT Hardware Ranch 90.46 44 lAmb lAmb 09 24 50.0
comp=Z,4.2nm,0.7s
YUK3 Moose Creek 90.56 18 P **P** **09 24 48.4 -0.5**
baz=216
S34M Telegraph Cree 90.61 24 P **P** **09 24 49.2 +0.2**
baz=224
F17K Baldwin Pennin 90.61 7 P **P** **09 24 48.7 0.0**
baz=197
H20K Anotleneega Mo 90.62 10 P **P** **09 24 49.3 +0.5**
baz=203
M27K Edge Creek, AK 90.65 17 P **P** **09 24 48.8 -0.3**
baz=215
HYT Haines Junctio 90.66 19 P **P** **09 24 49.1 -0.1**
baz=218
ANMO Albuquerque 90.67 52 P **P** **09 24 50.7 +0.7**
ANMO lAmb lAmb 09 24 51.7
comp=Z,6.7nm,1.1s
ANMO Albuquerque 90.67 52 P **P** **09 24 49.0 -1.1**
baz=242
YUK4 Talbot Arm 90.73 19 P **P** **09 24 50.0 +0.3**
baz=218
NEW Newport 90.78 37 P **P** **09 24 49.4 -0.7**
baz=235
L26K Log Cabin Wild 90.82 16 P **P** **09 24 48.4 -1.5**
baz=213
I21K Tanana 90.83 11 P **P** **09 24 48.8 -1.0**
baz=206
NEA2 Nenana 90.87 13 P **P** **09 24 49.3 -0.7**
baz=208
G19K Purcell Mounta 90.88 9 P **P** **09 24 49.5 -0.5**
baz=201
K24K Donnelly Dome 90.90 14 P **P** **09 24 49.4 -0.8**
baz=211
P32M Atlin 90.93 22 P **P** **09 24 49.2 -1.2**
baz=222
MLY Manley 90.93 12 P **P** **09 24 49.2 -1.1**
baz=207
WRH Wood River Hil 90.97 13 P **P** **09 24 49.9 -0.5**
WRH lAmb lAmb 09 25 01.6
comp=Z,8.0nm,1.5s
O30N Mendenhall 91.05 20 P **P** **09 24 49.9 -1.1**
baz=220
H21K Melozitna Rive 91.12 11 P **P** **09 24 50.1 -1.0**
baz=205
HDA Harding Lake 91.16 14 P **P** **09 24 50.7 -0.7**
baz=210
E17K Hotham Inlet 91.16 7 P **P** **09 24 50.7 -0.6**
baz=197
RDMU Red Mountain 91.23 46 lAmb lAmb 09 24 53.8
comp=Z,5.1nm,0.8s
L27K Beaver Creek, 91.24 16 P **P** **09 24 50.9 -0.9**
baz=215
N30M Aishikik Lake 91.28 19 P **P** **09 24 51.9 -0.2**
baz=219
I23K Minto, Yukon-K 91.31 12 P **P** **09 24 51.7 -0.2**
baz=208
AHID Auburn Hatcher 91.35 43 lAmb lAmb 09 24 54.9
comp=Z,10nm,1.3s
WHY Whitehorse 91.35 20 P **P** **09 24 52.0 -0.4**
baz=221
DLBC Dease Lake 91.39 24 P **P** **09 24 52.5 -0.1**
baz=225
F19K Shaleruckik Mo 91.43 9 P **P** **09 24 51.9 -0.5**
baz=200
SCRK Sand Creek 91.47 15 P **P** **09 24 52.1 -0.8**
baz=213
ILAR Eielson Array 91.49 14 P **P** **09 24 51.3 -1.6**
comp=Z,0.5nm,0.8s,baz=228,slow=4.3,SNR=7.6
comp=Z,0.5nm,0.8s
H22K Ishtalitna Cre 91.59 11 P **P** **09 24 52.8 -0.5**
baz=206
D17K Noatak River 91.62 6 P **P** **09 24 53.6 +0.2**
baz=196
E18K Tukpahlearik C 91.63 7 P **P** **09 24 53.0 -0.5**
baz=198
MT01 Popeta 91.64 128 P **P** **09 24 54.8 +0.4**
M29M Somme Creek 91.66 18 P **P** **09 24 53.0 -0.7**
baz=218
POKR Poker Plat Res 91.67 13 P **P** **09 24 53.5 -0.2**
baz=210
SAND Sanderson 91.67 58 lAmb lAmb 09 24 56.0
comp=Z,5.5nm,0.9s
J25K Salcha River, 91.69 14 P **P** **09 24 53.5 -0.3**
baz=212
R33M Jennings River 91.74 23 P **P** **09 24 53.9 -0.4**
baz=224
MSO Missoula 91.77 39 P **P** **09 24 54.3 -0.5**
baz=237
G21K Allakaket 91.79 10 P **P** **09 24 54.4 +0.3**
baz=204
H23K Yukon River 91.87 12 P **P** **09 24 54.8 +0.2**
baz=208
O20A White River Ci 91.90 47 lAmb lAmb 09 24 57.1
comp=Z,8.7nm,1.3s
O20A White River Ci 91.90 47 P **P** **09 24 55.0 -0.5**
baz=241
F20K Avaraart Lake 91.93 9 P **P** **09 24 55.3 +0.6**
baz=202
C16K Lisburne Hills 91.97 5 P **P** **09 24 55.1 +0.2**
baz=194
K27K Chicken 91.98 16 P **P** **09 24 55.1 0.0**
baz=214
RDOG Red Dog Mine 91.98 6 P **P** **09 24 54.6 -0.5**
baz=196
J26L Joseph Creek 92.01 15 lAmb lAmb 09 24 56.1
comp=Z,2.7nm,0.8s
J26L Joseph Creek 92.01 15 P **P** **09 24 55.7 +0.3**
baz=213,SNR=5.4
E19K Redstone River 92.09 9 P **P** **09 24 55.9 +0.3**
E19K lAmb lAmb 09 24 57.0
comp=Z,3.2nm,0.9s
E19K Redstone River 92.09 9 P **P** **09 24 55.6 0.0**
baz=201
H24K Dodor Dome 92.21 13 P **P** **09 24 57.0 +0.8**
baz=209
M30M Minto, Yukon 92.24 19 P **P** **09 24 56.9 +0.5**
baz=219
L29M L29M 92.28 18 P **P** **09 24 57.1 +0.5**
baz=218
SMCO Snowmass 92.30 48 lAmb lAmb 09 25 00.6
comp=Z,2.7nm,0.8s
N32M Quiet Lake 92.30 21 P **P** **09 24 57.1 +0.3**
baz=222
PD31 Pinedale Array 92.33 44 P **P** **09 24 58.6 +1.0**
PD31 lAmb lAmb 09 24 59.2
comp=Z,2.5nm,0.8s
PDAR Pinedale Array 92.33 44 P **P** **09 24 57.3 -0.2**
PDAR Pinedale Array 92.33 44 P **P** **09 24 57.0 -0.6**
comp=Z,2.2nm,0.8s,baz=206,slow=2.6,SNR=14
comp=Z,2.2nm,0.8s
C17K DeLong Mountai 92.36 6 P **P** **09 24 56.5 -0.3**
baz=196
PRP Porcupine Dome 92.43 14 P **P** **09 24 57.4 +0.1**
baz=212
BOZ Bozeman (W) 92.48 41 P **P** **09 24 58.0 -0.1**
baz=239
G22K Bettles 92.49 11 P **P** **09 24 57.9 +0.5**
baz=206
H17A Grant Village 92.51 42 P **P** **09 24 58.0 -0.4**
baz=240
SDCO Great Sand Dun 92.65 50 P **P** **09 24 59.4 +0.2**
SDCO lAmb lAmb 09 25 00.5
comp=Z,2.6nm,0.8s
SDCO Great Sand Dun 92.65 50 P **P** **09 24 58.4 -0.8**
baz=242
M31M Drury Creek, Y 92.67 20 P **P** **09 24 58.6 +0.2**
baz=221
DAWY Dawson 92.70 17 P **P** **09 24 58.9 +0.5**
DAWY lAmb lAmb 09 24 59.2
comp=Z,2.8nm,0.8s
DAWY Dawson 92.70 17 P **P** **09 24 58.5 +0.1**
baz=217
C18K Utukok River 92.74 7 P **P** **09 24 58.1 -0.5**
baz=197
I26K Coal Creek Min 92.78 15 P **P** **09 24 59.4 +0.7**
baz=214
EGAK Eagle 92.82 16 P **P** **09 24 59.1 +0.2**
baz=215
MSTX Muleshoe 92.93 54 P **P** **09 25 00.1 -0.3**
baz=244
D19K Kuna River 92.95 8 P **P** **09 24 59.0 -0.6**
baz=200
E20K Nigu River 92.99 9 P **P** **09 24 58.6 -1.1**
baz=202
COLD Coldfoot 93.00 11 P **P** **09 24 59.5 -0.2**
baz=207
H25L Birch Creek 93.01 13 P **P** **09 24 59.6 -0.1**
baz=211
FARO Faro, Yukon 93.02 20 P **P** **09 24 59.2 -0.7**
baz=222
K29M Barlow Dome 93.03 17 P **P** **09 24 59.6 -0.5**
baz=218
G24K Hadweenzic Riv 93.05 12 P **P** **09 24 59.5 -0.4**
baz=210
833A Chaparral WMA, 93.14 61 P **P** **09 24 59.8 -1.5**
baz=245
T25A Trinidad 93.15 51 P **P** **09 25 00.0 -1.4**
baz=243
C19K Locust Ridge 93.35 7 P **P** **09 25 00.4 -0.9**
baz=199
D20K Etivluk River 93.36 8 P **P** **09 25 00.8 -0.6**
baz=202
B18K Kokolik River 93.36 6 P **P** **09 25 00.7 -0.6**
baz=197
I27K Kandik River 93.39 15 P **P** **09 25 01.4 -0.2**
baz=215
Q24A Divide 93.45 49 P **P** **09 25 02.0 -0.9**
baz=243
E21K Killik River 93.48 9 P **P** **09 25 02.1 +0.2**
baz=204
TOAD Toad River Com 93.51 25 P **P** **09 25 02.0 -0.3**
baz=229
ISCO Idaho Springs 93.52 48 P **P** **09 25 02.5 -0.6**
baz=243
E22K Anaktuvuk Pass 93.54 10 P **P** **09 25 02.2 0.0**
baz=206
I28M Miner Creek 93.67 16 P **P** **09 25 02.6 -0.4**
baz=216
F24K Squaw Lake 93.68 12 P **P** **09 25 02.9 0.0**
baz=209
N23A Red Feather La 93.80 47 P **P** **09 25 03.1 -1.3**
baz=242
J30M Hart River 93.92 17 P **P** **09 25 04.1 0.0**
baz=220
H27K Steamboat Moun 93.93 15 P **P** **09 25 04.1 +0.1**
baz=215
C21K Knifeblade Rid 94.02 9 P **P** **09 25 04.7 +0.3**
baz=203
G26K Porcupine Rive 94.02 14 P **P** **09 25 04.4 +0.1**
baz=213
TOLK Toolik Lake Re 94.37 11 P **P** **09 25 06.1 +0.1**
baz=208
G27K Doyon Strip 94.37 14 P **P** **09 25 06.7 +0.7**
baz=215
I30M Mount Dempster 94.41 17 P **P** **09 25 06.8 +0.4**
baz=220
LCO Las Campanas 94.44 124 P **P** **09 25 08.2 +0.5**
B20K Meade River 94.50 8 P **P** **09 25 07.1 +0.6**
baz=201
F26K Sheenjek River 94.57 13 P **P** **09 25 07.3 +0.4**
baz=213
H29M Whitestone 94.68 16 P **P** **09 25 07.9 +0.5**
baz=218
ABTX Abilene, Hawle 94.73 57 P **P** **09 25 07.5 -1.0**
baz=245
AC05 El Transito 94.85 124 P **P** **09 25 10.0 +0.7**
D24K Happy Valley 94.95 11 P **P** **09 25 08.4 -0.2**
baz=209
EPYK Eagle Plains 95.21 16 P **P** **09 25 09.1 -0.8**
baz=219
KSCO Kaye Shedlock' 95.24 50 P **P** **09 25 11.3 +0.5**
KSCO Kaye Shedlock' 95.24 50 P **P** **09 25 09.6 -1.2**
baz=244
C23K Itkillik River 95.26 10 P **P** **09 25 09.5 -0.4**
baz=207
B22K Teshekpuk Lake 95.30 9 P **P** **09 25 10.3 +0.2**
baz=204
G29M Pine Creek 95.31 15 P **P** **09 25 10.6 +0.3**
baz=218
D25K Kavik River 95.53 11 P **P** **09 25 11.2 0.0**
baz=211
G30M tAoh Zraii Nji 95.81 16 P **P** **09 25 12.7 +0.1**
baz=220
YKA Yellowknife Ar 99.88 25 PKKPbc PKKPbc 09 41 47.8 -2.3
comp=Z,0.1nm,0.5s,baz=16,slow=2.8,SNR=5.7
MKAR Makanchi Array 111.70 313 PKiKP **PKiKP** **09 30 16.9 -0.9**
comp=Z,0.9nm,0.6s,baz=151,slow=0.7,SNR=13
MKAR SKP 09 33 01.9
comp=Z,0.6nm,0.7s,baz=143,slow=1.2,SNR=5.4
MKAR PKKPbc **PKKPbc** **09 41 13.3 -0.4**
comp=Z,0.6nm,0.9s,baz=274,slow=4.7,SNR=3.8
MKAR PKKPab **PKKPab** **09 41 24.2 +1.2**
comp=Z,0.9nm,0.7s,baz=290,slow=3.6,SNR=7.6
KURBB Kurchatov Arra 114.77 317 PKP PKPdf 09 30 22.5 -1.0
comp=Z,1.6nm,0.6s,baz=105,slow=2.0,SNR=15
BDFB Brasilia 119.21 125 PKP **PKPdf** **09 30 32.6 -0.7**
comp=Z,2.1nm,0.6s,baz=215,slow=6.8,SNR=3.8
KK31 Karatay Array 119.45 308 PKPdf **PKPdf** **09 30 32.5 -0.3**
KKAR Karatay Array 119.45 308 PKPdf **PKPdf** **09 30 32.1 -0.7**
KBL Kabul 119.51 298 PKPdf **PKiKP** **09 30 33.6 +0.1**
BVAR Borovoye Array 119.95 319 PKP **PKPdf** **09 30 32.7 -0.7**
comp=Z,3.1nm,0.5s,baz=82,slow=3.1,SNR=17
BRVK Borovoye 120.02 319 PKPdf **PKPdf** **09 30 33.2 -0.4**
POGA Pongola 121.01 213 PKPdf **PKiKP** **09 30 36.7 +0.2**
BOSA Boshof 122.88 207 PKP **PKPdf** **09 30 39.8 -0.3**
comp=Z,4.4nm,0.8s,baz=232,slow=4.9,SNR=6.0
SPITS Spitsbergen Ar 124.54 356 PKP **PKPdf** **09 30 41.0 -0.6**
comp=Z,7.6nm,0.7s,baz=128,slow=5.4,SNR=6.0
ARU Arti 126.37 324 PKP **PKPdf** **09 30 45.1 -0.5**
comp=Z,6.3nm,0.2s,baz=111,slow=2.7,SNR=7.6
ARU Arti 126.37 324 PKP **PKiKP** **09 30 45.9 -0.2**
ABKAR Akbulak array 126.74 315 PKPdf **PKPdf** **09 30 46.6 +0.1**
AKTO Aktyubinsk 127.82 317 PKP **PKPdf** **09 30 48.5 -0.1**
comp=Z,2.9nm,0.6s,baz=95,slow=1.9,SNR=9.0
GEYT Alibeck 128.61 301 PKP **PKPdf** **09 30 50.7 +0.2**
comp=Z,3.4nm,0.6s,baz=205,slow=3.1,SNR=5.8
GYA0B ALIBECK ARRAY 128.61 301 PKPdf **PKiKP** **09 30 50.9 -0.4**
UOSS Minazif 128.92 284 PKPdf **PKPdf** **09 30 51.0 -0.5**
ROSB Rosrio 129.81 115 PKPdf **PKPdf** **09 30 53.7 +0.2**
ARCES ARCESS Array B 131.31 348 PKPdf **PKPdf** **09 30 54.7 +0.1**
ARCES ARCESS Array B 131.31 348 PKP **PKPdf** **09 30 54.1 -0.5**
comp=Z,5.0nm,0.8s,baz=29,slow=2.8,SNR=13
FINES FINESS Array B 137.87 342 PKhKP PKPpre 09 30 59.6
comp=Z,2.5nm,0.8s,baz=29,slow=4.4,SNR=4.6
FINES PKP **PKPdf** **09 31 07.3 +0.3**
comp=Z,0.9nm,0.4s,baz=89,slow=2.3,SNR=7.8
FINES SKPbc **SKPbc** **09 33 50.9 +0.9**
comp=Z,4.5nm,0.7s,baz=52,slow=3.1,SNR=12
ONI Oni 139.25 309 PKPdf **PKPdf** **09 31 11.0 +0.7**
NB2 NORSAR Subarra 141.50 351 PKP PKPpre 09 31 08.5
comp=Z,1.3nm,0.5s,baz=15,slow=3.1
NOA NORSAR Array B 141.50 351 PKhKP PKPpre 09 31 08.8
comp=Z,2.3nm,0.7s,baz=16,slow=4.6,SNR=14
NOA PKP **PKiKP** **09 31 15.6 -1.1**
comp=Z,0.2nm,0.4s,baz=13,slow=4.1,SNR=3.0
HFS Hagfors 141.96 349 PKhKP PKPpre 09 31 10.0
comp=Z,6.6nm,0.3s,baz=64,slow=3.4,SNR=56
HFS SKPbc **SKPbc** **09 33 59.0 -1.8**
comp=Z,2.5nm,0.8s,baz=117,slow=2.0,SNR=5.0
ARPR Arapgir-MALATY 143.87 305 PKPbc **PKPdf** **09 31 19.4 +0.6**
AKASG Malin Array Be 144.44 328 PKP **PKPdf** **09 31 18.4 -0.7**
comp=Z,10nm,0.6s,baz=44,slow=4.1,SNR=50
AKASG SKPbc **SKiKP** **09 34 07.6 0.0**
comp=Z,1.9nm,0.5s,baz=40,slow=2.4,SNR=6.6
KIEV Kiev 144.45 326 **PKPdf** **09 31 18.7 -0.4**
SUW Suwalki 144.70 336 **PKPab** **09 31 20.1 -0.4**
GAZ Gaziantep 145.18 302 PKPbc **PKPab** **09 31 23.0 0.0**
RNPP9 Sopachiv 145.53 331 PKP **PKPbc** **09 31 22.2 -0.2**
LUBAR Lubar, Ukraine 145.66 328 PKP **PKPbc** **09 31 22.2 -0.6**
BNN Bunyan 145.80 305 PKPbc **PKPbc** **09 31 24.1 +0.3**
SORM Soroca 146.49 325 ⇑P **PKPbc** **09 31 24.9 -0.2**
BR131 Keskin Array S 147.16 308 **PKPbc** **09 31 27.4 0.0**
BRTR Keskin Array B 147.16 308 PKPbc **PKPbc** **09 31 27.4 0.0**
BRTR Keskin Array B 147.16 308 PKPbc **PKPbc** **09 31 26.0 -1.5**
comp=Z,3.0nm,0.7s,baz=146,slow=4.8,SNR=14
KMPD K-Podol'skiy 147.19 327 PKP **PKPbc** **09 31 25.5 -1.5**
MMAI Mount Meron Ar 147.39 295 PKPbc **PKPbc** **09 31 28.8 +0.6**
comp=Z,19nm,0.6s,baz=77,slow=4.7,SNR=22
GHAJ Ghor Haditha 147.45 292 PKPbc **PKPbc** **09 31 28.9 +0.6**
ANTO Ankara 147.72 309 PKPdf **PKPdf** **09 31 25.0 -0.1**
ANTO PKPbc **PKPbc** **09 31 29.4 +0.6**
ANTO PKPab **PKPab** **09 31 33.1 -0.1**
EKA Eskdalemuir Ar 147.94 3 PKPbc **PKPbc** **09 31 28.2 -0.5**
comp=Z,5.1nm,0.7s,baz=318,slow=3.1,SNR=14
CFR Carcaliu 148.34 320 ⇓P **PKPbc** **09 31 30.4 +0.4**
TESR Tescani 148.40 324 ⇑P **PKPbc** **09 31 29.9 -0.3**
BUR08 Bucovina Ar. S 148.43 327 **PKiKP** **09 31 31.3 -0.3**
BURAR Bucovina Array 148.44 326 ⇑P **PKiKP** **09 31 31.7 +0.2**
BURAR Bucovina Array 148.44 326 **PKiKP** **09 31 31.1 -0.4**
MDUB Mudurnu 148.63 310 **PKPbc** **09 31 31.5 +0.4**
VRI Vrincioaia 148.74 323 ⇑P **PKPbc** **09 31 30.9 -0.2**
KOLS Kolonicke sedl 148.93 331 *e*PKP **PKiKP** **09 31 32.6 +0.2**
OJC Ojcow 148.98 335 **PKPbc** **09 31 31.6 +0.1**
STHS Stebnicka Huta 149.02 333 *e*PKP **PKPbc** **09 31 31.5 -0.1**
COVR Voineasa-Covas 149.05 323 ⇓P **PKPab** **09 31 35.8 -2.6**
MLR Muntele Rosu 149.41 323 ⇑P **PKiKP** **09 31 33.3 -0.3**
MLR Muntele Rosu 149.41 323 **PKPbc** **09 31 32.9 0.0**
MLR Muntele Rosu 149.41 323 PKPbc **PKPbc** **09 31 32.6 -0.2**
comp=Z,8.2nm,0.9s,baz=62,slow=3.8,SNR=8.8
DOPR Dopca 149.42 324 ⇑P **PKiKP** **09 31 33.5 0.0**
CJR Cluj-Napoca 149.87 327 ⇓P **PKiKP** **09 31 34.5 +0.1**
OKC Ostrava-Krasne 149.92 336 ⇑*e*PKP **PKPbc** **09 31 33.7 0.0**
VOIR 149.94 323 ⇑P **PKiKP** **09 31 34.4 -0.2**
OSTC Ostas 149.99 339 ⇑*e*PKP **PKiKP** **09 31 35.0 +0.5**
CHVC Chvalec 150.02 339 ⇑*e*PKP **PKiKP** **09 31 34.5 -0.1**
UPC Upice 150.10 339 ⇑*e*PKP **PKiKP** **09 31 34.7 0.0**
DPC Dobruska-Polom 150.13 339 ⇑*e*PKP **PKiKP** **09 31 34.9 0.0**
MARR Marisel-Cluj 150.14 327 ⇑P **PKPbc** **09 31 34.6 +0.1**
MORC Moravsky Berou 150.19 337 ⇓P **PKiKP** **09 31 34.8 -0.2**
MORC Moravsky Berou 150.19 337 PKPdf **PKPdf** **09 31 29.0 +0.3**
MORC **PKiKP** **09 31 34.0 -0.2**
MORC Moravsky Berou 150.19 337 *e*PKP **PKiKP** **09 31 34.7 -0.3**
ARR Arges 150.21 324 ⇓P **PKiKP** **09 31 36.2 +1.0**
KRLC Kraliky 150.21 338 ⇑*e*PKP **PKiKP** **09 31 35.1 +0.1**
DRGR 150.26 328 ⇓P **PKPbc** **09 31 34.9 +0.2**
CLL Collm 150.28 343 **PKPbc** **09 31 34.5 0.0**
CLL Collm 150.28 343 *e*pPKPab pPKPab 09 33 44.0 +0.1
CLL Collm 150.28 343 ⇑*i*PKPbc **PKPbc** **09 31 34.6 +0.1**
comp=Z,32nm,0.9s
CLL Collm 150.28 343 *i* PKPab **PKPab** **09 31 43.0 -0.2**
comp=Z,4.0nm,0.5s
CLL Collm 150.28 343 *e*pPKPbc pPKPbc 09 33 40.0 0.0
BRG Berggiesshubel 150.41 342 Amp 09 31 35.8
comp=Z,1.6nm,0.6s
BRG Berggiesshubel 150.41 342 *i* PKP **PKiKP** **09 31 35.3 0.0**
MAUC Maruska 150.42 336 ⇑*e*PKP **PKiKP** **09 31 35.8 +0.3**
PVCC Panska Ves 150.53 341 ⇑*e*PKP **PKiKP** **09 31 35.9 +0.3**
LOT Lotru 150.62 325 ⇓P **PKPbc** **09 31 35.6 -0.1**
VYHS Vyhne 150.73 334 *e*PKP **PKiKP** **09 31 35.9 -0.2**
PSZ Piszkesteto 150.74 332 ⇑P **PKPbc** **09 31 35.5 -0.3**
PSZ Piszkesteto 150.74 332 PKPdf **PKPdf** **09 31 30.4 +0.7**
PSZ **PKPbc** **09 31 35.6 -0.3**
PSZ PKPab **PKPab** **09 31 46.4 +1.0**
JAVC Velka Javorina 150.90 336 *e* 09 33 47.1
JAVC Velka Javorina 150.90 336 *e*PKP **PKiKP** **09 31 37.4 +0.9**
VRAC Vranov 150.92 337 *e*PKP **PKiKP** **09 31 36.4 -0.1**
VRAC Vranov 150.92 337 PKPbc **PKPbc** **09 31 35.4 -0.7**
comp=Z,2.3nm,0.5s,baz=259,slow=1.8,SNR=4.6
VRAC PKPab **PKPab** **09 31 44.1 -1.9**
comp=Z,2.8nm,0.7s,baz=84,slow=4.8,SNR=4.0
PRU Pruhonice 151.02 340 ⇑*e*PKP **PKiKP** **09 31 36.8 +0.2**
GZR Gura Zlata 151.18 325 ⇑P **PKPbc** **09 31 35.1 -1.7**
KRUC Moravsky 151.20 337 *e* pPKPab 09 33 46.4 -1.6
KRUC Moravsky 151.20 337 *e*PKP **PKPbc** **09 31 36.7 0.0**
SURR Surduc 151.27 327 ⇑P **PKPbc** **09 31 36.5 -0.4**
MODS Modra-Piesok 151.44 335 *e*PKP **PKiKP** **09 31 38.3 +0.7**
BZS Buzias 151.62 327 ⇑P **PKPbc** **09 31 37.5 -0.2**
HERR Herculane 151.72 325 ⇑P **PKPbc** **09 31 37.0 -1.0**
KHC Kasperske Hory 152.07 341 **PKiKP** **09 31 39.3 +0.4**
KHC Kasperske Hory 152.07 341 ⇑*e*PKP **PKiKP** **09 31 38.9 0.0**
CKRC Cesky Krumlov 152.12 339 ⇑*e*PKP **PKiKP** **09 31 39.0 0.0**

MDVR	**Moldovita**	**152.15 326**	⇓P		**PKPbc**	**09 31 39.0**	**0.0**
GERES	**GERESS Array B**	**152.29 340**	PKPbc		**PKiKP**	**09 31 39.5**	**+0.1**
GERES	**GERESS Array B**	**152.29 340**	PKPbc		**PKPbc**	**09 31 39.0**	**-0.3**
	comp=Z,1.8nm,0.6s,baz=119,slow=1.7,SNR=4.9						
BLKB	**Belogradchik**	**152.40 323**	⇓P		**PKPbc**	**09 31 39.6**	**0.0**
MORH	**Mrgy, Hungar**	**152.59 331**	⇑P		**PKPbc**	**09 31 39.7**	**-0.1**
CIMO	**Cimolais**	**154.93 339**			**PKPdf**	**09 31 34.9**	**-0.8**
CIMO			PKPab		**PKPab**	**09 32 01.7**	**-1.4**
FUORN	**Ofenpass-Fuorn**	**155.30 343**	PKPdf		**PKPdf**	**09 31 36.1**	**-0.4**
FUORN			PKPab		**PKPab**	**09 32 04.2**	**-0.8**
ESDC	**Sonseca Array**	**163.37 11**	PKPab		**PKPab**	**09 32 39.4**	**-0.8**
	comp=Z,1.4nm,0.8s,baz=346,slow=4.3,SNR=7.3						
TOA0	**Torodi Ar. Sit**	**169.74 190**	PKPdf		**PKPdf**	**09 31 50.4**	**-0.6**
TOA0					**PKPab**	**09 33 08.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**169.74 190**	PKP		**PKPdf**	**09 31 50.3**	**-0.6**
	comp=Z,2.5nm,0.9s,baz=0.6,slow=2.1,SNR=8.3						
TORD			PKPab		**PKPab**	**09 33 08.9**	**+0.2**
	comp=Z,7.0nm,0.9s,baz=161,slow=2.6,SNR=20						
TAM	**Tamanrasset**	**174.81 265**	PKPdf		**PKPdf**	**09 31 52.3**	**-0.8**

VIE 25 09:30:30.6±0.6, 47°.63N×10°.47E, h0km, mb1.0/3, ml1.3/4, Error ellipse: s-maj=6.8km s-min=2.5km az=16.0, Suspected Mining explosion., Austria

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
RETA	**Reutte**	**0.24**	**124**	*i* Pg		Pg	09 30 34.2	-1.1
	5.2nm,0.2s							
RETA				*e*Sg		Sg	09 30 40.2	+1.8
	14nm,0.3s							
MOTA	**Moosalm**	**0.52**	**123**	*i* Pg		Pg	09 30 40.1	-0.3
	2.0nm,0.2s							
MOTA				*e*Sg		Sb	09 30 49.0	-1.7
	9.9nm,0.4s							
DAVA	**Damuels**	**0.52**	**230**	*e*Pg		Pg	09 30 40.9	+0.3
	2.9nm,0.3s							
DAVA				*e*Sg		Sg	09 30 48.2	+0.8
	7.4nm,0.3s							
FETA	**Feichten**	**0.63**	**163**	*e*Pg		Pg	09 30 41.4	-1.2
	0.8nm,0.2s							
FETA				*e*Sg		Sg	09 30 50.6	-0.2
	1.1nm,0.2s							

*BJI **25** 09:32:42.9±0.0, 13°.29S×45°.57E, h12km, mb4.7/36, mB5.0/14, Ms4.7/15, Ms7.4/19*
*IDC **25** 09:32:43.7±0.4, 12°.84S×45°.62E, h0km, mb4.6/34, mbtmp4.6/37, ML4.9/4, MS4.2/55, Error ellipse: s-maj=14.9km s-min=10.4km az=84.0*
*MOS **25** 09:32:44.4±0.9, 12°.79S×45°.63E, h17km, mb5.2/76, MS4.4/4, Error ellipse: s-maj=8.4km s-min=4.1km az=91.4*
*NEIC **25** 09:32:46.2±2.1, 12°.85S±0°.07×45°.61E±0°.09, h10km±1km, mb5.2/134, Error ellipse: s-maj=14.7km s-min=11.6km az=82.0*
*GCMT **25** 09:32:48.2±0.3, 12°.84S±0°.02×45°.64E±0°.02, h36km±1km, MW5.0/101, Moment Tensor Solution. s30,c38; s101,c140; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-1.35±.21; Mθθ 1.00±.15; Mϕϕ 0.35±.15; Mrθ-2.76±.19; Mθϕ-3.13±.10; Mrϕ 0.02±.15; Best double couple: Mo 4.31900×10^16 NP1: ϕs 95.00000°, δ 78.00000°, λ -134.00000°. NP2: ϕs 353.00000°, δ 46.00000°, λ -17.00000°. Principal axes: T 4.5960, Plg 21.0000°, Azm 216.0000°; N -0.5570, Plg 43.0000°, Azm 106.0000°; P -4.0410, Plg 40.0000°, Azm 325.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 09:32:45.1±0.3, 12°.86S±0°.04×45°.60E±0°.06, h10km, n606, σ 1.9 01/592, mb5.1/185, MS4.3/64, 18C-34D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.88**	**165**	Pn		**Pn**	**09 34 11.7**	**-0.7**
	19nm,0.3s,baz=338,slow=12,SNR=1393							
OPO				Sn		**Sn**	**09 35 13.5**	**-6.5**
	100nm,0.3s,baz=242,slow=21,SNR=35							
OPO				LR		LR	09 36 42.9	
	comp=Z,4μm,19.6s,baz=198,slow=40							
ABPO	**Ambohimpanom**	**6.32**	**166**	Pn		**Pn**	**09 34 18.0**	**-0.5**
ABPO	**Ambohimpanom**	**6.32**	**166**	P		**Pn**	**09 34 18.0**	**-0.5**
VOI	**Vohitsoka**	**9.07**	**173**	Pn		**Pn**	**09 34 55.5**	**-0.8**
ZOMB	**Zomba**	**10.26**	**255**	*e*PN		**Pn**	**09 35 10.2**	**-2.3**
ZOMB				*i* SN		Sn	09 36 54.1	-14
ZOMB	**Zomba**	**10.26**	**255**	*e*PN		**Pn**	**09 35 10.2**	**-2.3**
ZOMB				*i* SN		Sn	09 36 54.1	-14
FOMA	**Nahampoana Res**	**12.12**	**174**	Pn		**Pn**	**09 35 37.0**	**-0.9**
MSEY	**Mahe Island**	**12.70**	**51**	Pn		**Pn**	**09 35 44.2**	**-1.7**
MSEY	**Mahe Island**	**12.70**	**51**	Pn		**Pn**	**09 35 44.3**	**-1.7**
MSEY	**Mahe Island**	**12.70**	**51**	P		**Pn**	**09 35 44.3**	**-1.7**
MSEY				P		**Pn**	**09 35 44.3**	**-1.7**
MSEY				P			09 35 44.3	
MSEY				P			09 35 44.3	
MSEY	**Mahe Island**	**12.70**	**51**	P		**Pn**	**09 35 44.2**	**-1.7**
RER	**Riviere de l'E**	**12.73**	**132**	Pn		**Pn**	**09 35 44.0**	**-2.3**
RER	**Riviere de l'E**	**12.73**	**132**	P		**Pn**	**09 35 44.7**	**-1.7**
KIBK	**Kibwezi**	**12.86**	**324**	Pn		**Pn**	**09 35 45.2**	**-2.9**
KIBK	**Kibwezi**	**12.86**	**324**	*e*P		**Pn**	**09 35 44.5**	**-3.6**
KIBK				*e*S		Sn	09 37 56.8	-15
CHIPN	**CHIPINGE**	**14.42**	**238**	*i* P		Pn	09 36 05.2	-4.3
CHIPN	**CHIPINGE**	**14.42**	**238**	*i* P		Pn	09 35 57.2	-12
LSZ	**Lusaka**	**17.07**	**260**			**Pn**	**09 36 42.4**	**-1.8**
LSZ	**Lusaka**	**17.07**	**260**	P		**Pn**	**09 36 42.9**	**-1.2**
	1.1nm,0.3s,baz=85,slow=11,SNR=43							
LSZ				S		Sn	09 39 40.8	-13
	27nm,0.7s,baz=356,slow=13,SNR=5.0							
LSZ				LR		LR	09 42 46.5	
	comp=Z,571nm,18.2s,baz=100,slow=35							
	47nm,0.9s							
MOPA	**Mopani**	**17.14**	**230**	*i* P		**Pn**	**09 36 43.2**	**-1.8**
MUSN	**Musina, Limpop**	**17.68**	**236**	*i* P		**Pn**	**09 36 50.4**	**-1.3**
MATP	**Matopo**	**18.02**	**243**	P		**Pn**	**09 36 55.0**	**-1.0**
	0.8nm,0.3s,baz=62,slow=12,SNR=42							
MATP				S		Sn	09 40 03.4	-14
	6.5nm,0.8s,baz=309,slow=12,SNR=2.5							
MATP				LR		LR	09 43 48.8	
	comp=Z,315nm,18.4s,baz=68,slow=37							
	32nm,0.9s							
LODK	**Lodwar**	**19.11**	**327**	Pn		**Pn**	**09 37 10.0**	**+0.8**
LODK	**Lodwar**	**19.11**	**327**	P		**Pn**	**09 37 10.5**	**+1.3**
	SNR=24							
MBAR	**Mbarara**	**19.12**	**308**			**Pn**	**09 37 09.4**	**-0.1**
MBAR	**Mbarara**	**19.12**	**308**	P		**P**	**09 37 07.9**	**-0.7**
	2.3nm,0.3s,baz=113,slow=12,SNR=30							
MBAR				S		Sn	09 40 28.0	-16
	5.3nm,0.3s,baz=0.3,slow=22,SNR=2.1							
MBAR				LR		LR	09 44 25.3	
	comp=Z,1μm,18.1s,baz=99,slow=37							
	6.3nm,0.4s							
MBAR	**Mbarara**	**19.12**	**308**	P		**Pn**	**09 37 08.8**	**-0.6**
MBAR				P		**Pn**	**09 37 08.8**	**-0.6**
MBAR	**Mbarara**	**19.12**	**308**	P		**Pn**	**09 37 09.4**	**-0.1**
MBAR				pmax		pmax		
	comp=Z,112nm,1.4s							
POGA	**Pongola**	**19.41**	**220**	P		**P**	**09 37 11.6**	**0.0**
POGA				IAmb		IAmb	09 37 15.2	
	comp=Z,261nm,1.3s							
LBTB	**Lobatse**	**22.42**	**234**	P		**P**	**09 37 43.9**	**-0.4**
LBTB				IAmb		IAmb	09 37 46.9	
	comp=Z,92nm,0.9s							
LBTB	**Lobatse**	**22.42**	**234**	*i* P		**P**	**09 37 41.6**	**-2.6**
LBTB	**Lobatse**	**22.42**	**234**	LR		LR	09 46 38.2	
	comp=Z,1μm,19.6s,baz=56,slow=37							
LBTB	**Lobatse**	**22.42**	**234**	P		**P**	**09 37 43.9**	**-0.4**
LBTB				pmax		pmax		
	comp=Z,93nm,0.9s							
FURI	**Furi**	**22.68**	**342**	P		**P**	**09 37 47.5**	**+0.2**
ATD	**Arta Tunnel**	**24.39**	**353**	P		**P**	**09 38 04.0**	**+0.2**
ATD	**Arta Tunnel**	**24.39**	**353**	LR		LR	09 46 40.3	
	comp=Z,26nm,20.5s,baz=182,slow=34							
ATD	**Arta Tunnel**	**24.39**	**353**	P		**P**	**09 38 05.0**	**+1.1**
	SNR=12							
BOSA	**Boshof**	**24.59**	**227**	P		**P**	**09 38 04.9**	**-0.8**
BOSA				IAmb		IAmb	09 38 06.1	
	comp=Z,100nm,1.4s							
BOSA	**Boshof**	**24.59**	**227**	*i* P		**P**	**09 38 05.9**	**+0.2**
BOSA	**Boshof**	**24.59**	**227**	P		**P**	**09 38 04.5**	**-1.2**
	comp=Z,28nm,0.6s,baz=53,slow=8.3,SNR=55							
BOSA				LR		LR	09 47 48.3	
	comp=Z,651nm,19.4s,baz=45,slow=37							
	comp=Z,28nm,0.6s							
BOSA	**Boshof**	**24.59**	**227**	P		**P**	**09 38 04.9**	**-0.8**
BOSA				pmax		pmax		
	comp=Z,100nm,1.5s							
GRHM	**Grahamstown, E**	**26.85**	**218**	P		**P**	**09 38 26.2**	**+0.2**
GRHM				IAmb		IAmb	09 38 34.6	
	comp=Z,52nm,1.0s							
TSUM	**Tsumeb**	**27.64**	**253**	P		**P**	**09 38 33.7**	**+0.3**
WIN	**Windhoek**	**28.77**	**246**	P		**P**	**09 38 44.1**	**+0.6**
WIN				IAmb		IAmb	09 39 27.4	
	comp=Z,23nm,0.9s							
WIN	**Windhoek**	**28.77**	**246**	P		**P**	**09 38 44.1**	**+0.6**
WIN				pmax		pmax		
	comp=Z,23nm,0.9s							
SUR	**Sutherland**	**29.89**	**225**	P		**P**	**09 38 54.0**	**+0.6**
SUR	**Sutherland**	**29.89**	**225**	LR		LR	09 50 27.3	
	comp=Z,338nm,20.5s,baz=46,slow=36							
DOK	**Doka**	**32.39**	**15**	P		**P**	**09 39 15.8**	**+0.6**
MHTO	**MHTO**	**35.76**	**20**	P		**P**	**09 39 44.8**	**+0.3**
RAYN	**Ar Rayn**	**36.16**	**360**	P		**P**	**09 39 48.5**	**+0.6**
RAYN				IAmb		IAmb	09 39 49.7	
	comp=Z,29nm,1.2s							
RAYN	**Ar Rayn**	**36.16**	**360**	*i* P		**P**	**09 39 48.7**	**+0.8**
	SNR=12							
RAYN	**Ar Rayn**	**36.16**	**360**	P		**P**	**09 39 48.6**	**+0.7**
RAYN	**Ar Rayn**	**36.16**	**360**	P		**P**	**09 39 48.5**	**+0.6**
RAYN				pmax		pmax		
	comp=Z,29nm,1.2s							
MZR	**Muzera**	**36.47**	**12**	*i* P		**P**	**09 39 51.0**	**+0.5**
	SNR=6.6							
MZR	**Muzera**	**36.47**	**12**	P		**P**	**09 39 51.5**	**+1.0**
UMZA	**Um Al Zommool**	**36.58**	**15**	P		**P**	**09 39 51.7**	**+0.3**
JMDO	**Jabal Madar**	**37.10**	**19**	P		**P**	**09 39 56.0**	**+0.1**
BSY	**Bisya**	**37.17**	**18**	P		**P**	**09 39 57.0**	**+0.6**
GHWR	**Ruwais**	**37.28**	**11**	P		**P**	**09 39 58.1**	**+0.7**
JLN	**Jalan Bani Buh**	**37.34**	**21**	P		**P**	**09 39 58.5**	**+0.6**
ARQ	**Araqi**	**37.53**	**17**	P		**P**	**09 40 00.1**	**+0.5**
WBK	**Wadi Bani Khal**	**37.61**	**20**	P		**P**	**09 40 01.0**	**+0.8**
SMDO	**Samad**	**37.72**	**19**	P		**P**	**09 40 01.1**	**-0.2**
SMRA	**Abu-Samra**	**37.72**	**8**	P		**P**	**09 40 01.3**	**+0.2**
TRNA	**Turayna**	**37.77**	**8**	P		**P**	**09 40 01.6**	**+0.1**
HOQ	**Hoqain**	**37.99**	**18**	P		**P**	**09 40 03.7**	**+0.3**
ALNE	**Al Ain**	**38.01**	**15**	P		**P**	**09 40 04.8**	**+1.3**
WSAR	**Wadi Sarin**	**38.08**	**20**	LR		LR	09 52 54.5	
	comp=Z,651nm,19.9s,baz=211,slow=32							
WSAR	**Wadi Sarin**	**38.08**	**20**	P		**P**	**09 40 05.2**	**+1.0**
BIDO	**Bidbid**	**38.18**	**19**	P		**P**	**09 40 05.2**	**+0.2**
SOHO	**SOHO**	**38.29**	**16**	*i* P		**P**	**09 40 06.1**	**+0.2**
	SNR=7.5							
SOHO	**SOHO**	**38.29**	**16**	P		**P**	**09 40 06.1**	**+0.2**
AJN	**Ajban**	**38.31**	**14**	P		**P**	**09 40 07.4**	**+1.4**
ASUD	**Al Ashush, Dub**	**38.45**	**14**	P		**P**	**09 40 08.3**	**+1.0**
ASUD	**Al Ashush, Dub**	**38.45**	**14**	P		**P**	**09 40 08.8**	**+1.5**
FAQ	**Al Faqa, Dubai**	**38.63**	**15**	P		**P**	**09 40 09.5**	**+0.8**
FAQ	**Al Faqa, Dubai**	**38.63**	**15**	P		**P**	**09 40 10.1**	**+1.3**
ASHO	**Ashiyiah**	**38.69**	**15**	P		**P**	**09 40 09.9**	**+0.6**
ASHO	**Ashiyiah**	**38.69**	**15**	P		**P**	**09 40 10.4**	**+1.0**
HATD	**Hatta, Dubai**	**38.84**	**15**	P		**P**	**09 40 11.4**	**+0.8**
HATD	**Hatta, Dubai**	**38.84**	**15**	P		**P**	**09 40 11.7**	**+1.2**
NAZ	**Nazwa, Dubai**	**38.88**	**15**	P		**P**	**09 40 11.7**	**+0.9**
NAZ	**Nazwa, Dubai**	**38.88**	**15**	P		**P**	**09 40 12.3**	**+1.4**
UOSS	**Minazif**	**38.98**	**15**	P		**P**	**09 40 12.3**	**+0.6**
UOSS	**Minazif**	**38.98**	**15**	*i* P		**P**	**09 40 11.9**	**+0.2**
	SNR=7.7							
UOSS	**Minazif**	**38.98**	**15**	P		**P**	**09 40 11.9**	**+0.2**
MDH	**Madha**	**39.34**	**15**	P		**P**	**09 40 15.3**	**+0.6**
	SNR=5.4							
MSFE	**Esma-Masafi**	**39.36**	**15**	*i* P		**P**	**09 40 15.8**	**+0.9**
	SNR=16							
MASF	**Masafi**	**39.37**	**15**	P		**P**	**09 40 15.9**	**+0.9**
	SNR=9.9							
PALK	**Pallekele**	**40.20**	**62**	LR		LR	09 53 31.6	
	comp=Z,292nm,18.6s,baz=352,slow=31							
EIL	**Elat**	**43.52**	**346**	LR		LR	09 57 08.8	
	comp=Z,159nm,21.6s,baz=176,slow=34							
GHAJ	**Ghor Haditha**	**44.96**	**348**	P		**P**	**09 40 59.8**	**-0.7**
MMAI	**Mount Meron Ar**	**46.65**	**348**	P		**P**	**09 41 14.7**	**+0.8**
	comp=Z,2.7nm,0.5s,baz=192,slow=12,SNR=7.0							
MMAI				LR		LR	10 01 40.9	
	comp=Z,380nm,18.1s,baz=108,slow=37							
	comp=Z,2.7nm,0.5s							
HRA	**Herat**	**49.58**	**18**	P		**P**	**09 41 36.8**	**0.0**
GAZ	**Gaziantep**	**50.39**	**351**	P		**P**	**09 41 44.7**	**+2.0**
GAZ				IAmb		IAmb	09 41 52.1	
	comp=Z,56nm,1.5s							
TOA0	**Torodi Ar. Sit**	**50.62**	**299**	P		**P**	**09 41 45.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**50.62**	**299**	P		**P**	**09 41 45.7**	**+0.9**
TORD	**Torodi Ar. Bea**	**50.62**	**299**	P		**P**	**09 41 45.6**	**+0.9**
	comp=Z,8.2nm,1.0s,baz=114,slow=8.1,SNR=18							
TORD				PP		**PP**	**09 43 39.2**	**-1.6**
	comp=Z,1.2nm,0.8s,baz=100,slow=7.5,SNR=4.2							
TORD				LR		LR	10 04 12.7	
	comp=Z,512nm,18.1s,baz=132,slow=37							
	comp=Z,8.2nm,1.0s							
GURO	**Guruymak-BITLI**	**51.25**	**356**	P		**P**	**09 41 51.3**	**+2.0**
ELL	**Elmali**	**51.51**	**344**	P		**P**	**09 41 52.3**	**+1.1**
ELL	**Elmali**	**51.51**	**344**	P		**P**	**09 41 52.3**	**+1.1**
ELL				pmax		pmax		
	comp=Z,83nm,1.0s							
GEYT	**Alibeck**	**51.87**	**13**	P		**P**	**09 41 54.2**	**+0.4**
GEYT				IAmb		IAmb	09 42 01.7	
	comp=Z,23nm,1.2s							
GEYT	**Alibeck**	**51.87**	**13**	P		**P**	**09 41 54.3**	**+0.6**
	comp=Z,2.3nm,0.5s,baz=226,slow=6.0,SNR=8.1							
GEYT				LR		LR	10 03 25.5	
	comp=Z,267nm,21.8s,baz=178,slow=36							
	comp=Z,2.3nm,0.5s							
GEYT	**Alibeck**	**51.87**	**13**	P		**P**	**09 41 54.2**	**+0.4**
GEYT				pmax		pmax		
	comp=Z,23nm,1.3s							
GYA0B	**ALIBECK ARRAY**	**51.87**	**13**	P		**P**	**09 41 53.4**	**-0.3**
ARPR	**Arapgir-MALATY**	**52.13**	**353**	P		**P**	**09 41 57.5**	**+1.6**
ARPR				IAmb		IAmb	09 41 58.4	
	comp=Z,46nm,1.3s							
KBL	**Kabul**	**52.14**	**25**	P		**P**	**09 41 56.9**	**+0.8**
KBL				IAmb		IAmb	09 42 04.4	
	comp=Z,28nm,1.1s							
KBL	**Kabul**	**52.14**	**25**	P		**P**	**09 41 56.7**	**+0.7**
	SNR=15							
KBL	**Kabul**	**52.14**	**25**	P		**P**	**09 41 56.9**	**+0.8**
KBL				pmax		pmax		
	comp=Z,28nm,1.1s							
BNN	**Bunyan**	**52.25**	**350**	P		**P**	**09 41 58.0**	**+1.3**
ISP	**Isparta**	**52.37**	**345**	*e*P		**P**	**09 41 58.1**	**+0.6**
ISP				pmax		pmax		
	comp=Z,14nm,0.8s							
GNI	**Garni**	**52.74**	**359**	P		**P**	**09 42 01.6**	**+1.2**
GNI	**Garni**	**52.74**	**359**	P		**P**	**09 42 01.0**	**+0.6**
	comp=Z,15nm,0.9s,baz=58,slow=1.5,SNR=9.9							
GNI				LR		LR	10 05 09.0	
	comp=Z,464nm,20.9s,baz=168,slow=37							
	comp=Z,15nm,0.9s							
GNI	**Garni**	**52.74**	**359**	P		**P**	**09 42 01.6**	**+1.2**
GNI				pmax		pmax		
	comp=Z,49nm,1.1s							
GNI	**Garni**	**52.74**	**359**	P		**P**	**09 42 01.7**	**+1.3**
	comp=Z,42nm,1.1s							
TAM	**Tamanrasset**	**52.88**	**312**	P		**P**	**09 42 02.7**	**+1.0**
TAM	**Tamanrasset**	**52.88**	**312**	P		**P**	**09 42 02.7**	**+1.0**
TAM				pmax		pmax		
	comp=Z,18nm,1.2s							
BR131	**Keskin Array S**	**53.49**	**349**	P		**P**	**09 42 06.3**	**+0.4**
BR131				IAmb		IAmb	09 42 07.4	
	comp=Z,39nm,1.5s							
BR131	**Keskin Array S**	**53.49**	**349**	P		**P**	**09 42 06.6**	**+0.8**
	SNR=9.9							
BR131	**Keskin Array S**	**53.49**	**349**	P		**P**	**09 42 06.3**	**+0.4**
BR131				pmax		pmax		
	comp=Z,39nm,1.5s							
BRTR	**Keskin Array B**	**53.49**	**349**	P		**P**	**09 42 06.0**	**+0.2**
BRTR	**Keskin Array B**	**53.49**	**349**	P		**P**	**09 42 06.0**	**+0.2**
	comp=Z,5.9nm,0.8s,baz=171,slow=8.4,SNR=40							
BRTR				LR		LR	10 05 11.9	
	comp=Z,240nm,19.5s,baz=159,slow=36							
	comp=Z,5.9nm,0.8s							
BR106	**Keskin Array S**	**53.50**	**349**	P		**P**	**09 42 06.3**	**+0.4**
	comp=Z,13nm,1.2s,comp=Zcomp=Z,126nm							
DBIC	**Dimbokro**	**53.76**	**288**	P		**P**	**09 42 09.4**	**+1.3**
	comp=Z,4.7nm,0.8s,baz=102,slow=9.5,SNR=3.8							
DBIC				LR		LR	10 05 23.1	
	comp=Z,228nm,18.3s,baz=100,slow=36							
	comp=Z,4.7nm,0.8s							
ANTO	**Ankara**	**53.80**	**348**	P		**P**	**09 42 08.6**	**+0.6**
ANTO				IAmb		IAmb	09 42 10.5	
	comp=Z,20nm,1.3s							
ANTO	**Ankara**	**53.80**	**348**	P		**P**	**09 42 08.6**	**+0.6**
ANTO				pmax		pmax		
	comp=Z,20nm,1.3s							
ITM	**Ithomi**	**54.53**	**337**	P		**P**	**09 42 12.8**	**-0.6**
ITM				IAmb		IAmb	09 42 14.3	
	comp=Z,25nm,1.1s							
MDUB	**Mudurnu**	**54.72**	**347**	P		**P**	**09 42 15.8**	**+1.0**
BALB	**Balikesir**	**54.78**	**343**	P		**P**	**09 42 16.3**	**+1.3**
DIKM	**Dikmen**	**55.07**	**351**	⇓P		**P**	**09 42 17.5**	**+0.4**
ONI	**Oni**	**55.21**	**358**	P		**P**	**09 42 19.2**	**+0.9**
ONI	**Oni**	**55.21**	**358**	P		**P**	**09 42 19.2**	**+0.9**
ONI				pmax		pmax		
	comp=Z,15nm,1.1s							
EZN	**Ezine**	**55.40**	**342**	P		**P**	**09 42 20.6**	**+1.0**
	comp=Z,34nm,1.5s,comp=Z							
MAK	**Makhachkala**	**55.58**	**2**	*e*P		**P**	**09 42 16.3**	**-4.4**
MAK				*e*			09 44 27.2	
MAK				*e*S		**S**	**09 50 00.1**	**-6.3**
MAK				*e*SS		**SS**	**09 53 47.8**	**-4.0**
MAK				pmax		pmax		
	comp=Z,28nm,0.4s							
MAK				MLR		MLR		
	comp=Z,366nm,15.0s							
SIMJ	**Simiganj**	**55.73**	**22**	P		**P**	**09 42 22.7**	**+0.5**
CHGR	**Chuyangaron**	**55.78**	**22**	P		**P**	**09 42 22.9**	**+0.5**
CHGR	**Chuyangaron**	**55.78**	**22**	P		**P**	**09 42 23.0**	**+0.5**
CHGR				pmax		pmax		
	comp=Z,119nm,0.9s							
MAW	**Mawson**	**55.86**	**172**	P		**P**	**09 42 23.5**	**+1.0**
	comp=Z,5.8nm,0.7s,baz=344,slow=8.9,SNR=12							
MAW				LR		LR	10 03 56.3	
	comp=Z,462nm,18.1s,baz=352,slow=34							
	comp=Z,5.8nm,0.7s							
AGG	**Agios Georgios**	**56.00**	**338**	P		**P**	**09 42 24.3**	**+0.3**
AGG				IAmb		IAmb	09 42 25.1	
	comp=Z,25nm,1.0s							
AGG	**Agios Georgios**	**56.00**	**338**	P		**P**	**09 42 24.3**	**+0.3**
AGG				pmax		pmax		
	comp=Z,25nm,1.0s							
VSLR	**Vesyoloye**	**56.28**	**355**	*d* iP		**P**	**09 42 25.7**	**-0.1**
VSLR				pmax		pmax		
	comp=Z,34nm,1.3s							
KBZ	**Khabaz**	**56.37**	**358**	P		**P**	**09 42 27.5**	**+1.1**
	comp=Z,11nm,0.9s,baz=194,slow=5.6,SNR=19							
KBZ				LR		LR	10 08 26.0	
	comp=Z,321nm,19.4s,baz=153,slow=38							
	comp=Z,11nm,0.9s							
KBZ	**Khabaz**	**56.37**	**358**	*d* iP		**P**	**09 42 26.6**	**+0.2**
KBZ				pmax		pmax		
	comp=Z,20nm,1.0s							
SHA1	**Shidzhatmaz**	**56.39**	**357**	*d* iP		**P**	**09 42 27.3**	**+0.4**
SOC	**Sochi**	**56.43**	**355**	*e*P		**P**	**09 42 25.4**	**-1.4**
SOC				*e*			09 44 29.8	
SOC				*e*PPP		PPP	09 45 48.6	
SOC				*e*S		**S**	**09 50 16.6**	**-1.1**
SOC				*e*SS		**SS**	**09 54 02.5**	**-2.8**
SOC				pmax		pmax		
	comp=Z,11nm,0.5s							
SOC				MLR		MLR		
	comp=Z,249nm,19.0s							
ALN	**Alexandroupoli**	**56.47**	**342**	P		**P**	**09 42 28.0**	**+0.8**
ALN				IAmb		IAmb	09 42 28.8	
	comp=Z,14nm,0.8s							
ALN	**Alexandroupoli**	**56.47**	**342**	P		**P**	**09 42 28.0**	**+0.8**
ALN				pmax		pmax		
	comp=Z,14nm,0.8s							
GAR	**Garm**	**56.52**	**23**	P		**P**	**09 42 28.4**	**+0.7**
KIV	**Kislovodsk**	**56.60**	**357**	P		**P**	**09 42 29.0**	**+0.8**
KIV	**Kislovodsk**	**56.60**	**357**	*i* P		**P**	**09 42 29.2**	**+0.9**
	SNR=6.9							
KIV	**Kislovodsk**	**56.60**	**357**	*d* iP		**P**	**09 42 28.3**	**+0.1**
KIV				*e*			09 44 36.4	
KIV				pmax		pmax		
	comp=Z,70nm,1.4s							
KIV				MLR		MLR		
	comp=Z,340nm,19.0s							
KIV	**Kislovodsk**	**56.60**	**357**	P		**P**	**09 42 29.1**	**+0.8**
	comp=Z,32nm,1.5s,comp=Zcomp=Z,295nm							
KVAR	**Kislovodsk Arr**	**56.60**	**357**	LR		LR	10 08 31.6	
	comp=Z,280nm,18.6s,baz=70,slow=38							
WDD	**Wied Dalam**	**56.65**	**330**	P		**P**	**09 42 29.0**	**+0.4**
LABN	**Labinsk**	**57.40**	**356**	*e*P		**P**	**09 42 33.0**	**-0.7**
LABN				pmax		pmax		
	comp=Z,44nm,0.4s

KKAR **Karatay Array** 60.18 21 P P 09 42 53.1 -0.1
DZA **Taraz** 60.29 22 *e*P P 09 42 53.4 -0.6
comp=Z,12nm,1.1s,baz=22
DZA **Taraz** 60.29 22 *e*P P 09 42 53.3 -0.6
DZA pmax pmax
comp=Z,12nm,1.1s
BOVS **Bovan** 60.31 340 ⇓P P 09 42 53.2 -0.8
ELIB **Princess Elisa** 60.56 188 *d*P P 09 42 56.6 +1.1
comp=Z,12nm,1.1s
MLR **Muntele Rosu** 60.74 344 ⇑P P 09 42 57.0 -0.1
MLR **Muntele Rosu** 60.74 344 P P 09 42 57.2 +0.1
MLR **Muntele Rosu** 60.74 344 P P 09 42 57.7 +0.6
comp=Z,5.6nm,0.8s,baz=212,slow=6.2,SNR=6.5
comp=Z,5.6nm,0.8s
MLR **Muntele Rosu** 60.74 344 P P 09 42 57.2 +0.1
MLR pmax pmax
comp=Z,11nm,1.0s
VRI **Vrincioaia** 60.88 345 ⇑P P 09 42 58.4 +0.5
VRI **Vrincioaia** 60.88 345 P P 09 42 58.4 +0.5
PLOR **Plostina** 60.89 345 ⇓P P 09 42 57.3 -0.7
PLOR **Plostina** 60.89 345 P P 09 42 57.3 -0.7
UCH **Uchtor** 60.92 24 P P 09 43 05.8 +7.0
SNR=8.2
VOIR 60.93 344 ⇓P P 09 42 57.6 -0.7
VOIR 60.93 344 P P 09 42 57.6 -0.7
EKS2 **Erkin-Say** 61.00 23 P P 09 43 06.4 +7.5
SNR=5.9
CMAR **Chiang Mai Arr** 61.11 60 P P 09 43 01.1 +1.1
CMAR **Chiang Mai Arr** 61.11 60 P P 09 43 00.8 +0.8
comp=Z,2.1nm,0.7s,baz=250,slow=9.0,SNR=11
CMAR LR LR 10 07 18.2
comp=Z,120nm,18.3s,baz=230,slow=34
comp=Z,2.1nm,0.7s
CMAR **Chiang Mai Arr** 61.11 60 P P 09 43 01.1 +1.1
HERR **Herculane** 61.20 341 ⇓P P 09 42 58.9 -1.1
AAK **Ala-Archa** 61.26 24 P P 09 43 01.7 +1.0
AAK **Ala-Archa** 61.26 24 P P 09 43 05.2 +4.4
comp=Z,6.7nm,0.9s,baz=223,slow=7.4,SNR=11
AAK LR LR 10 07 54.7
comp=Z,97nm,21.1s,baz=230,slow=34
AAK **Ala-Archa** 61.26 24 P P 09 43 01.7 +1.0
AAK pmax pmax
comp=Z,11nm,1.1s
CHTO **Chiang Mai** 61.27 60 P P 09 43 01.4 +0.3
CHTO IAmb IAmb 09 43 09.3
comp=Z,12nm,1.1s
CHTO **Chiang Mai** 61.27 60 P P 09 43 01.4 +0.3
CHTO pmax pmax
comp=Z,12nm,1.1s
LOT **Lotru** 61.30 343 ⇑P P 09 42 59.9 -1.0
MDVR **Moldovita** 61.33 341 ⇑P P 09 43 00.6 -0.4
OZUR 61.34 344 ⇑P P 09 43 01.0 0.0
KBK **Karagaybulak** 61.46 24 P P 09 43 09.5 +7.4
SNR=5.5
NVL **N'lazarevskaya** 61.49 192 *e*P P 09 43 02.3 +0.6
NVL pmax pmax
comp=Z,31nm,0.9s
GZR **Gura Zlata** 61.55 342 ⇓P P 09 43 02.3 -0.2
GZR **Gura Zlata** 61.55 342 P P 09 43 02.3 -0.2
BOOM **Boomskoye usch** 61.73 25 P P 09 43 03.2 -0.7
BOOM IAmb IAmb 09 43 17.6
comp=Z,15nm,1.0s
BOOM **Boomskoye usch** 61.73 25 P P 09 43 03.2 -0.7
BOOM pmax pmax
comp=Z,15nm,1.0s
USP **Ospenovka** 61.80 24 P P 09 43 10.7 +6.5
SNR=5.6
INTR **Introdacqua** 61.91 334 P P 09 43 05.2 +0.2
INTR IAmb IAmb 09 43 06.1
comp=Z,25nm,1.0s
TKM2 **Tokmak 2** 61.94 25 P P 09 43 11.8 +6.5
SNR=7.5
SGDS **Sogindy** 62.00 24 *e*P P 09 43 05.0 -0.6
comp=Z,9.0nm,0.8s,baz=24
SGDS **Sogindy** 62.00 24 *e*P P 09 43 05.0 -0.6
SGDS pmax pmax
comp=Z,9.0nm,0.8s
VSL **Villasalto** 62.06 329 P P 09 43 07.2 +1.2
VSL IAmb IAmb 09 43 08.6
comp=Z,12nm,0.8s
SURR **Surduc** 62.07 342 ⇑P P 09 43 06.1 +0.2
BZS **Buzias** 62.11 341 ⇓P P 09 43 06.5 +0.3
BZS **Buzias** 62.11 341 P P 09 43 06.5 +0.3
PHRA **Phrae** 62.22 61 P P 09 43 07.2 -0.3
CAMP **Campotosto** 62.55 334 P P 09 43 08.5 -0.9
CAMP IAmb IAmb 09 43 11.3
comp=Z,24nm,1.3s
MDOK **Medeo** 62.74 25 *e*P P 09 43 09.7 -1.0
baz=25
MDOK **Medeo** 62.74 25 *e*P P 09 43 09.6 -1.0
DRGR 62.83 343 ⇓P P 09 43 11.4 +0.3
DRGR 62.83 343 P P 09 43 11.3 +0.3
BURAR **Bucovina Array** 62.90 345 ⇓P P 09 43 12.0 +0.5
BURAR **Bucovina Array** 62.90 345 P P 09 43 11.8 +0.2
NRCA **Norcia** 62.92 334 P P 09 43 11.8 0.0
NRCA IAmb IAmb 09 43 13.3
comp=Z,21nm,1.2s
BUR08 **Bucovina Ar. S** 62.93 345 P P 09 43 11.9 +0.2
BUR08 IAmb IAmb 09 43 13.4
comp=Z,28nm,1.5s
CESX **Cesi** 62.97 333 P P 09 43 11.6 -0.4
GUMA **Gualdo di Mace** 63.01 334 P P 09 43 12.2 -0.1
GUMA IAmb IAmb 09 43 15.0
comp=Z,16nm,0.9s
FDMO **Fiordimonte** 63.09 334 P P 09 43 12.6 -0.3
FDMO IAmb IAmb 09 43 13.5
comp=Z,33nm,1.7s
CRAI **Chiangrai** 63.11 59 P P 09 43 13.7 +0.3
ABKAR **Akbulak array** 63.13 10 P P 09 43 12.5 -0.4
BTLS **Baital** 63.13 22 *e*P P 09 43 12.8 -0.3
comp=Z,5.5nm,0.9s,baz=22
BTLS **Baital** 63.13 22 *e*P P 09 43 12.7 -0.3
BTLS pmax pmax
comp=Z,5.0nm,0.9s
SATY **Saty** 63.23 26 *e*P P 09 43 13.7 -0.2
baz=26
SATY **Saty** 63.23 26 *e*P P 09 43 13.7 -0.2
KMPD **K-Podol'skiy** 63.47 346 P P 09 43 14.3 -0.8
UZB **Uzynbulak** 63.57 27 *e*P P 09 43 16.2 -0.1
comp=Z,6.7nm,1.1s,baz=27
UZB **Uzynbulak** 63.57 27 *e*P P 09 43 16.1 -0.1
UZB pmax pmax
comp=Z,7.0nm,1.1s
MORH **Mrgy, Hungar** 63.61 339 ⇑P P 09 43 16.4 +0.2
MORH **Mrgy, Hungar** 63.61 339 P P 09 43 16.4 +0.2
comp=Z,26nm,1.1s
SHLS **Shalkode** 63.78 27 *e*P P 09 43 18.8 +1.2
baz=27
SHLS **Shalkode** 63.78 27 *e*P P 09 43 18.7 +1.2
CASP **Castiglione de** 63.88 332 P P 09 43 16.3 -1.8
CASP IAmb IAmb 09 43 19.1
comp=Z,21nm,0.9s
VRH **Novokhopyorsk** 63.88 357 *e*P P 09 43 17.1 -0.7
VRH pmax pmax
comp=Z,21nm,0.8s
AKTO **Aktyubinsk** 63.96 9 P P 09 43 17.8 -0.5
comp=Z,7.6nm,0.9s,baz=203,slow=5.1,SNR=16
AKTO LR LR 10 12 05.2
comp=Z,202nm,20.9s,baz=228,slow=37
comp=Z,7.6nm,0.9s
STNU **Starunia** 64.09 345 P P 09 43 19.5 +0.2
BRIU **Brid** 64.15 343 P P 09 43 19.4 -0.2
BOJS **Bojanci** 64.24 337 *i* P P 09 43 20.4 0.0
TROLL **Troll, Antarti** 64.43 194 ⇑P P 09 43 23.2 +1.8
comp=Z,2um,0.8s
CRES **Cresnjev** 64.43 337 *i* P P 09 43 22.0 +0.4
LUBAR **Lubar, Ukraine** 64.45 347 P P 09 43 21.0 -0.6
VORR **Voronezh** 64.50 356 P P 09 43 19.9 -2.0
VORR pmax pmax
comp=Z,27nm,0.6s
PSZ **Piszkesteto** 64.70 341 ⇓P P 09 43 22.9 -0.5
PSZ **Piszkesteto** 64.70 341 P P 09 43 23.1 -0.2
PSZ **Piszkesteto** 64.70 341 P P 09 43 23.2 -0.2
PSZ pmax pmax
comp=Z,8.0nm,0.8s
AK07 **Malin Array Si** 64.75 349 P P 09 43 23.0 -0.6
TDK **Taldyqorghan** 64.81 25 *e*P P 09 43 24.0 -0.1
comp=Z,13nm,1.1s,baz=25
TDK **Taldyqorghan** 64.81 25 *e*P P 09 43 23.9 -0.1
TDK pmax pmax
comp=Z,13nm,1.1s
MPLH **Magyarpolny** 64.82 339 P P 09 43 24.6 +0.5
comp=Z,72nm,1.1s
KIEV **Kiev** 64.89 349 P P 09 43 23.8 -0.7
KIEV IAmb IAmb 09 43 24.9
comp=Z,14nm,1.1s
KIEV **Kiev** 64.89 349 P P 09 43 23.9 -0.5
KIEV **Kiev** 64.89 349 P P 09 43 23.8 -0.7
KIEV pmax pmax
comp=Z,14nm,1.1s
KIEV **Kiev** 64.89 349 P P 09 43 23.7 -0.7
comp=Z,66nm,1.4s
AKASG **Malin Array Be** 64.89 349 P P 09 43 23.8 -0.7
comp=Z,6.2nm,0.9s,baz=174,slow=5.7,SNR=25
AKASG LR LR 10 13 09.9
comp=Z,98nm,19.1s,baz=148,slow=37
comp=Z,6.2nm,0.9s
AKASG **Malin Array Be** 64.89 349 *i* P P 09 43 23.7 -0.7
AKASG pmax pmax
comp=Z,8.0nm,0.9s
AKBB **Malin Array Si** 64.89 349 P P 09 43 24.2 -0.3
AKBB IAmb IAmb 09 43 24.9
comp=Z,16nm,1.1s
AKBB **Malin Array Si** 64.89 349 P P 09 43 24.2 -0.3
AKBB pmax pmax
comp=Z,15nm,1.1s
AKBB **Malin Array Si** 64.89 349 P P 09 43 24.0 -0.5
MI29 **MI29, Kamyanyy** 64.90 348 P P 09 43 24.0 -0.5
AK15 **Malin Array Si** 64.91 349 P P 09 43 24.0 -0.5
AK04 **Malin Array Si** 64.93 349 P P 09 43 24.0 -0.7
AK18 **Malin Array Si** 64.94 348 P P 09 43 24.1 -0.7
BELG **Belogornoye** 65.01 1 LR LR 10 14 52.4
comp=Z,329nm,19.1s,baz=198,slow=39
BELG **Belogornoye** 65.01 1 *d* *i*P P 09 43 24.4 -0.7
BELG pmax pmax
comp=Z,9.0nm,0.8s
CRVS **Cervenica-Dubn** 65.10 343 *e*P P 09 43 25.7 -0.2
CRVS **Cervenica-Dubn** 65.10 343 *e*P P 09 43 25.7 -0.2
CRVS pmax pmax
comp=Z,18nm,1.2s
SRO **Srobarova** 65.12 340 *e*P P 09 43 26.8 +0.8
SRO **Srobarova** 65.12 340 *e*P P 09 43 26.8 +0.8
SRO pmax pmax
comp=Z,32nm,1.1s
MI30 **MI30,Zelenitsa** 65.14 348 P P 09 43 25.4 -0.7
SABO **M.te Sabotino** 65.28 336 P P 09 43 27.5 +0.3
SABO IAmb IAmb 09 43 28.1
comp=Z,24nm,1.0s
SOKA **Soboth** 65.31 337 *i* P P 09 43 27.8 +0.4
comp=Z,20nm,1.0s,SNR=13
OBKA **Obir** 65.35 337 *i* P P 09 43 28.4 +0.7
comp=Z,25nm,1.1s,SNR=10
KWP **Kalwaria Pacla** 65.41 344 P P 09 43 27.7 -0.2
KWP IAmb IAmb 09 43 29.3
comp=Z,23nm,1.3s
KWP **Kalwaria Pacla** 65.41 344 P P 09 43 27.7 -0.2
KWP pmax pmax
comp=Z,23nm,1.3s
KWP **Kalwaria Pacla** 65.41 344 P P 09 43 28.4 +0.5
comp=Z,17nm,1.4s
SNAA **Sanae** 65.51 195 P P 09 43 28.7 +0.4
SNAA **Sanae** 65.51 195 ⇑P P 09 43 29.3 +0.9
comp=Z,78nm,0.8s
SNAA **Sanae** 65.51 195 P P 09 43 28.6 +0.2
comp=Z,5.0nm,0.9s,baz=94,slow=8.1,SNR=12
SNAA LR LR 10 10 04.3
comp=Z,305nm,18.2s,baz=101,slow=34
comp=Z,5.0nm,0.9s
SNAA **Sanae** 65.51 195 ⇑ *i*P P 09 43 29.3 +0.9
SNAA pmax pmax
comp=Z,7.0nm,1.0s
ROBS **Robic** 65.54 336 *i* P P 09 43 28.6 -0.1
VYHS **Vyhne** 65.54 341 *e*P P 09 43 28.8 0.0
VYHS **Vyhne** 65.54 341 *e*P P 09 43 28.8 0.0
VYHS pmax pmax
comp=Z,19nm,1.3s
TEOL **Teolo** 65.57 334 P P 09 43 29.4 +0.4
TEOL IAmb IAmb 09 43 30.1
comp=Z,18nm,0.8s
ARSA **Arzberg** 65.61 338 *i* P P 09 43 29.9 +0.6
comp=Z,22nm,1.0s,SNR=10
STHS **Stebnicka Huta** 65.63 343 *e*P P 09 43 28.8 -0.5
STHS **Stebnicka Huta** 65.63 343 *e*P P 09 43 28.8 -0.5
STHS pmax pmax
comp=Z,8.0nm,1.0s
RONA **Rosalia, Austr** 65.71 339 *i* P P 09 43 30.1 +0.2
comp=Z,41nm,0.9s,SNR=24
MYKA **Terra Mystica** 65.80 336 *i* P P 09 43 30.9 +0.3
comp=Z,15nm,1.2s,SNR=6.2
ZST **Bratislava** 65.86 340 *e*P P 09 43 31.1 +0.3
ZST **Bratislava** 65.86 340 *e*P P 09 43 31.1 +0.3
ZST pmax pmax
comp=Z,59nm,1.1s
STAL **STALIGIAL** 65.87 336 P P 09 43 31.0 +0.1
STAL IAmb IAmb 09 43 31.7
comp=Z,16nm,0.9s
NIE **Niedzica** 65.90 342 P P 09 43 31.4 +0.3
comp=Z,4.9nm,1.9s
MODS **Modra-Piesok** 65.95 340 *e*P P 09 43 31.3 -0.1
MODS **Modra-Piesok** 65.95 340 *e*P P 09 43 31.3 -0.1
MODS pmax pmax
comp=Z,55nm,1.0s
CIMO **Cimolais** 66.02 335 P P 09 43 32.0 +0.1
CIMO IAmb IAmb 09 43 32.7
comp=Z,17nm,0.9s
MDT **Midelt** 66.03 315 LR LR 10 13 44.6
comp=Z,351nm,18.3s,baz=134,slow=37
CONA **Conrad Observa** 66.06 339 *i* P P 09 43 32.2 0.0
comp=Z,19nm,0.9s,SNR=15
CTI **Castel Tesino** 66.13 335 P P 09 43 32.7 0.0
CTI **Castel Tesino** 66.13 335 P P 09 43 32.7 0.0
CTI pmax pmax
comp=Z,29nm,1.0s
JAVC **Velka Javorina** 66.24 340 *e*P P 09 43 33.6 +0.3
RNPP9 **Sopachiv** 66.26 347 P P 09 43 32.6 -0.7
KBA **Koelnbreinsper** 66.29 337 *i* P P 09 43 33.7 -0.1
comp=Z,20nm,1.0s,SNR=11
VNA2 **Neumayer--Watz** 66.31 197 ⇑P P 09 43 34.6 +1.2
comp=Z,7.2nm,0.7s,baz=34,slow=6.2
ABTA **Abfaltersbach** 66.34 336 *i* P P 09 43 34.5 +0.4
comp=Z,18nm,1.3s,SNR=5.8
VNA1 **Neumayer--Stat** 66.41 197 ⇑P P 09 43 35.8 +1.7
comp=Z,17nm,1.1s
MOA **Molln** 66.58 338 *e*P P 09 43 35.6 +0.2
comp=Z,21nm,0.9s
BIOA **Bad Ischl, Aus** 66.68 337 *e*P P 09 43 35.8 -0.3
comp=Z,19nm,1.0s
OJC **Ojcow** 66.77 342 P P 09 43 35.8 -0.7
OJC IAmb IAmb 09 43 37.0
comp=Z,9.3nm,0.8s
OJC **Ojcow** 66.77 342 P P 09 43 35.8 -0.7
OJC pmax pmax
comp=Z,9.0nm,0.8s
OJC **Ojcow** 66.77 342 P P 09 43 35.9 -0.7
comp=Z,16nm,1.3s
LESA **Schwarzleotal** 66.83 336 *e*P P 09 43 36.6 -0.5
comp=Z,10nm,0.9s
KRUC **Moravsky** 66.84 340 *e*P P 09 43 36.2 -0.9
BRZS **Berezniki** 66.94 19 *e*P P 09 43 37.2 -0.6
baz=19
BRZS **Berezniki** 66.94 19 *e*P P 09 43 37.1 -0.6
VRAC **Vranov** 66.98 340 ⇓P P 09 43 38.4 +0.4
VRAC **Vranov** 66.98 340 *e*P P 09 43 37.3 -0.7
VRAC **Vranov** 66.98 340 P P 09 43 37.6 -0.4
comp=Z,15nm,0.9s,baz=138,slow=5.9,SNR=18
VRAC LR LR 10 15 06.3
comp=Z,97nm,21.1s,baz=156,slow=38
comp=Z,15nm,0.9s
VRAC **Vranov** 66.98 340 P P 09 43 38.4 +0.4
MORC **Moravsky Berou** 67.08 341 ⇓P P 09 43 38.3 -0.2
MORC **Moravsky Berou** 67.08 341 P P 09 43 38.4 -0.2
MORC IAmb IAmb 09 43 39.5
comp=Z,20nm,0.9s
MORC **Moravsky Berou** 67.08 341 *e*P P 09 43 38.2 -0.4
MORC **Moravsky Berou** 67.08 341 P P 09 43 38.4 -0.2
MORC pmax pmax
comp=Z,20nm,0.9s
VNA3 **Neumayer Olymp** 67.11 197 ⇑P P 09 43 39.5 +0.9
comp=Z,25nm,0.8s
WTTA **Wattenberg** 67.11 336 *e*P P 09 43 38.9 -0.2
comp=Z,15nm,1.0s
PZH **PanZhiHua** 67.12 54 P P 09 43 42.5 +3.0
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,90nm,5.3s
FUORN **Ofenpass-Fuorn** 67.17 334 P P 09 43 39.9 +0.4
FUORN IAmb IAmb 09 43 40.6
comp=Z,11nm,1.1s
WATA **Walderalm** 67.19 336 *e*P P 09 43 39.1 -0.5
comp=Z,11nm,0.9s
SQTA **Sankt Quirin** 67.25 335 *e*P P 09 43 39.7 -0.2
comp=Z,9.4nm,0.8s
KMI **Kunming** 67.27 56 ⇓P P 09 43 40.5 -0.1
KMI S S 09 52 34.0 -2.2
KMI pmax pmax
comp=Z,17nm,0.9s
KMI LR LR
comp=Z,160nm,18.5s
KMI LR LR
comp=Z,130nm,16.9s
KMI LR LR
comp=Z,190nm,24.2s
FETA **Feichten** 67.29 335 *i* P P 09 43 40.3 +0.1
comp=Z,33nm,1.0s,SNR=16
CKRC **Cesky Krumlov** 67.37 338 *e*P P 09 43 40.5 0.0
CKRC **Cesky Krumlov** 67.37 338 *e*P P 09 43 40.5 0.0
MOTA **Moosalm** 67.39 335 *i* P P 09 43 40.5 -0.3
comp=Z,21nm,1.0s,SNR=6.6
TUE **Stuetta** 67.44 334 P P 09 43 40.8 -0.3
TUE IAmb IAmb 09 43 41.8
comp=Z,14nm,1.1s
TUE **Stuetta** 67.44 334 P P 09 43 40.9 -0.3
comp=Z,43nm,1.2s
KRLC **Kraliky** 67.58 340 *e*P P 09 43 41.5 -0.3
KRLC **Kraliky** 67.58 340 *e*P P 09 43 41.5 -0.3
GEC2 **GERESS Array S** 67.61 338 P P 09 43 41.8 -0.3
GEC2 IAmb IAmb 09 43 42.4
comp=Z,17nm,1.0s
GERES **GERESS Array B** 67.61 338 P P 09 43 41.6 -0.5
GERES **GERESS Array B** 67.61 338 P P 09 43 41.8 -0.3
comp=Z,8.8nm,0.8s,baz=148,slow=5.8,SNR=18
GERES LR LR 10 17 53.9
comp=Z,69nm,18.5s,baz=202,slow=40
comp=Z,8.8nm,0.8s
RETA **Reutte** 67.65 335 *i* P P 09 43 41.9 -0.4
comp=Z,22nm,1.2s,SNR=7.4
MAKZ **Makanchi** 67.75 26 P P 09 43 42.9 0.0
MAKZ **Makanchi** 67.75 26 P P 09 43 42.9 0.0
MAKZ pmax pmax
comp=Z,33nm,1.3s
DAVA **Damuels** 67.85 335 *i* P P 09 43 43.5 -0.2
comp=Z,30nm,1.3s,SNR=8.7
MK31 **Makanchi Array** 67.88 26 P P 09 43 43.3 -0.4
MK31 IAmb IAmb 09 43 51.5
comp=Z,13nm,1.2s
MK31 **Makanchi Array** 67.88 26 P P 09 43 43.3 -0.4
MK31 pmax pmax
comp=Z,13nm,1.3s
MKAR **Makanchi Array** 67.88 26 P P 09 43 43.5 -0.2
comp=Z,2.6nm,1.0s,baz=219,slow=7.3,SNR=12
comp=Z,2.6nm,1.0s
KHC **Kasperske Hory** 67.89 338 P P 09 43 42.7 -1.1
KHC **Kasperske Hory** 67.89 338 *e*P P 09 43 43.6 -0.2
KHC AMS AMS 10 20 40.0
comp=Z,200nm,17.5s
KHC **Kasperske Hory** 67.89 338 P P 09 43 42.7 -1.1
KHC pmax pmax
comp=Z,9.0nm,1.0s
KHC **Kasperske Hory** 67.89 338 P P 09 43 42.6 -1.1
comp=Z,11nm,1.2s
DPC **Dobruska-Polom** 67.97 340 *e*P P 09 43 44.3 0.0
DPC **Dobruska-Polom** 67.97 340 *e*P P 09 43 44.3 0.0
DPC **Dobruska-Polom** 67.97 340 P P 09 43 44.1 -0.2
comp=Z,11nm,1.0s
OBN **Obninsk** 68.14 354 P P 09 43 45.2 +0.1
OBN **Obninsk** 68.14 354 LR LR 10 16 20.3
comp=Z,178nm,18.7s,baz=130,slow=38
OBN **Obninsk** 68.14 354 *d* *i*P P 09 43 44.8 -0.3
OBN *e* 09 46 14.5
OBN *e*S SKiKP 09 53 21.8 -19
OBN *e*SS **SS** 09 57 11.2 +3.2
OBN pmax pmax
comp=Z,36nm,1.7s
OBN MLR MLR
comp=Z,249nm,19.0s
OSTC **Ostas** 68.18 340 *e*P P 09 43 45.8 +0.2
OSTC **Ostas** 68.18 340 *e*P P 09 43 45.8 +0.2
WMQ **Urumqi** 68.21 32 *e*P P 09 43 48.5 +2.6
WMQ LR LR
comp=Z,140nm,21.5s
SENIN **Lac Senin/Sane** 68.26 332 P P 09 43 45.5 -0.9
CEST **Esterri de Car** 68.55 326 P P 09 43 47.9 -0.3
CEST IAmb IAmb 09 43 50.8
comp=Z,21nm,1.2s
MOS **Moscow** 68.67 355 *e*P P 09 43 46.9 -1.5
MOS *e* 09 46 17.1
MOS *e* 09 52 48.5
MOS pmax pmax
comp=Z,30nm,0.7s
SSB **Saint Sauveur** 68.75 330 P P 09 43 50.2 +1.0
SSB **Saint Sauveur** 68.75 330 P P 09 43 50.2 +1.0
SSB pmax pmax
comp=Z,42nm,1.5s
MNK **Minsk** 68.77 349 *i* P P 09 43 47.7 -1.4
comp=E,6.0nm,1.1s
MNK *i* P P 09 43 47.7 -1.4
comp=N,17nm,0.9s
MNK *i* P P 09 43 47.7 -1.4
comp=Z,28nm,0.9s,baz=161
MNK *i* PcP **PcP** 09 44 11.0 -2.7
MNK *i* PP PP 09 46 08.8 -12
MNK *i* PPP PPP 09 49 06.9
MNK *i* S **S** 09 52 52.0 -0.4
MNK *i* SS SS 09 56 32.4 -45
MNK *i* LQ LQ 10 06 01.3
MNK *i* LR LR 10 13 22.0
MNK **Minsk** 68.77 349 *i* P P 09 43 47.6 -1.4
MNK *i* 09 44 10.9
MNK *i* S **S** 09 52 52.0 -0.4
MNK pmax pmax
comp=Z,28nm,0.9s
MNK pmax pmax
comp=E,6.0nm,1.0s
MNK pmax pmax
comp=N,17nm,0.9s
BVAR **Borovoye Array** 68.99 16 P P 09 43 50.4 -0.1
comp=N,1.9nm,0.8s,baz=199,slow=7.4,SNR=8.3
BVAR LR LR 10 14 56.8
comp=N,102nm,19.9s,baz=223,slow=37
comp=N,1.9nm,0.8s
BRVK **Borovoye** 68.99 16 P P 09 43 50.0 -0.5
BRVK IAmb IAmb 09 43 58.4
comp=Z,36nm,1.6s
BRVK **Borovoye** 68.99 16 P P 09 43 50.0 -0.5
BRVK pmax pmax
comp=Z,36nm,1.6s
BRG **Berggiesshubel** 69.22 339 *i* P P 09 43 51.8 -0.1
BRG Amp 09 43 52.7
comp=Z,8.0nm,0.9s
GRFO **Grafenberg** 69.24 337 P P 09 43 52.3 +0.2
GRFO **Grafenberg** 69.24 337 P P 09 43 52.3 +0.2
GRFO pmax pmax
comp=Z,33nm,1.2s
SUW **Suwalki** 69.30 346 P P 09 43 52.3 -0.1
SUW **Suwalki** 69.30 346 *e*P P 09 43 52.6 +0.2
SUW **Suwalki** 69.30 346 P P 09 43 52.3 -0.1
SUW pmax pmax
comp=Z,43nm,1.0s
BFO **Black Forest** 69.32 334 P P 09 43 52.5 -0.2
BFO IAmb IAmb 09 43 53.6
comp=Z,13nm,1.0s
BFO **Black Forest** 69.32 334 P P 09 43 52.5 -0.2
BFO pmax pmax
comp=Z,13nm,1.0s
KURBB **Kurchatov Arra** 69.46 22 P P 09 43 53.1 -0.3
comp=Z,1.2nm,0.9s,baz=220,slow=7.0,SNR=8.9
KURBB LR LR 10 12 17.6
comp=Z,164nm,21.8s,baz=165,slow=34
comp=Z,1.2nm,0.9s
ZSN **Zaisan** 69.51 27 *e*P P 09 43 54.2 +0.3
comp=Z,15nm,1.1s,baz=27
ZSN **Zaisan** 69.51 27 *e*P P 09 43 54.2 +0.3
ZSN pmax pmax
comp=Z,15nm,1.1s
KURK **Kurchatov** 69.57 22 P P 09 43 53.3 -0.8
KURK **Kurchatov** 69.57 22 P P 09 43 53.3 -0.8
KURK pmax pmax
comp=Z,6.0nm,0.9s
ESBB **Sonseca Array** 69.67 321 P P 09 43 55.2 +0.1
ESBB IAmb IAmb 09 43 57.3
comp=Z,14nm,1.1s
ESDC **Sonseca Array** 69.67 321 P P 09 43 55.9 +0.8
ESDC IAmb IAmb 09 43 57.3
comp=Z,18nm,1.2s
ESDC **Sonseca Array** 69.67 321 P P 09 43 56.0 +0.9

comp=Z,8.1nm,0.9s,baz=133,slow=5.8,SNR=34
ESDC LR LR 10 16 39.7
comp=Z,180nm,18.8s,baz=123,slow=38
comp=Z,8.1nm,0.9s
ECH Echery 69.73 334 P **P** **09 43 55.2 0.0**
ECH lAmb lAmb 09 43 56.1
comp=Z,14nm,1.1s
ECH Echery 69.73 334 P **P** **09 43 55.2 0.0**
ECH pmax pmax
comp=Z,14nm,1.1s
IDID Didziasalis 69.75 349 *e*P **P** **09 43 57.2 +2.0**
PAB San Pablo 69.82 321 P **P** **09 43 57.3 +1.2**
PAB lAmb lAmb 09 43 58.3
comp=Z,22nm,1.1s
PAB San Pablo 69.82 321 P **P** **09 43 57.3 +1.2**
PAB pmax pmax
comp=Z,22nm,1.1s
ARU Arti 69.88 8 P **P** **09 43 55.7 -0.1**
ARU Arti 69.88 8 LR LR 10 18 45.5
comp=Z,135nm,18.2s,baz=204,slow=40
ARU Arti 69.88 8*c**e*P **P** **09 43 55.6 -0.3**
ARU pmax pmax
comp=Z,37nm,1.2s
ARU Arti 69.88 8 P **P** **09 43 55.8 -0.1**
comp=Z,46nm,1.2s
CLL Collm 69.91 339 P **P** **09 43 56.2 +0.1**
CLL Collm 69.91 339 *i* P **P** **09 43 55.7 -0.5**
comp=Z,26nm,1.5s
CLL AMS AMS 10 16 00.0
comp=Z,100nm,20.6s
CLL Collm 69.91 339 P **P** **09 43 56.3 +0.1**
CLL pmax pmax
comp=Z,9.0nm,0.8s
SEM Semipalatinsk 69.92 23 *e*P **P** **09 43 56.8 +0.1**
baz=23
SEM Semipalatinsk 69.92 23 *e*P **P** **09 43 56.7 +0.1**
GKP Gorka Klasztor 70.21 342 *e*P **P** **09 43 57.4 -0.6**
PABE Paberze 70.50 347 P **P** **09 43 59.6 -0.1**
PABE Paberze 70.50 347 *e*P **P** **09 43 59.3 -0.4**
SVE Sverdlovsk 70.55 9 *e*P **P** **09 44 00.0 0.0**
SVE pmax pmax
comp=Z,51nm,1.3s
QIZ Qiongzhong 70.77 64 P **P** **09 44 04.5 +2.3**
QIZ PcP **PcP** **09 44 24.8 +1.8**
QIZ LR LR
comp=Z,140nm,9.3s
QIZ LR LR
comp=Z,120nm,10.3s
QIZ LR LR
comp=Z,130nm,16.4s
CD2 Chengdu 70.78 51 P **P** **09 44 03.5 +1.4**
CD2 S **S** **09 53 19.5 +2.3**
CD2 pmax pmax
comp=Z,60nm,6.1s
CD2 LR LR
comp=Z,240nm,13.1s
CD2 LR LR
comp=Z,120nm,13.3s
CD2 LR LR
comp=Z,200nm,13.9s
GYA Guiyang 71.03 56 *e*P **P** **09 44 04.5 +0.7**
GYA pmax pmax
comp=Z,13nm,0.8s
KIRV Kirov 71.26 2 LR LR 10 18 20.0
comp=Z,232nm,19.7s,baz=189,slow=38
KIRV Kirov 71.26 2*d* *i*P **P** **09 44 03.5 -0.8**
WLF Walferdange 71.27 334 P **P** **09 44 04.9 +0.3**
WLF lAmb lAmb 09 44 06.1
comp=Z,32nm,1.3s
WLF Walferdange 71.27 334 P **P** **09 44 04.9 +0.3**
WLF pmax pmax
comp=Z,31nm,1.3s
PESTR Estremoz 71.47 319 P **P** **09 44 07.3 +1.2**
PESTR lAmb lAmb 09 44 08.1
comp=Z,28nm,1.2s
RCHB Rochefort 72.03 334 *d*P **P** **09 44 09.4 +0.3**
MEM Membach 72.04 335 *d*P **P** **09 44 09.2 0.0**
BCLA Clavier 72.19 334 *d*P **P** **09 44 10.6 +0.5**
comp=Z,8.9nm,1.2s
DOU Dourbes 72.26 334 *d*P **P** **09 44 11.2 +0.7**
BGES Gesves 72.26 334 *d*P **P** **09 44 11.0 +0.5**
comp=Z,11nm,1.2s
BMRD Maredsous 72.34 334 *d*P **P** **09 44 10.8 -0.2**
comp=Z,10nm,1.2s
GTA Gaotai 72.42 41 P **P** **09 44 12.3 +0.4**
GTA sP pwP 09 44 19.3 +1.1
GTA pmax pmax
comp=Z,4.0nm,1.0s
GTA LR LR
comp=Z,89nm,18.5s
GTA LR LR
comp=Z,93nm,18.5s
GTA LR LR
comp=Z,190nm,20.0s
VSU Vasula 72.73 350*d* *i*P **P** **09 44 12.9 -0.2**
VSU pmax pmax
comp=Z,64nm,0.9s
MTSE Matsula 73.51 348 *e*P **P** **09 44 17.4 -0.3**
KLMR Klimovskoe 73.63 357 *e*P **P** **09 44 16.9 -1.5**
KLMR *e* 09 46 59.1
KLMR pmax pmax
comp=Z,56nm,1.3s
ARBE Arbavere 73.78 350 *e*P **P** **09 44 20.2 +0.9**
DEL Delary 73.96 342 *e*P **P** **09 44 20.0 -0.4**
ZAA0 Zalesovo Array 74.44 23 P **P** **09 44 22.4 -0.9**
ZALV Zalesovo Beam 74.44 23 P **P** **09 44 22.3 -1.0**
comp=Z,0.9nm,0.3s,baz=234,slow=5.1,SNR=10
ZALV LR LR 10 15 49.7
comp=Z,84nm,19.6s,baz=220,slow=35
comp=Z,0.9nm,0.3s
ZALV Zalesovo Beam 74.44 23 *i* P **P** **09 44 22.2 -1.1**
ZALV pmax pmax
comp=Z,1.0nm,0.3s
MEF Metsahovi 74.80 349 *e*P **P** **09 44 25.2 0.0**
VALR Valaam 74.89 353*d* *i*P **P** **09 44 25.2 -0.5**
VALR pmax pmax
comp=Z,35nm,1.0s
VIKU Vikbolandet 74.93 345 *e*P **P** **09 44 26.8 +0.7**
BELA Belgrano 2 75.45 192 P **P** **09 44 30.0 +1.1**
AAL Aland 75.64 347 *e*P **P** **09 44 29.4 -0.6**
FINES FINESS Array B 75.66 350 P **P** **09 44 30.0 -0.2**
FINES FINESS Array B 75.66 350 P **P** **09 44 30.2 0.0**
comp=Z,14nm,0.9s,baz=143,slow=6.7,SNR=34
comp=Z,14nm,0.9s
FIA1 FINESS Array S 75.66 350 P **P** **09 44 30.2 0.0**
UPP Uppsala 75.90 346 *e*P **P** **09 44 31.9 +0.4**
RAF Rauma 76.04 348 *e*P **P** **09 44 32.7 +0.4**
XAN Xi'an 76.09 50 ⇓P **P** **09 44 33.3 0.0**
XAN pP sP 09 44 37.0 +0.5
XAN pmax pmax
comp=Z,9.0nm,1.3s
BATI Baumata 76.26 97 LR LR 10 12 57.8
comp=Z,126nm,19.5s,baz=146,slow=32
JOF Joensuu 76.36 353 *e*P **P** **09 44 34.2 +0.1**
KEF Keuruu 76.54 350 *e*P **P** **09 44 35.4 +0.2**
HFS Hagfors 77.12 344 P **P** **09 44 38.4 -0.1**
comp=Z,13nm,0.8s,baz=142,slow=5.6,SNR=29
HFS LR LR 10 22 21.8
comp=Z,92nm,19.8s,baz=137,slow=39
comp=Z,13nm,0.8s
QSPA South Pole Qui 77.23 180 P **P** **09 44 40.2 +0.9**
QSPA lAmb lAmb 09 44 41.3
comp=Z,29nm,1.0s
QSPA South Pole Qui 77.23 180 P **P** **09 44 40.5 +1.2**
comp=Z,23nm,1.0s,baz=256,slow=2.8,SNR=44
QSPA LR LR 10 16 31.6
comp=Z,523nm,18.7s,baz=262,slow=34
comp=Z,23nm,1.0s
VAF Ylistaro 77.73 350 *e*P **P** **09 44 42.7 +0.9**
KONO Kongsberg 77.87 342 P **P** **09 44 43.0 +0.3**
KONO Kongsberg 77.87 342 P **P** **09 44 43.0 +0.3**
KONO pmax pmax
comp=Z,35nm,1.1s
NC602 NORSAR Array S 78.21 344 P **P** **09 44 45.0 +0.4**
NC602 lAmb lAmb 09 44 45.6
comp=Z,36nm,1.1s
NAO01 NORSAR Array S 78.48 343 P **P** **09 44 46.4 +0.4**
NAO01 lAmb lAmb 09 44 47.4
comp=Z,30nm,1.1s
NB201 NORSAR Array S 78.54 344 P **P** **09 44 46.6 +0.2**
NB201 lAmb lAmb 09 44 47.5
comp=Z,29nm,1.0s
NB2 NORSAR Subarra 78.55 344 P **P** **09 44 46.1 -0.4**
comp=Z,22nm,1.4s,baz=146,slow=5.6
NB2 NORSAR Subarra 78.55 344 P **P** **09 44 46.1 -0.4**
baz=146,slow=5.6

NOA NORSAR Array B 78.55 344 P **P** **09 44 46.2 -0.3**
comp=Z,4.7nm,0.9s,baz=137,slow=5.9,SNR=19
NOA LR LR 10 24 19.3
comp=Z,74nm,19.4s,baz=115,slow=39
comp=Z,4.7nm,0.9s
NC303 NORSAR Array S 78.67 344 P **P** **09 44 47.4 +0.3**
NC303 lAmb lAmb 09 44 48.0
comp=Z,17nm,1.0s
NBO00 NORSAR Array S 78.67 344 P **P** **09 44 47.7 +0.6**
NBO00 lAmb lAmb 09 44 49.4
comp=Z,46nm,1.4s
NC204 NORSAR Array S 78.87 344 P **P** **09 44 48.5 +0.2**
NC204 lAmb lAmb 09 44 49.6
comp=Z,19nm,1.1s
EKA Eskdalemuir Ar 79.29 334 P **P** **09 44 50.4 -0.3**
comp=Z,2.4nm,0.6s,baz=129,slow=6.0,SNR=10
comp=Z,2.4nm,0.6s
APA Apatity 80.70 355 ⇓*i*P P 09 44 52.9 -5.1
APA *i* 09 45 04.5
APA pmax pmax
comp=Z,6.0nm,1.0s
LVZ Lovozero 80.93 356 ⇓*i*P **P** **09 44 59.0 -0.3**
LVZ pmax pmax
comp=Z,17nm,1.0s
HHC Hu-ho-hao-te 80.95 45 *e*P **P** **09 45 01.5 +1.4**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,58nm,5.6s
HHC LR LR
comp=Z,99nm,17.6s
HHC LR LR
comp=Z,130nm,17.6s
HHC LR LR
comp=Z,150nm,17.2s
SONM Songino Array 80.96 37 P **P** **09 45 00.8 +0.8**
SONM Songino Array 80.96 37 P **P** **09 45 00.6 +0.6**
comp=Z,2.4nm,0.9s,baz=244,slow=4.8,SNR=7.0
SONM LR LR 10 20 02.0
comp=Z,91nm,18.9s,baz=252,slow=35
comp=Z,2.4nm,0.9s
SONM Songino Array 80.96 37 P **P** **09 45 00.8 +0.8**
SONM pmax pmax
comp=Z,4.0nm,1.0s
ULN Ulaanbaatar 81.35 37 P **P** **09 45 03.8 +1.7**
ULN Ulaanbaatar 81.35 37 P **P** **09 45 03.8 +1.7**
ULN pmax pmax
comp=Z,6.0nm,1.1s
HNS HongShan 81.76 49 ⇑P **P** **09 45 05.5 +1.2**
HNS pmax pmax
comp=Z,7.0nm,1.1s
HNS LR LR
comp=Z,100nm,13.5s
HNS LR LR
comp=Z,130nm,15.1s
HNS LR LR
comp=Z,170nm,19.1s
VNDA Vanda 82.99 169 P **P** **09 45 10.9 +0.8**
VNDA Vanda 82.99 169 P **P** **09 45 11.6 +1.5**
comp=Z,1.7nm,0.7s,baz=267,slow=6.2,SNR=19
VNDA LR LR 10 19 05.9
comp=Z,440nm,19.5s,baz=246,slow=34
comp=Z,1.7nm,0.7s
VNDA Vanda 82.99 169 P **P** **09 45 10.9 +0.8**
VNDA pmax pmax
comp=Z,6.0nm,1.2s
NJ2 Nanjing 83.00 55 *e*P **P** **09 45 12.0 +1.1**
NJ2 pmax pmax
comp=Z,5.0nm,0.5s
NJ2 pmax pmax
comp=Z,210nm,3.6s
ARCES ARCESS Array B 83.39 353 P **P** **09 45 12.8 +0.7**
ARCES ARCESS Array B 83.39 353 P **P** **09 45 12.6 +0.5**
comp=Z,3.5nm,0.8s,baz=110,slow=1.4,SNR=5.2
ARCES LR LR 10 25 30.7
comp=Z,133nm,18.5s,baz=118,slow=38
comp=Z,3.5nm,0.8s
ARCES ARCESS Array B 83.39 353 P **P** **09 45 12.8 +0.7**
ARCES pmax pmax
comp=Z,45nm,1.7s
ASAR Alice Springs 83.41 113 P **P** **09 45 13.8 +0.4**
ASAR Alice Springs 83.41 113 P **P** **09 45 13.7 +0.3**
comp=Z,3.0nm,0.7s,baz=262,slow=4.8,SNR=58
ASAR LR LR 10 16 56.6
comp=Z,371nm,19.9s,baz=272,slow=32
comp=Z,3.0nm,0.7s
ASAR Alice Springs 83.41 113 P **P** **09 45 13.8 +0.4**
AS31 Alice Springs 83.41 113 P **P** **09 45 13.4 0.0**
BJT Baijiatuan 83.83 47 P **P** **09 45 16.0 +1.0**
BJT lAmb lAmb 09 45 16.8
comp=Z,14nm,1.3s
BJT Baijiatuan 83.83 47 P **P** **09 45 16.0 +1.0**
BJT pmax pmax
comp=Z,14nm,1.3s
BJI Beijing 83.84 47 P **P** **09 45 15.8 +0.8**
BJI pmax pmax
comp=Z,4.0nm,1.2s
WRA Warramunga Arr 84.53 109 P **P** **09 45 19.3 +0.2**
WRA Warramunga Arr 84.53 109 P **P** **09 45 19.4 +0.2**
comp=Z,3.0nm,0.8s,baz=262,slow=3.3,SNR=17
comp=Z,3.0nm,0.8s
WB2 Warramunga Arr 84.55 109 P **P** **09 45 19.6 +0.4**
WB2 lAmb lAmb 09 45 31.9
comp=Z,13nm,0.8s
WB0 Warramunga Arr 84.62 109 P **P** **09 45 19.8 +0.3**
WB0 lAmb lAmb 09 45 31.7
comp=Z,11nm,0.8s
WR0 Warramunga Arr 84.72 109 P **P** **09 45 20.2 +0.2**
XLT XiLinHaoTe 85.25 43 *e*P P 09 45 29.0 +6.7
XLT pmax pmax
comp=Z,12nm,0.9s
XLT pmax pmax
comp=Z,77nm,5.2s
PMSA Palmer Station 86.60 204 LR LR 10 19 30.4
comp=Z,121nm,18.2s,baz=128,slow=32
STKA Stephens Creek 88.30 122 P **P** **09 45 37.6 +0.2**
STKA Stephens Creek 88.30 122 P **P** **09 45 37.1 -0.3**
comp=Z,3.3nm,0.8s,baz=281,slow=3.9,SNR=5.5
STKA LR LR 10 18 38.3
comp=Z,106nm,18.3s,baz=44,slow=31
comp=Z,3.3nm,0.8s
STKA Stephens Creek 88.30 122 P **P** **09 45 37.6 +0.2**
STKA pmax pmax
comp=Z,3.0nm,1.3s
BDFB Brasilia 90.00 254 LR LR 10 23 47.2
comp=Z,159nm,19.0s,baz=136,slow=34
JMIC Jan Mayen 91.24 345 LR LR 10 28 43.3
comp=Z,41nm,19.9s,baz=162,slow=37
KSRS Kores Array 91.73 52 P **P** **09 45 52.4 -0.8**
comp=Z,1.5nm,1.0s,baz=255,slow=4.3,SNR=5.7
KSRS LR LR 10 27 37.8
comp=Z,56nm,18.7s,baz=210,slow=36
comp=Z,1.5nm,1.0s
BORG Borgarnes 92.06 337 LR LR 10 32 28.0
comp=Z,89nm,18.6s,baz=162,slow=39
SPITS Spitsbergen Ar 92.35 354 LR LR 10 31 16.4
comp=Z,59nm,18.3s,baz=122,slow=38
CPUP Villa Florida 95.64 242 LR LR 10 24 57.1
comp=Z,198nm,18.8s,baz=123,slow=33
KLR Kul'dur 97.13 41 LR LR 10 29 05.7
comp=Z,58nm,20.1s,baz=218,slow=35
TIXI Tiksi 100.00 19 LR LR 10 36 37.9
comp=Z,50nm,18.3s,baz=295,slow=38
DZM Mont Dzumac 112.40 121 *e*LR LR 10 24 51.1
comp=Z,168nm,21.9s
MLY Manley 126.69 9 P **PKiKP** **09 51 48.7 -0.2**
baz=340
ILAR Eielson Array 127.44 7 PKP **PKPdf** **09 51 49.4 -0.5**
comp=Z,0.8nm,0.9s,baz=314,slow=2.9,SNR=5.6
ILAR PP **PP** **09 53 47.1 -2.4**
comp=Z,0.5nm,0.9s,baz=323,slow=3.9,SNR=4.2
I30M Mount Dempster 127.69 1 P **PKiKP** **09 51 50.8 -0.3**
baz=358
K20K Telida 127.69 11 **PKiKP** **09 51 50.8 -0.2**
K20K Telida 127.69 11 P **PKiKP** **09 51 50.8 -0.2**
baz=336
J30M Hart River 128.34 1 P **PKiKP** **09 51 51.8 -0.6**
baz=358
PPLA Purkeypile 128.46 10 P **PKiKP** **09 51 52.3 -0.4**
baz=338
YKA Yellowknife Ar 128.46 348 PKP **PKPdf** **09 51 51.1 -0.7**
comp=Z,1.2nm,1.1s,baz=39,slow=2.2,SNR=6.1
YKA PP **PP** **09 53 53.4 -2.9**
comp=Z,0.9nm,0.9s,baz=20,slow=6.8,SNR=6.2
YKA Yellowknife Ar 128.46 348 *i* PKiKP **PKiKP** **09 51 57.9 +5.4**
YKA pmax pmax
comp=Z,1.0nm,0.8s

TBI Tubuai 141.11 158 *e*LR LR 10 38 04.4
comp=Z,497nm,23.5s
TBI *e*LR LR 10 38 14.5
comp=Z,942nm,28.8s
WMOK Wichita Mounta 141.11 310 **PKPdf** **09 52 17.0 +0.6**
WMOK Wichita Mounta 141.11 310 P **PKPdf** **09 52 17.2 +0.9**
baz=65
WMOK Wichita Mounta 141.11 310 PKIKP **PKPdf** **09 52 17.0 +0.6**
WTFS Witchita Falls 141.28 309 PKPdf **PKPdf** **09 52 15.0 -1.7**
BOZ Bozeman (W) 142.08 334 P **PKiKP** **09 52 19.9 -1.0**
baz=38
PDAR Pinedale Array 143.26 329 PKPdf **PKPdf** **09 52 19.5 -0.7**
PDAR Pinedale Array 143.26 329 PKP **PKPdf** **09 52 20.4 +0.2**
comp=Z,1.7nm,0.9s,baz=90,slow=3.0,SNR=9.4
T25A Trinidad 143.90 317 P PKPbc 09 52 19.5 +0.3
baz=56
SDCO Great Sand Dun 144.26 319 PKPbc 09 52 20.8 +0.4
SDCO Great Sand Dun 144.26 319 P **PKPdf** **09 52 21.0 -1.3**
baz=54
SMCO Snowmass 144.29 322 PKPdf PKPbc 09 52 20.6 0.0
HAWA Hanford 144.30 342 PKPdf **PKPdf** **09 52 21.3 -0.3**
O20A White River Ci 144.40 325 PKPdf PKPbc 09 52 20.4 -0.3
O20A White River Ci 144.40 325 P **PKPdf** **09 52 21.5 -0.8**
baz=48
MSTX Muleshoe 144.41 312 **PKPdf** **09 52 21.2 -1.1**
MSTX Muleshoe 144.41 312 P **PKPdf** **09 52 22.2 -0.1**
baz=61
OZNA Ozona 144.47 306 PKPbc 09 52 20.8 -0.2
DRIO Del Rio 144.62 303 PKPdf PKPbc 09 52 21.3 -0.1
RDMU Red Mountain 144.84 326 PKPbc 09 52 22.0 -0.1
HLID Hailey 144.90 334 **PKPdf** **09 52 22.8 -0.2**
HLID Hailey 144.90 334 P **PKPdf** **09 52 22.8 -0.2**
baz=35
BMO Blue Mountains 144.94 339 PKPdf **PKPab** **09 52 21.5 -0.6**
BMO Blue Mountains 144.94 339 PKIKP **PKPab** **09 52 21.5 -0.6**
ODSA Odessa 145.08 309 PKPbc **PKPbc** **09 52 21.7 -1.2**
G08A Pilot Rock 145.11 341 PKPbc **PKPdf** **09 52 23.3 0.0**
HWUT Hardware Ranch 145.12 329 **PKPdf** **09 52 23.4 -0.1**
TCUT Toone Canyon 145.41 329 PKPbc **PKPdf** **09 52 24.7 +0.6**
BSUT Blindstream Ca 145.50 327 **PKPab** **09 52 24.8 +0.1**
HVU Hansel Valley 145.58 331 **PKPab** **09 52 25.0 +0.4**
HVU Hansel Valley 145.58 331 PKIKP **PKPab** **09 52 25.0 +0.4**
MNHN Monahans 145.58 307 **PKPbc** **09 52 24.2 -0.3**
MFID Camas Ranch 145.60 336 PKPdf **PKPab** **09 52 25.4 +0.8**
SAND Sanderson 145.64 305 PKPdf **PKPab** **09 52 25.1 +0.1**
G06A Carlson Farm, 145.67 343 PKPdf **PKPab** **09 52 24.9 +0.3**
PPT2 Papeete2 146.23 153 *e*LR LR 10 40 35.8
comp=Z,126nm,24.5s
PPT2 *e*LR LR 10 40 41.3
comp=Z,157nm,28.2s
TMUT Trail Mountain 146.63 326 PKPbc **PKPab** **09 52 27.9 -0.9**
J08A Circle Bar Ran 146.65 339 PKPbc **PKPab** **09 52 27.9 -0.6**
ALPN Alpine 146.67 306 PKPbc **PKPbc** **09 52 27.8 -0.1**
TX31 Lajitas Ar. Si 147.12 305 PKPbc **PKPbc** **09 52 29.4 +0.2**
TXAR Lajitas Array 147.12 305 PKPbc **PKPbc** **09 52 28.4 -0.8**
comp=Z,2.4nm,0.9s,baz=92,slow=3.3,SNR=14
CRNM Carthage 147.24 315 PKPbc **PKPbc** **09 52 29.1 -0.4**
HMU Henry Mountain 147.32 324 **PKPbc** **09 52 29.5 -0.3**
MNTX Cornudas Mount 147.42 310 P **PKPdf** **09 52 28.2 +0.8**
baz=61
MVU Marysvale 147.74 326 **PKPbc** **09 52 30.2 -0.7**
MTPU Mount Pierson 148.06 326 PKPbc **PKPbc** **09 52 32.1 +0.2**
HUMO Hull Mountain 148.75 344 PKPbc **PKPbc** **09 52 33.2 +0.1**
121A Cookes Peak, D 148.75 313 P **PKPbc** **09 52 31.9 -1.7**
baz=57
CCUT Cedar City 149.06 326 PKPbc **PKPbc** **09 52 33.1 -1.2**
R11B Troy Canyon, C 149.60 330 P **PKPdf** **09 52 32.7 +1.7**
baz=38
X16A Lo Mia Camp, P 150.09 320 PKPbc **PKiKP** **09 52 37.9 +0.2**
NVAR Mina Array Bea 150.79 334 PKP **PKPdf** **09 52 33.5 +0.6**
comp=Z,2.1nm,0.9s,baz=173,slow=0.3,SNR=12
NVAR PKPbc **PKiKP** **09 52 39.2 +0.1**
comp=Z,1.2nm,0.6s,baz=44,slow=2.4,SNR=10
TUC Tucson 150.97 316 PKPbc **PKiKP** **09 52 39.9 +0.4**
TUC Tucson 150.97 316 PKIKP **PKiKP** **09 52 39.9 +0.4**
W13A Hualapai Mount 151.11 324 PKPdf **PKPdf** **09 52 33.2 -0.3**
W13A PKPbc **pPKPbc** **09 52 40.5 -1.2**
W13A PKPab **PKPab** **09 52 47.2 +0.3**
V12A Nelson 151.21 326 PKPdf **PKPdf** **09 52 31.8 -1.7**
V12A PKPbc **PKiKP** **09 52 40.2 +0.3**
WCT Wildcat Mounta 151.33 329 PKPbc **PKiKP** **09 52 40.7 +0.6**
AFDM Forest Hills D 151.42 338 PKPdf **PKPdf** **09 52 31.9 -1.7**
AFDM **PKiKP** **09 52 39.9 -0.3**
AFDM PKPab **PKPab** **09 52 48.2 +0.4**
PDMCI Parker Dam,Lak 151.82 323 P **PKiKP** **09 52 41.8 +0.7**
baz=46
GWY Greenwater Val 151.82 329 PKPdf **PKPdf** **09 52 33.4 -1.1**
GWY PKPbc **PKiKP** **09 52 41.7 +0.4**
GWY PKPab **PKPab** **09 52 49.8 0.0**
CWC Cottonwood Cre 152.32 331 P **PKiKP** **09 52 43.0 +0.7**
baz=36
MPMC Manual Prospec 152.34 329 P **PKiKP** **09 52 43.2 +0.8**
baz=38
GMRC Granite Mounta 152.35 325 P **PKiKP** **09 52 43.4 +1.0**
baz=42
IRM Iron Mountain 152.51 324 P **PKiKP** **09 52 43.8 +1.2**
baz=51
214A Organ Pipe Nat 152.54 317 P **PKiKP** **09 52 43.5 +0.8**
baz=40
GSC Goldstone, Bar 152.58 328 P **PKiKP** **09 52 44.0 +1.2**
baz=41
HEC Hector,Ludlow 152.69 326 P **PKiKP** **09 52 44.1 +1.1**
baz=41

IDC 25 09:50:13.2±2.7, 53°78N×86°92E, h0km, mbtmp2.9/2, ML2.6/2, 1C-1D, Error ellipse: s-maj=23.4km s-min=13.6km az=69.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.26**	**278**	I	I	09 58 30.0	
	baz=100,slow=320,SNR=3.4						
ZALV	**Zalesovo Beam**	**1.26**	**278**	Pg	Pg	09 50 36.5	-0.8
	2.3nm,0.3s,baz=95,slow=27,SNR=14						
ZALV				Lg	Lg	09 50 54.1	
	1.8nm,0.3s,baz=100,slow=28,SNR=6.3						
KURBB	**Kurchatov Arra**	**6.05**	**242**	Pn	Pn	09 51 44.9	+1.0
	0.1nm,0.3s,baz=57,slow=13,SNR=3.1						
KURBB				Sn	Sn	09 52 52.7	-1.1
	0.1nm,0.3s,baz=96,slow=24,SNR=1.8						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**7.60**	**205**	Pn	Pn	09 52 05.9	+0.8
	0.2nm,0.3s,baz=24,slow=14,SNR=8.7						
MKAR				Sn	Sn	09 53 33.3	+1.4
	0.5nm,0.3s,baz=20,slow=13,SNR=16						
	0.3nm,0.3s						
PDGK	**Podgornoye**	**11.55**	**208**	⇓Pg	Pn	09 53 03.1	+3.7
	1.1nm,0.5s						
PDGK				⇑Lg	Lg	09 53 41.8	
	5.4nm,0.6s						

ROM 25 09:54:18.8±0.1, 37°728N±0°004×15°120E±0°006, h15km±1km, ML2.6/47, 2C-3D, Error ellipse: s-maj=0.6km s-min=0.1km az=124.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.12**	**253**	P	Pg	09 54 22.2	-0.3
ESLN				S	Sg	09 54 25.0	0.0
ESLN				AML	AML		
	comp=E,4180μm,0.8s						
ESLN				AML	AML		
	comp=N,3175μm,0.6s						
ESLN				AML	AML		
	comp=N,2941μm,0.4s						
ESLN				AML	AML		
	comp=E,3866μm,0.5s						
EMSG	**Monte Spagnolo**	**0.16**	**305**	P	Pg	09 54 23.0	0.0
EMSG				S	Sb	09 54 26.5	-0.3
EMSG				AML	AML		
	comp=E,9350μm,0.5s						
EMSG				AML	AML		
	comp=N,8495μm,1.4s						
EMSG				AML	AML		
	comp=N,4645μm,0.3s						
EMSG				AML	AML		
	comp=E,7565μm,0.5s						
EPOZ	**Pozzillo**	**0.22**	**188**	P	Pg	09 54 22.8	-0.8
EPOZ				AML	AML		
	comp=E,4320μm,0.7s						
EPOZ				AML	AML		
	comp=E,3470μm,1.0s						
EPOZ				AML	AML		

comp=N,6095μm,0.3s
ESML S. M. di Licod 0.22 240 P Pg 09 54 24.1 +0.3
ESML AML AML
comp=N,1495μm,1.1s
ESML AML AML
comp=E,2190μm,0.6s
EPZF Pizzo Felice 0.23 295 ⇓P Pg 09 54 24.0 0.0
EPZF S Sb 09 54 28.8 +0.1
EPZF AML AML
comp=N,6815μm,0.4s
EPZF AML AML
comp=E,4995μm,0.7s
EPZF AML AML
comp=E,4995μm,0.7s
EPZF AML AML
comp=N,6814μm,0.4s
AIO Antillo 0.26 20 P Pg 09 54 24.5 0.0
AIO S Sb 09 54 29.0 -0.5
AIO AML AML
comp=N,2395μm,0.3s
AIO AML AML
comp=E,3340μm,1.4s
AIO AML AML
comp=N,2393μm,0.3s
AIO AML AML
comp=E,3101μm,0.5s
NOV Novara 0.30 3 ⇑P Pg 09 54 25.1 0.0
NOV S Sb 09 54 30.4 -0.3
NOV AML AML
comp=N,3635μm,0.4s
NOV AML AML
comp=E,5425μm,0.6s
NOV AML AML
comp=N,3632μm,0.4s
NOV AML AML
comp=E,5422μm,0.6s
MUCR Ucria 0.37 328 P Pg 09 54 26.1 -0.3
MUCR S Sg 09 54 32.1 +0.5
MUCR AML AML
comp=E,2335μm,0.5s
MUCR AML AML
comp=N,1575μm,0.5s
MUCR AML AML
comp=N,1576μm,0.5s
MUCR AML AML
comp=E,2336μm,0.5s
MNO Monte Soro 0.39 301 ⇓P Pg 09 54 27.0 +0.2
MNO S Sb 09 54 33.6 +0.1
MNO AML AML
comp=E,2045μm,0.6s
MNO AML AML
comp=N,1780μm,0.5s
MNO AML AML
comp=E,2042μm,0.6s
MNO AML AML
comp=N,1781μm,0.5s
HLNI Lentini 0.43 208 P Pg 09 54 27.2 -0.2
HLNI AML AML
comp=E,554μm,0.3s
HLNI AML AML
comp=N,396μm,0.1s
HLNI AML AML
comp=E,504μm,0.1s
HLNI AML AML
comp=N,396μm,0.1s
GALF Gagliano Caste 0.44 268 P Pb 09 54 28.3 +0.1
GALF S Sg 09 54 34.0 +0.4
GALF AML AML
comp=E,674μm,0.7s
GALF AML AML
comp=N,808μm,0.9s
HAGA Augusta 0.44 176 P Pg 09 54 27.7 +0.1
HAGA AML AML
comp=N,513μm,0.1s
HAGA AML AML
comp=E,454μm,0.7s
HAGA AML AML
comp=E,387μm,0.1s
HAGA AML AML
comp=N,513μm,0.1s
MPNC Port Mandanici 0.46 24 ⇑P Pg 09 54 27.8 -0.1
MPNC S Sb 09 54 34.8 -0.3
MPNC AML AML
comp=E,1260μm,0.4s
MPNC AML AML
comp=N,2005μm,1.3s
MPNC AML AML
comp=E,1114μm,0.7s
MPNC AML AML
comp=N,1911μm,0.5s
CAGR Agira 0.50 258 P Pg 09 54 28.8 0.0
CAGR AML AML
comp=E,728μm,0.5s
CAGR AML AML
comp=N,644μm,0.8s
CAGR AML AML
comp=E,724μm,0.5s
CAGR AML AML
comp=N,644μm,0.8s
CAGR AML AML
comp=E,675μm,0.7s
MTTG Motta San Giov 0.53 59 P Pb 09 54 29.7 -0.1
MTTG AML AML
comp=E,352μm,1.2s
MTTG AML AML
comp=N,354μm,0.5s
MTTG AML AML
comp=N,354μm,0.5s
MTTG AML AML
comp=E,341μm,1.0s
SSY Sortino 0.57 184 P Pg 09 54 30.0 -0.1
SSY AML AML
comp=E,972μm,0.4s
SSY AML AML
comp=N,2460μm,0.3s
SSY AML AML
comp=N,2343μm,0.2s
SSY AML AML
comp=E,929μm,0.1s
MEU Monte Lauro 0.64 194 P Pg 09 54 30.9 -0.5
MEU AML AML
comp=E,584μm,1.1s
MEU AML AML
comp=N,798μm,0.4s
MEU AML AML
comp=E,576μm,0.2s
MEU AML AML
comp=N,797μm,0.4s
VPL Vulcano Piano 0.66 351 ⇓P Pg 09 54 31.5 -0.2
VPL AML AML
comp=E,704μm,1.0s
VPL AML AML
comp=N,910μm,0.4s
VPL AML AML
comp=N,911μm,0.4s
VPL AML AML
comp=E,665μm,0.4s
RAFF Raffo Rosso 0.79 230 P Pg 09 54 33.6 -0.4
RAFF AML AML
comp=N,454μm,0.5s
RAFF AML AML
comp=E,726μm,0.5s
RAFF AML AML
comp=E,726μm,0.5s
RAFF AML AML
comp=N,454μm,0.5s
PETRA Petralia Sopra 0.80 278 P Pg 09 54 34.4 0.0
CEL Celeste 0.81 49 P Pg 09 54 34.1 -0.4
CEL AML AML
comp=N,424μm,0.6s
CEL AML AML
comp=E,274μm,0.7s
CEL AML AML
comp=E,321μm,0.7s
CEL AML AML
comp=N,514μm,0.5s
CEL AML AML
comp=E,274μm,0.7s
CEL AML AML
comp=N,515μm,0.5s
CEL AML AML
comp=N,425μm,0.6s
CEL AML AML
comp=E,321μm,0.7s
HMDC Modica 0.81 199 P Pg 09 54 33.8 -0.8
HMDC AML AML
comp=E,614μm,0.6s
HMDC AML AML
comp=N,555μm,0.4s
HMDC AML AML
comp=N,555μm,0.4s
HMDC AML AML
comp=E,475μm,0.2s
PLLN Pollina 0.82 289 AML AML
comp=E,526μm,0.9s
PLLN AML AML
comp=N,823μm,0.5s
SOI Samo 0.82 65 P Pg 09 54 34.4 -0.2
RESU Resuttano 0.85 265 P Pb 09 54 35.1 -0.1
CSLB Castelbuono 0.87 284 P Pb 09 54 35.3 -0.2
HPAC Pachino 1.03 180 P Pb 09 54 37.5 -0.7
HPAC AML AML
comp=E,558μm,0.4s
HPAC AML AML
comp=N,505μm,1.1s
HPAC AML AML
comp=E,558μm,0.4s
HPAC AML AML
comp=N,431μm,0.4s
JOPP Joppolo 1.06 34 P Pb 09 54 38.3 -0.6
JOPP AML AML
comp=E,132μm,1.0s
JOPP AML AML
comp=N,164μm,0.5s
JOPP AML AML
comp=N,164μm,0.5s
JOPP AML AML
comp=E,129μm,0.5s
PLAC Placanica 1.27 55 P Pn 09 54 42.1 +0.2
PLAC AML AML
comp=E,178μm,0.6s
PLAC AML AML
comp=N,212μm,0.6s
PLAC AML AML
comp=E,205μm,0.6s
PLAC AML AML
comp=N,171μm,0.6s
PLAC AML AML
comp=N,212μm,0.6s
PLAC AML AML
comp=E,178μm,0.6s
CAR1 CAROLEI 1.75 29 P Pn 09 54 48.6 0.0
CAR1 AML AML
comp=E,112μm,0.7s
CAR1 AML AML
comp=N,174μm,0.5s
CAR1 AML AML
comp=E,112μm,0.7s
CAR1 AML AML
comp=N,238μm,0.7s
CAR1 AML AML
comp=E,178μm,0.9s
CAR1 AML AML
comp=N,174μm,0.5s
SPS2 Spezzano della 1.83 31 AML AML
comp=N,39μm,0.8s
SPS2 AML AML
comp=E,30μm,0.4s
CET2 Cetraro 1.91 20 AML AML
comp=E,114μm,0.4s
CET2 AML AML
comp=N,134μm,0.4s

ROM 25 09:54:54.3±0.1, 37°.749N±0°.004×15°.095E±0°.008, h18km±1km, ML2.5/33, 3C-1D, Error ellipse: s-maj=0.7km s-min=0.1km az=98.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.11**	**240**	P	Pg	09 54 58.0	-0.3
ESLN				S	Sg	09 55 00.9	-0.1
ESLN				AML	AML		
	comp=N,2060μm,0.5s						
ESLN				AML	AML		
	comp=E,2187μm,0.5s						
EMSG	**Monte Spagnolo**	**0.14**	**302**	P	Pg	09 54 58.4	-0.1
EMSG				AML	AML		
	comp=N,3908μm,0.3s						
EMSG				AML	AML		
	comp=E,6325μm,0.4s						
EPZF	**Pizzo Felice**	**0.20**	**292**	P	Pg	09 54 59.3	-0.1
EPZF				S	Sg	09 55 03.9	+1.1
EPZF				AML	AML		
	comp=E,3195μm,0.6s						
EPZF				AML	AML		
	comp=N,4520μm,0.4s						
EPZF				AML	AML		
	comp=E,3195μm,0.6s						
EPZF				AML	AML		
	comp=N,4522μm,0.4s						
EPOZ	**Pozzillo**	**0.23**	**183**	P	Pg	09 54 58.2	-1.5
EPOZ				S	Sg	09 55 01.1	-2.4
EPOZ				AML	AML		
	comp=E,826μm,0.3s						
EPOZ				AML	AML		
	comp=N,2950μm,0.8s						
AIO	**Antillo**	**0.25**	**26**	⇑P	Pg	09 54 59.9	-0.1
AIO				S	Sb	09 55 04.5	+0.3
AIO				AML	AML		
	comp=E,2440μm,1.5s						
AIO				AML	AML		
	comp=N,1515μm,0.8s						
AIO				AML	AML		
	comp=N,1454μm,0.3s						
AIO				AML	AML		
	comp=E,1843μm,0.2s						
NOV	**Novara**	**0.28**	**7**	⇑P	Pg	09 55 00.4	-0.1
NOV				S	Sb	09 55 05.6	+0.4
NOV				AML	AML		
	comp=N,2530μm,0.4s						
NOV				AML	AML		
	comp=E,3160μm,0.7s						
NOV				AML	AML		
	comp=N,2532μm,0.4s						
NOV				AML	AML		
	comp=E,3162μm,0.7s						
MUCR	**Ucria**	**0.34**	**329**	⇑P	Pg	09 55 01.7	+0.1
MUCR				S	Sb	09 55 07.4	+0.2
MUCR				AML	AML		
	comp=E,1490μm,0.5s						
MUCR				AML	AML		
	comp=N,1090μm,0.4s						
MUCR				AML	AML		
	comp=N,1091μm,0.4s						
MUCR				AML	AML		
	comp=E,1489μm,0.5s						
MNO	**Monte Soro**	**0.37**	**300**	P	Pb	09 55 02.4	-0.1
MNO				AML	AML		
	comp=E,1471μm,0.6s						
MNO				AML	AML		
	comp=N,1263μm,0.4s						
HLNI	**Lentini**	**0.44**	**204**	P	Pg	09 55 02.7	-0.6
HLNI				AML	AML		
	comp=E,220μm,0.2s						
HLNI				AML	AML		
	comp=N,240μm,0.2s						
MPNC	**Port Mandanici**	**0.45**	**27**	P	Pg	09 55 03.1	-0.2
MPNC				AML	AML		
	comp=E,790μm,0.7s						
MPNC				AML	AML		
	comp=N,1181μm,0.3s						
HAGA	**Augusta**	**0.47**	**174**	P	Pb	09 55 04.7	+0.7
HAGA				S	Sb	09 55 10.8	+0.3
MTTG	**Motta San Giov**	**0.54**	**62**	P	Pb	09 55 05.3	+0.1
MTTG				AML	AML		
	comp=N,226μm,0.6s						
MTTG				AML	AML		
	comp=E,210μm,0.6s						
SSY	**Sortino**	**0.59**	**182**	⇓P	Pb	09 55 06.2	+0.1
SSY				AML	AML		
	comp=N,1953μm,0.3s						
VPL	**Vulcano Piano**	**0.64**	**352**	P	Pg	09 55 06.9	0.0
VPL				AML	AML		
	comp=E,627μm,0.5s						
VPL				AML	AML		
	comp=N,667μm,0.4s						
RAFF	**Raffo Rosso**	**0.79**	**228**	P	Pb	09 55 09.5	+0.1
RAFF				AML	AML		
	comp=N,353μm,0.5s						
RAFF				AML	AML		
	comp=E,488μm,0.5s						
CEL	**Celeste**	**0.81**	**51**	P	Pb	09 55 09.9	0.0
CEL				AML	AML		
	comp=E,202μm,0.7s						
CEL				AML	AML		
	comp=E,167μm,0.6s						
CEL				AML	AML		
	comp=N,317μm,0.6s						
CEL				AML	AML		
	comp=N,377μm,0.6s						
HMDC	**Modica**	**0.83**	**198**	P	Pb	09 55 09.7	-0.5
HMDC				AML	AML		
	comp=E,393μm,0.2s						
HMDC				AML	AML		
	comp=N,326μm,0.2s						
IACL	**Alicudi**	**0.98**	**324**	P	Pb	09 55 11.9	-0.8
IACL				AML	AML		
	comp=E,517μm,1.1s						
IACL				AML	AML		
	comp=N,586μm,0.8s						
IACL				AML	AML		
	comp=N,493μm,0.2s						
IACL				AML	AML		
	comp=E,452μm,0.1s						

ROM 25 09:55:42.1±0.1, 37°.736N±0°.007×15°.12E±0°.01, h20km±1km, ML2.3/10, 1D, Error ellipse: s-maj=0.9km s-min=0.6km az=135.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.12**	**250**	P	Pg	09 55 46.3	-0.2
EMSG	**Monte Spagnolo**	**0.16**	**302**	⇓P	Pg	09 55 46.6	-0.3
EPOZ	**Pozzillo**	**0.22**	**188**	P	Pb	09 55 46.3	-1.0
EPZF	**Pizzo Felice**	**0.23**	**293**	P	Pg	09 55 47.7	-0.1
EPZF				S	Sg	09 55 52.3	+0.7
EPZF				AML	AML		
	comp=N,1712μm,0.4s						
AIO	**Antillo**	**0.25**	**20**	P	Pb	09 55 47.9	0.0
AIO				S	Sg	09 55 52.6	+0.5
AIO				AML	AML		
	comp=N,462μm,0.3s						
AIO				AML	AML		
	comp=E,721μm,0.5s						
NOV	**Novara**	**0.29**	**2**	P	Pb	09 55 48.6	-0.1
NOV				S	Sg	09 55 53.8	+0.5
NOV				AML	AML		
	comp=N,874μm,0.5s						
NOV				AML	AML		
	comp=E,1460μm,0.6s						
NOV				AML	AML		
	comp=N,874μm,0.5s						
NOV				AML	AML		
	comp=E,1460μm,0.6s						
MUCR	**Ucria**	**0.36**	**327**	P	Pg	09 55 49.8	-0.2
MUCR				S	Sb	09 55 55.4	+0.1
MUCR				AML	AML		
	comp=N,350μm,0.5s						
MUCR				AML	AML		
	comp=E,483μm,0.5s						
MNO	**Monte Soro**	**0.39**	**300**	P	Pb	09 55 50.7	+0.1
MNO				S	Sb	09 55 57.2	+0.9
MNO				AML	AML		
	comp=E,411μm,0.5s						
MNO				AML	AML		
	comp=N,409μm,0.5s						
HLNI	**Lentini**	**0.43**	**207**	P	Pg	09 55 50.8	-0.3
MPNC	**Port Mandanici**	**0.45**	**24**	P	Pb	09 55 51.5	+0.1
MPNC				S	Sb	09 55 58.4	+0.8
MPNC				AML	AML		
	comp=N,459μm,0.6s						
MPNC				AML	AML		
	comp=N,427μm,0.6s						
MPNC				AML	AML		
	comp=E,313μm,1.0s						

*NEIC **25** 09:56:33.7±1.7, 45°.08N±0°.04×105°.92W±0°.07, h16km±8km, ML2.9/39, ML3.0/14(BUT), Error ellipse: s-maj=7.5km s-min=4.3km az=60.0*

BUT 25 09:56:35.1±2.8, 45°.12N±0°.03×105°.85W±0°.04, h7km±6km, Error ellipse: s-maj=4.1km s-min=3.7km az=204.0, Montana

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LAO	**LASA Array**	**1.59**	**351**		Pn	09 57 03.4	-0.4
LAO					Sn	09 57 24.7	0.0
LAO				IAML		09 57 26.8	
	238nm,0.3s						
RSSD	**Black Hills**	**1.64**	**127**		Pn	09 57 04.0	-0.7
RSSD					Sn	09 57 25.3	-0.8
RSSD	**Black Hills**	**1.64**	**127**	IAML		09 57 27.7	
	184nm,0.2s						
RSSD				IAML		09 57 29.1	
	136nm,0.2s						
RLMT	**Red Lodge**	**2.42**	**271**		Pn	09 57 12.5	-2.9
RLMT				IAML		09 57 54.2	
	40nm,0.4s						
K22A	**Casper**	**2.52**	**191**		Pn	09 57 14.8	-1.8
K22A				IAML		09 57 54.6	
	comp=N,111nm,0.3s						
YMP	**Mirror Lake Pl**	**3.08**	**264**	Pn	Pn	09 57 21.3	-3.2
YMP				IAML		09 58 09.5	
	comp=E,49nm,0.3s						
YMP				IAML		09 58 12.2	
	comp=N,53nm,0.4s						
H17A	**Grant Village**	**3.44**	**259**	Pn	Pn	09 57 27.0	-2.5
DGMT	**Dagmar**	**3.54**	**18**	Pn	Pn	09 57 30.4	-0.2
DGMT				IAML		09 58 32.6	
	comp=N,39nm,0.8s						
PD31	**Pinedale Array**	**3.56**	**230**	Pn	Pn	09 57 28.3	-2.8
PDAR	**Pinedale Array**	**3.56**	**230**	Pn	Pn	09 57 28.8	-2.3
YHH	**Holmes Hill**	**3.56**	**266**	Pn	Pn	09 57 30.5	-0.7
RWWY	**Rawlins**	**3.57**	**197**		Pn	09 57 29.6	-1.7
RWWY				IAML		09 58 25.8	
	comp=N,13nm,0.5s						
RWWY				IAML		09 58 27.3	
	comp=N,17nm,0.7s						
FLWY	**Flagg Ranch**	**3.61**	**255**	Pn	Pn	09 57 27.4	-4.4
FLWY				IAML		09 58 32.8	
	comp=N,20nm,1.8s						
FLWY				IAML		09 58 36.0	
	comp=N,15nm,1.4s						
LOHW	**Long Hollow**	**3.73**	**248**		Pn	09 57 31.7	-1.6
IMW	**Indian Meadow**	**3.84**	**253**	Pn	Pn	09 57 32.7	-2.3
IMW				IAML		09 58 35.1	
	comp=N,14nm,0.4s						
IMW				IAML		09 58 45.0	
	comp=N,21nm,0.6s						
E28A	**Huff**	**3.89**	**66**	Pn	Pn	09 57 33.9	-1.5
SNOW	**Snow King Moun**	**3.89**	**246**	Pn	Pn	09 57 35.7	0.0
SNOW				IAML		09 58 33.0	
	comp=N,13nm,4.5s						
SNOW				IAML		09 58 42.5	
	comp=N,11nm,1.7s						
EGMT	**Eagleton**	**3.96**	**319**		Pn	09 57 34.9	-1.4
EGMT				IAML		09 58 38.5	
	comp=N,28nm,0.4s						
FXWY	**Fox Creek**	**3.99**	**250**	Pn	Pn	09 57 35.2	-1.9
BOZ	**Bozeman (W)**	**4.10**	**279**		Pn	09 57 37.4	-1.0
N23A	**Red Feather La**	**4.23**	**181**	Pn	Pn	09 57 40.0	-0.3
N23A				IAML		09 58 52.6	
	comp=E,21nm,0.6s						
AHID	**Auburn Hatcher**	**4.46**	**240**	Pn	Pn	09 57 41.7	-1.7
AHID				IAML		09 58 53.0	
	comp=E,8.1nm,0.9s						
AHID				IAML		09 58 58.7	
	comp=E,11nm,1.4s						

ROM 25 09:56:43.3±0.1, 37°.734N±0°.004×15°.108E±0°.008, h18km±1km, ML2.3/15, 5C-4D, Error ellipse: s-maj=0.6km s-min=0.3km az=99.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.11**	**249**	P	Pg	09 56 47.2	-0.2
ESLN				S	Sg	09 56 49.9	-0.3
ESLN				AML	AML		
	comp=N,854μm,0.7s						
ESLN				AML	AML		
	comp=E,1250μm,0.5s						
EMSG	**Monte Spagnolo**	**0.15**	**305**	⇓P	Pg	09 56 47.7	-0.1
EMSG				S	Sg	09 56 51.4	+0.5
EMSG				AML	AML		
	comp=E,2565μm,0.3s						

EMSG					AML	AML			
	comp=N,2430μm,0.8s								
EMSG					AML	AML			
	comp=N,1640μm,0.3s								
ESML	**S. M. di Licod**	**0.22**	**238**	⇓	P	Pg	09 56 49.1	+0.6	
ESML					AML	AML			
	comp=E,620μm,0.6s								
ESML					AML	AML			
	comp=N,404μm,0.6s								
ESML					AML	AML			
	comp=E,620μm,1.4s								
ESML					AML	AML			
	comp=N,404μm,1.4s								
EPZF	**Pizzo Felice**	**0.22**	**294**	⇓	P	Pg	09 56 48.6	-0.1	
EPZF					AML	AML			
	comp=N,1680μm,0.4s								
EPZF					AML	AML			
	comp=E,1760μm,0.5s								
EPOZ	**Pozzillo**	**0.22**	**185**		P	Pb	09 56 47.6	-0.8	
EPOZ					AML	AML			
	comp=N,1345μm,0.7s								
EPOZ					AML	AML			
	comp=N,2120μm,0.3s								
EPOZ					AML	AML			
	comp=E,1250μm,1.4s								
AIO	**Antillo**	**0.26**	**23**	⇑	P	Pg	09 56 49.1	-0.1	
AIO					S	Sg	09 56 53.7	+0.4	
AIO					AML	AML			
	comp=E,1126μm,1.5s								
AIO					AML	AML			
	comp=N,768μm,0.6s								
AIO					AML	AML			
	comp=E,1126μm,0.5s								
NOV	**Novara**	**0.29**	**4**	⇑	P	Pg	09 56 49.7	-0.2	
NOV					S	Sb	09 56 55.0	+0.5	
NOV					AML	AML			
	comp=E,862μm,0.7s								
NOV					AML	AML			
	comp=N,762μm,0.5s								
MUCR	**Ucria**	**0.36**	**329**	⇑	P	Pg	09 56 50.8	-0.2	
MUCR					S	Sb	09 56 56.8	+0.1	
MUCR					AML	AML			
	comp=N,405μm,0.5s								
MUCR					AML	AML			
	comp=E,648μm,0.5s								
MNO	**Monte Soro**	**0.38**	**301**	⇓	P	Pb	09 56 51.7	-0.1	
MNO					AML	AML			
	comp=E,665μm,0.4s								
MNO					AML	AML			
	comp=N,526μm,0.4s								
HLNI	**Lentini**	**0.43**	**206**	⇑	P	Pg	09 56 51.8	-0.3	
HLNI					S	Sb	09 56 58.8	+0.4	
HLNI					AML	AML			
	comp=E,169μm,0.1s								
HLNI					AML	AML			
	comp=N,178μm,1.1s								
HLNI					AML	AML			
	comp=N,178μm,0.9s								
HAGA	**Augusta**	**0.45**	**175**		P	Pg	09 56 52.3	-0.2	
HAGA					AML	AML			
	comp=E,175μm,0.3s								
HAGA					AML	AML			
	comp=N,162μm,0.9s								
MPNC	**Port Mandanici**	**0.45**	**25**	⇑	P	Pg	09 56 52.4	-0.2	
MPNC					S	Sb	09 56 59.6	+0.4	
MPNC					AML	AML			
	comp=N,648μm,0.6s								
MPNC					AML	AML			
	comp=E,344μm,0.4s								
MTTG	**Motta San Giov**	**0.54**	**60**		P	Pb	09 56 54.5	+0.4	
MTTG					AML	AML			
	comp=E,140μm,0.9s								
MTTG					AML	AML			
	comp=N,122μm,1.1s								
MTTG					AML	AML			
	comp=E,140μm,1.1s								
MTTG					AML	AML			
	comp=N,122μm,0.9s								
SSY	**Sortino**	**0.58**	**183**		AML	AML			
	comp=N,893μm,0.2s								
SSY					AML	AML			
	comp=E,331μm,1.0s								
MEU	**Monte Lauro**	**0.65**	**193**		P	Pb	09 56 55.6	-0.4	
MEU					S	Sg	09 57 05.9	+1.0	
MEU					AML	AML			
	comp=E,246μm,1.1s								
MEU					AML	AML			
	comp=N,292μm,0.4s								
MEU					AML	AML			
	comp=E,112μm,0.3s								
VPL	**Vulcano Piano**	**0.65**	**351**		P	Pb	09 56 55.9	-0.1	
VPL					AML	AML			
	comp=N,257μm,0.5s								
VPL					AML	AML			
	comp=E,304μm,0.4s								
RAFF	**Raffo Rosso**	**0.78**	**230**		P	Pg	09 56 58.6	-0.1	
RAFF					AML	AML			
	comp=N,288μm,0.5s								
RAFF					AML	AML			
	comp=E,460μm,0.5s								
PLLN	**Pollina**	**0.81**	**289**		AML	AML			
	comp=E,200μm,0.7s								
PLLN					AML	AML			
	comp=N,293μm,0.4s								
CEL	**Celeste**	**0.81**	**50**		AML	AML			
	comp=E,93μm,0.7s								
CEL					AML	AML			
	comp=N,122μm,0.5s								
CEL					AML	AML			
	comp=E,93μm,1.3s								
HMDC	**Modica**	**0.82**	**199**		P	Pb	09 56 58.6	-0.4	
HMDC					AML	AML			
	comp=E,339μm,1.1s								
HMDC					AML	AML			
	comp=N,330μm,1.6s								
HMDC					AML	AML			
	comp=N,330μm,0.4s								

ROM 25 09:57:04.4±0.1, 37°.753N±0°.004×15°.095E±0°.007, h12km, ML2.5/26, 2C-3D, Error ellipse: s-maj=0.6km s-min=0.1km az=125.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.11**	**238**	⇑ P	Pg	09 57 07.4	-0.1
ESLN				S	Sg	09 57 10.0	+0.2
ESLN				AML	AML		
	comp=N,1965μm,0.5s						
ESLN				AML	AML		
	comp=E,2405μm,1.2s						
ESLN				AML	AML		
	comp=N,1743μm,0.6s						
ESLN				AML	AML		
	comp=E,1994μm,0.5s						
EMSG	**Monte Spagnolo**	**0.13**	**300**	⇓ P	Pg	09 57 08.1	+0.3
EMSG				S	Sg	09 57 11.1	+0.9
EMSG				AML	AML		
	comp=E,5985μm,0.5s						
EMSG				AML	AML		
	comp=N,6205μm,1.4s						
EMSG				AML	AML		
	comp=E,6385μm,0.4s						
EMSG				AML	AML		
	comp=N,5771μm,0.2s						
EMSG				AML	AML		
	comp=E,5983μm,0.5s						
EPZF	**Pizzo Felice**	**0.20**	**291**	⇓ P	Pg	09 57 09.1	+0.3
EPZF				AML	AML		
	comp=E,3175μm,1.5s						
EPZF				AML	AML		
	comp=N,4165μm,0.4s						
EPZF				AML	AML		
	comp=E,3055μm,0.7s						
EPZF				AML	AML		
	comp=N,4166μm,0.4s						
EPOZ	**Pozzillo**	**0.24**	**182**	P	Pg	09 57 08.2	-1.2
EPOZ				AML	AML		
	comp=E,2290μm,0.7s						
EPOZ				AML	AML		
	comp=N,4240μm,0.3s						
EPOZ				AML	AML		
	comp=E,2268μm,0.3s						
EPOZ				AML	AML		
	comp=N,4238μm,0.3s						
AIO	**Antillo**	**0.24**	**27**	P	Pg	09 57 09.6	+0.1
AIO				S	Sg	09 57 14.3	+1.3

AIO					AML	AML			
	comp=N,1332μm,0.3s								
AIO					AML	AML			
	comp=E,1821μm,0.4s								
NOV	**Novara**	**0.28**	**7**	⇑	P	Pg	09 57 10.2	+0.1	
NOV					S	Sb	09 57 15.5	-0.6	
NOV					AML	AML			
	comp=N,2310μm,0.4s								
NOV					AML	AML			
	comp=E,2775μm,0.7s								
NOV					AML	AML			
	comp=N,2308μm,0.4s								
NOV					AML	AML			
	comp=E,2776μm,0.7s								
MUCR	**Ucria**	**0.34**	**329**		P	Pg	09 57 11.4	+0.1	
MUCR					S	Sb	09 57 17.1	-0.7	
MUCR					AML	AML			
	comp=E,1305μm,0.5s								
MUCR					AML	AML			
	comp=N,1058μm,0.4s								
MUCR					AML	AML			
	comp=N,1059μm,0.4s								
MUCR					AML	AML			
	comp=E,1305μm,0.5s								
MNO	**Monte Soro**	**0.36**	**300**	⇓	P	Pg	09 57 12.2	+0.4	
MNO					AML	AML			
	comp=E,1570μm,0.6s								
MNO					AML	AML			
	comp=N,1126μm,0.4s								
MNO					AML	AML			
	comp=N,1128μm,0.4s								
MPNC	**Port Mandanici**	**0.44**	**27**		P	Pg	09 57 13.0	-0.1	
MPNC					S	Sg	09 57 19.8	+0.8	
MPNC					AML	AML			
	comp=E,795μm,0.4s								
MPNC					AML	AML			
	comp=N,1200μm,0.5s								
MPNC					AML	AML			
	comp=N,1199μm,0.5s								
MPNC					AML	AML			
	comp=E,795μm,0.4s								
HLNI	**Lentini**	**0.44**	**204**		P	Pg	09 57 13.3	+0.2	
HLNI					AML	AML			
	comp=E,302μm,0.3s								
HLNI					AML	AML			
	comp=N,284μm,0.5s								
AGST	**Augusta-Monte**	**0.51**	**168**		P	Pb	09 57 15.0	-0.3	
MILZ	**Milazzo**	**0.53**	**12**		P	Pg	09 57 14.3	-0.4	
MTTG	**Motta San Giov**	**0.54**	**62**		P	Pg	09 57 15.2	+0.4	
SSY	**Sortino**	**0.60**	**182**		P	Pg	09 57 16.0	0.0	
SSY					S	Sg	09 57 24.4	+0.5	
VPL	**Vulcano Piano**	**0.63**	**352**		P	Pg	09 57 16.8	+0.1	
MEU	**Monte Lauro**	**0.66**	**191**		P	Pb	09 57 17.7	-0.3	
MEU					S	Sg	09 57 26.4	+0.4	
MEU					AML	AML			
	comp=E,436μm,0.3s								
MEU					AML	AML			
	comp=N,679μm,0.4s								
MEU					AML	AML			
	comp=E,436μm,0.3s								
MEU					AML	AML			
	comp=N,522μm,0.4s								
GMB	**Gambarie**	**0.71**	**54**		P	Pg	09 57 18.2	0.0	
CEL	**Celeste**	**0.81**	**51**		P	Pg	09 57 20.0	0.0	
CEL					AML	AML			
	comp=E,186μm,0.7s								
CEL					AML	AML			
	comp=N,290μm,0.5s								
CEL					AML	AML			
	comp=E,132μm,0.6s								
CEL					AML	AML			
	comp=N,290μm,0.5s								
CEL					AML	AML			
	comp=N,255μm,0.6s								
CEL					AML	AML			
	comp=E,162μm,0.5s								
HMDC	**Modica**	**0.83**	**198**		P	Pg	09 57 20.0	-0.5	
HMDC					S	Sb	09 57 31.8	-0.2	
HMDC					AML	AML			
	comp=E,375μm,0.2s								
HMDC					AML	AML			
	comp=N,356μm,0.2s								
HMDC					AML	AML			
	comp=N,372μm,0.4s								
HMDC					AML	AML			
	comp=E,375μm,0.2s								
PLAC	**Placanica**	**1.27**	**56**		P	Pn	09 57 27.5	-0.5	
PLAC					AML	AML			
	comp=E,98μm,0.5s								
PLAC					AML	AML			
	comp=N,116μm,0.6s								
PLAC					AML	AML			
	comp=N,116μm,0.6s								
PLAC					AML	AML			
	comp=E,119μm,0.7s								
PLAC					AML	AML			
	comp=N,92μm,0.8s								
PLAC					AML	AML			
	comp=E,99μm,0.5s								
CAR1	**CAROLEI**	**1.73**	**30**		AML	AML			
	comp=E,67μm,0.4s								
CAR1					AML	AML			
	comp=N,97μm,0.6s								
CET2	**Cetraro**	**1.90**	**21**		AML	AML			
	comp=N,95μm,0.6s								
CET2					AML	AML			
	comp=E,77μm,0.7s								
VBKN	**Vesuvio Bunker**	**3.12**	**351**		AML	AML			
	comp=E,2170μm,0.1s								
VBKN					AML	AML			
	comp=N,1795μm,0.1s								

*BJI **25** 10:06:42.8±0.0, 26°.13N×127°.43E, h53km, mb4.4/25, mB4.3/9, ML4.0/1, Ms3.6/5, Ms7 3.4/6*
*MOS **25** 10:06:43.7±1.0, 26°.47N×127°.26E, h54km, mb4.6/19, Error ellipse: s-maj=10.5km s-min=5.8km az=87.0*
*NEIC **25** 10:06:46.1±2.3, 26°.40N±0°.07×127°.35E±0°.07, h58km±7km, mb4.6/78, Error ellipse: s-maj=10.7km s-min=7.8km az=151.0*
*NIED **25** 10:06:46.9, 26°.46N×127°.24E, h61km, MW4.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^15^Nm; Mrr1.70; Mθθ1.21; Mϕϕ-2.92; Mrθ-1.77; Mθϕ1.67; Mϕr-0.86; Fault plane solution: M0 3.62000×10^15^ NP1: ϕs196.00000°, δ63.00000°, λ144.00000°. NP2: ϕs305.00000°, δ58.00000°, λ33.00000°.*
*JMA **25** 10:06:46.9±0.2, 26°.5N±0°.7×127°.2E±0°.7, h61km±1km, MD4.4/27, MV4.6/27, NEAR OKINAWAJIMA ISLAND*
JMA Felt III J1 at NEAR OKINAWAJIMA ISLAND .
*IDC **25** 10:06:46.8±1.3, 26°.50N×127°.29E, h69km±13km, mb3.9/22, mbtmp4.1/26, MS3.2/12, Error ellipse: s-maj=19.1km s-min=11.3km az=74.0*

ISC 25 10:06:46.8±0.6, 26°.41N±0°.04×127°.35E±0°.04, h69km±5km, n242, σ1§26/237, mb4.5/77, 4C-3D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGN	**Aguni-jima**	**0.20**	**331**	*i* P	**Pn**	**10 06 56.1**	**-1.2**
JAGN				S	**Sn**	**10 07 03.1**	**-1.9**
JAGN	**Aguni-jima**	**0.20**	**331**	A	A	10 06 56.1	
	comp=E,88nm,0.3s,comp=N,96nm,0.6s						
JJT3	**Tamagusuku3**	**0.47**	**124**	*i* P	**Pn**	**10 07 00.3**	**+1.0**
JJT3				S	**Sn**	**10 07 10.4**	**+1.9**
JJT3	**Tamagusuku3**	**0.47**	**124**	A	A	10 07 00.3	
	comp=E,73nm,1.1s,comp=N,57nm,0.5s						
JKE	**Kume jima 2**	**0.51**	**260**	*i* P	**Pn**	**10 06 58.2**	**-1.4**
JKE				S	**Sn**	**10 07 06.7**	**-2.4**
JKE	**Kume jima 2**	**0.51**	**260**	A	A	10 06 58.2	
	comp=E,74nm,0.6s,comp=N,56nm,1.6s						
JNTH	**Nagotoyohara**	**0.61**	**80**	*i* P	**Pn**	**10 07 01.3**	**+0.6**
JNTH				S	**Sn**	**10 07 11.7**	**+0.8**
JNTH	**Nagotoyohara**	**0.61**	**80**	A	A	10 07 01.3	
	comp=E,54nm,1.1s,comp=N,30nm,0.5s						
JIH	**Iheya**	**0.83**	**42**	*i* P	**Pn**	**10 07 03.3**	**+0.2**
JIH				S	**Sn**	**10 07 15.2**	**0.0**
JIH	**Iheya**	**0.83**	**42**	A	A	10 07 03.3	
	comp=E,44nm,1.6s,comp=N,25nm,0.4s						
JOW	**Kunigami**	**0.93**	**63**	P	**Pn**	**10 07 05.0**	**+0.6**
JOW	**Kunigami**	**0.93**	**63**	Pn	**Pn**	**10 07 04.9**	**+0.5**
JOW	**Kunigami**	**0.93**	**63**	P	**Pn**	**10 07 05.0**	**+0.6**
	comp=N,5μm,0.3s,baz=226,slow=8.6,SNR=5042						
JOW				S	**Sn**	**10 07 18.1**	**+0.7**
	comp=N,6μm,0.3s,baz=128,slow=27,SNR=12						

JOW				LR	LR	10 07 34.9	
	comp=N,568nm,20.6s,baz=138,slow=51						
JOW	**Kunigami**	**0.93**	**63**	*i* P	**Pn**	**10 07 04.9**	**+0.6**
JOW				*e*S	**Sn**	**10 07 18.1**	**+0.7**
JOW	**Kunigami**	**0.93**	**63**	A	A	10 07 04.9	
	comp=E,16nm,0.4s,comp=N,13nm,0.3s						
JYRO	**Yoronjima**	**1.16**	**58**	*i* P	**Pn**	**10 07 07.6**	**+0.4**
JYRO				S	**Sn**	**10 07 22.9**	**+0.3**
JYRO	**Yoronjima**	**1.16**	**58**	A	A	10 07 07.6	
	comp=E,8.0nm,2.2s,comp=N,9.0nm,0.4s						
JOKE	**Okinoerabujima**	**1.44**	**49**	*i* P	**Pn**	**10 07 11.1**	**+0.1**
JTK	**Tokunoshima**	**1.98**	**46**	*i* P	**Pn**	**10 07 18.0**	**-0.1**
JTK				*e*S	**Sn**	**10 07 41.8**	**-0.2**
JTK	**Tokunoshima**	**1.98**	**46**	A	A	10 07 18.0	
	comp=E,3.0nm,0.8s,comp=N,5.0nm,0.6s						
JOGS	**Gusukube**	**2.41**	**227**	A	A	10 07 24.2	
	comp=E,8.0nm,2.8s,comp=N,8.0nm,3.1s						
JIKM	**Ikemajima**	**2.41**	**232**	A	A	10 07 24.1	
	comp=E,7.0nm,2.3s,comp=N,8.0nm,4.4s						
JAMN	**Amaminishikomi**	**2.44**	**41**	*i* P	**Pn**	**10 07 24.0**	**-0.4**
JMJ	**Miyako jima 2**	**2.44**	**230**	P	**Pn**	**10 07 25.1**	**+0.7**
JMJ2	**Miyako jima3**	**2.47**	**228**	A	A	10 07 25.1	
	comp=E,10.0nm,1.8s,comp=N,6.0nm,1.3s						
JAM	**Amami Oshima**	**2.83**	**45**	P	**Pn**	**10 07 29.6**	**0.0**
JZK	**Kikaishima**	**3.00**	**50**	*i* P	**Pn**	**10 07 32.4**	**+0.3**
JTAJ	**Takarajima**	**3.19**	**31**	P	**Pn**	**10 07 34.5**	**0.0**
JMZ	**Minamidaito 2**	**3.53**	**99**	P	**Pn**	**10 07 37.9**	**-1.3**
JMZ	**Minamidaito 2**	**3.53**	**99**	Pn	**Pn**	**10 07 37.8**	**-1.4**
JMZ	**Minamidaito 2**	**3.53**	**99**	P	**Pn**	**10 07 37.4**	**-1.9**
JMZ				S	**Sn**	**10 08 16.5**	**-3.4**
JKDJ	**Kitadaitoujima**	**3.58**	**97**	P	**Pn**	**10 07 38.2**	**-1.6**
JKDJ				S	**Sn**	**10 08 18.4**	**-2.5**
JNN	**Nakanoshima**	**4.08**	**33**	P	**Pn**	**10 07 46.6**	**-0.1**
YOJ	**Yonaguni jima**	**4.38**	**245**	P	**Pn**	**10 07 50.2**	**-0.6**
YOJ	**Yonaguni jima**	**4.38**	**245**	Pn	**Pn**	**10 07 49.4**	**-1.4**
YOJ	**Yonaguni jima**	**4.38**	**245**	P	**Pn**	**10 07 49.4**	**-1.4**
JYAK	**Yakushimahirau**	**4.72**	**35**	P	**Pn**	**10 07 54.6**	**-0.8**
JYAK				S	**Sn**	**10 08 47.8**	**-1.1**
JKC	**Kuchinoerabu**	**4.75**	**31**	P	**Pn**	**10 07 56.0**	**+0.1**
JMTN	**Minamitane**	**5.05**	**37**	P	**Pn**	**10 07 59.0**	**-1.1**
JMTN				S	**Sn**	**10 08 55.5**	**-1.6**
JTN	**Tanegashima 3**	**5.30**	**36**	P	**Pn**	**10 08 02.9**	**-0.5**
TATO	**Taipei**	**5.48**	**256**	P	**Pn**	**10 08 08.3**	**+2.5**
TATO	**Taipei**	**5.48**	**256**	Pn	**Pn**	**10 08 06.5**	**+0.7**
NACB	**Ninganchiao**	**5.67**	**248**	Pn	**Pn**	**10 08 06.7**	**-1.8**
YHNB	**Yeheng**	**5.67**	**253**	P	**Pn**	**10 08 09.4**	**+0.9**
YHNB	**Yeheng**	**5.67**	**253**	Pn	**Pn**	**10 08 09.3**	**+0.8**
YULB	**Yu-li**	**6.26**	**243**	Pn	**Pn**	**10 08 13.1**	**-3.5**
SSLB	**Suanglung**	**6.36**	**247**	P	**Pn**	**10 08 18.2**	**+0.3**
SSLB	**Suanglung**	**6.36**	**247**	Pn	**Pn**	**10 08 15.5**	**-2.5**
TWG	**Pinlang**	**6.74**	**239**	Pn	**Pn**	**10 08 20.1**	**-3.0**
TPUB	**Ta-pu**	**6.84**	**245**	P	**Pn**	**10 08 23.6**	**-1.0**
TPUB	**Ta-pu**	**6.84**	**245**		**Pn**	**10 08 23.1**	**-1.5**
JNU	**Nakatsue**	**7.36**	**24**	P	**Pn**	**10 08 32.6**	**+1.1**
JNU	**Nakatsue**	**7.36**	**24**	Pn	**Pn**	**10 08 32.8**	**+1.3**
JNU	**Nakatsue**	**7.36**	**24**	P	**Pn**	**10 08 31.9**	**+0.4**
	comp=N,23nm,0.5s,baz=188,slow=3.7,SNR=26						
JNU				S	**Sn**	**10 09 54.4**	**+0.8**
	comp=N,6.1nm,0.7s,baz=236,slow=22,SNR=0.5						
JTU	**Tsushima**	**8.28**	**12**	Pn	**Pn**	**10 08 44.0**	**-0.1**
KNMB	**Chin-men Tao**	**8.33**	**258**	Pn	**Pn**	**10 08 45.5**	**+0.7**
JMN	**Monobe**	**9.22**	**36**	Pn	**Pn**	**10 08 55.0**	**-2.1**
NJ2	**Nanjing**	**9.31**	**309**	*e*P	**Pn**	**10 08 58.5**	**+0.4**
NJ2				pmax	pmax		
	comp=N,10.0nm,0.6s						
TJN	**Taejon**	**9.93**	**0**	Pn	**Pn**	**10 09 07.0**	**+0.3**
TJN	**Taejon**	**9.93**	**0**	P	**Pn**	**10 09 07.0**	**+0.3**
KSRS	**Korea Array**	**11.02**	**2**	P	**Pn**	**10 09 20.6**	**-0.8**
	comp=N,1.9nm,0.8s,baz=180,slow=14,SNR=8.9						
KSRS				LR	LR	10 13 38.0	
	comp=N,58nm,18.8s,baz=195,slow=38						
KS19	**Wonju Array Si**	**11.07**	**2**	Pn	**Pn**	**10 09 19.0**	**-3.1**
INU	**Inuyama**	**12.17**	**41**	P	**Pn**	**10 09 38.6**	**+1.4**
INU	**Inuyama**	**12.17**	**41**		**Pn**	**10 09 34.3**	**-2.9**
JGF	**Kuroka**	**12.54**	**41**	P	**Pn**	**10 09 44.1**	**+1.7**
JGF	**Kuroka**	**12.54**	**41**	Pn	**Pn**	**10 09 39.8**	**-2.5**
JHJ	**Hachijo jima 2**	**12.70**	**55**	LR	LR	10 14 13.5	
	comp=N,73nm,20.5s,baz=104,slow=35						
JHJ2	**Mitsune**	**12.72**	**55**	Pn	**Pn**	**10 09 42.2**	**-2.5**
JCJ	**Chichijima**	**13.27**	**84**	P	**Pn**	**10 09 52.4**	**+0.1**
JCJ	**Chichijima**	**13.27**	**84**	Pn	**Pn**	**10 09 50.6**	**-1.6**
JCJ	**Chichijima**	**13.27**	**84**	P	**Pn**	**10 09 50.0**	**-2.3**
	comp=N,14nm,0.4s,baz=280,slow=19,SNR=5.7						
MAJO	**Matsushiro**	**13.69**	**40**	Pn	**Pn**	**10 09 55.2**	**-2.6**
MAJO	**Matsushiro**	**13.69**	**40**	*e*P	**Pn**	**10 09 58.5**	**+0.7**
MJAR	**Matsushiro Arr**	**13.69**	**40**	P	**Pn**	**10 09 57.1**	**-0.7**
	comp=N,0.5nm,0.3s,baz=250,slow=14,SNR=2.0						
MJAR				LR	LR	10 14 34.6	
	comp=N,32nm,20.0s,baz=210,slow=34						
MJB9	**Matsu-Tunnel**	**13.69**	**40**	Pn	**Pn**	**10 09 56.0**	**-1.8**
LYN	**LuoYang**	**15.17**	**306**	⇓ P	**P**	**10 10 22.3**	**+1.7**
LYN				pmax	pmax		
	comp=N,43nm,0.6s						
LYN				LR	LR		
	comp=N,210nm,9.3s						
LYN				LR	LR		
	comp=N,150nm,10.3s						
LYN				LR	LR		
	comp=N,140nm,10.0s						
HNS	**HongShan**	**15.32**	**319**	*e*P	**P**	**10 10 24.5**	**+2.3**
JMM	**Marumori**	**16.11**	**42**	Pn	**Pn**	**10 10 27.7**	**-1.2**
JMM				IAmb	IAmb	10 10 45.4	
	comp=Z,77nm,1.4s						
PSTR	**Posyet**	**16.45**	**9**	*i* P	**Pn**	**10 10 32.5**	**-0.5**
VLA	**Vladivostok**	**17.07**	**11**	*i* P	**Pn**	**10 10 40.4**	**-0.4**
VLA				pmax	pmax		
	comp=Z,21nm,0.6s						
CN2	**Changchun**	**17.42**	**355**	P	**P**	**10 10 47.3**	**+1.9**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
XAN	**Xi'an**	**17.63**	**300**	⇓ P	**P**	**10 10 50.8**	**+2.9**
XAN				S	**S**	**10 14 11.5**	**+4.7**
XAN				sS	sS	10 14 21.8	-8.4
XAN				pmax	pmax		
	comp=Z,10.0nm,0.5s						
XAN				pmax	pmax		
	comp=Z,58nm,3.6s						
USA0B	**Ussuriysk Arra**	**18.14**	**11**		**P**	**10 10 51.8**	**-1.6**
USA0B	**Ussuriysk Arra**	**18.14**	**11**	P	**P**	**10 10 51.8**	**-1.6**
USA0B				pmax	pmax		
	comp=Z,9.0nm,1.3s						
USRK	**Ussuriysk Ar.**	**18.14**	**11**	P	**Pn**	**10 10 53.4**	**-0.5**
	comp=Z,1.6nm,0.5s,baz=187,slow=9.9,SNR=6.4						
GYA	**Guiyang**	**18.53**	**275**	*e*P	**Pn**	**10 11 02.0**	**+3.2**
GYA				pmax	pmax		
	comp=Z,21nm,1.2s						
DAV	**Davao City (W)**	**19.31**	**185**	LR	LR	10 18 46.6	
	comp=Z,53nm,20.1s,baz=312,slow=37						
HHC	**Hu-ho-hao-te**	**19.45**	**322**	*e*P	**Pn**	**10 11 10.0**	**+0.3**
HHC				pmax	pmax		
	comp=Z,12nm,0.7s						
HHC				pmax	pmax		
	comp=Z,57nm,4.4s						
HHC				LR	LR		
	comp=Z,110nm,16.0s						
HHC				LR	LR		
	comp=Z,120nm,17.2s						
HHC				LR	LR		
	comp=Z,120nm,16.4s						
ERM	**Erimo**	**20.27**	**36**	*d* P	**P**	**10 11 15.2**	**-1.4**
ERM				pmax	pmax		
	comp=Z,26nm,1.4s						
GUMO	**Guam**	**20.79**	**124**	LR	LR	10 17 51.0	
	comp=Z,24nm,19.7s,baz=301,slow=32						
ASAJ	**Asahikawa**	**21.55**	**31**	P	**P**	**10 11 30.0**	**-0.3**
	comp=Z,4.4nm,0.6s,baz=196,slow=16,SNR=4.9						
	comp=Z,4.4nm,0.6s						
ASAJ	**Asahikawa**	**21.55**	**31**	P	**P**	**10 11 28.8**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,17nm,1.4s						
JKA	**Kamikawa-asahi**	**21.55**	**31**	P	**P**	**10 11 28.8**	**-1.5**
PZH	**PanZhiHua**	**22.92**	**276**	P	**P**	**10 11 45.3**	**+0.1**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,110

ULN					pmax	pmax				
	comp=Z,3.0nm,0.7s									
LBMI	**Labuha**	**26.89**	**180**		P	**P**	**10 12 20.6**	**-0.8**		
	comp=Z,36nm,1.3s,comp=Z,2μm									
SONM	**Songino Array**	**26.98**	**328**		P	**P**	**10 12 22.1**	**+0.1**		
SONM	**Songino Array**	**26.98**	**328**		P	**P**	**10 12 22.4**	**+0.4**		
	comp=Z,4.3nm,0.5s,baz=136,slow=8.8,SNR=13									
	comp=Z,4.3nm,0.5s									
SONM	**Songino Array**	**26.98**	**328**		P	**P**	**10 12 22.1**	**+0.1**		
SONM					pmax	pmax				
	comp=Z,7.0nm,0.9s									
CHTO	**Chiang Mai**	**27.25**	**260**		P	**P**	**10 12 23.1**	**-1.5**		
CHTO					IAmb	IAmb	10 12 25.5			
	comp=Z,7.3nm,0.8s									
CHTO	**Chiang Mai**	**27.25**	**260**		P	**P**	**10 12 23.1**	**-1.5**		
CHTO					pmax	pmax				
	comp=Z,7.0nm,0.8s									
CM31	**Chiang Mai Arr**	**27.38**	**259**		P	**P**	**10 12 26.5**	**+0.7**		
CMAR	**Chiang Mai Arr**	**27.38**	**259**		P	**P**	**10 12 25.8**	**0.0**		
CMAR	**Chiang Mai Arr**	**27.38**	**259**		P	**P**	**10 12 25.5**	**-0.3**		
	comp=Z,1.5nm,0.4s,baz=52,slow=7.2,SNR=9.3									
CMAR					LR	LR	10 22 57.8			
	comp=Z,36nm,20.9s,baz=75,slow=36									
	comp=Z,1.5nm,0.4s									
CMAR	**Chiang Mai Arr**	**27.38**	**259**		P	**P**	**10 12 25.8**	**0.0**		
SBUM	**Sibu**	**27.91**	**214**		P	**P**	**10 12 30.6**	**+0.1**		
SANI	**Sanana**	**28.33**	**183**		P	**P**	**10 12 33.2**	**-1.0**		
	comp=Z,31nm,0.8s									
BKB	**Balikpapan**	**29.30**	**202**		P	**P**	**10 12 41.1**	**-1.8**		
FAKI	**Fak Fak**	**29.54**	**170**		P	**P**	**10 12 46.1**	**+1.1**		
FAKI	**Fak Fak**	**29.54**	**170**		P	**P**	**10 12 45.9**	**+0.9**		
FAKI					IAmb	IAmb	10 12 47.0			
	comp=Z,14nm,0.7s									
JAY	**Jayapura**	**31.52**	**154**		P	**P**	**10 13 01.9**	**-0.6**		
	comp=Z,17nm,1.1s									
H11N1	**WAKE ISLAND Hy**	**36.88**	**92**		T	T	10 52 16.6			
	baz=290									
H11N2	**WAKE ISLAND Hy**	**36.88**	**92**		T	T	10 52 25.3			
	baz=290									
H11N3	**WAKE ISLAND Hy**	**36.90**	**92**		T	T	10 52 08.8			
	baz=290									
MTN	**Manton Dam**	**39.19**	**174**		P	**P**	**10 14 08.2**	**0.0**		
MTN	**Manton Dam**	**39.19**	**174**		P	**P**	**10 14 08.2**	**0.0**		
MK31	**Makanchi Array**	**40.83**	**312**		P	**P**	**10 14 21.7**	**+0.1**		
MK31	**Makanchi Array**	**40.83**	**312**		P	**P**	**10 14 21.7**	**+0.1**		
MK31					pmax	pmax				
	comp=Z,3.0nm,0.6s									
MKAR	**Makanchi Array**	**40.83**	**312**		P	**P**	**10 14 20.6**	**-1.0**		
	comp=Z,4.4nm,0.5s,baz=98,slow=11,SNR=36									
MKAR					PcP	**PcP**	**10 16 21.1**	**-0.2**		
	comp=Z,0.2nm,0.3s,baz=93,slow=2.9,SNR=2.9									
	comp=Z,4.4nm,0.5s									
MAKZ	**Makanchi**	**41.04**	**312**		P	**P**	**10 14 23.4**	**+0.1**		
MAKZ	**Makanchi**	**41.04**	**312**		P	**P**	**10 14 23.4**	**+0.1**		
MAKZ					pmax	pmax				
	comp=Z,3.0nm,0.7s									
ZAA0	**Zalesovo Array**	**41.63**	**323**		P	**P**	**10 14 27.4**	**-0.5**		
ZAA0					IAmb	IAmb	10 14 29.5			
	comp=Z,5.7nm,0.5s									
ZALV	**Zalesovo Beam**	**41.63**	**323**		P	**P**	**10 14 27.8**	**-0.1**		
ZALV	**Zalesovo Beam**	**41.63**	**323**		P	**P**	**10 14 27.3**	**-0.7**		
	comp=Z,6.9nm,0.4s,baz=114,slow=9.2,SNR=34									
	comp=Z,6.9nm,0.4s									
XMIS	**Christmas Isla**	**42.30**	**213**		P	**P**	**10 14 33.8**	**-0.2**		
COEN	**Coen**	**42.98**	**157**		P	**P**	**10 14 41.1**	**+1.8**		
COEN	**Coen**	**42.98**	**157**		P	**P**	**10 14 40.4**	**+1.1**		
COEN					IAmb	IAmb	10 14 58.8			
	comp=Z,21nm,1.2s									
KURK	**Kurchatov**	**44.15**	**317**		P	**P**	**10 14 49.1**	**+0.7**		
KURK	**Kurchatov**	**44.15**	**317**		P	**P**	**10 14 49.1**	**+0.7**		
KURK					pmax	pmax				
	comp=Z,3.0nm,0.6s									
KURBB	**Kurchatov Arra**	**44.18**	**317**		P	**P**	**10 14 48.0**	**-0.6**		
	comp=Z,1.9nm,0.5s,baz=104,slow=9.0,SNR=5.7									
	comp=Z,1.9nm,0.5s									
FITZ	**Fitzroy Crossi**	**44.27**	**182**		P	**P**	**10 14 50.2**	**+0.5**		
TIXI	**Tiksi**	**45.28**	**1**	*eP*	**P**	**P**	**10 14 57.9**	**+0.8**		
TIXI					pmax	pmax				
	comp=Z,5.0nm,1.5s									
WB0	**Warramunga Arr**	**46.41**	**171**		P	**P**	**10 15 06.9**	**+0.3**		
WRAB	**Tennant Creek**	**46.57**	**171**	⇑*iP*		**P**	**10 15 07.2**	**-0.6**		
WRAB					pmax	pmax				
	comp=Z,20nm,1.8s									
WRA	**Warramunga Arr**	**46.58**	**171**		P	**P**	**10 15 09.1**	**+1.2**		
WRA	**Warramunga Arr**	**46.58**	**171**		P	**P**	**10 15 08.2**	**+0.3**		
	comp=Z,4.6nm,0.5s,baz=353,slow=8.6,SNR=29									
	comp=Z,4.6nm,0.5s									
WRA	**Warramunga Arr**	**46.58**	**171**		P	**P**	**10 15 09.1**	**+1.2**		
WB2	**Warramunga Arr**	**46.58**	**171**		P	**P**	**10 15 08.3**	**+0.4**		
WB2					IAmb	IAmb	10 15 09.1			
	comp=Z,6.1nm,0.7s									
WR0	**Warramunga Arr**	**46.62**	**171**		P	**P**	**10 15 08.1**	**-0.1**		
WR0					IAmb	IAmb	10 15 36.3			
	comp=Z,11nm,1.3s									
BILL	**Bilibino**	**47.75**	**19**	*eP*		**P**	**10 15 16.3**	**-0.2**		
BILL					pmax	pmax				
	comp=Z,1.0nm,0.9s									
MBWA	**Marble Bar**	**47.86**	**190**		P	**P**	**10 15 18.7**	**+0.8**		
PSA00	**Pilbara Seismi**	**48.25**	**189**		P	**P**	**10 15 21.9**	**+1.1**		
BVAR	**Borovoye Array**	**49.61**	**318**		P	**P**	**10 15 29.9**	**-1.1**		
	comp=Z,1.1nm,0.5s,baz=64,slow=6.8,SNR=5.2									
	comp=Z,1.1nm,0.5s									
BRVK	**Borovoye**	**49.68**	**318**	⇑*iP*		**P**	**10 15 31.7**	**+0.2**		
BRVK					pmax	pmax				
	comp=Z,4.0nm,0.8s									
ASAR	**Alice Springs**	**50.19**	**172**		P	**P**	**10 15 35.5**	**-0.1**		
ASAR	**Alice Springs**	**50.19**	**172**		P	**P**	**10 15 36.9**	**+1.3**		
	comp=Z,4.1nm,0.6s,baz=0.8,slow=14,SNR=9.9									
ASAR					PcP	**PcP**	**10 16 54.6**	**+0.5**		
	comp=Z,0.4nm,0.5s,baz=0.0,slow=4.6,SNR=1.9									
	comp=Z,4.1nm,0.6s									
OOD	**Oodnadatta**	**54.49**	**171**		P	**P**	**10 16 08.7**	**+1.3**		
ABKAR	**Akbulak array**	**55.95**	**313**		P	**P**	**10 16 17.5**	**-0.3**		
EIDS	**Eidsvold**	**56.34**	**154**		P	**P**	**10 16 21.0**	**+0.2**		
N15K	**Kwethluk River**	**58.83**	**34**		P	**P**	**10 16 37.9**	**0.0**		
N15K					IAmb	IAmb	10 17 05.2			
	comp=Z,4.4nm,0.9s									
C18K	**Utukok River**	**58.93**	**24**		P	**P**	**10 16 37.9**	**-0.6**		
C18K					IAmb	IAmb	10 16 42.2			
	comp=Z,3.7nm,1.0s									
E18K	**Tukpahlearik C**	**59.01**	**25**		P	**P**	**10 16 37.8**	**-1.2**		
E18K					IAmb	IAmb	10 16 57.7			
	comp=Z,3.5nm,0.9s									
CNBA	**Chernabura Isl**	**59.20**	**40**		P	**P**	**10 16 40.1**	**-0.3**		
BBOO	**Buckleboo**	**59.48**	**171**		P	**P**	**10 16 43.9**	**+1.3**		
BBOO	**Buckleboo**	**59.48**	**171**		P	**P**	**10 16 43.0**	**+0.5**		
STKA	**Stephens Creek**	**59.54**	**166**		P	**P**	**10 16 44.3**	**+1.3**		
STKA	**Stephens Creek**	**59.54**	**166**		P	**P**	**10 16 44.1**	**+1.1**		
STKA	**Stephens Creek**	**59.54**	**166**		P	**P**	**10 16 44.1**	**+1.1**		
	comp=Z,8.1nm,0.7s,baz=338,slow=7.7,SNR=12									
	comp=Z,8.1nm,0.7s									
STKA	**Stephens Creek**	**59.54**	**166**		P	**P**	**10 16 44.1**	**+1.1**		
STKA					pmax	pmax				
	comp=Z,2.0nm,0.9s									
C19K	**Lookout Ridge**	**59.55**	**23**		P	**P**	**10 16 43.4**	**+0.6**		
C19K					IAmb	IAmb	10 16 51.9			
	comp=Z,10nm,1.4s									
NWAO	**Narrogin (SRO)**	**59.79**	**190**		P	**P**	**10 16 45.3**	**+0.6**		
NWAO	**Narrogin (SRO)**	**59.79**	**190**		P	**P**	**10 16 45.3**	**+0.6**		
D19K	**Kuna River**	**60.04**	**24**		P	**P**	**10 16 47.3**	**+1.2**		
D19K					IAmb	IAmb	10 17 14.2			
	comp=Z,4.9nm,0.9s									
HTT	**Hallett**	**60.52**	**169**		P	**P**	**10 16 51.3**	**+1.5**		
B21K	**Ikpikpuk River**	**61.35**	**23**		P	**P**	**10 16 54.7**	**-0.2**		
B22K	**Teshekpuk Lake**	**61.77**	**22**		P	**P**	**10 16 57.5**	**-0.2**		
B22K					IAmb	IAmb	10 17 17.6			
	comp=Z,8.2nm,1.2s									
G21K	**Allakaket**	**61.77**	**27**		P	**P**	**10 16 59.6**	**+1.8**		
D22K	**Ayikyak River**	**62.03**	**24**		P	**P**	**10 17 01.6**	**+2.1**		
D22K					IAmb	IAmb	10 17 12.0			
	comp=Z,4.6nm,0.9s									
E22K	**Anaktuvuk Pass**	**62.37**	**25**		P	**P**	**10 17 04.2**	**+2.3**		
E22K					IAmb	IAmb	10 17 29.8			
	comp=Z,2.0nm,0.8s									
KDAK	**Kodiak Island**	**62.84**	**36**		P	**P**	**10 17 05.4**	**+0.3**		
KDAK	**Kodiak Island**	**62.84**	**36**		P	**P**	**10 17 05.4**	**+0.3**		
KDAK					pmax	pmax				
	comp=Z,27nm,1.4s									
SUA	**Susitna One**	**63.34**	**32**		P	**P**	**10 17 08.4**	**-0.1**		
D24K	**Happy Valley**	**63.41**	**23**		P	**P**	**10 17 10.3**	**+1.6**		
D24K					IAmb	IAmb	10 17 16.4			
	comp=Z,3.2nm,0.8s									
RND	**Reindeer**	**63.98**	**30**		P	**P**	**10 17 13.6**	**+1.0**		
RND					IAmb	IAmb	10 17 30.4			
	comp=Z,8.3nm,1.0s									
RND	**Reindeer**	**63.98**	**30**		P	**P**	**10 17 13.6**	**+1.0**		
RND					pmax	pmax				
	comp=Z,8.0nm,1.0s									
MDM	**Murphy Dome**	**64.06**	**28**		P	**P**	**10 17 14.4**	**+1.3**		
MDM					IAmb	IAmb	10 17 31.3			
	comp=Z,8.9nm,1.1s									
PMR	**Palmer**	**64.09**	**32**		P	**P**	**10 17 13.6**	**+0.3**		
PMR					IAmb	IAmb	10 17 39.2			
	comp=Z,9.4nm,1.3s									
PMR	**Palmer**	**64.09**	**32**		P	**P**	**10 17 13.6**	**+0.3**		
PMR					pmax	pmax				
	comp=Z,9.0nm,1.3s									
D25K	**Kavik River**	**64.26**	**23**		P	**P**	**10 17 15.1**	**+0.7**		
ILAR	**Eielson Array**	**64.65**	**28**		P	**P**	**10 17 16.5**	**-0.4**		
	comp=Z,0.2nm,0.4s,baz=132,slow=31,SNR=1.2									
	comp=Z,0.2nm,0.4s									
CAN	**Canberra**	**64.72**	**161**		P	**P**	**10 17 19.6**	**+1.9**		
CAN	**Canberra**	**64.72**	**161**		P	**P**	**10 17 19.6**	**+1.9**		
CAN					pmax	pmax				
	comp=Z,25nm,1.5s									
TOO	**Toolangi**	**65.89**	**164**		P	**P**	**10 17 27.1**	**+1.9**		
TOO	**Toolangi**	**65.89**	**164**		P	**P**	**10 17 27.1**	**+1.9**		
TOO					pmax	pmax				
	comp=Z,16nm,1.3s									
E27K	**Coleen River**	**66.16**	**24**		P	**P**	**10 17 26.4**	**-0.2**		
E27K					IAmb	IAmb	10 17 50.0			
	comp=Z,6.9nm,1.4s									
G27K	**Doyon Strip**	**66.42**	**26**		P	**P**	**10 17 27.4**	**-0.9**		
GLB	**Gilahina Butte**	**66.63**	**32**		P	**P**	**10 17 30.8**	**+1.1**		
GLB					IAmb	IAmb	10 17 48.8			
	comp=Z,9.2nm,1.2s									
E28M	**Babbage River**	**66.82**	**23**		P	**P**	**10 17 31.4**	**+0.6**		
E28M					IAmb	IAmb	10 17 33.8			
	comp=Z,8.0nm,1.4s									
K27K	**Chicken**	**66.84**	**29**		P	**P**	**10 17 31.0**	**0.0**		
K27K					IAmb	IAmb	10 17 49.4			
	comp=Z,6.9nm,1.1s									
F28M	**Old Crow**	**66.92**	**25**		P	**P**	**10 17 32.2**	**+0.7**		
F28M					IAmb	IAmb	10 17 57.8			
	comp=Z,8.9nm,1.4s									
M27K	**Edge Creek, AK**	**67.31**	**30**		P	**P**	**10 17 34.3**	**+0.1**		
M27K					IAmb	IAmb	10 17 55.7			
	comp=Z,3.3nm,0.9s									
I28M	**Miner Creek**	**67.41**	**27**		P	**P**	**10 17 34.9**	**+0.2**		
I28M					IAmb	IAmb	10 17 53.5			
	comp=Z,5.0nm,1.2s									
E29M	**Blow River**	**67.45**	**24**		P	**P**	**10 17 37.1**	**+2.3**		
G29M	**Pine Creek**	**67.79**	**25**		P	**P**	**10 17 39.1**	**+2.2**		
G29M					IAmb	IAmb	10 17 55.8			
	comp=Z,5.8nm,1.1s									
H29M	**Whitestone**	**67.83**	**26**		P	**P**	**10 17 37.7**	**+0.4**		
KBZ	**Khabaz**	**68.43**	**309**		P	**P**	**10 17 40.2**	**-1.2**		
	comp=Z,1.4nm,0.6s,baz=180,slow=3.5,SNR=2.4									
	comp=Z,1.4nm,0.6s									
EPYK	**Eagle Plains**	**68.44**	**26**		P	**P**	**10 17 42.9**	**+1.8**		
EPYK					IAmb	IAmb	10 18 00.0			
	comp=Z,13nm,1.3s									
G30M	**tAoh Zraii Nji**	**68.45**	**25**		P	**P**	**10 17 42.4**	**+1.3**		
G30M					IAmb	IAmb	10 17 59.5			
	comp=Z,5.3nm,0.8s									
SPITS	**Spitsbergen Ar**	**68.49**	**348**		P	**P**	**10 17 40.6**	**-0.6**		
	comp=Z,2.6nm,0.8s,baz=65,slow=6.5,SNR=1.1									
	comp=Z,2.6nm,0.8s									
KVAR	**Kislovodsk Ar**	**68.51**	**309**		LR	LR	10 50 05.4			
	comp=Z,143nm,21.6s,baz=198,slow=38									
L29M	**L29M**	**68.78**	**29**		P	**P**	**10 17 42.2**	**-1.1**		
L29M					IAmb	IAmb	10 18 02.4			
	comp=Z,5.3nm,1.1s									
I30M	**Mount Dempster**	**68.90**	**27**		P	**P**	**10 17 44.6**	**+0.5**		
I30M					IAmb	IAmb	10 18 03.0			
	comp=Z,8.3nm,1.5s									
M30M	**Minto, Yukon**	**69.53**	**29**		P	**P**	**10 17 47.9**	**0.0**		
H31M	**Peel River**	**69.53**	**26**		P	**P**	**10 17 48.1**	**+0.3**		
H31M					IAmb	IAmb	10 18 06.4			
	comp=Z,4.1nm,0.8s									
ARCES	**ARCESS Array B**	**69.55**	**338**		P	**P**	**10 17 46.7**	**-1.2**		
ARCES					IAmb	IAmb	10 18 10.0			
	comp=Z,7.7nm,1.3s									
ARCES	**ARCESS Array B**	**69.55**	**338**		P	**P**	**10 17 45.8**	**-2.0**		
	comp=Z,0.7nm,0.7s,baz=66,slow=4.1,SNR=4.6									
	comp=Z,0.7nm,0.7s									
ARCES	**ARCESS Array B**	**69.55**	**338**		P	**P**	**10 17 46.7**	**-1.2**		
ARCES					pmax	pmax				
	comp=Z,8.0nm,1.3s									
FARO	**Faro, Yukon**	**71.16**	**29**		P	**P**	**10 17 59.9**	**+2.0**		
FARO					IAmb	IAmb	10 18 16.6			
	comp=Z,7.0nm,1.1s									
C36M	**Paulatuk**	**71.80**	**21**		P	**P**	**10 18 01.9**	**+0.4**		
FIA1	**FINESS Array S**	**72.31**	**330**		P	**P**	**10 18 04.1**	**-0.6**		
FIA1					IAmb	IAmb	10 18 10.0			
	comp=Z,8.2nm,0.9s									
FINES	**FINESS Array B**	**72.32**	**330**		P	**P**	**10 18 04.1**	**-0.6**		
FINES	**FINESS Array B**	**72.32**	**330**		P	**P**	**10 18 03.9**	**-0.8**		
	comp=Z,2.0nm,0.5s,baz=62,slow=5.6,SNR=16									
	comp=Z,2.0nm,0.5s									
FINES	**FINESS Array B**	**72.32**	**330**		P	**P**	**10 18 04.1**	**-0.6**		
RAYN	**Ar Rayn**	**73.00**	**288**		P	**P**	**10 18 09.8**	**+0.2**		
RAYN	**Ar Rayn**	**73.00**	**288**		P	**P**	**10 18 09.8**	**+0.2**		
RAYN					pmax	pmax				
	comp=Z,5.0nm,1.3s									
AKASG	**Malin Array Be**	**74.88**	**319**		P	**P**	**10 18 18.8**	**-1.2**		
	comp=Z,1.0nm,0.4s,baz=64,slow=6.3,SNR=4.8									
	comp=Z,1.0nm,0.4s									
AKBB	**Malin Array Si**	**74.88**	**319**	*ce*	P	**P**	**10 18 16.9**	**-3.1**		
RES	**Resolute Bay**	**75.52**	**11**		P	**P**	**10 18 23.6**	**+0.5**		
RES					IAmb	IAmb	10 18 41.0			
	comp=Z,8.1nm,1.2s									
RES	**Resolute Bay**	**75.52**	**11**		P	**P**	**10 18 23.7**	**+0.5**		
RES					pmax	pmax				
	comp=Z,8.0nm,1.3s									
BRTR	**Keskin Array B**	**76.30**	**308**		P	**P**	**10 18 27.7**	**-0.8**		
	comp=Z,0.5nm,0.7s,baz=157,slow=5.2,SNR=2.8									
	comp=Z,0.5nm,0.7s									
HFS	**Hagfors**	**78.29**	**332**		P	**P**	**10 18 38.0**	**-1.0**		
	comp=Z,0.6nm,0.4s,baz=102,slow=6.2,SNR=5.5									
	comp=Z,0.6nm,0.4s									
NC405	**NORSAR Array S**	**78.56**	**333**		P	**P**	**10 18 40.1**	**-0.5**		
NC405					IAmb	IAmb	10 18 48.1			
	comp=Z,10nm,1.4s									
YKA	**Yellowknife Ar**	**78.69**	**25**		P	**P**	**10 18 41.3**	**+0.1**		
	comp=Z,0.3nm,0.6s,baz=299,slow=5.9,SNR=5.3									
	comp=Z,0.3nm,0.6s									
NB201	**NORSAR Array S**	**78.76**	**334**		P	**P**	**10 18 41.3**	**-0.4**		
NB201					IAmb	IAmb	10 18 52.6			
	comp=Z,7.7nm,1.2s									
NB2	**NORSAR Subarra**	**78.80**	**334**		P	**P**	**10 18 40.8**	**-1.1**		
	comp=Z,0.3nm,0.3s,baz=54,slow=6.2									
NOA	**NORSAR Array B**	**78.80**	**334**		P	**P**	**10 18 41.0**	**-0.9**		
	comp=Z,0.3nm,0.5s,baz=53,slow=5.8,SNR=3.5									
NOA					LR	LR	10 56 30.8			
	comp=Z,14nm,18.2s,baz=105,slow=38									
	comp=Z,0.3nm,0.5s									
NOA	**NORSAR Array B**	**78.80**	**334**		P	**P**	**10 18 41.0**	**-0.9**		
NC204	**NORSAR Array S**	**78.84**	**334**		P	**P**	**10 18 41.8**	**-0.4**		
NC204					IAmb	IAmb	10 18 44.1			
	comp=Z,12nm,1.5s									
MLR	**Muntele Rosu**	**79.06**	**315**		LR	LR	10 57 27.4			
	comp=Z,27nm,19.1s,baz=106,slow=38									
MRNZ	**Matariki Terra**	**79.50**	**147**		P	**P**	**10 18 45.7**	**-0.1**		
VRAC	**Vranov**	**82.73**	**322**		LR	LR	10 58 37.2			
	comp=Z,21nm,20.0s,baz=39,slow=38									
CLL	**Collm**	**83.55**	**325**	*eP*		**P**	**10 19 06.0**	**-1.2**		
GERES	**GERESS Array B**	**84.58**	**323**		P	**P**	**10 19 12.7**	**0.0**		
	comp=Z,0.6nm,0.6s,baz=4.9,slow=33,SNR=2.4									
GERES					LR	LR	11 00 47.5			
	comp=Z,21nm,18.8s,baz=16,slow=38									
	comp=Z,0.6nm,0.6s									
DAVOX	**Davos/Dischmat**	**87.87**	**322**		LR	LR	11 02 32.7			
	comp=Z,37nm,18.2s,baz=263,slow=38									
EKA	**Eskdalemuir Ar**	**88.27**	**334**		P	**P**	**10 19 29.5**	**-0.9**		
	comp=Z,0.4nm,0.4s,baz=19,slow=4.6,SNR=2.1									
	comp=Z,0.4nm,0.4s									
NRS	**Narsarsuaq**	**92.55**	**356**		P	**P**	**10 19 48.9**	**-1.3**		
NRS	**Narsarsuaq**	**92.55**	**356**		P	**P**	**10 19 48.9**	**-1.3**		
TORD	**Torodi Ar. Bea**	**114.16**	**300**		PKP	PKPdf	10 25 17.7	-1.3		
	comp=Z,0.2nm,0.5s,baz=64,slow=3.4,SNR=1.5									

AUST 25 10:13:19.0±0.4, 26°S±4°×13°0E±°, h10km, M4.2/4, mb3.9/3, Mjma4.7/4, ML3.2/4, MLv4.4/4, Error ellipse: s-maj=9.4km s-min=5.2km az=7.1, Northern Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRKA	**Warakurna**	**1.56**	**289**	P	Pn	10 13 46.1	-0.8
WRKA				S	Sn	10 14 07.3	0.0
AS31	**Alice Springs**	**4.08**	**63**	P	Pn	10 14 22.3	+0.7
AS31	**Alice Springs**	**4.08**	**63**	S	Sn	10 15 10.3	+0.8
FORT	**Forrest**	**5.46**	**197**	P	Pn	10 14 40.8	+0.4
	comp=Z,36nm,1.7s,comp=Z,364μmcomp=Z,0.2nmcomp=Z,3μm						
FORT	**Forrest**	**5.46**	**197**	S	Sn	10 15 41.2	-2.1
OOD	**Oodnadatta**	**5.62**	**115**	P	Pn	10 14 42.8	+0.2
	comp=Z,15nm,1.8s,comp=Z,0.1nmcomp=Z,2μm						
OOD	**Oodnadatta**	**5.62**	**115**	S	Sn	10 15 47.6	+0.4
WB2	**Warramunga Arr**	**6.92**	**37**	P	Pn	10 15 00.5	-0.2
	comp=Z,12nm,1.2s,comp=Z,131μmcomp=Z,0.1nmcomp=Z,1μm						
CMSA	**Cobar Meteorol**	**15.08**	**117**	P	Pn	10 16 49.7	-2.5

*SOME **25** 10:19:58.2, 44.72N×81.95E, h10km*
*NNC **25** 10:20:00.5±1.2, 44.74N×81.84E, h0km, mb3.6, mpv3.3, Error ellipse: s-maj=14.4km s-min=5.4km az=125.0, Suspected Mining explosion.*

ISC 25 10:19:56.4±1.4, 44°69N±0.05×82°08E±0.07, h0km, n17, σ1°16/27, 4C, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DJR	**Jarkent**	**1.68**	**258**	*eP*	**Pg**	**10 20 29.1**	**+0.6**
	8.6nm,0.2s						
DJR				*eS*	**Sg**	**10 20 51.3**	**+1.1**
	8.4nm,0.4s						
KTMS	**Ketmen**	**1.76**	**226**	*eP*	**Pg**	**10 20 30.4**	**+0.3**
	2.3nm,0.2s						
KTMS				*eS*	**Sg**	**10 20 53.3**	**+0.4**
	14nm,0.4s						
KAPS	**Kapalarasan**	**2.02**	**288**	Pg	**Pg**	**10 20 34.5**	**-0.6**
	3.2nm,0.2s						
KAPS				Lg	Lg	10 21 00.3	
	8.9nm,0.3s						
KAPS	**Kapalarasan**	**2.02**	**288**	*eP*	**Pb**	**10 20 34.3**	**+0.3**
	3.2nm,0.2s						
KAPS				*eS*	**Sg**	**10 21 00.2**	**-1.0**
	8.9nm,0.3s						
KNOS	**Konyrlen**	**2.10**	**262**	Pg	**Pg**	**10 20 36.3**	**-0.4**
	18nm,0.3s						
KNOS				Lg	Lg	10 21 03.4	
	14nm,0.3s						
MK31	**Makanchi Array**	**2.11**	**4**	⇑Pn	**Pg**	**10 20 36.5**	**-0.3**
	4.4nm,0.3s,baz=190,slow=15						
MK31				⇑Sn	**Sg**	**10 21 04.4**	**+0.2**
	6.5nm,0.3s,baz=187,slow=25						
PDGK	**Podgornoye**	**2.31**	**235**	Pg	**Pb**	**10 20 39.2**	**+0.2**
	4.8nm,0.3s						
PDGK				Lg	Lg	10 21 08.5	
	6.7nm,0.8s						
PDGK	**Podgornoye**	**2.31**	**235**	⇑Pn	**Pb**	**10 20 38.8**	**-0.2**
	6.9nm,0.7s						
PDGK				⇑Sn	**Sb**	**10 21 09.1**	**+0.9**
	16nm,0.8s						
SHLS	**Shalkode**	**2.43**	**232**	*eP*	**Pn**	**10 20 37.3**	**-0.2**
	14nm,0.1s						
SHLS				*eS*	**Sn**	**10 21 05.5**	**-2.5**
	25nm,0.2s						
BLB	**Baldybastay**	**2.65**	**258**	Pg	**Pb**	**10 20 45.1**	**+0.3**
	17nm,0.3s						
BLB				Lg	Lg	10 21 19.3	
	8.6nm,0.2s						
UZB	**Uzynbulak**	**2.69**	**236**	P

MNO					AML	AML			
	comp=E,426μm,0.4s								
MNO					AML	AML			
	comp=N,337μm,0.5s								
GALF	**Gagliano Caste**	**0.42**	**264**		P	Pg	10 27 22.4	+0.2	
MPNC	**Port Mandanici**	**0.44**	**27**		P	Pg	10 27 22.3	-0.2	
MPNC					S	Sb	10 27 29.4	+0.1	
MPNC					AML	AML			
	comp=E,252μm,0.8s								
MPNC					AML	AML			
	comp=N,408μm,0.6s								
MPNC					AML	AML			
	comp=E,192μm,1.0s								
MPNC					AML	AML			
	comp=N,408μm,0.6s								
HLNI	**Lentini**	**0.44**	**204**		P	Pg	10 27 22.0	-0.6	
HLNI					AML	AML			
	comp=E,72μm,1.5s								
HLNI					AML	AML			
	comp=N,90μm,1.1s								
HLNI					AML	AML			
	comp=E,72μm,0.5s								
HLNI					AML	AML			
	comp=N,90μm,0.9s								
HAGA	**Augusta**	**0.47**	**174**		P	Pb	10 27 23.9	+0.5	
MILZ	**Milazzo**	**0.53**	**12**		P	Pg	10 27 24.0	-0.2	
SSY	**Sortino**	**0.60**	**182**		P	Pg	10 27 25.4	-0.1	
SSY					AML	AML			
	comp=E,156μm,1.6s								
SSY					AML	AML			
	comp=N,440μm,0.3s								
SSY					AML	AML			
	comp=E,156μm,0.4s								
VPL	**Vulcano Piano**	**0.63**	**352**		P	Pg	10 27 25.8	-0.3	
RAFF	**Raffo Rosso**	**0.79**	**228**		P	Pb	10 27 28.6	-0.4	
RAFF					AML	AML			
	comp=E,142μm,0.5s								
RAFF					AML	AML			
	comp=N,77μm,1.2s								
RAFF					AML	AML			
	comp=E,142μm,1.5s								
RAFF					AML	AML			
	comp=N,77μm,0.8s								
PLLN	**Pollina**	**0.79**	**288**		AML	AML			
	comp=N,212μm,0.5s								
PLLN					AML	AML			
	comp=E,102μm,0.9s								
MTGR	**Montagna Grand**	**1.86**	**275**		AML	AML			
	comp=E,18950μm,1.4s								
MTGR					AML	AML			
	comp=N,21650μm,1.2s								
MTGR					AML	AML			
	comp=E,18950μm,0.6s								
MTGR					AML	AML			
	comp=N,21650μm,0.8s								
MGR	**Morigerati**	**2.41**	**8**		AML	AML			
	comp=E,28μm,0.6s								
MGR					AML	AML			
	comp=E,28μm,1.4s								
MGR					AML	AML			
	comp=N,20μm,0.8s								
ORI	**Oriolo Calabro**	**2.54**	**24**		AML	AML			
	comp=E,128μm,0.2s								
ORI					AML	AML			
	comp=N,114μm,0.3s								

ROM 25 10:28:11.8±0.1, 37°.737N±0°.004×15°.115E±0°.007, h19km±1km, ML3.1/74, 11C-9D, Error ellipse: s-maj=0.6km s-min=0.2km az=110.0, Sicily

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ESLN	**Serra La Nave**	**0.12**	**249**	P	Pg	10 28 15.3	-0.8
ESLN				AML	AML		
	comp=E,11850μm,0.5s						
ESLN				AML	AML		
	comp=N,10280μm,0.5s						
EMSG	**Monte Spagnolo**	**0.15**	**302**	⇓P	Pg	10 28 16.2	-0.2
EMSG				S	Sg	10 28 20.0	+0.4
EMSG				AML	AML		
	comp=E,29100μm,0.5s						
EMSG				AML	AML		
	comp=N,26750μm,1.4s						
EMSG				AML	AML		
	comp=N,26750μm,0.6s						
EPZF	**Pizzo Felice**	**0.22**	**293**	⇓P	Pb	10 28 17.0	0.0
EPZF				S	Sg	10 28 22.3	+1.3
EPZF				AML	AML		
	comp=N,24600μm,0.4s						
EPZF				AML	AML		
	comp=E,16950μm,0.7s						
EPZF				AML	AML		
	comp=E,16950μm,1.3s						
ESML	**S. M. di Licod**	**0.22**	**238**	⇑P	Pg	10 28 17.2	0.0
ESML				S	Sg	10 28 21.6	+0.7
ESML				AML	AML		
	comp=N,5345μm,1.2s						
ESML				AML	AML		
	comp=E,7545μm,0.7s						
EPOZ	**Pozzillo**	**0.23**	**187**	⇑P	Pb	10 28 16.1	-0.8
EPOZ				S	Sb	10 28 18.5	-1.6
EPOZ				AML	AML		
	comp=E,11400μm,0.7s						
EPOZ				AML	AML		
	comp=N,21350μm,0.3s						
EPOZ				AML	AML		
	comp=E,8970μm,1.4s						
EPOZ				AML	AML		
	comp=N,18800μm,0.7s						
EPOZ				AML	AML		
	comp=E,8970μm,0.6s						
AIO	**Antillo**	**0.25**	**22**	⇓P	Pb	10 28 17.6	-0.1
AIO				S	Sg	10 28 22.2	+0.5
AIO				AML	AML		
	comp=E,9125μm,1.4s						
AIO				AML	AML		
	comp=N,5810μm,1.4s						
AIO				AML	AML		
	comp=N,5810μm,0.6s						
AIO				AML	AML		
	comp=E,9125μm,0.6s						
NOV	**Novara**	**0.29**	**3**	⇑P	Pg	10 28 18.2	-0.2
NOV				S	Sb	10 28 23.5	+0.6
NOV				AML	AML		
	comp=E,15650μm,0.6s						
NOV				AML	AML		
	comp=N,11125μm,0.4s						
NOV				AML	AML		
	comp=E,15650μm,1.4s						
MUCR	**Ucria**	**0.36**	**328**	⇑P	Pg	10 28 19.3	-0.3
MUCR				S	Sb	10 28 25.2	+0.1
MUCR				AML	AML		
	comp=E,6690μm,0.5s						
MUCR				AML	AML		
	comp=N,5160μm,0.5s						
MUCR				AML	AML		
	comp=N,5160μm,1.5s						
MUCR				AML	AML		
	comp=E,6690μm,1.5s						
MNO	**Monte Soro**	**0.39**	**301**	⇓P	Pg	10 28 20.1	+0.1
MNO				S	Sg	10 28 25.6	0.0
MNO				AML	AML		
	comp=N,6590μm,0.5s						
MNO				AML	AML		
	comp=E,8190μm,0.6s						
HLNI	**Lentini**	**0.43**	**207**	⇑P	Pg	10 28 20.3	-0.5
HLNI				S	Sb	10 28 27.4	+0.3
HLNI				AML	AML		
	comp=E,1525μm,0.3s						
HLNI				AML	AML		
	comp=N,1390μm,0.5s						
GALF	**Gagliano Caste**	**0.44**	**267**	P	Pb	10 28 21.3	+0.3
GALF				AML	AML		
	comp=E,718μm,0.6s						
GALF				AML	AML		
	comp=N,924μm,0.4s						
GALF				AML	AML		
	comp=E,2425μm,0.6s						
GALF				AML	AML		
	comp=N,924μm,0.4s						
GALF				AML	AML		
	comp=N,2930μm,0.4s						
MPNC	**Port Mandanici**	**0.45**	**25**	P	Pg	10 28 20.7	-0.3
MPNC				S	Sb	10 28 27.8	+0.3
MPNC				AML	AML		
	comp=E,3580μm,0.4s						
MPNC				AML	AML		
	comp=N,5355μm,0.6s						
MPNC				AML	AML		
	comp=N,5355μm,1.4s						
HAGA	**Augusta**	**0.45**	**176**	P	Pg	10 28 20.8	-0.3
HAGA				AML	AML		
	comp=E,1950μm,0.7s						
HAGA				AML	AML		
	comp=N,1960μm,0.1s						
HAGA				AML	AML		
	comp=E,1950μm,1.3s						
AGST	**Augusta-Monte**	**0.49**	**169**	⇑P	Pg	10 28 21.5	-0.2
AGST				S	Sb	10 28 29.7	+1.1
AGST				AML	AML		
	comp=N,3540μm,0.9s						
AGST				AML	AML		
	comp=E,3250μm,0.2s						
CAGR	**Agira**	**0.50**	**257**	P	Pn	10 28 23.4	-0.7
CAGR				AML	AML		
	comp=E,2670μm,0.7s						
CAGR				AML	AML		
	comp=N,2280μm,0.7s						
MTTG	**Motta San Giov**	**0.53**	**60**	⇓P	Pg	10 28 22.7	+0.2
MTTG				AML	AML		
	comp=E,1021μm,1.4s						
MTTG				AML	AML		
	comp=N,1085μm,0.8s						
MTTG				AML	AML		
	comp=E,1021μm,0.6s						
MTTG				AML	AML		
	comp=N,1085μm,1.2s						
MILZ	**Milazzo**	**0.54**	**10**	P	Pb	10 28 22.4	-0.3
MILZ				S	Sg	10 28 30.5	+0.4
MILZ				AML	AML		
	comp=N,1635μm,1.2s						
MILZ				AML	AML		
	comp=N,1635μm,0.8s						
MILZ				AML	AML		
	comp=E,4120μm,0.4s						
SSY	**Sortino**	**0.58**	**183**	⇑P	Pb	10 28 23.1	-0.2
SSY				S	Sg	10 28 32.4	+1.0
SSY				AML	AML		
	comp=N,9295μm,0.2s						
SSY				AML	AML		
	comp=E,4795μm,1.1s						
SSY				AML	AML		
	comp=E,4795μm,0.9s						
VPL	**Vulcano Piano**	**0.65**	**351**	⇑P	Pb	10 28 24.5	0.0
VPL				AML	AML		
	comp=E,2445μm,0.5s						
VPL				AML	AML		
	comp=N,3175μm,0.4s						
VPL				AML	AML		
	comp=N,3175μm,1.6s						
MEU	**Monte Lauro**	**0.65**	**193**	⇑P	Pb	10 28 24.2	-0.4
MEU				S	Sg	10 28 34.4	+0.9
MEU				AML	AML		
	comp=N,3440μm,0.4s						
MEU				AML	AML		
	comp=E,2570μm,0.3s						
MEU				AML	AML		
	comp=N,3440μm,1.6s						
IVGP	**Vulcano Grotta**	**0.67**	**350**	⇑P	Pb	10 28 24.6	-0.3
GMB	**Gambarie**	**0.71**	**52**	⇑P	Pg	10 28 26.0	+0.1
GMB				AML	AML		
	comp=E,3070μm,0.2s						
GMB				AML	AML		
	comp=N,3420μm,0.6s						
GMB				AML	AML		
	comp=N,3420μm,1.4s						
LLI	**Lipari**	**0.72**	**349**	P	Pb	10 28 25.8	0.0
RAFF	**Raffo Rosso**	**0.79**	**230**	P	Pb	10 28 26.8	-0.1
RAFF				AML	AML		
	comp=E,2735μm,0.5s						
RAFF				AML	AML		
	comp=N,1730μm,0.6s						
PETRA	**Petralia Sopra**	**0.80**	**277**	⇓P	Pb	10 28 27.3	+0.1
PETRA				AML	AML		
	comp=E,963μm,0.6s						
PETRA				AML	AML		
	comp=N,837μm,1.2s						
PETRA				AML	AML		
	comp=N,837μm,0.8s						
PETRA				AML	AML		
	comp=E,963μm,1.4s						
CEL	**Celeste**	**0.81**	**49**	⇓P	Pb	10 28 27.2	-0.1
CEL				AML	AML		
	comp=E,934μm,0.6s						
CEL				AML	AML		
	comp=E,769μm,0.6s						
CEL				AML	AML		
	comp=N,1260μm,0.6s						
CEL				AML	AML		
	comp=N,1510μm,0.6s						
PLLN	**Pollina**	**0.81**	**289**	P	Pb	10 28 27.5	+0.2
PLLN				AML	AML		
	comp=E,1925μm,0.9s						
PLLN				AML	AML		
	comp=E,1930μm,0.9s						
PLLN				AML	AML		
	comp=E,1930μm,1.1s						
PLLN				AML	AML		
	comp=N,3335μm,0.5s						
SOI	**Samo**	**0.81**	**65**	⇓P	Pb	10 28 27.6	+0.2
SOI				AML	AML		
	comp=E,509μm,0.4s						
SOI				AML	AML		
	comp=N,571μm,0.7s						
SOI				AML	AML		
	comp=E,509μm,1.6s						
SOI				AML	AML		
	comp=N,571μm,1.3s						
HMDC	**Modica**	**0.82**	**199**	P	Pb	10 28 26.8	-0.7
HMDC				AML	AML		
	comp=E,2025μm,1.2s						
HMDC				AML	AML		
	comp=N,2010μm,0.4s						
RESU	**Resuttano**	**0.84**	**264**	P	Pn	10 28 29.2	+0.4
RESU				AML	AML		
	comp=E,546μm,1.2s						
RESU				AML	AML		
	comp=N,788μm,0.5s						
RESU				AML	AML		
	comp=E,546μm,0.8s						
RESU				AML	AML		
	comp=N,788μm,1.5s						
CSLB	**Castelbuono**	**0.86**	**284**	P	Pb	10 28 27.7	-0.5
IACL	**Alicudi**	**0.99**	**323**	P	Pb	10 28 30.2	-0.3
HPAC	**Pachino**	**1.04**	**180**	P	Pb	10 28 30.6	-0.5
HPAC				AML	AML		
	comp=N,1855μm,1.1s						
HPAC				AML	AML		
	comp=E,2070μm,0.3s						
HPAC				AML	AML		
	comp=N,1855μm,0.9s						
JOPP	**Joppolo**	**1.06**	**35**	P	Pb	10 28 30.9	-0.6
JOPP				AML	AML		
	comp=E,419μm,0.7s						
JOPP				AML	AML		
	comp=N,450μm,0.6s						
JOPP				AML	AML		
	comp=E,419μm,1.3s						
CMDO	**Montedoro**	**1.06**	**256**	AML	AML		
	comp=N,280μm,1.4s						
CMDO				AML	AML		
	comp=E,262μm,1.6s						
CMDO				AML	AML		
	comp=N,280μm,0.6s						
CMDO				AML	AML		
	comp=E,262μm,0.4s						
ALJA	**Alia**	**1.08**	**271**	P	Pn	10 28 32.2	+0.2
ALJA				AML	AML		
	comp=N,426μm,1.0s						
ALJA				AML	AML		
	comp=E,455μm,0.5s						
FAVR	**Favara**	**1.24**	**248**	AML	AML		
	comp=E,192μm,1.2s						
FAVR				AML	AML		
	comp=E,192μm,0.8s						
FAVR				AML	AML		
	comp=N,607μm,0.4s						
PLAC	**Placanica**	**1.26**	**55**	P	Pb	10 28 35.2	+0.2
PLAC				AML	AML		
	comp=E,577μm,0.7s						
PLAC				AML	AML		
	comp=N,463μm,0.6s						
PLAC				AML	AML		
	comp=E,490μm,0.6s						
PLAC				AML	AML		
	comp=N,590μm,0.7s						
PLAC				AML	AML		
	comp=N,590μm,1.3s						
PLAC				AML	AML		
	comp=E,577μm,1.3s						
CORL	**Corleone**	**1.44**	**277**	AML	AML		
	comp=E,382μm,1.4s						
CORL				AML	AML		
	comp=E,382μm,0.6s						
CORL				AML	AML		
	comp=N,344μm,0.6s						
MPG	**Monte Pellegri**	**1.45**	**288**	AML	AML		
	comp=N,86μm,0.8s						
MPG				AML	AML		
	comp=N,86μm,1.2s						
MPG				AML	AML		
	comp=E,89μm,0.7s						
CAR1	**CAROLEI**	**1.74**	**29**	AML	AML		
	comp=E,304μm,1.1s						
CAR1				AML	AML		
	comp=N,500μm,0.6s						
SPS2	**Spezzano della**	**1.83**	**31**	AML	AML		
	comp=E,88μm,0.4s						
SPS2				AML	AML		
	comp=N,97μm,1.2s						
CET2	**Cetraro**	**1.91**	**20**	P	Pn	10 28 42.9	-0.4
CET2				AML	AML		
	comp=E,388μm,0.4s						
CET2				AML	AML		
	comp=N,442μm,0.4s						
CET2				AML	AML		
	comp=E,388μm,1.6s						
CET2				AML	AML		
	comp=N,442μm,1.6s						
TIP	**Timpagrande**	**1.93**	**41**	⇓P	Pn	10 28 45.0	+1.3
TIP				AML	AML		
	comp=E,89μm,1.2s						
TIP				AML	AML		
	comp=N,84μm,0.6s						
TIP				AML	AML		
	comp=E,75μm,0.7s						
TIP				AML	AML		
	comp=N,96μm,1.1s						
TIP				AML	AML		
	comp=N,96μm,0.9s						
TIP				AML	AML		
	comp=N,84μm,1.4s						
WDD	**Wied Dalam**	**1.96**	**194**	AML	AML		
	comp=E,240μm,0.4s						
WDD				AML	AML		
	comp=N,194μm,1.2s						
CUC	**Castrocucco**	**2.32**	**13**	P	Pn	10 28 49.7	+0.7
CUC				AML	AML		
	comp=E,85μm,0.7s						
CUC				AML	AML		
	comp=N,75μm,0.5s						
SALB	**San Lorenzo Be**	**2.34**	**24**	P	Pn	10 28 50.2	+0.8
AMUR	**Altamura**	**3.37**	**20**	AML	AML		
	comp=E,47μm,1.0s						
AMUR				AML	AML		
	comp=N,41μm,0.6s						
NOCI	**Noci**	**3.40**	**26**	AML	AML		
	comp=N,45μm,1.4s						
NOCI				AML	AML		
	comp=E,52μm,1.5s						
NOCI				AML	AML		
	comp=E,52μm,0.5s						
NOCI				AML	AML		
	comp=N,45μm,0.6s						

IDC ***25*** *10:28:21.1±0.9, 28°.43N×52°.21E, h0km, mb3.8/12, mbtmp3.8/15, ML3.5/3, Error ellipse: s-maj=23.7km s-min=20.1km az=13.0*

TEH ***25*** *10:28:22.1, 28°.58N×52°.19E, h8km±38km, ML3.7*

NEIC ***25*** *10:28:22.3±1.9, 28°.46N±0°.08×52°.24E±0°.02, h10km±1km, mb4.1/22, Error ellipse: s-maj=13.0km s-min=3.0km az=174.0*

DSN ***25*** *10:28:24.1±1.5, 28°.37N×52°.21E, h10km, ML3.4/11, Error ellipse: s-maj=20.8km s-min=7.7km az=5.0*

ISC 25 10:28:23.0±0.5, 28°.49N±0°.05×52°.20E±0°.04, h15km, n75, σ1s11/79, mb3.9/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QIR1	**Qir**	**0.74**	**91**	Pg	**Pg**	**10 28 36.3**	**-1.1**
DSBU	**Dashti - Bushe**	**0.84**	**262**	Pg	**Pb**	**10 28 38.8**	**-0.5**
SHI	**Shiraz**	**1.18**	**13**	Pg	**Pn**	**10 28 43.6**	**-1.6**
JHRM	**Jahrom**	**1.21**	**89**	Pg	**Pg**	**10 28 46.1**	**-0.3**
KAZ2	**Kazeron-Fars-I**	**1.22**	**337**	Pg	**Pn**	**10 28 43.4**	**-2.2**
LAR1	**LAR**	**2.08**	**112**	Pn	**Pb**	**10 28 59.9**	**-0.7**
KLNJ	**Kolanjah**	**2.57**	**348**	Pn	**Pn**	**10 29 03.8**	**-0.6**
IRAM	**Ramesheh**	**3.31**	**3**	Pn	**Pn**	**10 29 15.3**	**+0.7**
IBRJ	**Brojen**	**3.51**	**347**	Pn	**Pn**	**10 29 17.7**	**+0.5**
IMEH	**Mehriz**	**3.57**	**35**	Pn	**Pn**	**10 29 19.2**	**+1.2**
ISAD	**Sadrabad**	**3.65**	**20**	Pn	**Pn**	**10 29 19.7**	**+0.5**
JHBN	**Jahan bin**	**3.96**	**341**	Pn	**Pn**	**10 29 24.8**	**+1.3**
NGRK	**Negar Kerman**	**4.13**	**73**	Pn	**Pn**	**10 29 27.4**	**+1.6**
IBAF	**Bafgh**	**4.25**	**42**	Pn	**Pn**	**10 29 28.8**	**+1.4**
TVBK	**TV Kerman**	**4.25**	**68**	Pn	**Pn**	**10 29 29.2**	**+1.6**
IZEF	**Zefreh**	**4.40**	**1**	Pn	**Pn**	**10 29 30.3**	**+0.8**
NAZ	**Nazwa, Dubai**	**4.66**	**138**	P	**Pn**	**10 29 34.1**	**+1.3**
MSFE	**Esma-Masafi**	**4.71**	**130**	P	**Pn**	**10 29 34.0**	**+0.5**
ASUD	**Al Ashush, Dub**	**4.75**	**143**	P	**Pn**	**10 29 35.0**	**+0.9**
FAQ	**Al Faqa, Dubai**	**4.80**	**140**	P	**Pn**	**10 29 35.1**	**+0.3**
MDH	**Madha**	**4.84**	**130**	P	**Pn**	**10 29 35.7**	**+0.4**
UOSS	**Minazif**	**5.02**	**134**		**Pn**	**10 29 38.0**	**+0.2**
UOSS				Sn	**Sn**	**10 30 31.7**	**-3.9**
UOSS	**Minazif**	**5.02**	**134**	P	**Pn**	**10 29 38.0**	**+0.2**
HATD	**Hatta, Dubai**	**5.06**	**135**	P	**Pn**	**10 29 39.3**	**+0.9**
ASHO	**Ashiyiah**	**5.12**	**137**	P	**Pn**	**10 29 39.8**	**+0.6**
ASHO				S	**Sn**	**10 30 37.6**	**-0.5**
ALNE	**Al Ain**	**5.44**	**143**	P	**Pn**	**10 29 45.2**	**+1.6**
KRSH	**Karshahi**	**5.47**	**359**	Pn	**Pn**	**10 29 44.4**	**+0.3**
KBAM	**BAM**	**5.52**	**82**	Pn	**Pn**	**10 29 46.3**	**+1.6**
MZR	**Muzera**	**5.58**	**168**	P	**Pn**	**10 29 47.0**	**+1.5**
SOHO	**SOHO**	**5.82**	**137**	P	**Pn**	**10 29 48.7**	**-0.1**
TPRV	**Parvadeh(Tabas**	**5.95**	**39**	Pn	**Pn**	**10 29 52.5**	**+1.9**
TKDS	**Koohdasht(Taba**	**6.63**	**38**	Pn	**Pn**	**10 30 00.4**	**+0.4**
RAYN	**Ar Rayn**	**7.79**	**232**		**Pn**	**10 30 15.6**	**-0.3**
RAYN				Sn	**Sn**	**10 31 42.7**	**-1.3**
RAYN	**Ar Rayn**	**7.79**	**232**	P	**Pn**	**10 30 15.2**	**-0.7**
WSAR	**Wadi Sarin**	**7.80**	**131**	Pn	**Pn**	**10 30 15.9**	**0.0**
	0.8nm,0.3s,baz=300,slow=11,SNR=10.0						
WSAR					Sn	**Sn**	**10 31 41.9**	**-2.1**
	0.5nm,0.3s,baz=42,slow=22,SNR=2.3 5.0nm,0.7s						
GEYT	**Alibeck**	**10.64**	**26**	Pn	**Pn**	**10 30 56.5**	**+1.6**
GEYT	**Alibeck**	**10.64**	**26**	Pn	**Pn**	**10 30 56.4**	**+1.5**
	0.3nm,0.3s,baz=256,slow=24,SNR=2.3 1.3nm,0.5s						
GYA0B	**ALIBECK ARRAY**	**10.64**	**26**	Pn	**Pn**	**10 30 55.0**	**+0.1**
SIMJ	**Simiganj**	**17.27**	**50**	Pn	**Pn**	**10 32 22.8**	**-0.9**
CSS	**Mathiatis**	**17.30**	**297**		**P**	**10 32 25.1**	**-0.3**
CSS				IAmb	IAmb	10 32 51.5	
	comp=Z,36nm,1.4s						
CHGR	**Chuyangaron**	**17.37**	**50**	Pn	**Pn**	**10 32 24.2**	**-0.7**
CHGR				IAmb	IAmb	10 32 42.4	
	comp=Z,14nm,1.2s						
GAR	**Garm**	**18.32**	**50**	P	**Pn**	**10 32 36.2**	**-0.5**
GAR				IAmb	IAmb	10 32 53.3	
	comp=Z,22nm,1.5s						
NIL	**Nilore**	**18.74**	**69**	P	**Pn**	**10 32 41.9**	**+0.2**
BRTR	**Keskin Array B**	**18.99**	**311**	P	**P**	**10 32 44.2**	**+0.1**
BRTR	**Keskin Array B**	**18.99**	**311**	P	**P**	**10 32 43.8**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=126,slow=14,SNR=3.8 comp=Z,0.7nm,0.8s						
BR131	**Keskin Array S**	**18.99**	**311**	P	**P**	**10 32 44.1**	**+0.1**
KK31	**Karatay Array**	**20.75**	**40**	P	**P**	**10 33 01.0**	**-2.2**
KKAR	**Karatay Array**	**20.75**	**40**	P	**P**	**10 33 01.5**	**-1.7**
ABKAR	**Akbulak array**	**21.57**	**14**	P	**P**	**10 33 13.0**	**+1.1**
IDI	**Anoyia**	**24.12**	**293**	P	**P**	**10 33 36.7**	**-1.6**
BUR08	**Bucovina Ar. S**	**28.37**	**320**	P	**P**	**10 34 17.1**	**+0.5**
BUR08				IAmb	IAmb	10 34 47.7	
	comp=Z,2.7nm,1.2s						
MKAR	**Makanchi Array**	**29.77**	**44**	P	**P**	**10 34 28.8**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=243,slow=6.3,SNR=2.6 comp=Z,0.5nm,0.8s						
ZAA0	**Zalesovo Array**	**34.82**	**34**	P	**P**	**10 35 12.1**	**-0.9**
ZAA0				IAmb	IAmb	10 35 26.8	
	comp=Z,1.8nm,0.8s						
ZALV	**Zalesovo Beam**	**34.82**	**34**	P	**P**	**10 35 12.1**	**-0.9**

ZALV Zalesovo Beam 34.82 34 P **P** **10 35 13.3 +0.3**
comp=Z,0.5nm,0.3s,baz=242,slow=9.3,SNR=3.9
comp=Z,0.5nm,0.3s
GEC2 GERESS Array S 35.78 315 P **P** **10 35 21.3 -0.2**
GEC2 IAmb IAmb 10 35 30.3
comp=Z,1.7nm,0.6s
GERES GERESS Array B 35.78 315 P **P** **10 35 21.2 -0.2**
GERES GERESS Array B 35.78 315 P **P** **10 35 21.7 +0.2**
comp=Z,0.5nm,0.5s,baz=12,slow=31,SNR=1.8
comp=Z,0.5nm,0.5s
ZCCA Zocca 36.34 307 P **P** **10 35 26.9 +0.6**
KEST Kesra 36.79 292 P **P** **10 35 29.4 -0.9**
KEST IAmb IAmb 10 35 40.5
comp=Z,4.9nm,1.2s
HFS Hagfors 40.93 332 P **P** **10 36 06.1 +1.5**
comp=Z,0.9nm,0.5s,baz=113,slow=11,SNR=7.2
comp=Z,0.9nm,0.5s
NC405 NORSAR Array S 42.28 332 P **P** **10 36 16.2 +0.6**
NC405 IAmb IAmb 10 36 35.2
comp=Z,8.0nm,1.2s
NOA NORSAR Array B 42.45 332 P **P** **10 36 18.3 +1.2**
comp=Z,0.3nm,0.5s,baz=128,slow=8.6,SNR=2.9
comp=Z,0.3nm,0.5s
KONO Kongsberg 42.46 329 P **P** **10 36 16.3 -0.8**
KONO IAmb IAmb 10 36 29.4
comp=Z,5.4nm,1.1s
NBO00 NORSAR Array S 42.63 332 P **P** **10 36 18.7 +0.2**
NBO00 IAmb IAmb 10 36 32.1
comp=Z,7.7nm,1.1s
ARCES ARCESS Array B 43.88 347 P **P** **10 36 29.2 +0.7**
comp=Z,1.7nm,0.8s,baz=134,slow=5.2,SNR=4.4
comp=Z,1.7nm,0.8s
TOA0 Torodi Ar. Sit 49.27 263 P **P** **10 37 11.1 -0.3**
TORD Torodi Ar. Bea 49.27 263 P **P** **10 37 11.1 -0.2**
TORD Torodi Ar. Bea 49.27 263 P **P** **10 37 11.1 -0.3**
comp=Z,1.5nm,0.5s,baz=60,slow=8.4,SNR=20
comp=Z,1.5nm,0.5s
DBIC Dimbokro 57.98 259 P **P** **10 38 16.5 +1.1**
DBIC Dimbokro 57.98 259 P **P** **10 38 16.7 +1.4**
comp=Z,6.6nm,0.9s,baz=331,slow=13,SNR=3.1
comp=Z,6.6nm,0.9s
ILAR Eielson Array 85.86 8 P **P** **10 41 02.6 +0.8**
comp=Z,0.2nm,0.8s,baz=45,slow=1.4,SNR=2.2
comp=Z,0.2nm,0.8s
YKA Yellowknife Ar 88.72 354 P **P** **10 41 17.5 +1.9**
comp=Z,0.2nm,0.6s,baz=7.5,slow=5.7,SNR=4.1
comp=Z,0.2nm,0.6s
WRA Warramunga Arr 92.73 111 P **P** **10 41 34.9 -0.1**
comp=Z,0.3nm,0.8s,baz=316,slow=4.4,SNR=1.8
comp=Z,0.3nm,0.8s
ASAR Alice Springs 94.18 115 P **P** **10 41 42.3 +0.7**
comp=Z,0.2nm,0.5s,baz=309,slow=4.9,SNR=5.7
comp=Z,0.2nm,0.5s

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*IDC **25** 10:37:26.6±0.7,28°.40N×86°.27E, h0km, mb3.7/17, mbtmp3.7/18, ML3.7/1, MS3.5/3, Error ellipse: s-maj=28.3km s-min=14.9km az=51.0*
*DMN **25** 10:37:27.2±0.1,28°.52N×86°.13E, h10km, Ml4.7/12, Error ellipse: s-maj=2.4km s-min=1.1km az=19.0*
ISC 25 10:37:30.9±1.4, 28°.37N±0°.06×86°.11E±0°.03, h28km±10km, n35, σ1s23/46, mb3.7/17, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
GUN	**Gumba**	**0.50**	**203**	*e*Pg		**Pb**	**10 37 39.8**	**-1.7**
GUN				*e*Sg		**Sn**	**10 37 48.8**	**-1.6**
	5μm,0.2s							
JIRN	**Jiri**	**0.71**	**174**	*e*Pg		**Pb**	**10 37 43.9**	**-1.1**
JIRN				*e*Sg		**Sn**	**10 37 54.7**	**-1.0**
	4μm,0.3s							
KKN	**Kakani**	**0.93**	**232**	*e*Pg		**Pb**	**10 37 47.0**	**-1.6**
KKN				*e*Sg		**Sn**	**10 38 00.2**	**-0.7**
	6μm,0.2s							
PKI	**Pulchoki**	**1.01**	**218**	*e*Pg		**Pn**	**10 37 49.0**	**-0.5**
PKI				*e*Sg		**Sn**	**10 38 03.3**	**+0.4**
	641nm,0.2s							
PKIN	**Phulchoki**	**1.01**	**218**	*e*Pg		**Pn**	**10 37 49.0**	**-0.4**
PKIN				*e*Sg		**Sn**	**10 38 03.3**	**+0.4**
	1μm,0.3s							
DMN	**Daman**	**1.17**	**229**	*e*Pg		**Pb**	**10 37 51.6**	**-1.0**
DMN				*e*Sg		**Sb**	**10 38 08.4**	**+1.0**
	656nm,0.2s							
GKN	**Gorkha**	**1.35**	**254**	*e*Pg		**Pn**	**10 37 54.1**	**+0.1**
GKN				*e*Sg		**Sb**	**10 38 12.0**	**-0.5**
	702nm,0.2s							
RAMN	**Ramite**	**1.48**	**163**	*e*Pg		**Pb**	**10 37 57.2**	**-0.8**
RAMN				*e*Sg		**Sb**	**10 38 18.7**	**+2.2**
	594nm,0.3s							
TAPN	**Taplejung**	**1.75**	**125**	*e*Pg		**Pb**	**10 38 01.0**	**-1.5**
TAPN				*e*Sg		**Sb**	**10 38 25.0**	**+0.8**
	791nm,0.3s							
ODAN	**Odare**	**1.89**	**143**	*e*Pg		**Pb**	**10 38 04.9**	**0.0**
ODAN				*e*Sg		**Sb**	**10 38 30.5**	**+2.3**
	2μm,0.5s							
DANN	**Dangsing**	**2.07**	**270**	*e*Pg		**Pb**	**10 38 06.2**	**-1.7**
DANN				*e*Sg		**Sb**	**10 38 33.8**	**+0.5**
	1μm,0.3s							
KOLN	**Koldanda**	**2.29**	**255**	*e*Pg		**Pb**	**10 38 11.3**	**-0.4**
KOLN				*e*Sg		**Sb**	**10 38 41.5**	**+1.8**
	2μm,0.3s							
PYUN	**Piuthan**	**2.76**	**265**	*e*Pg		**Pb**	**10 38 19.4**	**-0.3**
PYUN				*e*Sg		**Sb**	**10 38 55.4**	**+2.2**
	845nm,0.4s							
CMAR	**Chiang Mai Arr**	**15.36**	**127**	Pn		**Pn**	**10 41 07.2**	**+1.4**
	0.2nm,0.3s,baz=311,slow=12,SNR=17							
CMAR				LR		LR	10 48 46.4	
	comp=Z,28nm,18.0s,baz=155,slow=45							
MKAR	**Makanchi Array**	**18.63**	**352**	P		**P**	**10 41 45.7**	**-0.5**
	0.2nm,0.3s,baz=167,slow=13,SNR=13							
	1.3nm,0.6s							
KURBB	**Kurchatov Arra**	**22.95**	**348**	P		**P**	**10 42 34.2**	**+1.4**
	2.6nm,0.6s,baz=167,slow=10.0,SNR=11							
	2.6nm,0.6s							
SONM	**Songino Array**	**25.01**	**34**	P		**P**	**10 42 51.5**	**-1.0**
	2.1nm,0.6s,baz=221,slow=10,SNR=8.0							
	2.1nm,0.6s							
GEYT	**Allbeck**	**25.22**	**299**	P		**P**	**10 42 56.4**	**+2.1**
	0.8nm,0.4s,baz=158,slow=4.2,SNR=1.4							
	0.8nm,0.4s							
ZALV	**Zalesovo Beam**	**25.57**	**358**	P		**P**	**10 42 57.1**	**-0.2**
	0.5nm,0.4s,baz=188,slow=6.0,SNR=2.6							
	0.5nm,0.4s							
BVAR	**Borovoye Array**	**27.23**	**339**	P		**P**	**10 43 12.6**	**+0.2**
	0.6nm,0.5s,baz=111,slow=7.9,SNR=2.8							
	0.6nm,0.5s							
BRTR	**Keskin Array B**	**44.36**	**299**	P		**P**	**10 45 40.1**	**+1.2**
	0.4nm,0.7s,baz=237,slow=3.0,SNR=2.2							
	0.4nm,0.7s							
FINES	**FINESS Array B**	**51.23**	**328**	P		**P**	**10 46 31.9**	**+0.2**
	0.6nm,0.6s,baz=107,slow=10,SNR=2.1							
	0.6nm,0.6s							
IDI	**Anoyia**	**51.76**	**294**	LR		LR	11 12 16.0	
	comp=Z,55nm,18.9s,baz=300,slow=40							
ARCES	**ARCESS Array B**	**53.51**	**339**	P		**P**	**10 46 48.1**	**-0.4**
	1.1nm,0.7s,baz=184,slow=36,SNR=2.1							
	1.1nm,0.7s							
HFS	**Hagfors**	**57.14**	**325**	P		**P**	**10 47 14.1**	**-0.7**
	1.7nm,0.6s,baz=120,slow=8.8,SNR=3.8							
	1.7nm,0.6s							
NB2	**NORSAR Subarra**	**58.35**	**326**	P		**P**	**10 47 24.4**	**+1.1**
	comp=Z,1.9nm,0.9s,baz=86,slow=7.4							
NOA	**NORSAR Array B**	**58.35**	**326**	P		**P**	**10 47 23.8**	**+0.5**
	comp=Z,0.7nm,0.7s,baz=88,slow=6.9,SNR=4.4							
	comp=Z,0.7nm,0.7s							
EKA	**Eskdalemuir Ar**	**66.77**	**322**	P		**P**	**10 48 20.8**	**+1.3**
	comp=Z,0.8nm,0.7s,baz=58,slow=46,SNR=2.3							
	comp=Z,0.8nm,0.7s							
WRA	**Warramunga Arr**	**66.93**	**130**	P		**P**	**10 48 21.4**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=323,slow=6.6,SNR=24							
	comp=Z,1.7nm,0.6s							
ASAR	**Alice Springs**	**69.27**	**133**	P		**P**	**10 48 35.9**	**+0.3**
	comp=Z,0.7nm,0.6s,baz=315,slow=6.1,SNR=12							
	comp=Z,0.7nm,0.6s							
ESDC	**Sonseca Array**	**72.55**	**306**	P		**P**	**10 48 54.8**	**-0.8**
	comp=Z,0.3nm,0.8s,baz=194,slow=29,SNR=2.8							
	comp=Z,0.3nm,0.8s							
CTA	**Charters Tower**	**75.47**	**123**	P		**P**	**10 49 10.4**	**-2.3**
	comp=Z,0.1nm,0.4s,baz=225,slow=15,SNR=2.0							
	comp=Z,0.1nm,0.4s							
ILAR	**Eielson Array**	**78.47**	**20**	P		**P**	**10 49 27.1**	**-1.8**
	comp=Z,0.2nm,0.5s,baz=297,slow=6.0,SNR=2.4							
	comp=Z,0.2nm,0.5s							
TORD	**Torodi Ar. Bea**	**79.02**	**279**	P		**P**	**10 49 33.3**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=55,slow=5.3,SNR=1.9							
	comp=Z,0.6nm,0.9s							
DLBC	**Dease Lake**	**88.41**	**18**	LR		LR	11 32 37.1	
	comp=Z,97nm,19.1s,baz=84,slow=38							

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*NEIC **25** 10:41:30.7±1.0, 19°.38N±0°.02×154°.99W±0°.02, h5km±1km, Error ellipse: s-maj=5.4km s-min=2.8km az=136.0*
HVO 25 10:41:30.4±1.2, 19°.37N±0°.02×154°.97W±0°.02, h7km±3km, ML3.4/5, ML2.6/38(NEIC), Error ellipse: s-maj=3.5km s-min=1.5km az=134.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
JOKA	**Jonika Flow**	**0.07**	**334**			Pg	10 41 32.5	+0.2
JCUZ	**Jacuzzi**	**0.13**	**278**			Pg	10 41 36.0	+2.8
PAH	**Pahoa**	**0.13**	**9**	Pg		Pg	10 41 33.4	+0.2
PAH				Sg		Sg	10 41 35.4	+0.2
STCH	**Steam Cracks**	**0.15**	**277**			Pg	10 41 33.9	+0.4
STCH						Sg	10 41 36.5	+0.8
KNHH	**Kane Nui o Ham**	**0.19**	**274**	Pg		Pg	10 41 33.4	-0.8
PUH	**Pauahi**	**0.23**	**272**			Pg	10 41 35.0	0.0
PUH				IAML			10 41 36.7	
	comp=N,625nm,1.3s							
BYL	**Byron's Ledge**	**0.28**	**280**	Pg		Pg	10 41 35.7	-0.2
HATHI	**Halema'uma'u T**	**0.28**	**282**	Pg		Pg	10 41 35.2	-0.8
RSD	**Rainshed**	**0.31**	**288**	Pg		Pg	10 41 36.1	-0.3
RSD				IAML			10 41 45.9	
	comp=N,861nm,0.7s							
RSD				IAML			10 41 46.5	
	comp=E,780nm,0.6s							
UWE	**Uwekahuna**	**0.31**	**280**	Pg		Pg	10 41 36.0	-0.5
HLP	**Hilina Pali**	**0.33**	**258**	Pg		Pg	10 41 36.7	-0.1
HLP				IAML			10 41 46.8	
	comp=N,739nm,2.2s							
HLP				IAML			10 41 48.0	
	comp=E,954nm,1.4s							
MLH	**Mauna Loa**	**0.41**	**288**			Pg	10 41 38.2	-0.3
MLH				IAML			10 41 46.7	
	comp=N,706nm,2.0s							
MLH				IAML			10 41 53.4	
	comp=E,446nm,0.5s							
HMH	**Humu'ula Sheep**	**0.54**	**296**			Pg	10 41 40.9	+0.1
HMH						Sg	10 41 49.1	+1.1
HMH				IAML			10 41 54.9	
	comp=E,259nm,0.6s							
HMH				IAML			10 41 55.0	
	comp=N,502nm,0.6s							
MLOA	**Mauna Loa Obse**	**0.60**	**287**	Pg		Pg	10 41 41.8	-0.2
MLOA						Sg	10 41 50.2	+0.4
MLOA				IAML			10 41 57.1	
	comp=E,238nm,3.2s							
MLOA				IAML			10 42 02.7	
	comp=N,256nm,1.2s							
MWH	**Moku'aweowe**	**0.60**	**281**	Pg		Pg	10 41 40.1	-2.0
HPO	**Honuapo**	**0.62**	**244**	Pg		Pg	10 41 41.4	-0.8
KHU	**Kahuku**	**0.62**	**259**	Pg		Pg	10 41 41.7	-0.7
KHU						Sg	10 41 50.0	-0.5
KHU				IAML			10 41 51.0	
	comp=N,291nm,3.1s							
KHU				IAML			10 41 55.6	
	comp=E,387nm,2.1s							
POHA	**Pohakuloa**	**0.66**	**306**			Sg	10 41 50.9	-0.9
POHA	**Pohakuloa**	**0.66**	**306**	Pg		Pg	10 41 42.5	-0.6
POHA				IAML			10 41 56.8	
	comp=E,166nm,1.6s							
POHA				IAML			10 42 01.1	
	comp=E,294nm,1.6s							
ALEP	**Alea Permanent**	**0.66**	**285**			Pg	10 41 42.6	-0.5

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*NEIC **25** 10:46:44.7±1.3, 7°.38S±0°.09×155°.85E±0°.08, h83km±8km, mb4.6/28, Error ellipse: s-maj=13.9km s-min=10.4km az=211.0*
*IDC **25** 10:46:45.2±4.7, 7°.27S×155°.61E, h83km±39km, mb3.8/21, mbtmp4.1/22, MS3.7/28, Error ellipse: s-maj=27.4km s-min=13.0km az=92.0*
ISC 25 10:46:46.1±0.4, 7°.35S±0°.07×155°.75E±0°.07, h10km, n89, σ1s17/67, mb4.3/34, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HNR	**Honiara**	**4.64**	**117**			**Pn**	**10 47 51.0**	**-3.0**
RABL	**Rabaul**	**4.75**	**311**			**Pn**	**10 47 55.4**	**-0.1**
PMG	**Port Moresby**	**8.74**	**256**	P		**Pn**	**10 48 48.4**	**-1.3**
	17nm,0.5s,baz=58,slow=4.0,SNR=9.1							
PMG				S		**Sn**	**10 50 24.3**	**-2.3**
	10nm,0.8s,baz=67,slow=17,SNR=1.2							
PMG				LR		LR	10 51 52.6	
	comp=Z,686nm,20.3s,baz=66,slow=36							
COEN	**Coen**	**13.99**	**241**	Pn		**Pn**	**10 50 00.4**	**+0.4**
PATS	**Pohnpei**	**14.32**	**10**	Pn		**Pn**	**10 50 00.8**	**-3.4**
CTAO	**Charters Tower**	**15.66**	**215**	Pn		**Pn**	**10 50 20.3**	**-0.9**
DZM	**Mont Dzumac**	**17.91**	**146**	LR		LR	10 56 09.6	
	comp=Z,318nm,20.0s,baz=348,slow=31							
GUMO	**Guam**	**23.44**	**333**	LR		LR	11 00 05.2	
	comp=Z,65nm,19.6s,baz=153,slow=34							
FAKI	**Fak Fak**	**23.81**	**279**	P		**P**	**10 51 50.6**	**+0.5**
FAKI				IAmb		IAmb	10 52 05.6	
	comp=Z,26nm,1.2s							
MSVF	**Nonsavu**	**24.06**	**117**	P		**P**	**10 51 50.2**	**-2.1**
MSVF				IAmb		IAmb	10 51 55.4	
	comp=Z,39nm,1.0s							
WR0	**Warramunga Arr**	**24.08**	**237**	P		**P**	**10 51 52.5**	**+0.1**
WR0				IAmb		IAmb	10 51 53.4	
	comp=Z,28nm,1.2s							
WB0	**Warramunga Arr**	**24.11**	**237**	P		**P**	**10 51 52.7**	**0.0**
WB0				IAmb		IAmb	10 51 53.6	
	comp=Z,25nm,1.3s							
WRAB	**Tennant Creek**	**24.23**	**237**	P		**P**	**10 51 53.3**	**-0.5**
WB2	**Warramunga Arr**	**24.23**	**237**	P		**P**	**10 51 53.4**	**-0.4**
WB2				IAmb		IAmb	10 51 54.8	
	comp=Z,22nm,1.2s							
WRA	**Warramunga Arr**	**24.24**	**237**	P		**P**	**10 51 52.0**	**-1.9**
WRA	**Warramunga Arr**	**24.24**	**237**	P		**P**	**10 51 53.5**	**-0.4**
	comp=Z,6.5nm,0.9s,baz=61,slow=9.5,SNR=18							
WRA				PcP		**PcP**	**10 55 32.3**	**+0.4**
	comp=Z,0.4nm,0.6s,baz=26,slow=1.7,SNR=1.2							
WRA				LR		LR	11 01 21.8	
	comp=Z,308nm,19.0s,baz=100,slow=36							
	comp=Z,6.5nm,0.9s							
MTN	**Manton Dam**	**24.83**	**255**	P		**P**	**10 51 57.9**	**-1.4**
MTN				IAmb		IAmb	10 52 08.1	
	comp=Z,32nm,1.2s							
AS31	**Alice Springs**	**26.51**	**230**	P		**P**	**10 52 15.0**	**+0.6**
ASAR	**Alice Springs**	**26.51**	**230**	P		**P**	**10 52 12.8**	**-1.6**
ASAR	**Alice Springs**	**26.51**	**230**	P		**P**	**10 52 13.7**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=61,slow=9.2,SNR=9.5							
ASAR				PcP		**PcP**	**10 55 39.7**	**+2.7**
	comp=Z,0.3nm,0.7s,baz=41,slow=3.5,SNR=1.2							
ASAR				LR		LR	11 02 02.5	
	comp=Z,256nm,18.9s,baz=115,slow=35							
	comp=Z,1.1nm,0.7s							
STKA	**Stephens Creek**	**27.74**	**207**	P		**P**	**10 52 25.7**	**+0.4**
STKA	**Stephens Creek**	**27.74**	**207**	P		**P**	**10 52 25.6**	**+0.2**
	comp=Z,3.1nm,0.9s,baz=22,slow=11,SNR=5.8							
STKA				LR		LR	11 03 29.0	
	comp=Z,209nm,18.4s,baz=28,slow=36							
	comp=Z,3.1nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**27.86**	**23**	T		T	11 20 49.8	
	baz=202,slow=75,SNR=22							
H11S2	**WAKE ISLAND Hy**	**27.86**	**23**	T		T	11 20 47.9	
	baz=202,slow=75,SNR=10							
H11S1	**WAKE ISLAND Hy**	**27.87**	**23**	T		T	11 20 49.1	
	baz=202,slow=75,SNR=15							
H11N1	**WAKE ISLAND Hy**	**29.04**	**22**	T		T	11 22 23.1	
	baz=203,slow=76,SNR=7.8							
H11N3	**WAKE ISLAND Hy**	**29.05**	**22**	T		T	11 22 32.7	
	baz=203,slow=76,SNR=9.4							
H11N2	**WAKE ISLAND Hy**	**29.06**	**22**	T		T	11 22 25.6	
	baz=203,slow=76,SNR=8.3							
FITZ	**Fitzroy Crossi**	**31.20**	**247**	P		**P**	**10 52 56.0**	**-0.1**
BATI	**Baumata**	**31.83**	**263**	LR		LR	11 07 08.1	
	comp=Z,230nm,21.2s,baz=132,slow=39							
DAV	**Davao City (W)**	**33.33**	**295**	LR		LR	11 06 32.8	
	comp=Z,44nm,19.4s,baz=71,slow=36							
URZ	**Urewera**	**36.34**	**151**	LR		LR	11 07 40.3	
	comp=Z,250nm,18.5s,baz=30,slow=34							
JCJ	**Chichijima**	**36.68**	**340**	LR		LR	11 05 58.1	
	comp=Z,52nm,20.6s,baz=116,slow=32							
RPZ	**Rata Peaks**	**38.63**	**162**	LR		LR	11 09 58.0	
	comp=Z,181nm,19.1s,baz=355,slow=36							
NWAO	**Narrogin (SRO)**	**43.82**	**229**	P		**P**	**10 54 41.6**	**-0.8**
UGM	**Wanagama**	**44.81**	**266**	P		**P**	**10 54 50.7**	**+0.2**
RAR	**Rarotonga**	**45.09**	**113**	LR		LR	11 13 17.7	
	comp=Z,54nm,18.1s,baz=300,slow=35							
YULB	**Yu-li**	**45.47**	**313**	P		**P**	**10 54 54.8**	**-0.7**
YULB				IAmb		IAmb	10 55 13.3	
	comp=Z,8.3nm,1.0s							
JMN	**Monobe**	**45.82**	**334**	P		**P**	**10 54 57.6**	**-0.6**
JMN				IAmb		IAmb	10 54 59.5	
	comp=Z,11nm,1.0s							
TPUB	**Ta-pu**	**45.90**	**313**	P		**P**	**10 54 58.7**	**-0.2**
MJAR	**Matsushiro Arr**	**46.66**	**341**	P		**P**	**10 55 03.8**	**-0.8**
	comp=Z,0.9nm,0.5s,baz=161,slow=8.0,SNR=4.5							
	comp=Z,0.9nm,0.5s							
LEM	**Lembang**	**47.75**	**267**	LR		LR	11 16 57.1	
	comp=Z,48nm,20.8s,baz=46,slow=38							
JTM	**Tenmabayashi**	**49.77**	**345**	P		**P**	**10 55 28.1**	**-0.3**
KSRS	**Korea Array**	**51.60**	**332**	P		**P**	**10 55 42.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=148,slow=9.8,SNR=4.3							
	comp=Z,0.5nm,0.5s							
KSAR	**Wonju Array Be**	**51.61**	**332**	P		**P**	**10 55 42.1**	**-0.2**
JKA	**Kamikawa-asahi**	**52.59**	**348**	P		**P**	**10 55 51.0**	**+1.6**
ASAJ	**Asahikawa**	**52.59**	**348**	P		**P**	**10 55 50.4**	**+0.9**
	comp=Z,6.6nm,0.8s,baz=125,slow=3.7,SNR=5.0							
	comp=Z,6.6nm,0.8s							
PPT	**Papeete**	**54.18**	**106**	LR		LR	11 15 41.6	
	comp=Z,44nm,19.3s,baz=222,slow=32							
USRK	**Ussuriysk Ar.**	**55.62**	**339**	P		**P**	**10 56 11.8**	**+0.3**
	comp=Z,2.9nm,0.8s,baz=158,slow=8.3,SNR=6.3							
	comp=Z,2.9nm,0.8s							
KLR	**Kul'dur**	**60.13**	**342**	P		**P**	**10 56 42.3**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=144,slow=9.3,SNR=3.7							
KLR				LR		LR	11 21 57.9	
	comp=Z,29nm,20.7s,baz=166,slow=35							
	comp=Z,1.1nm,0.6s							
PETK	**Petropavlovsk-**	**60.25**	**1**	P		**P**	**10 56 44.4**	**+0.7**
	comp=Z,4.6nm,1.0s,baz=142,slow=7.5,SNR=5.0							
	comp=Z,4.6nm,1.0s							
CMAR	**Chiang Mai Arr**	**61.61**	**295**	P		**P**	**10 56 53.2**	**-0.4**
CMAR	**Chiang Mai Arr**	**61.61**	**295**	P		**P**	**10 56 54.1**	**+0.6**
	comp=Z,2.3nm,0.8s,baz=118,slow=5.0,SNR=8.7							
CMAR				LR		LR	11 22 01.6	
	comp=Z,11nm,21.6s,baz=120,slow=34							
	comp=Z,2.3nm,0.8s							
AMKA	**Amchitka**	**61.91**	**16**	P		**P**	**10 56 55.1**	**+0.2**
SONM	**Songino Array**	**70.04**	**327**	P		**P**	**10 57 47.8**	**+0.5**
	comp=Z,0.7nm,0.4s,baz=144,slow=6.5,SNR=5.0							
	comp=Z,0.7nm,0.4s							
VNDA	**Vanda**	**70.21**	**179**	P		**P**	**10 57 50.0**	**+2.3**
	comp=Z,0.9nm,0.9s,baz=335,slow=6.8,SNR=3.9							
	comp=Z,0.9nm,0.9s							
BILL	**Bilibino**	**75.58**	**4**	P		**P**	**10 58 20.3**	**+0.9**
BILL				IAmb		IAmb	10 58 23.4	
	comp=Z,7.4nm,1.0s							
KDAK	**Kodiak Island**	**77.16**	**26**	LR		LR	11 28 29.6	
	comp=Z,49nm,20.9s,baz=241,slow=32							
E19K	**Redstone Array**	**81.75**	**17**	P		**P**	**10 58 54.2**	**+0.9**
E19K				IAmb		IAmb	10 58 58.7	
	comp=Z,6.9nm,0.9s							
F20K	**Avaraart Lake**	**81.91**	**17**	P		**P**	**10 58 54.8**	**+0.7**
QSPA	**South Pole Qui**	**82.63**	**180**	P		**P**	**10 58 59.8**	**+1.6**
	comp=Z,6nm,0.9s,baz=225,slow=0.8,SNR=13							
	comp=Z,2.6nm,0.9s							
ILAR	**Eielson Array**	**83.43**	**21**	P		**P**	**10 59 01.6**	**-0.5**
	comp=Z,0.4nm,0.7s,baz=247,slow=5.5,SNR=5.7							
ILAR				LR		LR	11 31 59.4	
	comp=Z,58nm,19.4s,baz=241,slow=32							
	comp=Z,0.4nm,0.7s							
MK31	**Makanchi Array**	**84.16**	**319**	P		**P**	**10 59 06.8**	**+0.5**
MKAR	**Makanchi Array**	**84.16**	**319**	P		**P**	**10 59 06.6**	**+0.3**
	comp=Z,1.5nm,0.6s,baz=102,slow=5.7,SNR=16							
MKAR				LR		LR	11 37 46.1	
	comp=Z,23nm,18.8s,baz=104,slow=36							
	comp=Z,1.5nm,0.6s							
MAW	**Mawson**	**84.36**	**203**	P		**P**	**10 59 07.8**	**+1.0**
	comp=Z,2.9nm,0.9s,baz=112,slow=8.1,SNR=3.6							
	comp=Z,2.9nm,0.9s							
MAKZ	**Makanchi**	**84.37**	**318**	P		**P**	**10 59 08.3**	**+1.0**
MAKZ				IAmb		IAmb	10 59 18.1	
	comp=Z,3.7nm,0.8s							
ZALV	**Zalesovo Beam**	**84.89**	**326**	P		**P**	**10 59 09.9**	**+0.3**
	comp=Z,0.9nm,0.4s,baz=116,slow=6.8,SNR=5.6							
ZALV				LR		LR	11 38 36.3	
	comp=Z,23nm,19.4s,baz=105,slow=37							
	comp=Z,0.9nm,0.4s							
BBB	**Bella Bella**	**87.35**	**37**	LR		LR	11 39 04.5	
	comp=Z,73nm,18.1s,baz=240,slow=36							
KURBB	**Kurchatov Arra**	**87.60**	**322**	P		**P**	**10 59 23.1**	**0.0**
	comp=Z,0.5nm,0.6s,baz=102,slow=3.0,SNR=5.5							
	comp=Z,0.5nm,0.6s							
EPYK	**Eagle Plains**	**87.91**	**22**	P		**P**	**10 59 25.2**	**+1.0**
AAK	**Ala-Archa**	**88.54**	**313**	LR		LR	11 41 43.8	
	comp=Z,31nm,18.9s,baz=134,slow=37							
YBH	**Yreka Blue Hor**	**88.57**	**48**	LR		LR	11 34 25.0	
	comp=Z,49nm,19.1s,baz=215,slow=32							
H31M	**Peel River**	**88.59**	**23**	P		**P**	**10 59 28.2**	**+0.8**
H31M				IAmb		IAmb	10 59 34.2	
	comp=Z,11nm,1.5s							
INK	**Inuvik**	**89.78**	**21**	P		**P**	**10 59 33.7**	**+0.8**
INK				IAmb		IAmb	10

baz=167
KU6 MSG 10 59 06.9
comp=Z,11nm,0.2s
KU6 SB **Sg** **10 59 09.5 +0.3**
MSF **Maaselka** **1.41 328** PN **Pn** **10 58 51.2 -1.2**
baz=148
MSF SB **Sg** **10 59 09.7 -1.0**
OLKF **Oulanka, Finla** **1.71 340** PG **Pn** **10 58 56.7 +0.1**
OLKF MSG 10 59 16.8
comp=Z,13nm,0.2s
OLKF SN **Sb** **10 59 20.2 +0.5**
JOF **Joensuu** **1.83 173** *e*P **Pn** **10 58 58.3 0.0**
JOF **Joensuu** **1.83 173** PG **Pn** **10 58 58.1 -0.2**
baz=348
JOF SG **Sn** **10 59 22.6 +0.5**
NIF **Nilsia** **1.89 226** PG **Pn** **10 58 58.6 -0.5**
RANF **Ranua** **2.13 309** PG **Pn** **10 59 03.0 +0.7**
RANF SG **Sn** **10 59 30.8 +1.3**
OUL **Oulu** **2.14 282** PG **Pn** **10 59 03.0 +0.6**
baz=95
OUL SG **Sn** **10 59 29.2 -0.4**
OBF4 **Vikkela, Lumij** **2.46 275** PB **Pn** **10 59 07.4 +0.5**
OBF4 MSG 10 59 36.4
comp=Z,12nm,0.2s
OBF4 SG **Sn** **10 59 39.3 +1.7**
OUF **Merijarvi** **2.66 265** PB **Pn** **10 59 10.1 +0.5**
OUF MSG 10 59 42.1
comp=Z,11nm,0.2s
OUF SG **Sn** **10 59 44.3 +1.7**
RNF **Rovaniemi** **2.75 316** PB **Pn** **10 59 12.2 +1.4**
RNF SG **Sb** **10 59 49.1 -0.5**
OBF0 **Syolatti, Pyha** **2.85 268** PB **Pn** **10 59 12.8 +0.5**
OBF0 MSG 10 59 47.6
comp=Z,7.3nm,0.2s
SUF **Sumiainen** **2.90 228** PB **Pn** **10 59 14.5 +1.5**
SUF MSG 10 59 49.1
comp=Z,3.3nm,0.2s
APA0 **Apatity Array** **3.02 16** P **Pn** **10 59 17.2 +2.7**
APA0 S **Sn** **10 59 53.3 +2.0**
TOF **Tornio** **3.04 299** PB **Pn** **10 59 17.9 +3.1**
baz=113
TOF MSG 10 59 53.5
comp=Z,3.3nm,0.2s
TOF SB **Sn** **10 59 54.8 +2.8**
VRF **Varrio** **3.07 351** PB **Pn** **10 59 16.7 +1.4**
VRF MSG 10 59 56.4
comp=Z,5.4nm,0.2s
VRF SG **Sb** **11 00 00.2 +1.2**
SGF **Sodankyl** **3.24 329** PG **Pb** **10 59 23.9 0.0**
SGF SB **Sb** **11 00 01.4 -2.4**
KAF **Kangasniemi** **3.33 220** PB **Pn** **10 59 21.3 +2.5**
baz=35
KAF SG **Sb** **11 00 06.8 +0.5**
KALU **Kalix** **3.34 293** PB **Pn** **10 59 20.1 +1.1**
KALU SB **Sn** **11 00 01.9 +2.6**
RUF **Ruokolahti** **3.43 195** PN **Pn** **10 59 21.5 +1.3**
LVZ **Lovozero** **3.53 24** SB **Sb** **11 00 08.8 -3.5**
KEF **Keuruu** **3.71 229** *e*P **Pn** **10 59 25.4 +1.2**
KEF **Keuruu** **3.71 229** PB **Pn** **10 59 25.5 +1.3**
RAJF **Raja-Jooseppi** **3.89 346** PN **Pn** **10 59 27.1 +0.5**
RAJF SN **Sn** **11 00 13.3 +0.4**
PAJU **Pajala** **3.92 309** PN **Pn** **10 59 27.8 +0.9**
FINES **FINESS Array B** **3.95 215** Pn **Pn** **10 59 27.1 -0.2**
comp=Z,0.2nm,0.3s,baz=38,slow=14,SNR=6.5
FINES Pg **Pb** **10 59 34.6 -1.3**
comp=Z,0.4nm,0.3s,baz=37,slow=14,SNR=10
FINES Lg Lg 11 00 26.8
comp=Z,1.3nm,0.3s,baz=35,slow=29,SNR=8.6
comp=Z,0.4nm,0.3s
SJUU **Sjulsmark** **3.98 285** P **Pn** **10 59 27.5 -0.2**
SJUU S **Sn** **11 00 15.2 +0.2**
VAF **Ylistaro** **3.99 249** *e*P **Pn** **10 59 29.3 +1.4**
ERTU **Ertsjaerv** **4.02 301** PN **Pn** **10 59 29.0 +0.7**
ERTU SG **Sb** **11 00 26.0 -0.3**
BURU **Burvik** **4.07 272** PN **Pn** **10 59 29.6 +0.6**
HARU **Harads** **4.36 294** P **Pn** **10 59 33.6 +0.6**
VJF **Virojoki** **4.47 201** SG **Sb** **11 00 43.2 +4.0**
UMAU **Umeaa** **4.51 264** PN **Pn** **10 59 34.0 -1.0**
UMAU SG **Sb** **11 00 44.1 +4.0**
UMAU **Umeaa** **4.51 264** P **Pn** **10 59 33.4 -1.5**
UMAU S **Sn** **11 00 20.9 -7.1**
HEF **Hetta** **4.67 325** PN **Pn** **10 59 38.9 +1.6**
HEF SG **Sb** **11 00 48.4 +3.4**
LILU **Lilltraesk** **4.70 282** P **Pn** **10 59 37.2 -0.3**
DUNU **Dundret** **4.84 304** P **Pn** **10 59 41.1 +1.6**
ARCES **ARCESS Array B** **5.25 339** Pn **Pn** **10 59 45.2 0.0**
comp=Z,0.2nm,0.3s,baz=152,slow=13,SNR=20
ARCES Sn **Sn** **11 00 46.0 -0.4**
comp=Z,0.2nm,0.3s,baz=155,slow=24,SNR=5.4
ARCES Lg Lg 11 01 04.2
comp=Z,0.3nm,0.3s,baz=164,slow=30,SNR=3.9
comp=Z,0.5nm,0.4s
HUSU **Husum** **5.29 260** P **Pn** **10 59 45.3 -0.4**
MEF **Metsahovi** **5.42 216** *e*P **Pn** **10 59 48.8 +1.2**
VADS **Vadso** **5.44 355** P **Pn** **10 59 49.2 +1.4**
VADS S **Sn** **11 00 50.0 -1.1**
RAF **Rauma** **5.57 232** *e*P **Pn** **10 59 50.7 +1.1**
I37NO **I37NO** **6.49 318** I I 11 39 32.1
baz=126,slow=318,SNR=2.2
FAUS **Fauske** **6.86 300** S **Sn** **11 01 24.6 -1.2**
HFS **Hagfors** **9.17 248** Pn **Pn** **11 00 37.6 -1.3**
comp=Z,0.2nm,0.3s,baz=61,slow=12,SNR=4.2
comp=Z,0.4nm,0.3s

NOU 25 12:01:21.5,17.18S×168.21E,h27km,MLv4.7/9,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.54**	**182**	P	Pn	12 01 34.5	+1.0
KOUNC	**Koumac, New Ca**	**5.00**	**227**	P	Pn	12 02 34.4	-0.5
YATNC	**Mamie plateau,**	**5.01**	**194**	P	Pn	12 02 34.5	-0.5
DZM	**Mont Dzumac**	**5.14**	**199**	P	Pn	12 02 37.0	+0.1
NOUC	**Port Laguerre**	**5.21**	**200**	P	Pn	12 02 37.9	+0.1
ONTNC	**Ouen Toro**	**5.36**	**198**	P	Pn	12 02 39.9	+0.1

TAP ***25*** *12:11:17.5,24.83N×122.49E,h18km,ML3.5,D*
ASIES ***25*** *12:11:17.5,24.82N×122.49E,h18km,ML3.5,Mw3.3, Moment Tensor Solution. Moment tensor: Scale 10^{20}Nm; Mrr-7.70; Mθθ8.15; Mφφ-0.44; Mrθ-2.45; Mθφ5.16; Mφr-5.30; Fault plane solution: M0 11.12090×10^{20} NP1: φs41.71000°,δ62.83000°,λ-117.40000°. NP2: φs270.34000°,δ37.83000°,λ-48.11000°. Principal axes: T Plg13.6300°, Azm151.2740°; N Plg24.1740°, Azm55.0250°; P Plg61.8050°, Azm268.1660°; ;*
JMA ***25*** *12:11:17.5±0.1,25.1N×122.5E±0.4,h37km±2km, MV3.0/12,NW OFF ISHIGAKIJIMA IS*
IDC ***25*** *12:11:19.0±1.9,24.80N×121.52E,h0km,mb3.7/5, mbtmp3.7/5,Error ellipse: s-maj=199.9km s-min=20.5km az=66.0*
ISC 25 12:11:16.0±1.1,24.85N±0.02×122.50E±0.02,h14km±8km, n128,σ0.94/229,mb3.7/5,18C-25D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TWB1	**Santiao Chiao**	**0.49**	**289**	⇑P	**Pb**	**12 11 26.5**	**+0.1**
	baz=292						
TWB1				S	**Sb**	**12 11 33.4**	**-0.1**
	baz=292						
EOS2	**EOS2**	**0.50**	**210**	⇑P	**Pb**	**12 11 26.3**	**-0.1**
	baz=210						
EOS2				S	**Sg**	**12 11 33.4**	**+1.1**
	baz=210						
EGS		**0.52**	**269**	P	**Pb**	**12 11 27.2**	**+0.3**
	baz=272						
EGS				*e*S	**Sb**	**12 11 34.4**	**+0.1**
	baz=272						
JYNG	**Yonagunijimaku**	**0.57**	**135**	*i* P	**Pn**	**12 11 28.4**	**-1.3**
JYNG				S	**Sb**	**12 11 35.9**	**+0.2**
EOS3	**EOS3**	**0.59**	**197**	⇑P	**Pb**	**12 11 28.1**	**+0.1**
	baz=196						
EOS3				*e*S	**Sb**	**12 11 37.3**	**+1.2**
	baz=196						
YOJ	**Yonaguni jima**	**0.60**	**130**	*i* P	**Pn**	**12 11 29.1**	**-1.1**
YOJ				S	**Sb**	**12 11 37.0**	**+0.2**
YOJ	**Yonaguni jima**	**0.60**	**130**	⇑P	**Pn**	**12 11 29.0**	**-1.1**
	baz=127						
YOJ				*e*S	**Sb**	**12 11 37.3**	**+0.5**
	baz=127						
SXI1	**Grass Mountain**	**0.62**	**293**	⇓P	**Pn**	**12 11 29.5**	**-1.0**
	baz=295						
SXI1				S	**Sn**	**12 11 38.1**	**-2.1**
	baz=295						
TIPB	**Shuangxi**	**0.63**	**281**	⇓*i*P	**Pn**	**12 11 29.2**	**-1.3**
	baz=283						
TIPB				S	**Sn**	**12 11 38.0**	**-2.4**
	baz=283						
TWC	**Suao**	**0.64**	**248**	*e*P	**Pg**	**12 11 28.1**	**-0.4**
	baz=249						
TWC				*e*S	**Sg**	**12 11 37.1**	**+0.1**
	baz=249						
ESAO	**Su ao**	**0.66**	**245**	*e*P	**Pb**	**12 11 29.1**	**-0.1**
	baz=247						
ESAO				*i* S	**Sb**	**12 11 38.5**	**+0.1**
	baz=247						
WFSB	**Wu-fen Shan**	**0.69**	**289**	⇓*i*P	**Pn**	**12 11 30.5**	**-0.8**
	baz=290						
WFSB				S	**Sn**	**12 11 39.8**	**-2.1**
	baz=290						
ILA	**Ilan**	**0.69**	**263**	⇓P	**Pn**	**12 11 30.5**	**-0.9**
	baz=264						
ILA				S	**Sb**	**12 11 39.6**	**+0.3**
	baz=264						
TNOU	**National Taiwa**	**0.72**	**294**	⇓P	**Pn**	**12 11 30.9**	**-0.9**
	baz=296						
TNOU				S	**Sn**	**12 11 40.8**	**-1.9**
	baz=296						
EOS4	**EOS4**	**0.75**	**193**	⇓*i*P	**Pn**	**12 11 31.1**	**-0.7**
	baz=192						
EOS4				*i* S	**Sg**	**12 11 41.0**	**+0.9**
	baz=192						
NDS	**Dongshan**	**0.75**	**253**	⇑*e*P	**Pg**	**12 11 30.4**	**-0.1**
	baz=254						
NDS				S	**Sg**	**12 11 40.8**	**+0.5**
	baz=254						
TWE	**Neicheng**	**0.77**	**260**	⇓*e*P	**Pg**	**12 11 30.8**	**-0.1**
	baz=261						
TWE				*i* S	**Sg**	**12 11 41.4**	**+0.4**
	baz=261						
EWUT	**Wuta**	**0.77**	**239**	⇑P	**Pg**	**12 11 31.2**	**+0.2**
	baz=239						
EWUT				*e*S	**Sb**	**12 11 41.2**	**-0.4**
	baz=239						
ENA	**Nanau**	**0.81**	**239**	⇓P	**Pg**	**12 11 31.8**	**+0.1**
	baz=239						
ENA				*e*S	**Sb**	**12 11 42.2**	**-0.5**
	baz=239						
FUSB	**Fushanzhiwuyua**	**0.84**	**264**	⇓P	**Pn**	**12 11 32.3**	**-1.1**
	baz=265						
FUSB				*i* S	**Sg**	**12 11 43.8**	**+0.6**
	baz=265						
TWA	**Mucha**	**0.84**	**279**	⇓P	**Pn**	**12 11 32.9**	**-0.6**
	baz=280						
TWA				*e*S	**Sg**	**12 11 43.4**	**0.0**
	baz=280						
NHY	**Taipei**	**0.87**	**283**	*e*P	**Pn**	**12 11 33.1**	**-0.7**
	baz=284						
NHY				*e*S	**Sn**	**12 11 45.4**	**-0.8**
	baz=284						
PCYT	**Pengchaiyu**	**0.87**	**333**	⇑*i*P	**Pn**	**12 11 33.7**	**-0.2**
	baz=335						
PCYT				*e*S	**Sn**	**12 11 46.6**	**+0.3**
	baz=335						
EAHA	**Aohua**	**0.87**	**233**	⇓*e*P	**Pb**	**12 11 32.6**	**-0.2**
	baz=234						
EAHA				*e*S	**Sb**	**12 11 43.1**	**-1.3**
	baz=234						
ENTT	**Nioudou**	**0.88**	**256**	⇑P	**Pn**	**12 11 33.1**	**-0.9**
	baz=257						
ENTT				*e*S	**Sb**	**12 11 44.2**	**-0.4**
	baz=257						
EHP	**Heping Village**	**0.88**	**232**	*e*S	**Sg**	**12 11 44.9**	**+0.5**
	baz=232						
YM08	**YM08**	**0.89**	**292**	⇓P	**Pn**	**12 11 33.5**	**-0.7**
	baz=293						
YM08				*e*S	**Sn**	**12 11 45.2**	**-1.7**
	baz=293						
NHDH	**Xindian Distri**	**0.89**	**277**	⇓P	**Pn**	**12 11 34.0**	**-0.2**
	baz=278						
NHDH				S	**Sn**	**12 11 45.5**	**-1.4**
	baz=278						
YM01	**YM01**	**0.90**	**289**	⇓*i*P	**Pn**	**12 11 33.8**	**-0.5**
	baz=291						
YM01				*i* S	**Sn**	**12 11 45.8**	**-1.3**
	baz=291						
NWLT	**Wulai**	**0.91**	**266**	⇑P	**Pn**	**12 11 34.1**	**-0.3**
	baz=266						
NWLT				*i* S	**Sg**	**12 11 46.0**	**+0.4**
	baz=266						
TWY	**Chenhua**	**0.92**	**297**	⇑*i*P	**Pn**	**12 11 34.3**	**-0.3**
	baz=299						
TWY				*e*S	**Sn**	**12 11 47.0**	**-0.6**
	baz=299						
TAP	**Taipei**	**0.92**	**282**	*e*P	**Pg**	**12 11 33.4**	**-0.4**
	baz=283						
TAP				*e*S	**Sn**	**12 11 47.0**	**-0.7**
	baz=283						
NDT	**Datong Townshi**	**0.93**	**255**	⇓P	**Pn**	**12 11 34.1**	**-0.6**
	baz=256						
NDT				*i* S	**Sg**	**12 11 46.5**	**+0.3**
	baz=256						
LATG	**Datong**	**0.94**	**251**	⇓P	**Pg**	**12 11 34.0**	**-0.2**
	baz=251						
LATG				S	**Sg**	**12 11 47.0**	**+0.4**
	baz=251						
ANP	**Anpu**	**0.95**	**291**	⇑P	**Pn**	**12 11 34.5**	**-0.6**
	baz=292						
ANP				S	**Sn**	**12 11 47.5**	**-1.1**
	baz=292						
NTST	**Danshui**	**1.00**	**288**	⇓P	**Pg**	**12 11 35.9**	**+0.6**
	baz=289						
NTST				S	**Sn**	**12 11 49.3**	**-0.4**
	baz=289						
TWS1	**Kuangyinshan**	**1.01**	**284**	⇓*i*P	**Pg**	**12 11 35.7**	**+0.2**
	baz=285						
TWS1				S	**Sn**	**12 11 49.2**	**-0.7**
	baz=285						
YHNB	**Yeheng**	**1.04**	**260**	⇓*i*P	**Pg**	**12 11 36.0**	**-0.1**
	baz=261						
YHNB				*e*S	**Sn**	**12 11 50.1**	**-0.6**
	baz=261						
NSK	**Sanguang**	**1.05**	**261**	⇑*i*P	**Pg**	**12 11 36.1**	**-0.2**
	baz=261						
NSK				*i* S	**Sg**	**12 11 49.8**	**-0.3**
	baz=261						
ETL	**Fush Village**	**1.06**	**229**	⇓P	**Pn**	**12 11 36.0**	**-0.5**
	baz=229						
ETL				S	**Sb**	**12 11 49.6**	**-0.2**
	baz=229						
NACB	**Ninganchiao**	**1.07**	**231**	⇓*e*P	**Pb**	**12 11 35.6**	**-0.6**
	baz=231						
NACB				S	**Sb**	**12 11 49.9**	**-0.2**
	baz=231						
NNSB	**Datong**	**1.10**	**248**	⇓P	**Pn**	**12 11 36.7**	**-0.5**
	baz=248						
NNSB				S	**Sn**	**12 11 51.4**	**-0.9**
	baz=248						
NNS	**Nan Shan**	**1.11**	**248**	⇑P	**Pg**	**12 11 37.2**	**-0.1**
	baz=249						
NNS				*i* S	**Sb**	**12 11 51.3**	**0.0**
	baz=249						
IRIF	**Iriomote-Funau**	**1.23**	**114**	P	**Pb**	**12 11 38.4**	**-0.6**
ETM	**Tongmen**	**1.27**	**226**	*e*P	**Pg**	**12 11 40.4**	**-0.1**
	baz=226						
ETM				*e*S	**Sb**	**12 11 56.3**	**+0.2**
	baz=226						
NFF	**Wufeng Townshi**	**1.28**	**260**	⇑P	**Pg**	**12 11 39.9**	**-0.7**
	baz=261						
NFF				*e*S	**Sn**	**12 11 56.0**	**-0.5**
	baz=261						
TEYL	**Yanliau Villag**	**1.28**	**220**	*e*P	**Pg**	**12 11 40.9**	**+0.3**
	baz=221						
TEYL				*e*S	**Sg**	**12 11 57.4**	**+0.1**
	baz=221						
LXIB	**Xiulin Townshi**	**1.29**	**230**	⇑P	**Pb**	**12 11 39.8**	**-0.4**
	baz=230						
LXIB				*e*S	**Sb**	**12 11 56.7**	**0.0**
	baz=230						
WHF	**Hehuan Shan**	**1.33**	**238**	⇓P	**Pg**	**12 11 41.2**	**-0.3**
	baz=238						
WHF				S	**Sn**	**12 11 57.7**	**-0.6**
	baz=238						
TWT	**Tachien**	**1.35**	**244**	*e*P	**Pg**	**12 11 42.0**	**+0.1**
	baz=244						
TWT				S	**Sb**	**12 11 58.9**	**+0.6**
	baz=244						
TDCB	**Techi**	**1.36**	**244**	*e*P	**Pb**	**12 11 41.4**	**+0.1**
	baz=244						
TDCB				*e*S	**Sg**	**12 11 59.8**	**-0.1**
	baz=244						
SHUL	**Shoufeng**	**1.36**	**219**	P	**Pg**	**12 11 41.8**	**-0.4**
	baz=219						
LIOB	**Emei**	**1.37**	**262**	*e*P	**Pb**	**12 11 41.4**	**0.0**
	baz=262						
LIOB				*e*S	**Sb**	**12 11 58.4**	**-0.4**
	baz=262						
SBCB	**Hsinchu**	**1.38**	**268**	*e*P	**Pb**	**12 11 41.2**	**-0.4**
	baz=268						
SBCB				*e*S	**Sb**	**12 11 58.3**	**-0.8**
	baz=268						
NSTT	**Nanjuang**	**1.38**	**261**	*e*P	**Pg**	**12 11 43.3**	**+0.8**
	baz=261						
NSTT				*e*S	**Sg**	**12 12 01.1**	**+0.6**
	baz=261						
ESL	**Shilin**	**1.42**	**224**	*e*P	**Pb**	**12 11 42.3**	**0.0**
	baz=223						
ESL				*e*S	**Sg**	**12 12 02.6**	**+0.9**
	baz=223						
CHGB	**Renai**	**1.44**	**237**	⇑*e*P	**Pg**	**12 11 43.5**	**-0.3**
	baz=237						
CHGB				*e*S	**Sg**	**12 12 02.9**	**+0.3**
	baz=237						
JKRS	**Kuro-shima**	**1.50**	**114**	*e*P	**Pb**	**12 11 42.7**	**-1.0**
JKRS				*e*S	**Sn**	**12 12 01.1**	**-0.9**
OWD	**Renai**	**1.50**	**234**	⇑*e*P	**Pg**	**12 11 44.4**	**-0.5**
	baz=234						
OWD				*e*S	**Sn**	**12 12 02.0**	**-0.2**
	baz=234						
WARBT	**Fenglin Townsh**	**1.52**	**222**	*e*P	**Pb**	**12 11 43.4**	**-0.6**
	baz=222						
WARBT				*e*S	**Sn**	**12 12 01.9**	**-0.5**
	baz=222						
WUSB	**Renai**	**1.52**	**236**	⇓P	**Pb**	**12 11 44.4**	**+0.3**
	baz=236						
WUSB				S	**Sb**	**12 12 04.3**	**+0.9**
	baz=236						
WHP	**Taichung City**	**1.53**	**248**	⇑*e*P	**Pg**	**12 11 45.5**	**+0.2**
	baz=248						
WHP				*e*S	**Sg**	**12 12 04.6**	**-0.6**
	baz=248						
JIJ	**Ishigaki jima**	**1.57**	**108**	P	**Pn**	**12 11 43.2**	**-0.3**
NMLH	**Miaoli**	**1.59**	**259**	*e*S	**Sb**	**12 12 05.0**	**-0.1**
	baz=259						
WCS	**Beigang Elemen**	**1.65**	**242**	*e*P	**Pb**	**12 11 46.7**	**+0.5**
	baz=242						
WCS				*e*S	**Sb**	**12 12 06.0**	**-1.0**
	baz=242						
TWQ1	**Liyutan**	**1.65**	**253**	*e*P	**Pg**	**12 11 48.0**	**+0.3**
	baz=253						
TWQ1				*e*S	**Sg**	**12 12 08.7**	**-0.5**
	baz=253						
VWDT	**VWDT**	**1.65**	**229**	*e*P	**Pb**	**12 11 46.4**	**+0.1**
	baz=229						
VWDT				*e*S	**Sn**	**12 12 05.3**	**-0.4**
	baz=229						
JISG	**Ishigakijimahi**	**1.67**	**99**	P	**Pn**	**12 11 44.5**	**-0.2**
HGSD	**Ruisui**	**1.67**	**216**	P	**Pn**	**12 11 45.4**	**+0.5**
	baz=216						
HGSD				*e*S	**Sn**	**12 12 05.7**	**-0.5**
	baz=216						
EHY	**Hungye**	**1.72**	**219**	*e*P	**Pn**	**12 11 46.0**	**+0.5**
	baz=218						
EHY				*e*S	**Sn**	**12 12 06.4**	**-1.0**
	baz=218						
SMLT	**Sun Moon Lake**	**1.75**	**237**	*e*P	**Pg**	**12 11 49.4**	**-0.2**
	baz=236						
SSLB	**Suanglung**	**1.77**	**233**	*e*P	**Pg**	**12 11 49.2**	**-0.7**
	baz=233						
TYC	**Yuchr**	**1.77**	**238**	*e*P	**Pg**	**12 11 49.5**	**-0.5**
	baz=238						
ECBN	**Changbin**	**1.81**	**212**	*e*P	**Pn**	**12 11 46.8**	**+0.1**
	baz=212						
ECBN				*e*S	**Sn**	**12 12 08.7**	**-0.8**
	baz=212						
YULB	**Yu-li**	**1.82**	**217**	*e*P	**Pn**	**12 11 46.8**	**-0.2**
	baz=217						
YULB				*e*S	**Sn**	**12 12 10.4**	**+0.5**
	baz=217						
EYUL	**Yuli**	**1.85**	**216**	*e*P	**Pb**	**12 11 48.2**	**-1.3**
	baz=216						
EYUL				*e*S	**Sb**	**12 12 12.0**	**-0.6**
	baz=216						
TWF1	**Yuli**	**1.85**	**217**	*e*P	**Pn**	**12 11 48.0**	**+0.6**
	baz=216						
TWF1				*e*S	**Sn**	**12 12 10.7**	**0.0**
	baz=216						
WHYT	**Xinyi Township**	**1.89**	**233**	⇓*e*P	**Pb**	**12 11 50.9**	**+0.5**
	baz=233						
WJS	**Zhushan**	**1.92**	**238**	*e*P	**Pg**	**12 11 52.1**	**-0.7**
	baz=238						
WNT	**Mingjian**	**1.92**	**240**	*e*P	**Pg**	**12 11 51.7**	**-1.1**
	baz=240						
CHKH	**Chenggong**	**1.94**	**212**	*e*P	**Pb**	**12 11 50.1**	**-1.0**
	baz=211						
CHKH				*e*S	**Sn**	**12 12 12.6**	**-0.1**
	baz=211						
FULB	**Fuli**	**1.98**	**214**	P	**Pn**	**12 11 49.7**	**+0.5**
	baz=214						
FULB				*e*S	**Sn**	**12 12 13.1**	**-0.8**
	baz=214						
CHKT	**Chengkung**	**2.03**	**211**	*e*P	**Pn**	**12 11 50.7**	**+0.9**
	baz=210						
CHKT				*e*S	**Sn**	**12 12 13.9**	**-1.1**
	baz=210						
ALS	**Alishan**	**2.05**	**230**	*e*P	**Pb**	**12 11 53.4**	**+0.3**
	baz=229						
ALS				*e*S	**Sn**	**12 12 15.4**	**-0.4**
	baz=229						
CHN5	**Tsauling**	**2.08**	**234**	*e*P	**Pb**	**12 11 53.4**	**-0.2**
	baz=233						
CHN5				*e*S	**Sb**	**12 12 17.9**	**-1.5**
	baz=233						
WDLH	**Douliu**	**2.13**	**238**	*e*P	**Pb**	**12 11 54.0**	**-0.4**
	baz=237						
ELDTW	**Lidau**	**2.14**	**220**	*e*P	**Pn**	**12 11 52.0**	**+0.5**
	baz=219						
ELDTW				*e*S	**Sn**	**12 12 16.8**	**-1.2**
	baz=219						
WRL	**Guolierlin Hig**	**2.16**	**244**	P	**Pb**	**12 11 53.0**	**-1.8**
	baz=244						
WRL				*e*S	**Sn**	**12 12 17.9**	**-0.3**
	baz=244						
EDH	**Donghe**	**2.17**	**211**	*e*P	**Pn**	**12 11 51.6**	**-0.1**
	baz=210						
EDH				*e*S	**Sn**	**12 12 16.5**	**-1.9**
	baz=210						
WTK	**Tuku**	**2.25**	**239**	*e*P	**Pb**	**12 11 55.1**	**-1.3**
	baz=239						
CHN4	**Tsaushan**	**2.30**	**230**	*e*P	**Pb**	**12 11 56.2**	**-1.1**
	baz=229						
STYH	**Taoyuan**	**2.30**	**224**	*e*P	**Pb**	**12 11 57.0**	**-0.3**
	baz=223						
STYH				*e*S	**Sb**	**12 12 24.0**	**-1.6**
	baz=223						
TPUB	**Ta-pu**	**2.31**	**228**	*e*P	**Pb**	**12 11 56.0**	**-1.4**
	baz=228						
TPUB				*e*S	**Sb**	**12 12 24.4**	**-1.4**
	baz=228						
LONT	**Longtian**	**2.31**	**213**	*e*S	**Sn**	**12 12 21.4**	**-0.5**
	baz=213						
WTP	**Ta-pu**	**2.35**	**228**	*e*P	**Pb**	**12 11 56.6**	**-1.6**
	baz=227						
WTP				*e*S	**Sn**	**12 12 24.1**	**+1.0**
	baz=227						
LDUT	**Ludao**	**2.37**	**204**	*e*P	**Pn**	**12 11 53.9**	**-0.6**
	baz=203						
LDUT				*e*S	**Sn**	**12 12 21.1**	**-2.2**
	baz=203						
TWGBT	**Beinan**	**2.41**	**213**	*e*P	**Pn**	**12 11 55.5**	**+0.5**
	baz=212						
TWGBT				*e*S	**Sn**	**12 12 23.7**	**-0.6**
	baz=212						
TWG	**Pinlang**	**2.41**	**213**	*e*P	**Pn**	**12 11 55.5**	**+0.4**
	baz=212						
TWG				*e*S	**Sn**	**12 12 23.9**	**-0.5**
	baz=212						
TWK	**Hsinying**	**2.42**	**230**	*e*P	**Pb**	**12 11 58.7**	**-0.7**
	baz=229						
CHN1	**Nanshi**	**2.45**	**228**	*e*P	**Pb**	**12 11 58.9**	**-1.0**
	baz=227						
CHN1				*e*S	**Sn**	**12 12 27.0**	**+1.5**
	baz=227						
SLGT	**Liugui**	**2.51**	**223**	*e*P	**Pb**	**12 12 00.3**	**-0.6**
	baz=222						
ICHU	**Yijhu**	**2.52**	**234**	*e*P	**Pn**	**12 11 57.5**	**+1.0**
	baz=234						
ICHU				*e*S	**Sn**	**12 12 26.3**	**-0.7**

baz=234
MATB Ma-tsu 2.65 300 *eP* **Pn 12 11 58.0 -0.3**
baz=299
MATB *eS* **Sn 12 12 31.0 +0.7**
baz=299
SCLT Jiali 2.69 232 *eP* **Pn 12 12 00.2 +1.3**
baz=231
SCLT *eS* **Sn 12 12 30.5 -0.8**
baz=231
SSD Sandimen 2.71 220 *eP* **Pb 12 12 02.3 -1.9**
baz=219
SSD S **Sn 12 12 32.7 +0.9**
baz=219
TSMG Majia 2.73 219 P **Pn 12 12 00.9 +1.5**
baz=218
VWUC VWUC 2.77 274 *eP* **Pn 12 11 59.8 -0.2**
baz=273
VWUC *eS* **Sn 12 12 32.6 -0.8**
baz=273
TSCK Chigu Township 2.79 233 *eP* **Pb 12 12 02.8 -2.8**
baz=232
TSCK *eS* **Sb 12 12 36.6 -3.0**
baz=232
SGLT Jiouru 2.81 221 *eP* **Pn 12 12 01.3 +0.8**
baz=221
SGLT *eS* **Sn 12 12 33.7 -0.5**
baz=221
MASBT Mashibuluo 2.81 218 *eP* **Pb 12 12 03.9 -2.1**
baz=217
MASBT *eS* **Sn 12 12 35.5 +1.2**
baz=217
EAST Anshuo 2.89 212 *eP* **Pb 12 12 04.2 -3.1**
baz=211
EAST *eS* **Sn 12 12 34.9 -1.4**
baz=211
XPSS Dashiqiu 2.94 315 *eP* **Pn 12 12 03.7 +1.4**
baz=315
XPSS *eS* **Sb 12 12 41.0 -2.9**
baz=315
LYUB Lan-yu 2.96 197 *eP* **Pn 12 12 03.5 +0.9**
baz=196
LYUB *eS* **Sn 12 12 37.0 -0.9**
baz=196
PNG Penghu 2.98 245 *eP* **Pn 12 12 03.6 +0.7**
baz=244
PNG *eS* **Sn 12 12 37.6 -0.8**
baz=244
PHUB P'eng-hu 2.99 244 *eP* **Pn 12 12 03.7 +0.7**
baz=243
PHUB *eS* **Sn 12 12 39.4 +0.7**
baz=243
LYJJ Jianjiangzhen 3.00 305 *eP* **Pn 12 12 03.1 0.0**
baz=304
LYJJ *eS* **Sn 12 12 39.5 +0.6**
baz=304
SCZT Fangliau 3.01 215 *eP* **Pb 12 12 07.0 -2.5**
baz=214
WDGT Dungji 3.04 239 *eP* **Pn 12 12 05.2 +1.4**
baz=238
WDGT *eS* **Sn 12 12 39.8 -0.2**
baz=238
PTMZ Houxiangcun 3.08 274 *eP* **Pn 12 12 04.6 +0.4**
baz=274
PTMZ *eS* **Sn 12 12 39.2 -1.6**
baz=274
VCHM Qimei 3.25 240 *eP* **Pn 12 12 08.5 +1.9**
baz=240
VCHM *eS* **Sn 12 12 45.1 0.0**
baz=240
TWKBT Hengchun 3.29 209 *eP* **Pn 12 12 08.8 +1.6**
baz=208
TWKBT *eS* **Sn 12 12 44.7 -1.4**
baz=208
MHZQ Yeshan 3.38 292 *eP* **Pn 12 12 08.4 +0.1**
baz=292
MHZQ *eS* **Sn 12 12 48.1 -0.1**
baz=292
KNMB Chin-men Tao 3.76 265 *eP* **Pn 12 12 13.6 0.0**
baz=264
KNMB *eS* **Sn 12 12 56.8 -1.0**
baz=264
SONM Songino Array 26.25 335 P **P 12 16 53.4 +2.6**
1.3nm,0.9s,baz=142,slow=7.3,SNR=4.0
1.3nm,0.9s
ZALV Zalesovo Beam 40.35 326 P **P 12 18 53.9 +0.8**
0.7nm,0.4s,baz=117,slow=12,SNR=2.2
0.7nm,0.4s
WRA Warramunga Arr 45.99 164 P P 12 19 45.5 +6.4
0.6nm,0.5s,baz=346,slow=8.7,SNR=16
0.6nm,0.5s
BVAR Borovoye Array 47.93 320 P **P 12 19 54.9 +1.0**
0.4nm,0.4s,baz=108,slow=9.3,SNR=2.1
0.4nm,0.4s
ASAR Alice Springs 49.48 166 P P 12 20 12.9 +6.7
0.5nm,0.8s,baz=341,slow=8.5,SNR=6.6
0.5nm,0.8s

NEIC ***25*** *12:13:41.6±1.4, 19°.403N±0°.010×155°.230W±0°.005, h4km±1km, Error ellipse: s-maj=1.5km s-min=0.7km az=178.0*

HVO 25 12:13:41.2±1.1, 19°.419N±0°.010×155°.252W±0°.006, h0km±2km, ML2.7/16, ML2.3/32(NEIC), Error ellipse: s-maj=1.4km s-min=0.8km az=181.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
HATHI	**Halema'uma'u T**	**0.01**	**294**	Pg	Pg		12 13 41.9	+0.3
HATHI				Sg	Sg		12 13 42.2	+0.5
BYL	**Byron's Ledge**	**0.01**	**225**	Pg	Pg		12 13 41.9	+0.4
BYL				Sg	Sg		12 13 42.2	+0.5
SBLHI	**Steaming Bluff**	**0.02**	**297**		Pg		12 13 42.6	+1.0
KKO	**Keanakako'i**	**0.03**	**211**		Pg		12 13 43.2	+1.5
UWB	**Uwekahuna B**	**0.03**	**282**		Pg		12 13 43.0	+1.3
OBL	**Observatory Le**	**0.03**	**267**		Pg		12 13 42.5	+0.6
RIM	**Rim**	**0.03**	**221**		Pg		12 13 42.6	+0.8
UWE	**Uwekahuna**	**0.04**	**273**		Pg		12 13 42.7	+0.8
RSD	**Rainshed**	**0.05**	**331**	Pg	Pg		12 13 43.0	+0.9
RSD				Sg	Sg		12 13 44.5	+1.6
PUH	**Pauahi**	**0.06**	**143**	Pg	Pg		12 13 43.3	+1.0
PUH				IAML			12 13 44.0	
	comp=E,3μm,0.2s							
KNHH	**Kane Nui o Ham**	**0.09**	**117**		Pg		12 13 44.0	+1.1
STCH	**Steam Cracks**	**0.12**	**106**		Pg		12 13 44.5	+0.9
STCH				IAML			12 13 47.4	
	comp=N,962nm,0.4s							
STCH				IAML			12 13 47.5	
	comp=E,2μm,0.5s							
HLP	**Hilina Pali**	**0.13**	**203**		Pg		12 13 44.9	+1.1
NPOC	**North of Pu'u**	**0.14**	**101**		Pg		12 13 44.8	+0.9
JCUZ	**Jacuzzi**	**0.15**	**104**		Pg		12 13 45.0	+0.9
MLH	**Mauna Loa**	**0.15**	**301**		Pg		12 13 45.3	+1.2
MLH				IAML			12 13 48.6	
	comp=N,1μm,1.1s							
MLH				IAML			12 13 49.0	
	comp=E,799nm,0.8s							
HTC	**Hot Caves**	**0.23**	**217**		Pg		12 13 46.5	+1.0
JOKA	**Jonika Flow**	**0.23**	**86**	Pg	Pg		12 13 46.3	+0.6
JOKA				IAML			12 13 48.0	
	comp=E,616nm,0.9s							
HMH	**Humu'ula Sheep**	**0.28**	**310**	Pg	Pg		12 13 47.5	+0.8
HMH				IAML			12 13 54.5	
	comp=N,341nm,1.2s							
HMH				IAML			12 13 55.9	
	comp=E,418nm,2.5s							
MLOA	**Mauna Loa Obse**	**0.33**	**291**	Pg	Pg		12 13 48.3	+0.8
MLOA				IAML			12 13 52.7	
	comp=E,383nm,2.8s							
MLOA				IAML			12 13 58.3	
	comp=N,390nm,1.2s							
MWH	**Moku'aweowe**	**0.33**	**281**	Pg	Pg		12 13 48.5	+0.9
KHU	**Kahuku**	**0.38**	**243**		Pg		12 13 49.5	+0.9
KHU				IAML			12 13 59.2	
	comp=N,299nm,0.7s							
KHU				IAML			12 13 59.6	
	comp=E,412nm,1.2s							
POHA	**Pohakuloa**	**0.43**	**322**		Pb		12 13 50.9	-0.9
POHA	**Pohakuloa**	**0.43**	**322**	Sg	Sg		12 13 56.9	+1.9
HPO	**Honuapo**	**0.43**	**221**	Pg	Pg		12 13 50.0	+0.4
HPO				Sg	Sg		12 13 54.8	-0.4
HUH	**Hualalai**	**0.61**	**296**		Pg		12 13 53.9	+0.9
CPH	**Captain Cook**	**0.63**	**276**		Pg		12 13 53.4	+0.1
HPAH	**Hawaii Prepara**	**0.74**	**325**	Pg	Pg		12 13 56.2	+0.8
HPAH					Pb		12 13 56.9	-0.1
KKH	**Kailua Kona**	**0.76**	**288**	Pg	Pg		12 13 55.5	-0.2

IDC ***25*** *12:13:40.3±0.4, 37°.02N×138°.50E, h0km, mb4.5/31, mbtmp4.5/33, ML4.1/2, MS4.5/66, Error ellipse: s-maj=13.0km s-min=6.3km az=102.0*

NEIC ***25*** *12:13:42.3±1.7, 36°.93N±0°.04×138°.61E±0°.07, h10km±1km, mb4.9/319, Error ellipse: s-maj=10.5km s-min=5.3km az=125.0*

NIED ***25*** *12:13:42.2, 36°.94N×138°.59E, h6km, MW5.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^16 Nm; Mrr2.50; Mθθ-1.59; Mφφ-0.90; Mrθ-0.11; Mθφ-2.37; Mφr0.77; Fault plane solution: M0 3.23000×10^16 NP1:φ=29.00000°, δ53.00000°, λ62.00000°. NP2:φ=250.00000°, δ45.00000°, λ121.00000°.*

MOS ***25*** *12:13:42.2±1.0, 36°.89N×138°.46E, h25km, mb5.1/71, MS4.9/12 Error ellipse: s-maj=6.2km s-min=3.8km az=109.3*

JMA ***25*** *12:13:42.2±0.1, 36°.9N±0°.3×138°.6E±0°.3, h6km±1km, MD5.2/20, MW5.0/20, MID NIIGATA PREF*

JMA Felt V-VI J1 at MID NIIGATA PREF .

GCMT ***25*** *12:13:45.3±0.2, 36°.96N±0°.01×138°.47E±0°.01, h12km, MW5.0/123, Moment Tensor Solution. s38,c51; s123,c201; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr1.77±.09; Mθθ-1.89±.08; Mφφ0.12±.08; Mrθ-2.01±.23; Mθφ-3.41±.06; Mφr-1.19±.23; Best double couple: M0 4.03300×10^16 NP1:φ=269.00000°, δ79.00000°, λ140.00000°. NP2:φ=7.00000°, δ51.00000°, λ14.00000°. Principal axes: T 2.8550, Plg35.0000°, Azm220.0000°; N 2.3630, Plg49.0000°, Azm76.0000°; P -5.2110, Plg18.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 12:13:43.3±0.5, 36°.94N±0°.02×138°.60E±0°.02, h18km±2km, n1193, σ1°.49/1037, mb4.9/275, MS4.8/95, 16C-34D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		ISC	Time h m s	Res ISC
				Op				
JGK	**Kuni**	**0.38**	**175**	⇓*i* P		**Pg**	**12 13 50.0**	**-1.3**
JGK				⇓S		**Sg**	**12 13 55.9**	**-0.7**
JGK	**Kuni**	**0.38**	**175**	A		A	12 13 50.0	
	comp=E,327nm,3.0s,comp=N,385nm,2.8s							
JJN	**Nakama**	**0.38**	**295**	*i* P		**Pg**	**12 13 49.8**	**-1.5**
JJN				S		**Sg**	**12 13 55.4**	**-1.3**
JJN	**Nakama**	**0.38**	**295**	A		A	12 13 49.8	
	comp=E,312nm,3.5s,comp=N,686nm,3.3s							
JUON	**Uonuma**	**0.45**	**54**	*i* P		**Pg**	**12 13 50.9**	**-1.6**
JUON				S		**Sg**	**12 13 57.5**	**-1.2**
JUON	**Uonuma**	**0.45**	**54**	A		A	12 13 50.9	
	comp=E,150nm,3.3s,comp=N,236nm,6.9s							
MJB9	**Matsu-Tunnel**	**0.51**	**219**	Pg		**Pg**	**12 13 52.6**	**-0.9**
MAJO	**Matsushiro**	**0.51**	**218**	Pg		**Pg**	**12 13 51.6**	**-1.9**
MAJO	**Matsushiro**	**0.51**	**218**	P		**Pg**	**12 13 51.6**	**-1.9**
MAT	**Matsushiro**	**0.51**	**218**	*i* P		**Pg**	**12 13 51.5**	**-2.0**
MAT				S		**Sg**	**12 13 58.3**	**-2.1**
MJAR	**Matsushiro Arr**	**0.51**	**218**	Pg		**Pg**	**12 13 51.7**	**-1.8**
	comp=N,353nm,0.3s,baz=37,slow=18,SNR=394							
MJAR				Lg		Lg	12 13 58.6	
	comp=N,641nm,0.3s,baz=48,slow=21,SNR=55							
JKT	**Katashina**	**0.55**	**108**	⇓*i* P		**Pg**	**12 13 52.8**	**-1.5**
JKT				⇓S		**Sg**	**12 14 00.7**	**-1.0**
JKT	**Katashina**	**0.55**	**108**	A		A	12 13 52.8	
	comp=E,182nm,3.2s,comp=N,169nm,3.8s							
JIZZ	**Izumozaki**	**0.59**	**8**	⇓*i* P		**Pg**	**12 13 54.4**	**-0.7**
JIZZ	**Izumozaki**	**0.59**	**8**	A		A	12 13 54.4	
	comp=E,2μm,5.2s,comp=N,1μm,5.4s							
JNG	**Nsakai**	**0.67**	**217**	*i* P		**Pg**	**12 13 54.6**	**-1.9**
JNG				S		**Sg**	**12 14 03.4**	**-2.0**
JNG	**Nsakai**	**0.67**	**217**	A		A	12 13 54.6	
	comp=E,107nm,3.9s,comp=N,174nm,3.8s							
JAG	**Ashikaga**	**0.86**	**127**	⇓*i* P		**Pg**	**12 13 58.6**	**-1.4**
JAG				⇓S		**Sg**	**12 14 10.1**	**-1.2**
JAG	**Ashikaga**	**0.86**	**127**	A		A	12 13 58.6	
	comp=E,92nm,3.8s,comp=N,88nm,5.0s							
JRY	**Ryogami san**	**0.95**	**165**	⇓*i* P		**Pg**	**12 14 00.1**	**-1.8**
JRY				⇓S		**Sg**	**12 14 13.5**	**-0.9**
JRY	**Ryogami san**	**0.95**	**165**	A		A	12 14 00.1	
	comp=E,55nm,1.7s,comp=N,62nm,4.2s							
JFY	**Yanaizu**	**1.00**	**62**	A		A	12 14 01.3	
	comp=E,125nm,4.4s,comp=N,143nm,4.0s							
JFY	**Yanaizu**	**1.00**	**62**	P		**Pg**	**12 14 00.9**	**-1.8**
JFY				S		**Sg**	**12 14 14.8**	**-1.0**
JNS	**Sasagawa**	**1.04**	**33**	A		A	12 14 02.2	
	comp=E,47nm,5.3s,comp=N,44nm,4.6s							
JNS	**Sasagawa**	**1.04**	**33**	P		**Pg**	**12 14 01.3**	**-2.3**
JNS				S		**Sg**	**12 14 16.0**	**-1.3**
JSB	**Shiboa**	**1.06**	**88**	A		A	12 14 02.4	
	comp=E,148nm,3.5s,comp=N,192nm,5.4s							
JTT	**Ttatey**	**1.07**	**252**	A		A	12 14 02.4	
	comp=E,84nm,5.6s,comp=N,141nm,3.7s							
JTT	**Ttatey**	**1.07**	**252**	P		**Pg**	**12 14 02.4**	**-1.6**
JSZ	**Suzu**	**1.11**	**297**	A		A	12 14 03.2	
	comp=E,132nm,1.6s,comp=N,175nm,1.9s							
JSZ	**Suzu**	**1.11**	**297**	P		**Pb**	**12 14 01.9**	**-2.0**
JSZ				S		**Sg**	**12 14 17.4**	**-1.8**
JSD	**Sado**	**1.13**	**346**	P		**Pb**	**12 14 02.3**	**-1.9**
JSD	**Sado**	**1.13**	**346**			**Pb**	**12 14 02.1**	**-2.1**
JSD	**Sado**	**1.13**	**346**	A		A	12 14 03.5	
	comp=E,32nm,2.4s,comp=N,25nm,8.0s							
JSD	**Sado**	**1.13**	**346**	⇓P		**Pb**	**12 14 02.0**	**-2.1**
JSD				⇓S		**Sb**	**12 14 17.0**	**-1.6**
JNT	**Takato**	**1.13**	**199**	A		A	12 14 03.5	
	comp=E,70nm,6.0s,comp=N,39nm,5.0s							
JHU	**Hanno**	**1.22**	**153**	A		A	12 14 05.1	
	comp=E,51nm,5.3s,comp=N,55nm,3.5s							
JGN	**Niukaw**	**1.26**	**236**	A		A	12 14 05.6	
	comp=E,31nm,5.1s,comp=N,34nm,4.2s							
JSGW	**Sagamiharawaka**	**1.43**	**160**	A		A	12 14 08.5	
	comp=E,58nm,8.2s,comp=N,40nm,4.4s							
JYN	**Shimob**	**1.44**	**182**	A		A	12 14 08.7	
	comp=E,88nm,5.8s,comp=N,40nm,5.9s							
JYN	**Shimob**	**1.44**	**182**	P		**Pn**	**12 14 09.1**	**+0.6**
JJH	**Hakui**	**1.46**	**270**	A		A	12 14 08.9	
	comp=E,32nm,6.3s,comp=N,62nm,1.7s							
JYT	**Yasato**	**1.47**	**119**	A		A	12 14 09.2	
	comp=E,35nm,1.0s,comp=N,52nm,1.7s							
JOTO	**OTAMA OYAMA**	**1.52**	**65**	A		A	12 14 10.0	
	comp=E,164nm,1.0s,comp=N,156nm,1.0s							
TOK	**Tokyo**	**1.56**	**143**	A		A	12 14 10.7	
	comp=E,318nm,6.1s,comp=N,290nm,6.3s							
JYAR	**Yonezawaarcadi**	**1.57**	**61**	A		A	12 14 10.8	
	comp=E,113nm,1.4s,comp=N,99nm,1.4s							
JFFD	**Fukushimafurud**	**1.58**	**84**	A		A	12 14 11.0	
	comp=E,29nm,3.5s,comp=N,65nm,6.9s							
JAW	**Awa shima**	**1.60**	**19**	A		A	12 14 11.3	
	comp=E,76nm,2.6s,comp=N,48nm,4.0s							
JAW	**Awa shima**	**1.60**	**19**	⇓P		**Pn**	**12 14 09.9**	**-0.7**
JHG	**Hegura jima**	**1.61**	**305**	A		A	12 14 11.4	
	comp=E,38nm,4.8s,comp=N,32nm,4.9s							
JHG	**Hegura jima**	**1.61**	**305**	P		**Pn**	**12 14 09.4**	**-1.5**
JHO	**Hitachi**	**1.62**	**101**	A		A	12 14 11.5	
	comp=E,36nm,4.1s,comp=N,50nm,4.7s							
JGF	**Kuroka**	**1.67**	**217**	P		**Pn**	**12 14 12.9**	**+1.2**
JGF	**Kuroka**	**1.67**	**217**	Pn		**Pn**	**12 14 12.3**	**+0.6**
JGF	**Kuroka**	**1.67**	**217**	A		A	12 14 12.2	
	comp=Z,43nm,4.7s,comp=E,42nm,5.1s,comp=N,40nm,4.0s							
JNY	**Yasuok**	**1.69**	**201**	A		A	12 14 12.5	
	comp=E,59nm,1.1s,comp=N,43nm,4.4s							
JHYU	**Hitachinakayam**	**1.71**	**110**	A		A	12 14 13.0	
	comp=E,61nm,2.0s,comp=N,67nm,1.3s							
JOD2	**Odawara 2**	**1.72**	**167**	A		A	12 14 13.0	
	comp=E,68nm,6.3s,comp=N,60nm,4.0s							
JOD2	**Odawara 2**	**1.72**	**167**	P		**Pn**	**12 14 13.6**	**+1.3**
JYS	**Shirataka**	**1.73**	**42**	A		A	12 14 13.3	
	comp=E,125nm,1.2s,comp=N,160nm,1.4s							
JYS	**Shirataka**	**1.73**	**42**	P		**Pn**	**12 14 12.8**	**+0.4**
JYS				S		**Sn**	**12 14 36.8**	**+2.7**
JFNN	**Fujinakano**	**1.75**	**178**	A		A	12 14 13.4	
	comp=E,106nm,4.3s,comp=N,72nm,3.9s							
JFNN	**Fujinakano**	**1.75**	**178**	P		**Pn**	**12 14 14.8**	**+2.1**
JFNN				S		**Sb**	**12 14 38.6**	**+2.3**
ONAJ	**Iwakimizuishiy**	**1.77**	**84**	A		A	12 14 13.9	
	comp=E,32nm,4.7s,comp=N,71nm,3.3s							
JIHU	**Itakohorinouch**	**1.83**	**122**	A		A	12 14 14.8	
	comp=E,229nm,3.7s,comp=N,234nm,3.7s							
JFK	**Kawauchi**	**1.87**	**76**	A		A	12 14 15.3	
	comp=E,47nm,4.0s,comp=N,55nm,9.3s							
JFK	**Kawauchi**	**1.87**	**76**	P		**Pn**	**12 14 15.5**	**+1.1**
JYA	**Atsumi**	**1.87**	**28**	A		A	12 14 15.4	
	comp=E,116nm,0.9s,comp=N,76nm,1.1s							
JYA	**Atsumi**	**1.87**	**28**	⇓*i* P		**Pn**	**12 14 14.2**	**-0.1**
JYA				⇓S		**Sn**	**12 14 40.6**	**+3.0**
SHZ3	**Shizuoka 3**	**1.90**	**190**	A		A	12 14 15.6	
	comp=E,57nm,4.3s,comp=N,32nm,5.5s							
SHZ3	**Shizuoka 3**	**1.90**	**190**	*i* P		**Pn**	**12 14 16.5**	**+1.7**
JYO	**Yokosk**	**1.92**	**153**	A		A	12 14 16.0	
	comp=E,94nm,4.0s,comp=N,77nm,3.4s							
JKG	**Kaga**	**1.94**	**251**	A		A	12 14 16.2	
	comp=E,26nm,4.8s,comp=N,22nm,2.7s							
JKG	**Kaga**	**1.94**	**251**	*i* P		**Pn**	**12 14 15.6**	**+0.3**
JKG				S		**Sg**	**12 14 45.3**	**-0.5**
JMM	**Marumori**	**1.98**	**62**	P		**Pn**	**12 14 17.3**	**+1.5**
JMM	**Marumori**	**1.98**	**62**			**Pn**	**12 14 16.6**	**+0.8**
JMM	**Marumori**	**1.98**	**62**	A		A	12 14 16.9	
	comp=E,34nm,4.8s,comp=N,68nm,5.0s							
JMM	**Marumori**	**1.98**	**62**	*i* P		**Pn**	**12 14 17.1**	**+1.3**
JMM				S		**Sb**	**12 14 44.7**	**+1.7**
JSMT	**Sammumatsuo**	**1.98**	**130**	A		A	12 14 16.9	
	comp=E,150nm,4.3s,comp=N,142nm,4.0s							
JMST	**Minamisoumatoc**	**1.98**	**66**	A		A	12 14 17.1	
	comp=E,34nm,3.7s,comp=N,57nm,3.1s							
JAO	**Obara**	**1.99**	**213**	A		A	12 14 17.0	
	comp=E,33nm,5.9s,comp=N,38nm,6.7s							
JCN	**Nagara**	**2.00**	**139**	A		A	12 14 17.2	
	comp=E,181nm,5.1s,comp=N,221nm,5.5s							
JHTM	**Izuhatsuma**	**2.01**	**170**	A		A	12 14 17.3	
	comp=E,66nm,1.4s,comp=N,78nm,3.4s							
JYTA	**Yamagatataniai**	**2.02**	**229**	A		A	12 14 17.4	
	comp=E,25nm,8.3s,comp=N,18nm,4.4s							
JYTA	**Yamagatataniai**	**2.02**	**229**	P		**Pn**	**12 14 16.7**	**+0.3**
INU	**Inuyama**	**2.04**	**219**	P		**Pn**	**12 14 18.6**	**+1.9**
INU	**Inuyama**	**2.04**	**219**			**Pn**	**12 14 17.2**	**+0.5**
I30JP	**ISUMI INFRASON**	**2.14**	**139**	I		I	12 23 10.0	
	baz=322,slow=315,SNR=3.8							
JICN	**Ichinomiyachia**	**2.17**	**222**	A		A	12 14 19.5	
	comp=E,43nm,3.1s,comp=N,62nm,4.7s							
JOU	**Okura**	**2.17**	**48**	A		A	12 14 19.7	
	comp=E,50nm,6.5s,comp=N,43nm,3.3s							
JOU	**Okura**	**2.17**	**48**	P		**Pn**	**12 14 19.4**	**+0.9**
JOU				S		**Sn**	**12 14 45.0**	**+0.1**
TATJ	**Tateyama 2**	**2.17**	**151**	A		A	12 14 19.7	
	comp=E,71nm,3.4s,comp=N,90nm,4.1s							
HMMJ	**Hamamatsu 2**	**2.20**	**199**	A		A	12 14 20.0	
	comp=E,22nm,3.2s,comp=N,15nm,5.2s							
JKUC	**kamogawauchiur**	**2.20**	**143**	A		A	12 14 20.2	
	comp=E,39nm,3.3s,comp=N,39nm,4.4s							
JSSY	**Shinshiroyabe**	**2.21**	**204**	A		A	12 14 20.2	
	comp=E,24nm,5.5s,comp=N,25nm,4.7s							
JIZS	**Izushimoda**	**2.23**	**174**	A		A	12 14 20.5	
	comp=E,41nm,2.7s,comp=N,25nm,4.4s							
JIZS	**Izushimoda**	**2.23**	**174**	P		**Pn**	**12 14 21.2**	**+1.9**
JKKS	**Kakegawashinom**	**2.24**	**193**	A		A	12 14 20.7	
	comp=E,92nm,3.6s,comp=N,57nm,3.2s							
JSG	**Sagara**	**2.29**	**189**	P		**Pb**	**12 14 24.2**	**+0.2**
JSG	**Sagara**	**2.29**	**189**	Pn		**Pn**	**12 14 20.2**	**+0.1**
JSG	**Sagara**	**2.29**	**189**	A		A	12 14 21.3	
	comp=E,106nm,10.0s,comp=N,63nm,5.0s							
JIM2	**Oshima 3**	**2.32**	**163**	A		A	12 14 21.8	
	comp=E,51nm,8.5s,comp=N,43nm,2.7s							
JYYZ	**Yamagatayuza**	**2.32**	**27**	A		A	12 14 21.9	
	comp=E,144nm,5.7s,comp=N,104nm,5.0s							
JTB	**Tobi-shima**	**2.37**	**18**	A		A	12 14 22.7	
	comp=E,29nm,2.8s,comp=N,20nm,4.1s							
JYK	**Kaneyama**	**2.41**	**35**	A		A	12 14 23.3	
	comp=E,29nm,5.8s,comp=N,32nm,6.5s							
JYK	**Kaneyama**	**2.41**	**35**	P		**Pn**	**12 14 22.5**	**+0.6**
JOFO	**Osakifurukawao**	**2.47**	**47**	A		A	12 14 24.1	
	comp=E,181nm,3.2s,comp=N,178nm,3.6s							
JTHY	**Toshimahigashi**	**2.48**	**167**	A		A	12 14 24.1	
	comp=E,63nm,5.0s,comp=N,67nm,5.4s							
JEG	**Eigenji**	**2.54**	**225**	A		A	12 14 24.9	
	comp=E,26nm,5.0s,comp=N,15nm,7.2s							
JFM	**Mihama**	**2.54**	**237**	A		A	12 14 24.9	
	comp=E,14nm,4.0s,comp=N,19nm,6.3s							
JAA	**Atsumi**	**2.59**	**208**	A		A	12 14 25.6	
	comp=E,24nm,3.4s,comp=N,22nm,5.3s							
JNIO	**Niijimaoohara**	**2.64**	**168**	A		A	12 14 26.4	
	comp=E,45nm,3.4s,comp=N,54nm,5.1s							
JSKK	**Shikinejimakit**	**2.65**	**169**	A		A	12 14 26.6	
	comp=E,38nm,4.1s,comp=N,33nm,3.2s							
JIO	**Ouri**	**2.65**	**54**	A		A	12 14 26.7	
	comp=E,19nm,5.7s,comp=N,33nm,7.4s							
JIKH	**Ishinomakikobu**	**2.65**	**58**	A		A	12 14 26.7	
	comp=E,14nm,3.8s,comp=N,20nm,3.6s							
TTO5	**TONANKAI O.B.S**	**2.78**	**195**	A		A	12 14 28.4	
	comp=E,84nm,4.2s,comp=N,80nm,5.1s							
JKO	**Kozu shima**	**2.78**	**171**	A		A	12 14 28.4	
	comp=E,51nm,2.8s,comp=N,49nm,3.5s							
TSUJ	**Tsu 2**	**2.85**	**219**	A		A	12 14 29.3	
	comp=E,21nm,4.4s,comp=N,18nm,6.2s							
TSUJ	**Tsu 2**	**2.85**	**219**	P		**Pn**	**12 14 28.8**	**+1.0**
JMK	**Ichinoseki**	**2.88**	**45**	A		A	12 14 30.0	
	comp=E,11nm,5.1s,comp=N,12nm,2.4s							
JMK	**Ichinoseki**	**2.88**	**45**	*i* P		**Pn**	**12 14 29.1**	**+0.8**
JYW	**Yuwa**	**2.89**	**26**	A		A	12 14 30.0	
	comp=E,22nm,3.5s,comp=N,30nm,1.7s							
JRG	**Rokugo**	**2.93**	**33**	A		A	12 14 30.6	
	comp=E,22nm,0.9s,comp=N,28nm,6.8s							
JRG	**Rokugo**	**2.93**	**33**	*i* P		**Pn**	**12 14 30.0**	**+1.0**
JKMT	**Kesennumamotoy**	**2.94**	**50**	A		A	12 14 30.8	
	comp=E,17nm,5.8s,comp=N,25nm,8.0s							
JIE	**Ise**	**2.98**	**212**	A		A	12 14 31.1	
	comp=Z,22nm,5.2s,comp=E,14nm,9.0s,comp=N,17nm,6.8s							
JIE	**Ise**	**2.98**	**212**	P		**Pn**	**12 14 30.4**	**+0.9**
JMYK	**Miyake Tsubota**	**2.98**	**165**	A		A	12 14 31.3	
	comp=E,22nm,4.9s,comp=N,36nm,4.2s							
JOG3	**Oga3**	**3.00**	**7**	A		A	12 14 33.4	
	comp=Z,9.0nm,5.2s,comp=E,19nm,1.2s,comp=N,23nm,1.3s							
TTO4	**TONANKAI O.B.S**	**3.05**	**197**	A		A	12 14 32.3	
	comp=E,80nm,5.8s,comp=N,75nm,3.9s							
JWT	**Wachi**	**3.07**	**238**	A		A	12 14 32.5	
	comp=E,12nm,5.3s,comp=N,15nm,6.2s							
JWT	**Wachi**	**3.07**	**238**	*i* P		**Pn**	**12 14 32.1**	**+1.2**
JKY	**Yasaka**	**3.11**	**246**	A		A	12 14 33.1	
	comp=E,8.0nm,3.8s,comp=N,13nm,8.8s							
JKY	**Yasaka**	**

baz=102,slow=20
JHJ LR LR 12 16 18.4
comp=N,5μm,19.5s,baz=34,slow=39
comp=N,1μm,0.9s
JTH Tanohata 3.94 40 A A 12 14 45.0
comp=E,9.0nm,8.5s,comp=N,6.0nm,6.0s
JHJ2 Mitsune 3.95 165 P **Pn** **12 14 46.0 +3.0**
JHJ2 Mitsune 3.95 165 Pn **Pn** **12 14 44.0 +1.0**
JHJ2 Mitsune 3.95 165 A A 12 14 45.0
comp=E,10.0nm,9.7s,comp=N,6.0nm,5.3s
JHHS Hirosakihyakuz 3.95 20 A A 12 14 45.1
comp=E,13nm,3.9s,comp=N,16nm,4.1s
JTNC Tanabenakahech 3.96 219 A A 12 14 45.1
comp=E,12nm,4.5s,comp=N,16nm,4.9s
JHCJ Hachijojimakas 3.98 165 A A 12 14 45.6
comp=E,9.0nm,10.9s,comp=N,7.0nm,10.0s
JWM Minabe 4.07 222 A A 12 14 46.6
comp=E,12nm,7.2s,comp=N,11nm,5.8s
JWM Minabe 4.07 222 P **Pn** **12 14 44.5 -0.1**
JKEN Kujiedanarisaw 4.07 36 A A 12 14 46.8
comp=E,14nm,5.3s,comp=N,12nm,4.2s
JAD Aida 4.11 242 P **Pn** **12 14 46.6 +1.4**
JANG Nango 4.12 33 A A 12 14 47.5
comp=E,7.0nm,5.4s,comp=N,7.0nm,5.4s
JKR Kurayoshi 4.17 249 A A 12 14 48.1
comp=E,7.0nm,4.7s,comp=N,6.0nm,6.0s
JWKM Wakayamakushim 4.19 215 A A 12 14 48.4
comp=E,15nm,5.8s,comp=N,13nm,2.8s
JTM Tenmabayashi 4.30 26 P **Pn** **12 14 49.5 +1.8**
JTM Tenmabayashi 4.30 26 Pn **Pn** **12 14 48.7 +1.0**
JTM Tenmabayashi 4.30 26 A A 12 14 50.0
comp=E,5.0nm,19.3s,comp=N,5.0nm,5.4s
JSI2 Shiura 2 4.34 18 A A 12 14 50.7
comp=E,5.0nm,15.9s,comp=N,4.0nm,10.7s
JOI OKI 4.35 263 P **Pn** **12 14 48.5 0.0**
JAOM Aogashimamukai 4.57 168 A A 12 14 53.8
comp=E,11nm,3.6s,comp=N,10.0nm,10.5s
JJS Sakaide 4.58 237 A A 12 14 53.9
comp=E,5.0nm,5.7s,comp=N,7.0nm,6.5s
JAI Aioi 4.62 228 A A 12 14 54.4
comp=E,6.0nm,7.2s,comp=N,6.0nm,17.0s
JAI Aioi 4.62 228 P **Pn** **12 14 53.2 +1.0**
JMAF Mimaanabuki 4.64 233 A A 12 14 54.7
comp=E,6.0nm,8.5s,comp=N,7.0nm,5.6s
JSR Shiriuchi 4.79 17 A A 12 14 57.0
comp=E,5.0nm,8.9s,comp=N,6.0nm,8.6s
JSR Shiriuchi 4.79 17 P **Pn** **12 14 56.0 +1.5**
JAHD Aomorihigashid 4.81 25 A A 12 14 57.3
comp=E,7.0nm,1.7s,comp=N,6.0nm,8.4s
JOT Ohata 4.83 22 A A 12 14 57.5
comp=N,5.0nm,8.6s
JHS Saijyo 4.85 248 A A 12 14 57.7
comp=E,3.0nm,7.7s,comp=N,5.0nm,4.5s
JHS Saijyo 4.85 248 P **Pn** **12 14 57.0 +1.6**
JISK Izumosakaura 4.87 255 A A 12 14 57.9
comp=E,4.0nm,10.5s,comp=N,4.0nm,7.9s
JISK Izumosakaura 4.87 255 P **Pn** **12 14 56.6 +1.1**
JJG Jouge 4.99 244 A A 12 14 59.5
comp=E,4.0nm,4.2s,comp=N,7.0nm,4.3s
JMN Monobe 5.02 232 P **Pn** **12 15 00.4 +2.7**
JMN Monobe 5.02 232 Pn **Pn** **12 14 56.8 -0.9**
JMN Monobe 5.02 232 A A 12 15 00.0
comp=E,8.0nm,5.6s,comp=N,8.0nm,6.1s
MRT2 Murotomisaki 2 5.09 227 A A 12 15 01.0
comp=E,7.0nm,7.9s,comp=N,8.0nm,7.4s
JGT2 ShimaneMisato 5.28 251 P **Pn** **12 15 02.9 +1.6**
JKB Kayabe 5.29 20 P **Pn** **12 15 05.2 +3.9**
JYM2 Yakumo 2 5.35 14 P **Pn** **12 15 03.5 +1.4**
JHT Toyohira 5.51 247 A A 12 15 06.9
comp=E,4.0nm,7.1s,comp=N,5.0nm,8.4s
JHT Toyohira 5.51 247 P **Pn** **12 15 06.8 +2.4**
JHM Kurahashi 5.68 242 A A 12 15 09.3
comp=E,4.0nm,6.4s,comp=N,5.0nm,10.0s
JHM Kurahashi 5.68 242 P **Pn** **12 15 08.4 +1.7**
JSH Shimam 5.80 11 P **Pn** **12 15 09.9 +1.5**
JKU Kubokawa 5.80 233 A A 12 15 11.0
comp=E,5.0nm,10.6s,comp=N,5.0nm,10.6s
UWA2 Uwa jima 2 6.15 235 P **Pn** **12 15 14.7 +1.4**
ERM Erimo 6.17 33 P **Pn** **12 15 16.7 +3.2**
ERM Erimo 6.17 33 Pn **Pn** **12 15 14.3 +0.9**
ERM Erimo 6.17 33 *d*/P **Pn** **12 15 17.0 +3.5**
ERM pmax pmax
comp=Z,180nm,0.8s
JEM Erimo 6.17 33 P **Pn** **12 15 16.7 +3.2**
JNBK Urakawa-nobuka 6.22 30 P **Pn** **12 15 17.8 +3.6**
JTO Tosashimizu 6.27 231 A A 12 15 17.5
comp=E,4.0nm,11.1s,comp=N,4.0nm,5.6s
JTO Tosashimizu 6.27 231 P **Pn** **12 15 15.7 +0.9**
JHGM Hagimishima 6.43 253 A A 12 15 19.7
comp=E,3.0nm,5.7s,comp=N,3.0nm,10.7s
JHGM Hagimishima 6.43 253 P **Pn** **12 15 19.3 +2.3**
JBT2 Biratori 2 6.51 25 P **Pn** **12 15 21.2 +3.1**
JCH Churui 6.75 31 P **Pn** **12 15 23.8 +2.4**
JNU Nakatsue 7.39 241 P **Pn** **12 15 32.5 +2.2**
JNU Nakatsue 7.39 241 Pn **Pn** **12 15 32.1 +1.8**
comp=N,2.2nm,0.3s,baz=63,slow=11,SNR=38
JNU LR LR 12 18 43.7
comp=N,5μm,18.1s,baz=52,slow=41
JAR Ashorobuto 7.48 30 P **Pn** **12 15 32.8 +1.4**
JKK2 Kamakawa 2 7.61 23 P **Pn** **12 15 35.6 +2.3**
JAK Akkeshi 7.64 36 P **Pn** **12 15 37.5 +3.8**
JIU3 Izumi3 7.76 238 P **Pn** **12 15 37.1 +1.8**
ASAJ Asahikawa 7.79 22 Pn **Pn** **12 15 38.2 +2.6**
comp=N,2.7nm,0.3s,baz=220,slow=15,SNR=18
ASAJ LR LR 12 19 06.2
comp=N,3μm,18.5s,baz=212,slow=42
ASAJ Asahikawa 7.79 22 P **Pn** **12 15 36.3 +0.7**
JKA Kamikawa-asahi 7.79 22 Pn **Pn** **12 15 36.3 +0.7**
JTU Tsushima 7.86 255 **Pn** **12 15 38.4 +1.7**
JTU Tsushima 7.86 255 P **Pn** **12 15 38.6 +1.9**
JTSM Tsushimamitsus 7.94 254 P **Pn** **12 15 40.0 +2.3**
VLA Vladivostok 8.04 322 *e*P **Pn** **12 15 41.5 +2.5**
TEY Ternei 8.23 350 *e*P Pn 12 15 51.2 +10
PSTR Posyet 8.28 316 *e*P **Pn** **12 15 43.6 +1.3**
KSRS Korea Array 8.54 277 Pn **Pn** **12 15 47.1 +1.2**
comp=N,5.2nm,0.3s,baz=93,slow=14,SNR=50
KSRS Sn **Sn** **12 17 21.5 -0.2**
comp=N,0.3nm,0.3s,baz=81,slow=24,SNR=2.3
KSRS LR LR 12 18 54.7
comp=N,3μm,19.1s,baz=85,slow=37
JSE Soyaes 8.56 19 P Pn 12 15 51.7 +5.5
KSAR Wonju Array Be 8.57 277 Pn **Pn** **12 15 47.5 +1.1**
KSAR Wonju Array Be 8.57 277 P **Pn** **12 15 47.5 +1.1**
JRA Rausu 8.57 33 P **Pn** **12 15 47.8 +1.4**
KS19 Wonju Array Si 8.58 277 Pn **Pn** **12 15 47.9 +1.4**
USA0B Ussuriysk Arra 8.82 327 **Pn** **12 15 51.0 +1.2**
USA0B Ussuriysk Arra 8.82 327 P **Pn** **12 15 51.0 +1.2**
USRK Ussuriysk Ar. 8.82 327 Pn **Pn** **12 15 51.9 +2.0**
USRK Ussuriysk Ar. 8.82 327 Pn **Pn** **12 15 49.7 -0.1**
comp=N,0.5nm,0.3s,baz=141,slow=13,SNR=6.8
USRK Sn **Sn** **12 17 27.4 -1.3**
comp=N,0.4nm,0.3s,baz=128,slow=14,SNR=3.3
USRK LR LR 12 19 00.1
comp=N,5μm,18.2s,baz=133,slow=37
comp=N,1.6nm,0.3s
I45RU USSURIYSK INFR 8.83 327 I I 13 05 00.0
baz=141,slow=324,SNR=0.9
TJN Taejon 9.05 270 P **Pn** **12 15 54.6 +1.7**
TJN Taejon 9.05 270 Pn **Pn** **12 15 54.4 +1.5**
TJN Taejon 9.05 270 P **Pn** **12 15 54.4 +1.5**
MDJ Mudanjiang 10.26 321 P **Pn** **12 16 13.8 +4.2**
MDJ pP 12 16 16.3
MDJ PP **PnPn** **12 16 21.5 +4.3**
MDJ S **Sn** **12 18 08.8 +4.7**
MDJ SS **SnSn** **12 18 19.0 +3.1**
MDJ pmax pmax
comp=N,26nm,1.0s
MDJ pmax pmax
comp=N,380nm,4.8s
MDJ LR LR
comp=N,5μm,13.1s
MDJ LR LR
comp=N,4μm,14.4s
MDJ LR LR
comp=N,9μm,15.8s
JCJ Chichijima 10.28 162 Pn **Pn** **12 16 08.9 -0.9**
JCJ Chichijima 10.28 162 Pn Pn 12 16 04.9 -5.0
comp=N,7.2nm,0.3s,baz=303,slow=16,SNR=7.2
JCJ Sn **Sn** **12 18 02.2 -2.4**
comp=N,1.7nm,0.3s,baz=302,slow=19,SNR=2.4
JCJ LR LR 12 20 18.9
comp=N,1μm,18.7s,baz=356,slow=38
YSS Yuzh-Sakhalins 10.47 16 *e*P **Pn** **12 16 15.5 +3.1**
YSS *e*S **Sn** **12 18 16.2 +7.0**
YSS pmax pmax
comp=Z,120nm,0.8s
YSS pmax pmax
comp=Z,400nm,3.3s
YSS MLR MLR
comp=Z,3μm,11.0s
KUR Kuril'sk 10.83 37 *e*P **Pn** **12 16 19.7 +2.3**
KUR S **Sn** **12 18 18.7 +0.6**
KUR pmax pmax
comp=Z,116nm,1.0s
KUR MLR MLR
comp=Z,3μm,15.0s
CN2 Changchun 12.14 308 P **Pn** **12 16 38.8 +3.6**
CN2 pmax pmax
comp=Z,10.0nm,1.5s
CN2 pmax pmax
comp=Z,300nm,10.0s
CN2 LR LR
comp=Z,5μm,12.0s
CN2 LR LR
comp=Z,5μm,12.0s
CN2 LR LR
comp=Z,4μm,12.0s
BNX BinXian 12.16 320 ⇓P **Pn** **12 16 38.5 +3.0**
BNX pmax pmax
comp=Z,39nm,1.4s
BNX pmax pmax
comp=Z,610nm,3.5s
SNY Shenyang 12.60 297 ⇓P Pn 12 16 46.5 +4.9
SNY pmax pmax
comp=Z,12nm,0.9s
SNY pmax pmax
comp=Z,160nm,3.8s
SNY LR LR
comp=Z,2μm,11.2s
SNY LR LR
comp=Z,2μm,10.8s
SNY LR LR
comp=Z,3μm,11.5s
KLR Kul'dur 13.25 340 Pn **Pn** **12 16 51.5 +1.0**
comp=Z,0.7nm,0.3s,baz=152,slow=14,SNR=29
KLR LR LR 12 21 49.2
comp=Z,3μm,18.1s,baz=151,slow=37
KLR Kul'dur 13.25 340 ⇓*i*P **Pn** **12 16 53.5 +3.0**
KLR pmax pmax
comp=Z,70nm,1.7s
JOW Kunigami 13.35 224 Pn **Pn** **12 16 53.3 +1.4**
JOW Kunigami 13.35 224 Pn **Pn** **12 16 53.9 +2.0**
comp=Z,0.4nm,0.3s,baz=38,slow=17,SNR=3.1
JOW LR LR 12 22 10.3
comp=Z,1μm,21.7s,baz=84,slow=38
GRNR Gornyy 13.91 354 ⇓*i*P **Pn** **12 17 02.5 +3.1**
GRNR pmax pmax
comp=N,8.0nm,1.1s
GRNR pmax pmax
comp=Z,7.0nm,1.1s
GRNR MLR MLR
comp=E,1μm,11.0s
GRNR MLR MLR
comp=N,1μm,18.0s
GRNR MLR MLR
comp=Z,1μm,17.0s
TYV Tymovskoe 14.22 11 *e*P **Pn** **12 17 05.7 +2.1**
TYV *e*S **Sn** **12 19 47.3 +6.6**
TYV pmax pmax
comp=Z,55nm,1.0s
TYV pmax pmax
comp=Z,300nm,2.6s
TYV smax smax
comp=N,200nm,5.3s
TYV smax smax
comp=E,300nm,5.3s
TYV MLR MLR
comp=N,900nm,12.0s
TYV MLR MLR
comp=Z,2μm,14.0s
HEH HeiHe 15.55 332 *e*P **Pn** **12 17 23.8 +2.3**
HEH pP **sP** **12 17 33.5 -0.2**
HEH S **Sn** **12 20 17.0 +3.7**
HEH pmax pmax
comp=Z,12nm,1.1s
HEH pmax pmax
comp=Z,480nm,4.9s
HEH LR LR
comp=Z,1μm,11.4s
HEH LR LR
comp=Z,4μm,13.5s
HEH LR LR
comp=Z,6μm,15.3s
SSE Sheshan 15.56 253 P **Pn** **12 17 20.3 -1.5**
SSE S **Sn** **12 20 13.5 -0.2**
SSE pmax pmax
comp=Z,8.0nm,0.7s
SSE pmax pmax
comp=Z,270nm,3.7s
SSE LR LR
comp=Z,2μm,18.2s
SSE LR LR
comp=Z,2μm,18.2s
OKH Okha 16.88 9*de*P Pn 12 17 27.5 -11
OKH pmax pmax
comp=Z,100nm,14.7s
OKH MLR MLR
comp=E,3μm,15.0s
OKH MLR MLR
comp=N,2μm,14.0s
OKH MLR MLR
comp=Z,2μm,14.0s
NJ2 Nanjing 16.99 259 *e*P **Pn** **12 17 41.5 +1.6**
NJ2 S **Sn** **12 20 54.5 +6.2**
NJ2 sS **sS** **12 21 05.8 -0.6**
NJ2 pmax pmax
comp=Z,28nm,1.5s
NJ2 pmax pmax
comp=Z,450nm,5.7s
NJ2 LR LR
comp=Z,2μm,14.2s
NJ2 LR LR
comp=Z,2μm,12.3s
NJ2 LR LR
comp=Z,2μm,14.2s
TIA Tai'an 17.27 274 P **Pn** **12 17 45.5 +2.1**
TIA pmax pmax
comp=Z,30nm,1.0s
TIA pmax pmax
comp=Z,350nm,4.5s
TIA LR LR
comp=Z,3μm,14.9s
TIA LR LR
comp=Z,680nm,14.9s
TIA LR LR
comp=Z,2μm,14.9s
BJI Beijing 17.82 287 P **Pn** **12 17 49.5 -0.7**
BJI PP **PnPn** **12 18 02.8 +1.9**
BJI S **Sn** **12 21 06.0 -2.3**
BJI pmax pmax
comp=Z,29nm,1.0s
BJI pmax pmax
comp=Z,330nm,3.7s
BJI LR LR
comp=Z,850nm,11.7s
BJI LR LR
comp=Z,780nm,11.7s
BJI LR LR
comp=Z,640nm,13.4s
BJT Baijiatuau 17.82 287 P **Pn** **12 17 51.8 +1.5**
BJT Baijiatuau 17.82 287 P **Pn** **12 17 51.8 +1.5**
BJT pmax pmax
comp=Z,79nm,1.2s
HIA Hailar 18.41 318 P **P** **12 17 56.4 -1.0**
HIA Hailar 18.41 318 P **P** **12 17 56.4 -1.0**
HIA pmax pmax
comp=Z,27nm,1.1s
XLT XiLinHaoTe 18.47 299 *e*P **P** **12 17 59.5 +1.4**
XLT pP sP 12 18 05.5 -0.3
XLT sP pP 12 18 13.0 +10
XLT PP **PnPn** **12 18 19.5 +10**
XLT S **S** **12 21 29.5 +1.2**
XLT SS **SnSn** **12 21 45.8 +7.9**
XLT pmax pmax
comp=Z,53nm,1.0s
XLT pmax pmax
comp=Z,540nm,4.3s
XLT LR LR
comp=Z,500nm,13.6s
XLT LR LR
comp=Z,3μm,12.8s
XLT LR LR
comp=Z,3μm,15.3s
ZEA Zeya 18.55 338 *e*P **P** **12 17 57.9 -1.0**
ZEA pmax pmax
comp=E,10.0nm,0.9s
ZEA pmax pmax
comp=Z,20nm,0.9s
ZEA pmax pmax
comp=N,100nm,4.0s
ZEA pmax pmax
comp=Z,200nm,5.0s
ZEA MLR MLR
comp=E,800nm,12.0s
ZEA MLR MLR
comp=N,1μm,14.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
HNS HongShan 19.04 279 ⇑P **P** **12 18 05.0 +0.7**
HNS PP **PnPn** **12 18 26.3 +8.6**
HNS *e*S **Sn** **12 21 34.3 -3.6**
HNS pmax pmax
comp=Z,73nm,1.1s
HNS pmax pmax
comp=Z,410nm,4.5s
HNS LR LR
comp=Z,6μm,14.7s
HNS LR LR
comp=Z,2μm,12.2s
SSLB Suanglung 20.05 234 P **P** **12 18 15.2 -0.2**
YULB Yu-li 20.11 233 P **P** **12 18 15.8 -0.4**
TPUB Ta-pu 20.60 234 P **P** **12 18 21.4 -0.1**
TWG Pinlang 20.66 232 P **P** **12 18 22.2 0.0**
TWG IAmb IAmb 12 18 28.4
comp=Z,50nm,1.0s
TIY Taiyuan 20.80 280 *e*P **P** **12 18 26.0 +2.3**
TIY S **S** **12 22 09.5 -5.6**
TIY pmax pmax
comp=Z,320nm,3.8s
TIY LR LR
comp=Z,4μm,16.5s
TIY LR LR
comp=Z,2μm,19.2s
TIY LR LR
comp=Z,2μm,17.2s
QZH Quanzhou 20.87 241 *e*P **P** **12 18 24.0 -0.3**
QZH S **S** **12 22 16.5 +0.1**
QZH LR LR
comp=Z,1μm,14.0s
QZH LR LR
comp=Z,2μm,14.3s
QZH LR LR
comp=Z,1μm,11.9s
PEA0B Petropavlovsk- 20.95 33 P **P** **12 18 24.6 -0.4**
PEA0B Petropavlovsk- 20.95 33 P **P** **12 18 24.7 -0.4**
PEA0B pmax pmax
comp=Z,41nm,1.2s
PETK Petropavlovsk- 20.95 33 P **P** **12 18 25.6 +0.5**
PETK Petropavlovsk- 20.95 33 P **P** **12 18 26.2 +1.1**
comp=Z,11nm,0.9s,baz=225,slow=5.3,SNR=15
PETK LR LR 12 26 33.0
comp=Z,574nm,18.3s,baz=223,slow=37
comp=Z,11nm,0.9s
WHN Wuhan 21.12 260 ⇑P **P** **12 18 28.5 +1.5**
WHN PP **PnPn** **12 18 52.0 +5.7**
WHN S **S** **12 22 24.0 +2.6**
WHN pmax pmax
comp=Z,85nm,1.1s
WHN pmax pmax
comp=Z,790nm,4.0s
WHN LR LR
comp=Z,7μm,12.4s
WHN LR LR
comp=Z,5μm,11.2s
WHN LR LR
comp=Z,5μm,12.5s
KNMB Chin-men Tao 21.32 240 P **P** **12 18 29.4 +0.2**
KNMB IAmb IAmb 12 18 39.6
comp=Z,47nm,1.0s
LYN LuoYang 21.32 271 ⇓P **P** **12 18 32.3 +3.1**
LYN S **S** **12 22 26.5 +1.2**
LYN sS pS 12 22 36.5 +1.2
LYN SS **SnSn** **12 22 52.5 +4.6**
LYN pmax pmax
comp=Z,22nm,1.1s
LYN pmax pmax
comp=Z,800nm,3.7s
LYN LR LR
comp=Z,6μm,14.3s
LYN LR LR
comp=Z,3μm,14.4s
LYN LR LR
comp=Z,2μm,15.8s
PET Petropavlovsk 21.33 35 P **P** **12 18 29.6 +0.6**
PET Petropavlovsk 21.33 35 *e*P **P** **12 18 29.2 +0.2**
PET *e*S **S** **12 22 24.3 -0.7**
PET pmax pmax
comp=Z,37nm,1.0s
PET pmax pmax
comp=Z,400nm,3.9s
PET pmax pmax
comp=Z,100nm,4.2s
PET MLR MLR
comp=Z,700nm,15.0s
PET MLR MLR
comp=Z,700nm,15.0s
PET Petropavlovsk 21.33 35 pP pP 12 18 37.7 +3.4
comp=Z,34nm,1.0s,comp=Z,601nm
PET Petropavlovsk 21.33 35 P **P** **12 18 29.6 +0.6**
comp=Z,34nm,1.0s,comp=Z,601nm
HHC Hu-ho-hao-te 21.37 289 *e*P **P** **12 18 31.8 +2.1**
HHC S **S** **12 22 23.3 -3.0**
HHC sS sS 12 22 31.8 -2.9
HHC pmax pmax
comp=Z,8.0nm,0.8s
HHC pmax pmax
comp=Z,150nm,4.6s
HHC LR LR
comp=Z,970nm,12.2s
HHC LR LR
comp=Z,2μm,11.8s
HHC LR LR
comp=Z,1μm,11.8s
BTO Baotou 22.54 288 *e*P **P** **12 18 43.8 +1.5**
BTO pP **sP** **12 18 53.0 +3.0**
BTO sP pP 12 18 57.0 +9.4
BTO PP **PnPn** **12 19 12.5 +6.9**
BTO S **S** **12 22 50.0 +1.3**
BTO sS **sS** **12 22 58.5 +0.9**
BTO pmax pmax
comp=Z,25nm,1.4s
BTO pmax pmax
comp=Z,460nm,11.5s
BTO LR LR
comp=Z,5μm,12.9s
BTO LR LR
comp=Z,2μm,12.0s
BTO LR LR
comp=Z,2μm,13.9s
CIT Chita 23.22 318 *e*P **P** **12 18 44.5 -4.7**
CIT *e* 12 18 57.8
CIT *e* 12 19 17.2
CIT *e* 12 19 28.2
CNSH ChangSha 23.28 255 *e*P **P** **12 18 49.5 -0.4**
CNSH S **S** **12 22 58.0 -3.5**
CNSH LR LR
comp=Z,3μm,17.8s
CNSH LR LR
comp=Z,1μm,19.0s
CNSH LR LR
comp=Z,1μm,14.7s
GUMO Guam 23.92 165 P **P** **12 18 56.3 0.0**
GUMO Guam 23.92 165 LR LR 12 27 53.7
comp=Z,253nm,18.6s,baz=354,slow=36
GUMO Guam 23.92 165 P **P** **12 18 56.3 0.0**
GUMO pmax pmax
comp=Z,284nm,1.6s
MA2 Magadan 23.98 15 P **P** **12 18 56.8 +0.4**
MA2 IAmb IAmb 12 18 59.5
comp=Z,51nm,1.0s
MA2 Magadan 23.98 15 LR LR 12 28 41.3
comp=Z,1μm,19.3s,baz=203,slow=38
MA2 Magadan 23.98 15 ⇑*i*/P **P** **12 18 58.7 +2.3**
MA2 pmax pmax
comp=Z,129nm,2.5s
MA2 Magadan 23.98 15 P **P** **12 18 57.2 +0.8**
comp=Z,53nm,1.1s,comp=Z,1μm
XAN Xi'an 24.29 272 ⇓P **P** **12 18 58.8 -0.9**

XAN S **S** **12 23 16.8 -1.1**
XAN sS sS 12 23 32.8 +5.7
XAN pmax pmax
comp=Z,25nm,1.0s
XAN pmax pmax
comp=Z,330nm,8.4s
XAN LR LR
comp=Z,5µm,15.7s
XAN LR LR
comp=Z,2µm,17.5s
XAN LR LR
comp=Z,3µm,16.5s
ENH Enshi 25.08 263 P **P** **12 19 06.3 -0.5**
ULN Ulaanbaatar 25.55 305 P **P** **12 19 10.4 -0.7**
ULN IAmb IAmb 12 19 17.7
comp=Z,32nm,1.5s
ULN Ulaanbaatar 25.55 305 P **P** **12 19 10.4 -0.7**
ULN pmax pmax
comp=Z,31nm,1.5s
YAK Yakutsk 25.72 350 P **P** **12 19 11.9 -0.3**
YAK Yakutsk 25.72 350 LR LR 12 29 19.0
comp=Z,2µm,18.6s,baz=158,slow=37
YAK Yakutsk 25.72 350 *e*P **P** **12 19 11.5 -0.8**
YAK *e*S S 12 23 31.0 -9.0
YAK pmax pmax
comp=Z,39nm,0.3s
YAK MLR MLR
comp=Z,2µm,17.6s
SONM Songino Array 25.98 305 P **P** **12 19 14.3 -0.7**
SONM Songino Array 25.98 305 P **P** **12 19 13.7 -1.3**
comp=Z,12nm,1.1s,baz=107,slow=9.5,SNR=23
SONM PcP **PcP** **12 22 43.0 0.0**
comp=Z,1.0nm,0.7s,baz=116,slow=3.4,SNR=2.8
SONM LR LR 12 29 57.0
comp=Z,2µm,18.1s,baz=106,slow=38
comp=Z,12nm,1.1s
SONM Songino Array 25.98 305 P **P** **12 19 14.3 -0.7**
SONM pmax pmax
comp=Z,21nm,1.3s
BOD Bodaibo 26.44 330 *e*P **P** **12 19 19.0 +0.1**
BOD pmax pmax
comp=Z,14nm,1.4s
SEY Seymchan 27.37 14 LR LR 12 31 10.9
comp=Z,962nm,18.4s,baz=200,slow=38
SEY Seymchan 27.37 14 ⇓*i*P **P** **12 19 29.1 +2.0**
SEY pmax pmax
comp=Z,16nm,0.9s
LZH Lanzhou 27.86 279 ⇑⇑P **P** **12 19 31.8 -0.2**
LZH S **S** **12 24 12.8 -1.8**
LZH SS **SnSn** **12 25 32.5 +4.5**
LZH pmax pmax
comp=Z,29nm,1.2s
LZH LR LR
comp=Z,5µm,14.8s
LZH LR LR
comp=Z,3µm,14.4s
LZH LR LR
comp=Z,3µm,14.4s
ZAK Zakamensk 28.57 309 *e*P **P** **12 19 35.9 -2.3**
GYA Guiyang 28.99 258 ⇑⇑P **P** **12 19 40.5 -1.6**
GYA S **S** **12 24 33.8 +1.3**
GYA pmax pmax
comp=Z,24nm,1.1s
GYA pmax pmax
comp=Z,150nm,8.7s
GYA LR LR
comp=Z,2µm,12.1s
GYA LR LR
comp=Z,2µm,13.5s
GYA LR LR
comp=Z,1µm,16.6s
SHEM Shemya Is, Ala 29.34 46 LR LR 12 30 54.1
comp=Z,247nm,21.6s,baz=272,slow=35
CD2 Chengdu 29.42 269 P **P** **12 19 44.3 -1.5**
CD2 S **S** **12 24 38.0 -1.0**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 pmax pmax
comp=Z,90nm,7.3s
CD2 LR LR
comp=Z,3µm,12.8s
CD2 LR LR
comp=Z,2µm,14.1s
CD2 LR LR
comp=Z,1µm,15.9s
GTA Gaotai 30.43 287 P **P** **12 19 54.3 -0.5**
GTA SS SS 12 26 34.8 -30
GTA pmax pmax
comp=Z,2.0nm,0.9s
GTA LR LR
comp=Z,2µm,16.4s
GTA LR LR
comp=Z,630nm,17.4s
GTA LR LR
comp=Z,700nm,18.5s
QIZ Qiongzhong 30.86 243 P **P** **12 19 58.5 -0.1**
QIZ PP **PP** **12 21 04.5 -3.8**
QIZ S **S** **12 25 04.0 +2.3**
QIZ pmax pmax
comp=Z,14nm,1.5s
QIZ LR LR
comp=Z,1µm,16.7s
QIZ LR LR
comp=Z,1µm,12.7s
QIZ LR LR
comp=Z,860nm,12.8s
KMI Kunming 32.73 259 ⇓P **P** **12 20 14.5 -0.7**
KMI S **S** **12 25 34.5 +3.3**
KMI pmax pmax
comp=Z,18nm,1.3s
KMI LR LR
comp=Z,2µm,15.2s
KMI LR LR
comp=Z,1µm,15.7s
KMI LR LR
comp=Z,2µm,14.8s
PZH PanZhiHua 32.85 262 P **P** **12 20 14.0 -2.2**
PZH S **S** **12 25 35.0 +2.0**
PZH pmax pmax
comp=Z,10.0nm,1.2s
PZH pmax pmax
comp=Z,90nm,6.5s
PZH LR LR
comp=Z,2µm,15.9s
PZH LR LR
comp=Z,1µm,15.9s
PZH LR LR
comp=Z,810nm,12.4s
SLVN Son La 33.84 252 P **P** **12 20 24.6 -0.2**
BILL Bilibino 34.78 18 P **P** **12 20 32.9 +0.6**
BILL Bilibino 34.78 18 *i*P **P** **12 20 31.9 -0.4**
BILL pmax pmax
comp=Z,20nm,1.5s
TIXI Tiksi 35.14 355 P **P** **12 20 34.7 -0.7**
TIXI Tiksi 35.14 355 LR LR 12 35 29.6
comp=Z,612nm,18.5s,baz=182,slow=37
TIXI Tiksi 35.14 355 ⇓*i*P **P** **12 20 34.4 -1.0**
TIXI pmax pmax
comp=Z,10.0nm,1.1s
TNCH TengChong 36.11 262 P **P** **12 20 43.8 -0.7**
TNCH PP **PnPn** **12 22 05.8 +0.1**
TNCH S **S** **12 26 22.0 -1.3**
TNCH ScP **ScP** **12 26 55.8 +0.1**
TNCH pmax pmax
comp=Z,30nm,0.7s
TNCH pmax pmax
comp=Z,140nm,3.5s
TNCH LR LR
comp=Z,1µm,14.4s
TNCH LR LR
comp=Z,630nm,13.4s
TNCH LR LR
comp=Z,1µm,15.2s
UBPT Khong Chiam 36.46 243 P **P** **12 20 48.1 +0.8**
UBPT IAmb IAmb 12 20 48.7
comp=Z,27nm,1.1s
CRAI Chiangrai 37.18 254 P **P** **12 20 53.5 +0.1**
CRAI IAmb IAmb 12 20 54.9
comp=Z,25nm,1.0s
PHRA Phrae 38.30 252 P **P** **12 21 03.5 +0.6**
WMQ Urumqi 38.87 296 *e*P **P** **12 21 08.0 +0.5**
WMQ LR LR
comp=Z,3µm,13.9s
WMQ LR LR
comp=Z,870nm,16.1s
WMQ LR LR
comp=Z,630nm,18.9s
CHTO Chiang Mai 39.09 253 P **P** **12 21 09.6 0.0**
CHTO Chiang Mai 39.09 253 P **P** **12 21 09.6 0.0**
CHTO pmax pmax
comp=Z,7.0nm,1.1s
SPIA Saint Paul Isl 39.14 42 P **P** **12 21 09.2 -0.3**
baz=261
TOLI2 Tolitoli 39.27 209 P **P** **12 21 09.2 -1.8**
CMAR Chiang Mai Arr 39.30 253 P **P** **12 21 11.6 +0.2**
CMAR Chiang Mai Arr 39.30 253 P **P** **12 21 11.2 -0.1**
comp=Z,1.2nm,0.6s,baz=42,slow=7.7,SNR=9.6
CMAR LR LR 12 38 26.9
comp=Z,417nm,18.2s,baz=65,slow=38
comp=Z,1.2nm,0.6s
CMAR Chiang Mai Arr 39.30 253 P **P** **12 21 11.6 +0.2**
NIKH Nikolski High 39.53 49 P **P** **12 21 12.7 -0.2**
baz=268
GAMB Gambell 39.97 32 P **P** **12 21 16.5 +0.2**
baz=252
ZAA0 Zalesovo Array 40.31 313 P **P** **12 21 18.9 -0.4**
ZALV Zalesovo Beam 40.31 313 P **P** **12 21 18.1 -1.2**
ZALV Zalesovo Beam 40.31 313 P **P** **12 21 18.8 -0.5**
comp=Z,0.6nm,0.5s,baz=98,slow=6.1,SNR=5.1
ZALV PcP **PcP** **12 23 21.4 -1.2**
comp=Z,1.9nm,0.6s,baz=87,slow=2.8,SNR=5.8
comp=Z,0.6nm,0.5s
ZSN Zaisan 40.43 302 *e*P **P** **12 21 18.5 -2.0**
baz=302
ZSN Zaisan 40.43 302 *e*P **P** **12 21 18.4 -2.0**
LUWI Luwuk 40.55 205 P **P** **12 21 22.0 +0.4**
UNV Unalaska Valle 40.97 48 P **P** **12 21 24.7 0.0**
baz=269
SHL Shillong 41.15 268 P **P** **12 21 26.0 -0.8**
SHL IAmb IAmb 12 21 28.3
comp=Z,20nm,1.0s
SHL Shillong 41.15 268 P **P** **12 21 26.0 -0.8**
SHL pmax pmax
comp=Z,20nm,1.0s
M11K Mekoryuk 41.71 38 P **P** **12 21 31.6 +0.9**
baz=261
TNA Tin City 42.05 30 P **P** **12 21 33.8 +0.4**
baz=254
SBUM Sibu 42.05 222 P **P** **12 21 33.1 -1.0**
MK31 Makanchi Array 42.26 302 P **P** **12 21 34.6 -0.8**
MK31 Makanchi Array 42.26 302 P **P** **12 21 34.6 -0.8**
MK31 pmax pmax
comp=Z,3.0nm,1.0s
MKAR Makanchi Array 42.26 302 P **P** **12 21 33.8 -1.6**
MKAR Makanchi Array 42.26 302 P **P** **12 21 34.1 -1.4**
comp=Z,3.1nm,0.9s,baz=88,slow=10,SNR=16
MKAR LR LR 12 39 42.4
comp=Z,1µm,19.8s,baz=96,slow=37
comp=Z,3.1nm,0.9s
MAKZ Makanchi 42.47 302 P **P** **12 21 35.9 -1.2**
MAKZ Makanchi 42.47 302 P **P** **12 21 35.9 -1.2**
MAKZ pmax pmax
comp=Z,5.0nm,1.1s
F14K Arctic Creek 42.67 30 P **P** **12 21 38.6 +0.1**
baz=256
K13K Kusilvak Mount 42.69 36 P **P** **12 21 38.7 0.0**
baz=270
FALS False Pass 42.79 46 P **P** **12 21 39.8 +0.2**
baz=270
ANM Nome 42.85 32 P **P** **12 21 41.3 +1.3**
baz=258
M13K Dall Lake 43.12 38 P **P** **12 21 43.9 +1.8**
baz=264
SEM Semipalatinsk 43.21 307 *e*P **P** **12 21 41.4 -1.9**
baz=307
SEM Semipalatinsk 43.21 307 *e*P **P** **12 21 41.4 -1.9**
J14K Nanvaranak Lak 43.32 35 P **P** **12 21 45.6 +1.8**
baz=261
F15K North Star Dit 43.40 30 P **P** **12 21 44.5 0.0**
F15K North Star Dit 43.40 30 P **P** **12 21 45.7 +1.3**
baz=257,SNR=7.4
G15K Niukluk 43.50 31 P **P** **12 21 46.5 +1.3**
baz=258
L14K Kuka Creek 43.54 37 P **P** **12 21 47.0 +1.5**
L14K IAmb IAmb 12 21 50.7
comp=Z,16nm,0.9s
L14K Kuka Creek 43.54 37 P **P** **12 21 47.1 +1.5**
baz=264,SNR=5.2
S12K Black Hills 43.56 45 P **P** **12 21 47.0 +1.1**
baz=270
C16K Lisburne Hills 43.78 27 P **P** **12 21 49.5 +2.1**
baz=254
M14K Bethel 43.84 38 P **P** **12 21 48.3 +0.4**
M14K IAmb IAmb 12 21 52.8
comp=Z,26nm,0.9s
M14K Bethel 43.84 38 P **P** **12 21 49.4 +1.5**
baz=265,SNR=7.4
KSM Kuching 43.90 223 P **P** **12 21 48.8 -0.2**
KSM IAmb IAmb 12 21 50.5
comp=Z,23nm,1.3s
N14K Kuskokwak Cree 43.91 39 P **P** **12 21 50.2 +1.7**
baz=266
O14K Tigyukauivet M 44.08 40 P **P** **12 21 50.1 +0.2**
O14K IAmb IAmb 12 21 54.6
comp=Z,19nm,1.1s
L15K Ungalak Mounta 44.15 36 P **P** **12 21 53.2 +2.7**
baz=264
K15K Wolf Creek Mou 44.19 35 P **P** **12 21 51.0 +0.1**
K15K IAmb IAmb 12 21 55.9
comp=Z,14nm,0.9s
K15K Wolf Creek Mou 44.19 35 P **P** **12 21 52.3 +1.5**
baz=264
H16K Elim 44.20 32 P **P** **12 21 52.8 +2.0**
baz=261
KURK Kurchatov 44.21 308 P **P** **12 21 49.9 -1.2**
KURK IAmb IAmb 12 23 08.2
comp=Z,18nm,1.1s
KURK Kurchatov 44.21 308 P **P** **12 21 49.9 -1.2**
KURK pmax pmax
comp=Z,18nm,1.2s
G16K Koyuk River 44.28 31 P **P** **12 21 52.7 +1.3**
baz=260
KURBB Kurchatov Arra 44.28 308 P **P** **12 21 49.3 -2.4**
comp=Z,6.8nm,0.9s,baz=85,slow=8.2,SNR=38
KURBB LR LR 12 40 17.6
comp=Z,986nm,20.7s,baz=92,slow=36
comp=Z,6.8nm,0.9s
M15K Kasigluk River 44.45 38 P **P** **12 21 54.1 +1.2**
baz=266,SNR=9.4
D17K Noatak River 44.46 28 P **P** **12 21 54.9 +2.1**
baz=257,SNR=8.1
SDPT Sand Point 44.47 45 P **P** **12 21 53.3 +0.2**
SDPT Sand Point 44.47 45 P **P** **12 21 56.3 +3.1**
baz=272
RDOG Red Dog Mine 44.61 27 P **P** **12 21 56.4 +2.3**
baz=257
C17K DeLong Mountai 44.61 27 P **P** **12 21 55.6 +1.5**
baz=256,SNR=5.6
N15K Kwethluk River 44.72 39 P **P** **12 21 56.5 +1.4**
N15K IAmb IAmb 12 21 59.8
comp=Z,25nm,0.9s
N15K Kwethluk River 44.72 39 P **P** **12 21 57.5 +2.4**
baz=267,SNR=8.2
J16K Anvik River 44.73 34 P **P** **12 21 57.3 +2.2**
baz=264
E17K Hotham Inlet 44.80 29 P **P** **12 21 57.4 +1.8**
baz=259,SNR=24
O15K Ungalikthiuk R 44.82 40 P **P** **12 21 57.5 +1.7**
baz=268,SNR=11
SHLS Shalkode 44.88 297 *e*P P 12 21 52.3 -4.5
comp=Z,11nm,1.2s,baz=297
SHLS Shalkode 44.88 297 *e*P P 12 21 52.2 -4.5
SHLS pmax pmax
comp=Z,11nm,1.2s
F17K Baldwin Pennin 44.91 30 P **P** **12 21 57.0 +0.5**
F17K IAmb IAmb 12 22 01.1
comp=Z,24nm,0.9s
F17K Baldwin Pennin 44.91 30 P **P** **12 21 56.8 +0.3**
baz=260,SNR=6.5
S14K Fog Glacier 44.97 44 P **P** **12 21 56.7 -0.5**
baz=272
G17K Kiwalik Mounta 45.00 31 P **P** **12 21 57.9 +0.8**
baz=261
CHNA Chernabura Isl 45.00 46 P **P** **12 21 59.0 +1.6**
baz=273
CNBA Chernabura Isl 45.01 46 P **P** **12 21 58.0 +0.6**
L16K Owhat River 45.11 36 P **P** **12 21 59.5 +1.4**
L16K IAmb IAmb 12 22 02.6
comp=Z,14nm,0.9s
L16K Owhat River 45.11 36 P **P** **12 21 59.8 +1.7**
baz=266,SNR=6.9
UZB Uzynbulak 45.19 297 *e*P **P** **12 21 57.5 -1.8**
comp=Z,9.9nm,1.3s,baz=297
UZB Uzynbulak 45.19 297 *e*P **P** **12 21 57.5 -1.8**
UZB pmax pmax
comp=Z,10.0nm,1.3s
SRIT Nakonsritamara 45.20 241 P **P** **12 21 59.7 +0.3**
SRIT IAmb IAmb 12 22 01.0
comp=Z,16nm,0.8s
H17K Granite Mounta 45.23 32 P **P** **12 22 00.2 +1.1**
H17K IAmb IAmb 12 22 03.8
comp=Z,12nm,0.9s
H17K Granite Mounta 45.23 32 P **P** **12 22 00.8 +1.7**
baz=263,SNR=5.2
TDK Taldyqorghan 45.23 300 *e*P **P** **12 21 57.6 -1.7**
baz=300
TDK Taldyqorghan 45.23 300 *e*P **P** **12 21 57.6 -1.7**
KAPI Kappang 45.30 207 P **P** **12 21 59.3 -0.8**
KAPI IAmb IAmb 12 22 01.9
comp=Z,22nm,1.0s
KAPI Kappang 45.30 207 P **P** **12 21 59.3 -0.8**
KAPI pmax pmax
comp=Z,22nm,1.0s
B18K Kokolik River 45.31 25 P **P** **12 22 01.4 +1.8**
baz=256,SNR=6.7
M16K Timber Creek 45.32 37 P **P** **12 22 00.9 +1.1**
M16K IAmb IAmb 12 22 04.5
comp=Z,13nm,0.9s
M16K Timber Creek 45.32 37 P **P** **12 22 01.0 +1.1**
baz=267,SNR=6.2
E18K Tukpahlearik C 45.34 28 P **P** **12 22 00.9 +1.0**
E18K Tukpahlearik C 45.34 28 P **P** **12 22 02.1 +2.3**
baz=260,SNR=8.7
C18K Utukok River 45.36 27 P **P** **12 22 00.7 +0.5**
C18K Utukok River 45.36 27 P **P** **12 22 00.6 +0.5**
baz=258,SNR=12
N16K Nishlik Lake 45.39 38 P **P** **12 22 01.7 +1.3**
baz=268,SNR=11
J17K VABM Dome 45.42 34 P **P** **12 21 59.3 -1.3**
J17K IAmb IAmb 12 22 05.5
comp=Z,24nm,0.9s
J17K VABM Dome 45.42 34 P **P** **12 22 02.1 +1.5**
baz=265,SNR=6.0
F18K Selawik 45.57 30 P **P** **12 22 03.1 +1.5**
baz=261,SNR=9.0
CHGN Chignik 45.60 44 P **P** **12 22 04.2 +2.1**
baz=272
SATY Saty 45.65 297 *e*P **P** **12 22 00.9 -2.1**
baz=297
SATY Saty 45.65 297 *e*P **P** **12 22 00.8 -2.1**
L17K Donlin 45.69 36 P **P** **12 22 05.2 +2.4**
baz=267,SNR=7.6
O16K Kokwok River B 45.71 39 P **P** **12 22 04.1 +1.2**
O16K IAmb IAmb 12 22 07.5
comp=Z,23nm,1.0s
O16K Kokwok River B 45.71 39 P **P** **12 22 04.8 +1.9**
baz=270,SNR=12
K17K Iditarod 45.72 35 P **P** **12 22 03.5 +0.5**
K17K Iditarod 45.72 35 P **P** **12 22 03.9 +0.9**
baz=266,SNR=9.4
A19K Wainwright 45.75 24 P **P** **12 22 03.9 +0.8**
baz=256
P16K Nushagak River 45.76 40 P **P** **12 22 04.1 +0.8**
baz=270
G18K Tagagawik 45.87 31 P **P** **12 22 04.5 +0.3**
G18K Tagagawik 45.87 31 P **P** **12 22 05.6 +1.5**
baz=263,SNR=11
H18K Honhosa River 45.90 32 P **P** **12 22 05.7 +1.3**
H18K IAmb IAmb 12 22 08.8
comp=Z,14nm,0.8s
H18K Honhosa River 45.90 32 P **P** **12 22 05.8 +1.3**
baz=264
R16K Pilot Point 46.01 42 P **P** **12 22 05.8 +0.5**
baz=272
C19K Lookout Ridge 46.02 26 P **P** **12 22 06.5 +1.1**
C19K Lookout Ridge 46.02 26 P **P** **12 22 07.6 +2.2**
baz=259,SNR=9.2
M17K Holitna River 46.07 37 P **P** **12 22 07.3 +1.6**
M17K IAmb IAmb 12 22 10.7
comp=Z,16nm,0.9s
M17K Holitna River 46.07 37 P **P** **12 22 06.6 +0.9**
baz=268,SNR=6.0
N17K Nushagak Hills 46.17 38 P **P** **12 22 05.8 -0.7**
N17K IAmb IAmb 12 22 11.7
comp=Z,23nm,1.1s
N17K Nushagak Hills 46.17 38 P **P** **12 22 09.0 +2.4**
baz=269,SNR=6.4
O17K Koliganek Bris 46.22 39 P **P** **12 22 08.6 +1.7**
baz=270,SNR=6.8
F19K Shaleruckik Mo 46.34 29 P **P** **12 22 08.4 +0.7**
F19K IAmb IAmb 12 22 11.3
comp=Z,14nm,1.1s
F19K Shaleruckik Mo 46.34 29 P **P** **12 22 09.8 +2.0**
baz=263
D19K Kuna River 46.44 27 P **P** **12 22 08.8 +0.2**
D19K Kuna River 46.44 27 P **P** **12 22 10.0 +1.4**
baz=261,SNR=18
L18K Granite Mounta 46.45 36 P **P** **12 22 08.7 0.0**
L18K IAmb IAmb 12 22 13.7
comp=Z,10nm,0.9s
L18K Granite Mounta 46.45 36 P **P** **12 22 09.9 +1.2**
baz=268,SNR=5.6
Q16K King Salmon 46.46 41 P **P** **12 22 09.3 +0.5**
baz=272
J18K Innoko River 46.49 34 **P** **12 22 09.1 +0.1**
J18K IAmb IAmb 12 22 13.2
comp=Z,12nm,1.1s
J18K Innoko River 46.49 34 P **P** **12 22 10.0 +1.0**
baz=267,SNR=5.9
GCSA Galena City Sc 46.50 32 P **P** **12 22 10.6 +1.6**
baz=266
G19K Purcell Mounta 46.53 30 P **P** **12 22 09.3 -0.1**
G19K IAmb IAmb 12 22 13.3
comp=Z,12nm,0.9s
G19K Purcell Mounta 46.53 30 P **P** **12 22 11.3 +2.0**
baz=264,SNR=7.5
P17K Kvichak River 46.56 40 P **P** **12 22 11.2 +1.6**
baz=271
MDOK Medeo 46.59 298 *e*P **P** **12 22 08.7 -1.6**
baz=298
MDOK Medeo 46.59 298 *e*P **P** **12 22 08.7 -1.6**
E19K Redstone River 46.63 29 P **P** **12 22 10.0 -0.1**
E19K Redstone River 46.63 29 P **P** **12 22 11.6 +1.6**
baz=263,SNR=18
TNSS Tian-Shan 46.70 298 *e*P **P** **12 22 09.1 -2.4**
baz=298
TNSS Tian-Shan 46.70 298 *e*P **P** **12 22 09.0 -2.4**
H19K Roundabout Mou 46.74 31 P **P** **12 22 10.7 -0.2**
H19K Roundabout Mou 46.74 31 P **P** **12 22 12.6 +1.7**
baz=265,SNR=18
PMG Port Moresby 46.80 168 LR LR 12 40 26.9
comp=Z,278nm,20.6s,baz=15,slow=34
N18K Kilae Creek 46.81 38 P **P** **12 22 13.5 +1.8**
baz=270,SNR=7.3
M18K Stony River 46.84 37 P **P** **12 22 13.4 +1.5**
baz=270
J19K Poorman 47.00 33 IAmb IAmb 12 22 17.2
comp=Z,18nm,1.0s
J19K Poorman 47.00 33 P **P** **12 22 14.9 +1.9**
baz=268,SNR=13
D20K Etivluk River 47.02 27 P **P** **12 22 14.7 +1.5**
baz=262,SNR=22
B20K Meade River 47.03 25 P **P** **12 22 15.5 +2.4**
baz=260
E20K Nigu River 47.12 27 P **P** **12 22 15.5 +1.5**
baz=263,SNR=16
F20K Avaraart Lake 47.16 29 P **P** **12 22 15.5 +1.2**
baz=265
O18K Koktuh Hills 47.17 39 IAmb IAmb 12 22 19.3
comp=Z,20nm,1.1s
O18K Koktuh Hills 47.17 39 P **P** **12 22 15.7 +1.2**
baz=272,SNR=6.2
P18K Big Mountain, 47.17 40 P **P** **12 22 14.7 +0.2**
P18K Big Mountain, 47.17 40 P **P** **12 22 15.5 +1.0**
baz=272,SNR=5.6
CHIR Chirikof Islan 47.19 45 P **P** **12 22 16.3 +1.7**
baz=275
IPM Ipoh 47.20 236 P **P** **12 22 14.4 -0.7**
IPM IAmb IAmb 12 22 15.5
comp=Z,19nm,1.2s
L19K White Mountain 47.31 36 P **P** **12 22 15.6 +0.1**
L19K IAmb IAmb 12 22 21.6
comp=Z,10nm,1.1s
L19K White Mountain 47.31 36 P **P** **12 22 16.3 +0.8**
baz=270,SNR=6.0
H20K Anotleneega Mo 47.39 31 P **P** **12 22 17.2 +1.2**
baz=267,SNR=5.8
A21K Barrow 47.43 23 P **P** **12 22 17.4 +1.2**
baz=260
N19K Bonanza Creek 47.50 38 P **P** **12 22 17.7 +0.6**

baz=272
I20K **Naaghedeneel** 47.53 32 P P 12 22 18.1 +1.0
baz=268,SNR=6.3
M19K **Big River Lodg** 47.53 36 P P 12 22 16.8 -0.3
baz=271
O19K **Port Alsworth** 47.60 39 P P 12 22 18.9 +1.2
baz=272
J20K **Nowinta River** 47.65 33 IAmb IAmb 12 22 22.7
comp=Z,17nm,1.0s
J20K **Nowinta River** 47.65 33 P P 12 22 19.7 +1.7
baz=269,SNR=9.2
K20K **Telida** 47.67 34 P P 12 22 19.6 +1.4
baz=270
C21K **Knifeblade Rid** 47.73 26 P P 12 22 20.6 +2.0
baz=264,SNR=8.4
L20K **Farewell, AK** 47.76 35 P P 12 22 20.6 +1.6
baz=270,SNR=7.1
B21K **Ikpikpuk River** 47.85 26 P P 12 22 19.7 +0.2
B21K **Ikpikpuk River** 47.85 26 P P 12 22 20.7 +1.3
baz=263,SNR=14
A22K **Sinclair Lake** 47.91 24 P P 12 22 21.5 +1.5
baz=262,SNR=7.0
SII **Sitkinak Islan** 47.92 43 P P 12 22 21.0 +0.6
baz=276
E21K **Killik River** 47.95 27 P P 12 22 21.3 +0.9
baz=265
G21K **Allakaket** 48.00 30 IAmb IAmb 12 22 25.3
comp=Z,18nm,1.0s
G21K **Allakaket** 48.00 30 P P 12 22 22.5 +1.7
baz=267,SNR=22
Q19K **Cape Douglas,** 48.01 40 P P 12 22 22.5 +1.5
baz=274
F21K **Alatna River** 48.05 29 IAmb IAmb 12 22 25.3
comp=Z,8.9nm,1.0s
F21K **Alatna River** 48.05 29 P P 12 22 23.1 +1.9
baz=267,SNR=7.3
BRZS **Berezniki** 48.08 308 *e*P P 12 22 19.6 -2.0
baz=308
BRZS **Berezniki** 48.08 308 *e*P P 12 22 19.6 -2.0
M20K **Styx River** 48.12 36 P P 12 22 24.0 +2.1
baz=272
P19K **Oil Pt** 48.18 39 P P 12 22 23.2 +1.0
P19K **Oil Pt** 48.18 39 P P 12 22 24.5 +2.3
baz=274,SNR=5.0
SGDS **Sogindy** 48.23 299 *e*P P 12 22 21.7 -1.2
baz=299
SGDS **Sogindy** 48.23 299 *e*P P 12 22 21.7 -1.2
BTLS **Baital** 48.23 301 *e*P P 12 22 21.1 -1.8
baz=301
BTLS **Baital** 48.23 301 *e*P P 12 22 21.0 -1.8
H21K **Melozitna Rive** 48.26 31 P P 12 22 22.7 -0.1
H21K IAmb IAmb 12 22 27.2
comp=Z,9.7nm,0.9s
H21K **Melozitna Rive** 48.26 31 P P 12 22 24.7 +1.9
baz=269,SNR=9.4
B22K **Teshekpuk Lake** 48.34 25 P P 12 22 22.9 -0.4
B22K **Teshekpuk Lake** 48.34 25 P P 12 22 24.5 +1.3
baz=264,SNR=6.7
OHAK **Old Harbor** 48.35 42 P P 12 22 25.0 +1.5
baz=276
KSH **Kashi** 48.38 293 P P 12 22 27.5 +3.3
KSH pmax pmax
comp=Z,7.0nm,1.1s
KSH LR LR
comp=Z,870nm,12.5s
KSH LR LR
comp=Z,740nm,12.2s
KSH LR LR
comp=Z,980nm,12.9s
CHUM **Lake Minchumin** 48.45 34 P P 12 22 26.4 +2.1
baz=271,SNR=7.1
O20K **Slope Mountain** 48.46 39 P P 12 22 26.3 +1.9
baz=274
D22K **Ayikyak River** 48.46 27 P P 12 22 24.9 +0.6
D22K **Ayikyak River** 48.46 27 P P 12 22 26.0 +1.7
baz=266,SNR=23
PPLA **Purkeypile** 48.53 35 P P 12 22 26.9 +1.8
baz=272
AAK **Ala-Archa** 48.54 298 P P 12 22 23.8 -1.7
AAK **Ala-Archa** 48.54 298 LR LR 12 43 51.9
comp=Z,1µm,19.0s,baz=72,slow=37
AAK **Ala-Archa** 48.54 298 *ce*P P 12 22 23.9 -1.6
AAK pmax pmax
comp=Z,6.0nm,1.6s
CAST **Castle Rocks** 48.57 34 P P 12 22 25.4 +0.2
CAST IAmb IAmb 12 22 29.3
comp=Z,15nm,1.4s
CAST **Castle Rocks** 48.57 34 P P 12 22 27.2 +2.0
baz=271
F22K **John River** 48.57 29 P P 12 22 26.5 +1.3
baz=268
N20K **Mount Spurr** 48.59 37 P P 12 22 27.0 +1.5
baz=273,SNR=14
I21K **Tanana** 48.59 32 P P 12 22 25.6 +0.3
I21K IAmb IAmb 12 22 30.1
comp=Z,15nm,1.1s
I21K **Tanana** 48.59 32 P P 12 22 27.2 +1.9
baz=270,SNR=14
KDAK **Kodiak Island** 48.67 42 P P 12 22 24.6 -1.4
KDAK **Kodiak Island** 48.67 42 P P 12 22 27.6 +1.6
baz=276
KDAK **Kodiak Island** 48.67 42 LR LR 12 42 27.0
comp=Z,405nm,21.8s,baz=287,slow=36
KDAK **Kodiak Island** 48.67 42 *e*P P 12 22 28.1 +2.1
KDAK pmax pmax
comp=Z,54nm,1.0s
Q20K **Shuyak Island** 48.69 41 P P 12 22 27.7 +1.6
baz=275
SYI **Shuyak Island** 48.69 41 P P 12 22 25.6 -0.6
E22K **Anaktuvuk Pass** 48.74 28 P P 12 22 27.6 +1.1
E22K **Anaktuvuk Pass** 48.74 28 P P 12 22 27.7 +1.2
baz=267
G22K **Bettles** 48.81 29 P P 12 22 27.6 +0.7
baz=269
H22K **Ishtalitna Cre** 48.85 31 P P 12 22 28.6 +1.2
baz=270
SKT **Skwentna** 48.88 36 P P 12 22 26.6 -1.0
SKT IAmb IAmb 12 22 31.6
comp=Z,12nm,1.2s
SKT **Skwentna** 48.88 36 P P 12 22 27.6 0.0
baz=273
BVAR **Borovoye Array** 48.96 312 P P 12 22 27.4 -1.0
comp=Z,2.1nm,0.8s,baz=86,slow=7.5,SNR=11
BVAR PcP PcP 12 23 51.8 -0.4
comp=Z,1.4nm,0.5s,baz=64,slow=3.4,SNR=2.5
BVAR LR LR 12 43 29.6
comp=Z,600nm,19.5s,baz=80,slow=37
comp=Z,2.1nm,0.8s
HOM **Homer** 48.98 39 P P 12 22 27.8 -0.6
baz=275
BRVK **Borovoye** 49.02 312 P P 12 22 28.1 -0.6
BRVK **Borovoye** 49.02 312 ǁ *i*P P 12 22 28.2 -0.6
BRVK pmax pmax
comp=Z,6.0nm,1.1s
BPAW **Bear Paw Mtn.** 49.04 33 P P 12 22 27.3 -1.5
BPAW IAmb IAmb 12 22 35.2
comp=Z,27nm,1.6s
BPAW **Bear Paw Mtn.** 49.04 33 P P 12 22 29.5 +0.7
baz=272
KTH **Kantishna Hill** 49.08 34 P P 12 22 29.3 +0.1
MLY **Manley** 49.12 32 P P 12 22 29.5 +0.1
MLY IAmb IAmb 12 22 34.1
comp=Z,9.9nm,0.9s
MLY **Manley** 49.12 32 P P 12 22 30.2 +0.8
baz=271,SNR=6.5
CAPN **Captain Cook N** 49.13 38 P P 12 22 29.2 -0.3
baz=274
D23K **Nanushuk River** 49.19 27 P P 12 22 30.6 +0.8
baz=268
C23K **Itkillik River** 49.25 26 P P 12 22 31.5 +1.2
baz=267,SNR=18
SUA **Susitna One** 49.28 37 P P 12 22 30.5 -0.3
SUA IAmb IAmb 12 22 36.4
comp=Z,14nm,0.9s
SUA **Susitna One** 49.28 37 P P 12 22 30.2 -0.6
baz=274
COLD **Coldfoot** 49.33 29 P P 12 22 31.4 +0.4
baz=270,SNR=13
BRLK **Bradley Lake** 49.35 39 P P 12 22 31.9 +0.6
TRF **Thorofare Moun** 49.37 34 P P 12 22 32.3 +0.8
baz=273
G23K **Bananza Creek** 49.40 30 P P 12 22 31.0 -0.5
G23K IAmb IAmb 12 22 35.8
comp=Z,9.2nm,0.9s
G23K **Bananza Creek** 49.40 30 P P 12 22 32.4 +0.8
baz=270,SNR=7.8
BRSE **Bradley Lake S** 49.43 39 P P 12 22 32.1 +0.3
baz=276
CUT **Chulitna** 49.44 35 P P 12 22 30.7 -1.1
CUT **Chulitna** 49.44 35 P P 12 22 32.2 +0.4
baz=274
M22K **Willow** 49.56 36 P P 12 22 32.8 +0.1
baz=274
E23K **Chandalar** 49.56 28 P P 12 22 33.1 +0.3
baz=270
TOLK **Toolik Lake Re** 49.58 27 P P 12 22 32.9 0.0
TOLK IAmb IAmb 12 22 37.3
comp=Z,12nm,1.1s
TOLK **Toolik Lake Re** 49.58 27 P P 12 22 32.6 -0.3
baz=269,SNR=7.3
H23K **Yukon River** 49.60 31 P P 12 22 32.8 -0.3
H23K IAmb IAmb 12 22 38.1
comp=Z,21nm,0.9s
H23K **Yukon River** 49.60 31 P P 12 22 34.0 +0.8
baz=271,SNR=26
BWN **Browne** 49.70 33 P P 12 22 34.2 +0.3
I23K **Minto, Yukon-K** 49.70 32 P P 12 22 35.0 +1.2
I23K IAmb IAmb 12 22 38.6
comp=Z,21nm,1.6s
I23K **Minto, Yukon-K** 49.70 32 P P 12 22 34.3 +0.5
baz=272
RC01 **Rabbit Creek A** 49.80 37 P P 12 22 34.3 -0.3
baz=275
NEA2 **Nenana** 49.85 33 P P 12 22 35.0 0.0
NEA2 IAmb IAmb 12 22 38.7
comp=Z,24nm,1.4s
NEA2 **Nenana** 49.85 33 P P 12 22 34.8 -0.2
baz=273,SNR=8.0
D24K **Happy Valley** 49.86 27 P P 12 22 36.0 +1.0
D24K **Happy Valley** 49.86 27 P P 12 22 35.0 0.0
baz=269,SNR=18
O22K **Cooper Landing** 49.86 38 P P 12 22 35.7 +0.6
O22K **Cooper Landing** 49.86 38 P P 12 22 34.8 -0.3
baz=276
C24K **Franklin Bluff** 49.91 26 P P 12 22 35.5 +0.1
baz=269
MCK **McKinley** 49.96 34 P P 12 22 36.5 +0.7
baz=274
E24K **Your Creek** 49.98 28 IAmb IAmb 12 22 40.6
comp=Z,19nm,1.1s
E24K **Your Creek** 49.98 28 P P 12 22 35.8 -0.2
baz=270
ARSB **Arslanbob** 50.00 296 P P 12 22 36.5 -0.1
ARSB **Arslanbob** 50.00 296 P P 12 22 36.5 -0.1
ARSB pmax pmax
comp=Z,8.0nm,1.4s
SEW **Seward** 50.04 38 P P 12 22 35.8 -0.6
baz=276
PMR **Palmer** 50.04 36 P P 12 22 37.2 +0.9
PMR IAmb IAmb 12 22 39.9
comp=Z,14nm,1.0s
PMR **Palmer** 50.04 36 P P 12 22 36.9 +0.5
baz=275
PMR **Palmer** 50.04 36 P P 12 22 37.3 +0.9
PMR pmax pmax
comp=Z,14nm,1.0s
MDM **Murphy Dome** 50.19 32 IAmb IAmb 12 22 42.0
comp=Z,17nm,0.9s
WAT1 **Susitna Watana** 50.20 35 P P 12 22 38.3 +0.6
baz=275
F24K **Squaw Lake** 50.22 29 P P 12 22 38.5 +0.7
F24K **Squaw Lake** 50.22 29 P P 12 22 37.4 -0.4
baz=272,SNR=7.2
H24K **Noodor Dome** 50.29 31 P P 12 22 38.5 +0.1
H24K IAmb IAmb 12 22 42.5
comp=Z,20nm,1.4s
H24K **Noodor Dome** 50.29 31 P P 12 22 38.4 +0.1
baz=273,SNR=7.8
HNR **Honiara** 50.30 152 LR LR 12 42 35.2
comp=Z,3µm,20.7s,baz=334,slow=34
COLA **College** 50.36 32 P P 12 22 38.0 -0.8
COLA **College** 50.36 32 P P 12 22 39.1 +0.4
baz=274
COLA **College** 50.36 32 ĵ *i*P P 12 22 41.1 +2.4
COLA pmax pmax
comp=Z,18nm,1.8s
KNK **Knik Glacier** 50.38 37 P P 12 22 39.0 0.0
KNK IAmb IAmb 12 22 42.9
comp=Z,26nm,1.2s
KNK **Knik Glacier** 50.38 37 P P 12 22 38.9 -0.2
baz=276
SML **Sawmill** 50.40 36 IAmb IAmb 12 23 05.7
comp=Z,18nm,1.0s
SML **Sawmill** 50.40 36 P P 12 22 39.3 0.0
baz=276
G24K **Hadweenzic Riv** 50.41 30 P P 12 22 39.3 +0.1
G24K IAmb IAmb 12 22 43.5
comp=Z,23nm,1.4s
G24K **Hadweenzic Riv** 50.41 30 P P 12 22 39.1 -0.1
baz=273,SNR=7.5
POKR **Poker Plat Res** 50.52 32 P P 12 22 40.1 +0.1
baz=274,SNR=5.9
WAT6 **Susitna Watana** 50.60 35 P P 12 22 41.5 +0.6
baz=276
M23K **Glacier View** 50.69 36 P P 12 22 42.0 +0.6
baz=276
DZA **Taraz** 50.70 299 *e*P P 12 22 40.4 -1.4
comp=Z,11nm,0.6s,baz=299
DZA **Taraz** 50.70 299 *e*P P 12 22 40.4 -1.4
DZA pmax pmax
comp=Z,11nm,0.6s
DHY **Denali Highway** 50.71 34 IAmb IAmb 12 22 45.5
comp=Z,13nm,1.0s
DHY **Denali Highway** 50.71 34 P P 12 22 41.7 0.0
baz=276
D25K **Kavik River** 50.73 26 IAmb IAmb 12 22 45.8
comp=Z,17nm,0.9s
D25K **Kavik River** 50.73 26 P P 12 22 41.8 +0.1
baz=271,SNR=21
IL31 **Eielson Airfield** 50.78 32 P P 12 22 41.5 -0.4
IL31 IAmb IAmb 12 22 47.4
comp=Z,9.8nm,0.8s
ILAR **Eielson Airfield** 50.78 32 P P 12 22 42.0 0.0
ILAR **Eielson Airfield** 50.78 32 P P 12 22 42.3 +0.3
comp=Z,5.5nm,0.8s,baz=283,slow=6.7,SNR=28
ILAR LR LR 12 45 44.9
comp=Z,210nm,19.1s,baz=290,slow=38
comp=Z,5.5nm,0.8s
HDA **Harding Lake** 50.78 33 P P 12 22 42.2 +0.2
HDA IAmb IAmb 12 22 45.3
comp=Z,14nm,0.9s
HDA **Harding Lake** 50.78 33 P P 12 22 42.4 +0.3
baz=275,SNR=7.9
COEN **Coen** 50.81 174 P P 12 22 42.3 -0.3
comp=Z,25nm,1.4s
SCM **Sheep Creek Mo** 50.87 36 IAmb IAmb 12 23 09.4
comp=Z,32nm,1.2s
SCM **Sheep Creek Mo** 50.87 36 P P 12 22 43.1 +0.3
baz=277
G25K **Bearman Lake** 50.95 30 P P 12 22 43.9 +0.6
baz=274
P23K **Montague Islan** 51.07 38 P P 12 22 44.4 +0.2
baz=278
E25K **Arctic Village** 51.08 28 IAmb IAmb 12 22 49.2
comp=Z,16nm,1.2s
E25K **Arctic Village** 51.08 28 P P 12 22 45.3 +1.1
baz=273,SNR=9.7
F25K **Christian Rive** 51.08 29 P P 12 22 44.6 +0.3
baz=274,SNR=6.6
GLI **Glacier Island** 51.10 37 P P 12 22 43.8 -0.6
baz=278
H25L **Birch Creek** 51.10 30 P P 12 22 45.2 +0.9
baz=274,SNR=6.0
KK31 **Karatay Array** 51.21 299 P P 12 22 45.1 -0.4
KK31 **Karatay Array** 51.21 299 P P 12 22 45.2 -0.4
KK31 pmax pmax
comp=Z,12nm,1.1s
KKAR **Karatay Array** 51.21 299 P P 12 22 44.8 -0.8
KKAR **Karatay Array** 51.21 299 P P 12 22 44.8 -0.8
C26K **Camden Bay** 51.23 26 P P 12 22 45.5 +0.2
baz=272,SNR=12
PRP **Porcupine Dome** 51.28 31 P P 12 22 46.6 +0.7
PRP IAmb IAmb 12 22 52.4
comp=Z,11nm,0.9s
PRP **Porcupine Dome** 51.28 31 P P 12 22 45.9 -0.1
baz=275,SNR=12
FYU **Fort Yukon** 51.31 30 P P 12 22 45.6 -0.3
FYU IAmb IAmb 12 22 53.8
comp=Z,25nm,1.1s
K24K **Donnelly Dome** 51.35 33 P P 12 22 45.2 -1.1
baz=276
M24K **Tolsona, Glenn** 51.38 36 P P 12 22 45.7 -0.9
baz=277
J25K **Salcha River,** 51.44 32 P P 12 22 46.9 -0.2
baz=276
BMAR **Burnt Mountain** 51.50 29 P P 12 22 48.7 +1.3
KLU **Klutina** 51.58 36 P P 12 22 48.9 +0.7
KLU IAmb IAmb 12 22 52.3
comp=Z,19nm,1.0s
KLU **Klutina** 51.58 36 P P 12 22 47.1 -1.1
baz=278,SNR=6.2
PAX **Paxson** 51.59 34 P P 12 22 48.2 -0.1
baz=277
F26K **Sheenjek River** 51.64 28 P P 12 22 48.5 +0.1
baz=275,SNR=26
C27K **Jago River** 51.66 26 P P 12 22 48.4 -0.1
baz=274,SNR=13
Q23K **Middleton Isla** 51.69 39 P P 12 22 47.4 -1.4
baz=279
BRLS **Boroldav** 51.71 299 *e*P P 12 22 49.3 -0.1
baz=299
BRLS **Boroldav** 51.71 299 *e*P P 12 22 49.2 -0.1
EYAK **Cordova Ski Ar** 51.80 38 P P 12 22 48.8 -0.9
baz=279
HARP **HAARP** 51.81 35 P P 12 22 48.3 -1.5
baz=278
G26K **Porcupine Rive** 51.85 29 P P 12 22 49.0 -1.0
baz=276,SNR=7.7
CHM **Chimkent** 52.09 299 *e*P P 12 22 51.2 -1.1
baz=299
CHM **Chimkent** 52.09 299 *e*P P 12 22 51.1 -1.1
SCRK **Sand Creek** 52.12 33 IAmb IAmb 12 22 55.7
comp=Z,12nm,0.9s
SCRK **Sand Creek** 52.12 33 P P 12 22 51.3 -0.8
baz=278,SNR=7.9
N25K **Chitina, Valde** 52.19 36 P P 12 22 51.6 -1.1
baz=279
J26L **Joseph Creek** 52.23 32 P P 12 22 51.7 -1.2
baz=278
BMRM **Bremner River** 52.29 37 P P 12 22 54.0 +0.6
BMRM **Bremner River** 52.29 37 P P 12 22 53.2 -0.2
baz=280
I26K **Coal Creek Min** 52.29 31 P P 12 22 52.2 -1.1
baz=278
LEM **Lembang** 52.31 220 LR LR 12 45 58.9
comp=Z,120nm,20.2s,baz=0.5,slow=37
RAGM **Ragged Mountai** 52.35 38 P P 12 22 53.9 0.0
MENT **Mentasta** 52.39 34 IAmb IAmb 12 23 01.5
comp=Z,14nm,0.9s
NIL **Nilore** 52.50 287 P P 12 22 55.1 -0.2
NIL IAmb IAmb 12 22 56.2
comp=Z,26nm,1.1s
NIL **Nilore** 52.50 287 P P 12 22 55.2 -0.2
NIL pmax pmax
comp=Z,26nm,1.1s
L26K **Log Cabin Wild** 52.54 34 P P 12 22 56.0 +0.8
L26K IAmb IAmb 12 22 59.8
comp=Z,16nm,1.1s
L26K **Log Cabin Wild** 52.54 34 P P 12 22 55.0 -0.2
baz=279
E27K **Coleen River** 52.55 28 IAmb IAmb 12 22 59.4
comp=Z,16nm,1.3s
E27K **Coleen River** 52.55 28 P P 12 22 55.0 -0.2
baz=277
KAIM **Kayak Island** 52.56 38 P P 12 22 55.0 -0.4
baz=281
GLB **Gilahina Butte** 52.59 36 IAmb IAmb 12 23 00.2
comp=Z,29nm,1.4s
D27M **Malcolm River** 52.66 26 P P 12 22 54.9 -1.2
baz=276
GAR **Garm** 52.69 294 P P 12 22 56.0 -0.9
G27K **Doyon Strip** 52.70 29 P P 12 22 57.0 +0.7
G27K **Doyon Strip** 52.70 29 P P 12 22 55.2 -1.1
baz=278
VRDI **Verde Repeater** 52.80 36 P P 12 22 56.6 -0.8
VRDI IAmb IAmb 12 23 21.5
comp=Z,24nm,1.3s
M26K **Nabesna, AK** 52.80 35 P P 12 22 57.6 +0.4
M26K IAmb IAmb 12 23 01.9
comp=Z,18nm,1.1s
M26K **Nabesna, AK** 52.80 35 P P 12 22 56.5 -0.7
baz=280,SNR=7.6
H27K **Steamboat Moun** 52.83 30 P P 12 22 56.9 -0.5
baz=278
I27K **Kandik River** 52.89 31 P P 12 22 57.5 -0.3
baz=279
K27K **Chicken** 52.94 33 P P 12 22 58.4 +0.3
baz=279
MCARA **McCarthy VSAT** 52.97 36 P P 12 22 59.4 +1.0
MCARA IAmb IAmb 12 23 04.5
comp=Z,20nm,0.9s
MCARA **McCarthy VSAT** 52.97 36 P P 12 22 58.0 -0.4
baz=281
BGLC **Bering Glacier** 53.09 38 P P 12 22 59.3 +0.2
baz=281
EGAK **Eagle** 53.21 32 P P 12 23 00.6 +0.5
EGAK **Eagle** 53.21 32 P P 12 22 59.9 -0.1
baz=280
L27K **Beaver Creek,** 53.22 34 P P 12 23 01.0 +0.8
L27K IAmb IAmb 12 23 04.9
comp=Z,16nm,1.0s
L27K **Beaver Creek,** 53.22 34 P P 12 22 60.0 -0.2
baz=280,SNR=18
WAX **Waxell Ridge** 53.23 37 P P 12 22 59.8 -0.6
BCAR **Beaver Creek A** 53.23 34 P P 12 23 00.5 +0.1
E28M **Babbage River** 53.25 27 P P 12 22 59.6 -0.8
baz=278
F28M **Old Crow** 53.27 28 P P 12 23 01.6 +1.1
F28M **Old Crow** 53.27 28 P P 12 23 00.1 -0.5
baz=279
M27K **Edge Creek, AK** 53.32 35 IAmb IAmb 12 23 07.1
comp=Z,27nm,1.1s
M27K **Edge Creek, AK** 53.32 35 P P 12 23 01.5 +0.3
baz=281,SNR=16
D28M **Stokes Point** 53.43 26 P P 12 23 00.9 -0.7
baz=278
I28M **Miner Creek** 53.60 31 P P 12 23 04.0 +0.9
I28M IAmb IAmb 12 23 07.7
comp=Z,16nm,0.9s
I28M **Miner Creek** 53.60 31 P P 12 23 02.5 -0.6
baz=280,SNR=18
CHGR **Chuyangaron** 53.66 294 P P 12 23 03.1 -0.8
CHGR **Chuyangaron** 53.66 294 P P 12 23 03.1 -0.8
CHGR pmax pmax
comp=Z,76nm,1.0s
SVE **Sverdlovsk** 53.72 318 *e*P P 12 23 04.1 +0.2
SVE pmax pmax
comp=Z,28nm,1.3s
SVE MLR MLR
comp=Z,2µm,17.0s
MESA **MESA** 53.73 38 P P 12 23 03.7 -0.4
baz=282
SIMJ **Simiganj** 53.77 295 P P 12 23 03.8 -0.9
CTG **Chitna Glacier** 53.85 37 P P 12 23 04.5 -0.6
baz=282
E29M **Blow River** 53.88 27 P P 12 23 05.6 +0.6
E29M IAmb IAmb 12 23 10.0
comp=Z,31nm,1.4s
E29M **Blow River** 53.88 27 P P 12 23 03.1 -1.9
baz=280,SNR=8.1
YUK3 **Moose Creek** 54.09 35 P P 12 23 05.6 -1.3
baz=282,SNR=6.1
DAWY **Dawson** 54.10 33 P P 12 23 05.6 -1.0
baz=282
H29M **Whitestone** 54.10 30 IAmb IAmb 12 23 20.6
comp=Z,12nm,1.1s
H29M **Whitestone** 54.10 30 P P 12 23 04.4 -2.2
baz=281
G29M **Pine Creek** 54.10 29 P P 12 23 06.9 +0.2
G29M **Pine Creek** 54.10 29 P P 12 23 06.8 +0.2
baz=281,SNR=7.0
I29M **Ogilvie Camp,** 54.29 31 P P 12 23 06.6 -1.4
I29M IAmb IAmb 12 23 12.4
comp=Z,15nm,1.1s
I29M **Ogilvie Camp,** 54.29 31 P P 12 23 07.8 -0.2
baz=282,SNR=7.8
O28M **Mount Upton** 54.45 37 P P 12 23 09.0 -0.6
baz=283
J29N **Klondike Camp** 54.52 32 P P 12 23 10.3 +0.5
baz=282
YUK8 **Steele Glacier** 54.53 36 P P 12 23 07.5 -2.6
baz=283
EPYK **Eagle Plains** 54.72 29 P P 12 23 11.9 +0.7
EPYK **Eagle Plains** 54.72 29 P P 12 23 10.1 -1.0
baz=282,SNR=7.1
G30M **tAoh Zraii Nji** 54.78 29 P P 12 23 11.0 -0.6
G30M IAmb IAmb 12 23 15.9
comp=Z,26nm,1.2s
G30M **tAoh Zraii Nji** 54.78 29 P P 12 23 10.3 -1.2
baz=282,SNR=7.8
F30M **Barrier River** 54.81 28 P P 12 23 11.4 -0.4

baz=282,SNR=10.0
L29M **L29M** **54.85** **34** P **P** **12 23 12.7 +0.5**
L29M IAmb IAmb 12 23 17.5
comp=Z,24nm,1.1s
L29M **L29M** **54.85** **34** P **P** **12 23 12.0 -0.1**
baz=283,SNR=17
M29M **Somme Creek** **54.86** **34** P **P** **12 23 13.2 +0.9**
M29M IAmb IAmb 12 23 22.8
comp=Z,8.6nm,0.8s
M29M **Somme Creek** **54.86** **34** P **P** **12 23 11.5 -0.8**
baz=284
ARU **Arti** **54.93** **318** P **P** **12 23 12.0 -0.7**
ARU IAmb IAmb 12 23 13.2
comp=Z,23nm,1.1s
ARU **Arti** **54.93** **318** P **P** **12 23 11.9 -0.9**
comp=Z,7.8nm,0.6s,baz=88,slow=5.5,SNR=16
ARU LR LR 12 49 25.5
comp=Z,1µm,18.0s,baz=100,slow=39
comp=Z,7.8nm,0.6s
ARU **Arti** **54.93** **318** *c i*P **P** **12 23 12.0 -0.7**
ARU S **S** **12 30 54.1 +0.8**
ARU SS **SS** **12 34 37.1 +0.8**
ARU pmax pmax
comp=Z,26nm,1.1s
ARU MLR MLR
comp=Z,1µm,17.0s
K29M **Barlow Dome** **54.95** **33** IAmb IAmb 12 23 18.6
comp=Z,10.0nm,0.9s
K29M **Barlow Dome** **54.95** **33** P **P** **12 23 11.1 -1.8**
baz=283,SNR=8.0
YUK4 **Talbot Arm** **55.04** **36** P **P** **12 23 12.5 -1.3**
baz=284
PNL **Peninsula** **55.10** **38** P **P** **12 23 13.2 -0.7**
baz=285
I30M **Mount Dempster** **55.11** **31** P **P** **12 23 13.0 -1.1**
baz=283,SNR=36
YUK6 **Outpost Mounta** **55.27** **36** P **P** **12 23 14.5 -1.0**
baz=285
J30M **Hart River** **55.28** **32** P **P** **12 23 16.3 +1.0**
J30M **Hart River** **55.28** **32** P **P** **12 23 14.5 -0.9**
baz=284,SNR=5.5
KBL **Kabul** **55.34** **290** P **P** **12 23 14.9 -1.4**
KBL IAmb IAmb 12 23 21.6
comp=Z,28nm,1.4s
KBL **Kabul** **55.34** **290** P **P** **12 23 14.9 -1.4**
KBL pmax pmax
comp=Z,28nm,1.4s
INK **Inuvik** **55.49** **27** IAmb IAmb 12 23 20.6
comp=Z,12nm,1.1s
INK **Inuvik** **55.49** **27** P **P** **12 23 15.7 -0.8**
baz=284
INK **Inuvik** **55.49** **27** LR LR 12 48 17.6
comp=Z,294nm,20.5s,baz=358,slow=38
G31M **Satah River** **55.54** **29** P **P** **12 23 16.1 -0.8**
baz=284
M30M **Minto, Yukon** **55.58** **34** P **P** **12 23 17.4 0.0**
M30M **Minto, Yukon** **55.58** **34** P **P** **12 23 16.4 -1.0**
baz=285
F31M **Tsiigehtchic** **55.62** **28** P **P** **12 23 16.6 -0.9**
baz=284
HYT **Haines Junctio** **55.71** **36** P **P** **12 23 17.8 -0.7**
baz=285
MAYO **Mayo, Yukon** **55.71** **33** P **P** **12 23 17.4 -0.9**
baz=285
N30M **Aishikik Lake** **55.73** **35** P **P** **12 23 17.5 -1.1**
baz=285
H31M **Peel River** **55.79** **30** IAmb IAmb 12 23 37.6
comp=Z,20nm,1.0s
H31M **Peel River** **55.79** **30** P **P** **12 23 17.9 -1.0**
baz=285,SNR=11
P29M **Windy Craggy** **55.92** **38** P **P** **12 23 18.9 -1.0**
baz=286
FITZ **Fitzroy Crossi** **56.09** **195** P **P** **12 23 21.1 -0.3**
P30M **Million Dollar** **56.16** **37** P **P** **12 23 20.8 -0.9**
baz=286
ABKAR **Akbulak array** **56.27** **309** P **P** **12 23 21.5 -1.0**
ABKAR IAmb IAmb 12 23 23.0
comp=Z,9.3nm,1.0s
N31M **Braeburn, Yuko** **56.33** **35** IAmb IAmb 12 23 28.8
comp=Z,16nm,1.1s
N31M **Braeburn, Yuko** **56.33** **35** P **P** **12 23 22.2 -0.6**
baz=286
O30N **Mendenhall** **56.39** **36** P **P** **12 23 22.3 -1.0**
baz=286
PLBC **Pleasant Camp** **56.64** **38** P **P** **12 23 23.2 -1.7**
baz=287
WRAB **Tennant Creek** **56.71** **185** P **P** **12 23 25.0 -0.8**
WRAB **Tennant Creek** **56.71** **185** P **P** **12 23 25.0 -0.8**
WRAB pmax pmax
comp=Z,34nm,1.0s
WB2 **Warramunga Arr** **56.72** **185** P **P** **12 23 25.2 -0.7**
WRA **Warramunga Arr** **56.72** **185** P **P** **12 23 25.0 -0.9**
WRA **Warramunga Arr** **56.72** **185** P **P** **12 23 24.6 -1.3**
comp=Z,23nm,0.8s,baz=359,slow=7.5,SNR=82
WRA PcP **PcP** **12 24 20.8 -1.0**
comp=Z,3.3nm,0.8s,baz=358,slow=4.2,SNR=1.5
WRA LR LR 12 47 12.8
comp=Z,189nm,21.0s,baz=66,slow=35
comp=Z,23nm,0.8s
WRA **Warramunga Arr** **56.72** **185** P **P** **12 23 25.0 -0.9**
WRA pmax pmax
comp=Z,3.0nm,0.9s
WR0 **Warramunga Ar** **56.72** **185** P **P** **12 23 25.1 -0.9**
M31M **Drury Creek, Y** **56.76** **34** P **P** **12 23 26.5 +0.7**
M31M **Drury Creek, Y** **56.76** **34** P **P** **12 23 24.5 -1.3**
baz=287,SNR=5.6
WHY **Whitehorse** **56.99** **36** IAmb IAmb 12 23 32.4
comp=Z,11nm,1.1s
WHY **Whitehorse** **56.99** **36** P **P** **12 23 25.4 -2.2**
baz=288
AKTO **Aktyubinsk** **57.05** **311** P **P** **12 23 27.1 -0.9**
comp=Z,8.8nm,0.9s,baz=74,slow=9.6,SNR=11
AKTO LR LR 12 49 17.6
comp=Z,966nm,18.1s,baz=73,slow=38
comp=Z,8.8nm,0.9s
SKAG **Skagway** **57.14** **37** P **P** **12 23 26.5 -2.0**
baz=288
S31K **Pelican** **57.16** **39** P **P** **12 23 27.4 -1.2**
baz=288
A36M **Sachs Harbour** **57.18** **22** P **P** **12 23 28.0 -0.6**
baz=289
QIS **Mount Isa** **57.20** **179** P **P** **12 23 27.6 -1.7**
comp=Z,27nm,1.8s
FARO **Faro, Yukon** **57.22** **34** P **P** **12 23 29.4 +0.3**
FARO IAmb IAmb 12 23 33.6
comp=Z,11nm,1.1s
FARO **Faro, Yukon** **57.22** **34** P **P** **12 23 28.2 -0.8**
baz=288,SNR=6.6
R31K **City Hall, Gus** **57.27** **39** P **P** **12 23 28.1 -1.2**
baz=288
N32M **Quiet Lake** **57.67** **35** P **P** **12 23 31.9 -0.4**
N32M IAmb IAmb 12 23 49.4
comp=Z,11nm,1.1s
N32M **Quiet Lake** **57.67** **35** P **P** **12 23 31.0 -1.4**
baz=289
P32M **Atlin** **57.88** **37** P **P** **12 23 32.4 -1.4**
baz=289
SIT **Sitka** **57.92** **40** P **P** **12 23 32.7 -1.3**
baz=289
R32K **Eaglecrest** **57.92** **39** P **P** **12 23 33.6 -0.5**
baz=289
P33M **Teslin, Yukon** **58.10** **36** IAmb IAmb 12 23 44.6
comp=Z,10nm,1.1s
P33M **Teslin, Yukon** **58.10** **36** P **P** **12 23 34.2 -1.2**
baz=289,SNR=6.0
S32K **Killisnoo** **58.16** **39** P **P** **12 23 35.2 -0.4**
baz=290
C36M **Paulatuk** **58.45** **24** P **P** **12 23 37.4 -0.1**
baz=291
KIRV **Kirov** **58.95** **322** P **P** **12 23 40.7 -0.5**
comp=Z,19nm,0.8s,baz=55,slow=7.7,SNR=7.5
KIRV LR LR 12 51 07.9
comp=Z,1µm,19.1s,baz=68,slow=38
comp=Z,19nm,0.8s
R33M **Jennings River** **59.27** **37** P **P** **12 23 42.7 -0.9**
baz=291
U33K **Whale Pass** **59.39** **41** P **P** **12 23 43.7 -0.6**
baz=292
CRAG **Craig** **59.63** **41** P **P** **12 23 45.1 -0.8**
baz=292
WRAK **Wrangell Islan** **59.68** **40** P **P** **12 23 45.1 -1.2**
baz=292
TGTN **Hyland Airport** **59.72** **34** P **P** **12 23 44.9 -1.6**
baz=292
S34M **Telegraph Cree** **59.73** **38** P **P** **12 23 45.3 -1.3**
baz=292
WTLY **Watson Lake, Y** **60.02** **35** P **P** **12 23 47.3 -1.3**
baz=292

DLBC **Dease Lake** **60.08** **37** P **P** **12 23 47.4 -1.7**
baz=292
PALK **Pallekele** **60.16** **256** LR LR 12 51 10.9
comp=Z,253nm,20.3s,baz=158,slow=37
SPITS **Spitsbergen Ar** **60.17** **348** LR LR 12 51 54.6
comp=Z,428nm,18.2s,baz=8.0,slow=38
AS31 **Alice Springs** **60.44** **185** P **P** **12 23 51.6 -0.3**
AS31 **Alice Springs** **60.44** **185** P **P** **12 23 51.6 -0.3**
ASAR **Alice Springs** **60.45** **185** P **P** **12 23 51.6 -0.2**
ASAR **Alice Springs** **60.45** **185** P **P** **12 23 51.2 -0.6**
comp=Z,8.8nm,0.9s,baz=6.0,slow=5.2,SNR=49
ASAR PcP **PcP** **12 24 37.3 +0.8**
comp=Z,2.0nm,0.8s,baz=11,slow=4.6,SNR=1.6
comp=Z,8.8nm,0.9s
V35K **Ketchikan** **60.48** **41** P **P** **12 23 50.6 -1.2**
baz=293
HRA **Herat** **60.48** **293** P **P** **12 23 51.7 -0.7**
HRA IAmb IAmb 12 23 53.2
comp=Z,8.9nm,1.1s
T35M **Bob Quinn** **60.53** **39** P **P** **12 23 51.1 -1.0**
baz=293
EUNU **Eureka** **60.60** **8** P **P** **12 23 52.1 -0.3**
U35K **Hyder** **61.07** **40** P **P** **12 23 55.3 -0.5**
baz=294
WRGLY **Wrigley** **61.09** **31** P **P** **12 23 56.2 +0.4**
WRGLY IAmb IAmb 12 24 18.0
comp=Z,16nm,1.3s
WRGLY **Wrigley** **61.09** **31** P **P** **12 23 54.3 -1.5**
baz=295
LIRD **Liard River Hi** **61.55** **35** P **P** **12 23 57.2 -1.8**
baz=295
GEYT **Alibeck** **61.90** **298** P **P** **12 24 01.2 -0.5**
GEYT IAmb IAmb 12 24 08.6
comp=Z,12nm,1.1s
GEYT **Alibeck** **61.90** **298** P **P** **12 24 01.4 -0.3**
comp=Z,2.1nm,0.5s,baz=57,slow=5.3,SNR=7.1
GEYT LR LR 12 52 43.0
comp=Z,486nm,20.9s,baz=82,slow=38
comp=Z,2.1nm,0.5s
GEYT **Alibeck** **61.90** **298** P **P** **12 24 01.2 -0.5**
GEYT pmax pmax
comp=Z,12nm,1.1s
GYA0 **ALIBECK ARRAY** **61.90** **298** P **P** **12 24 00.4 -1.3**
GYA0 pmax pmax
comp=Z,13nm,1.2s
GYA0B **ALIBECK ARRAY** **61.90** **298** P **P** **12 24 00.4 -1.3**
GYA0B IAmb IAmb 12 24 08.5
comp=Z,13nm,1.1s
KOTAN **Kotaneelee Air** **62.17** **34** P **P** **12 24 02.1 -1.1**
baz=296
TOAD **Toad River Com** **62.19** **36** P **P** **12 24 02.3 -1.1**
baz=296
BELG **Belogornoye** **62.32** **316** LR LR 12 52 53.5
comp=Z,489nm,20.9s,baz=57,slow=38
BELG **Belogornoye** **62.32** **316** *c i*P **P** **12 24 02.7 -1.5**
BELG pmax pmax
comp=Z,8.0nm,1.0s
WRKA **Warakurna** **62.41** **191** P **P** **12 24 05.1 0.0**
comp=Z,26nm,1.9s
KLMR **Klimovskoe** **62.62** **327** *e*P **P** **12 24 04.5 -1.6**
KLMR pmax pmax
comp=Z,17nm,1.2s
KLMR MLR MLR
comp=Z,546nm,15.0s
EIDS **Eidsvold** **63.08** **167** P **P** **12 24 10.6 +1.1**
RES **Resolute Bay** **63.24** **14** P **P** **12 24 10.0 0.0**
RES IAmb IAmb 12 24 56.0
comp=Z,7.8nm,1.1s
RES **Resolute Bay** **63.24** **14** LR LR 12 54 54.7
comp=Z,296nm,19.0s,baz=5.0,slow=39
RES **Resolute Bay** **63.24** **14** P **P** **12 24 10.0 0.0**
RES pmax pmax
comp=Z,8.0nm,1.1s
ARCES **ARCESS Array B** **63.28** **339** P **P** **12 24 10.4 0.0**
ARCES **ARCESS Array B** **63.28** **339** P **P** **12 24 10.1 -0.3**
comp=Z,4.5nm,0.9s,baz=69,slow=4.9,SNR=5.4
ARCES LR LR 12 54 57.9
comp=Z,800nm,19.6s,baz=74,slow=39
comp=Z,4.5nm,0.9s
ARCES **ARCESS Array B** **63.28** **339** P **P** **12 24 10.4 0.0**
ARCES pmax pmax
comp=Z,37nm,1.7s
QLP **Quilpie** **63.41** **174** P **P** **12 24 11.4 -0.3**
comp=Z,33nm,1.8s
BBB **Bella Bella** **63.69** **43** LR LR 12 50 12.7
comp=Z,74nm,20.4s,baz=286,slow=34
DZM **Mont Dzumac** **64.31** **151** *e*S **S** **12 32 54.1 -0.9**
comp=Z,199nm,26.6s
DZM *e*SS **SS** **12 37 02.0 -3.4**
comp=Z,181nm,24.4s
DZM *e*LR LR 12 43 30.1
comp=Z,578nm,25.5s
DZM **Mont Dzumac** **64.31** **151** LR LR 12 51 11.2
comp=Z,271nm,20.3s,baz=346,slow=35
JOF **Joensuu** **64.97** **331** *e*P **P** **12 24 21.1 -0.5**
YKA **Yellowknife Ar** **65.01** **29** P **P** **12 24 21.4 -0.4**
comp=Z,2.0nm,1.0s,baz=299,slow=7.1,SNR=14
YKA LR LR 12 55 49.9
comp=Z,163nm,18.4s,baz=8.0,slow=39
comp=Z,2.0nm,1.0s
MOS **Moscow** **65.97** **323** *e*P **P** **12 24 29.0 +0.9**
VALR **Valaam** **65.99** **330** *c i*P **P** **12 24 30.1 +2.0**
VALR pmax pmax
comp=Z,22nm,0.9s
VRH **Novokhopyorsk** **66.12** **317** *e*P **P** **12 24 27.4 -1.8**
VRH pmax pmax
comp=Z,10.0nm,0.9s
MAK **Makhachkala** **66.73** **307** *e*P **P** **12 24 31.7 -1.5**
MAK *e*PP **PP** **12 26 59.2 -0.7**
MAK pmax pmax
comp=Z,34nm,0.4s
MAK MLR MLR
comp=Z,580nm,12.0s
OBN **Obninsk** **66.81** **322** LR LR 12 55 54.0
comp=Z,880nm,19.1s,baz=29,slow=38
OBN **Obninsk** **66.81** **322** *i i*P **P** **12 24 33.2 -0.3**
OBN *e*S **S** **12 33 24.5 -0.3**
OBN pmax pmax
comp=Z,14nm,1.2s
OBN MLR MLR
comp=Z,1µm,15.0s
LPSR **Galich'ya Gora** **66.91** **319** *e*P **P** **12 24 32.3 -1.9**
LPSR pmax pmax
comp=Z,20nm,0.6s
VSR **Storozhevoye** **67.50** **318** *e*P P 12 24 35.2 -2.8
VSR pmax pmax
comp=Z,20nm,0.8s
VORD **Divnogorie** **67.56** **318** *e*P **P** **12 24 36.2 -2.2**
VORD pmax pmax
comp=Z,10.0nm,1.0s
FIA1 **FINESS Array S** **67.83** **331** P **P** **12 24 39.7 -0.2**
FINES **FINESS Array B** **67.83** **331** P **P** **12 24 38.9 -1.0**
FINES **FINESS Array B** **67.83** **331** P **P** **12 24 39.5 -0.4**
comp=Z,9.1nm,0.9s,baz=48,slow=6.2,SNR=20
FINES LR LR 12 56 54.5
comp=Z,528nm,19.1s,baz=48,slow=38
comp=Z,9.1nm,0.9s
KEF **Keuruu** **67.85** **332** *e*P **P** **12 24 39.0 -1.0**
FORT **Forrest** **68.09** **190** P **P** **12 24 40.7 -1.1**
BRLDA **Berland Lookou** **68.32** **38** IAmb IAmb 12 24 47.0
comp=Z,17nm,1.3s
CMSA **Cobar Meteorol** **68.45** **173** P **P** **12 24 44.1 +0.1**
comp=Z,18nm,1.8s
STKA **Stephens Creek** **68.52** **177** P **P** **12 24 44.5 +0.1**
STKA **Stephens Creek** **68.52** **177** P **P** **12 24 43.9 -0.5**
comp=Z,6.4nm,0.8s,baz=340,slow=7.8,SNR=12
STKA LR LR 12 54 57.3
comp=Z,142nm,18.6s,baz=13,slow=36
comp=Z,6.4nm,0.8s
STKA **Stephens Creek** **68.52** **177** P **P** **12 24 44.5 +0.1**
STKA pmax pmax
comp=Z,4.0nm,1.2s
STKA **Stephens Creek** **68.52** **177** P **P** **12 24 44.5 +0.1**
comp=Z,17nm,2.6s
WSAR **Wadi Sarin** **68.71** **284** LR LR 12 57 43.4
comp=Z,175nm,19.7s,baz=96,slow=38
MEF **Metsahovi** **69.23** **331** *e*P **P** **12 24 47.5 -1.2**
KBZ **Khabaz** **69.24** **310** P **P** **12 24 48.6 -0.4**
comp=Z,2.9nm,0.7s,baz=44,slow=3.1,SNR=9.5
KBZ LR LR 12 57 03.5
comp=Z,444nm,19.5s,baz=49,slow=38
comp=Z,2.9nm,0.7s
KIV **Kislovodsk** **69.25** **310** *c i*P **P** **12 24 49.1 -0.1**
KIV *i* 12 24 54.1
KIV *e*S S 12 33 45.5 -9.1
KIV *e*SS **SS** **12 38 13.9 -6.7**
KIV pmax pmax

comp=Z,24nm,1.1s
KIV MLR MLR
comp=Z,432nm,18.0s
VSU **Vasula** **69.37** **329** *c i*P **P** **12 24 49.3 -0.3**
VSU pmax pmax
comp=Z,16nm,0.9s
SHA1 **Shidzhatmaz** **69.38** **310** *c i*P **P** **12 24 50.0 -0.2**
ONI **Oni** **69.49** **308** P **P** **12 24 50.3 -0.4**
ERBR **Yeremizino-Bor** **69.65** **312** *e*P **P** **12 24 51.6 +0.1**
ERBR pmax pmax
comp=Z,7.0nm,0.2s
RAF **Rauma** **69.72** **332** *e*P **P** **12 24 51.3 -0.3**
GNI **Garni** **69.94** **305** LR LR 12 58 06.1
comp=Z,612nm,19.7s,baz=52,slow=38
GNI **Garni** **69.94** **305** *i i*P **P** **12 24 54.5 +0.9**
GNI pmax pmax
comp=Z,13nm,1.1s
HTT **Hallett** **70.01** **180** P **P** **12 24 54.6 +0.9**
comp=Z,25nm,1.0s
LABN **Labinsk** **70.08** **311** *e*P **P** **12 24 57.2 +3.0**
MTSE **Matsula** **70.42** **330** *e*P **P** **12 24 56.6 +0.7**
SUMG **Summit** **70.76** **359** P **P** **12 24 58.7 +0.4**
SUMG IAmb IAmb 12 25 01.5
comp=Z,14nm,0.9s
SUMG **Summit** **70.76** **359** P **P** **12 24 58.7 +0.4**
SUMG pmax pmax
comp=Z,14nm,0.9s
H04A **Detroit Lake** **70.86** **48** P **P** **12 24 58.6 -0.4**
H04A IAmb IAmb 12 25 02.8
comp=Z,13nm,1.1s
AAL **Aland** **70.94** **332** *e*P **P** **12 24 58.5 -0.6**
I04A **Tendick Farm,** **71.21** **49** P **P** **12 25 00.9 -0.3**
I04A IAmb IAmb 12 25 05.7
comp=Z,14nm,1.1s
SOC **Sochi** **71.26** **311** *e*P **P** **12 25 00.8 -0.6**
SOC *e* 12 27 39.2
SOC *e*PPP PPP 12 29 24.0
SOC *e*S **S** **12 34 18.0 0.0**
SOC *e*SS **SS** **12 38 46.7 -4.6**
SOC MLR MLR
comp=Z,373nm,16.0s
MNK **Minsk** **71.29** **325** *i* P **P** **12 25 00.7 -0.7**
MNK *i* 12 27 48.7
MNK *i* PPP PPP 12 29 21.7
MNK *i* S **S** **12 34 17.7 -0.2**
MNK pmax pmax
comp=N,20nm,0.8s
MNK pmax pmax
comp=Z,20nm,0.8s
MNK pmax pmax
comp=E,11nm,0.9s
MNK MLR MLR
comp=E,299nm,16.0s
MNK MLR MLR
comp=Z,531nm,15.0s
MNK MLR MLR
comp=N,725nm,17.0s
C09A **Chrisman Ranch** **71.38** **44** P **P** **12 25 02.0 0.0**
C09A IAmb IAmb 12 25 06.3
comp=Z,22nm,1.4s
NEW **Newport** **71.75** **43** P **P** **12 25 02.4 -2.0**
baz=305
UPP **Uppsala** **72.03** **333** *e*P **P** **12 25 05.2 -0.5**
YBH **Yreka Blue Hor** **72.17** **51** LR LR 12 52 19.5
comp=Z,87nm,20.5s,baz=312,slow=32
J05D **Fort Rock, OR** **72.21** **49** P **P** **12 25 08.5 +1.2**
J05D IAmb IAmb 12 25 11.7
comp=Z,12nm,1.2s
PABE **Paberze** **72.41** **327** P **P** **12 25 08.0 -0.1**
PABE **Paberze** **72.41** **327** *e*P **P** **12 25 08.4 +0.3**
AKASG **Malin Array Be** **72.97** **321** P **P** **12 25 10.3 -1.2**
comp=Z,6.7nm,0.7s,baz=47,slow=6.3,SNR=36
AKASG LR LR 12 59 47.8
comp=Z,2µm,19.4s,baz=49,slow=38
comp=Z,6.7nm,0.7s
AKBB **Malin Array Si** **72.97** **321** *c i*P **P** **12 25 10.7 -0.8**
AKBB pmax pmax
comp=Z,20nm,1.0s
KIEV **Kiev** **72.98** **321** P **P** **12 25 10.9 -0.7**
KIEV IAmb IAmb 12 25 11.7
comp=Z,16nm,0.9s
KIEV **Kiev** **72.98** **321** P **P** **12 25 10.9 -0.7**
KIEV pmax pmax
comp=Z,16nm,1.0s
NC405 **NORSAR Array S** **73.16** **336** P **P** **12 25 12.1 -0.4**
NC405 IAmb IAmb 12 25 16.1
comp=Z,13nm,0.9s
NC303 **NORSAR Array S** **73.19** **336** P **P** **12 25 12.1 -0.6**
NC303 IAmb IAmb 12 25 15.8
comp=Z,17nm,1.1s
HFS **Hagfors** **73.22** **335** P **P** **12 25 12.6 -0.3**
comp=Z,5.7nm,0.9s,baz=66,slow=8.1,SNR=8.6
HFS LR LR 12 59 10.1
comp=Z,551nm,20.1s,baz=40,slow=37
comp=Z,5.7nm,0.9s
VIKU **Vikbolandet** **73.32** **332** *e*P **P** **12 25 13.3 -0.1**
NB201 **NORSAR Array S** **73.35** **336** P **P** **12 25 13.5 -0.1**
NB201 IAmb IAmb 12 25 18.8
comp=Z,20nm,1.1s
NC204 **NORSAR Array S** **73.35** **337** P **P** **12 25 14.1 +0.4**
NB2 **NORSAR Subarra** **73.38** **336** P **P** **12 25 13.3 -0.5**
comp=Z,26nm,1.4s,baz=41,slow=5.9
NB2 **NORSAR Subarra** **73.38** **336** P **P** **12 25 13.3 -0.5**
baz=41,slow=5.9
NOA **NORSAR Array B** **73.38** **336** P **P** **12 25 12.7 -1.1**
comp=Z,8.9nm,1.0s,baz=40,slow=5.9,SNR=14
NOA LR LR 13 00 08.5
comp=Z,528nm,18.1s,baz=40,slow=38
comp=Z,8.9nm,1.0s
ARPS **Mount Arapiles** **73.40** **177** P **P** **12 25 14.6 +0.6**
comp=Z,22nm,0.9s
NBO00 **NORSAR Array S** **73.53** **336** IAmb IAmb 12 25 15.3
comp=Z,19nm,1.2s
BMO **Blue Mountains** **73.63** **46** P **P** **12 25 15.8 +0.2**
BMO **Blue Mountains** **73.63** **46** P **P** **12 25 15.8 +0.2**
BMO pmax pmax
comp=Z,9.0nm,1.2s
J08A **Circle Bar Ran** **73.82** **48** P **P** **12 25 16.4 -0.4**
J08A IAmb IAmb 12 25 23.1
comp=Z,12nm,1.3s
MSO **Missoula** **74.33** **43** P **P** **12 25 17.7 -2.1**
baz=308
AFDM **Forest Hills D** **74.84** **53** P **P** **12 25 23.0 +0.3**
BPMT **Black Pine Rid** **74.84** **43** P **P** **12 25 22.9 0.0**
KONO **Kongsberg** **74.96** **336** *i i*P **P** **12 25 24.6 +1.6**
KONO pmax pmax
comp=Z,12nm,1.2s
FFC **Flin Flon** **74.98** **32** P **P** **12 25 23.2 0.0**
FFC **Flin Flon** **74.98** **32** P **P** **12 25 23.2 0.0**
FFC pmax pmax
comp=Z,8.0nm,1.1s
MFID **Camas Ranch** **75.34** **47** IAmb IAmb 12 25 30.4
comp=Z,28nm,1.9s
CMB **Columbia Colle** **75.74** **53** P **P** **12 25 26.8 -1.2**
CMB IAmb IAmb 12 25 31.6
comp=Z,13nm,1.4s
CMB **Columbia Colle** **75.74** **53** P **P** **12 25 26.8 -1.2**
CMB pmax pmax
comp=Z,13nm,1.4s
EGMT **Eagleton** **75.81** **40** P **P** **12 25 27.9 -0.3**
EGMT **Eagleton** **75.81** **40** P **P** **12 25 27.8 -0.5**
baz=310
YERR **Yerington** **75.91** **52** P **P** **12 25 28.9 -0.2**
YERR IAmb IAmb 12 25 32.9
comp=Z,11nm,1.1s
HLID **Hailey** **76.07** **46** P **P** **12 25 28.8 -1.1**
baz=308
LVV **L'vov** **76.10** **323** *e*P **P** **12 25 29.7 0.0**
LVV MLR MLR
comp=N,400nm,18.0s
LVV MLR MLR
comp=E,800nm,18.0s
LVV MLR MLR
comp=Z,800nm,17.0s
SFJD **Kangerlussuaq** **76.15** **4** LR LR 13 01 16.8
comp=Z,180nm,18.3s,baz=350,slow=38
BOZ **Bozeman (W)** **76.36** **43** IAmb IAmb 12 25 35.2
comp=Z,17nm,1.4s
BOZ **Bozeman (W)** **76.36** **43** P **P** **12 25 30.4 -1.1**
baz=309
KVN **Kaiserville** **76.59** **51** P **P** **12 25 33.6 +0.7**
KVN IAmb IAmb 12 25 36.8
comp=Z,12nm,1.1s
KVN **Kaiserville** **76.59** **51** P **P** **12 25 33.6 +0.7**
KVN pmax pmax
comp=Z,12nm,1.1s

LHV **Little Huntoon** 76.81 52 IAmb IAmb 12 25 39.1
comp=Z,17nm,1.1s
NVAR **Mina Array Bea** 76.83 52 P **P** **12 25 35.1 +0.8**
NVAR **Mina Array Bea** 76.83 52 P **P** **12 25 35.5 +1.1**
comp=Z,3.8nm,0.9s,baz=289,slow=5.6,SNR=19
NVAR LR LR 12 58 25.7
comp=Z,44nm,19.1s,baz=280,slow=35
comp=Z,3.8nm,0.9s
NV11 **Mina Array Sit** 76.92 52 P **P** **12 25 35.9 +1.1**
BUR08 **Bucovina Ar. S** 76.95 320 P **P** **12 25 35.0 +0.3**
BUR08 IAmb IAmb 12 25 35.8
comp=Z,8.6nm,0.9s
BURAR **Bucovina Array** 76.97 320 P **P** **12 25 34.5 -0.3**
BURAR IAmb IAmb 12 25 36.2
comp=Z,8.2nm,0.9s
BURAR **Bucovina Array** 76.97 320 P **P** **12 25 34.5 -0.3**
BURAR pmax pmax
comp=Z,8.0nm,0.9s
MLAC **Mammoth, Mammo** 76.97 53 P **P** **12 25 34.1 -1.1**
baz=307
BR131 **Keskin Array S** 77.21 310 ‖ *i*P **P** **12 25 36.4 0.0**
BRTR **Keskin Array B** 77.21 310 P **P** **12 25 35.1 -1.2**
BRTR **Keskin Array B** 77.21 310 P **P** **12 25 35.5 -0.8**
comp=Z,2.3nm,0.9s,baz=80,slow=2.6,SNR=9.1
BRTR LR LR 13 03 53.2
comp=Z,362nm,18.3s,baz=58,slow=39
comp=Z,2.3nm,0.9s
GCMT **Greycliff** 77.29 42 P **P** **12 25 37.4 +0.6**
FRB **Frobisher Bay** 77.35 12 LR LR 13 03 37.7
comp=Z,186nm,18.8s,baz=358,slow=39
KOLS **Kolonicke sedl** 77.55 323 *e*P **P** **12 25 37.8 -0.1**
KOLS pmax pmax
comp=Z,7.0nm,0.9s
SMMC **Simmler** 77.59 55 P **P** **12 25 38.2 -0.2**
baz=307
H17A **Grant Village** 77.70 43 IAmb IAmb 12 25 50.6
comp=Z,14nm,1.1s
H17A **Grant Village** 77.70 43 P **P** **12 25 39.0 -0.2**
baz=310
STHS **Stebnicka Huta** 77.72 324 *e*P **P** **12 25 39.2 +0.3**
STHS pmax pmax
comp=Z,10.0nm,1.2s
TPH **Tonopah** 77.72 52 P **P** **12 25 39.5 +0.2**
TPH **Tonopah** 77.72 52 P **P** **12 25 39.5 +0.2**
TPH pmax pmax
comp=Z,47nm,1.1s
FLWY **Flagg Ranch** 77.83 44 P **P** **12 25 40.2 +0.3**
FLWY IAmb IAmb 12 25 44.9
comp=Z,21nm,1.5s
OJC **Ojcow** 77.84 325 P **P** **12 25 39.8 +0.3**
OJC **Ojcow** 77.84 325 P **P** **12 25 39.8 +0.3**
OJC pmax pmax
comp=Z,31nm,1.1s
VES **Vestal, Richgr** 77.88 54 P **P** **12 25 39.0 -1.0**
baz=307
CRVS **Cervenica-Dubn** 77.97 323 *e*P **P** **12 25 40.8 +0.6**
CRVS pmax pmax
comp=Z,12nm,1.0s
PKM **Mcpherson Peak** 77.97 55 P **P** **12 25 39.5 -1.3**
baz=307
MLR **Muntele Rosu** 77.98 318 P **P** **12 25 40.5 0.0**
MLR IAmb IAmb 12 26 01.1
comp=Z,19nm,1.5s
MLR **Muntele Rosu** 77.98 318 LR LR 13 03 00.9
comp=Z,760nm,18.1s,baz=50,slow=38
MLR **Muntele Rosu** 77.98 318 P **P** **12 25 40.5 0.0**
MLR pmax pmax
comp=Z,19nm,1.5s
MOOW **Moose Ponds** 78.02 44 P **P** **12 25 40.9 0.0**
CWC **Cottonwood Cre** 78.17 53 P **P** **12 25 41.1 -0.8**
baz=307
GRAC **Grapevine Rang** 78.29 52 P **P** **12 25 40.4 -1.9**
baz=308
DGMT **Dagmar** 78.29 37 P **P** **12 25 40.9 -1.2**
baz=313
SBC **Santa Barbara** 78.30 56 P **P** **12 25 41.1 -1.2**
baz=307
ARVC **Arvin** 78.47 55 P **P** **12 25 41.5 -1.8**
baz=307
BGU **Big Grassy Mou** 78.51 47 P **P** **12 25 42.7 -0.9**
R11B **Troy Canyon, C** 78.58 51 P **P** **12 25 43.9 -0.2**
R11B **Troy Canyon, C** 78.58 51 P **P** **12 25 41.7 -2.4**
baz=308
RAYN **Ar Rayn** 78.59 291 P **P** **12 25 43.3 -0.9**
RAYN IAmb IAmb 12 25 50.1
comp=Z,24nm,1.6s
RAYN **Ar Rayn** 78.59 291 P **P** **12 25 43.3 -0.9**
RAYN pmax pmax
comp=Z,25nm,1.6s
MPMC **Manual Prospec** 78.78 53 P **P** **12 25 43.5 -1.7**
baz=308
OSI **Osito Audit: C** 78.85 55 P **P** **12 25 44.3 -1.2**
baz=307
OKC **Ostrava-Krasne** 78.86 325 AMS AMS 13 04 20.0
comp=Z,1μm,13.6s
S11A **Rachel** 78.91 51 IAmb IAmb 12 26 16.6
comp=Z,27nm,1.4s
FURC **Furnace Creek,** 78.93 53 P **P** **12 25 45.0 -0.7**
baz=308
HWUT **Hardware Ranch** 78.93 46 P **P** **12 25 45.9 -0.1**
HWUT IAmb IAmb 12 25 50.8
comp=Z,18nm,1.4s
SPR3 **Spring Creek 3** 78.94 49 P **P** **12 25 46.2 0.0**
SPR3 IAmb IAmb 12 25 51.6
comp=Z,16nm,1.7s
DUG **Dugway, Tooele** 79.10 48 P **P** **12 25 46.0 -0.9**
baz=309
EDW2 **Edwards Air Fo** 79.17 55 P **P** **12 25 46.5 -0.7**
baz=308
MORC **Moravsky Berou** 79.18 326 P **P** **12 25 47.4 +0.4**
MORC IAmb IAmb 12 25 50.7
comp=Z,16nm,1.2s
MORC **Moravsky Berou** 79.18 326 P **P** **12 25 47.4 +0.4**
MORC pmax pmax
comp=Z,16nm,1.2s
OSTC **Ostas** 79.21 327 AMS AMS 13 05 10.0
comp=Z,1μm,12.9s
GWY **Greenwater Val** 79.22 53 IAmb IAmb 12 25 56.5
comp=Z,13nm,1.3s
CHVC **Chvalec** 79.26 327 AMS AMS 13 05 30.0
comp=Z,1μm,13.7s
KRLC **Kraliky** 79.31 326 *e*P **P** **12 25 48.0 +0.3**
KRLC AMS AMS 13 04 40.0
comp=Z,900nm,14.4s
KRLC **Kraliky** 79.31 326 *e*P **P** **12 25 48.0 +0.3**
KRLC MLR MLR
comp=Z,900nm,14.4s
DPC **Dobruska-Polom** 79.31 327 AMS AMS 13 05 00.0
comp=Z,1μm,14.7s
PD31 **Pinedale Array** 79.32 44 P **P** **12 25 48.9 +0.7**
PDAR **Pinedale Array** 79.32 44 P **P** **12 25 46.8 -1.3**
PDAR **Pinedale Array** 79.32 44 P **P** **12 25 48.6 +0.5**
comp=Z,1.8nm,0.9s,baz=310,slow=3.4,SNR=10
comp=Z,1.8nm,0.9s
UPC **Upice** 79.34 327 AMS AMS 13 05 20.0
comp=Z,1μm,13.5s
PSZ **Piszkesteto** 79.40 323 IAmb IAmb 12 25 49.8
comp=Z,26nm,1.3s
PSZ **Piszkesteto** 79.40 323 P **P** **12 25 48.6 +0.4**
CTU **Camp Tracy** 79.41 47 P **P** **12 25 47.9 -0.7**
VYHS **Vyhne** 79.50 324 *e*P **P** **12 25 49.1 +0.4**
VYHS pmax pmax
comp=Z,19nm,1.7s
GSC **Goldstone, Bar** 79.68 54 P **P** **12 25 48.4 -1.6**
GSC **Goldstone, Bar** 79.68 54 P **P** **12 25 48.8 -1.2**
baz=308
GSC **Goldstone, Bar** 79.68 54 P **P** **12 25 48.4 -1.6**
GSC pmax pmax
comp=Z,5.0nm,1.1s
BFSC **Mount Baldy Ra** 79.78 55 P **P** **12 25 50.2 -0.4**
baz=308
MPU **Maple Canyon** 79.91 47 P **P** **12 25 50.2 -1.1**
VRAC **Vranov** 79.95 326 LR LR 13 03 32.5
comp=Z,413nm,19.3s,baz=50,slow=38
SCI2 **San Clemente I** 79.96 56 P **P** **12 25 50.9 -0.5**
baz=308
SHPR **Sheep Range** 79.98 52 P **P** **12 25 50.5 -1.2**
CLL **Collm** 80.03 329 IAmb IAmb 12 25 54.5
comp=Z,16nm,1.0s
CLL **Collm** 80.03 329 *e*P **P** **12 25 51.0 -0.5**
CLL *e*S **S** **12 35 50.0 -4.6**
CLL pmax pmax
comp=Z,16nm,1.1s
MMAI **Mount Meron Ar** 80.16 304 LR LR 13 04 45.8
comp=Z,545nm,19.5s,baz=355,slow=38
TUQ **Turquoise Moun** 80.16 53 P **P** **12 25 51.2 -1.5**
baz=308
HEC **Hector,Ludlow** 80.28 54 P **P** **12 25 53.4 +0.1**
baz=308
GOPC **GO Pecny, Ondr** 80.31 327 AMS AMS 13 06 00.0
comp=Z,1μm,13.1s
MODS **Modra-Piesok** 80.31 325 *e*P **P** **12 25 53.8 +0.7**
MODS pmax pmax
comp=Z,23nm,1.0s
PRA **Prague** 80.35 327 AMS AMS 13 05 50.0
comp=Z,1μm,13.8s
PRU **Pruhonice** 80.36 327 AMS AMS 13 05 50.0
comp=Z,1μm,13.0s
HSKC **Hora Svate Kat** 80.38 328 *e*P P 12 25 49.1 -4.3
MVU **Marysvale** 80.54 49 P **P** **12 25 54.7 -0.1**
V12A **Nelson** 80.67 52 P **P** **12 25 54.6 -0.8**
V12A IAmb IAmb 12 26 07.4
comp=Z,20nm,1.8s
RDMU **Red Mountain** 80.75 46 IAmb IAmb 12 26 00.4
comp=Z,22nm,1.4s
P17A **Butcher Ranch,** 80.79 47 IAmb IAmb 12 25 60.0
comp=Z,14nm,1.5s
LCMT **Little Creek M** 80.86 50 P **P** **12 25 57.9 +1.4**
MDND **Maddock** 80.91 35 P **P** **12 25 58.3 +2.0**
MDND IAmb IAmb 12 26 00.3
comp=Z,23nm,1.2s
MDND **Maddock** 80.91 35 P **P** **12 25 55.9 -0.4**
baz=316
PFO **Pinyon Flats O** 80.95 55 P **P** **12 25 56.2 -0.7**
PFO IAmb IAmb 12 26 00.1
comp=Z,15nm,1.6s
PFO **Pinyon Flats O** 80.95 55 P **P** **12 25 55.3 -1.6**
baz=308
PFO **Pinyon Flats O** 80.95 55 LR LR 12 54 19.1
comp=Z,103nm,20.3s,baz=270,slow=30
PFO **Pinyon Flats O** 80.95 55 P **P** **12 25 56.2 -0.7**
PFO pmax pmax
comp=Z,15nm,1.7s
TPFO **Pinon Flats** 80.95 55 P **P** **12 25 55.7 -1.3**
baz=308
BELC **Belle Mtn. Jos** 81.01 54 P **P** **12 25 56.8 -0.5**
baz=309
K22A **Casper** 81.06 43 P **P** **12 25 56.5 -1.0**
baz=313
KNB **Kanab** 81.12 50 P **P** **12 25 56.8 -1.1**
KNB **Kanab** 81.12 50 P **P** **12 25 56.8 -1.1**
KNB pmax pmax
comp=Z,9.0nm,1.1s
SRU **San Rafael Swe** 81.15 47 P **P** **12 25 56.6 -1.4**
SRU **San Rafael Swe** 81.15 47 P **P** **12 25 56.6 -1.4**
SRU pmax pmax
comp=Z,11nm,1.4s
RONA **Rosalia, Austr** 81.25 325 *i* pP **P** **12 25 59.0 +0.8**
comp=Z,15nm,1.2s
CONA **Conrad Observa** 81.29 325 *i* P **P** **12 25 58.9 +0.5**
comp=Z,15nm,1.2s
CKRC **Cesky Krumlov** 81.33 326 AMS AMS 13 06 10.0
comp=Z,1μm,14.7s
RSSD **Black Hills** 81.38 40 P **P** **12 25 58.2 -0.9**
RSSD IAmb IAmb 12 26 02.2
comp=Z,18nm,1.8s
RSSD **Black Hills** 81.38 40 P **P** **12 25 58.2 -0.9**
baz=314
RSSD **Black Hills** 81.38 40 P **P** **12 25 58.2 -0.9**
RSSD pmax pmax
comp=Z,18nm,1.8s
NEE2 **Needles Airpor** 81.42 53 P **P** **12 25 59.4 +0.2**
baz=309
KHC **Kasperske Hory** 81.42 327 *e*P **P** **12 25 59.2 +0.2**
KHC AMS AMS 13 05 50.0
comp=Z,1μm,16.0s
KHC **Kasperske Hory** 81.42 327 *c i*P **P** **12 25 59.0 0.0**
KHC pmax pmax
comp=Z,14nm,0.9s
MONP2 **Monument Peak** 81.42 55 P **P** **12 25 59.3 -0.3**
baz=309
IRM **Iron Mountain** 81.46 54 P **P** **12 25 59.2 -0.3**
baz=309
BC3 **Big Chuckawall** 81.58 54 P **P** **12 25 59.0 -1.3**
baz=309
GEC2 **GERESS Array S** 81.58 327 P **P** **12 25 59.1 -0.9**
GERES **GERESS Array B** 81.58 327 P **P** **12 25 59.6 -0.4**
comp=Z,3.1nm,0.9s,baz=20,slow=8.7,SNR=7.7
comp=Z,3.1nm,0.9s
IKP **In-Ko-Pah, Jac** 81.78 55 P **P** **12 25 59.1 -2.2**
baz=309
HMU **Henry Mountain** 81.78 48 IAmb IAmb 12 26 22.7
comp=Z,27nm,1.7s
O20A **White River Ci** 81.80 45 P **P** **12 26 00.6 -0.9**
baz=312
ARSA **Arzberg** 81.94 325 *e*pP **P** **12 26 02.8 +1.0**
comp=Z,4.8nm,1.0s
PDMCI **Parker Dam,Lak** 82.01 53 P **P** **12 26 01.8 -0.6**
baz=310
MOA **Molln** 82.07 326 *e*pP **P** **12 26 03.7 +1.2**
comp=Z,2.1nm,0.5s
AGMN **Agassiz Nation** 82.27 33 P **P** **12 26 02.5 -1.0**
baz=319
EKA **Eskdalemuir Ar** 82.44 339 P **P** **12 26 03.5 -0.7**
comp=Z,1.8nm,0.7s,baz=50,slow=3.8,SNR=3.8
comp=Z,1.8nm,0.7s
BIOA **Bad Ischl, Aus** 82.47 326 *e*P **P** **12 26 04.8 +0.2**
comp=Z,11nm,1.5s
EIL **Elat** 82.52 301 P **P** **12 26 03.9 -1.2**
comp=Z,2.9nm,0.8s,baz=11,slow=10,SNR=2.9
EIL LR LR 13 07 49.6
comp=Z,216nm,18.1s,baz=62,slow=39
comp=Z,2.9nm,0.8s
PHWY **Pilot Hill** 82.56 43 IAmb IAmb 12 26 08.9
comp=Z,22nm,1.9s
N23A **Red Feather La** 82.58 44 P **P** **12 26 04.0 -1.6**
baz=313
SOKA **Soboth** 82.59 325 *i* P **P** **12 26 05.2 -0.1**
comp=Z,16nm,1.4s
URZ **Urewera** 82.85 150 LR LR 12 58 58.8
comp=Z,144nm,21.8s,baz=32,slow=33
OBKA **Obir** 82.94 325 *e*P **P** **12 26 06.8 -0.3**
comp=Z,5.8nm,1.1s
WUAZ **Wupatki** 82.98 51 P **P** **12 26 06.3 -1.3**
WUAZ IAmb IAmb 12 26 11.6
comp=Z,10nm,1.2s
WUAZ **Wupatki** 82.98 51 P **P** **12 26 06.5 -1.1**
baz=311
KBA **Koelnbreinsper** 83.06 326 *e*P **P** **12 26 07.6 -0.2**
comp=Z,8.9nm,1.2s
LESA **Schwarzleital** 83.10 326 *e*P **P** **12 26 07.9 0.0**
comp=Z,13nm,1.0s
B35A **Bob, Littlefor** 83.15 32 P **P** **12 26 07.8 -0.2**
SMCO **Snowmass** 83.17 45 P **P** **12 26 07.5 -1.4**
113A **Mohawk Valley,** 83.23 54 P **P** **12 26 09.2 +0.4**
113A IAmb IAmb 12 26 13.1
comp=Z,13nm,1.8s
MYKA **Terra Mystica** 83.27 325 *e*P **P** **12 26 07.8 -1.0**
comp=Z,7.3nm,1.1s
MEM **Membach** 83.35 332 *d*P **P** **12 26 08.4 -0.6**
ISCO **Idaho Springs** 83.51 44 P **P** **12 26 09.9 -0.6**
baz=314
PUK **Puka** 83.53 319 P **P** **12 26 10.4 +0.2**
PDG **Podgorica** 83.59 320 P **P** **12 26 10.6 +0.2**
PDG IAmb IAmb 12 26 15.2
comp=Z,16nm,1.2s
MVCO **Mesa Verde** 83.60 48 IAmb IAmb 12 26 31.5
comp=Z,9.8nm,1.4s
MVCO **Mesa Verde** 83.60 48 P **P** **12 26 10.0 -0.9**
baz=312
WATA **Walderalm** 83.65 327 *e*P **P** **12 26 11.3 +0.4**
comp=Z,4.7nm,0.8s
WTTA **Wattenberg** 83.68 327 *e*pP **P** **12 26 11.6 +0.6**
comp=Z,7.1nm,1.1s
ABTA **Abfaltersbach** 83.69 326 *e*P **P** **12 26 09.9 -1.0**
comp=Z,9.2nm,1.0s
MOTA **Moosalm** 83.85 327 *i* P **P** **12 26 10.4 -1.4**
comp=Z,9.4nm,1.2s
RETA **Reutte** 83.89 327 *i* P **P** **12 26 11.5 -0.5**
comp=Z,9.1nm,0.9s
SQTA **Sankt Quirin** 83.90 327 *i* P **P** **12 26 10.7 -1.3**
comp=Z,5.8nm,0.9s
F33A **5 Mile Ranch,** 83.93 35 P **P** **12 26 12.7 +0.6**
CIMO **Cimolais** 84.05 326 P **P** **12 26 11.6 -1.2**
CIMO IAmb IAmb 12 26 15.0
comp=Z,4.7nm,0.8s
BMRD **Maredsous** 84.07 332 *d*P **P** **12 26 12.3 -0.4**
W18A **Petrified Fore** 84.25 50 P **P** **12 26 13.3 -0.8**
baz=312
BFO **Black Forest** 84.25 329 P **P** **12 26 12.8 -1.0**
BFO IAmb IAmb 12 26 14.4
comp=Z,10.0nm,0.9s
BFO **Black Forest** 84.25 329 P **P** **12 26 12.8 -1.0**
BFO pmax pmax
comp=Z,10.0nm,0.9s
FETA **Feichten** 84.26 327 *i* P **P** **12 26 13.7 -0.3**
comp=Z,5.3nm,1.0s
Q24A **Divide** 84.35 45 P **P** **12 26 13.8 -0.9**
baz=314
EYMN **Ely** 84.41 31 P **P** **12 26 14.5 0.0**
EYMN **Ely** 84.41 31 P **P** **12 26 13.1 -1.4**
baz=322
DAVA **Damuels** 84.42 328 *i* P **P** **12 26 14.6 -0.2**
comp=Z,12nm,1.0s
CTI **Castel Tesino** 84.61 326 IAmb IAmb 12 26 19.2
comp=Z,9.1nm,1.0s
FUORN **Ofenpass-Fuorn** 84.78 327 IAmb IAmb 12 26 21.5
comp=Z,8.0nm,0.9s
ECH **Echery** 84.82 330 P **P** **12 26 16.1 -0.5**
ECH IAmb IAmb 12 26 17.1
comp=Z,8.8nm,1.0s
ECH **Echery** 84.82 330 P **P** **12 26 16.1 -0.5**
ECH pmax pmax
comp=Z,9.0nm,1.0s
SDCO **Great Sand Dun** 84.99 46 IAmb IAmb 12 26 21.7
comp=Z,8.4nm,1.4s
SDCO **Great Sand Dun** 84.99 46 P **P** **12 26 16.9 -1.1**
baz=314
ECSD **EROS Data Cent** 85.36 37 P **P** **12 26 19.7 +0.3**
ECSD IAmb IAmb 12 26 22.3
comp=Z,13nm,1.3s
E38A **The Farm, Brul** 85.44 32 P **P** **12 26 19.6 -0.1**
TUC **Tucson** 85.44 53 P **P** **12 26 19.7 -0.4**
TUC **Tucson** 85.44 53 P **P** **12 26 19.6 -0.5**
baz=311
TUC **Tucson** 85.44 53 P **P** **12 26 19.7 -0.4**
TUC pmax pmax
comp=Z,5.0nm,1.4s
KSCO **Kaye Shedlock'** 85.72 43 P **P** **12 26 20.8 -0.6**
baz=315
SPMN **Marine on St.** 85.98 34 P **P** **12 26 21.4 -1.0**
baz=321
SCHQ **Schefferville** 86.02 14 P **P** **12 26 22.3 -0.1**
comp=Z,5.5nm,1.0s,baz=340,slow=7.5,SNR=4.2
SCHQ LR LR 13 07 25.5
comp=Z,151nm,19.0s,baz=5.0,slow=38
comp=Z,5.5nm,1.0s
T25A **Trinidad** 86.03 46 P **P** **12 26 23.1 0.0**
T25A IAmb IAmb 12 26 26.6
comp=Z,8.4nm,1.1s
T25A **Trinidad** 86.03 46 P **P** **12 26 22.1 -1.0**
baz=314
BGNE **Belgrade** 86.34 39 P **P** **12 26 23.9 -0.4**
baz=318
ANMO **Albuquerque** 86.35 48 P **P** **12 26 24.5 -0.2**
ANMO IAmb IAmb 12 26 30.9
comp=Z,17nm,1.9s
ANMO **Albuquerque** 86.35 48 P **P** **12 26 24.4 -0.3**
baz=313
ANMO **Albuquerque** 86.35 48 P **P** **12 26 24.5 -0.2**
ANMO pmax pmax
comp=Z,17nm,2.0s
NRCA **Norcia** 86.37 323 IAmb IAmb 12 26 29.5
comp=Z,16nm,1.1s
PPT2 **Papeete2** 86.64 115 *e*S **S** **12 37 08.9 +6.4**
comp=Z,41nm,24.0s
PPT2 *e*SS **SS** **12 42 41.5 -2.7**
comp=Z,45nm,24.8s
PPT2 **Papeete2** 86.64 115 *e*LR LR 12 53 35.1
comp=Z,402nm,32.5s
PPT2 *e*LR LR 12 53 44.3
comp=Z,163nm,30.8s
Y22D **IRIS PASSCAL I** 86.67 49 P **P** **12 26 26.1 -0.1**
baz=313
G40A **Rib Lake** 87.07 32 P **P** **12 26 28.0 +0.2**
LPL **La Plagne** 87.16 328 *e*P **P** **12 26 28.6 +0.1**
LPL pmax pmax
comp=Z,3.0nm,0.6s
121A **Cookes Peak, D** 87.18 51 P **P** **12 26 28.2 -0.6**
121A **Cookes Peak, D** 87.18 51 P **P** **12 26 27.9 -0.9**
baz=313
JFWS **Jewell Farm** 88.93 34 P **P** **12 26 35.6 -1.1**
baz=323
MFF **Saint Martin d** 88.96 333 *e*P **P** **12 26 37.2 +0.5**
MFF pmax pmax
comp=Z,16nm,1.4s
AMTX **Amarillo** 89.19 46 P **P** **12 26 38.2 0.0**
baz=316
MSTX **Muleshoe** 89.21 47 P **P** **12 26 39.0 +0.7**
baz=315
MNTX **Cornudas Mount** 89.24 50 P **P** **12 26 38.2 -0.2**
baz=314
VAE **Valguarnera** 89.75 319 LR LR 13 11 19.4
comp=Z,602nm,18.7s,baz=38,slow=39
TBI **Tubuai** 90.43 119 *e*LR LR 12 55 25.8
comp=Z,906nm,27.0s
WMOK **Wichita Mounta** 90.93 44 P **P** **12 26 45.7 -0.5**
baz=318
LPIG **La Paz** 91.17 59 LR LR 13 00 28.2
comp=Z,44nm,19.6s,baz=276,slow=31
TUL3 **Leonard** 91.68 41 P **P** **12 26 49.7 +0.1**
baz=320
SADO **Sadowa** 91.79 26 LR LR 13 15 21.0
comp=Z,252nm,18.0s,baz=314,slow=40
TX31 **Lajitas Ar. Si** 91.94 51 IAmb IAmb 12 26 54.3
comp=Z,11nm,1.6s
TXAR **Lajitas Array** 91.94 51 P **P** **12 26 49.8 -1.3**
TXAR **Lajitas Array** 91.94 51 P **P** **12 26 51.7 +0.6**
comp=Z,0.9nm,0.8s,baz=292,slow=2.4,SNR=11
comp=Z,0.9nm,0.8s
ABTX **Abilene, Hawle** 91.99 46 P **P** **12 26 49.9 -1.3**
baz=317
CCM **Cathedral Cave** 92.32 37 P **P** **12 26 51.3 -1.2**
baz=322
SFIN **Lafayette** 92.37 33 P **P** **12 26 51.7 -1.0**
baz=325
SAND **Sanderson** 92.45 49 IAmb IAmb 12 26 56.5
comp=Z,6.8nm,1.4s
T42A **Van Buren** 93.20 38 IAmb IAmb 12 26 59.5
comp=Z,3.1nm,0.8s
O48B **Farmland** 93.31 32 P **P** **12 26 55.7 -1.3**
baz=326
BRDY **Brady** 93.34 46 IAmb IAmb 12 27 04.6
comp=Z,6.5nm,1.1s
LONY **Lake Ozonia** 93.44 23 P **P** **12 26 56.2 -1.4**
baz=334
JCT **Junction City** 93.46 47 P **P** **12 26 57.0 -1.0**
baz=317
KEST **Kesra** 93.70 321 LR LR 13 13 11.6
comp=Z,381nm,18.4s,baz=358,slow=38
WHTX **Lake Whitney,** 93.71 45 P **P** **12 26 57.6 -1.5**
baz=318
MIAR **Mount Ida** 93.89 41 P **P** **12 26 57.8 -2.1**
baz=321
P49A **Miami Univ. Ec** 94.09 32 P **P** **12 26 59.0 -1.6**
baz=327
ACSO **Alum Creek Sta** 94.23 31 P **P** **12 27 00.7 -0.6**
baz=326
PKME **Peaks-Kenny Pk** 94.38 19 P **P** **12 27 01.8 -0.1**
baz=338
WCI **Wyandotte Cave** 94.49 34 P **P** **12 27 02.5 -0.1**
baz=326
LBNH **Lisbon** 94.59 21 P **P** **12 27 02.5 -0.4**
baz=336
O53A **New Philadelph** 94.93 29 P **P** **12 27 02.6 -1.9**
baz=329
P52A **Corning** 95.08 30 P **P** **12 27 03.8 -1.4**
baz=328
BINY **Binghamton** 95.14 25 P **P** **12 27 04.0 -1.5**
baz=333
833A **Chaparral WMA,** 95.27 49 P **P** **12 27 05.0 -1.3**
baz=317
SSPA **Standing Stone** 95.85 27 P **P** **12 27 06.7 -2.0**
baz=332
L61B **Northampton** 95.99 23 P **P** **12 27 07.8 -1.5**
baz=335
HRV **Adam Dziewonsk** 96.28 22 P **P** **12 27 09.3 -1.3**
baz=336
ESDC **Sonseca Array** 96.34 332 P **P** **12 27 10.5 -0.5**
comp=Z,0.7nm,0.9s,baz=88,slow=4.2,SNR=2.2
comp=Z,0.7nm,0.9s
PAL **Palisades** 96.90 24 P **P** **12 27 11.7 -1.7**
baz=334
VBMS **Vicksburg** 97.29 40 P **P** **12 27 13.5 -1.9**
baz=322
TKL **Tuckaleechee C** 97.74 34 LR LR 13 15 21.7
comp=Z,93nm,18.6s,baz=12,slow=38
BLA **Blacksburg** 97.85 30 P **P** **12 27 17.1 -0.8**
baz=330
CBN **Corbin Frederi** 98.18 28 P **P** **12 27 17.5 -1.8**
baz=332

GOGA	**Godfrey** baz=327	**99.76**	**35**	P		**Pdif**	**12 27 24.1**	**-2.3**
BRAL	**Brewton** baz=325	**99.90**	**38**	P		**Pdif**	**12 27 25.9**	**-1.2**
TIGA	**Tifton** baz=327	**101.35**	**36**	P		**Pdif**	**12 27 32.3**	**-1.3**
VNDA	**Vanda** comp=Z,1.5nm,1.1s,baz=297,slow=2.3,SNR=3.1	**115.08**	**175**	PKP		**PKPdf**	**12 32 20.6**	**-1.4**
TORD	**Torodi Ar. Bea** comp=Z,0.3nm,0.5s,baz=114,slow=3.5,SNR=2.4	**115.76**	**312**	PKP		**PKiKP**	**12 32 24.5**	**-0.6**
QSPA	**South Pole Qui** comp=Z,7.0nm,1.0s,baz=280,slow=2.9,SNR=10	**126.69**	**180**	PKP		**PKPdf**	**12 32 44.0**	**-0.6**
TROLL	**Troll, Antarti** comp=Z,104nm,0.6s	**138.43**	**199**	⇑PKPdf		**PKPdf**	**12 33 06.0**	**-0.7**
SNAA	**Sanae** comp=Z,23nm,0.7s	**139.99**	**198**	⇓PKPdf		**PKPdf**	**12 33 08.2**	**-1.3**
ETMB	**Extrema**	**144.89**	**46**	PKPdf		**PKPab**	**12 33 18.7**	**-0.2**
ETMB	**Extrema**	**144.89**	**46**	*eP*		**PKPab**	**12 33 20.3**	**+1.4**
ITTB	**Itaituba**	**145.01**	**26**	*eP*		**PKPbc**	**12 33 19.8**	**+0.5**
SAML	**Samuel**	**145.84**	**41**	PKPdf		**PKPdf**	**12 33 21.9**	**+0.5**
SAML	**Samuel**	**145.84**	**41**	PKP2		**PKPdf**	**12 33 21.9**	**+0.5**
SAML	**Samuel**	**145.84**	**41**	*eP*		**PKPdf**	**12 33 22.1**	**+0.7**
NPGB	**Novo Progresso**	**147.63**	**27**	*eP*		**PKPdf**	**12 33 25.3**	**+0.8**
PRPB	**Parauapebas**	**148.42**	**16**	*eP*		**PKPdf**	**12 33 26.4**	**+0.6**
LPAZ	**La Paz**	**148.65**	**56**	PKPab		**PKPbc**	**12 33 31.0**	**+0.5**
LPAZ	**La Paz** comp=Z,2.3nm,0.8s,baz=63,slow=2.3,SNR=6.5	**148.65**	**56**	PKPbc		**PKPdf**	**12 33 30.6**	**+3.8**
LPAZ	**La Paz**	**148.65**	**56**	PKP2		**PKPbc**	**12 33 31.0**	**+0.5**
GO01	**Chusmiza**	**150.24**	**62**	PKPbc		**PKPbc**	**12 33 34.5**	**+0.2**
VILB	**Vilhena**	**150.77**	**40**			**PKPbc**	**12 33 35.6**	**+0.6**
VILB	**Vilhena**	**150.77**	**40**	*eP*		**PKPdf**	**12 33 30.3**	**+0.8**
SMTB	**Santa Maria do**	**151.49**	**13**	*eP*		**PKPdf**	**12 33 31.0**	**+0.3**
PTLB	**Pontes e Lacer**	**153.42**	**41**	*eP*		**PKPdf**	**12 33 34.2**	**+0.9**
BBSD	**Serra de San D**	**154.02**	**46**	*eP*		**PKPdf**	**12 33 35.1**	**+0.9**

*DNK **25** 12:30:13.4±2.4, 79°.45N×3°.58E, h36km±19km, ML1.0*
*BER **25** 12:30:16.7±1.4, 79°.70N×4°.11E, h28km±999km, mb(Pn)2.8, Confirmed Earthquake*

ISC 25 12:30:08.1±1.0, **79°.46N**±0°.08×**3°.11E**±0°.04, **h10**km, **n8**, σ**2s44**/15, **Greenland Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.75**	**104**	*eP*	**Pg**	**12 30 41.8**	**+0.2**
KBS				*eS*	**Sn**	**12 31 01.1**	**+0.4**
KBS	comp=Z,6.6nm,0.1s			IAML		12 31 11.6	
KBS	**Kingsbay**	**1.75**	**104**	*i* P	**Pn**	**12 30 39.7**	**+1.3**
KBS				*i* S	**Sn**	**12 30 59.0**	**-1.7**
BRBB	**Barentsburg B**	**2.57**	**117**	*eP*	**Pb**	**12 30 54.7**	**+0.6**
BRBB				*eS*	**Sn**	**12 31 22.2**	**+1.4**
SPA0	**Spitsbergen Ar**	**2.88**	**110**	*eP*	**Pb**	**12 30 59.0**	**-0.5**
SPA0				*eS*	**Sn**	**12 31 30.0**	**+1.4**
SPA0	comp=Z,3.4nm,0.5s			IAML		12 31 35.2	
NOR	**Nord**	**3.89**	**313**	*i* P	**Pn**	**12 31 10.0**	**+2.3**
NOR				*i* S	**Sn**	**12 31 53.9**	**+0.6**
NOR	comp=Z,0.5nm,0.2s			IAML		12 32 06.0	
DAG	**Danmarks Havn**	**5.22**	**250**	*i* P	**Pn**	**12 31 29.0**	**+3.1**
DAG				*i* S	**Sn**	**12 32 23.4**	**-2.6**
DAG	comp=Z,1.1nm,0.5s			IAML		12 32 29.5	
DBG	**Daneborg**	**7.34**	**238**	*i* P	**Pn**	**12 31 58.8**	**+3.7**
DBG				*i* S	**Sn**	**12 33 13.2**	**-5.0**
DBG	comp=Z,0.3nm,0.2s			IAML		12 33 18.9	
NEEM	**North Greenlan**	**10.68**	**287**	*i* P	**Pn**	**12 32 40.0**	**-1.1**
NEEM				*i* S	Sn	12 34 30.9	-10
NEEM	comp=Z,0.6nm,0.2s			IAML		12 34 35.6	

*FUNV **25** 12:37:23.1, 8°.22N×71°.75W, h5km, MW3.6*
*RSNC **25** 12:37:24.4±0.0, 8°.1N±1°×7°.2W±°, h0km±2km, M2.6, mb4.2, ML2.6*

ISC 25 12:37:20.9±1.5, **8°.31N**±0°.03×**71°.72W**±0°.02, **h0**km±12km, **n28**, σ**1s57**/52, **4C-2D**, **Venezuela**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CAPV	**Capacho**	**0.74**	**233**	⇑*iP*	**Pg**	**12 37 34.5**	**-0.7**
CAPV				*eS*	**Sg**	**12 37 43.8**	**-1.0**
SOCV	**Socops**	**0.85**	**92**	⇓*iP*	**Pn**	**12 37 39.3**	**+0.7**
SOCV				*eS*	**Sb**	**12 37 51.5**	**+0.8**
SDV	**Santo Domingo**	**1.21**	**62**	P	**Pn**	**12 37 45.8**	**+0.5**
SDV				S	**Sn**	**12 38 02.8**	**+0.2**
PAMC	**Pamplona, Colo**	**1.37**	**225**	P	**Pg**	**12 37 46.9**	**-0.4**
PAMC				S	**Sb**	**12 38 05.7**	**-0.3**
OCAC	**Ocana**	**1.59**	**267**	P	**Pn**	**12 37 49.9**	**-0.5**
OCAC				S	**Sn**	**12 38 09.3**	**-2.4**
TAMC	**Tame, Arauca**	**1.87**	**182**	P	**Pb**	**12 37 55.5**	**-0.5**
TAMC				S	**Sg**	**12 38 23.3**	**+2.3**
MCQV	**Machiques**	**1.90**	**335**	⇑*eP*	**Pb**	**12 37 56.6**	**0.0**
MCQV				*eS*	**Sb**	**12 38 21.6**	**+0.7**
BARC	**Barichara**	**2.24**	**220**	P	**Pn**	**12 38 01.0**	**+1.5**
BARC				S	**Sb**	**12 38 30.3**	**-0.6**
RUSC	**La Rusia**	**2.76**	**209**	P	**Pn**	**12 38 07.9**	**+1.0**
CRJC	**Cerrejon, Guaj**	**2.92**	**337**	P	**Pn**	**12 38 08.4**	**-0.4**
CRJC				S	**Sn**	**12 38 45.7**	**+1.0**
TEPV	**Terepaima**	**2.98**	**56**	*eP*	**Pn**	**12 38 11.3**	**+1.7**
TEPV				*eS*	**Sn**	**12 38 47.1**	**+1.0**
SIQV	**Siquisique**	**2.99**	**39**	⇑*eP*	**Pn**	**12 38 11.5**	**+1.9**
SIQV				*eS*	**Sn**	**12 38 47.6**	**+1.4**
ZARC	**Zaragoza, Cauc**	**3.22**	**256**	P	**Pn**	**12 38 13.5**	**+0.8**
ZARC				S	**Sb**	**12 38 56.5**	**-2.2**
PTBC	**PUERTO BERRIO,**	**3.24**	**237**	P	**Pn**	**12 38 12.3**	**-0.7**
PTBC				S	**Sb**	**12 38 58.5**	**-0.8**
URIC	**Uribia, Colomb**	**3.38**	**355**	P	**Pn**	**12 38 13.8**	**-1.1**
SPBC	**San Pablo de B**	**3.53**	**222**	P	**Pn**	**12 38 18.0**	**+0.9**
BAUV	**El Baul**	**3.69**	**80**	⇑*eP*	**Pn**	**12 38 21.3**	**+2.1**
BAUV				*eS*	**Sn**	**12 39 03.1**	**-0.3**
SJCC	**San Jacinto, C**	**3.76**	**295**	P	**Pn**	**12 38 21.2**	**+0.9**
SJCC				S	**Sn**	**12 39 05.8**	**+0.5**
UREC	**San Jos de Ur**	**3.82**	**262**	P	**Pn**	**12 38 24.9**	**+3.9**
UREC				S	**Sn**	**12 39 08.4**	**+1.7**
PTGC	**Puerto Gaitan,**	**4.11**	**186**	P	**Pn**	**12 38 24.9**	**-0.1**
PTGC				S	**Sn**	**12 39 14.5**	**+0.7**
NORC	**Norcasia**	**4.15**	**229**	P	**Pn**	**12 38 26.0**	**+0.3**
NORC				S	**Sn**	**12 39 15.1**	**+0.1**
CHIC	**Chingaza**	**4.17**	**209**	P	**Pn**	**12 38 27.5**	**+1.3**
CHIC				P	**Pn**	**12 38 27.5**	**+1.3**
CHIC				P	**Pn**	**12 38 27.8**	**+1.6**
CHIC				S	**Sn**	**12 39 16.0**	**+0.1**
HELC	**Santa Helena**	**4.33**	**241**	P	**Pn**	**12 38 30.8**	**+2.4**
TURV	**Turiamo**	**4.38**	**61**	*eP*	**Pn**	**12 38 30.1**	**+1.4**
TURV				*eS*	**Sn**	**12 39 19.4**	**-1.0**
BENV	**Beln**	**4.38**	**68**	*eP*	**Pn**	**12 38 29.7**	**+0.8**
BENV				*eS*	**Sn**	**12 39 19.5**	**-1.2**
TACV	**Tcata**	**4.97**	**68**	*eP*	**Pn**	**12 38 37.7**	**+0.7**
TACV				*eS*	**Sn**	**12 39 33.1**	**-2.1**
CACV	**CAICARA DEL OR**	**5.18**	**98**	⇓*eP*	Pb	12 38 47.4	-5.1
CACV				*eS*	**Sb**	**12 39 49.5**	**-5.9**
URMC	**La Uribe, Meta**	**5.69**	**208**	P	**Pn**	**12 38 47.1**	**+0.3**

*IDC **25** 12:42:49.4±1.9, 46°.26N×108°.86E, h0km, mb3.5/3, mbtmp3.5/6, ML3.4/3, Error ellipse: s-maj=34.7km s-min=21.1km az=37.0*

ISC 25 12:42:54.2±1.4, **46°.2N**±0°.3×**108°.7E**±0°.2, **h35**km, **n8**, σ**0s37**/6, **Mongolia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I34MN	**SONGINO INFRAS** 0.2nm,0.7s,baz=131,slow=330,SNR=1.6	**2.25**	**316**	I	I	12 57 53.2	
SONM	**Songino Array** 38nm,0.3s,baz=133,slow=16,SNR=150	**2.28**	**316**	Pn	**Pn**	**12 43 29.3**	**-0.2**
SONM	18nm,0.3s,baz=131,slow=26,SNR=26 40nm,0.4s			Lg	Lg	12 44 03.5	
KLR	**Kul'dur** 0.1nm,0.3s,baz=309,slow=23,SNR=7.1	**15.77**	**71**	Lg	Lg	12 51 06.9	
KSRS	**Korea Array** 0.2nm,0.3s,baz=311,slow=14,SNR=3.3 0.4nm,0.4s	**16.73**	**115**	Pn	**Pn**	**12 46 45.6**	**-0.1**
MKAR	**Makanchi Array** baz=92,slow=13,SNR=4.6 0.4nm,0.7s	**18.19**	**281**	P	**Pn**	**12 47 03.5**	**-0.3**
KURBB	**Kurchatov Arra** 0.4nm,0.6s,baz=93,slow=10,SNR=5.1 0.4nm,0.6s	**20.45**	**293**	P	**P**	**12 47 28.9**	**+0.4**
FINES	**FINESS Array B** 0.4nm,0.4s,baz=77,slow=7.3,SNR=6.7 0.4nm,0.4s	**47.65**	**320**	P	**P**	**12 51 26.8**	**+0.3**
HFS	**Hagfors** 0.7nm,0.6s,baz=52,slow=2.4,SNR=2.1 0.7nm,0.6s	**53.67**	**322**	P	**P**	**12 52 11.9**	**0.0**

*IDC **25** 12:43:49.0±0.8, 26°.47N×93°.95E, h0km, mb3.8/12, mbtmp3.8/13, ML3.7/1, Error ellipse: s-maj=70.8km s-min=15.6km az=54.0*
*NEIC **25** 12:43:55.6±2.4, 26°.46N±0°.07×94°.37E±0°.09, h59km±6km, mb4.4/20, Error ellipse: s-maj=12.4km s-min=9.0km az=58.0*

ISC 25 12:43:53.5±0.6, **26°.51N**±0°.08×**94°.4E**±0°.1, **h35**km, **n37**, σ**1s28**/36, **mb4.1**/19, **Northeastern India**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHL	**Shillong**	**2.42**	**248**		**Pn**	**12 44 31.7**	**+0.9**
LSA	**Lhasa**	**4.26**	**319**		**Pn**	**12 44 59.3**	**+2.9**
CHTO	**Chiang Mai**	**8.75**	**150**	Pn	**Pn**	**12 45 57.9**	**+0.2**
CMAR	**Chiang Mai Arr** 0.2nm,0.3s,baz=336,slow=38,SNR=2.0 0.5nm,0.4s	**9.06**	**151**	Pn	**Pn**	**12 46 03.3**	**+1.3**
BOOM	**Boomskoye usch**	**21.94**	**321**	P	**P**	**12 48 43.6**	**-0.6**
MK31	**Makanchi Array**	**22.39**	**338**	P	**P**	**12 48 48.3**	**-0.5**
MKAR	**Makanchi Array**	**22.39**	**338**	P	**P**	**12 48 48.0**	**-0.8**
MKAR	**Makanchi Array** 2.2nm,0.5s,baz=144,slow=13,SNR=29 2.2nm,0.5s	**22.39**	**338**	P	**P**	**12 48 48.1**	**-0.7**
MAKZ	**Makanchi**	**22.51**	**337**	P	**P**	**12 48 50.0**	**-0.1**
AAK	**Ala-Archa**	**22.86**	**320**	P	**P**	**12 48 56.1**	**+2.1**
KBL	**Kabul**	**23.19**	**296**	P	**P**	**12 48 58.8**	**+1.4**
KBL	comp=Z,6.2nm,0.7s			IAmb	IAmb	12 49 00.1	
GAR	**Garm**	**23.67**	**308**	P	**P**	**12 49 02.1**	**+0.1**
GAR	comp=Z,7.4nm,0.8s			IAmb	IAmb	12 49 03.7	
BTK	**Batken**	**23.78**	**311**	P	**P**	**12 49 04.3**	**+1.3**
BTK	comp=Z,7.6nm,0.6s			IAmb	IAmb	12 49 12.7	
KKAR	**Karatay Array**	**25.51**	**317**	P	**P**	**12 49 17.1**	**-1.6**
KURBB	**Kurchatov Arra** comp=Z,1.1nm,0.7s,baz=148,slow=10,SNR=10 comp=Z,1.1nm,0.7s	**26.95**	**337**	P	**P**	**12 49 31.5**	**-0.1**
KURK	**Kurchatov**	**27.00**	**338**	P	**P**	**12 49 31.7**	**-0.3**
BVAR	**Borovoye Array** comp=Z,0.8nm,0.5s,baz=123,slow=11,SNR=5.1	**31.96**	**332**	P	**P**	**12 50 16.1**	**+0.1**
BVAR	comp=Z,0.6nm,0.4s,baz=108,slow=4.7,SNR=2.4 comp=Z,0.8nm,0.5s			PcP	**PcP**	**12 53 03.8**	**-1.7**
ABKAR	**Akbulak array**	**34.94**	**320**	P	**P**	**12 50 42.3**	**+0.3**
ABKAR	comp=Z,1.3nm,0.6s			IAmb	IAmb	12 50 42.9	
USRK	**Usuriysk Ar.**	**35.03**	**50**	P	**P**	**12 50 43.0**	**+0.2**
BRTR	**Keskin Array B** comp=Z,0.7nm,0.6s,baz=112,slow=7.8,SNR=3.9 comp=Z,0.7nm,0.6s	**51.64**	**301**	P	**P**	**12 52 55.8**	**-1.3**
FITZ	**Fitzroy Crossi**	**53.75**	**142**	P	**P**	**12 53 13.3**	**+0.7**
PSA00	**Pilbara Seismi**	**53.80**	**150**	P	**P**	**12 53 11.9**	**-1.0**
PSA00	comp=Z,9.0nm,1.1s			IAmb	IAmb	12 53 22.9	
AKASG	**Malin Array Be** comp=Z,0.4nm,0.3s,baz=80,slow=5.7,SNR=4.1 comp=Z,0.4nm,0.3s	**54.39**	**315**	P	**P**	**12 53 15.6**	**-1.3**
ROCAM	**Rodrigues Isla**	**54.95**	**216**	P	**P**	**12 53 20.6**	**-0.6**
MLR	**Muntele Rosu**	**56.81**	**309**	P	**P**	**12 53 33.7**	**-0.8**
MLR	comp=Z,3.7nm,0.9s			IAmb	IAmb	12 53 35.7	
ARCES	**ARCESS Array B**	**58.04**	**337**	P	**P**	**12 53 42.0**	**-0.6**
ARCES	comp=Z,6.5nm,1.1s			IAmb	IAmb	12 54 02.5	
ARCES	**ARCESS Array B** comp=Z,2.2nm,0.8s,baz=58,slow=3.5,SNR=2.2 comp=Z,2.2nm,0.8s	**58.04**	**337**	P	**P**	**12 53 42.5**	**-0.2**
WB0	**Warramunga Arr**	**60.21**	**136**	P	P	12 53 54.8	-3.5
WRA	**Warramunga Arr** comp=Z,0.7nm,0.4s,baz=319,slow=7.7,SNR=5.9 comp=Z,0.7nm,0.4s	**60.30**	**136**	P	**P**	**12 54 00.9**	**+2.0**
WB2	**Warramunga Arr**	**60.31**	**136**	P	P	12 53 56.0	-3.0
WR0	**Warramunga Arr**	**60.44**	**136**	P	**P**	**12 53 57.2**	**-2.7**
HFS	**Hagfors** comp=Z,1.3nm,0.5s,baz=80,slow=7.9,SNR=9.4 comp=Z,1.3nm,0.5s	**62.80**	**326**	P	**P**	**12 54 14.5**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.4nm,0.5s,baz=324,slow=6.7,SNR=9.8 comp=Z,0.4nm,0.5s	**62.85**	**139**	P	**P**	**12 54 18.9**	**+2.8**
NC405	**NORSAR Array S**	**63.65**	**327**	P	**P**	**12 54 20.1**	**-0.8**
NC405	comp=Z,5.3nm,1.1s			IAmb	IAmb	12 54 26.6	
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,baz=94,slow=4.4,SNR=2.6 comp=Z,0.5nm,0.6s	**63.90**	**327**	P	**P**	**12 54 21.9**	**-0.8**
GERES	**GERESS Array B** comp=Z,0.5nm,0.4s,baz=64,slow=9.0,SNR=2.3 comp=Z,0.5nm,0.4s	**64.57**	**314**	P	**P**	**12 54 27.0**	**-0.3**
EKA	**Eskdalemuir Ar** comp=Z,0.1nm,0.3s,baz=88,slow=4.3,SNR=1.7 comp=Z,0.1nm,0.3s	**72.70**	**324**	P	**P**	**12 55 17.9**	**+0.1**

IDC 25 12:45:23.3±3.8, **6°.41S×154°.91E, h0**km, **mb3.4**/3, **mbtmp3.4/3, Error ellipse: s-maj=111.6km s-min=40.4km az=115.0, Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.8nm,0.7s,baz=61,slow=9.8,SNR=8.4 0.8nm,0.7s	**24.09**	**234**	P	P	12 50 41.6	+0.8
ASAR	**Alice Springs** 0.3nm,0.5s,baz=64,slow=8.5,SNR=6.2 0.3nm,0.5s	**26.50**	**227**	P	P	12 51 02.6	-0.1
H11S3	**WAKE ISLAND Hy** baz=205	**27.34**	**25**	T	T	13 19 32.7	
H11S2	**WAKE ISLAND Hy** baz=205	**27.34**	**25**	T	T	13 19 27.7	
H11S1	**WAKE ISLAND Hy** baz=205	**27.35**	**25**	T	T	13 19 37.1	
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=101,slow=4.6,SNR=2.1 0.1nm,0.3s	**82.91**	**319**	P	P	12 57 49.4	-0.8

*UPP **25** 12:49:12.8±3.0, 68°.01N×33°.19E, h0km, ML1.6*
*KOLA **25** 12:49:12.6, 68°.07N×33°.38E, h0km, ML2.0, Error ellipse: s-maj=2.5km s-min=1.4km az=100.0, Olenegorsk City, Mines*
*HEL **25** 12:49:14.7±0.3, 68°.07N×32°.90E, h0km, ML1.8, Suspected explosion*
*IDC **25** 12:49:15.0±1.9, 68°.19N×32°.69E, h0km, mbtmp3.3/3, ML2.4/3, Error ellipse: s-maj=23.3km s-min=13.9km az=64.0*

ISC 25 12:49:12.0±0.8, **68°.10N**±0°.03×**33°.28E**±0°.03, **h0**km, **n32**, σ**1s41**/52, **Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APA0	**Apatity Array**	**0.51**	**192**	P	**Pg**	**12 49 21.0**	**-0.8**
APA0				S	**Sg**	**12 49 27.8**	**-0.6**
APA	**Apatity**	**0.54**	**175**	P	**Pg**	**12 49 21.4**	**-0.9**
APA				S	**Sg**	**12 49 28.4**	**-0.9**
LVZ	**Lovozero**	**0.56**	**111**	P	**Pg**	**12 49 21.6**	**-1.0**
LVZ				S	**Sg**	**12 49 28.4**	**-1.5**
LVZ	**Lovozero**	**0.56**	**111**	PB	**Pn**	**12 49 28.6**	**+1.4**
LVZ				SG	**Sb**	**12 49 33.5**	**+0.4**
TERR	**Teriberka**	**1.29**	**30**	P	**Pg**	**12 49 35.4**	**-1.4**
TERR				S	**Sg**	**12 49 53.3**	**-0.1**
VRF	**Varrio**	**1.43**	**257**	PN	**Pn**	**12 49 38.4**	**-0.7**
VRF	comp=Z,10nm,0.2s			MSG		12 49 53.6	
VRF				SN	**Sg**	**12 49 57.5**	**-0.4**
RAJF	**Raja-Jooseppi**	**1.88**	**284**	PG	**Pn**	**12 49 46.1**	**+0.7**
RAJF				SG	**Sn**	**12 50 10.2**	**+0.4**
OLKF	**Oulanka, Finla**	**2.34**	**222**	PB	**Pn**	**12 49 52.9**	**+1.2**
OLKF	comp=Z,3.1nm,0.2s			MSG		12 50 20.5	
OLKF				SG	**Sb**	**12 50 24.0**	**-0.5**
VADS	**Vadso**	**2.46**	**327**	P	**Pn**	**12 49 54.3**	**+0.9**
VADS				S	**Sn**	**12 50 25.4**	**+1.3**
VADS	**Vadso**	**2.46**	**327**	*eP*	**Pn**	**12 49 54.0**	**+0.7**
KU6	**Riekki**	**2.47**	**214**	PN	**Pn**	**12 49 54.9**	**+1.4**
KU6	comp=Z,2.8nm,0.2s			MSG		12 50 24.7	
KU6				SG	**Sb**	**12 50 28.4**	**+0.2**
SGF	**Sodankyl**	**2.65**	**259**	PN	**Pn**	**12 49 56.6**	**+0.6**
SGF				SG	**Sb**	**12 50 33.2**	**-0.1**
MSF	**Maaselka**	**2.76**	**219**	PN	**Pn**	**12 49 59.2**	**+1.7**
MSF				SG	**Sb**	**12 50 35.3**	**-1.2**
KEV	**Kevo**	**2.81**	**309**	*eP*	**Pn**	**12 49 59.3**	**+1.2**
KEV	**Kevo**	**2.81**	**309**	PN	**Pn**	**12 49 59.5**	**+1.4**
KEV	comp=Z,10.0nm,0.2s			MSG		12 50 34.8	
KEV				SG	**Sb**	**12 50 37.8**	**0.0**
ARCES	**ARCESS Array B** comp=Z,0.3nm,0.3s,baz=118,slow=14,SNR=33	**3.17**	**301**	Pn	**Pn**	**12 50 03.6**	**+0.6**
ARCES	comp=Z,1.3nm,0.3s,baz=116,slow=35,SNR=7.1			Lg	Lg	12 50 46.4	
ARCES	comp=Z,5.2nm,0.7s,baz=110,slow=25,SNR=5.1 comp=Z,0.7nm,0.3s			Rg	Rg	12 51 03.3	
RNF	**Rovaniemi** baz=63	**3.19**	**245**	PN	**Pn**	**12 50 03.9**	**+0.6**
RNF				SB	**Sn**	**12 50 43.1**	**+1.2**
RANF	**Ranua**	**3.29**	**233**	PN	**Pn**	**12 50 05.0**	**+0.2**
RANF				SB	**Sb**	**12 50 50.2**	**-1.6**
HEF	**Hetta**	**3.59**	**279**	PN	**Pn**	**12 50 09.0**	**+0.1**
HEF				SB	**Sn**	**12 50 56.2**	**+4.3**
PAJU	**Pajala** baz=69	**4.04**	**259**	PN	**Pn**	**12 50 14.9**	**-0.1**
PAJU				SN	**Sn**	**12 51 01.9**	**-1.2**
PAJU	**Pajala**	**4.04**	**259**	P	**Pn**	**12 50 15.1**	**+0.1**
PAJU				S	**Sn**	**12 51 01.6**	**-1.5**
TOF	**Tornio**	**4.05**	**244**	PG	**Pb**	**12 50 26.4**	**+2.3**
TOF				SG	**Sb**	**12 51 15.7**	**+2.3**
RMF	**Romuvaara**	**4.13**	**201**	PN	**Pn**	**12 50 16.9**	**+0.7**
LANU	**Lannavaara**	**4.23**	**274**	PN	**Pn**	**12 50 17.5**	**-0.2**
LANU				SG	**Sb**	**12 51 20.5**	**+1.8**
ERTU	**Ertsjaerv**	**4.56**	**255**	P	**Pn**	**12 50 21.9**	**-0.3**
KUA	**Kurravaara**	**4.86**	**274**	P	**Pn**	**12 50 26.0**	**-0.3**
KOVU	**Salmi**	**4.90**	**277**	P	**Pn**	**12 50 26.6**	**-0.2**
KOVU				S	**Sn**	**12 51 22.6**	**-1.5**
HARU	**Harads**	**5.18**	**254**	P	**Pn**	**12 50 29.2**	**-1.3**
I37NO	**I37NO** baz=94,slow=323,SNR=2.1	**5.46**	**287**	I	I	13 23 10.0	
FAUS	**Fauske**	**6.87**	**272**	S	**Sn**	**12 52 08.3**	**-4.2**
FINES	**FINESS Array B** comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=3.7	**7.35**	**208**	Pn	**Pn**	**12 51 00.6**	**+0.1**
FINES	comp=Z,0.2nm,0.3s,baz=21,slow=27,SNR=5.9 comp=Z,0.8nm,0.6s			Lg	Lg	12 52 55.7	
SPITS	**Spitsbergen Ar** baz=144,slow=12 comp=Z,4.2nm,0.9s	**11.17**	**342**	Pn	**Pn**	**12 51 49.7**	**-2.9**

*IDC **25** 12:53:47.9±0.7, 6°.78N×73°.01W, h157km±7km, mb3.8/9, mbtmp4.4/14, MS2.8/1, Error ellipse: s-maj=13.4km s-min=7.9km az=132.0*
*RSNC **25** 12:53:48.9±0.0, 7°.1N±1°×7°.3W±°, h149km±2km, M4.5, mb5.0, mB5.0, ML4.1, Mw(mB)4.2*
*NEIC **25** 12:53:49.2±2.1, 7°.26N±0°.06×73°.48W±0°.08, h103km±8km, mb4.5/185, Error ellipse: s-maj=12.0km s-min=8.3km az=121.0*
*VAO **25** 12:53:50.2±1.2, 8°.45N×73°.65W, h10km, mb4.5*

ISC 25 12:53:48.1±0.6, **6°.87N**±0°.03×**73°.07W**±0°.03, **h155**km±5km, **n521**, σ**1s28**/541, **mb4.4**/93, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.29**	**202**	P	**Pn**	**12 54 09.2**	**-0.3**
BARC				S	**Sn**	**12 54 24.0**	**-1.8**
PAMC	**Pamplona, Colo**	**0.60**	**38**	P	**Pn**	**12 54 11.9**	**+0.8**
PAMC				S	**Sn**	**12 54 28.8**	**+0.2**
RUSC	**La Rusia**	**0.97**	**181**	Pn	**Pn**	**12 54 12.4**	**-1.2**
RUSC	**La Rusia**	**0.97**	**181**	P	**Pn**	**12 54 13.1**	**-0.5**
RUSC				S	**Sn**	**12 54 31.6**	**-1.5**
TAMC	**Tame, Arauca**	**1.34**	**108**	P	**Pn**	**12 54 17.5**	**+1.0**
TAMC				S	**Sn**	**12 54 38.1**	**-0.1**
OCAC	**Ocana**	**1.39**	**350**	P	**Pn**	**12 54 17.5**	**+0.5**
OCAC				S	**Sn**	**12 54 39.2**	**-0.1**
PTBC	**PUERTO BERRIO,**	**1.41**	**257**	P	**Pn**	**12 54 15.7**	**-1.4**
PTBC				S	**Sn**	**12 54 36.6**	**-2.8**
SPBC	**San Pablo de B**	**1.56**	**220**	P	**Pn**	**12 54 18.1**	**-0.7**
SPBC				S	**Sn**	**12 54 40.3**	**-2.0**
ZARC	**Zaragoza, Cauc**	**1.88**	**289**	P	**Pn**	**12 54 22.3**	**+0.2**
ZARC				S	**Sn**	**12 54 47.5**	**-0.8**
NORC	**Norcasia**	**2.21**	**234**	P	**Pn**	**12 54 24.8**	**-1.2**
NORC				S	**Sn**	**12 54 53.2**	**-1.9**
CHIC	**Chingaza**	**2.32**	**196**	P	**Pn**	**12 54 27.1**	**-0.6**
CHIC				S	**Sn**	**12 54 57.5**	**-0.6**
ROSC	**El Rosal**	**2.36**	**212**	Pn	**Pn**	**12 54 28.9**	**+0.7**
ROSC				Sn	**Sn**	**12 55 00.5**	**+1.4**
ROSC	**El Rosal** 1μm,0.4s,baz=103,slow=19,SNR=276	**2.36**	**212**	P	**Pn**	**12 54 29.0**	**+0.8**
ROSC	2μm,0.3s,baz=107,slow=20,SNR=13			S	**Sn**	**12 54 58.5**	**-0.7**
ROSC	**El Rosal**	**2.36**	**212**	P	**Pn**	**12 54 28.9**	**+0.7**
ROSC				S	**Sn**	**12 54 59.4**	**+0.3**
HELC	**Santa Helena**	**2.53**	**255**	P	**Pn**	**12 54 30.0**	**-0.2**
HELC				S	**Sn**	**12 55 00.8**	**-1.8**
CVER	**Cruz Verde, Cu**	**2.53**	**203**	P	**Pn**	**12 54 30.7**	**+0.4**
CVER				S	**Sn**	**12 55 00.8**	**-2.1**
UREC	**San Jos de Ur**	**2.59**	**290**	P	**Pn**	**12 54 29.3**	**-1.3**
UREC				S	**Sn**	**12 55 00.2**	**-3.2**
VILC	**Villavicencio,**	**2.80**	**193**

BAUV El Baul 5.39 67 Pn **Pn** 12 55 05.3 -1.5
POPC Popayan, Colom 5.60 220 P **Pn** 12 55 08.8 -1.0
58nm,0.5s,727nm
POPC S **Sn** 12 56 11.6 -2.0
58nm,0.5s,727nm
BBAC Balboa, Cauca 6.36 221 P **Pn** 12 55 19.7 -0.2
BBAC S **Sn** 12 56 30.7 -1.1
AUA1 Aruba 6.37 28 Pn **Pn** 12 55 16.0 -3.7
CRUC La Cruz 6.53 216 P **Pn** 12 55 24.3 +2.0
CRUC S **Sn** 12 56 40.0 +3.9
HATO Hato, Curacao 6.66 37 Pn **Pn** 12 55 21.9 -1.7
BCIP Isla Barro Col 7.08 289 Pn **Pn** 12 55 20.9 -8.3
TULM Tulcn-Chalpat 7.71 218 Pn **Pn** 12 55 39.2 +1.1
PULU Pululahua 8.69 219 Pn **Pn** 12 55 52.5 +1.3
PCRV Puerto La Cruz 8.97 68 P **Pn** 12 55 52.9 -1.5
18nm,0.5s,baz=219,slow=6.3,SNR=14
PCRV S **Sn** 12 57 36.4 +2.3
13nm,0.6s,baz=18,slow=17,SNR=1.8
SLOR San Lorenzo - 9.29 216 Pn **Pn** 12 56 03.2 +4.1
LCR2 La Lucha 2 11.19 286 Pn Pn 12 56 17.2 -6.8
JTS Las Juntas de 12.23 287 P **Pn** 12 56 38.1 +0.7
2.3nm,0.3s,baz=291,slow=17,SNR=1.8
JTS LR LR 13 01 27.7
comp=Z,46nm,18.8s,baz=18,slow=37
CELP Cerrillos 12.81 29 Pn **Pn** 12 56 43.7 -1.1
GTBY Guantanamo Bay 13.13 352 Pn Pn 12 56 43.8 -5.1
EMPR Esperanza - Ma 13.18 28 Pn **Pn** 12 56 49.0 -0.5
MPOM Morne Pois Mar 14.16 57 Pn **P** 12 57 06.6 +1.8
ATAH Atahualpa 14.89 201 P **P** 12 57 14.3 +1.1
2.9nm,0.5s,baz=308,slow=9.5,SNR=2.9
ATAH S **Sn** 12 59 59.1 +1.9
2.1nm,0.6s,baz=266,slow=19,SNR=1.4
GDSD La Dsirade Is 15.04 50 Pn **P** 12 57 14.6 +0.1
GDSD IAmb IAmb 12 57 30.0
comp=Z,64nm,1.3s
MACA Manacapuru-AM 15.88 128 P 12 57 32.9 +9.1
MACA IAmb IAmb 12 57 39.8
comp=Z,22nm,0.6s
ESQI Esquipulas 17.71 297 **P** 12 57 41.4 -2.6
ESQI IAmb IAmb 12 57 58.9
comp=Z,40nm,1.3s
TEIG Tepich 19.84 313 P **Pn** 12 58 09.0 -1.3
comp=Z,19nm,0.6s,baz=131,slow=8.2,SNR=13
061Z Ochoppi 20.32 339 P **P** 12 58 08.9 -3.2
VILB Vilhena 23.48 147 P P 12 58 52.7 +8.7
VILB IAmb IAmb 12 59 15.8
comp=Z,20nm,0.8s
LPAZ La Paz 23.52 168 P P 12 58 54.8 +10
LPAZ La Paz 23.52 168 pP pP 12 59 16.2 +1.2
comp=Z,7.2nm,0.8s,baz=349,slow=13,SNR=12
PB18 Visviri 24.56 172 P P 12 59 04.6 +10
GO01 Chusmiza 26.64 172 P P 12 59 20.0 +7.0
PB11 IPOC Station P 26.67 173 P P 12 59 21.2 +8.3
PB11 IAmb IAmb 12 59 49.0
comp=Z,10.0nm,1.0s
PB08 IPOC Station P 27.11 172 P P 12 59 25.6 +8.5
152A Waverly Hall 27.87 339 P **P** 12 59 24.3 +1.0
152A IAmb IAmb 12 59 26.2
comp=Z,9.5nm,0.7s
GOGA Godfrey 28.12 341 P **P** 12 59 27.3 +1.8
GOGA Godfrey 28.12 341 P **P** 12 59 26.9 +1.3
baz=158
HODGE Hodges 28.52 344 P **P** 12 59 31.4 +2.3
HODGE IAmb IAmb 12 59 31.8
comp=Z,5.5nm,0.6s
CNNC Cliffs of the 28.58 352 P **P** 12 59 32.2 +2.6
baz=171
Y52A Lilburn 28.73 341 P **P** 12 59 32.1 +1.1
Y52A IAmb IAmb 12 59 33.4
comp=Z,7.1nm,0.5s
PAULI Pauline 28.96 345 P **P** 12 59 34.8 +1.8
LRAL Lakeview Retre 29.07 335 P **P** 12 59 36.5 +2.5
LRAL Lakeview Retre 29.07 335 P **P** 12 59 36.2 +2.1
baz=151
BG3 Lake Jocassee 29.43 343 P **P** 12 59 39.0 +1.8
Y49A Blount Mountai 29.56 337 P **P** 12 59 40.3 +2.0
Y49A IAmb IAmb 12 59 41.0
comp=Z,9.8nm,0.8s
W52A Murphy 29.82 342 P **P** 12 59 42.5 +1.9
W52A IAmb IAmb 12 59 43.7
comp=Z,8.0nm,0.7s
FPAL Fort Paine 29.87 339 P **P** 12 59 43.0 +1.9
VBMS Vicksburg 30.01 329 P **P** 12 59 43.0 +0.7
V53A Saluda 30.03 344 P **P** 12 59 44.9 +2.4
T59A Double "B" Far 30.24 353 P **P** 12 59 45.8 +1.5
T59A IAmb IAmb 12 59 46.5
comp=Z,6.4nm,0.6s
TKL Tuckaleechee C 30.29 343 P **P** 12 59 44.8 +0.1
TKL IAmb IAmb 12 59 48.2
comp=Z,10nm,1.4s
CPCT Cooper Cave 30.33 341 P **P** 12 59 47.3 +2.2
CPCT IAmb IAmb 12 59 48.0
comp=Z,6.9nm,1.0s
X48A Hartselle 30.33 337 P **P** 12 59 46.6 +1.5
X48A IAmb IAmb 12 59 47.7
comp=Z,10nm,0.8s
W50A Signal Mountai 30.36 340 P **P** 12 59 47.3 +1.8
W50A IAmb IAmb 12 59 48.4
comp=Z,8.4nm,0.8s
V52A Sevierville 30.41 343 P **P** 12 59 46.0 +0.2
V52A IAmb IAmb 12 59 48.6
comp=Z,10nm,1.4s
T57A Hurt 30.52 350 P **P** 12 59 48.2 +1.5
T57A IAmb IAmb 12 59 48.9
comp=Z,6.2nm,0.8s
U54A Nelsons Funny 30.58 346 P **P** 12 59 49.9 +2.5
U54A IAmb IAmb 12 59 50.3
comp=Z,14nm,0.8s
TZTN Tazewell 31.05 344 P **P** 12 59 53.6 +2.2
TZTN Tazewell 31.05 344 P **P** 12 59 53.7 +2.2
baz=160
PLAL Pickwick Lake 31.21 336 P **P** 12 59 54.5 +1.8
PLAL IAmb IAmb 12 59 55.3
comp=Z,9.3nm,0.8s
S57A Dark Hollow, R 31.21 351 P **P** 12 59 54.5 +1.7
S57A IAmb IAmb 12 59 55.1
comp=Z,5.7nm,0.8s
OXF Oxford 31.37 334 P **P** 12 59 56.0 +1.8
baz=148
V48A Smith Brothers 31.39 338 P **P** 12 59 56.3 +2.0
HBVL Hebbronville 31.54 313 P **P** 12 59 56.8 +0.9
HBVL IAmb IAmb 12 59 58.3
comp=Z,7.7nm,0.6s
T50A Nancy 31.88 342 P **P** 13 00 00.3 +1.6
S51A Beattyville 32.09 344 P **P** 13 00 02.1 +1.6
WVT Waverly 32.11 337 P **P** 13 00 01.2 +0.5
WVT IAmb IAmb 13 00 02.7
comp=Z,16nm,1.1s
T47A Sharon Grove 32.60 339 P **P** 13 00 06.5 +1.5
T47A IAmb IAmb 13 00 07.2
comp=Z,13nm,0.7s
Q54A Coxs Mills 32.73 349 P **P** 13 00 08.5 +2.4
Q54A IAmb IAmb 13 00 09.1
comp=Z,5.3nm,0.8s
HBAR Harrisburg 32.80 333 P **P** 13 00 08.6 +1.9
R50A Paris 32.90 344 P **P** 13 00 09.8 +2.3
R50A IAmb IAmb 13 00 10.6
comp=Z,9.0nm,0.8s
SSFO Shawnee State 32.98 345 P **P** 13 00 10.1 +1.8
SSFO IAmb IAmb 13 00 10.8
comp=Z,8.0nm,0.6s
X40A Basin Creek Fa 32.99 329 P **P** 13 00 09.5 +1.1
WUPA West Chester U 33.00 356 P **P** 13 00 09.7 +1.3
Q52A Bidwell 33.02 347 P **P** 13 00 10.6 +2.1
Q52A IAmb IAmb 13 00 11.3
comp=Z,9.2nm,0.8s
Q51A Peebles 33.33 345 P **P** 13 00 12.8 +1.5
Q51A IAmb IAmb 13 00 14.2
comp=Z,7.1nm,0.7s
WHAR Wooly Hollow 33.35 331 P **P** 13 00 12.6 +1.1
WHAR IAmb IAmb 13 00 12.8
comp=Z,6.1nm,0.6s
BDFB Brasilia 33.41 132 P **P** 13 00 11.9 -0.4
comp=Z,1.6nm,0.4s,baz=248,slow=15,SNR=2.3
comp=Z,1.6nm,0.4s
MIAR Mount Ida 33.41 328 P **P** 13 00 11.4 -0.6
MIAR Mount Ida 33.41 328 P **P** 13 00 13.0 +0.9
baz=141
WCI Wyandotte Cave 33.44 341 P **P** 13 00 14.4 +2.1
WCI Wyandotte Cave 33.44 341 P **P** 13 00 13.4 +1.1
baz=156
LCAR Lake Charles 33.45 333 P **P** 13 00 13.7 +1.4
LCAR IAmb IAmb 13 00 14.3
comp=Z,5.1nm,0.6s
P52A Corning 33.63 347 P **P** 13 00 16.3 +2.4
baz=164
P52A Corning 33.63 347 P **P** 13 00 16.0 +2.2
baz=164
USIN University of 33.67 339 P **P** 13 00 16.5 +2.2
P51A Williamsport 33.70 346 P **P** 13 00 16.8 +2.4
P51A IAmb IAmb 13 00 17.1
comp=Z,12nm,0.8s
PBMO Poplar Bluff 33.73 334 P **P** 13 00 16.4 +1.6
FCAR Ozark Folk Cen 33.76 332 P **P** 13 00 15.7 +0.7
FCAR IAmb IAmb 13 00 16.3
comp=Z,11nm,1.0s
WHTX Lake Whitney, 33.79 321 P **P** 13 00 15.8 +0.4
baz=133
CGM3 Cape Girardeau 33.85 336 P **P** 13 00 16.8 +1.0
PAL Palisades 34.00 359 P **P** 13 00 19.4 +2.3
baz=179
O52A Adamsville 34.03 348 P **P** 13 00 19.4 +2.1
O52A IAmb IAmb 13 00 20.1
comp=Z,12nm,0.8s
S44A Carbondale 34.03 337 P **P** 13 00 18.6 +1.3
O53A New Philadelph 34.03 349 P **P** 13 00 19.6 +2.2
baz=166
SIUC Southern Illin 34.03 337 P **P** 13 00 18.4 +1.1
T42A Van Buren 34.23 334 P **P** 13 00 19.6 +0.5
T42A IAmb IAmb 13 00 20.7
comp=Z,8.0nm,0.6s
YLE Yale 34.30 0 P **P** 13 00 20.9 +1.2
BRDY Brady 34.32 318 P **P** 13 00 20.7 +0.7
BRDY IAmb IAmb 13 00 21.1
comp=Z,14nm,1.4s
BLO Bloomington 34.37 341 P **P** 13 00 21.6 +1.3
ACSO Alum Creek Sta 34.39 347 P **P** 13 00 21.7 +1.2
ACSO IAmb IAmb 13 00 23.2
comp=Z,8.0nm,0.7s
ACSO Alum Creek Sta 34.39 347 P **P** 13 00 22.5 +2.1
baz=163
X37A Clayton 34.41 326 P **P** 13 00 21.6 +0.9
X37A IAmb IAmb 13 00 22.1
comp=Z,6.6nm,1.1s
OLIL Olney 34.51 339 P **P** 13 00 22.6 +1.2
M57A Sunshine Farm, 34.52 355 P **P** 13 00 23.6 +2.1
M57A IAmb IAmb 13 00 32.9
comp=Z,16nm,1.4s
KSPA Keystone Colle 34.63 356 P **P** 13 00 24.4 +2.0
KSPA IAmb IAmb 13 00 25.1
comp=Z,7.7nm,0.6s
FVM French Village 34.75 336 P **P** 13 00 24.7 +1.2
MGMO Mountain Grove 34.85 333 P **P** 13 00 25.3 +0.8
MGMO IAmb IAmb 13 00 26.1
comp=Z,5.5nm,0.8s
PLPT Palo Pinto 34.88 321 P **P** 13 00 25.9 +1.1
PLPT IAmb IAmb 13 00 26.4
comp=Z,7.1nm,0.7s
HHAR Hobbs 34.95 330 P **P** 13 00 25.7 +0.3
HHAR IAmb IAmb 13 00 26.3
comp=Z,5.1nm,0.8s
O48B Farmland 34.97 344 P **P** 13 00 26.8 +1.4
baz=159
P46A Rosedale 35.00 341 P **P** 13 00 26.9 +1.3
M53A WI Miller and 35.09 350 P **P** 13 00 28.3 +1.9
baz=168
CCM Cathedral Cave 35.15 335 P **P** 13 00 27.2 +0.2
baz=148
BINY Binghamton 35.28 356 P **P** 13 00 30.0 +1.9
baz=176
U38A Gravette 35.30 330 P **P** 13 00 27.6 -0.7
U38A IAmb IAmb 13 00 29.5
comp=Z,8.4nm,1.2s
RLO Rose Lookout 35.41 329 IAmb IAmb 13 00 30.1
comp=Z,9.0nm,0.7s
HRV Adam Dziewonsk 35.52 2 P **P** 13 00 31.5 +1.4
baz=184
ABTX Abilene, Hawle 35.60 320 P **P** 13 00 31.0 0.0
baz=130
TUL3 Leonard 35.62 327 P **P** 13 00 31.6 +0.6
baz=139
SFIN Lafayette 35.66 341 P **P** 13 00 32.1 +0.9
baz=156
SAND Sanderson 35.68 314 P **P** 13 00 33.2 +1.5
N47A Urbana 35.70 344 P **P** 13 00 33.1 +1.5
N47A IAmb IAmb 13 00 33.5
comp=Z,8.2nm,0.7s
S39A Bolivar 35.78 332 P **P** 13 00 32.8 +0.4
S39A IAmb IAmb 13 00 34.2
comp=Z,5.4nm,0.7s
R40A Maddies Statio 35.79 334 P **P** 13 00 33.0 +0.6
J56A Wolcott 36.42 355 P **P** 13 00 39.0 +1.3
TXAR Lajitas Array 36.47 312 P **P** 13 00 38.9 +0.4
comp=Z,1.8nm,0.6s,baz=128,slow=9.3,SNR=30
TXAR PcP **PcP** 13 03 00.2 +1.0
comp=Z,0.6nm,0.7s,baz=132,slow=4.0,SNR=5.6
comp=Z,1.8nm,0.6s
TX31 Lajitas Ar. Si 36.47 312 P **P** 13 00 39.2 +0.7
WMOK Wichita Mounta 36.47 323 IAmb IAmb 13 00 38.9
comp=Z,4.2nm,0.8s
WMOK Wichita Mounta 36.47 323 P **P** 13 00 38.1 -0.2
baz=134,SNR=5.1
HDIL Hopedale 36.55 339 P **P** 13 00 39.0 +0.1
baz=153
LBNH Lisbon 37.24 1 P **P** 13 00 47.2 +2.5
baz=183
P38A Dawn 37.45 334 P **P** 13 00 46.9 +0.5
KAN09 Caldwell North 37.52 327 P **P** 13 00 47.2 +0.1
SMWD Samnorwood 37.60 322 P **P** 13 00 48.4 +0.5
LONY Lake Ozonia 37.63 358 P **P** 13 00 50.1 +2.2
baz=178
DELO Deloro Mine 37.72 355 P **P** 13 00 50.2 +1.6
DELO IAmb IAmb 13 00 50.2
comp=Z,4.1nm,0.6s
NOKA Waynoka 37.88 325 P **P** 13 00 50.7 +0.5
I49A Point Hope 37.91 349 P **P** 13 00 50.0 -0.3
VHRN Van Horn 38.20 313 IAmb IAmb 13 00 54.5
comp=Z,6.2nm,1.2s
AMTX Amarillo 38.35 321 P **P** 13 00 53.4 -0.8
baz=130
MSTX Muleshoe 38.48 319 P **P** 13 00 54.4 -1.0
baz=128
L40A Anamosa 38.57 338 IAmb IAmb 13 00 56.4
comp=Z,8.2nm,0.8s
JFWS Jewell Farm 38.97 340 P **P** 13 01 00.1 +0.9
baz=153,SNR=6.5
MNTX Cornudas Mount 38.98 314 P **P** 13 00 59.2 -0.2
baz=122,SNR=11
E46A Sault Ste Mari 40.53 348 P **P** 13 01 13.1 +1.1
F42A Maple Grove Fa 40.88 344 P **P** 13 01 15.9 +1.1
BGNE Belgrade 41.00 331 P **P** 13 01 16.4 +0.5
baz=140
G40A Rib Lake 41.05 342 P **P** 13 01 16.9 +0.6
G40A IAmb IAmb 13 01 18.8
comp=Z,6.5nm,1.1s
121A Cookes Peak, D 41.15 313 P **P** 13 01 19.4 +1.9
121A Cookes Peak, D 41.15 313 P **P** 13 01 17.3 -0.2
baz=121
Y22D IRIS PASSCAL I 41.35 316 P **P** 13 01 19.0 0.0
baz=123
COWI Conover 41.48 343 IAmb IAmb 13 01 22.0
comp=Z,7.1nm,0.9s
T25A Trinidad 41.49 321 P **P** 13 01 20.7 +0.5
baz=129
ANMO Albuquerque 41.51 317 P **P** 13 01 20.8 +0.3
baz=124
SPMN Marine on St. 41.88 339 P **P** 13 01 24.4 +1.4
baz=150
ECSD EROS Data Cent 42.13 334 P **P** 13 01 24.5 -0.6
ECSD IAmb IAmb 13 01 25.6
comp=Z,9.4nm,1.1s
D41A Chassel 42.20 344 P **P** 13 01 26.2 +0.7
D41A IAmb IAmb 13 01 27.0
comp=Z,7.1nm,0.6s
SDCO Great Sand Dun 42.54 321 P **P** 13 01 29.3 +0.4
baz=128,SNR=10
TUC Tucson 43.26 311 P **P** 13 01 35.5 +1.1
baz=118
F33A 5 Mile Ranch, 43.71 336 IAmb IAmb 13 01 38.7
comp=Z,4.5nm,0.7s
SUSD Miller 43.72 333 P **P** 13 01 38.2 +0.3
baz=142
EYMN Ely 43.84 342 P **P** 13 01 38.8 0.0
EYMN Ely 43.84 342 P **P** 13 01 39.2 +0.4
baz=154,SNR=18
W18A Petrified Fore 43.87 315 P **P** 13 01 41.5 +2.1
W18A IAmb IAmb 13 01 42.0
comp=Z,7.7nm,0.8s
W18A Petrified Fore 43.87 315 P **P** 13 01 40.0 +0.6
baz=121
ISCO Idaho Springs 43.90 323 P **P** 13 01 41.2 +1.4
ISCO Idaho Springs 43.90 323 P **P** 13 01 40.0 +0.2
baz=130,SNR=6.5
MVCO Mesa Verde 44.15 318 P **P** 13 01 43.5 +1.7
MVCO Mesa Verde 44.15 318 P **P** 13 01 41.7 0.0
baz=124
214A Organ Pipe Nat 44.64 309 P **P** 13 01 47.0 +1.6
baz=115
X16A Lo Mia Camp, P 44.73 313 P **P** 13 01 47.7 +1.4
PHWY Pilot Hill 44.78 325 P **P** 13 01 47.8 +1.1
N23A Red Feather La 44.79 324 P **P** 13 01 46.9 +0.1
N23A Red Feather La 44.79 324 P **P** 13 01 47.8 +0.9
baz=130
B35A Bob, Littlefor 44.92 341 P **P** 13 01 47.6 +0.3
B35A IAmb IAmb 13 01 48.1
comp=Z,8.5nm,0.7s
WUAZ Wupatki 45.22 315 P **P** 13 01 52.1 +2.0
WUAZ IAmb IAmb 13 01 53.1
comp=Z,8.2nm,0.9s
WUAZ Wupatki 45.22 315 P **P** 13 01 51.0 +0.9
baz=120,SNR=6.1
AGMN Agassiz Nation 45.60 339 P **P** 13 01 53.0 +0.3
AGMN IAmb IAmb 13 01 53.7
comp=Z,7.2nm,0.7s
AGMN Agassiz Nation 45.60 339 P **P** 13 01 53.5 +0.8
baz=148,SNR=6.1
Y14A Wickenburg 45.66 312 P **P** 13 01 54.9 +1.4
RSSD Black Hills 45.93 329 P **P** 13 01 56.6 +1.0
baz=135
HMU Henry Mountain 46.04 318 P **P** 13 01 57.9 +1.2
HMU IAmb IAmb 13 01 59.6
comp=Z,11nm,1.1s
E28A Huff 46.14 334 P **P** 13 01 57.9 +0.9
K22A Casper 46.26 326 P **P** 13 01 59.1 +0.9
baz=131
U15A North Rim 46.32 315 P **P** 13 02 00.2 +1.3
U15A IAmb IAmb 13 02 01.4
comp=Z,6.5nm,1.1s
SRU San Rafael Swe 46.54 319 IAmb IAmb 13 02 02.4
comp=Z,4.8nm,0.9s
MDND Maddock 46.67 336 P **P** 13 02 01.5 +0.4
baz=143
P17A Butcher Ranch, 46.88 320 IAmb IAmb 13 02 05.1
comp=Z,5.6nm,0.9s
KNB Kanab 46.98 316 IAmb IAmb 13 02 06.5
comp=Z,7.0nm,1.0s
TMUT Trail Mountain 47.08 319 P **P** 13 02 06.2 +1.3
LCMT Little Creek M 47.27 315 P **P** 13 02 08.0 +1.9
MSU Marysvale 47.30 318 P **P** 13 02 07.8 +1.4
MVU Marysvale 47.32 318 P **P** 13 02 07.7 +1.1
SWSC Sam W. Stewart 47.34 309 P **P** 13 02 06.7 +0.2
baz=114
IRM Iron Mountain 47.35 311 P **P** 13 02 06.8 +0.1
baz=115
BC3 Big Chuckawall 47.37 310 P **P** 13 02 06.6 -0.3
baz=114
PLCA Paso Flores 47.42 177 P **P** 13 02 06.6 -0.4
comp=Z,2.5nm,1.1s,baz=296,slow=10,SNR=2.8
comp=Z,2.5nm,1.1s
BSUT Blindstream Ca 47.49 321 IAmb IAmb 13 02 10.0
comp=Z,4.9nm,0.8s
MONP2 Monument Peak 47.80 309 P **P** 13 02 10.1 -0.3
baz=113
BELC Belle Mtn. Jos 47.92 310 P **P** 13 02 11.0 -0.2
baz=114
GMRC Granite Mounta 48.00 311 P **P** 13 02 11.9 +0.2
baz=115
PDAR Pinedale Array 48.07 324 P **P** 13 02 12.2 0.0
PDAR Pinedale Array 48.07 324 P **P** 13 02 12.5 +0.2
comp=Z,1.5nm,0.5s,baz=134,slow=10,SNR=12
comp=Z,1.5nm,0.5s
SCHQ Schefferville 48.09 5 P **P** 13 02 12.3 +0.3
comp=Z,7.1nm,0.7s,baz=199,slow=7.4,SNR=12
comp=Z,7.1nm,0.7s
TCUT Toone Canyon 48.22 321 IAmb IAmb 13 02 15.3
comp=Z,9.9nm,0.7s
TUQ Turquoise Moun 48.47 312 P **P** 13 02 16.5 +1.2
baz=116
HEC Hector,Ludlow 48.52 311 P **P** 13 02 16.8 +1.1
baz=115
DUG Dugway, Tooele 48.61 319 P **P** 13 02 17.3 +0.9
DUG Dugway, Tooele 48.61 319 P **P** 13 02 15.9 -0.4
baz=122
MURC Murrieta 48.68 309 P **P** 13 02 17.2 +0.3
baz=113
SPR3 Spring Creek 3 49.00 317 P **P** 13 02 20.8 +1.3
GSC Goldstone, Bar 49.07 312 P **P** 13 02 20.6 +0.8
GSC Goldstone, Bar 49.07 312 P **P** 13 02 20.8 +0.9
baz=115
DGMT Dagmar 49.13 333 P **P** 13 02 21.4 +1.4
baz=138,SNR=6.0
BGU Big Grassy Mou 49.14 320 P **P** 13 02 21.4 +1.0
BGU IAmb IAmb 13 02 21.9
comp=Z,5.7nm,0.8s
Q12A Willow Creek R 49.36 317 P **P** 13 02 23.5 +1.4
Q12A IAmb IAmb 13 02 24.3
comp=Z,6.0nm,1.0s
FXWY Fox Creek 49.45 324 P **P** 13 02 23.6 +0.8
R11B Troy Canyon, C 49.55 316 P **P** 13 02 23.3 -0.2
baz=118
IMW Indian Meadow 49.56 324 IAmb IAmb 13 02 25.1
comp=Z,3.5nm,0.7s
EDW2 Edwards Air Fo 49.79 311 P **P** 13 02 26.8 +1.5
baz=113
MPMC Manual Prospec 49.89 312 P **P** 13 02 27.3 +1.1
baz=115
YHH Holmes Hill 50.04 325 P **P** 13 02 29.4 +2.1
GMN Gold Mountain 50.25 314 P **P** 13 02 29.9 +1.0
CWC Cottonwood Cre 50.48 312 P **P** 13 02 30.9 +0.3
baz=114
TPH Tonopah 50.57 315 IAmb IAmb 13 02 33.1
comp=Z,7.0nm,0.8s
DSP Deep Springs 50.79 313 IAmb IAmb 13 02 35.5
comp=Z,3.0nm,0.9s
BOZ Bozeman (W) 50.97 326 IAmb IAmb 13 02 35.8
comp=Z,2.6nm,0.7s
BOZ Bozeman (W) 50.97 326 P **P** 13 02 35.2 +1.1
baz=127
HLID Hailey 51.43 322 P **P** 13 02 38.9 +1.3
HLID IAmb IAmb 13 02 39.4
comp=Z,5.9nm,1.2s
HLID Hailey 51.43 322 P **P** 13 02 38.5 +0.9
baz=123
NVAR Mina Array Bea 51.49 315 P **P** 13 02 39.0 +0.8
NVAR Mina Array Bea 51.49 315 P **P** 13 02 38.5 +0.4
comp=Z,0.9nm,0.6s,baz=116,slow=7.4,SNR=10
NVAR PcP **PcP** 13 03 49.6 -0.6
comp=Z,0.2nm,0.3s,baz=119,slow=6.1,SNR=4.3
comp=Z,0.9nm,0.6s
EGMT Eagleton 51.50 329 P **P** 13 02 38.9 +1.1
EGMT IAmb IAmb 13 02 39.7
comp=Z,12nm,1.4s
EGMT Eagleton 51.50 329 P **P** 13 02 39.0 +1.1
baz=131
KVN Kaiserville 51.62 315 P **P** 13 02 40.0 +1.0
BMN Battle Mountai 51.64 317 P **P** 13 02 40.1 +0.9
BMN IAmb IAmb 13 02 41.3
comp=Z,4.4nm,1.2s
MDPB Devils Postpil 51.70 313 P **P** 13 02 41.3 +1.5
MDPB IAmb IAmb 13 02 41.9
comp=Z,3.2nm,0.5s
MFID Camas Ranch 52.22 321 P **P** 13 02 44.2 +0.8
MFID IAmb IAmb 13 02 45.8
comp=Z,4.1nm,0.7s
YERR Yerington 52.39 315 P **P** 13 02 46.0 +1.2
YERR IAmb IAmb 13 02 48.9
comp=Z,3.7nm,0.9s
MSO Missoula 52.99 326 P **P** 13 02 49.6 +0.6
baz=126
PLID Pearl Lake 53.21 323 IAmb IAmb 13 02 51.7
comp=Z,4.6nm,1.0s
WVOR Wild Horse Val 53.53 319 IAmb IAmb 13 02 55.9
comp=Z,6.0nm,1.1s
F10A Beach Ranch, E 54.41 323 P **P** 13 02 59.8 +0.5
F10A IAmb IAmb 13 03 00.1
comp=Z,4.1nm,0.5s
NEW Newport 55.58 326 P **P** 13 03 07.6 0.0
baz=123
J05D Fort Rock, OR 55.61 319 IAmb IAmb 13 03 09.7
comp=Z,6.9nm,1.1s
H04A Detroit Lake 56.85 320 IAmb IAmb 13 03 20.6
comp=Z,7.8nm,0.9s
YKA Yellowknife Ar 63.24 340 P **P** 13 03 59.5 -0.2
comp=Z,4.3nm,0.6s,baz=130,slow=6.1,SNR=72
comp=Z,4.3nm,0.6s
TOAD Toad River Com 65.29 333 P **P** 13 04 14.5 +1.2
baz=120
KOTAN Kotaneelee Air 65.44 335 P **P** 13 04 15.7 +1.6
baz=122

T35M	Bob Quinn baz=115	66.79 330	P	P	13 04 23.6	+0.7
V35K	Ketchikan baz=113	66.82 328	P	P	13 04 23.3	+0.3
WRGLY	Wrigley baz=124	66.89 338	P	P	13 04 24.3	+1.0
DLBC	Dease Lake baz=116	67.31 331	P	P	13 04 26.8	+0.7
WTLY	Watson Lake, Y baz=118	67.49 333	P	P	13 04 28.0	+0.8
S34M	Telegraph Cree baz=114	67.62 331	P	P	13 04 28.3	+0.3
WRAK	Wrangell Islan baz=113	67.63 329	P	P	13 04 28.6	+0.6
CRAG	Craig baz=112	67.67 328	P	P	13 04 28.7	+0.3
DBIC	Dimbokro comp=Z,2.9nm,0.8s,baz=263,slow=11,SNR=1.5	67.68 86	P	P	13 04 27.9	-1.4
	comp=Z,2.9nm,0.8s					
U33K	Whale Pass baz=112	67.91 328	P	P	13 04 30.4	+0.5
R33M	Jennings River baz=115	68.16 332	P	P	13 04 32.1	+0.5
S32K	Killisnoo baz=111	69.15 329	P	P	13 04 37.7	+0.2
P33M	Teslin, Yukon baz=114	69.35 333	P	P	13 04 38.9	0.0
SIT	Sitka baz=110	69.39 329	P	P	13 04 39.2	+0.3
P32M	Atlin baz=113	69.52 332	P	P	13 04 40.2	+0.4
N32M	Quiet Lake baz=114	69.84 333	P	P	13 04 42.2	+0.4
FARO	Faro, Yukon baz=114	70.40 334	P	P	13 04 45.8	+0.7
C36M	Paulatuk baz=125	70.57 343	P	P	13 04 46.5	+0.6
PLBC	Pleasant Camp baz=110	70.73 331	P	P	13 04 47.3	+0.2
M31M	Drury Creek, Y baz=113	70.83 334	P	P	13 04 48.0	+0.3
O30N	Mendenhall baz=111	71.06 332	P	P	13 04 49.1	0.0
N31M	Braeburn, Yuko baz=111	71.18 333	P	P	13 04 49.6	-0.2
P30M	Million Dollar baz=110	71.24 332	P	P	13 04 50.1	-0.2
P29M	Windy Craggy baz=109	71.45 331	P	P	13 04 51.5	0.0
N30M	Aishikik Lake baz=110	71.75 333	P	P	13 04 54.6	+1.3
MAYO	Mayo, Yukon baz=112	72.00 335	P	P	13 04 56.0	+1.3
M30M	Minto, Yukon	72.01 334	P	P	13 04 56.1	+1.2
M30M			IAmb	IAmb	13 04 56.6	
	comp=Z,6.9nm,0.8s					
M30M	Minto, Yukon baz=111	72.01 334	P	P	13 04 56.0	+1.1
YUK6	Outpost Mounta baz=109	72.17 332	P	P	13 04 55.8	-0.2
H31M	Peel River baz=114	72.25 338	P	P	13 04 56.9	+0.7
PNL	Peninsula baz=108	72.26 331	P	P	13 04 57.1	+0.7
A36M	Sachs Harbour baz=125	72.40 345	P	P	13 04 57.1	+0.2
YUK4	Talbot Arm baz=109	72.42 333	P	P	13 04 57.8	+0.3
J30M	Hart River baz=112	72.54 336	P	P	13 04 57.7	-0.3
G31M	Satah River baz=115	72.68 339	P	P	13 04 57.4	-1.2
M29M	Somme Creek baz=109	72.70 334	P	P	13 04 58.3	-0.7
F31M	Tsiigehtchic baz=115	72.71 339	P	P	13 04 58.5	-0.2
K29M	Barlow Dome baz=110	72.77 335	P	P	13 04 57.9	-1.5
L29M	L29M baz=110	72.77 334	P	P	13 04 58.8	-0.5
I30M	Mount Dempster baz=112	72.80 337	P	P	13 04 58.4	-1.2
YUK8	Steele Glacier baz=108	72.92 332	P	P	13 05 00.1	-0.4
O28M	Mount Upton baz=107	72.97 332	P	P	13 04 59.5	-1.3
INK	Inuvik baz=116	73.00 340	P	P	13 05 00.0	-0.4
EPYK	Eagle Plains baz=112	73.36 338	P	P	13 05 01.9	-0.8
YUK3	Moose Creek baz=107	73.38 333	P	P	13 05 02.8	-0.3
G30M	tAoh Zraii Nji baz=113	73.41 339	P	P	13 05 03.0	0.0
F30M	Barrier River baz=113	73.50 339	P	P	13 05 03.3	-0.2
CTG	Chitna Glacier baz=106	73.56 332	P	P	13 05 03.4	-0.7
DAWY	Dawson baz=109	73.62 335	P	P	13 05 03.4	-0.9
H29M	Whitestone baz=110	73.93 337	P	P	13 05 05.8	-0.2
G29M	Pine Creek baz=111	74.04 338	P	P	13 05 07.1	+0.4
M27K	Edge Creek, AK baz=106	74.19 333	P	P	13 05 07.5	-0.3
I28M	Miner Creek baz=109	74.28 336	P	P	13 05 06.6	-1.6
L27K	Beaver Creek, baz=106	74.36 334	P	P	13 05 07.4	-1.2
MCARA	McCarthy VSAT baz=105	74.46 332	P	P	13 05 08.0	-1.2
E29M	Blow River baz=112	74.53 340	P	P	13 05 08.6	-0.8
EGAK	Eagle baz=107	74.57 336	P	P	13 05 09.0	-0.7
M26K	Nabesna, AK baz=105	74.70 333	P	P	13 05 10.1	-0.5
K27K	Chicken baz=106	74.74 335	P	P	13 05 10.0	-0.7
KAIM	Kayak Island baz=103	74.78 330	P	P	13 05 09.8	-1.2
F28M	Old Crow baz=109	74.96 339	P	P	13 05 11.3	-0.6
I27K	Kandik River baz=107	75.00 336	P	P	13 05 11.2	-1.0
L26K	Log Cabin Wild baz=105	75.02 334	P	P	13 05 10.8	-1.6
BMRM	Bremner River baz=103	75.10 331	P	P	13 05 11.5	-1.4
H27K	Steamboat Moun baz=107	75.15 337	P	P	13 05 11.7	-1.4
D28M	Stokes Point baz=111	75.15 340	P	P	13 05 12.9	-0.1
E28M	Babbage River baz=110	75.17 340	P	P	13 05 12.1	-1.0
N25K	Chitina, Valde baz=103	75.24 332	P	P	13 05 12.8	-1.0
G27K	Doyon Strip baz=107	75.37 338	P	P	13 05 14.0	-0.3
J26L	Joseph Creek baz=105	75.49 335	P	P	13 05 14.9	-0.2
I26K	Coal Creek Min baz=106	75.53 336	P	P	13 05 14.8	-0.4
SCRK	Sand Creek baz=104	75.53 334	P	P	13 05 14.8	-0.7
EYAK	Cordova Ski Ar baz=102	75.56 331	P	P	13 05 14.7	-0.8
Q23K	Middleton Isla baz=101	75.64 330	P	P	13 05 14.8	-1.0
HARP	HAARP baz=103	75.68 333	P	P	13 05 15.4	-0.7
E27K	Coleen River baz=108	75.76 339	P	P	13 05 15.7	-0.8
KLU	Klutina baz=102	75.84 332	P	P	13 05 16.5	-0.7
D27M	Malcolm River baz=109	75.87 340	P	P	13 05 17.1	-0.1
PAX	Paxson baz=103	75.95 333	P	P	13 05 16.7	-1.0
M24K	Tolsona, Glenn baz=102	76.08 332	P	P	13 05 17.1	-1.4
G26K	Porcupine Rive baz=106	76.21 337	P	P	13 05 18.5	-0.5
K24K	Donnelly Dome baz=103	76.27 334	P	P	13 05 19.2	-0.3
P23K	Montague Islan baz=100	76.27 330	P	P	13 05 18.5	-1.0
J25K	Salcha River, baz=103	76.27 335	P	P	13 05 18.7	-0.9
GLI	Glacier Island baz=101	76.28 331	P	P	13 05 18.9	-0.6
F26K	Sheenjek River baz=105	76.54 338	P	P	13 05 20.5	-0.5
PRP	Porcupine Dome baz=104	76.54 336	P	P	13 05 20.4	-0.7
SCM	Sheep Creek Mo baz=101	76.56 332	P	P	13 05 20.3	-0.9
M23K	Glacier View baz=100	76.74 332	P	P	13 05 20.9	-1.2
DHY	Denali Highway baz=101	76.82 333	P	P	13 05 21.2	-1.6
H25L	Birch Creek baz=103	76.83 337	P	P	13 05 22.2	-0.3
WAT6	Susitna Watana baz=101	76.89 333	P	P	13 05 21.8	-1.4
HDA	Harding Lake baz=102	76.89 335	P	P	13 05 22.3	-0.6
C27K	Jago River baz=106	76.91 340	P	P	13 05 22.0	-1.0
ILAR	Eielson Array comp=Z,1.0nm,0.7s,baz=102,slow=4.6,SNR=9.7	76.94 335	P	P	13 05 22.9	-0.3
	comp=Z,1.0nm,0.7s					
KNK	Knik Glacier baz=100	77.02 331	P	P	13 05 22.4	-1.3
SML	Sawmill baz=100	77.03 332	P	P	13 05 22.1	-1.7
G25K	Bearman Lake baz=103	77.06 337	P	P	13 05 22.6	-1.2
F25K	Christian Rive baz=104	77.07 338	P	P	13 05 22.7	-1.2
E25K	Arctic Village baz=104	77.17 338	P	P	13 05 23.6	-0.8
POKR	Poker Plat Res baz=102	77.24 335	P	P	13 05 24.3	-0.6
SEW	Seward baz=99	77.30 330	P	P	13 05 24.7	-0.5
WAT1	Susitna Watana baz=100	77.30 333	P	P	13 05 24.8	-0.5
PMR	Palmer baz=99	77.37 332	P	P	13 05 25.6	0.0
COLA	College baz=101	77.37 335	P	P	13 05 25.8	+0.3
C26K	Camden Bay baz=105	77.39 340	P	P	13 05 26.0	+0.5
H24K	Noodor Dome baz=101	77.56 336	P	P	13 05 27.2	+0.5
G24K	Hadweenzic Riv baz=102	77.58 337	P	P	13 05 27.2	+0.5
RC01	Rabbit Creek A baz=98	77.58 331	P	P	13 05 27.2	+0.4
MCK	McKinley baz=100	77.63 334	P	P	13 05 26.8	-0.3
D25K	Kavik River baz=104	77.74 340	P	P	13 05 28.3	+0.7
NEA2	Nenana baz=100	77.83 335	P	P	13 05 28.8	+0.7
M22K	Willow baz=98	77.86 332	P	P	13 05 29.3	+1.0
BRSE	Bradley Lake S baz=97	77.89 330	P	P	13 05 28.7	+0.1
F24K	Squaw Lake baz=102	77.90 338	P	P	13 05 29.6	+1.1
I23K	Minto, Yukon-K baz=100	78.05 335	P	P	13 05 29.9	+0.6
SUA	Susitna One baz=98	78.11 331	P	P	13 05 30.6	+0.7
TRF	Thorofare Moun baz=99	78.18 333	P	P	13 05 31.3	+1.0
CAPN	Captain Cook N baz=97	78.22 331	P	P	13 05 31.5	+1.2
E24K	Your Creek baz=101	78.23 338	P	P	13 05 31.1	+0.8
H23K	Yukon River baz=100	78.24 336	P	P	13 05 31.1	+0.7
HOM	Homer baz=96	78.33 329	P	P	13 05 31.3	+0.4
SKT	Skwentna baz=97	78.55 332	P	P	13 05 32.4	+0.2
D24K	Happy Valley baz=101	78.56 339	P	P	13 05 31.9	-0.1
G23K	Bananza Creek baz=100	78.57 337	P	P	13 05 32.3	0.0
BPAW	Bear Paw Mtn. baz=98	78.58 334	P	P	13 05 32.6	+0.3
MLY	Manley	78.61 335	P	P	13 05 35.5	+3.0
MLY	Manley baz=98	78.61 335	P	P	13 05 32.9	+0.5
Q20K	Shuyak Island baz=96	78.61 328	P	P	13 05 32.3	-0.2
C24K	Franklin Bluff baz=101	78.62 340	P	P	13 05 32.2	-0.2
KDAK	Kodiak Island baz=95	78.63 328	P	P	13 05 32.7	+0.1
E23K	Chandalar baz=100	78.64 338	P	P	13 05 32.1	-0.6
COLD	Coldfoot baz=100	78.73 337	P	P	13 05 32.4	-0.7
TOLK	Toolik Lake Re baz=100	78.73 339	P	P	13 05 31.9	-1.1
N20K	Mount Spurr baz=96	78.78 331	P	P	13 05 32.8	-0.8
O20K	Slope Mountain baz=96	78.87 330	P	P	13 05 33.2	-0.8
OHAK	Old Harbor baz=95	78.96 327	P	P	13 05 33.0	-1.4
PPLA	Purkeypile	78.96 333	P	P	13 05 34.8	+0.2
PPLA			IAmb	IAmb	13 05 46.0	
	comp=Z,13nm,1.3s					
PPLA	Purkeypile baz=97	78.96 333	P	P	13 05 33.8	-0.8
CAST	Castle Rocks baz=97	78.98 333	P	P	13 05 32.5	-2.0
H22K	Ishtalitna Cre baz=98	78.99 336	P	P	13 05 33.7	-0.8
CHUM	Lake Minchumin baz=97	79.13 334	P	P	13 05 35.1	-0.2
P19K	Oil Pt	79.14 329	P	P	13 05 38.3	+2.9
P19K	Oil Pt baz=95	79.14 329	P	P	13 05 34.8	-0.6
I21K	Tanana baz=97	79.15 335	P	P	13 05 34.1	-1.3
D23K	Nanushuk River baz=99	79.18 339	P	P	13 05 34.7	-0.8
Q19K	Cape Douglas, baz=95	79.29 329	P	P	13 05 35.1	-1.1
M20K	Styx River baz=96	79.29 332	P	P	13 05 35.6	-0.7
C23K	Itkillik River baz=100	79.30 340	P	P	13 05 36.7	+0.7
SII	Sitkinak Islan baz=94	79.41 326	P	P	13 05 35.9	-1.0
E22K	Anaktuvuk Pass baz=98	79.47 338	P	P	13 05 36.0	-1.1
F22K	John River baz=98	79.53 337	P	P	13 05 36.5	-0.9
H21K	Melozitna Rive baz=97	79.55 335	P	P	13 05 37.1	-0.4
L20K	Farewell, AK baz=95	79.70 332	P	P	13 05 38.5	+0.1
N19K	Bonanza Creek baz=94	79.85 331	P	P	13 05 38.3	-1.1
K20K	Telida baz=95	79.86 333	P	P	13 05 39.8	+0.5
D22K	Ayikyak River baz=98	79.89 339	P	P	13 05 38.7	-0.6
M19K	Big River Lodg baz=95	79.89 332	P	P	13 05 39.9	+0.4
G21K	Allakaket baz=96	79.92 336	P	P	13 05 39.4	-0.2
J20K	Nowinta River baz=95	79.97 334	P	P	13 05 38.6	-1.2
F21K	Alatna River baz=96	79.99 337	P	P	13 05 39.0	-0.9
L19K	White Mountain baz=94	80.13 332	P	P	13 05 41.1	+0.3
P18K	Big Mountain, baz=93	80.13 329	P	P	13 05 40.1	-0.7
O18K	Koktuh Hills baz=94	80.15 330	P	P	13 05 41.2	+0.3
I20K	Naaghedeneel baz=95	80.16 335	P	P	13 05 41.6	+0.9
CHIR	Chirikof Islan baz=92	80.17 325	P	P	13 05 39.8	-1.3
E21K	Killik River baz=96	80.31 338	P	P	13 05 41.6	0.0
B22K	Teshekpuk Lake baz=97	80.32 340	P	P	13 05 40.6	-0.9
H20K	Anotleneega Mo baz=95	80.39 335	P	P	13 05 41.4	-0.7
N18K	Kilae Creek baz=93	80.53 330	P	P	13 05 41.4	-1.5
M18K	Stony River baz=93	80.54 331	P	P	13 05 41.0	-1.9
J19K	Poorman baz=94	80.60 334	P	P	13 05 41.8	-1.4
B21K	Ikpikpuk River baz=96	80.65 339	P	P	13 05 41.0	-2.3
C21K	Knifeblade Rid baz=96	80.67 339	P	P	13 05 42.2	-1.2
P17K	Kvichak River baz=92	80.74 329	P	P	13 05 42.9	-1.1
F20K	Avaraart Lake baz=94	80.85 337	P	P	13 05 43.2	-1.2
A22K	Sinclair Lake baz=96	80.91 341	P	P	13 05 43.1	-1.5
L18K	Granite Mounta baz=93	80.99 332	P	P	13 05 44.8	-0.5
H19K	Roundabout Mou baz=93	81.05 335	P	P	13 05 44.2	-1.3
J18K	Innoko River baz=93	81.06 333	P	P	13 05 42.6	-3.0
O17K	Koliganek Bris baz=92	81.10 329	P	P	13 05 44.4	-1.4
E20K	Nigu River baz=94	81.11 338	P	P	13 05 44.2	-1.7
N17K	Nushagak Hills baz=92	81.17 330	P	P	13 05 44.8	-1.5
D20K	Etivluk River baz=94	81.30 338	P	P	13 05 47.7	+0.9
R16K	Pilot Point baz=91	81.30 327	P	P	13 05 46.3	-0.7
M17K	Holitna River baz=92	81.31 331	P	P	13 05 47.0	0.0
G19K	Purcell Mounta baz=93	81.34 336	P	P	13 05 47.6	+0.6
E19K	Redstone River baz=93	81.46 337	P	P	13 05 48.1	+0.4
O16K	Kokwok River B baz=91	81.60 329	P	P	13 05 48.6	+0.1
F19K	Shalaruckik Mo baz=92	81.64 337	P	P	13 05 49.8	+1.2
L17K	Donlin baz=91	81.74 332	P	P	13 05 48.4	-0.8
CHGN	Chignik baz=90	81.75 326	P	P	13 05 48.2	-1.1
K17K	Iditarod baz=91	81.75 332	P	P	13 05 49.3	0.0
D19K	Kuna River baz=92	81.83 338	P	P	13 05 50.1	+0.4
G18K	Tagagawik baz=91	81.97 336	P	P	13 05 51.2	+0.8
S14K	Fog Glacier baz=89	82.38 326	P	P	13 05 51.5	-1.4
F18K	Selawik baz=91	82.38 336	P	P	13 05 52.5	0.0
C19K	Lookout Ridge baz=91	82.39 339	P	P	13 05 52.8	+0.2
CHNA	Chernabura Isl baz=89	82.43 324	P	P	13 05 52.5	-0.4
H17K	Granite Mounta baz=90	82.49 335	P	P	13 05 51.9	-1.1
N15K	Kwethluk River baz=89	82.61 330	P	P	13 05 51.7	-2.1
E18K	Tukpahlearik C baz=90	82.76 337	P	P	13 05 53.6	-0.8
G17K	Kiwalik Mounta baz=90	82.80 335	P	P	13 05 54.5	-0.1
J16K	Anvik River baz=89	82.80 333	P	P	13 05 55.1	+0.4
I17K	Unalakleet baz=89	82.83 334	P	P	13 05 54.4	-0.5
M15K	Kasigluk River baz=89	82.89 330	P	P	13 05 54.8	-0.4
A19K	Wainwright baz=90	82.91 340	P	P	13 05 55.3	+0.2
SDPT	Sand Point baz=88	82.92 325	P	P	13 05 55.2	-0.3
C18K	Utukok River baz=90	82.97 338	P	P	13 05 54.6	-1.0
E17K	Hotham Inlet baz=89	83.24 337	P	P	13 05 57.0	+0.1
N14K	Kuskokwak Cree baz=88	83.41 330	P	P	13 05 58.0	+0.1
G16K	Koyuk River baz=88	83.51 335	P	P	13 05 58.2	-0.1
S12K	Black Hills baz=87	83.81 325	P	P	13 06 01.0	+1.0
J14K	Nanvaranak Lak baz=87	84.17 332	P	P	13 06 02.4	+0.7
C16K	Lisburne Hills	84.52 338	P	P	13 06 04.9	+1.6
K13K	Kusilvak Mount	84.74 332	P	P	13 06 07.7	+3.1
K13K			IAmb	IAmb	13 06 21.9	
	comp=Z,15nm,1.3s					
GAMB	Gambell baz=79	87.70 334	P	P	13 06 18.6	-0.4
NIKH	Nikolski High baz=81	88.05 323	P	P	13 06 20.0	-0.9
SPIA	Saint Paul Isl baz=80	88.16 327	P	P	13 06 20.2	-1.1
ZALV	Zalesovo Beam comp=Z,0.4nm,0.5s,baz=349,slow=2.9,SNR=1.8	116.61 14	PKP	PKPdf	13 12 12.6	-1.1
KURBB	Kurchatov Arra comp=Z,0.1nm,0.3s,baz=317,slow=2.0,SNR=1.5	117.70 20	PKP	PKPdf	13 12 15.7	-0.2
MKAR	Makanchi Array comp=Z,0.3nm,0.4s,baz=307,slow=2.1,SNR=5.5	122.26 20	PKP	PKPdf	13 12 24.1	-0.8
AS31	Alice Springs	149.18 234	PKPdf	PKPbc	13 13 18.5	-0.7
ASAR	Alice Springs	149.18 234	PKPdf	PKPbc	13 13 18.3	-0.9
ASAR	Alice Springs comp=Z,0.7nm,0.5s,baz=113,slow=4.0,SNR=20	149.18 234	PKPbc	PKPbc	13 13 17.8	-1.4
WB2	Warramunga Arr	150.39 241	PKPdf	PKPbc	13 13 21.4	-0.8
WRA	Warramunga Arr	150.40 241	PKPdf	PKPbc	13 13 21.4	-0.8
WRA	Warramunga Arr comp=Z,1.0nm,0.5s,baz=108,slow=2.6,SNR=46	150.40 241	PKPbc	PKPbc	13 13 21.0	-1.2
WB0	Warramunga Arr	150.42 242	PKPdf	PKPbc	13 13 21.3	-0.9
NWAO	Narrogin (SRO)	152.35 199	PKPdf	PKPbc	13 13 23.8	-2.5
CMAR	Chiang Mai Arr comp=Z,0.8nm,0.6s,baz=326,slow=6,SNR=4.8	153.63 17	PKPbc	PKiKP	13 13 29.6	-0.1
CMAR			PKPab	PKPab	13 13 42.1	-0.4
	comp=Z,0.3nm,0.5s,baz=325,slow=4.4,SNR=1.5					

JMA ***25*** *13:42:20.4±0.1,22.2N±0.6×121.7E±0.4,h13km,MV2.8/9, TAIWAN REGION*

TAP ***25*** *13:42:20.7,22.16N×121.54E,h19km,ML2.5,C*

ISC 25 13:42:19.7±1.0,22.12N±0.04×121.59E±0.03,h25km±8km, n64,o90/101,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LAY	Lan-yu baz=181	0.09	202	eP		Pb	13 42 25.0	+0.7
LYUB	Lan-yu baz=172	0.12	181	i P		Pb	13 42 24.7	+0.2
LYUB	baz=172			eS		Sb	13 42 27.0	-0.7
LDUT	Ludao baz=360	0.56	349	P		Pb	13 42 30.8	-0.2
LDUT	baz=360			eS		Sb	13 42 38.5	-0.2
TAW	Tawu baz=290	0.68	291	P		Pb	13 42 32.6	-0.3
TAWH	Dawu Township baz=288	0.68	289	P		Pb	13 42 32.6	-0.4
TAWH	baz=288			eS		Sb	13 42 41.3	-0.7
EAST	Anshuo baz=291	0.73	291	P		Pb	13 42 33.4	-0.4
EAST	baz=291			eS		Sb	13 42 41.8	-1.7
SLIU	Shizi baz=277	0.74	278	P		Pb	13 42 33.6	-0.3
SLIU	baz=277			eS		Sb	13 42 42.2	-1.4
TWKBT	Hengchun baz=267	0.74	256	P		Pb	13 42 34.0	+0.1
TWKBT	baz=267			eS		Sb	13 42 42.9	-0.8
TWK1	Hengchun baz=266	0.74	257	eP		Pb	13 42 34.0	-0.1
TWK1	baz=266			eS		Sb	13 42 43.3	-0.5
ECL	Taimali baz=297	0.76	309	P		Pb	13 42 33.5	-0.7

ECL				*e*S		**Sb**	**13 42 42.3**	**-1.8**
	baz=297							
HEN	**Hengchun**	**0.79**	**262**	*e*S		**Sn**	**13 42 45.4**	**-0.9**
	baz=270							
TWGBT	**Beinan**	**0.84**	**326**	*e*P		**Pb**	**13 42 35.3**	**-0.4**
	baz=312							
TWG	**Pinlang**	**0.85**	**326**	*e*P		**Pn**	**13 42 36.1**	**+0.2**
	baz=312							
EDH	**Donghe**	**0.89**	**343**	*e*P		**Pb**	**13 42 35.1**	**-1.4**
	baz=344							
LONT	**Longtian**	**0.89**	**332**	*e*P		**Pb**	**13 42 35.9**	**-0.6**
	baz=341							
LONT				*e*S		**Sb**	**13 42 47.1**	**-0.9**
	baz=341							
SCZT	**Fangliau**	**0.93**	**286**	P		**Pn**	**13 42 36.8**	**-0.3**
	baz=294							
CHKT	**Chengkung**	**1.00**	**348**	*e*P		**Pb**	**13 42 37.0**	**-1.1**
	baz=358							
CHKT				*e*S		**Sb**	**13 42 49.7**	**-1.4**
	baz=358							
MASBT	**Mashibuluo**	**1.01**	**299**	*e*P		**Pn**	**13 42 37.8**	**-0.4**
	baz=299							
ECS	**Chishang**	**1.03**	**341**	*e*S		**Sn**	**13 42 53.6**	**+1.4**
	baz=349							
TSMG	**Majia**	**1.05**	**304**	*e*P		**Pb**	**13 42 39.1**	**0.0**
	baz=304							
SSD	**Sandimen**	**1.08**	**306**	*e*P		**Pb**	**13 42 40.1**	**+0.4**
	baz=306							
CHKH	**Chenggong**	**1.08**	**351**	*e*P		**Pn**	**13 42 38.8**	**-0.4**
	baz=1.0							
CHKH				*e*S		**Sb**	**13 42 51.5**	**-2.0**
	baz=1.0							
EHD	**Haiduan**	**1.08**	**341**	*e*P		**Pb**	**13 42 39.3**	**-0.5**
	baz=350							
EHD				*e*S		**Sn**	**13 42 53.5**	**0.0**
	baz=350							
FULB	**Fuli**	**1.11**	**346**	P		**Pn**	**13 42 39.3**	**-0.3**
	baz=356							
FULB				*e*S		**Sb**	**13 42 52.8**	**-1.5**
	baz=356							
ELDTW	**Lidau**	**1.19**	**334**	*e*P		**Pn**	**13 42 40.8**	**-0.1**
	baz=335							
SLGT	**Liugui**	**1.23**	**315**	*e*P		**Pb**	**13 42 42.5**	**+0.3**
	baz=315							
EYUL	**Yuli**	**1.25**	**349**	*e*P		**Pb**	**13 42 42.5**	**-0.1**
	baz=335							
EYUL				*e*S		**Sn**	**13 42 57.2**	**-0.3**
	baz=335							
TWF1	**Yuli**	**1.26**	**348**	*e*P		**Pn**	**13 42 41.7**	**0.0**
	baz=357							
SCST	**Cishan**	**1.27**	**307**	*e*P		**Pb**	**13 42 43.9**	**+1.0**
	baz=308							
SCST				*e*S		**Sb**	**13 43 00.2**	**+1.4**
	baz=308							
YULB	**Yu-li**	**1.30**	**348**	P		**Pb**	**13 42 42.7**	**-0.7**
	baz=335							
YULB				*e*S		**Sb**	**13 42 58.7**	**-0.9**
	baz=335							
SGST	**Jiashian**	**1.33**	**316**	*e*P		**Pb**	**13 42 44.2**	**+0.1**
	baz=329							
SGST				*e*S		**Sb**	**13 43 02.3**	**+1.5**
	baz=329							
HGSD	**Ruisui**	**1.38**	**354**	*e*P		**Pn**	**13 42 42.6**	**-0.6**
	baz=2.0							
EHY	**Hungye**	**1.40**	**350**	P		**Pn**	**13 42 43.8**	**+0.2**
	baz=337							
EHY				*e*S		**Sn**	**13 43 00.5**	**-0.9**
	baz=337							
WTP	**Ta-pu**	**1.44**	**322**	*e*P		**Pb**	**13 42 46.3**	**+0.4**
	baz=322							
WTP				*e*S		**Sb**	**13 43 04.5**	**+0.7**
	baz=322							
CHN1	**Nanshi**	**1.44**	**318**	*e*P		**Pb**	**13 42 46.2**	**+0.3**
	baz=329							
CHN1				*e*S		**Sb**	**13 43 05.3**	**+1.4**
	baz=329							
TPUB	**Ta-pu**	**1.47**	**323**	*e*P		**Pb**	**13 42 46.5**	**+0.1**
	baz=324							
TPUB				*e*S		**Sb**	**13 43 06.2**	**+1.5**
	baz=324							
SNST	**Tainan City**	**1.49**	**318**	*e*P		**Pb**	**13 42 47.1**	**+0.4**
	baz=318							
SNST				*e*S		**Sb**	**13 43 06.9**	**+1.7**
	baz=318							
TWK	**Hsinying**	**1.53**	**319**	*e*P		**Pb**	**13 42 47.4**	**0.0**
	baz=320							
TWK				*e*S		**Sb**	**13 43 07.5**	**+1.1**
	baz=320							
CHN4	**Tsaushan**	**1.53**	**323**	*e*P		**Pb**	**13 42 47.7**	**+0.3**
	baz=331							
WCKO	**Fanlu**	**1.60**	**326**	*e*S		**Sb**	**13 43 09.1**	**+0.8**
	baz=326							
WARBT	**Fenglin Townsh**	**1.60**	**353**	*e*P		**Pn**	**13 42 46.7**	**+0.3**
	baz=2.0							
WARBT				*e*S		**Sn**	**13 43 05.5**	**-0.8**
	baz=2.0							
SHUL	**Shoufeng**	**1.66**	**359**	*e*P		**Pn**	**13 42 47.4**	**+0.2**
	baz=6.0							
SHUL				*e*S		**Sn**	**13 43 07.8**	**+0.1**
	baz=6.0							
VWDT	**VWDT**	**1.68**	**346**	*e*P		**Pb**	**13 42 48.9**	**-1.0**
	baz=355							
CHN5	**Tsauling**	**1.69**	**331**	*e*P		**Pb**	**13 42 50.8**	**+0.6**
	baz=313							
CHN5				*e*S		**Sb**	**13 43 12.9**	**+1.8**
	baz=313							
ESL	**Shilin**	**1.69**	**355**	*e*P		**Pn**	**13 42 48.4**	**+0.8**
	baz=5.0							
WHYT	**Xinyi Township**	**1.71**	**337**	*e*P		**Pb**	**13 42 50.2**	**-0.3**
	baz=337							
SSLB	**Suanglung**	**1.76**	**341**	*e*P		**Pb**	**13 42 50.4**	**-1.0**
	baz=352							
LXIB	**Xiulin Townshi**	**1.90**	**355**	*e*P		**Pn**	**13 42 51.0**	**+0.3**
	baz=1.0							
LXIB				*e*S		**Sn**	**13 43 13.5**	**-0.3**
	baz=1.0							
TYC	**Yuchr**	**1.90**	**339**	*e*P		**Pb**	**13 42 53.6**	**-0.1**
	baz=323							
TYC				*e*S		**Sb**	**13 43 18.4**	**+1.4**
	baz=323							
WUSB	**Renai**	**1.92**	**347**	*e*P		**Pb**	**13 42 53.0**	**-1.0**
	baz=358							
WUSB				*e*S		**Sn**	**13 43 14.6**	**+0.5**
	baz=358							
CHGB	**Renai**	**1.97**	**349**	*e*P		**Pb**	**13 42 53.7**	**-1.3**
	baz=359							
WCS	**Beigang Elemen**	**2.03**	**342**	*e*P		**Pb**	**13 42 55.0**	**-0.9**
	baz=352							
NACB	**Ninganchiao**	**2.05**	**0**	*e*P		**Pn**	**13 42 52.7**	**+0.2**
	baz=10.0							
WDGT	**Dungji**	**2.11**	**303**	*e*P		**Pn**	**13 42 54.2**	**+0.8**
	baz=304							
WDGT				*e*S		**Sn**	**13 43 18.4**	**-0.4**
	baz=304							
WHP	**Taichung City**	**2.23**	**345**	*e*P		**Pb**	**13 42 59.6**	**+0.3**
	baz=354							
WHP				*e*S		**Sb**	**13 43 28.0**	**+1.4**
	baz=354							
EOS3	**EOS3**	**2.26**	**17**	*e*P		**Pn**	**13 42 57.2**	**+1.9**
	baz=14							
EOS3				*e*S		**Sn**	**13 43 22.6**	**+0.2**
	baz=14							
VCHM	**Qimei**	**2.27**	**299**	*e*P		**Pn**	**13 42 56.1**	**+0.5**
	baz=300							
VCHM				*e*S		**Sn**	**13 43 21.7**	**-1.0**
	baz=300							
NNSB	**Datong**	**2.31**	**355**	*e*P		**Pn**	**13 42 58.0**	**+1.8**
	baz=5.0							
PHUB	**P'eng-hu**	**2.32**	**307**	*e*P		**Pn**	**13 42 57.2**	**+0.9**
	baz=308							
PHUB				*e*S		**Sn**	**13 43 23.8**	**-0.1**
	baz=308							
IRIF	**Iriomote-Funau**	**2.96**	**41**	*e*P		**Pn**	**13 43 06.7**	**+1.7**
IRIF				S		**Sn**	**13 43 39.7**	**0.0**
JKRS	**Kuro-shima**	**3.07**	**46**	*e*P		**Pn**	**13 43 06.5**	**0.0**
JKRS				*e*S		**Sn**	**13 43 42.0**	**-0.5**
JIJ	**Ishigaki jima**	**3.25**	**46**	*e*P		**Pn**	**13 43 10.0**	**+1.0**
JIJ				*e*S		**Sn**	**13 43 45.3**	**-1.5**
JISG	**Ishigakijimahi**	**3.51**	**45**	*e*S		**Sn**	**13 43 52.3**	**-1.0**
JTJ	**Tarama**	**3.81**	**48**	*e*S		**Sn**	**13 44 00.7**	**0.0**

BUG ***25*** *13:44:20.3,50˚.16N×12˚.66E,h10ᵏᵐ,MD4.2/9,ML3.7/9*
VIE ***25*** *13:44:22.0±0.2,50˚.22N×12˚.40E,h10ᵏᵐ,mb2.2/15,*
ml3.2/16,Error ellipse: s-maj=2.3km s-min=1.5km az=65.0
LDG ***25*** *13:44:22.4±0.1,50˚.26N×12˚.41E,h3ᵏᵐ,Ml2.9/15,Error*
ellipse: s-maj=1.5km s-min=0.8km az=161.0

CLL ***25*** *13:44:22.7±0.3,50˚.26N×12˚.44E,h8ᵏᵐ±1ᵏᵐ,ML2.9*
IPEC ***25*** *13:44:22.1±0.1,50˚.26N×12˚.45E,h11ᵏᵐ,ML2.8/10,Error*
ellipse: s-maj=1.4km s-min=1.1km az=159.0
WBNET ***25*** *13:44:22.4,50˚.25N×12˚.45E,h9ᵏᵐ,Ml2.8*
PRU ***25*** *13:44:22.0,50˚.25N×12˚.47E,h10ᵏᵐ, West Bohemia*
Swarm
BGR ***25*** *13:44:22.1±0.2,50˚.25N×12˚.45E,h10ᵏᵐ±2ᵏᵐ,ML2.8/7,*
Error ellipse: s-maj=2.2km s-min=1.1km az=82.0

ISC 25 13:44:21.6±0.7,50.25N±0.01×12.40E±0.01,h17ᵏᵐ±3ᵏᵐ,
n117,σ1ŝ43/222,5C-5D,Germany

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
LBCW	**Luby**	**0.02**	**23**	⇓P		**Pg**	**13 44 24.2**	**-0.4**
LBCW				S		**Sg**	**13 44 25.5**	**-1.1**
VAC	**Vackov**	**0.02**	**227**	*i* Pg		**Pg**	**13 44 24.4**	**-0.2**
VAC				*i* Sg		**Sg**	**13 44 25.6**	**-1.0**
VAC	**Vackov**	**0.02**	**227**	⇓P		**Pg**	**13 44 24.3**	**-0.2**
VAC				S		**Sg**	**13 44 25.6**	**-1.0**
NKC	**Novy Kostel**	**0.03**	**120**	*i* Pg		**Pg**	**13 44 24.2**	**-0.4**
NKC				*i* Sg		**Sg**	**13 44 25.3**	**-1.3**
NKC				IAML			13 44 25.6	
	comp=N,7μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**120**	*e*PG		**Pg**	**13 44 24.0**	**-0.6**
NKC				*e*SG		**Sg**	**13 44 25.4**	**-1.3**
	comp=N,4μm,0.3s							
NKC	**Novy Kostel**	**0.03**	**120**	*i* Pg		**Pg**	**13 44 24.2**	**-0.4**
NKC				*i* Sg		**Sg**	**13 44 25.3**	**-1.3**
	comp=N,7μm,0.2s							
NKC	**Novy Kostel**	**0.03**	**120**	⇑P		**Pg**	**13 44 24.2**	**-0.4**
NKC				S		**Sg**	**13 44 25.3**	**-1.3**
WERN	**Wernitzgruen**	**0.04**	**336**	*i* Pg		**Pg**	**13 44 24.5**	**-0.2**
WERN				*i* Sg		**Sg**	**13 44 25.9**	**-0.9**
WERN				IAML			13 44 26.0	
	comp=E,11μm,0.2s							
WERN	**Wernitzgruen**	**0.04**	**336**	*i* Pg		**Pg**	**13 44 24.5**	**-0.2**
WERN				*i* Sg		**Sg**	**13 44 25.9**	**-0.9**
	comp=E,11μm,0.2s							
ROHR	**Rohrbach**	**0.06**	**254**	*i* Pg		**Pg**	**13 44 24.7**	**0.0**
ROHR				*i* Sg		**Sg**	**13 44 26.3**	**-0.6**
ROHR				IAML			13 44 26.4	
	comp=E,6μm,0.2s							
ROHR	**Rohrbach**	**0.06**	**254**	*i* Pg		**Pg**	**13 44 24.7**	**0.0**
ROHR				*i* Sg		**Sg**	**13 44 26.3**	**-0.6**
	comp=E,6μm,0.2s							
POCW	**Potky**	**0.07**	**13**	⇑P		**Pg**	**13 44 24.6**	**-0.3**
POCW				S		**Sg**	**13 44 26.1**	**-1.0**
SKC	**Skalna**	**0.08**	**198**	⇑P		**Pg**	**13 44 25.0**	**0.0**
SKC				S		**Sg**	**13 44 26.7**	**-0.4**
KVC	**Kvetna**	**0.09**	**121**	*i* Pg		**Pg**	**13 44 24.5**	**-0.5**
KVC				*i* Sg		**Sg**	**13 44 25.9**	**-1.4**
KVC	**Kvetna**	**0.09**	**121**	⇓P		**Pg**	**13 44 24.5**	**-0.5**
KVC				S		**Sg**	**13 44 25.9**	**-1.4**
KOCW	**Kopaniny**	**0.11**	**278**	⇓P		**Pg**	**13 44 25.5**	**+0.3**
KOCW				S		**Sg**	**13 44 27.6**	**-0.1**
KRCW	**Kraslice**	**0.12**	**45**	⇑P		**Pg**	**13 44 24.9**	**-0.5**
KRCW				S		**Sg**	**13 44 26.5**	**-1.3**
GUNZ	**Gunzen**	**0.12**	**338**	*i* Pg		**Pg**	**13 44 25.5**	**+0.1**
GUNZ				*i* Sg		**Sg**	**13 44 27.5**	**-0.5**
GUNZ				IAML			13 44 27.9	
	comp=E,3μm,0.2s							
GUNZ	**Gunzen**	**0.12**	**338**	*i* Pg		**Pg**	**13 44 25.5**	**+0.1**
GUNZ				*i* Sg		**Sg**	**13 44 27.5**	**-0.5**
	comp=E,3μm,0.2s							
MULD	**Muldenberg**	**0.16**	**0**	*i* Pg		**Pg**	**13 44 25.9**	**0.0**
MULD				*i* Sg		**Sg**	**13 44 28.1**	**-0.7**
MULD				IAML			13 44 28.2	
	comp=E,4μm,0.1s							
MULD	**Muldenberg**	**0.16**	**0**	*i* Pg		**Pg**	**13 44 25.9**	**0.0**
MULD				*i* Sg		**Sg**	**13 44 28.1**	**-0.7**
	comp=E,4μm,0.1s							
TANN	**Tannenbergstha**	**0.17**	**13**	*i* Pg		**Pg**	**13 44 25.8**	**-0.2**
TANN				*i* Sg		**Sg**	**13 44 28.0**	**-1.0**
TANN				IAML			13 44 28.6	
	comp=N,7μm,0.2s							
TANN	**Tannenbergstha**	**0.17**	**13**	*i* Pg		**Pg**	**13 44 25.8**	**-0.2**
TANN				*i* Sg		**Sg**	**13 44 28.0**	**-1.0**
	comp=N,7μm,0.2s							
ZHC	**Zelena Hora**	**0.19**	**198**	⇑P		**Pg**	**13 44 26.7**	**+0.4**
ZHC				S		**Sg**	**13 44 29.6**	**+0.2**
TRIB	**Obertriebel**	**0.20**	**301**	*i* Pg		**Pg**	**13 44 26.9**	**+0.5**
TRIB				*e*Sg		**Sg**	**13 44 29.9**	**+0.2**
TRIB				IAML			13 44 30.2	
	comp=N,911nm,0.3s							
TRIB	**Obertriebel**	**0.20**	**301**	*i* Pg		**Pg**	**13 44 26.9**	**+0.5**
TRIB				*e*Sg		**Sg**	**13 44 29.9**	**+0.2**
	comp=N,911nm,0.3s							
VIEL	**Selb-Vielitz**	**0.20**	**252**	*i* Pg		**Pg**	**13 44 27.0**	**+0.6**
VIEL				*i* Sg		**Sg**	**13 44 30.1**	**+0.4**
VIEL	**Selb-Vielitz**	**0.20**	**252**	*i* Pg		**Pg**	**13 44 27.0**	**+0.6**
VIEL				*i* Sg		**Sg**	**13 44 30.1**	**+0.4**
WERD	**Werda**	**0.21**	**343**	*i* Pg		**Pg**	**13 44 26.8**	**+0.2**
WERD				*e*Sg		**Sg**	**13 44 29.5**	**-0.4**
WERD				IAML			13 44 29.7	
	comp=E,923nm,0.1s							
WERD	**Werda**	**0.21**	**343**	*i* Pg		**Pg**	**13 44 26.8**	**+0.2**
WERD				*e*Sg		**Sg**	**13 44 29.5**	**-0.4**
	comp=E,923nm,0.1s							
LACW	**Lazy**	**0.25**	**144**	*i* Pg		**Pg**	**13 44 27.3**	**+0.2**
LACW				*i* Sg		**Sg**	**13 44 30.6**	**-0.3**
LACW	**Lazy**	**0.25**	**144**	*i* Pg		**Pg**	**13 44 27.3**	**+0.2**
LACW				*i* Sg		**Sg**	**13 44 30.6**	**-0.3**
LACW	**Lazy**	**0.25**	**144**	⇓P		**Pg**	**13 44 27.3**	**+0.2**
LACW				S		**Sg**	**13 44 30.6**	**-0.3**
PLN	**Plauen**	**0.28**	**326**	*i* Pg		**Pg**	**13 44 28.2**	**+0.4**
PLN				*e*Sg		**Sg**	**13 44 32.2**	**+0.2**
PLN				IAML			13 44 32.3	
	comp=E,744nm,0.2s							
PLN	**Plauen**	**0.28**	**326**	*i* Pg		**Pg**	**13 44 28.2**	**+0.4**
PLN				*e*Sg		**Sg**	**13 44 32.2**	**+0.2**
	comp=E,744nm,0.2s							
MANZ	**Manzenberg**	**0.33**	**216**	*e*Pg		**Pg**	**13 44 29.1**	**+0.7**
MANZ				*e*Sg		**Sg**	**13 44 33.7**	**+0.6**
SCHF	**Schoenfels**	**0.43**	**0**	*i* Pg		**Pg**	**13 44 30.6**	**+0.2**
SCHF				*i* Sg		**Sg**	**13 44 36.2**	**0.0**
SCHF				IAML			13 44 36.7	
	comp=E,1μm,0.3s							
SCHF	**Schoenfels**	**0.43**	**0**	*i* Pg		**Pg**	**13 44 30.6**	**+0.2**
SCHF				*i* Sg		**Sg**	**13 44 36.2**	**0.0**
	comp=E,1μm,0.3s							
GRZ1	**Mausoleum Wald**	**0.46**	**345**	*i* Pg		**Pg**	**13 44 31.2**	**+0.4**
GRZ1				*i* Sg		**Sg**	**13 44 37.0**	**-0.1**
GRZ1				IAML			13 44 38.6	
	comp=E,636nm,0.3s							
GRZ1	**Mausoleum Wald**	**0.46**	**345**	*i* Pg		**Pg**	**13 44 31.2**	**+0.4**
GRZ1				*i* Sg		**Sg**	**13 44 37.0**	**-0.1**
	comp=E,636nm,0.3s							
ZEU	**Talsperre Zeul**	**0.50**	**327**	*i* Pg		**Pg**	**13 44 32.2**	**+0.5**
ZEU				*e*Sg		**Sg**	**13 44 39.2**	**+0.8**
ZEU	**Talsperre Zeul**	**0.50**	**327**	*i* Pg		**Pg**	**13 44 32.2**	**+0.5**
ZEU				*e*Sg		**Sg**	**13 44 39.2**	**+0.8**
MOX	**Moxa**	**0.64**	**308**	*e*Pg		**Pg**	**13 44 34.9**	**+0.7**
MOX				*e*Sg		**Sg**	**13 44 44.5**	**+1.4**
HSKC	**Hora Svate Kat**	**0.75**	**61**	*e*PG		**Pg**	**13 44 36.0**	**-0.3**
HSKC				*e*SG		**Sg**	**13 44 45.4**	**-0.8**
	comp=E,448nm,0.2s							
FBE	**Freiberg**	**0.91**	**42**	*e*Pg		**Pg**	**13 44 39.2**	**0.0**
FBE				*e*Sg		**Sg**	**13 44 50.5**	**-0.6**
RICC	**Richard**	**1.12**	**74**	*e*SG		**Sg**	**13 44 57.3**	**-0.7**
	comp=E,347nm,0.3s							
CLL	**Collm**	**1.13**	**20**	*i* Pg		**Pb**	**13 44 43.1**	**+0.5**
CLL				*i* x		x	13 44 45.1	
CLL				*i* x		x	13 44 46.7	
CLL				*i* Sg		**Sg**	**13 44 57.6**	**-0.5**
	comp=Z,184nm,0.6s							
CLL				*i* x		x	13 45 01.6	
CLL	**Collm**	**1.13**	**20**	*e*Pg		**Pb**	**13 44 43.2**	**+0.5**
CLL				*e*Sg		**Sg**	**13 44 57.6**	**-0.5**
WET	**Wettzell**	**1.15**	**164**	*e*Pg		**Pb**	**13 44 43.6**	**+0.6**
WET				*e*Sg		**Sb**	**13 44 58.8**	**+1.1**
BRG	**Berggiesshubel**	**1.16**	**57**	Pg		**Pb**	**13 44 43.8**	**+0.5**
BRG				Sg		**Sb**	**13 44 58.5**	**+0.3**
BRG				Amp			13 44 59.1	
	comp=Z,148nm,0.2s							
BRG	**Berggiesshubel**	**1.16**	**57**	*e*Pg		**Pb**	**13 44 43.8**	**+0.5**
BRG				*e*Sg		**Sb**	**13 44 58.2**	**+0.1**
PRA	**Prague**	**1.32**	**97**	*e*Pn		**Pn**	**13 44 46.1**	**+0.8**
PRA	**Prague**	**1.32**	**97**	*e*SG		**Sb**	**13 45 02.5**	**0.0**
	comp=Z,91nm,0.3s							
KHC	**Kasperske Hory**	**1.36**	**145**	*e*PG		**Pn**	**13 44 46.6**	**+0.8**
KHC				*e*SG		**Sb**	**13 45 03.8**	**+0.1**
	comp=Z,68nm,0.3s							

PRU	**Pruhonice**	**1.40**	**100**	*e*SG		**Sn**	**13 45 05.5**	**+1.0**
	comp=Z,119nm,0.2s							
PRU	**Pruhonice**	**1.40**	**100**	*e*Pg		**Pn**	**13 44 47.6**	**+1.2**
PRU				*e*Sg		**Sg**	**13 45 06.2**	**-0.7**
PVCC	**Panska Ves**	**1.42**	**78**	*e*SG		**Sg**	**13 45 06.6**	**-0.7**
	comp=Z,258nm,0.3s							
GOPC	**GO Pecny, Ondr**	**1.57**	**101**	*e*SG		**Sb**	**13 45 11.0**	**+1.1**
	comp=Z,82nm,0.3s							
UBBA	**Unterbreizbach**	**1.64**	**291**	Pn		**Pn**	**13 44 51.5**	**+2.0**
GEC2	**GERESS Array S**	**1.64**	**148**	*e*Pg		**Pb**	**13 44 52.3**	**+0.8**
GEC2				Sn		**Sn**	**13 45 09.2**	**-1.4**
GEC2				*e*Sg		**Sb**	**13 45 13.1**	**+1.1**
CKRC	**Cesky Krumlov**	**1.90**	**138**	*e*SG		**Sb**	**13 45 19.9**	**+0.7**
	comp=Z,35nm,0.2s							
FUR	**Furstenfeldbru**	**2.21**	**200**	Pg		**Pb**	**13 45 03.2**	**+2.0**
FUR				Sn		**Sn**	**13 45 26.1**	**+1.6**
TREC	**Trest**	**2.22**	**114**	*e*SG		**Sb**	**13 45 30.3**	**+1.9**
A106B	**Goeppingen, Ma**	**2.30**	**230**	Pn		**Pn**	**13 44 58.9**	**+0.1**
A106B				Sg		**Sn**	**13 45 29.8**	**+3.1**
UPC	**Upice**	**2.33**	**82**	*e*SG		**Sg**	**13 45 33.9**	**-2.4**
	comp=Z,77nm,0.5s							
CHVC	**Chvalec**	**2.36**	**80**	*e*SG		**Sg**	**13 45 35.6**	**-1.9**
	comp=Z,66nm,0.5s							
DPC	**Dobruska-Polom**	**2.52**	**86**	*e*SG		**Sb**	**13 45 39.6**	**+2.6**
	comp=Z,36nm,0.3s							
TNS	**Taunus Mts**	**2.54**	**271**	Pn		**Pb**	**13 45 06.7**	**-0.1**
TNS				Sn		**Sb**	**13 45 37.7**	**-0.1**
A108A	**Ulm, Ringingen**	**2.54**	**222**	Pg		**Pb**	**13 45 09.6**	**+2.8**
A109A	**Bad Urach, See**	**2.64**	**228**	Pn		**Pn**	**13 45 03.4**	**-0.1**
A109A				Sn		**Sn**	**13 45 31.9**	**-3.3**
A107C	**Memmingen - Ei**	**2.66**	**214**	Pn		**Pn**	**13 45 05.3**	**+1.5**
A107C				Sn		**Sn**	**13 45 33.9**	**-1.8**
BIOA	**Bad Ischl, Aus**	**2.69**	**162**	*e*Pg		**Pg**	**13 45 12.6**	**-0.5**
	comp=Z,5.6nm,0.3s							
BIOA				*e*Sg		**Sg**	**13 45 46.7**	**-1.2**
	comp=Z,54nm,0.4s							
MOA	**Molln**	**2.70**	**152**	Pn		**Pn**	**13 45 05.7**	**+1.4**
	comp=Z,0.7nm,0.1s							
MOA				*e*Pg		**Pg**	**13 45 13.3**	**0.0**
	comp=Z,2.2nm,0.1s							
MOA				*e*Sg		**Sb**	**13 45 45.8**	**+3.6**
	comp=Z,11nm,0.3s							
A104C	**Biberach, Ahle**	**2.79**	**221**	Pg		**Pg**	**13 45 14.6**	**-0.4**
A104C				Sn		**Sn**	**13 45 38.5**	**-0.2**
KRLC	**Kraliky**	**2.82**	**92**	*e*SG		**Sg**	**13 45 50.1**	**-2.1**
	comp=Z,34nm,0.5s							
LESA	**Schwarzleotal**	**2.83**	**176**	*i* Pg		**Pg**	**13 45 16.6**	**+0.7**
	comp=Z,6.3nm,0.3s							
LESA				*e*Sg		**Sg**	**13 45 50.7**	**-1.9**
	comp=Z,25nm,0.3s							
KRUC	**Moravsky**	**2.85**	**113**	*e*Pn		**Pn**	**13 45 07.1**	**+0.7**
	baz=296							
KRUC				*e*Sg		**Sg**	**13 45 50.5**	**-2.8**
	comp=Z,43nm,0.5s,baz=296							
VRAC	**Vranov**	**2.88**	**108**	*e*Pn		**Pn**	**13 45 07.2**	**+0.5**
	baz=291							
VRAC				*e*Sg		**Sg**	**13 45 51.4**	**-2.5**
	comp=Z,43nm,0.6s,baz=291							
A100A	**Rottenburg, We**	**2.90**	**233**	Pn		**Pn**	**13 45 07.1**	**+0.1**
A100A				Sn		**Sn**	**13 45 40.8**	**-0.7**
WATA	**Walderalm**	**2.97**	**191**	*e*Pn		**Pn**	**13 45 08.7**	**+0.7**
	comp=Z,1.1nm,0.1s							
WATA				Sn		**Sn**	**13 45 45.8**	**+2.4**
	comp=Z,18nm,0.2s							
WATA				*e*Sg		**Sg**	**13 45 58.0**	**+1.1**
	comp=Z,17nm,0.2s							
RETA	**Reutte**	**2.97**	**202**	*e*Pn		**Pn**	**13 45 08.2**	**+0.2**
	comp=Z,1.5nm,0.3s							
RETA				*e*Pg		**Pg**	**13 45 18.9**	**+0.4**
	comp=Z,5.2nm,0.3s							
RETA				Sg		**Sg**	**13 45 57.7**	**+0.7**
	comp=Z,18nm,0.3s							
A102A	**Sigmaringen, J**	**2.98**	**226**	Pn		**Pn**	**13 45 08.3**	**+0.2**
A102A				Sn		**Sn**	**13 45 45.6**	**+2.1**
UBR	**Ueberruh**	**2.98**	**211**	Pn		**Pn**	**13 45 08.0**	**-0.3**
UBR				Sn		**Sn**	**13 45 41.4**	**-2.2**
WTTA	**Wattenberg**	**3.03**	**190**	*e*Pn		**Pn**	**13 45 09.6**	**+0.6**
	comp=Z,1.0nm,0.1s							
WTTA				*e*Pg		**Pg**	**13 45 19.6**	**-0.1**
	comp=Z,4.6nm,0.3s							
WTTA				*e*Sg		**Sg**	**13 46 01.2**	**+2.2**
	comp=Z,46nm,0.4s							
MOTA	**Moosalm**	**3.03**	**197**	*e*Pg		**Pg**	**13 45 19.9**	**+0.2**
	comp=Z,3.5nm,0.2s							
MOTA				*e*Sn		**S

	comp=Z,13nm,0.7s								
LOR	**Lormes**	**6.39**	**245**	*e*Pn	**Pn**	**13 45 55.0**	**+0.1**
LOR	**Lormes**	**6.39**	**245**	*e*Pg	**Pg**	**13 46 20.5**	**-3.3**
LOR				*e*Sg	**Sg**	**13 47 42.7**	**-3.7**
	comp=Z,9.5nm,0.5s								
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pn	**Pn**	**13 45 59.4**	**+0.2**
SSF	**Saint Saulge**	**6.70**	**245**	*e*Pg	**Pg**	**13 46 26.3**	**-3.5**
SSF				*e*Sg	**Sg**	**13 47 52.6**	**-3.9**
	comp=Z,8.3nm,0.7s								
SMF	**Signal de Mont**	**6.74**	**241**	*e*Pg	**Pg**	**13 46 27.6**	**-2.9**
SMF				*e*Sg	**Sg**	**13 47 53.4**	**-4.3**
	comp=Z,14nm,0.8s								
AVF	**Avril sur Loir**	**6.94**	**244**	*e*Pg	**Pg**	**13 46 30.9**	**-3.4**
AVF				*e*Sn	**Sn**	**13 47 17.2**	**-3.7**
AVF				*e*Sg	**Sg**	**13 48 00.1**	**-3.9**
	comp=Z,27nm,1.4s								

*DJA **25** 14:00:32.8±0.6,0˚N±4˚×12˚4E±˚, h208km±5km, M3.5/7, MLv3.5/7*
*NEIC **25** 14:00:33.5±1.5,0.45N±0.08×123.91E±0.08, h207km±9km, mb4.3/13, Error ellipse: s-maj=13.5km s-min=9.3km az=133.0*
*IDC **25** 14:00:34.5±3.1,0.35N×123.72E, h218km±30km, mb3.4/8, mbtmp3.9/8, MS3.0/1, Error ellipse: s-maj=54.1km s-min=12.6km az=69.0*
ISC 25 14:00:33.7±0.6, 0.36N±0.06×123.91E±0.06, h218km, n31, σ1s44/38, mb3.9/14, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KMSI	**Cibinong**	**0.23**	**19**	P		**Pn**	**14 01 02.0**	**-0.2**
KMSI				S		**S**	**14 01 23.7**	**-0.9**
GTOI	**Gorontalo**	**0.94**	**287**	P		**Pn**	**14 01 04.7**	**-0.3**
GTOI				S		**S**	**14 01 27.9**	**-1.3**
LUWI	**Luwuk**	**1.80**	**219**			**Pn**	**14 01 10.9**	**-0.8**
LUWI	**Luwuk**	**1.80**	**219**	P		**Pn**	**14 01 10.5**	**-1.2**
LUWI				S		**S**	**14 01 38.0**	**-3.1**
SANI	**Sanana**	**3.17**	**139**	P		**Pn**	**14 01 25.3**	**-1.0**
SANI				S		**S**	**14 02 03.8**	**-3.5**
TOLI2	**Tolitoli**	**3.21**	**283**			**Pn**	**14 01 25.6**	**-1.2**
TNTI	**Ternate**	**3.48**	**83**			**Pn**	**14 01 28.2**	**-1.8**
LBMI	**Labuha**	**3.73**	**105**	P		**Pn**	**14 01 32.9**	**0.0**
LBMI				S		**S**	**14 02 17.2**	**-2.0**
DAV	**Davao City (W)**	**6.87**	**14**	Pn		**Pn**	**14 02 10.5**	**-2.0**
MTN	**Manton Dam**	**14.95**	**152**	P		**P**	**14 03 55.8**	**+0.8**
MTN				IAmb		IAmb	14 04 06.3	
	comp=Z,27nm,1.4s							
FITZ	**Fitzroy Crossi**	**18.42**	**175**	P		**P**	**14 04 34.0**	**+1.0**
WB0	**Warramunga Arr**	**22.49**	**153**	P		**P**	**14 05 16.2**	**+1.1**
WB0				IAmb		IAmb	14 05 18.2	
	comp=Z,13nm,0.9s							
WRA	**Warramunga Arr**	**22.62**	**154**	P		**P**	**14 05 17.6**	**+1.4**
WRA	**Warramunga Arr**	**22.62**	**154**	P		**P**	**14 05 17.6**	**+1.4**
	comp=Z,4.5nm,0.4s,baz=336,slow=10,SNR=154							
	comp=Z,4.5nm,0.4s							
WB2	**Warramunga Arr**	**22.62**	**154**	P		**P**	**14 05 17.7**	**+1.4**
WR0	**Warramunga Arr**	**22.72**	**153**	P		**P**	**14 05 18.4**	**+1.2**
WR0				IAmb		IAmb	14 05 19.3	
	comp=Z,5.2nm,0.8s							
AS31	**Alice Springs**	**25.78**	**159**	P		**P**	**14 05 47.1**	**+2.2**
ASAR	**Alice Springs**	**25.78**	**159**	P		**P**	**14 05 45.6**	**+0.7**
ASAR	**Alice Springs**	**25.78**	**159**	P		**P**	**14 05 46.3**	**+1.5**
	comp=Z,0.4nm,0.3s,baz=332,slow=7.3,SNR=14							
ASAR				PcP		**PcP**	**14 09 09.4**	**+0.7**
	comp=Z,0.4nm,1.0s,baz=337,slow=2.0,SNR=1.6							
ASAR				ScP		**ScP**	**14 12 28.2**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=330,slow=3.3,SNR=4.1							
	comp=Z,0.4nm,0.3s							
FORT	**Forrest**	**31.22**	**173**	P		**P**	**14 06 33.6**	**+0.8**
KSRS	**Korea Array**	**37.10**	**5**	P		**P**	**14 07 25.5**	**+2.3**
	comp=Z,0.3nm,0.3s,baz=184,slow=9.5,SNR=2.6							
	comp=Z,0.3nm,0.3s							
CAN	**Canberra**	**42.52**	**149**	P		**P**	**14 08 10.0**	**+2.0**
CAN				IAmb		IAmb	14 08 31.9	
	comp=Z,23nm,1.4s							
USRK	**Ussuriysk Ar.**	**44.24**	**8**	P		**P**	**14 08 21.3**	**-0.2**
	comp=Z,2.0nm,0.6s,baz=207,slow=6.2,SNR=2.7							
	comp=Z,2.0nm,0.6s							
SONM	**Songino Array**	**49.68**	**345**	P		**P**	**14 09 03.3**	**-0.3**
SONM				LR		LR	14 31 35.0	
	comp=Z,15nm,20.3s,baz=28,slow=38							
	comp=Z,1.0nm,0.8s							
MKAR	**Makanchi Array**	**58.79**	**328**	P		**P**	**14 10 09.7**	**+0.5**
	comp=Z,1.3nm,0.5s,baz=120,slow=8.4,SNR=9.6							
	comp=Z,1.3nm,0.5s							
KURBB	**Kurchatov Arra**	**63.11**	**329**	P		**P**	**14 10 38.3**	**+0.2**
	comp=Z,0.6nm,0.4s,baz=138,slow=5.8,SNR=4.6							
	comp=Z,0.6nm,0.4s							
KURK	**Kurchatov**	**63.12**	**330**	P		**P**	**14 10 38.1**	**0.0**
KURK				IAmb		IAmb	14 10 39.1	
	comp=Z,3.0nm,0.8s							
BVAR	**Borovoye Array**	**68.65**	**329**	P		**P**	**14 11 12.8**	**-0.5**
	comp=Z,0.6nm,0.5s,baz=112,slow=6.4,SNR=2.3							
	comp=Z,0.6nm,0.5s							
TIXI	**Tiksi**	**71.25**	**2**	P		**P**	**14 11 27.5**	**-1.2**
TIXI				IAmb		IAmb	14 11 29.3	
	comp=Z,2.5nm,1.1s							
VNDA	**Vanda**	**80.48**	**172**	P		**P**	**14 12 21.1**	**+0.3**
QSPA	**South Pole Qui**	**90.29**	**180**	P		**P**	**14 13 08.6**	**-1.1**
QSPA				IAmb		IAmb	14 13 15.7	
	comp=Z,4.2nm,1.4s							

*MOS **25** 14:01:36.5±1.8,34.95N×23.07E, h17km, mb4.1/5, Error ellipse: s-maj=12.2km s-min=6.2km az=65.4*
*IDC **25** 14:01:36.5±0.8,35.21N×23.21E, h0km, mb3.9/21, mbtmp3.9/27, ML3.8/6, MS3.0/10, Error ellipse: s-maj=18.9km s-min=10.8km az=15.0*
*GII **25** 14:01:36.7±0.2,35.20N±0.02×23.423E±0.007, h7km, Mws4.2, confirmed*
*AFAD **25** 14:01:37.0±0.0,35.21N×23.43E, h4km±25km, MW4.1*
*THE **25** 14:01:38.5,35.25N×23.23E, h4km±1km, ML3.7/5, Error ellipse: s-maj=2.0km s-min=0.8km az=64.0*
*NAO **25** 14:01:39.3,35.08N×24.47E, h33km, mb3.8*
*ATH **25** 14:01:40.0,35.28N×23.36E, h11km±2km, ML3.8/15, Manual Solution by N.Liadopoulou This location: 2020/06/02 09:00:07 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 2 km*
*ISK **25** 14:01:40.9,35.27N×23.47E, h11km, ML3.7/13*
ISC 25 14:01:38.1±1.3, 35.15N±0.04×23.31E±0.04, h9km±7km, n161, σ1s83/183, mb3.9/25, MS3.1/4, 9C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
KNDR	**Palaiochora Ch**	**0.32**	**75**	Pg		**Pg**	**14 01 44.6**	**+0.3**
KNDR	**Palaiochora Ch**	**0.32**	**75**	P		**Pg**	**14 01 44.7**	**+0.3**
KNDR				S		**Sg**	**14 01 48.0**	**-0.7**
RODP	**Rodopos**	**0.55**	**42**	Pg		**Pg**	**14 01 48.7**	**0.0**
RODP	**Rodopos**	**0.55**	**42**	P		**Pg**	**14 01 48.3**	**-0.4**
RODP				S		**Sb**	**14 01 57.1**	**-0.8**
IMMV	**Iera Moni Meta**	**0.63**	**60**	Pg		**Pg**	**14 01 50.2**	**-0.1**
IMMV	**Iera Moni Meta**	**0.63**	**60**	P		**Pg**	**14 01 49.9**	**-0.4**
IMMV	**Iera Moni Meta**	**0.63**	**60**	P		**Pg**	**14 01 50.3**	**+0.1**
IMMV				S		**Sb**	**14 01 58.1**	**-2.1**
CHAN	**Chania**	**0.70**	**58**	P		**Pg**	**14 01 51.5**	**-0.2**
CHAN				S		**Sg**	**14 01 59.9**	**-0.9**
GVD	**Gavdhos**	**0.71**	**116**	Pg		**Pn**	**14 01 53.9**	**-0.4**
GVD	**Gavdhos**	**0.71**	**116**	P		**Pn**	**14 01 54.0**	**-0.4**
GVD				S		**Sn**	**14 02 06.3**	**+0.9**
	11μm,0.4s							
GVD	**Gavdhos**	**0.71**	**116**	P		**Pn**	**14 01 54.3**	**0.0**
GVD				S		**Sn**	**14 02 04.7**	**-0.7**
GVDS	**Gavdos**	**0.71**	**115**	Pg		**Pn**	**14 01 53.4**	**-0.9**
GVDS				Sg		**Sn**	**14 02 03.6**	**-1.8**
GVDS	**Gavdos**	**0.71**	**115**	P		**Pn**	**14 01 53.7**	**-0.6**
GVDS				S		**Sn**	**14 02 05.1**	**-0.3**
	7μm,0.5s							
ANKY	**Antikythira Is**	**0.71**	**359**	P		**Pg**	**14 01 50.3**	**-1.6**
ANKY				S		**Sg**	**14 01 59.2**	**-2.0**
	9μm,0.5s							
ANKY	**Antikythira Is**	**0.71**	**359**	P		**Pg**	**14 01 50.5**	**-1.3**
ANKY				S		**Sg**	**14 01 59.1**	**-2.0**
PRNS	**Prines Rethymn**	**1.00**	**77**	P		**Pb**	**14 01 56.7**	**-0.8**
PRNS				S		**Sn**	**14 02 11.7**	**-0.8**
	3μm,0.8s							
TMBK	**Timbaki Herakl**	**1.20**	**93**	P		**Pg**	**14 02 02.2**	**+1.2**
IDI	**Anoyia**	**1.30**	**83**	Pn		**Pg**	**14 02 03.7**	**+0.7**
IDI	**Anoyia**	**1.30**	**83**	P		**Pg**	**14 02 02.7**	**-0.3**
IDI				S		**Sg**	**14 02 21.8**	**+1.9**
IDI	**Anoyia**	**1.30**	**83**	Pg		**Pg**	**14 02 03.7**	**+0.7**
	44nm,0.3s,baz=234,slow=6.1,SNR=167							
IDI				Lg		Lg	14 02 20.8	
	95nm,0.3s,baz=195,slow=22,SNR=5.7							
IDI	**Anoyia**	**1.30**	**83**	P		**Pg**	**14 02 03.4**	**+0.3**
IACM	**Heraklion**	**1.45**	**83**	P		**Pg**	**14 02 06.0**	**+0.1**
KSTL	**Kastelli Herak**	**1.45**	**83**	P		**Pg**	**14 02 07.9**	**+2.0**
VLI	**Veliai**	**1.59**	**349**	P		**Pn**	**14 02 05.7**	**-0.8**
VLI				S		**Sn**	**14 02 25.6**	**-1.6**
	1μm,0.8s							
VLI	**Veliai**	**1.59**	**349**	P		**Pn**	**14 02 06.3**	**-0.1**
VLI				S		**Sn**	**14 02 25.9**	**-1.3**
MHLO	**Agia Marina, M**	**1.77**	**30**	P		**Pn**	**14 02 08.7**	**-0.3**
FRMA	**Ierapetra Chan**	**1.99**	**93**	P		**Pb**	**14 02 14.4**	**0.0**
PYL	**PYLOS**	**2.16**	**324**	P		**Pn**	**14 02 15.1**	**+0.9**
ITM	**Ithomi**	**2.31**	**331**	Pn		**Pb**	**14 02 20.2**	**+0.2**
ITM	**Ithomi**	**2.31**	**331**	P		**Pn**	**14 02 17.2**	**+0.8**
ZKR	**Zakros**	**2.38**	**90**	Pn		**Pb**	**14 02 19.5**	**-1.7**
ZKR	**Zakros**	**2.38**	**90**	P		**Pn**	**14 02 18.3**	**+1.0**
APE	**Apeiranthos**	**2.63**	**43**	Pn		**Pn**	**14 02 22.0**	**+1.3**
APE	**Apeiranthos**	**2.63**	**43**	P		**Pn**	**14 02 22.0**	**+1.3**
APE				S		**Sb**	**14 02 56.9**	**-0.9**
APE	**Apeiranthos**	**2.63**	**43**	*i* P		**Pn**	**14 02 22.0**	**+1.3**
APE				*i* S		**Sb**	**14 02 56.8**	**-0.9**
APE	**Apeiranthos**	**2.63**	**43**	P		**Pn**	**14 02 21.5**	**+0.8**
APE	**Apeiranthos**	**2.63**	**43**	P		**Pn**	**14 02 21.6**	**+0.9**
VLY	**Voula,Athens**	**2.73**	**8**	P		**Pn**	**14 02 22.5**	**+0.5**
GUR	**Goura**	**2.89**	**345**	P		**Pn**	**14 02 24.7**	**+0.3**
PTL	**Penteli**	**2.93**	**9**	P		**Pn**	**14 02 25.0**	**+0.2**
DION	**Dionisos Attik**	**2.96**	**10**	P		**Pn**	**14 02 26.1**	**+0.8**
KLV	**Kalavryta, Ach**	**3.03**	**342**	P		**Pn**	**14 02 27.9**	**+1.6**
DRO	**Drossia**	**3.08**	**336**	P		**Pn**	**14 02 28.7**	**+1.8**
KARP	**Karpathos**	**3.17**	**82**	Pn		**Pn**	**14 02 30.7**	**+2.5**
KARP	**Karpathos**	**3.17**	**82**	P		**Pb**	**14 02 33.6**	**-1.1**
EFP	**Efpalio**	**3.46**	**341**	P		**Pn**	**14 02 33.6**	**+1.5**
ANX	**Ano Chora**	**3.61**	**342**	P		**Pn**	**14 02 36.0**	**+1.6**
PVO	**Paravola**	**3.74**	**338**	P		**Pn**	**14 02 37.5**	**+1.5**
BODT	**Bodrum**	**3.76**	**58**	Pn		**Pn**	**14 02 38.5**	**+2.2**
BODT	**Bodrum**	**3.76**	**58**	P		**Pn**	**14 02 37.4**	**+1.1**
DAT	**Datca**	**3.81**	**64**	Pn		**Pn**	**14 02 39.1**	**+2.1**
AGG	**Agios Georgios**	**3.94**	**349**	P		**Pn**	**14 02 41.8**	**+3.0**
AGG	**Agios Georgios**	**3.94**	**349**	*i* P		**Pn**	**14 02 41.8**	**+3.0**
ARG	**Arkhangelos**	**4.06**	**73**	Pn		**Pn**	**14 02 43.4**	**+3.0**
TURN	**Turunc**	**4.32**	**67**	P		**Pn**	**14 02 47.1**	**+3.2**
ESEN	**Aydn-Nazilli**	**4.84**	**55**	P		**Pn**	**14 02 54.9**	**+3.8**
SABU	**Mula-Dalaman**	**4.88**	**68**	P		**Pn**	**14 02 55.5**	**+3.8**
IZZE	**Mula-Seydike**	**4.98**	**73**	P		**Pn**	**14 02 56.0**	**+3.1**
LIT	**Litokhoron**	**4.98**	**353**	P		**Pn**	**14 02 54.9**	**+1.8**
LIT	**Litokhoron**	**4.98**	**353**	*i* P		**Pn**	**14 02 54.9**	**+1.8**
TAVA	**DENIZLI_Tavas**	**5.08**	**61**	P		**Pn**	**14 02 58.8**	**+4.3**
KIRA	**zmir-Kiraz**	**5.10**	**52**	P		**Pn**	**14 02 58.8**	**+4.1**
AKAS	**Kas**	**5.24**	**76**	P		**Pn**	**14 02 58.8**	**+2.2**
AKAS				S		Sb	14 04 03.6	-9.4
BUHA	**Balikesir, Bur**	**5.28**	**34**	P		**Pn**	**14 02 58.6**	**+1.4**
FNA	**Florina**	**5.83**	**345**	P		**Pn**	**14 03 06.1**	**+1.4**
AKUM	**Antalya-Kumluc**	**5.84**	**76**	P		**Pn**	**14 03 07.5**	**+2.7**
KORT	**Korkueli**	**5.99**	**70**	P		**Pn**	**14 03 10.8**	**+3.8**
BUCA	**Burdur, Bucak-**	**6.25**	**68**	P		**Pn**	**14 03 12.5**	**+2.0**
BRTR	**Keskin Array B**	**9.40**	**58**	Pn		**Pn**	**14 03 57.5**	**+3.7**
	0.5nm,0.3s,baz=238,slow=14,SNR=26							
BRTR				LR		LR	14 08 19.4	
	comp=Z,97nm,21.6s,baz=251,slow=43							
	14nm,1.1s							
BR131	**Keskin Array S**	**9.40**	**58**	*e*P		**Pn**	**14 03 57.2**	**+3.4**
HNTI	**Hanita**	**10.05**	**98**	S		**Sn**	**14 05 52.7**	**-2.8**
HNTI	**Hanita**	**10.05**	**98**	P		**Pn**	**14 04 00.8**	**-1.9**
SLTI	**Sal'it**	**10.19**	**103**	S		**Sn**	**14 05 57.0**	**-2.1**
SLTI	**Sal'it**	**10.19**	**103**	P		**Pn**	**14 04 02.6**	**-2.0**
KZIT	**Kziot**	**10.22**	**111**	S		**Sn**	**14 05 57.5**	**-2.3**
KZIT	**Kziot**	**10.22**	**111**	P		**Pn**	**14 04 03.2**	**-1.8**
MMA0B	**Mount Meron ar**	**10.25**	**99**	S		**Sn**	**14 05 58.2**	**-2.4**
MMA0B	**Mount Meron ar**	**10.25**	**99**	P		**Pn**	**14 04 03.9**	**-1.6**
MMAI	**Mount Meron Ar**	**10.25**	**99**	Pn		**Pn**	**14 04 04.9**	**-0.6**
	2.7nm,0.3s,baz=296,slow=12,SNR=15							
MMAI				Sn		**Sn**	**14 05 59.8**	**-0.8**
	1.1nm,0.3s,baz=281,slow=24,SNR=2.1							
MMAI				LR		LR	14 09 54.4	
	comp=Z,46nm,19.7s,baz=231,slow=48							
	2.8nm,0.4s							
SALP	**Salfit**	**10.37**	**104**	P		**Pn**	**14 04 06.7**	**-0.4**
SALP	**Salfit**	**10.37**	**104**	P		**Pn**	**14 04 05.2**	**-1.9**
SALP	**Salfit**	**10.37**	**104**	S		**Sn**	**14 06 01.0**	**-2.6**
GEM	**Giv'at Ha'Em**	**10.41**	**97**	S		**Sn**	**14 06 01.7**	**-2.8**
GEM	**Giv'at Ha'Em**	**10.41**	**97**	P		**Pn**	**14 04 05.6**	**-2.0**
NATI	**Neve Ativ**	**10.46**	**97**	P		**Pn**	**14 04 07.0**	**-1.2**
MLR	**Muntele Rosu**	**10.52**	**10**	LR		LR	14 08 01.1	
	comp=Z,75nm,21.1s,baz=191,slow=37							
HMDT	**Nahal Hemdat**	**10.58**	**102**	S		**Sn**	**14 06 06.0**	**-2.5**
HMDT	**Nahal Hemdat**	**10.58**	**102**	P		**Pn**	**14 04 07.9**	**-2.0**
YTIR	**Yattir**	**10.58**	**108**	P		**Pn**	**14 04 10.1**	**+0.1**
YTIR	**Yattir**	**10.58**	**108**	S		**Sn**	**14 06 06.7**	**-2.0**
YTIR	**Yattir**	**10.58**	**108**	P		**Pn**	**14 04 08.6**	**-1.4**
QRNJ	**Al-Qirein**	**10.59**	**102**	P		**Pn**	**14 04 10.1**	**+0.1**
SHMJ	**Saham**	**10.62**	**100**	P		**Pn**	**14 04 10.6**	**+0.1**
DSI	**Dead Sea**	**10.71**	**106**	P		**Pn**	**14 04 11.5**	**-0.1**
DSI	**Dead Sea**	**10.71**	**106**	S		**Sn**	**14 06 09.0**	**-2.6**
DSI	**Dead Sea**	**10.71**	**106**	P		**Pn**	**14 04 09.6**	**-2.0**
MSBI	**Mazada**	**10.79**	**107**	P		**Pn**	**14 04 08.0**	**-4.7**
MSBI	**Mazada**	**10.79**	**107**	P		**Pn**	**14 04 10.6**	**-2.1**
MSBI	**Mazada**	**10.79**	**107**	S		**Sn**	**14 06 11.5**	**-2.1**
KRMI	**Paran Flat**	**10.85**	**114**	S		**Sn**	**14 06 12.5**	**-2.8**
KRMI	**Paran Flat**	**10.85**	**114**	P		**Pn**	**14 04 11.9**	**-1.8**
LISJ	**El Lisan**	**10.92**	**108**	P		**Pn**	**14 04 15.1**	**+0.7**
PRNI	**Paran**	**10.95**	**113**	S		**Sn**	**14 06 15.5**	**-2.1**
PRNI	**Paran**	**10.95**	**113**	P		**Pn**	**14 04 13.1**	**-1.8**
GHAJ	**Ghor Haditha**	**10.96**	**107**	P		**Pn**	**14 04 16.5**	**+1.5**
GHAJ	**Ghor Haditha**	**10.96**	**107**	P		**Pn**	**14 04 12.6**	**-2.4**
GHAJ	**Ghor Haditha**	**10.96**	**107**	S		**Sn**	**14 06 15.0**	**-2.8**
HRFI	**Mount Harif**	**11.12**	**114**	S		**Sn**	**14 06 20.0**	**-2.0**
HRFI	**Mount Harif**	**11.12**	**114**	P		**Pn**	**14 04 15.4**	**-2.0**
MBRI	**Mt Berech**	**11.16**	**115**	P		**Pn**	**14 04 19.0**	**+1.1**
EIL	**Elat**	**11.25**	**116**	Pn		**Pn**	**14 04 19.2**	**+0.2**
	0.8nm,0.3s,baz=339,slow=19,SNR=6.2							
EIL				Sn		**Sn**	**14 06 26.8**	**+1.8**
	0.7nm,0.3s,baz=342,slow=14,SNR=3.7							
	3.7nm,0.5s							
EIL	**Elat**	**11.25**	**116**	S		**Sn**	**14 06 23.0**	**-2.0**
EIL	**Elat**	**11.25**	**116**	P		**Pn**	**14 04 17.4**	**-1.7**
AQBJ	**Aqaba**	**11.29**	**115**	P		**Pn**	**14 04 21.2**	**+1.6**
VRAC	**Vranov**	**14.99**	**343**	Pn		**P**	**14 05 14.4**	**-1.1**
	0.4nm,0.3s,baz=149,slow=7.8,SNR=4.3							
VRAC				LR		LR	14 12 13.0	
	comp=Z,52nm,19.3s,baz=158,slow=43							
SOC	**Sochi**	**15.21**	**51**	*e*P		**Pn**	**14 05 15.0**	**+2.0**
SOC				*e*			14 08 02.3	
SOC				pmax		pmax		
	comp=Z,12nm,0.5s							
SOC				MLR		MLR		
	comp=Z,42nm,13.0s							
DAVOX	**Davos/Dischmat**	**15.40**	**323**	LR		LR	14 12 13.9	
	comp=Z,33nm,18.1s,baz=256,slow=42							
GERES	**GERESS Array B**	**15.42**	**335**	Pn		**Pn**	**14 05 14.1**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=142,slow=16,SNR=1.8							
GERES				Sn		**Sn**	**14 08 03.5**	**-3.1**
	comp=Z,0.4nm,0.3s,baz=147,slow=13,SNR=1.9							
GERES				LR		LR	14 12 02.6	
	comp=Z,75nm,19.3s,baz=147,slow=41							
	comp=Z,0.4nm,0.5s							
KHC	**Kasperske Hory**	**15.70**	**336**	*e*P		**Pn**	**14 05 21.9**	**+2.4**
KHC	**Kasperske Hory**	**15.70**	**336**	*i* P		**P**	**14 05 25.6**	**+2.0**
KHC				pmax		pmax		
	comp=Z,14nm,1.7s							
AKASG	**Malin Array Be**	**16.13**	**14**	Pn		**Pn**	**14 05 22.1**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=207,slow=12,SNR=1.8							
	comp=Z,0.2nm,0.3s							
AKBB	**Malin Array Si**	**16.13**	**14**	↓*i* P		**P**	**14 05 30.4**	**+2.3**
SHA1	**Shidzhatmaz**	**17.20**	**54**	↑*i* P		**P**	**14 05 42.3**	**+1.9**
KIV	**Kislovodsk**	**17.31**	**54**	↑*i* P		**P**	**14 05 44.8**	**+3.4**
KIV				pmax		pmax		
	comp=Z,16nm,1.3s							
KBZ	**Khabaz**	**17.36**	**55**	P		**P**	**14 05 42.2**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=251,slow=7.7,SNR=5.1							
	comp=Z,4.9nm,0.9s							
KBZ	**Khabaz**	**17.36**	**55**	↑*i* P		**P**	**14 05 43.7**	**+1.9**
GNI	**Garni**	**17.68**	**67**	LR		LR	14 12 14.9	
	comp=Z,20nm,21.2s,baz=226,slow=36							
GNI	**Garni**	**17.68**	**67**	↑*i* P		**P**	**14 05 48.7**	**+3.1**
GNI				pmax		pmax		
	comp=Z,21nm,3.4s							
MNK	**Minsk**	**19.61**	**8**	*i* P		**Pn**	**14 06 08.9**	**+1.0**
	comp=E,7.0nm,0.8s							
MNK				*i* P		**Pn**	**14 06 08.9**	**+1.0**
	comp=N,18nm,0.8s							
MNK				*i* P		**Pn**	**14 06 08.9**	**+1.0**
	comp=Z,15nm,0.7s,baz=192							
MNK				*i* PP		**PnPn**	**14 06 23.3**	**+1.9**
MNK				*i* PPP		PPP	14 06 32.0	
MNK				*i* S		**Sn**	**14 09 49.7**	**+1.6**
MNK				*i* SS		**SnSn**	**14 10 05.8**	**+3.6**
MNK				*i* LQ		LQ	14 12 00.4	
MNK				*i* LR		LR	14 12 41.6	
MNK				*i* LRM		MLR	14 13 04.4	
	comp=Z,41nm,13.4s							
MNK				*i* LRM		MLR	14 13 36.2	
	comp=E,24nm,14.8s							
MNK				*i* LRM		MLR	14 13 44.7	
	comp=N,88nm,16.4s							
MNK	**Minsk**	**19.61**	**8**	*i* P		**Pn**	**14 06 08.8**	**+1.0**
MNK				*i* S		**Sn**	**14 09 49.6**	**+1.6**
MNK				pmax		pmax		
	comp=E,7.0nm,0.8s							
MNK				pmax		pmax		
	comp=Z,15nm,0.7s							
MNK				pmax		pmax		
	comp=N,18nm,0.8s							
MNK				MLR		MLR		
	comp=Z,41nm,13.0s							
MNK				MLR		MLR		
	comp=E,24nm,15.0s							
MNK				MLR		MLR		
	comp=N,88nm,16.0s							
OBN	**Obninsk**	**21.97**	**21**	↑*e*P		**P**	**14 06 34.9**	**+2.9**
OBN				*e*			14 06 57.9	
OBN				*e*S		**S**	**14 10 33.7**	**-0.8**
OBN				pmax		pmax		
	comp=Z,3.0nm,0.6s							
OBN				MLR		MLR		
	comp=Z,51nm,16.0s							
ESDC	**Sonseca Array**	**22.09**	**290**	P		**P**	**14 06 31.9**	**-1.7**
	comp=Z,1.5nm,0.9s,baz=104,slow=26,SNR=4.9							
	comp=Z,1.5nm,0.9s							
BELG	**Belogornoye**	**24.42**	**38**	*e*P		**P**	**14 07 01.0**	**+4.2**
BELG				pmax		pmax		
	comp=Z,2.0nm,0.8s							
HFS	**Hagfors**	**25.77**	**349**	P		**P**	**14 07 08.2**	**-0.7**
	comp=Z,1.7nm,0.5s,baz=149,slow=12,SNR=12							
	comp=Z,1.7nm,0.5s							
FINES	**FINESS Array B**	**26.37**	**3**	P		**P**	**14 07 13.0**	**-1.4**
	comp=Z,1.2nm,0.5s,baz=156,slow=11,SNR=13							
FINES				LR		LR	14 18 42.0	
	comp=Z,59nm,20.8s,baz=182,slow=39							
	comp=Z,1.2nm,0.5s							
FINES	**FINESS Array B**	**26.37**	**3**	*c*e*P*		**P**	**14 07 18.7**	**+4.4**
FINES				pmax		pmax		
	comp=Z,6.0nm,1.0s							
NB2	**NORSAR Subarra**	**27.05**	**347**	P		**P**	**14 07 20.5**	**0.0**
	comp=Z,1.0nm,0.7s,baz=156,slow=9.3							
NOA	**NORSAR Array B**	**27.05**	**347**	P		**P**	**14 07 19.1**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=152,slow=8.5,SNR=3.3							
NOA				LR		LR	14 19 17.0	
	comp=Z,24nm,19.2s,baz=200,slow=39							
	comp=Z,0.5nm,0.6s							
EKA	**Eskdalemuir Ar**	**27.19**	**326**	P		**P**	**14 07 21.2**

ARSB				⇑*e*S		**Sn**	**14 03 14.7**	**+2.6**
	baz=39								
ARK	**Arkit**	**3.06**	**20**	⇓*e*P		**Pb**	**14 02 38.6**	**-2.5**
	baz=21								
ARK				⇓*e*S		**Sn**	**14 03 15.4**	**+2.7**
	baz=21								
MNAS	**Manas**	**3.85**	**22**	⇑*e*P		**Pn**	**14 02 49.6**	**+3.3**
	baz=23								
MNAS				⇑*e*S		**Sn**	**14 03 34.4**	**+2.2**
	baz=23								
ARLS	**Aral**	**4.11**	**43**	⇑*e*P		**Pn**	**14 02 53.4**	**+3.5**
	baz=45								
ARLS				⇑*e*S		**Sn**	**14 03 41.1**	**+2.4**
	baz=45								
KK31	**Karatay Array**	**4.17**	**360**	⇓Pn		**Pb**	**14 02 56.3**	**-3.6**
	4.7nm,0.4s,baz=183,slow=13								
KK31				⇓Sn		**Sb**	**14 03 47.6**	**-3.1**
	24nm,0.7s								
KK31				⇓Lg		Lg	14 04 00.6		
	27nm,0.5s,baz=190,slow=29								
KKAR	**Karatay Array**	**4.17**	**360**	⇓*e*P		**Pn**	**14 02 53.6**	**+3.1**
	baz=0.0								
KKAR				⇓*e*S		**Sn**	**14 03 41.4**	**+1.6**
	baz=0.0								
EKS2	**Erkin-Say**	**4.46**	**32**	P		**Pb**	**14 03 00.5**	**-4.5**
	SNR=9.7								
EKS2	**Erkin-Say**	**4.46**	**32**	⇑*e*P		**Pn**	**14 02 58.0**	**+3.3**
	baz=33								
EKS2				⇑*e*S		**Sn**	**14 03 49.2**	**+1.9**
	baz=33								
UCH	**Uchtor**	**4.47**	**41**	P		**Pb**	**14 03 01.7**	**-3.7**
	SNR=45								
UCH	**Uchtor**	**4.47**	**41**	⇓*e*P		**Pn**	**14 02 58.5**	**+3.4**
	baz=42								
UCH				⇓*e*S		**Sn**	**14 03 50.0**	**+2.1**
	baz=42								
AAK	**Ala-Archa**	**4.77**	**38**	P		**Pb**	**14 03 06.1**	**-4.0**
	SNR=14								
AAK	**Ala-Archa**	**4.77**	**38**	⇓Pn		**Pb**	**14 03 05.7**	**-4.5**
	11nm,0.5s								
AAK				⇓Sn		**Sb**	**14 04 03.8**	**-4.3**
	20nm,0.7s								
AAK				⇑Lg		Lg	14 04 24.7		
	42nm,0.9s								
AAK	**Ala-Archa**	**4.77**	**38**	⇓*e*P		**Pn**	**14 03 02.3**	**+3.4**
	baz=39								
AAK				⇓*e*S		**Sn**	**14 03 56.6**	**+1.8**
	baz=39								
KBK	**Karagaybulak**	**5.00**	**41**	P		**Pb**	**14 03 09.7**	**-4.6**
	SNR=24								
KBK	**Karagaybulak**	**5.00**	**41**	⇑*e*P		**Pn**	**14 03 05.7**	**+3.6**
	baz=41								
KBK				⇑*e*S		**Sn**	**14 04 02.3**	**+1.6**
	baz=41								
CHMS	**Chumysh**	**5.16**	**37**	P		**Pn**	**14 03 07.4**	**+3.2**
	SNR=7.6								
CHMS	**Chumysh**	**5.16**	**37**	⇓Pn		Pb	14 03 10.3	-6.6	
	10.0nm,0.6s								
CHMS				⇑Sn		**Sb**	**14 04 14.3**	**-5.1**
	21nm,0.6s								
CHMS				⇑Lg		Lg	14 04 37.3		
	19nm,0.8s								
CHMS	**Chumysh**	**5.16**	**37**	⇑*e*P		**Pn**	**14 03 07.7**	**+3.5**
	baz=37								
CHMS				⇑*e*S		**Sn**	**14 04 05.9**	**+1.5**
	baz=37								
USP	**Ospenovka**	**5.26**	**33**	P		Pb	14 03 11.8	-6.8	
	SNR=7.7								
TKM2	**Tokmak 2**	**5.53**	**42**	P		Pn	14 03 15.4	+6.1	
	SNR=35								
TKM2	**Tokmak 2**	**5.53**	**42**	⇑Pn		Pn	14 03 15.0	+5.7	
	8.0nm,0.5s								
TKM2				⇑Sn		**Sb**	**14 04 22.7**	**-7.3**
	30nm,0.9s								
TKM2				⇓Lg		Lg	14 04 52.3		
	13nm,0.7s								
MDOK	**Medeo**	**6.49**	**47**	⇑Pn		Pn	14 03 28.9	+6.5	
	3.1nm,0.6s								
MDOK				Lg		Lg	14 05 23.1		
	14nm,1.0s								

*NEIC **25** 14:07:48.2±1.4, 19°.35N±0°.01×155°.254W±0°.007, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.8km az=139.0*

HVO 25 14:07:47.5±1.2, 19°.38N±0°.01×155°.253W±0°.007, h0km±4km, ML2.9/44, ML2.6/44(NEIC), Error ellipse: s-maj=1.6km s-min=0.8km az=166.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
KKO	**Keanakako`i**	**0.02**	**327**			Pg	14 07 49.3	+1.3
RIM	**Rim**	**0.03**	**309**			Pg	14 07 49.4	+1.4
BYL	**Byron's Ledge**	**0.03**	**349**			Pg	14 07 49.8	+1.6
PUH	**Pauahi**	**0.04**	**99**			Pg	14 07 48.7	+0.5
PUH					IAML		14 07 49.5	
	comp=N,5µm,0.1s							
HATHI	**Halema'uma'u T**	**0.04**	**351**			Pg	14 07 49.8	+1.4
OBL	**Observatory Le**	**0.05**	**323**			Pg	14 07 50.7	+2.3
SBLHI	**Steaming Bluff**	**0.05**	**344**			Pg	14 07 49.5	+1.0
UWB	**Uwekahuna B**	**0.05**	**333**			Pg	14 07 50.8	+2.3
UWE	**Uwekahuna**	**0.06**	**318**		IAML		14 07 49.4	
	comp=E,4µm,1.2s							
UWE						Pg	14 07 49.8	+1.2
KNHH	**Kane Nui o Ham**	**0.08**	**90**			Pg	14 07 50.0	+1.0
RSD	**Rainshed**	**0.09**	**344**			Pg	14 07 50.5	+1.3
HLP	**Hilina Pali**	**0.10**	**212**			Pg	14 07 50.5	+1.1
HLP	**Hilina Pali**	**0.10**	**212**		IAML		14 07 52.1	
	comp=N,1µm,0.3s							
HLP					IAML		14 07 52.5	
	comp=E,1µm,0.4s							
STCH	**Steam Cracks**	**0.12**	**87**			Pg	14 07 51.0	+1.2
STCH	**Steam Cracks**	**0.12**	**87**		IAML		14 07 53.8	
	comp=E,2µm,1.0s							
STCH					IAML		14 07 54.0	
	comp=N,2µm,0.5s							
NPOC	**North of Pu'u**	**0.14**	**84**			Pg	14 07 51.4	+1.2
JCUZ	**Jacuzzi**	**0.14**	**88**			Pg	14 07 51.4	+1.1
MLH	**Mauna Loa**	**0.17**	**312**			Pg	14 07 51.5	+0.7
MLH					IAML		14 07 56.2	
	comp=N,2µm,0.4s							
MLH					IAML		14 07 56.4	
	comp=E,2µm,0.6s							
HTC	**Hot Caves**	**0.20**	**224**			Pg	14 07 52.6	+1.3
JOKA	**Jonika Flow**	**0.24**	**77**			Pg	14 07 52.7	+0.6
JOKA					IAML		14 07 57.0	
	comp=E,678nm,0.7s							
JOKA					IAML		14 07 58.8	
	comp=N,2µm,1.0s							
HMH	**Humu'ula Sheep**	**0.31**	**316**			Pg	14 07 54.2	+0.8
HMH					IAML		14 08 03.5	
	comp=E,794nm,0.9s							
HMH					IAML		14 08 03.9	
	comp=N,750nm,1.1s							
PAH	**Pahoa**	**0.31**	**68**			Pg	14 07 53.4	-0.1
MWH	**Moku'aweowe**	**0.34**	**288**			Pg	14 07 54.6	+0.6
MLOA	**Mauna Loa Obse**	**0.34**	**297**			Pg	14 07 54.8	+0.8
MLOA					IAML		14 08 04.7	
	comp=N,792nm,0.6s							
MLOA					IAML		14 08 05.2	
	comp=E,964nm,0.8s							
KHU	**Kahuku**	**0.37**	**249**			Pg	14 07 55.3	+0.8
KHU					IAML		14 08 04.1	
	comp=N,1µm,0.3s							
KHU					IAML		14 08 05.2	
	comp=E,868nm,0.8s							
ALEP	**Alea Permanent**	**0.40**	**294**			Pg	14 07 55.9	+0.7
HPO	**Honuapo**	**0.41**	**225**		Sg	Sg	14 08 00.6	0.0
POHA	**Pohakuloa**	**0.46**	**325**			Pg	14 07 57.1	+0.8
POHA	**Pohakuloa**	**0.46**	**325**			Sg	14 07 57.4	-4.9
HUH	**Hualalai**	**0.63**	**299**			Pb	14 08 01.3	-0.2
CPH	**Captain Cook**	**0.64**	**280**			Pg	14 07 59.9	+0.2
HPAH	**Hawaii Prepara**	**0.77**	**327**			Pg	14 08 01.6	-0.7
HPAH					IAML		14 08 27.5	
	comp=E,261nm,1.1s							
HPAH					IAML		14 08 28.1	
	comp=N,211nm,1.0s							

*IDC **25** 14:09:41.0±9.5, 10°.43S×161°.32E, h147km±97km, mb3.3/7, mbtmp3.7/8, MS2.9/1, Error ellipse: s-maj=52.5km s-min=22.7km az=165.0*

ISC 25 14:09:41.2±0.8, 10°.5S±0°.1×161°.3E±0°.2, h150km, n15, σ0°.84/9, mb3.5/7, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**12.54**	**158**	P		**Pn**	**14 12 35.9**	**+1.2**
	5.5nm,0.8s,baz=34,slow=10,SNR=7.7							
DZM				S		**Sn**	**14 14 52.0**	**-1.5**
	3.4nm,0.6s,baz=137,slow=19,SNR=1.8							
WRA	**Warramunga Arr**	**27.66**	**247**	P		**P**	**14 15 15.6**	**+0.4**
	1.3nm,0.6s,baz=75,slow=9.2,SNR=16							
	1.3nm,0.6s							
GUMO	**Guam**	**28.94**	**325**	LR		LR	14 27 20.8	
	comp=Z,23nm,18.3s,baz=232,slow=37							
ASAR	**Alice Springs**	**29.25**	**240**	P		**P**	**14 15 29.2**	**-0.2**
	0.5nm,0.7s,baz=62,slow=10,SNR=13							
	0.5nm,0.7s							
H11S2	**WAKE ISLAND Hy**	**29.25**	**10**	T		T	14 44 25.3	
	baz=194,slow=76,SNR=5.1							
H11S3	**WAKE ISLAND Hy**	**29.25**	**10**	T		T	14 44 24.3	
	baz=194,slow=76,SNR=7.8							
H11S1	**WAKE ISLAND Hy**	**29.27**	**10**	T		T	14 44 26.0	
	baz=194,slow=76,SNR=4.6							
H11N1	**WAKE ISLAND Hy**	**30.48**	**10**	T		T	14 46 21.0	
	baz=193,slow=76,SNR=11							
H11N3	**WAKE ISLAND Hy**	**30.49**	**10**	T		T	14 45 56.8	
	baz=193,slow=76,SNR=9.4							
H11N2	**WAKE ISLAND Hy**	**30.50**	**10**	T		T	14 46 20.0	
	baz=193,slow=76,SNR=14							
KSRS	**Korea Array**	**57.03**	**329**	P		**P**	**14 19 11.0**	**-0.4**
	0.2nm,0.3s,baz=156,slow=8.1,SNR=2.1							
	0.2nm,0.3s							
SONM	**Songino Array**	**75.67**	**325**	P		**P**	**14 21 10.1**	**0.0**
	0.6nm,0.6s,baz=113,slow=13,SNR=1.4							
	0.6nm,0.6s							
ILAR	**Eielson Array**	**84.39**	**20**	P		**P**	**14 21 56.0**	**-0.3**
	0.2nm,0.4s,baz=242,slow=5.2,SNR=8.3							
	0.2nm,0.4s							
NVAR	**Mina Array Bea**	**88.99**	**51**	P		**P**	**14 22 19.7**	**+0.2**
	0.1nm,0.4s,baz=255,slow=5.5,SNR=2.4							
	0.1nm,0.4s							
YKA	**Yellowknife Ar**	**96.46**	**28**	P		**P**	**14 22 53.1**	**0.0**
	0.1nm,0.5s,baz=258,slow=4.4,SNR=2.2							
	0.1nm,0.5s							

*VAO **25** 14:21:20.1±0.5, 6°.14S×81°.18W, h10km, mb4.4*
*IDC **25** 14:21:22.0±0.9, 6°.50S×81°.03W, h0km, mb4.0/10, mbtmp4.0/14, ML3.8/4, Error ellipse: s-maj=26.1km s-min=16.4km az=61.0*
*NEIC **25** 14:21:29.3±2.7, 6°.34S±0°.07×80°.7W±0°.1, h35km±1km, mb4.2/13, Error ellipse: s-maj=18.2km s-min=11.5km az=71.0*

ISC 25 14:21:27.2±0.6, 6°.38S±0°.06×80°.94W±0°.07, h34km, n73, σ1°75/69, mb4.1/15, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**2.64**	**107**	Pn		**Pn**	**14 22 08.8**	**+1.0**
	41nm,0.3s,baz=300,slow=6.7,SNR=108							
ATAH					Sn	**Sb**	**14 22 42.2**	**-4.1**
	106nm,0.3s,baz=5.6,slow=18,SNR=8.3							
	229nm,0.5s							
ARNL	**Arenillas**	**2.95**	**17**	Pn		**Pn**	**14 22 10.6**	**-1.1**
CHSH	**Refugio Sur-Vo**	**5.28**	**23**			**Pn**	**14 22 43.6**	**-0.7**
SLOR	**San Lorenzo -**	**6.12**	**24**			**Pn**	**14 22 53.5**	**-2.3**
PULU	**Pululahua**	**6.81**	**21**	Pn		**Pn**	**14 23 07.0**	**+1.8**
NNA	**Nana**	**6.88**	**144**			**Pn**	**14 23 06.1**	**+0.2**
NNA	**Nana**	**6.88**	**144**	Pn		**Pn**	**14 23 05.4**	**-0.4**
	1.4nm,0.3s,baz=318,slow=10,SNR=1.8							
NNA					Sn	**Sn**	**14 24 25.8**	**+2.7**
	3.0nm,0.3s,baz=314,slow=17,SNR=1.3							
	4.3nm,0.4s							
CZSB	**Cruzeiro do Su**	**8.28**	**100**	Pn		**Pn**	**14 23 22.2**	**-2.9**
CZSB	**Cruzeiro do Su**	**8.28**	**100**	*e*P		**Pn**	**14 23 24.6**	**-0.5**
CZSB				*e*S		**Sn**	**14 25 02.8**	**+5.3**
ETMB	**Extrema**	**14.97**	**104**	Pn		Pn	14 24 51.7	-4.9
ETMB	**Extrema**	**14.97**	**104**	*e*P		**Pn**	**14 24 53.0**	**-3.5**
ETMB				*e*S		**Sn**	**14 27 46.8**	**+5.3**
LPAZ	**La Paz**	**15.95**	**129**			**Pn**	**14 25 08.3**	**-1.5**
LPAZ					IAmb	IAmb	14 25 15.3	
	comp=Z,14nm,0.9s							
LPAZ	**La Paz**	**15.95**	**129**	Pn		**Pn**	**14 25 08.3**	**-1.5**
	comp=Z,0.1nm,0.3s,baz=326,slow=11,SNR=2.0							
	comp=Z,0.9nm,0.7s							
LPAZ	**La Paz**	**15.95**	**129**	*e*P		**Pn**	**14 25 09.1**	**-0.7**
PB12	**IPOC Station P**	**15.96**	**141**	Pn		**Pn**	**14 25 10.1**	**+0.6**
PB11	**IPOC Station P**	**17.24**	**142**	P		**P**	**14 25 26.6**	**-0.3**
SAML	**Samuel**	**17.78**	**99**			**Pn**	**14 25 31.0**	**-1.3**
SAML	**Samuel**	**17.78**	**99**	*e*P		**Pn**	**14 25 31.0**	**-1.3**
LVC	**Limon Verde**	**19.88**	**145**	P		**P**	**14 25 53.8**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=286,slow=12,SNR=2.2							
	comp=Z,2.1nm,0.6s							
BAUV	**El Baul**	**19.93**	**40**			**P**	**14 25 55.2**	**-1.1**
BAUV					IAmb	IAmb	14 26 06.5	
	comp=Z,22nm,0.9s							
VILB	**Vilhena**	**21.45**	**109**	P		**P**	**14 26 10.7**	**-2.2**
VILB	**Vilhena**	**21.45**	**109**	*e*P		**P**	**14 26 12.5**	**-0.4**
SIV	**San Ignacio**	**21.68**	**118**	P		**P**	**14 26 14.5**	**-0.9**
	comp=Z,9.4nm,0.9s,baz=294,slow=9.6,SNR=37							
	comp=Z,9.4nm,0.9s							
AC01	**Pan de Azucar**	**22.00**	**154**	P		**P**	**14 26 20.4**	**+1.8**
AC01					IAmb	IAmb	14 27 04.6	
	comp=Z,14nm,1.2s							
BOAV	**Boa Vista**	**22.17**	**67**	P		**P**	**14 26 20.2**	**-0.4**
BOAV					IAmb	IAmb	14 26 23.8	
	comp=Z,5.3nm,0.8s							
BOAV	**Boa Vista**	**22.17**	**67**	*e*P		**P**	**14 26 17.8**	**-2.8**
BOAV				*e*S		**S**	**14 30 24.3**	**+1.2**
BBSD	**Serra de San D**	**22.59**	**120**	*e*P		**P**	**14 26 24.3**	**-0.8**
PCRV	**Puerto La Cruz**	**23.12**	**45**	P		**P**	**14 26 30.6**	**0.0**
	comp=Z,12nm,0.9s,baz=206,slow=6.7,SNR=3.4							
	comp=Z,12nm,0.9s							
PTLB	**Pontes e Lacer**	**23.21**	**115**	P		**P**	**14 26 31.4**	**-0.1**
PTLB					IAmb	IAmb	14 26 34.4	
	comp=Z,4.2nm,0.6s							
PTLB	**Pontes e Lacer**	**23.21**	**115**	*e*P		**P**	**14 26 30.8**	**-0.7**
BBRB	**Robore, Bolivi**	**23.76**	**122**	*e*P		**P**	**14 26 35.2**	**-1.5**
PDRB	**Porto dos Gac**	**24.46**	**104**	*e*P		**P**	**14 26 42.3**	**-1.0**
PDRB				*e*S		**S**	**14 31 05.1**	**+3.5**
ITTB	**Itaituba**	**25.18**	**87**	*e*P		**P**	**14 26 49.0**	**-0.8**
NPGB	**Novo Progresso**	**25.42**	**93**	*e*P		**P**	**14 26 51.1**	**-0.9**
SALV	**Santo Antonio**	**26.49**	**113**	*e*P		**P**	**14 27 01.4**	**-0.3**
H03N2	**Juan Fernandez**	**26.99**	**176**	T		T	14 54 59.7	
	baz=355,slow=76,SNR=82							
H03N1	**Juan Fernandez**	**26.99**	**176**	T		T	14 55 03.2	
	baz=355,slow=76,SNR=96							
H03N3	**Juan Fernandez**	**27.00**	**176**	T		T	14 55 06.4	
	baz=355,slow=76,SNR=88							
BDQN	**Bodoquena, MS**	**27.31**	**123**	*e*P		**P**	**14 27 07.9**	**-1.2**
AQDB	**Aquidauana**	**28.20**	**122**	*e*P		**P**	**14 27 16.3**	**-0.7**
RVDE	**Rio Verde (Bra**	**28.25**	**119**	*e*P		**P**	**14 27 16.9**	**-0.6**
MCPB	**Macapa, AP**	**29.44**	**79**	*e*P		**P**	**14 27 26.6**	**-1.4**
ARAG	**Araguaiana, MT**	**30.02**	**110**	*e*P		**P**	**14 27 31.9**	**-1.3**
PTGB	**Pitanga**	**33.13**	**127**	*e*P		**P**	**14 28 00.1**	**-0.5**
UNIS	**Unistalda (Bra**	**33.25**	**136**	*e*P		**P**	**14 28 01.9**	**+0.4**
LDASE	**Londrina, Braz**	**33.30**	**124**	*e*P		**P**	**14 28 00.9**	**-1.1**
IPMB	**Ipameri, GO**	**33.94**	**113**	*e*P		**P**	**14 28 06.4**	**-1.3**
ITAB	**Concordia**	**34.34**	**130**	*e*P		**P**	**14 28 10.3**	**-0.7**
BB19B	**Bebedouro**	**34.60**	**118**	*e*P		**P**	**14 28 10.5**	**-2.9**
CPSB	**Cacapava Do Su**	**35.19**	**136**	*e*P		**P**	**14 28 17.4**	**-0.9**
PLCA	**Paso Flores**	**35.45**	**166**	P		**P**	**14 28 18.8**	**-1.6**
	comp=Z,1.8nm,1.0s,baz=346,slow=12,SNR=3.6							
	comp=Z,1.8nm,1.0s							
CNLB	**Canela**	**36.41**	**132**	*e*P		**P**	**14 28 27.7**	**-1.1**
SPB	**Sao Paulo**	**36.47**	**122**	*e*P		**P**	**14 28 28.1**	**-1.2**
VAO	**Valinhos**	**36.65**	**120**	*e*P		**P**	**14 28 30.0**	**-1.0**
DIAM	**Diamantina, MG**	**38.20**	**112**	*e*P		**P**	**14 28 42.6**	**-1.6**
T57A	**Hurt**	**43.18**	**2**	P		**P**	**14 29 25.9**	**+1.0**
T57A					IAmb	IAmb	14 29 27.5	
	comp=Z,5.3nm,0.7s							
F36A	**Milaca**	**53.21**	**349**	P		**P**	**14 30 43.9**	**+1.7**
F36A					IAmb	IAmb	14 30 44.8	
	comp=Z,3.4nm,0.9s							
PDAR	**Pinedale Array**	**55.40**	**335**	P		**P**	**14 30 59.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=132,slow=13,SNR=3.8							
	comp=Z,0.2nm,0.3s							
YKA	**Yellowknife Ar**	**73.36**	**344**	P		**P**	**14 32 56.6**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=140,slow=4.9,SNR=8.7							
	comp=Z,0.4nm,0.7s							
SNAA	**Sanae**	**80.24**	**162**	P		**P**	**14 33 34.0**	**-0.2**
SNAA	**Sanae**	**80.24**	**162**	P		**P**	**14 33 33.6**	**-0.6**
	comp=Z,2.1nm,0.9s,baz=320,slow=6.9,SNR=5.2							
	comp=Z,2.1nm,0.9s							
QSPA	**South Pole Qui**	**83.71**	**180**	P		**P**	**14 33 53.6**	**+1.0**
QSPA	**South Pole Qui**	**83.71**	**180**	P		**P**	**14 33 52.6**	**+0.1**
	comp=Z,1.9nm,0.8s,baz=147,slow=3.8,SNR=9.8							
	comp=Z,1.9nm,0.8s							

ESDC	**Sonseca Array**	**84.11**	**49**	P		**P**	**14 33 55.9**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=274,slow=5.1,SNR=8.0							
	comp=Z,1.4nm,0.9s							
TORD	**Torodi Ar. Bea**	**84.31**	**76**	P		**P**	**14 33 56.6**	**+0.1**
	comp=Z,0.9nm,1.0s,baz=278,slow=4.2,SNR=2.7							
	comp=Z,0.9nm,1.0s							
EKA	**Eskdalemuir Ar**	**88.31**	**34**	P		**P**	**14 34 16.5**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=243,slow=3.7,SNR=3.8							
	comp=Z,2.0nm,0.8s							
H11N3	**WAKE ISLAND Hy**	**12.96**	**289**	T		T	16 42 41.2	
	baz=89,slow=75,SNR=25							
H11N2	**WAKE ISLAND Hy**	**12.97**	**289**	T		T	16 42 47.3	
	baz=89,slow=75,SNR=22							
H11N1	**WAKE ISLAND Hy**	**12.97**	**289**	T		T	16 42 44.0	
	baz=89,slow=75,SNR=37							
H11S2	**WAKE ISLAND Hy**	**13.17**	**287**	T		T	16 43 04.2	
	baz=86,slow=71,SNR=126							
H11S1	**WAKE ISLAND Hy**	**13.18**	**287**	T		T	16 43 03.6	
	baz=86,slow=71,SNR=144							
H11S3	**WAKE ISLAND Hy**	**13.19**	**287**	T		T	16 43 03.9	
	baz=86,slow=71,SNR=62							
WRA	**Warramunga Arr**	**136.54**	**232**	PKP		**PKPdf**	**14 40 45.8**	**-0.9**
	comp=Z,0.4nm,0.8s,baz=118,slow=2.2,SNR=2.6							

*VAO **25** 14:25:14.5±0.8, 5°.83S×81°.10W, h10km, mb4.5*
*IDC **25** 14:25:17.5±1.5, 6°.35S×81°.03W, h0km, mb4.0/4, mbtmp4.2/7, ML4.0/3, MS3.6/2, Error ellipse: s-maj=41.2km s-min=28.9km az=35.0*
*NEIC **25** 14:25:23.6±1.3, 6°.60S±0°.07×80°.6W±0°.1, h33km±6km, mb4.5/20, Error ellipse: s-maj=18.5km s-min=9.8km az=76.0*

ISC 25 14:25:19.8±0.6, 6°.54S±0°.07×80°.88W±0°.07, h10km, n60, σ1°93/52, mb4.5/10, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
ATAH	**Atahualpa**	**2.54**	**104**	Pn		**Pn**	**14 26 03.5**	**+2.1**
	48nm,0.3s,baz=287,slow=17,SNR=32							
ATAH					Sn	**Sb**	**14 26 38.0**	**+0.8**
	103nm,0.3s,baz=304,slow=21,SNR=6.8							
	141nm,0.4s							
ARNL	**Arenillas**	**3.08**	**15**			**Pn**	**14 26 09.7**	**+1.2**
CHSH	**Refugio Sur-Vo**	**5.40**	**22**	Pn		**Pn**	**14 26 41.7**	**+0.7**
SLOR	**San Lorenzo -**	**6.24**	**22**	Pn		**Pn**	**14 26 53.2**	**+0.7**
NNA	**Nana**	**6.72**	**144**	Pn		**Pn**	**14 26 56.2**	**-2.5**
NNA	**Nana**	**6.72**	**144**	Pn		**Pn**	**14 27 01.9**	**+3.2**
	2.0nm,0.3s,baz=323,slow=15,SNR=1.6							
	4.8nm,0.3s							
CZSB	**Cruzeiro do Su**	**8.20**	**99**	Pn		**Pn**	**14 27 17.0**	**-2.0**
CZSB	**Cruzeiro do Su**	**8.20**	**99**	*e*P		**Pn**	**14 27 18.6**	**-0.4**
CZSB				*e*S		**Sn**	**14 28 56.4**	**+4.6**
ETMB	**Extrema**	**14.88**	**104**	Pn		Pn	14 28 45.4	-5.0
ETMB	**Extrema**	**14.88**	**104**	*e*P		**Pn**	**14 28 49.7**	**-0.7**
LPAZ	**La Paz**	**15.80**	**129**			**Pn**	**14 28 59.2**	**-4.0**
LPAZ					IAmb	IAmb	14 29 38.8	
	comp=Z,20nm,0.9s							
LPAZ	**La Paz**	**15.80**	**129**	Pn		**Pn**	**14 29 06.6**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=308,slow=11,SNR=8.2							
	comp=Z,9.4nm,1.0s							
LPAZ	**La Paz**	**15.80**	**129**	*e*P		**Pn**	**14 29 05.2**	**+2.1**
SAML	**Samuel**	**17.70**	**99**	P		**Pn**	**14 29 24.7**	**-1.9**
SAML	**Samuel**	**17.70**	**99**	*e*P		**Pn**	**14 29 25.6**	**-1.0**
BAUV	**El Baul**	**20.01**	**40**			**P**	**14 29 51.0**	**-1.9**
BAUV					IAmb	IAmb	14 30 23.1	
	comp=Z,29nm,0.8s							
MACA	**Manacapuru-AM**	**20.40**	**81**	P		**P**	**14 29 54.2**	**-3.0**
MACA	**Manacapuru-AM**	**20.40**	**81**	*e*P		**P**	**14 29 53.7**	**-3.5**
VILB	**Vilhena**	**21.35**	**109**	P		**P**	**14 30 03.4**	**-4.0**
VILB	**Vilhena**	**21.35**	**109**	*e*P		**P**	**14 30 07.1**	**-0.3**
SIV	**San Ignacio**	**21.56**	**117**	P		**P**	**14 30 09.5**	**-0.2**
	comp=Z,5.2nm,0.7s,baz=284,slow=8.8,SNR=10							
	comp=Z,5.2nm,0.7s							
BBSD	**Serra de San D**	**22.46**	**120**	*e*P		**P**	**14 30 19.8**	**+0.5**
BBSD				*e*pP		**pP**	**14 30 22.9**	**+0.8**
PTLB	**Pontes e Lacer**	**23.09**	**114**	*e*P		**P**	**14 30 26.1**	**+0.1**
LCO	**Las Campanas**	**24.33**	**158**	P		**P**	**14 30 36.9**	**-1.3**
PDRB	**Porto dos Gac**	**24.37**	**104**	*e*P		**P**	**14 30 35.1**	**-3.3**
PDRB				*e*S		**S**	**14

comp=Z,2µm,21.4s,baz=270,slow=46
NNA Nana 7.04 148 P **Pn** 14 27 36.2 +2.3
22nm,0.8s,baz=333,slow=9.0,SNR=2.3
NNA S **Sn** 14 28 52.8 0.0
76nm,0.8s,baz=282,slow=20,SNR=3.2
ROSC El Rosal 12.52 31 LR LR 14 34 55.0
comp=Z,428nm,18.3s,baz=86,slow=43
LPAZ La Paz 15.98 131 P **P** 14 29 36.5 -2.8
18nm,0.9s,baz=312,slow=11,SNR=13
JTS Las Juntas de 16.75 345 LR LR 14 35 18.2
comp=Z,178nm,18.4s,baz=152,slow=33
LVC Limon Verde 20.03 147 P **P** 14 30 22.0 -1.6
5.8nm,0.8s,baz=326,slow=7.3,SNR=3.3
SIV San Ignacio 21.63 119 P **P** 14 30 38.0 -2.6
10nm,0.9s,baz=299,slow=12,SNR=12
10nm,0.9s
APG El Apazote 23.03 335 LR LR 14 38 33.0
comp=Z,8.7nm,19.5s,baz=266,slow=33
CMIG Matias Romero 26.91 329 LR LR 14 41 00.2
comp=Z,46nm,20.1s,baz=180,slow=33
H03N2 Juan Fernandez 27.33 177 T T 15 00 12.3
baz=355,slow=74
H03N1 Juan Fernandez 27.34 177 T T 15 00 09.4
baz=355
H03N3 Juan Fernandez 27.35 177 T T 15 00 09.4
baz=355,slow=74
TXAR Lajitas Array 41.52 329 P **P** 14 33 37.8 +0.4
0.3nm,0.7s,baz=157,slow=6.8,SNR=4.1
0.3nm,0.7s
PDAR Pinedale Array 55.19 334 P **P** 14 35 23.9 +1.2
1.2nm,0.8s,baz=131,slow=8.3,SNR=7.3
1.2nm,0.8s
NVAR Mina Array Bea 56.34 325 P **P** 14 35 32.4 +1.3
0.5nm,0.8s,baz=141,slow=5.8,SNR=2.9
0.5nm,0.8s
YKA Yellowknife Ar 73.09 344 P **P** 14 37 19.3 -0.2
0.7nm,0.8s,baz=134,slow=5.1,SNR=6.2
0.7nm,0.8s
DY2G Dye2 76.47 13 *i* P **P** 14 37 39.1 -0.3
DY2G IAmb IAmb 14 37 40.7
comp=Z,7.5nm,0.8s
DBIC Dimbokro 76.71 82 P **P** 14 37 41.1 -0.4
comp=Z,6.1nm,0.9s,baz=241,slow=3.9,SNR=3.5
comp=Z,6.1nm,0.9s
ICESG Greenland Ices 80.09 14 *i* P **P** 14 37 58.6 -0.9
ICESG IAmb IAmb 14 38 00.6
comp=Z,7.2nm,1.1s
SUMG Summit 82.96 12 *i* P **P** 14 38 15.0 +0.4
SUMG IAmb IAmb 14 38 16.6
comp=Z,5.2nm,0.8s
ESDC Sonseca Array 83.68 49 P **P** 14 38 19.4 +0.7
comp=Z,2.0nm,0.9s,baz=268,slow=4.6,SNR=8.9
comp=Z,2.0nm,0.9s
TORD Torodi Ar. Bea 83.98 76 P **P** 14 38 18.9 -1.6
comp=Z,1.1nm,0.9s,baz=251,slow=4.4,SNR=4.0
comp=Z,1.1nm,0.9s
NEEM North Greenlan 84.98 6 *i* P **P** 14 38 25.3 +0.6
NEEM IAmb IAmb 14 38 27.0
comp=Z,2.5nm,0.7s
DAG Danmarks Havn 89.65 12 *i* P **P** 14 38 45.8 -1.1
DAG IAmb IAmb 14 38 48.2
comp=Z,7.9nm,0.2s
H11N3 WAKE ISLAND Hyl 13.08 289 T T 16 47 57.6
baz=84
H11N2 WAKE ISLAND Hyl 13.09 289 T T 16 47 58.9
baz=84,slow=74
H11N1 WAKE ISLAND Hyl 13.10 289 T T 16 47 59.4
baz=84,slow=74
H11S2 WAKE ISLAND Hyl 13.31 287 T T 16 48 14.8
baz=86,slow=71,SNR=15
H11S1 WAKE ISLAND Hyl 13.31 287 T T 16 48 13.8
baz=86,slow=71,SNR=31
H11S3 WAKE ISLAND Hyl 13.33 287 T T 16 48 18.5
baz=86,slow=71,SNR=6.7
BVAR Borovoye Array 127.50 22 PKP **PKPdf** 14 44 53.8 -0.7
comp=Z,0.8nm,0.6s,baz=270,slow=0.1,SNR=5.4

*NEIC **25** 14:40:29.6±0.8, 19°.42N±0°.02×155°.271W±0°.006, h5km±2km, Error ellipse: s-maj=3.7km s-min=2.0km az=14.0*
HVO 25 14:40:29.1±0.3,**19°.404N**±0°.006×**155°.265W**±0°.009, **h1**km±2km, **ML2.8**/12, **ML2.0**/30(NEIC), **Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KKO	**Keanakako`i**	**0.01**	**187**		**Pg**	14 40 30.4	+0.9
BYL	**Byron's Ledge**	**0.01**	**32**	Pg	**Pg**	14 40 29.4	-0.2
BYL					Sg	14 40 30.5	+0.6
RIM	**Rim**	**0.01**	**224**		**Pg**	14 40 30.4	+0.8
HATHI	**Halema`uma`u T**	**0.02**	**12**	Pg	**Pg**	14 40 30.2	+0.5
HATHI					Sg	14 40 30.8	+0.7
OBL	**Observatory Le**	**0.02**	**307**		**Pg**	14 40 30.7	+1.0
SBLHI	**Steaming Bluff**	**0.02**	**353**		**Pg**	14 40 30.2	+0.5
UWB	**Uwekahuna B**	**0.02**	**330**		**Pg**	14 40 30.9	+1.1
UWE	**Uwekahuna**	**0.03**	**303**	IAML		14 40 30.0	
	comp=N,3µm,0.7s						
UWE				IAML		14 40 30.4	
	comp=E,2µm,0.6s						
UWE	**Uwekahuna**	**0.03**	**303**		**Pg**	14 40 30.5	+0.7
PUH	**Pauahi**	**0.06**	**123**		**Pg**	14 40 31.0	+0.8
PUH	**Pauahi**	**0.06**	**123**	IAML		14 40 31.6	
	comp=N,1µm,0.2s						
PUH				IAML		14 40 31.9	
	comp=E,937nm,0.2s						
RSD	**Rainshed**	**0.06**	**348**		**Pg**	14 40 31.1	+0.8
KNHH	**Kane Nui o Ham**	**0.09**	**105**		**Pg**	14 40 31.6	+0.7
HLP	**Hilina Pali**	**0.12**	**201**		**Pg**	14 40 32.3	+0.9
HLP	**Hilina Pali**	**0.12**	**201**	IAML		14 40 32.9	
	comp=E,712nm,1.0s						
HLP				IAML		14 40 34.1	
	comp=N,1µm,1.1s						
STCH	**Steam Cracks**	**0.13**	**98**		**Pg**	14 40 32.5	+0.7
STCH	**Steam Cracks**	**0.13**	**98**	IAML		14 40 34.6	
	comp=N,947nm,0.2s						
STCH				IAML		14 40 35.6	
	comp=E,956nm,0.4s						
MLH	**Mauna Loa**	**0.14**	**308**		**Pg**	14 40 33.2	+1.2
MLH	**Mauna Loa**	**0.14**	**308**	IAML		14 40 35.7	
	comp=N,633nm,1.4s						
MLH				IAML		14 40 36.2	
	comp=E,391nm,0.9s						
NPOC	**North of Pu'u**	**0.15**	**94**		**Pg**	14 40 32.7	+0.7
JCUZ	**Jacuzzi**	**0.16**	**97**		**Pg**	14 40 32.8	+0.7
HTC	**Hot Caves**	**0.21**	**217**		**Pg**	14 40 35.0	+1.9
JOKA	**Jonika Flow**	**0.25**	**83**		**Pg**	14 40 34.6	+0.8
JOKA	**Jonika Flow**	**0.25**	**83**	IAML		14 40 40.6	
	comp=E,328nm,0.9s						
JOKA				IAML		14 40 41.1	
	comp=N,725nm,1.1s						
HMH	**Humu'ula Sheep**	**0.28**	**314**	Pg	Pg	14 40 35.0	+0.4
HMH				IAML		14 40 43.1	
	comp=N,239nm,1.7s						
HMH				IAML		14 40 43.6	
	comp=E,291nm,1.0s						
MLOA	**Mauna Loa Obse**	**0.32**	**294**	Pg	Pg	14 40 35.7	+0.4
MLOA				IAML		14 40 41.4	
	comp=E,185nm,0.7s						
MWH	**Moku'aweowe**	**0.32**	**284**	Pg	Pg	14 40 36.0	+0.7
KHU	**Kahuku**	**0.37**	**245**	Pg	Pg	14 40 37.0	+0.8
POHA	**Pohakuloa**	**0.43**	**324**	Pg	Pg	14 40 38.1	+0.7
HUH	**Hualalai**	**0.61**	**298**	Pg	Pg	14 40 41.7	+0.9

*TEH **25** 14:52:25.7, 33°.73N×45°.62E, h8km±66km, ML3.5*
*ISN **25** 14:52:28.8±1.0, 33°.79N×45°.61E, h23km±6km, ML3.4*
*IDC **25** 14:52:39.3±2.0, 33°.98N×48°.01E, h0km, mb3.9/4, mbtmp3.9/6, ML3.6/2, Error ellipse: s-maj=39.5km s-min=35.4km az=179.0*
ISC 25 14:52:26.6±0.7,**33.73N**±0°.03×**45°.67E**±0°.04,**h10**km,**n36,** σ1§**48**/41,**mb3.8**/4,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.43**	**27**	Pg	**Pg**	**14 52 34.4**	**-0.6**
IBDR	**Badra**	**0.66**	**161**	*e*Pg	**Pn**	**14 52 43.0**	**+1.1**
IBDR				*e*Sg	**Sn**	**14 52 53.0**	**+0.7**
IBDR				AML	AML	14 52 58.4	
	comp=N,386nm,0.4s						
KGS1	**Ghasr-e-Shirin**	**0.78**	**355**	Pg	**Pb**	**14 52 41.1**	**-1.1**
IGHG	**Ghaleghazi**	**0.95**	**51**	Pg	**Pg**	**14 52 44.8**	**-0.2**
IDHR	**Dehrash**	**1.13**	**31**	Pg	**Pb**	**14 52 47.5**	**-0.9**
BHD	**Baghdad**	**1.17**	**247**	*e*Pn	**Pn**	**14 52 51.0**	**+2.0**
BHD				*e*Sn	**Sn**	**14 53 08.0**	**+2.9**
KCHF	**Cheshme Sefid,**	**1.26**	**64**	Pg	**Pg**	**14 52 50.9**	**0.0**
ILIN	**Lien**	**1.59**	**42**	Pg	**Pg**	**14 52 56.7**	**-0.5**
IKFM	**Kafar-mosalman**	**1.83**	**96**	Pn	**Pb**	**14 53 00.5**	**+0.4**
IBZA	**Bozab**	**1.96**	**67**	Pn	**Pb**	**14 53 02.0**	**-0.5**
SNQR	**Sonqor, Kerman**	**1.97**	**55**	Pn	**Pb**	**14 53 02.2**	**-0.6**
IKRK	**Kirkuk**	**1.99**	**327**	*e*Pn	**Pb**	**14 53 02.0**	**-1.0**
IKRK				*e*Sn	**Sb**	**14 53 27.0**	**-0.9**
RAFI	**Al-Rafai**	**2.04**	**169**	*e*Pn	**Pg**	**14 53 04.0**	**-1.7**
RAFI				*e*Sn	**Sg**	**14 53 31.0**	**-1.1**
IDOB	**Doab**	**2.09**	**88**	Pn	**Pb**	**14 53 04.0**	**-0.7**
HSAM	**Samen**	**2.48**	**78**	Pn	**Pn**	**14 53 09.1**	**+1.8**
MSL	**Mosul**	**3.39**	**322**	*e*Pn	**Pn**	**14 53 21.0**	**+1.4**
MSL				*e*Sn	**Sn**	**14 54 00.0**	**+0.2**
QABG	**Abgarm-Qazvin**	**3.78**	**57**	Pn	**Pn**	**14 53 26.9**	**+1.8**
IRAZ	**Razeghan**	**3.89**	**63**	Pn	**Pn**	**14 53 28.7**	**+2.0**
JHBN	**Jahan bin**	**4.46**	**108**	Pn	**Pn**	**14 53 36.2**	**+1.7**
IPIR	**Pirpir**	**4.50**	**102**	Pn	**Pn**	**14 53 36.4**	**+1.3**
ISHB	**Shabestar**	**4.54**	**359**	Pn	**Pn**	**14 53 35.2**	**-0.4**
IQOM	**Qom**	**4.61**	**75**	Pn	**Pn**	**14 53 37.4**	**+0.9**
QAMS	**Qamsar**	**4.77**	**88**	Pn	**Pn**	**14 53 40.9**	**+2.1**
IKLH	**Kolahrood**	**4.95**	**93**	Pn	**Pn**	**14 53 42.8**	**+1.6**
ISFB	**Sefidab**	**5.49**	**82**	Pn	**Pn**	**14 53 49.6**	**+1.1**
IGAR	**Gharneh**	**5.51**	**102**	Pn	**Pn**	**14 53 50.5**	**+1.6**
IZEF	**Zefreh**	**5.64**	**97**	Pn	**Pn**	**14 53 52.8**	**+2.1**
KLNJ	**Kolanjah**	**5.70**	**117**	Pn	**Pn**	**14 53 53.7**	**+2.0**
IRAM	**Ramesheh**	**5.97**	**107**	Pn	**Pn**	**14 53 57.5**	**+2.3**
DSBU	**Dashti - Bushe**	**7.18**	**137**	Pn	**Pn**	**14 54 13.3**	**+1.5**
MMAI	**Mount Meron Ar**	**8.62**	**268**	Pn	**Pg**	**14 55 12.6**	**+1.0**
	comp=N,0.3nm,0.3s,baz=88,slow=18,SNR=2.9						
	comp=N,2.4nm,0.7s						
WSAR	**Wadi Sarin**	**15.45**	**129**	Pn	**Pn**	**14 56 01.9**	**-2.7**
	comp=N,0.4nm,0.3s,baz=325,slow=8.8,SNR=4.9						
	comp=N,5.3nm,1.1s						
BVAR	**Borovoye Array**	**26.13**	**35**	P	**P**	**14 58 02.9**	**+2.2**
	comp=N,1.2nm,0.7s,baz=224,slow=7.8,SNR=7.3						
	comp=N,1.2nm,0.7s						
MKAR	**Makanchi Array**	**30.55**	**54**	P	**P**	**14 58 40.9**	**+0.7**
	comp=N,1.2nm,0.4s,baz=254,slow=10.0,SNR=23						
	comp=N,1.2nm,0.4s						
ZALV	**Zalesovo Beam**	**34.12**	**42**	P	**P**	**14 59 10.9**	**-0.4**
	comp=N,0.6nm,0.4s,baz=267,slow=8.6,SNR=3.1						
	comp=N,0.6nm,0.4s						
CMAR	**Chiang Mai Arr**	**49.69**	**94**	P	**P**	**15 01 17.8**	**-1.1**
	comp=N,0.6nm,0.5s,baz=290,slow=8.7,SNR=6.5						
	comp=N,0.6nm,0.5s						

*BGSI **25** 14:58:39.4±5.5, 19°.32S×13°.94E, h108km±65km, ML4.8*
*IDC **25** 14:58:41.4±0.5, 19°.81S×14°.54E, h0km, mb4.3/23, mbtmp4.3/28, ML4.3/5, MS3.7/24, Error ellipse: s-maj=17.6km s-min=11.7km az=76.0*
*NEIC **25** 14:58:43.8±1.5, 19°.78S±0°.08×14°.7E±0°.1, h10km±1km, mb4.8/29, Error ellipse: s-maj=17.3km s-min=13.2km az=282.0*
*BUL **25** 14:58:47.0±3.4, 19°.32S×14°.50E, h10km±70km*
ISC 25 14:58:43.1±0.4,**19.77S**±0°.05×**14°.68E**±0°.05,**h10**km,**n176,** σ1§**66**/174,**mb4.7**/53,**MS3.7**/22,**2C-5D, Namibia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I35NA	**TSUMEB INFRASO**	**2.79**	**79**	Pg	**Pg**	**14 59 35.7**	**-0.9**
	baz=234,slow=26						
I35NA				Lg	Lg	15 00 12.2	
	baz=243,slow=29						
I35NA				I	I	15 15 10.0	
	baz=256,slow=320,SNR=2.0						
TSUM	**Tsumeb**	**2.79**	**79**	*i* P	**Pn**	**14 59 28.7**	**+0.7**
TSUM				IAML		15 00 18.1	
	comp=Z,3µm,0.3s						
TSUM	**Tsumeb**	**2.79**	**79**	Pn	**Pn**	**14 59 28.3**	**+0.3**
TSUM	**Tsumeb**	**2.79**	**79**	⇑*i* P	**Pn**	**14 59 28.3**	**+0.3**
TSUM				*e*S	**Sn**	**15 00 02.0**	**+0.1**
TSUM				IAML		15 00 21.1	
	comp=Z,2µm,0.3s						
WIN	**Windhoek**	**3.58**	**141**	Pn	**Pn**	**14 59 39.9**	**+1.0**
WIN	**Windhoek**	**3.58**	**141**	*i* P	**Pn**	**14 59 41.3**	**+2.4**
WIN				*i* S	**Sn**	**15 00 24.4**	**+3.0**
KOOLE	**Kule**	**6.05**	**123**	*i* P	**Pn**	**15 00 13.9**	**+1.1**
KOOLE				*e*S	**Sn**	**15 01 22.8**	**+0.4**
KOOLE				IAML		15 02 03.3	
	comp=Z,3µm,0.7s						
GRTLG	**Ghanzi**	**6.32**	**106**	*i* P	**Pn**	**15 00 17.6**	**+1.0**
GRTLG				*e*S	**Sn**	**15 01 27.4**	**-1.5**
GRTLG				IAML		15 02 12.3	
	comp=Z,936nm,0.6s						
AUSN	**Aus**	**7.02**	**168**	*i* P	**Pn**	**15 00 27.1**	**+1.0**
AUSN				*i* S	**Sn**	**15 01 42.5**	**-3.5**
AUSN				IAML		15 02 25.9	
	comp=Z,206nm,0.4s						
KGCAE	**Kacgae**	**7.65**	**115**	*i* P	**Pn**	**15 00 35.6**	**+0.7**
KGCAE				*e*S	**Sn**	**15 01 58.8**	**-3.0**
KGCAE				IAML		15 02 50.8	
	comp=Z,2µm,1.1s						
ARMS	**Ukamas**	**9.44**	**152**	*i* S	Sn	15 02 33.1	-12
ARMS				⇑*i* P		15 03 43.1	
ARMS				IAML		15 03 43.3	
	comp=Z,107nm,0.4s						
SKOMA	**Sekoma**	**9.78**	**121**	*i* P	**Pn**	**15 01 03.0**	**-1.1**
SKOMA				*e*S	**Sn**	**15 02 50.7**	**-3.4**
SKOMA				IAML		15 04 04.5	
	comp=Z,316nm,0.9s						
AUGR	**Augrabies**	**10.18**	**151**	*e*P	**Pn**	**15 01 05.0**	**-4.5**
AUGR				IAML		15 04 10.2	
	comp=Z,210nm,0.6s						
KHWEE	**KHWEE**	**10.29**	**104**	*i* P	**Pn**	**15 01 11.4**	**+0.4**
KHWEE				*e*S	**Sn**	**15 03 01.6**	**-5.1**
KHWEE				IAML		15 04 20.6	
	comp=Z,827nm,1.0s						
KOMG	**Komaggas**	**10.30**	**166**	*e*P	**Pn**	**15 01 11.1**	**+0.1**
KEIM	**Keimoes**	**10.58**	**148**	*e*P	**Pn**	**15 01 16.0**	**+1.2**
MAKGR	**Makgori**	**11.10**	**125**	*i* P	**Pn**	**15 01 21.3**	**-0.7**
MAKGR				*e*S	Sn	15 03 16.2	-10
MAKGR				IAML		15 04 45.1	
	comp=Z,139nm,0.8s						
LBTB	**Lobatse**	**11.36**	**119**	*i* P	**Pn**	**15 01 25.6**	**-0.1**
LBTB				*e*S	**Sn**	**15 03 32.3**	**-0.5**
LBTB				IAML		15 04 58.0	
	comp=Z,356nm,1.1s						
LBTB	**Lobatse**	**11.36**	**119**	Pn	**Pn**	**15 01 26.4**	**+0.8**
LBTB	**Lobatse**	**11.36**	**119**	*i* P	**Pn**	**15 01 27.8**	**+2.2**
LBTB	**Lobatse**	**11.36**	**119**	*e*P	**Pn**	**15 01 25.3**	**-0.4**
LBTB	**Lobatse**	**11.36**	**119**	Pn	**Pn**	**15 01 25.1**	**-0.5**
	comp=Z,1.6nm,0.3s,baz=294,slow=13,SNR=19						
LBTB				Sn	**Sn**	**15 03 37.5**	**+4.8**
	comp=Z,2.4nm,0.3s,baz=258,slow=17,SNR=3.7						
LBTB				Lg	Lg	15 04 32.8	
	comp=Z,12nm,0.3s,baz=28,slow=21,SNR=15						
LBTB				LR	LR	15 05 58.0	
	comp=Z,353nm,19.1s,baz=292,slow=38						
	comp=Z,9.3nm,0.7s						
MREMI	**Moremi**	**12.23**	**105**	*i* P	**Pn**	**15 01 35.8**	**-1.7**
MREMI				*e*S	**Sn**	**15 03 50.4**	**-3.6**
MREMI				IAML		15 05 25.6	
	comp=Z,169nm,0.8s						
CVNA	**Calvinia**	**12.52**	**160**	*e*P	**Pn**	**15 01 38.2**	**-3.3**
NHAM	**Northam, North**	**12.76**	**116**	*e*P	**Pn**	**15 01 43.9**	**-0.9**
LEPH	**Lephalale, Lim**	**12.84**	**111**	*e*P	**Pn**	**15 01 43.5**	**-2.3**
MATP	**Matopo**	**13.00**	**95**	*i* P	**Pn**	**15 01 47.1**	**-1.0**
MATP	**Matopo**	**13.00**	**95**	Pn	**Pn**	**15 01 47.5**	**-0.6**
	comp=Z,0.7nm,0.3s,baz=271,slow=12,SNR=15						
MATP				Sn	**Sn**	**15 04 17.8**	**+4.8**
	comp=Z,0.9nm,0.3s,baz=254,slow=17,SNR=1.6						
MATP				Lg	Lg	15 05 27.4	
	comp=Z,2.7nm,0.3s,baz=353,slow=15,SNR=6.0						
	comp=Z,2.2nm,0.4s						
BOSA	**Boshof**	**13.05**	**134**	*i* P	**Pn**	**15 01 48.9**	**+0.1**
BOSA				IAML		15 05 48.9	
	comp=Z,171nm,1.1s						
BOSA	**Boshof**	**13.05**	**134**	Pn	**Pn**	**15 01 48.8**	**0.0**
BOSA	**Boshof**	**13.05**	**134**	*i* P	**Pn**	**15 01 49.2**	**+0.4**
BOSA	**Boshof**	**13.05**	**134**	*e*P	**Pn**	**15 01 50.0**	**+1.3**
BOSA	**Boshof**	**13.05**	**134**	Pn	**Pn**	**15 01 47.7**	**-1.1**
	comp=Z,1.2nm,0.3s,baz=312,slow=11,SNR=22						
BOSA				Sn	**Sn**	**15 04 17.9**	**+3.8**
	comp=Z,0.7nm,0.3s,baz=354,slow=18,SNR=1.5						
BOSA				Lg	Lg	15 05 23.9	
	comp=Z,3.4nm,0.3s,baz=53,slow=22,SNR=4.4						
BOSA				LR	LR	15 07 16.8	
	comp=Z,191nm,18.9s,baz=308,slow=39						
	comp=Z,14nm,0.9s						
NYAT	**Nyati, Northwe**	**13.14**	**117**	*e*P	**Pn**	**15 01 49.2**	**-0.7**
HRAO	**HartRAO**	**13.44**	**119**	*e*P	**Pn**	**15 01 53.2**	**-1.0**
FRAZ	**Fraserburg**	**13.53**	**155**	*e*P	**Pn**	**15 01 56.5**	**+1.3**
LSZ	**Lusaka**	**13.63**	**73**	IAML		15 06 07.1	
	comp=Z,206nm,1.7s						
LSZ	**Lusaka**	**13.63**	**73**		**Pn**	**15 01 54.9**	**-1.9**
LSZ	**Lusaka**	**13.63**	**73**	*i* P	**Pn**	**15 01 52.9**	**-3.8**
LSZ	**Lusaka**	**13.63**	**73**	Pn	**Pn**	**15 01 56.6**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=257,slow=10,SNR=8.1						
LSZ				Sn	**Sn**	**15 04 20.8**	**-7.7**
	comp=Z,5.3nm,0.3s,baz=9.1,slow=9.1,SNR=7.8						
LSZ				Lg	Lg	15 05 58.8	
	comp=Z,3.0nm,0.3s,baz=172,slow=18,SNR=5.9						
LSZ				LR	LR	15 07 39.5	
	comp=Z,461nm,18.9s,baz=250,slow=39						
	comp=Z,6.3nm,0.5s						
LSZ	**Lusaka**	**13.63**	**73**	*i* P	**Pn**	**15 01 54.2**	**-2.5**
PRYS	**Parys**	**13.64**	**124**	*e*P	**Pn**	**15 01 57.0**	**+0.2**
SUR	**Sutherland**	**13.70**	**158**	*i* P	**Pn**	**15 01 59.3**	**+1.6**
SUR	**Sutherland**	**13.70**	**158**		**Pn**	**15 01 58.8**	**+1.0**
SUR	**Sutherland**	**13.70**	**158**	*i* P	**Pn**	**15 01 59.4**	**+1.6**
SUR	**Sutherland**	**13.70**	**158**	*e*P	**Pn**	**15 01 58.1**	**+0.4**
SUR	**Sutherland**	**13.70**	**158**	Pn	**Pn**	**15 01 57.6**	**-0.1**
	comp=Z,1.2nm,0.3s,baz=330,slow=14,SNR=20						
SUR				Sn	**Sn**	**15 04 32.5**	**+2.4**
	comp=Z,1.1nm,0.3s,baz=94,slow=7.5,SNR=1.9						
SUR				Lg	Lg	15 05 50.8	
	comp=Z,7.7nm,0.3s,baz=85,slow=19,SNR=8.2						
	comp=Z,7.6nm,0.5s						
PRTV	**Porterville,We**	**13.81**	**164**	*e*P	**Pn**	**15 02 00.6**	**+1.5**
RUST	**Rust De Winter**	**13.90**	**116**	*e*P	**Pn**	**15 02 01.0**	**+0.7**
BRAK	**Brakfontein**	**14.05**	**150**	*e*P	**Pn**	**15 02 02.1**	**-0.3**
CER	**Ceres**	**14.14**	**164**	*e*P	**P**	**15 02 09.6**	**-1.6**
GRAN	**Grantham**	**14.17**	**153**	*e*P	**Pn**	**15 02 03.5**	**-0.5**
MERW	**Merweville**	**14.23**	**156**	*e*P	**Pn**	**15 02 02.0**	**-2.8**
MUSN	**Musina, Limpop**	**14.39**	**103**	*i* P	**Pn**	**15 02 05.4**	**-1.6**
MUSN	**Musina, Limpop**	**14.39**	**103**	*e*P	**Pn**	**15 02 06.5**	**-0.6**
BFON	**Badsfontein, M**	**14.45**	**148**	*e*P	**Pn**	**15 02 05.9**	**-2.1**
HVD	**Gariep Dam**	**14.55**	**140**	*e*P	**Pn**	**15 02 06.8**	**-2.5**
SNKL	**Senekal, Frees**	**14.64**	**128**	*e*P	**Pn**	**15 02 09.5**	**-1.1**
MPHEP	**Siloam, Limpop**	**14.77**	**105**	*e*P	**Pn**	**15 02 11.3**	**-0.9**
ROOI	**Rooidraai Farm**	**14.95**	**150**	*e*P	**Pn**	**15 02 13.6**	**-1.1**
GRAF	**Camdeboo Natio**	**15.24**	**147**	*e*P	**Pn**	**15 02 18.5**	**-0.1**
DULL	**Dullstroom, Mp**	**15.35**	**114**	*e*P	**Pn**	**15 02 20.0**	**-0.1**
HOED	**Hoedspruit, Li**	**15.75**	**110**	*e*P	**Pn**	**15 02 25.3**	**+0.1**
MOPA	**Mopani**	**15.98**	**106**	*i* P	**Pn**	**15 02 26.0**	**-2.1**
MOPA	**Mopani**	**15.98**	**106**	*e*P	**Pn**	**15 02 25.8**	**-2.3**
NWCL	**Newcastle**	**16.01**	**123**	*e*P	**Pn**	**15 02 30.2**	**+1.6**
CHIPN	**CHIPINGE**	**16.89**	**95**	*i* P	**Pn**	**15 02 34.6**	**-5.3**
GRHM	**Grahamstown, E**	**17.02**	**145**	P	**Pn**	**15 02 40.9**	**-0.5**
GRHM	**Grahamstown, E**	**17.02**	**145**	*e*P	**Pn**	**15 02 40.2**	**-1.1**
KSTD	**Kokstad**	**17.06**	**132**	*e*P	**P**	**15 02 44.9**	**+1.1**
POGA	**Pongola**	**17.32**	**119**	*i* P	**Pn**	**15 02 44.6**	**-0.5**
POGA	**Pongola**	**17.32**	**119**	P	**Pn**	**15 02 44.1**	**-1.0**
PMBG	**Pietermaritzbu**	**17.33**	**127**	*e*P	**P**	**15 02 49.9**	**+3.2**
MBAR	**Mbarara**	**24.70**	**41**	P	**P**	**15 04 08.0**	**+3.1**
MBAR	**Mbarara**	**24.70**	**41**	LR	LR	15 14 25.2	
	comp=Z,278nm,18.8s,baz=204,slow=38						
OPO	**Ambohidratompo**	**30.70**	**93**	LR	LR	15 15 40.3	
	comp=Z,149nm,21.4s,baz=147,slow=33						
DBIC	**Dimbokro**	**32.56**	**322**	P	**P**	**15 05 14.1**	**-0.7**
DBIC	**Dimbokro**	**32.56**	**322**	P	**P**	**15 05 12.9**	**-1.8**
	comp=Z,3.2nm,0.7s,baz=141,slow=14,SNR=1.6						
	comp=Z,3.2nm,0.7s						
TOA0	**Torodi Ar. Sit**	**35.12**	**338**	P	**P**	**15 05 36.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**35.12**	**338**	P	**P**	**15 05 36.8**	**-0.2**
TORD	**Torodi Ar. Bea**	**35.12**	**338**	P	**P**	**15 05 36.3**	**-0.7**
	comp=Z,3.9nm,0.7s,baz=168,slow=9.3,SNR=14						
TORD				PcP	**PcP**	**15 08 08.7**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=156,slow=1.2,SNR=3.5						
	comp=Z,3.9nm,0.7s						
ATD	**Arta Tunnel**	**41.67**	**44**	LR	LR	15 22 45.6	
	comp=Z,4.5nm,18.2s,baz=95,slow=35						
VNA1	**Neumayer--Stat**	**52.69**	**189**	⇓P	**P**	**15 07 59.2**	**+1.8**
	comp=Z,13nm,1.2s						
TROLL	**Troll, Antarti**	**52.72**	**185**	⇓P	**P**	**15 07 58.4**	**+0.7**
	comp=Z,96nm,0.4s						
VNA2	**Neumayer--Watz**	**52.81**	**189**	⇓P	**P**	**15 07 58.6**	**+0.3**
	comp=Z,5.3nm,0.8s,baz=16,slow=7.9						
SNAA	**Sanae**	**52.90**	**187**	P	**P**	**15 07 59.3**	**+0.3**
SNAA				IAmb	IAmb	15 08 00.7	
	comp=Z,14nm,1.3s						
SNAA	**Sanae**	**52.90**	**187**	*e*P	**P**	**15 07 58.9**	**-0.1**
SNAA	**Sanae**	**52.90**	**187**	⇓P	**P**	**15 07 59.4**	**+0.4**
	comp=Z,61nm,0.7s						
SNAA	**Sanae**	**52.90**	**187**	P	**P**	**15 07 58.7**	**-0.3**
	comp=Z,5.0nm,0.9s,baz=352,slow=2.0,SNR=11						
	comp=Z,5.0nm,0.9s						
VNA3	**Neumayer Olymp**	**

GEC2					IAmb	IAmb	15 09 48.1		
	comp=Z,11nm,1.3s								
GERES	**GERESS Array B**	**68.31**	**359**		P	**P**	**15 09 44.3**	**0.0**	
GERES	**GERESS Array B**	**68.31**	**359**		P	**P**	**15 09 45.0**	**+0.6**	
	comp=Z,1.9nm,0.7s,baz=198,slow=8.0,SNR=8.8								
GERES					LR	LR	15 40 00.3		
	comp=Z,29nm,18.1s,baz=170,slow=36								
	comp=Z,1.9nm,0.7s								
JAVC	**Velka Javorina**	**68.37**	**2**	*e*	P	**P**	**15 09 45.2**	**+0.5**	
KRUC	**Moravsky**	**68.54**	**1**	*e*	P	**P**	**15 09 46.0**	**+0.3**	
KHC	**Kasperske Hory**	**68.60**	**359**	*e*	P	**P**	**15 09 46.9**	**+0.8**	
SMAI	**San Martin Ant**	**68.77**	**203**		P	**P**	**15 09 45.3**	**-1.6**	
MORC	**Moravsky Berou**	**69.28**	**2**	*e*	P	**P**	**15 09 51.4**	**+1.0**	
PTLB	**Pontes e Lacer**	**70.00**	**260**		P	**P**	**15 09 54.8**	**-0.7**	
PTLB					IAmb	IAmb	15 09 59.4		
	comp=Z,3.9nm,0.9s								
PALK	**Pallekele**	**70.28**	**74**		LR	LR	15 36 26.4		
	comp=Z,91nm,21.2s,baz=350,slow=32								
QSPA	**South Pole Qui**	**70.40**	**180**		P	**P**	**15 09 57.4**	**+0.2**	
QSPA					IAmb	IAmb	15 09 58.6		
	comp=Z,14nm,1.0s								
QSPA	**South Pole Qui**	**70.40**	**180**		P	**P**	**15 09 57.3**	**+0.1**	
	comp=Z,9.7nm,0.8s,baz=237,slow=7.1,SNR=30								
	comp=Z,9.7nm,0.8s								
GEYT	**Alibeck**	**70.43**	**35**		P	**P**	**15 09 58.9**	**+1.2**	
	comp=Z,2.7nm,0.7s,baz=220,slow=6.7,SNR=4.6								
	comp=Z,2.7nm,0.7s								
CLL	**Collm**	**70.79**	**359**	*i*	P	**P**	**15 10 00.5**	**+1.0**	
	comp=Z,6.0nm,1.4s								
AKASG	**Malin Array Be**	**71.33**	**10**		P	**P**	**15 10 02.2**	**-0.5**	
	comp=Z,1.4nm,0.6s,baz=201,slow=6.0,SNR=7.5								
	comp=Z,1.4nm,0.6s								
SIV	**San Ignacio**	**71.64**	**259**		LR	LR	15 37 11.9		
	comp=Z,48nm,21.3s,baz=90,slow=32								
PLCA	**Paso Flores**	**73.86**	**232**		LR	LR	15 36 39.6		
	comp=Z,29nm,20.0s,baz=155,slow=31								
SAML	**Samuel**	**75.67**	**266**		P	**P**	**15 10 28.3**	**-0.9**	
SAML					IAmb	IAmb	15 10 30.0		
	comp=Z,12nm,1.2s								
EKA	**Eskdalemuir Ar**	**76.33**	**350**		P	**P**	**15 10 32.0**	**0.0**	
	comp=Z,3.5nm,0.6s,baz=166,slow=7.2,SNR=15								
	comp=Z,3.5nm,0.6s								
BOAV	**Boa Vista**	**76.92**	**277**		P	**P**	**15 10 36.2**	**-0.2**	
BOAV					IAmb	IAmb	15 10 37.1		
	comp=Z,18nm,1.3s								
LPAZ	**La Paz**	**78.06**	**257**		P	**P**	**15 10 41.5**	**-1.9**	
LPAZ					IAmb	IAmb	15 10 42.8		
	comp=Z,6.3nm,1.1s								
LPAZ	**La Paz**	**78.06**	**257**		P	**P**	**15 10 41.6**	**-1.8**	
	comp=Z,3.2nm,0.8s,baz=90,slow=4.9,SNR=8.9								
LPAZ					LR	LR	15 42 35.6		
	comp=Z,33nm,19.8s,baz=102,slow=34								
	comp=Z,3.2nm,0.8s								
ETMB	**Extrema**	**78.24**	**264**		P	**P**	**15 10 41.5**	**-2.3**	
ETMB					IAmb	IAmb	15 10 43.5		
	comp=Z,4.9nm,0.8s								
HFS	**Hagfors**	**79.62**	**359**		P	**P**	**15 10 50.0**	**-0.2**	
	comp=Z,1.0nm,0.6s,baz=148,slow=8.5,SNR=5.2								
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**80.58**	**358**		P	**P**	**15 10 54.9**	**-0.5**	
	comp=Z,1.5nm,0.9s,baz=182,slow=5.3,SNR=6.2								
	comp=Z,1.5nm,0.9s								
KK31	**Karatay Array**	**80.88**	**38**		P	**P**	**15 11 00.1**	**+2.6**	
KK31					IAmb	IAmb	15 11 02.3		
	comp=Z,13nm,1.5s								
KKAR	**Karatay Array**	**80.88**	**38**		P	**P**	**15 10 59.4**	**+1.9**	
KKAR	**Karatay Array**	**80.88**	**38**		P	**P**	**15 10 58.5**	**+1.0**	
KKAR					IAmb	IAmb	15 11 02.3		
	comp=Z,13nm,1.5s								
VNDA	**Vanda**	**81.02**	**173**		P	**P**	**15 10 58.5**	**+0.7**	
VNDA	**Vanda**	**81.02**	**173**		P	**P**	**15 10 57.8**	**+0.1**	
	comp=Z,2.7nm,0.8s,baz=263,slow=5.0,SNR=17								
	comp=Z,2.7nm,0.8s								
SBA	**Scott Base**	**81.23**	**174**		P	**P**	**15 10 59.8**	**+0.9**	
SBA					IAmb	IAmb	15 11 03.4		
	comp=Z,7.8nm,0.9s								
FINES	**FINESS Array B**	**81.45**	**6**		P	**P**	**15 11 00.6**	**+0.7**	
	comp=Z,2.4nm,0.6s,baz=179,slow=7.8,SNR=14								
	comp=Z,2.4nm,0.6s								
FIA1	**FINESS Array S**	**81.45**	**6**		P	**P**	**15 11 00.1**	**+0.1**	
KSH	**Kashi**	**82.14**	**43**		P	**P**	**15 11 04.5**	**+0.2**	
KSH					pmax	pmax			
	comp=Z,6.0nm,1.0s								
AAK	**Ala-Archa**	**82.96**	**40**		LR	LR	15 53 35.9		
	comp=Z,31nm,18.6s,baz=238,slow=40								
BVAR	**Borovoye Array**	**86.99**	**30**		P	**P**	**15 11 29.3**	**+0.9**	
	comp=Z,1.0nm,0.7s,baz=220,slow=3.8,SNR=6.5								
	comp=Z,1.0nm,0.7s								
NNA	**Nana**	**87.43**	**258**		LR	LR	15 47 46.8		
	comp=Z,21nm,19.0s,baz=199,slow=34								
SDV	**Santo Domingo**	**88.60**	**280**		LR	LR	15 49 44.1		
	comp=Z,32nm,18.9s,baz=158,slow=35								
ARCES	**ARCESS Array B**	**89.40**	**4**		P	**P**	**15 11 39.7**	**+0.2**	
	comp=Z,0.9nm,0.6s,baz=187,slow=7.1,SNR=5.9								
	comp=Z,0.9nm,0.6s								
KURBB	**Kurchatov Arra**	**89.70**	**35**		P	**P**	**15 11 41.6**	**+0.3**	
	comp=Z,0.9nm,0.9s,baz=246,slow=5.4,SNR=6.0								
	comp=Z,0.9nm,0.9s								
MKAR	**Makanchi Array**	**89.88**	**39**		P	**P**	**15 11 42.5**	**+0.2**	
	comp=Z,0.5nm,0.8s,baz=234,slow=4.2,SNR=4.9								
MKAR					LR	LR	15 54 20.2		
	comp=Z,32nm,19.3s,baz=226,slow=37								
	comp=Z,0.5nm,0.8s								
ATAH	**Atahualpa**	**90.50**	**262**		LR	LR	15 50 33.2		
	comp=Z,74nm,18.6s,baz=119,slow=34								
ROSC	**El Rosal**	**90.68**	**275**		LR	LR	15 50 14.8		
	comp=Z,73nm,18.1s,baz=188,slow=34								
CMAR	**Chiang Mai Arr**	**90.94**	**71**		P	**P**	**15 11 48.7**	**+0.8**	
	comp=Z,0.6nm,0.7s,baz=250,slow=5.4,SNR=5.5								
CMAR					LR	LR	15 51 51.4		
	comp=Z,23nm,18.5s,baz=245,slow=35								
	comp=Z,0.6nm,0.7s								
TXAR	**Lajitas Array**	**123.67**	**293**		PKP	**PKPdf**	**15 17 41.1**	**-0.6**	
	comp=Z,0.7nm,0.8s,baz=87,slow=6.4,SNR=7.2								
YKA	**Yellowknife Ar**	**125.08**	**334**		PKP	**PKPdf**	**15 17 43.0**	**-0.2**	
	comp=Z,0.8nm,0.5s,baz=35,slow=1.8,SNR=9.2								
PDAR	**Pinedale Array**	**128.15**	**309**		PKP	**PKPdf**	**15 17 49.4**	**-0.7**	
	comp=Z,1.1nm,0.6s,baz=98,slow=5.5,SNR=9.5								
ILAR	**Eielson Array**	**133.37**	**349**		PKP	**PKPdf**	**15 17 58.8**	**-0.2**	
	comp=Z,0.7nm,0.8s,baz=39,slow=4.8,SNR=7.9								
NVAR	**Mina Array Bea**	**135.44**	**305**		PKP	**PKPdf**	**15 18 04.1**	**+0.1**	
	comp=Z,0.6nm,0.8s,baz=95,slow=4.0,SNR=2.9								

NEIC ***25*** *15:13:29.6±1.8, 47.61N±0.02×92.46W±0.03, h0km±2km, ML2.1/6, mb_Lg2.5(OTT), Error ellipse: s-maj=4.5km s-min=3.4km az=215.0*

OTT ***25*** *15:13:29.9±0.2, 47.61N×92.46W, h0km, MN2.5/8, Blast, Minnesota, U.S. 131km southeast from Fort Frances, On Mining explosion.*

ISC 25 15:13:28.0±0.9, 47°59N±0.03×92°43W±0.04, h0km, n29, σ1°17/40, Minnesota

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
EYMN	**Ely**	**0.73**	**60**	Pg		**Pg**	**Pg**	**15 13 41.6**	**-0.3**
EYMN				IAML				15 13 53.0	
	79nm,1.5s								
EYMN	**Ely**	**0.73**	**60**	PG		**Pg**	**Pg**	**15 13 41.9**	**0.0**
EYMN				SG		**Sg**	**Sg**	**15 13 52.5**	**+1.3**
E38A	**The Farm, Brul**	**1.15**	**148**	Pg		**Pg**	**Pg**	**15 13 49.2**	**-0.8**
E38A				IAML				15 14 24.8	
	comp=N,68nm,1.6s								
B35A	**Bob, Littlefor**	**1.16**	**312**				**Pb**	**15 13 51.6**	**+0.6**
B35A				IAML				15 14 13.9	
	comp=E,41nm,1.1s								
B35A				IAML				15 14 14.2	
	comp=N,45nm,0.7s								
ATKO	**Atikokan Iron**	**1.35**	**24**	Pg		**Pg**	**Pg**	**15 13 53.9**	**0.0**
ATKO				Sg		**Sg**	**Sg**	**15 14 11.9**	**+0.4**
ATKO	**Atikokan Iron**	**1.35**	**24**	PG		**Pg**	**Pg**	**15 13 53.9**	**0.0**
ATKO				SG		**Sg**	**Sg**	**15 14 11.9**	**+0.4**
ATKO				Trac				15 14 18.6	
	comp=N,6.3nm,0.0s								
F36A	**Milaca**	**1.88**	**204**				**Pn**	**15 14 02.3**	**+0.9**
EPLO	**Experimental L**	**2.25**	**338**	Pn			**Pn**	**15 14 08.4**	**+1.9**
EPLO							**Sn**	**15 14 35.3**	**+0.3**
EPLO	**Experimental L**	**2.25**	**338**	PN			**Pn**	**15 14 08.4**	**+1.9**
EPLO				SN			**Sn**	**15 14 35.3**	**+0.3**
EPLO				Trac				15 14 44.3	
	comp=N,1.3nm,0.0s								
TBO	**Thunder Bay**	**2.29**	**61**	Pn			**Pn**	**15 14 08.7**	**+1.7**
TBO							**Sn**	**15 14 37.1**	**+1.3**
TBO	**Thunder Bay**	**2.29**	**61**	PN			**Pn**	**15 14 08.7**	**+1.7**
TBO				SN			**Sn**	**15 14 37.1**	**+1.3**
TBO				Trac				15 14 43.9	
	comp=N,5.4nm,0.1s								
SPMN	**Marine on St.**	**2.38**	**186**	Pn			**Pn**	**15 14 09.4**	**+1.2**
AGMN	**Agassiz Nation**	**2.41**	**288**	Pn			**Pn**	**15 14 08.6**	**-0.1**
SOLO	**Sioux Lookout**	**2.44**	**5**	Pn			**Pn**	**15 14 10.4**	**+1.3**
SOLO							**Sn**	**15 14 40.1**	**+0.4**
SOLO	**Sioux Lookout**	**2.44**	**5**	PN			**Pn**	**15 14 10.4**	**+1.3**
SOLO				PN			**Pb**	**15 14 10.6**	**-2.2**
SOLO				SN			**Sn**	**15 14 40.1**	**+0.4**
SOLO				SN			**Sb**	**15 14 40.6**	**-2.8**
SOLO				Trac				15 14 49.4	
	comp=N,2.1nm,0.1s								
COWI	**Conover**	**2.71**	**122**				**Pn**	**15 14 12.8**	**+0.1**
G40A	**Rib Lake**	**2.79**	**146**	Pn			**Pn**	**15 14 15.7**	**+1.8**
PKLO	**Pickle Lake**	**4.14**	**18**	Pn			**Pn**	**15 14 33.3**	**+0.9**
PKLO	**Pickle Lake**	**4.14**	**18**	PN			**Pn**	**15 14 33.3**	**+0.9**
PKLO	**Pickle Lake**	**4.14**	**18**	SN			**Sn**	**15 15 20.6**	**-0.9**
PKLO				Trac				15 15 39.4	
	comp=N,0.9nm,0.1s								
GTO	**Geraldton**	**4.22**	**57**	Pn			**Pn**	**15 14 34.4**	**+0.9**
GTO	**Geraldton**	**4.22**	**57**	PN			**Pn**	**15 14 34.4**	**+0.9**
GTO	**Geraldton**	**4.22**	**57**	SN			**Sn**	**15 15 23.4**	**-0.1**
GTO				Trac				15 15 53.2	
	comp=N,2.6nm,0.1s								
GTOO	**Geraldton**	**4.22**	**57**	PN			**Pn**	**15 14 33.8**	**+0.3**
GTOO	**Geraldton**	**4.22**	**57**	PN			**Pn**	**15 14 33.8**	**+0.3**
GTOO	**Geraldton**	**4.22**	**57**	SN			**Sn**	**15 15 22.6**	**-0.8**
GTOO				Trac				15 15 42.5	
	comp=N,1.5nm,0.1s								
PNPO	**Pukaskwa Natio**	**4.24**	**74**	Pn			**Pn**	**15 14 35.2**	**+1.4**
PNPO	**Pukaskwa Natio**	**4.24**	**74**	PN			**Pn**	**15 14 35.2**	**+1.4**
PNPO	**Pukaskwa Natio**	**4.24**	**74**	SN			**Sn**	**15 15 23.2**	**-0.7**
PNPO				Trac				15 15 44.7	
	comp=N,1.8nm,0.1s								

IDC ***25*** *15:21:26.1±2.0, 22°36N×93°07E, h62km±23km, mb3.4/10, mbtmp3.7/11, ML3.6/1, MS3.2/1, Error ellipse: s-maj=31.0km s-min=14.0km az=43.0*

ISC 25 15:21:24.0±0.9, 22°5N±0°2×93°14E±0°09, h35km, n12, σ1°30/13, mb3.7/10, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRDH	**Bariadhala**	**1.40**	**279**	P		P	**Pn**	**15 21 46.8**	**-0.2**
	0.6nm,0.7s,baz=251,slow=24,SNR=1.0								
BRDH				S			**Sn**	**15 22 06.2**	**+1.9**
	0.5nm,0.4s,baz=248,slow=24,SNR=40								
CMAR	**Chiang Mai Arr**	**6.75**	**125**	P			**Pn**	**15 23 01.5**	**+0.9**
	0.3nm,0.3s,baz=298,slow=13,SNR=9.0								
	1.0nm,0.6s								
MKAR	**Makanchi Array**	**25.80**	**343**	P		P	**P**	**15 26 52.7**	**+0.9**
	1.8nm,0.6s,baz=153,slow=9.7,SNR=20								
	1.8nm,0.6s								
SONM	**Songino Array**	**27.45**	**20**	P		P	**P**	**15 27 07.8**	**+1.1**
	0.6nm,0.7s,baz=196,slow=10,SNR=4.1								
SONM				LR		LR	LR	15 39 47.9	
	comp=Z,44nm,19.4s,baz=70,slow=40								
	0.6nm,0.7s								
KURBB	**Kurchatov Arra**	**30.33**	**341**	P		P	**P**	**15 27 32.4**	**+0.3**
	0.2nm,0.4s,baz=148,slow=7.5,SNR=2.9								
	0.2nm,0.4s								
ZALV	**Zalesovo Beam**	**32.06**	**351**	P		P	**P**	**15 27 48.1**	**+0.8**
	0.9nm,0.6s,baz=171,slow=7.6,SNR=5.3								
	0.9nm,0.6s								
BVAR	**Borovoye Array**	**35.10**	**336**	P		P	**P**	**15 28 13.0**	**-0.9**
	0.3nm,0.3s,baz=144,slow=10,SNR=2.3								
	0.3nm,0.3s								
WRA	**Warramunga Arr**	**58.27**	**133**	P		P	**P**	**15 31 14.2**	**-1.3**
	0.2nm,0.5s,baz=320,slow=7.4,SNR=4.9								
	0.2nm,0.5s								
FINES	**FINESS Array B**	**59.57**	**329**	P		P	**P**	**15 31 24.0**	**+0.1**
	0.8nm,0.8s,baz=86,slow=8.5,SNR=1.8								
	0.8nm,0.8s								
ASAR	**Alice Springs**	**60.62**	**137**	P		P	**P**	**15 31 31.4**	**-0.2**
	0.8nm,0.6s,baz=315,slow=6.8,SNR=5.3								
	0.8nm,0.6s								
HFS	**Hagfors**	**65.56**	**327**	P		P	**P**	**15 32 02.6**	**-1.3**
	1.0nm,0.6s,baz=90,slow=10,SNR=1.7								
	1.0nm,0.6s								
NOA	**NORSAR Array B**	**66.72**	**328**	P		P	**P**	**15 32 09.0**	**-2.4**
	0.2nm,0.5s,baz=85,slow=6.3,SNR=2.0								
	0.2nm,0.5s								

IDC 25 15:25:12.3±1.9, 2°90N×121°91E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=319.9km s-min=28.1km az=62.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.77**	**152**	P		P	P	15 30 45.1	0.0
	0.9nm,0.5s,baz=330,slow=10.0,SNR=22								
	0.9nm,0.5s								
ASAR	**Alice Springs**	**28.87**	**157**	P		P	P	15 31 12.9	0.0
	1.1nm,0.6s,baz=343,slow=8.8,SNR=24								
	1.1nm,0.6s								
MKAR	**Makanchi Array**	**55.59**	**328**	P		P	P	15 34 49.7	-0.1
	0.2nm,0.6s,baz=123,slow=7.6,SNR=1.8								
	0.2nm,0.6s								

NEIC ***25*** *15:46:19.9±0.9, 19.434N±0.007×155.274W±0.006, h4km±1km, Error ellipse: s-maj=1.1km s-min=0.7km az=160.0*

HVO 25 15:46:19.5±0.8, 19°411N±0°008×155°270W±0°009, h1km±2km, ML2.7/37, ML2.7/32(NEIC), Error ellipse: s-maj=1.2km s-min=1.1km az=213.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**83**				Pg	15 46 20.3	+0.4
KKO	**Keanakako`i**	**0.01**	**163**				Pg	15 46 21.0	+1.0
HATHI	**Halema'uma'u T**	**0.01**	**36**				Pg	15 46 20.5	+0.5
OBL	**Observatory Le**	**0.01**	**297**				Pg	15 46 20.4	+0.4
RIM	**Rim**	**0.02**	**193**				Pg	15 46 21.1	+1.1
SBLHI	**Steaming Bluff**	**0.02**	**7**				Pg	15 46 20.9	+0.9
UWB	**Uwekahuna B**	**0.02**	**332**				Pg	15 46 20.8	+0.8
UWE	**Uwekahuna**	**0.02**	**295**				Pg	15 46 20.8	+0.7
RSD	**Rainshed**	**0.05**	**352**	Pg		Pg	Pg	15 46 21.4	+0.8
PUH	**Pauahi**	**0.06**	**126**	Pg		Pg	Pg	15 46 21.6	+0.9
PUH				IAML				15 46 22.2	
	comp=N,5μm,0.3s								
PUH				IAML				15 46 22.5	
	comp=E,6μm,0.8s								
KNHH	**Kane Nui o Ham**	**0.10**	**108**				Pg	15 46 22.5	+1.0
HLP	**Hilina Pali**	**0.12**	**197**				Pg	15 46 22.9	+1.1
HLP	**Hilina Pali**	**0.12**	**197**				Sg	15 46 25.4	+2.0
HLP	**Hilina Pali**	**0.12**	**197**	IAML				15 46 23.9	
	comp=E,2μm,1.1s								
MLH	**Mauna Loa**	**0.14**	**307**				Pg	15 46 23.4	+1.1
MLH							Sg	15 46 26.5	+2.5
MLH	**Mauna Loa**	**0.14**	**307**	IAML				15 46 26.6	
	comp=E,2μm,0.5s								
MLH				IAML				15 46 27.0	
	comp=N,4μm,0.6s								
STCH	**Steam Cracks**	**0.14**	**100**				Pg	15 46 23.1	+0.8
STCH	**Steam Cracks**	**0.14**	**100**	IAML				15 46 26.5	
	comp=N,5μm,1.0s								
STCH				IAML				15 46 26.6	
	comp=E,5μm,0.3s								
NPOC	**North of Pu'u**	**0.15**	**97**				Pg	15 46 23.3	+0.8
JCUZ	**Jacuzzi**	**0.16**	**99**				Pg	15 46 23.5	+0.8
HTC	**Hot Caves**	**0.21**	**215**				Pg	15 46 24.6	+1.0
JOKA	**Jonika Flow**	**0.25**	**85**				Pg	15 46 24.2	-0.2
JOKA				IAML				15 46 32.5	
	comp=E,2μm,0.8s								
HMH	**Humu'ula Sheep**	**0.28**	**314**				Pg	15 46 25.3	+0.5
HMH				IAML				15 46 30.6	
	comp=E,1μm,0.7s								
HMH				IAML				15 46 34.4	
	comp=N,1μm,0.6s								
MLOA	**Mauna Loa Obse**	**0.31**	**293**				Pg	15 46 26.5	+0.9
MLOA				IAML				15 46 36.2	
	comp=N,1μm,1.0s								
MLOA				IAML				15 46 36.6	
	comp=E,2μm,0.7s								
MWH	**Moku'aweowe**	**0.32**	**284**	Pg		Pg	Pg	15 46 25.2	-0.4
KHU	**Kahuku**	**0.36**	**243**				Pg	15 46 27.5	+0.9
KHU				IAML				15 46 37.4	
	comp=E,695nm,0.7s								
POHA	**Pohakuloa**	**0.42**	**324**				Pg	15 46 27.4	-0.3
POHA				IAML				15 46 42.5	
	comp=E,1μm,0.7s								
POHA	**Pohakuloa**	**0.42**	**324**				Sg	15 46 28.1	-5.1
HUH	**Hualalai**	**0.60**	**297**				Pg	15 46 30.8	-0.2
HPAH	**Hawaii Prepara**	**0.74**	**327**				Pg	15 46 32.6	-1.1

IDC 25 15:58:57.5±10.0, 1°49S×121°40E, h0km, mb3.5/3, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=165.5km s-min=43.8km az=148.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.87**	**205**	Pn		Pn	Pn	15 59 58.9	+0.5
	1.7nm,0.3s,baz=167,slow=16,SNR=2.2								
KAPI				Sn		Sn	Sn	16 00 43.7	-0.8
	2.1nm,0.3s,baz=79,slow=21,SNR=2.2								
	4.1nm,0.3s								
WRA	**Warramunga Arr**	**22.28**	**146**	P		P	P	16 03 57.1	+0.4
	1.1nm,0.7s,baz=324,slow=12,SNR=11								
	1.1nm,0.7s								
ASAR	**Alice Springs**	**25.16**	**152**	P		P	P	16 04 25.2	+0.4
	0.3nm,0.6s,baz=341,slow=14,SNR=6.2								
	0.3nm,0.6s								
STKA	**Stephens Creek**	**35.73**	**150**	P		P	P	16 05 57.2	-1.0
	1.7nm,0.8s,baz=307,slow=9.4,SNR=3.6								
	1.7nm,0.8s								

IDC 25 16:25:36.9±3.4, 22°36S×178°04W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=173.5km s-min=49.7km az=151.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.98**	**246**	P		P	P	16 32 48.5	+0.2
	0.9nm,0.4s,baz=95,slow=9.9,SNR=5.1								
	0.9nm,0.4s								
ASAR	**Alice Springs**	**44.09**	**259**	P		P	P	16 33 46.8	-0.4
	1.5nm,0.5s,baz=96,slow=7.2,SNR=64								
	1.5nm,0.5s								
WRA	**Warramunga Arr**	**44.34**	**264**	P		P	P	16 33 49.0	-0.2
	2.2nm,0.4s,baz=102,slow=8.3,SNR=143								
	2.2nm,0.4s								
HFS	**Hagfors**	**141.36**	**351**	PKP		PKPdf	PKPdf	16 45 07.1	-2.2
	1.1nm,0.3s,baz=32,slow=5.8,SNR=20								
AKASG	**Malin Array Be**	**144.61**	**330**	PKP		PKPdf	PKPdf	16 45 15.3	-0.1
	0.4nm,0.4s,baz=45,slow=4.4,SNR=4.5								
MMAI	**Mount Meron Ar**	**148.66**	**297**	PKPbc		PKPbc	PKPbc	16 45 26.1	-0.5
	0.6nm,0.5s,baz=90,slow=1.4,SNR=2.7								

NEIC ***25*** *16:35:04.2±0.6, 19.395N±0.008×155.270W±0.006, h3km±2km, Error ellipse: s-maj=1.2km s-min=0.8km az=193.0*

HVO 25 16:35:04.0±0.8, 19°399N±0°008×155°271W±0°007, h0km±2km, ML3.0/9, ML1.9/20(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=176.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.00**	**102**				Pg	16 35 05.2	+0.9
RIM	**Rim**	**0.01**	**224**				Pg	16 35 04.5	+0.2
BYL	**Byron's Ledge**	**0.02**	**37**				Pg	16 35 04.9	+0.5
OBL	**Observatory Le**	**0.02**	**326**				Pg	16 35 06.0	+1.6
HATHI	**Halema'uma'u T**	**0.03**	**20**	IAML				16 35 04.8	
	comp=N,3μm,0.8s								
HATHI				IAML				16 35 04.9	
	comp=E,2μm,1.2s								
HATHI	**Halema'uma'u T**	**0.03**	**20**				Pg	16 35 05.1	+0.6
UWB	**Uwekahuna B**	**0.03**	**345**				Pg	16 35 05.1	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**5**				Pg	16 35 05.6	+1.1
UWE	**Uwekahuna**	**0.03**	**316**	Pg		Pg	Pg	16 35 04.9	+0.3
UWE				IAML				16 35 05.1	
	comp=N,3μm,1.0s								
PUH	**Pauahi**	**0.06**	**116**	Pg		Pg	Pg	16 35 04.4	-0.7
PUH				IAML				16 35 06.5	
	comp=N,1μm,1.4s								
RSD	**Rainshed**	**0.06**	**354**	Pg		Pg	Pg	16 35 05.3	0.0
KNHH	**Kane Nui o Ham**	**0.10**	**101**	Pg		Pg	Pg	16 35 06.1	+0.2
HLP	**Hilina Pali**	**0.11**	**199**				Pg	16 35 07.2	+1.2
STCH	**Steam Cracks**	**0.14**	**96**	Pg		Pg	Pg	16 35 06.9	+0.2
STCH				IAML				16 35 09.3	
	comp=E,388nm,0.6s								
STCH				IAML				16 35 10.8	
	comp=N,431nm,0.8s								
NPOC	**North of Pu'u**	**0.15**	**92**				Pg	16 35 07.8	+0.9
**JCUZ

UWE	**Uwekahuna**	**0.03**	**318**		Pg	16 38 27.6	+0.2
UWE				IAML		16 38 27.7	
	comp=E,3µm,0.5s						
UWE				IAML		16 38 27.7	
	comp=N,3µm,0.7s						
PUH	**Pauahi**	**0.06**	**116**		Pg	16 38 28.0	-0.1
RSD	**Rainshed**	**0.06**	**357**	IAML		16 38 28.1	
	comp=N,852nm,2.8s						
RSD					Pg	16 38 28.2	+0.1
KNHH	**Kane Nui o Ham**	**0.10**	**102**		Pg	16 38 29.3	+0.5
MLH	**Mauna Loa**	**0.14**	**311**		Pg	16 38 30.3	+0.8
MLH				IAML		16 38 31.6	
	comp=N,580nm,0.7s						
MLH				IAML		16 38 32.8	
	comp=E,315nm,1.7s						
STCH	**Steam Cracks**	**0.14**	**96**		Pg	16 38 30.3	+0.7
STCH	**Steam Cracks**	**0.14**	**96**	IAML		16 38 31.3	
	comp=N,490nm,1.1s						
STCH				IAML		16 38 32.7	
	comp=E,407nm,0.9s						
NPOC	**North of Pu'u**	**0.16**	**93**		Pg	16 38 30.6	+0.7
JCUZ	**Jacuzzi**	**0.16**	**96**		Pg	16 38 33.9	+3.9
JOKA	**Jonika Flow**	**0.26**	**83**	Pg	Pg	16 38 32.3	+0.5
JOKA				IAML		16 38 37.5	
	comp=E,267nm,1.7s						
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg	Pg	16 38 33.0	+0.8
HMH				IAML		16 38 38.3	
	comp=N,254nm,1.4s						
MWH	**Moku'aweowe**	**0.32**	**285**	Pg	Pg	16 38 33.9	+0.9
KHU	**Kahuku**	**0.36**	**244**	Pg	Pg	16 38 34.3	+0.6

IDC 25 16:41:53.6±7.0, 1.75S×143.29E, h0km, mb3.1/3, mbtmp3.2/3, Error ellipse: s-maj=255.8km s-min=34.0km az=92.0, Ninigo Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.09**	**205**	P	P	16 46 27.8	-1.1
	0.4nm,0.9s,baz=28,slow=13,SNR=2.1						
	0.4nm,0.9s						
ASAR	**Alice Springs**	**23.61**	**202**	P	P	16 47 07.3	+0.9
	0.7nm,1.0s,baz=36,slow=9.1,SNR=6.0						
	0.7nm,1.0s						
MKAR	**Makanchi Array**	**71.89**	**321**	P	P	16 53 18.5	-0.2
	0.2nm,0.6s,baz=97,slow=6.0,SNR=2.5						
	0.2nm,0.6s						

*NEIC **25** 17:08:17.3±0.7, 19.409N±0.009×155.282W±0.009, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.5km az=153.0*
HVO 25 17:08:16.9±0.9, 19.404N±0.006×155.287W±0.007, h0km±4km, ML2.7/33, ML2.5/31(NEIC), Error ellipse: s-maj=1.1km s-min=0.6km az=139.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**10**		Pg	17 08 18.2	+0.9
RIM	**Rim**	**0.01**	**125**		Pg	17 08 18.3	+1.1
UWE	**Uwekahuna**	**0.02**	**340**	IAML		17 08 17.3	
	comp=N,16µm,0.3s						
UWE				IAML		17 08 17.6	
	comp=E,24µm,0.5s						
UWE					Pg	17 08 17.7	+0.4
KKO	**Keanakako`i**	**0.02**	**107**		Pg	17 08 18.6	+1.2
UWB	**Uwekahuna B**	**0.02**	**21**		Pg	17 08 18.6	+1.2
BYL	**Byron's Ledge**	**0.03**	**72**		Pg	17 08 18.3	+0.8
SBLHI	**Steaming Bluff**	**0.03**	**37**		Pg	17 08 19.2	+1.7
HATHI	**Halema'uma'u T**	**0.03**	**51**	IAML		17 08 17.7	
	comp=E,6µm,0.8s						
HATHI					Pg	17 08 18.4	+0.8
RSD	**Rainshed**	**0.06**	**8**		Pg	17 08 18.2	+0.1
RSD				IAML		17 08 19.6	
	comp=E,3µm,0.6s						
PUH	**Pauahi**	**0.07**	**114**		Pg	17 08 19.4	+1.0
PUH				IAML		17 08 20.6	
	comp=E,4µm,0.7s						
HLP	**Hilina Pali**	**0.11**	**191**		Pg	17 08 20.1	+1.1
HLP				IAML		17 08 22.2	
	comp=N,2µm,1.0s						
HLP				IAML		17 08 22.4	
	comp=E,2µm,0.5s						
KNHH	**Kane Nui o Ham**	**0.11**	**102**		Pg	17 08 20.0	+0.9
MLH	**Mauna Loa**	**0.13**	**314**		Pg	17 08 20.4	+1.0
MLH				IAML		17 08 23.8	
	comp=E,2µm,0.2s						
MLH				IAML		17 08 23.8	
	comp=N,2µm,0.4s						
STCH	**Steam Cracks**	**0.15**	**97**		Pg	17 08 20.3	+0.4
STCH				IAML		17 08 24.4	
	comp=E,1µm,0.7s						
STCH				IAML		17 08 24.9	
	comp=N,2µm,0.7s						
JOKA	**Jonika Flow**	**0.27**	**84**	Pg	Pg	17 08 22.6	+0.5
JOKA				IAML		17 08 27.2	
	comp=E,565nm,0.8s						
HMH	**Humu'ula Sheep**	**0.27**	**317**		Pg	17 08 22.7	+0.6
HMH				IAML		17 08 29.6	
	comp=N,788nm,0.5s						
HMH				IAML		17 08 31.8	
	comp=E,1µm,0.5s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**		Pg	17 08 23.3	+0.6
MLOA				IAML		17 08 31.2	
	comp=E,701nm,1.1s						
MWH	**Moku'aweowe**	**0.30**	**285**		Pg	17 08 23.3	+0.6
PAH	**Pahoa**	**0.33**	**74**		Pg	17 08 23.5	+0.2
KHU	**Kahuku**	**0.35**	**243**		Pg	17 08 23.5	-0.1
POHA	**Pohakuloa**	**0.42**	**327**		Pg	17 08 25.4	+0.4
HUH	**Hualalai**	**0.59**	**298**		Pg	17 08 28.3	0.0
HPAH	**Hawaii Prepara**	**0.73**	**328**		Pg	17 08 30.3	-0.7
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	17 08 34.9	-0.7

*NEIC **25** 17:08:30.6±1.8, 12.93S±0.07×45.74E±0.1, h10km±1km, mb4.5/7, Error ellipse: s-maj=26.3km s-min=4.6km az=243.0*
*IDC **25** 17:08:32.0±1.4, 13.38S×45.77E, h0km, mb3.8/5, mbtmp3.8/5, MS3.2/5, Error ellipse: s-maj=55.9km s-min=30.5km az=137.0*
ISC 25 17:08:31.1±0.7, 13.02S±0.08×45.24E±0.1, h10km, n23, σ2s21/19, mb4.1/9, MS3.2/4, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.21**	**164**	Pn	**Pn**	**17 10 04.4**	**+1.2**
ABPO				Sn	**Sn**	**17 11 10.1**	**-4.3**
VOI	**Vohitsoka**	**8.94**	**172**	Pn	**Pn**	**17 10 41.5**	**+1.0**
RER	**Riviere de l'E**	**12.76**	**131**	Pn	**Pn**	**17 11 31.3**	**-1.6**
KIBK	**Kibwezi**	**12.88**	**325**	Pn	**Pn**	**17 11 31.0**	**-3.4**
LSZ	**Lusaka**	**16.86**	**260**	P	**Pn**	**17 12 27.4**	**-0.2**
MBAR	**Mbarara**	**19.07**	**309**	LR	LR	17 19 51.9	
	comp=Z,74nm,18.3s,baz=140,slow=35						
LBTB	**Lobatse**	**22.18**	**235**	P	**P**	**17 13 26.3**	**-1.5**
LBTB				IAmb	IAmb	17 13 37.6	
	comp=Z,7.7nm,1.0s						
BOSA	**Boshof**	**24.35**	**227**	P	**P**	**17 13 50.1**	**+0.5**
BOSA				IAmb	IAmb	17 13 54.2	
	comp=Z,9.0nm,1.4s						
BOSA	**Boshof**	**24.35**	**227**	P	**P**	**17 13 51.7**	**+2.1**
	comp=Z,2.5nm,0.6s,baz=54,slow=9.1,SNR=9.9						
	comp=Z,2.5nm,0.6s						
GRHM	**Grahamstown, E**	**26.62**	**218**	P	**P**	**17 14 09.4**	**-0.6**
GRHM				IAmb	IAmb	17 14 13.4	
	comp=Z,49nm,1.4s						
SUR	**Sutherland**	**29.65**	**225**	P	**P**	**17 14 37.7**	**+0.5**
SUR				IAmb	IAmb	17 15 06.5	
	comp=Z,14nm,1.2s						
SUR	**Sutherland**	**29.65**	**225**	LR	LR	17 26 26.7	
	comp=Z,51nm,18.7s,baz=102,slow=36						
KAAM	**Kaadhehdhoo**	**30.46**	**66**	P	**P**	**17 14 44.6**	**+0.2**
EIL	**Elat**	**43.62**	**347**	LR	LR	17 35 05.0	
	comp=Z,21nm,18.6s,baz=196,slow=36						
GNI	**Garni**	**52.90**	**359**	LR	LR	17 40 54.8	
	comp=Z,23nm,18.8s,baz=260,slow=36						
ABKAR	**Akbulak array**	**63.31**	**11**	P	**P**	**17 18 58.3**	**-1.8**
ABKAR				IAmb	IAmb	17 19 06.7	
	comp=Z,4.2nm,0.9s						
ABKAR	**Akbulak array**	**63.31**	**11**		**P**	**17 18 58.0**	**-2.1**
MKAR	**Makanchi Array**	**68.09**	**26**	P	**P**	**17 19 35.0**	**+3.9**
	comp=Z,0.2nm,0.7s,baz=224,slow=6.0,SNR=3.0						
	comp=Z,0.2nm,0.7s						
KIRV	**Kirov**	**71.42**	**2**	LR	LR	17 52 18.4	
	comp=Z,16nm,21.3s,baz=95,slow=37						
QSPA	**South Pole Qui**	**77.08**	**180**	P	**P**	**17 20 26.0**	**+1.5**
	comp=Z,1.8nm,0.9s,baz=246,slow=5.1,SNR=3.7						
	comp=Z,1.8nm,0.9s						
ASAR	**Alice Springs**	**83.51**	**113**	P	**P**	**17 20 59.8**	**-0.2**
	comp=Z,0.6nm,0.8s,baz=262,slow=4.1,SNR=8.0						
	comp=Z,0.6nm,0.8s						
WRA	**Warramunga Arr**	**84.65**	**109**	P	**P**	**17 21 05.9**	**+0.2**
	comp=Z,0.6nm,1.0s,baz=262,slow=4.3,SNR=2.1						
	comp=Z,0.6nm,1.0s						
QSM	**Queen of Sheba**	**152.13**	**328**		**PKPdf**	**17 28 23.9**	**+3.2**

SCB 25 17:11:13.5±0.8, 20.41S×65.39W, h355km±5km, ML3.8/4, MW4.1, Error ellipse: s-maj=4.1km s-min=3.3km az=0.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.86**	**195**	Pg	Pn	17 12 00.4	+0.5
MOCB				Sg	S	17 12 35.6	-1.4
MOCB				IAML		17 12 38.6	
	38nm,0.7s						
SOTI	**Planta Incahua**	**1.73**	**71**	Pg	Pn	17 12 04.7	+1.0
AOEA	**Aiquile**	**2.23**	**4**	Pg	Pn	17 12 07.7	+0.3
AOEA				Sg	S	17 12 49.2	-1.3
AOEA				IAML		17 12 50.1	
	40nm,0.6s						
SOET	**ToroToro**	**2.32**	**350**	Pg	Pn	17 12 08.7	+0.6
SOEO	**Opoqueri**	**2.99**	**308**	Pg	Pn	17 12 15.3	+1.5
PB08	**IPOC Station P**	**3.54**	**274**	Pg	Pn	17 12 20.3	+1.6
GO01	**Chusmiza**	**3.65**	**281**	Pg	Pn	17 12 21.3	+1.4
PB09	**IPOC Station P**	**3.85**	**248**	Pg	Pn	17 12 23.4	+1.9
PB01	**IPOC Station P**	**3.88**	**260**	Pg	Pn	17 12 23.2	+1.4
PB01				Sg	S	17 13 15.8	-1.0
PB01				IAML		17 13 17.3	
	91nm,0.3s						
PB11	**IPOC Station P**	**4.06**	**278**	Pg	Pn	17 12 24.9	+1.3
SOEJ	**Jacaque**	**4.33**	**322**	Pg	Pn	17 12 29.0	+2.2
BBOE	**La Paz, Chanca**	**4.34**	**325**	Pg	Pn	17 12 28.9	+1.9
PB15	**IPOC Station P**	**4.70**	**233**	Pg	Pn	17 12 32.2	+1.9
PB15				Sg	S	17 13 31.2	-1.2
PB15				IAML		17 13 36.0	
	569nm,0.3s						
BBOD	**La Paz, Gloria**	**4.83**	**320**	Pg	Pn	17 12 34.2	+2.0
LPAZ	**La Paz**	**4.86**	**327**	Pg	Pn	17 12 34.0	+1.4

*SJA **25** 17:14:06.1±0.7, 20.80S×67.84W, h183km±6km, ML3.7, MW3.6*
*IDC **25** 17:14:07.1±0.8, 20.86S×67.66W, h157km±8km, mb3.5/6, mbtmp4.0/11, Error ellipse: s-maj=19.5km s-min=9.3km az=103.0*
*NEIC **25** 17:14:07.3±2.7, 20.90S±0.06×68.0W±0.1, h195km±9km, mb4.2/2, ML4.0(GUC), Error ellipse: s-maj=14.9km s-min=8.4km az=91.0*
*VAO **25** 17:14:08.0±0.3, 20.91S×67.41W, h134km±3km, mb4.2*
*SCB **25** 17:14:08.8±1.1, 20.87S×67.82W, h153km±12km, ML3.7/3, MW4.0, Error ellipse: s-maj=4.2km s-min=2.9km az=0.0*
*GUC **25** 17:14:09.5±0.6, 20.89S×67.97W, h175km±5km, ML4.0*
ISC 25 17:14:07.0±0.6, 20.85S±0.04×67.73W±0.04, h161km±6km, n113, σ1s81/156, mb3.9/9, 5C-1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**1.51**	**298**		**Pn**	**17 14 39.3**	**+1.4**
PB08				Sn	**Sn**	**17 15 03.0**	**+1.4**
PB08	**IPOC Station P**	**1.51**	**298**	*i* P	**Pn**	**17 14 38.6**	**+0.7**
PB08				*i* S	**Sn**	**17 15 02.3**	**+0.7**
PB08				IAML		17 15 05.9	
	comp=Z,262nm,0.7s						
PB08	**IPOC Station P**	**1.51**	**298**	↑*i* P	**Pn**	**17 14 39.5**	**+1.6**
PB08				*eS*	**Sn**	**17 15 02.6**	**+1.0**
PB08	**IPOC Station P**	**1.51**	**298**	Pg	**Pn**	**17 14 39.3**	**+1.4**
PB01	**IPOC Station P**	**1.65**	**263**	Pn	**Pn**	**17 14 39.5**	**+0.5**
PB01				Sn	**Sn**	**17 15 03.1**	**-0.6**
PB01	**IPOC Station P**	**1.65**	**263**	*i* P	**Pn**	**17 14 39.6**	**+0.5**
PB01				*i* S	**Sn**	**17 15 04.1**	**+0.4**
PB01				IAML		17 15 06.8	
	comp=Z,329nm,0.2s						
PB01	**IPOC Station P**	**1.65**	**263**	*eP*	**Pn**	**17 14 39.5**	**+0.5**
PB01				*eS*	**Sn**	**17 15 02.7**	**-1.0**
PB01				IAML		17 15 05.5	
	comp=N,949nm,0.3s						
PB01	**IPOC Station P**	**1.65**	**263**	Pg	**Pn**	**17 14 39.8**	**+0.8**
PB01				Sg	**Sn**	**17 15 03.5**	**-0.2**
PB01				IAML		17 15 06.1	
	comp=N,608nm,0.2s						
PB09	**IPOC Station P**	**1.69**	**236**		**Pn**	**17 14 40.4**	**+0.8**
PB09				Sn	**Sn**	**17 15 05.2**	**+0.5**
PB09	**IPOC Station P**	**1.69**	**236**	*eP*	**Pn**	**17 14 40.9**	**+1.3**
PB09				*eS*	**Sn**	**17 15 05.0**	**+0.4**
PB09				IAML		17 15 07.6	
	comp=N,650nm,0.3s						
PB09	**IPOC Station P**	**1.69**	**236**	Pg	**Pn**	**17 14 40.8**	**+1.3**
GO01	**Chusmiza**	**1.81**	**310**	Pn	**Pn**	**17 14 42.6**	**+1.4**
GO01				Sn	**Sn**	**17 15 09.6**	**+2.2**
GO01	**Chusmiza**	**1.81**	**310**	⇓*i* P	**Pn**	**17 14 41.0**	**-0.2**
GO01	**Chusmiza**	**1.81**	**310**	*eP*	**Pn**	**17 14 42.3**	**+1.1**
GO01				*eS*	**Sn**	**17 15 08.7**	**+1.2**
GO01	**Chusmiza**	**1.81**	**310**	Pg	**Pn**	**17 14 42.7**	**+1.5**
MOCB	**Mochara**	**2.00**	**102**	Pg	**Pn**	**17 14 46.3**	**+3.1**
MOCB				Sg	**Sn**	**17 15 14.5**	**+3.4**
MOCB				IAML		17 15 22.5	
	comp=N,198nm,0.4s						
LVC	**Limon Verde**	**2.06**	**212**		**Pn**	**17 14 44.9**	**+1.1**
LVC				Sn	**Sn**	**17 15 12.7**	**+0.4**
LVC	**Limon Verde**	**2.06**	**212**	P	**Pn**	**17 14 45.2**	**+1.3**
	comp=N,22nm,0.3s,baz=20,slow=7.5,SNR=12						
LVC				S	**Sn**	**17 15 12.4**	**+0.1**
	comp=N,71nm,0.4s,baz=78,slow=19,SNR=53						
LVC	**Limon Verde**	**2.06**	**212**	*eP*	**Pn**	**17 14 44.8**	**+0.9**
LVC				*eS*	**Sn**	**17 15 13.0**	**+0.6**
HMBC	**Humberstone**	**2.10**	**285**	Pn	**Pn**	**17 14 44.1**	**+0.1**
HMBC				Sn	**Sn**	**17 15 10.6**	**-2.0**
HMBC	**Humberstone**	**2.10**	**285**	*i* P	**Pn**	**17 14 43.9**	**-0.2**
HMBC				*i* S	**Sn**	**17 15 11.8**	**-0.8**
HMBC				IAML		17 15 15.1	
	comp=Z,403nm,0.3s						
HMBC	**Humberstone**	**2.10**	**285**	*eP*	**Pn**	**17 14 44.1**	**+0.1**
HMBC				*eS*	**Sn**	**17 15 10.9**	**-1.7**
HMBC				IAML		17 15 13.3	
	comp=E,695nm,0.8s						
PB11	**IPOC Station P**	**2.11**	**301**		**Pn**	**17 14 44.8**	**+0.6**
PB11				Sn	**Sn**	**17 15 12.3**	**-0.5**
PB11	**IPOC Station P**	**2.11**	**301**	*i* P	**Pn**	**17 14 44.1**	**-0.1**
PB11				*i* S	**Sn**	**17 15 12.1**	**-0.7**
PB11				IAML		17 15 17.0	
	comp=Z,280nm,0.3s						
PB11	**IPOC Station P**	**2.11**	**301**	*eP*	**Pn**	**17 14 44.9**	**+0.6**
PB11				*eS*	**Sn**	**17 15 12.4**	**-0.5**
PB11				IAML		17 15 15.8	
	comp=E,1µm,0.4s						
PB11	**IPOC Station P**	**2.11**	**301**	Pg	**Pn**	**17 14 45.0**	**+0.8**
PB11				Sg	**Sn**	**17 15 12.8**	**-0.1**
PB11				IAML		17 15 15.7	
	comp=E,775nm,0.4s						
AF01	**San Pedro de A**	**2.13**	**191**		**Pn**	**17 14 46.2**	**+1.6**
PATCX	**Punta Patache**	**2.26**	**270**		**Pn**	**17 14 45.7**	**-0.2**
PATCX				Sn	**Sn**	**17 15 14.4**	**-1.5**
PATCX	**Punta Patache**	**2.26**	**270**	*i* P	**Pn**	**17 14 45.9**	**0.0**
PATCX				*i* S	**Sn**	**17 15 15.4**	**-0.6**
PATCX				IAML		17 15 17.7	
	comp=Z,302nm,0.2s						
PATCX	**Punta Patache**	**2.26**	**270**	*eP*	**Pn**	**17 14 46.1**	**+0.2**
PATCX				*eS*	**Sn**	**17 15 14.3**	**-1.6**
PATCX				IAML		17 15 17.7	
	comp=N,1µm,0.2s						
SOEO	**Opoqueri**	**2.28**	**356**	Pg	**Pn**	**17 14 49.2**	**+2.6**
TA01	**Diego Aracena**	**2.31**	**277**		**Pn**	**17 14 45.9**	**-0.5**
TA01				Sn	**Sn**	**17 15 14.5**	**-2.2**
TA01	**Diego Aracena**	**2.31**	**277**	*i* P	**Pn**	**17 14 46.2**	**-0.1**
TA01				*i* S	**Sn**	**17 15 16.1**	**-0.6**
TA01				IAML		17 15 17.2	
	comp=Z,249nm,0.3s						
TA01	**Diego Aracena**	**2.31**	**277**	*eP*	**Pn**	**17 14 46.3**	**-0.1**
TA01				*eS*	**Sn**	**17 15 14.1**	**-2.6**
TA01				IAML		17 15 16.2	
	comp=E,866nm,0.3s						
TA02	**Huaiquique**	**2.32**	**284**		**Pn**	**17 14 46.2**	**-0.3**
TA02				Sn	**Sn**	**17 15 15.3**	**-1.7**
TA02	**Huaiquique**	**2.32**	**284**	*i* P	**Pn**	**17 14 46.1**	**-0.4**
TA02				*i* S	**Sn**	**17 15 16.7**	**-0.3**
TA02				IAML		17 15 17.1	
	comp=Z,466nm,0.1s						
YJA	**Yavi**	**2.45**	**123**	*i* P	**Pn**	**17 14 51.0**	**+2.5**
YJA				*i* S	**Sn**	**17 15 25.2**	**+4.7**
PB06	**IPOC Station P**	**2.51**	**223**		**Pn**	**17 14 49.4**	**+0.4**
PB06				Sn	**Sn**	**17 15 20.3**	**-1.2**
PB06	**IPOC Station P**	**2.51**	**223**	*i* P	**Pn**	**17 14 49.7**	**+0.8**
PB06				*i* S	**Sn**	**17 15 21.8**	**+0.3**
PB06				IAML		17 15 23.0	
	comp=Z,280nm,0.4s						
PB06	**IPOC Station P**	**2.51**	**223**	*eP*	**Pn**	**17 14 49.8**	**+0.8**
PB06				*eS*	**Sn**	**17 15 20.3**	**-1.2**
PB06				IAML		17 15 21.7	
	comp=E,974nm,0.6s						
PB04	**IPOC Station P**	**2.69**	**236**	Pn	**Pn**	**17 14 52.0**	**+0.9**
PB04				Sn	**Sn**	**17 15 22.4**	**-2.9**
PB04	**IPOC Station P**	**2.69**	**236**	*i* P	**Pn**	**17 14 51.5**	**+0.4**
PB04				*i* S	**Sn**	**17 15 24.7**	**-0.5**
PB04				IAML		17 15 26.3	
	comp=Z,339nm,0.3s						
PB04	**IPOC Station P**	**2.69**	**236**	*eP*	**Pn**	**17 14 51.3**	**+0.2**
PB04				*eS*	**Sn**	**17 15 22.6**	**-2.7**
PB04				IAML		17 15 26.8	
	comp=N,659nm,0.2s						
PB15	**IPOC Station P**	**2.84**	**214**		**Pn**	**17 14 53.7**	**+0.6**
PB15				Sn	**Sn**	**17 15 28.6**	**-0.3**
PB15	**IPOC Station P**	**2.84**	**214**	*i* P	**Pn**	**17 14 54.2**	**+1.2**
PB15				*i* S	**Sn**	**17 15 28.9**	**+0.1**
PB15	**IPOC Station P**	**2.84**	**214**	*eP*	**Pn**	**17 14 54.2**	**+1.2**
PB15				*eS*	**Sn**	**17 15 28.5**	**-0.3**
PB15	**IPOC Station P**	**2.84**	**214**	Pg	**Pn**	**17 14 54.5**	**+1.4**
PB05	**IPOC Station P**	**3.04**	**229**		**Pn**	**17 14 55.1**	**-0.3**
SOET	**ToroToro**	**3.27**	**34**	Pg	**Pn**	**17 15 00.7**	**+2.1**
PB12	**IPOC Station P**	**3.31**	**312**		**Pn**	**17 14 59.0**	**+0.2**
AP01	**Chacalluta**	**3.48**	**315**	Pn	**Pn**	**17 15 00.7**	**-0.2**
AOEA	**Aiquile**	**3.55**	**42**	Pg	**Pn**	**17 15 04.4**	**+2.3**
PB18	**Visviri**	**3.64**	**333**	Pn	**Pn**	**17 15 06.1**	**+2.6**
PB10	**IPOC Station P**	**3.72**	**224**		**Pn**	**17 15 03.0**	**-1.0**
SOEJ	**Jacaque**	**3.88**	**354**	Pg	**Pn**	**17 15 09.3**	**+2.7**
BBOE	**La Paz, Chanca**	**4.03**	**357**	Pg	**Pn**	**17 15 11.1**	**+2.6**
BBOD	**La Paz, Gloria**	**4.27**	**349**	Pg	**Pn**	**17 15 14.0**	**+2.3**
PB14	**IPOC Station P**	**4.49**	**213**		**Pn**	**17 15 13.2**	**-1.0**
LPAZ	**La Paz**	**4.56**	**355**		**Pn**	**17 15 17.4**	**+2.0**
LPAZ	**La Paz**	**4.56**	**355**	P	**Pn**	**17 15 17.6**	**+2.1**
	comp=N,8.5nm,0.3s,baz=148,slow=5.5,SNR=25						
LPAZ				S	**Sn**	**17 16 09.9**	**+1.2**
	comp=N,4.2nm,0.6s,baz=139,slow=20,SNR=1.9						
LPAZ	**La Paz**	**4.56**	**355**	Pg	**Pn**	**17 15 17.8**	**+2.4**
LPAZ	**La Paz**	**4.56**	**355**	*eP*	**Pn**	**17 15 16.6**	**+1.2**
LPAZ				*eS*	**Sn**	**17 16 10.3**	**+1.5**
GO02	**Mina Guanaco**	**4.62**	**201**		**Pn**	**17 15 15.5**	**-0.3**
AC01	**Pan de Azucar**	**5.89**	**206**		**Pn**	**17 15 30.1**	**-2.2**
AC06	**Mina Casimiro**	**6.90**	**200**	Pn	**Pn**	**17 15 42.9**	**-2.9**
BBSD	**Serra de San D**	**7.66**	**63**	*eP*	**Pn**	**17 15 54.2**	**-1.7**
BBSD				*eS*	**Sn**	**17 17 17.2**	**-4.5**
BBRB	**Robore, Bolivi**	**7.90**	**72**	*eP*	**Pn**	**17 15 56.4**	**-2.7**
BBRB				*eS*	**Sn**	**17 17 20.3**	**-7.0**
AC04	**Llanos de Chal**	**7.92**	**202**	Pn	**Pn**	**17 15 55.5**	**-3.8**
SIV	**San Ignacio**	**7.96**	**54**	P	**Pn**	**17 15 58.7**	**-1.3**
	comp=N,24nm,0.3s,baz=230,slow=12,SNR=125						
SIV				S	**Sn**	**17 17 23.4**	**-5.5**
	comp=N,1.9nm,0.5s,baz=282,slow=21,SNR=1.1						
AC05	**El Transito**	**8.28**	**196**		**Pn**	**17 16 00.9**	**-3.2**
LCO	**Las Campanas**	**8.56**	**198**	Pn	**Pn**	**17 16 04.4**	**-3.6**
GO04	**Tololo Observa**	**9.68**	**196**	Pn	**Pn**	**17 16 19.8**	**-3.1**
PTLB	**Pontes e Lacer**	**9.78**	**58**		**Pn**	**17 16 23.2**	**-0.8**
PTLB	**Pontes e Lacer**	**9.78**	**58**	*eP*	**Pn**	**17 16 22.5**	**-1.5**
BDQN	**Bodoquena, MS**	**10.29**	**90**	*eP*	**Pn**	**17 18 07.5**	**-2.0**
BDQN				*eS*	**Sn**	**17 18 19.5**	**-5.4**
CO03	**El Pedregal**	**10.29**	**194**	Pn	**Pn**	**17 16 26.5**	**-4.2**
CO06	**Fray Jorge**	**10.39**	**199**	Pn	Pn	17 16 26.7	-5.2
VILB	**Vilhena**	**10.66**	**44**		**Pn**	**17 16 35.7**	**+0.1**
CO02	**Combarbal**	**10.72**	**195**	Pn	Pn	17 16 31.0	-5.3
CPUP	**Villa Florida**	**10.98**	**122**	Pn	**Pn**	**17 16 41.8**	**+2.0**
ETMB	**Extrema**	**11.07**	**8**	Pn	**Pn**	**17 16 39.5**	**-1.4**
ETMB	**Extrema**	**11.07**	**8**	*eP*	**Pn**	**17 16 42.9**	**+1.9**
ETMB				*eS*	**Sn**	**17 18 45.9**	**+2.2**
AQDB	**Aquidauana**	**11.27**	**90**	Pn	**Pn**	**17 16 44.2**	**+0.6**
MT08	**Bocatoma Ro**	**12.71**	**189**		**Pn**	**17 17 01.2**	**-1.0**
MT02	**Curacav**	**12.72**	**193**	Pn	**Pn**	**17 16 59.8**	**-2.4**
MT13	**San Alfonso**	**13.04**	**189**		**Pn**	**17 17 05.2**	**-1.1**
LMEL	**Las Melosas**	**13.13**	**189**	Pn	**Pn**	**17 17 06.5**	**-1.1**
MT09	**Talagante**	**13.19**	**192**	Pn	**Pn**	**17 17 06.4**	**-2.0**
BO04	**La Punta**	**13.33**	**190**	P	**Pn**	**17 17 09.1**	**-0.9**
MT01	**Popeta**	**13.33**	**193**	P	**Pn**	**17 17 08.5**	**-1.4**
BO01	**Tunca**	**13.81**	**192**	P	**Pn**	**17 17 14.1**	**-1.9**
BO02	**Sierra Bellavi**	**14.14**	**190**	P	**Pn**	**17 17 18.6**	**-1.7**
ITAB	**Concordia**	**15.60**	**117**		**Pn**	**17 17 38.9**	**+0.6**
ITAB				IAmb	IAmb	17 18 19.0	
	comp=Z,19nm,1.3s						
**S

MNAT	**Makushin Natee**	**3.68**	**48**		**Pn**	17 27 40.7	+2.6	
MTBL	**Makushin Table**	**3.74**	**47**		**Pn**	17 27 41.5	+2.6	
UNV	**Unalaska Valle**	**3.74**	**49**		**Pn**	17 27 40.3	+1.4	
AKRB	**Akutan Reef Bi**	**4.12**	**48**		**Pn**	17 27 47.1	+3.0	
ZRO	**Akutan Zero**	**4.14**	**49**		**Pn**	17 27 47.2	+2.8	
LVA	**Lava Point**	**4.16**	**48**		**Pn**	17 27 47.2	+2.6	
AKBBA	**Akutan Broad B**	**4.17**	**49**		**Pn**	17 27 47.7	+3.0	
AHB	**Akutan Harbor**	**4.23**	**50**		**Pn**	17 27 48.8	+3.2	
P08K	**Saint George I**	**5.22**	**11**		**Pn**	17 27 58.8	-0.3	
ISLZ	**Isanotski Laza**	**5.59**	**52**		**Pn**	17 28 07.6	+3.2	
AMKA	**Amchitka**	**5.89**	**273**	Pn	**Pn**	17 28 11.7	+3.4	
AMKA				Sn	**Sn**	17 29 15.7	+1.2	
S12K	**Black Hills**	**6.92**	**49**		**Pn**	17 28 25.4	+2.9	
SDPT	**Sand Point**	**7.52**	**55**	Pn	**Pn**	17 28 34.2	+3.5	
CNBA	**Chernabura Isl**	**7.78**	**60**	Pn	**Pn**	17 28 36.0	+1.8	
CHGN	**Chignik**	**8.99**	**53**	Pn	**Pn**	17 28 53.0	+2.1	
O14K	**Tigyukauivet M**	**9.63**	**32**	Pn	**Pn**	17 29 01.6	+1.9	
CHIR	**Chirikof Islan**	**10.25**	**59**	Pn	**Pn**	17 29 09.0	+0.9	
M14K	**Bethel**	**10.63**	**26**	Pn	**Pn**	17 29 15.6	+2.4	
N15K	**Kwethluk River**	**10.72**	**31**	Pn	**Pn**	17 29 17.2	+2.7	
L14K	**Kuka Creek**	**10.95**	**22**	Pn	**Pn**	17 29 18.9	+1.3	
O16K	**Kokwok River B**	**11.01**	**37**		**Pn**	17 29 22.2	+3.7	
SII	**Sitkinak Islan**	**11.25**	**57**	Pn	**Pn**	17 29 24.6	+2.8	
M16K	**Timber Creek**	**11.73**	**31**	Pn	**Pn**	17 29 30.5	+2.1	
OHAK	**Old Harbor**	**11.95**	**54**	Pn	**Pn**	17 29 31.2	-0.1	
N17K	**Nushagak Hills**	**11.98**	**35**	Pn	**Pn**	17 29 35.7	+4.0	
P18K	**Big Mountain,**	**12.04**	**43**	Pn	**Pn**	17 29 35.7	+3.0	
K15K	**Wolf Creek Mou**	**12.05**	**22**	Pn	**Pn**	17 29 35.4	+2.7	
L16K	**Owhat River**	**12.11**	**28**	Pn	**Pn**	17 29 35.5	+2.0	
O18K	**Koktuh Hills**	**12.32**	**41**	Pn	Pn	17 29 41.3	+4.9	
Q19K	**Cape Douglas,**	**12.50**	**47**	Pn	**Pn**	17 29 39.8	+0.9	
M17K	**Holitna River**	**12.51**	**32**	Pn	Pn	17 29 43.0	+4.0	
N18K	**Kilae Creek**	**12.56**	**37**	Pn	**Pn**	17 29 42.0	+2.3	
N19K	**Bonanza Creek**	**13.18**	**38**	Pn	**Pn**	17 29 51.5	+3.3	
K17K	**Iditarod**	**13.24**	**27**	Pn	**Pn**	17 29 50.9	+2.0	
L18K	**Granite Mounta**	**13.35**	**31**	Pn	**Pn**	17 29 53.4	+3.0	
RSO	**Redoubt South**	**13.68**	**42**	Pn	**Pn**	17 29 58.8	+3.7	
CNPM	**China Poot**	**13.87**	**47**	Pn	**Pn**	17 29 58.5	+0.9	
M19K	**Big River Lodg**	**13.91**	**35**	Pn	**Pn**	17 30 01.5	+3.4	
L19K	**White Mountain**	**13.93**	**33**	Pn	**Pn**	17 29 59.9	+1.5	
J18K	**Innoko River**	**14.28**	**27**	Pn	**Pn**	17 30 04.6	+1.5	
M20K	**Styx River**	**14.36**	**37**	Pn	**P**	17 30 07.6	-3.2	
K20K	**Telida**	**15.01**	**31**	Pn	**Pn**	17 30 13.9	+1.0	
J20K	**Nowinta River**	**15.57**	**29**	Pn	**Pn**	17 30 21.3	+1.1	
J20K				IAmb	IAmb	17 30 52.1		
	comp=Z,5.0nm,1.5s							
FID	**Port Fidalgo**	**16.55**	**46**	Pn	**Pn**	17 30 31.3	-1.4	
SCM	**Sheep Creek Mo**	**16.64**	**42**	Pn	**Pn**	17 30 33.2	-0.8	
KLU	**Klutina**	**17.09**	**44**	Pn	**Pn**	17 30 41.1	+1.4	
KLU				IAmb	IAmb	17 31 17.4		
	comp=Z,7.2nm,1.2s							
MLY	**Manley**	**17.22**	**30**	Pn	**Pn**	17 30 40.9	-0.3	
WRH	**Wood River Hil**	**17.75**	**34**	Pn	**Pn**	17 30 47.9	+0.3	
VRDI	**Verde Repeater**	**18.10**	**47**	P	**Pn**	17 30 53.1	+0.9	
VRDI				IAmb	IAmb	17 30 54.5		
	comp=Z,9.3nm,1.1s							
ILAR	**Eielson Array**	**18.34**	**34**	P	**Pn**	17 30 50.3	-4.7	
	baz=234,slow=13,SNR=1.9							
	comp=Z,0.4nm,1.0s							
J25K	**Salcha River,**	**18.80**	**36**	P	**P**	17 30 59.5	-0.3	
PETK	**Petropavlovsk-**	**18.96**	**287**	P	**Pn**	17 31 04.1	+1.5	
	comp=Z,0.1nm,0.3s,baz=89,slow=12,SNR=5.2							
	comp=Z,0.6nm,0.5s							
SCRK	**Sand Creek**	**19.00**	**38**	P	**P**	17 31 02.5	+0.4	
LOGN	**Logan Glacier**	**19.11**	**49**	P	**P**	17 31 03.3	-0.1	
G24K	**Hadweenzic Riv**	**19.33**	**29**	P	**P**	17 31 05.7	0.0	
G24K				IAmb	IAmb	17 31 39.0		
	comp=Z,4.1nm,1.4s							
J26L	**Joseph Creek**	**19.42**	**37**	P	**P**	17 31 06.7	0.0	
J26L				IAmb	IAmb	17 31 23.8		
	comp=Z,4.2nm,1.4s							
B21K	**Ikpikpuk River**	**19.81**	**17**	P	**Pn**	17 31 11.2	-1.3	
B21K				IAmb	IAmb	17 31 43.2		
	comp=Z,10nm,1.3s							
TOLK	**Toolik Lake Re**	**20.11**	**23**	P	**Pn**	17 31 14.7	-1.5	
TOLK				IAmb	IAmb	17 31 49.0		
	comp=Z,6.5nm,1.5s							
EGAK	**Eagle**	**20.46**	**38**	P	**P**	17 31 18.7	+0.8	
EGAK				IAmb	IAmb	17 31 46.0		
	comp=Z,8.2nm,1.5s							
B22K	**Teshekpuk Lake**	**20.64**	**17**	P	**P**	17 31 19.4	-0.3	
B22K				IAmb	IAmb	17 31 54.9		
	comp=Z,6.4nm,1.3s							
BMAR	**Burnt Mountain**	**20.68**	**29**	P	Pn	17 31 21.7	-1.0	
HYT	**Haines Junctio**	**20.77**	**50**	P	Pn	17 31 25.1	+1.1	
HYT				IAmb	IAmb	17 31 45.2		
	comp=Z,6.6nm,1.1s							
C23K	**Itkillik River**	**20.79**	**20**	P	**P**	17 31 21.8	+0.4	
C23K				IAmb	IAmb	17 32 00.8		
	comp=Z,5.2nm,1.2s							
N30M	**Aishikik Lake**	**21.11**	**49**	P	**P**	17 31 22.2	-2.8	
N30M				IAmb	IAmb	17 32 00.4		
	comp=Z,7.3nm,1.4s							
I28M	**Miner Creek**	**21.22**	**37**	P	**P**	17 31 25.5	-0.7	
O30N	**Mendenhall**	**21.45**	**51**	P	**P**	17 31 24.5	-4.1	
H29M	**Whitestone**	**22.14**	**36**	P	**P**	17 31 35.4	-0.5	
H29M				IAmb	IAmb	17 31 41.6		
	comp=Z,7.0nm,1.5s							
INK	**Inuvik**	**24.73**	**33**	P	**P**	17 32 00.1	-1.2	
H11N2	**WAKE ISLAND Hy**	**36.03**	**217**	T	T	18 12 20.6		
	baz=22,slow=76,SNR=15							
H11N3	**WAKE ISLAND Hy**	**36.04**	**216**	T	T	18 12 19.4		
	baz=22,slow=76,SNR=14							
H11N1	**WAKE ISLAND Hy**	**36.05**	**217**	T	T	18 12 23.8		
	baz=22,slow=76,SNR=10							
H11S1	**WAKE ISLAND Hy**	**37.23**	**216**	T	T	18 13 51.6		
	baz=21,slow=76,SNR=9.9							
H11S2	**WAKE ISLAND Hy**	**37.24**	**216**	T	T	18 13 58.7		
	baz=21,slow=76,SNR=6.6							
H11S3	**WAKE ISLAND Hy**	**37.24**	**216**	T	T	18 13 52.4		
	baz=21,slow=76,SNR=7.1							
TXAR	**Lajitas Array**	**53.97**	**87**	LR	LR	17 55 17.9		
	comp=Z,17nm,21.0s,baz=215,slow=32							
KURBB	**Kurchatov Arra**	**62.34**	**318**	P	**P**	17 37 02.1	0.0	
	comp=Z,0.9nm,0.6s,baz=44,slow=6.7,SNR=8.6							
	comp=Z,0.9nm,0.6s							
MKAR	**Makanchi Array**	**63.53**	**313**	P	**P**	17 37 09.2	-1.0	
	comp=Z,0.3nm,0.4s,baz=43,slow=5.1,SNR=7.7							
	comp=Z,0.3nm,0.4s							
BVAR	**Borovoye Array**	**63.71**	**324**	P	**P**	17 37 11.1	-0.2	
	comp=Z,1.7nm,0.5s,baz=49,slow=6.7,SNR=12							
	comp=Z,1.7nm,0.5s							
FINES	**FINESS Array B**	**66.56**	**351**	P	**P**	17 37 28.5	-1.0	
	comp=Z,1.7nm,0.9s,baz=4.5,slow=20,SNR=2.8							
	comp=Z,1.7nm,0.9s							
HFS	**Hagfors**	**68.65**	**357**	P	**P**	17 37 41.5	-1.3	
	comp=Z,1.4nm,0.8s,baz=74,slow=5.3,SNR=5.1							
	comp=Z,1.4nm,0.8s							
LBTB	**Lobatse**	**150.57**	**328**	PKPbc	**PKPbc**	17 46 33.8	+2.1	
	comp=Z,1.6nm,0.6s,baz=325,slow=3.3,SNR=4.8							

*IDC **25** 17:29:18.3±0.7, 12°.53S×45°.59E, h0km, mb3.7/10, mbtmp3.8/13, ML4.3/4, MS3.3/7, Error ellipse: s-maj=23.3km s-min=17.2km az=128.0*
*NEIC **25** 17:29:22.8±1.9, 13°.05S±0°.1×45°.50E±0°.09, h10km±1km, mb4.4/6, Error ellipse: s-maj=24.2km s-min=7.0km az=144.0*

ISC 25 17:29:20.6±0.5, **12°.84S**±0°.07×**45°.59E**±0°.08, **h10**km, **n38,**
σ2**933**/35, **mb4.0**/14, **MS3.3**/6, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.90**	**165**	Pn	**Pn**	17 30 49.5	+1.2
	5.6nm,0.3s,baz=337,slow=12,SNR=8.1						
OPO				Sn	**Sn**	17 31 50.5	-5.6
	15nm,0.3s,baz=75,slow=20,SNR=17						
ABPO	**Ambohimpanom**	**6.34**	**166**	Pn	**Pn**	17 30 53.5	-0.8
ABPO					Sn	17 32 00.7	-6.2
VOI	**Vohitsoka**	**9.09**	**173**	Pn	**Pn**	17 31 32.3	+0.3
MSEY	**Mahe Island**	**12.70**	**51**	Pn	**Pn**	17 32 20.0	-1.4
RER	**Riviere de l'E**	**12.76**	**132**	Pn	**Pn**	17 32 21.6	-0.6
KIBK	**Kibwezi**	**12.83**	**324**	Pn	**Pn**	17 32 21.6	-1.6
LSZ	**Lusaka**	**17.05**	**260**	P	**Pn**	17 33 19.3	-0.1
	0.2nm,0.3s,baz=61,slow=6.4,SNR=3.0						
LSZ				LR	LR	17 39 08.3	
	comp=Z,70nm,21.9s,baz=91,slow=34						
	1.4nm,0.4s						
MATP	**Matopo**	**18.02**	**243**	P	**Pn**	17 33 32.1	+0.7
	0.3nm,0.3s,baz=58,slow=15,SNR=7.5						
	1.5nm,0.5s						
MBAR	**Mbarara**	**19.09**	**308**	P	**P**	17 33 40.5	-3.3
	0.4nm,0.3s,baz=212,slow=19,SNR=1.1						
	2.3nm,0.3s						

POGA	**Pongola**	**19.42**	**220**	P	**P**	17 33 46.0	-1.1	
POGA				IAmb	IAmb	17 33 52.2		
	comp=Z,29nm,1.3s							
LBTB	**Lobatse**	**22.41**	**234**	P	**P**	17 34 18.1	-1.6	
LBTB				IAmb	IAmb	17 34 23.9		
	comp=Z,9.8nm,0.9s							
LBTB	**Lobatse**	**22.41**	**234**	P	**P**	17 34 20.6	+0.9	
	comp=Z,7.8nm,0.8s,baz=56,slow=7.5,SNR=9.9							
LBTB				S	**S**	17 38 28.0	+1.9	
	comp=Z,1.0nm,0.5s,baz=38,slow=23,SNR=1.8							
	comp=Z,7.8nm,0.8s							
BOSA	**Boshof**	**24.59**	**227**	P	**P**	17 34 42.0	+0.8	
BOSA				IAmb	IAmb	17 35 05.3		
	comp=Z,13nm,1.4s							
BOSA	**Boshof**	**24.59**	**227**	P	**P**	17 34 42.0	+0.8	
	comp=Z,3.7nm,0.6s,baz=53,slow=8.9,SNR=14							
BOSA				LR	LR	17 44 07.7		
	comp=Z,55nm,19.1s,baz=359,slow=36							
	comp=Z,3.7nm,0.6s							
SUR	**Sutherland**	**29.89**	**225**	P	**P**	17 35 30.4	+1.6	
SUR	**Sutherland**	**29.89**	**225**	LR	LR	17 47 37.7		
	comp=Z,48nm,18.5s,baz=51,slow=36							
PALK	**Pallekele**	**40.21**	**62**	LR	LR	17 50 17.4		
	comp=Z,51nm,19.1s,baz=247,slow=31							
GNI	**Garni**	**52.72**	**359**	LR	LR	18 02 06.7		
	comp=Z,24nm,19.9s,baz=170,slow=38							
BRTR	**Keskin Array B**	**53.46**	**349**	P	**P**	17 38 36.4	-4.7	
	comp=Z,0.1nm,0.4s,baz=169,slow=2.9,SNR=1.4							
	comp=Z,0.1nm,0.4s							
CMAR	**Chiang Mai Arr**	**61.12**	**60**	P	**P**	17 39 32.2	-3.3	
	comp=Z,0.1nm,0.3s,baz=254,slow=11,SNR=1.4							
	comp=Z,0.1nm,0.3s							
ABKAR	**Akbulak array**	**63.11**	**10**	P	**P**	17 39 50.9	+2.7	
ABKAR				IAmb	IAmb	17 39 57.3		
	comp=Z,4.6nm,0.8s							
ABKAR	**Akbulak array**	**63.11**	**10**	P	**P**	17 39 51.2	+2.9	
PZH	**PanZhiHua**	**67.12**	**54**	P	**P**	17 40 19.3	+4.3	
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,110nm,6.7s							
MK31	**Makanchi Array**	**67.86**	**26**	P	**P**	17 40 21.1	+2.0	
MKAR	**Makanchi Array**	**67.86**	**26**	P	**P**	17 40 21.3	+2.1	
MKAR	**Makanchi Array**	**67.86**	**26**	P	**P**	17 40 17.4	-1.7	
	comp=Z,0.1nm,0.3s,baz=215,slow=10,SNR=2.0							
	comp=Z,0.1nm,0.3s							
OBN	**Obninsk**	**68.12**	**354**	LR	LR	18 11 41.4		
	comp=Z,36nm,18.5s,baz=350,slow=38							
BVAR	**Borovoye Array**	**68.97**	**16**	P	**P**	17 40 24.2	-1.6	
	comp=Z,0.1nm,0.4s,baz=223,slow=9.8,SNR=1.5							
	comp=Z,0.1nm,0.4s							
LZH	**Lanzhou**	**73.38**	**46**	*e*P	**P**	17 40 55.0	+1.8	
LZH				pP	pwP	17 41 01.5	+1.9	
LZH				pmax	pmax			
	comp=Z,11nm,1.2s							
KAPI	**Kappang**	**73.48**	**91**	LR	LR	18 10 40.9		
	comp=Z,26nm,18.1s,baz=131,slow=34							
ZALV	**Zalesovo Beam**	**74.43**	**23**	P	**P**	17 40 56.7	-2.0	
	comp=Z,0.2nm,0.3s,baz=243,slow=6.3,SNR=1.4							
	comp=Z,0.2nm,0.3s							
QSPA	**South Pole Qui**	**77.25**	**180**	P	**P**	17 41 16.7	+1.7	
	comp=Z,1.8nm,0.9s,baz=230,slow=0.9,SNR=6.5							
	comp=Z,1.8nm,0.9s							
HHC	**Hu-ho-hao-te**	**80.95**	**45**	*e*P	**P**	17 41 38.5	+2.9	
HHC				pmax	pmax			
	comp=Z,15nm,0.7s							
HHC				pmax	pmax			
	comp=Z,110nm,4.1s							
ASAR	**Alice Springs**	**83.43**	**113**	P	**P**	17 41 50.7	+1.7	
ASAR	**Alice Springs**	**83.43**	**113**	P	**P**	17 41 48.8	-0.1	
	comp=Z,0.6nm,0.6s,baz=263,slow=5.0,SNR=8.8							
	comp=Z,0.6nm,0.6s							
WRA	**Warramunga Arr**	**84.56**	**109**	P	**P**	17 41 55.7	+0.9	
	comp=Z,0.4nm,0.8s,baz=272,slow=3.9,SNR=2.3							
	comp=Z,0.4nm,0.8s							
TXAR	**Lajitas Array**	**147.09**	**305**	PKPbc	**PKPbc**	17 49 04.9	+0.3	
	comp=Z,0.2nm,0.5s,baz=117,slow=3.1,SNR=2.3							
NVAR	**Mina Array Bea**	**150.76**	**333**	PKPbc	**PKPdf**	17 49 11.2	+2.8	
	comp=Z,0.1nm,0.4s,baz=19,slow=5.7,SNR=1.4							

*IDC **25** 17:31:07.5±1.1, 33°.34S×177°.70W, h0km, mb3.9/4, mbtmp4.0/6, ML3.8/2, Error ellipse: s-maj=32.8km s-min=28.7km az=84.0*
*NEIC **25** 17:31:09.5±2.0, 33°.48S±0°.06×177°.6W±0°.2, h10km±1km, mb4.3/6, Error ellipse: s-maj=29.3km s-min=5.6km az=107.0*

ISC 25 17:31:13.0±1.0, **33°.44S**±0°.08×**177°.9W**±0°.2, **h35**km, **n33,**
σ0**896**/34, **mb4.2**/6, **South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.17**	**359**	Pn	**Pn**	17 32 14.5	+0.4
RAO	**Raoul Island**	**4.17**	**359**	Sn	**Sn**	17 33 00.5	-1.2
	143nm,0.3s,baz=110,slow=18,SNR=5.6						
MXZ	**Matakaoa Point**	**5.17**	**216**	Pn	**Pn**	17 32 28.3	+0.4
URZ	**Urewera**	**6.32**	**219**	Pn	**Pn**	17 32 44.7	+1.1
	1.3nm,0.3s,baz=37,slow=5.1,SNR=15						
URZ				Sn	**Sn**	17 33 53.2	-1.2
	6.7nm,0.3s,baz=40,slow=22,SNR=13						
	3.0nm,0.3s						
RTZ	**Ruatahuna**	**6.65**	**218**	Pn	**Pn**	17 32 49.1	+0.8
TOZ	**Tahuroa Road**	**6.91**	**230**	Pn	**Pn**	17 32 51.4	-0.2
BKZ	**Black Stump Fm**	**7.32**	**217**	Pn	**Pn**	17 32 59.2	+1.8
HIZ	**Hauiti**	**7.79**	**227**	Pn	**Pn**	17 33 05.4	+1.7
BFZ	**Birch Farm**	**8.63**	**211**	Pn	**Pn**	17 33 15.0	-0.4
TCW	**Tory Channel**	**9.97**	**217**	Pn	**Pn**	17 33 32.8	-0.9
TUWZ	**Tuamarina**	**10.30**	**217**	Pn	**Pn**	17 33 36.5	-1.8
CMWZ	**Cape Campbell**	**10.41**	**215**	Pn	**Pn**	17 33 38.6	-1.2
TKNZ	**Takaka Hill**	**10.54**	**221**	Pn	**Pn**	17 33 41.7	+0.2
THZ	**Tophouse**	**11.08**	**219**	Pn	**Pn**	17 33 50.1	+1.2
LTZ	**Lake Taylor**	**12.14**	**217**	Pn	**Pn**	17 34 03.7	+0.3
OXZ	**Oxford**	**12.65**	**216**	Pn	**Pn**	17 34 09.0	-1.4
RPZ	**Rata Peaks**	**13.43**	**217**	Pn	**Pn**	17 34 20.2	-0.7
	0.6nm,0.3s,baz=37,slow=10,SNR=2.0						
RPZ				Sn	Sn	17 36 36.7	-12
	0.8nm,0.3s,baz=34,slow=15,SNR=1.4						
	10nm,0.9s						
ODZ	**Otahua Downs**	**14.61**	**214**	Pn	**Pn**	17 34 36.2	-0.8
WHZ	**Wether Hill Ro**	**16.53**	**217**	Pn	**Pn**	17 35 00.2	-1.8
WHZ				IAmb	IAmb	17 35 39.3	
	comp=Z,29nm,1.2s						
AS31	**Alice Springs**	**43.16**	**270**	P	**P**	17 39 10.5	+0.1
ASAR	**Alice Springs**	**43.16**	**270**	P	**P**	17 39 10.9	+0.5
ASAR	**Alice Springs**	**43.16**	**270**	P	**P**	17 39 11.2	+0.7
	comp=Z,0.7nm,0.6s,baz=109,slow=7.3,SNR=25						
	comp=Z,0.7nm,0.6s						
WB2	**Warramunga Arr**	**44.41**	**275**	P	**P**	17 39 20.9	+0.4
WB2				IAmb	IAmb	17 39 41.7	
	comp=Z,3.8nm,0.9s						
WRA	**Warramunga Arr**	**44.42**	**275**	P	**P**	17 39 20.9	+0.3
	comp=Z,0.7nm,0.8s,baz=115,slow=7.6,SNR=12						
	comp=Z,0.7nm,0.8s						
WB0	**Warramunga Arr**	**44.46**	**275**	P	**P**	17 39 21.1	+0.3
WB0				IAmb	IAmb	17 39 41.4	
	comp=Z,5.9nm,1.2s						
QSPA	**South Pole Qui**	**56.68**	**180**	P	**P**	17 40 52.7	0.0
QSPA				IAmb	IAmb	17 40 57.0	
	comp=Z,5.0nm,1.1s						
QSPA	**South Pole Qui**	**56.68**	**180**	P	**P**	17 40 54.1	+1.5
	comp=Z,2.7nm,1.1s,baz=38,slow=5.7,SNR=3.7						
	comp=Z,2.7nm,1.1s						
SNAA	**Sanae**	**75.12**	**178**	P	**P**	17 42 51.1	0.0
SNAA	**Sanae**	**75.12**	**178**	P	**P**	17 42 50.8	-0.3
	comp=Z,4.0nm,1.3s,baz=184,slow=14,SNR=6.1						
	comp=Z,4.0nm,1.3s						
FINES	**FINESS Array B**	**148.02**	**338**	PKPbc	**PKPbc**	17 50 54.0	0.0
	comp=Z,1.2nm,0.6s,baz=72,slow=4.5,SNR=6.1						
NB2	**NORSAR Subarra**	**151.76**	**351**	PKP	**PKPbc**	17 51 03.4	+0.3
	comp=Z,1.3nm,0.7s,baz=14,slow=4.0						
NOA	**NORSAR Array B**	**151.76**	**351**	PKPbc	**PKPbc**	17 51 03.2	0.0
	comp=Z,0.6nm,0.6s,baz=14,slow=4.1,SNR=4.8						
HFS	**Hagfors**	**152.23**	**348**	PKPbc	**PKPbc**	17 51 03.9	-0.3
	comp=Z,2.0nm,1.0s,baz=79,slow=7.5,SNR=3.6						

*VAO **25** 17:36:46.1±0.7, 6°.83N×72°.01W, h10km, mb4.1*
*RSNC **25** 17:36:47.5±0.0, 7°.N±1°.×7°.2W±°, h0km±2km, M3.8, ML3.8*
*NEIC **25** 17:36:47.3±2.2, 7°.03N±0°.07×72°.11W±0°.07, h47km±11km, mb4.3/34, Error ellipse: s-maj=11.8km s-min=7.7km az=129.0*
*IDC **25** 17:36:48.4±1.5, 7°.02N×72°.32W, h54km±13km, mb3.7/19, mbtmp4.1/24, MS3.2/6, Error ellipse: s-maj=12.6km s-min=10.2km az=120.0*

ISC 25 17:36:41.9±1.0, **7°.02N**±0°.03×**72°.18W**±0°.03, **h5**km±6km,

n104, σ1**992**/142, **mb4.2**/32, **MS3.0**/3, **Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAMC	**Pamplona, Colo**	**0.61**	**301**	P	**Pg**	17 36 52.9	-0.7
PAMC				S	**Sg**	17 36 59.7	-1.9
PAMC				S	**Sg**	17 36 59.7	-1.9
TAMC	**Tame, Arauca**	**0.70**	**147**	P	**Pn**	17 36 59.9	+1.4
TAMC				S	**Sn**	17 37 11.5	+1.8
BARC	**Barichara**	**1.09**	**247**	P	**Pn**	17 37 01.8	-2.2
BARC				S	**Sb**	17 37 13.8	-4.1
RUSC	**La Rusia**	**1.44**	**219**	P	**Pn**	17 37 08.9	-0.2
RUSC				S	**Sn**	17 37 26.3	-2.3
OCAC	**Ocana**	**1.66**	**317**	P	**Pn**	17 37 12.6	+0.8
OCAC				P		17 37 12.7	
OCAC				S	**Sn**	17 37 34.3	+0.7
PTBC	**PUERTO BERRIO,**	**2.31**	**258**	P	**Pn**	17 37 21.4	+0.7
PTBC				S	**Sn**	17 37 51.4	+1.8
SPBC	**San Pablo de B**	**2.32**	**234**	P	**Pn**	17 37 23.5	+2.6
SPBC				S	**Sn**	17 37 52.2	+2.2
SDV	**Santo Domingo**	**2.40**	**39**	Pn	**Pb**	17 37 25.5	-0.3
SDV				Sn	**Sn**	17 37 51.3	-0.7
SDV	**Santo Domingo**	**2.40**	**39**	P	**Pb**	17 37 26.0	+0.3
	463nm,0.3s,baz=208,slow=4.8,SNR=76						
SDV				S	**Sg**	17 37 57.2	-1.9
	881nm,0.4s,baz=270,slow=20,SNR=5.4						
SDV				LR	LR	17 38 41.7	
	comp=Z,338nm,19.7s,baz=134,slow=45						
SDV	**Santo Domingo**	**2.40**	**39**	P	**Pb**	17 37 26.3	+0.5
SDV				S	**Sg**	17 37 58.9	-0.2
SDV	**Santo Domingo**	**2.40**	**39**	*e*P	**Pb**	17 37 25.8	+0.1
SDV				*e*S	**Sg**	17 37 56.8	-2.3
ZARC	**Zaragoza, Cauc**	**2.70**	**280**	P	**Pn**	17 37 27.5	+1.5
ZARC				S	**Sn**	17 38 00.9	+1.7
PTGC	**Puerto Gaitan,**	**2.81**	**179**	P	**Pn**	17 37 29.5	+2.0
PTGC				S	**Sn**	17 38 03.3	+1.6
CHIC	**Chingaza**	**2.84**	**213**	P	**Pn**	17 37 30.5	+2.2
CHIC				S	**Sn**	17 38 03.7	+0.6
ROSC	**El Rosal**	**3.04**	**225**		**Pn**	17 37 34.4	+3.4
ROSC				Sn	**Sb**	17 38 14.3	0.0
ROSC	**El Rosal**	**3.04**	**225**	P	**Pn**	17 37 34.5	+3.4
	137nm,0.5s,baz=70,slow=7.4,SNR=33						
ROSC				S	**Sn**	17 38 11.8	+3.7
	263nm,0.4s,baz=65,slow=23,SNR=4.0						
ROSC	**El Rosal**	**3.04**	**225**	P	**Pn**	17 37 35.5	+4.4
ROSC				S	**Sb**	17 38 15.7	+1.3
NORC	**Norcasia**	**3.04**	**242**	P	**Pn**	17 37 31.8	+1.0
NORC				P		17 37 32.4	
NORC				P		17 37 32.8	
NORC				S	**Sn**	17 38 11.9	+4.2
CVER	**Cruz Verde, Cu**	**3.12**	**217**	P	**Pn**	17 37 35.5	+3.3
CVER				S	**Sb**	17 38 20.5	+3.7
VILC	**Villavicencio,**	**3.26**	**208**	P	**Pn**	17 37 35.6	+1.7
VILC				S	**Sn**	17 38 15.7	+2.5
UREC	**San Jos de Ur**	**3.41**	**282**	P	**Pn**	17 37 38.2	+2.4
UREC				S	**Sn**	17 38

comp=Z,1.7nm,0.5s,baz=192,slow=13,SNR=1.5
comp=Z,1.7nm,0.5s
ZON Zonda 38.50 175 P **P** **17 44 04.0 -1.3**
ZON IAmb IAmb 17 44 06.3
comp=Z,5.5nm,1.0s
BO02 Sierra Bellavi 41.61 178 P **P** **17 44 29.9 -1.2**
SDCO Great Sand Dun 42.99 320 P **P** **17 44 42.9 +0.2**
ISCO Idaho Springs 44.31 323 P **P** **17 44 53.4 +0.1**
ISCO IAmb IAmb 17 44 54.8
comp=Z,4.6nm,1.1s
WUAZ Wupatki 45.75 314 P **P** **17 45 03.7 -1.0**
WUAZ IAmb IAmb 17 45 06.5
comp=Z,5.0nm,0.9s
PLCA Paso Flores 47.54 178 P **P** **17 45 17.7 -0.8**
comp=Z,3.9nm,0.8s,baz=358,slow=9.8,SNR=8.2
comp=Z,3.9nm,0.8s
MTPU Mount Pierson 47.56 317 P **P** **17 45 19.0 -0.1**
MTPU IAmb IAmb 17 45 33.3
comp=Z,2.1nm,0.9s
SCHQ Schefferville 47.87 4 P **P** **17 45 20.2 -0.6**
comp=Z,2.0nm,0.9s,baz=241,slow=19,SNR=1.7
comp=Z,2.0nm,0.9s
PDAR Pinedale Array 48.47 323 P **P** **17 45 24.8 -1.2**
comp=Z,1.1nm,0.7s,baz=120,slow=8.8,SNR=8.6
comp=Z,1.1nm,0.7s
BGU Big Grassy Mou 49.60 319 IAmb IAmb 17 45 35.2
comp=Z,3.6nm,0.8s
DSP Deep Springs 51.33 313 P **P** **17 45 47.8 +0.4**
DSP IAmb IAmb 17 45 48.8
comp=Z,3.6nm,1.0s
NVAR Mina Array Bea 52.01 314 P **P** **17 45 52.4 -0.5**
comp=Z,0.6nm,0.7s,baz=109,slow=7.1,SNR=4.8
NVAR PcP **PcP** **17 47 04.6 -0.6**
comp=Z,0.3nm,0.5s,baz=127,slow=4.1,SNR=2.3
comp=Z,0.6nm,0.7s
MFID Camas Ranch 52.66 321 P **P** **17 45 56.4 -1.1**
MFID IAmb IAmb 17 45 59.0
comp=Z,2.5nm,0.8s
WVOR Wild Horse Val 54.00 318 P **P** **17 46 06.9 -0.4**
WVOR IAmb IAmb 17 46 09.3
comp=Z,4.2nm,1.1s
SFJD Kangerlussuaq 61.67 9 LR LR 18 11 29.3
comp=Z,19nm,20.8s,baz=271,slow=34
YKA Yellowknife Ar 63.40 339 P **P** **17 47 11.7 -0.6**
comp=Z,2.6nm,0.7s,baz=127,slow=6.4,SNR=42
comp=Z,2.6nm,0.7s
DBIC Dimbokro 66.78 86 P **P** **17 47 35.1 0.0**
comp=Z,5.7nm,0.9s,baz=188,slow=4.0,SNR=1.9
comp=Z,5.7nm,0.9s
ESDC Sonseca Array 68.80 50 P **P** **17 47 49.6 +2.1**
comp=Z,0.2nm,0.6s,baz=315,slow=14,SNR=2.6
comp=Z,0.2nm,0.6s
TORD Torodi Ar. Bea 72.78 78 P **P** **17 48 12.6 +0.5**
comp=Z,1.5nm,0.6s,baz=290,slow=6.7,SNR=6.6
comp=Z,1.5nm,0.6s
ILAR Eielson Array 77.18 335 P **P** **17 48 35.1 -1.5**
comp=Z,1.1nm,1.0s,baz=114,slow=3.6,SNR=6.7
comp=Z,1.1nm,1.0s
NB2 NORSAR Subarra 80.69 29 P **P** **17 48 56.7 +0.7**
comp=Z,5.2nm,1.1s,baz=266,slow=5.6
NOA NORSAR Array B 80.69 29 P **P** **17 48 56.3 +0.3**
comp=Z,1.0nm,0.8s,baz=267,slow=5.5,SNR=4.5
comp=Z,1.0nm,0.8s
HFS Hagfors 81.90 30 P **P** **17 49 02.5 +0.1**
comp=Z,1.1nm,0.8s,baz=343,slow=9.3,SNR=2.2
comp=Z,1.1nm,0.8s
GERES GERESS Array B 82.05 42 P **P** **17 49 03.6 0.0**
comp=Z,0.5nm,0.6s,baz=247,slow=12,SNR=1.7
comp=Z,0.5nm,0.6s
FINES FINESS Array B 87.82 28 P **P** **17 49 31.8 -0.4**
comp=Z,1.2nm,0.9s,baz=318,slow=1.9,SNR=2.3
comp=Z,1.2nm,0.9s
SNAA Sanae 90.25 163 P **P** **17 49 43.6 +0.2**
comp=Z,0.5nm,0.8s,baz=321,slow=14,SNR=1.5
comp=Z,0.5nm,0.8s
ASAR Alice Springs 149.99 234 PKP **PKPdf** **17 56 29.0 -0.6**
comp=Z,3.0nm,0.7s,baz=141,slow=1.8,SNR=15
ASAR PKPbc **PKPbc** **17 56 32.9 -1.6**
comp=Z,3.2nm,0.7s,baz=120,slow=3.3,SNR=50
WRA Warramunga Arr 151.25 241 PKP **PKPdf** **17 56 30.4 -1.3**
comp=Z,0.9nm,0.9s,baz=96,slow=2.2,SNR=5.0
WRA PKPbc **pPKPdf** **17 56 36.1 +2.5**
comp=Z,5.4nm,0.7s,baz=108,slow=2.7,SNR=29
CMAR Chiang Mai Arr 153.21 19 PKPbc **PKPbc** **17 56 41.4 -0.6**
comp=Z,0.3nm,0.4s,baz=342,slow=5.7,SNR=2.7

*IDC **25** 17:40:22.5±1.0, 13°.37S×45°.57E, h0km, mb3.7/7, mbtmp3.8/9, ML3.9/2, MS3.2/3, Error ellipse: s-maj=31.0km s-min=23.1km az=131.0*
ISC 25 17:40:24.1±1.0, 13°.4S±0°.2×45°.5E±0°.2, h10km, n10, σ1§18/9, mb3.8/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSZ	**Lusaka**	**16.84**	**261**	Pn	**Pn**	**17 44 19.5**	**-0.8**
LSZ	0.4nm,0.3s,baz=92,slow=10.0,SNR=4.5			LR	LR	17 50 46.1	
	comp=Z,99nm,18.2s,baz=97,slow=37						
	5.5nm,0.8s						
MATP	**Matopo**	**17.68**	**244**	P	**P**	**17 44 31.5**	**-0.2**
	0.1nm,0.3s,baz=56,slow=15,SNR=1.7						
	0.5nm,0.6s						
MBAR	**Mbarara**	**19.31**	**310**	LR	LR	17 50 56.4	
	comp=Z,59nm,19.2s,baz=140,slow=33						
LBTB	**Lobatse**	**22.02**	**235**	P	**P**	**17 45 19.0**	**0.0**
LBTB	1.0nm,0.4s,baz=73,slow=11,SNR=2.2			LR	LR	17 53 58.0	
	comp=Z,42nm,19.4s,baz=36,slow=37						
	1.0nm,0.4s						
BOSA	**Boshof**	**24.16**	**228**	P	**P**	**17 45 42.1**	**+1.3**
	1.7nm,0.6s,baz=42,slow=10,SNR=6.9						
	1.7nm,0.6s						
BRTR	**Keskin Array B**	**53.93**	**349**	P	**P**	**17 49 47.8**	**-0.4**
	0.5nm,0.8s,baz=172,slow=12,SNR=4.0						
	0.5nm,0.8s						
KBZ	**Khabaz**	**56.84**	**358**	P	**P**	**17 50 10.1**	**+1.3**
	1.7nm,0.7s,baz=148,slow=6.0,SNR=4.2						
	1.7nm,0.7s						
QSPA	**South Pole Qui**	**76.75**	**180**	P	**P**	**17 52 16.6**	**+1.0**
	1.4nm,1.0s,baz=301,slow=5.9,SNR=2.8						
	1.4nm,1.0s						
ASAR	**Alice Springs**	**83.35**	**113**	P	**P**	**17 52 50.4**	**-1.7**
	0.2nm,0.6s,baz=260,slow=4.4,SNR=1.0						
	0.2nm,0.6s						
WRA	**Warramunga Arr**	**84.51**	**109**	P	**P**	**17 52 57.6**	**-0.5**
	0.8nm,1.1s,baz=270,slow=5.9,SNR=2.6						
	0.8nm,1.1s						

*NEIC **25** 17:41:27.5±1.5, 19°.403N±0°.007×155°.288W±0°.007, h3km±1km, ML2.6/46, ML2.7/20(HVO), Error ellipse: s-maj=1.1km s-min=0.8km az=212.0*
HVO 25 17:41:27.0±1.1, 19°.417N±0°.009×155°.280W±0°.005, h0km±3km, Error ellipse: s-maj=1.3km s-min=0.7km az=181.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBL	**Observatory Le**	**0.00**	**273**		Pg	17 41 27.7	+0.6
UWB	**Uwekahuna B**	**0.01**	**16**		Pg	17 41 27.5	+0.3
UWE	**Uwekahuna**	**0.01**	**288**		Pg	17 41 27.4	+0.2
SBLHI	**Steaming Bluff**	**0.01**	**50**		Pg	17 41 28.3	+0.9
HATHI	**Halema'uma'u T**	**0.02**	**73**		Pg	17 41 27.9	+0.5
BYL	**Byron's Ledge**	**0.02**	**105**		Pg	17 41 27.9	+0.5
RIM	**Rim**	**0.02**	**165**		Pg	17 41 29.2	+1.8
KKO	**Keanakako`i**	**0.02**	**145**		Pg	17 41 29.1	+1.6
RSD	**Rainshed**	**0.05**	**3**		Pg	17 41 28.6	+0.7
PUH	**Pauahi**	**0.07**	**125**		Pg	17 41 29.2	+0.8
PUH					Sg	17 41 30.1	+0.7
PUH				IAML		17 41 31.6	
	comp=E,3μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.11**	**110**		Pg	17 41 30.0	+0.9
HLP	**Hilina Pali**	**0.12**	**192**		Pg	17 41 30.2	+0.9
HLP					Sg	17 41 33.5	+2.5
MLH	**Mauna Loa**	**0.13**	**307**		Pg	17 41 30.3	+0.9
MLH	**Mauna Loa**	**0.13**	**307**		Sg	17 41 33.6	+2.5
STCH	**Steam Cracks**	**0.15**	**102**		Pg	17 41 30.5	+0.6
STCH				IAML		17 41 36.0	
	comp=E,1μm,1.0s						
STCH				IAML		17 41 36.1	
	comp=N,1μm,0.3s						
NPOC	**North of Pu'u**	**0.16**	**99**		Pg	17 41 31.0	+0.9
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	17 41 31.5	+1.3
HTC	**Hot Caves**	**0.21**	**212**		Pg	17 41 31.9	+0.9
JOKA	**Jonika Flow**	**0.26**	**86**		Pg	17 41 32.7	+0.7
JOKA				IAML		17 41 42.0	
	comp=N,711nm,0.9s						
HMH	**Humu'ula Sheep**	**0.27**	**314**		Pg	17 41 33.0	+0.9
HMH				IAML		17 41 41.6	
	comp=N,1μm,0.3s						
HMH				IAML		17 41 41.6	
	comp=E,839nm,0.5s						
HMH	**Humu'ula Sheep**	**0.27**	**314**		Sg	17 41 37.7	+2.1
MLOA	**Mauna Loa Obse**	**0.30**	**293**		Pg	17 41 33.3	+0.5
MLOA				IAML		17 41 43.2	
	comp=N,770nm,0.6s						
MLOA				IAML		17 41 43.6	
	comp=E,712nm,0.6s						
MWH	**Moku'aweowe**	**0.31**	**283**		Pg	17 41 33.5	+0.6
MWH				IAML		17 41 42.0	
	comp=E,985nm,0.3s						
MWH				IAML		17 41 43.7	
	comp=N,1μm,0.5s						
PAH	**Pahoa**	**0.32**	**76**	Pg	Pg	17 41 33.8	+0.6
KHU	**Kahuku**	**0.36**	**242**		Pg	17 41 34.1	+0.3
KHU				IAML		17 41 41.8	
	comp=E,444nm,0.9s						
KHU				IAML		17 41 43.7	
	comp=N,483nm,1.6s						
ALEP	**Alea Permanent**	**0.36**	**290**		Pb	17 41 35.3	-1.2
POHA	**Pohakuloa**	**0.41**	**325**		Pg	17 41 35.4	+0.5
POHA				IAML		17 41 42.9	
	comp=N,889nm,0.5s						
POHA				IAML		17 41 47.0	
	comp=N,748nm,0.4s						
HUH	**Hualalai**	**0.59**	**297**		Pg	17 41 38.0	-0.2
HUH				IAML		17 41 51.0	
	comp=E,842nm,0.4s						
HPAH	**Hawaii Prepara**	**0.72**	**327**	Pg	Pg	17 41 40.0	-0.8
HPAH				IAML		17 42 06.0	
	comp=N,166nm,1.9s						
HPAH				IAML		17 42 07.1	
	comp=E,210nm,1.4s						
HLK	**Haleakala**	**1.61**	**326**		Pn	17 41 55.0	-2.0
KHLH	**Kahului Airpor**	**1.82**	**324**		Pn	17 41 58.4	-1.2

*BJI **25** 17:41:45.5±0.0, 10°.13N×93°.55E, h138km, mb4.6/36, mB4.8/16*
*NDI **25** 17:41:50.9±3.3, 10°.75N×93°.99E, h131km±28km, ML4.2, MW4.2, mb4.7(NEIC)*
*IDC **25** 17:41:53.6±2.4, 10°.81N×93°.73E, h146km±21km, mb3.9/22, mbtmp4.3/24, MS3.5/2, Error ellipse: s-maj=17.7km s-min=10.7km az=48.0*
*NEIC **25** 17:41:54.1±1.8, 10°.89N±0°.09×93°.65E±0°.09, h140km±7km, mb4.7/65, Error ellipse: s-maj=15.7km s-min=10.0km az=47.0*
ISC 25 17:41:54.0±0.4, 10°.84N±0°.05×93°.60E±0°.04, h150km, n143, σ1§76/151, mb4.4/69, 3D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PBA	**Port Blair**	**1.17**	**314**	Pn	**Pn**	**17 42 19.1**	**-1.1**
PBA	**Port Blair**	**1.17**	**314**	*eP*	**Pn**	**17 42 19.2**	**-1.1**
PBA				*eS*	**Sn**	**17 42 39.7**	**-0.6**
PBA				IAML		17 42 42.8	
	2μm,0.4s						
PBA				IAML		17 42 44.2	
	comp=E,2μm,0.2s						
KULM	**Kulim**	**8.90**	**128**	Pn	**Pn**	**17 43 57.8**	**-1.5**
CMAR	**Chiang Mai Arr**	**9.17**	**34**	P	**Pn**	**17 44 02.1**	**-0.9**
	comp=E,2.3nm,0.9s,baz=222,slow=14,SNR=12						
CMAR				S	**Sn**	**17 45 43.3**	**-1.5**
	comp=E,0.2nm,0.4s,baz=233,slow=15,SNR=0.9						
GSI	**Gunungsitoli**	**10.26**	**157**	Pn	Pn	17 44 11.9	-5.6
VIS	**Vishakhapatnam**	**12.07**	**306**	*eP*	**Pn**	**17 44 42.5**	**+1.3**
VIS				*eS*	**Sn**	**17 46 46.5**	**-8.3**
VIS				IAML		17 46 48.4	
	comp=N,46nm,0.4s						
VIS				IAML		17 46 49.0	
	comp=E,43nm,0.3s						
PALK	**Pallekele**	**13.22**	**256**		**P**	**17 44 59.8**	**-0.7**
PALK	**Pallekele**	**13.22**	**256**	P	**Pn**	**17 44 59.1**	**+3.0**
	comp=E,6.8nm,0.7s,baz=356,slow=19,SNR=1.9						
PALK				S	**Sn**	**17 47 15.2**	**-7.2**
	comp=E,7.9nm,0.3s,baz=90,slow=17,SNR=12						
MYKOM	**Kota Tinggi**	**13.58**	**131**	Pn	**Pn**	**17 45 01.1**	**+0.4**
IMP	**Imphal**	**13.92**	**1**	*eP*	**Pn**	**17 45 03.8**	**-1.2**
SLVN	**Son La**	**14.38**	**42**	Pn	**Pn**	**17 45 10.0**	**-0.7**
DLV	**T Lat**	**14.64**	**84**		**P**	**17 45 16.0**	**-0.5**
SHL	**Shillong**	**14.74**	**354**	Pn	**Pn**	**17 45 14.1**	**-1.3**
SHL	**Shillong**	**14.74**	**354**	*eP*	**Pn**	**17 45 15.3**	**0.0**
SHL				*eS*	Sn	17 47 45.9	-13
KOHI	**KOHIMA**	**14.81**	**2**	*eP*	**Pn**	**17 45 13.5**	**-2.7**
KOHI				*eS*	Sn	17 47 48.4	-12
BOK	**Bokaro**	**14.83**	**331**	*eP*	**P**	**17 45 20.9**	**+2.5**
BOK				*eS*	Sn	17 47 50.3	-11
TNCH	**TengChong**	**14.87**	**18**	P	**P**	**17 45 19.8**	**+0.9**
TNCH				pmax	pmax		
	comp=E,14nm,1.0s						
SALM	**Salem**	**15.12**	**275**	*eP*	**P**	**17 45 26.4**	**+4.7**
SALM				*eS*	**Sn**	**17 48 01.6**	**-6.6**
KOD	**Kodaikanal**	**15.87**	**269**	*eP*	**P**	**17 45 35.1**	**+4.8**
KOD				*eS*	**Sn**	**17 48 19.4**	**-7.2**
ZIRO	**ZIRO**	**16.60**	**1**	*eP*	**Pn**	**17 45 39.3**	**+1.0**
ZIRO				*eS*	S	17 48 29.4	-14
GTK	**Tadong**	**17.06**	**345**	*ex*	**P**	**17 45 37.9**	**-5.2**
PZH	**PanZhiHua**	**17.38**	**25**	P	**Pn**	**17 45 47.8**	**+0.3**
PZH				pmax	pmax		
	comp=E,10.0nm,0.7s						
PZH				pmax	pmax		
	comp=E,90nm,5.0s						
LSA	**Lhasa**	**18.91**	**353**	P	**P**	**17 46 03.0**	**-0.6**
LSA				IAmb	IAmb	17 46 11.1	
	comp=Z,24nm,0.5s						
KSM	**Kuching**	**19.03**	**118**	P	**P**	**17 46 03.4**	**-1.2**
BHPL	**Bhopal**	**19.75**	**311**	*ex*	**P**	**17 46 15.7**	**+3.3**
BHPL				*eS*	**S**	**17 49 48.8**	**+1.8**
GYA	**Guiyang**	**19.84**	**37**	⇓*iP*	**P**	**17 46 13.5**	**+0.1**
GYA				pmax	pmax		
	comp=Z,18nm,0.8s						
GYA				pmax	pmax		
	comp=Z,88nm,5.1s						
SBUM	**Sibu**	**20.27**	**113**	P	**P**	**17 46 17.2**	**-0.8**
CD2	**Chengdu**	**22.09**	**24**	P	**P**	**17 46 36.0**	**-1.1**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
ENH	**Enshi**	**24.34**	**35**	P	**P**	**17 46 56.6**	**-1.4**
ENH				IAmb	IAmb	17 46 58.4	
	comp=Z,8.6nm,0.5s						
GOMU	**GeErMu**	**25.27**	**2**	P	**P**	**17 47 08.0**	**+1.2**
GOMU				pmax	pmax		
	comp=Z,37nm,0.8s						
XAN	**Xi'an**	**27.02**	**29**	⇓*P*	**P**	**17 47 20.8**	**-1.3**
XAN				pmax	pmax		
	comp=Z,20nm,0.5s						
H08S3	**Diego Garcia H**	**27.89**	**230**	T	T	18 14 13.9	
	baz=51,slow=75,SNR=43						
H08S2	**Diego Garcia H**	**27.90**	**230**	T	T	18 14 21.9	
	baz=51,slow=75,SNR=49						
H08S1	**Diego Garcia H**	**27.91**	**230**	T	T	18 14 15.3	
	baz=51,slow=75,SNR=35						
TOLI2	**Tolitoli**	**28.68**	**108**	P	**P**	**17 47 36.7**	**-0.4**
GTA	**Gaotai**	**28.99**	**10**	P	**P**	**17 47 40.5**	**+0.8**
GTA				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SSLB	**Suanglung**	**29.05**	**60**	P	**P**	**17 47 38.1**	**-2.2**
SSLB				IAmb	IAmb	17 47 52.9	
	comp=Z,25nm,1.5s						
NIL	**Nilore**	**29.38**	**324**	P	**P**	**17 47 42.9**	**-0.2**
NIL				IAmb	IAmb	17 47 45.3	
	comp=Z,19nm,1.1s						
NJ2	**Nanjing**	**31.45**	**44**	*eP*	**P**	**17 48 01.3**	**0.0**
NJ2				pmax	pmax		
	comp=Z,6.0nm,0.9s						
NJ2				pmax	pmax		
	comp=Z,110nm,3.8s						
KBL	**Kabul**	**32.53**	**320**	P	**P**	**17 48 11.0**	**0.0**
KBL				IAmb	IAmb	17 48 13.8	
	comp=Z,7.8nm,0.6s						
HNS	**HongShan**	**32.56**	**32**	⇓*P*	**P**	**17 48 11.3**	**+0.4**
HNS				pmax	pmax		
	comp=Z,17nm,0.7s						
WMQ	**Urumqi**	**33.26**	**352**	*eP*	**P**	**17 48 18.8**	**+1.8**
WMQ				pP	pP	17 48 49.0	+0.2
WMQ				pmax	pmax		
	comp=Z,15nm,0.7s						
HHC	**Hu-ho-hao-te**	**33.84**	**25**	*eP*	**P**	**17 48 23.0**	**+0.9**
HHC				pmax	pmax		
	comp=Z,48nm,0.7s						
HHC				pmax	pmax		
	comp=Z,79nm,5.0s						
PRZ	**Przheval'sk**	**34.21**	**340**	P	**P**	**17 48 27.2**	**+1.8**
DRK	**Karamyk**	**34.49**	**330**	P	**P**	**17 48 29.6**	**+1.6**
ULHL	**Ulahol**	**34.78**	**337**	P	**P**	**17 48 31.4**	**+1.1**
	SNR=5.5						
GAR	**Garm**	**34.89**	**327**	P	**P**	**17 48 32.0**	**+0.7**
BOOM	**Boomskoye usch**	**35.10**	**337**	P	**P**	**17 48 33.7**	**+0.6**
BOOM				IAmb	IAmb	17 48 34.7	
	comp=Z,5.4nm,0.7s						
CHGR	**Chuyangaron**	**35.27**	**326**	P	**P**	**17 48 35.1**	**+0.7**
SIMJ	**Simiganj**	**35.35**	**326**	P	**P**	**17 48 35.5**	**+0.3**
SIMJ				IAmb	IAmb	17 48 36.8	
	comp=Z,19nm,0.8s						
ARSB	**Arslanbob**	**35.37**	**333**	P	**P**	**17 48 36.6**	**+1.3**
ARSB				IAmb	IAmb	17 48 37.6	
	comp=Z,9.7nm,0.5s						
BTK	**Batken**	**35.42**	**329**	P	**P**	**17 48 37.3**	**+1.6**
UCH	**Uchtor**	**35.45**	**335**	P	**P**	**17 48 37.7**	**+1.4**
	SNR=8.9						
TKM2	**Tokmak 2**	**35.60**	**337**	P	**P**	**17 48 38.3**	**+0.9**
	SNR=15						
KBK	**Karagaybulak**	**35.63**	**336**	P	**P**	**17 48 39.7**	**+2.1**
	SNR=7.0						
AAK	**Ala-Archa**	**35.80**	**336**	P	**P**	**17 48 40.3**	**+1.3**
AAK				IAmb	IAmb	17 48 42.1	
	comp=Z,7.0nm,0.9s						
CHMS	**Chumysh**	**36.00**	**336**	P	**P**	**17 48 41.8**	**+1.3**
	SNR=5.8						
EKS2	**Erkin-Say**	**36.11**	**335**	P	**P**	**17 48 43.5**	**+1.9**
	SNR=19						
USP	**Ospenovka**	**36.32**	**336**	P	**P**	**17 48 44.5**	**+1.2**
	SNR=7.0						
MK31	**Makanchi Array**	**37.10**	**347**	P	**P**	**17 48 50.1**	**+0.3**
MKAR	**Makanchi Array**	**37.10**	**347**	P	**P**	**17 48 50.1**	**+0.3**
MKAR	**Makanchi Array**	**37.10**	**347**	P	**P**	**17 48 50.2**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=165,slow=8.4,SNR=47						
MKAR				PcP	**PcP**	**17 51 07.9**	**+0.8**
	comp=Z,0.3nm,0.4s,baz=212,slow=3.4,SNR=1.7						
	comp=Z,2.3nm,0.3s						
KK31	**Karatay Array**	**37.90**	**332**	P	**P**	**17 48 57.3**	**+0.7**
KK31				IAmb	IAmb	17 48 58.9	
	comp=Z,8.0nm,1.1s						
KKAR	**Karatay Array**	**37.90**	**332**	P	**P**	**17 48 57.4**	**+0.8**
KKAR				IAmb	IAmb	17 48 58.9	
	comp=Z,7.9nm,1.1s						
KKAR	**Karatay Array**	**37.90**	**332**	P	**P**	**17 48 57.5**	**+0.9**
UOSS	**Minazif**	**38.10**	**297**	P	**P**	**17 48 59.9**	**+1.4**
UOSS				IAmb	IAmb	17 49 08.4	
	comp=Z,1.1nm,1.3s						
XLT	**XiLinHaoTe**	**38.26**	**27**	*eP*	**P**	**17 48 57.5**	**-2.1**
XLT				pP	pP	17 49 26.3	-5.5
XLT				sP	sP	17 49 46.5	-2.2
XLT				pmax	pmax		
	comp=Z,8.0nm,1.0s						
XLT				pmax	pmax		
	comp=Z,78nm,4.0s						
SONM	**Songino Array**	**38.42**	**14**	P	**P**	**17 49 01.3**	**+0.3**
SONM	**Songino Array**	**38.42**	**14**	P	**P**	**17 49 00.6**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=200,slow=10,SNR=8.1						
SONM				ScP	**ScP**	**17 54 45.6**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=147,slow=2.9,SNR=2.6						
	comp=Z,1.3nm,0.5s						
KSRS	**Korea Array**	**40.65**	**44**	P	**P**	**17 49 18.4**	**-0.9**
	comp=Z,0.9nm,0.5s,baz=242,slow=8.6,SNR=9.0						
	comp=Z,0.9nm,0.5s						
FAKI	**Fak Fak**	**40.82**	**107**	P	**P**	**17 49 21.0**	**-0.2**
FAKI				IAmb	IAmb	17 49 40.7	
	comp=Z,49nm,1.5s						
PSA00	**Pilbara Seismi**	**41.25**	**141**	P	**P**	**17 49 23.8**	**-0.8**
PSA00				IAmb	IAmb	17 49 58.2	
	comp=Z,19nm,1.3s						
KURBB	**Kurchatov Arra**	**41.56**	**346**	P	**P**	**17 49 27.3**	**+0.6**
	comp=Z,2.7nm,0.2s,baz=166,slow=7.8,SNR=15						
KURBB				PcP	**PcP**	**17 51 22.0**	**+1.0**
	comp=Z,0.6nm,0.5s,baz=156,slow=2.4,SNR=1.5						
KURBB				LR	LR	18 09 33.7	
	comp=Z,100nm,20.0s,baz=174,slow=40						
	comp=Z,2.7nm,0.2s						
GEYT	**Alibeck**	**41.67**	**316**	P	**P**	**17 49 30.6**	**+2.7**
	comp=Z,26nm,0.4s,baz=147,slow=8.8,SNR=70						
GYA0B	**ALIBECK ARRAY**	**41.67**	**316**	P	**P**	**17 49 30.6**	**+2.8**
FITZ	**Fitzroy Crossi**	**42.75**	**132**	P	**P**	**17 49 35.9**	**-0.8**
ZAA0	**Zalesovo Array**	**43.57**	**352**	P	**P**	**17 49 43.0**	**+0.2**
ZAA0				IAmb	IAmb	17 49 44.2	
	comp=Z,12nm,0.6s						
ZALV	**Zalesovo Beam**	**43.57**	**352**	P	**P**	**17 49 43.2**	**+0.4**
ZALV	**Zalesovo Beam**	**43.57**	**352**	P	**P**	**17 49 43.4**	**+0.6**
	comp=Z,14nm,0.4s,baz=178,slow=8.0,SNR=64						
ZALV				PcP	**PcP**	**17 51 27.4**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=207,slow=3.3,SNR=1.6						
	comp=Z,14nm,0.4s						
MTN	**Manton Dam**	**44.07**	**121**	P	**P**	**17 49 46.0**	**-1.3**
MTN				IAmb	IAmb	17 49 50.4	
	comp=Z,24nm,1.4s						
MORW	**Morawa**	**45.21**	**152**	P	**P**	**17 49 57.2**	**+1.0**
MORW				IAmb	IAmb	17 50 18.3	
	comp=Z,51nm,1.4s						
BVAR	**Borovoye Array**	**46.03**	**341**	P	**P**	**17 50 02.2**	**-0.1**
	comp=Z,1.2nm,0.4s,baz=138,slow=9.7,SNR=11						
BVAR				PcP	**PcP**	**17 51 36.7**	**+0.4**
	comp=Z,0.7nm,0.6s,baz=168,slow=4.3,SNR=4.3						
	comp=Z,1.2nm,0.4s						
BRVK	**Borovoye**	**46.09**	**341**	P	**P**	**17 50 03.2**	**+0.4**
ABKAR	**Akbulak array**	**47.40**	**330**	P	**P**	**17 50 14.1**	**+1.1**
ABKAR				IAmb	IAmb	17 50 14.4	
	comp=Z,5.0nm,0.5s						
ABKAR	**Akbulak array**	**47.40**	**330**	P	**P**	**17 50 13.9**	**+0.9**
RAYN	**Ar Rayn**	**47.44**	**292**	P	**P**	**17 50 16.0**	**+2.2**
MJB9	**Matsu-Tunnel**	**47.62**	**50**	P	**P**	**17 50 16.1**	**+1.0**
MJAR	**Matsushiro Arr**	**47.63**	**50**	LR	LR	18 11 45.0	
	comp=Z,26nm,18.3s,baz=192,slow=38						
WB0	**Warramunga Arr**	**50.39**	**127**	P	**P**	**17 50 35.3**	**-1.0**
WB0				IAmb	IAmb	17 50 43.4	
	comp=Z,10nm,1.3s						
WRA	**Warramunga Arr**	**50.44**	**127**	P	**P**	**17 50 35.9**	**-0.7**
	comp=Z,3.2nm,0.4s,baz=306,slow=8.4,SNR=152						
WRA				PcP	**PcP**	**17 51 53.6**	**+0.8**
	comp=Z,0.8nm,1.0s,baz=303,slow=8.8,SNR=1.6						
	comp=Z,3.2nm,0.4s						
WB2	**Warramunga Arr**	**50.45**	**127**	P	**P**	**17 50 35.5**	**-1.2**
WB2				IAmb	IAmb	17 50 37.2	
	comp=Z,8.0nm,0.4s						
JTM	**Tenmabayashi**	**51.26**	**46**	P	**P**	**17 50 41.9**	**-0.6**
AS31	**Alice Springs**	**52.24**	**131**	P	**P**	**17 50 49.9**

comp=Z,2.9nm,0.5s,baz=92,slow=5.7,SNR=26
comp=Z,2.9nm,0.5s

PUK	**Puka**	**70.73**	**311**	P	**P**	**17 52 53.0**	**-1.0**
OJC	**Ojcow**	**71.38**	**319**	P	**P**	**17 52 58.1**	**+0.4**
OJC				IAmb	IAmb	17 52 58.8	

comp=Z,4.7nm,0.5s

KEV	**Kevo**	**71.88**	**340**	P	**P**	**17 53 00.6**	**+0.4**
KEV				IAmb	IAmb	17 53 29.4	

comp=Z,25nm,1.4s

ARCES	**ARCESS Array B**	**72.31**	**340**	P	**P**	**17 53 03.8**	**+1.0**

comp=Z,2.1nm,0.3s,baz=100,slow=6.4,SNR=31
comp=Z,2.1nm,0.3s

MORC	**Moravsky Berou**	**72.80**	**319**	P	**P**	**17 53 06.7**	**+0.6**
RONA	**Rosalia, Austr**	**73.52**	**317**	*i* P	**P**	**17 53 10.9**	**+0.4**

comp=Z,0.8nm,0.4s

CONA	**Conrad Observa**	**73.82**	**317**	*i* P	**P**	**17 53 12.8**	**+0.6**

comp=Z,0.5nm,0.3s

SOKA	**Soboth**	**74.36**	**316**	*i* P	**P**	**17 53 16.0**	**+0.6**

comp=Z,1.8nm,0.7s

GERES	**GERESS Array B**	**75.28**	**318**	P	**P**	**17 53 21.2**	**+0.6**

comp=Z,1.2nm,0.5s,baz=90,slow=6.7,SNR=7.2
comp=Z,1.2nm,0.5s

SABO	**M.te Sabotino**	**75.35**	**315**	P	**P**	**17 53 20.6**	**-0.5**
SABO				IAmb	IAmb	17 53 21.7	

comp=Z,8.8nm,0.9s

HFS	**Hagfors**	**75.64**	**329**	P	**P**	**17 53 22.7**	**+0.3**

comp=Z,1.6nm,0.4s,baz=104,slow=6.3,SNR=12
comp=Z,1.6nm,0.4s

LESA	**Schwarzleotal**	**75.97**	**316**	*i* P	**P**	**17 53 24.5**	**-0.1**

comp=Z,1.9nm,0.3s

CIMO	**Cimolais**	**76.15**	**315**	P	**P**	**17 53 25.6**	**0.0**
CIMO				IAmb	IAmb	17 53 26.7	

comp=Z,4.6nm,0.7s

WTTA	**Wattenberg**	**76.68**	**316**	*i* P	**P**	**17 53 28.6**	**-0.1**

comp=Z,3.1nm,0.2s

CTI	**Castel Tesino**	**76.71**	**315**	P	**P**	**17 53 29.5**	**+0.7**
SPITS	**Spitsbergen Ar**	**76.84**	**348**	P	**P**	**17 53 29.5**	**+0.6**

comp=Z,5.6nm,0.5s,baz=99,slow=11,SNR=34
comp=Z,5.6nm,0.5s

NB2	**NORSAR Subarra**	**76.90**	**330**	P	**P**	**17 53 29.4**	**-0.1**

comp=Z,0.5nm,0.6s,baz=92,slow=5.3

NOA	**NORSAR Array B**	**76.90**	**330**	P	**P**	**17 53 29.5**	**-0.1**

comp=Z,0.8nm,0.7s,baz=92,slow=5.7,SNR=4.4
comp=Z,0.8nm,0.7s

SQTA	**Sankt Quirin**	**76.97**	**316**	*i* P	**P**	**17 53 30.2**	**0.0**

comp=Z,3.6nm,0.3s

MOTA	**Moosalm**	**77.04**	**316**	*e*P	**P**	**17 53 30.4**	**-0.3**

comp=Z,5.4nm,1.0s

RETA	**Reutte**	**77.27**	**316**	*i* P	**P**	**17 53 32.0**	**+0.2**

comp=Z,2.6nm,0.2s

FUORN	**Ofenpass-Fuorn**	**77.64**	**316**	P	**P**	**17 53 35.0**	**+0.8**
DAVA	**Damuels**	**77.88**	**316**	*i* P	**P**	**17 53 35.7**	**+0.3**

comp=Z,0.7nm,0.3s

MSSA	**Maissana**	**78.30**	**313**	P	**P**	**17 53 36.8**	**-0.9**
MSSA				IAmb	IAmb	17 54 13.5	

comp=Z,8.6nm,1.1s

LIFNC	**LIFOU**	**78.87**	**114**	P	**P**	**17 53 41.3**	**+0.2**
KEST	**Kesra**	**79.12**	**304**	P	**P**	**17 53 43.2**	**+0.8**

comp=Z,2.0nm,0.4s,baz=353,slow=3.5,SNR=6.6
comp=Z,2.0nm,0.4s

SENIN	**Lac Senin/Sane**	**79.70**	**315**	P	**P**	**17 53 46.4**	**+0.9**
SENIN				IAmb	IAmb	17 54 01.9	

comp=Z,18nm,1.4s

EKA	**Eskdalemuir Ar**	**84.99**	**325**	P	**P**	**17 54 12.8**	**+0.4**

comp=Z,1.4nm,0.7s,baz=86,slow=6.8,SNR=4.8
comp=Z,1.4nm,0.7s

ESDC	**Sonseca Array**	**88.91**	**310**	P	**P**	**17 54 32.6**	**+0.8**

comp=Z,0.5nm,0.6s,baz=63,slow=4.2,SNR=6.6
comp=Z,0.5nm,0.6s

TORD	**Torodi Ar. Bea**	**89.40**	**283**	P	**P**	**17 54 35.3**	**+0.9**

comp=Z,0.5nm,0.7s,baz=78,slow=7.4,SNR=2.4
comp=Z,0.5nm,0.7s

TAP **25** *17:47:24.8,24.06N×121.88E,h47km,* **ML1.7,B,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETL	**Fush Village**	**0.25**	**292**	*i* P	Pn	17 47 32.9	-0.3
	baz=291						
ETL				*i* S	Sn	17 47 39.0	-0.2
	baz=291						
TWD	**Chiawan**	**0.26**	**274**	*i* P	Pn	17 47 32.9	-0.3
	baz=273						
TWD				*i* S	Sn	17 47 39.2	0.0
	baz=273						
EHP	**Heping Village**	**0.28**	**333**	*i* P	Pn	17 47 33.2	-0.3
	baz=334						
EHP				*i* S	Sn	17 47 39.5	-0.1
	baz=334						
NACB	**Ninganchiao**	**0.28**	**293**	P	Pn	17 47 33.1	-0.4
	baz=292						
NACB				S	Sn	17 47 39.5	-0.1
	baz=292						
TEYL	**Yanliau Villag**	**0.32**	**233**	*i* P	Pn	17 47 33.5	-0.3
	baz=237						
TEYL				*i* S	Sn	17 47 40.3	0.0
	baz=237						
ETM	**Tongmen**	**0.36**	**254**	*e*P	Pn	17 47 34.4	0.0
	baz=254						
ETM				*e*S	Sn	17 47 41.4	+0.3
	baz=254						
ENA	**Nanau**	**0.38**	**341**	*i* P	Pn	17 47 34.4	-0.2
	baz=341						
ENA				*i* S	Sn	17 47 41.5	+0.1
	baz=341						
EWUT	**Wuta**	**0.39**	**347**	*i* P	Pn	17 47 34.5	-0.1
	baz=346						
EWUT				*i* S	Sn	17 47 41.9	+0.3
	baz=346						
SHUL	**Shoufeng**	**0.40**	**226**	*e*P	Pn	17 47 34.8	+0.1
	baz=226						
SHUL				*e*S	Sn	17 47 42.8	+1.1
	baz=226						
EOS4	**EOS4**	**0.41**	**82**	*e*P	Pn	17 47 35.3	+0.9
	baz=82						
EOS4				*i* S	Sn	17 47 42.0	+0.7
	baz=82						
LXIB	**Xiulin Townshi**	**0.43**	**264**	*e*P	Pn	17 47 34.3	-0.9
	baz=264						
LXIB				*i* S	Sn	17 47 42.1	-0.4
	baz=264						
ESL	**Shilin**	**0.48**	**239**	*e*P	Pn	17 47 35.4	-0.2
	baz=237						
ESL				*i* S	Sn	17 47 43.2	-0.1
	baz=237						
TWC	**Suao**	**0.54**	**357**	*i* P	Pn	17 47 36.4	-0.1
	baz=358						
TWC				*i* S	Sn	17 47 45.0	+0.2
	baz=358						
WHF	**Hehuan Shan**	**0.56**	**278**	*e*P	Pn	17 47 37.3	+0.1
	baz=278						
WHF				*e*S	Sn	17 47 45.7	-0.2
	baz=278						
WARBT	**Fenglin Townsh**	**0.57**	**233**	*e*P	Pn	17 47 36.5	-0.2
	baz=232						
WARBT				*e*S	Sn	17 47 44.8	-0.4
	baz=232						
LATG	**Datong**	**0.57**	**326**	*e*P	Pn	17 47 36.9	0.0
	baz=325						
LATG				*i* S	Sn	17 47 45.5	0.0
	baz=325						
NNSB	**Datong**	**0.58**	**309**	*i* P	Pn	17 47 36.9	-0.1
	baz=308						
NNSB				*e*S	Sn	17 47 45.3	-0.5
	baz=308						
NNS	**Nan Shan**	**0.59**	**309**	*e*P	Pn	17 47 36.4	-0.8
	baz=309						
NNS				*e*S	Sn	17 47 45.9	-0.1
	baz=309						
NDT	**Datong Townshi**	**0.63**	**328**	P	Pn	17 47 37.6	+0.1
	baz=328						
NDT				*i* S	Sn	17 47 47.1	+0.3
	baz=328						
ENTT	**Nioudou**	**0.64**	**334**	*i* P	Pn	17 47 37.7	0.0
	baz=334						
ENTT				*i* S	Sn	17 47 47.1	+0.2
	baz=334						
CHGB	**Renai**	**0.64**	**270**	*e*P	Pn	17 47 38.0	+0.1
	baz=269						
CHGB				S	Sn	17 47 47.5	+0.2
	baz=269						
OWD	**Renai**	**0.65**	**260**	P	Pn	17 47 38.0	+0.1
	baz=260						
OWD				*e*S	Sn	17 47 47.1	-0.3
	baz=260						
WUSB	**Renai**	**0.70**	**264**	P	Pn	17 47 38.8	+0.2
	baz=264						
WUSB				*i* S	Sn	17 47 48.6	+0.2
	baz=264						
HGSD	**Ruisui**	**0.70**	**216**	*e*P	Pn	17 47 39.3	+0.8
	baz=216						
HGSD				*e*S	Sn	17 47 48.3	-0.1
	baz=216						
FUSB	**Fushanzhiwuyua**	**0.74**	**339**	*e*P	Pn	17 47 39.6	+0.5
	baz=339						
FUSB				S	Sn	17 47 49.9	+0.5
	baz=339						
VWDT	**VWDT**	**0.74**	**246**	*e*P	Pn	17 47 39.4	+0.5
	baz=245						
VWDT				S	Sn	17 47 49.7	+0.4
	baz=245						
YHNB	**Yeheng**	**0.76**	**323**	*e*P	Pn	17 47 39.0	-0.3
	baz=322						
YHNB				*e*S	Sn	17 47 49.3	-0.5
	baz=322						
NSK	**Sanguang**	**0.77**	**322**	*i* P	Pn	17 47 39.3	-0.1
	baz=322						
NSK				*e*S	Sn	17 47 49.5	-0.6
	baz=322						
NWLT	**Wulai**	**0.79**	**334**	P	Pn	17 47 39.6	0.0
	baz=334						
NWLT				*e*S	Sn	17 47 49.9	-0.5
	baz=334						
YULB	**Yu-li**	**0.85**	**219**	P	Pn	17 47 40.7	+0.1
	baz=218						
YULB				*e*S	Sn	17 47 51.0	-0.9
	baz=218						
YULB	**Yu-li**	**0.85**	**219**	P	Pn	17 47 40.4	-0.1
WHP	**Taichung City**	**0.88**	**284**	*e*P	Pn	17 47 43.2	+2.3
	baz=284						
WHP				*e*S	Sn	17 47 53.7	+1.0
	baz=284						
SSLB	**Suanglung**	**0.89**	**252**	*e*P	Pn	17 47 40.8	-0.2
	baz=251						
SSLB				*e*S	Sn	17 47 53.9	+1.0
	baz=251						
TYC	**Yuchr**	**0.95**	**261**	*e*P	Pn	17 47 42.2	+0.4
	baz=260						
TYC				*i* S	Sn	17 47 54.4	+0.2
	baz=260						
CHKH	**Chenggong**	**0.97**	**207**	P	Pn	17 47 42.8	+0.6
	baz=206						
CHKH				*e*S	Sn	17 47 55.1	+0.3
	baz=206						
LIOB	**Emei**	**0.98**	**307**	P	Pn	17 47 42.1	-0.1
	baz=306						
LIOB				*i* S	Sn	17 47 55.3	+0.4
	baz=306						
WHYT	**Xinyi Township**	**1.01**	**249**	*e*P	Pn	17 47 43.6	+1.0
	baz=248						
WHYT				*i* S	Sn	17 47 56.4	+0.7
	baz=248						

NEIC **25** *17:55:35.9±0.7, 19.37N±0.01×155.261W±0.007, h5km±1km, Error ellipse: s-maj=2.0km s-min=0.9km az=183.0*

HVO 25 17:55:35.1±0.6,**19.370N**±0.009×**155.258W**±0.007, **h0**km±2km,**ML2.9**/14,**ML2.1**/34(NEIC),**Error ellipse: s-maj=1.4km s-min=0.7km az=203.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.03**	**344**		Pg	17 55 37.3	+1.6
RIM	**Rim**	**0.03**	**329**		Pg	17 55 36.4	+0.7
PUH	**Pauahi**	**0.04**	**84**	Pg	Pg	17 55 36.7	+0.8
PUH					Sg	17 55 37.9	+1.4
BYL	**Byron's Ledge**	**0.04**	**357**	IAML		17 55 36.3	

comp=N,2μm,1.0s

BYL				IAML		17 55 36.5	

comp=E,3μm,1.1s

BYL				Pg	Pg	17 55 36.7	+0.8
BYL	**Byron's Ledge**	**0.04**	**357**		Sg	17 55 38.0	+1.4
HATHI	**Halema'uma'u T**	**0.05**	**357**	IAML		17 55 36.4	

comp=N,3μm,0.8s

HATHI				Pg	Pg	17 55 36.9	+0.7
HATHI				IAML		17 55 37.6	

comp=E,2μm,0.8s

HATHI					Sg	17 55 38.4	+1.5
SBLHI	**Steaming Bluff**	**0.06**	**350**		Pg	17 55 37.4	+1.1
UWB	**Uwekahuna B**	**0.06**	**341**		Pg	17 55 38.6	+2.3
UWE	**Uwekahuna**	**0.06**	**327**		Pg	17 55 37.0	+0.7
KNHH	**Kane Nui o Ham**	**0.08**	**84**		Pg	17 55 37.6	+0.9
HLP	**Hilina Pali**	**0.09**	**213**		Pg	17 55 37.9	+1.1
HLP				IAML		17 55 38.0	

comp=E,824nm,1.2s

HLP				IAML		17 55 39.4	

comp=N,914nm,1.1s

HLP	**Hilina Pali**	**0.09**	**213**		Sg	17 55 40.3	+2.3
RSD	**Rainshed**	**0.09**	**348**	IAML		17 55 37.9	

comp=N,726nm,0.9s

RSD	**Rainshed**	**0.09**	**348**		Pg	17 55 38.0	+1.1
STCH	**Steam Cracks**	**0.13**	**83**		Pg	17 55 38.5	+1.0
NPOC	**North of Pu'u**	**0.14**	**81**		Pg	17 55 40.2	+2.3
JCUZ	**Jacuzzi**	**0.15**	**85**		Pg	17 55 39.0	+1.0
MLH	**Mauna Loa**	**0.17**	**316**		Pg	17 55 39.6	+1.2
MLH	**Mauna Loa**	**0.17**	**316**	IAML		17 55 43.7	

comp=E,606nm,0.7s

MLH				IAML		17 55 43.9	

comp=N,618nm,1.0s

HTC	**Hot Caves**	**0.19**	**225**		Pg	17 55 39.7	+1.0
JOKA	**Jonika Flow**	**0.25**	**75**		Pg	17 55 40.3	+0.4
JOKA				IAML		17 55 47.5	

comp=N,463nm,1.6s

HMH	**Humu'ula Sheep**	**0.31**	**317**	Pg	Pg	17 55 42.0	+0.9
HMH				IAML		17 55 47.8	

comp=N,364nm,1.9s

HMH				IAML		17 55 49.3	

comp=E,279nm,1.5s

MWH	**Moku'aweowe**	**0.34**	**290**		Pg	17 55 42.5	+0.8
MLOA	**Mauna Loa Obse**	**0.34**	**299**	Pg	Pg	17 55 42.5	+0.8
MLOA				IAML		17 55 43.5	

comp=N,280nm,2.7s

MLOA				IAML		17 55 48.2	

comp=E,265nm,2.0s

KHU	**Kahuku**	**0.36**	**250**		Pg	17 55 42.4	+0.4
HUH	**Hualalai**	**0.63**	**300**	Pg	Pg	17 55 48.1	+0.9
MHA	**Mahukona**	**1.01**	**323**	Pg	Pg	17 55 52.6	-2.0
HLK	**Haleakala**	**1.67**	**326**		Pn	17 56 04.0	-1.8

IDC **25** *17:56:07.7±1.4, 62.58N×151.52W, h78km±14km, mb3.6/18, mbtmp3.8/23, Error ellipse: s-maj=15.0km s-min=9.4km az=109.0*

NEIC **25** *17:56:09.6±1.7, 62.53N±0.03×151.37W±0.07, h98km±7km, Error ellipse: s-maj=5.1km s-min=4.5km az=78.0*

AEIC **25** *17:56:10±1.3, 62.54N±0.03×151.34W±0.07, h90km±6km, ML3.8,ML4.0/226(NEIC), Error ellipse: s-maj=4.9km s-min=4.0km az=63.0*

ISC 25 17:56:09.4±0.6,**62.53N**±0.03×**151.32W**±0.04,**h97**km±5km, **n395,**s0.79/402,**mb3.9**/18,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	**Chulitna**	**0.50**	**104**		Pn	**17 56 25.1**	**+0.4**
CUT	**Chulitna**	**0.50**	**104**		Sn	**17 56 36.6**	**+0.3**
CUT	**Chulitna**	**0.50**	**104**	P	Pn	**17 56 25.2**	**+0.4**
	baz=285						
CUT				S	Sn	**17 56 36.6**	**+0.3**
	baz=285						
PPLA	**Purkeypile**	**0.54**	**312**		Pn	**17 56 25.7**	**+0.4**
PPLA					Sn	**17 56 37.0**	**-0.2**
PPLA	**Purkeypile**	**0.54**	**312**	P	Pn	**17 56 25.6**	**+0.3**
	baz=132						
PPLA				S	Sn	**17 56 37.0**	**-0.2**
	baz=132						
SKT	**Skwentna**	**0.56**	**190**		Pn	**17 56 25.1**	**-0.2**
SKT	**Skwentna**	**0.56**	**190**		Sn	**17 56 37.1**	**-0.2**
SKT	**Skwentna**	**0.56**	**190**	P	Pn	**17 56 25.2**	**-0.2**
	baz=10						
SKT				S	Sn	**17 56 37.1**	**-0.2**
	baz=10						
CAST	**Castle Rocks**	**0.95**	**339**		Pn	**17 56 29.2**	**+0.1**
CAST	**Castle Rocks**	**0.95**	**339**		Sn	**17 56 43.1**	**-0.8**
CAST	**Castle Rocks**	**0.95**	**339**	P	Pn	**17 56 29.1**	**+0.1**
	baz=158						
CAST				S	Sn	**17 56 42.7**	**-1.2**
	baz=158						
M22K	**Willow**	**0.96**	**144**		Pn	**17 56 29.3**	**+0.3**
M22K	**Willow**	**0.96**	**144**		Sn	**17 56 44.0**	**+0.1**
M22K	**Willow**	**0.96**	**144**	P	Pn	**17 56 29.3**	**+0.3**
	baz=325						
M22K				S	Sn	**17 56 44.0**	**+0.1**
	baz=325						
TRF	**Thorofare Moun**	**1.03**	**27**		Pn	**17 56 30.6**	**+0.6**
TRF				IAML		17 56 47.9	

comp=N,3μm,0.5s

TRF				IAML		17 56 48.8	

comp=E,3μm,1.0s

TRF	**Thorofare Moun**	**1.03**	**27**		Sn	**17 56 45.8**	**+0.2**
TRF	**Thorofare Moun**	**1.03**	**27**	P	Pn	**17 56 30.6**	**+0.6**
	baz=207						
TRF				S	Sn	**17 56 45.8**	**+0.2**
	baz=207						
KTH	**Kantishna Hill**	**1.04**	**10**		Pn	**17 56 30.6**	**+0.5**
KTH				IAML		17 56 45.6	

comp=E,3μm,0.6s

KTH				IAML		17 56 47.4	

comp=N,2μm,0.7s

KTH	**Kantishna Hill**	**1.04**	**10**		Sn	**17 56 45.1**	**-0.4**
STLK	**Strandline Lak**	**1.07**	**193**		Pn	**17 56 30.5**	**+0.2**
STLK					Sn	**17 56 45.6**	**-0.5**
M20K	**Styx River**	**1.07**	**233**		Pn	**17 56 30.2**	**-0.2**
M20K				IAML		17 56 46.4	

comp=N,2μm,0.6s

M20K				IAML		17 56 46.5	

comp=E,2μm,0.4s

M20K	**Styx River**	**1.07**	**233**		Sn	**17 56 45.6**	**-0.7**
SUA	**Susitna One**	**1.11**	**166**		Pn	**17 56 31.2**	**+0.4**
SUA				IAML		17 56 48.8	

comp=N,2μm,0.8s

SUA				IAML		17 56 49.8	

comp=E,2μm,0.7s

SUA	**Susitna One**	**1.11**	**166**		Sn	**17 56 46.9**	**-0.1**
SUA	**Susitna One**	**1.11**	**166**	P	Pn	**17 56 31.2**	**+0.4**
	baz=346						
WAT7	**Susitna Watana**	**1.18**	**74**		Pn	**17 56 32.1**	**+0.5**
L20K	**Farewell, AK**	**1.19**	**268**		Pn	**17 56 31.8**	**0.0**
L20K					Sn	**17 56 48.4**	**-0.2**
L20K	**Farewell, AK**	**1.19**	**268**	P	Pn	**17 56 31.8**	**0.0**
	baz=86						
WAT1	**Susitna Watana**	**1.31**	**76**	P	Pn	**17 56 33.6**	**+0.5**
	baz=258						
SPCP	**Crater Peak Br**	**1.33**	**198**		Pn	**17 56 33.9**	**+0.4**
SPNN	**North Nagishla**	**1.34**	**210**		Pn	**17 56 34.0**	**+0.4**
SPNN					Sn	**17 56 52.6**	**+0.6**
GHO	**Glory Hole Cre**	**1.36**	**123**		Pn	**17 56 34.5**	**+0.8**
GHO	**Glory Hole Cre**	**1.36**	**123**	IAML		17 56 56.9	

comp=N,3μm,0.6s

SPBG	**Spurr Blockage**	**1.37**	**202**		Pn	**17 56 34.5**	**+0.6**
SPCN	**Chakachatna No**	**1.38**	**198**		Pn	**17 56 34.7**	**+0.7**
PMR	**Palmer**	**1.40**	**132**		Pn	**17 56 34.1**	**0.0**
PMR				IAML		17 56 55.2	

comp=E,1μm,0.7s

PMR				IAML		17 56 57.5	

comp=N,2μm,0.4s

PMR	**Palmer**	**1.40**	**132**	P	Pn	**17 56 34.0**	**0.0**
	baz=314						
N20K	**Mount Spurr**	**1.40**	**198**	P	Pn	**17 56 34.3**	**0.0**
	baz=17						
SPCR	**Spurr Chakacha**	**1.40**	**198**		Pn	**17 56 34.6**	**+0.3**
RND	**Reindeer**	**1.43**	**51**	Pn	Pn	**17 56 35.1**	**+0.6**
RND				IAML		17 56 55.3	

comp=E,3μm,0.3s

CHUM	**Lake Minchumin**	**1.43**	**342**		Pn	**17 56 35.0**	**+0.5**
CHUM					Sn	**17 56 53.5**	**0.0**
CHUM	**Lake Minchumin**	**1.43**	**342**	P	Pn	**17 56 34.9**	**+0.5**
	baz=161						
FIS	**Fire Island**	**1.49**	**159**		Pn	**17 56 37.0**	**+1.8**
K20K	**Telida**	**1.51**	**304**		Pn	**17 56 35.9**	**+0.4**
K20K					Sn	**17 56 54.7**	**-0.6**
K20K	**Telida**	**1.51**	**304**	IAML		17 56 54.9	

comp=N,1μm,0.7s

K20K	**Telida**	**1.51**	**304**	P	Pn	**17 56 35.8**	**+0.4**
	baz=122						
M19K	**Big River Lodg**	**1.57**	**248**		Pn	**17 56 36.4**	**0.0**
M19K				IAML		17 56 57.4	

comp=N,926nm,0.8s

BPAW	**Bear Paw Mtn.**	**1.58**	**5**	Pn	Pn	**17 56 36.6**	**+0.2**
BPAW				IAML		17 56 57.6	

comp=E,879nm,0.8s

BPAW				IAML		17 56 57.7	

comp=N,1μm,0.7s

BPAW	**Bear Paw Mtn.**	**1.58**	**5**		Sn	**17 56 56.1**	**-0.8**
BPAW	**Bear Paw Mtn.**	**1.58**	**5**	P	Pn	**17 56 36.6**	**+0.2**
	baz=186						
SML	**Sawmill**	**1.58**	**116**		Pn	**17 56 36.6**	**+0.2**
SML	**Sawmill**	**1.58**	**116**	P	Pn	**17 56 36.8**	**+0.4**
	baz=299						
MCK	**McKinley**	**1.62**	**41**		Pn	**17 56 37.7**	**+0.8**
MCK	**McKinley**	**1.62**	**41**	P	Pn	**17 56 37.7**	**+0.8**
	baz=223						
RC01	**Rabbit Creek A**	**1.63**	**152**	Pn	Pn	**17 56 37.1**	**0.0**
RC01				IAML		17 57 01.9	

comp=E,2μm,0.6s

RC01				IAML		17 57 04.3	

comp=N,1μm,0.6s

RC01	**Rabbit Creek A**	**1.63**	**152**	P	Pn	**17 56 37.2**	**+0.2**
	baz=333						
WAT6	**Susitna Watana**	**1.66**	**87**		Pn	**17 56 37.7**	**+0.2**
WAT6	**Susitna Watana**	**1.66**	**87**	P	Pn	**17 56 37.7**	**+0.2**
	baz=270						
L19K	**White Mountain**	**1.69**	**259**	Pn	Pn	**17 56 38.0**	**+0.2**
L19K				IAML		17 57 00.6	

comp=N,2μm,0.8s

L19K				IAML		17 57 01.1	

comp=E,2μm,1.1s

L19K	**White Mountain**	**1.69**	**259**		Sn	**17 56 59.2**	**-0.2**
L19K	**White Mountain**	**1.69**	**259**	P	Pn	**17 56 38.0**	**+0.2**
	baz=76						
KNK	**Knik Glacier**	**1.76**	**129**		Pn	**17 56 38.8**	**+0.2**
KNK	**Knik Glacier**	**1.76**	**129**	P	Pn	**17 56 38.9**	**+0.3**
	baz=311						
CAPN	**Captain Cook N**	**1.77**	**177**		Pn	**17 56 41.6**	**+2.8**
CAPN	**Captain Cook N**	**1.77**	**177**	P	Pn	**17 56 41.2**	**+2.4**
	baz=358						
M23K	**Glacier View**	**1.84**	**112**	P	Pn	**17 56 39.7**	**-0.1**
	baz=295			

comp=E,420nm,0.5s
J19K Poorman 2.44 309 P Pn 17 56 47.8 +0.4
baz=125
M24K Tolsona, Glenn 2.44 98 Pn 17 56 48.3 +0.8
M24K Tolsona, Glenn 2.44 98 IAML 17 57 34.0
comp=N,1µm,0.7s
M24K Tolsona, Glenn 2.44 98 P Pn 17 56 48.1 +0.6
baz=282
SVW2 Sparrevohn 2.48 236 Pn 17 56 48.5 +0.4
SVW2 Sparrevohn 2.48 236 IAML 17 57 19.4
comp=E,428nm,0.8s
MLY Manley 2.52 6 Pn 17 56 48.8 +0.2
MLY Manley 2.52 6 P Pn 17 56 48.8 +0.2
baz=186
L18K Granite Mounta 2.52 265 Pn 17 56 48.8 +0.2
L18K Granite Mounta 2.52 265 P Pn 17 56 48.7 +0.1
baz=80
O20K Slope Mountain 2.54 195 Pn 17 56 50.0 +1.0
O20K Slope Mountain 2.54 195 P Pn 17 56 50.1 +1.2
baz=14
SEW Seward 2.60 159 Pn Pn 17 56 50.6 +1.0
GLI Glacier Island 2.61 128 Pn Pn 17 56 49.3 -0.4
GLI Glacier Island 2.61 128 P Pn 17 56 49.3 -0.4
baz=311
J18K Innoko River 2.63 293 Pn 17 56 50.5 +0.4
J18K IAML 17 57 22.3
comp=E,344nm,0.7s
J18K Innoko River 2.63 293 P Pn 17 56 50.3 +0.2
baz=108
I20K Naaghedeneel 2.67 330 Pn 17 56 51.2 +0.6
I20K IAML 17 57 28.8
comp=N,882nm,0.6s
I20K IAML 17 57 30.0
comp=E,868nm,0.7s
I20K Naaghedeneel 2.67 330 P Pn 17 56 51.1 +0.5
baz=147
I21K Tanana 2.67 354 Pn 17 56 51.1 +0.6
ILSW Iliamna Southw 2.71 200 Pn 17 56 51.3 +0.1
HDA Harding Lake 2.72 44 Pn 17 56 51.7 +0.5
HDA IAML 17 57 27.7
comp=E,685nm,0.5s
HDA Harding Lake 2.72 44 P Pn 17 56 51.7 +0.5
baz=228
PAX Paxson 2.73 78 Pn 17 56 52.1 +0.8
PAX Paxson 2.73 78 P Pn 17 56 52.3 +0.9
baz=263
KLU Klutina 2.75 110 Pn 17 56 51.2 -0.5
KLU IAML 17 57 37.6
comp=N,855nm,0.6s
KLU IAML 17 57 41.8
comp=E,626nm,0.7s
KLU Klutina 2.75 110 P Pn 17 56 51.2 -0.5
baz=295
O19K Port Alsworth 2.76 213 Pn 17 56 52.4 +0.7
O19K IAML 17 57 25.4
comp=N,870nm,0.4s
O19K IAML 17 57 26.4
comp=E,621nm,0.4s
I23K Minto, Yukon-K 2.76 17 Pn 17 56 52.1 +0.4
I23K Minto, Yukon-K 2.76 17 P Pn 17 56 52.1 +0.4
baz=199
BRLK Bradley Lake 2.79 176 Pn 17 56 53.3 +1.2
BRLK Bradley Lake 2.79 176 IAML 17 57 33.2
comp=E,338nm,0.7s
BRLK IAML 17 57 35.0
comp=N,371nm,0.4s
MDM Murphy Dome 2.79 28 Pn 17 56 52.6 +0.4
MDM IAML 17 57 25.3
comp=E,630nm,0.8s
MDM IAML 17 57 26.5
comp=N,513nm,0.8s
COLA College 2.81 32 Pn 17 56 53.1 +0.7
BRSE Bradley Lake S 2.82 174 Pn 17 56 53.3 +0.8
BRSE Bradley Lake S 2.82 174 P Pn 17 56 53.3 +0.8
baz=355
K24K Donnelly Dome 2.82 61 Pn 17 56 53.9 +1.3
K24K Donnelly Dome 2.82 61 P Pn 17 56 53.9 +1.3
baz=246
HARP HAARP 2.86 90 Pn 17 56 54.0 +0.8
HARP HAARP 2.86 90 P Pn 17 56 54.1 +0.9
baz=275
N18K Kilae Creek 2.87 232 Pn Pn 17 56 53.8 +0.6
N18K IAML 17 57 26.4
comp=E,253nm,0.6s
N18K Kilae Creek 2.87 232 P Pn 17 56 53.8 +0.6
baz=48
HOM Homer 2.89 183 Pn 17 56 56.6 +3.1
HOM IAML 17 57 38.5
comp=N,702nm,0.5s
FID Port Fidalgo 2.92 126 Pn 17 56 53.3 -0.6
DIV Divide 2.98 116 Pn 17 56 53.8 -0.9
IL31 2.99 39 Pn Pn 17 56 55.3 +0.5
ILAR Eielson Array 2.99 39 P Pn 17 56 55.0 +0.2
comp=N,71nm,0.5s,baz=223,slow=14,SNR=753
ILAR S Sn 17 57 27.9 -1.9
comp=N,59nm,0.4s,baz=219,slow=26,SNR=5.3
IL03 Eielson Array 3.00 40 Pn Pn 17 56 55.7 +0.7
CNPM China Poot 3.02 179 Pn 17 56 55.7 +0.4
CNPM China Poot 3.02 179 IAML 17 57 39.3
comp=E,338nm,0.7s
CNPM IAML 17 57 40.0
comp=N,308nm,0.5s
P19K Oil Pt 3.04 199 Pn 17 56 56.3 +0.8
P19K Oil Pt 3.04 199 IAML 17 58 08.4
comp=E,238nm,0.5s
P19K IAML 17 58 12.2
comp=N,246nm,1.0s
P19K Oil Pt 3.04 199 P Pn 17 56 56.3 +0.8
baz=17
M17K Holitna River 3.11 251 Pn Pn 17 56 56.3 -0.1
M17K IAML 17 57 34.9
comp=N,313nm,0.8s
M17K IAML 17 57 36.5
comp=E,528nm,0.8s
M17K Holitna River 3.11 251 P Pn 17 56 56.4 -0.1
baz=66
POKR Poker Plat Res 3.11 32 Pn 17 56 57.0 +0.6
POKR IAML 17 57 34.5
comp=N,402nm,0.6s
POKR IAML 17 57 35.3
comp=E,365nm,0.8s
POKR Poker Plat Res 3.11 32 P Pn 17 56 57.5 +1.1
baz=215
HIN Hinchinbrook I 3.15 131 Pn 17 56 56.6 -0.4
P23K Montague Islan 3.17 142 Pn 17 56 56.8 -0.4
H21K Melozitna Rive 3.20 349 Pn Pn 17 56 58.2 +0.6
H21K Melozitna Rive 3.20 349 P Pn 17 56 58.3 +0.6
baz=168
K17K Iditarod 3.23 276 Pn Pn 17 56 58.6 +0.6
K17K IAML 17 57 35.4
comp=E,430nm,0.8s
K17K IAML 17 57 35.6
comp=N,415nm,0.8s
K17K Iditarod 3.23 276 P Pn 17 56 58.7 +0.6
baz=90
L17K Donlin 3.28 266 P Pn 17 56 59.1 +0.4
baz=80
O18K Koktuh Hills 3.28 217 Pn Pn 17 56 59.5 +0.7
O18K Koktuh Hills 3.28 217 P Pn 17 56 59.7 +0.9
baz=33
N25K Chitina, Valde 3.29 103 Pn Pn 17 56 58.6 -0.4
N25K IAML 17 57 52.4
comp=E,275nm,0.6s
N25K IAML 17 57 52.4
comp=N,407nm,0.8s
N25K Chitina, Valde 3.29 103 P Pn 17 56 58.7 -0.3
baz=289
WACK Wrangell Chich 3.31 96 Pn 17 56 59.7 +0.3
EYAK Cordova Ski Ar 3.33 124 Pn 17 56 58.9 -0.4
EYAK Cordova Ski Ar 3.33 124 P Pn 17 56 58.7 -0.5
baz=309
GCSA Galena City Sc 3.33 314 Pn 17 57 00.1 +0.8
GCSA Galena City Sc 3.33 314 P Pn 17 57 00.3 +1.0
baz=129
H20K Anotleneega Mo 3.36 334 Pn 17 57 00.3 +0.5
H20K Anotleneega Mo 3.36 334 P Pn 17 57 00.4 +0.6
baz=151
H22K Ishtalitna Cre 3.37 360 P Pn 17 57 00.8 +0.9
baz=180
WAZA Wrangell Mount 3.38 95 Pn 17 57 00.9 +0.7
J25K Salcha River, 3.38 49 Pn Pn 17 57 00.6 +0.5
J25K IAML 17 57 44.7
comp=E,383nm,0.5s
J25K IAML 17 57 48.3
comp=N,507nm,0.6s
J25K Salcha River, 3.38 49 P Pn 17 57 00.4 +0.3
baz=234
H23K Yukon River 3.40 12 Pn 17 57 00.9 +0.7
H23K Yukon River 3.40 12 P Pn 17 57 00.9 +0.7
baz=194
WASW Wrangell South 3.40 97 Pn 17 57 00.9 +0.4
N17K Nushagak Hills 3.46 237 Pn Pn 17 57 01.6 +0.5
N17K Nushagak Hills 3.46 237 P Pn 17 57 01.6 +0.5
baz=52
DOT Dot Lake 3.48 68 Pn 17 57 01.8 +0.3
MENT Mentasta 3.52 80 Pn 17 57 02.3 +0.3
BMRM Bremner River 3.56 113 Pn 17 57 01.7 -0.7
BMRM Bremner River 3.56 113 P Pn 17 57 01.6 -0.8
baz=299
SCRK Sand Creek 3.62 63 Pn Pn 17 57 03.8 +0.5
SCRK IAML 17 57 50.4
comp=E,320nm,1.0s
SCRK IAML 17 57 51.6
comp=N,266nm,0.9s
SCRK Sand Creek 3.62 63 P Pn 17 57 03.8 +0.5
baz=250
H24K Noodor Dome 3.64 23 Pn Pn 17 57 03.8 +0.2
H24K Noodor Dome 3.64 23 P Pn 17 57 04.1 +0.5
baz=206
J17K VABM Dome 3.65 287 Pn Pn 17 57 03.8 +0.2
J17K IAML 17 57 44.8
comp=N,251nm,0.9s
J17K VABM Dome 3.65 287 P Pn 17 57 04.0 +0.4
baz=100
P18K Big Mountain, 3.68 213 Pn Pn 17 57 04.8 +0.6
P18K Big Mountain, 3.68 213 P Pn 17 57 05.1 +0.9
baz=30
L26K Log Cabin Wild 3.69 79 Pn Pn 17 57 05.0 +0.7
GLB Gilahina Butte 3.71 104 Pn Pn 17 57 04.2 -0.3
GLB IAML 17 58 00.1
comp=E,255nm,0.8s
GLB IAML 17 58 02.0
comp=N,380nm,0.7s
GOAT Goat Mountain 3.71 119 Pn 17 57 03.8 -0.7
H19K Roundabout Mou 3.76 325 Pn Pn 17 57 05.6 +0.5
H19K Roundabout Mou 3.76 325 P Pn 17 57 05.8 +0.7
baz=141
Q19K Cape Douglas, 3.79 199 Pn 17 57 06.5 +0.8
Q19K IAML 17 58 26.5
comp=N,227nm,0.9s
Q19K IAML 17 58 31.1
comp=E,376nm,1.0s
Q19K Cape Douglas, 3.79 199 P Pn 17 57 06.9 +1.3
baz=16
RAGM Ragged Mountai 3.85 121 Pn Pn 17 57 06.5 +0.2
M26K Nabesna, AK 3.87 88 Pn 17 57 06.5 -0.1
M26K IAML 17 58 11.2
comp=N,351nm,0.6s
M26K IAML 17 58 11.3
comp=E,241nm,0.6s
L16K Owhat River 3.92 261 Pn Pn 17 57 07.8 +0.5
L16K Owhat River 3.92 261 P Pn 17 57 07.8 +0.5
baz=74
PRP Porcupine Dome 3.93 38 Pn Pn 17 57 08.1 +0.6
PRP IAML 17 57 54.5
comp=E,157nm,0.6s
PRP IAML 17 57 54.8
comp=N,177nm,0.5s
PRP Porcupine Dome 3.93 38 P Pn 17 57 08.2 +0.6
baz=223
M16K Timber Creek 3.94 251 Pn Pn 17 57 07.6 +0.1
M16K IAML 17 57 54.3
comp=N,124nm,0.8s
M16K Timber Creek 3.94 251 P Pn 17 57 07.7 +0.2
baz=64
O17K Koliganek Bris 3.94 228 Pn 17 57 08.1 +0.6
Q23K Middleton Isla 3.94 140 Pn Pn 17 57 06.8 -0.8
Q23K IAML 17 58 37.5
comp=N,341nm,1.5s
Q23K IAML 17 58 49.8
comp=E,364nm,1.5s
VRDI Verde Repeater 3.95 106 Pn Pn 17 57 07.5 -0.4
VRDI IAML 17 58 07.9
comp=N,262nm,0.7s
VRDI IAML 17 58 09.3
comp=E,242nm,0.7s
Q20K Shuyak Island 3.97 188 P Pn 17 57 08.6 +0.6
baz=7.2
SYI Shuyak Island 3.97 188 Pn 17 57 08.6 +0.5
SYI IAML 17 58 03.2
comp=N,110nm,0.7s
J26L Joseph Creek 3.99 57 Pn Pn 17 57 09.2 +0.8
J26L Joseph Creek 3.99 57 P Pn 17 57 09.2 +0.8
baz=244
HMT Hamilton 4.04 120 Pn 17 57 08.4 -0.6
H18K Honhosa River 4.08 313 Pn Pn 17 57 10.2 +0.8
MCARA McCarthy VSAT 4.08 103 Pn 17 57 09.4 0.0
MCARA McCarthy VSAT 4.08 103 P Pn 17 57 09.5 0.0
baz=290
G21K Allakaket 4.11 348 Pn 17 57 10.8 +0.9
G21K IAML 17 57 58.9
comp=E,113nm,0.7s
G21K IAML 17 57 59.8
comp=N,102nm,0.8s
N16K Nishlik Lake 4.13 243 Pn 17 57 10.5 +0.4
N16K Nishlik Lake 4.13 243 P Pn 17 57 10.6 +0.4
baz=57
P17K Kvichak River 4.18 219 Pn 17 57 12.0 +1.2
G23K Bananza Creek 4.23 7 Pn Pn 17 57 12.5 +0.9
G23K IAML 17 58 00.8
comp=E,78nm,0.8s
G23K IAML 17 58 01.2
comp=N,111nm,0.7s
KAIM Kayak Island 4.24 125 Pn 17 57 11.9 +0.3
KAIM IAML 17 58 22.4
comp=N,288nm,2.7s
KAIM IAML 17 58 59.8
comp=E,233nm,2.7s
J16K Anvik River 4.31 284 Pn Pn 17 57 12.8 +0.2
J16K IAML 17 58 00.2
comp=N,87nm,0.8s
J16K IAML 17 58 01.0
comp=E,130nm,1.0s
L27K Beaver Creek, 4.39 79 Pn Pn 17 57 13.6 0.0
L27K IAML 17 58 27.4
comp=E,78nm,0.8s
L27K IAML 17 58 28.1
comp=N,116nm,1.1s
M27K Edge Creek, AK 4.39 88 Pn Pn 17 57 14.2 +0.5
M27K IAML 17 58 29.4
comp=N,181nm,1.2s
M27K IAML 17 58 42.5
comp=E,146nm,0.7s
SUCK Suckling Hills 4.39 121 Pn Pn 17 57 13.7 0.0
SUCK IAML 17 58 34.1
comp=E,194nm,1.1s
KHIT Khitrov Hills 4.40 115 Pn 17 57 13.2 -0.6
PTPK Patty Peak 4.40 104 Pn 17 57 13.6 -0.5
G19K Purcell Mounta 4.41 328 Pn Pn 17 57 14.4 +0.5
O16K Kokwok River B 4.42 231 Pn Pn 17 57 14.6 +0.5
K27K Chicken 4.43 66 Pn 17 57 14.5 +0.3
H25L Birch Creek 4.44 30 Pn 17 57 15.3 +1.0
GRIN Grindle Hills 4.46 117 Pn 17 57 14.4 -0.2
I17K Unalakleet 4.46 292 Pn Pn 17 57 15.4 +0.9
I17K IAML 17 58 04.6
comp=N,141nm,1.0s
I17K IAML 17 58 06.5
comp=E,245nm,1.1s
G24K Hadweenzic Riv 4.50 20 Pn Pn 17 57 15.9 +0.8
H17K Granite Mounta 4.52 306 Pn Pn 17 57 16.5 +1.1
H17K IAML 17 58 05.3
comp=N,92nm,0.7s
H17K IAML 17 58 07.2
comp=E,81nm,0.8s
I26K Coal Creek Min 4.55 49 Pn 17 57 17.0 +1.2
I26K IAML 17 58 38.6
comp=N,235nm,0.8s
KIAG Kiagna River 4.56 107 Pn 17 57 15.1 -0.9
WAX Waxell Ridge 4.56 113 Pn 17 57 15.7 -0.4
G18K Tagagawik 4.65 320 Pn Pn 17 57 18.1 +0.9
G18K IAML 17 58 12.1
comp=E,66nm,0.8s
ISLE Juniper Island 4.71 110 Pn 17 57 17.1 -1.0
SNH Sunshine Point 4.71 116 Pn Pn 17 57 17.8 -0.3
SNH IAML 17 58 13.2
comp=N,139nm,1.4s
SNH IAML 17 58 41.2
comp=E,175nm,0.6s
COLD Coldfoot 4.74 5 Pn Pn 17 57 19.4 +1.1
BARK Barkley Ridge 4.74 113 Pn 17 57 18.6 +0.1
K15K Wolf Creek Mou 4.76 272 Pn Pn 17 57 19.3 +0.7
K15K IAML 17 58 12.9
comp=N,100nm,0.8s
ACHA Angle Creek He 4.77 206 Pn 17 57 20.8 +1.9
F21K Alatna River 4.80 350 Pn Pn 17 57 20.0 +0.8
P16K Nushagak River 4.80 226 Pn 17 57 19.8 +0.6
G25K Bearman Lake 4.80 26 Pn 17 57 20.1 +0.9
KDAK Kodiak Island 4.81 188 Pn Pn 17 57 18.1 -1.2
KDAK IAML 17 58 30.9
comp=N,56nm,0.8s
KDAK Kodiak Island 4.81 188 P Pn 17 57 18.4 -0.9
comp=N,4.6nm,0.3s,baz=62,slow=8.7,SNR=21
KDAK S Sn 17 58 11.5 -2.2
comp=N,13nm,0.3s,baz=5.1,slow=18,SNR=6.4
BARN Barnard Glacie 4.81 104 Pn 17 57 19.6 0.0
BARN IAML 17 58 35.1
comp=E,136nm,0.7s
BARN IAML 17 58 38.7
comp=N,175nm,1.1s
ANCK Angle Creek 4.82 207 Pn 17 57 20.1 +0.6
FYU Fort Yukon 4.82 30 Pn Pn 17 57 19.9 +0.4
FYU IAML 17 58 57.3
comp=N,104nm,1.2s
FYU IAML 17 59 01.9
comp=E,94nm,1.1s
M15K Kasigluk River 4.84 252 Pn 17 57 19.9 +0.1
N15K Kwethluk River 4.84 245 Pn Pn 17 57 20.2 +0.4
N15K IAML 17 58 30.1
comp=N,74nm,1.0s
N15K IAML 17 58 43.4
comp=E,84nm,0.8s
L15K Ungalak Mounta 4.86 264 Pn 17 57 20.0 +0.1
F20K Avaraart Lake 4.91 339 Pn Pn 17 57 21.9 +1.3
F20K IAML 17 58 18.5
comp=E,111nm,0.7s
F20K IAML 17 58 20.4
comp=N,64nm,0.7s
YUK2 White River 4.97 94 Pn 17 57 21.6 0.0
CTGM Chitina Glacie 5.00 104 Pn 17 57 22.0 -0.1
CTGM IAML 17 58 21.3
comp=N,126nm,0.8s
CTGM IAML 17 58 42.3
comp=E,88nm,0.6s
F22K John River 5.01 356 Pn 17 57 23.1 +1.1
EGAK Eagle 5.05 59 Pn 17 57 23.1 +0.5
G17K Kiwalik Mounta 5.07 310 Pn 17 57 23.8 +0.9
MESA MESA 5.09 113 Pn 17 57 23.1 -0.1
F19K Shaleruckik Mo 5.13 330 Pn Pn 17 57 23.6 0.0
YUK3 Moose Creek 5.15 94 Pn 17 57 24.2 +0.1
LOGN Logan Glacier 5.20 105 Pn 17 57 24.6 -0.2
LOGN IAML 17 58 46.5
comp=N,125nm,0.9s
LOGN IAML 17 58 51.5
comp=E,96nm,1.3s
F24K Squaw Lake 5.21 15 Pn Pn 17 57 25.8 +1.0
I27K Kandik River 5.25 50 Pn 17 57 26.4 +1.0
H16K Elim 5.31 298 Pn 17 57 27.1 +1.0
O15K Ungalikthiuk R 5.35 235 Pn 17 57 27.4 +0.8
M14K Bethel 5.38 255 Pn Pn 17 57 27.6 +0.6
M14K IAML 17 58 60.0
comp=N,60nm,1.8s
M14K IAML 17 59 10.3
comp=E,58nm,1.6s
OHAK Old Harbor 5.42 191 Pn Pn 17 57 26.4 -1.3
F18K Selawik 5.43 322 Pn 17 57 28.5 +0.8
G26K Porcupine Rive 5.48 33 Pn 17 57 28.6 +0.3
L14K Kuka Creek 5.50 263 Pn Pn 17 57 29.2 +0.6
E19K Redstone River 5.54 336 Pn 17 57 30.5 +1.3
O28M Mount Upton 5.59 103 Pn 17 57 30.1 0.0
DAWY Dawson 5.59 69 Pn 17 57 30.4 +0.4
SAMH Samovar Hills 5.62 111 Pn 17 57 31.0 +0.6
F25K Christian Rive 5.62 23 Pn 17 57 30.9 +0.7
E22K Anaktuvuk Pass 5.63 358 Pn 17 57 31.8 +1.4
H27K Steamboat Moun 5.64 45 Pn 17 57 31.1 +0.5
G16K Koyuk River 5.64 305 Pn 17 57 30.1 -0.5
J14K Nanvaranak Lak 5.65 278 Pn Pn 17 57 31.0 +0.3
N14K Kuskokwak Cree 5.65 247 Pn 17 57 31.4 +0.7
E24K Your Creek 5.69 11 Pn Pn 17 57 32.6 +1.3
I28M Miner Creek 5.80 55 Pn Pn 17 57 33.7 +0.9
F17K Baldwin Pennin 5.81 317 Pn Pn 17 57 34.1 +1.2
O14K Tigyukauivet M 5.86 240 Pn Pn 17 57 34.2 +0.6
M29M Somme Creek 5.96 85 Pn Pn 17 57 35.4 +0.4
G27K Doyon Strip 5.96 40 Pn 17 57 35.4 +0.4
E21K Killik River 6.04 351 Pn 17 57 37.1 +1.2
L29M L29M 6.07 79 Pn Pn 17 57 36.3 -0.2
E20K Nigu River 6.10 343 Pn 17 57 38.9 +2.1
E25K Arctic Village 6.10 21 Pn 17 57 37.7 +0.8
M13K Dall Lake 6.15 295 Pn Pn 17 57 38.4 +0.8
SII Sitkinak Islan 6.17 195 Pn Pn 17 57 38.7 +0.9
J29N Klondike Camp 6.17 66 Pn 17 57 38.5 +0.7
TOLK Toolik Lake Re 6.18 6 Pn Pn 17 57 39.1 +1.3
BCPM Bancas Point 6.20 109 Pn 17 57 37.7 -0.6
K13K Kusilvak Mount 6.26 270 Pn 17 57 38.8 -0.2
E18K Tukpahlearik C 6.29 325 Pn 17 57 41.2 +1.9
YUK6 Outpost Mounta 6.36 99 Pn 17 57 40.3 -0.3
K29M Barlow Dome 6.38 72 Pn Pn 17 57 40.5 -0.2
I29M Ogilvie Camp, 6.39 58 Pn 17 57 40.5 -0.3
E17K Hotham Inlet 6.39 320 Pn 17 57 41.5 +0.7
D22K Ayikyak River 6.40 356 Pn Pn 17 57 42.6 +1.7
YKU2 Yakutat 6.42 113 Pn Pn 17 57 42.8 +1.7
PNL Peninsula 6.45 111 Pn 17 57 41.7 +0.1
D20K Etivluk River 6.58 343 Pn 17 57 44.9 +1.6
ANM Nome 6.60 294 Pn Pn 17 57 45.0 +1.4
D19K Kuna River 6.62 338 Pn 17 57 45.5 +1.6
F15K North Star Dit 6.64 304 Pn Pn 17 57 45.1 +0.9
M30M Minto, Yukon 6.71 83 Pn Pn 17 57 45.7 +0.5
H29M Whitestone 6.72 51 Pn Pn 17 57 45.7 +0.5
D24K Happy Valley 6.73 8 Pn Pn 17 57 45.0 -0.2
N30M Aishikik Lake 6.79 93 Pn 17 57 45.7 -0.5
HYT Haines Junctio 6.79 98 Pn Pn 17 57 46.0 -0.4
C21K Knifeblade Rid 6.80 349 Pn 17 57 48.2 +1.9
E27K Coleen River 6.97 31 Pn Pn 17 57 49.3 +0.6
J30M Hart River 7.00 66 Pn Pn 17 57 49.9 +0.8
F28M Old Crow 7.02 38 Pn Pn 17 57 49.0 -0.3
CHIR Chirikof Islan 7.08 200 Pn Pn 17 57 49.4 -0.8
D25K Kavik River 7.11 14 Pn 17 57 51.4 +0.9
I30M Mount Dempster 7.12 61 Pn Pn 17 57 50.1 -0.7
G29M Pine Creek 7.18 47 Pn Pn 17 57 50.8 -0.8
P29M Windy Craggy 7.20 108 Pn 17 57 51.9 +0.1
CHGN Chignik 7.22 213 Pn Pn 17 57 52.2 +0.2
F14K Arctic Creek 7.22 301 Pn 17 57 52.7 +0.7
B21K Ikpikpuk River 7.24 351 Pn 17 57 52.7 +0.4
C24K Franklin Bluff 7.29 7 Pn 17 57 53.3 +0.3
P30M Million Dollar 7.32 103 Pn 17 57 53.6 +0.2
C23K Itkillik River 7.34 2 Pn Pn 17 57 54.5 +0.9
C18K Utukok River 7.37 331 Pn Pn 17 57 54.9 +0.8
EPYK Eagle Plains 7.38 52 Pn 17 57 54.5 +0.3
N31M Braeburn, Yuko 7.39 91 Pn Pn 17 57 53.0 -1.3
C19K Lookout Ridge 7.41 336 Pn Pn 17 57 52.7 -1.9
O30N Mendenhall 7.46 97 Pn 17 57 54.4 -1.0
C17K DeLong Mountai 7.72 326 Pn 17 58 00.6 +1.7
C27K Jago River 7.76 20 Pn 17 58 01.3 +2.0
E28M Babbage River 7.79 34 Pn 17 57 59.2 -0.6
G30M tAoh Zraii Nji 7.83 49 Pn Pn 17 57 59.7 -0.7
C26K Camden Bay 7.85 16 Pn 17 58 02.6 +2.1
B20K Meade River 7.86 345 Pn Pn 17 58 01.0 +0.3
M31M Drury Creek, Y 7.88 85 Pn 17 58 00.5 -0.5
TNA Tin City 7.88 300 Pn Pn 17 58 02.7 +1.7
B22K Teshekpuk Lake 7.89 355 Pn 17 58 01.5 +0.5
D27M Malcolm River 7.95 28 Pn Pn 17 58 02.7 +0.7
WHY Whitehorse 8.06 96 Pn Pn 17 58 02.3 -1.3
B18K Kokolik River 8.07 333 Pn 17 58 04.7 +1.1
E29M Blow River 8.09 38 Pn Pn 17 58 04.5 +0.7
H31M Peel River 8.10 59 Pn Pn 17 58 04.0 0.0
C16K Lisburne Hills 8.19 321 Pn Pn 17 58 05.3 0.0
F30M Barrier River 8.29 45 Pn 17 58 07.2 +0.7
G31M Satah River 8.50 51 Pn 17 58 08.9 -0.5
A22K Sinclair Lake 8.63 352 Pn 17 58 11.5 +0.4
N32M Quiet Lake 8.73 91 Pn Pn 17 58 11.7 -0.9
S31K Pelican 8.78 115 Pn Pn 17 58 12.5 -0.7
S12K Black Hills 8.79 224 Pn Pn 17 58 14.0 +0.5
F31M Tsiigehtchic 8.90 49 Pn Pn 17 58 14.8 -0.1
BESE Bessie Mountai 9.02 109 Pn Pn 17 58 15.7 -0.8
P32M Atlin 9.02 101 Pn Pn 17 58 15.7 -0.9
P33M Teslin, Yukon 9.17 96 Pn Pn 17 58 17.9 -0.8
MMPY Sheldon Lake, 9.25 81 Pn Pn 17 58 19.0 -0.7
GAMB Gambell 9.30 287 Pn Pn 17 58 19.4 -0.8
R32K Eaglecrest 9.33 110 Pn Pn 17 58 20.4 -0.4
INK Inuvik 9.38 44 Pn Pn 17 58 22.5 +1.2
INK Inuvik 9.38 44 P Pn 17 58 22.1 +0.8
comp=E,5.2nm,0.5s,baz=223,slow=21,SNR=15
INK S Sn 18 00 01.9 -2.8

comp=E,3.4nm,0.6s,baz=264,slow=19,SNR=2.1
JIS Juneau Island 9.39 109 Pn **Pn** **17 58 20.2 -1.3**
SIT Sitka 9.73 117 Pn **Pn** **17 58 25.3 -0.9**
S32K Killisnoo 9.79 114 Pn **Pn** **17 58 26.6 -0.3**
R33M Jennings River 10.36 99 Pn **Pn** **17 58 35.0 0.0**
DLBC Dease Lake 11.25 102 P **Pn** **17 58 48.5 +1.6**
comp=E,0.7nm,0.4s,baz=350,slow=9.2,SNR=1.4
U33K Whale Pass 11.27 117 Pn **Pn** **17 58 46.4 -0.7**
T35M Bob Quinn 11.96 108 Pn **Pn** **17 58 55.9 -0.4**
C36M Paulatuk 12.94 47 Pn **Pn** **17 59 06.7 -2.4**
YKA Yellowknife Ar 16.80 74 P **P** **17 59 58.3 -0.6**
comp=E,1.2nm,0.8s,baz=285,slow=10,SNR=14
PETK Petropavlovsk- 28.01 274 P **P** **18 01 49.7 -1.0**
comp=E,1.3nm,0.8s,baz=57,slow=5.3,SNR=2.2
comp=E,1.3nm,0.8s
PDAR Pinedale Array 31.34 109 P **P** **18 02 21.8 +1.3**
comp=E,0.4nm,0.4s,baz=319,slow=6.1,SNR=6.4
comp=E,0.4nm,0.4s
NVAR Mina Array Bea 31.37 125 P **P** **18 02 22.7 +1.9**
comp=E,0.7nm,0.7s,baz=323,slow=8.6,SNR=4.9
NVAR PcP **PcP** **18 05 13.4 +1.3**
comp=E,0.6nm,0.6s,baz=287,slow=2.2,SNR=5.8
comp=E,0.7nm,0.7s
SPITS Spitsbergen Ar 39.33 4 P **P** **18 03 28.3 +0.1**
comp=E,1.8nm,0.3s,baz=15,slow=6.9,SNR=25
comp=E,1.8nm,0.3s
SCHQ Schefferville 41.54 60 P **P** **18 03 47.7 +1.0**
comp=E,1.6nm,0.9s,baz=287,slow=20,SNR=1.5
comp=E,1.6nm,0.9s
ARCES ARCESS Array B 48.20 1 P **P** **18 04 39.1 -0.2**
comp=E,1.7nm,0.9s,baz=3.1,slow=9.0,SNR=3.5
comp=E,1.7nm,0.9s
KSRS Korea Array 53.43 282 P **P** **18 05 20.1 +1.2**
comp=E,0.7nm,0.5s,baz=39,slow=7.1,SNR=5.3
comp=E,0.7nm,0.5s
SONM Songino Array 53.97 306 P **P** **18 05 23.8 +1.0**
comp=E,0.2nm,0.4s,baz=58,slow=8.7,SNR=1.8
comp=E,0.2nm,0.4s
ZALV Zalesovo Beam 55.81 324 P **P** **18 05 36.2 +0.4**
comp=E,0.5nm,0.4s,baz=34,slow=7.4,SNR=2.8
comp=E,0.5nm,0.4s
NOA NORSAR Array B 56.03 10 P **P** **18 05 36.5 -0.9**
comp=E,0.2nm,0.5s,baz=350,slow=7.0,SNR=1.9
comp=E,0.2nm,0.5s
FINES FINESS Array B 56.33 2 P **P** **18 05 38.8 -0.6**
comp=E,0.9nm,0.5s,baz=12,slow=9.8,SNR=7.4
comp=E,0.9nm,0.5s
EKA Eskdalemuir Ar 59.86 20 P **P** **18 06 04.0 -0.2**
comp=E,0.3nm,0.3s,baz=329,slow=5.5,SNR=8.7
comp=E,0.3nm,0.3s
BVAR Borovoye Array 60.20 332 P **P** **18 06 05.9 -0.6**
comp=E,0.9nm,0.5s,baz=39,slow=9.3,SNR=4.4
comp=E,0.9nm,0.5s
KURBB Kurchatov Arra 60.49 326 P **P** **18 06 07.9 -0.6**
comp=E,1.6nm,0.2s,baz=34,slow=6.4,SNR=4.6
comp=E,1.6nm,0.2s
MKAR Makanchi Array 62.95 322 P **P** **18 06 24.7 -0.4**
comp=E,0.7nm,0.4s,baz=37,slow=6.8,SNR=19
comp=E,0.7nm,0.4s
AKASG Malin Array Be 67.11 360 P **P** **18 06 51.2 -0.7**
comp=E,0.7nm,0.3s,baz=0.8,slow=6.1,SNR=6.7
comp=E,0.7nm,0.3s
ESDC Sonseca Array 74.81 26 P **P** **18 07 39.0 +0.3**
comp=E,0.5nm,0.7s,baz=327,slow=2.1,SNR=3.0
comp=E,0.5nm,0.7s
BRTR Keskin Array B 78.01 356 P **P** **18 07 57.3 +0.4**
comp=E,0.4nm,0.6s,baz=353,slow=4.3,SNR=2.4
comp=E,0.4nm,0.6s
BOSA Boshof 146.00 5 PKPbc **PKPab** **18 15 37.2 -0.9**
comp=E,1.1nm,0.7s,baz=348,slow=2.2,SNR=3.9
QSPA South Pole Qui 152.34 180 PKPbc **PKiKP** **18 15 52.5 +0.1**
comp=E,1.3nm,0.5s,baz=130,slow=10,SNR=16

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*IDC **25** 18:00:59.2±1.2, 12.°40S×45.°44E, h0km, mb3.8/4, mbtmp3.8/4, Error ellipse: s-maj=59.1km s-min=29.5km az=127.0*
*NEIC **25** 18:00:59.6±1.7, 12.°63S±0.°09×45.°8E±0.°2, h10km±2km, mb4.4/4, Error ellipse: s-maj=29.2km s-min=14.9km az=259.0*
ISC 25 18:01:00.0±0.9, 12.°6S±0.°1×45.°7E±0.°1, h10km, n12, σ1§33/12, mb4.2/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.52**	**167**			**Pn**	**18 02 35.1**	**-1.1**
ABPO					Sn	Sn	18 03 41.2	-10
VOI	**Vohitsoka**	**9.29**	**174**		Pn	**Pn**	**18 03 12.8**	**-1.3**
KIBK	**Kibwezi**	**12.72**	**323**		Pn	**Pn**	**18 04 00.2**	**-1.0**
RER	**Riviere de l'E**	**12.82**	**133**		Pn	**Pn**	**18 04 01.1**	**-1.5**
LBTB	**Lobatse**	**22.62**	**234**		P	**P**	**18 06 01.6**	**+0.3**
BOSA	**Boshof**	**24.80**	**227**		P	**P**	**18 06 23.2**	**+0.6**
BOSA					IAmb	IAmb	18 06 42.2	
comp=Z,13nm,1.4s								
BOSA	**Boshof**	**24.80**	**227**		P	**P**	**18 06 23.1**	**+0.5**
comp=Z,1.3nm,0.5s,baz=54,slow=8.6,SNR=7.4								
comp=Z,1.3nm,0.5s								
SUR	**Sutherland**	**30.11**	**225**		P	**P**	**18 07 11.1**	**+1.0**
MAKZ	**Makanchi**	**67.51**	**26**		P	**P**	**18 11 55.1**	**-1.2**
MAKZ					IAmb	IAmb	18 12 39.5	
comp=Z,1.4nm,0.5s								
MKAR	**Makanchi Array**	**67.64**	**26**		P	**P**	**18 11 56.9**	**-0.2**
comp=Z,0.1nm,0.3s,baz=216,slow=8.3,SNR=4.3								
comp=Z,0.1nm,0.3s								
KURBB	**Kurchatov Arra**	**69.21**	**22**		P	**P**	**18 12 07.5**	**+0.6**
comp=Z,0.7nm,0.2s,baz=223,slow=7.4,SNR=1.5								
comp=Z,0.7nm,0.2s								
ASAR	**Alice Springs**	**83.42**	**113**		P	**P**	**18 13 30.9**	**+2.5**
comp=Z,0.4nm,0.6s,baz=263,slow=4.4,SNR=8.1								
comp=Z,0.4nm,0.6s								

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*NEIC **25** 18:04:30.7±0.8, 19.°410N±0.°010×155.°285W±0.°008, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.6km az=131.0*
HVO 25 18:04:30.1±0.8, 19.°413N±0.°010×155.°285W±0.°006, h1km±4km, ML2.8/39, ML2.6/42(NEIC), Error ellipse: s-maj=1.5km s-min=0.8km az=165.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**9**			Pg	18 04 31.2	+0.7
UWE	**Uwekahuna**	**0.01**	**317**			Pg	18 04 30.9	+0.3
UWB	**Uwekahuna B**	**0.01**	**28**			Pg	18 04 31.4	+0.9
RIM	**Rim**	**0.02**	**150**			Pg	18 04 31.8	+1.2
SBLHI	**Steaming Bluff**	**0.02**	**48**			Pg	18 04 31.9	+1.2
BYL	**Byron's Ledge**	**0.02**	**92**			Pg	18 04 31.2	+0.5
KKO	**Keanakako`i**	**0.02**	**130**			Pg	18 04 31.8	+1.2
HATHI	**Halema'uma'u T**	**0.03**	**66**			Pg	18 04 31.3	+0.6
RSD	**Rainshed**	**0.05**	**7**			Pg	18 04 31.9	+0.7
RSD				IAML			18 04 32.7	
comp=E,4μm,0.2s								
RSD				IAML			18 04 32.8	
comp=N,5μm,0.3s								
PUH	**Pauahi**	**0.08**	**121**			Pg	18 04 32.5	+0.8
KNHH	**Kane Nui o Ham**	**0.11**	**107**			Pg	18 04 33.2	+0.9
HLP	**Hilina Pali**	**0.12**	**191**			Pg	18 04 33.3	+0.9
HLP				IAML			18 04 36.1	
comp=E,4μm,0.5s								
HLP				IAML			18 04 36.4	
comp=N,2μm,0.6s								
MLH	**Mauna Loa**	**0.12**	**310**			Pg	18 04 33.7	+1.1
STCH	**Steam Cracks**	**0.15**	**100**			Pg	18 04 33.8	+0.7
STCH				IAML			18 04 38.2	
comp=N,1μm,0.6s								
NPOC	**North of Pu'u**	**0.17**	**97**			Pg	18 04 34.1	+0.7
JCUZ	**Jacuzzi**	**0.17**	**99**			Pg	18 04 34.2	+0.7
HTC	**Hot Caves**	**0.20**	**211**			Pg	18 04 34.9	+0.8
JOKA	**Jonika Flow**	**0.27**	**85**			Pg	18 04 35.6	+0.4
JOKA				IAML			18 04 44.1	
comp=E,532nm,0.8s								
JOKA				IAML			18 04 44.2	
comp=N,789nm,0.9s								
HMH	**Humu'ula Sheep**	**0.27**	**315**			Pg	18 04 36.1	+0.8
HMH				IAML			18 04 44.4	
comp=N,1μm,0.5s								
HMH				IAML			18 04 45.0	
comp=E,2μm,0.3s								
MLOA	**Mauna Loa Obse**	**0.30**	**294**			Pg	18 04 36.6	+0.7
MLOA				IAML			18 04 46.5	
comp=E,1μm,0.6s								
MWH	**Moku'aweowe**	**0.30**	**284**			Pg	18 04 36.8	+0.9
KHU	**Kahuku**	**0.35**	**242**			Pg	18 04 37.4	+0.5
KHU				IAML			18 04 44.6	
comp=E,812nm,0.4s								
KHU				IAML			18 04 48.8	
comp=N,656nm,1.0s								
ALEP	**Alea Permanent**	**0.36**	**291**			Pg	18 04 37.6	+0.5
POHA	**Pohakuloa**	**0.41**	**326**			Pg	18 04 38.6	+0.5
HUH	**Hualalai**	**0.59**	**298**			Pg	18 04 41.8	+0.4
CPH	**Captain Cook**	**0.60**	**277**			Pg	18 04 41.6	-0.1
HPAH	**Hawaii Prepara**	**0.73**	**328**			Pg	18 04 42.3	-1.8
HPAH				IAML			18 05 05.3	
comp=E,264nm,1.1s								
HPAH				IAML			18 05 05.3	
comp=N,233nm,1.5s								
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg		18 04 46.6	-2.0

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*NEIC **25** 18:29:52.4±1.0, 19.°420N±0.°007×155.°304W±0.°007, h1km±4km, Error ellipse: s-maj=1.1km s-min=0.9km az=201.0*
HVO 25 18:29:51.6±0.8, 19.°416N±0.°007×155.°289W±0.°007, h0km±3km, ML2.8/35, ML2.6/39(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=208.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**73**			Pg	18 29 52.5	+0.7
UWE	**Uwekahuna**	**0.01**	**325**			Pg	18 29 52.1	+0.2
NPH	**North Pit**	**0.01**	**117**			Pg	18 29 52.5	+0.6
UWB	**Uwekahuna B**	**0.01**	**51**			Pg	18 29 52.8	+0.9
SBLHI	**Steaming Bluff**	**0.02**	**61**			Pg	18 29 53.5	+1.4
RIM	**Rim**	**0.03**	**145**			Pg	18 29 53.8	+1.7
BYL	**Byron's Ledge**	**0.03**	**98**			IAML	18 29 52.6	
comp=E,9μm,1.4s								
BYL						Pg	18 29 52.8	+0.7
HATHI	**Halema'uma'u T**	**0.03**	**75**			Pg	18 29 52.8	+0.7
KKO	**Keanakako`i**	**0.03**	**130**			Pg	18 29 53.9	+1.7
RSD	**Rainshed**	**0.05**	**13**			Pg	18 29 53.1	+0.6
PUH	**Pauahi**	**0.08**	**121**			Pg	18 29 54.1	+1.0
PUH				IAML			18 29 55.6	
comp=E,2μm,0.6s								
KNHH	**Kane Nui o Ham**	**0.12**	**108**			Pg	18 29 54.7	+0.8
MLH	**Mauna Loa**	**0.12**	**310**			Pg	18 29 55.3	+1.4
MLH				IAML			18 29 56.9	
comp=E,2μm,0.5s								
MLH				IAML			18 29 58.3	
comp=N,1μm,0.6s								
HLP	**Hilina Pali**	**0.12**	**188**			Pg	18 29 55.0	+1.0
HLP				IAML			18 29 57.5	
comp=N,2μm,0.8s								
HLP				IAML			18 29 57.6	
comp=E,2μm,0.5s								
STCH	**Steam Cracks**	**0.16**	**101**			Pg	18 29 55.5	+0.9
STCH				IAML			18 29 59.8	
comp=N,2μm,1.0s								
NPOC	**North of Pu'u**	**0.17**	**98**			Pg	18 29 55.9	+1.0
JCUZ	**Jacuzzi**	**0.18**	**100**			Pg	18 29 56.3	+1.2
HTC	**Hot Caves**	**0.20**	**210**			Pg	18 29 56.6	+1.1
HMH	**Humu'ula Sheep**	**0.26**	**315**			Pg	18 29 57.7	+1.0
HMH				IAML			18 30 04.3	
comp=N,1μm,0.7s								
HMH				IAML			18 30 05.3	
comp=E,1μm,0.8s								
JOKA	**Jonika Flow**	**0.27**	**86**			Pg	18 29 57.6	+0.9
JOKA				IAML			18 30 03.5	
comp=E,552nm,1.3s								
JOKA				IAML			18 30 04.2	
comp=N,2μm,1.3s								
MLOA	**Mauna Loa Obse**	**0.30**	**294**			Pg	18 29 58.2	+0.9
MLOA				IAML			18 30 07.1	
comp=E,1μm,1.1s								
MLOA				IAML			18 30 07.7	
comp=N,1μm,0.7s								
MWH	**Moku'aweowe**	**0.30**	**283**			Pg	18 29 57.9	+0.6
PAH	**Pahoa**	**0.33**	**76**			Pg	18 29 58.2	+0.3
KHU	**Kahuku**	**0.35**	**241**			Pg	18 29 59.0	+0.7
KHU				IAML			18 30 06.8	
comp=E,648nm,0.8s								
KHU				IAML			18 30 06.8	
comp=N,849nm,0.7s								
ALEP	**Alea Permanent**	**0.36**	**290**			Pg	18 29 59.3	+0.8
HPO	**Honuapo**	**0.41**	**218**	Pg	Pg	Pg	18 29 57.6	-1.9
POHA	**Pohakuloa**	**0.41**	**326**			Pg	18 30 00.4	+0.9
HUH	**Hualalai**	**0.58**	**298**			Pb	18 30 03.8	-1.0
CPH	**Captain Cook**	**0.60**	**277**			Pb	18 30 04.2	-0.8
HPAH	**Hawaii Prepara**	**0.72**	**328**			Pg	18 30 04.4	-1.1
MHA	**Mahukona**	**0.96**	**323**	Pg	Pg	Pg	18 30 05.6	-4.5

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*MOS **25** 18:42:30.7±2.5, 43.°71N×146.°87E, h83km, mb4.6/1, Error ellipse: s-maj=16.5km s-min=15.1km az=117.1*
MOS Felt (III) at Malokuril'skoye.
*JMA **25** 18:42:31.6±0.2, 43.°5N±0.°8×147.°7E±.°, h56km±4km, MV3.7/30, E OFF HOKKAIDO*
*SKHL **25** 18:42:32.0±0.1, 43.°60N×147.°10E, h65km±4km, mb5.3/2*
ISC 25 18:42:30.8±1.4, 43.°53N±0.°07×147.°10E±0.°07, h59km, 9km, n28, σ1§08/43, 1C-4D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
SHO	**Shikotan**	**0.39**	**330**		*i* P	**Pn**	**18 42 41.9**	**+0.3**
SHO					AMB	AMB	18 42 42.1	
2μm,0.2s								
SHO					*e*S	**Sn**	**18 42 49.4**	**0.0**
SHO					A	A	18 42 49.8	
3μm,0.2s								
SHO					A	A	18 42 49.8	
9μm,0.2s								
SHO	**Shikotan**	**0.39**	**330**	⇓	*i* PN	**Pn**	**18 42 41.9**	**+0.3**
SHO					*e*S	**Sn**	**18 42 49.4**	**0.0**
SHO					pmax	pmax		
comp=N,288nm,0.1s								
SHO					pmax	pmax		
comp=E,653nm,0.1s								
SHO					pmax	pmax		
comp=Z,2μm,0.1s								
SHO					smax	smax		
comp=N,3μm,0.2s								
SHO					smax	smax		
comp=E,9μm,0.2s								
NEM2	**Nemuro 2**	**1.00**	**261**		*i* P	**Pn**	**18 42 49.1**	**+0.3**
NEM2					*e*S	**Sn**	**18 43 01.9**	**-0.2**
NMR	**Nemuro--Hokkai**	**1.01**	**261**		*i* P	**Pn**	**18 42 49.1**	**+0.1**
NMR					*e*S	**Sn**	**18 43 01.9**	**-0.5**
NMR	**Nemuro--Hokkai**	**1.01**	**261**	⇓	*i* PN	**Pn**	**18 42 49.1**	**+0.1**
NMR					*e*S	**Sn**	**18 43 01.9**	**-0.5**
YUK	**Yuzh-Kuril'sk**	**1.03**	**300**		*i* P	**Pn**	**18 42 49.1**	**-0.2**
YUK					AMB	AMB	18 42 49.5	
comp=E,710nm,0.2s								
YUK					*e*S	**Sn**	**18 43 02.0**	**-0.8**
YUK					A	A	18 43 04.1	
comp=E,2μm,0.2s								
YUK					A	A	18 43 04.1	
comp=E,2μm,0.2s								
YUK	**Yuzh-Kuril'sk**	**1.03**	**300**	*d*	*i* PN	**Pn**	**18 42 49.0**	**-0.2**
YUK					*e*S	**Sn**	**18 43 02.0**	**-0.8**
YUK					pmax	pmax		
comp=N,197nm,0.1s								
YUK					pmax	pmax		
comp=Z,713nm,0.1s								
YUK					smax	smax		
comp=N,2μm,0.1s								
YUK					smax	smax		
comp=E,2μm,0.1s								
RUSJ	**Misakicho**	**1.46**	**294**	⇓	*i* PN	**Pn**	**18 42 55.6**	**+0.7**
RUSJ					*e*S	**Sn**	**18 43 14.4**	**+1.3**
JKHN	**Kushirohamanak**	**1.49**	**253**		P	**Pn**	**18 42 56.1**	**+0.8**
JKHN					*e*S	**Sn**	**18 43 13.8**	**+0.1**
JRA	**Rausu**	**1.49**	**287**		P	**Pn**	**18 42 56.0**	**+0.6**
JRA					*e*S	**Sn**	**18 43 14.0**	**+0.2**
JNSB	**Nemuroshibetsu**	**1.54**	**280**		*e*P	**Pn**	**18 42 56.8**	**+0.7**
JNSB					*e*S	**Sn**	**18 43 15.3**	**+0.3**
AKK	**Akkeshi**	**1.73**	**254**		*e*P	**Pn**	**18 42 59.1**	**+0.5**
JNK	**Nakash**	**1.73**	**273**		*e*P	**Pn**	**18 42 58.9**	**+0.3**
KUR	**Kuril'sk**	**1.79**	**18**		*e*P	**Pn**	**18 42 59.8**	**+0.4**
KUR					*i* S	**Sn**	**18 43 20.5**	**-0.6**
KUR					A	A	18 43 21.6	
comp=E,390nm,0.2s								
KUR					A	A	18 43 21.6	
comp=E,750nm,0.2s								
KUR	**Kuril'sk**	**1.79**	**18**		PN	**Pn**	**18 42 59.8**	**+0.4**
KUR					*i* S	**Sn**	**18 43 20.4**	**-0.6**
KUR					smax	smax		
comp=N,393nm,0.2s								
KUR					smax	smax		
comp=E,329nm,0.2s								
JAK	**Akkeshi**	**1.84**	**254**		*e*P	**Pn**	**18 43 00.4**	**+0.4**
JAK					*e*S	**Sn**	**18 43 21.5**	**-0.7**
JTKR	**Abashiri--Toko**	**2.36**	**282**		*e*P	**Pn**	**18 43 08.4**	**+1.3**
JAR	**Ashorobuto**	**2.44**	**266**		*e*P	**Pn**	**18 43 09.5**	**+1.3**
JOB	**Onbets**	**2.47**	**256**		P	**Pn**	**18 43 09.6**	**+1.0**
JOB					*e*S	**Sn**	**18 43 37.5**	**-0.1**
JCH	**Churui**	**2.89**	**253**		P	**Pn**	**18 43 15.1**	**+0.7**
ERM	**Erimo**	**3.28**	**244**	*c*	*i* PN	**Pn**	**18 43 22.3**	**+2.6**
ERM					*i* S	**Sn**	**18 43 55.8**	**-1.6**
ERM					pmax	pmax		
comp=Z,74nm,1.9s								
ERM					smax	smax		
comp=Z,68nm,1.4s								
YSS	**Yuzh-Sakhalins**	**4.60**	**320**		*e*P	**Pn**	**18 43 39.8**	**+2.0**
YSS	**Yuzh-Sakhalins**	**4.60**	**320**		*e*PN	**Pn**	**18 43 39.8**	**+2.0**
YSS					pmax	pmax		
comp=Z,10.0nm,0.9s								
MAJO	**Matsushiro**	**9.75**	**227**		*i* PN	**Pn**	**18 44 49.7**	**+1.3**
USA0B	**Ussuriysk Arra**	**10.94**	**279**		*i* PN	**Pn**	**18 45 00.9**	**-3.6**
KLR	**Kul'dur**	**12.03**	**304**		*i* PN	Pn	18 45 13.5	-5.9
KLR					pmax	pmax		
comp=Z,1.0nm,1.3s								
MKAR	**Makanchi Array**	**44.66**	**298**		*e*P	**P**	**18 50 37.0**	**-0.5**
MKAR	**Makanchi Array**	**44.66**	**298**		*i* P	**P**	**18 50 37.0**	**-0.5**

NOU 25 18:43:03.6, 16.°99S×167.°82E, h11km, MLv4.3/13, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**0.81**	**154**		P	Pn	18 43 20.6	-0.4
LIFNC	**LIFOU**	**3.81**	**188**		P	Pn	18 44 01.7	-0.5
MARNC	**Mare, Loyalty**	**4.47**	**177**		P	Pn	18 44 11.2	-0.2
KOUNC	**Koumac, New Ca**	**4.87**	**223**		P	Pn	18 44 16.8	-0.1
YATNC	**Mamie plateau,**	**5.12**	**190**		P	Pn	18 44 19.5	-0.8
DZM	**Mont Dzumac**	**5.22**	**194**		P	Pn	18 44 21.1	-0.6
NOUC	**Port Laguerre**	**5.28**	**195**		P	Pn	18 44 22.8	+0.3
ONTNC	**Ouen Toro**	**5.44**	**193**		P	Pn	18 44 24.7	0.0
OUENC	**Ouen Island, N**	**5.48**	**190**		P	Pn	18 44 26.4	+1.2
PINNC	**Pines Island,**	**5.61**	**184**		P	Pn	18 44 27.5	+0.6

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*NEIC **25** 19:03:45.0±1.6, 19.°38N±0.°02×154.°88W±0.°02, h5km±1km, Error ellipse: s-maj=5.4km s-min=2.9km az=314.0*
HVO 25 19:03:44.6±2.0, 19.°42N±0.°02×154.°89W±0.°02, h1km±9km, Md2.1/13, ML2.7/40(NEIC), Error ellipse: s-maj=3.9km s-min=1.0km az=143.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.06**	**357**			Pg	19 03 48.0	+2.2
PHO	**Puu Honuaula**	**0.06**	**357**			Pg	19 03 47.1	+1.2
PAH	**Pahoa**	**0.10**	**324**			Pg	19 03 47.0	+0.5
JOKA	**Jonika Flow**	**0.11**	**278**			Pg	19 03 47.5	+0.8
JCUZ	**Jacuzzi**	**0.20**	**261**			Pg	19 03 51.5	+3.0
NPOC	**North of Pu'u**	**0.21**	**263**			Pg	19 03 51.6	+2.9
STCH	**Steam Cracks**	**0.23**	**262**			Pg	19 03 49.4	+0.5
KNHH	**Kane Nui o Ham**	**0.27**	**262**			Pg	19 03 50.5	+0.8
PUH	**Pauahi**	**0.31**	**262**			Sg	19 03 56.3	+1.6
PUH	**Pauahi**	**0.31**	**262**			Pg	19 03 51.1	+0.6
PUH	**Pauahi**	**0.31**	**262**	IAML			19 03 51.9	
comp=N,1μm,1.3s								
PUH				IAML			19 03 53.5	
comp=E,552nm,1.4s								
BYL	**Byron's Ledge**	**0.35**	**269**		Pg	Pg	19 03 51.9	+0.6
HATHI	**Halema'uma'u T**	**0.35**	**271**		Pg	Pg	19 03 51.8	+0.5
RSD	**Rainshed**	**0.37**	**277**	IAML			19 03 58.8	
comp=N,1μm,1.2s								
RSD				IAML			19 04 03.9	
comp=E,963nm,1.0s								
RSD	**Rainshed**	**0.37**	**277**			Pg	19 03 52.5	+0.8
RSD						Sg	19 03 58.4	+1.8
HLP	**Hilina Pali**	**0.41**	**253**			Pg	19 03 52.9	+0.4
HLP						Sg	19 03 59.0	+1.1
HLP				IAML			19 04 04.0	
comp=N,1μm,1.4s								
MLH	**Mauna Loa**	**0.48**	**279**			Sg	19 04 01.1	+1.2
MLH	**Mauna Loa**	**0.48**	**279**			Pg	19 03 53.9	+0.2
MLH				IAML			19 03 56.5	
comp=E,499nm,1.6s								
MLH				IAML			19 04 04.7	
comp=N,1μm,1.8s								
HTC	**Hot Caves**	**0.51**	**250**			Pg	19 03 55.0	+0.6
HMH	**Humu'ula Sheep**	**0.59**	**288**			Pg	19 03 55.9	-0.1
HMH						Sg	19 04 05.0	+1.4
HMH				IAML			19 04 10.7	
comp=E,439nm,0.6s								
MLOA	**Mauna Loa Obse**	**0.66**	**280**		Pg	Pg	19 03 56.6	-0.6
MLOA				IAML			19 04 10.6	
comp=N,328nm,1.5s								
MLOA				IAML			19 04 17.3	
comp=N,309nm,1.2s								
MWH	**Moku'aweowe**	**0.67**	**276**		Pg	Pg	19 03 56.7	-0.8
MWH				IAML			19 04 11.9	
comp=N,586nm,1.4s								
KHU	**Kahuku**	**0.71**	**256**			Pg	19 03 57.2	-0.9
KHU				IAML			19 04 04.1	
comp=E,337nm,2.4s								
KHU						Sg	19 04 07.1	-0.3
KHU				IAML			19 04 12.3	
comp=N,414nm,2.8s								
HPO	**Honuapo**	**0.71**	**243**	Pg	Pg	Pg	19 03 56.9	-1.3
ALEP	**Alea Permanent**	**0.72**	**280**			Sg	19 04 08.9	+1.0
HUH	**Hualalai**	**0.93**	**287**	Pg	Pg	Pg	19 04 01.0	-1.5
HUH				IAML			19 04 17.8	
comp=E,331nm,1.8s								

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*NEIC **25** 19:08:31.4±1.0, 16.°0S±0.°1×167.°8E±0.°2, h120km±6km, mb4.5/9, Error ellipse: s-maj=27.9km s-min=18.1km az=114.0*
*IDC **25** 19:08:38.1±4.4, 16.°19S×167.°66E, h188km±39km, mb3.4/5, mbtmp3.9/6, Error ellipse: s-maj=36.4km s-min=29.3km az=21.0*
ISC 25 19:08:27.8±1.1, 15.°85S±0.°09×168.°0E±0.°2, h100km, n26, σ1§37/26, mb4.0/8, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**4.95**	**188**		Pn	**Pn**	**19 09 41.0**	**+1.2**
KOUNC	**Koumac, New Ca**	**5.83**	**216**		Pn	**Pn**	**19 09 52.6**	**+0.9**
DZM	**Mont Dzumac**	**6.35**	**193**		Pn	**Pn**	**19 09 59.1**	**+0.2**
DZM	**Mont Dzumac**	**6.35**	**193**		P	Pn	19 10 05.1	+6.2
3.5nm,0.3s,baz=70,slow=9.3,SNR=21								
DZM					S	**Sn**	**19 11 13.2**	**+3.1**
7.0nm

FINES FINESS Array B 127.00 338 PKP **PKPdf** **19 27 19.3 -0.3**
comp=Z,1.3nm,0.8s,baz=96,slow=8.5,SNR=2.1
FUORN Ofenpass-Fuorn 144.13 333 **PKPab** **19 27 51.5 +1.5**
DAVOX Davos/Dischmat 144.17 334 PKP **PKPab** **19 27 51.3 +1.2**
comp=Z,3.5nm,0.4s,baz=9.5,slow=6.1,SNR=8.7

IDC ***25*** *19:09:43.0±0.6,27.°67N×130.°06E,h0km,mb4.1/27, mbtmp4.1/31,ML3.3/4,MS3.5/21,Error ellipse: s-maj=18.2km s-min=13.1km az=91.0*

MOS ***25*** *19:09:44.5±1.2,27.°60N×130.°14E,h24km,mb4.5/18,Error ellipse: s-maj=10.1km s-min=6.1km az=93.4*

NIED ***25*** *19:09:45.5,27.°62N×130.°14E,h69km,MW4.2,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁵Nm; Mrr-1.46; Mθθ0.36; Mφφ 1.11; Mrθ1.20; Mθφ1.61; Mφr-0.89; Fault plane solution: M₀2.55000×10¹⁵ NP1: φs251.00000°,δ58.00000°,λ-41.00000°. NP2:φs6.00000°, δ56.00000°,λ-140.00000°.*

JMA ***25*** *19:09:45.5±0.2,27.°6N±0.°9×13.°0E±.°, h69km,MD3.9/25, MV4.1/25,NEAR AMAMI-OSHIMA ISLAND*

NEIC ***25*** *19:09:45.7±2.2,27.°56N±0.°06×130.°10E±0.°05,h20km±3km, mb4.6/46,Error ellipse: s-maj=8.4km s-min=6.2km az=196.0*

BJI ***25*** *19:09:47.5±0.0,27.°61N×129.°69E,h20km,mb4.2/29, mB4.6/18,Ms3.8/15,Ms7 3.7/17*

ISC 25 19:09:44.4±1.0,27.°54N±0.°03×130.°12E±0.°03,h13km±6km, n209,σ1$40/207,mb4.5/68,MS3.6/25,8C-3D,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JZK	**Kikaishima**	**0.78**	**350**	P		**Pb**	**19 10 00.5**	**+0.7**
JZK				S		**Sn**	**19 10 13.0**	**+0.3**
JAM	**Amami Oshima**	**0.98**	**332**	*i* P		**Pb**	**19 10 03.1**	**-0.1**
JAM				*e*S		**Sb**	**19 10 15.1**	**-1.0**
JAM	**Amami Oshima**	**0.98**	**332**	A		A	19 10 03.1	
	comp=E,6.0nm,0.9s,comp=N,9.0nm,2.8s							
JTK	**Tokunoshima**	**1.07**	**283**	*i* P		**Pg**	**19 10 05.4**	**+0.4**
JTK				S		**Sn**	**19 10 19.5**	**-0.3**
JTK	**Tokunoshima**	**1.07**	**283**	A		A	19 10 05.4	
	comp=E,12nm,0.5s,comp=N,11nm,0.6s							
JAMN	**Amaminishikomi**	**1.09**	**310**	*i* P		**Pb**	**19 10 04.7**	**-0.4**
JAMN	**Amaminishikomi**	**1.09**	**310**	A		A	19 10 04.7	
	comp=E,6.0nm,0.3s,comp=N,6.0nm,2.2s							
JOKE	**Okinoerabujima**	**1.39**	**263**	*i* P		**Pb**	**19 10 10.3**	**0.0**
JYRO	**Yoronjima**	**1.58**	**251**	*i* P		**Pn**	**19 10 12.8**	**+0.7**
JOW	**Kunigami**	**1.79**	**247**	Pn		**Pn**	**19 10 15.7**	**+0.6**
JOW				Sn		**Sn**	**19 10 35.2**	**-2.5**
JOW	**Kunigami**	**1.79**	**247**	Pn		**Pn**	**19 10 15.6**	**+0.5**
	comp=N,302nm,0.3s,baz=112,slow=19,SNR=1079							
JOW				Sn		**Sn**	**19 10 37.1**	**-0.6**
	comp=N,333nm,0.3s,baz=111,slow=24,SNR=7.6							
JOW	**Kunigami**	**1.79**	**247**	*i* P		**Pn**	**19 10 15.8**	**+0.7**
JTAJ	**Takarajima**	**1.80**	**333**	P		**Pn**	**19 10 14.1**	**-1.0**
JKDJ	**Kitadaitoujima**	**1.90**	**146**	P		**Pn**	**19 10 16.7**	**+0.1**
JKDJ				*e*S		**Sn**	**19 10 39.2**	**-1.2**
JMZ	**Minamidaito 2**	**1.98**	**150**	P		**Pn**	**19 10 17.3**	**-0.3**
JMZ	**Minamidaito 2**	**1.98**	**150**	Pn		**Pn**	**19 10 17.9**	**+0.3**
JMZ				Sn		**Sn**	**19 10 40.4**	**-1.9**
JMZ	**Minamidaito 2**	**1.98**	**150**	*i* P		**Pn**	**19 10 17.9**	**+0.3**
JMZ				S		**Sn**	**19 10 41.0**	**-1.3**
JIH	**Iheya**	**1.98**	**256**	*i* P		**Pn**	**19 10 18.5**	**+0.8**
JNTH	**Nagotoyohara**	**2.13**	**242**	*i* P		**Pn**	**19 10 20.5**	**+0.7**
JNTH				S		**Sn**	**19 10 45.2**	**-0.9**
JJT3	**Tamagusuku3**	**2.51**	**237**	P		**Pn**	**19 10 26.1**	**+1.1**
JJT3				S		**Sn**	**19 10 56.0**	**+0.5**
JYAK	**Yakushimahirau**	**2.71**	**7**	P		**Pn**	**19 10 27.2**	**-0.4**
JAGN	**Aguni-jima**	**2.74**	**250**	P		**Pn**	**19 10 28.5**	**+0.4**
JKC	**Kuchinoerabu**	**2.91**	**1**	*e*P		**Pn**	**19 10 29.8**	**-0.6**
JMTN	**Minamitane**	**2.92**	**13**	P		**Pn**	**19 10 30.1**	**-0.6**
JMTN				*e*S		**Sn**	**19 11 03.2**	**-2.4**
JTN	**Tanegashima 3**	**3.19**	**13**	P		**Pn**	**19 10 33.8**	**-0.5**
JTN				S		**Sn**	**19 11 09.9**	**-2.3**
JKE	**Kume jima 2**	**3.22**	**249**	P		**Pn**	**19 10 34.6**	**0.0**
JMJ	**Miyako jima 2**	**5.12**	**239**	P		**Pn**	**19 11 01.3**	**+0.5**
JNU	**Nakatsue**	**5.60**	**7**			**Pn**	**19 11 08.0**	**+0.6**
JNU	**Nakatsue**	**5.60**	**7**	Pn		**Pn**	**19 11 07.4**	**0.0**
	comp=N,3.0nm,0.3s,baz=199,slow=4.3,SNR=48							
JNU				Sn		**Sn**	**19 12 07.3**	**-4.3**
	baz=266,slow=13 comp=N,25nm,0.6s							
JMN	**Monobe**	**6.96**	**27**			**Pn**	**19 11 25.3**	**-0.8**
YOJ	**Yonaguni jima**	**7.10**	**246**	P		**Pn**	**19 11 27.5**	**-0.5**
YOJ	**Yonaguni jima**	**7.10**	**246**	Pn		**Pn**	**19 11 27.1**	**-0.9**
YOJ	**Yonaguni jima**	**7.10**	**246**	P		**Pn**	**19 11 27.1**	**-0.9**
TATO	**Taipei**	**8.16**	**254**	Pn		**Pn**	**19 11 41.6**	**-1.0**
YHNB	**Yeheng**	**8.37**	**252**	P		**Pn**	**19 11 46.7**	**+1.2**
YHNB	**Yeheng**	**8.37**	**252**	Pn		**Pn**	**19 11 45.8**	**+0.2**
NACB	**Ninganchiao**	**8.38**	**248**	P		**Pn**	**19 11 43.8**	**-1.8**
NACB	**Ninganchiao**	**8.38**	**248**	Pn		**Pn**	**19 11 43.4**	**-2.2**
YULB	**Yu-li**	**8.98**	**245**	P		**Pn**	**19 11 50.4**	**-3.5**
YULB	**Yu-li**	**8.98**	**245**	Pn		**Pn**	**19 11 49.9**	**-4.0**
SSLB	**Suanglung**	**9.08**	**248**	P		**Pn**	**19 11 52.6**	**-2.6**
SSLB	**Suanglung**	**9.08**	**248**	Pn		**Pn**	**19 11 52.6**	**-2.6**
TJN	**Taejon**	**9.11**	**346**	*ce*P		**Pn**	**19 11 56.1**	**+0.5**
TWGBT	**Beinan**	**9.45**	**242**	P		**Pn**	**19 11 56.4**	**-3.8**
TWG	**Pinlang**	**9.45**	**242**	Pn		**Pn**	**19 11 56.0**	**-4.3**
TPUB	**Ta-pu**	**9.56**	**246**	P		**Pn**	**19 12 00.4**	**-1.5**
TPUB	**Ta-pu**	**9.56**	**246**			**Pn**	**19 12 00.0**	**-1.9**
INU	**Inuyama**	**9.75**	**35**	Pn		**Pn**	**19 12 04.3**	**-0.1**
JHJ2	**Mitsune**	**10.04**	**54**	Pn		**Pn**	**19 12 10.3**	**+1.9**
KSRS	**Korea Array**	**10.05**	**350**	Pn		**Pn**	**19 12 04.3**	**-4.2**
	comp=N,0.4nm,0.3s,baz=165,slow=14,SNR=6.2							
JGF	**Kuroka**	**10.12**	**36**	Pn		**Pn**	**19 12 10.6**	**+1.1**
JCJ	**Chichijima**	**10.74**	**90**	P		**Pn**	**19 12 18.7**	**+0.8**
	comp=N,61nm,1.6s							
JCJ	**Chichijima**	**10.74**	**90**	Pn		**Pn**	**19 12 17.7**	**-0.2**
JCJ	**Chichijima**	**10.74**	**90**	Pn		**Pn**	**19 12 13.6**	**-4.3**
	comp=N,6.7nm,0.3s,baz=297,slow=22,SNR=7.5							
NJ2	**Nanjing**	**10.77**	**297**	*e*P		**Pn**	**19 12 18.8**	**+0.5**
NJ2				pmax	pmax			
	comp=N,9.0nm,0.9s							
NJ2				pmax	pmax			
	comp=N,140nm,3.9s							
NJ2				LR	LR			
	comp=N,270nm,16.1s							
NJ2				LR	LR			
	comp=N,300nm,13.3s							
NJ2				LR	LR			
	comp=N,300nm,14.2s							
KNMB	**Chin-men Tao**	**10.99**	**256**	Pn		**Pn**	**19 12 19.7**	**-1.7**
MAJO	**Matsushiro**	**11.29**	**35**	Pn		**Pn**	**19 12 25.5**	**+0.1**
MAJO	**Matsushiro**	**11.29**	**35**	P		**Pn**	**19 12 25.5**	**+0.1**
MJAR	**Matsushiro Arr**	**11.29**	**35**	Pn		**Pn**	**19 12 25.2**	**-0.2**
	baz=156,slow=19,SNR=2.7 comp=N,0.7nm,0.6s							
HNS	**HongShan**	**16.28**	**311**	*e*P		**Pn**	**19 13 31.3**	**-1.5**
HNS				LR	LR			
	comp=N,160nm,13.9s							
HNS				LR	LR			
	comp=N,280nm,13.5s							
HNS				LR	LR			
	comp=N,320nm,15.1s							
USA0B	**Ussuriysk Arra**	**16.69**	**5**	Pn		**Pn**	**19 13 37.1**	**-0.8**
USA0B	**Ussuriysk Arra**	**16.69**	**5**	P		**Pn**	**19 13 37.1**	**-0.8**
USA0B				pmax	pmax			
	comp=Z,6.0nm,0.8s							
USRK	**Ussuriysk Ar.**	**16.69**	**5**	Pn		**Pn**	**19 13 37.7**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=170,slow=9.7,SNR=1.6 comp=Z,0.5nm,0.6s							
ERM	**Erimo**	**17.94**	**33**	Pn		**Pn**	**19 13 51.9**	**-1.7**
ERM				IAmb	IAmb		19 14 30.9	
	comp=Z,40nm,1.0s							
ERM	**Erimo**	**17.94**	**33**	P		**Pn**	**19 13 51.9**	**-1.7**
ERM				pmax	pmax			
	comp=Z,40nm,1.0s							
ENH	**Enshi**	**18.27**	**283**			**Pn**	**19 13 56.8**	**-1.0**
XAN	**Xi'an**	**19.32**	**295**	⇑P		**P**	**19 14 09.5**	**+0.1**
XAN				sP	pwP		19 14 18.5	+3.2
XAN				pmax	pmax			
	comp=Z,63nm,0.5s							
XAN				pmax	pmax			
	comp=Z,180nm,5.4s							
XAN				LR	LR			
	comp=Z,320nm,16.1s							
XAN				LR	LR			
	comp=Z,140nm,10.0s							
XAN				LR	LR			
	comp=Z,350nm,13.5s							
ASAJ	**Asahikawa**	**19.35**	**28**	P		**P**	**19 14 08.8**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=233,slow=20,SNR=1.3							
	comp=Z,2.1nm,0.7s							
GUMO	**Guam**	**19.55**	**132**	LR		LR	19 19 29.1	
	comp=Z,54nm,21.7s,baz=330,slow=30							
XLT	**XiLinHaoTe**	**19.86**	**329**	*e*P		**Pn**	**19 14 17.0**	**+0.1**
XLT				pP		pwP	19 14 22.0	+0.8
XLT				sP		sP	19 14 25.0	+5.8
XLT				pmax	pmax			
	comp=Z,5.0nm,1.0s							
XLT				pmax	pmax			
	comp=Z,74nm,4.7s							
HHC	**Hu-ho-hao-te**	**20.24**	**316**	*e*P		Pn	19 14 21.3	-0.1
HHC				pmax	pmax			
	comp=Z,25nm,0.7s							
HHC				pmax	pmax			
	comp=Z,83nm,4.1s							
QIZ	**Qiongzhong**	**20.45**	**250**	P		**P**	**19 14 18.8**	**-2.9**
QIZ				S		Sn	19 18 12.3	-2.0
QIZ				pmax	pmax			
	comp=Z,94nm,3.9s							
QIZ				LR	LR			
	comp=Z,130nm,11.8s							
QIZ				LR	LR			
	comp=Z,150nm,16.0s							
QIZ				LR	LR			
	comp=Z,220nm,20.2s							
DAV	**Davao City (W)**	**20.81**	**193**	LR		LR	19 23 54.3	
	comp=Z,76nm,18.1s,baz=353,slow=41							
GYA	**Guiyang**	**20.93**	**272**	⇓P		Pn	19 14 28.5	-1.1
GYA				pmax	pmax			
	comp=Z,6.0nm,0.9s							
GYA				pmax	pmax			
	comp=Z,170nm,5.3s							
KLR	**Kul'dur**	**21.69**	**3**	P		**P**	**19 14 40.2**	**+5.3**
	comp=Z,2.0nm,0.7s,baz=164,slow=6.7,SNR=8.1							
KLR				LR		LR	19 23 52.1	
	comp=Z,42nm,18.3s,baz=146,slow=39							
KLR	**Kul'dur**	**21.69**	**3**	⇓*i*P		**P**	**19 14 36.9**	**+2.0**
KLR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
CD2	**Chengdu**	**23.23**	**285**	P		**P**	**19 14 50.8**	**-0.7**
CD2				S		**S**	**19 19 01.8**	**-1.6**
CD2				LR	LR			
	comp=Z,290nm,12.8s							
CD2				LR	LR			
	comp=Z,220nm,12.2s							
CD2				LR	LR			
	comp=Z,270nm,11.3s							
KMI	**Kunming**	**24.64**	**271**	⇑P		**P**	**19 15 05.8**	**+0.7**
KMI				pmax	pmax			
	comp=Z,14nm,0.9s							
KMI				LR	LR			
	comp=Z,130nm,16.5s							
KMI				LR	LR			
	comp=Z,110nm,14.4s							
KMI				LR	LR			
	comp=Z,120nm,13.2s							
PZH	**PanZhiHua**	**25.28**	**274**	P		**P**	**19 15 11.8**	**+1.0**
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,90nm,5.8s							
ZEA	**Zeya**	**26.25**	**356**	*e*P		**P**	**19 15 19.5**	**+0.3**
ZEA				pmax	pmax			
	comp=Z,10.0nm,0.9s							
ULN	**Ulaanbaatar**	**27.11**	**325**	⇑*i*P		**P**	**19 15 27.9**	**+0.8**
ULN				pmax	pmax			
	comp=Z,4.0nm,1.0s							
SONM	**Songino Array**	**27.43**	**324**	P		**P**	**19 15 30.0**	**0.0**
	comp=Z,0.7nm,0.9s,baz=123,slow=7.3,SNR=2.8							
SONM				LR		LR	19 28 13.5	
	comp=Z,69nm,21.4s,baz=81,slow=41 comp=Z,0.7nm,0.9s							
SONM	**Songino Array**	**27.43**	**324**	P		**P**	**19 15 30.0**	**0.0**
TOLI2	**Tolitoli**	**27.77**	**200**	P		**P**	**19 15 31.8**	**-1.2**
TOLI2				IAmb	IAmb		19 15 35.3	
	comp=Z,12nm,1.0s							
GTA	**Gaotai**	**27.78**	**303**	P		**P**	**19 15 33.8**	**+0.5**
GTA				sP	pwP		19 15 45.3	+6.1
GTA				pmax	pmax			
	comp=Z,4.0nm,0.8s							
GTA				LR	LR			
	comp=Z,77nm,14.9s							
GTA				LR	LR			
	comp=Z,110nm,15.3s							
GTA				LR	LR			
	comp=Z,200nm,15.3s							
CRAI	**Chiangrai**	**28.11**	**261**	P		**P**	**19 15 36.6**	**+0.4**
TNCH	**TengChong**	**28.41**	**272**	*e*P		**P**	**19 15 39.3**	**+0.3**
TNCH				pmax	pmax			
	comp=Z,5.0nm,0.9s							
PHRA	**Phrae**	**28.89**	**258**	P		**P**	**19 15 42.5**	**-0.6**
CHTO	**Chiang Mai**	**29.89**	**260**	P		**P**	**19 15 50.3**	**-1.7**
CHTO				IAmb	IAmb		19 15 54.1	
	comp=Z,11nm,1.4s							
CHTO	**Chiang Mai**	**29.89**	**260**	P		**P**	**19 15 50.3**	**-1.7**
CHTO				pmax	pmax			
	comp=Z,11nm,1.5s							
CMAR	**Chiang Mai Arr**	**30.02**	**259**	P		**P**	**19 15 54.0**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=58,slow=6.9,SNR=8.1							
CMAR				PcP		**PcP**	**19 18 56.6**	**+1.2**
	comp=Z,1.2nm,0.7s,baz=60,slow=1.3,SNR=10							
CMAR				LR		LR	19 29 36.8	
	comp=Z,84nm,18.2s,baz=85,slow=40 comp=Z,1.3nm,0.8s							
CMAR	**Chiang Mai Arr**	**30.02**	**259**	*i* P		**P**	**19 15 54.5**	**+1.3**
CMAR				pmax	pmax			
	comp=Z,2.0nm,0.8s							
PETK	**Petropavlovsk-**	**32.70**	**31**	P		**P**	**19 16 15.8**	**-0.6**
	comp=Z,2.7nm,1.0s,baz=215,slow=6.8,SNR=2.1							
PETK				LR		LR	19 30 48.9	
	comp=Z,38nm,19.6s,baz=176,slow=39 comp=Z,2.7nm,1.0s							
SHL	**Shillong**	**34.17**	**276**	P		**P**	**19 16 29.4**	**-0.4**
SHL				IAmb	IAmb		19 16 41.6	
	comp=Z,7.7nm,0.7s							
SHL	**Shillong**	**34.17**	**276**	P		**P**	**19 16 29.4**	**-0.4**
SHL				pmax	pmax			
	comp=Z,8.0nm,0.7s							
H11N2	**WAKE ISLAND Hy**	**34.48**	**95**	T		T	19 53 14.3	
	baz=290,slow=75,SNR=6.5							
H11N1	**WAKE ISLAND Hy**	**34.48**	**95**	T		T	19 53 20.6	
	baz=290,slow=75,SNR=5.4							
YAK	**Yakutsk**	**34.49**	**360**	LR		LR	19 31 40.7	
	comp=Z,45nm,18.5s,baz=174,slow=38							
H11N3	**WAKE ISLAND Hy**	**34.49**	**95**	T		T	19 53 16.4	
	baz=290,slow=75,SNR=8.2							
H11S3	**WAKE ISLAND Hy**	**34.73**	**97**	T		T	19 54 30.0	
	baz=336,slow=76,SNR=3.0							
H11S1	**WAKE ISLAND Hy**	**34.74**	**97**	T		T	19 54 31.5	
	baz=336,slow=76,SNR=4.0							
H11S2	**WAKE ISLAND Hy**	**34.75**	**97**	T		T	19 54 30.6	
	baz=336,slow=76,SNR=3.4							
WMQ	**Urumqi**	**37.65**	**307**	*e*P		**P**	**19 17 00.3**	**+1.0**
WMQ				LR		LR		
	comp=Z,70nm,14.5s							
MTN	**Manton Dam**	**40.16**	**178**	P		**P**	**19 17 18.9**	**-1.5**
MTN				IAmb	IAmb		19 17 44.0	
	comp=Z,18nm,1.1s							
MKAR	**Makanchi Array**	**41.95**	**310**	P		**P**	**19 17 33.6**	**-1.3**
	comp=Z,0.7nm,0.7s,baz=104,slow=9.4,SNR=8.0 comp=Z,0.7nm,0.7s							
MKAR	**Makanchi Array**	**41.95**	**310**	*i* P		**P**	**19 17 36.2**	**+1.3**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.7s							
ZALV	**Zalesovo Beam**	**42.25**	**321**	P		**P**	**19 17 36.2**	**-1.1**
	comp=Z,0.9nm,0.5s,baz=99,slow=8.6,SNR=5.1 comp=Z,0.9nm,0.5s							
ZALV	**Zalesovo Beam**	**42.25**	**321**	*i* P		**P**	**19 17 39.7**	**+2.4**
ZALV				pmax	pmax			
	comp=Z,1.0nm,0.5s							
TIXI	**Tiksi**	**44.15**	**359**	LR		LR	19 37 59.8	
	comp=Z,45nm,18.5s,baz=194,slow=39							
TIXI	**Tiksi**	**44.15**	**359**	*ce*P		**P**	**19 17 53.0**	**+0.6**
TIXI				pmax	pmax			
	comp=Z,1.0nm,0.9s							
KURK	**Kurchatov**	**45.05**	**315**	P		**P**	**19 17 59.8**	**-0.1**
KURBB	**Kurchatov Arra**	**45.09**	**315**	P		**P**	**19 17 59.8**	**-0.4**
	comp=Z,0.8nm,0.2s,baz=142,slow=9.6,SNR=1.4							
KURBB				LR		LR	19 38 45.2	
	comp=Z,89nm,19.1s,baz=172,slow=39 comp=Z,0.8nm,0.2s							
FITZ	**Fitzroy Crossi**	**45.58**	**186**	P		**P**	**19 18 05.3**	**+1.0**
BILL	**Bilibino**	**45.90**	**18**	*e*P		**P**	**19 18 06.6**	**+0.3**
BILL				pmax	pmax			
	comp=Z,1.0nm,1.1s							
WB0	**Warramunga Arr**	**47.21**	**175**	P		**P**	**19 18 17.3**	**+0.2**
WB0				IAmb	IAmb		19 18 35.6	
	comp=Z,7.2nm,1.1s							
WRAB	**Tennant Creek**	**47.37**	**175**	*i* P		**P**	**19 18 19.0**	**+0.6**
WRAB				pmax	pmax			
	comp=Z,6.0nm,0.9s							
WRA	**Warramunga Arr**	**47.38**	**175**	P		**P**	**19 18 19.7**	**+1.3**
	comp=Z,4.7nm,0.7s,baz=354,slow=8.3,SNR=30							
WRA				PcP		**PcP**	**19 19 50.3**	**+1.2**
	comp=Z,0.5nm,0.6s,baz=351,slow=4.7,SNR=1.3 comp=Z,4.7nm,0.7s							
WB2	**Warramunga Arr**	**47.38**	**175**	P		**P**	**19 18 19.4**	**+0.9**
WB2				IAmb	IAmb		19 18 20.3	
	comp=Z,5.5nm,0.8s							
MBWA	**Marble Bar**	**49.45**	**193**	P		**P**	**19 18 35.6**	**+1.3**
MBWA				IAmb	IAmb		19 18 36.1	
	comp=Z,7.2nm,0.8s							
PSA00	**Pilbara Seismi**	**49.83**	**193**	P		**P**	**19 18 38.6**	**+1.4**
PSA00	**Pilbara Seismi**	**49.83**	**193**	P		**P**	**19 18 38.4**	**+1.2**
PSA00				IAmb	IAmb		19 18 39.5	
	comp=Z,9.8nm,0.8s							
CTAO	**Charters Tower**	**49.86**	**160**	P		**P**	**19 18 39.4**	**+1.9**
CTAO	**Charters Tower**	**49.86**	**160**	P		**P**	**19 18 39.4**	**+1.9**
CTAO				pmax	pmax			
	comp=Z,29nm,1.4s							
BVAR	**Borovoye Array**	**50.44**	**317**	P		**P**	**19 18 41.1**	**-0.6**
	comp=Z,0.8nm,0.5s,baz=90,slow=9.7,SNR=6.9							
BVAR				PcP		**PcP**	**19 19 59.5**	**-0.3**
	comp=Z,1.1nm,0.5s,baz=88,slow=8.1,SNR=4.4							
BVAR				LR		LR	19 41 55.1	
	comp=Z,71nm,19.8s,baz=118,slow=38 comp=Z,0.8nm,0.5s							
BRVK	**Borovoye**	**50.51**	**317**	P		**P**	**19 18 41.4**	**-0.7**
BRVK	**Borovoye**	**50.51**	**317**	P		**P**	**19 18 41.4**	**-0.7**
BRVK				pmax	pmax			
	comp=Z,6.0nm,1.3s							
AS31	**Alice Springs**	**51.04**	**176**	P		**P**	**19 18 47.0**	**+0.6**
AS31				IAmb	IAmb		19 18 49.9	
	comp=Z,2.7nm,0.4s							
ASAR	**Alice Springs**	**51.04**	**176**	P		**P**	**19 18 47.3**	**+0.8**
ASAR	**Alice Springs**	**51.04**	**176**	P		**P**	**19 18 48.0**	**+1.5**
	comp=Z,4.8nm,0.8s,baz=6.6,slow=14,SNR=80 comp=Z,4.8nm,0.8s							
ASAR	**Alice Springs**	**51.04**	**176**	P		**P**	**19 18 48.0**	**+1.5**
J17K	**VABM Dome**	**57.17**	**30**	P		**P**	**19 19 30.8**	**+0.1**
J17K				IAmb	IAmb		19 19 44.0	
	comp=Z,9.3nm,1.0s							
ARU	**Arti**	**57.42**	**321**	LR		LR	19 44 39.6	
	comp=Z,30nm,18.8s,baz=45,slow=37							
AKTO	**Aktyubinsk**	**58.12**	**314**	LR		LR	19 45 44.0	
	comp=Z,44nm,19.6s,baz=250,slow=37							
L18K	**Granite Mounta**	**58.22**	**32**	P		**P**	**19 18 39.9**	**+0.8**
H19K	**Roundabout Mou**	**58.42**	**28**	P		**P**	**19 19 41.2**	**+1.8**
H19K				IAmb	IAmb		19 19 53.2	
	comp=Z,4.3nm,1.0s							
J19K	**Poorman**	**58.73**	**30**	P		**P**	**19 19 42.0**	**+0.3**
J19K				IAmb	IAmb		19 19 54.6	
	comp=Z,3.5nm,0.8s							
L19K	**White Mountain**	**59.08**	**32**	P		**P**	**19 19 43.6**	**-0.5**
L19K				IAmb	IAmb		19 19 58.8	
	comp=Z,12nm,1.5s							
K20K	**Telida**	**59.42**	**31**	P		**P**	**19 19 45.6**	**-0.9**
K20K				IAmb	IAmb		19 20 00.1	
	comp=Z,6.1nm,0.8s							
STKA	**Stephens Creek**	**60.09**	**169**	P		**P**	**19 19 52.6**	**+1.3**
STKA	**Stephens Creek**	**60.09**	**169**	P		**P**	**19 19 52.9**	**+1.5**
	comp=Z,2.8nm,0.6s,baz=345,slow=8.8,SNR=5.5 comp=Z,2.8nm,0.6s							
STKA	**Stephens Creek**	**60.09**	**169**	P		**P**	**19 19 52.7**	**+1.3**
STKA				pmax	pmax			
	comp=Z,3.0nm,1.5s							
GEYT	**Ailbeck**	**60.10**	**300**	P		**P**	**19 19 50.2**	**-1.4**
	comp=Z,0.6nm,0.4s,baz=83,slow=6.0,SNR=2.1 comp=Z,0.6nm,0.4s							
BBOO	**Buckleboo**	**60.29**	**174**	P		**P**	**19 19 54.0**	**+1.3**
CAST	**Castle Rocks**	**60.31**	**30**	P		**P**	**19 19 51.6**	**-1.0**
CAST				IAmb	IAmb		19 20 05.9	
	comp=Z,5.6nm,0.9s							
H23K	**Yukon River**	**61.28**	**28**	P		**P**	**19 19 58.9**	**-0.3**
H23K				IAmb	IAmb		19 20 13.5	
	comp=Z,6.7nm,1.1s							
MDM	**Murphy Dome**	**61.89**	**29**	P		**P**	**19 20 03.1**	**-0.2**
MDM				IAmb	IAmb		19 20 16.4	
	comp=Z,7.8nm,1.0s							
KIRV	**Kirov**	**62.16**	**324**	*ce*P		**P**	**19 20 08.4**	**+3.3**
D25K	**Kavik River**	**62.24**	**24**	P		**P**	**19 20 05.0**	**-0.6**
D25K				IAmb	IAmb		19 20 18.6	
	comp=Z,5.8nm,1.4s							
ILAR	**Eielson Array**	**62.48**	**29**	P		**P**	**19 20 07.1**	**-0.1**
	comp=Z,0.3nm,0.9s,baz=290,slow=5.3,SNR=2.4 comp=Z,0.3nm,0.9s							
J26L	**Joseph Creek**	**63.94**	**29**	P		**P**	**19 20 16.0**	**-1.0**
J26L				IAmb	IAmb		19 20 28.9	
	comp=Z,4.6nm,1.1s							
BELG	**Belogornoye**	**64.25**	**318**	LR		LR	19 50 34.2	
	comp=Z,64nm,21.4s,baz=208,slow=38							
SPITS	**Spitsbergen Ar**	**67.89**	**348**	P		**P**	**19 20 42.2**	**+0.1**
	comp=Z,1.2nm,0.4s,baz=92,slow=7.5,SNR=8.3 comp=Z,1.2nm,0.4s							
ARCES	**ARCESS Array B**	**69.40**	**339**	P		**P**

NC303	NORSAR Array S	78.70	334	P		P	19 21 45.1	-1.1
NB2	NORSAR Subarra	78.88	334	P		P	19 21 46.5	-0.7
	comp=Z,3.0nm,0.8s,baz=51,slow=5.6							
NOA	NORSAR Array B	78.88	334	P		P	19 21 46.9	-0.3
	comp=Z,1.9nm,0.8s,baz=50,slow=5.4,SNR=12							
NOA				LR		LR	20 00 25.7	
	comp=Z,9.1nm,18.0s,baz=35,slow=39							
	comp=Z,1.9nm,0.8s							
MMAI	Mount Meron Ar	79.16	302	P		P	19 21 49.5	+0.2
	comp=Z,1.1nm,0.7s,baz=72,slow=4.7,SNR=3.1							
	comp=Z,1.1nm,0.7s							
BUR08	Bucovina Ar. S	79.38	318	P		P	19 21 50.2	-0.2
BURAR	Bucovina Array	79.39	318	P		P	19 21 50.2	-0.1
BURAR	Bucovina Array	79.39	318	P		P	19 21 50.2	-0.1
BURAR				pmax		pmax		
	comp=Z,2.0nm,1.0s							
KWP	Kalwaria Pacla	79.83	321	P		P	19 21 52.4	-0.2
KWP				IAmb		IAmb	19 21 57.6	
	comp=Z,6.9nm,0.9s							
KWP	Kalwaria Pacla	79.83	321	P		P	19 21 52.4	-0.2
KWP				pmax		pmax		
	comp=Z,7.0nm,0.9s							
EIL	Elat	80.97	299	LR		LR	20 04 08.5	
	comp=Z,20nm,18.9s,baz=35,slow=40							
VYHS	Vyhne	82.59	321	*e*P		P	19 22 08.7	+1.4
VYHS	Vyhne	82.59	321	*e*P		P	19 22 08.7	+1.4
VYHS				pmax		pmax		
	comp=Z,30nm,2.4s							
VRAC	Vranov	83.35	323	LR		LR	20 03 35.3	
	comp=Z,49nm,18.4s,baz=38,slow=39							
MODS	Modra-Piesok	83.52	322	*e*P		P	19 22 16.3	+4.2
MODS	Modra-Piesok	83.52	322	*e*P		P	19 22 16.3	+4.2
MODS				pmax		pmax		
	comp=Z,12nm,1.2s							
CLL	Collm	84.03	326	*i* P		P	19 22 14.8	+0.2
CLL				*i* pP		pwP	19 22 22.6	+0.6
CLL				*i* x		x	19 22 26.6	
CLL	Collm	84.03	326	*i* P		P	19 22 14.8	+0.2
CLL				*i*			19 22 22.6	
CLL				*i*			19 22 26.6	
GERES	GERESS Array B	85.16	324	P		P	19 22 20.8	+0.2
	comp=Z,0.5nm,0.5s,baz=83,slow=7.7,SNR=2.5							
	comp=Z,0.5nm,0.5s							
IDI	Anoyia	85.78	308	P		P	19 22 25.1	+1.3
	comp=Z,5.6nm,0.9s,baz=84,slow=15,SNR=1.6							
	comp=Z,5.6nm,0.9s							
EKA	Eskdalemuir Ar	88.30	335	P		P	19 22 37.0	+1.4
	comp=Z,0.5nm,0.5s,baz=34,slow=6.1,SNR=3.6							
	comp=Z,0.5nm,0.5s							
FUORN	Ofenpass-Fuorn	88.36	323	P		P	19 22 34.9	-1.5
FUORN				IAmb		IAmb	19 22 43.5	
	comp=Z,3.7nm,0.8s							
DAVOX	Davos/Dischmat	88.47	324	P		P	19 22 37.3	+0.5
	comp=Z,0.9nm,0.5s,baz=33,slow=15,SNR=1.6							
DAVOX				LR		LR	20 08 00.0	
	comp=Z,39nm,19.2s,baz=84,slow=40							
	comp=Z,0.9nm,0.5s							
FDMO	Fiordimonte	89.03	319	P		P	19 22 38.9	-0.4
LOHW	Long Hollow	89.95	39	P		P	19 22 42.2	-1.7
LOHW				IAmb		IAmb	19 22 44.0	
	comp=Z,4.6nm,0.8s							
REDW	Red Top Meadow	89.97	40	P		P	19 22 43.7	-0.3
VAE	Valguarnera	91.59	314	LR		LR	20 10 26.0	
	comp=Z,49nm,20.6s,baz=310,slow=40							
PFO	Pinyon Flats O	92.35	50	*e*P		P	19 22 54.4	-0.7
PFO				pmax		pmax		
	comp=Z,2.0nm,1.1s							
PHWY	Pilot Hill	94.34	39	P		P	19 23 03.2	-1.1

*JMA **25** 19:16:03.9±0.8,46°N±5°×15°0E±°, h160km,MV3.6/13,*
KURILE ISLANDS REGION

SKHL 25 19:16:02.0±0.3, 45°00N×150°90E, h146km±2km, mb4.4/3, msha5.1/3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	Kuril'sk	2.16	277	*e*P	Pn	19 16 39.0	+0.3
KUR				AMB	AMB	19 16 41.4	
	60nm,0.7s						
KUR				*e*S	Sn	19 17 06.3	-0.6
KUR				A	A	19 17 08.6	
	150nm,0.4s						
KUR				A	A	19 17 08.6	
	110nm,0.4s						
SHO	Shikotan	3.13	250	*e*P	Pn	19 16 51.6	+0.8
SHO				AMB	AMB	19 16 52.8	
	20nm,0.7s						
SHO				*e*S	Sn	19 17 28.8	+0.4
SHO				A	A	19 17 32.1	
	80nm,0.4s						
SHO				A	A	19 17 32.1	
	90nm,0.4s						
YUK	Yuzh-Kuril'sk	3.73	257	*e*P	Pn	19 16 59.0	+0.4
YUK				AMB	AMB	19 16 59.2	
	40nm,0.2s						
YUK				*e*S	Sn	19 17 41.8	-0.6
YUK				A	A	19 17 47.0	
	40nm,0.4s						
YUK				A	A	19 17 47.0	
	100nm,0.4s						
NEM2	Nemuro 2	4.05	248	*e*P	Pn	19 17 03.5	+0.7
NEM2				*e*S	Sn	19 17 49.4	-0.6
NMR	Nemuro--Hokkai	4.06	248	*e*P	Pn	19 17 03.5	+0.6
NMR				*e*S	Sn	19 17 49.5	-0.7
JRA	Rausu	4.27	258	*e*P	Pn	19 17 04.9	-0.8
JNK	Nakash	4.66	254	*e*S	Sn	19 18 00.2	-4.1
AKK	Akkeshi	4.80	248	*e*P	Pn	19 17 13.3	+0.7
JAK	Akkeshi	4.90	248	*e*P	Pn	19 17 13.8	-0.2
JAK				*e*S	Sn	19 18 08.8	-1.3
JTKR	Abashiri--Toko	5.11	261	*e*P	Pn	19 17 14.6	-2.1
JAR	Ashorobuto	5.41	254	*e*P	Pn	19 17 20.6	0.0
JAR				*e*S	Sn	19 18 20.8	-1.3
JOB	Onbets	5.51	250	*e*P	Pn	19 17 22.1	0.0
JOB				*e*S	Sn	19 18 22.1	-2.6
JKK2	Kamakawa 2	5.95	262	*e*P	Pn	19 17 25.7	-2.2
JCH	Churui	5.95	249	*e*P	Pn	19 17 27.1	-0.9
JCH				*e*S	Sn	19 18 31.5	-3.6
JNBK	Urakawa-nobuka	6.51	248	*e*P	Pn	19 17 33.7	-1.6
JNBK				*e*S	Sn	19 18 43.7	-4.7
JANG	Nango	8.31	239	*e*S	Sn	19 19 27.3	-4.7

*SKO **25** 19:20:26.1,41°28N×20°96E,h9km,ML2.0*

BEO 25 19:20:26.1±0.4, 41°34N×20°90E, h2km±5km, ML2.0/7, 1C-1D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	Ohrid	0.24	198	*e*Pg	Pg	19 20 30.3	-0.4
OHR				*e*Sg	Sg	19 20 34.1	+0.3
OHR	Ohrid	0.24	198	*i* Pg	Pg	19 20 30.5	-0.2
OHR				*i* Sg	Sg	19 20 34.4	+0.6
OHR				*e*Lg	Lg	19 20 34.5	
	comp=E,587nm,0.4s						
OHR				*e*Lg	Lg	19 20 35.2	
	comp=N,214nm,0.3s						
FNA	Florina	0.66	147	*e*Pg	Pg	19 20 37.7	-1.1
FNA				*e*Sg	Sg	19 20 47.7	+0.3
FNA	Florina	0.66	147	*i* Pg	Pg	19 20 37.7	-1.1
FNA				*i* Sg	Sg	19 20 48.0	+0.6
SKO	Skopje	0.75	33	*e*Pg	Pb	19 20 41.3	-0.6
SKO				*e*Sg	Sg	19 20 49.8	-0.5
SKO	Skopje	0.75	33	*e*Pg	Pb	19 20 41.5	-0.4
SKO				*i* Sg	Sg	19 20 51.2	+1.0
TIR	Tirane	0.78	271	*e*Pg	Pg	19 20 39.8	-1.2
TIR				*e*Sg	Sg	19 20 51.3	+0.2
STIP	Stip	1.03	69	*i* Pg	Pn	19 20 49.0	+1.4
STIP				*i* Sg	Sn	19 21 06.5	+3.9
GRG	Griva	1.20	108	*i* Pg	Pg	19 20 48.5	-0.6
GRG				*i* Sg	Sb	19 21 05.8	+0.3
VAY	Valandovo	1.26	90	*i* Pg	Pg	19 20 49.6	-0.7
VAY				*i* Sg	Sg	19 21 06.8	+0.3
VAY				*e*Lg	Lg	19 21 07.2	
	comp=E,13nm,0.3s						
VAY				*e*Lg	Lg	19 21 08.0	
	comp=N,12nm,0.5s						
PRVS	Prvonek	1.46	37	*e*Pg	Pn	19 20 53.0	-0.5
PRVS				*e*Sg	Sg	19 21 11.4	-1.7
BARS	Barje	1.63	25	*i* Pn	Pg	19 20 56.8	0.0
BARS				*i* Sn	Sg	19 21 19.5	+1.2
LIT	Litokhoron	1.73	135	*i* Pn	Pb	19 20 58.8	+0.1
SELS	Selova	1.89	5	*e*Pg	Pn	19 20 59.2	-0.2
SELS				*e*Sg	Sg	19 21 26.5	-0.2
SJES	Sjenica	2.04	341	*e*Pg	Pn	19 21 01.8	+0.2
SJES				*e*Sg	Sg	19 21 30.7	-0.9

*DJA **25** 19:33:36.0±0.4,2°N±3°×12°7E±°, h116km±6km, M4.2/12,*
mb4.3/6, mB4.7/3, MLv4.2/12, Mw(mB)3.9/3
*NEIC **25** 19:33:36.6±1.9, 1°71N±0°07×127°6E±0°1, h126km±8km,*
mb4.2/25, Error ellipse: s-maj=15.3km s-min=9.4km
az=77.0
*IDC **25** 19:33:39.3±3.0, 1°65N×127°52E, h160km±25km, mb3.6/8,*
mbtmp4.2/10, Error ellipse: s-maj=46.6km s-min=9.9km
az=72.0

ISC 25 19:33:36.2±0.6, 1°71N±0°06×127°48E±0°06, h128km, n60, σ1s19/69, mb4.2/16, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TNTI	Ternate	0.94	187	P	Pn	19 33 58.8	+0.4
TNTI	Ternate	0.94	187		Pn	19 33 58.5	+0.1
TNTI				Sn	Sn	19 34 15.9	+0.7
TNTI	Ternate	0.94	187	P	Pn	19 33 58.6	+0.2
TNTI				S	Sn	19 34 16.1	+0.9
LBMI	Labuha	2.33	180	P	Pn	19 34 15.4	+1.2
LBMI				S	Sn	19 34 45.2	+1.8
KMSI	Cibinong	3.68	252	P	Pn	19 34 32.1	+0.4
KMSI				S	Sn	19 35 14.9	+0.3
SANI	Sanana	4.02	202	P	Pn	19 34 35.5	-0.8
SANI	Sanana	4.02	202	P	Pn	19 34 35.4	-0.8
GTOI	Gorontalo	4.60	257	P	Pn	19 34 45.3	+1.4
GTOI				S	Sn	19 35 37.3	+0.8
LUWI	Luwuk	5.45	240		Pn	19 34 55.7	+0.4
LUWI	Luwuk	5.45	240	P	Pn	19 34 57.1	+1.8
	50nm,0.6s,3μm0.9nm						
LUWI				S	Sn	19 35 57.9	+1.0
	50nm,0.6s,3μm0.9nm						
FAKI	Fak Fak	6.62	134	P	Pn	19 35 13.0	+1.9
FAKI	Fak Fak	6.62	134	Pn	Pn	19 35 12.8	+1.7
TOLI2	Tolitoli	6.73	265	P	Pn	19 35 12.7	+0.2
TOLI2	Tolitoli	6.73	265		Pn	19 35 12.4	-0.2
MPSI	Mapaga	7.71	260	P	Pn	19 35 25.9	+0.2
KAPI	Kappang	10.21	229	Pn	Pn	19 36 01.8	+2.3
KAPI	Kappang	10.21	229	P	Pn	19 36 01.6	+2.1
	10.0nm,0.4s,baz=46,slow=5.5,SNR=13						
KAPI				S	Sn	19 37 49.6	-2.6
	7.7nm,0.4s,baz=347,slow=24,SNR=2.2						
BATI	Baumata	12.43	198	P	Pn	19 36 29.9	+1.0
	8.8nm,0.6s,baz=59,slow=3.8,SNR=2.0						
PLAI	Plampang	14.25	223	P	Pn	19 36 51.7	-0.7
MTN	Manton Dam	14.91	166	P	Pn	19 37 00.1	-0.5
MTN	Manton Dam	14.91	166	Pn	Pn	19 36 59.5	-1.1
KDU	Kakadu	15.14	161	P	Pn	19 37 03.7	+0.3
SBUM	Sibu	15.27	273	P	P	19 37 08.0	+0.9
JAGI	Jajag, Banyuwa	16.70	233	P	P	19 37 24.6	+1.7
JAGI				IAmb	IAmb	19 38 08.9	
	comp=Z,20nm,1.0s						
KSM	Kuching	17.17	269	P	P	19 37 26.8	-1.3
KSM				IAmb	IAmb	19 37 31.1	
	comp=Z,7.0nm,0.8s						
UGM	Wanagama	19.43	240	P	P	19 37 54.2	+1.4
FITZ	Fitzroy Crossi	19.77	185	P	P	19 37 56.6	+0.2
FITZ	Fitzroy Crossi	19.77	185	P	P	19 37 55.4	-1.0
BBJI	Bungbulang	21.79	245	P	P	19 38 19.1	+0.9
TWG	Pinlang	21.89	344	P	P	19 38 16.2	-2.9
YULB	Yu-li	22.37	345	P	P	19 38 24.4	+0.4
YULB				IAmb	IAmb	19 39 08.8	
	comp=Z,16nm,1.4s						
WB0	Warramunga Arr	22.39	163	P	P	19 38 23.9	-0.3
WB0				IAmb	IAmb	19 38 24.3	
	comp=Z,4.8nm,0.5s						
WRA	Warramunga Arr	22.55	163	P	P	19 38 24.1	-1.7
WRA	Warramunga Arr	22.55	163	P	P	19 38 25.1	-0.6
	comp=Z,2.3nm,0.6s,baz=344,slow=11,SNR=74						
WRA				S	S	19 42 20.7	-3.0
	comp=Z,0.4nm,0.6s,baz=342,slow=18,SNR=1.3						
	comp=Z,2.3nm,0.6s						
WR0	Warramunga Arr	22.62	163	P	P	19 38 24.9	-1.6
WR0				IAmb	IAmb	19 38 33.7	
	comp=Z,21nm,1.4s						
SSLB	Suanglung	22.84	344	P	P	19 38 30.3	+1.8
SSLB				IAmb	IAmb	19 38 31.6	
	comp=Z,24nm,1.4s						
MYKOM	Kota Tinggi	23.62	271	P	P	19 38 36.8	+0.9
MYKOM				IAmb	IAmb	19 38 37.6	
	comp=Z,7.7nm,0.6s						
MBWA	Marble Bar	23.96	198	P	P	19 38 38.4	-0.4
MBWA				IAmb	IAmb	19 38 46.2	
	comp=Z,19nm,1.4s						
QIS	Mount Isa	25.12	152	P	P	19 38 51.1	+1.7
AS31	Alice Springs	25.98	166	P	P	19 38 56.5	-0.7
ASAR	Alice Springs	25.99	166	P	P	19 38 57.0	-0.2
	comp=Z,0.6nm,0.4s,baz=343,slow=7.8,SNR=33						
ASAR				S	S	19 43 15.9	-2.7
	comp=Z,0.3nm,0.8s,baz=344,slow=9.6,SNR=2.0						
	comp=Z,0.6nm,0.4s						
AS01	Alice Springs	26.00	166	P	P	19 38 57.4	+0.1
WRKA	Warakurna	26.60	178	P	P	19 39 03.1	+0.4
MEEK	Meekatharra	29.45	196	P	P	19 39 28.5	+0.4
OOD	Oodnadatta	30.38	166	P	P	19 39 37.3	+1.1
BBOO	Buckleboo	35.28	167	P	P	19 40 18.5	-0.3
STKA	Stephens Creek	35.99	159	P	P	19 40 25.1	+0.2
STKA	Stephens Creek	35.99	159	P	P	19 40 24.8	-0.1
	comp=Z,1.1nm,0.4s,baz=351,slow=9.1,SNR=6.3						
	comp=Z,1.1nm,0.4s						
SONM	Songino Array	49.44	341	P	P	19 42 14.1	+0.7
SONM	Songino Array	49.44	341	P	P	19 42 12.7	-0.6
	comp=Z,0.5nm,0.5s,baz=150,slow=5.3,SNR=4.0						
	comp=Z,0.5nm,0.5s						
MKAR	Makanchi Array	59.63	326	P	P	19 43 27.6	+0.7
	comp=Z,2.8nm,0.3s,baz=115,slow=8.0,SNR=73						
	comp=Z,2.8nm,0.3s						
MAKZ	Makanchi	59.82	325	P	P	19 43 28.7	+0.6
ZALV	Zalesovo Beam	62.72	333	P	P	19 43 46.7	-0.8
	comp=Z,0.3nm,0.3s,baz=118,slow=6.3,SNR=2.1						
	comp=Z,0.3nm,0.3s						
ARSB	Arslanbob	62.83	316	P	P	19 43 49.5	+0.9
KBL	Kabul	63.35	308	P	P	19 43 51.5	-0.8
KBL				IAmb	IAmb	19 43 53.3	
	comp=Z,3.8nm,1.0s						
KURBB	Kurchatov Arra	63.84	328	P	P	19 43 54.8	-0.1
	comp=Z,2.4nm,0.4s,baz=129,slow=6.2,SNR=36						
	comp=Z,2.4nm,0.4s						
KURK	Kurchatov	63.84	328	P	P	19 43 55.0	+0.1
KK31	Karatay Array	65.22	317	P	P	19 44 04.0	-0.1
KK31				IAmb	IAmb	19 44 05.1	
	comp=Z,1.4nm,0.7s						
BVAR	Borovoye Array	69.41	327	P	P	19 44 30.5	+0.2
	comp=Z,0.9nm,0.4s,baz=106,slow=5.5,SNR=5.0						
	comp=Z,0.9nm,0.4s						
TORD	Torodi Ar. Bea	124.24	287	PKP	PKPdf	19 52 20.7	-0.2
	comp=Z,0.2nm,0.4s,baz=110,slow=2.2,SNR=1.7						

*NEIC **25** 19:37:35.4±0.7, 17°63S±0°08×173°97W±0°08,*
h167km±14km, mb4.4/5, Error ellipse: s-maj=12.3km
s-min=10.4km az=162.0
*IDC **25** 19:37:48.7±13.0, 18°25S×174°46W, h261km±130km,*
mb3.2/6, mbtmp3.8/6, Error ellipse: s-maj=39.4km
s-min=28.4km az=10.0

ISC 25 19:37:34.5±0.8, 17°71S±0°08×174°03W±0°08, h150km, n14, σ1s95/15, mb3.9/9, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NIUE	Niue	4.12	110	Pn	Pn	19 38 37.4	+1.1
NIUE				Sn	Sn	19 39 22.9	-1.6
AFI	Afiamalu	4.35	30	Pn	Pn	19 38 39.5	0.0
AFI				Sn	Sn	19 39 27.9	-2.1
MSVF	Nonsavu	7.55	269		Pn	19 39 23.5	+1.6
URZ	Urewera	21.89	199	P	P	19 42 14.8	-0.7
	5.3nm,0.5s,baz=16,slow=7.4,SNR=7.5						
	5.3nm,0.5s						
RTZ	Ruatahuna	22.26	199	P	P	19 42 19.0	-0.3
RTZ				IAmb	IAmb	19 42 45.6	
	comp=Z,20nm,1.0s						
WB0	Warramunga Arr	48.74	259	P	P	19 46 02.8	-1.5
WB0				IAmb	IAmb	19 46 22.4	
	comp=Z,12nm,1.4s						
WB2	Warramunga Arr	48.76	259	P	P	19 46 03.3	-1.1
WB2				IAmb	IAmb	19 46 16.0	
	comp=Z,12nm,1.4s						
WRA	Warramunga Arr	48.77	259	P	P	19 46 03.8	-0.8
	comp=Z,0.3nm,0.3s,baz=98,slow=7.2,SNR=19						
	comp=Z,0.3nm,0.3s						
ASAR	Alice Springs	48.86	254	P	P	19 46 04.6	-0.6
	comp=Z,1.4nm,0.6s,baz=90,slow=8.4,SNR=19						
	comp=Z,1.4nm,0.6s						
MTN	Manton Dam	52.98	267	P	P	19 46 32.6	-3.4
QSPA	South Pole Qui	72.35	180	P	P	19 48 43.9	+0.1
QSPA	South Pole Qui	72.35	180	P	P	19 48 42.9	-0.8
	comp=Z,1.2nm,1.0s,baz=45,slow=9.6,SNR=1.4						
	comp=Z,1.2nm,1.0s						
NVAR	Mina Array Bea	76.44	42	P	P	19 49 14.3	+6.3
	comp=Z,0.3nm,0.5s,baz=217,slow=8.7,SNR=2.5						
	comp=Z,0.3nm,0.5s						
ILAR	Eielson Array	84.81	11	P	P	19 49 55.7	+4.2
	comp=Z,0.2nm,0.5s,baz=223,slow=6.1,SNR=1.6						
	comp=Z,0.2nm,0.5s						

*IDC **25** 19:38:21.8±6.1,37°45N×20°88E, h0km, mb3.3/6,*
mbtmp3.3/7, ML2.9/1, Error ellipse: s-maj=117.7km
s-min=29.3km az=22.0
*TIR **25** 19:38:22.7,37°60N×19°48E, h5km±13km, Ml3.6*
*ATH **25** 19:38:23.4,37°29N×20°42E, h4km±1km, ML3.3/31,*
Manual Solution by M.Kolligri This location: 2020/06/03
06:04:25 ML Amplitudes are expressed in micrometers, All
distances are expressed in degrees Latitude uncertainty: 1
km; Longitude uncertainty: 1 km
*THE **25** 19:38:24.5,37°32N×20°44E, h3km±1km, ML3.2/7, Error*
ellipse: s-maj=1.8km s-min=0.7km az=55.0

ISC 25 19:38:22.2±1.5, 37°25N±0°04×20°33E±0°04, h10km±9km, n97, σ1s44/125, mb3.4/6, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KRI1	kERI	0.57	43	P	Pg	19 38 33.4	+0.1
KRI1				S	Sg	19 38 39.8	-1.0
LTHK	Lithakia	0.61	41	P	Pg	19 38 34.1	-0.1
LTHK				S	Sg	19 38 40.9	-1.3
LTHK	Lithakia	0.61	41	P	Pg	19 38 34.1	-0.1
LTHK				S	Sg	19 38 40.6	-1.6
PSDA	Pessada-Kefalo	0.89	13	P	Pg	19 38 39.5	+0.1
PSDA				S	Sb	19 38 52.3	+0.7
	4μm,0.2s						
PSDA	Pessada-Kefalo	0.89	13	P	Pg	19 38 39.4	0.0
VLS	Valsamata	0.95	12	P	Pg	19 38 40.2	-0.4
VLS				S	Sb	19 38 54.1	+0.6
	2μm,0.3s						
VLS	Valsamata	0.95	12	P	Pg	19 38 40.0	-0.6
VLS				S	Sg	19 38 52.3	-0.7
KEF3	Kipouria, Keph	0.95	1	P	Pg	19 38 41.3	+0.7
KEF3	Kipouria, Keph	0.95	1	P	Pb	19 38 41.5	+0.6
KEF3				S	Sb	19 38 53.6	+0.1
LXRA	Lixouri, Kepha	0.96	5	P	Pb	19 38 41.4	+0.6
LXRA				S	Sb	19 38 53.5	0.0
DMLN	Damoulianata-K	0.99	2	P	Pg	19 38 41.7	+0.4
DMLN	Damoulianata-K	0.99	2	P	Pg	19 38 41.7	+0.4
DMLN				S	Sb	19 38 54.9	+0.3
SMHA	Samh	1.03	14	P	Pg	19 38 42.0	-0.1
VSK1	VASILIKIADES	1.18	9	P	Pg	19 38 45.0	+0.2
PYL	PYLOS	1.18	107	P	Pg	19 38 45.2	+0.3
PYL				S	Sn	19 39 01.4	+0.5
PYL	PYLOS	1.18	107	P	Pb	19 38 45.2	+0.3
PYL				S	Sb	19 39 00.4	+0.3
RLS	Riolos of Patr	1.21	48	P	Pg	19 38 44.8	-0.7
RLS				S	Sb	19 39 01.2	+0.2
	610nm,0.3s						
RLS	Riolos of Patr	1.21	48	P	Pg	19 38 44.6	-0.9
RLS				S	Sb	19 39 00.8	-0.2
FSK	Fiskardo	1.23	9	P	Pg	19 38 45.3	-0.5
FSK				S	Sb	19 39 01.6	+0.3
	1μm,0.4s						
FSK	Fiskardo	1.23	9	P	Pg	19 38 45.7	0.0
FSK				S	Sg	19 39 01.1	-0.5
ITM	Ithomi	1.28	92	P	Pb	19 38 46.9	+0.5
ITM				S	Sn	19 39 04.1	+0.8
	458nm,0.5s						
ITM	Ithomi	1.28	92	P	Pb	19 38 46.9	+0.5
ITM				S	Sb	19 39 02.7	-0.1
DRO	Drossia	1.30	57	P	Pg	19 38 46.6	-0.7
DRO				S	Sn	19 39 04.1	+0.1
	2μm,0.4s						
DRO	Drossia	1.30	57	P	Pg	19 38 46.6	-0.7
DRO				S	Sb	19 39 03.5	-0.1
EVGI	Lefkada island	1.40	11	P	Pn	19 38 48.2	+0.5
EVGI				S	Sb	19 39 06.6	+0.3
	960nm,0.3s						
EVGI	Lefkada island	1.40	11	P	Pn	19 38 48.3	+0.6
DRAG	Dragano-Lefkad	1.45	8	P	Pn	19 38 49.3	+0.8
DRAG	Dragano-Lefkad	1.45	8	P	Pn	19 38 48.3	-0.1
NYDR	Nydri-Lefkada	1.49	11	P	Pn	19 38 50.0	+1.0
NYDR	Nydri-Lefkada	1.49	11	P	Pn	19 38 50.0	+1.0
LKD2	Lefkada island	1.56	9	P	Pb	19 38 51.7	+0.5
	baz=37						
LKD2				S	Sg	19 39 13.8	+1.4
	baz=37						
LKD2				AMP			
	comp=E,2.7nm,0.5s,baz=37						
LKD2	Lefkada island	1.56	9	P	Pn	19 38 51.4	+1.4
LKD2	Lefkada island	1.56	9	P	Pn	19 38 51.6	+1.5
LKD2				S	Sg	19 39 11.9	-0.6
TSLK	Tsoukalades, L	1.60	9	P	Pn	19 38 51.9	+1.4
TSLK				S	Sn	19 39 11.2	+0.1
KLV	Kalavryta, Ach	1.65	61	P	Pn	19 38 52.3	+1.0
KLV	Kalavryta, Ach	1.65	61	P	Pn	19 38 52.3	+1.0
KLV				S	Sn	19 39 12.1	-0.5
PVO	Paravola	1.66	34	P	Pb	19 38 53.2	+0.3
PVO	Paravola	1.66	34	P	Pb	19 38 52.9	0.0
EFP	Efpalio	1.72	46	P	Pb	19 38 53.6	-0.2
GUR	Goura	1.74	66	P	Pn	19 38 53.5	+0.9
GUR	Goura	1.74	66	P	Pn	19 38 53.5	+0.9
ANX	Ano Chora	1.84	43	P	Pb	19 38 55.6	-0.4
ANX	Ano Chora	1.84	43	P	Pb	19 38 55.7	-0.3
THAL	Thalero	2.01	66	P	Pn	19 38 57.4	+1.2
THAL	Thalero	2.01	66	P	Pn	19 38 57.2	+1.0
EVR	Evrytania	2.04	35	P	Pn	19 38 58.3	+1.6
VLI	Veli

DBRK	**Dubrovnik**	**5.67**	**343**	*e*Pn	**Pn**	19 39 46.5	**0.0**
DBRK				Sn	**Sn**	19 40 47.4	**-4.2**
SGRT	**San Giovanni R**	**5.73**	**323**	P	**Pn**	19 39 48.5	**+1.1**
	baz=327						
SGRT				S	**Sn**	19 40 47.4	**-5.8**
	baz=327						
STON	**Ston**	**5.97**	**341**	*e*Pn	**Pn**	19 39 50.9	**+0.3**
LSTV	**Lastovo**	**6.11**	**336**	*e*Pn	**Pn**	19 39 52.6	**+0.1**
MAKA	**Makarska**	**6.54**	**338**	*e*Pn	**Pn**	19 39 59.1	**+0.7**
HVAR	**Hvar**	**6.63**	**335**	*e*Pn	**Pn**	19 39 59.8	**+0.2**
KUV	**Kijevo**	**7.38**	**337**	*e*Pn	**Pn**	19 40 11.1	**+1.2**
BRTR	**Keskin Array B**	**10.72**	**73**	Pn	Pn	19 40 51.5	-4.5
	comp=E,0.1nm,0.3s,baz=264,slow=13,SNR=2.0 comp=E,0.2nm,0.3s						
AKASG	**Malin Array Be**	**14.88**	**23**	Pn	**Pn**	19 41 55.1	**+2.6**
	comp=E,0.4nm,0.3s,baz=210,slow=9.1,SNR=1.3						
HFS	**Hagfors**	**23.30**	**352**	P	**P**	19 43 29.6	**-0.3**
	comp=E,0.4nm,0.3s,baz=160,slow=11,SNR=9.5 comp=E,0.4nm,0.3s						
EKA	**Eskdalemuir Ar**	**24.11**	**326**	P	**P**	19 43 38.7	**+0.8**
	comp=E,0.6nm,0.6s,baz=120,slow=14,SNR=2.3 comp=E,0.6nm,0.6s						
FINES	**FINESS Array B**	**24.49**	**7**	P	**P**	19 43 40.4	**-0.8**
	comp=E,0.4nm,0.5s,baz=168,slow=9.8,SNR=3.4 comp=E,0.4nm,0.5s						
NOA	**NORSAR Array B**	**24.50**	**349**	P	**P**	19 43 42.1	**+0.7**
	comp=E,0.2nm,0.6s,baz=163,slow=9.3,SNR=1.6 comp=E,0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**42.91**	**53**	P	**P**	19 46 18.2	**-2.5**
	comp=E,0.2nm,0.3s,baz=276,slow=8.4,SNR=3.0 comp=E,0.2nm,0.3s						
MKAR	**Makanchi Array**	**45.92**	**58**	P	**P**	19 46 42.5	**-2.5**
	comp=E,0.2nm,0.4s,baz=293,slow=6.3,SNR=4.6 comp=E,0.2nm,0.4s						

IDC ***25*** *20:05:29.2±1.0, 12.°88N×145.°79E, h0km, mb3.6/9, mbtmp3.6/9, MS3.2/4, Error ellipse: s-maj=28.2km s-min=18.1km az=69.0*

ISC 25 20:05:34.6±1.0, 12.°9N±0.°1×145.°7E±0.°2, h35km, n16, σ0s64/12, mb3.7/9, MS3.1/4, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.11**	**311**	**Pn**	**Pn**	**20 05 52.8**	**-0.9**
	114nm,0.3s,baz=121,slow=11,SNR=46						
GUMO				Sn	**Sn**	**20 06 08.0**	**+0.1**
	185nm,0.3s,baz=333,slow=20,SNR=8.2						
JHJ	**Hachijo jima 2**	**20.88**	**346**	LR	LR	20 17 17.3	
	comp=Z,69nm,19.4s,baz=97,slow=34						
H11N1	**WAKE ISLAND Hy**	**21.40**	**69**	T	T	20 33 29.2	
	baz=257						
H11N2	**WAKE ISLAND Hy**	**21.41**	**69**	T	T	20 33 14.5	
	baz=257						
H11N3	**WAKE ISLAND Hy**	**21.42**	**69**	T	T	20 33 24.4	
	baz=257						
MJAR	**Matsushiro Arr**	**24.53**	**345**	LR	LR	20 19 50.6	
	comp=Z,66nm,18.7s,baz=146,slow=35						
WRA	**Warramunga Ar**	**34.48**	**199**	P	**P**	**20 12 19.0**	**-0.4**
	1.1nm,0.8s,baz=18,slow=9.5,SNR=11 1.1nm,0.8s						
ASAR	**Alice Springs**	**38.11**	**198**	P	**P**	**20 12 50.2**	**-0.2**
	1.0nm,0.7s,baz=21,slow=8.0,SNR=6.6 1.0nm,0.7s						
CMAR	**Chiang Mai Arr**	**45.30**	**283**	P	**P**	**20 13 50.4**	**+0.9**
	0.6nm,0.6s,baz=80,slow=6.8,SNR=5.3						
CMAR				LR	LR	20 33 06.9	
	comp=Z,9.2nm,19.6s,baz=145,slow=37 0.6nm,0.6s						
SONM	**Songino Array**	**47.81**	**325**	P	**P**	**20 14 09.5**	**+0.7**
	0.2nm,0.5s,baz=132,slow=6.2,SNR=2.4						
SONM				PcP	**PcP**	**20 15 37.3**	**0.0**
	0.3nm,0.7s,baz=158,slow=4.5,SNR=1.6 0.2nm,0.5s						
MKAR	**Makanchi Array**	**62.60**	**316**	P	**P**	**20 15 55.4**	**0.0**
	0.2nm,0.5s,baz=90,slow=7.4,SNR=3.4 0.2nm,0.5s						
KURBB	**Kurchatov Arra**	**65.72**	**320**	P	**P**	**20 16 15.4**	**-0.4**
	1.4nm,0.8s,baz=103,slow=7.0,SNR=10 1.4nm,0.8s						
ILAR	**Eielson Array**	**68.86**	**25**	P	**P**	**20 16 34.6**	**-0.8**
	0.3nm,0.7s,baz=232,slow=5.6,SNR=2.4 0.3nm,0.7s						
BVAR	**Borovoye Array**	**71.02**	**322**	P	**P**	**20 16 48.8**	**-0.1**
	0.9nm,0.6s,baz=88,slow=4.5,SNR=5.3 0.9nm,0.6s						
AKTO	**Aktyubinsk**	**78.76**	**319**	LR	LR	20 53 25.7	
	comp=Z,31nm,18.1s,baz=198,slow=36						
YKA	**Yellowknife Ar**	**83.11**	**27**	P	**P**	**20 17 57.4**	**+0.8**
	0.2nm,0.5s,baz=289,slow=5.6,SNR=2.6 0.2nm,0.5s						

RSNC 25 20:09:38.7±0.8, 13.°N±5.°×7.°5W±.°, h16km±8km, M3.3, mb4.0, mB4.9, ML2.9, Mw(mB)4.2, Caribbean Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SMRC	**Santa Marta, M**	**1.63**	**153**	P	Pn	20 10 05.2	-1.6
SMRC				S	Sb	20 10 28.3	-0.5
CRJC	**Cerrejon, Guaj**	**2.60**	**128**	P	Pn	20 10 19.0	-1.1
CRJC				S	Sn	20 10 53.3	+1.9
SJCC	**San Jacinto, C**	**2.72**	**184**	P	Pn	20 10 21.3	-0.6
SJCC				S	Sn	20 10 53.3	-1.3
ARGC	**Ariguani, Magd**	**2.84**	**165**	P	Pn	20 10 25.0	+1.5
ARGC				S	Sn	20 11 00.6	+3.1
URIC	**Uribia, Colomb**	**3.05**	**107**	P	Pn	20 10 24.6	-1.8
URIC				S	Sn	20 11 02.8	+0.2
OCAC	**Ocana**	**4.66**	**159**	P	Pn	20 10 50.0	+1.4
OCAC				S	Sn	20 11 44.8	+2.4
UREC	**San Jos de Ur**	**4.88**	**187**	P	Pn	20 10 50.9	-0.6
UREC				S	Sn	20 11 44.3	-3.4
APAC	**Apartado, Choc**	**4.96**	**199**	P	Pn	20 10 50.4	-2.2
APAC				S	Sn	20 11 44.7	-5.0
DBBC	**Dabeiba**	**5.71**	**192**	P	Pn	20 11 05.2	+2.2
DBBC				S	Sn	20 12 03.3	-5.0
PAMC	**Pamplona, Colo**	**5.71**	**157**	P	Pn	20 11 03.7	+0.3
PAMC				S	Sn	20 12 08.3	-0.6
PTBC	**PUERTO BERRIO,**	**6.07**	**175**	P	Pn	20 11 07.3	-0.6
PTBC				S	Sn	20 12 13.9	-3.3
BARC	**Barichara**	**6.25**	**163**	P	Pn	20 11 12.3	+1.7
BARC				S	Sn	20 12 24.3	+2.4
HELC	**Santa Helena**	**6.42**	**185**	P	Pn	20 11 12.2	-0.8
	7.9nm,0.4s,388nm						
HELC				S	Sn	20 12 25.3	-0.9
	7.9nm,0.4s,388nm						
RUSC	**La Rusia**	**6.95**	**164**	P	Pn	20 11 21.5	+1.1
RUSC				S	Sn	20 12 41.1	+1.7
NORC	**Norcasia**	**7.02**	**179**	P	Pn	20 11 19.9	-1.1
NORC				S	Sn	20 12 37.6	-3.0

IDC 25 20:13:20.4±1.9, 2.°33N×126.°99E, h0km, mb3.5/4, mbtmp3.6/4, Error ellipse: s-maj=177.3km s-min=20.9km az=67.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.28**	**162**	P	P	20 18 29.5	-0.4
	0.5nm,0.3s,baz=340,slow=10.0,SNR=20 0.5nm,0.3s						
ASAR	**Alice Springs**	**26.70**	**166**	P	P	20 19 01.6	+0.1
	0.2nm,0.5s,baz=355,slow=7.4,SNR=7.0 0.2nm,0.5s						
MKAR	**Makanchi Array**	**58.85**	**326**	P	P	20 23 21.6	+0.6
	0.3nm,0.4s,baz=114,slow=8.1,SNR=5.7 0.3nm,0.4s						
KURBB	**Kurchatov Arra**	**63.05**	**328**	P	P	20 23 49.1	-0.4
	0.6nm,0.5s,baz=125,slow=6.2,SNR=9.5 0.6nm,0.5s						

DJA ***25*** *20:15:00.9±0.3, 7.°5±3.°×10.°7E±.°, h10km, M4.4/14, mb4.5/3, mB4.8/2, MLv4.4/14, Mw(mB)4.1/2*
IDC ***25*** *20:15:00.3±0.9, 7.°26S×106.°85E, h0km, mb3.6/7, mbtmp3.6/7, MS3.4/1, Error ellipse: s-maj=18.8km s-min=11.4km az=151.0*

ISC 25 20:15:01.4±1.2, 7.°14S±0.°04×106.°91E±0.°04, h5km±8km, n35, σ1s24/41, mb3.7/10, Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CNJI	**Cibinong**	**0.27**	**128**	P	**Pg**	**20 15 06.6**	**-0.1**
CNJI				S	**Sg**	**20 15 10.9**	**+0.6**
SKJI	**Sukabumi**	**0.38**	**291**	P	**Pg**	**20 15 08.5**	**-0.2**
SKJI				S	**Sb**	**20 15 14.4**	**-2.3**

DBJI	**Dramaga**	**0.61**	**345**	P	**Pg**	**20 15 12.3**	**-0.8**
DBJI				S	**Sg**	**20 15 21.5**	**+0.5**
LEM	**Lembang**	**0.77**	**66**	Pg	**Pg**	**20 15 17.1**	**+0.9**
	568nm,0.3s,baz=292,slow=6.3,SNR=386						
LEM				Lg	Lg	20 15 30.1	
	559nm,0.3s,baz=354,slow=23,SNR=9.8						
TNG	**Tangerang**	**1.00**	**345**	P	**Pg**	**20 15 19.9**	**-0.7**
TNG				P	**Pb**	**20 15 20.4**	**-0.8**
TNG				S	**Sg**	**20 15 34.1**	**+0.5**
SBJI	**Serang**	**1.28**	**323**	P	**Pn**	**20 15 24.1**	**-1.8**
SBJI				S	**Sn**	**20 15 43.4**	**0.0**
JCJI	**Jatiwangi**	**1.50**	**64**	P	**Pn**	**20 15 27.2**	**-1.7**
JCJI				S	**Sn**	**20 15 46.4**	**-2.4**
CMJI	**Cimerak**	**1.65**	**113**	P	**Pn**	**20 15 29.5**	**-1.5**
CMJI				S	**Sn**	**20 15 51.0**	**-1.6**
KASI	**Kota Agung**	**2.89**	**304**	P	**Pn**	**20 15 47.6**	**-0.5**
KASI				S	**Sn**	**20 16 23.4**	**+0.2**
SMRI	**Semarang**	**3.50**	**89**	P	**Pn**	**20 15 55.7**	**-0.8**
LWLI	**Liwa**	**3.54**	**306**	P	**Pn**	**20 15 57.0**	**-0.1**
UGM	**Wanagama**	**3.66**	**102**	P	**Pn**	**20 15 59.2**	**+0.5**
UGM				S	**Sn**	**20 16 42.5**	**+0.2**
NGJI	**Ngawi**	**4.52**	**93**	P	**Pn**	**20 16 10.5**	**0.0**
PWJI	**Pagerwojo**	**4.93**	**101**	P	**Pn**	**20 16 16.5**	**+0.4**
PWJI				S	**Sn**	**20 17 14.3**	**+0.7**
PPBI	**Pangkal Pinang**	**5.01**	**351**	P	**Pn**	**20 16 17.2**	**0.0**
	25nm,0.8s,0.4nm						
DSRI	**Dabo**	**7.02**	**341**	P	**Pn**	**20 16 45.3**	**+0.5**
	17nm,0.6s,656nm0.1nm						
BATI	**Baumata**	**16.84**	**102**	Pn	**P**	**20 19 02.3**	**+2.1**
	1.7nm,0.3s,baz=281,slow=19,SNR=2.1						
BATI				Sn	**Sn**	**20 22 03.4**	**-2.2**
	1.2nm,0.3s,baz=257,slow=17,SNR=1.6						
CMAR	**Chiang Mai Arr**	**26.62**	**343**	P	**P**	**20 20 44.5**	**+3.5**
	0.3nm,0.4s,baz=178,slow=9.0,SNR=2.5						
WRA	**Warramunga Ar**	**29.48**	**118**	P	**P**	**20 21 05.9**	**-0.8**
	0.9nm,0.8s,baz=305,slow=9.5,SNR=7.9						
WRA				PcP	**PcP**	**20 24 11.5**	**-0.9**
	0.2nm,0.7s,baz=302,slow=1.8,SNR=1.5 0.9nm,0.8s						
ASAR	**Alice Springs**	**30.68**	**125**	P	**P**	**20 21 16.4**	**-0.9**
	1.1nm,0.8s,baz=297,slow=8.1,SNR=7.2 1.1nm,0.8s						
H08S2	**Diego Garcia H**	**34.13**	**267**	T	T	20 57 08.8	
	baz=91,slow=75,SNR=70						
H08S3	**Diego Garcia H**	**34.14**	**267**	T	T	20 57 11.1	
	baz=91,slow=75,SNR=92						
H08S1	**Diego Garcia H**	**34.15**	**267**	T	T	20 57 11.2	
	baz=91,slow=75,SNR=81						
STKA	**Stephens Creek**	**40.61**	**132**	P	**P**	**20 22 41.6**	**-0.8**
	7.5nm,0.5s,baz=294,slow=11,SNR=21						
XLT	**XiLinHaoTe**	**51.48**	**8**	*e*P	**P**	**20 24 10.0**	**+2.1**
XLT				pP	sP	20 24 14.8	+4.4
XLT				sP	pP	20 24 17.5	+7.8
XLT				pmax	pmax		
	comp=Z,9.0nm,0.8s						
XLT				pmax	pmax		
	comp=Z,40nm,5.0s						
SONM	**Songino Array**	**54.74**	**360**	P	**P**	**20 24 32.1**	**+0.1**
	comp=Z,0.4nm,0.6s,baz=190,slow=5.9,SNR=2.3 comp=Z,0.4nm,0.6s						
MKAR	**Makanchi Array**	**57.99**	**340**	P	**P**	**20 24 55.2**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=147,slow=8.6,SNR=2.1 comp=Z,0.1nm,0.5s						
OPO	**Ambohidratompo**	**59.09**	**253**	LR	LR	20 48 01.2	
	comp=Z,30nm,18.1s,baz=348,slow=34						
H04N2	**CROZET ISLANDS**	**61.10**	**221**	T	T	21 31 30.9	
	baz=68,slow=75,SNR=36						
H04N1	**CROZET ISLANDS**	**61.11**	**221**	T	T	21 31 26.0	
	baz=68,slow=75,SNR=35						
H04N3	**CROZET ISLANDS**	**61.12**	**221**	T	T	21 31 24.7	
	baz=68,slow=75,SNR=37						
KURBB	**Kurchatov Arra**	**62.55**	**340**	P	**P**	**20 25 26.0**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=154,slow=6.5,SNR=2.9 comp=Z,0.3nm,0.6s						
VNDA	**Vanda**	**75.84**	**169**	P	**P**	**20 26 48.9**	**+0.6**
	comp=Z,0.8nm,0.8s,baz=299,slow=6.7,SNR=3.4 comp=Z,0.8nm,0.8s						
MMAI	**Mount Meron Ar**	**78.61**	**306**	P	**P**	**20 27 05.3**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=105,slow=9.1,SNR=2.8 comp=Z,0.3nm,0.4s						
TXAR	**Lajitas Array**	**143.72**	**49**	PKP	**PKPdf**	**20 34 38.5**	**0.0**
	comp=Z,0.7nm,0.9s,baz=328,slow=4.6,SNR=5.8						

NEIC ***25*** *20:22:06.1±1.0, 19.°30N±0.°02×155.°109W±0.°009, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.8km az=341.0*

HVO 25 20:22:06.2±1.0, 19.°34N±0.°01×155.°113W±0.°008, h6km±3km, ML3.3/46, ML3.2/46(NEIC), Error ellipse: s-maj=2.1km s-min=0.9km az=166.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JCUZ	**Jacuzzi**	**0.05**	**13**		Pg	20 22 09.6	+1.8
STCH	**Steam Cracks**	**0.05**	**345**		Pg	20 22 08.1	+0.3
STCH				IAML		20 22 09.7	
	comp=N,18μm,0.2s						
STCH				IAML		20 22 09.9	
	comp=E,16μm,0.1s						
NPOC	**North of Pu'u**	**0.05**	**3**		Pg	20 22 09.8	+2.0
KNHH	**Kane Nui o Ham**	**0.07**	**307**		Pg	20 22 08.5	+0.4
PUH	**Pauahi**	**0.10**	**289**		Pg	20 22 08.9	+0.4
JOKA	**Jonika Flow**	**0.14**	**47**		Pg	20 22 09.3	+0.1
KKO	**Keanakako'i**	**0.16**	**292**		Pg	20 22 09.7	+0.2
KKO					Sg	20 22 12.6	+0.9
BYL	**Byron's Ledge**	**0.16**	**297**		Sg	20 22 12.5	+0.8
BYL	**Byron's Ledge**	**0.16**	**297**		Pg	20 22 09.7	+0.2
BYL				IAML		20 22 12.9	
	comp=N,7μm,0.6s						
BYL				IAML		20 22 13.7	
	comp=E,5μm,0.6s						
RIM	**Rim**	**0.16**	**290**		Pg	20 22 09.9	+0.3
HATHI	**Halema'uma'u T**	**0.16**	**301**		Pg	20 22 09.9	+0.3
SBLHI	**Steaming Bluff**	**0.17**	**301**		Pg	20 22 09.9	+0.2
NPH	**North Pit**	**0.17**	**294**		Pg	20 22 10.1	+0.3
UWB	**Uwekahuna B**	**0.18**	**299**		Pg	20 22 10.0	+0.2
OBL	**Observatory Le**	**0.18**	**296**		Pg	20 22 10.3	+0.4
UWE	**Uwekahuna**	**0.19**	**296**		Pg	20 22 10.4	+0.3
UWE	**Uwekahuna**	**0.19**	**296**	IAML		20 22 16.7	
	comp=N,5μm,0.5s						
UWE				IAML		20 22 17.1	
	comp=E,8μm,0.5s						
HLP	**Hilina Pali**	**0.19**	**257**		Pg	20 22 10.5	+0.5
HLP				IAML		20 22 14.2	
	comp=E,7μm,0.2s						
HLP				IAML		20 22 15.3	
	comp=N,5μm,0.1s						
RSD	**Rainshed**	**0.20**	**308**		Pg	20 22 10.5	+0.3
PAH	**Pahoa**	**0.22**	**45**		Pg	20 22 10.7	+0.1
PHO	**Puu Honuaula**	**0.25**	**56**		Sb	20 22 16.5	-1.3
PHO	**Puu Honuaula**	**0.25**	**56**	Pg	Pg	20 22 11.3	+0.1
HTC	**Hot Caves**	**0.29**	**249**		Pg	20 22 12.6	+0.7
MLH	**Mauna Loa**	**0.30**	**301**		Pg	20 22 12.3	+0.1
MLH				IAML		20 22 21.7	
	comp=E,3μm,0.2s						
MLH				IAML		20 22 22.6	
	comp=N,5μm,0.2s						
HMH	**Humu'ula Sheep**	**0.44**	**307**		Pg	20 22 14.7	-0.1
HMH	**Humu'ula Sheep**	**0.44**	**307**		Sg	20 22 21.8	+1.3
MLOA	**Mauna Loa Obse**	**0.48**	**294**		Pg	20 22 15.3	-0.3
MLOA					Sg	20 22 22.1	+0.2
MLOA				IAML		20 22 24.4	
	comp=E,3μm,0.2s						
MWH	**Moku'aweowe**	**0.48**	**288**		Pg	20 22 15.4	-0.2
MWH				IAML		20 22 24.1	
	comp=N,2μm,0.4s						
KHU	**Kahuku**	**0.48**	**259**		Pg	20 22 15.2	-0.4
KHU				IAML		20 22 25.0	
	comp=E,2μm,0.1s						
KHU				IAML		20 22 31.3	
	comp=N,2μm,0.5s						
KHU	**Kahuku**	**0.48**	**259**		Sg	20 22 23.2	+1.2
ALEP	**Alea Permanent**	**0.54**	**292**		Pg	20 22 16.3	-0.5
ALEP					Sg	20 22 24.8	+0.9
POHA	**Pohakuloa**	**0.57**	**316**		Pg	20 22 16.7	-0.6
HUH	**Hualalai**	**0.76**	**297**		Pg	20 22 19.7	-1.0
CPH	**Captain Cook**	**0.78**	**281**		Pg	20 22 19.8	-1.4
HPAH	**Hawaii Prepara**	**0.88**	**321**		Pg	20 22 20.7	-2.5
HPAH				IAML		20 22 34.7	
	comp=N,1μm,0.2s						
HPAH				IAML		20 22 35.0	
	comp=E,1μm,0.3s						
MHA	**Mahukona**	**1.12**	**319**		Pg	20 22 24.3	-3.6
HLK	**Haleakala**	**1.77**	**323**	Pn	Pn	20 22 33.2	-4.5
KHLH	**Kahului Airpor**	**1.98**	**322**		Pn	20 22 31.3	-8.9
KPA	**Kalaupapa**	**2.54**	**317**	Pn	Pn	20 22 43.6	-4.4

NEIC ***25*** *20:22:31.9±1.0, 41.°11N±0.°03×74.°03W±0.°01, h8km±5km, Error ellipse: s-maj=3.9km s-min=0.7km az=193.0*

LDO 25 20:22:32.1±0.7, 41.°13N±0.°02×74.°04W±0.°01, h5km±5km, ML1.8, ML2.0/12(NEIC), Error ellipse: s-maj=2.8km s-min=1.4km az=178.0, New York

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TRNY	**Table Rock, Ra**	**0.14**	**277**	Pg	Pg	20 22 34.5	-0.4
TRNY				Sg	Sg	20 22 36.3	-0.4
PAL	**Palisades**	**0.16**	**140**	Pg	Pg	20 22 34.8	-0.4
PAL				Sg	Sg	20 22 37.0	-0.3
PAL				IAML		20 22 37.3	
	comp=E,297nm,0.1s						
CPNY	**Central Park**	**0.34**	**169**	Pg	Pg	20 22 37.9	-0.8
CPNY				Sg	Sg	20 22 42.2	-1.0
ODNJ	**Ogdensburg**	**0.43**	**264**	Pg	Pg	20 22 39.6	-0.7
N62A	**Caumsett State**	**0.48**	**114**	Pg	Pg	20 22 40.7	-0.6
WSPT	**Westport, CT**	**0.54**	**85**	Pg	Pg	20 22 42.0	-0.5
WSPT				Sg	Sg	20 22 48.8	-0.7
WSPT				IAML		20 22 51.1	
	comp=E,109nm,0.1s						
WSPT				IAML		20 22 53.5	
	comp=E,111nm,0.1s						
BRNJ	**Basking Ridge**	**0.60**	**222**	Pg	Pg	20 22 42.6	-1.0
KSCT	**Kent School, K**	**0.73**	**35**	Pg	Pg	20 22 45.1	-1.1
KSCT				Sg	Sg	20 22 54.9	-0.8
KSCT				IAML		20 22 55.7	
	comp=E,45nm,0.1s						
YLE	**Yale**	**0.85**	**77**	Pg	Pg	20 22 48.0	-0.5
YLE				IAML		20 23 01.4	
	comp=E,37nm,0.5s						
L59A	**Walton**	**1.30**	**325**		Pn	20 22 55.9	-1.1
L59A				Sg	Sg	20 23 12.0	-1.9
L59A				IAML		20 23 15.4	
	comp=E,50nm,0.5s						
KSPA	**Keystone Colle**	**1.37**	**289**		Pn	20 22 57.6	-0.2
UCCT	**U. Connecticut**	**1.52**	**63**		Pn	20 22 59.5	-0.5
M63A	**Gales Ferry**	**1.53**	**79**		Pn	20 22 58.9	-1.1
M63A					Sn	20 23 17.8	-2.6
L61B	**Northampton**	**1.67**	**37**	Pn	Pn	20 23 01.6	-0.4
WUPA	**West Chester U**	**1.69**	**225**	Pn	Pn	20 23 01.6	-0.6
QUA2	**Belchertown**	**1.71**	**47**	Pn	Pn	20 23 02.1	-0.5
BINY	**Binghamton**	**1.81**	**307**	Pn	Pn	20 23 03.5	-0.5
N58A	**Sunbury**	**2.04**	**263**	Pn	Pn	20 23 06.3	-0.9
K62A	**Royalston**	**2.04**	**41**	Pn	Pn	20 23 07.1	-0.1
MVL	**Millersville**	**2.09**	**238**	Pn	Pn	20 23 06.3	-1.4
ACCN	**Adirondack Com**	**2.27**	**7**	Pn	Pn	20 23 09.1	-1.2
M57A	**Sunshine Farm,**	**2.34**	**276**	Pn	Pn	20 23 09.3	-1.9
J58A	**Remsen**	**2.41**	**338**	Pn	Pn	20 23 12.2	-0.1
K57A	**Scipio Center**	**2.44**	**312**	Pn	Pn	20 23 11.9	-0.8
J61A	**Chester**	**2.48**	**26**	Pn	Pn	20 23 12.8	-0.3
L56A	**Greenwood**	**2.82**	**292**	Pn	Pn	20 23 17.6	-0.3
NCB	**Newcomb**	**2.84**	**357**	Pn	Pn	20 23 17.7	-0.5
SSPA	**Standing Stone**	**2.96**	**262**	Pn	Pn	20 23 18.6	-1.0
VT1	**Waterbury**	**3.34**	**16**	Pn	Pn	20 23 23.4	-1.5
I62A	**Tamworth**	**3.40**	**35**	Pn	Pn	20 23 24.8	-0.9

IDC 25 20:24:49.5±2.9, 8.°62S×158.°29E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=97.2km s-min=37.2km az=131.0, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**25.75**	**242**	P	P	20 30 22.0	-0.1
	0.8nm,0.9s,baz=69,slow=9.4,SNR=6.0 0.8nm,0.9s						
H11N1	**WAKE ISLAND Hy**	**29.40**	**17**	T	T	21 01 02.4	
	baz=196,slow=76,SNR=14						
H11N3	**WAKE ISLAND Hy**	**29.41**	**17**	T	T	21 01 08.2	
	baz=196,slow=76,SNR=18						
H11N2	**WAKE ISLAND Hy**	**29.42**	**17**	T	T	21 01 08.9	
	baz=196,slow=76,SNR=19						
SONM	**Songino Array**	**72.47**	**326**	P	P	20 36 17.3	-0.8
	0.5nm,0.7s,baz=134,slow=4.2,SNR=2.9 0.5nm,0.7s						
ILAR	**Eielson Array**	**83.71**	**21**	P	P	20 37 19.9	0.0
	0.2nm,0.5s,baz=231,slow=5.7,SNR=4.1 0.2nm,0.5s						
MKAR	**Makanchi Array**	**86.77**	**318**	P	P	20 37 36.8	+1.0
	0.2nm,0.6s,baz=123,slow=5.3,SNR=2.8 0.2nm,0.6s						

BJI ***25*** *20:25:37.1±0.0, 26.°47N×94.°23E, h10km, mb3.9/7, mB4.5/1, ML3.4/2*
IDC ***25*** *20:25:38.6±0.9, 26.°41N×93.°51E, h0km, mb3.8/12, mbtmp3.7/13, ML3.4/1, MS3.1/1, Error ellipse: s-maj=41.4km s-min=17.9km az=59.0*
NDI ***25*** *20:25:44.7±1.9, 26.°38N×93.°45E, h10km, ML3.7, MW3.7, mb4.0(NEIC)*
NEIC ***25*** *20:25:46.3±2.2, 26.°39N±0.°07×93.°51E±0.°08, h49km±8km, mb4.0/19, Error ellipse: s-maj=11.8km s-min=8.5km az=47.0*

ISC 25 20:25:46.2±0.9, 26.°39N±0.°04×93.°51E±0.°04, h57km±10km, n47, σ1s34/54, mb3.9/21, Northeastern India

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KOHI	**KOHIMA**	**0.86**	**141**	*e*P	**Pn**	**20 26 01.9**	**-0.6**
KOHI				*e*S	**Sn**	**20 26 13.2**	**-1.1**
KOHI				IAML		20 26 14.9	
	comp=N,3μm,0.4s						
KOHI				IAML		20 26 15.9	
	comp=E,3μm,0.4s						
ZIRO	**ZIRO**	**

	comp=Z,4.1nm,0.5s						
MAKZ	**Makanchi**	**22.33**	**339**	P	**P**	**20 30 38.6**	**-0.6**
MAKZ				IAmb	IAmb	20 30 41.4	
	comp=Z,5.0nm,0.7s						
DRK	**Karamyk**	**22.34**	**311**	P	**P**	**20 30 39.6**	**-0.1**
DRK				IAmb	IAmb	20 30 44.7	
	comp=Z,4.9nm,0.6s						
AAK	**Ala-Archa**	**22.46**	**321**	P	**P**	**20 30 42.3**	**+1.5**
ARSB	**Arslanbob**	**22.56**	**316**	P	**P**	**20 30 43.0**	**+1.1**
KBL	**Kabul**	**22.56**	**297**	P	**P**	**20 30 43.0**	**+1.0**
KBL				IAmb	IAmb	20 30 48.6	
	comp=Z,6.4nm,0.9s						
GAR	**Garm**	**23.14**	**309**	P	**P**	**20 30 47.1**	**-0.7**
GAR				IAmb	IAmb	20 30 49.1	
	comp=Z,7.4nm,0.9s						
BTK	**Batken**	**23.29**	**311**	P	**P**	**20 30 49.2**	**0.0**
SONM	**Songino Array**	**23.68**	**22**	P	**P**	**20 30 51.6**	**-1.2**
	comp=Z,0.2nm,0.4s,baz=207,slow=6.1,SNR=1.8						
	comp=Z,0.2nm,0.4s						
CHGR	**Chuyangaron**	**23.82**	**307**	P	**P**	**20 30 54.1**	**0.0**
SIMJ	**Simiganj**	**23.93**	**307**	P	**P**	**20 30 54.2**	**-1.0**
SIMJ				IAmb	IAmb	20 30 59.5	
	comp=Z,3.0nm,0.9s						
KK31	**Karatay Array**	**25.08**	**318**	P	**P**	**20 31 06.0**	**+0.6**
KURBB	**Kurchatov Arra**	**26.78**	**339**	P	**P**	**20 31 20.0**	**-0.7**
	comp=Z,1.6nm,0.8s,baz=153,slow=9.8,SNR=10						
	comp=Z,1.6nm,0.8s						
KURK	**Kurchatov**	**26.83**	**339**	P	**P**	**20 31 20.7**	**-0.4**
KURK				IAmb	IAmb	20 31 37.2	
	comp=Z,2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**28.27**	**349**	P	**P**	**20 31 33.8**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=152,slow=6.5,SNR=3.5						
	comp=Z,0.6nm,0.4s						
GNI	**Garni**	**42.52**	**301**	LR	LR	20 55 13.5	
	comp=Z,27nm,21.3s,baz=252,slow=42						
FINES	**FINESS Array B**	**56.42**	**328**	P	**P**	**20 35 21.7**	**0.0**
FINES	**FINESS Array B**	**56.42**	**328**	P	**P**	**20 35 21.3**	**-0.3**
	comp=Z,1.0nm,0.6s,baz=111,slow=7.6,SNR=7.5						
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**60.75**	**135**	P	**P**	**20 35 52.5**	**+0.1**
	comp=Z,0.3nm,0.7s,baz=323,slow=7.3,SNR=1.4						
	comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**62.48**	**326**	P	**P**	**20 36 03.3**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=99,slow=9.2,SNR=8.7						
	comp=Z,1.9nm,0.6s						
ASAR	**Alice Springs**	**63.26**	**138**	P	**P**	**20 36 09.2**	**0.0**
	comp=Z,0.2nm,0.5s,baz=318,slow=5.7,SNR=1.5						
	comp=Z,0.2nm,0.5s						
NB2	**NORSAR Subarra**	**63.59**	**327**	P	**P**	**20 36 10.1**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=86,slow=6.5						
NOA	**NORSAR Array B**	**63.59**	**327**	P	**P**	**20 36 10.3**	**-0.7**
	comp=Z,0.6nm,0.7s,baz=85,slow=6.6,SNR=4.3						
	comp=Z,0.6nm,0.7s						
NC204	**NORSAR Array S**	**63.78**	**328**	P	**P**	**20 36 11.7**	**-0.5**
GERES	**GERESS Array B**	**64.10**	**314**	P	**P**	**20 36 14.7**	**+0.1**
	comp=Z,0.6nm,0.5s,baz=62,slow=6.8,SNR=2.4						
	comp=Z,0.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**72.34**	**323**	P	**P**	**20 37 05.6**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=75,slow=5.5,SNR=1.3						
	comp=Z,0.3nm,0.4s						
F20K	**Avaraart Lake**	**73.62**	**22**	P	**P**	**20 37 13.6**	**+0.4**
H21K	**Melozitna Rive**	**75.34**	**23**	P	**P**	**20 37 23.8**	**+0.5**
H21K				IAmb	IAmb	20 37 53.7	
	comp=Z,4.6nm,1.4s						
E24K	**Your Creek**	**75.43**	**20**	P	**P**	**20 37 24.5**	**+0.7**
E24K				IAmb	IAmb	20 37 41.9	
	comp=Z,2.1nm,1.0s						
TORD	**Torodi Ar. Bea**	**85.86**	**283**	P	**P**	**20 38 21.0**	**+0.6**
	comp=Z,1.6nm,0.7s,baz=56,slow=5.4,SNR=13						
	comp=Z,1.6nm,0.7s						

NEIC ***25*** *20:26:46.6±1.4, 56.18N±0.07×149.40W±0.10, h10km±2km, mb4.2/3, ML3.9/64, ML3.7(AEIC), Error ellipse: s-maj=11.7km s-min=9.3km az=172.0*

IDC ***25*** *20:26:47.7±1.3, 56.15N×149.39W, h0km, mb3.8/12, mbtmp3.8/16, ML3.3/4, MS3.3/20, Error ellipse: s-maj=28.3km s-min=20.2km az=21.0*

AEIC ***25*** *20:26:50.5±1.4, 56.18N±0.07×149.43W±0.09, h5km±5km, Error ellipse: s-maj=10.3km s-min=6.8km az=160.0*

ISC 25 20:26:47.7±0.7, 56.21N±0.07×149.42W±0.05, h10km, n355, σ1§34/338, mb4.0/15, MS3.2/15, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.34**	**314**		**Pn**	**20 27 25.4**	**-0.8**
KDAK	**Kodiak Island**	**2.34**	**314**		**Sn**	**20 27 51.4**	**-3.6**
KDAK	**Kodiak Island**	**2.34**	**314**	Pn	**Pn**	**20 27 25.3**	**-1.0**
	6.2nm,0.3s,baz=146,slow=4.5,SNR=68						
KDAK				Sn	**Sn**	**20 27 50.3**	**-4.7**
	6.5nm,0.3s,baz=154,slow=14,SNR=6.7						
	12nm,0.3s						
OHAK	**Old Harbor**	**2.36**	**297**	P	**Pn**	**20 27 25.1**	**-1.4**
OHAK	**Old Harbor**	**2.36**	**297**	Pn	**Pn**	**20 27 25.1**	**-1.4**
OHAK	**Old Harbor**	**2.36**	**297**		**Sn**	**20 27 52.0**	**-3.4**
OHAK	**Old Harbor**	**2.36**	**297**	P	**Pn**	**20 27 25.1**	**-1.4**
	baz=114						
OHAK				S	**Sn**	**20 27 52.0**	**-3.4**
	baz=114						
SII	**Sitkinak Islan**	**2.67**	**280**	P	**Pn**	**20 27 30.0**	**-0.8**
SII	**Sitkinak Islan**	**2.67**	**280**		**Pn**	**20 27 29.6**	**-1.1**
SII				IAML		20 28 12.0	
	comp=N,252nm,0.8s						
SII	**Sitkinak Islan**	**2.67**	**280**		**Sn**	**20 28 00.1**	**-3.1**
SII	**Sitkinak Islan**	**2.67**	**280**	P	**Pn**	**20 27 29.8**	**-1.0**
	baz=96						
SII				S	**Sn**	**20 28 00.1**	**-3.1**
	baz=96						
SYI	**Shuyak Island**	**2.90**	**328**		**Pn**	**20 27 32.8**	**-1.0**
SYI	**Shuyak Island**	**2.90**	**328**		**Sn**	**20 28 06.1**	**-2.5**
Q20K	**Shuyak Island**	**2.90**	**328**	P	**Pn**	**20 27 33.2**	**-0.7**
	baz=145						
Q20K				S	**Sn**	**20 28 06.1**	**-2.5**
	baz=145						
R18K	**Karluk**	**3.08**	**298**		**Pn**	**20 27 35.7**	**-0.6**
R18K					**Sn**	**20 28 09.3**	**-3.8**
R18K	**Karluk**	**3.08**	**298**	IAML		20 28 11.6	
	comp=N,393nm,0.5s						
R18K				IAML		20 28 24.0	
	comp=E,224nm,0.5s						
R18K	**Karluk**	**3.08**	**298**	P	**Pn**	**20 27 35.7**	**-0.6**
	baz=115						
R18K				S	**Sn**	**20 28 09.3**	**-3.8**
	baz=115						
CNPM	**China Poot**	**3.47**	**345**		**Pn**	**20 27 40.5**	**-1.2**
CNPM				IAML		20 28 36.1	
	comp=E,128nm,0.8s						
CHIR	**Chirikof Islan**	**3.50**	**266**	Pn	**Pn**	**20 27 41.0**	**-1.1**
CHIR	**Chirikof Islan**	**3.50**	**266**	P	**Pn**	**20 27 40.9**	**-1.3**
	baz=82						
Q19K	**Cape Douglas,**	**3.55**	**322**		**Pn**	**20 27 41.8**	**-1.1**
Q19K				IAML		20 28 38.7	
	comp=N,324nm,1.1s						
Q19K	**Cape Douglas,**	**3.55**	**322**	P	**Pn**	**20 27 42.9**	**0.0**
	baz=139						
BRSE	**Bradley Lake S**	**3.61**	**349**		**Pn**	**20 27 42.2**	**-1.5**
BRSE	**Bradley Lake S**	**3.61**	**349**	P	**Pn**	**20 27 42.2**	**-1.5**
	baz=168						
Q23K	**Middleton Isla**	**3.62**	**26**	Pn	**Pn**	**20 27 42.5**	**-1.4**
Q23K				IAML		20 28 12.6	
	comp=E,254nm,1.8s						
Q23K				IAML		20 28 32.5	
	comp=N,265nm,1.4s						
Q23K	**Middleton Isla**	**3.62**	**26**	P	**Pn**	**20 27 42.2**	**-1.6**
	baz=208						
BRLK	**Bradley Lake**	**3.65**	**348**	Pn	**Pn**	**20 27 42.0**	**-2.3**
BRLK				IAML		20 28 32.0	
	comp=E,110nm,1.1s						
HOM	**Homer**	**3.66**	**342**	Pn	**Pn**	**20 27 43.6**	**-0.7**
HOM				IAML		20 29 00.1	
	comp=E,343nm,1.6s						
ANCK	**Angle Creek**	**3.86**	**304**		**Pn**	**20 27 47.3**	**+0.1**
SEW	**Seward**	**3.91**	**360**		**Pn**	**20 27 46.4**	**-1.3**
SEW	**Seward**	**3.91**	**360**	P	**Pn**	**20 27 46.4**	**-1.3**
	baz=180						
P23K	**Montague Islan**	**3.95**	**15**		**Pn**	**20 27 47.0**	**-1.3**
P23K	**Montague Islan**	**3.95**	**15**	P	**Pn**	**20 27 47.0**	**-1.3**
	baz=196						
P19K	**Oil Pt**	**4.01**	**331**		**Pn**	**20 27 48.4**	**-0.7**
P19K				IAML		20 28 39.3	
	comp=E,178nm,0.5s						
P19K				IAML		20 28 41.4	
	comp=N,224nm,0.5s						
P19K	**Oil Pt**	**4.01**	**331**	P	**Pn**	**20 27 47.9**	**-1.3**
	baz=148						
KELA	**Mount Kelaz**	**4.09**	**306**		**Pn**	**20 27 50.1**	**-0.2**
IVE	**Iliamna Volcan**	**4.27**	**335**		**Pn**	**20 27 51.9**	**-0.9**
ILSW	**Iliamna Southw**	**4.27**	**334**		**Pn**	**20 27 52.0**	**-0.8**
ILSW				IAML		20 28 45.0	
	comp=N,77nm,0.7s						
ILSW				IAML		20 28 49.2	
	comp=E,127nm,0.7s						
O22K	**Cooper Landing**	**4.29**	**358**		**Pn**	**20 27 51.7**	**-1.2**
SLKM	**Skilak Lake**	**4.33**	**355**		**Pn**	**20 27 52.5**	**-1.2**
P18K	**Big Mountain,**	**4.45**	**318**		**Pn**	**20 27 53.5**	**-1.8**
P18K	**Big Mountain,**	**4.45**	**318**	P	**Pn**	**20 27 54.1**	**-1.2**
	baz=134						
HIN	**Hinchinbrook I**	**4.47**	**19**	Pn	**Pn**	**20 27 54.0**	**-1.5**
HIN				IAML		20 28 53.7	
	comp=E,164nm,1.1s						
HIN				IAML		20 29 01.6	
	comp=N,154nm,0.9s						
RED	**Redoubt Volcan**	**4.58**	**339**		**Pn**	**20 27 55.5**	**-1.5**
KAIM	**Kayak Island**	**4.58**	**33**	Pn	**Pn**	**20 27 56.4**	**-0.5**
KAIM	**Kayak Island**	**4.58**	**33**	P	**Pn**	**20 27 56.0**	**-1.0**
	baz=217						
RSO	**Redoubt South**	**4.61**	**339**		**Pn**	**20 27 56.2**	**-1.4**
RDT	**Redoubt**	**4.65**	**342**		**Pn**	**20 27 56.7**	**-1.3**
RDWB	**Redoubt West**	**4.66**	**339**		**Pn**	**20 27 57.3**	**-0.8**
CAPN	**Captain Cook N**	**4.66**	**349**	Pn	**Pn**	**20 27 58.6**	**+0.5**
R16K	**Pilot Point**	**4.67**	**290**	Pn	**Pn**	**20 27 58.6**	**+0.4**
R16K				IAML		20 29 04.4	
	comp=N,169nm,2.4s						
R16K				IAML		20 29 20.2	
	comp=E,123nm,2.6s						
EYAK	**Cordova Ski Ar**	**4.76**	**22**	P	**Pn**	**20 27 59.0**	**-0.5**
EYAK	**Cordova Ski Ar**	**4.76**	**22**		**Pn**	**20 27 58.5**	**-1.0**
EYAK	**Cordova Ski Ar**	**4.76**	**22**	P	**Pn**	**20 27 58.5**	**-1.0**
	baz=205						
O18K	**Koktuh Hills**	**4.78**	**322**	Pn	**Pn**	**20 27 58.6**	**-1.1**
O18K				IAML		20 28 58.0	
	comp=N,85nm,0.8s						
O18K				IAML		20 29 03.2	
	comp=E,47nm,0.7s						
O18K	**Koktuh Hills**	**4.78**	**322**	P	**Pn**	**20 27 58.6**	**-1.1**
	baz=138						
FID	**Port Fidalgo**	**4.81**	**18**		**Pn**	**20 27 58.7**	**-1.4**
FID				IAML		20 28 53.3	
	comp=E,93nm,0.5s						
FID				IAML		20 28 57.0	
	comp=N,69nm,0.4s						
P17K	**Kvichak River**	**4.81**	**311**		**Pn**	**20 27 59.6**	**-0.5**
P17K	**Kvichak River**	**4.81**	**311**	P	**Pn**	**20 27 59.6**	**-0.5**
	baz=126						
ANNE	**Aniakchak Nort**	**4.83**	**282**		**Pn**	**20 27 60.0**	**-0.5**
GLI	**Glacier Island**	**4.84**	**14**	Pn	**Pn**	**20 27 59.7**	**-0.8**
GLI				IAML		20 29 02.0	
	comp=E,75nm,0.7s						
GLI				IAML		20 29 06.6	
	comp=N,56nm,0.7s						
GLI	**Glacier Island**	**4.84**	**14**	P	**Pn**	**20 27 59.3**	**-1.2**
	baz=195						
RAGM	**Ragged Mountai**	**4.88**	**29**		**Pn**	**20 28 00.6**	**-0.5**
SUCK	**Suckling Hills**	**4.89**	**35**	Pn	**Pn**	**20 28 01.4**	**+0.1**
RC01	**Rabbit Creek A**	**4.90**	**358**	Pn	**Pn**	**20 28 00.5**	**-0.9**
RC01				IAML		20 28 59.0	
	comp=N,66nm,0.4s						
RC01				IAML		20 29 01.7	
	comp=E,60nm,0.6s						
RC01	**Rabbit Creek A**	**4.90**	**358**	P	**Pn**	**20 28 00.2**	**-1.2**
	baz=178						
HMT	**Hamilton**	**4.96**	**31**		**Pn**	**20 28 01.5**	**-0.7**
FIS	**Fire Island**	**4.97**	**356**	Pn	**Pn**	**20 28 01.9**	**-0.3**
CHGN	**Chignik**	**5.02**	**275**	Pn	**Pn**	**20 28 02.0**	**-0.9**
CHGN				IAML		20 29 12.5	
	comp=N,41nm,0.6s						
GOAT	**Goat Mountain**	**5.03**	**27**		**Pn**	**20 28 02.5**	**-0.7**
GRIN	**Grindle Hills**	**5.20**	**36**		**Pn**	**20 28 04.6**	**-0.9**
N20K	**Mount Spurr**	**5.21**	**345**	P	**Pn**	**20 28 04.4**	**-1.3**
	baz=163						
SPCR	**Spurr Chakacha**	**5.21**	**345**		**Pn**	**20 28 04.4**	**-1.3**
KNK	**Knik Glacier**	**5.25**	**5**		**Pn**	**20 28 05.8**	**-0.3**
KNK				IAML		20 29 16.1	
	comp=N,40nm,0.9s						
KNK				IAML		20 29 16.8	
	comp=E,58nm,0.9s						
KNK	**Knik Glacier**	**5.25**	**5**	P	**Pn**	**20 28 05.2**	**-0.9**
	baz=186						
SPCP	**Crater Peak Br**	**5.27**	**345**		**Pn**	**20 28 06.0**	**-0.6**
SPCG	**Spurr Capps Gl**	**5.28**	**346**		**Pn**	**20 28 05.8**	**-0.8**
SNH	**Sunshine Point**	**5.29**	**38**	Pn	**Pn**	**20 28 06.4**	**-0.4**
SNH				IAML		20 29 09.4	
	comp=N,110nm,1.5s						
SNH				IAML		20 29 21.5	
	comp=E,108nm,1.7s						
DIV	**Divide**	**5.29**	**20**		**Pn**	**20 28 05.5**	**-1.3**
SUA	**Susitna One**	**5.32**	**353**	Pn	**Pn**	**20 28 06.0**	**-1.2**
SUA				IAML		20 29 17.9	
	comp=N,30nm,0.8s						
SUA				IAML		20 29 38.2	
	comp=E,37nm,0.9s						
SUA	**Susitna One**	**5.32**	**353**	P	**Pn**	**20 28 05.9**	**-1.3**
	baz=172						
N19K	**Bonanza Creek**	**5.33**	**332**	Pn	**Pn**	**20 28 06.0**	**-1.3**
N19K	**Bonanza Creek**	**5.33**	**332**	P	**Pn**	**20 28 06.0**	**-1.3**
	baz=148						
KHIT	**Khitrov Hills**	**5.35**	**35**		**Pn**	**20 28 06.4**	**-1.3**
BMRM	**Bremner River**	**5.40**	**26**		**Pn**	**20 28 07.3**	**-1.0**
BMRM	**Bremner River**	**5.40**	**26**	P	**Pn**	**20 28 07.3**	**-1.0**
	baz=210						
PMR	**Palmer**	**5.40**	**1**	P	**Pn**	**20 28 10.2**	**+2.0**
PMR	**Palmer**	**5.40**	**1**	Pn	**Pn**	**20 28 07.9**	**-0.3**
O17K	**Koliganek Bris**	**5.42**	**314**		**Pn**	**20 28 07.9**	**-0.7**
O17K	**Koliganek Bris**	**5.42**	**314**	P	**Pn**	**20 28 07.9**	**-0.7**
	baz=128						
VNHG	**Veniaminof 1**	**5.44**	**274**		**Pn**	**20 28 08.0**	**-0.8**
SPNN	**North Nagishla**	**5.45**	**343**		**Pn**	**20 28 08.4**	**-0.7**
STLK	**Strandline Lak**	**5.45**	**348**		**Pn**	**20 28 07.9**	**-1.1**
WAX	**Waxell Ridge**	**5.48**	**36**		**Pn**	**20 28 08.9**	**-0.5**
BARK	**Barkley Ridge**	**5.57**	**38**		**Pn**	**20 28 09.7**	**-1.0**
M22K	**Willow**	**5.58**	**357**	Pn	**Pn**	**20 28 09.4**	**-1.2**
GHO	**Glory Hole Cre**	**5.59**	**2**	Pn	**Pn**	**20 28 09.9**	**-1.0**
KLU	**Klutina**	**5.60**	**17**		**Pn**	**20 28 09.7**	**-1.4**
KLU	**Klutina**	**5.60**	**17**	P	**Pn**	**20 28 10.5**	**-0.6**
	baz=200						
MESA	**MESA**	**5.61**	**42**	Pn	**Pn**	**20 28 11.3**	**0.0**
MESA	**MESA**	**5.61**	**42**	P	**Pn**	**20 28 10.5**	**-0.7**
	baz=228						
N18K	**Kilae Creek**	**5.62**	**326**	Pn	**Pn**	**20 28 10.1**	**-1.3**
N18K	**Kilae Creek**	**5.62**	**326**	P	**Pn**	**20 28 10.4**	**-0.9**
	baz=140						
SML	**Sawmill**	**5.64**	**5**		**Pn**	**20 28 11.1**	**-0.6**
SML	**Sawmill**	**5.64**	**5**	P	**Pn**	**20 28 11.5**	**-0.2**
	baz=186						
S14K	**Fog Glacier**	**5.65**	**275**	P	**Pn**	**20 28 10.8**	**-0.9**
	baz=87						
VNFG	**Fog Glacier, M**	**5.65**	**275**		**Pn**	**20 28 10.8**	**-0.9**
M23K	**Glacier View**	**5.67**	**8**		**Pn**	**20 28 11.5**	**-0.5**
M23K	**Glacier View**	**5.67**	**8**	P	**Pn**	**20 28 11.5**	**-0.5**
	baz=190						
O16K	**Kokwok River B**	**5.74**	**310**	Pn	**Pn**	**20 28 11.6**	**-1.2**
O16K	**Kokwok River B**	**5.74**	**310**	P	**Pn**	**20 28 12.5**	**-0.3**
	baz=123						
SCM	**Sheep Creek Mo**	**5.75**	**10**		**Pn**	**20 28 12.4**	**-0.7**
SCM	**Sheep Creek Mo**	**5.75**	**10**	P	**Pn**	**20 28 13.1**	**0.0**
	baz=192						
ISLE	**Juniper Island**	**5.77**	**37**		**Pn**	**20 28 12.7**	**-0.7**
SVW2	**Sparrevohn**	**5.86**	**329**	Pn	**Pn**	**20 28 13.7**	**-0.9**
SKT	**Skwentna**	**5.89**	**350**	Pn	**Pn**	**20 28 14.2**	**-0.8**
SKT	**Skwentna**	**5.89**	**350**	P	**Pn**	**20 28 15.0**	**0.0**
	baz=168						
VRDI	**Verde Repeater**	**5.92**	**29**	Pn	**Pn**	**20 28 14.3**	**-1.2**
CHNA	**Chernabura Isl**	**5.94**	**261**	P	**Pn**	**20 28 14.3**	**-1.3**
	baz=73						
CNBA	**Chernabura Isl**	**5.94**	**261**	Pn	**Pn**	**20 28 14.6**	**-1.1**
N17K	**Nushagak Hills**	**5.95**	**320**	Pn	**Pn**	**20 28 14.8**	**-1.0**
N17K	**Nushagak Hills**	**5.95**	**320**	P	**Pn**	**20 28 15.2**	**-0.6**
	baz=133						
N25K	**Chitina, Valde**	**5.96**	**23**	Pn	**Pn**	**20 28 15.3**	**-0.7**
N25K	**Chitina, Valde**	**5.96**	**23**	P	**Pn**	**20 28 15.4**	**-0.6**
	baz=207						
KIAG	**Kiagna River**	**6.00**	**35**		**Pn**	**20 28 16.3**	**-0.3**
GLB	**Gilahina Butte**	**6.00**	**27**	Pn	**Pn**	**20 28 15.9**	**-0.6**
M20K	**Styx River**	**6.00**	**343**		**Pn**	**20 28 16.0**	**-0.6**
M20K	**Styx River**	**6.00**	**343**	P	**Pn**	**20 28 16.0**	**-0.6**
	baz=160						
SAMH	**Samovar Hills**	**6.03**	**46**		**Pn**	**20 28 16.4**	**-0.6**
M24K	**Tolsona, Glenn**	**6.15**	**14**		**Pn**	**20 28 18.2**	**-0.4**
M24K	**Tolsona, Glenn**	**6.15**	**14**	P	**Pn**	**20 28 18.4**	**-0.2**
	baz=197						
MCARA	**McCarthy VSAT**	**6.16**	**30**		**Pn**	**20 28 18.5**	**-0.2**
MCARA	**McCarthy VSAT**	**6.16**	**30**	P	**Pn**	**20 28 18.1**	**-0.6**
	baz=215						
YKU2	**Yakutat**	**6.17**	**53**	P	**Pn**	**20 28 19.6**	**+0.9**
YKU2	**Yakutat**	**6.17**	**53**	Pn	**Pn**	**20 28 18.9**	**+0.2**
PTPK	**Patty Peak**	**6.17**	**33**		**Pn**	**20 28 18.4**	**-0.6**
M18K	**Stony River**	**6.25**	**331**		**Pn**	**20 28 18.6**	**-1.3**
M18K	**Stony River**	**6.25**	**331**	P	**Pn**	**20 28 18.6**	**-1.3**
	baz=145						
SDPT	**Sand Point**	**6.30**	**267**	P	**Pn**	**20 28 20.6**	**+0.1**
SDPT	**Sand Point**	**6.30**	**267**	Pn	**Pn**	**20 28 19.9**	**-0.6**
SDPT	**Sand Point**	**6.30**	**267**	P	**Pn**	**20 28 19.5**	**-1.0**
	baz=78						
O15K	**Ungalikthiuk R**	**6.32**	**302**		**Pn**	**20 28 20.6**	**-0.2**
O15K	**Ungalikthiuk R**	**6.32**	**302**	P	**Pn**	**20 28 20.6**	**-0.2**
	baz=114						
BARN	**Barnard Glacie**	**6.33**	**37**		**Pn**	**20 28 21.0**	**-0.2**
WASW	**Wrangell South**	**6.34**	**23**		**Pn**	**20 28 20.9**	**-0.5**
WACK	**Wrangell Chich**	**6.36**	**22**		**Pn**	**20 28 21.1**	**-0.5**
PNL	**Peninsula**	**6.37**	**53**	P	**Pn**	**20 28 22.0**	**+0.5**
PNL	**Peninsula**	**6.37**	**53**		**Pn**	**20 28 20.7**	**-0.8**
PNL	**Peninsula**	**6.37**	**53**	P	**Pn**	**20 28 20.7**	**-0.8**
	baz=241						
CTG	**Chitna Glacier**	**6.37**	**38**	P	**Pn**	**20 28 21.2**	**-0.5**
	baz=225						
CTGM	**Chitina Glacie**	**6.37**	**38**		**Pn**	**20 28 21.3**	**-0.4**
LOGN	**Logan Glacier**	**6.39**	**40**		**Pn**	**20 28 21.9**	**-0.1**
BCPM	**Bancas Point**	**6.41**	**50**	Pn	**Pn**	**20 28 21.0**	**-1.0**
WAT6	**Susitna Watana**	**6.45**	**7**		**Pn**	**20 28 22.3**	**-0.5**
WAT6	**Susitna Watana**	**6.45**	**7**	P	**Pn**	**20 28 22.3**	**-0.5**
	baz=188						
N16K	**Nishlik Lake**	**6.52**	**315**		**Pn**	**20 28 22.9**	**-0.6**
N16K	**Nishlik Lake**	**6.52**	**315**	P	**Pn**	**20 28 22.9**	**-0.6**
	baz=127						
HARP	**HAARP**	**6.58**	**18**		**Pn**	**20 28 24.3**	**-0.1**
HARP	**HAARP**	**6.58**	**18**	P	**Pn**	**20 28 24.3**	**-0.1**
	baz=201						
L19K	**White Mountain**	**6.61**	**337**	Pn	**Pn**	**20 28 22.2**	**-2.6**
L19K	**White Mountain**	**6.61**	**337**	P	**Pn**	**20 28 23.9**	**-0.9**
	baz=153						
WAT7	**Susitna Watana**	**6.65**	**2**		**Pn**	**20 28 25.2**	**-0.3**
O28M	**Mount Upton**	**6.66**	**43**		**Pn**	**20 28 25.0**	**-0.7**
O28M	**Mount Upton**	**6.66**	**43**	P	**Pn**	**20 28 25.0**	**-0.7**
	baz=230						
WAT1	**Susitna Watana**	**6.66**	**3**		**Pn**	**20 28 25.2**	**-0.4**
WAT1	**Susitna Watana**	**6.66**	**3**	P	**Pn**	**20 28 25.2**	**-0.4**
	baz=184						
M17K	**Holitna River**	**6.67**	**325**	Pn	**Pn**	**20 28 23.8**	**-1.8**
M17K	**Holitna River**	**6.67**	**325**	P	**Pn**	**20 28 25.0**	**-0.6**
	baz=138						
L20K	**Farewell, AK**	**6.69**	**342**		**Pn**	**20 28 25.4**	**-0.5**
L20K	**Farewell, AK**	**6.69**	**342**	P	**Pn**	**20 28 25.4**	**-0.5**
	baz=158						
N15K	**Kwethluk River**	**6.90**	**310**	Pn	**Pn**	**20 28 27.7**	**-1.1**
N15K	**Kwethluk River**	**6.90**	**310**	P	**Pn**	**20 28 28.5**	**-0.2**
	baz=121						
M16K	**Timber Creek**	**6.93**	**318**	Pn	**Pn**	**20 28 28.2**	**-1.0**
M16K	**Timber Creek**	**6.93**	**318**	P	**Pn**	**20 28 29.1**	**-0.1**
	baz=130						
DHY	**Denali Highway**	**6.97**	**8**	Pn	**Pn**	**20 28 29.1**	**-0.8**
DHY	**Denali Highway**	**6.97**	**8**	P	**Pn**	**20 28 29.4**	**-0.4**
	baz=189						
PS1A	**Pavlof South-1**	**6.99**	**269**		**Pn**	**20 28 28.9**	**-1.1**
M26K	**Nabesna, AK**	**7.03**	**25**		**Pn**	**20 28 29.1**	**-1.5**
O14K	**Tigyukauivet M**	**7.04**	**301**	Pn	**Pn**	**20 28 29.2**	**-1.4**
O14K	**Tigyukauivet M**	**7.04**	**301**	P	**Pn**	**20 28 30.5**	**-0.2**
	baz=111						
PS4A	**Pavlof South-4**	**7.07**	**268**		**Pn**	**20 28 30.7**	**-0.4**
PAX	**Paxson**	**7.07**	**15**		**Pn**	**20 28 31.2**	**-0.1**
PAX	**Paxson**	**7.07**	**15**	P	**Pn**	**20 28 31.2**	**-0.1**
	baz=198						
L18K	**Granite Mounta**	**7.09**	**331**	Pn	**Pn**	**20 28 29.8**	**-1.5**
L18K	**Granite Mounta**	**7.09**	**331**	P	**Pn**	**20 28 30.7**	**-0.6**
	baz=145						
HAG	**Hague Volcano**	**7.10**	**268**		**Pn**	**20 28 30.9**	**-0.7**
P29M	**Windy Craggy**	**7.10**	**56**	Pn	**Pn**	**20 28 31.1**	**-0.6

L29M	**L29M**	**8.96**	**35**	P		**Pn**	**20 28 57.1**	**-0.1**
	baz=224							
I20K	**Naaghedeneel**	**8.97**	**346**	Pn		**Pn**	**20 28 56.6**	**-0.4**
I23K	**Minto, Yukon-K**	**8.97**	**0**			**Pn**	**20 28 56.6**	**-0.6**
I23K	**Minto, Yukon-K**	**8.97**	**0**	P		**Pn**	**20 28 57.1**	**0.0**
	baz=180							
POKR	**Poker Plat Res**	**8.99**	**5**	Pn		**Pn**	**20 28 58.0**	**+0.5**
P32M	**Atlin**	**9.02**	**61**	Pn		**Pn**	**20 28 56.8**	**-1.1**
J16K	**Anvik River**	**9.05**	**326**	Pn		**Pn**	**20 28 57.5**	**-0.8**
I21K	**Tanana**	**9.09**	**353**			**Pn**	**20 28 58.5**	**-0.2**
U33K	**Whale Pass**	**9.10**	**84**	Pn		**Pn**	**20 29 56.5**	**-2.4**
CRAG	**Craig**	**9.20**	**88**	Pn		**Pn**	**20 28 57.4**	**-2.9**
EGAK	**Eagle**	**9.51**	**22**	Pn		**Pn**	**20 29 02.3**	**-2.1**
I17K	**Unalakleet**	**9.53**	**328**	Pn		**Pn**	**20 29 02.9**	**-1.9**
H21K	**Melozitna Rive**	**9.62**	**352**	Pn		**Pn**	**20 29 04.9**	**-1.2**
H21K	**Melozitna Rive**	**9.62**	**352**	P		**Pn**	**20 29 06.4**	**+0.3**
	baz=169							
P33M	**Teslin, Yukon**	**9.63**	**59**	Pn		**Pn**	**20 29 06.1**	**-0.2**
H23K	**Yukon River**	**9.65**	**360**			**Pn**	**20 29 05.5**	**-1.0**
K29M	**Barlow Dome**	**9.69**	**33**	Pn		**Pn**	**20 29 07.0**	**0.0**
H24K	**Noodor Dome**	**9.69**	**4**	Pn		**Pn**	**20 29 07.5**	**+0.4**
K13K	**Kusilvak Mount**	**9.70**	**312**	Pn		**Pn**	**20 29 08.4**	**+1.2**
J14K	**Nanvaranak Lak**	**9.71**	**318**	Pn		**Pn**	**20 29 07.9**	**+0.6**
M31M	**Drury Creek, Y**	**9.76**	**46**	Pn		**Pn**	**20 29 08.7**	**+0.7**
H19K	**Roundabout Mou**	**9.95**	**343**	Pn		**Pn**	**20 29 09.7**	**-0.8**
H18K	**Honhosa River**	**9.97**	**338**	Pn		**Pn**	**20 29 09.1**	**-1.9**
H17K	**Granite Mounta**	**10.15**	**334**	Pn		**Pn**	**20 29 12.3**	**-0.9**
R33M	**Jennings River**	**10.35**	**64**	Pn		**Pn**	**20 29 13.1**	**-3.0**
I28M	**Miner Creek**	**10.35**	**23**	Pn		**Pn**	**20 29 14.5**	**-1.6**
G23K	**Bananza Creek**	**10.54**	**359**			**Pn**	**20 29 17.8**	**-1.0**
G23K	**Bananza Creek**	**10.54**	**359**	P		**Pn**	**20 29 18.4**	**-0.4**
	baz=178							
G24K	**Hadweenzic Riv**	**10.57**	**4**	Pn		**Pn**	**20 29 18.8**	**-0.3**
J30M	**Hart River**	**10.58**	**32**	Pn		**Pn**	**20 29 18.2**	**-1.1**
FYU	**Fort Yukon**	**10.58**	**9**	Pn		**Pn**	**20 29 17.7**	**-1.5**
G19K	**Purcell Mounta**	**10.62**	**343**	Pn		**Pn**	**20 29 18.3**	**-1.4**
G18K	**Tagagawik**	**10.68**	**339**	Pn		**Pn**	**20 29 18.3**	**-2.3**
DLBC	**Dease Lake**	**10.72**	**70**	Pn		**Pn**	**20 29 18.4**	**-2.7**
DLBC	**Dease Lake**	**10.72**	**70**	Pn		**Pn**	**20 29 21.7**	**+0.6**
	comp=E,0.3nm,0.3s,baz=241,slow=10,SNR=2.4							
DLBC				LR		LR	20 32 45.6	
	comp=E,237nm,21.8s,baz=314,slow=33							
	comp=E,0.8nm,0.3s							
I30M	**Mount Dempster**	**11.04**	**30**	Pn		**Pn**	**20 29 27.0**	**+1.3**
F21K	**Alatna River**	**11.22**	**352**	Pn		**Pn**	**20 29 27.4**	**-0.5**
MMPY	**Sheldon Lake,**	**11.23**	**48**	Pn		**Pn**	**20 29 26.2**	**-2.0**
G27K	**Doyon Strip**	**11.25**	**16**	Pn		**Pn**	**20 29 26.3**	**-2.1**
F20K	**Avaraart Lake**	**11.28**	**347**	Pn		**Pn**	**20 29 26.3**	**-2.4**
H29M	**Whitestone**	**11.35**	**23**	Pn		**Pn**	**20 29 26.7**	**-2.9**
F24K	**Squaw Lake**	**11.38**	**3**	Pn		**Pn**	**20 29 28.8**	**-1.3**
BMAR	**Burnt Mountain**	**11.49**	**9**	Pn		**Pn**	**20 29 31.4**	**-0.2**
E24K	**Your Creek**	**11.92**	**2**	Pn		**Pn**	**20 29 36.7**	**-0.8**
G29M	**Pine Creek**	**12.01**	**22**	Pn		**Pn**	**20 29 39.0**	**+0.3**
H31M	**Peel River**	**12.05**	**31**	Pn		**Pn**	**20 29 40.1**	**+0.9**
E25K	**Arctic Village**	**12.09**	**7**	Pn		**Pn**	**20 29 39.2**	**-0.6**
F28M	**Old Crow**	**12.28**	**17**	Pn		**Pn**	**20 29 42.2**	**-0.1**
E21K	**Killik River**	**12.45**	**352**			**Pn**	**20 29 43.8**	**-1.1**
G30M	**tAoh Zraii Nji**	**12.46**	**25**	Pn		**Pn**	**20 29 43.9**	**-1.1**
TOLK	**Toolik Lake Re**	**12.48**	**360**	Pn		**Pn**	**20 29 44.8**	**-0.4**
D22K	**Ayikyak River**	**12.81**	**355**	Pn		**Pn**	**20 29 48.7**	**-0.9**
G31M	**Satah River**	**12.89**	**27**	Pn		**Pn**	**20 29 49.5**	**-1.2**
BBB	**Bella Bella**	**13.09**	**99**	LR		LR	20 33 22.5	
	comp=E,125nm,21.6s,baz=255,slow=30							
E28M	**Babbage River**	**13.23**	**16**	Pn		**Pn**	**20 29 54.7**	**-0.7**
D25K	**Kavik River**	**13.24**	**5**			**Pn**	**20 29 54.6**	**-0.8**
E29M	**Blow River**	**13.31**	**19**	Pn		**Pn**	**20 29 55.8**	**-0.6**
B21K	**Ikpikpuk River**	**13.66**	**352**	Pn		**Pn**	**20 29 58.9**	**-2.3**
C23K	**Itkillik River**	**13.69**	**358**	Pn		**Pn**	**20 29 59.2**	**-2.4**
HOLB	**Holberg**	**13.84**	**105**	Pn		**Pn**	**20 30 00.0**	**-3.7**
INK	**Inuvik**	**14.15**	**25**	Pn		**Pn**	**20 30 07.2**	**-0.6**
INK	**Inuvik**	**14.15**	**25**	Pn		**Pn**	**20 30 06.7**	**-1.1**
	comp=E,0.1nm,0.3s,baz=205,slow=11,SNR=2.1							
INK				LR		LR	20 35 22.7	
	comp=E,73nm,20.2s,baz=358,slow=36							
B22K	**Teshekpuk Lake**	**14.30**	**355**	Pn		**Pn**	**20 30 08.0**	**-1.8**
YKA	**Yellowknife Ar**	**18.65**	**56**	P		**Pn**	**20 31 06.6**	**+1.0**
	baz=268,slow=10,SNR=11							
YKA				LR		LR	20 38 02.8	
	comp=E,82nm,19.5s,baz=34,slow=36							
	comp=E,2.0nm,1.1s							
NEW	**Newport**	**21.16**	**98**	LR		LR	20 38 29.6	
	comp=E,66nm,21.2s,baz=212,slow=33							
SHEM	**Shemya Is, Ala**	**21.32**	**276**	LR		LR	20 39 35.2	
	comp=E,31nm,20.4s,baz=294,slow=36							
J05D	**Fort Rock, OR**	**22.15**	**114**	P		**P**	**20 31 41.4**	**-2.2**
J05D				IAmb		IAmb	20 31 54.3	
	comp=Z,6.8nm,0.8s							
WVOR	**Wild Horse Val**	**24.09**	**112**	P		**P**	**20 32 00.8**	**-2.5**
WVOR				IAmb		IAmb	20 32 17.4	
	comp=Z,5.8nm,1.1s							
NVAR	**Mina Array Bea**	**27.25**	**118**	P		**P**	**20 32 33.7**	**+1.7**
	comp=Z,0.3nm,0.4s,baz=293,slow=7.8,SNR=3.7							
	comp=Z,0.3nm,0.4s							
MDPB	**Devils Postpil**	**27.49**	**120**	P		**P**	**20 32 29.6**	**-4.7**
MDPB				IAmb		IAmb	20 32 38.3	
	comp=Z,7.0nm,0.8s							
RES	**Resolute Bay**	**27.66**	**28**	LR		LR	20 45 39.7	
	comp=Z,50nm,18.0s,baz=24,slow=41							
PETK	**Petropavlovsk-**	**30.12**	**287**	LR		LR	20 44 33.6	
	comp=Z,46nm,21.1s,baz=31,slow=35							
MA2	**Magadan**	**31.03**	**301**	LR		LR	20 45 21.8	
	comp=Z,41nm,20.9s,baz=132,slow=36							
TIXI	**Tiksi**	**35.70**	**328**	P		**P**	**20 33 48.5**	**+2.9**
	comp=Z,0.3nm,0.3s,baz=91,slow=9.6,SNR=1.0							
	comp=Z,0.3nm,0.3s							
ASAJ	**Asahikawa**	**43.43**	**284**	LR		LR	20 54 33.4	
	comp=Z,30nm,18.6s,baz=94,slow=38							
SADO	**Sadowa**	**44.24**	**74**	LR		LR	20 52 56.3	
	comp=Z,44nm,18.1s,baz=79,slow=36							
TKL	**Tuckaleechee C**	**48.02**	**86**	LR		LR	20 55 31.1	
	comp=Z,125nm,18.3s,baz=328,slow=36							
H11N2	**WAKE ISLAND Hy**	**48.78**	**240**	T		T	21 28 36.1	
	baz=30,slow=76,SNR=8.0							
H11N3	**WAKE ISLAND Hy**	**48.78**	**240**	T		T	21 28 15.6	
	baz=30,slow=76,SNR=8.2							
H11N1	**WAKE ISLAND Hy**	**48.80**	**240**	T		T	21 28 22.1	
	baz=30,slow=76,SNR=6.4							
H11S1	**WAKE ISLAND Hy**	**49.92**	**239**	T		T	21 29 35.9	
	baz=30,slow=76,SNR=9.3							
H11S2	**WAKE ISLAND Hy**	**49.93**	**239**	T		T	21 29 37.0	
	baz=30,slow=76,SNR=7.7							
H11S3	**WAKE ISLAND Hy**	**49.94**	**239**	T		T	21 29 37.5	
	baz=30,slow=76,SNR=8.4							
MJAR	**Matsushiro Arr**	**51.10**	**280**	LR		LR	20 57 03.2	
	comp=Z,14nm,21.7s,baz=111,slow=36							
ARCES	**ARCESS Array B**	**54.51**	**2**	P		**P**	**20 36 17.5**	**+2.5**
	comp=Z,2.3nm,0.8s,baz=355,slow=6.3,SNR=1.0							
	comp=Z,2.3nm,0.8s							
KSRS	**Korea Array**	**56.01**	**288**	LR		LR	20 59 00.4	
	comp=Z,20nm,21.8s,baz=50,slow=34							
SONM	**Songino Array**	**58.63**	**310**	P		**P**	**20 36 47.6**	**+2.8**
	comp=Z,0.7nm,0.7s,baz=59,slow=3.2,SNR=4.1							
	comp=Z,0.7nm,0.7s							
ZALV	**Zalesovo Beam**	**61.58**	**327**	P		**P**	**20 37 06.5**	**+1.8**
	comp=Z,0.6nm,0.5s,baz=36,slow=7.5,SNR=4.6							
	comp=Z,0.6nm,0.5s							
NOA	**NORSAR Array B**	**62.10**	**11**	P		**P**	**20 37 10.1**	**+2.0**
	comp=Z,0.6nm,0.8s,baz=348,slow=6.9,SNR=4.0							
	comp=Z,0.6nm,0.8s							
FINES	**FINESS Array B**	**62.64**	**2**	P		**P**	**20 37 13.2**	**+1.6**
	comp=Z,1.0nm,0.5s,baz=355,slow=8.4,SNR=9.7							
	comp=Z,1.0nm,0.5s							
HFS	**Hagfors**	**63.23**	**9**	P		**P**	**20 37 17.4**	**+1.8**
	comp=Z,0.7nm,0.6s,baz=10,slow=8.8,SNR=2.0							
	comp=Z,0.7nm,0.6s							
KIRV	**Kirov**	**64.57**	**349**	LR		LR	21 08 02.7	
	comp=Z,21nm,20.0s,baz=7.9,slow=38							
ARU	**Arti**	**65.45**	**343**	LR		LR	21 07 41.6	
	comp=Z,19nm,20.5s,baz=24,slow=38							
BVAR	**Borovoye Array**	**66.32**	**335**	P		**P**	**20 37 38.8**	**+2.9**
	comp=Z,5.5nm,0.5s,baz=45,slow=11,SNR=3.6							
	comp=Z,0.5nm,0.5s							
KURBB	**Kurchatov Arra**	**66.36**	**329**	P		**P**	**20 37 37.3**	**+1.1**
	comp=Z,0.5nm,0.7s,baz=32,slow=6.6,SNR=2.1							
	comp=Z,0.5nm,0.7s							
MKAR	**Makanchi Array**	**68.61**	**325**	P		**P**	**20 37 51.8**	**+1.3**
	comp=Z,0.5nm,0.4s,baz=25,slow=5.8,SNR=13							
	comp=Z,0.5nm,0.4s							
AKASG	**Malin Array Be**	**73.45**	**1**	P		**P**	**20 38 21.2**	**+1.5**
	comp=Z,0.8nm,0.6s,baz=350,slow=6.1,SNR=1.7							
	comp=Z,0.8nm,0.6s							
PPT2	**Papeete2**	**73.51**	**180**	*e*LR		LR	21 00 39.8	
	comp=Z,53nm,27.8s							
GERES	**GERESS Array B**	**74.37**	**11**	LR		LR	21 14 44.9	
	comp=Z,16nm,18.5s,baz=92,slow=39							
AAK	**Ala-Archa**	**74.77**	**328**	LR		LR	21 13 40.3	
	comp=Z,27nm,18.5s,baz=18,slow=38							
KBZ	**Khabaz**	**79.89**	**351**	LR		LR	21 16 28.4	
	comp=Z,14nm,21.4s,baz=339,slow=37							

*DNK **25** 20:36:14.4±3.6, 78.48N×6.79E, h18km, ML0.7*
*BER **25** 20:36:16.2±1.4, 78.37N×7.00E, h22km±25km, mb(Pn)3.2, Confirmed Earthquake*
ISC 25 20:36:13.0±1.1, 78.4N±0.1×6.90E±0.05, h14km, n7, σ2.53/10, Svalbard region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
KBS	**Kingsbay**	**1.12**	**60**	*e*P		**Pg**	**20 36 35.3**	**+0.7**
KBS				*e*S		**Sg**	**20 36 48.5**	**-0.6**
KBS				IAML			20 36 50.7	
	comp=Z,38nm,0.4s							
KBS	**Kingsbay**	**1.12**	**60**	*i* P		**Pg**	**20 36 35.1**	**+0.5**
KBS				*i* S		**Sb**	**20 36 48.0**	**-0.4**
BRBB	**Barentsburg B**	**1.53**	**99**	*e*P		**Pn**	**20 36 39.3**	**-0.6**
SPA0	**Spitsbergen Ar**	**1.95**	**93**	*e*P		**Pn**	**20 36 46.8**	**+1.2**
SPA0				*e*S		**Sn**	**20 37 08.4**	**-1.3**
SPA0				IAML			20 37 10.2	
	comp=Z,19nm,0.3s							
HSPB	**Hornsund (broa**	**2.33**	**123**	*e*Pg		**Pb**	**20 36 55.3**	**+0.6**
HSPB				*e*			20 37 13.8	
DAG	**Danmarks Havn**	**5.71**	**266**	*i* P		**Pn**	**20 37 40.3**	**+3.1**
DAG				*i* S		**Sn**	**20 38 37.0**	**-5.5**
DAG				IAML			20 38 44.7	
	comp=Z,0.6nm,0.2s							
DBG	**Daneborg**	**7.54**	**251**	*i* S		Sn	20 39 19.5	-7.9
DBG				IAML			20 39 22.8	
	comp=Z,0.1nm,0.2s							

IDC 25 20:45:20.6±1.7, 1.24N×125.39E, h0km, mb3.5/4, mbtmp3.5/4, Error ellipse: s-maj=198.8km s-min=22.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.81**	**158**	P		P	20 50 24.3	-0.9
	1.5nm,0.7s,baz=336,slow=11,SNR=18							
	1.5nm,0.7s							
ASAR	**Alice Springs**	**26.11**	**162**	P		P	20 50 57.2	+0.8
	0.3nm,0.3s,baz=344,slow=11,SNR=7.1							
	0.3nm,0.3s							
MKAR	**Makanchi Array**	**58.85**	**327**	P		P	20 55 21.5	+0.3
	0.2nm,0.4s,baz=116,slow=7.6,SNR=5.7							
	0.2nm,0.4s							
KURBB	**Kurchatov Arra**	**63.12**	**329**	P		P	20 55 49.5	-0.6
	0.2nm,0.4s,baz=129,slow=5.9,SNR=2.3							
	0.2nm,0.4s							

*NEIC **25** 20:45:45.9±1.0, 19.34N±0.01×155.15W±0.02, h5km±1km, Error ellipse: s-maj=4.4km s-min=2.6km az=121.0*
HVO 25 20:45:45.2±0.9, 19.31N±0.02×155.12W±0.02, h7km±3km, Md2.0/10, ML2.5/36(NEIC), Error ellipse: s-maj=3.9km s-min=2.0km az=126.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.08**	**358**			Pg	20 45 47.3	+0.1
JCUZ	**Jacuzzi**	**0.08**	**14**			Pg	20 45 49.2	+2.0
KNHH	**Kane Nui o Ham**	**0.08**	**328**			Pg	20 45 47.4	0.0
PUH	**Pauahi**	**0.11**	**307**			Pg	20 45 47.6	-0.1
PUH				IAML			20 45 50.0	
	comp=N,2μm,1.2s							
JOKA	**Jonika Flow**	**0.17**	**42**	Pg		Pg	20 45 48.8	+0.1
HLP	**Hilina Pali**	**0.18**	**266**			Pg	20 45 49.1	+0.3
HLP	**Hilina Pali**	**0.18**	**266**	IAML			20 45 51.3	
	comp=N,1μm,2.3s							
HLP				IAML			20 45 51.3	
	comp=E,1μm,1.8s							
UWE	**Uwekahuna**	**0.20**	**305**	Pg		Pg	20 45 49.2	0.0
HTC	**Hot Caves**	**0.27**	**255**			Pg	20 45 51.3	+0.8
MLH	**Mauna Loa**	**0.31**	**307**			Pg	20 45 51.6	+0.2
MLH	**Mauna Loa**	**0.31**	**307**	IAML			20 45 55.3	
	comp=E,390nm,0.8s							
MLH				IAML			20 46 01.4	
	comp=N,793nm,1.4s							
HMH	**Humu'ula Sheep**	**0.45**	**311**			Pg	20 45 53.9	-0.2
HMH						Sg	20 46 00.9	+1.0
HMH	**Humu'ula Sheep**	**0.45**	**311**	IAML			20 46 01.1	
	comp=N,392nm,0.2s							
HMH				IAML			20 46 01.9	
	comp=E,313nm,1.0s							
KHU	**Kahuku**	**0.47**	**263**			Sg	20 46 01.0	+0.4
KHU	**Kahuku**	**0.47**	**263**			Pg	20 45 54.1	-0.3
KHU				IAML			20 46 03.8	
	comp=N,302nm,2.2s							
KHU	**Kahuku**	**0.47**	**263**	IAML			20 45 56.5	
	comp=E,429nm,3.6s							
MWH	**Moku'aweowe**	**0.48**	**292**			Pg	20 45 54.3	-0.3
MLOA	**Mauna Loa Obse**	**0.48**	**298**	Pg		Pg	20 45 54.4	-0.3
MLOA				IAML			20 46 02.7	
	comp=N,387nm,1.3s							
MLOA				IAML			20 46 09.2	
	comp=E,247nm,2.4s							
ALEP	**Alea Permanent**	**0.54**	**295**			Pg	20 45 55.0	-0.8
ALEP						Sg	20 46 03.0	0.0
POHA	**Pohakuloa**	**0.59**	**319**			Sg	20 46 03.7	-0.8
POHA	**Pohakuloa**	**0.59**	**319**	Pg		Pg	20 45 55.7	-1.0
POHA				IAML			20 46 03.5	
	comp=E,199nm,1.0s							
POHA				IAML			20 46 04.7	
	comp=E,317nm,0.6s							
HUH	**Hualalai**	**0.77**	**299**			Pg	20 45 59.6	-0.4
HON	**Honolulu**	**3.37**	**307**	Pn		Pn	20 46 33.6	-4.6
KIP	**Kipapa**	**3.43**	**308**	Pn		Pn	20 46 35.7	-3.5

AFAD 25 20:47:04.7±0.0, 37.21N×28.34E, h10km±1km, ML1.1, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
MULA	**Mugla, Merkez-**	**0.05**	**340**	P		Pg	20 47 07.1	+0.3
MULA				S		Sg	20 47 08.3	0.0
MULA				*i* AML		AML	20 47 09.0	
	comp=Z,95nm,0.3s							
MULA				*i* AML		AML	20 47 09.0	
	comp=N,162nm,0.1s							
MULA				*i* AML		AML	20 47 09.0	
	comp=E,384nm,0.1s							
TURN	**Turunc**	**0.44**	**190**	P		Pg	20 47 13.3	0.0
TURN				S		Sb	20 47 20.8	-0.5
TURN				*i* AML		AML	20 47 26.0	
	comp=E,13nm,1.1s							
TAVA	**DENIZLI_Tavas**	**0.52**	**61**	P		Pb	20 47 15.7	-0.3
TAVA				S		Sg	20 47 22.0	+0.2
DNZT	**Denizli-Tavas-**	**0.55**	**83**	P		Pb	20 47 16.7	+0.2
DNZT				S		Sg	20 47 23.3	+0.6
ESEN	**Aydn-Nazilli**	**0.58**	**1**	P		Pb	20 47 16.7	-0.4
ESEN				S		Sg	20 47 23.8	0.0

AFAD 25 20:49:15.1±0.0, 36.97N×29.22E, h7km±1km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
CAEL	**Denizli, Camel**	**0.18**	**28**	P		Pg	20 49 18.9	+0.2
CAEL				S		Sg	20 49 21.9	+0.7
CAEL				*i* AML		AML	20 49 29.0	
	comp=Z,128nm,0.8s							
CAEL				*i* AML		AML	20 49 29.0	
	comp=E,179nm,0.6s							
CAEL				*i* AML		AML	20 49 31.0	
	comp=N,133nm,0.3s							
SABU	**Mula-Dalaman**	**0.24**	**234**	P		Pg	20 49 20.2	+0.3
SABU				S		Sg	20 49 23.9	+0.7
SABU	**Mula-Dalaman**	**0.24**	**234**	P		Pg	20 49 20.2	+0.3
SABU				S		Sg	20 49 24.5	+1.3
SABU				*i* AML		AML	20 49 26.0	
	comp=N,82nm,0.2s							
KNIK	**Mula-Seydike**	**0.31**	**113**	P		Pg	20 49 21.8	+0.5
KNIK				S		Sg	20 49 26.4	+1.0
DNZT	**Denizli-Tavas-**	**0.35**	**334**	P		Pg	20 49 21.7	-0.2
DNZT				S		Sg	20 49 27.4	+0.8
GOLH	**Golhisar**	**0.39**	**46**	P		Pg	20 49 22.7	0.0
GOLH				S		Sb	20 49 29.9	-0.7
GOLH				*i* AML		AML	20 49 30.0	
	comp=N,41nm,0.4s							
GOLH				*i* AML		AML	20 49 30.0	
	comp=E,89nm,0.3s							
IZZE	**Mula-Seydike**	**0.53**	**179**	P		Pg	20 49 25.6	+0.3
IZZE				S		Sb	20 49 34.5	-0.1
DNIZ	**Denizli-Tavas-**	**0.67**	**348**	P		Pg	20 49 27.2	-0.8
DNIZ				S		Sb	20 49 38.1	-0.7

*NEIC **25** 21:04:57.6±1.3, 19.375N±0.008×155.268W±0.005, h5km±1km, Error ellipse: s-maj=2.3km s-min=1.4km az=72.0*
HVO 25 21:04:57.5±1.1, 19.411N±0.005×155.270W±0.007, h1km±2km, ML2.9/33, ML2.8/29(NEIC), Error ellipse: s-maj=1.1km s-min=0.7km az=56.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
BYL	**Byron's Ledge**	**0.01**	**84**	Pg		Pg	21 04 58.2	+0.3
BYL						Sg	21 04 58.5	+0.3
KKO	**Keanakako`i**	**0.01**	**164**			Pg	21 04 58.9	+1.0
HATHI	**Halema'uma'u T**	**0.01**	**35**	Pg		Pg	21 04 58.5	+0.5
HATHI						Sg	21 04 59.0	+0.7
OBL	**Observatory Le**	**0.01**	**296**			Pg	21 04 58.6	+0.7
RIM	**Rim**	**0.02**	**194**			Pg	21 04 58.9	+0.9
SBLHI	**Steaming Bluff**	**0.02**	**7**			Pg	21 04 58.9	+0.9
UWB	**Uwekahuna B**	**0.02**	**331**			Pg	21 04 58.7	+0.7
UWE	**Uwekahuna**	**0.02**	**295**	Pg		Pg	21 04 58.6	+0.6
UWE						Sg	21 04 59.3	+0.9
RSD	**Rainshed**	**0.05**	**352**			Sg	21 05 00.8	+1.5
RSD	**Rainshed**	**0.05**	**352**	Pg		Pg	21 04 59.2	+0.6
RSD				IAML			21 04 60.0	
	comp=E,4μm,0.1s							
RSD				IAML			21 05 00.1	
	comp=N,6μm,0.1s							
PUH	**Pauahi**	**0.06**	**126**	Pg		Pg	21 04 59.6	+0.8
PUH				IAML			21 05 00.1	
	comp=E,8μm,1.0s							
PUH				IAML			21 05 00.2	
	comp=N,5μm,0.3s							
KNHH	**Kane Nui o Ham**	**0.10**	**108**			Pg	21 05 00.3	+0.9
HLP	**Hilina Pali**	**0.12**	**197**			Pg	21 05 00.8	+1.0
HLP						Sg	21 05 01.1	-0.3
HLP				IAML			21 05 03.7	
	comp=E,6μm,0.5s							
MLH	**Mauna Loa**	**0.14**	**307**			Pg	21 05 01.4	+1.1
MLH	**Mauna Loa**	**0.14**	**307**			Sg	21 05 04.7	+2.7
MLH				IAML			21 05 05.1	
	comp=E,6μm,0.8s							
MLH				IAML			21 05 05.1	
	comp=N,4μm,0.6s							
STCH	**Steam Cracks**	**0.14**	**101**	Pg		Pg	21 05 00.7	+0.4
STCH						Sg	21 05 02.5	+0.5
STCH				IAML			21 05 03.1	
	comp=N,5μm,0.2s							
NPOC	**North of Pu'u**	**0.15**	**97**			Pg	21 05 01.3	+0.8
NPOC						Sg	21 05 03.2	+0.7
JCUZ	**Jacuzzi**	**0.16**	**100**			Pg	21 05 01.4	+0.8
JCUZ						Sg	21 05 04.2	+1.5
HTC	**Hot Caves**	**0.21**	**215**			Pg	21 05 02.5	+1.0
JOKA	**Jonika Flow**	**0.25**	**85**			Pg	21 05 02.3	0.0
JOKA				IAML			21 05 10.4	
	comp=E,2μm,0.9s							
HMH	**Humu'ula Sheep**	**0.28**	**314**			Pg	21 05 02.7	-0.2
HMH				IAML			21 05 11.7	
	comp=N,2μm,0.7s							
HMH				IAML			21 05 11.8	
	comp=E,1μm,0.6s							
MLOA	**Mauna Loa Obse**	**0.31**	**293**			Pg	21 05 03.5	0.0
MLOA				IAML			21 05 13.2	
	comp=N,1μm,0.6s							
MLOA				IAML			21 05 14.6	
	comp=E,2μm,0.5s							
PAH	**Pahoa**	**0.32**	**75**	Pg		Pg	21 05 02.9	-0.7
MWH	**Moku'aweowe**	**0.32**	**283**			Pg	21 05 04.2	+0.5
KHU	**Kahuku**	**0.36**	**243**			Pg	21 05 04.5	0.0
KHU				IAML			21 05 13.8	
	comp=N,684nm,2.1s							
ALEP	**Alea Permanent**	**0.38**	**290**			Pg	21 05 05.5	+0.7
HPO	**Honuapo**	**0.42**	**220**	Pg		Pg	21 05 02.8	-2.7
POHA	**Pohakuloa**	**0.42**	**324**	Pg		Pg	21 05 05.6	0.0
POHA	**Pohakuloa**	**0.42**	**324**	IAML			21

h1km±3km, **ML2.9**/22, **ML2.2**/30(NEIC), **Error ellipse: s-maj=1.5km s-min=1.0km az=214.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**108**		Pg	21 11 03.7	+1.1
NPH	**North Pit**	**0.01**	**23**		Pg	21 11 03.4	+0.8
OBL	**Observatory Le**	**0.02**	**8**		Pg	21 11 03.8	+1.2
KKO	**Keanakako'i**	**0.02**	**94**		Pg	21 11 03.9	+1.3
UWE	**Uwekahuna**	**0.02**	**345**		Pg	21 11 02.9	+0.2
UWE	**Uwekahuna**	**0.02**	**345**		Sg	21 11 04.4	+1.2
UWB	**Uwekahuna B**	**0.03**	**18**		Pg	21 11 04.0	+1.3
BYL	**Byron's Ledge** comp=E,4μm,1.2s	**0.03**	**63**	IAML		21 11 03.0	
BYL				Pg	Pg	21 11 03.2	+0.5
BYL					Sg	21 11 04.2	+1.0
SBLHI	**Steaming Bluff**	**0.03**	**33**		Pg	21 11 04.7	+1.9
HATHI	**Halema'uma'u T**	**0.03**	**46**		Pg	21 11 02.8	0.0
HATHI	comp=N,4μm,1.0s			IAML		21 11 03.2	
HATHI	comp=E,3μm,1.0s			IAML		21 11 03.3	
RSD	**Rainshed** comp=N,1μm,1.3s	**0.06**	**7**	Pg	Pg	21 11 03.5	+0.1
RSD	comp=E,1μm,1.0s			IAML		21 11 04.7	
RSD				IAML		21 11 05.0	
PUH	**Pauahi** comp=N,835nm,1.7s	**0.07**	**111**	Pg	Pg	21 11 03.9	+0.4
PUH				IAML		21 11 04.3	
HLP	**Hilina Pali** comp=N,2μm,0.8s	**0.10**	**191**		Pg	21 11 04.6	+0.5
HLP				IAML		21 11 07.2	
KNHH	**Kane Nui o Ham**	**0.11**	**100**		Pg	21 11 04.8	+0.5
MLH	**Mauna Loa**	**0.13**	**315**		Pg	21 11 04.6	-0.1
MLH					Sg	21 11 08.0	+1.5
MLH	comp=E,2μm,0.4s			IAML		21 11 09.1	
STCH	**Steam Cracks**	**0.15**	**95**		Pg	21 11 05.4	+0.3
STCH					Sg	21 11 08.4	+1.3
STCH	comp=N,597nm,0.4s			IAML		21 11 08.8	
STCH	comp=E,534nm,0.3s			IAML		21 11 09.5	
NPOC	**North of Pu'u**	**0.17**	**92**		Pg	21 11 06.0	+0.7
NPOC					Sg	21 11 09.0	+1.5
JCUZ	**Jacuzzi**	**0.17**	**95**		Pg	21 11 06.1	+0.7
JCUZ					Sg	21 11 09.3	+1.5
HTC	**Hot Caves**	**0.19**	**213**		Pg	21 11 06.6	+0.9
JOKA	**Jonika Flow**	**0.27**	**83**		Pg	21 11 06.4	-0.9
JOKA	comp=E,401nm,1.9s			IAML		21 11 14.5	
JOKA	comp=N,753nm,0.8s			IAML		21 11 16.0	
HMH	**Humu'ula Sheep**	**0.27**	**318**		Pg	21 11 08.0	+0.7
HMH	**Humu'ula Sheep**	**0.27**	**318**		Sb	21 11 13.2	-2.0
HMH	comp=N,434nm,0.3s			IAML		21 11 15.9	
HMH	comp=E,486nm,0.3s			IAML		21 11 16.8	
KHU	**Kahuku** comp=N,503nm,1.7s	**0.34**	**244**	IAML		21 11 15.0	
ALEP	**Alea Permanent**	**0.37**	**293**		Pg	21 11 09.8	+0.7
HPO	**Honuapo**	**0.40**	**219**	Pg	Pg	21 11 08.0	-1.7
HUH	**Hualalai**	**0.59**	**299**	Pg	Pb	21 11 14.9	-0.5
HPAH	**Hawaii Prepara**	**0.74**	**328**	Pg	Pb	21 11 17.0	-0.7

*KRNET **25** 21:19:55.4±0.1, 41°.03N×71°.51E, h29km, mb2.4*
*SOME **25** 21:19:59.7, 41°.23N×71°.62E, h5km*
*NNC **25** 21:20:02.7±2.9, 41°.40N×71°.57E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=26.6km s-min=10.0km az=3.0*
ISC 25 21:19:53.9±1.2, **41°.01N**±0°.03×**71°.55E**±0°.03, **h3**km±11km, **n35**, σ1**s40**/58, **17C-17D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKS	**Terek-Say** baz=30	**0.60**	**330**	⇓*eP*	**Pb**	**21 20 05.8**	**-1.3**
TRKS	baz=30			⇓*eS*	**Sg**	**21 20 13.4**	**+0.1**
ARK	**Arkit** baz=24	**0.85**	**22**	⇑*eP*	**Pb**	**21 20 11.4**	**+0.1**
ARK	baz=24			⇑*eS*	**Sb**	**21 20 22.7**	**-0.4**
OHH	**Osh** baz=17	**1.06**	**117**	⇑*eP*	**Pn**	**21 20 15.7**	**0.0**
OHH	baz=17			⇑*eS*	**Sb**	**21 20 30.5**	**+1.3**
BTK	**Batken** baz=9.0	**1.10**	**210**	⇓*eP*	**Pn**	**21 20 15.8**	**-0.5**
BTK	baz=9.0			⇓*eS*	**Sn**	**21 20 30.7**	**-1.3**
ARSB	**Arslanbob** baz=75	**1.13**	**73**	⇓*eP*	**Pn**	**21 20 16.7**	**0.0**
ARSB	baz=75			⇓*eS*	**Sb**	**21 20 32.2**	**+1.0**
DRK	**Karamyk** baz=72	**1.54**	**173**	⇑*eP*	**Pb**	**21 20 23.7**	**+0.5**
DRK	baz=72			⇑*eS*	**Sn**	**21 20 44.1**	**+0.9**
MNAS	**Manas** baz=27	**1.64**	**26**	⇓*eP*	**Pb**	**21 20 24.6**	**-0.2**
MNAS	baz=27			⇓*eS*	**Sn**	**21 20 45.5**	**+0.1**
SFK	**Sufi-Kurgan** baz=23	**1.79**	**123**	⇑*eP*	**Pb**	**21 20 27.3**	**-0.2**
SFK	baz=23			⇑*eS*	**Sb**	**21 20 50.4**	**-0.1**
DZA	**Taraz** 120nm,0.1s	**1.89**	**355**	*eP*	**Pg**	**21 20 31.7**	**+1.7**
DZA	237nm,0.4s			*eS*	**Sg**	**21 20 55.8**	**+1.3**
CHM	**Chimkent** 25nm,0.2s	**1.96**	**313**	*eP*	**Pg**	**21 20 33.8**	**+2.5**
CHM	256nm,0.5s			*eS*	**Sg**	**21 20 59.3**	**+2.6**
MRKS	**Merke** 6.3nm,0.2s	**2.14**	**35**	Pg	**Pg**	**21 20 35.4**	**+0.5**
MRKS	34nm,0.5s			Lg	Lg	21 21 02.2	
MRKS	**Merke** 6.3nm,0.2s	**2.14**	**35**	*eP*	**Pg**	**21 20 35.5**	**+0.5**
MRKS	34nm,0.5s			*eS*	**Sg**	**21 21 02.2**	**-0.4**
GAR	**Garm** baz=5.0	**2.22**	**206**	⇓*eP*	**Pb**	**21 20 32.7**	**-2.0**
GAR	baz=5.0			⇓*eS*	**Sn**	**21 20 59.6**	**0.0**
ARLS	**Aral** baz=68	**2.25**	**67**	⇑*eP*	**Pn**	**21 20 33.9**	**+1.7**
ARLS	baz=68			⇑*eS*	**Sn**	**21 21 01.3**	**+0.7**
EKS2	**Erkin-Say** baz=45	**2.34**	**45**	⇑*eP*	**Pn**	**21 20 34.4**	**+1.0**
EKS2	baz=45			⇑*eS*	**Sn**	**21 21 02.8**	**+0.1**
BRLS	**Borolday** 5.5nm,0.2s	**2.39**	**328**	Pg	**Pb**	**21 20 37.7**	**+0.3**
BRLS	30nm,0.4s			Lg	Lg	21 21 06.4	
BRLS	**Borolday** 5.5nm,0.2s	**2.39**	**328**	*eP*	**Pg**	**21 20 37.9**	**-1.7**
BRLS	30nm,0.4s			*eS*	**Sb**	**21 21 06.4**	**-0.9**
UCH	**Uchtor** baz=61	**2.54**	**60**	⇓*eP*	**Pn**	**21 20 37.4**	**+1.1**
UCH	baz=61			⇓*eS*	**Sn**	**21 21 07.9**	**0.0**
AAK	**Ala-Archa** 1.8nm,0.5s	**2.74**	**53**	⇓Pg	**Pg**	**21 20 49.3**	**+2.9**
AAK	6.8nm,0.4s			⇑Lg	Lg	21 21 22.2	
CHMS	**Chumysh** 2.6nm,0.7s	**3.11**	**49**	⇓Pg	Pg	21 20 59.1	+5.7
CHMS	3.8nm,0.3s			⇓Lg	Lg	21 21 33.1	
NRN	**Naryn** baz=82	**3.39**	**81**	⇓*eP*	**Pn**	**21 20 48.7**	**+0.8**
NRN	baz=82			⇓*eS*	**Sn**	**21 21 28.2**	**-0.5**
TKM2	**Tokmak 2** 3.6nm,0.8s	**3.57**	**56**	⇑Pg	**Pg**	**21 21 06.1**	**+3.7**
TKM2	3.7nm,0.5s			⇑Lg	Lg	21 21 47.9	
BOOM	**Boomskoye usch** baz=65	**3.60**	**64**	⇑*eP*	**Pn**	**21 20 52.1**	**+1.3**
BOOM	baz=65			⇑*eS*	**Sn**	**21 21 33.5**	**-0.4**
DGS	**Degeres** 1.3nm,0.4s	**3.85**	**53**	Pg	**Pg**	**21 21 07.2**	**-0.5**
DGS	6.7nm,0.5s			Lg	Lg	21 21 56.6	
DGS	**Degeres** 1.3nm,0.4s	**3.85**	**53**	*eP*	**Pg**	**21 21 07.2**	**-0.5**
DGS	6.7nm,0.5s			*eS*	**Sg**	**21 21 56.6**	**-1.1**
KST	**Kastek** 0.9nm,0.1s	**3.87**	**57**	Pg	**Pg**	**21 21 07.4**	**-0.6**
KST	8.3nm,0.6s			Lg	Lg	21 21 57.1	
KST	**Kastek** 0.9nm,0.1s	**3.87**	**57**	*eP*	**Pg**	**21 21 07.3**	**-0.6**
KST	8.3nm,0.6s			*eS*	**Sg**	**21 21 57.1**	**-1.0**
KRBS	**Karabastau** 0.5nm,0.2s	**4.07**	**47**	Pg	**Pg**	**21 21 10.3**	**-1.6**
KRBS	6.1nm,0.6s			Lg	Lg	21 22 01.9	
KRBS	**Karabastau** 0.5nm,0.2s	**4.07**	**47**	*eP*	**Pg**	**21 21 10.3**	**-1.6**
KRBS	6.1nm,0.3s			*eS*	**Sg**	**21 22 01.9**	**-2.7**
BTLS	**Baital** 0.9nm,0.2s	**4.42**	**24**	Pg	**Pg**	**21 21 16.9**	**-1.7**
BTLS	4.6nm,0.6s			Lg	Lg	21 22 13.5	
BTLS	**Baital** 0.9nm,0.2s	**4.42**	**24**	*eP*	**Pg**	**21 21 16.9**	**-1.7**
BTLS	4.6nm,0.6s			*eS*	**Sg**	**21 22 13.5**	**-2.5**
MDOK	**Medeo** 1.7nm,0.6s	**4.62**	**60**	Pg	**Pg**	**21 21 22.8**	**+0.3**
MDOK	2.2nm,0.6s			Lg	Lg	21 22 22.7	
KTBS	**Karatobe** 0.3nm,0.1s	**4.67**	**53**	Pg	**Pg**	**21 21 21.6**	**-1.7**
KTBS	6.1nm,0.5s			Lg	Lg	21 22 21.2	
KTBS	**Karatobe** 0.3nm,0.1s	**4.67**	**53**	*eP*	**Pg**	**21 21 21.6**	**-1.7**
KTBS	6.1nm,0.5s			*eS*	**Sg**	**21 22 21.2**	**-2.5**
KOTS	**Kotyrbulak** 1.4nm,0.2s	**4.70**	**60**	*eP*	**Pg**	**21 21 24.4**	**+0.6**
KOTS	3.0nm,0.3s			*eS*	**Sg**	**21 22 26.3**	**+1.5**

*NOU **25** 21:22:17.7, 38°.77S×175°.79E, h160km, MLv4.0/14, North Island, New Zealand*
*WEL **25** 21:22:20.3±0.4, 39°.3°S×17°.6E±°, h133km±4km, M3.4/54, ML2.8/27, MLv3.4/54, Error ellipse: s-maj=0.0km s-min=0.0km az=88.0, confirmed*
ISC 25 21:22:16.3±1.6, **38°.73S**±0°.04×**175°.75E**±0°.04, **h167**km±8km, **n141**, σ1**s37**/155, **North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.25**	**14**	P	**Pn**	**21 22 39.5**	**+0.7**
KATZ	**Kakaramea**	**0.25**	**190**	P	**Pn**	**21 22 39.7**	**+0.8**
KATZ				S	**Sn**	**21 22 55.1**	**-1.3**
WPRZ	**Whakapapatarin**	**0.39**	**57**	P	**Pn**	**21 22 39.6**	**+0.5**
TWVZ	**Taurewa**	**0.42**	**215**	P	**Pn**	**21 22 40.4**	**+1.0**
TLZ	**Tolley Road**	**0.43**	**337**	P	**Pn**	**21 22 40.1**	**+0.7**
TLZ				S	**Sn**	**21 22 55.5**	**-1.5**
OTVZ	**Oturere**	**0.44**	**189**	P	**Pn**	**21 22 40.6**	**+1.1**
OTVZ				S	**Sn**	**21 22 56.5**	**-0.9**
SNVZ	**South Ngauruho**	**0.46**	**191**	P	**Pn**	**21 22 40.7**	**+1.1**
SNVZ				S	**Sn**	**21 22 57.1**	**-0.6**
GRRZ	**Galatos Road**	**0.47**	**37**	P	**Pn**	**21 22 40.1**	**+0.6**
ALRZ	**Allen Road**	**0.49**	**70**	P	**Pn**	**21 22 40.1**	**+0.5**
ALRZ				S	**Sn**	**21 22 56.0**	**-1.4**
COVZ	**Chateau Observ**	**0.50**	**199**	P	**Pn**	**21 22 40.8**	**+1.2**
COVZ				S	**Sn**	**21 22 56.8**	**-1.0**
MRHZ	**Matea Rd**	**0.53**	**102**	P	**Pn**	**21 22 40.3**	**+0.6**
MRHZ				S	**Sn**	**21 22 55.4**	**-2.4**
HRRZ	**Handcock Road**	**0.54**	**51**	P	**Pn**	**21 22 40.4**	**+0.6**
TUVZ	**Tukino**	**0.54**	**188**	P	**Pn**	**21 22 41.3**	**+1.4**
TUVZ				S	**Sn**	**21 22 57.1**	**-1.1**
FWVZ	**Far West T-bar**	**0.55**	**196**	P	**Pn**	**21 22 41.2**	**+1.1**
FWVZ				S	**Sn**	**21 22 57.4**	**-1.1**
MAVZ	**Matarangi**	**0.56**	**195**	P	**Pn**	**21 22 41.3**	**+1.1**
MAVZ				S	**Sn**	**21 22 58.0**	**-0.7**
WHVZ	**Whangaehu Hut**	**0.57**	**193**	P	**Pn**	**21 22 41.3**	**+1.2**
HSRZ	**Hossack Road**	**0.57**	**43**	P	**Pn**	**21 22 40.6**	**+0.6**
TRVZ	**Turoa**	**0.59**	**195**	P	**Pn**	**21 22 41.6**	**+1.3**
TRVZ				S	**Sn**	**21 22 58.1**	**-0.8**
WNVZ	**Wahianoa**	**0.61**	**191**	P	**Pn**	**21 22 41.6**	**+1.3**
WNVZ				S	**Sn**	**21 22 57.9**	**-1.0**
PKVZ	**Pokaka**	**0.64**	**209**	P	**Pn**	**21 22 41.7**	**+1.3**
UTU	**Utuhina**	**0.65**	**32**	P	**Pn**	**21 22 41.2**	**+0.8**
MOVZ	**Moawhango**	**0.68**	**180**	P	**Pn**	**21 22 41.6**	**+1.1**
MOVZ				S	**Sn**	**21 22 57.3**	**-2.1**
MTVZ	**Mangateitei**	**0.69**	**198**	P	**Pn**	**21 22 42.1**	**+1.4**
MTVZ				S	**Sn**	**21 22 59.5**	**0.0**
RRRZ	**Republican Roa**	**0.71**	**57**	P	**Pn**	**21 22 41.3**	**+0.5**
BKZ	**Black Stump Fm**	**0.72**	**127**	P	**Pn**	**21 22 41.6**	**+0.8**
BKZ	**Black Stump Fm**	**0.72**	**127**	P	**Pn**	**21 22 41.9**	**+1.1**
HIZ	**Hauiti**	**0.73**	**287**	P	**Pn**	**21 22 41.6**	**+0.8**
HIZ	**Hauiti**	**0.73**	**287**	P	**Pn**	**21 22 41.8**	**+1.0**
OMRZ	**Omania**	**0.79**	**38**	P	**Pn**	**21 22 41.8**	**+0.5**
BHHZ	**Black Hill Sta**	**0.80**	**162**	P	**Pn**	**21 22 42.5**	**+1.2**
KARZ	**Kaharoa**	**0.81**	**29**	P	**Pn**	**21 22 41.9**	**+0.6**
MTHZ	**Maungataniwha**	**0.86**	**99**	P	**Pn**	**21 22 42.8**	**+1.1**
VRZ	**Vera Road**	**0.87**	**243**	P	**Pn**	**21 22 43.1**	**+1.4**
KWHZ	**Kaweka Forest**	**0.87**	**143**	P	**Pn**	**21 22 43.5**	**+1.7**
KMRZ	**Kaimai**	**0.90**	**10**	P	**Pn**	**21 22 42.7**	**+0.7**
NMHZ	**Naumai**	**0.90**	**114**	P	**Pn**	**21 22 44.2**	**+2.2**
RTZ	**Ruatahuna**	**0.97**	**84**	P	**Pn**	**21 22 43.5**	**+0.9**
TOZ	**Tahuroa Road**	**1.01**	**349**	P	**Pn**	**21 22 43.8**	**+1.0**
MCHZ	**McNeill Hill**	**1.03**	**134**	P	**Pn**	**21 22 45.4**	**+2.5**
KRHZ	**Kereru**	**1.03**	**152**	P	**Pn**	**21 22 44.7**	**+1.8**
RAHZ	**Arahi**	**1.06**	**101**	P	**Pn**	**21 22 44.9**	**+1.7**
TGRZ	**Tauranga**	**1.08**	**22**	P	**Pn**	**21 22 44.0**	**+0.7**
OPRZ	**Ohinepanea**	**1.09**	**36**	P	**Pn**	**21 22 44.0**	**+0.6**
ARHZ	**Aropaoanui**	**1.11**	**119**	P	**Pn**	**21 22 45.6**	**+2.1**
URZ	**Urewera**	**1.17**	**67**	P	**Pn**	**21 22 44.5**	**+0.5**
URZ	**Urewera**	**1.17**	**67**	P	**Pn**	**21 22 44.3**	**+0.3**
WAZ	**Wanganui**	**1.18**	**210**	P	**Pn**	**21 22 46.2**	**+2.0**
PNHZ	**Pukenui**	**1.23**	**164**	P	**Pn**	**21 22 46.4**	**+1.8**
SNGZ	**Shannon Statio**	**1.24**	**93**	P	**Pn**	**21 22 46.3**	**+1.6**
LREZ	**Lake Rotokare**	**1.28**	**235**	P	**Pn**	**21 22 47.3**	**+2.3**
DRHZ	**Durham Road**	**1.29**	**249**	P	**Pn**	**21 22 47.3**	**+2.1**
TSZ	**Takapari Road**	**1.34**	**173**	P	**Pn**	**21 22 47.4**	**+1.8**
KAHZ	**Kahuranaki**	**1.38**	**141**	P	**Pn**	**21 22 48.3**	**+2.3**
CKHZ	**Cape Kidnapper**	**1.39**	**132**	P	**Pn**	**21 22 48.3**	**+2.2**
NEZ	**North Egmont**	**1.40**	**247**	P	**Pn**	**21 22 48.5**	**+2.3**
WPHZ	**Waipukurau**	**1.44**	**158**	P	**Pn**	**21 22 48.5**	**+2.0**
MWZ	**Matawai**	**1.45**	**75**	P	**Pn**	**21 22 47.5**	**+0.8**
PKE	**Pukeiti**	**1.45**	**251**	P	**Pn**	**21 22 48.8**	**+2.1**
KHEZ	**Kahui Hut**	**1.47**	**247**	P	**Pn**	**21 22 49.2**	**+2.3**
KHEZ	**Kahui Hut**	**1.47**	**247**	P	**Pn**	**21 22 49.1**	**+2.2**
KNZ	**Kokohu**	**1.53**	**102**	P	**Pn**	**21 22 49.0**	**+1.6**
PXZ	**Pawanui**	**1.56**	**147**	P	**Pn**	**21 22 49.7**	**+2.0**
NBEZ	**Newall Road No**	**1.56**	**249**	P	**Pn**	**21 22 49.9**	**+2.1**
RIGZ	**Rimuhau**	**1.57**	**90**	P	**Pn**	**21 22 49.5**	**+1.6**
DVHZ	**Dannevirke**	**1.60**	**169**	P	**Pn**	**21 22 49.8**	**+1.6**
NMEZ	**Namu Road**	**1.61**	**244**	P	**Pn**	**21 22 50.0**	**+1.8**
POWZ	**Post Office Ro**	**1.66**	**180**	P	**Pn**	**21 22 50.5**	**+1.7**
PRGZ	**Paritu Road**	**1.68**	**97**	P	**Pn**	**21 22 50.7**	**+1.7**
PRHZ	**Porangahau**	**1.68**	**156**	P	**Pn**	**21 22 51.0**	**+2.0**
MKAZ	**Moumakai**	**1.69**	**344**	P	**Pn**	**21 22 50.3**	**+1.3**
RUGZ	**Raukumara Rang**	**1.70**	**64**	P	**Pn**	**21 22 49.4**	**+0.1**
MHGZ	**Mahia Peninsul**	**1.73**	**105**	P	**Pn**	**21 22 51.6**	**+2.0**
KBAZ	**Karaka Road Bo**	**1.77**	**337**	P	**Pn**	**21 22 51.4**	**+1.5**
ANWZ	**Angora Road**	**1.82**	**162**	P	**Pn**	**21 22 52.5**	**+2.1**
PRWZ	**Pori Road**	**1.83**	**175**	P	**Pn**	**21 22 52.6**	**+2.0**
TWGZ	**Tauwhareparae**	**1.84**	**73**	P	**Pn**	**21 22 52.6**	**+1.9**
HAZ	**Te Kaha**	**1.87**	**59**	P	**Pn**	**21 22 51.3**	**+0.3**
AWAZ	**Awhitu Peninsu**	**1.88**	**332**	P	**Pn**	**21 22 52.7**	**+1.6**
ETAZ	**East Tamaki Re**	**1.89**	**340**	P	**Pn**	**21 22 52.6**	**+1.3**
MRZ	**Mangatainoka R**	**1.93**	**184**	P	**Pn**	**21 22 53.2**	**+1.5**
CNGZ	**Carnagh Statio**	**1.94**	**84**	P	**Pn**	**21 22 53.5**	**+1.8**
KUZ	**Kuaotunu**	**1.98**	**359**	P	**Pn**	**21 22 53.4**	**+1.1**
KUZ	**Kuaotunu**	**1.98**	**359**	P	**Pn**	**21 22 53.4**	**+1.1**
BFZ	**Birch Farm**	**1.99**	**169**	P	**Pn**	**21 22 54.1**	**+1.8**
BFZ	**Birch Farm**	**1.99**	**169**	P	**Pn**	**21 22 53.9**	**+1.6**
WIAZ	**Waiheke Island**	**1.99**	**346**	P	**Pn**	**21 22 53.7**	**+1.3**
PKGZ	**Pakihiroa**	**2.01**	**66**	P	**Pn**	**21 22 53.8**	**+1.1**
WTAZ	**Waiatarua**	**2.02**	**332**	P	**Pn**	**21 22 54.6**	**+1.9**
TIWZ	**Tintock**	**2.05**	**177**	P	**Pn**	**21 22 54.7**	**+1.7**
MBAZ	**Motutapu North**	**2.07**	**341**	P	**Pn**	**21 22 54.6**	**+1.4**
PUZ	**Puketiti**	**2.08**	**72**	P	**Pn**	**21 22 54.2**	**+0.9**
OGWZ	**Otaki Gorge**	**2.13**	**192**	P	**Pn**	**21 22 55.6**	**+1.7**
RVAZ	**Riverhead Bore**	**2.17**	**334**	P	**Pn**	**21 22 56.0**	**+1.7**
HOWZ	**Holdsworth Sta**	**2.17**	**185**	P	**Pn**	**21 22 55.7**	**+1.3**
CPWZ	**Castlepoint**	**2.21**	**171**	P	**Pn**	**21 22 56.8**	**+2.1**
KIW	**Kapiti Island**	**2.23**	**197**	P	**Pn**	**21 22 56.3**	**+1.3**
WMGZ	**Waiomatatini S**	**2.29**	**67**	P	**Pn**	**21 22 56.7**	**+1.0**
MXZ	**Matakaoa Point**	**2.33**	**61**	P	**Pn**	**21 22 57.3**	**+1.1**
MXZ	**Matakaoa Point**	**2.33**	**61**	P	**Pn**	**21 22 57.4**	**+1.2**
TMWZ	**Te Maipa**	**2.38**	**177**	P	**Pn**	**21 22 58.2**	**+1.4**
CAW	**Cannon Point**	**2.43**	**192**	P	**Pn**	**21 22 58.7**	**+1.3**
MTW	**Mount Morrison**	**2.43**	**184**	P	**Pn**	**21 22 58.5**	**+1.1**
GRZ	**Great Barrier**	**2.48**	**355**	P	**Pn**	**21 22 59.5**	**+1.5**
DUWZ	**D'Urville Isla**	**2.50**	**214**	P	**Pn**	**21 22 59.5**	**+1.2**
PAWZ	**Paruwai Farm**	**2.66**	**185**	P	**Pn**	**21 23 01.1**	**+1.0**
WEL	**Wellington**	**2.66**	**196**	P	**Pn**	**21 23 01.3**	**+1.2**
TRWZ	**Traveller**	**2.67**	**181**	P	**Pn**	**21 23 01.4**	**+1.2**
SNZO	**South Karori**	**2.70**	**197**	P	**Pn**	**21 23 01.4**	**+0.8**
MSWZ	**Moikau Station**	**2.71**	**188**	P	**Pn**	**21 23 01.6**	**+0.9**
TCW	**Tory Channel**	**2.73**	**204**	P	**Pn**	**21 23 02.1**	**+1.2**
BHW	**Baring Head**	**2.76**	**194**	P	**Pn**	**21 23 02.2**	**+0.9**
PLWZ	**Palliser**	**2.86**	**187**	P	**Pn**	**21 23 03.4**	**+0.8**
WCZ	**Waipu Caves**	**3.00**	**338**	P	**Pn**	**21 23 06.6**	**+2.2**
TUWZ	**Tuamarina**	**3.03**	**207**	P	**Pn**	**21 23 05.5**	**+0.9**
NNZ	**Nelson**	**3.08**	**215**	P	**Pn**	**21 23 06.2**	**+1.0**
TKNZ	**Takaka Hill**	**3.15**	**222**	P	**Pn**	**21 23 06.7**	**+0.5**
QRZ	**Quartz Range**	**3.25**	**229**	P	**Pn**	**21 23 07.5**	**+0.1**
QRZ	**Quartz Range**	**3.25**	**229**	P	**Pn**	**21 23 07.8**	**+0.4**
BSWZ	**Blackbirch Sta**	**3.31**	**205**	P	**Pn**	**21 23 09.2**	**+1.1**
MRNZ	**Matariki Terra**	**3.52**	**220**	P	**Pn**	**21 23 11.2**	**+0.4**
THZ	**Tophouse**	**3.73**	**215**	P	**Pn**	**21 23 14.4**	**+0.8**
OUZ	**Omahuta**	**3.90**	**333**	P	**Pn**	**21 23 18.4**	**+2.7**
OUZ	**Omahuta**	**3.90**	**333**	P	**Pn**	**21 23 18.5**	**+2.7**
KHZ	**Kahutara**	**4.05**	**204**	P	**Pn**	**21 23 18.3**	**+0.8**
DSZ	**Denniston Nort**	**4.26**	**224**	P	**Pn**	**21 23 20.2**	**-0.2**
GVZ	**Greta Valley S**	**4.71**	**205**	P	**Pn**	**21 23 26.5**	**+0.4**
LTZ	**Lake Taylor**	**4.83**	**212**	P	**Pn**	**21 23 27.6**	**-0.1**
INZ	**Inchbonnie**	**5.16**	**218**	P	**Pn**	**21 23 31.5**	**-0.5**
OXZ	**Oxford**	**5.38**	**210**	P	**Pn**	**21 23 34.7**	**-0.2**
OKCZ	**Okains Bay**	**5.39**	**201**	P	**Pn**	**21 23 34.8**	**-0.2**
MQZ	**McQueen's Vall**	**5.49**	**204**	P	**Pn**	**21 23 35.4**	**-0.9**
AKCZ	**Akaroa Harbour**	**5.56**	**202**	P	**Pn**	**21 23 37.0**	**-0.4**
MHCZ	**Mount Hutt**	**5.74**	**212**	P	**Pn**	**21 23 39.9**	**+0.1**
WACZ	**Wakanui South**	**5.98**	**208**	P	**Pn**	**21 23 42.2**	**-0.6**
RPZ	**Rata Peaks** 23nm,1.4s	**6.11**	**214**	P	**Pn**	**21 23 45.2**	**+0.7**
RPZ	**Rata Peaks**	**6.11**	**214**	P	**Pn**	**21 23 43.8**	**-0.7**
ARCZ	**Arundel**	**6.25**	**212**	P	**Pn**	**21 23 45.8**	**-0.5**
TMZ	**Timaru**	**6.67**	**211**	P	**Pn**	**21 23 51.8**	**-0.2**
ODZ	**Otahua Downs**	**7.37**	**209**	P	**Pn**	**21 24 01.5**	**+0.4**
ODZ	**Otahua Downs**	**7.37**	**209**	P	**Pn**	**21 24 01.2**	**+0.1**
JCZ	**Jackson Bay**	**7.47**	**222**	P	**Pn**	**21 24 04.2**	**+1.5**

IDC 25 21:36:01.4±8.7, **5°.35S**×**151°.31E**, **h103**km±61km, **mb3.3**/2, **mbtmp3.7**/3, **MS3.5**/2, **Error ellipse: s-maj=104.9km s-min=55.7km az=118.0, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby** 7.2nm,0.5s,baz=45,slow=21,SNR=1.4	**5.76**	**225**	P	Pn	21 37 24.0	-0.6
PMG	12nm,0.4s,baz=110,slow=12,SNR=2.2			S	Sn	21 38 30.4	+1.1
WRA	**Warramunga Arr** 1.0nm,0.5s,baz=52,slow=10,SNR=14 1.0nm,0.5s	**21.98**	**227**	P	P	21 40 47.0	-0.2
ASAR	**Alice Springs** 1.1nm,0.8s,baz=59,slow=8.8,SNR=16 1.1nm,0.8s	**24.75**	**221**	P	P	21 41 13.7	0.0
BATI	**Baumata** comp=Z,171nm,18.1s,baz=150,slow=40	**27.80**	**258**	LR	LR	21 54 32.0	
KAPI	**Kappang** comp=Z,33nm,18.9s,baz=95,slow=44	**31.43**	**269**	LR	LR	21 59 15.7	
TORD	**Torodi Ar. Bea** 1.3nm,0.7s,baz=70,slow=4.5,SNR=6.9	**149.06**	**287**	PKPbc	PKPbc	21 55 38.3	-0.4

*DNK **25** 21:48:00.8±3.1, 82°.20N×4°.39W, h36km±53km, ML1.5*
*BER **25** 21:48:02.4±1.3, 81°.86N×4°.77W, h10km, mb(Pn)3.1, Confirmed Earthquake*
ISC 25 21:47:59.0±1.8, **81°.8N**±0°.1×**4°.79W**±0°.05, **h10**km, **n8**, σ2**s32**/12, **North of Svalbard**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**1.74**	**269**	*eP*	**Pn**	**21 48 30.8**	**+1.6**
NOR	**Nord**	**1.74**	**269**	*i* P	**Pn**	**21 48 30.0**	**+0.9**
NOR				*i* S	**Sn**	**21 48 49.0**	**-2.3**
NOR	comp=Z,2.3nm,0.4s			IAML		21 48 52.2	
KBS	**Kingsbay**	**4.02**	**127**	*eP*	**Pn**	**21 49 02.0**	**+1.5**
KBS	comp=Z,5.3nm,0.8s			IAML		21 49 10.2	
KBS	**Kingsb

H04S2	**CROZET ISLANDS**	**59.33**	**218**	T	T	23 02 33.7		
	baz=62,slow=76,SNR=4.5							
KURBB	**Kurchatov Arra**	**59.97**	**343**	LR	LR	22 29 34.7		
	comp=Z,94nm,18.7s,baz=172,slow=41							
TXAR	**Lajitas Array**	**146.22**	**43**	PKPbc	**PKiKP**	**22 08 02.9**	**-1.9**	
	0.3nm,0.6s,baz=256,slow=1.5,SNR=5.2							

VAO ***25*** *21:54:09.0±0.9,2°.03N×79°.45W,h10km,mb4.6*
RSNC ***25*** *21:54:12.7±0.0,2°.N±6°×8°.0W±°,h13km±10km,M4.2,mb5.0, mB5.0,ML3.6,MLv4.4,Mw(mB)4.4*
IGQ ***25*** *21:54:15.0±1.0,2°.N±6°×7°.9W±°,h24km,M4.6/13*
NEIC ***25*** *21:54:20.7±1.8, 1°.66N±0°.06×78°.73W±0°.05,h35km±2km, mb4.5/18,Mwr4.4/10,Error ellipse: s-maj=11.3km s-min=7.3km az=221.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁵Nm; Mrr=1.28; Mθθ=3.00; Mφφ=4.28; Mrθ=2.49; Mθφ=0.83; Mφr=3.49; Fault plane solution: M0=5.79000×10¹⁵ NP1:φs=147.57000°,δ=81.96000°, λ=-129.07000°. NP2:φs=47.80000°,δ=39.76000°, λ=-12.64000°. Principal axes: T 5.9736, Plg=26.0000°, Azm=267.0000°; N -0.3887, Plg=39.0000°, Azm=154.0000°; P -5.5850, Plg=40.0000°, Azm=22.0000°;*
IDC ***25*** *21:54:21.1±2.6,1°.75N×78°.98W,h74km±22km,mb3.7/11, mbtmp4.0/14,MS3.6/9 Error ellipse: s-maj=24.9km s-min=13.4km az=100.0*
NEIC ***25*** *21:54:22.8,1°.53N×78°.76W,h67km*

ISC 25 21:54:10.5±1.6,17.8N±0°.03×79°.35W±0°.04,h1km±10km, n151,σ1s57/138,mb4.2/17,MS3.5/8,Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SNLR	**San Lorenzo-Es**	**0.69**	**134**	P	**Pn**	**21 54 27.6**	**0.0**
SNLR				S	**Sn**	**21 54 38.3**	**-0.6**
AMA1	**Acelerografo,**	**0.92**	**204**	P	**Pn**	**21 54 31.4**	**+0.7**
AMA1				S	**Sn**	**21 54 47.1**	**+2.5**
PAC1	**Pacto, Paraso**	**1.60**	**160**	P	**Pn**	**21 54 40.6**	**+0.4**
PAC1				S	**Sb**	**21 55 02.4**	**+0.5**
PAC1	**Pacto, Paraso**	**1.60**	**160**	P	**Pn**	**21 54 40.5**	**+0.4**
PAC1				S	**Sn**	**21 55 00.3**	**-1.3**
ECEN	**Cerro Negro**	**1.67**	**125**	P	**Pn**	**21 54 42.0**	**+0.6**
GR1C	**Gorgona, Isla**	**1.69**	**44**	P	**Pn**	**21 54 40.5**	**-0.8**
LNGL	**El Angel-Carch**	**1.69**	**128**	P	**Pn**	**21 54 42.5**	**+0.7**
CHL1	**Volc¡n Chiles**	**1.71**	**125**	P	**Pn**	**21 54 42.5**	**+0.5**
URCU	**Urcuqui**	**1.72**	**141**	P	**Pn**	**21 54 43.0**	**+0.9**
CHL2	**Volc¡n Chiles**	**1.73**	**124**	P	**Pn**	**21 54 42.5**	**+0.3**
APR2	**Miler**	**1.73**	**167**	P	**Pb**	**21 54 44.0**	**+0.7**
CMBC	**Cumbal**	**1.73**	**119**	P	**Pn**	**21 54 42.9**	**+0.6**
CMBC				S	**Sn**	**21 55 03.8**	**-1.5**
CMBC	**Cumbal**	**1.73**	**119**	P	**Pn**	**21 54 42.4**	**+0.2**
CUSE	**Cuicocha Este**	**1.74**	**147**	P	**Pb**	**21 54 43.7**	**+0.1**
CUSE				S	**Sb**	**21 55 06.0**	**-0.2**
CUSE	**Cuicocha Este**	**1.74**	**147**	P	**Pn**	**21 54 43.2**	**+0.8**
COTA	**Cotacachi**	**1.75**	**145**	P	**Pn**	**21 54 43.6**	**+1.0**
CUIC	**Cuicocha-Domo**	**1.77**	**146**	P	**Pn**	**21 54 43.8**	**+1.2**
IMBA	**Imbabura, San**	**1.88**	**142**	Pn	**Pb**	**21 54 46.3**	**+0.3**
TULM	**Tulcn-Chalpat**	**1.88**	**124**		**Pn**	**21 54 43.1**	**-1.2**
TULM	**Tulcn-Chalpat**	**1.88**	**124**	P	**Pb**	**21 54 46.2**	**+0.2**
AIB2	**Ibarra (Univer**	**1.89**	**139**	P	**Pb**	**21 54 46.6**	**+0.6**
YAHU	**Yahuarcocha**	**1.89**	**138**	P	**Pb**	**21 54 46.6**	**+0.5**
PULU	**Pululahua**	**1.94**	**154**		**Pb**	**21 54 47.7**	**+0.8**
APR1	**Acelerografo,**	**1.96**	**158**	P	**Pb**	**21 54 47.8**	**+0.6**
YANA	**Yana**	**2.04**	**158**	P	**Pb**	**21 54 48.9**	**+0.2**
PINO	**Pino**	**2.06**	**159**	P	**Pb**	**21 54 49.3**	**+0.1**
GCUF	**Volcan Galeras**	**2.07**	**105**	P	**Pn**	**21 54 48.3**	**+1.3**
TERV	**Terraza Guagua**	**2.08**	**159**	P	**Pb**	**21 54 49.3**	**-0.1**
GGPC	**Guagua Pichinc**	**2.08**	**159**	P	**Pb**	**21 54 49.8**	**+0.3**
HPAL	**Hacienda Las P**	**2.10**	**161**	P	**Pb**	**21 54 49.5**	**-0.2**
BBAC	**Balboa, Cauca**	**2.11**	**83**	P	**Pn**	**21 54 47.4**	**+0.1**
BBAC	**Balboa, Cauca**	**2.11**	**83**	P	**Pn**	**21 54 47.3**	**+0.1**
JUA2	**San Juan 2**	**2.11**	**159**	P	**Pb**	**21 54 50.3**	**+0.3**
GGPT	**Toaza - Volcan**	**2.12**	**160**	P	**Pb**	**21 54 50.0**	**0.0**
CAYA	**Cayambe**	**2.17**	**141**	P	**Pb**	**21 54 50.8**	**-0.1**
ANGU	**Angureal**	**2.18**	**142**	P	**Pb**	**21 54 51.4**	**+0.2**
CAYR	**Refugio Cayamb**	**2.20**	**143**	P	**Pb**	**21 54 52.2**	**+0.5**
CRUC	**La Cruz**	**2.40**	**95**	P	**Pn**	**21 54 53.9**	**+2.5**
PITA	**Cotopaxi Volc**	**2.49**	**159**	P	**Pg**	**21 54 59.5**	**+1.0**
ANTI	**Antisana**	**2.51**	**152**	P	**Pb**	**21 54 57.2**	**+0.4**
ANTG	**Antisana-Guama**	**2.52**	**154**	P	**Pb**	**21 54 57.1**	**+0.2**
REVN	**San Rafael**	**2.52**	**137**	P	**Pb**	**21 54 57.0**	**+0.2**
REVS	**Reventador Sur**	**2.54**	**137**	P	**Pb**	**21 54 57.7**	**+0.5**
ANTS	**Antisana-Sarah**	**2.55**	**153**	P	**Pb**	**21 54 57.5**	**+0.1**
ILLI	**Illinizas Sur**	**2.55**	**166**	P	**Pb**	**21 54 56.7**	**-0.8**
PAST	**Pastocalle**	**2.56**	**164**	P	**Pb**	**21 54 59.2**	**+1.7**
CAMI	**Rancho Maria**	**2.58**	**161**	P	**Pb**	**21 54 58.9**	**+0.9**
VC1	**Cotopaxi 1**	**2.58**	**159**	P	**Pb**	**21 54 58.9**	**+0.9**
BVC2	**Cotopaxi Volca**	**2.59**	**159**	P	**Pb**	**21 54 59.9**	**+1.6**
BREF	**Cotopaxi Volca**	**2.59**	**160**	P	**Pb**	**21 54 59.2**	**+0.9**
BTAM	**Cotopaxi Volca**	**2.62**	**159**	P	**Pb**	**21 54 59.1**	**+0.5**
SLOR	**San Lorenzo -**	**2.63**	**161**		**Pb**	**21 54 58.2**	**-0.6**
SLOR	**San Lorenzo -**	**2.63**	**161**	P	**Pb**	**21 54 59.8**	**+1.0**
TAMB	**Tambo**	**2.64**	**158**	P	**Pb**	**21 55 00.4**	**+1.4**
BMOR	**Cotopaxi Volca**	**2.65**	**160**	P	**Pb**	**21 54 59.8**	**+0.7**
BRRN	**Barrancas-Volc**	**2.69**	**161**	P	**Pb**	**21 55 01.0**	**+1.2**
POPC	**Popayan, Colom**	**2.77**	**74**	P	**Pn**	**21 54 57.3**	**+0.9**
POPC				S	**Sn**	**21 55 32.9**	**+2.2**
MALC	**Bahia Malaga**	**2.99**	**42**	P	**Pn**	**21 54 59.8**	**+0.6**
MALC				S	**Sn**	**21 55 39.3**	**+3.5**
MALC	**Bahia Malaga**	**2.99**	**42**	P	**Pn**	**21 54 59.8**	**+0.6**
JAMC	**Jamundi, Valle**	**3.03**	**62**	P	**Pn**	**21 54 59.2**	**-0.7**
JAMC				S	**Sn**	**21 55 39.3**	**+2.4**
PORT	**Chimborazo Vol**	**3.27**	**170**	P	**Pb**	**21 55 09.3**	**-0.5**
CHSH	**Refugio Sur-Vo**	**3.29**	**172**		**Pb**	**21 55 08.4**	**-1.6**
CHSH	**Refugio Sur-Vo**	**3.29**	**172**	P	**Pb**	**21 55 11.3**	**+1.2**
TAMH	**Tambohuasha Ch**	**3.35**	**170**	P	**Pb**	**21 55 11.0**	**+0.9**
TUYU	**Q. Yuibug Volc**	**3.35**	**165**	P	**Pb**	**21 55 11.6**	**+0.5**
PUYO	**Puyo, Santa Ro**	**3.51**	**158**	P	**Pn**	**21 55 10.2**	**+3.8**
YOTC	**Yotoco, Valle**	**3.71**	**54**	P	**Pn**	**21 55 07.3**	**-1.9**
YOTC				S	**Sn**	**21 55 51.0**	**-2.7**
GARC	**Garzon, Huila**	**3.87**	**84**	P	**Pn**	**21 55 13.7**	**+2.2**
PLMC	**San Jos del P**	**4.36**	**44**	P	**Pn**	**21 56 16.8**	**-1.3**
ANIL	**Santa Ana**	**4.77**	**56**	P	**Pn**	**21 55 24.8**	**+0.9**
PRAC	**Prado**	**4.85**	**67**	P	**Pn**	**21 55 27.3**	**+2.5**
RECRC	**Villamaria, Ca**	**5.09**	**51**	P	**Pn**	**21 55 30.8**	**+2.3**
	179nm,0.7s,0.9nm						
URMC	**La Uribe, Meta**	**5.17**	**74**	P	**Pn**	**21 55 32.3**	**+3.0**
	119nm,0.9s,2µm0.2nm						
ARNL	**Arenillas**	**5.34**	**188**		Pn	21 55 38.5	+7.0
MACC	**Macarena, Meta**	**5.51**	**86**	P	**Pn**	**21 55 36.0**	**+2.2**
	149nm,0.7s,2µm						
PTAC	**Punta Ardita,**	**5.55**	**16**	P	**Pn**	**21 55 38.0**	**+3.6**
CACAO	**El Cacao, Vera**	**5.73**	**345**	P	**Pn**	**21 55 37.9**	**+1.0**
CACAO				S	**Sn**	**21 56 38.4**	**-5.0**
HELC	**Santa Helena**	**5.81**	**41**	P	Pb	21 55 48.7	-4.2
NORC	**Norcasia**	**5.84**	**50**	P	**Pn**	**21 55 40.3**	**+1.9**
ROSC	**El Rosal**	**5.87**	**59**	Pn	**Pn**	**21 55 40.8**	**+1.7**
ROSC	**El Rosal**	**5.87**	**59**	P	**Pn**	**21 55 42.8**	**+3.7**
	54nm,0.5s,baz=246,slow=20,SNR=17						
ROSC				S	**Sn**	**21 56 44.5**	**-2.8**
	18nm,0.5s,baz=229,slow=23,SNR=0.7						
ROSC				LR	LR	21 58 23.7	
	comp=Z,774nm,18.2s,baz=226,slow=44						
ROSC	**El Rosal**	**5.87**	**59**	P	Pn	21 55 45.9	+6.8
CVER	**Cruz Verde, Cu**	**5.93**	**63**	P	Pn	21 55 45.0	+5.0
VILC	**Villavicencio,**	**6.10**	**68**	P	Pn	21 55 48.8	+6.7
CHIC	**Chingaza**	**6.28**	**63**	P	Pn	21 55 49.8	+5.0
SPBC	**San Pablo de B**	**6.52**	**54**	P	**Pn**	**21 55 51.3**	**+3.5**
PTBC	**PUERTO BERRIO,**	**6.79**	**46**	P	Pn	21 55 56.6	+5.1
BCIP	**Isla Barro Col**	**7.36**	**356**	Pn	Pn	21 56 08.4	+9.2
RUSC	**La Rusia**	**7.47**	**57**	Pn	**Pn**	**21 56 01.6**	**+0.4**
RUSC	**La Rusia**	**7.47**	**57**	P	Pn	21 56 06.5	+5.3
BARC	**Barichara**	**7.79**	**52**	P	**Pn**	**21 56 08.9**	**+3.5**
PAMC	**Pamplona, Colo**	**8.62**	**50**	P	Pn	21 56 22.7	+5.6
ATAH	**Atahualpa**	**8.90**	**174**	P	Pn	21 56 27.6	+6.8
	2.8nm,0.4s,baz=12,slow=9.3,SNR=1.9						
ATAH				S	**Sn**	**21 58 04.4**	**+2.3**
	4.7nm,0.7s,baz=350,slow=15,SNR=1.2						
SJCC	**San Jacinto, C**	**9.07**	**27**	P	**Pn**	**21 56 26.4**	**+3.6**
SDV	**Santo Domingo**	**11.18**	**51**	Pn	**Pn**	**21 56 54.2**	**+2.3**
SDV	**Santo Domingo**	**11.18**	**51**	P	**Pn**	**21 56 55.4**	**+3.5**
	7.4nm,0.7s,baz=195,slow=12,SNR=4.4						
CZSB	**Cruzeiro do Su**	**11.54**	**145**	Pn	**Pn**	**21 56 55.1**	**-1.5**
VCH1	**Volcn Chico**	**12.02**	**258**	P		21 57 11.0	
TEFE	**Tefe**	**15.61**	**110**	*eP*	**Pn**	**21 57 51.3**	**-0.8**
TEFE				*eS*	**Sn**	**22 00 48.5**	**+2.6**
ETMB	**Extrema**	**17.43**	**132**	Pn	**Pn**	**21 58 13.2**	**-2.0**
ETMB	**Extrema**	**17.43**	**132**	*eP*	**Pn**	**21 58 14.0**	**-1.2**
CCIG	**Comitan**	**19.14**	**320**		Pn	21 58 46.2	+10
CCIG				IAmb	IAmb	21 58 53.5	
	comp=Z,13nm,0.5s						
MACA	**Manacapuru-AM**	**19.29**	**105**	P	**P**	**21 58 35.1**	**-2.0**
MACA				IAmb	IAmb	21 58 38.0	
	comp=Z,28nm,0.7s						
SAML	**Samuel**	**19.31**	**124**	P	**P**	**21 58 36.2**	**-1.1**
SAML	**Samuel**	**19.31**	**124**	*eP*	**P**	**21 58 36.7**	**-0.7**
GCPR	**Guaynabo City**	**20.96**	**38**	P	Pn	21 58 57.3	-0.4
GCPR				IAmb	IAmb	21 58 58.6	
	comp=Z,32nm,0.9s						
LPAZ	**La Paz**	**21.09**	**149**	P	**P**	**21 58 57.6**	**+0.2**
LPAZ	**La Paz**	**21.09**	**149**	P	**P**	**21 58 57.8**	**+0.5**
	comp=Z,3.6nm,0.8s,baz=330,slow=7.1,SNR=9.0						
	comp=Z,3.6nm,0.8s						
LPAZ	**La Paz**	**21.09**	**149**	*eP*	**P**	**21 58 56.7**	**-0.6**
CMIG	**Matias Romero**	**21.57**	**316**	LR	LR	22 05 54.3	
	comp=Z,51nm,21.2s,baz=181,slow=32						
PB11	**IPOC Station P**	**23.42**	**156**	P	**P**	**21 59 21.1**	**-0.5**
PB11				IAmb	IAmb	21 59 33.2	
	comp=Z,23nm,1.0s						
GO01	**Chusmiza**	**23.53**	**155**	P	**P**	**21 59 22.1**	**-0.9**
GO01				IAmb	IAmb	21 59 27.9	
	comp=Z,21nm,1.1s						
TA02	**Huaiquique**	**23.70**	**158**	P	**P**	**21 59 25.7**	**+1.6**
PB08	**IPOC Station P**	**23.97**	**156**	P	**P**	**21 59 27.0**	**-0.2**
PB08				IAmb	IAmb	21 59 32.5	
	comp=Z,6.9nm,0.9s						
VILB	**Vilhena**	**23.98**	**128**	P	**P**	**21 59 25.8**	**-1.2**
VILB				IAmb	IAmb	21 59 36.9	
	comp=Z,22nm,0.8s						
VILB	**Vilhena**	**23.98**	**128**	*eP*	**P**	**21 59 27.0**	**+0.1**
ITTB	**Itaituba**	**24.37**	**105**	*eP*	**P**	**21 59 29.1**	**-1.5**
SIV	**San Ignacio**	**25.25**	**135**	LR	LR	22 09 50.0	
	comp=Z,198nm,21.2s,baz=336,slow=37						
NPGB	**Novo Progresso**	**25.49**	**110**	*eP*	**P**	**21 59 39.0**	**-1.7**
PDRB	**Porto dos Gac**	**26.12**	**121**	*eP*	**P**	**21 59 45.6**	**-0.8**
LVC	**Limon Verde**	**26.29**	**158**	LR	LR	22 11 20.6	
	comp=Z,144nm,19.9s,baz=327,slow=39						
PTLB	**Pontes e Lacer**	**26.32**	**131**	P	**P**	**21 59 46.6**	**-1.5**
PTLB				IAmb	IAmb	21 59 50.1	
	comp=Z,5.2nm,0.7s						
PTLB	**Pontes e Lacer**	**26.32**	**131**	*eP*	**P**	**21 59 48.1**	**0.0**
BBSD	**Serra de San D**	**26.39**	**136**	*eP*	**P**	**21 59 48.6**	**-0.2**
MDP	**Montagnes des**	**26.86**	**82**	LR	LR	22 10 47.5	
	comp=Z,328nm,19.4s,baz=268,slow=37						
SALV	**Santo Antonio**	**29.24**	**128**	*eP*	**P**	**22 00 13.7**	**-0.7**
ARAG	**Araguaiana, MT**	**32.29**	**124**	*eP*	**P**	**22 00 40.1**	**-1.2**
CPUP	**Villa Florida**	**35.12**	**144**	P	**P**	**22 01 04.4**	**-1.4**
	comp=Z,1.8nm,0.6s,baz=325,slow=11,SNR=6.4						
CPUP				LR	LR	22 17 33.2	
	comp=Z,118nm,20.7s,baz=328,slow=40						
	comp=Z,1.8nm,0.6s						
TXAR	**Lajitas Array**	**35.87**	**322**	P	**P**	**22 01 16.3**	**+3.9**
	comp=Z,0.3nm,0.8s,baz=138,slow=11,SNR=2.2						
	comp=Z,0.3nm,0.8s						
IPMB	**Ipameri, GO**	**36.41**	**124**	*eP*	**P**	**22 01 15.2**	**-1.8**
CRSM	**Crissiumal (Br**	**37.95**	**142**	*eP*	**P**	**22 01 28.6**	**-1.4**
UNIS	**Unistalda (Bra**	**38.49**	**145**	*eP*	**P**	**22 01 34.0**	**-0.5**
RPN	**Rapa Nui**	**40.75**	**223**	LR	LR	22 14 49.1	
	comp=Z,66nm,20.4s,baz=42,slow=30						
ANMO	**Albuquerque**	**41.54**	**326**	P	P	22 02 07.4	+7.3
ANMO	**Albuquerque**	**41.54**	**326**	LR	LR	22 22 28.7	
	comp=Z,45nm,18.4s,baz=265,slow=40						
PLCA	**Paso Flores**	**43.06**	**170**	P	**P**	**22 02 13.8**	**+1.6**
	comp=Z,3.6nm,0.9s,baz=338,slow=11,SNR=4.4						
	comp=Z,3.6nm,0.9s						
SZCU	**Shurtz Canyon**	**47.24**	**323**	P	P	22 02 53.9	+8.2
MSU	**Marysvale**	**47.31**	**325**	P	P	22 02 53.5	+7.3
RDMU	**Red Mountain**	**47.32**	**329**	P	P	22 02 52.7	+6.4
RDMU				IAmb	IAmb	22 02 55.3	
	comp=Z,4.9nm,0.6s						
MVU	**Marysvale**	**47.33**	**325**	P	P	22 02 52.9	+6.5
FRB	**Frobisher Bay**	**62.34**	**5**	LR	LR	22 33 18.9	
	comp=Z,35nm,18.5s,baz=219,slow=38						
YKA	**Yellowknife Ar**	**66.03**	**343**	P	**P**	**22 04 59.1**	**+0.5**
	comp=Z,2.0nm,0.6s,baz=137,slow=5.6,SNR=4.0						
	comp=Z,0.2nm,0.6s						
DBIC	**Dimbokro**	**74.39**	**84**	P	**P**	**22 05 49.5**	**-1.5**
	comp=Z,5.8nm,0.8s,baz=252,slow=6.6,SNR=3.4						
	comp=Z,5.8nm,0.8s						
ESDC	**Sonseca Array**	**77.63**	**50**	P	**P**	**22 06 09.5**	**+0.5**
	comp=Z,1.6nm,0.7s,baz=264,slow=6.1,SNR=15						
	comp=Z,1.6nm,0.7s						
EKA	**Eskdalemuir Ar**	**80.70**	**34**	P	**P**	**22 06 25.1**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=236,slow=5.0,SNR=3.8						
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**80.87**	**77**	P	**P**	**22 06 25.5**	**-1.6**
	comp=Z,1.1nm,1.0s,baz=316,slow=4.0,SNR=3.9						
	comp=Z,1.1nm,1.0s						
ECH	**Echery**	**86.35**	**42**	P	**P**	**22 06 54.8**	**+0.1**
SNAA	**Sanae**	**87.45**	**162**	P	**P**	**22 06 59.8**	**+0.2**
	comp=Z,1.7nm,0.9s,baz=351,slow=10.0,SNR=5.5						
	comp=Z,1.7nm,0.9s						
NOA	**NORSAR Array B**	**88.73**	**29**	P	**P**	**22 07 06.1**	**+0.3**
	comp=Z,1.2nm,1.0s,baz=271,slow=4.4,SNR=3.4						
	comp=Z,1.2nm,1.0s						
KURBB	**Kurchatov Arra**	**124.47**	**17**	PKP	**PKPdf**	**22 13 10.7**	**-1.1**
	comp=Z,0.5nm,0.6s,baz=342,slow=2.5,SNR=4.8						
WRA	**Warramunga Arr**	**142.46**	**239**	PKhKP	PKPpre	22 13 42.5	
	comp=Z,0.3nm,0.8s,baz=111,slow=2.8,SNR=1.8						

KRNET ***25*** *22:01:32.1±0.1,40°.94N×74°.59E,h29km,mb3.0*
SOME ***25*** *22:01:32.1,41°.05N×74°.67E,h5km*
KNET ***25*** *22:01:33.9±0.4,41°.10N×74°.78E,h5km±2km,ml2.7, Error ellipse: s-maj=2.9km s-min=2.8km az=154.0*
NNC ***25*** *22:01:34.0±1.1,41°.00N×74°.77E,h0km,mb3.7,mpv3.5, Error ellipse: s-maj=7.4km s-min=5.1km az=28.0*

ISC 25 22:01:31.9±1.2,40.92N±0°.03×74.58E±0°.02,h1km±10km, n85,σ1s21/140,41C-28D,Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARLS	**Aral**	**0.96**	**349**	⇑*iP*	**Pg**	**22 01 49.5**	**-0.7**
	baz=48						
ARLS				⇑*iS*	**Sg**	**22 02 02.0**	**-0.6**
	baz=48						
NRN	**Naryn**	**1.19**	**64**	⇓*eP*	**Pg**	**22 01 53.6**	**-1.1**
	baz=65						
NRN				⇓*eS*	**Sg**	**22 02 09.3**	**-0.9**
	baz=65						
SFK	**Sufi-Kurgan**	**1.22**	**222**	⇑*iP*	**Pg**	**22 01 55.0**	**-0.3**
	baz=22						
SFK				⇑*iS*	**Sg**	**22 02 11.3**	**+0.2**
	baz=22						
ARSB	**Arslanbob**	**1.27**	**289**	⇓*iP*	**Pg**	**22 01 55.5**	**-0.7**
	baz=88						
ARSB				⇓*iS*	**Sg**	**22 02 12.6**	**0.0**
	baz=88						
UCH	**Uchtor**	**1.30**	**358**	P	**Pg**	**22 01 56.1**	**-0.8**
	24nm,0.2s,SNR=106						
UCH				⇓S	**Sg**	**22 02 13.2**	**-0.6**
	60nm,0.1s						
UCH	**Uchtor**	**1.30**	**358**	⇓*iP*	**Pg**	**22 01 56.0**	**-0.9**
	baz=58						
UCH				⇓*iS*	**Sg**	**22 02 12.9**	**-0.9**
	baz=58						
OHH	**Osh**	**1.42**	**254**	⇓*iP*	**Pn**	**22 01 57.9**	**-1.0**
	baz=54						
OHH				⇓*iS*	**Sb**	**22 02 17.0**	**-0.8**
	baz=54						
AAK	**Ala-Archa**	**1.71**	**358**	⇑P	**Pn**	**22 02 03.5**	**+0.4**
	9.1nm,0.1s,SNR=23						
AAK				⇓S	**Sn**	**22 02 25.7**	**-0.1**
	52nm,0.3s						
AAK	**Ala-Archa**	**1.71**	**358**	⇑P	**Pn**	**22 02 03.6**	**+0.6**
	8.8nm,0.3s						
AAK				⇑S	**Sn**	**22 02 25.4**	**-0.3**
	30nm,0.5s						
AAK	**Ala-Archa**	**1.71**	**358**	⇑*iP*	**Pn**	**22 02 02.6**	**-0.5**
	baz=58						
AAK				⇑*iS*	**Sn**	**22 02 24.6**	**-1.2**
	baz=58						
KBK	**Karagaybulak**	**1.75**	**9**	⇑P	**Pn**	**22 02 03.9**	**+0.2**
	35nm,0.1s,SNR=160						
KBK				⇑del		22 02 26.3	
	217nm,0.2s						
KBK	**Karagaybulak**	**1.75**	**9**	⇑*iP*	**Pn**	**22 02 02.9**	**-0.8**
	baz=9.0						
KBK				⇑*iS*	**Sn**	**22 02 25.6**	**-1.2**
	baz=9.0						
ULHL	**Ulahol**	**1.82**	**43**	⇓P	**Pn**	**22 02 04.1**	**-0.4**
	12nm,0.1s,SNR=38						
ULHL				⇓S	**Sn**	**22 02 26.5**	**-1.9**
	42nm,0.2s						
ULHL	**Ulahol**	**1.82**	**43**	⇑*iP*	**Pn**	**22 02 03.7**	**-0.9**
	baz=43						
ULHL				⇑*iS*	**Sn**	**22 02 27.0**	**-1.4**
	baz=43						
EKS2	**Erkin-Say**	**1.84**	**341**	⇑P	**Pn**	**22 02 06.1**	**+1.3**
	6.8nm,0.1s,SNR=40						
EKS2	**Erkin-Say**	**1.84**	**341**	⇑*iP*	**Pn**	**22 02 04.1**	**-0.6**
	baz=41						
EKS2				⇑*iS*	**Sn**	**22 02 27.6**	**-1.1**
	baz=41						
BOOM	**Boomskoye usch**	**1.87**	**33**	⇑*iP*	**Pn**	**22 02 04.6**	**-0.6**
	baz=33						
BOOM				⇑*iS*	**Sn**	**22 02 28.4**	**-1.2**
	baz=33						
FRU1	**Bishkek**	**1.89**	**1**	⇓*eP*	**Pn**	**22 02 05.2**	**-0.2**
	baz=1.0						
FRU1				⇓*eS*	**Sn**	**22 02 29.6**	**-0.3**
	baz=1.0						
CHMS	**Chumysh**	**2.08**	**4**	⇑P	**Pn**	**22 02 09.6**	**+1.6**
	15nm,0.2s,SNR=23						
CHMS				⇑S	**Sb**	**22 02 36.8**	**0.0**
	48nm,0.3s						
CHMS	**Chumysh**	**2.08**	**4**	⇓Pn	**Pb**	**22 02 10.0**	**-0.4**
	20nm,0.5s						
CHMS				⇑Sn	**Sb**	**22 02 36.6**	**-0.2**
	34nm,0.4s						
CHMS	**Chumysh**	**2.08**	**4**	⇓*iP*	**Pn**	**22 02 07.4**	**-0.6**
	baz=3.0						
CHMS				⇓*iS*	**Sn**	**22 02 33.0**	**-1.6**
	baz=3.0						
MRKS	**Merke**	**2.08**	**331**	*eP*	**Pb**	**22 02 10.0**	**-0.5**
	38nm,0.4s						
MRKS				*eS*	**Sb**	**22 02 37.2**	**+0.2**
	59nm,0.1s						
TKM2	**Tokmak 2**	**2.14**	**21**	⇓P	**Pn**	**22 02 10.2**	**+1.3**
	14nm,0.1s,SNR=7.8						
TKM2				⇓S	**Sb**	**22 02 37.7**	**-1.0**
	74nm,0.1s						
TKM2	**Tokmak 2**	**2.14**	**21**	⇑Pn	**Pn**	**22 02 09.9**	**+1.0**
	5.2nm,0.2s						
TKM2				⇑Sn	**Sb**	**22 02 38.2**	**-0.5**
	66nm,0.4s						
TKM2	**Tokmak 2**	**2.14**	**21**	⇑*iP*	**Pn**	**22 02 08.2**	**-0.7**
	baz=21						
TKM2				⇑*iS*	**Sn**	**22 02 34.9**	**-1.4**
	baz=21						
ARK	**Arkit**	**2.15**	**295**	⇓*iP*	**Pn**	**22 02 08.9**	**-0.1**
	baz=94						
ARK				⇓*iS*	**Sn**	**22 02 35.7**	**-0.8**
	baz=94						
MNAS	**Manas**	**2.20**	**316**	⇑*iP*	**Pn**	**22 02 09.5**	**-0.3**
	baz=16						
MNAS				⇑*iS*	**Sn**	**22 02 36.8**	**-0.9**
	baz=16						
KDJ	**Kajisay**	**2.30**	**57**	⇑*iP*	**Pn**	**22 02 10.7**	**-0.4**
	baz=58						
KDJ				⇑*iS*	**Sn**	**22 02 38.7**	**-1.5**
	baz=58						
USP	**Ospenovka**	**2.34**	**359**	⇑P	**Pn**	**22 02 13.5**	**+1.9**
	18nm,0.2s,SNR=42						
USP				⇑S	**Sb**	**22 02 45.1**	**+0.7**
	46nm,0.2s						
USP	**Ospenovka**	**2.34**	**359**	⇑*iP*	**Pn**	**22 02 11.0**	**-0.6**
	ba

KTBS	**Karatobe** 7.7nm,0.2s	3.20	29	Pg		**Pb**	22 02 29.3	-0.2
KTBS	70nm,0.5s			Lg		Lg	22 03 10.4	
KTBS	**Karatobe** 7.7nm,0.2s	3.20	29	*eP*		**Pb**	22 02 29.3	-0.2
KTBS	70nm,0.5s			*eS*		**Sb**	22 03 10.4	+1.5
CHKK	**Chushkaly** 2.4nm,0.1s	3.43	31	Pg		**Pb**	22 02 33.2	-0.3
CHKK	63nm,0.7s			Lg		Lg	22 03 17.4	
CHKK	**Chushkaly** 2.4nm,0.1s	3.43	31	*eP*		**Pb**	22 02 33.2	-0.3
CHKK	63nm,0.7s			*eS*		**Sb**	22 03 17.4	+1.7
SATY	**Saty** 2.8nm,0.3s	3.57	52	Pg		**Pb**	22 02 35.5	-0.4
SATY	27nm,0.3s			Lg		Lg	22 03 21.1	
SATY	**Saty** 2.8nm,0.3s	3.57	52	*eP*		**Pb**	22 02 35.5	-0.4
SATY	27nm,0.3s			*eS*		**Sb**	22 03 21.1	+1.4
ZHN	**Zhinishke** 1.8nm,0.1s	3.65	51	Pg		**Pb**	22 02 37.3	+0.1
ZHN	30nm,0.3s			Lg		Lg	22 03 24.1	
ZHN	**Zhinishke** 1.8nm,0.1s	3.65	51	*eP*		**Pb**	22 02 37.3	+0.1
ZHN	30nm,0.3s			*eS*		**Sb**	22 03 24.1	+2.1
KURS	**Kuram** 7.3nm,0.7s	3.70	45	Pg		**Pb**	22 02 37.8	-0.3
KURS	16nm,1.1s			Lg		Lg	22 03 25.0	
KURS	**Kuram** 7.3nm,0.7s	3.70	45	*eP*		**Pb**	22 02 37.8	-0.3
KURS	16nm,1.1s			*eS*		**Sb**	22 03 25.0	+1.5
UZB	**Uzynbulak** 3.6nm,0.3s	3.99	55	Pg		**Pb**	22 02 42.4	-0.7
UZB	13nm,0.4s			Lg		Lg	22 03 33.2	
UZB	**Uzynbulak** 3.6nm,0.3s	3.99	55	*eP*		**Pb**	22 02 42.4	-0.7
UZB	13nm,0.4s			*eS*		**Sb**	22 03 33.2	+1.4
ARXS	**Arharly** 3.2nm,0.5s	4.07	35	Pg		**Pb**	22 02 44.6	+0.1
ARXS	41nm,0.6s			Lg		Lg	22 03 36.7	
ARXS	**Arharly** 3.2nm,0.5s	4.07	35	*eP*		**Pb**	22 02 44.6	+0.1
ARXS	41nm,0.6s			*eS*		**Sb**	22 03 36.7	+2.5
BRLS	**Borolday** 0.6nm,0.3s	4.11	302	Pg		**Pb**	22 02 46.5	+1.4
BRLS	6.8nm,0.5s			Lg		Lg	22 03 40.1	
BRLS	**Borolday** 0.6nm,0.3s	4.11	302	*eP*		**Pb**	22 02 46.5	+1.4
BRLS	6.8nm,0.5s			*eS*		**Sb**	22 03 40.1	+4.8
BTLS	**Baital** 0.6nm,0.1s	4.13	355	Pg		**Pb**	22 02 45.8	+0.3
BTLS	26nm,0.5s			Lg		Lg	22 03 39.1	
BTLS	**Baital** 0.6nm,0.1s	4.13	355	*eP*		**Pb**	22 02 45.8	+0.3
BTLS	26nm,0.5s			*eS*		**Sb**	22 03 39.1	+3.2
SHLS	**Shalkode** 1.6nm,0.2s	4.27	57	Pg		**Pg**	22 02 53.7	0.0
SHLS	14nm,0.5s			Lg		Lg	22 03 52.7	
SHLS	**Shalkode** 1.6nm,0.2s	4.27	57	*eP*		**Pg**	22 02 53.7	0.0
SHLS	14nm,0.5s			*eS*		**Sg**	22 03 52.7	+3.7
BLB	**Baldybastay** 2.3nm,0.1s	4.29	41	Pg		**Pb**	22 02 48.3	+0.2
BLB	31nm,0.4s			Lg		Lg	22 03 43.3	
PDGK	**Podgornoye** 0.5nm,0.3s	4.38	55	Pg		**Pb**	22 02 49.7	0.0
PDGK	4.5nm,0.6s			Lg		Lg	22 03 45.1	
PDGK	**Podgornoye** 4.2nm,0.9s	4.38	55	Pg		**Pb**	22 02 52.0	+2.4
PDGK	15nm,0.8s			Lg		Lg	22 03 49.9	
CHGR	**Chuyangaron** baz=43	4.75	243	⇑*iP*		**Pn**	22 02 44.8	+0.1
CHGR	baz=43			⇑*iS*		**Sn**	22 03 38.2	-2.2
KNOS	**Konyrlen** 3.6nm,0.7s	4.83	43	Pg		**Pb**	22 02 57.9	+0.5
KNOS	4.8nm,0.6s			Lg		Lg	22 03 59.7	
DJR	**Jarkent** 0.6nm,0.1s	5.14	47	Pg		**Pb**	22 03 02.8	+0.2
DJR	5.0nm,0.6s			Lg		Lg	22 04 08.3	
DJR	**Jarkent** 0.6nm,0.1s	5.14	47	*eP*		**Pb**	22 03 02.8	+0.2
DJR	5.0nm,0.6s			*eS*		**Sb**	22 04 08.3	+3.4
KAPS	**Kapalarasan** 1.0nm,0.1s	5.59	37	Pg		**Pb**	22 03 11.3	+1.0
KAPS	12nm,0.3s			Lg		Lg	22 04 22.7	
KAPS	**Kapalarasan** 1.0nm,0.1s	5.59	37	*eP*		**Pb**	22 03 11.3	+1.0
KAPS	12nm,0.3s			*eS*		**Sb**	22 04 22.7	+4.8
OTUK	**Ortayu** 7.8nm,0.7s	7.49	348	⇓Lg		Lg	22 05 28.2	

*JMA **25** 22:02:07.8±0.1, 32°.1N±0°.4×132°.1E±0°.6, h28km±1km, MD4.2/40, MW4.3/40, HYUGANADA REGION*
JMA Felt III J1 at HYUGANADA REGION .
*NIED **25** 22:02:07.8, 32°.08N×132°.09E, h28km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.60; $M_{\theta\theta}$-0.07; $M_{\phi\phi}$0.68; $M_{r\theta}$0.40; $M_{\theta\phi}$0.11; $M_{\phi r}$1.87; Fault plane solution: $M_0$2.02000×10^{15} NP1: ϕ_s192.00000°, δ81.00000°, λ-89.00000°. NP2:ϕ_s3.00000°, δ9.00000°, λ-99.00000°.*
*NEIC **25** 22:02:08.5±0.8, 32°.01N±0°.06×132°.03E±0°.07, h27km±6km, mb4.3/13 Error ellipse: s-maj=9.3km s-min=7.8km az=56.0*
*IDC **25** 22:02:09.0±0.6, 31°.99N×131°.99E, h46km±5km, mb3.7/15, mbtmp3.9/20, MS3.4/11, Error ellipse: s-maj=14.3km s-min=6.6km az=52.0*
ISC 25 22:02:07.9±0.5,**32°.08N**±0°.03×**132°.02E**±0°.03,**h30**km±2km, **n87**,σ1°**26**/**86**,**mb4.2**/22,**MS3.4**/8,**7D**,**Shikoku**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
JTSN	**Tsuno**	**0.47**	**291**	⇓*iP*		**Pb**	**22 02 17.9**	**+0.1**
JTSN				⇓S		**Sb**	**22 02 25.3**	**+0.7**
JTSN	**Tsuno** comp=E,15nm,0.5s,comp=N,7.0nm,2.4s	**0.47**	**291**	A		A	22 02 17.9	
JHHC	**Hyugahichiya**	**0.49**	**319**	⇓*iP*		**Pb**	**22 02 18.3**	**+0.1**
JHHC				⇓S		**Sb**	**22 02 25.8**	**+0.7**
JHHC	**Hyugahichiya** comp=E,45nm,0.4s,comp=N,31nm,0.5s	**0.49**	**319**	A		A	22 02 18.3	
JNKG	**Nichinankitago**	**0.69**	**233**	P		**Pn**	**22 02 21.9**	**+0.3**
JNKG				S		**Sn**	**22 02 32.5**	**+1.3**
JNKG	**Nichinankitago** comp=E,11nm,0.7s,comp=N,15nm,0.6s	**0.69**	**233**	A		A	22 02 21.9	
JKIT	**Kitakata**	**0.73**	**319**	*i* P		**Pn**	**22 02 22.3**	**+0.1**
JKIT				S		**Sn**	**22 02 33.1**	**+0.8**
JKIT	**Kitakata** comp=E,43nm,0.4s,comp=N,35nm,0.4s	**0.73**	**319**	A		A	22 02 22.3	
JSKE	**Saikikamae**	**0.73**	**352**	*i* P		**Pn**	**22 02 22.0**	**-0.2**
JSKE				S		**Sb**	**22 02 32.1**	**+0.4**
JSKE	**Saikikamae** comp=E,22nm,0.4s,comp=N,12nm,0.6s	**0.73**	**352**	A		A	22 02 22.0	
JTZ	**Takazaki**	**0.81**	**258**	*i* P		**Pn**	**22 02 23.3**	**0.0**
JTZ				S		**Sn**	**22 02 35.6**	**+1.3**
JTZ	**Takazaki** comp=E,16nm,0.9s,comp=N,24nm,1.8s	**0.81**	**258**	A		A	22 02 23.3	
JNAR	**Kushima--Naru**	**0.84**	**229**	*i* P		**Pb**	**22 02 24.4**	**+0.4**
JNAR				S		**Sn**	**22 02 36.9**	**+1.8**
JNAR	**Kushima--Naru** comp=E,13nm,0.6s,comp=N,26nm,1.0s	**0.84**	**229**	A		A	22 02 24.4	
JUS	**Usuki**	**1.01**	**347**	*i* P		**Pn**	**22 02 26.5**	**+0.4**
JUS				S		**Sb**	**22 02 40.3**	**+0.5**
JUS	**Usuki** comp=E,18nm,0.8s,comp=N,9.0nm,1.0s	**1.01**	**347**	A		A	22 02 26.5	
JTO	**Tosashimizu**	**1.02**	**40**	⇓*iP*		**Pn**	**22 02 25.3**	**-1.0**
JTO				⇓S		**Sn**	**22 02 37.7**	**-1.9**
JIU3	**Izumi3**	**1.12**	**295**	*i* P		**Pn**	**22 02 28.5**	**+0.8**
JIU3				S		**Sb**	**22 02 44.1**	**+1.1**
JIU3	**Izumi3** comp=E,10.0nm,0.5s,comp=N,8.0nm,0.8s	**1.12**	**295**	A		A	22 02 28.5	
JZO	**Okuchi** comp=E,10.0nm,0.4s,comp=N,7.0nm,2.9s	**1.21**	**273**	A		A	22 02 30.0	
UWA2	**Uwa jima 2**	**1.24**	**24**	⇓*iP*		**Pn**	**22 02 28.9**	**-0.4**
JNU	**Nakatsue**	**1.42**	**318**	P		**Pb**	**22 02 33.6**	**-0.2**
JNU	**Nakatsue**	**1.42**	**318**			**Pb**	**22 02 33.4**	**-0.4**
JNU	**Nakatsue** comp=N,1μm,0.3s,baz=83,slow=4.4,SNR=4179	**1.42**	**318**	P		**Pb**	**22 02 33.1**	**-0.7**
JNU	comp=N,2μm,0.5s,baz=253,slow=6.7,SNR=12			S		**Sb**	**22 02 52.1**	**+0.6**
JNU	comp=N,1μm,18.3s,baz=154,slow=51			LR		LR	22 03 23.3	
JKI	**Kunimi** comp=E,5.0nm,1.4s,comp=N,7.0nm,0.6s	**1.60**	**346**	A		A	22 02 35.2	
JMN	**Monobe**	**2.27**	**43**	P		**Pn**	**22 02 44.0**	**+0.5**
JMN	**Monobe**	**2.27**	**43**			**Pn**	**22 02 43.4**	**-0.1**
JTU	**Tsushima**	**3.28**	**319**	P		**Pn**	**22 02 58.0**	**+0.7**
JTU	**Tsushima**	**3.28**	**319**			**Pn**	**22 02 58.3**	**+1.0**
INU	**Inuyama**	**5.29**	**51**	P		**Pn**	**22 03 26.8**	**+1.9**
INU	**Inuyama**	**5.29**	**51**			**Pn**	**22 03 26.5**	**+1.5**
JGF	**Kuroka**	**5.66**	**50**	P		**Pn**	**22 03 31.5**	**+1.4**
JGF	**Kuroka**	**5.66**	**50**			**Pn**	**22 03 31.1**	**+1.0**
JOW	**Kunigami**	**6.16**	**213**	P		Pb	22 03 49.0	-5.5
KSRS	**Korea Array** comp=N,3.0nm,0.4s,baz=147,slow=14,SNR=12	**6.33**	**329**	P		**Pn**	**22 03 40.4**	**+1.2**
KSRS	comp=N,3.4nm,0.8s,baz=143,slow=24,SNR=4.9			S		**Sn**	**22 04 52.8**	**+2.2**
KSRS	comp=N,403nm,18.1s,baz=150,slow=40			LR		LR	22 06 28.5	
KSAR	**Wonju Array Be**	**6.34**	**329**	Pn		**Pn**	**22 03 41.0**	**+1.6**
KS19	**Wonju Array Si**	**6.40**	**329**			**Pn**	**22 03 40.5**	**+0.3**
JHJ	**Hachijo jima 2** comp=N,41nm,0.3s,baz=129,slow=18,SNR=8.1	**6.63**	**79**	P		**Pn**	**22 03 44.1**	**+0.7**
JHJ	comp=N,32nm,0.3s,baz=72,slow=19,SNR=1.7			S		**Sn**	**22 04 58.1**	**+0.1**
JHJ	comp=N,181nm,20.9s,baz=304,slow=35			LR		LR	22 06 05.7	
JHJ2	**Mitsune**	**6.66**	**79**	P		**Pn**	**22 03 48.1**	**+4.4**
JHJ2	**Mitsune**	**6.66**	**79**	Pn		**Pn**	**22 03 44.4**	**+0.6**
MAJO	**Matsushiro**	**6.79**	**47**	P		**Pn**	**22 03 46.8**	**+1.3**
MAJO	**Matsushiro**	**6.79**	**47**			**Pn**	**22 03 45.7**	**+0.2**
MJAR	**Matsushiro Arr** comp=N,1.9nm,0.4s,baz=242,slow=14,SNR=19	**6.79**	**47**	P		**Pn**	**22 03 46.9**	**+1.4**
MJB9	**Matsu-Tunnel**	**6.79**	**47**			**Pn**	**22 03 46.8**	**+1.3**
USRK	**Ussuriysk Ar.** comp=N,1.6nm,0.7s,baz=152,slow=38,SNR=2.9	**12.10**	**360**	P		**Pn**	**22 05 00.8**	**+2.5**
USRK	comp=N,4.2nm,0.7s,baz=151,slow=36,SNR=2.1			S		**Sn**	**22 07 15.2**	**+3.0**
KLR	**Kul'dur** comp=N,2.1nm,0.5s,baz=178,slow=6.9,SNR=9.3	**17.14**	**359**	P		**P**	**22 06 07.1**	**+0.6**
KLR	comp=N,3.4nm,0.7s,baz=160,slow=9.6,SNR=5.0			pP		**sP**	**22 06 18.1**	**+0.4**
KLR	comp=N,56nm,19.1s,baz=176,slow=34			LR		LR	22 11 50.5	
GUMO	**Guam** comp=N,36nm,20.9s,baz=76,slow=31	**21.84**	**144**	LR		LR	22 13 29.8	
SONM	**Songino Array** comp=N,2.4nm,0.8s,baz=128,slow=10,SNR=12	**25.01**	**316**	P		**P**	**22 07 27.5**	**-1.8**
SONM	comp=N,3.7nm,0.9s,baz=126,slow=9.6,SNR=8.9			pP		**sP**	**22 07 40.3**	**-0.9**
SONM	comp=N,150nm,19.1s,baz=116,slow=39 comp=N,2.4nm,0.8s			LR		LR	22 18 17.4	
PETK	**Petropavlovsk-** comp=N,2.2nm,1.0s,baz=238,slow=8.0,SNR=1.9 comp=N,2.2nm,1.0s	**28.00**	**34**	P		**P**	**22 07 57.4**	**+1.4**
YAK	**Yakutsk** comp=N,35nm,18.6s,baz=168,slow=36	**30.01**	**358**	LR		LR	22 20 14.5	
CMAR	**Chiang Mai Arr** comp=N,0.9nm,0.3s,baz=49,slow=8.5,SNR=0.8 comp=N,0.9nm,0.3s	**32.70**	**254**	P		**P**	**22 08 37.6**	**-0.2**
H11N2	**WAKE ISLAND Hy** baz=299,slow=75	**33.55**	**103**	T		T	22 44 18.6	
H11N1	**WAKE ISLAND Hy** baz=299,slow=75	**33.55**	**103**	T		T	22 44 18.8	
H11N3	**WAKE ISLAND Hy** baz=299,slow=75	**33.56**	**103**	T		T	22 44 21.2	
H11S3	**WAKE ISLAND Hy** baz=301,slow=74	**33.98**	**105**	T		T	22 45 22.9	
H11S1	**WAKE ISLAND Hy** baz=301,slow=74	**33.98**	**105**	T		T	22 45 23.5	
H11S2	**WAKE ISLAND Hy** baz=301	**34.00**	**105**	T		T	22 45 21.0	
TIXI	**Tiksi** comp=N,40nm,18.1s,baz=172,slow=37	**39.67**	**358**	LR		LR	22 26 34.7	
ZALV	**Zalesovo Beam** comp=N,50nm,19.2s,baz=70,slow=39	**39.90**	**317**	LR		LR	22 27 52.6	
MKAR	**Makanchi Array** comp=N,0.3nm,0.4s,baz=89,slow=10,SNR=8.8	**40.45**	**306**	P		**P**	**22 09 41.6**	**-2.1**
MKAR	comp=N,0.3nm,0.5s,baz=94,slow=12,SNR=3.7			pP		**pP**	**22 09 52.4**	**+0.2**
MKAR	comp=N,0.1nm,0.3s,baz=77,slow=5.0,SNR=1.7 comp=N,0.3nm,0.4s			PcP		**PcP**	**22 11 44.6**	**-1.5**
KURBB	**Kurchatov Arra** comp=N,0.3nm,0.6s,baz=101,slow=9.8,SNR=2.3 comp=N,0.3nm,0.6s	**43.19**	**312**	P		**P**	**22 10 04.0**	**-1.9**
AAK	**Ala-Archa** comp=N,59nm,18.5s,baz=83,slow=38	**46.13**	**300**	LR		LR	22 31 13.0	
BVAR	**Borovoye Array** comp=N,0.9nm,0.5s,baz=105,slow=9.3,SNR=4.5	**48.33**	**315**	P		**P**	**22 10 44.8**	**-1.8**
BVAR	comp=N,1.9nm,0.6s,baz=102,slow=9.3,SNR=4.7 comp=N,0.9nm,0.5s			pP		**sP**	**22 10 57.3**	**-1.3**
WRA	**Warramunga Arr**	**51.77**	**177**	P		**P**	**22 11 12.0**	**-0.9**
WRA	**Warramunga Arr** comp=N,2.8nm,0.8s,baz=353,slow=8.2,SNR=23	**51.77**	**177**	P		**P**	**22 11 11.7**	**-1.2**
WRA	comp=N,1.0nm,0.7s,baz=357,slow=7.9,SNR=3.3 comp=N,2.8nm,0.8s			pP		**sP**	**22 11 24.5**	**-0.4**
WB2	**Warramunga Arr**	**51.77**	**177**	P		**P**	**22 11 12.2**	**-0.7**
WB2	comp=Z,4.2nm,1.1s			IAmb		IAmb	22 11 30.7	
WR0	**Warramunga Arr**	**51.80**	**177**	P		**P**	**22 11 12.9**	**-0.2**
WR0	comp=Z,6.9nm,0.9s			IAmb		IAmb	22 11 13.3	
ASAR	**Alice Springs** comp=Z,2.1nm,0.7s,baz=12,slow=12,SNR=23	**55.46**	**178**	P		**P**	**22 11 39.7**	**-0.2**
ASAR	comp=Z,0.5nm,0.5s,baz=13,slow=13,SNR=2.8 comp=Z,2.1nm,0.7s			pP		**sP**	**22 11 51.0**	**-0.9**
E24K	**Your Creek**	**56.77**	**26**	P		**P**	**22 11 50.7**	**+1.8**
E24K	comp=Z,1.8nm,0.7s			IAmb		IAmb	22 11 52.4	
H24K	**Noodor Dome**	**57.20**	**29**	P		**P**	**22 11 53.8**	**+1.9**
ILAR	**Eielson Array** comp=Z,0.5nm,0.7s,baz=297,slow=6.0,SNR=4.6 comp=Z,0.5nm,0.7s	**57.74**	**30**	P		**P**	**22 11 56.0**	**+0.3**
G30M	**tAoh Zraii Nji**	**61.60**	**27**	P		**P**	**22 12 23.1**	**+0.8**
M29M	**Somme Creek**	**61.89**	**32**	P		**P**	**22 12 24.7**	**+0.3**
M29M	comp=Z,2.1nm,1.0s			IAmb		IAmb	22 12 39.7	
I30M	**Mount Dempster**	**62.01**	**28**	P		**P**	**22 12 26.7**	**+1.5**
I30M	comp=Z,4.7nm,1.1s			IAmb		IAmb	22 12 42.1	
M30M	**Minto, Yukon**	**62.59**	**31**	P		**P**	**22 12 31.0**	**+2.0**
M30M	comp=Z,1.4nm,0.8s			IAmb		IAmb	22 12 43.4	
FORT	**Forrest**	**62.63**	**184**	P		**P**	**22 12 29.5**	**+0.1**
H31M	**Peel River**	**62.66**	**28**	P		**P**	**22 12 30.6**	**+1.3**
H31M	comp=Z,4.4nm,1.1s			IAmb		IAmb	22 12 48.1	
STKA	**Stephens Creek**	**64.25**	**171**	P		**P**	**22 12 40.3**	**+0.2**
STKA	**Stephens Creek** comp=Z,4.0nm,0.6s,baz=350,slow=6.8,SNR=9.9 comp=Z,4.0nm,0.6s	**64.25**	**171**	P		**P**	**22 12 40.2**	**+0.1**
FINES	**FINESS Array B** comp=Z,0.7nm,0.4s,baz=68,slow=4.7,SNR=13 comp=Z,0.7nm,0.4s	**69.42**	**330**	P		**P**	**22 13 10.9**	**-1.9**
YKA	**Yellowknife Ar** comp=Z,0.3nm,0.8s,baz=308,slow=6.0,SNR=5.0	**71.84**	**27**	P		**P**	**22 13 26.9**	**-0.7**
YKA	comp=Z,1.2nm,0.9s,baz=303,slow=6.2,SNR=7.3 comp=Z,0.3nm,0.8s			pP		**sP**	**22 13 40.3**	**+0.4**
AKASG	**Malin Array Be** comp=Z,0.9nm,0.5s,baz=53,slow=6.5,SNR=5.3 comp=Z,0.9nm,0.5s	**73.24**	**320**	P		**P**	**22 13 33.6**	**-2.5**
NVAR	**Mina Array Bea** comp=Z,0.3nm,0.4s,baz=299,slow=5.9,SNR=2.8	**84.11**	**48**	P		**P**	**22 14 37.4**	**+1.0**
NVAR	comp=Z,1.0nm,0.6s,baz=300,slow=5.2,SNR=4.1 comp=Z,0.3nm,0.4s			pP		**sP**	**22 14 49.6**	**+1.0**
DAVOX	**Davos/Dischmat** comp=Z,100nm,18.2s,baz=76,slow=39	**85.78**	**324**	LR		LR	22 57 45.9	
PDAR	**Pinedale Array** comp=Z,0.6nm,0.8s,baz=46,slow=4.3,SNR=3.9	**86.56**	**40**	P		**P**	**22 14 49.0**	**+0.4**
PDAR	comp=Z,0.7nm,0.8s,baz=298,slow=3.2,SNR=2.9 comp=Z,0.6nm,0.8s			pP		**sP**	**22 15 00.8**	**-0.2**
P18A	**Preston Nutter**	**88.25**	**43**	P		**P**	**22 14 57.4**	**+0.5**
VAE	**Valguarnera** comp=Z,70nm,19.7s,baz=308,slow=40	**89.59**	**315**	LR		LR	23 02 24.1	

*IDC **25** 22:17:19.2±0.7, 10°.01S×119°.72E, h0km, mb4.0/9, mbtmp4.1/12, ML4.1/3, MS3.7/7, Error ellipse: s-maj=33.3km s-min=15.5km az=69.0*
*DJA **25** 22:17:25.0±0.5, 10°.S±5°×12°.0E±°, h13km±4km, M4.7/12, mb5.0/6, mB5.1/3, MLv4.5/12, Mw(mB)4.5/3*
ISC 25 22:17:25.1±0.5,**10°.13S**±0°.06×**119°.85E**±0°.04,**h35**km,**n56**, σ**2°06**/**55**,**mb4.1**/**9**,**MS3.8**/**6**,**Sumba region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BASI	**Baing, Sumba**	**0.72**	**97**	P		**Pn**	**22 17 39.2**	**+0.3**
BASI				S		**Sn**	**22 17 49.6**	**+0.8**
PLAI	**Plampang**	**2.42**	**302**	P		**Pn**	**22 18 04.2**	**+2.0**
PLAI	**Plampang**	**2.42**	**302**	P		**Pn**	**22 18 03.9**	**+1.7**
PLAI				S		**Sn**	**22 18 33.4**	**+2.8**
MMRI	**Maumere**	**2.79**	**58**	P		**Pn**	**22 18 08.7**	**+1.4**
MMRI	**Maumere**	**2.79**	**58**	P		**Pn**	**22 18 08.4**	**+1.1**
TWSI	**Taliwang, Sumb**	**3.24**	**295**	P		**Pn**	**22 18 14.7**	**+1.2**
TWSI				S		**Sn**	**22 18 54.0**	**+3.2**
BATI	**Baumata** 24nm,0.3s,baz=83,slow=3.9,SNR=18	**3.76**	**91**	Pn		**Pn**	**22 18 22.1**	**+1.4**
BATI	34nm,0.3s,baz=350,slow=20,SNR=7.0 56nm,0.3s			Sn		**Sn**	**22 19 05.7**	**+1.9**
BATI	**Baumata**	**3.76**	**91**	P		**Pn**	**22 18 23.0**	**+2.3**
BATI				S		**Sn**	**22 19 05.9**	**+2.1**
SOEI	**Soe**	**4.37**	**85**	P		**Pn**	**22 18 31.6**	**+2.4**
SOEI	**Soe**	**4.37**	**85**	P		**Pn**	**22 18 31.7**	**+2.5**
SOEI				S		**Sn**	**22 19 23.2**	**+4.2**
SRBI	**Singaraja**	**5.01**	**294**	P		**Pn**	**22 18 39.5**	**+1.7**
SRBI				S		**Sn**	**22 19 38.6**	**+4.1**
KAPI	**Kappang** 2.4nm,0.3s,baz=188,slow=7.1,SNR=1.5	**5.08**	**359**	Pn		**Pn**	**22 18 35.7**	**-3.2**
KAPI	1.4nm,0.3s,baz=246,slow=20,SNR=1.3			Sn		**Sn**	**22 19 35.5**	**-1.0**
KAPI	comp=Z,210nm,18.4s,baz=258,slow=44 7.3nm,0.4s			LR		LR	22 20 55.6	
JAGI	**Jajag, Banyuwa**	**5.86**	**286**	P		**Pn**	**22 18 49.5**	**-0.1**
JAGI	**Jajag, Banyuwa** 128nm,0.4s,3μm0.8nm	**5.86**	**286**	P		**Pn**	**22 18 52.1**	**+2.5**
ABJI	**Asem Bagus** 69nm,0.6s,0.4nm	**6.01**	**292**	P		**Pn**	**22 18 54.5**	**+2.9**
BLJI	**Banyuglugur**	**6.62**	**290**	P		**Pn**	**22 19 01.3**	**+1.3**
UGM	**Wanagama** 104nm,2.3s	**9.47**	**283**	P		**Pn**	**22 19 40.3**	**+1.1**
MBWA	**Marble Bar**	**10.97**	**181**	P		**Pn**	**22 19 58.0**	**-1.6**
DRS	**Darwin Rock St**	**11.08**	**103**	P		**Pn**	**22 20 01.4**	**+0.2**
PSA00	**Pilbara Seismi**	**11.38**	**180**	P		**Pn**	**22 20 03.5**	**-1.8**
MTN	**Manton Dam**	**11.38**	**105**	P		**Pn**	**22 20 05.5**	**+0.1**
BBJI	**Bungbulang** 26nm,2.5s	**12.34**	**281**	P		**Pn**	**22 20 20.8**	**+2.2**
KDU	**Kakadu**	**12.63**	**103**	P		**Pn**	**22 20 21.9**	**-0.6**
FAKI	**Fak Fak**	**14.25**	**61**	P		**Pn**	**22 20 43.7**	**-0.8**
MEEK	**Meekatharra**	**16.46**	**184**	P		**Pn**	**22 21 13.0**	**-0.5**
WRKA	**Warakurna**	**16.86**	**153**	P		**Pn**	**22 21 18.5**	**-0.1**
WRA	**Warramunga Arr** 1.9nm,0.5s,baz=304,slow=15,SNR=27	**17.05**	**127**	P		**Pn**	**22 21 18.8**	**-2.1**
WRA	2.5nm,0.7s,baz=294,slow=25,SNR=7.2			S		Sn	22 24 18.7	-11
ASAR	**Alice Springs** 0.8nm,0.3s,baz=309,slow=12,SNR=48	**19.00**	**137**	P		**P**	**22 21 44.6**	**+0.6**
ASAR	3.2nm,0.9s,baz=312,slow=23,SNR=9.8 3.1nm,0.6s			S		Sn	22 25 06.3	-11
AS01	**Alice Springs**	**19.04**	**137**	P		**P**	**22 21 45.5**	**+1.1**
KMBL	**Kambalda**	**21.22**	**175**	P		**P**	**22 22 08.1**	**+0.1**
KLBR	**Kellerberrin**	**21.44**	**185**	P		**P**	**22 22 12.0**	**+1.6**
QIS	**Mount Isa**	**21.66**	**121**	P		**P**	**22 22 14.3**	**+1.4**
FORT	**Forrest**	**21.92**	**161**	P		**P**	**22 22 17.8**	**+2.3**
NWAO	**Narrogin (SRO)** 25nm,1.2s,baz=337,slow=13,SNR=1.1	**22.82**	**186**	P		**P**	**22 22 24.4**	**-0.6**
NWAO	26nm,1.1s,baz=282,slow=16,SNR=1.8 25nm,1.2s			S		**S**	**22 26 25.1**	**-6.8**
OOD	**Oodnadatta**	**23.04**	**142**	P		**P**	**22 22 27.9**	**+0.5**
MULG	**Mulgathing**	**24.03**	**149**	P		**P**	**22 22 37.5**	**+0.5**
BBOO	**Buckleboo**	**27.07**	**149**	P		**P**	**22 23 04.6**	**+0.1**
STKA	**Stephens Creek** 1.5nm,0.6s,baz=323,slow=10,SNR=4.3 1.5nm,0.6s	**29.55**	**140**	P		**P**	**22 23 25.6**	**-1.1**
JOW	**Kunigami** comp=Z,145nm,20.3s,baz=153,slow=37	**37.64**	**12**	LR		LR	22 40 45.2	
H08S2	**Diego Garcia H** baz=96,slow=76	**46.82**	**269**	T		T	23 16 08.0	
H08S3	**Diego Garcia H** baz=96,slow=76	**46.83**	**269**	T		T	23 16 08.7	
H08S1	**Diego Carcia H** baz=96,slow=76	**46.84**	**269**	T		T	23 16 09.6	
MJAR	**Matsushiro Arr** comp=Z,88nm,21.6s,baz=308,slow=33	**49.54**	**19**	LR		LR	22 44 30.8	
SONM	**Songino Array** 0.3nm,0.5s,baz=171,slow=7.8,SNR=3.0 0.3nm,0.5s	**58.93**	**349**	P		**P**	**22 27 19.8**	**-1.1**
MKAR	**Makanchi Array** 1.1nm,0.7s,baz=148,slow=7.8,SNR=13	**65.84**	**333**	P		**P**	**22 28 05.5**	**-1.6**
MKAR	comp=Z,61nm,18.1s,baz=157,slow=39 1.1nm,0.7s			LR		LR	23 00 10.4	
H04N2	**CROZET ISLANDS** baz=80,slow=75,SNR=17	**67.57**	**224**	T		T	23 42 22.1	
H04N3	**CROZET ISLANDS** baz=80,slow=75,SNR=14	**67.59**	**224**	T		T	23 42 18.9	
H04N1	**CROZET ISLANDS** baz=80,slow=75,SNR=19	**67.59**	**224**	T		T	23 42 18.0	
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=140,slow=5.5,SNR=4.6 0.4nm,0.5s	**70.35**	**333**	P		**P**	**22 28 32.6**	**-2.6**
ZALV	**Z

Plg16.0000°, Azm115.0000°; P -6.7044, Plg2.0000°, Azm206.0000°;
*DJA **25** 22:23:45.3±0.2,8˚S±2˚×12˚8E±˚, h180km±3km, M5.0/42, mb5.1/42, mB5.5/31, MLv5.9/14, Mw(mB)4.9/31, MwMwp4.9/12, Mwp5.2/12*
*NEIC **25** 22:23:45.1±2.0, 7.45S±0.07×128.26E±0.07, h166km±4km, mb5.0/107, Mww5.2/33, Error ellipse: s-maj=10.3km s-min=9.8km az=201.0*
*GCMT **25** 22:23:46.1±0.1, 7.58S±0.01×128.22E±0.01, h170km, MW5.2/135, Moment Tensor Solution. s99,c139; s135,c236; Duration: 1ᵗ0 Moment tensor: Scale 10¹⁷ Nm; Mrr0.71±.01; Mθθ -0.74±.01; Mϕϕ0.03±.01; Mrθ0.15±.01; Mθϕ0.26±.01; Mϕr0.33±.01; Best double couple: M₀0.85200×10¹⁷ NP1:ϕs84.00000°, δ52.00000°, λ57.00000°. NP2:ϕs310.00000°, δ49.00000°, λ125.00000°. Principal axes: T 0.8790, Plg65.0000°, Azm290.0000°; N -0.0540, Plg25.0000°, Azm105.0000°; P -0.8250, Plg2.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 25 22:23:44.8±0.3, **7.50S**±0.03×**128.24E**±0.04, **h174**km±2km, **h174**km:**pP-P, n762,** σ1ᵽ**13/773, mb4.9**/140, **38C-8D, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.07**	**99**	P	**Pn**	**22 24 34.1**	**0.0**
SAUI	**Saumlaki**	**3.07**	**99**	Pn	**Pn**	**22 24 33.7**	**-0.4**
BNDI	**Bandanaira**	**3.39**	**29**	P	**Pn**	**22 24 39.7**	**+1.6**
BNDI	**Bandanaira**	**3.39**	**29**	P	**Pn**	**22 24 39.4**	**+1.3**
NLAI	**Namlea**	**4.38**	**345**	P	**Pn**	**22 24 54.1**	**+3.4**
SOEI	**Soe**	**4.52**	**240**	P	**Pn**	**22 24 53.8**	**+1.2**
SOEI	**Soe**	**4.52**	**240**	Pn	**Pn**	**22 24 53.0**	**+0.5**
SOEI	**Soe**	**4.52**	**240**	P	**Pn**	**22 24 53.3**	**+0.7**
BATI	**Baumata**	**5.26**	**239**	P	**Pn**	**22 25 03.0**	**+0.9**
	1μm,0.4s,baz=111,slow=1.1,SNR=270						
BATI				S	**Sn**	**22 26 02.4**	**-0.3**
	9μm,0.7s,baz=56,slow=5.7,SNR=24						
BATI	**Baumata**	**5.26**	**239**	P	**Pn**	**22 25 02.8**	**+0.7**
	3μm,1.0s,29μm5μm32nm						
DRS	**Darwin Rock St**	**5.56**	**152**	P	**Pn**	**22 25 05.1**	**-0.9**
SANI	**Sanana**	**5.86**	**337**	P	**Pn**	**22 25 12.9**	**+2.9**
SANI	**Sanana**	**5.86**	**337**	P	**Pn**	**22 25 12.5**	**+2.5**
	522nm,1.0s,7μm3μm1.8nm						
BBSI	**Bau Bau**	**5.97**	**289**	P	**Pn**	**22 25 12.8**	**+1.3**
	305nm,1.0s,4μm1.4nm						
MTN	**Manton Dam**	**6.03**	**152**	P	**Pn**	**22 25 11.3**	**-0.9**
MTN	**Manton Dam**	**6.03**	**152**	Pn	**Pn**	**22 25 10.9**	**-1.3**
MMRI	**Maumere**	**6.04**	**259**	P	**Pn**	**22 25 13.5**	**+1.1**
MMRI	**Maumere**	**6.04**	**259**	Pn	**Pn**	**22 25 12.4**	**0.0**
MMRI	**Maumere**	**6.04**	**259**	P	**Pn**	**22 25 13.3**	**+0.9**
	515nm,0.8s,7μm6μm4.4nm						
FAKI	**Fak Fak**	**6.06**	**41**	Pn	**Pn**	**22 25 10.9**	**-1.6**
FAKI	**Fak Fak**	**6.06**	**41**	P	**Pn**	**22 25 11.6**	**-1.0**
	263nm,0.4s,8μm8μm2.3nm						
KDU	**Kakadu**	**6.63**	**141**	P	**Pn**	**22 25 19.1**	**-1.0**
KMPI	**Kaimana, Papua**	**6.65**	**55**	P	**Pn**	**22 25 20.3**	**0.0**
	1μm,0.5s,17μm5μm13nm						
LBMI	**Labuha**	**6.86**	**354**	P	**Pn**	**22 25 26.0**	**+2.9**
	1μm,1.0s,16μm5.4nm						
SWI	**Sorong**	**7.25**	**25**	P	**Pn**	**22 25 27.8**	**-0.5**
	508nm,1.0s,7μm6μm2.1nm						
BASI	**Baing, Sumba**	**8.03**	**250**	P	**Pn**	**22 25 37.5**	**-1.2**
	357nm,0.5s,8μm5μm						
TNTI	**Ternate**	**8.26**	**354**	P	**Pn**	**22 25 44.8**	**+3.1**
TNTI	**Ternate**	**8.26**	**354**	Pn	**Pn**	**22 25 41.4**	**-0.3**
TNTI	**Ternate**	**8.26**	**354**	P	**Pn**	**22 25 44.0**	**+2.3**
	392nm,1.3s,4μm2μm						
LUWI	**Luwuk**	**8.42**	**319**	P	**Pn**	**22 25 47.4**	**+3.7**
LUWI	**Luwuk**	**8.42**	**319**	Pn	**Pn**	**22 25 43.2**	**-0.5**
LUWI	**Luwuk**	**8.42**	**319**	P	**Pn**	**22 25 46.9**	**+3.2**
	507nm,1.2s,7μm						
KAPI	**Kappang**	**8.79**	**286**	Pn	**Pn**	**22 25 48.3**	**-0.3**
KAPI	**Kappang**	**8.79**	**286**	P	**Pn**	**22 25 49.2**	**+0.6**
	61nm,1.0s,baz=139,slow=7.1,SNR=12						
KAPI	**Kappang**	**8.79**	**286**	P	**Pn**	**22 25 48.3**	**-0.3**
KMSI	**Cibinong**	**9.07**	**332**	P	**Pn**	**22 25 54.0**	**+1.6**
	736nm,1.0s,8μm3μm						
PLAI	**Plampang**	**10.44**	**262**	P	**Pn**	**22 26 10.9**	**+0.6**
PLAI	**Plampang**	**10.44**	**262**	P	**Pn**	**22 26 09.5**	**-0.8**
	144nm,0.5s,3μm						
FITZ	**Fitzroy Crossi**	**10.83**	**193**	P	**Pn**	**22 26 12.7**	**-2.7**
FITZ	**Fitzroy Crossi**	**10.83**	**193**		**Pn**	**22 26 12.1**	**-3.3**
TWSI	**Taliwang, Sumb**	**11.31**	**263**	P	**Pn**	**22 26 21.9**	**+0.3**
	64nm,0.6s,2μm						
TOLI2	**Tolitoli**	**11.33**	**319**	P	**Pn**	**22 26 24.4**	**+2.5**
TOLI2	**Tolitoli**	**11.33**	**319**		**Pn**	**22 26 21.7**	**-0.3**
MPSI	**Mapaga**	**11.39**	**313**	P	**Pn**	**22 26 24.0**	**+1.3**
	34nm,1.0s						
GENI	**Genyem**	**12.84**	**68**	P	**P**	**22 26 43.8**	**-1.8**
BKB	**Balikpapan**	**12.89**	**298**	P	**P**	**22 26 44.6**	**-1.5**
BKB	**Balikpapan**	**12.89**	**298**	Pn	**Pn**	**22 26 42.9**	**+0.9**
BKB	**Balikpapan**	**12.89**	**298**	P	**P**	**22 26 44.2**	**-1.9**
	656nm,1.1s,6μm						
TABU	**Tabubil**	**13.10**	**81**	P	**P**	**22 26 47.3**	**-1.2**
JAY	**Jayapura**	**13.37**	**69**	P	**Pn**	**22 26 47.1**	**-0.9**
WB0	**Warramunga Arr**	**13.58**	**155**		**Pn**	**22 26 46.8**	**-3.8**
WRAB	**Tennant Creek**	**13.71**	**155**		**Pn**	**22 26 48.1**	**-4.1**
WRAB	**Tennant Creek**	**13.71**	**155**	*d* iP	**Pn**	**22 26 49.8**	**-2.4**
WRA	**Warramunga Arr**	**13.71**	**155**		**Pn**	**22 26 48.1**	**-4.2**
WRA	**Warramunga Arr**	**13.71**	**155**	P	**Pn**	**22 26 49.3**	**-3.0**
	38nm,0.4s,baz=322,slow=14,SNR=62						
WRA				S	Sn	22 29 15.2	-10
	58nm,0.4s,baz=333,slow=22,SNR=11						
WRA				LR	LR	22 32 51.0	
	comp=Z,540nm,19.2s,baz=168,slow=40						
WRA	**Warramunga Arr**	**13.71**	**155**	P	**Pn**	**22 26 48.1**	**-4.2**
WB2	**Warramunga Arr**	**13.72**	**155**		**Pn**	**22 26 48.7**	**-3.6**
WB1	**Warramunga Ar.**	**13.73**	**155**	P	**Pn**	**22 26 50.9**	**-1.6**
WR0	**Warramunga Arr**	**13.81**	**154**		**Pn**	**22 26 49.4**	**-4.2**
JAGI	**Jajag, Banyuwa**	**13.98**	**265**	P	**Pn**	**22 26 55.5**	**-0.2**
JAGI	**Jajag, Banyuwa**	**13.98**	**265**	Pn	**Pn**	**22 26 53.1**	**-2.5**
JAGI	**Jajag, Banyuwa**	**13.98**	**265**	P	**Pn**	**22 26 56.0**	**+0.3**
	53nm,0.9s,2μm						
BLJI	**Banyuglugur**	**14.51**	**268**	P	**Pn**	**22 27 03.0**	**+0.7**
	157nm,0.8s						
DAV	**Davao City (W)**	**14.71**	**350**	P	**Pn**	**22 27 03.9**	**-0.8**
	120nm,0.4s,baz=240,slow=7.3,SNR=1.7						
MTKI	**Muara Teweh, K**	**14.81**	**295**	P	**P**	**22 27 08.8**	**+1.4**
	126nm,1.2s,2μm						
GRJI	**Gresik**	**15.64**	**271**	P	**Pn**	**22 27 16.5**	**+0.3**
	268nm,0.9s,4μm						
MBWA	**Marble Bar**	**15.87**	**210**	P	**Pn**	**22 27 18.5**	**-0.4**
MBWA	**Marble Bar**	**15.87**	**210**	P	**Pn**	**22 27 17.8**	**-1.2**
COEN	**Coen**	**16.01**	**115**	P	**P**	**22 27 22.3**	**+1.5**
COEN	**Coen**	**16.01**	**115**	P	**P**	**22 27 20.9**	**+0.1**
PSA00	**Pilbara Seismi**	**16.17**	**209**	P	**Pn**	**22 27 22.8**	**+0.3**
PSA00	**Pilbara Seismi**	**16.17**	**209**	P	**P**	**22 27 20.9**	**-1.5**
PSA00	**Pilbara Seismi**	**16.17**	**209**	P	**P**	**22 27 21.3**	**-1.1**
PWJI	**Pagerwojo**	**16.29**	**267**	P	**P**	**22 27 22.3**	**-1.5**
	280nm,1.1s,4μm						
AS31	**Alice Springs**	**16.97**	**162**		**Pn**	**22 27 32.4**	**+0.2**
ASAR	**Alice Springs**	**16.97**	**162**	P	**Pn**	**22 27 32.3**	**+0.1**
ASAR	**Alice Springs**	**16.97**	**162**	P	**Pn**	**22 27 32.9**	**+0.7**
	60nm,0.5s,baz=343,slow=11,SNR=357						
ASAR				S	**S**	**22 30 32.0**	**-7.4**
	32nm,0.7s,baz=330,slow=16,SNR=5.0						
ASAR	**Alice Springs**	**16.97**	**162**	P	**Pn**	**22 27 32.3**	**+0.1**
AS01	**Alice Springs**	**16.98**	**162**	P	**Pn**	**22 27 32.9**	**+0.5**
QIS	**Mount Isa**	**17.02**	**141**	P	**Pn**	**22 27 32.8**	**0.0**
WRKA	**Warakurna**	**17.44**	**180**	P	**Pn**	**22 27 38.0**	**+0.2**
UGM	**Wanagama**	**17.56**	**267**	P	**P**	**22 27 37.1**	**-0.7**
STKI	**Sintang**	**18.32**	**293**	P	**Pn**	**22 27 48.4**	**+0.2**
	280nm,1.1s,4μm						
SBUM	**Sibu**	**18.79**	**301**	P	**P**	**22 27 52.1**	**+0.9**
PMG	**Port Moresby**	**18.81**	**97**	P	**P**	**22 27 52.7**	**+1.3**
	17nm,0.6s,baz=311,slow=3.4,SNR=6.2						
PMG				S	**S**	**22 31 14.3**	**-2.1**
	5.4nm,0.3s,baz=23,slow=13,SNR=1.0						
PMG				LR	LR	22 37 14.4	
	comp=Z,379nm,18.6s,baz=250,slow=43						
MTSU	**Mount Surprise**	**18.89**	**126**	P	**P**	**22 27 53.6**	**+1.3**
KSM	**Kuching**	**19.98**	**296**	P	**Pn**	**22 28 06.4**	**-1.5**
KSM	**Kuching**	**19.98**	**296**	P	**P**	**22 28 05.0**	**+0.9**
BBJI	**Bungbulang**	**20.41**	**269**	P	**P**	**22 28 08.0**	**-0.7**
LEM	**Lembang**	**20.47**	**271**	P	**P**	**22 28 09.7**	**+0.2**
	22nm,0.7s,baz=37,slow=13,SNR=7.1						
	22nm,0.7s						
LEM	**Lembang**	**20.47**	**271**	P	**P**	**22 28 08.4**	**-1.0**
	63nm,1.3s						
LEM	**Lembang**	**20.47**	**271**	P	**P**	**22 28 08.4**	**-1.0**
LEM				pmax	pmax		
	comp=Z,63nm,1.3s						
CNJI	**Cibinong**	**20.93**	**269**	P	**P**	**22 28 12.7**	**-1.5**
	comp=Z,67nm,1.2s,comp=Z,788nm						
MEEK	**Meekatharra**	**21.12**	**205**	P	**P**	**22 28 16.7**	**+0.6**
OOD	**Oodnadatta**	**21.38**	**162**	P	**P**	**22 28 19.8**	**+1.0**
PPBI	**Pangkal Pinang**	**22.64**	**282**	P	**P**	**22 28 32.4**	**+1.0**
	comp=Z,254nm,1.3s,comp=Z,4μm						
FORT	**Forrest**	**23.16**	**180**	P	**P**	**22 28 37.2**	**+1.3**
FORT	**Forrest**	**23.16**	**180**	P	**P**	**22 28 36.8**	**+0.9**
MULG	**Mulgathing**	**23.31**	**167**	P	**P**	**22 28 38.7**	**+1.4**
INKA	**Innaminka**	**23.36**	**151**	P	**P**	**22 28 39.1**	**+1.3**
KASI	**Kota Agung**	**23.67**	**273**	P	**P**	**22 28 39.5**	**-1.2**
	comp=Z,16nm,0.8s						
QLP	**Quilpie**	**24.32**	**143**	P	**P**	**22 28 48.4**	**+1.8**
MORW	**Morawa**	**24.34**	**207**	P	**P**	**22 28 48.4**	**+1.7**
KMBL	**Kambalda**	**24.48**	**193**	P	**P**	**22 28 49.0**	**+1.1**
DSRI	**Dabo**	**24.59**	**285**	P	**P**	**22 28 49.5**	**+0.3**
	comp=Z,92nm,1.4s,comp=Z,3μm						
LCRK	**Leigh Creek**	**24.67**	**159**	P	**P**	**22 28 51.1**	**+1.4**
BLDU	**Ballidu**	**25.41**	**204**	P	**P**	**22 28 57.8**	**+1.5**
KLBR	**Kellerberrin**	**25.89**	**201**	P	**P**	**22 29 01.8**	**+1.1**
MYKOM	**Kota Tinggi**	**26.02**	**290**	P	**P**	**22 29 02.3**	**+0.2**
BBOO	**Buckleboo**	**26.21**	**165**	P	**P**	**22 29 04.7**	**+1.1**
BBOO	**Buckleboo**	**26.21**	**165**		**P**	**22 29 04.0**	**+0.4**
BBOO				IAmb	IAmb	22 29 56.7	
	comp=Z,43nm,0.9s						
RK1H	**Rockhampton Ha**	**26.58**	**129**	P	**P**	**22 29 08.4**	**+1.5**
	comp=Z,18nm,1.2s						
MUN	**Mundaring**	**26.81**	**203**	P	**P**	**22 29 10.1**	**+1.2**
STKA	**Stephens Creek**	**27.26**	**155**	P	**P**	**22 29 14.0**	**+1.0**
STKA	**Stephens Creek**	**27.26**	**155**		**P**	**22 29 13.2**	**+0.3**
STKA	**Stephens Creek**	**27.26**	**155**	P	**P**	**22 29 13.7**	**+0.7**
	comp=Z,14nm,0.7s,baz=327,slow=9.1,SNR=34						
STKA				pP	**pP**	**22 29 47.1**	**-1.1**
	comp=Z,25nm,0.9s,baz=321,slow=11,SNR=6.1						
STKA				PcP	**PcP**	**22 32 28.8**	**+0.4**
	comp=Z,6.5nm,0.4s,baz=337,slow=7.7,SNR=2.0						
	comp=Z,14nm,0.7s						
STKA	**Stephens Creek**	**27.26**	**155**	P	**P**	**22 29 13.3**	**+0.3**
STKA				pmax	pmax		
	comp=Z,15nm,1.1s						
NWAO	**Narrogin (SRO)**	**27.28**	**200**	P	**P**	**22 29 13.7**	**+0.6**
NWAO	**Narrogin (SRO)**	**27.28**	**200**	P	**P**	**22 29 13.8**	**+0.7**
	comp=Z,11nm,0.8s,baz=66,slow=13,SNR=1.2						
NWAO				pP	**pP**	**22 29 49.5**	**+1.1**
	comp=Z,20nm,0.6s,baz=28,slow=7.8,SNR=2.7						
	comp=Z,11nm,0.8s						
HTT	**Hallett**	**27.64**	**160**	P	**P**	**22 29 17.4**	**+1.1**
CMSA	**Cobar Meteorol**	**28.94**	**148**	P	**P**	**22 29 29.3**	**+1.5**
IPM	**Ipoh**	**29.64**	**293**	P	**P**	**22 29 37.0**	**+2.7**
IPM	**Ipoh**	**29.64**	**293**	P	**P**	**22 29 33.7**	**-0.7**
KULM	**Kulim**	**30.31**	**294**	IAmb	IAmb	22 29 43.2	
	comp=Z,20nm,0.9s						
TPUB	**Ta-pu**	**31.50**	**347**	P	**P**	**22 29 50.5**	**0.0**
TPUB	**Ta-pu**	**31.50**	**347**	P	**P**	**22 29 49.1**	**-1.4**
ARPS	**Mount Arapiles**	**31.66**	**159**	P	**P**	**22 29 53.9**	**+2.1**
GSI	**Gunungsitoli**	**31.81**	**285**	P	**P**	**22 29 54.7**	**+1.3**
GSI	**Gunungsitoli**	**31.81**	**285**	P	**P**	**22 29 52.4**	**-1.0**
GSI	**Gunungsitoli**	**31.81**	**285**	P	**P**	**22 29 51.8**	**-1.6**
	comp=Z,50nm,1.2s						
UBPT	**Khong Chiam**	**31.96**	**315**	P	**P**	**22 29 55.6**	**+1.0**
UBPT	**Khong Chiam**	**31.96**	**315**	P	**P**	**22 29 54.7**	**+0.1**
QIZ	**Qiongzhong**	**32.00**	**326**	P	**P**	**22 29 55.5**	**+0.6**
QIZ				pP	**pP**	**22 30 28.5**	**-1.3**
QIZ				S	**S**	**22 34 52.5**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,24nm,2.0s						
QIZ				LR	LR		
	comp=Z,220nm,18.5s						
QIZ				LR	LR		
	comp=Z,270nm,13.5s						
QIZ				LR	LR		
	comp=Z,270nm,16.7s						
NACB	**Ninganchiao**	**32.14**	**349**	P	**P**	**22 29 58.6**	**+2.5**
YOJ	**Yonaguni jima**	**32.17**	**351**	P	**P**	**22 29 56.5**	**+0.2**
	comp=Z,67nm,1.7s						
CAN	**Canberra**	**33.61**	**148**	P	**P**	**22 30 11.2**	**+2.4**
CAN	**Canberra**	**33.61**	**148**		**P**	**22 30 10.2**	**+1.4**
CAN	**Canberra**	**33.61**	**148**	P	**P**	**22 30 10.2**	**+1.4**
CAN				pmax	pmax		
	comp=Z,17nm,0.9s						
TOO	**Toolangi**	**33.78**	**155**	P	**P**	**22 30 12.8**	**+2.5**
TOO	**Toolangi**	**33.78**	**155**		**P**	**22 30 12.8**	**+2.5**
TOO	**Toolangi**	**33.78**	**155**	P	**P**	**22 30 12.8**	**+2.5**
TOO				pmax	pmax		
	comp=Z,23nm,1.1s						
SRDT	**SRDT**	**36.13**	**307**	P	**P**	**22 30 33.4**	**+2.8**
SLVN	**Son La**	**37.30**	**321**	P	**P**	**22 30 41.0**	**+0.5**
SLVN				IAmb	IAmb	22 30 43.4	
	comp=Z,77nm,1.6s						
CM31	**Chiang Mai Arr**	**38.74**	**312**	P	**P**	**22 30 52.8**	**+0.3**
CM31				IAmb	IAmb	22 30 54.8	
	comp=Z,61nm,1.4s						
CMAR	**Chiang Mai Arr**	**38.74**	**312**		**P**	**22 30 52.8**	**+0.3**
CMAR	**Chiang Mai Arr**	**38.74**	**312**	P	**P**	**22 30 52.5**	**0.0**
	comp=Z,8.5nm,0.8s,baz=143,slow=7.1,SNR=57						
CMAR				PcP	**PcP**	**22 33 01.4**	**+0.8**
	comp=Z,2.8nm,0.7s,baz=174,slow=2.7,SNR=4.3						
CMAR				ScP	**ScP**	**22 36 33.4**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=171,slow=2.8,SNR=4.7						
	comp=Z,8.5nm,0.8s						
CMAR	**Chiang Mai Arr**	**38.74**	**312**	P	**P**	**22 30 52.8**	**+0.3**
CRAI	**Chiangrai**	**38.87**	**316**	P	**P**	**22 30 54.2**	**+0.6**
CHTO	**Chiang Mai**	**38.96**	**313**	P	**P**	**22 30 55.1**	**+0.8**
CHTO				IAmb	IAmb	22 30 56.5	
	comp=Z,42nm,1.1s						
CHTO	**Chiang Mai**	**38.96**	**313**	P	**P**	**22 30 55.2**	**+0.8**
CHTO				pmax	pmax		
	comp=Z,42nm,1.1s						
DZM	**Mont Dzumac**	**39.54**	**116**	LR	LR	22 48 04.9	
	comp=Z,376nm,19.6s,baz=244,slow=37						
GYA	**Guiyang**	**39.72**	**329**	⇓ *i* P	**P**	**22 31 01.5**	**+0.8**
GYA				pP	pP	22 31 36.5	-0.1
GYA				S	**S**	**22 36 53.5**	**+2.0**
GYA				pmax	pmax		
	comp=Z,22nm,1.9s						
GYA				pmax	pmax		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=Z,190nm,18.0s						
GYA				LR	LR		
	comp=Z,170nm,16.6s						
GYA				LR	LR		
	comp=Z,200nm,18.9s						
WHN	**Wuhan**	**40.10**	**341**	⇑ P	**P**	**22 31 04.5**	**+0.9**
WHN				pP	**pwP**	**22 31 43.0**	**-3.0**
WHN				S	**S**	**22 36 56.5**	**-0.3**
WHN				SS	**SS**	**22 40 05.5**	**+3.5**
WHN				pmax	pmax		
	comp=Z,180nm,1.0s						
NJ2	**Nanjing**	**40.34**	**348**	⇑ P	**P**	**22 31 05.8**	**+0.4**
NJ2				pmax	pmax		
	comp=Z,32nm,1.3s						
NJ2				pmax	pmax		
	comp=Z,120nm,3.6s						
KMI	**Kunming**	**40.84**	**323**	⇑ P	**P**	**22 31 11.3**	**+1.3**
KMI				S	**S**	**22 37 06.3**	**-2.1**
KMI				pmax	pmax		
	comp=Z,26nm,1.6s						
KMI				LR	LR		
	comp=Z,240nm,14.6s						
KMI				LR	LR		
	comp=Z,230nm,14.3s						
KMI				LR	LR		
	comp=Z,250nm,19.4s						
JMN	**Monobe**	**41.35**	**7**	P	**P**	**22 31 13.5**	**-0.3**
ENH	**Enshi**	**41.65**	**335**	P	**P**	**22 31 16.2**	**-0.1**
PZH	**PanZhiHua**	**42.47**	**324**	P	**P**	**22 31 23.0**	**-0.1**
PZH				pP	**pwP**	**22 32 03.3**	**-2.2**
PZH				sP	**sP**	**22 32 19.3**	**+0.8**
PZH				S	**S**	**22 37 29.0**	**-3.1**
PZH				SS	**SS**	**22 40 50.0**	**+1.3**
PZH				pmax	pmax		
	comp=Z,20nm,1.0s						
PZH				pmax	pmax		
	comp=Z,140nm,6.3s						
TNCH	**TengChong**	**43.39**	**319**	P	**P**	**22 31 31.3**	**+0.7**
TNCH				pP	pP	22 32 07.0	-0.2
TNCH				S	**S**	**22 37 45.5**	**-0.3**
TNCH				ScS	**ScS**	**22 41 11.5**	**-0.9**
TNCH				pmax	pmax		
	comp=Z,38nm,1.6s						
TNCH				pmax	pmax		
	comp=Z,230nm,4.3s						
TJN	**Taejon**	**43.65**	**359**	⇑ *i* P	**P**	**22 31 32.3**	**+0.1**
LYN	**LuoYang**	**44.40**	**341**	⇓ P	**P**	**22 31 38.5**	**+0.2**
LYN				S	**S**	**22 37 58.3**	**-1.5**
LYN				pmax	pmax		
	comp=Z,56nm,1.3s						
KSAR	**Wonju Array Be**	**44.71**	**360**	P	**P**	**22 31 41.0**	**+0.4**
KSAR	**Wonju Array Be**	**44.71**	**360**	P	**P**	**22 31 41.0**	**+0.4**
TIA	**Tai'an**	**44.72**	**347**	P	**P**	**22 31 40.3**	**-0.4**
TIA				S	**S**	**22 38 00.0**	**-4.2**
TIA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KSRS	**Korea Array**	**44.72**	**360**	P	**P**	**22 31 40.2**	**-0.4**
	comp=Z,3.0nm,0.5s,baz=180,slow=9.4,SNR=18						
KSRS				pP	**pP**	**22 32 18.8**	**+1.4**
	comp=Z,6.2nm,1.0s,baz=179,slow=11,SNR=4.1						
	comp=Z,3.0nm,0.5s						
MAJO	**Matsushiro**	**44.80**	**11**	P	**P**	**22 31 41.4**	**0.0**
MAJO	**Matsushiro**	**44.80**	**11**	P	**P**	**22 31 41.4**	**0.0**
MAJO				pmax	pmax		
	comp=Z,15nm,1.2s						
MJAR	**Matsushiro Arr**	**44.80**	**11**	P	**P**	**22 31 39.9**	**-1.5**
	comp=Z,11nm,1.1s,baz=187,slow=8.6,SNR=17						
MJAR				pP	**pP**	**22 32 18.7**	**+0.6**
	comp=Z,4.1nm,0.8s,baz=185,slow=9.4,SNR=3.1						
	comp=Z,11nm,1.1s						
MJB9	**Matsu-Tunnel**	**44.80**	**11**	P	**P**	**22 31 41.0**	**-0.4**
CD2	**Chengdu**	**44.82**	**330**	P	**P**	**22 31 40.8**	**-0.9**
CD2				pP	pP	22 32 16.0	-2.4
CD2				PP	**PP**	**22 33 30.5**	**+0.4**
CD2				S	**S**	**22 38 01.0**	**-5.0**
CD2				pmax	pmax		
	comp=Z,30nm,0.6s						
CD2				pmax	pmax		
	comp=Z,130nm,6.6s						
CD2				LR	LR		
	comp=Z,150nm,15.5s						
CD2				LR	LR		
	comp=Z,140nm,14.7s						
CD2				LR	LR		
	comp=Z,220nm,14.7s						
XAN	**Xi'an**	**45.19**	**337**	⇑ P	**P**	**22 31 44.0**	**-0.5**
XAN				S	**S**	**22 38 07.3**	**-3.9**
XAN				pmax	pmax		
	comp=Z,55nm,0.8s						
XAN				pmax	pmax		
	comp=Z,97nm,4.3s						
XAN				LR	LR		
	comp=Z,160nm,6.1s						
XAN				LR	LR		
	comp=Z,230nm,8.6s						
XAN				LR	LR		
	comp=Z,260nm,13.7s						
XAN	**Xi'an**	**45.19**	**337**	P	**P**	**22 31 43.8**	**-0.8**
XAN				PcP	**PcP**	**22 33 21.5**	**-0.3**
HNS	**HongShan**	**46.42**	**345**	⇑ P	**P**	**22 31 54.0**	**-0.1**
HNS				pP	**pP**	**22 32 33.3**	**+2.3**
HNS				sP	**sP**	**22 32 49.8**	**0.0**
HNS				PcP	**PcP**	**22 33 27.3**	**+1.4**
HNS				S	**S**	**22 38 25.0**	**-3.6**
HNS				pmax	pmax		
	comp=Z,48nm,1.5s						
HNS				LR	LR		
	comp=Z,140nm,16.7s						
HNS				LR	LR		
	comp=Z,100nm,15.1s						
HNS				LR	LR		
	comp=Z,170nm,16.9s						
DL2	**Dalian**	**46.58**	**353**	P	**P**	**22 31 55.0**	**-0.2**
DL2				S	**S**	**22 38 28.5**	**-2.2**
DL2				pmax	pmax		
	comp=Z,26nm,0.7s						
DL2				pmax	pmax		
	comp=Z,150nm,4.3s						
SHL	**Shillong**	**48.27**	**314**	P	**P**	**22 32 07.8**	**-1.0**
SHL				IAmb	IAmb	22 32 09.4	
	comp=Z,40nm,0.9s						
SHL	**Shillong**	**48.27**	**314**	P	**P**	**22 32 07.8**	**-1.0**
SHL				pmax	pmax		
	comp=Z,40nm,0.9s						
BJT	**Baijiatuau**	**48.58**	**348**	IAmb	IAmb	22 32 11.7	
	comp=Z,29nm,1.0s						
BJT	**Baijiatuau**	**48.58**	**348**	P	**P**	**22 32 10.5**	**-0.2**
BJI	**Beijing**	**48.60**	**348**	P	**P**	**22 32 10.5**	**-0.3**
BJI				PP	**PP**	**22 34 06.3**	**+0.8**
BJI				S	**S**	**22 38 55.3**	**-3.9**
BJI				pmax	pmax		
	comp=Z,14nm,1.2s						
BJI				pmax	pmax		
	comp=Z,94nm,3.9s						
BJI				LR	LR		
	comp=Z,74nm,17.9s						
BJI				LR	LR		
	comp=Z,47nm,20.8s						
BJI				LR	LR		
	comp=Z,66nm,16.7s						
LZH	**Lanzhou**	**49.05**	**334**	⇑ P	**P**	**22 32 15.3**	**+0.8**
LZH				pP	pP

GTA LR LR
comp=Z,25nm,1.2s
GTA LR LR
comp=Z,310nm,18.5s
GTA LR LR
comp=Z,300nm,19.6s
GTA LR LR
comp=Z,140nm,19.3s
URZ Urewera 53.60 133 LR LR 22 55 19.8
comp=Z,154nm,20.4s,baz=30,slow=35
GOMU GeErMu 53.62 326 P **P** **22 32 48.8 0.0**
GOMU pmax pmax
comp=Z,12nm,1.4s
HYB Hyderabad 54.98 297 *e*P **P** **22 32 58.1 -0.4**
YSS Yuzh-Sakhalins 55.73 12 *e*P P 22 33 15.9 +13
YSS pmax pmax
comp=Z,20nm,0.7s
KLR Kul'dur 56.57 3 *ce*P **P** **22 33 09.2 0.0**
KLR pmax pmax
comp=Z,3.0nm,0.9s
HEH HeiHe 57.52 359 *e*P **P** **22 33 15.3 -0.5**
HEH pP **pP** **22 33 57.0 +2.7**
HEH pmax pmax
comp=Z,11nm,1.0s
HEH pmax pmax
comp=Z,140nm,4.0s
ULN Ulaanbaatar 58.22 343 P **P** **22 33 21.7 +0.8**
ULN Ulaanbaatar 58.22 343 P **P** **22 33 21.7 +0.8**
ULN Ulaanbaatar 58.22 343 *ce*P **P** **22 33 21.7 +0.8**
ULN pmax pmax
comp=Z,33nm,1.2s
ULN Ulaanbaatar 58.22 343 P **P** **22 33 21.7 +0.8**
SONM Songino Array 58.38 343 P **P** **22 33 22.6 +0.6**
SONM IAmb IAmb 22 33 24.2
comp=Z,34nm,1.1s
SONM Songino Array 58.38 343 P **P** **22 33 22.7 +0.6**
comp=Z,15nm,0.9s,baz=167,slow=7.4,SNR=77
SONM pP **pP** **22 34 02.1 +1.4**
comp=Z,5.3nm,0.8s,baz=155,slow=4.0,SNR=2.6
SONM PKP2bc 23 03 09.9
comp=Z,0.6nm,0.7s,baz=338,slow=3.1,SNR=5.3
comp=Z,15nm,0.9s
SONM Songino Array 58.38 343 P **P** **22 33 22.6 +0.6**
SONM pmax pmax
comp=Z,34nm,1.1s
DRV Dumont d'Urvil 59.63 175 P **P** **22 33 31.0 +0.9**
DRV pP **pP** **22 34 08.3 -1.6**
DRV PcP **PcP** **22 34 15.9 +0.4**
ZAK Zakamensk 61.58 342 *e*P **P** **22 33 43.7 -0.1**
ZAK pmax pmax
comp=Z,14nm,1.4s
WMQ Urumqi 62.87 328 ⇑P **P** **22 33 53.0 +0.5**
WMQ pP PcP 22 34 30.0 +0.9
WMQ pmax pmax
comp=Z,42nm,1.3s
WMQ pmax pmax
comp=Z,290nm,4.9s
WMQ LR LR
comp=Z,540nm,17.1s
WMQ LR LR
comp=Z,190nm,22.5s
IRK Irkutsk 62.94 344 *e*P **P** **22 33 52.7 0.0**
IRK *e* 22 34 32.9
IRK pmax pmax
comp=Z,75nm,2.1s
MOY Mondy 63.41 341 *e*P **P** **22 33 56.6 +0.7**
MOY pmax pmax
comp=Z,86nm,3.3s
PEA0B Petropavlovsk- 65.35 19 P **P** **22 34 08.9 +0.6**
PEA0B IAmb IAmb 22 34 09.9
comp=Z,18nm,1.0s
PEA0B Petropavlovsk- 65.35 19 P **P** **22 34 08.9 +0.6**
PEA0B pmax pmax
comp=Z,18nm,1.0s
PETK Petropavlovsk- 65.35 19 P **P** **22 34 08.9 +0.6**
PETK Petropavlovsk- 65.35 19 P **P** **22 34 08.4 +0.1**
comp=Z,6.2nm,0.8s,baz=185,slow=3.8,SNR=20
PETK pP **pP** **22 34 48.5 +0.3**
comp=Z,8.7nm,0.9s,baz=196,slow=4.2,SNR=4.1
comp=Z,6.2nm,0.8s
PETK Petropavlovsk- 65.35 19 P **P** **22 34 09.0 +0.6**
PET Petropavlovsk 65.60 20 *c iP* **P** **22 34 10.1 +0.3**
PET pmax pmax
comp=Z,19nm,1.2s
BOD Bodaibo 66.12 352 *e*P **P** **22 34 13.4 +0.3**
BOD pmax pmax
comp=Z,26nm,1.5s
NIL Nilore 66.23 312 P **P** **22 34 14.3 -0.1**
NIL IAmb IAmb 22 34 15.2
comp=Z,25nm,0.8s
NIL Nilore 66.23 312 P **P** **22 34 14.3 -0.1**
NIL Nilore 66.23 312 P **P** **22 34 14.3 -0.1**
NIL pmax pmax
comp=Z,25nm,0.8s
NIL Nilore 66.23 312 P **P** **22 34 14.3 -0.1**
ZSN Zaisan 66.80 330 *e*P **P** **22 34 18.2 +0.5**
baz=330
ZSN Zaisan 66.80 330 *e*P **P** **22 34 18.2 +0.5**
SHLS Shalkode 67.06 323 ⇑*iP* **P** **22 34 18.6 -0.9**
baz=324
SHLS Shalkode 67.06 323 *e*P **P** **22 34 17.9 -1.7**
SHLS pmax pmax
comp=Z,19nm,1.3s
KSH Kashi 67.22 318 P **P** **22 34 21.5 +0.9**
KSH S **S** **22 43 01.5 0.0**
KSH pmax pmax
comp=Z,18nm,0.8s
PRZ Przheval'sk 67.31 322 IAmb IAmb 22 34 50.2
comp=Z,23nm,1.1s
UZB Uzynbulak 67.31 323 ⇑*iP* **P** **22 34 21.9 +0.6**
comp=Z,12nm,1.0s,baz=323
UZB Uzynbulak 67.31 323 *c iP* **P** **22 34 21.8 +0.6**
UZB pmax pmax
comp=Z,12nm,1.0s
CCD Concordia, Ant 67.62 181 P **P** **22 34 24.8 +1.9**
CCD PcP **PcP** **22 34 50.3 +1.7**
SATY Saty 67.63 323 ⇑*iP* **P** **22 34 24.0 +0.8**
baz=323
SATY Saty 67.63 323 *c iP* **P** **22 34 23.9 +0.8**
ZHN Zhinishke 67.67 323 *e*P **P** **22 34 23.8 +0.3**
baz=323
ZHN Zhinishke 67.67 323 *e*P **P** **22 34 23.7 +0.3**
MK31 Makanchi Array 67.70 328 *c iP* **P** **22 34 23.6 +0.2**
MKAR Makanchi Array 67.70 328 P **P** **22 34 23.7 +0.3**
comp=Z,9.0nm,0.5s,baz=120,slow=7.2,SNR=80
MKAR pP **pP** **22 35 04.1 +0.6**
comp=Z,6.7nm,1.0s,baz=128,slow=8.3,SNR=1.7
comp=Z,9.0nm,0.5s
MAKZ Makanchi 67.87 328 P **P** **22 34 24.7 +0.3**
MAKZ PcP **PcP** **22 34 49.2 -0.5**
TNSS Tian-Shan 68.50 322 *e*P **P** **22 34 29.2 +0.3**
baz=322
TNSS Tian-Shan 68.50 322 *e*P **P** **22 34 29.2 +0.3**
ULHL Ulahol 68.50 321 P **P** **22 34 29.4 +0.7**
SNR=7.4
MDOK Medeo 68.51 322 *e*P **P** **22 34 29.2 +0.5**
baz=322
MDOK Medeo 68.51 322 *e*P **P** **22 34 29.1 +0.5**
AAA Alma-Ata 68.62 322 *e*P **P** **22 34 29.8 +0.6**
baz=322
AAA Alma-Ata 68.62 322 *e*P **P** **22 34 29.8 +0.6**
TDK Taldyqorghan 68.75 324 *e*P **P** **22 34 30.6 +0.6**
comp=Z,25nm,1.4s,baz=324
TDK Taldyqorghan 68.75 324 *e*P **P** **22 34 30.6 +0.6**
TDK pmax pmax
comp=Z,25nm,1.4s
CHKK Chushkaly 68.93 323 *e*P **P** **22 34 31.3 +0.1**
baz=323
CHKK Chushkaly 68.93 323 *e*P **P** **22 34 31.2 +0.1**
MA2 Magadan 69.24 12 LR LR 23 03 36.8
comp=Z,22nm,21.6s,baz=138,slow=35
MA2 Magadan 69.24 12 *c iP* **P** **22 34 32.8 +0.2**
MA2 pmax pmax
comp=Z,13nm,0.9s
TKM2 Tokmak 2 69.27 321 P **P** **22 34 34.5 +1.1**
SNR=6.8
YAK Yakutsk 69.33 1 P **P** **22 34 32.8 -0.3**
YAK Yakutsk 69.33 1 *e*P **P** **22 34 30.8 -2.3**
YAK *e* 22 34 51.6
YAK *e**PP **pP** **22 35 13.9 +0.8**
YAK *e* 22 37 05.9
YAK *e*PPP PPP 22 38 48.3
YAK *e*S **S** **22 43 23.7 -1.7**
YAK *e* 22 44 12.3
YAK pmax pmax
comp=Z,63nm,1.1s
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,7.0nm,1.9s
YAK pmax pmax
comp=Z,105nm,5.3s
YAK pmax pmax
comp=N,77nm,5.1s
YAK pmax pmax
comp=E,32nm,2.5s
YAK smax smax
comp=E,109nm,3.4s
YAK smax smax
comp=N,67nm,3.5s
YAK Yakutsk 69.33 1 P **P** **22 34 32.9 -0.2**
YAK pP **pP** **22 35 12.9 -0.3**
KUU Kurty 69.34 323 *e*P **P** **22 34 33.9 +0.3**
comp=N,25nm,0.9s,baz=322
KUU Kurty 69.34 323 *e*P **P** **22 34 33.9 +0.3**
KUU pmax pmax
comp=Z,25nm,0.9s
KBK Karagaybulak 69.53 321 P **P** **22 34 36.0 +1.0**
SNR=7.1
UCH Uchtor 69.58 320 P **P** **22 34 36.6 +0.9**
SNR=14
KBL Kabul 69.76 311 P **P** **22 34 36.4 -0.2**
KBL Kabul 69.76 311 P **P** **22 34 36.8 +0.2**
SNR=5.3
KBL Kabul 69.76 311 P **P** **22 34 36.4 -0.2**
KBL pmax pmax
comp=Z,13nm,1.1s
AAK Ala-Archa 69.80 321 P **P** **22 34 37.7 +1.0**
SNR=8.3
AAK Ala-Archa 69.80 321 P **P** **22 34 37.3 +0.7**
AAK Ala-Archa 69.80 321 *i* P **P** **22 34 37.7 +1.0**
SNR=8.7
AAK Ala-Archa 69.80 321 P **P** **22 34 37.6 +1.0**
AAK Ala-Archa 69.80 321 *c iP* **P** **22 34 37.4 +0.7**
AAK pmax pmax
comp=Z,41nm,1.7s
AAK Ala-Archa 69.80 321 P **P** **22 34 37.4 +0.7**
AAK pP **pP** **22 35 17.6 +0.8**
ARSB Arslanbob 70.10 319 IAmb IAmb 22 34 40.6
comp=Z,32nm,1.8s
USP Ospenovka 70.13 321 P **P** **22 34 39.1 +0.6**
SNR=33
EKS2 Erkin-Say 70.27 320 P **P** **22 34 40.4 +1.0**
SNR=22
RAR Rarotonga 70.57 110 LR LR 23 03 47.5
comp=Z,59nm,20.3s,baz=294,slow=34
GAR Garm 70.79 316 IAmb IAmb 22 34 43.8
comp=Z,24nm,0.8s
BTK Batken 70.93 317 IAmb IAmb 22 34 46.3
comp=Z,71nm,1.9s
SEM Semipalatinsk 71.03 330 *e*P **P** **22 34 44.4 +0.4**
comp=Z,18nm,0.9s,baz=330
SEM Semipalatinsk 71.03 330 *e*P **P** **22 34 44.4 +0.4**
SEM pmax pmax
comp=Z,18nm,0.9s
ZAA0 Zalesovo Array 71.27 335 P **P** **22 34 44.8 -0.2**
ZALV Zalesovo Beam 71.27 335 P **P** **22 34 44.8 -0.3**
ZALV Zalesovo Beam 71.27 335 P **P** **22 34 44.6 -0.4**
comp=Z,38nm,0.8s,baz=125,slow=4.6,SNR=157
ZALV pP **pP** **22 35 24.9 -0.6**
comp=Z,18nm,1.1s,baz=123,slow=5.5,SNR=2.4
comp=Z,38nm,0.8s
ZALV Zalesovo Beam 71.27 335 P **P** **22 34 44.8 -0.3**
BTLS Baital 71.34 323 ⇑*iP* **P** **22 34 45.9 +0.2**
baz=323
BTLS Baital 71.34 323 *e*P **P** **22 34 45.3 -0.4**
BTLS pmax pmax
comp=Z,24nm,1.8s
CHGR Chuyangaron 71.44 315 IAmb IAmb 22 34 47.1
comp=Z,40nm,1.0s
SIMJ Simiganj 71.55 315 P **P** **22 34 46.9 -0.4**
SIMJ IAmb IAmb 22 34 48.5
comp=Z,34nm,1.2s
SIMJ Simiganj 71.55 315 P **P** **22 34 47.0 -0.2**
DZA Taraz 71.94 320 *e*P **P** **22 34 49.5 +0.1**
baz=320
DZA Taraz 71.94 320 *e*P **P** **22 34 49.5 +0.1**
KURBB Kurchatov Arra 72.03 329 P **P** **22 34 50.0 +0.3**
comp=Z,59nm,0.8s,baz=131,slow=5.0,SNR=482
KURBB pP **pP** **22 35 30.3 +0.4**
comp=Z,17nm,1.2s,baz=132,slow=5.3,SNR=2.1
comp=Z,59nm,0.8s
KURK Kurchatov 72.04 329 P **P** **22 34 50.3 +0.5**
KURK Kurchatov 72.04 329 P **P** **22 34 50.3 +0.5**
KURK pmax pmax
comp=Z,118nm,1.0s
VNDA Vanda 72.17 173 P **P** **22 34 50.9 +0.8**
VNDA Vanda 72.17 173 P **P** **22 34 50.9 +0.8**
comp=Z,3.3nm,0.8s,baz=320,slow=6.5,SNR=24
VNDA LR LR 23 06 45.0
comp=Z,177nm,18.8s,baz=7.0,slow=36
comp=Z,3.3nm,0.8s
VNDA Vanda 72.17 173 P **P** **22 34 50.9 +0.8**
VNDA pmax pmax
comp=Z,19nm,1.5s
SEY Seymchan 72.63 11 *ce*P **P** **22 34 53.3 +0.4**
SEY pmax pmax
comp=Z,14nm,0.8s
CHM Chimkent 72.79 318 *e*P **P** **22 34 55.0 +0.6**
baz=318
CHM Chimkent 72.79 318 *e*P **P** **22 34 55.0 +0.6**
BRLS Boroldoy 72.97 319 ⇑*iP* **P** **22 34 55.7 +0.2**
baz=319
BRLS Boroldoy 72.97 319 *c iP* **P** **22 34 55.6 +0.2**
SBA Scott Base 73.08 172 P **P** **22 34 56.9 +1.4**
SBA Scott Base 73.08 172 P **P** **22 34 56.9 +1.4**
SBA pmax pmax
comp=Z,14nm,1.2s
MAW Mawson 73.85 201 P **P** **22 35 01.2 +1.1**
comp=Z,5.7nm,0.8s,baz=86,slow=9.5,SNR=7.1
MAW LR LR 23 05 29.9
comp=Z,143nm,19.8s,baz=71,slow=34
comp=Z,5.7nm,0.8s
WSAR Wadi Sarin 74.52 297 LR LR 23 10 34.1
comp=Z,54nm,18.8s,baz=144,slow=38
MHTO MHTO 74.53 294 P **P** **22 35 05.6 +0.6**
BRZS Berezniki 74.75 327 ⇑*iP* **P** **22 35 06.2 +0.6**
comp=Z,27nm,0.8s,baz=326
BRZS Berezniki 74.75 327 *c iP* **P** **22 35 06.2 +0.6**
BRZS pmax pmax
comp=Z,27nm,0.8s
HRA Herat 74.89 309 IAmb IAmb 22 35 08.4
comp=Z,23nm,1.1s
SMDO Samad 74.99 296 P **P** **22 35 07.5 -0.2**
BIDO Bidbid 75.04 297 P **P** **22 35 08.3 +0.5**
BSY Bisya 75.66 296 P **P** **22 35 12.2 +0.7**
HOQ Hoqain 75.78 297 P **P** **22 35 13.2 +1.2**
SNR=6.5
ARQ Araqi 76.42 296 P **P** **22 35 16.8 +1.1**
SOHO SOHO 76.60 297 *i* P **P** **22 35 18.0 +1.3**
SNR=13
SOHO SOHO 76.60 297 P **P** **22 35 16.8 +0.1**
UOSS Minazif 77.10 298 P **P** **22 35 19.9 +0.5**
UOSS Minazif 77.10 298 P **P** **22 35 19.4 0.0**
MDH Madha 77.10 298 P **P** **22 35 19.8 +0.3**
HATD Hatta, Dubai 77.13 298 P **P** **22 35 21.2 +1.6**
HATD Hatta, Dubai 77.13 298 P **P** **22 35 19.9 +0.3**
ASHO Ashiyiah 77.16 297 *i* P **P** **22 35 21.4 +1.6**
SNR=6.4
ASHO Ashiyiah 77.16 297 P **P** **22 35 20.8 +0.9**
MSFE Esma-Masafi 77.24 298 *i* P **P** **22 35 22.3 +2.0**
SNR=7.1
MASF Masafi 77.24 298 P **P** **22 35 21.9 +1.6**
SNR=7.3
ALNE Al Ain 77.28 297 P **P** **22 35 21.6 +1.1**
ALNE Al Ain 77.28 297 P **P** **22 35 21.6 +1.1**
SHME Shamm 77.43 299 *i* P **P** **22 35 21.7 +0.4**
SNR=13
SHME Shamm 77.43 299 P **P** **22 35 21.6 +0.3**
SNR=5.1
BVAR Borovoye Array 77.56 328 P **P** **22 35 21.6 +0.1**
comp=Z,33nm,0.9s,baz=130,slow=6.0,SNR=156
comp=Z,33nm,0.9s
NAZ Nazwa, Dubai 77.58 298 P **P** **22 35 23.8 +1.6**
FAQ Al Faqa, Dubai 77.59 297 P **P** **22 35 23.4 +1.2**
FAQ Al Faqa, Dubai 77.59 297 P **P** **22 35 22.0 -0.1**
BRVK Borovoye 77.63 328 P **P** **22 35 22.1 +0.3**
BRVK Borovoye 77.63 328 P **P** **22 35 22.1 +0.3**
BRVK pmax pmax
comp=Z,55nm,1.0s
ASUD Al Ashush, Dub 77.79 297 P **P** **22 35 25.0 +1.7**
ASUD Al Ashush, Dub 77.79 297 P **P** **22 35 24.9 +1.7**
TIXI Tiksi 78.99 0 P **P** **22 35 27.6 -1.2**
TIXI Tiksi 78.99 0 LR LR 23 12 13.3
comp=Z,55nm,19.0s,baz=180,slow=37
TIXI Tiksi 78.99 0 *d iP* **P** **22 35 28.1 -0.7**
TIXI pmax pmax
comp=Z,18nm,0.9s
MZR Muzera 79.06 295 *i* P **P** **22 35 31.6 +1.3**
SNR=7.0
MZR Muzera 79.06 295 P **P** **22 35 31.1 +0.8**
GEYT Alibeck 79.21 311 P **P** **22 35 31.2 +0.4**
GEYT IAmb IAmb 22 35 32.9
comp=Z,42nm,1.6s
GEYT Alibeck 79.21 311 P **P** **22 35 31.3 +0.4**
comp=Z,4.7nm,0.7s,baz=144,slow=3.3,SNR=17
GEYT LR LR 23 14 49.4
comp=Z,34nm,21.1s,baz=128,slow=39
comp=Z,4.7nm,0.7s
GEYT Alibeck 79.21 311 P **P** **22 35 31.2 +0.4**
GEYT pmax pmax
comp=Z,42nm,1.7s
GYA0B ALIBECK ARRAY 79.21 311 IAmb IAmb 22 35 32.7
comp=Z,33nm,1.6s
VOI Vohitsoka 79.33 249 P **P** **22 35 34.0 +2.0**
VOI Vohitsoka 79.33 249 P **P** **22 35 32.2 +0.2**
VOI IAmb IAmb 22 35 34.2
comp=Z,61nm,1.5s
BILL Bilibino 80.00 14 *i* P **P** **22 35 35.2 +0.8**
BILL pmax pmax
comp=Z,7.0nm,1.5s
TBI Tubuai 80.03 112 *e*LR LR 23 00 40.5
comp=Z,862nm,38.8s
PPT2 Papeete2 80.36 107 *e*LR LR 23 00 51.4
comp=Z,104nm,25.2s
P08K Saint George I 81.51 30 P **P** **22 35 43.9 +1.3**
baz=242
UNV Unalaska Valle 81.87 33 P **P** **22 35 45.3 +0.7**
baz=245
QSPA South Pole Qui 82.48 180 P **P** **22 35 48.6 +0.8**
QSPA South Pole Qui 82.48 180 P **P** **22 35 48.1 +0.4**
comp=Z,12nm,0.8s,baz=326,slow=1.4,SNR=56
QSPA LR LR 23 13 34.8
comp=Z,154nm,18.1s,baz=360,slow=36
comp=Z,12nm,0.8s
GAMB Gambell 84.05 23 P **P** **22 35 55.4 -0.1**
baz=240
SVE Sverdlovsk 84.30 329 *e*P **P** **22 35 57.0 0.0**
SVE pmax pmax
comp=Z,88nm,1.3s
S12K Black Hills 84.96 32 P **P** **22 36 00.6 +0.3**
baz=249
ARU Arti 85.21 328 P **P** **22 36 01.5 -0.1**
ARU Arti 85.21 328 LR LR 23 16 44.6
comp=Z,39nm,20.4s,baz=109,slow=37
ARU Arti 85.21 328 *c iP* **P** **22 36 01.3 -0.2**
ARU pmax pmax
comp=Z,61nm,1.0s
ARU Arti 85.21 328 P **P** **22 36 01.0 -0.5**
comp=Z,57nm,1.3s,comp=Z,706nm
SDPT Sand Point 85.69 33 P **P** **22 36 04.3 +0.4**
baz=250
M13K Dall Lake 86.08 28 P **P** **22 36 07.0 +1.3**
baz=248
K13K Kusilvak Mount 86.09 26 P **P** **22 36 06.6 +0.8**
baz=246
TNA Tin City 86.33 22 P **P** **22 36 08.1 +1.3**
baz=243
RAYN Ar Rayn 86.35 294 P **P** **22 36 08.2 +0.2**
RAYN Ar Rayn 86.35 294 *i* P **P** **22 36 08.2 +0.2**
SNR=7.4
RAYN Ar Rayn 86.35 294 P **P** **22 36 08.2 +0.2**
RAYN pmax pmax
comp=Z,7.0nm,0.8s
S14K Fog Glacier 86.49 32 P **P** **22 36 08.2 +0.2**
baz=251
O14K Tigyukauivet M 86.63 29 IAmb IAmb 22 36 10.1
comp=Z,34nm,1.2s
O14K Tigyukauivet M 86.63 29 P **P** **22 36 08.9 +0.5**
baz=249
N14K Kuskokwak Cree 86.67 28 P **P** **22 36 09.0 +0.4**
baz=249
L14K Kuka Creek 86.73 27 P **P** **22 36 09.2 +0.3**
baz=248,SNR=5.1
M14K Bethel 86.84 27 P **P** **22 36 10.0 +0.7**
M14K Bethel 86.84 27 P **P** **22 36 09.7 +0.3**
baz=249,SNR=7.8
ANM Nome 86.87 23 P **P** **22 36 10.6 +1.1**
baz=246
J14K Nanvaranak Lak 86.89 25 P **P** **22 36 09.7 +0.1**
baz=247
F14K Arctic Creek 86.89 22 P **P** **22 36 10.0 +0.4**
baz=245
CHGN Chignik 87.09 32 P **P** **22 36 11.0 +0.3**
baz=252
O15K Ungalikthiuk R 87.30 29 P **P** **22 36 11.6 0.0**
baz=251
L15K Ungalak Mounta 87.39 27 P **P** **22 36 12.4 +0.4**
baz=249
M15K Kasigluk River 87.40 28 P **P** **22 36 12.3 +0.1**
baz=250,SNR=7.9
ELIB Princess Elisa 87.49 198 *d*P **P** **22 36 14.6 +2.0**
comp=Z,18nm,0.8s
ELIB *d*pP **pP** **22 36 53.0 -2.3**
ELIB *d*PP **PP** **22 39 38.6 -1.0**
N15K Kwethluk River 87.50 28 P **P** **22 36 13.8 +1.1**
N15K IAmb IAmb 22 36 14.4
comp=Z,32nm,1.2s
N15K Kwethluk River 87.50 28 P **P** **22 36 13.1 +0.4**
baz=250,SNR=8.0
G15K Niukluk 87.57 23 P **P** **22 36 13.6 +0.7**
baz=247
K15K Wolf Creek Mou 87.59 26 P **P** **22 36 14.2 +1.2**
baz=249
F15K North Star Dit 87.62 22 P **P** **22 36 14.1 +1.0**
baz=246
R16K Pilot Point 87.92 31 P **P** **22 36 14.9 +0.3**
baz=253
H16K Elim 88.15 24 P **P** **22 36 16.1 +0.6**
baz=248
N16K Nishlik Lake 88.22 28 P **P** **22 36 16.6 +0.5**
baz=252,SNR=7.5
O16K Kokwok River B 88.27 29 IAmb IAmb 22 36 17.7
comp=Z,15nm,1.2s
O16K Kokwok River B 88.27 29 P **P** **22 36 17.0 +0.8**
baz=252
L16K Owhat River 88.30 27 P **P** **22 36 17.0 +0.6**
baz=251
M16K Timber Creek 88.31 28 P **P** **22 36 17.0 +0.6**
baz=251
J16K Anvik River 88.34 25 P **P** **22 36 17.2 +0.7**
baz=250
G16K Koyuk River 88.38 23 P **P** **22 36 17.1 +0.5**
baz=248
C16K Lisburne Hills 88.44 20 P **P** **22 36 17.3 +0.5**
baz=245
CHIR Chirikof Islan 88.45 33 P **P** **22 36 17.6 +0.4**
baz=254
I17K Unalakleet 88.51 25 P **P** **22 36 17.8 +0.6**
baz=250
Q16K King Salmon 88.71 30 P **P** **22 36 18.9 +0.6**
baz=253
O17K Koliganek Bris 88.81 29 P **P** **22 36 19.2 +0.4**
baz=253
L17K Donlin 88.96 27 P **P** **22 36 20.1 +0.7**
baz=252
P17K Kvichak River 88.96 30 P **P** **22 36 19.8 +0.3**
baz=254
D17K Noatak River 88.98 21 P **P** **22 36 19.6 +0.2**
baz=248
N17K Nushagak Hills 88.99 28 P **P** **22 36 20.2 +0.6**
baz=253
J17K VABM Dome 89.02 25 P **P** **22 36 20.0 +0.3**
baz=251
G17K Kiwalik Mounta 89.08 23 P **P** **22 36 19.9 0.0**
baz=250
M17K Holitna River 89.13 28 P **P** **22 36 20.3 +0.1**
baz=253
K17K Iditarod 89.14 26 IAmb IAmb 22 36 21.8
comp=Z,16nm,1.1s
K17K Iditarod 89.14 26 P **P** **22 36 20.9 +0.6**
baz=252
RDOG Red Dog Mine 89.18 21 P **P** **22 36 20.3 -0.1**
baz=248
H17K Granite Mounta 89.19 24 P **P** **22 36 21.4 +1.0**
baz=250
F17K Baldwin Pennin 89.19 22 P **P** **22 36 21.1 +0.7**
baz=249
E17K Hotham Inlet 89.20 22 P **P** **22 36 20.4 -0.1**
baz=249

P18K	**Big Mountain,** baz=255	89.61	30	P		P		22 36 21.9	-0.7
N18K	**Kilae Creek** baz=254	89.64	29	P		P		22 36 22.6	-0.1
L18K	**Granite Mounta** baz=253	89.71	27	P		P		22 36 23.4	+0.4
O18K	**Koktuh Hills** baz=255	89.75	29	P		P		22 36 23.1	-0.1
E18K	**Tukpahlearik C** baz=250	89.77	21	P		P		22 36 23.3	+0.2
GNI	**Garni**	89.84	310	*e*P		P		22 36 24.5	+0.2
GNI	comp=Z,7.0nm,1.3s			pmax		pmax			
F18K	**Selawik** baz=251	89.84	22	P		P		22 36 23.7	+0.3
H18K	**Honhosa River** baz=252	89.88	24	P		P		22 36 23.9	+0.2
M18K	**Stony River** baz=254	89.90	28	P		P		22 36 24.1	+0.3
C18K	**Utukok River** baz=249	89.99	20	P		P		22 36 24.0	-0.2
G18K	**Tagagawik** baz=252	90.00	23	P		P		22 36 24.6	+0.4
B18K	**Kokolik River** baz=249	90.05	19	P		P		22 36 24.7	+0.3
J18K	**Innoko River**	90.06	26	P		P		22 36 24.0	-0.6
J18K	**Innoko River** baz=253,SNR=7.5	90.06	26	P		P		22 36 24.3	-0.3
OHAK	**Old Harbor** baz=256	90.06	32	P		P		22 36 24.3	-0.4
Q19K	**Cape Douglas,** baz=256	90.29	31	P		P		22 36 25.7	-0.1
N19K	**Bonanza Creek** baz=255	90.34	29	P		P		22 36 26.2	+0.1
GCSA	**Galena City Sc** baz=253	90.36	24	P		P		22 36 25.8	0.0
L19K	**White Mountain** comp=Z,14nm,1.2s	90.53	27	IAmb		IAmb		22 36 29.4	
L19K	**White Mountain** baz=255,SNR=6.4	90.53	27	P		P		22 36 26.8	0.0
KIRV	**Kirov**	90.56	329	*d i*P		P		22 36 25.9	-1.0
KDAK	**Kodiak Island** baz=257	90.56	32	P		P		22 36 26.8	-0.2
A19K	**Wainwright** baz=249	90.59	19	P		P		22 36 27.3	+0.4
F19K	**Shaleruckik Mo** comp=Z,19nm,1.6s	90.62	22	IAmb		IAmb		22 36 27.6	
F19K	**Shaleruckik Mo** baz=252	90.62	22	P		P		22 36 27.3	+0.2
M19K	**Big River Lodg** baz=255	90.67	28	P		P		22 36 27.3	-0.1
P19K	**Oil Pt** baz=256	90.67	30	P		P		22 36 27.4	-0.1
J19K	**Poorman** baz=254,SNR=5.7	90.67	25	P		P		22 36 27.4	0.0
G19K	**Purcell Mounta** comp=Z,17nm,1.4s	90.68	23	IAmb		IAmb		22 36 28.4	
G19K	**Purcell Mounta** baz=253	90.68	23	P		P		22 36 27.4	0.0
C19K	**Lookout Ridge** baz=251	90.70	20	P		P		22 36 27.0	-0.5
H19K	**Roundabout Mou** comp=Z,12nm,1.2s	90.75	24	IAmb		IAmb		22 36 28.9	
H19K	**Roundabout Mou** baz=254	90.75	24	P		P		22 36 27.7	-0.1
Q20K	**Shuyak Island** baz=257	90.85	31	P		P		22 36 27.6	-0.7
D19K	**Kuna River** comp=Z,16nm,1.1s	91.01	21	IAmb		IAmb		22 36 29.6	
D19K	**Kuna River** baz=252	91.01	21	P		P		22 36 28.6	-0.3
E19K	**Redstone River** baz=253	91.01	22	P		P		22 36 28.8	-0.2
L20K	**Farewell, AK** baz=256	91.04	27	P		P		22 36 29.2	0.0
O20K	**Slope Mountain** baz=257	91.06	29	P		P		22 36 28.8	-0.6
K20K	**Telida** baz=256	91.17	26	P		P		22 36 29.5	-0.3
M20K	**Styx River** baz=256	91.24	28	P		P		22 36 29.3	-0.9
J20K	**Nowinta River** comp=Z,32nm,1.6s	91.34	25	IAmb		IAmb		22 36 32.7	
J20K	**Nowinta River** baz=256,SNR=7.3	91.34	25	P		P		22 36 30.2	-0.3
I20K	**Naaghedeneel** baz=255	91.36	25	P		P		22 36 30.7	+0.1
NVL	**N'lazarevskaya**	91.36	197	*e*P		P		22 36 31.5	+1.0
NVL	comp=Z,18nm,1.0s			pmax		pmax			
H20K	**Anotleneega Mo** baz=255	91.38	24	P		P		22 36 31.3	+0.6
HOM	**Homer** baz=258	91.45	30	P		P		22 36 30.8	-0.3
F20K	**Avaraart Lake** comp=Z,28nm,1.9s	91.46	22	IAmb		IAmb		22 36 32.0	
F20K	**Avaraart Lake** baz=254	91.46	22	P		P		22 36 31.1	+0.1
N20K	**Mount Spurr** baz=257	91.51	28	P		P		22 36 31.1	-0.4
D20K	**Etivluk River** baz=254	91.60	21	P		P		22 36 31.5	-0.2
E20K	**Nigu River** baz=254	91.62	21	P		P		22 36 32.1	+0.3
GURO	**Guroymak-BITLI** comp=Z,23nm,1.5s	91.66	308	IAmb		IAmb		22 36 34.6	
KBZ	**Khabaz**	91.77	314	P		P		22 36 32.9	0.0
KBZ	comp=Z,2.1nm,0.8s,baz=159,slow=3.4,SNR=4.9			LR		LR		23 24 01.7	
	comp=Z,16nm,20.8s,baz=44,slow=39 comp=Z,2.1nm,0.8s								
KBZ	**Khabaz**	91.77	314	*ce*P		P		22 36 32.6	-0.3
KBZ	comp=Z,6.0nm,1.2s			pmax		pmax			
B20K	**Meade River** baz=253	91.79	19	P		P		22 36 32.1	-0.3
BRSE	**Bradley Lake S** baz=258	91.92	30	P		P		22 36 32.7	-0.6
SKT	**Skwentna** comp=Z,39nm,2.0s	92.00	28	IAmb		IAmb		22 40 11.7	
SKT	**Skwentna** baz=258	92.00	28	P		P		22 36 33.1	-0.5
CAST	**Castle Rocks** baz=257	92.06	26	P		P		22 36 33.1	-0.8
CHUM	**Lake Minchumin** baz=257	92.06	26	P		P		22 36 33.7	-0.1
G21K	**Allakaket** baz=256	92.17	23	P		P		22 36 34.1	-0.3
H21K	**Melozitna Rive** baz=257	92.25	24	P		P		22 36 34.3	-0.4
SUA	**Susitna One** baz=259	92.26	28	P		P		22 36 34.7	-0.3
F21K	**Alatna River** baz=256	92.35	22	P		P		22 36 35.2	0.0
C21K	**Knifeblade Rid** baz=255	92.36	20	P		P		22 36 35.5	+0.4
E21K	**Killik River** baz=256	92.47	21	P		P		22 36 35.7	0.0
I21K	**Tanana** baz=258	92.48	25	P		P		22 36 35.5	-0.3
B21K	**Ikpikpuk River** baz=255	92.53	20	P		P		22 36 35.5	-0.4
SEW	**Seward** baz=260	92.62	30	P		P		22 36 36.2	-0.3
RC01	**Rabbit Creek A** baz=259	92.67	29	P		P		22 36 36.2	-0.5
BPAW	**Bear Paw Mtn.** comp=Z,16nm,1.6s	92.68	26	IAmb		IAmb		22 36 38.4	
BPAW	**Bear Paw Mtn.** baz=258	92.68	26	P		P		22 36 36.1	-0.6
A22K	**Sinclair Lake** baz=255	92.77	19	P		P		22 36 36.4	-0.6
TRF	**Thorofare Moun** baz=259	92.85	26	P		P		22 36 36.6	-1.2
H22K	**Ishtalitna Cre** baz=258	92.88	24	P		P		22 36 37.3	-0.3
F22K	**John River** baz=258	92.91	22	P		P		22 36 37.7	-0.1
MLY	**Manley** baz=259	92.97	25	P		P		22 36 37.7	-0.4
D22K	**Ayikyak River** baz=257	93.03	21	P		P		22 36 38.1	-0.1
PMR	**Palmer** baz=260	93.04	28	P		P		22 36 38.0	-0.4
B22K	**Teshekpuk Lake** baz=256	93.11	19	P		P		22 36 38.9	+0.4
E22K	**Anaktuvuk Pass** baz=258	93.18	22	P		P		22 36 38.7	-0.3
TROLL	**Troll, Antarti** comp=Z,462nm,0.8s	93.24	195	⇑P		P		22 36 40.9	+1.5
KNK	**Knik Glacier** baz=261	93.33	29	P		P		22 36 39.6	-0.2
SML	**Sawmill** baz=261	93.45	28	P		P		22 36 39.5	-0.9
RND	**Reindeer** comp=Z,15nm,1.0s	93.48	27	IAmb		IAmb		22 36 40.2	
MCK	**McKinley** baz=260	93.50	26	P		P		22 36 39.4	-1.1
WAT1	**Susitna Watana** baz=261	93.52	27	P		P		22 36 40.0	-0.7
I23K	**Minto, Yukon-K** baz=260,SNR=9.4	93.56	25	P		P		22 36 40.0	-0.7
G23K	**Bananza Creek**	93.58	23	P		P		22 36 41.2	+0.4
G23K	**Bananza Creek** baz=260,SNR=5.1	93.58	23	P		P		22 36 40.5	-0.4
NEA2	**Nenana** baz=260	93.59	25	P		P		22 36 40.4	-0.5
COLD	**Coldfoot** baz=259	93.60	23	P		P		22 36 40.2	-0.6
VRH	**Novokhopyorsk**	93.60	321	*e*P		P		22 36 39.9	-1.3
VRH	comp=Z,17nm,1.5s			pmax		pmax			
H23K	**Yukon River** comp=Z,16nm,1.4s	93.61	24	IAmb		IAmb		22 36 41.9	
H23K	**Yukon River** baz=260	93.61	24	P		P		22 36 40.5	-0.5
P23K	**Montague Islan** baz=261	93.62	30	P		P		22 36 41.0	-0.1
M23K	**Glacier View** baz=261	93.74	28	P		P		22 36 40.9	-0.7
D23K	**Nanushuk River** baz=259	93.75	21	P		P		22 36 41.3	-0.3
WAT6	**Susitna Watana** baz=261	93.85	27	P		P		22 36 42.0	-0.4
GLI	**Glacier Island** baz=262	93.90	29	P		P		22 36 42.5	+0.1
SCM	**Sheep Creek Mo** baz=262	93.93	28	P		P		22 36 42.0	-0.6
C23K	**Itkillik River**	93.94	20			PcP		22 36 42.9	+0.2
C23K	**Itkillik River** baz=259	93.94	20	P		P		22 36 42.4	0.0
WRH	**Wood River Hil** comp=Z,20nm,1.4s	93.99	26	IAmb		IAmb		22 37 24.3	
Q23K	**Middleton Isla** baz=262	94.07	31	P		P		22 36 42.7	-0.5
TOLK	**Toolik Lake Re** comp=Z,9.4nm,1.4s	94.09	21	IAmb		IAmb		22 36 44.2	
TOLK	**Toolik Lake Re** baz=260	94.09	21	P		P		22 36 43.3	+0.1
DHY	**Denali Highway**	94.09	27	P		P		22 36 43.0	-0.5
DHY	comp=Z,11nm,1.0s			IAmb		IAmb		22 36 43.9	
DHY	**Denali Highway** baz=262	94.09	27	P		P		22 36 42.9	-0.5
CCB	**Clear Creek Bu** comp=Z,13nm,1.1s	94.14	25	IAmb		IAmb		22 36 42.8	
BELA	**Belgrano 2**	94.22	184			PcP		22 36 44.4	+0.5
BELA	comp=Z,12nm,1.0s			IAmb		IAmb		22 36 44.6	
H24K	**Noodor Dome**	94.28	24	P		P		22 36 44.1	0.0
H24K	comp=Z,15nm,1.3s			IAmb		IAmb		22 36 45.1	
H24K	**Noodor Dome** baz=261,SNR=7.4	94.28	24	P		P		22 36 44.2	0.0
POKR	**Poker Plat Res** baz=262	94.36	25	P		P		22 36 44.0	-0.4
E24K	**Your Creek** baz=261	94.39	22	P		P		22 36 44.2	-0.4
D24K	**Happy Valley** baz=261	94.44	21	P		P		22 36 44.3	-0.4
HDA	**Harding Lake** baz=262	94.47	26	P		P		22 36 45.1	+0.1
M24K	**Tolsona, Glenn** baz=263	94.51	28	P		P		22 36 45.5	+0.2
EYAK	**Cordova Ski Ar** baz=263	94.51	30	P		P		22 36 44.8	-0.4
F24K	**Squaw Lake** baz=262	94.53	23	P		P		22 36 45.1	-0.1
ILAR	**Eielson Array** comp=Z,2.2nm,1.1s,baz=276,slow=4.8,SNR=12	94.54	25	P		P		22 36 43.5	-1.8
ILAR				pP		pP		22 37 25.9	-2.4
	comp=Z,1.4nm,1.0s,baz=258,slow=4.3,SNR=3.8								
ILAR				PKKP		PKKPdf		22 53 43.9	-1.2
	comp=Z,0.7nm,0.8s,baz=15,slow=2.8,SNR=5.6								
ILAR				LR		LR		23 15 29.8	
	comp=Z,27nm,20.5s,baz=264,slow=33 comp=Z,2.2nm,1.1s								
KLU	**Klutina** baz=263	94.55	29	P		P		22 36 45.2	-0.3
G24K	**Hadweenzic Riv** comp=Z,17nm,1.6s	94.57	23	IAmb		IAmb		22 36 48.1	
G24K	**Hadweenzic Riv** baz=262,SNR=6.4	94.57	23	P		P		22 36 45.2	-0.2
SNAA	**Sanae** comp=Z,108nm,0.8s	94.77	194	⇑P		P		22 36 47.6	+1.3
SNAA	**Sanae**	94.77	194	P		P		22 36 47.3	+0.9
SNAA	comp=Z,7.0nm,0.9s,baz=125,slow=3.8,SNR=17 comp=Z,76nm,18.5s,baz=123,slow=36 comp=Z,7.0nm,0.9s			LR		LR		23 20 17.7	
SNAA	**Sanae**	94.77	194	*c i*P		P		22 36 47.7	+1.3
SNAA	comp=Z,15nm,1.1s			pmax		pmax			
K24K	**Donnelly Dome** baz=263	94.90	26	P		P		22 36 46.6	-0.4
PAX	**Paxson** baz=263	94.94	27	P		P		22 36 47.5	+0.3
VORD	**Divnogorie**	95.10	321	*e*P		P		22 36 45.7	-2.4
VORD	comp=Z,8.0nm,0.6s			pmax		pmax			
KAIM	**Kayak Island** baz=264	95.10	30	P		P		22 36 47.8	-0.1
BMRM	**Bremner River** baz=264	95.12	29	P		P		22 36 48.8	+0.7
G25K	**Bearman Lake** baz=263	95.12	23	P		P		22 36 48.1	+0.3
J25K	**Salcha River,** baz=264	95.17	26	P		P		22 36 47.7	-0.5
H25L	**Birch Creek** baz=263,SNR=7.4	95.17	24	P		P		22 36 48.6	+0.6
N25K	**Chitina, Valde** baz=264	95.19	29	P		P		22 36 48.1	-0.3
VORR	**Voronezh**	95.22	321	*e*P		P		22 36 47.7	-0.9
VORR	comp=Z,21nm,1.5s			pmax		pmax			
D25K	**Kavik River** baz=263	95.33	21	P		P		22 36 48.8	-0.1
F25K	**Christian Rive** baz=264	95.40	23	P		P		22 36 49.0	-0.1
LPSR	**Galich'ya Gora**	95.48	322	*e*P		P		22 36 46.4	-3.3
LPSR	comp=Z,20nm,1.1s			pmax		pmax			
E25K	**Arctic Village** comp=Z,8.8nm,1.4s	95.48	22	IAmb		IAmb		22 37 32.6	
E25K	**Arctic Village** baz=264	95.48	22	P		P		22 36 51.1	+1.6
SCRK	**Sand Creek** baz=265	95.71	26	P		P		22 36 51.2	+0.5
BMAR	**Burnt Mountain**	95.79	23	P		P		22 36 51.6	+0.7
KLMR	**Klimovskoe**	95.87	331	*e*P		P		22 36 46.7	-4.6
KLMR	comp=Z,18nm,1.2s			pmax		pmax			
C26K	**Camden Bay** baz=264	95.91	20	P		P		22 36 51.9	+0.6
J26L	**Joseph Creek**	95.94	26	P		P		22 36 50.5	-1.2
J26L	comp=Z,11nm,1.4s			IAmb		IAmb		22 37 44.1	
J26L	**Joseph Creek** baz=265	95.94	26	P		P		22 36 51.7	-0.1
F26K	**Sheenjek River** baz=265	95.98	23	P		P		22 36 52.0	+0.2
M26K	**Nabesna, AK** baz=265	96.02	28	P		P		22 36 52.4	+0.3
G26K	**Porcupine Rive** baz=265	96.05	23	P		P		22 36 52.4	+0.4
I26K	**Coal Creek Min** baz=266	96.18	25	P		P		22 36 52.1	-0.6
C27K	**Jago River** baz=266	96.30	21	P		P		22 36 53.3	+0.2
VNA2	**Neumayer--Watz** comp=Z,3.3nm,1.1s,baz=153,slow=3.2	96.35	193	⇑P		P		22 36 54.6	+1.2
MESA	**MESA** baz=266	96.36	30	P		P		22 36 53.2	-0.7
MMAI	**Mount Meron Ar** comp=Z,29nm,18.4s,baz=28,slow=41	96.40	302	LR		LR		23 28 57.0	
MOS	**Moscow**	96.48	325	*e*P		P		22 36 52.0	-2.2
EIL	**Elat** comp=Z,29nm,18.5s,baz=68,slow=40	96.51	299	LR		LR		23 28 29.4	
M27K	**Edge Creek, AK** baz=266	96.53	28	P		P		22 36 53.9	-0.7
K27K	**Chicken** baz=266	96.55	26	P		P		22 36 53.8	-0.5
L27K	**Beaver Creek,**	96.60	27			PcP		22 36 55.1	+0.3
L27K	comp=Z,9.9nm,1.2s			IAmb		IAmb		22 36 55.3	
L27K	**Beaver Creek,** baz=266	96.60	27	P		P		22 36 54.5	-0.2
BCAR	**Beaver Creek A**	96.62	27	P		P		22 36 55.3	+0.5
VNA3	**Neumayer Olymp** comp=Z,2.2nm,0.9s	96.62	193	⇑P		P		22 36 56.0	+1.3
CTG	**Chitna Glacier** baz=267	96.71	29	P		P		22 36 55.3	0.0
VNA1	**Neumayer--Stat** comp=Z,5.9nm,0.9s	96.75	193	⇑P		P		22 36 55.6	+0.5
I27K	**Kandik River** baz=267	96.84	25	P		P		22 36 55.6	-0.1
G27K	**Doyon Strip** comp=Z,13nm,1.6s	96.88	24	IAmb		IAmb		22 36 57.3	
G27K	**Doyon Strip** baz=267	96.88	24	P		P		22 36 56.5	+0.6
H27K	**Steamboat Moun** baz=267	96.91	24	P		P		22 36 56.6	+0.6
E27K	**Coleen River** comp=Z,15nm,1.6s	96.97	22	IAmb		IAmb		22 36 56.6	
E27K	**Coleen River** baz=267,SNR=5.1	96.97	22	P		P		22 36 55.9	-0.4
EGAK	**Eagle** baz=267	96.99	26	P		P		22 36 56.4	0.0
OBN	**Obninsk**	97.05	325	*c i*P		P		22 36 56.3	-0.5
OBN				*e*				22 40 49.5	
OBN	comp=Z,17nm,1.2s			pmax		pmax			
OBN	comp=Z,58nm,19.0s			MLR		MLR			
YUK3	**Moose Creek** baz=268	97.17	29	P		P		22 36 56.9	-0.6
D27M	**Malcolm River** baz=268	97.24	21	P		P		22 36 57.3	-0.2
MBAR	**Mbarara** comp=Z,47nm,20.8s,baz=113,slow=33	97.36	268	LR		LR		23 17 43.2	
I28M	**Miner Creek** baz=268	97.53	25	P		P		22 36 58.4	-0.5
F28M	**Old Crow** baz=269	97.60	23	P		P		22 36 58.7	-0.4
PNL	**Peninsula** baz=268	97.61	31	P		P		22 36 59.0	-0.3
LSZ	**Lusaka** comp=Z,46nm,18.2s,baz=118,slow=34	97.64	254	LR		LR		23 18 28.5	
BOSA	**Boshof** comp=Z,1.7nm,0.8s,baz=136,slow=1.3,SNR=3.1 comp=Z,1.7nm,0.8s	97.70	240	P		Pdif		22 37 01.3	+0.7
DAWY	**Dawson** baz=269	97.73	26	P		P		22 36 59.4	-0.4
E28M	**Babbage River** comp=Z,13nm,1.6s	97.75	22	IAmb		IAmb		22 37 00.8	
E28M	**Babbage River** baz=269	97.75	22	P		P		22 36 59.2	-0.5
YUK4	**Talbot Arm** baz=269	98.03	29	P		Pdif		22 37 01.5	+0.1
D28M	**Stokes Point** baz=270	98.04	21	P		P		22 37 00.1	-0.8
O29M	**Mount Kennedy** baz=269	98.04	30	P		P		22 37 00.5	-0.9
M29M	**Somme Creek** baz=269	98.13	28	P		P		22 37 01.1	-0.6
YUK6	**Outpost Mounta** baz=269	98.16	29	P		P		22 37 01.6	-0.4
I29M	**Ogilvie Camp,** baz=270	98.21	25	P		Pdif		22 37 02.0	+0.1
BRTR	**Keskin Array B** comp=Z,0.6nm,0.8s,baz=119,slow=5.1,SNR=4.9 comp=Z,0.6nm,0.8s	98.27	309	P		P		22 37 01.1	-1.8
L29M	**L29M** baz=270	98.28	27	P		Pdif		22 37 02.7	+0.4
G29M	**Pine Creek** baz=270	98.32	23	P		P		22 37 02.0	-0.3
E29M	**Blow River** baz=271	98.35	22	P		P		22 37 01.3	-1.1
K29M	**Barlow Dome** baz=270	98.56	27	P		P		22 37 03.2	-0.4
HYT	**Haines Junctio** baz=270	98.58	30	P		P		22 37 03.2	-0.6
N30M	**Aishikik Lake** baz=270	98.78	29	P		P		22 37 03.8	-0.7
EPYK	**Eagle Plains** baz=272	98.85	24	P		P		22 37 04.5	-0.2
I30M	**Mount Dempster** baz=272	99.02	25	P		Pdif		22 37 05.6	0.0
G30M	**tAoh Zraii Nji** baz=272	99.03	23	P		Pdif		22 37 05.5	0.0
J30M	**Hart River** baz=272	99.06	26	P		Pdif		22 37 05.8	0.0
PLBC	**Pleasant Camp** baz=271	99.16	31	P		Pdif		22 37 06.4	+0.2
F30M	**Barrier River** baz=273	99.17	23	P		Pdif		22 37 06.2	+0.2
S31K	**Pelican** baz=271	99.25	33	P		Pdif		22 37 05.9	-0.7
O30N	**Mendenhall** baz=271	99.27	30	P		Pdif		22 37 06.2	-0.5
SIT	**Sitka** baz=271	99.75	33	P		Pdif		22 37 09.1	+0.3
H31M	**Peel River** baz=274	99.84	25	P		Pdif		22 37 09.7	+0.5
WHY	**Whitehorse** baz=272	99.87	30	P		Pdif		22 37 09.8	+0.3
P32M	**Atlin** baz=273	100.50	31	P		Pdif		22 37 12.3	+0.1
P33M	**Teslin, Yukon** baz=274	100.92	30	P		Pdif		22 37 14.4	+0.3
U33K	**Whale Pass** baz=273	101.00	34	P		Pdif		22 37 14.9	+0.5
ARCES	**ARCESS Array B** comp=Z,4.4nm,0.9s,baz=264,slow=3.6,SNR=6.5	101.43	340	PKKPbc		PKKPbc		22 53 24.1	-3.0
AKASG	**Malin Array Be** comp=Z,2.0nm,0.4s,baz=80,slow=3.6,SNR=6.2	101.47	320	P		Pdif		22 37 15.4	-1.2
SPITS	**Spitsbergen Ar** comp=Z,5.9nm,0.8s,baz=97,slow=6.8,SNR=6.0	101.71	349	P		Pdif		22 37 16.5	-0.8
R33M	**Jennings River** baz=276	101.92	31	P		Pdif		22 37 18.8	+0.2
A36M	**Sachs Harbour** baz=284	102.18	18	P		Pdif		22 37 19.9	+0.6
T35M	**Bob Quinn** baz=276	102.53	33	P		Pdif		22 37 21.4	+0.1
HFS	**Hagfors** comp=Z,0.7nm,0.6s,baz=171,slow=10,SNR=1.9	108.56	331	PKiKP		PKiKP		22 41 51.9	-0.7
YKA	**Yellowknife Ar** comp=Z,1.1nm,0.8s,baz=305,slow=2.0,SNR=14	108.97	26	PKiKP		PKiKP		22 41 53.2	0.0
YKA				PKKPbc		PKKPbc		22 53 01.8	-2.1
	comp=Z,1.3nm,0.8s,baz=100,slow=2.8,SNR=18								
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.8s,baz=68,slow=1.9	109.42	333	PKPdf		PKiKP		22 41 53.9	-0.4
NOA	**NORSAR Array B** comp=Z,0.8nm,0.8s,baz=264,slow=3.1,SNR=3.7	109.42	333	PKiKP		PKiKP		22 41 54.4	+0.1
CLL	**Collm** comp=Z,3.0nm,0.8s	111.49	322	*e*PKiKP		PKiKP		22 41 58.0	-0.4
CLL	**Collm**	111.49	322	*e*PKiKP		PKiKP		22 41 58.0	-0.4
CLL	comp=Z,3.0nm,0.8s			pmax		pmax			
GERES	**GERESS Array B** comp=Z,1.3nm,0.6s,baz=11,slow=1.4,SNR=6.4	111.67	320	PKiKP		PKiKP		22 41 59.1	+0.2
KHC	**Kasperske Hory**	111.68	320	*c i*PKiKP		PKiKP		22 41 59.1	+0.2
KHC	comp=Z,3.0nm,0.7s			pmax		pmax			
PKM	**Mcpherson Peak** baz=277	112.24	55	P		PKiKP		22 42 00.5	-0.1
ABTA	**Abfaltersbach** comp=Z,2.0nm,0.6s	112.96	318	*i* PKiKP		PKiKP		22 42 01.0	-0.5
WTTA	**Wattenberg** comp=Z,6.1nm,0.5s	113.41	318	*i* PKiKP		PKiKP		22 42 02.3	-0.1
WATA	**Walderalm** comp=Z,1.9nm,0.5s	113.43	319	*i* PKiKP		PKiKP		22 42 02.1	-0.4
FMP	**Fort Macarthur** baz=277	113.63	57	P		PKiKP		22 42 02.7	-0.4
SQTA	**Sankt Quirin** comp=Z,2.7nm,0.5s	113.70	318	*i* PKP		PKiKP		22 42 02.7	-0.2
EDW2	**Edwards Air Fo** baz=278	113.73	55	P		PKiKP		22 42 04.0	+0.7
MOTA	**Moosalm** comp=Z,3.1nm,0.5s	113.74	319	*i* PKP		PKiKP		22 42 02.7	-0.3
RETA	**Reutte** comp=Z,0.7nm,0.5s	113.92	319	*i* PKP		PKiKP		22 42 03.6	+0.3
MPMC	**Manual Prospec** baz=278	113.97	54	P		PKiKP		22 42 04.3	+0.4

FETA	**Feichten**	**114.07**	**318**	*i* PKP	PKPdf	22 42 03.2	-0.5		
	comp=Z,3.0nm,0.8s								
DAVA	**Damuels**	**114.56**	**319**	*i* PKP	PKPdf	22 42 04.4	-0.2		
	comp=Z,4.7nm,0.5s								
DAVOX	**Davos/Dischmat**	**114.70**	**318**	PKP	PKPdf	22 42 04.9	0.0		
	comp=Z,1.3nm,0.6s,baz=151,slow=18,SNR=5.0								
HLID	**Hailey**	**114.85**	**45**	P	PKPdf	22 42 05.8	+0.4		
	baz=284								
SHOC	**Shoshone, Teco**	**114.97**	**54**	P	PKPdf	22 42 06.5	+0.9		
	baz=279								
HEC	**Hector,Ludlow**	**115.09**	**55**	P	**PKPdf**	**22 42 06.8**	**+0.9**		
	baz=279								
R11B	**Troy Canyon, C**	**115.09**	**51**	P	**PKPdf**	**22 42 06.2**	**+0.3**		
	baz=281								
PFO	**Pinyon Flats O**	**115.16**	**56**	P	**PKPdf**	**22 42 06.4**	**+0.2**		
	baz=278								
TPFO	**Pinon Flats**	**115.17**	**56**	P	**PKPdf**	**22 42 06.8**	**+0.7**		
	baz=278								
MONP2	**Monument Peak**	**115.29**	**57**	P	**PKiKP**	**22 42 06.4**	**-0.1**		
	baz=278								
BELC	**Belle Mtn. Jos**	**115.48**	**56**	P	**PKiKP**	**22 42 07.1**	**+0.3**		
	baz=278								
IKP	**In-Ko-Pah, Jac**	**115.58**	**57**	P	**PKiKP**	**22 42 07.8**	**+0.8**		
	baz=278								
GMRC	**Granite Mounta**	**115.64**	**55**	P	**PKiKP**	**22 42 07.4**	**+0.3**		
	baz=279								
BC3	**Big Chuckawall**	**115.98**	**56**	P	**PKPdf**	**22 42 07.4**	**-0.3**		
	baz=279								
IRM	**Iron Mountain**	**116.16**	**56**	P	**PKiKP**	**22 42 08.4**	**+0.5**		
	baz=279								
BOZ	**Bozeman (W)**	**116.22**	**43**	P	**PKiKP**	**22 42 08.4**	**+0.5**		
	baz=287								
EGMT	**Eagleton**	**116.68**	**40**	PKPdf	**PKiKP**	**22 42 09.3**	**+0.7**		
EGMT	**Eagleton**	**116.68**	**40**	P	**PKiKP**	**22 42 08.9**	**+0.3**		
	baz=290								
DUG	**Dugway, Tooele**	**116.81**	**49**	P	**PKiKP**	**22 42 09.7**	**+0.6**		
	baz=284								
LPL	**La Plagne**	**117.16**	**318**	*e*PKIKP	**PKPdf**	**22 42 09.7**	**-0.1**		
LPL				pmax	pmax				
	comp=Z,3.0nm,0.5s								
KEST	**Kesra**	**117.72**	**306**	PKP	**PKiKP**	**22 42 11.2**	**+0.2**		
	comp=Z,2.7nm,0.8s,baz=73,slow=1.7,SNR=4.1								
PDAR	**Pinedale Array**	**118.48**	**45**	PKPdf	**PKiKP**	**22 42 13.0**	**+0.5**		
PDAR	**Pinedale Array**	**118.48**	**45**	PKP	**PKiKP**	**22 42 12.8**	**+0.3**		
	comp=Z,1.7nm,0.7s,baz=239,slow=1.3,SNR=14								
SMF	**Signal de Mont**	**118.68**	**320**	*e*PKIKP	**PKPdf**	**22 42 11.8**	**-0.6**		
SMF				pmax	pmax				
	comp=Z,2.0nm,0.5s								
EKA	**Eskdalemuir Ar**	**118.75**	**331**	PKP	**PKiKP**	**22 42 12.3**	**0.0**		
	comp=Z,0.5nm,0.3s,baz=32,slow=4.2,SNR=8.3								
WUAZ	**Wupatki**	**118.96**	**54**	P	**PKPdf**	**22 42 13.1**	**-0.4**		
	baz=282								
TUC	**Tucson**	**120.08**	**57**	P	**PKPdf**	**22 42 15.5**	**-0.1**		
	baz=281								
O20A	**White River Ci**	**120.20**	**48**	P	**PKiKP**	**22 42 16.0**	**+0.1**		
	baz=287								
CAF	**Calviac**	**120.46**	**318**	*e*PKIKP	**PKiKP**	**22 42 16.3**	**+0.3**		
CAF				pmax	pmax				
	comp=Z,4.0nm,0.8s								
K22A	**Casper**	**120.64**	**44**	P	**PKiKP**	**22 42 17.2**	**+0.6**		
	baz=290								
MVCO	**Mesa Verde**	**120.82**	**51**	P	**PKiKP**	**22 42 17.4**	**+0.2**		
	baz=285								
N23A	**Red Feather La**	**121.63**	**46**	P	**PKiKP**	**22 42 19.3**	**+0.6**		
	baz=289								
RSSD	**Black Hills**	**121.80**	**42**	PKPdf	**PKiKP**	**22 42 19.0**	**+0.1**		
RSSD	**Black Hills**	**121.80**	**42**	P	**PKiKP**	**22 42 19.1**	**+0.1**		
	baz=293								
RSSD	**Black Hills**	**121.80**	**42**	PKIKP	**PKiKP**	**22 42 19.0**	**+0.1**		
ISCO	**Idaho Springs**	**122.23**	**47**	P	**PKiKP**	**22 42 20.2**	**+0.2**		
	baz=289								
121A	**Cookes Peak, D**	**122.52**	**56**	P	**PKiKP**	**22 42 21.6**	**+1.0**		
	baz=283								
Y22D	**IRIS PASSCAL I**	**122.86**	**54**	P	**PKiKP**	**22 42 21.6**	**+0.4**		
	baz=284								
SDCO	**Great Sand Dun**	**122.95**	**50**	P	**PKiKP**	**22 42 21.5**	**0.0**		
	baz=288								
ANMO	**Albuquerque**	**123.01**	**53**	PKPdf	**PKiKP**	**22 42 22.3**	**+0.8**		
ANMO	**Albuquerque**	**123.01**	**53**	P	**PKiKP**	**22 42 21.7**	**+0.1**		
	baz=285								
ANMO	**Albuquerque**	**123.01**	**53**	*c i*PKIKP	**PKiKP**	**22 42 22.4**	**+0.9**		
ANMO				pmax	pmax				
	comp=Z,8.0nm,1.1s								
T25A	**Trinidad**	**123.97**	**50**	P	**PKPdf**	**22 42 23.0**	**-0.1**		
	baz=288								
MNTX	**Cornudas Mount**	**124.69**	**57**	P	**PKPdf**	**22 42 24.8**	**+0.1**		
	baz=284								
MSTX	**Muleshoe**	**126.20**	**53**	P	**PKPdf**	**22 42 27.5**	**+0.1**		
	baz=287								
ESDC	**Sonseca Array**	**126.62**	**315**	PKPdf	**PKiKP**	**22 42 28.4**	**0.0**		
ESDC	**Sonseca Array**	**126.62**	**315**	PKP	**PKPdf**	**22 42 27.9**	**-0.1**		
	comp=Z,1.6nm,0.9s,baz=14,slow=3.7,SNR=8.6								
TXAR	**Lajitas Array**	**126.69**	**59**	PKP	**PKiKP**	**22 42 29.5**	**+0.7**		
	comp=Z,2.0nm,0.8s,baz=315,slow=0.3,SNR=5.2								
AMTX	**Amarillo**	**126.78**	**52**	P	**PKPdf**	**22 42 28.5**	**+0.1**		
	baz=289								
ECSD	**EROS Data Cent**	**126.79**	**40**	PKPdf	**PKiKP**	**22 42 28.4**	**-0.1**		
ECSD	**EROS Data Cent**	**126.79**	**40**	P	**PKPdf**	**22 42 27.8**	**-0.2**		
	baz=299								
CBKS	**Cedar Bluff**	**126.84**	**46**	P	**PKPdf**	**22 42 28.4**	**0.0**		
	baz=293								
BGNE	**Belgrade**	**126.87**	**43**	P	**PKiKP**	**22 42 29.0**	**+0.2**		
	baz=296								
TOAO	**Torodi Ar. Sit**	**127.19**	**281**	PKPdf	**PKPdf**	**22 42 29.8**	**+0.3**		
TORD	**Torodi Ar. Bea**	**127.19**	**281**	PKPdf	**PKiKP**	**22 42 29.9**	**-0.2**		
TORD	**Torodi Ar. Bea**	**127.19**	**281**	PKP	**PKPdf**	**22 42 29.7**	**+0.1**		
	comp=Z,4.8nm,0.7s,baz=47,slow=2.9,SNR=24								
EYMN	**Ely**	**127.49**	**33**	P	**PKiKP**	**22 42 30.1**	**+0.3**		
	baz=307								
F36A	**Milaca**	**127.56**	**36**	PKPdf	**PKiKP**	**22 42 30.6**	**+0.6**		
PLCA	**Paso Flores**	**128.98**	**162**	PKP	**PKiKP**	**22 42 33.8**	**+0.6**		
	comp=Z,3.2nm,0.8s,baz=354,slow=2.1,SNR=6.2								
WMOK	**Wichita Mounta**	**129.07**	**51**	P	**PKPdf**	**22 42 32.5**	**-0.2**		
	baz=291								
MDT	**Midelt**	**129.62**	**307**	PKP	**PKiKP**	**22 42 35.1**	**+0.5**		
	comp=Z,1.3nm,0.6s,baz=338,slow=5.4,SNR=2.7								
JCT	**Junction City**	**129.63**	**56**	P	**PKPdf**	**22 42 33.4**	**-0.4**		
	baz=287								
833A	**Chaparral WMA,**	**130.57**	**59**	P	**PKPdf**	**22 42 35.3**	**-0.3**		
	baz=286								
TUL3	**Leonard**	**130.88**	**48**	P	**PKPdf**	**22 42 35.7**	**-0.4**		
	baz=294								
WHTX	**Lake Whitney,**	**131.06**	**54**	P	**PKPdf**	**22 42 36.2**	**-0.3**		
	baz=290								
JFWS	**Jewell Farm**	**131.16**	**37**	P	**PKPdf**	**22 42 36.3**	**-0.1**		
	baz=305								
SCHQ	**Schefferville**	**131.28**	**12**	PKP	**PKiKP**	**22 42 37.1**	**-0.1**		
	comp=Z,1.9nm,0.7s,baz=0.0,slow=8.1,SNR=6.8								
435B	**Jarrell**	**131.36**	**55**	P	**PKPdf**	**22 42 36.8**	**-0.3**		
	baz=289								
L44A	**Lake County Fo**	**132.99**	**37**	P	**PKPdf**	**22 42 40.0**	**+0.2**		
	baz=307								
MIAR	**Mount Ida**	**133.10**	**49**	P	**PKPdf**	**22 42 40.7**	**+0.4**		
	baz=295								
CCM	**Cathedral Cave**	**133.14**	**43**	P	**PKPdf**	**22 42 40.1**	**-0.2**		
	baz=300								
CCM	**Cathedral Cave**	**133.14**	**43**	PKIKP	**PKiKP**	**22 42 41.9**	**+0.4**		
DBIC	**Dimbokro**	**133.46**	**272**	PKP	**PKiKP**	**22 42 42.6**	**-0.1**		
	comp=Z,5.6nm,0.7s,baz=87,slow=3.1,SNR=8.7								
BO02	**Sierra Bellavi**	**134.26**	**158**		**PKPdf**	**22 42 42.3**	**-0.3**		
BO01	**Tunca**	**134.50**	**157**		**PKiKP**	**22 42 43.9**	**-0.5**		
SFIN	**Lafayette**	**134.56**	**38**	P	**PKPdf**	**22 42 43.0**	**+0.2**		
	baz=306								
MT02	**Curacav**	**135.48**	**157**		**PKiKP**	**22 42 46.6**	**+0.2**		
O48B	**Farmland**	**135.81**	**37**	P	**PKPdf**	**22 42 45.1**	**-0.1**		
	baz=309								
WCI	**Wyandotte Cave**	**136.32**	**40**	P	**PKPdf**	**22 42 46.5**	**+0.3**		
	baz=306								
P49A	**Miami Univ. Ec**	**136.52**	**38**	P	**PKPdf**	**22 42 47.1**	**+0.6**		
	baz=308								
ERPA	**Erie**	**137.45**	**31**	P	**PKPdf**	**22 42 48.8**	**+0.6**		
	baz=316								
P52A	**Corning**	**137.99**	**36**	P	**PKPdf**	**22 42 48.9**	**-0.4**		
	baz=312								
LONY	**Lake Ozonia**	**138.03**	**24**	P	**PKPdf**	**22 42 49.5**	**+0.3**		
	baz=325								
O53A	**New Philadelph**	**138.10**	**34**	P	**PKPdf**	**22 42 50.0**	**+0.6**		
	baz=313								
LRAL	**Lakeview Retre**	**138.65**	**47**	P	**PKPdf**	**22 42 50.9**	**+0.3**		
	baz=300								
TZTN	**Tazewell**	**139.08**	**40**	P	**PKPdf**	**22 42 51.3**	**0.0**		
	baz=307								
MCWV	**Mont Chateau**	**139.27**	**34**	P	**PKPdf**	**22 42 51.8**	**+0.2**		
	baz=314								
BINY	**Binghamton**	**139.35**	**28**	P	**PKPdf**	**22 42 52.1**	**+0.4**		
	baz=322								
LBNH	**Lisbon**	**139.39**	**22**	P	**PKPdf**	**22 42 51.4**	**-0.3**		
	baz=328								
BRAL	**Brewton**	**139.51**	**50**	P	**PKPdf**	**22 42 52.9**	**+0.7**		
	baz=298								
SSPA	**Standing Stone**	**139.61**	**31**	P	**PKPdf**	**22 42 52.5**	**+0.3**		
	baz=318								
152A	**Waverly Hall**	**140.48**	**46**		**PKPdf**	**22 42 54.3**	**+0.3**		
BLA	**Blacksburg**	**140.60**	**37**	P	**PKPdf**	**22 42 53.5**	**-0.7**		
	baz=312								
GOGA	**Godfrey**	**140.96**	**44**	P	**PKPdf**	**22 42 54.3**	**-0.6**		
	baz=304								
HRV	**Adam Dziewonsk**	**141.00**	**23**	P	**PKPdf**	**22 42 55.0**	**+0.3**		
	baz=328								
PAL	**Palisades**	**141.25**	**27**	P	**PKPdf**	**22 42 54.7**	**-0.4**		
	baz=323								
KMSC	**Kings Mountain**	**141.36**	**40**	P	**PKPdf**	**22 42 55.8**	**+0.3**		
	baz=309								
TIGA	**Tifton**	**141.94**	**47**	P	**PKPdf**	**22 42 56.8**	**+0.2**		
	baz=302								
656A	**Willston**	**143.80**	**49**		PKPbc	22 42 58.6	+0.5		
DWPF	**Disney Wildern**	**145.27**	**50**	P	**PKPab**	**22 43 03.0**	**+0.1**		
	baz=301								
CPUP	**Villa Florida**	**145.94**	**171**	PKPdf	**PKPbc**	**22 43 04.7**	**0.0**		
CPUP	**Villa Florida**	**145.94**	**171**	PKPbc	**PKPbc**	**22 43 05.0**	**+0.2**		
	comp=Z,23nm,1.0s,baz=200,slow=2.2,SNR=43								
CPUP	**Villa Florida**	**145.94**	**171**	PKP2	**PKPbc**	**22 43 04.7**	**0.0**		
JTS	**Las Juntas de**	**147.10**	**83**	PKPab	**PKPbc**	**22 43 08.5**	**+0.1**		
JTS	**Las Juntas de**	**147.10**	**83**	PKP2	**PKPbc**	**22 43 08.5**	**+0.1**		
NNA	**Nana**	**148.43**	**128**	PKPab	**PKiKP**	**22 43 13.3**	**-0.2**		
NNA	**Nana**	**148.43**	**128**	*e i*PKP2	**PKiKP**	**22 43 13.1**	**-0.4**		
NNA				pmax	pmax				
	comp=Z,88nm,1.1s								
LPAZ	**La Paz**	**151.35**	**146**	PKPbc	**PKiKP**	**22 43 20.6**	**+0.4**		
	comp=Z,17nm,0.4s,baz=172,slow=2.0,SNR=91								
PTLB	**Pontes e Lacer**	**156.06**	**162**	PKPdf	**PKPdf**	**22 43 19.2**	**-0.2**		
PTLB				PKPab	**PKPab**	**22 43 47.9**	**+0.5**		
SAML	**Samuel**	**160.09**	**145**	PKPdf	**PKPdf**	**22 43 24.3**	**-0.1**		
SAML				PKPab	**PKPab**	**22 44 04.8**	**-0.2**		
SAML	**Samuel**	**160.09**	**145**	PKP2	**PKPab**	**22 44 04.8**	**-0.2**		

IDC 25 22:30:46.8±1.7, 7°69S×126°72E, h0km, mb3.7/2, mbtmp3.9/4, ML3.9/1, MS4.1/1, Error ellipse: s-maj=228.6km s-min=31.1km az=62.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrumunga Arr**	**14.25**	**150**	Pn	Pn	22 34 09.7	-0.4
	0.5nm,0.3s,baz=323,slow=14,SNR=1.3						
WRA				Sn	Sn	22 36 32.5	-16
	1.4nm,0.3s,baz=329,slow=26,SNR=5.2						
	3.0nm,0.5s						
ASAR	**Alice Springs**	**17.32**	**157**	P	Pn	22 34 50.6	+0.3
	3.4nm,0.8s,baz=334,slow=9.9,SNR=1.2						
ASAR				S	Sn	22 37 51.4	-12
	1.0nm,0.7s,baz=36,slow=8.0,SNR=1.9						
KRVT	**Keravat (AS076**	**25.39**	**84**	LR	LR	22 46 53.0	
	comp=Z,431nm,21.8s,baz=287,slow=38						
MKAR	**Makanchi Array**	**67.06**	**329**	P	P	22 41 42.4	+0.4
	0.2nm,0.4s,baz=118,slow=7.8,SNR=4.2						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**71.43**	**330**	P	P	22 42 08.7	-0.3
	0.5nm,0.4s,baz=132,slow=4.9,SNR=8.3						
	0.5nm,0.4s						

NEIC 25 22:34:30.6±1.9, 31°63N±0°01×104°00W±0°03, h5km±2km, mb_Lg2.6/29, ML2.7/22, Error ellipse: s-maj=5.5km s-min=2.9km az=246.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PECS	**Pecos**	**0.28**	**156**	Pg	Pb	22 34 37.4	-0.9
PECS				Sg	Sg	22 34 41.3	+1.4
PECS				IAML		22 34 43.3	
	1µm,0.4s						
PECS				IAML		22 34 43.9	
	937nm,0.4s						
CLNB	**Carlsbad**	**0.64**	**9**	Pg	Pg	22 34 43.2	+0.3
GDL2	**Guadalupe Moun**	**0.65**	**331**	Pg	Pb	22 34 43.9	-0.6
CLN7	**Carlsbad 7**	**0.80**	**12**	Pg	Pg	22 34 45.9	0.0
HTMS	**Hat Mesa**	**0.89**	**20**	Pg	Pb	22 34 48.3	-0.4
MNHN	**Monahans**	**1.10**	**105**		Pg	22 34 51.4	-0.3
MNHN				IAML		22 35 12.0	
	140nm,0.2s						
MNTX	**Cornudas Mount**	**1.18**	**274**		Pg	22 34 53.3	+0.1
VHRN	**Van Horn**	**1.19**	**225**	Pg	Pg	22 34 53.5	0.0
VHRN				IAML		22 35 14.4	
	130nm,0.3s						
VHRN				IAML		22 35 14.8	
	133nm,0.3s						
ALPN	**Alpine**	**1.29**	**166**		Pg	22 34 55.0	-0.4
ALPN				IAML		22 35 12.9	
	274nm,0.3s						
ALPN				IAML		22 35 17.0	
	226nm,0.3s						
ODSA	**Odessa**	**1.33**	**68**		Pn	22 34 55.7	-0.2
ODSA					Sg	22 35 12.1	-1.1
CPRX	**Cap Rock**	**1.40**	**5**		Pb	22 34 57.1	-0.2
TX31	**Lajitas Ar. Si**	**2.31**	**173**		Pb	22 35 11.5	-1.3
TXAR	**Lajitas Array**	**2.31**	**173**		Pb	22 35 11.4	-1.3
SAND	**Sanderson**	**2.33**	**136**	Pn	Pn	22 35 09.9	+0.4
SAND				IAmb_Lg		22 35 45.2	
	comp=Z,21nm,0.7s						
SGCY	**Sterling City**	**2.46**	**83**	Pn	Pn	22 35 11.8	+0.4
SGCY				IAmb_Lg		22 35 52.2	
	comp=Z,25nm,0.8s						
MSTX	**Muleshoe**	**2.55**	**24**		Pn	22 35 13.6	+0.9
MSTX				IAmb_Lg		22 35 53.1	
	comp=Z,30nm,0.9s						
POST	**Post**	**2.55**	**55**		Pn	22 35 12.6	-0.1
OZNA	**Ozona**	**2.56**	**105**	Pn	Pn	22 35 12.0	-0.8
OZNA				IAmb_Lg		22 35 57.6	
	comp=Z,19nm,1.1s						
SN05	**Snyder 5**	**2.92**	**64**		Pn	22 35 16.8	-0.9
SN07	**Snyder 07**	**3.01**	**60**	IAmb_Lg		22 36 12.7	
	comp=Z,19nm,0.9s						
DKNS	**Dickens**	**3.29**	**51**	Pn	Pn	22 35 22.5	-0.4
DKNS				IAmb_Lg		22 36 18.4	
	comp=Z,22nm,0.8s						
121A	**Cookes Peak, D**	**3.34**	**287**	IAmb_Lg		22 36 24.5	
	comp=Z,12nm,0.9s						
DRIO	**Del Rio**	**3.66**	**126**	Pn	Pn	22 35 26.0	-1.8
APMT	**Aspermont**	**3.69**	**62**	IAmb_Lg		22 36 34.2	
	comp=Z,14nm,0.8s						
AMTX	**Amarillo**	**3.78**	**30**		Pn	22 35 30.6	+1.0
JCT	**Junction City**	**3.78**	**107**	IAmb_Lg		22 36 38.3	
	comp=Z,13nm,0.9s						
ABTX	**Abilene, Hawle**	**3.83**	**74**	Pn	Pn	22 35 31.2	+1.1
ABTX				IAML		22 36 37.0	
	comp=N,40nm,0.5s						
ANMO	**Albuquerque**	**3.89**	**329**		Pn	22 35 32.2	+1.0
ANMO				IAML		22 36 35.5	
	comp=N,9.5nm,0.7s						
ANMO				IAML		22 36 36.5	
	comp=N,12nm,0.8s						
ANMO				IAmb_Lg		22 36 43.4	
	comp=Z,10nm,0.9s						
BRDY	**Brady**	**4.29**	**93**	IAmb_Lg		22 36 58.1	
	comp=Z,11nm,0.8s						
319A	**Douglas**	**4.52**	**268**	Pn	Pn	22 35 41.4	+1.6
HNDO	**Hondo**	**4.58**	**116**	IAmb_Lg		22 37 02.8	
	comp=Z,16nm,1.0s						
RTBA	**Rita Blanca**	**4.91**	**12**		Pn	22 35 44.1	-1.0
PLPT	**Palo Pinto**	**4.96**	**75**	Pn	Pn	22 35 45.9	+0.2
FW14	**Alvarado**	**5.83**	**81**	IAmb_Lg		22 37 37.1	
	comp=Z,12nm,0.7s						

IDC 25 22:42:18.5±9.1, 6°62S×129°96E, h148km±93km, mb3.5/2, mbtmp3.9/5, Error ellipse: s-maj=79.8km s-min=28.0km az=38.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**7.18**	**240**	P	Pn	22 44 01.3	+0.2
	11nm,0.3s,baz=310,slow=13,SNR=1.5						
BATI				S	Sn	22 45 22.1	+0.6
	19nm,0.4s,baz=32,slow=19,SNR=2.6						
WRA	**Warrumunga Arr**	**13.91**	**163**	P	Pn	22 45 28.2	-1.3
	0.8nm,0.4s,baz=344,slow=12,SNR=17						
WRA				S	Sn	22 47 56.2	-7.5
	1.0nm,0.3s,baz=353,slow=24,SNR=5.6						
ASAR	**Alice Springs**	**17.37**	**168**	P	Pn	22 46 12.1	0.0
	0.8nm,0.5s,baz=341,slow=9.3,SNR=18						
ASAR				S	S	22 49 19.0	-5.6
	0.3nm,0.4s,baz=347,slow=39,SNR=2.3						
MKAR	**Makanchi Array**	**67.89**	**327**	P	P	22 53 01.3	+0.3
	1.1nm,0.5s,baz=122,slow=8.1,SNR=16						
	1.1nm,0.5s						
KURBB	**Kurchatov Arra**	**72.17**	**328**	P	P	22 53 26.5	-0.5
	0.2nm,0.2s,baz=121,slow=4.7,SNR=4.7						
	0.2nm,0.2s						

NEIC ***25*** *22:43:25.8±0.8, 51°1N±0°1×5°57E±0°09, h10km±2km, ML2.9/14, Error ellipse: s-maj=21.5km s-min=8.9km az=352.0*

LDG ***25*** *22:43:26.5±0.1, 51°18N×5°70E, h15km, Md3.6/2, Ml3.6/47, Error ellipse: s-maj=1.9km s-min=1.2km az=161.0*

BGS ***25*** *22:43:26.8±1.3, 51°18N×5°69E, h15km, ML3.4, ML3.4*

BGR ***25*** *22:43:26.9±0.3, 51°19N×5°76E, h10km, ML3.1/8, Error ellipse: s-maj=3.3km s-min=2.2km az=108.0*

BUG ***25*** *22:43:26.7±0.5, 51°18N×5°76E, h8km±2km, MD3.8/18, ML3.7/19*

DNK ***25*** *22:43:27.6±2.1, 51°48N×5°99E, h0km±68km, ML2.3*

UCC ***25*** *22:43:27.1±0.7, 51°18N×5°69E, h17km, ML3.1*

BNS ***25*** *22:43:27.6±0.7, 51°18N×5°75E, h12km±3km, ML3.3*

STR ***25*** *22:43:28.8±0.7, 51°N±6°×°±°, h15km, MLv3.5/23, Error ellipse: s-maj=0.0km s-min=0.0km az=25.2, preliminary*

PRU ***25*** *22:43:31.5, 51°05N×6°16E, h10km*

ISC 25 22:43:25.1±0.9, 51°17N±0°02×5°64E±0°01, h19km±2km, n239, σ2§13/374, 19C-59D, The Netherlands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOPT	**Opiter**	**0.06**	**185**	*bP*	**Pg**	**22 43 30.0**	**+1.5**
BOPT				*dS*	**Sg**	**22 43 32.2**	**+1.4**
	comp=N,3µm,0.1s						
BA13	**Heinsberg**	**0.29**	**110**	‖*ePg*	**Pb**	**22 43 32.9**	**+1.3**
RWB	**Wassenberg**	**0.33**	**102**	Pg	**Pb**	**22 43 33.4**	**+0.9**
RWB				Sg	**Sg**	**22 43 37.8**	**+0.9**
RODG	**Roetgen-Dahlhe**	**0.34**	**94**	↑*ePg*	**Pg**	**22 43 33.2**	**+0.9**
RODG				*eSg*	**Sg**	**22 43 37.8**	**+0.6**
	comp=N,4µm,0.7s						
BMOL	**Mol**	**0.35**	**277**	*bP*	**Pb**	**22 43 34.7**	**+1.8**
BMOL				*dS*	**Sb**	**22 43 40.2**	**+2.1**
	comp=E,717nm,0.1s						
BEBN	**Eben Emael**	**0.38**	**177**	κP	**Pb**	**22 43 34.8**	**+1.5**
BEBN				*dS*	**Sb**	**22 43 40.1**	**+1.4**
	comp=N,2µm,0.2s						
OPLO	**Oploo**	**0.43**	**14**	*ePg*	**Pg**	**22 43 34.8**	**+0.8**
OPLO				*eSg*	**Sb**	**22 43 41.1**	**+0.8**
BA12	**Beaesweiler**	**0.43**	**127**	‖*ePg*	**Pb**	**22 43 35.1**	**+1.0**
HGN	**Heimansgroeve**	**0.45**	**156**	Pg	**Pb**	**22 43 35.6**	**+1.2**
HGN				Sg	**Sb**	**22 43 41.9**	**+1.2**
BA01	**Aachen**	**0.47**	**146**	‖*ePg*	**Pb**	**22 43 36.1**	**+1.2**
BD14	**Kuckum**	**0.48**	**101**	↑*ePg*	**Pb**	**22 43 36.0**	**+1.0**
BD09	**Hochneukirch**	**0.52**	**98**	↑*ePg*	**Pb**	**22 43 36.6**	**+1.0**
BLCH	**La Chartreuse**	**0.53**	**183**	κP	**Pg**	**22 43 37.4**	**+1.6**
BLCH				*dS*	**Sg**	**22 43 44.5**	**+1.6**
	comp=N,942nm,0.3s						
JUE	**Julich**	**0.55**	**118**	‖*ePg*	**Pg**	**22 43 37.1**	**+1.0**
BD05	**Hambach**	**0.58**	**114**	↑*ePg*	**Pg**	**22 43 37.8**	**+1.1**
BSTI	**Sart Tilman**	**0.59**	**185**	*dP*	**Pg**	**22 43 38.8**	**+1.9**
MEM	**Membach**	**0.61**	**158**	κP	**Pg**	**22 43 38.5**	**+1.4**
MEM				*dS*	**Sg**	**22 43 46.6**	**+1.3**
	comp=N,380nm,0.3s						
MEM	**Membach**	**0.61**	**158**	*ePg*	**Pg**	**22 43 38.7**	**+1.5**
MEM				*eSg*	**Sg**	**22 43 46.6**	**+1.3**
DREG	**Dreilaegerbach**	**0.63**	**144**	‖*ePg*	**Pg**	**22 43 38.7**	**+1.1**
DREG				*eSg*	**Sb**	**22 43 47.1**	**+1.3**
	comp=N,562nm,0.0s						
GSH	**Grosshau**	**0.64**	**133**	Pg	**Pg**	**22 43 38.8**	**+1.0**
GSH				Sg	**Sg**	**22 43 47.5**	**+1.3**
	comp=N,574nm,0.1s						
BD01	**Bergheim Laure**	**0.66**	**108**	*ePg*	**Pg**	**22 43 39.6**	**+1.5**
BTNL	**Ternell**	**0.66**	**152**	κP	**Pg**	**22 43 39.4**	**+1.3**
BTNL				*dS*	**Sg**	**22 43 48.2**	**+1.2**
KLL	**Kalltalsperre**	**0.67**	**141**	*ePg*	**Pg**	**22 43 39.7**	**+1.3**
BA11	**Duren**	**0.68**	**126**	↑*ePg*	**Pg**	**22 43 39.6**	**+1.1**

BHE				Pg		Pb	22 43 50.1	+1.6
BHE				*e*Sg		Sn	22 44 04.9	+0.4
	comp=N,335nm,0.1s							
LVIA	**Vianden**	**1.29**	**164**	κP		Pb	22 43 50.0	+1.3
LVIA				*d*S		Sg	22 44 07.5	+0.7
	comp=N,296nm,0.1s							
BBOU	**Bougnies**	**1.33**	**235**	*b*P		Pb	22 43 51.2	+1.7
OCHT	**Ochtendung**	**1.37**	**127**	Pn		Pn	22 43 50.1	+0.9
OCHT				Sg		Sb	22 44 08.6	+1.4
HMES	**Hamm, Michael-**	**1.39**	**69**	*e*Pg		Pn	22 43 50.8	+1.3
HMES				*e*Sg		Sb	22 44 09.0	+1.2
FSH	**Hochheid**	**1.44**	**139**	Pn		Pn	22 43 51.4	+1.2
BAIF	**Baives**	**1.44**	**220**	*e*Pg		Pg	22 43 53.7	+0.8
BAIF				*e*Sg		Sg	22 44 12.7	+1.1
	comp=N,575nm,0.2s							
BGG	**Burgeitz**	**1.45**	**131**	*e*Pn		Pn	22 43 51.1	+0.8
BIW	**Bindweide**	**1.46**	**107**	Pn		Pn	22 43 51.4	+1.0
SORT	**Sorpetalsperre**	**1.47**	**82**	*e*Pn		Pn	22 43 51.6	+1.0
SORT				*e*Sg		Sn	22 44 08.8	-0.6
	comp=N,268nm,0.3s							
KOE	**Koeppel**	**1.52**	**119**	*e*Pn		Pn	22 43 51.9	+0.6
WLF	**Walferdange**	**1.54**	**168**	Pn		Pn	22 43 53.0	+1.4
WLF				IAML			22 44 16.4	
	comp=E,159nm,0.8s							
WLF				IAML			22 44 18.6	
	comp=N,117nm,0.7s							
WLF	**Walferdange**	**1.54**	**168**	κP		Pn	22 43 53.4	+1.8
WLF				*d*S		Sb	22 44 14.6	+2.4
WLF	**Walferdange**	**1.54**	**168**	*e*Pn		Pb	22 43 53.6	+0.5
WLF				*e*Pg		Pg	22 43 57.1	+2.3
WLF				*e*Sg		Sg	22 44 15.2	+0.3
WLF	**Walferdange**	**1.54**	**168**	P		Pn	22 43 53.3	+1.8
RIVT	**Riveris**	**1.63**	**154**	*e*Pn		Pn	22 43 54.5	+1.7
RIVT				*e*Pg		Pg	22 43 58.3	+1.8
FACH	**Fachingen**	**1.70**	**118**	Pn		Pn	22 43 54.7	+1.0
IBBS	**Ibbenbueren So**	**1.72**	**49**	*e*Pg		Pb	22 43 57.0	+0.9
IBBN	**Ibbenbueren**	**1.74**	**48**	*e*Pg		Pb	22 43 57.2	+0.8
KASTN	**Kahler Asten**	**1.75**	**88**	*e*Pg		Pb	22 43 56.9	+0.4
KASTN				*e*Sg		Sb	22 44 18.9	+0.8
IBBE	**Ibbenbueren Ea**	**1.75**	**49**	*e*Pg		Pb	22 43 57.7	+1.1
ABH	**Alteburg**	**1.77**	**136**	*e*Pn		Pn	22 43 56.1	+1.3
ABH				*e*Pg		Pg	22 44 00.0	+0.8
ABH				Sg		Sb	22 44 21.2	+2.3
ABH	**Alteburg**	**1.77**	**136**	P		Pn	22 43 55.8	+1.0
ABH	**Alteburg**	**1.77**	**136**	S		Sb	22 44 21.5	+2.6
GWBD	**Espenschied/He**	**1.79**	**125**	Pn		Pn	22 43 56.7	+1.8
TNS	**Taunus Mts**	**2.02**	**117**	*e*Pn		Pn	22 43 59.8	+1.6
TNS				*e*Pg		Pb	22 44 03.5	+2.2
TNS				*e*Sg		Sb	22 44 28.6	+2.6
BODE	**Bodenheim**	**2.11**	**126**	*e*Pn		Pn	22 44 00.9	+1.5
BODE				*e*Pg		Pb	22 44 05.0	+2.2
BODE				*e*Sg		Sb	22 44 31.7	+3.2
IMS	**Imsbach**	**2.14**	**137**	Pn		Pn	22 44 00.8	+1.0
IMS				Pg		Pb	22 44 05.7	+2.5
PEB	**Petersbachel**	**2.49**	**147**	Pn		Pn	22 44 05.6	+1.0
SAVF	**Savonnieres en** baz=8.2	**2.58**	**188**	*e*Pn		Pn	22 44 06.1	+0.2
SAVF	**Savonnieres en** baz=8.2	**2.58**	**188**	*e*Pg		Pg	22 44 14.4	-0.2
SAVF				*e*Sn		Sn	22 44 35.0	-1.7
SAVF				*e*Sg		Sg	22 44 47.4	-0.6
	comp=N,85nm,0.3s							
CIEL	**Dossenheim-sur**	**2.59**	**154**	P		Pn	22 44 07.5	+1.5
ROTT	**Steinweiler**	**2.60**	**141**	*e*Pn		Pn	22 44 08.9	+2.7
ROTT				*e*Pg		Pg	22 44 15.7	+0.7
PAGF	**Fort de Pagny**	**2.62**	**179**	*e*Pn		Pn	22 44 08.5	+2.1
PAGF	**Fort de Pagny**	**2.62**	**179**	*e*Pg		Pg	22 44 15.1	-0.2
PAGF				*e*Sg		Sg	22 44 48.3	-1.0
	comp=N,44nm,0.2s							
MILB	**Miltenberg**	**2.69**	**119**	*e*Pn		Pn	22 44 09.3	+2.0
MILB				*e*Pg		Pg	22 44 16.1	-0.5
MEZF	**Maizieres J'vi** baz=8.5	**2.70**	**188**	*e*Pn		Pn	22 44 08.8	+1.3
MEZF	**Maizieres J'vi** baz=9.0	**2.70**	**188**	*e*Pg		Pg	22 44 16.9	+0.1
MEZF				*e*Sg		Sg	22 44 51.1	-0.7
	comp=N,56nm,0.2s							
RETH	**Rethem/Aller,**	**2.78**	**54**	*e*Pn		Pn	22 44 09.0	+0.4
RETH				*e*Pg		Pg	22 44 17.6	-0.8
ELSH	**Elham, Standar**	**2.84**	**271**	*e*P		Pn	22 44 11.9	+2.5
ELSH				IAML			22 44 57.7	
	comp=N,93nm,0.5s							
ELSH				IAML			22 45 02.1	
	comp=E,85nm,0.2s							
ELSH	**Elham, Standar**	**2.84**	**271**	P		Pn	22 44 11.7	+2.3
XAFF	**Xaffevillers**	**2.84**	**167**	P		Pn	22 44 10.9	+1.5
BABA	**Baden-Baden-Ne**	**2.96**	**145**	P		Pn	22 44 12.6	+1.6
CDF	**Champ du Feu**	**2.96**	**158**	*e*Pn		Pn	22 44 12.5	+1.4
CDF	**Champ du Feu**	**2.96**	**158**	*e*Pg		Pg	22 44 21.2	-0.6
CDF				*e*Sn		Sn	22 44 43.8	-2.4
CDF				*e*Sg		Sg	22 44 58.4	-1.7
	comp=E,35nm,0.3s							
WLS	**Welschbruch**	**2.98**	**157**	P		Pn	22 44 12.7	+1.3
SFTF	**Sexfontaines**	**3.00**	**188**	*e*Pn		Pn	22 44 12.6	+1.0
SFTF	**Sexfontaines**	**3.00**	**188**	*e*Pg		Pg	22 44 22.2	-0.3
SFTF				*e*Sn		Sn	22 44 45.1	-1.9
SFTF				*e*Sg		Sg	22 45 00.3	-1.0
	comp=E,110nm,0.3s							
ELMS	**Elmsett, Ipswi**	**3.04**	**289**	*e*P		Pn	22 44 14.3	+2.1
ELMS				IAML			22 45 07.2	
	comp=N,164nm,0.3s							
ELMS				IAML			22 45 10.6	
	comp=E,178nm,0.4s							
NRDL	**Niedersach Rie**	**3.07**	**63**	*e*Pg		Pg	22 44 23.9	0.0
ECH	**Echery**	**3.12**	**161**	Pn		Pn	22 44 14.5	+1.2
ECH				IAML			22 45 08.9	
	comp=E,22nm,0.8s							
ECH	**Echery**	**3.12**	**161**	*e*Pg		Pg	22 44 24.5	-0.3
ECH	**Echery**	**3.12**	**161**	P		Pn	22 44 14.5	+1.2
HAU	**Haudompre**	**3.20**	**172**	*e*Pn		Pn	22 44 16.2	+1.8
HAU	**Haudompre**	**3.20**	**172**	*e*Pg		Pg	22 44 25.9	-0.5
HAU				*e*Sn		Sn	22 44 49.6	-2.5
HAU				*e*Sg		Sg	22 45 06.1	-1.8
	comp=E,87nm,0.3s							
BFO	**Black Forest**	**3.33**	**147**	Pn		Pn	22 44 17.2	+0.9
BFO				IAML			22 45 20.4	
	comp=N,15nm,0.6s							
BFO	**Black Forest**	**3.33**	**147**	*e*Pn		Pn	22 44 18.0	+1.8
BFO				*e*Pg		Pg	22 44 30.2	+1.3
HMNX	**Herstmonceux**	**3.37**	**267**	*e*P		Pn	22 44 18.8	+2.2
HMNX				IAML			22 45 20.7	
	comp=E,129nm,0.4s							
HMNX				IAML			22 45 25.3	
	comp=N,134nm,0.8s							
HINF	**Hinteralfeld**	**3.45**	**166**	*e*Pn		Pn	22 44 19.5	+1.6
HINF	**Hinteralfeld**	**3.45**	**166**	*e*Pg		Pg	22 44 31.2	+0.1
HINF				*e*Sn		Sn	22 44 55.6	-2.6
HINF				*e*Sg		Sg	22 45 14.3	-1.5
	comp=N,31nm,0.3s							
A100A	**Rottenburg, We**	**3.45**	**141**	Pn		Pn	22 44 19.6	+1.7
MOF	**Molkenrain**	**3.46**	**163**	P		Pn	22 44 19.9	+1.8
RONF	**Ronchamp**	**3.53**	**169**	P		Pn	22 44 20.8	+2.0
A106B	**Goeppingen, Ma**	**3.58**	**131**	Pn		Pn	22 44 21.5	+2.0
A101B	**Rottweil, Deis**	**3.59**	**147**	Pn		Pn	22 44 21.6	+1.7
A109A	**Bad Urach, See**	**3.68**	**136**	Pn		Pn	22 44 22.9	+1.8
A102A	**Sigmaringen, J**	**3.81**	**141**	Pn		Pn	22 44 24.7	+1.9
GUT	**Gutenstein**	**3.84**	**143**	P		Pn	22 44 24.9	+1.7
CLF	**Chambon-Foret**	**3.84**	**216**	Pn		Pn	22 44 24.1	+0.9
GRFO	**Grafenberg**	**3.86**	**110**	Pn		Pn	22 44 24.0	+0.5
GRFO				IAML			22 45 35.5	
	comp=N,39nm,0.9s							
GRFO				IAML			22 45 40.4	
	comp=N,19nm,1.4s							
SLE	**Schleitheim**	**3.88**	**150**	P		Pn	22 44 25.4	+1.6
BOURR	**Bourrignon**	**3.92**	**164**	P		Pn	22 44 26.3	+2.0
SULZ	**Cheisacher**	**3.99**	**155**	P		Pn	22 44 27.1	+1.8
BALST	**Balsthal**	**4.07**	**160**	P		Pn	22 44 28.1	+1.7
LOR	**Lormes** baz=17	**4.08**	**197**	*e*Pn		Pn	22 44 27.6	+1.1
LOR	**Lormes** baz=17	**4.08**	**197**	*e*Pg		Pg	22 44 42.3	-0.9
LOR				*e*Sn		Sn	22 45 11.3	-2.4
LOR				*e*Sg		Sg	22 45 34.3	-1.7
	comp=N,42nm,0.3s,baz=16							
LOR	**Lormes**	**4.08**	**197**	P		Pn	22 44 28.0	+1.5
SSF	**Saint Saulge**	**4.35**	**200**	*e*Pn		Pn	22 44 31.5	+1.4
SSF				*e*Sn		Sn	22 45 17.7	-2.6
SSF				*e*Sg		Sg	22 45 42.8	-1.7
	comp=N,65nm,0.4s							
HYF	**Humbligny**	**4.37**	**208**	*e*Pn		Pn	22 44 32.5	+2.0
HYF	**Humbligny**	**4.37**	**208**	*e*Pg		Pg	22 44 47.7	-1.1
HYF				*e*Sn		Sn	22 45 18.7	-2.3
HYF				*e*Sg		Sg	22 45 44.0	-1.4
RIVEL	**MONT RIVEL**	**4.42**	**178**	P		Pn	22 44 33.0	+1.8
NKC	**Novy Kostel**	**4.43**	**100**	*e*SG		Sb	22 45 40.5	+5.3
	comp=N,23nm,0.6s							
TORNY	**Torny/Romont**	**4.49**	**168**	P		Pn	22 44 34.3	+2.2
LDF	**La Druitiere**	**4.53**	**238**	*e*Pn		Pn	22 44 34.1	+1.4
LDF				*e*Sn		Sn	22 45 22.8	-2.1
LDF				*e*Sg		Sg	22 45 49.6	-0.9
	comp=N,20nm,0.4s							
UBR	**Ueberruh**	**4.55**	**138**	Pn		Pn	22 44 35.6	+2.6
CABF	**La Chapelle**	**4.57**	**176**	*e*Pn		Pn	22 44 35.0	+1.7
CABF	**La Chapelle**	**4.57**	**176**	*e*Pg		Pg	22 44 51.7	-0.9
CABF				*e*Sn		Sn	22 45 22.5	-3.5
CABF				*e*Sg		Sg	22 45 49.4	-2.4
	comp=N,24nm,0.5s							
CLL	**Collm**	**4.63**	**85**	*e*Pg		Pg	22 44 54.0	+0.4
CLL				*e*Sn		Sn	22 45 17.0	-10
CLL				*e*Sg		Sb	22 45 46.0	+5.1
	comp=Z,22nm,0.6s							
CLL				AMS		AMS	22 54 00.0	
	comp=Z,100nm,20.4s							
FLN	**La Foliniere** baz=56	**4.63**	**241**	*e*Pn		Pn	22 44 36.0	+2.0
FLN				*e*Sn		Sn	22 45 25.9	-1.3
FLN				*e*Sg		Sg	22 45 52.6	-1.0
	comp=Z,25nm,0.3s							
AVF	**Avril sur Loir**	**4.64**	**200**	*e*Pn		Pn	22 44 35.0	+0.9
AVF				*e*Sn		Sn	22 45 25.3	-2.1
AVF				*e*Sg		Sg	22 45 51.7	-2.1
	comp=Z,19nm,0.4s							
GIMEL	**St. Georges /**	**4.66**	**175**	P		Pn	22 44 36.3	+1.8
SWN1	**Swindon**	**4.68**	**277**	*e*P		Pn	22 44 37.4	+2.7
SWN1				IAML			22 46 07.9	
	comp=N,43nm,0.5s							
SWN1				IAML			22 46 10.2	
	comp=E,31nm,0.6s							
SWN1	**Swindon**	**4.68**	**277**	P		Pn	22 44 37.1	+2.4
SMF	**Signal de Mont**	**4.68**	**195**	*e*Pn		Pn	22 44 35.8	+1.0
SMF	**Signal de Mont**	**4.68**	**195**	*e*Pg		Pg	22 44 53.4	-1.3
SMF				*e*Sn		Sn	22 45 25.7	-2.9
SMF				*e*Sg		Sg	22 45 53.1	-2.2
	comp=E,42nm,0.3s							
DAVA	**Damuels**	**4.78**	**143**	*i* Pn		Pn	22 44 38.3	+2.1
	comp=E,1.3nm,0.1s							
DAVA				*i* Sn		Sn	22 45 31.0	-0.1
	comp=E,1.6nm,0.2s							
SSRD	**Sdr. Stenderup**	**4.93**	**27**	*i* S		Sn	22 45 30.0	-4.6
SSRD				IAML			22 45 49.7	
	comp=Z,2.1nm,0.4s							
SENIN	**Lac Senin/Sane**	**4.94**	**167**	Pn		Pn	22 44 40.1	+1.7
SENIN				IAML			22 46 21.6	
	comp=E,23nm,0.6s							
BGF	**Bois d'Agland**	**4.97**	**203**	*e*Pn		Pn	22 44 39.9	+1.2
BGF	**Bois d'Agland**	**4.97**	**203**	*e*Pg		Pg	22 44 58.7	-1.5
BGF				*e*Sn		Sn	22 45 32.7	-3.0
BGF				*e*Sg		Sg	22 46 02.5	-2.1
	comp=E,68nm,0.4s							
RETA	**Reutte**	**4.98**	**136**	*i* Pn		Pn	22 44 41.2	+2.3
	comp=E,0.6nm,0.2s							
LBWR	**Ladybower, Pea**	**5.04**	**299**	*e*P		Pn	22 44 40.9	+1.2
GRR	**Gorron**	**5.05**	**239**	*e*Pn		Pn	22 44 40.9	+1.1
GRR	**Gorron**	**5.05**	**239**	*e*Pg		Pg	22 45 01.1	-0.6
GRR				*e*Sn		Sn	22 45 35.1	-2.5
	comp=E,32nm,0.2s							
GRR				*e*Sg		Sg	22 46 05.8	-1.3
GDLE	**Glaisdale, N Y**	**5.09**	**312**	*e*P		Pn	22 44 42.1	+1.8
GDLE				IAML			22 46 21.9	
	comp=N,9.9nm,0.4s							
GDLE				IAML			22 46 28.9	
	comp=E,42nm,0.5s							
OG35	**Corcelles**	**5.13**	**181**	P		Pn	22 44 42.1	+1.2
MOTA	**Moosalm**	**5.24**	**135**	*i* Pn		Pn	22 44 45.1	+2.6
	comp=E,0.7nm,0.2s							
MOTA				*i* Sn		Sn	22 45 43.8	+1.3
	comp=E,1.6nm,0.2s							
BRG	**Berggiesshubel**	**5.25**	**90**	Pn		Pn	22 44 49.6	+7.2
BRG				r			22 45 08.7	
BRG	**Berggiesshubel**	**5.25**	**90**	Sg		Sb	22 46 05.2	+6.4
BRG				Amp			22 46 17.1	
	comp=Z,14nm,0.9s							
BRG				Amp			22 54 31.0	
	comp=Z,0.1nm,15.0s							
TUE	**Stuetta**	**5.30**	**151**	Pn		Pn	22 44 45.2	+1.8
TUE				IAML			22 45 37.2	
	comp=E,3.8nm,2.7s							
MONM	**Monmouth**	**5.32**	**281**	*e*P		Pn	22 44 45.3	+1.9
MONM				IAML			22 46 30.0	
	comp=E,14nm,0.8s							
MONM				IAML			22 46 32.5	
	comp=N,13nm,0.3s							
FETA	**Feichten**	**5.33**	**139**	*i* Pn		Pn	22 44 46.5	+2.7
	comp=N,0.7nm,0.2s							
TCF	**Toulx Ste Croi**	**5.39**	**206**	*e*Pn		Pn	22 44 45.8	+1.3
TCF				*e*Sn		Sn	22 45 42.7	-3.3
TCF				*e*Sg		Sg	22 46 15.9	-2.0
	comp=N,15nm,0.3s							
MCH1	**Michaelchurch**	**5.45**	**282**	*e*P		Pn	22 44 46.8	+1.5
MCH1				IAML			22 45 48.6	
	comp=E,18nm,0.2s							
MCH1				IAML			22 45 50.1	
	comp=N,12nm,0.2s							
HLM1	**Long Mynd**	**5.45**	**288**	*e*P		Pn	22 44 46.8	+1.5
HLM1				IAML			22 45 48.4	
	comp=N,22nm,0.2s							
HLM1				IAML			22 46 23.0	
	comp=E,13nm,0.5s							
WATA	**Walderalm**	**5.46**	**132**	*i* Pn		Pn	22 44 48.1	+2.6
	comp=E,0.9nm,0.3s							
WATA				*i* Sn		Sn	22 45 50.3	+2.4
	comp=E,1.1nm,0.2s							
FUORN	**Ofenpass-Fuorn**	**5.48**	**144**	Pn		Pn	22 44 48.0	+2.0
KHC	**Kasperske Hory**	**5.49**	**109**	Pn		Pn	22 44 48.0	+2.0
KHC	**Kasperske Hory**	**5.49**	**109**	*e*PN		Pn	22 44 48.4	+2.5
KHC				*e*SG		Sg	22 46 14.7	-6.6
	comp=E,6.1nm,0.6s							
WTTA	**Wattenberg**	**5.54**	**133**	*i* Pn		Pn	22 44 49.4	+2.7
	comp=E,0.8nm,0.2s							
WTTA				*i* Sn		Sn	22 45 49.6	-0.3
	comp=E,2.0nm,0.4s							
GEC2	**GERESS Array S**	**5.69**	**111**	Pn		Pn	22 44 50.5	+1.8
GERES	**GERESS Array B**	**5.69**	**111**	Pn		Pn	22 44 51.3	+2.6
PRA	**Prague**	**5.70**	**98**	*e*SG		Sg	22 46 22.4	-5.6
	comp=E,40nm,1.2s							
LPL	**La Plagne**	**5.71**	**172**	*e*Pn		Pn	22 44 49.0	0.0
LPL				*e*Sn		Sn	22 45 50.9	-3.2
	comp=E,2.9nm,0.3s							
LPG	**La Plagne**	**5.73**	**172**	*e*Pn		Pn	22 44 51.3	+2.0
LPG				*e*Sn		Sn	22 45 50.5	-4.2
	comp=E,2.2nm,0.3s							
LPG				*e*Sg		Sg	22 46 25.0	-3.8
	comp=E,3.1nm,0.3s							
PRU	**Pruhonice**	**5.79**	**98**	*e*SG		Sg	22 46 23.7	-7.1
	comp=E,12nm,0.7s							
VERF	**Verneugheol**	**5.82**	**202**	P		Pn	22 44 50.8	+0.4
LESA	**Schwarzleotal**	**5.93**	**126**	*i* Pn		Pn	22 44 55.1	+3.1
	comp=E,0.5nm,0.2s							
LESA				*i* Sn		Sn	22 46 01.1	+1.6
	comp=E,1.6nm,0.3s							
SSB	**Saint Sauveur**	**5.94**	**188**	Pn		Pn	22 44 53.0	+0.9
SSB						Sg	22 46 36.8	+1.1
MFF	**Saint Martin d**	**5.96**	**222**	*e*Pn		Pn	22 44 53.2	+1.0
MFF				*e*Sn		Sn	22 45 56.4	-3.5
	comp=E,9.2nm,0.2s							
MFF				*e*Sg		Sg	22 46 32.9	-3.2
	comp=E,7.2nm,0.3s							
SGMF	**Saint Gilles**	**6.07**	**244**	*e*Pn		Pn	22 44 54.6	+0.9
SGMF	**Saint Gilles**	**6.07**	**244**	*e*Pg		Pg	22 45 19.7	-1.4
SGMF				*e*Sn		Sn	22 45 59.7	-2.9
SGMF				*e*Sg		Sg	22 46 37.5	-2.1
	comp=E,9.3nm,0.5s							
FRNF	**Fournols**	**6.14**	**201**	P		Pn	22 44 56.5	+1.7
LBL	**Lubilhac**	**6.16**	**196**	P		Pn	22 44 57.1	+2.1
ORIF	**Oris-en-Rattie**	**6.26**	**178**	*e*Pn		Pn	22 44 57.9	+1.4
ORIF				*e*Sn		Sn	22 46 03.3	-4.2
ORIF				*e*Sg		Sg	22 46 41.7	-4.1
	comp=E,7.4nm,0.4s							
BIOA	**Bad Ischl, Aus**	**6.27**	**121**	*i* Sn		Sn	22 46 12.3	+4.6
	comp=E,2.0nm,0.3s							
ABTA	**Abfaltersbach**	**6.33**	**132**	*i* Pn		Pn	22 45 00.5	+3.0
	comp=E,1.5nm,0.2s							
VIVF	**Saint-Julien-l**	**6.35**	**186**	*e*Pn		Pn	22 44 58.0	+0.3
VIVF				*e*Sn		Sn	22 46 05.4	-4.4
VIVF				*e*Sg		Sg	22 46 45.1	-3.7
	comp=E,17nm,0.6s							
ROSF	**Rostrenen**	**6.44**	**247**	*e*Pn		Pn	22 45 00.0	+1.2
ROSF				*e*Sn		Sn	22 46 08.9	-2.8
ROSF				*e*Sg		Sg	22 46 48.9	-2.6
	comp=E,10nm,0.4s							
LUNU	**Lund**	**6.46**	**43**	*i* P		Pn	22 44 58.3	-0.8
LUNU				*i* S		Sn	22 46 06.0	-6.1
RJF	**Les Rejaudoux**	**6.49**	**207**	*e*Pn		Pn	22 45 00.3	+0.8
RJF				*e*Sn		Sn	22 46 08.7	-4.3
RJF				*e*Sg		Sg	22 46 49.6	-3.4
	comp=E,16nm,0.4s							
CTI	**Castel Tesino**	**6.49**	**140**	Pn		Pn	22 45 01.7	+2.0
KBA	**Koelnbreinsper**	**6.50**	**126**	*i* Pn		Pn	22 45 03.1	+3.1
	comp=E,1.7nm,0.3s							
KBA				*e*Sn		Sn	22 46 16.1	+2.5
	comp=E,0.8nm,0.3s							
MOA	**Molln**	**6.52**	**117**	*i* Pn		Pn	22 45 03.5	+3.5
	comp=E,0.8nm,0.4s							
MOA				*e*Sn		Sn	22 46 13.8	-0.2
	comp=E,1.7nm,0.4s							
MOA				*e*Sg		Sg	22 46 56.8	+2.5
	comp=E,3.2nm,0.6s							
BJUU	**Bjuv**	**6.58**	**39**	*i* P		Pn	22 44 59.8	-1.0
BJUU				*i* S		Sn	22 46 07.4	-7.9
QUIF	**Quistinic**	**6.59**	**244**	*e*Pn		Pn	22 45 01.7	+0.8
QUIF				*e*Sn		Sn	22 46 12.0	-3.5
QUIF				*e*Sg		Sg	22 46 53.3	-3.2
	comp=E,6.2nm,0.4s							
CIMO	**Cimolais**	**6.62**	**135**	Pn		Pn	22 45 02.9	+1.5
CAF	**Calviac**	**6.69**	**202**	*e*Pn		Pn	22 45 02.8	+0.4
CAF				*e*Sn		Sn	22 46 13.6	-4.5
CAF				*e*Sg		Sg	22 46 55.8	-3.9
	comp=E,14nm,0.6s							
STAL	**STALIGIAL**	**6.78**	**134**	Pn		Pn	22 45 06.4	+2.8
DPC	**Dobruska-Polom** comp=E,7.0nm,0.6s	**6.83**	**93**	*e*SG		Sg	22 46 58.0	-5.9
LFF	**La Frestale**	**7.05**	**210**	*e*Pn		Pn	22 45 07.5	+0.3
LFF				*e*Sn		Sn	22 46 22.0	-4.8
LFF				*e*Sg		Sg	22 47 07.4	-3.6
	comp=E,24nm,0.5s							
FABU	**Falkenberg**	**7.17**	**33**	*i* P		Pn	22 45 06.4	-2.4
FABU				*i* S		Sn	22 46 20.0	-10
DEL	**Delary**	**7.20**	**39**	*i* P		Pn	22 45 08.0	-1.2
DEL				*i* S		Sn	22 46 23.0	-7.5
SMRF	**Simiane la Rot**	**7.20**	**180**	*e*Pn		Pn	22 45 09.7	+0.3
SMRF				*e*Sn		Sn	22 46 26.3	-4.3
	comp=E,3.7nm,0.8s							
LASF	**Ste Croix**	**7.20**	**190**	*e*Pn		Pn	22 45 09.2	-0.2
LASF				*e*Sn		Sn	22 46 26.2	-4.4
LASF				*e*Sg		Sg	22 47 10.1	-5.9
	comp=E,11nm,0.6s							
KRUC	**Moravsky**	**7.23**	**103**	*e*SG		Sg	22 47 11.7	-5.1
ONAU	**Onsala**	**7.24**	**28**	*i* P		Pn	22 45 07.7	-2.0
ONAU				*i* S		Sn	22 46 20.9	-10
SNART	**Snartemo**	**7.24**	**7**	*e*P		Pn	22 45 10.9	+1.1
SNART				*i* S		Sn	22 46 23.8	-7.5
VRAC	**Vranov**	**7.27**	**101**	*e*SG		Sg	22 47 12.8	-5.2
HOMB	**Homborsund**	**7.30**	**12**	*i* S		Sn	22 46 24.4	-8.5
CONA	**Conrad Observa**	**7.40**	**112**	*i* Sn		Sn	22 46 44.8	+9.3
	comp=E,1.5nm,0.5s							
CONA				*e*Sg		Sg	22 47 24.5	+2.3
	comp=E,4.4nm,0.7s							
OBKA	**Obir**	**7.50**	**125**	*e*Pn		Pn	22 45 15.7	+2.2
	comp=E,0.2nm,0.1s							
BORU	**Boraas**	**7.69**	**30**	*i* P		Pn	22 45 14.3	-1.6
BORU				*i* S		Sn	22 46 33.1	-9.4
TJOU	**Tjoern**	**7.70**	**24**	*i* P		Pn	22 45 16.0	0.0
TJOU				*e*S		Sn	22 46 32.5	-10
MORC	**Moravsky Berou**	**7.72**	**96**	*e*SG		Sb	22 47 28.7	+19
LMR	**La Mourre**	**7.86**	**175**	*e*Pn		Pn	22 45 18.0	-0.4
LMR				*e*Sn		Sn	22 46 41.1	-5.7
	comp=E,0.2nm,0.1s							
MODS	**Modra-Piesok**	**8.04**	**106**	*e*SG		Sb	22 47 40.9	+22
JAVC

HUH	Hualalai	0.58	295			Pg		22 43 52.2	+0.8
I59US	HAWAII INFRASO	0.60	285	Pg		Pg		22 43 52.7	+0.9
	baz=116,slow=40								
HPAH	Hawaii Prepara	0.71	326			Pg		22 43 53.8	-0.1
HPAH				IAML				22 44 16.6	
	comp=E,9µm,2.4s								
MHA	Mahukona	0.95	322			Pg		22 43 57.7	-0.9
HLK	Haleakala	1.60	326			Pn		22 44 06.0	-3.6
HLK				IAML				22 45 04.8	
	comp=N,3µm,1.7s								
HLK				IAML				22 45 06.6	
	comp=E,3µm,1.4s								
KHLH	Kahului Airpor	1.81	324			Pn		22 44 09.6	-2.7
KIP	Kipapa	3.23	308			Pn		22 44 31.7	-0.2
KIP				IAML				22 46 16.7	
	comp=E,438nm,2.7s								
KIP				IAML				22 46 35.1	
	comp=E,646nm,2.7s								
UNV	Unalaska Valle	35.41	349	P		P		22 50 38.1	+0.8
	baz=162								
CHNA	Chernabura Isl	35.48	356	P		P		22 50 38.6	+0.8
	baz=173								
H11N3	WAKE ISLAND Hy	35.58	277	T		T		23 27 43.9	
	baz=84,slow=73								
H11N2	WAKE ISLAND Hy	35.59	277	T		T		23 27 44.0	
	baz=84,slow=73								
H11N1	WAKE ISLAND Hy	35.59	277	T		T		23 27 44.6	
	baz=84,slow=73								
SII	Sitkinak Islan	37.07	1	P		P		22 50 52.4	+0.9
	baz=182								
NVAR	Mina Array Bea	37.17	51	P		P		22 50 53.0	+0.2
	comp=E,0.6nm,0.5s,baz=230,slow=11,SNR=4.1								
	comp=E,0.6nm,0.5s								
PFO	Pinyon Flats O	37.27	60	P		P		22 50 52.8	-0.8
	baz=258								
TPFO	Pinon Flats	37.27	60	P		P		22 50 52.6	-1.0
	baz=258								
FURC	Furnace Creek,	37.65	55	P		P		22 50 55.8	-0.8
	baz=254								
SWSC	Sam W. Stewart	37.67	61	P		P		22 50 56.3	-0.6
	baz=259								
BELC	Belle Mtn. Jos	37.73	59	P		P		22 50 56.4	-1.1
	baz=258								
TUQ	Turquoise Moun	38.11	57	P		P		22 50 59.8	-0.9
	baz=256								
GMRC	Granite Mounta	38.17	58	P		P		22 51 00.6	-0.6
	baz=257								
KDAK	Kodiak Island	38.34	2	P		P		22 51 03.1	+0.9
	baz=184								
P08K	Saint George I	38.61	347	P		P		22 51 04.9	+0.5
	baz=158								
Q19K	Cape Douglas,	39.46	1	P		P		22 51 12.1	+0.6
	baz=182								
CRAG	Craig	39.68	20	P		P		22 51 13.6	+0.3
	baz=214								
P17K	Kvichak River	39.72	359	P		P		22 51 14.1	+0.4
	baz=178								
P18K	Big Mountain,	39.91	0	P		P		22 51 15.7	+0.5
	baz=180								
214A	Organ Pipe Nat	40.01	63	P		P		22 51 15.7	-0.9
	baz=262								
V35K	Ketchikan	40.06	21	P		P		22 51 17.4	+0.9
	baz=216								
O16K	Kokwok River B	40.16	358	P		P		22 51 17.7	+0.4
	baz=176								
U33K	Whale Pass	40.22	19	P		P		22 51 17.7	-0.2
	baz=213								
O17K	Koliganek Bris	40.31	359	P		P		22 51 18.2	-0.4
	baz=177								
O18K	Koktuh Hills	40.37	0	P		P		22 51 19.2	+0.1
	baz=180								
SIT	Sitka	40.38	17	P		P		22 51 18.6	-0.6
	baz=210								
BRSE	Bradley Lake S	40.39	4	P		P		22 51 18.9	-0.3
	baz=187								
Q23K	Middleton Isla	40.46	7	P		P		22 51 20.2	+0.4
	baz=193								
O20K	Slope Mountain	40.64	2	P		P		22 51 21.3	-0.2
	baz=184								
N14K	Kuskokwak Cree	40.70	355	P		P		22 51 20.9	-0.8
	baz=171								
P23K	Montague Islan	40.91	6	P		P		22 51 23.0	-0.5
	baz=191								
N16K	Nishlik Lake	41.07	357	P		P		22 51 23.6	-1.3
	baz=175								
N18K	Kilae Creek	41.20	360	P		P		22 51 25.7	-0.2
	baz=179								
N19K	Bonanza Creek	41.33	1	P		P		22 51 27.1	-0.1
	baz=181,SNR=6.8								
M15K	Kasigluk River	41.39	356	P		P		22 51 27.5	0.0
	baz=172								
M14K	Bethel	41.54	355	P		P		22 51 28.3	-0.4
	baz=170								
HLID	Hailey	41.76	46	P		P		22 51 29.9	-1.2
	baz=248								
N20K	Mount Spurr	41.77	2	P		P		22 51 30.8	0.0
	baz=184								
RC01	Rabbit Creek A	41.79	4	P		P		22 51 30.8	0.0
	baz=188								
MESA	MESA	41.80	10	P		P		22 51 30.8	-0.3
	baz=199								
GLI	Glacier Island	41.80	6	P		P		22 51 31.9	+1.0
	baz=192								
T35M	Bob Quinn	41.84	20	P		P		22 51 31.5	+0.2
	baz=217								
M17K	Holitna River	41.95	358	P		P		22 51 32.4	+0.3
	baz=177								
M18K	Stony River	42.01	360	P		P		22 51 32.8	+0.2
	baz=179,SNR=6.1								
NEW	Newport	42.10	38	P		P		22 51 33.5	-0.1
	baz=240								
SUA	Susitna One	42.10	3	P		P		22 51 33.6	+0.1
	baz=186								
BMRM	Bremner River	42.17	8	P		P		22 51 34.2	+0.2
	baz=195								
L14K	Kuka Creek	42.19	355	P		P		22 51 34.2	+0.3
	baz=170								
KNK	Knik Glacier	42.21	5	P		P		22 51 34.6	+0.4
	baz=190								
PLBC	Pleasant Camp	42.24	14	P		P		22 51 34.8	+0.4
	baz=207								
L16K	Owhat River	42.33	357	P		P		22 51 35.5	+0.4
	baz=174								
L15K	Ungalak Mounta	42.42	356	P		P		22 51 36.0	+0.1
	baz=171								
M19K	Big River Lodg	42.43	1	P		P		22 51 36.3	+0.3
	baz=181								
M20K	Styx River	42.43	2	P		P		22 51 36.9	+0.8
	baz=183								
O29M	Mount Kennedy	42.53	12	P		P		22 51 36.8	-0.1
	baz=204								
SKT	Skwentna	42.58	3	P		P		22 51 37.0	-0.3
	baz=185								
SML	Sawmill	42.61	5	P		P		22 51 37.4	-0.1
	baz=190								
CTG	Chitna Glacier	42.64	10	P		P		22 51 38.0	+0.1
	baz=200								
O28M	Mount Upton	42.66	11	P		P		22 51 38.2	0.0
	baz=201								
P30M	Million Dollar	42.70	13	P		P		22 51 38.9	+0.6
	baz=206								
L19K	White Mountain	42.70	0	P		P		22 51 39.2	+0.9
	baz=181								
L17K	Donlin	42.71	358	P		P		22 51 39.2	+1.0
	baz=176								
SCM	Sheep Creek Mo	42.72	6	P		P		22 51 39.3	+0.9
	baz=191								
L18K	Granite Mounta	42.75	359	P		P		22 51 39.7	+1.1
	baz=178								
MCARA	McCarthy VSAT	42.78	9	P		P		22 51 38.9	+0.1
	baz=197								
N25K	Chitina, Valde	42.79	7	P		P		22 51 39.3	+0.3
	baz=195								
K13K	Kusilvak Mount	42.96	354	P		P		22 51 40.7	+0.4
	baz=167								
P32M	Atlin	43.01	16	P		P		22 51 40.6	-0.2
	baz=210								
L20K	Farewell, AK	43.01	1	P		P		22 51 41.1	+0.4
	baz=182,SNR=5.3								
DLBC	Dease Lake	43.09	19	P		P		22 51 41.5	+0.1
	baz=216								
M24K	Tolsona, Glenn	43.10	6	P		P		22 51 41.5	0.0
	baz=193								
YUK6	Outpost Mounta	43.16	12	P		P		22 51 41.8	-0.4
	baz=204								
YUK8	Steele Glacier	43.21	11	P		P		22 51 42.6	-0.1
	baz=202								
HYT	Haines Junctio	43.22	13	P		P		22 51 42.0	-0.6
	baz=205								
K17K	Iditarod	43.29	358	P		P		22 51 42.8	-0.2
	baz=176								
MSO	Missoula	43.37	41	P		P		22 51 43.2	-0.7
	baz=245								
WAT6	Susitna Watana	43.42	5	P		P		22 51 44.2	0.0
	baz=190,SNR=5.4								
PPLA	Purkeypile	43.47	2	P		P		22 51 44.4	-0.2
	baz=184								
YUK4	Talbot Arm	43.47	12	P		P		22 51 45.3	+0.6
	baz=203								
O30N	Mendenhall	43.48	14	P		P		22 51 43.7	-0.9
	baz=207								
YUK3	Moose Creek	43.55	10	P		P		22 51 45.2	-0.1
	baz=200								
R33M	Jennings River	43.59	18	P		P		22 51 45.3	-0.3
	baz=214								
WAT1	Susitna Watana	43.60	4	P		P		22 51 45.2	-0.3
	baz=189								
M26K	Nabesna, AK	43.77	8	P		P		22 51 45.9	-0.9
	baz=197,SNR=6.6								
P33M	Teslin, Yukon	43.77	16	P		P		22 51 46.4	-0.6
	baz=211								
M27K	Edge Creek, AK	43.88	9	P		P		22 51 47.5	-0.4
	baz=198								
N30M	Aishikik Lake	43.88	12	P		P		22 51 47.2	-0.7
	baz=205								
K20K	Telida	43.89	1	P		P		22 51 47.3	-0.5
	baz=182								
DHY	Denali Highway	43.94	5	P		P		22 51 47.3	-1.0
	baz=191								
J16K	Anvik River	43.96	357	P		P		22 51 48.0	-0.4
	baz=173								
CAST	Castle Rocks	44.00	2	P		P		22 51 48.2	-0.5
	baz=184								
J17K	VABM Dome	44.00	358	P		P		22 51 49.0	+0.4
	baz=175								
J18K	Innoko River	44.00	359	P		P		22 51 48.4	-0.3
	baz=178,SNR=5.3								
PAX	Paxson	44.02	6	P		P		22 51 48.3	-0.6
	baz=193,SNR=9.9								
TRF	Thorofare Moun	44.11	3	P		P		22 51 49.0	-0.7
	baz=187								
121A	Cookes Peak, D	44.30	63	P		P		22 51 50.0	-1.8
	baz=265								
L26K	Log Cabin Wild	44.32	8	P		P		22 51 51.5	+0.2
	baz=196								
MVCO	Mesa Verde	44.35	56	P		P		22 51 51.5	-0.6
	baz=260								
BOZ	Bozeman (W)	44.36	44	P		P		22 51 51.4	-0.7
	baz=249								
MCK	McKinley	44.47	4	P		P		22 51 52.7	+0.2
	baz=189								
M29M	Somme Creek	44.52	11	P		P		22 51 53.5	+0.5
	baz=203,SNR=8.3								
J19K	Poorman	44.52	360	P		P		22 51 53.6	+0.7
	baz=180								
L27K	Beaver Creek,	44.56	9	P		P		22 51 53.2	0.0
	baz=198,SNR=7.3								
I17K	Unalakleet	44.57	357	P		P		22 51 53.6	+0.4
	baz=173								
J20K	Nowinta River	44.71	1	P		P		22 51 54.6	+0.3
	baz=182								
BPAW	Bear Paw Mtn.	44.72	3	P		P		22 51 55.2	+0.7
	baz=186								
K24K	Donnelly Dome	44.80	6	P		P		22 51 55.3	+0.2
	baz=193								
PDAR	Pinedale Array	44.85	48	P		P		22 51 57.1	+1.0
	comp=E,2.0nm,1.0s,baz=251,slow=4.5,SNR=8.3								
	comp=E,2.0nm,1.0s								
M30M	Minto, Yukon	44.96	12	P		P		22 51 56.9	+0.5
	baz=205								
M31M	Drury Creek, Y	45.13	14	P		P		22 51 58.0	+0.3
	baz=208								
SCRK	Sand Creek	45.16	7	P		P		22 51 58.4	+0.3
	baz=195								
L29M	L29M	45.20	11	P		P		22 51 58.8	+0.5
	baz=203								
HDA	Harding Lake	45.29	5	P		P		22 51 59.2	+0.2
	baz=191								
GCSA	Galena City Sc	45.29	359	P		P		22 51 59.2	+0.3
	baz=178								
NEA2	Nenana	45.32	4	P		P		22 51 59.9	+0.7
	baz=188								
I20K	Naaghedeneel	45.33	0	P		P		22 51 59.7	+0.4
	baz=181								
FARO	Faro, Yukon	45.39	14	P		P		22 52 00.0	+0.2
	baz=210								
H16K	Elim	45.41	356	P		P		22 51 59.7	-0.2
	baz=171								
K27K	Chicken	45.45	8	P		P		22 52 00.1	-0.1
	baz=198								
J25K	Salcha River,	45.63	6	P		P		22 52 01.9	+0.2
	baz=193,SNR=9.5								
ANMO	Albuquerque	45.65	60	P		P		22 52 01.2	-1.3
	baz=263								
ILAR	Eielson Array	45.65	5	P		P		22 52 02.4	+0.5
	comp=E,3.4nm,0.9s,baz=198,slow=7.1,SNR=20								
	comp=E,3.4nm,0.9s								
MLY	Manley	45.66	3	P		P		22 52 01.9	0.0
	baz=186,SNR=6.8								
GAMB	Gambell	45.69	350	P		P		22 52 01.9	-0.2
	baz=158								
J26L	Joseph Creek	45.72	7	P		P		22 52 02.6	+0.1
	baz=196,SNR=7.3								
I21K	Tanana	45.77	2	P		P		22 52 03.4	+0.7
	baz=184								
I23K	Minto, Yukon-K	45.85	3	P		P		22 52 03.9	+0.5
	baz=188								
DAWY	Dawson	45.88	10	P		P		22 52 04.2	+0.6
	baz=201								
POKR	Poker Plat Res	45.95	5	P		P		22 52 04.5	+0.3
	baz=190								
K29M	Barlow Dome	45.98	11	P		P		22 52 04.6	0.0
	baz=204								
H20K	Anotleneega Mo	46.03	0	P		P		22 52 05.6	+0.8
	baz=180								
H19K	Roundabout Mou	46.07	359	P		P		22 52 05.1	+0.1
	baz=178								
G16K	Koyuk River	46.17	356	P		P		22 52 06.0	+0.2
	baz=171								
MNTX	Cornudas Mount	46.28	64	P		P		22 52 06.6	-0.7
	baz=267								
EGAK	Eagle	46.29	8	P		P		22 52 07.3	+0.5
	baz=199,SNR=7.8								
EGMT	Eagleton	46.45	41	P		P		22 52 08.4	-0.1
	baz=248								
PRP	Porcupine Dome	46.50	6	P		P		22 52 09.4	+0.7
	baz=193								
H23K	Yukon River	46.52	3	P		P		22 52 09.1	+0.4
	baz=188								
I26K	Coal Creek Min	46.54	7	P		P		22 52 09.2	+0.3
	baz=196								
F14K	Arctic Creek	46.59	354	P		P		22 52 10.2	+1.0
	baz=166								
H24K	Noodor Dome	46.63	4	P		P		22 52 10.1	+0.5
	baz=190,SNR=5.1								
G19K	Purcell Mounta	46.70	359	P		P		22 52 10.8	+0.8
	baz=178								
SDCO	Great Sand Dun	46.79	56	P		P		22 52 11.1	-0.5
	baz=261								
TNA	Tin City	46.85	353	P		P		22 52 12.0	+0.8
	baz=164								
J30M	Hart River	46.87	11	P		P		22 52 11.8	+0.2
	baz=205								
N23A	Red Feather La	47.01	52	P		P		22 52 12.8	-0.4
	baz=258								
I27K	Kandik River	47.02	8	P		P		22 52 13.3	+0.7
	baz=198								
ISCO	Idaho Springs	47.04	53	P		P		22 52 13.8	+0.3
	baz=259								
I28M	Miner Creek	47.09	9	P		P		22 52 13.6	+0.4
	baz=200								
H25L	Bin Creek	47.21	5	P		P		22 52 14.6	+0.6
	baz=192,SNR=7.9								
F18K	Selawik	47.23	358	P		P		22 52 14.6	+0.5
	baz=174								
Q24A	Divide	47.25	55	P		P		22 52 14.5	-0.7
	baz=260								
I29M	Ogilvie Camp,	47.26	10	P		P		22 52 14.8	+0.4
	baz=202								
G23K	Bananza Creek	47.38	3	P		P		22 52 15.3	-0.1
	baz=187								
F19K	Shaleruckit Mo	47.40	359	P		P		22 52 15.6	+0.1
	baz=177								
I30M	Mount Dempster	47.45	11	P		P		22 52 15.8	-0.2
	baz=204,SNR=6.7								
G24K	Hadweenzic Riv	47.51	4	P		P		22 52 16.2	-0.2
	baz=190,SNR=5.7								
G22K	Bettles	47.53	2	P		P		22 52 16.4	-0.1
	baz=185								
T25A	Trinidad	47.56	57	P		P		22 52 16.0	-1.6
	baz=263								
F20K	Avaraart Lake	47.59	360	P		P		22 52 17.7	+0.7
	baz=179								
H27K	Steamboat Moun	47.63	7	P		P		22 52 17.5	+0.1
	baz=198,SNR=9.5								
G25K	Bearman Lake	47.68	5	P		P		22 52 17.3	-0.3
	baz=192								
TXAR	Lajitas Array	47.71	68	P		P		22 52 20.5	+1.9
	comp=E,5.9nm,0.9s,baz=260,slow=7.4,SNR=14								
	comp=E,5.9nm,0.9s								
F21K	Alatna River	47.78	1	P		P		22 52 18.8	+0.3
	baz=182,SNR=7.1								
E17K	Hotham Inlet	47.81	357	P		P		22 52 18.3	-0.3
	baz=172								
COLD	Coldfoot	47.88	3	P		P		22 52 18.3	-0.9
	baz=186								
E19K	Redstone River	48.02	359	P		P		22 52 19.5	-0.8
	baz=178								
H29M	Whitestone	48.05	9	P		P		22 52 20.4	-0.2
	baz=202,SNR=9.5								
G26K	Porcupine Rive	48.07	6	P		P		22 52 20.3	-0.3
	baz=195,SNR=8.2								
E18K	Tukpahlearik C	48.09	357	P		P		22 52 20.2	-0.6
	baz=173								
F22K	John River	48.09	2	P		P		22 52 20.4	-0.5
	baz=184,SNR=7.7								
G27K	Doyon Strip	48.16	7	P		P		22 52 21.3	-0.2
	baz=197								
H31M	Peel River	48.34	11	P		P		22 52 23.3	+0.4
	baz=207								
EPYK	Eagle Plains	48.44	10	P		P		22 52 23.2	-0.5
	baz=204								
D17K	Noatak River	48.50	356	P		P		22 52 23.9	-0.1
	baz=170								
F25K	Christian Rive	48.53	5	P		P		22 52 23.9	-0.5
	baz=192								
MSTX	Muleshoe	48.60	62	P		P		22 52 23.9	-1.5
	baz=267								
E22K	Anaktuvuk Pass	48.73	2	P		P		22 52 25.8	-0.1
	baz=184								
G29M	Pine Creek	48.74	9	P		P		22 52 25.5	-0.4
	baz=202,SNR=5.8								
F26K	Sheenjek River	48.76	6	P		P		22 52 26.5	+0.4
	baz=194,SNR=5.6								
E20K	Nigu River	48.81	360	P		P		22 52 26.0	-0.5
	baz=179								
E24K	Your Creek	48.81	3	P		P		22 52 25.9	-0.6
	baz=188								
E21K	Killik River	49.00	1	P		P		22 52 27.4	-0.4
	baz=182								
E25K	Arctic Village	49.05	5	P		P		22 52 27.9	-0.4
	baz=192								
D19K	Kuna River	49.08	359	P		P		22 52 28.0	-0.4
	baz=176								
RSSD	Black Hills	49.08	48	P		P		22 52 27.9	-1.3
	baz=257								
G30M	tAoh Zraii Nji	49.09	10	P		P		22 52 28.3	-0.3
	baz=204								
F28M	Old Crow	49.15	8	P		P		22 52 28.8	-0.2
	baz=199								
KSCO	Kaye Shedlock'	49.20	55	P		P		22 52 29.0	-1.1
	baz=262								
D20K	Etivluk River	49.27	359	P		P		22 52 29.9	-0.1
	baz=178								
TOLK	Toolik Lake Re	49.32	3	P		P		22 52 30.4	0.0
	baz=187								
C18K	Utukok River	49.34	357	P		P		22 52 30.6	+0.1
	baz=173								
G31M	Satah River	49.36	11	P		P		22 52 30.3	-0.3
	baz=206								
D22K	Ayikyak River	49.46	1	P		P		22 52 31.2	-0.2
	baz=183								
E27K	Coleen River	49.49	7	P		P		22 52 31.0	-0.7
	baz=197,SNR=5.2								
D23K	Nanushuk River	49.60	2	P		P		22 52 31.9	-0.5
	baz=186,SNR=6.5								
C21K	Knifeblade Rid	49.71	0	P		P		22 52 32.9	-0.4
	baz=181								
C19K	Lookout Ridge	49.73	358	P		P		22 52 33.9	+0.4
	baz=175								
F30M	Barrier River	49.73	10	P		P		22 52 32.8	-0.7
	baz=204								
D24K	Happy Valley	49.87	3	P		P		22 52 34.2	-0.3
	baz=188								
F31M	Tsiigehtchic	49.92	11	P		P		22 52 35.1	+0.3
	baz=207								
B18K	Kokolik River	50.08	357	P		P		22 52 36.0	0.0
	baz=172								
DGMT	Dagmar	50.10	42	P		P		22 52 35.5	-1.1
	baz=253								
E28M	Babbage River	50.13	7	P		P		22 52 36.0	-0.5
	baz=200								
E29M	Blow River	50.14	8	P		P		22 52 36.0	-0.5
	baz=202,SNR=5.3								
B21K	Ikpikpuk River	50.18	0	P		P		22 52 36.6	-0.1
	baz=181								
D25K	Kavik River	50.18	4	P		P		22 52 36.8	-0.1
	baz=191,SNR=6.5								
C24K	Franklin Bluff	50.44	3	P		P		22 52 38.9	+0.2
	baz=188								
C23K	Itkillik River	50.47	2	P		P		22 52 39.2	+0.2
	baz=186,SNR=7.4								
D27M	Malcolm River	50.58	7	P		P		22 52 39.7	-0.2
	baz=198								
B20K	Meade River	50.58	359	P		P		22 52 40.4	+0.6
	baz=178								
C27K	Jago River	50.68	5	P		P		22 52 40.6	0.0
	baz=194								
INK	Inuvik	50.73	10	P		P		22 52 41.4	+0.5
	baz=207,SNR=7.4								
C26K	Camden Bay	50.87	5	P		P		22 52 42.3	+0.3
	baz=193,SNR=8.6								
B22K	Teshekpuk Lake	50.91	1	P		P		22 52 41.8	-0.5
	baz=182								
JCT	Junction City	51.05	66	P		P		22 52 43.3	-0.7
	baz=271								
ABTX	Abilene, Hawle	51.17	63	P		P		22 52 44.5	-0.5
	baz=270								
YKA	Yellowknife Ar	51.30	23	P		P		22 52 46.1	+0.8
	comp=E,2.2nm,1.0s,baz=235,slow=7.6,SNR=16								
	comp=E,2.2nm,1.0s								
CBKS	Cedar Bluff	51.42	55	P		P		22 52 46.3	-0.5
	baz=264								
833A	Chaparral WMA,	51.48	69	P		P		22 52 47.0	-0.4
	baz=273								
A22K	Sinclair Lake	51.57	0	P		P		22 52 47.8	+0.6
	baz=180								
ECSD	EROS Data Cent	54.30	50	P		P		22 53 07.8	-0.1
	baz=263								
A36M	Sachs Harbour	55.35	11	P		P		22 53 15.8	+0.8
	baz=215								
ASAJ	Asahikawa	56.82	310	LR		LR		23 13 09.9	
	comp=E,38nm,20.1s,baz=151,slow=31								
EYMN	Ely	58.32	45	P		P		22 53 36.4	-0.2
	baz=264								
JFWS	Jewell Farm	58.86	51	P		P		22 53 40.5	+0.1
	baz=268								
HDIL	Hopedale	59.55	54	P		P		22 53 45.4	+0.2
	baz=270								
MJAR	Matsushiro Arr	60.06	302	P		P		22 53 50.0	+1.2
	comp=E,0.9nm,0.5s,baz=108,slow=4.3,SNR=5.2								
	comp=E,0.9nm,0.5s								
L44A	Lake County Fo	60.58	52	P		P		22 53 51.8	-0.4
	baz=270								
SFIN	Lafayette	61.23	54	P		P		22 53 56.4	-0.2
	baz=272								
LRAL	Lakeview Retre	61.78	62	P		P		22 54 00.9	+0.3
	baz=276								
O48B	Farmland	62.71	54	P		P		22 54 06.5	-0.1
	baz=273								
P49A	Miami Univ. Ec	63.09	55	P		P		22

LONY	**Lake Ozonia**	**70.09**	**49**	P	**P**	**22 54 52.9**	**-1.0**
	baz=278							
PAL	**Palisades**	**71.14**	**52**	P	**P**	**22 54 58.9**	**-1.4**
	baz=280							
L61B	**Northampton**	**71.80**	**51**	P	**P**	**22 55 03.3**	**-1.0**
	baz=280							
LBNH	**Lisbon**	**72.03**	**49**	P	**P**	**22 55 04.8**	**-0.9**
	baz=280							
HRV	**Adam Dziewonsk**	**72.60**	**50**	P	**P**	**22 55 07.1**	**-2.0**
	baz=281							
PKME	**Peaks-Kenny Pk**	**73.69**	**47**	P	**P**	**22 55 14.2**	**-1.3**
	baz=281							
SFJD	**Kangerlussuaq**	**77.86**	**23**	LR	LR	23 28 10.4		
	comp=E,27nm,19.0s,baz=348,slow=34							
SONM	**Songino Array**	**81.23**	**318**	P	**P**	**22 55 58.1**	**+0.2**
	comp=E,1.1nm,0.9s,baz=101,slow=6.2,SNR=6.6							
	comp=E,1.1nm,0.9s							
ASAR	**Alice Springs**	**81.24**	**241**	P	**P**	**22 55 58.5**	**+0.4**
	comp=E,1.0nm,0.9s,baz=69,slow=8.2,SNR=5.3							
	comp=E,1.0nm,0.9s							
BORG	**Borgarnes**	**88.98**	**18**	LR	LR	23 31 14.4		
	comp=E,23nm,21.3s,baz=189,slow=32							
ZALV	**Zalesovo Beam**	**90.64**	**329**	P	**P**	**22 56 44.7**	**+0.6**
	comp=E,1.4nm,0.8s,baz=31,slow=3.8,SNR=7.2							
	comp=E,1.4nm,0.8s							
PZH	**PanZhiHua**	**92.47**	**299**	P	**P**	**22 56 53.5**	**+0.2**
PZH				pmax	pmax			
	comp=Z,10.0nm,0.5s							
PZH				pmax	pmax			
	comp=Z,100nm,5.5s							

IDC 25 22:46:02.7±62.0, 21°66'S×179°27'W, h0km, mb3.9/3, mbtmp3.9/3, Error ellipse: s-maj=1115.0km s-min=162.2km az=84.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**36.22**	**245**	P	P	22 53 06.0	-1.5
	3.8nm,1.0s,baz=31,slow=15,SNR=3.8						
	3.8nm,1.0s						
ASAR	**Alice Springs**	**43.10**	**258**	P	P	22 54 05.2	+0.2
	0.7nm,0.7s,baz=98,slow=7.3,SNR=8.2						
	0.7nm,0.7s						
WRA	**Warramunga Arr**	**43.27**	**264**	P	P	22 54 06.9	+0.5
	0.8nm,0.5s,baz=94,slow=8.5,SNR=22						
	0.8nm,0.5s						

*HVO **25** 22:48:37.6±1.1, 19°.418N±0°.007×155°.281W±0°.007, h-0km±6km, ML3.0/12, ML2.3/28(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=147.0*

NEIC 25 22:48:38.4±1.3, 19°.389N±0°.009×155°.275W±0°.007, h1km±6km, Error ellipse: s-maj=1.4km s-min=0.9km az=187.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.01**	**11**		Pg	22 48 39.2	+0.3
KKO	**Keanakako`i**	**0.01**	**46**		Pg	22 48 38.8	-0.1
BYL	**Byron's Ledge**	**0.03**	**32**	Pg	Pg	22 48 38.8	-0.2
BYL				Sg	Sg	22 48 40.0	+0.5
OBL	**Observatory Le**	**0.03**	**344**		Pg	22 48 38.6	-0.5
UWB	**Uwekahuna B**	**0.04**	**356**		Pg	22 48 38.4	-0.8
HATHI	**Halema'uma'u T**	**0.04**	**22**	Pg	Pg	22 48 38.9	-0.3
HATHI					Sg	22 48 39.4	-0.3
UWE	**Uwekahuna**	**0.04**	**332**	Pg	Pg	22 48 38.5	-0.7
UWE				Sg	Sg	22 48 39.8	+0.1
SBLHI	**Steaming Bluff**	**0.04**	**10**		Pg	22 48 38.9	-0.3
PUH	**Pauahi**	**0.06**	**105**		Sg	22 48 40.2	-0.2
PUH	**Pauahi**	**0.06**	**105**		Pg	22 48 39.9	+0.3
PUH	**Pauahi**	**0.06**	**105**	IAML		22 48 40.3	
	comp=E,670nm,1.2s						
PUH				IAML		22 48 40.9	
	comp=N,1μm,1.5s						
RSD	**Rainshed**	**0.07**	**358**	Pg	Pg	22 48 39.4	-0.5
RSD					Sg	22 48 39.7	-1.2
HLP	**Hilina Pali**	**0.10**	**198**	Pg	Pg	22 48 41.0	+0.7
HLP				IAML		22 48 41.9	
	comp=N,1μm,2.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**96**		Pg	22 48 40.8	+0.4
STCH	**Steam Cracks**	**0.14**	**92**		Pg	22 48 40.7	-0.5
STCH				IAML		22 48 44.6	
	comp=E,976nm,0.9s						
STCH				IAML		22 48 45.3	
	comp=N,655nm,0.6s						
MLH	**Mauna Loa**	**0.15**	**315**		Pg	22 48 40.8	-0.6
MLH					Sg	22 48 41.2	-2.1
MLH				IAML		22 48 43.2	
	comp=E,560nm,0.5s						
MLH				IAML		22 48 44.0	
	comp=N,1μm,1.1s						
NPOC	**North of Pu'u**	**0.16**	**89**		Pg	22 48 41.8	+0.4
JOKA	**Jonika Flow**	**0.26**	**80**	Pg	Pg	22 48 44.2	+0.9
JOKA				IAML		22 48 46.0	
	comp=E,682nm,1.7s						
HMH	**Humu'ula Sheep**	**0.29**	**317**	Pg	Pg	22 48 43.6	-0.4
HMH					Sg	22 48 45.0	-2.7
HMH				IAML		22 48 48.3	
	comp=N,703nm,2.4s						
HMH				IAML		22 48 51.1	
	comp=E,839nm,2.0s						
MWH	**Moku'aweowe**	**0.32**	**287**		Sg	22 48 44.5	-4.2
MLOA	**Mauna Loa Obse**	**0.32**	**297**	Pg	Pg	22 48 44.1	-0.5
KHU	**Kahuku**	**0.35**	**246**		Pg	22 48 45.9	+0.7
KHU	**Kahuku**	**0.35**	**246**	IAML		22 48 46.0	
	comp=E,2μm,2.7s						
KHU				IAML		22 48 56.4	
	comp=N,2μm,2.5s						
POHA	**Pohakuloa**	**0.44**	**327**	Pg	Pg	22 48 47.8	+0.9
POHA				IAML		22 48 52.1	
	comp=N,485nm,2.1s						
HUH	**Hualalai**	**0.60**	**299**	Pg	Pg	22 48 50.3	+0.3

*TIR **25** 22:50:12.4, 41°.34N×20°.90E, h6km±2km, Md3.0, Ml3.2*
*THE **25** 22:50:13.4, 41°.35N×20°.89E, h2km±1km, ML2.9/8, Error ellipse: s-maj=1.6km s-min=0.7km az=226.0*
*SKO **25** 22:50:13.9, 41°.28N×20°.95E, h12km, ML3.0*
*PDG **25** 22:50:13.5±0.6, 41°.35N×20°.86E, h4km±1km, ML3.2/13, Error ellipse: s-maj=0.7km s-min=1.0km az=0.0*
*BEO **25** 22:50:14.1±0.3, 41°.32N×20°.90E, h6km±2km, ML2.8/13*
*ATH **25** 22:50:15.0, 41°.29N×20°.96E, h4km±1km, ML2.9/17, Error ellipse: s-maj=2.6km s-min=1.5km az=146.0*

ISC 25 22:50:13.7±1.1, 41°33N±0°.01×20°.91E±0°.02, h3km±9km, n129, σ1°06/198, 9C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHR	**Ohrid**	**0.23**	**201**	*e*Pg	**Pg**	**22 50 18.2**	**0.0**
OHR				*e*Sg	**Sg**	**22 50 22.1**	**+0.8**
OHR	**Ohrid**	**0.23**	**201**	⇑*i*Pg	**Pg**	**22 50 18.5**	**+0.2**
OHR				*i* Sg	**Sg**	**22 50 22.3**	**+1.0**
OHR				*e*Lg	Lg	22 50 22.4	
	comp=E,5μm,0.4s						
OHR				*e*Lg	Lg	22 50 22.6	
	comp=N,2μm,0.3s						
FNA	**Florina**	**0.65**	**147**	P	**Pg**	**22 50 25.8**	**-0.4**
	baz=146						
FNA				S	**Sg**	**22 50 35.6**	**+1.0**
	baz=146						
FNA				AMP			
	comp=E,5.5nm,0.3s,baz=146						
FNA	**Florina**	**0.65**	**147**	P	**Pg**	**22 50 25.7**	**-0.4**
FNA				S	**Sg**	**22 50 35.7**	**+1.1**
	comp=E,3μm,0.3s						
FNA	**Florina**	**0.65**	**147**	⇑*i*Pg	**Pg**	**22 50 25.8**	**-0.4**
FNA				*i* Sg	**Sb**	**22 50 36.4**	**-0.8**
FNA	**Florina**	**0.65**	**147**	P	**Pg**	**22 50 25.7**	**-0.4**
FNA				S	**Sg**	**22 50 34.8**	**+0.1**
FNA				AML	AML	22 50 37.8	
	comp=N,6740μm,0.2s						
FNA				AML	AML	22 50 38.4	
	comp=E,6692μm,0.3s						
KBN	**Korca**	**0.71**	**187**	P	**Pg**	**22 50 27.2**	**-0.2**
	baz=188						
KBN				S	**Sg**	**22 50 37.2**	**+0.6**
	baz=188						
KBN				AMP			
	comp=E,2.9nm,0.4s,baz=188						
KBN	**Korca**	**0.71**	**187**	P	**Pg**	**22 50 27.1**	**-0.2**
KBN				S	**Sg**	**22 50 37.6**	**+1.0**
	comp=E,860nm,0.4s						
SKO	**Skopje**	**0.75**	**32**	*e*Pg	**Pb**	**22 50 28.9**	**-0.6**
SKO				*e*Sg	**Sg**	**22 50 37.7**	**-0.2**
SKO	**Skopje**	**0.75**	**32**	⇓*i*Pg	**Pb**	**22 50 29.1**	**-0.4**
SKO				*i* Sg	**Sb**	**22 50 39.1**	**-1.1**
TIR	**Tirane**	**0.79**	**271**	P	**Pg**	**22 50 27.9**	**-0.8**
	baz=271						
TIR				S	**Sg**	**22 50 39.4**	**+0.5**
	baz=271						
TIR				AMP			
	comp=N,3.2nm,0.3s,baz=271						
TIR	**Tirane**	**0.79**	**271**	P	**Pg**	**22 50 27.8**	**-1.0**
TIR				S	**Sg**	**22 50 39.0**	**0.0**
	comp=N,870nm,0.2s						
TIR	**Tirane**	**0.79**	**271**	*e*Pg	**Pg**	**22 50 27.5**	**-1.3**
TIR				*e*Sg	**Sg**	**22 50 39.9**	**+0.9**
NEST	**Nestorio**	**0.92**	**173**	P	**Pg**	**22 50 30.4**	**-1.0**
NEST				S	**Sb**	**22 50 45.3**	**+0.2**
	comp=N,1μm,0.4s						
NEST	**Nestorio**	**0.92**	**173**	P	**Pg**	**22 50 30.4**	**-1.0**
NEST				S	**Sg**	**22 50 44.5**	**+1.2**
NEST				AML	AML	22 50 50.0	
	comp=E,3456μm,0.3s						
NEST				AML	AML	22 50 51.6	
	comp=N,2444μm,0.5s						
STIP	**Stip**	**1.02**	**69**	⇑*i*Pg	**Pn**	**22 50 36.7**	**+1.7**
STIP				*i* Sg	**Sn**	**22 50 54.0**	**+4.1**
PUK	**Puka**	**1.04**	**313**	P	**Pg**	**22 50 31.7**	**-2.0**
	baz=314						
PUK				S	**Sb**	**22 50 48.5**	**0.0**
	baz=314						
PUK				AMP			
	comp=N,3.0nm,0.5s,baz=314						
PENT	**Pentalofos**	**1.15**	**171**	P	**Pg**	**22 50 35.5**	**-0.1**
PENT				S	**Sn**	**22 50 53.2**	**+0.1**
PENT	**Pentalofos**	**1.15**	**171**	P	**Pg**	**22 50 35.6**	**-0.1**
GRG	**Griva**	**1.19**	**108**	P	**Pg**	**22 50 35.9**	**-0.5**
GRG				S	**Sb**	**22 50 53.1**	**+0.4**
	comp=N,298nm,0.6s						
GRG	**Griva**	**1.19**	**108**	⇑*i*Pg	**Pg**	**22 50 36.0**	**-0.5**
GRG				*i* Sg	**Sn**	**22 50 54.9**	**+1.0**
GRG	**Griva**	**1.19**	**108**	P	**Pg**	**22 50 35.8**	**-0.5**
GRG				S	**Sb**	**22 50 52.6**	**-0.1**
GRG				AML	AML	22 50 56.0	
	comp=N,579μm,0.3s						
GRG				AML	AML	22 50 57.9	
	comp=E,576μm,0.5s						
LSK	**Leskovik**	**1.20**	**191**	P	**Pg**	**22 50 36.3**	**-0.5**
	baz=192						
LSK				S	**Sg**	**22 50 52.1**	**-0.2**
	baz=192						
LSK				AMP			
	comp=E,2.8nm,0.5s,baz=192						
LSK	**Leskovik**	**1.20**	**191**	P	**Pg**	**22 50 36.0**	**-0.8**
LSK				S	**Sb**	**22 50 53.6**	**+0.4**
	comp=E,828nm,0.6s						
BCI	**Bajram Curri**	**1.21**	**329**	P	**Pg**	**22 50 35.6**	**-1.2**
	baz=329						
BCI				S	**Sb**	**22 50 53.1**	**-0.2**
	baz=329						
BCI				AMP			
	comp=E,2.7nm,0.6s,baz=329						
VAY	**Valandovo**	**1.25**	**90**	*e*Pg	**Pg**	**22 50 36.9**	**-0.8**
VAY				*e*Sg	**Sb**	**22 50 54.4**	**0.0**
VAY	**Valandovo**	**1.25**	**90**	⇓*i*Pg	**Pg**	**22 50 37.4**	**-0.3**
VAY				*i* Sg	**Sn**	**22 50 55.8**	**+0.3**
VAY				*e*Lg	Lg	22 50 56.1	
	comp=N,234nm,0.5s						
VAY				*e*Lg	Lg	22 50 58.0	
	comp=E,238nm,0.8s						
VLO	**Vlora**	**1.38**	**232**	P	**Pg**	**22 50 40.6**	**+0.5**
	baz=232						
VLO				AMP			
	comp=N,2.1nm,0.3s,baz=232						
ULC	**Ulcinj**	**1.40**	**297**	⇑*i*Pg	**Pn**	**22 50 38.1**	**-2.1**
ULC				*i* Sg	**Sn**	**22 51 00.0**	**+0.9**
KPRO	**Kipourio**	**1.42**	**166**	P	**Pn**	**22 50 40.0**	**-0.5**
KPRO				S	**Sb**	**22 50 59.5**	**+0.2**
	comp=N,448nm,0.4s						
KPRO	**Kipourio**	**1.42**	**166**	P	**Pn**	**22 50 39.9**	**-0.6**
KPRO				S	**Sb**	**22 50 57.2**	**-2.2**
KPRO				AML	AML	22 51 07.8	
	comp=E,848μm,0.5s						
KPRO				AML	AML	22 51 10.1	
	comp=N,1028μm,0.5s						
PVY	**Plav**	**1.45**	**331**	⇑*i*Pg	**Pn**	**22 50 39.5**	**-1.4**
PVY				*e*Sg	**Sg**	**22 51 01.9**	**+1.7**
PRVS	**Prvonek**	**1.46**	**36**	*e*Pg	**Pg**	**22 50 41.7**	**0.0**
PRVS				*e*Sg	**Sb**	**22 50 59.8**	**-0.8**
DRME	**Dracevica, Mon**	**1.55**	**304**	*e*Pn	**Pn**	**22 50 40.9**	**-1.3**
DRME	**Dracevica, Mon**	**1.55**	**304**	⇑*i*Pg	**Pn**	**22 50 41.5**	**-0.7**
DRME				*i* Sg	**Sg**	**22 51 05.4**	**+2.0**
SRN	**Sarande**	**1.61**	**206**	P	**Pb**	**22 50 44.3**	**+0.4**
	baz=206						
SRN				S	**Sg**	**22 51 06.6**	**+1.3**
	baz=206						
SRN				AMP			
	comp=N,0.7nm,0.6s,baz=206						
BARS	**Barje**	**1.63**	**24**	*e*Pg	**Pb**	**22 50 44.3**	**-0.2**
BARS				*e*Sg	**Sg**	**22 51 07.3**	**+1.2**
BARS	**Barje**	**1.63**	**24**	*i* Pn	**Pb**	**22 50 44.2**	**-0.2**
BARS				*i* Sn	**Sg**	**22 51 08.1**	**+2.0**
BOSS	**Bosilegrad**	**1.65**	**45**	*e*Pg	**Pn**	**22 50 44.0**	**+0.4**
BOSS				*e*Sg	**Sb**	**22 51 05.5**	**-0.5**
PDG	**Podgorica**	**1.65**	**312**	*e*Pn	**Pn**	**22 50 43.7**	**+0.1**
PDG	**Podgorica**	**1.65**	**312**	*e*Pn	**Pn**	**22 50 42.9**	**-0.7**
PDG				*i* Sn	**Sg**	**22 51 08.9**	**+2.1**
JAN	**Janina**	**1.67**	**182**	P	**Pb**	**22 50 44.9**	**-0.3**
JAN				S	**Sn**	**22 51 04.6**	**-1.3**
JAN				AML	AML	22 51 14.1	
	comp=N,593μm,0.4s						
JAN				AML	AML	22 51 14.8	
	comp=E,1159μm,0.5s						
THE	**Thessaloniki**	**1.71**	**114**	⇓*i*Pn	**Pn**	**22 50 44.0**	**-0.3**
IVA	**Berane**	**1.71**	**334**	⇑*i*Pn	**Pn**	**22 50 44.9**	**+0.3**
IVA				*e*Sn	**Sg**	**22 51 10.4**	**+1.6**
LIT	**Litokhoron**	**1.72**	**135**	P	**Pn**	**22 50 44.5**	**-0.1**
LIT	**Litokhoron**	**1.72**	**135**	*i* Pn	**Pn**	**22 50 44.5**	**-0.1**
KKB	**Krupnik**	**1.74**	**72**	*i* Pn	**Pn**	**22 50 45.1**	**+0.2**
KKB				*i* Sn	**Sb**	**22 51 09.0**	**+0.4**
BUM	**Brajici-Budva**	**1.79**	**303**	⇓*i*Pn	**Pn**	**22 50 45.8**	**+0.2**
BUM				*i* Sn	**Sg**	**22 51 12.1**	**+0.9**
HORT	**Hortiatis**	**1.81**	**113**	P	**Pn**	**22 50 45.5**	**-0.4**
HORT	**Hortiatis**	**1.81**	**113**	P	**Pn**	**22 50 45.3**	**-0.7**
HORT				S	**Sn**	**22 51 07.3**	**-2.2**
HORT				AML	AML	22 51 15.9	
	comp=E,48μm,0.5s						
HORT				AML	AML	22 51 22.2	
	comp=N,97μm,0.5s						
KOME	**Kolasin**	**1.84**	**326**	*e*Pn	**Pb**	**22 50 47.0**	**-1.0**
KOME				*e*Sn	**Sg**	**22 51 13.5**	**+0.7**
IGT	**Igoumenitsa**	**1.85**	**194**	P	**Pb**	**22 50 47.9**	**-0.3**
	baz=194						
IGT				S	**Sg**	**22 51 14.1**	**+1.0**
	baz=194						
IGT				AMP			
	comp=N,0.6nm,0.6s,baz=194						
IGT	**Igoumenitsa**	**1.85**	**194**	P	**Pb**	**22 50 47.4**	**-0.8**
IGT				S	**Sn**	**22 51 09.3**	**-0.9**
IGT				AML	AML	22 51 20.2	
	comp=N,429μm,0.9s						
IGT				AML	AML	22 51 20.6	
	comp=E,623μm,0.5s						
SELS	**Selova**	**1.89**	**5**	*e*Pn	**Pn**	**22 50 46.8**	**-0.2**
SELS				*e*Sn	**Sn**	**22 51 10.9**	**-0.5**
SOH	**Sokhos**	**1.92**	**105**	⇓*i*Pn	**Pb**	**22 50 50.0**	**+0.7**
SOH				*i* Sn	**Sg**	**22 51 16.8**	**+1.5**
SOH	**Sokhos**	**1.92**	**105**	P	**Pn**	**22 50 47.5**	**+0.2**
SOH				S	**Sn**	**22 51 10.4**	**-1.6**
SOH				AML	AML	22 51 20.7	
	comp=N,231μm,0.4s						
SOH				AML	AML	22 51 22.2	
	comp=E,401μm,0.5s						
CEME	**Cevo**	**1.92**	**310**	⇑*i*Pn	**Pn**	**22 50 48.1**	**+0.8**
CEME				*i* Sn	**Sg**	**22 51 15.2**	**-0.1**
THL	**Klokotos Trika**	**1.96**	**154**	P	**Pn**	**22 50 47.9**	**+0.1**
THL				S	**Sb**	**22 51 13.8**	**-0.9**
	comp=E,155nm,0.7s						
THL	**Klokotos Trika**	**1.96**	**154**	P	**Pn**	**22 50 47.9**	**+0.1**
THL				S	**Sn**	**22 51 11.7**	**-1.1**
THL				AML	AML	22 51 19.8	
	comp=E,337μm,0.6s						
THL				AML	AML	22 51 23.0	
	comp=N,283μm,0.8s						
NKME	**Niksic**	**2.04**	**315**	*e*Pn	**Pn**	**22 50 49.5**	**+0.4**
NKME				*e*Sn	**Sb**	**22 51 18.0**	**+0.6**
SJES	**Sjenica**	**2.05**	**341**	*e*Pn	**Pn**	**22 50 49.8**	**+0.6**
SJES				*e*Sn	**Sb**	**22 51 16.0**	**-1.6**
SJES	**Sjenica**	**2.05**	**341**	*e*Pn	**Pn**	**22 50 48.9**	**-0.3**
HCY	**Herceg Novi**	**2.12**	**303**	*e*Pn	**Pn**	**22 50 50.0**	**-0.1**
HCY	**Herceg Novi**	**2.12**	**303**	*e*Pn	**Pn**	**22 50 50.7**	**+0.6**
HCY				*i* Sn	**Sb**	**22 51 19.8**	**+0.3**
MMB	**Musomishta**	**2.15**	**83**	*i* Pn	**Pn**	**22 50 51.4**	**+0.9**
MMB				*i* Sn	**Sg**	**22 51 23.7**	**+1.1**
PLG	**Polygyros**	**2.15**	**116**	P	**Pn**	**22 50 50.6**	**+0.1**
PLG				S	**Sn**	**22 51 18.3**	**+0.6**
PLG	**Polygyros**	**2.15**	**116**	P	**Pn**	**22 50 50.8**	**+0.3**
PLG				AML	AML	22 51 27.1	
	comp=E,92μm,0.5s						
PLG				AML	AML	22 51 29.4	
	comp=N,83μm,0.4s						
NVR	**Nevrokopi**	**2.22**	**89**	P	**Pn**	**22 50 51.6**	**+0.1**
NVR				AML	AML	22 51 31.0	
	comp=N,187μm,0.6s						
NVR				AML	AML	22 51 31.1	
	comp=E,122μm,0.5s						
SCTE	**Santa Cesarea**	**2.24**	**237**	P	**Pn**	**22 50 51.2**	**-0.5**
PLE	**Pljevlja**	**2.29**	**331**	*e*Pn	**Pn**	**22 50 53.1**	**+0.6**
PLE				*i* Sn	**Sb**	**22 51 24.3**	**-0.3**
IVAS	**Ivanjica**	**2.31**	**346**	*e*Pn	**Pn**	**22 50 52.0**	**-0.8**
IVAS				*e*Sn	**Sn**	**22 51 22.4**	**+0.7**
ZAPS	**Zavoj**	**2.32**	**33**	*e*Pn	**Pb**	**22 50 54.5**	**-1.8**
ZAPS				*e*Sn	**Sn**	**22 51 21.2**	**-0.8**
TREB	**Trebinje**	**2.36**	**307**	*e*Pn	**Pn**	**22 50 54.0**	**+0.7**
BRY	**Bratogost**	**2.36**	**312**	*e*Pn	**Pn**	**22 50 53.8**	**+0.3**
BRY				*e*Sn	**Sb**	**22 51 25.8**	**-0.7**
BOVS	**Bovan**	**2.38**	**14**	*e*Pn	**Pb**	**22 50 55.2**	**-1.9**
UPM	**Unac-Piva**	**2.39**	**322**	*e*Pn	**Pb**	**22 50 55.9**	**-1.6**
UPM	**Unac-Piva**	**2.39**	**322**	*e*Pn	**Pn**	**22 50 54.4**	**+0.5**
UPM				*e*Sn	**Sb**	**22 51 26.3**	**-1.1**
DBRK	**Dubrovnik**	**2.45**	**304**	*e*Pn	**Pn**	**22 50 55.7**	**+1.0**
MAKR	**Makrakomi, Fth**	**2.50**	**158**	P	**Pn**	**22 50 55.5**	**+0.2**
MAKR	**Makrakomi, Fth**	**2.50**	**158**	P	**Pn**	**22 50 55.5**	**+0.2**
MAKR				AML	AML	22 51 28.4	
	comp=N,581μm,0.3s						
MAKR				AML	AML	22 51 31.6	
	comp=E,624μm,0.4s						
EVR	**Evrytania**	**2.51**	**164**	P	**Pn**	**22 50 55.9**	**+0.5**
EVR				AML	AML	22 51 44.2	
	comp=E,189μm,0.6s						
EVR				AML	AML	22 51 45.1	
	comp=N,198μm,0.5s						
TSLK	**Tsoukalades, L**	**2.51**	**185**	P	**Pn**	**22 50 56.2**	**+0.7**
TSLK				AML	AML	22 51 46.4	
	comp=E,200μm,0.7s						
TSLK				AML	AML	22 51 48.6	
	comp=N,220μm,0.6s						
LKD2	**Lefkada island**	**2.55**	**184**	P	**Pn**	**22 50 56.9**	**+1.0**
LKD2	**Lefkada island**	**2.55**	**184**	P	**Pn**	**22 50 56.7**	**+0.8**
LKD2				AML	AML	22 51 39.7	
	comp=E,151μm,0.5s						
LKD2				AML	AML	22 51 40.4	
	comp=N,200μm,0.8s						
RUDO	**Rudo**	**2.55**	**334**	*e*Pn	**Pn**	**22 50 55.1**	**-0.9**
GRUS	**Gruza**	**2.56**	**357**	*e*Pn	**Pn**	**22 50 56.3**	**+0.2**
GRUS				*e*Sn	**Sn**	**22 51 28.9**	**+1.2**
ZAGS	**Zajecar**	**2.67**	**21**	*e*Pn	**Pn**	**22 50 57.3**	**-0.2**
NEO	**Neokhori**	**2.69**	**138**	P	**Pn**	**22 50 57.5**	**-0.3**
NEO	**Neokhori**	**2.69**	**138**	P	**Pn**	**22 50 57.6**	**-0.3**
NEO				AML	AML	22 51 51.4	
	comp=N,167μm,0.5s						
NEO				AML	AML	22 51 54.9	
	comp=E,129μm,0.6s						
BBLS	**Lazi&#263i**	**2.77**	**337**	*e*Pn	**Pn**	**22 50 58.7**	**-0.2**
BBLS				*e*Sn	**Sn**	**22 51 32.3**	**-0.6**
BBLS	**Lazi&#263i**	**2.77**	**337**	*e*Pn	**Pn**	**22 50 58.8**	**-0.2**
STON	**Ston**	**2.84**	**304**	*e*Pn	**Pn**	**22 51 00.4**	**+0.4**
STON	**Ston**	**2.84**	**304**	*e*Pn	**Pn**	**22 50 59.3**	**-0.6**
ANX	**Ano Chora**	**2.84**	**164**	P	**Pn**	**22 51 00.4**	**+0.3**
ANX				AML	AML	22 51 46.5	
	comp=E,275μm,0.5s						
ANX				AML	AML	22 51 50.7	
	comp=N,305μm,0.4s						
DIVS	**Divibare**	**2.85**	**347**	*e*Pn	**Pn**	**22 50 59.9**	**-0.2**
DIVS				*e*Sn	**Sn**	**22 51 35.1**	**+0.1**
AXAR	**Agios Charalam**	**2.89**	**152**	P	**Pn**	**22 51 00.5**	**-0.2**
TRUS	**Trudelj**	**2.91**	**353**	*e*Pn	**Pn**	**22 51 00.3**	**-0.7**
TRUS				*e*Sn	**Sn**	**22 51 37.0**	**+0.5**
THAS	**Thassos island**	**2.98**	**103**	P	**Pn**	**22 51 02.2**	**+0.4**
HAPS	**Han Pijesak,BI**	**3.11**	**333**	*e*Pn	**Pn**	**22 51 04.9**	**+1.2**
KUBS	**Kucevo**	**3.13**	**10**	*e*Pn	**Pn**	**22 51 03.5**	**-0.4**
KUBS				*e*Sn	**Sn**	**22 51 41.8**	**0.0**
LSTV	**Lastovo**	**3.32**	**297**	*e*Pn	**Pn**	**22 51 06.3**	**-0.2**
TEKS	**Tekeris**	**3.37**	**343**	*e*Pn	**Pn**	**22 51 06.5**	**-0.8**
TEKS	**Tekeris**	**3.37**	**343**	*e*Pn	**Pn**	**22 51 06.2**	**-1.1**
MAKA	**Makarska**	**3.48**	**305**	*e*Pn	**Pn**	**22 51 09.3**	**+0.5**
HVAR	**Hvar**	**3.79**	**301**	*e*Pn	**Pn**	**22 51 13.2**	**+0.3**
SRKV	**Supres RS**	**3.88**	**316**	*e*Pn	**Pn**	**22 51 15.4**	**+1.0**
FRGS	**Fruska Gora**	**3.91**	**349**	*e*Pn	**Pn**	**22 51 13.8**	**-0.8**
FRGS	**Fruska Gora**	**3.91**	**349**	*e*Pn	**Pn**	**22 51 14.1**	**-0.5**
MGRS	**Mrkonjic Grad**	**4.17**	**319**	*e*Pn	**Pn**	**22 51 20.0**	**+1.7**
KIJV	**Kijevo**	**4.26**	**310**	*e*Pn	**Pn**	**22 51 20.9**	**+1.4**
BLY	**Banja Luka**	**4.37**	**323**	*e*Pn	**Pn**	**22 51 22.1**	**+1.1**
A050A	**Klekovaca**	**4.50**	**316**	*e*Pn	**Pn**	**22 51 24.2**	**+1.4**
ZIRJ	**Zirje**	**4.53**	**303**	*e*Pn	**Pn**	**22 51 23.8**	**+0.6**
MORI	**Morici**	**4.60**	**305**	*e*Pn	**Pn**	**22 51 25.3**	**+1.2**
A051A	**Mrakovica**	**4.70**	**323**	*e*Pn	**Pn**	**22 51 25.9**	**+0.3**
**UDB

RSD				IAML		22 51 19.3		
	comp=N,6μm,0.7s							
STCH	**Steam Cracks**	**0.14**	**80**		Pg	22 51 18.9	-0.1	
STCH				IAML		22 51 21.9		
	comp=N,13μm,0.5s							
STCH				IAML		22 51 22.3		
	comp=E,19μm,0.8s							
NPOC	**North of Pu'u**	**0.15**	**78**		Pg	22 51 19.7	+0.4	
JCUZ	**Jacuzzi**	**0.16**	**82**		Pg	22 51 20.1	+0.6	
HTC	**Hot Caves**	**0.17**	**224**		Pg	22 51 20.4	+0.8	
MLH	**Mauna Loa**	**0.17**	**321**		Pg	22 51 19.8	+0.1	
MLH				IAML		22 51 24.0		
	comp=N,8μm,0.6s							
MLH				IAML		22 51 24.1		
	comp=E,10μm,0.4s							
JOKA	**Jonika Flow**	**0.26**	**74**		Pg	22 51 21.0	-0.3	
JOKA				IAML		22 51 28.9		
	comp=E,14μm,0.7s							
HMH	**Humu'ula Sheep**	**0.31**	**320**		Pg	22 51 22.5	+0.1	
HMH				IAML		22 51 30.6		
	comp=N,6μm,0.8s							
HMH				IAML		22 51 31.6		
	comp=E,7μm,1.2s							
MWH	**Moku'aweowe**	**0.33**	**292**		Pg	22 51 23.4	+0.6	
PAH	**Pahoa**	**0.33**	**66**		Pg	22 51 23.3	+0.6	
MLOA	**Mauna Loa Obse**	**0.34**	**301**		Pg	22 51 22.8	-0.1	
MLOA				IAML		22 51 31.4		
	comp=N,9μm,1.2s							
MLOA				IAML		22 51 33.7		
	comp=E,11μm,0.8s							
KHU	**Kahuku**	**0.34**	**251**		Pg	22 51 23.3	+0.3	
KHU				IAML		22 51 33.7		
	comp=E,8μm,0.8s							
PHO	**Puu Honuaula**	**0.38**	**71**	Pg	Pb	22 51 24.7	-0.8	
POHA	**Pohakuloa**	**0.47**	**328**		Pb	22 51 26.4	-0.6	
HUH	**Hualalai**	**0.62**	**301**		Pg	22 51 28.9	+0.7	
HPAH	**Hawaii Prepara**	**0.78**	**329**		Pg	22 51 30.3	-0.9	
MHA	**Mahukona**	**1.02**	**324**	Pg	Pg	22 51 33.3	-2.4	

TIR ***25*** *22:59:17.4,41°.36N×20°.92E,h6km±2km,Md3.2,Ml3.1*
ATH ***25*** *22:59:17.7,41°.38N×20°.87E,h2km±1km,ML3.0/13, Manual Solution by M.Kolligri This location: 2020/06/03 05:58:37 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
THE ***25*** *22:59:18.8,41°.34N×20°.90E,h3km±2km,ML2.8/5,Error ellipse: s-maj=2.4km s-min=0.8km az=219.0*
PDG ***25*** *22:59:18.7±0.7,41°.35N×20°.87E,h10km±1km,ML3.1/13, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*
BEO ***25*** *22:59:18.8±0.3,41°.31N×20°.90E,h5km±2km,ML2.8/14*
SKO ***25*** *22:59:19.1,41°.30N×20°.96E,h9km,ML3.0*
SOF ***25*** *22:59:20.5,41°.30N±0°.07×21°.04E±0°.06,h15km±9km, MD3.0/4*

ISC 25 22:59:18.7±1.1,**41°.34N**±0°.01×**20°.91E**±0°.01,**h3**km±9km, **n125,σ099**/193,**5C-4D, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.24**	**200**	*e*Pg		**Pg**	**22 59 23.6**	**+0.2**
OHR				*e*Sg		**Sg**	**22 59 26.1**	**-0.5**
OHR	**Ohrid**	**0.24**	**200**	⇑*i*Pg		**Pg**	**22 59 23.7**	**+0.3**
OHR				*i* Sg		**Sg**	**22 59 27.6**	**+1.1**
OHR				*e*Lg		Lg	22 59 27.7	
	comp=E,6μm,0.4s							
FNA	**Florina**	**0.66**	**147**	P		**Pg**	**22 59 31.0**	**-0.3**
	baz=148							
FNA				S		**Sg**	**22 59 40.8**	**+0.9**
	baz=148							
FNA				AMP				
	comp=N,3.5nm,0.3s,baz=148							
FNA	**Florina**	**0.66**	**147**	P		**Pg**	**22 59 30.9**	**-0.3**
FNA				S		**Sb**	**22 59 41.2**	**-1.2**
FNA	**Florina**	**0.66**	**147**	⇑*i*Pg		**Pg**	**22 59 30.9**	**-0.3**
FNA				*i* Sg		**Sb**	**22 59 41.4**	**-1.0**
FNA	**Florina**	**0.66**	**147**	P		**Pg**	**22 59 31.1**	**-0.3**
FNA				S		**Sg**	**22 59 40.9**	**+1.1**
KBN	**Korca**	**0.72**	**187**	P		**Pg**	**22 59 32.3**	**-0.2**
	baz=188							
KBN				S		**Sg**	**22 59 42.8**	**+0.9**
	baz=188							
KBN				AMP				
	comp=N,3.5nm,0.4s,baz=188							
KBN	**Korca**	**0.72**	**187**	P		**Pg**	**22 59 32.2**	**-0.3**
KBN				S		**Sb**	**22 59 43.1**	**-1.1**
	comp=N,885nm,0.4s							
SKO	**Skopje**	**0.75**	**32**	*e*Pg		**Pg**	**22 59 33.5**	**+0.5**
SKO				*e*Sg		**Sb**	**22 59 43.9**	**-0.9**
SKO	**Skopje**	**0.75**	**32**	*i* Pg		**Pb**	**22 59 33.9**	**-0.4**
SKO				*i* Sg		**Sb**	**22 59 44.0**	**-0.9**
SKO				*e*Lg		Lg	22 59 46.6	
	comp=E,39nm,0.3s							
TIR	**Tirane**	**0.79**	**271**	P		**Pg**	**22 59 32.9**	**-0.8**
	baz=270							
TIR				S		**Sg**	**22 59 44.5**	**+0.6**
	baz=270							
TIR				AMP				
	comp=N,1.2nm,0.2s,baz=270							
TIR	**Tirane**	**0.79**	**271**	P		**Pg**	**22 59 32.9**	**-0.8**
TIR				S		**Sb**	**22 59 45.2**	**-0.8**
	comp=N,362nm,0.2s							
TIR	**Tirane**	**0.79**	**271**	*e*Pg		**Pg**	**22 59 32.7**	**-1.0**
TIR				*e*Sg		**Sg**	**22 59 44.3**	**+0.4**
NEST	**Nestorio**	**0.93**	**173**	P		**Pg**	**22 59 35.5**	**-1.0**
NEST				S		**Sb**	**22 59 50.5**	**+0.3**
	comp=N,1μm,0.4s							
NEST	**Nestorio**	**0.93**	**173**	P		**Pg**	**22 59 36.0**	**-0.5**
NEST				S		**Sb**	**22 59 50.2**	**-0.1**
STIP	**Stip**	**1.02**	**69**	*i* Pg		**Pn**	**22 59 41.8**	**+2.0**
STIP				*i* Sg		**Sn**	**22 59 59.1**	**+4.4**
PUK	**Puka**	**1.03**	**313**	P		**Pg**	**22 59 36.9**	**-1.6**
	baz=312							
PUK				S		**Sb**	**22 59 52.6**	**-0.6**
	baz=312							
PUK				AMP				
	comp=E,1.7nm,0.5s,baz=312							
PENT	**Pentalofos**	**1.16**	**171**	P		**Pg**	**22 59 40.6**	**-0.2**
PENT				S		**Sb**	**22 59 57.0**	**+0.2**
PENT	**Pentalofos**	**1.16**	**171**	P		**Pg**	**22 59 40.4**	**-0.5**
PENT				S		**Sb**	**22 59 56.9**	**+0.1**
GRG	**Griva**	**1.19**	**108**	P		**Pg**	**22 59 41.1**	**-0.4**
GRG				S		**Sn**	**22 59 58.4**	**-0.5**
	comp=E,250nm,0.4s							
GRG	**Griva**	**1.19**	**108**	⇑*i*Pg		**Pg**	**22 59 41.1**	**-0.4**
GRG				*i* Sg		**Sn**	**22 59 59.0**	**+0.2**
GRG	**Griva**	**1.19**	**108**	P		**Pg**	**22 59 40.5**	**-1.0**
GRG				S		**Sb**	**22 59 57.6**	**-0.1**
BCI	**Bajram Curri**	**1.20**	**329**	P		**Pg**	**22 59 40.8**	**-0.9**
	baz=329							
BCI				S		**Sb**	**22 59 57.8**	**-0.2**
	baz=329							
BCI				AMP				
	comp=N,2.7nm,0.5s,baz=329							
LSK	**Leskovik**	**1.21**	**191**	P		**Pg**	**22 59 41.5**	**-0.4**
	baz=192							
LSK				S		**Sn**	**22 59 59.0**	**-0.4**
	baz=192							
LSK				AMP				
	comp=N,3.2nm,0.5s,baz=192							
LSK	**Leskovik**	**1.21**	**191**	P		**Pg**	**22 59 41.2**	**-0.7**
LSK				S		**Sn**	**22 59 58.9**	**-0.6**
	comp=N,842nm,0.5s							
VAY	**Valandovo**	**1.25**	**90**	*e*Pg		**Pn**	**22 59 42.3**	**-0.7**
VAY				*e*Sg		**Sg**	**22 59 58.7**	**-0.2**
VAY	**Valandovo**	**1.25**	**90**	⇓*i*Pg		**Pn**	**22 59 42.7**	**-0.3**
VAY				*i* Sg		**Sb**	**22 59 59.6**	**+0.3**
VAY				*e*Lg		Lg	23 00 01.0	
	comp=N,116nm,0.5s							
VAY				*e*Lg		Lg	23 00 02.4	
	comp=Z,128nm,0.8s							
VLO	**Vlora**	**1.38**	**231**	P		**Pg**	**22 59 46.5**	**+1.3**
	baz=231							
VLO				S		**Sg**	**23 00 05.3**	**+2.3**
	baz=231							
VLO				AMP				
	comp=N,2.5nm,0.5s,baz=231							
ULC	**Ulcinj**	**1.39**	**297**	⇑*i*Pg		**Pn**	**22 59 43.0**	**-2.0**
ULC				*i* Sg		**Sg**	**23 00 05.0**	**+1.6**
KPRO	**Kipourio**	**1.43**	**166**	P		**Pn**	**22 59 44.5**	**-1.0**
KPRO	**Kipourio**	**1.43**	**166**	P		**Pn**	**22 59 44.4**	**-1.0**
KPRO				S		**Sg**	**23 00 04.8**	**+0.3**
PVY	**Plav**	**1.44**	**331**	*e*Pg		**Pn**	**22 59 44.8**	**-0.9**
PVY				*i* Sg		**Sg**	**23 00 07.0**	**+2.1**
PRVS	**Prvonek**	**1.46**	**36**	*e*Pg		**Pb**	**22 59 46.1**	**-0.3**
PRVS				*e*Sg		**Sg**	**23 00 06.0**	**+0.6**
DRME	**Dracevica, Mon**	**1.54**	**304**	*e*Pn		**Pn**	**22 59 46.6**	**-0.5**
DRME	**Dracevica, Mon**	**1.54**	**304**	*e*Pg		**Pn**	**22 59 46.5**	**-0.5**
DRME				*e*Sg		**Sg**	**23 00 10.2**	**+2.0**
SRN	**Sarande**	**1.61**	**206**	P		**Pg**	**22 59 49.6**	**0.0**
	baz=206							
SRN				S		**Sg**	**23 00 11.9**	**+1.4**
	baz=206							
SRN				AMP				
	comp=N,0.6nm,0.4s,baz=206							
BARS	**Barje**	**1.62**	**24**	*e*Pg		**Pg**	**22 59 49.6**	**-0.1**
BARS				*e*Sg		**Sg**	**23 00 12.1**	**+1.3**
BARS	**Barje**	**1.62**	**24**	⇓*i*Pn		**Pg**	**22 59 49.8**	**+0.1**
BARS				*i* Sn		**Sg**	**23 00 13.5**	**+2.7**
PDG	**Podgorica**	**1.65**	**312**	*e*Pn		**Pn**	**22 59 48.3**	**-0.1**
PDG	**Podgorica**	**1.65**	**312**	*e*Pn		**Pn**	**22 59 48.5**	**+0.1**
PDG				*e*Sn		**Sg**	**23 00 12.6**	**+1.1**
BOSS	**Bosilegrad**	**1.65**	**45**	*e*Pg		**Pn**	**22 59 48.9**	**+0.4**
BOSS				*e*Sg		**Sn**	**23 00 09.8**	**-0.3**
IVA	**Berane**	**1.71**	**334**	*e*Pn		**Pn**	**22 59 49.7**	**+0.4**
IVA				*i* Sn		**Sg**	**23 00 13.6**	**+0.1**
THE	**Thessaloniki**	**1.71**	**114**	*e*Pn		**Pn**	**22 59 49.3**	**0.0**
LIT	**Litokhoron**	**1.73**	**135**	P		**Pn**	**22 59 49.8**	**+0.2**
LIT	**Litokhoron**	**1.73**	**135**	*i* Pn		**Pn**	**22 59 49.6**	**+0.1**
KKB	**Krupnik**	**1.74**	**73**	S		**Sb**	**23 00 13.4**	**0.0**
KKB				P		**Pn**	**22 59 50.2**	**+0.5**
KKB	**Krupnik**	**1.74**	**73**	*i* Pn		**Pn**	**22 59 50.2**	**+0.5**
KKB				*i* Sn		**Sg**	**23 00 14.8**	**+0.3**
BUM	**Brajici-Budva**	**1.79**	**303**	*e*Pn		**Pn**	**22 59 50.7**	**+0.3**
BUM				*i* Sn		**Sg**	**23 00 16.2**	**+0.2**
HORT	**Hortiatis**	**1.82**	**113**	P		**Pn**	**22 59 50.1**	**-0.8**
HORT				S		**Sb**	**23 00 15.9**	**+0.1**
KOME	**Kolasin**	**1.83**	**326**	⇑*i*Pn		**Pn**	**22 59 51.7**	**+0.6**
KOME				*e*Sn		**Sg**	**23 00 17.4**	**-0.1**
IGT	**Igoumenitsa**	**1.86**	**194**	P		**Pb**	**22 59 53.5**	**+0.2**
	baz=194							
IGT				S		**Sg**	**23 00 19.7**	**+1.3**
	baz=194							
IGT				AMP				
	comp=N,0.8nm,0.5s,baz=194							
IGT	**Igoumenitsa**	**1.86**	**194**	P		**Pb**	**22 59 52.2**	**-1.0**
IGT				S		**Sn**	**23 00 15.2**	**-0.2**
SELS	**Selova**	**1.88**	**5**	*e*Pn		**Pn**	**22 59 51.4**	**-0.3**
SELS				*e*Sn		**Sb**	**23 00 16.6**	**-1.0**
CEME	**Cevo**	**1.91**	**310**	*e*Pn		**Pn**	**22 59 52.5**	**+0.3**
CEME				*e*Sn		**Sg**	**23 00 19.2**	**-0.9**
SOH	**Sokhos**	**1.92**	**105**	*i* Pn		**Pn**	**22 59 52.6**	**+0.3**
SOH				*i* Sn		**Sg**	**23 00 20.5**	**+0.2**
SOH	**Sokhos**	**1.92**	**105**	P		**Pn**	**22 59 51.7**	**-0.5**
SOH				S		**Sb**	**23 00 17.8**	**-0.9**
THL	**Klokotos Trika**	**1.96**	**154**	P		**Pn**	**22 59 53.0**	**+0.2**
THL				S		**Sn**	**23 00 17.1**	**-0.8**
THL	**Klokotos Trika**	**1.96**	**154**	P		**Pn**	**22 59 52.6**	**-0.2**
THL				S		**Sb**	**23 00 19.2**	**-0.7**
NKME	**Niksic**	**2.04**	**315**	*e*Pn		**Pn**	**22 59 54.2**	**+0.3**
NKME				*e*Sn		**Sb**	**23 00 22.0**	**0.0**
SJES	**Sjenica**	**2.04**	**340**	*e*Pn		**Pn**	**22 59 54.4**	**+0.4**
SJES				*e*Sn		**Sb**	**23 00 22.0**	**-0.2**
SJES	**Sjenica**	**2.04**	**340**	*e*Pn		**Pn**	**22 59 54.8**	**+0.8**
HCY	**Herceg Novi**	**2.11**	**302**	*e*Pn		**Pn**	**22 59 55.9**	**+1.0**
HCY	**Herceg Novi**	**2.11**	**302**	*e*Pn		**Pn**	**22 59 55.2**	**+0.3**
HCY				*e*Sn		**Sb**	**23 00 24.0**	**-0.2**
MMB	**Musomishta**	**2.15**	**84**	S		**Sg**	**23 00 28.0**	**+0.4**
MMB				P		**Pn**	**22 59 56.1**	**+0.8**
MMB	**Musomishta**	**2.15**	**84**	⇓*i*Pn		**Pn**	**22 59 56.7**	**+1.3**
MMB				*i* Sn		**Sg**	**23 00 29.3**	**+1.7**
PLG	**Polygyros**	**2.15**	**116**	P		**Pn**	**22 59 55.9**	**+0.5**
PLG	**Polygyros**	**2.15**	**116**	P		**Pn**	**22 59 55.6**	**+0.2**
VTS	**Vitosha**	**2.15**	**53**	S		**Sn**	**23 00 23.2**	**+0.4**
VTS				P		**Pn**	**22 59 56.5**	**+0.9**
PLNA	**Plana**	**2.19**	**58**	S		**Sg**	**23 00 28.5**	**-0.7**
PLNA				P		**Pb**	**22 59 58.0**	**-1.0**
NVR	**Nevrokopi**	**2.22**	**89**	P		**Pn**	**22 59 56.6**	**+0.2**
SCTE	**Santa Cesarea**	**2.25**	**236**	P		**Pn**	**22 59 56.0**	**-0.6**
PLE	**Pljevlja**	**2.29**	**331**	⇓*i*Pn		**Pn**	**22 59 57.6**	**+0.3**
PLE				*i* Sn		**Sb**	**23 00 28.2**	**-1.0**
IVAS	**Ivanjica**	**2.30**	**346**	*e*Pn		**Pn**	**22 59 57.2**	**-0.3**
IVAS				*e*Sn		**Sn**	**23 00 26.8**	**+0.4**
ZAPS	**Zavoj**	**2.32**	**33**	*e*Pn		**Pn**	**22 59 59.1**	**+1.4**
ZAPS				*e*Sn		**Sn**	**23 00 26.9**	**+0.2**
TREB	**Trebinje**	**2.35**	**307**	*e*Pn		**Pn**	**22 59 58.8**	**+0.7**
BRY	**Bratogost**	**2.35**	**312**	*e*Pn		**Pn**	**22 59 59.7**	**+1.4**
BRY	**Bratogost**	**2.35**	**312**	*e*Pn		**Pn**	**22 59 58.7**	**+0.4**
BRY				*e*Sn		**Sb**	**23 00 29.7**	**-1.5**
BOVS	**Bovan**	**2.37**	**14**	*e*Pg		**Pb**	**23 00 00.8**	**-1.1**
BOVS				*e*Sg		**Sg**	**23 00 34.8**	**+0.1**
UPM	**Unac-Piva**	**2.38**	**322**	*e*Pn		**Pb**	**23 00 01.7**	**-0.6**
UPM	**Unac-Piva**	**2.38**	**322**	*e*Pn		**Pn**	**22 59 59.1**	**+0.4**
UPM				*i* Sn		**Sb**	**23 00 30.5**	**-1.6**
MAKR	**Makrakomi, Fth**	**2.51**	**158**	P		**Pn**	**23 00 00.5**	**+0.5**
MAKR	**Makrakomi, Fth**	**2.51**	**158**	P		**Pn**	**23 00 00.6**	**+0.3**
EVR	**Evrytania**	**2.52**	**164**	P		**Pn**	**23 00 01.1**	**+0.6**
TSLK	**Tsoukalades, L**	**2.52**	**184**	P		**Pn**	**23 00 01.0**	**+0.5**
RUDO	**Rudo**	**2.54**	**334**	*e*Pn		**Pn**	**23 00 00.6**	**-0.2**
GRUS	**Gruza**	**2.55**	**357**	*e*Pn		**Pn**	**23 00 01.2**	**+0.3**
GRUS				*e*Sn		**Sn**	**23 00 33.5**	**+1.1**
LKD2	**Lefkada island**	**2.56**	**184**	P		**Pn**	**23 00 02.4**	**+1.4**
	baz=185							
ZAGS	**Zajecar**	**2.66**	**21**	*e*Pn		**Pn**	**23 00 03.3**	**+1.0**
BBLS	**Lazi&#263i**	**2.76**	**337**	*e*Pn		**Pn**	**23 00 03.9**	**+0.1**
BBLS				*e*Sn		**Sn**	**23 00 38.0**	**+0.4**
BBLS	**Lazi&#263i**	**2.76**	**337**	*e*Pn		**Pn**	**23 00 04.1**	**+0.3**
PVO	**Paravola**	**2.76**	**170**	P		**Pn**	**23 00 03.5**	**-0.2**
STON	**Ston**	**2.83**	**304**	*e*Pn		**Pn**	**23 00 06.3**	**+1.6**
STON	**Ston**	**2.83**	**304**	*e*Pn		**Pn**	**23 00 05.4**	**+0.7**
DIVS	**Divibare**	**2.84**	**347**	*e*Pn		**Pn**	**23 00 04.7**	**-0.2**
ANX	**Ano Chora**	**2.85**	**164**	P		**Pn**	**23 00 05.4**	**+0.3**
AXAR	**Agios Charalam**	**2.90**	**152**	P		**Pn**	**23 00 05.8**	**+0.1**
TRUS	**Trudelj**	**2.91**	**353**	*e*Pn		**Pn**	**23 00 05.5**	**-0.2**
MPEP	**Malo Peshtene**	**2.91**	**45**	P		**Pg**	**23 00 13.0**	**-1.4**
PLD	**Plovdiv**	**2.98**	**73**	*i* Pn		**Pb**	**23 00 10.4**	**-2.0**
HAPS	**Han Pijesak,Bl**	**3.10**	**333**	*e*Pn		**Pn**	**23 00 09.1**	**+0.6**
KUBS	**Kucevo**	**3.12**	**10**	*e*Pn		**Pn**	**23 00 07.4**	**-1.3**
LSTV	**Lastovo**	**3.31**	**297**	*e*Pn		**Pn**	**23 00 11.6**	**+0.2**
KDZ	**Kurdzhali**	**3.34**	**84**	P		**Pn**	**23 00 13.5**	**+1.8**
TEKS	**Tekeris**	**3.36**	**343**	*e*Pn		**Pn**	**23 00 11.8**	**-0.3**
TEKS	**Tekeris**	**3.36**	**343**	*e*Pn		**Pn**	**23 00 12.1**	**0.0**
RICI	**Ricice**	**3.53**	**309**	*e*Pn		**Pn**	**23 00 15.7**	**+1.4**
HVAR	**Hvar**	**3.78**	**300**	*e*Pn		**Pn**	**23 00 18.7**	**+0.9**
SRKY	**Kupres RS**	**3.88**	**316**	*e*Pn		**Pn**	**23 00 19.4**	**+0.2**
FRGS	**Fruska Gora**	**3.90**	**348**	*e*Pn		**Pn**	**23 00 18.8**	**-0.6**
FRGS	**Fruska Gora**	**3.90**	**348**	*e*Pn		**Pn**	**23 00 17.6**	**-1.8**
MGRS	**Mrkonjic Grad**	**4.17**	**319**	*e*Pn		**Pn**	**23 00 25.2**	**+2.1**
KUV	**Kijevo**	**4.25**	**310**	*e*Pn		**Pn**	**23 00 20.0**	**+1.7**
BLY	**Banja Luka**	**4.36**	**323**	*e*Pn		**Pn**	**23 00 27.2**	**+1.4**
A050A	**Klekovaca**	**4.49**	**316**	*e*Pn		**Pn**	**23 00 29.6**	**+2.0**
ZIRJ	**Zirje**	**4.53**	**302**	*e*Pn		**Pn**	**23 00 29.0**	**+1.0**
MORI	**Morici**	**4.59**	**305**	*e*Pn		**Pn**	**23 00 30.4**	**+1.5**
A051A	**Mrakovica**	**4.69**	**323**	*e*Pn		**Pn**	**23 00 31.3**	**+0.9**
DUGI	**Dugi Otok**	**5.06**	**304**	*e*Pn		**Pn**	**23 00 36.0**	**+0.6**
DUGI						Sn	**23 01 34.1**	**-0.2**
VIRC	**Vir**	**5.22**	**306**	*e*Pn		**Pn**	**23 00 38.4**	**+0.9**
BOJS	**Bojanci**	**5.85**	**317**	*e*Pn		**Pn**	**23 00 47.2**	**+1.0**
CRES	**Cresnjev**	**5.98**	**320**	*e*Pn		**Pn**	**23 00 49.4**	**+1.4**
CEY	**Cerknica**	**6.44**	**315**	*e*Pn		**Pn**	**23 00 53.6**	**-0.7**
SOKA	**Soboth**	**6.81**	**324**	*e*Pn		**Pn**	**23 01 01.6**	**+2.1**
	comp=N,0.8nm,0.5s							
OBKA	**Obir**	**6.91**	**321**	*i* Pn		**Pn**	**23 01 03.7**	**+2.8**
	comp=N,0.7nm,0.3s							
VYHS	**Vyhne**	**7.30**	**349**	*e*SN		**Sn**	**23 02 32.1**	**+2.6**

TIR ***25*** *23:21:16.1,41°.32N×20°.88E,h6km±3km,Md2.6,Ml2.2*
THE ***25*** *23:21:16.7,41°.37N×20°.91E,h2km±3km,ML2.1/5,Error ellipse: s-maj=3.8km s-min=0.7km az=202.0*
SKO ***25*** *23:21:17.4,41°.29N×20°.96E,h8km,ML2.2*
BEO ***25*** *23:21:17.8±0.3,41°.33N×20°.91E,h0km±2km,ML2.0/10*

ISC 25 23:21:17.1±1.1,**41°.33N**±0°.02×**20°.90E**±0°.02,**h1**km±10km, **n43,σ098/77,2C, Albania**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.23**	**199**	*e*Pg		**Pg**	**23 21 21.8**	**+0.3**
OHR				*e*Sg		**Sg**	**23 21 25.1**	**+0.6**
OHR	**Ohrid**	**0.23**	**199**	*i* Pg		**Pg**	**23 21 21.8**	**+0.3**
OHR				*i* Sg		**Sg**	**23 21 25.7**	**+1.2**
OHR				*e*Lg		Lg	23 21 25.8	
	comp=E,778nm,0.4s							
OHR				*e*Lg		Lg	23 21 25.8	

	comp=N,565nm,0.3s							
FNA	**Florina**	**0.65**	**146**	P		**Pg**	**23 21 29.1**	**-0.5**
	baz=144							
FNA				S		**Sg**	**23 21 39.3**	**+1.2**
	baz=144							
FNA				AMP				
	comp=E,0.8nm,0.2s,baz=144							
FNA	**Florina**	**0.65**	**146**	P		**Pg**	**23 21 29.0**	**-0.5**
FNA				S		**Sg**	**23 21 39.2**	**+1.2**
	comp=E,365nm,0.1s							
FNA	**Florina**	**0.65**	**146**	⇑*i*Pg		**Pg**	**23 21 29.1**	**-0.5**
FNA				*i* Sg		**Sg**	**23 21 39.3**	**+1.2**
KBN	**Korca**	**0.71**	**187**	P		**Pg**	**23 21 30.3**	**-0.4**
	baz=186							
KBN				S		**Sg**	**23 21 40.2**	**+0.4**
	baz=186							
KBN				AMP				
	comp=N,0.5nm,0.5s,baz=186							
KBN	**Korca**	**0.71**	**187**	P		**Pg**	**23 21 30.5**	**-0.2**
KBN				S		**Sb**	**23 21 41.6**	**-1.0**
	comp=N,105nm,0.4s							
SKO	**Skopje**	**0.76**	**32**	*e*Pg		**Pb**	**23 21 32.6**	**-0.5**
SKO				*e*Sg		**Sg**	**23 21 41.6**	**+0.1**
SKO	**Skopje**	**0.76**	**32**	*i* Pg		**Pg**	**23 21 32.3**	**+0.6**
SKO				*i* Sg		**Sg**	**23 21 42.6**	**+1.1**
TIR	**Tirane**	**0.78**	**272**	P		**Pg**	**23 21 31.2**	**-0.8**
	baz=273							
TIR				S		**Sg**	**23 21 42.5**	**+0.5**
	baz=273							
TIR				AMP				
	comp=E,0.5nm,0.1s,baz=273							
TIR	**Tirane**	**0.78**	**272**	P		**Pg**	**23 21 31.2**	**-0.8**
TIR				S		**Sg**	**23 21 42.7**	**+0.6**
	comp=E,130nm,0.2s							
TIR	**Tirane**	**0.78**	**272**	*e*Pg		**Pg**	**23 21 31.0**	**-1.0**
TIR				*e*Sg		**Sg**	**23 21 43.2**	**+1.1**
NEST	**Nestorio**	**0.92**	**173**	P		**Pg**	**23 21 33.8**	**-0.9**
NEST				S		**Sb**	**23 21 48.3**	**-0.4**
	comp=E,100nm,0.2s							
STIP	**Stip**	**1.03**	**69**	*i* Pg		**Pn**	**23 21 40.1**	**+1.3**
STIP				*i* Sg		**Sn**	**23 21 57.2**	**+3.3**
PUK	**Puka**	**1.04**	**314**	P		**Pg**	**23 21 35.3**	**-1.6**
	baz=315							
PUK				S		**Sb**	**23 21 51.5**	**-0.5**
	baz=315							
PUK				AMP				
	comp=E,0.2nm,0.2s,baz=315							
PENT	**Pentalofos**	**1.15**	**171**	P		**Pg**	**23 21 38.9**	**-0.2**
PENT				S		**Sn**	**23 21 55.8**	**-1.0**
GRG	**Griva**	**1.20**	**108**	P		**Pg**	**23 21 39.3**	**-0.7**
GRG				S		**Sb**	**23 21 56.1**	**-0.4**
GRG	**Griva**	**1.20**	**108**	⇑*i*Pg		**Pg**	**23 21 39.3**	**-0.7**
GRG				*i* Sg		**Sn**	**23 21 57.0**	**-0.9**
LSK	**Leskovik**	**1.20**	**191**	P		**Pg**	**23 21 40.0**	**0.0**
	baz=191							
LSK				S		**Sb**	**23 21 56.2**	**-0.6**
	baz=191							
LSK				AMP				
	comp=E,0.3nm,0.8s,baz=191							
LSK	**Leskovik**	**1.20**	**191**	P		**Pg**	**23 21 40.0**	**0.0**
LSK				S		**Sn**	**23 21 57.6**	**-0.5**
	comp=E,120nm,0.6s							
BCI	**Bajram Curri**	**1.21**	**329**	P		**Pg**	**23 21 39.1**	**-1.1**
	baz=331							
BCI				S		**Sn**	**23 21 57.6**	**-0.7**
	baz=331							
BCI				AMP				
	comp=N,0.1nm,0.2s,baz=331							
VAY	**Valandovo**	**1.26**	**90**	*e*Pg		**Pg**	**23 21 40.8**	**-0.4**
VAY				*e*Sg		**Sg**	**23 21 57.5**	**0.0**
VAY	**Valandovo**	**1.26**	**90**	*i* Pg		**Pg**	**23 21 41.0**	**-0.2**
VAY				*i* Sg		**Sb**	**23 21 57.8**	**-0.6**
V

STCH					IAML		23 29 32.8	
	comp=N,365nm,2.0s							
STCH	**Steam Cracks**	**0.16**	**96**		Sg	23 29 34.3	+1.3	
NPOC	**North of Pu'u**	**0.17**	**93**		Pg	23 29 32.0	+0.8	
NPOC					Sg	23 29 35.1	+1.6	
HTC	**Hot Caves**	**0.19**	**212**		Pg	23 29 32.5	+0.9	
KHU	**Kahuku**	**0.34**	**243**		Pg	23 29 35.8	+1.2	
KHU	**Kahuku**	**0.34**	**243**	IAML		23 29 40.5		
	comp=E,231nm,3.5s							
KHU				IAML		23 29 40.8		
	comp=N,286nm,2.1s							

*IDC **25** 23:34:45.9±1.8, 22°.37N×94°.03E, h0km, mb3.7/7, mbtmp3.7/7, MS3.3/1, Error ellipse: s-maj=144.9km s-min=18.7km az=59.0*

ISC 25 23:34:57.0±1.6, 22°.6N±0°.5×94°.2E±0°.7, h88km, n8, σ0s40/7, mb3.6/7, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**26.05**	**341**	P	**P**	**23 40 22.5**	**+0.6**
	1.4nm,0.8s,baz=146,slow=10.0,SNR=14 1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**30.59**	**340**	P	**P**	**23 41 02.2**	**-0.1**
	0.5nm,0.6s,baz=154,slow=8.1,SNR=5.0 0.5nm,0.6s						
ZALV	**Zalesovo Beam**	**32.15**	**350**	P	**P**	**23 41 16.0**	**0.0**
	0.4nm,0.4s,baz=158,slow=6.0,SNR=3.0 0.4nm,0.4s						
BVAR	**Borovoye Array**	**35.45**	**335**	P	**P**	**23 41 44.7**	**+0.1**
	0.3nm,0.3s,baz=133,slow=9.9,SNR=4.2 0.3nm,0.3s						
KVAR	**Kislovodsk Arr**	**47.24**	**310**	LR	LR	00 08 00.2	
	comp=Z,29nm,18.1s,baz=310,slow=42						
WRA	**Warramunga Arr**	**57.59**	**134**	P	**P**	**23 44 37.7**	**-0.2**
	0.3nm,0.5s,baz=321,slow=7.4,SNR=7.7 0.3nm,0.5s						
ASAR	**Alice Springs**	**59.98**	**137**	P	**P**	**23 44 54.8**	**+0.3**
	0.3nm,0.4s,baz=328,slow=7.5,SNR=6.6 0.3nm,0.4s						
HFS	**Hagfors**	**66.04**	**327**	P	**P**	**23 45 33.7**	**-0.4**
	0.4nm,0.4s,baz=95,slow=6.1,SNR=1.5 0.4nm,0.4s						

*IDC **25** 23:42:47.8±1.2, 67°.05N×23°.70E, h0km, mbtmp2.7/3, ML1.9/3, Error ellipse: s-maj=28.2km s-min=8.8km az=99.0*

*UPP **25** 23:42:50.3±0.0, 67°.85N×20°.20E, h0km, ML2.1, Unknown*

*HEL **25** 23:42:51.1±0.1, 67°.82N×20°.27E, h0km, ML1.6, Suspected explosion*

ISC 25 23:42:49.6±0.8, 67°.81N±0°.03×20°.31E±0°.04, h0km, n29, σ1s02/38, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.15**	**4**	P	**Pg**	**23 42 52.8**	**+0.4**
KUA				S	**Sg**	**23 42 54.4**	**+0.1**
RATU	**Laukkuluspa**	**0.27**	**274**	P	**Pg**	**23 42 54.9**	**0.0**
KOVU	**Salmi**	**0.42**	**353**	P	**Pg**	**23 42 57.6**	**-0.1**
LANU	**Lannavaara**	**0.68**	**69**	PG	**Pb**	**23 43 03.5**	**-0.9**
LANU				SG	**Sg**	**23 43 08.9**	**-2.6**
LANU	**Lannavaara**	**0.68**	**69**	P	**Pb**	**23 43 03.5**	**-0.9**
DUNU	**Dundret**	**0.70**	**172**	P	**Pb**	**23 43 04.5**	**-0.1**
MASU	**Masugnsbyn**	**0.74**	**118**	P	**Pb**	**23 43 05.0**	**-0.3**
SALU	**Saltoluokta**	**0.81**	**239**	*e*P	**Pg**	**23 43 05.7**	**+0.5**
SALU	**Saltoluokta**	**0.81**	**239**	P	**Pg**	**23 43 05.8**	**+0.2**
PAJU	**Pajala**	**1.34**	**125**	PG	**Pn**	**23 43 15.5**	**-0.1**
	baz=303						
PAJU				SG	**Sn**	**23 43 34.3**	**+0.2**
PAJU	**Pajala**	**1.34**	**125**	P	**Pn**	**23 43 15.7**	**+0.1**
HEF	**Hetta**	**1.39**	**63**	*e*P	**Pb**	**23 43 16.1**	**-0.4**
HEF	**Hetta**	**1.39**	**63**	PG	**Pb**	**23 43 16.4**	**-0.1**
HEF				MSG		23 43 33.4	
	comp=Z,4.4nm,0.2s						
HEF				SG	**Sn**	**23 43 35.5**	**+0.1**
ERTU	**Ertsjaerv**	**1.46**	**149**	PG	**Pb**	**23 43 17.7**	**+0.1**
ERTU				SN	**Sn**	**23 43 38.8**	**+1.8**
ERTU	**Ertsjaerv**	**1.46**	**149**	P	**Pb**	**23 43 17.7**	**+0.1**
TRO	**Tromso**	**1.90**	**345**	PG	**Pb**	**23 43 25.0**	**-0.1**
TRO				SG	**Sb**	**23 43 48.6**	**-0.8**
KALU	**Kalix**	**2.30**	**147**	PB	**Pb**	**23 43 31.1**	**-0.8**
	baz=332						
KALU				SG	**Sg**	**23 44 02.2**	**-1.1**
TOF	**Tornio**	**2.35**	**136**	PG	**Pb**	**23 43 32.2**	**-0.6**
TOF				MSG		23 44 01.1	
	comp=Z,2.3nm,0.2s						
TOF				SG	**Sg**	**23 44 04.6**	**-0.3**
SGF	**Sodankyl**	**2.41**	**96**	PG	**Pb**	**23 43 33.4**	**-0.3**
	baz=286						
SGF				SG	**Sg**	**23 44 06.9**	**0.0**
RNF	**Rovaniemi**	**2.53**	**116**	PB	**Pb**	**23 43 35.3**	**-0.5**
RNF				SG	**Sg**	**23 44 09.2**	**-1.5**
ARCES	**ARCESS Array B**	**2.57**	**45**	Pn	**Pn**	**23 43 32.4**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=225,slow=16,SNR=2.0						
ARCES				Lg	Lg	23 44 07.9	
	comp=Z,1.0nm,0.3s,baz=225,slow=26,SNR=11 comp=Z,2.7nm,0.8s						
RAJF	**Raja-Jooseppi**	**3.07**	**74**	PN	**Pn**	**23 43 40.1**	**+0.8**
KEV	**Kevo**	**3.12**	**48**	MSG		23 44 23.1	
	comp=Z,1.3nm,0.2s						
KEV				SG	**Sb**	**23 44 26.3**	**+1.8**
RANF	**Ranua**	**3.12**	**122**	SG	**Sg**	**23 44 27.8**	**-2.1**
BURU	**Burvik**	**3.27**	**172**	PB	**Pb**	**23 43 46.3**	**-2.0**
UMAU	**Umeaa**	**3.94**	**178**	PN	**Pn**	**23 43 51.9**	**+0.6**
KU6	**Riekki**	**4.18**	**111**	PG	**Pb**	**23 44 06.2**	**+2.3**
	baz=295						
FINES	**FINESS Array B**	**6.85**	**156**	Pn	Pn	23 44 14.2	-17
	comp=Z,0.1nm,0.3s,baz=347,slow=24,SNR=3.2						
FINES				Lg	Lg	23 45 47.4	
	baz=349,slow=21,SNR=1.5 comp=Z,1.4nm,0.7s						
NOA	**NORSAR Array B**	**7.84**	**214**	Pn	**Pn**	**23 44 45.0**	**+0.1**
	baz=39,slow=22,SNR=1.5						
NOA				Lg	Lg	23 46 49.9	
	baz=55,slow=13,SNR=1.9 comp=Z,0.3nm,0.9s						

*NEIC **25** 23:48:08.9±1.6, 19°.37N±0°.01×155°.31W±0°.01, h3km±5km, Error ellipse: s-maj=2.1km s-min=1.3km az=164.0*

HVO 25 23:48:08.3±1.4, 19°.40N±0°.02×155°.288W±0°.009, h1km±6km, ML2.8/9, ML1.9/22(NEIC), Error ellipse: s-maj=2.3km s-min=1.2km az=190.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**107**		Pg	23 48 09.7	+0.9
OBL	**Observatory Le**	**0.02**	**12**		Pg	23 48 10.1	+1.2
KKO	**Keanakako`i**	**0.02**	**94**		Pg	23 48 10.0	+1.1
UWE	**Uwekahuna**	**0.02**	**348**	IAML		23 48 08.8	
	comp=N,3μm,0.5s						
UWE				Pg	Pg	23 48 09.1	+0.2
UWE				IAML		23 48 09.3	
	comp=E,2μm,1.2s						
UWE	**Uwekahuna**	**0.02**	**348**		Sg	23 48 10.2	+0.9
UWB	**Uwekahuna B**	**0.03**	**20**		Pg	23 48 10.2	+1.3
BYL	**Byron's Lodge**	**0.03**	**64**	IAML		23 48 09.1	
	comp=N,2μm,2.0s						
BYL				IAML		23 48 09.2	
	comp=E,3μm,0.9s						
BYL				Pg	Pg	23 48 09.3	+0.4
BYL					Sg	23 48 10.5	+1.1
SBLHI	**Steaming Bluff**	**0.03**	**34**		Pg	23 48 10.7	+1.7
HATHI	**Halema'uma'u T**	**0.04**	**47**		Pg	23 48 09.3	+0.3
HATHI				IAML		23 48 09.4	
	comp=N,2μm,1.1s						
HATHI				IAML		23 48 09.5	
	comp=E,3μm,0.9s						
RSD	**Rainshed**	**0.06**	**8**	Pg	Pg	23 48 10.2	+0.5
RSD					Sg	23 48 11.6	+1.0
PUH	**Pauahi**	**0.07**	**110**	Pg	Pg	23 48 10.1	+0.4
PUH				IAML		23 48 10.4	
	comp=N,966nm,2.0s						
PUH					Sg	23 48 12.3	+1.6
HLP	**Hilina Pali**	**0.10**	**190**		Pg	23 48 11.0	+0.7
HLP				IAML		23 48 12.8	
	comp=N,1μm,0.9s						
HLP					Sg	23 48 12.8	+1.2
KNHH	**Kane Nui o Ham**	**0.11**	**100**		Pg	23 48 10.9	+0.4
MLH	**Mauna Loa**	**0.13**	**316**		Pg	23 48 11.8	+1.0
MLH				IAML		23 48 15.0	
	comp=E,577nm,0.4s						
MLH	**Mauna Loa**	**0.13**	**316**		Sg	23 48 14.6	+1.9
MLH	**Mauna Loa**	**0.13**	**316**	IAML		23 48 13.4	
	comp=N,568nm,2.6s						
STCH	**Steam Cracks**	**0.15**	**95**		Pg	23 48 11.2	-0.1
STCH				IAML		23 48 12.0	
	comp=N,409nm,1.9s						
STCH				IAML		23 48 15.1	
	comp=E,372nm,1.0s						
NPOC	**North of Pu'u**	**0.17**	**92**		Pg	23 48 12.2	+0.7
HTC	**Hot Caves**	**0.19**	**213**		Pg	23 48 12.8	+0.8
KHU	**Kahuku**	**0.34**	**244**		Pg	23 48 16.1	+1.2
KHU	**Kahuku**	**0.34**	**244**	IAML		23 48 19.5	
	comp=N,344nm,2.4s						
KHU				IAML		23 48 22.4	
	comp=E,530nm,2.9s						

*IDC **25** 23:53:56.6±1.1, 38°.47N×70°.63E, h0km, mb3.6/11, mbtmp3.7/19, ML3.2/8, Error ellipse: s-maj=18.0km s-min=11.0km az=152.0*

ISC 25 23:54:01.2±1.2, 38°.8N±0°.1×70°.30E±0°.08, h10km, n27, σ1s76/31, mb3.6/10, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKS2	**Erkin-Say**	**4.65**	**34**	P	**Pn**	**23 55 15.0**	**+3.3**
	SNR=32						
UCH	**Uchtor**	**4.67**	**42**	P	**Pn**	**23 55 14.0**	**+1.8**
	SNR=52						
AAK	**Ala-Archa**	**4.96**	**39**	P	**Pn**	**23 55 18.6**	**+2.6**
	SNR=14						
AAK	**Ala-Archa**	**4.96**	**39**	Pn	**Pn**	**23 55 17.5**	**+1.6**
	6.4nm,0.3s,baz=214,slow=2.9,SNR=33						
AAK				Sn	**Sn**	**23 56 15.7**	**+2.2**
	3.3nm,0.3s,baz=124,slow=19,SNR=1.3						
AAK				Lg	Lg	23 56 39.1	
	3.0nm,0.3s,baz=156,slow=20,SNR=1.7 18nm,0.4s						
KBK	**Karagaybulak**	**5.21**	**41**	P	**Pn**	**23 55 21.6**	**+2.4**
	SNR=52						
CHMS	**Chumysh**	**5.36**	**38**	P	**Pn**	**23 55 23.2**	**+2.0**
	SNR=18						
USP	**Ospenovka**	**5.46**	**34**	P	**Pn**	**23 55 24.6**	**+2.0**
	SNR=19						
ULHL	**Ulahol**	**5.67**	**51**	P	**Pn**	**23 55 26.2**	**+0.5**
	SNR=14						
TKM2	**Tokmak 2**	**5.73**	**43**	P	**Pn**	**23 55 27.8**	**+1.2**
	SNR=31						
GEYT	**Alibeck**	**9.61**	**268**	Pn	**Pn**	**23 56 18.6**	**-1.0**
	0.3nm,0.3s,baz=91,slow=11,SNR=4.9						
GEYT				Sn	**Sn**	**23 58 09.2**	**+1.6**
	0.6nm,0.3s,baz=81,slow=36,SNR=1.2 1.4nm,0.3s						
MKAR	**Makanchi Array**	**11.86**	**44**	Pn	**Pn**	**23 56 49.5**	**-0.9**
	0.2nm,0.3s,baz=233,slow=12,SNR=33						
MKAR				Lg	Lg	00 00 15.5	
	0.1nm,0.3s,baz=181,slow=13,SNR=2.2 4.3nm,0.8s						
KURBB	**Kurchatov Arra**	**13.15**	**24**	Pn	**Pn**	**23 57 05.5**	**-2.5**
	0.1nm,0.3s,baz=215,slow=13,SNR=11						
KURBB				Sn	**Sn**	**23 59 34.1**	**-0.1**
	baz=64,slow=29,SNR=1.5						
KURBB				Lg	Lg	00 00 58.8	
	baz=70,slow=28,SNR=2.2 0.9nm,0.6s						
BVAR	**Borovoye Array**	**14.20**	**0**	Pn	**Pn**	**23 57 21.3**	**-0.9**
	0.1nm,0.3s,baz=155,slow=9.8,SNR=13						
BVAR				Lg	Lg	00 01 38.5	
	baz=168,slow=22,SNR=3.5 1.1nm,0.5s						
AKTO	**Aktyubinsk**	**14.51**	**327**	Pn	**Pn**	**23 57 26.8**	**+0.3**
	0.3nm,0.3s,baz=145,slow=14,SNR=3.7						
AKTO				Sn	**Sn**	**00 00 05.8**	**-1.4**
	0.2nm,0.3s,baz=139,slow=19,SNR=3.9						
AKTO				Lg	Lg	00 01 52.3	
	0.1nm,0.3s,baz=204,slow=12,SNR=1.0 1.0nm,0.4s						
ZALV	**Zalesovo Beam**	**18.08**	**29**	P	**Pn**	**23 58 09.4**	**-2.9**
	0.3nm,0.3s,baz=225,slow=12,SNR=8.6 1.3nm,0.5s						
ARU	**Arti**	**19.25**	**340**	P	**P**	**23 58 27.2**	**+1.6**
	baz=128,slow=3.2,SNR=4.1						
ARU				S	**Sn**	**00 01 59.6**	**-2.7**
	1.0nm,0.4s,baz=99,slow=19,SNR=1.9 1.3nm,0.5s						
GNI	**Garni**	**19.75**	**282**	P	**P**	**23 58 32.2**	**+0.8**
	1.8nm,0.6s,baz=53,slow=19,SNR=1.3 1.8nm,0.6s						
KBZ	**Khabaz**	**21.12**	**292**	P	**P**	**23 58 45.9**	**0.0**
	1.3nm,0.5s,baz=129,slow=6.5,SNR=3.1 1.3nm,0.5s						
KVAR	**Kislovodsk Arr**	**21.28**	**293**	P	**P**	**23 58 47.7**	**-0.2**
	0.8nm,0.4s,baz=105,slow=19,SNR=2.6 0.8nm,0.4s						
FINES	**FINESS Array B**	**35.26**	**325**	P	**P**	**00 00 56.1**	**+0.5**
	0.8nm,0.6s,baz=116,slow=11,SNR=6.1 0.8nm,0.6s						
ARCES	**ARCESS Array B**	**38.79**	**337**	P	**P**	**00 01 25.9**	**+0.3**
	2.4nm,0.8s,baz=105,slow=6.8,SNR=1.4 2.4nm,0.8s						
HFS	**Hagfors**	**40.91**	**320**	P	**P**	**00 01 43.6**	**+0.3**
	0.8nm,0.5s,baz=95,slow=13,SNR=6.6 0.8nm,0.5s						
NOA	**NORSAR Array B**	**42.20**	**322**	P	**P**	**00 01 56.1**	**+2.1**
	0.1nm,0.4s,baz=109,slow=7.9,SNR=1.7 0.1nm,0.4s						
ESDC	**Sonseca Array**	**55.90**	**296**	P	**P**	**00 03 39.4**	**+0.1**
	0.3nm,0.6s,baz=55,slow=7.8,SNR=6.1 0.3nm,0.6s						
ILAR	**Eielson Array**	**72.69**	**16**	P	**P**	**00 05 27.2**	**-1.7**
	0.2nm,0.7s,baz=316,slow=5.0,SNR=2.4 0.2nm,0.7s						
YKA	**Yellowknife Ar**	**78.95**	**2**	P	**P**	**00 06 03.2**	**-1.4**
	0.5nm,0.7s,baz=351,slow=6.1,SNR=4.2 0.3nm,0.7s						
WRA	**Warramunga Arr**	**83.69**	**122**	P	P	00 06 25.6	-4.8
	0.5nm,0.8s,baz=326,slow=5.0,SNR=5.1 0.5nm,0.8s						

IDC 25 23:57:01.3±1.5, 44°.25N×28°.42W, h0km, mb3.6/3, mbtmp3.5/4, ML3.5/1, MS3.3/12, Error ellipse: s-maj=54.9km s-min=30.6km az=21.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.73**	**96**	P	P	00 01 21.0	-0.4
	baz=296,slow=12,SNR=2.6						
ESDC				LR	LR	00 06 59.7	
	comp=Z,44nm,20.6s,baz=293,slow=32 0.6nm,0.8s						
MDT	**Midelt**	**21.77**	**114**	LR	LR	00 09 35.5	
	comp=Z,24nm,18.0s,baz=327,slow=35						
SCHQ	**Schefferville**	**26.75**	**307**	LR	LR	00 11 10.5	
	comp=Z,53nm,21.5s,baz=63,slow=32						
DAVOX	**Davos/Dischmat**	**26.78**	**71**	LR	LR	00 11 34.3	
	comp=Z,33nm,20.0s,baz=267,slow=33						
GERES	**GERESS Array B**	**29.05**	**66**	LR	LR	00 13 18.5	
	comp=Z,30nm,20.0s,baz=318,slow=34						
FRB	**Frobisher Bay**	**29.87**	**325**	LR	LR	00 11 56.7	
	comp=Z,56nm,18.6s,baz=358,slow=30						
VRAC	**Vranov**	**30.88**	**64**	LR	LR	00 14 58.4	
	comp=Z,26nm,18.4s,baz=279,slow=35						
TORD	**Torodi Ar. Bea**	**40.29**	**131**	P	P	00 04 40.2	0.0
	1.5nm,0.9s,baz=338,slow=7.9,SNR=7.2						
TORD				LR	LR	00 20 25.5	
	comp=Z,71nm,18.2s,baz=143,slow=35 1.5nm,0.9s						
DBIC	**Dimbokro**	**42.73**	**144**	LR	LR	00 21 13.2	
	comp=Z,44nm,18.8s,baz=2.0,slow=34						
NEW	**Newport**	**58.12**	**308**	LR	LR	00 30 04.3	
	comp=Z,66nm,18.3s,baz=250,slow=34						
JTS	**Las Juntas de**	**59.11**	**253**	LR	LR	00 32 04.6	
	comp=Z,38nm,18.3s,baz=279,slow=36						
TXAR	**Lajitas Array**	**60.09**	**283**	P	P	00 07 10.2	-0.2
	0.4nm,0.8s,baz=83,slow=7.5,SNR=3.1 0.4nm,0.8s						
PFO	**Pinyon Flats O**	**66.19**	**294**	LR	LR	00 36 09.7	
	comp=Z,54nm,18.0s,baz=184,slow=36						
MKAR	**Makanchi Array**	**70.69**	**43**	P	P	00 08 18.9	+0.2
	0.4nm,0.8s,baz=315,slow=5.2,SNR=3.2 0.4nm,0.8s						

KRSC 25 23:57:43.0±2.3, 53°.65N×168°.93E, h17km±36km, Ml4.2, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKI	**Bering**	**2.32**	**313**	*e*S	Sn	23 58 50.6	+2.1
TUMR	**Tumrok**	**5.38**	**291**	*e*P	Pn	23 59 06.9	+4.5
BZWR	**Bezymyannyi-We**	**5.40**	**299**	*e*P	Pn	23 59 06.2	+3.4
KMNR	**Kamenistaya**	**5.46**	**296**	*e*P	Pn	23 59 08.3	+4.7
KPT	**Kopyto**	**5.54**	**298**	*e*P	Pn	23 59 09.1	+4.4
KII	**Karymskiy**	**5.62**	**278**	*e*P	Pn	23 59 09.9	+4.1
UGLR	**Uglovaya**	**6.06**	**270**	*e*P	Pn	23 59 16.7	+4.9
UGLR				*e*S	Sn	00 00 26.7	+5.9
SMAR	**Somma**	**6.06**	**270**	*e*P	Pn	23 59 16.4	+4.4
KRER	**Koryakskii**	**6.09**	**271**	*e*P	Pn	23 59 17.1	+4.8
KRER				*e*S	Sn	00 00 27.6	+5.9
AVH	**Avacha**	**6.10**	**270**	*e*P	Pn	23 59 17.3	+5.0
AVH				*e*S	Sn	00 00 27.9	+6.2
KRX	**Arik**	**6.14**	**271**	*e*P	Pn	23 59 17.6	+4.6
KOK	**Koryaka**	**6.16**	**271**	*e*P	Pn	23 59 17.9	+4.7
RUS	**Russkaya**	**6.40**	**263**	*e*P	Pn	23 59 20.7	+4.3
RUS				*e*S	Sn	00 00 32.7	+3.8
MTVR	**Mutnovka**	**6.58**	**264**	*e*P	Pn	23 59 23.7	+4.7
GRL	**Gorelyy**	**6.63**	**265**	*e*P	Pn	23 59 25.2	+5.5
ASAK	**Asacha**	**6.78**	**264**	*e*P	Pn	23 59 26.9	+5.3
KDTR	**Khodutka, Kamc**	**6.84**	**259**	*e*S	Sn	00 00 42.3	+2.4

*NEIC **26** 00:06:08.4±1.1, 19°.413N±0°.005×155°.280W±0°.008, h8km±1km, Error ellipse: s-maj=1.2km s-min=0.3km az=126.0*

HVO 26 00:06:08.4±1.2, 19°.430N±0°.005×155°.265W±0°.006, h0km±3km, ML2.8/34, ML2.6/42(NEIC), Error ellipse: s-maj=1.0km s-min=0.7km az=219.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBLHI	**Steaming Bluff**	**0.00**	**227**		Pg	00 06 09.3	+0.6
HATHI	**Halema'uma'u T**	**0.01**	**148**	Pg	Pg	00 06 08.8	+0.1
HATHI					Sg	00 06 09.5	+0.6
UWB	**Uwekahuna B**	**0.01**	**248**		Pg	00 06 09.6	+0.7
BYL	**Byron's Ledge**	**0.02**	**164**		Pg	00 06 09.3	+0.4
OBL	**Observatory Le**	**0.02**	**236**		Pg	00 06 10.3	+1.4
UWE	**Uwekahuna**	**0.03**	**252**	Pg	Pg	00 06 09.5	+0.5
UWE					Sg	00 06 10.6	+1.2
KKO	**Keanakako`i**	**0.03**	**181**		Pg	00 06 09.9	+0.9
RIM	**Rim**	**0.04**	**194**		Pg	00 06 10.8	+1.7
RSD	**Rainshed**	**0.04**	**340**	Pg	Pg	00 06 09.7	+0.6
RSD					Sg	00 06 11.0	+1.3
PUH	**Pauahi**	**0.07**	**140**		Pg	00 06 10.5	+0.6
PUH					Sg	00 06 11.0	+0.2
KNHH	**Kane Nui o Ham**	**0.10**	**119**		Pg	00 06 10.8	+0.4
MLH	**Mauna Loa**	**0.13**	**299**		Pg	00 06 12.0	+1.0
MLH				IAML		00 06 15.0	
	comp=N,2μm,0.5s						
MLH				IAML		00 06 15.2	
	comp=E,3μm,0.8s						
HLP	**Hilina Pali**	**0.14**	**197**		Pg	00 06 10.9	-0.2
HLP				IAML		00 06 15.3	
	comp=E,2μm,0.9s						
STCH	**Steam Cracks**	**0.14**	**108**		Pg	00 06 11.5	+0.4
STCH				IAML		00 06 14.8	
	comp=E,2μm,1.0s						
STCH				IAML		00 06 15.5	
	comp=N,2μm,0.8s						
NPOC	**North of Pu'u**	**0.15**	**104**		Pg	00 06 12.2	+0.9
JCUZ	**Jacuzzi**	**0.16**	**106**		Pg	00 06 12.4	+0.9
JOKA	**Jonika Flow**	**0.25**	**89**		Pg	00 06 12.6	-0.6
JOKA				IAML		00 06 20.4	
	comp=N,1μm,0.9s						
HMH	**Humu'ula Sheep**	**0.27**	**310**		Pg	00 06 13.1	-0.4
HMH				IAML		00 06 20.2	
	comp=E,1μm,0.6s						
HMH				IAML		00 06 22.5	
	comp=N,1μm,0.5s						
PAH	**Pahoa**	**0.31**	**78**	Pg	Pg	00 06 14.9	+0.5
MLOA	**Mauna Loa Obse**	**0.31**	**290**		Pg	00 06 14.4	0.0
MLOA				IAML		00 06 23.9	
	comp=E,692nm,0.6s						
MLOA				IAML		00 06 25.0	
	comp=N,1μm,0.6s						
MWH	**Moku'aweowe**	**0.32**	**280**		Pg	00 06 15.4	+0.8
KHU	**Kahuku**	**0.38**	**241**		Pg	00 06 15.5	-0.2
KHU				IAML		00 06 24.0	
	comp=N,534nm,0.9s						
KHU				IAML		00 06 24.0	
	comp=E,546nm,2.3s						
POHA	**Pohakuloa**	**0.41**	**322**	Pg	Pg	00 06 16.9	+0.5
POHA	**Pohakuloa**	**0.41**	**322**	IAML		00 06 24.7	
	comp=E,908nm,0.8s						
POHA				IAML		00 06 26.6	
	comp=E,1μm,0.7s						
HPO	**Honuapo**	**0.43**	**219**	Pg	Pg	00 06 14.5	-2.2
HUH	**Hualalai**	**0.59**	**295**		Pg	00 06 20.1	+0.3
HPAH	**Hawaii Prepara**	**0.72**	**326**		Pg	00 06 22.1	-0.3
HPAH				IAML		00 06 45.9	
	comp=N,367nm,1.0s						
HPAH				IAML		00 06 47.9	
	comp=E,305nm,0.7s						

*MOS **26** 00:32:38.8±0.8, 12°.82S×45°.50E, h12km, mb5.0/45, MS4.1/4, Error ellipse: s-maj=11.2km s-min=5.2km az=99.6*

*IDC **26** 00:32:38.9±0.4, 12°.85S×45°.53E, h0km, mb4.4/28, mbtmp4.4/32, ML4.7/4, MS3.9/47, Error ellipse: s-maj=17.0km s-min=11.3km az=83.0*

*NEIC **26** 00:32:40.9±1.2, 12°.81S±0°.07×45°.69E±0°.09, h10km±1km, mb5.0/65, Error ellipse: s-maj=15.2km s-min=10.3km az=292.0*

*GCMT **26** 00:32:43.9±0.3, 12°.84S±0°.02×45°.62E±0°.02, h40km±2km, MW4.9/92, Moment Tensor Solution. s23,c26; s92,c127; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.04±.22; $M_{\theta\theta}$1.75±.14; $M_{\phi\phi}$-1.79±.15; $M_{r\theta}$-1.35±.12; $M_{r\phi}$-1.94±.08; $M_{\theta\phi}$0.23±.14; Best double couple: M_o2.93300×10^{16} NP1:ϕ_s247.00000°, δ80.00000°, λ158.00000°. NP2: ϕ_s341.00000°, δ68.00000°, λ11.00000°. Principal axes: T 3.1720, Plg23.0000°, Azm202.0000°; N -0.4780, Plg65.0000°, Azm44.0000°; P -2.6930, Plg8.0000°, Azm296.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*LSZ **26** 00:32:47.1±3.9, 17°.28S×43°.06E, h10km*

ISC 26 00:32:40.0±0.3, 12°.85S±0°.04×45°.61E±0°.06, h10km, n397, σ1s38/381, mb4.9/132, MS3.9/49, 32C-36D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.89**	**165**	Pn	**Pn**	**00 34 07.5**	**0.0**
	5.2nm,0.3s,baz=335,slow=12,SNR=490						
OPO				Sn	**Sn**	**00 35 08.6**	**-6.7**
	70nm,0.3s,baz=241,slow=21,SNR=34 213nm,0.4s						
ABPO	**Ambohimpanom**	**6.33**	**166**	Pn	**Pn**	**00 34 13.1**	**-0.5**
ABPO

comp=Z,861nm,19.1s,baz=87,slow=36
40nm,1.0s
LSZ Lusaka 17.07 260 *i* P Pn 00 36 26.3 -13
MOPA Mopani 17.16 230 *i* P **Pn** **00 36 39.1 -0.9**
MOPA Mopani 17.16 230 *eP* **Pn** **00 36 37.6 -2.4**
MOPA Mopani 17.16 230 *i* P **Pn** **00 36 35.7 -4.3**
MUSN Musina, Limpop 17.69 236 *i* P **Pn** **00 36 47.1 +0.4**
MUSN Musina, Limpop 17.69 236 *eP* **Pn** **00 36 45.4 -1.4**
MUSN Musina, Limpop 17.69 236 *i* P **Pn** **00 36 41.6 -5.1**
MPHEP Siloam, Limpop 17.75 234 *eP* **Pn** **00 36 46.4 -1.1**
HOED Hoedspruit, Li 18.03 228 *eP* **Pn** **00 36 50.4 -0.5**
HOED IAmb IAmb 00 37 03.2
comp=Z,32nm,0.8s
MATP Matopo 18.03 243 *i* P **P** **00 36 51.9 +0.4**
MATP Matopo 18.03 243 P **Pn** **00 36 50.6 -0.4**
comp=Z,0.6nm,0.3s,baz=62,slow=12,SNR=35
MATP Sn Sn 00 39 59.9 -12
comp=Z,0.4nm,0.3s,baz=348,slow=20,SNR=3.5
comp=Z,22nm,0.9s
MATP Matopo 18.03 243 *i* P Pn 00 36 42.9 -8.1
PILG Pilgrimsrest, 18.50 227 *eP* **P** **00 36 55.7 -1.0**
LODK Lodwar 19.10 327 P **P** **00 37 03.5 +0.3**
MBAR Mbarara 19.11 308 **Pn** **00 37 04.2 0.0**
MBAR IAmb IAmb 00 37 08.7
comp=Z,156nm,1.8s
MBAR Mbarara 19.11 308 *eP* **Pn** **00 37 04.2 0.0**
MBAR Mbarara 19.11 308 P **P** **00 37 03.8 +0.4**
comp=Z,1.9nm,0.3s,baz=112,slow=12,SNR=23
MBAR S Sn 00 40 21.6 -17
comp=Z,3.2nm,0.4s,baz=120,slow=20,SNR=1.6
MBAR LR LR 00 44 11.9
comp=Z,574nm,19.2s,baz=120,slow=36
comp=Z,4.4nm,0.3s
MBAR Mbarara 19.11 308 P **Pn** **00 37 04.2 0.0**
MBAR pmax pmax
comp=Z,156nm,1.8s
DULL Dullstroom, Mp 19.15 227 *eP* **P** **00 37 03.8 -0.1**
DULL IAmb IAmb 00 37 05.4
comp=Z,45nm,1.0s
POGA Pongola 19.43 220 P **Pn** **00 37 07.6 -0.1**
POGA IAmb IAmb 00 37 10.5
comp=Z,122nm,1.2s
POGA Pongola 19.43 220 *eP* **Pn** **00 37 07.7 -0.1**
WTBG Waterberg Wild 19.45 232 *eP* **P** **00 37 06.8 -0.3**
CRLN Carolina, Mapu 19.65 226 *eP* **P** **00 37 09.6 +0.3**
LEPH Lephalale, Lim 20.12 235 *eP* **P** **00 37 13.3 -1.0**
LEPH IAmb IAmb 00 37 19.5
comp=Z,57nm,1.1s
RUST Rust De Winter 20.29 230 *eP* **P** **00 37 14.6 -1.5**
TSWA Tswaing Meteor 20.72 230 *eP* **P** **00 37 19.7 -1.2**
NWCL Newcastle 20.86 222 *eP* **P** **00 37 22.5 +0.1**
NHAM Northam, North 21.03 233 *eP* **P** **00 37 23.5 -0.7**
NYAT Nyati, Northwe 21.08 231 *eP* **P** **00 37 25.5 +0.7**
HRAO HartRAO 21.28 230 *eP* **P** **00 37 26.6 -0.3**
PMBG Pietermaritzbu 21.71 218 *eP* **P** **00 37 31.4 -0.1**
PRYS Parys 22.11 228 *eP* **P** **00 37 35.2 -0.7**
PRYS IAmb IAmb 00 37 40.7
comp=Z,81nm,1.0s
LBTB Lobatse 22.43 234 P **P** **00 37 38.8 -0.4**
LBTB IAmb IAmb 00 37 45.1
comp=Z,67nm,0.9s
LBTB Lobatse 22.43 234 *i* P **P** **00 37 39.5 +0.3**
LBTB Lobatse 22.43 234 *eP* **P** **00 37 38.2 -1.0**
LBTB IAmb IAmb 00 37 44.3
comp=Z,74nm,1.0s
LBTB Lobatse 22.43 234 LR LR 00 46 14.5
comp=Z,289nm,19.2s,baz=58,slow=36
LBTB Lobatse 22.43 234 *i* P **P** **00 37 33.9 -5.4**
LBTB Lobatse 22.43 234 P **P** **00 37 38.8 -0.4**
LBTB pmax pmax
comp=Z,67nm,1.0s
SNKL Senekal, Frees 22.64 225 *eP* **P** **00 37 40.7 -0.8**
KSTD Kokstad 23.23 218 *eP* **P** **00 37 48.0 +0.4**
KSTD IAmb IAmb 00 38 05.0
comp=Z,29nm,1.0s
ATD Arta Tunnel 24.37 353 P **P** **00 37 59.6 +1.0**
ATD IAmb IAmb 00 38 01.1
comp=Z,29nm,1.2s
ATD Arta Tunnel 24.37 353 LR LR 00 46 46.0
comp=Z,9.5nm,19.2s,baz=173,slow=35
BOSA Boshof 24.60 227 P **P** **00 38 00.5 -0.2**
BOSA IAmb IAmb 00 38 03.7
comp=Z,17nm,0.7s
BOSA Boshof 24.60 227 *i* P **P** **00 38 01.5 +0.8**
BOSA Boshof 24.60 227 *eP* **P** **00 38 00.5 -0.2**
BOSA IAmb IAmb 00 38 03.4
comp=Z,16nm,0.7s
BOSA Boshof 24.60 227 P **P** **00 38 00.5 -0.2**
comp=Z,15nm,0.6s,baz=52,slow=8.6,SNR=43
BOSA S **S** **00 42 20.8 -1.2**
comp=Z,2.4nm,0.9s,baz=82,slow=19,SNR=1.5
BOSA LR LR 00 47 36.3
comp=Z,413nm,21.1s,baz=54,slow=37
comp=Z,15nm,0.6s
BOSA Boshof 24.60 227 *i* P **P** **00 37 55.5 -5.2**
BOSA Boshof 24.60 227 P **P** **00 38 00.5 -0.2**
BOSA pmax pmax
comp=Z,17nm,0.7s
HVD Gariep Dam 25.64 223 *eP* **P** **00 38 10.2 0.0**
HVD IAmb IAmb 00 38 44.3
comp=Z,30nm,1.1s
GRHM Grahamstown, E 26.86 218 P **P** **00 38 22.2 +1.2**
BFON Badsfontein, M 27.59 223 *eP* **P** **00 38 27.4 -0.3**
BFON IAmb IAmb 00 38 40.6
comp=Z,20nm,0.9s
TSUM Tsumeb 27.64 253 P **P** **00 38 29.3 +1.0**
TSUM IAmb IAmb 00 38 50.2
comp=Z,21nm,1.1s
KEIM Keimoes 27.83 232 *eP* **P** **00 38 30.1 +0.3**
KEIM IAmb IAmb 00 38 33.8
comp=Z,29nm,1.0s
WIN Windhoek 28.78 246 P **P** **00 38 39.7 +1.2**
WIN IAmb IAmb 00 39 22.6
comp=Z,18nm,0.8s
WIN Windhoek 28.78 246 P **P** **00 38 39.7 +1.2**
WIN pmax pmax
comp=Z,18nm,0.8s
GRAN Grantham 28.92 224 *eP* **P** **00 38 40.7 +1.2**
FRAZ Fraserburg 29.23 226 *eP* **P** **00 38 43.0 +0.7**
FRAZ IAmb IAmb 00 38 54.3
comp=Z,195nm,2.1s
SUR Sutherland 29.90 225 P **P** **00 38 49.2 +0.9**
SUR Sutherland 29.90 225 *eP* **P** **00 38 48.7 +0.4**
SUR IAmb IAmb 00 38 49.8
comp=Z,44nm,0.8s
SUR Sutherland 29.90 225 LR LR 00 51 29.2
comp=Z,234nm,19.9s,baz=47,slow=38
RAYN Ar Rayn 36.15 360 P **P** **00 39 43.2 +0.5**
RAYN Ar Rayn 36.15 360 P **P** **00 39 43.2 +0.5**
RAYN pmax pmax
comp=Z,10.0nm,1.0s
WSAR Wadi Sarin 38.06 20 LR LR 00 52 59.0
comp=Z,278nm,19.0s,baz=204,slow=32
PALK Pallekele 40.19 62 LR LR 00 53 25.1
comp=Z,146nm,18.4s,baz=347,slow=31
EIL Elat 43.50 346 LR LR 00 58 32.9
comp=Z,67nm,18.5s,baz=246,slow=36
HYB Hyderabad 44.30 48 *eP* **P** **00 40 50.1 -0.3**
MMAI Mount Meron Ar 46.63 348 P **P** **00 41 10.5 +1.8**
comp=Z,1.2nm,0.6s,baz=141,slow=8.4,SNR=6.7
MMAI LR LR 01 01 18.8
comp=Z,144nm,18.4s,baz=110,slow=37
comp=Z,1.2nm,0.6s
TOA0 Torodi Ar. Sit 50.62 299 P **P** **00 41 40.9 +1.3**
TORD Torodi Ar. Bea 50.62 299 P **P** **00 41 41.0 +1.4**
TORD Torodi Ar. Bea 50.62 299 P **P** **00 41 41.1 +1.4**
comp=Z,6.0nm,1.1s,baz=120,slow=7.3,SNR=16
TORD PP **PP** **00 43 33.1 -2.6**
comp=Z,1.5nm,0.9s,baz=109,slow=6.6,SNR=3.8
TORD LR LR 01 04 09.2
comp=Z,243nm,18.6s,baz=128,slow=37
comp=Z,6.0nm,1.1s
GURO Guroymak-BITLI 51.24 356 P **P** **00 41 43.8 -0.2**
ELL Elmali 51.50 344 P **P** **00 41 46.1 +0.1**
ELL Elmali 51.50 344 P **P** **00 41 46.1 +0.1**
ELL pmax pmax
comp=Z,69nm,1.2s
GEYT Alibeck 51.85 13 P **P** **00 41 49.0 +0.4**
GEYT IAmb IAmb 00 41 56.7
comp=Z,15nm,1.1s
GEYT Alibeck 51.85 13 P **P** **00 41 49.4 +0.9**
comp=Z,2.4nm,0.8s,baz=209,slow=11,SNR=4.2
GEYT LR LR 01 04 40.2
comp=Z,81nm,20.1s,baz=190,slow=37
comp=Z,2.4nm,0.8s
GEYT Alibeck 51.85 13 P **P** **00 41 49.0 +0.4**
GEYT pmax pmax
comp=Z,15nm,1.2s
ARPR Arapgir-MALATY 52.11 353 P **P** **00 41 50.3 -0.3**
ARPR IAmb IAmb 00 42 00.0
comp=Z,20nm,1.2s
BNN Bunyan 52.23 350 P **P** **00 41 51.6 +0.2**
BNN IAmb IAmb 00 42 10.8
comp=Z,26nm,1.0s
GNI Garni 52.73 359 P **P** **00 41 55.4 +0.2**
GNI Garni 52.73 359 LR LR 01 05 04.2
comp=Z,172nm,20.7s,baz=174,slow=37
GNI Garni 52.73 359 *ceP* **P** **00 41 56.3 +1.1**
GNI pmax pmax
comp=Z,8.0nm,1.0s
TAM Tamanrasset 52.88 312 P **P** **00 41 56.1 -0.4**
TAM Tamanrasset 52.88 312 P **P** **00 41 56.1 -0.4**
TAM pmax pmax
comp=Z,10.0nm,1.2s
BR104 Keskin Array S 53.46 349 P **P** **00 41 59.7 -0.8**
comp=Z,6.0nm,1.1s,comp=Z,62nm
BR105 Keskin Array S 53.47 348 P **P** **00 41 59.8 -0.8**
comp=Z,7.3nm,1.0s,comp=Z,67nm
BRTR Keskin Array B 53.47 349 P **P** **00 42 00.7 +0.1**
BRTR Keskin Array B 53.47 349 P **P** **00 42 01.0 +0.4**
comp=Z,2.9nm,0.8s,baz=174,slow=10,SNR=22
comp=Z,2.9nm,0.8s
BRTR Keskin Array B 53.47 349 *ceP* **P** **00 42 01.7 +1.1**
BRTR pmax pmax
comp=Z,3.0nm,0.7s
BR131 Keskin Array S 53.48 349 P **P** **00 42 00.8 +0.2**
BR131 Keskin Array S 53.48 349 P **P** **00 42 00.9 +0.2**
BR131 pmax pmax
comp=Z,7.0nm,0.9s
BR106 Keskin Array S 53.49 349 P **P** **00 41 59.9 -0.8**
comp=Z,5.2nm,1.0s,comp=Z,52nm
DBIC Dimbokro 53.76 288 LR LR 01 05 19.1
comp=Z,180nm,18.5s,baz=108,slow=36
ITM Ithomi 54.52 337 P **P** **00 42 09.0 +0.8**
ITM IAmb IAmb 00 42 35.6
comp=Z,9.6nm,0.9s
DIKM Dikmen 55.06 351 P **P** **00 42 12.3 +0.3**
ONI Oni 55.20 358 P **P** **00 42 13.9 +0.9**
ONI Oni 55.20 358 P **P** **00 42 13.9 +0.9**
ONI pmax pmax
comp=Z,6.0nm,0.8s
MAK Makhachkala 55.56 2 *eP* P 00 42 10.8 -4.7
MAK *eS* **S** **00 49 55.9 -5.1**
MAK *eSS* **SS** **00 53 40.5 -6.0**
MAK *eSSS* SSS 00 55 51.5
MAK MLR MLR
comp=Z,313nm,17.0s
SIMJ Simiganj 55.71 22 P **P** **00 42 16.8 -0.1**
MAW Mawson 55.88 172 P **P** **00 42 18.0 +0.5**
comp=Z,3.6nm,0.8s,baz=324,slow=8.7,SNR=6.8
MAW LR LR 01 03 51.1
comp=Z,313nm,18.2s,baz=348,slow=34
comp=Z,3.6nm,0.8s
MAW Mawson 55.88 172 P **P** **00 42 18.0 +0.5**
KBZ Khabaz 56.35 358 P **P** **00 42 21.4 +0.2**
comp=Z,2.7nm,0.7s,baz=197,slow=8.3,SNR=5.9
KBZ LR LR 01 08 31.4
comp=Z,111nm,18.9s,baz=168,slow=38
comp=Z,2.7nm,0.7s
KBZ Khabaz 56.35 358 *ceP* **P** **00 42 22.1 +0.9**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
SHA1 Shidzhatmaz 56.37 357 *c i* P **P** **00 42 22.2 +0.5**
SOC Sochi 56.41 355 *eP* **P** **00 42 20.0 -1.6**
SOC *e* 00 44 25.3
SOC *e* PPP PPP 00 45 43.5
SOC *eS* **S** **00 50 11.9 -0.5**
SOC *eSS* **SS** **00 53 58.6 -1.3**
SOC MLR MLR
comp=Z,63nm,12.0s
GAR Garm 56.50 23 P **P** **00 42 21.9 -0.6**
KIV Kislovodsk 56.59 357 P **P** **00 42 24.8 +1.7**
KIV Kislovodsk 56.59 357 P **P** **00 42 23.4 +0.4**
KIV Kislovodsk 56.59 357 *c i* P **P** **00 42 24.4 +1.4**
KIV *i* 00 42 30.3
KIV 00 43 20.0
KIV *eS* **S** **00 50 15.7 +0.7**
KIV *eSSS* SSS 00 56 04.8
KIV pmax pmax
comp=Z,20nm,1.3s
KIV MLR MLR
comp=Z,151nm,18.0s
KVAR Kislovodsk Arr 56.59 357 LR LR 01 08 35.9
comp=Z,119nm,18.1s,baz=72,slow=38
ANN Anapa 57.85 353 *eP* P 00 42 25.6 -6.2
ANN *eS* **S** **00 50 30.4 -0.9**
ANN pmax pmax
comp=Z,23nm,0.9s
FNA Florina 57.89 338 P **P** **00 42 32.4 +0.2**
FNA IAmb IAmb 00 42 33.9
comp=Z,26nm,1.4s
FNA Florina 57.89 338 P **P** **00 42 32.4 +0.2**
FNA pmax pmax
comp=Z,26nm,1.4s
KBN Korca 57.96 338 P **P** **00 42 32.9 +0.2**
KBN Korca 57.96 338 P **P** **00 42 32.9 +0.2**
KBN pmax pmax
comp=Z,40nm,1.6s
VAE Valguarnera 58.01 331 LR LR 01 09 03.5
comp=Z,209nm,18.1s,baz=124,slow=38
ELND Elena 58.38 343 ⇓P **P** **00 42 36.1 +0.6**
SIM Simferopol' 58.46 350 *eP* **P** **00 42 37.0 +0.9**
SIM *eS* **S** **00 50 34.0 -5.3**
SIM pmax pmax
comp=Z,19nm,1.0s
ERBR Yeremizino-Bor 58.47 356 *eP* **P** **00 42 36.9 +0.8**
ERBR pmax pmax
comp=Z,75nm,1.0s
CLTB Caltabellotta 58.66 330 P **P** **00 42 38.2 +0.5**
TIR Tirane 58.93 338 ⇓P **P** **00 42 39.4 -0.1**
TIR Tirane 58.93 338 ⇓P **P** **00 42 39.4 -0.1**
TIR Tirane 58.93 338 P **P** **00 42 40.3 +0.9**
comp=Z,21nm,1.0s
KEST Kesra 59.24 326 P **P** **00 42 42.3 +0.5**
KEST IAmb IAmb 00 42 45.1
comp=Z,17nm,1.1s
KEST Kesra 59.24 326 P **P** **00 42 41.8 -0.1**
comp=Z,8.4nm,0.9s,baz=205,slow=3.3,SNR=9.2
KEST LR LR 01 09 25.0
comp=Z,150nm,18.9s,baz=278,slow=37
comp=Z,8.4nm,0.9s
KSH Kashi 59.28 27 P **P** **00 42 45.0 +3.0**
KSH pP pwP 00 42 49.5 +1.2
KSH pmax pmax
comp=Z,9.0nm,0.8s
PUK Puka 59.53 338 P **P** **00 42 44.9 +1.3**
PUK IAmb IAmb 00 42 46.1
comp=Z,11nm,0.8s
CFR Carcaliu 59.88 346 ⇓P **P** **00 42 46.2 +0.3**
CFR Carcaliu 59.88 346 ⇓P **P** **00 42 46.2 +0.3**
BLKB Belogradchik 59.97 341 ⇑P **P** **00 42 47.0 +0.3**
HUMR Humele 60.10 343 ⇑P **P** **00 42 49.1 +1.7**
BOVS Bovan 60.30 340 ⇓P **P** **00 42 48.9 +0.1**
ELIB Princess Elisa 60.57 188 *dP* **P** **00 42 51.0 +0.5**
comp=Z,6.2nm,1.1s
MLR Muntele Rosu 60.73 344 ⇓P **P** **00 42 52.8 +0.9**
MLR Muntele Rosu 60.73 344 LR LR 01 13 00.7
comp=Z,67nm,18.1s,baz=187,slow=40
MLR Muntele Rosu 60.73 344 ⇓P **P** **00 42 52.8 +0.9**
MLR Muntele Rosu 60.73 344 P **P** **00 42 51.3 -0.6**
comp=Z,6.6nm,1.3s
VRI Vrincioaia 60.87 345 ⇑P **P** **00 42 54.0 +1.3**
VRI Vrincioaia 60.87 345 ⇑P **P** **00 42 54.0 +1.3**
VRI Vrincioaia 60.87 345 P **P** **00 42 52.3 -0.4**
comp=Z,13nm,1.6s
PLOR Plostina 60.88 345 ⇓P **P** **00 42 51.4 -1.4**
PLOR Plostina 60.88 345 ⇓P **P** **00 42 51.4 -1.4**
PLOR3 Plostina Array 60.88 345 P **P** **00 42 52.4 -0.4**
comp=Z,10.0nm,1.1s
VOIR 60.92 344 ⇓P **P** **00 42 53.3 +0.2**
VOIR 60.92 344 ⇓P **P** **00 42 53.3 +0.2**
VOIR 60.92 344 P **P** **00 42 52.7 -0.4**
comp=Z,8.0nm,1.1s
COVR Voineasa-Covas 60.99 345 ⇓P **P** **00 42 53.7 +0.1**
CMAR Chiang Mai Arr 61.10 60 P **P** **00 42 57.4 +2.6**
comp=Z,1.4nm,0.3s,baz=256,slow=7.3,SNR=1.4
CMAR LR LR 01 07 03.2
comp=Z,54nm,18.2s,baz=255,slow=34
comp=Z,1.4nm,0.3s
HERR Herculane 61.19 341 ⇓P **P** **00 42 55.3 +0.5**
TURR Turia 61.23 345 ⇓P **P** **00 42 55.4 +0.2**
AAK Ala-Archa 61.25 24 *eP* **P** **00 42 57.3 +1.8**
AAK pmax pmax
comp=Z,5.0nm,1.7s
LOT Lotru 61.29 343 ⇑P **P** **00 42 56.0 +0.3**
MDVR Moldovita 61.32 341 ⇑P **P** **00 42 56.5 +0.7**
NVL N'lazarevskaya 61.50 192 *eP* **P** **00 42 57.6 +0.9**
NVL pmax pmax
comp=Z,19nm,1.0s
GZR Gura Zlata 61.54 342 ⇓P **P** **00 42 58.4 +1.1**
GZR Gura Zlata 61.54 342 ⇓P **P** **00 42 58.4 +1.1**
INTR Introdacqua 61.90 334 P **P** **00 42 59.2 -0.6**
INTR IAmb IAmb 00 43 01.4
comp=Z,14nm,1.1s
VSL Villasalto 62.05 329 P **P** **00 43 02.8 +2.0**
VSL IAmb IAmb 00 43 03.4
comp=Z,6.9nm,0.8s
SURR Surduc 62.06 342 ⇓P **P** **00 43 01.6 +0.9**
BZS Buzias 62.09 341 ⇓P **P** **00 43 01.9 +1.0**
BZS Buzias 62.09 341 ⇓P **P** **00 43 01.9 +1.0**
FRGS Fruska Gora 62.28 340 ⇑P **P** **00 43 04.0 +1.7**
FRGS Fruska Gora 62.28 340 P **P** **00 43 02.0 -0.2**
comp=Z,14nm,1.3s
MARR Marisel-Cluj 62.60 343 ⇓P **P** **00 43 05.3 +0.9**
SORM Soroca 62.62 347 ⇓P **P** **00 43 04.4 0.0**
SORM Soroca 62.62 347 ⇓P **P** **00 43 04.4 0.0**
SORM Soroca 62.62 347 P **P** **00 43 04.0 -0.4**
SIRR Siria 62.66 342 ⇓P **P** **00 43 05.6 +0.9**
BURAR Bucovina Array 62.88 345 ⇑P **P** **00 43 07.5 +1.1**
BURAR Bucovina Array 62.88 345 P **P** **00 43 07.3 +1.0**
BURAR Bucovina Array 62.88 345 P **P** **00 43 03.4 -2.9**
BURAR pmax pmax
comp=Z,3.0nm,0.8s
NRCA Norcia 62.91 334 P **P** **00 43 05.4 -1.1**
BUR08 Bucovina Ar. S 62.91 345 P **P** **00 43 07.4 +0.8**
GUMA Gualdo di Mace 63.00 334 P **P** **00 43 06.3 -0.8**
GUMA IAmb IAmb 00 43 09.6
comp=Z,38nm,1.6s
NDNU Novodnistrovsk 63.27 347 P **P** **00 43 08.8 0.0**
KMPD K-Podol'skiy 63.45 346 P **P** **00 43 09.2 -0.7**
KMPD P **pP** **00 43 09.4 -2.8**
KSV Kosov 63.57 345 P **P** **00 43 10.7 0.0**
MORH Mrgy, Hungar 63.60 339 ⇑P **P** **00 43 12.1 +1.1**
MORH Mrgy, Hungar 63.60 339 P **P** **00 43 11.1 +0.1**
comp=Z,13nm,1.1s
VORD Divnogorie 63.78 356 *eP* P 00 43 17.3 +5.3
VORD pmax pmax
comp=Z,10.0nm,0.8s
VRH Novokhopyorsk 63.87 357 *eP* **P** **00 43 10.7 -1.9**
VRH pmax pmax
comp=Z,10.0nm,0.6s
AKTO Aktyubinsk 63.94 9 LR LR 01 15 00.2
comp=Z,96nm,18.2s,baz=192,slow=40
VSR Storozhevoye 64.04 355 *eP* **P** **00 43 17.5 +3.8**
VSR pmax pmax
comp=Z,20nm,1.6s
BRIU Brid 64.13 343 P **P** **00 43 14.5 +0.1**
MEZ Mezhgor'ye 64.16 344 P **P** **00 43 14.3 -0.3**
CRES Cresnjev 64.42 337 *eP* **P** **00 43 17.4 +1.0**
LUBAR Lubar, Ukraine 64.44 347 P **P** **00 43 16.4 0.0**
TROLL Troll, Antarti 64.44 194 ⇑P **P** **00 43 18.5 +2.1**
comp=Z,1µm,0.8s
VORR Voronezh 64.49 356 *eP* **P** **00 43 18.2 +1.5**
VORR pmax pmax
comp=Z,28nm,1.3s
PSZ Piszkesteto 64.68 341 ⇓P **P** **00 43 18.6 +0.4**
PSZ Piszkesteto 64.68 341 ⇓P **P** **00 43 18.6 +0.4**
AK07 Malin Array Si 64.74 349 P **P** **00 43 18.3 0.0**
AK10 Malin Array Si 64.78 349 P **P** **00 43 18.5 -0.1**
AK09 Malin Array Si 64.79 349 P **P** **00 43 18.6 0.0**
PDKS Podkum 64.79 337 *eP* **P** **00 43 19.9 +1.0**
MPLH Magyarpolny 64.81 339 P **P** **00 43 19.0 +0.1**
comp=Z,29nm,1.1s
AK08 Malin Array Si 64.81 349 P **P** **00 43 18.8 0.0**
KIEV Kiev 64.88 349 P **P** **00 43 18.8 -0.4**
comp=Z,27nm,1.1s
AKASG Malin Array Be 64.88 349 P **P** **00 43 19.0 -0.3**
comp=Z,2.4nm,0.8s,baz=169,slow=5.6,SNR=11
AKASG LR LR 01 12 25.6
comp=Z,53nm,20.0s,baz=154,slow=37
comp=Z,2.4nm,0.8s
AKASG Malin Array Be 64.88 349 *ceP* **P** **00 43 19.0 -0.3**
AKASG pmax pmax
comp=Z,3.0nm,0.8s
AKBB Malin Array Si 64.88 349 *d i* P **P** **00 43 19.1 -0.2**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
AKBB Malin Array Si 64.88 349 P **P** **00 43 18.8 -0.5**
KOLS Kolonicke sedl 64.88 343 *eP* **P** **00 43 20.1 +0.7**
KOLS Kolonicke sedl 64.88 343 *eP* **P** **00 43 20.1 +0.7**
KOLS pmax pmax
comp=Z,3.0nm,0.8s
MI29 MI29, Kamyanyy 64.89 348 P **P** **00 43 18.6 -0.7**
AK15 Malin Array Si 64.89 349 P **P** **00 43 18.6 -0.7**
GROS Grobnik 64.94 337 *eP* **P** **00 43 20.6 +0.8**
BELG Belogornoye 64.99 1 P **P** **00 43 19.9 -0.1**
comp=Z,11nm,0.7s,baz=217,slow=3.2,SNR=3.8
BELG LR LR 01 14 38.1
comp=Z,137nm,18.8s,baz=206,slow=39
comp=Z,11nm,0.7s
BELG Belogornoye 64.99 1 *c i* P **P** **00 43 19.3 -0.6**
BELG pmax pmax
comp=Z,3.0nm,0.9s
JAVS Javornik 65.02 336 *i* P **P** **00 43 20.8 +0.4**
SRO Srobarova 65.10 340 *eP* **P** **00 43 22.1 +1.3**
SRO Srobarova 65.10 340 *eP* **P** **00 43 22.1 +1.3**
SRO pmax pmax
comp=Z,16nm,1.1s
MI30 MI30,Zelenitsa 65.13 348 P **P** **00 43 20.6 -0.3**
SABO M.te Sabotino 65.27 336 P **P** **00 43 22.6 +0.6**
SABO IAmb IAmb 00 43 23.3
comp=Z,14nm,1.0s
SOKA Soboth 65.30 337 *i* P **P** **00 43 22.9 +0.7**
comp=Z,5.9nm,0.8s
OBKA Obir 65.34 337 *i* P **P** **00 43 23.4 +0.9**
comp=Z,14nm,1.3s
KWP Kalwaria Pacla 65.40 344 P **P** **00 43 23.4 +0.7**
KWP IAmb IAmb 00 43 45.6
comp=Z,15nm,1.3s
KWP Kalwaria Pacla 65.40 344 P **P** **00 43 23.4 +0.7**
KWP pmax pmax
comp=Z,15nm,1.3s
KWP Kalwaria Pacla 65.40 344 P **P** **00 43 22.5 -0.2**
comp=Z,10nm,1.8s
SNAA Sanae 65.53 195 P **P** **00 43 23.5 +0.1**
SNAA Sanae 65.53 195 ⇑P **P** **00 43 23.8 +0.5**
comp=Z,54nm,0.8s
SNAA Sanae 65.53 195 P **P** **00 43 22.8 -0.5**
comp=Z,2.8nm,0.9s,baz=69,slow=7.0,SNR=6.1
SNAA LR LR 01 10 08.2
comp=Z,121nm,18.1s,baz=106,slow=34
comp=Z,2.8nm,0.9s
SNAA Sanae 65.53 195 P **P** **00 43 23.5 +0.1**
SNAA pmax pmax
comp=Z,7.0nm,1.2s
ARSA Arzberg 65.59 338 *i* P **P** **00 43 24.8 +0.8**
comp=Z,8.8nm,0.8s,SNR=5.5
RONA Rosalia, Austr 65.70 339 *i* P **P** **00 43 25.4 +0.7**
comp=Z,15nm,0.8s,SNR=14
MYKA Terra Mystica 65.79 336 *i* P **P** **00 43 25.8 +0.4**
comp=Z,6.6nm,1.0s
STAL STALIGIAL 65.85 336 P **P** **00 43 26.8 +1.0**
STAL IAmb IAmb 00 43 27.0
comp=Z,7.7nm,0.9s
MODS Modra-Piesok 65.94 340 *eP* **P** **00 43 26.6 +0.4**
MODS Modra-Piesok 65.94 340 *eP* **P** **00 43 26.7 +0.5**
MODS pmax pmax
comp=Z,23nm,1.1s
CIMO Cimolais 66.00 335 P **P** **00 43 27.0 +0.3**
CIMO IAmb IAmb 00 43 28.0
comp=Z,7.0nm,0.8s
MDT Midelt 66.02 315 LR LR 01 13 30.3
comp=Z,173nm,18.2s,baz=132,slow=37
CONA Conrad Observa 66.05 339 *i* P **P** **00 43 27.6 +0.6**
comp=Z,9.1nm,0.9s,SNR=9.0
RNPP5 Staryi Chortor 66.08 347 P **P** **00 43 26.6 -0.4**
CTI Castel Tesino 66.12 335 P **P** **00 43 27.9 +0.4**
CTI IAmb IAmb 00 43 29.2
comp=Z,12nm,0.9s
CTI Castel Tesino 66.12 335 P **P** **00 43 27.9 +0.4**
CTI pmax pmax
comp=Z,12nm,0.9s
RNPP8 Varash 66.19 347 P **P** **00 43 27.3 -0.4**
JAVC Velka Javorina 66.22 340 *eP* **P** **00 43 29.0 +0.9**

KBA	Koelnbreinsper	66.27	337	*i*	P		P	00 43 28.7 +0.1
	comp=Z,7.7nm,0.9s,SNR=5.7							
VNA2	Neumayer--Watz	66.32	197	⇑	P		P	00 43 29.9 +1.5
	comp=Z,4.9nm,0.7s,baz=33,slow=6.7							
ABTA	Abfaltersbach	66.33	336	*i*	P		P	00 43 29.6 +0.7
	comp=Z,5.3nm,0.7s							
VNA1	Neumayer--Stat	66.42	197	⇑	P		P	00 43 30.4 +1.4
	comp=Z,10.0nm,0.8s							
MOA	Molln	66.56	338	*i*	P		P	00 43 30.7 +0.5
	comp=Z,11nm,0.9s,SNR=6.0							
MAUC	Maruska	66.61	341	*e*	P		P	00 43 31.5 +0.9
BIOA	Bad Ischl, Aus	66.67	337	*i*	P		P	00 43 30.6 -0.3
	comp=Z,6.6nm,0.8s,SNR=5.8							
LESA	Schwarzleotal	66.82	336	*i*	P		P	00 43 31.7 -0.2
	comp=Z,4.9nm,0.9s							
KRUC	Moravsky	66.83	340	*e*	P		P	00 43 31.6 -0.3
VRAC	Vranov	66.97	340	⇑	P		P	00 43 33.2 +0.4
VRAC	Vranov	66.97	340	*e*	P		P	00 43 32.9 +0.1
VRAC	Vranov	66.97	340		LR		LR	01 14 49.1
	comp=Z,36nm,20.9s,baz=166,slow=38							
VRAC	Vranov	66.97	340	⇑	P		P	00 43 33.2 +0.4
MORC	Moravsky Berou	67.06	341	⇑	P		P	00 43 33.9 +0.5
MORC	Moravsky Berou	67.06	341		P		P	00 43 33.4 0.0
MORC					IAmb		IAmb	00 43 34.8
	comp=Z,9.0nm,0.8s							
MORC	Moravsky Berou	67.06	341	*e*	P		P	00 43 33.6 +0.2
MORC	Moravsky Berou	67.06	341		P		P	00 43 33.4 0.0
MORC					pmax		pmax	
	comp=Z,9.0nm,0.8s							
WTTA	Wattenberg	67.10	336	*e*	P		P	00 43 34.0 +0.1
	comp=Z,7.5nm,1.2s							
PZH	PanZhiHua	67.11	54		P		P	00 43 35.0 +0.7
PZH					pmax		pmax	
	comp=Z,20nm,0.5s							
PZH					pmax		pmax	
	comp=Z,130nm,5.8s							
VNA3	Neumayer Olymp	67.12	197	⇑	P		P	00 43 34.9 +1.4
	comp=Z,15nm,0.8s							
FUORN	Ofenpass-Fuorn	67.15	334		P		P	00 43 34.4 +0.1
FUORN					IAmb		IAmb	00 43 45.0
	comp=Z,10nm,1.3s							
WATA	Walderalm	67.18	336	*i*	P		P	00 43 33.9 -0.5
	comp=Z,6.5nm,1.1s							
SQTA	Sankt Quirin	67.24	335	*i*	P		P	00 43 34.7 0.0
	comp=Z,4.4nm,0.8s							
FETA	Feichten	67.28	335	*i*	P		P	00 43 35.2 +0.3
	comp=Z,17nm,1.1s,SNR=8.6							
GOMU	GeErMu	67.33	42		P		P	00 43 43.3 +7.5
GOMU					pP		pwP	00 43 47.5 +5.4
GOMU					sP		sP	00 43 49.3 +10
GOMU					pmax		pmax	
	comp=Z,11nm,0.7s							
CKRC	Cesky Krumlov	67.36	338	*e*	P		P	00 43 35.2 -0.1
CKRC					*ex*		x	00 43 47.7
CKRC	Cesky Krumlov	67.36	338	*e*	P		P	00 43 35.2 -0.1
MOTA	Moosalm	67.38	335	*i*	P		P	00 43 35.3 -0.3
	comp=Z,8.1nm,0.9s,SNR=6.0							
KRLC	Kraliky	67.57	340	*e*	P		P	00 43 36.9 +0.3
KRLC	Kraliky	67.57	340	*e*	P		P	00 43 36.9 +0.3
GEC2	GERESS Array S	67.60	338		P		P	00 43 36.6 -0.3
GEC2					IAmb		IAmb	00 43 37.7
	comp=Z,7.2nm,0.9s							
GERES	GERESS Array B	67.60	338		P		P	00 43 36.1 -0.8
GERES	GERESS Array B	67.60	338		P		P	00 43 36.6 -0.3
	comp=Z,4.8nm,0.8s,baz=152,slow=6.0,SNR=21							
GERES					LR		LR	01 18 17.8
	comp=Z,30nm,18.1s,baz=112,slow=40							
	comp=Z,4.8nm,0.8s							
RETA	Reutte	67.64	335	*i*	P		P	00 43 36.9 -0.2
	comp=Z,8.6nm,1.1s							
DAVA	Damuels	67.84	335	*i*	P		P	00 43 38.4 -0.1
	comp=Z,12nm,1.2s							
MK31	Makanchi Array	67.86	26	*c*	P		P	00 43 39.6 +1.1
MKAR	Makanchi Array	67.86	26		P		P	00 43 38.4 -0.2
	comp=Z,1.0nm,0.7s,baz=208,slow=6.1,SNR=6.1							
	comp=Z,1.0nm,0.7s							
LPL	La Plagne	67.87	332	*e*	P		P	00 43 38.0 -0.8
LPL					pmax		pmax	
	comp=Z,4.0nm,0.7s							
KHC	Kasperske Hory	67.88	338		P		P	00 43 37.7 -0.9
KHC	Kasperske Hory	67.88	338	*e*	P		P	00 43 37.9 -0.7
KHC				*ex*			x	00 43 48.1
KHC	Kasperske Hory	67.88	338	*c*	*i*	P	P	00 43 37.4 -1.2
KHC					pmax		pmax	
	comp=Z,9.0nm,0.9s							
DPC	Dobruska-Polom	67.96	340	*e*	P		P	00 43 39.2 +0.1
DPC	Dobruska-Polom	67.96	340	*e*	P		P	00 43 39.2 +0.1
OBN	Obninsk	68.13	354		LR		LR	01 15 35.8
	comp=Z,88nm,19.9s,baz=173,slow=38							
OBN	Obninsk	68.13	354	⇓	*i*	P	P	00 43 41.0 +1.1
OBN					*e*	*PP	sP	00 43 43.8 +0.8
OBN					*i*	*SP	pwP	00 43 47.4 +1.1
OBN								00 44 07.0
OBN					*e*	PPP	PPP	00 47 44.1
OBN					*e*	S	S	00 52 42.9 +3.3
OBN					*e*			00 53 17.0
OBN					*e*			00 53 42.1
OBN					*e*	SS	SS	00 57 09.4 +6.7
OBN					pmax		pmax	
	comp=Z,4.0nm,0.9s							
OBN					MLR		MLR	
	comp=Z,105nm,19.0s							
OSTC	Ostas	68.17	340	*e*	P		P	00 43 40.9 +0.5
OSTC	Ostas	68.17	340	*e*	P		P	00 43 40.9 +0.5
WMQ	Urumqi	68.19	32	*e*	P		P	00 43 43.0 +2.3
SENIN	Lac Senin/Sane	68.25	332		P		P	00 43 41.2 0.0
SSB	Saint Sauveur	68.73	330		P		P	00 43 45.6 +1.6
SSB					IAmb		IAmb	00 43 46.3
	comp=Z,22nm,1.6s							
SSB	Saint Sauveur	68.73	330		P		P	00 43 45.6 +1.6
SSB					pmax		pmax	
	comp=Z,22nm,1.6s							
MNK	Minsk	68.75	349	*i*	P		P	00 43 42.9 -1.0
MNK				*i*				00 46 14.3
MNK				*i*	S		S	00 52 46.9 -0.3
MNK				*i*	SS		SS	00 57 12.1 -0.3
MNK					pmax		pmax	
	comp=E,5.0nm,1.2s							
MNK					pmax		pmax	
	comp=Z,17nm,0.9s							
MNK					pmax		pmax	
	comp=N,14nm,1.0s							
BVAR	Borovoye Array	68.97	16		P		P	00 43 45.8 +0.5
	comp=N,1.1nm,0.6s,baz=210,slow=5.4,SNR=6.6							
BVAR					LR		LR	01 16 03.1
	comp=N,31nm,18.8s,baz=231,slow=38							
	comp=N,1.1nm,0.6s							
BRVK	Borovoye	68.97	16	*e*	P		P	00 43 47.9 +2.6
BRVK					pmax		pmax	
	comp=Z,15nm,1.5s							
BRG	Berggiesshubel	69.20	339	*e*	P		P	00 43 47.1 +0.3
BRG					Amp			00 43 48.0
	comp=Z,7.6nm,1.1s							
GRFO	Grafenberg	69.22	337		P		P	00 43 46.9 -0.1
GRFO					IAmb		IAmb	00 43 47.9
	comp=Z,12nm,1.2s							
GRFO	Grafenberg	69.22	337		P		P	00 43 46.9 -0.1
GRFO					pmax		pmax	
	comp=Z,12nm,1.2s							
KURBB	Kurchatov Arra	69.44	22		P		P	00 43 49.4 +1.1
	comp=Z,0.3nm,0.3s,baz=214,slow=6.6,SNR=2.3							
	comp=Z,0.3nm,0.3s							
KURK	Kurchatov	69.55	22	*c*	*e*	P	P	00 43 49.6 +0.7
KURK					pmax		pmax	
	comp=Z,1.0nm,0.9s							
ESDC	Sonseca Array	69.66	321		P		P	00 43 50.2 +0.3
ESDC					IAmb		IAmb	00 43 51.9
	comp=Z,7.7nm,1.1s							
ESDC	Sonseca Array	69.66	321		P		P	00 43 50.8 +0.8
	comp=Z,4.4nm,0.9s,baz=130,slow=5.5,SNR=24							
ESDC					LR		LR	01 16 26.3
	comp=Z,70nm,18.4s,baz=126,slow=38							
	comp=Z,4.4nm,0.9s							
CAF	Calviac	69.71	329	*e*	P		P	00 43 51.2 +1.1
CAF					pmax		pmax	
	comp=Z,11nm,1.1s							
PAB	San Pablo	69.81	321		P		P	00 43 51.3 +0.4
PAB					IAmb		IAmb	00 43 53.6
	comp=Z,18nm,1.4s							
PAB	San Pablo	69.81	321		P		P	00 43 51.3 +0.4
PAB					pmax		pmax	
	comp=Z,18nm,1.4s							
ARU	Arti	69.86	8		P		P	00 43 51.0 +0.3
ARU	Arti	69.86	8	*d*	*i*	P	P	00 43 50.8 +0.1
ARU					S		S	00 53 02.2 +2.0
ARU					SS		SS	00 57 27.8 -1.7
ARU					pmax		pmax	
	comp=Z,8.0nm,0.9s							
CLL	Collm	69.90	339	*i*	P		P	00 43 51.0 0.0
	comp=Z,5.0nm,1.0s							
CLL				*i*	x		x	00 44 01.5
CLL	Collm	69.90	339	*i*	P		P	00 43 51.0 0.0
CLL					pmax		pmax	
	comp=Z,5.0nm,1.0s							
SMF	Signal de Mont	70.06	331	*e*	P		P	00 43 52.1 -0.1
SMF					pmax		pmax	
	comp=Z,10.0nm,1.2s							
GKP	Gorka Klasztor	70.20	342	*e*	P		P	00 43 53.5 +0.7
PABE	Paberze	70.48	347	*e*	P		P	00 43 55.2 +0.7
SSF	Saint Saulge	70.52	331	*e*	P		P	00 43 54.8 -0.2
SSF					pmax		pmax	
	comp=Z,7.0nm,1.1s							
CD2	Chengdu	70.77	51		P		P	00 43 56.5 -0.4
KIRV	Kirov	71.25	2	⇑	*i*	P	P	00 43 59.4 +0.3
WLF	Walferdange	71.25	334	*d*	P		P	00 43 59.4 0.0
PBUR	Paburge	71.42	346	*e*	P		P	00 44 00.6 +0.4
BCLA	Clavier	72.18	334	*d*	P		P	00 44 06.1 +1.2
BGES	Gesves	72.25	334	*d*	P		P	00 44 06.7 +1.4
BMRD	Maredsous	72.32	334	*d*	P		P	00 44 06.7 +0.9
GTA	Gaotai	72.41	41	*e*	P		P	00 44 13.5 +6.8
GTA					pP		PcP	00 44 21.3 -3.3
GTA					pmax		pmax	
	comp=Z,3.0nm,1.0s							
VSU	Vasula	72.72	350	⇑	*i*	P	P	00 44 06.9 -1.0
VSU					pmax		pmax	
	comp=Z,23nm,0.9s							
MTSE	Matsula	73.49	348	*e*	P		P	00 44 13.4 +0.9
KLMR	Klimovskoe	73.61	357	*e*	P		P	00 44 12.0 -1.2
KLMR					pmax		pmax	
	comp=Z,23nm,1.3s							
ARBE	Arbavere	73.77	350	*e*	P		P	00 44 15.1 +1.0
ZALV	Zalesovo Beam	74.43	23		P		P	00 44 18.7 +0.6
ZALV	Zalesovo Beam	74.43	23		P		P	00 44 19.1 +1.0
	comp=Z,0.8nm,0.4s,baz=230,slow=6.9,SNR=5.0							
ZALV					LR		LR	01 15 44.4
	comp=Z,27nm,19.8s,baz=92,slow=35							
	comp=Z,0.8nm,0.4s							
MEF	Metsahovi	74.78	349	*e*	P		P	00 44 20.5 +0.5
VIKU	Vikbolandet	74.92	345	*e*	P		P	00 44 21.7 +0.8
AAL	Aland	75.63	347	*e*	P		P	00 44 25.2 +0.3
FIA1	FINESS Array S	75.65	350		P		P	00 44 24.4 -0.6
FINES	FINESS Array B	75.65	350		P		P	00 44 25.3 +0.3
FINES	FINESS Array B	75.65	350		P		P	00 44 25.0 0.0
	comp=Z,4.9nm,0.9s,baz=114,slow=4.8,SNR=11							
FINES					LR		LR	01 18 01.4
	comp=Z,23nm,18.3s,baz=162,slow=36							
	comp=Z,4.9nm,0.9s							
FINES	FINESS Array B	75.65	350	*c*	*e*	P	P	00 44 25.0 0.0
FINES					pmax		pmax	
	comp=Z,5.0nm,0.9s							
UPP	Uppsala	75.88	346	*e*	P		P	00 44 26.4 +0.1
JOF	Joensuu	76.34	353	*e*	P		P	00 44 29.7 +0.8
KEF	Keuruu	76.53	350	*e*	P		P	00 44 30.8 +0.8
HFS	Hagfors	77.11	344		P		P	00 44 33.7 +0.4
	comp=Z,5.6nm,0.7s,baz=150,slow=6.3,SNR=14							
HFS					LR		LR	01 22 26.9
	comp=Z,43nm,19.4s,baz=152,slow=39							
	comp=Z,5.6nm,0.7s							
QSPA	South Pole Qui	77.25	180		P		P	00 44 35.4 +1.1
QSPA					IAmb		IAmb	00 44 36.6
	comp=Z,17nm,1.1s							
QSPA	South Pole Qui	77.25	180		P		P	00 44 35.4 +1.1
	comp=Z,13nm,1.0s,baz=259,slow=2.9,SNR=22							
QSPA					LR		LR	01 16 45.3
	comp=Z,192nm,18.1s,baz=265,slow=34							
	comp=Z,13nm,1.0s							
KONO	Kongsberg	77.86	342		P		P	00 44 38.3 +0.8
KONO					IAmb		IAmb	00 44 39.0
	comp=Z,9.8nm,0.9s							
KONO	Kongsberg	77.86	342		P		P	00 44 38.3 +0.8
KONO					pmax		pmax	
	comp=Z,10.0nm,1.0s							
NC602	NORSAR Array S	78.20	344		P		P	00 44 40.2 +0.8
NC602					IAmb		IAmb	00 44 50.9
	comp=Z,22nm,1.4s							
NB2	NORSAR Subarra	78.54	344		P		P	00 44 42.1 +0.7
	comp=Z,1.7nm,0.8s,baz=146,slow=5.1							
NOA	NORSAR Array B	78.54	344		P		P	00 44 42.0 +0.7
	comp=Z,2.1nm,0.9s,baz=134,slow=5.3,SNR=10							
NOA					LR		LR	01 24 33.5
	comp=Z,32nm,19.1s,baz=120,slow=40							
	comp=Z,2.1nm,0.9s							
EKA	Eskdalemuir Ar	79.28	334		P		P	00 44 45.6 +0.1
	comp=Z,2.6nm,0.8s,baz=138,slow=6.4,SNR=4.8							
	comp=Z,2.6nm,0.8s							
HHC	Hu-ho-hao-te	80.94	45	*e*	P		P	00 44 55.5 +0.6
HHC					pmax		pmax	
	comp=Z,17nm,0.7s							
HHC					pmax		pmax	
	comp=Z,66nm,4.7s							
SONM	Songino Array	80.94	37		P		P	00 44 57.4 +2.5
	comp=Z,1.9nm,0.7s,baz=260,slow=7.2,SNR=2.0							
	comp=Z,1.9nm,0.7s							
HNS	HongShan	81.75	49	⇓	P		P	00 45 06.3 +7.2
HNS					pmax		pmax	
	comp=Z,14nm,0.6s							
VNDA	Vanda	83.00	169		P		P	00 45 06.6 +1.5
VNDA	Vanda	83.00	169		P		P	00 45 06.3 +1.3
	comp=Z,0.9nm,0.7s,baz=269,slow=6.2,SNR=12							
VNDA					LR		LR	01 20 05.0
	comp=Z,129nm,18.1s,baz=252,slow=34							
	comp=Z,0.9nm,0.7s							
VNDA	Vanda	83.00	169		P		P	00 45 06.6 +1.5
VNDA					pmax		pmax	
	comp=Z,9.0nm,1.8s							
ARCES	ARCESS Array B	83.38	353		LR		LR	01 25 35.4
	comp=Z,46nm,18.1s,baz=168,slow=38							
ASAR	Alice Springs	83.41	113		P		P	00 45 08.9 +0.6
	comp=Z,1.7nm,0.6s,baz=263,slow=4.9,SNR=7.7							
ASAR					LR		LR	01 16 18.9
	comp=Z,213nm,18.6s,baz=268,slow=31							
	comp=Z,1.7nm,0.6s							
SBA	Scott Base	83.74	169		P		P	00 45 11.6 +2.8
SBA	Scott Base	83.74	169		P		P	00 45 11.6 +2.8
SBA					pmax		pmax	
	comp=Z,7.0nm,1.4s							
WRA	Warramunga Arr	84.54	109				P	00 45 11.4 -2.6
WRA	Warramunga Arr	84.54	109		P		P	00 45 15.2 +1.2
	comp=Z,1.7nm,0.8s,baz=264,slow=3.9,SNR=14							
	comp=Z,1.7nm,0.8s							
WRA	Warramunga Arr	84.54	109		P		P	00 45 11.4 -2.6
WB2	Warramunga Arr	84.55	109		P		P	00 45 14.2 +0.1
WB0	Warramunga Arr	84.62	109		P		P	00 45 13.8 -0.7
WB0					IAmb		IAmb	00 45 28.5
	comp=Z,9.8nm,0.9s							
STKA	Stephens Creek	88.31	122		P		P	00 45 32.5 +0.2
	comp=Z,2.1nm,0.8s,baz=248,slow=6.2,SNR=2.9							
	comp=Z,2.1nm,0.8s							
HIA	Hailar	89.56	39		P		P	00 45 37.5 -0.3
HIA	Hailar	89.56	39		P		P	00 45 37.5 -0.3
HIA					pmax		pmax	
	comp=Z,8.0nm,0.6s							
BDFB	Brasilia	90.01	254		LR		LR	01 23 35.2
	comp=Z,102nm,18.9s,baz=127,slow=34							
JMIC	Jan Mayen	91.22	345		LR		LR	01 28 27.5
	comp=Z,20nm,19.2s,baz=243,slow=37							
KSRS	Korea Array	91.72	52		LR		LR	01 27 23.0
	comp=Z,24nm,19.0s,baz=240,slow=36							
BORG	Borgarnes	92.04	337		LR		LR	01 33 22.3
	comp=Z,46nm,18.2s,baz=186,slow=40							
SPITS	Spitsbergen Ar	92.33	354		LR		LR	01 30 51.6
	comp=Z,31nm,19.1s,baz=146,slow=38							
JNU	Nakatsue	93.02	57		LR		LR	01 27 02.8
	comp=Z,23nm,19.1s,baz=62,slow=35							
CPUP	Villa Florida	95.65	242		LR		LR	01 23 50.0
	comp=Z,93nm,21.8s,baz=138,slow=32							
KLR	Kul'dur	97.11	41		LR		LR	01 27 22.3
	comp=Z,34nm,21.8s,baz=248,slow=34							
MDP	Montagnes des	99.14	273		LR		LR	01 28 07.1
	comp=Z,37nm,18.3s,baz=99,slow=34							
J30M	Hart River	128.32	1				PKPdf	00 51 46.7 0.0
YKA	Yellowknife Ar	128.44	348		PP		PP	00 53 48.3 -2.7
	comp=Z,0.3nm,0.8s,baz=17,slow=7.3,SNR=4.9							
TBI	Tubuai	141.12	158	*e*	LR		LR	01 38 00.6
	comp=Z,211nm,24.8s							
PDAR	Pinedale Array	143.25	329		PKP		PKPdf	00 52 14.6 -0.6
	comp=Z,0.2nm,0.3s,baz=97,slow=4.9,SNR=2.0							
PPT2	Papeete2	146.25	153	*e*	LR		LR	01 40 15.9
	comp=Z,71nm,23.5s							
PPT2				*e*	LR		LR	01 40 18.3
	comp=Z,124nm,29.8s							
ANMO	Albuquerque	146.49	316	*c*	*i*	PKP2	PKiKP	00 52 27.7 +2.5
ANMO					pmax		pmax	
	comp=Z,4.0nm,2.5s							
TXAR	Lajitas Array	147.11	305		PKPbc		PKPdf	00 52 23.6 +1.6
	comp=Z,1.2nm,0.9s,baz=102,slow=3.9,SNR=7.6							
NVAR	Mina Array Bea	150.78	334		PKPbc		PKiKP	00 52 34.5 +0.5
	comp=Z,0.8nm,0.8s,baz=119,slow=3.2,SNR=2.3							

JMA **26** *00:37:38.1±0.2,33°.3N±0°.4×13°.9E±°, h16km±3km, MV3.1/26, NEAR HACHIJOJIMA ISLAND*
IDC **26** *00:37:41.2±1.7,33°.61N×140°.27E, h0km, mb3.5/2, mbtmp3.4/3, ML2.3/1, MS2.5/2, Error ellipse: s-maj=59.7km s-min=31.4km az=91.0*

ISC 26 00:37:38.5±1.1, 33°.29N±0°.06×139°.5E±0°.1, h10km, n12, σ1§20/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	0.29	127	*i*	P	Pg	00 37 44.5	+0.2
JHCJ	Hachijojimakas	0.30	135	*i*	P	Pg	00 37 44.6	0.0
JHCJ				*e*	S	Sg	00 37 49.4	+0.7
JMYK	Miyake Tsubota	0.77	0	*e*	S	Sg	00 38 04.0	+0.5
JAOM	Aogashimamukai	0.84	167		P	Pg	00 37 54.2	-0.5
JTHY	Toshimahigashi	1.25	350	*e*	P	Pn	00 38 00.8	-1.3
JIM2	Oshima 3	1.43	356		P	Pn	00 38 03.6	-0.9
JIZS	Izushimoda	1.53	339	*e*	P	Pn	00 38 04.9	-1.0
JIZS				*e*	S	Sn	00 38 25.3	-0.5
BSO3	Boso 3	1.71	28	*e*	P	Pn	00 38 07.5	-0.6
MJAR	Matsushiro Arr	3.43	342		Pn	Pn	00 38 34.8	+2.8
	0.3nm,0.3s,baz=146,slow=13,SNR=10							
MJAR					LR	LR	00 40 11.7	
	comp=Z,40nm,21.1s,baz=200,slow=44							
	2.6nm,0.5s							
KSRS	Korea Array	10.36	297		LR	LR	00 44 10.8	
	comp=Z,38nm,18.2s,baz=115,slow=36							
WRA	Warramunga Arr	53.16	186		P	P	00 47 03.7	+7.0
	0.9nm,1.1s,baz=3.8,slow=7.4,SNR=2.6							
	0.9nm,1.1s							
ILAR	Eielson Array	53.48	31		P	P	00 46 58.6	-0.1
	0.5nm,0.7s,baz=277,slow=6.0,SNR=5.7							
	0.5nm,0.7s							

TEH **26** *00:38:01.1,28°.83N×56°.73E, h21km±35km, ML3.7*
OMAN **26** *00:38:04.2±0.9,28°.63N×56°.59E, h24km, mb4.1/9, ml3.5/15, Error ellipse: s-maj=7.9km s-min=6.2km az=3.0*
DSN **26** *00:38:06.4±2.0,28°.56N×56°.29E, h24km, ML3.5/13, Error ellipse: s-maj=24.3km s-min=12.3km az=53.0*

ISC 26 00:37:59.9±1.0, 28°.80N±0°.03×56°.70E±0°.05, h10km, n73, σ1§66/94, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
NGRK	Negar Kerman	0.84	2		Pg	Pg	00 38 17.6	+1.4
TVBK	TV Kerman	1.18	2		Pg	Pg	00 38 23.2	+0.5
KHNJ	Kahnooj	1.23	134		Pg	Pn	00 38 24.4	+1.3
CHMN	Cheshme madani	1.28	34		Pg	Pn	00 38 24.0	-0.2
IBND	Bandar-abas	1.35	186		Pg	Pn	00 38 26.7	+1.8
GENO	Geno	1.47	199		Pg	Pn	00 38 28.7	+2.1
KBAM	BAM	1.57	77		Pg	Pn	00 38 28.5	+0.6
KHGB	Koh Gabri	1.58	353		Pg	Pn	00 38 29.6	+1.4
KRM1	Kerman Provinc	1.77	16		Pg	Pn	00 38 32.1	+1.4
ZRDN	Zarand Kerman	2.17	356		Pn	Pn	00 38 37.4	+1.1
LAR1	LAR	2.34	242		Pn	Pn	00 38 40.6	+2.1
SHME	Shamm	2.78	190	*e*	P	Pn	00 38 45.4	+0.9
	SNR=36							
SHME	Shamm	2.78	190		P	Pn	00 38 45.5	+1.0
	SNR=36							
SHME					S	Sn	00 39 18.0	-0.2
IBAF	Bafgh	2.95	341		Pn	Pn	00 38 48.5	+1.6
IMEH	Mehriz	3.15	325		Pn	Pn	00 38 51.0	+1.2
UMQ	Umm Al-Quwin	3.39	196	*i*	P	Pn	00 38 54.9	+2.1
	SNR=12							
UMQ	Umm Al-Quwin	3.39	196		P	Pn	00 38 55.0	+2.1
	SNR=12							
MASF	Masafi	3.45	188		P	Pn	00 38 55.3	+1.6
	SNR=66							
MASF					S	Sn	00 39 34.4	-0.3
MSFE	Esma-Masafi	3.46	188	*i*	P	Pn	00 38 55.3	+1.4
	SNR=65							
MDH	Madha	3.51	186	*i*	P	Pn	00 38 55.5	+1.1
	SNR=8.9							
MDH	Madha	3.51	186		P	Pn	00 38 55.6	+1.1
MDH					S	Sn	00 39 32.7	-3.3
ZHDN	Zahedan	3.64	80		Pn	Pn	00 38 57.5	+1.0
SHI	Shiraz	3.76	284		Pn	Pn	00 38 59.3	+1.3
UOSS	Minazif	3.87	187	*i*	P	Pn	00 39 00.4	+1.0
	SNR=6.8							
UOSS	Minazif	3.87	187		P	Pn	00 39 00.7	+1.3
UOSS					S	Sn	00 39 42.9	-2.0
NAZ	Nazwa, Dubai	3.91	194	*i*	P	Pn	00 39 01.9	+1.9
	SNR=7.7							
NAZ	Nazwa, Dubai	3.91	194		P	Pn	00 39 02.1	+2.1
	SNR=7.6							
NAZ					S	Sn	00 39 46.1	+0.1
ICHK	Chekchek	3.96	331		Pn	Pn	00 39 01.7	+0.8
HATD	Hatta, Dubai	3.99	187	*i*	P	Pn	00 39 03.0	+1.9
	SNR=14							
HATD	Hatta, Dubai	3.99	187		P	Pn	00 39 03.0	+1.9
	SNR=14							
HATD					S	Sn	00 39 46.2	-1.8
IKOO	Kooshah	4.12	28		Pn	Pn	00 39 04.4	+1.2
ASHO	Ashiyiah	4.14	188

TRNA				S	Sn	00 40 43.1	-3.3
	SNR=15						
MZR	**Muzera**	**6.46 207**		P	**Pn**	**00 39 35.7**	**+0.6**
MZR				S	**Sn**	**00 40 46.1**	**-2.9**
WBK	**Wadi Bani Khal**	**6.49 161**		P	**Pn**	**00 39 35.1**	**-0.5**
SLWR	**Sila**	**6.51 225**		P	**Pn**	**00 39 35.1**	**-0.7**
SLWR				S	**Sn**	**00 40 46.1**	**-4.0**
SMRA	**Abu-Samra**	**6.63 234**		P	**Pn**	**00 39 38.1**	**+0.8**
SMRA				S	**Sn**	**00 40 49.2**	**-3.7**
JLN	**Jalan Bani Buh**	**7.06 159**		P	**Pn**	**00 39 42.7**	**-0.6**
RAYN	**Ar Rayn**	**11.35 245**	*i*	P	Pn	00 40 38.9	-3.3
	SNR=14						

IDC ***26*** *00:45:34.1±1.7, 37.°06N× 138.°70E, h0km, mb3.2/2, mbtmp3.2/2, MS3.6/1, Error ellipse: s-maj=12.3km s-min=11.7km az=16.0*

JMA ***26*** *00:45:38.4±0.1, 36.°9N±0.°3× 138.°6E±0.°3, h6km±1km, MV1.0/24, MID NIIGATA PREF*

ISC 26 00:45:36.1±1.2, 37.°00N±0.°08× 138.°67E±0.°10, h16km, n9, σ0.°64/8, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	**Nakama**	**0.42**	**285**	*e*P	**Pb**	**00 45 45.5**	**+0.3**
MAT	**Matsushiro**	**0.59**	**219**	P	**Pb**	**00 45 47.9**	**-0.2**
MJAR	**Matsushiro Arr**	**0.59**	**219**	Pg	**Pg**	**00 45 47.4**	**-0.3**
	0.1nm,0.3s,baz=34,slow=18,SNR=15						
MJAR				Lg	Lg	00 45 54.4	
	0.2nm,0.3s,baz=34,slow=31,SNR=6.6						
JNG	**Nsakai**	**0.75**	**218**	P	**Pb**	**00 45 50.9**	**+0.1**
JAG	**Ashikaga**	**0.85**	**132**	*e*S	**Sn**	**00 46 06.1**	**+0.5**
JRY	**Ryogami san**	**1.00**	**169**	*e*S	**Sn**	**00 46 09.1**	**-0.1**
KURBB	**Kurchatov Arra**	**44.29**	**308**	LR	LR	01 11 51.5	
	comp=Z,70nm,21.6s,baz=164,slow=36						
ILAR	**Eielson Array**	**50.70**	**32**	P	**P**	**00 54 33.7**	**-0.9**
	0.2nm,0.5s,baz=269,slow=7.7,SNR=2.3						
	0.2nm,0.5s						
WRA	**Warramunga Arr**	**56.78**	**185**	P	**P**	**00 55 20.4**	**+0.9**
	0.3nm,1.0s,baz=360,slow=7.6,SNR=5.3						
	0.3nm,1.0s						

IDC 26 00:56:46.7±2.7, 5.°06S× 149.°67E, h0km, mb3.2/3, mbtmp3.3/3, Error ellipse: s-maj=282.4km s-min=31.4km az=125.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.01**	**224**	P	P	01 01 32.8	+0.7
	0.2nm,0.3s,baz=42,slow=10.0,SNR=8.5						
	0.2nm,0.3s						
ASAR	**Alice Springs**	**23.94**	**218**	P	P	01 02 02.2	-0.6
	0.3nm,0.4s,baz=51,slow=8.5,SNR=7.0						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**83.58**	**23**	P	P	01 09 16.6	0.0
	0.3nm,0.7s,baz=246,slow=4.9,SNR=3.4						
	0.3nm,0.7s						

IDC ***26*** *00:57:05.1±0.9, 10.°03N× 126.°58E, h0km, mb3.8/8, mbtmp3.8/8, Error ellipse: s-maj=83.0km s-min=19.8km az=70.0*

ISC 26 00:57:11.0±0.9, 10.°0N±0.°2× 126.°5E±0.°5, h42km, n14, σ1.°12/8, mb3.8/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.70**	**166**	P	**P**	**01 03 22.6**	**+0.6**
	0.2nm,0.5s,baz=346,slow=9.3,SNR=1.9						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**34.19**	**168**	P	**P**	**01 03 53.8**	**+1.2**
	0.5nm,0.5s,baz=353,slow=6.7,SNR=6.8						
	0.5nm,0.5s						
H11S3	**WAKE ISLAND Hy**	**39.76**	**73**	T	T	01 47 35.2	
	baz=262,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**39.77**	**73**	T	T	01 47 36.9	
	baz=262,slow=75,SNR=14						
H11S2	**WAKE ISLAND Hy**	**39.77**	**73**	T	T	01 47 35.8	
	baz=262,slow=75,SNR=12						
H11N1	**WAKE ISLAND Hy**	**40.10**	**71**	T	T	01 48 02.2	
	baz=262,slow=74,SNR=31						
H11N2	**WAKE ISLAND Hy**	**40.11**	**71**	T	T	01 48 03.4	
	baz=262,slow=74,SNR=31						
H11N3	**WAKE ISLAND Hy**	**40.12**	**71**	T	T	01 48 02.8	
	baz=262,slow=74,SNR=29						
STKA	**Stephens Creek**	**44.03**	**161**	P	**P**	**01 05 13.3**	**-1.4**
	1.5nm,0.7s,baz=337,slow=15,SNR=1.6						
	1.5nm,0.7s						
MKAR	**Makanchi Array**	**52.43**	**323**	P	**P**	**01 06 18.4**	**-1.0**
	0.3nm,0.5s,baz=112,slow=8.0,SNR=4.0						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**56.47**	**325**	P	**P**	**01 06 48.4**	**-0.3**
	0.3nm,0.4s,baz=123,slow=7.0,SNR=2.8						
	0.3nm,0.4s						
ARCES	**ARCESS Array B**	**84.57**	**340**	P	**P**	**01 09 39.8**	**+0.2**
	3.5nm,0.9s,baz=73,slow=6.0,SNR=3.6						
	3.5nm,0.9s						
FINES	**FINESS Array B**	**86.28**	**332**	P	**P**	**01 09 49.4**	**+1.2**
	0.3nm,0.4s,baz=72,slow=6.2,SNR=9.3						
	0.3nm,0.4s						
YKA	**Yellowknife Ar**	**93.93**	**24**	P	**P**	**01 10 24.1**	**+0.1**
	0.4nm,0.7s,baz=298,slow=4.8,SNR=7.9						
	0.4nm,0.7s						

NEIC ***26*** *01:14:54.3±0.7, 19.°41N±0.°01× 155.°275W±0.°008, h5km±1km, Error ellipse: s-maj=2.7km s-min=1.7km az=197.0*

HVO 26 01:14:53.8±0.7, 19.°41N±0.°01× 155.°270W±0.°007, h1km±5km, ML2.8/27, ML2.8/36(NEIC), Error ellipse: s-maj=1.7km s-min=1.0km az=179.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**79**		Pg	01 14 54.5	+0.3
KKO	**Keanakako`i**	**0.01**	**165**		Pg	01 14 55.2	+1.0
HATHI	**Halema'uma'u T**	**0.01**	**32**		Pg	01 14 54.6	+0.4
OBL	**Observatory Le**	**0.01**	**298**		Pg	01 14 54.6	+0.3
RIM	**Rim**	**0.02**	**196**		Pg	01 14 55.2	+1.0
UWB	**Uwekahuna B**	**0.02**	**331**		Pg	01 14 55.1	+0.8
SBLHI	**Steaming Bluff**	**0.02**	**5**		Pg	01 14 55.1	+0.9
UWE	**Uwekahuna**	**0.03**	**296**		Pg	01 14 54.8	+0.5
RSD	**Rainshed**	**0.05**	**351**		Pg	01 14 55.5	+0.7
RSD				IAML		01 14 56.7	
	comp=N,7μm,0.3s						
RSD				Sg	Sg	01 14 56.8	+1.2
PUH	**Pauahi**	**0.06**	**126**		Pg	01 14 55.8	+0.8
PUH				IAML		01 14 56.7	
	comp=E,5μm,0.5s						
PUH				IAML		01 14 57.1	
	comp=N,7μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.10**	**108**		Pg	01 14 56.5	+0.8
HLP	**Hilina Pali**	**0.12**	**198**		Pg	01 14 56.9	+0.8
HLP				IAML		01 15 00.2	
	comp=E,5μm,0.7s						
MLH	**Mauna Loa**	**0.14**	**307**		Pg	01 14 57.5	+1.0
MLH				IAML		01 15 00.9	
	comp=N,3μm,0.5s						
STCH	**Steam Cracks**	**0.14**	**100**		Pg	01 14 57.2	+0.7
STCH				Sg	Sg	01 14 58.9	+0.7
STCH				IAML		01 14 59.9	
	comp=E,4μm,0.9s						
NPOC	**North of Pu'u**	**0.15**	**96**		Pg	01 14 57.5	+0.8
JCUZ	**Jacuzzi**	**0.16**	**99**		Pg	01 14 57.7	+0.8
HTC	**Hot Caves**	**0.21**	**215**		Pg	01 14 58.8	+1.0
JOKA	**Jonika Flow**	**0.25**	**85**		Pg	01 14 59.2	+0.6
JOKA				IAML		01 15 06.7	
	comp=E,2μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**314**		Pg	01 14 60.0	+0.9
HMH				Sg	Sg	01 15 02.8	+0.1
HMH				IAML		01 15 06.0	
	comp=E,1μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.32**	**293**	Pg	Pg	01 15 00.5	+0.7
MLOA				IAML		01 15 06.9	
	comp=N,886nm,0.8s						
MLOA				IAML		01 15 10.8	
	comp=E,2μm,0.6s						
MWH	**Moku'aweowe**	**0.32**	**284**		Pg	01 15 00.4	+0.5
MWH				Sg	Sg	01 15 03.8	-0.3
KHU	**Kahuku**	**0.36**	**243**		Pg	01 15 01.3	+0.5
POHA	**Pohakuloa**	**0.42**	**324**		Pg	01 15 02.6	+0.7
HUH	**Hualalai**	**0.60**	**297**		Pg	01 15 06.0	+0.7

NEIC ***26*** *01:19:06.8±0.9, 19.°400N±0.°008× 155.°307W±0.°007, h2km±3km, Error ellipse: s-maj=1.2km s-min=0.9km az=181.0*

HVO 26 01:19:06.0±0.8, 19.°40N±0.°01× 155.°289W±0.°008, h1km±4km, ML2.8/11, ML2.1/29(NEIC), Error ellipse: s-maj=1.7km s-min=0.8km az=206.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**108**		Pg	01 19 07.6	+1.0
OBL	**Observatory Le**	**0.02**	**14**		Pg	01 19 07.9	+1.3
KKO	**Keanakako`i**	**0.02**	**95**		Pg	01 19 07.8	+1.2
UWE	**Uwekahuna**	**0.02**	**349**	Pg	Pg	01 19 07.0	+0.3
UWE					Sg	01 19 07.9	+0.8
UWB	**Uwekahuna B**	**0.03**	**22**		Pg	01 19 08.0	+1.4
BYL	**Byron's Ledge**	**0.03**	**66**	IAML		01 19 07.0	
	comp=E,3μm,1.0s						
BYL					Pg	01 19 07.1	+0.4
SBLHI	**Steaming Bluff**	**0.03**	**36**		Pg	01 19 08.6	+1.9
HATHI	**Halema'uma'u T**	**0.04**	**49**		Pg	01 19 07.3	+0.5
RSD	**Rainshed**	**0.06**	**9**	IAML		01 19 07.7	
	comp=N,1μm,0.9s						
RSD				Pg	Pg	01 19 07.9	+0.5
RSD				IAML		01 19 08.7	
	comp=E,1μm,0.9s						
PUH	**Pauahi**	**0.07**	**110**	Pg	Pg	01 19 08.1	+0.6
PUH					Sg	01 19 10.0	+1.5
HLP	**Hilina Pali**	**0.10**	**190**	IAML		01 19 08.4	
	comp=N,688nm,0.9s						
HLP					Pg	01 19 08.9	+0.8
HLP					Sg	01 19 10.6	+1.1
KNHH	**Kane Nui o Ham**	**0.12**	**100**	Pg	Pg	01 19 08.8	+0.5
MLH	**Mauna Loa**	**0.13**	**316**		Pg	01 19 09.3	+0.7
MLH				IAML		01 19 12.6	
	comp=E,1μm,0.5s						
STCH	**Steam Cracks**	**0.15**	**95**		Pg	01 19 09.4	+0.4
STCH				IAML		01 19 12.9	
	comp=E,432nm,1.0s						
STCH				IAML		01 19 13.9	
	comp=N,394nm,1.1s						
HTC	**Hot Caves**	**0.19**	**212**		Pg	01 19 10.6	+0.9
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg	Pg	01 19 12.0	+0.7
HMH				IAML		01 19 13.6	
	comp=E,202nm,1.1s						
HMH				Sg	Sg	01 19 15.1	+0.2
HMH				IAML		01 19 15.1	
	comp=N,310nm,1.4s						
MLOA	**Mauna Loa Obse**	**0.30**	**297**	Pg	Pg	01 19 12.1	+0.2
MLOA				IAML		01 19 20.5	
	comp=E,264nm,1.1s						
MLOA				IAML		01 19 21.5	
	comp=N,361nm,0.9s						
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	01 19 12.6	+0.7
KHU	**Kahuku**	**0.34**	**244**		Pg	01 19 12.8	+0.2
KHU				IAML		01 19 19.5	
	comp=N,298nm,1.3s						
KHU				IAML		01 19 20.9	
	comp=E,234nm,1.4s						
POHA	**Pohakuloa**	**0.42**	**327**	Pg	Pg	01 19 14.8	+0.5
HUH	**Hualalai**	**0.59**	**299**	Pg	Pb	01 19 18.6	-0.8

IDC ***26*** *01:23:29.2±0.8, 34.°83N× 76.°19E, h0km, mb3.7/14, mbtmp3.7/17, ML2.8/3, MS3.6/1, Error ellipse: s-maj=23.1km s-min=17.5km az=53.0*

ISC 26 01:23:34.6±0.9, 34.°9N±0.°1× 76.°2E±0.°1, h35km, n18, σ0.°47/18, mb3.6/12, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.72**	**19**	Pn	**Pn**	**01 26 32.8**	**-0.2**
	0.1nm,0.3s,baz=205,slow=14,SNR=3.8						
MKAR				Sn	**Sn**	**01 28 52.9**	**-0.5**
	0.1nm,0.3s,baz=200,slow=23,SNR=1.6						
	0.3nm,0.6s						
KURBB	**Kurchatov Arra**	**15.79**	**5**	Pn	**Pn**	**01 27 13.9**	**-0.3**
	baz=194,slow=11,SNR=1.6						
	1.1nm,0.7s						
BVAR	**Borovoye Array**	**18.58**	**349**	P	**P**	**01 27 48.2**	**-0.3**
	baz=174,slow=16,SNR=8.8						
	1.6nm,0.6s						
ZALV	**Zalesovo Beam**	**19.97**	**15**	P	**P**	**01 28 04.0**	**+0.3**
	2.9nm,0.5s,baz=219,slow=8.6,SNR=16						
	2.9nm,0.5s						
AKTO	**Aktyubinsk**	**20.41**	**325**	P	**P**	**01 28 08.4**	**0.0**
	3.5nm,0.6s,baz=122,slow=9.2,SNR=14						
	3.5nm,0.6s						
SONM	**Songino Array**	**25.89**	**51**	P	**P**	**01 29 04.2**	**+1.0**
	0.4nm,0.3s,baz=253,slow=10,SNR=3.9						
	0.4nm,0.3s						
AKASG	**Malin Array Be**	**37.24**	**310**	P	**P**	**01 30 42.5**	**-0.2**
	0.2nm,0.3s,baz=100,slow=11,SNR=1.7						
	0.2nm,0.3s						
FINES	**FINESS Array B**	**41.17**	**326**	P	**P**	**01 31 16.0**	**+0.6**
	0.7nm,0.7s,baz=126,slow=13,SNR=3.9						
	0.7nm,0.7s						
ARCES	**ARCESS Array B**	**44.25**	**337**	P	**P**	**01 31 40.2**	**-0.1**
	4.4nm,0.9s,baz=115,slow=6.2,SNR=2.0						
	4.4nm,0.9s						
TGY	**Tagaytay City**	**45.21**	**106**	LR	LR	01 50 03.4	
	comp=Z,71nm,20.9s,baz=296,slow=35						
HFS	**Hagfors**	**46.92**	**323**	P	**P**	**01 32 01.4**	**0.0**
	1.5nm,0.8s,baz=159,slow=9.5,SNR=3.8						
	1.5nm,0.8s						
NOA	**NORSAR Array B**	**48.19**	**324**	P	**P**	**01 32 11.2**	**-0.1**
	0.3nm,0.7s,baz=97,slow=7.2,SNR=2.7						
	0.3nm,0.7s						
ESDC	**Sonseca Array**	**61.94**	**300**	P	**P**	**01 33 50.8**	**-0.1**
	0.1nm,0.5s,baz=60,slow=7.6,SNR=1.2						
	0.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**69.98**	**272**	P	**P**	**01 34 43.0**	**+0.1**
	0.6nm,0.6s,baz=46,slow=5.6,SNR=7.0						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**77.57**	**125**	P	**P**	**01 35 26.9**	**-0.3**
	0.6nm,0.9s,baz=319,slow=6.6,SNR=5.5						
	0.6nm,0.9s						
ASAR	**Alice Springs**	**79.90**	**128**	P	**P**	**01 35 40.5**	**+0.5**
	0.5nm,0.6s,baz=316,slow=6.2,SNR=4.9						
	0.5nm,0.6s						
YKA	**Yellowknife Ar**	**82.54**	**5**	P	**P**	**01 35 53.9**	**+0.5**
	0.2nm,0.9s,baz=343,slow=6.1,SNR=2.0						
	0.2nm,0.9s						
STKA	**Stephens Creek**	**90.46**	**129**	P	**P**	**01 36 31.8**	**-0.9**
	1.3nm,0.6s,baz=357,slow=10,SNR=3.1						
	1.3nm,0.6s						

NEIC ***26*** *01:23:50.0±0.7, 19.°393N±0.°004× 155.°277W±0.°008, h1km±4km, Error ellipse: s-maj=1.2km s-min=0.5km az=80.0*

HVO 26 01:23:49.2±0.6, 19.°400N±0.°006× 155.°280W±0.°008, h0km±4km, ML2.8/19, ML2.3/33(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=61.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**131**		Pg	01 23 50.4	+0.9
KKO	**Keanakako`i**	**0.01**	**101**		Pg	01 23 50.4	+0.8
OBL	**Observatory Le**	**0.02**	**348**		Pg	01 23 50.5	+0.8
BYL	**Byron's Ledge**	**0.02**	**58**	Pg	Pg	01 23 50.1	+0.4
UWB	**Uwekahuna B**	**0.02**	**4**		Pg	01 23 50.9	+1.1
UWE	**Uwekahuna**	**0.02**	**329**	IAML		01 23 50.0	
	comp=E,5μm,0.7s						
UWE				Pg	Pg	01 23 50.2	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**38**		Pg	01 23 50.4	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**23**		Pg	01 23 50.5	+0.7
RSD	**Rainshed**	**0.06**	**2**	Pg	Pg	01 23 51.2	+0.7
PUH	**Pauahi**	**0.07**	**113**	Pg	Pg	01 23 51.4	+0.9
PUH				IAML		01 23 52.1	
	comp=N,2μm,0.2s						
PUH				IAML		01 23 52.3	
	comp=E,3μm,0.4s						
HLP	**Hilina Pali**	**0.11**	**194**	IAML		01 23 52.0	
	comp=N,1μm,2.2s						
HLP					Pg	01 23 52.3	+1.0
HLP				IAML		01 23 54.4	
	comp=E,1μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.11**	**101**		Pg	01 23 52.1	+0.8
MLH	**Mauna Loa**	**0.14**	**313**		Pg	01 23 52.9	+1.0
MLH				IAML		01 23 56.3	
	comp=E,2μm,0.7s						
STCH	**Steam Cracks**	**0.15**	**96**		Pg	01 23 53.0	+0.9
STCH				IAML		01 23 56.4	
	comp=N,831nm,0.9s						
STCH				IAML		01 23 56.5	
	comp=E,2μm,0.9s						
NPOC	**North of Pu'u**	**0.16**	**93**		Pg	01 23 53.2	+0.9
JCUZ	**Jacuzzi**	**0.17**	**95**		Pg	01 23 53.5	+1.0
HTC	**Hot Caves**	**0.20**	**214**		Pg	01 23 54.0	+1.0
JOKA	**Jonika Flow**	**0.26**	**83**		Pg	01 23 54.7	+0.4
JOKA				IAML		01 23 58.4	
	comp=N,797nm,2.0s						
JOKA				IAML		01 24 01.3	
	comp=E,357nm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**316**		Pg	01 23 55.4	+0.8
HMH				IAML		01 24 03.5	
	comp=N,640nm,0.8s						
HMH				IAML		01 24 04.1	
	comp=E,513nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**296**	Pg	Pg	01 23 55.9	+0.7
MLOA				IAML		01 24 03.5	
	comp=E,449nm,1.1s						
MLOA				IAML		01 24 04.5	
	comp=N,487nm,0.9s						
MWH	**Moku'aweowe**	**0.31**	**286**	Pg	Pg	01 23 56.0	+0.8
KHU	**Kahuku**	**0.35**	**244**		Pg	01 23 56.2	+0.2
POHA	**Pohakuloa**	**0.43**	**326**	Pg	Pg	01 23 58.1	+0.7
POHA				IAML		01 24 08.2	
	comp=N,412nm,1.2s						
HUH	**Hualalai**	**0.60**	**298**		Pg	01 24 01.2	+0.6

NEIC ***26*** *01:37:18.4±0.6, 17.°91N±0.°04× 65.°92W±0.°03, h17km±1km, ML2.0/20, Md2.7/10(RSPR), Error ellipse: s-maj=5.7km s-min=3.5km az=161.0*

RSPR ***26*** *01:37:19.0, 17.°93N× 65.°90W, h9km, MD2.7/10*

ISC 26 01:37:17.3±1.2, 17.°88N±0.°06× 65.°85W±0.°03, h20km±3km, n32, σ0.°69/43, 5C-3D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGPR	**InterUniversit**	**0.26**	**289**	⇑*e*P	**Pb**	**01 37 23.2**	**0.0**
IGPR	**InterUniversit**	**0.26**	**289**	*e*S	**Sg**	**01 37 26.9**	**-0.5**
IGPR	**InterUniversit**	**0.26**	**289**		**Pb**	**01 37 23.2**	**0.0**
IGPR					**Sg**	**01 37 26.8**	**-0.6**
IGPR				IAML		01 37 28.2	
	comp=N,540nm,0.2s						
HUMP	**Col San Antoni**	**0.26**	**0**	⇑*i*P	**Pg**	**01 37 23.6**	**+0.3**
HUMP	**Col San Antoni**	**0.26**	**0**	*e*S	**Sg**	**01 37 27.6**	**+0.1**
HUMP	**Col San Antoni**	**0.26**	**0**		**Pg**	**01 37 23.6**	**+0.3**
HUMP					**Sg**	**01 37 27.3**	**-0.1**
HUMP				IAML		01 37 27.9	
	comp=N,297nm,0.2s						
SJG	**San Juan**	**0.37**	**309**	Pg	**Pg**	**01 37 24.9**	**-0.1**
SJG				IAML		01 37 30.3	
	comp=N,345nm,0.2s						
GCPR	**Guaynabo City**	**0.48**	**332**	⇑*i*P	**Pg**	**01 37 27.1**	**-0.1**
GCPR	**Guaynabo City**	**0.48**	**332**	*e*S	**Sb**	**01 37 33.5**	**-0.2**
GCPR	**Guaynabo City**	**0.48**	**332**		**Pg**	**01 37 27.0**	**-0.1**
GCPR					**Sb**	**01 37 33.4**	**-0.4**
GCPR				IAML		01 37 33.9	
	comp=E,47nm,0.3s						
CELP	**Cerrillos**	**0.72**	**286**	⇓*e*P	**Pb**	**01 37 31.1**	**-0.1**
CELP	**Cerrillos**	**0.72**	**286**	*e*S	**Sg**	**01 37 40.5**	**-0.6**
CELP	**Cerrillos**	**0.72**	**286**		**Pb**	**01 37 31.1**	**-0.1**
CELP					**Sb**	**01 37 40.0**	**-0.7**
OBIP	**Obispado Ponce**	**0.74**	**283**	⇑*e*P	**Pb**	**01 37 31.8**	**+0.3**
OBIP	**Obispado Ponce**	**0.74**	**283**	*e*S	**Sb**	**01 37 40.5**	**-0.6**
OBIP	**Obispado Ponce**	**0.74**	**283**		**Pb**	**01 37 31.8**	**+0.1**
OBIP					**Sb**	**01 37 40.3**	**-0.9**
EMPR	**Esperanza - Ma**	**0.88**	**313**	⇓*e*P	**Pb**	**01 37 33.5**	**-0.3**
EMPR	**Esperanza - Ma**	**0.88**	**313**	*e*S	**Sb**	**01 37 44.5**	**-0.7**
EMPR	**Esperanza - Ma**	**0.88**	**313**		**Pb**	**01 37 33.7**	**-0.2**
EMPR					**Sg**	**01 37 45.0**	**-1.1**
EMPR				IAML		01 37 50.3	
	comp=E,84nm,1.2s						
EMPR				IAML		01 37 54.8	
	comp=N,63nm,1.5s						
AOPR	**Arecibo Observ**	**0.98**	**298**	⇓*e*P	**Pb**	**01 37 35.1**	**-0.5**
AOPR	**Arecibo Observ**	**0.98**	**298**	*e*S	**Sb**	**01 37 47.2**	**-0.8**
AOPR	**Arecibo Observ**	**0.98**	**298**		**Pb**	**01 37 35.0**	**-0.5**
AOPR					**Sb**	**01 37 47.4**	**-0.7**
MLPR	**Magueyes Islan**	**1.14**	**275**	⇑*e*P	**Pn**	**01 37 39.1**	**+0.9**
MLPR	**Magueyes Islan**	**1.14**	**275**	*e*S	**Sn**	**01 37 53.5**	**+0.2**
MLPR	**Magueyes Islan**	**1.14**	**275**		**Pn**	**01 37 39.0**	**+0.8**
MLPR					**Sn**	**01 37 53.2**	**0.0**
MLPR				IAML		01 37 58.5	
	comp=N,16nm,1.3s						
MLPR				IAML		01 38 01.4	
	comp=E,18nm,1.1s						
LSP	**Las Mesas**	**1.21**	**284**	⇑*e*P	**Pb**	**01 37 40.1**	**+0.5**
LSP	**Las Mesas**	**1.21**	**284**	*e*S	**Sg**	**01 37 56.1**	**-0.6**
LSP	**Las Mesas**	**1.21**	**284**		**Pb**	**01 37 40.1**	**+0.5**
LSP					**Sg**	**01 37 56.1**	**-0.6**
AGPR	**Aguadilla, PR**	**1.33**	**296**	⇑*e*P	**Pn**	**01 37 41.3**	**+0.5**
AGPR	**Aguadilla, PR**	**1.33**	**296**	*e*S	**Sn**	**01 37 58.4**	**+0.4**
AGPR	**Aguadilla, PR**	**1.33**	**296**		**Pn**	**01 37 41.3**	**+0.5**
AGPR				IAML		01 37 58.2	
	comp=N,48nm,1.5s						
AGPR					**Sn**	**01 37 58.3**	**+0.2**
AGPR				IAML		01 38 01.9	
	comp=E,51nm,1.1s						
ANBD	**Bethesda, Anti**	**3.99**	**101**	*e*P	**Pn**	**01 38 19.4**	**+2.1**
ANBD				*e*S	**Pb**	**01 38 24.9**	**-2.0**

IDC ***26*** *01:47:40.0±0.8, 33.°17S× 109.°24W, h0km, mb3.8/8, mbtmp3.8/8, MS3.7/14, Error ellipse: s-maj=41.7km s-min=20.4km az=88.0*

NEIC ***26*** *01:47:43.3±1.1, 33.°08S±0.°05× 109.°1W±0.°2, h10km±1km, mb4.6/18, Error ellipse: s-maj=30.6km s-min=7.2km az=258.0*

ISC 26 01:47:41.9±0.6, 33.°1S±0.°1× 109.°2W±0.°2, h10km, n64, σ1.°08/42, mb4.5/19, MS3.7/14, 4C, Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H03S2	**Juan Fernandez**	**25.19**	**100**	T	T	02 19 15.4	
	baz=263,slow=74,SNR=56						
H03S3	**Juan Fernandez**	**25.21**	**100**	T	T	02 19 13.3	
	baz=263,slow=74,SNR=26						
H03S1	**Juan Fernandez**	**25.21**	**100**	T	T	02 19 14.7	
	baz=263,slow=74,SNR=47						
H03N2	**Juan Fernandez**	**25.24**	**99**	T	T	02 19 12.5	
	baz=267,slow=73,SNR=194						
H03N3	**Juan Fernandez**	**25.24**	**99**	T	T	02 19 13.8

comp=Z,0.5nm,0.8s,baz=94,slow=4.5,SNR=2.2
comp=Z,0.5nm,0.8s
VNA3 Neumayer Olymp 62.00 159 ⇑P P 01 58 02.2 +0.3
comp=Z,3.8nm,0.9s
TXAR Lajitas Array 62.31 5 P P 01 58 05.4 +1.0
comp=Z,0.5nm,0.9s,baz=192,slow=8.8,SNR=4.6
comp=Z,0.5nm,0.9s
VNA1 Neumayer--Stat 62.64 158 ⇑P P 01 58 04.6 -1.5
comp=Z,3.5nm,0.8s
VNA2 Neumayer--Watz 62.81 159 ⇑P P 01 58 07.3 +0.1
comp=Z,3.0nm,0.9s,baz=266,slow=4.9
SNAA Sanae 63.84 160 P P 01 58 13.7 -0.4
SNAA IAmb IAmb 01 58 23.5
comp=Z,5.8nm,1.3s
SNAA Sanae 63.84 160 P P 01 58 12.8 -1.3
comp=Z,1.0nm,0.8s,baz=258,slow=4.2,SNR=3.7
comp=Z,1.0nm,0.8s
435B Jarrell 64.47 11 P P 01 58 19.6 +1.0
TROLL Troll, Antarti 65.16 161 ⇑P P 01 58 19.4 -3.4
comp=Z,210nm,1.0s
MDP Montagnes des 65.59 66 LR LR 02 22 29.7
comp=Z,63nm,21.9s,baz=252,slow=32
LENM Lemitar 66.94 2 P P 01 58 35.1 +0.4
X18A Snowflake 67.28 359 P P 01 58 37.7 +0.9
TUL3 Leonard 69.78 12 P P 01 58 52.6 +0.4
HHAR Hobbs 70.47 13 P P 01 58 57.1 +0.6
HHAR IAmb IAmb 01 58 58.3
comp=Z,5.9nm,0.9s
MGMO Mountain Grove 71.65 14 P P 01 59 04.9 +1.3
MGMO IAmb IAmb 01 59 07.8
comp=Z,9.0nm,1.4s
NV11 Mina Array Sit 71.66 353 P P 01 59 04.7 +0.9
NVAR Mina Array Bea 71.67 352 P P 01 59 05.0 +1.0
NVAR Mina Array Bea 71.67 352 P P 01 59 04.8 +0.9
comp=Z,1.9nm,0.9s,baz=174,slow=8.5,SNR=11
comp=Z,1.9nm,0.9s
T42A Van Buren 71.78 15 P P 01 59 05.0 +0.7
T42A IAmb IAmb 01 59 06.4
comp=Z,10nm,1.5s
T47A Sharon Grove 72.70 18 P P 01 59 10.0 +0.1
T47A IAmb IAmb 01 59 11.1
comp=Z,6.4nm,0.9s
CCM Cathedral Cave 72.73 15 P P 01 59 11.0 +1.0
CCM IAmb IAmb 01 59 13.8
comp=Z,3.2nm,0.8s
BW06 Boulder Array 75.50 360 P P 01 59 26.3 -0.1
PDAR Pinedale Array 75.50 360 P P 01 59 26.9 +0.5
PDAR Pinedale Array 75.50 360 P P 01 59 25.6 -0.8
comp=Z,1.1nm,0.9s,baz=155,slow=4.9,SNR=6.7
comp=Z,1.1nm,0.9s
HLID Hailey 76.44 356 P P 01 59 32.5 +0.8
HLID IAmb IAmb 01 59 34.4
comp=Z,4.8nm,0.9s
F36A Milaca 79.86 11 P P 01 59 50.5 +0.1
F36A IAmb IAmb 01 59 52.2
comp=Z,4.0nm,0.8s
YKA Yellowknife Ar 95.36 357 P P 02 01 04.5 -1.2
comp=Z,0.2nm,0.7s,baz=172,slow=4.4,SNR=4.0
comp=Z,0.2nm,0.7s
KDAK Kodiak Island 97.61 338 LR LR 02 35 25.5
comp=Z,120nm,20.3s,baz=200,slow=29
H01W1 Cape Leeuwin H 101.10 215 T T 03 54 50.7
baz=144,slow=74,SNR=3.1
H01W2 Cape Leeuwin H 101.11 215 T T 03 54 52.8
baz=144
H01W3 Cape Leeuwin H 101.12 215 T T 03 54 54.5
baz=144,slow=74,SNR=3.3
AKASG Malin Array Be 144.94 47 PKPbc PKPbc 02 07 16.2 -1.8
comp=Z,2.2nm,0.7s,baz=282,slow=3.8,SNR=7.2
ENH Enshi 147.12 276 PKPbc PKPbc 02 07 24.8 -0.6
BR131 Keskin Array S 149.50 67 PKPbc PKPbc 02 07 30.8 -0.9
BRTR Keskin Array B 149.50 67 PKPdf PKPdf 02 07 26.3 -0.8
BRTR Keskin Array B 149.50 67 PKPbc PKPbc 02 07 30.6 -0.9
comp=Z,1.2nm,1.0s,baz=248,slow=1.3,SNR=7.1
MMAI Mount Meron Ar 150.38 80 PKPbc PKPbc 02 07 34.1 +0.3
comp=Z,1.4nm,0.6s,baz=282,slow=4.0,SNR=4.2
CMAR Chiang Mai Arr 150.91 247 PKPbc PKiKP 02 07 35.8 -0.2
BNN Bunyan 151.22 68 PKPbc 02 07 35.2 -0.5
ZALV Zalesovo Beam 156.91 339 PKPab PKPab 02 08 06.8 -0.2
comp=Z,0.6nm,0.5s,baz=19,slow=4.3,SNR=4.0

*NEIC **26** 01:51:07.4±1.1, 19°.33N±0°.02×155°.24W±0°.01, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.3km az=154.0*
HVO 26 01:51:07.3±0.7, 19°.37N±0°.01×155°.254W±0°.008, h1km±4km, ML2.7/27, ML2.5/37(NEIC), Error ellipse: s-maj=2.1km s-min=0.9km az=162.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.03**	**334**		Pg	01 51 09.4	+1.5
RIM	**Rim**	**0.03**	**318**		Pg	01 51 09.7	+1.8
PUH	**Pauahi**	**0.04**	**90**		Pg	01 51 08.8	+0.7
PUH				IAML		01 51 09.1	
	comp=E,5μm,0.1s						
PUH				IAML		01 51 09.2	
	comp=N,7μm,0.2s						
BYL	**Byron's Ledge**	**0.04**	**351**		Pg	01 51 08.8	+0.7
HATHI	**Halema'uma'u T**	**0.05**	**352**		Pg	01 51 09.2	+0.9
HATHI				IAML		01 51 09.6	
	comp=E,5μm,0.2s						
HATHI				IAML		01 51 09.7	
	comp=N,7μm,0.2s						
OBL	**Observatory Le**	**0.05**	**327**		Pg	01 51 09.2	+0.8
UWE	**Uwekahuna**	**0.06**	**322**		Pg	01 51 09.5	+1.0
UWE				IAML		01 51 10.3	
	comp=N,4μm,0.2s						
UWE				IAML		01 51 10.6	
	comp=E,6μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.08**	**86**		Pg	01 51 09.8	+0.9
RSD	**Rainshed**	**0.09**	**346**		Pg	01 51 09.9	+0.8
RSD				IAML		01 51 12.0	
	comp=E,2μm,0.3s						
HLP	**Hilina Pali**	**0.09**	**213**		Pg	01 51 10.2	+1.0
HLP				IAML		01 51 12.0	
	comp=E,3μm,0.4s						
HLP				IAML		01 51 12.2	
	comp=N,3μm,0.3s						
STCH	**Steam Cracks**	**0.12**	**85**		Pg	01 51 10.4	+0.7
STCH				IAML		01 51 13.3	
	comp=E,2μm,1.0s						
NPOC	**North of Pu'u**	**0.14**	**82**		Pg	01 51 10.8	+0.8
JCUZ	**Jacuzzi**	**0.14**	**86**		Pg	01 51 11.2	+1.1
MLH	**Mauna Loa**	**0.17**	**314**	Pg	Pg	01 51 11.6	+0.9
MLH				IAML		01 51 16.7	
	comp=E,1μm,0.5s						
HTC	**Hot Caves**	**0.19**	**225**		Pg	01 51 11.9	+0.9
JOKA	**Jonika Flow**	**0.24**	**76**		Pg	01 51 12.4	+0.4
JOKA				IAML		01 51 18.9	
	comp=N,1μm,1.0s						
PAH	**Pahoa**	**0.31**	**67**	Pg	Pg	01 51 14.0	+0.7
HMH	**Humu'ula Sheep**	**0.31**	**316**	Pg	Pg	01 51 13.8	+0.5
HMH				IAML		01 51 21.8	
	comp=E,433nm,0.5s						
HMH				IAML		01 51 24.5	
	comp=N,434nm,0.4s						
MWH	**Moku'aweowe**	**0.34**	**289**	Pg	Pg	01 51 14.4	+0.5
MLOA	**Mauna Loa Obse**	**0.34**	**298**		Pg	01 51 14.6	+0.6
KHU	**Kahuku**	**0.36**	**250**		Pg	01 51 14.7	+0.4
KHU				IAML		01 51 23.1	
	comp=E,616nm,0.9s						
KHU				IAML		01 51 24.5	
	comp=N,669nm,0.7s						
POHA	**Pohakuloa**	**0.46**	**325**		Pg	01 51 16.4	+0.2
POHA				IAML		01 51 24.1	
	comp=N,499nm,0.5s						
POHA				IAML		01 51 24.2	
	comp=N,482nm,0.7s						
HUH	**Hualalai**	**0.63**	**299**		Pg	01 51 19.9	+0.5

IDC 26 02:08:10.8±3.3, 36°.47N×68°.63E, h0km, mb3.4/1, mbtmp3.5/5, ML3.4/4, MS3.6/2, Error ellipse: s-maj=60.0km s-min=26.8km az=143.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**7.64**	**35**	Pn	Pn	02 10 05.4	+1.8
	1.5nm,0.3s,baz=213,slow=8.7,SNR=9.4						
AAK				Sn	Sn	02 11 30.7	-0.2
	0.3nm,0.3s,baz=56,slow=22,SNR=1.7						
	2.6nm,0.3s						
GEYT	**Alibeck**	**8.52**	**283**	Pn	Pn	02 10 14.9	-0.6
	0.4nm,0.3s,baz=96,slow=7.1,SNR=2.3						
GEYT				Sn	Sn	02 11 46.0	-6.3
	0.4nm,0.3s,baz=104,slow=12,SNR=1.9						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**14.49**	**40**	Pn	Pn	02 11 36.1	-1.1
	0.4nm,0.3s,baz=228,slow=16,SNR=7.8						
	1.1nm,0.7s						
KURBB	**Kurchatov Arra**	**15.84**	**24**	Pn	Pn	02 11 52.1	-3.0
	baz=210,slow=11,SNR=2.0						
	0.3nm,0.7s						
ZALV	**Zalesovo Beam**	**20.78**	**28**	P	P	02 12 52.9	-0.4
	1.1nm,0.5s,baz=212,slow=9.7,SNR=5.0						
	1.1nm,0.5s						
JHJ	**Hachijo jima 2**	**57.29**	**71**	LR	LR	02 45 41.2	
	comp=Z,52nm,19.1s,baz=102,slow=39						
RES	**Resolute Bay**	**68.59**	**355**	LR	LR	02 52 30.1	
	comp=Z,43nm,18.4s,baz=1.5,slow=39						

*NOU **26** 02:09:12.8, 43°.11S×172°.93E, h0km, MLv4.2/6, South Island, New Zealand*
*WEL **26** 02:09:22.9±0.4, 42°.5S±2°×17°.4E±°, h5km, M3.2/7, ML3.4/7, MLv3.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=106.7, confirmed*
ISC 26 02:09:21.9±0.8, 42°.21S±0°.02×173°.73E±0°.03, h16km±7km, n76, σ1s06/83, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIKS	**Kaikoura**	**0.22**	**189**	P	Pb	02 09 28.8	+1.3
KIKS				S	Sb	02 09 33.8	+2.5
KHZ	**Kahutara**	**0.25**	**214**	P	Pb	02 09 28.4	+0.4
KHZ	**Kahutara**	**0.25**	**214**	P	Pb	02 09 28.6	+0.6
KHZ				S	Sb	02 09 33.0	+0.9
KEKS	**Kekerengu Vall**	**0.32**	**37**	P	Pg	02 09 28.9	+0.4
KEKS				S	Sg	02 09 34.1	+1.0
MOLW	**Molesworth Sta**	**0.37**	**289**	P	Pg	02 09 29.1	-0.5
MOLW				S	Sg	02 09 33.8	-0.9
WDFS	**Ward Fire Stat**	**0.49**	**39**	P	Pb	02 09 32.9	+0.8
BSWZ	**Blackbirch Sta**	**0.51**	**13**	P	Pg	02 09 31.9	0.0
BSWZ				S	Sg	02 09 39.1	+0.3
CMWZ	**Cape Campbell**	**0.59**	**38**	P	Pb	02 09 34.5	+0.8
THZ	**Tophouse**	**0.76**	**306**	P	Pg	02 09 36.1	-0.6
THZ				S	Sg	02 09 45.9	-0.8
TUWZ	**Tuamarina**	**0.80**	**12**	P	Pg	02 09 37.2	-0.2
TUWZ				S	Sg	02 09 48.3	+0.4
GVZ	**Greta Valley S**	**0.91**	**214**	P	Pn	02 09 41.1	+1.0
GVZ				S	Sn	02 09 55.5	+2.5
NNZ	**Nelson**	**1.02**	**345**	P	Pb	02 09 40.7	-0.5
NNZ				S	Sb	02 09 53.8	-0.6
TCW	**Tory Channel**	**1.08**	**23**	P	Pb	02 09 42.0	-0.1
MRNZ	**Matariki Terra**	**1.09**	**318**	P	Pb	02 09 42.1	-0.2
BHW	**Baring Head**	**1.17**	**47**	P	Pn	02 09 43.9	+0.3
WEL	**Wellington**	**1.21**	**40**	P	Pn	02 09 44.7	+0.6
LTZ	**Lake Taylor**	**1.22**	**242**	P	Pg	02 09 45.0	-0.4
AMCZ	**Amberley**	**1.25**	**219**	P	Pg	02 09 45.6	-0.4
TKNZ	**Takaka Hill**	**1.31**	**334**	P	Pn	02 09 45.8	+0.3
PLWZ	**Palliser**	**1.31**	**61**	P	Pn	02 09 45.6	+0.1
MSWZ	**Moikau Station**	**1.39**	**56**	P	Pn	02 09 46.6	0.0
DUWZ	**D'Urville Isla**	**1.41**	**6**	P	Pn	02 09 47.4	+0.4
CAW	**Cannon Point**	**1.49**	**43**	P	Pn	02 09 48.3	+0.3
DSZ	**Denniston Nort**	**1.51**	**287**	P	Pb	02 09 50.0	+0.6
PAWZ	**Paruwai Farm**	**1.52**	**58**	P	Pn	02 09 48.2	-0.2
OKCZ	**Okains Bay**	**1.59**	**198**	P	Pn	02 09 49.9	+0.5
KIW	**Kapiti Island**	**1.61**	**34**	P	Pn	02 09 50.3	+0.6
QRZ	**Quartz Range**	**1.65**	**327**	P	Pn	02 09 51.4	+1.2
QRZ	**Quartz Range**	**1.65**	**327**	P	Pb	02 09 51.5	-0.4
OXZ	**Oxford**	**1.67**	**228**	P	Pn	02 09 50.4	-0.1
TRWZ	**Traveller**	**1.68**	**62**	P	Pn	02 09 50.3	-0.3
MQZ	**McQueen's Vall**	**1.69**	**207**	P	Pn	02 09 50.4	-0.4
MTW	**Mount Morrison**	**1.69**	**52**	P	Pn	02 09 50.4	-0.4
INZ	**Inchbonnie**	**1.77**	**252**	P	Pb	02 09 52.9	-0.9
OGWZ	**Otaki Gorge**	**1.77**	**38**	P	Pn	02 09 51.8	0.0
AKCZ	**Akaroa Harbour**	**1.77**	**200**	P	Pn	02 09 52.3	+0.5
HOWZ	**Holdsworth Sta**	**1.88**	**46**	P	Pn	02 09 53.0	-0.3
RACZ	**Rakaia**	**1.91**	**217**	P	Pn	02 09 53.7	0.0
TMWZ	**Te Maipa**	**1.96**	**57**	P	Pn	02 09 53.8	-0.7
MHCZ	**Mount Hutt**	**2.06**	**229**	P	Pn	02 09 55.7	-0.2
MRZ	**Mangatainoka R**	**2.08**	**43**	P	Pn	02 09 55.9	-0.3
WACZ	**Wakanui South**	**2.22**	**218**	P	Pn	02 09 58.2	+0.2
WVZ	**Waitaha Valley**	**2.37**	**248**	P	Pn	02 10 01.1	+1.1
POWZ	**Post Office Ro**	**2.38**	**41**	P	Pn	02 09 59.9	-0.4
BFZ	**Birch Farm**	**2.43**	**52**	P	Pg	02 10 07.4	-1.1
BFZ	**Birch Farm**	**2.43**	**52**	P	Pg	02 10 07.5	-1.0
RPZ	**Rata Peaks**	**2.47**	**232**	P	Pn	02 10 01.7	+0.2
ARCZ	**Arundel**	**2.55**	**226**	P	Pn	02 10 02.8	+0.1
WAZ	**Wanganui**	**2.63**	**22**	P	Pn	02 10 06.0	+2.3
DVHZ	**Dannevirke**	**2.65**	**45**	P	Pn	02 10 02.8	-1.1
TSZ	**Takapari Road**	**2.73**	**39**	P	Pn	02 10 04.6	-0.5
LREZ	**Lake Rotokare**	**2.79**	**11**	P	Pb	02 10 12.2	+0.7
KHEZ	**Kahui Hut**	**2.92**	**4**	P	Pb	02 10 14.0	+0.4
KHEZ	**Kahui Hut**	**2.92**	**4**	P	Pb	02 10 14.5	+0.9
TMZ	**Timaru**	**2.94**	**222**	P	Pn	02 10 08.6	+0.6
PNHZ	**Pukenui**	**2.96**	**40**	P	Pn	02 10 07.2	-1.0
DREZ	**Durham Road**	**3.04**	**7**	P	Pb	02 10 16.6	+1.0
MTVZ	**Mangateitei**	**3.12**	**26**	P	Pn	02 10 12.0	+1.5
VRZ	**Vera Road**	**3.18**	**15**	P	Pn	02 10 14.0	+2.8
MOVZ	**Moawhango**	**3.19**	**29**	P	Pn	02 10 12.1	+0.6
WNVZ	**Wahianoa**	**3.21**	**27**	P	Pn	02 10 12.9	+1.1
TRVZ	**Turoa**	**3.22**	**26**	P	Pn	02 10 13.8	+1.8
BHHZ	**Black Hill Sta**	**3.24**	**34**	P	Pn	02 10 12.1	-0.1
WHVZ	**Whangaehu Hut**	**3.25**	**26**	P	Pn	02 10 13.9	+1.5
FWVZ	**Far West T-bar**	**3.26**	**26**	P	Pn	02 10 11.7	-0.9
NGZ	**Ngauruhoe**	**3.35**	**26**	P	Pn	02 10 15.0	+1.3
SNVZ	**South Ngauruho**	**3.35**	**26**	P	Pn	02 10 14.9	+1.1
OTVZ	**Oturere**	**3.38**	**26**	P	Pn	02 10 15.3	+1.1
ETVZ	**East Tongariro**	**3.42**	**27**	P	Pn	02 10 15.9	+1.2
TMVZ	**Te Maari**	**3.44**	**27**	P	Pn	02 10 16.2	+1.3
NTVZ	**North Tongarir**	**3.44**	**26**	P	Pn	02 10 16.5	+1.5
ODZ	**Otahua Downs**	**3.61**	**217**	P	Pn	02 10 17.0	-0.1
BKZ	**Black Stump Fm**	**3.70**	**36**	P	Pb	02 10 26.3	-0.6
HIZ	**Hauiti**	**3.79**	**14**	P	Pb	02 10 26.6	-1.8
HIZ	**Hauiti**	**3.79**	**14**	P	Pn	02 10 22.8	+3.1
JCZ	**Jackson Bay**	**4.07**	**241**	P	Pb	02 10 30.3	-2.9

*NEIC **26** 02:13:33.8±1.0, 19°.39N±0°.02×154°.98W±0°.02, h5km±1km, Error ellipse: s-maj=4.2km s-min=2.8km az=327.0*
HVO 26 02:13:33.3±1.1, 19°.39N±0°.02×154°.97W±0°.01, h8km±3km, ML3.0/41, ML3.0/34(NEIC), Error ellipse: s-maj=3.3km s-min=1.4km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOKA	**Jonika Flow**	**0.05**	**321**		Pg	02 13 35.2	+0.1
JOKA				IAML		02 13 37.2	
	comp=E,7μm,0.4s						
PAH	**Pahoa**	**0.10**	**12**		Pg	02 13 36.0	+0.2
PAH				Sg	Sg	02 13 37.6	+0.2
PHO	**Puu Honuaula**	**0.12**	**40**		Pg	02 13 36.4	+0.4
JCUZ	**Jacuzzi**	**0.12**	**266**		Pg	02 13 36.8	+0.7
NPOC	**North of Pu'u**	**0.13**	**270**		Pg	02 13 36.5	+0.2
STCH	**Steam Cracks**	**0.15**	**267**		Pg	02 13 36.6	+0.1
STCH				IAML		02 13 39.5	
	comp=E,3μm,0.9s						
KNHH	**Kane Nui o Ham**	**0.19**	**266**	Pg	Pg	02 13 37.4	+0.2
PUH	**Pauahi**	**0.23**	**266**		Pg	02 13 38.2	+0.1
RSD	**Rainshed**	**0.30**	**284**		Pg	02 13 39.8	+0.4
RSD				IAML		02 13 44.4	
	comp=N,2μm,0.9s						
HLP	**Hilina Pali**	**0.33**	**253**		Pg	02 13 40.5	+0.5
HLP				IAML		02 13 46.5	
	comp=E,1μm,0.4s						
HLP				IAML		02 13 52.2	
	comp=N,2μm,0.8s						
MLH	**Mauna Loa**	**0.41**	**285**		Pg	02 13 41.6	+0.3
MLH					Sg	02 13 47.7	+1.0
HMH	**Humu'ula Sheep**	**0.53**	**293**		Pg	02 13 43.7	+0.1
HMH					Sg	02 13 51.1	+0.5
MLOA	**Mauna Loa Obse**	**0.59**	**284**		Pg	02 13 44.2	-0.7
MLOA					Sg	02 13 52.3	-0.3
MLOA				IAML		02 13 53.4	
	comp=N,1μm,0.6s						
MLOA				IAML		02 13 53.4	
	comp=E,1μm,0.5s						
MWH	**Moku'aweowe**	**0.60**	**279**		Pg	02 13 44.2	-0.8
KHU	**Kahuku**	**0.63**	**257**		Pg	02 13 44.4	-1.1
KHU				Sg	Sg	02 13 53.1	-0.6
KHU				IAML		02 13 58.6	
	comp=N,595nm,0.9s						
KHU				IAML		02 14 02.7	
	comp=E,760nm,1.1s						
POHA	**Pohakuloa**	**0.64**	**304**		Pg	02 13 44.9	-0.9
POHA				IAML		02 14 00.1	
	comp=E,1μm,0.5s						
POHA				IAML		02 14 02.1	
	comp=E,936nm,0.8s						

*NEIC **26** 02:15:47.9, 19°.38N×155°.29W, h12km*
*NEIC **26** 02:15:47.9, 19°.08N×154°.55W, h12km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10^16 Nm; Mrr-4.36; Mθθ3.60; Mϕϕ0.76; Mrθ-0.61; Mθϕ0.72; Mϕr-2.40; Fault plane solution: M0 4.64000×10^16 NP1: ϕs54.23000°, δ57.11000°, λ-112.88000°. NP2: ϕs272.08000°, δ39.31000°, λ-58.98000°. Principal axes: T 3.9646, Plg9.0000°, Azm160.0000°; N 1.3594, Plg19.0000°, Azm67.0000°; P -5.3240, Plg69.0000°, Azm275.0000°;*
*HVO **26** 02:15:52.3±0.9, 19°.405N×0°.008×155°.281W×0°.008, h-0km±2km, ML2.8/11, ML2.0/28(NEIC), Mww5.0/7(NEIC) Error ellipse: s-maj=3.1km s-min=1.3km az=177.0*
*GCMT **26** 02:16:10.3±0.3, 19°.31N±0°.02×155°.19W±0°.02, h12km, MW4.9/101, Moment Tensor Solution. s36,c42; s101,c131; Duration: 0 Moment tensor: Scale 1016Nm; Mrr-2.85±.07; Mθe1.27±.08; Mϕϕ1.58±.07; Mrθ0.43±.27; Mθϕ1.12±.06; Mϕr-0.31±.23; Best double couple: M0 2.74700×1016 NP1: ϕs230.00000°, δ46.00000°, λ-77.00000°. NP2: ϕs32.00000°, δ45.00000°, λ-103.00000°. Principal axes: T 2.5560, Plg1.0000°, Azm311.0000°; N 0.3810, Plg9.0000°, Azm41.0000°; P -2.9370, Plg81.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
NEIC 26 02:15:52.3±0.8, 19°.409N±0°.008×155°.297W±0°.007, h3km±2km Error ellipse: s-maj=1.2km s-min=1.0km az=201.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.01**	**18**	Pg	Pg	02 15 52.9	-0.2
OBL	**Observatory Le**	**0.01**	**57**		Pg	02 15 53.1	0.0
UWB	**Uwekahuna B**	**0.02**	**50**		Pg	02 15 53.1	0.0
RIM	**Rim**	**0.03**	**123**		Pg	02 15 53.2	+0.1
KKO	**Keanakako`i**	**0.03**	**111**		Pg	02 15 53.7	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**57**		Pg	02 15 53.2	0.0
BYL	**Byron's Ledge**	**0.04**	**86**	Pg	Pg	02 15 52.6	-0.6
BYL				IAML		02 15 52.8	
	comp=E,4μm,0.8s						
HATHI	**Halema'uma'u T**	**0.04**	**68**	Pg	Pg	02 15 52.9	-0.4
HATHI				IAML		02 15 53.3	
	comp=E,4μm,0.8s						
RSD	**Rainshed**	**0.06**	**19**		Pg	02 15 53.2	-0.5
RSD				IAML		02 15 54.5	
	comp=N,1μm,0.9s						
PUH	**Pauahi**	**0.08**	**115**	Pg	Pg	02 15 53.5	-0.5
HLP	**Hilina Pali**	**0.11**	**185**	Pg	Pg	02 15 54.5	-0.1
HLP				IAML		02 15 55.7	
	comp=E,781nm,0.8s						
MLH	**Mauna Loa**	**0.12**	**315**	Pg	Pg	02 15 54.5	-0.3
MLH				IAML		02 15 58.7	
	comp=E,562nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.12**	**104**		Pg	02 15 54.4	-0.4
STCH	**Steam Cracks**	**0.16**	**98**		Pg	02 15 55.9	+0.3
STCH				IAML		02 16 00.0	
	comp=N,642nm,1.0s						
HMH	**Humu'ula Sheep**	**0.26**	**318**	Pg	Pg	02 15 56.4	-1.0
HMH				IAML		02 16 00.3	
	comp=N,264nm,1.1s						
HMH				IAML		02 16 02.7	
	comp=E,262nm,1.6s						
JOKA	**Jonika Flow**	**0.28**	**85**	Pg	Pg	02 15 57.3	-0.4
JOKA				IAML		02 15 60.0	
	comp=E,321nm,1.4s						
MWH	**Moku'aweowe**	**0.29**	**285**	Pg	Pg	02 15 57.9	-0.2
KHU	**Kahuku**	**0.34**	**242**	Pg	Pg	02 15 59.0	0.0
PPT2	**Papeete2**	**37.20**	**171**	eS	S	02 28 54.0	+1.1
	comp=E,74nm,29.5s						
PPT2				eLR	LR	02 33 00.2	
	comp=E,703nm,31.2s						
PPT2				eLR	LR	02 33 02.2	
	comp=E,421nm,33.8s						
TBI	**Tubuai**	**42.88**	**172**	eS	S	02 30 20.6	+2.9
	comp=E,421nm,35.5s						
TBI				eLR	LR	02 35 37.0	
	comp=E,2μm,32.0s						
TBI				eLR	LR	02 35 43.0	
	comp=E,849nm,31.8s						

ISU 26 02:33:11.9, 40°.15N×72°.52E, h14km, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSTA	**Tashata**	**0.43**	**356**	P	Pg	02 33 20.9	+0.3
TSTA				S	Sb	02 33 27.6	-0.1
CHMI	**Chimion**	**0.77**	**279**	P	Pg	02 33 26.8	-0.1
CHMI				S	Sb	02 33 37.8	+0.3

KRNET 26 02:33:43.7±0.1, 40°.09N×72°.50E, h13km, mb2.1, 10C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHH	**Osh**	**0.49**	**26⇑**	eP	Pg	02 33 53.2	-0.2
	baz=26						
OHH			⇑	eS	Sg	02 34 00.2	+0.3
	baz=26						
SFK	**Sufi-Kurgan**	**0.77**	**95⇑**	eP	Pg	02 33 58.5	-0.2
	baz=95						
SFK			⇑	eS	Sg	02 34 09.2	+0.3
	baz=95						
DRK	**Karamyk**	**0.81**	**222⇑**	eP	Pg	02 33 59.1	-0.4
	baz=22						
DRK			⇑	eS	Sg	02 34 10.5	+0.3
	baz=22						
ARSB	**Arslanbob**	**1.29**	**16⇓**	eP	Pb	02 34 08.2	+0.3
	baz=16						
ARSB			⇓	eS	Sg	02 34 25.4	+0.1
	baz=16						
BTK	**Batken**	**1.29**	**269⇓**	eP	Pb	02 34 08.2	+0.2
	baz=69						
BTK			⇓	eS	Sg	02 34 26.1	+0.6
	baz=69						
TRKS	**Terek-Say**	**1.77**	**325⇓**	eP	Pb	02 34 15.6	-0.7
	baz=24						
TRKS			⇓	iS	Sb	02 34 38.8	+0.3
	baz=24						
GAR	**Garm**	**2.01**	**238⇑**	iP	Pb	02 34 20.6	+0.4
	baz=38						
GAR			⇑	eS	Sg	02 34 47.7	-0.7
	baz=38						
ARLS	**Aral**	**2.25**	**37⇓**	eP	Pb	02 34 24.3	0.0
	baz=37						
ARLS			⇓	eS	Sb	02 34 52.9	+0.9
	baz=37						
MNAS	**Manas**	**2.40**	**0⇑**	eP	Pb	02 34 26.5	-0.4

SANI				S		**Sn**	**02 37 48.9**	**-4.6**
GTOI	**Gorontalo**	**4.20**	**263**	P		**Pn**	**02 37 24.7**	**+1.5**
WRA	**Warramunga Arr**	**22.11**	**162**	P		**P**	**02 41 05.0**	**+1.2**
	2.2nm,0.5s,baz=339,slow=11,SNR=25							
	2.2nm,0.5s							
ASAR	**Alice Springs**	**25.52**	**166**	P		**P**	**02 41 36.6**	**+1.5**
	0.2nm,0.3s,baz=345,slow=7.9,SNR=8.9							
	0.2nm,0.3s							
MKAR	**Makanchi Array**	**59.92**	**326**	P		**P**	**02 46 13.0**	**+2.4**
	0.3nm,0.3s,baz=133,slow=8.6,SNR=4.7							
	0.3nm,0.3s							

*IDC **26** 02:45:45.1±8.3,35°.31N×69°.38E, h0km, mb3.6/2, mbtmp3.5/7, ML3.2/5, MS3.1/2, Error ellipse: s-maj=133.9km s-min=30.2km az=159.0*

ISC 26 02:45:58.6±3.3, 36°.4N±0°.3×68°.9E±0°.1, h35km, n9, σ2s16/9, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**7.59**	**33**	Pn	**Pn**	**02 47 49.9**	**+3.0**
	0.7nm,0.3s,baz=204,slow=12,SNR=5.3						
AAK				Sn	**Sn**	**02 49 11.1**	**-0.6**
	0.2nm,0.3s,baz=173,slow=16,SNR=1.2						
	1.9nm,0.4s						
GEYT	**Alibeck**	**8.78**	**283**	Pn	**Pn**	**02 48 03.6**	**+0.5**
	1.1nm,0.3s,baz=100,slow=9.0,SNR=6.4						
GEYT				Sn	**Sn**	**02 49 40.1**	**-0.7**
	1.8nm,0.3s,baz=118,slow=12,SNR=3.3						
	1.7nm,0.3s						
MKAR	**Makanchi Array**	**14.41**	**40**	Pn	**Pn**	**02 49 18.1**	**-1.9**
	baz=228,slow=13,SNR=1.6						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**15.84**	**23**	Pn	**Pn**	**02 49 35.0**	**-3.7**
	baz=205,slow=13,SNR=2.5						
	0.1nm,0.3s						
BVAR	**Borovoye Array**	**16.69**	**3**	Pn	**Pn**	**02 49 49.6**	**+0.1**
	baz=179,slow=8.6,SNR=3.7						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**20.76**	**27**	P	**P**	**02 50 35.9**	**-0.3**
	0.8nm,0.6s,baz=208,slow=9.2,SNR=4.7						
	0.8nm,0.6s						
CMAR	**Chiang Mai Arr**	**31.87**	**116**	LR	LR	03 06 35.6	
	comp=Z,18nm,18.1s,baz=85,slow=40						
FINES	**FINESS Array B**	**36.67**	**327**	P	**P**	**02 53 01.3**	**-0.3**
	2.2nm,1.0s,baz=110,slow=16,SNR=2.3						
	2.2nm,1.0s						
BORG	**Borgarnes**	**57.88**	**330**	LR	LR	03 23 29.2	
	comp=Z,31nm,21.5s,baz=184,slow=38						

*IDC **26** 03:06:16.8±6.7,23°.55S×149°.03E, h0km, mbtmp3.4/3, ML3.6/3, Error ellipse: s-maj=57.4km s-min=39.3km az=71.0*
*NOU **26** 03:06:22.6,23°.66S×148°.92E, h0km, MLv4.3/7, Queensland, Australia*

ISC 26 03:06:22.3±1.2, 23°.81S±0°.07×148°.86E±0°.07, h10km, n10, σ2s34/12, Queensland

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RK1H	**Rockhampton Ha**	**1.55**	**75**	P	**Pn**	**03 06 50.0**	**0.0**
GD1S	**Gladstone Soft**	**2.11**	**91**	P	**Pn**	**03 06 58.4**	**+0.7**
EIDS	**Eidsvold**	**2.55**	**128**	P	**Pn**	**03 07 05.0**	**+1.2**
RMQ	**Roma**	**2.67**	**182**	P	**Pb**	**03 07 09.4**	**-0.9**
CTAO	**Charters Tower**	**4.42**	**326**	P	**Pn**	**03 07 29.5**	**0.0**
TV1H	**Townsville Har**	**4.91**	**337**	P	**Pn**	**03 07 36.1**	**-0.2**
QLP	**Quilpie**	**5.02**	**236**	P	**Pn**	**03 07 40.9**	**+3.2**
STKA	**Stephens Creek**	**10.29**	**217**	Pn	**Pn**	**03 08 49.2**	**-0.9**
	0.4nm,0.3s,baz=21,slow=14,SNR=3.1						
STKA				Sn	**Sn**	**03 10 43.0**	**-2.5**
	0.3nm,0.3s,baz=84,slow=24,SNR=1.5						
STKA				Lg	Lg	03 11 48.6	
	0.2nm,0.3s,baz=119,slow=22,SNR=1.7						
	1.2nm,0.3s						
ASAR	**Alice Springs**	**13.70**	**268**	Pn	**Pn**	**03 09 35.0**	**-1.8**
	0.3nm,0.3s,baz=87,slow=14,SNR=8.7						
ASAR				Sn	**Sn**	**03 12 14.2**	**+5.0**
	0.1nm,0.3s,baz=63,slow=38,SNR=1.6						
ASAR				Lg	Lg	03 13 39.0	
	0.1nm,0.3s,baz=86,slow=30,SNR=3.7						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**14.02**	**283**	Pn	**Pn**	**03 09 39.9**	**-1.2**
	0.2nm,0.3s,baz=108,slow=11,SNR=6.7						
WRA				Lg	Lg	03 13 44.3	
	0.1nm,0.3s,baz=104,slow=28,SNR=6.5						
	0.5nm,0.9s						

*IDC **26** 03:24:00.1±2.3, 17°.68S×178°.75W, h529km±25km, mb3.4/12, mbtmp4.2/13, Error ellipse: s-maj=17.4km s-min=14.4km az=117.0*
*NEIC **26** 03:24:02.9±1.9, 17°.8S±0°.1×178°.73W±0°.09, h561km±7km, mb4.3/30, Error ellipse: s-maj=20.9km s-min=9.8km az=153.0*

ISC 26 03:24:01.5±0.5, 17°.72S±0°.09×178°.7W±0°.1, h547km, n57, σ1s01/60, mb4.1/29, 3C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**3.06**	**269**	P	**P**	**03 25 19.7**	**+3.0**
RAO	**Raoul Island**	**11.50**	**176**	P	**P**	**03 26 34.0**	**-0.6**
	521nm,0.3s,baz=344,slow=20,SNR=2.7						
PINNC	**Pines Island,**	**13.85**	**247**	P	**P**	**03 27 01.0**	**+1.9**
DZM	**Mont Dzumac**	**14.59**	**250**	P	**P**	**03 27 06.8**	**-0.1**
DZM	**Mont Dzumac**	**14.59**	**250**	P	**P**	**03 27 05.3**	**-1.6**
	8.9nm,0.6s,baz=90,slow=20,SNR=2.6						
KOUNC	**Koumac, New Ca**	**16.29**	**257**	P	**P**	**03 27 24.3**	**+0.4**
MRZ	**Mangatainoka R**	**23.38**	**191**	P	**P**	**03 28 27.5**	**-0.3**
TUWZ	**Tuamarina**	**24.45**	**193**	P	**P**	**03 28 36.5**	**-0.8**
EIDS	**Eidsvold**	**29.04**	**250**	P	**P**	**03 29 17.3**	**-0.6**
EIDS				IAmb	IAmb	03 29 18.5	
	comp=Z,8.5nm,0.9s						
ARMA	**Armidale**	**29.76**	**239**	P	**P**	**03 29 25.0**	**+0.8**
ARMA				IAmb	IAmb	03 29 26.2	
	comp=Z,13nm,0.7s						
CTAO	**Charters Tower**	**33.17**	**260**	P	**P**	**03 29 53.3**	**0.0**
CTAO				IAmb	IAmb	03 30 09.9	
	comp=Z,32nm,1.5s						
CAN	**Canberra**	**33.57**	**232**	P	**P**	**03 29 56.6**	**0.0**
CAN				IAmb	IAmb	03 30 23.6	
	comp=Z,25nm,1.5s						
COEN	**Coen**	**36.79**	**270**	P	**P**	**03 30 23.0**	**-0.5**
COEN				IAmb	IAmb	03 30 25.2	
	comp=Z,25nm,1.2s						
TOO	**Toolangi**	**37.05**	**230**	P	**P**	**03 30 26.1**	**+0.8**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**03 30 37.4**	**+0.6**
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**03 30 37.4**	**+0.6**
	comp=Z,6.0nm,0.5s,baz=90,slow=11,SNR=19						
	comp=Z,6.0nm,0.5s						
BBOO	**Buckleboo**	**43.22**	**241**	P	**P**	**03 31 15.2**	**+0.4**
WB0	**Warramunga Arr**	**44.32**	**260**	P	**P**	**03 31 22.5**	**-1.0**
WB0				IAmb	IAmb	03 32 05.6	
	comp=Z,4.2nm,1.1s						
WRA	**Warramunga Arr**	**44.36**	**259**	P	**P**	**03 31 23.0**	**-0.7**
	comp=Z,3.3nm,0.6s,baz=96,slow=7.3,SNR=82						
WRA				PcP	**PcP**	**03 32 56.0**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=98,slow=3.6,SNR=1.9						
	comp=Z,3.3nm,0.6s						
AS31	**Alice Springs**	**44.54**	**254**	P	**P**	**03 31 25.0**	**-0.1**
AS31				IAmb	IAmb	03 31 25.9	
	comp=Z,12nm,0.6s						
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**03 31 25.4**	**+0.2**
ASAR	**Alice Springs**	**44.54**	**254**	P	**P**	**03 31 25.0**	**-0.2**
	comp=Z,40nm,0.6s,baz=88,slow=8.1,SNR=569						
ASAR				PcP	**PcP**	**03 32 56.2**	**-0.3**
	comp=Z,0.9nm,0.7s,baz=103,slow=4.3,SNR=3.7						
ASAR				ScP	**ScP**	**03 35 59.7**	**+2.9**
	comp=Z,0.3nm,0.6s,baz=130,slow=5.2,SNR=1.9						
FORT	**Forrest**	**49.80**	**244**	P	**P**	**03 32 03.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**52.75**	**260**	P	**P**	**03 32 26.0**	**0.0**
PSA00	**Pilbara Seismi**	**57.65**	**255**	P	**P**	**03 32 59.1**	**-1.1**
MBWA	**Marble Bar**	**57.82**	**256**	P	**P**	**03 33 00.8**	**-0.5**
MBWA				IAmb	IAmb	03 33 26.8	
	comp=Z,17nm,1.3s						
SBA	**Scott Base**	**60.58**	**183**	P	**P**	**03 33 20.5**	**+1.8**
VNDA	**Vanda**	**60.60**	**185**	P	**P**	**03 33 19.6**	**+0.7**
VNDA	**Vanda**	**60.60**	**185**	P	**P**	**03 33 20.0**	**+1.1**
	comp=Z,0.5nm,0.6s,baz=350,slow=6.9,SNR=6.0						
	comp=Z,0.5nm,0.6s						
MJAR	**Matsushiro Arr**	**67.57**	**324**	P	**P**	**03 34 02.9**	**-0.9**
	comp=Z,1.4nm,0.6s,baz=154,slow=5.8,SNR=6.0						
	comp=Z,1.4nm,0.6s						
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**	**03 34 32.2**	**+0.4**
QSPA				IAmb	IAmb	03 34 33.3	
	comp=Z,4.7nm,0.8s						
QSPA	**South Pole Qui**	**72.33**	**180**	P	**P**	**03 34 32.0**	**+0.3**
	comp=Z,4.4nm,0.8s,baz=46,slow=0.1,SNR=27						
	comp=Z,4.4nm,0.8s						
PETK	**Petropavlovsk-**	**73.42**	**345**	P	**P**	**03 34 37.5**	**-0.5**
PETK	**Petropavlovsk-**	**73.42**	**345**	P	**P**	**03 34 38.1**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=114,slow=7.2,SNR=5.0						
	comp=Z,2.4nm,0.7s						
N15K	**Kwethluk River**	**79.08**	**9**	P	**P**	**03 35 08.4**	**-0.5**
N15K				IAmb	IAmb	03 35 15.6	
	comp=Z,18nm,1.4s						
P18K	**Big Mountain,**	**79.21**	**12**	P	**P**	**03 35 08.1**	**-1.6**
P18K				IAmb	IAmb	03 35 10.0	
	comp=Z,8.0nm,0.9s						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	**P**	**03 35 12.5**	**+0.6**
	comp=Z,1.3nm,0.8s,baz=223,slow=8.5,SNR=8.1						
	comp=Z,1.3nm,0.8s						
O18K	**Koktuh Hills**	**79.64**	**12**	P	**P**	**03 35 11.2**	**-0.7**
O18K				IAmb	IAmb	03 35 12.4	
	comp=Z,7.1nm,0.9s						
KVN	**Kaiserville**	**79.98**	**44**	P	**P**	**03 35 15.0**	**+0.6**
L16K	**Owhat River**	**80.64**	**9**	P	**P**	**03 35 17.5**	**+0.5**
M17K	**Holitna River**	**80.67**	**10**	P	**P**	**03 35 17.9**	**+0.6**
M17K				IAmb	IAmb	03 35 29.2	
	comp=Z,16nm,1.4s						
BKNI	**Bangkinang**	**80.79**	**273**	P	**P**	**03 35 17.7**	**-1.2**
SUA	**Susitna One**	**82.03**	**13**	P	**P**	**03 35 23.7**	**-0.6**
SUA				IAmb	IAmb	03 35 44.3	
	comp=Z,6.3nm,1.0s						
BELA	**Belgrano 2**	**82.39**	**173**	P	**P**	**03 35 25.7**	**-0.2**
U15A	**North Rim**	**82.63**	**48**		**P**	**03 35 28.8**	**+0.6**
CAST	**Castle Rocks**	**83.51**	**12**	P	**P**	**03 35 29.6**	**-2.1**
CAST				IAmb	IAmb	03 35 31.4	
	comp=Z,3.4nm,0.8s						
TRF	**Thorofare Moun**	**83.90**	**12**	P	**P**	**03 35 32.7**	**-1.0**
TRF				IAmb	IAmb	03 35 34.7	
	comp=Z,6.2nm,1.0s						
MAW	**Mawson**	**83.93**	**200**	P	**P**	**03 35 32.5**	**-1.2**
	comp=Z,1.4nm,0.4s,baz=93,slow=6.8,SNR=4.5						
	comp=Z,1.4nm,0.4s						
ILAR	**Eielson Array**	**85.78**	**13**	P	**P**	**03 35 41.8**	**-0.8**
	comp=Z,0.5nm,0.4s,baz=225,slow=5.1,SNR=12						
	comp=Z,0.5nm,0.4s						
TXAR	**Lajitas Array**	**86.16**	**58**	P	**P**	**03 35 46.8**	**+1.4**
	comp=Z,0.8nm,0.8s,baz=226,slow=6.3,SNR=7.3						
	comp=Z,0.8nm,0.8s						
PDAR	**Pinedale Array**	**87.43**	**44**	P	**P**	**03 35 50.9**	**-0.4**
	comp=Z,0.5nm,0.5s,baz=158,slow=4.3,SNR=4.3						
	comp=Z,0.5nm,0.5s						
TROLL	**Troll, Antarti**	**90.49**	**180**	⇑P	**P**	**03 36 04.0**	**-0.9**
	comp=Z,79nm,0.5s						
SNAA	**Sanae**	**90.79**	**179**	⇑P	**P**	**03 36 04.7**	**-1.4**
	comp=Z,19nm,0.5s						
SNAA	**Sanae**	**90.79**	**179**	P	**P**	**03 36 05.0**	**-1.1**
	comp=Z,0.7nm,0.5s,baz=202,slow=11,SNR=6.6						
	comp=Z,0.7nm,0.5s						
VNA3	**Nenagar Olymp**	**90.94**	**176**	⇑P	**P**	**03 36 06.3**	**-0.5**
	comp=Z,4.8nm,0.7s						
CLL	**Collm**	**145.22**	**347**	PKPbc	**PKPbc**	**03 42 37.7**	**-0.1**
GERES	**GERESS Array B**	**147.35**	**345**	PKPbc	**PKPbc**	**03 42 44.0**	**+0.1**
	comp=Z,0.8nm,0.5s,baz=30,slow=7.1,SNR=5.5						

*NEIC **26** 03:27:27.2±2.0, 41°.05S±0°.1×91°.6W±0°.2, h10km±1km, mb4.1/15, Error ellipse: s-maj=32.5km s-min=16.9km az=125.0*
*IDC **26** 03:27:39.6±1.7, 39°.01S×91°.57W, h0km, mb3.8/4, mbtmp3.8/4, MS3.5/9, Error ellipse: s-maj=57.5km s-min=30.5km az=59.0*

ISC 26 03:27:27.9±0.9, 41°.1S±0°.1×91°.3W±0°.2, h10km, n36, σ1s56/21, mb4.0/8, MS3.5/9, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H03S2	**Juan Fernandez**	**12.23**	**57**	T	T	03 43 09.1	
	baz=229,slow=73,SNR=345						
H03S1	**Juan Fernandez**	**12.24**	**58**	T	T	03 43 10.5	
	baz=229,slow=73,SNR=229						
H03S3	**Juan Fernandez**	**12.25**	**58**	T	T	03 43 13.7	
	baz=229,slow=73,SNR=278						
H03N3	**Juan Fernandez**	**12.48**	**56**	T	T	03 43 25.0	
	baz=231,slow=71,SNR=976						
H03N2	**Juan Fernandez**	**12.48**	**56**	T	T	03 43 24.0	
	baz=231,slow=71,SNR=953						
H03N1	**Juan Fernandez**	**12.49**	**56**	T	T	03 43 24.7	
	baz=231,slow=71,SNR=882						
ML02	**Panimavida**	**16.47**	**78**		**P**	**03 31 22.5**	**+0.7**
ML02				IAmb	IAmb	03 31 35.7	
	comp=Z,22nm,1.1s						
MT09	**Talagante**	**17.71**	**72**	Pn	**Pn**	**03 31 34.4**	**-0.3**
MT09				IAmb	IAmb	03 31 40.4	
	comp=Z,26nm,1.5s						
LMEL	**Las Melosas**	**18.24**	**73**	P	**P**	**03 31 43.0**	**+1.6**
VA03	**San Esteban**	**18.55**	**70**		**P**	**03 31 44.3**	**-0.5**
VA03				IAmb	IAmb	03 31 47.7	
	comp=Z,7.5nm,0.8s						
USHA	**Ushuaia**	**20.44**	**140**	P	Pn	03 32 37.3	+30
	comp=Z,236nm,1.1s,baz=194,slow=0.8,SNR=5.8						
ZON	**Zonda**	**20.54**	**70**	P	**P**	**03 32 08.4**	**+1.8**
ZON				IAmb	IAmb	03 32 13.0	
	comp=Z,8.1nm,1.1s						
LCO	**Las Campanas**	**20.70**	**61**	P	**P**	**03 32 08.9**	**+0.4**
LCO				IAmb	IAmb	03 32 14.7	
	comp=Z,6.9nm,0.8s						
AC05	**El Transito**	**21.09**	**61**	P	**P**	**03 32 13.1**	**+0.4**
AC05				IAmb	IAmb	03 32 16.1	
	comp=Z,6.3nm,0.8s						
GO03	**Copiap**	**21.95**	**59**	P	**P**	**03 32 20.2**	**-1.6**
GO03				IAmb	IAmb	03 32 48.6	
	comp=Z,6.1nm,0.6s						
AC06	**Mina Casimiro**	**22.04**	**58**	P	**P**	**03 32 21.9**	**-0.8**
AC06				IAmb	IAmb	03 32 28.2	
	comp=Z,9.8nm,0.9s						
AC01	**Pan de Azucar**	**22.73**	**55**	P	**P**	**03 32 30.0**	**-0.1**
LVC	**Limon Verde**	**26.38**	**52**	LR	LR	03 40 47.9	
	comp=Z,143nm,20.9s,baz=218,slow=31						
CPUP	**Villa Florida**	**31.66**	**73**	LR	LR	03 44 11.1	
	comp=Z,70nm,18.6s,baz=233,slow=32						
NNA	**Nana**	**31.68**	**28**	LR	LR	03 43 12.8	
	comp=Z,55nm,20.2s,baz=202,slow=31						
LPAZ	**La Paz**	**31.83**	**46**	P	**P**	**03 33 53.0**	**-0.7**
LPAZ	**La Paz**	**31.83**	**46**	P	**P**	**03 33 55.6**	**+1.9**
	comp=Z,0.9nm,0.6s,baz=228,slow=8.6,SNR=5.9						
LPAZ				LR	LR	03 43 51.7	
	comp=Z,89nm,21.9s,baz=209,slow=32						
	comp=Z,0.9nm,0.6s						
ATAH	**Atahualpa**	**35.75**	**22**	LR	LR	03 45 31.8	
	comp=Z,70nm,21.1s,baz=216,slow=32						
SIV	**San Ignacio**	**36.19**	**55**	LR	LR	03 47 51.9	
	comp=Z,91nm,20.9s,baz=293,slow=34						
SAML	**Samuel**	**40.58**	**46**	P	**P**	**03 35 06.6**	**-1.2**
BDFB	**Brasilia**	**45.15**	**69**	LR	LR	03 52 52.3	
	comp=Z,65nm,19.4s,baz=134,slow=34						
QSPA	**South Pole Qui**	**49.11**	**180**	P	**P**	**03 36 15.0**	**-0.4**
BOAV	**Boa Vista**	**51.59**	**41**	P	**P**	**03 36 33.9**	**-0.6**
SDV	**Santo Domingo**	**53.28**	**26**	LR	LR	03 57 40.1	
	comp=Z,49nm,18.9s,baz=91,slow=35						
VNDA	**Vanda**	**53.71**	**195**	P	**P**	**03 36 49.4**	**0.0**
VNDA				IAmb	IAmb	03 36 53.8	
	comp=Z,2.1nm,1.2s						
MDP	**Montagnes des**	**58.02**	**47**	LR	LR	03 59 20.8	
	comp=Z,61nm,20.4s,baz=218,slow=34						
TXAR	**Lajitas Array**	**71.02**	**349**	P	**P**	**03 38 46.4**	**+0.5**
	comp=Z,0.4nm,0.9s,baz=165,slow=7.5,SNR=3.7						
	comp=Z,0.4nm,0.9s						
NVAR	**Mina Array Bea**	**82.92**	**339**	P	**P**	**03 39 51.8**	**-1.1**
NVAR	**Mina Array Bea**	**82.92**	**339**	P	**P**	**03 39 55.9**	**+3.0**
	comp=Z,0.9nm,0.9s,baz=162,slow=6.2,SNR=2.2						
	comp=Z,0.9nm,0.9s						
PDAR	**Pinedale Array**	**85.11**	**347**	P	**P**	**03 40 00.6**	**-3.3**
PDAR	**Pinedale Array**	**85.11**	**347**	P	**P**	**03 40 06.4**	**+2.5**
	comp=Z,0.7nm,0.7s,baz=154,slow=5.7,SNR=4.4						
	comp=Z,0.7nm,0.7s						

*DJA **26** 03:49:58.7±0.2, 6°.5S±3°×12°.8E±°, h398km±5km, M4.5/19, mB4.9/13, mb4.5/19, MLv5.0/16, Mw(mB)4.2/13*
*NEIC **26** 03:49:58.7±0.6, 5°.68S±0°.08×127°.87E±0°.06, h396km±10km, mb4.4/17, Error ellipse: s-maj=14.4km s-min=2.6km az=217.0*
*IDC **26** 03:49:59.7±2.6, 5°.85S×127°.70E, h406km±25km, mb3.4/6, mbtmp4.5/9, Error ellipse: s-maj=37.2km s-min=10.7km az=61.0*

ISC 26 03:49:58.9±0.5, 5°.76S±0°.06×127°.83E±0°.06, h400km, n86, σ0s84/91, mb4.1/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BNDI	**Bandanaira**	**2.41**	**59**	P	**Pn**	**03 50 56.7**	**-0.9**
NLAI	**Namlea**	**2.61**	**344**	P	**Pn**	**03 50 59.4**	**+0.3**
SAUI	**Saumlaki**	**4.09**	**123**	P	**Pn**	**03 51 11.9**	**0.0**
SAUI	**Saumlaki**	**4.09**	**123**	Pn	**Pn**	**03 51 11.1**	**-0.7**
SAUI	**Saumlaki**	**4.09**	**123**	P	**Pn**	**03 51 10.8**	**-1.1**
SANI	**Sanana**	**4.12**	**333**	P	**Pn**	**03 51 10.9**	**-1.3**
SANI	**Sanana**	**4.12**	**333**	P	**Pn**	**03 51 11.0**	**-1.3**
LBMI	**Labuha**	**5.10**	**356**	P	**Pn**	**03 51 22.4**	**+0.3**
	857nm,0.7s,9μm3.1nm						
FAKI	**Fak Fak**	**5.23**	**58**	P	**Pn**	**03 51 22.2**	**-1.2**
FAKI	**Fak Fak**	**5.23**	**58**	P	**Pn**	**03 51 22.1**	**-1.2**
FAKI	**Fak Fak**	**5.23**	**58**	P	**Pn**	**03 51 22.2**	**-1.2**
	274nm,0.7s,5μm1.9nm						
SOEI	**Soe**	**5.31**	**221**		**Pn**	**03 51 25.1**	**+0.7**
SOEI	**Soe**	**5.31**	**221**	P	**Pn**	**03 51 25.2**	**+0.9**
	83nm,0.5s,2μm2.2nm						
SWI	**Sorong**	**5.95**	**35**	P	**Pn**	**03 51 30.0**	**-1.1**
	73nm,0.6s,2μm1.2nm						
BATI	**Baumata**	**6.04**	**223**	P	**Pn**	**03 51 32.8**	**+0.7**
	298nm,0.5s,baz=80,slow=1.6,SNR=32						
BATI				S	**S**	**03 52 45.2**	**-2.8**
	372nm,0.6s,baz=45,slow=21,SNR=23						
BATI	**Baumata**	**6.04**	**223**	P	**Pn**	**03 51 33.0**	**+0.9**
	262nm,0.6s,4μm1.8nm						
KMPI	**Kaimana, Papua**	**6.21**	**71**	P	**Pn**	**03 51 32.4**	**-1.5**
	434nm,0.7s,7μm1.7nm						
MMRI	**Maumere**	**6.24**	**242**	P	**Pn**	**03 51 34.6**	**+0.4**
MMRI	**Maumere**	**6.24**	**242**		**Pn**	**03 51 34.3**	**+0.1**
MMRI	**Maumere**	**6.24**	**242**	P	**Pn**	**03 51 34.6**	**+0.4**
	120nm,0.5s,0.5nm						
TNTI	**Ternate**	**6.51**	**356**	Pn	**Pn**	**03 51 35.7**	**-1.5**
LUWI	**Luwuk**	**6.89**	**313**	Pn	**Pn**	**03 51 40.5**	**-1.0**
DRS	**Darwin Rock St**	**7.28**	**156**	P	**P**	**03 51 46.0**	**-0.4**
BKSI	**Bulukumba**	**7.69**	**273**	P	**P**	**03 51 51.3**	**+0.4**
	43nm,1.0s,0.2nm						
MTN	**Manton Dam**	**7.75**	**155**	P	**P**	**03 51 51.2**	**-0.4**
MTN	**Manton Dam**	**7.75**	**155**	P	**Pn**	**03 51 50.8**	**-0.3**
KAPI	**Kappang**	**8.08**	**275**	P	**P**	**03 51 55.7**	**+0.4**
	19nm,0.5s,baz=109,slow=5.5,SNR=14						
KAPI				S	**S**	**03 53 28.0**	**-1.8**
	9.9nm,0.4s,baz=156,slow=20,SNR=2.8						
KDU	**Kakadu**	**8.26**	**147**	P	**Pn**	**03 51 56.9**	**0.0**
BASI	**Baing, Sumba**	**8.44**	**238**	P	**Pn**	**03 51 58.1**	**-0.9**
	120nm,0.6s,2μm						
TOLI2	**Tolitoli**	**9.81**	**314**	P	**P**	**03 52 13.7**	**-0.7**
PLAI	**Plampang**	**10.43**	**252**	P	**P**	**03 52 21.0**	**-0.3**
PLAI	**Plampang**	**10.43**	**252**	P	**P**	**03 52 20.4**	**-0.9**
	34nm,0.7s						
TWSI	**Taliwang, Sumb**	**11.26**	**254**	P	**P**	**03 52 30.9**	**+0.4**
	15nm,0.5s						
FITZ	**Fitzroy Crossi**	**12.45**	**190**	P	**P**	**03 52 44.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**12.45**	**190**	P	**P**	**03 52 44.0**	**+0.4**
JAY	**Jayapura**	**13.24**	**76**	P	**P**	**03 52 53.0**	**+0.6**
	24nm,0.9s						
JAGI	**Jajag, Banyuwa**	**13.84**	**258**	P	**P**	**03 52 58.8**	**-0.1**
WB0	**Warramunga Arr**	**15.31**	**156**	P	**P**	**03 53 15.0**	**+0.1**
WRA	**Warramunga Arr**	**15.45**	**156**	P	**P**	**03 53 15.9**	**-0.4**
	171nm,0.3s,baz=335,slow=11,SNR=2075						
WRA				S	**S**	**03 55 58.2**	**-1.5**
	2.6nm,0.5s,baz=329,slow=20,SNR=4.6						
COEN	**Coen**	**17.16**	**119**	P	**P**	**03 53 34.4**	**-0.3**
COEN	**Coen**	**17.16**	**119**	P	**P**	**03 53 34.0**	**-0.6**
COEN				IAmb	IAmb	03 53 36.2	
	comp=Z,19nm,1.0s						
MBWA	**Marble Bar**	**17.20**	**206**	P	**P**	**03 53 35.3**	**+0.3**
MBWA	**Marble Bar**	**17.20**	**206**	P	**P**	**03 53 34.6**	**-0.4**
MBWA				IAmb	IAmb	03 53 43.8	
	comp=Z,32nm,1.4s						
PSA00	**Pilbara Seismi**	**17.52**	**205**	P	**P**	**03 53 38.1**	**-0.2**
PSA00				IAmb	IAmb	03 53 41.1	
	comp=Z,23nm,1.2s						
AS31	**Alice Springs**	**18.73**	**162**		**P**	**03 53 51.3**	**0.0**
AS31				IAmb	IAmb	03 53 52.4	
	comp=Z,27nm,0.8s						
ASAR	**Alice Springs**	**18.74**	**162**		**P**	**03 53 51.4**	**0.0**
ASAR	**Alice Springs**	**18.74**	**162**	P	**P**	**03 53 51.2**	**-0.1**
	comp=Z,68nm,0.4s,baz=343,slow=12,SNR=1070						
ASAR				S	**S**	**03 57 02.1**	**-0.3**
	comp=Z,0.4nm,0.4s,baz=344,slow=16,SNR=3.6						
ASAR				PcP	**PcP**	**03 57 58.5**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=15,slow=5.2,SNR=3.2						

BCI				AMP				
	comp=N,2.0nm,0.4s,baz=302							
PUK	**Puka**	**0.51**	**256**	P		**Pg**	**04 01 25.6**	**-0.9**
	baz=258							
PUK				S		**Sg**	**04 01 33.2**	**+0.1**
	baz=258							
PUK				AMP				
	comp=E,1.4nm,0.3s,baz=258							
PVY	**Plav**	**0.62**	**314**	⇓ *i* Pg		**Pg**	**04 01 27.6**	**-1.0**
PVY				*e*Sg		**Sg**	**04 01 37.1**	**+0.5**
SKO	**Skopje**	**0.69**	**106**	*i* Pg		**Pg**	**04 01 29.9**	**0.0**
SKO				*i* Sg		**Sg**	**04 01 39.4**	**+0.6**
IVA	**Berane**	**0.86**	**325**	*e*Pg		**Pg**	**04 01 32.1**	**-1.1**
IVA				*e*Sg		**Sb**	**04 01 45.5**	**-0.3**
TIR	**Tirane**	**0.97**	**213**	P		**Pg**	**04 01 34.0**	**-1.2**
	baz=213							
TIR				S		**Sb**	**04 01 48.6**	**-0.2**
	baz=213							
ULC	**Ulcinj**	**1.00**	**259**	*e*Pg		**Pg**	**04 01 34.8**	**-1.0**
ULC				*i* Sg		**Sn**	**04 01 50.7**	**-0.9**
PDG	**Podgorica**	**1.00**	**286**	*e*Pg		**Pg**	**04 01 34.9**	**-1.0**
PDG				*e*Sg		**Sg**	**04 01 48.9**	**0.0**
PDG	**Podgorica**	**1.00**	**286**	*e*Pg		**Pg**	**04 01 34.3**	**-1.6**
PDG				*e*Sg		**Sn**	**04 01 50.4**	**-1.2**
DRME	**Dracevica, Mon**	**1.02**	**272**	*e*Pg		**Pg**	**04 01 36.0**	**-0.3**
DRME				*e*Sg		**Sn**	**04 01 50.8**	**-1.3**
DRME	**Dracevica, Mon**	**1.02**	**272**	⇑ *i* Pg		**Pg**	**04 01 35.2**	**-1.1**
DRME				*i* Sg		**Sn**	**04 01 53.2**	**+1.1**
KOME	**Kolasin**	**1.03**	**312**	⇓ *i* Pg		**Pg**	**04 01 35.5**	**-1.0**
KOME				*e*Sg		**Sn**	**04 01 51.8**	**-0.7**
OHR	**Ohrid**	**1.07**	**170**	*i* Pg		**Pg**	**04 01 36.2**	**-1.0**
OHR				*i* Sg		**Sb**	**04 01 51.6**	**-0.2**
OHR				*e*Lg		Lg	04 01 51.9	
	comp=N,45nm,0.4s							
OHR				*e*Lg		Lg	04 01 52.8	
	comp=E,46nm,0.4s							
SELS	**Selova**	**1.13**	**21**	*e*Pg		**Pn**	**04 01 39.2**	**+0.1**
SELS				*e*Sg		**Sn**	**04 01 54.6**	**-0.3**
BARS	**Barje**	**1.14**	**55**	*e*Pg		**Pb**	**04 01 38.0**	**-0.7**
BARS				*e*Sg		**Sg**	**04 01 53.4**	**+0.2**
BARS	**Barje**	**1.14**	**55**	*i* Pg		**Pb**	**04 01 38.4**	**-0.3**
BARS				*i* Sg		**Sb**	**04 01 52.8**	**-0.9**
SJES	**Sjenica**	**1.18**	**339**	*e*Pg		**Pb**	**04 01 38.2**	**-1.3**
SJES				*e*Sg		**Sn**	**04 01 55.9**	**-0.2**
SJES	**Sjenica**	**1.18**	**339**	*e*Pg		**Pb**	**04 01 39.2**	**-0.3**
SJES				*e*Sg		**Sg**	**04 01 55.1**	**+0.6**
PRVS	**Prvonek**	**1.18**	**73**	*e*Pg		**Pb**	**04 01 39.2**	**-0.2**
PRVS				*e*Sg		**Sg**	**04 01 54.6**	**+0.1**
BUM	**Brajici-Budva**	**1.24**	**277**	*e*Pg		**Pn**	**04 01 39.3**	**-1.3**
BUM				*i* Sg		**Sn**	**04 01 59.0**	**+1.3**
CEME	**Cevo**	**1.27**	**288**	⇑ *i* Pg		**Pn**	**04 01 39.7**	**-1.3**
CEME				*i* Sg		**Sn**	**04 01 59.9**	**+1.5**
STIP	**Stip**	**1.30**	**111**	*i* Pg		**Pg**	**04 01 43.5**	**+1.9**
STIP				*i* Sg		**Sg**	**04 02 04.0**	**+5.4**
NKME	**Niksic**	**1.33**	**297**	*e*Pg		**Pn**	**04 01 40.9**	**-0.9**
NKME				*i* Sg		**Sg**	**04 02 01.8**	**+2.3**
IVAS	**Ivanjica**	**1.44**	**348**	*e*Pg		**Pn**	**04 01 42.8**	**-0.5**
IVAS				*e*Sg		**Sg**	**04 02 03.5**	**+0.5**
PLE	**Pljevlja**	**1.45**	**324**	*e*Pg		**Pn**	**04 01 43.2**	**-0.3**
PLE				*e*Sg		**Sg**	**04 02 05.9**	**+2.7**
BOSS	**Bosilegrad**	**1.46**	**76**	*e*Pg		**Pn**	**04 01 42.3**	**-1.3**
BOSS				*e*Sg		**Sn**	**04 02 01.7**	**-1.4**
FNA	**Florina**	**1.51**	**156**	P		**Pn**	**04 01 44.0**	**-0.3**
	baz=155							
FNA				S		**Sg**	**04 02 05.6**	**+0.3**
	baz=155							
FNA				AMP				
	comp=N,0.1nm,0.5s,baz=155							
FNA	**Florina**	**1.51**	**156**	*i* Pg		**Pn**	**04 01 43.9**	**-0.4**
FNA				*i* Sg		**Sg**	**04 02 05.6**	**+0.3**
KBN	**Korca**	**1.55**	**174**	P		**Pn**	**04 01 43.9**	**-1.0**
	baz=173							
KBN				S		**Sg**	**04 02 06.8**	**+0.3**
	baz=173							
KBN				AMP				
	comp=E,0.1nm,0.4s,baz=173							
HCY	**Herceg Novi**	**1.56**	**281**	*e*Pn		**Pg**	**04 01 46.3**	**-0.2**
HCY				*e*Sn		**Sg**	**04 02 07.0**	**+0.3**
HCY	**Herceg Novi**	**1.56**	**281**	*e*Pg		**Pb**	**04 01 45.1**	**-0.8**
HCY				*i* Sg		**Sg**	**04 02 09.8**	**+3.1**
UPM	**Unac-Piva**	**1.60**	**311**	*e*Pn		**Pb**	**04 01 46.7**	**0.0**
UPM				*e*Sn		**Sb**	**04 02 07.5**	**+0.3**
BRY	**Bratogost**	**1.66**	**297**	*e*Pn		**Pb**	**04 01 47.8**	**0.0**
BRY				*e*Sn		**Sg**	**04 02 09.7**	**-0.4**
BRY	**Bratogost**	**1.66**	**297**	*e*Pn		**Pb**	**04 01 47.1**	**-0.7**
BRY				*i* Sn		**Sg**	**04 02 13.1**	**+3.0**
RUDO	**Rudo**	**1.69**	**329**	*e*Pn		**Pn**	**04 01 47.1**	**+0.3**
RUDO				*e*Sn		**Sb**	**04 02 09.5**	**-0.3**
BOVS	**Bovan**	**1.69**	**29**	*e*Pg		**Pg**	**04 01 48.9**	**-0.3**
BOVS				*e*Sg		**Sb**	**04 02 10.2**	**+0.5**
TREB	**Trebinje**	**1.72**	**289**	*e*Pn		**Pb**	**04 01 48.8**	**+0.1**
TREB				*e*Sn		**Sb**	**04 02 11.1**	**+0.5**
GRUS	**Gruza**	**1.73**	**4**	*e*Pn		**Pg**	**04 01 50.2**	**+0.4**
GRUS				*e*Sn		**Sg**	**04 02 11.4**	**-0.7**
KLIJ	**Klinje**	**1.77**	**305**	*e*Pn		**Pb**	**04 01 48.8**	**-0.7**
KLINJ				*e*Sn		**Sb**	**04 02 12.3**	**+0.4**
GRG	**Griva**	**1.84**	**131**	*i* Pg		**Pb**	**04 01 50.2**	**-0.5**
GRG				*i* Sg		**Sb**	**04 02 14.1**	**+0.2**
DBRK	**Dubrovnik**	**1.85**	**287**	*e*Pn		**Pb**	**04 01 51.0**	**+0.1**
DBRK				Sn		**Sg**	**04 02 18.5**	**+2.3**
ZAPS	**Zavoj**	**1.89**	**53**	*e*Pn		**Pn**	**04 01 49.1**	**-0.4**
ZAPS				*e*Sn		**Sb**	**04 02 14.1**	**-1.3**
BBLS	**Lazi&#263i**	**1.90**	**334**	*e*Pn		**Pb**	**04 01 51.1**	**-0.6**
BBLS				*e*Sn		**Sg**	**04 02 17.4**	**-0.3**
BBLS	**Lazi&#263i**	**1.90**	**334**	*e*Pn		**Pn**	**04 01 50.0**	**+0.4**
BBLS				*e*Sn		**Sb**	**04 02 15.3**	**-0.4**
DIVS	**Divibare**	**1.98**	**348**	*e*Pn		**Pn**	**04 01 51.2**	**+0.5**
DIVS				*e*Sn		**Sb**	**04 02 16.8**	**-1.1**
LSK	**Leskovik**	**2.01**	**179**	P		**Pb**	**04 01 53.5**	**-0.2**
	baz=178							
LSK				S		**Sg**	**04 02 19.9**	**-1.5**
	baz=178							
ZAGS	**Zajecar**	**2.05**	**36**	*e*Pn		**Pn**	**04 01 52.7**	**+1.0**
ZAGS				*e*Sn		**Sb**	**04 02 19.4**	**-0.7**
STON	**Ston**	**2.23**	**289**	*e*Pn		**Pb**	**04 01 56.3**	**-1.0**
STON	**Ston**	**2.23**	**289**	*e*Pn		**Pb**	**04 01 55.9**	**-1.4**
STON				*e*Sn		**Sb**	**04 02 23.6**	**-1.5**
HAPS	**Han Pijesak,Bl**	**2.25**	**329**	*e*Pn		**Pb**	**04 01 56.1**	**-1.7**
HAPS				*e*Sn		**Sn**	**04 02 23.8**	**+1.2**
KUBS	**Kucevo**	**2.39**	**20**	*e*Pn		**Pb**	**04 01 58.7**	**-1.4**
KUBS				*e*Sn		**Sb**	**04 02 27.7**	**-2.1**
IGT	**Igoumenitsa**	**2.64**	**184**	P		**Pn**	**04 02 01.0**	**+1.3**
	baz=184							
LSTV	**Lastovo**	**2.78**	**284**	*e*Pn		**Pn**	**04 02 02.9**	**+1.3**
MAKA	**Makarska**	**2.84**	**294**	*e*Pn		**Pn**	**04 02 04.5**	**+2.1**
SRKY	**Kupres RS**	**3.13**	**309**	*e*Sn		**Sn**	**04 02 45.3**	**+1.1**
HVAR	**Hvar**	**3.19**	**290**	*e*Pn		**Pn**	**04 02 08.8**	**+1.4**
MGRS	**Mrkonjic Grad**	**3.39**	**313**	*e*Pn		**Pn**	**04 02 11.9**	**+1.8**
KIJV	**Kijevo**	**3.55**	**303**	*e*Pn		**Pn**	**04 02 15.3**	**+3.0**
A050A	**Klekovaca**	**3.74**	**310**	*e*Pn		**Pn**	**04 02 16.0**	**+1.1**
A050A				*e*Sn		**Sn**	**04 02 59.7**	**+0.4**
A051A	**Mrakovica**	**3.89**	**318**	*e*Pn		**Pn**	**04 02 18.3**	**+1.3**
ZIRJ	**Zirje**	**3.90**	**294**	*e*Pn		**Pn**	**04 02 18.9**	**+1.8**
MORI	**Morici**	**3.94**	**297**	*e*Pn		**Pn**	**04 02 19.5**	**+1.9**
DUGI	**Dugi Otok**	**4.42**	**296**	*e*Pn		**Pn**	**04 02 26.0**	**+1.7**
VIRC	**Vir**	**4.55**	**300**	*e*Pn		**Pn**	**04 02 27.7**	**+1.7**

NEIC ***26*** *04:10:53.0±1.3, 62°.58N±0°.02×149°.63W±0°.06, h60km±4km, Error ellipse: s-maj=4.1km s-min=3.4km az=116.0*

AEIC ***26*** *04:10:52.5±1.3, 62°.59N±0°.03×149°.62W±0°.05, h64km±6km, ML3.3,ML3.5/176(NEIC), Error ellipse: s-maj=4.0km s-min=3.1km az=161.0*

ISC 26 04:10:53.0±0.8, 62°.57N±0°.03×149°.60W±0°.03, h63km±8km, n367, σ0.64/387, Central Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CUT	**Chulitna**	**0.35**	**242**		**Pn**	**04 11 03.5**	**-0.3**
CUT				Sn	**Sn**	**04 11 12.2**	**+0.6**
CUT				IAML		04 11 12.5	
	comp=E,3μm,0.6s						
CUT				IAML		04 11 12.6	
	comp=N,2μm,0.4s						
CUT	**Chulitna**	**0.35**	**242**	P	**Pn**	**04 11 03.7**	**-0.1**
	baz=58						
CUT				S	**Sn**	**04 11 12.2**	**+0.6**
	baz=58						
WAT7	**Susitna Watana**	**0.44**	**53**		**Pn**	**04 11 04.5**	**-0.2**
WAT1	**Susitna Watana**	**0.55**	**61**		**Pn**	**04 11 05.4**	**-0.3**
WAT1					**Sn**	**04 11 15.2**	**+0.1**
	baz=244						
WAT1	**Susitna Watana**	**0.55**	**61**	P	**Pn**	**04 11 05.4**	**-0.3**
	baz=244						
WAT1				S	**Sn**	**04 11 15.2**	**+0.1**
	baz=244						
M22K	**Willow**	**0.86**	**197**	Pn	**Pn**	**04 11 08.8**	**-0.4**
M22K				Sn	**Sn**	**04 11 21.0**	**-0.3**
M22K	**Willow**	**0.86**	**197**	P	**Pn**	**04 11 08.9**	**-0.4**
	baz=15						
M22K				S	**Sn**	**04 11 21.7**	**+0.4**
	baz=15						
WAT6	**Susitna Watana**	**0.86**	**89**		**Pn**	**04 11 08.8**	**-0.7**
WAT6					**Sn**	**04 11 21.6**	**-0.1**
WAT6	**Susitna Watana**	**0.86**	**89**	P	**Pn**	**04 11 08.8**	**-0.7**
	baz=271						
WAT6				S	**Sn**	**04 11 21.6**	**-0.1**
	baz=271						
GHO	**Glory Hole Cre**	**0.86**	**158**	Pn	**Pn**	**04 11 09.3**	**-0.1**
GHO				Sn	**Sn**	**04 11 21.7**	**+0.1**
GHO				IAML		04 11 26.1	
	comp=N,2μm,0.6s						
GHO				IAML		04 11 26.6	
	comp=E,2μm,0.5s						
RND	**Reindeer**	**0.91**	**22**	Pn	**Pn**	**04 11 09.7**	**-0.3**
RND				Sn	**Sn**	**04 11 21.9**	**-0.7**
RND				IAML		04 11 22.9	
	comp=E,1μm,0.4s						
TRF	**Thorofare Moun**	**0.94**	**341**	Pn	**Pn**	**04 11 10.3**	**-0.1**
TRF				Sn	**Sn**	**04 11 23.5**	**+0.1**
TRF	**Thorofare Moun**	**0.94**	**341**	P	**Pn**	**04 11 10.5**	**0.0**
	baz=160						
SML	**Sawmill**	**0.97**	**142**	Pn	**Pn**	**04 11 10.4**	**-0.3**
SML				Sn	**Sn**	**04 11 25.0**	**+1.0**
SML				IAML		04 11 26.8	
	comp=E,894nm,0.5s						
SML				IAML		04 11 27.0	
	comp=N,1μm,0.5s						
SML	**Sawmill**	**0.97**	**142**	P	**Pn**	**04 11 10.6**	**-0.2**
	baz=323						
PMR	**Palmer**	**1.01**	**167**	P	**Pn**	**04 11 11.3**	**+0.1**
PMR	**Palmer**	**1.01**	**167**	Pn	**Pn**	**04 11 10.8**	**-0.3**
PMR	**Palmer**	**1.01**	**167**	P	**Pn**	**04 11 11.0**	**-0.1**
	baz=347						
SKT	**Skwentna**	**1.08**	**238**	Pn	**Pn**	**04 11 11.9**	**-0.3**
SKT				Sn	**Sn**	**04 11 26.4**	**0.0**
SKT	**Skwentna**	**1.08**	**238**	P	**Pn**	**04 11 12.1**	**0.0**
	baz=55						
SKT				S	**Sn**	**04 11 26.7**	**+0.3**
	baz=55						
DHY	**Denali Highway**	**1.14**	**63**	Pn	**Pn**	**04 11 12.8**	**-0.3**
DHY				Sn	**Sn**	**04 11 28.0**	**-0.1**
DHY				IAML		04 11 29.7	
	comp=E,516nm,0.5s						
DHY				IAML		04 11 30.0	
	comp=N,702nm,0.5s						
DHY	**Denali Highway**	**1.14**	**63**	P	**Pn**	**04 11 12.9**	**-0.3**
	baz=246						
M23K	**Glacier View**	**1.18**	**131**		**Pn**	**04 11 13.4**	**0.0**
M23K	**Glacier View**	**1.18**	**131**	P	**Pn**	**04 11 13.4**	**0.0**
	baz=313						
MCK	**McKinley**	**1.21**	**14**		**Pn**	**04 11 13.9**	**+0.1**
MCK	**McKinley**	**1.21**	**14**	P	**Pn**	**04 11 13.9**	**+0.1**
	baz=195						
PPLA	**Purkeypile**	**1.23**	**286**		**Pn**	**04 11 13.9**	**-0.4**
PPLA					**Sn**	**04 11 30.1**	**-0.1**
PPLA	**Purkeypile**	**1.23**	**286**	P	**Pn**	**04 11 13.9**	**-0.4**
	baz=104						
PPLA				S	**Sn**	**04 11 30.2**	**-0.1**
	baz=104						
SUA	**Susitna One**	**1.24**	**206**	Pn	**Pn**	**04 11 14.1**	**-0.2**
SUA				Sn	**Sn**	**04 11 31.3**	**+1.1**
SUA				IAML		04 11 34.3	
	comp=E,1μm,0.7s						
SUA	**Susitna One**	**1.24**	**206**	P	**Pn**	**04 11 14.3**	**+0.1**
	baz=25						
KNK	**Knik Glacier**	**1.28**	**155**	Pn	**Pn**	**04 11 15.0**	**+0.2**
KNK	**Knik Glacier**	**1.28**	**155**	P	**Pn**	**04 11 15.2**	**+0.4**
	baz=336						
SCM	**Sheep Creek Mo**	**1.30**	**124**	Pn	**Pn**	**04 11 15.2**	**+0.1**
SCM				IAML		04 11 36.3	
	comp=E,1μm,0.6s						
SCM	**Sheep Creek Mo**	**1.30**	**124**	P	**Pn**	**04 11 15.1**	**0.0**
	baz=306						
CAST	**Castle Rocks**	**1.42**	**308**	Pn	**Pn**	**04 11 16.0**	**-0.6**
CAST	**Castle Rocks**	**1.42**	**308**		**Sn**	**04 11 34.3**	**-0.1**
CAST	**Castle Rocks**	**1.42**	**308**	IAML		04 11 35.9	
	comp=N,645nm,0.4s						
CAST				IAML		04 11 36.1	
	comp=E,697nm,0.4s						
CAST	**Castle Rocks**	**1.42**	**308**	P	**Pn**	**04 11 16.1**	**-0.4**
	baz=126						
CAST				S	**Sn**	**04 11 34.3**	**-0.1**
	baz=126						
FIS	**Fire Island**	**1.46**	**192**	Pn	**Pn**	**04 11 18.0**	**+0.9**
FIS				IAML		04 11 43.1	
	comp=N,1μm,0.6s						
RC01	**Rabbit Creek A**	**1.49**	**183**	P	**Pn**	**04 11 17.7**	**+0.1**
	baz=2.1						
STLK	**Strandline Lak**	**1.50**	**225**		**Pn**	**04 11 17.9**	**+0.1**
BWN	**Browne**	**1.61**	**2**	Pn	**Pn**	**04 11 18.7**	**-0.5**
BWN				IAML		04 11 40.7	
	comp=E,782nm,0.5s						
BWN				IAML		04 11 42.1	
	comp=N,533nm,0.7s						
BPAW	**Bear Paw Mtn.**	**1.66**	**338**	Pn	**Pn**	**04 11 19.0**	**-0.8**
BPAW				IAML		04 11 42.5	
	comp=E,432nm,0.5s						
BPAW				IAML		04 11 42.5	
	comp=N,521nm,0.5s						
BPAW	**Bear Paw Mtn.**	**1.66**	**338**	P	**Pn**	**04 11 19.3**	**-0.5**
	baz=157						
M24K	**Tolsona, Glenn**	**1.67**	**105**	Pn	**Pn**	**04 11 20.8**	**+0.9**
M24K	**Tolsona, Glenn**	**1.67**	**105**	P	**Pn**	**04 11 21.2**	**+1.2**
	baz=288						
SPCG	**Spurr Capps Gl**	**1.72**	**223**		**Pn**	**04 11 21.0**	**+0.3**
SPCP	**Crater Peak Br**	**1.78**	**224**		**Pn**	**04 11 21.7**	**+0.1**
M20K	**Styx River**	**1.79**	**249**	Pn	**Pn**	**04 11 21.7**	**0.0**
M20K	**Styx River**	**1.79**	**249**		**Sn**	**04 11 43.5**	**0.0**
M20K	**Styx River**	**1.79**	**249**	IAML		04 11 45.6	
	comp=N,557nm,0.3s						
M20K				IAML		04 11 47.1	
	comp=E,380nm,0.5s						
M20K	**Styx River**	**1.79**	**249**	P	**Pn**	**04 11 21.4**	**-0.3**
	baz=65						
M20K				S	**Sn**	**04 11 43.5**	**0.0**
	baz=65						
CHUM	**Lake Minchumin**	**1.80**	**318**		**Pn**	**04 11 21.6**	**-0.1**
CHUM					**Sn**	**04 11 43.0**	**-0.5**
CHUM	**Lake Minchumin**	**1.80**	**318**	P	**Pn**	**04 11 21.6**	**-0.1**
	baz=136						
CHUM				S	**Sn**	**04 11 43.0**	**-0.5**
	baz=136						
SPCN	**Chakachatna No**	**1.82**	**223**		**Pn**	**04 11 22.6**	**+0.6**
SPCR	**Spurr Chakacha**	**1.85**	**223**		**Pn**	**04 11 22.5**	**+0.1**
N20K	**Mount Spurr**	**1.85**	**223**	P	**Pn**	**04 11 22.5**	**+0.1**
	baz=40						
SPBG	**Spurr Blockage**	**1.86**	**226**		**Pn**	**04 11 23.2**	**+0.6**
SPNN	**North Nagishla**	**1.90**	**232**		**Pn**	**04 11 23.7**	**+0.5**
PAX	**Paxson**	**1.94**	**76**	Pn	**Pn**	**04 11 24.3**	**+0.6**
PAX	**Paxson**	**1.94**	**76**	P	**Pn**	**04 11 24.3**	**+0.6**
	baz=260						
CAPN	**Captain Cook N**	**1.96**	**203**	Pn	**Pn**	**04 11 26.7**	**+2.9**
L20K	**Farewell, AK**	**1.99**	**269**		**Pn**	**04 11 23.7**	**-0.6**
L20K	**Farewell, AK**	**1.99**	**269**	P	**Pn**	**04 11 23.7**	**-0.6**
	baz=85						
WRH	**Wood River Hil**	**2.02**	**19**	Pn	**Pn**	**04 11 24.3**	**-0.5**
KLU	**Klutina**	**2.04**	**120**	Pn	**Pn**	**04 11 24.9**	**-0.1**
KLU				IAML		04 11 55.7	
	comp=N,563nm,0.4s						
KLU	**Klutina**	**2.04**	**120**	P	**Pn**	**04 11 25.0**	**-0.1**
	baz=304						
NEA2	**Nenana**	**2.04**	**6**	Pn	**Pn**	**04 11 24.4**	**-0.6**
NEA2				IAML		04 11 48.7	
	comp=E,236nm,0.6s						
NEA2				IAML		04 11 49.2	
	comp=N,221nm,0.5s						
NEA2	**Nenana**	**2.04**	**6**	P	**Pn**	**04 11 24.5**	**-0.6**
	baz=187						
HARP	**HAARP**	**2.07**	**93**		**Pn**	**04 11 26.4**	**+1.0**
HARP	**HAARP**	**2.07**	**93**	P	**Pn**	**04 11 26.4**	**+1.0**
	baz=277						
GLI	**Glacier Island**	**2.08**	**144**	P	**Pn**	**04 11 25.1**	**-0.3**
	baz=326						
SLKM	**Skilak Lake**	**2.09**	**188**		**Pn**	**04 11 26.3**	**+0.6**
O22K	**Cooper Landing**	**2.10**	**182**	Pn	**Pn**	**04 11 28.5**	**+2.7**
O22K	**Cooper Landing**	**2.10**	**182**	P	**Pn**	**04 11 26.6**	**+0.9**
	baz=1.3						
K24K	**Donnelly Dome**	**2.13**	**53**		**Pn**	**04 11 27.1**	**+0.9**
K24K	**Donnelly Dome**	**2.13**	**53**	P	**Pn**	**04 11 27.1**	**+0.9**
	baz=237						
K20K	**Telida**	**2.19**	**293**	Pn	**Pn**	**04 11 26.1**	**-0.8**
K20K	**Telida**	**2.19**	**293**	P	**Pn**	**04 11 26.6**	**-0.4**
	baz=109						
HDA	**Harding Lake**	**2.20**	**32**	P	**Pn**	**04 11 27.0**	**-0.1**
	baz=214						
CCB	**Clear Creek Bu**	**2.23**	**20**	Pn	**Pn**	**04 11 27.0**	**-0.6**
CCB				IAML		04 12 01.8	
	comp=E,159nm,0.6s						
DIV	**Divide**	**2.32**	**127**	Pn	**Pn**	**04 11 28.3**	**-0.5**
M19K	**Big River Lodg**	**2.34**	**255**	P	**Pn**	**04 11 28.7**	**-0.3**
	baz=71						
FID	**Port Fidalgo**	**2.36**	**139**	Pn	**Pn**	**04 11 29.1**	**-0.2**
FID				IAML		04 12 11.8	
	comp=E,368nm,0.5s						
RDT	**Redoubt**	**2.41**	**215**		**Pn**	**04 11 30.3**	**+0.2**
COLA	**College**	**2.44**	**18**	P	**Pn**	**04 11 30.3**	**0.0**
DFR	**Drift River**	**2.47**	**218**		**Pn**	**04 11 30.4**	**-0.5**
MDM	**Murphy Dome**	**2.47**	**14**	Pn	**Pn**	**04 11 30.6**	**-0.3**
MDM				IAML		04 11 59.4	
	comp=N,204nm,0.4s						
SEW	**Seward**	**2.48**	**178**	Pn	**Pn**	**04 11 31.7**	**+0.9**
SEW	**Seward**	**2.48**	**178**	P	**Pn**	**04 11 31.5**	**+0.7**
	baz=358						
L19K	**White Mountain**	**2.48**	**263**	Pn	**Pn**	**04 11 30.5**	**-0.5**
L19K				IAML		04 12 02.3	
	comp=E,288nm,0.6s						
L19K				IAML		04 12 04.2	
	comp=N,167nm,0.5s						
L19K	**White Mountain**	**2.48**	**263**	P	**Pn**	**04 11 30.3**	**-0.6**
	baz=78						
MLY	**Manley**	**2.52**	**349**	Pn	**Pn**	**04 11 31.0**	**-0.6**
MLY	**Manley**	**2.52**	**349**	P	**Pn**	**04 11 31.3**	**-0.3**
	baz=168						
IL03	**Eielson Array**	**2.53**	**28**	Pn	**Pn**	**04 11 30.9**	**-0.7**
N25K	**Chitina, Valde**	**2.54**	**110**	P	**Pn**	**04 11 32.0**	**+0.1**
	baz=295						
NCT	**North Crescent**	**2.57**	**220**		**Pn**	**04 11 32.3**	**+0.1**
I23K	**Minto, Rukon-K**	**2.59**	**2**	P	**Pn**	**04 11 32.4**	**0.0**
	baz=183						
RSO	**Redoubt South**	**2.60**	**217**	Pn	**Pn**	**04 11 32.8**	**0.0**
RDWB	**Redoubt West**	**2.60**	**218**		**Pn**	**04 11 33.0**	**+0.3**
J20K	**Nowinta River**	**2.60**	**310**	Pn	**Pn**	**04 11 32.5**	**-0.1**
J20K				IAML		04 12 03.4	
	comp=N,206nm,0.6s						
J20K				IAML		04 12 03.5	
	comp=E,191nm,0.5s						
J20K	**Nowinta River**	**2.60**	**310**	P	**Pn**	**04 11 32.5**	**-0.1**
	baz=126						
WASW	**Wrangell South**	**2.62**	**102**		**Pn**	**04 11 33.6**	**+0.6**
HIN	**Hinchinbrook I**	**2.64**	**144**	Pn	**Pn**	**04 11 32.1**	**-1.1**
RED	**Redoubt Volcan**	**2.64**	**217**		**Pn**	**04 11 33.6**	**+0.4**
MENT	**Mentasta**	**2.73**	**80**	Pn	**Pn**	**04 11 35.1**	**+0.7**
POKR	**Poker Plat Res**	**2.73**	**20**	Pn	**Pn**	**04 11 34.4**	**0.0**
POKR	**Poker Plat Res**	**2.73**	**20**	P	**Pn**	**04 11 34.4**	**0.0**
	baz=202						
DOT	**Dot Lake**	**2.74**	**64**		**Pn**	**04 11 35.0**	**+0.5**
EYAK	**Cordova Ski Ar**	**2.74**	**136**	P	**Pn**	**04 11 34.8**	**+0.3**
EYAK	**Cordova Ski Ar**	**2.74**	**136**	Pn	**Pn**	**04 11 34.3**	**-0.2**
EYAK	**Cordova Ski Ar**	**2.74**	**136**	P	**Pn**	**04 11 34.6**	**+0.1**
	baz=320						
J25K	**Salcha River,**	**2.79**	**41**	P	**Pn**	**04 11 34.9**	**-0.3**
	baz=225						
I21K	**Tanana**	**2.82**	**339**	Pn	**Pn**	**04 11 35.1**	**-0.4**
I21K				IAML		04 12 08.7	
	comp=N,120nm,0.7s						
I21K	**Tanana**	**2.82**	**339**	P	**Pn**	**04 11 35.4**	**-0.1**
	baz=157						
BMRM	**Bremner River**	**2.87**	**122**	Pn	**Pn**	**04 11 35.6**	**-0.7**
BMRM	**Bremner River**	**2.87**	**122**	P	**Pn**	**04 11 35.8**	**-0.5**
	baz=306						
BRLK	**Bradley Lake**	**2.88**	**193**	Pn	**Pn**	**04 11 37.4**	**+0.9**
BRLK				IAML		04 12 18.6	
	comp=N,173nm,0.4s						
BRLK				IAML		04 12 19.9	
	comp=E,259nm,0.4s						
O20K	**Slope Mountain**	**2.89**	**212**		**Pn**	**04 11 37.5**	**+0.9**
O20K	**Slope Mountain**	**2.89**	**212**	P	**Pn**	**04 11 37.5**	**+0.9**
	baz=29						
BRSE	**Bradley Lake S**	**2.89**	**192**		**Pn**	**04 11 37.3**	**+0.8**
BRSE

Q23K	Middleton Isla	3.53	152	Pn		Pn	04 11 45.8	+0.6
N18K	Kilae Creek	3.55	241	P		Pn	04 11 45.0	-0.5
	baz=55								
M27K	Edge Creek, AK	3.59	90	Pn		Pn	04 11 47.2	+1.0
M27K				IAML			04 12 46.6		
	comp=E,63nm,0.7s								
M27K				IAML			04 12 50.0		
	comp=N,105nm,1.1s								
M27K	Edge Creek, AK	3.59	90	P		Pn	04 11 46.4	+0.1
	baz=277								
L27K	Beaver Creek,	3.60	79	Pn		Pn	04 11 46.3	+0.1
L27K				IAML			04 12 45.3		
	comp=N,56nm,0.9s								
L27K	Beaver Creek,	3.60	79	P		Pn	04 11 46.5	+0.3
	baz=266								
BCAR	Beaver Creek A	3.62	79	Pn		Pn	04 11 46.2	-0.4
KAIM	Kayak Island	3.65	134	Pn		Pn	04 11 44.9	-1.9
KAIM				IAML			04 12 47.2		
	comp=E,111nm,1.4s								
KAIM				IAML			04 13 04.8		
	comp=N,117nm,1.3s								
KAIM	Kayak Island	3.65	134	P		Pn	04 11 46.1	-0.8
	baz=319								
PTPK	Patty Peak	3.65	109			Pn	04 11 47.1	0.0
AU22	Augustine Moun	3.70	211			Pn	04 11 48.4	+0.9
K27K	Chicken	3.70	63	Pn		Pn	04 11 48.5	+0.9
K27K				IAML			04 12 34.6		
	comp=E,72nm,0.6s								
K27K				IAML			04 12 35.2		
	comp=N,113nm,0.5s								
AUL	Augustine Lava	3.71	212			Pn	04 11 48.7	+1.1
KHIT	Khitrov Hills	3.72	122			Pn	04 11 47.7	-0.2
AUCH	Augustine Cone	3.72	212			Pn	04 11 48.9	+0.9
H20K	Anotleneega Mo	3.74	324			Pn	04 11 47.9	-0.2
H20K	Anotleneega Mo	3.74	324	P		Pn	04 11 47.9	-0.2
	baz=139								
KIAG	Kiagna River	3.82	112			Pn	04 11 48.6	-0.7
O18K	Koktuh Hills	3.84	227	Pn		Pn	04 11 49.0	-0.6
O18K	Koktuh Hills	3.84	227	P		Pn	04 11 49.4	-0.2
	baz=42								
WAX	Waxell Ridge	3.87	120	Pn		Pn	04 11 48.2	-1.8
M17K	Holitna River	3.88	256	Pn		Pn	04 11 49.3	-0.7
M17K				IAML			04 12 34.3		
	comp=E,101nm,0.6s								
M17K				IAML			04 12 37.0		
	comp=N,92nm,0.6s								
M17K	Holitna River	3.88	256	P		Pn	04 11 49.5	-0.5
	baz=69								
I26K	Coal Creek Min	3.95	43	Pn		Pn	04 11 51.1	+0.1
I26K				IAML			04 12 39.9		
	comp=E,98nm,0.7s								
ISLE	Juniper Island	3.99	116	Pn		Pn	04 11 50.5	-1.2
K17K	Iditarod	4.02	276	Pn		Pn	04 11 51.2	-0.7
K17K				IAML			04 12 37.8		
	comp=N,50nm,1.1s								
K17K				IAML			04 13 00.1		
	comp=E,40nm,0.7s								
K17K	Iditarod	4.02	276	P		Pn	04 11 51.5	-0.4
	baz=88								
BARK	Barkley Ridge	4.04	119			Pn	04 11 51.8	-0.6
SNH	Sunshine Point	4.04	123	Pn		Pn	04 11 52.5	+0.2
SNH				IAML			04 12 59.0		
	comp=N,109nm,1.1s								
BARN	Barnard Glacie	4.06	108	Pn		Pn	04 11 52.8	+0.2
BARN				IAML			04 12 54.0		
	comp=N,80nm,0.6s								
BARN				IAML			04 12 57.6		
	comp=E,105nm,0.7s								
L17K	Donlin	4.08	268			Pn	04 11 51.9	-0.8
L17K	Donlin	4.08	268	P		Pn	04 11 51.9	-0.8
	baz=80								
Q19K	Cape Douglas,	4.16	210	P		Pn	04 11 54.1	+0.3
	baz=26								
G23K	Bananza Creek	4.16	358	Pn		Pn	04 11 53.6	-0.3
G23K	Bananza Creek	4.16	358	P		Pn	04 11 53.7	-0.2
	baz=177								
N17K	Nushagak Hills	4.17	244	P		Pn	04 11 53.5	-0.5
	baz=57								
YUK2	White River	4.18	97			Pn	04 11 54.5	+0.3
P18K	Big Mountain,	4.21	223	Pn		Pn	04 11 54.2	-0.3
SYI	Shuyak Island	4.21	200	Pn		Pn	04 11 54.4	-0.1
SYI				IAML			04 12 54.8		
	comp=N,76nm,0.7s								
SYI				IAML			04 12 57.2		
	comp=E,90nm,0.4s								
Q20K	Shuyak Island	4.21	200	P		Pn	04 11 54.5	0.0
	baz=18								
H19K	Roundabout Mou	4.22	318	Pn		Pn	04 11 54.3	-0.4
H19K				IAML			04 13 12.4		
	comp=N,38nm,1.1s								
H19K	Roundabout Mou	4.22	318	P		Pn	04 11 54.6	-0.1
	baz=131								
CTGM	Chitina Glacie	4.25	109	Pn		Pn	04 11 55.1	-0.1
CTGM				IAML			04 13 01.4		
	comp=N,60nm,0.8s								
CTGM				IAML			04 13 06.6		
	comp=E,50nm,1.3s								
G24K	Hadweenzic Riv	4.25	12	P		Pn	04 11 55.6	+0.6
	baz=194								
G21K	Allakaket	4.30	339	Pn		Pn	04 11 55.7	0.0
G21K				IAML			04 12 45.0		
	comp=E,36nm,0.5s								
G21K				IAML			04 13 03.6		
	comp=N,33nm,0.7s								
G21K	Allakaket	4.30	339	P		Pn	04 11 55.8	0.0
	baz=155								
EGAK	Eagle	4.36	56	P		Pn	04 11 57.0	+0.4
	baz=244								
MESA	MESA	4.39	120	Pn		Pn	04 11 57.4	+0.2
MESA	MESA	4.39	120	P		Pn	04 11 56.5	-0.7
	baz=307								
J17K	VABM Dome	4.40	285	Pn		Pn	04 11 56.2	-0.9
J17K	VABM Dome	4.40	285	P		Pn	04 11 56.5	-0.6
	baz=96								
FYU	Fort Yukon	4.43	23	Pn		Pn	04 11 57.8	+0.3
FYU				IAML			04 12 54.5		
	comp=N,51nm,0.7s								
FYU				IAML			04 13 04.1		
	comp=E,49nm,0.5s								
LOGN	Logan Glacier	4.45	109	Pn		Pn	04 11 57.2	-0.8
LOGN				IAML			04 13 05.0		
	comp=E,67nm,0.7s								
LOGN				IAML			04 13 07.0		
	comp=N,67nm,0.9s								
G25K	Bearman Lake	4.47	18			Pn	04 11 58.5	+0.5
G25K	Bearman Lake	4.47	18	P		Pn	04 11 58.5	+0.5
	baz=201								
I27K	Kandik River	4.64	46			Pn	04 12 00.8	+0.3
I27K	Kandik River	4.64	46	P		Pn	04 12 00.8	+0.3
	baz=233								
H18K	Honhosa River	4.66	308	Pn		Pn	04 12 00.6	-0.1
H18K	Honhosa River	4.66	308	P		Pn	04 12 00.9	+0.2
	baz=120								
COLD	Coldfoot	4.68	357	Pn		Pn	04 12 01.0	+0.1
COLD	Coldfoot	4.68	357	P		Pn	04 12 01.4	+0.4
	baz=177								
M16K	Timber Creek	4.70	255	P		Pn	04 12 01.2	-0.1
	baz=66								
L16K	Owhat River	4.71	264	Pn		Pn	04 12 00.4	-0.9
L16K				IAML			04 12 55.0		
	comp=N,24nm,0.7s								
L16K				IAML			04 12 56.4		
	comp=E,28nm,0.6s								
L16K	Owhat River	4.71	264	P		Pn	04 12 00.8	-0.6
	baz=75								
P17K	Kvichak River	4.75	228			Pn	04 12 02.4	+0.4
P17K	Kvichak River	4.75	228	P		Pn	04 12 02.4	+0.4
	baz=41								
O28M	Mount Upton	4.83	108			Pn	04 12 03.7	+0.3
O28M	Mount Upton	4.83	108	P		Pn	04 12 03.7	+0.3
	baz=296								
G19K	Purcell Mounta	4.84	321	Pn		Pn	04 12 02.6	-0.6
G19K	Purcell Mounta	4.84	321	P		Pn	04 12 02.8	-0.3
	baz=134								
DAWY	Dawson	4.84	67	Pn		Pn	04 12 03.2	0.0
N16K	Nishlik Lake	4.87	248			Pn	04 12 03.6	+0.1
N16K	Nishlik Lake	4.87	248	P		Pn	04 12 03.6	+0.1
	baz=60								
F21K	Alatna River	4.95	342	Pn		Pn	04 12 04.3	-0.3
F21K				IAML			04 13 01.0		
	comp=N,58nm,0.5s								
F21K	Alatna River	4.95	342	P		Pn	04 12 05.0	+0.4
	baz=159								
F24K	Squaw Lake	5.02	8	Pn		Pn	04 12 05.9	+0.3
F24K	Squaw Lake	5.02	8	P		Pn	04 12 06.0	+0.3
	baz=189								
G26K	Porcupine Rive	5.05	27			Pn	04 12 05.0	-1.0
G26K	Porcupine Rive	5.05	27	P		Pn	04 12 05.0	-1.0
	baz=212								
KVTA	Katmai Vly 10	5.06	216			Pn	04 12 06.6	+0.5
H27K	Steamboat Moun	5.07	40			Pn	04 12 06.0	-0.4
H27K	Steamboat Moun	5.07	40	P		Pn	04 12 06.0	-0.4
	baz=228								
J16K	Anvik River	5.08	283	Pn		Pn	04 12 06.1	-0.3
J16K				IAML			04 13 02.5		
	comp=E,21nm,0.6s								
J16K				IAML			04 13 16.3		
	comp=N,18nm,0.6s								
J16K	Anvik River	5.08	283	P		Pn	04 12 05.9	-0.5
	baz=93								
O16K	Kokwok River B	5.09	238	Pn		Pn	04 12 05.4	-1.2
I28M	Miner Creek	5.14	52	Pn		Pn	04 12 07.4	+0.1
I28M				IAML			04 13 10.2		
	comp=N,40nm,1.1s								
I28M				IAML			04 13 12.1		
	comp=E,49nm,0.9s								
I28M	Miner Creek	5.14	52	P		Pn	04 12 07.8	+0.5
	baz=240								
KCE	Katmai Mt Cerb	5.15	215			Pn	04 12 07.0	-0.4
H17K	Granite Mounta	5.16	302	Pn		Pn	04 12 07.2	-0.2
H17K				IAML			04 13 02.7		
	comp=N,25nm,0.5s								
H17K	Granite Mounta	5.16	302	P		Pn	04 12 07.8	+0.4
	baz=113								
M29M	Somme Creek	5.17	86	Pn		Pn	04 12 08.1	+0.4
M29M				IAML			04 13 55.4		
	comp=N,16nm,1.5s								
M29M	Somme Creek	5.17	86	P		Pn	04 12 07.8	+0.1
	baz=277								
G18K	Tagagawik	5.17	314	Pn		Pn	04 12 07.5	-0.1
G18K				IAML			04 13 06.5		
	comp=E,21nm,0.7s								
G18K	Tagagawik	5.17	314	P		Pn	04 12 07.8	+0.2
	baz=126								
I17K	Unalakleet	5.19	290	Pn		Pn	04 12 07.8	0.0
I17K				IAML			04 13 06.4		
	comp=N,21nm,0.7s								
I17K				IAML			04 13 08.0		
	comp=E,25nm,0.7s								
I17K	Unalakleet	5.19	290	P		Pn	04 12 08.0	+0.1
	baz=100								
F20K	Avaraart Lake	5.20	333	Pn		Pn	04 12 08.0	0.0
F20K				IAML			04 13 05.9		
	comp=E,18nm,0.7s								
F20K				IAML			04 13 05.9		
	comp=N,17nm,0.7s								
F20K	Avaraart Lake	5.20	333	P		Pn	04 12 08.3	+0.3
	baz=147								
ACHA	Angle Creek He	5.21	216			Pn	04 12 08.5	+0.2
ANCK	Angle Creek	5.27	216			Pn	04 12 09.5	+0.4
L29M	L29M	5.29	79	Pn		Pn	04 12 10.4	+1.1
L29M				IAML			04 13 45.8		
	comp=N,39nm,0.5s								
F25K	Christian Rive	5.31	17			Pn	04 12 09.7	+0.1
F25K	Christian Rive	5.31	17	P		Pn	04 12 09.7	+0.1
	baz=200								
BMAR	Burnt Mountain	5.32	21	Pn		Pn	04 12 09.7	0.0
J29N	Klondike Camp	5.43	65	Pn		Pn	04 12 13.1	+1.8
G27K	Doyon Strip	5.45	35	Pn		Pn	04 12 11.2	-0.3
G27K	Doyon Strip	5.45	35	P		Pn	04 12 11.1	-0.3
	baz=222								
BCPM	Bancas Point	5.48	114	Pn		Pn	04 12 11.1	-0.8
F19K	Shaleruckik Mo	5.53	324	Pn		Pn	04 12 12.4	-0.1
F19K	Shaleruckik Mo	5.53	324	P		Pn	04 12 12.6	+0.1
	baz=137								
E24K	Your Creek	5.55	4	Pn		Pn	04 12 13.3	+0.4
E24K	Your Creek	5.55	4	P		Pn	04 12 13.0	+0.1
	baz=185								
K15K	Wolf Creek Mou	5.55	272	Pn		Pn	04 12 12.0	-0.8
K15K	Wolf Creek Mou	5.55	272	P		Pn	04 12 12.4	-0.4
	baz=82								
N15K	Kwethluk River	5.59	249	Pn		Pn	04 12 13.3	-0.1
N15K	Kwethluk River	5.59	249	P		Pn	04 12 13.3	-0.1
	baz=60								
F26K	Sheenjek River	5.63	22			Pn	04 12 14.2	+0.1
F26K	Sheenjek River	5.63	22	P		Pn	04 12 14.2	+0.1
	baz=207								
L15K	Ungalak Mounta	5.65	266			Pn	04 12 13.4	-0.8
L15K	Ungalak Mounta	5.65	266	P		Pn	04 12 13.4	-0.8
	baz=76								
E22K	Anaktuvuk Pass	5.66	352	Pn		Pn	04 12 14.9	+0.5
G17K	Kiwalik Mounta	5.67	306			Pn	04 12 14.8	+0.3
G17K	Kiwalik Mounta	5.67	306	P		Pn	04 12 14.8	+0.3
	baz=116								
PNL	Peninsula	5.74	116	P		Pn	04 12 15.1	-0.4
O29M	Mount Kennedy	5.76	108	Pn		Pn	04 12 15.7	-0.1
E25K	Arctic Village	5.82	15	P		Pn	04 12 17.0	+0.4
	baz=199								
E19K	Redstone River	5.87	330	Pn		Pn	04 12 17.5	+0.3
E19K	Redstone River	5.87	330	P		Pn	04 12 17.8	+0.5
	baz=143								
F18K	Selawik	5.92	317			Pn	04 12 18.5	+0.7
F18K	Selawik	5.92	317	P		Pn	04 12 18.5	+0.7
	baz=128								
M30M	Minto, Yukon	5.92	84	Pn		Pn	04 12 19.3	+1.3
N30M	Aishikik Lake	6.00	95	Pn		Pn	04 12 18.5	-0.5
N30M	Aishikik Lake	6.00	95	P		Pn	04 12 18.7	-0.3
	baz=286								
HYT	Haines Junctio	6.02	102	Pn		Pn	04 12 19.1	-0.3
H29M	Whitestone	6.09	48	Pn		Pn	04 12 20.8	+0.6
H29M	Whitestone	6.09	48	P		Pn	04 12 20.2	0.0
	baz=238								
TOLK	Toolik Lake Re	6.10	0	Pn		Pn	04 12 21.8	+1.4
M14K	Bethel	6.16	258	Pn		Pn	04 12 21.6	+0.4
E21K	Killik River	6.17	345	Pn		Pn	04 12 22.1	+0.8
J30M	Hart River	6.26	65	Pn		Pn	04 12 24.5	+1.9
G16K	Koyuk River	6.28	302	Pn		Pn	04 12 22.4	-0.4
G16K	Koyuk River	6.28	302	P		Pn	04 12 22.9	+0.1
	baz=111								
L14K	Kuka Creek	6.29	265	Pn		Pn	04 12 22.6	-0.3
E20K	Nigu River	6.33	337			Pn	04 12 24.4	+0.8
E20K	Nigu River	6.33	337	P		Pn	04 12 24.4	+0.8
	baz=151								
F17K	Baldwin Pennin	6.35	313	Pn		Pn	04 12 23.9	+0.1
I30M	Mount Dempster	6.41	60	Pn		Pn	04 12 25.8	+1.1
J14K	Nanvaranak Lak	6.43	278	Pn		Pn	04 12 24.2	-0.6
P29M	Windy Craggy	6.46	112	Pn		Pn	04 12 24.9	-0.4
P29M	Windy Craggy	6.46	112	P		Pn	04 12 24.9	-0.4
	baz=302								
SII	Sitkinak Islan	6.46	203	P		Pn	04 12 25.1	-0.3
SII	Sitkinak Islan	6.46	203	Pn		Pn	04 12 24.8	-0.6
F28M	Old Crow	6.51	35	P		Pn	04 12 25.8	-0.2
	baz=224								
E27K	Coleen River	6.55	27	Pn		Pn	04 12 25.6	-0.9
E27K	Coleen River	6.55	27	P		Pn	04 12 26.2	-0.3
	baz=214								
O14K	Tigyukauivet M	6.59	245	Pn		Pn	04 12 26.6	-0.4
G29M	Pine Creek	6.59	44	Pn		Pn	04 12 28.3	+1.2
O30N	Mendenhall	6.68	100	Pn		Pn	04 12 27.5	-0.9
O30N	Mendenhall	6.68	100	P		Pn	04 12 27.8	-0.6
	baz=292								
E18K	Tukpahlearik C	6.73	321	Pn		Pn	04 12 29.8	+0.8
E18K	Tukpahlearik C	6.73	321	P		Pn	04 12 29.0	0.0
	baz=131								
EPYK	Eagle Plains	6.74	50	Pn		Pn	04 12 29.6	+0.5
E17K	Hotham Inlet	6.90	316			Pn	04 12 30.8	-0.4
E17K	Hotham Inlet	6.90	316	P		Pn	04 12 30.8	-0.4
	baz=125								
D25K	Kavik River	6.91	10	Pn		Pn	04 12 32.6	+1.2
D25K	Kavik River	6.91	10	P		Pn	04 12 31.7	+0.3
	baz=193								
D19K	Kuna River	6.91	333	Pn		Pn	04 12 32.3	+0.9
D19K	Kuna River	6.91	333	P		Pn	04 12 31.0	-0.5
	baz=145								
C21K	Knifeblade Rid	6.94	344			Pn	04 12 30.9	-1.0
C21K	Knifeblade Rid	6.94	344	P		Pn	04 12 30.9	-1.0
	baz=160								
G30M	tAoh Zraii Nji	7.22	46	Pn		Pn	04 12 35.5	-0.2
WHY	Whitehorse	7.27	99	Pn		Pn	04 12 35.8	-0.8
F15K	North Star Dit	7.29	302	Pn		Pn	04 12 37.0	+0.4
C23K	Itkillik River	7.31	357	Pn		Pn	04 12 38.5	+1.7
ANM	Nome	7.32	293	Pn		Pn	04 12 37.1	+0.2
B21K	Ikpikpuk River	7.36	346	Pn		Pn	04 12 37.9	+0.4
B21K	Ikpikpuk River	7.36	346	P		Pn	04 12 37.5	-0.1
	baz=162								
H31M	Peel River	7.40	57	Pn		Pn	04 12 39.0	+0.8
C27K	Jago River	7.47	16			Pn	04 12 39.6	+0.5
C27K	Jago River	7.47	16	P		Pn	04 12 39.7	+0.5
	baz=202								
FARO	Faro, Yukon	7.56	85	Pn		Pn	04 12 40.7	+0.4
E29M	Blow River	7.59	35	Pn		Pn	04 12 40.6	-0.1
E29M	Blow River	7.59	35	P		Pn	04 12 39.9	-0.8
	baz=225								
C26K	Camden Bay	7.62	12			Pn	04 12 40.9	-0.1
C26K	Camden Bay	7.62	12	P		Pn	04 12 40.9	-0.1
	baz=197								
CHGN	Chignik	7.72	219	Pn		Pn	04 12 40.9	-1.6
C18K	Utukok River	7.75	327	Pn		Pn	04 12 43.0	+0.1
G31M	Satah River	7.86	50	Pn		Pn	04 12 42.9	-1.5
B22K	Teshekpuk Lake	7.95	351	Pn		Pn	04 12 45.0	-0.6
B20K	Meade River	8.06	341	Pn		Pn	04 12 46.6	-0.4
P32M	Atlin	8.26	104	Pn		Pn	04 12 48.7	-1.2
BESE	Bessie Mountai	8.28	112	Pn		Pn	04 12 49.8	-0.5
P33M	Teslin, Yukon	8.39	99	Pn		Pn	04 12 50.9	-0.8
TNA	Tin City	8.56	299	Pn		Pn	04 12 54.6	+0.7
JIS	Juneau Island	8.66	113	P		Pn	04 12 54.5	-0.8
JIS	Juneau Island	8.66	113	Pn		Pn	04 12 54.5	-0.8
C16K	Lisburne Hills	8.68	318	Pn		Pn	04 12 56.9	+1.3
INK	Inuvik	8.80	42	Pn		Pn	04 12 58.4	+1.2
SIT	Sitka	9.06	121	P		Pn	04 12 59.8	-1.0
SIT	Sitka	9.06	121	Pn		Pn	04 12 59.0	-1.7
S32K	Killisnoo	9.09	117	Pn		Pn	04 13 01.6	+0.5
R33M	Jennings River	9.59	101	Pn		Pn	04 13 08.4	+0.3
DLBC	Dease Lake	10.48	104	Pn		Pn	04 13 18.8	-1.6
T35M	Bob Quinn	11.22	111	Pn		Pn	04 13 30.6	+0.3
C36M	Paulatuk	12.34	46	Pn		Pn	04 13 42.6	-2.8
A36M	Sachs Harbour	13.20	34	Pn		Pn	04 13 58.5	+1.4
YKA	Yellowknife Ar	16.03	75			P	04 14 35.6	-0.7
YKAB2	New Yellowknif	16.05	75			P	04 14 38.0	+1.5

NIED ***26*** *04:33:22.9, 44.05N× 148.07E, h0km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr0.17; Mθθ0.01; Mϕϕ-0.18; Mrθ1.17; Mθϕ-0.48; Mϕr0.93; Fault plane solution: M0 1.55000×10^15 NP1:φs 54.00000°, δ 84.00000°, λ 98.00000°. NP2:φs 180.00000°, δ 11.00000°, λ 37.00000°.*

IDC ***26*** *04:33:22.7±0.8, 44.59N× 148.04E, h51km±5km, mb3.7/21, mbtmp3.9/25, MS2.8/8 Error ellipse: s-maj=17.7km s-min=12.7km az=157.0*

JMA ***26*** *04:33:22.9±0.4, 44°N±2.2′× 14°8E±0.3′, h0km, MV4.9/31, SE OFF ETOROFU*

MOS ***26*** *04:33:23.0±1.3, 44.42N× 148.15E, h72km, mb4.4/11, Error ellipse: s-maj=9.8km s-min=6.9km az=57.6*

MOS Felt (II-III) at Kuril'sk, Reydovo, Gornyy.

SKHL ***26*** *04:33:24.1±0.5, 44.40N× 148.20E, h73km±4km, mb5.3/3*

NEIC ***26*** *04:33:24.4±1.9, 44.49N±0.10× 148.1E±0.1, h58km±8km, mb4.3/50, Error ellipse: s-maj=15.9km s-min=11.8km az=142.0*

ISC 26 04:33:22.9±0.6, 44.40N±0.05× 148.24E±0.06, h54km±4km, h54km:pP-P, n168, σ1s 47/178, mb4.2/54, 3C-6D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	0.87	343	*i* P		Pn	04 33 39.2	+0.2
KUR					AMB	AMB	04 33 42.7	
	1μm,0.3s							
KUR				*i* S		Sn	04 33 51.1	+0.2
KUR					A	A	04 33 52.0	
	4μm,0.3s							
KUR					A	A	04 33 52.0	
	8μm,0.3s							
KUR	Kuril'sk	0.87	343	*d i* PN		Pn	04 33 39.4	+0.4
KUR				*i* S		Sn	04 33 50.9	0.0
KUR					pmax	pmax		
	comp=Z,1μm,0.4s							
SHO	Shikotan	1.14	243	*i* P		Pn	04 33 42.9	+0.3
SHO					AMB	AMB	04 33 43.3	
	comp=Z,450nm,0.2s							
SHO				*i* S		Sn	04 33 56.6	-0.7
SHO					A	A	04 33 59.2	
	comp=Z,2μm,0.2s							
SHO					A	A	04 33 59.2	
	comp=Z,3μm,0.2s							
SHO	Shikotan	1.14	243	⇓*i* PN		Pn	04 33 42.9	+0.3
SHO				*i* S		Sn	04 33 56.3	-1.0
SHO					pmax	pmax		
	comp=N,180nm,0.3s							
SHO					pmax	pmax		
	comp=E,195nm,0.3s							
SHO					pmax	pmax		
	comp=Z,450nm,0.3s							
SHO					smax	smax		
	comp=N,890nm,0.1s							
SHO					smax	smax		
	comp=E,3μm,0.3s							
YUK	Yuzh-Kuril'sk	1.75	259	*i* P		Pn	04 33 51.8	+1.0
YUK					AMB	AMB	04 33 53.7	
	comp=E,2μm,0.2s							
YUK				*i* S		Sn	04 34 12.7	+0.8
YUK					A	A	04 34 16.8	
	comp=E,2μm,0.4s							
YUK					A	A	04 34 16.8	
	comp=E,2μm,0.4s							
YUK	Yuzh-Kuril'sk	1.75	259	*d i* PN		Pn	04 33 52.0	+1.2
NEM2	Nemuro 2	2.08	241	*i* P		Pn	04 33 55.8	+0.5
NEM2				*e*S		Sn	04 34 19.9	-0.2
NMR	Nemuro--Hokkai	2.09	241	*i* P		Pn	04 33 55.8	+0.3
NMR				*i* S		Sn	04 34 20.2	0.0
NMR	Nemuro--Hokkai	2.09	241	⇓*i* PN		Pn	04 33 55.7	+0.3
NMR				*i* S		Sn	04 34 20.2	0.0
RUSJ	Misakicho	2.17	263	⇑*i* PN		Pn	04 33 59.0	+2.5
RUSJ				*i* S		Sn	04 34 26.1	+3.9
JRA	Rausu	2.29	259	*i* P		Pn	04 34 00.4	+2.2
JRA				*e*S		Sn	04 34 28.4	+3.3
JNSB	Nemuroshibetsu	2.41	256	*e*P		Pn	04 34 02.1	+2.2
JKHN	Kushirohamanak	2.59	240	*e*P		Pn	04 34 03.2	+1.0
JNK	Nakash	2.67	253	*i* P		Pn	04 34 05.3	+1.9
JNK				*e*S		Sn	04 34 36.0	+1.5
AKK	Akkeshi	2.82	242	*e*P		Pn	04 34 06.5	+1.0
JAK	Akkeshi	2.93	243	P		Pn	04 34 08.0

MJA0					pmax	pmax		
	comp=Z,2.0nm,0.6s							
MAJO	**Matsushiro**	**10.95**	**228**	Pn	**Pn**	**04 35 57.2**	**+0.5**
MAJO	**Matsushiro**	**10.95**	**228**	*i* PN	**Pn**	**04 35 57.2**	**+0.5**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	**10.95**	**228**	P	**Pn**	**04 35 55.7**	**-1.0**
	comp=Z,1.0nm,0.5s,baz=26,slow=13,SNR=4.9						
MJAR				LR	LR	04 40 37.7	
	comp=Z,48nm,20.3s,baz=44,slow=40						
MJB9	**Matsu-Tunnel**	**10.95**	**228**	Pn	**Pn**	**04 35 58.0**	**+1.3**
USRK	**Ussuriysk Ar.**	**11.65**	**275**	P	**Pn**	**04 36 02.8**	**-3.5**
	comp=Z,1.1nm,0.6s,baz=84,slow=13,SNR=2.0						
JGF	**Kuroka**	**12.11**	**227**	Pn	**Pn**	**04 36 12.9**	**+0.3**
KLR	**Kul'dur**	**12.28**	**299**	LR	LR	04 41 03.8	
	comp=Z,38nm,21.9s,baz=78,slow=38						
JHJ	**Hachijo jima 2**	**13.04**	**213**	LR	LR	04 41 16.0	
	comp=Z,26nm,21.8s,baz=71,slow=36						
MA2	**Magadan**	**15.28**	**5**	LR	LR	04 41 40.9	
	comp=Z,55nm,20.8s,baz=144,slow=33						
KSRS	**Korea Array**	**16.82**	**253**	P	**Pn**	**04 37 12.8**	**-1.8**
	comp=Z,0.8nm,0.6s,baz=70,slow=10,SNR=2.0						
KSRS				LR	LR	04 43 13.0	
	comp=Z,30nm,19.6s,baz=50,slow=35						
SHEM	**Shemya Is, Ala**	**18.95**	**55**	LR	LR	04 45 48.2	
	comp=Z,29nm,19.1s,baz=51,slow=39						
YAK	**Yakutsk**	**20.73**	**335**	LR	LR	04 46 05.0	
	comp=Z,48nm,18.9s,baz=138,slow=37						
ULN	**Ulaanbaatar**	**28.51**	**292**	*eP*	**P**	**04 39 11.8**	**-1.3**
ULN	**Ulaanbaatar**	**28.51**	**292**	*ceP*	**P**	**04 39 11.8**	**-1.3**
ULN				pmax	pmax		
	comp=Z,2.0nm,1.1s						
SONM	**Songino Array**	**28.95**	**292**	P	**P**	**04 39 16.0**	**-1.0**
	comp=Z,0.9nm,0.5s,baz=120,slow=8.5,SNR=2.2						
	comp=Z,0.9nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**29.10**	**142**	T	T	05 10 08.2	
	baz=332,slow=76,SNR=94						
H11N1	**WAKE ISLAND Hy**	**29.12**	**142**	T	T	05 10 10.6	
	baz=332,slow=76,SNR=214						
H11N3	**WAKE ISLAND Hy**	**29.12**	**142**	T	T	05 10 08.1	
	baz=332,slow=76,SNR=246						
H11S1	**WAKE ISLAND Hy**	**30.10**	**143**	T	T	05 11 31.1	
	baz=333,slow=76,SNR=357						
H11S3	**WAKE ISLAND Hy**	**30.10**	**143**	T	T	05 11 27.8	
	baz=333,slow=76,SNR=340						
H11S2	**WAKE ISLAND Hy**	**30.11**	**143**	T	T	05 11 25.5	
	baz=333,slow=76,SNR=217						
L16K	**Owhat River**	**34.72**	**41**	P	**P**	**04 40 08.3**	**+1.1**
L16K				IAmb	IAmb	04 40 29.6	
	comp=Z,8.0nm,1.5s						
M16K	**Timber Creek**	**34.91**	**43**	P	**P**	**04 40 09.7**	**+0.8**
C18K	**Utukok River**	**35.36**	**29**	P	**P**	**04 40 11.0**	**-1.7**
G18K	**Tagagawik**	**35.66**	**34**	P	**P**	**04 40 14.4**	**-0.9**
G18K				IAmb	IAmb	04 40 47.7	
	comp=Z,4.6nm,1.2s						
L18K	**Granite Mounta**	**36.07**	**41**	P	**P**	**04 40 20.3**	**+1.5**
L18K				IAmb	IAmb	04 40 40.1	
	comp=Z,5.4nm,1.2s						
D19K	**Kuna River**	**36.41**	**30**	P	**P**	**04 40 21.4**	**-0.3**
J19K	**Poorman**	**36.69**	**38**	P	**P**	**04 40 24.4**	**+0.3**
J19K				IAmb	IAmb	04 40 26.6	
	comp=Z,6.7nm,1.4s						
B20K	**Meade River**	**37.10**	**28**	P	**P**	**04 40 27.2**	**-0.3**
B21K	**Ikpikpuk River**	**37.88**	**29**	P	**P**	**04 40 34.5**	**+0.5**
B21K				IAmb	IAmb	04 40 34.9	
	comp=Z,6.4nm,1.0s						
CAST	**Castle Rocks**	**38.23**	**39**	P	**P**	**04 40 38.0**	**+0.8**
B22K	**Teshekpuk Lake**	**38.42**	**28**	P	**P**	**04 40 37.5**	**-1.1**
TRF	**Thorofare Moun**	**39.04**	**39**	P	**P**	**04 40 44.1**	**0.0**
TRF				IAmb	IAmb	04 41 20.4	
	comp=Z,4.2nm,1.2s						
C23K	**Itkillik River**	**39.29**	**29**	P	**P**	**04 40 46.0**	**0.0**
C23K				IAmb	IAmb	04 41 21.2	
	comp=Z,8.1nm,1.4s						
TOLK	**Toolik Lake Re**	**39.53**	**31**	P	**P**	**04 40 48.2**	**+0.3**
TOLK				IAmb	IAmb	04 41 09.9	
	comp=Z,7.4nm,1.5s						
MDM	**Murphy Dome**	**39.92**	**36**	P	**P**	**04 40 52.6**	**+1.4**
MDM				IAmb	IAmb	04 41 07.0	
	comp=Z,3.9nm,1.2s						
SML	**Sawmill**	**40.01**	**41**	P	**P**	**04 40 52.9**	**+0.7**
SML	**Sawmill**	**40.01**	**41**	P	**P**	**04 40 52.8**	**+0.7**
SML				pmax	pmax		
	comp=Z,20nm,1.3s						
G24K	**Hadweenzic Riv**	**40.23**	**34**	P	**P**	**04 40 53.6**	**-0.2**
DHY	**Denali Highway**	**40.37**	**39**	P	**P**	**04 40 55.5**	**+0.3**
DHY				IAmb	IAmb	04 41 24.7	
	comp=Z,6.7nm,1.4s						
HDA	**Harding Lake**	**40.49**	**37**	P	**P**	**04 40 56.4**	**+0.5**
SCM	**Sheep Creek Mo**	**40.49**	**41**	P	**P**	**04 40 56.9**	**+0.9**
SCM	**Sheep Creek Mo**	**40.49**	**41**	P	**P**	**04 40 56.9**	**+0.9**
SCM				pmax	pmax		
	comp=Z,16nm,1.3s						
IL31		**40.50**	**37**	P	**P**	**04 40 55.9**	**0.0**
IL31				IAmb	IAmb	04 41 06.5	
	comp=Z,5.9nm,1.5s						
ILAR	**Eielson Array**	**40.50**	**37**	P	**P**	**04 40 55.9**	**-0.1**
	comp=Z,0.5nm,0.6s,baz=264,slow=6.7,SNR=6.3						
ILAR				pP	**pP**	**04 41 08.4**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=271,slow=9.3,SNR=4.5						
	comp=Z,0.5nm,0.6s						
D25K	**Kavik River**	**40.73**	**30**	P	**P**	**04 40 58.1**	**+0.3**
M24K	**Tolsona, Glenn**	**41.00**	**41**	P	**P**	**04 41 01.8**	**+1.6**
KLU	**Klutina**	**41.19**	**42**	P	**P**	**04 41 03.0**	**+1.1**
KLU				IAmb	IAmb	04 41 44.0	
	comp=Z,10nm,1.2s						
ZALV	**Zalesovo Beam**	**41.23**	**307**	P	**P**	**04 40 59.3**	**-2.8**
	comp=Z,0.5nm,0.3s,baz=88,slow=8.8,SNR=1.8						
ZALV				PcP	**PcP**	**04 43 00.5**	**+0.4**
	comp=Z,1.8nm,0.4s,baz=103,slow=3.5,SNR=8.7						
	comp=Z,0.5nm,0.3s						
BMAR	**Burnt Mountain**	**41.36**	**33**	P	**P**	**04 41 04.0**	**+0.9**
SCRK	**Sand Creek**	**41.81**	**38**	P	**P**	**04 41 06.7**	**-0.2**
J26L	**Joseph Creek**	**41.94**	**37**	P	**P**	**04 41 08.2**	**+0.2**
E27K	**Coleen River**	**42.47**	**31**	P	**P**	**04 41 13.7**	**+1.6**
E27K				IAmb	IAmb	04 41 50.9	
	comp=Z,5.3nm,1.5s						
K27K	**Chicken**	**42.64**	**38**	P	**P**	**04 41 14.4**	**+0.9**
K27K				IAmb	IAmb	04 41 15.8	
	comp=Z,2.9nm,0.8s						
L27K	**Beaver Creek,**	**42.88**	**39**	P	**P**	**04 41 17.4**	**+1.8**
L27K				IAmb	IAmb	04 41 17.8	
	comp=Z,2.6nm,0.6s						
BCAR	**Beaver Creek A**	**42.90**	**39**	P	**P**	**04 41 17.7**	**+2.0**
M27K	**Edge Creek, AK**	**42.97**	**40**	P	**P**	**04 41 17.8**	**+1.5**
F28M	**Old Crow**	**43.16**	**32**	P	**P**	**04 41 19.5**	**+1.8**
I28M	**Miner Creek**	**43.37**	**35**	P	**P**	**04 41 21.3**	**+1.7**
DAWY	**Dawson**	**43.80**	**37**	P	**P**	**04 41 24.2**	**+1.3**
E29M	**Blow River**	**43.83**	**31**	P	**P**	**04 41 24.9**	**+1.9**
H29M	**Whitestone**	**43.91**	**34**	P	**P**	**04 41 25.5**	**+1.8**
H29M				IAmb	IAmb	04 42 05.3	
	comp=Z,7.3nm,1.4s						
I29M	**Ogilvie Camp,**	**44.06**	**35**	P	**P**	**04 41 25.8**	**+0.8**
I29M				IAmb	IAmb	04 41 27.5	
	comp=Z,5.8nm,1.2s						
L29M	**L29M**	**44.53**	**38**	P	**P**	**04 41 30.1**	**+1.3**
L29M				IAmb	IAmb	04 41 31.8	
	comp=Z,4.2nm,1.1s						
G30M	**tAoh Zrail Nji**	**44.65**	**33**	P	**P**	**04 41 30.3**	**+0.6**
G30M				IAmb	IAmb	04 41 43.9	
	comp=Z,2.8nm,0.7s						
K29M	**Barlow Dome**	**44.66**	**37**	P	**P**	**04 41 31.3**	**+1.5**
K29M				IAmb	IAmb	04 41 32.3	
	comp=Z,5.4nm,1.3s						
MK31	**Makanchi Array**	**44.98**	**297**	*d iP*	**P**	**04 41 34.3**	**+1.7**
MKAR	**Makanchi Array**	**44.98**	**297**	P	**P**	**04 41 30.6**	**-1.9**
	comp=Z,0.7nm,0.5s,baz=76,slow=8.8,SNR=8.8						
MKAR				pP	**pP**	**04 41 43.6**	**-3.1**
	comp=Z,0.3nm,0.5s,baz=71,slow=15,SNR=2.8						
MKAR				PcP	**PcP**	**04 43 13.3**	**+0.4**
	comp=Z,0.6nm,0.3s,baz=67,slow=4.6,SNR=8.3						
	comp=Z,0.7nm,0.5s						
MKAR	**Makanchi Array**	**44.98**	**297**	*eP*	**P**	**04 41 33.3**	**+0.7**
MKAR	**Makanchi Array**	**44.98**	**297**	*eP*	**P**	**04 41 33.3**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
G31M	**Satah River**	**45.41**	**33**	P	**P**	**04 41 35.7**	**+0.1**
G31M				IAmb	IAmb	04 42 08.4	
	comp=Z,10nm,1.4s						
INK	**Inuvik**	**45.44**	**31**	P	**P**	**04 41 36.0**	**+0.2**
INK				IAmb	IAmb	04 42 04.7	
	comp=Z,6.8nm,1.4s						
INK	**Inuvik**	**45.44**	**31**	P	**P**	**04 41 36.0**	**+0.2**
INK				pmax	pmax		
	comp=Z,7.0nm,1.5s						

H31M	**Peel River**	**45.60**	**34**	P	**P**	**04 41 38.1**	**+0.8**
H31M				IAmb	IAmb	04 41 56.0	
	comp=Z,9.2nm,1.4s						
KURK	**Kurchatov**	**45.82**	**304**	*eP*	**P**	**04 41 38.6**	**-0.5**
KURK	**Kurchatov**	**45.82**	**304**	P	**P**	**04 41 38.6**	**-0.5**
KURK						04 43 16.4	
KURBB	**Kurchatov Arra**	**45.90**	**304**	P	**P**	**04 41 38.6**	**-1.2**
	comp=Z,0.6nm,0.2s,baz=76,slow=8.4,SNR=1.7						
KURBB				PcP	**PcP**	**04 43 16.4**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=75,slow=3.6,SNR=8.9						
	comp=Z,0.6nm,0.2s						
FARO	**Faro, Yukon**	**46.88**	**39**	P	**P**	**04 41 48.4**	**+1.1**
FARO				IAmb	IAmb	04 42 02.8	
	comp=Z,3.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**48.46**	**254**	P	**P**	**04 42 00.5**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=36,slow=7.8,SNR=5.4						
	comp=Z,1.1nm,0.3s						
CMAR	**Chiang Mai Arr**	**48.46**	**254**	*eP*	**P**	**04 42 01.9**	**+1.9**
CMAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**49.70**	**309**	PcP	**PcP**	**04 43 28.4**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=73,slow=5.1,SNR=4.3						
BOOM	**Boomskoye usch**	**50.91**	**295**	P	**P**	**04 42 19.8**	**+1.2**
BOOM				IAmb	IAmb	04 42 20.7	
	comp=Z,1.4nm,0.7s						
BOOM	**Boomskoye usch**	**50.91**	**295**	P	**P**	**04 42 19.8**	**+1.2**
BOOM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
RES	**Resolute Bay**	**54.12**	**17**	P	**P**	**04 42 40.6**	**-1.0**
RES				IAmb	IAmb	04 42 49.9	
	comp=Z,4.5nm,1.3s						
RES	**Resolute Bay**	**54.12**	**17**	P	**P**	**04 42 40.6**	**-1.0**
RES				pmax	pmax		
	comp=Z,5.0nm,1.3s						
SPITS	**Spitsbergen Ar**	**54.29**	**349**	P	**P**	**04 42 41.0**	**-1.9**
	comp=Z,9.3nm,1.0s,baz=36,slow=8.5,SNR=3.2						
	comp=Z,9.3nm,1.0s						
YKA	**Yellowknife Ar**	**54.82**	**34**	P	**P**	**04 42 46.9**	**0.0**
	comp=Z,1.1nm,0.8s,baz=329,slow=11,SNR=15						
	comp=Z,1.1nm,0.8s						
YKA	**Yellowknife Ar**	**54.82**	**34**	*eP*	**P**	**04 42 47.4**	**+0.5**
YBH	**Yreka Blue Hor**	**61.88**	**58**	P	**P**	**04 43 39.5**	**+2.9**
YBH	**Yreka Blue Hor**	**61.88**	**58**	P	**P**	**04 43 39.5**	**+2.9**
YBH				pmax	pmax		
	comp=Z,19nm,0.8s						
BELG	**Belogornoye**	**61.96**	**317**	*i* P	**P**	**04 43 36.8**	**+0.1**
BELG				pmax	pmax		
	comp=Z,4.0nm,1.7s						
FINES	**FINESS Array B**	**64.65**	**333**	P	**P**	**04 43 51.5**	**-2.9**
	comp=Z,1.0nm,0.5s,baz=70,slow=6.7,SNR=13						
FINES				pP	**pP**	**04 44 06.6**	**-2.7**
	comp=Z,0.6nm,0.6s,baz=28,slow=8.6,SNR=1.4						
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**64.65**	**333**	*eP*	**P**	**04 43 52.5**	**-1.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
OBN	**Obninsk**	**65.25**	**324**	*eP*	**P**	**04 43 59.7**	**+1.3**
OBN	**Obninsk**	**65.25**	**324**	*eP*	**P**	**04 43 59.7**	**+1.3**
OBN				*e**SP	**sP**	**04 44 22.2**	**+2.8**
OBN						04 44 28.0	
OBN				*e*		04 53 46.8	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
WRAB	**Tennant Creek**	**65.27**	**194**	*i* P	**P**	**04 43 58.2**	**-0.7**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.9s						
WRA	**Warramunga Arr**	**65.28**	**194**	P	**P**	**04 43 58.2**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=9.4,slow=6.9,SNR=1.6						
	comp=Z,1.1nm,0.7s						
NVAR	**Mina Array Bea**	**66.57**	**59**	P	**P**	**04 44 05.8**	**-1.6**
	comp=Z,0.4nm,0.5s,baz=297,slow=8.6,SNR=5.8						
	comp=Z,0.4nm,0.5s						
PDAR	**Pinedale Array**	**68.89**	**50**	P	**P**	**04 44 22.4**	**+0.3**
PDAR	**Pinedale Array**	**68.89**	**50**	P	**P**	**04 44 22.1**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=335,slow=4.0,SNR=1.8						
	comp=Z,0.3nm,0.5s						
ASAR	**Alice Springs**	**69.00**	**194**	P	**P**	**04 44 23.5**	**+1.0**
	comp=Z,0.9nm,0.8s,baz=5.8,slow=6.1,SNR=5.8						
	comp=Z,0.9nm,0.8s						
NB2	**NORSAR Subarra**	**69.28**	**339**	P	**P**	**04 44 23.3**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=30,slow=6.2						
NOA	**NORSAR Array B**	**69.28**	**339**	P	**P**	**04 44 22.5**	**-1.4**
	comp=Z,0.5nm,0.5s,baz=31,slow=6.8,SNR=9.7						
	comp=Z,0.5nm,0.5s						
NOA	**NORSAR Array B**	**69.28**	**339**	*eP*	**P**	**04 44 23.8**	**-0.1**
HFS	**Hagfors**	**69.39**	**338**	P	**P**	**04 44 22.8**	**-1.7**
	comp=Z,0.6nm,0.4s,baz=46,slow=6.4,SNR=8.6						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**71.52**	**324**	P	**P**	**04 44 36.2**	**-1.4**
	comp=Z,0.2nm,0.2s,baz=50,slow=7.2,SNR=2.1						
	comp=Z,0.2nm,0.2s						
BRTR	**Keskin Array B**	**77.66**	**314**	P	**P**	**04 45 12.7**	**-1.0**
	comp=Z,0.3nm,0.5s,baz=95,slow=4.0,SNR=3.7						
	comp=Z,0.3nm,0.5s						
BRTR	**Keskin Array B**	**77.66**	**314**	*eP*	**P**	**04 45 14.1**	**+0.5**
EKA	**Eskdalemuir Ar**	**77.72**	**344**	P	**P**	**04 45 11.7**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=16,slow=5.1,SNR=6.2						
	comp=Z,0.5nm,0.3s						
GERES	**GERESS Array B**	**78.97**	**331**	P	**P**	**04 45 19.7**	**-0.9**
	comp=Z,0.5nm,0.5s,baz=39,slow=8.0,SNR=2.7						
	comp=Z,0.5nm,0.5s						
TX31	**Lajitas Ar. Si**	**81.64**	**57**	P	**P**	**04 45 36.2**	**+0.9**
TXAR	**Lajitas Array**	**81.64**	**57**	P	**P**	**04 45 36.1**	**+0.8**
	comp=Z,0.8nm,0.5s,baz=296,slow=4.2,SNR=21						
TXAR				pP	**pP**	**04 45 51.2**	**+0.6**
	comp=Z,0.6nm,0.5s,baz=294,slow=3.6,SNR=8.9						
	comp=Z,0.8nm,0.5s						
MMAI	**Mount Meron Ar**	**81.70**	**309**	P	**P**	**04 45 36.0**	**+0.4**
	comp=Z,2.2nm,0.5s,baz=44,slow=7.4,SNR=8.7						
MMAI				pP	**pP**	**04 45 50.1**	**-0.8**
	comp=Z,0.4nm,0.4s,baz=27,slow=6.8,SNR=1.5						
	comp=Z,2.2nm,0.5s						
MIAR	**Mount Ida**	**83.45**	**47**	P	**P**	**04 45 45.7**	**+1.2**
MIAR	**Mount Ida**	**83.45**	**47**	P	**P**	**04 45 45.7**	**+1.2**
MIAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FDMO	**Fiordimonte**	**84.17**	**329**	P	**P**	**04 45 48.2**	**+0.1**
M55A	**Ridgway**	**84.69**	**34**	P	**P**	**04 45 51.1**	**+0.4**
TORD	**Torodi Ar. Bea**	**115.15**	**324**	PKP	**PKiKP**	**04 51 57.6**	**-0.7**
	comp=Z,0.1nm,0.5s,baz=38,slow=3.3,SNR=4.6						
H03N2	**Juan Fernandez**	**142.18**	**90**	T	T	07 31 44.0	
	baz=304,slow=77,SNR=4.6						
H03N3	**Juan Fernandez**	**142.19**	**90**	T	T	07 31 22.7	
	baz=304,slow=77,SNR=6.8						
H03N1	**Juan Fernandez**	**142.19**	**90**	T	T	07 31 45.2	
	baz=304,slow=77,SNR=7.5						
PLCA	**Paso Flores**	**151.38**	**96**	PKPbc	**PKiKP**	**04 53 11.1**	**+0.4**
	comp=Z,1.3nm,0.9s,baz=21,slow=2.0,SNR=3.4						

KRSC 26 04:49:05.5±1.6, 49.37N×156.64E, h41km±23km, Ml4.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.35**	**346**	*eP*	Pn	04 49 29.1	+1.2
SKR				*eS*	Sn	04 49 45.6	+1.0
PAU	**Pauzhetka**	**2.10**	**3**	*eP*	Pn	04 49 41.7	+3.6
PAU				*eS*	Sn	04 50 07.0	+4.0
KDTR	**Khodutka, Kamc**	**2.61**	**20**	*eP*	Pn	04 49 48.2	+3.1
KDTR				*eS*	Sn	04 50 19.1	+3.7
ASAK	**Asacha**	**3.12**	**14**	*eP*	Pn	04 49 56.0	+3.8
ASAK				*eS*	Sn	04 50 32.7	+4.5
MTVR	**Mutnovka**	**3.26**	**17**	*eP*	Pn	04 49 57.6	+3.4
MTVR				*eS*	Sn	04 50 35.7	+3.8
RUS	**Russkaya**	**3.29**	**20**	*eP*	Pn	04 49 57.3	+2.9
RUS				*eS*	Sn	04 50 34.6	+2.4
GRL	**Gorelyy**	**3.31**	**15**	*eP*	Pn	04 49 58.3	+3.4
GRL				*eS*	Sn	04 50 36.5	+3.5
KRMR	**Karymshinskiy**	**3.59**	**15**	*eP*	Pn	04 50 02.7	+4.1
KRMR				*eS*	Sn	04 50 46.5	+6.9
UGLR	**Uglovaya**	**4.08**	**19**	*eP*	Pn	04 50 09.3	+3.9
AVH	**Avacha**	**4.11**	**18**	*eP*	Pn	04 50 10.1	+4.2
KOK	**Koryaka**	**4.12**	**17**	*eP*	Pn	04 50 10.5	+4.6
SMAR	**Somma**	**4.12**	**18**	*eP*	Pn	04 50 11.1	+5.0
KRX	**Arik**	**4.19**	**17**	*eP*	Pn	04 50 11.1	+4.2
GNL	**Ganaly**	**4.40**	**10**	*eP*	Pn	04 50 13.0	+3.2

*TEH **26** 04:50:52.3, 33.76N×45.73E, h10km±37km, ML2.9*
*ISN **26** 04:50:52.8±0.7, 33.77N×45.58E, h8km±14km, ML2.8*
ISC 26 04:50:53.3±0.9, 33.80N±0.04×45.67E±0.05, h10km, n12, σ0.94/15, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLG1	**Gilan-e-Gharb**	**0.37**	**33**	Pg	**Pg**	**04 50 59.9**	**-0.7**
IBDR	**Badra**	**0.73**	**162**	*e*Pg	**Pg**	**04 51 07.0**	**-0.3**
IBDR				*e*Sg	**Sb**	**04 51 17.0**	**-1.0**
IGHG	**Ghaleghazi**	**0.91**	**55**	Pg	**Pg**	**04 51 10.2**	**-0.7**
IDHR	**Dehrash**	**1.07**	**33**	Pg	**Pb**	**04 51 13.4**	**-0.6**
BHD	**Baghdad**	**1.20**	**244**	*e*Pn	**Pn**	**04 51 16.0**	**-0.1**
BHD				*e*Sn	**Sn**	**04 51 34.0**	**+1.6**
ILIN	**Lien**	**1.54**	**44**	Pg	**Pn**	**04 51 21.8**	**+0.8**
IKFM	**Kafar-mosalman**	**1.84**	**98**	Pn	**Pn**	**04 51 26.2**	**+1.4**
IKRK	**Kirkuk**	**1.93**	**326**	*e*Pn	**Pb**	**04 51 28.0**	**-0.6**
IKRK				*e*Sn	**Sb**	**04 51 53.0**	**+0.2**
IKRK				AML	AML	04 52 06.5	
	comp=E,116nm,0.5s						
IKRK				AML	AML	04 52 07.3	
	comp=N,120nm,0.4s						
SNQR	**Sonqor, Kerman**	**1.93**	**57**	Pn	**Pn**	**04 51 28.0**	**+1.5**
IBZA	**Bozab**	**1.94**	**69**	Pn	**Pn**	**04 51 27.0**	**+0.5**
IDOB	**Doab**	**2.09**	**90**	Pn	**Pn**	**04 51 28.9**	**+0.3**
HSAM	**Samen**	**2.47**	**80**	Pn	**Pn**	**04 51 34.3**	**+0.5**

*IDC **26** 04:59:01.1±1.1, 28.23N×52.40E, h0km, mb3.8/15, mbtmp3.8/17, ML3.5/2, MS3.2/4, Error ellipse: s-maj=25.0km s-min=18.8km az=16.0*
*TEH **26** 04:59:02.7, 28.36N×52.57E, h6km±21km, ML3.7*
*DSN **26** 04:59:09.2±1.0, 28.04N×52.90E, h10km, ML3.2/9, Error ellipse: s-maj=21.2km s-min=9.3km az=53.0*
*OMAN **26** 04:59:09.9±1.0, 28.22N×53.13E, h10km, mb4.9/4, ml3.6/12, Error ellipse: s-maj=11.1km s-min=6.1km az=22.0*
ISC 26 04:59:06.4±1.1, 28.40N±0.04×52.78E±0.04, h29km±9km, n73, σ1.86/91, mb3.9/15, MS3.1/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QIR1	**Qir**	**0.25**	**71**	Pg	**Pb**	**04 59 11.7**	**-1.5**
JHRM	**Jahrom**	**0.71**	**81**	Pg	**Pn**	**04 59 21.1**	**+0.4**
SHI	**Shiraz**	**1.26**	**350**	Pg	**Pn**	**04 59 27.9**	**-0.5**
DSBU	**Dashti - Bushe**	**1.33**	**269**	Pg	Pn	04 59 25.4	-3.8
KAZ2	**Kazeron-Fars-I**	**1.56**	**321**	Pg	**Pn**	**04 59 31.8**	**-0.5**
KAZ2				Sg	**Sn**	**04 59 52.9**	**+1.3**
LAR1	**LAR**	**1.59**	**117**	Pg	**Pb**	**04 59 36.6**	**+1.4**
SAKB	**Bahrain**	**3.12**	**220**	P	**Pb**	**05 00 02.4**	**+1.0**
SAKB				S	**Sb**	**05 00 41.2**	**+2.2**
GENO	**Geno**	**3.17**	**107**	Pn	**Pb**	**04 59 58.4**	**-3.7**
IMEH	**Mehriz**	**3.38**	**28**	Pn	**Pn**	**05 00 01.1**	**+3.5**
IRAM	**Ramesheh**	**3.42**	**354**	Pn	**Pn**	**04 59 59.3**	**+1.3**
JRN	**Qarnain Island**	**3.44**	**179**	P	**Pn**	**05 00 02.6**	**+4.5**
	SNR=8.2						
ISAD	**Sadrabad**	**3.59**	**12**	Pn	**Pn**	**05 00 02.9**	**+2.4**
KHGB	**Koh Gabri**	**3.79**	**58**	Pn	**Pn**	**05 00 06.9**	**+3.9**
SHME	**Shamm**	**3.80**	**127**	P	**Pn**	**05 00 03.8**	**+0.8**
SHME	**Shamm**	**3.80**	**127**	P	**Pn**	**05 00 05.0**	**+1.9**
SHME				S	**Sn**	**05 00 49.2**	**+2.4**
TVBK	**TV Kerman**	**3.83**	**65**	Pn	**Pn**	**05 00 07.9**	**+4.1**
IBAF	**Bafgh**	**4.00**	**37**	Pn	**Pn**	**05 00 09.8**	**+3.8**
ICHK	**Chekchek**	**4.09**	**20**	Pn	**Pn**	**05 00 10.3**	**+3.1**
NAZ	**Nazwa, Dubai**	**4.26**	**142**	P	**Pn**	**05 00 10.2**	**+0.7**
NAZ	**Nazwa, Dubai**	**4.26**	**142**	P	**Pn**	**05 00 10.6**	**+1.1**
NAZ				S	**Sn**	**05 01 00.5**	**+2.3**
MASF	**Masafi**	**4.27**	**134**	P	**Pn**	**05 00 10.7**	**+1.2**
	SNR=5.5						
MASF				S	**Sn**	**05 00 58.4**	**0.0**
MSFE	**Esma-Masafi**	**4.28**	**134**	P	**Pn**	**05 00 10.5**	**+0.9**
ASUD	**Al Ashush, Dub**	**4.40**	**148**	P	**Pn**	**05 00 12.1**	**+0.9**
ASUD				S	**Sn**	**05 01 00.9**	**-0.6**
MDH	**Madha**	**4.41**	**134**	P	**Pn**	**05 00 11.5**	**+0.1**
MDH	**Madha**	**4.41**	**134**	P	**Pn**	**05 00 12.2**	**+0.8**
MDH				S	**Sn**	**05 01 02.7**	**+0.9**

3.4nm,0.9s,baz=9.5,slow=6.1,SNR=2.9
3.4nm,0.9s
YKA Yellowknife Ar 88.86 354 P **P** 05 11 56.9 -0.7
0.9nm,1.0s,baz=0.1,slow=5.4,SNR=7.8
0.9nm,1.0s
WRA Warramunga Arr 92.22 111 P **P** 05 12 14.0 +0.1
1.0nm,1.1s,baz=313,slow=3.7,SNR=3.3
1.0nm,1.1s
ASAR Alice Springs 93.68 115 P **P** 05 12 21.7 +1.1
0.5nm,0.9s,baz=302,slow=4.2,SNR=3.1
0.5nm,0.9s

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*IDC **26** 05:06:39.7±5.0,36°.39N×70°.50E,h220km±46km,mb3.2/8, mbtmp3.9/13,MS3.2/1, Error ellipse: s-maj=36.5km s-min=20.1km az=29.0*
ISC 26 05:06:38.1±1.2,**36°.4N**±0°.1×**70°.35E**±0°.10,**h204**km,**n15,** σ1⇟**02/15**,**mb3.4/7**,**Hindu Kush region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAK	**Ala-Archa**	**7.03**	**26**	P	**Pn**	**05 08 20.6**	**+1.8**
	6.5nm,0.3s,baz=157,slow=6.8,SNR=9.3						
AAK				S	**S**	05 09 36.9	-1.7
	16nm,0.4s,baz=143,slow=23,SNR=24						
GEYT	**Alibeck**	**9.89**	**283**	S	**S**	05 10 45.6	-1.0
	1.8nm,0.4s,baz=100,slow=6.4,SNR=1.6						
MKAR	**Makanchi Array**	**13.70**	**37**	P	**Pn**	05 09 44.3	+0.2
	0.8nm,0.4s,baz=219,slow=15,SNR=6.3						
KURBB	**Kurchatov Arra**	**15.41**	**20**	P	**Pn**	05 10 03.9	-1.0
	0.7nm,0.3s,baz=210,slow=10,SNR=9.6						
AKTO	**Aktyubinsk**	**16.63**	**331**	P	**P**	05 10 19.0	+0.4
	4.5nm,0.5s,baz=137,slow=7.4,SNR=20						
BVAR	**Borovoye Array**	**16.65**	**0**	P	**P**	05 10 18.7	+0.1
	2.3nm,0.4s,baz=183,slow=11,SNR=11						
ZALV	**Zalesovo Beam**	**20.25**	**25**	P	**P**	05 10 56.8	-0.8
	2.1nm,0.3s,baz=219,slow=10,SNR=16						
	2.1nm,0.3s						
OBN	**Obninsk**	**29.69**	**320**	LR	LR	05 26 26.9	
	comp=Z,46nm,19.2s,baz=170,slow=40						
FINES	**FINESS Array B**	**37.30**	**326**	P	**P**	05 13 31.3	+1.1
	0.8nm,0.6s,baz=126,slow=9.7,SNR=7.1						
	0.8nm,0.6s						
ARCES	**ARCESS Array B**	**41.06**	**338**	P	**P**	05 14 02.4	+1.1
	10nm,1.1s,baz=113,slow=8.2,SNR=4.8						
	10nm,1.1s						
HFS	**Hagfors**	**42.84**	**322**	P	**P**	05 14 15.9	+0.2
	1.5nm,0.7s,baz=94,slow=12,SNR=7.2						
	1.5nm,0.7s						
NOA	**NORSAR Array B**	**44.17**	**323**	P	**P**	05 14 26.7	+0.4
	0.2nm,0.4s,baz=101,slow=8.1,SNR=1.9						
	0.2nm,0.4s						
TORD	**Torodi Ar. Bea**	**65.19**	**268**	P	**P**	05 16 57.5	-0.3
	0.2nm,0.3s,baz=30,slow=5.3,SNR=1.7						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**82.37**	**121**	P	**P**	05 18 37.2	-0.2
	0.8nm,1.1s,baz=322,slow=4.8,SNR=2.4						
	0.8nm,1.1s						
ASAR	**Alice Springs**	**84.61**	**124**	P	**P**	05 18 48.3	-0.5
	0.4nm,0.8s,baz=264,slow=4.7,SNR=2.5						
	0.4nm,0.8s						

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*TEH **26** 05:08:26.4,33°.74N×45°.59E,h8km±79km,ML2.9*
*ISN **26** 05:08:27.2±1.1,33°.79N×45°.57E,h24km±6km,ML2.9*
ISC 26 05:08:25.4±1.6,**33.80N**±0°.04×**45.55E**±0°.04,**h0**km±14km, **n12,** σ0⇟**77/17**,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.44**	**44**	Pg	**Pb**	**05 08 35.2**	**-0.9**
KGS1	**Ghasr-e-Shirin**	**0.71**	**3**	Pg	**Pb**	**05 08 41.0**	**+0.4**
IBDR	**Badra**	**0.76**	**155**	*e*Pg	**Pb**	**05 08 41.0**	**-0.5**
IBDR				*e*Sg	**Sb**	**05 08 52.0**	**-0.3**
IBDR				AML	AML	05 09 04.0	
	comp=E,98nm,0.6s						
IBDR				AML	AML	05 09 15.8	
	comp=N,127nm,0.2s						
IGHG	**Ghaleghazi**	**1.00**	**58**	Pg	**Pb**	**05 08 46.1**	**+0.3**
IGHG				Sg	**Sn**	**05 09 00.7**	**-1.2**
BHD	**Baghdad**	**1.11**	**242**	*e*Pg	**Pb**	**05 08 47.0**	**-0.4**
BHD				*e*Sg	**Sb**	**05 09 03.0**	**+0.6**
IDHR	**Dehrash**	**1.14**	**37**	Pg	**Pn**	**05 08 49.7**	**+0.9**
KCHF	**Cheshme Sefid,**	**1.33**	**69**	Pg	**Pn**	**05 08 51.9**	**+0.5**
ILIN	**Lien**	**1.62**	**46**	Pg	**Pg**	**05 08 57.5**	**+1.0**
IKRK	**Kirkuk**	**1.88**	**328**	*e*Pn	**Pb**	**05 09 00.0**	**-0.7**
IKRK				*e*Sn	**Sg**	**05 09 25.0**	**-1.0**
IKFM	**Kafar-mosalman**	**1.94**	**97**	Pn	**Pg**	**05 09 02.7**	**+0.1**
SNQR	**Sonqor, Kerman**	**2.02**	**58**	Pn	**Pg**	**05 09 03.8**	**-0.4**
RAFI	**Al-Rafai**	**2.12**	**167**	*e*Pn	**Pn**	**05 09 03.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**05 09 29.0**	**-0.2**

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*IDC **26** 05:14:03.3±3.1,30°.45S×178°.64W,h66km±36km,mb3.8/4, mbtmp4.1/4, Error ellipse: s-maj=37.1km s-min=28.9km az=29.0*
ISC 26 05:14:02.1±1.3,**30°.7S**±0°.2×**178°.6W**±0°.2,**h50**km,**n7,** σ2⇟**52/9**,**mb4.2/4**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.56**	**23**	P	**Pn**	**05 14 25.2**	**-2.3**
	314nm,0.4s,baz=253,slow=21,SNR=1.3						
RAO				S	**Sn**	**05 14 50.4**	**+3.8**
	403nm,0.3s,baz=144,slow=19,SNR=2.1						
URZ	**Urewera**	**8.33**	**204**	P	Pn	05 15 47.0	-13
	13nm,0.9s,baz=336,slow=6.2,SNR=7.1						
URZ				S	Sn	05 17 18.1	-15
	8.3nm,0.4s,baz=292,slow=22,SNR=13						
STKA	**Stephens Creek**	**33.90**	**258**	P	**P**	**05 20 41.0**	**+0.7**
	3.5nm,1.0s,baz=102,slow=1.7,SNR=3.3						
	3.5nm,1.0s						
ASAR	**Alice Springs**	**42.57**	**268**	P	**P**	**05 21 53.0**	**-0.4**
	1.0nm,0.6s,baz=104,slow=7.4,SNR=17						
ASAR				pP	**pP**	**05 22 07.5**	**+1.4**
	2.5nm,0.8s,baz=106,slow=7.4,SNR=9.2						
	1.0nm,0.6s						
WRA	**Warramunga Arr**	**43.59**	**273**	P	**P**	**05 22 00.7**	**-0.9**
	1.1nm,0.5s,baz=111,slow=7.9,SNR=38						
WRA				pP	**pP**	**05 22 15.8**	**+1.4**
	3.2nm,0.8s,baz=114,slow=7.6,SNR=8.9						
	1.1nm,0.5s						
QSPA	**South Pole Qui**	**59.41**	**180**	P	**P**	**05 24 00.6**	**+1.3**
	2.6nm,0.7s,baz=45,slow=4.1,SNR=22						
	2.6nm,0.7s						
FINES	**FINESS Array B**	**145.24**	**339**	PKPbc	**PKPbc**	**05 33 29.9**	**-3.4**
	0.8nm,0.4s,baz=61,slow=4.9,SNR=11						

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*IPEC **26** 05:31:37.6±0.2,51°.58N×16°.21E,h1km,ML2.5/5, Error ellipse: s-maj=2.0km s-min=1.1km az=37.0*
*DNK **26** 05:31:37.5±2.6,51°.61N×16°.07E,h0km±74km,ML2.0*
*VIE **26** 05:31:39.5±0.8,51°.43N×16°.14E,h0km,mb2.3/5,ml2.9/4, Error ellipse: s-maj=9.8km s-min=6.4km az=66.0, Suspected Mining induced.*
*IDC **26** 05:31:40.3±1.4,51°.47N×15°.94E,h0km,mbtmp3.1/4, ML2.2/4, Error ellipse: s-maj=31.8km s-min=9.4km az=107.0*
*UPP **26** 05:31:41.8±3.0,51°.77N×15°.66E,h0km,ML2.1*
*PRU **26** 05:31:41.0,51°.43N×16°.11E,h0km*
ISC 26 05:31:36.8±0.7,**51°.61N**±0°.03×**16°.16E**±0°.02,**h0**km,**n47,** σ1⇟**54/87**,**Poland**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHVC	**Chvalec**	**1.02**	**184**	*e*PG	**Pg**	**05 31 56.8**	**+0.4**
CHVC				*e*SG	**Sg**	**05 32 08.9**	**-0.7**
	comp=Z,85nm,0.4s						
OSTC	**Ostas**	**1.05**	**178**	*e*PG	**Pg**	**05 31 57.4**	**+0.4**
OSTC				*e*SG	**Sg**	**05 32 10.1**	**-0.5**
	comp=Z,85nm,0.3s						
UPC	**Upice**	**1.10**	**185**	*e*PG	**Pg**	**05 31 58.0**	**0.0**
UPC				*e*SG	**Sg**	**05 32 11.0**	**-1.3**
DPC	**Dobruska-Polom**	**1.26**	**175**	*e*PG	**Pg**	**05 32 00.8**	**-0.2**
DPC				*e*SG	**Sg**	**05 32 15.7**	**-1.6**
	comp=Z,54nm,0.5s						
PVCC	**Panska Ves**	**1.47**	**223**	*e*PG	**Pb**	**05 32 05.4**	**+0.3**
PVCC				*e*SG	**Sg**	**05 32 23.7**	**-0.4**
	comp=Z,189nm,0.3s						
BRG	**Berggiesshubel**	**1.57**	**243**	Pg	**Pg**	**05 32 07.5**	**+0.5**
BRG				Sg	**Sg**	**05 32 27.8**	**+0.4**
BRG				Amp		05 32 29.7	
	comp=Z,88nm,0.7s						
KRLC	**Kraliky**	**1.58**	**165**	*e*PG	**Pn**	**05 32 06.1**	**-0.1**
KRLC				*e*SG	**Sn**	**05 32 25.7**	**-1.7**
	comp=Z,57nm,0.3s						
PRU	**Pruhonice**	**1.92**	**213**	*e*PG	**Pb**	**05 32 12.3**	**-0.3**
PRU				*e*SG	**Sn**	**05 32 36.3**	**+0.8**
	comp=Z,77nm,0.4s						
HSKC	**Hora Svate Kat**	**1.99**	**241**	*e*PG	**Pb**	**05 32 14.1**	**+0.2**
HSKC				*e*SG	**Sb**	**05 32 39.6**	**+0.4**
CLL	**Collm**	**2.00**	**263**	*i* Pn	**Pn**	**05 32 11.8**	**0.0**
CLL				*e*Pg	**Pg**	**05 32 15.0**	**0.0**
CLL				*i* x	x	05 32 18.3	
CLL				*i* Sg	**Sg**	**05 32 41.9**	**+1.0**
	comp=Z,26nm,0.7s						
MORC	**Moravsky Berou**	**2.03**	**154**	*e*Pn	**Pn**	**05 32 12.4**	**0.0**
	baz=335						
MORC				*e*Sg	**Sb**	**05 32 40.2**	**-0.3**
	comp=Z,25nm,0.3s,baz=335						
OKC	**Ostrava-Krasne**	**2.18**	**144**	*e*SG	**Sb**	**05 32 45.3**	**+0.7**
	comp=Z,25nm,0.4s						
VRAC	**Vranov**	**2.32**	**173**	*e*PN	**Pn**	**05 32 16.5**	**+0.2**
VRAC				*e*SG	**Sb**	**05 32 49.2**	**+0.5**
VRAC	**Vranov**	**2.32**	**173**	*e*Pn	**Pn**	**05 32 16.4**	**+0.2**
	baz=354						
VRAC				*e*Sg	**Sb**	**05 32 49.1**	**+0.4**
	comp=Z,25nm,0.5s,baz=354						
TREC	**Trest**	**2.35**	**191**	*e*SG	**Sb**	**05 32 49.5**	**-0.2**
	comp=Z,22nm,0.2s						
KRUC	**Moravsky**	**2.55**	**176**	*e*Pn	**Pn**	**05 32 19.6**	**+0.2**
	baz=357						
KRUC				*e*Sg	**Sb**	**05 32 56.6**	**+1.2**
	comp=Z,23nm,0.6s,baz=357						
OJC	**Ojcow**	**2.69**	**120**	*e*Pg	**Pg**	**05 32 29.0**	**+0.6**
OJC				*e*Sg	**Sg**	**05 33 03.9**	**+0.7**
NKC	**Novy Kostel**	**2.72**	**241**	*e*PN	**Pn**	**05 32 28.8**	**+1.0**
NKC				*e*PG	**Pg**	**05 32 28.9**	**0.0**
NKC				*e*SG	**Sg**	**05 33 03.7**	**-0.5**
	comp=Z,59nm,0.4s						
JAVC	**Velka Javorina**	**2.92**	**160**	*e*Pn	**Pn**	**05 32 24.6**	**+0.1**
	baz=342						
JAVC				*e*Sg	**Sb**	**05 33 07.8**	**+1.8**
	comp=Z,20nm,0.8s,baz=342						
KHC	**Kasperske Hory**	**2.98**	**215**	*e*PN	**Pn**	**05 32 25.3**	**0.0**
KHC				*e*PG	**Pb**	**05 32 31.4**	**+0.7**
KHC				*e*SN	**Sn**	**05 33 00.4**	**-1.4**
KHC				*e*SG	**Sb**	**05 33 09.0**	**+1.3**
	comp=Z,16nm,0.5s						
CKRC	**Cesky Krumlov**	**3.03**	**204**	*e*PN	**Pn**	**05 32 26.4**	**+0.3**
CKRC				*e*PG	**Pb**	**05 32 32.5**	**+0.8**
GERES	**GERESS Array B**	**3.18**	**211**	Pn	**Pn**	**05 32 29.3**	**+1.1**
	comp=Z,0.6nm,0.3s,baz=33,slow=13,SNR=9.2						
GERES				Sn	**Sn**	**05 33 05.4**	**-1.5**
	comp=Z,1.3nm,0.3s,baz=24,slow=26,SNR=6.0						
GERES				Lg	Lg	05 33 13.7	
	comp=Z,2.9nm,0.3s,baz=30,slow=30,SNR=2.7						
	comp=Z,0.7nm,0.3s						
MODS	**Modra-Piesok**	**3.32**	**167**	*e*PN	**Pn**	**05 32 30.0**	**0.0**
MODS				*e*PG	**Pg**	**05 32 41.0**	**+0.6**
MODS				*e*SG	**Sb**	**05 33 20.3**	**+2.9**
NIE	**Niedzica**	**3.43**	**128**	*e*Pg	**Pg**	**05 32 42.4**	**-0.2**
NIE				*e*Sg	**Sg**	**05 33 25.8**	**-1.3**
VYHS	**Vyhne**	**3.56**	**150**	*e*PN	**Pn**	**05 32 33.3**	**0.0**
VYHS				*e*PG	**Pg**	**05 32 45.7**	**+0.6**
VYHS				*e*SG	**Sg**	**05 33 31.0**	**-0.2**
BSD	**Bornholm Skovb**	**3.59**	**349**	*i* P	**Pn**	**05 32 34.2**	**+0.5**
BSD				*i* S	**Sn**	**05 33 16.3**	**-0.5**
BSD				IAML		05 33 21.1	
	comp=Z,1.7nm,0.1s						
CONA	**Conrad Observa**	**3.69**	**183**	*i* Pn	**Pn**	**05 32 36.1**	**+1.0**
	comp=Z,0.6nm,0.2s						
CONA				*e*Sg	**Sb**	**05 33 31.6**	**+3.5**
	comp=Z,1.8nm,0.5s						
RONA	**Rosalia, Austr**	**3.91**	**179**	*e*Sg	**Sg**	**05 33 39.4**	**-3.1**
	comp=Z,8.7nm,0.4s						
STHS	**Stebnicka Huta**	**3.92**	**122**	*e*PG	**Pg**	**05 32 51.9**	**0.0**
STHS				*e*SG	**Sg**	**05 33 44.0**	**+1.4**
MOA	**Molln**	**3.96**	**199**	*i* Pn	**Pn**	**05 32 39.2**	**+0.4**
	comp=Z,0.5nm,0.1s						
MOA				*e*Sg	**Sg**	**05 33 40.6**	**-3.3**
	comp=Z,15nm,0.6s						
LUNU	**Lund**	**4.34**	**339**	P	**Pn**	**05 32 45.0**	**+1.0**
LUNU				S	**Sn**	**05 33 34.6**	**-0.7**
LUNU	**Lund**	**4.34**	**339**	*i* P	**Pn**	**05 32 44.0**	**0.0**
LUNU				P	Pb	05 32 45.0	-8.9
LUNU				S	**Sn**	**05 33 34.6**	**-0.7**
LUNU				*i* S	Sb	05 33 35.2	-12
ARSA	**Arzberg**	**4.38**	**186**	Sg	**Sg**	**05 33 53.1**	**-4.3**
	comp=Z,11nm,0.5s						
BLEU	**Blekinge**	**4.71**	**358**	P	**Pn**	**05 32 50.9**	**+1.8**
BLEU				S	**Sn**	**05 33 41.8**	**-2.5**
BLEU	**Blekinge**	**4.71**	**358**	*i* P	**Pn**	**05 32 49.5**	**+0.5**
BLEU				P	Pb	05 32 50.9	-9.3
BLEU				S	**Sn**	**05 33 41.8**	**-2.5**
BLEU				*i* S	Sb	05 33 44.4	-13
BJUU	**Bjuv**	**4.84**	**339**	P	**Pn**	**05 32 51.4**	**+0.6**
BJUU	**Bjuv**	**4.84**	**339**	*i* P	**Pn**	**05 32 51.0**	**+0.1**
BJUU				P	Pb	05 32 51.4	-11
BJUU				*i* S	**Sn**	**05 33 45.6**	**-2.0**
DEL	**Delary**	**5.05**	**345**	P	**Pn**	**05 32 55.1**	**+1.3**
DEL	**Delary**	**5.05**	**345**	*i* P	**Pn**	**05 32 54.0**	**+0.2**
DEL				P	Pb	05 32 55.1	-11
DEL				*i* S	**Sn**	**05 33 49.7**	**-3.2**
VXJU	**Vaexsjoe**	**5.37**	**353**	P	**Pn**	**05 33 00.2**	**+2.0**
VXJU	**Vaexsjoe**	**5.37**	**353**	P	**Pn**	**05 33 00.2**	**+2.0**
FABU	**Falkenberg**	**5.77**	**341**	*i* S	**Sn**	**05 34 05.6**	**-4.7**
ONAU	**Onsala**	**6.30**	**339**	*i* S	**Sn**	**05 34 19.9**	**-3.7**
BORU	**Boraas**	**6.35**	**343**	*i* P	**Pn**	**05 33 14.0**	**+2.4**
BORU				*e*S	**Sn**	**05 34 22.4**	**-2.3**
HFS	**Hagfors**	**8.66**	**352**	Pn	**Pn**	**05 33 44.2**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=170,slow=13,SNR=1.6						
	comp=Z,1.5nm,0.9s						
NOA	**NORSAR Array B**	**9.84**	**346**	Pn	**Pn**	**05 34 03.2**	**+3.8**
	baz=167,slow=11,SNR=2.1						
NOA				Lg	Lg	05 36 54.3	
	baz=161,slow=8.5,SNR=1.5						
	comp=Z,0.2nm,0.6s						
FINES	**FINESS Array B**	**11.26**	**25**	Pn	**Pn**	**05 34 20.4**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=209,slow=11,SNR=2.2						
	comp=Z,3.3nm,1.1s						

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*OSPL **26** 05:57:45.7±2.6,19°.86N×75°.56W,h13km±14km,ML3.2*
*SSNC **26** 05:57:46.0±1.5,19°.71N×75°.39W,h10km±7km,MD3.3, ML3.6,MW3.5*
*JSN **26** 05:57:46.2±0.8,19°.78N×75°.48W,h17km±15km,MD3.6*
ISC 26 05:57:45.3±1.1,**19°.76N**±0°.05×**75°.44W**±0°.02,**h25**km±11km, **n19,** σ1⇟**37/35**,**1C-3D**,**Cuba region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RCC	**Rio Carpintero**	**0.34**	**314**	*e*P	**Pn**	**05 57 53.5**	**-1.2**
RCC				*e*P	**Pn**	**05 57 53.5**	**-1.2**
RCC				*e*S	**Sb**	**05 57 58.0**	**-0.1**
RCC				IAML		05 57 58.3	
	comp=E,8μm,0.2s						
RCC				IAML		05 57 58.6	
	comp=N,7μm,0.2s						
GTBY	**Guantanamo Bay**	**0.35**	**61**	*i* P	**Pn**	**05 57 54.0**	**-0.8**
GTBY				*i* S	**Sb**	**05 57 58.4**	**+0.1**
GTBY	**Guantanamo Bay**	**0.35**	**61**	*i* P	**Pn**	**05 57 53.9**	**-0.8**
GTBY				*e*S	**Sb**	**05 57 58.3**	**0.0**
GTBY				IAML		05 57 59.4	
	comp=Z,2μm,0.3s						
MARVS	**Santiago de Cu**	**0.50**	**299**	*e*P	**Pn**	**05 57 56.1**	**-0.7**
MARVS				*e*S	**Sb**	**05 58 02.9**	**+0.5**
MARVS				IAML		05 58 03.4	
	comp=E,3μm,0.2s						
MARVS				IAML		05 58 03.8	
	comp=N,3μm,0.2s						
QMBU	**Quimbuelo**	**0.73**	**53**	*e*P	**Pb**	**05 57 58.9**	**-0.6**
QMBU				*e*S	**Sb**	**05 58 07.8**	**-1.3**
QMBU				IAML		05 58 08.4	
	comp=E,13μm,0.3s						
QMBU				IAML		05 58 08.5	
	comp=N,10μm,0.2s						
CHIV	**Chivirico**	**0.95**	**283**	*e*P	**Pn**	**05 58 03.3**	**+0.4**
CHIV				*e*S	**Sn**	**05 58 16.3**	**+0.6**
CHIV				IAML		05 58 19.3	
	comp=N,477nm,0.1s						
CHIV				IAML		05 58 19.6	
	comp=E,297nm,0.1s						
MASC	**Masc**	**1.21**	**70**	*e*P	**Pn**	**05 58 05.8**	**-0.8**
MASC				*e*S	**Sb**	**05 58 19.9**	**-2.8**
MASC				IAML		05 58 22.1	
	comp=E,247nm,0.2s						
MASC				IAML		05 58 22.4	
	comp=N,409nm,0.2s						
MASC	**Masc**	**1.21**	**70**	*i* P	**Pn**	**05 58 06.0**	**-0.6**
MASC				*e*S	**Sn**	**05 58 22.8**	**+0.6**
MASC				IAML		05 58 25.9	
	comp=Z,352nm,0.2s						
HLGC	**Holguin**	**1.27**	**333**	*e*P	**Pb**	**05 58 08.9**	**+0.3**
HLGC				*e*S	**Sb**	**05 58 27.8**	**+3.3**
HLGC				IAML		05 58 29.7	
	comp=E,1μm,0.5s						
HLGC				IAML		05 58 29.8	
	comp=N,408nm,0.3s						
LMGC	**Las Mercedes**	**1.51**	**282**	*e*P	**Pn**	**05 58 11.1**	**+0.4**
LMGC				*e*S	**Sn**	**05 58 28.4**	**-1.2**
LMGC				IAML		05 58 33.3	
	comp=N,411nm,0.1s						
LMGC				IAML		05 58 33.3	
	comp=E,266nm,0.2s						
STH	**Stony Hill**	**2.12**	**218**	*i* P	**Pn**	**05 58 19.7**	**+0.6**
STH	**Stony Hill**	**2.12**	**218**	*e*P	**Pn**	**05 58 19.5**	**+0.3**
STH				*e*S	**Sn**	**05 58 42.8**	**-2.0**
STH				IAML		05 58 45.5	
	comp=E,12μm,0.2s						
STH				IAML		05 58 45.8	
	comp=N,12μm,0.2s						
HOJ	**Hope**	**2.14**	**216**	*i* P	**Pn**	**05 58 20.4**	**+0.9**
MTDJ	**Mount Denham**	**2.50**	**233**	*i* P	**Pn**	**05 58 25.0**	**+0.5**
MTDJ	**Mount Denham**	**2.50**	**233**	*e*P	**Pn**	**05 58 24.9**	**+0.5**
MTDJ				*e*S	**Sn**	**05 58 53.3**	**-1.0**
MTDJ				IAML		05 58 55.9	
	comp=N,76nm,0.2s						
MTDJ				IAML		05 58 56.9	
	comp=N,64nm,0.2s						
MTDJ	**Mount Denham**	**2.50**	**233**	*i* P	**Pn**	**05 58 25.0**	**+0.5**
MTDJ				*e*S	**Sn**	**05 58 51.6**	**-2.7**
MTDJ				IAML		05 59 04.9	
	comp=Z,37nm,0.5s						
SDDR	**Presa de Saban**	**3.99**	**100**	*e*P	**Pn**	**05 58 46.5**	**+1.5**
SDDR	**Presa de Saban**	**3.99**	**100**	*i* P	**Pn**	**05 58 47.5**	**+2.5**
SDDR				*e*S	**Sn**	**05 59 32.2**	**+1.2**
SDDR				IAML		05 59 35.1	
	comp=Z,41nm,0.3s						
GRTK	**Grand Turk**	**4.39**	**66**	*i* P	**Pn**	**05 58 52.4**	**+2.0**
GRTK				*e*S	**Sn**	**05 59 40.5**	**-0.3**
GRTK				IAML		05 59 46.0	
	comp=Z,4μm,1.1s						

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*IDC **26** 06:19:45.0±3.5,6°.26S×148°.18E,h22km±20km,mb3.8/9, mbtmp4.0/11,ML3.7/2,MS3.5/6, Error ellipse: s-maj=43.6km s-min=15.4km az=100.0*
ISC 26 06:19:47.8±0.7,**6°.21S**±0°.08×**147°.7E**±0°.2,**h35**km,**n20,** σ1⇟**69/20**,**mb3.9/9**,**MS3.3/3**,**Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**3.23**	**190**	Pn	**Pn**	**06 20 36.1**	**+0.1**
	132nm,0.3s,baz=24,slow=6.0,SNR=122						
PMG				Sn	**Sn**	**06 21 14.9**	**+1.8**
	154nm,0.3s,baz=13,slow=18,SNR=13						
PMG				LR	LR	06 22 08.5	
	comp=Z,213nm,21.1s,baz=80,slow=44						
	300nm,0.3s						
COEN	**Coen**	**8.90**	**210**	P	**Pn**	**06 21 55.5**	**+1.5**
HNR	**Honiara**	**12.54**	**106**	LR	LR	06 25 53.9	
	comp=Z,2μm,18.2s,baz=184,slow=30						
CTAO	**Charters Tower**	**13.87**	**186**	P	**Pn**	**06 23 03.4**	**+1.4**
WRA	**Warramunga Arr**	**18.85**	**222**	P	**P**	**06 24 06.5**	**+1.6**
	0.8nm,0.3s,baz=52,slow=11,SNR=39						
WRA				S	**Sn**	**06 27 31.5**	**-4.2**
	0.7nm,0.6s,baz=38,slow=22,SNR=3.0						
WRA				ScP	**ScP**	**06 32 04.7**	**+0.4**
	0.5nm,0.8s,baz=40,slow=2.4,SNR=5.7						
	3.4nm,0.6s						
GUMO	**Guam**	**19.87**	**352**	LR	LR	06 32 15.7	
	comp=Z,30nm,18.7s,baz=105,slow=38						
QLP	**Quilpie**	**20.53**	**189**	P	**P**	**06 24 23.3**	**+0.1**
ASAR	**Alice Springs**	**21.86**	**216**	P	**P**	**06 24 39.0**	**+1.4**
	7.5nm,0.5s,baz=51,slow=9.8,SNR=104						
ASAR				S	**S**	**06 28 36.0**	**-1.4**
	2.1nm,0.7s,baz=33,slow=22,SNR=8.8						
ASAR				ScP	**ScP**	**06 32 13.2**	**+1.8**
	0.6nm,0.7s,baz=35,slow=3.4,SNR=3.7						
	7.5nm,0.5s						
STKA	**Stephens Creek**	**26.17**	**192**	P	**P**	**06 25 19.0**	**0.0**
	1.6nm,0.5s,baz=16,slow=12,SNR=5.4						
	1.6nm,0.5s						
JNU	**Nakatsue**	**42.25**	**339**	LR	LR	06 41 43.6	
	comp=Z,33nm,20.9s,baz=164,slow=31						
MJAR	**Matsushiro Arr**	**43.45**	**349**	LR	LR	06 45 23.9	
	comp=Z,38nm,18.4s,baz=172,slow=35						
USRK	**Ussuriysk Ar.**	**52.14**	**346**	P	**P**	**06 28 56.4**	**+1.8**
	0.9nm,0.5s,baz=186,slow=5.8,SNR=1.9						
	0.9nm,0.5s						
PETK	**Petropavlovsk-**	**59.69**	**7**	P	**P**	**06 29 48.5**	**-0.1**
	1.5nm,0.8s,baz=168,slow=5.3,SNR=5.0						
	1.5nm,0.8s						
VNDA	**Vanda**	**71.67**	**177**	P	**P**	**06 31 04.2**	**-1.2**
	0.6nm,0.8s,baz=325,slow=7.1,SNR=2.8						
	0.6nm,0.8s						
MKAR	**Makanchi Array**	**78.10**	**320**	P	**P**	**06 31 44.0**	**+0.7**
	0.3nm,0.4s,baz=103,slow=7.9,SNR=5.1						
	0.3nm,0.4s						
ZALV	**Zalesovo Beam**	**79.56**	**328**	P	**P**	**06 31 50.4**	**-0.6**
	0.5nm,0.4s,baz=110,slow=6.5,SNR=2.1						

comp=Z,105nm,18.3s,baz=280,slow=38
ZALV Zalesovo Beam 21.40 328 P **P 06 57 23.4 -1.2**
0.8nm,0.4s,baz=132,slow=8.6,SNR=6.0
ZALV LR LR 07 05 54.5
comp=Z,139nm,19.6s,baz=106,slow=37
0.8nm,0.4s
JNU Nakatsue 22.42 92 LR LR 07 06 00.9
comp=Z,55nm,19.2s,baz=314,slow=36
USRK Ussuriysk Ar. 22.42 63 LR LR 07 06 20.9
comp=Z,54nm,20.8s,baz=323,slow=37
KURBB Kurchatov Arra 22.60 315 P **P 06 57 37.4 -0.1**
1.0nm,0.3s,baz=112,slow=13,SNR=7.8
KURBB LR LR 07 07 39.9
comp=Z,55nm,18.6s,baz=184,slow=40
1.0nm,0.3s
KLR Kul'dur 23.54 50 LR LR 07 08 28.1
comp=Z,72nm,19.8s,baz=251,slow=40
MJAR Matsushiro Arr 27.41 81 LR LR 07 09 12.4
comp=Z,74nm,20.6s,baz=287,slow=36
ASAJ Asahikawa 30.02 64 LR LR 07 10 16.2
comp=Z,54nm,18.3s,baz=294,slow=35
GEYT Alibeck 36.02 286 LR LR 07 15 58.6
comp=Z,76nm,18.1s,baz=22,slow=39
PALK Pallekele 36.40 221 LR LR 07 16 18.8
comp=Z,22nm,21.7s,baz=171,slow=39
TIXI Tiksi 36.96 13 LR LR 07 14 31.9
comp=Z,40nm,18.0s,baz=232,slow=36
MA2 Magadan 37.36 38 LR LR 07 15 51.5
comp=Z,41nm,19.5s,baz=252,slow=37
PETK Petropavlovsk- 40.22 49 LR LR 07 18 37.6
comp=Z,60nm,18.1s,baz=232,slow=39
KAPI Kappang 44.42 157 LR LR 07 21 10.0
comp=Z,60nm,18.6s,baz=126,slow=39
KBZ Khabaz 45.98 298 LR LR 07 22 37.7
comp=Z,47nm,20.1s,baz=46,slow=39
SHEM Shemya Is, Ala 50.13 48 LR LR 07 24 35.6
comp=Z,40nm,18.4s,baz=219,slow=38
BATI Baumata 50.58 154 LR LR 07 23 31.5
comp=Z,180nm,19.5s,baz=249,slow=37
FINES FINESS Array B 52.57 324 P **P 07 01 49.7 -0.1**
1.3nm,0.9s,baz=84,slow=13,SNR=3.6
FINES LR LR 07 23 54.9
comp=Z,58nm,18.1s,baz=35,slow=36
1.3nm,0.9s
AKASG Malin Array Be 53.27 310 LR LR 07 25 39.7
comp=Z,60nm,21.3s,baz=46,slow=37
MLR Muntele Rosu 57.02 305 LR LR 07 28 54.8
comp=Z,72nm,18.8s,baz=98,slow=38
HFS Hagfors 58.77 324 P **P 07 02 34.7 +0.4**
0.7nm,0.6s,baz=64,slow=6.6,SNR=1.3
HFS LR LR 07 28 38.9
comp=Z,50nm,18.4s,baz=54,slow=37
0.7nm,0.6s
NOA NORSAR Array B 59.57 326 P **P 07 02 39.2 -0.7**
0.4nm,0.6s,baz=69,slow=6.9,SNR=3.0
NOA LR LR 07 30 04.8
comp=Z,62nm,19.1s,baz=50,slow=38
0.4nm,0.6s
JMIC Jan Mayen 62.13 340 LR LR 07 32 10.6
comp=Z,51nm,18.8s,baz=108,slow=38
GERES GERESS Array B 63.31 312 LR LR 07 30 30.8
comp=Z,30nm,19.2s,baz=62,slow=36
WRA Warramunga Arr 63.58 148 P **P 07 03 07.5 +0.1**
0.3nm,0.8s,baz=345,slow=6.7,SNR=1.5
0.3nm,0.8s
ILAR Eielson Array 64.57 27 P **P 07 03 14.2 +0.8**
0.2nm,0.8s,baz=308,slow=4.5,SNR=2.6
ILAR LR LR 07 33 24.5
comp=Z,58nm,19.1s,baz=254,slow=38
0.2nm,0.8s
DAVOX Davos/Dischmat 66.55 312 LR LR 07 34 07.9
comp=Z,48nm,18.4s,baz=85,slow=37
ASAR Alice Springs 66.72 150 P **P 07 03 27.6 -0.1**
0.3nm,0.7s,baz=340,slow=6.7,SNR=2.5
0.3nm,0.7s
YKA Yellowknife Ar 76.05 17 P **P 07 04 22.8 -0.7**
0.2nm,0.7s,baz=330,slow=5.6,SNR=4.0
0.2nm,0.7s

GCG **26** *07:22:50.6±0.6, 12°.88N×90°.28W, h100km±38km, MD4.1*
CATAC **26** *07:22:50.8±0.6, 12°.92N×89°.92W, h15km±6km, MB5.1, mb5.0, ML4.6*
SNET **26** *07:22:51.2±1.4, 12°.89N×89°.95W, h22km, ML4.8*
NEIC **26** *07:22:53.3±2.0, 12°.96N±0°.08×89°.97W±0°.08, h58km±9km, mb4.4/64, Error ellipse: s-maj=13.9km s-min=8.1km az=222.0*
IDC **26** *07:22:56.1±1.9, 13°.47N×89°.41W, h63km±16km, mb3.9/15, mbtmp4.3/17, MS3.7/21, Error ellipse: s-maj=36.0km s-min=11.5km az=42.0*
UCR **26** *07:22:58.3±1.6, 12°.54N×89°.70W, h36km±223km, MW4.2*
ISC 26 07:22:52.2±0.9, 12°.93N±0°.05×89°.99W±0°.04, h51km±8km, n287, σ1§35/297, mb4.4/36, MS3.8/19, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LALI	**Alcalda de L**	**0.86**	**49**	*eP*	**Pn**	**07 23 06.6**	**-1.5**
LALI				*eS*	**Sn**	**07 23 20.6**	**+0.8**
JAYA	**Jayaque - finc**	**0.89**	**36**	*eP*	**Pn**	**07 23 08.0**	**-0.8**
JAYA				*eS*	**Sn**	**07 23 21.8**	**+1.0**
CEVE	**Cerro Verde**	**0.96**	**22**	*eP*	**Pn**	**07 23 09.4**	**-0.3**
CEVE				*eS*	**Sn**	**07 23 24.9**	**+2.3**
SBLS	**San Blas**	**0.97**	**21**	*eP*	**Pn**	**07 23 09.4**	**-0.5**
NUBE	**Las Nubes**	**0.99**	**12**	*eP*	**Pn**	**07 23 09.2**	**-0.8**
NUBE				*eS*	**Sn**	**07 23 23.8**	**+0.6**
SNJE	**San Jose**	**1.01**	**22**	*eP*	**Pn**	**07 23 09.8**	**-0.5**
SNJE				*eS*	**Sn**	**07 23 26.6**	**+3.0**
ITCA	**Escuela Especi**	**1.01**	**43**	*eP*	**Pn**	**07 23 09.7**	**-0.6**
PMON	**Piamonte**	**1.02**	**40**	*eP*	**Pn**	**07 23 09.8**	**-0.6**
RTR	**El Retiro**	**1.02**	**19**	*eP*	**Pn**	**07 23 10.0**	**-0.5**
PANCS	**Alcalda de**	**1.04**	**49**	*eP*	**Pn**	**07 23 09.8**	**-0.9**
CEDA	**San Andres**	**1.04**	**33**	*eP*	**Pn**	**07 23 10.3**	**-0.4**
SNET	**Serv Nac Est T**	**1.06**	**44**	*eP*	**Pn**	**07 23 10.2**	**-0.6**
BOQS	**Boqueron**	**1.06**	**41**	*eP*	**Pn**	**07 23 10.7**	**-0.4**
LOMA	**Loma Larga**	**1.07**	**48**	*eP*	**Pn**	**07 23 10.6**	**-0.5**
UEES	**Universidad Ev**	**1.07**	**43**	*eP*	**Pn**	**07 23 10.5**	**-0.6**
PIC2	**El Picacho**	**1.08**	**41**	*eP*	**Pn**	**07 23 10.9**	**-0.4**
LOAL	**Lomas de Alarc**	**1.08**	**11**	*eP*	**Pn**	**07 23 11.0**	**-0.2**
UTEC	**Universidad Te**	**1.09**	**45**	*eP*	**Pn**	**07 23 10.7**	**-0.6**
UESS	**Universidad de**	**1.10**	**44**	*eP*	**Pn**	**07 23 11.1**	**-0.3**
IGN	**Direccin Gen**	**1.12**	**45**	*eP*	**Pn**	**07 23 11.3**	**-0.4**
UDBS	**Universidad Do**	**1.13**	**46**	*eP*	**Pn**	**07 23 11.3**	**-0.5**
UNIC	**Universidad Ca**	**1.13**	**22**	*eP*	**Pn**	**07 23 11.6**	**-0.3**
QUEZ	**Alcaldia de Qu**	**1.14**	**38**	*eP*	**Pn**	**07 23 12.0**	**0.0**
AEIL	**Aeropuerto Ilo**	**1.14**	**48**	*eP*	**Pn**	**07 23 12.0**	**0.0**
LFU	**La Fuente**	**1.18**	**46**	*eP*	**Pn**	**07 23 12.5**	**0.0**
LBRS	**Las Brisas**	**1.22**	**49**	*eP*	**Pn**	**07 23 12.9**	**-0.3**
COEG	**Centro de Oper**	**1.28**	**57**	*eP*	**Pn**	**07 23 13.3**	**-0.6**
PAVA	**Las Pavas**	**1.29**	**52**	*eP*	**Pn**	**07 23 14.0**	**0.0**
SNVI	**San Vicente**	**1.31**	**59**	*eP*	**Pn**	**07 23 13.8**	**-0.5**
TECO	**Alcaldia de Te**	**1.32**	**63**	*eP*	**Pn**	**07 23 13.4**	**-1.0**
UESV	**Universidad de**	**1.37**	**59**	*eP*	**Pn**	**07 23 14.4**	**-0.5**
SCLA	**Alcaldia de Sa**	**1.45**	**58**	*eP*	**Pn**	**07 23 16.1**	**0.0**
COEB	**Comit de Eme**	**1.53**	**68**	*eP*	**Pn**	**07 23 16.4**	**-0.9**
PQSS	**Presa 15 de Se**	**1.55**	**63**	*eP*	**Pn**	**07 23 16.9**	**-0.6**
PQSS				*eS*	**Sn**	**07 23 39.2**	**+2.6**
TECA	**Tecapa**	**1.55**	**69**	*eP*	**Pn**	**07 23 17.1**	**-0.6**
PCG	**Pacaya**	**1.58**	**338**	*eP*	**Pn**	**07 23 18.1**	**0.0**
MTO3	**Montecristo**	**1.59**	**23**	*eP*	**Pn**	**07 23 18.4**	**+0.2**
LLGN	**La Laguna**	**1.59**	**39**	*eP*	**Pn**	**07 23 18.2**	**+0.1**
LLGN				*eS*	**Sn**	**07 23 40.0**	**+2.3**
NBG	**Las Nubes**	**1.69**	**348**	*eP*	**Pn**	**07 23 20.4**	**+0.8**
NBG				*eS*	**Sn**	**07 23 44.0**	**+3.8**
GUNB	**GUNB**	**1.69**	**348**	*i* P	**Pn**	**07 23 18.8**	**-0.9**
GUNB				*i* S	**Sn**	**07 23 42.0**	**+1.6**
GUNB				IAML		07 23 44.9	
	comp=Z,5μm,1.0s						
PACA	**Pacayal**	**1.71**	**71**	*eP*	**Pn**	**07 23 19.8**	**0.0**
FUG	**Fuego 3**	**1.73**	**331**	*eP*	**Pn**	**07 23 19.6**	**-0.5**
RANC	**El Ranchito**	**1.73**	**73**	*eP*	**Pn**	**07 23 19.9**	**-0.1**
GCG4	**OSOP**	**1.73**	**342**	*i* P	**Pn**	**07 23 20.6**	**+0.5**
GCG4				IAML		07 23 51.0	
	comp=Z,6μm,1.0s						
ESQI	**Esquipulas**	**1.74**	**21**		**Pn**	**07 23 19.3**	**-0.9**
ESQI	**Esquipulas**	**1.74**	**21**	*i* P	**Pn**	**07 23 21.4**	**+1.2**
ESQI				IAML		07 23 54.9	
	comp=Z,8μm,1.0s						
VSM	**San Miguel**	**1.74**	**73**	*eP*	**Pn**	**07 23 20.6**	**+0.3**
BLLM	**Bellamira**	**1.78**	**73**	*eP*	**Pn**	**07 23 20.7**	**+0.1**
GUMI	**Mixco**	**1.80**	**340**	*i* P	**Pn**	**07 23 21.1**	**0.0**
GUMI				*i* S	**Sn**	**07 23 44.6**	**+1.7**
GUMI				IAML		07 24 05.7	
	comp=Z,4μm,1.0s						
CNRM	**Centro Naciona**	**1.85**	**73**	*eP*	**Pn**	**07 23 21.4**	**-0.2**
SULM	**Suchitepequez,**	**2.06**	**312**	*eP*	**Pn**	**07 23 23.8**	**-0.5**
CHTG	**Tecpan**	**2.06**	**332**	*i* P	**Pn**	**07 23 24.4**	**-0.4**
CHTG				IAML		07 23 58.2	
	comp=Z,6μm,1.0s						
LCND	**La Caada**	**2.08**	**79**	*eP*	**Pn**	**07 23 24.1**	**-0.6**
LCND				*eP*		07 23 24.4	
APG	**El Apazote**	**2.12**	**347**	P	**Pn**	**07 23 25.4**	**0.0**
	comp=Z,22nm,0.4s,baz=138,slow=12,SNR=194						
APG				S	**Sn**	**07 23 53.9**	**+3.3**
	comp=Z,86nm,0.6s,baz=215,slow=17,SNR=5.2						
CNCH	**Conchagua**	**2.13**	**80**	*eP*	**Pn**	**07 23 24.8**	**-0.7**
MRL	**Marmol**	**2.16**	**8**	*eP*	**Pn**	**07 23 27.6**	**+1.5**
INTHN	**La Esperanza I**	**2.29**	**53**	*i* P	**Pn**	**07 23 28.8**	**+0.9**
RTAL	**Retalhuleu**	**2.30**	**314**		Pn	07 23 24.3	-3.3
RTAL	**Retalhuleu**	**2.30**	**314**	*i* P	**Pn**	**07 23 30.8**	**+3.1**
RTAL				IAML		07 24 18.3	
	comp=Z,1μm,1.0s						
AMPH	**Amapala**	**2.30**	**81**	*eP*	**Pn**	**07 23 27.2**	**-0.5**
AMPH	**Amapala**	**2.30**	**81**	*i* P	**Pn**	**07 23 27.7**	**0.0**
AMPH				*i* S	**Sn**	**07 23 58.0**	**+3.2**
STG3	**Santiaguito 3,**	**2.35**	**319**	*eP*	**Pn**	**07 23 27.3**	**-1.2**
STG3				*eS*	**Sn**	**07 23 55.0**	**-1.3**
AVPA	**Panzos**	**2.48**	**8**	*i* P	**Pn**	**07 23 31.3**	**+1.1**
AVPA				IAML		07 24 10.3	
	comp=Z,750nm,1.0s						
AVCB	**Coban**	**2.56**	**351**	*i* P	**Pn**	**07 23 32.8**	**+1.4**
AVCB				IAML		07 24 36.0	
	comp=Z,3μm,1.0s						
QUIS	**Sacapulas**	**2.58**	**336**	*i* P	**Pn**	**07 23 32.8**	**+1.1**
QUIS				*i* S	**Sn**	**07 24 05.3**	**+3.3**
QUIS				IAML		07 24 11.2	
	comp=Z,1μm,1.0s						
SMSP	**San Marcos**	**2.68**	**320**	*i* P	**Pn**	**07 23 32.1**	**-1.1**
SMSP				IAML		07 24 23.9	
	comp=Z,2μm,1.0s						
CHIHN	**Chmisales**	**2.73**	**35**	*i* P	**Pn**	**07 23 35.0**	**+1.2**
HUEH	**Huehuetenango**	**2.79**	**328**		**Pn**	**07 23 35.0**	**+0.3**
HUEH	**Huehuetenango**	**2.79**	**328**	*i* P	**Pn**	**07 23 35.7**	**+1.0**
HUEH				IAML		07 24 21.9	
	comp=Z,2μm,1.0s						
TGUH	**Tegucigalpa,Un**	**2.87**	**67**	Pn	**Pn**	**07 23 34.8**	**-0.9**
TGUH	**Tegucigalpa,Un**	**2.87**	**67**	*i* P	**Pn**	**07 23 35.9**	**+0.2**
TGUH				IAML		07 24 11.4	
	comp=Z,1μm,1.0s						
CRIN	**San Cristobal**	**2.88**	**94**		**Pn**	**07 23 34.2**	**-1.4**
CRIN	**San Cristobal**	**2.88**	**94**	*i* P	**Pn**	**07 23 35.2**	**-0.5**
CRIN				IAML		07 24 31.0	
	comp=Z,3μm,1.0s						
PKGN	**Cerro Pekin**	**2.95**	**95**	*i* P	**Pn**	**07 23 35.8**	**-0.8**
PKGN				IAML		07 24 31.6	
	comp=Z,3μm,1.0s						
QUEN	**Al S del Volca**	**3.08**	**96**	*i* P	**Pn**	**07 23 36.0**	**-2.4**
QUEN				IAML		07 24 15.2	
	comp=Z,720nm,1.0s						
PACN	**Al O del Volca**	**3.15**	**97**	*i* P	**Pn**	**07 23 38.9**	**-0.5**
PACN				IAML		07 23 51.9	
	comp=Z,630nm,1.0s						
PACN				*i* S	**Sn**	**07 24 16.2**	**+0.5**
PLRN	**Geotermica Pol**	**3.16**	**96**	*i* P	**Pn**	**07 23 38.7**	**-0.8**
PLRN				IAML		07 24 19.7	
	comp=Z,430nm,1.0s						
ROCN	**Rota Cerro Neg**	**3.19**	**97**	*i* P	**Pn**	**07 23 39.2**	**-0.8**
ROCN				*i* S	**Sn**	**07 24 17.1**	**+0.3**
ROCN				IAML		07 24 40.4	
	comp=Z,560nm,1.0s						
CNGA	**Al SSO del Vol**	**3.24**	**97**	*i* P	**Pn**	**07 23 38.8**	**-1.8**
CNGA				*i* S	**Sn**	**07 24 18.7**	**+0.7**
CNGA				IAML		07 24 26.8	
	comp=Z,550nm,1.0s						
CNGN	**Cerro Negro**	**3.24**	**97**		**Pn**	**07 23 39.8**	**-0.9**
CNGN	**Cerro Negro**	**3.24**	**97**	*i* P	**Pn**	**07 23 39.5**	**-1.1**
CNGN				*i* S	**Sn**	**07 24 19.4**	**+1.4**
CNGN				IAML		07 24 37.5	
	comp=Z,850nm,1.0s						
MACN	**El Madrono**	**3.27**	**98**	*i* P	**Pn**	**07 23 40.1**	**-0.9**
MACN				*i* S	**Sn**	**07 24 19.9**	**+1.2**
MACN				IAML		07 24 22.9	
	comp=Z,330nm,1.0s						
COPN	**Copaltepe**	**3.40**	**102**	*i* P	**Pn**	**07 23 41.6**	**-1.2**
COPN				IAML		07 24 27.0	
	comp=Z,590nm,1.0s						
MOM2	**El Cardon**	**3.45**	**98**	*i* P	**Pn**	**07 23 43.0**	**-0.5**
MOM2				IAML		07 24 28.2	
	comp=Z,440nm,1.0s						
LIMN	**Finca el Limon**	**3.53**	**87**	*i* P	**Pn**	**07 23 44.1**	**-0.6**
LIMN				IAML		07 24 42.6	
	comp=Z,620nm,1.0s						
BRAN	**Las Pilas**	**3.56**	**93**	*i* P	**Pn**	**07 23 44.8**	**-0.1**
BRAN				IAML		07 25 32.8	
	comp=Z,2μm,1.0s						
APYN	**Apoyeque**	**3.62**	**101**	*i* P	**Pn**	**07 23 44.6**	**-1.2**
APYN				IAML		07 24 30.4	
	comp=Z,640nm,1.0s						
RB28C	**Hialeah**	**3.71**	**102**	*i* P	**Pn**	**07 23 46.3**	**-0.8**
RB28C				IAML		07 24 36.1	
	comp=Z,500nm,1.0s						
TISN	**Laguna Tiscapa**	**3.71**	**102**	*i* P	**Pn**	**07 23 45.9**	**-1.2**
TISN				IAML		07 24 31.6	
	comp=Z,45nm,1.0s						
CRUN	**El Crucero**	**3.72**	**104**	*i* P	**Pn**	**07 23 47.5**	**+0.2**
CRUN				IAML		07 24 42.7	
	comp=Z,6μm,1.0s						
R4DEC	**Barrio San Lui**	**3.73**	**102**	*i* P		07 23 48.2	
R4DEC				*i* P	**Pn**	**07 23 46.2**	**-1.2**
R4DEC				IAML		07 24 49.3	
	comp=Z,510nm,1.0s						
R4DEC				IAML		07 24 51.8	
	comp=Z,430nm,1.0s						
R0529	**La Mascota**	**3.75**	**102**	*i* P	**Pn**	**07 23 46.5**	**-1.1**
R0529				IAML		07 24 48.2	
	comp=Z,460nm,1.0s						
HUEN		**3.77**	**99**	*i* P	**Pn**	**07 23 46.8**	**-1.1**
HUEN				*i* S	**Sn**	**07 24 30.9**	**-0.1**
HUEN				IAML		07 24 54.0	
	comp=Z,280nm,1.0s						
WILN	**Americas 2**	**3.79**	**101**	*i* P	**Pn**	**07 23 47.6**	**-0.5**
WILN				*i* S	**Sn**	**07 24 30.6**	**-0.9**
WILN				IAML		07 24 52.9	
	comp=Z,340nm,1.0s						
RB213	**Mirador 2 Volc**	**3.85**	**104**	*i* P	**Pn**	**07 23 46.0**	**-3.0**
RB213				IAML		07 24 40.4	
	comp=Z,500nm,1.0s						
CCIG	**Comitan**	**3.93**	**328**		**Pn**	**07 23 51.5**	**+1.3**
PETF	**Flores**	**3.97**	**2**		**Pn**	**07 23 51.2**	**+0.5**
PETF	**Flores**	**3.97**	**2**	*i* P	**Pn**	**07 23 52.2**	**+1.6**
PETF				IAML		07 24 17.2	
	comp=Z,380nm,1.0s						
NADN	**Granada**	**4.04**	**106**	*i* P	**Pn**	**07 23 51.6**	**0.0**
NADN				IAML		07 24 36.0	
	comp=Z,460nm,1.0s						
JAPN	**Al SSO del Vol**	**4.44**	**108**	*i* P	**Pn**	**07 23 56.6**	**-0.5**
JAPN				IAML		07 24 07.1	
	comp=Z,290nm,1.0s						
MORN	**Al O del Volca**	**4.46**	**107**	*i* P	**Pn**	**07 23 56.6**	**-0.8**
MORN				IAML		07 24 59.3	
	comp=Z,380nm,1.0s						
CONN	**Concepcion**	**4.47**	**107**	*i* P	**Pn**	**07 23 56.9**	**-0.7**
CONN				IAML		07 25 13.5	
	comp=Z,2μm,1.0s						
OMEN	**Al SSO del Vol**	**4.49**	**108**	*i* P	**Pn**	**07 23 57.1**	**-0.7**
OMEN				IAML		07 24 00.1	
	comp=Z,280nm,1.0s						
ACON	**Acoyapa**	**4.80**	**101**		**Pn**	**07 24 00.1**	**-1.9**
ACON	**Acoyapa**	**4.80**	**101**	*i* P	**Pn**	**07 24 02.0**	**0.0**
ACON				IAML		07 24 37.5	
	comp=Z,270nm,1.0s						
HZTE	**Horizontes, Gu**	**4.83**	**117**		**Pn**	**07 24 02.4**	**-0.1**
ORTG	**Ortega, Santa**	**5.12**	**119**	Pn	**Pn**	**07 24 06.7**	**+0.2**
DUNO	**Dulce Nombre,**	**5.24**	**122**		**Pn**	**07 24 07.8**	**-0.2**
JTS	**Las Juntas de**	**5.59**	**117**	Pn	**Pn**	**07 24 13.3**	**+0.4**
JTS	**Las Juntas de**	**5.59**	**117**	P	**Pn**	**07 24 13.2**	**+0.3**
	comp=Z,18nm,0.3s,baz=308,slow=11,SNR=40						
JTS				S	**Sn**	**07 25 14.3**	**-1.4**
	comp=Z,12nm,0.5s,baz=4.6,slow=19,SNR=0.7						
ESPN	**Las Esperanzas**	**5.60**	**97**		**Pn**	**07 24 12.5**	**-0.5**
ESPN	**Las Esperanzas**	**5.60**	**97**	*i* P	**Pn**	**07 24 12.2**	**-0.8**
ESPN				IAmb	IAmb	07 24 34.5	
	comp=Z,64nm,0.8s						
ESPN				IAML		07 24 54.3	
	comp=Z,170nm,1.0s						
ARE1	**Arenal 1**	**5.71**	**115**		**Pn**	**07 24 15.3**	**+0.7**
ARE1	**Arenal 1**	**5.71**	**115**	*eP*	**Pn**	**07 24 15.1**	**+0.5**
CEDE	**Laguna Cedeo**	**5.72**	**115**	*eP*	**Pn**	**07 24 15.1**	**+0.4**
SOCE	**Pocosol**	**5.84**	**115**		**Pn**	**07 24 16.6**	**+0.2**
SOCE	**Pocosol**	**5.84**	**115**	*i* P	**Pn**	**07 24 16.5**	**+0.2**
SOCE				IVmB_BB		07 24 24.3	
	comp=Z,800nm,1.0s						
SOCE				IAmb	IAmb	07 24 36.8	
	comp=Z,58nm,0.7s						
SOCE				IAML		07 26 03.2	
	comp=Z,79nm,1.0s						
COVE	**Coope Vega, Sa**	**5.89**	**111**		**Pn**	**07 24 17.1**	**0.0**
CPMI	**Catarata Coope**	**6.09**	**115**	*eP*	**Pn**	**07 24 20.2**	**+0.2**
JACO	**JACO, Garabito**	**6.15**	**121**		**Pn**	**07 24 20.6**	**+0.1**
CMIG	**Matias Romero**	**6.29**	**312**	P	**Pn**	**07 24 21.7**	**-0.7**
	comp=Z,8.7nm,0.4s,baz=142,slow=11,SNR=33						
CMIG				S	**Sn**	**07 25 39.1**	**+6.2**
	comp=Z,24nm,0.6s,baz=96,slow=18,SNR=1.9						
HDC	**Heredia**	**6.45**	**116**	Pn	**Pn**	**07 24 24.1**	**-0.7**
HDC	**Heredia**	**6.45**	**116**	*eP*	**Pn**	**07 24 24.6**	**-0.2**
HDC				*eS*	**Sn**	**07 25 40.5**	**+3.3**
HDC3	**Heredia 3**	**6.45**	**116**	*i* P	**Pn**	**07 24 24.8**	**0.0**
HDC3				IAML		07 24 35.8	
	comp=Z,120nm,1.0s						
HDC3				IAmb	IAmb	07 24 39.7	
	comp=Z,65nm,0.7s						
LUJA	**Lujan**	**6.52**	**117**	*eP*	**Pn**	**07 24 27.3**	**+1.5**
OCM	**Ochomogo**	**6.63**	**116**	*eP*	**Pn**	**07 24 29.8**	**+2.5**
ABE2	**San Pablo**	**6.64**	**118**	*eP*	**Pn**	**07 24 29.2**	**+1.7**
LCR2	**La Lucha 2**	**6.67**	**118**	Pn	**Pn**	**07 24 27.1**	**-0.7**
LCR2	**La Lucha 2**	**6.67**	**118**	*i* P	**Pn**	**07 24 28.9**	**+1.1**
LCR2				IVmB_BB		07 24 40.5	
	comp=Z,870nm,1.0s						
LCR2				IAML		07 24 40.6	
	comp=Z,110nm,1.0s						
LCR2				IAmb	IAmb	07 24 40.7	
	comp=Z,93nm,0.8s						
LCR2	**La Lucha 2**	**6.67**	**118**	*eP*	**Pn**	**07 24 28.0**	**+0.2**
VICA	**Volcano Irazu**	**6.70**	**115**	*eP*	**Pn**	**07 24 30.1**	**+1.7**
LLNJ	**Naranjito**	**6.72**	**120**	*eP*	**Pn**	**07 24 29.9**	**+1.5**
RAFA	**San Farael, Vo**	**6.74**	**115**	*i* P	**Pn**	**07 24 29.5**	**+0.6**
RAFA				IAML		07 24 36.1	
	comp=Z,420nm,1.0s						
RAFA				IAmb	IAmb	07 24 36.2	
	comp=Z,360nm,0.8s						
RAFA	**San Farael, Vo**	**6.74**	**115**	*eP*	**Pn**	**07 24 28.8**	**-0.1**
REPA	**Paraso**	**6.74**	**117**	*eP*	**Pn**	**07 24 31.5**	**+2.7**
VTLA	**Turrialba Volc**	**6.75**	**115**	*eP*	**Pn**	**07 24 30.9**	**+1.9**
PCAYA	**Pacayas**	**6.75**	**116**	*eP*	**Pn**	**07 24 30.1**	**+1.0**
VTCV	**VTCV, Calle Va**	**6.80**	**115**	*eP*	**Pn**	**07 24 30.3**	**+0.7**
VERB	**Verbena**	**6.84**	**115**	*eP*	**Pn**	**07 24 31.2**	**+1.0**
CDM	**Cerro de Muert**	**6.97**	**118**	*eP*	**Pn**	**07 24 32.8**	**+0.6**
BATAN	**Batan**	**7.06**	**113**	Pn	**Pn**	**07 24 33.3**	**+0.2**
ZELE	**Perez Zeledon**	**7.10**	**119**	*eP*	**Pn**	**07 24 35.6**	**+1.9**
PEZE	**Perez Zeledon,**	**7.12**	**119**		**Pn**	**07 24 34.6**	**+0.6**
PEZE	**Perez Zeledon,**	**7.12**	**119**	*eP*	**Pn**	**07 24 35.0**	**+1.0**
OCHAL	**Ojochal**	**7.30**	**121**	*i* P	**Pn**	**07 24 38.6**	**+2.3**
OCHAL				IAML		07 24 40.3	
	comp=Z,100nm,1.0s						
OCHAL				IAmb	IAmb	07 24 47.2	
	comp=Z,85nm,1.1s						
TEIG	**Tepich**	**7.44**	**13**	Pn	**Pn**	**07 24 38.7**	**+0.5**
TEIG	**Tepich**	**7.44**	**13**	P	**Pn**	**07 24 39.7**	**+1.5**
	comp=Z,66nm,0.7s,baz=199,slow=8.4,SNR=59						
TEIG				LR	LR	07 27 53.9	
	comp=Z,388nm,21.7s,baz=188,slow=44						
SRBA	**San Rafael, Bu**	**7.47**	**119**		**Pn**	**07 24 39.5**	**+0.8**
DRK0	**Durika**	**7.55**	**118**		**Pn**	**07 24 41.5**	**+1.5**
DRK0	**Durika**	**7.55**	**118**	*i* P	**Pn**	**07 24 41.7**	**+1.7**
DRK0				IAML		07 24 42.7	
	comp=Z,290nm,1.0s						
DRK0				IAmb	IAmb	07 24 55.3	
	comp=Z,160nm,0.6s						
DRK0	**Durika**	**7.55**	**118**	*eP*	**Pn**	**07 24 40.9**	**+1.0**
EDBA	**Buenos Aires**	**7.58**	**119**	*eP*	**Pn**	**07 24 41.1**	**+0.9**
EDP2	**Potrero Grande**	**7.74**	**119**	*eP*	**Pn**	**07 24 44.9**	**+2.6**
PIRO	**Carate, Puerto**	**7.93**	**124**	*i* P	**Pn**	**07 24 46.7**	**+1.7**
PIRO				IAML		07 24 54.8	
	comp=Z,650nm,1.0s						
PIRO				IVmB_BB		07 24 54.8	
	comp=Z,6μm,1.0s						
PIRO				IAmb	IAmb	07 24 54.9	
	comp=Z,460nm,0.6s						
PIRO	**Carate, Puerto**	**7.93**	**124**	*eP*	**Pn**	**07 24 46.7**	**+1.7**
CDITO	**Canoas**	**8.22**	**121**		**Pn**	**07 24 49.6**	**+0.6**
CDITO	**Canoas**	**8.22**	**121**	*i* P	**Pn**	**07 24 50.0**	**+1.0**
CDITO				IAmb	IAmb	07 25 01.4	
	comp=Z,87nm,1.4s						
CDITO	**Canoas**	**8.22**	**121**	*eP*	**Pn**	**07 24 50.3**	**+1.4**
BRU2	**Volcan**	**8.26**	**119**	Pn	**Pn**	**07 24 50.2**	**+0.6**
BRU2	**Volcan**	**8.26**	**119**	*eP*	**Pn**	**07 24 51.1**	**+1.5**
TLIG	**Tlapa**	**9.47**	**300**	Pn	**Pn**	**07 25 06.0**	**-0.2

PLPT	**Palo Pinto**	**21.21**	**340**	P		**P**	**07 27 33.3**	**-0.4**
PLPT				IAmb		IAmb	07 27 40.5	
	comp=Z,17nm,1.1s							
Z35A	**Perchaven, San**	**21.37**	**343**	P		**P**	**07 27 35.5**	**+0.1**
Z35A				IAmb		IAmb	07 27 49.6	
	comp=Z,20nm,0.8s							
ALPN	**Alpine**	**21.47**	**326**	P		**P**	**07 27 36.8**	**+0.1**
ALPN				IAmb		IAmb	07 27 41.7	
	comp=Z,10nm,0.9s							
FPAL	**Fort Paine**	**21.88**	**10**	P		**P**	**07 27 40.9**	**0.0**
FPAL				IAmb		IAmb	07 27 51.2	
	comp=Z,18nm,1.1s							
BAUV	**El Baul**	**21.91**	**98**	P		**P**	**07 27 41.3**	**-0.1**
X37A	**Clayton**	**22.11**	**348**			**P**	**07 27 43.0**	**-0.3**
X37A				IAmb		IAmb	07 28 02.2	
	comp=Z,8.2nm,0.8s							
FCAR	**Ozark Folk Cen**	**22.95**	**356**	P		**P**	**07 27 50.6**	**-1.6**
CPCT	**Cooper Cave**	**22.96**	**12**	P		**P**	**07 27 51.9**	**-0.4**
TKL	**Tuckaleechee C**	**23.32**	**13**	LR		LR	07 38 09.6	
	comp=Z,226nm,18.4s,baz=196,slow=40							
HHAR	**Hobbs**	**23.53**	**352**	P		**P**	**07 27 57.9**	**0.0**
OK029	**Liberty Lake**	**23.75**	**345**	P		**P**	**07 27 58.2**	**-1.7**
PCRV	**Puerto La Cruz**	**24.98**	**94**	LR		LR	07 39 05.9	
	comp=Z,89nm,21.4s,slow=40							
KAN01	**Argonia South**	**25.11**	**345**	P		**P**	**07 28 12.0**	**-0.3**
WCI	**Wyandotte Cave**	**25.41**	**7**	P		**P**	**07 28 14.7**	**-0.3**
WCI				IAmb		IAmb	07 28 25.5	
	comp=Z,13nm,0.7s							
TUC	**Tucson**	**27.12**	**319**	P		**P**	**07 28 30.9**	**+0.2**
R58B	**Mineral**	**27.17**	**21**	P		**P**	**07 28 30.2**	**-0.6**
TEFE	**Tefe**	**30.01**	**121**	*eP*		**P**	**07 28 58.0**	**+1.5**
TEFE				*eS*		**S**	**07 33 58.3**	**+7.1**
PFO	**Pinyon Flats O**	**31.70**	**315**	LR		LR	07 44 00.7	
	comp=Z,184nm,18.2s,baz=183,slow=40							
V12A	**Nelson**	**31.90**	**320**	P		**P**	**07 29 13.8**	**+0.9**
V12A				IAmb		IAmb	07 29 19.4	
	comp=Z,7.1nm,1.1s							
K57A	**Scipio Center**	**31.91**	**19**	P		**P**	**07 29 11.9**	**-0.9**
K57A				IAmb		IAmb	07 29 21.3	
	comp=Z,8.7nm,0.7s							
L59A	**Walton**	**31.92**	**21**	P		**P**	**07 29 11.8**	**-1.2**
L59A				IAmb		IAmb	07 29 24.4	
	comp=Z,6.6nm,0.9s							
UCCT	**U. Connecticut**	**32.66**	**25**	P		**P**	**07 29 18.9**	**-0.5**
ETMB	**Extrema**	**32.68**	**133**	P		**P**	**07 29 20.5**	**+0.6**
ETMB	**Extrema**	**32.68**	**133**	*eP*		**P**	**07 29 20.7**	**-0.1**
ETMB				*eS*		S	07 34 42.0	+9.2
SADO	**Sadowa**	**33.06**	**14**	LR		LR	07 44 00.5	
	comp=Z,180nm,18.3s,baz=220,slow=39							
MACA	**Manacapuru-AM**	**33.20**	**117**	P		**P**	**07 29 25.3**	**+0.8**
MACA	**Manacapuru-AM**	**33.20**	**117**	*eP*		**P**	**07 29 25.4**	**+0.9**
E43A	**Lone Tree Farm**	**33.44**	**4**	P		**P**	**07 29 25.1**	**-1.0**
PDAR	**Pinedale Array**	**34.22**	**334**	P		**P**	**07 29 35.3**	**+2.0**
	comp=Z,0.5nm,0.6s,baz=130,slow=11,SNR=2.4							
PDAR				PcP		**PcP**	**07 32 10.3**	**+1.1**
	comp=Z,0.3nm,0.4s,baz=133,slow=5.2,SNR=2.1							
	comp=Z,0.5nm,0.6s							
SAML	**Samuel**	**34.37**	**128**	P		**P**	**07 29 34.4**	**-0.3**
SAML				IAmb		IAmb	07 29 47.2	
	comp=Z,8.0nm,1.1s							
SAML	**Samuel**	**34.37**	**128**	*eP*		**P**	**07 29 34.3**	**-0.3**
SAML				*eS*		S	07 35 07.4	+8.4
DSP	**Deep Springs**	**34.88**	**319**	P		**P**	**07 29 39.3**	**+0.5**
EYMN	**Ely**	**34.94**	**358**	P		**P**	**07 29 37.6**	**-1.5**
EYMN				IAmb		IAmb	07 29 57.6	
	comp=Z,5.2nm,0.7s							
REDW	**Red Top Meadow**	**35.26**	**333**	P		**P**	**07 29 43.2**	**+1.0**
AGMN	**Agassiz Nation**	**35.60**	**353**	P		**P**	**07 29 43.7**	**-1.1**
NVAR	**Mina Array Bea**	**35.74**	**320**	P		**P**	**07 29 49.3**	**+2.9**
	comp=Z,6.6nm,0.8s,baz=133,slow=8.4,SNR=26							
	comp=Z,6.6nm,0.8s							
LPAZ	**La Paz**	**36.19**	**143**	P		P	07 29 58.9	+8.0
	comp=Z,1.1nm,0.8s,baz=17,slow=15,SNR=3.2							
DGMT	**Dagmar**	**37.35**	**344**	P		**P**	**07 29 59.9**	**+0.1**
ITTB	**Itaituba**	**38.12**	**115**	*eP*		**P**	**07 30 06.0**	**-0.7**
ITTB				*eS*		**S**	**07 36 01.2**	**+4.8**
VILB	**Vilhena**	**39.16**	**130**	P		**P**	**07 30 15.8**	**+0.4**
VILB	**Vilhena**	**39.16**	**130**	*eP*		**P**	**07 30 15.9**	**+0.5**
VILB				*eS*		S	07 36 20.6	+8.5
NPGB	**Novo Progresso**	**39.72**	**118**	*eP*		**P**	**07 30 19.3**	**-0.8**
YBH	**Yreka Blue Hor**	**40.42**	**321**	LR		LR	07 48 51.0	
	comp=Z,116nm,19.2s,baz=150,slow=38							
PDRB	**Porto dos Gac**	**41.03**	**125**	*eP*		**P**	**07 30 30.4**	**-0.5**
BBSD	**Serra de San D**	**41.68**	**135**	*eP*		**P**	**07 30 36.1**	**-0.1**
BBRB	**Robore, Bolivi**	**42.98**	**136**	*eP*		**P**	**07 30 47.0**	**+0.2**
TMAB	**Tom-Au,PA,Br**	**44.27**	**107**	*eP*		**P**	**07 30 56.7**	**-0.5**
EDM	**Edmonton**	**44.29**	**340**	P		**P**	**07 30 56.2**	**-0.7**
EDM				IAmb		IAmb	07 30 57.0	
	comp=Z,6.0nm,1.0s							
SALV	**Santo Antonio**	**44.40**	**129**	*eP*		**P**	**07 30 58.0**	**-0.1**
SCHQ	**Schefferville**	**45.58**	**19**	P		**P**	**07 31 05.5**	**-1.6**
SCHQ	**Schefferville**	**45.58**	**19**	P		**P**	**07 31 05.3**	**-1.8**
	comp=Z,9.4nm,0.4s,baz=221,slow=6.6,SNR=58							
	comp=Z,9.4nm,0.4s							
SNDB	**Serra Nova Dou**	**45.67**	**121**	*eP*		**P**	**07 31 07.9**	**-0.4**
RVDE	**Rio Verde (Bra**	**46.92**	**132**	*eP*		**P**	**07 31 17.9**	**-0.2**
ARAG	**Araguaiana, MT**	**47.28**	**126**	*eP*		**P**	**07 31 22.8**	**+1.8**
BDFB	**Brasilia**	**50.30**	**123**	P		**P**	**07 31 46.6**	**+2.4**
	comp=Z,2.6nm,0.6s,baz=288,slow=7.1,SNR=8.3							
	comp=Z,2.6nm,0.6s							
YKA	**Yellowknife Ar**	**52.53**	**346**	P		**P**	**07 31 58.8**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=142,slow=7.3,SNR=73							
YKA				LR		LR	07 58 03.4	
	comp=Z,84nm,18.4s,baz=280,slow=40							
	comp=Z,1.7nm,0.8s							
FRB	**Frobisher Bay**	**52.94**	**12**	P		**P**	**07 32 01.1**	**-1.9**
	comp=Z,3.8nm,0.7s,baz=207,slow=11,SNR=7.2							
FRB				LR		LR	07 55 52.0	
	comp=Z,105nm,18.4s,baz=203,slow=38							
	comp=Z,3.8nm,0.7s							
UNIS	**Unistalda (Bra**	**53.67**	**142**	*eP*		**P**	**07 32 09.6**	**+0.6**
SFJD	**Kangerlussuaq**	**59.96**	**17**	LR		LR	07 59 19.7	
	comp=Z,67nm,19.0s,baz=238,slow=37							
RES	**Resolute Bay**	**61.81**	**359**	P		**P**	**07 33 04.2**	**-1.2**
INK	**Inuvik**	**62.02**	**343**	LR		LR	08 05 30.3	
	comp=Z,89nm,18.4s,baz=196,slow=41							
NUUG	**Nuugaatsiaq**	**62.65**	**12**	*i* P		**P**	**07 33 15.1**	**+4.1**
NUUG				IAmb		IAmb	07 33 19.3	
	comp=Z,7.2nm,0.7s							
F28M	**Old Crow**	**63.52**	**341**	P		**P**	**07 33 17.3**	**+0.3**
F28M				IAmb		IAmb	07 33 17.7	
	comp=Z,4.5nm,1.0s							
ICESG	**Greenland Ices**	**64.48**	**18**	*i* P		**P**	**07 33 21.1**	**-2.5**
ICESG				IAmb		IAmb	07 33 23.4	
	comp=Z,6.4nm,1.0s							
ILAR	**Eielson Array**	**64.59**	**337**	P		**P**	**07 33 23.6**	**-0.4**
	comp=Z,0.5nm,0.4s,baz=124,slow=5.5,SNR=18							
	comp=Z,0.5nm,0.4s							
PPT	**Papeete**	**66.16**	**244**	LR		LR	07 56 17.3	
	comp=Z,48nm,18.1s,baz=342,slow=30							
MLY	**Manley**	**66.20**	**336**	P		**P**	**07 33 34.1**	**-0.4**
MLY				IAmb		IAmb	07 33 44.2	
	comp=Z,3.1nm,0.8s							
SUMG	**Summit**	**66.75**	**15**	*i* P		**P**	**07 33 36.0**	**-2.3**
SUMG				IAmb		IAmb	07 33 48.7	
	comp=Z,3.0nm,1.1s							
NEEM	**North Greenlan**	**67.49**	**9**	*i* P		**P**	**07 33 40.8**	**-2.0**
NEEM				IAmb		IAmb	07 33 52.2	
	comp=Z,5.1nm,0.9s							
DAG	**Danmarks Havn**	**73.25**	**13**	*i* P		**P**	**07 34 15.0**	**-2.6**
DAG				IAmb		IAmb	07 34 16.2	
	comp=Z,2.0nm,1.1s							
NOR	**Nord**	**74.87**	**8**	*i* P		**P**	**07 34 25.0**	**-2.0**
NOR				IAmb		IAmb	07 34 35.1	
	comp=Z,2.1nm,0.8s							
JMIC	**Jan Mayen**	**75.09**	**20**	LR		LR	08 09 00.2	
	comp=Z,27nm,18.6s,baz=212,slow=37							
EKA	**Eskdalemuir Ar**	**77.69**	**36**	P		**P**	**07 34 40.8**	**-2.6**
	comp=Z,1.2nm,0.6s,baz=269,slow=5.6,SNR=4.5							
	comp=Z,1.2nm,0.6s							
ESDC	**Sonseca Array**	**78.84**	**52**	LR		LR	08 05 19.4	
	comp=Z,42nm,19.4s,baz=306,slow=33							
MDT	**Midelt**	**79.28**	**59**	LR		LR	08 05 49.1	
	comp=Z,49nm,18.8s,baz=342,slow=33							
SPITS	**Spitsbergen Ar**	**80.74**	**12**	P		**P**	**07 34 59.1**	**-0.6**
	comp=Z,2.2nm,0.6s,baz=219,slow=3.7,SNR=4.7							
SPITS				LR		LR	08 14 48.6	
	comp=Z,76nm,18.1s,baz=260,slow=39							
	comp=Z,2.2nm,0.6s							
DBIC	**Dimbokro**	**83.81**	**85**	LR		LR	08 10 13.9	
	comp=Z,65nm,19.1s,baz=343,slow=34							
NB2	**NORSAR Subarra**	**84.15**	**29**	P		**P**	**07 35 17.1**	**-0.7**
	comp=Z,0.3nm,0.5s,baz=289,slow=5.1							
NOA	**NORSAR Array B**	**84.15**	**29**	P		**P**	**07 35 17.3**	**-0.5**
	comp=Z,0.4nm,0.5s,baz=301,slow=5.2,SNR=4.6							
NOA				LR		LR	08 13 43.9	
	comp=Z,18nm,18.1s,baz=285,slow=36							
	comp=Z,0.4nm,0.5s							
HFS	**Hagfors**	**85.58**	**29**	P		**P**	**07 35 23.8**	**-1.1**
	comp=Z,1.6nm,0.7s,baz=287,slow=5.3,SNR=7.7							
HFS				LR		LR	08 11 34.5	
	comp=Z,32nm,21.0s,baz=341,slow=34							
	comp=Z,1.6nm,0.7s							
ARCES	**ARCESS Array B**	**86.53**	**19**	P		**P**	**07 35 28.1**	**-1.3**
	comp=Z,4.9nm,0.9s,baz=260,slow=5.4,SNR=4.1							
	comp=Z,4.9nm,0.9s							
CLL	**Collm**	**87.97**	**38**	*eP*		**P**	**07 35 36.0**	**-0.7**
TORD	**Torodi Ar. Bea**	**88.72**	**77**	P		**P**	**07 35 39.5**	**-1.5**
	comp=Z,0.5nm,0.5s,baz=297,slow=5.6,SNR=8.2							
	comp=Z,0.5nm,0.5s							
SEY	**Seymchan**	**90.53**	**336**	LR		LR	08 24 34.6	
	comp=Z,46nm,18.0s,baz=152,slow=41							
FINES	**FINESS Array B**	**90.63**	**26**	P		**P**	**07 35 47.7**	**-1.3**
	comp=Z,1.8nm,0.9s,baz=342,slow=0.6,SNR=1.6							
	comp=Z,1.8nm,0.9s							
VAE	**Valguarnera**	**93.34**	**51**	LR		LR	08 14 34.2	
	comp=Z,85nm,18.9s,baz=320,slow=34							
WRA	**Warramunga Arr**	**137.01**	**255**	PKP		**PKiKP**	**07 42 13.8**	**+1.6**
	comp=Z,0.5nm,0.7s,baz=87,slow=2.8,SNR=1.6							
ASAR	**Alice Springs**	**137.13**	**249**	PKP		**PKiKP**	**07 42 15.7**	**+3.3**
	comp=Z,0.2nm,0.6s,baz=106,slow=3.5,SNR=1.5							
CMAR	**Chiang Mai Arr**	**147.59**	**344**	PKPbc		**PKPbc**	**07 42 32.6**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=343,slow=4.0,SNR=16							

*UCR **26** 08:09:42.5±0.5, 10°.95N×86°.47W, h17km±5km, MW4.3*
*CATAC **26** 08:09:43.9±0.4, 11°.03N×86°.48W, h11km±3km, ML4.0*
ISC 26 08:09:41.5±1.4,**10°.87N**±0°.04×**86°.45W**±0°.04,**h18**km±7km,
n78,σ**0°.92**/107,**Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
LCRUZ	**La Cruz**	**0.83**	**75**	*eP*		**Pn**	**08 09 59.2**	**+0.8**
LCRUZ				*eS*		**Sn**	**08 10 11.4**	**+1.2**
ELI1	**Hacienda Flor**	**0.91**	**104**	*eP*		**Pn**	**08 10 00.9**	**+1.4**
ALIBA	**Liberia Airpor**	**0.93**	**107**	*eP*		**Pn**	**08 10 01.8**	**+2.1**
MSHP	**Masachapa**	**0.96**	**355**	*i* P		**Pg**	**08 10 01.1**	**+0.8**
MSHP				IAML			08 10 01.6	
	comp=Z,1μm,1.0s							
NADN	**Granada**	**0.97**	**25**	*i* P		**Pg**	**08 10 00.1**	**-0.3**
NADN				*i* S		**Sb**	**08 10 12.7**	**+0.4**
NADN				IAML			08 10 17.2	
	comp=Z,13μm,1.0s							
DELF	**Filadelfia**	**0.97**	**115**	*eP*		**Pn**	**08 10 02.0**	**+1.7**
JAPN	**Al SSO del Vol**	**1.00**	**49**	*i* P		**Pg**	**08 10 01.4**	**+0.4**
JAPN				*i* S		**Sn**	**08 10 15.4**	**+1.0**
JAPN				IAML			08 10 16.5	
	comp=Z,5μm,1.0s							
OMEN	**Al SSO del Vol**	**1.03**	**51**	*i* P		**Pg**	**08 10 01.2**	**-0.4**
OMEN				IAML			08 10 04.8	
	comp=Z,8μm,1.0s							
OMEN				*i* S		**Sn**	**08 10 16.1**	**+1.0**
GB1A	**Borinquen Arri**	**1.03**	**92**	*eP*		**Pg**	**08 10 02.2**	**+0.6**
MORN	**Al O del Volca**	**1.04**	**49**	*i* P		**Pg**	**08 10 01.5**	**-0.2**
MORN				IAML			08 10 20.5	
	comp=Z,12μm,1.0s							
SACU	**Santa Cruz**	**1.04**	**125**	*eP*		**Pg**	**08 10 02.6**	**+0.9**
CONN	**Concepcion**	**1.07**	**49**	*i* P		**Pn**	**08 10 01.6**	**0.0**
CONN				IAML			08 10 19.7	
	comp=Z,34μm,1.0s							
VRLE	**La Escondida,**	**1.07**	**94**	*eP*		**Pg**	**08 10 02.5**	**+0.2**
VRLE				*eS*		**Sn**	**08 10 17.8**	**+1.6**
GPS3	**Bodega del ICE**	**1.07**	**96**	*eP*		**Pg**	**08 10 03.3**	**+0.9**
VORI	**VORI**	**1.08**	**92**	*eP*		**Pg**	**08 10 03.0**	**+0.4**
ORTG	**Ortega, Santa**	**1.09**	**117**	*eP*		**Pg**	**08 10 03.6**	**+0.9**
CRUN	**El Crucero**	**1.12**	**8**	*i* P		**Pn**	**08 10 02.5**	**0.0**
CRUN				IAML			08 10 29.3	
	comp=Z,41μm,1.0s							
JUD3	**Juan Diaz 3**	**1.13**	**128**	*eP*		**Pg**	**08 10 03.8**	**+0.2**
RB213	**Mirador 2 Volc**	**1.14**	**14**	*i* P		**Pg**	**08 10 04.9**	**+1.2**
RB213				IAML			08 10 05.4	
	comp=Z,4μm,1.0s							
DUNO	**Dulce Nombre,**	**1.22**	**130**	*eP*		**Pg**	**08 10 05.0**	**-0.2**
COLC	**Colonia**	**1.24**	**99**	*eP*		**Pg**	**08 10 05.3**	**-0.2**
ENAN	**Enatrel Managu**	**1.25**	**8**	*i* P		**Pb**	**08 10 04.9**	**+0.2**
ENAN				IAML			08 10 05.2	
	comp=Z,8μm,1.0s							
ENAN				*i* S		**Sb**	**08 10 20.0**	**-0.6**
USIM	**UNAN**	**1.25**	**8**	*i* P		**Pb**	**08 10 04.8**	**+0.1**
USIM				IAML			08 10 08.3	
	comp=Z,8μm,1.0s							
USIM				*i* S		**Sb**	**08 10 20.1**	**-0.5**
R0529	**La Mascota**	**1.27**	**9**	*i* P		**Pb**	**08 10 04.9**	**0.0**
R0529				IAML			08 10 28.6	
	comp=Z,3μm,1.0s							
CUI	**Cuipilapa**	**1.28**	**99**	*eP*		**Pg**	**08 10 06.0**	**-0.4**
TISN	**Laguna Tiscapa**	**1.28**	**8**	*i* P		**Pn**	**08 10 04.7**	**+0.1**
TISN				IAML			08 10 24.5	
	comp=Z,200nm,1.0s							
MGA1	**Managua**	**1.29**	**9**	*i* P		**Pb**	**08 10 05.2**	**-0.1**
MGA1				*i* S		**Sn**	**08 10 21.1**	**-0.5**
MGA1				IAML			08 10 29.9	
	comp=Z,8μm,1.0s							
R4DEC	**Barrio San Lui**	**1.29**	**9**	*i* P		**Pg**	**08 10 07.6**	**+1.1**
R4DEC				*i* P		**Pn**	**08 10 05.0**	**+0.3**
R4DEC				*i* S		**Sn**	**08 10 20.9**	**-0.7**
R4DEC				IAML			08 10 29.5	
	comp=Z,3μm,1.0s							
R4DEC				IAML			08 10 32.4	
	comp=Z,2μm,1.0s							
ALLN	**Telcor Managua**	**1.29**	**8**	*i* P		**Pb**	**08 10 05.3**	**-0.1**
ALLN				*i* S		**Sn**	**08 10 20.8**	**-0.8**
ALLN				IAML			08 10 27.5	
	comp=Z,8μm,1.0s							
AERN	**Aeropuerto Man**	**1.30**	**12**	*i* P		**Pn**	**08 10 05.1**	**+0.2**
AERN				*i* S		**Sn**	**08 10 21.7**	**-0.1**
AERN				IAML			08 11 06.6	
	comp=Z,5μm,1.0s							
VMAR	**Armenia, Volca**	**1.31**	**92**	*eP*		**Pg**	**08 10 06.5**	**-0.4**
WILN	**Americas 2**	**1.31**	**11**	*i* P		**Pn**	**08 10 05.1**	**+0.1**
WILN				*i* S		**Sn**	**08 10 21.7**	**-0.4**
WILN				IAML			08 10 52.0	
	comp=Z,2μm,1.0s							
COPN	**Copaltepe**	**1.31**	**354**	*i* P		**Pb**	**08 10 05.7**	**0.0**
COPN				IAML			08 10 31.3	
	comp=Z,2μm,1.0s							
APQN	**BB Volcan Apoy**	**1.36**	**6**	*i* P		**Pn**	**08 10 06.0**	**+0.4**
APYN	**Apoyeque**	**1.36**	**4**	*i* P		**Pn**	**08 10 06.1**	**+0.3**
APYN				*i* S		**Sn**	**08 10 22.9**	**-0.5**
APYN				IAML			08 10 26.0	
	comp=Z,2μm,1.0s							
BC86	**Nagarote**	**1.40**	**355**	*i* P		**Pn**	**08 10 06.5**	**+0.3**
BC86				*i* S		**Sn**	**08 10 23.6**	**-0.5**
BC86				IAML			08 10 44.9	
	comp=Z,6μm,1.0s							
APQ3	**Volcan Apoyequ**	**1.40**	**3**	*i* P		**Pn**	**08 10 06.7**	**+0.5**
APQ3				IAML			08 10 07.2	
	comp=Z,2μm,1.0s							
APQ3				*i* S		**Sn**	**08 10 23.8**	**-0.5**
CNAS	**Canas**	**1.40**	**108**	*eP*		**Pg**	**08 10 09.1**	**+0.5**
TENO	**El Achiote**	**1.46**	**96**	*eP*		**Pg**	**08 10 08.4**	**-1.2**
NYURE	**Nandayure**	**1.46**	**126**	*eP*		**Pb**	**08 10 08.2**	**0.0**
HUEN		**1.49**	**10**	*i* P		**Pn**	**08 10 07.9**	**+0.5**
HUEN				IAML			08 10 09.0	
	comp=Z,1μm,1.0s							
HUEN				*i* S		**Sn**	**08 10 26.8**	**+0.4**
LEVN	**Ruinas Leon Vi**	**1.54**	**354**	*i* P		**Pn**	**08 10 08.7**	**+0.6**
LEVN				*i* S		**Sn**	**08 10 27.7**	**+0.1**
LEVN				IAML			08 10 33.7	
	comp=Z,2μm,1.0s							
VERA	**Finca Concepci**	**1.55**	**90**	*eP*		**Pg**	**08 10 10.4**	**-1.1**
MOM2	**El Cardon**	**1.56**	**359**	*i* P		**Pn**	**08 10 08.8**	**+0.3**
MOM2				IAML			08 10 09.3	
	comp=Z,2μm,1.0s							
MOM2				*i* S		**Sn**	**08 10 27.4**	**-0.9**
JTS	**Las Juntas de**	**1.58**	**111**	*eP*		**Pg**	**08 10 10.5**	**-1.4**
MACN	**El Madrono**	**1.61**	**352**	*i* P		**Pn**	**08 10 09.8**	**+0.7**
MACN				*i* S		**Sn**	**08 10 29.4**	**0.0**
MACN				IAML			08 10 33.2	
	comp=Z,1μm,1.0s							
CNGA	**Al SSO del Vol**	**1.64**	**351**	*i* P		**Pn**	**08 10 09.0**	**-0.5**
CNGA				*i* S		**Sn**	**08 10 28.4**	**-1.8**
CNGA				IAML			08 10 42.5	
	comp=Z,2μm,1.0s							
CNGN	**Cerro Negro**	**1.64**	**351**	*i* P		**Pn**	**08 10 09.8**	**+0.2**
CNGN				*i* S		**Sn**	**08 10 29.6**	**-0.7**
CNGN				IAML			08 10 31.0	
	comp=Z,1μm,1.0s							
CNGN	**Cerro Negro**	**1.64**	**351**	*eP*		**Pn**	**08 10 09.5**	**-0.1**
PACN	**Al O del Volca**	**1.66**	**348**	*i* P		**Pn**	**08 10 10.7**	**+0.9**
PACN				*i* S		**Sn**	**08 10 30.0**	**-0.7**
PACN				IAML			08 10 36.3	
	comp=Z,2μm,1.0s							
ACON	**Acoyapa**	**1.66**	**49**	*i* P		**Pn**	**08 10 10.0**	**+0.2**
ACON				*i* S		**Sn**	**08 10 31.0**	**+0.2**
ACON				IAML			08 10 38.6	
	comp=Z,820nm,1.0s							
ACON	**Acoyapa**	**1.66**	**49**	*eP*		**Pn**	**08 10 09.5**	**-0.3**
ROCN	**Rota Cerro Neg**	**1.67**	**350**	*i* P		**Pn**	**08 10 10.6**	**+0.6**
ROCN				*i* S		**Sn**	**08 10 30.4**	**-0.5**
ROCN				IAML			08 10 40.9	
	comp=Z,890nm,1.0s							
LCHIL	**Los Chiles**	**1.71**	**84**	*eP*		**Pb**	**08 10 11.7**	**-0.8**
PLRN	**Geotermica Pol**	**1.74**	**350**	*i* P		**Pn**	**08 10 11.3**	**+0.4**
PLRN				*i* S		**Sn**	**08 10 31.9**	**-0.7**
PLRN				IAML			08 10 36.8	
	comp=Z,830nm,1.0s							
ARE1	**Arenal 1**	**1.75**	**103**	*eP*		**Pb**	**08 10 13.2**	**0.0**
CEDE	**Laguna Cedeo**	**1.76**	**102**	*eP*		**Pb**	**08 10 13.2**	**-0.1**
QUEN	**Al S del Volca**	**1.76**	**347**	*i* P		**Pn**	**08 10 09.2**	**-2.0**
QUEN				IAML			08 10 34.7	
	comp=Z,2μm,1.0s							
VACR	**Volcan Arenal**	**1.79**	**102**	*eP*		**Pb**	**08 10 13.5**	**-0.3**
BRAN	**Las Pilas**	**1.85**	**3**	*i* P		Pn	**08 10 05.3**	**-7.1**
BRAN				IAML			08 10 05.7	
	comp=Z,3μm,1.0s							
BRAN				*i* S		Sn	08 10 21.6	-14
SOCE	**Pocosol**	**1.86**	**105**	*i* P		**Pg**	**08 10 16.2**	**-1.2**
SOCE				*i* S		**Sg**	**08 10 42.8**	**+1.1**
SOCE				IAML			08 10 54.2	
	comp=Z,670nm,1.0s							
PKGN	**Cerro Pekin**	**1.87**	**344**	*i* P		**Pn**	**08 10 13.6**	**+1.0**
PKGN				IAML			08 10 44.6	
	comp=Z,3μm,1.0s							
CRIN	**San Cristobal**	**1.92**	**342**	*i* P		**Pn**	**08 10 14.4**	**+1.0**
CRIN				*i* S		**Sn**	**08 10 37.6**	**+0.5**
CRIN				IAML			08 10 42.1	
	comp=Z,3μm,1.0s							
CRIN	**San Cristobal**	**1.92**	**342**	*eP*		**Pn**	**08 10 13.8**	**+0.4**
COVE	**Coope Vega, Sa**	**2.02**	**94**	*i* P		**Pb**	**08 10 17.4**	**-0.3**
COVE				IAML			08 10 52.1	
	comp=Z,490nm,1.0s							
CPMI	**Catarata Coope**	**2.11**	**106**	*eP*		**Pn**	**08 10 15.8**	**-0.4**
LIMN	**Finca el Limon**	**2.19**	**2**	*i* P		**Pn**	**08 10 17.3**	**+0.2**
LIMN				IAML			08 10 50.6	
	comp=Z,490nm,1.0s							
TCS1	**Tacares**	**2.27**	**111**	*i* P		**Pg**	**08 10 23.5**	**-1.6**
TCS1				IAML			08 11 07.6	
	comp=Z,6μm,1.0s							
HDC3	**Heredia 3**	**2.46**	**110**	*i* P		**Pb**	**08 10 25.1**	**-0.2**
HDC3				*i* S		**Sg**	**08 10 58.7**	**-1.9**
HDC3				IAML			08 11 04.0	
	comp=Z,580nm,1.0s							
ESPN	**Las Esperanzas**	**2.49**	**58**	*i* P		**Pn**	**08 10 22.6**	**+1.4**
ESPN				IAML			08 11 14.3	
	comp=Z,500nm,1.0s							
ESPN	**Las Esperanzas**	**2.49**	**58**	*eP*		**Pn**	**08 10 21.8**	**+0.6**
LCR2	**La Lucha 2**	**2.65**	**115**	*i* P		**Pb**	**08 10 27.9**	**-0.8**
LCR2				*i* S		**Sb**	**08 11 02.4**	**+1.4**
LCR2				IAML			08 11 12.9	

PUH	**Pauahi**	**0.05**	**358**		Pg	08 25 14.3	-0.1
PUH				IAML		08 25 15.9	
	comp=E,4μm,0.2s						
PUH				IAML		08 25 16.1	
	comp=N,7μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.07**	**37**		Pg	08 25 14.4	-0.1
KKO	**Keanakako'i**	**0.09**	**327**		Pg	08 25 15.1	+0.2
HLP	**Hilina Pali**	**0.09**	**254**		Pg	08 25 15.2	+0.4
HLP				IAML		08 25 17.5	
	comp=E,6μm,0.3s						
HLP				IAML		08 25 17.9	
	comp=N,6μm,0.1s						
RIM	**Rim**	**0.09**	**322**		Pg	08 25 15.1	+0.2
BYL	**Byron's Ledge**	**0.10**	**334**		Pg	08 25 14.9	0.0
BYL				IAML		08 25 16.2	
	comp=E,3μm,0.8s						
STCH	**Steam Cracks**	**0.10**	**53**		Pg	08 25 15.1	+0.1
STCH				IAML		08 25 17.3	
	comp=N,4μm,0.4s						
HATHI	**Halema'uma'u T**	**0.11**	**336**		Pg	08 25 15.2	+0.1
HATHI	**Halema'uma'u T**	**0.11**	**336**	IAML		08 25 17.7	
	comp=N,3μm,0.2s						
HATHI				IAML		08 25 19.4	
	comp=E,2μm,0.6s						
OBL	**Observatory Le**	**0.12**	**325**		Pg	08 25 15.5	+0.2
SBLHI	**Steaming Bluff**	**0.12**	**334**		Pg	08 25 15.3	0.0
NPOC	**North of Pu'u**	**0.12**	**54**		Pg	08 25 15.4	+0.1
JCUZ	**Jacuzzi**	**0.12**	**60**		Pg	08 25 15.5	+0.2
UWE	**Uwekahuna**	**0.12**	**323**		Pg	08 25 15.5	+0.1
UWE	**Uwekahuna**	**0.12**	**323**	IAML		08 25 17.2	
	comp=E,3μm,0.7s						
UWE				IAML		08 25 17.5	
	comp=N,3μm,0.6s						
RSD	**Rainshed**	**0.15**	**337**		Pg	08 25 15.8	-0.1
HTC	**Hot Caves**	**0.19**	**244**		Pg	08 25 18.1	+1.7
JOKA	**Jonika Flow**	**0.23**	**61**		Pg	08 25 16.9	-0.2
JOKA	**Jonika Flow**	**0.23**	**61**	IAML		08 25 21.5	
	comp=E,356nm,0.9s						
JOKA				IAML		08 25 23.2	
	comp=N,974nm,0.9s						
MLH	**Mauna Loa**	**0.24**	**317**		Pg	08 25 17.4	0.0
MLH				IAML		08 25 23.4	
	comp=E,1μm,0.2s						
MLH				IAML		08 25 23.6	
	comp=N,1μm,0.3s						
PAH	**Pahoa**	**0.30**	**56**	Pg	Pg	08 25 18.6	0.0
HMH	**Humu'ula Sheep**	**0.38**	**318**		Pg	08 25 19.9	-0.1
HMH	**Humu'ula Sheep**	**0.38**	**318**		Sg	08 25 26.4	+1.4
KHU	**Kahuku**	**0.39**	**259**		Pg	08 25 20.3	+0.1
KHU				IAML		08 25 26.5	
	comp=N,758nm,0.6s						
KHU				IAML		08 25 26.7	
	comp=E,1μm,0.6s						
MWH	**Moku'aweowe**	**0.40**	**294**		Pg	08 25 20.2	-0.2
MLOA	**Mauna Loa Obse**	**0.40**	**302**		Pg	08 25 20.3	-0.2
POHA	**Pohakuloa**	**0.53**	**325**		Pg	08 25 22.3	-0.5
POHA	**Pohakuloa**	**0.53**	**325**		Sg	08 25 29.7	-0.1
CPH	**Captain Cook**	**0.69**	**284**		Pg	08 25 24.8	-1.0

*IDC **26** 08:40:19.0±1.9,29.°86N×140.°96E,h72km±20km,mb3.4/7, mbtmp3.7/11,Error ellipse: s-maj=51.9km s-min=13.3km az=75.0*
*JMA **26** 08:40:19.3±0.2,30.°1N±1.°1×141.°2E±0.°2,h57km,MV4.4/25, NEAR TORISHIMA IS*
ISC 26 08:40:19.5±0.8,30.°00N±0.°07×141.°2E±0.°2,h78km,n24, σ1°66/29,mb3.8/6,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.03**	**163**	*eP*	**Pn**	**08 41 07.2**	**+1.9**
CBIJ				*eS*	**Sn**	**08 41 42.3**	**+1.9**
JCJ	**Chichijima**	**3.03**	**163**	P	**Pn**	**08 41 02.8**	**-2.5**
	31nm,0.4s,baz=360,slow=23,SNR=18						
JCJ				S	**Sn**	**08 41 36.3**	**-4.2**
	137nm,0.3s,baz=276,slow=22,SNR=15						
JHCJ	**Hachijojimakas**	**3.28**	**339**	*eS*	**Sn**	**08 41 45.1**	**-1.4**
JHJ2	**Mitsune**	**3.31**	**340**	*eS*	**Sn**	**08 41 46.5**	**-0.7**
JHJ	**Hachijo jima 2**	**3.33**	**340**	P	**Pn**	**08 41 10.8**	**+1.6**
	72nm,0.7s,baz=33,slow=18,SNR=1.5						
JHJ				S	**Sn**	**08 41 44.6**	**-3.0**
	134nm,0.5s,baz=299,slow=19,SNR=9.7						
JHH2	**Haha-jima-NKT2**	**3.47**	**165**	*eP*	**Pn**	**08 41 11.2**	**-0.1**
JHH2				S	**Sn**	**08 41 52.8**	**+1.6**
JMKN	**Mikurajimanish**	**4.11**	**341**	*eS*	**Sn**	**08 42 05.3**	**-1.3**
BSO1	**Boso 1**	**4.64**	**358**	*eP*	**Pn**	**08 41 27.4**	**+0.8**
BSO1				*eS*	**Sn**	**08 42 17.5**	**-1.5**
JOD2	**Odawara 2**	**5.53**	**342**	*eP*	**Pn**	**08 41 41.2**	**+1.8**
JRY	**Ryogami san**	**6.29**	**343**	*eP*	**Pn**	**08 41 51.2**	**+1.4**
JRY				*eS*	**Sn**	**08 42 59.5**	**-0.7**
JAG	**Ashikaga**	**6.57**	**348**	P	**Pn**	**08 41 53.3**	**-0.1**
JAG				S	**Sn**	**08 43 05.0**	**-1.8**
JHO	**Hitachi**	**6.61**	**356**	P	**Pn**	**08 41 54.2**	**+0.2**
MJAR	**Matsushiro Arr**	**6.98**	**340**	P	**Pn**	**08 42 00.9**	**+1.8**
	0.5nm,0.3s,baz=162,slow=26,SNR=6.8						
MJAR				S	**Sn**	**08 43 15.8**	**-1.1**
	2.9nm,0.7s,baz=186,slow=31,SNR=4.6						
USRK	**Ussuriysk Ar.**	**15.94**	**335**	P	**Pn**	**08 43 58.9**	**-0.1**
	3.0nm,0.7s,baz=158,slow=14,SNR=4.9						
KLR	**Kul'dur**	**20.50**	**342**	P	**P**	**08 44 52.2**	**+1.2**
	1.3nm,0.5s,baz=150,slow=12,SNR=6.9						
	1.3nm,0.5s						
H11N2	**WAKE ISLAND Hy**	**25.43**	**108**	T	T	09 13 45.0	
	baz=300,slow=74						
H11N1	**WAKE ISLAND Hy**	**25.43**	**108**	T	T	09 13 44.8	
	baz=300						
H11N3	**WAKE ISLAND Hy**	**25.45**	**108**	T	T	09 13 45.4	
	baz=300,slow=74						
SONM	**Songino Array**	**32.04**	**314**	P	**P**	**08 46 38.6**	**-0.2**
	0.6nm,0.5s,baz=99,slow=7.4,SNR=1.7						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**50.09**	**188**	P	**P**	**08 49 05.2**	**-1.4**
	0.4nm,0.3s,baz=6.6,slow=7.8,SNR=19						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**53.81**	**188**	P	**P**	**08 49 33.5**	**-0.8**
	0.3nm,0.5s,baz=2.3,slow=5.6,SNR=6.2						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**55.32**	**316**	P	**P**	**08 49 45.0**	**+0.1**
	0.8nm,0.5s,baz=64,slow=6.8,SNR=4.1						
	0.8nm,0.5s						
FINES	**FINESS Array B**	**74.96**	**333**	P	**P**	**08 51 51.6**	**-0.2**
	1.2nm,0.7s,baz=44,slow=4.8,SNR=4.2						
	1.2nm,0.7s						
TXAR	**Lajitas Array**	**94.57**	**52**	P	**P**	**08 53 33.3**	**+1.4**
	0.1nm,0.5s,baz=298,slow=1.9,SNR=2.4						
	0.1nm,0.5s						

*FUNV **26** 08:48:22.3,9.°97N×62.°86W,h12km,MW3.3*
*TRN **26** 08:48:23.2,10.°17N×63.°14W,h53km,MD3.6,Venezuela.*
ISC 26 08:48:21.8±1.3,9.°95N±0.°04×62.°90W±0.°03,h31km±13km, n17,σ1°68/29,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRUV	**Carupano**	**0.79**	**335**	*eP*	**Pb**	**08 48 35.9**	**-1.1**
CRUV				*eS*	**Sb**	**08 48 45.9**	**-1.5**
TCE	**Chacachacare**	**1.35**	**57**	*eS*	**Sb**	**08 49 04.6**	**+1.1**
TRN	**Trinidad (W)**	**1.63**	**65**	*eP*	**Pb**	**08 48 51.7**	**+0.5**
TRN				*eS*	**Sb**	**08 49 13.2**	**+1.8**
TRN	**Trinidad (W)**	**1.63**	**65**	*ex*	x	08 48 50.7	
PCRV	**Puerto La Cruz**	**1.72**	**278**	*eP*	**Pn**	**08 48 51.4**	**+1.7**
PCRV				*eS*	**Sn**	**08 49 12.8**	**+2.2**
GRFF	**Grenada Fort F**	**2.38**	**29**	*eP*	**Pn**	**08 48 59.1**	**+0.5**
GRFF				*eS*	**Sn**	**08 49 26.8**	**0.0**
GRGR	**Grenville**	**2.49**	**29**	*eP*	**Pn**	**08 49 01.6**	**+1.4**
GRGR				*eS*	**Sn**	**08 49 28.8**	**-0.7**
GRHS	**Sauteurs**	**2.57**	**29**	*eP*	**Pn**	**08 49 01.4**	**0.0**
GRHS				*eS*	**Sn**	**08 49 29.4**	**-2.2**
GCMP	**Grenada, Carri**	**2.91**	**30**	*eP*	**Pn**	**08 49 06.6**	**+0.7**
GCMP				*eS*	**Sn**	**08 49 38.8**	**-0.9**
SVB	**Belmont**	**3.67**	**26**	*eP*	**Pn**	**08 49 17.2**	**+0.7**
TACV	**Tcata**	**4.07**	**273**	*eP*	**Pn**	**08 49 23.5**	**+1.6**
TACV				*eS*	**Sn**	**08 50 08.5**	**-0.1**
CACV	**CAICARA DEL OR**	**4.31**	**237**	*eP*	**Pn**	**08 49 21.5**	**-3.7**
CACV				*eS*	Sn	08 50 05.7	-8.7
LUEV	**Luepa**	**4.33**	**161**	*eP*	**Pn**	**08 49 26.0**	**+0.4**
LUEV				*eS*	**Sn**	**08 50 14.9**	**-0.2**
SLBI	**Saint Lucia, B**	**4.46**	**25**	*eP*	**Pn**	**08 49 27.4**	**0.0**
SLBI				*eS*	**Sn**	**08 50 14.7**	**-3.6**
BENV	**Beln**	**4.63**	**271**	*eP*	**Pn**	**08 49 32.2**	**+2.6**
BENV				*eS*	**Sn**	**08 50 22.6**	**+0.1**
BAUV	**El Baul**	**5.17**	**259**	*eP*	**Pn**	**08 49 38.5**	**+1.4**
BAUV				*eS*	**Sn**	**08 50 34.8**	**-0.9**
TEPV	**Terepaima**	**6.20**	**271**	*eP*	**Pn**	**08 49 52.4**	**+1.2**
TEPV				*eS*	**Sn**	**08 50 58.9**	**-2.1**

*KRNET **26** 09:01:37.1±0.1,39.°82N×72.°79E,h23km,mb2.9*
*SOME **26** 09:01:39.2,39.°85N×73.°02E,h30km*
*ISU **26** 09:01:39.8,39.°89N×72.°64E,h11km*
*NNC **26** 09:01:40.1±2.0,40.°02N×73.°04E,h0km,mb3.6,mpv3.2, Error ellipse: s-maj=15.0km s-min=9.1km az=170.0*
ISC 26 09:01:35.8±1.5,39.74N±0.°05×72.82E±0.°03,h7km±10km, n42,σ0°90/72,17C-13D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SFK	**Sufi-Kurgan**	**0.60**	**62**	↑*eP*	**Pb**	**09 01 48.6**	**-0.1**
	baz=70						
SFK				↑*eS*	**Sb**	**09 01 57.1**	**-0.4**
	baz=70						
OHH	**Osh**	**0.79**	**358**	↓*eP*	**Pg**	**09 01 50.8**	**-0.1**
	baz=0.0						
OHH				↓*eS*	**Sg**	**09 02 00.7**	**-0.5**
	baz=0.0						
DRK	**Karamyk**	**0.83**	**252**	↑*eP*	**Pb**	**09 01 52.9**	**+0.2**
	baz=47						
DRK				↑*eS*	**Sb**	**09 02 04.3**	**+0.2**
	baz=47						
TSTA	**Tashata**	**0.88**	**343**	P	**Pb**	**09 01 53.9**	**+0.5**
TSTA				S	**Sg**	**09 02 04.5**	**+0.3**
FRG	**Fergana**	**1.02**	**309**	P	**Pb**	**09 01 55.9**	**+0.1**
FRG				S	**Sg**	**09 02 08.0**	**-0.5**
ANR	**Andizhan**	**1.07**	**341**	P	**Pb**	**09 01 57.2**	**+0.4**
ANR				S	**Sg**	**09 02 10.3**	**-0.1**
CHMI	**Chimion**	**1.13**	**299**	P	**Pb**	**09 01 58.2**	**+0.5**
CHMI				S	**Sg**	**09 02 11.9**	**-0.2**
BTK	**Batken**	**1.57**	**282**	↓*eP*	**Pn**	**09 02 04.8**	**+0.6**
	baz=80						
BTK				↓*eS*	**Sn**	**09 02 25.1**	**+0.2**
	baz=80						
MINT	**Mingtut**	**1.59**	**298**	P	**Pg**	**09 02 06.5**	**+0.2**
MINT				S	**Sn**	**09 02 25.5**	**+0.3**
ARSB	**Arslanbob**	**1.59**	**4**	↑*eP*	**Pn**	**09 02 04.7**	**+0.2**
	baz=6.0						
ARSB				↑*eS*	**Sn**	**09 02 24.5**	**-0.9**
	baz=6.0						
KSNS	**Kasansay**	**1.73**	**326**	P	**Pb**	**09 02 07.9**	**-0.1**
KSNS				S	**Sn**	**09 02 29.0**	**+0.2**
TRKS	**Terek-Say**	**2.20**	**325**	↑*eP*	**Pn**	**09 02 12.3**	**-0.6**
	baz=24						
TRKS				↑*eS*	**Sn**	**09 02 38.0**	**-2.5**
	baz=24						
ARLS	**Aral**	**2.41**	**28**	↑*eP*	**Pn**	**09 02 16.5**	**+0.7**
	baz=29						
ARLS				↑*eS*	**Sn**	**09 02 44.9**	**-0.8**
	baz=29						
MNAS	**Manas**	**2.76**	**355**	↑*eP*	**Pn**	**09 02 21.1**	**+0.5**
	baz=56						
MNAS				↑*eS*	**Sn**	**09 02 53.0**	**-1.2**
	baz=56						
CHMG	**Chimgan**	**2.80**	**311**	P	**Pb**	**09 02 24.6**	**-1.6**
CHMG				S	**Sb**	**09 02 59.4**	**-1.4**
UCH	**Uchtor**	**2.80**	**27**	↓*eP*	**Pn**	**09 02 22.0**	**+0.5**
	baz=28						
UCH				↓*eS*	**Sn**	**09 02 54.9**	**-0.8**
	baz=28						
EKS2	**Erkin-Say**	**3.01**	**14**	↓*eP*	**Pn**	**09 02 24.6**	**+0.6**
	baz=14						
EKS2				↓*eS*	**Sn**	**09 02 59.3**	**-1.1**
	baz=14						
MRKS	**Merke**	**3.02**	**6**	Pg	**Pb**	**09 02 30.7**	**+0.7**
	4.9nm,0.2s						
MRKS				Lg	Lg	09 03 07.5	
	40nm,0.4s						
MRKS	**Merke**	**3.02**	**6**	*eP*	**Pb**	**09 02 30.6**	**+0.7**
	4.9nm,0.2s						
MRKS				*eS*	**Sb**	**09 03 07.5**	**+0.3**
	40nm,0.4s						
TAS	**Tashkent**	**3.12**	**302**	↓*eP*	**Pn**	**09 02 26.2**	**+0.8**
	baz=1.0						
TAS				↓*eS*	**Sn**	**09 03 01.8**	**-1.1**
	baz=1.0						
AAK	**Ala-Archa**	**3.16**	**23**	↓Pg	**Pb**	**09 02 32.5**	**+0.1**
	2.4nm,0.5s						
AAK				↑Lg	Lg	09 03 12.2	
	14nm,0.7s						
AAK	**Ala-Archa**	**3.16**	**23**	↑*iP*	**Pn**	**09 02 26.8**	**+0.6**
	baz=24						
AAK				↑*eS*	**Sn**	**09 03 03.1**	**-1.1**
	baz=24						
KBK	**Karagaybulak**	**3.33**	**28**	↓*eP*	**Pn**	**09 02 29.2**	**+0.7**
	baz=29						
KBK				↓*eS*	**Sn**	**09 03 07.3**	**-1.1**
	baz=29						
TKM2	**Tokmak 2**	**3.81**	**32**	↑Pg	**Pb**	**09 02 45.1**	**+1.6**
	2.5nm,0.8s						
TKM2				↑Lg	Lg	09 03 32.0	
	3.5nm,0.4s						
BRLS	**Borolday**	**3.98**	**327**	Pg	**Pb**	**09 02 47.4**	**+1.0**
	4.6nm,0.2s						
BRLS				Lg	Lg	09 03 36.4	
	5.7nm,0.3s						
BRLS	**Borolday**	**3.98**	**327**	*eP*	**Pb**	**09 02 47.4**	**+1.0**
	4.6nm,0.2s						
BRLS				*eS*	**Sb**	**09 03 36.4**	**+1.7**
	5.7nm,0.3s						
KST	**Kastek**	**4.06**	**35**	Pg	**Pb**	**09 02 47.2**	**-0.6**
	1.6nm,0.3s						
KST				Lg	Lg	09 03 36.0	
	6.6nm,0.3s						
KST	**Kastek**	**4.06**	**35**	*eP*	**Pb**	**09 02 47.2**	**-0.6**
	1.6nm,0.3s						
KST				*eS*	**Sb**	**09 03 36.0**	**-1.2**
	6.6nm,0.3s						
DGS	**Degeres**	**4.15**	**31**	Pg	**Pb**	**09 02 49.6**	**+0.5**
	4.0nm,0.5s						
DGS				Lg	Lg	09 03 40.0	
	9.5nm,0.7s						
DGS	**Degeres**	**4.15**	**31**	*eP*	**Pb**	**09 02 49.6**	**+0.5**
	4.0nm,0.5s						
DGS				*eS*	**Sb**	**09 03 40.0**	**+0.5**
	9.5nm,0.7s						
MTBS	**Maitube**	**4.34**	**38**	Pg	**Pb**	**09 02 52.8**	**+0.3**
	2.2nm,0.2s						
MTBS				Lg	Lg	09 03 45.8	
	9.7nm,0.4s						
MTBS	**Maitube**	**4.34**	**38**	*eP*	**Pb**	**09 02 52.9**	**+0.3**
	2.2nm,0.2s						
MTBS				*eS*	**Sb**	**09 03 45.8**	**+0.6**
	9.7nm,0.4s						
IZV	**Izvestkoviy**	**4.36**	**40**	Pg	**Pb**	**09 02 53.6**	**+0.8**
	1.7nm,0.3s						
IZV				Lg	Lg	09 03 47.0	
	8.0nm,0.4s						
IZV	**Izvestkoviy**	**4.36**	**40**	*eP*	**Pb**	**09 02 53.6**	**+0.8**
	1.7nm,0.3s						
IZV				*eS*	**Sb**	**09 03 47.0**	**+1.3**
	8.0nm,0.4s						
KRBS	**Karabastau**	**4.50**	**27**	Pg	**Pb**	**09 02 56.2**	**+1.1**
	2.0nm,0.3s						
KRBS				Lg	Lg	09 03 51.7	
	4.1nm,0.2s						
KRBS	**Karabastau**	**4.50**	**27**	*eP*	**Pb**	**09 02 56.2**	**+1.1**
	2.0nm,0.3s						
KRBS				*eS*	**Sb**	**09 03 51.7**	**+2.1**
	4.1nm,0.2s						
TNSS	**Tian-Shan**	**4.53**	**42**	Pg	**Pb**	**09 02 56.3**	**+0.4**
	2.1nm,0.5s						
TNSS				Lg	Lg	09 03 51.8	
	3.3nm,0.5s						
TNSS	**Tian-Shan**	**4.53**	**42**	*eP*	**Pb**	**09 02 56.3**	**+0.4**
	2.1nm,0.5s						
TNSS				*eS*	**Sb**	**09 03 51.8**	**+1.0**
	3.3nm,0.5s						
MDOK	**Medeo**	**4.67**	**42**	Pg	**Pb**	**09 02 59.0**	**+0.9**
	2.3nm,0.4s						
MDOK				Lg	Lg	09 03 56.4	
	2.6nm,0.4s						
MDOK	**Medeo**	**4.67**	**42**	*eP*	**Pb**	**09 02 59.0**	**+0.9**
	2.3nm,0.4s						
MDOK				*eS*	**Sb**	**09 03 56.4**	**+1.8**
	2.6nm,0.4s						
KOTS	**Kotyrbulak**	**4.75**	**41**	Pg	**Pg**	**09 03 05.8**	**-1.0**
	4.7nm,0.5s						
KOTS				Lg	Lg	09 04 08.0	
	17nm,0.5s						
KOTS	**Kotyrbulak**	**4.75**	**41**	*eP*	**Pg**	**09 03 05.8**	**-1.0**
	4.7nm,0.5s						
KOTS				*eS*	**Sg**	**09 04 08.0**	**-0.5**
	17nm,0.5s						

IDC 26 09:02:09.8±3.9,14.°89S×73.°66W,h133km±38km,mb3.3/3, mbtmp3.7/5,MS2.7/1,Error ellipse: s-maj=43.5km s-min=27.2km az=78.0,Central Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.51**	**105**	P	Pn	09 03 29.5	-0.8
	3.4nm,0.3s,baz=305,slow=8.2,SNR=54						
LPAZ				S	Sn	09 04 22.7	-10
	1.9nm,0.9s,baz=263,slow=9.5,SNR=1.1						
LVC	**Limon Verde**	**8.90**	**150**	P	Pn	09 04 17.2	+1.5
	1.5nm,0.3s,baz=341,slow=11,SNR=6.4						
LVC				S	Sn	09 05 54.7	+0.2
	1.6nm,0.5s,baz=287,slow=16,SNR=2.3						
LVC				LR	LR	09 07 50.9	
	comp=Z,47nm,20.8s,baz=278,slow=38						
PLCA	**Paso Flores**	**25.89**	**175**	P	P	09 07 28.8	-0.6
	2.6nm,1.0s,baz=328,slow=8.8,SNR=2.4						
	2.6nm,1.0s						
TXAR	**Lajitas Array**	**52.65**	**327**	P	P	09 11 10.4	-0.1
	0.1nm,0.4s,baz=152,slow=9.0,SNR=4.0						
	0.1nm,0.4s						
TORD	**Torodi Ar. Bea**	**79.61**	**73**	P	P	09 14 03.2	+0.4
	0.8nm,0.8s,baz=256,slow=4.6,SNR=3.4						
	0.8nm,0.8s						

*MOS **26** 09:08:30.7±1.1,30.°02N×138.°73E,h416km,mb4.0/16, Error ellipse: s-maj=13.3km s-min=6.4km az=103.7*
*JMA **26** 09:08:30.5±0.2,30.°1N±1.°1×139.°9E±0.°1,h463km,MV3.9/26, NEAR TORISHIMA IS*
*IDC **26** 09:08:33.3±1.2,30.°08N×138.°75E,h429km±13km, mb3.4/20,mbtmp4.2/25,Error ellipse: s-maj=14.4km s-min=9.4km az=84.0*
*NEIC **26** 09:08:33.6±1.1,30.°0N±0.°1×138.°7E±0.°1,h421km±9km, mb4.1/33,Error ellipse: s-maj=15.7km s-min=13.4km az=216.0*
ISC 26 09:08:32.2±0.4,30.°01N±0.°05×138.°81E±0.°07,h421km, n119,σ1°68/142,mb3.9/46,8C-7D,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**3.21**	**15**	P	**P**	**09 09 39.5**	**+0.9**
	76nm,0.4s,baz=351,slow=19,SNR=8.5						
JHJ				S	**S**	**09 10 27.5**	**-5.1**
	71nm,0.6s,baz=258,slow=15,SNR=1.4						
JHJ2	**Mitsune**	**3.21**	**15**	P	**P**	**09 09 39.6**	**+1.0**
JHJ2	**Mitsune**	**3.21**	**15**	P	**P**	**09 09 39.6**	**+1.0**
JHJ2				*eS*	**S**	**09 10 32.7**	**+0.2**
JMKN	**Mikurajimanish**	**3.93**	**9**	*eP*	**P**	**09 09 45.7**	**+1.0**
CBIJ	**Chichi jima**	**4.15**	**134**	P	**P**	**09 09 46.8**	**-0.2**
CBIJ				*eS*	**S**	**09 10 45.5**	**-2.2**
JCJ	**Chichijima**	**4.15**	**134**	P	**P**	**09 09 46.9**	**0.0**
JCJ	**Chichijima**	**4.15**	**134**	P	**P**	**09 09 42.4**	**-4.5**
	92nm,0.3s,baz=101,slow=24,SNR=22						
JCJ				S	**S**	**09 10 40.3**	**-7.4**
	238nm,0.3s,baz=278,slow=20,SNR=5.6						
JHH2	**Haha-jima-NKT2**	**4.48**	**138**	*eP*	**P**	**09 09 49.8**	**-0.2**
JHH2				*eS*	**S**	**09 10 51.8**	**-1.6**
JTNC	**Tanabenakahech**	**4.67**	**325**	P	**P**	**09 09 53.8**	**+2.0**
JKN2	**Miekihoku**	**4.74**	**334**	*eP*	**P**	**09 09 54.8**	**+2.5**
BSO1	**Boso 1**	**4.98**	**21**	P	**P**	**09 09 54.4**	**+0.3**
BSO1				*eS*	**S**	**09 11 00.2**	**-1.1**
BSO4	**Boso 4**	**5.13**	**14**	*eP*	**P**	**09 09 56.1**	**-0.1**
BSO4				*eS*	**S**	**09 11 03.3**	**-1.6**
JOD2	**Odawara 2**	**5.25**	**2**	P	**P**	**09 09 57.8**	**+0.3**
JOD2				*eS*	**S**	**09 11 05.8**	**-1.4**
JAO	**Obara**	**5.41**	**346**	*eP*	**P**	**09 10 00.1**	**+0.9**
INU	**Inuyama**	**5.54**	**345**	P	**P**	**09 10 02.4**	**+2.0**
JGF	**Kuroka**	**5.71**	**348**		**P**	**09 10 05.0**	**+2.7**
JHU	**Hanno**	**5.84**	**4**	*eP*	**P**	**09 10 01.8**	**-1.8**
JHU				*eS*	**S**	**09 11 15.2**	**-3.3**
JRY	**Ryogami san**	**6.00**	**1**	P	**P**	**09 10 05.6**	**+0.4**
JRY				*eS*	**S**	**09 11 19.8**	**-1.6**
JYT	**Yasato**	**6.31**	**10**	*eP*	**P**	**09 10 07.4**	**-1.1**
JYT				*eS*	**S**	**09 11 21.8**	**-5.8**
JAG	**Ashikaga**	**6.42**	**5**	P	**P**	**09 10 08.6**	**-1.2**
JAG				*eS*	**S**	**09 11 23.0**	**-6.8**
MJAR	**Matsushiro Arr**	**6.54**	**356**	P	**P**	**09 10 10.7**	**-0.8**
	1.7nm,0.5s,baz=93,slow=7.9,SNR=9.2						
MJAR				S	**S**	**09 11 27.9**	**-4.2**
	4.1nm,0.9s,baz=172,slow=17,SNR=5.0						
MAJO	**Matsushiro**	**6.54**	**356**	P	**P**	**09 10 11.6**	**+0.1**
MAJO	**Matsushiro**	**6.54**	**356**	P	**P**	**09 10 11.6**	**+0.1**
MJB9	**Matsu-Tunnel**	**6.54**	**356**	P	**P**	**09 10 12.5**	**+1.0**
JTM	**Tenmabayashi**	**10.91**	**9**	P	**P**	**09 11 00.3**	**+1.0**
TJN	**Taejon**	**11.50**	**307**	↑*eP*	**P**	**09 11 03.6**	**-2.2**
KSRS	**Korea Array**	**11.71**	**312**	P	**P**	**09 11 09.7**	**+1.5**
	2.7nm,0.7s,baz=123,slow=11,SNR=5.9						
ERM	**Erimo**	**12.49**	**15**	P	**P**	**09 11 16.5**	**0.0**
ERM	**Erimo**	**12.49**	**15**	P	**P**	**09 11 16.5**	**0.0**
PSTR	**Posyet**	**14.16**	**335**	↑*eP*	**P**	**09 11 33.4**	**-1.4**
ASAJ	**Asahikawa**	**14.40**	**11**	P	**P**	**09 11 38.4**	**+1.0**
	4.9nm,0.7s,baz=217,slow=10.0,SNR=5.2						
ASAJ	**Asahikawa**	**14.40**	**11**	P	**P**	**09 11 38.5**	**+1.1**
JKA	**Kamikawa-asahi**	**14.40**	**11**	P	**P**	**09 11 38.5**	**+1.1**
USA0B	**Ussuriysk Arra**	**15.17**	**341**	P	**P**	**09 11 46.3**	**+0.7**
USA0B	**Ussuriysk Arra**	**15.17**	**341**	P	**P**	**09 11 46.3**	**+0.7**
USA0B				pmax	pmax		
	comp=Z,4.0nm,0.9s						

MKAR				ScP	**ScP**	**09 20 56.9**	**-1.0**	
	comp=Z,0.7nm,0.9s,baz=72,slow=4.7,SNR=3.6							
	comp=Z,2.3nm,0.7s							
KURK	**Kurchatov**	**48.84**	**313**	P	**P**	**09 16 37.1**	**-0.1**	
KURK	**Kurchatov**	**48.84**	**313**	P	**P**	**09 16 37.1**	**-0.1**	
KURK				pmax	pmax			
	comp=Z,4.0nm,1.0s							
KURBB	**Kurchatov Arra**	**48.89**	**313**	P	**P**	**09 16 37.1**	**-0.5**	
	comp=Z,2.9nm,0.4s,baz=91,slow=8.1,SNR=38							
KURBB				PcP	**PcP**	**09 17 54.0**	**-0.5**	
	comp=Z,0.4nm,0.4s,baz=89,slow=3.8,SNR=3.1							
	comp=Z,2.9nm,0.4s							
F15K	**North Star Dit**	**49.39**	**27**	P	**P**	**09 16 42.8**	**+1.7**	
F15K				IAmb	IAmb	09 17 00.0		
	comp=Z,10nm,1.1s							
WB0	**Warramunga Arr**	**49.67**	**185**	P	**P**	**09 16 44.7**	**+0.9**	
WB0				IAmb	IAmb	09 16 45.6		
	comp=Z,8.2nm,0.7s							
WRAB	**Tennant Creek**	**49.84**	**185**	P	**P**	**09 16 45.9**	**+0.9**	
WRAB				IAmb	IAmb	09 16 47.1		
	comp=Z,10.0nm,1.1s							
WRAB	**Tennant Creek**	**49.84**	**185**⇑	*e*P	**P**	**09 16 45.9**	**+0.9**	
WRAB				*i* *PP	**pP**	**09 18 04.1**	**-3.3**	
WRAB				pmax	pmax			
	comp=Z,17nm,1.8s							
WB2	**Warramunga Arr**	**49.84**	**185**	P	**P**	**09 16 46.0**	**+0.9**	
WB2				IAmb	IAmb	09 16 46.6		
	comp=Z,5.6nm,0.6s							
WR0	**Warramunga Arr**	**49.85**	**185**	P	**P**	**09 16 45.9**	**+0.8**	
WR0				IAmb	IAmb	09 16 46.6		
	comp=Z,6.0nm,0.8s							
WRA	**Warramunga Arr**	**49.85**	**186**	P	**P**	**09 16 46.0**	**+0.9**	
WRA	**Warramunga Arr**	**49.85**	**186**	P	**P**	**09 16 45.8**	**+0.7**	
	comp=Z,2.9nm,0.4s,baz=0.7,slow=7.7,SNR=87							
WRA				PcP	**PcP**	**09 17 59.9**	**+1.5**	
	comp=Z,0.6nm,0.4s,baz=360,slow=4.0,SNR=6.4							
	comp=Z,2.9nm,0.4s							
K15K	**Wolf Creek Mou**	**49.86**	**32**	P	**P**	**09 16 46.9**	**+2.3**	
N15K	**Kwethluk River**	**50.17**	**35**	P	**P**	**09 16 48.7**	**+1.7**	
N15K				IAmb	IAmb	09 16 54.7		
	comp=Z,6.5nm,1.1s							
M16K	**Timber Creek**	**50.84**	**34**	P	**P**	**09 16 53.1**	**+1.2**	
BOOM	**Boomskoye usch**	**51.14**	**302**	P	**P**	**09 16 55.1**	**+0.5**	
BOOM	**Boomskoye usch**	**51.14**	**302**	P	**P**	**09 16 55.1**	**+0.5**	
BOOM				pmax	pmax			
	comp=Z,3.0nm,0.6s							
AAK	**Ala-Archa**	**52.18**	**303**	P	**P**	**09 17 02.7**	**+0.5**	
AAK	**Ala-Archa**	**52.18**	**303**	P	**P**	**09 17 02.7**	**+0.5**	
AAK				pmax	pmax			
	comp=Z,2.0nm,0.6s							
K20K	**Telida**	**53.40**	**31**	P	**P**	**09 17 12.8**	**+2.3**	
K20K				IAmb	IAmb	09 17 13.2		
	comp=Z,4.2nm,0.7s							
AS31	**Alice Springs**	**53.57**	**186**	P	**P**	**09 17 13.4**	**+1.2**	
ASAR	**Alice Springs**	**53.57**	**186**	P	**P**	**09 17 13.3**	**+1.1**	
ASAR	**Alice Springs**	**53.57**	**186**	P	**P**	**09 17 13.0**	**+0.8**	
	comp=Z,2.2nm,0.5s,baz=4.1,slow=6.7,SNR=42							
	comp=Z,2.2nm,0.5s							
ASAR	**Alice Springs**	**53.57**	**186**	P	**P**	**09 17 13.3**	**+1.1**	
BVAR	**Borovoye Array**	**53.90**	**316**	P	**P**	**09 17 14.1**	**-0.1**	
	comp=Z,6.4nm,0.4s,baz=92,slow=7.0,SNR=29							
	comp=Z,6.4nm,0.4s							
BRVK	**Borovoye**	**53.96**	**316**	P	**P**	**09 17 15.1**	**+0.5**	
BRVK				IAmb	IAmb	09 17 15.3		
	comp=Z,3.8nm,0.6s							
BRVK	**Borovoye**	**53.96**	**316**	P	**P**	**09 17 15.1**	**+0.5**	
BRVK				pmax	pmax			
	comp=Z,4.0nm,0.6s							
ILAR	**Eielson Array**	**56.62**	**30**	P	**P**	**09 17 32.9**	**-0.2**	
	comp=Z,0.6nm,0.6s,baz=259,slow=4.6,SNR=13							
	comp=Z,0.6nm,0.6s							
CHGR	**Chuyangaron**	**56.93**	**299**	P	**P**	**09 17 36.0**	**+0.2**	
CHGR	**Chuyangaron**	**56.93**	**299**	P	**P**	**09 17 36.0**	**+0.2**	
CHGR				pmax	pmax			
	comp=Z,24nm,0.7s							
SIMJ	**Simiganj**	**57.04**	**299**	P	**P**	**09 17 36.4**	**-0.2**	
SIMJ				IAmb	IAmb	09 17 37.8		
	comp=Z,7.1nm,0.8s							
SCRK	**Sand Creek**	**57.91**	**31**	P	**P**	**09 17 42.5**	**+0.4**	
SCRK				IAmb	IAmb	09 17 43.7		
	comp=Z,5.9nm,1.1s							
J26L	**Joseph Creek**	**58.06**	**30**	P	**P**	**09 17 43.5**	**+0.4**	
J26L				IAmb	IAmb	09 17 44.1		
	comp=Z,4.4nm,0.8s							
G29M	**Pine Creek**	**60.13**	**27**	P	**P**	**09 17 58.9**	**+1.9**	
G29M				IAmb	IAmb	09 17 59.3		
	comp=Z,3.3nm,0.6s							
ARU	**Arti**	**60.31**	**321***d*	*i*P	**P**	**09 17 58.0**	**-0.3**	
ARU						09 20 19.1		
ARU				S	**S**	**09 25 40.1**	**+1.3**	
ARU				SS	**SS**	**09 29 45.5**	**+1.1**	
ARU				pmax	pmax			
	comp=Z,4.0nm,0.6s							
EPYK	**Eagle Plains**	**60.72**	**27**	P	**P**	**09 18 02.6**	**+1.6**	
EPYK				IAmb	IAmb	09 18 03.0		
	comp=Z,6.1nm,0.6s							
I30M	**Mount Dempster**	**61.03**	**29**	P	**P**	**09 18 04.5**	**+1.3**	
I30M				IAmb	IAmb	09 18 05.5		
	comp=Z,2.6nm,0.6s							
FORT	**Forrest**	**61.31**	**191**	P	**P**	**09 18 06.9**	**+1.7**	
STKA	**Stephens Creek**	**61.60**	**177**	P	**P**	**09 18 08.2**	**+1.1**	
	comp=Z,1.0nm,0.3s,baz=360,slow=6.7,SNR=6.4							
	comp=Z,1.0nm,0.3s							
STKA	**Stephens Creek**	**61.60**	**177**⇑	*e*P	**P**	**09 18 07.5**	**+0.4**	
STKA				pmax	pmax			
	comp=Z,1.0nm,0.3s							
KIRV	**Kirov**	**64.62**	**325**‖	*e*P	**P**	**09 18 26.2**	**-0.1**	
ARCES	**ARCESS Array B**	**69.81**	**340**	P	**P**	**09 18 58.8**	**+0.4**	
	comp=Z,9.1nm,1.0s,baz=71,slow=8.7,SNR=2.4							
	comp=Z,9.1nm,1.0s							
YKA	**Yellowknife Ar**	**70.99**	**28**	P	**P**	**09 19 05.2**	**-0.3**	
	comp=Z,0.5nm,0.8s,baz=299,slow=7.1,SNR=10							
	comp=Z,0.5nm,0.8s							
KBZ	**Khabaz**	**73.86**	**311**	P	**P**	**09 19 22.4**	**-0.2**	
	comp=Z,3.6nm,0.7s,baz=118,slow=6.0,SNR=5.5							
	comp=Z,3.6nm,0.7s							
KBZ	**Khabaz**	**73.86**	**311**‖	*e*P	**P**	**09 19 22.6**	**0.0**	
KBZ				pmax	pmax			
	comp=Z,4.0nm,0.9s							
KIV	**Kislovodsk**	**73.90**	**312**⇑	*e*P	**P**	**09 19 24.5**	**+1.6**	
KIV						09 19 34.0		
KIV				*PP	**pP**	**09 20 52.0**	**-1.8**	
KIV				*SP	**sP**	**09 21 35.0**	**-2.9**	
KIV						09 22 15.0		
KIV				*e*		09 29 07.9		
KIV				pmax	pmax			
	comp=Z,8.0nm,1.1s							
FINES	**FINESS Array B**	**74.02**	**333**	P	**P**	**09 19 23.0**	**-0.1**	
	comp=Z,1.0nm,0.4s,baz=64,slow=5.2,SNR=18							
	comp=Z,1.0nm,0.4s							
AKASG	**Malin Array Be**	**78.52**	**322**	P	**P**	**09 19 47.8**	**-0.5**	
	comp=Z,1.0nm,0.4s,baz=49,slow=6.2,SNR=6.6							
	comp=Z,1.0nm,0.4s							
HFS	**Hagfors**	**79.57**	**335**	P	**P**	**09 19 53.3**	**-0.4**	
	comp=Z,1.2nm,0.5s,baz=90,slow=3.0,SNR=9.3							
	comp=Z,1.2nm,0.5s							
NB2	**NORSAR Subarra**	**79.80**	**337**	P	**P**	**09 19 54.5**	**-0.5**	
	comp=Z,0.5nm,0.4s,baz=45,slow=5.3							
NOA	**NORSAR Array B**	**79.80**	**337**	P	**P**	**09 19 54.8**	**-0.2**	
	comp=Z,0.7nm,0.6s,baz=44,slow=5.2,SNR=5.2							
	comp=Z,0.7nm,0.6s							
NVAR	**Mina Array Bea**	**81.02**	**51**	P	**P**	**09 20 03.1**	**+1.0**	
	comp=Z,0.3nm,0.6s,baz=284,slow=6.4,SNR=4.6							
	comp=Z,0.3nm,0.6s							
BR131	**Keskin Array S**	**81.86**	**311**⇑	*e*P	**P**	**09 20 06.4**	**+0.1**	
BRTR	**Keskin Array B**	**81.86**	**311**	P	**P**	**09 20 06.9**	**+0.6**	
BRTR	**Keskin Array B**	**81.86**	**311**	P	**P**	**09 20 06.6**	**+0.3**	
	comp=Z,2.5nm,0.8s,baz=94,slow=3.7,SNR=10							
	comp=Z,2.5nm,0.8s							
MMAI	**Mount Meron Ar**	**84.21**	**305**	P	**P**	**09 20 17.4**	**-0.9**	
	comp=Z,2.1nm,0.7s,baz=38,slow=7.3,SNR=2.5							
	comp=Z,2.1nm,0.7s							
FDMO	**Fiordimonte**	**91.89**	**323**	P	**P**	**09 20 55.6**	**+1.3**	
QSPA	**South Pole Qui**	**119.77**	**180**	PKP	**PKiKP**	**09 26 32.4**	**-0.2**	
	comp=Z,0.6nm,0.5s,baz=314,slow=0.8,SNR=11							
TORD	**Torodi Ar. Bea**	**120.44**	**310**	PKP	**PKiKP**	**09 26 34.9**	**-0.5**	
	comp=Z,0.2nm,0.5s,baz=30,slow=2.1,SNR=1.7							

*DJA **26** 09:35:40.9±1.5,3°S±5°×13°1E±°, h12km±14km, M3.4/7, MLv3.4/7*
*IDC **26** 09:35:50.1±7.8, 4.70S×130.47E, h0km, mb3.9/1, mbtmp3.6/3, ML3.3/2, Error ellipse: s-maj=134.5km s-min=100.2km az=91.0*
ISC 26 09:35:39.5±1.1,**3.4S**±0.1×**131.1E**±0.1,**h10**km,**n6**,σ**2.8**s**72**/6,

Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FAKI	**Fak Fak**	**1.21**	**69**	P	**Pg**	**09 36 03.5**	**+0.7**
BNDI	**Bandanaira**	**1.67**	**226**	P	**Pb**	**09 36 11.3**	**+0.9**
SWI	**Sorong**	**2.49**	**3**	P	**Pn**	**09 36 19.3**	**-0.8**
WRA	**Warramunga Arr**	**16.78**	**169**	Pn	**Pn**	**09 39 30.9**	**-3.9**
	0.1nm,0.3s,baz=349,slow=13,SNR=1.5						
WRA				Sn	Sn	09 42 25.8	-16
	baz=345,slow=25						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**20.36**	**173**	P	**P**	**09 40 16.3**	**-0.2**
	0.3nm,0.3s,baz=352,slow=11,SNR=16						
	0.7nm,0.4s						
STKA	**Stephens Creek**	**30.03**	**162**	P	**P**	**09 41 51.0**	**+2.2**
	1.1nm,0.7s,baz=329,slow=12,SNR=1.5						
	1.1nm,0.7s						

*MEX **26** 09:52:27.7±1.1, 18.16N×100.63W, h50km±8km, MD4.4*
*IDC **26** 09:52:32.4±4.3, 18.50N×100.19W, h107km±37km, mb3.0/4, mbtmp3.5/8, Error ellipse: s-maj=51.0km s-min=17.1km az=46.0*
ISC 26 09:52:25.9±0.8,**18.15N**±0.02×**100.56W**±0.02,**h52**km±7km,
n81,σ**2.9**s**19**/134,**mb3.3**/4,**Guerrero**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ARIG	**Puente Sto Nin**	**0.25**	**57**	*e*P	**Pn**	**09 52 34.8**	**0.0**
ARIG				*e*S	**Sn**	**09 52 41.9**	**+0.7**
TEJU	**Tejupilco**	**0.85**	**27**	*e*P	**Pn**	**09 52 41.4**	**-0.4**
TEJU				*e*S	**Sn**	**09 52 53.5**	**0.0**
PET2	**Petatlan**	**0.90**	**228**	*e*P	**Pn**	**09 52 41.3**	**-1.0**
PET2				*e*S	**Sn**	**09 52 53.6**	**-0.8**
MEIG	**Mezcala**	**0.93**	**104**	*e*P	**Pn**	**09 52 43.8**	**+1.0**
MEIG				*e*S	**Sn**	**09 52 56.9**	**+1.8**
ATYC	**Atoyac**	**0.94**	**172**	*e*P	**Pn**	**09 52 43.2**	**+0.4**
ATYC				*e*S	**Sn**	**09 52 56.9**	**+1.7**
ZIIG	**Zihuatanejo**	**1.01**	**238**	*e*P	**Pn**	**09 52 42.7**	**-1.2**
ZIIG				*e*S	**Sn**	**09 52 56.1**	**-1.0**
PLIG	**Platanillo**	**1.04**	**76**	*e*P	**Pn**	**09 52 45.1**	**+0.8**
CAIG	**El Cayaco**	**1.13**	**165**	*e*P	**Pn**	**09 52 45.5**	**+0.1**
CAIG				*e*S	**Sn**	**09 52 59.4**	**-0.4**
UON	**La Union**	**1.20**	**262**	*i* P	**Pn**	**09 52 45.2**	**-1.2**
UON				*i* S	**Sn**	**09 53 00.3**	**-1.4**
MAVM	**Malinalco, Edo**	**1.30**	**51**	*e*P	**Pn**	**09 52 48.1**	**+0.3**
MAVM				*i* S	**Sn**	**09 53 03.2**	**-1.1**
TOVM	**TOLUCA**	**1.41**	**36**	*e*P	**Pn**	**09 52 49.9**	**+0.3**
TOVM				*i* S	**Sn**	**09 53 02.9**	**-4.3**
VNTA	**La Mica**	**1.42**	**150**	*e*S	**Sn**	**09 53 03.7**	**-3.2**
DAIG	**Los Arroyos**	**1.42**	**142**	*e*P	**Pn**	**09 52 50.1**	**+0.7**
DAIG				*e*S	**Sn**	**09 53 04.6**	**-2.3**
ACP2	**Acapulco**	**1.42**	**153**	*e*P	**Pn**	**09 52 49.9**	**+0.5**
ACP2				*e*S	**Sn**	**09 53 04.8**	**-0.2**
YAIG	**Yautepec**	**1.59**	**63**	*e*P	**Pn**	**09 52 52.5**	**+0.7**
YAIG				*e*S	**Sn**	**09 53 12.0**	**+0.6**
INVM	**La Marquesa**	**1.60**	**44**	*e*P	**Pn**	**09 52 52.9**	**+0.8**
INVM				*i* S	**Sn**	**09 53 08.5**	**-3.4**
AOVM	**Tlapan**	**1.62**	**46**	*e*P	**Pn**	**09 52 53.2**	**+0.7**
MOIG	**Morelia**	**1.64**	**339**	*e*P	**Pn**	**09 52 51.9**	**-0.6**
MOIG				*e*S	**Sn**	**09 53 08.2**	**-4.4**
TLVM	**San Miguel Top**	**1.71**	**51**	*e*P	**Pn**	**09 52 54.7**	**+1.1**
TLVM				*i* S	**Sn**	**09 53 10.9**	**-3.5**
CJVM	**Cuajimalpa**	**1.71**	**45**	*e*P	**Pn**	**09 52 54.8**	**+1.2**
ATVM	**ATLACOMULCO**	**1.75**	**23**	*e*P	**Pn**	**09 52 54.2**	**0.0**
XCVM	**Xochimilco**	**1.76**	**51**	*e*P	**Pn**	**09 52 54.8**	**+0.5**
XCVM				*i* S	**Sn**	**09 53 12.4**	**-3.3**
CUP5	**Mexico City**	**1.76**	**48**	*e*P	**Pn**	**09 52 55.3**	**+1.0**
CUP5				*e*S	**Sn**	**09 53 19.2**	**+3.4**
COVM	**Coyoacan**	**1.79**	**48**	*e*P	**Pn**	**09 52 55.7**	**+1.0**
COVM				*e*S	**Sn**	**09 53 17.3**	**+0.8**
BJVM	**Benito Juarez**	**1.80**	**47**	*e*P	**Pn**	**09 52 55.8**	**+1.0**
BJVM				*e*S	**Sn**	**09 53 15.8**	**-0.8**
MPVM	**San Francisco**	**1.81**	**54**	*e*P	**Pn**	**09 52 56.2**	**+1.4**
MPVM				*i* S	**Sn**	**09 53 18.5**	**+1.7**
APVM	**Azcapotzalco**	**1.85**	**44**	*e*P	**Pn**	**09 52 56.6**	**+1.1**
THVM	**De Xico**	**1.90**	**52**	*e*P	**Pn**	**09 52 57.1**	**+0.9**
THVM				*i* S	**Sn**	**09 53 19.8**	**+0.7**
PBVM	**Pinon**	**1.90**	**47**	*e*P	**Pn**	**09 52 55.3**	**-0.6**
PBVM				*i* S	**Sn**	**09 53 12.6**	**-6.2**
ACIG	**Acambay**	**1.94**	**19**	*e*P	**Pn**	**09 52 56.5**	**-0.1**
HMTT	**Tlapaneco**	**1.94**	**100**	*e*	**Sn**	**09 53 13.9**	**-5.9**
AMVM	**AMECAMECA**	**1.95**	**60**	*e*P	**Pn**	**09 52 58.3**	**+1.4**
CRIG	**Cruz Grande**	**1.96**	**135**	*e*P	**Pn**	**09 52 57.6**	**+0.9**
CRIG				*e*S	**Sn**	**09 53 19.6**	**-0.6**
TLIG	**Tlapa**	**1.99**	**107**	*e*P	**Pn**	**09 52 59.5**	**+2.3**
TLIG				*e*S	**Sn**	**09 53 22.7**	**+1.6**
MGIG	**Malinaltepec**	**2.05**	**116**	*e*P	**Pn**	**09 53 00.2**	**+2.1**
MGIG				*i* S	**Sn**	**09 53 23.7**	**+1.0**
PPM	**Popocatepetl**	**2.05**	**63**	*e*P	**Pn**	**09 52 58.9**	**+1.3**
PPM				*e*S	**Sn**	**09 53 26.2**	**+3.0**
FTIG	**Fresnillo de T**	**2.33**	**95**	*e*P	**Pn**	**09 53 04.0**	**+2.1**
FTIG				*e*S	**Sn**	**09 53 29.4**	**+0.1**
VTVM	**Tizayuca**	**2.34**	**46**	*e*P	**Pn**	**09 53 02.5**	**+0.3**
PHPU	**Puebla**	**2.44**	**68**	*e*P	**Pn**	**09 53 05.3**	**+1.7**
PHPU				*e*S	**Sn**	**09 53 31.9**	**-0.5**
JRQG	**Juriquilla Cam**	**2.55**	**2**	*e*P	**Pn**	**09 53 04.2**	**-0.9**
DEIG	**Demacu**	**2.58**	**34**	*e*P	**Pn**	**09 53 05.4**	**-0.2**
DEIG				*e*		09 53 38.1	
HLIG	**Huajuapan de L**	**2.65**	**96**	*e*P	**Pn**	**09 53 08.6**	**+2.3**
HLIG				*e*S	**Sn**	**09 53 37.4**	**+0.1**
MMIG	**Aquila**	**2.65**	**274**	*e*P	**Pn**	**09 53 04.6**	**-1.6**
MMIG				*e*S	**Sn**	**09 53 40.0**	**+3.0**
TXIG	**Tlaxiaco**	**2.81**	**108**	*e*P	**Pn**	**09 53 11.2**	**+2.6**
TXIG				*e*S	**Sn**	**09 53 42.3**	**+0.8**
PNIG	**Pinotepa**	**2.91**	**126**	*e*P	**Pn**	**09 53 11.4**	**+1.7**
PNIG				*e*S	**Sn**	**09 53 42.0**	**-1.5**
TPIG	**Tehuac#an**	**3.06**	**84**	*e*P	**Pn**	**09 53 14.0**	**+2.1**
TPIG				*e*S	**Sn**	**09 53 47.4**	**+0.1**
YOIG	**Yosondua**	**3.15**	**114**	*e*P	**Pn**	**09 53 16.0**	**+2.7**
YOIG				*e*S	**Sn**	**09 53 48.0**	**-1.8**
JUBC	**Volcan de Coli**	**3.16**	**296**	*e*P	**Pn**	**09 53 17.1**	**+3.7**
JUBC				*e*S	**Sn**	**09 53 49.1**	**-0.8**
EZ5V		**3.17**	**295**	*e*P	**Pn**	**09 53 15.1**	**+1.5**
EZ5V				*e*S	**Sn**	**09 53 51.6**	**+1.3**
MNGA	**Volcan de Coli**	**3.18**	**295**	*e*P	**Pn**	**09 53 14.7**	**+1.0**
MNGA				*e*S	**Sn**	**09 53 49.0**	**-1.5**
INCO	**Volcan de Coli**	**3.19**	**296**	*e*P	**Pn**	**09 53 15.2**	**+1.3**
INCO				*e*S	**Sn**	**09 53 52.5**	**+1.5**
SOMAC	**Volcano de Col**	**3.21**	**296**	*e*P	**Pn**	**09 53 15.5**	**+1.3**
SOMAC				*i* S	**Sn**	**09 53 54.5**	**+3.0**
TOIG	**Toxpalan**	**3.33**	**90**	*e*P	**Pn**	**09 53 17.9**	**+2.3**
TOIG				*e*S	**Sn**	**09 53 51.8**	**-2.2**
CEGR	**Campo Tres**	**3.36**	**292**	*e*P	**Pn**	**09 53 16.9**	**+0.9**
CEGR				*e*S	**Sn**	**09 53 54.1**	**-0.7**
CDAR	**Ciudad de Arme**	**3.36**	**284**	*e*P	**Pn**	**09 53 16.1**	**+0.2**
CDAR				*e*S	**Sn**	**09 53 54.1**	**-0.6**
R15V		**3.40**	**288**	*e*P	**Pn**	**09 53 16.3**	**-0.2**
R15V				*i* S	**Sn**	**09 53 54.9**	**-0.7**
RPIG	**Rio Verde**	**3.76**	**8**	*e*P	Pn	09 53 31.1	+10
RPIG				*e*S	**Sn**	**09 54 12.8**	**+8.2**
JAUV	**Jalcomulco**	**3.77**	**71**	*e*P	**Pn**	**09 53 22.9**	**+1.4**
JAUV				*e*S	**Sn**	**09 54 00.6**	**-4.0**
VHO	**Vista Hermosa**	**3.81**	**106**	*e*P	**Pn**	**09 53 25.4**	**+3.2**
VHO				*e*S	**Sn**	**09 54 08.8**	**+3.0**
CTUV	**Llano Grande**	**3.91**	**32**	*e*P	**Pn**	**09 53 24.0**	**+0.5**
CTUV				*e*S	Sn	09 53 49.3	-19
CIHU	**Emiliano Zapat**	**4.11**	**286**	*e*P	**Pn**	**09 53 26.8**	**+0.6**
CIHU				*e*S	**Sn**	**09 54 09.9**	**-3.1**
AAIG	**Aguscalientes**	**4.17**	**336**	*e*P	Pn	09 53 36.6	+9.4
AAIG				*e*S	Sn	09 54 24.5	+10
CJM	**Chamela**	**4.45**	**288**	*e*P	**Pn**	**09 53 30.2**	**-0.6**
CJM				*e*S	**Sn**	**09 54 23.3**	**+1.9**
NEUV	**Arroyo Zacate**	**4.55**	**95**	*e*P	**Pn**	**09 53 34.0**	**+1.7**
NEUV				*e*S	**Sn**	**09 54 21.5**	**-2.5**
ESTA	**Talpa de Allen**	**4.62**	**300**	*e*P	**Pn**	**09 53 35.3**	**+1.9**
ESTA				*e*S	**Sn**	**09 54 28.2**	**+2.3**
ANIG	**Ahuacatlan**	**4.72**	**308**	*e*P	Pn	09 53 40.3	+5.6
ANIG				*e*S	**Sn**	**09 54 33.6**	**+5.4**
HUIG	**Huatulco**	**4.88**	**118**	*e*P	**Pn**	**09 53 39.1**	**+2.4**
HUIG				*i* S	**Sn**	**09 54 28.4**	**-3.5**
CMIG	**Matias Romero**	**5.52**	**100**	P	**Pn**	**09 53 48.3**	**+2.8**
	2.6nm,0.3s,baz=263,slow=12,SNR=19						
CMIG				S	**Sn**	**09 54 48.4**	**+0.7**
	11nm,0.4s,baz=174,slow=22,SNR=7.1						
CMIG	**Matias Romero**	**5.52**	**100**	*e*P	**Pn**	**09 53 47.9**	**+2.4**
CMIG				*e*S	**Sn**	**09 54 46.9**	**-0.8**
PATR	**El Naranjo**	**8.53**	**109**	*e*P	**Pn**	**09 54 30.7**	**+3.6**
PAVE	**Pavencul**	**8.56**	**109**	*e*P	**Pn**	**09 54 31.8**	**+4.4**
CHUJ	**Union Juarez**	**8.65**	**109**	*e*P	**Pn**	**09 54 32.8**	**+4.0**

TXAR	**Lajitas Array**	**11.49**	**346**	P		**Pn**	**09 55 09.8**	**+2.4**
	0.9nm,1.0s,baz=172,slow=10,SNR=6.9							
TEIG	**Tepich**	**11.79**	**78**	P		**Pn**	**09 55 12.2**	**+0.7**
	5.6nm,1.0s,baz=241,slow=13,SNR=1.5							
TEIG				S		**Sn**	**09 57 16.1**	**-5.5**
	4.8nm,0.8s,baz=292,slow=23,SNR=1.3							
ANMO	**Albuquerque**	**17.54**	**344**	P		**P**	**09 56 27.5**	**+0.1**
	1.7nm,0.8s,baz=237,slow=12,SNR=8.6							
NVAR	**Mina Array Bea**	**25.46**	**326**	P		**P**	**09 57 49.5**	**+0.2**
	0.8nm,0.6s,baz=143,slow=9.3,SNR=8.0							
	0.8nm,0.6s							
PDAR	**Pinedale Array**	**25.70**	**345**	P		**P**	**09 57 51.1**	**-0.4**
	0.4nm,0.5s,baz=146,slow=14,SNR=4.8							
	0.4nm,0.5s							
YKA	**Yellowknife Ar**	**45.38**	**351**	P		**P**	**10 00 36.5**	**-2.4**
	0.1nm,0.5s,baz=159,slow=7.0,SNR=3.1							
	0.1nm,0.5s							
ILAR	**Eielson Array**	**55.87**	**338**	P		**P**	**10 01 57.5**	**-0.5**
	0.3nm,0.8s,baz=140,slow=5.9,SNR=8.8							
	0.3nm,0.8s							
WRA	**Warramunga Arr**	**128.26**	**259**	PKP		**PKPdf**	**10 11 26.3**	**-1.1**
	0.6nm,0.9s,baz=78,slow=2.5,SNR=4.8							
MAW	**Mawson**	**129.43**	**172**	PKP		**PKiKP**	**10 11 28.9**	**+0.1**
	2.7nm,0.8s,baz=180,slow=4.0,SNR=7.0							

*NEIC **26** 09:55:22.8±0.4, 19.76N±0.03×156.16W±0.06, h51km±5km, Error ellipse: s-maj=7.7km s-min=3.8km az=84.0*
HVO 26 09:55:24.2±0.8,**19.83N**±0.03×**156.19W**±0.04,**h40**km±6km,
Md2.3/3,**ML2.8**/28(NEIC),**Error ellipse: s-maj=6.2km**
s-min=3.4km az=103.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HUH	**Hualalai**	**0.36**	**114**		Pn	09 55 32.5	-0.9
HUH					Sn	09 55 39.0	-0.9
CPH	**Captain Cook**	**0.42**	**143**		Pn	09 55 32.8	-1.1
MHA	**Mahukona**	**0.45**	**37**	Pn	Pn	09 55 34.5	+0.3
HPAH	**Hawaii Prepara**	**0.50**	**66**	Pn	Pn	09 55 34.3	-0.7
ALEP	**Alea Permanent**	**0.59**	**119**		Pn	09 55 35.3	-1.1
ALEP					Sn	09 55 43.3	-1.8
MLOA	**Mauna Loa Obse**	**0.65**	**117**	Pn	Pn	09 55 35.6	-1.6
MLOA					Sn	09 55 44.2	-2.3
MLOA				IAML		09 55 50.7	
	comp=N,302nm,3.2s						
MLOA				IAML		09 55 52.8	
	comp=E,242nm,1.4s						
MWH	**Moku'aweowe**	**0.65**	**122**		Pn	09 55 35.8	-1.7
MWH				IAML		09 56 04.0	
	comp=E,453nm,1.0s						
MWH				IAML		09 56 04.6	
	comp=N,335nm,2.4s						
HMH	**Humu'ula Sheep**	**0.70**	**109**		Pn	09 55 36.8	-1.1
HMH					Sn	09 55 46.2	-1.5
HMH				IAML		09 55 58.1	
	comp=E,196nm,1.9s						
HMH				IAML		09 55 59.7	
	comp=N,262nm,2.0s						
KHU	**Kahuku**	**0.79**	**137**		Pn	09 55 37.2	-1.8
KHU				IAML		09 55 44.3	
	comp=N,362nm,3.1s						
KHU	

comp=Z,1.3nm,0.6s,baz=204,slow=8.1,SNR=4.4
comp=Z,1.3nm,0.6s
SONM Songino Array 56.69 356 P **P 10 06 45.9 -2.6**
comp=Z,0.5nm,0.3s,baz=169,slow=8.7,SNR=2.6
comp=Z,0.5nm,0.3s
MKAR Makanchi Array 61.23 338 P **P 10 07 19.9 +0.2**
comp=Z,1.4nm,0.7s,baz=144,slow=7.3,SNR=13
comp=Z,1.4nm,0.7s
H04N2 CROZET ISLANDS 62.68 222 T T 11 15 31.6
baz=75
H04N1 CROZET ISLANDS 62.69 222 T T 11 15 32.9
baz=75
H04N3 CROZET ISLANDS 62.70 222 T T 11 15 30.3
baz=75
KURBB Kurchatov Array 65.80 338 P **P 10 07 50.0 +0.3**
comp=Z,0.6nm,0.6s,baz=152,slow=5.3,SNR=6.7
comp=Z,0.6nm,0.6s
KURK Kurchatov 65.84 338 P **P 10 07 50.5 +0.5**
ZALV Zalesovo Beam 66.54 343 P **P 10 07 54.4 -0.1**
comp=Z,0.8nm,0.4s,baz=159,slow=4.5,SNR=5.5
comp=Z,0.8nm,0.4s
BVAR Borovoye Array 70.87 335 P **P 10 08 21.7 +0.3**
comp=Z,1.6nm,0.7s,baz=126,slow=10,SNR=7.9
comp=Z,1.6nm,0.7s
VNDA Vanda 73.31 170 P **P 10 08 37.8 +2.1**
PET Petropavlovsk 73.64 28 P **P 10 08 36.6 -1.2**
QSPA South Pole Qui 81.06 180 P **P 10 09 20.4 +1.0**
QSPA IAmb IAmb 10 09 56.6
comp=Z,6.2nm,1.4s
BOSA Boshof 82.37 242 P **P 10 09 28.4 +1.3**
BRTR Keskin Array B 86.33 311 P **P 10 09 46.6 -0.2**

IDC 26 10:04:56.4±1.8, 16°23S×178°20W, h0km, mb3.9/4, mbtmp3.9/4, Error ellipse: s-maj=104.1km s-min=25.5km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.63**	**239**	P		P		10 12 30.0	0.0
	1.7nm,0.4s,baz=96,slow=9.7,SNR=7.9								
	1.7nm,0.4s								
WRA	**Warramunga Arr**	**45.16**	**258**	P		P		10 13 15.1	-0.1
	1.8nm,0.4s,baz=91,slow=6.9,SNR=89								
	1.8nm,0.4s								
ASAR	**Alice Springs**	**45.46**	**253**	P		P		10 13 17.3	-0.3
	16nm,0.6s,baz=87,slow=8.3,SNR=199								
ILAR	**Eielson Array**	**84.22**	**13**	P		P		10 17 29.5	+0.2
	0.1nm,0.3s,baz=223,slow=5.1,SNR=4.9								
	0.1nm,0.3s								
TXAR	**Lajitas Array**	**84.93**	**58**	P		P		10 17 33.8	-0.1
	0.3nm,0.7s,baz=223,slow=6.2,SNR=4.4								
	0.3nm,0.7s								

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*IDC **26** 10:23:11.7±3.3, 27°69N×54°27E, h0km, mb3.6/7, mbtmp3.6/7, MS3.5/4, Error ellipse: s-maj=66.1km s-min=35.0km az=148.0*
*TEH **26** 10:23:13.3, 27°75N×54°32E, h5km, ML3.2*
*DSN **26** 10:23:15.8±0.7, 27°63N×54°35E, h10km, ML2.6/7, Error ellipse: s-maj=8.4km s-min=6.5km az=30.0*
ISC 26 10:23:13.7±0.9, 27°67N±0°04×54°31E±0°04, h9km±6km, n30, σ1§46/28, mb3.6/6, MS3.5/4, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LAR1	**LAR**	**0.05**	**89**	Pg		**Pg**		**10 23 15.4**	**-0.3**
LAR1				Sg		**Sg**		**10 23 17.2**	**0.0**
JHRM	**Jahrom**	**1.06**	**322**	Pg		**Pg**		**10 23 34.0**	**-0.2**
LMD1	**Lamerd**	**1.07**	**252**	Pg		**Pn**		**10 23 36.1**	**+1.3**
QIR1	**Qir**	**1.38**	**306**	Pg		**Pg**		**10 23 41.1**	**+0.9**
GENO	**Geno**	**1.67**	**99**	Pg		**Pg**		**10 23 45.3**	**-0.5**
SHME	**Shamm**	**2.29**	**134**	P		**Pn**		**10 23 52.5**	**+0.9**
NGRK	**Negar Kerman**	**2.90**	**47**	Pn		**Pn**		**10 24 01.5**	**+1.2**
MDH	**Madha**	**2.96**	**143**	P		**Pn**		**10 24 02.1**	**+1.4**
FAQ	**Al Faqa, Dubai**	**3.13**	**158**	P		**Pn**		**10 24 04.6**	**+1.5**
UOSS	**Minazif**	**3.20**	**148**	P		**Pn**		**10 24 05.9**	**+1.8**
HATD	**Hatta, Dubai**	**3.27**	**150**	P		**Pn**		**10 24 06.5**	**+1.5**
KHGB	**Koh Gabri**	**3.30**	**35**	Pn		**Pn**		**10 24 07.3**	**+1.7**
ASHO	**Ashiyiah**	**3.36**	**152**	P		**Pn**		**10 24 07.9**	**+1.5**
ASHO				S		**Sn**		**10 24 48.2**	**+1.8**
IMEH	**Mehriz**	**3.72**	**4**	Pn		**Pn**		**10 24 13.7**	**+2.2**
ALNE	**Al Ain**	**3.82**	**160**	P		**Pn**		**10 24 14.6**	**+1.9**
KBAM	**BAM**	**3.93**	**67**	Pn		**Pn**		**10 24 16.6**	**+2.4**
IBAF	**Bafgh**	**4.06**	**15**	Pn		**Pn**		**10 24 17.4**	**+1.4**
IRAM	**Ramesheh**	**4.46**	**338**	Pn		**Pn**		**10 24 23.1**	**+1.5**
MZR	**Muzera**	**4.71**	**189**	P		**Pn**		**10 24 26.2**	**+1.4**
BRTR	**Keskin Array B**	**20.93**	**310**	P		**P**		**10 27 56.9**	**+0.1**
	0.9nm,0.6s,baz=139,slow=13,SNR=5.4								
	0.9nm,0.6s								
ZALV	**Zalesovo Beam**	**34.48**	**32**	P		**P**		**10 30 01.5**	**-0.2**
	0.4nm,0.3s,baz=238,slow=8.2,SNR=2.1								
	0.4nm,0.3s								
FINES	**FINESS Array B**	**38.69**	**339**	P		**P**		**10 30 36.7**	**-0.8**
	0.8nm,0.4s,baz=130,slow=9.5,SNR=13								
	0.8nm,0.4s								
KEST	**Kesra**	**38.82**	**293**	LR		LR		10 50 07.9	
	comp=Z,30nm,19.2s,baz=228,slow=42								
HFS	**Hagfors**	**42.54**	**331**	P		**P**		**10 31 07.8**	**-1.5**
	0.6nm,0.4s,baz=131,slow=8.4,SNR=6.3								
	0.6nm,0.4s								
NOA	**NORSAR Array B**	**44.05**	**331**	P		**P**		**10 31 19.9**	**-1.7**
	0.2nm,0.5s,baz=120,slow=8.0,SNR=1.7								
	0.2nm,0.5s								
ESDC	**Sonseca Array**	**49.18**	**300**	P		**P**		**10 32 01.1**	**-1.0**
	0.2nm,0.4s,baz=74,slow=6.3,SNR=4.1								
	0.2nm,0.4s								
TORD	**Torodi Ar. Bea**	**51.03**	**265**	P		**P**		**10 32 15.6**	**-0.8**
	0.7nm,1.0s,baz=47,slow=5.7,SNR=3.4								
	0.7nm,1.0s								
PETK	**Petropavlovsk-**	**75.83**	**37**	LR		LR		11 11 24.2	
	comp=Z,82nm,18.9s,baz=113,slow=38								
JCJ	**Chichijima**	**76.19**	**67**	LR		LR		11 12 32.3	
	comp=Z,24nm,20.4s,baz=227,slow=39								
GUMO	**Guam**	**84.29**	**78**	LR		LR		11 14 12.0	
	comp=Z,24nm,21.9s,baz=69,slow=36								

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*NEIC **26** 10:44:38.1, 19°11N×154°74W, h12km, Moment Tensor Solution. Duration: 1§3 Moment tensor: Scale 10^16 Nm; Mrr=0.98; Mθθ=0.52; Mφφ=0.45; Mrθ=0.78; Mθφ=0.59; Mφr=1.27; Fault plane solution: M0 1.65000×10^16 NP1: φs=357.36000°, δ73.40000°, λ=-117.54000°. NP2: φs=238.64000°, δ31.82000°, λ=-32.81000°. Principal axes: T 1.2288, Plg24.0000°, Azm108.0000°; N 0.8477, Plg26.0000°, Azm6.0000°; P -2.0765, Plg53.0000°, Azm234.0000°;*
*NEIC **26** 10:44:38.4±0.9, 19°409N±0°004×155°250W±0°007, h1km±4km Error ellipse: s-maj=0.9km s-min=0.7km az=106.0*
*NEIC **26** 10:44:38.1, 19°41N×155°27W, h12km*
*GCMT **26** 10:44:51.0±0.7, 19°11N±0°05×155°40W±0°06, h12km, MW4.6/51, Moment Tensor Solution. s4,c4; s51,c58; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=1.10±.05; Mθθ=0.73±.05; Mφφ=0.37±.06; Mrθ=-0.23±.24; Mφθ=0.40±.05; Mφr=0.01±.26; Best double couple: M0 1.06800×10^16 NP1: φs=63.00000°, δ50.00000°, λ=-82.00000°. NP2: φs=231.00000°, δ40.00000°, λ=-99.00000°. Principal axes: T 1.0050, Plg5.0000°, Azm148.0000°; N 0.1300, Plg6.0000°, Azm238.0000°; P -1.1310, Plg82.0000°, Azm18.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s. Surface-wave location Triangular moment-rate function*
HVO 26 10:44:37.6±1.1, 19°405N±0°007×155°278W±0°008, h0km±2km, ML2.4/15, ML1.8/26(NEIC), Mww4.7/6(NEIC)
Error ellipse: s-maj=1.1km s-min=1.0km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**158**				Pg	10 44 38.9	+0.9
KKO	**Keanakako`i**	**0.01**	**120**				Pg	10 44 39.2	+1.2
OBL	**Observatory Le**	**0.01**	**336**				Pg	10 44 38.7	+0.7
BYL	**Byron's Ledge**	**0.02**	**66**				Pg	10 44 38.6	+0.5
UWB	**Uwekahuna B**	**0.02**	**0**				Pg	10 44 39.3	+1.2
UWE	**Uwekahuna**	**0.02**	**319**				Pg	10 44 38.7	+0.6
HATHI	**Halema'uma'u T**	**0.02**	**41**	IAML				10 44 38.5	
	comp=E,2μm,1.0s								
HATHI							Pg	10 44 38.6	+0.5
SBLHI	**Steaming Bluff**	**0.02**	**23**				Pg	10 44 39.6	+1.4
RSD	**Rainshed**	**0.06**	**0**				Pg	10 44 39.1	+0.3
PUH	**Pauahi**	**0.07**	**117**				Pg	10 44 39.5	+0.6
PUH				IAML				10 44 41.2	
	comp=N,408nm,0.6s								
KNHH	**Kane Nui o Ham**	**0.11**	**104**				Pg	10 44 40.5	+0.9
HLP	**Hilina Pali**	**0.11**	**195**				Sg	10 44 40.8	-0.5
MLH	**Mauna Loa**	**0.14**	**311**	Pg			Pg	10 44 40.9	+0.6
MLH				IAML				10 44 42.3	
	comp=N,426nm,2.5s								
STCH	**Steam Cracks**	**0.15**	**98**				Pg	10 44 41.3	+0.9
STCH				IAML				10 44 44.2	
	comp=E,292nm,0.6s								
STCH				IAML				10 44 44.5	
	comp=N,300nm,1.1s								
JOKA	**Jonika Flow**	**0.26**	**84**				Pg	10 44 43.1	+0.5
JOKA				IAML				10 44 47.2	
	comp=E,222nm,1.1s								
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg			Pb	10 44 44.3	-1.3
HMH				IAML				10 44 49.4	
	comp=N,241nm,2.1s								
HMH				IAML				10 44 51.9	
	comp=E,234nm,1.1s								
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg			Pb	10 44 45.4	-0.9
MLOA				IAML				10 44 47.0	
	comp=N,210nm,1.4s								
MLOA				IAML				10 44 52.9	
	comp=E,211nm,0.8s								
MWH	**Moku'aweowe**	**0.31**	**285**	Pg			Pb	10 44 45.3	-1.1
KHU	**Kahuku**	**0.35**	**244**	Pg			Pb	10 44 46.1	-0.8
POHA	**Pohakuloa**	**0.42**	**326**	Pg			Pg	10 44 46.8	+1.0
POHA				IAML				10 44 57.9	
	comp=E,196nm,1.1s								
HUH	**Hualalai**	**0.59**	**298**	Pg			Pg	10 44 49.9	+0.8
PPT2	**Papeete2**	**37.19**	**171**	eLR			LR	11 01 41.1	
	comp=E,353nm,29.8s								
PPT2				eLR			LR	11 01 44.5	
	comp=E,252nm,32.0s								
TBI	**Tubuai**	**42.87**	**172**	eLR			LR	11 04 19.5	
	comp=E,918nm,34.5s								
TBI				eLR			LR	11 04 25.5	
	comp=E,1μm,30.5s								

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*IDC **26** 11:13:40.3±2.2, 15°48N×97°46W, h0km, mb3.5/5, mbtmp3.5/8, ML2.7/3, MS3.0/4, Error ellipse: s-maj=35.6km s-min=15.7km az=4.0*
*NEIC **26** 11:13:45.5±2.3, 15°98N±0°04×97°64W±0°04, h10km±1km, mb4.1/34, Md4.5/141(MEX), Error ellipse: s-maj=8.0km s-min=5.1km az=205.0*
*MEX **26** 11:13:49.0±1.1, 16°01N×97°67W, h16km±10km, MD4.5*
ISC 26 11:13:45.0±1.2, 16°00N±0°03×97°70W±0°02, h15km±8km, n161, σ2§30/260, mb4.1/16, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.53**	**90**				**Pb**	**11 13 57.0**	**+1.0**
PEIG							**Sb**	**11 14 03.6**	**+0.2**
PEIG	**Puerto Escondi**	**0.53**	**90**		*eP*		**Pb**	**11 13 57.0**	**+1.0**
PEIG					*eS*		**Sb**	**11 14 03.6**	**+0.2**
PNIG	**Pinotepa**	**0.57**	**313**				**Pn**	**11 13 58.4**	**-0.1**
PNIG							**Sb**	**11 14 05.5**	**+1.0**
PNIG	**Pinotepa**	**0.57**	**313**		*i* P		**Pn**	**11 13 58.4**	**-0.1**
PNIG					*i* S		**Sb**	**11 14 05.5**	**+1.0**
YOIG	**Yosondua**	**0.86**	**10**				**Pg**	**11 14 02.0**	**+0.1**
YOIG							**Sg**	**11 14 11.9**	**-1.3**
YOIG	**Yosondua**	**0.86**	**10**		*i* P		**Pg**	**11 14 02.0**	**+0.1**
YOIG					*eS*		**Sg**	**11 14 11.9**	**-1.3**
TXIG	**Tlaxiaco**	**1.25**	**357**				**Pn**	**11 14 08.5**	**+0.4**
TXIG							**Sb**	**11 14 22.9**	**-1.5**
TXIG	**Tlaxiaco**	**1.25**	**357**		*i* P		**Pn**	**11 14 08.5**	**+0.4**
TXIG					*eS*		**Sb**	**11 14 22.9**	**-1.5**
OXIG	**Oaxaca**	**1.41**	**41**				**Pn**	**11 14 10.5**	**+0.2**
OXIG							**Sn**	**11 14 26.9**	**-1.8**
VHO	**Vista Hermosa**	**1.41**	**41**		*eP*		**Pn**	**11 14 10.5**	**+0.2**
VHO					*eS*		**Sn**	**11 14 26.9**	**-1.8**
OXBJ	**Oaxaca**	**1.41**	**41**				**Pn**	**11 14 10.8**	**+0.5**
OXBJ							**Sn**	**11 14 27.6**	**-1.2**
OXBJ	**Oaxaca**	**1.41**	**41**		*i* P		**Pn**	**11 14 10.8**	**+0.5**
OXBJ					*eS*		**Sn**	**11 14 28.2**	**-0.5**
OXLC	**Oaxaca**	**1.43**	**42**		*i* P		**Pn**	**11 14 10.9**	**+0.4**
OXLC					*eS*		**Sn**	**11 14 28.4**	**-0.7**
MGIG	**Malinaltepec**	**1.52**	**324**				**Pb**	**11 14 12.9**	**0.0**
MGIG							**Sb**	**11 14 33.0**	**+0.9**
MGIG	**Malinaltepec**	**1.52**	**324**		*eP*		**Pb**	**11 14 12.9**	**0.0**
MGIG					*eS*		**Sb**	**11 14 33.0**	**+0.9**
HUIG	**Huatulco**	**1.55**	**98**				**Pn**	**11 14 12.0**	**0.0**
HUIG							**Sg**	**11 14 34.3**	**-0.6**
HUIG	**Huatulco**	**1.55**	**98**		*eP*		**Pn**	**11 14 12.0**	**0.0**
HUIG					*eS*		**Sn**	**11 14 29.2**	**-2.6**
CRIG	**Cruz Grande**	**1.56**	**298**				**Pb**	**11 14 13.3**	**-0.1**
CRIG							**Sg**	**11 14 34.4**	**-0.8**
CRIG	**Cruz Grande**	**1.56**	**298**		*eP*		**Pb**	**11 14 13.1**	**-0.4**
CRIG					*eS*		**Sg**	**11 14 34.4**	**-0.8**
TLIG	**Tlapa**	**1.76**	**332**	Pn			**Pb**	**11 14 16.6**	**-0.4**
TLIG	**Tlapa**	**1.76**	**332**		*eP*		**Pn**	**11 14 16.2**	**+1.2**
TLIG					*eS*		**Sn**	**11 14 36.9**	**-0.4**
HLIG	**Huajuapan de L**	**1.82**	**357**				**Pn**	**11 14 17.2**	**+1.2**
HLIG							**Sn**	**11 14 39.0**	**+0.1**
HLIG	**Huajuapan de L**	**1.82**	**357**		*eP*		**Pn**	**11 14 17.2**	**+1.2**
HLIG					*eS*		**Sn**	**11 14 39.0**	**+0.1**
FTIG	**Fresnillo de T**	**1.94**	**348**				**Pn**	**11 14 18.9**	**+1.4**
FTIG							**Sn**	**11 14 43.0**	**+1.3**
FTIG	**Fresnillo de T**	**1.94**	**348**		*eP*		**Pn**	**11 14 18.9**	**+1.4**
FTIG					*eS*		**Sn**	**11 14 43.0**	**+1.3**
HMTT	**Tlapaneco**	**1.97**	**335**				**Pb**	**11 14 20.6**	**0.0**
HMTT							**Sb**	**11 14 45.3**	**+0.3**
HMTT	**Tlapaneco**	**1.97**	**335**		*eP*		**Pb**	**11 14 20.6**	**0.0**
HMTT					*eS*		**Sb**	**11 14 45.3**	**+0.3**
DAIG	**Los Arroyos**	**2.13**	**299**				**Pn**	**11 14 21.8**	**+1.8**
DAIG							**Sn**	**11 14 44.9**	**-1.3**
DAIG	**Los Arroyos**	**2.13**	**299**		*eP*		**Pn**	**11 14 21.5**	**+1.5**
DAIG					*eS*		**Sn**	**11 14 45.7**	**-0.5**
TOIG	**Toxpalan**	**2.17**	**16**				**Pn**	**11 14 22.4**	**+1.8**
TOIG							**Sb**	**11 14 49.8**	**-1.0**
TOIG	**Toxpalan**	**2.17**	**16**		*eP*		**Pn**	**11 14 22.4**	**+1.8**
TOIG					*eS*		**Sb**	**11 14 49.8**	**-1.0**
VNTA	**La Mica**	**2.23**	**294**		*eP*		**Pn**	**11 14 22.8**	**+1.5**
VNTA					*eS*		**Sn**	**11 14 46.6**	**-2.0**
ACP2	**Acapulco**	**2.27**	**293**				**Pn**	**11 14 23.8**	**+1.8**
ACP2							**Sn**	**11 14 46.0**	**-3.7**
ACP2	**Acapulco**	**2.27**	**293**		*eP*		**Pn**	**11 14 23.8**	**+1.8**
ACP2					*eS*		**Sn**	**11 14 47.8**	**-1.9**
TPIG	**Tehuac#an**	**2.43**	**8**				**Pn**	**11 14 26.3**	**+2.1**
TPIG							**Sn**	**11 14 55.8**	**+2.1**
TPIG	**Tehuac#an**	**2.43**	**8**		*eP*		**Pn**	**11 14 26.3**	**+2.1**
TPIG					*eS*		**Sn**	**11 14 55.8**	**+2.1**
NEUV	**Arroyo Zacate**	**2.49**	**47**		*eP*		**Pn**	**11 14 24.6**	**-0.3**
NEUV					*eS*		**Sn**	**11 14 56.6**	**+1.6**
MEIG	**Mezcala**	**2.65**	**316**				**Pb**	**11 14 30.4**	**-1.9**
MEIG							**Sb**	**11 15 02.5**	**-2.2**
MEIG	**Mezcala**	**2.65**	**316**		*eP*		**Pn**	**11 14 29.7**	**+2.4**
MEIG					*eS*		**Sb**	**11 15 02.5**	**-2.2**
CAIG	**El Cayaco**	**2.67**	**293**				**Pn**	**11 14 29.5**	**+2.0**
CAIG							**Sn**	**11 14 57.3**	**-2.3**
CAIG	**El Cayaco**	**2.67**	**293**		*eP*		**Pn**	**11 14 29.5**	**+2.0**
CAIG					*eS*		**Sn**	**11 14 57.3**	**-2.3**
ATYC	**Atoyac**	**2.88**	**295**		*eP*		**Pn**	**11 14 33.3**	**+3.0**
ATYC					*eS*		**Sn**	**11 15 03.2**	**-1.6**
OZST	**Orizaba**	**2.90**	**11**		*eP*		**Pn**	**11 14 28.4**	**-2.3**
OZST					*eS*		**Sn**	**11 15 09.2**	**+3.7**
CMIG	**Matias Romero**	**2.91**	**68**				**Pn**	**11 14 30.2**	**-0.6**
CMIG							**Sn**	**11 15 04.7**	**-0.8**
CMIG	**Matias Romero**	**2.91**	**68**	Pn			**Pn**	**11 14 30.4**	**-0.4**
	3.1nm,0.3s,baz=240,slow=11,SNR=54								
CMIG				Sn			**Sn**	**11 15 05.1**	**-0.4**
	24nm,0.3s,baz=328,slow=4.9,SNR=5.6								
CMIG				Lg			Lg	11 15 14.2	
	16nm,0.3s,baz=314,slow=7.9,SNR=4.2								
CMIG				LR			LR	11 15 36.2	
	comp=Z,200nm,18.6s,baz=235,slow=39								
	17nm,0.5s								
CMIG	**Matias Romero**	**2.91**	**68**		*eP*		**Pn**	**11 14 30.5**	**-0.2**
CMIG					*eS*		**Sn**	**11 15 04.7**	**-0.8**
PLIG	**Platanillo**	**2.94**	**324**				**Pb**	**11 14 35.1**	**-1.9**
PLIG							**Sb**	**11 15 10.7**	**-2.2**
PLIG	**Platanillo**	**2.94**	**324**		*eP*		**Pb**	**11 14 35.1**	**-1.9**
PLIG					*eS*		**Sb**	**11 15 10.7**	**-2.2**
PHPU	**Puebla**	**3.06**	**352**				**Pn**	**11 14 36.4**	**+3.4**
PHPU							**Sb**	**11 15 14.5**	**-2.0**
PHPU	**Puebla**	**3.06**	**352**		*eP*		**Pn**	**11 14 36.4**	**+3.4**
PHPU					*eS*		**Sb**	**11 15 14.5**	**-2.0**
YAIG	**Yautepec**	**3.13**	**336**				**Pb**	**11 14 39.0**	**-1.5**
YAIG							**Sn**	**11 15 11.4**	**+0.3**
YAIG	**Yautepec**	**3.13**	**336**		*eP*		**Pb**	**11 14 38.0**	**-2.4**
YAIG					*eS*		**Sn**	**11 15 11.4**	**+0.3**
PPIG	**Popocatepetl**	**3.17**	**344**				**Pb**	**11 14 40.0**	**-1.4**
PPIG							**Sn**	**11 15 17.0**	**+4.3**
PPM	**Popocatepetl**	**3.17**	**344**		*eP*		**Pb**	**11 14 40.0**	**-1.4**
PPM					*eS*		**Sn**	**11 15 17.0**	**+4.3**
AMVM	**AMECAMECA**	**3.28**	**342**				**Pn**	**11 14 38.9**	**+2.8**
AMVM							**Sn**	**11 15 19.2**	**+4.1**
AMVM	**AMECAMECA**	**3.28**	**342**		*eP*		**Pn**	**11 14 38.9**	**+2.8**
AMVM					*eS*		**Sn**	**11 15 19.2**	**+4.1**
ARIG	**Puente Sto Nin**	**3.40**	**312**				**Pb**	**11 14 44.2**	**-0.7**
ARIG							**Sn**	**11 15 18.9**	**+1.4**
ARIG	**Puente Sto Nin**	**3.40**	**312**		*eP*		**Pb**	**11 14 44.2**	**-0.7**
ARIG					*eS*		**Sn**	**11 15 18.9**	**+1.4**
MAVM	**Malinalco, Edo**	**3.40**	**330**				**Pn**	**11 14 40.6**	**+2.9**
MAVM							**Sb**	**11 15 23.8**	**-2.6**
MAVM	**Malinalco, Edo**	**3.40**	**330**		*eP*		**Pn**	**11 14 40.6**	**+2.9**
MAVM					*eS*		**Sb**	**11 15 23.8**	**-2.6**
MPVM	**San Francisco**	**3.42**	**339**		*eP*		**Pb**	**11 14 44.6**	**-0.8**
MPVM					*eS*		**Sn**	**11 15 20.9**	**+2.5**
JAUV	**Jalcomulco**	**3.45**	**14**		*eP*		**Pn**	**11 14 39.3**	**+1.0**
JAUV					*eS*		**Sn**	**11 15 21.9**	**+2.9**
TLVM	**San Miguel Top**	**3.48**	**337**		*eP*		**Pb**	**11 14 44.3**	**-2.2**
TLVM					*eS*		**Sn**	**11 15 24.1**	**+4.1**
XCVM	**Xochimilco**	**3.50**	**338**		*eP*		**Pn**	**11 14 39.7**	**+0.5**
XCVM					*eS*		**Sn**	**11 15 22.2**	**+1.7**
THVM	**De Xico**	**3.51**	**340**		*eP*		**Pn**	**11 14 42.6**	**+3.4**
THVM					*eS*		**Sn**	**11 15 24.8**	**+4.2**
PMUV	**Sontecomapan**	**3.53**	**44**		*eP*		**Pn**	**11 14 39.3**	**0.0**
PMUV					*eS*		**Sn**	**11 15 21.7**	**+0.8**
XALA	**Xalapa**	**3.59**	**12**		*eP*		**Pn**	**11 14 46.0**	**-2.2**
XALA					*eS*		**Sn**	**11 15 27.3**	**+4.8**
AOVM	**Tlapan**	**3.60**	**335**		*eP*		**Pn**	**11 14 45.3**	**-3.3**
AOVM					*eS*		**Sn**	**11 15 26.5**	**+3.4**
UNM	**Universidad Na**	**3.60**	**337**				**Pn**	**11 14 40.0**	**-0.5**
UNM	**Universidad Na**	**3.60**	**337**		*eP*		**Pn**	**11 14 39.7**	**-0.7**
UNM					*eS*		**Sn**	**11 15 24.1**	**+1.3**
CUP5	**Mexico City**	**3.60**	**337**		*eS*		**Sn**	**11 15 26.1**	**+3.3**
TXVM	**Universitario**	**3.61**	**341**		*eP*		**Pn**	**11 14 39.7**	**-0.8**
TXVM					*eS*		**Sn**	**11 15 18.6**	**-4.4**
COVM	**Coyoacan**	**3.61**	**338**		*eS*		**Sn**	**11 15 26.1**	**+2.9**
COVM					*eS*		**Sb**	**11 15 26.5**	**-5.9**
BJVM	**Benito Juarez**	**3.64**	**338**		*eP*		**Pn**	**11 14 40.7**	**-0.3**
BJVM					*eS*		**Sn**	**11 15 19.0**	**-4.8**
INVM	**La Marquesa**	**3.65**	**334**		*eP*		**Pn**	**11 14 39.0**	**-2.1**
INVM					*eS*		**Sn**	**11 15 25.1**	**+0.9**
CARR	**Arriaga**	**3.65**	**86**		*eP*		**Pn**	**11 14 37.2**	**-3.7**
CARR					*eS*		**Sn**	**11 15 20.1**	**-3.5**
PBVM	**Pinon**	**3.67**	**339**				**Pn**	**11 14 47.1**	**-2.4**
PBVM							**Sn**	**11 15 21.0**	**-3.1**
PBVM	**Pinon**	**3.67**	**339**		*eP*		**Pb**	**11 14 47.1**	**-2.4**
PBVM					*eS*		**Sn**	**11 15 21.0**	**-3.1**
CJVM	**Cuajimalpa**	**3.67**	**336**		*eP*		**Pn**	**11 14 39.4**	**-2.0**
CJVM					*eS*		**Sn**	**11 15 20.4**	**-4.2**
TEJU	**Tejupilco**	**3.72**	**321**		*eS*		**Sn**	**11 15 28.8**	**+3.1**
TUIG	**Tuzandepetl**	**3.73**	**57**		*eP*		**Pn**	**11 14 40.1**	**-1.9**
TUIG					*eS*		**Sn**	**11 15 23.9**	**-1.7**
PET2	**Petatlan**	**3.74**	**295**		*eS*		**Sn**	**11 15 24.0**	**-1.9**
APVM	**Azcapotzalco**	**3.75**	**338**		*eP*		**Pn**	**11 14 46.5**	**+3.9**
APVM					*eS*		**Sn**	**11 15 24.5**	**-2.2**
TOVM	**TOLUCA**	**3.77**	**330**				**Pn**	**11 14 50.0**	**-1.4**
TOVM							**Sn**	**11 15 25.7**	**-1.5**
TOVM	**TOLUCA**	**3.77**	**330**		*eP*		**Pb**	**11 14 50.0**	**-1.4**
TOVM					*eS*		**Sn**	**11 15 25.7**	**-1.5**
VTVM	**Tizayuca**	**3.89**	**345**				**Pn**	**11 14 48.9**	**+4.4**
VTVM							**Sn**	**11 15 33.0**	**+3.0**
VTVM	**Tizayuca**	**3.89**	**345**		*eP*		**Pn**	**11 14 48.9**	**+4.4**
VTVM					*eS*		**Sn**	**11 15 33.0**	**+3.0**
LVIG	**Laguna Verde**	**3.90**	**18**		*eS*		**Sn**	**11 15 28.2**	**-1.6**
**Z

T35A	**Sooner Cattle**	**20.86**	**3**		Pn		11 18 28.2	-0.6
T35A				IAmb	IAmb		11 18 39.9	
	comp=Z,9.0nm,1.0s							
GOGA	**Godfrey**	**21.58**	**34**	P	**P**		**11 18 32.8**	**-1.3**
GOGA				IAmb	IAmb		11 18 42.6	
	comp=Z,6.7nm,0.7s							
MGMO	**Mountain Grove**	**21.61**	**12**	P	**P**		**11 18 37.2**	**+2.7**
MGMO				IAmb	IAmb		11 18 39.5	
	comp=Z,5.8nm,0.8s							
Y52A	**Lilburn**	**21.62**	**32**	P	**P**		**11 18 33.6**	**-0.9**
Y52A				IAmb	IAmb		11 18 43.8	
	comp=Z,9.3nm,0.9s							
PBMO	**Poplar Bluff**	**21.68**	**16**	P	**P**		**11 18 36.4**	**+1.3**
PBMO				IAmb	IAmb		11 18 47.2	
	comp=Z,7.1nm,0.8s							
SWET	**Sewanee**	**21.84**	**27**	P	**P**		**11 18 36.9**	**-0.1**
V48A	**Smith Brothers**	**21.93**	**24**	P	**P**		**11 18 37.8**	**0.0**
V48A				IAmb	IAmb		11 18 49.2	
	comp=Z,6.3nm,0.7s							
W50A	**Signal Mountai**	**22.11**	**28**	P	**P**		**11 18 39.4**	**-0.4**
R32A	**Long Quarter,**	**22.35**	**358**	P	**P**		**11 18 44.3**	**+1.8**
R32A				IAmb	IAmb		11 18 54.9	
	comp=Z,7.5nm,0.8s							
R40A	**Maddies Statio**	**22.71**	**11**	P	**P**		**11 18 47.0**	**+0.8**
R40A				IAmb	IAmb		11 18 56.9	
	comp=Z,7.4nm,0.8s							
SDCO	**Great Sand Dun**	**22.73**	**344**	P	**P**		**11 18 48.8**	**+2.1**
WUAZ	**Wupatki**	**22.96**	**330**	P	**P**		**11 18 50.5**	**+1.4**
WUAZ				IAmb	IAmb		11 18 55.4	
	comp=Z,5.0nm,0.8s							
U49A	**Red Boiling Sp**	**23.02**	**25**	P	**P**		**11 18 49.1**	**-0.3**
KSU1	**Kansas State U**	**23.03**	**2**	P	**P**		**11 18 50.7**	**+1.1**
BG3	**Lake Jocassee**	**23.08**	**32**	P	**P**		**11 18 50.0**	**-0.1**
BG3				IAmb	IAmb		11 19 00.6	
	comp=Z,7.0nm,0.9s							
PAULI	**Pauline**	**23.54**	**34**	P	**P**		**11 18 53.8**	**-0.9**
PAULI				IAmb	IAmb		11 18 57.5	
	comp=Z,7.0nm,0.9s							
P38A	**Dawn**	**23.82**	**8**	P	**P**		**11 18 58.6**	**+1.3**
ISCO	**Idaho Springs**	**24.70**	**345**	P	**P**		**11 19 07.3**	**+1.5**
ISCO				IAmb	IAmb		11 19 11.1	
	comp=Z,3.3nm,0.8s							
N38A	**Joes South For**	**25.01**	**8**	P	**P**		**11 19 09.3**	**+1.1**
N23A	**Red Feather La**	**25.82**	**346**	P	**P**		**11 19 18.2**	**+2.3**
N23A				IAmb	IAmb		11 19 29.1	
	comp=Z,5.5nm,1.1s							
Q51A	**Peebles**	**26.16**	**26**	P	**P**		**11 19 18.5**	**-0.2**
PDAR	**Pinedale Array**	**28.55**	**342**	P	P		11 19 44.1	+3.8
	comp=Z,0.3nm,0.5s,baz=169,slow=9.7,SNR=1.5							
PDAR				LR	LR		11 32 24.6	
	comp=Z,55nm,19.8s,baz=166,slow=39							
	comp=Z,0.3nm,0.5s							
NVAR	**Mina Array Bea**	**28.76**	**325**	P	**P**		**11 19 45.3**	**+2.9**
	comp=Z,0.7nm,0.8s,baz=146,slow=10,SNR=5.7							
	comp=Z,0.7nm,0.8s							
YKA	**Yellowknife Ar**	**47.94**	**350**	P	**P**		**11 22 23.5**	**+0.9**
	comp=Z,0.3nm,0.7s,baz=155,slow=6.9,SNR=7.1							
	comp=Z,0.3nm,0.7s							
H03N2	**Juan Fernandez**	**52.33**	**160**	T	T		12 19 25.1	
	baz=338,slow=77,SNR=36							
H03N1	**Juan Fernandez**	**52.33**	**160**	T	T		12 19 26.4	
	baz=338,slow=77,SNR=56							
H03N3	**Juan Fernandez**	**52.34**	**160**	T	T		12 19 25.2	
	baz=338,slow=77,SNR=27							
ILAR	**Eielson Array**	**58.88**	**338**	P	**P**		**11 23 44.8**	**+1.9**
	comp=Z,0.4nm,0.9s,baz=150,slow=5.7,SNR=4.2							
	comp=Z,0.4nm,0.9s							

*IDC **26** 11:17:59.2±1.8,38.°47N×141.°85E,h0km,mb3.7/4, mbtmp3.7/8,ML2.9/4,MS2.5/1,Error ellipse: s-maj=38.9km s-min=18.6km az=93.0*
*JMA **26** 11:18:07.2±0.1,38.°5N±0.°2×141.°7E±0.°5,h53km,MV3.6/40, KINKAZAN REGION*
JMA Felt I J1 at KINKAZAN REGION .
ISC 26 11:18:06.3±1.2,38.°51N±0.°05×141.°8E±0.°1,h56km±7km, n28,σ0°87/33,mb3.6/4,15D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.30**	**229**	*i* P	**Pn**	**11 18 16.4**	**+0.5**
JIKH				S	**Sn**	**11 18 22.8**	**0.0**
JIO	**Ouri**	**0.32**	**261**	⇓*i*P	**Pn**	**11 18 16.5**	**+0.4**
JIO				⇓S	**Sn**	**11 18 22.8**	**-0.4**
JKMT	**Kesennumamotoy**	**0.37**	**325**	⇓*i*P	**Pn**	**11 18 16.9**	**+0.3**
JKMT				⇓S	**Sn**	**11 18 23.6**	**-0.5**
OFUJ	**Ofunato**	**0.58**	**354**	*i* P	**Pn**	**11 18 19.0**	**+0.2**
OFUJ				S	**Sn**	**11 18 27.3**	**-0.7**
JMK	**Ichinoseki**	**0.61**	**317**	⇓*i*P	**Pn**	**11 18 19.6**	**+0.4**
JMK				⇓S	**Sn**	**11 18 28.2**	**-0.3**
JOU	**Okura**	**0.86**	**261**	⇓*i*P	**Pn**	**11 18 22.7**	**+0.3**
JOU				⇓S	**Sn**	**11 18 34.3**	**+0.1**
JMM	**Marumori**	**0.99**	**230**	⇓*i*P	**Pn**	**11 18 24.1**	**+0.1**
JMM				⇓S	**Sn**	**11 18 37.0**	**0.0**
JOM	**Ohasama**	**1.03**	**340**	⇓*i*P	**Pn**	**11 18 24.8**	**+0.3**
JOM				⇓S	**Sn**	**11 18 37.7**	**-0.3**
JYK	**Kaneyama**	**1.16**	**291**	⇓*i*P	**Pn**	**11 18 26.7**	**+0.4**
JRG	**Rokugo**	**1.24**	**316**	⇓*i*P	**Pn**	**11 18 27.7**	**+0.3**
JFK	**Kawauchi**	**1.33**	**212**	P	**Pn**	**11 18 29.2**	**+0.5**
JFK				S	**Sn**	**11 18 45.5**	**+0.2**
JYS	**Shirataka**	**1.35**	**258**	⇓*i*P	**Pn**	**11 18 29.6**	**+0.7**
JOTO	**OTAMA OYAMA**	**1.46**	**230**	P	**Pn**	**11 18 30.9**	**+0.6**
MJAR	**Matsushiro Arr**	**3.43**	**236**	Pn	**Pn**	**11 18 55.0**	**-2.2**
	0.1nm,0.3s,baz=42,slow=12,SNR=7.0						
MJAR				Sn	**Sn**	**11 19 38.2**	**+1.5**
	0.2nm,0.3s,baz=30,slow=14,SNR=4.7						
	1.0nm,0.4s						
JHJ	**Hachijo jima 2**	**5.61**	**197**	Pn	**Pn**	**11 19 25.5**	**-1.5**
	2.3nm,0.3s,baz=331,slow=19,SNR=1.9						
JHJ				Sn	**Sn**	**11 20 27.6**	**-2.5**
	5.2nm,0.3s,baz=297,slow=13,SNR=1.9						
	222nm,1.2s						
ASAJ	**Asahikawa**	**5.64**	**6**	Pn	**Pn**	**11 19 26.5**	**-1.0**
	0.6nm,0.3s,baz=207,slow=11,SNR=6.6						
ASAJ				Sn	**Sn**	**11 20 31.4**	**+0.5**
	0.3nm,0.3s,baz=141,slow=30,SNR=2.0						
	1.3nm,0.3s						
USRK	**Ussuriysk Ar.**	**9.28**	**311**	Pn	**Pn**	**11 20 16.3**	**-1.0**
	0.1nm,0.3s,baz=119,slow=15,SNR=1.9						
	2.0nm,0.7s						
KSRS	**Korea Array**	**10.96**	**269**	LR	LR	11 23 39.4	
	comp=Z,25nm,20.4s,baz=125,slow=31						
H11N2	**WAKE ISLAND Hy**	**28.71**	**124**	T	T	11 54 14.9	
	baz=316,slow=76,SNR=69						
H11N1	**WAKE ISLAND Hy**	**28.71**	**124**	T	T	11 54 16.5	
	baz=316,slow=76,SNR=122						
H11N3	**WAKE ISLAND Hy**	**28.72**	**124**	T	T	11 54 16.3	
	baz=316,slow=76,SNR=97						
H11S1	**WAKE ISLAND Hy**	**29.47**	**126**	T	T	11 55 13.2	
	baz=318,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**29.47**	**126**	T	T	11 55 14.3	
	baz=318,slow=76,SNR=73						
H11S2	**WAKE ISLAND Hy**	**29.48**	**126**	T	T	11 55 13.5	
	baz=318,slow=76,SNR=31						
ZALV	**Zalesovo Beam**	**41.13**	**311**	P	**P**	**11 25 44.7**	**+0.1**
	0.6nm,0.5s,baz=106,slow=9.5,SNR=2.1						
	0.6nm,0.5s						
MKAR	**Makanchi Array**	**43.58**	**301**	P	**P**	**11 26 05.3**	**+0.7**
	0.5nm,0.6s,baz=76,slow=6.4,SNR=3.7						
	0.5nm,0.6s						
KURBB	**Kurchatov Arra**	**45.32**	**307**	P	**P**	**11 26 18.9**	**+0.5**
	1.3nm,0.5s,baz=80,slow=8.1,SNR=15						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**58.55**	**188**	P	**P**	**11 27 57.1**	**+0.1**
	0.3nm,0.6s,baz=7.0,slow=7.0,SNR=5.4						
	0.3nm,0.6s						

*IDC **26** 11:33:15.4±3.5,9.°95S×112.°18E,h0km,mb3.2/3, mbtmp3.2/3,MS3.4/1,Error ellipse: s-maj=211.9km s-min=29.6km az=46.0*
*DJA **26** 11:33:30.1±2.0,9.°5S±6.°×117.°4E±.°,h20km±21km,M3.6/8, MLv3.6/8*
ISC 26 11:33:25.2±1.2,9.°58S±0.°09×113.°28E±0.°07,h26km,n13, σ2°27/13,mb3.2/3,South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
JAGI	**Jajag, Banyuwa**	**1.40**	**38**	P	**Pn**	**11 33 48.8**	**-0.3**
BLJI	**Banyuglugur**	**1.85**	**10**	P	**Pb**	**11 33 58.2**	**-0.2**
BLJI				S	**Sn**	**11 34 18.6**	**+0.8**
ABJI	**Asem Bagus**	**2.01**	**28**	P	**Pb**	**11 34 00.9**	**-0.2**
PWJI	**Pagerwojo**	**2.13**	**317**	P	**Pb**	**11 34 04.0**	**+0.9**
PWJI				S	**Sb**	**11 34 29.7**	**+0.7**

SRBI	**Singaraja**	**2.42**	**52**	P	**Pn**		**11 34 05.1**	**+2.0**
UGM	**Wanagama**	**3.19**	**301**	P	**Pb**		**11 34 21.6**	**+0.4**
TWSI	**Taliwang, Sumb**	**3.66**	**77**	P	**Pn**		**11 34 21.6**	**+1.5**
PLAI	**Plampang**	**4.50**	**81**	P	**Pn**		**11 34 33.3**	**+1.5**
WRA	**Warramunga Arr**	**22.80**	**119**	P	**P**		**11 38 26.8**	**+0.6**
	0.4nm,0.8s,baz=290,slow=11,SNR=1.5							
	0.4nm,0.8s							
ASAR	**Alice Springs**	**24.18**	**128**	P	**P**		**11 38 41.1**	**+1.4**
	0.7nm,0.9s,baz=297,slow=8.5,SNR=5.4							
	0.7nm,0.9s							
TGY	**Tagaytay City**	**24.73**	**18**	LR	LR		11 49 21.4	
	comp=Z,85nm,19.8s,baz=342,slow=38							
MKAR	**Makanchi Array**	**62.56**	**337**	P	P		11 43 41.5	-5.4
	0.3nm,0.8s,baz=130,slow=5.8,SNR=2.8							
	0.3nm,0.8s							
YKA	**Yellowknife Ar**	**116.97**	**23**	PKP	**PKPdf**		**11 52 01.1**	**-6.2**
	0.1nm,0.8s,baz=317,slow=3.5,SNR=1.6							

IDC 26 11:39:36.9±4.1,12.°37N×145.°40E,h88km±24km,mb3.3/4, mbtmp3.6/4,Error ellipse: s-maj=136.0km s-min=26.1km az=79.0,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.31**	**337**	P	Pn	11 39 59.7	-0.6
	67nm,0.2s,baz=23,slow=5.6,SNR=29						
GUMO				S	Sn	11 40 17.9	0.0
	138nm,0.3s,baz=24,slow=22,SNR=14						
H11S3	**WAKE ISLAND Hy**	**21.39**	**71**	T	T	12 08 03.3	
	baz=255,slow=75,SNR=7.3						
H11S1	**WAKE ISLAND Hy**	**21.41**	**71**	T	T	12 08 08.9	
	baz=255,slow=75,SNR=4.1						
H11S2	**WAKE ISLAND Hy**	**21.41**	**71**	T	T	12 08 04.0	
	baz=255,slow=75,SNR=7.4						
H11N1	**WAKE ISLAND Hy**	**21.89**	**68**	T	T	12 08 49.5	
	baz=255,slow=75,SNR=6.7						
H11N2	**WAKE ISLAND Hy**	**21.90**	**68**	T	T	12 08 50.3	
	baz=255,slow=75,SNR=6.1						
H11N3	**WAKE ISLAND Hy**	**21.91**	**68**	T	T	12 08 41.9	
	baz=255,slow=75,SNR=6.2						
WRA	**Warramunga Arr**	**33.91**	**199**	P	P	11 46 11.1	-0.6
	0.3nm,0.8s,baz=20,slow=9.6,SNR=1.9						
	0.3nm,0.8s						
ASAR	**Alice Springs**	**37.54**	**197**	P	P	11 46 43.2	+0.5
	0.5nm,0.9s,baz=18,slow=10,SNR=4.9						
	0.5nm,0.9s						
STKA	**Stephens Creek**	**44.15**	**185**	P	P	11 47 36.6	-0.3
	0.8nm,0.5s,baz=336,slow=10.0,SNR=3.1						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**71.20**	**322**	P	P	11 50 46.3	0.0
	0.5nm,0.5s,baz=92,slow=7.9,SNR=2.7						
	0.5nm,0.5s						

*NEIC **26** 11:47:25.3±0.8,36.°699N±0.°007×97.°68W±0.°01,h6km±2km, Error ellipse: s-maj=1.8km s-min=0.5km az=58.0*
TUL 26 11:47:25.9±0.9,36.°705N±0.°009×97.°67W±0.°01,h8km±5km, ML2.7,mb_Lg2.2/18(NEIC),ML2.4/64(NEIC),Error ellipse: s-maj=1.4km s-min=1.2km az=136.0,Oklahoma

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GC02	**Grant County #**	**0.21**	**314**	Pg	Pg	11 47 30.4	+0.2
GC02				Sg	Sg	11 47 33.1	0.0
CROK	**Carrier**	**0.32**	**232**	Pg	Pg	11 47 32.2	0.0
CROK				Sg	Sg	11 47 36.5	-0.1
KAN13	**South Haven SW**	**0.34**	**26**		Pg	11 47 32.1	-0.5
KAN13				IAML		11 47 38.2	
	comp=N,378nm,0.3s						
KAN14	**Manchester OK**	**0.34**	**317**		Pg	11 47 32.4	-0.3
KAN14				IAML		11 47 39.8	
	comp=N,324nm,0.2s						
KAN17	**Caldwell West**	**0.35**	**347**		Pg	11 47 32.4	-0.3
KAN17				IAML		11 47 38.3	
	comp=E,650nm,0.3s						
KAN17				IAML		11 47 40.0	
	comp=N,347nm,0.3s						
BLOK	**Blackwell**	**0.37**	**81**	Pg	Pg	11 47 33.0	-0.1
BLOK				IAML		11 47 39.5	
	comp=E,365nm,0.2s						
BLOK				IAML		11 47 43.3	
	comp=N,432nm,0.2s						
KAN09	**Caldwell North**	**0.43**	**5**		Pg	11 47 34.7	+0.4
KAN09				IAML		11 47 42.4	
	comp=N,456nm,0.2s						
KAN05	**Bluff City Nor**	**0.43**	**338**		Pg	11 47 33.4	-1.0
KAN05				IAML		11 47 42.7	
	comp=N,236nm,0.2s						
KAN05				IAML		11 47 42.8	
	comp=E,328nm,0.2s						
OK032	**Salt Plains WL**	**0.45**	**283**		Pg	11 47 34.7	+0.1
OK032				IAML		11 47 44.3	
	comp=E,300nm,0.2s						
OK032				IAML		11 47 47.2	
	comp=E,242nm,0.2s						
KAN01	**Argonia South**	**0.45**	**351**		Pg	11 47 34.6	-0.1
KAN01				IAML		11 47 41.6	
	comp=N,222nm,0.2s						
KAN10	**Anthony SW Sta**	**0.54**	**321**	Pg	Pg	11 47 36.3	-0.1
KAN06	**Argonia West S**	**0.56**	**344**	Pg	Pg	11 47 36.7	-0.1
KAN06				IAML		11 47 46.7	
	comp=E,162nm,0.4s						
KAN08	**Anthony NE Sta**	**0.57**	**335**	Pg	Pg	11 47 36.9	-0.1
KAN08				IAML		11 47 48.5	
	comp=N,172nm,0.2s						
KAN12	**Harper NE Stat**	**0.65**	**336**		Pg	11 47 37.2	-1.2
OK048	**Pawnee Station**	**0.65**	**116**		Pg	11 47 38.2	-0.3
OK051	**E0350 and S346**	**0.70**	**106**		Pg	11 47 39.4	0.0
OK051				IAML		11 47 55.6	
	comp=N,178nm,0.2s						
OK051				IAML		11 48 02.5	
	comp=N,130nm,0.2s						
OK035	**E0210 Rd and N**	**0.84**	**271**	Pg	Pg	11 47 40.8	-1.1
OK035				IAML		11 47 60.0	
	comp=N,143nm,0.2s						
OK038	**West end E0370**	**0.89**	**256**		Pg	11 47 42.5	-0.5
OK029	**Liberty Lake**	**0.92**	**169**	Pg	Pg	11 47 42.3	-1.4
OK029				IAML		11 48 00.1	
	comp=N,117nm,0.5s						
QUOK	**Quay**	**0.94**	**124**		Pg	11 47 43.5	-0.5
QUOK				IAML		11 48 01.9	
	comp=N,160nm,0.3s						
QUOK				IAML		11 48 02.1	
	comp=E,139nm,0.2s						
T35A	**Sooner Cattle**	**0.95**	**77**	Pg	Pg	11 47 43.7	-0.5
OK052	**Battle Ridge R**	**1.00**	**135**		Pg	11 47 44.5	-0.5
OK052				IAML		11 48 03.8	
	comp=E,97nm,0.1s						
OK052				IAML		11 48 03.9	
	comp=E,117nm,0.3s						
OK031	**S. Brethren Rd**	**1.01**	**138**		Pg	11 47 44.7	-0.5
OK031				IAML		11 48 04.2	
	comp=E,80nm,0.2s						
U32A	**Winter Ranch,**	**1.12**	**254**		Pg	11 47 46.3	-1.1
U32A				IAML		11 48 04.3	
	comp=N,93nm,0.3s						
U32A				IAML		11 48 11.1	
	comp=E,72nm,0.2s						
DEOK	**Depew**	**1.28**	**132**		Pn	11 47 48.9	-1.2
DEOK				IAML		11 48 07.2	
	comp=N,96nm,0.3s						
DEOK				IAML		11 48 10.2	
	comp=E,60nm,0.2s						
OKCSW	**OKLAHOMA CITY**	**1.31**	**172**		Pn	11 47 49.5	-1.0
CSTR	**Hydro, Custer**	**1.34**	**218**	Pg	Pn	11 47 50.4	-0.6
FNO	**Franklin**	**1.46**	**171**		Pn	11 47 52.7	+0.1
TUL3	**Leonard**	**1.71**	**117**		Pn	11 47 56.4	+0.3
TUL3				IAmb_Lg		11 48 22.6	
	comp=Z,12nm,0.9s						
R32A	**Long Quarter,**	**1.90**	**335**		Pn	11 47 59.4	+0.7
WMOK	**Wichita Mounta**	**2.16**	**205**	Pn	Pn	11 48 02.5	+0.3
RLO	**Rose Lookout**	**2.20**	**103**		Pn	11 48 04.1	+1.4
SMWD	**Samnorwood**	**2.63**	**233**	IAmb_Lg		11 48 50.1	
	comp=Z,5.2nm,1.1s						
U38A	**Gravette**	**2.66**	**95**	IAmb_Lg		11 48 55.6	
	comp=Z,5.7nm,1.0s						
X37A	**Clayton**	**2.82**	**138**	IAmb_Lg		11 49 00.3	
	comp=Z,8.4nm,1.1s						
AMTX	**Amarillo**	**3.73**	**242**	IAmb_Lg		11 49 31.7	
	comp=Z,7.3nm,0.7s						
MIAR	**Mount Ida**	**3.97**	**122**	IAmb_Lg		11 49 31.3	
	comp=Z,3.7nm,1.2s						
MGMO	**Mountain Grove**	**4.35**	**82**	IAmb_Lg		11 49 41.9	
	comp=Z,4.0nm,0.8s						
P38A	**Dawn**	**4.37**	**47**	IAmb_Lg		11 49 57.0	

	comp=Z,7.3nm,1.0s							
P40A	**Paris**	**5.25**	**56**	IAmb_Lg			11 50 16.3	
	comp=Z,5.4nm,0.7s							
PBMO	**Poplar Bluff**	**5.81**	**87**	IAmb_Lg			11 50 31.2	
	comp=Z,5.3nm,0.8s							

IDC 26 11:57:09.0±1.6,2.°05N×127.°72E,h0km,mb3.8/5, mbtmp3.8/5,Error ellipse: s-maj=136.9km s-min=19.3km az=67.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**22.80**	**164**	P	P	12 02 14.4	+0.9
	2.9nm,0.6s,baz=344,slow=11,SNR=47						
	2.9nm,0.6s						
ASAR	**Alice Springs**	**26.25**	**167**	P	P	12 02 45.9	-0.2
	0.2nm,0.3s,baz=343,slow=7.5,SNR=9.1						
	0.2nm,0.3s						
STKA	**Stephens Creek**	**36.22**	**160**	P	P	12 04 12.6	-1.2
	1.3nm,0.5s,baz=311,slow=9.3,SNR=2.9						
	1.3nm,0.5s						
MKAR	**Makanchi Array**	**59.49**	**325**	P	P	12 07 14.5	+0.5
	0.5nm,0.4s,baz=117,slow=7.6,SNR=9.2						
	0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**63.68**	**327**	P	P	12 07 41.9	-0.3
	0.4nm,0.5s,baz=128,slow=6.0,SNR=6.1						
	0.4nm,0.5s						

*IDC **26** 12:01:49.6±0.6,35.°41S×54.°01E,h0km,mb4.0/15, mbtmp4.0/16,ML3.9/1,MS3.6/19,Error ellipse: s-maj=21.0km s-min=16.0km az=71.0*
*NEIC **26** 12:01:51.3±2.4,35.°4S±0.°1×54.°1E±0.°2,h10km±1km, mb4.6/12,Error ellipse: s-maj=28.0km s-min=17.1km az=64.0*
ISC 26 12:01:52.1±0.5,35.°38S±0.°08×54.°1E±0.°1,h17km,n61, σ0°73/39,mb4.3/19,MS3.6/19,4C,South Indian Ocean

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
H04N1	**CROZET ISLANDS**	**10.91**	**189**	T	T	12 15 45.0	
	baz=11,slow=75,SNR=388						
H04N2	**CROZET ISLANDS**	**10.92**	**189**	T	T	12 15 43.8	
	baz=11,slow=75,SNR=476						
H04N3	**CROZET ISLANDS**	**10.93**	**189**	T	T	12 15 43.9	
	baz=11,slow=75,SNR=499						
FOMA	**Nahampoana Res**	**12.06**	**327**	Pn	**Pn**	**12 04 43.3**	**+0.1**
RER	**Riviere de l'E**	**14.24**	**6**	Pn	**Pn**	**12 05 11.0**	**-2.1**
VOI	**Vohitsoka**	**14.87**	**333**		**Pn**	**12 05 20.7**	**-1.0**
ABPO	**Ambohimpanom**	**17.40**	**338**	P	**P**	**12 05 55.9**	**+0.4**
OPO	**Ambohidratompo**	**17.83**	**338**	P	**P**	**12 06 00.4**	**+0.1**
	baz=178,slow=10,SNR=3.5						
	2.7nm,0.7s						
BOSA	**Boshof**	**25.33**	**277**	P	**P**	**12 07 17.5**	**-0.7**
BOSA				IAmb	IAmb	12 07 20.8	
	comp=Z,19nm,1.5s						
BOSA	**Boshof**	**25.33**	**277**	P	**P**	**12 07 18.2**	**0.0**
	comp=Z,4.6nm,0.8s,baz=105,slow=9.8,SNR=9.4						
BOSA				LR	LR	12 15 17.1	
	comp=Z,57nm,21.2s,baz=178,slow=32						
	comp=Z,4.6nm,0.8s						
LBTB	**Lobatse**	**26.64**	**285**	LR	LR	12 15 55.1	
	comp=Z,106nm,20.4s,baz=114,slow=32						
SUR	**Sutherland**	**27.73**	**267**	LR	LR	12 16 48.5	
	comp=Z,70nm,18.7s,baz=134,slow=32						
LSZ	**Lusaka**	**30.66**	**304**	LR	LR	12 18 21.0	
	comp=Z,111nm,20.1s,baz=153,slow=32						
H08S1	**Diego Garcia H**	**32.33**	**36**	T	T	12 42 16.0	
	baz=208,slow=76,SNR=31						
H08S2	**Diego Garcia H**	**32.34**	**36**	T	T	12 42 15.9	
	baz=208,slow=76,SNR=16						
H08S3	**Diego Garcia H**	**32.35**	**36**	T	T	12 42 16.7	
	baz=208,slow=76,SNR=29						
MAW	**Mawson**	**32.66**	**174**	P	**P**	**12 08 22.2**	**-0.7**
	comp=Z,2.0nm,0.8s,baz=315,slow=16,SNR=2.1						
MAW				LR	LR	12 18 01.7	
	comp=Z,290nm,21.8s,baz=2.0,slow=30						
	comp=Z,2.0nm,0.8s						
MBAR	**Mbarara**	**40.88**	**323**	LR	LR	12 25 54.0	
	comp=Z,139nm,18.2s,baz=142,slow=35						
TROLL	**Troll, Antarti**	**45.12**	**200**	⇑P	**P**	**12 10 07.9**	**+0.6**
	comp=Z,148nm,0.8s						
SNAA	**Sanae**	**46.55**	**201**	P	**P**	**12 10 18.1**	**-0.4**
SNAA				IAmb	IAmb	12 10 19.4	
	comp=Z,6.7nm,0.9s						
SNAA	**Sanae**	**46.55**	**201**	⇑P	**P**	**12 10 18.2**	**-0.2**
	comp=Z,110nm,0.8s						
SNAA	**Sanae**	**46.55**	**201**	P	**P**	**12 10 18.3**	**-0.2**
	comp=Z,4.5nm,0.8s,baz=88,slow=6.4,SNR=14						
SNAA				LR	LR	12 25 38.1	
	comp=Z,45nm,20.5s,baz=102,slow=31						
	comp=Z,4.5nm,0.8s						
VNA2	**Neumayer--Watz**	**47.74**	**203**	⇑P	**P**	**12 10 27.7**	**0.0**
	comp=Z,5.5nm,0.7s,baz=84,slow=5.7						
H01W2	**Cape Leeuwin H**	**48.40**	**108**	T	T	13 02 39.3	
	baz=251,slow=75,SNR=9.5						
H01W3	**Cape Leeuwin H**	**48.41**	**108**	T	T	13 02 44.9	
	baz=251,slow=75,SNR=7.6						
H01W1	**Cape Leeuwin H**	**48.42**	**108**	T	T	13 02 38.0	
	baz=251,slow=75,SNR=9.9						
VNA3	**Neumayer Olymp**	**48.53**	**203**	⇑P	**P**	**12 10 33.7**	**-0.1**
	comp=Z,7.6nm,0.8s						
QSPA	**South Pole Qui**	**54.80**	**180**	P	**P**	**12 11 20.1**	**-0.8**
QS

MKAR	**Makanchi Array**	**85.64**	**19**	P		**P**		**12 14 30.0**	**+0.7**
	comp=Z,0.3nm,0.5s,baz=188,slow=4.4,SNR=2.2								
	comp=Z,0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**88.30**	**15**	P		**P**		**12 14 42.8**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=205,slow=4.1,SNR=1.8								
	comp=Z,0.2nm,0.3s								
AKASG	**Malin Array Be**	**88.48**	**344**	P		**P**		**12 14 42.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=179,slow=4.9,SNR=5.5								
	comp=Z,0.5nm,0.4s								
ESDC	**Sonseca Array**	**91.89**	**319**	P		**P**		**12 14 60.0**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=145,slow=3.6,SNR=4.6								
	comp=Z,0.3nm,0.4s								
KIRV	**Kirov**	**93.69**	**358**	LR		LR		12 58 07.0	
	comp=Z,25nm,18.7s,baz=135,slow=36								
ILAR	**Eielson Array**	**147.97**	**17**	PKPbc		**PKPbc**		**12 21 35.0**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=312,slow=3.5,SNR=22								
YKA	**Yellowknife Ar**	**151.96**	**349**	PKPbc		**PKPbc**		**12 21 45.0**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=9.6,slow=2.0,SNR=16								

*IDC **26** 12:04:24.8±1.0,35°.62S×53°.90E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=38.8km s-min=34.4km az=3.0*

ISC 26 12:04:27.5±1.0, 35°.6S±0°.2×53°.9E±0°.2, h17km, n13, σ0°70/7, mb3.7/5, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS**	**10.63**	**188**	T	T	12 18 25.2	
	baz=13						
H04N2	**CROZET ISLANDS**	**10.63**	**188**	T	T	12 18 23.4	
	baz=13						
H04N3	**CROZET ISLANDS**	**10.65**	**188**	T	T	12 18 28.7	
	baz=13						
H08S1	**Diego Garcia H**	**32.65**	**36**	T	T	12 45 05.0	
	baz=207						
H08S2	**Diego Garcia H**	**32.66**	**36**	T	T	12 44 59.3	
	baz=207						
H08S3	**Diego Garcia H**	**32.67**	**36**	T	T	12 45 08.0	
	baz=207						
SNAA	**Sanae**	**46.24**	**201**	P	**P**	**12 12 51.4**	**0.0**
	0.9nm,0.8s,baz=90,slow=9.1,SNR=2.0						
	0.9nm,0.8s						
CMAR	**Chiang Mai Arr**	**68.67**	**46**	P	**P**	**12 15 30.4**	**+0.3**
	0.4nm,0.3s,baz=212,slow=8.2,SNR=1.7						
	0.4nm,0.3s						
ASAR	**Alice Springs**	**68.83**	**104**	P	**P**	**12 15 31.3**	**+0.1**
	0.3nm,0.6s,baz=234,slow=5.4,SNR=1.9						
	0.3nm,0.6s						
TORD	**Torodi Ar. Bea**	**69.20**	**305**	P	**P**	**12 15 33.9**	**+0.5**
	0.4nm,0.7s,baz=130,slow=4.6,SNR=2.6						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**71.10**	**101**	P	**P**	**12 15 45.5**	**+0.3**
	0.5nm,0.8s,baz=234,slow=5.5,SNR=1.7						
	0.5nm,0.8s						
ILAR	**Eielson Array**	**148.27**	**17**	PKPbc	**PKPbc**	**12 24 10.6**	**-1.1**
	0.5nm,0.7s,baz=306,slow=2.8,SNR=4.1						
YKA	**Yellowknife Ar**	**152.18**	**349**	PKPbc	**PKPbc**	**12 24 20.6**	**-0.6**
	0.1nm,0.6s,baz=16,slow=2.2,SNR=3.0						

*IDC **26** 12:10:25.1±2.1,23°.62S×179°.99W, h496km±22km, mb3.6/9, mbtmp4.4/10, Error ellipse: s-maj=19.6km s-min=15.7km az=151.0*

*NEIC **26** 12:10:28.4±1.8,23°.7S±0°.1×180°.0E±0°.1, h538km±11km, mb4.6/21, Error ellipse: s-maj=19.2km s-min=15.1km az=184.0*

*NOU **26** 12:10:32.2,23°.63S×179°.81E, h587km, mb4.5/36, South of Fiji Islands*

ISC 26 12:10:28.1±0.5, 23°.72S±0°.08×179°.96E±0°.09, h535km, n82, σ1°33/83, mb4.7/45, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**6.22**	**343**	P	**P**	**12 12 06.6**	**-1.7**
NIUE	**Niue**	**10.50**	**66**	P	**P**	**12 12 51.2**	**+0.2**
MARNC	**Mare, Loyalty**	**11.24**	**279**	P	**P**	**12 13 00.5**	**+1.7**
	1.5nm,0.6s						
PINNC	**Pines Island,**	**11.56**	**273**	P	**P**	**12 13 02.9**	**+0.8**
LIFNC	**LIFOU**	**12.13**	**282**	P	**P**	**12 13 06.8**	**-1.2**
KUZ	**Kuaotunu**	**13.48**	**195**	P	**P**	**12 13 26.4**	**+4.5**
	38nm,1.2s						
URZ	**Urewera**	**14.70**	**189**	P	**P**	**12 13 32.1**	**-2.4**
	13nm,0.5s,baz=342,slow=1.6,SNR=21						
URZ				S	**S**	**12 16 05.2**	**-2.9**
	8.2nm,0.7s,baz=27,slow=18,SNR=7.2						
RTZ	**Ruatahuna**	**15.06**	**189**	P	**P**	**12 13 37.1**	**-1.3**
HIZ	**Hauiti**	**15.37**	**195**	P	**P**	**12 13 46.4**	**+4.9**
	148nm,1.4s						
BKZ	**Black Stump Fm**	**15.68**	**190**	P	**P**	**12 13 46.9**	**+2.2**
	29nm,1.3s						
TCW	**Tory Channel**	**18.08**	**194**	P	**P**	**12 14 06.1**	**-1.2**
TUWZ	**Tuamarina**	**18.36**	**194**	P	**P**	**12 14 10.0**	**+0.2**
JCZ	**Jackson Bay**	**22.28**	**202**	P	**P**	**12 14 45.6**	**+0.2**
ARMA	**Armidale**	**26.05**	**249**	P	**P**	**12 15 20.1**	**+1.0**
	23nm,0.7s						
ARMA	**Armidale**	**26.05**	**249**	P	**P**	**12 15 20.4**	**+1.3**
ARMA				IAmb	IAmb	12 15 21.3	
	comp=Z,9.2nm,0.7s						
EIDS	**Eidsvold**	**26.30**	**260**	P	**P**	**12 15 21.5**	**+0.3**
	comp=Z,25nm,1.0s						
EIDS	**Eidsvold**	**26.30**	**260**	P	**P**	**12 15 21.9**	**+0.7**
MGCD	**Mangrove Creek**	**26.99**	**243**	P	**P**	**12 15 28.2**	**+1.0**
	comp=Z,20nm,0.9s						
CNB	**Canberra Magne**	**28.91**	**239**	P	**P**	**12 15 45.0**	**+1.0**
	comp=Z,12nm,0.8s						
CAN	**Canberra**	**29.20**	**240**	P	**P**	**12 15 47.0**	**+0.5**
	comp=Z,21nm,0.7s						
CAN	**Canberra**	**29.20**	**240**	P	**P**	**12 15 47.1**	**+0.6**
CAN				IAmb	IAmb	12 15 48.2	
	comp=Z,9.5nm,0.7s						
YNG	**Young**	**29.43**	**242**	P	**P**	**12 15 49.4**	**+0.8**
	comp=Z,20nm,1.8s						
MILA	**Mila**	**29.56**	**236**	P	**P**	**12 15 50.1**	**+0.4**
	comp=Z,8.9nm,0.7s						
TV1H	**Townsville Har**	**31.13**	**272**	P	**P**	**12 16 03.7**	**+0.4**
	comp=Z,15nm,0.5s						
CMSA	**Cobar Meteorol**	**31.24**	**248**	P	**P**	**12 16 03.9**	**-0.2**
	comp=Z,23nm,0.9s						
CTAO	**Charters Tower**	**31.43**	**270**	P	**P**	**12 16 06.0**	**+0.1**
	comp=Z,79nm,0.6s						
CTAO	**Charters Tower**	**31.43**	**270**	P	**P**	**12 16 06.4**	**+0.5**
QLP	**Quilpie**	**32.40**	**257**	P	**P**	**12 16 14.4**	**+0.4**
	comp=Z,29nm,0.9s						
TOO	**Toolangi**	**32.51**	**237**	P	**P**	**12 16 15.0**	**+0.1**
	comp=Z,15nm,2.3s						
TOO	**Toolangi**	**32.51**	**237**	P	**P**	**12 16 15.5**	**+0.6**
TOO				IAmb	IAmb	12 16 15.9	
	comp=Z,7.6nm,0.6s						
TAU	**Tasmania Unive**	**33.03**	**227**	P	**P**	**12 16 19.0**	**-0.1**
TAU				IAmb	IAmb	12 16 51.3	
	comp=Z,36nm,1.4s						
MTSU	**Mount Surprise**	**33.69**	**273**	P	**P**	**12 16 25.2**	**+0.1**
	comp=Z,28nm,0.7s						
BRAT	**Ballarat**	**33.71**	**237**	P	**P**	**12 16 25.8**	**+0.9**
	comp=Z,9.6nm,0.8s						
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**12 16 33.8**	**0.0**
	comp=Z,1.9nm,0.9s						
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**12 16 33.7**	**0.0**
STKA	**Stephens Creek**	**34.75**	**248**	P	**P**	**12 16 34.3**	**+0.5**
	comp=Z,4.4nm,0.5s,baz=92,slow=10,SNR=11						
	comp=Z,4.4nm,0.5s						
INKA	**Innaminka**	**35.45**	**255**	P	**P**	**12 16 40.4**	**+0.8**
	comp=Z,29nm,1.2s						
COEN	**Coen**	**36.05**	**279**	P	**P**	**12 16 45.2**	**+0.4**
COEN	**Coen**	**36.05**	**279**	P	**P**	**12 16 44.5**	**-0.3**
COEN				IAmb	IAmb	12 16 48.5	
	comp=Z,32nm,1.5s						
HTT	**Hallett**	**37.11**	**245**	P	**P**	**12 16 52.9**	**-0.5**
QIS	**Mount Isa**	**37.42**	**267**	P	**P**	**12 16 56.0**	**-0.1**
	comp=Z,7.1nm,1.5s						
LCRK	**Leigh Creek**	**37.60**	**250**	P	**P**	**12 16 56.9**	**-0.4**
	comp=Z,27nm,1.3s						
BBOO	**Buckleboo**	**39.48**	**247**	P	**P**	**12 17 11.4**	**-1.1**
BBOO	**Buckleboo**	**39.48**	**247**	P	**P**	**12 17 11.5**	**-1.0**
BBOO				IAmb	IAmb	12 17 15.7	
	comp=Z,32nm,1.4s						
OOD	**Oodnadatta**	**39.92**	**255**	P	**P**	**12 17 16.3**	**+0.2**
	comp=Z,30nm,0.8s						
MULG	**Mulgathing**	**41.20**	**251**	P	**P**	**12 17 25.3**	**-1.0**
	comp=Z,31nm,0.7s						
AS01	**Alice Springs**	**41.98**	**260**	P	**P**	**12 17 31.9**	**-0.8**
	comp=Z,21nm,0.8s						
AS31	**Alice Springs**	**42.02**	**260**	P	**P**	**12 17 33.0**	**0.0**
ASAR	**Alice Springs**	**42.02**	**260**	P	**P**	**12 17 32.5**	**-0.5**
ASAR	**Alice Springs**	**42.02**	**260**	P	**P**	**12 17 33.0**	**0.0**
	comp=Z,17nm,0.8s,baz=97,slow=7.5,SNR=304						
ASAR				ScP	**ScP**	**12 22 18.9**	**+3.6**
	comp=Z,3.4nm,0.7s,baz=107,slow=4.3,SNR=26						
	comp=Z,17nm,0.8s						
WR0	**Warramunga Arr**	**42.19**	**266**	P	**P**	**12 17 33.7**	**-0.6**
WR0				IAmb	IAmb	12 17 34.1	
	comp=Z,9.3nm,0.6s						
WB2	**Warramunga Arr**	**42.37**	**266**	P	**P**	**12 17 34.8**	**-0.9**
WB2				IAmb	IAmb	12 17 35.9	
	comp=Z,20nm,0.7s						
WB0	**Warramunga Arr**	**42.37**	**266**	P	**P**	**12 17 35.1**	**-0.6**
WRAB	**Tennant Creek**	**42.37**	**266**	P	**P**	**12 17 35.0**	**-0.7**
WRAB				IAmb	IAmb	12 17 35.8	
	comp=Z,20nm,0.8s						
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**12 17 34.2**	**-1.6**
WRA	**Warramunga Arr**	**42.38**	**266**	P	**P**	**12 17 35.2**	**-0.5**
	comp=Z,18nm,0.5s,baz=94,slow=8.3,SNR=274						
WRA				ScP	**ScP**	**12 22 20.6**	**+3.9**
	comp=Z,2.4nm,0.8s,baz=101,slow=4.1,SNR=10						
	comp=Z,18nm,0.5s						
FORT	**Forrest**	**46.34**	**249**	P	**P**	**12 18 04.8**	**-1.4**
	comp=Z,90nm,0.6s						
FORT	**Forrest**	**46.34**	**249**	P	**P**	**12 18 05.1**	**-1.1**
WRKA	**Warakurna**	**46.84**	**257**	P	**P**	**12 18 09.1**	**-1.0**
	comp=Z,27nm,1.2s						
VNDA	**Vanda**	**54.55**	**185**	P	**P**	**12 19 06.2**	**+0.9**
	comp=Z,0.4nm,0.8s,baz=49,slow=13,SNR=1.9						
KLBR	**Kellerberrin**	**55.02**	**247**	P	**P**	**12 19 08.6**	**-0.8**
	comp=Z,46nm,1.5s						
BLDU	**Ballidu**	**56.06**	**248**	P	**P**	**12 19 15.5**	**-1.1**
	comp=Z,58nm,2.8s						
MUN	**Mundaring**	**56.27**	**246**	P	**P**	**12 19 17.9**	**-0.1**
	comp=Z,48nm,1.5s						
MORW	**Morawa**	**56.90**	**250**	P	**P**	**12 19 21.6**	**-0.9**
	comp=Z,40nm,2.2s						
PLAI	**Plampang**	**61.07**	**273**	P	**P**	**12 19 49.9**	**-0.7**
	comp=Z,31nm,0.7s						
QSPA	**South Pole Qui**	**66.36**	**180**	P	**P**	**12 20 24.5**	**+0.9**
	comp=Z,2.0nm,0.6s,baz=310,slow=4.6,SNR=20						
	comp=Z,2.0nm,0.6s						
CMB	**Columbia Colle**	**83.10**	**43**		**P**	**12 21 57.5**	**-0.3**
NVAR	**Mina Array Bea**	**84.65**	**44**	P	**P**	**12 22 06.2**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=223,slow=7.9,SNR=8.6						
	comp=Z,1.2nm,0.7s						
SNAA	**Sanae**	**84.84**	**179**	P	**P**	**12 22 04.4**	**-1.6**
N15K	**Kwethluk River**	**85.17**	**10**	P	**P**	**12 22 07.7**	**+0.3**
N15K				IAmb	IAmb	12 22 34.1	
	comp=Z,12nm,1.1s						
O18K	**Koktuh Hills**	**85.73**	**12**	P	**P**	**12 22 09.4**	**-0.8**
O18K				IAmb	IAmb	12 22 42.8	
	comp=Z,14nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.43**	**290**	P	**P**	**12 22 30.5**	**+2.0**
	comp=Z,0.4nm,0.4s,baz=170,slow=5.5,SNR=4.3						
	comp=Z,0.4nm,0.4s						
TXAR	**Lajitas Array**	**90.37**	**58**	P	**P**	**12 22 33.6**	**+0.9**
	comp=Z,1.9nm,0.7s,baz=216,slow=6.3,SNR=24						
	comp=Z,1.9nm,0.7s						
ILAR	**Eielson Array**	**91.87**	**14**	P	**P**	**12 22 37.5**	**-1.1**
	comp=Z,0.3nm,0.7s,baz=217,slow=6.8,SNR=1.7						
	comp=Z,0.3nm,0.7s						
PDAR	**Pinedale Array**	**92.59**	**44**	P	**P**	**12 22 42.6**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=197,slow=3.1,SNR=5.6						
	comp=Z,0.7nm,0.6s						
HFS	**Hagfors**	**142.36**	**349**	PKhKP	PKPpre	12 28 55.3	
	comp=Z,2.3nm,0.5s,baz=72,slow=4.8,SNR=24						
AKASG	**Malin Array Be**	**144.80**	**327**	PKP	PKPbc	12 29 03.9	-0.5
	comp=Z,0.8nm,0.5s,baz=46,slow=3.5,SNR=4.7						
BRTR	**Keskin Array B**	**147.44**	**307**	PKPbc	**PKPab**	**12 29 16.4**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=41,slow=2.5,SNR=3.2						
MMAI	**Mount Meron Ar**	**147.59**	**295**	PKPbc	**PKiKP**	**12 29 14.0**	**-0.3**
	comp=Z,1.1nm,0.4s,baz=72,slow=5.4,SNR=3.1						
EKA	**Eskdalemuir Ar**	**148.34**	**3**	PKPbc	**PKPbc**	**12 29 12.9**	**-0.9**
	comp=Z,0.7nm,0.4s,baz=349,slow=3.1,SNR=7.8						
ESDC	**Sonseca Array**	**163.75**	**11**	PKPab	**PKPab**	**12 30 25.6**	**-0.2**
	comp=Z,0.2nm,0.6s,baz=346,slow=5.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**169.35**	**189**	PKPab	**PKPab**	**12 30 51.3**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=176,slow=5.8,SNR=2.5						

*DJA **26** 12:27:25.2±0.3,6°.N±3°×12°.5E±°, h10km, M4.8/11, mB5.3/6, mb4.7/9, MLv5.0/11, Mw(mB)4.7/6*

*IDC **26** 12:27:26.2±0.8,6°.13N×125°.50E, h80km±6km, mb3.6/15, mbtmp3.9/16, MS3.2/13, Error ellipse: s-maj=24.9km s-min=11.8km az=74.0*

*NEIC **26** 12:27:27.4±1.1,6°.11N±0°.07×125°.5E±0°.1, h82km±9km, mb4.5/27, Error ellipse: s-maj=15.2km s-min=9.0km az=74.0*

ISC 26 12:27:28.1±0.5, 6°.05N±0°.06×125°.43E±0°.08, h100km, n72, σ1°59/68, mb4.2/28, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**1.03**	**9**		**Pn**	**12 27 45.6**	**-3.3**
SGSI	**Sangihe**	**2.35**	**177**	P	**Pn**	**12 28 03.4**	**-1.8**
TNTI	**Ternate**	**5.59**	**160**	Pn	**Pn**	**12 28 48.7**	**-0.1**
TNTI				Sn	**Sn**	**12 29 52.0**	**+0.3**
TNTI	**Ternate**	**5.59**	**160**	P	**Pn**	**12 28 49.2**	**+0.4**
	30nm,0.8s,847nm0.4nm						
KMSI	**Cibinong**	**5.62**	**195**	P	**Pn**	**12 28 48.4**	**-0.9**
	310nm,0.9s,6μm2.2nm						
GTOI	**Gorontalo**	**5.89**	**204**	P	**Pn**	**12 28 51.3**	**-1.6**
	503nm,0.7s,5μm1.7nm						
TOLI2	**Tolitoli**	**6.75**	**224**	Pn	**Pn**	**12 29 01.1**	**-3.5**
LBMI	**Labuha**	**6.96**	**163**	P	**Pn**	**12 29 07.3**	**-0.2**
	24nm,0.8s,0.7nm						
LUWI	**Luwuk**	**7.52**	**201**		**Pn**	**12 29 16.1**	**+1.0**
LUWI	**Luwuk**	**7.52**	**201**	P	**Pn**	**12 29 17.3**	**+2.1**
MPSI	**Mapaga**	**7.91**	**224**	P	**Pn**	**12 29 19.0**	**-1.4**
	35nm,0.8s,924nm0.2nm						
SANI	**Sanana**	**8.06**	**176**	P	**Pn**	**12 29 19.7**	**-2.8**
	23nm,0.8s,682nm0.1nm						
KAPI	**Kappang**	**12.36**	**207**	P	**Pn**	**12 30 21.6**	**+1.0**
	12nm,0.7s,baz=26,slow=7.9,SNR=7.4						
SBUM	**Sibu**	**13.64**	**255**	Pn	**Pn**	**12 30 38.1**	**+0.6**
MMRI	**Maumere**	**14.93**	**192**		**Pn**	**12 30 53.0**	**-1.1**
KSM	**Kuching**	**15.75**	**254**		**Pn**	**12 31 04.7**	**+0.3**
DLV	**T Lat**	**17.72**	**290**	P	**P**	**12 31 29.2**	**+0.9**
DLV				IAmb	IAmb	12 31 30.8	
	comp=Z,19nm,1.1s						
TPUB	**Ta-pu**	**17.77**	**345**	P	**P**	**12 31 29.6**	**+1.1**
TPUB				IAmb	IAmb	12 31 29.7	
	comp=Z,23nm,1.1s						
MTN	**Manton Dam**	**19.61**	**163**	P	**P**	**12 31 49.0**	**+0.3**
MTN				IAmb	IAmb	12 31 53.0	
	comp=Z,9.0nm,0.9s						
GUMO	**Guam**	**20.56**	**67**	LR	LR	12 40 47.7	
	comp=Z,12nm,18.8s,baz=216,slow=39						
UBPT	**Khong Chiam**	**21.63**	**297**	P	**P**	**12 32 10.1**	**-0.4**
UBPT				IAmb	IAmb	12 32 14.1	
	comp=Z,14nm,1.0s						
FITZ	**Fitzroy Crossi**	**23.99**	**179**	P	**P**	**12 32 34.2**	**+0.6**
IPM	**Ipoh**	**24.34**	**268**	P	**P**	**12 32 37.5**	**+0.6**
IPM				IAmb	IAmb	12 32 38.9	
	comp=Z,22nm,0.7s						
KULM	**Kulim**	**24.66**	**270**	P	**P**	**12 32 40.9**	**+1.1**
KULM				IAmb	IAmb	12 32 42.6	
	comp=Z,40nm,0.9s						
BKNI	**Bangkinang**	**24.99**	**258**	P	**P**	**12 32 43.5**	**+0.7**
SRIT	**Nakonsritamara**	**25.73**	**277**	P	**P**	**12 32 50.7**	**+1.2**
SRIT				IAmb	IAmb	12 32 51.5	
	comp=Z,26nm,0.9s						
JCJ	**Chichijima**	**26.32**	**35**	LR	LR	12 44 58.2	
	comp=Z,18nm,18.7s,baz=268,slow=40						
WB0	**Warramunga Arr**	**27.13**	**161**	P	**P**	**12 33 03.1**	**+1.1**
WB0				IAmb	IAmb	12 33 31.4	
	comp=Z,5.3nm,0.9s						
WRAB	**Tennant Creek**	**27.27**	**161**	P	**P**	**12 33 03.5**	**+0.2**
WRA	**Warramunga Arr**	**27.27**	**161**	P	**P**	**12 33 03.0**	**-0.3**
WRA	**Warramunga Arr**	**27.27**	**161**	P	**P**	**12 33 03.9**	**+0.6**
	comp=Z,0.9nm,0.8s,baz=331,slow=11,SNR=3.6						
WRA				pP	**pP**	**12 33 21.6**	**-3.7**
	comp=Z,1.1nm,0.7s,baz=342,slow=11,SNR=4.7						
	comp=Z,0.9nm,0.8s						
WB2	**Warramunga Arr**	**27.28**	**161**	P	**P**	**12 33 03.5**	**+0.2**
WR0	**Warramunga Arr**	**27.36**	**161**	P	**P**	**12 33 04.8**	**+0.8**
JNU	**Nakatsue**	**27.41**	**10**	LR	LR	12 46 15.9	
	comp=Z,24nm,18.2s,baz=108,slow=41						
PHRA	**Phrae**	**27.50**	**299**	P	**P**	**12 33 05.8**	**+0.4**
CRAI	**Chiangrai**	**28.11**	**302**	P	**P**	**12 33 10.9**	**+0.1**
CMAR	**Chiang Mai Arr**	**28.61**	**298**	P	**P**	**12 33 16.1**	**+0.8**
	comp=Z,1.5nm,0.9s,baz=119,slow=7.5,SNR=7.2						
	comp=Z,1.5nm,0.9s						
JHJ	**Hachijo jima 2**	**30.07**	**25**	LR	LR	12 43 20.1	
	comp=Z,31nm,21.0s,baz=290,slow=32						
PZH	**PanZhiHua**	**30.39**	**315**	P	**P**	**12 33 34.3**	**+3.2**
PZH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
PZH				pmax	pmax		
	comp=Z,90nm,6.4s						
AS31	**Alice Springs**	**30.67**	**165**	P	**P**	**12 33 33.3**	**-0.1**
ASAR	**Alice Springs**	**30.67**	**165**	P	**P**	**12 33 34.0**	**+0.6**
ASAR	**Alice Springs**	**30.67**	**165**	P	**P**	**12 33 34.1**	**+0.7**
	comp=Z,0.6nm,0.6s,baz=344,slow=6.9,SNR=20						
ASAR				PcP	**PcP**	**12 36 29.8**	**+0.4**
	comp=Z,0.4nm,0.5s,baz=346,slow=2.6,SNR=6.6						
ASAR				ScP	**ScP**	**12 40 04.2**	**+1.1**
	comp=Z,0.7nm,0.7s,baz=351,slow=3.1,SNR=10						
	comp=Z,0.6nm,0.6s						
KSRS	**Korea Array**	**31.34**	**4**	P	**P**	**12 33 38.4**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=179,slow=12,SNR=5.0						
KSRS				LR	LR	12 46 54.9	
	comp=Z,17nm,19.7s,baz=175,slow=37						
	comp=Z,0.6nm,0.4s						
MJAR	**Matsushiro Arr**	**32.53**	**19**	P	**P**	**12 33 48.1**	**-1.5**
	comp=Z,1.8nm,0.9s,baz=189,slow=8.5,SNR=5.1						
MJAR				LR	LR	12 46 51.1	
	comp=Z,41nm,18.5s,baz=191,slow=36						
	comp=Z,1.8nm,0.9s						
HHC	**Hu-ho-hao-te**	**36.81**	**342**	*e*P	**P**	**12 34 29.3**	**+2.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.6s						
HHC				pmax	pmax		
	comp=Z,81nm,5.5s						
SHL	**Shillong**	**37.48**	**305**	P	**P**	**12 34 32.5**	**+0.1**
STKA	**Stephens Creek**	**40.74**	**159**	P	**P**	**12 34 59.6**	**+0.3**
	comp=Z,4.0nm,0.9s,baz=328,slow=11,SNR=4.7						
	comp=Z,4.0nm,0.9s						
ASAJ	**Asahikawa**	**40.80**	**19**	LR	LR	12 51 39.4	
	comp=Z,24nm,20.2s,baz=196,slow=36						
SONM	**Songino Array**	**44.70**	**342**	P	**P**	**12 35 30.3**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=151,slow=3.3,SNR=1.6						
	comp=Z,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**53.81**	**24**	P	**P**	**12 36 40.6**	**+0.1**
	comp=Z,1.4nm,0.8s,baz=243,slow=6.3,SNR=2.3						
	comp=Z,1.4nm,0.8s						
MKAR	**Makanchi Array**	**54.92**	**325**	P	**P**	**12 36 48.2**	**-0.4**
	comp=Z,0.8nm,0.6s,baz=123,slow=8.0,SNR=6.3						
MKAR				pP	**pP**	**12 37 09.4**	**-3.8**
	comp=Z,0.6nm,0.6s,baz=125,slow=7.4,SNR=2.8						
	comp=Z,0.8nm,0.6s						
NIL	**Nilore**	**55.50**	**307**	P	**P**	**12 36 53.3**	**+0.3**
KSH	**Kashi**	**55.50**	**315**	P	**P**	**12 36 54.5**	**+1.5**
KSH				pmax	pmax		
	comp=Z,5.0nm,1.0s						
AAK	**Ala-Archa**	**57.78**	**317**	LR	LR	13 04 20.6	
	comp=Z,28nm,19.2s,baz=136,slow=38						
KBL	**Kabul**	**59.10**	**307**	P	**P**	**12 37 18.1**	**-0.5**
KBL				IAmb	IAmb	12 37 19.0	
	comp=Z,6.0nm,0.8s						
KURBB	**Kurchatov Arra**	**59.10**	**327**	P	**P**	**12 37 17.1**	**-0.8**
	comp=Z,0.9nm,0.8s,baz=125,slow=6.1,SNR=9.2						
KURBB				pP	**pP**	**12 37 38.0**	**-4.9**
	comp=Z,1.8nm,0.8s,baz=127,slow=6.0,SNR=6.1						
	comp=Z,0.9nm,0.8s						
KURK	**Kurchatov**	**59.10**	**327**	P	**P**	**12 37 17.3**	**-0.7**
KURK				IAmb	IAmb	12 37 39.9	
	comp=Z,3.7nm,0.9s						
BTK	**Batken**	**59.39**	**313**	P	**P**	**12 37 20.0**	**-0.4**
BTK				IAmb	IAmb	12 37 20.6	
	comp=Z,3.3nm,0.6s						
CHGR	**Chuyangaron**	**60.16**	**311**	P	**P**	**12 37 26.2**	**+0.6**
CHGR				IAmb	IAmb	12 37 27.0	
	comp=Z,6.4nm,0.9s						
BVAR	**Borovoye Array**	**64.68**	**327**	P	**P**	**12 37 55.7**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=102,slow=14,SNR=3.7						
BVAR				pP	**pP**	**12 38 16.0**	**-4.4**
	comp=Z,0.4nm,0.4s,baz=124,slow=8.0,SNR=3.4						
	comp=Z,1.1nm,0.9s						
TIXI	**Tiksi**	**65.56**	**1**	LR	LR	13 08 57.5	
	comp=Z,29nm,19.9s,baz=192,slow=38						
GEYT	**Alibeck**	**68.44**	**308**	P	**P**	**12 38 20.4**	**+0.7**
	comp=Z,0.8nm,0.5s,baz=101,slow=1.5,SNR=3.7						
	comp=Z,0.8nm,0.5s						
KDAK	**Kodiak Island**	**80.64**	**33**	LR	LR	13 09 18.0	
	comp=Z,26nm,21.3s,baz=247,slow=31						
ILAR	**Eielson Array**	**83.58**	**26**	P	**P**	**12 39 44.8**

0.2nm,0.3s,baz=182,slow=9.8,SNR=26
APG Sn **Sn** **12 44 55.1 -5.4**
0.2nm,0.3s,baz=220,slow=18,SNR=7.8
CMIG Matias Romero 3.12 335 Pn **Pn** **12 44 25.0 +1.1**
1.9nm,0.3s,baz=151,slow=12,SNR=9.3
CMIG Sn **Sn** **12 45 01.4 -0.2**
5.3nm,0.3s,baz=130,slow=21,SNR=7.5
CMIG LR LR 12 45 19.0
comp=Z,99nm,19.5s,baz=176,slow=34
11nm,0.7s
CMIG Matias Romero 3.12 335 *e*P **Pn** **12 44 24.8 +0.9**
CMIG *e*S **Sn** **12 44 59.4 -2.3**
TUIG Tuzandepetl 3.87 347 *e*P **Pn** **12 44 35.1 +0.9**
TUIG *e*S **Sn** **12 45 21.9 +1.8**
PEIG Puerto Escondi 3.91 297 *e*P Pn 12 44 30.7 -4.0
PEIG *e*S Sn 12 45 13.1 -8.1
NEUV Arroyo Zacate 4.08 328 *e*P **Pn** **12 44 36.7 -0.4**
NEUV *e*S **Sn** **12 45 20.5 -5.0**
YOIG Yosondua 4.67 304 *e*P **Pn** **12 44 42.5 -2.9**
YOIG *e*S **Sn** **12 45 32.4 -7.8**
PNIG Pinotepa 4.93 296 *e*P **Pn** **12 44 48.2 -0.5**
PNIG *e*S **Sn** **12 45 39.3 -7.0**
TXIG Tlaxiaco 5.06 307 *e*P **Pn** **12 44 52.4 +1.5**
TXIG *e*S **Sn** **12 45 46.2 -3.9**
TOIG Toxpalan 5.12 319 *e*P **Pn** **12 44 55.5 +3.9**
TOIG *e*S **Sn** **12 45 52.5 +1.3**
HLIG Huajuapan de L 5.44 311 *e*P **Pn** **12 44 60.0 +3.9**
HLIG *e*S **Sn** **12 45 55.9 -3.5**
FTIG Fresnillo de T 5.73 310 *e*P **Pn** **12 44 58.6 -1.4**
FTIG *e*S **Sn** **12 46 04.6 -1.8**
JAUV Jalcomulco 5.98 329 *e*P **Pn** **12 45 01.9 -1.5**
JAUV *e*S **Sn** **12 46 10.7 -1.7**
PPM Popocatepetl 6.85 315 *e*P **Pn** **12 45 14.8 -0.8**
PPM *e*S **Sn** **12 46 29.4 -5.0**
TEIG Tepich 7.78 39 Pn **Pn** **12 45 28.3 +0.3**
TEIG Tepich 7.78 39 Pn **Pn** **12 45 27.7 -0.2**
1.4nm,0.3s,baz=139,slow=16,SNR=9.6
TEIG Sn **Sn** **12 46 54.4 -2.2**
1.0nm,0.3s,baz=150,slow=20,SNR=1.4
TEIG LR LR 12 48 50.0
comp=Z,190nm,20.2s,baz=208,slow=42
3.7nm,0.4s
JTS Las Juntas de 9.25 114 Pn **Pn** **12 45 49.8 +1.6**
0.3nm,0.3s,baz=309,slow=21,SNR=1.6
JTS LR LR 12 48 13.7
comp=Z,32nm,18.9s,baz=310,slow=30
1.8nm,0.3s
SAND Sanderson 17.53 334 P **P** **12 47 43.9 +3.3**
TXAR Lajitas Array 17.71 330 P **P** **12 47 46.9 +4.4**
TXAR Lajitas Array 17.71 330 P **P** **12 47 44.6 +2.0**
baz=145,slow=13,SNR=7.6
0.6nm,0.8s
TX31 Lajitas Ar. Si 17.71 330 P **P** **12 47 47.8 +5.2**
ALPN Alpine 18.56 332 P **Pn** **12 47 54.9 +2.8**
Z47A Carrollton 19.51 14 P **Pn** **12 48 03.7 +0.3**
Z47A IAmb IAmb 12 48 19.0
comp=Z,7.5nm,0.8s
VHRN Van Horn 19.55 329 P **Pn** **12 48 05.7 +1.6**
ODSA Odessa 19.61 337 P **Pn** **12 48 07.2 +2.5**
ODSA IAmb IAmb 12 48 30.1
comp=Z,8.0nm,1.0s
MIAR Mount Ida 20.21 360 P Pn 12 48 14.2 +2.4
MIAR IAmb IAmb 12 48 17.4
comp=Z,12nm,1.5s
X37A Clayton 20.32 356 P Pn 12 48 13.5 +0.4
X37A IAmb IAmb 12 48 17.6
comp=Z,5.1nm,0.8s
WMOK Wichita Mounta 20.95 348 P Pn 12 48 19.9 -0.5
ROSC El Rosal 21.10 114 P **P** **12 48 21.7 +1.6**
comp=Z,7.3nm,0.6s,baz=336,slow=12,SNR=1.8
comp=Z,7.3nm,0.6s
FNO Franklin 21.21 351 P **P** **12 48 24.1 +3.3**
FNO IAmb IAmb 12 48 26.1
comp=Z,3.9nm,0.9s
PLAL Pickwick Lake 21.23 12 P **P** **12 48 21.3 +0.5**
FCAR Ozark Folk Cen 21.59 3 P **P** **12 48 26.4 +1.6**
FCAR IAmb IAmb 12 48 28.5
comp=Z,3.9nm,0.8s
SMWD Samnorwood 21.64 345 P **P** **12 48 27.3 +2.0**
SMWD IAmb IAmb 12 48 30.9
comp=Z,7.1nm,0.8s
OK031 S. Brethren Rd 21.82 353 P **P** **12 48 29.8 +2.5**
AMTX Amarillo 21.83 342 P **P** **12 48 29.0 +1.6**
AMTX IAmb IAmb 12 48 32.3
comp=Z,8.8nm,0.9s
HHAR Hobbs 21.95 359 P **P** **12 48 27.6 -1.1**
HHAR IAmb IAmb 12 48 32.1
comp=Z,4.9nm,0.8s
OK048 Pawnee Station 22.29 353 P **P** **12 48 33.8 +1.5**
OK048 IAmb IAmb 12 48 35.0
comp=Z,9.2nm,1.0s
OK051 E0350 and S346 22.37 353 P **P** **12 48 34.5 +1.4**
121A Cookes Peak, D 22.38 327 P **P** **12 48 30.7 -2.7**
121A IAmb IAmb 12 48 40.5
comp=Z,4.9nm,1.2s
TKL Tuckaleechee C 23.05 21 LR LR 12 57 40.9
comp=Z,50nm,19.6s,baz=201,slow=37
N38A Joes South For 26.45 0 P **P** **12 49 10.9 -1.1**
OGNE Ogallala 27.62 346 P **P** **12 49 21.9 -0.7**
JFWS Jewell Farm 28.71 5 P **P** **12 49 28.3 -3.9**
P18A Preston Nutter 29.25 333 P **P** **12 49 33.3 -4.1**
P18A IAmb IAmb 12 49 52.5
comp=Z,9.0nm,1.5s
PDAR Pinedale Array 31.60 337 P **P** **12 49 60.0 +1.9**
comp=Z,0.2nm,0.3s,baz=129,slow=13,SNR=1.9
PDAR LR LR 13 02 40.4
comp=Z,23nm,18.6s,baz=24,slow=36
comp=Z,0.2nm,0.3s
E38A The Farm, Brul 32.30 3 P **P** **12 50 00.1 -3.9**
NVAR Mina Array Bea 32.56 322 P **P** **12 50 09.5 +2.9**
comp=Z,0.6nm,0.7s,baz=134,slow=7.7,SNR=6.5
comp=Z,0.6nm,0.7s
SADO Sadowa 32.79 19 LR LR 13 04 55.1
comp=Z,37nm,19.2s,baz=166,slow=39
DELO Deloro Mine 33.08 21 P P 12 50 02.3 -8.4
DELO IAmb IAmb 12 50 29.5
comp=Z,6.9nm,1.3s
YFT Old Faithful 33.52 337 P P 12 50 10.4 -4.6
YFT IAmb IAmb 12 50 26.8
comp=Z,2.7nm,0.8s
VLDQ Val d'Or 36.30 18 P P 12 50 29.6 -9.0
YKA Yellowknife Ar 50.46 347 P **P** **12 52 33.6 +1.0**
comp=Z,0.7nm,0.8s,baz=153,slow=6.8,SNR=11
comp=Z,0.7nm,0.8s
FRB Frobisher Bay 52.42 14 LR LR 13 15 50.4
comp=Z,42nm,18.4s,baz=228,slow=37
ILAR Eielson Array 62.04 337 P **P** **12 53 56.8 +1.5**
comp=Z,0.6nm,1.1s,baz=139,slow=5.6,SNR=3.5
comp=Z,0.6nm,1.1s
JMIC Jan Mayen 75.01 20 LR LR 13 28 02.6
comp=Z,26nm,20.8s,baz=280,slow=36
NOA NORSAR Array B 84.63 28 P **P** **12 56 10.7 +2.0**
comp=Z,0.5nm,0.7s,baz=292,slow=4.8,SNR=3.2
comp=Z,0.5nm,0.7s
CMAR Chiang Mai Arr 145.26 339 PKPbc **PKPbc** **13 03 14.2 +0.6**
comp=Z,1.2nm,0.8s,baz=341,slow=4.2,SNR=5.7

ISK 26 12:46:23.6, 37°.34N×27°.89E, *h*0km, ML1.5/3, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BODT	**Bodrum**	**0.54**	**239**	Pg	Pg	12 46 34.6	+0.7
BODT				Sg	Sg	12 46 42.5	+1.6
DAT	**Datca**	**0.66**	**202**	Pg	Pg	12 46 36.8	+0.5
DAT				Sg	Sb	12 46 46.4	-1.5
ODEM	**Odemis-Izmir**	**0.94**	**9**	Pg	Pg	12 46 42.1	+0.4
ODEM				Sg	Sb	12 46 55.7	-0.3

AFAD 26 12:46:24.0±0.0, 39°.15N×28°.26E, *h*7km±3km, ML1.5, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DEMI	**Demirci**	**0.37**	**107**	P	Pg	12 46 31.0	-0.3
STEP	**BALIKESIR_Sava**	**0.48**	**298**	P	Pg	12 46 29.2	-4.1
STEP				*i* AML	AML	12 46 36.0	
	comp=E,52nm,0.4s						
STEP				*i* AML	AML	12 46 37.0	
	comp=N,44nm,0.5s						
MANT	**Manisa**	**0.70**	**160**	P	Pb	12 46 38.4	-0.3
MANT				S	Sb	12 46 48.0	-0.5
MANT				*i* AML	AML	12 46 49.0	
	comp=N,18nm,0.2s						
MANT				*i* AML	AML	12 46 52.0	
	comp=E,17nm,0.3s						
USAK	**Uak-Merkez**	**0.73**	**126**	P	Pb	12 46 38.8	-0.3
USAK				S	Sb	12 46 49.1	-0.4

DJA 26 13:29:21.7±0.3, 2°.5S±4°×12°.9E±°, *h*68km±22km, M4.0/10, mb4.1/7, MLv3.9/10, Halmahera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LBMI	**Labuha**	**1.68**	**322**	P	Pn	13 29 49.3	+0.2
SANI	**Sanana**	**2.54**	**268**	P	Pn	13 29 58.6	-2.1
BNDI	**Bandanaira**	**2.87**	**152**	P	Pn	13 30 05.1	-0.1
SWI	**Sorong**	**2.95**	**68**	P	Pn	13 30 06.1	-0.1
FAKI	**Fak Fak**	**3.83**	**104**	P	Pn	13 30 17.4	-0.9
LUWI	**Luwuk**	**5.83**	**279**	P	Pn	13 30 45.7	+0.1
	43nm,1.1s,0.2nm						
BKSI	**Bulukumba**	**9.02**	**248**	P	Pn	13 31 29.6	+0.3
	41nm,0.6s						

*MOS **26** 14:01:32.9±0.9, 38°.02N×141°.71E, h44km, mb4.8/23, Error ellipse: s-maj=7.5km s-min=4.9km az=92.9*
*BJI **26** 14:01:33.6±0.0, 37°.78N×141°.56E, h52km, mb4.5/39, mB4.8/15, Ms3.7/13, Ms7 3.6/15*
*NIED **26** 14:01:34.5, 37°.81N×141°.73E, h51km, MW4.4, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr3.79; Mθθ-3.87; Mφφ0.08; Mrθ0.74; Mθφ1.72; Mφr-3.05; Fault plane solution: Mo5.22000×10¹⁵ NP1: φs138.00000°, δ63.00000°, λ120.00000°. NP2: φs266.00000°, δ39.00000°, λ46.00000°.*
*NEIC **26** 14:01:34.4±2.0, 37°.87N±0°.07×141°.74E±0°.08, h49km±5km, mb4.7/121 Error ellipse: s-maj=10.6km s-min=7.8km az=144.0*
*JMA **26** 14:01:34.5±0.1, 37°.8N±0°.2×141°.7E±0°.5, h51km±1km, MD4.7/38, MW4.5/38, SE OFF MIYAGI PREF*
JMA Felt II J1 at SE OFF MIYAGI PREF .
*IDC **26** 14:01:35.2±0.4, 37°.81N×141°.66E, h59km±3km, mb4.1/29, mbtmp4.4/38, MS3.3/25, Error ellipse: s-maj=11.2km s-min=9.5km az=127.0*

ISC 26 14:01:33.4±0.4, 37°.83N±0°.04×141°.90E±0°.04, h50km±2km, h50km:pP-P, n629, σ1s24/572, mb4.7/109, MS3.4/19, 10C-24D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.59**	**325**	⇓*i*P	**Pn**	**14 01 46.4**	**+0.6**
JIKH				⇓S	**Sn**	**14 01 54.6**	**0.0**
JIKH	**Ishinomakikobu**	**0.59**	**325**	A	A	14 01 46.4	
	comp=E,104nm,0.2s,comp=N,80nm,0.7s						
JIO	**Ouri**	**0.76**	**326**	⇓*i*P	**Pn**	**14 01 48.5**	**+0.5**
JIO				⇓S	**Sn**	**14 01 58.2**	**-0.3**
JIO	**Ouri**	**0.76**	**326**	A	A	14 01 48.5	
	comp=E,40nm,0.4s,comp=N,36nm,0.4s						
JMST	**Minamisoumatoc**	**0.81**	**263**	*i* P	**Pn**	**14 01 47.9**	**-0.6**
JMST				S	**Sn**	**14 01 57.7**	**-1.9**
JMST	**Minamisoumatoc**	**0.81**	**263**	A	A	14 01 47.9	
	comp=E,90nm,1.0s,comp=N,67nm,1.0s						
JMM	**Marumori**	**0.87**	**273**	P	**Pn**	**14 01 48.9**	**-0.6**
JMM	**Marumori**	**0.87**	**273**		**Pn**	**14 01 48.7**	**-0.8**
JMM				Sn	**Sn**	**14 01 59.2**	**-1.9**
JMM	**Marumori**	**0.87**	**273**	*i* P	**Pn**	**14 01 48.8**	**-0.6**
JMM				S	**Sn**	**14 01 59.3**	**-1.9**
JMM	**Marumori**	**0.87**	**273**	A	A	14 01 48.8	
	comp=E,47nm,0.4s,comp=N,34nm,0.3s						
JFK	**Kawauchi**	**0.93**	**241**	*i* P	**Pn**	**14 01 49.6**	**-0.7**
JFK				S	**Sn**	**14 02 00.6**	**-2.1**
JFK	**Kawauchi**	**0.93**	**241**	A	A	14 01 49.6	
	comp=E,29nm,0.9s,comp=N,46nm,0.9s						
JKMT	**Kesennumamotoy**	**1.04**	**341**	A	A	14 01 52.7	
	comp=E,16nm,1.8s,comp=N,11nm,2.6s						
JOFO	**Osakifurukawao**	**1.09**	**315**	A	A	14 01 52.7	
	comp=E,65nm,1.7s,comp=N,74nm,3.4s						
JOU	**Okura**	**1.11**	**299**	P	**Pn**	**14 01 52.4**	**-0.2**
JOU				S	**Sn**	**14 02 06.0**	**-0.9**
JOU	**Okura**	**1.11**	**299**	A	A	14 01 52.4	
	comp=E,38nm,0.8s,comp=N,72nm,1.1s						
ONAJ	**Iwakimizuishiy**	**1.13**	**231**	A	A	14 01 52.6	
	comp=E,50nm,0.3s,comp=N,55nm,0.3s						
JMK	**Ichinoseki**	**1.24**	**335**	⇓*i*P	**Pn**	**14 01 55.3**	**+0.9**
JMK				⇓S	**Sn**	**14 02 10.5**	**+0.4**
JMK	**Ichinoseki**	**1.24**	**335**	A	A	14 01 55.3	
	comp=E,20nm,1.5s,comp=N,18nm,0.6s						
OFUJ	**Ofunato**	**1.26**	**352**	A	A	14 01 56.3	
	comp=E,10.0nm,1.5s,comp=N,17nm,0.7s						
JOTO	**OTAMA OYAMA**	**1.27**	**258**	*i* P	**Pn**	**14 01 54.6**	**-0.2**
JOTO				S	**Sn**	**14 02 09.6**	**-1.1**
JOTO	**OTAMA OYAMA**	**1.27**	**258**	A	A	14 01 54.6	
	comp=E,86nm,0.2s,comp=N,103nm,0.8s						
JFFD	**Fukushimafurud**	**1.29**	**236**	A	A	14 01 54.8	
	comp=E,35nm,0.6s,comp=N,26nm,0.7s						
JYS	**Shirataka**	**1.50**	**286**	P	**Pn**	**14 01 57.7**	**-0.2**
JYS				S	**Sn**	**14 02 15.7**	**-0.6**
JYS	**Shirataka**	**1.50**	**286**	A	A	14 01 57.7	
	comp=E,19nm,1.5s,comp=N,15nm,2.6s						
JHO	**Hitachi**	**1.61**	**221**	A	A	14 01 59.6	
	comp=E,9.0nm,2.9s,comp=N,5.0nm,0.6s						
JYK	**Kaneyama**	**1.63**	**313**	⇓*i*P	**Pn**	**14 02 00.1**	**+0.4**
JYK				⇓S	**Sn**	**14 02 19.0**	**-0.4**
JYK	**Kaneyama**	**1.63**	**313**	A	A	14 02 00.1	
	comp=E,5.0nm,1.0s,comp=N,8.0nm,1.8s						
JOM	**Ohasama**	**1.71**	**344**	⇓*i*P	**Pn**	**14 02 02.1**	**+1.3**
JOM				⇓*e*S	**Sn**	**14 02 22.9**	**+1.4**
JOM	**Ohasama**	**1.71**	**344**	A	A	14 02 02.1	
	comp=E,16nm,0.5s,comp=N,11nm,0.7s						
MIYJ	**Miyakonagasawa**	**1.75**	**358**	A	A	14 02 03.3	
	comp=E,9.0nm,1.9s,comp=N,7.0nm,0.7s						
JFY	**Yanaizu**	**1.79**	**257**	P	**Pn**	**14 02 01.7**	**-0.2**
JFY				*e*S	**Sn**	**14 02 22.1**	**-1.3**
JFY	**Yanaizu**	**1.79**	**257**	A	A	14 02 01.7	
	comp=E,10.0nm,0.6s,comp=N,10.0nm,0.8s						
JSB	**Shiboa**	**1.79**	**242**	A	A	14 02 01.8	
	comp=E,16nm,1.4s,comp=N,23nm,1.3s						
JHYU	**Hitachinakayam**	**1.82**	**216**	A	A	14 02 02.6	
	comp=E,7.0nm,0.5s,comp=N,14nm,0.4s						
JRG	**Rokugo**	**1.85**	**328**	⇓*i*P	**Pn**	**14 02 04.0**	**+1.3**
JRG				⇓S	**Sn**	**14 02 26.4**	**+1.4**
JRG	**Rokugo**	**1.85**	**328**	A	A	14 02 04.0	
	comp=E,19nm,0.5s,comp=N,35nm,0.7s						
JYA	**Atsumi**	**1.88**	**295**	P	**Pn**	**14 02 03.1**	**-0.1**
JYA	**Atsumi**	**1.88**	**295**	A	A	14 02 03.1	
	comp=E,14nm,0.8s,comp=N,16nm,0.7s						
JYYZ	**Yamagatayuza**	**1.95**	**308**	A	A	14 02 04.7	
	comp=E,17nm,2.0s,comp=N,17nm,2.1s						
JNS	**Sasagawa**	**2.04**	**271**	A	A	14 02 05.3	
	comp=E,5.0nm,1.7s,comp=N,4.0nm,3.3s						
JSZI	**Iwateshizukuis**	**2.05**	**339**	A	A	14 02 07.0	
	comp=E,13nm,2.2s,comp=N,17nm,1.8s						
JYT	**Yasato**	**2.10**	**221**	A	A	14 02 06.5	
	comp=E,32nm,0.4s,comp=N,27nm,0.4s						
JIHU	**Itakohorinouch**	**2.16**	**211**	A	A	14 02 07.7	
	comp=E,24nm,3.8s,comp=N,32nm,3.0s						
JYW	**Yuwa**	**2.16**	**323**	A	A	14 02 08.2	
	comp=E,17nm,0.8s,comp=N,23nm,3.0s						
JKZ	**Kuzumaki**	**2.20**	**349**	A	A	14 02 09.5	
	comp=E,12nm,1.2s,comp=N,5.0nm,1.1s						
JKEN	**Kujiedanarisaw**	**2.38**	**357**	A	A	14 02 12.2	
	comp=E,14nm,0.8s,comp=N,19nm,0.8s						
JSMT	**Sammumatsuo**	**2.47**	**208**	A	A	14 02 12.2	
	comp=E,15nm,4.5s,comp=N,14nm,1.7s						
JIZZ	**Izumozaki**	**2.54**	**264**	A	A	14 02 12.4	
	comp=E,15nm,2.5s,comp=N,12nm,2.0s						
JAH	**Hinai**	**2.55**	**338**	A	A	14 02 14.2	
	comp=E,9.0nm,1.6s,comp=N,7.0nm,3.1s						
TOK	**Tokyo**	**2.74**	**219**	A	A	14 02 15.7	
	comp=E,12nm,0.9s,comp=N,12nm,0.4s						
JCN	**Nagara**	**2.76**	**210**	A	A	14 02 16.2	
	comp=E,11nm,2.0s,comp=N,12nm,2.2s						
JNTW	**Noshirotokiwa**	**2.79**	**332**	A	A	14 02 17.2	
	comp=E,17nm,3.0s,comp=N,15nm,3.2s						
JSD	**Sado**	**2.88**	**275**	P	**Pn**	**14 02 16.6**	**-0.2**
JSD	**Sado**	**2.88**	**275**	Pn	**Pn**	**14 02 15.8**	**-1.0**
JTM	**Tenmabayashi**	**3.02**	**348**	P	**Pn**	**14 02 20.6**	**+1.8**
JTM	**Tenmabayashi**	**3.02**	**348**	Pn	**Pn**	**14 02 20.3**	**+1.5**
JOG3	**Oga3**	**3.03**	**314**	A	A	14 02 15.0	
	comp=E,5.0nm,1.1s,comp=N,8.0nm,2.0s						
JHHS	**Hirosakihyakuz**	**3.06**	**338**	A	A	14 02 21.4	
	comp=E,8.0nm,3.7s,comp=N,7.0nm,2.0s						
MJAR	**Matsushiro Arr**	**3.21**	**248**	P	**Pn**	**14 02 21.9**	**+0.5**
	comp=N,79nm,0.6s,baz=50,slow=11,SNR=581						
MJAR				S	**Sn**	**14 02 56.8**	**-1.6**
	comp=N,86nm,0.6s,baz=77,slow=17,SNR=5.6						
MJAR				LR	LR	14 03 54.0	
	comp=N,1μm,20.5s,baz=82,slow=46						
MAJO	**Matsushiro**	**3.21**	**248**	P	**Pn**	**14 02 22.6**	**+1.2**
MAJO	**Matsushiro**	**3.21**	**248**	Pn	**Pn**	**14 02 22.4**	**+1.0**
MAJO	**Matsushiro**	**3.21**	**248**	P	**Pn**	**14 02 22.4**	**+1.0**
JOD2	**Odawara 2**	**3.41**	**222**	A	A	14 02 25.1	
	comp=E,3.0nm,3.5s,comp=N,3.0nm,3.4s						
JSI2	**Shiura 2**	**3.42**	**341**	A	A	14 02 26.5	
	comp=E,3.0nm,2.0s,comp=N,4.0nm,0.9s						
JAHD	**Aomorihigashid**	**3.46**	**353**	A	A	14 02 27.4	
	comp=E,14nm,1.2s,comp=N,9.0nm,0.9s						
JIM2	**Oshima 3**	**3.69**	**213**	A	A	14 02 29.2	
	comp=E,5.0nm,0.7s,comp=N,4.0nm,1.9s						
JGF	**Kuroka**	**4.27**	**240**	P	**Pn**	**14 02 37.5**	**+1.6**
JGF	**Kuroka**	**4.27**	**240**	Pn	**Pn**	**14 02 37.4**	**+1.5**
ERM	**Erimo**	**4.29**	**13**	P	**Pn**	**14 02 36.9**	**+0.7**
ERM	**Erimo**	**4.29**	**13**	Pn	**Pn**	**14 02 36.5**	**+0.3**
ERM	**Erimo**	**4.29**	**13**	P	**Pn**	**14 02 36.5**	**+0.3**
JEM	**Erimo**	**4.29**	**13**	P	**Pn**	**14 02 36.8**	**+0.6**
JSG	**Sagara**	**4.35**	**225**	P	**Pn**	**14 02 38.7**	**+1.8**
JSG	**Sagara**	**4.35**	**225**		**Pn**	**14 02 38.3**	**+1.4**
INU	**Inuyama**	**4.64**	**239**	P	**Pn**	**14 02 42.5**	**+1.5**
INU	**Inuyama**	**4.64**	**239**	Pn	**Pn**	**14 02 42.0**	**+1.0**
JHJ2	**Mitsune**	**5.00**	**200**	P	**Pn**	**14 02 45.5**	**-0.4**
JHJ2	**Mitsune**	**5.00**	**200**	Pn	**Pn**	**14 02 45.0**	**-0.9**
JHJ	**Hachijo jima 2**	**5.00**	**201**	P	**Pn**	**14 02 44.9**	**-1.1**
	comp=N,301nm,0.4s,baz=30,slow=16,SNR=103						
JHJ				S	**Sn**	**14 03 38.4**	**-4.1**
	comp=N,478nm,0.3s,baz=107,slow=19,SNR=10						
JHJ				LR	LR	14 05 01.5	
	comp=N,432nm,20.0s,baz=49,slow=42						
NMR	**Nemuro--Hokkai**	**6.26**	**27**	⇓*i*P	**Pn**	**14 03 02.3**	**-0.8**
NMR				*e*S	**Sn**	**14 04 08.5**	**-4.7**
ASAJ	**Asahikawa**	**6.30**	**5**	P	**Pn**	**14 03 04.1**	**+0.3**
	comp=N,22nm,0.3s,baz=210,slow=10,SNR=81						
ASAJ				S	**Sn**	**14 04 13.2**	**-1.2**
	comp=N,72nm,0.7s,baz=142,slow=19,SNR=3.1						
ASAJ				LR	LR	14 05 52.6	
	comp=N,182nm,21.5s,baz=210,slow=41						
JKA	**Kamikawa-asahi**	**6.30**	**5**	Pn	**Pn**	**14 03 04.1**	**+0.3**
RUSJ	**Misakicho**	**6.76**	**21**	*e*P	**Pn**	**14 03 10.1**	**+0.1**
RUSJ				*e*S	**Sn**	**14 04 23.3**	**-2.3**
YUK	**Yuzh-Kuril'sk**	**6.89**	**25**	*d*⇓P	**Pn**	**14 03 11.0**	**-0.7**
YUK				*i* S	**Sn**	**14 04 24.3**	**-4.4**
YUK				pmax	pmax		
	comp=Z,238nm,0.4s						
YUK				pmax	pmax		
	comp=E,75nm,0.3s						
SHO	**Shikotan**	**7.10**	**30**	*e*P	**Pn**	**14 03 13.9**	**-0.7**
SHO				*e*S	**Sn**	**14 04 28.0**	**-5.9**
SHO				pmax	pmax		
	comp=Z,29nm,0.3s						
SHO				pmax	pmax		
	comp=N,14nm,0.2s						
JMN	**Monobe**	**7.69**	**240**	P	**Pn**	**14 03 23.9**	**+1.0**
JMN	**Monobe**	**7.69**	**240**	Pn	**Pn**	**14 03 22.4**	**-0.5**
TEY	**Ternei**	**8.22**	**333**	*e*P	**Pn**	**14 03 34.8**	**+4.8**
KUR	**Kuril'sk**	**8.65**	**29**	*e*P	**Pn**	**14 03 35.9**	**+0.1**
KUR				*i* S	**Sn**	**14 05 07.9**	**-3.9**
KUR				pmax	pmax		
	comp=Z,70nm,0.6s						
KUR				smax	smax		
	comp=E,202nm,0.4s						
KUR				smax	smax		
	comp=N,88nm,0.5s						
YSS	**Yuzh-Sakhalins**	**9.14**	**4**	P	**Pn**	**14 03 44.6**	**+2.0**
YSS	**Yuzh-Sakhalins**	**9.14**	**4**	Pn	**Pn**	**14 03 41.9**	**-0.7**
YSS	**Yuzh-Sakhalins**	**9.14**	**4**	*e*P	**Pn**	**14 03 42.6**	**0.0**
YSS				*e*S	**Sn**	**14 05 22.4**	**-1.6**
YSS				pmax	pmax		
	comp=Z,40nm,1.1s						
YSS				MLR	MLR		
	comp=Z,200nm,14.0s						
VLA	**Vladivostok**	**9.28**	**308**	*e*P	**Pn**	**14 03 43.1**	**-1.4**
VLA				pmax	pmax		
	comp=Z,6.0nm,1.9s						
MSHR	**Mys Shultsa**	**9.48**	**303**	⇓*e*P	**Pn**	**14 03 45.6**	**-1.7**
PSTR	**Posyet**	**9.75**	**303**	⇑*e*P	**Pn**	**14 03 50.2**	**-0.7**
USA0B	**Ussuriysk Arra**	**9.82**	**314**	⇑*e*P	**Pn**	**14 03 50.2**	**-1.7**
USRK	**Ussuriysk Ar.**	**9.82**	**314**	P	**Pn**	**14 03 53.5**	**+1.6**
	comp=Z,12nm,0.5s,baz=122,slow=13,SNR=15						
USRK				LR	LR	14 07 29.6	
	comp=Z,142nm,19.8s,baz=129,slow=36						
JNU	**Nakatsue**	**10.13**	**246**	P	**Pn**	**14 03 58.0**	**+1.7**
JNU	**Nakatsue**	**10.13**	**246**	Pn	**Pn**	**14 03 56.1**	**-0.2**
JNU	**Nakatsue**	**10.13**	**246**	P	**Pn**	**14 03 56.8**	**+0.5**
	comp=Z,13nm,0.8s,baz=61,slow=8.2,SNR=14						
JNU				LR	LR	14 08 04.7	
	comp=Z,381nm,20.9s,baz=58,slow=39						
JCJ	**Chichijima**	**10.70**	**179**	P	Pn	14 03 57.4	-6.7
	comp=Z,38nm,0.3s,baz=285,slow=20,SNR=13						
JCJ				S	Sn	14 05 46.6	-16
	comp=Z,47nm,0.4s,baz=279,slow=22,SNR=6.2						
JCJ				LR	LR	14 10 14.6	
	comp=Z,48nm,18.4s,baz=348,slow=49						
KSRS	**Korea Array**	**11.09**	**272**	P	**Pn**	**14 04 10.8**	**+1.5**
	comp=Z,4.1nm,0.6s,baz=84,slow=14,SNR=20						
KSRS				LR	LR	14 08 07.0	
	comp=Z,216nm,20.6s,baz=80,slow=36						
MDJ	**Mudanjiang**	**11.47**	**310**	P	**Pn**	**14 04 11.5**	**-3.0**
MDJ				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MDJ				pmax	pmax		
	comp=Z,140nm,4.3s						
TYV	**Tymovskoe**	**13.04**	**2**	*e*P	**P**	**14 04 41.0**	**-3.9**
TYV				pmax	pmax		
	comp=Z,7.0nm,0.7s						
TYV				pmax	pmax		
	comp=Z,100nm,2.2s						
KLR	**Kul'dur**	**13.55**	**330**	P	**Pn**	**14 04 44.8**	**+2.0**
	comp=Z,0.9nm,0.5s,baz=135,slow=20,SNR=1.7						
KLR				LR	LR	14 09 41.6	
	comp=Z,119nm,19.1s,baz=150,slow=36						
KLR	**Kul'dur**	**13.55**	**330**	⇓*e*P	**Pn**	**14 04 41.9**	**-0.9**
KLR				pmax	pmax		
	comp=Z,1.0nm,2.0s						
CN2	**Changchun**	**13.80**	**301**	*e*P	**Pn**	**14 04 47.5**	**+1.2**
CN2				*e*S	**Sn**	**14 07 15.3**	**-2.6**
CN2				pmax	pmax		
	comp=Z,10.0nm,

HNS pmax pmax
comp=Z,17nm,0.7s
HNS LR LR
comp=Z,120nm,15.1s
HNS LR LR
comp=Z,110nm,13.9s
HNS LR LR
comp=Z,160nm,20.7s
MA2 Magadan 22.50 12 P **P** **14 06 30.0 +1.6**
comp=Z,8.2nm,0.6s,baz=192,slow=18,SNR=3.6
MA2 LR LR 14 15 02.0
comp=Z,56nm,22.0s,baz=207,slow=36
comp=Z,8.2nm,0.6s
TPUB Ta-pu 23.27 238 P **P** **14 06 32.8 -3.9**
TPUB IAmb IAmb 14 06 36.8
comp=Z,22nm,0.8s
TWG Pinlang 23.31 236 P **P** **14 06 34.5 -2.5**
TWG IAmb IAmb 14 06 39.6
comp=Z,20nm,0.7s
HHC Hu-ho-hao-te 23.60 287 *e*P **P** **14 06 39.0 -0.8**
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,57nm,4.7s
YAK Yakutsk 25.38 347 P **P** **14 06 55.6 -0.1**
YAK Yakutsk 25.38 347 *e*P **P** **14 06 55.7 0.0**
YAK *e**PP **pP** **14 07 11.0 +2.6**
YAK *e*S **S** **14 11 21.8 +3.3**
YAK pmax pmax
comp=Z,22nm,0.8s
YAK pmax pmax
comp=N,4.0nm,0.8s
YAK pmax pmax
comp=E,2.0nm,0.9s
YAK smax smax
comp=E,31nm,1.9s
YAK smax smax
comp=N,51nm,1.6s
YAK MLR MLR
comp=Z,94nm,18.0s
YAK MLR MLR
comp=N,64nm,19.0s
YAK MLR MLR
comp=E,26nm,15.0s
SEY Seymchan 25.94 11 LR LR 14 17 45.6
comp=E,85nm,18.9s,baz=194,slow=37
SEY Seymchan 25.94 11⇓ *e*P **P** **14 07 02.7 +2.0**
SEY pmax pmax
comp=Z,14nm,1.7s
SHEM Shemya Is, Ala 26.84 46 LR LR 14 15 53.8
comp=Z,36nm,21.0s,baz=166,slow=32
ULN Ulaanbaatar 27.24 303 *de*P **P** **14 07 14.3 +1.5**
ULN pmax pmax
comp=Z,3.0nm,0.8s
SONM Songino Array 27.67 303 P **P** **14 07 16.8 +0.2**
comp=Z,1.3nm,0.6s,baz=105,slow=9.4,SNR=6.6
SONM LR LR 14 18 23.1
comp=Z,53nm,18.8s,baz=90,slow=37
comp=Z,1.3nm,0.6s
SONM Songino Array 27.67 303 *e*P **P** **14 07 16.9 +0.3**
SONM pmax pmax
comp=Z,1.0nm,0.6s
H11N2 WAKE ISLAND Hy 28.24 123 T T 14 37 44.3
baz=316,slow=75,SNR=792
H11N1 WAKE ISLAND Hy 28.25 123 T T 14 37 42.3
baz=316,slow=75,SNR=1112
H11N3 WAKE ISLAND Hy 28.26 123 T T 14 37 44.8
baz=316,slow=75,SNR=1040
H11S1 WAKE ISLAND Hy 28.98 125 T T 14 38 36.0
baz=318,slow=76,SNR=440
H11S3 WAKE ISLAND Hy 28.98 125 T T 14 38 45.2
baz=318,slow=76,SNR=455
H11S2 WAKE ISLAND Hy 29.00 125 T T 14 38 45.1
baz=318,slow=76,SNR=464
GYA Guiyang 31.74 259 P **P** **14 07 52.3 -0.5**
GYA pmax pmax
comp=Z,13nm,0.8s
CD2 Chengdu 32.06 269 P **P** **14 07 54.0 -1.6**
CD2 PP **PnPn** **14 09 03.3 +0.9**
CD2 S **S** **14 13 02.5 -1.7**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,70nm,5.6s
CD2 LR LR
comp=Z,90nm,13.1s
CD2 LR LR
comp=Z,150nm,13.7s
CD2 LR LR
comp=Z,120nm,15.9s
GTA Gaotai 32.70 286 P **P** **14 08 03.8 +2.6**
GTA pP pP 14 08 10.0 -4.1
GTA pmax pmax
comp=Z,3.0nm,0.7s
GTA LR LR
comp=Z,66nm,13.1s
GTA LR LR
comp=Z,98nm,13.1s
GTA LR LR
comp=Z,88nm,14.7s
BILL Bilibino 33.16 16 *e*P **P** **14 08 05.2 +0.5**
BILL pmax pmax
comp=Z,2.0nm,1.1s
DAV Davao City (W) 34.01 210 LR LR 14 20 28.9
comp=Z,34nm,19.3s,baz=66,slow=33
TIXI Tiksi 34.55 353 P **P** **14 08 15.4 -1.3**
TIXI Tiksi 34.55 353 LR LR 14 24 53.3
comp=Z,64nm,18.1s,baz=186,slow=40
TIXI Tiksi 34.55 353⇓ *e*P **P** **14 08 16.6 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.7s
PZH PanZhiHua 35.57 263 P **P** **14 08 25.3 -0.8**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,110nm,4.3s
SPIA Saint Paul Isl 36.72 42 P **P** **14 08 34.9 -0.5**
baz=259
NIKH Nikolski High 36.97 50 P **P** **14 08 36.7 -0.9**
baz=266
P08K Saint George I 37.00 44 P **P** **14 08 36.8 -1.0**
baz=261
GAMB Gambell 37.84 32 P **P** **14 08 45.0 +0.2**
baz=249
UNV Unalaska Valle 38.43 48 P **P** **14 08 49.0 -0.9**
baz=267
M11K Mekoryuk 39.40 38 P **P** **14 08 56.5 -1.4**
baz=259
CRAI Chiangrai 39.95 256 P **P** **14 09 01.9 -1.1**
TNA Tin City 39.98 30 P **P** **14 09 01.1 -1.5**
baz=251
K13K Kusilvak Mount 40.44 36 P **P** **14 09 06.5 0.0**
baz=259
F14K Arctic Creek 40.58 30 P **P** **14 09 06.1 -1.6**
baz=253
ANM Nome 40.72 32 P **P** **14 09 07.3 -1.6**
baz=255
M13K Dall Lake 40.80 38 P **P** **14 09 09.7 +0.1**
baz=262
S12K Black Hills 41.08 46 P **P** **14 09 10.6 -1.4**
baz=268
J14K Nanvaranak Lak 41.10 35 P **P** **14 09 11.6 -0.4**
baz=259
F15K North Star Dit 41.32 30 P **P** **14 09 12.4 -1.4**
baz=255
G15K Niukluk 41.38 31 P **P** **14 09 14.0 -0.2**
baz=256
M14K Bethel 41.53 38 P **P** **14 09 15.6 +0.1**
baz=263
N14K Kuskokwak Cree 41.57 39 P **P** **14 09 15.9 +0.1**
baz=264
ZALV Zalesovo Beam 41.67 312 P **P** **14 09 16.8 +0.1**
comp=Z,2.5nm,0.7s,baz=80,slow=7.3,SNR=10.0
ZALV PcP **PcP** **14 11 12.5 -0.2**
comp=Z,1.0nm,0.4s,baz=87,slow=4.8,SNR=2.5
comp=Z,2.5nm,0.7s
O14K Tigyukauivet M 41.71 40 P **P** **14 09 16.5 -0.5**
baz=265
C16K Lisburne Hills 41.82 26 P **P** **14 09 17.0 -0.8**
baz=251
L15K Ungalak Mounta 41.88 37 P **P** **14 09 17.7 -0.7**
baz=262
K15K Wolf Creek Mou 41.95 36 P **P** **14 09 17.7 -1.2**
baz=262
SDPT Sand Point 41.97 46 P **P** **14 09 18.8 -0.4**
baz=270
CMAR Chiang Mai Arr 42.07 255 P **P** **14 09 20.4 0.0**
comp=Z,0.9nm,0.6s,baz=43,slow=8.1,SNR=6.5
CMAR LR LR 14 27 06.1
comp=Z,23nm,20.0s,baz=190,slow=37
comp=Z,0.9nm,0.6s
M15K Kasigluk River 42.14 38 P **P** **14 09 20.7 +0.1**
baz=264
G16K Koyuk River 42.17 31 P **P** **14 09 20.3 -0.4**
baz=257
N15K Kwethluk River 42.38 39 P **P** **14 09 22.6 0.0**
baz=265
O15K Ungalikthiuk R 42.45 40 P **P** **14 09 23.0 -0.1**
baz=267
D17K Noatak River 42.46 28 P **P** **14 09 22.6 -0.4**
baz=254
CHNA Chernabura Isl 42.49 47 P **P** **14 09 23.2 -0.2**
baz=272
S14K Fog Glacier 42.50 45 P **P** **14 09 23.9 +0.3**
baz=270
J16K Anvik River 42.52 34 P **P** **14 09 23.6 0.0**
baz=261
I17K Unalakleet 42.57 33 P **P** **14 09 23.2 -0.8**
baz=261
RDOG Red Dog Mine 42.62 27 P **P** **14 09 24.6 +0.2**
baz=254
C17K DeLong Mountai 42.65 26 P **P** **14 09 24.5 -0.1**
baz=253
E17K Hotham Inlet 42.77 29 P **P** **14 09 25.2 -0.3**
baz=256
L16K Owhat River 42.83 37 P **P** **14 09 25.7 -0.5**
baz=264
F17K Baldwin Pennin 42.84 30 P **P** **14 09 25.3 -0.8**
baz=257
G17K Kiwalik Mounta 42.88 31 P **P** **14 09 25.3 -1.2**
baz=259
M16K Timber Creek 43.02 38 P **P** **14 09 26.4 -1.3**
baz=265
N16K Nishlik Lake 43.07 39 P **P** **14 09 26.9 -1.2**
baz=266
H17K Granite Mounta 43.09 32 P **P** **14 09 29.4 +1.2**
baz=260
J17K VABM Dome 43.22 34 P **P** **14 09 30.3 +1.1**
baz=263
E18K Tukpahlearik C 43.31 28 P **P** **14 09 30.3 +0.3**
baz=257
P16K Nushagak River 43.38 41 P **P** **14 09 30.5 -0.1**
baz=268
C18K Utukok River 43.40 27 P **P** **14 09 33.1 +2.4**
C18K IAmb IAmb 14 09 33.8
comp=Z,12nm,0.6s
C18K Utukok River 43.40 27 P **P** **14 09 30.5 -0.2**
baz=255
L17K Donlin 43.43 36 P **P** **14 09 29.1 -1.9**
baz=265
K17K Iditarod 43.49 35 P **P** **14 09 30.7 -0.7**
baz=264
F18K Selawik 43.50 30 P **P** **14 09 30.3 -1.1**
baz=259
R16K Pilot Point 43.58 43 P **P** **14 09 32.0 -0.2**
baz=270
G18K Tagagawik 43.77 31 P **P** **14 09 32.9 -0.8**
baz=260
H18K Honhosa River 43.77 32 P **P** **14 09 32.9 -0.8**
baz=262
N17K Nushagak Hills 43.85 39 P **P** **14 09 34.5 +0.1**
baz=268
A19K Wainwright 43.87 24 P **P** **14 09 34.0 -0.3**
baz=254
O17K Koliganek Bris 43.87 40 P **P** **14 09 34.1 -0.3**
baz=268
MK31 Makanchi Array 44.03 301⇑ *e*P **P** **14 09 38.2 +2.2**
MKAR Makanchi Array 44.03 301 P **P** **14 09 35.5 -0.6**
comp=Z,1.9nm,0.7s,baz=88,slow=11,SNR=13
MKAR PcP **PcP** **14 11 19.9 -0.8**
comp=Z,0.2nm,0.5s,baz=90,slow=3.5,SNR=1.2
comp=Z,1.9nm,0.7s
MKAR Makanchi Array 44.03 301 *e*P **P** **14 09 36.4 +0.4**
MKAR pmax pmax
comp=Z,2.0nm,0.7s
Q16K King Salmon 44.07 41 P **P** **14 09 36.5 +0.4**
baz=270
C19K Lookout Ridge 44.08 26 P **P** **14 09 35.8 -0.3**
baz=256
L18K Granite Mounta 44.19 36 P **P** **14 09 37.2 +0.2**
baz=266
P17K Kvichak River 44.19 41 P **P** **14 09 37.4 +0.3**
baz=270
F19K Shaleruckik Mo 44.28 30 P **P** **14 09 37.5 -0.2**
baz=260
J18K Innoko River 44.28 34 P **P** **14 09 37.2 -0.6**
baz=265
GCSA Galena City Sc 44.34 33 P **P** **14 09 37.6 -0.6**
baz=263
G19K Purcell Mounta 44.44 31 P **P** **14 09 39.0 0.0**
baz=262
D19K Kuna River 44.46 27 IAmb IAmb 14 09 42.6
comp=Z,16nm,0.8s
D19K Kuna River 44.46 27 P **P** **14 09 38.9 -0.3**
baz=258
N18K Kilae Creek 44.50 38 P **P** **14 09 39.6 0.0**
baz=268
M18K Stony River 44.56 37 P **P** **14 09 39.9 -0.1**
baz=268
E19K Redstone River 44.59 29 P **P** **14 09 39.6 -0.6**
baz=260
H19K Roundabout Mou 44.62 31 P **P** **14 09 39.8 -0.5**
baz=263
CHIR Chirikof Islan 44.71 45 P **P** **14 09 41.1 -0.2**
baz=274
J19K Poorman 44.81 34 P **P** **14 09 41.9 -0.1**
baz=265
P18K Big Mountain, 44.81 40 P **P** **14 09 41.4 -0.7**
baz=270
O18K Koktuh Hills 44.82 40 P **P** **14 09 42.3 +0.1**
baz=270
D20K Etivluk River 45.05 27 P **P** **14 09 43.3 -0.6**
baz=260
L19K White Mountain 45.05 36 P **P** **14 09 43.3 -0.6**
baz=268
F20K Avaraart Lake 45.11 29 P **P** **14 09 42.4 -1.9**
baz=262
B20K Meade River 45.11 25 P **P** **14 09 41.9 -2.4**
baz=258
E20K Nigu River 45.12 28 P **P** **14 09 42.9 -1.6**
baz=261
N19K Bonanza Creek 45.19 38 P **P** **14 09 43.4 -1.8**
baz=270
M19K Big River Lodg 45.25 37 P **P** **14 09 45.4 -0.1**
baz=269
H20K Anotleneega Mo 45.26 32 P **P** **14 09 43.8 -1.8**
baz=265
R18K Karluk 45.26 43 P **P** **14 09 44.5 -1.1**
baz=273
O19K Port Alsworth 45.27 39 P **P** **14 09 44.5 -1.2**
baz=270
I20K Naaghedeneel 45.37 33 P **P** **14 09 45.4 -1.0**
baz=266
K20K Telida 45.46 35 P **P** **14 09 47.0 -0.1**
baz=267
J20K Nowinta River 45.47 34 P **P** **14 09 46.4 -0.8**
baz=267
L20K Farewell, AK 45.51 36 P **P** **14 09 46.3 -1.3**
baz=268
A21K Barrow 45.58 23 P **P** **14 09 47.8 -0.2**
baz=257
KURK Kurchatov 45.75 308 *de*P **P** **14 09 49.4 -0.2**
KURK pmax pmax
comp=Z,19nm,1.7s
C21K Knifeblade Rid 45.77 27 P **P** **14 09 48.7 -0.9**
baz=261
KURBB Kurchatov Arra 45.82 307 P **P** **14 09 50.3 +0.2**
comp=Z,2.3nm,0.4s,baz=81,slow=7.8,SNR=8.8
KURBB PcP **PcP** **14 11 26.6 -0.2**
comp=Z,0.9nm,0.7s,baz=109,slow=2.9,SNR=2.0
comp=Z,2.3nm,0.4s
M20K Styx River 45.85 37 P **P** **14 09 50.4 0.0**
baz=270
B21K Ikpikpuk River 45.91 26 P **P** **14 09 53.3 +2.7**
B21K Ikpikpuk River 45.91 26 P **P** **14 09 51.3 +0.7**
baz=261,SNR=6.7
OHAK Old Harbor 45.91 43 P **P** **14 09 51.0 +0.2**
baz=274
G21K Allakaket 45.92 30 P **P** **14 09 50.8 0.0**
baz=265
E21K Killik River 45.96 28 IAmb IAmb 14 09 54.3
comp=Z,10nm,0.9s
E21K Killik River 45.96 28 P **P** **14 09 51.1 0.0**
baz=263
F21K Alatna River 46.00 29 P **P** **14 09 51.8 +0.4**
baz=264
A22K Sinclair Lake 46.03 24 P **P** **14 09 51.8 +0.3**
baz=259
O20K Slope Mountain 46.12 39 P **P** **14 09 52.5 0.0**
baz=272
H21K Melozitna Rive 46.14 31 P **P** **14 09 52.5 0.0**
baz=266
KDAK Kodiak Island 46.25 42 P **P** **14 09 52.3 -1.2**
baz=274
KDAK Kodiak Island 46.25 42 P **P** **14 09 55.2 +1.7**
comp=Z,12nm,0.7s,baz=328,slow=4.0,SNR=4.6
KDAK PcP **PcP** **14 11 28.8 +0.6**
comp=Z,3.1nm,0.7s,baz=349,slow=10,SNR=1.6
KDAK LR LR 14 28 16.4
comp=Z,45nm,21.3s,baz=237,slow=34
comp=Z,12nm,0.7s
N20K Mount Spurr 46.30 38 P **P** **14 09 55.0 +1.1**
baz=271
PPLA Purkeypile 46.30 35 P **P** **14 09 53.6 -0.3**
baz=270
Q20K Shuyak Island 46.30 41 P **P** **14 09 55.5 +1.7**
baz=274
CAST Castle Rocks 46.35 35 P **P** **14 09 55.2 +0.9**
baz=269
B22K Teshekpuk Lake 46.43 25 P **P** **14 09 55.3 +0.7**
baz=261
I21K Tanana 46.45 32 P **P** **14 09 55.5 +0.5**
baz=268
D22K Ayikyak River 46.48 27 P **P** **14 09 56.0 +0.9**
baz=263,SNR=6.7
F22K John River 46.53 29 P **P** **14 09 56.4 +0.9**
baz=265
SKT Skwentna 46.61 37 P **P** **14 09 57.5 +1.2**
baz=271
HOM Homer 46.63 40 P **P** **14 09 57.5 +1.1**
baz=273
E22K Anaktuvuk Pass 46.72 28 P **P** **14 09 58.7 +1.6**
E22K IAmb IAmb 14 10 00.7
comp=Z,12nm,0.9s
E22K Anaktuvuk Pass 46.72 28 P **P** **14 09 56.5 -0.6**
baz=265
H22K Ishtalitna Cre 46.74 31 P **P** **14 09 56.8 -0.4**
baz=268
G22K Bettles 46.74 30 P **P** **14 09 55.2 -2.0**
baz=266
CAPN Captain Cook N 46.82 38 P **P** **14 09 56.6 -1.2**
baz=272
BPAW Bear Paw Mtn. 46.85 34 P **P** **14 09 56.5 -1.6**
baz=270
MLY Manley 46.98 32 P **P** **14 09 58.1 -1.0**
baz=269
SUA Susitna One 46.99 37 P **P** **14 09 59.6 +0.2**
baz=272
BRSE Bradley Lake S 47.08 40 P **P** **14 10 00.3 +0.3**
baz=274
TRF Thorofare Moun 47.16 35 P **P** **14 09 59.9 -0.8**
baz=271
D23K Nanushuk River 47.21 27 P **P** **14 10 00.3 -0.6**
baz=265
COLD Coldfoot 47.27 29 P **P** **14 10 00.2 -1.1**
baz=267
M22K Willow 47.28 37 P **P** **14 09 58.6 -2.8**
baz=272
C23K Itkillik River 47.32 26 P **P** **14 10 00.0 -1.6**
baz=264,SNR=14
G23K Bananza Creek 47.32 30 P **P** **14 10 00.6 -1.2**
baz=268
KAPI Kappang 47.34 211 LR LR 14 30 32.9
comp=Z,31nm,19.4s,baz=73,slow=37
H23K Yukon River 47.49 31 P **P** **14 09 59.9 -3.2**
baz=269
RC01 Rabbit Creek A 47.50 38 P **P** **14 10 01.6 -1.5**
baz=273
O22K Cooper Landing 47.54 39 P **P** **14 10 01.3 -2.2**
baz=274
I23K Minto, Yukon-K 47.56 32 P **P** **14 10 02.0 -1.5**
baz=270
TOLK Toolik Lake Re 47.59 28 P **P** **14 10 02.2 -1.7**
baz=267
NEA2 Nenana 47.69 33 P **P** **14 10 02.5 -2.0**
baz=271
SEW Seward 47.70 39 P **P** **14 10 03.7 -1.0**
baz=275
MCK McKinley 47.76 34 P **P** **14 10 04.3 -0.9**
baz=272
PMR Palmer 47.76 37 P **P** **14 10 04.3 -0.8**
baz=274
D24K Happy Valley 47.89 27 P **P** **14 10 05.8 -0.3**
baz=267,SNR=8.9
E24K Your Creek 47.97 28 P **P** **14 10 08.9 +2.2**
E24K IAmb IAmb 14 10 10.6
comp=Z,7.8nm,0.8s
E24K Your Creek 47.97 28 P **P** **14 10 06.4 -0.3**
baz=268,SNR=5.8
WAT1 Susitna Watana 47.97 35 P **P** **14 10 07.5 +0.7**
baz=273
C24K Franklin Bluff 47.97 26 P **P** **14 10 06.0 -0.7**
baz=266
MDM Murphy Dome 48.04 33 IAmb IAmb 14 10 10.9
comp=Z,2.2nm,1.0s
KNK Knik Glacier 48.09 37 P **P** **14 10 08.0 +0.2**
baz=274
SML Sawmill 48.13 37 P **P** **14 10 07.4 -0.7**
baz=274
H24K Noodor Dome 48.18 31 P **P** **14 10 08.1 -0.3**
baz=271
F24K Squaw Lake 48.18 29 P **P** **14 10 07.4 -1.0**
baz=269
COLA College 48.20 33 P **P** **14 10 06.7 -1.8**
baz=272
G24K Hadweenzic Riv 48.33 30 P **P** **14 10 07.2 -2.3**
baz=270
WAT6 Susitna Watana 48.35 36 P **P** **14 10 09.1 -0.9**
baz=274
POKR Poker Plat Res 48.38 32 P **P** **14 10 09.4 -0.5**
baz=272
M23K Glacier View 48.42 37 P **P** **14 10 10.3 0.0**
baz=274
DHY Denali Highway 48.49 35 P **P** **14 10 10.8 -0.2**
baz=274
SCM Sheep Creek Mo 48.60 37 P **P** **14 10 11.5 -0.3**
baz=275
HDA Harding Lake 48.61 33 P **P** **14 10 11.2 -0.5**
baz=273
ILAR Eielson Array 48.62 33 P **P** **14 10 13.2 +1.5**
comp=Z,2.8nm,0.6s,baz=265,slow=6.4,SNR=9.1
ILAR PcP **PcP** **14 11 36.9 +0.3**
comp=Z,0.5nm,0.6s,baz=265,slow=4.0,SNR=1.4
comp=Z,2.8nm,0.6s
D25K Kavik River 48.77 27 P **P** **14 10 12.6 -0.4**
baz=269,SNR=12
GLI Glacier Island 48.80 38 P **P** **14 10 13.0 -0.2**
baz=276
G25K Bearman Lake 48.88 30 P **P** **14 10 13.9 +0.2**
baz=272
H25L Birch Creek 49.01 31 P **P** **14 10 14.2 -0.5**
baz=272
F25K Christian Rive 49.04 29 P **P** **14 10 14.2 -0.8**
baz=271
E25K Arctic Village 49.06 28 IAmb IAmb 14 10 18.8
comp=Z,4.7nm,0.8s
E25K PcP **PcP** **14 11 41.0 +2.9**
E25K Arctic Village 49.06 28 P **P** **14 10 14.6 -0.6**
baz=271
M24K Toisona, Glenn 49.12 36 P **P** **14 10 14.3 -1.4**
baz=276
K24K Donnelly Dome 49.16 34 P **P** **14 10 16.1 +0.2**
baz=274
PRP Porcupine Dome 49.16 32 P **P** **14 10 16.3 +0.2**
baz=273
J25K Salcha River, 49.28 33 P **P** **14 10 16.3 -0.6**
baz=274
C26K Camden Bay 49.29 26 P **P** **14 10 15.8 -1.0**
baz=270,SNR=9.7
KLU Klutina 49.30 37 P **P** **14 10 16.3 -0.8**
baz=276
PAX Paxson 49.37 35 P **P** **14 10 17.7 +0.1**
baz=275
BOOM Boomskoye usch 49.48 297 P **P** **14 10 18.8 -0.1**
BOOM PcP **PcP** **14 11 41.1 +0.8**
BOOM Boomskoye usch 49.48 297 P **P** **14 10 18.8 -0.1**
BOOM **14 11 41.1**
BOOM pmax pmax
comp=Z,3.0nm,0.7s
EYAK Cordova Ski Ar 49.49 38 P **P** **14 10 19.0 +0.5**
baz=277
HARP HAARP 49.56 36 P **P** **14 10 19.2 +0.2**
baz=276

F26K	Sheenjek River	49.61	29	P		P		14 10 19.2	-0.1
	baz=272,SNR=7.5								
C27K	Jago River	49.71	26	P		P		14 10 19.5	-0.6
	baz=271,SNR=7.2								
G26K	Porcupine Rive	49.79	30	P		P		14 10 19.9	-0.7
	baz=274								
N25K	Chitina, Valde	49.92	37	P		P		14 10 21.5	-0.3
	baz=277								
SCRK	Sand Creek	49.93	34	P		P		14 10 21.3	-0.7
	baz=276,SNR=5.3								
BMRM	Bremner River	50.00	38	P		P		14 10 22.5	+0.2
	baz=278								
J26L	Joseph Creek	50.07	33	P		P		14 10 22.5	-0.4
	baz=276								
I26K	Coal Creek Min	50.16	32	P		P		14 10 23.0	-0.5
	baz=275								
KAIM	Kayak Island	50.23	39	P		P		14 10 23.2	-0.9
	baz=279								
L26K	Log Cabin Wild	50.32	35	P		P		14 10 24.7	-0.1
	baz=277								
BVAR	Borovoye Array	50.33	312	P		P		14 10 24.3	-0.6
	comp=Z,1.3nm,0.5s,baz=72,slow=6.3,SNR=5.3								
BVAR				pP		pP		14 10 38.8	+0.4
	comp=Z,1.4nm,0.5s,baz=77,slow=6.5,SNR=5.7								
BVAR				PcP		PcP		14 11 43.2	+0.2
	comp=Z,1.7nm,0.5s,baz=96,slow=2.9,SNR=4.9								
	comp=Z,1.3nm,0.5s								
KSH	Kashi	50.44	294	P		P		14 10 31.8	+5.7
E27K	Coleen River	50.54	28	IAmb		IAmb		14 10 30.2	
	comp=Z,4.2nm,0.7s								
E27K	Coleen River	50.54	28	P		P		14 10 25.3	-1.0
	baz=274								
M26K	Nabesna, AK	50.56	36	P		P		14 10 26.8	+0.1
	baz=278								
G27K	Doyon Strip	50.63	30	P		P		14 10 26.7	-0.4
	baz=276								
MCARA	McCarthy VSAT	50.70	37	P		P		14 10 28.0	+0.4
	baz=279								
D27M	Malcolm River	50.70	27	IAmb		IAmb		14 10 31.3	
	comp=Z,6.0nm,0.9s								
D27M	Malcolm River	50.70	27	P		P		14 10 27.6	0.0
	baz=274								
H27K	Steamboat Moun	50.74	31	P		P		14 10 28.7	+0.8
	baz=276								
K27K	Chicken	50.77	33	P		P		14 10 28.5	+0.4
	baz=277								
I27K	Kandik River	50.77	31	P		P		14 10 29.6	+1.4
	baz=276								
L27K	Beaver Creek,	51.01	35	P		P		14 10 30.7	+0.8
	baz=278								
EGAK	Eagle	51.06	32	P		P		14 10 31.0	+0.7
	baz=278								
M27K	Edge Creek, AK	51.09	36	P		P		14 10 30.5	-0.2
	baz=279								
F28M	Old Crow	51.24	29	IAmb		IAmb		14 10 35.6	
	comp=Z,4.1nm,0.8s								
F28M	Old Crow	51.24	29	P		P		14 10 31.1	-0.6
	baz=276								
E28M	Babbage River	51.27	27	IAmb		IAmb		14 10 35.7	
	comp=Z,6.1nm,0.9s								
E28M	Babbage River	51.27	27	P		P		14 10 31.2	-0.6
	baz=276								
MESA	MESA	51.41	38	P		P		14 10 33.5	+0.3
	baz=281								
D28M	Stokes Point	51.48	26	P		P		14 10 32.8	-0.5
	baz=276								
I28M	Miner Creek	51.49	32	IAmb		IAmb		14 10 38.1	
	comp=Z,5.0nm,0.8s								
I28M	Miner Creek	51.49	32	P		P		14 10 34.3	+0.7
	baz=278								
CTG	Chitna Glacier	51.57	37	P		P		14 10 35.0	+0.7
	baz=280								
YUK3	Moose Creek	51.84	36	P		P		14 10 36.4	-0.1
	baz=280								
E29M	Blow River	51.89	28	IAmb		IAmb		14 10 40.5	
	comp=Z,8.0nm,0.8s								
E29M	Blow River	51.89	28	P		P		14 10 35.8	-0.6
	baz=278,SNR=9.7								
DAWY	Dawson	51.93	33	P		P		14 10 36.2	-0.6
	baz=280								
ARSB	Arslanbob	51.95	297	P		P		14 10 37.6	+0.1
ARSB	Arslanbob	51.95	297	P		P		14 10 37.6	+0.1
ARSB				pmax		pmax			
	comp=Z,1.0nm,0.8s								
H29M	Whitestone	52.01	30	P		P		14 10 36.1	-1.3
	baz=279								
G29M	Pine Creek	52.05	30	P		P		14 10 36.6	-1.1
	baz=279								
O28M	Mount Upton	52.16	37	P		P		14 10 37.8	-1.1
	baz=282								
I29M	Ogilvie Camp,	52.17	31	IAmb		IAmb		14 10 41.7	
	comp=Z,6.3nm,0.8s								
I29M	Ogilvie Camp,	52.17	31	P		P		14 10 38.2	-0.4
	baz=280,SNR=5.7								
YUK8	Steele Glacier	52.26	37	P		P		14 10 38.5	-1.1
	baz=282								
J29N	Klondike Camp	52.37	33	P		P		14 10 38.6	-1.6
	baz=280								
M29M	Somme Creek	52.64	35	P		P		14 10 40.6	-1.6
	baz=282								
EPYK	Eagle Plains	52.65	30	P		P		14 10 40.6	-1.5
	baz=280,SNR=7.1								
L29M	L29M	52.66	34	P		P		14 10 41.2	-1.1
	baz=281,SNR=6.8								
G30M	tAoh Zraii Nji	52.74	29	P		P		14 10 42.1	-0.7
	baz=280								
YUK4	Talbot Arm	52.78	37	P		P		14 10 42.5	-0.8
	baz=282								
K29M	Barlow Dome	52.78	33	IAmb		IAmb		14 10 47.1	
	comp=Z,7.5nm,0.8s								
K29M	Barlow Dome	52.78	33	P		P		14 10 43.4	+0.2
	baz=281,SNR=6.7								
F30M	Barrier River	52.80	28	P		P		14 10 43.0	-0.2
	baz=280								
I30M	Mount Dempster	53.00	31	P		P		14 10 44.3	-0.5
	baz=281,SNR=18								
YUK6	Outpost Mounta	53.00	37	P		P		14 10 43.8	-1.3
	baz=283								
O29M	Mount Kennedy	53.04	38	P		P		14 10 44.7	-0.5
	baz=283								
J30M	Hart River	53.15	32	P		P		14 10 45.2	-0.7
	baz=282								
TRKS	Terek-Say	53.18	298	P		P		14 10 46.7	+0.1
TRKS				pmax		pmax			
	comp=Z,5.0nm,0.9s								
M30M	Minto, Yukon	53.37	35	P		P		14 10 46.6	-0.8
	baz=283								
HYT	Haines Junctio	53.43	37	P		P		14 10 48.3	+0.2
	baz=284,SNR=6.0								
N30M	Aishikik Lake	53.48	36	P		P		14 10 48.9	+0.5
	baz=284								
G31M	Satah River	53.50	29	P		P		14 10 47.1	-1.2
	baz=282								
INK	Inuvik	53.51	27	IAmb		IAmb		14 10 51.4	
	comp=Z,5.5nm,0.9s								
INK	Inuvik	53.51	27	P		P		14 10 47.3	-1.0
	baz=282								
INK	Inuvik	53.51	27	P		P		14 10 50.1	+1.8
	comp=Z,4.0nm,0.6s,baz=296,slow=7.4,SNR=13								
INK				pP		sP		14 11 06.3	-1.2
	comp=Z,3.1nm,0.8s,baz=315,slow=10.0,SNR=3.1								
INK				LR		LR		14 34 58.0	
	comp=Z,58nm,18.7s,baz=180,slow=37								
	comp=Z,4.0nm,0.6s								
P29M	Windy Craggy	53.61	38	P		P		14 10 49.8	+0.6
	baz=284								
H31M	Peel River	53.71	31	P		P		14 10 49.0	-0.9
	baz=283,SNR=9.9								
P30M	Million Dollar	53.87	38	P		P		14 10 50.6	-0.6
	baz=284								
N31M	Braeburn, Yuko	54.09	36	P		P		14 10 52.6	-0.2
	baz=284								
O30N	Mendenhall	54.12	37	P		P		14 10 53.1	+0.1
	baz=285								
PLBC	Pleasant Camp	54.33	38	P		P		14 10 54.8	+0.4
	baz=286								
M31M	Drury Creek, Y	54.54	35	P		P		14 10 55.9	-0.2
	baz=285								
WHY	Whitehorse	54.72	37	P		P		14 10 56.3	-1.2
	baz=286								
S31K	Pelican	54.80	40	P		P		14 10 57.9	0.0
	baz=287								
SVE	Sverdlovsk	54.81	318	eP		P		14 10 58.6	+0.6
SVE				pmax		pmax			
	comp=Z,12nm,0.8s								
R31K	City Hall, Gus	54.92	40	P		P		14 10 59.4	+0.6
	baz=287								
FARO	Faro, Yukon	55.01	35	IAmb		IAmb		14 11 03.0	
	comp=Z,5.3nm,0.8s								
FARO	Faro, Yukon	55.01	35	P		P		14 10 59.7	+0.3
	baz=286,SNR=6.1								
A36M	Sachs Harbour	55.38	22	P		P		14 10 59.6	-2.3
	baz=286								
N32M	Quiet Lake	55.43	36	P		P		14 11 01.6	-0.9
	baz=287								
SIT	Sitka	55.54	41	P		P		14 11 02.7	-0.5
	baz=288								
R32K	Eaglecrest	55.58	40	P		P		14 11 03.2	-0.3
	baz=288								
P32M	Atlin	55.59	38	P		P		14 11 03.2	-0.4
	baz=287								
CHGR	Chuyangaron	55.67	295	P		P		14 11 04.8	+0.2
CHGR				pmax		pmax			
	comp=Z,22nm,0.9s								
S32K	Killisnoo	55.80	40	P		P		14 11 04.8	-0.3
	baz=288								
P33M	Teslin, Yukon	55.83	37	P		P		14 11 04.5	-0.9
	baz=288,SNR=7.3								
ARU	Arti	56.02	318	P		P		14 11 06.5	-0.2
ARU	Arti	56.02	318	eP		P		14 11 06.6	-0.1
ARU				pmax		pmax			
	comp=Z,10.0nm,1.7s								
ARU	Arti	56.02	318	P		P		14 11 07.0	+0.3
	comp=Z,15nm,0.8s								
C36M	Paulatuk	56.55	25	P		P		14 11 10.0	-0.2
	baz=289								
R33M	Jennings River	56.98	38	P		P		14 11 13.3	-0.3
	baz=290								
U33K	Whale Pass	56.99	42	P		P		14 11 13.3	-0.3
	baz=290								
CRAG	Craig	57.22	42	P		P		14 11 15.1	-0.1
	baz=290								
WRAK	Wrangell Islan	57.30	41	P		P		14 11 16.2	+0.5
	baz=290								
S34M	Telegraph Cree	57.40	39	P		P		14 11 17.2	+0.8
	baz=290								
WTLY	Watson Lake, Y	57.77	36	P		P		14 11 20.2	+1.1
	baz=291								
DLBC	Dease Lake	57.77	38	P		P		14 11 19.3	+0.2
	baz=291								
DLBC	Dease Lake	57.77	38	P		P		14 11 21.9	+2.8
	comp=Z,3.2nm,0.7s,baz=331,slow=5.0,SNR=6.9								
	comp=Z,3.2nm,0.7s								
WRAB	Tennant Creek	57.89	188	eP		P		14 11 23.6	+3.3
WRAB				pmax		pmax			
	comp=Z,4.0nm,0.9s								
WRA	Warramunga Arr	57.90	188	P		P		14 11 20.4	+0.1
WRA	Warramunga Arr	57.90	188	P		P		14 11 20.4	+0.1
	comp=Z,1.8nm,0.5s,baz=4.8,slow=7.1,SNR=26								
WRA				pP		pP		14 11 36.5	+2.4
	comp=Z,5.6nm,0.8s,baz=1.8,slow=7.5,SNR=12								
	comp=Z,1.8nm,0.5s								
V35K	Ketchikan	58.07	42	P		P		14 11 22.6	+1.4
	baz=292								
T35M	Bob Quinn	58.18	40	P		P		14 11 22.5	+0.5
	baz=292								
WRGLY	Wrigley	58.97	32	P		P		14 11 27.8	+0.5
	baz=293								
LIRD	Liard River Hi	59.29	36	P		P		14 11 29.0	-0.7
	baz=293								
SPITS	Spitsbergen Ar	59.82	349	P		P		14 11 34.1	+1.1
	comp=Z,10nm,0.9s,baz=62,slow=11,SNR=2.1								
	comp=Z,10nm,0.9s								
KIRV	Kirov	59.85	323	c iP		P		14 11 33.3	-0.1
TOAD	Toad River Com	59.93	37	P		P		14 11 34.3	+0.2
	baz=294								
KOTAN	Kotaneelee Air	59.95	35	P		P		14 11 34.5	+0.3
	baz=294								
ASAR	Alice Springs	61.63	188	P		P		14 11 46.2	+0.3
	comp=Z,1.2nm,0.8s,baz=6.3,slow=5.9,SNR=8.5								
ASAR				pP		pP		14 12 01.8	+2.0
	comp=Z,3.8nm,0.8s,baz=16,slow=11,SNR=14								
	comp=Z,1.2nm,0.8s								
RES	Resolute Bay	61.74	15	P		P		14 11 46.8	+0.8
RES				IAmb		IAmb		14 11 47.7	
	comp=Z,5.7nm,0.8s								
RES	Resolute Bay	61.74	15	LR		LR		14 40 51.4	
	comp=Z,19nm,18.3s,baz=350,slow=38								
RES	Resolute Bay	61.74	15	P		P		14 11 46.8	+0.8
RES				pmax		pmax			
	comp=Z,6.0nm,0.8s								
YKA	Yellowknife Ar	62.93	30	P		P		14 11 55.4	+1.2
	comp=Z,1.8nm,0.7s,baz=303,slow=7.3,SNR=27								
YKA				pP		sP		14 12 12.2	-1.5
	comp=Z,0.8nm,0.8s,baz=303,slow=7.5,SNR=4.9								
	comp=Z,1.8nm,0.7s								
YKA	Yellowknife Ar	62.93	30	eP		P		14 11 55.8	+1.6
YKA				pmax		pmax			
	comp=Z,2.0nm,0.7s								
ARCES	ARCESS Array B	63.39	339	P		P		14 11 57.7	+0.5
	comp=Z,3.6nm,0.8s,baz=53,slow=9.2,SNR=0.8								
ARCES				LR		LR		14 41 46.0	
	comp=Z,41nm,19.5s,baz=53,slow=38								
	comp=Z,3.6nm,0.8s								
GEYT	Alibeck	63.79	299	P		P		14 11 59.7	-0.7
	comp=Z,1.2nm,0.5s,baz=0.0,slow=0.6,SNR=2.5								
GEYT				pP		pP		14 12 15.4	+1.1
	comp=Z,1.1nm,0.5s,baz=51,slow=4.6,SNR=2.1								
	comp=Z,1.2nm,0.5s								
NEEM	North Greenlan	64.72	3	i P		P		14 12 06.1	0.0
NEEM				IAmb		IAmb		14 12 07.9	
	comp=Z,6.8nm,0.8s								
DAG	Danmarks Havn	65.02	355	i P		P		14 12 07.0	-0.7
DAG				IAmb		IAmb		14 12 09.0	
	comp=Z,3.3nm,0.7s								
FINES	FINESS Array B	68.29	332	P		P		14 12 28.5	-0.3
	comp=Z,4.9nm,0.7s,baz=54,slow=9.7,SNR=13								
FINES				pP		pP		14 12 44.7	+1.9
	comp=Z,1.5nm,0.6s,baz=56,slow=7.1,SNR=2.3								
	comp=Z,4.9nm,0.7s								
FINES	FINESS Array B	68.29	332	eP		P		14 12 29.2	+0.4
FINES				pmax		pmax			
	comp=Z,5.0nm,0.7s								
NEW	Newport	69.29	45	P		P		14 12 36.0	+0.6
	baz=304								
STKA	Stephens Creek	69.35	180	pP		pP		14 12 52.8	+3.1
	comp=Z,6.4nm,0.9s,baz=328,slow=6.3,SNR=4.5								
PINE	Pine Mountain	69.53	50	P		P		14 12 37.4	+0.3
L04D	Klamath Falls	69.55	52	IAmb		IAmb		14 12 40.8	
	comp=Z,12nm,0.8s								
J05D	Fort Rock, OR	69.63	51	IAmb		IAmb		14 12 41.5	
	comp=Z,6.4nm,0.9s								
SUMG	Summit	69.89	0	i P		P		14 12 38.5	-0.5
SUMG				IAmb		IAmb		14 12 40.5	
	comp=Z,9.1nm,1.1s								
KBZ	Khabaz	70.68	311	P		P		14 12 44.6	+0.8
	comp=Z,4.0nm,0.9s,baz=34,slow=3.6,SNR=4.7								
	comp=Z,4.0nm,0.9s								
KIV	Kislovodsk	70.68	311	d iP		P		14 12 44.8	+0.8
KIV				*PP		pP		14 12 59.0	+0.9
KIV				*SP		sP		14 13 03.0	-0.7
KIV								14 13 06.0	
KIV				i *SS		sS		14 22 19.6	+1.4
KIV				pmax		pmax			
	comp=Z,9.0nm,1.0s								
J08A	Circle Bar Ran	71.27	49	IAmb		IAmb		14 12 51.2	
	comp=Z,13nm,1.3s								
GNI	Garni	71.54	307	P		P		14 12 49.7	+0.4
	comp=Z,15nm,0.4s,baz=32,slow=9.5,SNR=1.7								
	comp=Z,15nm,0.4s								
GNI	Garni	71.54	307	eP		P		14 12 51.0	+1.7
GNI				pmax		pmax			
	comp=Z,7.0nm,0.4s								
MSO	Missoula	71.88	44	P		P		14 12 51.5	+0.3
	baz=306								
FFC	Flin Flon	72.83	33	P		P		14 12 58.4	+1.8
FFC				IAmb		IAmb		14 12 59.0	
	comp=Z,6.6nm,0.8s								
FFC	Flin Flon	72.83	33	P		P		14 12 58.4	+1.8
FFC				pmax		pmax			
	comp=Z,7.0nm,0.9s								
YERR	Yerington	73.29	54	IAmb		IAmb		14 13 02.8	
	comp=Z,5.9nm,0.8s								
EGMT	Eagleton	73.42	42	IAmb		IAmb		14 13 03.2	
	comp=Z,11nm,0.9s								
EGMT	Eagleton	73.42	42	P		P		14 13 00.1	-0.2
	baz=309								
HFS	Hagfors	73.52	336	P		P		14 13 00.7	+0.2
	comp=Z,2.1nm,0.5s,baz=46,slow=8.5,SNR=11								
HFS				pP		PcP		14 13 16.6	+0.2
	comp=Z,2.4nm,0.7s,baz=32,slow=8.7,SNR=4.2								
	comp=Z,2.1nm,0.5s								
HLID	Hailey	73.55	47	P		P		14 13 00.1	-1.1
	baz=307								
NB2	NORSAR Subarra	73.60	337	P		P		14 13 01.1	0.0
	comp=Z,7.9nm,1.1s,baz=38,slow=5.9								
NOA	NORSAR Array B	73.60	337	P		P		14 13 01.2	+0.1
	comp=Z,2.9nm,0.8s,baz=39,slow=5.8,SNR=12								
NOA				pP		PcP		14 13 16.6	-0.1
NOA	comp=Z,1.4nm,0.7s,baz=38,slow=5.9,SNR=4.8			LR		LR		14 49 01.4	
	comp=Z,29nm,19.3s,baz=40,slow=39								
	comp=Z,2.9nm,0.8s								
AKASG	Malin Array Be	73.90	322	P		P		14 13 02.5	-0.4
AKASG	comp=Z,2.1nm,0.5s,baz=43,slow=6.0,SNR=11			pP		PcP		14 13 18.4	+0.2
	comp=Z,2.0nm,0.7s,baz=46,slow=5.6,SNR=3.5								
	comp=Z,2.1nm,0.5s								
AKASG	Malin Array Be	73.90	322	eP		P		14 13 02.5	-0.4
AKASG				pmax		pmax			
	comp=Z,3.0nm,0.5s								
AKBB	Malin Array Si	73.90	322	de P		P		14 13 02.9	0.0
BOZ	Bozeman (W)	73.91	44	IAmb		IAmb		14 13 06.4	
	comp=Z,6.2nm,0.8s								
BOZ	Bozeman (W)	73.91	44	P		P		14 13 02.7	-0.5
	baz=308								
AK15	Malin Array Si	73.96	322	P		P		14 13 03.2	0.0
AK05	Malin Array Si	73.97	322	P		P		14 13 03.2	-0.1
KVN	Kaiserville	73.97	53	IAmb		IAmb		14 13 07.2	
	comp=Z,8.4nm,1.0s								
LHV	Little Huntoon	74.18	54	IAmb		IAmb		14 13 08.9	
	comp=Z,9.8nm,0.9s								
NVAR	Mina Array Bea	74.21	54	P		P		14 13 07.3	+2.1
	comp=Z,4.4nm,0.8s,baz=288,slow=5.7,SNR=27								
	comp=Z,4.4nm,0.8s								
LUBAR	Lubar, Ukraine	75.13	322	P		P		14 13 09.5	-0.6
H17A	Grant Village	75.24	45	P		P		14 13 11.7	+0.5
	baz=309								
PKM	Mcpherson Peak	75.29	57	P		P		14 13 11.7	+0.2
	baz=306								
IMW	Indian Meadow	75.34	46	IAmb		IAmb		14 13 15.7	
	comp=Z,8.9nm,0.8s								
CWC	Cottonwood Cre	75.52	55	P		P		14 13 13.2	+0.4
	baz=307								
TPAW	Teton Pass	75.59	46	IAmb		IAmb		14 13 17.0	
	comp=Z,6.2nm,0.8s								
SBC	Santa Barbara	75.62	58	P		P		14 13 12.3	-0.9
	baz=306								
GRAC	Grapevine Rang	75.65	54	IAmb		IAmb		14 13 16.8	
	comp=Z,9.5nm,0.8s								
GRAC	Grapevine Rang	75.65	54	P		P		14 13 13.2	-0.2
	baz=307								
ARVC	Arvin	75.81	57	P		P		14 13 14.6	+0.4
	baz=306								
AHID	Auburn Hatcher	75.96	47	IAmb		IAmb		14 13 18.3	
	comp=Z,5.1nm,0.8s								
R11B	Troy Canyon, C	75.97	52	P		P		14 13 15.4	+0.1
	baz=307								
DGMT	Dagmar	75.98	39	P		P		14 13 14.4	-0.6
	baz=312								
Q12A	Willow Creek R	76.02	51	IAmb		IAmb		14 13 19.1	
	comp=Z,7.0nm,0.8s								
MPMC	Manual Prospec	76.13	55	P		P		14 13 16.0	-0.3
	baz=307								
FURC	Furnace Creek,	76.29	54	P		P		14 13 16.7	-0.3
	baz=307								
LRMC	Laurel Mtn Rad	76.35	56	P		P		14 13 17.3	-0.2
	baz=307								
HWUT	Hardware Ranch	76.41	48	IAmb		IAmb		14 13 21.4	
	comp=Z,9.1nm,1.1s								
EDW2	Edwards Air Fo	76.50	56	P		P		14 13 17.0	-1.3
	baz=307								
DUG	Dugway, Tooele	76.55	49	IAmb		IAmb		14 13 21.6	
	comp=Z,5.5nm,0.7s								
DUG	Dugway, Tooele	76.55	49	P		P		14 13 21.2	+2.7
DUG				pmax		pmax			
	comp=Z,10.0nm,1.1s								
GWY	Greenwater Val	76.59	55	IAmb		IAmb		14 13 21.8	
	comp=Z,8.8nm,0.7s								
TCUT	Toone Canyon	76.81	48	IAmb		IAmb		14 13 23.5	
	comp=Z,7.1nm,0.8s								
PD31	Pinedale Array	76.84	46	IAmb		IAmb		14 13 22.9	
	comp=Z,4.5nm,0.8s								
PDAR	Pinedale Array	76.84	46	P		P		14 13 21.3	+1.1
PDAR	Pinedale Array	76.84	46	P		P		14 13 21.6	+1.4
	comp=Z,3.6nm,0.6s,baz=272,slow=2.0,SNR=27								
	comp=Z,3.6nm,0.6s								
GSC	Goldstone, Bar	77.03	55	P		P		14 13 19.0	-2.2
	baz=307								
CIS	Catalina Islan	77.11	58	P		P		14 13 19.8	-1.9
	baz=307								
MPU	Maple Canyon	77.37	49	IAmb		IAmb		14 13 26.5	
	comp=Z,6.7nm,0.7s								
TUQ	Turquoise Moun	77.52	55	P		P		14 13 23.6	-0.5
	baz=308								
HEC	Hector,Ludlow	77.62	56	P		P		14 13 22.8	-1.8
	baz=308								
MURC	Murrieta	77.80	57	P		P		14 13 24.1	-1.5
	baz=308								
P17A	Butcher Ranch,	78.24	49	IAmb		IAmb		14 13 31.4	
	comp=Z,8.4nm,0.7s								
LCMT	Little Creek M	78.26	52	IAmb		IAmb		14 13 31.7	
	comp=Z,5.9nm,0.9s								
PFO	Pinyon Flats O	78.28	57	P		P		14 13 26.7	-1.6
	baz=308								
PFO	Pinyon Flats O	78.28	57	LR		LR		14 39 35.2	
	comp=Z,20nm,20.8s,baz=202,slow=29								
TPFO	Pinon Flats	78.29	57	P		P		14 13 27.0	-1.4
	baz=308								
109C	Camp Elliot, M	78.29	58	P		P		14 13 27.3	-0.9
	baz=308								
BELC	Belle Mtn. Jos	78.35	56	P		P		14 13 28.0	-0.7
	baz=308								
KNB	Kanab	78.52	52	IAmb		IAmb		14 13 33.5	
	comp=Z,16nm,1.4s								
SRU	San Rafael Swe	78.60	49	IAmb		IAmb		14 13 33.1	
	comp=Z,8.0nm,0.8s								
K22A	Casper	78.61	44	P		P		14 13 29.1	-1.0
	baz=312								
CRVS	Cervenica-Dubn	78.80	325	eP		P		14 13 30.6	-0.2
CRVS	Cervenica-Dubn	78.80	325	eP		P		14 13 30.6	-0.2
IRM	Iron Mountain	78.81	55	P		P		14 13 30.8	-0.4
	baz=308								
BC3	Big Chuckawall	78.92	56	P		P		14 13 29.5	-2.3
	baz=308								
RSSD	Black Hills	78.98	42	P		P		14 13 33.0	+0.9
RSSD	Black

	comp=Z,20nm,2.5s							
KHC	**Kasperske Hory**	**82.07**	**329**	P		**P**	**14 13 48.7**	**+0.4**
	comp=Z,5.6nm,0.8s							
GERES	**GERESS Array B**	**82.24**	**328**	P		**P**	**14 13 49.1**	**-0.2**
	comp=Z,0.9nm,0.5s,baz=24,slow=10,SNR=6.4							
GERES				pP		**sP**	**14 14 08.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=37,slow=9.9,SNR=1.5							
	comp=Z,0.9nm,0.5s							
EYMN	**Ely**	**82.26**	**33**	IAmb		IAmb	14 13 51.2	
	comp=Z,8.1nm,0.9s							
EYMN	**Ely**	**82.26**	**33**	P		**P**	**14 13 48.3**	**-1.0**
	baz=320							
SDCO	**Great Sand Dun**	**82.47**	**48**	P		**P**	**14 13 49.2**	**-1.8**
	baz=313							
TUC	**Tucson**	**82.81**	**55**	P		**P**	**14 13 51.8**	**-0.7**
	baz=311							
ECSD	**EROS Data Cent**	**83.06**	**39**	IAmb		IAmb	14 13 55.5	
	comp=Z,6.1nm,0.8s							
ECSD	**EROS Data Cent**	**83.06**	**39**	P		**P**	**14 13 51.9**	**-1.6**
	baz=317							
T25A	**Trinidad**	**83.52**	**47**	IAmb		IAmb	14 13 59.3	
	comp=Z,8.0nm,0.8s							
T25A	**Trinidad**	**83.52**	**47**	P		**P**	**14 13 55.3**	**-1.0**
	baz=313							
SPMN	**Marine on St.**	**83.76**	**35**	P		**P**	**14 13 56.6**	**-0.5**
	baz=320							
ANMO	**Albuquerque**	**83.78**	**50**	P		**P**	**14 13 58.5**	**+0.9**
ANMO	**Albuquerque**	**83.78**	**50**	P		**P**	**14 13 57.2**	**-0.5**
	baz=312							
ANMO	**Albuquerque**	**83.78**	**50**	‖ *e*P		**P**	**14 14 00.5**	**+2.8**
ANMO				pmax		pmax		
	comp=Z,7.0nm,1.3s							
319A	**Douglas**	**84.38**	**54**	IAmb		IAmb	14 14 03.8	
	comp=Z,9.0nm,1.2s							
BMRD	**Maredsous**	**84.46**	**334**	*d*PcP		**P**	**14 14 01.6**	**+1.0**
SCHQ	**Schefferville**	**84.47**	**16**	P		**P**	**14 14 01.3**	**+0.8**
	comp=Z,2.2nm,0.7s,baz=13,slow=7.9,SNR=6.2							
SCHQ				LR		LR	14 52 48.1	
	comp=Z,38nm,21.7s,baz=286,slow=36							
	comp=Z,2.2nm,0.7s							
121A	**Cookes Peak, D**	**84.57**	**53**	P		**P**	**14 14 01.0**	**-0.7**
	baz=312							
PPT2	**Papeete2**	**84.66**	**117**	*e*LR		LR	14 40 50.8	
	comp=Z,59nm,30.2s							
STAL	**STALIGIAL**	**84.68**	**327**	IAmb		IAmb	14 14 01.3	
	comp=Z,4.9nm,0.7s							
COWI	**Conover**	**84.71**	**33**	IAmb		IAmb	14 14 03.7	
	comp=Z,5.0nm,0.8s							
BFO	**Black Forest**	**84.80**	**331**	P		**P**	**14 14 01.5**	**-0.9**
BFO				IAmb		IAmb	14 14 03.9	
	comp=Z,6.8nm,1.0s							
BFO	**Black Forest**	**84.80**	**331**	P		**P**	**14 14 01.5**	**-0.9**
BFO				pmax		pmax		
	comp=Z,7.0nm,1.0s							
CBKS	**Cedar Bluff**	**84.99**	**44**	P		**P**	**14 14 02.6**	**-0.9**
	baz=316							
ECH	**Echery**	**85.34**	**332**	IAmb		IAmb	14 14 05.9	
	comp=Z,6.2nm,0.9s							
E43A	**Lone Tree Farm**	**85.40**	**32**	P		**P**	**14 14 05.2**	**-0.1**
FUORN	**Ofenpass-Fuorn**	**85.42**	**329**	P		**P**	**14 14 06.2**	**+0.4**
FUORN				IAmb		IAmb	14 14 07.0	
	comp=Z,5.0nm,0.7s							
KSU1	**Kansas State U**	**86.46**	**42**	P		**P**	**14 14 09.4**	**-1.4**
	baz=318							
MNTX	**Cornudas Mount**	**86.64**	**52**	P		**P**	**14 14 10.6**	**-1.2**
	baz=313							
MSTX	**Muleshoe**	**86.67**	**49**	P		**P**	**14 14 11.1**	**-0.9**
	baz=314							
AMTX	**Amarillo**	**86.67**	**48**	P		**P**	**14 14 11.3**	**-0.7**
	baz=315							
JFWS	**Jewell Farm**	**86.71**	**36**	P		**P**	**14 14 10.9**	**-1.0**
	baz=322							
GLMI	**Grayling**	**87.64**	**31**	P		**P**	**14 14 15.0**	**-1.3**
	baz=325							
L44A	**Lake County Fo**	**88.36**	**35**	P		**P**	**14 14 18.3**	**-1.5**
	baz=323							
WMOK	**Wichita Mounta**	**88.45**	**46**	P		**P**	**14 14 19.1**	**-1.3**
	baz=317							
TBI	**Tubuai**	**88.61**	**121**	*e*LR		LR	14 42 39.1	
	comp=Z,217nm,27.5s							
HDIL	**Hopedale**	**89.00**	**36**	P		**P**	**14 14 21.0**	**-1.9**
	baz=322							
TUL3	**Leonard**	**89.25**	**43**	P		**P**	**14 14 23.0**	**-1.1**
	baz=318							
TXAR	**Lajitas Array**	**89.33**	**53**	P		**P**	**14 14 26.4**	**+1.7**
	comp=Z,2.9nm,0.5s,baz=299,slow=3.0,SNR=53							
TXAR				pP		**sP**	**14 14 43.8**	**-0.9**
	comp=Z,1.3nm,0.7s,baz=296,slow=3.6,SNR=5.9							
	comp=Z,2.9nm,0.5s							
ABTX	**Abilene, Hawle**	**89.47**	**48**	P		**P**	**14 14 24.2**	**-1.1**
	baz=316							
HHAR	**Hobbs**	**89.97**	**42**	P		**P**	**14 14 28.2**	**+0.7**
HHAR				IAmb		IAmb	14 14 28.8	
	comp=Z,3.7nm,0.6s							
CCM	**Cathedral Cave**	**90.00**	**39**	P		**P**	**14 14 24.4**	**-3.2**
	baz=321							
SFIN	**Lafayette**	**90.16**	**35**	P		**P**	**14 14 25.0**	**-3.3**
	baz=324							
JCT	**Junction City**	**90.91**	**49**	P		**P**	**14 14 29.6**	**-2.4**
	baz=316							
O48B	**Farmland**	**91.13**	**34**	P		**P**	**14 14 29.7**	**-3.1**
	baz=325							
WHTX	**Lake Whitney,**	**91.20**	**47**	P		**P**	**14 14 31.8**	**-1.5**
	baz=317							
MIAR	**Mount Ida**	**91.48**	**43**	P		**P**	**14 14 32.7**	**-1.8**
	baz=320							
LONY	**Lake Ozonia**	**91.56**	**25**	P		**P**	**14 14 32.8**	**-1.9**
	baz=332							
ERPA	**Erie**	**91.75**	**30**	P		**P**	**14 14 34.0**	**-1.6**
	baz=328							
P49A	**Miami Univ. Ec**	**91.92**	**34**	P		**P**	**14 14 34.5**	**-2.0**
	baz=325							
M53A	**WI Miller and**	**92.05**	**31**	P		**P**	**14 14 35.4**	**-1.6**
	baz=328							
ACSO	**Alum Creek Sta**	**92.10**	**33**	P		**P**	**14 14 35.9**	**-1.4**
	baz=326							
WCI	**Wyandotte Cave**	**92.26**	**36**	P		**P**	**14 14 36.8**	**-1.3**
	baz=324							
833A	**Chaparral WMA,**	**92.70**	**51**	P		**P**	**14 14 39.0**	**-1.2**
	baz=316							
LBNH	**Lisbon**	**92.77**	**24**	P		**P**	**14 14 38.1**	**-2.2**
	baz=334							
O53A	**New Philadelph**	**92.83**	**32**	P		**P**	**14 14 39.1**	**-1.6**
	baz=327							
P52A	**Corning**	**92.96**	**33**	P		**P**	**14 14 39.9**	**-1.4**
	baz=327							
NATX	**Nacogdoches**	**92.97**	**45**	P		**P**	**14 14 40.1**	**-1.4**
	baz=319							
OXF	**Oxford**	**93.69**	**40**	P		**P**	**14 14 43.0**	**-1.7**
	baz=322							
SSPA	**Standing Stone**	**93.84**	**29**	P		**P**	**14 14 43.4**	**-1.9**
	baz=330							
L61B	**Northampton**	**94.12**	**25**	P		**P**	**14 14 44.3**	**-2.2**
	baz=333							
HRV	**Adam Dziewonsk**	**94.44**	**24**	P		**P**	**14 14 45.8**	**-2.2**
	baz=334							
TZTN	**Tazewell**	**94.89**	**35**	P		**P**	**14 14 48.4**	**-1.9**
	baz=326							
VBMS	**Vicksburg**	**94.90**	**42**	P		**P**	**14 14 48.6**	**-1.7**
	baz=321							
PAL	**Palisades**	**94.98**	**26**	P		**P**	**14 14 48.5**	**-2.0**
	baz=332							
M65A	**Busby, Falmout**	**95.58**	**24**	P		**P**	**14 14 51.9**	**-1.3**
	baz=335							
BLA	**Blacksburg**	**95.72**	**33**	P		**P**	**14 14 52.3**	**-1.8**
	baz=328							
VNDA	**Vanda**	**115.73**	**175**	PKP		**PKPdf**	**14 20 09.2**	**+0.4**
	comp=Z,0.2nm,0.6s,baz=27,slow=4.3,SNR=1.4							
TORD	**Torodi Ar. Bea**	**117.04**	**316**	PKP		**PKiKP**	**14 20 13.7**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=299,slow=3.0,SNR=1.5							
QSPA	**South Pole Qui**	**127.57**	**180**	PKPdf		**PKPdf**	**14 20 32.0**	**+0.1**
QSPA	**South Pole Qui**	**127.57**	**180**	PKP		**PKPdf**	**14 20 31.8**	**-0.1**
	comp=Z,1.9nm,0.6s,baz=278,slow=1.6,SNR=24							
ROSB	**Rosrio**	**144.80**	**10**	PKPdf		PKPbc	14 21 05.4	+1.1
LPAZ	**La Paz**	**145.96**	**59**	PKPbc		**PKPbc**	**14 21 09.5**	**+0.8**
	comp=Z,8.1nm,1.0s,baz=343,slow=4.3,SNR=20							
LPAZ				pPKPbc		**sPKPdf**	**14 21 27.2**	**-1.1**
	comp=Z,7.3nm,0.9s,baz=17,slow=5.2,SNR=6.1							
LPAZ	**La Paz**	**145.96**	**59**	*e*PKP2		**PKPbc**	**14 21 09.2**	**+0.5**
LPAZ				pmax		pmax		
	comp=Z,8.0nm,1.0s							
H03N2	**Juan Fernandez**	**146.72**	**95**	T		T	17 06 11.9	
	baz=291,slow=76,SNR=3.5							
H03N3	**Juan Fernandez**	**146.73**	**95**	T		T	17 06 12.9	
	baz=291,slow=76,SNR=8.2							
H03N1	**Juan Fernandez**	**146.73**	**95**	T		T	17 06 26.2	
	baz=291,slow=76,SNR=7.8							
PATCX	**Punta Patache**	**147.53**	**68**	PKPab		**PKPbc**	**14 21 13.9**	**+1.5**

TAP 26 14:13:18.4,24°.86N×122°.52E,h38km±2km,ML1.9,D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWB1	**Santiao Chiao**	**0.50**	**287**	*i* P		Pn	14 13 27.6	-1.4
	baz=287							
TWB1				*i* S		Sn	14 13 34.7	-1.7
	baz=287							
EOS2	**EOS2**	**0.51**	**210**	P		Pn	14 13 28.3	-0.8
	baz=218							
EGS		**0.53**	**268**	*e*P		Pn	14 13 29.2	-0.3
	baz=267							
EOS3	**EOS3**	**0.60**	**197**	P		Pn	14 13 30.5	+0.1
	baz=204							
EOS3				S		Sn	14 13 39.3	+0.5
	baz=204							
YOJ	**Yonaguni jima**	**0.60**	**131**	P		Pn	14 13 30.5	-0.1
	baz=127							
YOJ				S		Sn	14 13 39.2	+0.2
	baz=127							
SXI1	**Grass Mountain**	**0.62**	**292**	*i* P		Pn	14 13 31.3	+0.3
	baz=291							
SXI1				*i* S		Sn	14 13 40.0	+0.3
	baz=291							
TIPB	**Shuangxi**	**0.64**	**280**	*e*P		Pn	14 13 31.1	+0.1
	baz=284							
TIPB				*e*S		Sn	14 13 40.3	+0.4
	baz=284							
TWC	**Suao**	**0.66**	**247**	P		Pn	14 13 30.3	-1.0
	baz=247							
TWC				S		Sn	14 13 41.0	+0.7
	baz=247							
ESAO	**Su ao**	**0.67**	**245**	*e*P		Pn	14 13 30.7	-0.8
	baz=249							
EOS4	**EOS4**	**0.76**	**194**	P		Pn	14 13 33.1	+0.9
	baz=194							
EOS4				S		Sn	14 13 43.0	+0.8
	baz=194							
TWE	**Neicheng**	**0.78**	**260**	P		Pn	14 13 33.5	+0.6
	baz=259							
EWUT	**Wuta**	**0.79**	**238**	*e*P		Pn	14 13 33.4	+0.4
	baz=238							
FUSB	**Fushanzhiwuyua**	**0.85**	**263**	*e*S		Sn	14 13 45.9	+0.7
	baz=263							
ENTT	**Nioudou**	**0.89**	**256**	*e*P		Pn	14 13 35.6	+1.2
	baz=255							
NWLT	**Wulai**	**0.92**	**265**	*e*P		Pn	14 13 35.4	+0.5
	baz=264							
NDT	**Datong Townshi**	**0.95**	**254**	*e*P		Pn	14 13 36.4	+1.2
	baz=259							
LATG	**Datong**	**0.96**	**250**	*e*P		Pn	14 13 35.9	+0.5
	baz=250							
NSK	**Sanguang**	**1.07**	**260**	*e*P		Pn	14 13 38.1	+1.2
	baz=259							
NNSB	**Datong**	**1.12**	**247**	*e*P		Pn	14 13 38.6	+1.0
	baz=247							

TAP 26 14:13:29.0,24°.57N×121°.62E,h9km,ML0.6,1C,A, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ENTT	**Nioudou**	**0.08**	**324**	‖ *i* P		Pg	14 13 31.9	+0.7
	baz=327							
ENTT				*i* S		Sg	14 13 33.6	+0.8
	baz=327							
LATG	**Datong**	**0.09**	**246**	P		Pg	14 13 32.1	+0.7
	baz=246							
LATG				S		Sg	14 13 33.9	+0.7
	baz=246							
NDT	**Datong Townshi**	**0.10**	**287**	*i* P		Pg	14 13 32.3	+0.8
	baz=286							
NDT				*i* S		Sg	14 13 34.0	+0.7
	baz=286							
NDS	**Dongshan**	**0.11**	**56**	*e*P		Pg	14 13 33.3	+1.7
	baz=252							
NDS	**Dongshan**	**0.11**	**56**	*e*P		Pg	14 13 32.8	+1.2
	baz=55							
NDS				*e*S		Sg	14 13 34.2	+0.9
	baz=55							
TWE	**Neicheng**	**0.15**	**16**	*i* P		Pg	14 13 32.5	+0.2
	baz=21							
TWE				S		Sg	14 13 36.2	+1.6
	baz=21							
ENA	**Nanau**	**0.18**	**142**	*e*P		Pg	14 13 33.6	+0.8
	baz=238							
ENA	**Nanau**	**0.18**	**142**	P		Pg	14 13 33.4	+0.6
	baz=140							
FUSB	**Fushanzhiwuyua**	**0.19**	**351**	P		Pg	14 13 34.7	+1.7
	baz=351							
FUSB	**Fushanzhiwuyua**	**0.19**	**351**	*e*P		Pg	14 13 34.8	+1.8
	baz=263							
EWUT	**Wuta**	**0.19**	**131**	*e*P		Pg	14 13 34.1	+1.1
	baz=131							
NWLT	**Wulai**	**0.23**	**332**	*e*P		Pg	14 13 34.6	+0.9
	baz=332							
YHNB	**Yeheng**	**0.24**	**294**	*e*P		Sg	14 13 38.1	+0.8
	baz=259							
YHNB	**Yeheng**	**0.24**	**294**	P		Pg	14 13 35.1	+1.1
	baz=293							
YHNB				*e*S		Sg	14 13 38.1	+0.9
	baz=293							
NNSB	**Datong**	**0.26**	**236**	*e*P		Pg	14 13 35.0	+0.7
	baz=236							
NNSB				S		Sb	14 13 39.7	-0.9
NACB	**Ninganchiao**	**0.40**	**183**	*e*P		Pb	14 13 38.3	0.0
	baz=231							
NACB	**Ninganchiao**	**0.40**	**183**	*e*P		Pb	14 13 37.9	-0.3
	baz=183							

*MOS **26** 14:14:59.0±1.3,31°.77N×48°.78E,h17km,mb4.4/7, Error ellipse: s-maj=10.3km s-min=6.4km az=98.6*
*IDC **26** 14:14:59.3±0.7,31°.90N×48°.65E,h0km,mb4.0/23, mbtmp4.0/29,ML3.6/6,MS3.6/31, Error ellipse: s-maj=16.8km s-min=11.4km az=172.0*
*NEIC **26** 14:14:59.6±2.7,31°.87N±0°.08×48°.61E±0°.07,h10km±1km, mb4.5/20, Error ellipse: s-maj=14.3km s-min=8.7km az=209.0*
*TEH **26** 14:15:02.1,31°.86N×48°.67E,h22km±16km,ML4.2*
*NAO **26** 14:15:04.5,31°.61N×47°.75E,h33km,mb4.3*
*OMAN **26** 14:15:07.4±1.6,31°.49N×48°.91E,h23km,mb3.3/21, Error ellipse: s-maj=18.8km s-min=9.9km az=6.0*
*DSN **26** 14:15:09.2±1.7,31°.20N×49°.01E,h10km,ML3.8/8, Error ellipse: s-maj=22.2km s-min=12.3km az=7.0*

ISC 26 14:15:00.2±0.4,31°.79N±0°.04×48°.72E±0°.04,h10km,n210, σ2s07/22o,mb4.3/53,MS3.7/28,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.46**	**188**	Pg		**Pb**	**14 15 12.5**	**+2.1**
JHBN	**Jahan bin**	**1.71**	**75**	Pg		**Pb**	**14 15 33.4**	**+1.4**
ABEH	**Behbahan**	**1.77**	**132**	Pn		**Pg**	**14 15 34.9**	**+0.7**
ZNGN	**Zangian**	**1.85**	**79**	Pn		**Pb**	**14 15 35.7**	**+1.4**
IKFM	**Kafar-mosalman**	**1.88**	**337**	Pn		**Pn**	**14 15 34.5**	**+2.1**
IDOB	**Doab**	**2.04**	**347**	Pn		**Pn**	**14 15 37.5**	**+2.6**
IPIR	**Pirpir**	**2.05**	**64**	Pn		**Pb**	**14 15 38.3**	**+0.6**
IBRJ	**Brojen**	**2.17**	**86**	Pn		**Pb**	**14 15 40.1**	**+0.3**
HSAM	**Samen**	**2.42**	**358**	Pn		**Pn**	**14 15 42.1**	**+2.0**
KLNJ	**Kolanjah**	**2.58**	**107**	Pn		**Pn**	**14 15 45.8**	**+3.5**
IBZA	**Bozab**	**2.77**	**345**	Pn		**Pn**	**14 15 47.1**	**+2.2**
IKLH	**Kolahrood**	**2.86**	**57**	Pn		**Pn**	**14 15 49.6**	**+3.5**
IGAR	**Gharneh**	**2.89**	**77**	Pn		**Pn**	**14 15 50.0**	**+3.5**
HAGD	**Aghdareh**	**3.05**	**7**	Pn		**Pn**	**14 15 51.1**	**+2.4**
IGHG	**Ghaleghazi**	**3.11**	**325**	Pn		**Pn**	**14 15 51.9**	**+2.3**
IRAM	**Ramesheh**	**3.12**	**89**	Pn		**Pn**	**14 15 53.0**	**+3.3**
SNQR	**Sonqor, Kerman**	**3.19**	**344**	Pn		**Pn**	**14 15 53.0**	**+2.3**
IZEF	**Zefreh**	**3.25**	**69**	Pn		**Pn**	**14 15 54.8**	**+3.3**
GLG1	**Gilan-e-Gharb**	**3.31**	**315**	Pn		**Pn**	**14 15 54.2**	**+2.1**
KAZ2	**Kazeron-Fars-I**	**3.34**	**130**	Pn		**Pn**	**14 15 56.0**	**+3.5**
ILIN	**Lien**	**3.45**	**335**	Pn		**Pn**	**14 15 56.6**	**+2.4**
IDHR	**Dehrash**	**3.50**	**327**	Pn		**Pn**	**14 15 56.7**	**+1.8**
KRSH	**Karshahi**	**3.61**	**52**	Pn		**Pn**	**14 15 59.4**	**+3.1**
IQOM	**Qom**	**3.63**	**32**	Pn		**Pn**	**14 15 59.1**	**+2.4**
IRAZ	**Razeghan**	**3.75**	**15**	Pn		**Pn**	**14 16 01.6**	**+3.3**
ISFB	**Sefidab**	**3.91**	**48**	Pn		**Pn**	**14 16 02.8**	**+2.3**
QABG	**Abgarm-Qazvin**	**3.98**	**10**	Pn		**Pn**	**14 16 03.6**	**+2.1**
DSBU	**Dashti - Bushe**	**4.06**	**146**	Pn		**Pn**	**14 16 06.8**	**+4.3**
IVRN	**Varamin**	**4.07**	**37**	Pn		**Pn**	**14 16 05.4**	**+2.8**
ISAD	**Sadrabad**	**4.23**	**87**	Pn		**Pn**	**14 16 08.3**	**+3.3**
ANAR	**Anarak**	**4.46**	**70**	Pn		**Pn**	**14 16 11.1**	**+3.1**
IDMV	**Damavand**	**4.68**	**35**	Pn		**Pn**	**14 16 13.9**	**+2.7**
ICHK	**Chekchek**	**4.86**	**83**	Pn		**Pn**	**14 16 16.4**	**+2.8**
JIR1	**Jirandeh**	**4.99**	**10**	Pn		**Pn**	**14 16 17.8**	**+2.5**
ILAS	**Lasjerd**	**5.04**	**44**	Pn		**Pn**	**14 16 17.9**	**+1.8**
IMEH	**Mehriz**	**5.05**	**93**	Pn		**Pn**	**14 16 18.8**	**+2.5**
KLST	**Kelardasht - M**	**5.10**	**22**	Pn		**Pn**	**14 16 20.4**	**+3.4**
IFIR	**Firoozkooh**	**5.11**	**40**	Pn		**Pn**	**14 16 19.7**	**+2.7**
MZPU	**Pul - Mazandar**	**5.21**	**26**	Pn		**Pn**	**14 16 21.2**	**+2.8**
IPRN	**Peran**	**5.37**	**33**	Pn		**Pn**	**14 16 23.5**	**+3.1**
IBAF	**Bafgh**	**5.84**	**90**	Pn		**Pn**	**14 16 30.9**	**+3.8**
SAKB	**Bahrain**	**6.00**	**164**	P		Pn	14 16 34.4	+5.3
SHMA	**Al-Shehemyia**	**6.23**	**161**	P		**Pn**	**14 16 35.8**	**+3.6**
IGLO	**Ghaloghah**	**6.33**	**41**	Pn		**Pn**	**14 16 36.6**	**+2.8**
SMRA	**Abu-Samra**	**7.26**	**165**	P		**Pn**	**14 16 48.7**	**+2.4**
JRN	**Qarnain Island**	**7.73**	**151**	P		**Pn**	**14 16 55.4**	**+2.6**
JRN				S		**Sn**	**14 18 21.3**	**+0.8**
SLWR	**Sila**	**8.13**	**160**	P		**Pn**	**14 17 00.7**	**+2.4**
SLWR				S		**Sn**	**14 18 30.1**	**-0.1**
SHME	**Shamm**	**8.66**	**129**	P		**Pn**	**14 17 06.8**	**+1.2**
SHME	**Shamm**	**8.66**	**129**	P		**Pn**	**14 17 07.3**	**+1.7**
SHME				S		**Sn**	**14 18 41.6**	**-1.7**
SBZV	**Sabzevar**	**8.69**	**56**	Pn		**Pn**	**14 17 08.8**	**+2.6**
RAYN	**Ar Rayn**	**8.71**	**200**	Pn		**Pn**	**14 17 05.3**	**-1.1**
RAYN	**Ar Rayn**	**8.71**	**200**	*i* P		**Pn**	**14 17 08.3**	**+1.9**
	SNR=18							
RAYN	**Ar Rayn**	**8.71**	**200**	P		**Pn**	**14 17 08.0**	**+1.7**
RAYN	**Ar Rayn**	**8.71**	**200**	P		**Pn**	**14 17 05.3**	**-1.1**
GNI	**Garni**	**8.94**	**340**	LR		LR	14 20 22.4	
	comp=Z,66nm,18.9s,baz=142,slow=37							
NAZ	**Nazwa, Dubai**	**9.12**	**136**	P		**Pn**	**14 17 13.3**	**+1.3**
NAZ	**Nazwa, Dubai**	**9.12**	**136**	P		**Pn**	**14 17 14.0**	**+2.0**
NAZ				S		**Sn**	**14 18 53.1**	**-1.7**
MASF	**Masafi**	**9.15**	**132**	P		**Pn**	**14 17 14.0**	**+1.7**
	SNR=6.1							
MASF				S		**Sn**	**14 18 52.1**	**-3.2**
MSFE	**Esma-Masafi**	**9.15**	**133**	*i* P		**Pn**	**14 17 13.7**	**+1.2**
	SNR=6.1							
ASUD	**Al Ashush, Dub**	**9.21**	**139**	P		**Pn**	**14 17 15.4**	**+2.2**
ASUD	**Al Ashush, Dub**	**9.21**	**139**	P		**Pn**	**14 17 15.9**	**+2.7**
	SNR=8.8							
ASUD				S		**Sn**	**14 18 56.2**	**-0.8**
FAQ	**Al Faqa, Dubai**	**9.27**	**137**	P		**Pn**	**14 17 16.4**	**+2.4**
FAQ	**Al Faqa, Dubai**	**9.27**	**137**	P		**Pn**	**14 17 16.0**	**+2.0**
FAQ				S		**Sn**	**14 18 54.8**	**-3.6**
MDH	**Madha**	**9.29**	**132**	*i* P		**Pn**	**14 17 15.4**	**+1.2**
	SNR=7.0							
MDH	**Madha**	**9.29**	**132**	P		**Pn**	**14 17 15.6**	**+1.4**
	SNR=7.0							
MDH				S		**Sn**	**14 18 54.9**	**-3.8**
UOSS	**Minazif**	**9.48**	**134**	Pn		**Pn**	**14 17 17.1**	**+0.2**
UOSS	**Minazif**	**9.48**	**134**	P		**Pn**	**14 17 17.1**	**+0.2**
UOSS	**Minazif**	**9.48**	**134**	P		**Pn**	**14 17 18.1**	**+1.2**
UOSS				S		**Sn**	**14 18 59.6**	**-4.0**
HATD	**Hatta, Dubai**	**9.53**	**135**	P		**Pn**	**14 17 17.8**	**+0.2**
HATD	**Hatta, Dubai**	**9.53**	**135**	P		**Pn**	**14 17 19.4**	**+1.9**
HATD				S		**Sn**	**14 19 02.4**	**-2.3**
ASHO	**Ashiyiah**	**9.59**	**136**	*i* P		**Pn**	**14 17 17.6**	**-0.8**
	SNR=10							
ASHO				S		**Sn**	**14 19 01.7**	**-4.5**
ASHO	**Ashiyiah**	**9.59**	**136**	P		**Pn**	**14 17 20.4**	**+2.0**
	SNR=11							
ASHO				S		**Sn**	**14 19 03.8**	**-2.5**
MZR	**Muzera**	**9.72**	**153**	*i* P		**Pn**	**14 17 21.5**	**+1.4**
	SNR=9.9							
MZR	**Muzera**	**9.72**	**153**	P		**Pn**	**14 17 22.3**	**+2.2**
	SNR=9.9							
GEYT	**Alibeck**	**9.86**	**49**	Pn		**Pn**	**14 17 21.0**	**-1.0**
	0.4nm,0.3s,baz=250,slow=17,SNR=2.0							
GEYT				Lg		Lg	14 20 11.9	
	0.4nm,0.3s,baz=228,slow=19,SNR=2.0							
GEYT				LR		LR	14 21 36.1	
	comp=Z,685nm,18.7s,baz=282,slow=40							
	2.7nm,0.7s							
GEYT	**Alibeck**	**9.86**	**49**	P		**Pn**	**14 17 21.0**	**-1.0**
ALNE	**Al Ain**	**9.90**	**139**	*i* P		**Pn**	**14 17 24.6**	**+2.0**
	SNR=17							
ALNE	**Al Ain**	**9.90**	**139**	P		**Pn**	**14 17 24.9**	**+2.3**
	SNR=17							
ALNE				S		**Sn**	**14 19 10.6**	**-3.2**
SOHO	**SOHO**	**10.29**	**136**	P		**Pn**	**14 17 28.1**	**+0.2**
SOHO	**SOHO**	**10.29**	**136**	P		**Pn**	**14 17 29.0**	**+1.1**
SOHO				S		**Sn**	**14 19 20.9**	**-2.4**
UMZA	**Um Al Zommool**	**10.70**	**146**	P		**Pn**	**14 17 34.7**	**+1.2**
UMZA				S		**Sn**	**14 19 30.9**	**-2.6**
ARQ	**Araqi**	**10.90**	**139**	P		**Pn**	**14 17 37.6**	**+1.3**
	SNR=9.7							
ARQ				S		**Sn**	**14 19 37.3**	**-1.0**
HOQ	**Hoqain**	**11.17**	**135**	P		**Pn**	**14 17 42.0**	**+2.0**
HOQ				S		**Sn**	**14 19 39.8**	**-5.2**
MAK	**Makhachkala**	**11

comp=Z,24nm,1.0s
ITM Ithomi 22.69 291 P **P** **14 20 00.5 -1.4**
ITM IAmb IAmb 14 20 16.2
comp=Z,21nm,1.2s
VOIR 22.86 313 P **P** **14 20 05.3 +1.5**
VOIR 22.86 313 P **P** **14 20 05.3 +1.5**
comp=Z,21nm,1.1s
KSH Kashi 23.39 63 P **P** **14 20 08.8 -0.5**
KSH sS S 14 24 25.0 +2.5
KSH pmax pmax
comp=Z,7.0nm,1.0s
AKASG Malin Array Be 23.78 328 P **P** **14 20 12.9 +0.1**
comp=Z,0.3nm,0.3s,baz=132,slow=8.8,SNR=7.0
comp=Z,0.3nm,0.3s
BUR08 Bucovina Ar. S 23.90 318 P **P** **14 20 13.9 -0.3**
LUBAR Lubar, Ukraine 23.93 325 P **P** **14 20 13.8 -0.5**
BOOM Boomskoye usch 24.09 56 P **P** **14 20 13.0 -3.1**
BOOM Boomskoye usch 24.09 56 P **P** **14 20 13.0 -3.1**
BOOM pmax pmax
comp=Z,4.0nm,1.1s
DRGR 24.94 314 P **P** **14 20 25.1 +1.5**
DRGR pmax pmax
comp=Z,6.0nm,1.4s
PUK Puka 25.11 302 P **P** **14 20 22.6 -2.6**
PUK IAmb IAmb 14 20 33.2
comp=Z,7.6nm,0.8s
BRIU Brid 25.51 318 P **P** **14 20 29.8 +1.1**
HOLU Holmets 25.98 318 P **P** **14 20 35.5 +2.6**
BVAR Borovoye Array 26.39 30 P **P** **14 20 37.1 +0.5**
comp=Z,3.8nm,0.5s,baz=226,slow=7.8,SNR=25
BVAR PcP **PcP** **14 24 02.6 +0.6**
comp=Z,0.9nm,0.6s,baz=251,slow=4.4,SNR=3.5
comp=Z,3.8nm,0.5s
CRVS Cervenica-Dubn 26.69 318 *e*P **P** **14 20 40.8 +1.4**
CRVS Cervenica-Dubn 26.69 318 *e*P **P** **14 20 40.9 +1.5**
TIP Timpagrande 26.95 295 P **P** **14 20 36.9 -5.0**
TIP IAmb IAmb 14 20 43.5
comp=Z,5.2nm,0.7s
MNK Minsk 27.12 333 *i* P **P** **14 20 42.4 -0.8**
MNK *i* P **P** **14 20 42.4 -0.8**
comp=N,12nm,0.9s
MNK *i* P **P** **14 20 42.4 -0.8**
comp=Z,13nm,0.9s,baz=138
MNK *i* PP **PnPn** **14 21 26.2 +0.2**
MNK *i* S **S** **14 25 16.3 -5.0**
MNK *i* SS **SnSn** **14 26 29.5 +1.4**
MNK *i* LQ LQ 14 29 24.7
MNK *i* LR LR 14 30 58.1
MNK *i* LRM MLR 14 32 28.9
comp=E,75nm,20.2s
MNK *i* LRM MLR 14 32 30.1
comp=N,342nm,19.3s
MNK *i* LRM MLR 14 32 35.2
comp=Z,104nm,20.0s
MNK Minsk 27.12 333 *i* P **P** **14 20 42.3 -0.8**
MNK *i* 14 21 26.1
MNK *i* S **S** **14 25 16.2 -5.0**
MNK *i* SS **SnSn** **14 26 29.4 +1.4**
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=Z,13nm,0.9s
MNK MLR MLR
comp=E,75nm,20.0s
MNK MLR MLR
comp=N,342nm,19.0s
MNK MLR MLR
comp=Z,104nm,20.0s
MORH Mrgy, Hungar 27.26 311 P **P** **14 20 45.9 +1.4**
NACGM Naroch 27.85 332 *e*P **P** **14 20 51.9 +2.2**
comp=Z,10.0nm,1.0s,baz=137
VYHS Vyhne 28.04 315 *e*P **P** **14 20 53.9 +2.3**
VYHS Vyhne 28.04 315 *e*P **P** **14 20 53.9 +2.3**
KURBB Kurchatov Arra 28.98 41 P **P** **14 21 00.9 +1.1**
comp=Z,2.5nm,0.9s,baz=243,slow=4,SNR=13
KURBB LR LR 14 34 12.7
comp=Z,145nm,20.6s,baz=188,slow=40
comp=Z,2.5nm,0.9s
KURK Kurchatov 29.08 41 P **P** **14 21 00.9 +0.2**
CONA Conrad Observa 29.65 312 *e*P **P** **14 21 06.1 +0.2**
comp=Z,4.4nm,1.5s
MKAR Makanchi Array 29.73 50 P **P** **14 21 07.1 +0.5**
comp=Z,0.6nm,0.5s,baz=238,slow=6.3,SNR=6.0
MKAR LR LR 14 34 37.2
comp=Z,136nm,18.7s,baz=272,slow=40
comp=Z,0.6nm,0.5s
NRCA Norcia 30.18 302 P P 14 21 06.2 -4.5
DPC Dobruska-Polom 30.32 317 P **P** **14 21 12.5 +0.7**
MOA Molln 30.63 312 *e*P **P** **14 21 14.2 -0.3**
comp=Z,6.1nm,1.3s
BIOA Bad Ischl, Aus 30.98 311 *i* P **P** **14 21 17.6 -0.1**
comp=Z,5.3nm,0.9s
KBA Koelnbreinsper 30.99 310 *i* P **P** **14 21 17.6 -0.3**
comp=Z,6.1nm,1.0s
GERES GERESS Array B 31.32 313 P **P** **14 21 19.9 -0.8**
comp=Z,0.5nm,0.3s,baz=134,slow=11,SNR=3.0
GERES LR LR 14 35 05.4
comp=Z,38nm,19.0s,baz=70,slow=39
comp=Z,0.5nm,0.3s
ABTA Abfaltersbach 31.45 309 *i* P **P** **14 21 21.6 -0.2**
comp=Z,1.4nm,0.5s
LESA Schwarzleotal 31.52 310 *i* P **P** **14 21 22.8 +0.3**
comp=Z,3.5nm,0.8s
ZCCA Zocca 31.97 304 P **P** **14 21 23.9 -2.4**
ZCCA IAmb IAmb 14 21 35.3
comp=Z,10nm,0.8s
WTTA Wattenberg 32.16 310 *e*P **P** **14 21 28.5 +0.3**
comp=Z,3.5nm,0.7s
WATA Walderalm 32.22 310 *e*P **P** **14 21 27.9 -0.7**
comp=Z,4.0nm,0.5s
SQTA Sankt Quirin 32.43 309 *i* P **P** **14 21 30.5 0.0**
comp=Z,4.9nm,0.6s
MOTA Moosalm 32.53 309 *i* P **P** **14 21 30.6 -0.8**
comp=Z,4.7nm,0.7s
CLL Collm 32.64 317 P **P** **14 21 29.9 -2.2**
CLL IAmb IAmb 14 21 33.1
comp=Z,2.5nm,0.5s
CLL Collm 32.64 317 *i* P **P** **14 21 31.5 -0.6**
comp=Z,3.0nm,1.0s
CLL Collm 32.64 317 *i* P **P** **14 21 31.5 -0.6**
CLL pmax pmax
comp=Z,3.0nm,1.0s
VSL Villasalto 32.68 295 P P 14 21 29.1 -3.5
FETA Feichten 32.70 309 *i* P **P** **14 21 32.3 -0.6**
comp=Z,4.6nm,0.7s
WMQ Urumqi 32.77 57 *e*P **P** **14 21 36.3 +2.9**
RETA Reutte 32.79 310 *i* P **P** **14 21 33.2 -0.4**
comp=Z,1.4nm,0.5s
MSSA Maissana 33.00 304 P **P** **14 21 32.5 -2.9**
MSSA IAmb IAmb 14 21 54.9
comp=Z,7.3nm,1.1s
FIA1 FINESS Array S 33.13 340 P **P** **14 21 35.4 -0.9**
FINES FINESS Array B 33.13 340 P **P** **14 21 34.3 -2.0**
FINES FINESS Array B 33.13 340 P **P** **14 21 36.0 -0.3**
comp=Z,1.1nm,0.4s,baz=147,slow=10,SNR=13
comp=Z,1.1nm,0.4s
FINES FINESS Array B 33.13 340 P **P** **14 21 36.0 -0.3**
DAVOX Davos/Dischmat 33.21 308 LR LR 14 36 44.5
comp=Z,53nm,18.9s,baz=84,slow=39
DAVA Damuels 33.32 309 *i* P **P** **14 21 38.3 0.0**
comp=Z,6.8nm,0.6s
ZALV Zalesovo Beam 33.95 39 P **P** **14 21 44.5 +1.0**
comp=Z,1.8nm,0.5s,baz=267,slow=9.8,SNR=8.9
ZALV LR LR 14 37 29.8
comp=Z,73nm,18.3s,baz=324,slow=40
comp=Z,1.8nm,0.5s
BNI Bardonecchia 35.10 304 P **P** **14 21 52.3 -1.5**
BNI IAmb IAmb 14 21 57.8
comp=Z,7.7nm,0.9s
BNI Bardonecchia 35.10 304 P **P** **14 21 52.3 -1.5**
BNI pmax pmax
comp=Z,8.0nm,1.0s
MBAR Mbarara 36.44 211 LR LR 14 37 30.7
comp=Z,102nm,19.0s,baz=82,slow=37
HFS Hagfors 36.59 331 P **P** **14 22 05.9 -0.2**
comp=Z,2.6nm,0.5s,baz=120,slow=10,SNR=18
comp=Z,2.6nm,0.5s
MSEY Mahe Island 36.83 169 P **P** **14 22 08.7 +0.1**
MSEY Mahe Island 36.83 169 P **P** **14 22 08.7 +0.1**
MSEY pmax pmax
comp=Z,22nm,1.0s
NB2 NORSAR Subarra 38.12 331 P **P** **14 22 17.9 -1.3**
comp=Z,7.5nm,1.4s,baz=124,slow=8.6
NOA NORSAR Array B 38.12 331 P **P** **14 22 18.1 -1.1**
comp=Z,0.4nm,0.5s,baz=124,slow=8.3,SNR=4.8
NOA LR LR 14 39 22.4
comp=Z,51nm,18.6s,baz=40,slow=38
comp=Z,0.4nm,0.5s
ARCES ARCESS Array B 40.00 348 P **P** **14 22 34.0 -0.8**
comp=Z,9.0nm,1.1s,baz=148,slow=6.0,SNR=2.5
comp=Z,9.0nm,1.1s
ARCES ARCESS Array B 40.00 348 P **P** **14 22 34.0 -0.8**
ESDC Sonseca Array 42.96 296 P **P** **14 22 59.2 -0.3**
comp=Z,0.8nm,0.7s,baz=76,slow=8.1,SNR=8.6
comp=Z,0.8nm,0.7s
EKA Eskdalemuir Ar 43.06 319 P **P** **14 22 59.6 -0.4**
comp=Z,0.5nm,0.4s,baz=106,slow=7.5,SNR=2.1
comp=Z,0.5nm,0.4s
DSB Dublin 44.61 315 P **P** **14 23 10.5 -2.1**
SONM Songino Array 46.04 52 P **P** **14 23 24.7 +0.5**
comp=Z,0.5nm,0.3s,baz=232,slow=7.1,SNR=1.5
SONM LR LR 14 44 36.1
comp=Z,93nm,19.8s,baz=266,slow=39
comp=Z,0.5nm,0.3s
PZH PanZhiHua 46.24 82 P **P** **14 23 27.0 +1.0**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,110nm,5.2s
TOA0 Torodi Ar. Sit 46.84 258 P **P** **14 23 29.4 -1.2**
TOA0 IAmb IAmb 14 23 37.1
comp=Z,11nm,1.4s
TORD Torodi Ar. Bea 46.84 258 P **P** **14 23 30.4 -0.2**
TORD IAmb IAmb 14 23 55.0
comp=Z,4.7nm,0.8s
TORD Torodi Ar. Bea 46.84 258 P **P** **14 23 31.5 +0.9**
comp=Z,3.4nm,1.0s,baz=56,slow=8.6,SNR=15
TORD LR LR 14 44 33.7
comp=Z,75nm,18.1s,baz=124,slow=38
comp=Z,3.4nm,1.0s
CMAR Chiang Mai Arr 46.99 94 P **P** **14 23 32.7 +0.9**
comp=Z,1.3nm,0.8s,baz=287,slow=8.5,SNR=8.4
CMAR LR LR 14 45 32.1
comp=Z,24nm,19.6s,baz=175,slow=39
comp=Z,1.3nm,0.8s
SPITS Spitsbergen Ar 48.60 352 P **P** **14 23 43.6 +0.1**
comp=Z,5.4nm,0.7s,baz=144,slow=10,SNR=7.6
comp=Z,5.4nm,0.7s
SPITS Spitsbergen Ar 48.60 352 P **P** **14 23 42.8 -0.7**
HHC Hu-ho-hao-te 50.48 61 *e*P **P** **14 24 00.8 +2.3**
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,71nm,5.3s
LSZ Lusaka 50.77 206 LR LR 14 46 46.5
comp=Z,91nm,18.3s,baz=175,slow=38
BORG Borgarnes 53.26 330 LR LR 14 47 16.7
comp=Z,28nm,21.0s,baz=81,slow=36
DBIC Dimbokro 55.75 255 LR LR 14 51 00.7
comp=Z,91nm,18.2s,baz=58,slow=39
TIXI Tiksi 57.09 22 LR LR 14 53 34.7
comp=Z,88nm,18.5s,baz=274,slow=41
TIXI Tiksi 57.09 22 P **P** **14 24 46.3 +0.1**
LBTB Lobatse 60.65 204 LR LR 14 53 26.8
comp=Z,77nm,18.4s,baz=33,slow=38
KLR Kul'dur 62.38 47 LR LR 14 54 15.6
comp=Z,65nm,19.3s,baz=312,slow=38
KSRS Korea Array 63.62 61 P **P** **14 25 31.3 -0.1**
comp=Z,1.1nm,0.8s,baz=286,slow=7.7,SNR=6.5
KSRS LR LR 14 56 11.4
comp=Z,29nm,19.1s,baz=285,slow=39
comp=Z,1.1nm,0.8s
BOSA Boshof 64.08 203 P **P** **14 25 36.1 +1.5**
comp=Z,3.0nm,0.9s,baz=10,slow=9.0,SNR=4.3
BOSA LR LR 14 54 38.4
comp=Z,152nm,18.3s,baz=26,slow=37
comp=Z,3.0nm,0.9s
SEY Seymchan 68.03 29 LR LR 14 58 13.0
comp=Z,48nm,18.5s,baz=18,slow=38
JOW Kunigami 68.08 71 LR LR 14 59 50.1
comp=Z,52nm,18.8s,baz=302,slow=40
ASAJ Asahikawa 71.21 49 LR LR 14 59 06.0
comp=Z,56nm,21.3s,baz=212,slow=37
MJAR Matsushiro Arr 71.53 58 LR LR 14 59 54.5
comp=Z,41nm,19.8s,baz=283,slow=38
JHJ Hachijo jima 2 74.23 61 LR LR 15 03 37.9
comp=Z,37nm,18.3s,baz=246,slow=39
PETK Petropavlovsk- 75.45 36 LR LR 15 02 20.4
comp=Z,63nm,20.1s,baz=260,slow=38
SCHQ Schefferville 77.58 328 P **P** **14 26 56.2 -0.1**
comp=Z,2.9nm,0.8s,baz=318,slow=1.2,SNR=5.4
comp=Z,2.9nm,0.8s
JCJ Chichijima 78.96 65 LR LR 15 05 46.6
comp=Z,42nm,18.6s,baz=170,slow=39
ILAR Eielson Array 82.99 7 P **P** **14 27 24.9 -0.3**
comp=Z,0.4nm,0.9s,baz=338,slow=5.8,SNR=4.9
comp=Z,0.4nm,0.9s
SHEM Shemya Is, Ala 83.33 30 LR LR 15 08 34.8
comp=Z,62nm,18.4s,baz=124,slow=39
YKA Yellowknife Ar 85.09 352 P **P** **14 27 36.0 0.0**
comp=Z,0.2nm,0.6s,baz=14,slow=6.0,SNR=3.7
comp=Z,0.2nm,0.6s
YKA Yellowknife Ar 85.09 352 P **P** **14 27 36.0 0.0**
QSPA South Pole Qui 121.62 180 PKP **PKPdf** **14 33 54.1 +0.7**
comp=Z,1.0nm,0.9s,baz=296,slow=2.7,SNR=1.9

*TEH **26** 14:24:36.8,31.94N×48.57E,h8km±111km,ML4.1*
*IDC **26** 14:24:38.0±1.1,32.16N×48.32E,h0km,mb3.7/15,*
mbtmp3.8/23,ML3.4/6,MS3.3/8, Error ellipse:
s-maj=23.1km s-min=15.0km az=176.0
*NEIC **26** 14:24:38.5±1.6,32.00N±0.07×48.41E±0.03,h10km±2km,*
mb4.4/12, Error ellipse: s-maj=12.3km s-min=3.5km
az=172.0
ISC 26 14:24:37.8±0.5,**31.88N**±0.05×**48.48E**±0.06,**h10**km,**n80,**
σ1s**61/71,mb3.8**/18,**MS3.3**/3,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.56**	**165**	Pg	**Pg**		**14 24 49.4**	**+0.7**
IKFM	**Kafar-mosalman**	**1.73**	**342**	Pg	**Pn**		**14 25 10.1**	**+2.2**
IDOB	**Yaab**	**1.92**	**353**	Pn	**Pn**		**14 25 13.1**	**+2.3**
ZNGN	**Zangian**	**2.04**	**83**	Pn	**Pn**		**14 25 13.4**	**+1.0**
IPIR	**Pirpir**	**2.20**	**68**	Pn	**Pn**		**14 25 15.0**	**+0.3**
HSAM	**Samen**	**2.33**	**3**	Pn	**Pn**		**14 25 18.3**	**+1.8**
IBRJ	**Brojen**	**2.37**	**88**	Pn	**Pn**		**14 25 18.5**	**+1.5**
IBZA	**Bozab**	**2.64**	**349**	Pn	**Pn**		**14 25 22.4**	**+1.8**
IKLH	**Kolahrood**	**2.99**	**60**	Pn	**Pn**		**14 25 25.4**	**-0.1**
HAGD	**Aghdareh**	**2.99**	**11**	Pn	**Pn**		**14 25 27.3**	**+1.8**
IGAR	**Gharneh**	**3.07**	**79**	Pn	**Pn**		**14 25 28.1**	**+1.5**
GLG1	**Gilan-e-Gharb**	**3.10**	**317**	Pn	**Pn**		**14 25 29.2**	**+2.3**
ILIN	**Lien**	**3.29**	**338**	Pn	**Pn**		**14 25 32.0**	**+2.4**
IDHR	**Dehrash**	**3.31**	**329**	Pn	**Pn**		**14 25 31.8**	**+1.9**
IQOM	**Qom**	**3.67**	**36**	Pn	**Pn**		**14 25 34.9**	**0.0**
IRAZ	**Razeghan**	**3.72**	**19**	Pn	**Pn**		**14 25 37.3**	**+1.7**
QABG	**Abgarm-Qazvin**	**3.93**	**13**	Pn	**Pn**		**14 25 39.4**	**+0.9**
ISFB	**Sefidab**	**4.01**	**51**	Pn	**Pn**		**14 25 40.3**	**+0.9**
IVRN	**Varamin**	**4.13**	**40**	Pn	**Pn**		**14 25 42.3**	**+1.3**
IDMV	**Damavand**	**4.73**	**38**	Pn	**Pn**		**14 25 50.1**	**+0.6**
KLST	**Kelaevasht - M**	**5.10**	**24**	Pn	**Pn**		**14 25 56.3**	**+1.7**
ILAS	**Lasjerd**	**5.12**	**46**	Pn	**Pn**		**14 25 54.8**	**0.0**
IFIR	**Firoozkooh**	**5.18**	**42**	Pn	**Pn**		**14 25 56.4**	**+0.8**
MZPU	**Pul - Mazandar**	**5.22**	**29**	Pn	**Pn**		**14 25 57.6**	**+1.4**
IPRN	**Peran**	**5.41**	**35**	Pn	**Pn**		**14 26 00.0**	**+1.4**
IBAF	**Bafgh**	**6.05**	**91**	Pn	**Pn**		**14 26 08.9**	**+1.4**
TPRV	**Parvadeh(Tabas**	**7.03**	**78**	Pn	**Pn**		**14 26 21.7**	**+0.7**
RAYN	**Ar Rayn**	**8.73**	**198**	Pn	**Pn**		**14 26 47.4**	**+3.2**
GNI	**Garni**	**8.79**	**341**	LR	LR		14 30 09.0	
	comp=Z,60nm,19.1s,baz=140,slow=39							
MSFE	**Esma-Masafi**	**9.36**	**132**	Pn	**Pn**		**14 26 50.2**	**-2.6**
ASUD	**Al Ashush, Dub**	**9.41**	**138**	Pn	**Pn**		**14 26 52.0**	**-1.5**
FAQ	**Al Faqa, Dubai**	**9.47**	**137**	Pn	**Pn**		**14 26 52.7**	**-1.6**
UOSS	**Minazif**	**9.69**	**134**		**Pn**		**14 26 59.8**	**+2.5**
UOSS	**Minazif**	**9.69**	**134**	Pn	**Pn**		**14 26 56.1**	**-1.2**
HATD	**Hatta, Dubai**	**9.73**	**134**	Pn	**Pn**		**14 26 56.4**	**-2.5**
ASHO	**Ashiyiah**	**9.80**	**135**	Pn	**Pn**		**14 26 56.7**	**-2.1**
ASHO					Sn	**Sn**	**14 28 49.5**	**+0.6**
GEYT	**Alibeck**	**9.95**	**50**	Pn	**Pn**		**14 27 00.7**	**-0.2**
GEYT	**Alibeck**	**9.95**	**50**	Pn	**Pn**		**14 27 01.2**	**+0.2**
	0.4nm,0.3s,baz=253,slow=15,SNR=3.3							
GEYT					Lg	Lg	14 29 54.0	
	0.2nm,0.3s,baz=233,slow=14,SNR=1.4							
GEYT					LR	LR	14 31 45.6	
	comp=Z,581nm,19.4s,baz=275,slow=43							
	1.7nm,0.7s							
GYA0B	**ALIBECK ARRAY**	**9.95**	**50**	Pn	Pn		14 26 59.6	-1.3
ALNE	**Al Ain**	**10.10**	**139**	Pn	**Pn**		**14 27 00.3**	**-2.6**
MMAI	**Mount Meron Ar**	**11.10**	**279**	Pn	**Pn**		**14 27 15.9**	**-0.8**
	0.8nm,0.3s,baz=84,slow=16,SNR=2.1							
MMAI					Lg	Lg	14 30 30.4	
	0.3nm,0.3s,baz=100,slow=36,SNR=2.1							
	1.7nm,0.9s							
HRA	**Herat**	**11.81**	**74**	Pn	**Pn**		**14 27 28.1**	**+1.5**
EIL	**Elat**	**11.84**	**263**	Pn	**Pn**		**14 27 26.9**	**+0.1**
	0.1nm,0.3s,baz=78,slow=18,SNR=2.0							
EIL					Lg	Lg	14 30 51.3	
	0.3nm,0.3s,baz=91,slow=20,SNR=1.8							
EIL					LR	LR	14 33 16.8	
	comp=Z,149nm,18.8s,baz=74,slow=44							
	4.0nm,1.0s							
BNN	**Bunyan**	**12.43**	**308**	Pn	Pn		14 27 33.1	-1.8
WSAR	**Wadi Sarin**	**12.45**	**131**	Pn	Pn		14 27 41.8	+6.7
	0.6nm,0.3s,baz=342,slow=10,SNR=8.4							
WSAR					LR	LR	14 33 56.3	
	comp=Z,59nm,18.6s,baz=338,slow=44							
	3.6nm,0.5s							
KBZ	**Khabaz**	**12.62**	**341**	LR	LR		14 32 21.1	
	comp=Z,74nm,18.4s,baz=158,slow=38							
KVAR	**Kislovodsk Arr**	**12.89**	**341**	Pn	**Pn**		**14 27 42.9**	**+1.7**
	1.3nm,0.3s,baz=120,slow=20							
BRTR	**Keskin Array B**	**14.35**	**307**	Pn	**Pn**		**14 28 00.7**	**-0.4**
	baz=125,slow=12,SNR=2.9							
BRTR					LR	LR	14 34 55.4	
	comp=Z,62nm,19.4s,baz=140,slow=44							
	0.5nm,0.8s							
AKTO	**Aktyubinsk**	**19.85**	**18**	P	**P**		**14 29 09.4**	**+0.6**
	0.2nm,0.3s,baz=193,slow=9.2,SNR=2.2							
	1.2nm,0.5s							
IDI	**Anoyia**	**19.93**	**286**	P	**P**		**14 29 10.1**	**+0.2**
	13nm,0.9s,baz=39,slow=14,SNR=2.0							
BELG	**Belogornoye**	**20.51**	**359**	P	**P**		**14 29 15.8**	**-0.1**
	11nm,0.5s,baz=203,slow=7.0,SNR=2.0							
	11nm,0.5s							
ATD	**Arta Tunnel**	**20.90**	**196**	P	**P**		**14 29 17.6**	**-3.0**
ATD					IAmb	IAmb	14 29 21.5	
	comp=Z,18nm,1.0s							
ATD	**Arta Tunnel**	**20.90**	**196**	LR	LR		14 38 31.0	
	comp=Z,4.5nm,18.5s,baz=6.5,slow=39							
MLR	**Muntele Rosu**	**22.13**	**314**	P	**P**		**14 29 31.4**	**-2.3**
	comp=Z,1.0nm,0.4s,baz=156,slow=18,SNR=1.3							
	comp=Z,1.0nm,0.4s							
AAK	**Ala-Archa**	**23.24**	**55**	LR	LR		14 40 21.2	
	comp=Z,261nm,18.7s,baz=282,slow=41							
KSH	**Kashi**	**23.54**	**63**	P	**P**		**14 29 46.0**	**-2.3**
AKASG	**Malin Array Be**	**23.60**	**328**	P	**P**		**14 29 46.6**	**-2.0**
	comp=Z,0.1nm,0.2s,baz=134,slow=8.2,SNR=2.1							
	comp=Z,0.1nm,0.2s							
KIEV	**Kiev**	**23.60**	**328**	P	**P**		**14 29 45.9**	**-2.8**
KIEV					IAmb	IAmb	14 30 04.4	
	comp=Z,14nm,1.5s							
BUR08	**Bucovina Ar. S**	**23.70**	**318**	P	**P**		**14 29 49.6**	**-0.2**
TIR	**Tirane**	**24.74**	**301**	P	**P**		14 29 54.5	-4.9
BVAR	**Borovoye Array**	**26.41**	**30**	P	**P**		**14 30 12.8**	**-1.7**
	comp=Z,1.1nm,0.5s,baz=225,slow=7.6,SNR=7.1							
BVAR					LR	LR	14 43 06.7	
	comp=Z,83nm,19.3s,baz=239,slow=42							
	comp=Z,1.1nm,0.5s							
TIP	**Timpagrande**	**26.73**	**295**	P	**P**		**14 30 15.6**	**-1.9**
TIP					IAmb	IAmb	14 30 32.4	
	comp=Z,5.9nm,1.0s							
PSZ	**Piszkesteto**	**26.95**	**315**	P	**P**		**14 30 17.0**	**-2.4**
KURBB	**Kurchatov Arra**	**29.05**	**41**	P	**P**		**14 30 37.5**	**-0.6**
	comp=Z,0.5nm,0.8s,baz=244,slow=9.5,SNR=3.3							
	comp=Z,0.5nm,0.8s							
PABE	**Paberze**	**29.24**	**331**	P	P		14 30 36.7	-2.9
MKAR	**Makanchi Array**	**29.83**	**50**	P	**P**		**14 30 46.6**	**+1.6**
	comp=Z,0.2nm,0.5s,baz=246,slow=9.9,SNR=1.5							
	comp=Z,0.2nm,0.5s							
CTI	**Castel Tesino**	**31.63**	**307**	P	**P**		**14 30 59.9**	**-1.1**
ZCCA	**Zocca**	**31.75**	**304**	P	**P**		**14 31 01.1**	**-0.9**
CLL	**Collm**	**32.43**	**317**	*i* P	P		14 31 05.4	-2.5
FINES	**FINESS Array B**	**32.98**	**340**	P	**P**		**14 31 12.2**	**-0.3**
	comp=Z,0.6nm,0.4s,baz=139,slow=10,SNR=4.2							
	comp=Z,0.6nm,0.4s							
ZALV	**Zalesovo Beam**	**34.01**	**39**	P	**P**		**14 31 22.4**	**+0.9**
	comp=Z,0.4nm,0.4s,baz=236,slow=8.4,SNR=1.7							
	comp=Z,0.4nm,0.4s							
BNI	**Bardonecchia**	**34.89**	**304**	P	**P**		**14 31 29.1**	**-0.4**
BNI					IAmb	IAmb	14 31 44.6	
	comp=Z,9.3nm,1.3s							
HFS	**Hagfors**	**36.42**	**331**	P	**P**		**14 31 41.4**	**-0.9**
	comp=Z,2.9nm,0.9s,baz=113,slow=11,SNR=9.7							
	comp=Z,2.9nm,0.9s							
NOA	**NORSAR Array B**	**37.94**	**331**	P	**P**		**14 31 53.9**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=123,slow=8.3,SNR=1.5							
	comp=Z,0.2nm,0.6s							
ESDC	**Sonseca Array**	**42.74**	**296**	P	**P**		**14 32 35.1**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=74,slow=8.2,SNR=1.9							
	comp=Z,0.3nm,0.5s							
EKA	**Eskdalemuir Ar**	**42.86**	**319**	P	**P**		**14 32 35.4**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=104,slow=8.1,SNR=2.2							
	comp=Z,1.3nm,0.9s							
TOA0	**Torodi Ar. Sit**	**46.66**	**257**	P	**P**		**14 33 05.8**	**-1.0**
TOA0					IAmb	IAmb	14 33 22.1	
	comp=Z,6.3nm,1.3s							
TORD	**Torodi Ar. Bea**	**46.66**	**257**	P	**P**		**14 33 07.6**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=56,slow=7.8,SNR=7.8							
	comp=Z,1.0nm,0.9s							
CMAR	**Chiang Mai Arr**	**47.20**	**94**	P	**P**		**14 33 14.1**	**+3.1**
	comp=Z,0.4nm,0.4s,baz=289,slow=8.4,SNR=1.3							
	comp=Z,0.4nm,0.4s							
SPITS	**Spitsbergen Ar**	**48.48**	**352**	P	**P**		**14 33 19.4**	**-0.7**
	comp=Z,8.8nm,1.0s,baz=132,slow=5.7,SNR=1.5							
	comp=Z,8.8nm,1.0s							

*IDC **26** 14:31:18.4±2.5,26.00S×29.11E,h0km,mb3.5/1,*
mbtmp3.4/6,ML2.7/4, Error ellipse: s-maj=27.6km
s-min=16.6km az=124.0
*EAF **26** 14:31:22.3±0.9,25.30S×29.27E,h0km±482km,MD3.3*
*BUL **26** 14:31:30.1±2.3,25.49S×29.38E,h10km±119km,MD3.4*
ISC 26 14:31:18.1±1.2,**26.04S**±0.06×**29.17E**±0.09,**h3**km,**n19,**
σ2s**11/21,South Africa**

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
MOPA	**Mopani**	**3.22**	**39**	*i* P	**Pn**		**14 32 10.8**	**+1.1**
MOPA	**Mopani**	**3.22**	**39**	*i* P	Pn		14 32 05.1	-4.6
LBTB	**Lobatse**	**3.39**	**287**	*i* P	**Pb**		**14 32 20.8**	**+2.0**
LBTB	**Lobatse**	**3.39**	**287**	Pn	**Pn**		**14 32 13.8**	**+1.8**
	0.4nm,0.3s,baz=102,slow=6.4,SNR=8.2							
LBTB					Pg	**Pb**	**14 32 19.4**	**+0.6**
	3.2nm,0.3s,baz=113,slow=17,SNR=34							
LBTB					Sn	**Sn**	**14 32 51.9**	**-0.8**
	3.6nm,0.3s,baz=101,slow=14,SNR=5.0							
LBTB					Lg	Lg	14 33 03.5	
	14nm,0.3s,baz=197,slow=19,SNR=27							
	3.3nm,0.7s							
LBTB	**Lobatse**	**3.39**	**287**	*i* P	**Pn**		**14 32 15.1**	**+3.1**
MUSN	**Musina, Limpop**	**3.79**	**10**	*i* P	**Pn**		**14 32 20.6**	**+3.2**
MUSN	**Musina, Limpop**	**3.79**	**10**	*i* P	Pn		14 32 11.0	-6.4
BOSA	**Boshof**	**4.33**	**233**	*i* P	**Pg**		**14 32 40.5**	**-0.5**
BOSA	**Boshof**	**4.33**	**233**	Pn	**Pn**		**14 32 24.8**	**-0.2**
	0.1nm,0.3s,baz=57,slow=14,SNR=2.1							
BOSA					Pg	**Pb**	**14 32 37.2**	**+2.3**
	0.5nm,0.3s,baz=51,slow=17,SNR=8.6							
BOSA					Sn	**Sn**	**14 33 16.8**	**+0.8**
	0.6nm,0.3s,baz=35,slow=18,SNR=1.6							
BOSA					Lg	Lg	14 33 34.5	
	23nm,0.3s,baz=325,slow=19,SNR=24							
	1.7nm,0.9s							
BOSA	**Boshof**	**4.33**	**233**	*i* P	**Pb**		**14 32 36.5**	**+1.7**
MATP	**Matopo**	**5.62**	**354**	*i* P	**Pn**		**14 32 43.0**	**+0.2**
MATP	**Matopo**	**5.62**	**354**	Pn	**Pn**		**14 32 42.8**	**+0.1**

TORD	**Torodi Ar. Bea**	**47.25**	**322**	P		**P**	**14 39 53.1**	**+0.3**
	0.5nm,0.7s,baz=138,slow=7.4,SNR=2.5							
	0.5nm,0.7s							

ROM 26 14:40:48.1±0.1, 44°145'N±0'007×11°363'E±0'007, h10km, Md1.9/1, ML0.9/12, 1C-2D, Error ellipse: s-maj=0.9km s-min=0.3km az=332.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNVD	**Fontana Vidola**	**0.17**	**277**	P	Pg	14 40 52.3	+0.4
FNVD				AML	AML		
	comp=E,138μm,0.5s						
FNVD				AML	AML		
	comp=N,144μm,0.1s						
FNVD				AML	AML		
	comp=E,138μm,0.5s						
FNVD				AML	AML		
	comp=E,110μm,0.1s						
FNVD				AML	AML		
	comp=N,144μm,0.1s						
MOCL	**Monte Cuccoli**	**0.19**	**223**	⇓P	Pg	14 40 52.9	+0.7
MOCL				S	Sg	14 40 56.2	+1.2
MOCL				AML	AML		
	comp=E,34μm,0.3s						
MOCL				AML	AML		
	comp=N,47μm,0.3s						
MOCL				END			
MTRZ	**Monterenzio**	**0.24**	**18**	P	Pg	14 40 52.6	-0.5
LMD	**Lutirano**	**0.26**	**105**	P	Pg	14 40 53.6	+0.2
LMD				S	Sb	14 40 58.2	-1.1
LMD				AML	AML		
	comp=E,20μm,1.5s						
LMD				AML	AML		
	comp=N,19μm,1.2s						
LMD				AML	AML		
	comp=E,19μm,0.4s						
LMD				AML	AML		
	comp=N,17μm,0.1s						
MPPT	**Montemurlo**	**0.27**	**226**	⇓P	Pg	14 40 54.3	+0.7
MPPT				S	Sb	14 40 58.7	-1.1
MPPT				AML	AML		
	comp=E,21μm,0.2s						
MPPT				AML	AML		
	comp=N,15μm,1.0s						
MPPT				AML	AML		
	comp=E,21μm,0.2s						
MPPT				AML	AML		
	comp=N,15μm,1.0s						
MPPT				AML	AML		
	comp=N,15μm,1.0s						
MPPT				AML	AML		
	comp=E,21μm,0.2s						
MPPT				AML	AML		
	comp=N,15μm,0.5s						
MTCR	**Monte La Croce**	**0.29**	**246**	⇑P	Pg	14 40 54.5	+0.5
MTCR				S	Sg	14 40 59.0	+1.2
MTCR				AML	AML		
	comp=E,56μm,0.3s						
MTCR				AML	AML		
	comp=N,31μm,0.7s						
MTCR				AML	AML		
	comp=E,56μm,0.3s						
MTCR				AML	AML		
	comp=N,31μm,0.7s						
MTCR				AML	AML		
	comp=N,40μm,14.8s						
MTCR				AML	AML		
	comp=E,56μm,0.3s						
SFI	**Santa Sofia**	**0.42**	**124**	P	Pg	14 40 56.7	+0.3
SFI				S	Sb	14 41 03.5	-0.6
SFI				AML	AML		
	comp=N,14μm,6.2s						
SFI				AML	AML		
	comp=E,13μm,3.0s						
SFI				AML	AML		
	comp=E,134μm,1.7s						
SFI				AML	AML		
	comp=N,126μm,3.1s						
CRMI	**Carmignano**	**0.46**	**219**	P	Pg	14 40 57.1	+0.1
CRMI				S	Sb	14 41 04.8	-0.2

ROM 26 14:41:16.5±0.1, 45°788N±0'004×10°835E±0'004, h9km, ML2.0/30, 5C-2D, Error ellipse: s-maj=0.3km s-min=0.3km az=277.0, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VARA	**Varagna**	**0.06**	**49**	⇑*e*Pg	Pg	14 41 19.0	+0.3
VARA				*e*Sg	Sg	14 41 20.1	0.0
VARA	**Varagna**	**0.06**	**49**	P	Pg	14 41 19.0	+0.3
VARA				S	Sg	14 41 20.1	0.0
VARA				AML	AML		
	comp=E,5045μm,0.1s						
VARA				AML	AML		
	comp=N,6195μm,0.5s						
VARA				AML	AML		
	comp=E,6310μm,0.3s						
VARA				AML	AML		
	comp=N,6200μm,0.5s						
VARA				AML	AML		
	comp=N,4975μm,0.1s						
VARA				AML	AML		
	comp=N,6200μm,1.5s						
VARA				AML	AML		
	comp=E,5040μm,0.1s						
MBAL	**Monte Baldo -**	**0.09**	**169**	P	Pg	14 41 19.3	+0.3
MBAL				S	Sg	14 41 20.7	0.0
MBAL				AML	AML		
	comp=E,4460μm,0.1s						
MBAL				AML	AML		
	comp=N,3515μm,0.1s						
BALD	**Monte Baldo**	**0.11**	**186**	⇑*e*Pg	Pg	14 41 19.6	+0.4
BALD				*e*Sg	Sg	14 41 21.4	+0.3
MAGA	**Magasa**	**0.14**	**265**	P	Pg	14 41 20.5	+0.7
MAGA				S	Sg	14 41 22.8	+0.8
MAGA				AML	AML		
	comp=E,1220μm,1.6s						
MAGA				AML	AML		
	comp=N,1200μm,0.2s						
MAGA				AML	AML		
	comp=E,1220μm,0.4s						
GARGN	**Gargnano BS**	**0.16**	**231**	⇑*e*Pg	Pg	14 41 20.4	+0.5
GARGN				*e*Sg	Sg	14 41 22.8	+0.6
ZEN8	**San Zeno di Mo**	**0.17**	**206**	P	Pg	14 41 20.6	+0.5
ZEN8				S	Sg	14 41 23.2	+0.7
LUSI	**Trento, Gardas**	**0.19**	**24**	P	Pg	14 41 21.1	+0.7
LUSI				S	Sg	14 41 24.1	+0.9
LUSI				AML	AML		
	comp=N,589μm,0.3s						
LUSI				AML	AML		
	comp=E,472μm,0.4s						
ROVR	**Rover Verones**	**0.22**	**130**	P	Pg	14 41 21.7	+0.7
ROVR				S	Sg	14 41 25.9	+1.8
RONC	**Roncone**	**0.24**	**322**	⇓*e*Pg	Pg	14 41 22.3	+0.8
RONC				*e*Sg	Sg	14 41 26.0	+1.1
RONC	**Roncone**	**0.24**	**322**	P	Pg	14 41 22.3	+0.8
RONC				S	Sg	14 41 26.1	+1.3
RONC				AML	AML		
	comp=E,425μm,1.2s						
RONC				AML	AML		
	comp=E,425μm,0.8s						
RONC				AML	AML		
	comp=N,296μm,0.2s						
DOSS	**Dosso del Somm**	**0.26**	**69**	⇑*e*Pg	Pg	14 41 22.7	+0.8
DOSS				*e*Sg	Sg	14 41 26.5	+1.0
DOSS	**Dosso del Somm**	**0.26**	**69**	P	Pg	14 41 22.6	+0.7
DOSS				S	Sg	14 41 26.8	+1.3
DOSS				AML	AML		
	comp=E,531μm,0.6s						
DOSS				AML	AML		
	comp=E,341μm,1.5s						
DOSS				AML	AML		
	comp=N,477μm,0.6s						
DOSS				AML	AML		
	comp=N,370μm,0.5s						
DOSS				AML	AML		
	comp=E,341μm,0.5s						
DOSS				AML	AML		
	comp=N,477μm,1.4s						
DOSS				AML	AML		
	comp=E,531μm,1.4s						
GAVI	**Passo Gaver BS**	**0.29**	**297**	*e*Pg	Pg	14 41 23.2	+0.7
GAVI				*e*Sg	Sg	14 41 27.8	+1.4
MARN	**Marana (Italy)**	**0.30**	**120**	⇓*e*Pg	Pg	14 41 23.3	+0.7
MARN				*e*Sg	Sg	14 41 27.7	+1.1
GAGG	**Gaggia**	**0.31**	**16**	*e*Pg	Pg	14 41 23.3	+0.5
GAGG				*e*Sg	Sg	14 41 28.0	+1.1
GAGG	**Gaggia**	**0.31**	**16**	P	Pg	14 41 23.5	+0.8
GAGG				S	Sb	14 41 28.8	-0.8
GAGG				AML	AML		
	comp=E,90μm,0.8s						
GAGG				AML	AML		
	comp=N,72μm,1.5s						
GAGG				AML	AML		
	comp=N,72μm,0.5s						
MABI	**Malga Bissina**	**0.35**	**320**	P	Pg	14 41 24.1	+0.6
MABI				S	Sg	14 41 29.3	+1.2
MABI				AML	AML		
	comp=E,40μm,0.3s						
MABI				AML	AML		
	comp=N,40μm,0.6s						
PANI	**Panarotta**	**0.44**	**53**	⇑*e*Pg	Pb	14 41 25.9	-0.6
PANI				*e*Sg	Sg	14 41 32.0	+1.1
PANI	**Panarotta**	**0.44**	**53**	P	Pb	14 41 25.9	-0.7
PANI				S	Sb	14 41 32.1	-1.2
PANI				AML	AML		
	comp=E,58μm,1.0s						
PANI				AML	AML		
	comp=N,54μm,1.0s						
PANI				AML	AML		
	comp=E,58μm,1.0s						
OZOL	**Ozolo**	**0.64**	**14**	*e*Pg	Pb	14 41 29.4	-0.5
CARE	**Lago del Cares**	**0.65**	**351**	*e*Pg	Pg	14 41 29.3	+0.2
CARE	**Lago del Cares**	**0.65**	**351**	P	Pb	14 41 29.7	-0.5
CARE				S	Sb	14 41 38.6	-0.9
CGRP	**Cima Grappa**	**0.68**	**82**	*e*Pg	Pg	14 41 30.1	+0.4
ZIAN	**Ziano**	**0.70**	**46**	*e*Pg	Pb	14 41 30.9	-0.2
FETA	**Feichten**	**1.23**	**357**	*e*Pg	Pg	14 41 41.4	+1.2
	comp=E,0.2nm,0.1s						
FETA				*e*Sg	Sn	14 41 57.2	0.0
	comp=E,0.4nm,0.1s						
SQTA	**Sankt Quirin**	**1.46**	**10**	*i* Pn	Pn	14 41 43.5	+0.3
	comp=E,2.5nm,0.3s						
SQTA				*e*Sg	Sg	14 42 04.5	+1.1
	comp=E,3.2nm,0.3s						
ABTA	**Abfaltersbach**	**1.51**	**50**	*e*Pg	Pg	14 41 45.8	+0.3
	comp=E,0.4nm,0.1s						
ABTA				*e*Sg	Sg	14 42 07.2	+2.2
	comp=E,1.5nm,0.2s						
WTTA	**Wattenberg**	**1.58**	**20**	*e*Pg	Pg	14 41 47.2	+0.4
	comp=E,0.8nm,0.1s						
WTTA				*e*Sg	Sg	14 42 07.7	+0.4
	comp=E,1.7nm,0.2s						
WATA	**Walderalm**	**1.63**	**18**	*i* Pg	Pg	14 41 47.5	-0.3
	comp=E,0.8nm,0.2s						
WATA				*e*Sg	Sg	14 42 09.2	+0.3
	comp=E,2.7nm,0.3s						
DAVA	**Damuels**	**1.64**	**337**	*e*Pg	Pb	14 41 47.5	+0.5
	comp=E,0.6nm,0.2s						
DAVA				*e*Sg	Sg	14 42 10.5	+1.3
	comp=E,1.4nm,0.2s						
LESA	**Schwarzleotal**	**2.07**	**37**	*e*Pg	Pg	14 41 55.6	-0.6
	comp=E,0.7nm,0.2s						
LESA				*e*Sg	Sg	14 42 23.2	+0.1
	comp=E,1.7nm,0.3s						

IDC 26 14:53:04.5±3.8, 8°98S×113°85E, h0km, mb3.2/3, mbtmp3.2/3, MS3.0/1, Error ellipse: s-maj=237.4km s-min=28.6km az=47.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LEM	**Lembang**	**6.53**	**289**	LR	LR	14 57 49.4	
	comp=Z,159nm,21.3s,baz=122,slow=44						
WRA	**Warramunga Arr**	**22.61**	**121**	P	P	14 58 07.2	+0.1
	0.2nm,0.5s,baz=300,slow=12,SNR=8.5						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**24.11**	**130**	P	P	14 58 22.2	0.0
	0.2nm,0.3s,baz=305,slow=9.1,SNR=6.7						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**62.24**	**336**	P	P	15 03 28.0	-0.1
	0.2nm,0.4s,baz=140,slow=6.4,SNR=2.1						
	0.2nm,0.4s						

*NEIC **26** 14:53:19.6±1.1, 18°.6N±0°.2×68°.74W±0°.08, h125km±6km, ML2.9/20, Md3.2/10(RSPR), Error ellipse: s-maj=34.3km s-min=9.5km az=187.0*
*RSPR **26** 14:53:19.7, 18°.74N×68°.77W, h122km±2km, MD3.1/10*
*OSPL **26** 14:53:20.7±1.3, 19°.07N×68°.79W, h109km±25km, ML3.1*
*SDD **26** 14:53:22.8±3.5, 18°.07N×68°.68W, h98km±26km, MD3.3, ML2.9, MW3.7*

ISC 26 14:53:20.9±1.6, 18°4N±0°2×68°73W±0°04, h114km±10km, n41, σ0°94/50, 12C-9D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HIDR	**Higuey Centro**	**0.18**		3⇑*e*Pg	Pn	**14 53 35.9**	**-0.8**
HIDR				⇑*e*Sg	Sn	**14 53 48.5**	**-0.1**
HIDR				IAML		14 53 50.1	
	comp=N,592nm,0.1s						
PCDR	**Punta Cana, DR**	**0.34**	**73**	⇓*e*P	Pn	**14 53 36.9**	**-0.4**
PCDR	**Punta Cana, DR**	**0.34**	**73**		Pn	**14 53 36.9**	**-0.4**
PCDR					Sn	**14 53 50.8**	**+1.2**
PCDR	**Punta Cana, DR**	**0.34**	**73**	IAML		14 53 52.3	
	comp=N,246nm,0.9s						
PCDR	**Punta Cana, DR**	**0.34**	**73**	⇓*e*Pg	Pn	**14 53 36.7**	**-0.6**
PCDR				*e*Sg	Sn	**14 53 50.0**	**+0.4**
PCDR				IAML		14 53 52.1	
	comp=N,226nm,1.1s						
PCDR	**Punta Cana, DR**	**0.34**	**73**	*i* P	Pn	**14 53 37.0**	**-0.3**
PCDR				*e*S	Sn	**14 53 50.8**	**+1.2**
PCDR				IAML		14 53 52.1	
	comp=N,226nm,1.1s						
SMDR	**Samana, DR**	**0.97**	**333**	⇓*e*Pg	Pn	14 53 43.1	+1.0
SMDR				⇓*e*Sg	Sn	14 54 01.4	+3.2
SMDR				IAML		14 54 02.7	
	comp=N,65nm,0.2s						
NADR	**Nagua**	**1.42**	**311**	⇓*e*Sg	Sn	14 54 13.0	+6.3
NADR				IAML		14 54 13.8	
	comp=N,581nm,0.3s						
PRSN	**Puerto Rico Se**	**1.52**	**97**	Pn	**Pn**	**14 53 47.9**	**-0.2**
PRSN				IAML		14 54 17.9	
	comp=N,187nm,0.3s						
PRSN				IAML		14 54 19.9	
	comp=E,133nm,0.3s						
AGPR	**Aguadilla, PR**	**1.54**	**88**	⇓*e*P	**Pn**	**14 53 48.2**	**-0.1**
AGPR	**Aguadilla, PR**	**1.54**	**88**		**Pn**	**14 53 48.2**	**-0.1**
AGPR					Sn	**14 54 09.5**	**+0.3**
AGPR	**Aguadilla, PR**	**1.54**	**88**	IAML		14 54 13.6	
	comp=N,132nm,1.2s						
AGPR				IAML		14 54 14.1	
	comp=E,159nm,0.5s						
AGPR	**Aguadilla, PR**	**1.54**	**88**	⇓*e*Pg	**Pn**	**14 53 48.0**	**-0.3**
AGPR				*e*Sg	Sn	**14 54 06.8**	**-2.4**
AGPR				IAML		14 54 13.6	
	comp=N,92nm,0.1s						
AGPR	**Aguadilla, PR**	**1.54**	**88**	*i* P	**Pn**	**14 53 48.2**	**-0.1**
AGPR				*e*S	Sn	**14 54 09.6**	**+0.4**
AGPR				IAML		14 54 19.7	
	comp=Z,49nm,0.7s						
LSP	**Las Mesas**	**1.58**	**98**	⇓*e*P	**Pn**	**14 53 48.8**	**-0.1**
LSP	**Las Mesas**	**1.58**	**98**	*e*S	Sn	**14 54 10.4**	**+0.3**
LSP	**Las Mesas**	**1.58**	**98**		**Pn**	**14 53 48.8**	**-0.1**
LSP					Sn	**14 54 10.4**	**+0.3**
MLPR	**Magueyes Islan**	**1.66**	**105**	⇑*e*P	**Pn**	**14 53 49.0**	**-0.9**
MLPR	**Magueyes Islan**	**1.66**	**105**	*e*S	Sn	**14 54 13.9**	**+2.0**
MLPR	**Magueyes Islan**	**1.66**	**105**		**Pn**	**14 53 49.0**	**-0.9**
MLPR					Sn	**14 54 13.9**	**+2.0**
AOPR	**Arecibo Observ**	**1.88**	**92**	⇑*e*P	**Pn**	**14 53 52.1**	**-0.4**
AOPR	**Arecibo Observ**	**1.88**	**92**	*e*S	Sn	**14 54 17.2**	**+0.5**
AOPR	**Arecibo Observ**	**1.88**	**92**		**Pn**	**14 53 52.1**	**-0.4**
AOPR					Sn	**14 54 17.2**	**+0.5**
AOPR	**Arecibo Observ**	**1.88**	**92**	⇑*e*Pg	**Pn**	**14 53 52.1**	**-0.4**
AOPR				⇓*e*Sg	Sn	**14 54 15.8**	**-0.9**
AOPR				IAML		14 54 21.4	
	comp=N,162nm,0.2s						
UUPR	**Utuado, UPR, P**	**1.91**	**95**	⇓*e*P	**Pn**	**14 53 53.0**	**+0.1**
UUPR	**Utuado, UPR, P**	**1.91**	**95**	*e*S	Sn	**14 54 17.3**	**-0.2**
UUPR	**Utuado, UPR, P**	**1.91**	**95**		**Pn**	**14 53 53.0**	**+0.1**
UUPR					Sn	**14 54 17.3**	**-0.2**
OBIP	**Obispado Ponce**	**2.05**	**100**	⇑*e*P	**Pn**	**14 53 55.1**	**+0.4**
OBIP	**Obispado Ponce**	**2.05**	**100**		**Pn**	**14 53 55.1**	**+0.4**
CELP	**Cerrillos**	**2.07**	**99**	⇑*e*P	**Pn**	**14 53 54.1**	**-0.9**
CELP	**Cerrillos**	**2.07**	**99**	*e*S	Sn	**14 54 21.5**	**+0.5**
CELP	**Cerrillos**	**2.07**	**99**		**Pn**	**14 53 54.1**	**-0.9**
CELP					**Sn**	**14 54 21.5**	**+0.5**
CELP	**Cerrillos**	**2.07**	**99**	IAML		14 54 26.3	
	comp=N,44nm,0.4s						
CELP				IAML		14 54 27.4	
	comp=E,37nm,0.4s						
CELP	**Cerrillos**	**2.07**	**99**	⇑*e*Pg	**Pn**	**14 53 53.7**	**-1.2**
CELP				IAML		14 54 24.5	
	comp=N,41nm,0.7s						
EMPR	**Esperanza - Ma**	**2.09**	**88**	⇑*e*P	**Pn**	**14 53 55.1**	**0.0**
EMPR	**Esperanza - Ma**	**2.09**	**88**	*e*S	**Sn**	**14 54 21.0**	**-0.3**
EMPR	**Esperanza - Ma**	**2.09**	**88**		**Pn**	**14 53 55.1**	**0.0**
EMPR					**Sn**	**14 54 21.0**	**-0.3**
EMPR	**Esperanza - Ma**	**2.09**	**88**	IAML		14 54 44.0	
	comp=E,113nm,2.0s						
LOBA2	**Hotel Casa Bon**	**2.27**	**262**	⇓*e*Pg	**Pn**	**14 53 57.4**	**-0.1**
LOBA2				⇑*e*Sg	**Sn**	**14 54 24.1**	**-1.4**
SDDR	**Presa de Saban**	**2.49**	**283**	Pn	**Pn**	**14 53 58.7**	**-1.7**
SDDR				IAML		14 54 38.1	
	comp=E,32nm,0.9s						
SDDR				IAML		14 54 40.6	
	comp=E,27nm,0.8s						
SDDR	**Presa de Saban**	**2.49**	**283**	*e*Pg	**Pn**	**14 54 03.4**	**+3.1**
SDDR				IAML		14 54 39.7	
	comp=N,23nm,0.8s						

IDC 26 14:54:07.3±7.2, 18°72S×178°50W, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=314.6km s-min=39.8km az=144.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.41**	**260**	P	P	15 02 20.2	0.0
	0.1nm,0.3s,baz=97,slow=7.6,SNR=7.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**44.50**	**255**	P	P	15 02 20.6	-0.3
	0.1nm,0.5s,baz=87,slow=7.7,SNR=7.1						
	0.1nm,0.5s						
ILAR	**Eielson Array**	**86.69**	**13**	P	P	15 06 52.5	0.0
	0.5nm,1.1s,baz=225,slow=5.9,SNR=4.1						
	0.5nm,1.1s						

*IDC **26** 15:12:14.7±0.9, 20°.18N×121°.42E, h0km, mb3.7/8, mbtmp3.8/9, ML4.0/1, MS3.1/6, Error ellipse: s-maj=34.2km s-min=17.6km az=73.0*

ISC 26 15:12:20.2±1.0, 20°2N±0°1×121°4E±0°2, h40km, n20, σ0°79/10, mb3.5/8, MS3.1/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**6.08**	**185**	LR	LR	15 16 34.4	
	comp=Z,71nm,19.7s,baz=330,slow=43						
JOW	**Kunigami**	**9.11**	**42**	Pn	**Pn**	**15 14 29.5**	**+0.3**
	3.7nm,0.3s,baz=200,slow=14,SNR=12						
	6.6nm,0.3s						
DAV	**Davao City (W)**	**13.66**	**162**	LR	LR	15 21 03.2	
	comp=Z,89nm,18.6s,baz=347,slow=39						
CMAR	**Chiang Mai Arr**	**21.29**	**269**	LR	LR	15 26 41.6	
	comp=Z,28nm,18.6s,baz=185,slow=41						
MJAR	**Matsushiro Arr**	**21.92**	**39**	P	**P**	**15 17 10.7**	**+0.5**
	0.2nm,0.4s,baz=215,slow=9.7,SNR=1.6						
	0.2nm,0.4s						
SONM	**Songino Array**	**30.14**	**340**	P	**P**	**15 18 26.1**	**-0.4**
	0.2nm,0.3s,baz=161,slow=9.2,SNR=1.7						
SONM				LR	LR	15 31 44.4	
	comp=Z,54nm,20.9s,baz=124,slow=39						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**41.42**	**319**	P	**P**	**15 20 03.4**	**+0.6**
	0.6nm,0.6s,baz=119,slow=10,SNR=5.0						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**41.85**	**162**	P	**P**	**15 20 06.0**	**-0.6**
	2.3nm,0.6s,baz=334,slow=10,SNR=41						
WRA				PcP	**PcP**	**15 22 02.6**	**+0.6**
	0.5nm,0.8s,baz=357,slow=3.8,SNR=2.5						
	2.3nm,0.6s						
H11N1	**WAKE ISLAND Hy**	**42.63**	**83**	T	T	16 05 30.0	
	baz=278						
H11N2	**WAKE ISLAND Hy**	**42.63**	**82**	T	T	16 05 34.0	
	baz=278						
H11S3	**WAKE ISLAND Hy**	**42.63**	**84**	T	T	16 05 29.0	
	baz=281,slow=74,SNR=6.7						
H11S1	**WAKE ISLAND Hy**	**42.65**	**84**	T	T	16 05 26.4	
	baz=281,slow=74,SNR=7.1						
H11N3	**WAKE ISLAND Hy**	**42.65**	**83**	T	T	16 05 32.8	
	baz=278						
H11S2	**WAKE ISLAND Hy**	**42.65**	**84**	T	T	16 05 30.4	
	baz=281,slow=74,SNR=7.9						
ZALV	**Zalesovo Beam**	**43.74**	**329**	P	**P**	**15 20 21.3**	**-0.2**
	0.3nm,0.3s,baz=129,slow=8.2,SNR=1.4						
	0.3nm,0.3s						
AAK	**Ala-Archa**	**45.18**	**311**	LR	LR	15 39 42.3	
	comp=Z,22nm,20.2s,baz=98,slow=36						
ASAR	**Alice Springs**	**45.26**	**164**	P	**P**	**15 20 34.6**	**+0.6**
	1.8nm,0.6s,baz=347,slow=7.0,SNR=70						
	1.8nm,0.6s						
KURBB	**Kurchatov Arra**	**45.34**	**322**	P	**P**	**15 20 35.3**	**+0.9**
	0.8nm,0.2s,baz=125,slow=8.1,SNR=2.0						
	0.8nm,0.2s						
TIXI	**Tiksi**	**51.64**	**3**	LR	LR	15 46 41.0	
	comp=Z,38nm,18.2s,baz=184,slow=40						
YKA	**Yellowknife Ar**	**86.54**	**23**	P	**P**	**15 24 57.6**	**-1.3**
	0.1nm,0.5s,baz=306,slow=5.7,SNR=2.5						
	0.1nm,0.5s						

WEL 26 15:16:51.7±0.8, 39°S±3°×177°E±°, h134km±7km, M3.0/58, ML2.7/31, MLv3.0/58, Error ellipse: s-maj=0.0km s-min=0.0km az=131.9, confirmed, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUTZ	**Kaahu Road**	**0.11**	**5**	P	Pn	15 17 11.1	+1.2
KUTZ	**Kaahu Road**	**0.11**	**5**	P	Pn	15 17 10.9	+0.9
WATZ	**Wairara**	**0.12**	**209**	P	Pn	15 17 11.2	+1.3
WATZ	**Wairara**	**0.12**	**209**	P	Pn	15 17 11.0	+1.1
WHTZ	**Whakaora**	**0.13**	**119**	P	Pn	15 17 11.4	+1.4
WHTZ	**Whakaora**	**0.13**	**119**	P	Pn	15 17 11.3	+1.3
RATZ	**Rangitukua**	**0.27**	**186**	P	Pn	15 17 11.3	+1.0
RATZ	**Rangitukua**	**0.27**	**186**	P	Pn	15 17 10.9	+0.6
WPRZ	**Whakapapatarin**	**0.29**	**74**	P	Pn	15 17 11.4	+1.0
WPRZ	**Whakapapatarin**	**0.29**	**74**	P	Pn	15 17 11.1	+0.8
GRRZ	**Galatos Road**	**0.34**	**43**	P	Pn	15 17 11.6	+1.1
TLZ	**Tolley Road**	**0.34**	**322**	P	Pn	15 17 11.5	+0.9
TLZ	**Tolley Road**	**0.34**	**322**	P	Pn	15 17 11.5	+1.0
HATZ	**Hinemaiaia**	**0.36**	**143**	P	Pn	15 17 11.5	+0.9
HATZ	**Hinemaiaia**	**0.36**	**143**	P	Pn	15 17 11.4	+0.8
RITZ	**Rihia Road**	**0.38**	**174**	P	Pn	15 17 12.0	+1.3
RITZ	**Rihia Road**	**0.38**	**174**	P	Pn	15 17 11.7	+1.0
KATZ	**Kakaramea**	**0.38**	**194**	P	Pn	15 17 11.7	+0.8
KATZ	**Kakaramea**	**0.38**	**194**	P	Pn	15 17 11.4	+0.6
ALRZ	**Allen Road**	**0.42**	**85**	P	Pn	15 17 11.6	+0.8
ALRZ	**Allen Road**	**0.42**	**85**	P	Pn	15 17 11.8	+1.0
HRRZ	**Handcock Road**	**0.43**	**61**	P	Pn	15 17 11.9	+1.0
HSRZ	**Hossack Road**	**0.45**	**50**	P	Pn	15 17 12.0	+1.0
PRRZ	**Plateau Road**	**0.47**	**78**	P	Pn	15 17 11.7	+0.7
NTVZ	**North Tongarir**	**0.51**	**192**	P	Pn	15 17 12.6	+1.2
KRVZ	**Karewarewa**	**0.51**	**195**	P	Pn	15 17 12.4	+1.0
KRVZ	**Karewarewa**	**0.51**	**195**	P	Pn	15 17 12.3	+0.9
UTU	**Utuhina**	**0.52**	**36**	P	Pn	15 17 12.4	+1.0
TMVZ	**Te Maari**	**0.52**	**189**	P	Pn	15 17 12.5	+1.0
TMVZ				S	Sn	15 17 29.0	+2.5
TMVZ	**Te Maari**	**0.52**	**189**	P	Pn	15 17 12.5	+1.0
MRHZ	**Matea Rd**	**0.53**	**116**	P	Pn	15 17 12.2	+0.8
MRHZ				S	Sn	15 17 28.5	+2.1
MRHZ	**Matea Rd**	**0.53**	**116**	P	Pn	15 17 11.9	+0.5
MRHZ				S	Sn	15 17 28.3	+1.9
ETVZ	**East

TUVZ	Tukino	0.68	190	P		Pn	15 17 13.6	+1.1
TUVZ	Tukino	0.68	190	P		Pn	15 17 13.3	+0.7
TUVZ				S		Sn	15 17 30.1	+1.8
FWVZ	Far West T-bar	0.68	197	P		Pn	15 17 13.4	+0.7
FWVZ	Far West T-bar	0.68	197	P		Pn	15 17 13.1	+0.5
FWVZ				S		Sn	15 17 30.7	+2.1
MAVZ	Matarangi	0.69	196	P		Pn	15 17 13.5	+0.7
MAVZ	Matarangi	0.69	196	P		Pn	15 17 13.3	+0.4
WHVZ	Whangaehu Hut	0.70	194	P		Pn	15 17 13.4	+0.7
WHVZ	Whangaehu Hut	0.70	194	P		Pn	15 17 13.1	+0.3
TRVZ	Turoa	0.73	196	P		Pn	15 17 13.9	+0.9
TRVZ	Turoa	0.73	196	P		Pn	15 17 13.5	+0.5
WNVZ	Wahianoa	0.74	193	P		Pn	15 17 13.9	+0.8
WNVZ	Wahianoa	0.74	193	P		Pn	15 17 13.7	+0.6
LIRZ	Lichensteins R	0.75	37	P		Pn	15 17 13.5	+0.6
HIZ	Hauiti	0.75	276	P		Pn	15 17 13.3	+0.4
KMRZ	Kaimai	0.76	8	P		Pn	15 17 13.6	+0.5
MUGZ	Murupara	0.76	81	P		Pn	15 17 13.4	+0.3
BKZ	Black Stump Fm	0.78	137	P		Pn	15 17 14.0	+0.9
BKZ	Black Stump Fm	0.78	137	P		Pn	15 17 13.8	+0.7
PKVZ	Pokaka	0.78	208	P		Pn	15 17 13.8	+0.7
PKVZ	Pokaka	0.78	208	P		Pn	15 17 13.5	+0.4
MOVZ	Moawhango	0.81	183	P		Pn	15 17 13.9	+0.5
MOVZ	Moawhango	0.81	183	P		Pn	15 17 13.7	+0.3
MOVZ				S		Sn	15 17 30.8	+0.9
MTVZ	Mangateitei	0.83	199	P		Pn	15 17 14.3	+0.8
MTVZ	Mangateitei	0.83	199	P		Pn	15 17 14.2	+0.6
MTHZ	Maungataniwha	0.84	108	P		Pn	15 17 14.5	+0.9
TOZ	Tahuroa Road	0.90	344	P		Pn	15 17 14.5	+0.4
BHHZ	Black Hill Sta	0.91	168	P		Pn	15 17 14.8	+0.6
BHHZ	Black Hill Sta	0.91	168	P		Pn	15 17 14.4	+0.2
BHHZ				S		Sn	15 17 32.0	+0.6
RTZ	Ruatahuna	0.92	91	P		Pn	15 17 14.9	+0.6
NMHZ	Naumai	0.92	123	P		Pn	15 17 16.0	+1.6
TGRZ	Tauranga	0.94	22	P		Pn	15 17 14.7	+0.3
KWHZ	Kaweka Forest	0.95	150	P		Pn	15 17 15.6	+1.0
KWHZ	Kaweka Forest	0.95	150	P		Pn	15 17 15.4	+0.8
OPRZ	Ohinepanea	0.96	38	P		Pn	15 17 14.9	+0.3
VRZ	Vera Road	0.97	237	P		Pn	15 17 15.2	+0.5
VRZ	Vera Road	0.97	237	P		Pn	15 17 15.0	+0.3
KFHS	Kaweka Forest	0.98	149	P		Pn	15 17 14.4	-0.3
RAHZ	Arahi	1.05	108	P		Pn	15 17 16.6	+1.2
URZ	Urewera	1.08	72	P		Pn	15 17 15.6	-0.1
THHS	Taihape Hospit	1.08	181	P		Pn	15 17 14.7	-1.0
THHS				S		Sn	15 17 33.6	-0.5
MCHZ	McNeill Hill	1.09	141	P		Pn	15 17 17.3	+1.6
KRHZ	Kereru	1.13	157	P		Pn	15 17 17.0	+0.8
ARHZ	Aropaoanui	1.14	126	P		Pn	15 17 17.5	+1.2
MNGS	Mangaweka Scho	1.21	181	P		Pn	15 17 17.1	+0.1
WHHZ	Waihua	1.21	114	P		Pn	15 17 18.0	+1.1
MHEZ	Mangahewa	1.25	247	P		Pn	15 17 17.8	+0.4
RAGZ	Rawiri	1.26	86	P		Pn	15 17 18.0	+0.4
WAZ	Wanganui	1.32	209	P		Pn	15 17 18.6	+0.5
PNHZ	Pukenui	1.34	167	P		Pn	15 17 18.6	+0.2
MWZ	Matawai	1.37	79	P		Pn	15 17 18.7	0.0
LREZ	Lake Rotokare	1.39	232	P		Pn	15 17 19.2	+0.4
CKHZ	Cape Kidnapper	1.44	137	P		Pn	15 17 20.3	+0.9
KAHZ	Kahuranaki	1.45	146	P		Pn	15 17 20.3	+0.8
KAHZ				S		Sn	15 17 42.3	+1.5
TSZ	Takapari Road	1.46	175	P		Pn	15 17 19.7	0.0
TSZ				S		Sn	15 17 41.1	+0.1
NEZ	North Egmont	1.50	243	P		Pn	15 17 20.3	+0.2
KNZ	Kokohu	1.52	107	P		Pn	15 17 20.7	+0.5
KNZ				S		Sn	15 17 42.7	+0.8
RIGZ	Rimuhau	1.53	95	P		Pn	15 17 20.9	+0.5
RIGZ				S		Sn	15 17 43.9	+1.6
PKEZ	Pukeiti	1.54	247	P		Pn	15 17 20.3	-0.2
WPHZ	Waipukurau	1.54	162	P		Pn	15 17 20.7	+0.2
WPHZ				S		Sn	15 17 42.7	+0.1
KHEZ	Kahui Hut	1.56	243	P		Pn	15 17 20.7	-0.1
MKAZ	Moumakai	1.58	341	P		Pn	15 17 20.5	-0.5
RUGZ	Raukumara Rang	1.60	67	P		Pn	15 17 20.2	-1.1
RUGZ				S		Sn	15 17 42.5	-1.4
PXZ	Pawanui	1.64	151	P		Pn	15 17 21.8	+0.2
PXZ				S		Sn	15 17 46.1	+1.5
PRGZ	Paritu Road	1.65	102	P		Pn	15 17 22.1	+0.3
PRGZ				S		Sn	15 17 45.7	+0.9
NBEZ	Newall Road No	1.66	246	P		Pn	15 17 21.4	-0.3
DVHZ	Dannevirke	1.72	171	P		Pn	15 17 22.0	-0.5
DVHZ				S		Sn	15 17 44.4	-1.8
MHGZ	Mahia Peninsul	1.73	109	P		Pn	15 17 23.1	+0.5
MHGZ				S		Sn	15 17 47.4	+1.1
MHGZ	Mahia Peninsul	1.73	109	P		Pn	15 17 23.0	+0.4
TWGZ	Tauwhareparae	1.76	77	P		Pn	15 17 23.2	+0.2
TWGZ				S		Sn	15 17 48.5	+1.5
HAZ	Te Kaha	1.77	62	P		Pn	15 17 22.0	-0.1
HAZ				S		Sn	15 17 45.4	-1.7
PRHZ	Porangahau	1.78	159	P		Pn	15 17 23.1	-0.1
PRHZ				S		Sn	15 17 47.3	-0.2
ETAZ	East Tamaki Re	1.79	337	P		Pn	15 17 22.1	-1.3
POWZ	Post Office Ro	1.79	181	P		Pn	15 17 22.6	-0.7
POWZ				S		Sn	15 17 47.5	-0.1
POWZ	Post Office Ro	1.79	181	P		Pn	15 17 22.6	-0.8
KUZ	Kuaotunu	1.85	358	P		Pn	15 17 23.4	-0.8
CNGZ	Carnagh Statio	1.88	87	P		Pn	15 17 24.9	+0.4
PKGZ	Pakihiroa	1.92	69	P		Pn	15 17 24.4	-0.6
PKGZ				S		Sn	15 17 50.2	-0.2
ANWZ	Angora Road	1.93	165	P		Pn	15 17 24.6	-0.3
ANWZ	Angora Road	1.93	165	P		Pn	15 17 24.6	-0.3
PRWZ	Pori Road	1.96	176	P		Pn	15 17 24.7	-0.6
PRWZ				S		Sn	15 17 50.0	-1.1
PRWZ	Pori Road	1.96	176	P		Pn	15 17 24.7	-0.6
PUZ	Puketiti	2.00	75	P		Pn	15 17 25.1	-0.8
PUZ				S		Sn	15 17 51.1	-0.9
MRZ	Mangatainoka R	2.06	185	P		Pn	15 17 25.3	-1.4
MRZ				S		Sn	15 17 51.3	-2.2
MRZ	Mangatainoka R	2.06	185	P		Pn	15 17 25.3	-1.4
TRMS	Tiraumea	2.07	176	P		Pn	15 17 23.1	-3.6
BFZ	Birch Farm	2.10	171	P		Pn	15 17 26.1	-1.1
BFZ	Birch Farm	2.10	171	P		Pn	15 17 26.3	-0.8
TIWZ	Tintock	2.17	178	P		Pn	15 17 26.8	-1.2
TIWZ	Tintock	2.17	178	P		Pn	15 17 26.5	-1.5
TIWZ				S		Sn	15 17 53.7	-2.2
WMGZ	Waiomatatini S	2.19	70	P		Pn	15 17 27.2	-1.0
OTKS	Otaki School	2.21	193	S		Sn	15 17 53.2	-3.4
MXZ	Matakaoa Point	2.23	63	P		Pn	15 17 28.0	-0.7
OGWZ	Otaki Gorge	2.27	192	P		Pn	15 17 27.8	-1.4
OGWZ	Otaki Gorge	2.27	192	P		Pn	15 17 27.6	-1.5
OGWZ				S		Sn	15 17 55.1	-2.8
HOWZ	Holdsworth Sta	2.31	186	P		Pn	15 17 27.7	-1.8
HOWZ	Holdsworth Sta	2.31	186	P		Pn	15 17 27.7	-1.9
HOWZ				S		Sn	15 17 55.3	-3.5
CPFS	Castlepoint Fi	2.32	172	S		Sn	15 17 58.5	-0.5
CPWZ	Castlepoint	2.33	173	P		Pn	15 17 29.0	-0.8
CPWZ	Castlepoint	2.33	173	P		Pn	15 17 28.7	-1.2
CPWZ				S		Sn	15 17 58.6	-0.6
WRCS	Masterton Wair	2.35	183	P		Pn	15 17 28.6	-1.6
KIW	Kapiti Island	2.36	197	P		Pn	15 17 28.3	-2.0
KIW	Kapiti Island	2.36	197	P		Pn	15 17 28.2	-2.1
TMWZ	Te Maipa	2.50	179	P		Pn	15 17 30.2	-1.9
MTW	Mount Morrison	2.56	185	P		Pn	15 17 30.3	-2.6
CAW	Cannon Point	2.57	193	P		Pn	15 17 30.6	-2.3
DUWZ	D'Urville Isla	2.64	213	P		Pn	15 17 31.2	-2.6
PAWZ	Paruwai Farm	2.79	186	S		Sn	15 18 05.3	-4.6
TRWZ	Traveller	2.79	182	P		Pn	15 17 33.6	-2.2
TRWZ	Traveller	2.79	182	P		Pn	15 17 33.5	-2.3
WEL	Wellington	2.80	196	P		Pn	15 17 33.0	-2.8
WEL				S		Sn	15 18 05.7	-4.1
MSWZ	Moikau Station	2.84	189	P		Pn	15 17 33.7	-2.7
MSWZ	Moikau Station	2.84	189	P		Pn	15 17 33.4	-3.0
MSWZ				S		Sn	15 18 05.7	-5.2
TCW	Tory Channel	2.86	204	P		Pn	15 17 34.0	-2.6
TCW				S		Sn	15 18 07.5	-3.8
BHW	Baring Head	2.90	194	P		Pn	15 17 34.1	-2.9
BHW	Baring Head	2.90	194	P		Pn	15 17 33.7	-3.3
BHW				S		Sn	15 18 05.4	-6.7
PLWZ	Palliser	3.00	188	P		Pn	15 17 35.3	-3.1
NNZ	Nelson	3.21	215	P		Pn	15 17 37.6	-3.6
TKNZ	Takaka Hill	3.27	221	P		Pn	15 17 38.0	-4.0
QRZ	Quartz Range	3.37	228	P		Pn	15 17 39.0	-4.2
MRNZ	Matariki Terra	3.65	219	P		Pn	15 17 42.6	-4.3
THZ	Tophouse	3.86	214	P		Pn	15 17 45.6	-4.1
KHZ	Kahutara	4.19	204	P		Pn	15 17 50.2	-3.7
DSZ	Denniston Nort	4.39	223	P		Pn	15 17 51.4	-5.3
GVZ	Greta Valley S	4.84	205	P		Pn	15 17 58.1	-4.6
LTZ	Lake Taylor	4.97	212	P		Pn	15 17 58.8	-5.6
AMCZ	Amberley	5.16	207	P		Pn	15 18 01.8	-5.0
OKCZ	Okains Bay	5.52	201	P		Pn	15 18 06.7	-5.1
AKCZ	Akaroa Harbour	5.70	202	P		Pn	15 18 08.6	-5.6

MHCZ	Mount Hutt	5.88	212	P		Pn	15 18 10.9	-5.6
WVZ	Waitaha Valley	5.90	219	P		Pn	15 18 11.5	-5.2
RPZ	Rata Peaks	6.24	214	P		Pn	15 18 15.7	-5.7
GCSZ	Gaunt Creek Bo	6.28	220	P		Pn	15 18 16.5	-5.3
ARCZ	Arundel	6.38	212	P		Pn	15 18 17.3	-6.0
FOZ	Fox Glacier	6.69	221	P		Pn	15 18 21.1	-6.3
ODZ	Otahua Downs	7.50	209	P		Pn	15 18 32.2	-6.1
JCZ	Jackson Bay	7.60	222	P		Pn	15 18 33.4	-6.4

DNK ***26*** *15:36:31.9±1.4, 51°24.24N×15°07.75E, h42km±18km, ML2.0*
IPEC ***26*** *15:36:32.7±0.3, 51°55.55N×16°16.16E, h1km, ML2.5/5, Error ellipse: s-maj=2.0km s-min=1.1km az=35.0*
IDC ***26*** *15:36:34.6±1.1, 51°44.44N×16°07.07E, h0km, mbtmp3.1/5, ML2.8/5, Error ellipse: s-maj=17.5km s-min=9.4km az=126.0*
VIE ***26*** *15:36:34.5±0.7, 51°43.43N×16°04.04E, h0km, mb2.4/4, ml2.8/3, Error ellipse: s-maj=8.5km s-min=4.4km az=46.0, Suspected Mining induced.*
PRU ***26*** *15:36:35.9, 51°44.44N×16°07.07E, h0km*

ISC 26 15:36:32.1±0.8, 51°58.58N±0°0.03×16°10.10E±0°0.03, h0km, n37, σ1s32/73, Poland

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CHVC	Chvalec	0.99	182	*e*PG	Pg	15 36 51.4	+0.3
CHVC				*e*SG	Sg	15 37 03.5	-0.5
OSTC	Ostas	1.03	176	*e*PG	Pg	15 36 52.2	+0.4
OSTC				*e*SG	Sg	15 37 04.6	-0.5
UPC	Upice	1.07	183	*e*PG	Pg	15 36 52.8	+0.1
UPC				*e*SG	Sg	15 37 06.0	-0.6
DPC	Dobruska-Polom	1.24	173	*e*PG	Pg	15 36 55.6	-0.2
DPC				*e*SG	Sg	15 37 10.4	-1.5
	comp=Z,58nm,0.9s						
PVCC	Panska Ves	1.43	223	*e*PG	Pg	15 36 59.8	+0.3
PVCC				*e*SG	Sg	15 37 18.2	+0.2
BRG	Berggiesshubel	1.53	243	Pn	Pn	15 37 00.7	0.0
BRG				Pg	Pg	15 37 02.4	+0.9
BRG				Sg	Sg	15 37 22.3	+1.1
BRG				Amp		15 37 24.1	
	comp=Z,38nm,0.4s						
KRLC	Kraliky	1.57	164	*e*PG	Pn	15 37 01.1	-0.1
KRLC				*e*SG	Sn	15 37 21.3	-1.0
	comp=Z,39nm,0.6s						
GOPC	GO Pecny, Ondr	1.86	207	*e*PG	Pb	15 37 06.8	-0.2
PRU	Pruhonice	1.88	212	*e*PG	Pb	15 37 06.8	-0.4
HSKC	Hora Svate Kat	1.94	241	*e*PG	Pb	15 37 08.8	+0.4
HSKC				*e*SG	Sb	15 37 33.8	+0.6
	comp=Z,33nm,0.6s						
CLL	Collm	1.96	263	*i* Pn	Pn	15 37 06.6	+0.1
CLL				*e*Pg	Pb	15 37 09.0	+0.4
CLL				*i* x	x	15 37 13.0	
CLL				*e*Sg	Sg	15 37 36.0	+1.1
	comp=Z,25nm,1.0s						
MORC	Moravsky Berou	2.02	152	*e*Pn	Pn	15 37 07.3	-0.2
	baz=334						
MORC				*e*Sg	Sb	15 37 34.7	-0.8
	comp=Z,29nm,0.5s,baz=334						
OKC	Ostrava-Krasne	2.18	142	*e*SG	Sg	15 37 41.9	-0.1
	comp=Z,40nm,0.6s						
VRAC	Vranov	2.30	172	Pn	Pn	15 37 11.3	+0.1
	comp=Z,1.4nm,0.3s,baz=352,slow=16,SNR=8.7						
VRAC				Lg	Lg	15 37 43.4	
	comp=Z,2.1nm,0.3s,baz=261,slow=20,SNR=8.1						
	comp=Z,5.6nm,0.6s						
VRAC	Vranov	2.30	172	*e*Pn	Pn	15 37 11.2	0.0
	baz=353						
VRAC				*e*Sg	Sb	15 37 43.6	+0.3
	comp=Z,24nm,0.7s,baz=353						
KRUC	Moravsky	2.53	176	*e*Pn	Pn	15 37 14.6	+0.2
	baz=357						
KRUC				*e*Sg	Sb	15 37 50.9	+0.9
	comp=Z,18nm,0.6s,baz=357						
NKC	Novy Kostel	2.68	241	*e*PN	Pn	15 37 17.1	+0.6
NKC				*e*PG	Pg	15 37 23.5	+0.1
NKC				*e*SG	Sg	15 37 58.6	+0.6
	comp=Z,25nm,0.3s						
OJC	Ojcow	2.71	119	*e*Pg	Pg	15 37 24.1	+0.1
OJC				*e*Sg	Sg	15 37 59.9	+0.8
JAVC	Velka Javorina	2.91	159	*e*Pn	Pn	15 37 19.4	-0.2
	baz=341						
JAVC				*e*Sg	Sb	15 38 02.6	+1.7
	comp=Z,14nm,0.7s,baz=341						
KHC	Kasperske Hory	2.94	214	*e*PN	Pn	15 37 19.8	-0.2
KHC				*e*PG	Pb	15 37 26.1	+0.8
KHC				*e*SN	Sn	15 37 54.4	-1.6
KHC				*e*SG	Sb	15 38 03.6	+1.9
	comp=Z,11nm,0.5s						
CKRC	Cesky Krumlov	2.99	203	*e*PN	Pn	15 37 21.5	+0.7
CKRC				*e*PG	Pb	15 37 27.4	+1.1
CKRC				*e*SG	Sb	15 38 05.9	+2.5
	comp=Z,14nm,0.6s						
GERES	GERESS Array B	3.14	210	Pn	Pn	15 37 23.6	+0.7
	comp=Z,1.0nm,0.3s,baz=34,slow=13,SNR=16						
GERES				Pg	Pb	15 37 29.9	+1.0
	comp=Z,2.4nm,0.3s,baz=31,slow=16,SNR=21						
GERES				Sn	Sn	15 37 56.8	-4.4
	comp=Z,1.0nm,0.3s,baz=11,slow=22,SNR=4.6						
GERES				Lg	Lg	15 38 08.7	
	comp=Z,2.2nm,0.3s,baz=27,slow=27,SNR=8.4						
	comp=Z,2.1nm,0.4s						
MODS	Modra-Piesok	3.30	166	*e*PN	Pn	15 37 26.7	+1.7
MODS				*e*PG	Pg	15 37 35.1	-0.2
MODS				*e*SG	Sg	15 38 16.7	-1.3
ZST	Bratislava	3.45	169	*e*SG	Sg	15 38 21.6	-1.2
VYHS	Vyhne	3.56	149	*e*PN	Pn	15 37 29.3	+0.7
VYHS				*e*PG	Pg	15 37 40.9	+0.6
VYHS				*e*SG	Sg	15 38 26.4	+0.1
BSD	Bornholm Skovb	3.61	349	*i* P	Pn	15 37 29.0	-0.3
BSD				*i* S	Sn	15 38 11.8	-0.7
BSD				IAML		15 38 14.9	
	comp=Z,1.3nm,0.4s						
CONA	Conrad Observa	3.66	183	*i* Pn	Pn	15 37 30.6	+0.5
	comp=Z,0.5nm,0.1s						
CONA				Sg	Sb	15 38 26.1	+3.5
	comp=Z,15nm,0.5s						
MOA	Molln	3.92	198	*i* Pn	Pn	15 37 34.1	+0.5
	comp=Z,0.7nm,0.1s						
MOA				Sg	Sg	15 38 36.3	-1.7
	comp=Z,7.9nm,0.4s						
STHS	Stebnicka Huta	3.93	121	*e*SG	Sg	15 38 42.1	+3.7
ARSA	Arzberg	4.35	185	*e*Sg	Sg	15 38 50.3	-1.5
	comp=Z,13nm,0.8s						
LUNU	Lund	4.36	340	*i* P	Pn	15 37 40.0	+0.5
LUNU				*i* S	Sn	15 38 29.5	-1.4
BLEU	Blekinge	4.74	358	*i* P	Pn	15 37 45.7	+1.0
BLEU				*i* S	Sn	15 38 39.4	-0.9
BJUU	Bjuv	4.86	339	*i* P	Pn	15 37 46.1	-0.2
BJUU				*i* S	Sn	15 38 38.9	-4.3
DEL	Delary	5.07	346	*i* P	Pn	15 37 49.0	-0.3
DEL				*i* S	Sn	15 38 45.8	-2.7
DAVOX	Davos/Dischmat	6.30	223	Pn	Pn	15 38 07.5	+1.1
	comp=Z,0.3nm,0.3s,baz=63,slow=16,SNR=2.5						
DAVOX				Lg	Lg	15 39 49.2	
	comp=Z,0.2nm,0.3s,baz=223,slow=19,SNR=1.8						
	comp=Z,1.4nm,0.5s						
AKASG	Malin Array Be	8.30	91	Pn	Pn	15 38 32.9	-0.8
	comp=Z,0.5nm,0.3s,baz=279,slow=12,SNR=4.0						
	comp=Z,0.6nm,0.6s						
FINES	FINESS Array B	11.30	25	Pn	Pn	15 39 13.9	-0.7
	comp=Z,0.1nm,0.3s,baz=206,slow=12,SNR=5.6						
	comp=Z,1.8nm,0.9s						

ATH ***26*** *15:40:54.6, 35°88.88N×23°58.58E, h13km±1km, ML3.8/32, Manual Solution by G.Panopoulou This location: 2020/06/19 11:25:53 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 1 km*
ISK ***26*** *15:40:55.0, 35°85.85N×23°61.61E, h19km, ML3.7/12*
THE ***26*** *15:40:55.0, 35°90.90N×23°58.58E, h6km±1km, ML3.8/13, Error ellipse: s-maj=1.4km s-min=0.5km az=236.0*
IDC ***26*** *15:40:57.2±2.2, 35°89.89N×23°56.56E, h40km±22km, mb3.7/15, mbtmp3.9/16, ML4.1/1, MS3.1/9, Error ellipse: s-maj=16.8km s-min=12.5km az=31.0*
GII ***26*** *15:40:57.9±0.4, 35°664N±0°002×23°702E±0°001, h30km, Mws4.1, confirmed*

ISC 26 15:40:53.5±0.5, 35°87N±0°02×23°55E±0°02, h10km, n160, σ1s81/185, mb4.0/15, MS3.6/4, Crete

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

ANKY	Antikythira Is	0.20	269	P	Pg	15 40 59.7	+1.9
ANKY				S	Sg	15 41 03.1	+2.4
	92µm,0.5s						
ANKY	Antikythira Is	0.20	269	P	Pg	15 40 59.7	+1.9
ANKY				S	Sg	15 41 02.7	+2.0
RODP	Rodopos	0.35	152	Pg	Pg	15 41 02.5	+2.0
RODP				Sg	Sg	15 41 07.5	+2.3
RODP	Rodopos	0.35	152	P	Pg	15 41 02.7	+2.2
RODP				S	Sg	15 41 07.4	+2.3
	12µm,0.2s						
RODP	Rodopos	0.35	152	P	Pg	15 41 02.6	+2.2
RODP				S	Sg	15 41 06.7	+1.5
CHAN	Chania	0.53	131	P	Pg	15 41 05.6	+1.8
CHAN				S	Sg	15 41 12.6	+1.8
IMMV	Iera Moni Meta	0.54	140	Pg	Pg	15 41 05.5	+1.6
IMMV				Sg	Sg	15 41 13.3	+2.3
IMMV	Iera Moni Meta	0.54	140	P	Pg	15 41 06.1	+2.1
IMMV				S	Sg	15 41 13.5	+2.5
	24µm,0.3s						
IMMV	Iera Moni Meta	0.54	140	P	Pg	15 41 05.4	+1.4
IMMV				S	Sg	15 41 12.1	+1.1
KNDR	Palaiochora Ch	0.65	170	Pg	Pg	15 41 07.0	+1.0
KNDR	Palaiochora Ch	0.65	170	P	Pg	15 41 06.0	+0.1
KNDR				S	Sg	15 41 14.5	+0.1
MNVA	Monemvasia	0.91	333	P	Pg	15 41 13.0	+1.9
MNVA				S	Sg	15 41 24.6	+1.6
PRNS	Prines Rethymn	0.92	123	P	Pg	15 41 12.3	+1.0
PRNS				S	Sg	15 41 24.0	+0.7
PRNS	Prines Rethymn	0.92	123	P	Pg	15 41 12.1	+0.9
PRNS				S	Sg	15 41 23.2	-0.1
VLI	Veliai	0.98	330	P	Pg	15 41 13.1	+0.7
VLI				S	Sg	15 41 26.8	+1.7
	3µm,0.7s						
VLI	Veliai	0.98	330	P	Pg	15 41 12.6	+0.3
VLI				S	Sg	15 41 26.3	+1.2
MHLO	Agia Marina, M	1.07	40	P	Pb	15 41 14.5	+0.5
MHLO				S	Sg	15 41 29.3	+1.5
	14µm,0.6s						
MHLO	Agia Marina, M	1.07	40	P	Pb	15 41 14.0	0.0
MHLO				S	Sg	15 41 29.3	+1.5
GVDS	Gavdos	1.12	157	Pg	Pg	15 41 15.6	+0.7
GVDS				Sg	Sg	15 41 30.6	+1.2
GVDS	Gavdos	1.12	157	P	Pg	15 41 15.4	+0.5
GVDS				S	Sb	15 41 31.7	+2.3
	4µm,0.2s						
GVDS	Gavdos	1.12	157	P	Pg	15 41 16.1	+1.2
GVD	Gavdhos	1.12	157	Pn	Pg	15 41 15.8	+0.8
GVD				Sn	Sg	15 41 30.8	+1.3
GVD	Gavdhos	1.12	157	P	Pg	15 41 16.2	+1.2
GVD				S	Sb	15 41 31.8	+2.3
	8µm,0.3s						
GVD	Gavdhos	1.12	157	P	Pg	15 41 15.5	+0.5
MILOS	Milos	1.12	39	P	Pb	15 41 16.3	+1.3
IDI	Anoyia	1.24	118	Pn	Pn	15 41 17.3	+0.3
IDI				Sn	Sb	15 41 33.4	+0.4
IDI	Anoyia	1.24	118	P	Pn	15 41 17.8	+0.9
IDI				S	Sb	15 41 34.8	+1.8
	3µm,0.4s						
IDI	Anoyia	1.24	118	P	Pn	15 41 18.4	+1.5
	499nm,0.4s,baz=228,slow=9.9,SNR=342						
IDI				S	Sb	15 41 33.7	+0.7
	2µm,0.4s,baz=41,slow=9.8,SNR=23						
IDI	Anoyia	1.24	118	P	Pn	15 41 17.5	+0.6
IDI				S	Sb	15 41 32.7	-0.3
TMBK	Timbaki Herakl	1.27	129	P	Pn	15 41 18.7	+1.4
TMBK				S	Sg	15 41 36.3	+2.1
TMBK	Timbaki Herakl	1.27	129	P	Pn	15 41 18.4	+1.1
TMBK				S	Sb	15 41 34.4	+0.5
IACM	Heraklion	1.36	114	P	Pn	15 41 19.4	+0.9
KSTL	Kastelli Herak	1.36	114	P	Pg	15 41 23.1	+3.5
KSTL				S	Sg	15 41 44.8	+7.5
	922nm,0.6s						
KSTL	Kastelli Herak	1.36	114	P	Pg	15 41 23.0	+3.5
THR9	Santorini-Faro	1.54	71	P	Pn	15 41 20.9	0.0
THR5	Thira Island,	1.55	69	P	Pn	15 41 21.7	+0.5
THR6	Thira Island,	1.57	72	P

HMDT	**Nahal Hemdat**	**10.57 107**	P	**Pn**	**15 43 24.2**	**-0.8**
HMDT	**Nahal Hemdat**	**10.57 107**	S	**Sn**	**15 45 20.0**	**-3.3**
YTIR	**Yattir**	**10.63 112**	P	**Pn**	**15 43 25.3**	**-0.7**
YTIR	**Yattir**	**10.63 112**	S	**Sn**	**15 45 21.5**	**-3.7**
DSI	**Dead Sea**	**10.74 110**	P	Pn	15 43 25.5	-1.9
DSI	**Dead Sea**	**10.74 110**	P	**Pn**	**15 43 26.6**	**-0.7**
DSI	**Dead Sea**	**10.74 110**	S	**Sn**	**15 45 24.5**	**-3.1**
MSBI	**Mazada**	**10.84 111**	P	**Pn**	**15 43 27.7**	**-1.0**
MSBI	**Mazada**	**10.84 111**	S	**Sn**	**15 45 25.5**	**-4.5**
LISJ	**El Lisan**	**10.97 112**	P	**Pn**	**15 43 29.2**	**-1.2**
KRMI	**Paran Flat**	**10.99 118**	P	**Pn**	**15 43 29.9**	**-0.9**
KRMI	**Paran Flat**	**10.99 118**	S	**Sn**	**15 45 29.5**	**-4.3**
GHAJ	**Ghor Haditha**	**11.00 111**	P	**Pn**	**15 43 29.7**	**-1.2**
GHAJ	**Ghor Haditha**	**11.00 111**	S	**Sn**	**15 45 29.5**	**-4.5**
PRNI	**Paran**	**11.06 117**	P	**Pn**	**15 43 31.2**	**-0.6**
PRNI	**Paran**	**11.06 117**	P	**Pn**	**15 43 30.7**	**-1.1**
PRNI	**Paran**	**11.06 117**	S	**Sn**	**15 45 31.8**	**-3.8**
ZFRI	**Zfri**	**11.08 115**	P	**Pn**	**15 43 31.2**	**-0.8**
HRFI	**Mount Harif**	**11.26 118**	P	**Pn**	**15 43 33.6**	**-0.9**
HRFI	**Mount Harif**	**11.26 118**	S	**Sn**	**15 45 36.3**	**-4.2**
HRFI	**Mount Harif**	**11.26 118**	P	**Pn**	**15 43 33.2**	**-1.3**
MBRI	**Mt Berech**	**11.31 119**	P	**Pn**	**15 43 35.5**	**+0.3**
EIL2	**Elat**	**11.41 120**	P	**Pn**	**15 43 35.4**	**-1.1**
EIL2	**Elat**	**11.41 120**	S	**Sn**	**15 45 39.9**	**-4.2**
EIL	**Elat**	**11.41 120**	P	**Pn**	**15 43 34.7**	**-1.8**
	5.2nm,0.4s,baz=267,slow=5.7,SNR=17					
EIL			S	Sn	15 45 35.5	-8.6
	4.8nm,0.5s,baz=7.4,slow=15,SNR=5.1					
EIL	**Elat**	**11.41 120**	P	**Pn**	**15 43 37.1**	**+0.6**
EIL	**Elat**	**11.41 120**	P	**Pn**	**15 43 35.2**	**-1.3**
EIL	**Elat**	**11.41 120**	S	**Sn**	**15 45 39.0**	**-5.0**
AQBJ	**Aqaba**	**11.45 119**	P	**Pn**	**15 43 36.8**	**-0.2**
VRAC	**Vranov**	**14.36 341**	LR	LR	15 51 42.5	
	comp=Z,35nm,19.9s,baz=156,slow=45					
GERES	**GERESS Array B**	**14.85 334**	P	**P**	**15 44 30.6**	**+1.2**
	1.4nm,0.6s,baz=157,slow=12,SNR=6.8					
GERES			LR	LR	15 51 48.1	
	comp=Z,58nm,18.2s,baz=90,slow=44					
DAVOX	**Davos/Dischmat**	**14.95 321**	LR	LR	15 51 40.7	
	comp=Z,41nm,18.9s,baz=78,slow=43					
AKASG	**Malin Array Be**	**15.38 14**	P	**Pn**	**15 44 32.6**	**+2.2**
	0.8nm,0.3s,baz=208,slow=11,SNR=5.7					
	0.5nm,0.5s					
KBZ	**Khabaz**	**16.78 56**	LR	LR	15 51 52.6	
	comp=Z,27nm,19.5s,baz=110,slow=39					
ESDC	**Sonseca Array**	**22.04 288**	P	**P**	**15 45 47.5**	**-0.8**
	0.9nm,0.7s,baz=83,slow=10,SNR=8.9					
	0.9nm,0.7s					
MDT	**Midelt**	**23.42 271**	LR	LR	15 56 15.1	
	comp=Z,40nm,18.4s,baz=150,slow=39					
HFS	**Hagfors**	**25.10 348**	P	**P**	**15 46 18.1**	**0.0**
	1.4nm,0.8s,baz=146,slow=11,SNR=8.6					
	1.4nm,0.8s					
FINES	**FINESS Array B**	**25.64 3**	P	**P**	**15 46 22.4**	**-0.6**
	0.9nm,0.8s,baz=172,slow=11,SNR=1.8					
FINES			PcP	**PcP**	**15 49 52.5**	**-0.8**
	0.7nm,0.7s,baz=151,slow=4.4,SNR=6.1					
	0.9nm,0.8s					
NOA	**NORSAR Array B**	**26.39 346**	P	**P**	**15 46 28.1**	**-1.8**
	0.6nm,0.9s,baz=149,slow=9.8,SNR=2.4					
	0.6nm,0.9s					
EKA	**Eskdalemuir Ar**	**26.71 325**	P	**P**	**15 46 32.5**	**-0.2**
	0.6nm,0.5s,baz=127,slow=9.0,SNR=4.4					
	0.6nm,0.5s					
TORD	**Torodi Ar. Bea**	**29.99 227**	P	**P**	**15 47 02.1**	**-0.2**
	2.3nm,0.6s,baz=31,slow=9.6,SNR=16					
	2.3nm,0.6s					
KURBB	**Kurchatov Arra**	**41.70 52**	P	**P**	**15 48 40.9**	**-1.3**
	1.5nm,0.2s,baz=273,slow=8.4,SNR=4.1					
	1.5nm,0.2s					
MKAR	**Makanchi Array**	**44.48 57**	P	**P**	**15 49 04.0**	**-0.9**
	1.2nm,0.5s,baz=269,slow=7.7,SNR=25					
MKAR			PcP	**PcP**	**15 50 47.5**	**-0.7**
	0.3nm,0.5s,baz=269,slow=4.4,SNR=1.7					
	1.2nm,0.5s					
ZALV	**Zalesovo Beam**	**45.46 47**	P	**P**	**15 49 11.6**	**-0.9**
	1.6nm,0.4s,baz=263,slow=9.2,SNR=5.4					
	1.6nm,0.4s					
SONM	**Songino Array**	**60.05 50**	P	**P**	**15 51 00.0**	**-0.6**
	0.5nm,0.4s,baz=20,slow=42,SNR=2.2					
SONM			LR	LR	16 20 38.7	
	comp=Z,40nm,18.9s,baz=72,slow=40					
	0.5nm,0.4s					
SCHQ	**Schefferville**	**61.79 319**	P	**P**	**15 51 12.0**	**-0.2**
	1.0nm,0.6s,baz=240,slow=12,SNR=1.4					
	1.0nm,0.6s					
BOSA	**Boshof**	**64.16 178**	P	**P**	**15 51 27.8**	**-0.5**
	1.8nm,0.6s,baz=3.5,slow=8.1,SNR=5.6					
BOSA			LR	LR	16 23 51.7	
	comp=Z,40nm,19.4s,baz=131,slow=40					
	1.8nm,0.6s					
YKA	**Yellowknife Ar**	**76.36 341**	P	**P**	**15 52 42.2**	**-0.3**
	0.3nm,0.6s,baz=27,slow=5.5,SNR=4.4					
	0.3nm,0.6s					
KSRS	**Korea Array**	**78.88 52**	P	**P**	**15 52 55.9**	**-1.1**
	0.5nm,0.5s,baz=316,slow=4.4,SNR=4.5					
	0.5nm,0.5s					
BDFB	**Brasilia**	**84.77 247**	LR	LR	16 32 12.1	
	comp=Z,28nm,18.2s,baz=171,slow=36					
MJAR	**Matsushiro Arr**	**85.81 47**	P	**P**	**15 53 32.7**	**-0.6**
	1.0nm,0.9s,baz=314,slow=5.2,SNR=3.2					
	1.0nm,0.9s					

GUC 26 15:43:21.8±0.7, 24°23S×67°46W, h203km±11km, ML3.5, 6C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LVC	**Limon Verde**	**2.09**	**320**	**ePn**		15 44 01.4	-0.6
LVC				*i* S	S	15 44 31.9	-0.7
LVC				IAML		15 44 35.5	
	236nm,0.4s						
PB15	**IPOC Station P**	**2.11**	**298**	*i*P		15 44 02.2	+0.3
PB15				*i* S	S	15 44 32.6	+0.2
GO02	**Mina Guanaco**	**2.15**	**244**	**ePn**		15 44 02.3	-0.2
GO02				*i* S	S	15 44 33.9	+0.4
GO02				IAML		15 44 37.4	
	comp=N,255nm,0.1s						
PB06	**IPOC Station P**	**2.46**	**308**	*i*P		15 44 05.9	+0.2
PB06				*i* S	S	15 44 38.7	-0.5
PB06				IAML		15 44 41.5	
	comp=N,172nm,0.2s						
PB05	**IPOC Station P**	**2.87**	**298**	**ePn**		15 44 10.2	0.0
PB05				*i* S	S	15 44 46.6	-0.7
PB05				IAML		15 44 49.8	
	comp=N,74nm,0.2s						
PB10	**IPOC Station P**	**2.92**	**283**	**ePn**		15 44 11.3	+0.5
PB10				*i* S	S	15 44 47.9	-0.4
PB10				IAML		15 44 54.7	
	comp=E,76nm,0.3s						
PB09	**IPOC Station P**	**2.93**	**325**	**ePn**		15 44 11.3	+0.3
PB09				*i* S	S	15 44 47.2	-1.5
PB09				IAML		15 44 53.3	
	comp=E,32nm,0.3s						
PB04	**IPOC Station P**	**3.11**	**307**	**ePn**		15 44 13.3	+0.2
PB04				*i* S	S	15 44 51.5	-1.1
PB01	**IPOC Station P**	**3.68**	**329**	**ePn**		15 44 19.0	-1.0
PB01				*i* S	S	15 45 02.8	-2.2
PATCX	**Punta Patache**	**4.21**	**323**	**ePn**		15 44 25.4	-1.1
PB08	**IPOC Station P**	**4.36**	**339**	**ePn**		15 44 28.1	-0.6
PB11	**IPOC Station P**	**4.89**	**335**	**ePn**		15 44 33.1	-2.0

*IDC **26** 16:03:18.1±2.2, 22°.19N×143°.73E, h98km±19km, mb3.9/17, mbtmp4.3/23, Error ellipse: s-maj=24.6km s-min=12.4km az=76.0*
*NEIC **26** 16:03:21.0±1.7, 22°.21N±0°.10×144°.0E±0°.2, h133km±11km, mb4.5/32, Error ellipse: s-maj=23.6km s-min=12.7km az=73.0*
*JMA **26** 16:03:24.8±0.2, 22°.6N±0°.9×14°.4E±°, h149km±4km, IOTO ISLANDS REGION*

ISC 26 16:03:23.3±0.7, 22°.35N±0°.06×143°.7E±0°.1, h150km, n96, σ1s78/93, mb4.3/28, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	**Haha-jima-NKT2**	**4.49**	**342**	P	**Pn**	**16 04 29.1**	**-0.9**
JHH2				*e*S	**Sn**	**16 05 19.9**	**-2.1**
JHH2	**Haha-jima-NKT2**	**4.49**	**342**	A	A	16 04 29.1	
	comp=E,10.0nm,0.3s,comp=N,5.0nm,1.2s						
JCJ	**Chichijima**	**4.93**	**344**	P	**Pn**	**16 04 35.2**	**-0.6**
JCJ	**Chichijima**	**4.93**	**344**	Pn	**Pn**	**16 04 34.8**	**-0.9**
JCJ	**Chichijima**	**4.93**	**344**	P	Pn	16 04 30.9	-4.9
	comp=N,84nm,0.3s,baz=343,slow=22,SNR=18						
JCJ				S	Sn	16 05 24.2	-8.1
	comp=N,347nm,0.4s,baz=287,slow=24,SNR=15						
CBIJ	**Chichi jima**	**4.93**	**344**	P	**Pn**	**16 04 35.2**	**-0.6**
CBIJ				*e*S	**Sn**	**16 05 29.1**	**-3.3**
GUMO	**Guam**	**8.78**	**173**	P	Pn	16 05 19.0	-8.1
	comp=N,43nm,0.8s,baz=236,slow=19,SNR=1.7						
JHJ	**Hachijo jima 2**	**11.28**	**343**	P	**Pn**	**16 05 57.5**	**-2.6**
	comp=N,34nm,0.7s,baz=286,slow=19,SNR=1.7						
JHJ				S	Sn	16 07 57.0	-7.8
	comp=N,33nm,0.5s,baz=59,slow=22,SNR=1.9						
BSO1	**Boso 1**	**12.49**	**350**	**eP**	**Pn**	**16 06 16.1**	**+0.7**
BSO1				S	**Sn**	**16 08 30.5**	**-2.8**
BSO3	**Boso 3**	**12.72**	**348**	**eP**	**Pn**	**16 06 17.8**	**-0.8**
JOD2	**Odawara 2**	**13.49**	**344**	**eP**	**Pn**	**16 06 28.1**	**-0.7**
JOD2				*e*S	**Sn**	**16 08 53.4**	**-4.7**
JNY	**Yasuok**	**13.94**	**340**	**eP**	**Pn**	**16 06 32.6**	**-1.8**
JHU	**Hanno**	**14.00**	**345**	**eP**	**Pn**	**16 06 33.6**	**-1.6**
INU	**Inuyama**	**14.21**	**337**	P	**P**	**16 06 40.2**	**-0.5**
INU	**Inuyama**	**14.21**	**337**		**Pn**	**16 06 36.4**	**-1.4**
JRY	**Ryogami san**	**14.25**	**344**	P	**Pn**	**16 06 37.1**	**-1.3**
JMN	**Monobe**	**14.27**	**325**	P	**P**	**16 06 43.7**	**+2.3**
JMN	**Monobe**	**14.27**	**325**	Pn	**Pn**	**16 06 38.0**	**-0.6**
JGF	**Kuroka**	**14.32**	**339**		**Pn**	**16 06 38.4**	**-0.9**
JAMN	**Amaminishikomi**	**14.39**	**297**	**eP**	**P**	**16 06 44.7**	**+1.9**
JHO	**Hitachi**	**14.47**	**350**	**eP**	**Pn**	**16 06 40.4**	**-0.7**
JHO				*e*S	Sn	16 09 12.5	-9.2
JOW	**Kunigami**	**14.73**	**291**	Pn	**Pn**	**16 06 45.2**	**+0.8**
JOW				IAmb	IAmb	16 06 49.8	
	comp=Z,22nm,0.7s						
JOW	**Kunigami**	**14.73**	**291**	P	**Pn**	**16 06 42.2**	**-2.2**
	comp=Z,13nm,0.8s,baz=197,slow=22,SNR=1.6						
MJAR	**Matsushiro Arr**	**14.93**	**343**	P	**Pn**	**16 06 45.1**	**-1.7**
MJAR				S	**Sn**	**16 09 27.8**	**-4.8**
	comp=Z,0.7nm,0.5s,baz=143,slow=16,SNR=2.5						
MAJO	**Matsushiro**	**14.93**	**343**	P	**P**	**16 06 49.5**	**+0.8**
MAJO	**Matsushiro**	**14.93**	**343**	P	**P**	**16 06 49.2**	**+0.5**
MJB9	**Matsu-Tunnel**	**14.94**	**343**	P	**P**	**16 06 50.2**	**+1.4**
JSJ	**Shimokoshiki**	**15.54**	**310**	**eP**	**P**	**16 06 59.7**	**+4.2**
JNU	**Nakatsue**	**15.62**	**316**	P	**P**	**16 06 59.3**	**+3.0**
JNU	**Nakatsue**	**15.62**	**316**	P	**P**	**16 06 58.3**	**+1.9**
JNU	**Nakatsue**	**15.62**	**316**	P	**Pn**	**16 06 54.8**	**-0.5**
	comp=Z,6.9nm,1.0s,baz=154,slow=21,SNR=1.7						
JHS	**Saijyo**	**15.65**	**326**	P	**P**	**16 06 59.3**	**+2.6**
JMM	**Marumori**	**15.67**	**351**	P	**P**	**16 06 57.1**	**+0.2**
JMM	**Marumori**	**15.67**	**351**	P	**P**	**16 06 59.2**	**+2.4**
JSD	**Sado**	**16.33**	**345**	Pn	**P**	**16 07 02.0**	**-2.1**
JOGS	**Gusukube**	**16.96**	**282**	**eP**	**Pn**	**16 07 14.1**	**+2.4**
YOJ	**Yonaguni jima**	**19.12**	**280**	P	**P**	**16 07 36.5**	**+1.7**
YOJ	**Yonaguni jima**	**19.12**	**280**	P	**P**	**16 07 33.6**	**-1.1**
TJN	**Taejon**	**19.92**	**318**	P	**P**	**16 07 43.0**	**-0.4**
KSRS	**Korea Array**	**20.30**	**321**	P	**P**	**16 07 48.2**	**+0.8**
	comp=Z,8.6nm,0.6s,baz=137,slow=11,SNR=24						
	comp=Z,8.6nm,0.6s						
KS19	**Wonju Array Si**	**20.37**	**321**	P	**P**	**16 07 49.0**	**+0.8**
KS19				IAmb	IAmb	16 07 53.1	
	comp=Z,10nm,0.6s						
NACB	**Ninganchiao**	**20.40**	**279**	P	**P**	**16 07 49.0**	**+0.4**
NACB	**Ninganchiao**	**20.40**	**279**	P	**P**	**16 07 48.6**	**0.0**
NACB				IAmb	IAmb	16 07 53.7	
	comp=Z,12nm,0.6s						
YHNB	**Yeheng**	**20.61**	**281**	P	**P**	**16 07 51.6**	**+0.6**
YHNB	**Yeheng**	**20.61**	**281**	P	**P**	**16 07 51.3**	**+0.3**
YHNB				IAmb	IAmb	16 07 55.1	
	comp=Z,21nm,0.8s						
YULB	**Yu-li**	**20.68**	**277**	P	**P**	**16 07 53.5**	**+1.9**
YULB	**Yu-li**	**20.68**	**277**	P	**P**	**16 07 52.5**	**+0.9**
YULB				IAmb	IAmb	16 07 54.2	
	comp=Z,17nm,0.5s						
SSLB	**Suanglung**	**20.99**	**278**	P	**P**	**16 07 57.2**	**+2.3**
SSLB	**Suanglung**	**20.99**	**278**	P	**P**	**16 07 57.0**	**+2.0**
TPUB	**Ta-pu**	**21.30**	**277**	P	**P**	**16 07 59.6**	**+1.3**
TPUB	**Ta-pu**	**21.30**	**277**	P	**P**	**16 07 59.4**	**+1.2**
TPUB				IAmb	IAmb	16 08 04.3	
	comp=Z,13nm,0.7s						
H11N1	**WAKE ISLAND Hy**	**21.79**	**93**	T	T	16 30 40.7	
	baz=282						
H11N2	**WAKE ISLAND Hy**	**21.79**	**93**	T	T	16 30 39.1	
	baz=282						
H11N3	**WAKE ISLAND Hy**	**21.81**	**93**	T	T	16 30 33.0	
	baz=282						
H11S3	**WAKE ISLAND Hy**	**21.86**	**96**	T	T	16 30 43.1	
	baz=283,slow=74,SNR=8.4						
H11S1	**WAKE ISLAND Hy**	**21.87**	**96**	T	T	16 30 41.8	
	baz=283,slow=74,SNR=2.4						
H11S2	**WAKE ISLAND Hy**	**21.88**	**96**	T	T	16 30 41.7	
	baz=283,slow=74,SNR=4.1						
USA0B	**Ussuriysk Arra**	**23.85**	**339**	P	**P**	**16 08 22.9**	**+0.3**
USA0B				IAmb	IAmb	16 08 29.4	
	comp=Z,14nm,0.9s						
USRK	**Ussuriysk Ar.**	**23.85**	**339**	P	**P**	**16 08 23.7**	**+1.1**
USRK	**Ussuriysk Ar.**	**23.85**	**339**	P	**P**	**16 08 25.1**	**+2.5**
	comp=Z,8.2nm,0.8s,baz=140,slow=9.2,SNR=16						
	comp=Z,8.2nm,0.8s						
TOLI2	**Tolitoli**	**30.71**	**230**	P	**P**	**16 09 21.7**	**-2.6**
ULN	**Ulaanbaatar**	**38.78**	**320**	P	**P**	**16 10 35.2**	**+1.8**
ULN				IAmb	IAmb	16 10 35.9	
	comp=Z,4.8nm,0.7s						
SONM	**Songino Array**	**39.16**	**320**	P	**P**	**16 10 37.8**	**+1.3**
SONM	**Songino Array**	**39.16**	**320**	P	**P**	**16 10 38.1**	**+1.6**
	comp=Z,3.2nm,0.5s,baz=133,slow=7.7,SNR=19						
	comp=Z,3.2nm,0.5s						
CMAR	**Chiang Mai Arr**	**42.03**	**273**	P	**P**	**16 10 56.9**	**-3.4**
	comp=Z,0.6nm,0.7s,baz=63,slow=8.2,SNR=1.8						
WB0	**Warramunga Arr**	**42.84**	**193**	P	**P**	**16 11 05.2**	**-1.5**
WB0				IAmb	IAmb	16 11 37.3	
	comp=Z,12nm,1.4s						
WR0	**Warramunga Arr**	**42.99**	**193**	P	**P**	**16 11 05.1**	**-2.8**
WR0				IAmb	IAmb	16 11 08.1	
	comp=Z,9.2nm,1.2s						
WRAB	**Tennant Creek**	**43.01**	**193**	P	**P**	**16 11 06.0**	**-2.0**
WB2	**Warramunga Arr**	**43.01**	**193**	P	**P**	**16 11 06.0**	**-2.0**
WB2				IAmb	IAmb	16 11 22.8	
	comp=Z,13nm,1.4s						
WRA	**Warramunga Arr**	**43.02**	**193**	P	**P**	**16 11 06.1**	**-2.0**
WRA	**Warramunga Arr**	**43.02**	**193**	P	**P**	**16 11 06.8**	**-1.3**
	comp=Z,1.1nm,0.5s,baz=15,slow=9.3,SNR=10						
	comp=Z,1.1nm,0.5s						
KULM	**Kulim**	**44.91**	**254**	P	**P**	**16 11 23.4**	**0.0**
KULM				IAmb	IAmb	16 11 32.4	
	comp=Z,26nm,1.5s						
ASAR	**Alice Springs**	**46.72**	**192**	P	**P**	**16 11 35.7**	**-1.7**
ASAR	**Alice Springs**	**46.72**	**192**	P	**P**	**16 11 36.1**	**-1.3**
	comp=Z,0.4nm,0.4s,baz=11,slow=12,SNR=17						
	comp=Z,0.4nm,0.4s						
GSI	**Gunungsitoli**	**49.47**	**252**	P	P	16 11 45.0	-14
ZAA0	**Zalesovo Array**	**54.01**	**321**	P	**P**	**16 12 31.7**	**-0.1**
ZAA0				IAmb	IAmb	16 12 33.5	
	comp=Z,3.6nm,0.7s						
ZALV	**Zalesovo Beam**	**54.01**	**321**	P	**P**	**16 12 31.8**	**0.0**
ZALV	**Zalesovo Beam**	**54.01**	**321**	P	**P**	**16 12 32.8**	**+1.0**
	comp=Z,2.9nm,0.3s,baz=107,slow=7.5,SNR=13						
ZALV				PcP	**PcP**	**16 13 35.1**	**+0.2**
	comp=Z,1.0nm,0.4s,baz=106,slow=5.4,SNR=3.6						
	comp=Z,2.9nm,0.3s						
MKAR	**Makanchi Array**	**54.62**	**312**	P	**P**	**16 12 38.1**	**+1.7**
	comp=Z,2.8nm,0.5s,baz=88,slow=8.7,SNR=38						
MKAR				PcP	**PcP**	**16 13 37.4**	**-0.1**
	comp=Z,0.6nm,0.5s,baz=71,slow=5.7,SNR=2.0						
	comp=Z,2.8nm,0.5s						
MAKZ	**Makanchi**	**54.84**	**312**	P	**P**	**16 12 39.0**	**+1.1**
MAKZ				IAmb	IAmb	16 12 56.6	
	comp=Z,7.4nm,1.4s						
KURK	**Kurchatov**	**57.34**	**317**	P	**P**	**16 12 56.6**	**+1.1**
KURK				IAmb	IAmb	16 12 57.6	
	comp=Z,4.9nm,0.8s						
KURBB	**Kurchatov Arra**	**57.39**	**317**	P	**P**	**16 12 57.1**	**+1.2**
	comp=Z,3.6nm,0.4s,baz=95,slow=7.5,SNR=68						
	comp=Z,3.6nm,0.4s						
ILAR	**Eielson Array**	**61.24**	**27**	P	**P**	**16 13 23.7**	**+1.6**
	comp=Z,0.4nm,0.8s,baz=255,slow=6.0,SNR=5.5						
	comp=Z,0.4nm,0.8s						
BVAR	**Borovoye Array**	**62.50**	**319**	P	**P**	**16 13 32.2**	**+1.5**
	comp=Z,6.1nm,0.5s,baz=88,slow=7.0,SNR=40						
	comp=Z,6.1nm,0.5s						
CHGR	**Chuyangaron**	**64.65**	**303**	P	**P**	**16 13 46.3**	**+1.1**
SIMJ	**Simiganj**	**64.76**	**303**	P	**P**	**16 13 47.1**	**+1.1**
SIMJ				IAmb	IAmb	16 13 49.1	
	comp=Z,5.7nm,1.0s						
KBL	**Kabul**	**65.45**	**299**		**P**	**16 13 51.4**	**+0.8**
YKA	**Yellowknife Ar**	**75.66**	**28**	P	**P**	**16 14 53.0**	**+1.4**
	comp=Z,2.0nm,0.4s,baz=296,slow=6.2,SNR=4.8						
	comp=Z,2.0nm,0.4s						
ARCES	**ARCESS Array B**	**78.47**	**342**	P	**P**	**16 15 08.6**	**+1.3**
	comp=Z,2.0nm,0.6s,baz=73,slow=6.0,SNR=6.6						
	comp=Z,2.0nm,0.6s						
KBZ	**Khabaz**	**82.27**	**314**	P	**P**	**16 15 29.4**	**+1.3**
	comp=Z,3.7nm,0.8s,baz=100,slow=2.2,SNR=5.9						
	comp=Z,3.7nm,0.8s						
FINES	**FINESS Array B**	**82.81**	**335**	P	**P**	**16 15 30.7**	**+0.3**
	comp=Z,2.6nm,0.3s,baz=62,slow=5.0,SNR=64						
	comp=Z,2.6nm,0.3s						
AKASG	**Malin Array Be**	**87.27**	**325**	P	**P**	**16 15 52.7**	**-0.2**
	comp=Z,0.6nm,0.4s,baz=50,slow=5.6,SNR=4.6						
	comp=Z,0.6nm,0.4s						
HFS	**Hagfors**	**88.32**	**337**	P	**P**	**16 15 57.8**	**+0.1**
	comp=Z,0.9nm,0.4s,baz=67,slow=3.9,SNR=18						
	comp=Z,0.9nm,0.4s						
NOA	**NORSAR Array B**	**88.52**	**339**	P	**P**	**16 15 58.6**	**-0.2**
	comp=Z,0.5nm,0.7s,baz=50,slow=4.1,SNR=1.1						
	comp=Z,0.5nm,0.7s						
PLCA	**Paso Flores**	**145.81**	**130**	PKPbc	**PKiKP**	**16 22 46.5**	**-2.0**
	comp=Z,1.8nm,0.8s,baz=230,slow=3.8,SNR=6.7						
LPAZ	**La Paz**	**149.39**	**84**	PKPbc	**PKPab**	**16 22 57.8**	**-3.6**
	comp=Z,1.2nm,1.0s,baz=245,slow=3.3,SNR=4.0						

*IDC **26** 16:09:48.8±0.9, 6°.08S×103°.47E, h0km, mb4.2/18, mbtmp4.2/19, ML3.8/1, MS3.4/7, Error ellipse: s-maj=27.3km s-min=12.6km az=39.0*
*DJA **26** 16:09:52.3±0.4, 6°.5S±5°×10°.3E±°, h46km±10km, M4.7/13, mb4.7/11, mB5.1/1, MLv4.7/13, Mw4.3/24, Mw(mB)4.4/1*
*NEIC **26** 16:09:53.3±1.4, 6°.2S±0°.1×103°.4E±0°.1, h35km±2km, mb4.5/18, Error ellipse: s-maj=23.6km s-min=10.4km az=228.0*

ISC 26 16:09:53.6±0.7, 6°.16S±0°.10×103°.45E±0°.07, h38km, n84, σ1s41/71, mb4.4/24, MS3.6/5, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KASI	**Kota Agung**	**1.22**	**59**	P	**Pn**	**16 10 15.7**	**+1.7**
LWLI	**Liwa**	**1.28**	**28**	P	**Pn**	**16 10 17.1**	**+2.0**
MNAI	**Manna**	**1.85**	**345**	P	**Pn**	**16 10 24.4**	**+1.6**
MNAI	**Manna**	**1.85**	**345**		**Pn**	**16 10 24.4**	**+1.6**
MNAI	**Manna**	**1.85**	**345**	P	**Pn**	**16 10 24.4**	**+1.6**
BLSI	**Bandar Lampung**	**1.95**	**66**	P	**Pn**	**16 10 25.7**	**+1.5**
SBJI	**Serang**	**2.67**	**89**	P	**Pn**	**16 10 34.4**	**+0.4**
SKJI	**Sukabumi**	**3.20**	**105**	P	**Pn**	**16 10 39.7**	**-1.6**
CNJI	**Cibinong**	**3.83**	**108**	P	**Pn**	**16 10 50.6**	**+0.6**
LEM	**Lembang**	**4.19**	**99**	Pn	**Pn**	**16 10 55.4**	**+0.2**
	5.1nm,0.3s,baz=353,slow=22,SNR=2.1						
LEM				Sn	**Sn**	**16 11 46.2**	**+3.2**
	10nm,0.3s,baz=3.1,slow=22,SNR=3.7						
LEM				Lg	Lg	16 12 02.6	
	baz=171,slow=21						
LEM				LR	LR	16 12 54.5	
	comp=Z,254nm,19.7s,baz=296,slow=44						
	16nm,0.3s						
BBJI	**Bungbulang**	**4.37**	**108**	P	**Pn**	**16 10 58.5**	**+1.0**
PPSI	**Pulau Pagai**	**4.81**	**314**	P	**Pn**	**16 11 03.8**	**+0.3**
CMJI	**Cimerak**	**5.22**	**108**	P	**Pn**	**16 11 08.9**	**-0.2**
	108nm,1.3s,0.7nm						
DSRI	**Dabo**	**5.75**	**11**	P	**Pn**	**16 11 17.4**	**+1.0**
	24nm,0.6s,0.2nm						
PDSI	**Padang**	**6.00**	**330**	P	**Pn**	**16 11 19.6**	**-0.3**
SISI	**Saibi**	**6.48**	**318**	P	**Pn**	**16 11 25.9**	**-0.5**
	35nm,0.8s,0.2nm						
UGM	**Wanagama**	**7.23**	**104**	P	**Pn**	**16 11 39.5**	**+2.7**
UGM	**Wanagama**	**7.23**	**104**	Pn	**Pn**	**16 11 39.4**	**+2.5**
UGM	**Wanagama**	**7.23**	**104**	P	**Pn**	**16 11 38.5**	**+1.7**
	116nm,1.4s,0.8nm						
PBSI	**Pulau Batu**	**7.96**	**319**	P	**Pn**	**16 11 46.4**	**-0.4**
	191nm,1.4s						
PWJI	**Pagerwojo**	**8.49**	**103**	P	**Pn**	**16 11 55.6**	**+1.5**
	36nm,0.7s						
**JAGI

baz=65,slow=75,SNR=234
H04N1 CROZET ISLANDS 59.66 219 T T 17 24 18.9
baz=65,slow=75,SNR=358
H04N3 CROZET ISLANDS 59.66 219 T T 17 24 17.6
baz=65,slow=75,SNR=238
H04S1 CROZET ISLANDS 59.87 218 T T 17 24 34.3
baz=64,slow=75,SNR=28
H04S3 CROZET ISLANDS 59.88 218 T T 17 24 31.2
baz=64,slow=75,SNR=48
H04S2 CROZET ISLANDS 59.88 218 T T 17 24 32.5
baz=64,slow=75,SNR=40
CASY Casey 60.22 177 P **P** **16 19 55.9 -1.6**
KURBB Kurchatov Arra 60.51 342 P **P** **16 20 00.2 +0.5**
comp=Z,1.4nm,0.7s,baz=160,slow=6.4,SNR=12
KURK Kurchatov 60.57 342 P **P** **16 20 00.2 +0.2**
KURK IAmb IAmb 16 20 03.5
comp=Z,2.9nm,0.8s
ASAJ Asahikawa 61.22 31 P **P** **16 20 04.5 -0.2**
comp=Z,5.0nm,0.7s,baz=229,slow=6.2,SNR=7.7
ASAJ LR LR 16 48 19.4
comp=Z,39nm,18.4s,baz=174,slow=38
comp=Z,5.0nm,0.7s
JKA Kamikawa-asahi 61.22 31 P **P** **16 20 04.4 -0.3**
ZAA0 Zalesovo Array 61.90 348 P **P** **16 20 08.8 -0.3**
ZAA0 IAmb IAmb 16 20 10.9
comp=Z,5.5nm,0.8s
ZALV Zalesovo Beam 61.90 348 P **P** **16 20 08.8 -0.3**
ZALV Zalesovo Beam 61.90 348 P **P** **16 20 09.2 +0.1**
comp=Z,3.8nm,0.3s,baz=171,slow=5.4,SNR=17
comp=Z,3.8nm,0.3s
BVAR Borovoye Array 65.26 339 P **P** **16 20 31.5 +0.2**
comp=Z,2.2nm,0.4s,baz=133,slow=8.9,SNR=15
comp=Z,2.2nm,0.4s
MAW Mawson 67.18 196 LR LR 16 44 45.0
comp=Z,54nm,21.1s,baz=36,slow=31
KBZ Khabaz 73.68 319 P **P** **16 21 24.9 +1.4**
comp=Z,2.9nm,0.8s,baz=160,slow=5.3,SNR=3.5
comp=Z,2.9nm,0.8s
PETK Petropavlovsk- 74.62 30 P **P** **16 21 28.0 -0.8**
comp=Z,1.7nm,1.0s,baz=262,slow=0.8,SNR=5.3
comp=Z,1.7nm,1.0s
LBTB Lobatse 76.43 246 LR LR 16 48 57.8
comp=Z,47nm,19.9s,baz=87,slow=31
BRTR Keskin Array B 78.65 312 P **P** **16 21 52.5 +0.5**
comp=Z,0.5nm,0.7s,baz=163,slow=5.2,SNR=3.3
comp=Z,0.5nm,0.7s
FINES FINESS Array B 89.37 332 P **P** **16 22 47.1 +1.2**
comp=Z,0.8nm,0.5s,baz=104,slow=8.0,SNR=10
comp=Z,0.8nm,0.5s
TXAR Lajitas Array 145.56 45 PKPbc **PKiKP** **16 29 30.4 -2.2**
comp=Z,4.0nm,0.5s,baz=305,slow=1.1,SNR=74

NEIC ***26*** *16:17:50.4±2.2,51.7N±0.1×175.91W±0.09,h51km±15km, mb3.8/50,ML3.9(AEIC),Error ellipse: s-maj=20.7km s-min=6.1km az=163.0*
AEIC ***26*** *16:17:50.2±2.7,51.8N±0.1×176.00W±0.08,h41km±8km, Error ellipse: s-maj=20.9km s-min=5.7km az=166.0*
IDC ***26*** *16:17:51.7±3.1,51.83N×175.98W,h72km±27km,mb3.3/11, mbtmp3.7/14,MS2.7/2,Error ellipse: s-maj=32.7km s-min=12.1km az=170.0*
ISC 26 16:17:50.1±1.3,51.6N±0.1×175.91W±0.04,h60km±11km, n95,σ1°06/94,mb3.7/18,Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ATKA	**Atka Island**	**1.23**	**60**		**Pn**	**16 18 10.1**	**-0.9**
ATKA					**Sn**	**16 18 25.6**	**-1.1**
KOKL	**Mount Kliuchef**	**1.29**	**55**		**Pn**	**16 18 11.9**	**-0.1**
KOKL					**Sn**	**16 18 28.1**	**-0.2**
KOFP	**Korovin Flat P**	**1.31**	**58**		**Pn**	**16 18 12.1**	**-0.2**
CEPE	**Semis' Perret**	**2.78**	**279**		**Pn**	**16 18 32.3**	**+0.1**
CEPE					**Sn**	**16 19 03.3**	**-1.2**
CERB	**Semis' Cerberu**	**2.79**	**279**		**Pn**	**16 18 32.5**	**+0.2**
CERB					**Sn**	**16 19 05.3**	**+0.6**
CESW	**Semis' Southwe**	**2.83**	**278**		**Pn**	**16 18 32.7**	**-0.1**
CEAP	**Semis' Anvil P**	**2.83**	**280**		**Pn**	**16 18 33.1**	**+0.3**
AMKA	**Amchitka**	**3.00**	**268**		**Pn**	**16 18 35.3**	**+0.2**
AMKA					**Sn**	**16 19 10.1**	**+0.2**
LSPA	**Little Sitkin**	**3.44**	**278**		**Pn**	**16 18 42.0**	**+0.8**
LSPA					**Sn**	**16 19 21.2**	**+0.4**
LSSE	**Little Sitkin**	**3.44**	**278**		**Pn**	**16 18 42.0**	**+0.8**
LSNW	**Little Sitkin**	**3.48**	**278**		**Pn**	**16 18 42.0**	**+0.3**
CLCO	**Concord Point,**	**3.99**	**70**		**Pn**	**16 18 49.2**	**+0.5**
NIKH	**Nikolski High**	**4.55**	**70**		**Pn**	**16 18 56.7**	**+0.3**
OKTU	**Okmok Mt. Tuli**	**5.13**	**67**		**Pn**	**16 19 05.4**	**+1.0**
MAPS	**Pakushin South**	**5.89**	**64**		**Pn**	**16 19 15.6**	**+0.9**
MNAT	**Makushin Natee**	**6.06**	**64**		**Pn**	**16 19 18.1**	**+1.1**
UNV	**Unalaska Valle**	**6.14**	**65**		**Sn**	**16 20 29.9**	**+2.9**
SHEM	**Shemya Is, Ala**	**6.25**	**284**	P	**Pn**	**16 19 18.9**	**-0.7**
	18nm,0.4s,baz=327,slow=1.3,SNR=12						
SHEM				S	**Sn**	**16 20 31.9**	**+2.3**
	5.5nm,0.4s,baz=249,slow=13,SNR=1.5						
SHEM				LR	LR	16 21 45.2	
	comp=Z,60nm,20.2s,baz=130,slow=38						
P08K	**Saint George I**	**6.26**	**34**		**Pn**	**16 19 19.4**	**-0.2**
SPIA	**Saint Paul Isl**	**6.50**	**28**		**Pn**	**16 19 24.4**	**+1.4**
KDAK	**Kodiak Island**	**14.80**	**56**	P	**Pn**	**16 21 14.0**	**-1.6**
	1.5nm,0.3s,baz=34,slow=14,SNR=1.4						
KDAK				S	**Sn**	**16 23 59.9**	**+1.7**
	6.1nm,1.0s,baz=69,slow=16,SNR=1.8						
L19K	**White Mountain**	**15.56**	**39**		**P**	**16 21 29.4**	**+0.7**
L19K				IAmb	IAmb	16 21 31.9	
	comp=Z,11nm,1.3s						
M19K	**Big River Lodg**	**15.60**	**40**	P	**P**	**16 21 29.5**	**+0.5**
M19K				IAmb	IAmb	16 21 31.8	
	comp=Z,3.9nm,0.8s						
J18K	**Innoko River**	**15.65**	**33**	P	**P**	**16 21 31.3**	**+1.6**
H17K	**Granite Mountain**	**15.73**	**26**	P	**P**	**16 21 30.3**	**-0.1**
H17K				IAmb	IAmb	16 21 31.1	
	comp=Z,7.7nm,1.4s						
CNPM	**China Poot**	**15.98**	**51**	Pn	**Pn**	**16 21 30.0**	**-0.8**
BRLK	**Bradley Lake**	**16.23**	**50**		**Pn**	**16 21 34.5**	**+0.6**
BRLK				IAmb	IAmb	16 21 55.4	
	comp=Z,19nm,1.4s						
G18K	**Tagagawik**	**16.80**	**25**	P	**P**	**16 21 44.5**	**+2.1**
G18K				IAmb	IAmb	16 22 19.4	
	comp=Z,8.0nm,1.4s						
SKT	**Skwentna**	**16.81**	**42**		**Pn**	**16 21 41.3**	**+0.1**
SKT				IAmb	IAmb	16 22 03.9	
	comp=Z,8.8nm,1.4s						
SUA	**Susitna One**	**16.92**	**45**	Pn	**Pn**	**16 21 41.3**	**-1.4**
SUA				IAmb	IAmb	16 22 01.3	
	comp=Z,8.5nm,1.2s						
I20K	**Naaghedeneel**	**17.26**	**32**		**Pn**	**16 21 46.6**	**-0.1**
CAST	**Castle Rocks**	**17.30**	**38**		**P**	**16 21 49.8**	**+1.8**
BPAW	**Bear Paw Mtn.**	**18.08**	**37**		**P**	**16 21 56.0**	**-0.5**
I21K	**Tanana**	**18.34**	**33**	P	**Pn**	**16 22 00.5**	**+0.7**
H21K	**Melozitna River**	**18.36**	**31**	P	**Pn**	**16 22 01.0**	**+0.9**
E19K	**Redstone River**	**18.38**	**23**	P	**Pn**	**16 22 00.5**	**+0.3**
RND	**Reindeer**	**18.56**	**40**		**P**	**16 22 00.9**	**-0.9**
RND				IAmb	IAmb	16 22 02.9	
	comp=Z,4.2nm,0.7s						
SCM	**Sheep Creek Mo**	**18.57**	**45**	P	**Pn**	**16 22 02.6**	**-0.2**
FID	**Port Fidalgo**	**18.62**	**49**	P	**P**	**16 22 01.4**	**-1.0**
MLY	**Manley**	**18.68**	**34**	P	**P**	**16 22 03.2**	**+0.2**
MLY				IAmb	IAmb	16 22 04.6	
	comp=Z,3.1nm,0.6s						
D19K	**Kuna River**	**19.00**	**20**	P	**P**	**16 22 06.6**	**+0.1**
DHY	**Denali Highway**	**19.02**	**42**		**P**	**16 22 06.5**	**-0.4**
KLU	**Klutina**	**19.09**	**47**	P	**P**	**16 22 08.4**	**+0.7**
M24K	**Tolsona, Glenn**	**19.18**	**45**	P	**Pn**	**16 22 09.4**	**-0.6**
I23K	**Minto, Yukon-K**	**19.23**	**35**	P	**P**	**16 22 07.3**	**-1.7**
I23K				IAmb	IAmb	16 22 11.2	
	comp=Z,3.3nm,0.6s						
WRH	**Wood River Hil**	**19.36**	**38**	P	**P**	**16 22 08.4**	**-2.1**
H23K	**Yukon River**	**19.54**	**33**	P	**P**	**16 22 12.0**	**-0.4**
H23K				IAmb	IAmb	16 22 20.9	
	comp=Z,7.0nm,1.4s						
MDM	**Murphy Dome**	**19.55**	**36**	P	**P**	**16 22 11.5**	**-1.0**
MDM				IAmb	IAmb	16 22 14.7	
	comp=Z,6.0nm,1.4s						
CCB	**Clear Creek Bu**	**19.55**	**37**	P	**P**	**16 22 10.6**	**-1.9**
CCB				IAmb	IAmb	16 22 18.1	
	comp=Z,7.1nm,1.4s						
HDA	**Harding Lake**	**19.77**	**38**	P	**P**	**16 22 15.2**	**+0.3**
HDA				IAmb	IAmb	16 22 28.7	
	comp=Z,3.2nm,0.7s						
IL31		**19.96**	**38**	P	**P**	**16 22 16.6**	**-0.3**
IL31				IAmb	IAmb	16 22 59.9	
	comp=Z,6.1nm,1.4s						
ILAR	**Eielson Array**	**19.96**	**38**	P	**P**	**16 22 14.8**	**-2.2**
	comp=Z,0.6nm,0.5s,baz=226,slow=10,SNR=13						
H24K	**Noodor Dome**	**20.12**	**34**		**P**	**16 22 19.4**	**+0.6**
H24K				IAmb	IAmb	16 22 39.3	
	comp=Z,3.3nm,0.8s						
MA2	**Magadan**	**20.27**	**306**	LR	LR	16 30 47.6	
	comp=Z,24nm,19.1s,baz=152,slow=39						
E22K	**Anaktuvuk Pass**	**20.28**	**26**	P	**P**	**16 22 20.5**	**0.0**
J25K	**Salcha River,**	**20.47**	**39**		**P**	**16 22 21.2**	**-1.4**
J25K				IAmb	IAmb	16 22 35.5	
	comp=Z,2.9nm,0.7s						
D22K	**Ayikyak River**	**20.57**	**24**	P	**P**	**16 22 21.8**	**-1.8**
B21K	**Ikpikpuk River**	**20.66**	**21**	P	**P**	**16 22 24.1**	**-0.4**
B21K				IAmb	IAmb	16 22 29.2	
	comp=Z,3.7nm,0.6s						
SCRK	**Sand Creek**	**20.77**	**41**	P	**P**	**16 22 24.6**	**-1.3**
SCRK				IAmb	IAmb	16 22 26.0	
	comp=Z,4.7nm,0.8s						
J26L	**Joseph Creek**	**21.14**	**40**	P	**P**	**16 22 28.6**	**-1.2**
E24K	**Your Creek**	**21.20**	**29**	P	**P**	**16 22 29.3**	**-1.0**
TOLK	**Toolik Lake Re**	**21.24**	**27**	P	**P**	**16 22 29.9**	**-0.9**
TOLK				IAmb	IAmb	16 22 51.3	
	comp=Z,4.3nm,1.1s						
L27K	**Beaver Creek,**	**21.39**	**44**	P	**P**	**16 22 32.8**	**+0.4**
K27K	**Chicken**	**21.58**	**42**	P	**P**	**16 22 34.1**	**-0.3**
C23K	**Itkillik River**	**21.77**	**24**	P	**P**	**16 22 35.8**	**-0.6**
C23K				IAmb	IAmb	16 22 39.9	
	comp=Z,8.0nm,1.4s						
BMAR	**Burnt Mountain**	**22.07**	**32**	P	**P**	**16 22 39.2**	**-0.5**
EGAK	**Eagle**	**22.21**	**40**	P	**P**	**16 22 40.1**	**-1.0**
D25K	**Kavik River**	**22.57**	**27**	P	**P**	**16 22 44.1**	**-0.9**
I28M	**Miner Creek**	**22.92**	**39**	P	**P**	**16 22 47.4**	**-1.4**
I28M				IAmb	IAmb	16 23 13.9	
	comp=Z,4.4nm,1.2s						
K29M	**Barlow Dome**	**23.46**	**44**	P	**P**	**16 22 53.1**	**-0.9**
K29M				IAmb	IAmb	16 22 54.0	
	comp=Z,2.2nm,0.8s						
J30M	**Hart River**	**24.14**	**42**	P	**P**	**16 22 59.5**	**-0.7**
J30M				IAmb	IAmb	16 23 01.1	
	comp=Z,1.9nm,0.7s						
I30M	**Mount Dempster**	**24.28**	**41**	P	**P**	**16 23 00.5**	**-1.0**
I30M				IAmb	IAmb	16 23 26.8	
	comp=Z,5.9nm,1.4s						
E29M	**Blow River**	**24.76**	**33**	P	**P**	**16 23 07.1**	**+1.4**
E29M				IAmb	IAmb	16 23 11.4	
	comp=Z,4.3nm,1.4s						
U33K	**Whale Pass**	**25.33**	**63**	P	**P**	**16 23 11.2**	**+0.3**
YKA	**Yellowknife Ar**	**33.77**	**47**	P	**P**	**16 24 25.6**	**0.0**
	comp=Z,0.4nm,0.7s,baz=285,slow=9.3,SNR=4.3						
YKA				PcP	**PcP**	**16 27 04.2**	**+0.8**
	comp=Z,0.7nm,0.6s,baz=291,slow=3.6,SNR=8.9						
	comp=Z,0.4nm,0.7s						
H11N2	**WAKE ISLAND Hy 34.55 209**			T	T	17 01 08.4	
	baz=18,slow=76,SNR=309						
H11N3	**WAKE ISLAND Hy 34.56 209**			T	T	17 01 09.1	
	baz=18,slow=76,SNR=399						
H11N1	**WAKE ISLAND Hy 34.57 209**			T	T	17 01 13.2	
	baz=18,slow=76,SNR=289						
MJAR	**Matsushiro Arr 35.60 263**			P	**P**	**16 24 40.7**	**-1.1**
	comp=Z,0.4nm,0.6s,baz=46,slow=7.2,SNR=1.5						
	comp=Z,0.4nm,0.6s						
H11S1	**WAKE ISLAND Hy 35.76 209**			T	T	17 02 50.0	
	baz=19,slow=76,SNR=180						
H11S2	**WAKE ISLAND Hy 35.77 209**			T	T	17 02 51.0	
	baz=19,slow=76,SNR=96						
H11S3	**WAKE ISLAND Hy 35.78 209**			T	T	17 02 52.8	
	baz=19,slow=76,SNR=52						
KSRS	**Korea Array 41.43 273**			P	**P**	**16 25 31.7**	**+1.1**
	comp=Z,1.3nm,0.7s,baz=48,slow=6.9,SNR=5.8						
	comp=Z,1.3nm,0.7s						
NVAR	**Mina Array Bea 41.73 85**			P	**P**	**16 25 33.6**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=273,slow=7.1,SNR=1.8						
	comp=Z,0.2nm,0.5s						
PDAR	**Pinedale Array 44.52 74**			P	**P**	**16 25 56.0**	**+0.2**
	comp=Z,0.8nm,0.6s,baz=294,slow=6.5,SNR=6.0						
	comp=Z,0.8nm,0.6s						
TXAR	**Lajitas Array 56.84 83**			P	**P**	**16 27 28.6**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=312,slow=5.7,SNR=4.9						
	comp=Z,0.4nm,0.8s						
KURBB	**Kurchatov Arra 60.27 315**			P	**P**	**16 27 50.6**	**-1.2**
	comp=Z,0.5nm,0.4s,baz=41,slow=6.9,SNR=10						
	comp=Z,0.5nm,0.4s						
MKAR	**Makanchi Array 61.29 310**			P	**P**	**16 27 56.6**	**-2.4**
	comp=Z,0.5nm,0.8s,baz=45,slow=7.2,SNR=2.4						
	comp=Z,0.5nm,0.8s						
CMAR	**Chiang Mai Arr 72.78 278**			P	**P**	**16 29 11.4**	**-0.8**
	comp=Z,0.8nm,0.8s,baz=27,slow=8.1,SNR=4.7						
	comp=Z,0.8nm,0.8s						
WRA	**Warramunga Arr 83.44 226**			P	**P**	**16 30 11.3**	**+0.3**
	comp=Z,0.6nm,0.9s,baz=35,slow=6.1,SNR=3.3						
	comp=Z,0.6nm,0.9s						
ASAR	**Alice Springs 86.89 225**			P	**P**	**16 30 29.2**	**+1.1**
	comp=Z,0.5nm,0.8s,baz=29,slow=5.6,SNR=5.2						
	comp=Z,0.5nm,0.8s						
H03N2	**Juan Fernandez 119.48 108**			T	T	18 47 53.7	
	baz=317,slow=77,SNR=28						
H03N1	**Juan Fernandez 119.49 108**			T	T	18 47 55.3	
	baz=317,slow=77,SNR=22						
H03N3	**Juan Fernandez 119.50 108**			T	T	18 47 54.6	
	baz=317,slow=77,SNR=31						
BOSA	**Boshof 152.10 317**			PKPbc	**PKiKP**	**16 37 38.1**	**-0.7**
	comp=Z,2.8nm,0.9s,baz=48,slow=2.9,SNR=5.7						

IDC ***26*** *16:36:30.9±0.9,23.72S×111.59W,h0km,mb3.7/4, mbtmp3.7/5,ML4.1/1,MS3.7/16,Error ellipse: s-maj=44.7km s-min=26.9km az=59.0*
ISC 26 16:36:32.0±1.0,23.8S±0.2×111.6W±0.3,h10km,n34, σ0°63/10,mb3.7/4,MS3.7/16,Easter Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RPN	**Rapa Nui**	**3.93**	**149**	Pn	**Pn**	**16 37 32.0**	**-0.5**
	13nm,0.3s,baz=141,slow=21,SNR=28						
RPN				T	T	16 41 48.3	
	63nm,0.5s,baz=104,slow=19,SNR=5.4						
	48nm,0.5s						
H03N2	**Juan Fernandez 30.16 116**			T	T	17 14 52.0	
	baz=285,slow=75,SNR=28						
H03N3	**Juan Fernandez 30.16 116**			T	T	17 14 55.0	
	baz=285,slow=75,SNR=28						
H03N1	**Juan Fernandez 30.17 116**			T	T	17 14 50.7	
	baz=285,slow=75,SNR=34						
NNA	**Nana 34.99 77**			LR	LR	16 53 53.4	
	comp=Z,129nm,18.7s,baz=208,slow=30						
ATAH	**Atahualpa 35.88 68**			LR	LR	16 54 20.6	
	comp=Z,144nm,21.8s,baz=230,slow=30						
LVC	**Linn Verde 39.15 97**			LR	LR	16 56 10.4	
	comp=Z,51nm,18.5s,baz=250,slow=30						
LPAZ	**La Paz 41.39 88**			P	**P**	**16 44 20.1**	**+0.6**
	1.0nm,0.6s,baz=251,slow=4.6,SNR=5.6						
LPAZ				LR	LR	16 57 32.6	
	comp=Z,81nm,19.9s,baz=224,slow=30						
	1.0nm,0.6s						
JTS	**Las Juntas de 42.71 41**			LR	LR	16 58 32.1	
	comp=Z,36nm,21.3s,baz=208,slow=31						
RAR	**Rarotonga 44.42 263**			LR	LR	16 59 26.1	
	comp=Z,101nm,18.3s,baz=145,slow=31						
ROSC	**El Rosal 46.14 57**			LR	LR	17 01 20.4	
	comp=Z,79nm,20.0s,baz=229,slow=32						
LPIG	**La Paz 47.59 2**			LR	LR	17 00 10.2	
	comp=Z,77nm,19.3s,baz=220,slow=30						
SIV	**San Ignacio 47.94 90**			LR	LR	17 02 38.5	
	comp=Z,44nm,20.1s,baz=294,slow=33						
CPUP	**Villa Florida 48.94 105**			LR	LR	17 01 57.5	
	comp=Z,60nm,18.3s,baz=222,slow=31						
SDV	**Santo Domingo 51.52 56**			LR	LR	17 04 42.9	
	comp=Z,58nm,19.5s,baz=301,slow=33						
PCRV	**Puerto La Cruz 56.96 59**			LR	LR	17 08 36.3	
	comp=Z,64nm,19.3s,slow=34						
ANMO	**Albuquerque 58.59 5**			LR	LR	17 06 56.7	
	comp=Z,46nm,18.3s,baz=276,slow=31						
BDFB	**Brasilia 60.00 95**			LR	LR	17 10 21.4	
	comp=Z,69nm,18.4s,baz=287,slow=34						
URZ	**Urrutia 61.42 238**			LR	LR	17 09 15.1	
	comp=Z,128nm,19.4s,baz=34,slow=32						
NVAR	**Mina Array Bea 62.18 354**			P	**P**	**16 46 53.8**	**0.0**
	0.5nm,0.7s,baz=185,slow=9.5,SNR=2.9						
	0.5nm,0.7s						
MDP	**Montagnes des 64.20 71**			LR	LR	17 12 31.1	
	comp=Z,100nm,18.3s,baz=228,slow=34						
SNAA	**Sanae 73.33 162**			P	**P**	**16 48 04.0**	**+0.4**
	0.5nm,0.6s,baz=270,slow=8.1,SNR=1.4						
	0.5nm,0.6s						
YKA	**Yellowknife Ar 85.98 359**			P	**P**	**16 49 11.7**	**-0.4**
	0.2nm,0.6s,baz=169,slow=3.8,SNR=3.2						
	0.2nm,0.6s						
H11S2	**WAKE ISLAND Hy 90.04 290**			T	T	18 28 59.1	
	baz=115,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy 90.05 290**			T	T	18 28 58.5	
	baz=115,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy 90.06 290**			T	T	18 28 59.6	
	baz=115,slow=75,SNR=8.9						
H11N3	**WAKE ISLAND Hy 90.38 291**			T	T	18 29 29.4	
	baz=116,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy 90.39 291**			T	T	18 29 30.2	
	baz=116,slow=75,SNR=6.8						
H11N2	**WAKE ISLAND Hy 90.40 291**			T	T	18 29 24.0	
	baz=116,slow=75,SNR=25						
BRTR	**Keskin Array B 146.67 53**			PKPbc	**PKPab**	**16 56 14.8**	**-0.8**
	1.2nm,0.9s,baz=270,slow=0.2,SNR=5.3						
ZALV	**Zalesovo Beam 147.42 342**			PKPbc	**PKPbc**	**16 56 15.4**	**-0.4**
	0.9nm,0.5s,baz=26,slow=3.8,SNR=3.9						
CMAR	**Chiang Mai Arr 151.06 265**			PKPbc	**PKiKP**	**16 56 27.6**	**+0.9**
	1.9nm,1.0s,baz=172,slow=0.9,SNR=7.0						
KURBB	**Kurchatov Arra 152.05 346**			PKPbc	**PKPbc**	**16 56 27.0**	**-0.4**
	0.7nm,0.6s,baz=26,slow=1.6,SNR=6.4						
MKAR	**Makanchi Array 154.45 338**			PKPbc	**PKiKP**	**16 56 33.1**	**+0.2**
	0.5nm,0.7s,baz=29,slow=4.1,SNR=3.5						

IDC 26 17:07:30.4±1.1,54.82S×127.95W,h0km,mb3.6/5, mbtmp3.6/5,MS3.5/3,Error ellipse: s-maj=47.9km s-min=28.5km az=149.0,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMSA	**Palmer Station 32.22 134**			LR	LR	17 23 46.7	
	comp=Z,57nm,18.7s,baz=196,slow=30						
QSPA	**South Pole Qui 35.35 180**			P	P	17 14 27.0	-0.3
	1.2nm,1.1s,baz=145,slow=18,SNR=1.7						
QSPA				LR	LR	17 26 02.3	
	comp=Z,74nm,18.1s,baz=42,slow=31						
	1.2nm,1.1s						
H03N3	**Juan Fernandez 40.12 78**			T	T	17 57 14.8	
	baz=223,slow=72,SNR=21						
H03N2	**Juan Fernandez 40.12 78**			T	T	17 57 17.4	
	baz=223,slow=72,SNR=35						
H03N1	**Juan Fernandez 40.13 78**			T	T	17 57 17.4	
	baz=223,slow=72,SNR=22						
SNAA	**Sanae 48.06 160**			LR	LR	17 35 48.7	
	comp=Z,59nm,18.1s,baz=320,slow=35						
LPAZ	**La Paz 59.55 74**			P	P	17 17 36.5	+0.1
	3.4nm,1.0s,baz=225,slow=2.9,SNR=7.3						
	3.4nm,1.0s						
ASAR	**Alice Springs 75.50 250**			P	P	17 19 16.4	-0.1
	0.2nm,0.7s,baz=141,slow=7.2,SNR=5.1						
	0.2nm,0.7s						
H01W1	**Cape Leeuwin H 76.00 228**			T	T	18 43 57.6	
	baz=148,slow=76,SNR=5.2						
H01W2	**Cape Leeuwin H 76.01 228**			T	T	18 43 56.1	
	baz=148,slow=76,SNR=5.0						
H01W3	**Cape Leeuwin H 76.02 228**			T	T	18 43 54.6	
	baz=148,slow=76,SNR=5.0						
WRA	**Warramunga Arr 78.26 252**			P	P	17 19 32.5	+0.4
	0.6nm,0.9s,baz=142,slow=5.3,SNR=5.6						
	0.6nm,0.9s						
TXAR	**Lajitas Array 86.38 21**			P	P	17 20 13.8	-0.4
	0.1nm,0.3s,baz=172,slow=2.7,SNR=1.6						
	0.1nm,0.3s						

JMA ***26*** *17:40:26.5±0.1,37.6N±0.2×141.6E±0.5,h44km±1km, MV3.6/38,E OFF FUKUSHIMA PREF*
ISC 26 17:40:26.9±1.8,37.60N±0.05×141.60E±0.08,h24km±14km, n19,σ1°00/28,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMST	**Minamisoumatoc**	**0.58**	**282**	*i* P	**Pn**	**17 40 38.7**	**-0.8**
JMST				S	**Sb**	**17 40 47.4**	**+1.2**
JFK	**Kawauchi**	**0.62**	**248**	*i* P	**Pn**	**17 40 39.1**	**-1.1**
JFK				*e*S	**Sb**	**17 40 47.9**	**+0.3**
JMM	**Marumori**	**0.69**	**292**	P	**Pn**	**17 40 40.4**	**-0.7**
JMM	**Marumori**	**0.69**	**292**	*i* P	**Pn**	**17 40 40.5**	**-0.7**
JMM				*e*S	**Sb**	**17 40 50.1**	**+0.7**
JIKH	**Ishinomakikobu**	**0.71**	**352**	*i* P	**Pn**	**17 40 40.7**	**-0.7**
JIKH				*e*S	**Sb**	**17 40 50.5**	**+0.4**
ONAJ	**Iwakimizuishiy**	**0.81**	**232**	*i* P	**Pn**	**17 40 41.4**	**-1.4**
ONAJ				*e*S	**Sb**	**17 40 51.9**	**-1.0**
JIO	**Ouri**	**0.87**	**347**	*i* P	**Pb**	**17 40 43.0**	**-0.4**
JIO				*e*S	**Sb**	**17 40 54.4**	**-0.3**
JOTO	**OTAMA OYAMA**	**1.01**	**268**	P	**Pb**	**17 40 45.3**	**-0.4**
JOTO				*e*S	**Sn**	**17 40 58.6**	**-0.3**
JOU	**Okura**	**1.06**	**316**	P	**Pn**	**17 40 45.9**	**-0.4**
JOU				*e*S	**Sn**	**17 40 59.7**	**-0.6**
JYS	**Shirataka**	**1.36**	**297**	*e*P	**Pn**	**17 40 50.4**	**0.0**
JMK	**Ichinoseki**	**1.38**	**348**	*e*P	**Pn**	**17 40 50.3**	**-0.3**
JFY	**Yanaizu**	**1.52**	**263**	*e*P	**Pn**	**17 40 51.9**	**-0.7**
JYK	**Kaneyama**	**1.64**	**324**	*e*P	**Pn**	**17 40 54.0**	**-0.1**
JYK				*e*S	**Sn**	**17 41 14.5**	**+0.1**
JSD	**Sado**	**2.68**	**280**	P	**Pn**	**17 41 08.6**	**+0.1**
MAJO	**Matsushiro**	**2.91**	**250**	P	**Pn**	**17 41 13.8**	**+2.1**
JTM	**Tenmabayashi**	**3.21**	**353**	P	**Pn**	**17 41 17.2**	**+1.5**
**

PASA	**Karahalli, USA**	**0.42**	**11**	P	Pg	17 45 53.3	-0.2
PASA				S	Sg	17 45 59.9	+0.8

AFAD 26 17:45:50.8±0.0, 37.02N×30.57E, h7km±6km, ML1.9, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KORT	**Korkueli**	**0.18**	**264**	P	Pg	17 45 54.3	-0.2
KORT				S	Sg	17 45 54.8	-2.2
KORT				*i* AML	AML	17 45 57.0	
	comp=N,2μm,0.2s						
KORT				*i* AML	AML	17 45 57.0	
	comp=E,2μm,0.2s						
KNIK	**Mula-Seydike**	**0.82**	**258**	P	Pb	17 46 07.9	+0.5
KNIK				S	Sb	17 46 19.7	+1.0
KNIK				*i* AML	AML	17 46 21.0	
	comp=N,19nm,0.3s						
KNIK				*i* AML	AML	17 46 22.0	
	comp=E,18nm,0.5s						
KNIK	**Mula-Seydike**	**0.82**	**258**	P	Pb	17 46 07.9	+0.5
KNIK				S	Sb	17 46 18.9	+0.2
KNIK				*i* AML	AML	17 46 25.0	
	comp=N,8.4nm,1.1s						
KNIK				*i* AML	AML	17 46 27.0	
	comp=E,9.7nm,0.7s						
GOLH	**Golhisar**	**0.84**	**285**	P	Pn	17 46 09.6	+0.4
GOLH				S	Sb	17 46 18.8	-0.4
GOLH				*i* AML	AML	17 46 26.0	
	comp=N,15nm,0.3s						
GOLH				*i* AML	AML	17 46 26.0	
	comp=E,20nm,0.6s						
GOLH	**Golhisar**	**0.84**	**285**	P	Pn	17 46 09.4	+0.3
GOLH				S	Sb	17 46 19.3	+0.1

*IDC **26** 17:51:00.3±1.2, 61.41S×55.08W, h0km, mb3.9/6, mbtmp3.8/6, MS2.7/1, Error ellipse: s-maj=57.1km s-min=24.3km az=71.0*
*NEIC **26** 17:51:02.1±2.1, 61.53S±0.09×54.9W±0.1, h10km±1km, mb4.1/7, Error ellipse: s-maj=15.4km s-min=11.4km az=158.0*

ISC 26 17:51:02.4±0.6, 61.47S±0.08×55.0W±0.1, h10km, n34, σ1s21/32, mb4.0/8, South Shetland Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ORCD	**Orcadas**	**5.04**	**86**		Pn	17 52 12.1	-5.8
PMSA	**Palmer Station**	**5.27**	**227**	Pn	**Pn**	**17 52 21.4**	**+0.3**
PMSA	**Palmer Station**	**5.27**	**227**	LR	LR	17 53 37.4	
	comp=Z,76nm,21.2s,baz=38,slow=30						
SMAI	**San Martin Ant**	**8.43**	**212**	Pn	**Pn**	**17 53 03.5**	**-0.8**
MG03	**Isla Dawson**	**11.24**	**306**	Pn	**Pn**	**17 53 43.7**	**+0.8**
MG02	**Cerro Sombrero**	**11.61**	**312**	Pn	**Pn**	**17 53 49.7**	**+1.7**
HOPE	**Hope Point**	**12.17**	**62**	Pn	**Pn**	**17 53 55.8**	**+0.1**
BELA	**Belgrano 2**	**17.72**	**166**	P	**Pn**	**17 55 08.3**	**-0.6**
SNAA	**Sanae**	**22.28**	**139**	P	**P**	**17 56 01.8**	**+2.4**
SNAA				IAmb	IAmb	17 56 33.4	
	comp=Z,11nm,1.5s						
SNAA	**Sanae**	**22.28**	**139**	P	**P**	**17 56 01.1**	**+1.7**
	comp=Z,0.8nm,0.7s,baz=320,slow=10,SNR=2.2						
	comp=Z,0.8nm,0.7s						
PLCA	**Paso Flores**	**22.82**	**328**	P	**P**	**17 56 05.3**	**0.0**
PLCA				IAmb	IAmb	17 56 41.4	
	comp=Z,3.2nm,1.1s						
PLCA	**Paso Flores**	**22.82**	**328**	P	**P**	**17 56 05.5**	**+0.2**
	comp=Z,2.1nm,0.8s,baz=154,slow=8.4,SNR=6.0						
	comp=Z,2.1nm,0.8s						
TRQA	**Tornquist**	**23.84**	**346**	P	**P**	**17 56 17.1**	**+1.6**
TRQA				IAmb	IAmb	17 56 38.8	
	comp=Z,11nm,1.1s						
QSPA	**South Pole Qui**	**28.76**	**180**	P	**P**	**17 57 00.8**	**+0.9**
QSPA				IAmb	IAmb	17 57 04.9	
	comp=Z,3.0nm,0.7s						
QSPA	**South Pole Qui**	**28.76**	**180**	P	**P**	**17 57 01.1**	**+1.2**
	comp=Z,2.9nm,0.6s,baz=334,slow=1.0,SNR=37						
	comp=Z,2.9nm,0.6s						
AC01	**Pan de Azucar**	**36.86**	**336**	P	**P**	**17 58 10.9**	**+0.3**
SBA	**Scott Base**	**38.60**	**193**	P	**P**	**17 58 27.5**	**+2.6**
SBA				IAmb	IAmb	17 58 29.4	
	comp=Z,3.7nm,1.0s						
VNDA	**Vanda**	**39.41**	**192**	P	**P**	**17 58 31.1**	**-0.5**
	comp=Z,0.2nm,0.3s,baz=324,slow=7.8,SNR=1.7						
	comp=Z,0.2nm,0.3s						
ASAR	**Alice Springs**	**94.86**	**188**	P	**P**	**18 04 23.5**	**-0.9**
	comp=Z,0.7nm,1.1s,baz=170,slow=4.6,SNR=1.7						
	comp=Z,0.7nm,1.1s						
WRA	**Warramunga Arr**	**98.52**	**189**	P	**P**	**18 04 39.0**	**-2.1**
	comp=Z,0.4nm,1.1s,baz=180,slow=4.1,SNR=6.0						
	comp=Z,0.4nm,1.1s						
YKA	**Yellowknife Ar**	**131.62**	**328**	PKP	**PKPdf**	**18 10 12.2**	**-1.4**
	comp=Z,0.3nm,0.7s,baz=140,slow=1.3,SNR=4.9						
UBPT	**Khong Chiam**	**131.79**	**154**		**PKPdf**	**18 10 15.2**	**-0.3**
CAST	**Castle Rocks**	**144.10**	**310**		**PKPab**	**18 10 32.9**	**-1.4**
MLY	**Manley**	**144.55**	**313**		**PKPab**	**18 10 34.9**	**-1.0**
F24K	**Squaw Lake**	**144.99**	**318**		**PKPbc**	**18 10 37.2**	**-0.2**
I21K	**Tanana**	**145.07**	**313**		**PKPbc**	**18 10 36.3**	**-1.4**
G23K	**Bananza Creek**	**145.24**	**316**		**PKPbc**	**18 10 37.5**	**-0.8**
E24K	**Your Creek**	**145.48**	**319**		**PKPdf**	**18 10 38.0**	**-0.9**
H21K	**Melozitna Rive**	**145.62**	**313**		**PKPdf**	**18 10 38.4**	**-0.7**
J19K	**Poorman**	**145.73**	**310**		**PKPdf**	**18 10 39.1**	**-0.3**
J18K	**Innoko River**	**145.84**	**308**		**PKPdf**	**18 10 39.0**	**-0.5**
TOLK	**Toolik Lake Re**	**146.12**	**319**		**PKPdf**	**18 10 39.8**	**-0.2**
G21K	**Allakaket**	**146.32**	**314**		**PKPdf**	**18 10 40.2**	**-0.1**
MKAR	**Makanchi Array**	**151.62**	**101**	PKPbc	**PKPbc**	**18 10 54.3**	**-1.5**
	comp=Z,0.6nm,0.7s,baz=260,slow=4.2,SNR=4.4						

IDC 26 17:53:11.6±5.9, 30.74S×179.51W, h0km, mb3.5/2, mbtmp3.5/2, Error ellipse: s-maj=233.0km s-min=55.6km az=156.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**41.79**	**268**	P	P	18 01 02.8	-0.3
	0.2nm,0.4s,baz=106,slow=7.4,SNR=10						
	0.2nm,0.4s						
WRA	**Warramunga Arr**	**42.81**	**273**	P	P	18 01 11.3	-0.1
	0.6nm,0.6s,baz=113,slow=7.7,SNR=15						
	0.6nm,0.6s						
FINES	**FINESS Array B**	**145.00**	**339**	PKPbc	PKPbc	18 12 48.7	-0.7
	0.8nm,0.7s,baz=52,slow=5.4,SNR=8.0						

*KRNET **26** 18:19:40.3±0.1, 40.83N×77.43E, h18km, mb2.8*
*SOME **26** 18:19:40.1, 40.80N×77.58E, h10km*
*NNC **26** 18:19:42.9±0.8, 40.91N×77.65E, h0km, mb3.7, mpv3.3, Error ellipse: s-maj=5.5km s-min=4.3km az=173.0*
*KNET **26** 18:19:45.9±1.0, 41.27N×77.71E, h0km, ml2.6, Error ellipse: s-maj=25.1km s-min=6.7km az=51.0*

ISC 26 18:19:40.7±1.6, 40.80N±0.08×77.48E±0.03, h10km, n60, σ1s35/91, 31C-13D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn**	**1.28**	**300**	⇑*e*P	**Pn**	**18 20 03.8**	**-1.3**
	baz=99						
NRN				⇑*e*S	**Sb**	**18 20 21.8**	**-0.1**
	baz=99						
KDJ	**Kajisay**	**1.35**	**350**	⇑*e*P	**Pn**	**18 20 05.5**	**-0.3**
	baz=52						
KDJ				⇑*e*S	**Sb**	**18 20 23.6**	**0.0**
	baz=52						
ULHL	**Ulahol**	**1.72**	**328**	⇓P	**Pb**	**18 20 12.4**	**-0.1**
	5.5nm,0.2s						
ULHL				⇓S	**Sg**	**18 20 36.2**	**+0.2**
	31nm,0.4s						
ULHL	**Ulahol**	**1.72**	**328**	⇑*e*P	**Pb**	**18 20 11.9**	**-0.6**
	baz=28						
ULHL				⇑*e*S	**Sb**	**18 20 34.8**	**+0.5**
	baz=28						
PRZ	**Przheval'sk**	**1.82**	**22**	⇑*e*P	**Pb**	**18 20 14.2**	**0.0**
	baz=23						
PRZ				⇑*e*S	**Sg**	**18 20 39.3**	**+0.1**
	baz=23						
ANVS	**Anan'yevo**	**1.99**	**4**	⇑*e*P	**Pb**	**18 20 16.9**	**-0.2**
	baz=5.0						
ANVS				⇑*e*S	**Sg**	**18 20 43.5**	**-1.1**
	baz=5.0						
BOOM	**Boomskoye usch**	**2.05**	**326**	⇑*e*P	**Pb**	**18 20 17.6**	**-0.5**
	baz=27						
BOOM				⇑*e*S	**Sb**	**18 20 44.8**	**+1.1**
	baz=27						
TNSS	**Tian-Shan**	**2.27**	**350**	Pg	**Pb**	**18 20 22.8**	**+0.7**
	12nm,0.2s						
TNSS				Lg	Lg	18 20 53.6	
	20nm,0.4s						
TNSS	**Tian-Shan**	**2.27**	**350**	*e*P	**Pb**	**18 20 22.8**	**+0.7**
	12nm,0.2s						
TNSS				*e*S	**Sg**	**18 20 53.6**	**-0.1**
	20nm,0.4s						
IZV	**Izvestkoviy**	**2.33**	**344**	Pg	**Pb**	**18 20 23.9**	**+1.0**
	6.8nm,0.3s						
IZV				Lg	Lg	18 20 55.4	
	74nm,0.5s						
IZV	**Izvestkoviy**	**2.33**	**344**	*e*P	**Pb**	**18 20 23.9**	**+1.0**
	6.8nm,0.3s						
IZV				*e*S	**Sg**	**18 20 55.4**	**-0.1**
	74nm,0.5s						
SATY	**Saty**	**2.36**	**17**	Pg	**Pb**	**18 20 23.6**	**+0.2**
	10nm,0.5s						
SATY				Lg	Lg	18 20 55.0	
	42nm,0.0s						
SATY	**Saty**	**2.36**	**17**	*e*P	**Pb**	**18 20 23.6**	**+0.2**
	10nm,0.5s						
SATY				*e*S	**Sg**	**18 20 55.0**	**-1.6**
	42nm,0.0s						
MDOK	**Medeo**	**2.38**	**352**	⇑Pn	**Pb**	**18 20 22.0**	**-1.9**
	5.8nm,0.4s						
MDOK				Pg	**Pb**	**18 20 24.7**	**+0.9**
	4.8nm,0.1s						
MDOK				⇑Lg	Lg	18 20 56.4	
	64nm,0.8s						
MDOK				Lg	Lg	18 20 56.8	
	54nm,0.8s						
MDOK	**Medeo**	**2.38**	**352**	*e*P	**Pb**	**18 20 24.7**	**+0.9**
	4.8nm,0.1s						
MDOK				*e*S	**Sg**	**18 20 56.8**	**-0.5**
	54nm,0.8s						
AAA	**Alma-Ata**	**2.44**	**350**	Pg	**Pg**	**18 20 26.3**	**-1.2**
	21nm,0.1s						
AAA				Lg	Lg	18 20 59.5	
	123nm,0.4s						
AAA	**Alma-Ata**	**2.44**	**350**	*e*P	**Pg**	**18 20 26.3**	**-1.2**
	21nm,0.1s						
AAA				*e*S	**Sg**	**18 20 59.5**	**+0.3**
	123nm,0.4s						
KNDC	**Almaty**	**2.45**	**351**	⇓Pg	**Pb**	**18 20 25.5**	**+0.6**
	6.8nm,0.3s						
KNDC				⇑Lg	Lg	18 20 59.7	
	107nm,0.6s						
KOTS	**Kotyrbulak**	**2.45**	**354**	Pg	**Pb**	**18 20 25.9**	**+1.0**
	5.5nm,0.4s						
KOTS				Lg	Lg	18 20 59.0	
	135nm,1.1s						
KOTS	**Kotyrbulak**	**2.45**	**354**	*e*P	**Pb**	**18 20 25.9**	**+1.0**
	5.5nm,0.4s						
KOTS				*e*S	**Sg**	**18 20 59.0**	**-0.4**
	135nm,1.1s						
MTBS	**Maitube**	**2.46**	**342**	Pg	**Pb**	**18 20 25.9**	**+0.9**
	14nm,0.3s						
MTBS				Lg	Lg	18 20 58.9	
	26nm,0.5s						
MTBS	**Maitube**	**2.46**	**342**	*e*P	**Pb**	**18 20 25.9**	**+0.9**
	14nm,0.3s						
MTBS				*e*S	**Sg**	**18 20 58.9**	**-0.8**
	26nm,0.5s						
KST	**Kastek**	**2.51**	**334**	Pg	**Pb**	**18 20 27.0**	**+1.1**
	6.0nm,0.4s						
KST				Lg	Lg	18 21 00.8	
	25nm,0.6s						
KST	**Kastek**	**2.51**	**334**	*e*P	**Pb**	**18 20 27.1**	**+1.1**
	6.0nm,0.4s						
KST				*e*S	**Sg**	**18 21 00.8**	**-0.6**
	25nm,0.6s						
TKM2	**Tokmak 2**	**2.54**	**327**	⇓P	**Pb**	**18 20 27.4**	**+0.8**
	2.1nm,0.2s,SNR=11						
TKM2				⇑S	**Sg**	**18 21 01.0**	**-1.5**
	6.7nm,0.2s						
TKM2	**Tokmak 2**	**2.54**	**327**	⇑Pn	**Pb**	**18 20 26.4**	**-0.2**
	5.4nm,0.5s						
TKM2				⇓Lg	Lg	18 21 03.6	
	7.7nm,0.5s						
TKM2	**Tokmak 2**	**2.54**	**327**	⇓*e*P	**Pb**	**18 20 24.5**	**-2.1**
	baz=27						
TKM2				⇓*e*S	**Sb**	**18 20 56.7**	**-1.3**
	baz=27						
ARLS	**Aral**	**2.60**	**295**	⇑*e*P	**Pn**	**18 20 25.0**	**+2.0**
	baz=95						
ARLS				⇑*e*S	**Sb**	**18 20 57.8**	**-1.9**
	baz=95						
UZB	**Uzynbulak**	**2.61**	**26**	Pg	**Pb**	**18 20 27.9**	**+0.2**
	5.6nm,0.7s						
UZB				Lg	Lg	18 21 02.2	
	17nm,0.3s						
UZB	**Uzynbulak**	**2.61**	**26**	*e*P	**Pb**	**18 20 27.9**	**+0.2**
	5.6nm,0.7s						
UZB				*e*S	**Sg**	**18 21 02.2**	**-2.5**
	17nm,0.3s						
UCH	**Uchtor**	**2.65**	**304**	⇑*e*P	**Pb**	**18 20 26.3**	**-2.2**
	baz=4.0						
UCH				⇑*e*S	**Sb**	**18 20 59.4**	**-1.8**
	baz=4.0						
KBK	**Karagaybulak**	**2.65**	**315**	⇓P	**Pb**	**18 20 29.6**	**+1.1**
	4.9nm,0.2s,SNR=8.3						
KBK				⇓del		18 21 05.6	
	46nm,0.4s						
KBK	**Karagaybulak**	**2.65**	**315**	⇑*e*P	**Pn**	**18 20 26.1**	**+2.4**
	baz=15						
KBK				⇑*e*S	**Sb**	**18 20 59.2**	**-1.9**
	baz=15						
KURS	**Kuram**	**2.73**	**11**	Pg	**Pb**	**18 20 30.1**	**+0.4**
	5.2nm,0.4s						
KURS				Lg	Lg	18 21 06.2	
	19nm,0.8s						
KURS	**Kuram**	**2.73**	**11**	*e*P	**Pb**	**18 20 30.1**	**+0.4**
	5.2nm,0.4s						
KURS				*e*S	**Sg**	**18 21 06.2**	**-2.4**
	19nm,0.8s						
DGS	**Degeres**	**2.75**	**333**	Pg	**Pb**	**18 20 31.4**	**+1.3**
	4.7nm,1.0s						
DGS				Lg	Lg	18 21 08.3	
	19nm,1.1s						
DGS	**Degeres**	**2.75**	**333**	*e*P	**Pb**	**18 20 31.4**	**+1.3**
	4.7nm,1.0s						
DGS				*e*S	**Sg**	**18 21 08.3**	**-0.9**
	19nm,1.1s						
SHLS	**Shalkode**	**2.78**	**31**	Pg	**Pb**	**18 20 33.7**	**-0.3**
	14nm,0.5s						
SHLS				Lg	Lg	18 21 12.3	
	33nm,0.6s						
SHLS	**Shalkode**	**2.78**	**31**	*e*P	**Pg**	**18 20 33.7**	**-0.3**
	14nm,0.5s						
SHLS				*e*S	**Sg**	**18 21 12.3**	**+2.3**
	33nm,0.6s						
AAK	**Ala-Archa**	**2.89**	**310**	⇑P	**Pb**	**18 20 33.6**	**+1.1**
	7.9nm,0.3s						
AAK	**Ala-Archa**	**2.89**	**310**	⇓Pn	**Pb**	**18 20 31.6**	**-0.9**
	7.7nm,0.6s						
AAK				⇓Lg	Lg	18 21 14.4	
	26nm,0.7s						
AAK	**Ala-Archa**	**2.89**	**310**	⇑*e*P	**Pn**	**18 20 29.3**	**+2.3**
	baz=10.0						
AAK				⇑*e*S	**Sn**	**18 21 05.1**	**+3.2**
	baz=10.0						
PDGK	**Podgornoye**	**2.94**	**30**	Pg	**Pb**	**18 20 33.1**	**-0.1**
	8.1nm,0.3s						
PDGK				Lg	Lg	18 21 11.3	
	13nm,0.4s						
PDGK	**Podgornoye**	**2.94**	**30**	⇑Pn	**Pn**	**18 20 27.9**	**+0.3**
	10nm,0.5s						
PDGK				⇑Lg	Lg	18 21 11.5	
	34nm,0.7s						
KTBS	**Karatobe**	**2.97**	**349**	Pg	**Pb**	**18 20 34.9**	**+1.1**
	3.4nm,0.5s						
KTBS				Lg	Lg	18 21 14.3	
	25nm,0.6s						
KTBS	**Karatobe**	**2.97**	**349**	*e*P	**Pb**	**18 20 34.9**	**+1.1**
	3.4nm,0.5s						
KTBS				*e*S	**Sg**	**18 21 14.3**	**-1.8**
	25nm,0.6s						
CHMS	**Chumysh**	**3.00**	**318**	⇑P	**Pb**	**18 20 34.5**	**+0.3**
	4.6nm,0.4s,SNR=6.2						
CHMS	**Chumysh**	**3.00**	**318**	⇓Pn	**Pb**	**18 20 34.4**	**+0.2**
	5.0nm,0.6s						
CHMS				⇑Lg	Lg	18 21 15.6	
	16nm,1.1s						
KRBS	**Karabastau**	**3.19**	**336**	Pg	**Pb**	**18 20 38.9**	**+1.4**
	5.0nm,1.2s						
KRBS				Lg	Lg	18 21 21.2	
	8.1nm,0.6s						
KRBS	**Karabastau**	**3.19**	**336**	*e*P	**Pb**	**18 20 38.9**	**+1.4**
	5.0nm,1.2s						
KRBS				*e*S	**Sg**	**18 21 21.2**	**-1.9**
	8.1nm,0.6s						
USP	**Ospenovka**	**3.32**	**319**	⇑P	**Pb**	**18 20 39.3**	**-0.4**
	9.8nm,0.3s,SNR=24						
EKS2	**Erkin-Say**	**3.34**	**305**	⇓P	**Pb**	**18 20 41.1**	**+1.0**
	5.4nm,0.5s,SNR=9.1						
BLB	**Baldybastay**	**3.38**	**12**	Pg	**Pb**	**18 20 41.7**	**+1.0**
	12nm,0.4s						
BLB				Lg	Lg	18 21 26.1	
	42nm,0.9s						
KTMS	**Ketmen**	**3.40**	**38**	Pg	**Pb**	**18 20 41.9**	**+0.8**
	3.2nm,0.3s						
KTMS				Lg	Lg	18 21 26.3	
	8.7nm,0.0s						
KTMS	**Ketmen**	**3.40**	**38**	*e*P	**Pb**	**18 20 41.9**	**+0.8**
	3.2nm,0.3s						
KTMS				*e*S	**Sg**	**18 21 26.3**	**-3.6**
	8.7nm,0.0s						
ARXS	**Arharly**	**3.42**	**4**	Pg	**Pb**	**18 20 42.9**	**+1.4**
	2.3nm,0.4s						
ARXS				Lg	Lg	18 21 28.0	
	28nm,1.5s						
ARXS	**Arharly**	**3.42**	**4**	*e*P	**Pb**	**18 20 42.9**	**+1.4**
	2.3nm,0.4s						
ARXS				*e*S	**Sg**	**18 21 28.0**	**-2.5**
	28nm,1.5s						
KNOS	**Konyrlen**	**3.77**	**19**	Pg	**Pb**	**18 20 49.1**	**+1.6**
	2.5nm,0.4s						
KNOS				Lg	Lg	18 21 38.7	
	3.9nm,0.4s						
DJR	**Jarkent**	**3.92**	**25**	Pg	**Pb**	**18 20 51.7**	**+1.8**
	3.9nm,0.3s						
DJR				Lg	Lg	18 21 43.3	
	8.4nm,0.3s						
DJR	**Jarkent**	**3.92**	**25**	*e*P	**Pb**	**18 20 51.8**	**+1.8**
	3.9nm,0.3s						
DJR				*e*S	**Sg**	**18 21 43.3**	**-3.3**
	8.4nm,0.3s						

*IDC **26** 18:20:55.6±6.7, 55.89S×27.67W, h88km±61km, mb3.9/8, mbtmp4.2/9, ML5.1/1, MS3.3/4, Error ellipse: s-maj=33.1km s-min=16.8km az=61.0*
*NEIC **26** 18:20:56.3±1.5, 55.89S±0.09×28.0W±0.1, h89km±7km, mb4.5/34, Error ellipse: s-maj=13.7km s-min=9.3km az=143.0*

ISC 26 18:20:56.5±0.6, 55.93S±0.09×28.03W±0.09, h100km, n58, σ1s16/54, mb4.5/20, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.13**	**285**		**Pn**	**18 22 10.8**	**0.0**
HOPE					Sn	18 23 04.2	-4.5
VNA1	**Neumayer--Stat**	**17.09**	**157**	⇑P	**Pn**	**18 24 46.7**	**-1.9**
	comp=Z,18nm,0.8s						
VNA3	**Neumayer Olymp**	**17.26**	**160**	⇑P	**P**	**18 24 49.2**	**-1.6**
	comp=Z,18nm,0.6s						
VNA2	**Neumayer--Watz**	**17.48**	**157**	⇑P	**P**	**18 24 52.0**	**-1.3**
	comp=Z,28nm,0.6s,baz=316,slow=13						
SNAA	**Sanae**	**19.05**	**156**	P	**P**	**18 25 09.8**	**-0.6**
SNAA	**Sanae**	**19.05**	**156**	⇑P	**P**	**18 25 09.5**	**-0.9**
	comp=Z,27nm,0.2s						
SNAA	**Sanae**	**19.05**	**156**	P	**P**	**18 25 09.7**	**-0.6**
	comp=Z,6.1nm,0.3s,baz=306,slow=10,SNR=375						
	comp=Z,27nm,0.5s						
PMSA	**Palmer Station**	**19.62**	**229**	P	**P**	**18 25 18.9**	**+2.3**
PMSA	**Palmer Station**	**19.62**	**229**	LR	LR	18 31 54.4	
	comp=Z,41nm,19.0s,baz=100,slow=33						
TROLL	**Troll, Antarti**	**20.57**	**153**	⇑P	**P**	**18 25 26.0**	**-0.8**
	comp=Z,1μm,0.4s						
BELA	**Belgrano 2**	**22.16**	**184**	P	**P**	**18 25 43.1**	**-0.6**
GO08	**Villa O'Higgin**	**27.88**	**267**	P	**P**	**18 26 37.5**	**+1.1**
TRQA	**Tornquist**	**28.84**	**294**	P	**P**	**18 26 45.2**	**0.0**
PLTB	**Pedras Altas**	**30.07**	**313**	P	**P**	**18 26 57.5**	**+1.5**
QSPA	**South Pole Qui**	**34.32**	**180**	P	**P**	**18 27 33.8**	**+0.7**
QSPA				IAmb	IAmb	18 27 34.6	
	comp=Z,4.3nm,0.7s						
QSPA	**South Pole Qui**	**34.32**	**180**	P	**P**	**18 27 33.4**	**+0.3**
	comp=Z,3.7nm,0.6s,baz=203,slow=1.9,SNR=62						
	comp=Z,3.7nm,0.6s						
CPUP	**Villa Florida**	**36.38**	**312**	P	**P**	**18 27 52.1**	**+1.2**
CPUP				IAmb	IAmb	18 27 52.4	
	comp=Z,4.5nm,1.1s						
CPUP	**Villa Florida**	**36.38**	**312**	P	**P**	**18 27 51.4**	**+0.5**
	comp=Z,1.8nm,0.6s,baz=146,slow=8.1,SNR=5.3						
	comp=Z,1.8nm,0.6s						
MT09	**Talagante**	**36.82**	**289**	P	**P**	**18 27 54.5**	**-0.2**
MT09				IAmb	IAmb	18 28 23.8	
	comp=Z,14nm,1.4s						
MT02	**Curacav**	**37.30**	**289**	P	**P**	**18 27 58.5**	**-0.2**
MT02				IAmb	IAmb	18 28 00.6	
	comp=Z,3.9nm,0.8s						
TRCB	**Terra Rica**	**37.76**	**321**	P	**P**	**18 28 00.3**	**-2.3**
CO02	**Combatal**	**38.83**	**291**	P	**P**	**18 28 12.2**	**+0.5**
CO03	**El Pedregal**	**38.96**	**292**	P	**P**	**18 28 13.3**	**+0.6**
CO03				IAmb	IAmb	18 28 31.5	
	comp=Z,6.2nm,1.2s						
MAW	**Mawson**	**40.53**	**144**	P	**P**	**18 28 24.0**	**-1.0**
	comp=Z,2.2nm,0.7s,baz=218,slow=7.2,SNR=6.6						
	comp=Z,2.2nm,0.7s						
SUR	**Sutherland**	**41.07**	**76**	LR	LR	18 43 56.7	
	comp=Z,36nm,18.3s,baz=175,slow=34						
AC01	**Pan de Azucar**	**42.70**	**296**	P	**P**	**18 28 43.8**	**+0.4**
AC01				IAmb	IAmb	18 29 00.2	
	comp=Z,16nm,1.4s						
GO02	**Mina Guanaco**	**43.02**	**298**	P	**P**	**18 28 47.2**	**+1.0**
GO02				IAmb	IAmb	18 28 47.9	
	comp=Z,8.6nm,0.7s						
BDFB	**Brasilia**	**43.03**	**331**	LR	LR	18 47 18.3	
	comp=Z,41nm,18.2s,baz=115,slow=37						
LVC	**Limon Verde**	**44.83**	**301**	P	**P**	**18 29 02.4**	**+1.5**
LVC				IAmb	IAmb	18 29 05.0	
	comp=Z,7.3nm,0.8s						
PB04	**IPOC Station P**	**45.67**	**300**	P	**P**	**18 29 07.1**	**-0.1**
PB09	**IPOC Station P**	**45.68**	**301**	P	**P**	**18 29 08.0**	**+0.7**
PB09				IAmb	IAmb	18 29 40.0	
	comp=Z,16nm,1.5s						
SBA	**Scott Base**	**46.16**	**184**	P	**P**	**18 29 11.9**	**+1.6**
BOSA	**Boshof**	**46.40**	**77**	LR	LR	18 46 02.5	
	comp=Z,62nm,19.1s,baz=206,slow=33						
PB01	**IPOC Station P**	**46.44**	**301**	P	**P**	**18 29 14.0**	**+0.7**
VNDA	**Vanda**	**46.67**	**183**	P	**P**	**18 29 14.8**	**+0.6**
VNDA	**Vanda**	**46.67**	**183**	P	**P**	**18 29 15.5**	**+1.3**
	comp=Z,2.1nm,0.6s,baz=186,slow=6.3,SNR=29						
	comp=Z,2.1nm,0.6s						
PTLB	**Pontes e Lacer**	**46.88**	**317**	P	**P**	**18 29 17.1**	**+0.6**
PB08	**IPOC Station P**	**47.06**	**302**	P	**P**	**

BVAR	**Borovoye Array**	**135.12**	**58**	PKP	**PKPdf**	**18 40 02.9**	**0.0**		
	comp=Z,0.4nm,0.5s,baz=239,slow=40,SNR=1.4								
YKA	**Yellowknife Ar**	**135.77**	**318**	PKP	**PKPdf**	**18 40 03.9**	**+0.2**		
	comp=Z,0.2nm,0.5s,baz=127,slow=2.4,SNR=4.9								
ILAR	**Eielson Array**	**149.68**	**312**	PKPbc	**PKPbc**	**18 40 33.1**	**+0.3**		
	comp=Z,6.5nm,1.0s,baz=133,slow=1.7,SNR=35								
SONM	**Songino Array**	**151.19**	**87**	PKPbc	**PKPbc**	**18 40 37.1**	**-0.1**		
	comp=Z,1.2nm,0.5s,baz=202,slow=2.2,SNR=4.8								

TIR ***26*** *18:40:23.9,41˚.43N×20˚.98E,h2km±2km,Ml2.5*
PDG ***26*** *18:40:25.6±0.4,41˚.41N×20˚.94E,h9km±1km,ML2.6/11, Error ellipse: s-maj=0.7km s-min=0.9km az=0.0*
SKO ***26*** *18:40:25.8,41˚.38N×21˚.05E,h8km,ML2.3*
BEO ***26*** *18:40:26.4±0.3,41˚.40N×21˚.03E,h0km±2km,ML2.2/10*
ATH ***26*** *18:40:27.1,41˚.36N×21˚.06E,h10km±2km,ML2.2/7, Error ellipse: s-maj=4.5km s-min=2.2km az=134.0*

ISC 26 18:40:25.7±1.0,41˚.40N±0˚.01×21˚.00E±0˚.02,h6km±9km, n64,σ0s98/107,7C-5D,Albania

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.33**	**207**	*e*Pg		**Pg**	**18 40 32.4**	**+0.3**
OHR				*e*Sg		**Sg**	**18 40 37.2**	**+0.7**
OHR	**Ohrid**	**0.33**	**207**	*i* Pg		**Pg**	**18 40 32.5**	**+0.3**
OHR				*i* Sg		**Sb**	**18 40 38.3**	**-1.3**
OHR				*e*Lg		Lg	18 40 38.8	
	comp=N,207nm,0.3s							
OHR				*e*Lg		Lg	18 40 38.9	
	comp=E,261nm,0.4s							
SKO	**Skopje**	**0.66**	**30**	*e*Pg		**Pg**	**18 40 38.1**	**-0.3**
SKO				*e*Sg		**Sg**	**18 40 46.3**	**-0.6**
SKO	**Skopje**	**0.66**	**30**	*e*Pg		**Pg**	**18 40 38.6**	**+0.3**
SKO				*i* Sg		**Sg**	**18 40 47.3**	**+0.3**
FNA	**Florina**	**0.68**	**155**	P		**Pg**	**18 40 38.4**	**-0.4**
	baz=154							
FNA				S		**Sb**	**18 40 49.6**	**-0.2**
	baz=154							
FNA				AMP				
	comp=E,1.2nm,0.3s,baz=154							
FNA	**Florina**	**0.68**	**155**	⇑*i*Pg		**Pg**	**18 40 38.4**	**-0.4**
FNA				*i* Sg		**Sb**	**18 40 49.3**	**-0.5**
FNA	**Florina**	**0.68**	**155**	P		**Pg**	**18 40 38.5**	**-0.4**
FNA				S		**Sg**	**18 40 48.1**	**+0.4**
FNA				AML		AML	18 40 52.3	
	comp=N,1822μm,0.3s							
FNA				AML		AML	18 40 52.9	
	comp=E,1645μm,0.4s							
KBN	**Korca**	**0.80**	**192**	P		**Pg**	**18 40 40.5**	**-0.6**
	baz=191							
KBN				S		**Sb**	**18 40 53.6**	**+0.6**
	baz=191							
KBN				AMP				
	comp=E,0.7nm,0.3s,baz=191							
TIR	**Tirane**	**0.85**	**267**	P		**Pg**	**18 40 41.3**	**-0.9**
	baz=266							
TIR				S		**Sg**	**18 40 53.5**	**+0.2**
	baz=266							
TIR	**Tirane**	**0.85**	**267**	*e*Pg		**Pg**	**18 40 41.3**	**-0.9**
TIR				*e*Sg		**Sg**	**18 40 53.5**	**+0.2**
STIP	**Stip**	**0.94**	**72**	*i* Pg		**Pn**	**18 40 46.9**	**+1.4**
STIP				*i* Sg		**Sn**	**18 41 02.4**	**+3.2**
NEST	**Nestorio**	**0.99**	**178**	P		**Pg**	**18 40 43.9**	**-0.8**
NEST				S		**Sb**	**18 40 58.4**	**-0.3**
NEST				AML		AML	18 41 02.2	
	comp=E,483μm,0.3s							
NEST				AML		AML	18 41 03.4	
	comp=N,566μm,0.7s							
PUK	**Puka**	**1.04**	**308**	P		**Pg**	**18 40 43.7**	**-2.1**
	baz=308							
PUK				S		**Sb**	**18 41 00.5**	**+0.2**
	baz=308							
PUK				AMP				
	comp=E,0.3nm,0.3s,baz=308							
GRG	**Griva**	**1.15**	**112**	⇑*i*Pg		**Pg**	**18 40 47.4**	**-0.4**
GRG	**Griva**	**1.15**	**112**	P		**Pg**	**18 40 47.3**	**-0.4**
GRG				AML		AML	18 41 08.8	
	comp=N,198μm,0.6s							
GRG				AML		AML	18 41 10.3	
	comp=E,148μm,0.4s							
VAY	**Valandovo**	**1.19**	**93**	*e*Pg		**Pb**	**18 40 48.0**	**-0.6**
VAY				*e*Sg		**Sg**	**18 41 03.3**	**-0.6**
VAY	**Valandovo**	**1.19**	**93**	*i* Pg		**Pb**	**18 40 48.1**	**-0.6**
VAY				*i* Sg		**Sn**	**18 41 04.1**	**-1.2**
VAY				*e*Lg		Lg	18 41 07.0	
	comp=E,45nm,0.4s							
VAY				*e*Lg		Lg	18 41 07.2	
	comp=N,43nm,0.4s							
BCI	**Bajram Curri**	**1.19**	**324**	P		**Pb**	**18 40 46.7**	**-2.0**
	baz=325							
BCI				S		**Sn**	**18 41 06.2**	**+0.7**
	baz=325							
PENT	**Pentalofos**	**1.21**	**175**	P		**Pb**	**18 40 48.2**	**-0.9**
LSK	**Leskovik**	**1.29**	**194**	P		**Pn**	**18 40 49.9**	**-0.4**
	baz=193							
LSK				S		**Sn**	**18 41 09.7**	**+1.7**
	baz=193							
PRVS	**Prvonek**	**1.36**	**36**	*e*Pg		**Pn**	**18 40 51.2**	**-0.2**
PRVS				*e*Sg		**Sg**	**18 41 09.4**	**-0.2**
PVY	**Plav**	**1.42**	**327**	⇓*i*Pg		**Pn**	**18 40 51.1**	**-1.1**
PVY				*i* Sg		**Sg**	**18 41 13.0**	**+1.6**
ULC	**Ulcinj**	**1.43**	**294**	⇑*i*Pg		**Pn**	**18 40 50.7**	**-1.5**
ULC				*e*Sg		**Sg**	**18 41 13.0**	**+1.4**
KPRO	**Kipourio**	**1.47**	**169**	P		**Pb**	**18 40 53.1**	**-0.5**
KPRO				S		**Sn**	**18 41 09.1**	**-3.4**
KPRO				AML		AML	18 41 20.4	
	comp=E,216μm,0.7s							
KPRO				AML		AML	18 41 20.9	
	comp=N,148μm,0.4s							
BARS	**Barje**	**1.54**	**23**	*e*Pg		**Pb**	**18 40 54.7**	**+0.1**
BARS				*e*Sg		**Sg**	**18 41 15.5**	**+0.4**
BARS	**Barje**	**1.54**	**23**	*i* Pn		**Pg**	**18 40 55.1**	**-0.1**
BARS				*i* Sn		**Sg**	**18 41 16.7**	**+1.6**
DRME	**Dracevica, Mon**	**1.57**	**301**	⇓*i*Pg		**Pn**	**18 40 53.5**	**-0.6**
DRME				*e*Sg		**Sg**	**18 41 17.7**	**+1.6**
KKB	**Krupnik**	**1.66**	**74**	*i* Pn		**Pb**	**18 40 55.8**	**-0.9**
KKB				*i* Sn		**Sg**	**18 41 17.9**	**-1.0**
PDG	**Podgorica**	**1.66**	**309**	*e*Pg		**Pn**	**18 40 56.1**	**+0.8**
PDG				*e*Sg		**Sg**	**18 41 20.3**	**+1.3**
PDG	**Podgorica**	**1.66**	**309**	⇑*i*Pn		**Pn**	**18 40 55.4**	**+0.1**
PDG				*i* Sn		**Sg**	**18 41 19.5**	**+0.5**
THE	**Thessaloniki**	**1.68**	**117**	*i* Pn		**Pg**	**18 40 57.3**	**-0.5**
IVA	**Berane**	**1.68**	**331**	⇑*i*Pn		**Pn**	**18 40 56.2**	**+0.4**
IVA				*e*Sn		**Sg**	**18 41 20.4**	**+0.6**
SRN	**Sarande**	**1.70**	**207**	P		**Pb**	**18 40 57.6**	**+0.2**
	baz=207							
SRN				S		**Sg**	**18 41 21.8**	**+1.4**
	baz=207							
LIT	**Litokhoron**	**1.73**	**138**	*i* Pn		**Pb**	**18 40 57.8**	**-0.1**
HORT	**Hortiatis**	**1.78**	**116**	P		**Pn**	**18 40 56.3**	**-0.9**
BUM	**Brajici-Budva**	**1.81**	**300**	*e*Pn		**Pn**	**18 40 57.9**	**+0.4**
BUM				*i* Sn		**Sb**	**18 41 23.6**	**+1.3**
SELS	**Selova**	**1.82**	**3**	*e*Pg		**Pb**	**18 40 59.0**	**-0.4**
SELS				*e*Sg		**Sg**	**18 41 23.7**	**-0.4**
KOME	**Kolasin**	**1.82**	**323**	⇑*i*Pn		**Pn**	**18 40 58.0**	**+0.3**
KOME				*i* Sn		**Sb**	**18 41 23.7**	**+1.1**
SOH	**Sokhos**	**1.87**	**107**	*i* Pn		**Pb**	**18 41 00.5**	**+0.1**
SOH				*i* Sn		**Sg**	**18 41 26.9**	**+1.0**
SOH	**Sokhos**	**1.87**	**107**	P		**Pn**	**18 40 58.5**	**+0.2**
CEME	**Cevo**	**1.93**	**307**	⇓*i*Pn		**Pn**	**18 40 59.9**	**+0.8**
CEME				*e*Sn		**Sb**	**18 41 26.5**	**+0.9**
IGT	**Igoumenitsa**	**1.94**	**195**	P		**Pb**	**18 41 00.4**	**-1.0**
	baz=195							
IGT				S		**Sg**	**18 41 29.0**	**+1.1**
	baz=195							
IGT	**Igoumenitsa**	**1.94**	**195**	*i* Pn		**Pb**	**18 41 00.9**	**-0.5**
IGT				*i* Sn		**Sg**	**18 41 30.6**	**+2.7**
IGT	**Igoumenitsa**	**1.94**	**195**	P		**Pn**	**18 41 00.0**	**+0.8**
IGT				AML		AML	18 41 37.1	
	comp=E,81μm,0.8s							
IGT				AML		AML	18 41 40.8	
	comp=N,54μm,0.6s							
THL	**Klokotos Trika**	**1.99**	**157**	P		**Pn**	**18 41 00.3**	**+0.3**
THL				AML		AML	18 41 36.9	
	comp=E,54μm,0.7s							
THL				AML		AML	18 41 37.1	
	comp=N,100μm,0.7s							
SJES	**Sjenica**	**2.01**	**338**	*e*Pn		**Pn**	**18 41 01.4**	**+1.1**
SJES				*e*Sn		**Sb**	**18 41 28.0**	**0.0**
MMB	**Musomishta**	**2.07**	**85**	*i* Pn		**Pn**	**18 41 01.7**	**+0.6**
HCY	**Herceg Novi**	**2.14**	**300**	⇓*i*Pn		**Pn**	**18 41 02.5**	**+0.5**
HCY				*i* Sn		**Sb**	**18 41 31.6**	**-0.1**
NVR	**Nevrokopi**	**2.15**	**90**	P		**Pn**	**18 41 01.4**	**-0.8**
NVR				AML		AML	18 41 41.2	
	comp=E,28μm,0.6s							
NVR				AML		AML	18 41 47.1	
	comp=N,37μm,0.6s							
ZAPS	**Zavoj**	**2.23**	**32**	*e*Pn		**Pb**	**18 41 06.1**	**-0.3**
ZAPS				*e*Sn		**Sn**	**18 41 31.8**	**+0.7**
SCTE	**Santa Cesarea**	**2.34**	**236**	P		**Pn**	**18 41 05.6**	**+0.9**
BRY	**Bratogost**	**2.36**	**310**	⇓*i*Pn		**Pn**	**18 41 05.6**	**+0.4**
BRY				*e*Sn		**Sb**	**18 41 37.0**	**-1.3**
UPM	**Unac-Piva**	**2.38**	**320**	⇑*i*Pn		**Pn**	**18 41 05.8**	**+0.4**
UPM				*e*Sn		**Sb**	**18 41 37.2**	**-1.5**
GRUS	**Gruza**	**2.49**	**355**	*e*Pn		**Pn**	**18 41 08.1**	**+1.3**
GRUS				*e*Sn		**Sn**	**18 41 38.8**	**+1.2**
BBLS	**Lazi&#263i**	**2.73**	**335**	*e*Pn		**Pn**	**18 41 10.7**	**+0.6**
ANX	**Ano Chora**	**2.90**	**166**	P		**Pn**	**18 41 12.8**	**+0.3**
EFP	**Efpalio**	**3.05**	**167**	P		**Pn**	**18 41 15.5**	**+0.9**
LSTV	**Lastovo**	**3.35**	**295**	*e*Pn		**Pn**	**18 41 18.5**	**-0.1**
RICI	**Ricice**	**3.54**	**307**	*e*Pn		**Pn**	**18 41 21.6**	**+0.3**
RICI				Sn		**Sn**	**18 42 02.8**	**-0.6**
KIJV	**Kijevo**	**4.27**	**309**	*e*Pn		**Pn**	**18 41 31.9**	**+0.6**
ZIRJ	**Zirje**	**4.55**	**301**	*e*Pn		**Pn**	**18 41 35.4**	**+0.3**
MORI	**Morici**	**4.61**	**304**	*e*Pn		**Pn**	**18 41 36.7**	**+0.7**
DUGI	**Dugi Otok**	**5.08**	**303**	*e*Pn		**Pn**	**18 41 42.8**	**+0.3**
VIRC	**Vir**	**5.24**	**305**	*e*Pn		**Pn**	**18 41 44.0**	**-0.5**

WEL 26 18:49:16.1±0.6,33˚S±15˚×17˚9W±3˚8,h33km,M4.4/8, mB4.8/4,ML4.5/10,MLv4.5/8,Mw(mB)4.0/4,Error ellipse: s-maj=0.1km s-min=0.0km az=111.8,confirmed,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.95**	**19**	S		Sn	18 51 00.6	+1.1
RIZ	**Raoul Island**	**3.96**	**19**	S		Sn	18 50 58.6	-1.3
MXZ	**Matakaoa Point**	**4.91**	**202**	P		Pn	18 50 27.5	0.0
MXZ				S		Sn	18 51 23.6	+0.3
WMGZ	**Waiomatatini S**	**5.12**	**200**	P		Pn	18 50 32.6	+2.3
HAZ	**Te Kaha**	**5.26**	**205**	P		Pn	18 50 34.3	+1.9
HAZ				S		Sn	18 51 35.2	+3.3
PKGZ	**Pakihiroa**	**5.28**	**202**	P		Pn	18 50 33.7	+1.0
PKGZ				S		Sn	18 51 32.1	-0.3
PUZ	**Puketiti**	**5.40**	**200**	P		Pn	18 50 34.7	+0.4
PUZ				S		Sn	18 51 33.5	-1.7
RUGZ	**Raukumara Rang**	**5.49**	**205**	P		Pn	18 50 37.1	+1.5
RUGZ				S		Sn	18 51 40.7	+3.0
TWGZ	**Tauwhareparae**	**5.58**	**202**	S		Sn	18 51 39.4	-0.3
MWZ	**Matawai**	**5.87**	**205**	P		Pn	18 50 40.9	+0.1
MWZ				S		Sn	18 51 48.6	+1.6
URZ	**Urewera**	**5.96**	**208**	P		Pn	18 50 42.3	+0.4
URZ				S		Sn	18 51 49.8	+0.7
MUGZ	**Murupara**	**6.28**	**209**	S		Sn	18 51 57.6	+0.6
SNGZ	**Shannon Statio**	**6.34**	**204**	P		Pn	18 50 47.6	+0.4
SNGZ				S		Sn	18 51 58.1	-0.3
MTHZ	**Maungataniwha**	**6.58**	**207**	P		Pn	18 50 51.2	+0.6
MTHZ				S		Sn	18 52 02.5	-1.9
MCHZ	**McNeill Hill**	**7.15**	**205**	P		Pn	18 50 59.7	+1.3
MCHZ				S		Sn	18 52 17.9	-0.5
KAHZ	**Kahuranaki**	**7.40**	**203**	P		Pn	18 51 00.1	-1.7
KAHZ				S		Sn	18 52 23.8	-0.9

ANF 26 18:50:17.7±0.1,33˚88N×116˚.86W,h15km,ML2.7/23, ML2.3/23,Error ellipse: s-maj=1.2km s-min=1.0km az=42.0,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
BBRC	**Big Bear Solar**	**0.39**	**353**	S		Sb	18 50 32.2	-0.2
	baz=173							
BBRC	**Big Bear Solar**	**0.39**	**353**	P		Pb	18 50 26.5	0.0
	baz=173,SNR=7.5							
MURC	**Murrieta**	**0.39**	**225**	S		Sb	18 50 32.1	-0.2
	baz=44							
MURC	**Murrieta**	**0.39**	**225**	P		Pb	18 50 26.5	+0.1
	baz=44,SNR=68							
PFO	**Pinyon Flats O**	**0.43**	**128**	S		Sb	18 50 32.8	-0.5
	baz=308							
PFO	**Pinyon Flats O**	**0.43**	**128**	P		Pb	18 50 27.2	+0.1
	baz=308,SNR=28							
BELC	**Belle Mtn. Jos**	**0.73**	**80**	S		Sb	18 50 42.2	+0.1
	baz=261							
BELC	**Belle Mtn. Jos**	**0.73**	**80**	P		Pb	18 50 32.5	+0.3
	baz=261,SNR=53							
BFSC	**Mount Baldy Ra**	**0.76**	**299**	S		Sg	18 50 42.4	-0.1
	baz=119							
BFSC	**Mount Baldy Ra**	**0.76**	**299**	P		Pb	18 50 32.6	0.0
	baz=119,SNR=5.2							
RRX	**Edison Barstow**	**1.00**	**354**	Sg		Sn	18 50 51.3	+0.1
	baz=174							
RRX	**Edison Barstow**	**1.00**	**354**	Pg		Pn	18 50 37.5	+0.1
	baz=174							
109C	**Camp Elliot, M**	**1.01**	**192**	S		Sb	18 50 49.6	-0.3
	baz=11							
109C	**Camp Elliot, M**	**1.01**	**192**	P		Pb	18 50 36.6	-0.2
	baz=11							
HEC	**Hector,Ludlow**	**1.04**	**24**	S		Sg	18 50 51.6	0.0
	baz=205							
HEC	**Hector,Ludlow**	**1.04**	**24**	Pg		Pn	18 50 38.3	+0.3
	baz=205							
MONP2	**Monument Peak**	**1.05**	**159**	S		Sg	18 50 51.8	+0.1
	baz=340							
MONP2	**Monument Peak**	**1.05**	**159**	Pg		Pn	18 50 38.2	+0.1
	baz=340							
BC3	**Big Chuckawall**	**1.19**	**100**	S		Sn	18 50 55.8	-0.2
	baz=281							
BC3	**Big Chuckawall**	**1.19**	**100**	P		Pn	18 50 39.7	-0.3
	baz=281,SNR=14							
FMP	**Fort Macarthur**	**1.21**	**263**	S		Sn	18 50 56.4	+0.3
	baz=82							
DECC	**Green Verdugo**	**1.28**	**287**	S		Sn	18 50 58.3	+0.2
	baz=107							
SWSC	**Sam W. Stewart**	**1.28**	**136**	Sg		Sg	18 51 00.2	+1.0
	baz=317							
GMRC	**Granite Mounta**	**1.34**	**47**	S		Sn	18 50 58.8	-0.9
	baz=228							
GMRC	**Granite Mounta**	**1.34**	**47**	Pb		Pn	18 50 42.3	+0.2
	baz=228,SNR=8.1							
EDW2	**Edwards Air Fo**	**1.37**	**317**	Sb		Sg	18 51 01.6	-0.5
	baz=137							
EDW2	**Edwards Air Fo**	**1.37**	**317**	P		Pn	18 50 42.2	-0.3
	baz=137							
IKP	**In-Ko-Pah, Jac**	**1.38**	**153**	Sb		Sg	18 51 01.8	-0.4
	baz=333							
IKP	**In-Ko-Pah, Jac**	**1.38**	**153**	Pg		Pg	18 50 44.2	0.0
	baz=333							
CIS	**Catalina Islan**	**1.38**	**250**	S		Sb	18 51 00.7	-0.1
	baz=69							
CIS	**Catalina Islan**	**1.38**	**250**	Pb		Pb	18 50 43.3	0.0
	baz=69							
GSC	**Goldstone, Bar**	**1.42**	**2**	S		Sn	18 51 01.7	+0.1
	baz=182							
IRM	**Iron Mountain**	**1.45**	**78**	Sb		Sg	18 51 04.3	-0.3
	baz=259							
IRM	**Iron Mountain**	**1.45**	**78**	Pg		Pg	18 50 45.8	+0.2
	baz=259							
OSI	**Osito Audit: C**	**1.71**	**296**	Sb		Sb	18 51 11.5	+1.3
	baz=115							
LRMC	**Laurel Mtn Rad**	**1.74**	**337**	Sb		Sg	18 51 12.7	-1.0
	baz=157							
LRMC	**Laurel Mtn Rad**	**1.74**	**337**	Pg		Pg	18 50 51.3	+0.1
	baz=157							
TUQ	**Turquoise Moun**	**1.74**	**26**	Sb		Sg	18 51 12.9	-0.7
	baz=207							
TUQ	**Turquoise Moun**	**1.74**	**26**	Pg		Pg	18 50 51.1	0.0
	baz=207							
ARVC	**Arvin**	**2.05**	**308**	Sb		Sb	18 51 21.3	+1.3
	baz=127							
MPMC	**Manual Prospec**	**2.24**	**347**	Pg		Pg	18 51 00.3	-0.3
	baz=167							

ANF ***26*** *18:51:15.4±0.2,33˚57N×116˚.64W,h11km±2km,Error ellipse: s-maj=2.1km s-min=1.6km az=34.0*
NEIC ***26*** *18:51:15.6±0.8,33˚581N±0˚.009×116˚.645W±0˚.010, h16km±2km,Error ellipse: s-maj=1.3km s-min=1.2km az=204.0*
PAS ***26*** *18:51:16.2±0.7,33˚.585N±0˚.008×116˚.645W±0˚.010, h13km±1km,ML2.9/187,ML2.8/40(NEIC),Error ellipse: s-maj=1.2km s-min=1.1km az=222.0*

ISC 26 18:51:15.8±0.8,33˚58N±0˚.01×116˚65W±0˚.01,h18km±2km, n107,σ0s62/178,Southern California

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
DNR	**Dunn Ranch,Anz**	**0.02**	**122**			**Pg**	**18 51 18.8**	**-0.3**
DNR						**Sg**	**18 51 21.0**	**-0.3**
SNDA	**J Saunders Pla**	**0.04**	**129**			**Pg**	**18 51 18.9**	**-0.3**
SNDA						**Sg**	**18 51 21.1**	**-0.4**
CRY	**Cary Ranch**	**0.07**	**260**			**Pg**	**18 51 19.1**	**-0.2**
CRY						**Sg**	**18 51 21.2**	**-0.6**
BZNA	**Buzz No.'s Pla**	**0.09**	**188**			**Pg**	**18 51 19.3**	**-0.2**
BZNA						**Sg**	**18 51 21.6**	**-0.3**
GVDA	**Garner Valley**	**0.09**	**349**			**Pg**	**18 51 21.0**	**+1.5**
FRD	**Ford Ranch, An**	**0.09**	**153**			**Pg**	**18 51 19.3**	**-0.2**
FRD						**Sg**	**18 51 21.5**	**-0.5**
FRD	**Ford Ranch, An**	**0.09**	**153**			**Pg**	**18 51 19.2**	**-0.2**
FRD						**Sg**	**18 51 21.4**	**-0.5**
PFO	**Pinyon Flats O**	**0.16**	**78**	Pg		**Pb**	**18 51 19.5**	**-0.4**
PFO				Sg		**Sb**	**18 51 22.1**	**-0.5**
PFO				IAML			18 51 22.7	
	3μm,0.2s							
PFO	**Pinyon Flats O**	**0.16**	**78**			**Pb**	**18 51 19.8**	**-0.1**
PFO						**Sb**	**18 51 22.4**	**-0.3**
PFO	**Pinyon Flats O**	**0.16**	**78**	P		**Pb**	**18 51 19.8**	**-0.1**
	baz=260,SNR=72							
PFO				S		**Sb**	**18 51 22.3**	**-0.3**
	baz=260							
XPFO	**Pion Flat**	**0.17**	**79**			**Pb**	**18 51 19.8**	**-0.2**
XPFO						**Sb**	**18 51 22.4**	**-0.4**
PMD	**Palm Desert**	**0.24**	**73**	Pg		**Pg**	**18 51 20.4**	**-0.9**
PMD				Sg		**Sg**	**18 51 24.0**	**-1.1**
POB	**Polly Butte**	**0.25**	**296**			**Pg**	**18 51 21.5**	**-0.1**
POB						**Sg**	**18 51 25.2**	**-0.3**
PLM	**Palomar**	**0.28**	**218**			**Pn**	**18 51 26.8**	**+1.6**
DGR	**Domenigoni Val**	**0.31**	**284**			**Pn**	**18 51 26.6**	**+1.1**
HMTC	**Hemet**	**0.32**	**294**			**Pg**	**18 51 22.6**	**-0.1**
HMTC						**Sg**	**18 51 27.2**	**-0.2**
BACC	**Bachelor Mtn.**	**0.33**	**276**			**Pn**	**18 51 27.4**	**+1.7**
DEVC	**Devers**	**0.36**	**10**			**Pg**	**18 51 23.3**	**-0.1**
DEVC						**Sg**	**18 51 28.4**	**-0.2**
BORC	**Borrego Spring**	**0.37**	**147**			**Pn**	**18 51 28.3**	**+2.2**
MATG	**Mataguay Scout**	**0.38**	**179**			**Pb**	**18 51 24.0**	**-0.1**
MATG						**Sg**	**18 51 29.2**	**+0.1**
EW2	**E Wide Canyon**	**0.41**	**29**			**Pg**	**18 51 24.1**	**-0.3**
EW2						**Sg**	**18 51 29.5**	**-0.7**
BBSC	**Beaumont Base**	**0.44**	**321**			**Pg**	**18 51 24.7**	**0.0**
BBSC						**Sb**	**18 51 31.4**	**+0.1**
MURC	**Murrieta**	**0.45**	**273**			**Pg**	**18 51 24.9**	**-0.1**
MURC						**Sg**	**18 51 31.2**	**-0.1**
MURC	**Murrieta**	**0.45**	**273**	P		**Pg**	**18 51 24.9**	**-0.1**
	baz=92,SNR=25							
MURC				S		**Sg**	**18 51 31.3**	**0.0**
	baz=92							
JUEM	**Julian Eagle M**	**0.50**	**175**			**Pg**	**18 51 25.9**	**+0.1**
JUEM						**Sg**	**18 51 32.9**	**+0.2**
SLH	**Sleepy Hollow**	**0.51**	**139**			**Pg**	**18 51 26.1**	**+0.1**
SLH						**Sb**	**18 51 33.5**	**+0.3**
PEC	**Perris**	**0.53**	**307**			**Pg**	**18 51 26.0**	**-0.3**
PEC						**Sg**	**18 51 33.5**	**0.0**
BLAC	**Blackrock camp**	**0.54**	**24**			**Pg**	**18 51 26.2**	**-0.4**
BLAC						**Sg**	**18 51 33.5**	**-0.3**
CTCC	**Cactus City**	**0.56**	**82**			**Pg**	**18 51 26.8**	**-0.1**
CTCC						**Sg**	**18 51 34.5**	**0.0**
CFT	**Crafton Hills**	**0.59**	**320**			**Pg**	**18 51 27.5**	**-0.1**
CFT						**Sg**	**18 51 35.8**	**+0.2**
DPP	**Dos Picos Cty**	**0.63**	**203**			**Pg**	**18 51 27.8**	**-0.4**
DPP						**Sg**	**18 51 36.2**	**-0.4**
SALN	**Salton City**	**0.63**	**118**			**Pb**	**18 51 28.4**	**+0.2**
SALN						**Sb**	**18 51 37.3**	**+0.6**
GORC	**Green Oak Ranc**	**0.64**	**229**			**Pb**	**18 51 28.1**	**-0.3**
GORC						**Sg**	**18 51 36.4**	**-0.6**
SVD	**Seven Oaks Dam**	**0.64**	**325**			**Pg**	**18 51 28.3**	**-0.2**
SVD						**Sg**	**18 51 37.2**	**+0.1**
ELS	**Elsinore Mount**	**0.65**	**276**			**Pg**	**18 51 28.2**	**-0.5**
ELS				Sg		**Sg**	**18 51 36.8**	**-0.5**
ELS				IAML			18 51 38.3	
	comp=N,361nm,0.2s							
CTW	**Cottonwood Mou**	**0.66**	**81**			**Pb**	**18 51 28.4**	**-0.3**
CTW						**Sg**	**18 51 37.1**	**-0.4**
RSBC	**Riverside Bore**	**0.69**	**305**			**Pb**	**18 51 28.5**	**-0.7**
RSBC						**Sb**	**18 51 37.9**	**-0.5**
BELC	**Belle Mtn. Jos**	**0.69**	**52**			**Pb**	**18 51 28.8**	**-0.5**
BELC						**Sg**	**18 51 37.8**	**-0.8**
BELC	**Belle Mtn. Jos**	**0.69**	**52**	P		**Pb**	**18 51 28.9**	**-0.5**
	baz=232,SNR=8.4							
BELC				S		**Sg**	**18 51 37.8**	**-0.8**
	baz=232							
EML	**El Monte Cty P**	**0.70**	**193**			**Pb**	**18 51 29.2**	**-0.3**
EML						**Sb**	**18 51 38.2**	**-0.6**

	baz=128								
RMX	**La Rumorosa**	**1.09**	**154**	Pg	**Pg**	**18 51 37.1**	**+0.2**		
RMX				Sg	**Sg**	**18 51 52.9**	**+1.8**		
YUH	**Yuha Desert**	**1.11**	**146**		**Pb**	**18 51 36.7**	**+0.2**		
YUH				Sg	**Sb**	**18 51 50.9**	**+0.3**		
TJX	**Tijuana**	**1.12**	**198**		**Pn**	**18 51 35.4**	**-1.1**		
TJX				IAML		18 51 53.1			
	comp=N,180nm,0.8s								
CBX	**Cerro Bola**	**1.26**	**180**		**Pn**	**18 51 38.8**	**+0.1**		
CBX				Sg	**Sn**	**18 51 55.8**	**+0.6**		
CBX				IAML		18 51 57.0			
	comp=E,207nm,0.3s								
CBX				IAML		18 51 58.0			
	comp=N,128nm,0.4s								
HEC	**Hector,Ludlow**	**1.27**	**12**	P	**Pn**	**18 51 39.1**	**+0.3**		
	baz=192,SNR=23								
HEC				S	**Sg**	**18 51 57.2**	**+0.1**		
	baz=192								
RRX	**Edison Barstow**	**1.32**	**348**	P	**Pb**	**18 51 40.0**	**-0.1**		
	baz=167								
RRX				S	**Sg**	**18 51 58.0**	**-0.7**		
	baz=167								
IRM	**Iron Mountain**	**1.38**	**65**	P	**Pn**	**18 51 40.6**	**+0.4**		
	baz=246								
IRM				S	**Sb**	**18 51 59.4**	**+1.0**		
	baz=246								
PASC	**Pasadena Art C**	**1.41**	**295**	Pn	**Pn**	**18 51 40.8**	**+0.3**		
PASC					**Sb**	**18 51 59.1**	**0.0**		
PASC				IAML		18 52 00.6			
	comp=E,126nm,0.4s								
GMRC	**Granite Mounta**	**1.46**	**34**	P	**Pn**	**18 51 41.0**	**-0.3**		
	baz=214,SNR=7.1								
GMRC				S	**Sb**	**18 52 01.1**	**+0.4**		
	baz=214								
CIS	**Catalina Islan**	**1.48**	**264**	P	**Pn**	**18 51 41.4**	**-0.1**		
	baz=82								
CIS				S	**Sb**	**18 52 02.1**	**+0.7**		
	baz=82								
DECC	**Green Verdugo**	**1.55**	**296**	Pb	**Pb**	**18 51 44.1**	**+0.1**		
	baz=115								
DECC				S	**Sb**	**18 52 04.2**	**+0.9**		
	baz=115								
ESJX	**Sierra Juarez**	**1.68**	**159**		**Pn**	**18 51 44.5**	**+0.1**		
ESJX				IAML		18 52 29.7			
	comp=N,76nm,0.1s								
ESJX				IAML		18 52 30.2			
	comp=E,83nm,0.1s								
CCX	**Cicese**	**1.71**	**180**	Pn	**Pn**	**18 51 45.1**	**+0.6**		
CCX				IAML		18 52 47.9			
	comp=E,69nm,0.1s								
EDW2	**Edwards Air Fo**	**1.71**	**320**	Pb	**Pb**	**18 51 47.3**	**+0.6**		
	baz=139								
EDW2				S	**Sb**	**18 52 09.4**	**+1.5**		
	baz=139								
GSC	**Goldstone, Bar**	**1.72**	**356**	Pn	**Pn**	**18 51 45.1**	**+0.1**		
GSC				IAML		18 52 15.9			
	comp=E,71nm,0.8s								
GSC	**Goldstone, Bar**	**1.72**	**356**	P	**Pn**	**18 51 45.3**	**+0.4**		
	baz=176,SNR=7.8								
GSC				S	**Sg**	**18 52 10.6**	**-0.8**		
	baz=176								
BLYC	**Blythe**	**1.78**	**84**		**Pn**	**18 51 46.1**	**+0.4**		
CCAC	**Calif City Air**	**1.93**	**325**		**Pn**	**18 51 48.2**	**+0.4**		
CCAC				IAML		18 52 17.4			
	comp=E,104nm,0.6s								
TUQ	**Turquoise Moun**	**1.95**	**18**	Pb	**Pb**	**18 51 51.6**	**+0.8**		
	baz=198,SNR=11								
TUQ				S	**Sb**	**18 52 16.7**	**+1.8**		
	baz=198								
OSI	**Osito Audit: C**	**2.00**	**302**	S	**Sb**	**18 52 18.2**	**+1.8**		
	baz=120								
LRMC	**Laurel Mtn Rad**	**2.08**	**336**	Pb	**Pb**	**18 51 54.1**	**+1.0**		
	baz=155,SNR=5.8								
LRMC				Sb	**Sg**	**18 52 22.5**	**-0.2**		
	baz=155								
VTX	**Valle De La Tr**	**2.30**	**161**		**Pn**	**18 51 53.3**	**+0.5**		
VTX				IAML		18 52 30.1			
	comp=E,42nm,0.7s								
VTX				IAML		18 53 19.6			
	comp=N,60nm,1.2s								
SHOC	**Shoshone, Teco**	**2.34**	**8**	Sb	**Sg**	**18 52 29.9**	**-1.0**		
	baz=188								
ARVC	**Arvin**	**2.37**	**311**	Sb	**Sg**	**18 52 30.0**	**-2.1**		
	baz=130								
MPMC	**Manual Prospec**	**2.57**	**345**	Sb	**Sg**	**18 52 37.2**	**-1.2**		
	baz=164								
GWY	**Greenwater Val**	**2.60**	**360**	Pn	**Pn**	**18 51 57.1**	**0.0**		
V12A	**Nelson**	**2.61**	**34**	Pn	**Pn**	**18 51 58.0**	**+0.9**		
BCW	**Bitter Crk WRg**	**2.66**	**301**	Pn	**Pn**	**18 51 57.8**	**0.0**		
BCW				IAML		18 52 41.3			
	comp=N,49nm,0.6s								
BCW				IAML		18 52 41.8			
	comp=E,40nm,0.7s								
W13A	**Hualapai Mount**	**2.75**	**56**	Pn	**Pn**	**18 51 59.5**	**+0.4**		
GMN	**Gold Mountain**	**3.75**	**353**	Pn	**Pn**	**18 52 14.2**	**+1.3**		
DSP	**Deep Springs**	**3.93**	**345**	Pn	**Pn**	**18 52 16.5**	**+1.3**		
PRN	**Pahroc Range**	**4.04**	**18**		**Pn**	**18 52 18.0**	**+1.2**		
MZP	**Montezuma Peak**	**4.16**	**352**	Pn	**Pn**	**18 52 17.7**	**-0.9**		

*IDC **26** 18:58:14.3±1.2,38˚03N×2˚41W, h0km, mb3.3/3, mbtmp3.4/9, ML3.5/6, MS3.0/2, Error ellipse: s-maj=23.1km s-min=14.3km az=66.0*
*CRAAG **26** 18:58:15.3, 38˚06N×2˚18W, Ml4.0, Espagne*
*IGIL **26** 18:58:16.7, 38˚06N×2˚18W, h11km*
*MDD **26** 18:58:16.9±0.1, 38˚07N×2˚19W, h11km, mb_Lg4.0/97, Error ellipse: s-maj=1.0km s-min=0.8km az=133.0*
*LDG **26** 18:58:17.3±0.1, 38˚06N×2˚18W, h11km, Ml3.6/32, Error ellipse: s-maj=1.9km s-min=1.1km az=134.0*
*INMG **26** 18:58:17.0±1.6, 38˚06N×2˚17W, h15km±2km, ML3.7, Error ellipse: s-maj=1.4km s-min=1.3km az=31.0*
*SFS **26** 18:58:17.7, 38˚11N×2˚15W, h22km, mb4.0/7, ML4.0/40, ML4.1/30, MLv4.0/40*

ISC 26 18:58:15.0±1.0, 38°15N±0˚02×2°14W±0˚01, h14km±7km, n170, ○2⊗07/358, mb3.5/3, 2C, Spain

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EZAR	**Zarzadilla de**	**0.45**	**128**	Pg		**Pb**	**18 58 24.4**	**-0.4**
EZAR				Sg		**Sb**	**18 58 30.7**	**-0.6**
EZAR				*i*	Vmb_Lg		18 58 35.3	
E1002	**Yechar (Murcia**	**0.56**	**98**	Pg		**Pn**	**18 58 27.6**	**-1.0**
E1002				Sg		**Sn**	**18 58 35.4**	**-2.3**
ELOR	**Lorca, Murcia**	**0.60**	**148**	Pg		**Pg**	**18 58 26.5**	**-0.3**
ELOR				Sg		**Sg**	**18 58 34.3**	**-0.4**
ELOR				*i*	Vmb_Lg		18 58 37.8	
E001A	**Albudeite (Mur**	**0.60**	**102**	Pg		**Pn**	**18 58 28.2**	**-1.0**
E001A				Sg		**Sn**	**18 58 37.0**	**-1.8**
TLOR	**Lorca, Murcia**	**0.61**	**144**	Pg		**Pb**	**18 58 26.9**	**-0.6**
TLOR	**Lorca, Murcia**	**0.61**	**144**	Pg		**Pb**	**18 58 27.0**	**-0.6**
TLOR				Sg		**Sb**	**18 58 35.0**	**-0.9**
ETOB	**Tobarra**	**0.68**	**43**	Pg		**Pn**	**18 58 30.0**	**-0.4**
ETOB				Sg		**Sn**	**18 58 39.9**	**-0.9**
ETOB	**Tobarra**	**0.68**	**43**	Pg		**Pn**	**18 58 30.2**	**-0.1**
ETOB				Sg		**Sn**	**18 58 40.9**	**+0.1**
ETOB				*i*	Vmb_Lg		18 58 45.0	
EMUR	**La Murta**	**0.78**	**113**	Pg		**Pn**	**18 58 30.6**	**-1.0**
EMUR				Sg		**Sn**	**18 58 42.7**	**-0.3**
EMUR	**La Murta**	**0.78**	**113**	Pg		**Pn**	**18 58 31.3**	**-0.3**
EMUR				Sg		**Sn**	**18 58 41.5**	**-1.5**
EMUR				*i*	Vmb_Lg		18 58 50.6	
EQES	**Quesada**	**0.81**	**245**	Pg		**Pg**	**18 58 30.3**	**-0.5**
EQES				Sg		**Sg**	**18 58 40.8**	**-0.7**
EQES				*i*	Vmb_Lg		18 58 47.3	
E0802	**Ubeda,Jaen**	**0.98**	**263**	Pg		**Pb**	**18 58 33.8**	**-0.1**
E0802				Sg		**Sb**	**18 58 46.7**	**0.0**
CART	**Cartagena**	**1.06**	**122**	Pg		**Pn**	**18 58 35.4**	**-0.1**
CART				Sg		**Sn**	**18 58 49.8**	**-0.3**
ETRV	**Los Montesinos**	**1.10**	**96**	Pg		**Pg**	**18 58 37.6**	**+1.4**
ETRV				Sg		**Sn**	**18 58 51.1**	**+0.2**
ETRV				*i*	Vmb_Lg		18 58 58.3	
ENIJ	**Nijar**	**1.18**	**183**	Pg		**Pn**	**18 58 36.1**	**-1.0**
ENIJ	**Nijar**	**1.18**	**183**	Pg		**Pn**	**18 58 36.5**	**-0.7**
ENIJ				Sg		**Sb**	**18 58 50.5**	**-1.8**
ENIJ				*i*	Vmb_Lg		18 58 56.1	
AFON	**Font Roja**	**1.36**	**67**	Pg		**Pg**	**18 58 41.9**	**+0.7**
AFON				Sg		**Sg**	**18 59 00.9**	**+2.1**
AFON				*i*	Vmb_Lg		18 59 09.0	
EVIV	**Cofrentes, Val**	**1.37**	**35**	Pn		**Pg**	**18 58 41.6**	**+0.1**
EVIV				Sn		**Sg**	**18 59 00.3**	**+0.9**
EVIV				Sg		**Sb**	**18 59 02.5**	**+4.5**
EVIV				*i*	Vmb_Lg		18 59 06.6	

EBER	**Berja**	**1.38**	**206**	Sg		**Sg**	**18 58 59.4**	**-0.3**	
EBER				Pn		**Pn**	**18 58 39.6**	**-0.5**	
EBER	**Berja**	**1.38**	**206**	Pg		**Pb**	**18 58 40.7**	**-0.1**	
EBER				Sg		**Sn**	**18 58 57.4**	**-1.0**	
EBER				*i*	Vmb_Lg		18 59 05.7		
EQTA	**Presa de Quent**	**1.40**	**228**	Pn		**Pn**	**18 58 40.3**	**+0.1**	
EQTA				Sn		**Sn**	**18 58 58.1**	**-0.4**	
EQUE	**Quentar**	**1.40**	**228**	Pg		**Pb**	**18 58 40.9**	**-0.1**	
EQUE				Sg		**Sn**	**18 58 58.1**	**-0.4**	
EQUE				*i*	Vmb_Lg		18 59 02.1		
PSIM	**Granatula de C**	**1.43**	**298**	Pn		**Pb**	**18 58 41.4**	**-0.2**	
PSIM				Pg		**Pg**	**18 58 42.8**	**+0.2**	
PSIM				Sn		**Sn**	**18 58 59.0**	**-0.4**	
PSIM				Sg		**Sg**	**18 59 01.7**	**+0.4**	
EBEN2	**Beniarda presa**	**1.62**	**70**	Pn		**Pg**	**18 58 45.4**	**-0.8**	
EBEN2				Sn		**Sg**	**18 59 05.4**	**-1.8**	
EBEN2				*i*	Vmb_Lg		18 59 10.7		
ECHE	**Chera**	**1.71**	**32**	Sn		**Sb**	**18 59 07.5**	**-0.1**	
ECHE				Pn		**Pb**	**18 58 46.1**	**-0.1**	
ECHE	**Chera**	**1.71**	**32**	Pn		**Pg**	**18 58 46.4**	**-1.4**	
ECHE				Pg		**Pb**	**18 58 48.8**	**+2.6**	
ECHE				Sn		**Sg**	**18 59 08.6**	**-1.4**	
ECHE				Sg		**Sb**	**18 59 12.9**	**+5.4**	
ECHE				*i*	Vmb_Lg		18 59 17.3		
ELGU	**Los Guajares,**	**1.74**	**223**	Pn		**Pb**	**18 58 46.5**	**-0.3**	
ELGU	**Los Guajares,**	**1.74**	**223**	Pg		**Pb**	**18 58 46.8**	**0.0**	
ELGU				Sn		**Sn**	**18 59 05.0**	**-2.0**	
ELGU				Sg		**Sb**	**18 59 09.2**	**+0.6**	
ELGU				*i*	Vmb_Lg		18 59 16.2		
EGOR	**Sierra Gorda,**	**1.88**	**237**	Pn		**Pn**	**18 58 48.0**	**+1.1**	
EGOR				Sn		**Sn**	**18 59 10.4**	**0.0**	
EGOR	**Sierra Gorda,**	**1.88**	**237**	Pg		**Pb**	**18 58 48.2**	**-1.0**	
EGOR				Sn		**Sn**	**18 59 08.5**	**-1.8**	
EGOR				Sg		**Sb**	**18 59 13.4**	**+0.8**	
EGOR				*i*	Vmb_Lg		18 59 20.3		
EADA	**Adamuz**	**1.92**	**271**	Pn		**Pn**	**18 58 47.2**	**-0.1**	
EADA				Sn		**Sn**	**18 59 11.6**	**+0.3**	
EADA	**Adamuz**	**1.92**	**271**	Pn		**Pn**	**18 58 47.3**	**-0.1**	
EADA				Sn		**Sn**	**18 59 11.2**	**-0.1**	
EADA				*i*	Vmb_Lg		18 59 24.6		
ESDC	**Sonseca Array**	**2.08**	**318**	Pn		**Pn**	**18 58 50.5**	**+0.9**	
ESDC				Sn		**Sn**	**18 59 16.1**	**+0.8**	
ESDC				Sg		**Sg**	**18 59 21.3**	**-0.7**	
ESDC	**Sonseca Array**	**2.08**	**318**	Pn		**Pn**	**18 58 50.3**	**+0.7**	
	4.7nm,0.3s,baz=133,slow=14,SNR=128								
ESDC				Lg		Lg	18 59 19.8		
	21nm,0.3s,baz=131,slow=25,SNR=3.8								
	8.3nm,0.3s								
EMAL	**Malaga-Limoner**	**2.29**	**233**	Sg		**Sb**	**18 59 26.6**	**+2.4**	
EMAL				Pn		**Pn**	**18 58 53.9**	**+1.6**	
EALB	**Alboran**	**2.32**	**198**	Pn		**Pn**	**18 58 52.7**	**-0.1**	
EALB				Sn		**Sn**	**18 59 20.6**	**-0.4**	
EALB	**Alboran**	**2.32**	**198**	Pn		**Pn**	**18 58 52.7**	**-0.1**	
EALB				Sn		**Sn**	**18 59 19.0**	**-2.0**	
EALB				*i*	Vmb_Lg		18 59 30.8		
UCM	**Universidad Co**	**2.32**	**339**	Pg		**Pg**	**18 58 58.8**	**-0.7**	
UCM				Pn		**Pn**	**18 58 53.6**	**+0.8**	
UCM				Sn		**Sn**	**18 59 21.9**	**+0.7**	
UCM				Sg		**Sg**	**18 59 29.1**	**-0.5**	
E0901	**Celadas (Terue**	**2.46**	**18**	Pn		**Pb**	**18 58 57.2**	**-1.9**	
E0901				Sn		**Sb**	**18 59 26.8**	**-2.5**	
E0901				Sg		**Sg**	**18 59 32.6**	**+2.8**	
E0901				*i*	Vmb_Lg		18 59 41.7		
EMOS	**Mosqueruela**	**2.56**	**30**	Pn		**Pb**	**18 58 58.6**	**-2.3**	
EMOS				Sn		**Sb**	**18 59 29.2**	**-3.1**	
EMOS				Sg		**Sg**	**18 59 39.3**	**+1.9**	
EMOS				*i*	Vmb_Lg		18 59 50.0		
ECAB	**El Cabril**	**2.59**	**269**	Pn		**Pn**	**18 58 56.3**	**-0.2**	
ECAB				Sg		**Sb**	**18 59 35.6**	**+2.7**	
ECAB	**El Cabril**	**2.59**	**269**	Pn		**Pn**	**18 58 56.3**	**-0.2**	
ECAB				Sn		**Sn**	**18 59 27.2**	**-0.6**	
ECAB				Sg		**Sg**	**18 59 36.9**	**-1.2**	
ECAB				*i*	Vmb_Lg		18 59 39.7		
EMIJ	**Mijas**	**2.63**	**234**	Pn		**Pn**	**18 58 58.3**	**+1.2**	
EMIJ	**Mijas**	**2.63**	**234**	Pn		**Pn**	**18 58 57.8**	**+0.8**	
EMIJ				Sn		**Sn**	**18 59 27.6**	**-1.1**	
EMIJ				Sg		**Sg**	**18 59 38.0**	**-1.4**	
EMIJ				*i*	Vmb_Lg		18 59 44.3		
ETOR	**Torete**	**2.67**	**1**	Pn		**Pb**	**18 59 00.3**	**-2.4**	
ETOR				Sg		**Sg**	**18 59 42.5**	**+1.8**	
ECOL	**Islas Columbre**	**2.81**	**51**	Pn		**Pn**	**18 59 01.2**	**+1.7**	
ECOL				Sn		**Sn**	**18 59 34.6**	**+1.4**	
EIBI	**Ibiza**	**2.87**	**71**	Pn		**Pn**	**18 59 02.1**	**+1.7**	
EIBI				Sn		**Sn**	**18 59 34.0**	**-0.7**	
EIBI	**Ibiza**	**2.87**	**71**	Pn		**Pn**	**18 59 02.0**	**+1.7**	
EIBI				Sn		**Sn**	**18 59 35.0**	**+0.3**	
EIBI				*i*	Vmb_Lg		18 59 38.0		
WMELI	**Melilla**	**2.90**	**193**	Pn		**Pn**	**18 59 01.3**	**+0.5**	
EMLI	**Melilla**	**2.92**	**193**	Pn		**Pn**	**18 59 01.5**	**+0.5**	
EMLI				Sn		**Sn**	**18 59 32.8**	**-3.0**	
EMEL	**Melilla**	**2.92**	**193**	Pn		**Pn**	**18 59 01.1**	**0.0**	
EMEL				Sn		**Sn**	**18 59 33.9**	**-2.0**	
CHAS	**Isla Isabel II**	**2.97**	**185**	Pn		**Pn**	**18 59 01.8**	**+0.1**	
EJIF	**Jimena Fronter**	**3.15**	**238**	Pn		**Pn**	**18 59 04.8**	**+0.6**	
EJIF				Sn		**Sn**	**18 59 40.7**	**-0.9**	
EJIF				Sg		**Sg**	**18 59 54.2**	**-2.0**	
ESPR	**Espera**	**3.22**	**248**	Pn		**Pn**	**18 59 05.7**	**+0.5**	
ESPR				Sn		**Sn**	**18 59 42.0**	**-1.3**	
ESPR	**Espera**	**3.22**	**248**	Pn		**Pn**	**18 59 05.7**	**+0.5**	
ESPR				Sn		**Sn**	**18 59 42.3**	**-1.0**	
ESPR				Sg		**Sg**	**18 59 56.4**	**-2.0**	
ESPR				*i*	Vmb_Lg		19 00 03.2		
ODJA	**Bouhanifia**	**3.24**	**150**	P		**Pn**	**18 59 08.0**	**+2.5**	
OJBR	**Djebel Berber**	**3.25**	**141**	P		**Pn**	**18 59 07.0**	**+1.4**	
ERTA	**Horta de San J**	**3.39**	**34**	Pn		**Pn**	**18 59 10.0**	**+2.4**	
ERTA				Sn		**Sn**	**18 59 50.0**	**+2.3**	
ERTA				*i*	Vmb_Lg		19 00 17.2		
CEU	**Ceuta**	**3.43**	**230**	Pn		**Pn**	**18 59 08.0**	**0.0**	
CEU				Sn		**Sn**	**18 59 46.4**	**-2.0**	
ECEU	**Ceuta**	**3.43**	**230**	Pn		**Pn**	**18 59 08.8**	**+0.7**	
ECEU	**Ceuta**	**3.43**	**230**	Pn		**Pn**	**18 59 09.0**	**+0.9**	
ECEU				Sn		**Sn**	**18 59 45.9**	**-2.6**	
ECEU				*i*	Vmb_Lg		19 00 21.1		
PVLZ	**Pæan de**	**3.44**	**211**	Pn		**Pn**	**18 59 09.8**	**+1.6**	
EMIN	**Mina Concepcio**	**3.60**	**265**	Sg		**Sb**	**18 59 09.9**	**-0.5**	
EMIN				Sg		**Sb**	**19 00 05.9**	**+3.8**	
EMIN	**Mina Concepcio**	**3.60**	**265**	Pn		**Pn**	**18 59 10.3**	**-0.2**	
EMIN				Sn		**Sn**	**18 59 51.6**	**-1.2**	
EMIN				Sg		**Sg**	**19 00 06.8**	**-3.9**	
EMIN				*i*	Vmb_Lg		19 00 17.8		
EPLA	**Plasencia**	**3.61**	**303**	Pn		**Pn**	**18 59 11.2**	**+0.6**	
EPLA				Sn		**Sn**	**18 59 52.7**	**-0.3**	
EPLA				Sg		**Sg**	**19 00 10.0**	**-1.0**	
EPLA				*i*	Vmb_Lg		19 00 10.8		
ESAC	**San Caprasio**	**3.79**	**19**	Pn		**Pn**	**18 59 12.6**	**-0.5**	
ESAC				Sn		**Sn**	**18 59 58.0**	**+0.5**	
ESAC				*i*	Vmb_Lg		19 00 21.2		
ARNO	**Arenosillo**	**3.79**	**255**	Pn		**Pn**	**18 59 13.8**	**+0.8**	
ARNO				Sn		**Sn**	**18 59 55.7**	**-1.7**	
PBAR	**Barrancos**	**3.86**	**272**	*e*Pn		**Pn**	**18 59 13.6**	**-0.4**	
PBAR				*e*Sn		**Sn**	**18 59 58.1**	**-1.0**	
PBAR				*e*Sg		**Sb**	**19 00 14.2**	**+4.7**	
PBAR				A		A	19 00 23.0		
	138nm,0.4s								
PBAR	**Barrancos**	**3.86**	**272**	Pn		**Pn**	**18 59 13.6**	**-0.4**	
PBAR				Sg		**Sb**	**19 00 13.4**	**+3.9**	
EBAD	**Badajoz**	**3.87**	**280**	Pn		**Pn**	**18 59 13.6**	**-0.5**	
EBAD				Sg		**Sb**	**19 00 12.8**	**+3.0**	
EBAD	**Badajoz**	**3.87**	**280**	Pn		**Pn**	**18 59 14.0**	**-0.2**	
EBAD				Sn		**Sn**	**18 59 56.6**	**-2.9**	
EBAD				Sg		**Sg**	**19 00 17.8**	**-1.6**	
EBAD				*i*	Vmb_Lg		19 00 24.3		
EPOB	**Poblet**	**4.05**	**37**	Pn		**Pn**	**18 59 18.4**	**+1.8**	
EPOB				Sn		**Sn**	**19 00 06.0**	**+2.1**	
EPOB				*i*	Vmb_Lg		19 00 32.4		
EJUZ	**Juzbado, Salam**	**4.12**	**317**	Pn		**Pn**	**18 59 18.8**	**+1.2**	
EJUZ				Sn		**Sn**	**19 00 05.9**	**+0.3**	
EGRO	**El Granado**	**4.27**	**263**	Pn		**Pn**	**18 59 18.9**	**-0.8**	
EGRO				Sg		**Sb**	**19 00 24.2**	**+2.8**	
EGRO	**El Granado**	**4.27**	**263**	Pn		**Pn**	**18 59 18.9**	**-0.8**	
EGRO				Sn		**Sn**	**19 00 07.2**	**-2.1**	
EGRO				Sg		**Sg**	**19 00 29.7**	**-2.5**	
EGRO				*i*	Vmb_Lg		19 00 39.3		
PMRV	**Marv??o**	**4.30**	**289**	*e*Pn		**Pn**	**18 59 19.9**	**-0.1**	
PMRV				*e*Sn		**Sn**	**19 00 09.1**	**-0.8**	
PMRV				*e*Sg		**Sg**	**19 00 31.5**	**-1.5**	
PMRV				A		A	19 00 37.8		
	133nm,0.7s								
PESTR	**Estremoz**	**4.33**	**281**	*e*Pn		**Pn**	**18 59 20.2**	**-0.3**	
PESTR				*e*Sn		**Sn**	**19 00 09.4**	**-1.4**	
PESTR				*e*Sg		**Sg**	**19 00 32.3**	**-1.9**	
PESTR				A		A	19 00 38.0		
	147nm,0.4s								
PESTR	**Estremoz**	**4.33**	**281**	Pn		**Pn**	**18 59 20.1**	**-0.4**	
PESTR				Sn		**Sn**	**19 00 08.9**	**-2.0**	
PVAQ	**Vaqueiros**	**4.48**	**262**	*e*Pn		**Pn**	**18 59 21.8**	**-0.7**	
PVAQ				*e*Sn		**Sn**	**19 00 12.3**	**-2.1**	
PVAQ				*e*Sg		**Sg**	**19 00 35.5**	**-3.4**	
PVAQ				A		A	19 00 42.5		
	72nm,0.8s								
PVAQ	**Vaqueiros**	**4.48**	**262**	Pn		**Pn**	**18 59 21.8**	**-0.7**	
PVAQ				Sn		**Sn**	**19 00 12.3**	**-2.1**	
PCBR	**Castelo Branco**	**4.49**	**294**	*e*Pn		**Pn**	**18 59 23.6**	**+1.0**	
PCBR				*e*Sn		**Sn**	**19 00 14.0**	**-0.6**	
PCBR				*e*Sg		**Sg**	**19 00 34.9**	**-4.2**	
PCBR				A		A	19 00 43.8		
	74nm,0.6s								
PBEJ	**Beja**	**4.52**	**270**	*e*Pn		**Pn**	**18 59 23.3**	**+0.3**	
PBEJ				*e*Sn		**Sn**	**19 00 13.9**	**-1.5**	
PBEJ				*e*Sg		**Sg**	**19 00 34.9**	**-5.2**	
PBEJ				A		A	19 00 45.9		
	78nm,0.6s								
EVO	**Evora**	**4.63**	**277**	*e*Pn		**Pn**	**18 59 25.1**	**+0.5**	
EVO				*e*Sn		**Sn**	**19 00 17.1**	**-1.1**	
EVO				*e*Sg		**Sg**	**19 00 38.4**	**-5.3**	
EVO				A		A	19 00 52.0		
	105nm,0.7s								
EVO	**Evora**	**4.63**	**277**	Pn		**Pn**	**18 59 24.9**	**+0.3**	
EVO				Sn		**Sn**	**19 00 15.4**	**-2.8**	
EARA	**Aranguren**	**4.64**	**5**	Pn		**Pn**	**18 59 27.6**	**+2.9**	
EARA				Sn		**Sn**	**19 00 19.8**	**+1.4**	
EARA				Sg		**Sg**	**19 00 46.2**	**+2.3**	
EARA				*i*	Vmb_Lg		19 00 53.6		
PBDV	**Barranco-do-Ve**	**4.68**	**261**	*e*Pn		**Pn**	**18 59 25.2**	**-0.1**	
PBDV				*e*Sn		**Sn**	**19 00 17.4**	**-2.0**	
PBDV				*e*Sg		**Sg**	**19 00 40.3**	**-5.0**	
PBDV				A		A	19 00 56.8		
	60nm,0.5s								
PBDV	**Barranco-do-Ve**	**4.68**	**261**	Pn		**Pn**	**18 59 25.0**	**-0.3**	
PBDV				Sn		**Sn**	**19 00 15.9**	**-3.5**	
PCVE	**Castro Verde**	**4.69**	**265**	*i*Pn		**Pn**	**18 59 25.3**	**-0.1**	
PCVE				*e*Sg		**Sb**	**19 00 39.9**	**+6.4**	
PCVE				A		A	19 00 51.8		
	62nm,0.6s								
PCVE	**Castro Verde**	**4.69**	**265**	Pn		**Pn**	**18 59 25.3**	**-0.1**	
EMIR	**Miracle**	**4.70**	**36**	Pn		**Pn**	**18 59 28.0**	**+2.4**	
EMIR				Sn		**Sn**	**19 00 21.1**	**+1.3**	
EMIR				Sg		**Sg**	**19 00 45.8**	**0.0**	
EMIR				*i*	Vmb_Lg		19 00 58.8		
MTE	**Manteigas**	**4.76**	**300**	*e*Pn		**Pn**	**18 59 27.8**	**+1.4**	
MTE				*e*Sn		**Sn**	**19 00 20.4**	**-0.9**	
MTE				*e*Sg		**Sg**	**19 00 43.7**	**-4.0**	
MTE				A		A	19 00 57.8		
	122nm,0.5s								
EORO	**Oroz-Betelu**	**4.78**	**7**	Pn		**Pn**	**18 59 30.1**	**+3.4**	
EORO				Sn		**Sn**	**19 00 21.3**	**-0.6**	
EORO				Sg		**Sg**	**19 00 50.5**	**+2.1**	
EORO				*i*	Vmb_Lg		19 01 04.3		
MESJ	**Messejana**	**4.81**	**268**	*e*Pn		**Pn**	**18 59 27.2**	**+0.1**	
MESJ				*e*Sn		**Sn**	**19 00 20.8**	**-1.8**	
MESJ				*e*Sg		**Sg**	**19 00 43.9**	**-5.6**	
MESJ				A		A	19 00 53.2		
	103nm,0.5s								
MESJ	**Messejana**	**4.81**	**268**	*e*P		**Pn**	**18 59 26.8**	**-0.3**	
MVO	**Moncorvo**	**4.83**	**310**	*e*Pn		**Pn**	**18 59 28.3**	**+1.0**	

	106nm,0.5s								
PMAFR	**Mafra**	**5.66**	**280**		Pn	**Pn**	**18 59 38.5**	**-0.2**
MDT	**Midelt**	**5.69**	**201**		Pn	**Pn**	**18 59 38.5**	**-0.7**
	1.1nm,0.3s,baz=333,slow=10,SNR=3.6								
MDT					Sn	**Sn**	**19 00 42.7**	**-1.7**
	baz=243,slow=20								
	2.7nm,0.3s								
PCAB	**Cabril**	**5.75**	**310**	*e*Pn		**Pn**	**18 59 40.3**	**+0.3**
PCAB				*e*Sn		**Sn**	**19 00 42.4**	**-3.4**
PCAB				*e*Sg		**Sg**	**19 01 17.4**	**-2.2**
PCAB				A		A	19 01 23.4	
	40nm,0.6s								
EJON	**La Jonquera**	**5.76**	**40**	Pn		**Pn**	**18 59 42.4**	**+2.2**
EJON	**La Jonquera**	**5.76**	**40**	Pn		**Pn**	**18 59 41.9**	**+1.8**
EJON				Sn		**Sn**	**19 00 46.1**	**0.0**
EJON				*i* Vmb_Lg			19 01 46.9	
ELOB	**Lobios**	**5.87**	**311**	Pn		**Pn**	**18 59 42.5**	**+0.8**
ELOB				Sn		**Sn**	**19 00 46.2**	**-2.5**
ELOB				Sg		**Sg**	**19 01 21.2**	**-2.1**
ELOB				*i* Vmb_Lg			19 01 28.1	
PGAV	**Gavieira, Arco**	**6.05**	**311**	*e*Pn		**Pn**	**18 59 44.8**	**+0.6**
PGAV				*e*Sn		**Sn**	**19 00 50.3**	**-3.0**
PGAV				*e*Sg		**Sg**	**19 01 25.6**	**-3.6**
PGAV				A		A	19 01 49.2	
	49nm,0.6s								
MTLF	**Montolieu**	**6.15**	**31**	*e*Pn		**Pn**	**18 59 47.5**	**+2.0**
MTLF	**Montolieu**	**6.15**	**31**	*e*Pg		**Pg**	**19 00 12.6**	**-0.2**
MTLF				*e*Sn		**Sn**	**19 00 53.7**	**-1.9**
MTLF				*e*Sg		**Sg**	**19 01 32.1**	**-0.3**
	39nm,0.8s								
EZAM	**Zamans**	**6.41**	**311**	Pn		**Pn**	**18 59 49.7**	**+0.6**
EPON	**Pontenova**	**6.42**	**325**	Pn		**Pn**	**18 59 50.9**	**+1.8**
EPON				Sn		**Sn**	**19 00 59.7**	**-2.4**
EPON				Sg		**Sg**	**19 01 41.1**	**+0.1**
EPON				*i* Vmb_Lg			19 01 47.8	
EAGO	**Agolada(Pontev**	**6.49**	**318**	Pn		**Pn**	**18 59 51.3**	**+1.2**
EAGO				Sn		**Sn**	**19 01 01.9**	**-2.1**
EAGO				Sg		**Sg**	**19 01 41.3**	**-2.0**
EAGO				*i* Vmb_Lg			19 01 54.0	
EMAZ	**Mazaricos**	**7.07**	**315**	Pn		**Pn**	**18 59 59.5**	**+1.4**
EMAZ				Sn		**Sn**	**19 01 15.3**	**-3.0**
EMAZ				Sg		**Sg**	**19 01 59.0**	**-2.9**
EMAZ				*i* Vmb_Lg			19 02 18.7	
LFF	**La Frestale**	**7.12**	**17**	*e*Pn		**Pn**	**19 00 00.0**	**+1.3**
LFF				*e*Sn		**Sn**	**19 01 17.8**	**-1.6**
	13nm,0.5s								
LASF	**Ste Croix**	**7.45**	**36**	*e*Pn		**Pn**	**19 00 05.1**	**+1.8**
LASF	**Ste Croix**	**7.45**	**36**	*e*Pg		**Pg**	**19 00 36.7**	**-0.9**
LASF				*e*Sn		**Sn**	**19 01 25.4**	**-2.2**
LASF				*e*Sg		**Sg**	**19 02 13.0**	**-1.1**
	11nm,0.6s								
CAF	**Calviac**	**7.47**	**24**	*e*Pn		**Sn**	**19 00 04.6**	**+1.0**
CAF				*e*Sn		**Sn**	**19 01 25.8**	**-2.2**
	5.6nm,0.4s								
RJF	**Les Rejaudoux**	**7.65**	**20**	*e*Pn		**Pn**	**19 00 07.1**	**+1.0**
RJF				*e*Sn		**Sn**	**19 01 30.1**	**-2.5**
RJF				*e*Sg		**Sg**	**19 02 20.5**	**0.0**
	61nm,1.3s								
SMRF	**Simiane la Rot**	**8.23**	**43**	*e*Pn		**Pn**	**19 00 16.6**	**+2.5**
TIO	**Tiouine**	**8.35**	**212**	Pn		**Pn**	**19 00 17.1**	**+1.3**
LMR	**La Mourre**	**8.36**	**49**	*e*Pn		**Pn**	**19 00 17.3**	**+1.5**
LMR				*e*Sn		**Sn**	**19 01 46.8**	**-3.1**
	2.4nm,0.3s								
VIVF	**Saint-Julien-l**	**8.43**	**35**	*e*Pn		**Pn**	**19 00 18.1**	**+1.4**
VIVF				*e*Sg		**Sg**	**19 02 43.5**	**-1.7**
	5.0nm,0.7s								
MFF	**Saint Martin d**	**8.57**	**9**	*e*Pn		**Pn**	**19 00 20.5**	**+1.8**
MFF				*e*Sn		**Sn**	**19 01 51.7**	**-3.5**
	2.2nm,0.3s								
TCF	**Toulx Ste Croi**	**8.75**	**20**	*e*Pn		**Pn**	**19 00 22.2**	**+1.1**
TCF				*e*Sn		**Sn**	**19 01 56.4**	**-3.1**
	4.3nm,0.6s								
TCF				*e*Sg		**Sg**	**19 02 54.2**	**-1.4**
	9.6nm,0.9s								
VSL	**Villasalto**	**9.09**	**78**	Pn		**Pn**	**19 00 29.1**	**+3.3**
VSL				Sn		**Sn**	**19 02 03.0**	**-5.0**
BGF	**Bois d'Agland**	**9.18**	**22**	*e*Pn		**Pn**	**19 00 28.3**	**+1.4**
BGF				*e*Sn		**Sn**	**19 02 06.5**	**-3.4**
	8.3nm,0.5s								
BGF				*e*Sg			19 03 07.1		
	4.7nm,0.3s								
SBF	**Sospel**	**9.21**	**49**	*e*Pn		**Pn**	**19 00 29.3**	**+1.8**
KEST	**Kesra**	**9.51**	**101**	Pn		Pn	19 00 35.9	+4.3
	0.7nm,0.3s,baz=241,slow=14,SNR=20								
KEST					Sn		Sn	19 02 26.7	+8.4
	0.4nm,0.3s,baz=352,slow=3.9,SNR=3.2								
	1.3nm,0.3s								
AVF	**Avril sur Loir**	**9.54**	**23**	*e*Pn		**Pn**	**19 00 33.3**	**+1.4**
AVF				*e*Sn		**Sn**	**19 02 15.2**	**-3.6**
	1.3nm,0.5s								
PGF	**Pioggiola**	**9.57**	**59**	*e*Pn		**Pn**	**19 00 34.4**	**+1.9**
PGF				*e*Sn		**Sn**	**19 02 15.4**	**-4.4**
	2.6nm,0.4s								
SMF	**Signal de Mont**	**9.57**	**26**	*e*Pn		**Pn**	**19 00 33.1**	**+0.8**
SMF				*e*Sn		**Sn**	**19 02 15.0**	**-4.7**
	3.2nm,0.5s								
QUIF	**Quistinic**	**9.79**	**356**	*e*Pn		**Pn**	**19 00 36.5**	**+1.2**
QUIF				*e*Sn		**Sn**	**19 02 21.1**	**-3.9**
	7.7nm,0.6s								
SSF	**Saint Saulge**	**9.83**	**23**	*e*Pn		**Pn**	**19 00 36.8**	**+0.9**
LPG	**La Plagne**	**9.89**	**39**	*e*Pn		**Pn**	**19 00 38.9**	**+1.9**
SGMF	**Saint Gilles**	**10.10**	**358**	*e*Pn		**Pn**	**19 00 40.8**	**+1.2**
SGMF				*e*Sn		**Sn**	**19 02 28.6**	**-4.1**
	3.3nm,0.5s								
LOR	**Lormes**	**10.12**	**24**	*e*Pn		**Pn**	**19 00 40.9**	**+1.0**
	baz=208								
LOR				*e*Sn		**Sn**	**19 02 29.0**	**-4.2**
	4.5nm,0.9s,baz=208								
LOR				*e*Sg			19 03 36.2		
	15nm,1.1s								
ROSF	**Rostrenen**	**10.21**	**356**	*e*Pn		**Pn**	**19 00 42.3**	**+1.1**
ROSF				*e*Sn		**Sn**	**19 02 31.2**	**-4.2**
	3.9nm,0.5s								
GRR	**Gorron**	**10.28**	**5**	*e*Pn		**Pn**	**19 00 42.9**	**+0.9**
GRR				*e*Sn		**Sn**	**19 02 32.5**	**-4.4**
	3.7nm,0.5s								
CABF	**La Chapelle**	**10.41**	**33**	*e*Pn		**Pn**	**19 00 45.7**	**+1.7**
CABF				*e*Sn		**Sn**	**19 02 36.0**	**-4.4**
	0.9nm,0.3s								
LDF	**La Druitiere**	**10.54**	**7**	*e*Sn		**Sn**	**19 02 39.1**	**-4.3**
	3.0nm,0.4s								
FLN	**La Foliniere**	**10.68**	**6**	*e*Pn		**Pn**	**19 00 48.3**	**+0.8**
	baz=187								
FLN				*e*Sn		**Sn**	**19 02 42.8**	**-3.9**
	5.5nm,0.7s								
DAVOX	**Davos/Dischmat**	**12.36**	**42**	Pn		P	19 01 16.9	-6.0
	0.1nm,0.3s,baz=249,slow=8.7,SNR=1.2								
	0.5nm,0.3s								
GERES	**GERESS Array B**	**15.66**	**42**	Pn		**P**	**19 02 00.2**	**+0.7**
	0.2nm,0.3s,baz=237,slow=12,SNR=3.9								
	0.6nm,0.6s								
EKA	**Eskdalemuir Ar**	**17.20**	**358**	P		**P**	**19 02 16.7**	**+0.4**
	baz=180,slow=14								
	0.3nm,0.3s								
HFS	**Hagfors**	**24.19**	**19**	P		**P**	**19 03 33.0**	**+2.2**
	0.7nm,0.6s,baz=209,slow=18,SNR=1.6								
	0.7nm,0.6s								
NOA	**NORSAR Array B**	**24.39**	**16**	P		**P**	**19 03 34.9**	**+2.2**
	0.1nm,0.5s,baz=214,slow=8.9,SNR=1.4								
NOA					LR	LR	19 15 04.1		
	comp=Z,18nm,19.5s,baz=265,slow=41								
	0.1nm,0.5s								
TORD	**Torodi Ar. Bea**	**25.13**	**171**	P		**P**	**19 03 40.1**	**+0.4**
	0.8nm,0.6s,baz=348,slow=9.0,SNR=6.7								
	0.8nm,0.6s								
BELG	**Belogornoye**	**37.04**	**51**	LR		LR	19 19 52.0		
	comp=Z,42nm,19.4s,baz=51,slow=35								

*IDC **26** 19:14:02.7±0.5,37°.09N×137°.10E,h265km±6km, mb3.4/16, mbtmp4.0/22,Error ellipse: s-maj=15.4km s-min=11.3km az=66.0*
*JMA **26** 19:14:02.7±0.2,37°.1N±0°.6×137°.1E±0°.8, h266km±1km, MV3.5/38,TOYAMA BAY REGION*
ISC 26 19:14:02.7±0.6,37°.08N±0°.05×137°.07E±0°.06,h264km±6km, n58,σ0°70/71,mb3.6/16,Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.28**	**235**	*e*P		**Pn**	**19 14 37.1**	**+0.4**
JSZ	**Suzu**	**0.43**	**33**	P		**Pn**	**19 14 37.2**	**+0.2**
JSZ				*e*S		**S**	**19 15 04.0**	**-0.1**
JHG	**Hegura jima**	**0.77**	**351**	P		**Pn**	**19 14 38.6**	**+0.5**
JHG						**S**	**19 15 06.2**	**0.0**
JKG	**Kaga**	**1.00**	**217**	*e*P		**Pn**	**19 14 39.5**	**+0.2**
MAJO	**Matsushiro**	**1.06**	**120**	P		**Pn**	**19 14 39.8**	**+0.1**
MAT	**Matsushiro**	**1.06**	**120**	*i* P		**Pn**	**19 14 39.9**	**+0.2**
MAT				*e*S		**S**	**19 15 09.6**	**+0.7**
MJAR	**Matsushiro Arr**	**1.06**	**120**	P		**Pn**	**19 14 40.2**	**+0.5**
	50nm,0.3s,baz=304,slow=6.3,SNR=592								
MJAR						**S**	**19 15 09.5**	**+0.7**
	6.9nm,0.3s,baz=308,slow=11,SNR=4.5								
JSD	**Sado**	**1.34**	**45**	P		**Pn**	**19 14 41.3**	**+0.1**
JSD	**Sado**	**1.34**	**45**	*i* P		**Pn**	**19 14 41.5**	**+0.2**
JSD				*e*S		**S**	**19 15 11.6**	**-0.1**
JGF	**Kuroka**	**1.50**	**171**	P		**Pn**	**19 14 42.7**	**+0.2**
JYTA	**Yamagatataniai**	**1.51**	**190**	*i* P		**Pn**	**19 14 43.0**	**+0.4**
JYTA						**S**	**19 15 13.9**	**-0.1**
INU	**Inuyama**	**1.73**	**181**	P		**Pn**	**19 14 44.3**	**+0.1**
JRY	**Ryogami san**	**1.82**	**125**	P		**Pn**	**19 14 44.7**	**-0.3**
JRY				*e*S		**S**	**19 15 17.7**	**-0.6**
JNS	**Sasagawa**	**1.94**	**67**	P		**Pn**	**19 14 45.9**	**+0.2**
JYN	**Shimob**	**1.98**	**143**	*i* P		**Pn**	**19 14 46.5**	**+0.1**
JYN						**S**	**19 15 21.6**	**+0.7**
JAG	**Ashikaga**	**2.03**	**108**	*i* P		**Pn**	**19 14 46.0**	**-0.6**
JAW	**Awa shima**	**2.21**	**51**	P		**Pn**	**19 14 48.4**	**+0.2**
JWT	**Wachi**	**2.25**	**217**	*i* P		**Pn**	**19 14 48.5**	**-0.1**
JWT						**S**	**19 15 23.2**	**-1.8**
JFNN	**Fujinakano**	**2.29**	**145**	*e*P		**Pn**	**19 14 50.1**	**+1.0**
JOD2	**Odawara 2**	**2.44**	**137**	P		**Pn**	**19 14 50.7**	**+0.2**
JOD2						**S**	**19 15 29.4**	**+1.0**
JSG	**Sagara**	**2.57**	**159**	P		**Pn**	**19 14 52.1**	**+0.4**
JOTO	**OTAMA OYAMA**	**2.65**	**79**	P		**Pn**	**19 14 52.7**	**+0.3**
JIE	**Ise**	**2.70**	**186**	P		**Pn**	**19 14 53.9**	**+0.8**
JIE						**S**	**19 15 32.9**	**-0.1**
JMM	**Marumori**	**3.06**	**74**	P		**Pn**	**19 14 56.8**	**+0.1**
JWY	**Kouya**	**3.10**	**203**	P		**Pn**	**19 14 57.8**	**+0.5**
JOI	**OKI**	**3.17**	**257**	P		**Pn**	**19 14 58.2**	**+0.3**
JYK	**Kaneyama**	**3.18**	**54**	P		**Pn**	**19 14 58.2**	**+0.2**
JYK						**S**	**19 15 42.8**	**+0.9**
JMN	**Monobe**	**4.24**	**219**	P		**Pn**	**19 15 10.2**	**+0.1**
JHJ	**Hachijo jima 2**	**4.54**	**150**	P		**Pn**	**19 15 13.1**	**-0.4**
	48nm,0.3s,baz=101,slow=22,SNR=21								
JHJ						**S**	**19 16 10.2**	**+0.2**
	138nm,0.3s,baz=45,slow=22,SNR=7.5								
JHJ2	**Mitsune**	**4.56**	**150**	P		**Pn**	**19 15 13.3**	**-0.4**
JTM	**Tennnabayashi**	**4.84**	**39**	P		**Pn**	**19 15 15.9**	**-1.0**
JNU	**Nakatsue**	**6.43**	**234**	P		**Pn**	**19 15 36.9**	**+0.4**
JNU	**Nakatsue**	**6.43**	**234**	P		**Pn**	**19 15 36.9**	**+0.4**
	8.3nm,0.6s,baz=40,slow=1.5,SNR=15								
ERM	**Erimo**	**6.81**	**42**	P		**Pn**	**19 15 39.4**	**-1.6**
JEM	**Erimo**	**6.81**	**42**	P		**Pn**	**19 15 39.4**	**-1.7**
KSRS	**Korea Array**	**7.30**	**276**	P		**Pn**	**19 15 48.5**	**+1.3**
	1.5nm,0.6s,baz=98,slow=13,SNR=7.0								
USRK	**Ussuriysk Ar.**	**8.09**	**333**	P		**Pn**	**19 15 57.9**	**+0.9**
	23nm,0.7s,baz=145,slow=12,SNR=33								
ASAJ	**Asahikawa**	**8.19**	**29**	P		**Pn**	**19 15 56.2**	**-2.1**
	23nm,0.3s,baz=225,slow=15,SNR=158								
YSS	**Yuzh-Sakhalins**	**10.73**	**21**	P		**Pn**	**19 16 28.2**	**-1.8**
JCJ	**Chichijima**	**10.86**	**155**	P		**Pn**	**19 16 31.2**	**-0.7**
KLR	**Kul'dur**	**12.74**	**344**	P		**Pn**	**19 16 54.2**	**-0.6**
	15nm,0.5s,baz=165,slow=9.7,SNR=81								
SONM	**Songino Array**	**24.89**	**305**	P		**P**	**19 19 01.5**	**-0.3**
	0.6nm,0.6s,baz=102,slow=8.8,SNR=4.3								
	0.6nm,0.6s								
MKAR	**Makanchi Array**	**41.14**	**301**	P		**P**	**19 21 21.1**	**-0.1**
	0.7nm,0.7s,baz=79,slow=11,SNR=6.5								
	0.7nm,0.7s								
KURBB	**Kurchatov Arra**	**43.22**	**307**	P		**P**	**19 21 38.0**	**+0.2**
	1.5nm,0.8s,baz=83,slow=7.4,SNR=16								
	1.5nm,0.8s								
BVAR	**Borovoye Array**	**47.95**	**312**	P		**P**	**19 22 14.4**	**-0.4**
	1.5nm,0.3s,baz=103,slow=8.5,SNR=13								
	1.5nm,0.3s								
ILAR	**Eielson Array**	**51.31**	**32**	P		**P**	**19 22 39.5**	**-0.3**
	0.2nm,0.5s,baz=273,slow=6.4,SNR=4.8								
	0.2nm,0.5s								
WRA	**Warramunga Arr**	**56.78**	**183**	P		**P**	**19 23 19.8**	**+0.3**
	0.7nm,0.4s,baz=357,slow=7.6,SNR=4.0								
	0.7nm,0.4s								
SPITS	**Spitsbergen Ar**	**59.78**	**348**	P		**P**	**19 23 40.0**	**+0.4**
	7.2nm,1.0s,baz=146,slow=6.1,SNR=0.9								
	7.2nm,1.0s								
ASAR	**Alice Springs**	**60.50**	**183**	P		**P**	**19 23 44.5**	**-0.6**
	0.3nm,0.5s,baz=3.6,slow=6.5,SNR=1.8								
	0.3nm,0.5s								
ARCES	**ARCESS Array B**	**62.70**	**338**	P		**P**	**19 23 59.0**	**-0.2**
	4.3nm,0.9s,baz=58,slow=9.1,SNR=3.8								
	4.3nm,0.9s								
RES	**Resolute Bay**	**63.39**	**14**	P		**P**	**19 24 03.6**	**0.0**
	1.1nm,0.6s,baz=308,slow=7.0,SNR=2.3								
	1.1nm,0.6s								
FINES	**FINESS Array B**	**67.11**	**331**	P		**P**	**19 24 27.6**	**0.0**
	1.6nm,0.5s,baz=59,slow=6.0,SNR=19								
	1.6nm,0.5s								
AKASG	**Malin Array Be**	**72.09**	**320**	P		**P**	**19 24 57.4**	**-0.7**
	0.9nm,0.4s,baz=50,slow=5.9,SNR=12								
	0.9nm,0.4s								
HFS	**Hagfors**	**72.57**	**334**	P		**P**	**19 25 00.8**	**+0.1**
	1.3nm,0.5s,baz=64,slow=5.1,SNR=13								
	1.3nm,0.5s								
NB2	**NORSAR Subarra**	**72.75**	**336**	P		**P**	**19 25 01.7**	**-0.2**
	comp=Z,0.5nm,0.5s,baz=43,slow=6.2								
NOA	**NORSAR Array B**	**72.75**	**336**	P		**P**	**19 25 01.8**	**0.0**
	comp=Z,0.9nm,0.7s,baz=42,slow=5.9,SNR=7.4								
	comp=Z,0.9nm,0.7s								
BRTR	**Keskin Array B**	**76.17**	**309**	P		**P**	**19 25 22.8**	**+0.8**
	comp=Z,0.5nm,0.7s,baz=317,slow=24,SNR=2.7								
	comp=Z,0.5nm,0.7s								
TXAR	**Lajitas Array**	**92.79**	**50**	P		**P**	**19 26 46.9**	**+1.4**
	comp=Z,0.2nm,0.6s,baz=328,slow=3.2,SNR=3.3								
	comp=Z,0.2nm,0.6s								

*IDC **26** 19:15:56.8±0.7,12°.98N×88°.18W,h0km,mb4.1/10, mbtmp4.1/12,ML3.1/4,MS3.2/15,Error ellipse: s-maj=35.0km s-min=11.2km az=45.0*
*SNET **26** 19:16:02.7±0.9,12°.72N×88°.75W,h30km,ML4.7*
*CATAC **26** 19:16:03.4±0.7,12°.67N×88°.65W,h35km±21km,ML4.2*
*NEIC **26** 19:16:07.0±1.6,12°.88N±0°.07×88°.41W±0°.06,h76km±8km, mb4.4/72,Error ellipse: s-maj=12.6km s-min=6.3km az=216.0*
*GCG **26** 19:16:31.5±0.4,14°.81N×90°.17W,h50km±999km,MD4.1*
ISC 26 19:16:03.4±1.0,12°.73N±0°.05×88°.64W±0°.04,h51km±9km, n477,σ1°10/491,mb4.4/37,MS3.3/11,3C-12D,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LCY	**Lacayo**	**0.77**	**26**	*e*P		**Pn**	**19 16 18.5**	**+0.3**
COEB	**Comit de Eme**	**0.77**	**8**	*i* P		**Pn**	**19 16 18.0**	**-0.2**
TECA	**Tecapa**	**0.77**	**10**	*i* P		**Pn**	**19 16 18.2**	**-0.1**
RANC	**El Ranchito**	**0.78**	**26**	*e*P		**Pn**	**19 16 18.6**	**+0.3**
PACA	**Pacayal**	**0.80**	**23**	*e*P		**Pn**	**19 16 18.9**	**+0.3**
PACA				*e*S		**Sn**	**19 16 31.0**	**+1.4**
BLLM	**Bellamira**	**0.81**	**29**	*i* P		**Pn**	**19 16 19.1**	**+0.4**
TECO	**Alcaldia de Te**	**0.81**	**350**	*i* P		**Pn**	**19 16 18.1**	**-0.6**
TECO				*e*S		**Sn**	**19 16 29.2**	**-0.6**
CNRM	**Centro Naciona**	**0.87**	**32**	*e*P		**Pn**	**19 16 20.0**	**+0.6**
PQSS	**Presa 15 de Se**	**0.89**	**5**	*e*P		**Pn**	**19 16 20.1**	**+0.4**
SNVI	**San Vicente**	**0.90**	**347**	*e*P		**Pn**	**19 16 19.4**	**-0.5**
UESV	**Universidad de**	**0.91**	**351**	*e*P		**Pn**	**19 16 19.7**	**-0.3**
COEG	**Centro de Oper**	**0.92**	**345**	*i* P		**Pn**	**19 16 19.3**	**-0.8**
LCND	**La Caada**	**0.93**	**52**	*e*P		**Pn**	**19 16 20.5**	**+0.3**
SCLA	**Alcaldia de Sa**	**0.97**	**355**	*e*P		**Pn**	**19 16 20.9**	**+0.1**
LALI	**Alcalda de L**	**1.00**	**319**	*i* P		**Pn**	**19 16 19.7**	**-1.5**
PAVA	**Las Pavas**	**1.02**	**343**	*i* P		**Pn**	**19 16 21.1**	**-0.4**
LOMA	**Loma Larga**	**1.05**	**330**	*e*P		**Pn**	**19 16 20.6**	**-1.3**
LOMA				*e*S		**Sn**	**19 16 34.4**	**-1.1**
AEIL	**Aeropuerto Ilo**	**1.07**	**334**	*e*P		**Pn**	**19 16 21.3**	**-0.8**
LBRS	**Las Brisas**	**1.08**	**339**	*e*P		**Pn**	**19 16 21.8**	**-0.5**
AMPH	**Amapala**	**1.10**	**60**	*i* P		**Pn**	**19 16 23.1**	**+0.6**
AMPH				*i* S		**Sn**	**19 16 38.3**	**+1.6**
LFU	**La Fuente**	**1.11**	**335**	*e*P		**Pn**	**19 16 22.0**	**-0.7**
SNET	**Serv Nac Est T**	**1.11**	**329**	*e*P		**Pn**	**19 16 21.5**	**-1.2**
UEES	**Universidad Ev**	**1.14**	**329**	*e*P		**Pn**	**19 16 22.1**	**-1.1**
PIC2	**El Picacho**	**1.17**	**329**	*e*P		**Pn**	**19 16 23.0**	**-0.7**
BOQS	**Boqueron**	**1.18**	**328**	*i* P		**Pn**	**19 16 22.9**	**-0.9**
PMON	**Piamonte**	**1.18**	**326**	*i* P		**Pn**	**19 16 22.5**	**-1.1**
JAYA	**Jayaque - finc**	**1.21**	**319**	*i* P		**Pn**	**19 16 22.7**	**-1.5**
QUEZ	**Alcaldia de Qu**	**1.26**	**331**	*e*P		**Pn**	**19 16 24.3**	**-0.3**
CEDA	**San Andres**	**1.29**	**325**	*i* P		**Pn**	**19 16 24.3**	**-0.9**
CEVE	**Cerro Verde**	**1.45**	**319**	*e*P		**Pn**	**19 16 26.6**	**-0.9**
LLGN	**La Laguna**	**1.45**	**348**	*e*P		**Pn**	**19 16 27.9**	**+0.4**
SBLS	**San Blas**	**1.46**	**319**	*e*P		**Pn**	**19 16 26.8**	**-0.8**
SNJE	**San Jose**	**1.47**	**320**	*i* P		**Pn**	**19 16 26.9**	**-0.8**
RTR	**El Retiro**	**1.52**	**320**	*e*P		**Pn**	**19 16 27.7**	**-0.6**
UNIC	**Universidad Ca**	**1.53**	**325**	*e*P		**Pn**	**19 16 28.0**	**-0.4**
CRIN	**San Cristobal**	**1.55**	**91**			**Pn**	**19 16 29.4**	**+0.7**
CRIN					Sn	**Sn**	**19 16 48.5**	**+0.8**
CRIN	**San Cristobal**	**1.55**	**91**	*i* P		**Pn**	**19 16 29.2**	**+0.5**
CRIN				*i* S		**Sn**	**19 16 48.2**	**+0.5**
CRIN				IAML			19 16 58.8	
	comp=Z,8μm,1.0s								
NUBE	**Las Nubes**	**1.61**	**316**	*i* P		**Pn**	**19 16 28.5**	**-1.1**
PKGN	**Cerro Pekin**	**1.62**	**92**	*i* P		**Pn**	**19 16 29.5**	**-0.1**
PKGN				*i* S		**Sn**	**19 16 49.1**	**-0.3**
PKGN				IAML			19 16 58.2	
	comp=Z,6μm,1.0s								
QUEN	**Al S del Volca**	**1.75**	**94**	*i* P		**Pn**	**19 16 30.6**	**-0.8**
QUEN				*i* S		**Sn**	**19 16 54.4**	**+1.9**
QUEN				IAML			19 16 56.4	
	comp=Z,2μm,1.0s								
PACN	**Al O del Volca**	**1.82**	**97**	*i* P		**Pn**	**19 16 31.9**	**-0.4**
PACN				*i* S		**Sn**	**19 16 54.8**	**+0.6**
PACN				IAML			19 17 07.0	
	comp=Z,2μm,1.0s								
PLRN	**Geotermica Pol**	**1.83**	**94**	IAML			19 16 29.3		
	comp=Z,2μm,1.0s								
PLRN				*i* P		**Pn**	**19 16 33.4**	**+0.9**
ROCN	**Rota Cerro Neg**	**1.86**	**96**	*i* P		**Pn**	**19 16 33.1**	**+0.2**
ROCN				*i* S		**Sn**	**19 16 56.1**	**+0.8**
ROCN				IAML			19 17 02.3	
	comp=Z,920nm,1.0s								
TGUH	**Tegucigalpa,Un**	**1.87**	**45**	Pn		**Pn**	**19 16 34.5**	**+1.4**
TGUH	**Tegucigalpa,Un**	**1.87**	**45**	*i* P		**Pn**	**19 16 34.1**	**+1.0**
TGUH				*i* S		**Sn**	**19 16 57.3**	**+1.6**
TGUH				IAML			19 17 17.4	
	comp=Z,2μm,1.0s								
CNGA	**Al SSO del Vol**	**1.91**	**97**	*i* P		**Pn**	**19 16 33.7**	**+0.2**
CNGA				IAML			19 17 08.0	
	comp=Z,1μm,1.0s								
CNGN	**Cerro Negro**	**1.91**	**97**			**Pn**	**19 16 33.4**	**-0.1**
CNGN	**Cerro Negro**	**1.91**	**97**	*i* P		**Pn**	**19 16 33.7**	**+0.2**
CNGN				*i* S		**Sn**	**19 16 57.3**	**+0.9**
CNGN				IAML			19 17 05.1	
	comp=Z,2μm,1.0s								
MACN	**El Madrono**	**1.94**	**98**	*i* P		**Pn**	**19 16 33.7**	**-0.2**
MACN				*i* S		**Sn**	**19 16 58.4**	**+1.3**
MACN				IAML			19 17 10.8	
	comp=Z,820nm,1.0s								
ESQI	**Esquipulas**	**1.94**	**339**				**19 16 35.0**	**+0.9**
ESQI					Sn	**Sn**	**19 17 00.3**	**+3.0**
ESQI	**Esquipulas**	**1.94**	**339**	*i* P		**Pn**	**19 16 34.2**	**+0.1**
ESQI				*i* S		**Sn**	**19 16 59.2**	**+1.8**
ESQI				IAML			19 17 05.8	
	comp=Z,3μm,1.0s								
LEVN	**Ruinas Leon Vi**	**2.00**	**99**	*i* P		**Pn**	**19 16 33.8**	**-1.0**
LEVN				*i* S		**Sn**	**19 16 59.3**	**+0.7**
LEVN				IAML			19 17 07.0	
	comp=Z,1μ

SDV Santo Domingo 18.09 100 P P 19 20 10.9 -0.4
SDV Santo Domingo 18.09 100 P P 19 20 05.6 -5.6
comp=Z,1.0nm,0.3s,baz=233,slow=23,SNR=1.5
SDV LR LR 19 27 33.8
comp=Z,42nm,19.8s,baz=299,slow=39
comp=Z,5.3nm,0.4s
BRAL Brewton 18.41 4 P P 19 20 14.3 -0.1
baz=184
833A Chaparral WMA, 18.48 329 P Pn 19 20 15.7 -0.1
833A Chaparral WMA, 18.48 329 P Pn 19 20 17.4 +1.6
baz=144
MLDN Muldoon 18.68 337 P Pn 19 20 18.3 +0.1
MLDN IAmb IAmb 19 20 27.0
comp=Z,13nm,0.7s
TIGA Tifton 19.19 13 P Pn 19 20 23.8 -0.5
baz=194
HNDO Hondo 19.42 331 P P 19 20 25.8 +0.3
HNDO IAmb IAmb 19 20 27.7
comp=Z,16nm,0.6s
NATX Nacogdoches 19.73 345 Pn 19 20 31.0 +0.3
NATX IAmb IAmb 19 20 41.6
comp=Z,21nm,0.7s
NATX Nacogdoches 19.73 345 P Pn 19 20 30.2 -0.5
baz=162
435B Jarrell 19.77 337 P P 19 20 29.7 +0.3
435B IAmb IAmb 19 20 36.4
comp=Z,17nm,0.6s
435B Jarrell 19.77 337 P Pn 19 20 30.9 -0.3
baz=153
152A Waverly Hall 20.17 10 P P 19 20 34.0 +0.5
152A IAmb IAmb 19 20 39.3
comp=Z,16nm,0.6s
LRAL Lakeview Retre 20.27 4 P P 19 20 34.6 -0.1
LRAL Lakeview Retre 20.27 4 P P 19 20 34.8 +0.1
baz=184
JCT Junction City 20.46 331 P P 19 20 36.9 +0.1
JCT IAmb IAmb 19 20 42.5
comp=Z,8.2nm,0.7s
JCT Junction City 20.46 331 P P 19 20 38.1 +1.2
baz=147
BAUV El Baul 20.57 98 P P 19 20 36.7 -1.4
BAUV IAmb IAmb 19 20 37.5
comp=Z,12nm,0.8s
BRDY Brady 20.79 334 P P 19 20 40.9 +0.5
BRDY IAmb IAmb 19 20 45.0
comp=Z,10nm,0.7s
WHTX Lake Whitney, 20.81 338 P P 19 20 41.7 +1.1
baz=154
GOGA Godfrey 21.12 12 P P 19 20 45.1 +1.3
GOGA IAmb IAmb 19 20 48.4
comp=Z,11nm,0.7s
GOGA Godfrey 21.12 12 P P 19 20 44.6 +0.7
baz=194,SNR=8.0
Y49A Blount Mountai 21.13 5 P P 19 20 43.9 -0.1
Y49A IAmb IAmb 19 20 56.9
comp=Z,27nm,1.1s
SAND Sanderson 21.21 326 P P 19 20 45.7 +0.7
WLAR White Oak Lake 21.26 350 P P 19 20 46.8 +1.5
WLAR IAmb IAmb 19 20 51.2
comp=Z,14nm,0.6s
Y52A Lilburn 21.45 10 P P 19 20 47.9 +0.5
Y52A IAmb IAmb 19 20 53.2
comp=Z,9.3nm,0.7s
OZNA Ozona 21.46 329 P P 19 20 47.6 0.0
OZNA IAmb IAmb 19 20 50.9
comp=Z,7.9nm,0.6s
TXAR Lajitas Array 21.63 322 P P 19 20 50.8 +1.3
TXAR Lajitas Array 21.63 322 P P 19 20 51.0 +1.5
comp=Z,5.6nm,0.7s,baz=145,slow=11,SNR=55
TXAR PcP PcP 19 24 51.4 +1.6
comp=Z,0.2nm,0.6s,baz=131,slow=3.8,SNR=2.6
comp=Z,5.6nm,0.7s
TX31 Lajitas Ar. Si 21.63 322 P P 19 20 50.2 +0.7
OXF Oxford 21.70 358 P P 19 20 50.8 +0.8
baz=177
FPAL Fort Paine 21.89 7 P P 19 20 51.4 -0.7
FPAL IAmb IAmb 19 21 17.1
comp=Z,11nm,0.9s
Z35A Perchaven, San 21.96 340 P P 19 20 53.1 +0.2
MIAR Mount Ida 22.18 349 P P 19 20 55.8 +0.6
MIAR IAmb IAmb 19 21 00.4
comp=Z,14nm,0.7s
MIAR Mount Ida 22.18 349 P P 19 20 56.5 +1.3
baz=167,SNR=14
UALR University of 22.20 352 P P 19 20 55.6 +0.2
UALR IAmb IAmb 19 20 59.1
comp=Z,12nm,0.6s
ATAH Atahualpa 22.21 152 LR LR 19 28 37.6
comp=Z,91nm,20.9s,baz=329,slow=34
ABTX Abilene, Hawle 22.22 335 P P 19 20 56.1 +0.4
ABTX IAmb IAmb 19 20 59.7
comp=Z,14nm,0.7s
ABTX Abilene, Hawle 22.22 335 P P 19 20 57.1 +1.4
baz=150,SNR=9.9
SWET Sewanee 22.52 6 P P 19 20 58.9 -0.1
LOOK Love County 22.55 341 P 19 21 00.9 +1.7
LOOK IAmb IAmb 19 21 04.4
comp=Z,13nm,0.7s
X37A Clayton 22.60 345 P 19 21 00.5 +0.7
X37A IAmb IAmb 19 21 25.4
comp=Z,13nm,1.1s
PAULI Pauline 22.85 15 P P 19 21 02.0 -0.3
CPCT Cooper Cave 22.92 9 P P 19 21 03.1 0.0
SN05 Snyder 5 22.97 333 P P 19 21 02.8 -0.9
APMT Aspermont 23.03 335 P P 19 21 03.5 -0.7
BIRD Birdtown, Kers 23.05 17 P P 19 21 04.3 0.0
BIRD IAmb IAmb 19 21 07.0
comp=Z,13nm,0.7s
ODSA Odessa 23.14 329 P P 19 21 04.7 -0.8
TKL Tuckaleechee C 23.25 10 P P 19 21 06.6 +0.3
TKL IAmb IAmb 19 21 08.1
comp=Z,12nm,0.8s
FCAR Ozark Folk Cen 23.27 353 P P 19 21 06.3 -0.2
FCAR IAmb IAmb 19 21 08.6
comp=Z,14nm,0.7s
KMSC Kings Mountain 23.27 15 P P 19 21 06.5 -0.1
baz=198
LCAR Lake Charles 23.35 355 P P 19 21 06.8 -0.4
PCRV Puerto La Cruz 23.66 94 LR LR 19 33 08.7
comp=Z,39nm,18.3s,slow=44
WMOK Wichita Mounta 23.76 339 P P 19 21 11.6 +0.4
baz=154,SNR=14
TUL3 Leonard 23.96 346 P P 19 21 13.0 0.0
baz=162
PBMO Poplar Bluff 24.00 356 P P 19 21 12.5 -0.8
PBMO IAmb IAmb 19 21 14.4
comp=Z,8.3nm,0.7s
TZTN Tazewell 24.15 10 P P 19 21 14.0 -0.7
baz=192
MNTX Cornudas Mount 24.36 323 P P 19 21 17.2 +0.5
baz=136,SNR=12
MSTX Muleshoe 24.75 331 P P 19 21 19.8 -0.5
MSTX Muleshoe 24.75 331 P P 19 21 20.4 0.0
baz=145,SNR=15
AMTX Amarillo 25.02 334 P P 19 21 23.2 +0.4
baz=148
CCM Cathedral Cave 25.33 355 P P 19 21 25.8 +0.4
baz=174
BLA Blacksburg 25.47 15 P P 19 21 26.2 -0.5
baz=198
WCI Wyandotte Cave 25.48 4 P P 19 21 26.2 -0.6
WCI IAmb IAmb 19 21 27.5
comp=Z,12nm,0.7s
WCI Wyandotte Cave 25.48 4 P P 19 21 26.7 -0.1
baz=185
121A Cookes Peak, D 26.39 321 P P 19 21 36.0 +0.7
121A Cookes Peak, D 26.39 321 P P 19 21 36.3 +1.1
baz=134
Y22D IRIS PASSCAL I 26.98 325 P P 19 21 41.5 +0.9
baz=137
KSU1 Kansas State U 27.20 346 P P 19 21 42.8 +0.5
baz=162
NNA Nana 27.20 154 LR LR 19 30 57.4
comp=Z,34nm,20.2s,baz=324,slow=33
CBN Corbin Frederi 27.28 20 P P 19 21 42.4 -0.7
baz=204
ANMO Albuquerque 27.38 327 P P 19 21 45.2 +0.9
ANMO Albuquerque 27.38 327 P P 19 21 46.0 +1.8
baz=139
ANMO Albuquerque 27.38 327 LR LR 19 33 52.8
comp=Z,38nm,20.6s,baz=240,slow=39
P52A Corning 27.41 11 P P 19 21 44.2 0.0
baz=193
SFIN Lafayette 27.57 3 P P 19 21 45.2 -0.4
baz=183
O48B Farmland 27.59 6 P P 19 21 45.3 -0.4
baz=187
HDIL Hopedale 27.72 359 P P 19 21 46.9 0.0
baz=178
CBKS Cedar Bluff 27.78 341 P P 19 21 48.3 +0.7
baz=156
ACSO Alum Creek Sta 27.84 9 P P 19 21 47.9 -0.1
baz=191
MCWV Mont Chateau 27.92 15 P P 19 21 48.4 -0.4
baz=196
T25A Trinidad 28.11 333 P P 19 21 52.2 +1.4
baz=145,SNR=12
TUC Tucson 28.14 317 P P 19 21 53.1 +2.1
baz=128
O53A New Philadelph 28.18 12 P P 19 21 51.5 +0.4
baz=195
KSCO Kaye Shedlock' 28.97 337 P P 19 21 59.5 +1.3
baz=150
SDCO Great Sand Dun 29.11 332 P P 19 22 00.3 +0.6
SDCO Great Sand Dun 29.11 332 P P 19 22 01.2 +1.6
baz=144
214A Organ Pipe Nat 29.30 315 P P 19 22 03.2 +2.0
baz=125
M53A WI Miller and 29.44 12 P P 19 22 02.5 +0.3
baz=196
AAM Ann Arbor 29.78 7 P P 19 22 05.9 +0.7
baz=189
JFWS Jewell Farm 30.11 358 P P 19 22 08.7 +0.6
baz=176
MVCO Mesa Verde 30.17 327 P P 19 22 10.3 +1.3
baz=138
OGNE Ogallala 30.46 340 P P 19 22 12.1 +0.7
baz=153
WUAZ Wupatki 30.60 322 P P 19 22 13.6 +0.8
baz=132
ISCO Idaho Springs 30.84 334 P P 19 22 15.7 +0.6
ISCO Idaho Springs 30.84 334 P P 19 22 16.4 +1.3
baz=146,SNR=6.3
PAL Palisades 30.98 22 P P 19 22 14.9 -0.9
baz=208
ETMB Extrema 31.59 134 P P 19 22 22.1 +0.6
ETMB IAmb IAmb 19 22 24.9
comp=Z,6.6nm,0.6s
ECSD EROS Data Cent 31.65 349 P P 19 22 20.7 -1.1
ECSD EROS Data Cent 31.65 349 P P 19 22 22.2 +0.5
baz=165
N23A Red Feather La 31.90 335 P P 19 22 25.5 +1.3
baz=146,SNR=6.2
IKP In-Ko-Pah, Jac 32.02 313 P P 19 22 26.1 +0.9
baz=122
BC3 Big Chuckawall 32.10 315 P P 19 22 27.0 +1.0
baz=124
O20A White River Ci 32.30 331 P P 19 22 28.9 +1.2
baz=142
MONP2 Monument Peak 32.37 313 P P 19 22 30.3 +1.9
baz=122
SPMN Marine on St. 32.58 355 P P 19 22 29.6 -0.2
SPMN Marine on St. 32.58 355 P P 19 22 30.2 +0.3
baz=172,SNR=9.9
BELC Belle Mtn. Jos 32.67 315 P P 19 22 32.8 +1.9
baz=124
TPFO Pinon Flats 32.77 314 P P 19 22 33.5 +1.7
baz=122
PFO Pinyon Flats O 32.78 314 P P 19 22 33.4 +1.5
baz=122
MTPU Mount Pierson 32.79 324 P P 19 22 33.6 +1.3
MTPU IAmb IAmb 19 22 36.2
comp=Z,3.1nm,0.7s
109C Camp Elliot, M 32.85 312 P P 19 22 34.1 +1.7
baz=121
GMRC Granite Mounta 32.88 316 P P 19 22 34.3 +1.5
baz=125
SADO Sadowa 32.95 12 P P 19 22 31.6 -1.4
SADO IAmb IAmb 19 22 33.3
comp=Z,5.5nm,0.6s
HRV Adam Dziewonsk 33.16 23 P P 19 22 34.4 -0.6
baz=211
SAML Samuel 33.22 129 P P 19 22 35.6 -0.1
SAML IAmb IAmb 19 22 36.6
comp=Z,4.5nm,0.8s
MURC Murrieta 33.29 313 P P 19 22 38.2 +1.9
baz=122
K22A Casper 33.60 336 P P 19 22 39.7 +0.6
baz=147
GSC Goldstone, Bar 33.95 316 P P 19 22 43.8 +1.8
baz=124
RSSD Black Hills 33.96 340 P P 19 22 43.0 +0.8
baz=152
LRMC Laurel Mtn Rad 34.64 316 P P 19 22 50.0 +1.9
baz=123
DUG Dugway, Tooele 34.65 327 P P 19 22 50.0 +1.8
baz=135
MPMC Manual Prospec 34.83 317 P P 19 22 51.6 +1.8
baz=124
PDAR Pinedale Array 34.98 333 P P 19 22 51.8 +0.8
PDAR Pinedale Array 34.98 333 P P 19 22 51.6 +0.5
comp=Z,1.0nm,0.6s,baz=132,slow=8.2,SNR=7.1
PDAR PcP PcP 19 25 22.6 +0.1
comp=Z,1.0nm,0.5s,baz=141,slow=5.9,SNR=7.8
comp=Z,1.0nm,0.6s
R11B Troy Canyon, C 35.00 322 P P 19 22 52.4 +1.2
baz=129
HWUT Hardware Ranch 35.04 329 P P 19 22 52.2 +0.7
HWUT IAmb IAmb 19 22 53.6
comp=Z,3.8nm,0.8s
EYMN Ely 35.19 357 P P 19 22 52.3 -0.2
baz=175
LPAZ La Paz 35.25 144 P P 19 22 54.2 +0.2
comp=Z,0.8nm,0.6s,baz=342,slow=16,SNR=3.6
comp=Z,0.8nm,0.6s
AGMN Agassiz Nation 35.97 352 P P 19 22 58.1 -1.0
AGMN Agassiz Nation 35.97 352 P P 19 22 59.0 -0.1
baz=168
TPAW Teton Pass 36.18 332 P P 19 23 02.1 +0.8
TPAW IAmb IAmb 19 23 03.7
comp=Z,4.5nm,0.7s
MDP Montagnes des 36.33 99 LR LR 19 39 50.4
comp=Z,53nm,18.3s,baz=253,slow=40
NVAR Mina Array Bea 36.73 319 P P 19 23 07.5 +1.4
NVAR Mina Array Bea 36.73 319 P P 19 23 07.9 +1.8
comp=Z,1.5nm,0.7s,baz=133,slow=6.7,SNR=12
NVAR PcP PcP 19 25 29.6 +1.8
comp=Z,1.9nm,0.6s,baz=131,slow=4.1,SNR=12
comp=Z,1.5nm,0.7s
HLID Hailey 37.90 329 P P 19 23 16.2 +0.4
HLID Hailey 37.90 329 P P 19 23 16.3 +0.4
baz=136
DGMT Dagmar 37.91 343 P P 19 23 15.5 -0.1
DGMT Dagmar 37.91 343 P P 19 23 16.0 +0.3
baz=154,SNR=6.4
VILB Vilhena 38.03 131 P P 19 23 16.9 -0.1
BOZ Bozeman (W) 38.13 334 P P 19 23 17.8 0.0
BOZ IAmb IAmb 19 23 21.8
comp=Z,4.9nm,0.8s
BOZ Bozeman (W) 38.13 334 P P 19 23 18.0 +0.2
baz=142,SNR=7.1
EGMT Eagleton 39.35 338 P P 19 23 28.2 +0.4
EGMT Eagleton 39.35 338 P P 19 23 28.9 +1.2
baz=146,SNR=10
SIV San Ignacio 39.47 136 LR LR 19 40 21.8
comp=Z,35nm,18.3s,baz=290,slow=37
MSO Missoula 40.10 333 P P 19 23 35.0 +0.8
baz=139
YBH Yreka Blue Hor 41.40 321 LR LR 19 41 45.9
comp=Z,69nm,19.5s,baz=182,slow=37
NEW Newport 42.61 332 P P 19 23 55.0 +0.4
baz=136
FFC Flin Flon 43.19 349 P P 19 23 59.0 -0.1
SCHQ Schefferville 45.35 18 P P 19 24 14.5 -1.9
comp=Z,4.1nm,0.6s,baz=215,slow=6.8,SNR=12
comp=Z,4.1nm,0.6s
BDFB Brasilia 49.09 124 P P 19 24 46.2 0.0
comp=Z,4.2nm,0.7s,baz=299,slow=11,SNR=6.8
comp=Z,4.2nm,0.7s
CPUP Villa Florida 49.34 142 P P 19 24 47.5 -0.3
comp=Z,1.0nm,0.6s,baz=331,slow=10,SNR=3.7
comp=Z,1.0nm,0.6s
FRB Frobisher Bay 52.87 11 LR LR 19 47 16.2
comp=Z,49nm,18.5s,baz=228,slow=36
YKA Yellowknife Ar 53.04 345 P P 19 25 14.5 -0.5
comp=Z,7.5nm,0.7s,baz=137,slow=7.2,SNR=120
YKA PcP PcP 19 26 22.2 -0.7
comp=Z,0.7nm,0.6s,baz=150,slow=3.3,SNR=5.3
comp=Z,7.5nm,0.7s
ITAB Concordia 53.23 139 P P 19 25 17.0 +0.1
V35K Ketchikan 54.01 331 P P 19 25 23.2 +1.0
baz=124
T35M Bob Quinn 54.36 333 P P 19 25 25.5 +0.7
baz=127
WRAK Wrangell Islan 54.97 332 P P 19 25 30.0 +0.8
baz=124
DLBC Dease Lake 55.16 335 P P 19 25 30.8 +0.2
baz=128
R33M Jennings River 56.14 335 P P 19 25 38.0 +0.3
baz=127
Q32M Nakina River 56.41 335 P P 19 25 39.8 +0.1
baz=126
TGTN Hyland Airport 56.48 338 P P 19 25 40.8 +0.8
baz=131
S32K Killisnoo 56.57 332 P P 19 25 41.5 +0.9
baz=123
SIT Sitka 56.69 332 P P 19 25 42.8 +1.4
baz=122
P33M Teslin, Yukon 57.38 336 P P 19 25 46.3 -0.1
baz=126
P32M Atlin 57.38 335 P P 19 25 46.8 +0.4
baz=125
S31K Pelican 57.59 332 P P 19 25 49.3 +1.5
baz=121
N32M Quiet Lake 58.04 336 P P 19 25 51.9 +0.9
baz=126
MMPY Sheldon Lake, 58.26 338 P P 19 25 52.7 +0.2
baz=129
PLBC Pleasant Camp 58.44 334 P P 19 25 53.7 0.0
baz=122
WHY Whitehorse 58.47 335 P P 19 25 54.5 +0.4
baz=124
O30N Mendenhall 59.03 335 P P 19 25 58.1 +0.2
baz=123
P30M Million Dollar 59.04 334 P P 19 25 58.6 +0.6
baz=122
P29M Windy Craggy 59.12 333 P P 19 25 58.8 +0.3
baz=120
N31M Braeburn, Yuko 59.30 336 P P 19 26 00.4 +0.7
baz=124
HYT Haines Junctio 59.64 335 P P 19 26 02.8 +0.6
baz=121
N30M Aishikik Lake 59.81 335 P P 19 26 04.2 +0.9
baz=122
O29M Mount Kennedy 59.83 334 P P 19 26 04.3 +0.8
baz=120
PNL Peninsula 59.87 333 P P 19 26 04.8 +1.1
baz=119
YUK6 Outpost Mounta 60.06 335 P P 19 26 04.8 -0.5
baz=120
M30M Minto, Yukon 60.30 337 P P 19 26 06.7 +0.1
baz=123
YUK4 Talbot Arm 60.39 335 P P 19 26 06.7 -0.8
baz=121
O28M Mount Upton 60.76 334 P P 19 26 09.3 -0.8
baz=119
YUK8 Steele Glacier 60.82 334 P P 19 26 10.1 -0.4
baz=119
C36M Paulatuk 60.87 346 P P 19 26 10.0 -0.2
baz=139
M29M Somme Creek 60.88 336 P P 19 26 10.1 -0.6
baz=121
L29M L29M 61.10 337 P P 19 26 11.3 -0.8
baz=122
J30M Hart River 61.25 339 P P 19 26 12.8 -0.3
baz=124
MESA MESA 61.25 333 P P 19 26 13.1 -0.1
baz=116
K29M Barlow Dome 61.27 338 P P 19 26 12.9 -0.4
baz=123
H31M Peel River 61.29 340 P P 19 26 13.2 -0.1
baz=127
CTG Chitna Glacier 61.34 334 P P 19 26 13.5 -0.3
baz=118
YUK3 Moose Creek 61.36 335 P P 19 26 12.8 -1.2
baz=119
I30M Mount Dempster 61.63 339 P P 19 26 15.6 -0.1
baz=125
G31M Satah River 61.95 341 P P 19 26 17.5 -0.1
baz=128,SNR=5.7
RES Resolute Bay 62.04 358 P P 19 26 16.8 -1.4
DAWY Dawson 62.09 337 P P 19 26 18.9 +0.2
baz=121
F31M Tsiigehtchic 62.11 342 P P 19 26 18.5 -0.2
baz=128
M27K Edge Creek, AK 62.22 335 P P 19 26 19.2 -0.5
baz=118
MCARA McCarthy VSAT 62.26 334 P P 19 26 18.6 -1.3
baz=116
I29M Ogilvie Camp, 62.38 339 P P 19 26 19.7 -0.9
baz=123
EPYK Eagle Plains 62.41 340 P P 19 26 20.0 -0.8
baz=125
L27K Beaver Creek, 62.53 336 P P 19 26 20.9 -0.8
baz=118
INK Inuvik 62.59 343 P P 19 26 21.3 -0.6
INK Inuvik 62.59 343 P P 19 26 19.8 -2.1
baz=129,SNR=6.2
G30M tAoh Zraii Nji 62.60 341 P P 19 26 20.3 -1.8
baz=126
M26K Nabesna, AK 62.70 335 P P 19 26 22.2 -0.7
baz=117
BMRM Bremner River 62.77 333 P P 19 26 21.4 -1.9
baz=114
F30M Barrier River 62.84 342 P P 19 26 21.6 -1.9
baz=126,SNR=12
H29M Whitestone 62.88 340 P P 19 26 22.7 -1.1
baz=123
I28M Miner Creek 63.01 339 P P 19 26 24.5 -0.4
baz=121
N25K Chitina, Valde 63.04 334 P P 19 26 24.6 -0.5
baz=115
K27K Chicken 63.09 337 P P 19 26 24.9 -0.4
baz=118
EGAK Eagle 63.11 338 P P 19 26 24.6 -0.8
baz=120
EYAK Cordova Ski Ar 63.12 332 P P 19 26 24.3 -1.2
baz=113
A36M Sachs Harbour 63.14 348 P P 19 26 23.7 -1.8
baz=139
G29M Pine Creek 63.15 340 P P 19 26 23.9 -1.7
baz=124
KLU Klutina 63.57 333 P P 19 26 28.3 -0.4
baz=113
HARP HAARP 63.61 334 P P 19 26 28.4 -0.4
baz=114
P23K Montague Islan 63.67 331 P P 19 26 28.0 -1.2
baz=111
I27K Kandik River 63.69 338 P P 19 26 28.5 -0.9
baz=119
SCRK Sand Creek 63.82 336 P P 19 26 29.8 -0.4
baz=116
J26L Joseph Creek 63.89 337 P P 19 26 30.3 -0.4
baz=117
M24K Tolsona, Glenn 63.92 334 P P 19 26 29.5 -1.5
baz=113
E29M Blow River 63.94 342 P P 19 26 30.8 0.0
E29M IAmb IAmb 19 26 31.6
comp=Z,2.9nm,0.7s
E29M Blow River 63.94 342 P P 19 26 30.9 +0.1
baz=124,SNR=5.8
H27K Steamboat Moun 63.97 339 P P 19 26 29.9 -1.3
baz=120,SNR=6.0
PAX Paxson 63.98 335 P P 19 26 30.5 -0.9
baz=114
I26K Coal Creek Min 64.11 338 P P 19 26 31.0 -1.0
baz=118
F28M Old Crow 64.13 341 P P 19 26 31.3 -0.8
baz=122,SNR=17
G27K Doyon Strip 64.31 339 P P 19 26 32.6 -0.7
baz=120
SCM Sheep Creek Mo 64.32 333 P P 19 26 33.0 -0.6
baz=112
K24K Donnelly Dome 64.46 336 P P 19 26 33.6 -0.8
baz=114
E28M Babbage River 64.56 342 P P 19 26 34.7 -0.2
baz=123,SNR=8.4
J25K Salcha River, 64.64 336 P P 19 26 34.8 -0.7
baz=115
KNK Knik Glacier 64.67 333 P P 19 26 35.6 -0.2
baz=111
SEW Seward 64.67 331 P P 19 26 35.5 -0.2
baz=109
D28M Stokes Point 64.73 342 P P 19 26 35.9 -0.1
baz=124
SML Sawmill 64.75 333 P P 19 26 36.5 +0.2
baz=111
WAT6 Susitna Watana 64.78 334 P P 19 26 35.7 -0.9
baz=112
DHY Denali Highway 64.82 335 P P 19 26 36.3 -0.6
baz=113
E27K Coleen River 64.99 341 P P 19 26 36.5 -1.2

baz=120,SNR=5.4
PMR Palmer 65.03 333 P P 19 26 37.4 -0.7
baz=110
PRP Porcupine Dome 65.09 337 P P 19 26 37.7 -0.8
baz=115
G26K Porcupine Rive 65.11 339 P P 19 26 38.4 -0.1
baz=118
RC01 Rabbit Creek A 65.13 332 P P 19 26 38.7 0.0
baz=109
HDA Harding Lake 65.17 336 P P 19 26 38.6 -0.3
baz=114
WAT1 Susitna Watana 65.22 334 P P 19 26 39.0 -0.3
baz=111
ILAR Eielson Array 65.30 336 P P 19 26 39.1 -0.6
comp=Z,1.9nm,0.9s,baz=107,slow=5.4,SNR=15
comp=Z,1.9nm,0.9s
D27M Malcolm River 65.34 342 P P 19 26 39.9 -0.2
baz=122
KDAK Kodiak Island 65.51 328 P P 19 26 41.0 -0.2
baz=105
H25L Birch Creek 65.53 338 P P 19 26 40.7 -0.4
baz=116
RND Reindeer 65.56 335 P P 19 26 41.0 -0.6
F26K Sheenjek River 65.59 340 P P 19 26 41.1 -0.5
baz=118
BMAR Burnt Mountain 65.61 339 P P 19 26 41.6 -0.2
POKR Poker Plat Res 65.65 337 P P 19 26 41.4 -0.7
baz=113
SUA Susitna One 65.72 332 P P 19 26 42.3 -0.3
baz=109
G25K Bearman Lake 65.84 338 P P 19 26 43.0 -0.2
baz=115
F25K Christian Rive 66.05 339 P P 19 26 44.1 -0.6
baz=116,SNR=6.3
H24K Noodor Dome 66.11 337 P P 19 26 44.5 -0.6
baz=113
TRF Thorofare Moun 66.18 334 P P 19 26 45.0 -0.7
baz=110
SKT Skwentna 66.24 333 P P 19 26 45.3 -0.6
baz=108
E25K Arctic Village 66.26 340 P P 19 26 44.9 -1.0
baz=116
N20K Mount Spurr 66.30 332 P P 19 26 46.0 -0.4
baz=107
G24K Hadweenzic Riv 66.31 338 P P 19 26 45.8 -0.5
baz=114
Q19K Cape Douglas, 66.36 329 P P 19 26 46.4 -0.3
baz=105
C27K Jago River 66.38 342 P P 19 26 46.3 -0.3
baz=119
I23K Minto, Yukon-K 66.42 336 P P 19 26 46.4 -0.5
baz=112
SUMG Summit 66.61 15 P P 19 26 47.5 -1.1
SUMG IAmb IAmb 19 27 06.3
comp=Z,4.6nm,1.1s
CHIR Chirikof Islan 66.67 326 P P 19 26 48.2 -0.5
baz=102
BPAW Bear Paw Mtn. 66.70 335 P P 19 26 48.1 -0.7
baz=110
H23K Yukon River 66.74 337 P P 19 26 48.4 -0.6
baz=112
F24K Squaw Lake 66.80 339 P P 19 26 49.2 -0.2
baz=114
C26K Camden Bay 66.88 342 P P 19 26 48.9 -0.9
baz=118,SNR=9.5
MLY Manley 66.92 336 P P 19 26 49.2 -1.0
MLY IAmb IAmb 19 26 50.8
comp=Z,2.7nm,0.7s
MLY Manley 66.92 336 P P 19 26 49.2 -1.0
baz=110,SNR=5.6
M20K Styx River 66.93 332 P P 19 26 49.0 -1.4
baz=107
CAST Castle Rocks 66.93 334 P P 19 26 48.9 -1.4
baz=108
D25K Kavik River 67.06 341 P P 19 26 50.1 -1.0
baz=116,SNR=13
E24K Your Creek 67.23 339 P P 19 26 52.0 -0.2
baz=114
G23K Bananza Creek 67.25 338 P P 19 26 51.9 -0.3
baz=112
N19K Bonanza Creek 67.26 331 P P 19 26 52.0 -0.6
baz=105
P18K Big Mountain, 67.26 329 P P 19 26 52.6 +0.2
baz=104
O18K Koktuh Hills 67.36 330 P P 19 26 53.1 0.0
baz=104
L20K Farewell, AK 67.44 333 P P 19 26 52.6 -0.9
baz=106
I21K Tanana 67.46 336 P P 19 26 52.7 -0.9
baz=109
H22K Ishtalitna Cre 67.47 337 P P 19 26 52.8 -0.9
baz=110
COLD Coldfoot 67.51 338 P P 19 26 53.7 -0.1
baz=112
M19K Big River Lodg 67.51 332 P P 19 26 53.0 -0.9
baz=105
K20K Telida 67.77 334 P P 19 26 54.4 -1.2
baz=106
D24K Happy Valley 67.78 340 P P 19 26 54.0 -1.6
baz=114
L19K White Mountain 67.79 332 P P 19 26 54.7 -1.1
baz=105
TOLK Toolik Lake Re 67.83 340 P P 19 26 55.6 -0.2
TOLK IAmb IAmb 19 26 56.4
comp=Z,2.9nm,0.7s
TOLK Toolik Lake Re 67.83 340 P P 19 26 55.5 -0.4
baz=113
G22K Bettles 67.87 338 P P 19 26 55.9 -0.3
baz=110
N18K Kilae Creek 67.89 331 P P 19 26 55.8 -0.6
baz=104
H21K Melozitna Rive 67.94 336 P P 19 26 55.7 -1.0
baz=108
C24K Franklin Bluff 67.97 341 P P 19 26 55.9 -0.8
baz=114
J20K Nowinta River 68.04 335 P P 19 26 56.3 -0.9
baz=106
M18K Stony River 68.06 332 P P 19 26 56.9 -0.6
baz=104
O17K Koliganek Bris 68.28 330 P P 19 26 57.1 -1.7
baz=102
F22K John River 68.32 338 P P 19 26 57.8 -1.1
baz=110
D23K Nanushuk River 68.32 340 P P 19 26 58.2 -0.8
baz=112
I20K Naaghedeneel 68.35 335 P P 19 26 58.1 -1.0
baz=106
E22K Anaktuvuk Pass 68.41 339 P P 19 26 58.1 -1.4
baz=110
N17K Nushagak Hills 68.48 330 P P 19 26 60.0 -0.1
baz=102
G21K Allakaket 68.49 337 P P 19 26 59.7 -0.3
baz=108
J19K Poorman 68.61 334 P P 19 26 59.6 -1.2
baz=105
C23K Itkillik River 68.63 341 P P 19 26 59.4 -1.5
baz=112,SNR=5.4
L18K Granite Mounta 68.63 332 P P 19 27 01.1 +0.1
baz=103
F21K Alatna River 68.70 338 P P 19 27 01.1 -0.2
baz=108,SNR=5.7
H20K Anotleneega Mo 68.72 336 P P 19 26 59.7 -1.8
baz=106
CHNA Chernabura Isl 68.72 324 P P 19 27 00.7 -0.9
baz=98
O16K Kokwok River B 68.73 329 P P 19 27 00.4 -1.2
baz=101
M17K Holitna River 68.79 331 P P 19 27 00.8 -1.2
baz=102
J18K Innoko River 68.94 333 P P 19 27 01.5 -1.4
baz=104
D22K Ayikyak River 68.97 340 P P 19 27 02.0 -0.9
baz=110
N16K Nishlik Lake 69.24 330 P P 19 27 03.4 -1.4
baz=101
E21K Killik River 69.27 339 P P 19 27 02.8 -2.1
baz=108
L17K Donlin 69.35 332 P P 19 27 04.9 -0.5
baz=102
H19K Roundabout Mou 69.36 336 P P 19 27 04.1 -1.3
baz=105
M16K Timber Creek 69.44 331 P P 19 27 05.7 -0.3
baz=101
K17K Iditarod 69.48 333 P P 19 27 05.4 -0.8
baz=102
F20K Avaraart Lake 69.49 337 P P 19 27 05.2 -1.0
baz=106
O15K Ungalikthiuk R 69.53 329 P P 19 27 06.0 -0.6
baz=99
B22K Teshekpuk Lake 69.71 341 P P 19 27 06.1 -1.4
baz=110
G19K Purcell Mounta 69.77 336 P P 19 27 07.1 -0.9
baz=104
C21K Knifeblade Rid 69.78 340 P P 19 27 06.8 -1.2
baz=108
L16K Owhat River 69.81 331 P P 19 27 07.0 -1.3
baz=101
N15K Kwethluk River 69.83 330 P P 19 27 07.7 -0.7
baz=100
B21K Ikpikpuk River 69.86 340 P P 19 27 07.9 -0.6
baz=108
J17K VABM Dome 69.97 333 P P 19 27 08.8 -0.4
baz=102
E20K Nigu River 70.00 339 P P 19 27 09.1 -0.3
baz=106
H18K Honhosa River 70.04 335 P P 19 27 09.3 -0.4
baz=103
E19K Redstone River 70.16 338 P P 19 27 09.5 -0.8
baz=105
F19K Shaleruckik Mo 70.21 337 P P 19 27 10.1 -0.5
baz=104
M15K Kasigluk River 70.21 330 P P 19 27 10.3 -0.5
baz=99
S12K Black Hills 70.24 325 P P 19 27 10.4 -0.7
baz=96
O14K Tigyukauivet M 70.27 329 P P 19 27 10.8 -0.3
baz=98
D20K Etivluk River 70.28 339 P P 19 27 10.2 -0.9
baz=106
G18K Tagagawik 70.33 336 P P 19 27 10.7 -0.7
baz=103
A22K Sinclair Lake 70.42 341 P P 19 27 12.0 +0.2
baz=108
J16K Anvik River 70.62 333 P P 19 27 13.3 +0.2
baz=100
H17K Granite Mounta 70.64 335 P P 19 27 13.4 +0.1
baz=101
L15K Ungalak Mounta 70.75 331 P P 19 27 14.3 +0.3
baz=99
D19K Kuna River 70.75 339 P P 19 27 14.2 +0.2
baz=104
I17K Unalakleet 70.77 334 P P 19 27 13.7 -0.4
baz=100
B20K Meade River 70.82 340 P P 19 27 13.1 -1.2
baz=106
M14K Bethel 70.84 330 P P 19 27 13.5 -1.0
baz=98
K15K Wolf Creek Mou 70.87 332 P P 19 27 15.1 +0.4
baz=99
F18K Selawik 70.88 336 P P 19 27 14.6 -0.1
baz=102
FALS False Pass 70.93 324 P P 19 27 15.0 -0.2
baz=95
L14K Kuka Creek 71.27 331 P P 19 27 17.2 +0.1
baz=98
C19K Lookout Ridge 71.42 339 P P 19 27 17.9 -0.1
baz=103
E18K Tukpahlearik C 71.42 337 P P 19 27 17.8 -0.1
baz=102
F17K Baldwin Pennin 71.48 336 P P 19 27 18.6 +0.3
baz=101
G16K Koyuk River 71.74 335 P P 19 27 19.7 -0.2
baz=99
E17K Hotham Inlet 71.82 337 P P 19 27 20.2 -0.2
baz=100
J14K Nanvaranak Lak 71.86 332 P P 19 27 21.1 +0.4
baz=97
C18K Utukok River 71.89 338 P P 19 27 20.7 -0.2
baz=101
A19K Wainwright 72.17 340 P P 19 27 22.2 -0.2
baz=102
C17K DeLong Mountai 72.57 338 P P 19 27 24.7 -0.2
baz=100
C16K Lisburne Hills 73.34 338 P P 19 27 29.2 -0.2
baz=97
F14K Arctic Creek 73.39 335 P P 19 27 29.5 -0.3
baz=96
TNA Tin City 74.06 335 P P 19 27 33.4 -0.3
baz=94
ESDC Sonseca Array 77.93 52 P P 19 27 54.1 -2.3
comp=Z,0.4nm,0.7s,baz=261,slow=4.8,SNR=2.5
comp=Z,0.4nm,0.7s
SPITS Spitsbergen Ar 80.67 12 LR LR 20 06 59.9
comp=Z,31nm,18.3s,baz=268,slow=38
NOA NORSAR Array B 83.68 29 LR LR 20 01 39.8
comp=Z,13nm,21.8s,baz=25,slow=33
DAVOX Davos/Dischmat 86.58 43 LR LR 20 01 14.7
comp=Z,26nm,19.0s,baz=96,slow=32
KURBB Kurchatov Arra 115.92 9 PKP **PKiKP** 19 34 39.9 -0.6
comp=Z,0.4nm,0.6s,baz=350,slow=2.5,SNR=6.6
SONM Songino Array 118.23 349 PKP **PKiKP** 19 34 45.4 +0.1
comp=Z,0.7nm,0.6s,baz=349,slow=2.4,SNR=5.9
MKAR Makanchi Array 120.19 7 PKP **PKPdf** 19 34 48.4 -0.6
comp=Z,0.6nm,0.8s,baz=347,slow=3.3,SNR=3.1
GEYT Alibeck 120.75 30 PKP **PKiKP** 19 34 51.0 +0.6
comp=Z,0.7nm,0.5s,baz=236,slow=1.6,SNR=2.0
WRA Warramunga Arr 138.23 254 PKP **PKiKP** 19 35 25.2 -0.6
comp=Z,0.7nm,0.6s,baz=89,slow=2.2,SNR=16
ASAR Alice Springs 138.29 249 PKhKP PKPpre 19 35 18.6
comp=Z,0.4nm,0.7s,baz=94,slow=3.1,SNR=6.4
ASAR PKP **PKPdf** 19 35 24.9 +1.0
comp=Z,0.5nm,0.7s,baz=102,slow=3.0,SNR=4.3
CMAR Chiang Mai Arr 148.12 346 PKPbc **PKPdf** 19 35 42.7 +1.5
comp=Z,3.0nm,0.7s,baz=339,slow=3.5,SNR=19

*IDC **26** 19:26:18.7±0.7, 54.75S×127.57W, h0km, mb4.0/8, mbtmp4.0/8, MS4.1/36, Error ellipse: s-maj=27.8km s-min=20.8km az=151.0*

*NEIC **26** 19:26:20.7±1.4, 55.0S±0.2×127.6W±0.1, h10km±1km, mb4.9/23, Error ellipse: s-maj=25.4km s-min=13.2km az=2.0*

*GCMT **26** 19:26:25.7±0.3, 55.15S±0.02×127.24W±0.03, h12km±1km, MW5.0/88, Moment Tensor Solution. s20,c21; s88,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-1.06±.15; Mθθ2.46±.16; Mϕϕ-1.40±.11; Mrθ0.74±.31; Mrϕ 1.83±.08; Mθϕ1.75±.47; Best double couple: Mo3.37300×10^16 NP1:ϕs210.00000°,δ78.00000°,λ-140.00000°. NP2: ϕs109.00000°,δ51.00000°,λ-16.00000°. Principal axes: T 3.6020, Plg17.0000°, Azm334.0000°; N -0.4600, Plg48.0000°, Azm224.0000°; P -3.1430, Plg37.0000°, Azm77.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 26 19:26:20.3±0.6, 54.9S±0.1×127.6W±0.1, h10km, n80, σ0.8 87/38, mb4.8/18, MS4.2/36, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RPN	**Rapa Nui**	**30.76**	**33**	LR		LR	LR	19 42 07.8	
	comp=Z,218nm,19.4s,baz=315,slow=31								
PMSA	**Palmer Station**	**32.07**	**134**	LR		LR	LR	19 41 50.8	
	comp=Z,381nm,20.9s,baz=258,slow=29								
VNDA	**Vanda**	**33.04**	**202**	P		P	P	**19 32 54.1**	**-1.1**
VNDA	**Vanda**	**33.04**	**202**	P		P	P	**19 32 57.2**	**+2.0**
	1.4nm,1.0s,baz=90,slow=8.9,SNR=5.5								
VNDA				LR		LR	LR	19 43 16.3	
	comp=Z,273nm,18.6s,baz=83,slow=31								
	1.4nm,1.0s								
QSPA	**South Pole Qui**	**35.33**	**180**	P		P	P	**19 33 15.6**	**+0.3**
QSPA				IAmb		IAmb	IAmb	19 33 50.6	
	comp=Z,25nm,1.8s								
QSPA	**South Pole Qui**	**35.33**	**180**	P		P	P	**19 33 16.7**	**+1.3**
	comp=Z,3.7nm,1.0s,baz=81,slow=3.1,SNR=7.5								
QSPA				LR		LR	LR	19 46 09.8	
	comp=Z,611nm,18.4s,baz=90,slow=34								
	comp=Z,3.7nm,1.0s								
H03S2	**Juan Fernandez**	**39.66**	**78**	T		T	T	20 15 59.3	
	baz=221,slow=74,SNR=15								
H03S1	**Juan Fernandez**	**39.67**	**78**	T		T	T	20 15 48.6	
	baz=221,slow=74,SNR=14								
H03S3	**Juan Fernandez**	**39.68**	**78**	T		T	T	20 15 54.0	
	baz=221,slow=74,SNR=14								
PLCA	**Paso Flores**	**39.72**	**93**	LR		LR	LR	19 46 09.1	
	comp=Z,224nm,18.4s,baz=228,slow=30								
H03N3	**Juan Fernandez**	**39.94**	**78**	T		T	T	20 16 15.2	
	baz=223,slow=72,SNR=102								
H03N2	**Juan Fernandez**	**39.95**	**78**	T		T	T	20 16 13.2	
	baz=223,slow=72,SNR=96								
H03N1	**Juan Fernandez**	**39.96**	**78**	T		T	T	20 16 12.8	
	baz=223,slow=72,SNR=89								
RPZ	**Rata Peaks**	**40.26**	**260**	LR		LR	LR	19 46 22.5	
	comp=Z,257nm,18.1s,baz=134,slow=30								
URZ	**Urewera**	**40.31**	**271**	LR		LR	LR	19 47 16.6	
	comp=Z,289nm,18.2s,baz=40,slow=31								
PPT	**Papeete**	**40.85**	**327**	LR		LR	LR	19 46 38.6	
	comp=Z,534nm,18.9s,baz=172,slow=30								
RAR	**Rarotonga**	**41.38**	**311**	LR		LR	LR	19 47 33.3	
	comp=Z,267nm,19.0s,baz=157,slow=31								
BO02	**Sierra Bellavi**	**43.64**	**87**	P		**P**		**19 34 26.5**	**+1.6**
BO02				IAmb		IAmb	IAmb	19 34 36.8	
	comp=Z,21nm,1.4s								
PEL	**Peldehue**	**44.88**	**85**	P		**P**		**19 34 35.4**	**+0.6**
VA03	**San Esteban**	**45.23**	**85**	P		**P**		**19 34 38.5**	**+0.8**
ZON	**Zonda**	**47.20**	**85**	P		**P**		**19 34 52.5**	**-0.6**
ZON				IAmb		IAmb	IAmb	19 34 58.1	
	comp=Z,5.8nm,0.4s								
SNAA	**Sanae**	**47.97**	**160**	P		**P**		**19 34 57.6**	**-1.0**
SNAA	**Sanae**	**47.97**	**160**	P		**P**		**19 34 57.9**	**-0.7**
	comp=Z,0.8nm,0.6s,baz=298,slow=16,SNR=2.3								
SNAA				LR		LR	LR	19 55 08.5	
	comp=Z,422nm,18.4s,baz=202,slow=36								
	comp=Z,0.8nm,0.6s								
PB14	**IPOC Station P**	**51.47**	**78**	P		**P**		**19 35 26.2**	**+0.2**
PB14				IAmb		IAmb	IAmb	19 35 31.3	
	comp=Z,14nm,1.2s								
PB15	**IPOC Station P**	**53.10**	**78**	P		**P**		**19 35 38.5**	**+0.4**
PB15				IAmb		IAmb	IAmb	19 35 44.1	
	comp=Z,19nm,1.3s								
PB06	**IPOC Station P**	**53.44**	**77**	P		**P**		**19 35 40.3**	**-0.2**
PB06				IAmb		IAmb	IAmb	19 35 46.1	
	comp=Z,16nm,0.8s								
LVC	**Limon Verde**	**53.89**	**78**	P		**P**		**19 35 42.4**	**-1.7**
LVC				IAmb		IAmb	IAmb	19 35 50.0	
	comp=Z,7.2nm,0.8s								
LVC	**Limon Verde**	**53.89**	**78**	LR		LR	LR	19 52 43.2	
	comp=Z,80nm,18.3s,baz=206,slow=29								
PB11	**IPOC Station P**	**55.73**	**75**	P		**P**		**19 35 56.9**	**-0.3**
PB11				IAmb		IAmb	IAmb	19 36 03.3	
	comp=Z,10nm,0.9s								
MAW	**Mawson**	**57.61**	**185**	LR		LR	LR	19 58 10.5	
	comp=Z,208nm,20.9s,baz=166,slow=33								
CPUP	**Villa Florida**	**57.66**	**91**	P		**P**		**19 36 11.1**	**+0.4**
CPUP				IAmb		IAmb	IAmb	19 36 29.3	
	comp=Z,17nm,1.6s								
CPUP	**Villa Florida**	**57.66**	**91**	P		**P**		**19 36 09.9**	**-0.7**
	comp=Z,1.0nm,0.6s,baz=231,slow=8.7,SNR=2.9								
CPUP				LR		LR	LR	19 57 34.5	
	comp=Z,454nm,18.0s,baz=226,slow=32								
	comp=Z,1.0nm,0.6s								
NNA	**Nana**	**58.26**	**63**	LR		LR	LR	19 56 07.7	
	comp=Z,28nm,20.4s,baz=205,slow=31								
LPAZ	**La Paz**	**59.38**	**74**	P		**P**		**19 36 22.5**	**-1.0**
LPAZ				IAmb		IAmb	IAmb	19 36 31.7	
	comp=Z,17nm,1.3s								
LPAZ	**La Paz**	**59.38**	**74**	P		**P**		**19 36 23.0**	**-0.5**
	comp=Z,5.6nm,1.1s,baz=179,slow=4.8,SNR=7.9								
LPAZ				LR		LR	LR	19 55 34.6	
	comp=Z,159nm,21.2s,baz=212,slow=30								
	comp=Z,5.6nm,1.1s								
ATAH	**Atahualpa**	**61.62**	**59**	LR		LR	LR	19 56 51.4	
	comp=Z,164nm,18.1s,baz=223,slow=30								
SIV	**San Ignacio**	**63.60**	**80**	LR		LR	LR	19 59 31.3	
	comp=Z,64nm,21.7s,baz=291,slow=31								
CZSB	**Cruzeiro do Su**	**64.00**	**64**	P		**P**		**19 36 54.4**	**+0.5**
STKA	**Stephens Creek**	**65.03**	**250**	LR		LR	LR	20 00 05.4	
	comp=Z,124nm,20.6s,baz=47,slow=31								
ETMB	**Extrema**	**65.74**	**72**	P		**P**		**19 37 05.1**	**-0.2**
SAML	**Samuel**	**68.13**	**74**	P		**P**		**19 37 20.0**	**-0.4**
SAML				IAmb		IAmb	IAmb	19 37 32.4	
	comp=Z,6.5nm,1.1s								
BDFB	**Brasilia**	**71.40**	**91**	LR		LR	LR	20 05 59.9	
	comp=Z,295nm,18.8s,baz=168,slow=33								
ROSC	**El Rosal**	**73.98**	**56**	LR		LR	LR	20 04 39.1	
	comp=Z,135nm,18.5s,baz=178,slow=31								
JTS	**Las Juntas de**	**74.12**	**44**	LR		LR	LR	20 03 13.1	
	comp=Z,70nm,19.4s,baz=220,slow=30								
RUSC	**La Rusia**	**75.49**	**57**	P		**P**		**19 38 05.7**	**+0.5**
AS31	**Alice Springs**	**75.67**	**249**	P		**P**		**19 38 05.4**	**-0.3**
ASAR	**Alice Springs**	**75.67**	**249**	P		**P**		**19 38 05.9**	**+0.2**
	comp=Z,1.4nm,0.7s,baz=145,slow=6.5,SNR=21								
ASAR				LR		LR	LR	20 07 45.4	
	comp=Z,123nm,18.4s,baz=106,slow=33								
	comp=Z,1.4nm,0.7s								
H01W1	**Cape Leeuwin H**	**76.12**	**228**	T		T	T	21 02 37.7	
	baz=148,slow=76,SNR=19								
H01W2	**Cape Leeuwin H**	**76.13**	**228**	T		T	T	21 02 43.7	
	baz=148,slow=76,SNR=18								
H01W3	**Cape Leeuwin H**	**76.14**	**228**	T		T	T	21 02 38.9	
	baz=148,slow=76,SNR=17								
WB2	**Warramunga Arr**	**78.42**	**252**	P		**P**		**19 38 20.5**	**-0.7**
WB2				IAmb		IAmb	IAmb	19 38 41.4	
	comp=Z,19nm,1.6s								
WRA	**Warramunga Arr**	**78.43**	**252**	P		**P**		**19 38 20.9**	**-0.3**
	comp=Z,1.8nm,0.7s,baz=143,slow=5.0,SNR=18								
	comp=Z,1.8nm,0.7s								
LPIG	**La Paz**	**80.03**	**16**	LR		LR	LR	20 05 38.8	
	comp=Z,132nm,20.2s,baz=213,slow=30								
BAUV	**El Baul**	**80.61**	**60**	P		**P**		**19 38 31.1**	**-1.9**
BAUV				IAmb		IAmb	IAmb	19 38 40.0	
	comp=Z,8.5nm,0.9s								
PCRV	**Puerto La Cruz**	**83.38**	**62**	LR		LR	LR	20 11 53.5	
	comp=Z,129nm,18.4s,slow=33								
FITZ	**Fitzroy Crossi**	**84.63**	**246**	P		**P**		**19 38 53.6**	**-0.4**
MDP	**Montagnes des**	**85.58**	**75**	LR		LR	LR	20 12 46.7	
	comp=Z,60nm,19.5s,baz=208,slow=33								
833A	**Chaparral WMA,**	**86.33**	**25**	P		**P**		**19 39 03.1**	**+1.1**
TXAR	**Lajitas Array**	**86.34**	**21**	P		**P**		**19 39 03.7**	**+1.4**
TXAR	**Lajitas Array**	**86.34**	**21**	P		**P**		**19 39 02.2**	**-0.1**
	comp=Z,0.6nm,1.0s,baz=195,slow=9.0,SNR=4.2								
	comp=Z,0.6nm,1.0s								
PFO	**Pinyon Flats O**	**88.63**	**9**	LR		LR	LR	20 10 00.8	
	comp=Z,190nm,19.7s,baz=206,slow=30								
SUR	**Sutherland**	**88.97**	**154**	LR		LR	LR	20 13 54.0	
	comp=Z,162nm,18.6s,baz=200,slow=32								
ANMO	**Albuquerque**	**91.27**	**17**	LR		LR	LR	20 13 39.3	
	comp=Z,84nm,18.7s,baz=307,slow=31								
H11S2	**WAKE ISLAND Hy**	**91.78**	**300**	T		T	T	21 21 31.1	
	baz=147,slow=76,SNR=16								
H11S3	**WAKE ISLAND Hy**	**91.79**	**300**	T		T	T	21 21 27.3	
	baz=147,slow=76,SNR=4.6								
H11S1	**WAKE ISLAND Hy**	**91.80**	**300**	T		T	T	21 21 33.4	
	baz=147,slow=76,SNR=5.9								
NVAR	**Mina Array Bea**	**93.26**	**7**	LR		LR	LR	20 13 41.0	
	comp=Z,196nm,18.2s,baz=122,slow=30								
BOSA	**Boshof**	**93.66**	**156**	LR		LR	LR	20 17 34.5	
	comp=Z,186nm,20.2s,baz=196,slow=33								
YBH	**Yreka Blue Hor**	**96.30**	**4**	LR		LR	LR	20 15 18.2	
	comp=Z,202nm,18.1s,baz=188,slow=31								
LBTB	**Lobatse**	**97.20**	**156**	LR		LR	LR	20 18 48.6	
	comp=Z,149nm,19.7s,baz=180,slow=32								
TKL	**Tuckaleechee C**	**97.69**	**35**	LR		LR	LR	20 18 06.1	
	comp=Z,42nm,20.5s,baz=192,slow=32								
PDAR	**Pinedale Array**	**98.46**	**13**	LR		LR	LR	20 17 14.2	
	comp=Z,142nm,18.2s,baz=200,slow=31								
KAPI	**Kappang**	**98.67**	**248**	LR		LR	LR	20 22 10.6	
	comp=Z,76nm,19.1s,baz=136,slow=34								
GUMO	**Guam**	**99.55**	**280**	LR		LR	LR	20 19 04.1	
	comp=Z,19nm,20.0s,baz=134,slow=32								
ILAR	**Eielson Array**	**120.21**	**351**	PKP		**PKPdf**		**19 45 09.5**	**-0.4**
	comp=Z,0.7nm,0.9s,baz=218,slow=2.7,SNR=4.7								
ESDC	**Sonseca Array**	**140.01**	**88**	PKP		**PKPdf**		**19 45 47.7**	**-0.5**
	comp=Z,0.3nm,0.8s,baz=211,slow=7.2,SNR=2.5								
SONM	**Songino Array**	**146.28**	**281**	PKPbc		**PKPbc**		**19 46 00.3**	**0.0**
	comp=Z,2.6nm,0.8s,baz=144,slow=3.5,SNR=17								
EKA	**Eskdalemuir Ar**	**148.93**	**66**	PKPbc		**PKPbc**		**19 46 07.2**	**+0.2**
	comp=Z,1.5nm,0.7s,baz=268,slow=1.9,SNR=3.5								
MKAR	**Makanchi Array**	**159.58**	**259**	PKPab		**PKPab**		**19 46 57.0**	**+0.2**
	comp=Z,1.8nm,0.7s,baz=118,slow=4.7,SNR=11								
BRTR	**Keskin Array B**	**160.34**	**133**	PKPab		**PKPab**		**19 47 00.1**	**-0.2**
	comp=Z,0.3nm,0.7s,baz=266,slow=4.3,SNR=3.0								

*NEIC **26** 19:26:41.3±0.7, 35.987N±0.008×96.77W±0.02, h7km±6km, Error ellipse: s-maj=2.7km s-min=1.0km az=73.0*

TUL 26 19:26:41.5±0.8, 35.99N±0.01×96.75W±0.02, h4km±6km, ML3.2, mb_Lg2.9/92(NEIC), ML3.0/46(NEIC), Error ellipse: s-maj=2.8km s-min=1.9km az=89.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OK052	**Battle Ridge R**	**0.04**	**270**				Pg	19 26 43.0	+0.3
OK052				Sg		Sg	Sg	19 26 43.9	+0.5
OK031	**S. Brethren Rd**	**0.08**	**241**				Pg	19 26 43.7	+0.4
OK031				Sg		Sg	Sg	19 26 45.1	+0.6
OK031				IAML				19 26 45.3	
	10μm,0.4s								
QUOK	**Quay**	**0.18**	**11**				Pg	19 26 45.8	+0.7
QUOK				Sg		Sg	Sg	19 26 48.5	+1.0
DEOK	**Depew**	**0.25**	**126**				Pg	19 26 47.2	+0.7
DEOK				Sg		Sg	Sg	19 26 50.9	+1.2

DEOK				IAML		19 26 51.1	
	comp=E,2μm,0.1s						
DEOK				IAML		19 26 51.1	
	comp=N,3μm,0.4s						
OK048	**Pawnee Station**	**0.45**	**340**	Pg	Pg	19 26 50.6	+0.5
OK048				Sg	Sg	19 26 56.7	+0.6
OK048				IAML		19 27 00.2	
	comp=N,1μm,0.5s						
OK048				IAML		19 27 01.7	
	comp=N,993nm,0.4s						
OK051	**E0350 and S346**	**0.52**	**352**		Pg	19 26 51.9	+0.4
OK051				IAML		19 26 59.1	
	comp=N,998nm,0.2s						
OK051				IAML		19 27 05.4	
	comp=N,1μm,0.2s						
OK029	**Liberty Lake**	**0.60**	**251**		Pg	19 26 53.5	+0.3
OK029				IAML		19 27 08.0	
	comp=N,780nm,0.8s						
ADOK	**Arcadia Dam**	**0.61**	**236**		Pg	19 26 53.5	+0.3
TUL3	**Leonard**	**0.78**	**96**		Pg	19 26 56.6	+0.1
OKCSW	**OKLAHOMA CITY**	**0.81**	**224**	Pg	Pg	19 26 56.8	-0.3
OKCSW				IAML		19 27 11.0	
	comp=E,858nm,0.4s						
OKCSW				IAML		19 27 12.3	
	comp=N,561nm,0.3s						
BLOK	**Blackwell**	**0.85**	**334**		Pg	19 26 58.0	+0.1
FNO	**Franklin**	**0.91**	**216**		Pg	19 26 58.3	-0.5
T35A	**Sooner Cattle**	**0.94**	**12**	Pg	Pg	19 26 59.5	-0.1
T35A				IAML		19 27 13.3	
	comp=N,331nm,0.1s						
CROK	**Carrier**	**1.12**	**297**		Pg	19 27 02.7	-0.3
KAN13	**South Haven SW**	**1.17**	**330**	Pg	Pg	19 27 03.7	-0.3
GC02	**Grant County #**	**1.24**	**314**		Pg	19 27 04.9	-0.4
KAN17	**Caldwell West**	**1.33**	**322**		Pn	19 27 06.5	-0.3
KAN09	**Caldwell North**	**1.34**	**329**		Pn	19 27 06.7	-0.3
KAN14	**Manchester OK**	**1.37**	**315**		Pn	19 27 07.3	-0.1
RLO	**Rose Lookout**	**1.41**	**83**		Pn	19 27 07.4	-0.5
KAN01	**Argonia South**	**1.41**	**325**		Pn	19 27 08.0	0.0
OK032	**Salt Plains WL**	**1.43**	**305**		Pn	19 27 07.9	-0.3
KAN05	**Bluff City Nor**	**1.43**	**321**		Pn	19 27 08.3	0.0
KAN06	**Argonia West S**	**1.54**	**325**		Pn	19 27 09.6	-0.1
KAN10	**Anthony SW Sta**	**1.56**	**317**		Pn	19 27 10.2	+0.2
KAN08	**Anthony NE Sta**	**1.57**	**322**		Pn	19 27 10.2	0.0
CSTR	**Hydro, Custer**	**1.61**	**258**		Pn	19 27 10.9	+0.2
KAN12	**Harper NE Stat**	**1.64**	**323**		Pn	19 27 11.6	+0.4
OK038	**West end E0370**	**1.68**	**287**		Pn	19 27 11.2	-0.5
X37A	**Clayton**	**1.80**	**141**		Pn	19 27 13.9	+0.7
U32A	**Winter Ranch,**	**1.86**	**283**		Pn	19 27 14.6	+0.5
NOKA	**Waynoka**	**1.88**	**291**	IAmb_Lg		19 27 42.2	
	comp=Z,65nm,0.8s						
U38A	**Gravette**	**1.96**	**76**		Pn	19 27 16.3	+0.8
LOOK	**Love County**	**2.03**	**190**		Pn	19 27 17.3	+0.9
LOOK				IAmb_Lg		19 27 49.6	
	comp=Z,61nm,0.9s						
WMOK	**Wichita Mounta**	**2.08**	**234**		Pn	19 27 18.0	+0.8
WMOK				IAmb_Lg		19 27 48.3	
	comp=Z,34nm,0.7s						
ELIS	**Ellis County**	**2.16**	**273**		Pn	19 27 18.9	+0.6
HHAR	**Hobbs**	**2.29**	**82**	Pn	Pn	19 27 20.7	+0.7
WTFS	**Witchita Falls**	**2.63**	**213**		Pn	19 27 25.6	+0.8
Z35A	**Perchaven, San**	**2.69**	**189**	Pn	Pn	19 27 26.3	+0.8
R32A	**Long Quarter,**	**2.89**	**328**		Pn	19 27 28.1	-0.1
MIAR	**Mount Ida**	**2.97**	**118**	Pn	Pn	19 27 29.8	+0.4
SMWD	**Samnorwood**	**2.98**	**254**		Pn	19 27 29.9	+0.3
SMWD				IAmb_Lg		19 28 14.9	
	comp=Z,21nm,0.8s						
Z38A	**Mt. Pleasant**	**3.09**	**151**	IAmb_Lg		19 28 20.8	
	comp=Z,39nm,0.9s						
KSU1	**Kansas State U**	**3.10**	**2**		Pn	19 27 30.7	-0.5
KSU1				IAmb_Lg		19 28 26.6	
	comp=Z,51nm,0.9s						
S39A	**Bolivar**	**3.23**	**57**		Pn	19 27 34.0	+1.1
S39A				IAmb_Lg		19 28 25.6	
	comp=Z,35nm,0.7s						
FW07	**Weatherford**	**3.39**	**195**		Pn	19 27 35.5	+0.3
PLPT	**Palo Pinto**	**3.43**	**203**		Pn	19 27 35.8	+0.1
X40A	**Basin Creek Fa**	**3.54**	**114**		Pn	19 27 38.0	+0.8
X40A				IAmb_Lg		19 28 38.9	
	comp=Z,21nm,1.0s						
WHAR	**Wooly Hollow**	**3.70**	**100**		Pn	19 27 40.1	+0.7
WHAR				IAmb_Lg		19 28 40.7	
	comp=Z,26nm,0.7s						
FCAR	**Ozark Folk Cen**	**3.75**	**90**		Pn	19 27 40.2	+0.1
FCAR				IAmb_Lg		19 28 41.0	
	comp=Z,44nm,0.8s						
APMT	**Aspermont**	**3.85**	**227**		Pn	19 27 41.8	+0.3
WHTX	**Lake Whitney,**	**4.04**	**189**	Pn	Pn	19 27 44.8	+0.8
ABTX	**Abilene, Hawle**	**4.13**	**216**	IAmb_Lg		19 28 55.3	
	comp=Z,23nm,1.1s						
DKNS	**Dickens**	**4.14**	**237**		Pn	19 27 46.3	+0.8
DKNS				IAmb_Lg		19 28 54.0	
	comp=Z,20nm,0.7s						
AMTX	**Amarillo**	**4.18**	**256**	IAmb_Lg		19 29 05.0	
	comp=Z,18nm,0.8s						
Z41A	**Richland Creek**	**4.25**	**129**	IAmb_Lg		19 29 05.1	
	comp=Z,19nm,0.8s						
R40A	**Maddies Statio**	**4.25**	**56**	Pn	Pn	19 27 47.4	+0.4
R40A				IAmb_Lg		19 29 00.6	
	comp=Z,34nm,0.8s						
LCAR	**Lake Charles**	**4.54**	**87**	IAmb_Lg		19 29 05.8	
	comp=Z,25nm,0.9s						
NATX	**Nacogdoches**	**4.57**	**157**	IAmb_Lg		19 29 04.8	
	comp=Z,16nm,0.9s						
SN05	**Snyder 5**	**4.62**	**229**	IAmb_Lg		19 29 09.2	
	comp=Z,66nm,1.0s						
T42A	**Van Buren**	**4.67**	**76**	IAmb_Lg		19 29 11.2	
	comp=Z,22nm,0.7s						
CCM	**Cathedral Cave**	**4.86**	**63**	IAmb_Lg		19 29 26.3	
	comp=Z,34nm,0.8s						
PBMO	**Poplar Bluff**	**5.16**	**79**	IAmb_Lg		19 29 30.3	
	comp=Z,25nm,0.7s						
SGCY	**Sterling City**	**5.46**	**223**	IAmb_Lg		19 29 45.9	
	comp=Z,19nm,0.9s						
BGNE	**Belgrade**	**5.52**	**349**	IAmb_Lg		19 29 41.8	
	comp=Z,29nm,0.7s						
CGM3	**Cape Girardeau**	**5.85**	**75**	IAmb_Lg		19 29 49.5	
	comp=Z,23nm,1.0s						
L34A	**Svendsen Farm,**	**5.97**	**3**	IAmb_Lg		19 29 59.9	
	comp=Z,25nm,0.8s						
JCT	**Junction City**	**6.06**	**206**	IAmb_Lg		19 30 02.6	
	comp=Z,12nm,0.7s						
OXF	**Oxford**	**6.18**	**102**	IAmb_Lg		19 30 13.2	
	comp=Z,12nm,0.8s						
T25A	**Trinidad**	**6.27**	**283**	IAmb_Lg		19 30 16.1	
	comp=Z,10nm,0.7s						
OGNE	**Ogallala**	**6.45**	**322**	IAmb_Lg		19 30 11.3	
	comp=Z,27nm,0.8s						
SCIA	**State Center**	**6.51**	**24**	IAmb_Lg		19 30 13.2	
	comp=Z,19nm,0.8s						
HNDO	**Hondo**	**6.79**	**199**	IAmb_Lg		19 30 18.6	
	comp=Z,8.4nm,0.9s						
Q24A	**Divide**	**7.31**	**296**	IAmb_Lg		19 30 45.0	
	comp=Z,7.7nm,0.7s						
DRIO	**Del Rio**	**7.32**	**208**	IAmb_Lg		19 30 41.5	
	comp=Z,7.6nm,0.9s						
L40A	**Anamosa**	**7.43**	**34**	IAmb_Lg		19 30 56.7	
	comp=Z,11nm,0.7s						
V48A	**Smith Brothers**	**8.06**	**89**	IAmb_Lg		19 30 59.7	
	comp=Z,7.2nm,0.8s						
L42A	**Oliver, Polo**	**8.15**	**40**	IAmb_Lg		19 31 12.3	
	comp=Z,17nm,0.8s						
P46A	**Rosedale**	**8.37**	**62**	IAmb_Lg		19 31 27.0	
	comp=Z,21nm,0.8s						
JFWS	**Jewell Farm**	**8.54**	**34**	IAmb_Lg		19 31 14.2	
	comp=Z,11nm,0.7s						
PHWY	**Pilot Hill**	**8.63**	**311**	IAmb_Lg		19 31 22.4	
	comp=Z,6.2nm,0.8s						
N23A	**Red Feather La**	**8.71**	**307**	IAmb_Lg		19 31 42.9	
	comp=Z,8.0nm,0.8s						
SFIN	**Lafayette**	**8.77**	**57**	IAmb_Lg		19 31 22.5	
	comp=Z,17nm,0.8s						
I40A	**Norwalk**	**9.18**	**29**	IAmb_Lg		19 31 39.5	
	comp=Z,9.5nm,1.0s						
RSSD	**Black Hills**	**9.85**	**328**	IAmb_Lg		19 32 10.0	
	comp=Z,7.2nm,1.1s						

*NEIC **26** 19:34:33.3, 19°.59N×154°.76W, h12km, Moment Tensor Solution. Duration: T↕0 Moment tensor: Scale 10^16 Nm; Mrr=1.21; Mθθ=1.12; Mϕϕ=0.10; Mrθ=-0.15; Mϕθ=0.35; Mϕr=-0.34; Fault plane solution: M0=1.28000×10^16 NP1:ϕs=60.51000°, δ=52.04000°, λ=-105.38000°. NP2:ϕs=264.59000°, δ=40.51000°, λ=-71.23000°. Principal axes: T 1.2520, Plg6.0000°, Azm161.0000°; N 0.0477, Plg12.0000°, Azm70.0000°; P -1.2997, Plg77.0000°, Azm277.0000°; NEIC **26** 19:34:33.3, 19°.49N×155°.29W, h12km*

*NEIC **26** 19:34:41.3±0.6, 19°.390N±0°.006×155°.272W±0°.008, h3km±2km, Error ellipse: s-maj=1.2km s-min=0.6km az=55.0*

*GCMT **26** 19:34:52.2±0.9, 19°.20N±0°.05×155°.50W±0°.06, h12km, MW4.7/48, Moment Tensor Solution. s6,c7; s48,c58; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr=0.85±.07; Mθθ=0.78±.07; Mϕϕ=0.07±.07; Mrθ=-0.60±.24; Mϕθ=0.45±.06; Mϕr=0.82±.23; Best double couple: M0=1.29700×10^16 NP1:ϕs=99.00000°, δ=63.00000°, λ=-52.00000°. NP2: ϕs=219.00000°, δ=46.00000°, λ=-140.00000°. Principal axes: T 1.0270, Plg10.0000°, Azm163.0000°; N 0.5400, Plg34.0000°, Azm259.0000°; P -1.5680, Plg55.0000°, Azm58.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s. Triangular moment-rate function*

HVO 26 19:34:41.2±0.7, 19°.405N±0°.009×155°.281W±0°.007, h0km±1km, Md2.7/5, ML2.4/33(NEIC)**, Mww4.7/**5(NEIC)

Error ellipse: s-maj=2.8km s-min=1.5km az=171.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**146**		Pg	19 34 41.9	+0.5
OBL	**Observatory Le**	**0.01**	**347**		Pg	19 34 42.0	+0.5
KKO	**Keanakako`i**	**0.02**	**117**		Pg	19 34 42.2	+0.6
UWB	**Uwekahuna B**	**0.02**	**8**		Pg	19 34 42.1	+0.5
UWE	**Uwekahuna**	**0.02**	**325**		Pg	19 34 41.8	+0.2
BYL	**Byron's Ledge**	**0.02**	**71**		Pg	19 34 42.0	+0.3
SBLHI	**Steaming Bluff**	**0.03**	**29**		Pg	19 34 42.1	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**47**		Pg	19 34 41.6	-0.1
HATHI				IAML		19 34 41.8	
	comp=N,10μm,1.1s						
HATHI				IAML		19 34 41.9	
	comp=E,11μm,0.9s						
RSD	**Rainshed**	**0.06**	**3**		Pg	19 34 42.1	-0.3
PUH	**Pauahi**	**0.07**	**117**		Pg	19 34 42.5	-0.1
PUH				IAML		19 34 44.7	
	comp=N,3μm,0.6s						
KNHH	**Kane Nui o Ham**	**0.11**	**104**		Pg	19 34 43.2	-0.1
HLP	**Hilina Pali**	**0.11**	**193**		Pg	19 34 43.1	-0.2
HLP				IAML		19 34 46.9	
	comp=N,2μm,1.2s						
MLH	**Mauna Loa**	**0.13**	**312**		Pg	19 34 44.1	+0.3
MLH				IAML		19 34 47.6	
	comp=N,1μm,0.9s						
STCH	**Steam Cracks**	**0.15**	**98**	Pg	Pg	19 34 43.8	-0.2
STCH				IAML		19 34 46.4	
	comp=E,1μm,1.0s						
STCH				IAML		19 34 47.6	
	comp=N,1μm,1.2s						
JOKA	**Jonika Flow**	**0.26**	**84**	Pg	Pg	19 34 46.5	+0.3
JOKA				IAML		19 34 47.1	
	comp=N,780nm,1.4s						
JOKA				IAML		19 34 53.7	
	comp=E,454nm,1.6s						
HMH	**Humu'ula Sheep**	**0.27**	**316**	Pg	Pg	19 34 47.6	+1.1
HMH				IAML		19 34 53.8	
	comp=E,446nm,1.3s						
HMH				IAML		19 34 54.8	
	comp=N,532nm,1.0s						
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg	Pg	19 34 48.1	+1.0
MLOA				IAML		19 34 56.6	
	comp=E,524nm,2.2s						
MLOA				IAML		19 34 57.1	
	comp=N,421nm,0.6s						
MWH	**Moku'aweowe**	**0.31**	**285**	Pg	Pg	19 34 47.7	+0.6
KHU	**Kahuku**	**0.35**	**243**	Pg	Pg	19 34 49.0	+1.0
KHU				IAML		19 34 55.8	
	comp=E,507nm,1.5s						
KHU				IAML		19 35 00.2	
	comp=N,568nm,1.5s						
POHA	**Pohakuloa**	**0.42**	**326**		Pg	19 34 49.8	+0.5
POHA				IAML		19 35 03.7	
	comp=N,399nm,1.4s						
HUH	**Hualalai**	**0.59**	**298**	Pg	Pb	19 34 54.2	-0.5
PPT2	**Papeete2**	**37.19**	**171**	eLR	LR	19 51 47.0	
	comp=N,190nm,36.0s						
PPT2				eLR	LR	19 51 52.9	
	comp=N,2μm,30.0s						
TBI	**Tubuai**	**42.87**	**172**	eLR	LR	19 54 33.2	
	comp=N,668nm,41.5s						

*NEIC **26** 19:37:48.9±1.1, 55°.84N±0°.09×150°.0W±0°.1, h9km±7km, ML3.5/46, ML3.3(AEIC), Error ellipse: s-maj=12.8km s-min=8.3km az=159.0*

*AEIC **26** 19:37:53.0±1.5, 55°.78N±0°.10×149°.8W±0°.1, h12km±8km, Error ellipse: s-maj=14.0km s-min=9.0km az=168.0*

ISC 26 19:37:47.9±1.6, 55°.85N±0°.08×149°.93W±0°.06, h10km, n125, σ1s36/133, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHAK	**Old Harbor**	**2.31**	**308**		**Pn**	**19 38 26.7**	**+0.8**
OHAK				Sn	**Sn**	**19 38 52.5**	**-1.9**
OHAK	**Old Harbor**	**2.31**	**308**	P	**Pn**	**19 38 26.8**	**+0.9**
	baz=126						
OHAK				S	**Sn**	**19 38 53.8**	**-0.6**
	baz=126						
KDAK	**Kodiak Island**	**2.43**	**324**		**Pn**	**19 38 28.8**	**+1.3**
KDAK				Sn	**Sn**	**19 38 55.7**	**-1.6**
SII	**Sitkinak Islan**	**2.48**	**288**	Pn	**Pn**	**19 38 29.1**	**+0.9**
SII				Sn	**Sn**	**19 38 57.1**	**-1.6**
SII				IAML		19 39 04.9	
	comp=E,183nm,0.7s						
SII				IAML		19 39 12.1	
	comp=N,173nm,0.5s						
SII	**Sitkinak Islan**	**2.48**	**288**	P	**Pn**	**19 38 29.2**	**+0.9**
	baz=105						
R18K	**Karluk**	**3.03**	**307**		**Pn**	**19 38 37.5**	**+1.7**
R18K	**Karluk**	**3.03**	**307**	IAML		19 39 22.5	
	comp=N,95nm,0.5s						
R18K				IAML		19 39 23.0	
	comp=E,99nm,0.4s						
R18K	**Karluk**	**3.03**	**307**	P	**Pn**	**19 38 37.5**	**+1.7**
	baz=123						
SYI	**Shuyak Island**	**3.08**	**335**	Pn	**Pn**	**19 38 37.7**	**+1.2**
SYI	**Shuyak Island**	**3.08**	**335**		**Sn**	**19 39 11.9**	**-1.3**
Q20K	**Shuyak Island**	**3.08**	**335**	P	**Pn**	**19 38 37.7**	**+1.2**
	baz=154						
Q20K				S	**Sn**	**19 39 11.9**	**-1.3**
	baz=154						
CHIR	**Chirikof Islan**	**3.21**	**272**	Pn	**Pn**	**19 38 39.1**	**+0.8**
CHIR				IAML		19 39 22.8	
	comp=E,67nm,1.4s						
CHIR				IAML		19 39 23.4	
	comp=N,83nm,0.9s						
CHIR	**Chirikof Islan**	**3.21**	**272**		**Sn**	**19 39 14.7**	**-1.9**
CHIR	**Chirikof Islan**	**3.21**	**272**	P	**Pn**	**19 38 39.6**	**+1.3**
	baz=87						
CHIR				S	**Sn**	**19 39 15.2**	**-1.4**
	baz=87						
Q19K	**Cape Douglas,**	**3.69**	**328**		**Pn**	**19 38 46.9**	**+2.0**
Q19K	**Cape Douglas,**	**3.69**	**328**		**Sn**	**19 39 26.7**	**-1.6**
Q19K	**Cape Douglas,**	**3.69**	**328**	P	**Pn**	**19 38 47.1**	**+2.3**
	baz=146						
Q19K				S	**Sn**	**19 39 26.7**	**-1.6**
	baz=146						
CNPM	**China Poot**	**3.75**	**350**		**Pn**	**19 38 46.3**	**+0.5**
CNPM				IAML		19 39 37.4	
	comp=E,43nm,0.8s						
CNPM	**China Poot**	**3.75**	**350**		**Sn**	**19 39 29.6**	**-0.5**
ACHA	**Angle Creek He**	**3.78**	**311**		**Pn**	**19 38 48.3**	**+2.1**
ANCK	**Angle Creek**	**3.85**	**310**		**Pn**	**19 38 49.4**	**+2.3**
BRSE	**Bradley Lake S**	**3.93**	**354**		**Pn**	**19 38 48.6**	**+0.5**
BRSE	**Bradley Lake S**	**3.93**	**354**	P	**Pn**	**19 38 48.9**	**+0.7**
	baz=174						
BRLK	**Bradley Lake**	**3.96**	**353**		**Pn**	**19 38 49.0**	**+0.3**
BRLK	**Bradley Lake**	**3.96**	**353**		**Sn**	**19 39 34.1**	**-1.0**
Q23K	**Middleton Isla**	**4.07**	**27**		**Pn**	**19 38 50.7**	**+0.6**
Q23K	**Middleton Isla**	**4.07**	**27**	P	**Pn**	**19 38 50.7**	**+0.6**
	baz=210						
P19K	**Oil Pt**	**4.20**	**336**	Pn	**Pn**	**19 38 53.6**	**+1.7**
P19K				IAML		19 39 50.9	
	comp=N,106nm,0.6s						
P19K	**Oil Pt**	**4.20**	**336**	P	**Pn**	**19 38 53.3**	**+1.3**
	baz=154						
P23K	**Montague Islan**	**4.37**	**17**		**Pn**	**19 38 55.0**	**+0.8**
P23K	**Montague Islan**	**4.37**	**17**	P	**Pn**	**19 38 55.0**	**+0.8**
	baz=199						
P23K				S	**Sn**	**19 39 42.4**	**-2.8**
	baz=199						
O20K	**Slope Mountain**	**4.48**	**342**		**Pn**	**19 38 56.7**	**+0.9**
O20K	**Slope Mountain**	**4.48**	**342**	P	**Pn**	**19 38 56.7**	**+0.9**
	baz=161						
ILSW	**Iliamna Southw**	**4.49**	**339**		**Pn**	**19 38 56.9**	**+0.9**
ILSW				IAML		19 39 52.5	
	comp=E,27nm,0.8s						
ILSW				IAML		19 39 58.4	
	comp=N,36nm,0.8s						
IVE	**Iliamna Volcan**	**4.49**	**340**		**Pn**	**19 38 56.8**	**+0.8**
R16K	**Pilot Point**	**4.55**	**295**	Pn	**Pn**	**19 38 59.1**	**+2.4**
P18K	**Big Mountain,**	**4.55**	**323**		**Pn**	**19 38 58.2**	**+1.4**
P18K	**Big Mountain,**	**4.55**	**323**	P	**Pn**	**19 38 58.0**	**+1.2**
	baz=139						
SLKM	**Skilak Lake**	**4.68**	**358**		**Pn**	**19 38 59.5**	**+1.0**
SLKM					**Sn**	**19 39 50.9**	**-1.8**
CHGN	**Chignik**	**4.78**	**279**	Pn	**Pn**	**19 39 01.7**	**+2.0**
P17K	**Kvichak River**	**4.85**	**316**		**Pn**	**19 39 02.5**	**+1.6**
P17K	**Kvichak River**	**4.85**	**316**	P	**Pn**	**19 39 02.5**	**+1.6**
	baz=131						
O18K	**Koktuh Hills**	**4.91**	**327**		**Pn**	**19 39 02.8**	**+1.2**
O18K				IAML		19 40 04.6	
	comp=N,25nm,0.6s						
O18K				IAML		19 40 13.2	
	comp=E,22nm,0.9s						
O18K	**Koktuh Hills**	**4.91**	**327**	P	**Pn**	**19 39 02.9**	**+1.3**
	baz=143						
HIN	**Hinchinbrook I**	**4.91**	**20**	Pn	**Pn**	**19 39 02.7**	**+1.1**
HIN				IAML		19 39 58.0	
	comp=E,52nm,1.3s						
HIN				IAML		19 40 03.5	
	comp=N,44nm,1.2s						
KAIM	**Kayak Island**	**5.04**	**33**	Pn	**Pn**	**19 39 04.4**	**+1.0**
KAIM				IAML		19 40 08.0	
	comp=E,47nm,1.2s						
KAIM	**Kayak Island**	**5.04**	**33**	P	**Pn**	**19 39 04.4**	**+1.0**
	baz=218						
EYAK	**Cordova Ski Ar**	**5.21**	**23**		**Pn**	**19 39 06.8**	**+1.2**
EYAK	**Cordova Ski Ar**	**5.21**	**23**	P	**Pn**	**19 39 06.8**	**+1.2**
	baz=207						
FID	**Port Fidalgo**	**5.24**	**19**		**Pn**	**19 39 06.8**	**+0.6**
FID				IAML		19 40 04.6	
	comp=E,29nm,0.4s						
FID				IAML		19 40 06.1	
	comp=N,26nm,0.4s						
RC01	**Rabbit Creek A**	**5.26**	**1**		**Pn**	**19 39 07.0**	**+0.6**
RC01				IAML		19 40 05.7	
	comp=N,20nm,0.5s						
RC01				IAML		19 40 11.9	
	comp=E,20nm,0.5s						
GLI	**Glacier Island**	**5.26**	**15**	Pn	**Pn**	**19 39 07.2**	**+0.7**
GLI				IAML		19 40 05.7	
	comp=E,28nm,0.4s						
GLI				IAML		19 40 05.7	
	comp=N,29nm,0.5s						
GLI	**Glacier Island**	**5.26**	**15**	P	**Pn**	**19 39 07.3**	**+0.8**
	baz=198						
RAGM	**Ragged Mountai**	**5.33**	**29**		**Pn**	**19 39 08.6**	**+1.1**
RAGM				IAML		19 40 14.9	
	comp=E,38nm,0.5s						
SUCK	**Suckling Hills**	**5.35**	**35**	Pn	**Pn**	**19 39 09.2**	**+1.5**
SUCK				IAML		19 40 09.0	
	comp=N,45nm,1.5s						
SUCK				IAML		19 41 07.6	
	comp=E,34nm,1.5s						
P16K	**Nushagak River**	**5.40**	**310**		**Pn**	**19 39 09.7**	**+1.4**
P16K	**Nushagak River**	**5.40**	**310**	P	**Pn**	**19 39 09.7**	**+1.4**
	baz=123						
HMT	**Hamilton**	**5.41**	**31**		**Pn**	**19 39 10.1**	**+1.5**
NICHA	**Nichawak Mount**	**5.42**	**33**		**Pn**	**19 39 09.8**	**+1.2**
GOAT	**Goat Mountain**	**5.48**	**28**		**Pn**	**19 39 10.7**	**+1.1**
O17K	**Koliganek Bris**	**5.49**	**319**		**Pn**	**19 39 10.8**	**+1.2**
O17K	**Koliganek Bris**	**5.49**	**319**	P	**Pn**	**19 39 10.8**	**+1.2**
	baz=133						
N19K	**Bonanza Creek**	**5.53**	**336**		**Pn**	**19 39 11.1**	**+0.9**
N19K	**Bonanza Creek**	**5.53**	**336**	P	**Pn**	**19 39 10.9**	**+0.7**
	baz=153						
CHNA	**Chernabura Isl**	**5.61**	**264**	P	**Pn**	**19 39 12.2**	**+1.0**
	baz=76						
CNBA	**Chernabura Isl**	**5.61**	**263**	Pn	**Pn**	**19 39 12.1**	**+0.9**
KNK	**Knik Glacier**	**5.63**	**7**	P	**Pn**	**19 39 12.4**	**+0.8**
	baz=189						
SUA	**Susitna One**	**5.65**	**356**		**Pn**	**19 39 12.5**	**+0.6**
SUA	**Susitna One**	**5.65**	**356**	P	**Pn**	**19 39 12.9**	**+1.1**
	baz=176						
SNH	**Sunshine Point**	**5.75**	**38**	Pn	**Pn**	**19 39 14.4**	**+1.2**
O16K	**Kokwok River B**	**5.76**	**314**		**Pn**	**19 39 15.2**	**+1.8**
N18K	**Kilae Creek**	**5.78**	**329**		**Pn**	**19 39 14.2**	**+0.8**
N18K	**Kilae Creek**	**5.78**	**329**	P	**Pn**	**19 39 14.3**	**+0.8**
	baz=145						
KHIT	**Khitrov Hills**	**5.81**	**35**		**Pn**	**19 39 15.1**	**+1.1**
BMRM	**Bremner River**	**5.84**	**26**		**Pn**	**19 39 15.6**	**+1.0**
BMRM	**Bremner River**	**5.84**	**26**	P	**Pn**	**19 39 15.6**	**+1.0**
	baz=211						
WAX	**Waxell Ridge**	**5.94**	**36**		**Pn**	**19 39 17.1**	**+1.2**
GHO	**Glory Hole Cre**	**5.96**	**5**		**Pn**	**19 39 17.6**	**+1.4**
BARK	**Barkley Ridge**	**6.03**	**38**		**Pn**	**19 39 18.2**	**+1.1**
KLU	**Klutina**	**6.03**	**19**		**Pn**	**19 39 18.4**	**+1.2**
KLU	**Klutina**	**6.03**	**19**	P	**Pn**	**19 39 18.3**	**+1.2**
	baz=202						
SML	**Sawmill**	**6.03**	**7**		**Pn**	**19 39 18.4**	**+1.2**
SCM	**Sheep Creek Mo**	**6.15**	**12**	Pn	**Pn**	**19 39 20.4**	**+1.6**
SKT	**Skwentna**	**6.21**	**353**	Pn	**Pn**	**19 39 20.2**	**+0.8**
ISLE	**Juniper Island**	**6.23**	**37**		**Pn**	**19 39 21.1**	**+1.2**
O15K	**Ungalikthiuk R**	**6.29**	**306**		**Pn**	**19 39 22.7**	**+2.1**
O15K	**Ungalikthiuk R**	**6.29**	**306**	P	**Pn**	**19 39 22.7**	**+2.1**
	baz=118						
VRDI	**Verde Repeater**	**6.37**	**29**	Pn	**Pn**	**19 39 23.1**	**+1.2**
N25K	**Chitina, Valde**	**6.41**	**23**	Pn	**Pn**	**19 39 23.7**	**+1.5**
N25K	**Chitina, Valde**	**6.41**	**23**	P	**Pn**	**19 39 23.4**	**+

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.27**	**266**	P	P	20 03 22.2	+0.2
	0.3nm,0.8s,baz=108,slow=7.8,SNR=2.2						
	0.3nm,0.8s						
WRA	**Warramunga Arr**	**45.24**	**271**	P	P	20 03 29.4	-0.4
	1.1nm,0.7s,baz=111,slow=8.0,SNR=17						
	1.1nm,0.7s						
FINES	**FINESS Array B**	**145.33**	**341**	PKPbc	PKPbc	20 14 48.4	-0.9
	1.5nm,0.9s,baz=35,slow=5.1,SNR=5.6						

*AEIC **26** 19:58:50.9±1.9,51°.98N±0°.08×173°.49W±0°.05, h33km±7km, Error ellipse: s-maj=12.3km s-min=4.5km az=179.0*

NEIC 26 19:58:50.1±1.6, 51°.87N±0°.08×173°.47W±0°.08, h24km±10km, mb3.5/14, ML3.2(AEIC)**, Error ellipse: s-maj=12.3km s-min=6.7km az=192.0, Andreanof Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.56**	**307**		Pb	19 59 01.0	-0.2
ATKA					Sb	19 59 08.9	0.0
KOFP	**Korovin Flat P**	**0.56**	**317**		Pb	19 59 01.4	+0.1
KOSE	**Korovin Southe**	**0.60**	**324**		Pb	19 59 01.8	-0.2
KOKL	**Mount Kliuchef**	**0.64**	**316**		Pb	19 59 02.5	-0.2
KOKL					Sb	19 59 11.2	-0.1
KONE	**Korovin Northe**	**0.66**	**323**		Pb	19 59 02.6	-0.4
KONE					Sb	19 59 11.8	-0.1
CLES	**Cleveland East**	**2.40**	**65**	Pn	Pn	19 59 25.9	-1.8
CLCO	**Concord Point,**	**2.48**	**67**		Pn	19 59 28.0	-0.9
CLCO					Sn	19 59 58.2	-0.1
NIKH	**Nikolski High**	**3.04**	**67**		Pn	19 59 35.3	-1.2
OKWE	**Okmok W'ng Wal**	**3.57**	**61**		Pn	19 59 42.9	-1.0
OKTU	**Okmok Mt. Tuli**	**3.64**	**63**		Pn	19 59 45.2	+0.2
MAPS	**Pakushin South**	**4.41**	**61**		Pn	19 59 55.3	-0.2
MREP	**Makushin Rep't**	**4.52**	**62**		Pn	19 59 57.0	0.0
AMKA	**Amchitka**	**4.53**	**267**		Pn	19 59 58.8	+1.7
L16K	**Owhat River**	**12.47**	**32**	Pn	Pn	20 01 45.7	-0.1
N17K	**Nushagak Hills**	**12.52**	**40**	Pn	Pn	20 01 46.4	-0.1
M17K	**Holitna River**	**12.97**	**36**	Pn	Pn	20 01 52.5	-0.1
K17K	**Iditarod**	**13.58**	**31**	Pn	Pn	20 02 01.0	+0.2
L18K	**Granite Mounta**	**13.77**	**35**	Pn	Pn	20 02 04.0	+0.4
J20K	**Nowinta River**	**15.94**	**32**	Pn	Pn	20 02 33.1	+0.7
J20K				IAmb	IAmb	20 02 41.8	
	comp=Z,4.1nm,1.4s						
CAST	**Castle Rocks**	**16.18**	**36**	Pn	Pn	20 02 35.7	+0.2
CAST				IAmb	IAmb	20 02 45.9	
	comp=Z,5.2nm,1.5s						
CCB	**Clear Creek Bu**	**18.43**	**36**	P	Pn	20 03 04.0	+0.5
MDM	**Murphy Dome**	**18.44**	**35**	P	Pn	20 03 04.0	+0.2
ILAR	**Eielson Array**	**18.83**	**36**		P	20 03 07.7	-0.1
H24K	**Noodor Dome**	**19.06**	**33**	P	P	20 03 09.6	-0.7
H24K				IAmb	IAmb	20 03 27.3	
	comp=Z,2.6nm,1.2s						
J25K	**Salcha River,**	**19.32**	**38**	P	P	20 03 13.8	+0.6
J25K				IAmb	IAmb	20 03 38.7	
	comp=Z,5.7nm,1.5s						
SCRK	**Sand Creek**	**19.58**	**40**	P	P	20 03 16.3	+0.2
SCRK				IAmb	IAmb	20 03 35.9	
	comp=Z,3.2nm,1.2s						
LOGN	**Logan Glacier**	**19.91**	**51**	P	P	20 03 19.0	-0.8
J26L	**Joseph Creek**	**19.97**	**39**	P	P	20 03 19.0	-1.3
J26L				IAmb	IAmb	20 03 24.9	
	comp=Z,1.6nm,0.7s						
P29M	**Windy Craggy**	**21.34**	**55**	P	P	20 03 35.0	-0.1
I28M	**Miner Creek**	**21.76**	**39**	P	P	20 03 39.7	0.0
H29M	**Whitestone**	**22.65**	**37**	P	P	20 03 49.6	+0.5
H29M				IAmb	IAmb	20 04 01.9	
	comp=Z,3.6nm,1.2s						
I30M	**Mount Dempster**	**23.09**	**40**	P	P	20 03 53.1	-0.6
I30M				IAmb	IAmb	20 03 56.6	
	comp=Z,4.6nm,1.4s						
BRVK	**Borovoye**	**62.61**	**322**	P	P	20 09 09.9	-2.0

*NEIC **26** 20:33:03.3±0.9, 19°.40N±0°.02×154°.91W±0°.02, h5km±2km, Error ellipse: s-maj=4.3km s-min=3.0km az=324.0*

HVO 26 20:33:03.3±1.0, 19°.43N±0°.02×154°.91W±0°.02, h2km±8km, Md2.2/22, ML2.6(34)(NEIC)**, Error ellipse: s-maj=3.7km s-min=1.7km az=141.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAH	**Pahoa**	**0.07**	**335**		Pg	20 33 05.0	+0.2
JOKA	**Jonika Flow**	**0.09**	**274**		Pg	20 33 05.5	+0.5
JOKA				IAML		20 33 07.4	
	comp=E,2μm,0.7s						
JOKA				IAML		20 33 07.8	
	comp=N,3μm,0.5s						
STCH	**Steam Cracks**	**0.20**	**258**		Pg	20 33 07.4	+0.2
KNHH	**Kane Nui o Ham**	**0.24**	**259**		Pg	20 33 08.5	+0.5
PUH	**Pauahi**	**0.29**	**259**		Pg	20 33 09.2	+0.3
PUH				IAML		20 33 15.1	
	comp=N,644nm,1.1s						
HATHI	**Halema'uma'u T**	**0.33**	**269**		Pg	20 33 09.8	+0.2
HATHI					Sg	20 33 13.9	0.0
RSD	**Rainshed**	**0.34**	**276**		Pg	20 33 10.3	+0.3
RSD				IAML		20 33 17.7	
	comp=E,733nm,0.3s						
HLP	**Hilina Pali**	**0.39**	**251**		Pg	20 33 11.2	+0.3
MLH	**Mauna Loa**	**0.45**	**278**		Pg	20 33 11.9	0.0
MLH					Sg	20 33 18.4	+0.6
MLH				IAML		20 33 19.3	
	comp=N,554nm,1.9s						
MLH				IAML		20 33 22.8	
	comp=E,399nm,0.6s						
HMH	**Humu'ula Sheep**	**0.56**	**288**		Pg	20 33 14.1	-0.1
HMH					Sg	20 33 22.3	+0.8
MLOA	**Mauna Loa Obse**	**0.63**	**280**	Pg	Pg	20 33 14.6	-0.9
MLOA				IAML		20 33 25.3	
	comp=N,280nm,0.2s						
MLOA				IAML		20 33 34.0	
	comp=E,301nm,3.0s						
MWH	**Moku'aweowe**	**0.65**	**275**	Pg	Pg	20 33 14.8	-1.0
MWH				IAML		20 33 33.8	
	comp=N,322nm,0.6s						
POHA	**Pohakuloa**	**0.67**	**299**		Pg	20 33 15.0	-1.1
POHA				IAML		20 33 36.0	
	comp=N,294nm,0.5s						
POHA				IAML		20 33 37.1	
	comp=N,317nm,0.5s						
KHU	**Kahuku**	**0.69**	**255**	Pg	Pg	20 33 14.9	-1.6
KHU				IAML		20 33 23.9	
	comp=N,270nm,3.3s						
KHU				IAML		20 33 26.4	
	comp=E,348nm,1.0s						

*DNK **26** 20:36:36.6±4.8, 74°.59N×73°.25W, h36km±41km, ML2.5*
*OTT **26** 20:36:36.9±0.4, 74°.53N×73°.23W, h18km, ML3.6/3, 254km northeast from Pond Inlet, Nu Baffin Bay Seismic Zone.*

ISC 26 20:36:31.6±0.8, 74°.59N±0°.05×72°.69W±0°.05, h10km, n22, σ2s85/23, 1C, Baffin Bay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TULEG	**Thule**	**2.19**	**24**	*i* P	**Pb**	**20 37 10.3**	**-0.9**
TULEG				*i* S	**Sn**	**20 37 33.1**	**-2.0**
TULEG				IAML		20 37 35.6	
	comp=Z,226nm,0.4s						
CLRN	**Clyde River**	**4.31**	**161**	PN	Pn	20 37 43.5	+6.4
CLRN				SN	**Sn**	**20 38 28.4**	**+1.0**
CLRN				Trac		20 38 43.0	
	comp=Z,40nm,0.3s						
UPNV	**Upernavik**	**5.00**	**103**	*i* P	**Pn**	**20 37 51.1**	**+4.6**
UPNV				*i* S	**Sn**	**20 38 40.6**	**-3.6**
UPNV				IAML		20 38 45.6	
	comp=Z,28nm,0.2s						
RES	**Resolute Bay**	**5.89**	**282**	PN	**Pn**	**20 38 01.0**	**+2.3**
RES	**Resolute Bay**	**5.89**	**282**	SN	**Sn**	**20 39 02.5**	**-3.5**
RES				Trac		20 39 09.3	
	comp=Z,9.8nm,0.2s						
RES	**Resolute Bay**	**5.89**	**282**	*i* S	**Sn**	**20 39 02.6**	**-3.5**
NEEM	**North Greenlan**	**5.94**	**51**	*i* P	**Pn**	**20 38 02.8**	**+3.0**
NEEM				*i* S	**Sn**	**20 39 04.9**	**-3.0**
NEEM				IAML		20 39 07.0	
	comp=Z,36nm,0.3s						
ILON	**Igloolik, Nuna**	**5.95**	**213**	PN	**Pn**	**20 38 02.2**	**+2.6**
ILON	**Igloolik, Nuna**	**5.95**	**213**	SN	**Sn**	**20 39 04.6**	**-3.1**
ILON				Trac		20 39 10.2	
	comp=Z,6.8nm,0.1s						
EUNU	**Eureka**	**6.25**	**338**	*i* P	**Pn**	**20 38 06.2**	**+2.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUUG	**Nuugaatsiaq**	**6.44**	**109**	*e*P	**Pn**	**20 38 05.0**	**-1.3**
NUUG				*e*S	**Sn**	**20 39 16.9**	**-2.8**
NUUG				IAML		20 39 21.6	
	comp=Z,8.2nm,0.3s						
UMMG	**Uummannaq**	**7.26**	**112**	*i* P	**Pn**	**20 38 22.1**	**+4.5**
UMMG				*i* S	**Sn**	**20 39 38.2**	**-1.7**
UMMG				IAML		20 39 42.2	
	comp=Z,18nm,0.8s						
SUMG	**Summit**	**9.80**	**85**	*i* P	**Pn**	**20 38 54.3**	**+1.7**
SUMG				*i* S	Sn	20 40 34.0	-8.7
SUMG				IAML		20 40 42.3	
	comp=Z,7.7nm,0.4s						
SFJD	**Kangerlussuaq**	**10.44**	**125**	IAML		20 41 50.6	
	comp=Z,4.7nm,0.8s						
FRB	**Frobisher Bay**	**10.99**	**170**	SN	**Sn**	**20 41 07.9**	**-3.4**
ICESG	**Greenland Ices**	**11.53**	**102**	IAML		20 41 19.4	
	comp=Z,6.9nm,0.4s						
BLKN	**Baker Lake**	**13.02**	**230**	PN	**Pn**	**20 39 37.3**	**+1.1**
BLKN	**Baker Lake**	**13.02**	**230**	SN	Sn	20 41 52.4	-8.4
DAG	**Danmarks Havn**	**13.13**	**55**	*i* P	**Pn**	**20 39 36.8**	**-1.0**
DAG				*i* S	Sn	20 41 49.6	-14
DAG				⇑		20 41 56.7	
	comp=Z,5.7nm,1.0s						
DBG	**Daneborg**	**13.70**	**66**	*i* P	**Pn**	**20 39 44.0**	**-1.5**
DBG				*i* S	Sn	20 42 05.5	-12
YKAW3	**Yellowknife Wh**	**18.89**	**253**	PN	**Pn**	**20 40 53.2**	**+0.9**
YKAW3	**Yellowknife Wh**	**18.89**	**253**	SN	Sn	20 44 08.9	-14

KRSC 26 21:17:46.1±1.7, 49°.13N×156°.27E, h5km±27km, Ml3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.56**	**356**	*e*P	Pn	21 18 14.4	0.0
SKR				*e*S	Sn	21 18 34.9	0.0
PAU	**Pauzhetka**	**2.37**	**8**	*e*P	Pb	21 18 29.4	+0.2
PAU				*e*S	Sb	21 18 58.5	-0.1
KDTR	**Khodutka, Kamc**	**2.92**	**23**	*e*P	Pb	21 18 35.9	-2.7
KDTR				*e*S	Sb	21 19 11.6	-3.0
MTVR	**Mutnovka**	**3.57**	**19**	*e*P	Pn	21 18 45.4	+3.1
MTVR				*e*S	Sn	21 19 28.1	+3.3
RUS	**Russkaya**	**3.60**	**22**	*e*P	Pn	21 18 45.2	+2.7
RUS				*e*S	Sn	21 19 29.4	+4.0
GRL	**Gorelyy**	**3.61**	**18**	*e*P	Pn	21 18 46.3	+3.5
UGLR	**Uglovaya**	**4.39**	**21**	*e*P	Pn	21 18 57.5	+4.1
AVH	**Avacha**	**4.42**	**20**	*e*P	Pn	21 18 58.4	+4.6
KOK	**Koryaka**	**4.42**	**19**	*e*P	Pn	21 18 58.9	+5.0
SMAR	**Somma**	**4.43**	**20**	*e*P	Pn	21 18 58.1	+3.9
KRX	**Arik**	**4.49**	**19**	*e*P	Pn	21 18 59.2	+4.3
GNL	**Ganaly**	**4.69**	**12**	*e*P	Pn	21 19 01.1	+3.5

*IDC **26** 21:32:27.3±0.6, 12°.82S×45°.61E, h0km, mb3.9/21, mbtmp3.9/24, ML4.3/4, MS3.4/17, Error ellipse: s-maj=20.4km s-min=14.6km az=88.0*
*NEIC **26** 21:32:29.3±2.0, 12°.84S±0°.07×45°.51E±0°.10, h10km±1km, mb4.5/25, Error ellipse: s-maj=16.3km s-min=12.7km az=94.0*

ISC 26 21:32:28.3±0.4, 12°.89S±0°.06×45°.60E±0°.07, h10km, n93, σ1s12/85, mb4.4/45, MS3.4/14, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.86**	**165**	Pn	**Pn**	**21 33 56.3**	**+1.0**
	4.2nm,0.3s,baz=336,slow=12,SNR=31						
OPO				Sn	**Sn**	**21 34 57.7**	**-4.9**
	24nm,0.3s,baz=308,slow=15,SNR=30						
OPO				LR	LR	21 36 17.1	
	comp=Z,404nm,20.6s,baz=192,slow=39						
ABPO	**Ambohimpanom**	**6.29**	**166**		**Pn**	**21 34 02.1**	**+0.7**
VOI	**Vohitsoka**	**9.04**	**173**		**Pn**	**21 34 38.8**	**-0.3**
ZOMB	**Zomba**	**10.25**	**255**	*i* PN	**Pn**	**21 34 54.3**	**-1.3**
ZOMB				*i* SN	Sn	21 36 39.6	-11
ZOMB	**Zomba**	**10.25**	**255**	*i* PN	**Pn**	**21 34 54.3**	**-1.3**
ZOMB				*i* SN	Sn	21 36 39.6	-11
FOMA	**Nahampoana Res**	**12.10**	**174**	Pn	**Pn**	**21 35 20.8**	**0.0**
RER	**Riviere de l'E**	**12.71**	**132**	Pn	**Pn**	**21 35 29.5**	**+0.1**
MSEY	**Mahe Island**	**12.72**	**51**	Pn	**Pn**	**21 35 26.8**	**-2.7**
KIBK	**Kibwezi**	**12.87**	**324**		**Pn**	**21 35 29.1**	**-2.5**
KIBK	**Kibwezi**	**12.87**	**324**	*e*P	**Pn**	**21 35 28.9**	**-2.7**
KIBK				*e*S	Sn	21 37 41.4	-14
KMBO	**Kilima Mbogo**	**14.31**	**324**		**Pn**	**21 35 49.7**	**-1.7**
CHIPN	**CHIPINGE**	**14.40**	**238**	*i* P	**Pn**	**21 35 49.0**	**-3.5**
CHIPN	**CHIPINGE**	**14.40**	**238**	*i* P	Pn	21 35 42.0	-10
LSZ	**Lusaka**	**17.06**	**260**		**Pn**	**21 36 25.1**	**-2.1**
LSZ	**Lusaka**	**17.06**	**260**	Pn	**Pn**	**21 36 26.2**	**-1.0**
	0.5nm,0.3s,baz=85,slow=9.0,SNR=12						
LSZ				Sn	Sn	21 39 24.1	-13
	0.3nm,0.3s,baz=360,slow=10,SNR=4.5						
LSZ				LR	LR	21 42 31.3	
	comp=Z,65nm,18.8s,baz=212,slow=35						
	3.3nm,0.5s						
MOPA	**Mopani**	**17.13**	**230**	*i* P	**Pn**	**21 36 26.6**	**-1.3**
MOPA	**Mopani**	**17.13**	**230**	*i* P	Pn	21 36 16.9	-11
MUSN	**Musina, Limpop**	**17.66**	**236**	*i* P	**Pn**	**21 36 35.4**	**+0.7**
MATP	**Matopo**	**18.01**	**243**	*i* P	**P**	**21 36 40.7**	**+1.2**
MATP	**Matopo**	**18.01**	**243**	P	**P**	**21 36 39.9**	**+0.3**
	0.4nm,0.3s,baz=60,slow=12,SNR=13						
MATP				S	Sn	21 39 49.3	-11
	1.0nm,0.6s,baz=252,slow=14,SNR=2.4						
	3.3nm,0.7s						
LODK	**Lodwar**	**19.13**	**327**	P	**P**	**21 36 51.9**	**+0.1**
MBAR	**Mbarara**	**19.13**	**308**	P	**P**	**21 36 52.0**	**+0.1**
MBAR	**Mbarara**	**19.13**	**308**	P	**Pn**	**21 36 53.3**	**+0.6**
	0.2nm,0.3s,baz=137,slow=19,SNR=1.1						
MBAR				LR	LR	21 43 39.1	
	comp=Z,100nm,19.9s,baz=106,slow=35						
	1.5nm,0.3s						
POGA	**Pongola**	**19.39**	**220**	P	**P**	**21 36 55.5**	**+0.9**
POGA				IAmb	IAmb	21 36 58.9	
	comp=Z,40nm,1.3s						
LBTB	**Lobatse**	**22.40**	**235**	P	**P**	**21 37 26.5**	**-0.7**
LBTB	**Lobatse**	**22.40**	**235**	*i* P	**P**	**21 37 27.4**	**+0.2**
LBTB	**Lobatse**	**22.40**	**235**	LR	LR	21 46 22.6	
	comp=Z,116nm,18.4s,baz=54,slow=37						
BOSA	**Boshof**	**24.57**	**227**	P	**P**	**21 37 48.5**	**-0.2**
BOSA	**Boshof**	**24.57**	**227**	*i* P	**P**	**21 37 49.2**	**+0.5**
BOSA	**Boshof**	**24.57**	**227**	P	**P**	**21 37 49.1**	**+0.4**
	comp=Z,4.2nm,0.5s,baz=56,slow=9.2,SNR=24						
BOSA				LR	LR	21 46 59.3	
	comp=Z,75nm,19.0s,baz=26,slow=35						
	comp=Z,4.2nm,0.5s						
SUR	**Sutherland**	**29.87**	**225**	P	**P**	**21 38 37.0**	**+0.7**
SUR	**Sutherland**	**29.87**	**225**	LR	LR	21 49 47.8	
	comp=Z,70nm,18.7s,baz=38,slow=35						
EIL	**Elat**	**43.54**	**346**	LR	LR	21 59 12.4	
	comp=Z,36nm,18.1s,baz=238,slow=37						
MMAI	**Mount Meron Ar**	**46.67**	**348**	P	**P**	**21 40 58.3**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=165,slow=12,SNR=2.1						
MMAI				LR	LR	21 59 31.2	
	comp=Z,40nm,20.4s,baz=116,slow=35						
	comp=Z,0.3nm,0.4s						
TORD	**Torodi Ar. Bea**	**50.63**	**299**	P	**P**	**21 41 29.4**	**+1.3**
	comp=Z,1.0nm,0.9s,baz=110,slow=7.4,SNR=3.6						
TORD				LR	LR	22 04 05.5	
	comp=Z,70nm,19.2s,baz=254,slow=38						
	comp=Z,1.0nm,0.9s						
KBL	**Kabul**	**52.16**	**25**	P	**P**	**21 41 40.3**	**+0.9**
KBL				IAmb	IAmb	21 41 48.7	
	comp=Z,4.9nm,1.1s						
BRTR	**Keskin Array B**	**53.51**	**349**	P	**P**	**21 41 49.5**	**+0.3**
BRTR	**Keskin Array B**	**53.51**	**349**	P	**P**	**21 41 50.2**	**+1.0**
	comp=Z,1.1nm,0.7s,baz=170,slow=10,SNR=8.5						
	comp=Z,1.1nm,0.7s						
BR131	**Keskin Array S**	**53.51**	**349**	P	**P**	**21 41 49.7**	**+0.5**
BR131				IAmb	IAmb	21 42 16.8	
	comp=Z,4.6nm,1.1s						
SIMJ	**Simiganj**	**55.75**	**22**	P	**P**	**21 42 06.2**	**+0.7**
CHGR	**Chuyangaron**	**55.81**	**22**	P	**P**	**21 42 06.0**	**+0.2**
MAW	**Mawson**	**55.84**	**172**	P	**P**	**21 42 07.7**	**+2.2**
	comp=Z,2.4nm,1.1s,baz=5.7,slow=10,SNR=2.3						
MAW				LR	LR	22 03 31.2	
	comp=Z,86nm,18.0s,baz=36,slow=33						
	comp=Z,2.4nm,1.1s						
KBZ	**Khabaz**	**56.39**	**358**	P	**P**	**21 42 09.9**	**+0.2**
	comp=Z,2.4nm,0.7s,baz=154,slow=10.0,SNR=3.8						
	comp=Z,2.4nm,0.7s						
DRK	**Karamyk**	**57.53**	**24**	P	**P**	**21 42 19.0**	**+0.6**
DRK				IAmb	IAmb	21 42 33.4	
	comp=Z,3.6nm,1.0s						
RAFF	**Raffo Rosso**	**57.85**	**331**	P	**P**	**21 42 19.0**	**-1.3**
FNA	**Florina**	**57.92**	**338**	P	**P**	**21 42 20.9**	**+0.1**
FNA				IAmb	IAmb	21 42 39.5	

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=Z,6.8nm,1.4s						
KEST	**Kesra**	**59.27**	**326**	LR	LR	22 09 14.1	
	comp=Z,46nm,19.1s,baz=244,slow=37						
BURAR	**Bucovina Array**	**62.92**	**345**	P	**P**	**21 42 55.4**	**+0.6**
BUR08	**Bucovina Ar. S**	**62.95**	**345**	P	**P**	**21 42 55.5**	**+0.4**
BUR08				IAmb	IAmb	21 42 58.8	
	comp=Z,6.9nm,1.4s						
AKTO	**Aktyubinsk**	**63.98**	**9**	LR	LR	22 11 37.7	
	comp=Z,37nm,20.3s,baz=352,slow=37						
AKASG	**Malin Array Be**	**64.92**	**349**	P	**P**	**21 43 07.2**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=165,slow=5.5,SNR=4.3						
AKASG				LR	LR	22 12 46.4	
	comp=Z,20nm,18.5s,baz=62,slow=37						
	comp=Z,0.1nm,0.3s						
SOKA	**Soboth**	**65.33**	**337**	*i* P	**P**	**21 43 11.8**	**+1.1**
	comp=Z,2.9nm,1.0s						
OBKA	**Obir**	**65.37**	**337**	*i* P	**P**	**21 43 11.6**	**+0.6**
	comp=Z,6.9nm,1.4s						
ARSA	**Arzberg**	**65.63**	**338**	*i* P	**P**	**21 43 13.6**	**+1.0**
	comp=Z,3.5nm,0.8s						
RONA	**Rosalia, Austr**	**65.73**	**339**	*i* P	**P**	**21 43 14.3**	**+1.0**
	comp=Z,5.7nm,0.7s						
CIMO	**Cimolais**	**66.04**	**335**	P	**P**	**21 43 15.3**	**+0.1**
CIMO				IAmb	IAmb	21 43 16.4	
	comp=Z,3.0nm,0.8s						
CONA	**Conrad Observa**	**66.08**	**339**	*i* P	**P**	**21 43 16.4**	**+0.9**
	comp=Z,3.5nm,0.9s						
CTI	**Castel Tesino**	**66.15**	**335**	P	**P**	**21 43 16.3**	**+0.3**
CTI				IAmb	IAmb	21 43 17.6	
	comp=Z,3.7nm,0.8s						
KBA	**Koelnbreinsper**	**66.31**	**337**	*i* P	**P**	**21 43 17.6**	**+0.5**
	comp=Z,1.9nm,0.7s						
MOA	**Molln**	**66.59**	**338**	*i* P	**P**	**21 43 19.5**	**+0.7**
	comp=Z,3.7nm,0.8s						
BIOA	**Bad Ischl, Aus**	**66.70**	**337**	*i* P	**P**	**21 43 19.5**	**0.0**
	comp=Z,2.3nm,0.6s						
LESA	**Schwaz/Leotal**	**66.85**	**336**	*i* P	**P**	**21 43 20.6**	**+0.1**
	comp=Z,3.4nm,1.0s						
MORC	**Moravsky Berou**	**67.10**	**341**	P	**P**	**21 43 21.7**	**-0.3**
MORC				IAmb	IAmb	21 43 23.1	
	comp=Z,3.5nm,0.8s						
WTTA	**Wattenberg**	**67.13**	**336**	*i* P	**P**	**21 43 22.6**	**+0.2**
	comp=Z,3.4nm,1.2s						
WATA	**Walderalm**	**67.22**	**336**	*i* P	**P**	**21 43 23.7**	**+0.8**
	comp=Z,4.6nm,1.2s						
SQTA	**Sankt Quirin**	**67.27**	**335**	*i* P	**P**	**21 43 23.4**	**+0.2**
	comp=Z,1.3nm,0.6s						
FETA	**Feichten**	**67.31**	**335**	*i* P	**P**	**21 43 24.1**	**+0.6**
	comp=Z,6.2nm,1.3s						
MOTA	**Moosalm**	**67.41**	**335**	*i* P	**P**	**21 43 24.2**	**+0.1**
	comp=Z,3.0nm,0.9s						
GERES	**GERESS Array B**	**67.63**	**338**	P	**P**	**21 43 24.7**	**-0.7**
GERES	**GERESS Array B**	**67.63**	**338**	P	**P**	**21 43 25.1**	**-0.3**
	comp=Z,1.4nm,0.8s,baz=142,slow=4.6,SNR=8.4						
	comp=Z,1.4nm,0.8s						
RETA	**Reutte**	**67.67**	**335**	*i* P	**P**	**21 43 25.8**	**+0.1**
	comp=Z,2.5nm,1.0s						
DAVA	**Damuels**	**67.87**	**335**	*i* P	**P**	**21 43 27.4**	**+0.3**
	comp=Z,5.6nm,1.3s						
MKAR	**Makanchi Array**	**67.90**	**26**	P	**P**	**21 43 26.8**	**-0.3**
	comp=Z,0.3nm,0.6s,baz=208,slow=6.7,SNR=1.3						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**69.01**	**16**	P	**P**	**21 43 34.3**	**+0.5**
	comp=Z,0.6nm,0.8s,baz=197,slow=4.5,SNR=2.0						
	comp=Z,0.6nm,0.8s						
KURBB	**Kurchatov Arra**	**69.48**	**22**	P	**P**	**21 43 37.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=234,slow=3.0,SNR=1.7						
	comp=Z,0.2nm,0.3s						
ESDC	**Sonseca Array**	**69.68**	**321**	P	**P**	**21 43 38.9**	**+0.6**
	comp=Z,1.3nm,0.9s,baz=132,slow=6.0,SNR=9.9						
	comp=Z,1.3nm,0.9s						
PAB	**San Pablo**	**69.84**	**321**	P	**P**	**21 43 39.1**	**-0.3**
PAB				IAmb	IAmb	21 44 02.3	
	comp=Z,3.6nm,1.2s						
ARU	**Arti**	**69.90**	**8**	LR	LR	22 16 02.8	
	comp=Z,20nm,20.6s,baz=44,slow=38						
KIRV	**Kirov**	**71.28**	**2**	LR	LR	22 16 48.1	
	comp=Z,36nm,19.5s,baz=89,slow=37						
ZALV	**Zalesovo Beam**	**74.47**	**23**	P	**P**	**21 44 06.8**	**+0.2**
	comp=Z,0.3nm,0.4s,baz=212,slow=5.1,SNR=1.6						
	comp=Z,0.3nm,0.4s						
FINES	**FINESS Array B**	**75.68**	**350**	P	**P**	**21 44 13.4**	**-0.1**
	comp=Z,2.2nm,0.8s,baz=153,slow=5.8,SNR=6.0						
	comp=Z,2.0nm,0.8s						
FIA1	**FINESS Array S**	**75.68**	**350**	P	**P**	**21 44 13.3**	**-0.2**
HFS	**Hagfors**	**77.15**	**344**	P	**P**	**21 44 22.2**	**+0.4**
	comp=Z,2.9nm,0.7s,baz=137,slow=9.1,SNR=9.8						
	comp=Z,2.9nm,0.7s						
QSPA	**South Pole Qui**	**77.21**	**180**	P	**P**	**21 44 23.3**	**+0.9**
QSPA				IAmb	IAmb	21 44 25.0	
	comp=Z,4.2n

BANI					IAML			21 33 54.3		
	comp=N,621nm,0.5s									
PRSN	**Puerto Rico Se**	**1.55**	**85**	⇓*e*P		**Pn**		**21 33 27.3**	**+0.7**	
PRSN	**Puerto Rico Se**	**1.55**	**85**	*e*S		**Sn**		**21 33 46.1**	**-0.4**	
PRSN	**Puerto Rico Se**	**1.55**	**85**	Pn		**Pn**		**21 33 26.5**	**-0.1**	
PRSN					IAML			21 34 00.2		
	comp=E,352nm,0.3s									
PRSN					IAML			21 34 00.2		
	comp=N,338nm,0.2s									
PRSN	**Puerto Rico Se**	**1.55**	**85**	⇑*e*Pg		**Pn**		**21 33 27.1**	**+0.6**	
LSP	**Las Mesas**	**1.60**	**87**	⇑*e*P		**Pn**		**21 33 28.0**	**+0.7**	
LSP	**Las Mesas**	**1.60**	**87**	*e*S		**Sb**		**21 33 50.2**	**+1.4**	
LSP	**Las Mesas**	**1.60**	**87**			**Pn**		**21 33 28.0**	**+0.7**	
LSP						**Sb**		**21 33 50.2**	**+1.4**	
AGPR	**Aguadilla, PR**	**1.61**	**76**	⇑*e*P		**Pn**		**21 33 28.1**	**+0.6**	
AGPR	**Aguadilla, PR**	**1.61**	**76**	Pn		**Pn**		**21 33 27.4**	**-0.1**	
AGPR					IAML			21 33 58.1		
	comp=N,259nm,0.4s									
AGPR					IAML			21 34 00.8		
	comp=E,291nm,0.5s									
AGPR	**Aguadilla, PR**	**1.61**	**76**	⇑*e*Pg		**Pn**		**21 33 27.8**	**+0.3**	
AGPR					IAML			21 33 58.0		
	comp=N,242nm,0.6s									
AGPR	**Aguadilla, PR**	**1.61**	**76**	*i* P		**Pn**		**21 33 28.2**	**+0.6**	
AGPR				*e*S		**Sg**		**21 33 52.2**	**+0.8**	
AGPR					IAML			21 33 55.6		
	comp=Z,102nm,0.1s									
NADR	**Nagua**	**1.62**	**321**	⇓*e*Pg		**Pb**		**21 33 28.8**	**-0.3**	
NADR				⇓*e*Sg		**Sb**		**21 33 50.9**	**+1.3**	
NADR					IAML			21 33 53.5		
	comp=N,874nm,0.3s									
MLPR	**Magueyes Islan**	**1.64**	**94**	⇑*e*P		**Pb**		**21 33 29.2**	**-0.3**	
MLPR	**Magueyes Islan**	**1.64**	**94**	*e*S		**Sg**		**21 33 51.9**	**-0.3**	
MLPR	**Magueyes Islan**	**1.64**	**94**			**Pn**		**21 33 26.3**	**-1.6**	
MLPR	**Magueyes Islan**	**1.64**	**94**	*e*Pg		**Pn**		**21 33 28.4**	**+0.5**	
GBPR	**Guanica, Bosqu**	**1.80**	**93**	⇑*e*P		**Pb**		**21 33 31.9**	**-0.2**	
GBPR	**Guanica, Bosqu**	**1.80**	**93**	*e*S		**Sb**		**21 33 56.4**	**+1.8**	
GBPR	**Guanica, Bosqu**	**1.80**	**93**			**Pb**		**21 33 31.9**	**-0.2**	
GBPR						**Sb**		**21 33 56.4**	**+1.8**	
CADR	**Cabrera**	**1.92**	**325**	*e*Sg		**Sb**		**21 33 57.4**	**-0.7**	
AOPR	**Arecibo Observ**	**1.93**	**82**	⇑*e*P		**Pn**		**21 33 31.9**	**0.0**	
AOPR	**Arecibo Observ**	**1.93**	**82**	*e*S		**Sn**		**21 33 55.1**	**-0.8**	
AOPR	**Arecibo Observ**	**1.93**	**82**			**Pn**		**21 33 31.2**	**-0.6**	
AOPR					Sn	**Sb**		**21 33 57.5**	**-0.9**	
AOPR					IAML			21 34 09.7		
	comp=N,446nm,0.3s									
AOPR	**Arecibo Observ**	**1.93**	**82**	⇑*e*Pg		**Pn**		**21 33 31.6**	**-0.3**	
AOPR				⇑*e*Sg		**Sn**		**21 33 55.2**	**-0.8**	
AOPR					IAML			21 34 09.6		
	comp=N,435nm,0.3s									
UUPR	**Utuado, UPR, P**	**1.95**	**85**	⇓*e*P		**Pn**		**21 33 33.2**	**+1.1**	
UUPR	**Utuado, UPR, P**	**1.95**	**85**	*e*S		**Sn**		**21 33 57.3**	**+0.8**	
UUPR	**Utuado, UPR, P**	**1.95**	**85**			**Pn**		**21 33 31.7**	**-0.5**	
UUPR					Sn	**Sb**		**21 33 58.9**	**-0.1**	
OBIP	**Obispado Ponce**	**2.05**	**91**	⇑*e*P		**Pn**		**21 33 33.2**	**-0.4**	
OBIP	**Obispado Ponce**	**2.05**	**91**	*e*S		**Sn**		**21 33 59.2**	**+0.1**	
OBIP	**Obispado Ponce**	**2.05**	**91**			**Pn**		**21 33 32.4**	**-1.2**	
OBIP	**Obispado Ponce**	**2.05**	**91**			**Sn**		**21 33 59.2**	**+0.1**	
CELP	**Cerrillos**	**2.08**	**90**	⇓*e*Pg		**Pn**		**21 33 33.3**	**-0.6**	
CELP	**Cerrillos**	**2.08**	**90**	*e*S		**Sb**		**21 34 01.2**	**-1.5**	
CELP	**Cerrillos**	**2.08**	**90**			**Pn**		**21 33 32.9**	**-1.0**	
CELP					Sn	**Sn**		**21 34 00.3**	**+0.6**	
CELP					IAML			21 34 09.1		
	comp=E,146nm,0.4s									
CELP					IAML			21 34 12.9		
	comp=N,168nm,0.5s									
CELP	**Cerrillos**	**2.08**	**90**	⇑*e*Pg		**Pn**		**21 33 33.2**	**-0.8**	
EMPR	**Esperanza - Ma**	**2.16**	**79**	⇑*e*P		**Pn**		**21 33 36.2**	**+1.2**	
EMPR	**Esperanza - Ma**	**2.16**	**79**			**Pn**		**21 33 34.9**	**-0.1**	
LOBA2	**Hotel Casa Bon**	**2.21**	**270**	⇑*e*P		**Pn**		**21 33 34.1**	**-1.7**	
SC01	**Santiago de lo**	**2.28**	**306**			**Pn**		**21 33 37.0**	**+0.2**	
SC01	**Santiago de lo**	**2.28**	**306**	⇓*e*Pg		**Pb**		**21 33 39.9**	**-0.6**	
SC01				⇓*e*Sg		**Sn**		**21 34 05.7**	**+1.0**	
SC01	**Santiago de lo**	**2.28**	**306**	*i* P		**Pn**		**21 33 38.5**	**+1.7**	
SC01				*e*S		**Sn**		**21 34 05.8**	**+1.0**	
SC01					IAML			21 34 14.6		
	comp=Z,140nm,0.5s									
SODR	**Sosua Marina B**	**2.38**	**314**	⇓*e*Sg		**Sb**		**21 34 12.4**	**+1.1**	
SODR					IAML			21 34 25.0		
	comp=N,341nm,0.8s									
PODR	**Polo**	**2.39**	**272**	*e*Pg		**Pn**		**21 33 37.8**	**-0.6**	
PODR					IAML			21 34 42.7		
	comp=N,60nm,0.9s									
IGPR	**InterUniversit**	**2.53**	**92**	⇑*e*P		**Pn**		**21 33 40.0**	**-0.1**	
IGPR	**InterUniversit**	**2.53**	**92**	*e*S		**Sn**		**21 34 11.4**	**+0.6**	
IGPR	**InterUniversit**	**2.53**	**92**			**Pn**		**21 33 38.5**	**-1.7**	
IGPR					IAML			21 34 21.8		
	comp=E,150nm,0.3s									
IGPR					IAML			21 34 23.8		
	comp=N,176nm,0.2s									
SDDR	**Presa de Saban**	**2.55**	**291**			**Pn**		**21 33 42.1**	**+1.7**	
SDDR					IAML			21 34 17.9		
	comp=N,217nm,0.6s									
SDDR	**Presa de Saban**	**2.55**	**291**	⇑*e*Pg		**Pb**		**21 33 43.5**	**-1.5**	
SDDR					IAML			21 34 23.7		
	comp=N,174nm,0.5s									
GCPR	**Guaynabo City**	**2.56**	**85**	⇓*e*P		**Pn**		**21 33 40.3**	**-0.2**	
GCPR	**Guaynabo City**	**2.56**	**85**	*e*S		**Sn**		**21 34 10.5**	**-1.0**	
GCPR	**Guaynabo City**	**2.56**	**85**			**Pn**		**21 33 39.6**	**-0.9**	
GCPR					Sn	**Sn**		**21 34 09.8**	**-1.7**	
MADR	**Mao Valverde**	**2.65**	**304**	⇑*i*				21 38 07.8		
HUMP	**Col San Antoni**	**2.77**	**89**	⇓*e*P		**Pn**		**21 33 43.3**	**-0.1**	
HUMP	**Col San Antoni**	**2.77**	**89**	*e*S		**Sn**		**21 34 17.4**	**+0.6**	
HUMP	**Col San Antoni**	**2.77**	**89**			**Pn**		**21 33 42.5**	**-1.0**	
HUMP					IAML			21 34 22.1		
	comp=E,203nm,0.2s									
HUMP					IAML			21 34 22.9		
	comp=N,157nm,0.2s									
HUMP	**Col San Antoni**	**2.77**	**89**			**Sn**		**21 34 17.4**	**+0.6**	

JMA ***26*** *22:08:27.8±0.2,25.1N±0.5×123.6E±0.2, h11km±3km, MV2.9/11, NW OFF ISHIGAKIJIMA IS*
IDC ***26*** *22:08:58.6±8.3,21.08N×124.28E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=575.5km s-min=29.6km az=62.0*

ISC 26 22:08:27.6±2.2, 25.12N±0.10×123.60E±0.04, h9km±11km, n11, σ0 s40/19, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.79**	**171**	P	**Pg**	**22 08 43.0**	**+0.1**
IRIF				S	**Sb**	**22 08 53.9**	**-0.4**
JISG	**Ishigakijimahi**	**0.83**	**129**	P	**Pg**	**22 08 43.9**	**+0.2**
JISG				S	**Sb**	**22 08 55.6**	**-0.1**
YOJ	**Yonaguni jima**	**0.85**	**219**	P	**Pg**	**22 08 43.9**	**0.0**
YOJ				S	**Sg**	**22 08 54.9**	**0.0**
JYNG	**Yonagunijimaku**	**0.89**	**222**	P	**Pg**	**22 08 44.7**	**-0.1**
JYNG				S	**Sg**	**22 08 56.6**	**+0.2**
JIJ	**Ishigaki jima**	**0.90**	**147**	*e*P	**Pg**	**22 08 44.7**	**-0.2**
JIJ				*e*S	**Sg**	**22 08 56.9**	**+0.2**
JKRS	**Kuro-shima**	**0.95**	**157**	*e*P	**Pg**	**22 08 46.1**	**+0.1**
JKRS				*e*S	**Sg**	**22 08 58.5**	**+0.1**
HATJ	**Hateruma jima**	**1.07**	**170**	*e*P	**Pg**	**22 08 47.9**	**-0.4**
HATJ				S	**Sb**	**22 09 02.9**	**+0.4**
JTJ	**Tarama**	**1.11**	**115**	*e*P	**Pb**	**22 08 48.8**	**-0.2**
JTJ				S	**Sg**	**22 09 03.1**	**-0.1**
JIKM	**Ikemajima**	**1.51**	**97**	*e*S	**Sn**	**22 09 14.6**	**0.0**
WRA	**Warramunga Arr**	**45.99**	**166**	P	**P**	**22 16 50.7**	**-0.8**
	0.4nm,0.7s,baz=348,slow=8.2,SNR=2.2						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**49.51**	**168**	P	**P**	**22 17 19.8**	**+1.0**
	0.2nm,0.5s,baz=351,slow=7.5,SNR=4.3						
	0.2nm,0.5s						

IDC 26 22:32:46.9±2.6, 3.72S×152.55E, h0km, mb3.4/2, mbtmp3.4/2, Error ellipse: s-maj=129.0km s-min=45.0km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.99**	**226**	P	P	22 38 04.0	+0.5
	0.5nm,0.5s,baz=52,slow=9.8,SNR=13						
WRA				PcP	PcP	22 41 44.6	-1.2
	0.2nm,0.5s,baz=51,slow=2.2,SNR=1.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**26.79**	**221**	P	P	22 38 29.6	+0.7
	0.2nm,0.3s,baz=53,slow=9.5,SNR=1.6						
	0.2nm,0.3s						
TORD	**Torodi Ar. Bea**	**149.72**	**290**	PKPbc	PKPbc	22 52 39.1	-0.8
	0.6nm,0.8s,baz=80,slow=2.3,SNR=6.8						

NEIC ***26*** *22:56:53.9±1.6, 36.70N±0.04×121.26W±0.02, h5km±2km, Error ellipse: s-maj=6.1km s-min=3.3km az=347.0*

NCEDC 26 22:56:54.5±1.5, 36.66N±0.04×121.28W±0.03, h2km±6km, ML3.1/31, ML3.1/66(NEIC), Error ellipse: s-maj=5.9km s-min=3.1km az=161.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJOM	**Mount Johnson**	**0.04**	**221**		Pg	22 56 56.9	+1.5
BVL	**Bear Valley**	**0.11**	**140**		Pg	22 56 57.1	+0.4
BJCM	**Johnson Can.**	**0.14**	**219**		Pg	22 56 57.5	+0.1
SAO	**San Andreas Ge**	**0.17**	**307**		Pg	22 56 58.0	+0.2
BPIM	**Pinnacles**	**0.19**	**152**		Pg	22 56 58.4	+0.2
BSRM	**Salinas Radio**	**0.19**	**272**		Pg	22 56 58.4	+0.2
FRP	**Fremont Peak**	**0.19**	**299**		Pg	22 56 58.4	+0.1
BBGB	**Big Mountain B**	**0.21**	**113**		Pg	22 56 59.8	+1.2
HLTM	**Lone Tree Road**	**0.23**	**354**		Pg	22 57 00.8	+1.9
HSFM	**Saint Francis**	**0.23**	**311**		Pg	22 56 59.6	+0.6
BSGM	**Shirttail Gulc**	**0.25**	**175**		Pg	22 56 59.3	0.0
HBTM	**San Juan Bauti**	**0.29**	**311**		Pg	22 57 00.6	+0.5
BPCNC	**Pine Canyon**	**0.29**	**253**		Pg	22 57 00.6	+0.4
BSMM	**Soledad Missio**	**0.30**	**204**		Pg	22 57 00.7	+0.4
LRV	**Little Rabbit**	**0.32**	**138**		Pg	22 57 01.3	+0.7
OCR	**O'Connell Ranc**	**0.32**	**324**		Pg	22 57 00.7	+0.1
ANZ	**Anzar Road**	**0.34**	**312**		Pg	22 57 01.2	+0.2
HTUM	**Tustin Road**	**0.34**	**300**		Pg	22 57 01.1	+0.1
HAST	**Hastings Reser**	**0.35**	**219**		Pg	22 57 01.4	+0.1
HERM	**Elkhorn Road**	**0.37**	**292**		Pg	22 57 02.1	+0.4
HCAM	**Canada Road**	**0.40**	**336**		Pb	22 57 03.5	-0.8
HCBM	**Chamberlain**	**0.41**	**311**		Pb	22 57 03.5	-1.0
HCOM	**Corn Cob Canyo**	**0.41**	**303**		Pg	22 57 02.8	+0.3
BPRM	**Ponciano Ridge**	**0.44**	**235**		Pg	22 57 03.2	+0.2
LRC	**Lone Oak Road**	**0.46**	**155**		Pg	22 57 03.5	+0.2
HLPM	**Lions Peak**	**0.47**	**323**		Pg	22 57 04.3	+0.7
JELB	**Ellicott, Sant**	**0.52**	**301**		Pg	22 57 04.6	+0.2
HMOM	**Monterey**	**0.52**	**264**		Pg	22 57 04.6	+0.2
BAPM	**Anderson Peak**	**0.57**	**211**		Pg	22 57 05.5	+0.1
CADM	**Anderson Res.**	**0.57**	**331**		Pg	22 57 06.3	+0.8
PCCM	**Crazy Canyon**	**0.58**	**171**		Pg	22 57 05.9	+0.3
BPOM	**Post Ranch**	**0.58**	**223**		Pg	22 57 05.7	0.0
PMPB	**Monarch Peak**	**0.59**	**139**		Pg	22 57 06.1	+0.4
PMPB				Sg	Sg	22 57 14.4	+1.0
PMPB				IAML		22 57 20.6	
	comp=E,2µm,0.7s						
JLAB	**Laurel Hill**	**0.61**	**324**		Pg	22 57 07.1	+0.8
HULI	**Fort Hunter Li**	**0.64**	**177**		Pg	22 57 06.8	+0.1
CCOB	**Coe Ranch Numb**	**0.68**	**332**		Pb	22 57 08.8	-0.2
PJUM	**Juniper Ridge**	**0.70**	**128**		Pg	22 57 08.6	+0.7
PSAM	**San Ardo**	**0.71**	**153**		Pg	22 57 08.0	0.0
PPTM	**Peach Tree Val**	**0.71**	**141**		Pg	22 57 08.1	0.0
ARN	**Arnold Ranch**	**0.72**	**344**		Pb	22 57 09.2	-0.5
MHC	**Mount Hamilton**	**0.74**	**337**		Pb	22 57 09.6	-0.6
PAPM	**Alder Peak**	**0.75**	**185**		Pg	22 57 09.0	+0.1
JJOM	**Saint Joseph's**	**0.78**	**314**		Pg	22 57 09.3	-0.2
PDRM	**Domengine Ranc**	**0.80**	**114**		Pb	22 57 10.9	-0.2
PSMM	**Smith Mountain**	**0.81**	**137**		Pg	22 57 10.4	+0.4
CMMM	**Mount Mocho**	**0.81**	**348**		Pb	22 57 11.1	-0.4
MTOS	**Mt Oso, Westle**	**0.84**	**357**		Pb	22 57 11.9	0.0
PHSB	**Hesperia Broad**	**0.85**	**168**		Pg	22 57 10.7	-0.1
CMLM	**Mount Lewis**	**0.87**	**340**		Pb	22 57 12.0	-0.4
PHPM	**Hope Ranch**	**0.87**	**141**		Pg	22 57 10.8	-0.3
PWMM	**Westland Maint**	**0.89**	**104**		Pb	22 57 13.0	+0.4
CALM	**Calaveras Res.**	**0.89**	**332**		Pg	22 57 12.0	+0.4
PANM	**San Antonio Re**	**0.93**	**161**		Pg	22 57 12.1	-0.2
PKD	**Bear Valley Ra**	**0.93**	**140**		Pg	22 57 11.9	-0.4
JSJM	**St Joseph**	**0.94**	**316**		Pg	22 57 12.6	+0.1
PVCM	**Vineyard Canyo**	**0.95**	**141**		Pg	22 57 12.4	-0.3
PPO	**Portuguese Can**	**0.96**	**146**		Pg	22 57 12.9	0.0
PSTM	**Stockdale Moun**	**0.96**	**139**		Pg	22 57 12.5	-0.4
CSTL	**Corral Hollow**	**0.99**	**350**		Pb	22 57 14.4	0.0
MYLM	**Yosemite Lake**	**1.00**	**43**		Pg	22 57 14.0	+0.4
JFP	**Foothills Park**	**1.01**	**314**		Pg	22 57 13.3	-0.6
JPSM		**1.01**	**302**		Pg	22 57 13.4	-0.5
JSFB	**Stanford Teles**	**1.03**	**316**		Pg	22 57 13.8	-0.5
WENL	**Wente Vineyard**	**1.03**	**338**		Pg	22 57 14.7	+0.4
PWKM	**Work Ranch**	**1.05**	**143**		Pg	22 57 14.3	-0.3
CTM	**Castle Mountai**	**1.05**	**133**		Pb	22 57 15.5	0.0
PHFM	**Heflinger Ranc**	**1.05**	**137**		Pg	22 57 14.4	-0.3
CVLM	**Vallecito**	**1.06**	**335**		Pg	22 57 15.0	+0.1
JRSC	**Jasper Ridge**	**1.07**	**314**		Pg	22 57 14.3	-0.7
RAMR	**Ramage Ranch**	**1.07**	**162**		Pg	22 57 14.8	-0.3
CBZL	**Buffer Zone**	**1.09**	**341**		Pg	22 57 15.6	+0.2
BGH	**Bear Gulch**	**1.09**	**309**		Pg	22 57 15.0	-0.4
PHAM	**Harlan Ranch**	**1.09**	**139**		Pg	22 57 15.4	+0.1
CNIC	**Niles Canyon**	**1.09**	**330**		Pg	22 57 14.9	-0.5
GHC	**Gold Hill**	**1.12**	**138**		Pg	22 57 15.6	-0.3
PSRM	**Scobie Ranch**	**1.14**	**134**		Pg	22 57 15.8	-0.5
CDOM	**Doolan Road**	**1.16**	**338**		Pn	22 57 18.0	+0.3
PKLM	**Kerr Lake**	**1.17**	**139**		Pg	22 57 16.1	-0.7
PSNM	**Stone Corral**	**1.18**	**137**		Pg	22 57 16.1	-1.0
CBSNC	**Byron Hot Spri**	**1.19**	**346**		Pg	22 57 17.1	-0.3
TCAS	**Cass Winery, P**	**1.20**	**151**		Pg	22 57 16.5	-1.0
TCHL	**Shandon**	**1.20**	**144**		Pg	22 57 17.1	-0.5
PMRM	**Maxey Ranch**	**1.21**	**136**		Pg	22 57 17.3	-0.4
ARDC	**Alexander Ranc**	**1.22**	**168**		Pg	22 57 17.2	-0.7
JCHM	**Cahill Ridge**	**1.23**	**315**		Pg	22 57 16.4	-1.6
JCPM	**Coyote Point**	**1.25**	**318**		Pg	22 57 16.6	-1.8
THIS	**South End of C**	**1.26**	**137**		Pg	22 57 18.3	-0.4
TRAM	**Private Proper**	**1.28**	**140**		Pg	22 57 17.7	-1.3
SAC	**San Andreas**	**1.29**	**316**		Pg	22 57 17.9	-1.5
FRI	**Friant**	**1.30**	**75**		Pg	22 57 18.6	-0.9
BGC	**Bolinger Road**	**1.31**	**332**		Pg	22 57 18.4	-1.3
TSCN	**Private Proper**	**1.34**	**146**		Pg	22 57 19.5	-0.8
PTAM	**Tassajara Cree**	**1.35**	**160**		Pg	22 57 18.2	-2.2
LSDC	**Los Osos Digit**	**1.41**	**165**		Pn	22 57 20.7	-0.4
EFD	**Emergency Oper**	**1.41**	**161**		Pn	22 57 19.6	-1.5
BKS	**Berkeley--Byer**	**1.43**	**328**		Pn	22 57 19.6	-1.9
CVPM	**Vollmer Peak**	**1.44**	**329**		Pn	22 57 19.6	-1.9
TRAY	**Twisselman Ran**	**1.45**	**140**		Pn	22 57 20.3	-1.4
PBPM	**Bitterwater Pu**	**1.45**	**138**		Pn	22 57 20.6	-1.2
DCD	**Diablo Creek**	**1.49**	**166**		Pn	22 57 20.4	-1.9
CPIM	**Pinole Ridge**	**1.52**	**331**		Pn	22 57 21.1	-1.7
CMB	**Columbia Colle**	**1.54**	**27**		Pn	22 57 22.4	-0.6
SNT	**Sears Point**	**1.78**	**329**		Pn	22 57 24.6	-1.8
MRHM	**Rocky Hill**	**1.81**	**101**		Pn	22 57 25.9	-0.8
CRGC	**Crocker Grade**	**1.90**	**138**		Pn	22 57 27.3	-0.7
CVS	**Carmenet Viney**	**1.93**	**331**		Pn	22 57 26.1	-2.2
VES	**Vestal, Richgr**	**1.95**	**114**		Pn	22 57 27.7	-0.9
MCCM	**Marconi Confer**	**1.96**	**320**	Pn	Pn	22 57 26.2	-2.4
MCCM				IAML		22 58 06.9	
	comp=N,113nm,3.0s						
MCCM				IAML		22 58 12.3	
	comp=E,142nm,1.1s						
MRDM	**Red Cones**	**2.01**	**62**		Pn	22 57 30.6	+1.0
MDPB	**Devils Postpil**	**2.01**	**60**		Pn	22 57 29.7	+0.1
MDPB				IAML		22 57 59.3	
	comp=E,156nm,0.4s						
MINS	**Minaret Summit**	**2.03**	**60**		Pn	22 57 30.8	+0.8
MMPM	**Mammoth Pass**	**2.03**	**62**		Pn	22 57 31.2	+1.1
MDYM	**Dry Creek**	**2.07**	**61**		Pb	22 57 32.0	-0.9
MDCM	**Deadman Creek**	**2.07**	**59**		Pn	22 57 31.5	+0.9
SPG2	**Springville 2**	**2.08**	**102**		Pn	22 57 29.6	-0.8
MMLB	**Mammoth Lakes**	**2.09**	**61**		Pb	22 57 33.2	-0.1
MLCM	**Laurel Creek C**	**2.11**	**63**		Pb	22 57 32.5	-1.2
MEMM	**East Mammoth H**	**2.12**	**61**		Pb	22 57 33.4	-0.4
NBPM	**Berryessa Peak**	**2.13**	**340**		Pn	22 57 30.3	-0.8
PKM	**Mcpherson Peak**	**2.13**	**146**		Pn	22 57 29.9	-1.4
MCVM	**Convict Lake**	**2.17**	**64**		Pn	22 57 33.1	+1.3
SCHCA	**Scheelite**	**2.19**	**71**		Pn	22 57 33.5	+1.4
RCCR	**Rock Creek Can**	**2.20**	**67**		Pn	22 57 33.0	+0.6
MTUM	**Tungsten Hills**	**2.28**	**72**		Pb	22 57 34.9	-1.6
BCW	**Bitter Crk WRg**	**2.29**	**138**		Pn	22 57 33.4	0.0
BCW	**Bitter Crk WRg**	**2.29**	**138**	IAML		22 58 20.4	
	comp=N,161nm,0.7s						
BCW				IAML		22 58 26.3	
	comp=E,164nm,0.7s						
AFDM	**Forest Hills D**	**2.30**	**6**	Pn	Pn	22 57 32.8	-0.6
NJQ	**Nojoqui County**	**2.30**	**157**		Pn	22 57 32.8	-0.7
BHPR	**Bishop**	**2.33**	**73**		Pn	22 57 35.6	+1.6
WAKR	**Walker**	**2.35**	**38**		Pn	22 57 34.5	+0.2
WAKR				IAML		22 58 14.5	
	comp=N,116nm,0.8s						
WAKR				IAML		22 58 23.3	
	comp=E,128nm,0.8s						
CASR	**Casa Diablo Mo**	**2.36**	**66**		Pb	22 57 36.8	-1.1
GDXM	**Geysers**	**2.46**	**331**		Pn	22 57 35.4	-0.3
EMB	**Emerald Bay**	**2.49**	**22**		Pn	22 57 35.8	-0.5
EMB				IAML		22 58 23.3	
	comp=E,102nm,0.8s						
MLNR	**Milner Canyon**	**2.52**	**67**		Pb	22 57 39.2	-1.4
TEJ	**El Tejon**	**2.54**	**123**		Pn	22 57 36.6	-0.2
SUTB	**Sutter Butte**	**2.60**	**351**		Pn	22 57 35.9	-1.6
LHV	**Little Huntoon**	**2.72**	**53**		Pn	22 57 38.9	-0.3
LHV				IAML		22 58 33.8	
	comp=N,109nm,0.9s						
PNTR	**Pine Nut**	**2.77**	**28**	Pn	Pn	22 57 39.7	-0.3
OWYM	**Wyandotte**	**2.79**	**357**		Pn	22 57 40.6	+0.5
CGO	**Cerro Gordo**	**2.80**	**91**		Pn	22 57 42.3	+1.7
MPK	**Martis Peak**	**2.81**	**20**		Pn	22 57 41.2	+0.5
YERR	**Yerington**	**2.83**	**34**		Pn	22 57 41.3	+0.4
YERR				IAML		22 58 37.5	
	comp=N,68nm,0.6s						
ORV	**Oroville**	**2.90**	**357**	Pn	Pn	22 57 41.0	-0.6
RYN	**Ryan**	**2.94**	**47**		Pn	22 57 42.9	+0.5
RYN				IAML		22 58 31.4	
	comp=E,67nm,0.5s						
RYN				IAML		22 58 37.4	
	comp=N,56nm,0.7s						
CCAC	**Calif City Air**	**3.05**	**119**		Pn	22 57 43.5	-0.3
CCAC				IAML		22 58 45.5	
	comp=E,80nm,1.0s						
PEAR	**Peavine Mounta**	**3.12**	**19**		Pn	22 57 44.9	0.0
GRAC	**Grapevine Rang**	**3.16**	**83**		Pn	22 57 46.4	+1.1
GRAC				IAML		22 58 45.0	
	comp=E,78nm,0.7s						
GRAC				IAML		22 58 45.6	
	comp=N,66nm,0.9s						
GMN	**Gold Mountain**	**3.28**	**78**		Pn	22 57 47.4	+0.3
GMN				IAML		22 58 45.6	
	comp=E,23nm,1.2s						
GMN				IAML		22 58 55.5	
	comp=N,34nm,0.7s						
BEKR	**Beckworth**	**3.28**	**12**		Pn	22 57 47.7	+0.6
PAHR	**Pah Rah Range**	**3.39**	**26**		Pn	22 57 48.5	0.0
PAHR				IAML		22 58 48.8	
	comp=E,32nm,1.7s						
KVN	**Kaiserville**	**3.47**	**46**		Pn	22 57 50.2	+0.5
KVN				IAML		22 58 49.5	
	comp=N,33nm,0.7s						
KVN				IAML		22 58 51.8	
	comp=E,26nm,1.7s						
TPH	**Tonopah**	**3.53**	**65**		Pn	22 57 50.8	+0.3
WCT	**Wildcat Mounta**	**3.74**	**87**	Pn	Pn	22 57 53.6	+0.3
WCT				IAML		22 58 59.5	
	comp=N,27nm,0.7s						
WCT				IAML		22 59 13.4	
	comp=E,22nm,0.9s						
GWY	**Greenwater Val**	**3.75**	**96**	Pn	Pn	22 57 54.1	+

comp=Z,15nm,1.1s
GSI Gunungsitoli 21.75 172 P **P** **23 47 05.9 -1.3**
GSI IAmb IAmb 23 47 18.0
comp=Z,43nm,1.3s
BTO Baotou 21.88 33 *eP* **P** **23 47 10.3 +1.9**
BTO pmax pmax
comp=Z,18nm,1.0s
BTO pmax pmax
comp=Z,180nm,5.3s
KSH Kashi 22.81 321 P **P** **23 47 20.5 +2.4**
KSH sP sP 23 47 54.5 +2.3
KSH pmax pmax
comp=Z,3.0nm,0.9s
HHC Hu-ho-hao-te 22.86 35 *eP* **P** **23 47 18.0 -0.4**
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,81nm,4.5s
NJ2 Nanjing 23.33 62 *eP* **P** **23 47 23.0 +0.2**
NJ2 pP **pP** **23 47 41.8 -2.3**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
MKAR Makanchi Array 25.73 340 P **P** **23 47 46.2 +1.7**
comp=Z,1.5nm,0.6s,baz=149,slow=9.2,SNR=17
MKAR PcP **PcP** **23 51 12.3 +0.4**
comp=Z,0.5nm,0.9s,baz=108,slow=1.6,SNR=1.7
comp=Z,1.5nm,0.6s
KURBB Kurchatov Arra 30.29 340 P **P** **23 48 26.3 +1.3**
comp=Z,0.5nm,0.3s,baz=149,slow=8.6,SNR=7.1
KURBB PcP **PcP** **23 51 23.2 +0.3**
comp=Z,0.4nm,0.4s,baz=155,slow=2.1,SNR=6.0
KURBB ScP **ScP** **23 54 56.0 +0.2**
comp=Z,0.4nm,0.2s,baz=158,slow=2.3,SNR=6.4
comp=Z,0.5nm,0.3s
KURK Kurchatov 30.34 340 P **P** **23 48 25.7 +0.3**
ZAA0 Zalesovo Array 31.78 349 P **P** **23 48 38.0 -0.1**
ZALV Zalesovo Beam 31.78 349 P **P** **23 48 39.1 +1.0**
ZALV Zalesovo Beam 31.78 349 P **P** **23 48 39.9 +1.8**
comp=Z,1.7nm,0.5s,baz=169,slow=8.9,SNR=8.2
comp=Z,1.7nm,0.5s
KSRS Korea Array 32.05 56 P **P** **23 48 40.7 0.0**
comp=Z,0.6nm,0.3s,baz=262,slow=9.5,SNR=5.6
comp=Z,0.6nm,0.3s
JNU Nakatsue 33.47 64 P **P** **23 48 52.7 -0.5**
BVAR Borovoye Array 35.18 335 P **P** **23 49 08.6 +1.0**
comp=Z,0.5nm,0.3s,baz=125,slow=10,SNR=4.6
comp=Z,0.5nm,0.3s
USRK Ussuriysk Ar. 37.24 46 P **P** **23 49 24.2 -1.2**
comp=Z,0.9nm,0.5s,baz=257,slow=12,SNR=2.6
comp=Z,0.9nm,0.5s
MAJO Matsushiro 39.90 60 P **P** **23 49 47.4 -0.3**
MAJO IAmb IAmb 23 49 49.3
comp=Z,4.3nm,0.6s
MJAR Matsushiro Arr 39.90 60 P **P** **23 49 48.6 +0.9**
comp=Z,1.6nm,0.7s,baz=272,slow=10.0,SNR=10
comp=Z,1.6nm,0.7s
ARU Arti 42.52 331 P **P** **23 50 10.0 +1.3**
ARU IAmb IAmb 23 50 12.8
comp=Z,2.9nm,0.4s
ERM Erimo 44.52 53 P **P** **23 50 25.8 +0.7**
GNI Garni 45.15 304 P **P** **23 50 29.0 -1.4**
TIXI Tiksi 52.45 13 P **P** **23 51 24.5 -0.9**
BRTR Keskin Array B 53.65 303 P **P** **23 51 34.8 -0.1**
comp=Z,0.3nm,0.6s,baz=102,slow=8.6,SNR=2.3
comp=Z,0.3nm,0.6s
AKASG Malin Array Be 57.02 316 P **P** **23 51 58.6 -0.1**
comp=Z,0.3nm,0.3s,baz=76,slow=7.4,SNR=3.3
comp=Z,0.3nm,0.3s
WB0 Warramunga Arr 57.60 134 P **P** **23 52 03.4 +0.2**
WB0 IAmb IAmb 23 52 11.8
comp=Z,10.0nm,1.4s
WRA Warramunga Arr 57.69 135 P **P** **23 52 04.1 +0.3**
comp=Z,0.5nm,0.5s,baz=322,slow=7.4,SNR=31
comp=Z,0.5nm,0.5s
WR0 Warramunga Arr 57.83 134 P **P** **23 52 04.7 -0.1**
WR0 IAmb IAmb 23 52 30.4
comp=Z,6.2nm,1.2s
MLR Muntele Rosu 59.17 310 P **P** **23 52 15.6 +1.6**
MLR IAmb IAmb 23 52 43.3
comp=Z,4.5nm,1.0s
BUR08 Bucovina Ar. S 59.62 313 P **P** **23 52 17.8 +0.8**
BUR08 IAmb IAmb 23 52 44.2
comp=Z,4.3nm,1.2s
FIA1 FINESS Array S 59.80 329 P **P** **23 52 18.0 +0.2**
FINES FINESS Array B 59.80 329 P **P** **23 52 18.1 +0.3**
FINES FINESS Array B 59.80 329 P **P** **23 52 18.6 +0.7**
comp=Z,2.5nm,0.9s,baz=91,slow=6.0,SNR=9.7
comp=Z,2.5nm,0.9s
AS31 Alice Springs 60.11 138 P **P** **23 52 21.2 +0.7**
ASAR Alice Springs 60.11 138 P **P** **23 52 21.2 +0.7**
ASAR Alice Springs 60.11 138 P **P** **23 52 20.8 +0.3**
comp=Z,0.7nm,0.5s,baz=322,slow=7.0,SNR=20
comp=Z,0.7nm,0.5s
KWP Kalwaria Pacla 61.20 315 P **P** **23 52 29.2 +1.6**
KWP IAmb IAmb 23 52 45.6
comp=Z,8.7nm,1.2s
ARCES ARCESS Array B 61.35 338 P **P** **23 52 29.6 +1.3**
ARCES ARCESS Array B 61.35 338 P **P** **23 52 29.3 +1.0**
comp=Z,5.2nm,1.0s,baz=103,slow=7.3,SNR=5.4
comp=Z,5.2nm,1.0s
PUK Puka 63.85 307 P **P** **23 52 45.3 -0.2**
PUK IAmb IAmb 23 52 59.6
comp=Z,7.2nm,1.2s
SPB2 Spitsbergen Ar 65.23 347 P **P** **23 52 54.4 +0.6**
SPITS Spitsbergen Ar 65.24 347 P **P** **23 52 54.5 +0.7**
comp=Z,3.2nm,0.5s,baz=99,slow=10,SNR=7.6
comp=Z,3.2nm,0.5s
HFS Hagfors 65.83 327 P **P** **23 52 58.3 +0.4**
comp=Z,2.4nm,0.5s,baz=100,slow=6.2,SNR=17
comp=Z,2.4nm,0.5s
NC405 NORSAR Array S 66.72 328 P **P** **23 53 04.1 +0.6**
NC405 IAmb IAmb 23 53 11.8
comp=Z,5.0nm,0.9s
NB2 NORSAR Subarra 66.97 328 P **P** **23 53 04.9 -0.3**
comp=Z,5.0nm,1.1s,baz=89,slow=5.6
NOA NORSAR Array B 66.97 328 P **P** **23 53 05.3 +0.1**
comp=Z,1.3nm,0.8s,baz=86,slow=6.0,SNR=7.2
comp=Z,1.3nm,0.8s
GERES GERESS Array B 67.15 315 P **P** **23 53 07.3 +0.6**
comp=Z,0.6nm,0.7s,baz=81,slow=6.1,SNR=2.3
comp=Z,0.6nm,0.7s
CLL Collm 67.21 318 *eP* **P** **23 53 08.0 +1.2**
CLL *ePP* **PP** **23 55 37.0 +1.1**
D19K Kuna River 74.95 21 P **P** **23 53 53.0 -0.2**
D19K IAmb IAmb 23 53 54.4
comp=Z,16nm,1.5s
B21K Ikpikpuk River 75.59 20 P **P** **23 53 56.8 0.0**
B21K IAmb IAmb 23 54 00.4
comp=Z,7.7nm,1.2s
B22K Teshekpuk Lake 75.62 19 P **P** **23 53 57.0 0.0**
B22K IAmb IAmb 23 54 11.1
comp=Z,16nm,1.5s
H18K Honhosa River 76.26 25 P **P** **23 54 00.3 -0.4**
H18K IAmb IAmb 23 54 26.6
comp=Z,6.2nm,1.3s
C23K Itkillik River 76.70 19 P **P** **23 54 02.8 -0.3**
ILAR Eielson Array 80.68 22 P **P** **23 54 25.4 +0.3**
comp=Z,0.2nm,0.6s,baz=314,slow=5.1,SNR=2.7
comp=Z,0.2nm,0.6s
BOSA Boshof 84.18 236 P **P** **23 54 44.3 +0.3**
comp=Z,1.0nm,0.6s,baz=56,slow=2.5,SNR=4.0
comp=Z,1.0nm,0.6s

IDC ***26*** *23:46:55.0±0.8,56.°07S×26.°68W, h0km, mb3.9/5, mbtmp3.8/6, ML3.5/1, Error ellipse: s-maj=36.7km s-min=20.0km az=75.0*
NEIC ***26*** *23:47:00.6±1.0,56.°14S±0.°07×26.°8W±0.°2, h35km±2km, mb4.3/15, Error ellipse: s-maj=19.1km s-min=9.4km az=115.0*
ISC 26 23:47:00.0±0.7,56.°1S±0.°1×26.°7W±0.°1, h35km, n28, σ0s60/29, mb4.2/11, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**5.90**	**284**	Pn	**Pn**	**23 48 25.5**	**+0.8**
SNAA	**Sanae**	**18.60**	**156**		**Pn**	**23 51 14.2**	**-0.2**
SNAA	**Sanae**	**18.60**	**156**	P	**Pn**	**23 51 14.6**	**+0.2**
	0.2nm,0.3s,baz=302,slow=12,SNR=10						
	0.5nm,0.4s						
BELA	**Belgrano 2**	**22.06**	**184**	P	**P**	**23 51 51.0**	**-0.4**
PLTB	**Pedras Altas**	**30.73**	**311**	P	**P**	**23 53 11.4**	**-0.2**
PLTB				IAmb	IAmb	23 53 13.6	
	comp=Z,6.0nm,0.8s						
QSPA	**South Pole Qui**	**34.17**	**180**	P	**P**	**23 53 41.7**	**+0.2**
QSPA				IAmb	IAmb	23 53 43.8	
	comp=Z,7.9nm,1.4s						
QSPA	**South Pole Qui**	**34.17**	**180**	P	**P**	**23 53 41.7**	**+0.2**
QSPA				PcP	**PcP**	**23 56 17.2**	**-0.5**
	comp=Z,1.4nm,0.5s,baz=305,slow=0.2,SNR=27						
	comp=Z,0.6nm,0.8s,baz=180,slow=3.0,SNR=1.1						
	comp=Z,1.4nm,0.5s						
CPUP	**Villa Florida**	**37.05**	**311**	P	**P**	**23 54 05.9**	**-0.5**
CPUP				IAmb	IAmb	23 54 16.9	
	comp=Z,4.1nm,1.2s						
CPUP	**Villa Florida**	**37.05**	**311**	P	**P**	**23 54 06.1**	**-0.3**
	comp=Z,1.0nm,0.7s,baz=113,slow=7.6,SNR=3.2						
	comp=Z,1.0nm,0.7s						
MT02	**Curacav**	**38.06**	**288**	P	**P**	**23 54 14.3**	**-0.7**
MT02				IAmb	IAmb	23 54 16.1	
	comp=Z,6.8nm,1.1s						
VA03	**San Esteban**	**38.13**	**289**	P	**P**	**23 54 13.9**	**-1.8**
CO01	**Juntas del Tor**	**40.09**	**292**	P	**P**	**23 54 31.9**	**-0.3**
CO01				IAmb	IAmb	23 54 50.6	
	comp=Z,6.4nm,1.3s						
AC05	**El Transito**	**41.10**	**293**	P	**P**	**23 54 40.1**	**-0.3**
GO02	**Mina Guanaco**	**43.76**	**297**	P	**P**	**23 55 02.5**	**+0.2**
LVC	**Limon Verde**	**45.56**	**300**	P	**P**	**23 55 17.2**	**+0.5**
LVC				IAmb	IAmb	23 55 41.8	
	comp=Z,3.7nm,1.1s						
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**23 55 24.2**	**+0.8**
VNDA	**Vanda**	**46.55**	**183**	P	**P**	**23 55 23.8**	**+0.3**
	comp=Z,0.7nm,0.8s,baz=183,slow=7.7,SNR=6.8						
	comp=Z,0.7nm,0.8s						
PTLB	**Pontes e Lacer**	**47.52**	**315**	P	**P**	**23 55 31.8**	**+0.2**
PTLB				IAmb	IAmb	23 55 33.8	
	comp=Z,2.9nm,0.9s						
LPAZ	**La Paz**	**50.62**	**305**	P	**P**	**23 55 56.8**	**+0.6**
LPAZ				IAmb	IAmb	23 55 58.1	
	comp=Z,1.5nm,0.7s						
LPAZ	**La Paz**	**50.62**	**305**	P	**P**	**23 55 57.0**	**+0.8**
	comp=Z,1.6nm,0.5s,baz=140,slow=3.4,SNR=8.8						
	comp=Z,1.6nm,0.5s						
TOA0	**Torodi Ar. Sit**	**72.95**	**29**	P	**P**	**23 58 26.3**	**+0.6**
TOA0				IAmb	IAmb	23 58 34.2	
	comp=Z,6.7nm,1.4s						
TORD	**Torodi Ar. Bea**	**72.95**	**29**	P	**P**	**23 58 26.5**	**+0.9**
	comp=Z,0.5nm,0.4s,baz=201,slow=5.9,SNR=12						
	comp=Z,0.5nm,0.4s						
FINES	**FINESS Array B**	**124.28**	**28**	PKP	**PKiKP**	**00 05 53.4**	**-0.4**
	comp=Z,1.4nm,0.9s,baz=249,slow=2.4,SNR=5.3						
L29M	**L29M**	**146.17**	**311**		**PKPab**	**00 06 35.6**	**-0.3**
E29M	**Blow River**	**147.60**	**320**		**PKPbc**	**00 06 38.2**	**-0.8**
I26K	**Coal Creek Min**	**148.92**	**313**		**PKPbc**	**00 06 42.2**	**-0.2**
ILAR	**Eielson Array**	**150.35**	**312**	PKPbc	**PKPbc**	**00 06 45.7**	**-0.3**
	comp=Z,0.5nm,0.6s,baz=127,slow=1.8,SNR=9.6						
SONM	**Songino Array**	**150.45**	**86**	PKPbc	**PKPbc**	**00 06 46.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=240,slow=4.8,SNR=1.9						

IDC ***26*** *23:50:45.5±1.3,9.°23S×156.°45E, h0km, mb3.8/4, mbtmp3.8/4, MS3.7/2, Error ellipse: s-maj=42.2km s-min=34.2km az=107.0*
ISC 26 23:50:48.5±1.4,9.°2S±0.°2×156.°5E±0.°3, h20km, n7, σ0s27/6, mb3.7/4, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**23.90**	**241**	P	**P**	**23 56 00.8**	**-0.3**
	1.7nm,1.1s,baz=65,slow=10,SNR=4.7						
WRA				LR	LR	00 05 03.7	
	comp=Z,146nm,19.4s,baz=158,slow=36						
	1.7nm,1.1s						
ASAR	**Alice Springs**	**25.92**	**234**	P	**P**	**23 56 19.8**	**+0.2**
	0.8nm,1.0s,baz=59,slow=11,SNR=3.5						
	0.8nm,1.0s						
NWAO	**Narrogin (SRO)**	**43.19**	**231**	LR	LR	00 16 03.8	
	comp=Z,116nm,20.8s,baz=102,slow=35						
SONM	**Songino Array**	**72.00**	**327**	P	**P**	**00 02 11.1**	**+0.1**
	1.0nm,0.8s,baz=132,slow=2.1,SNR=4.6						
	1.0nm,0.8s						
QSPA	**South Pole Qui**	**80.76**	**180**	P	**P**	**00 03 00.5**	**+0.1**
	2.2nm,0.9s,baz=352,slow=5.5,SNR=7.4						
	2.2nm,0.9s						
ESDC	**Sonseca Array**	**145.01**	**333**	PKPbc	**PKPab**	**00 10 24.0**	**-0.1**
	0.8nm,1.0s,baz=29,slow=2.9,SNR=4.1						
BDFB	**Brasilia**	**145.37**	**135**	PKPbc	**PKPbc**	**00 10 25.8**	**-0.2**
	3.8nm,0.9s,baz=250,slow=7.1,SNR=5.2						

RSNC 26 23:53:33.3±0.0,7.°N±2.°×7.°3W±.°, h139km±4km, M2.2, mB4.5, ML2.2, Mw(mB)3.6, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BARC	**Barichara**	**0.24**	**192**	P	Pn	23 53 52.0	-0.7
BARC				S	Sn	23 54 06.6	-0.7
PAMC	**Pamplona, Colo**	**0.66**	**40**	P	Pn	23 53 54.8	-0.2
PAMC				S	Sn	23 54 11.5	+0.1
RUSC	**La Rusia**	**0.93**	**177**	P	Pn	23 53 56.0	-1.0
RUSC				S	Sn	23 54 14.2	-0.8
PTBC	**PUERTO BERRIO,**	**1.35**	**258**	P	Pn	23 53 58.5	-1.9
PTBC				S	Sn	23 54 19.7	-1.4
TAMC	**Tame, Arauca**	**1.39**	**106**	P	Pn	23 54 00.3	-0.6
TAMC				S	Sn	23 54 20.3	-1.6
OCAC	**Ocana**	**1.41**	**352**	P	Pn	23 53 58.3	-3.0
OCAC				S	Sn	23 54 21.4	-1.3
SPBC	**San Pablo de B**	**1.50**	**219**	P	Pn	23 54 00.9	-1.2
SPBC				S	Sn	23 54 23.2	-1.0
ZARC	**Zaragoza, Cauc**	**1.84**	**291**	P	Pn	23 54 05.0	-0.9
ZARC				S	Sn	23 54 30.3	-0.5
NORC	**Norcasia**	**2.14**	**234**	P	Pn	23 54 08.4	-1.1
NORC				S	Sn	23 54 35.9	-1.4
ROSC	**El Rosal**	**2.30**	**211**	P	Pn	23 54 12.2	+0.3
ROSC				S	Sn	23 54 41.1	-0.4
UREC	**San Jos de Ur**	**2.55**	**291**	P	Pn	23 54 16.2	+1.6
UREC				S	Sn	23 54 43.1	-3.3
VILC	**Villavicencio,**	**2.76**	**192**	P	Pn	23 54 15.9	-1.4
VILC				S	Sn	23 54 52.6	+1.4
PTGC	**Puerto Gaitan,**	**2.79**	**159**	P	Pn	23 54 15.1	-2.6
PTGC				S	Sn	23 54 48.4	-3.5
RECRC	**Villamaria, Ca**	**2.89**	**230**	P	Pn	23 54 21.2	+1.9
RECRC				S	Sn	23 54 55.5	+0.7
PRAC	**Prado**	**3.56**	**210**	P	Pn	23 54 26.5	-1.0
PRAC				S	Sn	23 55 07.7	-1.8
SJCC	**San Jacinto, C**	**3.66**	**326**	P	Pn	23 54 26.0	-2.9
SJCC				S	Sn	23 55 07.5	-4.5
PLMC	**San Jos del P**	**3.67**	**239**	P	Pn	23 54 27.9	-1.2
PLMC				S	Sn	23 55 08.7	-3.6
CRJC	**Cerrejon, Guaj**	**4.17**	**3**	P	Pn	23 54 32.0	-3.6
CRJC				S	Sn	23 55 19.0	-5.1
URIC	**Uribia, Colomb**	**4.97**	**13**	P	Pn	23 54 42.0	-4.2
URIC				S	Sn	23 55 38.9	-4.0
BBAC	**Balboa, Cauca**	**6.30**	**221**	P	Pn	23 55 03.1	-1.0

IDC ***27*** *00:12:20.9±0.5, 13.°01N×145.°20E, h0km, mb4.3/23, mbtmp4.3/23, MS4.0/59, Error ellipse: s-maj=20.2km s-min=11.5km az=74.0*
BJI ***27*** *00:12:20.5±0.0, 12.°47N×145.°43E, h33km, mb4.6/30, mB4.9/18, Ms4.4/22, Ms7 4.2/24*
MOS ***27*** *00:12:23.8±1.0, 13.°00N×145.°20E, h33km, mb4.7/17, Error ellipse: s-maj=17.4km s-min=7.2km az=105.9*
NEIC ***27*** *00:12:25.4±1.0, 13.°01N±0.°07×145.°20E±0.°07, h24km±6km, mb4.9/45, Error ellipse: s-maj=11.2km s-min=8.2km az=223.0*
ISC 27 00:12:26.1±0.4,12.°98N±0.°05×145.°20E±0.°07, h35km, n173, σ1s28/143, mb4.7/69, MS4.1/76, 10C-6D, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**0.69**	**332**	Pn	**Pn**	**00 12 39.4**	**+0.1**
GUMO				Sn	**Sn**	**00 12 49.3**	**+0.5**
GUMO	**Guam**	**0.69**	**332**	Pn	**Pn**	**00 12 39.4**	**+0.1**
	1μm,0.3s,baz=78,slow=4.7,SNR=355						
GUMO				Sn	**Sn**	**00 12 48.6**	**-0.2**
	3μm,0.3s,baz=168,slow=8.6,SNR=14						
PATS	**Pohnpei**	**14.28**	**114**		**Pn**	**00 15 42.9**	**-3.0**
DAV	**Davao City (W)**	**20.19**	**255**	LR	LR	00 24 46.0	
	comp=Z,138nm,20.1s,baz=143,slow=37						
FAKI	**Fak Fak**	**20.37**	**220**	P	Pn	00 17 01.1	-1.0
JHJ	**Haijiu jima 2**	**20.65**	**347**	LR	LR	00 24 00.2	
	comp=Z,795nm,20.8s,baz=170,slow=34						
JOW	**Kunigami**	**21.02**	**313**	LR	LR	00 23 48.1	
	comp=Z,573nm,20.6s,baz=149,slow=33						
H11S3	**WAKE ISLAND Hy**	**21.38**	**72**	T	T	00 39 46.1	
	baz=259,slow=75,SNR=13						
H11S1	**WAKE ISLAND Hy**	**21.40**	**72**	T	T	00 39 46.1	
	baz=259,slow=75,SNR=7.0						
H11S2	**WAKE ISLAND Hy**	**21.40**	**72**	T	T	00 39 47.2	
	baz=259,slow=75,SNR=3.6						
H11N1	**WAKE ISLAND Hy**	**21.85**	**69**	T	T	00 40 18.8	
	baz=257,slow=75,SNR=22						
H11N2	**WAKE ISLAND Hy**	**21.86**	**69**	T	T	00 40 20.8	
	baz=257,slow=75,SNR=23						
H11N3	**WAKE ISLAND Hy**	**21.87**	**69**	T	T	00 40 21.6	
	baz=257,slow=75,SNR=26						
PMG	**Port Moresby**	**22.33**	**175**	LR	LR	00 26 02.5	
	comp=Z,433nm,19.2s,baz=323,slow=37						
JGF	**Kuroka**	**23.61**	**344**	P	**P**	**00 17 32.6**	**-1.3**
TGY	**Tagaytay City**	**23.62**	**276**	LR	LR	00 25 32.7	
	comp=Z,316nm,19.9s,baz=72,slow=34						
JNU	**Nakatsue**	**23.94**	**329**	P	**P**	**00 17 35.8**	**-1.3**
JNU	**Nakatsue**	**23.94**	**329**	LR	LR	00 25 31.1	
	comp=Z,99nm,21.7s,baz=184,slow=33						
MJAR	**Matsushiro Arr**	**24.29**	**346**	P	**P**	**00 17 40.6**	**+0.4**
	2.5nm,0.9s,baz=166,slow=9.0,SNR=7.9						
MJAR				LR	LR	00 26 15.7	
	comp=Z,468nm,21.4s,baz=160,slow=34						
	2.5nm,0.9s						
MAJO	**Matsushiro**	**24.29**	**346**	P	**P**	**00 17 38.5**	**-1.7**
MAJO	**Matsushiro**	**24.29**	**346**	P	**P**	**00 17 38.5**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,20nm,1.4s						
YULB	**Yu-li**	**24.92**	**298**	P	**P**	**00 17 45.9**	**-0.2**
SSLB	**Sunglung**	**25.36**	**299**	P	**P**	**00 17 49.5**	**-0.6**
SSLB				IAmb	IAmb	00 17 54.1	
	comp=Z,22nm,0.7s						
LUWI	**Luwuk**	**26.25**	**240**	P	**P**	**00 17 58.1**	**-0.1**
HNR	**Honiara**	**26.65**	**146**	LR	LR	00 27 45.0	
	comp=Z,6μm,21.8s,baz=320,slow=35						
KSRS	**Korea Array**	**28.85**	**331**	P	**P**	**00 18 21.6**	**+0.4**
	comp=Z,2.5nm,0.8s,baz=143,slow=10,SNR=16						
KSRS				PcP	**PcP**	**00 21 32.0**	**+1.8**
	comp=Z,1.2nm,0.9s,baz=159,slow=3.2,SNR=5.3						
KSRS				ScP	**ScP**	**00 25 13.5**	**+4.3**
	comp=Z,0.6nm,0.6s,baz=151,slow=2.8,SNR=2.6						
	comp=Z,2.5nm,0.8s						
NJ2	**Nanjing**	**30.73**	**312**	*eP*	**P**	**00 18 39.3**	**+1.4**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NJ2				pmax	pmax		
	comp=Z,140nm,4.0s						
BATI	**Baumata**	**31.43**	**224**	LR	LR	00 33 32.1	
	comp=Z,221nm,18.1s,baz=136,slow=40						
MSHR	**Mys Shultsa**	**31.91**	**340**	*eP*	**P**	**00 18 48.9**	**+0.7**
USRK	**Ussuriysk Ar.**	**33.11**	**342**	LR	LR	00 32 16.1	
	comp=Z,258nm,18.3s,baz=142,slow=36						
YSS	**Yuzh-Sakhalins**	**33.93**	**357**	*eP*	**P**	**00 19 03.4**	**-2.4**
YSS				MLR	MLR		
	comp=Z,300nm,16.0s						
YSS				MLR	MLR		
	comp=N,200nm,18.0s						
YSS				MLR	MLR		
	comp=E,300nm,18.0s						
MDJ	**Mudanjiang**	**34.24**	**340**	P	**P**	**00 19 10.5**	**+2.0**
MDJ				pmax	pmax		
	comp=E,6.0nm,0.6s						
MDJ				pmax	pmax		
	comp=E,68nm,5.2s						
WB0	**Warramunga Arr**	**34.24**	**198**	P	**P**	**00 19 08.9**	**+0.1**
WB0				IAmb	IAmb	00 19 09.8	
	comp=Z,11nm,0.9s						
SBUM	**Sibu**	**34.27**	**255**	P	**P**	**00 19 08.9**	**-0.3**
WRAB	**Tennant Creek**	**34.41**	**198**	*eP*	**P**	**00 19 10.5**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WRA	**Warramunga Arr**	**34.42**	**198**	P	**P**	**00 19 10.2**	**-0.2**
WRA	**Warramunga Arr**	**34.42**	**198**	P	**P**	**00 19 10.4**	**0.0**
	comp=Z,7.9nm,0.9s,baz=19,slow=9.8,SNR=32						
WRA				LR	LR	00 34 09.7	
	comp=Z,160nm,20.1s,baz=30,slow=38						
	comp=Z,7.9nm,0.9s						
QIZ	**Qiongzhong**	**34.47**	**285**	P	**P**	**00 19 10.5**	**-0.4**
QIZ				S	**S**	**00 24 38.5**	**+1.2**
QIZ				LR	LR		
	comp=Z,170nm,12.6s						
QIZ				LR	LR		
	comp=Z,230nm,17.7s						
QIZ				LR	LR		
	comp=Z,360nm,21.6s						
KSM	**Kuching**	**36.40**	**255**	P	**P**	**00 19 27.0**	**-0.5**
KSM				IAmb	IAmb	00 19 41.8	
	comp=Z,31nm,1.3s						
FITZ	**Fitzroy Crossi**	**36.42**	**212**	P	**P**	**00 19 28.1**	**+0.5**
HNS	**HongShan**	**36.50**	**317**	P	**P**	**00 19 28.0**	**-0.1**
HNS				sP	**sP**	**00 19 42.3**	**+1.1**
HNS				pmax	pmax		
	comp=Z,13nm,1.0s						
HNS				LR	LR		
	comp=Z,250nm,18.7s						
HNS				LR	LR		
	comp=Z,450nm,17.9s						
HNS				LR	LR		
	comp=Z,470nm,18.1s						
LYN	**LuoYang**	**36.60**	**312**	*eP*	**P**	**00 19 32.0**	**+3.0**
LYN				pmax	pmax		
	comp=Z,16nm,0.7s						
LYN				LR	LR		
	comp=Z,290nm,15.8s						
LYN				LR	LR		
	comp=Z,300nm,18.2s						
LYN				LR	LR		
	comp=Z,290nm,17.9s						
KLR	**Kul'dur**	**37.81**	**346**	LR	LR	00 34 33.3	
	comp=Z,369nm,18.1s,baz=160,slow=35						
KLR	**Kul'dur**	**37.81**	**346**	*eP*	**P**	**00 19 39.5**	**+0.4**
KLR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
AS31	**Alice Springs**	**38.06**	**197**	P	**P**	**00 19 41.7**	**+0.2**
ASAR	**Alice Springs**	**38.06**	**197**	P	**P**	**00 19 41.5**	**-0.1**
ASAR	**Alice Springs**	**38.06**	**197**	P	**P**	**00 19 42.0**	**+0.4**
	comp=Z,1.7nm,0.6s,baz=22,slow=11,SNR=42						
ASAR				PP	**PnPn**	**00 21 10.1**	**-0.6**
	comp=Z,1.4nm,0.9s,baz=28,slow=12,SNR=4.5						
ASAR				PcP	**PcP**	**00 21 56.0**	**-0.4**
	comp=Z,0.5nm,0.7s,baz=40,slow=2.9,SNR=4.2						
ASAR				LR	LR	00 37 06.7	
	comp=Z,161nm,18.8s,baz=15,slow=39						
	comp=Z,1.7nm,0.6s						
HEH	**HeiHe**	**39.92**	**342**	*eP*	**P**	**00 19 57.5**	**+0.8**
HEH				pmax	pmax		
	comp=Z,7.0nm,1.2s						
HEH				pmax	pmax		
	comp=Z,91nm,6.0s						
HEH				LR	LR		
	comp=Z,170nm,14.0s						
HEH				LR	LR		
	comp=Z,250nm,17.1s						
HEH				LR	LR		
	comp=Z,340nm,18.0s						
HHC	**Hu-ho-hao-te**	**40.44**	**320**	*eP*	**P**	**00 20 02.5**	**+1.2**
HHC				pP	pP	00 20 12.0	+1.3
HHC				*eS*	**S**	**00 26 09.5**	**+1.8**
HHC				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HHC				pmax	pmax		
	comp=Z,76nm,5.1s						
HHC				LR	LR		
	comp=Z,260nm,17.3s						
HHC				LR	LR		
	comp=Z,300nm,17.8s						
HHC				LR	LR		
	comp=Z,430nm,18.3s						
DZM	**Mont Dzumac**	**40.59**	**149**	*e*LR	LR	00 31 12.9	
	comp=Z,360nm,21.8s						
DZM	**Mont Dzumac**	**40.59**	**149**	LR	LR	00 36 11.7	
	comp=Z,321nm,18.4s,baz=20,slow=35

CD2	**Chengdu**	**42.09**	**302**	P	**P**	**00 20 14.0**	**-1.0**
CD2				S	**S**	**00 26 31.5**	**-0.8**
CD2				pmax	pmax		
	comp=Z,70nm,4.5s						
CD2				LR	LR		
	comp=Z,240nm,16.0s						
CD2				LR	LR		
	comp=Z,220nm,16.5s						
CD2				LR	LR		
	comp=Z,230nm,17.9s						
MBWA	**Marble Bar**	**42.16**	**217**	P	**P**	**00 20 15.6**	**+0.2**
MBWA				IAmb	IAmb	00 21 28.0	
	comp=Z,91nm,1.7s						
PZH	**PanZhiHua**	**42.85**	**295**	P	**P**	**00 20 20.3**	**-1.0**
PZH				S	**S**	**00 26 42.3**	**-1.5**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.6s						
PZH				pmax	pmax		
	comp=Z,100nm,9.6s						
PZH				LR	LR		
	comp=Z,160nm,19.4s						
PZH				LR	LR		
	comp=Z,220nm,19.8s						
PZH				LR	LR		
	comp=Z,240nm,19.6s						
ZEA	**Zeya**	**43.08**	**344**	*e*P	**P**	**00 20 27.2**	**+4.7**
ZEA				MLR	MLR		
	comp=N,100nm,17.0s						
ZEA				MLR	MLR		
	comp=Z,200nm,15.0s						
PHRA	**Phrae**	**43.55**	**283**	P	**P**	**00 20 26.1**	**-0.8**
LZH	**Lanzhou**	**43.65**	**309**	*e*P	**P**	**00 20 27.5**	**-0.2**
LZH				pP	pP	00 20 33.5	-3.2
LZH				pmax	pmax		
	comp=Z,8.0nm,1.2s						
LZH				LR	LR		
	comp=Z,140nm,15.8s						
LZH				LR	LR		
	comp=Z,180nm,14.8s						
LZH				LR	LR		
	comp=Z,190nm,16.5s						
KULM	**Kulim**	**44.59**	**264**	P	**P**	**00 20 35.8**	**+0.5**
KULM				IAmb	IAmb	00 21 44.8	
	comp=Z,36nm,1.7s						
STKA	**Stephens Creek**	**44.74**	**184**	P	**P**	**00 20 36.2**	**+0.1**
STKA	**Stephens Creek**	**44.74**	**184**	P	**P**	**00 20 36.1**	**+0.1**
	comp=Z,2.4nm,0.6s,baz=345,slow=20,SNR=4.0						
STKA				LR	LR	00 40 53.4	
	comp=Z,239nm,18.3s,baz=23,slow=38						
	comp=Z,2.4nm,0.6s						
STKA	**Stephens Creek**	**44.74**	**184**⇓	*e*P	**P**	**00 20 35.8**	**-0.3**
STKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CM31	**Chiang Mai Arr**	**44.77**	**283**	P	**P**	**00 20 36.2**	**-0.5**
CM31				IAmb	IAmb	00 20 38.8	
	comp=Z,7.9nm,0.7s						
CMAR	**Chiang Mai Arr**	**44.77**	**283**	P	**P**	**00 20 36.4**	**-0.3**
CMAR	**Chiang Mai Arr**	**44.77**	**283**	P	**P**	**00 20 37.1**	**+0.5**
	comp=Z,5.7nm,0.6s,baz=83,slow=6.5,SNR=29						
CMAR				PcP	**PP**	**00 22 20.4**	**-1.3**
	comp=Z,3.9nm,0.9s,baz=78,slow=2.5,SNR=8.3						
CMAR				LR	LR	00 39 45.2	
	comp=Z,132nm,18.8s,baz=105,slow=37						
	comp=Z,5.7nm,0.6s						
MNAI	**Manna**	**45.36**	**250**	P	**P**	**00 20 40.9**	**-0.6**
TNCH	**TengChong**	**45.53**	**292**	*e*P	**P**	**00 20 43.5**	**+0.7**
TNCH				S	**S**	**00 27 21.8**	**-1.1**
TNCH				sS	sS	00 27 39.3	+1.8
TNCH				LR	LR		
	comp=Z,210nm,16.4s						
SHEM	**Shemya Is, Ala**	**45.88**	**24**	LR	LR	00 36 58.9	
	comp=Z,165nm,21.6s,baz=160,slow=32						
BBOO	**Buckleboo**	**46.36**	**191**	P	**P**	**00 20 49.0**	**0.0**
MA2	**Magadan**	**46.69**	**4**⇑	*e*P	**P**	**00 20 50.7**	**-0.5**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.0s						
ULN	**Ulaanbaatar**	**47.06**	**325**⇑	*e*P	**P**	**00 20 53.9**	**-0.6**
ULN				pmax	pmax		
	comp=Z,7.0nm,2.1s						
SONM	**Songino Array**	**47.41**	**325**	P	**P**	**00 20 56.7**	**-0.5**
	comp=Z,0.8nm,0.6s,baz=141,slow=6.6,SNR=3.2						
SONM				PcP	**PcP**	**00 22 28.0**	**+0.6**
	comp=Z,1.8nm,0.6s,baz=153,slow=3.1,SNR=5.2						
SONM				ScP	**ScP**	**00 26 22.3**	**+3.3**
	comp=Z,0.8nm,0.7s,baz=108,slow=4.7,SNR=3.0						
SONM				LR	LR	00 40 51.2	
	comp=Z,284nm,20.0s,baz=107,slow=36						
	comp=Z,0.8nm,0.6s						
GTA	**Gaotai**	**47.82**	**312**	*e*P	**P**	**00 21 03.3**	**+2.8**
GTA				pP	pwP	00 21 14.8	+1.1
GTA				pmax	pmax		
	comp=Z,3.0nm,1.2s						
GTA				LR	LR		
	comp=Z,100nm,19.5s						
GTA				LR	LR		
	comp=Z,140nm,16.7s						
GTA				LR	LR		
	comp=Z,160nm,18.3s						
SEY	**Seymchan**	**50.14**	**4**⇓	*e*P	**P**	**00 21 17.0**	**-0.7**
SEY				pmax	pmax		
	comp=Z,2.0nm,1.1s						
YAK	**Yakutsk**	**50.23**	**351**	LR	LR	00 42 44.3	
	comp=Z,151nm,18.6s,baz=152,slow=36						
YAK	**Yakutsk**	**50.23**	**351**	*de*P	**P**	**00 21 19.9**	**+1.5**
YAK				pmax	pmax		
	comp=Z,20nm,1.0s						
ATKA	**Atka Island**	**50.84**	**31**	P	**P**	**00 21 23.2**	**0.0**
NWAO	**Narrogin (SRO)**	**52.89**	**210**	LR	LR	00 45 23.6	
	comp=Z,183nm,18.9s,baz=54,slow=38						
RAO	**Raoul Island**	**55.05**	**140**	LR	LR	00 44 22.1	
	comp=Z,205nm,19.1s,baz=340,slow=35						
BILL	**Bilibino**	**56.70**	**9**	*e*P	**P**	**00 22 03.2**	**-2.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.5s						
WMQ	**Urumqi**	**57.79**	**314**	*e*P	**P**	**00 22 16.5**	**+2.5**
WMQ				LR	LR		
	comp=Z,140nm,20.5s						
URZ	**Urewera**	**59.08**	**151**	LR	LR	00 45 45.5	
	comp=Z,129nm,20.9s,baz=41,slow=34						
RTZ	**Ruatahuna**	**59.31**	**151**	P	**P**	**00 22 25.6**	**+1.0**
TIXI	**Tiksi**	**59.47**	**354**	P	**P**	**00 22 24.7**	**-0.4**
TIXI				IAmb	IAmb	00 23 37.8	
	comp=Z,13nm,1.9s						
TIXI	**Tiksi**	**59.47**	**354**	LR	LR	00 49 53.8	
	comp=Z,51nm,20.3s,baz=169,slow=38						
TIXI	**Tiksi**	**59.47**	**354**⇑	*e*P	**P**	**00 22 25.2**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s						
K15K	**Wolf Creek Mou**	**61.98**	**25**	P	**P**	**00 22 43.5**	**+1.2**
K15K				IAmb	IAmb	00 24 22.6	
	comp=Z,37nm,1.9s						
MK31	**Makanchi Array**	**62.15**	**316**⇑	*e*P	**P**	**00 22 43.8**	**-0.1**
MKAR	**Makanchi Array**	**62.15**	**316**	P	**P**	**00 22 43.1**	**-0.8**
	comp=Z,1.1nm,0.6s,baz=93,slow=7.7,SNR=9.8						
MKAR				LR	LR	00 50 01.1	
	comp=Z,100nm,20.1s,baz=152,slow=36						
	comp=Z,1.1nm,0.6s						
MKAR	**Makanchi Array**	**62.15**	**316**	*e*P	**P**	**00 22 43.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ZALV	**Zalesovo Beam**	**62.30**	**325**	P	**P**	**00 22 43.0**	**-1.6**
	comp=Z,0.4nm,0.4s,baz=105,slow=8.5,SNR=1.9						
ZALV				PcP	**PcP**	**00 23 24.0**	**-0.2**
	comp=Z,2.3nm,0.5s,baz=131,slow=4.7,SNR=7.5						
ZALV				LR	LR	00 49 01.1	
	comp=Z,138nm,21.4s,baz=121,slow=35						
	comp=Z,0.4nm,0.4s						
M16K	**Timber Creek**	**62.52**	**27**	P	**P**	**00 22 45.4**	**-0.6**
M16K				IAmb	IAmb	00 23 06.0	
	comp=Z,14nm,1.2s						
N17K	**Nushagak Hills**	**63.11**	**28**	P	**P**	**00 22 50.0**	**0.0**
N17K				IAmb	IAmb	00 23 07.5	
	comp=Z,7.5nm,0.9s						
SII	**Sitkinak Islan**	**63.21**	**33**	P	**P**	**00 22 51.9**	**+1.2**
K17K	**Iditarod**	**63.51**	**25**	P	**P**	**00 22 53.1**	**+0.6**
K17K				IAmb	IAmb	00 23 16.6	
	comp=Z,14nm,1.1s						
PALK	**Pallekele**	**63.62**	**272**	LR	LR	00 48 08.5	
	comp=Z,62nm,21.6s,baz=204,slow=34						
RAR	**Rarotonga**	**63.83**	**122**	LR	LR	00 44 39.6	
	comp=Z,55nm,22.0s,baz=323,slow=30						
L18K	**Granite Mounta**	**63.99**	**26**	P	**P**	**00 22 57.2**	**+1.5**
L18K				IAmb	IAmb	00 23 19.9	
	comp=Z,12nm,1.2s						
KDAK	**Kodiak Island**	**64.41**	**32**	P	**P**	**00 22 59.2**	**+0.6**
KDAK	**Kodiak Island**	**64.41**	**32**	LR	LR	00 49 25.3	
	comp=Z,36nm,20.7s,baz=261,slow=34						
KDAK	**Kodiak Island**	**64.41**	**32**	P	**P**	**00 22 59.2**	**+0.6**
L19K	**White Mountain**	**64.78**	**27**	P	**P**	**00 23 01.6**	**+0.7**
L19K				IAmb	IAmb	00 23 04.8	
	comp=Z,7.9nm,1.1s						
KURK	**Kurchatov**	**65.26**	**320**	P	**P**	**00 23 03.8**	**-0.4**
KURK				IAmb	IAmb	00 23 39.2	
	comp=Z,9.4nm,1.1s						
KURK	**Kurchatov**	**65.26**	**320**⇑	*e*P	**P**	**00 23 02.8**	**-1.4**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KURBB	**Kurchatov Arra**	**65.30**	**320**	P	**P**	**00 23 04.0**	**-0.5**
	comp=Z,2.2nm,0.6s,baz=103,slow=6.7,SNR=20						
KURBB				LR	LR	00 52 55.9	
	comp=Z,263nm,18.9s,baz=166,slow=37						
	comp=Z,2.2nm,0.6s						
G19K	**Purcell Mounta**	**65.44**	**22**	P	**P**	**00 23 04.9**	**-0.2**
G19K				IAmb	IAmb	00 23 27.1	
	comp=Z,7.4nm,1.1s						
K20K	**Telida**	**65.54**	**26**	P	**P**	**00 23 06.0**	**+0.2**
K20K				IAmb	IAmb	00 23 32.3	
	comp=Z,5.3nm,0.8s						
CNPM	**China Poot**	**65.59**	**30**	P	**P**	**00 23 06.4**	**+0.1**
CNPM				IAmb	IAmb	00 23 17.9	
	comp=Z,17nm,0.9s						
CAST	**Castle Rocks**	**66.40**	**26**	P	**P**	**00 23 12.0**	**+0.6**
CAST				IAmb	IAmb	00 23 34.7	
	comp=Z,9.9nm,1.1s						
RC01	**Rabbit Creek A**	**66.75**	**29**	P	**P**	**00 23 14.0**	**+0.4**
RC01				IAmb	IAmb	00 23 39.2	
	comp=Z,26nm,1.4s						
BPAW	**Bear Paw Mtn.**	**67.08**	**25**	P	**P**	**00 23 16.5**	**+0.8**
BPAW				IAmb	IAmb	00 23 39.0	
	comp=Z,14nm,1.2s						
AAK	**Ala-Archa**	**67.15**	**311**	LR	LR	00 54 20.3	
	comp=Z,126nm,19.2s,baz=81,slow=38						
AAK	**Ala-Archa**	**67.15**	**311**⇓	*e*P	**P**	**00 23 16.3**	**-0.5**
AAK				pmax	pmax		
	comp=Z,9.0nm,3.7s						
E22K	**Anaktuvuk Pass**	**68.11**	**21**	P	**P**	**00 23 22.2**	**0.0**
E22K				IAmb	IAmb	00 23 44.6	
	comp=Z,7.8nm,1.1s						
MDM	**Murphy Dome**	**68.47**	**25**	P	**P**	**00 23 24.8**	**+0.3**
COLA	**College**	**68.60**	**25**⇓	*e*P	**P**	**00 23 24.7**	**-0.5**
COLA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ILAR	**Eielson Array**	**68.97**	**25**	P	**P**	**00 23 27.0**	**-0.5**
ILAR	**Eielson Array**	**68.97**	**25**	P	**P**	**00 23 26.8**	**-0.8**
	comp=Z,1.3nm,0.5s,baz=251,slow=5.8,SNR=20						
ILAR				LR	LR	00 49 48.2	
	comp=Z,84nm,21.9s,baz=264,slow=33						
	comp=Z,1.3nm,0.5s						
BMAR	**Burnt Mountain**	**70.53**	**23**	P	**P**	**00 23 38.3**	**+1.1**
BVAR	**Borovoye Array**	**70.60**	**322**	P	**P**	**00 23 37.7**	**-0.1**
	comp=Z,2.5nm,0.6s,baz=101,slow=6.5,SNR=14						
BVAR				LR	LR	00 54 30.6	
	comp=Z,224nm,21.5s,baz=97,slow=36						
	comp=Z,2.5nm,0.6s						
BRVK	**Borovoye**	**70.67**	**322**	P	**P**	**00 23 38.4**	**+0.2**
BRVK	**Borovoye**	**70.67**	**322**	P	**P**	**00 23 38.4**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BCAR	**Beaver Creek A**	**70.83**	**27**	P	**P**	**00 23 40.0**	**+0.9**
LOGN	**Logan Glacier**	**70.86**	**30**	P	**P**	**00 23 40.6**	**+1.2**
PPT	**Papeete**	**71.17**	**114**	LR	LR	00 49 31.8	
	comp=Z,71nm,21.0s,baz=352,slow=31						
PPT2	**Papeete2**	**71.18**	**114**	*e*LR	LR	00 45 18.7	
	comp=Z,242nm,24.5s						
PPT2				*e*LR	LR	00 45 18.7	
	comp=Z,191nm,26.8s						
I28M	**Miner Creek**	**71.99**	**25**	P	**P**	**00 23 46.4**	**+0.3**
HYT	**Haines Junctio**	**72.56**	**30**	P	**P**	**00 23 50.5**	**+0.9**
HYT				IAmb	IAmb	00 23 53.5	
	comp=Z,9.0nm,0.9s						
TBI	**Tubuai**	**73.39**	**119**	*e*LR	LR	00 46 11.2	
	comp=Z,418nm,24.2s						
TBI				*e*LR	LR	00 46 22.6	
	comp=Z,1μm,28.0s						
INK	**Inuvik**	**74.80**	**22**	LR	LR	00 54 00.5	
	comp=Z,33nm,21.7s,baz=192,slow=33						
DLBC	**Dease Lake**	**76.31**	**33**	P	**P**	**00 24 12.6**	**+1.2**
	comp=Z,6.0nm,0.9s,baz=267,slow=12,SNR=4.8						
	comp=Z,6.0nm,0.9s						
ARU	**Arti**	**77.45**	**325**	LR	LR	01 00 29.3	
	comp=Z,112nm,18.0s,baz=76,slow=37						
ARU	**Arti**	**77.45**	**325**	P	P	00 24 26.8	+9.1
AKTO	**Aktyubinsk**	**78.33**	**319**	LR	LR	01 00 25.8	
	comp=Z,131nm,18.6s,baz=75,slow=37						
GEYT	**Alibeck**	**79.87**	**307**	LR	LR	01 03 59.1	
	comp=Z,58nm,19.3s,baz=116,slow=39						
KIRV	**Kirov**	**82.03**	**328**	LR	LR	01 03 23.9	
	comp=Z,90nm,18.4s,baz=72,slow=37						
KIRV	**Kirov**	**82.03**	**328**⇑	*e*P	**P**	**00 24 43.6**	**+1.1**
YBH	**Yreka Blue Hor**	**83.02**	**49**	LR	LR	00 59 01.9	
	comp=Z,57nm,18.2s,baz=274,slow=34						
YKA	**Yellowknife Ar**	**83.25**	**27**	P	**P**	**00 24 48.2**	**-0.5**
	comp=Z,2.0nm,0.9s,baz=292,slow=5.9,SNR=20						
YKA				LR	LR	01 01 33.5	
	comp=Z,89nm,19.9s,baz=284,slow=36						
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**83.25**	**27**	*e*P	**P**	**00 24 49.5**	**+0.7**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BELG	**Belogornoye**	**84.40**	**322**	LR	LR	01 04 42.8	
	comp=Z,174nm,18.6s,baz=58,slow=37						
BELG	**Belogornoye**	**84.40**	**322**⇓	*e*P	**P**	**00 24 54.0**	**-0.8**
BELG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SPITS	**Spitsbergen Ar**	**84.70**	**351**	P	**P**	**00 24 56.5**	**+0.5**
	comp=Z,14nm,1.0s,baz=93,slow=5.8,SNR=2.1						
SPITS				LR	LR	01 04 52.1	
	comp=Z,70nm,18.7s,baz=10,slow=37						
	comp=Z,14nm,1.0s						
NVAR	**Mina Array Bea**	**87.04**	**51**	P	**P**	**00 25 09.9**	**+1.3**
NVAR	**Mina Array Bea**	**87.04**	**51**	P	**P**	**00 25 10.3**	**+1.7**
	comp=Z,2.2nm,0.9s,baz=279,slow=5.2,SNR=6.7						
	comp=Z,2.2nm,0.9s						
ARCES	**ARCESS Array B**	**87.76**	**342**	P	**P**	**00 25 11.5**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=52,slow=9.8,SNR=6.7						
ARCES				LR	LR	01 08 03.6	
	comp=Z,67nm,18.0s,baz=41,slow=38						
	comp=Z,4.9nm,0.8s						
GNI	**Garni**	**89.56**	**311**	LR	LR	01 09 20.9	
	comp=Z,47nm,19.0s,baz=70,slow=38						
PFO	**Pinyon Flats O**	**89.71**	**56**	LR	LR	01 00 53.8	
	comp=Z,61nm,19.7s,baz=266,slow=32						
OBN	**Obninsk**	**89.79**	**327**	*e*P	**P**	**00 25 20.6**	**-0.3**
OBN				*e*		00 28 53.1	
OBN				*e*PPP	PPP	00 30 50.2	
OBN				pmax	pmax		
	comp=Z,20nm,1.7s						
KBZ	**Khabaz**	**89.82**	**315**	LR	LR	01 10 18.7	
	comp=Z,95nm,18.1s,baz=68,slow=39						
KIV	**Kislovodsk**	**89.90**	**315**	*e*P	**P**	**00 25 21.4**	**-0.5**
KIV				*e*		00 28 55.3	
KIV				pmax	pmax		
	comp=Z,6.0nm,1.1s						
VNDA	**Vanda**	**90.84**	**176**	P	**P**	**00 25 25.8**	**+0.5**
	comp=Z,1.0nm,1.0s,baz=300,slow=7.0,SNR=3.6						
VNDA				LR	LR	01 06 49.8	
	comp=Z,25nm,18.1s,baz=354,slow=36						
	comp=Z,1.0nm,1.0s						
FINES	**FINESS Array B**	**91.85**	**335**	P	**P**	**00 25 29.5**	**-0.9**
	comp=Z,3.0nm,0.8s,baz=62,slow=4.8,SNR=15						
FINES				LR	LR	01 09 52.1	
	comp=Z,51nm,19.0s,baz=50,slow=38						
	comp=Z,3.0nm,0.8s						
PDAR	**Pinedale Array**	**92.16**	**45**	P	**P**	**00 25 33.5**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=318,slow=5.2,SNR=1.8						
	comp=Z,0.1nm,0.3s						
JMIC	**Jan Mayen**	**94.33**	**352**	LR	LR	01 09 55.1	
	comp=Z,23nm,19.9s,baz=310,slow=37						
MNK	**Minsk**	**94.57**	**329**	*i* P	**P**	**00 25 40.2**	**-2.9**
MNK				*i*		00 29 27.5	
MNK				*i* PPP	PPP	00 31 29.4	
MNK				*i* S	**SKSac**	**00 36 12.7**	**-3.1**
MNK				*i* SS	**SS**	**00 43 14.1**	**-1.5**
MNK				*i* SSS	SSS	00 46 58.2	
MNK				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MNK				MLR	MLR		
	comp=E,38nm,12.0s						
MNK				MLR	MLR		
	comp=N,80nm,15.0s						
MNK				MLR	MLR		
	comp=Z,101nm,17.0s						
AKASG	**Malin Array Be**	**95.70**	**325**	LR	LR	01 11 44.9	
	comp=Z,183nm,19.0s,baz=56,slow=37						
ANMO	**Albuquerque**	**97.16**	**52**	LR	LR	01 04 06.4	
	comp=Z,48nm,20.7s,baz=26,slow=32						
HFS	**Hagfors**	**97.47**	**338**	P	**P**	**00 25 54.9**	**-1.2**
	comp=Z,0.8nm,0.6s,baz=90,slow=2.9,SNR=1.6						
HFS				LR	LR	01 11 22.6	
	comp=Z,60nm,19.3s,baz=46,slow=36						
	comp=Z,0.8nm,0.6s						
LPIG	**La Paz**	**97.60**	**63**	LR	LR	01 02 21.8	
	comp=Z,41nm,19.6s,baz=234,slow=31						
BRTR	**Keskin Array B**	**97.71**	**314**	P	**P**	**00 25 56.4**	**-1.5**
	comp=Z,0.2nm,0.6s,baz=106,slow=4.7,SNR=1.8						
BRTR				LR	LR	01 14 09.7	
	comp=Z,74nm,20.7s,baz=54,slow=38						
	comp=Z,0.2nm,0.6s						
NOA	**NORSAR Array B**	**97.73**	**339**	P	**P**	**00 25 55.7**	**-1.6**
	comp=Z,0.5nm,0.7s,baz=52,slow=4.4,SNR=3.5						
NOA				LR	LR	01 11 14.3	
	comp=Z,98nm,22.0s,baz=30,slow=36						
	comp=Z,0.5nm,0.7s						
MAW	**Mawson**	**98.99**	**203**	LR	LR	01 05 32.2	
	comp=Z,109nm,20.8s,baz=82,slow=32						
MMAI	**Mount Meron Ar**	**99.00**	**307**	LR	LR	01 18 43.4	
	comp=Z,32nm,18.1s,baz=53,slow=40						
FRB	**Frobisher Bay**	**99.24**	**14**	LR	LR	01 11 22.8	
	comp=Z,21nm,21.7s,baz=329,slow=36						
SFJD	**Kangerlussuaq**	**99.40**	**6**	LR	LR	01 08 31.8	
	comp=Z,29nm,21.4s,baz=336,slow=34						
CLL	**Collm**	**103.72**	**331**	*i* Pdif	**Pdif**	**00 26 23.5**	**-0.7**
CLL				AMS	AMS	01 15 00.0	
	comp=Z,100nm,20.1s						
CLL				AMS	AMS	01 17 00.0	
	comp=Z,100nm,18.9s						
CLL	**Collm**	**103.72**	**331**	*i* P	**Pdif**	**00 26 23.5**	**-0.7**
ESDC	**Sonseca Array**	**120.27**	**333**	PKP	**PKiKP**	**00 31 15.2**	**+1.1**
	comp=Z,0.4nm,1.0s,baz=98,slow=1.9,SNR=2.0						
TORD	**Torodi Ar. Bea**	**135.47**	**304**	PKP	**PKiKP**	**00 31 45.5**	**+0.5**
	comp=Z,0.8nm,0.8s,baz=58,slow=2.0,SNR=5.3						
DBIC	**Dimbokro**	**144.42**	**302**	PKP	PKPbc	00 31 58.5	+0.3
	comp=Z,6.7nm,0.6s,baz=41,slow=2.4,SNR=12						
LPAZ	**La Paz**	**147.60**	**100**	PKPbc	**PKPbc**	**00 32 09.2**	**+0.7**
	comp=Z,3.3nm,0.8s,baz=260,slow=4.7,SNR=9.8						

IDC ***27*** *00:54:37.6±1.5,39°.86S×174°.47E,h110km±17km,mb3.7/5, mbtmp4.1/7,MS3.4/1,Error ellipse: s-maj=18.8km s-min=15.9km az=141.0*

NOU ***27*** *00:54:37.2,40°.00S×174°.46E,h144km,MLv4.4/15,North Island, New Zealand*

NEIC ***27*** *00:54:39.1±1.8,40°.01S±0°.06×174°.46E±0°.08,h120km±8km, mb4.3/10,Error ellipse: s-maj=10.0km s-min=6.9km az=126.0*

WEL ***27*** *00:54:39.8±0.9,40°.5S±5°.×17°.4E±°,h113km±7km,M3.9/21, ML4.2/21,MLv3.9/21,Error ellipse: s-maj=0.0km s-min=0.0km az=62.3,confirmed*

ISC 27 00:54:39.5±0.7,40°.02S±0°.03×174°.44E±0°.04,h130km±5km, n219,σ1°58/237,mb4.0/11,4C,Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.49**	**58**	P	**Pn**	**00 54 58.3**	**-0.3**
WAZ				S	**Sn**	**00 55 12.5**	**-0.5**
LREZ	**Lake Rotokare**	**0.56**	**357**	P	**Pn**	**00 54 58.4**	**-0.5**
LREZ				S	**Sn**	**00 55 13.3**	**-0.2**
OHWZ	**Ohakea**	**0.70**	**106**	P	**Pn**	**00 54 59.9**	**0.0**
OHWZ				S	**Sn**	**00 55 14.6**	**-0.6**
PREZ	**Palmer Road**	**0.71**	**342**	P	**Pn**	**00 54 59.2**	**-0.9**
PREZ				S	**Sn**	**00 55 14.4**	**-1.1**
NMEZ	**Namu Road**	**0.74**	**324**	P	**Pn**	**00 54 59.3**	**-0.9**
NMEZ				S	**Sn**	**00 55 14.8**	**-1.1**
NEZ	**North Egmont**	**0.79**	**340**	P	**Pn**	**00 54 59.7**	**-1.0**
NEZ				S	**Sn**	**00 55 15.0**	**-1.8**
KHEZ	**Kahui Hut**	**0.79**	**335**	P	**Pn**	**00 54 59.7**	**-1.0**
KHEZ	**Kahui Hut**	**0.79**	**335**	P	**Pn**	**00 54 59.7**	**-1.0**
KHEZ				S	**Sn**	**00 55 15.1**	**-1.6**
DREZ	**Durham Road**	**0.85**	**347**	P	**Pn**	**00 55 00.1**	**-1.0**
DREZ				S	**Sn**	**00 55 16.0**	**-1.3**
NBEZ	**Newall Road No**	**0.87**	**329**	P	**Pn**	**00 55 00.4**	**-0.8**
NBEZ				S	**Sn**	**00 55 16.7**	**-1.0**
DUWZ	**D'Urville Isla**	**0.88**	**207**	P	**Pn**	**00 55 00.9**	**-0.5**
DUWZ				S	**Sn**	**00 55 16.8**	**-1.2**
PKE	**Pukeiti**	**0.89**	**337**	P	**Pn**	**00 55 00.5**	**-1.0**
KIW	**Kapiti Island**	**0.92**	**157**	P	**Pn**	**00 55 01.2**	**-0.4**
KIW				S	**Sn**	**00 55 16.1**	**-2.4**
VRZ	**Vera Road**	**0.93**	**16**	P	**Pn**	**00 55 00.6**	**-1.1**
VRZ				S	**Sn**	**00 55 17.4**	**-1.2**
OGWZ	**Otaki Gorge**	**0.97**	**145**	P	**Pn**	**00 55 01.9**	**-0.3**
OGWZ				S	**Sn**	**00 55 17.4**	**-2.0**
PKVZ	**Pokaka**	**1.01**	**44**	P	**Pn**	**00 55 01.4**	**-1.2**
MTVZ	**Mangateitei**	**1.01**	**52**	P	**Pn**	**00 55 01.5**	**-1.1**
MRZ	**Mangatainoka R**	**1.08**	**127**		**Pn**	**00 55 02.0**	**-0.5**
MRZ				Sn	**Sn**	**00 55 18.6**	**-2.6**
MRZ	**Mangatainoka R**	**1.08**	**127**	P	**Pn**	**00 55 02.7**	**-0.5**
POWZ	**Post Office Ro**	**1.08**	**111**	P	**Pn**	**00 55 02.5**	**-0.7**
TRVZ	**Turoa**	**1.12**	**50**	P	**Pn**	**00 55 02.4**	**-1.4**
WNVZ	**Wahianoa**	**1.13**	**53**	P	**Pn**	**00 55 02.6**	**-1.2**
MAVZ	**Matarangi**	**1.14**	**50**	P	**Pn**	**00 55 02.8**	**-1.4**
FWVZ	**Far West T-bar**	**1.15**	**49**	P	**Pn**	**00 55 02.7**	**-1.4**
WHVZ	**Whangaehu Hut**	**1.15**	**51**	P	**Pn**	**00 55 02.8**	**-1.3**
TSZ	**Takapari Road**	**1.17**	**93**	P	**Pn**	**00 55 03.2**	**-0.9**
COVZ	**Chateau Observ**	**1.18**	**47**	P	**Pn**	**00 55 02.9

PRHZ	**Porangahau**	**1.70**	**99**	P		**Pn**	**00 55 09.2**	**-0.7**
HATZ	**Hinemaiaia**	**1.70**	**49**	P		**Pn**	**00 55 08.2**	**-1.8**
CMWZ	**Cape Campbell**	**1.74**	**186**			**Pn**	**00 55 10.6**	**+0.3**
CMWZ	**Cape Campbell**	**1.74**	**186**	P		**Pn**	**00 55 10.6**	**+0.3**
BSWZ	**Blackbirch Sta**	**1.75**	**194**			**Pn**	**00 55 10.1**	**-0.4**
BSWZ	**Blackbirch Sta**	**1.75**	**194**	P		**Pn**	**00 55 10.2**	**-0.3**
WHTZ	**Whakaora**	**1.79**	**42**	P		**Pn**	**00 55 10.3**	**-0.8**
BKZ	**Black Stump Fm**	**1.80**	**62**	P		**Pn**	**00 55 09.2**	**-1.9**
BKZ	**Black Stump Fm**	**1.80**	**62**	Pn		**Pn**	**00 55 09.3**	**-1.8**
BKZ	**Black Stump Fm**	**1.80**	**62**	P		**Pn**	**00 55 09.5**	**-1.7**
MCHZ	**McNeill Hill**	**1.83**	**73**	P		**Pn**	**00 55 10.7**	**-0.7**
PXZ	**Pawanui**	**1.86**	**91**	P		**Pn**	**00 55 10.9**	**-0.9**
KUTZ	**Kaahu Road**	**1.87**	**36**	P		**Pn**	**00 55 11.1**	**-0.8**
MRNZ	**Matariki Terra**	**1.88**	**222**			**Pn**	**00 55 11.5**	**-0.6**
MRNZ	**Matariki Terra**	**1.88**	**222**	P		**Pn**	**00 55 11.4**	**-0.6**
KAHZ	**Kahuranaki**	**1.89**	**84**	P		**Pn**	**00 55 11.2**	**-0.9**
TLZ	**Tolley Road**	**1.89**	**27**	P		**Pn**	**00 55 10.7**	**-1.5**
MRHZ	**Matea Rd**	**1.93**	**53**	P		**Pn**	**00 55 10.7**	**-2.0**
WPRZ	**Whakapapatarin**	**2.01**	**42**	P		**Pn**	**00 55 12.2**	**-1.4**
NMHZ	**Naumai**	**2.05**	**64**	P		**Pn**	**00 55 13.3**	**-0.8**
CKHZ	**Cape Kidnapper**	**2.06**	**81**	P		**Pn**	**00 55 13.2**	**-1.0**
ALRZ	**Allen Road**	**2.07**	**46**	P		**Pn**	**00 55 12.5**	**-1.8**
THZ	**Tophouse**	**2.10**	**213**	Pn		**Pn**	**00 55 13.9**	**-0.8**
THZ	**Tophouse**	**2.10**	**213**	P		**Pn**	**00 55 14.0**	**-0.8**
GRRZ	**Galatos Road**	**2.11**	**38**	P		**Pn**	**00 55 14.1**	**-0.8**
ARHZ	**Aropaoanui**	**2.11**	**70**	P		**Pn**	**00 55 13.6**	**-1.2**
PRRZ	**Plateau Road**	**2.14**	**46**	P		**Pn**	**00 55 13.7**	**-1.5**
HRRZ	**Handcock Road**	**2.17**	**42**	P		**Pn**	**00 55 14.3**	**-1.2**
MTHZ	**Maungataniwha**	**2.19**	**59**	P		**Pn**	**00 55 13.9**	**-2.0**
UTU	**Utuhina**	**2.29**	**37**	P		**Pn**	**00 55 16.5**	**-0.6**
HLRZ	**Highlands Stat**	**2.31**	**41**	P		**Pn**	**00 55 16.6**	**-0.7**
RAHZ	**Arahi**	**2.32**	**63**	P		**Pn**	**00 55 16.0**	**-1.5**
RRRZ	**Republican Roa**	**2.33**	**45**	P		**Pn**	**00 55 15.8**	**-1.7**
WHHZ	**Waihua**	**2.36**	**67**	P		**Pn**	**00 55 16.6**	**-1.3**
TARZ	**Mount Tarawera**	**2.40**	**43**	P		**Pn**	**00 55 17.1**	**-1.4**
RTZ	**Ruatahuna**	**2.42**	**55**	Pn		**Pn**	**00 55 16.4**	**-2.3**
RTZ	**Ruatahuna**	**2.42**	**55**	P		**Pn**	**00 55 16.6**	**-2.1**
TOZ	**Tahuroa Road**	**2.43**	**20**	Pn		**Pn**	**00 55 16.5**	**-2.3**
TOZ	**Tahuroa Road**	**2.43**	**20**	P		**Pn**	**00 55 17.2**	**-1.6**
OMRZ	**Omania**	**2.43**	**39**	P		**Pn**	**00 55 17.6**	**-1.3**
KARZ	**Kaharoa**	**2.44**	**36**	P		**Pn**	**00 55 18.3**	**-0.7**
KHZ	**Kahutara**	**2.49**	**196**	P		**Pn**	**00 55 18.9**	**-0.6**
KHZ	**Kahutara**	**2.49**	**196**	Pn		**Pn**	**00 55 19.1**	**-0.4**
KHZ	**Kahutara**	**2.49**	**196**	P		**Pn**	**00 55 19.1**	**-0.4**
SNGZ	**Shannon Statio**	**2.56**	**62**	P		**Pn**	**00 55 18.8**	**-1.7**
DSZ	**Denniston Nort**	**2.64**	**228**			**Pn**	**00 55 20.5**	**-1.0**
DSZ	**Denniston Nort**	**2.64**	**228**	P		**Pn**	**00 55 20.3**	**-1.2**
KNZ	**Kokohu**	**2.69**	**69**	P		**Pn**	**00 55 20.1**	**-2.0**
TGRZ	**Tauranga**	**2.69**	**32**	P		**Pn**	**00 55 21.2**	**-0.9**
URZ	**Urewera**	**2.72**	**51**	P		**Pn**	**00 55 19.6**	**-2.9**
URZ	**Urewera**	**2.72**	**51**	P		**Pn**	**00 55 19.8**	**-2.7**
	168nm,0.6s,baz=327,slow=7.7,SNR=119							
URZ				S		**Sn**	**00 55 50.0**	**-5.6**
	396nm,0.7s,baz=160,slow=18,SNR=23							
URZ	**Urewera**	**2.72**	**51**	P		**Pn**	**00 55 19.8**	**-2.7**
OPRZ	**Ohinepanea**	**2.73**	**38**	P		**Pn**	**00 55 21.0**	**-1.6**
RAGZ	**Rawiri**	**2.77**	**58**	P		**Pn**	**00 55 21.0**	**-2.2**
MHGZ	**Mahia Peninsul**	**2.81**	**73**	P		**Pn**	**00 55 22.0**	**-1.7**
PRGZ	**Paritu Road**	**2.88**	**69**	P		**Pn**	**00 55 22.6**	**-2.0**
RIGZ	**Rimuhau**	**2.89**	**64**	P		**Pn**	**00 55 22.7**	**-2.0**
MWZ	**Matawai**	**2.93**	**56**	P		**Pn**	**00 55 22.6**	**-2.7**
MKAZ	**Moumakai**	**2.96**	**11**	P		**Pn**	**00 55 24.0**	**-1.7**
GVZ	**Greta Valley S**	**3.13**	**199**			**Pn**	**00 55 26.6**	**-1.2**
GVZ	**Greta Valley S**	**3.13**	**199**	P		**Pn**	**00 55 26.6**	**-1.2**
LTZ	**Lake Taylor**	**3.21**	**210**	Pn		**Pn**	**00 55 26.9**	**-1.9**
LTZ	**Lake Taylor**	**3.21**	**210**	P		**Pn**	**00 55 27.2**	**-1.6**
RUGZ	**Raukumara Rang**	**3.25**	**52**	P		**Pn**	**00 55 26.4**	**-3.1**
TWGZ	**Tauwhareparae**	**3.31**	**57**	P		**Pn**	**00 55 28.0**	**-2.2**
KUZ	**Kuaotunu**	**3.42**	**18**	P		**Pn**	**00 55 30.4**	**-1.2**
AMCZ	**Amberley**	**3.43**	**202**	Pn		**Pn**	**00 55 30.3**	**-1.4**
AMCZ	**Amberley**	**3.43**	**202**	P		**Pn**	**00 55 30.2**	**-1.4**
HAZ	**Te Kaha**	**3.45**	**50**	P		**Pn**	**00 55 28.5**	**-3.4**
INZ	**Inchbonnie**	**3.52**	**219**	Pn		**Pn**	**00 55 31.6**	**-1.3**
INZ	**Inchbonnie**	**3.52**	**219**	P		**Pn**	**00 55 31.5**	**-1.3**
PKGZ	**Pakihiroa**	**3.54**	**54**	P		**Pn**	**00 55 30.6**	**-2.7**
PUZ	**Puketiti**	**3.55**	**58**	P		**Pn**	**00 55 30.3**	**-3.0**
OXZ	**Oxford**	**3.76**	**208**			**Pn**	**00 55 33.4**	**-2.7**
OXZ	**Oxford**	**3.76**	**208**	P		**Pn**	**00 55 33.5**	**-2.6**
WMGZ	**Waiomatatini S**	**3.80**	**56**	P		**Pn**	**00 55 33.5**	**-3.0**
OKCZ	**Okains Bay**	**3.84**	**195**	P		**Pn**	**00 55 35.3**	**-1.9**
MXZ	**Matakaoa Point**	**3.89**	**52**	P		**Pn**	**00 55 35.0**	**-2.8**
MXZ	**Matakaoa Point**	**3.89**	**52**	Pn		**Pn**	**00 55 34.7**	**-3.1**
MXZ	**Matakaoa Point**	**3.89**	**52**	P		**Pn**	**00 55 35.2**	**-2.6**
MQZ	**McQueen's Vall**	**3.92**	**199**			**Pn**	**00 55 35.5**	**-2.7**
MQZ	**McQueen's Vall**	**3.92**	**199**	P		**Pn**	**00 55 35.4**	**-2.7**
AKCZ	**Akaroa Harbour**	**4.02**	**196**	P		**Pn**	**00 55 37.3**	**-2.1**
RACZ	**Rakaia**	**4.09**	**204**	P		**Pn**	**00 55 37.7**	**-2.6**
MHCZ	**Mount Hutt**	**4.12**	**211**	P		**Pn**	**00 55 38.9**	**-1.9**
WVZ	**Waitaha Valley**	**4.13**	**221**	P		**Pn**	**00 55 39.0**	**-1.9**
WACZ	**Wakanui South**	**4.38**	**205**	P		**Pn**	**00 55 41.6**	**-2.5**
RPZ	**Rata Peaks**	**4.48**	**213**	P		**Pn**	**00 55 44.5**	**-1.1**
RPZ	**Rata Peaks**	**4.48**	**213**			**Pn**	**00 55 44.3**	**-1.2**
RPZ	**Rata Peaks**	**4.48**	**213**	P		**Pn**	**00 55 43.7**	**-1.8**
	34nm,0.4s,baz=44,slow=0.6,SNR=24							
RPZ				S		**Sn**	**00 56 31.6**	**-5.3**
	256nm,0.3s,baz=306,slow=23,SNR=34							
RPZ	**Rata Peaks**	**4.48**	**213**	P		**Pn**	**00 55 43.8**	**-1.8**
GCSZ	**Gaunt Creek Bo**	**4.51**	**222**	P		**Pn**	**00 55 44.0**	**-2.0**
ARCZ	**Arundel**	**4.62**	**211**	P		**Pn**	**00 55 45.2**	**-2.3**
OUZ	**Omahuta**	**4.83**	**352**	P		**Pn**	**00 55 48.7**	**-1.7**
OUZ	**Omahuta**	**4.83**	**352**	P		**Pn**	**00 55 50.3**	**-0.1**
FOZ	**Fox Glacier**	**4.93**	**223**	P		**Pn**	**00 55 48.9**	**-2.6**
TMZ	**Timaru**	**5.05**	**209**	P		**Pn**	**00 55 50.5**	**-2.8**
LBZ	**Lake Benmore**	**5.39**	**215**	P		**Pn**	**00 55 55.3**	**-2.5**
ODZ	**Otahua Downs**	**5.75**	**208**	P		**Pn**	**00 56 01.0**	**-1.6**
ODZ	**Otahua Downs**	**5.75**	**208**	P		**Pn**	**00 56 00.5**	**-2.1**
JCZ	**Jackson Bay**	**5.84**	**224**	P		**Pn**	**00 56 00.8**	**-3.2**
JCZ	**Jackson Bay**	**5.84**	**224**	P		**Pn**	**00 56 00.7**	**-3.2**
WKZ	**Wanaka**	**6.26**	**218**	P		**Pn**	**00 56 07.7**	**-1.7**
EAZ	**Earnscleugh**	**6.44**	**214**	P		**Pn**	**00 56 09.2**	**-2.6**
HHSZ	**Highcliff Hill**	**6.51**	**204**	P		**Pn**	**00 56 11.0**	**-1.7**
TUZ	**Tuapeka**	**6.90**	**209**	P		**Pn**	**00 56 18.0**	**0.0**
MLZ	**Mavora Lakes**	**7.09**	**219**	P		**Pn**	**00 56 20.7**	**+0.1**
WHZ	**Wether Hill Ro**	**7.56**	**177**	P		**Pn**	**00 56 26.0**	**-0.9**
SYZ	**Scrubby Hill**	**7.58**	**209**	P		**Pn**	**00 56 24.8**	**-2.3**
SYZ	**Scrubby Hill**	**7.58**	**209**	P		**Pn**	**00 56 24.9**	**-2.3**
APZ	**The Paps**	**8.27**	**212**	P		**Pn**	**00 56 34.1**	**-2.4**
TOO	**Toolangi**	**22.65**	**267**	P		**P**	**00 59 30.6**	**+0.8**
TOO				IAmb		IAmb	00 59 36.5	
	comp=Z,3.5nm,0.9s							
AS31	**Alice Springs**	**37.74**	**283**	P		**P**	**01 01 41.7**	**-1.1**
ASAR	**Alice Springs**	**37.74**	**283**	P		**P**	**01 01 41.9**	**-0.9**
ASAR	**Alice Springs**	**37.74**	**283**	P		**P**	**01 01 42.8**	**0.0**
	comp=Z,1.6nm,1.0s,baz=121,slow=7.1,SNR=15							
ASAR				LR		LR	01 16 36.8	
	comp=Z,45nm,18.1s,baz=117,slow=35							
	comp=Z,1.6nm,1.0s							
VNDA	**Vanda**	**37.98**	**184**	P		**P**	**01 01 46.0**	**+1.8**
VNDA	**Vanda**	**37.98**	**184**	P		**P**	**01 01 46.1**	**+2.0**
	comp=Z,0.4nm,0.5s,baz=353,slow=7.3,SNR=5.3							
	comp=Z,0.4nm,0.5s							
FORT	**Forrest**	**38.55**	**269**	P		**P**	**01 01 48.9**	**-0.5**
FORT				IAmb		IAmb	01 01 50.2	
	comp=Z,26nm,0.9s							
WB2	**Warramunga Arr**	**39.66**	**288**	P		**P**	**01 01 58.7**	**-0.1**
WB2				IAmb		IAmb	01 02 05.1	
	comp=Z,2.9nm,0.9s							
WRA	**Warramunga Arr**	**39.66**	**288**	P		**P**	**01 01 59.0**	**+0.1**
	comp=Z,0.9nm,0.5s,baz=125,slow=8.3,SNR=23							
	comp=Z,0.9nm,0.5s							
NWAO	**Narrogin (SRO)**	**45.87**	**260**	P		**P**	**01 02 49.7**	**+1.0**
FITZ	**Fitzroy Crossi**	**47.24**	**283**	P		**P**	**01 02 59.2**	**-0.4**
QSPA	**South Pole Qui**	**50.11**	**180**	P		**P**	**01 03 23.3**	**+2.3**
QSPA				IAmb		IAmb	01 03 24.2	
	comp=Z,6.0nm,0.9s							
QSPA	**South Pole Qui**	**50.11**	**180**	P		**P**	**01 03 23.4**	**+2.3**
	comp=Z,4.1nm,0.4s,baz=45,slow=5.6,SNR=89							
	comp=Z,4.1nm,0.4s							
BELA	**Belgrano 2**	**61.05**	**173**	P		**P**	**01 04 40.0**	**+1.2**
BELA				IAmb		IAmb	01 04 40.7	
	comp=Z,5.2nm,0.6s							
TROLL	**Troll, Antarti**	**68.13**	**183**	⇑P		**P**	**01 05 25.6**	**+0.6**
	comp=Z,193nm,0.5s							
SNAA	**Sanae**	**68.60**	**181**	P		**P**	**01 05 28.7**	**+0.8**
SNAA				IAmb		IAmb	01 05 42.7	
	comp=Z,2.9nm,1.0s							
SNAA	**Sanae**	**68.60**	**181**	⇑P		**P**	**01 05 28.1**	**+0.3**
	comp=Z,23nm,0.3s							
SNAA	**Sanae**	**68.60**	**181**	P		**P**	**01 05 28.8**	**+1.0**
	comp=Z,1.0nm,0.4s,baz=215,slow=11,SNR=16							
	comp=Z,1.0nm,0.4s							
VNA3	**Neumayer Olymp**	**69.01**	**179**	⇑P		**P**	**01 05 30.2**	**-0.1**
	comp=Z,8.3nm,0.8s							
VNA2	**Neumayer--Watz**	**69.36**	**179**	⇑P		**P**	**01 05 32.4**	**-0.1**
	comp=Z,15nm,0.7s,baz=178,slow=3.2							
TXAR	**Lajitas Array**	**102.57**	**62**	P		**Pdif**	**01 08 21.4**	**+0.1**
	comp=Z,0.1nm,0.5s,baz=193,slow=3.7,SNR=1.7							
DBIC	**Dimbokro**	**146.79**	**181**	PKPbc		**PKPab**	**01 14 08.1**	**-0.1**
	comp=Z,3.5nm,0.5s,baz=152,slow=4.5,SNR=9.5							
TORD	**Torodi Ar. Bea**	**152.48**	**195**	PKPbc		**PKPbc**	**01 14 19.8**	**-1.0**
	comp=Z,0.5nm,0.5s,baz=160,slow=3.7,SNR=15							

*WEL **27** 01:13:12.9±0.9, 45°S±5°×167°E±°, h70km±8km, M4.6/12, ML4.7/12, MLv4.6/12, Error ellipse: s-maj=0.0km s-min=0.0km az=125.9, confirmed*
*IDC **27** 01:13:13.7±2.5, 44°90S×167°63E, h109km±26km, mb3.7/5, mbtmp4.1/7, MS2.8/1, Error ellipse: s-maj=24.7km s-min=18.4km az=66.0*
*NOU **27** 01:13:13.0, 45°.12S×167°.47E, h73km, mb4.2/19, South Island, New Zealand*

ISC 27 01:13:12.9±0.7, 45°.13S±0°.05×167°.42E±0°.05, h86km±6km, n87, σ1°45/92, mb4.2/5, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.39**	**209**	P		P	**Pn**	**01 13 25.5**	**-0.9**
DCZ				S		S	**Sn**	**01 13 35.4**	**-1.0**
MLZ	**Mavora Lakes**	**0.55**	**116**	P		P	**Pn**	**01 13 27.9**	**+0.2**
MLZ				S		S	**Sn**	**01 13 39.5**	**+0.3**
MSZ	**Milford Sound**	**0.58**	**38**	P		P	**Pn**	**01 13 28.2**	**+0.3**
MSZ				S		S	**Sn**	**01 13 39.6**	**+0.5**
WHZ	**Wether Hill Ro**	**0.85**	**154**	P		P	**Pn**	**01 13 30.5**	**-0.1**
WHZ				S		S	**Sn**	**01 13 43.7**	**-0.1**
PYZ	**Puysegur Point**	**1.16**	**206**	P		P	**Pn**	**01 13 34.0**	**-0.2**
PYZ	**Puysegur Point**	**1.16**	**206**	P		P	**Pn**	**01 13 33.6**	**-0.6**
PYZ				S		S	**Sn**	**01 13 49.1**	**-1.2**
WKZ	**Wanaka**	**1.17**	**76**	P		P	**Pn**	**01 13 35.2**	**+0.8**
WKZ				S		S	**Sn**	**01 13 51.5**	**+1.0**
EAZ	**Earnscleugh**	**1.34**	**95**	P		P	**Pn**	**01 13 37.1**	**+0.7**
EAZ				S		S	**Sn**	**01 13 54.8**	**+0.6**
JCZ	**Jackson Bay**	**1.44**	**43**	P		P	**Pn**	**01 13 37.5**	**-0.3**
JCZ	**Jackson Bay**	**1.44**	**43**	P		P	**Pn**	**01 13 37.4**	**-0.3**
APZ	**The Paps**	**1.75**	**167**	P		P	**Pn**	**01 13 41.1**	**-0.6**
APZ				S		S	**Sn**	**01 14 02.9**	**-0.7**
TUZ	**Tuapeka**	**1.76**	**119**	P		P	**Pn**	**01 13 42.0**	**+0.2**
SYZ	**Scrubby Hill**	**1.85**	**140**	P		P	**Pn**	**01 13 42.9**	**0.0**
SYZ	**Scrubby Hill**	**1.85**	**140**	P		P	**Pn**	**01 13 42.9**	**0.0**
SYZ				S		S	**Sn**	**01 14 05.5**	**-0.3**
LBZ	**Lake Benmore**	**2.10**	**70**	P		P	**Pn**	**01 13 45.5**	**-0.8**
ODZ	**Otahua Downs**	**2.29**	**89**	P		P	**Pn**	**01 13 48.2**	**-0.5**
ODZ	**Otahua Downs**	**2.29**	**89**	P		P	**Pn**	**01 13 48.3**	**-0.3**
FOZ	**Fox Glacier**	**2.34**	**48**	P		P	**Pn**	**01 13 48.2**	**-1.2**
HHSZ	**Highcliff Hill**	**2.36**	**110**	P		P	**Pn**	**01 13 49.9**	**+0.2**
TMZ	**Timaru**	**2.66**	**75**	P		P	**Pn**	**01 13 52.5**	**-1.3**
GCSZ	**Gaunt Creek Bo**	**2.77**	**50**	P		P	**Pn**	**01 13 53.6**	**-1.5**
ARCZ	**Arundel**	**2.93**	**68**	P		P	**Pn**	**01 13 55.6**	**-1.9**
RPZ	**Rata Peaks**	**2.96**	**63**	P		P	**Pn**	**01 13 56.1**	**-1.6**
RPZ	**Rata Peaks**	**2.96**	**63**	P		P	**Pn**	**01 13 56.2**	**-1.6**
	192nm,0.5s,baz=225,slow=6.4,SNR=180								
RPZ				S			**Sn**	**01 14 29.1**	**-3.3**
	602nm,0.5s,baz=190,slow=22,SNR=45								
RPZ				LR		LR		01 15 04.0	
	comp=Z,177nm,19.9s,baz=85,slow=40								
RPZ	**Rata Peaks**	**2.96**	**63**	P		P	**Pn**	**01 13 56.2**	**-1.6**
WVZ	**Waitaha Valley**	**3.15**	**50**	P		P	**Pn**	**01 13 58.4**	**-1.9**
WACZ	**Wakanui South**	**3.37**	**71**	P		P	**Pn**	**01 14 01.6**	**-1.7**
MHCZ	**Mount Hutt**	**3.38**	**63**	P		P	**Pn**	**01 14 01.4**	**-2.0**
RACZ	**Rakaia**	**3.66**	**69**	P		P	**Pn**	**01 14 06.4**	**-0.8**
INZ	**Inchbonnie**	**3.77**	**52**	P		P	**Pn**	**01 14 07.0**	**-1.7**
OXZ	**Oxford**	**3.78**	**63**	P		P	**Pn**	**01 14 06.1**	**-2.7**
MQZ	**McQueen's Vall**	**4.01**	**71**	P		P	**Pn**	**01 14 09.9**	**-2.0**
LTZ	**Lake Taylor**	**4.21**	**58**	P		P	**Pn**	**01 14 12.2**	**-2.6**
AMCZ	**Amberley**	**4.24**	**64**	P		P	**Pn**	**01 14 13.2**	**-1.9**
OKCZ	**Okains Bay**	**4.28**	**73**	P		P	**Pn**	**01 14 14.5**	**-1.1**
GVZ	**Greta Valley S**	**4.59**	**64**	P		P	**Pn**	**01 14 17.7**	**-2.1**
DSZ	**Denniston Nort**	**4.65**	**45**	P		P	**Pn**	**01 14 19.6**	**-2.1**
KHZ	**Kahutara**	**5.19**	**61**	P		P	**Pn**	**01 14 27.0**	**-1.0**
KHZ	**Kahutara**	**5.19**	**61**	P		P	**Pn**	**01 14 27.0**	**-1.0**
THZ	**Tophouse**	**5.22**	**52**	P		P	**Pn**	**01 14 25.5**	**-3.0**
MRNZ	**Matariki Terra**	**5.39**	**48**	P		P	**Pn**	**01 14 29.4**	**-1.4**
QRZ	**Quartz Range**	**5.70**	**43**	P		P	**Pn**	**01 14 33.8**	**-1.2**
QRZ	**Quartz Range**	**5.70**	**43**	P		P	**Pn**	**01 14 34.0**	**-1.0**
TKNZ	**Takaka Hill**	**5.76**	**47**	P		P	**Pn**	**01 14 35.0**	**-0.8**
NNZ	**Nelson**	**5.85**	**50**	P		P	**Pn**	**01 14 36.5**	**-0.5**
TUWZ	**Tuamarina**	**6.03**	**54**	P		P	**Pn**	**01 14 40.9**	**+1.6**
TCW	**Tory Channel**	**6.36**	**54**	P		P	**Pn**	**01 14 44.5**	**+0.5**
DUWZ	**D'Urville Isla**	**6.44**	**50**	P		P	**Pn**	**01 14 45.5**	**+0.5**
SNZO	**South Karori**	**6.55**	**57**	P		P	**Pn**	**01 14 46.8**	**+0.3**
NBEZ	**Newall Road No**	**7.56**	**41**	P		P	**Pn**	**01 14 59.2**	**-1.1**
KHEZ	**Kahui Hut**	**7.61**	**42**	P		P	**Pn**	**01 15 00.4**	**-0.7**
KHEZ	**Kahui Hut**	**7.61**	**42**	P		P	**Pn**	**01 15 00.9**	**-0.2**
LREZ	**Lake Rotokare**	**7.67**	**45**	P		P	**Pn**	**01 15 02.8**	**+1.0**
VRZ	**Vera Road**	**8.10**	**45**	P		P	**Pn**	**01 15 08.4**	**+0.7**
WNWZ	**Wahianoa**	**8.39**	**49**	P		P	**Pn**	**01 15 14.7**	**+2.9**
NGZ	**Ngauruhoe**	**8.50**	**48**	P		P	**Pn**	**01 15 15.8**	**+2.5**
HIZ	**Hauiti**	**8.63**	**43**	P		P	**Pn**	**01 15 14.8**	**-0.1**
HIZ	**Hauiti**	**8.63**	**43**	P		P	**Pn**	**01 15 15.0**	**+0.1**
URZ	**Urewera**	**9.97**	**50**	P		P	**Pn**	**01 15 31.4**	**-1.8**
	18nm,1.1s,baz=292,slow=16,SNR=2.1								
URZ				S		Sn		01 17 10.2	-13
	8.0nm,0.7s,baz=246,slow=10.0,SNR=1.8								
WCZ	**Waipu Caves**	**10.58**	**32**	P		P	**Pn**	**01 15 41.5**	**+0.1**
OUZ	**Omahuta**	**10.96**	**28**	P		P	**Pn**	**01 15 46.5**	**-0.2**
OUZ	**Omahuta**	**10.96**	**28**	P		P	**Pn**	**01 15 46.5**	**-0.2**
GLAD	**Gladstone**	**14.78**	**279**	P		P	**Pn**	**01 16 36.8**	**-0.4**
MOO	**Moorlands**	**14.86**	**273**	P		P	**Pn**	**01 16 39.4**	**+1.2**
MILA	**Mila**	**15.94**	**294**	P		P	**Pn**	**01 16 52.9**	**+0.9**
CNB	**Canberra Magne**	**16.89**	**299**	P		P	**Pn**	**01 17 05.2**	**+1.4**
CAN	**Canberra**	**17.11**	**299**	P		P	**Pn**	**01 17 08.3**	**+1.4**
TOO	**Toolangi**	**18.08**	**287**	P		P	**P**	**01 17 18.6**	**+1.1**
YNG	**Young**	**18.15**	**300**	P		P	**Pn**	**01 17 20.8**	**+1.7**
BRAT	**Ballarat**	**19.15**	**285**	P		P	**P**	**01 17 30.0**	**+0.8**
ASAR	**Alice Springs**	**34.61**	**297**	P		P	**P**	**01 19 52.3**	**-1.3**
	0.4nm,0.5s,baz=132,slow=6.9,SNR=10								
ASAR				PcP		PcP	**PcP**	**01 22 24.0**	**-2.2**
	0.6nm,0.8s,baz=135,slow=3.9,SNR=2.2								
	0.4nm,0.5s								
WRA	**Warramunga Arr**	**37.11**	**302**	P		P	**P**	**01 20 13.6**	**-1.4**
	0.6nm,0.6s,baz=137,slow=8.1,SNR=11								
WRA				PcP		PcP	**PcP**	**01 22 31.3**	**-2.4**
	0.4nm,0.5s,baz=141,slow=3.2,SNR=7.3								
	0.6nm,0.6s								
H01W1	**Cape Leeuwin H**	**41.39**	**265**	T		T		02 04 45.6	
	baz=120,slow=75,SNR=53								
H01W2	**Cape Leeuwin H**	**41.40**	**265**	T		T		02 04 44.2	
	baz=120,slow=75,SNR=49								
H01W3	**Cape Leeuwin H**	**41.41**	**265**	T		T		02 04 46.9	
	baz=120,slow=75,SNR=58								
QSPA	**South Pole Qui**	**45.00**	**180**	P		P	**P**	**01 21 20.1**	**+0.7**
	2.8nm,0.8s,baz=12,slow=0.6,SNR=18								
	2.8nm,0.8s								
MAW	**Mawson**	**54.25**	**207**	P		P	**P**	**01 22 29.0**	**-0.3**
	1.8nm,0.7s,baz=135,slow=10.0,SNR=3.3								
	1.8nm,0.7s								
SNAA	**Sanae**	**63.30**	**183**	P		P	**P**	**01 23 31.4**	**-0.6**
	3.6nm,0.6s,baz=212,slow=7.6,SNR=5.0								
	3.6nm,0.6s								
H08S2	**Diego Garcia H**	**88.11**	**261**	T		T		03 03 03.4	
	baz=136,slow=76,SNR=69								
H08S1	**Diego Garcia H**	**88.12**	**261**	T		T		03 03 04.2	
	baz=136,slow=76,SNR=48								
H08S3	**Diego Garcia H**	**88.12**	**261**	T		T		03 03 04.9	
	baz=136,slow=76,SNR=93								
SPITS	**Spitsbergen Ar**	**144.97**	**350**	PKP		PKPbc		01 32 36.0	-1.9
	6.0nm,0.7s,baz=94,slow=5.0,SNR=8.3								
BRTR	**Keskin Array B**	**145.83**	**278**	PKPbc		**PKPdf**	**01 32 40.1**		**-1.1**
	1.4nm,0.7s,baz=142,slow=5.4,SNR=11								
TORD	**Torodi Ar. Bea**	**145.89**	**205**	PKPbc		**PKPdf**	**01 32 40.5**		**-1.3**
	5.5nm,0.6s,baz=124,slow=1.4,SNR=29								
ARCES	**ARCESS Array B**	**149.00**	**335**	PKPbc		**PKPdf**	**01 32 46.5**		**+1.2**
	2.3nm,0.8s,baz=25,slow=3.0,SNR=4.3								
AKASG	**Malin Array Be**	**151.72**	**297**	PKPbc		**PKPdf**	**01 32 53.2**		**+3.2**
	2.6nm,0.9s,baz=79,slow=2.5,SNR=5.1								
FINES	**FINESS Array B**	**152.26**	**320**	PKPbc		**PKPdf**	**01 32 55.1**		**+4.6**
	2.6nm,0.8s,baz=40,slow=3.8,SNR=12								

*SDD **27** 01:15:08.3±2.2, 17°.73N×72°.80W, h12km±999km, MD3.6, ML3.3, MW3.3*
*OSPL **27** 01:15:09.1±1.8, 17°.71N×72°.71W, h0km±7km, ML2.8*
*SSNC **27** 01:15:10.5±1.3, 17°.76N×72°.65W, h16km±11km, MD3.3, ML2.9*

ISC 27 01:15:08.6±1.9, 17°.79N±0°.09×72°.71W±0°.05, h15km±13km, n19, σ1°31/39, 8C-6D, Haiti region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PAPH	**Port-au-Prince**	**0.83**	**28**	⇓*e*P	g	P	**Pb**	**01 15 24.6**	**-0.1**
PAPH				⇑*e*S	g	S	**Sb**	**01 15 36.4**	**+0.7**
PAPH				IAML				01 15 38.8	
	comp=E,1μm,0.2s								
PAPH				IAML				01 15 43.7	
	comp=N,2μm,0.4s								
**

SHME				S		**Sn**	**01 42 53.6 -2.7**
NAZ	**Nazwa, Dubai**	**9.57**	**137**	P		**Pn**	**01 41 21.1 +0.6**
NAZ	**Nazwa, Dubai**	**9.57**	**137**	P		**Pn**	**01 41 22.0 +1.5**
NAZ				S		**Sn**	**01 43 03.2 -4.9**
MASF	**Masafi**	**9.58**	**133**	P		**Pn**	**01 41 21.2 +0.4**
MASF				S		**Sn**	**01 43 02.7 -5.8**
MSFE	**Esma-Masafi**	**9.59**	**133**	P		**Pn**	**01 41 20.1 -0.7**
ASUD	**Al Ashush, Dub**	**9.66**	**139**	P		**Pn**	**01 41 22.6 +0.8**
ASUD	**Al Ashush, Dub** SNR=9.3	**9.66**	**139**	P		**Pn**	**01 41 23.4 +1.7**
ASUD				S		**Sn**	**01 43 07.4 -3.1**
FAQ	**Al Faqa, Dubai**	**9.72**	**138**	P		**Pn**	**01 41 23.4 +0.9**
FAQ				S		**Sn**	**01 43 07.7 -4.0**
MDH	**Madha**	**9.72**	**133**	P		**Pn**	**01 41 21.5 -1.1**
MDH	**Madha**	**9.72**	**133**	P		**Pn**	**01 41 22.3 -0.2**
MDH				S		**Sn**	**01 43 05.5 -6.4**
GEYT	**Alibeck**	**9.79**	**51**	Pn		**Pn**	**01 41 27.1 +3.7**
GEYT	**Alibeck** 0.6nm,0.3s,baz=244,slow=13,SNR=6.7 1.3nm,0.4s	**9.79**	**51**	Pn		**Pn**	**01 41 25.0 +1.6**
GYA0B	**ALIBECK ARRAY**	**9.79**	**51**	Pn		**Pn**	**01 41 27.2 +3.8**
UOSS	**Minazif**	**9.92**	**135**			**Pn**	**01 41 26.8 +1.4**
UOSS	**Minazif**	**9.92**	**135**	P		**Pn**	**01 41 24.2 -1.1**
UOSS	**Minazif**	**9.92**	**135**	P		**Pn**	**01 41 25.8 +0.4**
UOSS				S		**Sn**	**01 43 11.0 -5.8**
HATD	**Hatta, Dubai**	**9.97**	**135**	P		**Pn**	**01 41 26.4 +0.4**
HATD	**Hatta, Dubai**	**9.97**	**135**	P		**Pn**	**01 41 27.0 +1.0**
HATD				S		**Sn**	**01 43 13.4 -4.6**
ASHO	**Ashiyiah**	**10.03**	**136**	P		**Pn**	**01 41 26.4 -0.4**
ASHO				S		**Sn**	**01 43 14.2 -5.4**
ASHO	**Ashiyiah** SNR=14	**10.03**	**136**	P		**Pn**	**01 41 27.6 +0.8**
ASHO				S		**Sn**	**01 43 14.4 -5.2**
MZR	**Muzera**	**10.17**	**153**	P		**Pn**	**01 41 29.4 +0.6**
MZR	**Muzera** SNR=37	**10.17**	**153**	P		**Pn**	**01 41 29.8 +1.0**
MZR				S		**Sn**	**01 43 20.3 -2.7**
ALNE	**Al Ain**	**10.35**	**140**	P		**Pn**	**01 41 31.5 +0.4**
ALNE	**Al Ain** SNR=5.3	**10.35**	**140**	P		**Pn**	**01 41 32.1 +1.0**
ALNE				S		**Sn**	**01 43 24.5 -2.7**
SOHO	**SOHO**	**10.73**	**136**	P		**Pn**	**01 41 36.8 +0.4**
SOHO				S		**Sn**	**01 43 32.5 -4.1**
MMAI	**Mount Meron Ar** comp=Z,52nm,19.8s,baz=54,slow=39	**11.03**	**278**	LR		LR	01 46 10.0
ARQ	**Araqi** SNR=9.3	**11.35**	**139**	P		**Pn**	**01 41 45.8 +1.0**
ARQ				S		**Sn**	**01 43 48.3 -3.4**
HOQ	**Hoqain**	**11.61**	**135**	P		**Pn**	**01 41 49.4 +1.0**
HOQ				S		**Sn**	**01 43 55.4 -2.8**
EIL	**Elat** 0.4nm,0.3s,baz=193,slow=11,SNR=2.0	**11.85**	**261**	Pn		**Pn**	**01 41 50.9 -0.8**
EIL	comp=Z,46nm,19.1s,baz=66,slow=42 1.3nm,0.4s			LR		LR	01 47 18.5
BSY	**Bisya** SNR=5.9	**12.19**	**138**	P		**Pn**	**01 41 57.3 +0.9**
BSY				S		**Sn**	**01 44 08.9 -3.6**
KBZ	**Khabaz** comp=Z,176nm,18.7s,baz=155,slow=40	**12.33**	**341**	LR		LR	01 47 17.5
SMDO	**Samad**	**12.45**	**134**	P		**Pn**	**01 42 00.3 +0.3**
SMDO				S		**Sn**	**01 44 12.8 -6.1**
WSAR	**Wadi Sarin** 0.7nm,0.3s,baz=310,slow=8.5,SNR=6.7	**12.67**	**132**	Pn		**Pn**	**01 42 01.8 -1.3**
WSAR	0.4nm,0.3s,baz=97,slow=10,SNR=2.2			Sn		Sn	01 44 15.7 -8.5
WSAR	comp=Z,152nm,19.9s,baz=344,slow=42 2.9nm,0.5s			LR		LR	01 47 53.2
JMDO	**Jabal Madar** SNR=5.3	**13.01**	**136**	P		**Pn**	**01 42 08.0 +0.4**
JMDO				S		**Sn**	**01 44 26.7 -5.7**
WBK	**Wadi Bani Khal**	**13.35**	**133**	P		**Pn**	**01 42 12.8 +0.6**
WBK				S		**Sn**	**01 44 34.8 -5.9**
MHTO	**MHTO** SNR=8.9	**14.02**	**140**	P		**Pn**	**01 42 21.5 +0.1**
BRTR	**Keskin Array B** baz=128,slow=12,SNR=1.9	**14.14**	**306**	Pn		**Pn**	**01 42 25.1 +1.9**
BRTR	comp=Z,82nm,18.9s,baz=106,slow=42 0.3nm,0.8s			LR		LR	01 48 56.9
DOK	**Doka**	**14.45**	**158**	P		**Pn**	**01 42 25.9 -1.3**
DQM	**DQM**	**14.68**	**144**	P		**Pn**	**01 42 28.9 -1.5**
WHFO	**Wadi Hawf**	**14.99**	**160**	P		**Pn**	**01 42 32.4 -2.3**
RBK	**Rabkut**	**15.52**	**159**	P		**Pn**	**01 42 39.5 -2.1**
DMTO	**DMTO** SNR=12	**15.56**	**156**	P		**Pn**	**01 42 40.3 -1.8**
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=133,slow=3.4,SNR=2.4 1.0nm,0.4s	**19.57**	**19**	P		**P**	**01 43 30.2 -0.4**
MLR	**Muntele Rosu**	**21.90**	**314**	⇑P		P	01 44 03.1 +7.1
MLR	**Muntele Rosu** 3.0nm,0.7s,baz=90,slow=20,SNR=1.6 3.0nm,0.7s	**21.90**	**314**	P		**P**	**01 43 57.9 +2.0**
COVR	**Voineasa-Covas**	**21.92**	**315**	⇑P		**P**	**01 44 00.8 +4.7**
TESR	**Tescani**	**22.01**	**317**	⇑P		**P**	**01 43 58.1 +1.1**
SORM	**Soroca**	**22.03**	**322**	⇓P		**P**	**01 44 01.4 +4.3**
ITM	**Ithomi**	**22.33**	**290**	P		**P**	**01 43 59.9 -0.6**
ITM	comp=Z,10.0nm,0.9s			IAmb		IAmb	01 44 14.6
VOIR		**22.43**	**313**	⇑P		**P**	**01 44 05.6 +4.1**
AAK	**Ala-Archa** comp=Z,163nm,18.4s,baz=262,slow=41	**23.09**	**56**	LR		LR	01 54 56.7
AKASG	**Malin Array Be** comp=Z,0.1nm,0.3s,baz=135,slow=10,SNR=1.5	**23.33**	**328**	P		**P**	**01 44 11.5 +0.7**
BURAR	**Bucovina Array**	**23.43**	**318**	⇓P		**P**	**01 44 14.5 +2.5**
BOOM	**Boomskoye usch**	**24.07**	**57**	P		**P**	**01 44 20.6 +2.3**
BOOM	comp=Z,8.6nm,1.1s			IAmb		IAmb	01 44 26.3
MARR	**Marisel-Cluj**	**24.20**	**314**	⇑P		**P**	**01 44 21.0 +1.7**
OBN	**Obninsk** comp=Z,70nm,18.4s,baz=164,slow=40	**24.41**	**343**	LR		LR	01 55 14.1
DRGR		**24.50**	**314**	⇓P		**P**	**01 44 23.0 +1.0**
SIRR	**Siria**	**24.92**	**312**	⇑P		**P**	**01 44 26.4 +0.7**
ARU	**Arti** comp=Z,36nm,19.0s,baz=111,slow=41	**25.25**	**13**	LR		LR	01 56 12.6
BVAR	**Borovoye Array** comp=Z,1.0nm,0.5s,baz=222,slow=8.3,SNR=7.3	**26.17**	**31**	P		**P**	**01 44 37.5 +0.5**
BVAR	comp=Z,74nm,18.0s,baz=222,slow=42 Z,1.0nm,0.5s			LR		LR	01 57 09.9
MKAR	**Makanchi Array** comp=Z,0.4nm,0.6s,baz=190,slow=27,SNR=3.8	**29.66**	**51**	P		**P**	**01 45 07.7 -0.7**
MKAR	comp=Z,39nm,18.5s,baz=252,slow=37 Z,0.4nm,0.6s			LR		LR	01 57 20.0
WTTA	**Wattenberg** comp=Z,0.7nm,0.3s	**31.73**	**309**	*i* P		**P**	**01 45 26.4 -0.5**
WATA	**Walderalm** comp=Z,0.8nm,0.4s	**31.79**	**309**	*e*P		**P**	**01 45 26.7 -0.6**
SQTA	**Sankt Quirin** comp=Z,1.3nm,0.4s	**32.00**	**309**	*e*P		**P**	**01 45 28.2 -0.9**
MOTA	**Moosalm** comp=Z,0.4nm,0.3s	**32.10**	**309**	*i* P		**P**	**01 45 28.8 -1.2**
RETA	**Reutte** comp=Z,0.3nm,0.3s	**32.36**	**309**	*i* P		**P**	**01 45 31.0 -1.2**
FUORN	**Ofenpass-Fuorn**	**32.49**	**308**	P		**P**	**01 45 34.6 +1.0**
FUORN	comp=Z,1.6nm,1.1s			IAmb		IAmb	01 45 39.3
FINES	**FINESS Array B**	**32.69**	**340**	P		**P**	**01 45 34.9 +0.1**
FINES	**FINESS Array B** comp=Z,1.2nm,0.5s,baz=146,slow=9.3,SNR=9.1 comp=Z,1.2nm,0.5s	**32.69**	**340**	P		**P**	**01 45 34.6 -0.1**
DAVA	**Damuels** comp=Z,1.5nm,0.3s	**32.90**	**309**	*i* P		**P**	**01 45 36.3 -0.7**
ZALV	**Zalesovo Beam** comp=Z,0.8nm,0.3s,baz=247,slow=7.4,SNR=3.6	**33.79**	**39**	P		**P**	**01 45 45.5 +0.9**
ZALV	comp=Z,39nm,20.9s,baz=38,slow=40 Z,0.8nm,0.3s			LR		LR	02 01 40.0
BNI	**Bardonecchia**	**34.69**	**304**	P		**P**	**01 45 52.8 +0.1**
BNI	comp=Z,1.9nm,0.7s			IAmb		IAmb	01 45 55.8
HFS	**Hagfors** comp=Z,2.9nm,0.4s,baz=119,slow=9.3,SNR=25 comp=Z,2.9nm,0.4s	**36.14**	**331**	P		**P**	**01 46 04.3 -0.4**
MBAR	**Mbarara** comp=Z,39nm,18.8s,baz=84,slow=40	**36.65**	**211**	LR		LR	02 03 13.6
NC405	**NORSAR Array S**	**37.50**	**332**	P		**P**	**01 46 15.9 -0.4**
NB2	**NORSAR Subarra** comp=Z,1.5nm,0.8s,baz=123,slow=8.6	**37.66**	**331**	P		**P**	**01 46 16.7 -1.0**
NOA	**NORSAR Array B** comp=Z,0.4nm,0.6s,baz=123,slow=8.4,SNR=5.4	**37.66**	**331**	P		**P**	**01 46 16.7 -1.0**
NOA	comp=Z,29nm,18.1s,baz=110,slow=38 comp=Z,0.4nm,0.6s			LR		LR	02 03 04.2
NAO01	**NORSAR Array S**	**37.69**	**331**	P		**P**	**01 46 19.8 +1.8**
NC303	**NORSAR Array S**	**37.70**	**332**	P		**P**	**01 46 18.0 0.0**
NC303	comp=Z,2.6nm,0.9s			IAmb		IAmb	01 46 18.0
NBO00	**NORSAR Array S**	**37.84**	**331**	P		**P**	**01 46 19.2 0.0**
NBO00	comp=Z,5.4nm,1.1s			IAmb		IAmb	01 46 33.5
NC204	**NORSAR Array S**	**37.97**	**331**	P		**P**	**01 46 20.0 -0.3**
NC204	comp=Z,3.1nm,0.9s			IAmb		IAmb	01 46 23.0
ARCES	**ARCESS Array B** comp=Z,4.5nm,1.0s,baz=140,slow=7.7,SNR=9.3	**39.57**	**348**	P		**P**	**01 46 33.9 +0.3**
ARCES	comp=Z,14nm,21.0s,baz=340,slow=40 Z,4.5nm,1.0s			LR		LR	02 05 08.8
ESDC	**Sonseca Array** comp=Z,0.9nm,1.1s,baz=72,slow=7.6,SNR=3.7 comp=Z,0.9nm,1.1s	**42.58**	**295**	P		**P**	**01 46 58.3 -0.6**
TORD	**Torodi Ar. Bea** comp=Z,0.6nm,0.6s,baz=40,slow=10,SNR=8.1 comp=Z,0.6nm,0.6s	**46.70**	**257**	P		**P**	**01 47 32.1 +0.2**
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.3s,baz=316,slow=6.4,SNR=1.6 comp=Z,1.1nm,0.3s	**47.26**	**94**	P		**P**	**01 47 35.8 -0.4**
SPITS	**Spitsbergen Ar** comp=Z,2.3nm,0.4s,baz=137,slow=11,SNR=19 comp=Z,2.3nm,0.4s	**48.18**	**352**	P		**P**	**01 47 43.1 +0.4**
YAK	**Yakutsk** comp=Z,46nm,19.0s,baz=42,slow=40	**58.11**	**33**	LR		LR	02 18 17.5
KLR	**Kul'dur** comp=Z,38nm,18.6s,baz=148,slow=36	**62.29**	**47**	LR		LR	02 16 52.5
BOSA	**Boshof** comp=Z,72nm,19.7s,baz=7.0,slow=37	**64.35**	**203**	LR		LR	02 18 36.9
JNU	**Nakatsue** comp=Z,36nm,19.2s,baz=78,slow=40	**67.55**	**64**	LR		LR	02 23 34.3

IDC 27 01:39:09.1±3.1, 0.78S×133.43E, h0km, mb3.3/2, mbtmp3.3/3, ML3.3/1, MS3.4/1, Error ellipse: s-maj=158.2km s-min=28.5km az=75.0, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=356,slow=11,SNR=5.0 0.3nm,0.4s	**19.06**	**177**	P	P	01 43 32.7	-0.5
ASAR	**Alice Springs** 0.5nm,0.9s,baz=6.5,slow=9.8,SNR=6.1	**22.75**	**179**	P	P	01 44 13.5	+0.3
ASAR	comp=Z,97nm,20.6s,baz=54,slow=39 0.5nm,0.9s			LR	LR	01 54 00.3	
MKAR	**Makanchi Array** 0.5nm,0.6s,baz=108,slow=7.8,SNR=4.2 0.5nm,0.6s	**65.09**	**324**	P	P	01 49 51.6	0.0

*NEIC **27** 01:50:01.9±0.9, 36.06N±0.01×97.55W±0.02, h6km±4km, Error ellipse: s-maj=2.0km s-min=1.8km az=132.0*
TUL 27 01:50:01.9±1.1, 36.07N±0.01×97.56W±0.02, h5km±4km, ML2.2, mb_Lg2.2/22(NEIC), ML2.5/72(NEIC), Error ellipse: s-maj=1.8km s-min=1.7km az=128.0, Oklahoma

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.29**	**163**		Pg	01 50 14.5	0.0
OK029	895nm,0.3s			IAML		01 50 14.1	
ADOK	**Arcadia Dam**	**0.45**	**160**	Pg	Pg	01 50 10.4	-0.1
CROK	**Carrier**	**0.55**	**322**		Pg	01 50 12.7	+0.2
CROK	comp=N,311nm,0.4s			IAML		01 50 22.3	
CROK	comp=E,261nm,0.3s			IAML		01 50 22.3	
OK031	**S. Brethren Rd**	**0.60**	**101**		Pg	01 50 13.5	+0.2
OK031	comp=E,195nm,0.3s			IAML		01 50 23.8	
OK048	**Pawnee Station**	**0.60**	**55**	Pg	Pg	01 50 13.4	-0.1
OK052	**Battle Ridge R**	**0.62**	**97**		Pg	01 50 14.0	+0.2
OK052	comp=E,235nm,0.2s			IAML		01 50 24.4	
OKCSW	**OKLAHOMA CITY**	**0.67**	**172**	Pg	Pg	01 50 14.9	+0.1
OKCSW	comp=E,283nm,0.1s			IAML		01 50 26.9	
QUOK	**Quay**	**0.70**	**82**		Pg	01 50 15.3	0.0
QUOK	comp=E,180nm,0.1s			IAML		01 50 27.2	
OK051	**E0350 and S346**	**0.73**	**53**		Pg	01 50 15.9	0.0
OK051	comp=E,183nm,0.2s			IAML		01 50 28.4	
OK051	comp=E,212nm,0.2s			IAML		01 50 30.2	
BLOK	**Blackwell**	**0.74**	**22**		Pg	01 50 16.2	0.0
BLOK	comp=N,201nm,0.2s			IAML		01 50 31.0	
BLOK	comp=E,173nm,0.2s			IAML		01 50 32.7	
GC02	**Grant County #**	**0.81**	**343**		Pg	01 50 16.9	-0.7
FNO	**Franklin**	**0.82**	**171**	Pg	Pg	01 50 17.3	-0.4
FNO	comp=E,156nm,0.2s			IAML		01 50 33.3	
DEOK	**Depew**	**0.89**	**105**	Pg	Pg	01 50 19.1	+0.1
DEOK	comp=N,120nm,0.2s			IAML		01 50 32.9	
OK032	**Salt Plains WL**	**0.90**	**324**		Pg	01 50 19.0	-0.2
KAN13	**South Haven SW**	**0.94**	**4**		Pg	01 50 20.1	+0.2
KAN13	comp=N,168nm,0.3s			IAML		01 50 41.7	
KAN14	**Manchester OK**	**0.94**	**340**	Pg	Pb	01 50 20.6	-0.1
KAN17	**Caldwell West**	**0.98**	**350**		Pn	01 50 22.6	+0.2
KAN17	comp=N,143nm,0.3s			IAML		01 50 36.7	
CSTR	**Hydro, Custer**	**1.01**	**245**	Pn	Pn	01 50 22.7	-0.1
OK038	**West end E0370**	**1.04**	**293**		Pg	01 50 21.7	-0.1
OK038	comp=N,155nm,0.3s			IAML		01 50 47.2	
KAN09	**Caldwell North**	**1.06**	**357**	Pg	Pg	01 50 21.9	-0.3
KAN05	**Bluff City Nor**	**1.06**	**346**	Pg	Pg	01 50 22.0	-0.4
KAN01	**Argonia South**	**1.09**	**352**	Pg	Pg	01 50 22.4	-0.4
KAN01	comp=N,131nm,0.1s			IAML		01 50 38.9	
OK035	**E0210 Rd and N**	**1.12**	**305**	Pg	Pg	01 50 23.5	0.0
OK035	comp=N,109nm,0.2s			IAML		01 50 42.7	
OK035	comp=N,116nm,0.3s			IAML		01 50 43.5	
KAN10	**Anthony SW Sta**	**1.13**	**338**	Pg	Pg	01 50 23.6	-0.1
KAN10	comp=E,120nm,0.1s			IAML		01 50 42.7	
KAN10	comp=N,68nm,0.1s			IAML		01 50 43.3	
T35A	**Sooner Cattle** comp=N,66nm,0.5s	**1.19**	**45**	IAML		01 50 45.5	
T35A	comp=E,66nm,0.5s			IAML		01 50 49.1	
KAN06	**Argonia West S**	**1.20**	**348**	Pg	Pg	01 50 24.8	-0.1
KAN08	**Anthony NE Sta**	**1.20**	**344**	Pg	Pg	01 50 24.9	+0.1
KAN08	comp=N,117nm,0.1s			IAML		01 50 45.8	
U32A	**Winter Ranch,**	**1.21**	**285**	Pg	Pg	01 50 24.6	-0.4
U32A	comp=N,64nm,0.2s			IAML		01 50 44.5	
U32A	comp=E,77nm,0.1s			IAML		01 50 45.6	
KAN12	**Harper NE Stat**	**1.27**	**344**	Sg	Sg	01 50 42.8	0.0
TUL3	**Leonard**	**1.44**	**96**		Pn	01 50 28.7	0.0
ELIS	**Ellis County**	**1.51**	**270**		Pg	01 50 30.8	0.0
ELIS					Sg	01 50 50.9	+0.6
WMOK	**Wichita Mounta**	**1.67**	**217**		Pn	01 50 31.8	0.0
RLO	**Rose Lookout**	**2.06**	**87**	Pn	Pn	01 50 37.8	+0.7
LOOK	**Love County**	**2.10**	**171**	Pn	Pn	01 50 37.5	-0.2
LOOK	comp=Z,9.6nm,0.9s			IAmb_Lg		01 51 12.8	
X37A	**Clayton**	**2.32**	**129**		Pn	01 50 41.3	+0.5
SMWD	**Samnorwood**	**2.39**	**247**	Pn	Pn	01 50 41.6	-0.2
R32A	**Long Quarter,**	**2.52**	**339**	Pn	Pn	01 50 43.5	-0.1
U38A	**Gravette**	**2.59**	**81**	Pn	Pn	01 50 45.9	+1.4
Z35A	**Perchaven, San**	**2.75**	**175**	Pg	Pb	01 50 51.9	+0.4
HHAR	**Hobbs**	**2.94**	**85**	Pn	Pn	01 50 50.0	+0.7
PLPT	**Palo Pinto**	**3.31**	**191**	Pg	Pg	01 51 05.3	-0.1
APMT	**Aspermont**	**3.46**	**218**	Pg	Pb	01 51 05.6	+1.9
AMTX	**Amarillo** comp=Z,8.2nm,0.9s	**3.57**	**252**	IAmb_Lg		01 51 59.4	
MIAR	**Mount Ida**	**3.60**	**114**	Pn	Pn	01 50 59.1	+0.8
S39A	**Bolivar** comp=Z,6.3nm,0.7s	**3.76**	**63**	IAmb_Lg		01 52 04.3	
ABTX	**Abilene, Hawle**	**3.85**	**207**	Pg	Pg	01 51 14.2	-1.4
SN07	**Snyder 07**	**4.05**	**224**	Pg	Pg	01 51 18.1	-1.4
SN07	comp=Z,3.6nm,0.9s			IAmb_Lg		01 52 13.0	
X40A	**Basin Creek Fa**	**4.18**	**111**		Pb	01 51 18.5	+2.7
RTBA	**Rita Blanca**	**4.20**	**276**	Pn	Pn	01 51 07.5	+0.7
MGMO	**Mountain Grove** comp=Z,5.1nm,0.7s	**4.39**	**74**	IAmb_Lg		01 52 24.5	
FCAR	**Ozark Folk Cen** comp=Z,5.1nm,0.8s	**4.41**	**91**	IAmb_Lg		01 52 24.4	
R40A	**Maddies Statio** comp=Z,8.4nm,0.8s	**4.77**	**61**	IAmb_Lg		01 52 33.7	
CCM	**Cathedral Cave** comp=Z,4.0nm,0.7s	**5.42**	**67**	IAmb_Lg		01 53 03.6	
P40A	**Paris** comp=Z,4.6nm,0.8s	**5.56**	**50**	IAmb_Lg		01 53 01.5	
T25A	**Trinidad** comp=Z,2.7nm,1.1s	**5.61**	**283**	IAmb_Lg		01 53 00.8	
PBMO	**Poplar Bluff** comp=Z,6.5nm,0.7s	**5.79**	**81**	IAmb_Lg		01 53 09.1	
SPMN	**Marine on St.** comp=Z,1.9nm,0.8s	**9.83**	**20**	IAmb_Lg		01 55 40.8	

*GUC **27** 02:22:17.5±0.9, 17.62S×69.61W, h152km±5km, ML3.4*
*IDC **27** 02:22:22.8±3.7, 16.94S×68.96W, h180km±15km, mb3.0/2, mbtmp3.5/2, Error ellipse: s-maj=90.5km s-min=34.3km az=22.0*
ISC 27 02:22:15.2±1.4, 17.56S±0.07×69.6W±0.1, h158km±9km, n12, σ1≥21/19, 5C-3D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB18	**Visviri**	**0.12**	**106**	⇓*i*P	Pn	**02 22 38.0**	**+1.0**
PB18				*i* S	Sn	**02 22 54.3**	**+0.8**
AP01	**Chacalluta**	**1.07**	**221**	*e*P	Pn	**02 22 41.6**	**+0.3**
AP01				*i* S	Sn	**02 23 01.1**	**-0.4**
AP01	comp=E,880nm,0.3s			IAML		02 23 01.5	
PB12	**IPOC Station P**	**1.26**	**213**	⇑*i*P	Pn	**02 22 43.0**	**-0.1**
PB12				*i* S	Sn	**02 23 03.4**	**-1.2**
PB12	comp=N,177nm,0.2s			IAML		02 23 05.9	
LPAZ	**La Paz** comp=N,57nm,0.3s,baz=221,slow=6.2,SNR=438	**1.89**	**48**	P	Pn	**02 22 50.9**	**+0.7**
LPAZ	comp=N,12nm,0.4s,baz=251,slow=9.7,SNR=1.7			S	Sn	**02 23 14.0**	**-3.1**
LPAZ	**La Paz**	**1.89**	**48**	⇓*i*P	Pn	**02 22 50.9**	**+0.7**
LPAZ				*i* S	Sn	**02 23 15.1**	**-2.0**
GO01	**Chusmiza**	**2.13**	**170**	⇑*i*P	Pn	**02 22 53.7**	**+0.9**
GO01				*i* S	Sn	**02 23 21.7**	**-0.2**
GO01	comp=E,303nm,0.2s			IAML		02 23 25.4	
PB11	**IPOC Station P**	**2.19**	**181**	⇑*i*P	Pn	**02 22 53.3**	**+0.1**
PB11				*i* S	Sn	**02 23 21.5**	**-1.1**
PB11	comp=E,245nm,0.3s			IAML		02 23 22.9	
PB08	**IPOC Station P**	**2.60**	**171**	⇑*i*P	Pn	**02 22 59.1**	**+0.7**
PB08				*i* S	Sn	**02 23 31.2**	**-0.6**
PB08	comp=E,126nm,0.1s			IAML		02 23 34.1	
TA01	**Diego Aracena**	**3.04**	**190**	⇑*i*P	Pn	**02 23 02.7**	**-0.7**
TA01	comp=N,70nm,0.3s			IAML		02 23 39.1	
PATCX	**Punta Patache**	**3.29**	**189**	⇓*i*P	Pn	**02 23 06.1**	**-0.5**
PATCX	comp=E,70nm,0.2s			IAML		02 23 45.5	
TXAR	**Lajitas Array** comp=E,0.1nm,0.6s,baz=135,slow=7.1,SNR=1.9 comp=E,0.1nm,0.6s	**57.05**	**324**	P	P	02 31 49.8	+4.8
TORD	**Torodi Ar. Bea** comp=E,0.9nm,0.7s,baz=260,slow=5.4,SNR=10 comp=E,0.9nm,0.7s	**76.69**	**71**	P	**P**	**02 33 50.1**	**+0.8**

*SOME **27** 02:42:01.2, 40.12N×77.70E, h15km*
*KRNET **27** 02:42:02.3±0.1, 40.18N×77.54E, mb2.7*
*NNC **27** 02:42:05.1±4.3, 40.23N×78.10E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=30.0km s-min=21.4km az=171.0*
ISC 27 02:42:05.1±1.9, 40.29N±0.09×77.65E±0.04, h10km, n47, σ1≥37/80, 25C-7D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NRN	**Naryn** baz=17	**1.70**	**313**	⇑*e*P	Pn	**02 42 34.7**	**-0.5**
NRN	baz=17			⇑*e*S	Sb	**02 42 58.2**	**0.0**
KDJ	**Kajisay** baz=52	**1.88**	**349**	⇑*i*P	Pb	**02 42 38.7**	**-0.9**
KDJ	baz=52			⇑*i*S	Sg	**02 43 05.8**	**+0.3**
ULHL	**Ulahol** baz=35	**2.23**	**332**	⇓*e*P	Pb	**02 42 44.0**	**-1.6**
ULHL	baz=35			⇓*i*S	Sb	**02 43 13.8**	**+0.4**
PRZ	**Przheval'sk** baz=15	**2.27**	**14**	⇑*e*P	Pb	**02 42 45.2**	**-1.1**
PRZ	baz=15			⇑*e*S	Sg	**02 43 16.5**	**-1.5**
ANVS	**Anan'yevo** baz=2.0	**2.50**	**0**	⇑*e*P	Pb	**02 42 47.8**	**-2.4**
ANVS	baz=2.0			⇑*e*S	Sb	**02 43 21.1**	**+0.1**
BOOM	**Boomskoye usch** baz=33	**2.55**	**330**	⇑*i*P	Pb	**02 42 48.2**	**-2.9**
BOOM	baz=33			⇑*i*S	Sb	**02 43 21.8**	**-0.8**
TNSS	**Tian-Shan** 25nm,0.8s	**2.80**	**349**	Pg	Pb	**02 42 55.7**	**+0.2**
TNSS	3.8nm,0.5s			Lg	Lg	02 43 34.9	
TNSS	**Tian-Shan** 25nm,0.4s	**2.80**	**349**	*e*P	Pb	**02 42 55.7**	**+0.2**
TNSS	3.0nm,0.3s			*e*S	Sg	**02 43 34.9**	**-0.2**
IZV	**Izvestkoviy** 7.5nm,0.5s	**2.86**	**345**	Pg	Pb	**02 42 57.0**	**+0.7**
IZV	19nm,0.5s			Lg	Lg	02 43 37.2	
IZV	**Izvestkoviy** 7.4nm,0.4s	**2.86**	**345**	*e*P	Pb	**02 42 57.0**	**+0.7**
IZV	19nm,0.5s			*e*S	Sg	**02 43 37.1**	**+0.2**
MDOK	**Medeo** 14nm,0.5s	**2.91**	**351**	⇑Pn	Pb	**02 42 56.2**	**-1.0**
MDOK	20nm,0.5s			Pg	Pb	**02 42 57.6**	**+0.4**
MDOK	9.1nm,0.7s			Lg	Lg	02 43 38.1	
MDOK	9.5nm,0.7s			⇓Sn	Sg	**02 43 38.4**	**-0.3**
MDOK	**Medeo** 20nm,0.2s	**2.91**	**351**	*e*P	Pb	**02 42 57.6**	**+0.4**
MDOK	9.1nm,0.7s			*e*S	Sg	**02 43 38.1**	**-0.5**
ARLS	**Aral** baz=6.0	**2.97**	**303**	⇑*e*P	Pn	**02 42 53.2**	**+0.7**
ARLS	baz=6.0			⇑*e*S	Sn	**02 43 29.5**	**+1.3**
KOTS	**Kotyrbulak** 13nm,0.3s	**2.97**	**352**	Pg	Pb	**02 42 59.0**	**+0.7**
KOTS	17nm,0.6s			Lg	Lg	02 43 40.6	
KOTS	**Kotyrbulak** 15nm,0.5s	**2.97**	**352**	*e*P	Pb	**02 42 59.3**	**+1.0**
KOTS	17nm,0.6s			*e*S	Sg	**02 43 41.3**	**+0.6**
MTBS	**Maitube** 8.1nm,0.4s	**2.99**	**343**	Pg	Pb	**02 42 58.9**	**+0.4**
MTBS	5.6nm

UZB					Lg	Lg	02 43 41.1		
	8.5nm,0.7s								
UZB	**Uzynbulak**	**3.04**	**19**	*eP*	**Pb**		**02 42 59.4**	**0.0**	
	7.2nm,0.3s								
UZB				*eS*	**Sg**		**02 43 41.1**	**-1.6**	
	8.5nm,0.3s								
TKM2	**Tokmak 2**	**3.05**	**330**	⇑Pn	**Pn**		**02 42 55.3**	**+1.7**	
	4.3nm,0.8s								
TKM2				⇑Sn	**Sg**		**02 43 43.1**	**-0.1**	
	8.3nm,0.7s								
TKM2	**Tokmak 2**	**3.05**	**330**	⇓*i*P	**Pn**		**02 42 55.4**	**+1.7**	
	baz=33								
TKM2				⇓*i*S	**Sb**		**02 43 33.6**	**-3.4**	
	baz=33								
UCH	**Uchtor**	**3.06**	**310**	⇑*i*P	**Pn**		**02 42 54.7**	**+0.7**	
	baz=13								
UCH				⇑*i*S	**Sn**		**02 43 32.7**	**+1.8**	
	baz=13								
KBK	**Karagaybulak**	**3.12**	**320**	⇑*i*P	**Pn**		**02 42 56.4**	**+1.8**	
	baz=23								
KBK				⇑*i*S	**Sn**		**02 43 34.4**	**+2.4**	
	baz=23								
SHLS	**Shalkode**	**3.17**	**25**	Pg	**Pb**		**02 43 01.6**	**-0.1**	
	5.5nm,0.6s								
SHLS				Lg	Lg		02 43 44.8		
	12nm,0.8s								
SHLS	**Shalkode**	**3.17**	**25**	*eP*	**Pg**		**02 43 04.4**	**-1.5**	
	5.6nm,0.2s								
SHLS				*eS*	**Sg**		**02 43 49.6**	**+2.6**	
	12nm,0.5s								
KURS	**Kuram**	**3.22**	**7**	*eP*	**Pb**		**02 43 02.2**	**-0.3**	
	5.4nm,0.4s								
KURS				*eS*	**Sg**		**02 43 46.0**	**-2.7**	
	3.2nm,0.4s								
DGS	**Degeres**	**3.27**	**335**	Pg	**Pb**		**02 43 04.3**	**+1.0**	
	5.0nm,0.4s								
DGS				Lg	Lg		02 43 50.1		
	10nm,0.6s								
DGS	**Degeres**	**3.27**	**335**	*eP*	**Pb**		**02 43 04.3**	**+1.0**	
	5.1nm,0.3s								
DGS				*eS*	**Sg**		**02 43 50.1**	**-0.2**	
	9.9nm,0.3s								
PDGK	**Podgornoye**	**3.34**	**24**	⇑Pn	**Pn**		**02 42 58.4**	**+0.9**	
	4.3nm,0.4s								
PDGK				⇓Sn	**Sb**		**02 43 44.8**	**-0.4**	
	7.8nm,0.7s								
AAK	**Ala-Archa**	**3.34**	**316**	⇑Pn	**Pb**		**02 42 04.3**	**-0.2**	
	3.3nm,0.8s								
AAK				⇑Sn	**Sg**		**02 43 50.7**	**-1.8**	
	20nm,1.1s								
CHMS	**Chumysh**	**3.48**	**322**	⇓Pn	**Pb**		**02 43 06.0**	**-0.7**	
	2.2nm,0.5s								
CHMS				⇑Sn	**Sg**		**02 43 54.7**	**-2.0**	
	14nm,0.8s								
KTBS	**Karatobe**	**3.50**	**348**	Pg	**Pb**		**02 43 08.4**	**+1.2**	
	7.0nm,0.4s								
KTBS				Lg	Lg		02 43 56.9		
	12nm,0.7s								
KTBS	**Karatobe**	**3.50**	**348**	*eP*	**Pb**		**02 43 08.4**	**+1.2**	
	7.0nm,0.4s								
KTBS				*eS*	**Sg**		**02 43 56.9**	**-0.6**	
	12nm,0.7s								
CHKK	**Chushkaly**	**3.60**	**352**	*eP*	**Pb**		**02 43 10.1**	**+1.2**	
	6.0nm,0.2s								
CHKK				*eS*	**Sg**		**02 43 59.7**	**-1.0**	
	7.2nm,0.3s								
KRBS	**Karabastau**	**3.71**	**337**	Pg	**Pb**		**02 43 11.3**	**+0.5**	
	4.5nm,0.4s								
KRBS				Lg	Lg		02 44 02.0		
	11nm,0.9s								
KRBS	**Karabastau**	**3.71**	**337**	*eP*	**Pb**		**02 43 11.3**	**+0.5**	
	4.5nm,0.2s								
KRBS				*eS*	**Sg**		**02 44 02.0**	**-2.3**	
	11nm,0.4s								
KTMS	**Ketmen**	**3.75**	**32**	Pg	**Pb**		**02 43 11.4**	**-0.1**	
	1.0nm,0.5s								
KTMS				Lg	Lg		02 44 01.9		
	2.2nm,0.4s								
KTMS	**Ketmen**	**3.75**	**32**	*eP*	**Pb**		**02 43 11.4**	**-0.1**	
	1.0nm,0.5s								
KTMS				*eS*	**Sg**		**02 44 01.9**	**-3.6**	
	2.1nm,0.1s								
USP	**Ospenovka**	**3.80**	**323**	⇑*e*P	**Pn**		**02 43 05.7**	**+1.9**	
	baz=25								
USP				⇑*i*S	**Sn**		**02 43 50.5**	**+2.0**	
	baz=25								
BLB	**Baldybastay**	**3.86**	**9**	Pg	**Pb**		**02 43 15.2**	**+1.8**	
	13nm,0.6s								
BLB				Lg	Lg		02 44 08.5		
	4.8nm,0.8s								
ARXS	**Arharly**	**3.93**	**2**	Pg	**Pb**		**02 43 15.9**	**+1.5**	
	3.0nm,0.4s								
ARXS				Lg	Lg		02 44 09.8		
	7.8nm,0.5s								
ARXS	**Arharly**	**3.93**	**2**	*eP*	**Pb**		**02 43 15.9**	**+1.5**	
	3.0nm,0.4s								
ARXS				*eS*	**Sg**		**02 44 09.8**	**-1.4**	
	7.8nm,0.3s								
MRKS	**Merke**	**4.13**	**308**	Pg	**Pb**		**02 43 19.0**	**+1.0**	
	0.9nm,0.4s								
MRKS				Lg	Lg		02 44 14.8		
	2.5nm,0.4s								
MRKS	**Merke**	**4.13**	**308**	*eP*	**Pb**		**02 43 19.0**	**+1.0**	
	0.9nm,0.1s								
MRKS				*eS*	**Sg**		**02 44 14.8**	**-3.1**	
	2.4nm,0.2s								
KNOS	**Konyrlen**	**4.22**	**15**	Pg	**Pb**		**02 43 20.9**	**+1.3**	
	4.9nm,0.7s								
KNOS				Lg	Lg		02 44 18.4		
	1.2nm,0.6s								

IDC 27 02:47:26.8±11.0, 15°43S×173°19W, h0km, mb3.5/3, mbtmp3.5/3, MS3.7/2, Error ellipse: s-maj=498.7km s-min=39.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**39.14**	**274**	LR	LR	03 10 22.2	
	comp=Z,95nm,18.2s,baz=126,slow=35						
WRA	**Warramunga Arr**	**50.03**	**257**	P	P	02 56 23.2	-0.5
	0.2nm,0.4s,baz=91,slow=6.9,SNR=2.0						
	0.2nm,0.4s						
ASAR	**Alice Springs**	**50.29**	**252**	P	P	02 56 25.7	+0.1
	0.7nm,0.7s,baz=91,slow=7.7,SNR=9.2						
	0.7nm,0.7s						
KAPI	**Kappang**	**66.58**	**271**	LR	LR	03 25 41.5	
	comp=Z,56nm,18.6s,baz=92,slow=34						
ILAR	**Eielson Array**	**82.43**	**11**	P	P	02 59 50.6	0.0
	0.3nm,0.8s,baz=215,slow=4.4,SNR=4.2						
	0.3nm,0.8s						

SOME 27 03:16:22.7, 43°35N×78°38E, h15km
NNC 27 03:16:23.8±0.8, 43°32N×78°47E, h0km, mb2.5, mpv2.4, Error ellipse: s-maj=5.2km s-min=3.5km az=169.0

ISC 27 03:16:20.9±1.6, 43°38N±0°07×78°61E±0°08, h15km±10km, n8, σ0§51/16, 1C-1D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.25**	**210**	P	**Pg**	**03 16 27.0**	**+0.6**
	3.6nm,0.1s						
ZHN				S	**Sg**	**03 16 29.7**	**-0.5**
	37nm,0.1s						
ZHN	**Zhinishke**	**0.25**	**210**	*eP*	**Pg**	**03 16 27.0**	**+0.6**
	3.6nm,0.1s						
ZHN				*eS*	**Sg**	**03 16 29.7**	**-0.5**
	37nm,0.1s						
KURS	**Kuram**	**0.33**	**288**	*eP*	**Pg**	**03 16 28.1**	**+0.3**
	0.7nm,0.1s						
KURS				*eS*	**Sg**	**03 16 32.2**	**-0.4**
	1.7nm,0.0s						
SATY	**Saty**	**0.35**	**204**	P	**Pg**	**03 16 28.7**	**+0.4**
	7.1nm,0.2s						
SATY				S	**Sg**	**03 16 32.7**	**-0.6**
	39nm,0.1s						
SATY	**Saty**	**0.35**	**204**	*eP*	**Pg**	**03 16 28.7**	**+0.4**
	7.1nm,0.2s						
SATY				*eS*	**Sg**	**03 16 32.7**	**-0.6**
	39nm,0.1s						
UZB	**Uzynbulak**	**0.39**	**128**	P	**Pn**	**03 16 32.3**	**+0.2**
	2.1nm,0.1s						
UZB				S	**Sn**	**03 16 38.9**	**-0.4**
	4.7nm,0.1s						
UZB	**Uzynbulak**	**0.39**	**128**	*eP*	**Pn**	**03 16 32.3**	**+0.2**
	2.1nm,0.1s						
UZB				*eS*	**Sn**	**03 16 38.9**	**-0.4**
	4.7nm,0.1s						
TKM2	**Tokmak 2**	**2.25**	**259**	⇓Pn	**Pb**	**03 17 01.1**	**-0.3**
	0.9nm,0.7s						
TKM2				⇑Sn	**Sb**	**03 17 29.6**	**+0.5**
	0.5nm,0.4s						

WEL 27 03:18:09.4±0.9, 32°S±6°×17°8E±1°2, h33km, M4.4/9, mB4.9/7, ML4.7/13, MLv4.5/9, Mw(mB)4.2/7, Error ellipse: s-maj=0.0km s-min=0.0km az=112.7, confirmed, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**4.43**	**50**	P	Pn	03 19 13.6	-0.8
GLKZ				S	Sn	03 20 06.1	+1.4
MXZ	**Matakaoa Point**	**5.36**	**179**	P	Pn	03 19 29.3	+2.3
MXZ				S	Sn	03 20 28.5	+0.9
HAZ	**Te Kaha**	**5.56**	**183**	P	Pn	03 19 32.5	+2.7
HAZ				S	Sn	03 20 35.9	+3.3
WMGZ	**Waiomatatini S**	**5.62**	**178**	P	Pn	03 19 29.5	-1.1
WMGZ				S	Sn	03 20 35.6	+1.6
PKGZ	**Pakihiroa**	**5.69**	**181**	P	Pn	03 19 33.7	+2.2
PKGZ				S	Sn	03 20 35.5	-0.1
RUGZ	**Raukumara Rang**	**5.78**	**184**	P	Pn	03 19 33.6	+0.7
RUGZ				S	Sn	03 20 38.3	+0.3
PUZ	**Puketiti**	**5.87**	**180**	P	Pn	03 19 31.1	-2.9
PUZ				S	Sn	03 20 39.0	-1.1
TWGZ	**Tauwhareparae**	**5.97**	**182**	P	Pn	03 19 34.0	-1.5
TWGZ				S	Sn	03 20 44.8	+2.0
URZ	**Urewera**	**6.12**	**188**	P	Pn	03 19 38.7	+1.3
URZ				S	Sn	03 20 47.8	+1.5
MWZ	**Matawai**	**6.15**	**185**	P	Pn	03 19 37.0	-1.0
MWZ				S	Sn	03 20 48.6	+1.4
RAGZ	**Rawiri**	**6.32**	**186**	P	Pn	03 19 41.3	+0.9
RAGZ				S	Sn	03 20 53.6	+2.2
RIGZ	**Rimuhau**	**6.51**	**183**	P	Pn	03 19 39.5	-3.3
SNGZ	**Shannon Statio**	**6.61**	**186**	P	Pn	03 19 45.3	+1.0
SNGZ				S	Sn	03 20 59.4	+0.9
RAHZ	**Arahi**	**6.77**	**187**	P	Pn	03 19 45.1	-1.3
RAHZ				S	Sn	03 21 01.4	-1.1
MRHZ	**Matea Rd**	**6.79**	**192**	P	Pn	03 19 47.6	+0.9
MRHZ				S	Sn	03 21 02.4	-0.4
NMHZ	**Naumai**	**6.98**	**189**	P	Pn	03 19 49.3	-0.1
NMHZ				S	Sn	03 21 07.0	-0.7
BKZ	**Black Stump Fm**	**7.10**	**191**	P	Pn	03 19 50.6	-0.3
BKZ				S	Sn	03 21 09.0	-1.4
WAZ	**Wanganui**	**7.99**	**198**	S	Sn	03 21 35.0	+2.8

JMA 27 03:22:14.8±0.1, 39°1N±0°3×142°2E±0°8, h43km±1km, MV3.8/38, E OFF IWATE PREF
JMA Felt I J1 at E OFF IWATE PREF .
NIED 27 03:22:14.8, 39°10N×142°21E, h43km, MW3.9, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁴Nm; Mrr6.30; Mθθ-0.35; Mφφ-5.95; Mrθ2.77; Mθφ-0.91; Mφr5.59; Fault plane solution: Mo8.79000×10¹⁴ NP1:φ=21.00000°, δ68.00000°, λ.99.00000°. NP2:φ=179.00000°, δ24.00000°, λ.70.00000°.
NEIC 27 03:22:15.4±2.2, 39°07N±0°06×142°2E±0°1, h51km±7km, mb4.3/16 Error ellipse: s-maj=15.1km s-min=8.3km az=105.0
IDC 27 03:22:16.3±2.3, 39°15N×142°25E, h56km±18km, mb3.8/10, mbtmp3.9/16, ML3.3/6, MS2.8/6, Error ellipse: s-maj=25.9km s-min=14.2km az=107.0

ISC 27 03:22:15.6±0.8, 39°09N±0°05×142°21E±0°09, h51km, n71, σ1§35/68, mb4.2/18, 11D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.42**	**269**	⇓*i*P	**Pn**	**03 22 24.8**	**-1.2**
OFUJ				⇓*e*S	**Sn**	**03 22 31.6**	**-1.8**
MIYJ	**Miyakonagasawa**	**0.57**	**328**	⇓*i*P	**Pn**	**03 22 26.4**	**-1.4**
MIYJ				⇓S	**Sn**	**03 22 34.3**	**-2.3**
JKMT	**Kesennumamotoy**	**0.64**	**244**	*i* P	**Pn**	**03 22 27.4**	**-1.2**
JKMT				*e*S	**Sn**	**03 22 36.2**	**-1.8**
JMK	**Ichinoseki**	**0.78**	**260**	⇓*i*P	**Pn**	**03 22 29.6**	**-0.9**
JOM	**Ohasama**	**0.81**	**299**	⇓*i*P	**Pn**	**03 22 29.9**	**-0.9**
JTH	**Tanohata**	**0.89**	**343**	P	**Pn**	**03 22 30.6**	**-1.3**
JIO	**Ouri**	**0.92**	**227**	⇓*i*P	**Pn**	**03 22 31.1**	**-1.2**
JIO				⇓*e*S	**Sn**	**03 22 42.3**	**-2.3**
JKZ	**Kuzumaki**	**1.12**	**323**	*i* P	**Pn**	**03 22 34.8**	**-0.3**
JRG	**Rokugo**	**1.26**	**285**	⇓*i*P	**Pn**	**03 22 36.4**	**-0.5**
JANG	**Nango**	**1.39**	**338**	⇓*i*P	**Pn**	**03 22 37.8**	**-0.8**
JOU	**Okura**	**1.41**	**240**	⇓P	**Pn**	**03 22 38.1**	**-0.8**
JMM	**Marumori**	**1.65**	**223**		**Pn**	**03 22 41.3**	**-0.9**
JTM	**Tenmabayashi**	**1.91**	**333**	P	**Pn**	**03 22 45.8**	**+0.1**
JTM	**Tenmabayashi**	**1.91**	**333**	Pn	**Pn**	**03 22 45.5**	**-0.2**
ERM	**Erimo**	**3.01**	**14**	P	**Pn**	**03 23 00.7**	**-0.1**
ERM	**Erimo**	**3.01**	**14**	Pn	**Pn**	**03 22 59.8**	**-1.0**
JEM	**Erimo**	**3.01**	**14**	P	**Pn**	**03 23 01.2**	**+0.4**
JSD	**Sado**	**3.27**	**252**	P	**Pn**	**03 23 06.4**	**+2.1**
JSD	**Sado**	**3.27**	**252**	Pn	**Pn**	**03 23 03.8**	**-0.6**
MJAR	**Matsushiro Arr**	**4.06**	**232**	P	**Pn**	**03 23 17.1**	**+1.9**
	0.7nm,0.3s,baz=39,slow=12,SNR=65						
MJAR				LR	LR	03 25 09.8	
	comp=Z,74nm,18.8s,baz=60,slow=42						
	9.2nm,0.5s						
MJB9	**Matsu-Tunnel**	**4.06**	**233**	Pn	**Pn**	**03 23 16.7**	**+1.4**
MAJO	**Matsushiro**	**4.06**	**232**	P	**Pn**	**03 23 17.8**	**+2.5**
MAJO	**Matsushiro**	**4.06**	**232**	Pn	**Pn**	**03 23 16.4**	**+1.1**
ASAJ	**Asahikawa**	**5.03**	**3**	P	**Pn**	**03 23 29.1**	**+0.6**
	2.2nm,0.3s,baz=215,slow=9.7,SNR=12						
ASAJ				S	**Sn**	**03 24 22.1**	**-3.2**
	7.2nm,0.6s,baz=157,slow=28,SNR=1.5						
	4.2nm,0.3s						
JKA	**Kamikawa-asahi**	**5.03**	**3**	Pn	**Pn**	**03 23 28.8**	**+0.3**
JGF	**Kuroka**	**5.20**	**229**	P	**Pn**	**03 23 33.3**	**+2.4**
JGF	**Kuroka**	**5.20**	**229**	Pn	**Pn**	**03 23 32.7**	**+1.8**
INU	**Inuyama**	**5.58**	**230**	P	**Pn**	**03 23 39.2**	**+3.2**
INU	**Inuyama**	**5.58**	**230**	Pn	**Pn**	**03 23 37.5**	**+1.4**
JHJ2	**Mitsune**	**6.27**	**199**	Pn	**Pn**	**03 23 44.7**	**-0.9**
USRK	**Ussuriysk Ar.**	**9.19**	**307**	P	**Pn**	**03 24 27.3**	**+1.8**
	0.3nm,0.3s,baz=114,slow=14,SNR=4.7						
	2.3nm,0.6s						
JNU	**Nakatsue**	**10.92**	**240**	P	**Pn**	**03 24 51.3**	**+2.0**
	0.2nm,0.3s,baz=68,slow=17,SNR=1.8						
JNU				LR	LR	03 28 53.2	
	comp=Z,55nm,21.0s,baz=329,slow=36						
	2.5nm,0.7s						
KSRS	**Korea Array**	**11.35**	**266**	P	**Pn**	**03 24 57.6**	**+2.6**
	0.1nm,0.3s,baz=77,slow=14,SNR=2.5						
KSRS				LR	LR	03 28 53.9	
	comp=Z,35nm,21.5s,baz=100,slow=35						
	0.8nm,0.7s						
JCJ	**Chichijima**	**11.96**	**180**	LR	LR	03 29 32.0	
	comp=Z,45nm,21.8s,baz=114,slow=36						
KLR	**Kul'dur**	**12.60**	**327**	P	**Pn**	**03 25 13.1**	**+1.1**
	0.1nm,0.3s,baz=153,slow=14,SNR=1.3						
	0.5nm,0.6s						
MA2	**Magadan**	**21.21**	**12**	LR	LR	03 35 49.9	
	comp=Z,30nm,18.7s,baz=149,slow=38						
H11N2	**WAKE ISLAND Hy**	**28.74**	**125**	T	T	03 58 31.6	
	baz=318,slow=75,SNR=1354						
H11N1	**WAKE ISLAND Hy**	**28.75**	**125**	T	T	03 58 38.8	
	baz=318,slow=75,SNR=742						
H11N3	**WAKE ISLAND Hy**	**28.76**	**125**	T	T	03 58 30.6	
	baz=318,slow=75,SNR=582						
H11S1	**WAKE ISLAND Hy**	**29.52**	**127**	T	T	03 59 32.1	
	baz=319,slow=76,SNR=166						
H11S3	**WAKE ISLAND Hy**	**29.52**	**127**	T	T	03 59 31.0	
	baz=319,slow=76,SNR=184						
H11S2	**WAKE ISLAND Hy**	**29.54**	**127**	T	T	03 59 32.1	
	baz=319,slow=76,SNR=119						
ZALV	**Zalesovo Beam**	**41.02**	**311**	P	**P**	**03 29 53.3**	**-0.2**
	1.4nm,0.5s,baz=75,slow=9.4,SNR=5.0						
	1.4nm,0.5s						
H18K	**Honhosa River**	**42.57**	**33**	P	**P**	**03 30 07.1**	**+1.0**
H18K					IAmb	IAmb	03 30 36.0
	comp=Z,10nm,1.4s						
D19K	**Kuna River**	**43.23**	**28**	P	**P**	**03 30 12.2**	**+0.8**
MKAR	**Makanchi Array**	**43.59**	**300**	P	**P**	**03 30 14.6**	**0.0**
	comp=Z,1.9nm,0.7s,baz=84,slow=9.6,SNR=16						
	comp=Z,1.9nm,0.7s						
B21K	**Ikpikpuk River**	**44.67**	**26**	P	**P**	**03 30 24.6**	**+1.7**
B21K					IAmb	IAmb	03 30 33.7
	comp=Z,5.8nm,1.4s						
KURK	**Kurchatov**	**45.18**	**307**	P	**P**	**03 30 25.9**	**-1.3**
KURK					IAmb	IAmb	03 30 27.9
	comp=Z,4.7nm,0.8s						
KURBB	**Kurchatov Arra**	**45.26**	**307**	P	**P**	**03 30 27.6**	**-0.1**
	comp=Z,3.9nm,0.5s,baz=81,slow=8.2,SNR=29						
	comp=Z,3.9nm,0.5s						
ILAR	**Eielson Array**	**47.43**	**33**	P	**P**	**03 30 46.0**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=265,slow=6.9,SNR=7.6						
	comp=Z,0.5nm,0.7s						
SCRK	**Sand Creek**	**48.75**	**34**	P	**P**	**03 30 55.9**	**+0.8**
BOOM	**Boomskoye usch**	**49.13**	**296**	P	**P**	**03 30 58.5**	**+0.1**
BOOM					IAmb	IAmb	03 30 59.7
	comp=Z,1.8nm,0.7s						
BVAR	**Borovoye Array**	**49.67**	**311**	P	**P**	**03 31 02.1**	**+0.1**
	comp=Z,2.0nm,0.5s,baz=67,slow=8.0,SNR=14						
	comp=Z,2.0nm,0.5s						
I30M	**Mount Dempster**	**51.80**	**32**	P	**P**	**03 31 20.2**	**+2.2**
I30M					IAmb	IAmb	03 31 20.7
	comp=Z,2.7nm,0.9s						
ARU	**Arti**	**55.25**	**318**	P	**P**	**03 31 42.6**	**-0.6**
ARU					IAmb	IAmb	03 31 43.8
	comp=Z,3.9nm,0.6s						
WB0	**Warramunga Arr**	**59.00**	**189**	P	**P**	**03 32 09.0**	**-1.2**
WR0	**Warramunga Arr**	**59.18**	**188**	P	**P**	**03 32 10.2**	**-1.1**
WB2	**Warramunga Arr**	**59.18**	**189**	P	**P**	**03 32 09.8**	**-1.6**
WRA	**Warramunga Arr**	**59.18**	**189**	P	**P**	**03 32 10.1**	**-1.3**
WRA	**Warramunga Arr**	**59.18**	**189**	P	**P**	**03 32 10.7**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=5.8,slow=7.0,SNR=12						
	comp=Z,0.4nm,0.4s						
FIA1	**FINESS Array S**	**67.29**	**332**	P	**P**	**03 33 04.2**	**-0.3**
FINES	**FINESS Array B**	**67.29**	**332**	P	**P**	**03 33 04.5**	**0.0**
FINES	**FINESS Array B**	**67.29**	**332**	P	**P**	**03 33 04.6**	**+0.1**
	comp=Z,2.0nm,0.7s,baz=46,slow=9.9,SNR=9.0						
	comp=Z,2.0nm,0.7s						
NC405	**NORSAR Array S**	**72.33**	**337**	P	**P**	**03 33 35.3**	**-0.2**
NC405					IAmb	IAmb	03 34 09.2
	comp=Z,4.1nm,1.0s						
HFS	**Hagfors**	**72.47**	**336**	P	**P**	**03 33 36.6**	**+0.2**
	comp=Z,1.4nm,0.8s,baz=54,slow=7.5,SNR=7.5						
	comp=Z,1.4nm,0.8s						
NB2	**NORSAR Subarra**	**72.53**	**337**	P	**P**	**03 33 36.9**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**72.53**	**337**	P	**P**	**03 33 36.8**	**-0.1**
	comp=Z,1.0nm,0.9s,baz=39,slow=5.8,SNR=4.1						
NOA				LR	LR	04 11 52.8	
	comp=Z,19nm,18.5s,baz=35,slow=41						
	comp=Z,1.0nm,0.9s						
AKASG	**Malin Array Be**	**73.06**	**322**	P	**P**	**03 33 39.5**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=44,slow=6.0,SNR=9.7						
	comp=Z,1.2nm,0.5s						
BURAR	**Bucovina Array**	**77.09**	**322**	P	**P**	**03 34 02.3**	**-1.2**
CLL	**Collm**	**79.62**	**330**	*i* P	**P**	**03 34 17.6**	**+0.4**
FUORN	**Ofenpass-Fuorn**	**84.46**	**329**	P	**P**	**03 34 43.6**	**+0.5**
FUORN					IAmb	IAmb	03 34 59.1
	comp=Z,3.2nm,1.2s						

IDC 27 03:47:23.5±1.7, 5°24S×152°65E, h0km, mb3.7/6, mbtmp3.8/7, ML2.0/1, Error ellipse: s-maj=79.0km s-min=21.1km az=128.0

ISC 27 03:47:29.1±1.6, 5°3S±0°3×152°7E±0°4, h40km, n8, σ1§00/9, mb3.6/6, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.79**	**233**	Pn	**Pn**	**03 49 05.4**	**-0.8**
	1.7nm,0.3s,baz=221,slow=4.6,SNR=1.7						
PMG				Sn	**Sn**	**03 50 22.9**	**+0.6**
	3.1nm,0.3s,baz=85,slow=19,SNR=3.2						
	20nm,1.0s						
WRA	**Warramunga Arr**	**22.99**	**229**	P	**P**	**03 52 29.8**	**-0.8**
	0.3nm,0.4s,baz=51,slow=10,SNR=8.7						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**25.66**	**223**	P	**P**	**03 52 56.3**	**+0.9**
	0.9nm,0.8s,baz=57,slow=9.1,SNR=6.6						
	0.9nm,0.8s						
MKAR	**Makanchi Array**	**80.63**	**319**	P	**P**	**03 59 38.6**	**+0.8**
	0.7nm,0.8s,baz=126,slow=4.4,SNR=4.1						
	0.7nm,0.8s						
ILAR	**Eielson Array**	**82.70**	**22**	P	**P**	**03 59 47.4**	**-0.9**
	0.3nm,0.5s,baz=254,slow=5.0,SNR=7.1						
	0.3nm,0.5s						
BVAR	**Borovoye Array**	**89.58**	**323**	P	**P**	**04 00 21.8**	**-0.6**
	1.5nm,0.7s,baz=97,slow=6.1,SNR=5.4						
	1.5nm,0.7s						
YKA	**Yellowknife Ar**	**95.96**	**28**	P	**P**	**04 00 52.1**	**+0.4**
	0.3nm,0.7s,baz=276,slow=4.8,SNR=5.1						
	0.3nm,0.7s						
TORD	**Torodi Ar. Bea**	**150.33**	**287**	PKPbc	**PKiKP**	**04 07 19.2**	**+1.2**
	0.5nm,0.9s,baz=72,slow=3.1,SNR=4.6						

IDC 27 03:50:45.2±0.5, 5°30S×152°61E, h0km, mb4.5/19, mbtmp4.5/20, ML2.3/1, MS3.9/28, Error ellipse: s-maj=21.2km s-min=13.5km az=96.0
MOS 27 03:50:48.8±0.8, 5°24S×152°60E, h30km, mb5.0/28, Error ellipse: s-maj=11.6km s-min=7.8km az=108.4
BJI 27 03:50:49.1±0.0, 5°31S×152°68E, h35km, mb4.9/48, mB4.9/18, Ms4.5/6, Ms7 4.2/8
DJA 27 03:50:49.1±1.9, 6°S±4°×15°3E±°, h25km±15km, M5.0/12, mB5.9/1, mb4.7/12, MLv5.1/1, Mw(mB)5.5/1
NEIC 27 03:50:51.7±1.4, 5°37S±0°09×152°67E±0°08, h41km±6km, mb4.9/159, Error ellipse: s-maj=13.0km s-min=11.2km az=187.0

ISC 27 03:50:50.1±0.7, 5°37S±0°05×152°65E±0°06, h31km±4km, n570, σ1§00/517, mb4.9/130, MS4.0/31, 9C-12D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRVT	**Keravat (AS076**	**1.22**	**330**	LR	LR	03 51 41.1	
	comp=Z,460nm,20.6s,baz=157,slow=49						
I40PG	**Keravat**	**1.23**	**329**	Pg	**Pn**	**03 51 12.1**	**

comp=Z,71nm,1.9s
STKA Stephens Creek 28.33 200 P **P** **03 56 39.3 -2.0**
STKA Stephens Creek 28.33 200 P **P** **03 56 39.5 -1.8**
comp=Z,2.8nm,0.8s,baz=16,slow=14,SNR=5.0
STKA LR LR 04 07 50.7
comp=Z,264nm,19.6s,baz=9.7,slow=36
comp=Z,2.8nm,0.8s
STKA Stephens Creek 28.33 200 P **P** **03 56 39.3 -2.0**
STKA pmax pmax
comp=Z,2.0nm,1.0s
FITZ Fitzroy Crossi 29.25 242 P **P** **03 56 48.4 -1.2**
TOLI2 Tolitoli 32.47 281 P **P** **03 57 17.0 -1.1**
KAPI Kappang 32.76 269 LR LR 04 12 53.5
comp=Z,174nm,18.2s,baz=91,slow=41
FORT Forrest 34.25 220 P **P** **03 57 31.7 -1.8**
MBWA Marble Bar 35.56 241 P **P** **03 57 47.0 +2.1**
MBWA Marble Bar 35.56 241 P **P** **03 57 47.0 +2.1**
URZ Urewera 39.58 149 LR LR 04 13 50.8
comp=Z,317nm,18.2s,baz=34,slow=35
JOW Kunigami 39.76 325 P **P** **03 58 20.9 +0.6**
JOW IAmb IAmb 03 58 21.5
comp=Z,19nm,0.7s
JOW Kunigami 39.76 325 LR LR 04 12 22.8
comp=Z,92nm,20.1s,baz=170,slow=33
JHJ Hachijo jima 2 40.17 343 LR LR 04 11 40.7
comp=Z,78nm,21.4s,baz=140,slow=31
TUWZ Tuamarina 40.64 155 P **P** **03 58 27.2 -0.1**
LTZ Lake Taylor 41.12 158 P **P** **03 58 31.1 -0.3**
LTZ IAmb IAmb 03 58 37.3
comp=Z,38nm,1.3s
JMN Monobe 42.75 337 P **P** **03 58 44.4 -0.4**
NWAO Narrogin (SRO) 42.88 226 LR LR 04 17 41.0
comp=Z,199nm,19.3s,baz=62,slow=38
JGF Kuroka 43.21 342 P **P** **03 58 47.9 -0.6**
JNU Nakatsue 43.49 333 P **P** **03 58 50.4 -0.4**
JNU IAmb IAmb 03 58 51.4
comp=Z,26nm,1.0s
JNU Nakatsue 43.49 333 LR LR 04 13 19.3
comp=Z,33nm,19.2s,baz=147,slow=31
MJAR Matsushiro Arr 43.83 343 P **P** **03 58 50.8 -2.7**
comp=Z,2.1nm,0.8s,baz=165,slow=7.5,SNR=9.6
MJAR PcP **PP** **04 00 37.9 +2.0**
comp=Z,1.2nm,0.7s,baz=156,slow=2.9,SNR=5.3
MJAR LR LR 04 18 38.3
comp=Z,78nm,18.1s,baz=150,slow=38
comp=Z,2.1nm,0.8s
MAJO Matsushiro 43.83 343⇓*eP* **P** **03 58 52.7 -0.7**
MAJO pmax pmax
comp=Z,5.0nm,0.9s
MAJO Matsushiro 43.83 343 P **P** **03 58 52.1 -1.3**
MAJO pP **pP** **03 59 02.1 +0.1**
LEM Lembang 44.78 266 LR LR 04 20 34.2
comp=Z,106nm,19.2s,baz=342,slow=40
JSD Sado 45.21 344 P **P** **03 59 03.7 -0.7**
JTM Tenmabayashi 47.14 348 P **P** **03 59 18.8 -0.8**
TJN Taejon 47.80 332*ceP* **P** **03 59 24.6 -0.2**
KSRS Korea Array 48.44 334 P **P** **03 59 29.1 -0.5**
comp=Z,2.8nm,0.8s,baz=150,slow=8.3,SNR=13
comp=Z,2.8nm,0.8s
NJ2 Nanjing 49.19 321 *eP* **P** **03 59 38.0 +2.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,200nm,4.3s
JKA Kamikawa-asahi 50.08 351 P **P** **03 59 41.9 -0.2**
JKA IAmb IAmb 03 59 43.1
comp=Z,9.8nm,0.8s
ASAJ Asahikawa 50.08 351 P **P** **03 59 41.9 -0.2**
ASAJ pmax pmax
comp=Z,10.0nm,0.8s
PSTR Posyet 51.75 340⇑*eP* **P** **03 59 54.2 -0.5**
USA0B Ussuriysk Arra 52.73 341⇓*eP* **P** **04 00 01.8 -0.2**
USRK Ussuriysk Ar. 52.73 341 P **P** **04 00 01.4 -0.5**
comp=Z,3.7nm,0.8s,baz=152,slow=8.6,SNR=6.5
comp=Z,3.7nm,0.8s
YSS Yuzh-Sakhalins 52.83 352 *eP* **P** **04 00 02.9 +0.3**
YSS pmax pmax
comp=Z,10.0nm,0.8s
YSS MLR MLR
comp=Z,100nm,18.0s
MDJ Mudanjiang 53.90 340 P **P** **04 00 15.0 +4.5**
MDJ pmax pmax
comp=Z,5.0nm,0.7s
MDJ pmax pmax
comp=Z,86nm,3.5s
ENH Enshi 54.43 313 P **P** **04 00 13.9 -0.8**
ENH Enshi 54.43 313 P **P** **04 00 15.1 +0.4**
ENH pP **sP** **04 00 26.2 -0.3**
ENH PcP **PcP** **04 01 18.9 +0.7**
SLVN Son La 54.65 301 P **P** **04 00 16.5 0.0**
SLVN IAmb IAmb 04 00 30.5
comp=Z,12nm,1.2s
CN2 Changchun 54.75 336 *eP* **P** **04 00 15.8 -1.0**
CN2 *es*P pwP 04 00 33.8 +4.3
LYN LuoYang 54.87 319 *eP* P 04 00 23.5 +5.7
LYN pmax pmax
comp=Z,12nm,1.0s
LYN LR LR
comp=Z,220nm,16.5s
LYN LR LR
comp=Z,190nm,16.1s
LYN LR LR
comp=Z,300nm,18.9s
HNS HongShan 55.31 323 ⇓P **P** **04 00 21.5 +0.6**
HNS pmax pmax
comp=Z,10.0nm,1.1s
HNS LR LR
comp=Z,120nm,15.1s
HNS LR LR
comp=Z,110nm,15.1s
HNS LR LR
comp=Z,160nm,16.7s
UWE Uwekahuna 56.84 63 P **P** **04 00 30.4 -2.0**
PHRA Phrae 56.84 296 P **P** **04 00 32.1 -0.1**
XAN Xi'an 56.92 317 ⇓P **P** **04 00 32.5 -0.1**
XAN pmax pmax
comp=Z,20nm,0.9s
CRAI Chiangrai 57.30 298 P **P** **04 00 35.4 -0.1**
CRAI IAmb IAmb 04 00 37.0
comp=Z,14nm,1.0s
KLR Kul'dur 57.34 344 LR LR 04 25 14.0
comp=Z,44nm,18.1s,baz=204,slow=36
KLR Kul'dur 57.34 344*deP* **P** **04 00 35.2 0.0**
KLR pmax pmax
comp=Z,5.0nm,1.3s
PPT2 Papeete2 57.70 107 *e*LR LR 04 17 21.8
PPT2 comp=Z,154nm,25.2s *e*LR LR 04 17 32.9
comp=Z,90nm,22.2s
CM31 Chiang Mai Arr 57.98 296 P **P** **04 00 40.4 +0.1**
CM31 IAmb IAmb 04 00 41.8
comp=Z,9.4nm,0.8s
CMAR Chiang Mai Arr 57.98 296 P **P** **04 00 40.0 -0.3**
CMAR Chiang Mai Arr 57.98 296 P **P** **04 00 40.5 +0.2**
comp=Z,5.4nm,0.9s,baz=109,slow=5.2,SNR=16
CMAR LR LR 04 26 51.9
comp=Z,26nm,18.1s,baz=90,slow=37
comp=Z,5.4nm,0.9s
CMAR Chiang Mai Arr 57.98 296 *i* P **P** **04 00 41.0 +0.7**
CMAR pmax pmax
comp=Z,6.0nm,0.9s
CHTO Chiang Mai 58.09 296 P **P** **04 00 40.8 -0.3**
CHTO Chiang Mai 58.09 296 P **P** **04 00 40.8 -0.3**
CHTO pmax pmax
comp=Z,8.0nm,1.2s
PETK Petropavlovsk- 58.41 4 P **P** **04 00 42.4 -0.3**
PETK Petropavlovsk- 58.41 4 P **P** **04 00 42.1 -0.5**
comp=Z,4.3nm,0.6s,baz=164,slow=6.3,SNR=20
PETK LR LR 04 24 04.2
comp=Z,86nm,19.5s,baz=181,slow=34
comp=Z,4.3nm,0.6s
PETK Petropavlovsk- 58.41 4 P **P** **04 00 42.4 -0.3**
TBI Tubuai 58.47 114 *e*LR LR 04 17 40.9
comp=Z,1μm,29.2s
TBI *e*LR LR 04 17 53.3
comp=Z,464nm,30.0s
PZH PanZhiHua 58.57 305 P **P** **04 00 45.5 +1.1**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,6.1s
CD2 Chengdu 58.99 311 P **P** **04 00 47.5 +0.3**
CD2 S **S** **04 08 53.5 +1.6**
CD2 pmax pmax
comp=Z,20nm,0.8s
CD2 LR LR
comp=Z,140nm,17.5s
CD2 LR LR
comp=Z,170nm,16.7s
CD2 LR LR
comp=Z,200nm,18.4s
HHC Hu-ho-hao-te 59.42 325 ⇑P **P** **04 00 50.3 +0.3**
HHC pmax pmax
comp=Z,16nm,0.6s
HHC pmax pmax
comp=Z,61nm,3.6s
HEH HeiHe 59.54 341 *e*P **P** **04 00 50.5 0.0**
HEH pmax pmax
comp=Z,6.0nm,0.8s
HEH pmax pmax
comp=Z,120nm,3.8s
SHEM Shemya Is, Ala 60.67 15 LR LR 04 25 35.1
comp=Z,255nm,19.1s,baz=162,slow=34
LZH Lanzhou 61.53 316 *e*P **P** **04 01 05.3 +0.7**
LZH pP pP 04 01 12.0 -1.1
LZH sP sP 04 01 16.3 -0.1
LZH pmax pmax
comp=Z,23nm,1.2s
MA2 Magadan 64.76 359 P **P** **04 01 24.4 -1.0**
MA2 IAmb IAmb 04 01 26.0
comp=Z,10nm,0.7s
MA2 Magadan 64.76 359 LR LR 04 29 56.2
comp=Z,86nm,18.8s,baz=143,slow=36
MA2 Magadan 64.76 359*ceP* **P** **04 01 24.7 -0.6**
MA2 pmax pmax
comp=Z,6.0nm,0.8s
MA2 Magadan 64.76 359 P **P** **04 01 25.2 -0.1**
MA2 PcP **PcP** **04 01 58.4 -0.2**
GTA Gaotai 65.97 317 P **P** **04 01 34.3 +0.5**
GTA sP pwP 04 01 49.0 +2.0
GTA PcP **PcP** **04 02 05.8 +1.5**
GTA pmax pmax
comp=Z,7.0nm,1.0s
ULN Ulaanbaatar 66.39 328 P **P** **04 01 36.2 -0.1**
ULN IAmb IAmb 04 01 38.2
comp=Z,12nm,1.3s
ULN Ulaanbaatar 66.39 328*ceP* **P** **04 01 37.1 +0.7**
ULN pmax pmax
comp=Z,8.0nm,1.3s
SHL Shillong 66.46 301 P **P** **04 01 36.7 -0.6**
SHL Shillong 66.46 301 P **P** **04 01 36.7 -0.6**
SHL pmax pmax
comp=Z,24nm,1.1s
NIKH Nikolski High 66.59 24 P **P** **04 01 36.9 -0.4**
baz=222
SONM Songino Array 66.72 328 P **P** **04 01 38.1 -0.3**
SONM Songino Array 66.72 328 P **P** **04 01 38.5 +0.1**
comp=Z,2.9nm,0.5s,baz=131,slow=4.5,SNR=6.4
SONM LR LR 04 29 06.9
comp=Z,69nm,21.0s,baz=48,slow=34
comp=Z,2.9nm,0.5s
SONM Songino Array 66.72 328 P **P** **04 01 38.1 -0.3**
SONM pmax pmax
comp=Z,10.0nm,1.4s
GOMU GeErMu 68.03 312 P **P** **04 01 47.5 +0.3**
GOMU pmax pmax
comp=Z,9.0nm,0.7s
SEY Seymchan 68.11 360⇓*eP* **P** **04 01 46.7 0.0**
SEY pmax pmax
comp=Z,5.0nm,1.7s
LSA Lhasa 68.43 305 P **P** **04 01 49.2 -0.8**
LSA IAmb IAmb 04 01 52.1
comp=Z,14nm,1.2s
LSA Lhasa 68.43 305 P **P** **04 01 49.2 -0.8**
LSA pmax pmax
comp=Z,14nm,1.2s
ZAK Zakamensk 69.89 329 *eP* **P** **04 01 58.1 -0.1**
ZAK pmax pmax
comp=Z,8.0nm,1.3s
CCD Concordia, Ant 71.68 188 P **P** **04 02 13.2 +4.1**
CCD pP **pwP** **04 02 23.9 +0.8**
SDPT Sand Point 71.79 26 P **P** **04 02 11.0 +1.5**
baz=230
MOY Mondy 71.82 329 *eP* **P** **04 02 10.0 +0.1**
MOY pmax pmax
comp=Z,13nm,1.7s
CHNA Chernabura Isl 71.86 27 P **P** **04 02 11.2 +1.4**
baz=231
VNDA Vanda 72.27 178 P **P** **04 02 13.9 +1.9**
comp=Z,0.8nm,0.8s,baz=329,slow=7.7,SNR=3.2
comp=Z,0.8nm,0.8s
VNDA Vanda 72.27 178 P **P** **04 02 14.0 +1.9**
S14K Fog Glacier 72.79 26 P **P** **04 02 16.7 +1.1**
baz=230
PALK Pallekele 72.87 279⇓*eP* **P** **04 02 13.3 -3.6**
PALK pmax pmax
comp=Z,45nm,1.6s
M11K Mekoryuk 73.04 20 P **P** **04 02 18.6 +1.8**
baz=223
CHGN Chignik 73.30 26 P **P** **04 02 19.9 +1.5**
baz=232
BILL Bilibino 73.87 5 P **P** **04 02 22.1 +0.5**
BILL Bilibino 73.87 5 *eP* **P** **04 02 22.1 +0.5**
BILL pmax pmax
comp=Z,30nm,1.0s
GAMB Gambell 73.97 16 P **P** **04 02 24.4 +2.2**
baz=217
O14K Tigyukauivet M 74.04 23 P **P** **04 02 23.7 +1.0**
baz=228
M13K Dall Lake 74.06 21 P **P** **04 02 23.6 +0.8**
baz=226
CHIR Chirikof Islan 74.26 27 P **P** **04 02 24.7 +0.6**
baz=234
N14K Kuskokwak Cree 74.33 22 P **P** **04 02 25.5 +1.1**
baz=228
O15K Ungalikthiuk R 74.54 23 P **P** **04 02 25.7 0.0**
baz=230
K13K Kusilvak Mount 74.68 19 P **P** **04 02 27.5 +1.1**
baz=224
M14K Bethel 74.79 21 P **P** **04 02 27.1 +0.1**
M14K Bethel 74.79 21 P **P** **04 02 27.6 +0.6**
baz=227
L14K Kuka Creek 74.94 21 P **P** **04 02 27.6 -0.2**
L14K IAmb IAmb 04 02 40.0
comp=Z,13nm,0.8s
L14K Kuka Creek 74.94 21 P **P** **04 02 28.7 +0.9**
baz=226
N15K Kwethluk River 75.09 22 P **P** **04 02 29.4 +0.5**
baz=229
P16K Nushagak River 75.18 24 P **P** **04 02 30.1 +0.8**
baz=231
M15K Kasigluk River 75.21 22 P **P** **04 02 30.5 +1.0**
baz=228
SII Sitkinak Islan 75.34 27 P **P** **04 02 31.2 +0.8**
baz=235
O16K Kokwok River B 75.49 23 P **P** **04 02 32.5 +1.4**
baz=231
L15K Ungalak Mounta 75.58 21 P **P** **04 02 32.4 +0.8**
baz=228
J14K Nanvaranak Lak 75.62 19 P **P** **04 02 32.7 +0.9**
J14K IAmb IAmb 04 02 35.4
comp=Z,11nm,0.8s
J14K Nanvaranak Lak 75.62 19 P **P** **04 02 32.5 +0.7**
baz=225
N16K Nishlik Lake 75.79 23 P **P** **04 02 33.3 +0.4**
baz=230
R18K Karluk 75.80 26 P **P** **04 02 33.6 +0.7**
baz=235
P17K Kvichak River 75.91 24 P **P** **04 02 34.3 +0.7**
baz=233
K15K Wolf Creek Mou 75.99 20 P **P** **04 02 34.7 +0.8**
K15K Wolf Creek Mou 75.99 20 P **P** **04 02 34.7 +0.8**
baz=227
O17K Koliganek Bris 76.00 24 P **P** **04 02 34.8 +0.7**
baz=232
WMQ Urumqi 76.05 317 *eP* **P** **04 02 35.3 +0.5**
WMQ pmax pmax
comp=Z,15nm,1.1s
M16K Timber Creek 76.07 22 P **P** **04 02 34.8 +0.4**
M16K IAmb IAmb 04 02 36.2
comp=Z,12nm,0.7s
M16K Timber Creek 76.07 22 P **P** **04 02 35.3 +0.9**
baz=230
OHAK Old Harbor 76.12 27 P **P** **04 02 35.2 +0.5**
baz=236
L16K Owhat River 76.33 21 P **P** **04 02 36.1 +0.3**
L16K IAmb IAmb 04 02 48.5
comp=Z,10nm,1.1s
L16K Owhat River 76.33 21 P **P** **04 02 37.0 +1.2**
baz=229
ANM Nome 76.36 17 P **P** **04 02 36.8 +0.8**
baz=223
TNA Tin City 76.38 16 P **P** **04 02 36.8 +0.8**
baz=220
N17K Nushagak Hills 76.43 23 P **P** **04 02 36.9 +0.5**
baz=232
P18K Big Mountain, 76.53 25 P **P** **04 02 37.5 +0.4**
baz=234
KDAK Kodiak Island 76.75 27 P **P** **04 02 38.9 +0.6**
baz=237
KDAK Kodiak Island 76.75 27 LR LR 04 30 45.7
comp=Z,96nm,21.1s,baz=241,slow=31
F14K Arctic Creek 76.76 16 P **P** **04 02 38.2 0.0**
baz=222
O18K Koktuh Hills 76.81 24 P **P** **04 02 39.5 +0.8**
baz=234
M17K Holitna River 76.88 22 P **P** **04 02 40.4 +1.4**
baz=231
Q19K Cape Douglas, 76.93 25 P **P** **04 02 39.5 +0.2**
baz=235
J16K Anvik River 76.97 20 P **P** **04 02 40.2 +0.8**
baz=228
L17K Donlin 77.03 21 P **P** **04 02 41.0 +1.2**
baz=230,SNR=5.1
N18K Kilae Creek 77.03 23 P **P** **04 02 40.1 +0.2**
N18K IAmb IAmb 04 02 52.3
comp=Z,10nm,0.9s
N18K Kilae Creek 77.03 23 P **P** **04 02 41.2 +1.3**
baz=233
G15K Niukluk 77.07 17 P **P** **04 02 40.5 +0.6**
baz=224
Q20K Shuyak Island 77.29 26 P **P** **04 02 42.6 +1.3**
baz=237
I17K Unalakleet 77.35 19 P **P** **04 02 42.5 +0.9**
I17K IAmb IAmb 04 02 44.5
comp=Z,17nm,1.1s
I17K Unalakleet 77.35 19 P **P** **04 02 42.6 +1.1**
baz=228,SNR=5.1
H16K Elim 77.36 18 P **P** **04 02 43.0 +1.4**
baz=226
K17K Iditarod 77.39 21 P **P** **04 02 41.9 0.0**
K17K IAmb IAmb 04 02 44.4
comp=Z,15nm,1.1s
K17K Iditarod 77.39 21 P **P** **04 02 42.7 +0.8**
baz=230
F15K North Star Dit 77.40 17 P **P** **04 02 42.8 +0.9**
F15K IAmb IAmb 04 02 44.3
comp=Z,18nm,1.1s
F15K North Star Dit 77.40 17 P **P** **04 02 42.8 +0.9**
baz=224
P19K Oil Pt 77.51 25 P **P** **04 02 42.1 -0.5**
P19K Oil Pt 77.51 25 P **P** **04 02 42.6 0.0**
baz=236
M18K Stony River 77.55 23 P **P** **04 02 44.3 +1.6**
baz=233
J17K VABM Dome 77.56 20 P **P** **04 02 43.7 +0.9**
J17K IAmb IAmb 04 02 55.4
comp=Z,9.8nm,0.8s
J17K VABM Dome 77.56 20 P **P** **04 02 43.6 +0.9**
baz=230,SNR=5.6
L18K Granite Mounta 77.67 22 P **P** **04 02 44.0 +0.6**
L18K IAmb IAmb 04 02 45.5
comp=Z,8.4nm,0.8s
L18K Granite Mounta 77.67 22 P **P** **04 02 45.0 +1.6**
baz=232
N19K Bonanza Creek 77.67 24 P **P** **04 02 44.4 +0.9**
N19K Bonanza Creek 77.67 24 P **P** **04 02 44.7 +1.2**
baz=234
G16K Koyuk River 77.86 18 P **P** **04 02 45.0 +0.7**
G16K IAmb IAmb 04 02 56.7
comp=Z,19nm,1.0s
G16K Koyuk River 77.86 18 P **P** **04 02 45.3 +0.9**
baz=226,SNR=5.3
O20K Slope Mountain 78.01 25 P **P** **04 02 46.0 +0.5**
baz=236
HOM Homer 78.19 25 P **P** **04 02 47.0 +0.7**
baz=237
H17K Granite Mounta 78.30 19 IAmb IAmb 04 02 59.3
comp=Z,12nm,0.8s
H17K Granite Mounta 78.30 19 P **P** **04 02 48.3 +1.4**
baz=228,SNR=9.2
L19K White Mountain 78.33 22 IAmb IAmb 04 02 49.4
comp=Z,13nm,0.7s
L19K White Mountain 78.33 22 P **P** **04 02 47.9 +0.8**
baz=234,SNR=11
M19K Big River Lodg 78.34 23 IAmb IAmb 04 02 59.6
comp=Z,10.0nm,0.8s
M19K Big River Lodg 78.34 23 P **P** **04 02 48.1 +0.9**
baz=234
J18K Innoko River 78.43 21 P **P** **04 02 48.9 +1.3**
baz=232,SNR=9.9
TIXI Tiksi 78.44 353 P **P** **04 02 45.7 -1.7**
TIXI Tiksi 78.44 353 LR LR 04 36 19.0
comp=Z,44nm,19.9s,baz=192,slow=35
TIXI Tiksi 78.44 353⇓*eP* **P** **04 02 47.1 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.3s
G17K Kiwalik Mounta 78.45 18 P **P** **04 02 49.3 +1.6**
baz=228,SNR=9.6
BRSE Bradley Lake S 78.62 26 P **P** **04 02 48.9 +0.1**
baz=238
N20K Mount Spurr 78.80 24 P **P** **04 02 51.0 +1.2**
baz=236
M20K Styx River 78.82 23 IAmb IAmb 04 02 51.8
comp=Z,6.9nm,0.7s
M20K Styx River 78.82 23 P **P** **04 02 51.0 +1.1**
baz=235,SNR=6.3
L20K Farewell, AK 78.87 22 P **P** **04 02 51.4 +1.3**
baz=235,SNR=6.8
F17K Baldwin Pennin 78.91 17 P **P** **04 02 51.8 +1.7**
baz=227
H18K Honhosa River 78.94 19 P **P** **04 02 51.1 +0.7**
baz=230
CAPN Captain Cook N 79.00 25 P **P** **04 02 51.4 +0.7**
baz=237
C16K Lisburne Hills 79.09 15 P **P** **04 02 52.2 +1.1**
baz=223
J19K Poorman 79.14 21 P **P** **04 02 52.9 +1.4**
baz=233,SNR=8.4
GCSA Galena City Sc 79.17 20 P **P** **04 02 52.7 +1.1**
baz=231
E17K Hotham Inlet 79.18 17 P **P** **04 02 52.5 +0.9**
baz=226,SNR=14
D17K Noatak River 79.27 16 P **P** **04 02 53.5 +1.4**
baz=225,SNR=5.6
K20K Telida 79.31 22 IAmb IAmb 04 03 04.9
comp=Z,9.7nm,0.9s
K20K Telida 79.31 22 P **P** **04 02 53.8 +1.3**
baz=234,SNR=11
G18K Tagagawik 79.33 18 IAmb IAmb 04 03 04.5
comp=Z,12nm,0.9s
G18K Tagagawik 79.33 18 P **P** **04 02 53.6 +1.1**
baz=230,SNR=9.9
SEW Seward 79.36 26 P **P** **04 02 53.3 +0.6**
baz=239
F18K Selawik 79.49 17 P **P** **04 02 54.2 +0.9**
baz=228
SKT Skwentna 79.50 23 P **P** **04 02 53.7 +0.2**
baz=237
SUA Susitna One 79.54 24 IAmb IAmb 04 02 56.2
comp=Z,13nm,0.8s
SUA Susitna One 79.54 24 P **P** **04 02 53.9 +0.1**
baz=238,SNR=7.6
RDOG Red Dog Mine 79.57 16 P **P** **04 02 55.2 +1.4**
baz=225
RC01 Rabbit Creek A 79.75 25 IAmb IAmb 04 02 55.7
comp=Z,12nm,0.8s
RC01 Rabbit Creek A 79.75 25 P **P** **04 02 55.5 +0.6**
baz=239,SNR=5.5
PPLA Purkeypile 79.75 22 P **P** **04 02 55.2 +0.2**
baz=236
E18K Tukpahlearik C 79.76 17 IAmb IAmb 04 03 07.7
comp=Z,12nm,0.8s
E18K Tukpahlearik C 79.76 17 P **P** **04 02 55.8 +1.0**
baz=227,SNR=7.6
J20K Nowinta River 79.77 21 IAmb IAmb 04 02 58.2
comp=Z,12nm,0.8s
J20K Nowinta River 79.77 21 P **P** **04 02 55.7 +0.8**
baz=234,SNR=14
C17K DeLong Mountai 79.80 15 P **P** **04 02 55.8 +0.8**
baz=225
H19K Roundabout Mou 79.80 19 IAmb IAmb 04 03 07.3
comp=Z,14nm,0.9s
H19K Roundabout Mou 79.80 19 P **P** **04 02 56.3 +1.3**
baz=232,SNR=12
G19K Purcell Mounta 79.98 19 IAmb IAmb 04 03 10.8
comp=Z,12nm,0.9s
G19K Purcell Mounta 79.98 19 P **P** **04 02 57.3 +1.3**
baz=231,SNR=11
I20K Naaghedeneel 80.02 20 IAmb IAmb 04 02 59.5

I20K **Naaghedeneel** 80.02 20 P P 04 02 56.4 +0.2
baz=234
CAST **Castle Rocks** 80.08 22 P P 04 02 55.3 -1.4
CAST IAmb IAmb 04 02 59.4
comp=Z,9.4nm,0.8s
CAST **Castle Rocks** 80.08 22 P P 04 02 56.4 -0.2
baz=236,SNR=14
P23K **Montague Islan** 80.20 26 P P 04 02 57.8 +0.5
baz=241
F19K **Shaleruckik Mo** 80.21 18 IAmb IAmb 04 03 09.6
comp=Z,9.4nm,0.8s
F19K **Shaleruckik Mo** 80.21 18 P P 04 02 58.2 +1.0
baz=230,SNR=13
CUT **Chulitna** 80.23 23 P P 04 02 58.1 +0.7
baz=238
CHUM **Lake Minchumin** 80.26 22 P P 04 02 58.3 +0.7
baz=236
PMR **Palmer** 80.26 24 P P 04 02 58.0 +0.5
baz=239
H20K **Anotleneega Mo** 80.30 20 P P 04 02 58.0 +0.3
baz=233,SNR=6.3
Q23K **Middleton Isla** 80.40 27 P P 04 02 58.9 +0.6
baz=242
C18K **Utukok River** 80.44 16 P P 04 02 59.3 +0.8
baz=227
GHO **Glory Hole Cre** 80.44 24 IAmb IAmb 04 03 10.0
comp=Z,8.5nm,0.8s
KNK **Knik Glacier** 80.45 25 P P 04 02 59.2 +0.5
baz=240
MK31 **Makanchi Array** 80.65 319 *de* P P 04 03 00.8 +0.7
MKAR **Makanchi Array** 80.65 319 P P 04 03 00.4 +0.3
comp=Z,8.0nm,0.9s,baz=106,slow=6.4,SNR=37
comp=Z,8.0nm,0.9s
SML **Sawmill** 80.70 24 P P 04 03 00.7 +0.6
baz=240,SNR=9.2
GLI **Glacier Island** 80.76 25 P P 04 03 01.1 +0.7
baz=241
E19K **Redstone River** 80.77 17 P P 04 03 01.1 +0.9
baz=231,SNR=22
B18K **Kokolik River** 80.78 15 P P 04 03 00.9 +0.6
baz=226
TRF **Thorofare Moun** 80.78 22 P P 04 03 01.2 +0.6
baz=238
BPAW **Bear Paw Mtn.** 80.87 22 P P 04 03 00.5 -0.4
BPAW **Bear Paw Mtn.** 80.87 22 P P 04 03 00.7 -0.2
baz=237,SNR=6.1
M23K **Glacier View** 80.94 25 P P 04 03 02.0 +0.7
baz=240
F20K **Avaraart Lake** 80.97 18 P P 04 03 01.8 +0.5
baz=232,SNR=8.9
H21K **Melozitna Rive** 81.09 20 P P 04 03 03.1 +1.1
baz=235,SNR=5.1
SCM **Sheep Creek Mo** 81.13 25 P P 04 03 02.7 +0.4
baz=241
WAT1 **Susitna Watana** 81.13 23 P P 04 03 02.3 0.0
baz=240
C19K **Lookout Ridge** 81.18 16 P P 04 03 04.0 +1.5
baz=228,SNR=5.7
D19K **Kuna River** 81.18 16 IAmb IAmb 04 03 16.2
comp=Z,8.7nm,0.8s
D19K **Kuna River** 81.18 16 P P 04 03 03.7 +1.2
baz=230,SNR=6.2
EYAK **Cordova Ski Ar** 81.19 26 P P 04 03 03.2 +0.6
baz=242
RND **Reindeer** 81.31 23 IAmb IAmb 04 03 14.1
comp=Z,14nm,1.0s
WAT6 **Susitna Watana** 81.33 24 P P 04 03 04.1 +0.6
baz=240,SNR=6.2
G21K **Allakaket** 81.36 19 P P 04 03 03.8 +0.4
baz=234
MCK **McKinley** 81.44 23 P P 04 03 03.7 -0.2
baz=239,SNR=11
MLY **Manley** 81.47 21 IAmb IAmb 04 03 06.4
comp=Z,6.8nm,0.6s
MLY **Manley** 81.47 21 P P 04 03 04.7 +0.6
baz=237,SNR=19
KAIM **Kayak Island** 81.50 27 P P 04 03 04.1 -0.2
baz=244
ZALV **Zalesovo Beam** 81.54 326 P P 04 03 03.2 -1.4
ZALV **Zalesovo Beam** 81.54 326 P P 04 03 03.7 -0.9
comp=Z,3.5nm,0.5s,baz=106,slow=5.6,SNR=13
ZALV LR LR 04 38 51.2
comp=Z,54nm,20.0s,baz=68,slow=35
comp=Z,3.5nm,0.5s
ZALV **Zalesovo Beam** 81.54 326 *i* P P 04 03 04.4 -0.2
ZALV pmax pmax
comp=Z,3.0nm,0.5s
A19K **Wainwright** 81.54 14 P P 04 03 05.0 +0.8
baz=227
KLU **Klutina** 81.55 25 IAmb IAmb 04 03 16.6
comp=Z,16nm,1.0s
KLU **Klutina** 81.55 25 P P 04 03 04.6 0.0
baz=242,SNR=6.5
E20K **Nigu River** 81.58 17 P P 04 03 06.1 +1.5
baz=232,SNR=6.2
H22K **Ishtalitna Cre** 81.72 20 P P 04 03 05.1 -0.2
baz=236,SNR=5.3
DHY **Denali Highway** 81.72 23 P P 04 03 06.1 +0.5
baz=240,SNR=9.0
M24K **Tolsona, Glenn** 81.74 25 P P 04 03 06.4 +0.8
baz=242
D20K **Etivluk River** 81.75 17 P P 04 03 05.9 +0.5
baz=231
F21K **Alatna River** 81.78 19 P P 04 03 06.3 +0.7
baz=234
NEA2 **Nenana** 81.84 22 P P 04 03 05.2 -0.8
NEA2 IAmb IAmb 04 03 07.9
comp=Z,8.3nm,0.7s
NEA2 **Nenana** 81.84 22 P P 04 03 06.0 0.0
baz=239,SNR=5.1
BMRM **Bremner River** 81.88 26 P P 04 03 06.8 +0.5
baz=243
I23K **Minto, Yukon-K** 82.02 21 P P 04 03 07.9 +1.0
baz=238
BGLC **Bering Glacier** 82.09 27 P P 04 03 07.6 +0.2
baz=245
WRH **Wood River Hil** 82.14 22 IAmb IAmb 04 03 10.0
comp=Z,17nm,1.4s
N25K **Chitina, Valde** 82.17 25 IAmb IAmb 04 03 09.9
comp=Z,9.9nm,1.1s
N25K **Chitina, Valde** 82.17 25 P P 04 03 08.4 +0.5
baz=243
G22K **Bettles** 82.24 19 P P 04 03 08.6 +0.6
baz=236
HARP **HAARP** 82.30 25 P P 04 03 09.5 +1.1
baz=243
H23K **Yukon River** 82.31 21 P P 04 03 09.7 +1.2
baz=238
CCB **Clear Creek Bu** 82.34 22 IAmb IAmb 04 03 10.2
comp=Z,7.1nm,0.6s
MDM **Murphy Dome** 82.34 22 IAmb IAmb 04 03 09.3
comp=Z,13nm,1.4s
E21K **Killik River** 82.35 17 IAmb IAmb 04 03 10.2
comp=Z,8.1nm,0.8s
E21K **Killik River** 82.35 17 P P 04 03 09.9 +1.3
baz=234
F22K **John River** 82.36 19 P P 04 03 09.9 +1.2
baz=236
B20K **Meade River** 82.42 15 P P 04 03 10.0 +1.2
baz=230
PAX **Paxson** 82.43 24 P P 04 03 09.8 +0.6
baz=242
COLA **College** 82.43 22 P P 04 03 07.9 -1.2
COLA **College** 82.43 22 P P 04 03 09.8 +0.8
baz=240
COLA **College** 82.43 22 *ce* P P 04 03 08.5 -0.5
COLA pmax pmax
comp=Z,9.0nm,0.9s
GLB **Gilahina Butte** 82.44 26 IAmb IAmb 04 03 11.0
comp=Z,12nm,0.9s
HDA **Harding Lake** 82.54 22 P P 04 03 10.0 +0.4
baz=241
C21K **Knifeblade Rid** 82.54 17 P P 04 03 11.3 +1.7
baz=233
G23K **Bananza Creek** 82.62 20 P P 04 03 10.9 +0.8
baz=238
K24K **Donnelly Dome** 82.70 23 P P 04 03 11.4 +0.9
baz=242
POKR **Poker Flat Res** 82.71 22 P P 04 03 11.9 +1.4
baz=240
MESA **MESA** 82.72 27 P P 04 03 11.3 +0.3
baz=246
IL31 82.74 22 IAmb IAmb 04 03 12.2
comp=Z,6.8nm,0.8s
ILAR **Eielson Array** 82.74 22 P P 04 03 09.6 -1.1
ILAR **Eielson Array** 82.74 22 P P 04 03 09.8 -0.8
comp=Z,4.7nm,0.7s,baz=249,slow=5.5,SNR=41
ILAR LR LR 04 35 09.3
comp=Z,66nm,20.6s,baz=242,slow=32
comp=Z,4.7nm,0.7s
ILAR **Eielson Array** 82.74 22 P P 04 03 09.6 -1.1
E22K **Anaktuvuk Pass** 82.83 18 P P 04 03 11.7 +0.6
baz=236
COLD **Coldfoot** 82.84 19 P P 04 03 12.8 +1.7
baz=237
B21K **Ikpikpuk River** 82.87 16 P P 04 03 12.0 +0.8
baz=233
H24K **Noodor Dome** 82.91 21 P P 04 03 12.5 +0.9
baz=240
D22K **Ayikyak River** 82.99 17 IAmb IAmb 04 03 14.0
comp=Z,11nm,0.9s
D22K **Ayikyak River** 82.99 17 P P 04 03 13.2 +1.2
baz=235
KSH **Kashi** 83.19 311 P P 04 03 16.0 +2.3
KSH sP pwP 04 03 31.5 +4.4
KSH pmax pmax
comp=Z,14nm,1.0s
M26K **Nabesna, AK** 83.20 25 P P 04 03 13.6 +0.4
baz=245
J25K **Salcha River,** 83.24 23 IAmb IAmb 04 03 15.5
comp=Z,11nm,0.8s
J25K **Salcha River,** 83.24 23 P P 04 03 13.6 +0.2
baz=242,SNR=22
CTG **Chitna Glacier** 83.32 27 P P 04 03 14.0 +0.1
baz=246
CTGM **Chitina Glacie** 83.32 27 IAmb IAmb 04 03 15.5
comp=Z,11nm,0.9s
L26K **Log Cabin Wild** 83.32 24 IAmb IAmb 04 03 17.0
comp=Z,6.7nm,0.8s
L26K **Log Cabin Wild** 83.32 24 P P 04 03 14.8 +1.0
baz=244,SNR=6.7
E23K **Chandalar** 83.48 19 P P 04 03 15.5 +1.0
baz=238
SCRK **Sand Creek** 83.48 23 P P 04 03 15.3 +0.6
baz=244,SNR=6.2
ULHL **Ulahol** 83.59 313 P P 04 03 17.2 +1.3
SNR=6.1
PRP **Porcupine Dome** 83.60 22 P P 04 03 16.4 +1.1
baz=242
A22K **Sinclair Lake** 83.61 15 P P 04 03 15.9 +0.9
baz=232
B22K **Teshekpuk Lake** 83.63 16 P P 04 03 16.1 +1.0
baz=234
M27K **Edge Creek, AK** 83.65 25 P P 04 03 16.4 +0.8
baz=246,SNR=12
PNL **Peninsula** 83.71 28 P P 04 03 16.9 +1.0
baz=248
O28M **Mount Upton** 83.76 27 P P 04 03 17.0 +0.6
baz=247
TOLK **Toolik Lake Re** 83.80 18 IAmb IAmb 04 03 17.8
comp=Z,7.5nm,0.9s
TOLK **Toolik Lake Re** 83.80 18 P P 04 03 16.8 +0.7
baz=238,SNR=5.9
E24K **Your Creek** 83.85 19 P P 04 03 18.2 +1.8
baz=239
H25L **Birch Creek** 83.85 21 P P 04 03 17.1 +0.8
baz=242
BOOM **Boomskoye usch** 83.87 314 P P 04 03 17.9 +0.7
BOOM IAmb IAmb 04 03 19.3
comp=Z,16nm,1.1s
BOOM **Boomskoye usch** 83.87 314 P P 04 03 17.9 +0.7
BOOM pmax pmax
comp=Z,16nm,1.1s
J26L **Joseph Creek** 83.88 23 IAmb IAmb 04 03 27.9
comp=Z,11nm,1.4s
J26L **Joseph Creek** 83.88 23 P P 04 03 17.1 +0.4
baz=244
L27K **Beaver Creek,** 83.97 25 P P 04 03 17.9 +0.8
baz=246
BCAR **Beaver Creek A** 83.98 25 P P 04 03 17.2 0.0
G25K **Bearman Lake** 83.99 20 P P 04 03 18.9 +1.8
baz=241
YUK3 **Moose Creek** 84.03 26 P P 04 03 18.2 +0.5
baz=247
BVCY **Beaver Creek** 84.11 25 P P 04 03 18.6 +0.8
baz=247
KURK **Kurchatov** 84.12 322 P P 04 03 17.4 -0.7
KURK IAmb IAmb 04 03 19.7
comp=Z,18nm,1.1s
KURK **Kurchatov** 84.12 322 *de* P P 04 03 18.3 +0.3
KURK pmax pmax
comp=Z,22nm,1.3s
C23K **Itkillik River** 84.14 17 IAmb IAmb 04 03 19.6
comp=Z,12nm,0.9s
C23K **Itkillik River** 84.14 17 P P 04 03 19.2 +1.5
baz=237,SNR=7.1
KURBB **Kurchatov Arra** 84.15 322 P P 04 03 17.7 -0.5
comp=Z,7.7nm,1.0s,baz=108,slow=4.1,SNR=28
comp=Z,7.7nm,1.0s
YUK8 **Steele Glacier** 84.15 27 P P 04 03 18.9 +0.5
baz=248
NIL **Nilore** 84.17 304 P P 04 03 18.0 -0.8
NIL **Nilore** 84.17 304 P P 04 03 18.0 -0.8
NIL pmax pmax
comp=Z,37nm,1.2s
TKM2 **Tokmak 2** 84.21 314 P P 04 03 19.9 +0.9
SNR=14
K27K **Chicken** 84.27 24 P P 04 03 19.7 +1.2
baz=245
D24K **Happy Valley** 84.30 18 IAmb IAmb 04 03 20.5
comp=Z,6.7nm,0.7s
D24K **Happy Valley** 84.30 18 P P 04 03 20.1 +1.5
baz=239,SNR=5.8
O29M **Mount Kennedy** 84.33 28 P P 04 03 19.9 +0.8
baz=249
I26K **Coal Creek Min** 84.39 22 P P 04 03 20.3 +1.1
baz=244
P29M **Windy Craggy** 84.48 29 P P 04 03 20.1 +0.3
baz=250
F25K **Christian Rive** 84.55 20 P P 04 03 20.8 +0.8
baz=242,SNR=9.2
QSPA **South Pole Qui** 84.60 180 P P 04 03 21.1 +0.7
comp=Z,2.2nm,0.9s,baz=349,slow=0.8,SNR=5.3
comp=Z,2.2nm,0.9s
KBK **Karagaybulak** 84.62 314 P P 04 03 22.4 +1.3
SNR=9.7
C24K **Franklin Bluff** 84.64 17 P P 04 03 22.1 +1.9
baz=239
YUK6 **Outpost Mounta** 84.66 27 P P 04 03 21.8 +0.9
baz=249
YUK4 **Talbot Arm** 84.67 27 P P 04 03 22.4 +1.4
baz=249
E25K **Arctic Village** 84.82 19 P P 04 03 22.8 +1.5
baz=242
CHMS **Chumysh** 84.83 314 P P 04 03 23.1 +1.2
SNR=8.8
SIT **Sitka** 84.84 31 P P 04 03 22.8 +1.3
baz=252
UCH **Uchtor** 84.84 313 P P 04 03 23.8 +1.3
SNR=44
FRU1 **Bishkek** 84.88 314 P P 04 03 22.6 +0.4
FRU1 **Bishkek** 84.88 314 P P 04 03 22.6 +0.4
FRU1 pmax pmax
comp=Z,34nm,1.0s
G26K **Porcupine Rive** 84.89 21 P P 04 03 22.8 +1.2
baz=244,SNR=5.6
EGAK **Eagle** 84.94 23 P P 04 03 22.4 +0.4
EGAK IAmb IAmb 04 03 29.4
comp=Z,13nm,1.2s
EGAK **Eagle** 84.94 23 P P 04 03 22.9 +0.9
baz=246,SNR=7.4
AAK **Ala-Archa** 84.94 314 P P 04 03 23.6 +0.9
SNR=16
AAK **Ala-Archa** 84.94 314 P P 04 03 22.8 +0.2
AAK **Ala-Archa** 84.94 314 *ci* P P 04 03 23.4 +0.7
AAK pmax pmax
comp=Z,21nm,0.8s
MAW **Mawson** 84.99 203 LR LR 04 37 59.6
comp=Z,102nm,20.1s,baz=84,slow=33
HYT **Haines Junctio** 85.01 28 P P 04 03 23.4 +0.8
HYT **Haines Junctio** 85.01 28 P P 04 03 23.3 +0.8
baz=250
P30M **Million Dollar** 85.02 28 P P 04 03 24.0 +1.5
baz=250
USP **Ospenovka** 85.07 314 P P 04 03 24.3 +1.2
SNR=24
PLBC **Pleasant Camp** 85.08 29 P P 04 03 24.5 +1.8
baz=251
F26K **Sheenjek River** 85.10 20 P P 04 03 24.0 +1.3
baz=243
I27K **Kandik River** 85.10 22 P P 04 03 24.0 +1.2
baz=246,SNR=6.0
D25K **Kavik River** 85.14 18 P P 04 03 22.9 0.0
D25K IAmb IAmb 04 03 24.8
comp=Z,7.4nm,1.0s
D25K **Kavik River** 85.14 18 P P 04 03 23.7 +0.8
baz=241,SNR=8.3
M29M **Somme Creek** 85.15 26 P P 04 03 23.1 -0.1
M29M IAmb IAmb 04 03 27.5
comp=Z,11nm,1.0s
M29M **Somme Creek** 85.15 26 P P 04 03 24.1 +1.0
baz=249,SNR=8.3
DAWY **Dawson** 85.37 24 P P 04 03 25.2 +1.0
DAWY **Dawson** 85.37 24 P P 04 03 25.3 +1.2
baz=248,SNR=6.2
H27K **Steamboat Moun** 85.39 22 P P 04 03 25.3 +1.1
baz=246,SNR=10
N30M **Aishikik Lake** 85.42 27 P P 04 03 24.6 +0.2
baz=250
EKS2 **Erkin-Say** 85.47 313 P P 04 03 26.3 +1.1
SNR=18
L29M **L29M** 85.54 25 P P 04 03 25.9 +0.9
L29M IAmb IAmb 04 03 27.4
comp=Z,7.1nm,0.8s
L29M **L29M** 85.54 25 P P 04 03 25.7 +0.7
baz=249,SNR=8.1
CRAG **Craig** 85.55 33 P P 04 03 26.1 +1.0
baz=254
SKAG **Skagway** 85.58 29 P P 04 03 25.0 -0.2
SKAG **Skagway** 85.58 29 P P 04 03 25.3 +0.1
baz=252
G27K **Doyon Strip** 85.59 21 P P 04 03 26.0 +0.8
G27K **Doyon Strip** 85.59 21 P P 04 03 26.6 +1.4
baz=246,SNR=6.2
O30N **Mendenhall** 85.64 28 P P 04 03 25.9 +0.3
baz=251
I28M **Miner Creek** 85.68 23 P P 04 03 26.0 +0.3
I28M **Miner Creek** 85.68 23 P P 04 03 26.9 +1.1
baz=247
ARSB **Arslanbob** 85.79 312 P P 04 03 27.1 +0.3
ARSB **Arslanbob** 85.79 312 P P 04 03 27.2 +0.3
ARSB pmax pmax
comp=Z,18nm,1.2s
C26K **Camden Bay** 85.88 18 P P 04 03 28.4 +1.9
baz=242,SNR=15
M30M **Minto, Yukon** 85.93 26 P P 04 03 27.4 +0.5
M30M IAmb IAmb 04 03 30.7
comp=Z,6.7nm,0.8s
M30M **Minto, Yukon** 85.93 26 P P 04 03 28.5 +1.5
baz=250
N31M **Braeburn, Yuko** 86.02 27 P P 04 03 27.9 +0.5
N31M **Braeburn, Yuko** 86.02 27 P P 04 03 28.6 +1.2
baz=251
K29M **Barlow Dome** 86.05 25 P P 04 03 28.0 +0.3
K29M **Barlow Dome** 86.05 25 P P 04 03 29.2 +1.5
baz=250,SNR=11
C27K **Jago River** 86.11 18 P P 04 03 28.7 +1.0
baz=243,SNR=5.6
WHY **Whitehorse** 86.17 28 P P 04 03 29.4 +1.2
baz=252
E27K **Coleen River** 86.18 20 IAmb IAmb 04 03 30.1
comp=Z,9.1nm,0.8s
E27K **Coleen River** 86.18 20 P P 04 03 29.6 +1.5
baz=245,SNR=11
WRAK **Wrangell Islan** 86.22 33 P P 04 03 29.3 +0.8
baz=254
I29M **Ogilvie Camp,** 86.28 23 IAmb IAmb 04 03 30.5
comp=Z,14nm,1.2s
I29M **Ogilvie Camp,** 86.28 23 P P 04 03 29.5 +0.9
baz=249,SNR=9.3
V35K **Ketchikan** 86.34 34 P P 04 03 30.0 +1.0
baz=255
DRK **Karamyk** 86.34 310 P P 04 03 30.2 +0.3
DRK **Karamyk** 86.34 310 P P 04 03 30.2 +0.3
DRK pmax pmax
comp=Z,14nm,1.0s
P32M **Atlin** 86.41 29 P P 04 03 30.8 +1.4
baz=253
F28M **Old Crow** 86.55 21 P P 04 03 30.6 +0.7
F28M IAmb IAmb 04 03 32.1
comp=Z,7.5nm,0.8s
F28M **Old Crow** 86.55 21 P P 04 03 31.0 +1.1
baz=247,SNR=9.7
H29M **Whitestone** 86.57 22 P P 04 03 31.2 +1.2
baz=249
J30M **Hart River** 86.79 24 P P 04 03 32.2 +0.9
baz=250,SNR=9.3
D27M **Malcolm River** 86.83 19 P P 04 03 32.1 +0.8
D27M IAmb IAmb 04 03 33.8
comp=Z,9.9nm,0.8s
D27M **Malcolm River** 86.83 19 P P 04 03 31.9 +0.7
baz=246,SNR=7.1
M31M **Drury Creek, Y** 86.87 27 IAmb IAmb 04 03 35.4
comp=Z,14nm,1.3s
M31M **Drury Creek, Y** 86.87 27 P P 04 03 32.1 +0.5
baz=252
G29M **Pine Creek** 86.95 22 P P 04 03 32.1 +0.3
G29M **Pine Creek** 86.95 22 P P 04 03 33.0 +1.2
baz=249,SNR=7.9
I30M **Mount Dempster** 86.99 24 IAmb IAmb 04 03 34.2
comp=Z,13nm,1.2s
I30M **Mount Dempster** 86.99 24 P P 04 03 32.7 +0.5
baz=250,SNR=9.3
P33M **Teslin Yukon** 87.02 29 P P 04 03 33.4 +0.9
baz=254
E28M **Babbage River** 87.05 20 IAmb IAmb 04 03 34.2
comp=Z,6.6nm,0.8s
E28M **Babbage River** 87.05 20 P P 04 03 33.7 +1.4
baz=247,SNR=10
EPYK **Eagle Plains** 87.25 22 P P 04 03 34.1 +0.8
EPYK **Eagle Plains** 87.25 22 P P 04 03 34.5 +1.1
baz=250,SNR=12
S34M **Telegraph Cree** 87.25 31 P P 04 03 34.0 +0.6
S34M **Telegraph Cree** 87.25 31 P P 04 03 34.7 +1.2
baz=255
FARO **Faro, Yukon** 87.34 27 P P 04 03 34.5 +0.6
baz=253
T35M **Bob Quinn** 87.48 32 P P 04 03 35.1 +0.5
baz=256
E29M **Blow River** 87.53 20 IAmb IAmb 04 03 42.1
comp=Z,8.1nm,1.4s
E29M **Blow River** 87.53 20 P P 04 03 35.7 +1.1
baz=249,SNR=5.7
D28M **Stokes Point** 87.59 19 P P 04 03 36.2 +1.4
baz=248,SNR=8.0
G30M **tAoh Zraii Nji** 87.64 22 IAmb IAmb 04 03 36.9
comp=Z,9.2nm,1.0s
G30M **tAoh Zraii Nji** 87.64 22 P P 04 03 35.9 +0.7
baz=250
R33M **Jennings River** 87.70 30 P P 04 03 36.5 +0.7
baz=256
DLBC **Dease Lake** 87.95 31 P P 04 03 37.5 +0.6
baz=256
H31M **Peel River** 87.98 23 P P 04 03 37.0 +0.1
baz=252,SNR=9.5
F30M **Barrier River** 88.01 21 P P 04 03 37.9 +0.9
baz=251,SNR=13
CHGR **Chuyangaron** 88.25 309 P P 04 03 38.2 -0.6
CHGR **Chuyangaron** 88.25 309 P P 04 03 38.2 -0.6
CHGR pmax pmax
comp=Z,20nm,0.8s
G31M **Satah River** 88.35 22 P P 04 03 39.7 +1.2
baz=252
SIMJ **Simiganj** 88.36 309 P P 04 03 38.7 -0.7
SIMJ IAmb IAmb 04 03 40.3
comp=Z,6.3nm,0.9s
MMPY **Sheldon Lake,** 88.38 27 P P 04 03 40.2 +1.4
baz=255
F31M **Tsiigehtchic** 88.70 22 P P 04 03 41.5 +1.3
baz=253
INK **Inuvik** 89.04 21 P P 04 03 41.9 +0.2
INK IAmb IAmb 04 03 43.1
comp=Z,10nm,1.2s
INK **Inuvik** 89.04 21 P P 04 03 42.5 +0.8
baz=253
INK **Inuvik** 89.04 21 LR LR 04 40 10.1
comp=Z,95nm,19.7s,baz=190,slow=33
INK **Inuvik** 89.04 21 P P 04 03 41.9 +0.2
INK pmax pmax
comp=Z,10.0nm,1.3s
TGTN **Hyland Airport** 89.50 28 P P 04 03 45.1 +1.0
baz=258
YBH **Yreka Blue Hor** 89.55 48 LR LR 04 36 10.0
comp=Z,106nm,21.0s,baz=282,slow=30
BVAR **Borovoye Array** 89.60 323 P P 04 03 44.1 -0.6
comp=Z,12nm,0.7s,baz=101,slow=5.8,SNR=49
comp=Z,12nm,0.7s
BRVK **Borovoye** 89.67 323 P P 04 03 43.8 -1.2
BRVK IAmb IAmb 04 03 45.1
comp=Z,7.6nm,0.8s
BRVK **Borovoye** 89.67 323 *ce* P P 04 03 44.0 -1.0
BRVK pmax pmax

	comp=Z,6.0nm,0.8s							
TOAD	Toad River Com	90.48	31	P		P	04 03 49.7	+0.9
	baz=260							
PKM	Mcpherson Peak	91.02	55	P		P	04 03 51.7	-0.3
	baz=264							
KOTAN	Kotaneelee Air	91.28	30	P		P	04 03 53.7	+1.3
	baz=262							
CIS	Catalina Islan	92.03	57	P		P	04 03 57.2	+0.7
	baz=265							
NVAR	Mina Array Bea	92.56	52	P		P	04 03 59.7	+0.6
	comp=Z,0.8nm,0.7s,baz=258,slow=5.0,SNR=4.9							
	comp=Z,0.8nm,0.7s							
A36M	Sachs Harbour	92.62	18	P		P	04 03 58.9	+0.6
	baz=261							
MPMC	Manual Prospec	93.01	54	P		P	04 04 01.1	-0.1
	baz=266							
MURC	Murrieta	93.07	57	P		P	04 04 01.3	0.0
	baz=266							
109C	Camp Elliot, M	93.09	57	P		P	04 04 01.1	-0.3
	baz=266							
GSC	Goldstone, Bar	93.51	55	P		P	04 04 03.3	-0.1
	baz=266							
FURC	Furnace Creek,	93.55	54	P		P	04 04 03.5	+0.1
	baz=266							
MONP2	Monument Peak	93.66	57	P		P	04 04 03.5	-0.8
	baz=266							
PFO	Pinyon Flats O	93.68	57	P		P	04 04 03.4	-0.9
	baz=266							
TPFO	Pinon Flats	93.69	57	P		P	04 04 03.5	-0.8
	baz=266							
WCT	Wildcat Mounta	93.76	54	P		P	04 04 04.7	+0.2
HEC	Hector,Ludlow	93.87	56	P		P	04 04 04.7	-0.4
	baz=266							
IKP	In-Ko-Pah, Jac	93.91	58	P		P	04 04 04.9	-0.4
	baz=266							
BELC	Belle Mtn. Jos	94.09	56	P		P	04 04 05.8	-0.4
	baz=266							
NEW	Newport	94.12	42	LR		LR	04 46 05.6	
	comp=Z,83nm,18.0s,baz=275,slow=35							
GMRC	Granite Mounta	94.42	56	P		P	04 04 08.4	+0.7
	baz=266							
BC3	Big Chuckawall	94.52	57	P		P	04 04 08.6	+0.5
	baz=267							
R11B	Troy Canyon, C	94.68	52	P		P	04 04 08.6	-0.2
	baz=267							
IRM	Iron Mountain	94.81	56	P		P	04 04 09.1	-0.2
	baz=267							
YKA	Yellowknife Ar	96.00	28	P		P	04 04 14.0	0.0
	comp=Z,1.7nm,0.7s,baz=276,slow=5.1,SNR=23							
	comp=Z,1.7nm,0.7s							
YKA	Yellowknife Ar	96.00	28	*i* P		P	04 04 14.6	+0.6
YKA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
ARU	Arti	96.70	326	LR		LR	04 48 48.3	
	comp=Z,78nm,20.3s,baz=142,slow=36							
W18A	Petrified Fore	99.29	55	P		Pdif	04 04 28.9	-0.9
	baz=270							
PDAR	Pinedale Array	99.34	48	LR		LR	04 43 29.9	
	comp=Z,49nm,20.3s,baz=290,slow=32							
MSTX	Muleshoe	105.07	56	P		PKiKP	04 09 08.7	-1.4
	baz=274							
MDND	Maddock	105.85	42	P		PKiKP	04 09 10.4	-0.6
	baz=280							
CBKS	Cedar Bluff	107.06	51	P		PKiKP	04 09 12.7	-0.8
	baz=277							
ABTX	Abilene, Hawle	107.79	58	P		PKiKP	04 09 14.2	-0.8
	baz=275							
JCT	Junction City	107.83	60	P		PKiKP	04 09 13.6	-1.6
	baz=274							
WMOK	Wichita Mounta	108.30	55	P		PKiKP	04 09 14.7	-1.2
	baz=276							
833A	Chaparral WMA,	108.33	62	P		PKiKP	04 09 14.4	-1.7
	baz=274							
ECSD	EROS Data Cent	108.64	46	P		PKiKP	04 09 14.6	-1.6
	baz=281							
KSU1	Kansas State U	109.44	51	P		PKiKP	04 09 16.6	-1.2
	baz=279							
WHTX	Lake Whitney,	109.69	58	P		PKiKP	04 09 16.6	-1.9
	baz=276							
435B	Jarrell	109.70	59	P		PKiKP	04 09 17.4	-1.2
	baz=276							
TUL3	Leonard	110.57	54	P		PKiKP	04 09 18.9	-1.2
	baz=278							
EYMN	Ely	111.15	40	P		PKiKP	04 09 20.3	-0.6
	baz=286							
SCIA	State Center	111.46	47	P		PKiKP	04 09 21.3	-0.3
	baz=282							
JFWS	Jewell Farm	113.35	45	P		PKiKP	04 09 24.5	-0.7
	baz=285							
CCM	Cathedral Cave	113.76	51	P		PKiKP	04 09 24.8	-1.3
	baz=282							
HDIL	Hopedale	114.65	48	P		PKPdf	04 09 26.2	-1.5
	baz=285							
OXF	Oxford	115.96	54	P		PKPdf	04 09 29.5	-0.9
	baz=282							
SFIN	Lafayette	116.31	47	P		PKPdf	04 09 30.5	-0.4
	baz=286							
GLMI	Grayling	116.65	42	P		PKPdf	04 09 30.7	-0.8
	baz=290							
NB2	NORSAR Subarra	117.39	340	PKPdf		PKPdf	04 09 32.0	-0.5
	comp=Z,0.3nm,0.7s,baz=44,slow=1.9							
NOA	NORSAR Array B	117.39	340	PKP		PKPdf	04 09 31.5	-0.9
	comp=Z,0.8nm,0.8s,baz=47,slow=2.0,SNR=4.9							
WCI	Wyandotte Cave	117.51	50	P		PKPdf	04 09 32.6	-0.7
	baz=286							
O48B	Farmland	117.77	47	P		PKPdf	04 09 32.4	-1.3
	baz=288							
BRAL	Brewton	118.59	57	P		PKPdf	04 09 33.8	-1.8
	baz=282							
ACSO	Alum Creek Sta	119.35	46	P		PKPdf	04 09 35.5	-1.3
	baz=290							
TZTN	Tazewell	120.08	51	P		PKPdf	04 09 38.0	-0.4
	baz=287							
P52A	Corning	120.17	47	P		PKPdf	04 09 37.3	-1.1
	baz=290							
M53A	WI Miller and	120.56	44	P		PKPdf	04 09 38.1	-1.0
	baz=292							
O53A	New Philadelph	120.61	46	P		PKPdf	04 09 38.2	-1.1
	baz=291							
MCWV	Mont Chateau	121.81	46	P		PKPdf	04 09 40.3	-1.2
	baz=292							
DPC	Dobruska-Polom	122.19	328	*e*PKPDF		PKiKP	04 09 44.8	+2.6
DPC	Dobruska-Polom	122.19	328	*e*PKiKP		PKiKP	04 09 44.8	+2.6
BLA	Blacksburg	122.25	49	P		PKPdf	04 09 41.0	-1.6
	baz=290							
SSPA	Standing Stone	122.81	44	P		PKPdf	04 09 42.9	-0.5
	baz=294							
LONY	Lake Ozonia	123.22	39	P		PKPdf	04 09 43.5	-0.7
	baz=299							
CLL	Collm	123.27	331	*i* PKPdf		PKPdf	04 09 44.3	+0.3
	comp=Z,3.0nm,0.9s							
CLL				*i* x		x	04 09 48.4	
CLL	Collm	123.27	331	*i* PKiKP		PKPdf	04 09 44.3	+0.3
CLL				*i*			04 09 48.4	
CLL				pmax		pmax		
	comp=Z,3.0nm,0.9s							
BINY	Binghamton	123.45	42	P		PKPdf	04 09 44.0	-0.6
	baz=296							
RONA	Rosalia, Austr	123.72	326	*e*PKiKP		PKPdf	04 09 45.5	+0.5
	comp=Z,2.2nm,1.0s							
CONA	Conrad Observa	123.83	326	*e*PKP		PKPdf	04 09 45.3	0.0
	comp=Z,2.3nm,1.0s							
DWPF	Disney Wildern	124.03	60	P		PKPdf	04 09 44.7	-1.5
	baz=283							
CBN	Corbin Frederi	124.14	47	P		PKPdf	04 09 45.3	-0.8
	baz=293							
CKRC	Cesky Krumlov	124.15	328	*e*PKPDF		PKPdf	04 09 46.3	+0.5
CKRC	Cesky Krumlov	124.15	328	*e*PKiKP		PKPdf	04 09 46.3	+0.5
KHC	Kasperske Hory	124.34	329	*e*PKPDF		PKPdf	04 09 45.0	-1.2
KHC	Kasperske Hory	124.34	329	*e*PKiKP		PKPdf	04 09 45.8	-0.4
GERES	GERESS Array B	124.45	328	PKP		PKPdf	04 09 46.6	+0.1
	comp=Z,1.1nm,0.7s,baz=11,slow=1.0,SNR=8.4							
CNNC	Cliffs of the	124.85	50	P		PKPdf	04 09 46.3	-1.2
	baz=291							
SOKA	Soboth	125.01	325	*e*PKiKP		PKPdf	04 09 47.8	+0.2
	comp=Z,2.1nm,1.1s							
PAL	Palisades	125.38	42	P		PKPdf	04 09 47.3	-1.0
	baz=298							
L61B	Northampton	125.49	40	P		PKPdf	04 09 48.3	-0.2
	baz=300							
LESA	Schwarzleotal	125.87	327	*e*PKP		PKPdf	04 09 49.2	0.0
	comp=Z,2.9nm,0.9s							
HRV	Adam Dziewonsk	126.18	40	P		PKPdf	04 09 49.7	-0.1
	baz=301							
ABTA	Abfaltersbach	126.37	327	*i* PKiKP		PKPdf	04 09 50.7	+0.5
	comp=Z,5.6nm,1.3s							
WATA	Walderalm	126.51	328	*e*PKP		PKPdf	04 09 50.4	-0.1
	comp=Z,4.5nm,1.3s							
WTTA	Wattenberg	126.52	328	*e*PKP		PKPdf	04 09 50.3	-0.3
	comp=Z,5.8nm,1.1s							
MOTA	Moosalm	126.75	328	*e*PKP		PKPdf	04 09 50.5	-0.5
	comp=Z,4.1nm,0.9s							
SQTA	Sankt Quirin	126.78	328	*e*PKiKP		PKPdf	04 09 51.4	+0.4
	comp=Z,2.0nm,0.7s							
FETA	Feichten	127.16	328	*e*PKiKP		PKPdf	04 09 52.5	+0.7
	comp=Z,4.1nm,1.1s							
DAVA	Damuels	127.43	329	*e*PKiKP		PKPdf	04 09 52.8	+0.5
	comp=Z,3.2nm,0.8s							
LPAZ	La Paz	134.28	119	PKP		PKPdf	04 10 05.7	-1.0
	comp=Z,0.9nm,0.8s,baz=240,slow=4.2,SNR=4.0							
MDT	Midelt	145.42	325	PKPbc		PKPbc	04 10 26.4	+0.6
	comp=Z,4.7nm,1.1s,baz=25,slow=6.2,SNR=6.0							
TORD	Torodi Ar. Bea	150.33	287	PKPbc		PKPbc	04 10 38.6	-0.8
	comp=Z,3.1nm,0.8s,baz=78,slow=2.4,SNR=8.6							
BDFB	Brasilia	150.77	136	PKPbc		PKPbc	04 10 41.2	+0.6
	comp=Z,5.9nm,0.9s,baz=216,slow=2.8,SNR=7.3							

*IDC **27** 04:01:32.1±4.8,5˚.85S×147˚.94E,h168km±50km,mb3.5/2, mbtmp4.2/4,Error ellipse: s-maj=96.2km s-min=30.3km az=130.0*
*NEIC **27** 04:01:33.1±1.7,5˚.6S±0˚.1×147˚.60E±0˚.10,h169km±9km, mb4.2/18,Error ellipse: s-maj=17.0km s-min=13.5km az=164.0*

ISC 27 04:01:32.9±0.7,**5.70S**±0.08×**147.62E**±0.10,**h170**km,**n30, s095/31,mb4.0/7,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MANU	Manus Island	3.64	356	Pn	Pn	04 02 28.2	-0.9
PMG	Port Moresby	3.71	187	P	Pn	04 02 29.0	-1.0
	84nm,0.3s,baz=283,slow=19,SNR=52						
PMG				S	Sn	04 03 11.7	-3.0
	135nm,0.7s,baz=68,slow=18,SNR=9.4						
RABL	Rabaul	4.77	72	Pn	Pn	04 02 43.3	-0.4
COEN	Coen	9.30	208	Pn	Pn	04 03 44.3	+0.8
SAUI	Saumlaki	16.36	261	P	P	04 05 13.1	+0.2
QIS	Mount Isa	16.70	207	P	Pn	04 05 18.1	+0.9
MTN	Manton Dam	17.74	245	P	P	04 05 28.4	+0.3
MTN				IAmb	IAmb	04 05 36.2	
	comp=Z,11nm,1.1s						
WB0	Warramunga Arr	19.00	221	P	P	04 05 41.7	-0.1
WR0	Warramunga Arr	19.04	221	P	P	04 05 41.8	-0.4
WR0				IAmb	IAmb	04 05 43.0	
	comp=Z,9.7nm,0.8s						
WRAB	Tennant Creek	19.15	221	P	P	04 05 43.2	-0.2
WRAB				IAmb	IAmb	04 05 46.5	
	comp=Z,8.0nm,0.8s						
WB2	Warramunga Arr	19.16	221	P	P	04 05 43.3	-0.1
WB2				IAmb	IAmb	04 05 44.3	
	comp=Z,8.3nm,0.6s						
WRA	Warramunga Arr	19.16	221	P	P	04 05 41.8	-1.8
WRA	Warramunga Arr	19.16	221	P	P	04 05 43.6	0.0
	comp=Z,6.9nm,0.7s,baz=50,slow=12,SNR=55						
EIDS	Eidsvold	19.84	171	P	P	04 05 52.1	+1.3
EIDS				IAmb	IAmb	04 06 19.4	
	comp=Z,15nm,1.1s						
AS01	Alice Springs	22.19	215	P	P	04 06 16.0	+0.5
AS31	Alice Springs	22.21	215	P	P	04 06 15.9	+0.1
AS31				IAmb	IAmb	04 06 16.8	
	comp=Z,4.5nm,0.4s						
ASAR	Alice Springs	22.22	215	P	P	04 06 14.8	-1.0
ASAR	Alice Springs	22.22	215	P	P	04 06 16.1	+0.3
	comp=Z,5.4nm,0.5s,baz=49,slow=8.6,SNR=77						
	comp=Z,5.4nm,0.5s						
OOD	Oodnadatta	24.73	206	P	P	04 06 39.4	+0.7
FITZ	Fitzroy Crossi	24.75	238	P	P	04 06 38.1	-0.8
ARMA	Armidale	24.88	172	P	P	04 06 41.3	+1.1
ARMA				IAmb	IAmb	04 06 57.1	
	comp=Z,4.9nm,1.1s						
WRKA	Warakurna	26.70	222	P	P	04 06 56.4	-0.1
CAN	Canberra	29.51	178	P	P	04 07 22.2	+0.9
CAN				IAmb	IAmb	04 07 25.1	
	comp=Z,2.4nm,0.9s						
NWAO	Narrogin (SRO)	39.16	222	P	P	04 08 44.8	+0.5
NWAO				IAmb	IAmb	04 08 49.5	
	comp=Z,43nm,1.1s						
MCQ	Macquarie Isla	49.52	171	P	P	04 10 05.6	-0.4
PPTF	Pamatai, Papee	62.40	107	P	P	04 11 38.5	+0.2
SONM	Songino Array	64.44	331	P	P	04 11 51.6	+0.4
SONM				IAmb	IAmb	04 12 00.1	
	comp=Z,1.6nm,1.0s						
VNDA	Vanda	72.18	177	P	P	04 12 39.9	+1.2
QSPA	South Pole Qui	84.27	180	P	P	04 13 44.8	-0.6
ILAR	Eielson Array	84.96	23	P	P	04 13 48.0	-0.7
	comp=Z,0.3nm,0.6s,baz=262,slow=5.4,SNR=4.5						
	comp=Z,0.3nm,0.6s						

*DJA **27** 04:11:07.8±0.3,8˚.S±3˚×12˚.0E±˚,h182km±5km,M4.0/13, mb4.0/7,mB5.0/1,MLv4.0/13,Mw(mB)4.2/1*
*IDC **27** 04:11:09.4±2.4,8˚.13S×119˚.89E,h202km±21km,mb3.4/3, mbtmp3.9/6,Error ellipse: s-maj=64.6km s-min=11.2km az=51.0*

ISC 27 04:11:08.1±0.8,**8˚.32S**±0˚.08×**119˚.67E**±0˚.06,**h200**km,**n19, σ1§24/23,Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	1.94	255	P	Pn	04 11 45.2	-0.7
PLAI				S	Sn	04 12 12.8	-2.5
BASI	Baing, Sumba	2.09	155	P	Pn	04 11 46.3	-1.3
MMRI	Maumere	2.56	97	P	Pn	04 11 50.4	-2.3
TWSI	Taliwang, Sumb	2.79	261	P	Pn	04 11 54.8	-0.4
BKSI	Bulukumba	3.01	9	P	Pn	04 11 56.9	-1.0
KAPI	Kappang	3.28	1	P	Pn	04 12 00.8	-0.3
	31nm,0.3s,baz=176,slow=8.6,SNR=26						
BATI	Baumata	4.37	116	P	Pn	04 12 15.3	+0.8
	17nm,0.4s,baz=271,slow=3.9,SNR=2.1						
BATI				S	Sn	04 13 04.9	-1.9
	23nm,0.3s,baz=142,slow=10,SNR=2.6						
BATI	Baumata	4.37	116	P	Pn	04 12 13.7	-0.8
IGBI	Denpasar	4.50	263	P	Pn	04 12 15.0	-1.1
SOEI	Soe	4.76	108	P	Pn	04 12 18.5	-1.1
JAGI	Jajag, Banyuwa	5.46	268	P	Pn	04 12 27.9	-0.5
	42nm,1.2s,0.3nm						
PWJI	Pagerwojo	7.79	272	P	Pn	04 12 59.2	+0.6
	13nm,0.5s,0.3nm						
MPSI	Mapaga	8.60	2	P	Pn	04 13 09.6	+0.4
UGM	Wanagama	9.06	272	P	Pn	04 13 15.2	0.0
	163nm,1.8s						
FAKI	Fak Fak	13.62	68	P	Pn	04 14 12.7	-0.7
WRA	Warramunga Arr	18.31	131	P	P	04 15 08.1	+0.7
	0.5nm,0.3s,baz=303,slow=12,SNR=43						
WRA				S	S	04 18 27.0	+0.6
	0.8nm,0.8s,baz=300,slow=23,SNR=5.3						
ASAR	Alice Springs	20.47	140	P	P	04 15 32.0	+1.4
	1.0nm,0.4s,baz=314,slow=8.9,SNR=18						
ASAR				PcP	PcP	04 19 34.4	+0.3
	0.2nm,0.3s,baz=335,slow=2.2,SNR=1.8						
	1.0nm,0.4s						
STKA	Stephens Creek	31.07	142	P	P	04 17 09.6	+2.1
	1.8nm,0.4s,baz=305,slow=8.7,SNR=7.1						
	1.8nm,0.4s						
MKAR	Makanchi Array	64.16	332	P	P	04 21 21.4	+0.2
	0.6nm,0.5s,baz=156,slow=8.2,SNR=7.6						
	0.6nm,0.5s						

*NOU **27** 04:16:55.0,30˚.91S×176˚.14W,h252km,mb4.5/31, Kermadec Islands Region*
*NEIC **27** 04:17:06.0±2.0,30˚.39S±0˚.09×179˚.0W±0˚.1,h184km±6km, mb4.7/70,Error ellipse: s-maj=17.9km s-min=11.3km az=114.0*
*IDC **27** 04:17:08.5±1.1,30˚.09S×178˚.97W,h209km±9km,mb4.1/17, mbtmp4.6/19,MS3.5/1,Error ellipse: s-maj=12.3km s-min=11.8km az=144.0*

ISC 27 04:17:06.6±0.3,**30˚.47S**±0˚.05×**178˚.71W**±0˚.07,**h200**km, **n295,σ1§82/306,mb4.7/55,8C-9D,Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLKZ	Green Lake	1.38	30	P	Pn	04 17 38.9	-0.4
GLKZ				S	Sn	04 18 02.4	-2.2
RAO	Raoul Island	1.39	30	P	Pn	04 17 39.6	+0.2
RAO	Raoul Island	1.39	30		Pn	04 17 38.8	-0.6
RAO				Sn	Sn	04 18 01.2	-3.5
RAO	Raoul Island	1.39	30	P	Pn	04 17 39.1	-0.3
	847nm,0.2s,baz=36,slow=14,SNR=12						
RAO				S	Sn	04 17 59.1	-5.6
	3μm,0.2s,baz=245,slow=23,SNR=8.8						
RIZ	Raoul Island	1.39	29	P	Pn	04 17 39.3	-0.1
RIZ				S	Sn	04 18 03.2	-1.6
MXZ	Matakaoa Point	7.50	198	P	Pn	04 18 49.6	-3.6
MXZ	Matakaoa Point	7.50	198	Pn	Pn	04 18 51.5	-1.7
MXZ	Matakaoa Point	7.50	198	P	Pn	04 18 52.7	-0.5
MXZ				S	Sn	04 20 15.1	-2.9
WMGZ	Waiomatatini S	7.71	197	P	Pn	04 18 53.6	-2.3
WMGZ				S	Sn	04 20 23.3	+0.2
KUZ	Kuaotunu	7.80	215	P	Pn	04 18 58.9	+1.8
	56nm,0.7s						
HAZ	Te Kaha	7.83	201	P	Pn	04 18 55.0	-2.5
HAZ				S	Sn	04 20 26.0	+0.2
WCZ	Waipu Caves	7.98	225	P	Pn	04 19 02.7	+3.3
PUZ	Puketiti	7.99	197	P	Pn	04 18 56.5	-3.1
PUZ				S	Sn	04 20 27.3	-2.4
OUZ	Omahuta	8.02	232	P	Pn	04 19 03.0	+2.9
RUGZ	Raukumara Rang	8.06	201	P	Pn	04 18 58.5	-2.0
RUGZ				S	Sn	04 20 27.5	-3.9
WIAZ	Waiheke Island	8.13	217	P	Pn	04 19 04.4	+3.0
TWGZ	Tauwhareparae	8.16	199	P	Pn	04 18 59.6	-2.4
TWGZ				S	Sn	04 20 32.6	-1.3
OPRZ	Ohinepanea	8.34	207	P	Pn	04 19 01.7	-2.4
MKAZ	Moumakai	8.36	216	P	Pn	04 19 06.6	+2.2
CNGZ	Carnagh Statio	8.39	197	P	Pn	04 19 01.7	-3.1
MWZ	Matawai	8.44	201	P	Pn	04 19 01.8	-3.7
MWZ				S	Sn	04 20 38.4	-2.1
URZ	Urewera	8.51	203	P	Pn	04 19 02.3	-4.0
	68nm,0.6s						
URZ	Urewera	8.51	203	P	Pn	04 19 02.9	-3.4
	16nm,0.4s,baz=352,slow=3.6,SNR=23						
URZ				S	Sn	04 20 39.0	-2.9
	116nm,0.4s,baz=150,slow=16,SNR=15						
URZ	Urewera	8.51	203	P	Pn	04 19 02.7	-3.6
URZ				S	Sn	04 20 38.1	-3.8
KMRZ	Kaimai	8.59	210	P	Pn	04 19 09.6	+2.2
TOZ	Tahuroa Road	8.69	212	Pn	Pn	04 19 08.3	-0.4
RIGZ	Rimuhau	8.72	199	P	Pn	04 19 05.0	-4.2
RIGZ				S	Sn	04 20 44.7	-2.3
RTZ	Ruatahuna	8.87	202	Pn	Pn	04 19 09.9	-1.3
PRGZ	Paritu Road	8.89	197	P	Pn	04 19 07.9	-3.4
PRGZ				S	Sn	04 20 47.4	-3.7
SNGZ	Shannon Statio	8.91	200	P	Pn	04 19 07.5	-4.1
SNGZ				S	Sn	04 20 50.4	-1.2
PRRZ	Plateau Road	8.97	205	P	Pn	04 19 10.4	-2.0
ALRZ	Allen Road	9.05	205	P	Pn	04 19 09.9	-3.5
RAHZ	Arahi	9.11	201	P	Pn	04 19 10.0	-4.2
RAHZ				S	Sn	04 20 54.2	-2.1
MTHZ	Maungataniwha	9.13	202	P	Pn	04 19 10.3	-4.2
TLZ	Tolley Road	9.17	210	P	Pn	04 19 16.2	+1.2
MRHZ	Matea Rd	9.26	204	P	Pn	04 19 14.6	-1.6
NMHZ	Naumai	9.37	202	P	Pn	04 19 13.1	-4.4
ARHZ	Aropaoanui	9.46	201	P	Pn	04 19 15.4	-3.3
BKZ	Black Stump Fm	9.53	203	P	Pn	04 19 17.6	-2.1
BKZ	Black Stump Fm	9.53	203	Pn	Pn	04 19 16.6	-3.1
BKZ	Black Stump Fm	9.53	203	P	Pn	04 19 17.5	-2.2
RATZ	Rangitukua	9.53	207	P	Pn	04 19 19.7	0.0
HIZ	Hauiti	9.62	212	P	Pn	04 19 20.1	-0.7
HIZ	Hauiti	9.62	212	P	Pn	04 19 20.3	-0.5
NTVZ	North Tongarir	9.77	207	P	Pn	04 19 18.5	-4.3
TMZ	Te Maari	9.77	206	P	Pn	04 19 20.6	-2.3
KRVZ	Karewarewa	9.78	207	P	Pn	04 19 21.5	-1.5
WTVZ	West Tongariro	9.82	207	P	Pn	04 19 22.8	-0.6
OTVZ	Oturere	9.83	207	P	Pn	04 19 18.8	-4.9
TWVZ	Taurewa	9.84	208	P	Pn	04 19 23.0	-0.7
NGZ	Ngauruhoe	9.87	207	P	Pn	04 19 21.9	-2.3
TUVZ	Tukino	9.92	206	P	Pn	04 19 22.6	-2.2
FWVZ	Far West T-bar	9.95	207	P	Pn	04 19 21.9	-3.4
BHHZ	Black Hill Sta	9.97	204	P	Pn	04 19 19.8	-5.6
KAHZ	Kahuranaki	9.98	200	P	Pn	04 19 20.6	-4.9
WNVZ	Wahianoa	10.00	206	P	Pn	04 19 24.1	-1.8
KRHZ	Kereru	10.00	202	P	Pn	04 19 19.6	-6.2
MOVZ	Moawhango	10.01	205	P	Pn	04 19 22.1	-3.8
PXZ	Pawanui	10.21	200	P	Pn	04 19 22.3	-6.1
PNHZ	Pukenui	10.30	202	P	Pn	04 19 23.3	-6.4
PRHZ	Porangahau	10.49	200	P	Pn	04 19 25.7	-6.3
TSZ	Takapari Road	10.51	203	P	Pn	04 19 27.4	-5.0
KHEZ	Kahui Hut	10.64	212	P	Pn	04 19 36.1	+2.1
BFVZ	Birch Farm	10.99	201	P	Pn	04 19 31.8	-6.6
SNZO	South Karori	12.06	204	P	Pn	04 19 47.7	-4.4
QRZ	Quartz Range	12.55	212	P	Pn	04 19 55.3	-2.9
BSWZ	Blackbirch Sta	12.72	206	Pn	Pn	04 19 58.4	-2.0
MSVF	Nonsavu	13.01	346	P	Pn	04 20 05.2	+0.8
MSVF	Nonsavu	13.01	346		Pn	04 20 04.3	-0.1
KHZ	Kahutara	13.45	205	P	Pn	04 20 05.0	-4.5
DSZ	Denniston Nort	13.61	212	Pn	Pn	04 20 08.5	-3.1
OXZ	Oxford	14.80	207	Pn	Pn	04 20 21.9	-4.4
OUENC	Ouen Island, N	15.21	298	P	P	04 20 41.6	+10
RPZ	Rata Peaks	15.53	209	P	Pn	04 20 28.9	-6.2
RPZ	Rata Peaks	15.53	209	P	Pn	04 20 30.3	-4.8
	12nm,0.6s,baz=24,slow=18,SNR=5.3						
RPZ				S	S	04 23 13.4	-14
	23nm,0.6s,baz=302,slow=23,SNR=13						
DZM	Mont Dzumac	15.71	299	P	Pn	04 20 47.4	+10
DZM	Mont Dzumac	15.71	299	P	P	04 20 36.2	-1.3
	27nm,1.1s,baz=122,slow=13,SNR=3.3						
ODZ	Otahua Downs	16.79	207	P	P	04 20 46.7	-2.3
JCZ	Jackson Bay	16

VNDA Vanda 47.97 186 P **P** 04 25 28.6 +4.0
comp=Z,0.9nm,0.8s,baz=353,slow=7.2,SNR=5.5
VNDA ScP **ScP** 04 30 24.9 +0.3
comp=Z,2.7nm,0.8s,baz=359,slow=3.2,SNR=14
VNDA LR LR 04 42 22.3
comp=Z,55nm,19.8s,baz=360,slow=31
comp=Z,0.9nm,0.8s
MTN Manton Dam 49.39 279 P **P** 04 25 34.8 -1.4
FITZ Fitzroy Crossi 51.75 270 P **P** 04 25 52.9 -0.9
FITZ Fitzroy Crossi 51.75 270 P **P** 04 25 53.7 -0.1
FAKI Fak Fak 53.79 291 P **P** 04 26 07.9 -0.9
FAKI Fak Fak 53.79 291 P **P** 04 26 07.4 -1.4
NWAO Narrogin (SRO) 53.80 250 P **P** 04 26 08.4 -0.4
CASY Casey 54.80 208 P **P** 04 26 16.2 +0.9
SANI Sanana 59.40 287 P **P** 04 26 46.9 -1.4
QSPA South Pole Qui 59.64 180 P **P** 04 26 53.2 +3.8
QSPA South Pole Qui 59.64 180 P **P** 04 26 53.4 +3.9
comp=Z,15nm,0.7s,baz=25,slow=1.4,SNR=159
comp=Z,15nm,0.7s
BELA Belgrano 2 69.80 172 P **P** 04 27 57.0 +2.3
GO09 Cerro Castillo 76.14 142 P **P** 04 28 35.4 +3.1
MJAR Matsushiro Arr 77.95 326 P **P** 04 28 39.6 -2.8
comp=Z,5.3nm,1.0s,baz=156,slow=5.2,SNR=13
comp=Z,5.3nm,1.0s
SNAA Sanae 78.11 179 P **P** 04 28 45.3 +2.4
comp=Z,2.0nm,0.7s,baz=143,slow=5.1,SNR=11
comp=Z,2.0nm,0.7s
JNU Nakatsue 79.20 319 P **P** 04 28 47.6 -1.8
comp=Z,6.5nm,0.9s,baz=66,slow=2.6,SNR=4.8
comp=Z,6.5nm,0.9s
JTM Tenmabayashi 80.08 330 P **P** 04 28 53.2 -0.7
H03S2 Juan Fernandez 80.94 124 T T 05 58 49.8
baz=237,slow=74,SNR=5.0
H03S1 Juan Fernandez 80.95 124 T T 05 58 52.9
baz=237,slow=74,SNR=4.9
H03S3 Juan Fernandez 80.96 124 T T 05 58 46.4
baz=237,slow=74,SNR=5.0
H03N3 Juan Fernandez 81.13 124 T T 05 58 53.6
baz=240,slow=74
H03N2 Juan Fernandez 81.14 123 T T 05 58 58.5
baz=240
H03N1 Juan Fernandez 81.15 124 T T 05 58 50.4
baz=240,slow=74
JKA Kamikawa-asahi 82.22 333 P **P** 04 29 05.8 +0.7
JKA IAmb IAmb 04 29 07.0
comp=Z,20nm,1.0s
ATKA Atka Island 82.41 3 P **P** 04 29 05.4 -0.3
PLCA Paso Flores 82.91 133 P **P** 04 29 12.4 +3.4
PLCA IAmb IAmb 04 29 12.7
comp=Z,16nm,1.4s
PLCA Paso Flores 82.91 133 P **P** 04 29 12.5 +3.4
comp=Z,4.7nm,0.8s,baz=214,slow=6.9,SNR=11
comp=Z,4.7nm,0.8s
KSRS Korea Array 84.00 320 P **P** 04 29 13.4 -0.9
comp=Z,2.1nm,0.8s,baz=147,slow=5.8,SNR=11
comp=Z,2.1nm,0.8s
KSAR Wonju Array Be 84.02 320 P **P** 04 29 14.8 +0.4
YSS Yuzh-Sakhalins 84.54 335 P **P** 04 29 16.8 0.0
PETK Petropavlovsk- 85.72 346 P **P** 04 29 21.1 -1.5
PETK Petropavlovsk- 85.72 346 P **P** 04 29 21.7 -0.9
comp=Z,18nm,0.8s,baz=112,slow=7.3,SNR=38
comp=Z,18nm,0.8s
NJ2 Nanjing 85.82 311 *eP* **P** 04 29 25.3 +1.8
NJ2 pmax pmax
comp=Z,7.0nm,0.5s
NJ2 pmax pmax
comp=Z,230nm,3.8s
MT01 Popeta 86.31 127 P **P** 04 29 28.5 +2.4
MT01 IAmb IAmb 04 29 29.9
comp=Z,17nm,1.1s
MT09 Talagante 86.55 127 P **P** 04 29 28.1 +0.7
MT09 IAmb IAmb 04 29 34.7
comp=Z,15nm,1.3s
USA0B Ussuriysk Arra 86.88 327 P **P** 04 29 28.1 -0.3
USA0B IAmb IAmb 04 29 29.3
comp=Z,14nm,1.1s
USRK Ussuriysk Ar. 86.88 327 P **P** 04 29 27.9 -0.4
USRK Ussuriysk Ar. 86.88 327 P **P** 04 29 28.1 -0.3
comp=Z,7.3nm,0.8s,baz=131,slow=4.8,SNR=13
comp=Z,7.3nm,0.8s
CMB Columbia Colle 87.22 42 P **P** 04 29 30.4 +0.1
HSIG 87.55 54 P **P** 04 29 33.5 +1.5
HSIG IAmb IAmb 04 29 34.7
comp=Z,7.4nm,1.0s
GSC Goldstone, Bar 87.57 46 P **P** 04 29 33.4 +1.3
GSC IAmb IAmb 04 29 34.7
comp=Z,11nm,1.0s
113A Mohawk Valley, 87.92 50 P **P** 04 29 34.8 +1.1
113A IAmb IAmb 04 29 36.9
comp=Z,7.8nm,1.1s
214A Organ Pipe Nat 88.05 51 P **P** 04 29 34.3 0.0
GWY Greenwater Val 88.23 46 P **P** 04 29 35.5 +0.3
MDJ Mudanjiang 88.33 326 P **P** 04 29 35.8 +0.5
MDJ pmax pmax
comp=Z,10.0nm,0.8s
MDJ pmax pmax
comp=Z,100nm,9.8s
PNTR Pine Nut 88.39 42 P **P** 04 29 36.5 +0.5
PNTR IAmb IAmb 04 29 38.2
comp=Z,8.8nm,0.9s
WCT Wildcat Mounta 88.64 45 P **P** 04 29 38.3 +1.2
NVAR Mina Array Bea 88.70 43 P **P** 04 29 38.0 +0.5
NVAR Mina Array Bea 88.70 43 P **P** 04 29 38.6 +1.1
comp=Z,5.0nm,0.8s,baz=222,slow=8.8,SNR=30
comp=Z,5.0nm,0.8s
NV11 Mina Array Sit 88.79 43 P **P** 04 29 38.8 +1.0
NV11 IAmb IAmb 04 29 40.1
comp=Z,6.5nm,1.1s
V12A Nelson 89.07 47 P **P** 04 29 40.7 +1.6
TPH Tonopah 89.11 44 P **P** 04 29 40.5 +1.1
Y14A Wickenburg 89.14 49 P **P** 04 29 41.2 +1.8
Y14A IAmb IAmb 04 29 42.5
comp=Z,8.6nm,0.8s
KVN Kaiserville 89.23 43 P **P** 04 29 39.7 -0.2
KVN IAmb IAmb 04 29 42.0
comp=Z,9.0nm,1.3s
W13A Hualapai Mount 89.29 48 P **P** 04 29 42.2 +1.9
SHPR Sheep Range 89.37 46 P **P** 04 29 42.5 +2.0
TIA Tai'an 89.57 313 P **P** 04 29 41.8 +0.5
TIA pmax pmax
comp=Z,6.0nm,0.8s
TUC Tucson 89.63 52 P **P** 04 29 44.1 +2.3
TUC IAmb IAmb 04 29 45.5
comp=Z,12nm,0.8s
CN2 Changchun 89.83 323 *eP* **P** 04 29 41.8 -0.5
CN2 *epP* pP 04 30 25.8 -5.1
CN2 pmax pmax
comp=Z,20nm,1.1s
AC05 El Transito 89.86 124 P **P** 04 29 45.3 +2.1
AC05 IAmb IAmb 04 29 47.8
comp=Z,12nm,0.8s
PRN Pahroc Range 90.00 46 P **P** 04 29 45.0 +1.6
PRN IAmb IAmb 04 29 46.6
comp=Z,8.3nm,1.0s
319A Douglas 90.11 53 P **P** 04 29 46.3 +2.2
319A IAmb IAmb 04 29 47.6
comp=Z,12nm,0.9s
K05A Summer Lake 90.12 39 P **P** 04 29 45.2 +1.3
K05A IAmb IAmb 04 29 46.4
comp=Z,12nm,1.0s
J05D Fort Rock, OR 90.32 38 P **P** 04 29 46.3 +1.5
J05D IAmb IAmb 04 29 47.1
comp=Z,12nm,1.2s
X16A Lo Mia Camp, P 90.46 50 P **P** 04 29 47.8 +2.0
X16A IAmb IAmb 04 29 49.1
comp=Z,7.0nm,0.9s
BMN Battle Mountai 90.65 42 P **P** 04 29 47.1 +0.7
BMN IAmb IAmb 04 29 48.5
comp=Z,12nm,1.4s
H04A Detroit Lake 90.79 37 P **P** 04 29 47.2 +0.4
H04A IAmb IAmb 04 29 48.0
comp=Z,4.9nm,0.8s
PINE Pine Mountain 90.83 38 P **P** 04 29 48.2 +1.0
DUN6 Lazy B Ranch 90.93 52 P **P** 04 29 49.8 +1.9
U15A North Rim 91.13 48 P **P** 04 29 50.0 +1.1
U15A IAmb IAmb 04 29 52.0
comp=Z,8.3nm,0.8s
Q12A Willow Creek R 91.17 44 P **P** 04 29 50.3 +1.4
Q12A IAmb IAmb 04 29 51.2
comp=Z,7.8nm,0.8s
SPR3 Spring Creek 3 91.45 45 P **P** 04 29 50.5 +0.1
LYN LuoYang 91.57 310 ⇑P **P** 04 29 51.3 +0.7
LYN pmax pmax
comp=Z,23nm,0.8s
N15K Kwethluk River 91.59 9 P **P** 04 29 51.1 +1.0
P18K Big Mountain, 91.62 12 P **P** 04 29 50.9 +0.6
P18K IAmb IAmb 04 29 50.9
comp=Z,5.0nm,0.9s
I07A Izee 91.79 38 P **P** 04 29 53.0 +1.5
I07A IAmb IAmb 04 29 53.7
comp=Z,6.8nm,0.9s
CMAR Chiang Mai Arr 92.84 290 P **P** 04 29 58.1 +1.2
comp=Z,0.6nm,0.3s,baz=150,slow=3.4,SNR=4.0
comp=Z,0.6nm,0.3s
TXAR Lajitas Array 92.94 58 P **P** 04 29 59.0 +1.8
comp=Z,1.1nm,0.8s,baz=214,slow=6.5,SNR=13
comp=Z,1.1nm,0.8s
PZH PanZhiHua 94.79 298 P **P** 04 30 08.0 +2.2
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,110nm,7.1s
HHC Hu-ho-hao-te 95.84 314 *eP* **P** 04 30 14.3 +4.1
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,62nm,4.8s
PDAR Pinedale Array 96.61 44 P **P** 04 30 14.3 +0.5
comp=Z,0.5nm,0.6s,baz=211,slow=2.6,SNR=4.4
comp=Z,0.5nm,0.6s
ILAR Eielson Array 98.13 13 P Pdif 04 30 20.9 +1.0
comp=Z,0.4nm,0.8s,baz=229,slow=6.0,SNR=4.3
comp=Z,0.4nm,0.8s
MKAR Makanchi Array 117.35 310 PKP **PKPdf** 04 35 26.5 -1.5
comp=Z,0.9nm,0.5s,baz=52,slow=2.7,SNR=9.2
ZALV Zalesovo Beam 117.67 318 PKP **PKPdf** 04 35 27.0 -1.3
comp=Z,1.1nm,0.5s,baz=204,slow=3.3,SNR=4.1
KURBB Kurchatov Arra 120.69 314 PKP **PKPdf** 04 35 33.4 -0.7
comp=Z,2.5nm,0.3s,baz=110,slow=2.0,SNR=21
BVAR Borovoye Array 126.02 316 PKP **PKPdf** 04 35 44.2 -0.2
comp=Z,8.4nm,0.7s,baz=111,slow=1.2,SNR=32
SPITS Spitsbergen Ar 131.72 356 PKP **PKiKP** 04 35 55.6 0.0
comp=Z,2.5nm,0.7s,baz=57,slow=5.3,SNR=2.1
GEYT Alibeck 133.03 295 PKP **PKiKP** 04 35 59.0 -0.4
comp=Z,4.0nm,0.6s,baz=242,slow=3.2,SNR=5.8
ARCES ARCESS Array B 138.52 347 PKhKP PKPpre 04 35 58.4
comp=Z,8.9nm,1.1s,baz=46,slow=2.6,SNR=5.3
ARCES PKP **PKPdf** 04 36 07.2 -0.3
comp=Z,2.8nm,0.6s,baz=338,slow=1.9,SNR=9.7
VAF Ylistaro 144.63 344 *eP* **PKPab** 04 36 16.8 -0.9
KBZ Khatar 144.64 304 PKP **PKPab** 04 36 17.8 -0.5
comp=Z,8.8nm,0.8s,baz=162,slow=1.4,SNR=14
KEF Keuruu 144.77 341 *eP* **PKPab** 04 36 16.8 -1.4
FINES FINESS Array B 144.99 339 PKP PKPbc 04 36 17.6 -1.3
comp=Z,54nm,0.8s,baz=58,slow=4.4,SNR=177
MEF Metsahovi 146.47 339 *eP* **PKPbc** 04 36 23.3 -0.1
ARBE Arbavere 146.57 337 *eP* **PKPbc** 04 36 23.9 +0.2
RAF Rauma 146.57 342 *eP* **PKPbc** 04 36 22.9 -0.8
AAL Aland 147.75 343 *eP* **PKPbc** 04 36 26.5 -0.4
MTSE Matsula 147.84 338 *eP* **PKPbc** 04 36 27.3 +0.1
UPP Uppsala 148.62 344 *eP* **PKPbc** 04 36 28.3 -0.9
NB2 NORSAR Subarra 148.72 351 PKP **PKPbc** 04 36 28.5 -1.0
comp=Z,7.9nm,0.7s,baz=17,slow=4.3
NOA NORSAR Array B 148.72 351 PKPbc **PKPbc** 04 36 28.5 -1.0
comp=Z,6.1nm,0.6s,baz=15,slow=4.2,SNR=37
HFS Hagfors 149.18 348 PKPbc **PKPbc** 04 36 29.0 -1.7
comp=Z,9.6nm,0.7s,baz=84,slow=4.6,SNR=24
IDID Didziasalis 149.27 331 *eP* **PKiKP** 04 36 31.9 -0.1
MNK Minsk 149.33 329 *i* PKiKP **PKPbc** 04 36 31.2 +0.1
MNK *i* PKiKP **PKPbc** 04 36 31.2 +0.1
MNK *i* PKiKP **PKPbc** 04 36 31.2 +0.1
comp=Z,38nm,0.9s,baz=50
MNK *i* pPKiKP **pPKiKP** 04 37 24.1 +0.9
MNK *i* SKP 04 39 39.0
MNK *i* PKS **PKSdf** 04 39 59.2 -2.0
MNK *i* PP **PP** 04 40 03.5 -1.5
MNK *i* SKS **SKSdf** 04 43 13.7 -1.7
MNK *i* PPP PPP 04 43 24.8
MNK *i* SKKS **SKKSdf** 04 52 08.2 -3.8
MNK *i* SS **SS** 04 59 00.9 -0.2
MNK *i* SSS SSS 05 04 41.8
MNK *i* LRM MLR 05 42 05.0
comp=Z,122nm,14.7s
MNK *i* LRM MLR 05 42 07.0
comp=E,39nm,14.1s
MNK *i* LRM MLR 05 43 45.6
comp=N,43nm,12.8s
ISAL Salakas 149.35 332 *eP* **PKiKP** 04 36 32.9 +0.8
NACGM Naroch 149.54 331 ⇑*i* PKP **PKPbc** 04 36 31.5 -0.2
comp=Z,71nm,0.9s,baz=47
VSVD Vaisvydziai 149.90 334 *eP* **PKiKP** 04 36 33.1 -0.1
VIKU Vikbolandet 150.04 344 *eP* **PKPbc** 04 36 32.3 -0.4
PABE Paberze 150.24 334 *eP* **PKiKP** 04 36 33.8 -0.3
PBUR Paburge 150.59 336 *eP* **PKiKP** 04 36 34.8 0.0
MMAI Mount Meron Ar 150.95 284 PKPbc **PKiKP** 04 36 36.6 +0.2
comp=Z,17nm,0.6s,baz=76,slow=4.4,SNR=38
AKASG Malin Array Be 150.98 322 PKPbc **PKPbc** 04 36 34.6 -0.6
comp=Z,18nm,0.6s,baz=49,slow=2.7,SNR=89
AKASG PKPab **PKPab** 04 36 42.0 -1.4
comp=Z,8.7nm,0.7s,baz=47,slow=4.8,SNR=14
AKBB Malin Array Si 150.98 322 PKP **PKPbc** 04 36 34.4 -0.8
AK01 Malin Array Si 150.99 322 PKP **PKPbc** 04 36 34.4 -0.8
AK04 Malin Array Si 151.00 322 PKP **PKPbc** 04 36 34.5 -0.7
AK02 Malin Array Si 151.01 322 PKP **PKPbc** 04 36 34.5 -0.8
AK22 Malin Array Si 151.03 322 PKP **PKPbc** 04 36 34.8 -0.5
AK12 Malin Array Si 151.05 322 PKP **PKPbc** 04 36 34.9 -0.5
AK18 Malin Array Si 151.05 322 PKP **PKPbc** 04 36 34.6 -0.8
AK20 Malin Array Si 151.07 322 PKP **PKPbc** 04 36 34.9 -0.5
AK07 Malin Array Si 151.07 322 PKP **PKPbc** 04 36 35.1 -0.3
MI30 MI30,Zelenitsa 151.50 323 PKP **PKPbc** 04 36 35.6 -0.8
SUW Suwalki 151.65 332 *eP* **PKPbc** 04 36 36.4 -0.3
MI28 Mi28,Pidlybu 151.66 324 PKP **PKPbc** 04 36 36.1 -0.6
BRTR Keskin Array B 152.09 298 PKPbc **PKPbc** 04 36 37.2 -1.1
comp=Z,4.5nm,0.6s,baz=134,slow=4.7,SNR=32
BRTR PKPab **PKPab** 04 36 47.9 -0.9
comp=Z,3.0nm,0.8s,baz=120,slow=4.2,SNR=9.0
BR104 Keskin Array S 152.09 298 PKP **PKPbc** 04 36 37.4 -0.9
BR106 Keskin Array S 152.10 298 PKP **PKPbc** 04 36 37.8 -0.5
BR105 Keskin Array S 152.11 298 PKP **PKPbc** 04 36 37.9 -0.5
LUBAR Lubar, Ukraine 152.19 322 PKP **PKPbc** 04 36 37.8 -0.2
RNPP5 Staryi Chortor 152.37 326 PKP **PKPbc** 04 36 38.2 -0.1
DEL Delary 152.54 345 *eP* **PKPbc** 04 36 38.4 -0.1
CFR Carcaliu 154.36 312 ⇑P **PKPab** 04 36 58.0 +0.2
TESR Tescani 154.65 316 ⇓P **PKPab** 04 36 58.8 -0.3
BURAR Bucovina Array 154.88 320 ⇓P **PKPab** 04 37 00.0 -0.2
VRI Vrincioaia 154.92 315 ⇓P **PKPab** 04 37 01.6 +1.2
EKA Eskdalemuir Ar 154.94 6 PKPab **PKPab** 04 36 59.9 -0.2
comp=Z,2.7nm,0.8s,baz=328,slow=3.0,SNR=4.4
PLOR Plostina 154.97 315 ⇑P **PKPab** 04 37 00.8 +0.2
MLR Muntele Rosu 155.58 315 ⇓P **PKPab** 04 37 01.9 -1.4
DOPR Dopca 155.68 316 ⇓P **PKPab** 04 37 04.0 +0.4
STHS Stebnicka Huta 155.79 327 *e*PKP PKPdf 04 36 48.2 +12
MARR Marisel-Cluj 156.60 320 ⇑P **PKPab** 04 37 07.2 -0.4
HUMR Humele 156.65 314 ⇓P **PKPab** 04 37 07.2 -0.5
DRGR 156.75 321 ⇓P **PKPab** 04 37 07.8 -0.4
OSTC Ostas 157.03 335 *e*PKPAB **PKPab** 04 37 09.9 +0.7
CHVC Chvalec 157.06 335 *e*PKPAB **PKPab** 04 37 08.9 -0.4
UPC Upice 157.14 335 *e*PKPAB **PKPab** 04 37 09.4 -0.3
DPC Dobruska-Polom 157.16 335 *e*PKPAB **PKPab** 04 37 09.2 -0.6
KRLC Kraliky 157.21 334 *e*PKPAB **PKPab** 04 37 09.1 -0.9
CLL Colm 157.43 341 *e*PKPdf **PKPdf** 04 36 39.0 +0.8
CLL *e*PKPdif PKPab 04 36 52.0 -19
CLL ⇑*i*PKPab **PKPab** 04 37 09.7 -1.1
comp=Z,12nm,0.9s
PSZ Piszkesteto 157.48 326 ⇓P **PKPab** 04 37 11.0 -0.4
BRG Berggiesshubel 157.53 339 ⇑*i*P **PKPab** 04 37 10.6 -0.7
BRG Amp 04 37 11.4
comp=Z,8.5nm,0.9s
VYHS Vyhne 157.56 328 *e*PKP **PKPab** 04 37 11.2 -0.4
PVCC Panska Ves 157.62 337 *e*PKPAB **PKPab** 04 37 11.6 -0.1
RICC Richard 157.76 338 *e*PKPAB **PKPab** 04 37 12.7 +0.4
JAVC Velka Javorina 157.80 330 *e*PKP **PKPab** 04 37 13.0 +0.3
VRAC Vranov 157.90 333 *e*PKP **PKPab** 04 37 12.1 -0.9
BZS Buzias 158.07 319 ⇓P **PKPab** 04 37 12.8 -1.1
PRU Pruhonice 158.09 337 *e*PKPAB **PKPab** 04 37 13.3 -0.5
KRUC Moravsky 158.17 333 *e*PKP **PKPab** 04 37 13.2 -1.0
MODS Modra-Piesok 158.34 330 *e*PKP **PKPab** 04 37 14.6 -0.4
BLKB Belogradchik 158.54 314 ⇑P **PKPab** 04 37 15.9 -0.1
KHC Kasperske Hory 159.15 337 *e*PKPAB **PKPab** 04 37 18.3 -0.2
CKRC Cesky Krumlov 159.16 335 *e*PKPAB **PKPab** 04 37 18.1 -0.4
RONA Rosalia, Austr 159.28 330 *e*PKP **PKPab** 04 37 18.7 -0.4
comp=Z,3.6nm,0.7s,SNR=7.0
CONA Conrad Observa 159.29 331 *i* PKP **PKPab** 04 37 18.6 -0.5
comp=Z,3.6nm,0.7s
GERES GERESS Array B 159.35 336 PKPab **PKPab** 04 37 18.5 -0.9
comp=Z,2.1nm,0.7s,baz=24,slow=4.7,SNR=12
ARSA Arzberg 159.96 331 *i* PKP **PKPab** 04 37 21.3 -0.7
comp=Z,0.7nm,0.3s
MOA Molln 159.98 334 *i* PKP **PKPab** 04 37 21.5 -0.6
comp=Z,1.2nm,0.7s
BIOA Bad Ischl, Aus 160.35 335 *e*PKP **PKPab** 04 37 23.2 -0.6
comp=Z,1.1nm,0.3s,SNR=5.5
LESA Schwarzleotal 160.93 336 *i* PKP **PKPab** 04 37 25.5 -0.8
comp=Z,3.7nm,0.8s
OBKA Obir 160.96 331 *e*PKP **PKPab** 04 37 25.0 -1.5
comp=Z,3.0nm,1.2s
MYKA Terra Mystica 161.23 333 *i* PKP **PKPab** 04 37 25.9 -1.8
comp=Z,2.0nm,0.5s
WATA Walderalm 161.38 338 *e*PKP **PKPab** 04 37 27.4 -0.9
comp=Z,1.7nm,0.4s
WTTA Wattenberg 161.42 337 *e*PKP **PKPab** 04 37 27.8 -0.8
comp=Z,2.1nm,0.4s
RETA Reutte 161.50 339 *e*PKP **PKPab** 04 37 28.1 -0.7
comp=Z,3.7nm,0.5s,SNR=6.3
MOTA Moosalm 161.52 339 *e*PKP **PKPab** 04 37 28.1 -0.9
comp=Z,4.3nm,0.7s,SNR=9.3
ABTA Abfaltersbach 161.56 335 *e*PKP **PKPab** 04 37 27.5 -1.6
comp=Z,6.5nm,0.9s
SQTA Sankt Quirin 161.60 338 *e*PKP **PKPab** 04 37 28.7 -0.6
comp=Z,4.2nm,0.5s,SNR=5.2
FETA Feichten 161.93 339 *i* PKP **PKPab** 04 37 30.2 -0.6
comp=Z,4.5nm,0.9s
DAVA Damuels 161.94 341 *e*PKP **PKPab** 04 37 30.0 -0.8
comp=Z,9.8nm,0.7s
TORD Torodi Ar. Bea 162.76 181 PKP **PKPdf** 04 36 44.9 -0.4
comp=Z,0.9nm,0.9s,baz=142,slow=0.5,SNR=3.4
TORD PKPab **PKPab** 04 37 35.9 +1.0
comp=Z,2.9nm,0.8s,baz=155,slow=2.1,SNR=10
ESDC Sonseca Array 169.86 24 PKP **PKPdf** 04 36 50.3 +0.1
comp=Z,0.7nm,0.9s,baz=346,slow=3.1,SNR=4.7
ESDC PKPab **PKPab** 04 38 05.4 -0.4
comp=Z,1.0nm,1.0s,baz=356,slow=3.4,SNR=4.3

CATAC ***27*** *04:36:12.4±0.9, 14°.05N×91°.98W, h26km±5km, ML4.2*
MEX ***27*** *04:36:14.1±0.8, 14°.11N×92°.03W, h58km±13km, MD4.4*
SNET ***27*** *04:36:14.3±1.0, 14°.21N×91°.85W, h40km, ML3.6*
IDC ***27*** *04:36:16.6±2.7, 14°.43N×91°.91W, h80km±16km, mb3.4/3, mbtmp3.7/6, MS2.9/2, Error ellipse: s-maj=34.7km s-min=10.9km az=13.0*
GCG ***27*** *04:36:16.2±0.3, 14°.39N×91°.73W, h61km±48km, MD3.8*
ISC 27 04:36:11.8±1.2, 14°.03N±0°.07×92°.05W±0°.03, h51km±11km, n54, σ1°98/85, mb3.9/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op		ISC h m s	ISC
SULM	**Suchitepequez,**	**0.54**	**59**	*e*P	**Pn**	**04 36 25.5**	**+1.9**
RTAL	**Retalhuleu**	**0.60**	**35**	*i* P	**Pn**	**04 36 24.5**	**+0.1**
RTAL				*e*S	**Sn**	**04 36 33.7**	**+0.2**
RTAL	**Retalhuleu**	**0.60**	**35**	*i* P	**Pn**	**04 36 24.5**	**+0.1**
RTAL				IAML		04 36 24.8	
	comp=Z,9μm,1.0s						
RTAL				*i* S	**Sn**	**04 36 33.7**	**+0.2**
STG3	**Santiaguito 3,**	**0.82**	**34**	*e*P	**Pn**	**04 36 27.5**	**+0.1**
THIG		**0.90**	**347**	*e*P	**Pn**	**04 36 28.6**	**+0.3**
THIG				*e*S	**Sn**	**04 36 39.1**	**-1.2**
SMSP	**San Marcos**	**0.98**	**15**	*e*P	**Pn**	**04 36 29.1**	**-0.4**
SMSP				*e*S	**Sn**	**04 36 40.5**	**-2.0**
SMSP	**San Marcos**	**0.98**	**15**	*i* P	**Pn**	**04 36 29.1**	**-0.4**
SMSP				*i* S	**Sn**	**04 36 41.7**	**-0.8**
SMSP				IAML		04 36 44.8	
	comp=Z,10μm,1.0s						
CHUJ	**Union Juarez**	**1.06**	**357**	*e*P	**Pn**	**04 36 30.2**	**-0.5**
CHUJ				*e*S	**Sn**	**04 36 43.3**	**-1.3**
PATR	**El Naranjo**	**1.10**	**351**	*e*P	**Pn**	**04 36 30.4**	**-0.7**
PATR				*e*S	**Sn**	**04 36 44.1**	**-1.3**
PAVE	**Pavencul**	**1.17**	**354**	*e*P	**Pn**	**04 36 31.7**	**-0.3**
PAVE				*e*S	**Sn**	**04 36 45.7**	**-1.3**
FUG	**Fuego 3**	**1.24**	**70**	*e*P	**Pn**	**04 36 33.0**	**0.0**
CHTG	**Tecpan**	**1.26**	**54**	*i* P	**Pn**	**04 36 33.2**	**-0.2**
CHTG				IAML		04 36 34.9	
	comp=Z,5μm,1.0s						
CHTG				*i* S	**Sn**	**04 36 49.3**	**-0.1**
HUEH	**Huehuetenango**	**1.39**	**22**	*e*P	**Pn**	**04 36 35.4**	**+0.4**
HUEH				*e*S	**Sn**	**04 36 51.6**	**-0.8**
HUEH	**Huehuetenango**	**1.39**	**22**	*i* P	**Pn**	**04 36 35.3**	**+0.3**
HUEH				*i* S	**Sn**	**04 36 53.1**	**+0.7**
HUEH				IAML		04 37 01.1	
	comp=Z,4μm,1.0s						
PCG	**Pacaya**	**1.44**	**75**	*e*P	**Pn**	**04 36 36.3**	**+0.5**
GUMI	**Mixco**	**1.52**	**66**	*i* P	**Pn**	**04 36 36.9**	**+0.2**
GUMI				IAML		04 36 37.4	
	comp=Z,6μm,1.0s						
GUMI				*i* S	**Sn**	**04 36 55.6**	**+0.1**
QUIS	**Sacapulas**	**1.56**	**36**	*i* P	**Pn**	**04 36 38.0**	**+0.7**
QUIS				IAML		04 36 38.9	
	comp=Z,3μm,1.0s						
QUIS				*i* S	**Sn**	**04 36 57.6**	**+1.1**
GCG4	**OSOP**	**1.57**	**69**	*i* P	**Pn**	**04 36 37.9**	**+0.4**
GCG4				*i* S	**Sn**	**04 36 57.0**	**+0.2**
GCG4				IAML		04 36 59.1	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**1.74**	**71**	*e*P	**Pn**	**04 36 41.5**	**+1.6**
GUNB	**GUNB**	**1.75**	**71**	*i* S	**Pn**	**04 36 40.4**	**+0.5**
APG	**El Apazote**	**1.82**	**57**	P	**Pn**	**04 36 40.8**	**-0.1**
	comp=Z,22nm,0.4s,baz=337,slow=15,SNR=248						
APG				S	**Sn**	**04 37 02.4**	**-0.5**
	comp=Z,39nm,0.7s,baz=78,slow=18,SNR=4.5						
PCIG		**2.02**	**326**	*e*P	Pn	04 36 37.7	-5.7
PCIG				*e*S	**Sn**	**04 37 07.4**	**-0.1**
LOAL	**Lomas de Alarc**	**2.20**	**90**	*e*P	**Pn**	**04 36 46.8**	**+0.8**
NUBE	**Las Nubes**	**2.21**	**93**	*e*P	**Pn**	**04 36 45.9**	**-0.3**
NUBE				*e*S	**Sn**	**04 37 10.1**	**-2.2**
CCIG	**Comitan**	**2.25**	**358**	*e*P	**Pn**	**04 36 48.6**	**+1.9**
CCIG				*e*S	**Sn**	**04 37 15.5**	**+2.2**
CCIG	**Comitan**	**2.25**	**358**	*i* P	**Pn**	**04 36 48.7**	**+2.0**
CCIG				IAML		04 37 24.0	
	comp=Z,510nm,1.0s						
RTR	**El Retiro**	**2.34**	**93**	*e*P	**Pn**	**04 36 48.6**	**+0.7**
CEVE	**Cerro Verde**	**2.36**	**94**	*e*P	**Pn**	**04 36 49.0**	**+0.6**
CEVE				*e*S	**Sn**	**04 37 17.4**	**+1.1**
CEVE				IAML		04 37 24.9	
	comp=Z,841nm,0.5s						
SNJE	**San Jose**	**2.38**	**93**	*e*P	**Pn**	**04 36 49.2**	**+0.7**
JAYA	**Jayaque - finc**	**2.55**	**98**	*e*P	**Pn**	**04 36 51.2**	**+0.3**
JAYA				*e*S	**Sn**	**04 37 19.9**	**-0.9**
AVPA	**Panzos**	**2.70**	**59**	*i* P	**Pn**	**04 36 52.7**	**0.0**
AVPA				*i* S	Sn	04 36 59.5	-25
AVPA				IAML		04 37 00.7	
	comp=Z,120nm,1.0s						
CARR	**Arriaga**	**2.85**	**321**	*i* P	**Pn**	**04 36 56.8**	**+2.0**
CARR				*i* S	**Sn**	**04 37 28.2**	**+0.3**
TGIG		**2.93**	**339**	*e*P	**Pn**	**04 36 56.1**	**+0.2**
TGIG				*e*S	**Sn**	**04 37 29.2**	**-0.7**
COEB	**Comit de Eme**	**3.46**	**98**	IAML		04 37 51.4	
	comp=Z,75nm,0.3s						
UXUV	**UXUV**	**3.85**	**329**	*e*P	**Pn**	**04 37 10.0**	**+1.5**
UXUV				*e*S	**Sn**	**04 37 56.9**	**+4.5**
CMIG	**Matias Romero**	**4.09**	**318**	P	**Pn**	**04 37 13.4**	**+1.6**
	comp=Z,7.2nm,0.3s,baz=146,slow=8.7,SNR=30						
CMIG				S	**Sn**	**04 37 59.2**	**+0.6**
	comp=Z,29nm,0.5s,baz=115,slow=9.2,SNR=8.3						
				LR	LR	04 38 48.6	
CMIG	comp=Z,37nm,21.1s,baz=128,slow=39						
CMIG	**Matias Romero**	**4.09**	**318**	*e*P	**Pn**	**04 37 13.3**	**+1.5**
CMIG				*e*S	**Sn**	**04 37 59.6**	**+1.0**
HUIG	**Huatulco**	**4.29**	**294**	*e*P	**Pn**	**04 37 15.2**	**+0.7**
HUIG				*i* S	**Sn**	**04 37 56.7**	**-6.7**
NEUV	**Arroyo Zacate**	**5.15**	**316**	*e*P	**Pn**	**04 37 27.6**	**+1.3**
NEUV				*i* S	**Sn**	**04 38 25.3**	**+0.8**
PEIG	**Puerto Escondi**	**5.30**	**292**	*e*P	**Pn**	**04 37 30.2**	**+1.7**
PEIG				*e*S	**Sn**	**04 38 21.1**	**-7.3**
YOIG	**Yosondua**	**6.00**	**299**	*e*P	**Pn**	**04 37 42.0**	**+3.7**
YOIG				*e*S	**Sn**	**04 38 41.9**	**-4.1**
TOIG	**Toxpalan**	**6.29**	**311**	*e*P	**Pn**	**04 37 45.5**	**+3.4**
TOIG				*e*S	**Sn**	**04 38 51.8**	**

LPAZ	**La Paz**	**38.28**	**141**	LR	LR	04 59 50.8	
	comp=Z,78nm,19.6s,baz=201,slow=37						
YKA	**Yellowknife Ar**	**50.99**	**347**	P	**P**	**04 45 05.9**	**-2.3**
	comp=Z,0.3nm,0.5s,baz=148,slow=6.8,SNR=12						
	comp=Z,0.3nm,0.5s						
ILAR	**Eielson Array**	**62.80**	**337**	P	**P**	**04 46 31.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=109,slow=5.1,SNR=7.0						
	comp=Z,0.7nm,0.7s						
CMAR	**Chiang Mai Arr**	**145.95**	**341**	PKPbc	**PKPdf**	**04 55 45.9**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=345,slow=3.1,SNR=4.0						

IDC ***27*** *04:36:08.2±1.1,2˙62S×122˙36E,h0km,mb3.8/7, mbtmp3.8/8,ML3.8/1,MS3.2/2,Error ellipse: s-maj=45.5km s-min=20.7km az=64.0*

DJA ***27*** *04:36:10.4±0.3,3˙S±2˙×12˙2E±˚,h10km,M4.5/12,mb4.6/4, ML4.4/12*

ISC 27 04:36:12.9±0.9,2˙84S±0˙07×122˙39E±0˙08,h35km,n16, σ1ᵗ23/16,mb4.1/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.83**	**12**	P	**Pn**	**04 36 42.2**	**+0.3**
BBSI	**Bau Bau**	**2.63**	**176**	P	**Pn**	**04 36 52.7**	**-0.2**
BKSI	**Bulukumba**	**3.34**	**222**	P	**Pn**	**04 37 03.0**	**+0.3**
KAPI	**Kappang**	**3.40**	**231**	Pn	**Pn**	**04 37 04.1**	**+0.6**
	7.8nm,0.3s,baz=30,slow=6.0,SNR=16						
KAPI				Sn	**Sn**	**04 37 42.7**	**0.0**
	24nm,0.3s,baz=197,slow=22,SNR=9.5						
KAPI				LR	LR	04 38 07.4	
	comp=Z,131nm,19.9s,baz=60,slow=34						
	19nm,0.2s						
GTOI	**Gorontalo**	**3.51**	**10**	P	**Pn**	**04 37 06.7**	**+1.7**
MPSI	**Mapaga**	**4.02**	**322**	P	**Pn**	**04 37 13.0**	**+0.9**
LBMI	**Labuha**	**5.56**	**67**	P	**Pn**	**04 37 33.0**	**-0.2**
	63nm,0.9s,0.2nm						
PLAI	**Plampang**	**7.51**	**217**	P	**Pn**	**04 37 59.5**	**-0.5**
WRA	**Warramunga Arr**	**20.61**	**146**	P	**P**	**04 40 51.6**	**+2.2**
	0.5nm,0.7s,baz=323,slow=12,SNR=4.6						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**23.51**	**153**	P	**P**	**04 41 22.0**	**+2.1**
	0.2nm,0.7s,baz=323,slow=8.7,SNR=1.9						
	0.2nm,0.7s						
CMAR	**Chiang Mai Arr**	**31.32**	**313**	P	**P**	**04 42 29.4**	**-0.8**
	1.6nm,0.3s,baz=141,slow=7.5,SNR=5.9						
	1.6nm,0.3s						
MKAR	**Makanchi Array**	**60.72**	**330**	P	**P**	**04 46 20.2**	**-0.8**
	1.4nm,0.8s,baz=133,slow=7.9,SNR=8.7						
	1.4nm,0.8s						
KURBB	**Kurchatov Arra**	**65.12**	**331**	P	**P**	**04 46 48.1**	**-2.0**
	0.6nm,0.2s,baz=140,slow=6.3,SNR=1.6						
	0.6nm,0.2s						
BVAR	**Borovoye Array**	**70.60**	**330**	P	**P**	**04 47 24.9**	**+0.3**
	0.3nm,0.3s,baz=90,slow=7.2,SNR=4.9						
	0.3nm,0.3s						
AKTO	**Aktyubinsk**	**76.21**	**324**	P	**P**	**04 47 57.2**	**-0.5**
	1.7nm,0.8s,baz=84,slow=5.0,SNR=5.3						
	1.7nm,0.8s						
SNAA	**Sanae**	**97.79**	**195**	LR	LR	05 31 45.8	
	comp=Z,24nm,20.1s,baz=228,slow=34						

NEIC ***27*** *04:43:03.4±1.0,19˙36N±0˙02×154˙95W±0˙02,h5km±1km, Error ellipse: s-maj=4.3km s-min=2.8km az=143.0*

HVO 27 04:43:03.2±1.1,19˙35N±0˙02×154˙93W±0˙02,h4km±5km, ML2.4/5,ML2.6/40(NEIC),Error ellipse: s-maj=4.2km s-min=1.0km az=138.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.11**	**318**		Pg	04 43 05.3	-0.1
JOKA				Sg	Sg	04 43 06.9	0.0
JCUZ	**Jacuzzi**	**0.17**	**281**		Pg	04 43 06.5	0.0
JCUZ					Sg	04 43 09.3	+0.6
NPOC	**North of Pu'u**	**0.17**	**283**		Pg	04 43 06.7	0.0
NPOC					Sg	04 43 09.1	+0.1
STCH	**Steam Cracks**	**0.19**	**280**	Pg	Pg	04 43 06.6	-0.3
STCH				Sg	Sg	04 43 09.3	-0.1
STCH					IAML	04 43 09.8	
	comp=E,2μm,0.2s						
PUH	**Pauahi**	**0.27**	**274**	Pg	Pg	04 43 08.0	-0.5
PUH				Sg	Sg	04 43 13.0	+0.9
PUH					IAML	04 43 13.3	
	comp=N,1μm,1.0s						
HATHI	**Halema'uma'u T**	**0.32**	**283**	Pg	Pg	04 43 09.2	-0.2
HATHI				Sg	Sg	04 43 13.7	0.0
RSD	**Rainshed**	**0.35**	**288**	Pg	Pg	04 43 10.0	0.0
RSD				Sg	Sg	04 43 14.3	-0.3
RSD				IAML		04 43 15.9	
	comp=E,728nm,0.5s						
RSD				IAML		04 43 18.4	
	comp=N,767nm,0.8s						
HLP	**Hilina Pali**	**0.36**	**261**	Pg	Pg	04 43 10.2	0.0
MLH	**Mauna Loa**	**0.45**	**288**	Pg	Pg	04 43 11.8	-0.2
MLH				Sg	Sg	04 43 17.5	-0.5
MLH				IAML		04 43 18.9	
	comp=N,520nm,0.4s						
HTC	**Hot Caves**	**0.46**	**255**		Pg	04 43 12.1	+0.1
HMH	**Humu'ula Sheep**	**0.58**	**295**	Pg	Pg	04 43 14.1	-0.3
HMH				Sg	Sg	04 43 21.6	-0.3
HMH				IAML		04 43 22.6	
	comp=E,452nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.64**	**287**	Pg	Pg	04 43 14.6	-0.9
MLOA				Sg	Sg	04 43 23.6	-0.3
MLOA				IAML		04 43 24.0	
	comp=E,273nm,0.2s						
MLOA				IAML		04 43 30.3	
	comp=N,331nm,1.3s						
MWH	**Moku'aweowe**	**0.64**	**282**	Pg	Pg	04 43 14.6	-1.0
MWH				Sg	Sg	04 43 22.6	-1.5
MWH				IAML		04 43 30.8	
	comp=N,387nm,1.1s						
KHU	**Kahuku**	**0.66**	**261**	Pg	Pg	04 43 15.1	-0.7
KHU				Sg	Sg	04 43 23.9	-0.5
KHU				IAML		04 43 31.0	
	comp=N,201nm,1.2s						
KHU				IAML		04 43 32.6	
	comp=E,249nm,1.4s						
POHA	**Pohakuloa**	**0.70**	**305**	Pg	Pg	04 43 15.3	-1.3
POHA				Sg	Sg	04 43 23.3	-2.4
POHA				IAML		04 43 28.2	
	comp=E,195nm,0.3s						
POHA				IAML		04 43 32.4	
	comp=E,207nm,0.3s						
ALEP	**Alea Permanent**	**0.70**	**286**		Pg	04 43 15.3	-1.3
ALEP					Sg	04 43 25.1	-0.6
HUH	**Hualalai**	**0.92**	**291**	Pg	Pg	04 43 20.1	-0.7
HPAH	**Hawaii Prepara**	**0.99**	**313**	Pg	Pg	04 43 18.2	-3.9

NAO ***27*** *04:45:09.5,31˙06N×49˙23E,h33km,mb4.3*

IDC ***27*** *04:45:16.9±0.7,32˙23N×48˙32E,h0km,mb4.2/23, mbtmp4.2/32,ML3.5/7,MS3.6/37,Error ellipse: s-maj=16.0km s-min=11.3km az=173.0*

NEIC ***27*** *04:45:18.8±1.5,32˙13N±0˙07×48˙41E±0˙08,h10km±1km, mb4.5/78,Error ellipse: s-maj=11.8km s-min=11.0km az=224.0*

TEH ***27*** *04:45:19.0,32˙20N×48˙37E,h15km±25km,ML4.2*

MOS ***27*** *04:45:19.0±1.4,32˙15N×48˙40E,h24km,mb4.6/43,Error ellipse: s-maj=6.5km s-min=3.8km az=111.5*

DSN ***27*** *04:45:27.1±1.6,31˙49N×48˙74E,h10km,ML4.0/5,Error ellipse: s-maj=20.6km s-min=11.3km az=10.0*

OMAN ***27*** *04:45:28.5±0.1,31˙54N×48˙88E,h10km,mb4.5/21,Error ellipse: s-maj=2.7km s-min=1.7km az=13.0*

ISC 27 04:45:18.3±0.3,32˙11N±0˙04×48˙38E±0˙04,h10km,n421, σ2ᵗ02/431,mb4.5/113,MS3.6/33,34C-16D,Western Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**0.81**	**163**	Pg	**Pb**	**04 45 36.7**	**+2.4**
IKFM	**Kafar-mosalman**	**1.48**	**343**	Pg	**Pb**	**04 45 45.0**	**-1.0**
IDOB	**Doab**	**1.69**	**354**	Pg	**Pb**	**04 45 48.6**	**-1.0**
JHBN	**Jahan bin**	**1.95**	**86**	Pn	**Pb**	**04 45 54.1**	**+0.1**
ZNGN	**Zangian**	**2.10**	**89**	Pn	**Pb**	**04 45 56.4**	**-0.3**
HSAM	**Samen**	**2.11**	**5**	Pn	**Pn**	**04 45 54.5**	**+0.6**
IPIR	**Pirpir**	**2.21**	**74**	Pn	**Pn**	**04 45 56.9**	**+1.6**
IBZA	**Bozab**	**2.40**	**350**	Pn	**Pn**	**04 45 58.8**	**+1.0**
KCHF	**Cheshme Sefid,**	**2.44**	**333**	Pn	**Pn**	**04 45 59.0**	**+0.7**
IBRJ	**Brojen**	**2.46**	**94**	Pn	**Pn**	**04 46 00.6**	**+2.0**
IGHG	**Ghaleghazi**	**2.69**	**326**	Pn	**Pn**	**04 46 02.7**	**+0.9**
HAGD	**Aghdareh**	**2.78**	**13**	Pn	**Pn**	**04 46 04.1**	**+1.0**
SNQR	**Sonqor, Kerman**	**2.82**	**347**	Pn	**Pn**	**04 46 04.7**	**+1.1**
GLG1	**Gilan-e-Gharb**	**2.88**	**315**	Pn	**Pn**	**04 46 05.2**	**+0.9**
KLNJ	**Kolanjah**	**2.96**	**111**	Pn	**Pn**	**04 46 07.7**	**+2.1**
IKLH	**Kolahrood**	**2.96**	**65**	Pn	**Pn**	**04 46 07.5**	**+1.9**
KBD	**Kabd**	**2.98**	**192**	P	Pn	04 46 10.5	+4.9
ILIN	**Lien**	**3.04**	**338**	Pn	**Pn**	**04 46 07.4**	**+0.7**
IDHR	**Dehrash**	**3.08**	**328**	Pn	**Pn**	**04 46 07.6**	**+0.5**
IGAR	**Gharneh**	**3.12**	**84**	Pn	**Pn**	**04 46 10.0**	**+2.3**
IRAM	**Rameshеh**	**3.42**	**94**	Pn	**Pn**	**04 46 13.6**	**+1.8**
IZEF	**Zefreh**	**3.43**	**76**	Pn	**Pn**	**04 46 14.0**	**+1.9**
IRAZ	**Razeghan**	**3.54**	**21**	Pn	**Pn**	**04 46 14.6**	**+1.1**
IQOM	**Qom**	**3.54**	**39**	Pn	**Pn**	**04 46 14.3**	**+0.8**
KRSH	**Karshahi**	**3.67**	**58**	Pn	**Pn**	**04 46 16.7**	**+1.5**
QABG	**Abgarm-Qazvin**	**3.73**	**15**	Pn	**Pn**	**04 46 17.1**	**+1.0**
KAZ2	**Kazeron-Fars-I**	**3.76**	**130**	Pn	**Pn**	**04 46 18.8**	**+2.4**
ISFB	**Sefidab**	**3.94**	**54**	Pn	**Pn**	**04 46 19.9**	**+1.1**
IVRN	**Varamin**	**4.02**	**43**	Pn	**Pn**	**04 46 21.2**	**+1.3**
DSBU	**Dashti - Bushe**	**4.49**	**145**	Pn	**Pn**	**04 46 29.3**	**+2.9**
ISAD	**Sadrabad**	**4.51**	**91**	Pn	**Pn**	**04 46 29.1**	**+2.1**
IDMV	**Damavand**	**4.61**	**40**	Pn	**Pn**	**04 46 29.2**	**+1.0**
ANAR	**Anarak**	**4.64**	**75**	Pn	**Pn**	**04 46 30.1**	**+1.5**
ILAS	**Lasjerd**	**5.03**	**48**	Pn	**Pn**	**04 46 34.9**	**+0.9**
IFIR	**Firoozkooh**	**5.07**	**45**	Pn	**Pn**	**04 46 35.9**	**+1.3**
LHJ2	**Lahijan - Gila**	**5.24**	**15**	Pn	**Pn**	**04 46 37.4**	**+0.8**
IPRN	**Peran**	**5.27**	**37**	Pn	**Pn**	**04 46 38.1**	**+0.8**
IMEH	**Mehriz**	**5.36**	**96**	Pn	**Pn**	**04 46 40.6**	**+2.1**
IANJ	**Anjilo**	**5.70**	**52**	Pn	**Pn**	**04 46 44.5**	**+1.2**
ISRB	**Sarab**	**5.74**	**354**	Pn	**Pn**	**04 46 44.2**	**+0.5**
IBAF	**Bafgh**	**6.14**	**93**	Pn	**Pn**	**04 46 51.5**	**+2.3**
IGLO	**Ghaloghah**	**6.29**	**44**	Pn	**Pn**	**04 46 53.0**	**+1.7**
SAKB	**Bahrain**	**6.39**	**162**	P	**Pn**	**04 46 54.8**	**+2.3**
ISHB	**Shabestar**	**6.56**	**341**	Pn	**Pn**	**04 46 55.2**	**+0.1**
SHMA	**Al-Shehemyia**	**6.62**	**159**	P	**Pn**	**04 46 57.5**	**+1.8**
TPRV	**Parvadeh(Tabas**	**7.08**	**80**	Pn	**Pn**	**04 47 03.5**	**+1.5**
TKDS	**Koohdasht(Taba**	**7.51**	**76**	Pn	**Pn**	**04 47 09.2**	**+1.2**
SMRA	**Abu-Samra**	**7.64**	**163**	P	**Pn**	**04 47 11.0**	**+1.3**
JRN	**Qarnain Island**	**8.15**	**150**	P	**Pn**	**04 47 18.0**	**+1.4**
	SNR=6.8						
GURO	**Guroymak-BITLI**	**8.26**	**323**	Pn	**Pn**	**04 47 17.6**	**-0.7**
SLWR	**Sila**	**8.52**	**159**	P	**Pn**	**04 47 23.4**	**+1.7**
SLWR				S	**Sn**	**04 48 55.2**	**-2.8**
GNI	**Garni**	**8.55**	**341**	Pn	**Pn**	**04 47 21.8**	**-0.4**
GNI	**Garni**	**8.55**	**341**	Pn	**Pn**	**04 47 23.2**	**+1.0**
	0.4nm,0.3s,baz=185,slow=23,SNR=1.2						
GNI				LR	LR	04 51 27.6	
	comp=Z,380nm,21.3s,baz=164,slow=44						
	1.9nm,0.3s						
GNI	**Garni**	**8.55**	**341**	P	**Pn**	**04 47 21.8**	**-0.4**
GNI	**Garni**	**8.55**	**341**	Pn	Pn	04 47 30.7	+8.5
	22nm,1.4s,432nm						
SBZV	**Sabzevar**	**8.76**	**58**	Pn	**Pn**	**04 47 27.1**	**+1.9**
RAYN	**Ar Rayn**	**8.92**	**197**	Pn	**Pn**	**04 47 27.0**	**-0.3**
RAYN	**Ar Rayn**	**8.92**	**197**	*i* P	**Pn**	**04 47 28.3**	**+1.1**
	SNR=5.1						
RAYN	**Ar Rayn**	**8.92**	**197**	P	**Pn**	**04 47 28.5**	**+1.3**
RAYN	**Ar Rayn**	**8.92**	**197**	P	**Pn**	**04 47 27.0**	**-0.3**
AFRZ	**Afriz**	**9.06**	**79**	Pn	**Pn**	**04 47 31.3**	**+2.0**
SHME	**Shamm**	**9.08**	**130**	P	**Pn**	**04 47 29.2**	**-0.9**
SHME	**Shamm**	**9.08**	**130**	P	**Pn**	**04 47 30.3**	**+0.9**
SHME				S	**Sn**	**04 49 06.7**	**-5.2**
	SNR=7.2						
ISFR	**Sfrayin**	**9.34**	**55**	Pn	**Pn**	**04 47 35.1**	**+1.8**
AJN	**Ajban**	**9.50**	**141**	P	**Pn**	**04 47 36.7**	**+1.5**
AJN				S	**Sn**	**04 49 16.7**	**-5.4**
NAZ	**Nazwa, Dubai**	**9.55**	**136**	*i* P	**Pn**	**04 47 36.7**	**+0.8**
	SNR=5.5						
NAZ	**Nazwa, Dubai**	**9.55**	**136**	P	**Pn**	**04 47 37.5**	**+1.6**
	SNR=5.6						
NAZ				S	**Sn**	**04 49 18.9**	**-4.5**
MASF	**Masafi**	**9.57**	**133**	P	**Pn**	**04 47 36.2**	**0.0**
MASF				S	**Sn**	**04 49 17.6**	**-6.3**
	SNR=14						
MSFE	**Esma-Masafi**	**9.58**	**133**	P	**Pn**	**04 47 35.9**	**-0.4**
ASUD	**Al Ashush, Dub**	**9.64**	**139**	*i* P	**Pn**	**04 47 38.4**	**+1.3**
	SNR=12						
ASUD	**Al Ashush, Dub**	**9.64**	**139**	P	**Pn**	**04 47 39.0**	**+1.9**
	SNR=12						
ASUD				S	**Sn**	**04 49 20.7**	**-4.8**
FAQ	**Al Faqa, Dubai**	**9.70**	**137**	P	**Pn**	**04 47 38.2**	**+0.3**
FAQ	**Al Faqa, Dubai**	**9.70**	**137**	P	**Pn**	**04 47 39.1**	**+1.2**
FAQ				S	**Sn**	**04 49 20.6**	**-6.3**
MDH	**Madha**	**9.71**	**132**	P	**Pn**	**04 47 38.9**	**+0.8**
	SNR=5.5						
MDH				S	**Sn**	**04 49 20.9**	**-6.4**
	SNR=13						
GEYT	**Alibeck**	**9.88**	**51**	Pn	**Pn**	**04 47 39.7**	**-0.6**
GEYT	**Alibeck**	**9.88**	**51**	Pn	**Pn**	**04 47 41.5**	**+1.1**
	0.4nm,0.3s,baz=233,slow=9.1,SNR=3.7						
	1.6nm,0.4s						
GEYT	**Alibeck**	**9.88**	**51**	P	**Pn**	**04 47 39.7**	**-0.6**
GYA0	**ALIBECK ARRAY**	**9.88**	**51**	P	**Pn**	**04 47 42.3**	**+2.0**
GYA0B	**ALIBECK ARRAY**	**9.88**	**51**	Pn	**Pn**	**04 47 40.5**	**+0.2**
UOSS	**Minazif**	**9.91**	**134**	Pn	**Pn**	**04 47 39.8**	**-1.1**
UOSS	**Minazif**	**9.91**	**134**	P	**Pn**	**04 47 40.3**	**-0.5**
UOSS	**Minazif**	**9.91**	**134**	P	**Pn**	**04 47 41.7**	**+0.9**
UOSS				S	Sn	04 49 25.4	-6.8
HATD	**Hatta, Dubai**	**9.96**	**135**	P	**Pn**	**04 47 40.8**	**-0.6**
HATD	**Hatta, Dubai**	**9.96**	**135**	P	**Pn**	**04 47 42.5**	**+1.1**
HATD				S	**Sn**	**04 49 27.7**	**-5.5**
ASHO	**Ashiyiah**	**10.02**	**136**	*i* P	**Pn**	**04 47 42.3**	**0.0**
	SNR=12						
ASHO				S	**Sn**	**04 49 28.5**	**-6.3**
ASHO	**Ashiyiah**	**10.02**	**136**	P	**Pn**	**04 47 42.9**	**+0.6**
ASHO				P	**Pn**	**04 47 43.0**	**+0.6**
	SNR=12						
ASHO				S	**Sn**	**04 49 29.2**	**-5.6**
MZR	**Muzera**	**10.13**	**152**	*i* P	**Pn**	**04 47 44.7**	**+0.8**
	SNR=30						
MZR	**Muzera**	**10.13**	**152**	P	**Pn**	**04 47 45.4**	**+1.5**
	SNR=30						
ALNE	**Al Ain**	**10.33**	**139**	*i* P	**Pn**	**04 47 47.2**	**+0.7**
	SNR=15						
ALNE	**Al Ain**	**10.33**	**139**	P	**Pn**	**04 47 47.5**	**+1.0**
	SNR=7.5						
ALNE				S	**Sn**	**04 49 36.5**	**-5.9**
GAZ	**Gaziantep**	**10.49**	**302**	Pn	**Pn**	**04 47 48.4**	**-0.4**
SWQJ	**Swaqa**	**10.53**	**269**	P	**Pn**	04 47 44.8	-4.5
SHMJ	**Saham**	**10.68**	**277**	P	**Pn**	**04 47 47.9**	**-3.4**
SOHO	**SOHO**	**10.71**	**136**	P	**Pn**	**04 47 51.6**	**-0.2**
SOHO				S	**Sn**	**04 49 45.9**	**-6.0**
ARPR	**Arapgir-MALATY**	**10.74**	**313**	Pn	**Pn**	**04 47 51.9**	**-0.3**
QRNJ	**Al-Qirein**	**10.85**	**275**	P	**Pn**	**04 47 50.1**	**-3.4**
MAK	**Makhachkala**	**10.86**	**357**	*e*P	**Pn**	**04 47 50.1**	**-3.6**
MAK				*e*S	**Sn**	**04 49 50.2**	**-5.0**
MAK				pmax	pmax		
	comp=Z,353nm,1.3s						
MAK				MLR	MLR		
	comp=Z,219nm,11.0s						
KARJ	**KARJ**	**10.89**	**268**	P	**Pn**	**04 47 50.3**	**-3.9**
GHAJ	**Ghor Haditha**	**10.94**	**269**	Pn	**Pn**	**04 47 54.9**	**0.0**
MMAI	**Mount Meron Ar**	**10.98**	**278**	Pn	**Pn**	**04 47 56.0**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=108,slow=8.2,SNR=1.1						
MMAI				Lg	Lg	04 51 06.6	
	comp=Z,0.5nm,0.3s,baz=119,slow=36,SNR=2.3						
MMAI				LR	LR	04 53 08.3	
	comp=Z,80nm,18.4s,baz=45,slow=43						
LISJ	**El Lisan**	**11.02**	**269**	P	**Pn**	**04 47 52.1**	**-3.8**
HSNJ	**Maan**	**11.02**	**264**	P	Pn	04 47 51.7	-4.4
ONI	**Oni**	**11.17**	**341**	Pn	**Pn**	**04 47 57.8**	**-0.3**
ONI	**Oni**	**11.17**	**341**	P	**Pn**	**04 47 57.8**	**-0.3**
GROC	**Groznyy**	**11.27**	**350**	*e*P	**Pn**	**04 47 58.4**	**-0.9**
ARQ	**Araqi**	**11.32**	**138**	P	**Pn**	**04 48 00.3**	**+0.1**
ARQ				S	**Sn**	**04 50 02.7**	**-4.2**
PRNI	**Paran**	**11.58**	**265**	P	**Pn**	**04 47 59.7**	**-4.0**
AQBJ	**Aqaba**	**11.69**	**262**	P	Pn	04 48 01.1	-4.0
EIL	**Elat**	**11.79**	**262**	Pn	**Pn**	**04 48 06.7**	**+0.3**
	comp=Z,0.4nm,0.3s,baz=42,slow=10,SNR=4.1						
EIL				Lg	Lg	04 51 33.4	
	comp=Z,0.3nm,0.3s,baz=133,slow=22,SNR=1.7						
EIL				LR	LR	04 53 46.1	
	comp=Z,187nm,19.6s,baz=70,slow=43						
	comp=Z,3.4nm,0.5s						
BSY	**Bisya**	**12.17**	**138**	P	**Pn**	**04 48 11.9**	**+0.1**
	SNR=6.3						
BSY				S	**Sn**	**04 50 21.3**	**-6.4**
BNN	**Bunyan**	**12.22**	**307**		**Pn**	**04 48 14.0**	**+1.5**
KBZ	**Khabaz**	**12.38**	**341**	Pn	**Pn**	**04 48 16.9**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=146,slow=7.3,SNR=1.2						
KBZ				LR	LR	04 53 33.0	
	comp=Z,366nm,18.2s,baz=158,slow=40						
	comp=Z,0.5nm,0.4s						
KBZ	**Khabaz**	**12.38**	**341**	⇑*e*P	**Pn**	**04 48 17.5**	**+3.0**
KBZ				pmax	pmax		
	comp=Z,4.0nm,1.1s						
SMDO	**Samad**	**12.43**	**134**	P	**Pn**	**04 48 15.7**	**+0.2**
SMDO				S	Sn	04 50 27.1	-7.0
SHA1	**Shidzhatmaz**	**12.46**	**340**	⇓*e*P	**Pn**	**04 48 17.2**	**+1.4**
KIV	**Kislovodsk**	**12.65**	**341**	Pn	**Pn**	**04 48 20.4**	**+2.2**
KIV	**Kislovodsk**	**12.65**	**341**	*e*P	**Pn**	**04 48 19.7**	**+1.4**
KIV				pmax	pmax		
	comp=Z,4.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,273nm,16.0s						
WSAR	**Wadi Sarin**	**12.66**	**132**	Pn	**Pn**	**04 48 19.2**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=2.6,slow=12,SNR=7.9						
WSAR				LR	LR	04 54 08.6	
	comp=Z,344nm,19.8s,baz=340,slow=42						
	comp=Z,5.8nm,0.6s						
CSS	**Mathiatis**	**12.87**	**287**	Pn	**Pn**	**04 48 21.9**	**+0.6**
WBK	**Wadi Bani Khal**	**13.34**	**133**	P	**Pn**	**04 48 27.5**	**-0.2**
WBK				S	**Sn**	**04 50 50.6**	**-5.4**
SOC	**Sochi**	**13.34**	**332**	*e*P	**Pn**	**04 48 26.2**	**-1.4**
SOC				*e*		04 50 54.6	
SOC				MLR	MLR		
	comp=Z,129nm,16.0s						
MHTO	**MHTO**	**14.00**	**140**	P	**Pn**	**04 48 35.7**	**-1.0**
MHTO				S	**Sn**	**04 51 06.0**	**-6.3**
BR104	**Keskin Array S**	**14.14**	**307**	P	**P**	**04 48 43.3**	**-3.1**
	comp=Z,4.2nm,0.9s						
BR131	**Keskin Array S**	**14.15**	**307**	Pn	**Pn**	**04 48 38.8**	**0.0**
BR131	**Keskin Array S**	**14.15**	**307**	⇑*e*P	**Pn**	**04 48 40.7**	**+1.9**
BRTR	**Keskin Array B**	**14.15**	**307**	Pn	**Pn**	**04 48 38.8**	**0.0**
BRTR	**Keskin Array B**	**14.15**	**307**	Pn	**Pn**	**04 48 40.5**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=137,slow=14,SNR=3.1						
BRTR				LR	LR	04 54 30.8	
	comp=Z,129nm,20.4s,baz=118,slow=40						
	comp=Z,0.4nm,0.5s						
BR105	**Keskin Array S**	**14.16**	**307**	P	**P**	**04 48 47.0**	**+0.4**
	comp=Z,4.9nm,0.9s						
BR106	**Keskin Array S**	**14.16**	**307**	P	**P**	**04 48 43.8**	**-2.9**
	comp=Z,5.1nm,0.9s,comp=Z,42nm						
DOK	**Doka**	**14.40**	**158**	P	**Pn**	**04 48 41.0**	**-1.2**
DOK				S	Sn	04 51 15.3	-6.6
DQM	**DQM**	**14.65**	**144**	P	**Pn**	**04 48 43.7**	**-1.9**
DQM				S	Sn	04 51 21.0	-7.1
WHFO	**Wadi Hawf**	**14.94**	**160**	P	**Pn**	**04 48 47.8**	**-1.9**
WHFO				S	**Sn**	**04 51 28.7**	**-6.6**
ANN	**Anapa**	**15.28**	**329**	*e*P	**Pn**	**04 48 52.5**	**-1.5**
ANN				*e*S	**Sn**	**04 51 41.4**	**-1.8**
ANN				pmax	pmax		
	comp=Z,37nm,1.0s						
RBK	**Rabkut**	**15.46**	**159**	P	**Pn**	**04 48 56.1**	**-0.5**
RBK				S	**Sn**	**04 51 44.4**	**-3.7**
DMTO	**DMTO**	**15.51**	**156**	P	**Pn**	**04 48 55.7**	**-1.4**
	SNR=8.4						
DMTO				S	**Sn**	**04 51 41.9**	**-7.2**
ELL	**Elmali**	**15.92**	**292**	Pn	**Pn**	**04 49 01.9**	**-0.7**
ELL				IAmb	IAmb	04 49 22.1	
	comp=Z,36nm,0.8s						
ELL	**Elmali**	**15.92**	**292**	P	**Pn**	**04 49 01.9**	**-0.7**
ELL				pmax	pmax		
	comp=Z,37nm,0.8s						
MDUB	**Mudurnu**	**16.15**	**306**	Pn	**Pn**	**04 49 04.5**	**-0.9**
KBL	**Kabul**	**17.44**	**76**		**Pn**	**04 49 22.3**	**+0.4**
KBL	**Kabul**	**17.44**	**76**	P	**Pn**	**04 49 22.3**	**+0.4**
KBL				pmax	pmax		
	comp=Z,9.0nm,1.1s						
KARP	**Karpathos**	**17.95**	**287**		**Pn**	**04 49 28.1**	**+0.1**
KARP				IAmb	IAmb	04 49 43.0	
	comp=Z,32nm,0.9s						
SIMJ	**Simiganj**	**18.03**	**63**		**Pn**	**04 49 29.6**	**+0.4**
CHGR	**Chuyangaron**	**18.15**	**63**		**Pn**	**04 49 30.4**	**-0.1**
CHGR	**Chuyangaron**	**18.15**	**63**	P	**Pn**	**04 49 30.4**	**-0.1**
CHGR				pmax	pmax		
	comp=Z,13nm,1.0s						
AKTO	**Aktyubinsk**	**19.66

KMPD K-Podol'skiy 23.31 321 P **P** **04 50 26.7 +0.4**
FNA Florina 23.31 299 P **P** **04 50 25.9 -0.5**
FNA IAmb IAmb 04 50 33.2
comp=Z,6.3nm,0.6s
FNA Florina 23.31 299 P **P** **04 50 26.0 -0.5**
FNA pmax pmax
comp=Z,6.0nm,0.6s
AK05 Malin Array Si 23.32 328 P **P** **04 50 26.8 +0.5**
AK02 Malin Array Si 23.34 328 P **P** **04 50 28.1 +1.6**
AKASG Malin Array Be 23.36 328 P **P** **04 50 25.7 -1.0**
comp=Z,2.8nm,0.8s,baz=130,slow=8.8,SNR=15
AKASG LR LR 05 01 24.8
comp=Z,92nm,18.1s,baz=100,slow=42
comp=Z,2.8nm,0.8s
AKASG Malin Array Be 23.36 328 *i* P **P** **04 50 27.6 +0.8**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKBB Malin Array Si 23.36 328 P **P** **04 50 27.1 +0.3**
AKBB Malin Array Si 23.36 328 P **P** **04 50 27.1 +0.3**
AKBB pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 23.37 328 ⇑P **P** **04 50 28.3 +1.5**
KIEV Kiev 23.37 328 P **P** **04 50 27.2 +0.4**
KIEV Kiev 23.37 328 P **P** **04 50 27.2 +0.4**
KIEV pmax pmax
comp=Z,6.0nm,0.9s
AK11 Malin Array Si 23.37 328 P **P** **04 50 28.0 +1.1**
BURAR Bucovina Array 23.45 318 ⇑P **P** **04 50 31.7 +3.9**
BURAR Bucovina Array 23.45 318 P **P** **04 50 28.7 +0.9**
BURAR Bucovina Array 23.45 318 P **P** **04 50 29.7 +1.9**
BURAR pmax pmax
comp=Z,5.0nm,0.9s
BUR08 Bucovina Ar. S 23.48 318 P **P** **04 50 28.3 +0.2**
KSH Kashi 23.51 64 P **P** **04 50 27.8 -0.7**
KSH sP sP 04 50 35.5 +2.7
KSH S **S** **04 54 42.3 -0.2**
KSH pmax pmax
comp=Z,9.0nm,1.3s
SKO Skopje 23.57 302 *i* P **P** **04 50 32.6 +3.7**
KBN Korca 23.71 299 P **P** **04 50 30.7 +0.2**
KBN Korca 23.71 299 P **P** **04 50 30.7 +0.2**
KBN pmax pmax
comp=Z,34nm,1.0s
OHR Ohrid 23.81 300 *i* P **P** **04 50 32.9 +1.5**
OHR Ohrid 23.81 300 P **P** **04 50 36.7 +5.3**
OHR pmax pmax
comp=Z,19nm,1.1s
GZR Gura Zlata 23.85 311 ⇑P **P** **04 50 32.7 +1.0**
HERR Herculane 23.87 310 ⇑P **P** **04 50 36.5 +4.6**
BOVS Bovan 23.89 306 ⇓P **P** **04 50 32.1 +0.1**
CJR Cluj-Napoca 23.94 315 ⇑P **P** **04 50 38.2 +5.7**
CJR Cluj-Napoca 23.94 315 ⇑P **P** **04 50 38.2 +5.7**
BOOM Boomskoye usch 24.16 57 P **P** **04 50 34.3 -0.5**
BOOM Boomskoye usch 24.16 57 P **P** **04 50 34.3 -0.5**
BOOM pmax pmax
comp=Z,24nm,1.1s
MARR Marisel-Cluj 24.21 314 ⇑P **P** **04 50 35.7 +0.6**
MDVR Moldovita 24.30 309 ⇓P **P** **04 50 36.3 +0.4**
OBN Obninsk 24.47 344 P **P** **04 50 36.6 -0.6**
OBN Obninsk 24.47 344 LR LR 05 01 31.7
comp=Z,132nm,20.4s,baz=168,slow=40
OBN Obninsk 24.47 344 *eP* **P** **04 50 38.6 +1.4**
OBN *e* 04 51 12.1
OBN *e*PPP PPP 04 51 17.4
OBN pmax pmax
comp=Z,11nm,1.0s
OBN MLR MLR
comp=Z,102nm,18.0s
DRGR 24.51 314 ⇑P **P** **04 50 38.1 +0.3**
DRGR 24.51 314 ⇑P **P** **04 50 38.1 +0.3**
BZS Buzias 24.69 311 ⇑P **P** **04 50 42.8 +3.5**
BZS Buzias 24.69 311 ⇑P **P** **04 50 42.8 +3.5**
PUK Puka 24.70 302 P **P** **04 50 39.4 -0.2**
PUK IAmb IAmb 04 50 47.3
comp=Z,15nm,1.0s
MOS Moscow 24.80 345 *e*P **P** **04 50 41.8 +1.6**
MOS *e* 04 51 14.0
MOS *e* 04 55 05.9
SIRR Siria 24.93 312 ⇓P **P** **04 50 42.7 +1.1**
TRSU Trosnyk 25.00 317 P **P** **04 50 44.8 +2.7**
BORR Bors 25.21 314 ⇓P **P** **04 50 49.1 +5.0**
ARU Arti 25.33 13 P **P** **04 50 43.4 -1.6**
ARU IAmb IAmb 04 50 51.2
comp=Z,11nm,1.0s
ARU Arti 25.33 13 P **P** **04 50 43.8 -1.2**
comp=Z,4.1nm,0.6s,baz=203,slow=5.7,SNR=5.0
ARU LR LR 05 03 59.7
comp=Z,108nm,18.4s,baz=160,slow=44
comp=Z,4.1nm,0.6s
ARU Arti 25.33 13*de*P **P** **04 50 44.9 -0.1**
ARU pmax pmax
comp=Z,15nm,1.3s
KWP Kalwaria Pacla 25.95 320 P **P** **04 50 50.3 -0.4**
KWP Kalwaria Pacla 25.95 320 P **P** **04 50 50.3 -0.4**
KWP pmax pmax
comp=Z,16nm,0.8s
BRVK Borovoye 26.24 31 P **P** **04 50 52.3 -1.0**
BRVK Borovoye 26.24 31*ce*P **P** **04 50 55.1 +1.8**
BRVK pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 26.26 31 P **P** **04 50 53.1 -0.4**
comp=Z,3.7nm,0.7s,baz=216,slow=7.9,SNR=15
BVAR LR LR 05 03 25.6
comp=Z,152nm,18.1s,baz=224,slow=42
comp=Z,3.7nm,0.7s
KIRV Kirov 26.49 1 LR LR 05 04 31.5
comp=Z,112nm,18.5s,baz=148,slow=44
KIRV Kirov 26.49 1⇑*eP* **P** **04 50 56.9 +1.4**
KECS Kecovo 26.63 316 *eP* **P** **04 51 00.9 +4.0**
KECS Kecovo 26.63 316 *eP* **P** **04 51 00.9 +4.0**
STHS Stebnicka Huta 26.65 318 *eP* **P** **04 51 03.1 +6.0**
STHS Stebnicka Huta 26.65 318 *eP* **P** **04 51 03.1 +6.0**
MNK Minsk 26.71 333 *i* P **P** **04 50 58.0 +0.5**
comp=E,10.0nm,0.8s,baz=138
MNK *i* P **P** **04 50 58.0 +0.5**
comp=N,16nm,0.8s
MNK *i* P **P** **04 50 58.0 +0.5**
comp=Z,31nm,0.8s
MNK *i* PP **PnPn** **04 51 38.2 -0.2**
MNK *i* PPP PPP 04 51 46.7
MNK *i* S **S** **04 55 34.0 +1.2**
MNK *i* SS **SnSn** **04 56 38.4 +2.3**
MNK *i* SSS SSS 04 56 52.6
MNK *i* LQ LQ 04 59 20.1
MNK *i* LR LR 05 00 56.8
MNK *i* LRM MLR 05 02 19.8
MNK *i* LRM MLR 05 02 24.7
MNK *i* LRM MLR 05 02 52.8
comp=Z,142nm,14.7s
MNK Minsk 26.71 333 *i* P **P** **04 50 58.0 +0.5**
MNK *i* PPP PPP 04 51 46.6
MNK *i* S **S** **04 55 34.0 +1.2**
MNK *i* SS **SnSn** **04 56 38.3 +2.3**
MNK *i* SSS SSS 04 56 52.6
MNK pmax pmax
comp=N,16nm,0.9s
MNK pmax pmax
comp=Z,31nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK MLR MLR
comp=Z,142nm,15.0s
PSZ Piszkesteto 26.73 315 P **P** **04 50 59.0 +1.1**
PSZ IAmb IAmb 04 51 04.3
comp=Z,7.2nm,0.9s
PSZ Piszkesteto 26.73 315 P **P** **04 50 59.0 +1.1**
PSZ pmax pmax
comp=Z,7.0nm,0.9s
MORH Mrgy, Hungar 26.83 310 ⇑P **P** **04 51 02.1 +3.4**
CEL Celeste 27.16 292 P **P** **04 51 02.0 +0.2**
CEL IAmb IAmb 04 51 15.8
comp=Z,6.5nm,1.0s
CUC Castrocucco 27.36 296 P **P** **04 51 03.6 -0.1**
NACGM Naroch 27.44 333 *eP* **P** **04 51 09.7 +5.6**
comp=Z,24nm,0.8s,baz=137
VYHS Vyhne 27.62 315 *eP* **P** **04 51 09.0 +3.2**
VYHS Vyhne 27.62 315 *eP* **P** **04 51 09.0 +3.2**
OJC Ojcow 27.86 319 P **P** **04 51 07.8 -0.1**
OJC IAmb IAmb 04 51 11.7
comp=Z,7.1nm,0.9s
OJC Ojcow 27.86 319 P **P** **04 51 07.8 -0.1**
OJC pmax pmax
comp=Z,7.0nm,0.9s
SUW Suwalki 28.33 328 P **P** **04 51 12.1 0.0**
SUW Suwalki 28.33 328 P **P** **04 51 12.1 0.0**
SUW pmax pmax
comp=Z,17nm,1.0s
PAOL Paolisi 28.43 298 P **P** **04 51 13.7 +0.5**
PAOL IAmb IAmb 04 51 18.0
comp=Z,14nm,1.2s
JAVC Velka Javorina 28.47 315 *eP* **P** **04 51 14.5 +1.0**
MODS Modra-Piesok 28.51 314 *eP* **P** **04 51 15.6 +1.8**
MODS Modra-Piesok 28.51 314 *eP* **P** **04 51 15.6 +1.8**
MAUC Maruska 28.59 316 *eP* **P** **04 51 16.7 +2.2**
RONA Rosalia, Austr 28.87 312 *eP* **P** **04 51 16.6 -0.3**
comp=Z,1.1nm,0.7s
KURBB Kurchatov Arra 28.94 41 P **P** **04 51 17.4 0.0**
comp=Z,1.1nm,0.3s,baz=245,slow=9.5,SNR=2.6
KURBB LR LR 05 04 46.3
comp=Z,108nm,19.3s,baz=166,slow=40
comp=Z,1.1nm,0.3s
MORC Moravsky Berou 28.94 317 P **P** **04 51 17.8 +0.2**
MORC Moravsky Berou 28.94 317 *eP* **P** **04 51 17.3 -0.3**
MORC Moravsky Berou 28.94 317 P **P** **04 51 17.8 +0.2**
MORC pmax pmax
comp=Z,5.0nm,0.9s
KURK Kurchatov 29.03 41 P **P** **04 51 18.1 -0.2**
KURK IAmb IAmb 04 51 26.2
comp=Z,5.7nm,1.0s
KURK Kurchatov 29.03 41 P **P** **04 51 18.1 -0.2**
KURK pmax pmax
comp=Z,6.0nm,1.0s
CONA Conrad Observa 29.22 312 *eP* **P** **04 51 20.1 0.0**
comp=Z,2.2nm,1.1s
VRAC Vranov 29.30 315 *eP* **P** **04 51 20.6 -0.2**
KRUC Moravsky 29.32 315 *eP* **P** **04 51 20.7 -0.2**
KLMR Klimovskoe 29.34 351 *eP* **P** **04 51 19.3 -1.7**
KLMR pmax pmax
comp=Z,36nm,0.9s
CAMP Campotosto 29.51 301 P **P** **04 51 22.6 -0.3**
CAMP IAmb IAmb 04 51 30.2
comp=Z,11nm,1.1s
KRLC Kraliky 29.51 317 *eP* **P** **04 51 22.2 -0.5**
KRLC Kraliky 29.51 317 *eP* **P** **04 51 22.2 -0.5**
MK31 Makanchi Array 29.75 51⇑*eP* **P** **04 51 24.9 +0.1**
MKAR Makanchi Array 29.75 51 P **P** **04 51 25.2 +0.4**
comp=Z,3.2nm,0.9s,baz=246,slow=8.2,SNR=13
MKAR LR LR 05 04 06.0
comp=Z,82nm,21.7s,baz=266,slow=38
comp=Z,3.2nm,0.9s
MKAR Makanchi Array 29.75 51*ce*P **P** **04 51 25.7 +0.9**
MKAR pmax pmax
comp=Z,3.0nm,0.9s
FDMO Fiordimonte 29.82 302 P **P** **04 51 24.8 -0.7**
FDMO IAmb IAmb 04 51 30.0
comp=Z,5.8nm,1.0s
DPC Dobruska-Polom 29.90 317 *eP* **P** **04 51 25.7 -0.4**
DPC Dobruska-Polom 29.90 317 *eP* **P** **04 51 25.7 -0.4**
OSTC Ostas 30.05 317 *eP* **P** **04 51 27.2 -0.2**
OSTC Ostas 30.05 317 *eP* **P** **04 51 27.2 -0.2**
SABO M.te Sabotino 30.09 308 P **P** **04 51 26.8 -1.1**
SABO IAmb IAmb 04 51 36.4
comp=Z,4.7nm,1.0s
CESX Cesi 30.12 301 P **P** **04 51 27.7 -0.4**
CHVC Chvalec 30.15 317 *eP* **P** **04 51 28.3 0.0**
CHVC Chvalec 30.15 317 *eP* **P** **04 51 28.3 0.0**
VSU Vasula 30.16 337⇑*eP* **P** **04 51 29.7 +1.5**
VSU pmax pmax
comp=Z,15nm,1.7s
MOA Molln 30.21 311 *eP* **P** **04 51 28.4 -0.4**
comp=Z,3.1nm,0.9s
CKRC Cesky Krumlov 30.51 313 *eP* **P** **04 51 31.4 -0.1**
CKRC Cesky Krumlov 30.51 313 *eP* **P** **04 51 31.4 -0.1**
BIOA Bad Ischl, Aus 30.56 311 *eP* **P** **04 51 31.2 -0.7**
comp=Z,1.9nm,0.7s
KBA Koelnbreinsper 30.57 310 *eP* **P** **04 51 32.6 +0.4**
comp=Z,1.7nm,0.5s
GEC2 GERESS Array S 30.89 313 P **P** **04 51 35.2 +0.2**
GERES GERESS Array B 30.89 313 P **P** **04 51 34.6 -0.3**
comp=Z,0.8nm,0.7s,baz=96,slow=11,SNR=5.4
comp=Z,0.8nm,0.7s
KHC Kasperske Hory 31.07 313 *eP* **P** **04 51 37.1 +0.7**
KHC Kasperske Hory 31.07 313⇑*eP* **P** **04 51 38.6 +2.2**
KHC pmax pmax
comp=Z,10.0nm,1.7s
LESA Schwarzleotal 31.10 310 *eP* **P** **04 51 35.9 -0.9**
comp=Z,4.3nm,0.8s
CTI Castel Tesino 31.43 307 P **P** **04 51 38.7 -1.0**
CTI IAmb IAmb 04 51 43.6
comp=Z,4.8nm,0.9s
CTI Castel Tesino 31.43 307 P **P** **04 51 38.7 -1.0**
CTI pmax pmax
comp=Z,5.0nm,0.9s
BRG Berggiesshubel 31.49 317 *eP* **P** **04 51 42.8 +2.7**
BRG Amp 04 51 44.8
comp=Z,2.8nm,0.9s
ZCCA Zocca 31.55 304 P **P** **04 51 42.3 +1.5**
WTTA Wattenberg 31.74 309 *eP* **P** **04 51 41.3 -1.2**
comp=Z,8.9nm,0.9s
WATA Walderalm 31.80 309 *eP* **P** **04 51 41.8 -1.2**
comp=Z,8.6nm,1.2s
SQTA Sankt Quirin 32.01 309 *eP* **P** **04 51 43.5 -1.3**
comp=Z,7.4nm,0.7s
MOTA Moosalm 32.11 309 *eP* **P** **04 51 45.0 -0.8**
comp=Z,3.4nm,0.7s
CLL Collm 32.21 317 P **P** **04 51 47.9 +1.5**
CLL IAmb IAmb 04 51 49.5
comp=Z,3.7nm,0.8s
CLL Collm 32.21 317 *i* P **P** **04 51 48.2 +1.8**
comp=Z,5.0nm,0.9s
CLL AMS AMS 05 08 00.0
comp=Z,100nm,19.0s
CLL Collm 32.21 317 *i* P **P** **04 51 48.2 +1.8**
CLL pmax pmax
comp=Z,5.0nm,0.9s
FETA Feichten 32.27 309 *eP* **P** **04 51 46.0 -1.3**
comp=Z,2.2nm,0.6s
KEST Kesra 32.45 287 P **P** **04 51 48.4 -0.4**
comp=Z,5.6nm,1.1s,baz=117,slow=6.8,SNR=3.9
comp=Z,5.6nm,1.1s
MSSA Maissana 32.58 303 P **P** **04 51 49.4 -0.5**
MSSA IAmb IAmb 04 51 53.2
comp=Z,8.3nm,1.0s
GRFO Grafenberg 32.70 313 P **P** **04 51 50.9 +0.1**
GRFO Grafenberg 32.70 313 P **P** **04 51 50.9 +0.1**
GRFO pmax pmax
comp=Z,11nm,1.0s
FIA1 FINESS Array S 32.74 340 P **P** **04 51 51.1 +0.3**
FINES FINESS Array B 32.74 340 P **P** **04 51 51.4 +0.5**
FINES FINESS Array B 32.74 340 P **P** **04 51 49.0 -1.9**
comp=Z,5.3nm,0.9s,baz=141,slow=9.0,SNR=9.9
FINES LR LR 05 07 23.1
comp=Z,64nm,18.2s,baz=80,slow=41
comp=Z,5.3nm,0.9s
FINES FINESS Array B 32.74 340 P **P** **04 51 51.4 +0.5**
DAVA Damuels 32.90 309 *eP* **P** **04 51 51.4 -1.3**
comp=Z,6.2nm,0.7s
ZAA0 Zalesovo Array 33.88 39 P **P** **04 52 00.7 -0.2**
ZAA0 IAmb IAmb 04 52 08.2
comp=Z,6.7nm,1.1s
ZALV Zalesovo Beam 33.88 39 P **P** **04 51 60.0 -1.0**
comp=Z,2.6nm,0.6s,baz=252,slow=9.2,SNR=10
ZALV LR LR 05 06 46.8
comp=Z,61nm,18.6s,baz=14,slow=38
comp=Z,2.6nm,0.6s
ZALV Zalesovo Beam 33.88 39 *i* P **P** **04 52 00.9 -0.1**
ZALV pmax pmax
comp=Z,3.0nm,0.6s
BNI Bardonecchia 34.69 304 P **P** **04 52 07.7 -0.6**
BNI Bardonecchia 34.69 304 P **P** **04 52 07.7 -0.6**
BNI pmax pmax
comp=Z,12nm,0.9s
ECH Echery 34.90 310 P **P** **04 52 10.7 +0.8**
ECH IAmb IAmb 04 52 12.8
comp=Z,8.5nm,1.1s
ECH Echery 34.90 310 P **P** **04 52 10.7 +0.8**
ECH pmax pmax
comp=Z,9.0nm,1.1s
HFS Hagfors 36.18 331 P **P** **04 52 19.1 -1.6**
comp=Z,18nm,0.8s,baz=120,slow=10,SNR=23
HFS LR LR 05 08 42.7
comp=Z,70nm,19.0s,baz=98,slow=39
comp=Z,18nm,0.8s
MBAR Mbarara 36.56 211 LR LR 05 08 52.6
comp=Z,69nm,18.0s,baz=16,slow=39
MBAR Mbarara 36.56 211*ce*P **P** **04 52 27.8 +3.2**
MBAR pmax pmax
comp=Z,4.0nm,1.0s
NC405 NORSAR Array S 37.54 332 P **P** **04 52 31.6 -0.7**
NC405 IAmb IAmb 04 52 34.8
comp=Z,9.4nm,0.8s
KONO Kongsberg 37.66 329 P **P** **04 52 33.9 +0.5**
KONO IAmb IAmb 04 52 37.2
comp=Z,7.3nm,0.8s
KONO Kongsberg 37.66 329⇓*eP* **P** **04 52 34.6 +1.3**
KONO pmax pmax
comp=Z,11nm,1.3s
NB2 NORSAR Subarra 37.70 331 P **P** **04 52 32.0 -1.7**
comp=Z,4.1nm,0.8s,baz=123,slow=8.6
NOA NORSAR Array B 37.70 331 P **P** **04 52 32.0 -1.7**
comp=Z,3.2nm,0.8s,baz=123,slow=8.4,SNR=16
NOA LR LR 05 09 19.4
comp=Z,72nm,18.9s,baz=130,slow=38
comp=Z,3.2nm,0.8s
NOA NORSAR Array B 37.70 331 P **P** **04 52 32.0 -1.7**
NAO01 NORSAR Array S 37.73 331 P **P** **04 52 34.4 +0.5**
NAO01 IAmb IAmb 04 52 36.8
comp=Z,8.4nm,0.8s
SHL Shillong 38.47 88 P **P** **04 52 40.0 -0.8**
SHL IAmb IAmb 04 52 45.2
comp=Z,14nm,1.1s
SHL Shillong 38.47 88 P **P** **04 52 40.0 -0.8**
SHL pmax pmax
comp=Z,14nm,1.1s
KEV Kevo 39.56 349 P **P** **04 52 49.5 +0.4**
KEV Kevo 39.56 349 P **P** **04 52 49.5 +0.4**
KEV pmax pmax
comp=Z,25nm,1.0s
ARCES ARCESS Array B 39.63 348 P **P** **04 52 49.2 -0.6**
comp=Z,7.7nm,0.9s,baz=165,slow=5.0,SNR=8.0
ARCES LR LR 05 10 38.7
comp=Z,96nm,18.1s,baz=146,slow=38
comp=Z,7.7nm,0.9s
GTA Gaotai 41.90 65 *eP* **P** **04 53 12.0 +2.9**
GTA pP sP 04 53 19.3 +5.9
GTA pmax pmax
comp=Z,4.0nm,1.2s
ESDC Sonseca Array 42.56 295 P **P** **04 53 14.0 -0.4**
comp=Z,1.6nm,1.0s,baz=73,slow=8.6,SNR=11
comp=Z,1.6nm,1.0s
EKA Eskdalemuir Ar 42.63 319 P **P** **04 53 14.1 -0.5**
comp=Z,3.7nm,0.9s,baz=100,slow=7.7,SNR=5.6
comp=Z,3.7nm,0.9s
PBRG Braganca 44.43 299 *eP* **P** **04 53 29.5 +0.1**
comp=Z,18nm,1.8s
MVO Moncorvo 44.71 298 *eP* **P** **04 53 35.3 +3.6**
PBAR Barrancos 45.15 294 *eP* **P** **04 53 35.3 +0.2**
comp=Z,15nm,1.1s
PVRL Vila Real 45.22 298 *eP* **P** **04 53 36.3 +0.7**
PMRV Marv??o 45.22 296 *eP* **P** **04 53 33.6 -2.1**
comp=Z,19nm,1.6s
PCBR Castelo Branco 45.23 296 *eP* **P** **04 53 36.3 +0.6**
comp=Z,16nm,1.4s
POLO Lamas de Olo 45.26 298 *eP* **P** **04 53 36.9 +0.8**
comp=Z,13nm,1.8s
PESTR Estremoz 45.46 295 *eP* **P** **04 53 41.0 +3.4**
PGAV Gavieira, Arco 45.55 299 *eP* **P** **04 53 39.3 +1.0**
PVAQ Vaqueiros 45.82 293 *eP* **P** **04 53 40.6 +0.2**
comp=Z,17nm,1.6s
PBEJ Beja 45.82 294 *eP* **P** **04 53 40.2 -0.2**
COI Coimbra 45.88 297 *eP* **P** **04 53 39.0 -1.9**
PZH PanZhiHua 46.48 83 P **P** **04 53 46.5 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.8s
PZH pmax pmax
comp=Z,80nm,5.9s
ULN Ulaanbaatar 46.52 52 P **P** **04 53 44.6 -1.4**
ULN IAmb IAmb 04 53 50.2
comp=Z,5.7nm,0.9s
ULN Ulaanbaatar 46.52 52⇓*eP* **P** **04 53 48.3 +2.3**
ULN pmax pmax
comp=Z,7.0nm,1.0s
MORF Marmelete 46.57 293 *eP* **P** **04 53 46.0 -0.4**
comp=Z,33nm,1.6s
TORD Torodi Ar. Bea 46.63 257 P **P** **04 53 46.7 -0.3**
TORD Torodi Ar. Bea 46.63 257 P **P** **04 53 46.8 -0.2**
comp=Z,2.6nm,0.7s,baz=51,slow=9.3,SNR=17
TORD LR LR 05 16 12.9
comp=Z,123nm,19.1s,baz=28,slow=40
comp=Z,2.6nm,0.7s
CHTO Chiang Mai 47.15 94 P **P** **04 53 50.5 -0.5**
CHTO IAmb IAmb 04 53 55.4
comp=Z,4.1nm,0.9s
CHTO Chiang Mai 47.15 94 P **P** **04 53 50.6 -0.5**
CHTO pmax pmax
comp=Z,4.0nm,0.9s
CMAR Chiang Mai Arr 47.30 94 P **P** **04 53 53.6 +1.3**
comp=Z,1.9nm,0.6s,baz=298,slow=8.3,SNR=9.5
CMAR LR LR 05 17 06.2
comp=Z,22nm,18.6s,baz=260,slow=40
comp=Z,1.9nm,0.6s
CMAR Chiang Mai Arr 47.30 94*ce*P **P** **04 53 55.5 +3.2**
CMAR pmax pmax
comp=Z,2.0nm,0.6s
SPB2 Spitsbergen Ar 48.24 352 P **P** **04 53 59.2 +0.5**
SPITS Spitsbergen Ar 48.25 352 P **P** **04 53 58.4 -0.4**
comp=Z,15nm,0.8s,baz=123,slow=9.1,SNR=9.9
comp=Z,15nm,0.8s
PHRA Phrae 48.38 93 P **P** **04 54 00.9 +0.3**
JMIC Jan Mayen 49.33 339 LR LR 05 15 42.9
comp=Z,49nm,18.0s,baz=88,slow=37
BTO Baotou 49.48 62 *eP* **P** **04 54 09.3 +0.4**
BTO pP **sP** **04 54 13.8 +0.5**
BTO sP **pP** **04 54 16.3 +4.2**
BTO pmax pmax
comp=Z,28nm,0.9s
BTO pmax pmax
comp=Z,160nm,5.1s
HHC Hu-ho-hao-te 50.58 61 *eP* **P** **04 54 16.0 -1.3**
HHC pP sP 04 54 23.5 +1.8
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,99nm,4.2s
BORG Borgarnes 52.84 330 LR LR 05 18 20.9
comp=Z,16nm,19.3s,baz=75,slow=38
HIA Hailar 54.74 49⇑*eP* **P** **04 54 48.3 +0.4**
HIA pmax pmax
comp=Z,4.0nm,1.1s
DBIC Dimbokro 55.55 255 LR LR 05 21 59.5
comp=Z,84nm,18.5s,baz=53,slow=40
TIA Tai'an 55.95 65 P **P** **04 54 59.5 +2.7**
TIA pmax pmax
comp=Z,3.0nm,1.0s
IPM Ipoh 56.33 108 P **P** **04 54 57.9 -1.8**
TIXI Tiksi 56.90 22⇑*eP* **P** **04 55 04.9 +2.0**
TIXI pmax pmax
comp=Z,2.0nm,1.0s
YAK Yakutsk 58.20 33 LR LR 05 22 14.9
comp=Z,62nm,20.0s,baz=292,slow=38
YAK Yakutsk 58.20 33⇑*eP* **P** **04 55 13.9 +1.7**
YAK pmax pmax
comp=Z,7.0nm,0.8s
NJ2 Nanjing 58.66 70 *eP* **P** **04 55 16.5 +0.6**
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,150nm,3.7s
HEH HeiHe 59.39 47 *eP* **P** **04 55 23.3 +2.6**
HEH pmax pmax
comp=Z,6.0nm,0.8s
HEH pmax pmax
comp=Z,52nm,3.7s
LBTB Lobatse 60.82 204 P **P** **04 55 31.3 +0.5**
LBTB Lobatse 60.82 204 LR LR 05 23 29.7
comp=Z,67nm,18.1s,baz=38,slow=38
LBTB Lobatse 60.82 204 P **P** **04 55 31.3 +0.5**
LBTB pmax pmax
comp=Z,7.0nm,0.9s
KLR Kul'dur 62.38 47 LR LR 05 24 43.1
comp=Z,7nm,18.6s,baz=239,slow=38
KSRS Korea Array 63.72 61 P **P** **04 55 49.6 -0.5**
comp=Z,0.7nm,0.5s,baz=282,slow=7.9,SNR=4.4
KSRS LR LR 05 27 11.7
comp=Z,42nm,18.0s,baz=260,slow=40
comp=Z,0.7nm,0.5s
BOSA Boshof 64.26 203 P **P** **04 55 54.5 +0.7**
BOSA Boshof 64.26 203 P **P** **04 55 54.3 +0.5**
comp=Z,3.5nm,0.8s,baz=15,slow=8.8,SNR=8.0
BOSA LR LR 05 24 49.4
comp=Z,112nm,18.8s,baz=10.0,slow=37
comp=Z,3.5nm,0.8s
BOSA Boshof 64.26 203 P **P** **04 55 54.5 +0.7**
BOSA pmax pmax
comp=Z,6.0nm,1.0s
SFJD Kangerlussuaq 64.27 334 LR LR 05 26 24.2
comp=Z,78nm,18.9s,baz=327,slow=38

JNU	**Nakatsue**	**67.63**	**64**	LR	LR	05 29 40.6	
	comp=Z,42nm,19.9s,baz=224,slow=39						
SEY	**Seymchan**	**67.89**	**29**	LR	LR	05 31 24.3	
	comp=Z,67nm,18.2s,baz=25,slow=41						
BILL	**Bilibino**	**70.08**	**21**	P	**P**	**04 56 31.3**	**+1.1**
BILL	**Bilibino**	**70.08**	**21**	*eP*	**P**	**04 56 33.0**	**+2.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s						
ASAJ	**Asahikawa**	**71.22**	**49**	LR	LR	05 32 31.6	
	comp=Z,911nm,18.1s,baz=144,slow=40						
SCHQ	**Schefferville**	**77.16**	**328**	P	**P**	**04 57 09.9**	**-2.1**
	comp=Z,3.9nm,1.0s,baz=35,slow=12,SNR=2.5						
	comp=Z,3.9nm,1.0s						
D25K	**Kavik River**	**78.29**	**5**	P	**P**	**04 57 18.3**	**+0.2**
D25K				IAmb	IAmb	04 57 21.8	
	comp=Z,3.1nm,0.8s						
TOLK	**Toolik Lake Re**	**78.68**	**7**	P	**P**	**04 57 20.8**	**+0.6**
TOLK				IAmb	IAmb	04 57 24.1	
	comp=Z,5.6nm,0.9s						
E25K	**Arctic Village**	**79.53**	**5**	P	**P**	**04 57 25.1**	**+0.2**
F21K	**Alatna River**	**79.60**	**8**	P	**P**	**04 57 26.0**	**+0.7**
F21K				IAmb	IAmb	04 57 29.9	
	comp=Z,3.5nm,1.0s						
E29M	**Blow River**	**79.70**	**2**	P	**P**	**04 57 26.3**	**+0.5**
E29M				IAmb	IAmb	04 57 29.4	
	comp=Z,4.5nm,1.1s						
FYU	**Fort Yukon**	**81.09**	**5**	P	**P**	**04 57 32.8**	**-0.5**
H21K	**Melozitna River**	**81.18**	**9**	P	**P**	**04 57 34.0**	**+0.1**
H21K				IAmb	IAmb	04 57 37.6	
	comp=Z,2.8nm,0.9s						
H23K	**Yukon River**	**81.41**	**7**	P	**P**	**04 57 35.3**	**+0.3**
H23K				IAmb	IAmb	04 57 39.3	
	comp=Z,3.1nm,0.9s						
ILAR	**Eielson Array**	**82.70**	**7**	P	**P**	**04 57 40.6**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=324,slow=3.3,SNR=6.7						
ILAR				LR	LR	05 38 15.9	
	comp=Z,38nm,19.8s,baz=232,slow=38						
	comp=Z,0.7nm,0.8s						
BPAW	**Bear Paw Mtn.**	**82.90**	**8**	P	**P**	**04 57 43.7**	**+0.8**
BPAW				IAmb	IAmb	04 57 46.3	
	comp=Z,4.2nm,0.9s						
CAST	**Castle Rocks**	**83.42**	**9**	P	**P**	**04 57 45.5**	**0.0**
CAST				IAmb	IAmb	04 57 49.0	
	comp=Z,4.5nm,1.0s						
SCRK	**Sand Creek**	**83.74**	**5**	P	**P**	**04 57 47.6**	**+0.3**
SCRK				IAmb	IAmb	04 57 51.2	
	comp=Z,2.6nm,0.9s						
YKA	**Yellowknife Ar**	**84.74**	**352**	P	**P**	**04 57 52.0**	**-0.2**
	comp=Z,1.3nm,0.9s,baz=10,slow=5.3,SNR=14						
	comp=Z,1.3nm,0.9s						
YKA	**Yellowknife Ar**	**84.74**	**352**	*ce*P	**P**	**04 57 53.9**	**+1.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NEW	**Newport**	**98.95**	**350**	LR	LR	05 48 13.9	
	comp=Z,47nm,18.3s,baz=271,slow=38						

ROM 27 04:48:33.7±0.1, 43°.007N±0°.003×13°.014E±0°.004, h8km, ML1.1/22, 3C-4D, Error ellipse: s-maj=0.3km s-min=0.3km az=212.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FEMA	**Monte Fema**	**0.05**	**150**	P	Pg	04 48 35.7	+0.1
FEMA				S	Sg	04 48 36.8	-0.2
FDMO	**Fiordimonte**	**0.06**	**61**	P	Pg	04 48 35.8	+0.2
FDMO				S	Sg	04 48 37.1	+0.1
CESI	**CESI - Serrava**	**0.08**	**268**	⇑P	Pg	04 48 36.3	+0.4
CESI				S	Sg	04 48 37.9	+0.5
CESI				AML	AML		
	comp=E,290μm,0.2s						
CESI				AML	AML		
	comp=N,461μm,0.1s						
CESI				AML	AML		
	comp=E,290μm,1.8s						
MC2	**Monte Cornacci**	**0.16**	**126**	P	Pg	04 48 38.1	+1.0
CSP1	**Cessapalombo**	**0.16**	**59**	⇑P	Pg	04 48 37.9	+0.7
CSP1				S	Sg	04 48 40.8	+1.2
NRCA	**Norcia**	**0.19**	**157**	P	Pg	04 48 38.2	+0.6
NRCA				S	Sg	04 48 41.5	+1.3
NRCA				AML	AML		
	comp=N,157μm,0.4s						
NRCA				AML	AML		
	comp=E,114μm,0.1s						
MMO1	**Montemonaco**	**0.25**	**115**	⇓P	Pg	04 48 39.4	+0.7
MMO1				S	Sb	04 48 43.9	-1.3
ATCC	**AVT- Casa Cast**	**0.33**	**303**	⇑P	Pb	04 48 41.1	-0.7
ATCC				S	Sb	04 48 46.6	-0.5
ATCC				AML	AML		
	comp=E,30μm,1.1s						
ATCC				AML	AML		
	comp=N,27μm,0.3s						
ATCC				AML	AML		
	comp=N,27μm,1.7s						
ATCC				AML	AML		
	comp=E,30μm,0.9s						
GAVE	**Gavelli**	**0.33**	**196**	⇓P	Pb	04 48 41.0	-0.7
GAVE				S	Sb	04 48 46.2	-1.0
GAVE				AML	AML		
	comp=E,47μm,0.8s						
GAVE				AML	AML		
	comp=N,51μm,0.2s						
GAVE				AML	AML		
	comp=E,47μm,0.8s						
EL6	**Elcito**	**0.33**	**11**	P	Pg	04 48 40.8	+0.6
EL6				S	Sb	04 48 46.2	-1.1
MF5	**Montefalcone A**	**0.33**	**93**	⇓P	Pb	04 48 41.4	-0.4
CING	**Cingoli**	**0.39**	**20**	⇓P	Pg	04 48 42.0	+0.6
CING				AML	AML		
	comp=N,95μm,0.1s						
CING				AML	AML		
	comp=E,74μm,0.2s						

*IDC **27** 06:08:45.5±0.8, 12°.85N×145°.60E, h0km, mb3.9/11, mbtmp3.9/11, MS3.3/3, Error ellipse: s-maj=24.6km s-min=15.8km az=72.0*
*NEIC **27** 06:08:47.2±1.0, 12°.59N±0°.09×145°.3E±0°.1, h10km±1km, mb4.6/52, Error ellipse: s-maj=19.1km s-min=13.7km az=248.0*

ISC 27 06:08:46.9±0.6, 12°.68N±0°.08×145°.47E±0°.10, h10km, n67, σ1§15/57, mb4.5/37, MS3.2/3, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.07**	**327**		**Pg**	**06 09 07.3**	**-0.3**
GUMO	**Guam**	**1.07**	**327**	Pn	**Pg**	**06 09 07.5**	**-0.1**
	91nm,0.3s,baz=154,slow=9.7,SNR=85						
GUMO				Sn	**Sb**	**06 09 22.0**	**+0.3**
	656nm,0.3s,baz=347,slow=18,SNR=15						
PATS	**Pohnpei**	**13.93**	**113**	Pn	**Pn**	**06 12 03.5**	**-0.9**
WAKE	**Wake Island**	**21.39**	**69**	P	**P**	**06 13 35.7**	**+0.8**
JOW	**Kunigami**	**21.41**	**314**	LR	LR	06 21 25.6	
	comp=Z,109nm,18.6s,baz=292,slow=36						
JGF	**Kuroka**	**23.97**	**344**	P	**P**	**06 13 59.8**	**-1.8**
JNU	**Nakatsue**	**24.33**	**329**	LR	LR	06 23 12.8	
	comp=Z,42nm,18.2s,baz=112,slow=36						
MJAR	**Matsushiro Arr**	**24.64**	**346**	P	**P**	**06 14 06.2**	**-1.5**
	1.0nm,0.7s,baz=168,slow=12,SNR=5.0						
MJAR				LR	LR	06 22 45.1	
	comp=Z,74nm,20.4s,baz=162,slow=34						
	1.0nm,0.7s						
YULB	**Yu-li**	**25.29**	**298**	P	**P**	**06 14 11.3**	**-2.4**
KSRS	**Korea Array**	**29.24**	**331**	P	**P**	**06 14 49.4**	**+0.4**
	0.3nm,0.6s,baz=144,slow=15,SNR=1.2						
	0.3nm,0.6s						
WRAB	**Tennant Creek**	**34.20**	**199**	P	**P**	**06 15 32.7**	**-0.2**
WRA	**Warramunga Arr**	**34.22**	**199**	P	**P**	**06 15 34.5**	**+1.6**
	1.9nm,0.8s,baz=20,slow=9.7,SNR=14						
	1.9nm,0.8s						
ASAR	**Alice Springs**	**37.85**	**197**	P	**P**	**06 16 06.1**	**+2.0**
	1.2nm,0.8s,baz=16,slow=10,SNR=10						
	1.2nm,0.8s						
CMAR	**Chiang Mai Arr**	**45.09**	**283**	P	**P**	**06 17 04.9**	**+1.2**
	0.9nm,0.3s,baz=86,slow=5.7,SNR=1.9						
	0.9nm,0.3s						
BBOO	**Buckleboo**	**46.12**	**191**	P	**P**	**06 17 09.6**	**-1.8**
BBOO				IAmb	IAmb	06 17 32.9	
	comp=Z,7.4nm,1.1s						
AMKA	**Amchitka**	**47.31**	**28**	P	**P**	**06 17 20.2**	**-0.4**
MKAR	**Makanchi Array**	**62.55**	**316**	P	**P**	**06 19 11.1**	**0.0**
	comp=Z,0.3nm,0.6s,baz=98,slow=6.0,SNR=3.4						
	comp=Z,0.3nm,0.6s						
G18K	**Tagagawik**	**64.93**	**22**	P	**P**	**06 19 27.3**	**+0.9**
G18K				IAmb	IAmb	06 19 30.4	
	comp=Z,3.5nm,0.9s						
E18K	**Tukpahlearik C**	**64.97**	**20**	P	**P**	**06 19 28.5**	**+1.9**
E18K				IAmb	IAmb	06 19 28.6	
	comp=Z,2.7nm,0.8s						
J19K	**Poorman**	**65.30**	**25**	P	**P**	**06 19 29.9**	**+1.1**
J19K				IAmb	IAmb	06 19 53.4	
	comp=Z,3.8nm,1.1s						
H19K	**Roundabout Mou**	**65.59**	**23**	P	**P**	**06 19 31.9**	**+1.2**
H19K				IAmb	IAmb	06 19 39.4	
	comp=Z,4.0nm,1.1s						
G19K	**Purcell Mounta**	**65.62**	**22**	P	**P**	**06 19 32.0**	**+1.1**
KURBB	**Kurchatov Arra**	**65.69**	**320**	P	**P**	**06 19 31.2**	**-0.4**
	comp=Z,1.0nm,0.5s,baz=102,slow=6.8,SNR=10						
	comp=Z,1.0nm,0.5s						
K20K	**Telida**	**65.70**	**25**	P	**P**	**06 19 32.7**	**+1.3**
J20K	**Nowinta River**	**65.97**	**25**		**P**	**06 19 34.8**	**+1.7**
J20K				IAmb	IAmb	06 19 38.2	
	comp=Z,3.6nm,0.9s						
E19K	**Redstone River**	**66.14**	**21**	P	**P**	**06 19 35.2**	**+1.0**
D19K	**Kuna River**	**66.31**	**20**	P	**P**	**06 19 35.7**	**+0.4**
D19K				IAmb	IAmb	06 19 41.3	
	comp=Z,4.2nm,1.0s						
PPLA	**Purkeypile**	**66.34**	**26**	P	**P**	**06 19 36.6**	**+0.8**
CAST	**Castle Rocks**	**66.56**	**26**		**P**	**06 19 37.9**	**+1.0**
H21K	**Melozitna Rive**	**67.04**	**23**		**P**	**06 19 41.4**	**+1.4**
H21K				IAmb	IAmb	06 19 44.1	
	comp=Z,3.8nm,0.9s						
BPAW	**Bear Paw Mtn.**	**67.24**	**25**	P	**P**	**06 19 42.1**	**+0.8**
TRF	**Thorofare Moun**	**67.33**	**26**	P	**P**	**06 19 43.4**	**+1.3**
MLY	**Manley**	**67.64**	**24**		**P**	**06 19 45.2**	**+1.3**
MLY				IAmb	IAmb	06 19 48.7	
	comp=Z,4.1nm,1.0s						
B21K	**Ikpikpuk River**	**67.94**	**19**	P	**P**	**06 19 47.4**	**+1.8**
B21K				IAmb	IAmb	06 19 53.0	
	comp=Z,4.5nm,1.0s						
E22K	**Anaktuvuk Pass**	**68.30**	**21**	P	**P**	**06 19 49.3**	**+1.3**
E22K				IAmb	IAmb	06 19 49.6	
	comp=Z,3.5nm,0.8s						
H23K	**Yukon River**	**68.37**	**24**	P	**P**	**06 19 49.9**	**+1.5**
H23K				IAmb	IAmb	06 19 52.2	
	comp=Z,3.7nm,1.0s						
G23K	**Bananza Creek**	**68.46**	**23**		**P**	**06 19 50.5**	**+1.5**
G23K				IAmb	IAmb	06 19 50.7	
	comp=Z,3.2nm,0.8s						
WRH	**Wood River Hil**	**68.56**	**25**	P	**P**	**06 19 49.7**	**+0.2**
HDA	**Harding Lake**	**69.02**	**25**	IAmb	IAmb	06 19 55.9	
	comp=Z,3.0nm,0.8s						
H24K	**Noodor Dome**	**69.03**	**24**	IAmb	IAmb	06 19 57.6	
	comp=Z,5.0nm,1.1s						
IL31		**69.14**	**25**	IAmb	IAmb	06 19 56.0	
	comp=Z,3.8nm,0.9s						
ILAR	**Eielson Array**	**69.14**	**25**	P	**P**	**06 19 53.1**	**-0.1**
ILAR	**Eielson Array**	**69.14**	**25**	P	**P**	**06 19 52.1**	**-1.1**
	comp=Z,2.2nm,0.8s,baz=256,slow=4.9,SNR=20						
	comp=Z,2.2nm,0.8s						
TOLK	**Toolik Lake Re**	**69.25**	**21**		**P**	**06 19 55.2**	**+1.3**
TOLK				IAmb	IAmb	06 20 02.8	
	comp=Z,3.8nm,1.0s						
C23K	**Itkillik River**	**69.31**	**19**	P	**P**	**06 19 55.2**	**+1.1**
G24K	**Hadweenzic Riv**	**69.43**	**23**	IAmb	IAmb	06 19 59.4	
	comp=Z,3.3nm,0.8s						
E24K	**Your Creek**	**69.46**	**22**	IAmb	IAmb	06 20 05.0	
	comp=Z,3.8nm,0.9s						
J26L	**Joseph Creek**	**70.47**	**26**	P	**P**	**06 20 02.1**	**+0.6**
BMAR	**Burnt Mountain**	**70.71**	**23**	P	**P**	**06 20 04.5**	**+1.6**
M27K	**Edge Creek, AK**	**70.82**	**28**	P	**P**	**06 20 04.6**	**+0.9**
BCAR	**Beaver Creek A**	**70.98**	**27**	P	**P**	**06 20 05.9**	**+1.3**
BVAR	**Borovoye Array**	**71.00**	**322**	P	**P**	**06 20 04.5**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=101,slow=7.7,SNR=4.1						
	comp=Z,0.7nm,0.5s						
G27K	**Doyon Strip**	**71.70**	**23**	P	**P**	**06 20 10.0**	**+1.2**
E27K	**Coleen River**	**71.98**	**22**		**P**	**06 20 11.6**	**+1.0**
F28M	**Old Crow**	**72.52**	**23**	IAmb	IAmb	06 20 16.0	
	comp=Z,4.1nm,0.8s						
L29M	**L29M**	**72.63**	**28**	IAmb	IAmb	06 20 17.5	
	comp=Z,3.8nm,0.8s						
H29M	**Whitestone**	**72.90**	**24**	P	**P**	**06 20 16.7**	**+0.7**
H29M				IAmb	IAmb	06 20 19.9	
	comp=Z,5.7nm,1.1s						
G29M	**Pine Creek**	**73.13**	**24**	IAmb	IAmb	06 20 22.4	
	comp=Z,5.8nm,1.0s						
G30M	**tAoh Zraii Nji**	**73.84**	**24**	IAmb	IAmb	06 20 25.4	
	comp=Z,5.9nm,0.9s						
G31M	**Satah River**	**74.60**	**24**		**P**	**06 20 26.9**	**+1.0**
INK	**Inuvik**	**74.98**	**22**	P	**P**	**06 20 29.0**	**+1.0**
INK				IAmb	IAmb	06 20 32.0	
	comp=Z,5.9nm,1.0s						
C36M	**Paulatuk**	**78.40**	**21**	P	**P**	**06 20 47.8**	**+0.4**
C36M				IAmb	IAmb	06 20 49.2	
	comp=Z,5.8nm,1.1s						
YKA	**Yellowknife Ar**	**83.39**	**27**	P	**P**	**06 21 13.9**	**-0.3**
	comp=Z,0.8nm,0.9s,baz=289,slow=5.7,SNR=8.7						
	comp=Z,0.8nm,0.9s						
FINES	**FINESS Array B**	**92.23**	**335**	P	**P**	**06 21 56.5**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=63,slow=4.6,SNR=4.1						
	comp=Z,1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**135.85**	**304**	PKP	**PKPdf**	**06 28 09.9**	**+0.8**
	comp=Z,0.4nm,0.7s,baz=52,slow=1.4,SNR=1.3						
DBIC	**Dimbokro**	**144.79**	**301**	PKP	**PKPab**	**06 28 24.1**	**+0.1**
	comp=Z,2.2nm,0.5s,baz=325,slow=3.0,SNR=5.6						
LPAZ	**La Paz**	**147.30**	**100**	PKPbc	**PKPdf**	**06 28 31.0**	**+0.9**
	comp=Z,0.9nm,0.5s,baz=5.2,slow=1.5,SNR=3.0						

*SNET **27** 06:12:01.2±0.9, 13°.47N×90°.49W, h20km±4km, ML3.4*
*CATAC **27** 06:12:01.4±1.2, 13°.45N×90°.58W, h38km±38km, ML3.4*
*GCG **27** 06:12:09.0±0.6, 14°.08N×90°.69W, h48km±14km, MD3.5*

ISC 27 06:12:00.9±1.8, 13°.47N±0°.07×90°.52W±0°.05, h23km±15km, n36, σ0§53/45, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.84**	**59**	*i* P	**Pb**	**06 12 16.5**	**-0.4**
LOAL	**Lomas de Alarc**	**0.89**	**54**	*eP*	**Pb**	**06 12 17.7**	**-0.1**
PCG	**Pacaya**	**0.92**	**355**	*eP*	**Pb**	**06 12 18.8**	**+0.5**
CEVE	**Cerro Verde**	**0.94**	**68**	*eP*	**Pb**	**06 12 18.5**	**-0.3**
CEVE				*eS*	**Sn**	**06 12 31.8**	**-0.1**
CEVE				IAML		06 12 35.2	
	comp=Z,1μm,0.3s						
SBLS	**San Blas**	**0.95**	**67**	*eP*	**Pb**	**06 12 18.5**	**-0.3**
RTR	**El Retiro**	**0.95**	**64**	*eP*	**Pb**	**06 12 18.7**	**-0.1**
SNJE	**San Jose**	**0.98**	**66**	*eP*	**Pb**	**06 12 18.9**	**-0.4**
FUG	**Fuego 3**	**1.02**	**342**	*eP*	**Pb**	**06 12 19.8**	**-0.1**
JAYA	**Jayaque - finc**	**1.06**	**80**	*eP*	**Pb**	**06 12 19.9**	**-0.8**
JAYA				*eS*	**Sb**	**06 12 33.9**	**-0.3**
JAYA				IAML		06 12 35.0	
	comp=Z,3μm,0.2s						
NBG	**Las Nubes**	**1.12**	**9**	*eP*	**Pb**	**06 12 22.6**	**+0.7**
GUNB	**GUNB**	**1.13**	**9**	*i* P	**Pn**	**06 12 20.8**	**-0.8**
GUNB				IAML		06 12 21.5	
	comp=Z,530nm,1.0s						
GUNB				*i* S	**Sb**	**06 12 36.6**	**+0.2**
CEDA	**San Andres**	**1.15**	**73**	*eS*	**Sn**	**06 12 36.4**	**-0.2**
LALI	**Alcalda de L**	**1.17**	**89**	*eP*	**Pn**	**06 12 21.9**	**0.0**
LALI				*eS*	**Sn**	**06 12 37.4**	**+0.3**
PMON	**Piamonte**	**1.20**	**78**	*eP*	**Pn**	**06 12 22.1**	**-0.3**
PIC2	**El Picacho**	**1.26**	**77**	*eP*	**Pn**	**06 12 23.4**	**+0.1**
SNET	**Serv Nac Est T**	**1.27**	**80**	*eP*	**Pn**	**06 12 23.1**	**-0.3**
SULM	**Suchitepequez,**	**1.31**	**309**	*eP*	**Pn**	**06 12 25.0**	**+1.3**
LOMA	**Loma Larga**	**1.33**	**82**	*eP*	**Pn**	**06 12 24.2**	**0.0**
IGN	**Direccin Gen**	**1.34**	**80**	*eP*	**Pn**	**06 12 24.3**	**0.0**
CHTG	**Tecpan**	**1.36**	**341**	*i* S	**Sn**	**06 12 42.7**	**+0.5**
AEIL	**Aeropuerto Ilo**	**1.39**	**81**	*eS*	**Sb**	**06 12 43.9**	**+0.4**
RTAL	**Retalhuleu**	**1.54**	**313**	*i* P	**Pn**	**06 12 26.2**	**-0.8**
RTAL				*i* S	**Sn**	**06 12 44.6**	**-1.8**
RTAL				IAML		06 12 58.1	
	comp=Z,230nm,1.0s						
PAVA	**Las Pavas**	**1.56**	**81**	*eP*	**Pn**	**06 12 27.4**	**0.0**
PAVA				IAML		06 12 54.6	
	comp=Z,241nm,0.3s						
ESQI	**Esquipulas**	**1.58**	**47**	*i* P	**Pn**	**06 12 27.2**	**-0.4**
ESQI				*i* S	**Sn**	**06 12 47.9**	**+0.6**
ESQI				IAML		06 12 48.2	
	comp=Z,190nm,1.0s						
STG3	**Santiaguito 3,**	**1.60**	**321**	*eP*	**Pn**	**06 12 27.9**	**0.0**
COEG	**Centro de Oper**	**1.61**	**85**	*eP*	**Pn**	**06 12 28.3**	**+0.3**
COEG				*eS*	**Sb**	**06 12 49.8**	**0.0**
SCLA	**Alcaldia de Sa**	**1.76**	**82**	*eP*	**Pn**	**06 12 30.4**	**+0.3**
QUIS	**Sacapulas**	**1.89**	**343**	*i* P	**Pn**	**06 12 32.3**	**+0.4**
QUIS				IAML		06 12 49.4	
	comp=Z,330nm,1.0s						
QUIS				*i* S	**Sn**	**06 12 54.5**	**-0.6**
COEB	**Comit de Eme**	**1.94**	**89**	*eP*	**Pn**	**06 12 32.8**	**+0.2**
COEB				*eS*	**Sn**	**06 12 56.9**	**+0.6**
COEB				IAML		06 13 01.3	
	comp=Z,214nm,0.3s						
AVPA	**Panzos**	**2.10**	**24**	*i* P	**Pn**	**06 12 34.8**	**+0.2**
AVPA				IAML		06 12 43.6	
	comp=Z,46nm,1.0s						
LCND	**La Caada**	**2.57**	**93**	*eP*	**Pn**	**06 12 41.1**	**0.0**
TGUH	**Tegucigalpa,Un**	**3.21**	**79**	*i* P	**Pn**	**06 12 50.1**	**0.0**
TGUH				IAML		06 13 51.4	
	comp=Z,40nm,1.0s						
PKGN	**Cerro Pekin**	**3.55**	**103**	*i* P	**Pn**	**06 12 54.9**	**+0.3**
PKGN				IAML		06 13 43.8	
	comp=Z,190nm,1.0s						
PACN	**Al O del Volca**	**3.76**	**104**	*i* P	**Pn**	**06 12 58.3**	**+0.7**
PACN				IAML		06 13 48.5	
	comp=Z,170nm,1.0s						
ROCN	**Rota Cerro Neg**	**3.81**	**104**	*i* P	**Pn**	**06 12 58.1**	**-0.1**
RB213	**Mirador 2 Volc**	**4.50**	**109**	*i* P	**Pn**	**06 13 08.1**	**+0.3**

*IDC **27** 06:15:27.6±8.1, 29°.94S×178°.68W, h98km±65km, mb3.7/2, mbtmp4.1/3, ML3.7/1, Error ellipse: s-maj=60.0km s-min=33.5km az=52.0*

ISC 27 06:15:27.9±1.4, 30°.0S±0°.1×178°.7W±0°.3, h100km, n6, σ1§04/7, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**8.97**	**201**	P	**Pn**	**06 17 35.4**	**+0.8**
	0.7nm,0.3s,baz=322,slow=7.4,SNR=10						
URZ				S	**Sn**	**06 19 12.3**	**-1.4**
	6.8nm,0.4s,baz=330,slow=23,SNR=9.1						
	14nm,1.1s						
WRA	**Warramunga Arr**	**43.44**	**272**	P	**P**	**06 23 21.7**	**+0.5**
	0.9nm,0.3s,baz=110,slow=8.1,SNR=50						
	0.9nm,0.3s						
QSPA	**South Pole Qui**	**60.15**	**180**	P	**P**	**06 25 25.4**	**+0.6**
	1.9nm,1.0s,baz=40,slow=2.4,SNR=5.9						
	1.9nm,1.0s						
FINES	**FINESS Array B**	**144.51**	**340**	PKP	**PKPab**	**06 34 50.2**	**-0.3**
	1.1nm,0.3s,baz=46,slow=4.3,SNR=20						
HFS	**Hagfors**	**148.68**	**348**	PKPbc	**PKPbc**	**06 35 02.1**	**-0.7**
	2.5nm,1.1s,baz=23,slow=7.8,SNR=2.2						
AKASG	**Malin Array Be**	**150.56**	**323**	PKPbc	**PKPbc**	**06 35 06.9**	**-0.8**
	0.8nm,0.6s,baz=44,slow=3.0,SNR=5.1						

*MOS **27** 06:16:30.7±0.8, 15°.95S×173°.22E, h10km, mb5.1/28, Error ellipse: s-maj=10.5km s-min=9.1km az=119.4*
*IDC **27** 06:16:30.3±0.5, 16°.02S×173°.35E, h0km, mb4.7/22, mbtmp4.7/22, MS4.3/44, Error ellipse: s-maj=19.1km s-min=13.4km az=99.0*
*BJI **27** 06:16:31.5±0.0, 15°.58S×173°.38E, h7km, mb5.0/54, mB5.3/34, Ms4.6/9, Ms7 4.3/12*
*NEIC **27** 06:16:32.5±1.3, 15°.83S±0°.05×173°.39E±0°.08, h10km±1km, mb5.2/204, Error ellipse: s-maj=15.3km s-min=6.2km az=119.0*
*NOU **27** 06:16:35.3, 15°.89S×173°.00E, h12km, mb5.0/53, Fiji Islands Region*
*GCMT **27** 06:16:35.5±0.1, 15°.90S±0°.01×173°.33E±0°.01, h12km, MW5.1/135, Moment Tensor Solution. s85,c119; s135,c223; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-6.41±.08; Mθθ4.34±.09; Mϕϕ2.06±.08; Mrθ-0.37±.26; Mθϕ-2.76±.07; Mrϕ0.24±.27; Best double couple: M₀6.31300×10¹⁶ NP1:ϕs124.00000°, δ47.00000°, λ-90.00000°. NP2:ϕs304.00000°, δ43.00000°, λ-90.00000°. Principal axes: T 6.2010, Plg2.0000°, Azm214.0000°; N 0.2140, Plg0.0000°, Azm124.0000°; P -6.4250, Plg88.0000°, Azm33.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 06:16:33.1±0.6, 15°.97S±0°.06×173°.42E±0°.05, h18km±3km, h18km:pP-P, n673, σ0§92/581, mb5.1/155, MS4.5/48, 12C-12D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.77**	**112**	Pn	**Pn**	**06 17 46.9**	**+2.6**
MSVF	**Nonsavu**	**4.77**	**112**	*eP*	**Pn**	**06 17 47.0**	**+2.8**
PINNC	**Pines Island,**	**8.69**	**220**	Pn	**Pn**	**06 18 38.6**	**+0.6**
DZM	**Mont Dzumac**	**8.97**	**226**	*eP*	**Pn**	**06 18 42.8**	**+0.9**
	174nm,1.6s						
DZM				*e*LR	LR	06 20 38.5	
	10μm,26.4s						
FUNA	**Funafuti**	**9.30**	**38**	Pn	**Pn**	**06 18 43.5**	**-2.9**
AFI	**Afiamalu**	**14.45**	**84**	Pn	**Pn**	**06 19 56.5**	**-0.5**
AFI	**Afiamalu**	**14.45**	**84**	P	**Pn**	**06 19 56.5**	**-0.5**
HNR	**Honiara**	**14.66**	**295**	LR	LR	06 25 04.4	
	comp=Z,3μm,19.6s,baz=132,slow=35						
RAO	**Raoul Island**	**15.44**	**150**	LR	LR	06 24 51.1	
	comp=Z,511nm,20.5s,baz=317,slow=32						
NIUE	**Niue**	**16.18**	**103**	Pn	**Pn**	**06 20 20.3**	**+0.6**
URZ	**Urewera**	**22.45**	**172**	P	**P**	**06 21 31.0**	**-0.1**
	14nm,0.7s,baz=66,slow=6.5,SNR=5.7						
URZ				LR	LR	06 28 12.9	
	comp=Z,2μm,21.9s,baz=47,slow=31						
	14nm,0.7s						
RTZ	**Ruatahuna**	**22.78**	**173**	P	**P**	**06 21 36.6**	**+1.8**
EIDS	**Eidsvold**	**22.87**	**242**	P	**P**	**06 21 36.2**	**+0.4**
EIDS	**Eidsvold**	**22.87**	**242**	P	**P**	**06 21 36.1**	**+0.2**
EIDS					**pP**	**06 21 37.4**	**-2.6**
EIDS				IAmb	IAmb	06 21 38.0	
	comp=Z,66nm,1.2s				

comp=Z,1μm,27.0s
PPT2 eLR LR 06 32 55.1
comp=Z,766nm,26.8s
PPT2 eLR LR 06 32 55.6
comp=Z,629nm,29.5s
PPT Papeete 35.43 98 LR LR 06 34 28.5
comp=Z,143nm,20.9s,baz=266,slow=30
HTT Hallett 35.63 234 P **P 06 23 30.5 +0.3**
TBI Tubuai 35.64 108 eP **P 06 23 32.0 +1.7**
comp=Z,137nm,27.0s
TBI eS **S 06 29 05.8 -0.3**
comp=Z,708nm,29.5s
TBI eSS **SS 06 31 40.4 -1.1**
comp=Z,4μm,28.2s
TBI eLR LR 06 32 56.8
comp=Z,3μm,30.0s
TBI eLR LR 06 33 00.1
comp=Z,1μm,29.2s
H11N1 WAKE ISLAND Hy 36.03 350 T T 07 01 39.5
baz=170
H11N3 WAKE ISLAND Hy 36.03 350 T T 07 01 42.4
baz=170
H11N2 WAKE ISLAND Hy 36.05 350 T T 07 01 42.4
baz=170
WHYH Whyalla 36.55 236 P **P 06 23 38.6 +0.6**
OOD Oodnadatta 36.80 245 P **P 06 23 40.4 +0.2**
WR0 Warramunga Arr 37.14 258 P **P 06 23 41.9 -1.3**
WB0 Warramunga Arr 37.28 258 P **P 06 23 43.2 -1.2**
WB0 IAmb IAmb 06 23 44.1
comp=Z,36nm,1.3s
WB2 Warramunga Arr 37.32 258 P **P 06 23 43.4 -1.3**
WRAB Tennant Creek 37.32 258 P **P 06 23 43.8 -1.0**
WRAB Tennant Creek 37.32 258 P **P 06 23 43.8 -1.0**
WRAB pmax pmax
comp=Z,24nm,1.3s
WRA Warramunga Arr 37.33 258 P **P 06 23 43.4 -1.5**
WRA Warramunga Arr 37.33 258 P **P 06 23 43.1 -1.8**
comp=Z,9.5nm,1.0s,baz=89,slow=7.7,SNR=29
WRA PcP **PcP 06 26 03.9 -0.1**
comp=Z,1.2nm,1.0s,baz=87,slow=2.9,SNR=4.9
WRA LR LR 06 37 23.9
comp=Z,477nm,21.9s,baz=90,slow=34
comp=Z,9.5nm,1.0s
WRA Warramunga Arr 37.33 258 P **P 06 23 43.4 -1.5**
WRA pmax pmax
comp=Z,2.0nm,1.3s
BBOO Buckleboo 37.70 237 P **P 06 23 47.2 -0.6**
BBOO IAmb IAmb 06 23 51.3
comp=Z,29nm,1.1s
AS01 Alice Springs 37.82 252 P **P 06 23 48.3 -0.7**
AS31 Alice Springs 37.86 252 P **P 06 23 48.9 -0.5**
ASAR Alice Springs 37.86 252 P **P 06 23 48.6 -0.8**
ASAR Alice Springs 37.86 252 P **P 06 23 48.2 -1.1**
comp=Z,14nm,0.7s,baz=81,slow=8.8,SNR=139
ASAR PcP **PcP 06 26 05.0 -0.6**
comp=Z,3.2nm,0.9s,baz=106,slow=3.4,SNR=6.9
ASAR LR LR 06 38 17.3
comp=Z,1μm,19.2s,baz=90,slow=35
comp=Z,14nm,0.7s
MULG Mulgathing 38.70 241 P **P 06 23 56.1 -0.1**
GUMO Guam 40.73 315 LR LR 06 39 38.3
comp=Z,73nm,20.9s,baz=140,slow=34
MTN Manton Dam 41.03 269 P **P 06 24 15.1 -0.6**
WRKA Warakurna 43.05 250 P **P 06 24 31.8 -0.5**
FORT Forrest 43.87 242 P **P 06 24 38.3 -0.5**
FORT IAmb IAmb 06 24 39.3
comp=Z,91nm,1.4s
SWI Sorong 44.19 286 P **P 06 24 41.8 +0.3**
FITZ Fitzroy Crossi 45.64 260 P **P 06 24 52.9 -0.1**
FITZ Fitzroy Crossi 45.64 260 P **P 06 24 52.5 -0.5**
SANI Sanana 48.70 282 P **P 06 25 17.1 +0.1**
SANI Sanana 48.70 282 P **P 06 25 16.6 -0.4**
comp=Z,32nm,1.2s,comp=Z,3μm
SANI pP **pwP 06 25 29.1 +3.9**
comp=Z,32nm,1.2s,comp=Z,3μm
BATI Baumata 48.71 270 LR LR 06 44 40.7
comp=Z,356nm,19.6s,baz=142,slow=35
KMBL Kambalda 49.20 242 P **P 06 25 20.0 -0.6**
PSA00 Pilbara Seismi 50.84 255 P **P 06 25 33.2 +0.1**
PSA00 Pilbara Seismi 50.84 255 P **P 06 25 33.0 -0.2**
PSA00 IAmb IAmb 06 25 33.9
comp=Z,50nm,1.5s
PSA00 Pilbara Seismi 50.84 255 IAmb IAmb 06 25 33.8
comp=Z,87nm,1.5s
MBWA Marble Bar 50.97 256 P **P 06 25 34.1 0.0**
MBWA Marble Bar 50.97 256 P **P 06 25 33.8 -0.4**
MEEK Meekatharra 51.82 249 P **P 06 25 40.0 -0.5**
GTOI Gorontalo 52.41 283 P **P 06 25 44.6 -0.4**
comp=Z,7.1nm,0.9s,comp=Z,186nm
JCJ Chichijima 52.46 324 LR LR 06 44 17.8
comp=Z,83nm,20.6s,baz=153,slow=32
NWAO Narrogin (SRO) 53.27 241 P **P 06 25 50.6 -0.5**
NWAO Narrogin (SRO) 53.27 241 LR LR 06 48 08.7
comp=Z,636nm,19.3s,baz=72,slow=36
NWAO Narrogin (SRO) 53.27 241 P **P 06 25 50.6 -0.5**
NWAO pmax pmax
comp=Z,61nm,1.1s
KAPI Kappang 53.74 276 LR LR 06 47 00.0
comp=Z,130nm,20.4s,baz=91,slow=34
TOLI2 Tolitoli 54.67 283 P **P 06 26 01.1 -0.5**
TOLI2 Tolitoli 54.67 283 P **P 06 26 00.3 -1.2**
TOLI2 IAmb IAmb 06 26 01.3
comp=Z,18nm,1.1s
MPSI Mapaga 55.23 282 P **P 06 26 06.3 +0.6**
comp=Z,111nm,0.9s
JHJ Hachijo jima 2 58.44 327 LR LR 06 45 56.7
comp=Z,84nm,21.7s,baz=120,slow=30
INU Inuyama 61.61 327 P **P 06 26 50.8 +1.0**
INU Inuyama 61.61 327 P **P 06 26 48.5 -1.2**
INU IAmb IAmb 06 26 53.2
comp=Z,22nm,1.3s
JGF Kuroka 61.62 327 P **P 06 26 48.9 -1.0**
VNDA Vanda 61.85 183 P **P 06 26 50.7 -0.1**
VNDA Vanda 61.85 183 P **P 06 26 50.4 -0.4**
comp=Z,3.1nm,1.3s,baz=359,slow=5.6,SNR=5.1
VNDA LR LR 06 48 58.7
comp=Z,557nm,21.7s,baz=14,slow=32
comp=Z,3.1nm,1.3s
VNDA Vanda 61.85 183 P **P 06 26 50.7 -0.1**
VNDA pmax pmax
comp=Z,17nm,1.7s
MJAR Matsushiro Arr 61.91 328 P **P 06 26 51.7 -0.1**
comp=Z,17nm,1.0s,baz=158,slow=6.8,SNR=16
comp=Z,17nm,1.0s
MAJO Matsushiro 61.91 328 P **P 06 26 52.3 +0.5**
MAJO Matsushiro 61.91 328 P **P 06 26 51.4 -0.4**
MAJO IAmb IAmb 06 26 55.0
comp=Z,26nm,1.1s
MAJO Matsushiro 61.91 328*d* iP **P 06 26 51.6 -0.2**
MAJO pmax pmax
comp=Z,32nm,1.1s
MJB9 Matsu-Tunnel 61.92 328 P **P 06 26 51.1 -0.7**
MJB9 IAmb IAmb 06 26 55.0
comp=Z,25nm,1.1s
SBA Scott Base 62.00 182 P **P 06 26 52.3 +0.5**
SBA Scott Base 62.00 182 P **P 06 26 52.3 +0.5**
SBA pmax pmax
comp=Z,56nm,1.6s
JMN Monobe 62.15 323 P **P 06 26 54.7 +1.2**
JMN Monobe 62.15 323 P **P 06 26 52.5 -1.0**
SBUM Sibu 63.17 281 P **P 06 26 59.2 -1.4**
JNU Nakatsue 63.51 321 P **P 06 27 03.1 +0.6**
JNU Nakatsue 63.51 321 IAmb IAmb 06 27 04.7
comp=Z,40nm,1.5s
JNU Nakatsue 63.51 321 LR LR 06 52 38.8
comp=Z,33nm,18.8s,baz=114,slow=34
YULB Yu-li 64.23 306 P **P 06 27 07.6 +0.1**
YULB Yu-li 64.23 306 IAmb IAmb 06 27 21.4
comp=Z,22nm,1.2s
NACB Ninganchiao 64.43 307 P **P 06 27 08.5 -0.2**
YHNB Yeheng 64.86 308 P **P 06 27 11.7 0.0**
LEM Lembang 64.93 270 LR LR 06 55 25.3
comp=Z,143nm,20.1s,baz=162,slow=36
TNG Tangerang 66.02 270 P P 06 27 28.1 +8.8
TNG P **P** 06 27 28.1 +8.8
ASAJ Asahikawa 66.09 336 P **P 06 27 19.2 +0.2**
comp=Z,5.2nm,0.9s,baz=241,slow=18,SNR=3.3
ASAJ LR LR 06 50 24.1
comp=Z,282nm,21.9s,baz=176,slow=31
comp=Z,5.2nm,0.9s
KSRS Korea Array 68.22 322 P **P 06 27 32.8 +0.1**
comp=Z,7.1nm,1.0s,baz=142,slow=6.1,SNR=18
KSRS LR LR 06 56 19.3
comp=Z,53nm,18.7s,baz=130,slow=35
comp=Z,7.1nm,1.0s
KSAR Wonju Array Be 68.24 322 P **P 06 27 32.3 -0.5**
KSAR Wonju Array Be 68.24 322 P **P 06 27 32.3 -0.5**
KS19 Wonju Array Si 68.29 322 P **P 06 27 32.9 -0.3**
KS19 IAmb IAmb 06 27 47.0
comp=Z,23nm,1.3s
SHEM Shemya Is, Ala 68.41 0 LR LR 06 51 20.8
comp=Z,153nm,20.9s,baz=128,slow=30
YSS Yuzh-Sakhalins 68.43 338 P **P 06 27 32.8 -1.0**
YSS Yuzh-Sakhalins 68.43 338 *eP* **P 06 27 34.4 +0.6**
YSS pmax pmax
comp=Z,200nm,3.1s
INCN Inchon 69.00 322 P **P 06 27 37.8 +0.1**
INCN Inchon 69.00 322 P **P 06 27 37.8 +0.1**
INCN pmax pmax
comp=Z,17nm,0.4s
DLV T Lat 69.96 289 P **P 06 27 45.5 +1.2**
MSHR Mys Shultsa 70.03 328 ⇓*e*P **P 06 27 43.2 -0.7**
MSHR pmax pmax
comp=Z,25nm,1.5s
PEA0B Petropavlovsk- 70.11 350 P **P 06 27 44.3 +0.1**
PEA0B Petropavlovsk- 70.11 350 P **P 06 27 44.3 +0.1**
PEA0B pmax pmax
comp=Z,95nm,1.6s
PETK Petropavlovsk- 70.11 350 P **P 06 27 44.2 0.0**
PETK Petropavlovsk- 70.11 350 P **P 06 27 44.5 +0.3**
comp=Z,10nm,0.9s,baz=121,slow=7.4,SNR=11
PETK LR LR 06 53 45.8
comp=Z,338nm,20.2s,baz=147,slow=32
comp=Z,10nm,0.9s
NIKH Nikolski High 70.34 11 P **P 06 27 44.4 -1.1**
baz=198
NJ2 Nanjing 70.78 313 *e*P **P 06 27 49.0 +0.3**
NJ2 pP **pP 06 27 52.0 -1.6**
NJ2 pmax pmax
comp=Z,25nm,1.1s
NJ2 pmax pmax
comp=Z,110nm,5.0s
USA0B Ussuriysk Arra 70.81 330 P **P 06 27 47.9 -0.7**
USA0B IAmb IAmb 06 27 52.7
comp=Z,16nm,1.1s
USA0B Ussuriysk Arra 70.81 330 P **P 06 27 47.9 -0.7**
USA0B pmax pmax
comp=Z,16nm,1.2s
USRK Ussuriysk Ar. 70.81 330 P **P 06 27 48.2 -0.4**
USRK Ussuriysk Ar. 70.81 330 P **P 06 27 48.8 +0.2**
comp=Z,9.9nm,1.1s,baz=94,slow=6.3,SNR=9.7
USRK LR LR 06 54 23.1
comp=Z,129nm,21.3s,baz=143,slow=32
comp=Z,9.9nm,1.1s
RPN Rapa Nui 71.75 114 LR LR 06 53 04.9
comp=Z,55nm,20.8s,baz=278,slow=31
MDJ Mudanjiang 72.29 329 P **P 06 27 59.4 +1.9**
MDJ Mudanjiang 72.29 329 P **P 06 27 58.5 +1.0**
MDJ pP pP 06 28 01.8 -0.6
MDJ PP **PP 06 30 43.5 +4.9**
MDJ S **S 06 37 24.0 +4.2**
MDJ ScS **ScS 06 38 04.5 +1.3**
MDJ pmax pmax
comp=Z,9.0nm,1.1s
MDJ pmax pmax
comp=Z,220nm,4.3s
MDJ LR LR
comp=Z,150nm,17.9s
MDJ LR LR
comp=Z,120nm,18.6s
MDJ LR LR
comp=Z,260nm,17.5s
FALS False Pass 73.24 14 P **P 06 28 01.0 -1.9**
baz=203
WHN Wuhan 73.24 309 ⇑P **P 06 28 04.3 +0.8**
WHN pmax pmax
comp=Z,76nm,1.0s
P08K Saint George I 73.69 10 P **P 06 28 05.2 -0.3**
baz=197
CN2 Changchun 73.88 326 *e*P **P 06 28 07.0 +0.1**
CN2 *e*pP pwP 06 28 17.3 +2.0
CN2 eS **SKiKP 06 37 34.8 -0.6**
CN2 pmax pmax
comp=Z,20nm,1.1s
CN2 pmax pmax
comp=Z,400nm,3.0s
UBPT Khong Chiam 73.92 291 P **P 06 28 08.6 +0.8**
UBPT Khong Chiam 73.92 291 P **P 06 28 07.5 -0.4**
QSPA South Pole Qui 74.07 180 P **P 06 28 07.7 -0.3**
QSPA IAmb IAmb 06 28 08.8
comp=Z,29nm,1.1s
QSPA South Pole Qui 74.07 180 P **P 06 28 07.4 -0.6**
comp=Z,20nm,1.0s,baz=16,slow=1.5,SNR=42
comp=Z,20nm,1.0s
SPIA Saint Paul Isl 74.13 9 P **P 06 28 07.6 -0.5**
baz=196
BNX BinXian 74.18 328 ⇑P **P 06 28 08.8 +0.1**
BNX pmax pmax
comp=Z,9.0nm,1.2s
BNX pmax pmax
comp=Z,99nm,4.2s
TIA Tai'an 74.28 316 ⇓P **P 06 28 09.5 0.0**
TIA pmax pmax
comp=Z,8.0nm,1.0s
SDPT Sand Point 74.40 15 P **P 06 28 09.0 -0.7**
baz=206
IPM Ipoh 74.41 279 P **P 06 28 11.4 +0.7**
IPM Ipoh 74.41 279 P **P 06 28 10.1 -0.7**
KLR Kul'dur 74.66 333 P **P 06 28 11.7 +0.3**
comp=Z,6.3nm,1.1s,baz=104,slow=6.7,SNR=7.2
KLR LR LR 06 54 57.8
comp=Z,147nm,21.6s,baz=144,slow=31
comp=Z,6.3nm,1.1s
KLR Kul'dur 74.66 333*d* iP **P 06 28 12.1 +0.7**
KLR pmax pmax
comp=Z,12nm,1.3s
KULM Kulim 75.01 280 P **P 06 28 13.7 -0.5**
KULM IAmb IAmb 06 28 15.8
comp=Z,68nm,1.8s
S14K Fog Glacier 75.47 15 P **P 06 28 14.6 -1.4**
baz=207
CHIR Chirikof Islan 76.12 17 P **P 06 28 18.9 -0.7**
baz=211
HNS HongShan 76.56 316 ⇓P **P 06 28 23.5 +1.0**
HNS eS **S 06 38 07.5 -0.5**
HNS pmax pmax
comp=Z,22nm,1.2s
HNS pmax pmax
comp=Z,250nm,4.6s
HNS LR LR
comp=Z,110nm,20.7s
HNS LR LR
comp=Z,110nm,19.1s
LYN LuoYang 76.64 312 ⇓P **P 06 28 23.8 +0.7**
LYN pmax pmax
comp=Z,70nm,1.1s
LYN pmax pmax
comp=Z,290nm,3.7s
GSI Gunungsitoli 76.76 275 P **P 06 28 24.5 +0.2**
GSI Gunungsitoli 76.76 275 P **P 06 28 23.6 -0.6**
ENH Enshi 76.79 307 P **P 06 28 25.1 +1.0**
ENH Enshi 76.79 307 P **P 06 28 24.4 +0.4**
BJT Baijiatuau 77.03 318 P **P 06 28 27.2 +2.1**
BJT Baijiatuau 77.03 318 P **P 06 28 24.7 -0.4**
BJT Baijiatuau 77.03 318 P **P 06 28 24.7 -0.4**
BJT pmax pmax
comp=Z,12nm,1.0s
SRIT Nakonsritamara 77.03 283 P **P 06 28 26.9 +1.2**
SRIT Nakonsritamara 77.03 283 P **P 06 28 25.5 -0.2**
BJI Beijing 77.03 319 P **P 06 28 26.3 +1.1**
BJI S **S 06 38 19.5 +6.4**
BJI pmax pmax
comp=Z,7.0nm,1.0s
BJI pmax pmax
comp=Z,60nm,3.9s
R16K Pilot Point 77.11 16 P **P 06 28 24.7 -0.5**
baz=209
SII Sitkinak Islan 77.17 18 P **P 06 28 24.6 -1.0**
baz=212
HEH HeiHe 77.33 332 *e*P **P 06 28 26.8 +0.2**
HEH pmax pmax
comp=Z,7.0nm,1.0s
HEH pmax pmax
comp=Z,100nm,6.9s
GYA Guiyang 77.34 302 ⇑P **P 06 28 28.5 +1.1**
GYA pmax pmax
comp=Z,29nm,1.5s
MA2 Magadan 77.50 348 LR LR 06 57 14.6
comp=Z,244nm,21.3s,baz=159,slow=32
SLVN Son La 77.59 297 P **P 06 28 27.8 -0.9**
SLVN IAmb IAmb 06 28 31.5
comp=Z,26nm,1.6s
O14K Tigyukauivet M 77.75 13 P **P 06 28 28.2 -0.5**
baz=205
M11K Mekoryuk 77.84 10 P **P 06 28 29.7 +0.5**
baz=200
R18K Karluk 77.95 17 P **P 06 28 29.5 -0.3**
baz=212
OHAK Old Harbor 78.00 18 P **P 06 28 30.4 +0.2**
baz=213
O15K Ungalikthiuk R 78.00 14 P **P 06 28 29.8 -0.3**
baz=206
N14K Kuskokwak Cree 78.27 13 P **P 06 28 31.8 +0.3**
baz=204
P16K Nushagak River 78.30 15 P **P 06 28 31.9 +0.1**
baz=208
Q16K King Salmon 78.32 15 P **P 06 28 31.9 0.0**
baz=209
M13K Dall Lake 78.39 12 P **P 06 28 33.0 +0.8**
baz=203
LHMI Lhok Sumawe 78.50 279 P **P 06 28 32.6 -1.3**
KDAK Kodiak Island 78.67 18 P **P 06 28 34.5 +0.6**
baz=213
KDAK Kodiak Island 78.67 18 LR LR 06 57 04.1
comp=Z,415nm,20.6s,baz=229,slow=31
O16K Kokwok River B 78.77 14 P **P 06 28 34.6 +0.2**
baz=208
P17K Kvichak River 78.83 15 P **P 06 28 33.8 -0.9**
baz=210
N15K Kwethluk River 78.83 13 P **P 06 28 35.3 +0.6**
N15K IAmb IAmb 06 28 44.1
comp=Z,52nm,1.3s
N15K Kwethluk River 78.83 13 P **P 06 28 34.3 -0.4**
baz=206
M14K Bethel 78.97 12 IAmb IAmb 06 28 39.5
comp=Z,36nm,1.2s
M14K Bethel 78.97 12 P **P 06 28 35.6 +0.1**
baz=204
O17K Koliganek Bris 79.17 15 P **P 06 28 36.9 +0.3**
baz=209
P18K Big Mountain, 79.31 16 P **P 06 28 37.4 0.0**
P18K IAmb IAmb 06 28 45.6
comp=Z,30nm,1.4s
P18K Big Mountain, 79.31 16 P **P 06 28 37.3 -0.1**
baz=211
Q19K Cape Douglas, 79.34 17 P **P 06 28 37.5 -0.1**
baz=212
L14K Kuka Creek 79.37 11 P **P 06 28 38.1 +0.5**
baz=203
N16K Nishlik Lake 79.40 14 P **P 06 28 37.8 -0.1**
baz=207
Q20K Shuyak Island 79.42 17 P **P 06 28 38.5 +0.6**
baz=213
K13K Kusilvak Mount 79.56 10 P **P 06 28 38.1 -0.6**
K13K IAmb IAmb 06 28 48.7
comp=Z,37nm,1.2s
K13K Kusilvak Mount 79.56 10 P **P 06 28 38.4 -0.2**
baz=201
O18K Koktuh Hills 79.72 15 P **P 06 28 39.5 0.0**
baz=211
PHRA Phrae 79.76 293 P **P 06 28 42.3 +1.6**
N17K Nushagak Hills 79.81 14 P **P 06 28 39.3 -0.8**
baz=209
M16K Timber Creek 79.85 13 P **P 06 28 41.2 +0.9**
M16K IAmb IAmb 06 28 45.2
comp=Z,31nm,1.2s
M16K Timber Creek 79.85 13 P **P 06 28 39.4 -0.8**
baz=207
ZEA Zeya 79.87 334 *e*P **P 06 28 41.9 +1.4**
ZEA pmax pmax
comp=Z,10.0nm,1.2s
L15K Ungalak Mounta 79.91 12 P **P 06 28 40.2 -0.3**
baz=204
P19K Oil Pt 80.07 16 P **P 06 28 40.9 -0.6**
baz=212
O19K Port Alsworth 80.24 16 IAmb IAmb 06 28 45.7
comp=Z,19nm,1.0s
O19K Port Alsworth 80.24 16 P **P 06 28 41.8 -0.5**
baz=211
CRAI Chiangrai 80.25 294 IAmb IAmb 06 28 45.8
comp=Z,28nm,1.3s
N18K Kilae Creek 80.26 15 P **P 06 28 41.3 -1.2**
baz=210
GAMB Gambell 80.32 7 P **P 06 28 42.4 -0.3**
baz=194
SEY Seymchan 80.35 350 P **P 06 28 42.3 -0.6**
comp=Z,4.1nm,0.8s,baz=160,slow=6.8,SNR=8.5
SEY LR LR 06 58 33.4
comp=Z,506nm,21.7s,baz=166,slow=31
comp=Z,4.1nm,0.8s
SEY Seymchan 80.35 350 ⇓*i*P **P 06 28 42.6 -0.3**
SEY pmax pmax
comp=Z,14nm,1.4s
L16K Owhat River 80.35 13 P **P 06 28 42.6 -0.4**
baz=206
HHC Hu-ho-hao-te 80.44 317 *e*P **P 06 28 41.3 -2.8**
HHC pP pP 06 28 45.3 -3.7
HHC sP pwP 06 28 53.0 +0.5
HHC pmax pmax
comp=Z,25nm,0.7s
HHC pmax pmax
comp=Z,96nm,4.7s
K15K Wolf Creek Mou 80.47 12 IAmb IAmb 06 28 48.2
comp=Z,35nm,1.1s
K15K Wolf Creek Mou 80.47 12 P **P 06 28 43.9 +0.3**
baz=204,SNR=5.4
HOM Homer 80.51 17 P **P 06 28 43.4 -0.4**
baz=214
J14K Nanvaranak Lak 80.51 11 P **P 06 28 43.6 -0.1**
baz=202
M17K Holitna River 80.53 14 P **P 06 28 43.4 -0.5**
baz=208
O20K Slope Mountain 80.59 16 P **P 06 28 43.4 -1.0**
baz=213
N19K Bonanza Creek 80.73 15 P **P 06 28 44.2 -0.9**
baz=211
BRSE Bradley Lake S 80.84 17 P **P 06 28 45.4 -0.3**
baz=215
SBC Santa Barbara 80.88 50 P **P 06 28 45.2 -1.2**
baz=244
CMAR Chiang Mai Arr 80.89 292 P **P 06 28 46.8 0.0**
CMAR Chiang Mai Arr 80.89 292 P **P 06 28 48.1 +1.3**
comp=Z,8.8nm,0.9s,baz=117,slow=3.7,SNR=38
CMAR LR LR 07 06 16.4
comp=Z,28nm,19.1s,baz=110,slow=37
comp=Z,8.8nm,0.9s
M18K Stony River 80.98 14 P **P 06 28 46.2 -0.2**
baz=210
L17K Donlin 80.98 13 P **P 06 28 45.8 -0.5**
baz=208
PKM Mcpherson Peak 81.01 50 P **P 06 28 46.7 -0.7**
baz=244
CHTO Chiang Mai 81.01 292 P **P 06 28 46.3 -1.2**
CHTO IAmb IAmb 06 28 49.8
comp=Z,37nm,1.4s
CHTO Chiang Mai 81.01 292 P **P 06 28 46.3 -1.2**
CHTO pmax pmax
comp=Z,37nm,1.4s
SMMC Simmler 81.06 49 P **P 06 28 47.0 -0.5**
baz=243
BTO Baotou 81.33 316 *e*P **P 06 28 51.3 +2.5**
BTO pP **sP 06 28 56.0 +0.4**
BTO sP **pwP 06 28 58.3 +1.1**
BTO pmax pmax
comp=Z,30nm,1.2s
BTO pmax pmax
comp=Z,350nm,10.5s
PZH PanZhiHua 81.39 301 P **P 06 28 50.5 +1.0**
PZH S **SKSac 06 39 05.8 -2.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,140nm,5.5s
CIS Catalina Islan 81.40 52 P **P 06 28 48.4 -0.9**
baz=245
L18K Granite Mounta 81.42 14 P **P 06 28 49.1 +0.5**
baz=209,SNR=7.7
K17K Iditarod 81.50 13 IAmb IAmb 06 28 53.9
comp=Z,36nm,1.3s
K17K Iditarod 81.50 13 P **P 06 28 49.1 +0.1**
baz=208,SNR=6.4
CD2 Chengdu 81.51 305 P **P 06 28 49.3 -0.6**
CD2 pP pP 06 28 52.5 -2.4
CD2 sP PcP 06 28 54.3 -1.6
CD2 S **S 06 39 01.5 +0.3**
CD2 pmax pmax
comp=Z,20nm,1.2s
CD2 pmax pmax
comp=Z,110nm,5.1s

SEW	Seward baz=216	81.51	18	P	P	06 28 49.5	+0.4
J16K	Anvik River comp=Z,39nm,1.2s	81.55	12	IAmb	IAmb	06 28 59.8	
J16K	Anvik River baz=205,SNR=7.7	81.55	12	P	P	06 28 49.7	+0.4
CAPN	Captain Cook N baz=214	81.57	17	P	P	06 28 48.9	-0.6
N20K	Mount Spurr baz=213	81.65	16	P	P	06 28 48.9	-1.1
M19K	Big River Lodg baz=211	81.69	15	P	P	06 28 49.6	-0.4
OSI	Osito Audit: C baz=244	81.69	51	P	P	06 28 49.7	-1.1
L19K	White Mountain baz=211,SNR=19	81.81	14	P	P	06 28 50.5	-0.2
DECC	Green Verdugo baz=244	81.83	51	P	P	06 28 50.2	-1.3
ARVC	Arvin baz=244	81.84	50	P	P	06 28 50.5	-1.0
ANM	Nome baz=201	81.91	9	P	P	06 28 51.2	0.0
Q23K	Middleton Isla baz=219	81.93	19	P	P	06 28 51.2	-0.2
J17K	VABM Dome J17K comp=Z,15nm,1.1s	81.95	12	P IAmb	P IAmb	06 28 52.0 06 28 56.1	+0.6
J17K	VABM Dome baz=207	81.95	12	P	P	06 28 51.2	-0.2
M20K	Styx River comp=Z,26nm,1.6s	81.98	15	IAmb	IAmb	06 29 03.2	
M20K	Styx River baz=212	81.98	15	P	P	06 28 51.3	-0.4
P23K	Montague Islan baz=218	82.04	19	P	P	06 28 51.8	-0.2
I17K	Unalakleet baz=205	82.08	11	P	P	06 28 51.8	-0.3
109C	Camp Elliot, M baz=245	82.18	53	P	P	06 28 52.8	-0.5
YBH	Yreka Blue Hor comp=Z,437nm,21.4s,baz=241,slow=30	82.19	43	LR	LR	06 57 39.8	
RC01	Rabbit Creek A comp=Z,37nm,1.3s	82.23	17	IAmb	IAmb	06 29 01.9	
RC01	Rabbit Creek A baz=216	82.23	17	P	P	06 28 51.9	-1.0
SUA	Susitna One baz=215	82.26	16	P	P	06 28 52.5	-0.8
L20K	Farewell, AK baz=212,SNR=21	82.30	15	P	P	06 28 53.2	-0.1
BFSC	Mount Baldy Ra baz=245	82.33	51	P	P	06 28 53.6	-0.7
EDW2	Edwards Air Fo baz=245	82.35	51	P	P	06 28 53.2	-1.1
MURC	Murrieta baz=245	82.41	52	P	P	06 28 54.2	-0.4
SKT	Skwentna baz=214	82.48	16	P	P	06 28 54.3	+0.1
H16K	Elim baz=204	82.49	10	P	P	06 28 54.6	+0.4
TNA	Tin City baz=198	82.50	8	P	P	06 28 54.6	+0.4
J18K	Innoko River comp=Z,32nm,1.3s	82.50	13	IAmb	IAmb	06 29 03.7	
J18K	Innoko River baz=209,SNR=7.3	82.50	13	P	P	06 28 55.4	+1.0
G15K	Niukluk baz=202	82.52	9	P	P	06 28 54.9	+0.6
F14K	Arctic Creek baz=200	82.63	8	P	P	06 28 55.1	+0.2
M22K	Willow baz=215	82.67	17	P	P	06 28 55.3	+0.2
MONP2	Monument Peak baz=246	82.71	53	P	P	06 28 54.8	-1.5
PMR	Palmer	82.81	17	P	P	06 28 59.0	+3.1
PMR	Palmer baz=216,SNR=5.7	82.81	17	P	P	06 28 55.6	-0.3
GLI	Glacier Island baz=218	82.83	18	P	P	06 28 55.6	-0.5
LRMC	Laurel Mtn Rad baz=245	82.84	50	P	P	06 28 56.4	-0.5
IKP	In-Ko-Pah, Jac baz=246	82.85	53	P	P	06 28 56.9	-0.1
KNK	Knik Glacier comp=Z,26nm,1.0s	82.86	17	IAmb	IAmb	06 29 00.2	
KNK	Knik Glacier baz=217	82.86	17	P	P	06 28 56.7	+0.4
BBRC	Big Bear Solar baz=245	82.89	51	P	P	06 28 56.5	-0.8
WAKR	Walker comp=Z,20nm,1.3s	82.90	47	IAmb	IAmb	06 29 02.1	
MAW	Mawson comp=Z,8.9nm,0.9s,baz=101,slow=7.0,SNR=12 MAW comp=Z,190nm,18.1s,baz=102,slow=33 comp=Z,8.9nm,0.9s	82.93	201	P LR	P LR	06 28 56.7 07 02 39.8	+0.1
KAIM	Kayak Island baz=221	82.94	20	P	P	06 28 56.9	+0.2
CWC	Cottonwood Cre baz=244	82.96	49	P	P	06 28 56.5	-1.0
PFO	Pinyon Flats O baz=246	82.97	52	P	P	06 28 56.6	-1.1
TPFO	Pinon Flats baz=246	82.97	52	P	P	06 28 56.4	-1.2
EYAK	Cordova Ski Ar	82.99	19	P	P	06 28 59.8	+2.9
EYAK	Cordova Ski Ar baz=219	82.99	19	P	P	06 28 56.4	-0.4
K20K	Telida baz=211,SNR=13	83.01	14	P	P	06 28 56.6	-0.4
PNTR	Pine Nut comp=Z,12nm,1.0s	83.05	46	IAmb	IAmb	06 29 13.6	
PPLA	Purkeypile baz=213	83.08	15	P	P	06 28 57.0	-0.5
RRX	Edison Barstow baz=245	83.09	51	P	P	06 28 57.4	-0.7
F15K	North Star Dit baz=201	83.09	9	P	P	06 28 57.7	+0.3
CUT	Chulitna baz=215	83.16	16	P	P	06 28 57.9	+0.2
G16K	Koyuk River baz=203	83.16	10	P	P	06 28 57.8	+0.2
H17K	Granite Mounta comp=Z,38nm,1.4s	83.18	11	IAmb	IAmb	06 29 07.2	
H17K	Granite Mounta baz=206,SNR=7.5	83.18	11	P	P	06 28 57.2	-0.6
SWSC	Sam W. Stewart baz=246	83.20	53	P	P	06 28 57.5	-1.2
J19K	Poorman comp=Z,32nm,1.3s	83.21	13	IAmb	IAmb	06 29 07.8	
J19K	Poorman baz=210,SNR=7.8	83.21	13	P	P	06 28 57.7	-0.2
SML	Sawmill comp=Z,40nm,1.4s	83.21	17	IAmb	IAmb	06 29 02.7	
SML	Sawmill baz=217	83.21	17	P	P	06 28 58.1	0.0
MPMC	Manual Prospec baz=245	83.22	50	P	P	06 28 57.7	-1.3
YERR	Yerington comp=Z,16nm,1.3s	83.25	46	IAmb	IAmb	06 29 03.6	
M23K	Glacier View baz=217	83.37	17	P	P	06 28 58.0	-0.9
I04A	Tendick Farm, comp=Z,15nm,0.6s	83.40	41	IAmb	IAmb	06 29 48.9	
GSC	Goldstone, Bar baz=245	83.41	51	P	P	06 28 58.3	-1.5
DSP	Deep Springs comp=Z,17nm,1.2s	83.44	48	IAmb	IAmb	06 29 04.9	
LHV	Little Huntoon comp=Z,31nm,1.4s	83.44	47	IAmb	IAmb	06 29 04.9	
BGLC	Bering Glacier baz=222	83.46	20	P	P	06 28 58.8	-0.4
PAHR	Pah Rah Range comp=Z,16nm,1.3s	83.47	46	IAmb	IAmb	06 29 04.8	
BELC	Belle Mtn. Jos baz=246,SNR=5.4	83.48	52	P	P	06 28 59.1	-1.2
SCM	Sheep Creek Mo baz=218	83.52	18	P	P	06 28 58.9	-0.8
CAST	Castle Rocks comp=Z,26nm,1.0s	83.54	15	IAmb	IAmb	06 29 07.4	
CAST	Castle Rocks baz=213,SNR=22	83.54	15	P	P	06 28 58.8	-1.0
TNCH	TengChong TNCH comp=Z,63nm,0.6s TNCH comp=Z,220nm,4.3s	83.55	298	P pmax pmax	P pmax pmax	06 29 01.3	+0.4
G17K	Kiwalik Mounta baz=205	83.55	11	P	P	06 28 58.7	-1.0
HEC	Hector,Ludlow baz=246	83.57	51	P	P	06 28 59.2	-1.4
LZH	Lanzhou LZH LZH comp=Z,26nm,1.2s LZH comp=Z,290nm,4.5s	83.59	310	*e*P pP pmax pmax	P sP pmax pmax	06 29 03.0 06 29 08.0	+2.2 +0.4
GCSA	Galena City Sc baz=209	83.60	12	P	P	06 28 59.5	-0.4
NVAR	Mina Array Bea	83.66	47	P	P	06 29 01.1	-0.1
NVAR	Mina Array Bea comp=Z,5.1nm,1.1s,baz=226,slow=8.6,SNR=14 NVAR comp=Z,541nm,22.0s,baz=265,slow=30 comp=Z,5.1nm,1.1s	83.66	47	P LR	P LR	06 29 02.4 06 57 58.1	+1.2
H18K	Honhosa River comp=Z,20nm,1.3s	83.66	12	IAmb	IAmb	06 29 09.2	
H18K	Honhosa River baz=207	83.66	12	P	P	06 28 59.5	-0.8
KLU	Klutina comp=Z,20nm,1.3s	83.67	18	IAmb	IAmb	06 29 04.3	
KLU	Klutina baz=219	83.67	18	P	P	06 28 59.9	-0.6
BMRM	Bremner River baz=220	83.67	19	P	P	06 28 59.9	-0.6
J20K	Nowinta River comp=Z,30nm,1.3s	83.69	14	IAmb	IAmb	06 29 09.8	
J20K	Nowinta River baz=211,SNR=7.7	83.69	14	P	P	06 29 00.2	-0.2
GRAC	Grapevine Rang comp=Z,26nm,1.3s	83.71	49	IAmb	IAmb	06 29 06.3	
GRAC	Grapevine Rang baz=245	83.71	49	P	P	06 29 00.4	-0.9
BC3	Big Chuckawall baz=246	83.76	53	P	P	06 29 00.6	-1.1
NV11	Mina Array Sit comp=Z,15nm,1.4s	83.77	47	IAmb	IAmb	06 29 06.3	
FURC	Furnace Creek, baz=245	83.86	50	P	P	06 29 01.1	-0.8
K05A	Summer Lake	83.86	42	P	P	06 29 02.0	0.0
CHUM	Lake Minchumin baz=213	83.87	15	P	P	06 29 00.6	-0.8
GWY	Greenwater Val comp=Z,14nm,1.4s	83.88	50	IAmb	IAmb	06 29 06.7	
J05D	Fort Rock, OR comp=Z,33nm,1.2s	83.90	42	IAmb	IAmb	06 29 11.9	
BILL	Bilibino	83.93	357	P	P	06 29 01.3	-0.3
BILL	Bilibino BILL comp=Z,16nm,1.7s	83.93	357	*e*P pmax	P pmax	06 29 00.8	-0.8
MESA	MESA baz=223	83.95	21	P	P	06 29 00.4	-1.7
H04A	Detroit Lake comp=Z,12nm,1.0s	83.97	40	IAmb	IAmb	06 29 10.8	
WAT1	Susitna Watana baz=217	83.97	17	P	P	06 29 01.2	-0.8
WAT6	Susitna Watana baz=217,SNR=7.9	84.00	17	P	P	06 29 01.3	-0.9
TRF	Thorofare Moun comp=Z,22nm,1.2s	84.02	16	IAmb	IAmb	06 29 05.3	
TRF	Thorofare Moun baz=215,SNR=5.4	84.02	16	P	P	06 29 00.7	-1.6
GMRC	Granite Mounta baz=246	84.06	51	P	P	06 29 01.7	-1.5
KVN	Kaiserville comp=Z,16nm,1.4s	84.07	47	IAmb	IAmb	06 29 07.8	
M24K	Tolsona, Glenn baz=219	84.08	18	P	P	06 29 02.0	-0.6
TUQ	Turquoise Moun baz=246	84.12	51	P	P	06 29 02.4	-1.1
I20K	Naaghedeneel baz=211,SNR=6.7	84.15	13	P	P	06 29 02.5	-0.2
N25K	Chitina, Valde comp=Z,26nm,1.1s	84.16	19	IAmb	IAmb	06 29 12.4	
N25K	Chitina, Valde baz=220	84.16	19	P	P	06 29 02.5	-0.5
WCT	Wildcat Mounta comp=Z,16nm,1.3s	84.17	49	IAmb	IAmb	06 29 08.4	
CRAG	Craig baz=231	84.18	27	P	P	06 29 02.5	-0.6
IRM	Iron Mountain baz=246,SNR=9.1	84.19	52	P	P	06 29 01.9	-1.9
VRDI	Verde Repeater comp=Z,30nm,1.3s	84.24	19	IAmb	IAmb	06 29 12.1	
SIT	Sitka baz=229	84.26	25	P	P	06 29 03.0	-0.4
G18K	Tagagawik baz=207,SNR=23	84.27	11	P	P	06 29 03.1	-0.3
GLB	Gilahina Butte comp=Z,22nm,1.2s	84.28	19	IAmb	IAmb	06 29 12.2	
F17K	Baldwin Pennin baz=204	84.31	10	P	P	06 29 03.8	+0.3
PINE	Pine Mountain comp=Z,16nm,1.0s	84.33	42	IAmb	IAmb	06 29 09.2	
H19K	Roundabout Mou baz=209,SNR=22	84.37	12	P	P	06 29 03.7	-0.2
BPAW	Bear Paw Mtn. comp=Z,22nm,1.6s	84.38	15	IAmb	IAmb	06 29 11.0	
BPAW	Bear Paw Mtn. baz=214	84.38	15	P	P	06 29 03.1	-0.9
LPIG	La Paz comp=Z,545nm,21.4s,baz=235,slow=29	84.40	63	LR	LR	06 57 45.6	
PNL	Peninsula baz=225	84.47	22	P	P	06 29 03.6	-1.0
MCARA	McCarthy VSAT baz=222	84.49	19	P	P	06 29 03.9	-0.6
DHY	Denali Highway comp=Z,24nm,1.5s	84.50	17	IAmb	IAmb	06 29 13.4	
DHY	Denali Highway baz=218	84.50	17	P	P	06 29 03.8	-0.9
S31K	Pelham baz=228	84.50	24	P	P	06 29 03.9	-0.8
BLYC	Blythe comp=Z,15nm,1.1s	84.50	53	IAmb	IAmb	06 29 10.3	
BBB	Bella Bella comp=Z,184nm,19.6s,baz=248,slow=30	84.59	32	LR	LR	06 59 24.2	
U33K	Whale Pass baz=231	84.59	27	P	P	06 29 04.2	-0.9
MCK	McKinley baz=216	84.60	16	P	P	06 29 04.7	-0.4
HARP	HAARP baz=220	84.60	18	P	P	06 29 05.0	-0.2
H20K	Anotleneega Mo baz=210	84.67	13	P	P	06 29 05.5	+0.1
113A	Mohawk Valley, comp=Z,13nm,1.3s	84.71	54	IAmb	IAmb	06 29 11.3	
F18K	Selawik baz=206	84.73	10	P	P	06 29 05.8	+0.2
CTG	Chitna Glacier baz=223	84.73	20	P	P	06 29 05.9	-0.2
V35K	Ketchikan baz=232	84.77	28	P	P	06 29 05.7	-0.4
G19K	Purcell Mounta baz=208,SNR=22	84.79	12	P	P	06 29 05.7	-0.3
E17K	Hotham Inlet baz=204,SNR=16	84.80	9	P	P	06 29 05.9	-0.1
NEE2	Needles Airpor baz=247	84.83	52	P	P	06 29 06.5	-0.4
S32K	Kilisnoo baz=230	84.84	25	P	P	06 29 06.2	-0.2
PAX	Paxson baz=219	84.95	18	P	P	06 29 06.4	-0.6
O28M	Mount Upton baz=224	84.98	21	P	P	06 29 06.7	-0.7
PDMCI	Parker Dam,Lak baz=247	85.01	52	P	P	06 29 07.1	-0.7
YAK	Yakutsk comp=Z,242nm,22.0s,baz=132,slow=32	85.03	341	LR	LR	07 01 17.5	
YAK	Yakutsk YAK comp=Z,12nm,1.3s YAK comp=N,5.0nm,1.4s YAK comp=E,3.0nm,1.3s	85.03	341	*e*P pmax pmax pmax	P pmax pmax pmax	06 29 08.2	+0.9
P29M	Windy Craggy baz=227	85.05	23	P	P	06 29 07.5	0.0
WRAK	Wrangell Islan baz=232	85.11	27	P	P	06 29 06.6	-1.1
214A	Organ Pipe Nat baz=248	85.15	55	P	P	06 29 07.0	-1.6
S11A	Rachel comp=Z,18nm,1.3s	85.16	49	IAmb	IAmb	06 29 13.3	
D17K	Noatak River baz=203,SNR=5.9	85.18	9	P	P	06 29 07.3	-0.6
WVOR	Wild Horse Val comp=Z,24nm,1.2s	85.20	44	IAmb	IAmb	06 29 13.5	
MLY	Manley baz=214	85.21	14	P	P	06 29 07.3	-1.0
O29M	Mount Kennedy baz=226	85.22	22	P	P	06 29 07.5	-0.9
H21K	Melozitna Rive baz=212	85.26	13	P	P	06 29 08.1	-0.3
M26K	Nabesna, AK baz=222	85.26	19	P	P	06 29 07.7	-0.8
NEA2	Nenana baz=216	85.26	15	P	P	06 29 08.1	-0.3
F19K	Shaleruckik Mo baz=208,SNR=15	85.27	11	P	P	06 29 07.6	-0.8
BMN	Battle Mountai comp=Z,21nm,1.2s	85.28	46	IAmb	IAmb	06 29 14.0	
E18K	Tukpahlearik C baz=205,SNR=12	85.31	10	P	P	06 29 08.1	-0.5
I07A	Izee comp=Z,16nm,1.1s	85.38	42	IAmb	IAmb	06 29 14.2	
R32K	Eaglecrest baz=230	85.39	25	P	P	06 29 09.3	+0.2
C16K	Lisburne Hills baz=200	85.41	8	P	P	06 29 09.3	+0.3
WRH	Wood River Hil comp=Z,30nm,1.4s	85.42	16	IAmb	IAmb	06 29 17.2	
MENT	Mentasta	85.45	18	P	P	06 29 12.9	+3.5
PLBC	Pleasant Camp baz=228	85.45	23	P	P	06 29 09.4	0.0
YUK8	Steele Glacier baz=225	85.50	21	P	P	06 29 09.5	-0.5
K24K	Donnelly Dome baz=219,SNR=5.2	85.51	17	P	P	06 29 09.1	-0.6
RDOG	Red Dog Mine baz=203	85.54	9	P	P	06 29 09.4	-0.3
R11B	Troy Canyon, C baz=246	85.56	48	P	P	06 29 09.3	-1.4
PRN	Pahroc Range comp=Z,26nm,1.4s	85.56	49	IAmb	IAmb	06 29 15.8	
M27K	Edge Creek, AK baz=223	85.58	19	P	P	06 29 09.1	-1.1
YUK3	Moose Creek baz=224	85.61	20	P	P	06 29 09.1	-1.4
L26K	Log Cabin Wild baz=221	85.62	18	P	P	06 29 09.8	-0.5
I23K	Minto, Yukon-K baz=216	85.64	15	P	P	06 29 10.2	0.0
HDA	Harding Lake comp=Z,16nm,1.0s	85.67	16	IAmb	IAmb	06 29 19.6	
HDA	Harding Lake baz=218	85.67	16	P	P	06 29 10.3	-0.1
P30M	Million Dollar baz=227	85.68	22	P	P	06 29 10.4	-0.3
J08A	Circle Bar Ran comp=Z,21nm,1.3s	85.72	43	IAmb	IAmb	06 29 15.8	
YUK6	Outpost Mounta baz=226	85.74	21	P	P	06 29 10.3	-0.9
MDM	Murphy Dome comp=Z,15nm,1.1s	85.77	15	IAmb	IAmb	06 29 19.5	
H22K	Ishtalitna Cre baz=214	85.78	14	P	P	06 29 10.1	-0.9
COLA	College	85.80	16	P	P	06 29 11.0	0.0
COLA	College baz=217	85.80	16	P	P	06 29 10.8	-0.2
COLA	College COLA comp=Z,18nm,1.1s	85.80	16	*e*P pmax	P pmax	06 29 10.8	-0.2
G21K	Allakaket comp=Z,15nm,1.4s	85.84	13	IAmb	IAmb	06 29 20.5	
G21K	Allakaket baz=212,SNR=5.7	85.84	13	P	P	06 29 11.2	0.0
U35K	Hyder baz=234	85.84	28	P	P	06 29 10.9	-0.5
SKAG	Skagway baz=229	85.85	24	P	P	06 29 11.6	+0.2
F20K	Avaraart Lake comp=Z,16nm,1.2s	85.85	12	IAmb	IAmb	06 29 21.4	
F20K	Avaraart Lake baz=210	85.85	12	P	P	06 29 11.0	-0.3
C17K	DeLong Mountai baz=203	85.89	8	P	P	06 29 11.6	+0.2
YUK4	Talbot Arm baz=226	85.92	21	P	P	06 29 11.8	-0.2
E19K	Redstone River comp=Z,24nm,1.4s	85.92	11	IAmb	IAmb	06 29 29.9	
E19K	Redstone River baz=208	85.92	11	P	P	06 29 11.6	-0.1
HYT	Haines Junctio baz=227	85.96	22	P	P	06 29 11.2	-0.9
ILAR	Eielson Array	85.97	16	P	P	06 29 11.4	-0.5
ILAR	Eielson Array comp=Z,6.0nm,0.9s,baz=236,slow=5.6,SNR=29 ILAR comp=Z,348nm,20.0s,baz=222,slow=32 comp=Z,6.0nm,0.9s	85.97	16	P LR	P LR	06 29 10.9 07 02 16.3	-1.0
ILAR	Eielson Array	85.97	16	P	P	06 29 11.4	-0.5
POKR	Poker Plat Res baz=218	86.10	16	P	P	06 29 12.2	-0.4
L27K	Beaver Creek, baz=223	86.11	19	P	P	06 29 12.5	-0.3
H23K	Yukon River baz=216	86.15	14	P	P	06 29 12.5	-0.3
SCRK	Sand Creek comp=Z,20nm,1.4s	86.16	17	IAmb	IAmb	06 29 22.0	
SCRK	Sand Creek baz=221	86.16	17	P	P	06 29 12.8	-0.3
J25K	Salcha River, baz=220	86.26	17	P	P	06 29 13.0	-0.4
C18K	Utukok River baz=204	86.34	9	P	P	06 29 13.9	+0.2
T35M	Bob Quinn baz=233	86.38	27	P	P	06 29 14.8	+0.6
Q12A	Willow Creek R comp=Z,14nm,1.0s	86.38	48	IAmb	IAmb	06 29 24.0	
O30N	Mendenhall baz=228	86.43	22	P	P	06 29 14.4	0.0
F21K	Alatna River baz=212	86.45	12	P	P	06 29 13.8	-0.4
N30M	Aishikik Lake baz=227	86.54	21	P	P	06 29 14.7	-0.2
P32M	Atlin baz=230	86.56	24	P	P	06 29 15.2	+0.3
S34M	Telegraph Cree baz=233	86.56	26	P	P	06 29 15.5	+0.5
H24K	Noodor Dome baz=217	86.57	15	P	P	06 29 15.8	+0.9
G22K	Bettles baz=214	86.61	13	P	P	06 29 15.5	+0.5
J26L	Joseph Creek	86.67	17	P	P	06 29 15.9	+0.4
J26L	Joseph Creek baz=221	86.67	17	P	P	06 29 15.7	+0.2
D19K	Kuna River baz=207	86.69	10	P	P	06 29 15.6	+0.2
ULN	Ulaanbaatar	86.70	322	P	P	06 29 15.8	-0.3
ULN	Ulaanbaatar ULN comp=Z,8.0nm,1.3s	86.70	322	*e*P pmax	P pmax	06 29 16.0	-0.1
M29M	Somme Creek baz=226	86.75	20	P	P	06 29 16.2	+0.2
K27K	Chicken baz=222	86.75	18	P	P	06 29 15.8	0.0
G23K	Bananza Creek baz=215	86.77	14	P	P	06 29 15.7	-0.2
WHY	Whitehorse baz=229	86.81	23	P	P	06 29 16.3	0.0
E20K	Nigu River baz=209	86.82	11	P	P	06 29 16.5	+0.4
TUC	Tucson	86.88	55	P	P	06 29 17.0	-0.3
TUC	Tucson baz=249	86.88	55	P	P	06 29 17.2	-0.1
TUC	Tucson TUC comp=Z,16nm,1.7s	86.88	55	P pmax	P pmax	06 29 17.0	-0.3
PRP	Porcupine Dome baz=219	86.92	16	P	P	06 29 17.3	+0.5
F22K	John River baz=213	86.96	13	P	P	06 29 16.8	0.0
C19K	Lookout Ridge baz=206	87.00	9	P	P	06 29 17.3	+0.3
N31M	Braeburn, Yuko baz=228	87.03	22	P	P	06 29 17.5	+0.2
SONM	Songino Array	87.08	322	P	P	06 29 16.9	-1.0
SONM	Songino Array comp=Z,1.4nm,0.6s,baz=129,slow=3.9,SNR=2.6 comp=Z,1.4nm,0.6s	87.08	322	P	P	06 29 18.0	+0.1
SONM	Songino Array SONM comp=Z,15nm,1.9s	87.08	322	P pmax	P pmax	06 29 16.9	-1.0
D20K	Etivluk River baz=209	87.14	11	P	P	06 29 17.9	+0.2
COLD	Coldfoot	87.15	13	P	P	06 29 18.4	+0.8

baz=215
U15A **North Rim** 87.22 51 IAmb IAmb 06 29 24.3
comp=Z,15nm,1.4s
P33M **Teslin, Yukon** 87.30 24 P P 06 29 19.2 +0.6
baz=231
L29M **L29M** 87.33 20 P P 06 29 18.8 +0.1
baz=226
DLBC **Dease Lake** 87.34 26 P P 06 29 19.4 +0.5
baz=234
DLBC **Dease Lake** 87.34 26 LR LR 06 59 46.0
comp=Z,268nm,21.4s,baz=258,slow=30
G24K **Hadweenzic Riv** 87.36 15 P P 06 29 19.4 +0.7
baz=217
E21K **Killik River** 87.39 12 IAmb IAmb 06 29 27.7
comp=Z,12nm,1.4s
E21K **Killik River** 87.39 12 P P 06 29 19.2 +0.4
baz=211
I26K **Coal Creek Min** 87.40 17 P P 06 29 19.2 +0.3
baz=222
M30M **Minto, Yukon** 87.41 21 P P 06 29 19.3 +0.2
baz=227
H25L **Birch Creek** 87.42 15 P P 06 29 18.8 -0.1
baz=219
MFID **Camas Ranch** 87.49 44 IAmb IAmb 06 29 24.4
comp=Z,18nm,1.4s
R33M **Jennings River** 87.53 25 P P 06 29 19.8 0.0
baz=233
E22K **Anaktuvuk Pass** 87.56 12 P P 06 29 20.4 +0.7
baz=213
EGAK **Eagle** 87.58 18 IAmb IAmb 06 29 28.4
comp=Z,18nm,1.2s
EGAK **Eagle** 87.58 18 P P 06 29 19.6 -0.1
baz=223
WUAZ **Wupatki** 87.58 52 P P 06 29 20.4 -0.3
baz=249
DAWY **Dawson** 87.60 19 P P 06 29 19.7 -0.2
baz=225
G25K **Bearman Lake** 87.74 15 P P 06 29 21.5 +1.1
baz=219
A19K **Wainwright** 87.78 8 P P 06 29 21.8 +1.2
baz=204
N32M **Quiet Lake** 87.80 23 P P 06 29 21.5 +0.5
baz=231
GTA **Gaotai** 87.85 312 P P 06 29 22.5 +0.6
GTA pP pwP 06 29 30.3 0.0
GTA pmax pmax
comp=Z,9.0nm,1.8s
C21K **Knifeblade Rid** 87.86 11 P P 06 29 21.8 +0.8
baz=210
F24K **Squaw Lake** 87.91 14 P P 06 29 22.1 +0.7
baz=217
E23K **Chandalar** 87.96 13 P P 06 29 22.0 +0.3
baz=215
M31M **Drury Creek, Y** 87.99 22 P P 06 29 22.3 +0.5
baz=230
D22K **Ayikyak River** 88.02 12 P P 06 29 22.4 +0.5
baz=212
K29M **Barlow Dome** 88.03 20 P P 06 29 21.9 -0.2
baz=227
I27K **Kandik River** 88.05 17 P P 06 29 22.1 0.0
baz=223
PLID **Pearl Lake** 88.07 42 IAmb IAmb 06 29 31.3
comp=Z,13nm,1.4s
B20K **Meade River** 88.20 10 P P 06 29 23.1 +0.5
baz=208
E24K **Your Creek** 88.23 13 P P 06 29 23.7 +0.8
baz=216
DUG **Dugway, Tooele** 88.27 47 P P 06 29 24.0 +0.2
baz=248
DUG **Dugway, Tooele** 88.27 47 P P 06 29 24.8 +1.0
DUG pmax pmax
comp=Z,8.0nm,1.4s
B21K **Ikpikpuk River** 88.29 11 P P 06 29 23.5 +0.5
baz=211
FARO **Faro, Yukon** 88.39 22 P P 06 29 24.3 +0.5
baz=230
MAYO **Mayo, Yukon** 88.40 20 P P 06 29 24.0 +0.2
baz=228
I28M **Miner Creek** 88.42 18 P P 06 29 23.3 -0.6
baz=224
TOLK **Toolik Lake Re** 88.45 13 P P 06 29 23.5 -0.4
baz=215
G26K **Porcupine Rive** 88.47 16 P P 06 29 23.6 -0.4
baz=221
HLID **Hailey** 88.48 44 IAmb IAmb 06 29 29.7
comp=Z,10.0nm,1.1s
HLID **Hailey** 88.48 44 P P 06 29 24.1 -0.7
baz=246,SNR=11
D23K **Nanushuk River** 88.49 12 P P 06 29 23.6 -0.4
baz=214
F25K **Christian Rive** 88.50 15 P P 06 29 23.7 -0.5
baz=219
H27K **Steamboat Moun** 88.54 17 P P 06 29 24.1 -0.2
baz=223
PMSA **Palmer Station** 88.55 159 LR LR 07 01 55.0
comp=Z,100nm,20.6s,baz=248,slow=31
BMAR **Burnt Mountain** 88.64 15 P P 06 29 24.6 -0.2
W18A **Petrified Fore** 88.69 53 P P 06 29 24.9 -1.1
baz=250
NEW **Newport** 88.73 39 P P 06 29 25.6 0.0
baz=244
I29M **Ogilvie Camp,** 88.84 18 IAmb IAmb 06 29 34.0
comp=Z,12nm,1.2s
I29M **Ogilvie Camp,** 88.84 18 P P 06 29 25.7 -0.1
baz=226
J30M **Hart River** 88.91 19 P P 06 29 26.0 -0.2
baz=228
G27K **Doyon Strip** 88.93 16 P P 06 29 25.5 -0.7
baz=223
E25K **Arctic Village** 88.93 14 P P 06 29 25.9 -0.3
baz=219
F26K **Sheenjek River** 88.95 15 P P 06 29 26.0 -0.3
baz=220
Q16A **Castle Valley** 88.97 49 IAmb IAmb 06 29 37.0
comp=Z,20nm,1.3s
D24K **Happy Valley** 89.03 13 P P 06 29 25.6 -0.9
baz=216
B22K **Teshekpuk Lake** 89.12 11 P P 06 29 26.2 -0.7
baz=212
C23K **Itkillik River** 89.22 12 IAmb IAmb 06 29 37.0
comp=Z,37nm,1.6s
C23K **Itkillik River** 89.22 12 P P 06 29 26.9 -0.6
baz=214
121A **Cookes Peak, D** 89.33 56 P P 06 29 28.0 -1.1
baz=251
I30M **Mount Dempster** 89.34 19 P P 06 29 27.5 -0.8
baz=228
SHL **Shillong** 89.40 297 P P 06 29 28.5 -1.0
SHL pmax pmax
comp=Z,7.0nm,0.4s
H29M **Whitestone** 89.42 18 IAmb IAmb 06 29 30.7
comp=Z,26nm,1.8s
H29M **Whitestone** 89.42 18 P P 06 29 28.3 -0.2
baz=226
A22K **Sinclair Lake** 89.43 10 P P 06 29 28.4 0.0
baz=210
C24K **Franklin Bluff** 89.51 12 P P 06 29 29.1 +0.4
baz=216
TOAD **Toad River Com** 89.64 27 P P 06 29 29.4 -0.3
baz=238
D25K **Kavik River** 89.69 13 P P 06 29 30.0 +0.3
baz=218
E27K **Coleen River** 89.96 15 P P 06 29 31.1 +0.1
baz=223
F28M **Old Crow** 89.99 16 P P 06 29 31.4 +0.3
baz=224
G29M **Pine Creek** 90.01 17 P P 06 29 31.9 +0.7
baz=226
ELIB **Princess Elisa** 90.01 189 *d*P P 06 29 30.4 -1.1
comp=Z,7.0nm,1.2s
EPYK **Eagle Plains** 90.01 18 P P 06 29 31.3 0.0
baz=227
ZAK **Zakamensk** 90.05 323 *e*P P 06 29 31.5 -0.4
ZAK pmax pmax
comp=Z,5.0nm,2.1s
MSO **Missoula** 90.09 41 P P 06 29 32.0 -0.2
baz=247
MVCO **Mesa Verde** 90.34 51 P P 06 29 33.3 -0.5
baz=250
H31M **Peel River** 90.36 19 P P 06 29 33.7 +0.8
baz=230
C26K **Camden Bay** 90.48 13 P P 06 29 33.6 +0.3
baz=220
Y22D **IRIS PASSCAL I** 90.52 55 P P 06 29 35.0 +0.4
baz=251
C27K **Jago River** 90.52 14 P P 06 29 34.8 +1.3
baz=221
G30M **tAoh Zraii Nji** 90.57 18 P P 06 29 35.1 +1.2
baz=228
E28M **Babbage River** 90.79 16 P P 06 29 35.4 +0.6
baz=225
KOTAN **Kotaneelee Air** 90.83 26 P P 06 29 36.1 +0.9
baz=239
D27M **Malcolm River** 90.89 15 P P 06 29 36.1 +0.8
baz=224
MNTX **Cornudas Mount** 91.00 57 P P 06 29 37.0 +0.3
baz=252
VHRN **Van Horn** 91.04 58 IAmb IAmb 06 29 42.7
comp=Z,26nm,1.7s
E29M **Blow River** 91.07 16 P P 06 29 37.3 +1.2
baz=226
BOZ **Bozeman (W)** 91.11 43 IAmb IAmb 06 29 46.7
comp=Z,11nm,1.2s
BOZ **Bozeman (W)** 91.11 43 P P 06 29 36.8 -0.2
baz=248
G31M **Satah River** 91.11 18 P P 06 29 36.9 +0.6
baz=230
F30M **Barrier River** 91.12 17 P P 06 29 36.9 +0.6
baz=228
ANMO **Albuquerque** 91.16 54 P P 06 29 37.2 -0.4
ANMO **Albuquerque** 91.16 54 P P 06 29 36.7 -0.9
baz=252
ANMO **Albuquerque** 91.16 54 ⇓ *i*P P 06 29 38.3 +0.7
ANMO pmax pmax
comp=Z,8.0nm,1.2s
H17A **Grant Village** 91.36 44 P P 06 29 37.6 -0.7
baz=249
PDAR **Pinedale Array** 91.48 46 P P 06 29 38.6 -0.3
PDAR **Pinedale Array** 91.48 46 P P 06 29 39.6 +0.7
comp=Z,0.2nm,0.3s,baz=251,slow=8.3,SNR=2.3
comp=Z,0.2nm,0.3s
D28M **Stokes Point** 91.51 15 P P 06 29 37.9 -0.2
baz=226
O20A **White River Ci** 91.52 49 IAmb IAmb 06 29 43.5
comp=Z,10nm,1.3s
O20A **White River Ci** 91.52 49 P P 06 29 38.8 -0.3
baz=250
TX31 **Lajitas Ar. Si** 91.69 60 IAmb IAmb 06 29 46.0
comp=Z,16nm,1.5s
TXAR **Lajitas Array** 91.70 60 P P 06 29 40.0 0.0
TXAR **Lajitas Array** 91.70 60 P P 06 29 41.7 +1.7
comp=Z,2.2nm,0.8s,baz=225,slow=5.3,SNR=22
comp=Z,2.2nm,0.8s
TROLL **Troll, Antarti** 92.02 183 ⇑P P 06 29 40.0 -0.8
comp=Z,763nm,0.8s
INK **Inuvik** 92.22 17 P P 06 29 41.4 0.0
baz=230
INK **Inuvik** 92.22 17 LR LR 07 04 41.0
comp=Z,265nm,21.5s,baz=181,slow=31
TIXI **Tiksi** 92.42 347 P P 06 29 41.8 -0.5
TIXI **Tiksi** 92.42 347 LR LR 07 09 38.2
comp=Z,162nm,18.3s,baz=138,slow=34
TIXI **Tiksi** 92.42 347 ⇑ *i*P P 06 29 41.6 -0.6
TIXI pmax pmax
comp=Z,6.0nm,1.5s
SNAA **Sanae** 92.54 181 P P 06 29 41.5 -1.7
SNAA IAmb IAmb 06 29 43.0
comp=Z,9.5nm,1.1s
SNAA **Sanae** 92.54 181 ⇑P P 06 29 41.8 -1.4
SNAA **Sanae** 92.54 181 P P 06 29 41.6 -1.6
comp=Z,6.2nm,1.0s,baz=185,slow=4.5,SNR=6.6
SNAA LR LR 07 08 20.9
comp=Z,199nm,20.7s,baz=198,slow=34
comp=Z,6.2nm,1.0s
SNAA **Sanae** 92.54 181 P P 06 29 41.5 -1.7
SNAA pmax pmax
comp=Z,9.0nm,1.1s
SDCO **Great Sand Dun** 92.77 52 P P 06 29 44.7 -0.4
baz=252
VNA3 **Neumayer Olymp** 92.98 179 ⇑P P 06 29 42.8 -2.3
EGMT **Eagleton** 93.18 41 P P 06 29 46.3 -0.2
baz=250
T25A **Trinidad** 93.42 52 P P 06 29 48.5 +0.5
baz=253
VNA1 **Neumayer--Stat** 93.60 179 ⇑P P 06 29 46.7 -1.2
MSTX **Muleshoe** 93.77 56 P P 06 29 49.4 -0.1
baz=254
DRIO **Del Rio** 94.27 61 IAmb IAmb 06 29 56.0
comp=Z,8.9nm,1.3s
PALK **Pallekele** 94.57 276 LR LR 07 14 43.3
comp=Z,58nm,18.8s,baz=226,slow=37
JCT **Junction City** 95.24 60 P P 06 29 56.4 +0.2
baz=255
RSSD **Black Hills** 95.72 46 P P 06 29 58.2 -0.2
baz=254
ABTX **Abilene, Hawle** 95.93 58 P P 06 29 59.4 +0.1
baz=255
YKA **Yellowknife Ar** 95.96 26 P P 06 29 58.9 +0.2
YKA **Yellowknife Ar** 95.96 26 P P 06 29 58.8 +0.1
comp=Z,1.8nm,0.8s,baz=258,slow=4.7,SNR=19
YKA LR LR 07 05 04.6
comp=Z,272nm,21.7s,baz=233,slow=30
comp=Z,1.8nm,0.8s
YKA **Yellowknife Ar** 95.96 26 P P 06 29 58.9 +0.2
WMQ **Urumqi** 97.86 313 *e*P Pdif 06 30 09.3 +1.4
WMQ LR LR
comp=Z,100nm,24.1s
PLCA **Paso Flores** 98.23 136 LR LR 07 07 45.9
comp=Z,31nm,18.8s,baz=229,slow=31
MKAR **Makanchi Array** 102.22 315 P **Pdif** 06 30 27.0 -0.2
comp=Z,0.7nm,0.9s,baz=106,slow=3.7,SNR=2.7
MKAR **Makanchi Array** 102.22 315 P **Pdif** 06 30 27.0 -0.2
KURBB **Kurchatov Arra** 105.25 319 PKKPab PKKPab 06 46 36.8 -0.4
comp=Z,0.4nm,0.2s,baz=281,slow=5.2,SNR=4.1
BELG **Belogornoye** 124.11 323 ⇓ *i*PKIKP **PKPdf** 06 35 30.3 -0.1
MOS **Moscow** 127.98 330 *e*PKIKP **PKPdf** 06 35 37.3 -0.5
BDFB **Brasilia** 128.43 126 PKP **PKPdf** 06 35 39.8 -0.2
comp=Z,3.8nm,0.9s,baz=130,slow=2.8,SNR=4.3
OBN **Obninsk** 128.83 330 *e*PKIKP **PKPdf** 06 35 39.5 +0.1
OBN *e* 06 37 47.1
OBN *e*PPP PPP 06 40 33.0
OBN pmax pmax
comp=Z,4.0nm,0.6s
NCK **Nachik** 129.48 314 ⇓ *i*PKIKP **PKPdf** 06 35 41.8 +0.7
KBZ **Khabaz** 129.90 314 ⇑ *e*PKIKP **PKPdf** 06 35 41.1 -0.7
KIV **Kislovodsk** 129.97 314 *e*PKIKP **PKPdf** 06 35 42.5 +0.4
KIV *e* 06 37 56.3
KIV *e*PPP PPP 06 40 40.9
KIV pmax pmax
comp=Z,4.0nm,1.0s
NOA **NORSAR Array B** 133.20 348 PKP **PKPdf** 06 35 47.0 -0.6
comp=Z,0.7nm,0.8s,baz=30,slow=2.0,SNR=3.4
HFS **Hagfors** 133.49 346 PKP **PKPdf** 06 35 47.8 -0.3
comp=Z,2.0nm,0.8s,baz=272,slow=5.2,SNR=4.2
AKASG **Malin Array Be** 135.00 328 PKP **PKPdf** 06 35 50.5 -0.7
comp=Z,0.2nm,0.4s,baz=53,slow=2.3,SNR=4.0
AKBB **Malin Array Si** 135.00 328 ⇑ *e*PKIKP **PKPdf** 06 35 51.6 +0.4
STHS **Stebnicka Huta** 139.69 332 *e*PN PKPdf 06 35 48.4 -12
STHS **Stebnicka Huta** 139.69 332 *e*PKHKP PKPpre 06 35 48.4
CLL **Collm** 141.41 340 *i* PKIKP **PKPdf** 06 36 02.7 -0.3
CLL *i* 06 36 05.6
CLL pmax pmax
comp=Z,5.0nm,1.2s
PVCC **Panska Ves** 141.54 338 AMS AMS 07 36 40.0
comp=Z,200nm,20.8s
PRU **Pruhonice** 142.00 338 AMS AMS 07 37 20.0
comp=Z,200nm,16.5s
KHC **Kasperske Hory** 143.06 338 AMS AMS 07 38 50.0
comp=Z,200nm,19.4s
CONA **Conrad Observa** 143.15 335 *e*PKP **PKPdf** 06 36 05.8 -0.6
comp=Z,8.6nm,1.9s
SOKA **Soboth** 144.49 334 *e*PKP PKPbc 06 36 07.9 +0.7
comp=Z,10nm,1.3s
LESA **Schwarzleotal** 144.81 337 *e*PKP **PKPab** 06 36 08.2 +0.1
comp=Z,11nm,0.9s
OBKA **Obir** 144.82 334 *e*PKP **PKPab** 06 36 08.0 -0.2
comp=Z,6.8nm,0.8s
WLF **Walferdange** 144.83 346 PKPdf **PKPab** 06 36 08.2 +0.2
WLF **Walferdange** 144.83 346 PKIKP **PKPab** 06 36 08.2 +0.2
KBA **Koelnbreinsper** 144.85 336 *e*PKP **PKPab** 06 36 08.5 +0.1
comp=Z,24nm,1.7s
MYKA **Terra Mystica** 145.10 335 *e*PKP **PKPbc** 06 36 08.1 -1.1
comp=Z,20nm,1.6s
WATA **Walderalm** 145.29 338 *e*PKP **PKPbc** 06 36 09.5 -0.3
comp=Z,24nm,1.6s
WTTA **Wattenberg** 145.33 338 *e*PKP **PKPbc** 06 36 09.8 -0.3
comp=Z,25nm,1.2s
ABTA **Abfaltersbach** 145.44 337 *i* PKP **PKPbc** 06 36 09.4 -0.9
comp=Z,13nm,0.8s
RETA **Reutte** 145.45 339 *e*PKP **PKPbc** 06 36 10.3 0.0
comp=Z,20nm,1.4s
MOTA **Moosalm** 145.45 339 *e*PKP **PKPbc** 06 36 10.0 -0.4
comp=Z,20nm,1.1s
BFO **Black Forest** 145.48 342 **PKPdf** 06 36 10.7 +0.4
BFO **Black Forest** 145.48 342 PKIKP **PKPdf** 06 36 10.7 +0.4
SQTA **Sankt Quirin** 145.52 338 *i* PKP **PKPdf** 06 36 10.5 -0.1
comp=Z,25nm,1.2s
FETA **Feichten** 145.86 339 *i* PKP **PKPdf** 06 36 11.8 +0.7
comp=Z,12nm,0.7s
DAVA **Damuels** 145.92 340 *e*PKP **PKPbc** 06 36 12.1 +0.2
comp=Z,29nm,1.1s
DAVOX **Davos/Dischmat** 146.36 339 PKPbc **PKPbc** 06 36 13.6 +0.4
comp=Z,12nm,0.8s,baz=121,slow=0.9,SNR=13
ZCCA **Zocca** 148.04 336 **PKiKP** 06 36 19.3 -0.3
MSSA **Maissana** 148.62 338 **PKPdf** 06 36 14.8 -0.9
BNI **Bardonecchia** 148.93 342 PKPbc **PKPbc** 06 36 21.2 +1.0
BNI **Bardonecchia** 148.93 342 PKP2 **PKPbc** 06 36 21.2 +1.0
ESDC **Sonseca Array** 156.27 355 PKPab **PKPab** 06 36 55.3 +0.4
comp=Z,2.0nm,1.3s,baz=360,slow=4.6,SNR=6.1
TORD **Torodi Ar. Bea** 171.51 252 PKP **PKPdf** 06 36 40.0 -1.6
comp=Z,2.5nm,1.1s,baz=14,slow=3.0,SNR=5.7
TORD PKPab **PKPab** 06 38 01.8 -0.9
comp=Z,2.2nm,0.9s,baz=63,slow=4.3,SNR=6.2

DJA 27 06:18:50.6±0.5,3°S±3°×12°2E±°,h10km,M4.0/6,mb4.5/1, MLv3.8/6,Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUWI	**Luwuk**	**1.79**	**12**	P	Pn	06 19 21.8	+0.3
LUWI				S	Sn	06 19 44.7	+0.4
BKSI	**Bulukumba**	**3.38**	**222**	P	Pn	06 19 43.1	-0.4
MPSI	**Mapaga**	**4.00**	**321**	P	Pn	06 19 51.1	-0.8
MMRI	**Maumere**	**5.80**	**182**	P	Pn	06 20 17.6	+0.8

*NEIC **27** 06:22:46.6±1.0, 18°.90N±0°.04×155°.278W±0°.009, h10km±1km, Error ellipse: s-maj=6.1km s-min=2.9km az=354.0*

HVO 27 06:22:47.5±1.6,18°.92N±0°.01×155°.35W±0°.01,h11km±6km, ML3.0/28,ML3.2/34(NEIC),Error ellipse: s-maj=2.2km s-min=1.8km az=145.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HPO	**Honuapo**	**0.26**	**310**		Pg	06 22 50.4	-2.5
HTC	**Hot Caves**	**0.32**	**351**		Pg	06 22 54.0	-0.1
HLP	**Hilina Pali**	**0.38**	**5**		Pg	06 22 55.0	0.0
HLP					Sg	06 23 01.1	+1.0
KHU	**Kahuku**	**0.41**	**322**		Pg	06 22 55.4	-0.4
KHU					Sg	06 23 01.4	+0.1
KHU				IAML		06 23 01.7	
	comp=N,3μm,0.5s						
KHU				IAML		06 23 08.8	
	comp=E,2μm,1.1s						
PUH	**Pauahi**	**0.47**	**15**		Pg	06 22 56.0	-0.8
PUH				IAML		06 23 13.5	
	comp=N,1μm,0.5s						
RIM	**Rim**	**0.48**	**8**		Pg	06 22 56.3	-0.7
KKO	**Keanakako`i**	**0.48**	**9**		Pg	06 22 56.3	-0.7
KKO					Sg	06 23 03.4	0.0
KNHH	**Kane Nui o Ham**	**0.49**	**20**		Pg	06 22 56.4	-0.7
BYL	**Byron's Ledge**	**0.49**	**9**		Pg	06 22 56.5	-0.8
BYL				IAML		06 23 07.8	
	comp=E,2μm,1.1s						
BYL				IAML		06 23 11.9	
	comp=N,2μm,0.9s						
UWE	**Uwekahuna**	**0.50**	**6**		Pg	06 22 56.8	-0.6
UWB	**Uwekahuna B**	**0.51**	**7**		Pg	06 22 56.5	-0.9
HATHI	**Halema'uma'u T**	**0.51**	**9**		Pg	06 22 56.6	-0.9
HATHI				IAML		06 23 01.2	
	comp=N,2μm,0.7s						
STCH	**Steam Cracks**	**0.51**	**24**		Pg	06 22 56.7	-0.8
SBLHI	**Steaming Bluff**	**0.51**	**8**		Pg	06 22 56.7	-0.8
NPOC	**North of Pu'u**	**0.52**	**25**		Pg	06 22 56.8	-0.9
RSD	**Rainshed**	**0.54**	**7**		Pg	06 22 57.1	-1.1
MLH	**Mauna Loa**	**0.57**	**356**		Pg	06 22 57.8	-1.0
MLH				IAML		06 23 16.7	
	comp=N,1μm,0.4s						
JOKA	**Jonika Flow**	**0.60**	**32**		Pg	06 22 57.9	-1.4
JOKA	**Jonika Flow**	**0.60**	**32**	IAML		06 23 13.9	
	comp=N,1μm,0.8s						
MWH	**Moku'aweowe**	**0.61**	**337**		Pg	06 22 58.1	-1.4
MWH	**Moku'aweowe**	**0.61**	**337**	IAML		06 23 20.8	
	comp=N,2μm,0.8s						
ALEP	**Alea Permanent**	**0.68**	**336**		Pg	06 22 59.1	-1.7
HMH	**Humu'ula Sheep**	**0.69**	**349**		Pg	06 22 59.6	-1.4
HMH				IAML		06 23 12.9	
	comp=E,992nm,0.4s						
HMH				IAML		06 23 14.9	
	comp=N,722nm,0.4s						
PHO	**Puu Honuaula**	**0.70**	**38**		Sg	06 23 10.9	+0.4

*KRSC **27** 06:27:47.9±2.0, 49°.34N×156°.75E, h14km±26km, Ml4.3*
*MOS **27** 06:27:49.4±1.1, 49°.42N×155°.65E, h70km, mb4.3/1, Error ellipse: s-maj=17.9km s-min=4.7km az=73.8*
*IDC **27** 06:27:51.0±2.7, 49°.42N×155°.62E, h65km±22km, mb3.4/12, mbtmp3.7/16, MS2.5/1, Error ellipse: s-maj=26.0km s-min=13.0km az=142.0*

ISC 27 06:27:49.3±0.7,49°.27N±0°.09×155°.89E±0°.08,h54km,n68, σ1s31°/74,mb3.7/12,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SKR	**Severo-Kuril's**	**1.42**	**6**	*e*P	**Pn**	**06 28 11.5**	**-1.2**
SKR				*e*S	**Sn**	**06 28 28.6**	**-1.6**
SKR	**Severo-Kuril's**	**1.42**	**6**	PN	**Pn**	**06 28 11.5**	**-1.2**
SKR				S	**Sn**	**06 28 28.6**	**-1.6**
PAU	**Pauzhetka**	**2.27**	**15**	*e*P	**Pn**	**06 28 25.2**	**+0.9**
PAU				*e*S	**Sn**	**06 28 52.0**	**+0.9**
PAU	**Pauzhetka**	**2.27**	**15**	PN	**Pn**	**06 28 25.2**	**+0.9**
PAU				S	**Sn**	**06 28 52.0**	**+0.9**
KDTR	**Khodutka, Kamc**	**2.90**	**28**	*e*P	**Pn**	**06 28 31.8**	**-1.0**
KDTR				*e*S	**Sn**	**06 29 03.9**	**-2.5**
KDTR	**Khodutka, Kamc**	**2.90**	**28**	PN	**Pn**	**06 28 31.8**	**-1.0**
KDTR				S	**Sn**	**06 29 03.9**	**-2.5**
ASAK	**Asacha**	**3.36**	**21**	*e*P	**Pn**	**06 28 39.8**	**+0.5**
ASAK	**Asacha**	**3.36**	**21**	PN	**Pn**	**06 28 39.8**	**+0.5**
MTVR	**Mutnovka**	**3.53**	**23**	*e*P	**Pn**	**06 28 41.9**	**+0.3**
MTVR				*e*S	**Sn**	**06 29 22.3**	**+0.2**
MTVR	**Mutnovka**	**3.53**	**23**	PN	**Pn**	**06 28 41.9**	**+0.3**
MTVR				S	**Sn**	**06 29 22.3**	**+0.2**
GRL	**Gorelyy**	**3.56**	**22**	*e*P	**Pn**	**06 28 42.5**	**+0.4**
GRL	**Gorelyy**	**3.56**	**22**	PN	**Pn**	**06 28 42.5**	**+0.4**
RUS	**Russkaya**	**3.57**	**27**	*e*P	**Pn**	**06 28 41.3**	**-0.8**
RUS				*e*S	**Sn**	**06 29 22.0**	**-1.0**
RUS	**Russkaya**	**3.57**	**27**	PN	**Pn**	**06 28 41.3**	**-0.8**
RUS				S	**Sn**	**06 29 22.0**	**-1.0**
APC	**Apacha**	**3.74**	**12**	*e*P	**Pn**	**06 28 46.0**	**+1.6**
APC	**Apacha**	**3.74**	**12**	PN	**Pn**	**06 28 46.0**	**+1.6**
KRMR	**Karymshinskiy**	**3.83**	**21**	*e*P	**Pn**	**06 28 47.0**	**+1.3**
KRMR	**Karymshinskiy**	**3.83**	**21**	PN	**Pn**	**06 28 47.0**	**+1.3**
PETK	**Petropavlovsk-**	**4.00**	**16**	P	**Pn**	**06 28 49.0**	**+1.0**
	8.6nm,0.5s,baz=204,slow=13,SNR=44						
PETK				S	**Sn**	**06 29 33.7**	**0.0**
	6.7nm,0.6s,baz=196,slow=21,SNR=2.3						
PETK				LR	LR	06 30 29.3	
	comp=Z,66nm,22.0s,baz=207,slow=40						
PET	**Petropavlovsk**	**4.14**	**24**	*e*PN	**Pn**	**06 28 50.7**	**+0.9**
PET				*e*S	**Sn**	**06 29 37.1**	**+0.2**
PET				smax	smax		
	comp=E,101nm,0.5s						
PET				smax	smax		
	comp=N,103nm,0.5s						
DALK	**Dalny**	**4.17**	**24**	*e*P	**Pn**	**06 28 51.0**	**+0.7**
DALK				*e*S	**Sn**	**06 29 37.5**	**-0.2**
DALK	**Dalny**	**4.17**	**24**	PN	**Pn**	**06 28 51.0**	**+0.7**
DALK				S	**Sn**	**06 29 37.5**	**-0.2**
UGLR	**Uglovaya**	**4.35**	**24**	*e*P	**Pn**	**06 28 54.1**	**+1.2**
UGLR	**Uglovaya**	**4.35**	**24**	PN	**Pn**	**06 28 54.1**	**+1.2**
KOK	**Koryaka**	**4.38**	**22**	*e*P	**Pn**	**06 28 55.3**	**+2.0**
KOK	**Koryaka**	**4.38**	**22**	PN	**Pn**	**06 28 55.3**	**+2.0**
AVH	**Avacha**	**4.38**	**23**	*e*P	**Pn**	**06 28 55.3**	**+2.1**
AVH	**Avacha**	**4.38**	**23**	PN	**Pn**	**06 28 55.3**	**+2.1**
SMAR	**Somma**	**4.39**	**23**	*e*P	**Pn**	**06 28 55.6**	**+2.0**
SMAR	**Somma**	**4.39**	**23**	PN	**Pn**	**06 28 55.6**	**+2.0**
KRER	**Koryakskii**	**4.42**	**23**	*e*P	**Pn**	**06 28 55.2**	**+1.3**
KRER	**Koryakskii**	**4.42**	**23**	PN	**Pn**	**06 28 55.2**	**+1.3**
KRX	**Arik**	**4.44**	**22**	*e*P	**Pn**	**06 28 55.7**	**+1.6**
KRX	**Arik**	**4.44**	**22**	PN	**Pn**	**06 28 55.7**	**+1.6**
GNL	**Ganaly**	**4.61**	**15**	*e*P	**Pn**	**06 28 58.5**	**+2.1**
GNL	**Ganaly**	**4.61**	**15**	PN	**Pn**	**06 28 58.5**	**+2.1**
SPN	**Mys Shipunski**	**4.63**	**33**	*e*P	**Pn**	**06 28 56.3**	**-0.3**
SPN	**Mys Shipunski**	**4.63**	**33**	PN	**Pn**	**06 28 56.3**	**-0.3**
KMNR	**Kamenistaya**	**7.01**	**21**	*e*P	**Pn**	**06 29 31.9**	**+2.6**

KMNR	Kamenistaya	7.01	21	PN		Pn		06 29 31.9	+2.6
KBTR	Krutoberegovo	8.12	29	*e*P		Pn		06 29 43.8	-0.5
KBTR	Krutoberegovo	8.12	29	PN		Pn		06 29 43.8	-0.5
ASAJ	Asahikawa	10.48	246	P		Pn		06 30 17.6	+0.9
	comp=N,6.9nm,0.7s,baz=83,slow=12,SNR=7.4								
MA2	Magadan	10.74	346	P		Pn		06 30 19.1	-1.1
	comp=N,2.6nm,0.5s,baz=161,slow=11,SNR=5.2								
SHEM	Shemya Is, Ala	11.98	66	P		Pn		06 30 38.1	+1.1
	comp=N,20nm,0.8s,baz=210,slow=18,SNR=1.2								
KLR	Kul'dur	15.75	279	P		Pn		06 31 25.9	-1.5
	comp=N,0.3nm,0.3s,baz=231,slow=15,SNR=1.4								
KSRS	Korea Array	23.37	250	P		P		06 32 52.8	-0.2
	comp=N,0.9nm,0.7s,baz=52,slow=9.8,SNR=5.7								
	comp=N,0.9nm,0.7s								
H11N2	WAKE ISLAND Hy 30.77		159	T		T		07 06 30.9	
	baz=346,slow=76,SNR=22								
H11N1	WAKE ISLAND Hy 30.79		159	T		T		07 06 54.5	
	baz=346,slow=76,SNR=19								
H11N3	WAKE ISLAND Hy 30.79		159	T		T		07 06 51.1	
	baz=346,slow=76,SNR=21								
H11S1	WAKE ISLAND Hy 31.91		160	T		T		07 08 10.1	
	baz=346,slow=76,SNR=300								
H11S3	WAKE ISLAND Hy 31.92		160	T		T		07 07 53.0	
	baz=346,slow=76,SNR=563								
H11S2	WAKE ISLAND Hy 31.92		160	T		T		07 08 06.6	
	baz=346,slow=76,SNR=245								
ILAR	Eielson Array	33.41	41	P		P		06 34 22.8	+0.5
	comp=N,0.8nm,0.8s,baz=264,slow=8.1,SNR=12								
	comp=N,0.8nm,0.8s								
MKAR	Makanchi Array	47.46	297	P		P		06 36 16.3	-2.1
	comp=N,0.2nm,0.6s,baz=59,slow=5.9,SNR=2.3								
	comp=N,0.2nm,0.6s								
KURK	Kurchatov	47.54	303	P		P		06 36 18.1	-0.8
KURK								06 37 47.7	
KURBB	Kurchatov Arra	47.64	303	P		P		06 36 18.1	-1.6
	comp=N,0.5nm,0.5s,baz=67,slow=8.2,SNR=4.8								
KURBB				PcP		PcP		06 37 47.7	-0.7
	comp=N,0.5nm,0.6s,baz=65,slow=4.1,SNR=4.2								
	comp=N,0.5nm,0.5s								
YKA	Yellowknife Ar	47.78	39	P		P		06 36 21.4	+0.8
	comp=N,0.2nm,0.6s,baz=287,slow=7.3,SNR=4.5								
	comp=N,0.2nm,0.6s								
BVAR	Borovoye Array	50.71	309	P		P		06 36 41.2	-1.9
	comp=N,0.5nm,0.3s,baz=55,slow=8.2,SNR=4.2								
	comp=N,0.5nm,0.3s								
CMAR	Chiang Mai Arr	54.77	257	P		P		06 37 13.6	+0.1
	comp=N,2.0nm,0.5s,baz=35,slow=7.0,SNR=7.5								
	comp=N,2.0nm,0.5s								
PDAR	Pinedale Array	61.77	56	P		P		06 38 03.3	+0.9
	comp=N,0.3nm,0.4s,baz=342,slow=4.7,SNR=1.9								
	comp=N,0.3nm,0.4s								
FINES	FINESS Array B	62.54	335	P		P		06 38 05.9	-0.9
	comp=N,1.8nm,0.9s,baz=46,slow=6.8,SNR=1.8								
	comp=N,1.8nm,0.9s								
TXAR	Lajitas Array	74.65	63	P		P		06 39 23.9	+0.9
	comp=N,0.2nm,0.5s,baz=312,slow=3.2,SNR=4.7								
	comp=N,0.2nm,0.5s								
ASAR	Alice Springs	75.21	201	P		P		06 39 26.4	+0.4
	comp=N,0.3nm,0.7s,baz=13,slow=5.6,SNR=5.4								
	comp=N,0.3nm,0.7s								
MMAI	Mount Meron Ar	82.50	313	P		P		06 40 06.5	+0.4
	comp=N,1.8nm,0.4s,baz=39,slow=6.8,SNR=5.2								
	comp=N,1.8nm,0.4s								
H03N2	Juan Fernandez	136.88	90	T		T		09 19 49.3	
	baz=311,slow=77,SNR=5.6								
H03N1	Juan Fernandez	136.90	90	T		T		09 19 52.9	
	baz=311,slow=77,SNR=6.2								
H03N3	Juan Fernandez	136.90	90	T		T		09 19 45.3	
	baz=311,slow=77,SNR=5.8								

NEIC ***27*** *06:29:47.4±1.7, 18°.93N±0°.01×155°.38W±0°.01, h5km±2km, Error ellipse: s-maj=3.1km s-min=2.5km az=4.0*

HVO 27 06:29:46.8±2.0, 18°.87N±0°.03×155°.33W±0°.02, h9km±8km, Md2.1/7, ML2.6/28(NEIC), **Error ellipse: s-maj=4.8km s-min=2.4km az=161.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	Hot Caves	0.37	350		Pg	06 29 54.0	-0.2
HLP	Hilina Pali	0.42	3		Pg	06 29 55.0	-0.1
HLP					Sg	06 30 00.9	+0.1
HLP				IAML		06 30 09.3	
	comp=N,668nm,1.2s						
KHU	Kahuku	0.46	324		Pg	06 29 55.4	-0.5
KHU	Kahuku	0.46	324	IAML		06 30 11.9	
	comp=N,362nm,1.3s						
PUH	Pauahi	0.51	12	Pg	Pg	06 29 55.3	-1.5
PUH				IAML		06 30 14.2	
	comp=E,438nm,1.1s						
KNHH	Kane Nui o Ham	0.53	17	Pg	Pg	06 29 55.9	-1.2
STCH	Steam Cracks	0.55	21	Pg	Pg	06 29 56.0	-1.5
STCH				IAML		06 30 05.5	
	comp=E,396nm,1.3s						
STCH				IAML		06 30 05.6	
	comp=N,274nm,1.2s						
MLH	Mauna Loa	0.62	355		Pg	06 29 57.9	-1.0
MLH				IAML		06 30 03.0	
	comp=E,249nm,1.1s						
MLH				IAML		06 30 15.3	
	comp=N,381nm,1.0s						
JOKA	Jonika Flow	0.64	29	Pg	Pg	06 29 58.1	-1.1
JOKA				IAML		06 30 05.7	
	comp=E,228nm,1.4s						
MWH	Moku'aweowe	0.66	338	Pg	Pg	06 29 58.3	-1.5
MLOA	Mauna Loa Obse	0.70	341	Pg	Pg	06 29 59.2	-1.3
MLOA				IAML		06 30 17.3	
	comp=N,213nm,1.1s						
ALEP	Alea Permanent	0.73	336		Pg	06 29 59.1	-1.9
ALEP					Sg	06 30 07.8	-2.8
HMH	Humu'ula Sheep	0.74	349		Pg	06 29 59.8	-1.4
HMH				Sg	Sg	06 30 09.5	-1.5
HMH				IAML		06 30 25.2	
	comp=N,206nm,1.4s						

NAO ***27*** *06:32:43.0, 35°.54N×23°.77E, h33km, mb3.8*
PRU ***27*** *06:33:25.6, 40°.04N×19°.92E, h1km*
PDG ***27*** *06:33:28.2±1.0, 40°.31N×19°.60E, h2km±2km, MD4.8/1, ML3.5/11, Error ellipse: s-maj=0.9km s-min=2.2km az=0.0*
TIR ***27*** *06:33:28.1, 40°.27N×19°.75E, h21km±1km, Md3.9, Ml3.8*
BEO ***27*** *06:33:28.3±0.7, 40°.17N×19°.65E, h15km±3km, ML3.5/12*
IDC ***27*** *06:33:28.9±0.9, 40°.30N×19°.86E, h0km, mb3.7/10, mbtmp3.8/15, ML3.6/3, MS3.0/5, Error ellipse: s-maj=20.5km s-min=13.5km az=141.0*
NEIC ***27*** *06:33:29.6±2.0, 40°.32N±0°.05×19°.73E±0°.06, h11km±9km, ML3.5/6, Error ellipse: s-maj=7.5km s-min=6.1km az=51.0*
THE ***27*** *06:33:29.9, 40°.30N×19°.83E, h2km±34km, ML3.3/7, Error ellipse: s-maj=34.6km s-min=0.6km az=0.0*

ISC 27 06:33:28.9±1.1, 40°.30N±0°.02×19°.78E±0°.02, h4km±8km, n195, σ1.9/29/246, **mb3.6**/9, **20C-11D, Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	Vlora	0.28	309	P	Pg	06 33 34.9	+0.5
	baz=316						
VLO				S	Sb	06 33 40.4	-1.1
	baz=316						
VLO				AMP			
	comp=N,159nm,0.4s,baz=316						
VLO	Vlora	0.28	309	P	Pb	06 33 35.4	-1.1
VLO				S	Sb	06 33 40.7	-0.8
	comp=N,42μm,0.4s						
VLO	Vlora	0.28	309	Pg	Pg	06 33 34.8	+0.5
VLO				Sg	Sb	06 33 40.9	-0.6
VLO				IAML		06 33 42.4	
	comp=E,17μm,0.4s						
SRN	Sarande	0.45	158	P	Pg	06 33 37.2	-0.4
	baz=153						
SRN				S	Sg	06 33 44.0	+0.6
	baz=153						
SRN				AMP			
	comp=N,28nm,0.6s,baz=153						
SRN	Sarande	0.45	158	P	Pg	06 33 37.9	+0.3
SRN				S	Sb	06 33 45.1	-1.3
	comp=N,8μm,0.5s						
LSK	Leskovik	0.65	103	P	Pg	06 33 40.7	-0.6
	baz=100						
LSK				S	Sb	06 33 51.3	-0.9
	baz=100						
LSK				AMP			
	comp=N,21nm,0.4s,baz=100						
LSK	Leskovik	0.65	103	P	Pg	06 33 41.2	-0.1
LSK				S	Sb	06 33 51.1	-1.1
	comp=N,5μm,0.5s						

KBN	Korca	0.84	67	P		Pg		06 33 44.8	-0.2
KBN				S		Sb		06 33 57.0	-0.7
	comp=N,3μm,0.6s								
KBN	Korca	0.84	67	Pg		Pg		06 33 45.0	0.0
KBN				Sg		Sb		06 33 58.2	+0.5
KBN				IAML				06 34 05.4	
	comp=E,2μm,0.9s								
KBN				IAML				06 34 07.3	
	comp=N,1μm,0.7s								
IGT	Igoumenitsa	0.87	151	P		Pg		06 33 44.9	-0.8
	baz=148								
IGT				S		Sg		06 33 57.9	+0.9
	baz=148								
IGT	Igoumenitsa	0.87	151	P		Pg		06 33 45.4	-0.3
IGT				S		Sb		06 33 58.9	+0.3
	comp=N,2μm,0.6s								
NEST	Nestorio	0.98	83	P		Pg		06 33 47.6	-0.1
NEST				S		Sg		06 34 01.1	+0.7
	comp=N,2μm,0.5s								
SCTE	Santa Cesarea	1.03	258	Pg		Pn		06 33 49.8	-0.3
PENT	Pentalofos	1.04	95	P		Pg		06 33 48.6	-0.4
PENT				S		Sg		06 34 02.6	0.0
TIR	Tirane	1.05	4	⇑P		Pg		06 33 49.2	+0.1
TIR	Tirane	1.05	4	P		Pg		06 33 48.9	-0.2
	baz=4.0								
TIR				S		Sn		06 34 04.9	-0.7
	baz=4.0								
TIR				AMP					
	comp=N,3.8nm,0.5s,baz=4.0								
TIR	Tirane	1.05	4	P		Pb		06 33 49.4	-0.3
TIR				S		Sb		06 34 04.5	+0.7
	comp=N,888nm,0.5s								
TIR	Tirane	1.05	4	Pg		Pg		06 33 48.6	-0.6
TIR				IAML				06 34 19.2	
	comp=N,1μm,0.6s								
TIR	Tirane	1.05	4	*e*Pg		Pg		06 33 49.2	+0.1
TIR				*e*Sg		Sn		06 34 06.6	+1.0
OHR	Ohrid	1.12	43	*i* Pn		Pg		06 33 50.3	-0.2
OHR				*i* Sn		Sn		06 34 12.0	+4.6
KPRO	Kipourio	1.26	105	P		Pg		06 33 53.1	0.0
KPRO				S		Sn		06 34 10.7	-0.1
FNA	Florina	1.31	68	P		Pn		06 33 53.2	-0.8
	baz=67								
FNA				S		Sn		06 34 12.2	+0.2
	baz=67								
FNA	Florina	1.31	68	P		Pn		06 33 53.6	-0.4
FNA				S		Sn		06 34 12.8	+0.8
FNA	Florina	1.31	68			Pn		06 33 53.6	-0.4
FNA	Florina	1.31	68	*e*Pg		Pn		06 33 53.7	-0.4
FNA				*e*Sg		Sn		06 34 14.9	+2.9
LKD2	Lefkada island	1.65	155	P		Pb		06 33 59.4	-0.5
	baz=154								
LKD2				S		Sg		06 34 22.0	0.0
	baz=154								
ULC	Ulcinj	1.71	347	⇓*i* Pn		Pn		06 33 59.2	-0.4
ULC				*i* Sn		Sg		06 34 24.9	+0.9
PUK	Puka	1.75	3	P		Pn		06 34 00.8	+0.7
	baz=3.0								
PUK				S		Sg		06 34 25.8	+0.7
	baz=3.0								
PUK				AMP					
	comp=N,3.1nm,0.5s,baz=3.0								
PUK	Puka	1.75	3	Pn		Pn		06 33 59.6	-0.5
DRME	Dracevica, Mon	1.94	347	⇑*i* Pn		Pn		06 34 02.7	0.0
DRME	Dracevica, Mon	1.94	347	⇓*i* Pn		Pn		06 34 02.5	-0.2
DRME				*i* Sn		Sb		06 34 29.5	+0.1
BCI	Bajram Curri	2.08	6	P		Pb		06 34 06.0	-1.2
	baz=6.0								
BCI				S		Sb		06 34 34.2	+0.8
	baz=6.0								
LIT	Litokhoron	2.09	94	Pn		Pn		06 34 05.7	+1.1
SKO	Skopje	2.09	36	*i* Pn		Pb		06 34 06.6	-0.8
SKO				*i* Sn		Sg		06 34 35.1	-1.0
BUM	Brajici-Budva	2.11	342	⇑*i* Pn		Pn		06 34 04.5	-0.6
BUM				*i* Sn		Sb		06 34 34.2	-0.2
NOCI	Noci	2.13	284	P		Pn		06 34 04.2	-1.0
	baz=286								
NOCI				S		Sb		06 34 34.0	-0.8
	baz=286								
PDG	Podgorica	2.17	350	⇑P		Pn		06 34 05.9	+0.1
PDG	Podgorica	2.17	350	Pn		Pn		06 34 05.2	-0.6
PDG	Podgorica	2.17	350	*e*Pn		Pn		06 34 05.1	-0.7
PDG	Podgorica	2.17	350	⇑*i* Pn		Pn		06 34 05.7	-0.1
PDG				*i* Sn		Sb		06 34 35.3	-0.6
STIP	Stip	2.30	52	*i* Pn		Pg		06 34 12.0	-0.9
STIP				*i* Sn		Sg		06 34 45.6	+2.9
PVY	Plav	2.30	3	⇓*i* Pn		Pn		06 34 08.7	+1.0
CEME	Cevo	2.34	344	⇓*i* Pn		Pn		06 34 07.6	-0.6
CEME				*i* Sn		Sb		06 34 39.5	-1.5
VAY	Valandovo	2.35	63	*i* Pn		Pb		06 34 10.2	-1.7
VAY				*i* Sn		Sg		06 34 43.1	-1.4
HCY	Herceg Novi	2.36	336	*e*Pn		Pn		06 34 07.2	-1.2
HCY	Herceg Novi	2.36	336	⇑*i* Pn		Pn		06 34 07.5	-0.9
HCY				*i* Sn		Sn		06 34 39.5	+1.8
MATE	Matera	2.37	280	⇓P		Pg		06 34 14.4	0.0
MATE				S		Sg		06 34 44.8	-0.9
NKME	Niksic	2.55	346	⇑*i* Pn		Pn		06 34 10.8	-0.2
NKME				*i* Sn		Sb		06 34 44.8	-2.0
KOME	Kolasin	2.56	356	*e*Pn		Pn		06 34 11.5	+0.2
KOME				*i* Sn		Sb		06 34 45.6	-1.7
IVA	Berane	2.58	2	*e*Pn		Pn		06 34 12.3	+0.8
IVA				*i* Sn		Sb		06 34 45.9	-1.8
TREB	Trebinje	2.65	337	*e*Pn		Pn		06 34 11.2	-1.2
DBRK	Dubrovnik	2.67	333	*e*Pn		Pn		06 34 11.6	-1.1
BRY	Bratogost	2.77	341	*e*Pn		Pn		06 34 13.2	-0.9
BRY	Bratogost	2.77	341	⇑*i* Pn		Pn		06 34 13.1	-1.0
BRY				*i* Sn		Sn		06 34 48.8	+0.8
PRVS	Prvonek	2.81	37	*e*Pn		Pn		06 34 15.2	+0.6
PRVS				*e*Sn		Sn		06 34 49.0	+0.1
BARS	Barje	2.95	31	*e*Pn		Pn		06 34 17.7	+1.2
SJES	Sjenica	2.97	3	*e*Pn		Pn		06 34 17.9	+1.0
SJES				*e*Sn		Sn		06 34 52.5	-0.4
SJES	Sjenica	2.97	3	*e*Pn		Pn		06 34 17.2	+0.3
UPM	Unac-Piva	2.98	348	*e*Pn		Pn		06 34 17.4	+0.6
UPM	Unac-Piva	2.98	348	*e*Pn		Pn		06 34 17.6	+0.5
UPM				*i* Sn		Sn		06 34 54.5	+1.2
BOSS	Bosilegrad	2.99	42	*e*Pn		Pn		06 34 16.5	-0.6
STON	Ston	3.01	329	*e*Pn		Pn		06 34 16.2	-1.1
STON	Ston	3.01	329	*e*Pn		Pn		06 34 16.0	-1.3
CUC	Castrocucco	3.05	266	Pn		Pn		06 34 18.2	+0.3
SELS	Selova	3.09	19	*e*Pn		Pn		06 34 19.4	+0.9
LSTV	Lastovo	3.29	320	*e*Pn		Pn		06 34 19.6	-1.5
LSTV				Sn		Sn		06 34 55.3	-5.3
IVAS	Ivanjica	3.29	5	*e*Pn		Pn		06 34 21.0	-0.3
RUDO	Rudo	3.33	355	*e*Pn		Pn		06 34 23.0	+1.2
SGRT	San Giovanni R	3.38	297	Pn		Pn		06 34 21.8	-0.8
ITM	Ithomi	3.54	151	Pn		Pn		06 34 25.5	+0.9
BBLS	Lazi&#263i	3.58	356	*e*Pn		Pn		06 34 25.8	+0.6
BBLS	Lazi&#263i	3.58	356	*e*Pn		Pn		06 34 22.3	-2.9
MAKA	Makarska	3.63	326	*e*Pn		Pn		06 34 25.2	-0.6
BOVS	Bovan	3.63	23	⇓P		Pn		06 34 26.6	+0.7
BOVS	Bovan	3.63	23	*e*Pn		Pn		06 34 26.1	+0.2
CEL	Celeste	3.64	237	Pn		Pn		06 34 25.4	-0.7
GRUS	Gruza	3.66	11	*e*Pn		Pn		06 34 26.9	+0.7
ZAPS	Zavoj	3.66	35	*e*Pn		Pn		06 34 27.3	+0.9
ZAPS				*e*Sn		Sn		06 35 11.8	+1.8
RICI	Ricice	3.76	329	*e*Pn		Pn		06 34 26.5	-1.1
DIVS	Divibare	3.80	2	*e*Pn		Pn		06 34 28.4	+0.1
DIVS				*e*Sn		Sn		06 35 12.0	-1.5
HVAR	Hvar	3.81	320	*e*Pn		Pn		06 34 27.0	-1.3
HAPS	Han Pijesak,BI	3.84	351	*e*Pn		Pn		06 34 28.7	-0.1
TRUS	Trudelj	3.95	7	*e*Pn		Pn		06 34 29.3	-1.0
TRUS				*e*Sn		Sn		06 35 16.2	-0.9
ZAGS	Zajecar	3.96	27	*e*Pn		Pn		06 34 30.5	+0.1
BLKB	Belogradchik	3.96	32	⇑P		Pn		06 34 32.1	+1.6
PAOL	Paolisi	4.03	282	Pn		Pn		06 34 29.9	-1.5
SRKY	Kupres RS	4.24	334	*e*Pn		Pn		06 34 34.3	-0.1
TEKS	Tekeris	4.25	358	*e*Pn		Pn		06 34 34.8	+0.3
TEKS	Tekeris	4.25	358	*e*Pn		Pn		06 34 33.8	-0.7
KUBS	Kucevo	4.35	18	*e*Pn		Pn		06 34 34.0	-1.7
RDO	Rodhopi	4.46	77	Pn		Pn		06 34 37.5	+0.3
KIJV	Kijevo	4.47	327	*e*Pn		Pn		06 34 36.6	-0.9
ZIRJ	Zirje	4.56	319	*e*Pn		Pn		06 34 37.3	-1.3
MGRS	Mrkonjic Grad	4.58	335	⇑*i* Pn		Pn		06 34 37.6	-1.3
MORI	Morici	4.68	321	*e*Pn		Pn		06 34 39.8	-0.5
MDVR	Moldovita	4.71	17	⇑P		Pn		06 34 41.9	+1.2
INTR	Introdacqua	4.75	293	Pn		Pn		06 34 40.8	-0.6
ALN	Alexandroupoli	4.81	81	Pn		Pn		06 34 42.5	+0.4
A050A	Klekovaca	4.83	331	*e*Pn		Pn		06 34 41.8	-0.6
BLY	Banja Luka	4.84	338	*e*Pn		Pn		06 34 41.6	-1.0
FRGS	Fruska Gora	4.86	0	⇑P		Pn		06 34 42.7	-0.1
FRGS	Fruska Gora	4.86	0	*e*Pn		Pn		06 34 41.6	-1.2
FRGS	Fruska Gora	4.86	0	*e*Pn		Pn		06 34 41.9	-0.9
HERR	Herculane	4.98	22	⇓P		Pn		06 34 45.7	+1.3
VAE	Valguarnera	5.04	238	Pn		Pn		06 34 47.3	+2.0
	comp=N,4.2nm,0.5s,baz=212,slow=20,SNR=1.5								
VAE				Sn		Sn		06 35 49.0	+4.9
	comp=N,1.4nm,0.3s,baz=178,slow=21,SNR=1.8								
DUGI	Dugi Otok	5.09	318	*e*Pn		Pn		06 34 45.3	-0.7
UDBI	Udbina	5.17	326	*e*Pn		Pn		06 34 47.6	+0.5
RAFF	Raffo Rosso	5.23	236	Pn		Pn		06 34 46.2	-1.7
CAMP	Campotosto	5.29	297	Pn		Pn		06 34 47.6	-1.1
VIRC	Vir	5.31	320	*e*Pn		Pn		06 34 48.3	-0.7
BZS	Buzias	5.49	14	⇑P		Pn		06 34 51.9	+0.6
PLIT	Plitvice	5.51	328	*e*Pn		Pn		06 34 51.5	-0.3
PLIT				Sn		Sn		06 35 54.6	-0.9
GZR	Gura Zlata	5.55	22	⇑P		Pn		06 34 53.8	+1.4
GUMA	Gualdo di Mace	5.56	302	Pn		Pn		06 34 51.2	-1.2
NRCA	Norcia	5.61	299	Pn		Pn		06 34 53.1	+0.1
FDMO	Fiordimonte	5.71	301	Pn		Pn		06 34 53.9	-0.6
MOSL	Moslavina	5.76	338	*e*Pn		Pn		06 34 53.8	-1.3
RABC	Rab	5.78	322	*e*Pn		Pn		06 34 54.6	-0.8
CESX	Cesi	5.88	295	Pn		Pn		06 34 56.2	-0.6
MORH	Mrgy, Hungar	5.97	352	⇑P		Pn		06 34 57.7	-0.3
SIRR	Siria	6.12	12	⇑P		Pn		06 35 01.5	+1.3
BOJS	Bojanci	6.17	329	*i* Pn		Pn		06 35 00.2	-0.6
BOJS				*e*Sn		Sn		06 36 06.9	-4.9
BOJS				IAML				06 36 11.1	
	comp=Z,14nm,0.5s								
BOJS	Bojanci	6.17	329	*e*Pn		Pn		06 34 59.6	-1.2
SMRN	Sveta Marina	6.29	321	*e*Pn		Pn		06 35 01.4	-1.1
KALN	Kalnik	6.32	339	*e*Pn		Pn		06 35 01.0	-1.8
RIY	Rijeka	6.36	324	*e*Pn		Pn		06 35 02.7	-0.6
CRES	Cresnjev	6.37	332	⇑*i* Pn		Pn		06 35 02.5	-1.0
BRJN	Brijuni	6.40	318	*e*Pn		Pn		06 35 03.0	-0.9
IDI	Anoyia	6.43	139	Pn		Pn		06 35 04.8	+0.4
	comp=Z,16nm,1.0s,baz=82,slow=18,SNR=1.8								
IDI				Sn		Sn		06 36 14.7	-3.6
	comp=Z,1.2nm,0.3s,baz=22,slow=23,SNR=2.0								
VOIR		6.43	35	⇓P		Pn		06 35 07.1	+2.7
VISS	Visnje	6.59	328	*i* Pn		Pn		06 35 05.8	-0.7
CEY	Cerknica	6.71	326	*e*Pn		Pn		06 35 06.9	-1.2
SKDS	Skadanscina	6.74	323	*i* Pn		Pn		06 35 07.2	-1.4
MARR	Marisel-Cluj	6.82	20	⇓P		Pn		06 35 11.3	+1.5
DRGR		6.83	17	⇓P		Pn		06 35 11.1	+1.2
MLR	Muntele Rosu	6.89	39	⇑P		Pn		06 35 12.9	+2.1
MLR	Muntele Rosu	6.89	39	Pn		Pn		06 35 10.2	-0.5
MLR	Muntele Rosu	6.89	39	Pn		Pn		06 35 12.9	+2.1
	comp=Z,0.4nm,0.3s,baz=336,slow=3.2,SNR=3.7								
MLR				Sn		Sn		06 36 30.8	+1.2
	comp=Z,0.2nm,0.3s,baz=199,slow=21,SNR=1.5								
MLR				LR		LR		06 38 33.4	
	comp=Z,112nm,19.5s,baz=155,slow=44								
	comp=Z,2.3nm,0.5s								
OSSC	Osservatorio P	7.13	300	Pn		Pn		06 35 12.9	-1.2
CASP	Castiglione de	7.14	293	Pn		Pn		06 35 13.5	-0.5
SOKA	Soboth	7.25	333	*e*Pn		Pn		06 35 14.8	-0.9
	comp=Z,3.8nm,0.4s								
SABO	M.te Sabotino	7.26	324	Pn		Pn		06 35 14.2	-1.5
OBKA	Obir	7.28	330	*e*Pn		Pn		06 35 15.4	-0.8
	comp=Z,4.1nm,0.5s,SNR=6.2								
OBKA	Obir	7.28	330	⇑*i* Pn		Pn		06 35 13.7	-2.4
KARP	Karpathos	7.52	127	Pn		Pn		06 35 21.2	+1.9
VRI	Vrincioaia	7.54	40	⇓P		Pn		06 35 22.5	+2.9
ARSA	Arzberg	7.60	338	*e*Pn		Pn		06 35 19.8	-0.7
	comp=Z,1.4nm,0.3s,SNR=5.8								
PSZ	Piszkesteto	7.62	1	Pn		Pn		06 35 19.9	-0.8
PRED	Cave del Predi	7.63	326	Pn		Pn		06 35 18.9	-2.0
RONA	Rosalia, Austr	7.81	342	*e*Pn		Pn		06 35 21.8	-1.5
	comp=Z,0.5nm,0.4s								
TEOL	Teolo	7.82	313	Pn		Pn		06 35 20.8	-2.5

comp=Z,0.5nm,0.6s,baz=336,slow=2.0,SNR=5.5

IDC 27 07:17:54.8±2.6,23°.95S×179°.92W,h518km±25km, mb3.4/10,mbtmp4.3/10,Error ellipse: s-maj=23.4km s-min=19.3km az=104.0
NEIC 27 07:17:59.2±0.9,23°.9S±0°.1×179°.95W±0°.08,h574km±11km, mb4.3/21,Error ellipse: s-maj=18.1km s-min=10.4km az=174.0
ISC 27 07:17:54.2±0.6,**23°.9S**±0°.1×**179°.8W**±0°.1,**h518**km,**n52,** σ1°.**38**/52,**mb4.1**/21,**South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.59**	**163**	P	P	07 19 35.3	+7.9
MSVF	**Nonsavu**	**6.46**	**341**	P	P	07 19 41.8	+5.9
PINNC	**Pines Island,**	**11.81**	**274**		**P**	**07 20 33.6**	**+2.9**
OUENC	**Ouen Island, N**	**12.39**	**274**		**P**	**07 20 40.0**	**+3.2**
DZM	**Mont Dzumac**	**12.81**	**275**		**P**	**07 20 44.6**	**+3.2**
DZM	**Mont Dzumac**	**12.81**	**275**	P	**P**	**07 20 43.9**	**+2.5**
	4.9nm,0.5s,baz=132,slow=18,SNR=6.1						
WHZ	**Wether Hill Ro**	**24.09**	**201**	P	**P**	**07 22 29.8**	**+1.5**
WHZ				IAmb	IAmb	07 22 45.8	
	comp=Z,17nm,1.0s						
EIDS	**Eidsvold**	**26.50**	**261**	P	**P**	**07 22 50.6**	**+0.6**
EIDS				IAmb	IAmb	07 22 50.8	
	comp=Z,4.5nm,0.8s						
CTAO	**Charters Tower**	**31.67**	**270**	P	**P**	**07 23 35.7**	**+0.7**
COEN	**Coen**	**36.31**	**279**	P	**P**	**07 24 14.6**	**+0.6**
COEN				IAmb	IAmb	07 24 27.5	
	comp=Z,4.2nm,0.8s						
BBOO	**Buckleboo**	**39.63**	**247**	P	**P**	**07 24 40.2**	**-0.7**
AS31	**Alice Springs**	**42.23**	**261**	P	**P**	**07 25 01.4**	**-0.4**
ASAR	**Alice Springs**	**42.23**	**261**	P	**P**	**07 25 01.3**	**-0.5**
	comp=Z,3.8nm,0.7s,baz=97,slow=7.1,SNR=47						
ASAR				PcP	**PcP**	**07 26 42.2**	**-1.8**
	comp=Z,0.5nm,0.6s,baz=105,slow=3.6,SNR=2.7						
ASAR				ScP	**ScP**	**07 29 45.0**	**-0.3**
	comp=Z,0.6nm,0.8s,baz=113,slow=4.8,SNR=4.7						
	comp=Z,3.8nm,0.7s						
WR0	**Warramunga Arr**	**42.41**	**266**	P	**P**	**07 25 02.3**	**-1.0**
WR0				IAmb	IAmb	07 25 02.8	
	comp=Z,3.6nm,0.8s						
WB2	**Warramunga Arr**	**42.59**	**266**	P	**P**	**07 25 03.8**	**-0.9**
WB0	**Warramunga Arr**	**42.59**	**266**	P	**P**	**07 25 04.0**	**-0.7**
WB0				IAmb	IAmb	07 25 04.3	
	comp=Z,9.6nm,0.7s						
WRAB	**Tennant Creek**	**42.59**	**266**	P	**P**	**07 25 03.8**	**-0.9**
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	**07 25 04.0**	**-0.8**
WRA	**Warramunga Arr**	**42.60**	**266**	P	**P**	**07 25 03.8**	**-1.0**
	comp=Z,7.4nm,0.4s,baz=96,slow=8.3,SNR=345						
WRA				ScP	**ScP**	**07 29 46.5**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=100,slow=3.8,SNR=5.6						
	comp=Z,7.4nm,0.4s						
FORT	**Forrest**	**46.50**	**250**	P	**P**	**07 25 33.5**	**-1.2**
FAKI	**Fak Fak**	**50.77**	**287**	P	**P**	**07 26 05.7**	**-1.0**
FAKI				IAmb	IAmb	07 26 06.2	
	comp=Z,17nm,1.0s						
VNDA	**Vanda**	**54.40**	**185**	P	**P**	**07 26 32.0**	**+0.4**
PSA00	**Pilbara Seismi**	**55.36**	**260**	P	**P**	**07 26 38.2**	**-1.1**
MBWA	**Marble Bar**	**55.57**	**260**	P	**P**	**07 26 39.7**	**-1.1**
MORW	**Morawa**	**57.06**	**250**	P	**P**	**07 26 50.2**	**-0.7**
TOLI2	**Tolitoli**	**62.77**	**284**	P	**P**	**07 27 28.3**	**-0.8**
TOLI2				IAmb	IAmb	07 27 29.0	
	comp=Z,6.6nm,0.8s						
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**07 27 51.5**	**+1.5**
QSPA	**South Pole Qui**	**66.19**	**180**	P	**P**	**07 27 50.5**	**+0.4**
	comp=Z,0.9nm,0.8s,baz=54,slow=0.4,SNR=5.7						
	comp=Z,0.9nm,0.8s						
JOW	**Kunigami**	**71.13**	**312**	P	**P**	**07 28 21.4**	**+1.0**
JOW				IAmb	IAmb	07 28 25.2	
	comp=Z,20nm,1.0s						
MJAR	**Matsushiro Arr**	**72.00**	**325**	P	**P**	**07 28 25.5**	**+0.2**
	comp=Z,1.7nm,0.7s,baz=163,slow=6.4,SNR=8.6						
	comp=Z,1.7nm,0.7s						
MNAI	**Manna**	**76.60**	**271**	P	**P**	**07 28 49.1**	**-2.7**
NIKH	**Nikolski High**	**77.13**	**7**	P	**P**	**07 28 54.4**	**+0.7**
NIKH				IAmb	IAmb	07 29 11.1	
	comp=Z,27nm,1.0s						
MAW	**Mawson**	**77.82**	**200**	P	**P**	**07 28 57.9**	**+0.5**
	comp=Z,1.4nm,0.6s,baz=86,slow=23,SNR=2.8						
	comp=Z,1.4nm,0.6s						
UNV	**Unalaska Valle**	**78.26**	**8**	P	**P**	**07 29 00.1**	**+0.3**
UNV				IAmb	IAmb	07 29 09.5	
	comp=Z,15nm,1.0s						
KSRS	**Korea Array**	**78.37**	**320**	P	**P**	**07 29 01.9**	**+1.1**
	comp=Z,1.4nm,0.7s,baz=135,slow=5.4,SNR=7.6						
	comp=Z,1.4nm,0.7s						
PEA0B	**Petropavlovsk-**	**79.14**	**346**	P	**P**	**07 29 05.1**	**+0.5**
PEA0B				IAmb	IAmb	07 29 26.6	
	comp=Z,5.8nm,1.0s						
PETK	**Petropavlovsk-**	**79.14**	**346**	P	**P**	**07 29 05.2**	**+0.7**
PETK	**Petropavlovsk-**	**79.14**	**346**	P	**P**	**07 29 04.9**	**+0.3**
	comp=Z,3.5nm,0.8s,baz=107,slow=8.7,SNR=5.8						
	comp=Z,3.5nm,0.8s						
USRK	**Ussuriysk Ar.**	**80.86**	**327**	P	**P**	**07 29 14.9**	**+1.1**
	comp=Z,2.6nm,0.6s,baz=175,slow=4.7,SNR=3.0						
	comp=Z,2.6nm,0.6s						
CMAR	**Chiang Mai Arr**	**89.71**	**290**	P	**P**	**07 29 58.1**	**+0.7**
	comp=Z,1.0nm,0.3s,baz=114,slow=4.9,SNR=5.9						
	comp=Z,1.0nm,0.3s						
TXAR	**Lajitas Array**	**90.26**	**58**	P	**P**	**07 30 01.9**	**+2.1**
	comp=Z,0.2nm,0.7s,baz=216,slow=4.5,SNR=2.8						
	comp=Z,0.2nm,0.7s						
KURBB	**Kurchatov Arra**	**115.38**	**316**	PKP	**PKPdf**	**07 35 34.8**	**-1.8**
	comp=Z,0.4nm,0.5s,baz=101,slow=1.6,SNR=6.2						
BVAR	**Borovoye Array**	**120.56**	**319**	PKP	**PKPdf**	**07 35 45.9**	**-0.7**
	comp=Z,0.9nm,0.4s,baz=79,slow=1.1,SNR=7.8						
ARCES	**ARCESS Array B**	**131.92**	**348**	PKP	**PKPdf**	**07 36 07.6**	**-0.1**
	comp=Z,4.7nm,0.9s,baz=39,slow=2.3,SNR=4.9						
FINES	**FINESS Array B**	**138.50**	**342**	PKhKP	PKPpre	07 36 09.5	
	comp=Z,1.2nm,0.8s,baz=60,slow=4.6,SNR=4.5						
FINES				PKP	**PKiKP**	**07 36 21.3**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=42,slow=4.3,SNR=6.1						
NB2	**NORSAR Subarra**	**142.10**	**351**	PKP	**PKPdf**	**07 36 22.9**	**-3.8**
	comp=Z,0.8nm,0.8s,baz=8.7,slow=3.1						
NOA	**NORSAR Array B**	**142.10**	**351**	PKhKP	PKPpre	07 36 22.2	
	comp=Z,0.8nm,0.8s,baz=18,slow=2.5,SNR=5.3						
HFS	**Hagfors**	**142.58**	**349**	PKhKP	PKPpre	07 36 23.9	
	comp=Z,4.5nm,0.4s,baz=64,slow=3.4,SNR=53						
AKASG	**Malin Array Be**	**145.07**	**327**	PKPbc	**PKPdf**	**07 36 32.0**	**-0.1**
	comp=Z,1.4nm,0.3s,baz=42,slow=4.1,SNR=11						
BRTR	**Keskin Array B**	**147.73**	**307**	PKPbc	**PKPbc**	**07 36 40.5**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=150,slow=6.0,SNR=6.2						
BRTR				PKPab	**PKPab**	**07 36 45.0**	**0.0**
	comp=Z,1.6nm,0.6s,baz=71,slow=4.3,SNR=7.6						
MMAI	**Mount Meron Ar**	**147.88**	**294**	PKPbc	**PKiKP**	**07 36 42.1**	**-0.6**
	comp=Z,5.1nm,0.5s,baz=66,slow=4.1,SNR=11						
EKA	**Eskdalemuir Ar**	**148.50**	**4**	PKPbc	**PKPbc**	**07 36 41.7**	**-0.3**
	comp=Z,0.6nm,0.3s,baz=342,slow=2.7,SNR=7.5						

IDC 27 07:39:15.3±9.0,**19°.17S**×**171°.46W**,**h0**km,**mb3.5**/3, **mbtmp3.5**/3,**Error ellipse: s-maj=389.7km s-min=42.5km az=141.0,Tonga Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**50.81**	**255**	P	P	07 48 17.9	-0.1
	0.4nm,0.4s,baz=95,slow=8.0,SNR=12						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**50.89**	**260**	P	P	07 48 18.5	-0.1
	0.5nm,0.9s,baz=98,slow=7.2,SNR=12						
	0.5nm,0.9s						
ILAR	**Eielson Array**	**85.78**	**10**	P	P	07 51 56.0	0.0
	0.4nm,1.0s,baz=202,slow=6.4,SNR=2.2						
	0.4nm,1.0s						

IDC 27 07:53:42.4±1.1,5°.28N×119°.01E,h0km,mb3.8/6, mbtmp3.8/6,MS3.2/6,Error ellipse: s-maj=119.8km s-min=18.8km az=56.0
ISC 27 07:53:44.0±1.1,**5°.1N**±0°.5×**118°.8E**±0°.7,**h10**km,**n11,** σ0°.**62**/8,**mb3.7**/6,**MS3.1**/5,**Borneo**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAPI	**Kappang**	**10.14**	**174**	LR	LR	08 00 02.8	
	comp=Z,124nm,21.1s,baz=342,slow=37						
CMAR	**Chiang Mai Arr**	**23.45**	**306**	P	**P**	**07 58 53.7**	**-0.2**
	1.1nm,0.3s,baz=129,slow=7.1,SNR=2.2						
CMAR				LR	LR	08 08 57.5	
	comp=Z,68nm,19.6s,baz=165,slow=39						
	1.1nm,0.3s						
GUMO	**Guam**	**27.05**	**70**	LR	LR	08 09 11.3	
	comp=Z,24nm,19.8s,baz=102,slow=35						

WRA	**Warramunga Arr**	**29.25**	**149**	P	**P**	**07 59 45.9**	**-0.6**
	0.8nm,0.6s,baz=333,slow=9.7,SNR=9.1						
WRA				PcP	**PcP**	**08 02 53.0**	**-0.6**
	0.3nm,0.8s,baz=326,slow=2.5,SNR=1.6						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**32.22**	**153**	P	**P**	**08 00 12.7**	**0.0**
	0.7nm,0.6s,baz=332,slow=8.7,SNR=9.4						
ASAR				PcP	**PcP**	**08 03 00.9**	**-0.5**
	0.3nm,0.7s,baz=332,slow=2.2,SNR=2.6						
	0.7nm,0.6s						
KSRS	**Korea Array**	**33.23**	**13**	LR	LR	08 14 52.1	
	comp=Z,21nm,19.8s,baz=210,slow=38						
NWAO	**Narrogin (SRO)**	**37.89**	**182**	LR	LR	08 17 45.1	
	comp=Z,47nm,20.8s,baz=61,slow=38						
STKA	**Stephens Creek**	**42.76**	**151**	P	**P**	**08 01 42.6**	**+0.8**
	2.8nm,0.9s,baz=329,slow=9.9,SNR=3.4						
	2.8nm,0.9s						
MKAR	**Makanchi Array**	**52.05**	**329**	P	**P**	**08 02 54.5**	**+0.4**
	0.4nm,0.7s,baz=132,slow=8.5,SNR=4.1						
	0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**56.43**	**330**	P	**P**	**08 03 25.9**	**0.0**
	0.5nm,0.7s,baz=121,slow=8.7,SNR=3.0						
	0.5nm,0.7s						
MBAR	**Mbarara**	**88.10**	**269**	LR	LR	08 47 42.4	
	comp=Z,18nm,18.1s,baz=142,slow=37						

IDC 27 07:53:53.5±1.5,32°.24N×48°.46E,h0km,mb3.9/10, mbtmp3.9/11,ML3.8/1,MS3.6/1,Error ellipse: s-maj=32.3km s-min=22.9km az=3.0
TEH 27 07:53:57.4,32°.47N×48°.53E,h10km±28km,ML3.7
ISN 27 07:53:58.9±1.1,32°.51N×48°.49E,h28km±40km,ML3.5
ISC 27 07:53:57.9±0.8,**32°.45N**±0°.04×**48°.49E**±0°.04,**h17**km,**n57,** σ1°.**88**/59,**mb3.9**/10,**Western Iran**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AHWZ	**Ahwaz**	**1.12**	**173**	Pg	**Pn**	**07 54 19.8**	**+1.0**
IKFM	**Kafar-mosalman**	**1.20**	**333**	Pg	**Pn**	**07 54 20.7**	**+0.8**
IDOB	**Doab**	**1.36**	**349**	Pg	**Pn**	**07 54 22.7**	**+0.3**
HSAM	**Samen**	**1.76**	**3**	Pg	**Pn**	**07 54 29.5**	**+1.9**
JHBN	**Jahan bin**	**1.85**	**96**	Pn	**Pn**	**07 54 31.4**	**+2.2**
ZNGN	**Zangian**	**2.03**	**99**	Pn	**Pn**	**07 54 33.6**	**+2.0**
IPIR	**Pirpir**	**2.04**	**83**	Pn	**Pn**	**07 54 33.8**	**+2.1**
IBZA	**Bozab**	**2.09**	**346**	Pn	**Pn**	**07 54 34.2**	**+1.8**
RAFI	**Al-Rafai**	**2.14**	**251**	*e*Pn	**Pn**	**07 54 35.0**	**+2.1**
RAFI				*e*Sn	**Sn**	**07 55 02.0**	**+2.9**
RAFI				AML	AML	07 55 11.6	
	comp=E,275nm,0.3s						
RAFI				AML	AML	07 55 17.6	
	comp=N,270nm,0.5s						
KCHF	**Cheshme Sefid,**	**2.19**	**327**	Pn	**Pn**	**07 54 36.0**	**+2.3**
IBDR	**Badra**	**2.26**	**288**	*e*Pn	**Pn**	**07 54 36.0**	**+1.6**
IBDR				*e*Sn	**Sn**	**07 55 04.0**	**+2.1**
IBRJ	**Brojen**	**2.41**	**102**	Pn	**Pn**	**07 54 38.8**	**+2.0**
HAGD	**Aghdareh**	**2.43**	**13**	Pn	**Pn**	**07 54 38.7**	**+1.6**
IGHG	**Ghaleghazi**	**2.47**	**320**	Pn	**Pn**	**07 54 40.2**	**+2.5**
SNQR	**Sonqor, Kerman**	**2.51**	**344**	Pn	**Pn**	**07 54 40.3**	**+2.0**
GLG1	**Gilan-e-Gharb**	**2.73**	**308**	Pn	**Pn**	**07 54 43.8**	**+2.8**
IKLH	**Kolahrood**	**2.74**	**71**	Pn	**Pn**	**07 54 43.6**	**+2.3**
QAMS	**Qamsar**	**2.76**	**61**	Pn	**Pn**	**07 54 43.4**	**+1.8**
ILIN	**Lien**	**2.78**	**333**	Pn	**Pn**	**07 54 43.9**	**+2.0**
IDHR	**Dehrash**	**2.85**	**323**	Pn	**Pn**	**07 54 45.3**	**+2.4**
IGAR	**Gharneh**	**3.00**	**90**	Pn	**Pn**	**07 54 46.8**	**+1.9**
KLNJ	**Kolanjah**	**3.00**	**118**	Pn	**Pn**	**07 54 46.4**	**+1.4**
IRAZ	**Razeghan**	**3.18**	**22**	Pn	**Pn**	**07 54 50.0**	**+2.6**
IQOM	**Qom**	**3.21**	**41**	Pn	**Pn**	**07 54 49.7**	**+1.8**
IZEF	**Zefreh**	**3.27**	**81**	Pn	**Pn**	**07 54 50.6**	**+2.0**
IRAM	**Ramesheh**	**3.36**	**100**	Pn	**Pn**	**07 54 51.2**	**+1.4**
QABG	**Abgarm-Qazvin**	**3.38**	**15**	Pn	**Pn**	**07 54 52.2**	**+2.1**
KRSH	**Karshahi**	**3.41**	**63**	Pn	**Pn**	**07 54 52.7**	**+2.2**
BHD	**Baghdad**	**3.56**	**284**	*e*Pn	**Pn**	**07 54 54.0**	**+1.7**
BHD				*e*Sn	**Sn**	**07 55 34.0**	**0.0**
BHD				AML	AML	07 55 35.5	
	comp=E,329nm,0.4s						
ISFB	**Sefidab**	**3.67**	**58**	Pn	**Pn**	**07 54 55.7**	**+1.8**
IVRN	**Varamin**	**3.71**	**46**	Pn	**Pn**	**07 54 56.8**	**+2.3**
IDMV	**Damavand**	**4.29**	**42**	Pn	**Pn**	**07 55 04.4**	**+1.7**
ANAR	**Anarak**	**4.47**	**79**	Pn	**Pn**	**07 55 06.8**	**+1.8**
IKRK	**Kirkuk**	**4.54**	**312**	*e*Pn	**Pn**	**07 55 08.0**	**+2.2**
IKRK				*e*Sn	**Sn**	**07 55 57.0**	**-1.2**
KLST	**Kelardasht - M**	**4.58**	**27**	Pn	**Pn**	**07 55 09.3**	**+2.6**
DSBU	**Dashti - Bushe**	**4.72**	**149**	Pn	**Pn**	**07 55 10.5**	**+2.1**
MZPU	**Pul - Mazandar**	**4.72**	**32**	Pn	**Pn**	**07 55 11.6**	**+3.0**
ILAS	**Lasjerd**	**4.73**	**51**	Pn	**Pn**	**07 55 10.2**	**+1.6**
IFIR	**Firoozkooh**	**4.76**	**47**	Pn	**Pn**	**07 55 11.0**	**+1.8**
LHJ2	**Lahijan - Gila**	**4.88**	**15**	Pn	**Pn**	**07 55 12.5**	**+2.3**
IPRN	**Peran**	**4.95**	**39**	Pn	**Pn**	**07 55 13.6**	**+2.0**
IMEH	**Mehriz**	**5.31**	**100**	Pn	**Pn**	**07 55 17.8**	**+1.1**
IGLO	**Ghaloghah**	**5.98**	**46**	Pn	**Pn**	**07 55 27.9**	**+2.0**
TPRV	**Parvadeh(Tabas**	**6.93**	**83**	Pn	**Pn**	**07 55 40.3**	**+1.5**
TKDS	**Koohdasht(Taba**	**7.34**	**79**	Pn	**Pn**	**07 55 45.8**	**+1.4**
WSAR	**Wadi Sarin**	**12.82**	**133**	Pn	Pn	07 56 53.7	-5.7
	comp=E,0.5nm,0.3s,baz=266,slow=7.5,SNR=1.4						
WSAR				Sn	Sn	07 59 11.6	-10
	comp=E,0.2nm,0.3s,baz=214,slow=14,SNR=2.3						
	comp=E,2.2nm,0.5s						
BVAR	**Borovoye Array**	**25.92**	**31**	P	**P**	**07 59 28.8**	**-0.2**
	comp=E,0.6nm,0.5s,baz=241,slow=7.2,SNR=7.7						
	comp=E,0.6nm,0.5s						
KURBB	**Kurchatov Arra**	**28.62**	**42**	P	**P**	**07 59 53.8**	**+0.6**
	comp=E,0.5nm,0.5s,baz=240,slow=9.6,SNR=2.7						
	comp=E,0.5nm,0.5s						
MKAR	**Makanchi Array**	**29.46**	**51**	P	**P**	**08 00 01.4**	**+0.6**
	comp=E,0.9nm,0.4s,baz=244,slow=11,SNR=13						
	comp=E,0.9nm,0.4s						
FINES	**FINESS Array B**	**32.45**	**340**	P	**P**	**08 00 26.1**	**-0.9**
	comp=E,0.6nm,0.4s,baz=144,slow=9.4,SNR=6.1						
	comp=E,0.6nm,0.4s						
ZALV	**Zalesovo Beam**	**33.56**	**39**	P	**P**	**08 00 36.7**	**0.0**
	comp=E,1.6nm,0.3s,baz=225,slow=7.2,SNR=4.8						
	comp=E,1.6nm,0.3s						
HFS	**Hagfors**	**35.93**	**331**	P	**P**	**08 00 56.2**	**-0.9**
	comp=E,0.8nm,0.5s,baz=133,slow=9.4,SNR=8.4						
	comp=E,0.8nm,0.5s						
ARCES	**ARCESS Array B**	**39.32**	**347**	P	**P**	**08 01 24.8**	**-0.9**
	comp=E,3.1nm,0.9s,baz=162,slow=9.5,SNR=1.7						
	comp=E,3.1nm,0.9s						
SONM	**Songino Array**	**45.79**	**53**	LR	LR	08 24 27.1	
	comp=E,56nm,18.2s,baz=38,slow=40						
TORD	**Torodi Ar. Bea**	**46.80**	**257**	P	**P**	**08 02 25.5**	**-1.4**
	comp=E,0.4nm,0.6s,baz=66,slow=7.4,SNR=2.2						
	comp=E,0.4nm,0.6s						
SPITS	**Spitsbergen Ar**	**47.92**	**352**	P	**P**	**08 02 34.8**	**0.0**
	comp=E,1.4nm,0.4s,baz=136,slow=11,SNR=15						
	comp=E,1.4nm,0.4s						
KSRS	**Korea Array**	**63.47**	**61**	P	**P**	**08 04 24.7**	**-2.3**
	comp=E,0.5nm,0.4s,baz=289,slow=6.6,SNR=4.1						
	comp=E,0.5nm,0.4s						

AEIC 27 07:58:02.8±2.3,53°.68N±0°.07×164°.39W±0°.07,h25km±7km, Error ellipse: s-maj=10.4km s-min=4.2km az=156.0
NEIC 27 07:58:03.6±2.5,53°.65N±0°.06×164°.36W±0°.03, h43km±14km,mb3.4/14,ML3.7/12,ML3.8(AEIC),Error ellipse: s-maj=9.0km s-min=2.1km az=173.0
IDC 27 07:58:05.9±3.4,53°.91N×164°.51W,h49km±32km,mb3.5/13, mbtmp3.7/15,ML3.1/2,MS3.5/13,Error ellipse: s-maj=31.9km s-min=17.3km az=178.0
ISC 27 07:58:01.6±1.9,**53°.62N**±0°.08×**164°.30W**±0°.04, **h23**km±13km,**n131,** σ1°.**44**/121,**mb3.8**/12,**MS3.5**/11, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WESE	**West Dahl East**	**0.87**	**349**		**Pb**	**07 58 17.9**	**-0.3**
AKSA	**Akutan Strait**	**0.98**	**303**		**Pn**	**07 58 19.2**	**-0.7**
AKSA					**Sb**	**07 58 31.2**	**-1.0**
AKSA	**Akutan Strait**	**0.98**	**303**		**Pn**	**07 58 19.0**	**-0.8**
AKSA					**Sb**	**07 58 31.5**	**-0.7**
WEBT	**Westdahl Beart**	**1.01**	**345**		**Pn**	**07 58 20.3**	**-0.1**
AHB	**Akutan Harbor**	**1.03**	**300**		**Pn**	**07 58 20.0**	**-0.6**
AKBBA	**Akutan Broad B**	**1.08**	**297**		**Pn**	**07 58 20.7**	**-0.7**
AKBBA					**Sn**	**07 58 35.1**	**-0.4**
ZRO	**Akutan Zero**	**1.10**	**296**		**Pn**	**07 58 21.0**	**-0.6**
SSLS	**Shishaldin Sou**	**1.11**	**9**		**Pn**	**07 58 21.3**	**-0.5**
SSLS					**Sn**	**07 58 35.6**	**-0.8**
LVA	**Lava Point**	**1.16**	**299**		**Pn**	**07 58 21.9**	**-0.6**
ISLZ	**Isanotski Laza**	**1.16**	**17**		**Pn**	**07 58 21.9**	**-0.6**
AKRB	**Akutan Reef Bi**	**1.17**	**297**		**Pn**	**07 58 22.0**	**-0.5**
AKRB					**Sn**	**07 58 37.0**	**-0.7**
ISNN	**Isanotski Nort**	**1.25**	**14**		**Pn**	**07 58 24.2**	**+0.4**
UNV	**Unalaska Valle**	**1.33**	**281**	Pn	**Pn**	**07 58 24.1**	**-0.6**

FALS	**False Pass**	**1.34**	**22**	Pn	**Pn**	**07 58 25.0**	**0.0**
FALS	**False Pass**	**1.34**	**22**		**Sn**	**07 58 42.3**	**+0.3**
MNAT	**Makushin Natee**	**1.44**	**282**		**Pn**	**07 58 25.6**	**-0.7**
MTBL	**Makushin Table**	**1.45**	**285**		**Pn**	**07 58 26.2**	**-0.3**
MSW	**Makushin Switc**	**1.50**	**282**		**Pn**	**07 58 26.6**	**-0.6**
MAPS	**Pakushin South**	**1.58**	**278**		**Pn**	**07 58 27.9**	**-0.3**
MAPS					**Sn**	**07 58 47.4**	**-0.5**
OKFG	**Magazine Ridge**	**2.17**	**266**		**Pn**	**07 58 37.3**	**+1.1**
OKNC	**Okmok New Cone**	**2.29**	**267**		**Pn**	**07 58 38.9**	**+1.0**
OKCE	**Okmok Cone E**	**2.31**	**267**		**Pn**	**07 58 39.8**	**+1.5**
OKWE	**Okmok W'ng Wal**	**2.35**	**268**		**Pn**	**07 58 40.2**	**+1.3**
S12K	**Black Hills**	**2.46**	**31**		**Pn**	**07 58 41.8**	**+1.4**
S12K				IAML		07 59 19.2	
	comp=N,285nm,0.5s						
S12K				IAML		07 59 23.8	
	comp=E,286nm,0.7s						
NIKH	**Nikolski High**	**2.81**	**259**	Pn	**Pn**	**07 58 45.3**	**+0.3**
SDPT	**Sand Point**	**2.83**	**51**		**Pn**	**07 58 46.5**	**+1.2**
SDPT				IAML		07 59 41.4	
	comp=E,248nm,0.9s						
CNBA	**Chernabura Isl**	**3.02**	**65**	Pn	**Pn**	**07 58 47.8**	**-0.1**
CLCO	**Concord Point,**	**3.37**	**258**		**Pn**	**07 58 54.1**	**+1.4**
CLES	**Cleveland East**	**3.46**	**259**	Pn	**Pn**	**07 58 52.7**	**-1.3**
VNFG	**Fog Glacier, M**	**3.83**	**44**		**Pn**	**07 59 00.2**	**+1.0**
VNFG				IAML		08 00 18.5	
	comp=E,220nm,0.8s						
P08K	**Saint George I**	**4.24**	**317**		**Pn**	**07 59 06.7**	**+1.9**
CHGN	**Chignik**	**4.33**	**49**		**Pn**	**07 59 06.8**	**+0.8**
CHGN				IAML		08 01 33.1	
	comp=N,90nm,0.1s						
CHGN				IAML		08 01 33.2	
	comp=E,107nm,0.1s						
SPIA	**Saint Paul Isl**	**4.92**	**319**	Pn	**Pn**	**07 59 15.4**	**+1.4**
CHIR	**Chirikof Islan**	**5.49**	**63**	Pn	**Pn**	**07 59 22.6**	**+0.7**
O14K	**Tigyukauivet M**	**5.89**	**15**	Pn	**Pn**	**07 59 29.4**	**+2.0**
O15K	**Ungalikthiuk R**	**6.10**	**22**		**Pn**	**07 59 31.7**	**+1.5**
ATKA	**Atka Island**	**6.15**	**261**	Pn	**Pn**	**07 59 32.2**	**+1.2**
P16K	**Nushagak River**	**6.46**	**30**		**Pn**	**07 59 38.0**	**+2.8**
N14K	**Kuskokwak Cree**	**6.48**	**12**		**Pn**	**07 59 37.8**	**+2.3**
SII	**Sitkinak Islan**	**6.51**	**59**	Pn	**Pn**	**07 59 35.9**	**0.0**
M13K	**Dall Lake**	**6.83**	**4**	Pn	**Pn**	**07 59 41.0**	**+0.7**
O16K	**Kokwok River B**	**6.90**	**27**	Pn	**Pn**	**07 59 42.6**	**+1.4**
N15K	**Kwethluk River**	**6.96**	**18**	Pn	**Pn**	**07 59 44.1**	**+2.1**
OHAK	**Old Harbor**	**7.23**	**56**	Pn	**Pn**	**07 59 46.5**	**+0.7**
M14K	**Bethel**	**7.26**	**9**	Pn	**Pn**	**07 59 47.3**	**+1.1**
P18K	**Big Mountain,**	**7.66**	**37**	Pn	**Pn**	**07 59 52.4**	**+0.8**
L14K	**Kuka Creek**	**7.79**	**6**	Pn	**Pn**	**07 59 55.1**	**+1.7**
KDAK	**Kodiak Island**	**7.82**	**53**	Pn	**Pn**	**07 59 54.1**	**+0.2**
KDAK	**Kodiak Island**	**7.82**	**53**	P	**Pn**	**07 59 55.0**	**+1.2**
	comp=E,0.6nm,0.3s,baz=152,slow=20,SNR=1.5						
KDAK				S	**Sn**	**08 01 18.6**	**-2.9**
	comp=E,3.7nm,0.7s,baz=270,slow=17,SNR=1.3						
	comp=E,2.4nm,0.4s						
N17K	**Nush

FRB	Frobisher Bay	46.15	38	LR	LR	08 26 25.9		
	comp=Z,68nm,18.2s,baz=205,slow=37							
TXAR	Lajitas Array	49.72	94	P	P	08 06 53.9	+2.0	
	comp=Z,0.3nm,0.5s,baz=316,slow=5.2,SNR=4.9							
	comp=Z,0.3nm,0.5s							
BVAR	Borovoye Array	64.40	327	LR	LR	08 37 27.2		
	comp=Z,55nm,18.5s,baz=346,slow=37							
KIRV	Kirov	64.87	341	LR	LR	08 40 57.3		
	comp=Z,34nm,18.8s,baz=6.4,slow=40							
FINES	FINESS Array B	64.99	355	P	P	08 08 38.0	-1.0	
	comp=Z,3.4nm,1.1s,baz=14,slow=7.1,SNR=2.8							
	comp=Z,3.4nm,1.1s							
MKAR	Makanchi Array	65.11	316	P	P	08 08 38.4	-1.7	
	comp=Z,0.2nm,0.5s,baz=29,slow=11,SNR=1.9							
MKAR				LR	LR	08 38 03.5		
	comp=Z,34nm,20.1s,baz=46,slow=37							
	comp=Z,0.2nm,0.5s							
TEIG	Tepich	65.72	89	LR	LR	08 37 59.6		
	comp=Z,69nm,20.6s,baz=329,slow=36							
HFS	Hagfors	66.59	1	P	P	08 08 47.8	-1.5	
	comp=Z,0.7nm,0.4s,baz=354,slow=4.5,SNR=11							
	comp=Z,0.7nm,0.4s							
AKTO	Aktyubinsk	70.38	333	P	P	08 09 13.1	-0.1	
	comp=Z,4.4nm,0.7s,baz=1.5,slow=4.6,SNR=13							
	comp=Z,4.4nm,0.7s							
AKASG	Malin Array Be	75.43	351	P	P	08 09 42.0	-1.1	
	comp=Z,0.5nm,0.4s,baz=7.7,slow=5.5,SNR=7.1							
	comp=Z,0.5nm,0.4s							
CMAR	Chiang Mai Arr	79.27	286	P	P	08 10 06.3	+1.2	
	comp=Z,0.8nm,0.3s,baz=43,slow=6.7,SNR=4.3							
	comp=Z,0.8nm,0.3s							
KBZ	Khabaz	80.26	340	LR	LR	08 50 57.0		
	comp=Z,33nm,18.1s,baz=134,slow=40							
BRTR	Keskin Array B	85.75	346	P	P	08 10 37.6	-1.2	
	comp=Z,0.7nm,0.7s,baz=77,slow=3.1,SNR=3.0							
	comp=Z,0.7nm,0.7s							
H03N2	Juan Fernandez	113.60	115	T	T	10 20 30.9		
	baz=319,slow=76							
H03N1	Juan Fernandez	113.61	115	T	T	10 20 34.4		
	baz=319,slow=76							
H03N3	Juan Fernandez	113.61	115	T	T	10 20 30.3		
	baz=319							

IDC 27 08:01:32.9±11.0, 20.07N×142.72E, h0km, mb3.4/4, mbtmp3.4/4, MS3.1/1, Error ellipse: s-maj=457.2km s-min=27.3km az=76.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	14.86	300	LR	LR	08 08 51.2	
	comp=Z,77nm,21.2s,baz=297,slow=30						
KSRS	Korea Array	21.59	326	P	P	08 06 24.5	+0.1
	0.6nm,0.7s,baz=146,slow=8.1,SNR=2.6						
	0.6nm,0.7s						
WRA	Warramunga Arr	40.60	192	P	P	08 09 14.6	0.0
	0.6nm,1.0s,baz=13,slow=8.0,SNR=2.1						
	0.6nm,1.0s						
ASAR	Alice Springs	44.31	192	P	P	08 09 44.5	-0.3
	0.2nm,0.7s,baz=7.8,slow=7.5,SNR=2.1						
	0.2nm,0.7s						
KURBB	Kurchatov Arra	58.42	318	P	P	08 11 30.4	0.0
	0.5nm,0.2s,baz=91,slow=7.4,SNR=2.1						
	0.5nm,0.2s						

AEIC 27 08:06:16±1.7, 53.66N±0.07×164.38W±0.07, h26km±8km, Error ellipse: s-maj=11.0km s-min=4.4km az=155.0

NEIC 27 08:06:16.8±1.8, 53.76N±0.09×164.45W±0.08, h23km±12km, mb3.5/10, ML3.5/10, ML3.4(AEIC), Error ellipse: s-maj=13.5km s-min=4.0km az=154.0, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	0.72	354		Pb	08 06 31.2	+0.4
AKSA	Akutan Strait	0.83	298		Pb	08 06 32.7	+0.2
AKSA					Sn	08 06 45.4	+0.9
AKSA	Akutan Strait	0.83	298		Pb	08 06 32.5	-0.1
AKSA					Sn	08 06 45.1	+0.6
WEBT	Westdahl Beart	0.85	348		Pn	08 06 33.4	0.0
WEBT					Sn	08 06 47.9	+2.7
AHB	Akutan Harbor	0.89	295		Pn	08 06 33.5	0.0
AKBBA	Akutan Broad B	0.94	292		Pb	08 06 34.1	-0.3
AKBBA					Sn	08 06 47.7	+0.4
ZRO	Akutan Zero	0.96	291		Pb	08 06 34.5	-0.4
SSLS	Shishaldin Sou	0.99	15		Pn	08 06 34.8	-0.5
LVA	Lava Point	1.02	294		Pn	08 06 35.4	-0.3
LVA					Sn	08 06 49.6	+0.3
AKRB	Akutan Reef Bi	1.03	292		Pn	08 06 35.4	-0.4
ISLZ	Isanotski Laza	1.06	24		Pn	08 06 35.4	-0.9
ISLZ					Sb	08 06 49.5	-0.5
ISNN	Isanotski Nort	1.15	20		Pn	08 06 37.4	-0.1
UNV	Unalaska Valle	1.22	275		Pn	08 06 37.3	-1.1
UNV	Unalaska Valle	1.22	275		Sn	08 06 53.7	-0.5
FALS	False Pass	1.26	28		Pn	08 06 38.5	-0.4
MNAT	Makushin Natee	1.33	276		Pn	08 06 39.0	-1.0
MTBL	Makushin Table	1.34	280		Pn	08 06 39.6	-0.5
MSW	Makushin Switc	1.39	277		Pn	08 06 39.9	-0.9
MSW					Sb	08 06 59.6	+0.1
MAPS	Pakushin South	1.48	273		Pn	08 06 41.3	-0.7
OKFG	Magazine Ridge	2.09	262		Pn	08 06 50.3	-0.1
OKNC	Okmok New Cone	2.21	264		Pn	08 06 52.4	+0.4
OKCE	Okmok Cone E	2.24	263		Pn	08 06 53.4	+1.0
OKWE	Okmok W'ng Wal	2.28	264		Pn	08 06 53.5	+0.5
S12K	Black Hills	2.39	34	Pn	Pn	08 06 55.2	+0.7
S12K				IAML		08 07 30.3	
	comp=E,234nm,0.8s						
S12K				IAML		08 07 33.3	
	comp=N,198nm,0.4s						
NIKH	Nikolski High	2.75	255		Pn	08 06 58.9	-0.6
SDPT	Sand Point	2.81	54		Pn	08 07 00.3	+0.1
SDPT				IAML		08 07 42.0	
	comp=N,119nm,1.4s						
SDPT				IAML		08 07 50.2	
	comp=E,190nm,1.0s						
CNBA	Chernabura Isl	3.04	68	Pn	Pn	08 07 05.0	+1.6
CLCO	Concord Point,	3.31	255		Pn	08 07 07.5	+0.4
CLES	Cleveland East	3.40	256	Pn	Pn	08 07 07.7	-0.6
CHGN	Chignik	4.31	51	Pn	Pn	08 07 21.5	+0.7
CHGN				IAML		08 08 20.5	
	comp=E,66nm,0.1s						
CHGN				IAML		08 08 28.5	
	comp=N,50nm,0.3s						
SPIA	Saint Paul Isl	4.76	318		Pn	08 07 27.2	+0.2
O14K	Tigyukauivet M	5.79	16	Pn	Pn	08 07 42.6	+1.6
KOFP	Korovin Flat P	6.01	260		Pn	08 07 45.4	+1.1
ATKA	Atka Island	6.09	259		Pn	08 07 44.6	-0.7
M13K	Dall Lake	6.70	5	Pn	Pn	08 07 54.2	+0.6
O16K	Kokwok River B	6.82	28	Pn	Pn	08 07 55.6	+0.4
N15K	Kwethluk River	6.85	19	Pn	Pn	08 07 56.5	+0.7
M14K	Bethel	7.14	10	Pn	Pn	08 07 59.7	+0.1
OHAK	Old Harbor	7.23	57	Pn	Pn	08 07 59.9	-0.9
P18K	Big Mountain,	7.60	38	Pn	Pn	08 08 05.1	-0.9
L14K	Kuka Creek	7.67	6	Pn	Pn	08 08 08.7	+1.9
KDAK	Kodiak Island	7.81	54	Pn	Pn	08 08 07.8	-1.0
N17K	Nushagak Hills	7.85	27	Pn	Pn	08 08 10.1	+0.8
M16K	Timber Creek	7.86	20	Pn	Pn	08 08 10.0	+0.5
Q19K	Cape Douglas,	7.92	45	Pn	Pn	08 08 09.5	-0.9
O18K	Koktuh Hills	7.94	36		Pn	08 08 10.5	-0.1
L16K	Owhat River	8.40	16		Pn	08 08 17.5	+0.5
M17K	Holitna River	8.53	23		Pn	08 08 19.3	+0.5
K15K	Wolf Creek Mou	8.70	9	Pn	Pn	08 08 22.4	+1.4
N19K	Bonanza Creek	8.89	33	Pn	Pn	08 08 24.9	+1.2
L18K	Granite Mounta	9.43	23	Pn	Pn	08 08 32.0	+1.1
K17K	Iditarod	9.55	17	Pn	Pn	08 08 34.9	+2.3
J16K	Anvik River	9.76	10	Pn	Pn	08 08 36.1	+0.5
L19K	White Mountain	9.85	27	Pn	Pn	08 08 36.5	-0.3
J17K	VABM Dome	10.06	14	Pn	Pn	08 08 39.4	-0.3
M20K	Styx River	10.12	32	Pn	Pn	08 08 39.9	-0.7
J18K	Innoko River	10.53	19	Pn	Pn	08 08 44.9	-1.1
SUA	Susitna One	10.64	38	Pn	Pn	08 08 47.3	-0.4
K20K	Telida	11.03	25	Pn	Pn	08 08 53.1	+0.2
J19K	Poorman	11.22	20	Pn	Pn	08 08 56.2	+0.7
GHO	Glory Hole Cre	11.51	40	Pn	Pn	08 08 59.6	0.0
J20K	Nowinta River	11.70	23	Pn	Pn	08 09 03.2	+1.1
HIN	Hinchinbrook I	11.79	48	Pn	Pn	08 09 02.2	-1.1
H18K	Honhosa River	11.83	13	Pn	Pn	08 09 04.6	+0.7
FID	Port Fidalgo	11.96	47	Pn	Pn	08 09 03.2	-2.4
SCM	Sheep Creek Mo	12.17	42	Pn	Pn	08 09 06.9	-1.6
KLU	Klutina	12.55	45		Pn	08 09 12.2	-1.6
M24K	Tolsona, Glenn	12.77	42	Pn	Pn	08 09 15.8	-1.0
DHY	Denali Highway	12.89	37	Pn	Pn	08 09 18.6	+0.2
N25K	Chitina, Valde	13.17	45	Pn	Pn	08 09 21.8	-0.4
GLB	Gilahina Butte	13.43	47	Pn	Pn	08 09 24.9	-0.8
VRDI	Verde Repeater	13.49	48	Pn	Pn	08 09 26.1	-0.7
CCB	Clear Creek Bu	13.79	31	Pn	Pn	08 09 29.9	-0.7
G21K	Allakaket	13.88	18	Pn	Pn	08 09 33.0	+1.3
F20K	Avaraart Lake	13.99	14	Pn	Pn	08 09 34.4	+1.1
E19K	Redstone River	14.18	11	Pn	Pn	08 09 37.1	+1.3
H23K	Yukon River	14.18	26	Pn	Pn	08 09 36.2	+0.2
CTGM	Chitina Glacie	14.35	51	Pn	Pn	08 09 38.1	-0.3
J25K	Salcha River,	14.55	34	Pn	Pn	08 09 40.2	-0.8
H24K	Noodor Dome	14.63	28	Pn	Pn	08 09 41.8	-0.4
SCRK	Sand Creek	14.65	38	Pn	Pn	08 09 41.8	-0.6
M27K	Edge Creek, AK	14.65	45	Pn	Pn	08 09 42.4	-0.1
BCAR	Beaver Creek A	15.01	43	Pn	Pn	08 09 47.5	+0.3
J26L	Joseph Creek	15.10	36	Pn	Pn	08 09 48.2	-0.2
J26L				IAmb	IAmb	08 09 57.0	
	comp=Z,1.6nm,0.8s						
I26K	Coal Creek Min	15.72	34	Pn	Pn	08 09 57.1	+0.6
I26K				IAmb	IAmb	08 10 39.0	
	comp=Z,4.0nm,1.4s						
M29M	Somme Creek	16.15	47	Pn	Pn	08 10 00.5	-1.6
B21K	Ikpikpuk River	16.55	12	Pn	Pn	08 10 06.9	-0.1
BMAR	Burnt Mountain	16.70	27	Pn	Pn	08 10 08.1	-0.9
I28M	Miner Creek	16.91	37	Pn	Pn	08 10 11.8	+0.1
M30M	Minto, Yukon	16.92	48	Pn	Pn	08 10 11.5	-0.3
M30M				IAmb	IAmb	08 10 46.5	
	comp=Z,5.1nm,1.4s						
K29M	Barlow Dome	17.08	43	P	Pn	08 10 12.8	-0.9
K29M				IAmb	IAmb	08 10 24.2	
	comp=Z,6.2nm,1.4s						
J30M	Hart River	17.85	42	P	Pn	08 10 22.6	-0.8
H29M	Whitestone	17.87	36	P	Pn	08 10 21.4	-2.1
H29M				IAmb	IAmb	08 10 58.3	
	comp=Z,3.0nm,1.2s						
G29M	Pine Creek	18.36	34	P	P	08 10 28.0	-1.4
G29M				IAmb	IAmb	08 10 39.3	
	comp=Z,9.5nm,1.4s						

IDC 27 08:21:21.2±1.4, 6.01N×120.35E, h0km, mb3.7/5, mbtmp3.7/5, MS3.2/5, Error ellipse: s-maj=315.0km s-min=21.8km az=61.0, Sulu Archipelago

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	10.97	183	LR	LR	08 27 42.5	
	comp=Z,150nm,18.4s,baz=340,slow=35						
CMAR	Chiang Mai Arr	24.26	303	LR	LR	08 36 27.6	
	comp=Z,49nm,19.1s,baz=125,slow=37						
WRA	Warramunga Arr	29.24	152	P	P	08 27 24.3	-0.8
	0.8nm,0.6s,baz=333,slow=9.5,SNR=7.2						
	0.8nm,0.6s						
JCJ	Chichijima	29.52	42	LR	LR	08 39 34.7	
	comp=Z,32nm,20.7s,baz=155,slow=37						
KSRS	Korea Array	32.05	11	LR	LR	08 40 43.7	
	comp=Z,32nm,21.2s,baz=225,slow=36						
ASAR	Alice Springs	32.33	156	P	P	08 27 53.1	+0.6
	0.8nm,0.7s,baz=328,slow=7.9,SNR=9.4						
ASAR				PcP	PcP	08 30 39.0	-1.6
	0.2nm,0.6s,baz=347,slow=3.8,SNR=1.5						
	0.8nm,0.7s						
STKA	Stephens Creek	42.78	153	P	P	08 29 21.5	+0.7
	1.3nm,0.7s,baz=326,slow=12,SNR=3.7						
	1.3nm,0.7s						
KLR	Kul'dur	44.14	11	LR	LR	08 49 14.5	
	comp=Z,41nm,19.1s,baz=148,slow=38						
MKAR	Makanchi Array	52.15	328	P	P	08 30 33.4	-0.1
	0.2nm,0.4s,baz=130,slow=8.9,SNR=3.0						
	0.2nm,0.4s						
KURBB	Kurchatov Arra	56.47	329	P	P	08 31 05.3	+0.4
	0.3nm,0.6s,baz=123,slow=8.4,SNR=2.1						
	0.3nm,0.6s						

IDC 27 08:27:23.3±0.8, 10.37S×162.09E, h0km, mb3.9/9, mbtmp3.9/10, ML3.7/1, MS3.7/3, Error ellipse: s-maj=31.6km s-min=20.4km az=120.0

ISC 27 08:27:30.8±0.8, 10.5S±0.1×162.1E±0.2, h54km, n12, σ0.92/11, mb3.7/9, Bougainville-Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	12.28	161	Pn	Pn	08 30 22.4	-0.6
	0.5nm,0.3s,baz=323,slow=20,SNR=6.6						
	0.5nm,0.3s						
PMG	Port Moresby	14.78	273	LR	LR	08 36 27.7	
	comp=Z,161nm,18.8s,baz=133,slow=37						
WRA	Warramunga Arr	28.38	247	P	P	08 33 19.8	-0.5
	1.6nm,0.8s,baz=77,slow=9.3,SNR=9.6						
WRA				LR	LR	08 44 33.3	
	comp=Z,184nm,18.1s,baz=38,slow=36						
	1.6nm,0.8s						
STKA	Stephens Creek	28.55	219	P	P	08 33 23.0	+1.5
	0.9nm,0.5s,baz=42,slow=14,SNR=3.4						
	0.9nm,0.5s						
ASAR	Alice Springs	29.93	240	P	P	08 33 33.0	-1.0
	0.8nm,0.5s,baz=64,slow=10.0,SNR=18						
ASAR				LR	LR	08 44 57.7	
	comp=Z,174nm,18.7s,baz=90,slow=35						
	0.8nm,0.5s						
VNDA	Vanda	67.05	180	P	P	08 38 18.2	+0.3
	1.1nm,0.7s,baz=349,slow=7.4,SNR=9.0						
	1.1nm,0.7s						
QSPA	South Pole Qui	79.55	180	P	P	08 39 31.4	-0.4
	1.0nm,0.7s,baz=86,slow=1.0,SNR=7.7						
	1.0nm,0.7s						
ILAR	Eielson Array	84.12	20	P	P	08 39 55.1	-0.4
	0.4nm,0.5s,baz=246,slow=5.3,SNR=9.8						
	0.4nm,0.5s						
NVAR	Mina Array Bea	88.38	51	P	P	08 40 18.8	+1.3
	0.6nm,0.8s,baz=230,slow=8.1,SNR=6.8						
	0.6nm,0.8s						
MKAR	Makanchi Array	90.67	317	P	P	08 40 27.4	-0.3
	0.2nm,0.6s,baz=108,slow=4.7,SNR=2.7						
	0.2nm,0.6s						
YKA	Yellowknife Ar	96.09	28	P	P	08 40 51.4	-0.8
	0.1nm,0.6s,baz=267,slow=4.8,SNR=2.4						
	0.1nm,0.6s						
ESDC	Sonseca Array	148.37	339	PKPbc	PKPbc	08 47 12.1	+0.5
	0.4nm,0.6s,baz=35,slow=2.7,SNR=5.7						

IDC 27 08:45:08.6±0.7, 15.98S×173.34E, h0km, mb4.3/13, mbtmp4.3/13, MS3.7/4, Error ellipse: s-maj=25.6km s-min=18.0km az=129.0

NEIC 27 08:45:11.4±1.8, 15.97S±0.10×173.35E±0.07, h10km±1km, mb4.6/42, Error ellipse: s-maj=19.5km s-min=7.5km az=327.0

ISC 27 08:45:10.7±0.5, 15.94S±0.09×173.32E±0.08, h10km, n69, σ1.9/04/54, mb4.5/33, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	Nonsavu	4.87	112	Pn	Pn	08 46 26.4	+2.3
LIFNC	LIFOU	7.52	229	Pn	Pn	08 47 00.1	-0.3
DZM	Mont Dzumac	8.92	226	LR	LR	08 50 21.8	
	comp=Z,792nm,20.8s,baz=44,slow=35						
RAO	Raoul Island	15.51	150	LR	LR	08 53 07.7	
	comp=Z,149nm,21.0s,baz=302,slow=31						
NIUE	Niue	16.28	103	Pn	Pn	08 48 56.5	-3.0
URZ	Urewera	22.48	172	LR	LR	08 56 51.3	
	comp=Z,251nm,22.0s,baz=344,slow=31						
EIDS	Eidsvold	22.80	242	P	P	08 50 16.0	+2.2
EIDS				IAmb	IAmb	08 50 23.9	
	comp=Z,20nm,1.1s						
ARMA	Armidale	24.54	230	P	P	08 50 31.8	+1.0
ARMA				IAmb	IAmb	08 50 37.3	
	comp=Z,14nm,1.1s						
MRZ	Mangatainoka R	24.71	176	P	P	08 50 31.2	-0.9
BFZ	Birch Farm	24.78	175	P	P	08 50 31.8	-1.0
TKNZ	Takaka Hill	25.01	181	P	P	08 50 36.3	+1.5
TUWZ	Tuamarina	25.41	179	P	P	08 50 38.4	+0.1
CTAO	Charters Tower	26.06	257	P	P	08 50 46.6	+2.0
CTAO				IAmb	IAmb	08 50 57.5	
	comp=Z,10nm,1.1s						
KHZ	Kahutara	26.39	180	P	P	08 50 46.8	-0.5
STKA	Stephens Creek	32.90	235	P	P	08 51 46.1	+0.9
STKA	Stephens Creek	32.90	235	P	P	08 51 45.7	+0.4
	comp=Z,6.1nm,0.8s,baz=40,slow=8.2,SNR=11						
	comp=Z,6.1nm,0.8s						
WR0	Warramunga Arr	37.05	258	P	P	08 52 19.8	-1.5
WB0	Warramunga Arr	37.20	258	P	P	08 52 21.4	-1.1
WB2	Warramunga Arr	37.23	258	P	P	08 52 22.0	-0.8
WRAB	Tennant Creek	37.23	258	P	P	08 52 21.5	-1.3
WRA	Warramunga Arr	37.24	258	P	P	08 52 22.3	-0.6
WRA	Warramunga Arr	37.24	258	P	P	08 52 21.2	-1.7
	comp=Z,3.3nm,0.9s,baz=90,slow=9.4,SNR=14						
	comp=Z,3.3nm,0.9s						
BBOO	Buckleboo	37.63	237	P	P	08 52 25.5	-0.5
BBOO				IAmb	IAmb	08 52 41.7	
	comp=Z,10nm,1.1s						
AS31	Alice Springs	37.78	252	P	P	08 52 27.0	-0.4
ASAR	Alice Springs	37.78	252	P	P	08 52 26.4	-1.0
	comp=Z,7.0nm,0.6s,baz=81,slow=8.8,SNR=100						
ASAR				PcP	PcP	08 54 43.7	-0.6
	comp=Z,1.1nm,0.9s,baz=57,slow=3.4,SNR=4.6						
	comp=Z,7.0nm,0.6s						
FITZ	Fitzroy Crossi	45.55	260	P	P	08 53 30.8	-0.3
TGY	Tagaytay City	59.76	297	LR	LR	09 21 18.3	
	comp=Z,53nm,18.9s,baz=222,slow=36						
MJAR	Matsushiro Arr	61.84	328	P	P	08 55 29.5	-0.6
	comp=Z,3.3nm,0.9s,baz=157,slow=7.3,SNR=11						
	comp=Z,3.3nm,0.9s						
SBA	Scott Base	62.02	182	P	P	08 55 31.3	+0.5
SBA				IAmb	IAmb	08 55 57.9	
	comp=Z,3.0nm,1.1s						
KSRS	Korea Array	68.14	322	P	P	08 56 11.3	+0.3
	comp=Z,1.9nm,1.0s,baz=146,slow=5.2,SNR=6.6						
	comp=Z,1.9nm,1.0s						
KS19	Wonju Array Si	68.21	322	P	P	08 56 12.0	+0.5
KS19				IAmb	IAmb	08 56 21.6	
	comp=Z,4.5nm,1.0s						
PETK	Petropavlovsk-	70.07	350	P	P	08 56 22.0	-0.8
	comp=Z,3.1nm,0.9s,baz=142,slow=7.2,SNR=4.3						
	comp=Z,3.1nm,0.9s						
QSPA	South Pole Qui	74.10	180	P	P	08 56 46.4	-0.6
QSPA				IAmb	IAmb	08 56 47.1	
	comp=Z,8.4nm,0.9s						
QSPA	South Pole Qui	74.10	180	P	P	08 56 45.8	-1.2
	comp=Z,6.0nm,0.9s,baz=22,slow=2.8,SNR=19						
	comp=Z,6.0nm,0.9s						
CMAR	Chiang Mai Arr	80.79	292	P	P	08 57 25.6	+0.4
CMAR	Chiang Mai Arr	80.79	292	P	P	08 57 26.0	+0.8
	comp=Z,7.7nm,0.8s,baz=117,slow=2.9,SNR=11						
	comp=Z,2.7nm,0.8s						
L19K	White Mountain	81.81	14	P	P	08 57 30.6	+1.0
AFDM	Forest Hills D	82.08	46	P	P	08 57 32.1	+0.5
AFDM				IAmb	IAmb	08 57 38.5	
	comp=Z,3.2nm,1.0s						
J18K	Innoko River	82.50	13	P	P	08 57 34.3	+1.1
J18K				IAmb	IAmb	08 57 34.7	
	comp=Z,6.4nm,1.1s						
MAW	Mawson	82.92	201	P	P	08 57 34.9	-0.6
	comp=Z,3.0nm,0.9s,baz=83,slow=8.1,SNR=4.2						
	comp=Z,3.0nm,0.9s						
DSP	Deep Springs	83.49	48	P	P	08 57 39.6	+0.7
DSP				IAmb	IAmb	08 57 46.1	
	comp=Z,3.5nm,1.0s						
CAST	Castle Rocks	83.54	15	IAmb	IAmb	08 57 44.0	
	comp=Z,5.0nm,1.0s						
NVAR	Mina Array Bea	83.71	47	P	P	08 57 40.6	+0.3
	comp=Z,1.2nm,0.8s,baz=225,slow=8.7,SNR=9.6						
	comp=Z,1.2nm,0.8s						
K05A	Summer Lake	83.90	43	IAmb	IAmb	08 57 48.0	
	comp=Z,5.2nm,0.8s						
J05D	Fort Rock, OR	83.94	42	P	P	08 57 41.8	+0.5
H19K	Roundabout Mou	84.37	12	IAmb	IAmb	08 57 45.0	
	comp=Z,7.4nm,1.1s						
F19K	Shaleruckik Mo	85.26	11	IAmb	IAmb	08 57 49.7	
	comp=Z,3.0nm,1.1s						
E18K	Tukpahlearik C	85.30	10	IAmb	IAmb	08 57 54.8	
	comp=Z,6.9nm,1.1s						
BMN	Battle Mountai	85.33	46	IAmb	IAmb	08 57 55.1	
	comp=Z,4.1nm,0.9s						
I07A	Izee	85.42	42	IAmb	IAmb	08 57 51.6	
	comp=Z,3.6nm,0.9s						
HDA	Harding Lake	85.67	16	IAmb	IAmb	08 57 55.4	
	comp=Z,4.9nm,1.0s						
J08A	Circle Bar Ran	85.77	43	IAmb	IAmb	08 57 53.7	
	comp=Z,3.8nm,0.9s						
IL31		85.97	16	IAmb	IAmb	08 57 56.5	
	comp=Z,4.7nm,1.1s						
ILAR	Eielson Array	85.97	16	P	P	08 57 49.0	-1.8
	comp=Z,1.7nm,0.8s,baz=234,slow=5.6,SNR=18						
	comp=Z,1.7nm,0.8s						
SCRK	Sand Creek	86.16	17	P	P	08 57 53.0	+1.1
HLID	Hailey	88.53	44	IAmb	IAmb	08 58 07.0	
	comp=Z,2.1nm,0.8s						
TXAR	Lajitas Array	91.77	60	P	P	08 58 19.3	0.0
	comp=Z,0.5nm,0.8s,baz=237,slow=5.0,SNR=8.0						
	comp=Z,0.5nm,0.8s						
YKA	Yellowknife Ar	95.98	26	P	P	08 58 37.5	-0.2
	comp=Z,0.4nm,0.8s,baz=266,slow=4.6,SNR=6.6						
	comp=Z,0.4nm,0.8s						
SOKA	Soboth	144.42	334	*e*PKP	PKPbc	09 04 47.3	+1.4
	comp=Z,2.5nm,0.6s						
LESA	Schwarzleotal	144.75	337	*e*PKP	PKPab	09 04 46.7	-0.1
	comp=Z,3.6nm,1.2s						
MYKA	Terra Mystica	145.03	335	*e*PKP	PKPbc	09 04 47.2	-0.7
	comp=Z,1.6nm,0.7s						
WATA	Walderalm	145.23	338	*e*PKP	PKPbc	09 04 48.2	-0.3
	comp=Z,3.5nm,1.0s						
WTTA	Wattenberg	145.27	338	*e*PKP	PKPbc	09 04 48.7	0.0
	comp=Z,4.0nm,0.9s						
ABTA	Abfaltersbach	145.38	337	*e*PKP	PKPbc	09 04 48.3	-0.7
	comp=Z,3.2nm,0.6s						

ISC 27 08:58:02.5±0.3, 15°95S±0'06×173°40E±0'05, h10km, n621, σ0°93/517, mb5.0/144, MS4.4/55, 10C-5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.79**	**112**	Pn	**Pn**	**08 59 18.1**	**+3.3**
MSVF	**Nonsavu**	**4.79**	**112**	P	**Pn**	**08 59 18.2**	**+3.3**
DZM	**Mont Dzumac**	**8.96**	**226**	*e*P	**Pn**	**09 00 11.2**	**-0.9**
	984nm,26.8s						
DZM				*e*LR	LR	09 02 08.9	
	7μm,25.9s						
DZM	**Mont Dzumac**	**8.96**	**226**	Pn	**Pn**	**09 00 15.0**	**+2.9**
NOUC	**Port Laguerre**	**9.08**	**227**	P	**Pn**	**09 00 15.1**	**+1.5**
FUNA	**Funafuti**	**9.30**	**38**	P	**Pn**	**09 00 14.8**	**-2.0**
FUNA	**Funafuti**	**9.30**	**38**	Pn	**Pn**	**09 00 14.7**	**-2.0**
HNR	**Honiara**	**14.63**	**295**	LR	LR	09 06 25.1	
	comp=Z,3μm,21.0s,baz=110,slow=34						
RAO	**Raoul Island**	**15.46**	**150**	LR	LR	09 06 20.8	
	comp=Z,1μm,19.7s,baz=336,slow=32						
URZ	**Urewera**	**22.46**	**172**	LR	LR	09 09 43.6	
	comp=Z,2μm,21.7s,baz=46,slow=31						
EIDS	**Eidsvold**	**22.86**	**242**	P	**P**	**09 03 07.6**	**+1.5**
EIDS				IAmb	IAmb	09 03 08.3	
	comp=Z,59nm,1.2s						
ARMA	**Armidale**	**24.59**	**230**	P	**P**	**09 03 23.1**	**+0.1**
BFZ	**Birch Farm**	**24.76**	**175**	P	**P**	**09 03 32.9**	**-1.4**
AUPHS	**Peel High Scho**	**25.48**	**230**	P	**P**	**09 03 32.2**	**+1.2**
THZ	**Tophouse**	**25.72**	**181**	P	**P**	**09 03 33.5**	**+0.4**
THZ				IAmb	IAmb	09 03 41.0	
	comp=Z,51nm,1.2s						
RAR	**Rarotonga**	**25.94**	**106**	LR	LR	09 12 17.9	
	comp=Z,106nm,20.0s,baz=306,slow=33						
CTAO	**Charters Tower**	**26.13**	**257**	P	**P**	**09 03 36.8**	**-0.2**
CTAO				IAmb	IAmb	09 03 49.6	
	comp=Z,53nm,1.4s						
CTAO	**Charters Tower**	**26.13**	**257**	P	**P**	**09 03 36.8**	**-0.2**
CTAO				pmax	pmax		
	comp=Z,53nm,1.5s						
PMG	**Port Moresby**	**26.40**	**281**	LR	LR	09 11 34.3	
	comp=Z,305nm,21.7s,baz=6.0,slow=31						
AULRC	**Lightning Ridg**	**26.94**	**236**	P	**P**	**09 03 45.7**	**+1.5**
SYDH	**Sydney Hard Ro**	**27.05**	**225**	P	**P**	**09 03 46.4**	**+1.3**
AUDCS	**Dubbo College**	**27.72**	**230**	P	**P**	**09 03 52.2**	**+1.0**
RPZ	**Rata Peaks**	**27.74**	**184**	LR	LR	09 13 00.6	
	comp=Z,2μm,21.8s,baz=357,slow=32						
CNB	**Canberra Magne**	**28.87**	**224**	P	**P**	**09 04 02.5**	**+1.0**
YNG	**Young**	**28.96**	**226**	P	**P**	**09 04 03.0**	**+0.8**
QLP	**Quilpie**	**29.10**	**244**	P	**P**	**09 04 03.9**	**+0.4**
CAN	**Canberra**	**29.12**	**224**	P	**P**	**09 04 03.9**	**+0.2**
CMSA	**Cobar Meteorol**	**29.61**	**233**	P	**P**	**09 04 09.1**	**+1.0**
INKA	**Innaminka**	**32.40**	**243**	P	**P**	**09 04 34.0**	**+1.4**
TOO	**Toolangi**	**32.72**	**223**	P	**P**	**09 04 36.0**	**+0.6**
TOO	**Toolangi**	**32.72**	**223**	P	**P**	**09 04 35.7**	**+0.3**
TOO				IAmb	IAmb	09 04 36.5	
	comp=Z,30nm,1.4s						
TOO	**Toolangi**	**32.72**	**223**	P	**P**	**09 04 35.7**	**+0.3**
TOO				pmax	pmax		
	comp=Z,30nm,1.5s						
STKA	**Stephens Creek**	**32.96**	**236**	P	**P**	**09 04 38.1**	**+0.6**
STKA	**Stephens Creek**	**32.96**	**236**	P	**P**	**09 04 37.4**	**-0.1**
STKA	**Stephens Creek**	**32.96**	**236**	P	**P**	**09 04 37.8**	**+0.3**
	comp=Z,15nm,0.9s,baz=50,slow=8.4,SNR=20						
STKA				PcP	**PcP**	**09 07 21.6**	**-0.1**
	comp=Z,4.5nm,1.0s,baz=221,slow=5.5,SNR=3.7						
STKA				LR	LR	09 16 56.1	
	comp=Z,592nm,19.6s,baz=72,slow=34						
	comp=Z,15nm,0.9s						
STKA	**Stephens Creek**	**32.96**	**236**	P	**P**	**09 04 37.4**	**-0.1**
STKA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARPS	**Mount Arapiles**	**34.82**	**227**	P	**P**	**09 04 55.0**	**+1.4**
PPT2	**Papeete2**	**35.45**	**98**	*e*S	**S**	**09 10 30.3**	**-4.4**
	comp=Z,81nm,23.2s						
PPT2				*e*SS	**SnSn**	**09 13 00.5**	**+6.4**
	comp=Z,588nm,26.5s						
PPT2				*e*LR	LR	09 14 26.9	
	comp=Z,467nm,26.8s						
PPT2				*e*LR	LR	09 14 29.4	
	comp=Z,342nm,30.5s						
PPT	**Papeete**	**35.45**	**98**	LR	LR	09 18 00.8	
	comp=Z,82nm,18.0s,baz=298,slow=34						
HTT	**Hallett**	**35.62**	**234**	P	**P**	**09 05 01.8**	**+1.2**
TBI	**Tubuai**	**35.66**	**108**	*e*S	**S**	**09 10 37.1**	**-0.6**
	comp=Z,264nm,25.8s						
TBI				*e*SS	**SnSn**	**09 12 59.9**	**+0.9**
	comp=Z,2μm,33.5s						
TBI				*e*LR	LR	09 14 32.4	
	comp=Z,2μm,31.0s						
TBI				*e*LR	LR	09 14 33.6	
	comp=Z,1μm,34.2s						
H11N1	**WAKE ISLAND Hy**	**36.02**	**350**	T	T	09 43 14.5	
	baz=167						
H11N3	**WAKE ISLAND Hy**	**36.02**	**350**	T	T	09 43 10.1	
	baz=167						
H11N2	**WAKE ISLAND Hy**	**36.03**	**350**	T	T	09 43 18.7	
	baz=167						
WHYH	**Whyalla**	**36.55**	**236**	P	**P**	**09 05 09.1**	**+0.6**
OOD	**Oodnadatta**	**36.78**	**245**	P	**P**	**09 05 11.7**	**+1.1**
WR0	**Warramunga Arr**	**37.13**	**258**	P	**P**	**09 05 11.2**	**-2.4**
WB0	**Warramunga Arr**	**37.27**	**258**	P	**P**	**09 05 13.0**	**-1.8**
WB2	**Warramunga Arr**	**37.30**	**258**	P	**P**	**09 05 13.2**	**-2.0**
WB2				IAmb	IAmb	09 05 14.0	
	comp=Z,29nm,1.3s						
WRAB	**Tennant Creek**	**37.30**	**258**	P	**P**	**09 05 13.3**	**-1.9**
WRAB	**Tennant Creek**	**37.30**	**258**	P	**P**	**09 05 13.3**	**-1.9**
WRAB				pmax	pmax		
	comp=Z,15nm,1.2s						
WRA	**Warramunga Arr**	**37.31**	**258**	P	**P**	**09 05 13.6**	**-1.7**
WRA	**Warramunga Arr**	**37.31**	**258**	P	**P**	**09 05 13.5**	**-1.7**
	comp=Z,9.5nm,1.0s,baz=90,slow=8.4,SNR=33						
WRA				PcP	**PcP**	**09 07 33.7**	**-1.0**
	comp=Z,4.0nm,1.1s,baz=92,slow=3.0,SNR=5.6						
WRA				LR	LR	09 20 12.3	
	comp=Z,229nm,18.8s,baz=97,slow=36						
	comp=Z,9.5nm,1.0s						
BBOO	**Buckleboo**	**37.69**	**237**	P	**P**	**09 05 18.9**	**+0.7**
BBOO				IAmb	IAmb	09 05 20.1	
	comp=Z,35nm,1.3s						
AS01	**Alice Springs**	**37.80**	**252**	P	**P**	**09 05 18.7**	**-0.7**
AS31	**Alice Springs**	**37.85**	**252**	P	**P**	**09 05 18.6**	**-1.2**
ASAR	**Alice Springs**	**37.85**	**252**	P	**P**	**09 05 18.5**	**-1.3**
	comp=Z,11nm,0.6s,baz=81,slow=9.0,SNR=74						
ASAR				PcP	**PcP**	**09 07 35.5**	**-0.8**
	comp=Z,3.2nm,1.0s,baz=110,slow=3.3,SNR=7.7						
ASAR				LR	LR	09 19 47.8	
	comp=Z,700nm,19.3s,baz=90,slow=35						
	comp=Z,11nm,0.6s						
MULG	**Mulgathing**	**38.69**	**241**	P	**P**	**09 05 27.4**	**+0.7**
GUMO	**Guam**	**40.71**	**315**	LR	LR	09 20 27.2	
	comp=Z,93nm,19.5s,baz=128,slow=33						
WRKA	**Warakurna**	**43.04**	**250**	P	**P**	**09 06 03.4**	**+0.6**
FORT	**Forrest**	**43.86**	**242**	P	**P**	**09 06 09.8**	**+0.6**
FITZ	**Fitzroy Crossi**	**45.62**	**260**	P	**P**	**09 06 23.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**45.62**	**260**	P	**P**	**09 06 23.0**	**-0.4**
SANI	**Sanana**	**48.68**	**282**	P	**P**	**09 06 47.3**	**-0.1**
PSA00	**Pilbara Seismi**	**50.82**	**255**	P	**P**	**09 07 03.3**	**-0.3**
PSA00	**Pilbara Seismi**	**50.82**	**255**	P	**P**	**09 07 03.3**	**-0.3**
MBWA	**Marble Bar**	**50.95**	**256**	P	**P**	**09 07 04.5**	**-0.1**
MBWA	**Marble Bar**	**50.95**	**256**	P	**P**	**09 07 03.9**	**-0.7**
MBWA				IAmb	IAmb	09 07 05.0	
	comp=Z,35nm,1.2s						
MEEK	**Meekatharra**	**51.81**	**249**	P	**P**	**09 07 12.2**	**+1.2**
JCJ	**Chichijima**	**52.44**	**324**	LR	LR	09 28 08.2	
	comp=Z,70nm,18.9s,baz=151,slow=34						
DAV	**Davao City (W)**	**52.58**	**292**	LR	LR	09 31 15.8	
	comp=Z,66nm,18.6s,slow=38						
NWAO	**Narrogin (SRO)**	**53.26**	**241**	P	**P**	**09 07 20.7**	**-0.9**
NWAO	**Narrogin (SRO)**	**53.26**	**241**	LR	LR	09 31 03.4	
	comp=Z,361nm,18.0s,baz=122,slow=37						
NWAO	**Narrogin (SRO)**	**53.26**	**241**	P	**P**	**09 07 20.7**	**-0.9**
NWAO				pmax	pmax		
	comp=Z,83nm,1.2s						
KAPI	**Kappang**	**53.72**	**276**	P	**P**	**09 07 24.7**	**-0.5**
	comp=Z,9.2nm,1.0s,baz=92,slow=14,SNR=3.6						
KAPI				LR	LR	09 28 07.9	
	comp=Z,84nm,21.2s,baz=110,slow=34						
	comp=Z,9.2nm,1.0s						
JHJ	**Hachijo jima 2**	**58.42**	**327**	LR	LR	09 33 32.2	
	comp=Z,61nm,18.1s,baz=130,slow=36						
JGF	**Kuroka**	**61.60**	**327**	P	**P**	**09 08 20.6**	**+0.2**
JGF	**Kuroka**	**61.60**	**327**	P	**P**	**09 08 20.3**	**-0.1**
VNDA	**Vanda**	**61.86**	**183**	LR	LR	09 30 29.1	
	comp=Z,520nm,21.5s,baz=18,slow=32						
VNDA	**Vanda**	**61.86**	**183**	P	**P**	**09 08 21.4**	**-0.1**
MJAR	**Matsushiro Arr**	**61.89**	**328**	P	**P**	**09 08 22.0**	**-0.3**
	comp=Z,11nm,0.9s,baz=157,slow=6.6,SNR=29						
	comp=Z,11nm,0.9s						
MJAR	**Matsushiro Arr**	**61.89**	**328**	P	**P**	**09 08 22.0**	**-0.3**
MAJO	**Matsushiro**	**61.89**	**328**	P	**P**	**09 08 23.0**	**+0.7**
MAJO	**Matsushiro**	**61.89**	**328**	P	**P**	**09 08 22.0**	**-0.3**
MAJO	**Matsushiro**	**61.89**	**328**	*i* P	**P**	**09 08 22.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,23nm,1.0s						
MJB9	**Matsu-Tunnel**	**61.90**	**328**	P	**P**	**09 08 22.1**	**-0.2**
SBA	**Scott Base**	**62.01**	**182**	P	**P**	**09 08 22.9**	**+0.5**
SBA	**Scott Base**	**62.01**	**182**	P	**P**	**09 08 22.9**	**+0.5**
SBA				pmax	pmax		
	comp=Z,44nm,1.9s						
JSD	**Sado**	**63.03**	**329**	P	**P**	**09 08 30.1**	**+0.3**
SBUM	**Sibu**	**63.15**	**281**	P	**P**	**09 08 30.7**	**-0.4**
JNU	**Nakatsue**	**63.49**	**321**	LR	LR	09 32 29.9	
	comp=Z,80nm,21.3s,baz=130,slow=33						
NACB	**Ninganchiao**	**64.40**	**307**	P	**P**	**09 08 40.3**	**+1.1**
TPUB	**Ta-pu**	**64.68**	**306**	P	**P**	**09 08 41.2**	**+0.2**
TPUB	**Ta-pu**	**64.68**	**306**	P	**P**	**09 08 40.4**	**-0.6**
CASY	**Casey**	**64.70**	**203**	P	**P**	**09 08 40.3**	**-0.2**
LEM	**Lembang**	**64.91**	**270**	LR	LR	09 36 34.1	
	comp=Z,84nm,19.9s,baz=108,slow=36						
ASAJ	**Asahikawa**	**66.07**	**336**	LR	LR	09 31 52.7	
	comp=Z,279nm,21.9s,baz=165,slow=31						
ASAJ	**Asahikawa**	**66.07**	**336**	P	**P**	**09 08 49.7**	**+0.1**
KSRS	**Korea Array**	**68.20**	**322**	P	**P**	**09 09 03.9**	**+0.6**
	comp=Z,6.5nm,1.0s,baz=141,slow=6.4,SNR=24						
KSRS				LR	LR	09 37 57.5	
	comp=Z,68nm,18.7s,baz=120,slow=35						
	comp=Z,6.5nm,1.0s						
KSAR	**Wonju Array Be**	**68.21**	**322**	P	**P**	**09 09 03.7**	**+0.4**
KSAR	**Wonju Array Be**	**68.21**	**322**	P	**P**	**09 09 03.7**	**+0.4**
KS19	**Wonju Array Si**	**68.27**	**322**	P	**P**	**09 09 03.4**	**-0.2**
KS19				IAmb	IAmb	09 09 04.8	
	comp=Z,9.2nm,1.1s						
SHEM	**Shemya Is, Ala**	**68.40**	**0**	LR	LR	09 32 50.6	
	comp=Z,120nm,21.5s,baz=126,slow=30						
YSS	**Yuzh-Sakhalins**	**68.41**	**338**	*e*P	**P**	**09 09 07.2**	**+2.9**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.1s						
YSS				MLR	MLR		
	comp=N,100nm,18.0s						
YSS				MLR	MLR		
	comp=E,200nm,18.0s						
INCN	**Inchon**	**68.98**	**322**	P	**P**	**09 09 08.3**	**+0.1**
INCN				IAmb	IAmb	09 09 09.6	
	comp=Z,16nm,0.9s						
INCN	**Inchon**	**68.98**	**322**	P	**P**	**09 09 08.3**	**+0.1**
INCN				pmax	pmax		
	comp=Z,16nm,0.9s						
DLV	**T Lat**	**69.94**	**289**	P	**P**	**09 09 16.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**70.10**	**350**	P	**P**	**09 09 15.6**	**+0.9**
PEA0B	**Petropavlovsk-**	**70.10**	**350**	P	**P**	**09 09 15.6**	**+0.9**
PEA0B				pmax	pmax		
	comp=Z,51nm,1.5s						
PETK	**Petropavlovsk-**	**70.10**	**350**	P	**P**	**09 09 14.9**	**+0.2**
	comp=Z,11nm,1.0s,baz=139,slow=7.5,SNR=10						
PETK				LR	LR	09 34 54.4	
	comp=Z,344nm,20.6s,baz=144,slow=32						
	comp=Z,11nm,1.0s						
NIKH	**Nikolski High**	**70.33**	**11**	P	**P**	**09 09 17.5**	**+1.4**
	baz=198						
NJ2	**Nanjing**	**70.76**	**313**	*e*P	**P**	**09 09 19.5**	**+0.3**
NJ2				sP	**pwP**	**09 09 25.0**	**-0.1**
NJ2				pmax	pmax		
	comp=Z,22nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,180nm,3.9s						
USRK	**Ussuriysk Ar.**	**70.78**	**330**	P	**P**	**09 09 19.3**	**+0.2**
USRK	**Ussuriysk Ar.**	**70.78**	**330**	P	**P**	**09 09 20.0**	**+0.9**
	comp=Z,8.0nm,1.0s,baz=98,slow=6.4,SNR=8.0						
USRK				LR	LR	09 35 41.7	
	comp=Z,126nm,21.7s,baz=141,slow=32						
	comp=Z,8.0nm,1.0s						
USRK	**Ussuriysk Ar.**	**70.78**	**330**	P	**P**	**09 09 19.3**	**+0.2**
USA0B	**Ussuriysk Arra**	**70.78**	**330**	P	**P**	**09 09 19.1**	**+0.1**
USA0B	**Ussuriysk Arra**	**70.78**	**330**	P	**P**	**09 09 19.2**	**+0.1**
USA0B				pmax	pmax		
	comp=Z,8.0nm,0.9s						
RPN	**Rapa Nui**	**71.77**	**114**	LR	LR	09 34 46.2	
	comp=Z,48nm,21.4s,baz=292,slow=31						
TYV	**Tymovskoe**	**71.78**	**340**	*e*P	P	09 09 16.4	-8.5
TYV				pmax	pmax		
	comp=Z,5.0nm,1.2s						
TYV				pmax	pmax		
	comp=Z,100nm,3.4s						
MDJ	**Mudanjiang**	**72.27**	**329**	P	**P**	**09 09 28.9**	**+0.9**
MDJ	**Mudanjiang**	**72.27**	**329**	P	**P**	**09 09 26.5**	**-1.5**
MDJ				pmax	pmax		
	comp=Z,17nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,100nm,5.2s						
MDJ	**Mudanjiang**	**72.27**	**329**	P	**P**	**09 09 27.7**	**-0.3**
MDJ				IAmb	IAmb	09 09 29.7	
	comp=Z,22nm,1.2s						
WHN	**Wuhan**	**73.22**	**309**	⇑P	**P**	**09 09 34.5**	**+0.5**
WHN				pmax	pmax		
	comp=Z,56nm,0.7s						
P08K	**Saint George I**	**73.68**	**10**	P	**P**	**09 09 37.9**	**+1.8**
	baz=197						
CN2	**Changchun**	**73.85**	**326**	*e*P	**P**	**09 09 37.8**	**+0.4**
CN2				pmax	pmax		
	comp=Z,20nm,1.2s						
UBPT	**Khong Chiam**	**73.90**	**291**	P	**P**	**09 09 37.1**	**-1.2**
QSPA	**South Pole Qui**	**74.08**	**180**	P	**P**	**09 09 38.3**	**-0.4**
QSPA				IAmb	IAmb	09 09 39.4	
	comp=Z,29nm,1.4s						
QSPA	**South Pole Qui**	**74.08**	**180**	P	**P**	**09 09 38.1**	**-0.6**
	comp=Z,14nm,1.1s,baz=8.8,slow=2.5,SNR=18						
	comp=Z,14nm,1.1s						
BNX	**BinXian**	**74.16**	**328**	⇑P	**P**	**09 09 39.3**	**+0.1**
BNX				pmax	pmax		
	comp=Z,6.0nm,0.7s						
BNX				pmax	pmax		
	comp=Z,75nm,4.2s						
TIA	**Tai'an**	**74.26**	**316**	⇓P	**P**	**09 09 40.0**	**0.0**
TIA				pmax	pmax		
	comp=Z,10.0nm,0.9s						
S12K	**Black Hills**	**74.33**	**14**	P	**P**	**09 09 42.2**	**+2.3**
	baz=204						
IPM	**Ipoh**	**74.38**	**279**	P	**P**	**09 09 41.7**	**+0.5**
IPM	**Ipoh**	**74.38**	**279**	P	**P**	**09 09 40.6**	**-0.6**
IPM				IAmb	IAmb	09 09 42.3	
	comp=Z,22nm,1.1s						
KLR	**Kul'dur**	**74.64**	**333**	LR	LR	09 36 48.9	
	comp=Z,133nm,21.8s,baz=140,slow=31						
KLR	**Kul'dur**	**74.64**	**333**	*ce*P	**P**	**09 09 42.4**	**+0.5**
KLR				pmax	pmax		
	comp=Z,7.0nm,1.3s						
HNS	**HongShan**	**76.53**	**316**	⇓P	**P**	**09 09 53.8**	**+0.8**
HNS				pmax	pmax		
	comp=Z,19nm,0.9s						
HNS				pmax	pmax		
	comp=Z,210nm,4.7s						
HNS				LR	LR		
	comp=Z,81nm,11.1s						
HNS				LR	LR		
	comp=Z,150nm,15.1s						
HNS				LR	LR		
	comp=Z,170nm,22.6s						
LYN	**LuoYang**	**76.61**	**312**	⇓P	**P**	**09 09 54.3**	**+0.8**
LYN				pP	pwP	09 09 59.0	-0.5
LYN				pmax	pmax		
	comp=Z,71nm,0.9s						
LYN				pmax	pmax		
	comp=Z,190nm,3.8s						
LYN				LR	LR		
	comp=Z,190nm,8.9s						
LYN				LR	LR		
	comp=Z,190nm,15.5s						
LYN				LR	LR		
	comp=Z,270nm,19.2s						
ENH	**Enshi**	**76.77**	**307**	P	**P**	**09 09 55.1**	**+0.5**
SII	**Sitkinak Islan**	**77.17**	**18**	P	**P**	**09 09 57.3**	**+1.1**
	baz=212						
GYA	**Guiyang**	**77.32**	**302**	⇑P	**P**	**09 09 58.3**	**+0.4**
GYA				pmax	pmax		
	comp=Z,17nm,1.3s						
MA2	**Magadan**	**77.48**	**348**	LR	LR	09 39 05.6	
	comp=Z,226nm,21.0s,baz=214,slow=32						
O14K	**Tigyukauivet M**	**77.74**	**13**	P	**P**	**09 10 00.5**	**+1.3**
	baz=205						
R18K	**Karluk**	**77.95**	**17**	P	**P**	**09 10 00.4**	**0.0**
	baz=212						
N14K	**Kuskokwak Cree**	**78.26**	**13**	P	**P**	**09 10 02.4**	**+0.3**
	baz=204						
P16K	**Nushagak River**	**78.29**	**15**	P	**P**	**09 10 03.1**	**+0.8**
	baz=208						
Q16K	**King Salmon**	**78.31**	**15**	P	**P**	**09 10 03.3**	**+0.8**
	baz=209						
M13K	**Dall Lake**	**78.38**	**12**	P	**P**	**09 10 03.5**	**+0.7**
	baz=203						
KDAK	**Kodiak Island**	**78.67**	**18**	P	**P**	**09 10 05.0**	**+0.5**
	baz=213						
KDAK	**Kodiak Island**	**78.67**	**18**	LR	LR	09 38 43.8	
	comp=Z,319nm,20.2s,baz=224,slow=31						
O16K	**Kokwok River B**	**78.77**	**14**	P	**P**	**09 10 05.5**	**+0.5**
	baz=208						
P17K	**Kvichak River**	**78.82**	**15**	P	**P**	**09 10 06.1**	**+0.9**
	baz=210						
N15K	**Kwethluk River**	**78.82**	**13**	P	**P**	**09 10 06.3**	**+1.0**
N15K	**Kwethluk River**	**78.82**	**13**	P	**P**	**09 10 06.3**	**+1.0**
	baz=206						
XAN	**Xi'an**	**78.93**	**310**	⇓P	**P**	**09 10 06.8**	**+0.2**
XAN				pP	sP	09 10 10.8	+0.9
XAN				pmax	pmax		
	comp=Z,26nm,1.1s						
M14K	**Bethel**	**78.96**	**12**	P	**P**	**09 10 05.8**	**-0.2**
	baz=204						
O17K	**Koliganek Bris**	**79.17**	**15**	P	**P**	**09 10 07.3**	**+0.2**
	baz=209						
M15K	**Kasigluk River**	**79.17**	**13**	P	**P**	**09 10 06.9**	**-0.3**
	baz=205						
P18K	**Big Mountain,**	**79.31**	**16**	P	**P**	**09 10 08.2**	**+0.2**
P18K				IAmb	IAmb	09 10 08.8	
	comp=Z,31nm,1.4s						
P18K	**Big Mountain,**	**79.31**	**16**	P	**P**	**09 10 07.3**	**-0.7**
	baz=211						
Q19K	**Cape Douglas,**	**79.33**	**17**	P	**P**	**09 10 07.7**	**-0.5**
	baz=212						
L14K	**Kuka Creek**	**79.36**	**11**	P	**P**	**09 10 08.0**	**-0.2**
	baz=203						
N16K	**Nishlik Lake**	**79.39**	**14**	P	**P**	**09 10 08.2**	**-0.2**
	baz=207						
Q20K	**Shuyak Island**	**79.42**	**17**	P	**P**	**09 10 07.9**	**-0.7**
	baz=213						
K13K	**Kusilvak Mount**	**79.55**	**10**	IAmb	IAmb	09 10 12.9	
	comp=Z,18nm,1.1s						
K13K	**Kusilvak Mount**	**79.55**	**10**	P	**P**	**09 10 08.9**	**-0.4**
	baz=201						
O18K	**Koktuh Hills**	**79.71**	**15**	P	**P**	**09 10 09.8**	**-0.4**
	baz=211						
PHRA	**Phrae**	**79.74**	**293**	P	**P**	**09 10 12.2**	**+0.9**
N17K	**Nushagak Hills**	**79.81**	**14**	P	**P**	**09 10 10.3**	**-0.3**
	baz=209						
M16K	**Timber Creek**	**79.84**	**13**	P	**P**	**09 10 12.3**	**+1.5**
M16K				IAmb	IAmb	09 10 13.2	
	comp=Z,23nm,1.1s						
M16K	**Timber Creek**	**79.84**	**13**	P	**P**	**09 10 10.4**	**-0.4**
	baz=207						
ZEA	**Zeya**	**79.85**	**334**	*e*P	**P**	**09 10 11.9**	**+0.8**
ZEA				*e*		09 20 03.4	
ZEA				pmax	pmax		
	comp=Z,10.0nm,1.2s						
L15K	**Ungalak Mounta**	**79.90**	**12**	P	**P**	**09 10 10.9**	**-0.3**
	baz=204						
P19K	**Oil Pt**	**80.06**	**16**	P	**P**	**09 10 12.2**	**+0.1**
	baz=212						
CRAI	**Chiangrai**	**80.22**	**294**	IAmb	IAmb	09 10 16.0	
	comp=Z,21nm,1.2s						
O19K	**Port Alsworth**	**80.23**	**16**	IAmb	IAmb	09 10 16.6	
	comp=Z,37nm,1.6s						
O19K	**Port Alsworth**	**80.23**	**16**	P	**P**	**09 10 12.4**	**-0.5**
	baz=211						
N18K	**Kilae Creek**	**80.25**	**15**	P	**P**	**09 10 12.3**	**-0.8**
	baz=210						
GAMB	**Gambell**	**80.31**	**7**	P	**P**	**09 10 12.5**	**-0.8**
	baz=194						
SEY	**Seymchan**	**80.33**	**350**	LR	LR	09 40 02.6	
	comp=Z,441nm,21.6s,baz=148,slow=31						
SEY	**Seymchan**	**80.33**	**350**	*ce*P	**P**	**09 10 13.0**	**-0.4**
SEY				pmax	pmax		
	comp=Z,11nm,1.4s						
L16K	**Owhat River**	**80.35**	**13**	P	**P**	**09 10 12.9**	**-0.6**
	baz=206						
ILSW	**Iliamna Southw**	**80.36**	**16**	IAmb	IAmb	09 10 16.5	
	comp=Z,19nm,1.2s						
HHC	**Hu-ho-hao-te**	**80.42**	**317**	*e*P	**P**	**09 10 15.5**	**+0.9**
HHC				pP	pwP	09 10 20.5	0.0
HHC				sP	PcP	09 10 25.3	+3.7
HHC				pmax	pmax		
	comp=Z,9.0nm,0.7s						
HHC				pmax	pmax		
	comp=Z,74nm,4.2s						
HHC				LR	LR		
	comp=Z,140nm,18.6s						
HHC				LR	LR		
	comp=Z,84nm,19.1s						
HHC				LR	LR		
	comp=Z,140nm,14.6s						
K15K	**Wolf Creek Mou**	**80.46**	**12**	IAmb	IAmb	09 10 16.3	
	comp=Z,21nm,1.1s						
K15K	**Wolf Creek Mou**	**80.46**	**12**	P	**P**	**09 10 13.9**	**-0.2**
	baz=204,SNR=6.5						
J14K	**Nanvaranak Lak**	**80.50**	**11**	P	**P**	**09 10 14.3**	**0.0**
	baz=202						
M17K	**Holitna River**	**80.52**	**14**	P	**P**	**09 10 14.1**	**-0.4**
	baz=208						
O20K	**Slope Mountain**	**80.59**	**16**	P	**P**	**09 10 14.7**	**-0.2**
	baz=213						
N19K	**Bonanza Creek**	**80.72**	**15**	P	**P**	**09 10 15.7**	**0.0**
	baz=211						
BRSE	**Bradley Lake S**	**80.83**	**17**	P	**P**	**09 10 16.2**	**-0.1**
	baz=215						
CMAR	**Chiang Mai Arr**	**80.87**	**292**	P	**P**	**09 10

baz=205,SNR=10
N20K **Mount Spurr** 81.64 16 P P 09 10 20.8 +0.2
baz=213
M19K **Big River Lodg** 81.68 15 P P 09 10 21.0 +0.3
baz=211
OSI **Osito Audit: C** 81.70 51 P P 09 10 20.8 -0.7
baz=244
O22K **Cooper Landing** 81.73 17 P P 09 10 21.3 +0.4
baz=216
L19K **White Mountain** 81.81 14 P P 09 10 22.3 +0.9
baz=211,SNR=19
DECC **Green Verdugo** 81.84 51 P P 09 10 21.2 -1.0
baz=244
ARVC **Arvin** 81.84 50 P P 09 10 21.5 -0.6
baz=244
ANM **Nome** 81.90 9 P P 09 10 22.5 +0.7
baz=201
Q23K **Middleton Isla** 81.92 19 P P 09 10 22.8 +0.9
baz=219
J17K **VABM Dome** 81.94 12 P P 09 10 22.7 +0.7
baz=207,SNR=6.5
VOG **Valley Oaks Go** 81.97 49 P P 09 10 22.7 0.0
baz=244
VES **Vestal, Richgr** 81.97 49 P P 09 10 22.7 -0.1
baz=244
M20K **Styx River** 81.97 15 P P 09 10 23.1 +0.7
baz=212
CMB **Columbia Colle** 82.02 47 P P 09 10 23.5 +0.4
CMB **Columbia Colle** 82.02 47 P P 09 10 23.5 +0.4
CMB pmax pmax
comp=Z,5.0nm,0.9s
AFDM **Forest Hills D** 82.04 46 P P 09 10 22.9 -0.2
P23K **Montague Islan** 82.04 19 P P 09 10 23.9 +1.3
baz=218
I17K **Unalakleet** 82.07 11 P P 09 10 23.3 +0.7
baz=205
109C **Camp Elliot, M** 82.19 53 P P 09 10 23.5 -0.5
baz=245
YBH **Yreka Blue Hor** 82.20 43 IAmb IAmb 09 10 26.4
comp=Z,13nm,1.2s
YBH **Yreka Blue Hor** 82.20 43 LR LR 09 39 09.3
comp=Z,290nm,21.3s,baz=244,slow=30
RC01 **Rabbit Creek A** 82.23 17 P P 09 10 23.6 0.0
baz=216,SNR=5.2
SUA **Susitna One** 82.25 16 P P 09 10 23.0 -0.9
baz=215
L20K **Farewell, AK** 82.30 15 P P 09 10 24.5 +0.6
baz=212,SNR=16
BFSC **Mount Baldy Ra** 82.33 51 P P 09 10 24.1 -0.9
baz=245
EDW2 **Edwards Air Fo** 82.36 51 P P 09 10 24.2 -0.8
baz=245
MURC **Murrieta** 82.42 52 P P 09 10 24.6 -0.6
baz=245
HUMO **Hull Mountain** 82.47 42 P P 09 10 26.0 +0.7
HUMO IAmb IAmb 09 10 27.9
comp=Z,11nm,1.2s
H16K **Elim** 82.48 10 P P 09 10 24.4 -0.4
baz=204
TNA **Tin City** 82.49 8 P P 09 10 25.2 +0.5
baz=198
J18K **Innoko River** 82.50 13 IAmb IAmb 09 10 26.8
comp=Z,17nm,1.1s
J18K **Innoko River** 82.50 13 P P 09 10 25.2 +0.3
baz=209,SNR=8.5
G15K **Niukluk** 82.51 9 P P 09 10 25.1 +0.2
baz=202
F14K **Arctic Creek** 82.62 8 P P 09 10 25.1 -0.4
baz=200
M22K **Willow** 82.66 17 P P 09 10 25.7 -0.1
baz=215,SNR=8.0
MONP2 **Monument Peak** 82.71 53 P P 09 10 24.2 -2.9
baz=246
PMR **Palmer** 82.81 17 P P 09 10 27.1 +0.6
PMR **Palmer** 82.81 17 P P 09 10 26.7 +0.2
PMR **Palmer** 82.81 17 P P 09 10 26.2 -0.3
baz=216,SNR=8.6
PMR **Palmer** 82.81 17 P P 09 10 26.7 +0.2
PMR pmax pmax
comp=Z,45nm,1.5s
GLI **Glacier Island** 82.83 18 P P 09 10 25.7 -1.0
baz=218
KNK **Knik Glacier** 82.85 17 P P 09 10 26.4 -0.5
baz=217,SNR=6.7
IKP **In-Ko-Pah, Jac** 82.86 53 P P 09 10 26.2 -1.4
baz=246
BBRC **Big Bear Solar** 82.90 52 P P 09 10 25.9 -2.1
baz=245
WAKR **Walker** 82.90 47 IAmb IAmb 09 10 30.5
comp=Z,14nm,1.2s
MAW **Mawson** 82.93 201 P P 09 10 27.2 0.0
comp=Z,4.7nm,1.0s,baz=108,slow=8.4,SNR=5.8
MAW LR LR 09 44 01.3
comp=Z,153nm,18.5s,baz=113,slow=33
comp=Z,4.7nm,1.0s
KAIM **Kayak Island** 82.93 20 P P 09 10 26.5 -0.8
baz=221
CWC **Cottonwood Cre** 82.96 49 P P 09 10 26.6 -1.6
baz=244
PFO **Pinyon Flats O** 82.98 52 P P 09 10 27.1 -1.2
baz=246
PFO **Pinyon Flats O** 82.98 52 LR LR 09 40 23.1
comp=Z,181nm,19.9s,baz=242,slow=31
TPFO **Pinon Flats** 82.98 52 P P 09 10 26.6 -1.7
baz=246
EYAK **Cordova Ski Ar** 82.98 19 P P 09 10 27.3 -0.2
baz=219
K20K **Telida** 83.00 14 P P 09 10 27.1 -0.5
baz=211
PNTR **Pine Nut** 83.05 46 IAmb IAmb 09 10 31.0
comp=Z,15nm,1.2s
F15K **North Star Dit** 83.08 9 P P 09 10 27.8 -0.1
baz=201
RRX **Edison Barstow** 83.10 51 P P 09 10 27.5 -1.3
baz=245
G16K **Koyuk River** 83.16 10 P P 09 10 28.2 -0.1
baz=203
CUT **Chulitna** 83.16 16 P P 09 10 27.9 -0.4
baz=215
H17K **Granite Mounta** 83.17 11 IAmb IAmb 09 10 30.3
comp=Z,17nm,1.1s
H17K **Granite Mounta** 83.17 11 P P 09 10 28.8 +0.4
baz=206,SNR=5.7
J19K **Poorman** 83.20 13 IAmb IAmb 09 10 30.8
comp=Z,20nm,1.3s
J19K **Poorman** 83.20 13 P P 09 10 28.9 +0.4
baz=210,SNR=9.3
SML **Sawmill** 83.21 17 P P 09 10 28.7 0.0
baz=217
SWSC **Sam W. Stewart** 83.21 53 P P 09 10 28.3 -1.0
baz=246
MPMC **Manual Prospec** 83.23 50 P P 09 10 28.5 -1.2
baz=245
M23K **Glacier View** 83.37 17 P P 09 10 29.9 +0.4
baz=217,SNR=6.2
I04A **Tendick Farm,** 83.40 41 IAmb IAmb 09 10 31.9
comp=Z,13nm,1.2s
GSC **Goldstone, Bar** 83.42 51 P P 09 10 29.8 -0.7
baz=245
DSP **Deep Springs** 83.44 48 IAmb IAmb 09 10 33.1
comp=Z,11nm,1.1s
LHV **Little Huntoon** 83.45 47 IAmb IAmb 09 10 33.1
comp=Z,16nm,1.2s
PAHR **Pah Rah Range** 83.48 46 IAmb IAmb 09 10 35.7
comp=Z,30nm,1.9s
BELC **Belle Mtn. Jos** 83.49 52 P P 09 10 30.4 -0.6
baz=246
SCM **Sheep Creek Mo** 83.52 18 P P 09 10 31.1 +0.8
baz=218
CAST **Castle Rocks** 83.53 15 P P 09 10 29.2 -1.2
baz=213,SNR=7.0
G17K **Kiwalik Mounta** 83.55 11 P P 09 10 30.1 -0.2
baz=205,SNR=6.8
H04D **Lebanon** 83.56 40 IAmb IAmb 09 10 33.1
comp=Z,15nm,1.1s
LZH **Lanzhou** 83.57 310 eP P 09 10 33.3 +2.0
LZH sP pwP 09 10 39.8 +2.5
LZH pmax pmax
comp=Z,23nm,1.2s
LZH LR LR
comp=Z,150nm,16.8s
LZH LR LR
comp=Z,180nm,17.5s
LZH LR LR
comp=Z,230nm,17.2s
HEC **Hector,Ludlow** 83.57 51 P P 09 10 31.1 -0.2
baz=246
H18K **Honhosa River** 83.66 12 P P 09 10 31.2 +0.3
baz=207
KLU **Klutina** 83.67 18 P P 09 10 31.3 +0.2
baz=219
NVAR **Mina Array Bea** 83.67 47 P P 09 10 32.3 +0.4
NVAR **Mina Array Bea** 83.67 47 P P 09 10 32.6 +0.8
comp=Z,3.6nm,1.0s,baz=229,slow=8.2,SNR=18
NVAR LR LR 09 39 27.6
comp=Z,406nm,21.9s,baz=246,slow=30
comp=Z,3.6nm,1.0s
BMRM **Bremner River** 83.67 19 P P 09 10 32.3 +1.2
baz=220
J20K **Nowinta River** 83.69 14 P P 09 10 31.7 +0.6
baz=211,SNR=5.2
GRAC **Grapevine Rang** 83.72 49 IAmb IAmb 09 10 34.5
comp=Z,18nm,1.2s
GRAC **Grapevine Rang** 83.72 49 P P 09 10 31.8 -0.1
baz=245,SNR=6.8
BC3 **Big Chuckawall** 83.76 53 P P 09 10 31.8 -0.5
baz=246
NV11 **Mina Array Sit** 83.77 47 IAmb IAmb 09 10 34.5
comp=Z,12nm,1.3s
K05A **Summer Lake** 83.86 42 IAmb IAmb 09 10 36.9
comp=Z,12nm,0.9s
FURC **Furnace Creek,** 83.86 50 P P 09 10 32.8 +0.2
baz=245
CHUM **Lake Minchumin** 83.87 15 P P 09 10 32.8 +0.8
baz=213
GWY **Greenwater Val** 83.89 50 IAmb IAmb 09 10 35.0
comp=Z,11nm,1.3s
BILL **Bilibino** 83.92 357 P P 09 10 31.3 -0.9
BILL IAmb IAmb 09 10 32.7
comp=Z,17nm,1.5s
BILL **Bilibino** 83.92 357 eP P 09 10 31.4 -0.8
BILL pmax pmax
comp=Z,8.0nm,1.3s
MESA **MESA** 83.95 21 P P 09 10 32.4 -0.3
baz=223
WAT1 **Susitna Watana** 83.97 17 P P 09 10 33.7 +1.2
baz=217
WAT6 **Susitna Watana** 83.99 17 P P 09 10 32.6 -0.3
baz=217,SNR=10
TRF **Thorofare Moun** 84.01 16 IAmb IAmb 09 10 33.4
comp=Z,13nm,1.1s
TRF **Thorofare Moun** 84.01 16 P P 09 10 32.5 -0.5
baz=215
SHOC **Shoshone, Teco** 84.06 50 P P 09 10 33.9 +0.2
baz=246
GMRC **Granite Mounta** 84.06 51 P P 09 10 34.1 +0.3
baz=246
M24K **Tolsona, Glenn** 84.07 18 P P 09 10 33.6 +0.4
baz=219,SNR=6.3
KVN **Kaiserville** 84.08 47 IAmb IAmb 09 10 36.0
comp=Z,11nm,1.3s
TUQ **Turquoise Moun** 84.13 51 P P 09 10 33.5 -0.6
baz=246
I20K **Naaghedeneel** 84.15 13 P P 09 10 34.0 +0.6
baz=211,SNR=9.3
N25K **Chitina, Valde** 84.16 19 IAmb IAmb 09 10 34.9
comp=Z,21nm,1.2s
N25K **Chitina, Valde** 84.16 19 P P 09 10 32.9 -0.8
baz=220,SNR=7.0
WCT **Wildcat Mounta** 84.17 49 IAmb IAmb 09 10 38.4
comp=Z,13nm,1.3s
CRAG **Craig** 84.18 27 P P 09 10 34.3 +0.6
baz=231
IRM **Iron Mountain** 84.20 52 P P 09 10 34.0 -0.4
baz=246
VRDI **Verde Repeater** 84.23 19 IAmb IAmb 09 10 35.3
comp=Z,21nm,1.3s
SIT **Sitka** 84.26 25 P P 09 10 34.1 +0.1
baz=229
G18K **Tagagawik** 84.26 11 P P 09 10 34.0 0.0
baz=207,SNR=15
GLB **Gilahina Butte** 84.28 19 IAmb IAmb 09 11 12.7
comp=Z,6.3nm,0.8s
F17K **Baldwin Pennin** 84.30 10 P P 09 10 35.4 +1.3
baz=204
PINE **Pine Mountain** 84.33 42 IAmb IAmb 09 10 37.5
comp=Z,14nm,1.0s
I05D **Terrebonne, OR** 84.34 41 IAmb IAmb 09 10 37.0
comp=Z,13nm,1.1s
H19K **Roundabout Mou** 84.37 12 P P 09 10 34.8 +0.4
baz=209,SNR=14
BPAW **Bear Paw Mtn.** 84.37 15 P P 09 10 34.8 +0.2
baz=214
LPIG **La Paz** 84.41 63 LR LR 09 38 53.4
comp=Z,408nm,21.9s,baz=230,slow=29
PNL **Peninsula** 84.47 22 P P 09 10 35.6 +0.4
baz=225
MCARA **McCarthy VSAT** 84.49 19 P P 09 10 35.5 +0.3
baz=222
DHY **Denali Highway** 84.49 17 IAmb IAmb 09 10 47.9
comp=Z,11nm,1.4s
DHY **Denali Highway** 84.49 17 P P 09 10 35.5 +0.1
baz=218
S31K **Pelican** 84.49 24 P P 09 10 35.1 -0.1
baz=228
BLYC **Blythe** 84.51 53 IAmb IAmb 09 10 40.2
comp=Z,19nm,1.4s
U33K **Whale Pass** 84.58 27 P P 09 10 35.1 -0.7
baz=231
BBB **Bella Bella** 84.59 32 LR LR 09 41 33.9
comp=Z,127nm,18.8s,baz=222,slow=31
MCK **McKinley** 84.59 16 P P 09 10 35.2 -0.6
baz=216
HARP **HAARP** 84.60 18 P P 09 10 35.4 -0.3
baz=220
H20K **Anotleneega Mo** 84.66 13 P P 09 10 36.1 +0.1
baz=210,SNR=11
BARN **Barnard Glacie** 84.69 20 IAmb IAmb 09 10 37.8
comp=Z,20nm,1.2s
F18K **Selawik** 84.72 10 P P 09 10 35.6 -0.6
baz=206,SNR=6.3
CTG **Chitna Glacier** 84.73 20 P P 09 10 36.1 -0.5
baz=223
V35K **Ketchikan** 84.76 28 P P 09 10 36.2 -0.5
baz=232
G19K **Purcell Mounta** 84.78 12 P P 09 10 36.0 -0.6
baz=208,SNR=23
E17K **Hotham Inlet** 84.79 9 P P 09 10 36.4 -0.2
baz=204,SNR=14
S32K **Killisnoo** 84.84 25 P P 09 10 36.9 -0.1
baz=230
PAX **Paxson** 84.95 18 P P 09 10 37.1 -0.6
baz=219
O28M **Mount Upton** 84.98 21 P P 09 10 36.8 -1.3
baz=224
BELA **Belgrano 2** 84.98 174 P P 09 10 35.4 -2.3
BELA IAmb IAmb 09 10 41.5
comp=Z,15nm,1.6s
R31K **City Hall, Gus** 84.99 24 P P 09 10 37.0 -0.7
baz=228
GNW **Green Mountain** 85.01 38 P P 09 10 39.2 +1.0
YAK **Yakutsk** 85.02 341 LR LR 09 42 46.8
comp=Z,217nm,22.0s,baz=137,slow=32
YAK **Yakutsk** 85.02 341 eP P 09 10 37.1 -0.7
YAK pmax pmax
comp=Z,12nm,1.0s
YAK pmax pmax
comp=N,2.0nm,1.1s
YAK pmax pmax
comp=E,2.0nm,1.1s
PDMCI **Parker Dam,Lak** 85.02 52 P P 09 10 37.2 -1.3
baz=247
P29M **Windy Craggy** 85.05 23 P P 09 10 38.2 +0.1
baz=227
T33K **Petersburg** 85.10 26 P P 09 10 37.2 -1.1
baz=231
WRAK **Wrangell Islan** 85.11 27 P P 09 10 38.1 -0.4
baz=232
214A **Organ Pipe Nat** 85.16 55 IAmb IAmb 09 10 42.1
comp=Z,18nm,1.6s
214A **Organ Pipe Nat** 85.16 55 P P 09 10 37.6 -1.7
baz=248
D17K **Noatak River** 85.17 9 P P 09 10 37.6 -0.9
baz=203
MLY **Manley** 85.20 14 P P 09 10 37.7 -1.1
baz=214
WVOR **Wild Horse Val** 85.21 44 IAmb IAmb 09 10 41.7
comp=Z,16nm,1.2s
O29M **Mount Kennedy** 85.21 22 P P 09 10 37.7 -1.4
baz=226
H21K **Melozitna Rive** 85.25 13 IAmb IAmb 09 10 40.8
comp=Z,12nm,1.3s
H21K **Melozitna Rive** 85.25 13 P P 09 10 38.5 -0.5
baz=212,SNR=6.1
M26K **Nabesna, AK** 85.26 19 IAmb IAmb 09 10 41.0
comp=Z,14nm,1.1s
M26K **Nabesna, AK** 85.26 19 P P 09 10 38.9 -0.2
baz=222,SNR=6.4
NEA2 **Nenana** 85.26 15 IAmb IAmb 09 10 44.3
comp=Z,14nm,1.7s
NEA2 **Nenana** 85.26 15 P P 09 10 37.9 -1.1
baz=216
F19K **Shaleruckik Mo** 85.26 11 IAmb IAmb 09 10 40.7
comp=Z,20nm,1.2s
F19K **Shaleruckik Mo** 85.26 11 P P 09 10 39.1 +0.1
baz=208,SNR=9.5
E18K **Tukpahlearik C** 85.30 10 P P 09 10 39.2 0.0
baz=205,SNR=7.9
D05A **Enumclaw** 85.32 38 IAmb IAmb 09 10 42.1
comp=Z,20nm,1.2s
I07A **Izee** 85.39 42 IAmb IAmb 09 10 42.4
comp=Z,10nm,1.0s
WRH **Wood River Hil** 85.41 16 IAmb IAmb 09 10 44.4
comp=Z,13nm,1.4s
YUK8 **Steele Glacier** 85.49 21 P P 09 10 40.0 -0.6
baz=225
K24K **Donnelly Dome** 85.51 17 P P 09 10 39.8 -0.5
baz=219
RDOG **Red Dog Mine** 85.53 9 P P 09 10 39.5 -0.8
baz=203
R11B **Troy Canyon, C** 85.57 48 P P 09 10 39.9 -1.6
baz=246
M27K **Edge Creek, AK** 85.58 19 P P 09 10 40.0 -0.8
baz=223
YUK3 **Moose Creek** 85.61 20 P P 09 10 40.2 -0.9
baz=224
L26K **Log Cabin Wild** 85.62 18 IAmb IAmb 09 10 42.2
comp=Z,11nm,1.4s
L26K **Log Cabin Wild** 85.62 18 P P 09 10 40.4 -0.5
baz=221
I23K **Minto, Yukon-K** 85.64 15 P P 09 10 41.0 +0.2
baz=216
HDA **Harding Lake** 85.66 16 IAmb IAmb 09 10 42.0
comp=Z,16nm,1.2s
HDA **Harding Lake** 85.66 16 P P 09 10 40.6 -0.4
baz=218,SNR=10
P30M **Million Dollar** 85.67 22 P P 09 10 41.8 +0.5
baz=227
J08A **Circle Bar Ran** 85.72 43 IAmb IAmb 09 10 44.0
comp=Z,9.5nm,1.1s
YUK6 **Outpost Mounta** 85.73 21 P P 09 10 42.1 +0.3
baz=226
MDM **Murphy Dome** 85.77 15 IAmb IAmb 09 10 42.7
comp=Z,12nm,1.2s
H22K **Ishtalitna Cre** 85.77 14 P P 09 10 42.3 +0.7
baz=214
COLA **College** 85.80 16 P P 09 10 42.6 +1.0
COLA **College** 85.80 16 P P 09 10 41.6 0.0
COLA IAmb IAmb 09 10 42.7
comp=Z,7.8nm,0.8s
COLA **College** 85.80 16 P P 09 10 41.9 +0.3
baz=217
COLA **College** 85.80 16 P P 09 10 41.6 0.0
COLA pmax pmax
comp=Z,8.0nm,0.8s
G21K **Allakaket** 85.83 13 IAmb IAmb 09 10 43.6
comp=Z,12nm,1.3s
G21K **Allakaket** 85.83 13 P P 09 10 41.8 -0.1
baz=212
U35K **Hyder** 85.84 28 P P 09 10 42.0 0.0
baz=234
F20K **Avaraart Lake** 85.84 12 P P 09 10 41.8 0.0
baz=210
SKAG **Skagway** 85.84 24 P P 09 10 41.8 -0.2
baz=229
C17K **DeLong Mountai** 85.88 8 P P 09 10 42.1 +0.1
baz=202
YUK4 **Talbot Arm** 85.92 21 P P 09 10 43.5 +0.8
baz=226
E19K **Redstone River** 85.92 11 IAmb IAmb 09 10 44.2
comp=Z,12nm,1.2s
E19K **Redstone River** 85.92 11 P P 09 10 42.3 +0.1
baz=208
HYT **Haines Junctio** 85.96 22 P P 09 10 42.5 -0.3
baz=227
IL31 85.97 16 IAmb IAmb 09 10 44.6
comp=Z,25nm,1.6s
ILAR **Eielson Array** 85.97 16 P P 09 10 41.4 -1.2
ILAR **Eielson Array** 85.97 16 P P 09 10 41.2 -1.3
comp=Z,5.0nm,1.0s,baz=236,slow=5.6,SNR=34
ILAR LR LR 09 43 55.2
comp=Z,266nm,19.9s,baz=226,slow=32
comp=Z,5.0nm,1.0s
ILAR **Eielson Array** 85.97 16 P P 09 10 41.4 -1.2
POKR **Poker Plat Res** 86.10 16 P P 09 10 43.8 +0.6
baz=218
L27K **Beaver Creek,** 86.11 19 P P 09 10 43.2 -0.2
baz=223
H23K **Yukon River** 86.14 14 P P 09 10 43.9 +0.4
baz=216
SCRK **Sand Creek** 86.15 17 IAmb IAmb 09 10 52.5
comp=Z,22nm,1.8s
SCRK **Sand Creek** 86.15 17 P P 09 10 43.6 -0.1
baz=221,SNR=6.2
J25K **Salcha River,** 86.25 17 P P 09 10 43.8 -0.2
baz=219,SNR=7.1
C18K **Utukok River** 86.33 9 P P 09 10 44.4 +0.1
baz=204
T35M **Bob Quinn** 86.37 27 P P 09 10 44.7 -0.1
baz=233
Q12A **Willow Creek R** 86.39 48 IAmb IAmb 09 10 47.7
comp=Z,11nm,1.1s
O30N **Mendenhall** 86.43 22 P P 09 10 45.0 0.0
baz=228
F21K **Alatna River** 86.44 12 P P 09 10 45.2 +0.3
baz=212
N30M **Aishihik Lake** 86.54 21 P P 09 10 45.5 0.0
baz=227
P32M **Atlin** 86.55 24 P P 09 10 45.3 -0.3
baz=230
G22K **Bettles** 86.60 13 P P 09 10 44.8 -0.9
baz=214,SNR=7.2
J26L **Joseph Creek** 86.67 17 IAmb IAmb 09 10 48.6
comp=Z,11nm,1.4s
J26L **Joseph Creek** 86.67 17 P P 09 10 46.0 -0.2
baz=221,SNR=6.8
ULN **Ulaanbaatar** 86.68 322 ceP P 09 10 46.5 -0.2
ULN pmax pmax
comp=Z,7.0nm,1.2s
D19K **Kuna River** 86.68 10 P P 09 10 45.6 -0.5
baz=207
M29M **Somme Creek** 86.75 20 P P 09 10 46.7 +0.1
baz=226
K27K **Chicken** 86.75 18 P P 09 10 46.8 +0.4
baz=222
G23K **Banaza Creek** 86.76 14 P P 09 10 47.1 +0.7
baz=215
WHY **Whitehorse** 86.80 23 P P 09 10 47.2 +0.3
baz=229
E20K **Nigu River** 86.81 11 P P 09 10 47.9 +1.2
baz=209
TUC **Tucson** 86.89 55 P P 09 10 48.5 +0.5
TUC **Tucson** 86.89 55 P P 09 10 47.7 -0.2
baz=249
TUC **Tucson** 86.89 55 P P 09 10 48.5 +0.5
TUC pmax pmax
comp=Z,7.0nm,1.4s
B18K **Kokolik River** 86.90 9 P P 09 10 48.0 +1.0
baz=204
PRP **Porcupine Dome** 86.91 16 P P 09 10 48.1 +0.8
baz=219
F22K **John River** 86.95 13 P P 09 10 47.3 -0.1
baz=213
C19K **Lookout Ridge** 86.99 9 P P 09 10 48.0 +0.4
N31M **Braeburn, Yuko** 87.02 22 P P 09 10 48.4 +0.5
baz=228
KNB **Kanab** 87.06 50 IAmb IAmb 09 10 58.1
comp=Z,30nm,2.0s
D20K **Etivluk River** 87.14 11 P P 09 10 47.8 -0.5
baz=209
BMO **Blue Mountains** 87.14 42 IAmb IAmb 09 10 52.3
comp=Z,12nm,1.6s
COLD **Coldfoot** 87.14 13 P P 09 10 47.7 -0.6
baz=215
P33M **Teslin, Yukon** 87.30 24 P P 09 10 49.4 +0.1
baz=231
L29M **L29M** 87.32 20 P P 09 10 49.8 +0.5
baz=226
DLBC **Dease Lake** 87.34 26 P P 09 10 49.1 -0.4
baz=234
DLBC **Dease Lake** 87.34 26 LR LR 09 41 15.3
comp=Z,210nm,21.8s,baz=268,slow=30
G24K **Hadweenzic Riv** 87.35 15 P P 09 10 49.2 -0.1

baz=217
E21K **Killik River** 87.39 12 P P 09 10 49.1 -0.4
baz=211
I26K **Coal Creek Min** 87.39 17 IAmb IAmb 09 10 51.2
comp=Z,11nm,1.3s
I26K **Coal Creek Min** 87.39 17 P P 09 10 49.1 -0.4
baz=222
M30M **Minto, Yukon** 87.40 21 P P 09 10 50.2 +0.5
baz=227
H25L **Birch Creek** 87.42 15 P P 09 10 50.3 +0.7
baz=219
MFID **Camas Ranch** 87.49 44 IAmb IAmb 09 10 52.7
comp=Z,11nm,1.2s
R33M **Jennings River** 87.53 25 P P 09 10 49.7 -0.7
baz=233
E22K **Anaktuvuk Pass** 87.55 12 IAmb IAmb 09 10 54.8
comp=Z,9.0nm,1.2s
E22K **Anaktuvuk Pass** 87.55 12 P P 09 10 49.3 -1.0
baz=213
EGAK **Eagle** 87.57 18 IAmb IAmb 09 10 52.5
comp=Z,9.0nm,1.1s
EGAK **Eagle** 87.57 18 P P 09 10 49.8 -0.5
baz=223,SNR=7.0
WUAZ **Wupatki** 87.58 52 P P 09 10 49.9 -1.5
baz=249
DAWY **Dawson** 87.59 19 P P 09 10 50.9 +0.3
DAWY IAmb IAmb 09 11 07.2
comp=Z,9.8nm,1.4s
DAWY **Dawson** 87.59 19 P P 09 10 49.9 -0.6
baz=225
F10A **Beach Ranch, E** 87.67 41 P P 09 10 51.8 +0.4
F10A IAmb IAmb 09 10 52.4
comp=Z,9.1nm,1.0s
G25K **Bearman Lake** 87.74 15 P P 09 10 50.6 -0.5
baz=219
319A **Douglas** 87.76 57 IAmb IAmb 09 10 54.8
comp=Z,12nm,1.4s
GTA **Gaotai** 87.83 312 P P 09 10 53.3 +0.9
GTA pmax pmax
comp=Z,13nm,1.2s
C21K **Knifeblade Rid** 87.85 11 P P 09 10 50.9 -0.7
baz=210
F24K **Squaw Lake** 87.91 14 P P 09 10 51.0 -1.0
baz=217
MTPU **Mount Pierson** 87.91 50 IAmb IAmb 09 10 56.2
comp=Z,11nm,1.4s
E23K **Chandalar** 87.96 13 P P 09 10 51.2 -1.1
baz=215
M31M **Drury Creek, Y** 87.99 22 P P 09 10 51.7 -0.8
baz=230
D22K **Ayikyak River** 88.01 12 P P 09 10 51.8 -0.7
baz=212
K29M **Barlow Dome** 88.03 20 P P 09 10 51.3 -1.4
baz=227
I27K **Kandik River** 88.05 17 P P 09 10 51.8 -0.9
baz=223
PLID **Pearl Lake** 88.08 42 P P 09 10 54.1 +0.5
PLID IAmb IAmb 09 10 56.7
comp=Z,12nm,1.5s
DUG **Dugway, Tooele** 88.27 47 IAmb IAmb 09 10 58.4
comp=Z,8.5nm,1.2s
DUG **Dugway, Tooele** 88.27 47 P P 09 10 52.6 -1.9
baz=248
B21K **Ikpikpuk River** 88.28 11 P P 09 10 52.3 -1.4
baz=211
FARO **Faro, Yukon** 88.38 22 P P 09 10 53.0 -1.4
baz=230
MAYO **Mayo, Yukon** 88.39 20 P P 09 10 54.3 -0.1
baz=228
I28M **Miner Creek** 88.42 18 P P 09 10 53.4 -1.1
baz=224
TOLK **Toolik Lake Re** 88.44 13 P P 09 10 53.3 -1.3
baz=215
G26K **Porcupine Rive** 88.47 16 P P 09 10 55.2 +0.7
baz=221
D23K **Nanushuk River** 88.48 12 P P 09 10 54.2 -0.4
baz=214
HLID **Hailey** 88.49 44 IAmb IAmb 09 10 57.9
comp=Z,7.5nm,1.1s
HLID **Hailey** 88.49 44 P P 09 10 54.4 -1.1
baz=246,SNR=11
F25K **Christian Rive** 88.50 15 P P 09 10 55.0 +0.2
baz=219
H27K **Steamboat Moun** 88.53 17 P P 09 10 54.7 -0.3
baz=223
PMSA **Palmer Station** 88.57 159 LR LR 09 43 25.2
comp=Z,86nm,20.9s,baz=247,slow=31
W18A **Petrified Fore** 88.69 53 P P 09 10 55.2 -1.4
baz=250
NEW **Newport** 88.73 39 LR LR 09 43 36.7
comp=Z,143nm,20.0s,baz=276,slow=31
I29M **Ogilvie Camp,** 88.84 18 P P 09 10 55.9 -0.5
baz=226
J30M **Hart River** 88.91 19 P P 09 10 56.8 -0.1
baz=228
G27K **Doyon Strip** 88.92 16 P P 09 10 56.9 +0.1
baz=223
E25K **Arctic Village** 88.93 14 P P 09 10 56.8 0.0
baz=219
F26K **Sheenjek River** 88.94 15 P P 09 10 56.8 0.0
baz=226
Q16A **Castle Valley** 88.97 49 IAmb IAmb 09 11 28.6
comp=Z,22nm,1.5s
D24K **Happy Valley** 89.02 13 P P 09 10 57.3 +0.2
baz=216
B22K **Teshekpuk Lake** 89.11 11 P P 09 10 57.9 +0.3
baz=212
C23K **Itkillik River** 89.22 12 P P 09 10 57.9 -0.1
baz=214
I30M **Mount Dempster** 89.33 19 P P 09 10 58.7 -0.1
baz=228
121A **Cookes Peak, D** 89.34 56 P P 09 10 58.7 -1.1
baz=251
SHL **Shillong** 89.37 297 P P 09 10 59.4 -0.7
SHL IAmb IAmb 09 11 02.7
comp=Z,16nm,1.3s
SHL **Shillong** 89.37 297 P P 09 10 59.4 -0.7
SHL pmax pmax
comp=Z,16nm,1.3s
H29M **Whitestone** 89.42 18 P P 09 10 59.1 0.0
baz=226
A22K **Sinclair Lake** 89.42 10 P P 09 10 59.3 +0.3
baz=210
TCUT **Toone Canyon** 89.61 47 IAmb IAmb 09 11 03.2
comp=Z,17nm,1.3s
TOAD **Toad River Com** 89.64 27 P P 09 10 59.9 -0.4
baz=238
D25K **Kavik River** 89.68 13 P P 09 11 00.1 -0.2
baz=218
BSUT **Blindstream Ca** 89.86 48 IAmb IAmb 09 11 04.5
comp=Z,10nm,1.2s
TGTN **Hyland Airport** 89.87 24 P P 09 11 01.0 -0.4
baz=235
E27K **Coleen River** 89.95 15 P P 09 11 01.6 0.0
baz=223
F28M **Old Crow** 89.99 16 P P 09 11 01.4 -0.4
baz=224
G29M **Pine Creek** 90.00 17 P P 09 11 02.4 +0.5
baz=226
EPYK **Eagle Plains** 90.01 18 P P 09 11 02.4 +0.5
baz=227
ELIB **Princess Elisa** 90.02 189 *d*P P 09 11 01.0 -1.2
comp=Z,5.7nm,1.4s
MSO **Missoula** 90.10 41 P P 09 11 02.3 -0.6
baz=247
MVCO **Mesa Verde** 90.35 51 P P 09 11 02.7 -1.7
baz=250
H31M **Peel River** 90.36 19 P P 09 11 03.5 -0.1
baz=230
C26K **Camden Bay** 90.47 13 P P 09 11 03.7 -0.2
baz=220
C27K **Jago River** 90.52 14 P P 09 11 04.5 +0.3
baz=221
G30M **tAoh Zraii Nji** 90.57 18 P P 09 11 04.5 0.0
baz=228
E28M **Babbage River** 90.78 16 P P 09 11 05.7 +0.3
baz=225
KOTAN **Kotaneelee Air** 90.83 26 P P 09 11 05.9 +0.1
baz=239
D27M **Malcolm River** 90.88 15 P P 09 11 05.9 0.0
baz=223
MNTX **Cornudas Mount** 91.01 57 P P 09 11 06.0 -1.4
baz=252
VHRN **Van Horn** 91.05 58 IAmb IAmb 09 11 10.0
comp=Z,15nm,1.5s
E29M **Blow River** 91.06 16 P P 09 11 06.7 0.0
baz=226
G31M **Satah River** 91.11 18 P P 09 11 07.5 +0.6
baz=230
BOZ **Bozeman (W)** 91.11 43 IAmb IAmb 09 11 11.6
comp=Z,10.0nm,1.2s
BOZ **Bozeman (W)** 91.11 43 P P 09 11 07.1 -0.6
baz=248,SNR=9.9
F30M **Barrier River** 91.12 17 P P 09 11 07.0 0.0
baz=228
ANMO **Albuquerque** 91.17 54 P P 09 11 09.0 +0.7
ANMO IAmb IAmb 09 11 10.3
comp=Z,8.1nm,1.2s
ANMO **Albuquerque** 91.17 54 P P 09 11 07.5 -0.8
baz=251
ANMO **Albuquerque** 91.17 54 LR LR 09 47 49.2
comp=Z,116nm,18.1s,baz=345,slow=33
ANMO **Albuquerque** 91.17 54 *ce*P P 09 11 09.4 +1.1
ANMO pmax pmax
comp=Z,8.0nm,1.3s
H17A **Grant Village** 91.37 44 P P 09 11 08.9 -0.2
baz=249
PDAR **Pinedale Array** 91.49 46 P P 09 11 09.6 0.0
PDAR **Pinedale Array** 91.49 46 P P 09 11 10.6 +0.9
comp=Z,0.2nm,0.4s,baz=224,slow=5.0,SNR=4.8
PDAR LR LR 09 45 29.5
comp=Z,116nm,20.5s,baz=276,slow=31
comp=Z,0.2nm,0.4s
D28M **Stokes Point** 91.50 15 P P 09 11 09.4 +0.7
baz=226
O20A **White River Ci** 91.52 49 P P 09 11 08.4 -1.4
baz=250
TX31 **Lajitas Ar. Si** 91.71 60 P P 09 11 11.3 +0.5
TX31 IAmb IAmb 09 11 13.3
comp=Z,13nm,1.5s
TXAR **Lajitas Array** 91.71 60 P P 09 11 11.3 +0.5
TXAR **Lajitas Array** 91.71 60 P P 09 11 12.1 +1.4
comp=Z,2.1nm,0.9s,baz=223,slow=3.7,SNR=18
TXAR LR LR 09 46 11.2
comp=Z,139nm,18.5s,baz=260,slow=32
comp=Z,2.1nm,0.9s
ALPN **Alpine** 92.04 59 IAmb IAmb 09 11 16.8
comp=Z,6.4nm,1.1s
INK **Inuvik** 92.22 17 P P 09 11 12.5 +0.5
baz=230
INK **Inuvik** 92.22 17 LR LR 09 45 48.2
comp=Z,225nm,21.6s,baz=187,slow=31
TIXI **Tiksi** 92.40 347 P P 09 11 11.9 -0.9
TIXI **Tiksi** 92.40 347 LR LR 09 51 35.8
comp=Z,160nm,18.7s,baz=166,slow=35
TIXI **Tiksi** 92.40 347 *ce*P P 09 11 12.5 -0.3
TIXI pmax pmax
comp=Z,5.0nm,1.1s
SNAA **Sanae** 92.55 181 P P 09 11 12.5 -1.4
SNAA IAmb IAmb 09 11 13.6
comp=Z,8.8nm,1.2s
SNAA **Sanae** 92.55 181 P P 09 11 12.7 -1.2
comp=Z,6.6nm,1.2s,baz=150,slow=8.3,SNR=4.1
SNAA LR LR 09 50 48.5
comp=Z,159nm,18.7s,baz=232,slow=34
comp=Z,6.6nm,1.2s
SNAA **Sanae** 92.55 181 *ce*P P 09 11 13.2 -0.7
SNAA pmax pmax
comp=Z,11nm,1.4s
WRGLY **Wrigley** 92.68 24 P P 09 11 14.5 +0.3
baz=239
SDCO **Great Sand Dun** 92.78 52 P P 09 11 14.8 -1.0
baz=252
EGMT **Eagleton** 93.18 41 P P 09 11 16.2 -0.9
baz=250
ISCO **Idaho Springs** 93.33 50 P P 09 11 16.7 -1.6
baz=252
Q24A **Divide** 93.42 51 P P 09 11 17.1 -1.7
baz=252
N23A **Red Feather La** 93.42 49 P P 09 11 18.0 -0.6
baz=252
T25A **Trinidad** 93.42 52 P P 09 11 18.4 -0.2
baz=253
K22A **Casper** 93.56 47 P P 09 11 18.9 -0.2
baz=252
MSTX **Muleshoe** 93.78 56 P P 09 11 20.2 -0.1
baz=253
OZNA **Ozona** 94.27 59 IAmb IAmb 09 11 23.9
comp=Z,6.1nm,1.1s
PALK **Pallekele** 94.55 276 LR LR 09 54 43.7
comp=Z,61nm,18.3s,baz=225,slow=36
AMTX **Amarillo** 94.90 55 P P 09 11 23.8 -1.6
baz=254
833A **Chaparral WMA,** 95.03 62 P P 09 11 25.3 -0.6
baz=255
JCT **Junction City** 95.25 60 P P 09 11 26.0 -1.0
baz=255
HNDO **Hondo** 95.44 61 IAmb IAmb 09 11 31.8
comp=Z,8.5nm,1.2s
C36M **Paulatuk** 95.62 18 P P 09 11 27.7 0.0
baz=239
RSSD **Black Hills** 95.73 46 P P 09 11 28.7 -0.3
baz=254
ABTX **Abilene, Hawle** 95.94 58 P P 09 11 30.1 0.0
baz=255
YKA **Yellowknife Ar** 95.96 26 P P 09 11 29.3 -0.1
comp=Z,1.2nm,0.8s,baz=257,slow=4.7,SNR=13
YKA LR LR 09 47 07.7
comp=Z,216nm,21.5s,baz=239,slow=31
comp=Z,1.2nm,0.8s
CMIG **Matias Romero** 96.16 74 LR LR 09 46 37.2
comp=Z,131nm,18.7s,baz=201,slow=30
A36M **Sachs Harbour** 96.67 16 P P 09 11 32.9 +0.6
baz=238
DGMT **Dagmar** 96.85 42 P P 09 11 33.2 -0.6
baz=254
WHTX **Lake Whitney,** 97.57 59 P P 09 11 36.1 -1.4
baz=256
WMQ **Urumqi** 97.84 313 *e*P Pdif 09 11 39.8 +1.3
PLCA **Paso Flores** 98.25 136 LR LR 09 46 48.8
comp=Z,50nm,21.5s,baz=228,slow=30
APG **El Apazote** 99.77 77 LR LR 09 47 12.4
comp=Z,9.7nm,21.2s,baz=254,slow=30
MKAR **Makanchi Array** 102.20 315 P Pdif 09 11 57.0 -0.7
comp=Z,0.3nm,0.7s,baz=90,slow=7.2,SNR=4.6
MKAR **Makanchi Array** 102.20 315 *i* P Pdif 09 11 59.9 +2.1
OXF **Oxford** 104.68 58 P Pdif 09 12 09.1 +0.1
baz=261
P52A **Corning** 111.05 53 P PKiKP 09 16 35.4 -1.1
baz=266
KMSC **Kings Mountain** 111.35 58 P PKiKP 09 16 36.8 -0.4
baz=265
LVZ **Lovozero** 121.77 343 *c i* PKiKP PKiKP 09 16 58.9 +2.5
LVZ pmax pmax
comp=Z,109nm,2.5s
OBN **Obninsk** 128.81 330 *e*PKiKP PKPdf 09 17 10.3 +0.3
OBN *e* 09 19 16.8
OBN *e*PPP PPP 09 22 02.2
OBN pmax pmax
comp=Z,5.0nm,0.8s
KIV **Kislovodsk** 129.95 314 *e*PKiKP PKPdf 09 17 13.6 +0.9
KIV *e* 09 19 23.5
KIV *e*PPP PPP 09 22 11.4
KIV pmax pmax
comp=Z,6.0nm,1.0s
AKASG **Malin Array Be** 134.98 328 PKP PKPdf 09 17 21.6 -0.3
comp=Z,0.4nm,0.5s,baz=48,slow=1.2,SNR=2.4
CLL **Collm** 141.40 340 *e*PKiKP PKiKP 09 17 36.0 -0.4
BRG **Berggiesshuel** 141.45 339 *e*PKP PKPdf 09 17 33.7 0.0
BRG Amp 09 17 35.8
comp=Z,1.9nm,1.0s
MOA **Molln** 143.84 336 *e*PKP PKPbc 09 17 36.5 +0.8
comp=Z,0.8nm,0.6s
SOKA **Soboth** 144.47 334 *e*PKP PKPbc 09 17 38.3 +0.5
comp=Z,2.9nm,0.7s
LESA **Schwarzleotal** 144.80 337 *e*PKP PKPab 09 17 38.3 -0.4
comp=Z,6.6nm,1.1s
KBA **Koelnbreinsper** 144.83 336 *i* PKP PKPab 09 17 38.5 -0.5
comp=Z,2.5nm,0.5s
MYKA **Terra Mystica** 145.08 335 *e*PKP PKPab 09 17 38.8 -1.0
comp=Z,8.3nm,1.0s,SNR=5.8
LIT **Litokhoron** 145.09 319 PKPbc 09 17 39.6 -0.4
LIT **Litokhoron** 145.09 319 PKiKP PKPbc 09 17 39.6 -0.4
LJU **Ljubljana** 145.19 334 *i* PKPbc PKPbc 09 17 39.9 -0.1
WATA **Walderalm** 145.28 338 *e*PKP PKPbc 09 17 40.2 -0.3
comp=Z,11nm,1.0s,SNR=7.1
BOJS **Bojanci** 145.30 333 *i* PKPbc PKPbc 09 17 40.4 0.0
WTTA **Wattenberg** 145.31 338 *e*PKP PKPbc 09 17 40.6 -0.1
comp=Z,15nm,1.1s,SNR=8.2
ABTA **Abfaltersbach** 145.42 337 *e*PKP PKPbc 09 17 39.9 -1.0
comp=Z,14nm,0.9s,SNR=7.8
RETA **Reutte** 145.43 339 *e*PKP PKPbc 09 17 40.7 -0.2
comp=Z,15nm,1.2s,SNR=8.0
MOTA **Moosalm** 145.43 339 *e*PKP PKPbc 09 17 40.8 -0.2
comp=Z,17nm,1.0s,SNR=10
BFO **Black Forest** 145.46 342 PKPbc 09 17 41.0 +0.1
BFO **Black Forest** 145.46 342 PKIKP PKPbc 09 17 41.0 +0.1
GBRS **Gornja Briga** 145.47 333 *i* PKPbc PKPbc 09 17 41.0 0.0
SQTA **Sankt Quirin** 145.50 338 *e*PKP PKPbc 09 17 41.1 -0.1
comp=Z,20nm,1.0s,SNR=13
STAL **STALIGIAL** 145.75 336 PKPdf 09 17 40.9 -0.6
FETA **Feichten** 145.84 339 *i* PKP PKPdf 09 17 42.4 +0.6
comp=Z,20nm,1.1s,SNR=9.5
DAVA **Damuels** 145.90 340 *i* PKP PKPdf 09 17 42.3 +0.4
comp=Z,32nm,1.1s,SNR=17
TUE **Stuetta** 146.79 340 PKPdf 09 17 44.6 +1.1
SGRT **San Giovanni R** 147.88 328 PKPbc 09 17 48.0 -0.2
MSSA **Maissana** 148.60 338 PKPdf 09 17 48.8 +2.4
TIP **Timpagrande** 149.12 323 PKPdf 09 17 47.3 -0.1
TIP PKPbc **sPKPdf** 09 17 51.8 +1.0
ESDC **Sonseca Array** 156.25 355 PKPab PKPab 09 18 25.8 +0.2
comp=Z,2.2nm,1.1s,baz=337,slow=3.6,SNR=7.3
TORD **Torodi Ar. Bea** 171.50 252 PKP PKPdf 09 18 11.4 -0.9
comp=Z,2.9nm,1.1s,baz=20,slow=4.6,SNR=7.0
TORD PKPab PKPab 09 19 32.4 -0.9
comp=Z,1.8nm,1.0s,baz=95,slow=3.8,SNR=5.2

IDC ***27*** *09:02:02.1±9.2, 15°.33N×92°.91W, h0km, mb3.3/2, mbtmp3.2/3, ML3.4/1, Error ellipse: s-maj=281.4km s-min=127.5km az=35.0*
NEIC ***27*** *09:02:34.0±2.9, 16°.79N±0°.06×95°.09W±0°.04, h114km±12km, mb4.0/9, Md4.1/71(MEX), Error ellipse: s-maj=9.4km s-min=6.1km az=176.0*
MEX ***27*** *09:02:35.2±1.1, 16°.90N×95°.12W, h107km±8km, MD4.1*
ISC 27 09:02:33.7±0.8, 16°91N±0°.03×95°09W±0°.02, h114km±6km, n69, σ2s50/118, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.27**	**47**		**Pn**	**09 02 49.5**	**-0.3**
CMIG					**Sn**	**09 03 00.6**	**-1.4**
CMIG	**Matias Romero**	**0.27**	**47**	*e*P	**Pn**	**09 02 49.5**	**-0.3**
CMIG				*e*S	**Sn**	**09 03 00.6**	**-1.4**
NEUV	**Arroyo Zacate**	**1.05**	**320**	*e*P	**Pn**	**09 02 55.1**	**-0.7**
NEUV				*e*S	**Sn**	**09 03 10.3**	**-2.1**
TUIG	**Tuzandepetl**	**1.29**	**30**	*e*P	**Pn**	**09 02 58.4**	**0.0**
TUIG				*e*S	**Sn**	**09 03 14.1**	**-3.0**
CARR	**Arriaga**	**1.31**	**120**	*e*P	**Pn**	**09 02 58.6**	**+0.1**
CARR				*e*S	**Sn**	**09 03 16.7**	**-0.6**
HUIG	**Huatulco**	**1.49**	**221**		**Pn**	**09 02 59.2**	**-1.4**
HUIG					**Sn**	**09 03 19.6**	**-1.5**
HUIG	**Huatulco**	**1.49**	**221**	*e*P	**Pn**	**09 02 59.2**	**-1.4**
HUIG				*e*S	**Sn**	**09 03 19.6**	**-1.5**
OXLC	**Oaxaca**	**1.55**	**276**	*e*P	**Pn**	**09 03 02.3**	**+0.8**
OXLC				*e*S	**Sn**	**09 03 23.6**	**+0.9**
OXIG	**Oaxaca**	**1.58**	**276**		**Pn**	**09 03 02.9**	**+1.0**
OXIG					**Sn**	**09 03 24.1**	**+0.7**
VHO	**Vista Hermosa**	**1.58**	**276**	*e*P	**Pn**	**09 03 02.9**	**+1.0**
VHO				*e*S	**Sn**	**09 03 24.1**	**+0.7**
PMUV	**Sontecomapan**	**1.63**	**359**	*e*P	**Pn**	**09 03 01.7**	**-0.8**
PMUV				*e*S	**Sn**	**09 03 19.4**	**-4.9**
TGIG		**1.89**	**94**		**Pn**	**09 03 05.8**	**+0.3**
TGIG					**Sn**	**09 03 28.2**	**-1.7**
TGIG		**1.89**	**94**	*e*P	**Pn**	**09 03 05.8**	**+0.3**
TGIG				*e*S	**Sn**	**09 03 28.2**	**-1.7**
PCIG		**2.16**	**123**		**Pn**	**09 03 09.6**	**+0.7**
PCIG					**Sn**	**09 03 35.8**	**0.0**
PCIG		**2.16**	**123**	*e*P	**Pn**	**09 03 09.6**	**+0.7**
PCIG				*e*S	**Sn**	**09 03 35.8**	**0.0**
PEIG	**Puerto Escondi**	**2.17**	**246**		**Pn**	**09 03 07.4**	**-1.6**
PEIG					**Sn**	**09 03 33.6**	**-2.4**
PEIG	**Puerto Escondi**	**2.17**	**246**	*e*P	**Pn**	**09 03 07.4**	**-1.6**
PEIG				*e*S	**Sn**	**09 03 33.6**	**-2.4**
TOIG	**Toxpalan**	**2.22**	**302**		**Pn**	**09 03 10.6**	**+0.8**
TOIG					**Sn**	**09 03 37.2**	**-0.3**
TOIG	**Toxpalan**	**2.22**	**302**	*e*P	**Pn**	**09 03 10.6**	**+0.8**
TOIG				*e*S	**Sn**	**09 03 37.2**	**-0.3**
YOIG	**Yosondua**	**2.35**	**269**		**Pn**	**09 03 11.8**	**+0.3**
YOIG					**Sn**	**09 03 39.0**	**-1.6**
YOIG	**Yosondua**	**2.35**	**269**	*e*P	**Pn**	**09 03 11.8**	**+0.3**
YOIG				*e*S	**Sn**	**09 03 39.0**	**-1.6**
TXIG	**Tlaxiaco**	**2.58**	**278**		**Pn**	**09 03 15.5**	**+0.9**
TXIG					**Sn**	**09 03 42.8**	**-3.2**
TXIG	**Tlaxiaco**	**2.58**	**278**	*e*P	**Pn**	**09 03 15.5**	**+0.9**
TXIG				*e*S	**Sn**	**09 03 42.8**	**-3.2**
TPIG	**Tehuac#an**	**2.64**	**305**		**Pn**	**09 03 16.6**	**+1.4**
TPIG					**Sn**	**09 03 41.5**	**-5.6**
TPIG	**Tehuac#an**	**2.64**	**305**	*e*P	**Pn**	**09 03 16.6**	**+1.4**
TPIG				*e*S	**Sn**	**09 03 41.5**	**-5.6**
OZST	**Orizaba**	**2.72**	**316**	*e*S	**Sn**	**09 03 47.0**	**-2.1**
HLIG	**Huajuapan de L**	**2.75**	**290**		**Pn**	**09 03 18.0**	**+1.3**
HLIG					**Sn**	**09 03 47.2**	**-2.5**
HLIG	**Huajuapan de L**	**2.75**	**290**	*e*P	**Pn**	**09 03 18.0**	**+1.3**
HLIG				*e*S	**Sn**	**09 03 47.2**	**-2.5**
CCIG	**Comitan**	**2.90**	**102**		**Pn**	**09 03 19.5**	**+0.9**
CCIG	**Comitan**	**2.90**	**102**	*e*P	**Pn**	**09 03 19.6**	**+0.9**
CCIG				*e*S	**Sn**	**09 03 50.2**	**-3.1**
JAUV	**Jalcomulco**	**2.94**	**327**	*i* P	**Pn**	**09 03 18.1**	**-0.9**
JAUV				*e*S	**Sn**	**09 03 50.5**	**-3.5**
PNIG	**Pinotepa**	**2.95**	**260**		**Pn**	**09 03 18.1**	**-1.2**
PNIG					**Sn**	**09 03 47.7**	**-6.6**
PNIG	**Pinotepa**	**2.95**	**260**	*e*P	**Pn**	**09 03 18.1**	**-1.2**
PNIG				*e*S	**Sn**	**09 03 47.7**	**-6.6**
FTIG	**Fresnillo de T**	**3.07**	**289**		**Pn**	**09 03 22.4**	**+1.6**
FTIG					**Sn**	**09 03 54.6**	**-2.6**
FTIG	**Fresnillo de T**	**3.07**	**289**	*e*P	**Pn**	**09 03 22.4**	**+1.6**
FTIG				*e*S	**Sn**	**09 03 54.6**	**-2.6**
LVIG	**Laguna Verde**	**3.07**	**336**	*e*P	Pn	09 03 15.3	-5.5
LVIG				*e*S	**Sn**	**09 03 52.3**	**-4.8**
PATR	**El Naranjo**	**3.27**	**122**	*e*P	**Pn**	**09 03 25.3**	**+1.7**
PATR				*e*S	**Sn**	**09 03 54.0**	**-8.2**
PAVE	**Pavencul**	**3.28**	**121**	*e*P	**Pn**	**09 03 24.8**	**+1.1**
PAVE				*e*S	Sn	09 03 50.8	-12
TLIG	**Tlapa**	**3.38**	**282**		**Pn**	**09 03 26.2**	**+1.2**
TLIG	**Tlapa**	**3.38**	**282**	*e*P	**Pn**	**09 03 26.2**	**+1.2**
TLIG				*e*S	**Sn**	**09 04 02.4**	**-2.3**
CHUJ	**Union Juarez**	**3.39**	**122**	*e*P	**Pn**	**09 03 26.6**	**+1.4**
CHUJ				*i* S	Sn	09 03 54.6	-10
MGIG	**Malinaltepec**	**3.40**	**276**		**Pn**	**09 03 25.9**	**+0.6**
MGIG					**Sn**	**09 04 02.6**	**-2.6**
MGIG	**Malinaltepec**	**3.40**	**276**	*e*P	**Pn**	**09 03 25.9**	**+0.6**
MGIG				*e*S	**Sn**	**09 04 02.6**	**-2.6**
HUEH	**Huehuetenango**	**3.79**	**114**	Pn	**Pn**	**09 03 30.2**	**-0.4**
CRIG	**Cruz Grande**	**3.87**	**268**		**Pn**	**09 03 30.5**	**-0.8**
CRIG					**Sn**	**09 04 11.7**	**-4.4**
CRIG	**Cruz Grande**	**3.87**	**268**	*i* P	**Pn**	**09 03 30.5**	**-0.8**
CRIG				*e*S	**Sn**	**09 04 11.7**	**-4.4**
RTAL	**Retalhuleu**	**4.04**	**125**	Pn	**Pn**	**09 03 32.8**	**-0.8**
SCIG	**Sabancuy**	**4.25**	**61**	*e*P	**Pn**	**09 03 35.3**	**-1.1**
SCIG				*e*S	**Sn**	**09 04 20.0**	**-5.1**
YAIG	**Yautepec**	**4.26**	**298**		**Pn**	**09 03 38.9**	**+2.2**
YAIG					**Sn**	**09 04 22.6**	**-3.0**
YAIG	**Yautepec**	**4.26**	**298**	*e*P	**Pn**	**09 03 38.9**	**+2.2**
YAIG				*e*S	**Sn**	**09 04 22.6**	**-3.0**
DAIG	**Los Arroyos**	**4.36**	**272**		**Pn**	**09 03 37.6**	**-0.4**
DAIG					**Sn**	**09 04 23.0**	**-5.0**
DAIG	**Los Arroyos**	**4.36**	**272**	*i* P	**Pn**	**09 03 37.6**	**-0.4**
DAIG				*e*S	**Sn**	**09 04 23.0**	**-5.0**
MEIG	**Mezcala**	**4.44**	**284**		**Pn**	**09 03 40.7**	**+1.6**
MEIG					**Sn**	**09 04 26.7**	**-3.2**
MEIG	**Mezcala**	**4.44**	**284**	*e*P	**Pn**	**09 03 40.7**	**+1.6**
MEIG				*e*S	**Sn**	**09 04 26.7**	**-3.2**
PETF	**Flores**	**5.00**	**89**		**Pn**	**09 03 46.4**	**-0.2**
PETF	**Flores**	**5.00**	**89**	*e*P	**Pn**	**09 03 46.4**	**-0.2**
PETF				*e*S	**Sn**	**09 04 39.6**	**-3.7**
ARIG	**Puente Sto Nin**	**5.20**	**286**		**Pn**	**09 03 51.2**	**+2.0**
ARIG					**Sn**	**09 04 45.2**	**-2.9**
ARIG	**Puente Sto Nin**	**5.20**	**286**	*e*P	**Pn**	**09 03 51.2**	**+2.0**
ARIG				*e*S	**Sn**	**09 04 45.2**	**-2.9**
ESQI	**Esquipulas**	**6.01**	**112**	Pn	**Pn**	**09 04 01.5**	**+1.2**
TEIG	**Tepich**	**7.26**	**62**		**Pn**	**09 04 15.0**	**-2.1**
TXAR	**Lajitas Array**	**14.66**	**329**	P	**P**	**09 06 02.9**	**+4.2**
	baz=152,slow=12,SNR=4.2						
	0.2nm,0.6s						
OZNA	**Ozona**	**15.00**	**340**	P	**P**	**09 06 06.0**	**+3.5**
OZNA				IAmb	IAmb	09 06 08.3	
	comp=Z,4.9nm,0.7s						
MIAR	**Mount Ida**	**17.62**	**4**	P	**Pn**	**09 06 32.2**	**+0.2**
T35A	**Sooner Cattle**	**19.97**	**357**	P	**P**	**09 06 56.8**	**-0.2**
T35A				IAmb	IAmb	09 06 58.6	
	comp=Z,7.5nm,1.0s						
SWET	**Sewanee**	**19.99**	**22**	P	**P**	**09 06 55.8**	**-1.3**
W50A	**Signal Mountai**	**20.20**	**24**	P	**P**	**09 06 58.6**	**-0.9**
W50A				IAmb	IAmb	09 07 40.3	

comp=Z,12nm,1.4s
PBMO Poplar Bluff 20.22 11 P **P** **09 06 59.5 -0.1**
PBMO IAmb IAmb 09 07 00.4
comp=Z,5.8nm,1.1s
NVAR Mina Array Bea 29.55 321 P **P** **09 08 31.1 +3.3**
comp=Z,0.4nm,0.7s,baz=140,slow=10.0,SNR=4.4
comp=Z,0.4nm,0.7s
ILAR Eielson Array 59.01 337 P **P** **09 12 19.2 -2.0**
comp=Z,0.2nm,0.7s,baz=118,slow=4.2,SNR=2.1
comp=Z,0.2nm,0.7s

NOU 27 09:08:40.5,21.65S×170.79E,h103km,MLv4.1/8, Southeast of Loyalty Islands,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.57**	**273**	P	Pn	09 09 20.9	+0.2
PINNC	**Pines Island,**	**3.25**	**252**	P	Pn	09 09 29.5	-0.1
LIFNC	**LIFOU**	**3.42**	**284**	P	Pn	09 09 31.9	-0.1
YATNC	**Mamie plateau,**	**3.65**	**263**	P	Pn	09 09 34.2	-0.8
OUENC	**Ouen Island, N**	**3.74**	**257**	P	Pn	09 09 36.4	+0.1
DZM	**Mont Dzumac**	**4.06**	**263**	P	Pn	09 09 40.7	+0.1
ONTNC	**Ouen Toro**	**4.08**	**260**	P	Pn	09 09 41.0	+0.2
NOUC	**Port Laguerre**	**4.19**	**263**	P	Pn	09 09 42.4	+0.1

IDC 27 09:17:34.8±8.8,15.10S×173.76E,h0km,mb3.5/3, mbtmp3.5/3,MS3.8/1,Error ellipse: s-maj=416.3km s-min=38.6km az=142.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**37.84**	**257**	P	P	09 24 53.1	-0.4
	0.5nm,0.9s,baz=82,slow=6.8,SNR=2.0						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**38.45**	**251**	P	P	09 24 58.8	+0.1
	1.2nm,0.6s,baz=81,slow=8.8,SNR=22						
ASAR				LR	LR	09 41 43.0	
	comp=Z,136nm,18.4s,baz=89,slow=38						
	1.2nm,0.6s						
ILAR	**Eielson Array**	**85.06**	**16**	P	P	09 30 12.0	0.0
	0.1nm,0.7s,baz=214,slow=6.4,SNR=1.6						
	0.1nm,0.7s						

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*IDC **27** 09:27:25.6±1.1,34.14N×89.68E,h0km,mb3.7/9, mbtmp3.7/13,ML2.8/2,MS3.1/1,Error ellipse: s-maj=43.4km s-min=19.1km az=53.0*
ISC 27 09:27:27.1±0.9,34.2N±0.1×89.7E±0.2,h10km,n13, σ0°68/13,mb3.8/8,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MKAR	**Makanchi Array**	**13.77**	**338**	Pn	**Pn**	**09 30 41.0**	**-1.2**
	baz=179,slow=21,SNR=2.3						
	0.3nm,0.7s						
AAK	**Ala-Archa**	**14.59**	**310**	Pn	**Pn**	**09 30 53.2**	**-0.4**
	0.1nm,0.3s,baz=139,slow=16,SNR=1.3						
AAK				LR	LR	09 37 43.0	
	comp=Z,81nm,21.4s,baz=116,slow=42						
	0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**17.72**	**150**	P	**Pn**	**09 31 33.6**	**-0.4**
	2.6nm,0.8s,baz=330,slow=11,SNR=10.0						
KURBB	**Kurchatov Arra**	**18.32**	**337**	P	**Pn**	**09 31 42.0**	**+0.8**
	1.2nm,0.8s,baz=146,slow=11,SNR=14						
ZALV	**Zalesovo Beam**	**20.02**	**351**	P	**P**	**09 32 00.6**	**+0.7**
	1.3nm,0.5s,baz=177,slow=12,SNR=1.9						
	1.3nm,0.5s						
BVAR	**Borovoye Array**	**23.31**	**330**	P	**P**	**09 32 35.9**	**+0.8**
	0.6nm,0.6s,baz=126,slow=7.3,SNR=4.2						
	0.6nm,0.6s						
GEYT	**Alibeck**	**25.76**	**287**	P	**P**	**09 32 57.8**	**-0.2**
	1.1nm,0.3s,baz=101,slow=4.6,SNR=4.8						
	1.1nm,0.3s						
BRTR	**Keskin Array B**	**44.54**	**294**	P	**P**	**09 35 38.8**	**-0.4**
	1.3nm,1.1s,baz=106,slow=2.7,SNR=3.7						
	1.3nm,1.1s						
HFS	**Hagfors**	**54.22**	**323**	P	**P**	**09 36 52.3**	**-0.3**
	1.3nm,0.8s,baz=67,slow=8.6,SNR=2.0						
	1.3nm,0.8s						
NOA	**NORSAR Array B**	**55.30**	**325**	P	**P**	**09 37 00.4**	**-0.1**
	0.4nm,0.7s,baz=86,slow=6.2,SNR=2.0						
	0.4nm,0.7s						
GERES	**GERESS Array B**	**56.47**	**310**	P	**P**	**09 37 09.5**	**+0.3**
	0.6nm,0.5s,baz=80,slow=8.1,SNR=4.1						
	0.6nm,0.5s						
WRA	**Warramunga Arr**	**68.58**	**135**	P	**P**	**09 38 30.3**	**0.0**
	0.8nm,0.7s,baz=325,slow=7.0,SNR=6.0						
	0.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**81.14**	**280**	P	**P**	**09 39 43.9**	**+0.7**
	0.4nm,0.8s,baz=46,slow=4.2,SNR=2.3						
	0.4nm,0.8s						

IDC 27 09:33:50.2±3.2,6.81S×147.78E,h107km±24km,mb3.3/2, mbtmp3.5/4,MS2.8/1,Error ellipse: s-maj=58.1km s-min=24.9km az=115.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**2.65**	**193**	P	Pn	09 34 29.8	-1.7
	33nm,0.7s,baz=24,slow=13,SNR=9.4						
PMG				S	Sn	09 35 04.4	+1.2
	27nm,0.6s,baz=18,slow=9.3,SNR=4.2						
PMG				LR	LR	09 35 53.3	
	comp=Z,175nm,20.3s,baz=203,slow=46						
WRA	**Warramunga Arr**	**18.45**	**224**	P	P	09 37 56.6	-1.0
	0.3nm,0.4s,baz=51,slow=10,SNR=11						
ASAR	**Alice Springs**	**21.41**	**217**	P	P	09 38 29.4	-0.3
	1.4nm,0.6s,baz=54,slow=8.9,SNR=27						
ASAR				S	S	09 42 21.3	-0.1
	0.4nm,0.9s,baz=45,slow=18,SNR=2.2						
	1.4nm,0.6s						
STKA	**Stephens Creek**	**25.60**	**192**	P	P	09 39 11.4	+1.8
	0.8nm,0.6s,baz=14,slow=7.8,SNR=6.2						
	0.8nm,0.6s						
TORD	**Torodi Ar. Bea**	**146.03**	**283**	PKPbc	PKPdf	09 53 17.6	-0.2
	0.3nm,0.6s,baz=64,slow=4.4,SNR=2.4						

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*IDC **27** 09:59:45.4±1.6,10.38N×145.18E,h0km,mb3.5/6, mbtmp3.5/6,Error ellipse: s-maj=62.5km s-min=25.7km az=93.0*
ISC 27 09:59:50.7±1.4,10.3N±0.2×145.2E±0.4,h35km,n12, σ0°63/6,mb3.4/6,South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
H11S3	**WAKE ISLAND Hy**	**22.32**	**66**	T	T	10 28 26.8	
	baz=253,slow=74,SNR=42						
H11S2	**WAKE ISLAND Hy**	**22.34**	**66**	T	T	10 28 27.9	
	baz=253,slow=74,SNR=29						
H11S1	**WAKE ISLAND Hy**	**22.34**	**66**	T	T	10 28 27.9	
	baz=253,slow=74,SNR=18						
H11N1	**WAKE ISLAND Hy**	**22.91**	**63**	T	T	10 29 10.1	
	baz=249,slow=75,SNR=24						
H11N2	**WAKE ISLAND Hy**	**22.92**	**63**	T	T	10 29 08.9	
	baz=249,slow=75,SNR=10						
H11N3	**WAKE ISLAND Hy**	**22.93**	**63**	T	T	10 29 10.1	
	baz=249,slow=75,SNR=29						
WRA	**Warramunga Arr**	**31.93**	**200**	P	**P**	**10 06 12.7**	**-0.6**
	0.7nm,0.9s,baz=23,slow=9.9,SNR=3.5						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**35.56**	**198**	P	**P**	**10 06 45.5**	**+0.6**
	0.3nm,0.7s,baz=20,slow=8.6,SNR=2.0						
	0.3nm,0.7s						
MKAR	**Makanchi Array**	**64.06**	**317**	P	**P**	**10 10 20.9**	**-0.3**
	0.1nm,0.4s,baz=91,slow=8.3,SNR=2.7						
	0.1nm,0.4s						
KURBB	**Kurchatov Arra**	**67.31**	**321**	P	**P**	**10 10 41.6**	**-0.4**
	0.4nm,0.3s,baz=100,slow=5.6,SNR=2.0						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**71.36**	**25**	P	**P**	**10 11 06.7**	**-0.1**
	0.2nm,0.9s,baz=265,slow=5.8,SNR=1.8						
	0.2nm,0.9s						
BVAR	**Borovoye Array**	**72.67**	**322**	P	**P**	**10 11 15.3**	**+0.4**
	0.5nm,0.5s,baz=104,slow=9.1,SNR=3.8						
	0.5nm,0.5s						

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*IDC **27** 10:23:16.7±7.0,20.04S×177.60W,h544km±75km,mb3.3/9, mbtmp4.2/9,Error ellipse: s-maj=34.5km s-min=22.5km az=81.0*
*NEIC **27** 10:23:16.8±0.6,20.0S±0.2×177.5W±0.2,h547km±14km, mb4.4/16,Error ellipse: s-maj=29.7km s-min=16.3km az=224.0*
ISC 27 10:23:16.9±0.8,20.0S±0.2×177.6W±0.1,h550km,n33, σ0°61/33,mb4.2/16,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.68**	**298**	P	**P**	**10 24 44.3**	**0.0**
CTAO	**Charters Tower**	**33.89**	**264**	P	**P**	**10 29 14.7**	**0.0**
CTAO				IAmb	IAmb	10 29 18.4	
	comp=Z,24nm,1.3s						
COEN	**Coen**	**37.91**	**273**	P	**P**	**10 29 48.1**	**+0.2**
STKA	**Stephens Creek**	**38.32**	**244**	P	**P**	**10 29 51.4**	**+0.4**
STKA	**Stephens Creek**	**38.32**	**244**	P	**P**	**10 29 51.4**	**+0.4**
	comp=Z,1.8nm,0.5s,baz=86,slow=12,SNR=9.6						
	comp=Z,1.8nm,0.5s						
BBOO	**Buckleboo**	**43.08**	**243**	P	**P**	**10 30 28.5**	**-0.4**
BBOO				IAmb	IAmb	10 30 30.1	
	comp=Z,21nm,1.2s						
WR0	**Warramunga Arr**	**44.83**	**261**	P	**P**	**10 30 42.4**	**-0.3**
WR0				IAmb	IAmb	10 31 12.3	
	comp=Z,7.2nm,1.1s						
AS31	**Alice Springs**	**44.97**	**256**	P	**P**	**10 30 43.8**	**+0.1**
ASAR	**Alice Springs**	**44.98**	**256**	P	**P**	**10 30 42.8**	**-1.0**
ASAR	**Alice Springs**	**44.98**	**256**	P	**P**	**10 30 43.9**	**+0.1**
	comp=Z,5.4nm,0.5s,baz=92,slow=7.7,SNR=116						
ASAR				PcP	**PcP**	**10 32 13.2**	**0.0**
	comp=Z,0.5nm,0.5s,baz=110,slow=4.1,SNR=4.6						
	comp=Z,5.4nm,0.5s						
WB0	**Warramunga Arr**	**45.00**	**262**	P	**P**	**10 30 43.7**	**-0.2**
WB2	**Warramunga Arr**	**45.01**	**261**	P	**P**	**10 30 43.6**	**-0.4**
WB2				IAmb	IAmb	10 30 44.3	
	comp=Z,14nm,1.2s						
WRAB	**Tennant Creek**	**45.01**	**261**	P	**P**	**10 30 43.5**	**-0.5**
WRAB				IAmb	IAmb	10 30 44.3	
	comp=Z,13nm,1.2s						
WRA	**Warramunga Arr**	**45.02**	**261**	P	**P**	**10 30 43.8**	**-0.3**
WRA	**Warramunga Arr**	**45.02**	**261**	P	**P**	**10 30 43.8**	**-0.3**
	comp=Z,4.1nm,0.3s,baz=98,slow=7.0,SNR=253						
	comp=Z,4.1nm,0.3s						
MTN	**Manton Dam**	**49.51**	**270**	P	**P**	**10 31 17.7**	**-0.1**
MTN				IAmb	IAmb	10 31 19.1	
	comp=Z,32nm,1.5s						
FORT	**Forrest**	**49.81**	**246**	P	**P**	**10 31 19.6**	**-0.3**
KNRA	**Kununurra**	**51.05**	**266**	P	**P**	**10 31 28.5**	**-0.5**
FITZ	**Fitzroy Crossi**	**53.44**	**262**	P	**P**	**10 31 46.4**	**+0.2**
MJAR	**Matsushiro Arr**	**70.03**	**323**	P	**P**	**10 33 33.4**	**-0.4**
	comp=Z,1.5nm,0.6s,baz=167,slow=3.7,SNR=6.5						
	comp=Z,1.5nm,0.6s						
QSPA	**South Pole Qui**	**70.05**	**180**	P	**P**	**10 33 34.0**	**+0.4**
QSPA				IAmb	IAmb	10 33 40.5	
	comp=Z,8.4nm,1.5s						
QSPA	**South Pole Qui**	**70.05**	**180**	P	**P**	**10 33 34.0**	**+0.4**
	comp=Z,0.9nm,0.7s,baz=50,slow=17,SNR=7.0						
	comp=Z,0.9nm,0.7s						
ASAJ	**Asahikawa**	**73.47**	**331**	P	**P**	**10 33 55.5**	**+2.0**
	comp=Z,3.2nm,0.8s,baz=164,slow=9.5,SNR=3.9						
	comp=Z,3.2nm,0.8s						
USRK	**Ussuriysk Ar.**	**78.76**	**326**	P	**P**	**10 34 24.1**	**+1.4**
	comp=Z,1.7nm,0.8s,baz=156,slow=4.0,SNR=4.1						
	comp=Z,1.7nm,0.8s						
TXAR	**Lajitas Array**	**86.50**	**57**	P	**P**	**10 35 02.2**	**+0.1**
	comp=Z,0.2nm,0.6s,baz=224,slow=3.4,SNR=3.5						
	comp=Z,0.2nm,0.6s						
ILAR	**Eielson Array**	**87.76**	**13**	P	**P**	**10 35 06.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=218,slow=5.2,SNR=7.8						
	comp=Z,0.5nm,0.5s						
M30M	**Minto, Yukon**	**88.40**	**18**	P	**P**	**10 35 10.6**	**+0.4**
M30M				IAmb	IAmb	10 35 38.1	
	comp=Z,15nm,1.4s						
BVAR	**Borovoye Array**	**118.93**	**320**	PKP	**PKPdf**	**10 41 02.2**	**-0.7**
	comp=Z,0.7nm,0.5s,baz=75,slow=1.7,SNR=4.4						
FINES	**FINESS Array B**	**135.40**	**344**	PKP	**PKiKP**	**10 41 34.7**	**-1.0**
	comp=Z,1.5nm,0.9s,baz=67,slow=5.0,SNR=3.6						
AKASG	**Malin Array Ba**	**142.76**	**332**	PKiKP	PKPpre	10 41 44.2	
	comp=Z,1.1nm,0.4s,baz=43,slow=4.2,SNR=15						
EKA	**Eskdalemuir Ar**	**144.49**	**5**	PKP	**PKPdf**	**10 41 50.2**	**-0.4**
	comp=Z,2.1nm,0.8s,baz=10,slow=4.3,SNR=2.6						
BRTR	**Keskin Array B**	**146.77**	**313**	PKPbc	**PKPbc**	**10 41 57.7**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=144,slow=5.0,SNR=5.7						
GERES	**GERESS Array B**	**149.82**	**345**	PKPbc	**PKiKP**	**10 42 05.6**	**-0.3**
	comp=Z,0.9nm,0.6s,baz=5.0,slow=3.1,SNR=6.8						

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*IDC **27** 10:36:38.0±1.2,56.16N×148.35W,h0km,mb3.9/6, mbtmp3.8/11,ML3.5/5,MS2.5/1,Error ellipse: s-maj=28.9km s-min=24.7km az=162.0*
*NEIC **27** 10:36:42.2±1.6,56.25N±0.08×148.3W±0.1,h25km±9km, ML3.8/60,ML3.6(AEIC),Error ellipse: s-maj=12.5km s-min=7.9km az=161.0*
*AEIC **27** 10:36:45.8±1.4,56.34N±0.08×148.4W±0.1,h10km±7km, Error ellipse: s-maj=12.2km s-min=8.2km az=149.0*
ISC 27 10:36:43.6±0.8,56.36N±0.07×148.43W±0.05,h35km, n281,σ0°98/282,mb3.9/6,Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.68**	**304**		**Pn**	**10 37 24.9**	**+0.8**
KDAK	**Kodiak Island**	**2.68**	**304**		**Sn**	**10 37 54.0**	**-1.3**
KDAK	**Kodiak Island**	**2.68**	**304**	P	**Pn**	**10 37 24.5**	**+0.3**
	baz=122						
KDAK	**Kodiak Island**	**2.68**	**304**	Pn	**Pn**	**10 37 24.4**	**+0.2**
	2.9nm,0.3s,baz=117,slow=5.4,SNR=35						
KDAK				Sn	**Sn**	**10 37 54.2**	**-1.1**
	12nm,0.3s,baz=76,slow=23,SNR=39						
KDAK				LR	LR	10 38 42.2	
	comp=Z,82nm,20.3s,baz=101,slow=44						
	5.8nm,0.3s						
OHAK	**Old Harbor**	**2.81**	**290**	P	**Pn**	**10 37 25.6**	**-0.3**
OHAK	**Old Harbor**	**2.81**	**290**	Pn	**Pn**	**10 37 25.7**	**-0.3**
OHAK				IAML		10 37 57.0	
	comp=N,271nm,0.3s						
OHAK	**Old Harbor**	**2.81**	**290**		**Sn**	**10 37 56.6**	**-2.0**
OHAK	**Old Harbor**	**2.81**	**290**	P	**Pn**	**10 37 25.6**	**-0.3**
	baz=108						
OHAK				S	**Sn**	**10 37 56.6**	**-2.0**
	baz=108						
SYI	**Shuyak Island**	**3.11**	**318**		**Pn**	**10 37 30.7**	**+0.7**
Q20K	**Shuyak Island**	**3.11**	**318**	P	**Pn**	**10 37 30.8**	**+0.7**
	baz=136						
Q20K				S	**Sn**	**10 38 06.3**	**+0.4**
	baz=136						
SII	**Sitkinak Islan**	**3.20**	**276**	P	**Pn**	**10 37 31.4**	**0.0**
SII	**Sitkinak Islan**	**3.20**	**276**		**Pn**	**10 37 30.7**	**-0.7**
SII					**Sn**	**10 38 06.6**	**-1.7**
SII	**Sitkinak Islan**	**3.20**	**276**	IAML		10 38 10.1	
	comp=E,231nm,0.8s						
SII				IAML		10 38 12.0	
	comp=N,221nm,0.6s						
SII	**Sitkinak Islan**	**3.20**	**276**	P	**Pn**	**10 37 30.7**	**-0.7**
	baz=93						
SII				S	**Sn**	**10 38 06.6**	**-1.7**
	baz=93						
Q23K	**Middleton Isla**	**3.27**	**19**	Pn	**Pn**	**10 37 31.9**	**-0.4**
Q23K				IAML		10 38 09.1	
	comp=E,161nm,0.6s						
Q23K				IAML		10 38 11.4	
	comp=N,129nm,1.1s						
Q23K	**Middleton Isla**	**3.27**	**19**		**Sn**	**10 38 08.6**	**-1.3**
Q23K	**Middleton Isla**	**3.27**	**19**	P	**Pn**	**10 37 31.9**	**-0.4**
	baz=199						
Q23K				S	**Sn**	**10 38 08.6**	**-1.3**
	baz=199						
CNPM	**China Poot**	**3.51**	**336**		**Pn**	**10 37 36.1**	**+0.5**
CNPM					**Sn**	**10 38 15.3**	**-0.5**
R18K	**Karluk**	**3.51**	**293**		**Pn**	**10 37 35.9**	**+0.3**
R18K					**Sn**	**10 38 14.3**	**-1.6**
R18K	**Karluk**	**3.51**	**293**	P	**Pn**	**10 37 35.9**	**+0.3**
	baz=109						
R18K				S	**Sn**	**10 38 14.3**	**-1.6**
	baz=109						
BRSE	**Bradley Lake S**	**3.60**	**341**		**Pn**	**10 37 36.9**	**0.0**
BRSE	**Bradley Lake S**	**3.60**	**341**	P	**Pn**	**10 37 37.5**	**+0.6**
	baz=159						
BRLK	**Bradley Lake**	**3.65**	**340**		**Pn**	**10 37 37.6**	**0.0**
P23K	**Montague Islan**	**3.69**	**8**		**Pn**	**10 37 37.9**	**-0.1**
P23K	**Montague Islan**	**3.69**	**8**	P	**Pn**	**10 37 37.9**	**-0.1**
	baz=188						
HOM	**Homer**	**3.72**	**334**	Pn	**Pn**	**10 37 39.1**	**+0.6**
HOM				IAML		10 38 39.6	
	comp=N,153nm,1.2s						
HOM				IAML		10 39 40.8	
	comp=E,140nm,1.3s						
SEW	**Seward**	**3.79**	**352**		**Pn**	**10 37 39.0**	**-0.4**
SEW	**Seward**	**3.79**	**352**	P	**Pn**	**10 37 39.0**	**-0.4**
	baz=171						
Q19K	**Cape Douglas,**	**3.80**	**315**		**Pn**	**10 37 41.7**	**+2.0**
Q19K				IAML		10 38 36.8	
	comp=N,178nm,0.8s						
AUCH	**Augustine Cone**	**4.03**	**320**		**Pn**	**10 37 43.9**	**+1.1**
CHIR	**Chirikof Islan**	**4.07**	**265**		**Pn**	**10 37 42.7**	**-0.5**
CHIR	**Chirikof Islan**	**4.07**	**265**	IAML		10 38 28.6	
	comp=E,154nm,1.1s						
CHIR				IAML		10 38 30.7	
	comp=N,113nm,1.3s						
KAIM	**Kayak Island**	**4.16**	**29**		**Pn**	**10 37 44.8**	**+0.3**
KAIM				IAML		10 38 35.5	
	comp=E,140nm,1.1s						
KAIM	**Kayak Island**	**4.16**	**29**	P	**Pn**	**10 37 44.6**	**+0.1**
	baz=211						
HIN	**Hinchinbrook I**	**4.17**	**13**		**Pn**	**10 37 45.0**	**+0.3**
P19K	**Oil Pt**	**4.17**	**324**	Pn	**Pn**	**10 37 45.5**	**+0.7**
P19K				IAML		10 38 35.5	
	comp=E,148nm,0.4s						
P19K	**Oil Pt**	**4.17**	**324**	P	**Pn**	**10 37 46.0**	**+1.3**
	baz=140						
ACHA	**Angle Creek He**	**4.18**	**299**		**Pn**	**10 37 46.1**	**+1.2**
O22K	**Cooper Landing**	**4.19**	**351**		**Pn**	**10 37 46.3**	**+1.4**
ANCK	**Angle Creek**	**4.25**	**299**		**Pn**	**10 37 47.1**	**+1.2**
SLKM	**Skilak Lake**	**4.26**	**348**		**Pn**	**10 37 45.8**	**-0.2**
O20K	**Slope Mountain**	**4.34**	**331**		**Pn**	**10 37 47.3**	**+0.2**
O20K	**Slope Mountain**	**4.34**	**331**	P	**Pn**	**10 37 47.3**	**+0.2**
	baz=148						
IVE	**Iliamna Volcan**	**4.39**	**328**		**Pn**	**10 37 47.9**	**0.0**
ILSW	**Iliamna Southw**	**4.41**	**327**		**Pn**	**10 37 48.3**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.43**	**17**	P	**Pn**	**10 37 48.6**	**+0.4**
EYAK	**Cordova Ski Ar**	**4.43**	**17**		**Pn**	**10 37 48.5**	**+0.3**
EYAK	**Cordova Ski Ar**	**4.43**	**17**	P	**Pn**	**10 37 48.5**	**+0.3**
	baz=198						
SUCK	**Suckling Hills**	**4.46**	**32**		**Pn**	**10 37 49.3**	**+0.6**
SUCK				IAML		10 38 43.6	
	comp=E,82nm,1.4s						
SUCK				IAML		10 38 44.4	
	comp=N,128nm,1.5s						
RAGM	**Ragged Mountai**	**4.49**	**25**		**Pn**	**10 37 49.4**	**+0.3**
FID	**Port Fidalgo**	**4.52**	**12**		**Pn**	**10 37 49.5**	**0.0**
FID				IAML		10 38 39.6	
	comp=E,72nm,0.3s						
FID				IAML		10 38 41.6	
	comp=N,65nm,0.5s						
NICHA	**Nichawak Mount**	**4.54**	**29**		**Pn**	**10 37 50.2**	**+0.4**
HMT	**Hamilton**	**4.55**	**27**		**Pn**	**10 37 50.4**	**+0.5**
GLI	**Glacier Island**	**4.58**	**8**	Pn	**Pn**	**10 37 50.8**	**+0.4**
GLI				IAML		10 38 43.6	
	comp=N,64nm,0.4s						
GLI				IAML		10 38 45.3	
	comp=E,79nm,0.6s						
GLI	**Glacier Island**	**4.58**	**8**	P	**Pn**	**10 37 50.4**	**+0.1**
	baz=188						
BGLC	**Bering Glacier**	**4.64**	**34**		**Pn**	**10 37 52.1**	**+1.0**
BGLC	**Bering Glacier**	**4.64**	**34**	P	**Pn**	**10 37 52.1**	**+1.0**
	baz=217						
GOAT	**Goat Mountain**	**4.65**	**23**		**Pn**	**10 37 51.8**	**+0.4**
RDT	**Redoubt**	**4.71**	**335**		**Pn**	**10 37 52.2**	**0.0**
P18K	**Big Mountain,**	**4.73**	**313**	Pn	**Pn**	**10 37 52.1**	**-0.3**
P18K	**Big Mountain,**	**4.73**	**313**	P	**Pn**	**10 37 52.5**	**0.0**
	baz=128						
GRIN	**Grindle Hills**	**4.76**	**32**		**Pn**	**10 37 53.4**	**+0.6**
RC01	**Rabbit Creek A**	**4.79**	**352**		**Pn**	**10 37 53.6**	**+0.4**
RC01	**Rabbit Creek A**	**4.79**	**352**	IAML		10 38 47.6	
	comp=N,73nm,0.4s						
RC01				IAML		10 38 47.9	
	comp=E,70nm,0.6s						
RC01	**Rabbit Creek A**	**4.79**	**352**	P	**Pn**	**10 37 53.6**	**+0.4**
	baz=171						
DFR	**Drift River**	**4.79**	**334**		**Pn**	**10 37 52.8**	**-0.5**
SNH	**Sunshine Point**	**4.83**	**35**		**Pn**	**10 37 54.4**	**+0.6**
SNH				IAML		10 38 52.7	
	comp=E,57nm,0.5s						
SNH				IAML		10 38 56.7	
	comp=N,52nm,1.4s						
KHIT	**Khitrov Hills**	**4.91**	**31**		**Pn**	**10 37 55.0**	**0.0**
DIV	**Divide**	**4.98**	**15**		**Pn**	**10 37 56.5**	**+0.7**
O18K	**Koktuh Hills**	**5.02**	**317**	Pn	**Pn**	**10 37 56.8**	**+0.5**
BMRM	**Bremner River**	**5.03**	**22**		**Pn**	**10 37 56.8**	**+0.2**
BMRM	**Bremner River**	**5.03**	**22**	P	**Pn**	**10 37 56.7**	**+0.2**
	baz=204						
WAX	**Waxell Ridge**	**5.04**	**33**		**Pn**	**10 37 56.7**	**+0.1**
KNK	**Knik Glacier**	**5.07**	**360**		**Pn**	**10 37 56.4**	**-0.6**
KNK				IAML		10 38 55.8	
	comp=N,29nm,0.4s						
KNK				IAML		10 38 58.8	
	comp=E,34nm,0.6s						
KNK	**Knik Glacier**	**5.07**	**360**	P	**Pn**	**10 37 57.5**	**+0.6**
	baz=179						
BARK	**Barkley Ridge**	**5.12**	**35**		**Pn**	**10 37 58.0**	**+0.3**
MESA	**MESA**	**5.13**	**39**		**Pn**	**10 37 58.5**	**+0.4**
MESA				IAML		10 38 57.3	
	comp=N,67nm,0.4s						
MESA				IAML		10 39 01.3	
	comp=E,51nm,0.8s						
MESA	**MESA**	**5.13**	**39**	P	**Pn**	**10 37 58.8**	**+0.8**
	baz=223						
P17K	**Kvichak River**	**5.14**	**307**		**Pn**	**10 37 58.9**	**+0.9**
P17K	**Kvichak River**	**5.14**	**307**	P	**Pn**	**10 37 58.9**	**+0.9**
	baz=121						
SUA	**Susitna One**	**5.25**	**348**	Pn	**Pn**	**10 37 59.8**	**+0.1**
SUA	**Susitna One**	**5.25**	**348**	P	**Pn**	**10 37 59.6**	**-0.1**
	baz=166						
PMR	**Palmer**	**5.26**	**356**	P	**Pn**	**10 37 59.9**	**+0.4**
PMR	**Palmer**	**5.26**	**356**	Pn	**Pn**	**10 37 60.0**	**+0.4**
PMR				IAML		10 39 01.1	
	comp=E,32nm,0.8s						
PMR				IAML		10 39 01.1	
	comp=N,25nm,0.5s						
PMR	**Palmer**	**5.26**	**356**	P	**Pn**	**10 37 59.8**	**+0.2**
	baz=175						
KLU	**Klutina**	**5.31**	**13**		**Pn

N17K	Nushagak Hills	6.21	316	Pn		Pn	10 38 12.3	-0.3
WAT6	Susitna Watana	6.25	3			Pn	10 38 14.0	+0.7
WAT6	Susitna Watana baz=183	6.25	3	P		Pn	10 38 14.0	+0.7
HARP	HAARP	6.28	14			Pn	10 38 14.5	+0.9
HARP	HAARP baz=196	6.28	14	P		Pn	10 38 14.5	+0.9
M18K	Stony River	6.41	326			Pn	10 38 15.4	0.0
M18K	Stony River baz=140	6.41	326	P		Pn	10 38 15.4	0.0
WAT1	Susitna Watana	6.49	360			Pn	10 38 17.8	+1.2
WAT1	Susitna Watana baz=179	6.49	360	P		Pn	10 38 17.7	+1.2
WAT7	Susitna Watana	6.49	358			Pn	10 38 17.5	+0.9
CHNA	Chernabura Isl baz=73	6.51	261	P		Pn	10 38 16.1	-0.6
CNBA	Chernabura Isl	6.51	261			Pn	10 38 16.1	-0.7
O29M	Mount Kennedy	6.52	49			Pn	10 38 18.1	+1.1
O29M	Mount Kennedy baz=236	6.52	49	P		Pn	10 38 17.9	+0.9
P29M	Windy Craggy	6.56	56	Pn		Pn	10 38 17.6	+0.1
P29M	Windy Craggy baz=244	6.56	56	P		Pn	10 38 17.4	-0.1
M26K	Nabesna, AK	6.66	22			Pn	10 38 19.6	+0.7
YUK8	Steele Glacier	6.67	39			Pn	10 38 20.8	+1.5
YUK8	Steele Glacier baz=225	6.67	39	P		Pn	10 38 20.8	+1.5
YUK2	White River	6.70	33			Pn	10 38 20.4	+1.0
L19K	White Mountain	6.70	333	Pn		Pn	10 38 19.4	0.0
L19K	White Mountain baz=148	6.70	333	P		Pn	10 38 19.4	0.0
O15K	Ungalikthiuk R	6.72	300			Pn	10 38 20.1	+0.5
O15K	Ungalikthiuk R baz=111	6.72	300	P		Pn	10 38 20.1	+0.5
DHY	Denali Highway	6.75	4	Pn		Pn	10 38 21.7	+1.4
DHY	Denali Highway baz=184	6.75	4	P		Pn	10 38 21.6	+1.3
PAX	Paxson	6.79	11			Pn	10 38 22.4	+1.6
PAX	Paxson baz=193	6.79	11	P		Pn	10 38 22.4	+1.6
YUK3	Moose Creek	6.80	34			Pn	10 38 22.3	+1.3
YUK3	Moose Creek baz=220	6.80	34	P		Pn	10 38 22.3	+1.3
YUK7	Dusty Glacier	6.82	48			Pn	10 38 22.6	+1.3
S31K	Pelican	6.83	71	Pn		Pn	10 38 18.8	-2.3
SDPT	Sand Point	6.86	267	P		Pn	10 38 22.1	+0.5
SDPT	Sand Point	6.86	267	Pn		Pn	10 38 22.3	+0.8
SDPT	Sand Point baz=78	6.86	267	P		Pn	10 38 21.7	+0.2
M17K	Holitna River	6.88	321	Pn		Pn	10 38 21.6	-0.2
M27K	Edge Creek, AK	6.88	26			Pn	10 38 22.5	+0.5
M27K	Edge Creek, AK baz=211	6.88	26	P		Pn	10 38 22.7	+0.7
YUK6	Outpost Mounta	6.97	45			Pn	10 38 24.8	+1.5
YUK6	Outpost Mounta baz=232	6.97	45	P		Pn	10 38 24.8	+1.5
MENT	Mentasta	7.01	18	P		Pn	10 38 25.6	+2.0
MENT	Mentasta	7.01	18			Pn	10 38 25.7	+2.0
RND	Reindeer	7.07	358			Pn	10 38 26.1	+1.6
YUK4	Talbot Arm baz=229	7.12	41	P		Pn	10 38 28.0	+2.7
P30M	Million Dollar	7.13	53			Pn	10 38 26.3	+1.0
P30M	Million Dollar baz=242	7.13	53	P		Pn	10 38 26.3	+1.0
L26K	Log Cabin Wild	7.16	19			Pn	10 38 27.2	+1.5
TRF	Thorofare Moun	7.17	353			Pn	10 38 27.3	+1.3
TRF	Thorofare Moun baz=171	7.17	353	P		Pn	10 38 27.4	+1.3
M16K	Timber Creek	7.20	315	Pn		Pn	10 38 26.0	-0.3
L18K	Granite Mounta	7.23	328	Pn		Pn	10 38 27.9	+1.2
N15K	Kwethluk River	7.24	307	Pn		Pn	10 38 28.3	+1.6
HYT	Haines Junctio	7.25	47	Pn		Pn	10 38 27.3	+0.3
HYT	Haines Junctio baz=236	7.25	47	P		Pn	10 38 28.0	+0.9
SIT	Sitka	7.25	79	P		Pn	10 38 24.2	-2.7
CAST	Castle Rocks	7.31	347			Pn	10 38 29.3	+1.5
L27K	Beaver Creek,	7.50	24	Pn		Pn	10 38 31.1	+0.8
L27K	Beaver Creek, baz=209	7.50	24	P		Pn	10 38 31.5	+1.1
BCAR	Beaver Creek A	7.51	24	Pn		Pn	10 38 31.0	+0.4
K20K	Telida	7.56	340	Pn		Pn	10 38 32.9	+1.6
PVV	Pavlof Volcano	7.58	268			Pn	10 38 31.8	+0.3
DOT	Dot Lake	7.63	15			Pn	10 38 33.7	+1.6
SKAG	Skagway	7.63	61	P		Pn	10 38 32.6	+0.4
BESE	Bessie Mountai	7.65	67			Pn	10 38 32.1	-0.4
S12K	Black Hills	7.67	271	Pn		Pn	10 38 32.5	-0.2
S12K	Black Hills baz=80	7.67	271	P		Pn	10 38 32.9	+0.2
R32K	Eaglecrest	7.77	70	Pn		Pn	10 38 33.3	-0.8
N30M	Aishikik Lake	7.78	44	Pn		Pn	10 38 35.1	+1.0
N30M	Aishikik Lake baz=233	7.78	44	P		Pn	10 38 35.0	+0.8
CHUM	Lake Minchumin	7.79	347			Pn	10 38 34.4	+0.1
CHUM	Lake Minchumin baz=164	7.79	347	P		Pn	10 38 34.4	+0.1
O30N	Mendenhall	7.81	50			Pn	10 38 34.6	-0.1
O30N	Mendenhall baz=240	7.81	50	P		Pn	10 38 35.4	+0.7
L16K	Owhat River	7.82	318	Pn		Pn	10 38 34.6	-0.1
JIS	Juneau Island	7.84	70	P		Pn	10 38 34.4	-0.6
JIS	Juneau Island	7.84	70			Pn	10 38 34.6	-0.4
BPAW	Bear Paw Mtn.	7.87	352	Pn		Pn	10 38 36.1	+0.7
M29M	Somme Creek	7.93	36	Pn		Pn	10 38 37.5	+1.1
M29M	Somme Creek baz=223	7.93	36	P		Pn	10 38 37.3	+1.0
SCRK	Sand Creek	7.95	14			Pn	10 38 37.6	+1.0
SCRK	Sand Creek baz=198	7.95	14	P		Pn	10 38 37.6	+1.0
K17K	Iditarod	8.10	326	Pn		Pn	10 38 38.5	0.0
K17K	Iditarod baz=138	8.10	326	P		Pn	10 38 38.6	0.0
HDA	Harding Lake	8.11	5			Pn	10 38 39.2	+0.5
NEA2	Nenana	8.26	358			Pn	10 38 41.7	+0.9
WHY	Whitehorse	8.29	53			Pn	10 38 42.2	+0.9
WHY	Whitehorse baz=244	8.29	53	P		Pn	10 38 42.2	+0.9
N31M	Braeburn, Yuko	8.31	47			Pn	10 38 42.7	+1.2
N31M	Braeburn, Yuko baz=237	8.31	47	P		Pn	10 38 42.7	+1.2
K27K	Chicken	8.31	20			Pn	10 38 42.1	+0.7
K27K	Chicken baz=205	8.31	20	P		Pn	10 38 42.1	+0.7
CCB	Clear Creek Bu	8.32	2			Pn	10 38 43.2	+1.7
J20K	Nowinta River	8.33	342	Pn		Pn	10 38 43.4	+1.6
J25K	Salcha River,	8.41	9			Pn	10 38 43.2	+0.3
J25K	Salcha River, baz=191	8.41	9	P		Pn	10 38 43.2	+0.3
P32M	Atlin	8.46	61	Pn		Pn	10 38 43.8	+0.3
P32M	Atlin baz=253	8.46	61	P		Pn	10 38 43.9	+0.3
IL31		8.47	4			Pn	10 38 44.6	+1.0
ILAR	Eielson Array	8.47	4	Pn		Pn	10 38 43.3	-0.3
ILAR	Eielson Array comp=E,0.4nm,0.3s,baz=185,slow=13,SNR=16	8.47	4	Pn		Pn	10 38 43.9	+0.3
ILAR					Sn	Sn	10 40 13.6	-4.2
	comp=E,0.5nm,0.3s,baz=188,slow=22,SNR=8.5 comp=E,0.7nm,0.4s							
J26L	Joseph Creek	8.51	14	Pn		Pn	10 38 45.2	+1.0
J26L	Joseph Creek baz=198	8.51	14	P		Pn	10 38 45.2	+1.0
L29M	L29M	8.52	33	Pn		Pn	10 38 45.5	+1.1
L29M	L29M baz=221	8.52	33	P		Pn	10 38 45.5	+1.1
U33K	Whale Pass	8.53	85	Pn		Pn	10 38 40.8	-3.7
COLA	College	8.54	2	P		Pn	10 38 45.8	+1.2
COLA	College	8.54	2			Pn	10 38 45.6	+1.0
M30M	Minto, Yukon	8.59	39	Pn		Pn	10 38 46.3	+1.0
M30M	Minto, Yukon baz=228	8.59	39	P		Pn	10 38 46.2	+1.0
FALS	False Pass	8.62	266	P		Pn	10 38 46.0	+0.3
FALS	False Pass	8.62	266			Pn	10 38 46.5	+0.8
FALS	False Pass baz=75	8.62	266	P		Pn	10 38 46.5	+0.8
MDM	Murphy Dome	8.63	1			Pn	10 38 46.5	+0.8
CRAG	Craig	8.64	90	P		Pn	10 38 43.5	-2.5
MLY	Manley	8.77	354			Pn	10 38 47.1	-0.7
ISLZ	Isanotski Laza	8.82	266			Pn	10 38 48.6	+0.1
ISNN	Isanotski Nort	8.83	266			Pn	10 38 49.2	+0.6
DAWY	Dawson	8.93	26			Pn	10 38 50.8	+0.9
SSLS	Shishaldin Sou	8.98	266			Pn	10 38 51.4	+0.6
P33M	Teslin, Yukon	9.07	58	Pn		Pn	10 38 52.3	+0.3
P33M	Teslin, Yukon baz=251	9.07	58	P		Pn	10 38 52.6	+0.6
EGAK	Eagle	9.16	20	Pn		Pn	10 38 54.2	+1.2
M31M	Drury Creek, Y	9.25	45			Pn	10 38 55.9	+1.5
K29M	Barlow Dome	9.26	31	Pn		Pn	10 38 55.7	+1.2
K29M	Barlow Dome baz=220	9.26	31	P		Pn	10 38 55.6	+1.1
N32M	Quiet Lake	9.30	53			Pn	10 38 55.9	+0.9
N32M	Quiet Lake baz=245	9.30	53	P		Pn	10 38 55.9	+0.9
I26K	Coal Creek Min	9.33	14			Pn	10 38 56.6	+1.2
I26K	Coal Creek Min baz=198	9.33	14	P		Pn	10 38 56.6	+1.2
WESE	West Dahl East	9.38	265			Pn	10 38 56.6	+0.4
H24K	Noodor Dome	9.51	1	Pn		Pn	10 38 59.3	+1.4
S34M	Telegraph Cree	9.53	73			Pn	10 38 57.8	-0.4
S34M	Telegraph Cree baz=267	9.53	73	P		Pn	10 38 57.8	-0.4
FARO	Faro, Yukon	9.68	46			Pn	10 39 01.3	+1.0
R33M	Jennings River	9.78	65	Pn		Pn	10 39 01.9	+0.2
DLBC	Dease Lake comp=E,1.0nm,0.3s,baz=276,slow=8.4,SNR=25 comp=E,2.6nm,0.3s	10.14	71	Pn		Pn	10 39 06.0	-0.7
J30M	Hart River	10.15	31			Pn	10 39 08.4	+1.6
UNV	Unalaska Valle	10.66	264	P		Pn	10 39 12.5	-1.1
SPIA	Saint Paul Isl	11.99	283	P		Pn	10 39 32.1	+0.3
NIKH	Nikolski High	12.29	263	P		Pn	10 39 35.6	-0.3
INK	Inuvik comp=E,0.1nm,0.3s,baz=206,slow=13,SNR=4.5 comp=E,2.9nm,0.9s	13.78	24	Pn		Pn	10 39 58.0	+1.9
YKA	Yellowknife Ar comp=E,0.1nm,0.3s,baz=264,slow=12,SNR=6.3 comp=E,1.2nm,0.6s	18.10	56	P		Pn	10 40 51.3	-0.6
H11N2	WAKE ISLAND Hy baz=31,slow=76,SNR=6.1	49.34	241	T		T	11 39 12.7	
H11N3	WAKE ISLAND Hy baz=31,slow=76,SNR=5.8	49.34	241	T		T	11 39 11.6	
H11N1	WAKE ISLAND Hy baz=31,slow=76,SNR=5.2	49.35	241	T		T	11 39 12.7	
H11S1	WAKE ISLAND Hy baz=29,slow=76,SNR=5.6	50.48	240	T		T	11 40 41.8	
H11S2	WAKE ISLAND Hy baz=29,slow=76,SNR=6.6	50.49	240	T		T	11 40 36.8	
H11S3	WAKE ISLAND Hy baz=29,slow=76,SNR=6.8	50.49	240	T		T	11 40 36.2	
NOA	NORSAR Array B comp=E,0.3nm,0.6s,baz=342,slow=8.0,SNR=1.8 comp=E,0.3nm,0.6s	61.84	11	P		P	10 46 58.8	+0.2
FINES	FINESS Array B comp=E,3.2nm,1.1s,baz=355,slow=6.5,SNR=3.6 comp=E,3.2nm,1.1s	62.45	3	P		P	10 47 02.0	-0.5
BVAR	Borovoye Array comp=E,1.1nm,0.6s,baz=31,slow=8.8,SNR=4.4 comp=E,1.1nm,0.6s	66.41	336	P		P	10 47 29.4	+0.8
AKASG	Malin Array Be comp=E,0.4nm,0.3s,baz=1.3,slow=6.5,SNR=4.5 comp=E,0.4nm,0.3s	73.28	2	P		P	10 48 10.9	+0.1
ESDC	Sonseca Array comp=E,0.7nm,0.8s,baz=350,slow=5.0,SNR=5.0 comp=E,0.7nm,0.8s	79.70	27	P		P	10 48 48.7	+1.3
CMAR	Chiang Mai Arr comp=E,0.5nm,0.5s,baz=8.3,slow=5.8,SNR=4.1 comp=E,0.5nm,0.5s	86.66	299	P		P	10 49 23.6	0.0
QSPA	South Pole Qui comp=E,0.7nm,0.5s,baz=309,slow=16,SNR=9.5	146.16	180	PKPbc		PKPab	10 56 18.9	-0.4
BOSA	Boshof comp=E,1.1nm,0.6s,baz=22,slow=4.7,SNR=3.6	151.90	12	PKPbc		PKPbc	10 56 34.1	-0.4

DJA 27 10:46:07.3±0.3, 0°S±3°×12°3E±°, h64km±11km, M4.1/12, mb4.2/6, MLv4.0/12, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GTOI	Gorontalo	0.82	2	P	Pn	10 46 24.8	+1.5
GTOI				S	Sn	10 46 38.5	+3.5
LUWI	Luwuk	0.87	194	P	Pn	10 46 24.5	+0.6
KMSI	Cibinong	1.26	53	P	Pn	10 46 29.2	+0.3
KMSI				S	Sn	10 46 45.6	+0.6
MPSI	Mapaga	3.13	280	P	Pn	10 46 54.5	+0.3
TNTI	Ternate	4.49	78	P	Pn	10 47 12.4	-0.4
LBMI	Labuha	4.54	96	P	Pn	10 47 13.5	-0.1
BBSI	Bau Bau 53nm,1.1s,0.2nm	5.28	184	P	Pn	10 47 23.7	0.0
BKSI	Bulukumba 20nm,1.1s,0.1nm	5.84	209	P	Pn	10 47 31.2	-0.2
FAKI	Fak Fak	9.65	106	P	Pn	10 48 24.1	+0.5

FUNV 27 11:15:55.8, 10°.08N×71°.97W, h10km, MW3.5
RSNC 27 11:15:56.0±0.0, 10°N±1°×7°.2W±°, h0km±2km, M2.5, ML2.5

ISC 27 11:15:54.1±1.4, 10°.13N±0°.03×71°.91W±0°.03, h7km±11km, n23, σ1°s49/41, 1C-1D, Lake Maracaibo

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MCQV	Machiques	0.62	263	⇓*iP*	Pg	11 16 05.8	-0.2
MCQV				*eS*	Sg	11 16 14.1	0.0
CRJC	Cerrejon, Guaj	1.30	313	P	Pn	11 16 18.2	-0.6
CRJC				S	Sb	11 16 35.0	-0.9
URIC	Uribia, Colomb	1.57	357	P	Pn	11 16 22.3	0.0
URIC				S	Sg	11 16 45.2	+0.7
SDV	Santo Domingo	1.76	134	P	Pn	11 16 25.8	+0.6
SDV				S	Sb	11 16 50.0	+0.7
SOCV	Socops	2.11	150	⇑*eP*	Pn	11 16 30.3	+0.5
SOCV				*eS*	Sn	11 16 55.8	-0.5
SIQV	Siquisique	2.13	76	*eP*	Pb	11 16 32.1	-1.0
SIQV				*eS*	Sn	11 16 58.4	+1.4
CAPV	Capacho	2.28	190	*eP*	Pn	11 16 32.5	+0.2
CAPV				*eS*	Sn	11 17 00.0	-0.8
ARGC	Ariguani, Magd	2.31	264	P	Pn	11 16 32.0	-0.6
ARGC				S	Sb	11 17 02.9	-2.1
OCAC	Ocana	2.33	217	P	Pb	11 16 35.3	-1.3
OCAC				S	Sb	11 17 03.4	-2.3
SMRC	Santa Marta, M	2.50	295	P	Pb	11 16 39.7	+0.4
SMRC				S	Sn	11 17 07.2	+1.4
TEPV	Terepaima	2.69	93	*eP*	Pn	11 16 38.8	+1.0
TEPV				*eS*	Sn	11 17 11.1	+0.5
PAMC	Pamplona, Colo	2.88	196	P	Pn	11 16 40.3	-0.5
PAMC				S	Sn	11 17 15.6	-0.3
SJCC	San Jacinto, C	3.23	266	P	Pn	11 16 45.9	+0.7
SJCC				S	Sn	11 17 24.5	+0.5
TAMC	Tame, Arauca	3.67	178	P	Pn	11 16 50.6	-0.7
TAMC				S	Sn	11 17 31.2	-3.7
BARC	Barichara	3.73	200	P	Pn	11 16 53.3	+1.0
BARC				S	Sb	11 17 49.0	+3.0
ZARC	Zaragoza, Cauc	3.92	228	P	Pn	11 16 57.5	+2.8
ZARC				S	Sn	11 17 42.5	+1.6
BAUV	El Baul	4.00	107	*eP*	Pn	11 16 56.6	+0.9
BAUV				*eS*	Sn	11 17 40.8	-2.1
TURV	Turiamo	4.02	85	*eP*	Pn	11 16 56.9	+0.8
BENV	Beln	4.25	92	*eP*	Pn	11 17 00.1	+0.7
BENV				*eS*	Sn	11 17 47.4	-1.9
PTBC	PUERTO BERRIO,	4.36	215	P	Pn	11 17 01.3	+0.5
RUSC	La Rusia	4.36	195	P	Pn	11 17 01.7	+0.4
RUSC				S	Sb	11 18 08.2	+3.7
TACV	Tcata	4.81	89	*eP*	Pn	11 17 07.7	+0.7
CACV	CAICARA DEL OR	5.89	115	*eP*	Pn	11 17 28.7	+6.9

SOME 27 11:26:34.2, 40°.47N×72°.77E, h10km
KRNET 27 11:26:34.1±0.1, 40°.49N×72°.61E, h15km, mb2.7
ISU 27 11:26:35.9, 40°.55N×72°.62E, h6km
NNC 27 11:26:36.6±4.7, 40°.51N×72°.67E, h0km, mb3.5, mpv3.0, Error ellipse: s-maj=37.5km s-min=20.3km az=172.0

ISC 27 11:26:33.7±0.9, 40°.50N±0°.03×72°.76E±0°.02, h16km±5km, n37, σ1°s23/66, 29C-7D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHH	Osh baz=74	0.03	37	⇑*iP*	Pg	11 26 36.8	+0.2
OHH				⇑*iS*	Sg	11 26 39.0	+0.4
TSTA	Tashata baz=74	0.23	290	P	Pg	11 26 38.4	-0.5
TSTA				S	Sg	11 26 40.3	-2.2
ANR	Andizhan	0.40	310	P	Pg	11 26 42.0	+0.2
ANR				S	Sg	11 26 46.6	-0.7
SFK	Sufi-Kurgan baz=24	0.75	130	⇑*iP*	Pn	11 26 50.0	+0.2
SFK				⇑*iS*	Sn	11 27 01.7	+0.8
FRG	Fergana	0.76	261	P	Pn	11 26 49.5	-0.2
FRG				S	Sb	11 26 59.6	+1.0
ARSB	Arslanbob baz=18	0.84	11	⇑*eP*	Pn	11 26 51.1	+0.1
ARSB				⇑*eS*	Sn	11 27 03.5	+0.4
CHMI	Chimion baz=18	0.97	257	P	Pn	11 26 53.6	+0.9
CHMI				S	Sn	11 27 06.6	+0.4
DRK	Karamyk baz=12	1.26	216	⇑*eP*	Pn	11 26 56.7	-0.2
DRK				⇑*eS*	Sb	11 27 13.0	-0.3
ARK	Arkit baz=40	1.43	335	⇓*iP*	Pb	11 27 00.5	+0.5
ARK				⇓*iS*	Sg	11 27 19.9	0.0
BTK	Batken baz=53	1.55	254	⇓*eP*	Pn	11 27 01.2	+0.5
BTK				⇓*iS*	Sn	11 27 20.8	+0.2
TRKS	Terek-Say baz=12	1.60	311	⇑*iP*	Pn	11 27 01.7	+0.2
TRKS				⇑*iS*	Sn	11 27 21.9	0.0
ARLS	Aral baz=43	1.80	40	⇑*eP*	Pg	11 27 09.1	+0.9
ARLS				⇑*iS*	Sg	11 27 34.6	+3.0
MNAS	Manas baz=58	2.00	355	⇑*iP*	Pg	11 27 11.1	-0.9
MNAS				⇑*eS*	Sg	11 27 38.0	+0.1
UCH	Uchtor baz=39	2.17	37	⇑*iP*	Pg	11 27 14.8	-0.6
UCH				⇑*iS*	Sg	11 27 44.5	+0.9
MRKS	Merke 10nm,0.5s	2.27	9	Pg	Pg	11 27 17.1	-0.1
MRKS				Lg	Lg	11 27 47.8	
MRKS	Merke 10nm,0.5s	2.27	9	*eP*	Pg	11 27 17.1	-0.1
MRKS				*eS*	Sg	11 27 47.8	+1.1
EKS2	Erkin-Say baz=22	2.29	19	⇑*iP*	Pb	11 27 15.8	+1.1
EKS2				⇑*iS*	Sg	11 27 46.2	-1.1
CHMG	Chimgan baz=22	2.33	298	P	Pb	11 27 16.4	+1.0
CHMG				S	Sg	11 27 47.4	-1.2
AAK	Ala-Archa 6.8nm,0.5s	2.50	31	⇓P	Pg	11 27 21.4	-0.2
AAK				⇑S	Sg	11 27 56.2	+2.2
AAK	Ala-Archa baz=33	2.50	31	⇑*iP*	Pb	11 27 19.0	+0.7
AAK				⇑*iS*	Sg	11 27 51.9	-2.1
CHMS	Chumysh baz=32	2.91	30	⇑*iP*	Pb	11 27 24.7	-0.4
CHMS				⇑*iS*	Sb	11 28 01.5	+1.0
USP	Ospenovka baz=26	3.05	25	⇓*iP*	Pb	11 27 26.5	-1.2
USP				⇓*iS*	Sb	11 28 04.6	-0.1
BOOM	Boomskoye usch baz=50	3.11	49	⇑*eP*	Pb	11 27 27.8	-0.8
BOOM				⇑*iS*	Sb	11 28 07.2	+0.8
TKM2	Tokmak 2 1.6nm,0.5s	3.22	40	⇑Pg	Pg	11 27 34.5	-0.8
TKM2				⇑Lg	Lg	11 28 18.9	
TKM2	Tokmak 2 baz=42	3.22	40	⇑*iP*	Pb	11 27 29.3	-1.2
TKM2				⇑*iS*	Sb	11 28 09.4	-0.2
BRLS	Boroldaу 1.6nm,0.2s	3.34	320	Pg	Pb	11 27 34.5	+1.9
BRLS				Lg	Lg	11 28 17.3	
BRLS	Boroldaу 0.9nm,0.1s	3.34	320	*eP*	Pb	11 27 34.5	+1.9
BRLS				*eS*	Sg	11 28 17.3	-3.7
KST	Kastek 1.8nm,0.5s	3.49	42	Pg	Pg	11 27 38.6	-1.9
KST				Lg	Lg	11 28 24.6	
KST	Kastek 2.4nm,0.3s	3.49	42	*eP*	Pg	11 27 38.6	-1.9
KST				*eS*	Sg	11 28 24.6	-1.1
DGS	Degeres 3.5nm,0.5s	3.54	38	Pg	Pg	11 27 40.6	-0.9
DGS				Lg	Lg	11 28 28.3	
DGS	Degeres 3.5nm,0.3s	3.54	38	*eP*	Pg	11 27 40.6	-0.9
DGS				*eS*	Sg	11 28 28.3	+0.8
KRBS	Karabastau 1.8nm,0.7s	3.86	33	Pg	Pg	11 27 45.8	-1.8
KRBS				Lg	Lg	11 28 37.3	
KRBS	Karabastau 1.6nm,0.3s	3.86	33	*eP*	Pg	11 27 45.8	-1.8
KRBS				*eS*	Sg	11 28 37.3	-0.2
KTBS	Karatobe 1.8nm,0.7s	4.34	41	Pg	Pg	11 27 54.9	-1.8
KTBS				Lg	Lg	11 28 53.0	
KTBS	Karatobe 1.7nm,0.3s	4.34	41	*eP*	Pg	11 27 54.9	-1.8
KTBS				*eS*	Sg	11 28 53.0	+0.1
ARXS	Arharly 1.9nm,0.6s	5.28	44	Pg	Pg	11 28 13.1	-1.6
ARXS				Lg	Lg	11 29 23.5	
ARXS	Arharly 1.9nm,0.3s	5.28	44	*eP*	Pg	11 28 13.1	-1.6
ARXS				*eS*	Sg	11 29 23.5	+0.5

IDC 27 11:27:10.3±5.5, 5°.81S×147°.60E, h196km±53km, mb2.8/1, mbtmp3.4/3, Error ellipse: s-maj=107.6km s-min=49.6km az=121.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	Port Moresby 5.5nm,0.3s,baz=32,slow=19,SNR=1.3	3.60	187	P	Pn	11 28 07.4	+0.4
PMG				S	Sn	11 28 52.0	+0.5
WRA	Warramunga Arr 7.0nm,0.3s,baz=29,slow=15,SNR=1.8	19.07	221	P	P	11 31 17.7	-0.4
ASAR	Alice Springs 0.4nm,0.4s,baz=48,slow=12,SNR=31	22.11	215	P	P	11 31 50.6	+0.4
TORD	Torodi Ar. Bea 0.5nm,0.5s,baz=49,slow=8.6,SNR=14 0.5nm,0.3s	145.62	285	PKPbc	PKPdf	11 46 25.8	-0.5
	0.4nm,0.8s,baz=74,slow=3.6,SNR=2.1						

IDC 27 11:38:27.9±1.0, 29°.56S×178°.16W, h73km±17km, mb3.6/4, mbtmp3.9/4, Error ellipse: s-maj=41.0km s-min=29.9km az=28.0

ISC 27 11:38:28.4±1.0, 29°.4S±0°.3×178°.1W±0°.3, h85km±11km, n11, σ1°s23/8, mb4.0/4, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	Raoul Island 541nm,0.2s,baz=142,slow=19,SNR=8.9	0.17	48	P	Pn	11 38 39.3	-1.4
RAO				S	Sn	11 38 51.6	+1.8
URZ	Urewera 1μm,0.2s,baz=90,slow=20,SNR=7.3 6.5nm,0.9s,baz=282,slow=21,SNR=1.0	9.73	203	P	Pn

1.2nm,0.6s,baz=39,slow=7.0,SNR=10
1.2nm,0.6s

H03S2	**Juan Fernandez**	**81.08**	**124**	T	T	13 19 42.5		
	baz=238,slow=74,SNR=5.2							
H03S1	**Juan Fernandez**	**81.09**	**124**	T	T	13 19 50.1		
	baz=238,slow=74,SNR=4.2							
H03S3	**Juan Fernandez**	**81.10**	**124**	T	T	13 19 48.9		
	baz=238,slow=74,SNR=6.0							
FINES	**FINESS Array B**	**144.16**	**340**	PKP	**PKPdf**	**11 57 53.4**	**-0.1**	
	1.5nm,0.5s,baz=65,slow=2.4,SNR=13							
AKASG	**Malin Array Be**	**150.44**	**324**	PKPbc	**PKiKP**	**11 58 10.7**	**+0.3**	
	0.6nm,0.5s,baz=43,slow=3.4,SNR=4.9							

*NEIC **27** 11:50:54.4±1.2, 19.371°N±0.010°×155.251°W±0.008, h1km±4km, Error ellipse: s-maj=1.5km s-min=0.9km az=158.0*

HVO 27 11:50:53.9±0.9, 19.38°N±0.02°×155.27°W±0.02, h5km±3km, ML3.1/9, ML2.0/32(NEIC), Error ellipse: s-maj=3.4km s-min=1.0km az=126.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.02**	**1**		Pg	11 50 55.3	+0.3
KKO	**Keanakako`i**	**0.02**	**23**		Pg	11 50 55.4	+0.3
BYL	**Byron's Ledge**	**0.04**	**23**		Pg	11 50 50.2	-5.0
OBL	**Observatory Le**	**0.04**	**346**		Pg	11 50 55.7	+0.5
HATHI	**Halema'uma'u T**	**0.04**	**16**		Pg	11 50 54.2	-1.1
UWB	**Uwekahuna B**	**0.04**	**355**		Pg	11 50 55.8	+0.5
UWE	**Uwekahuna**	**0.04**	**337**		Pg	11 50 54.4	-0.9
SBLHI	**Steaming Bluff**	**0.05**	**7**		Pg	11 50 55.5	+0.2
PUH	**Pauahi**	**0.06**	**96**		Pg	11 50 55.7	+0.3
PUH	**Pauahi**	**0.06**	**96**	IAML		11 50 56.9	
	comp=N,1μm,1.3s						
PUH				IAML		11 50 57.0	
	comp=E,522nm,1.5s						
RSD	**Rainshed**	**0.08**	**358**	Pg	Pg	11 50 55.8	0.0
RSD				IAML		11 50 56.8	
	comp=N,1μm,1.6s						
RSD				IAML		11 50 56.9	
	comp=E,651nm,1.1s						
HLP	**Hilina Pali**	**0.09**	**201**	Pg	Pg	11 50 56.6	+0.7
HLP				IAML		11 50 57.0	
	comp=N,897nm,1.5s						
KNHH	**Kane Nui o Ham**	**0.10**	**90**		Pg	11 50 56.7	+0.7
STCH	**Steam Cracks**	**0.14**	**88**		Pg	11 50 52.6	-4.2
MLH	**Mauna Loa**	**0.15**	**317**		Pg	11 50 56.5	-0.6
MLH				IAML		11 50 59.4	
	comp=N,389nm,1.8s						
HMH	**Humu'ula Sheep**	**0.30**	**318**	Pg	Pb	11 51 00.9	-1.0
HMH				IAML		11 51 05.0	
	comp=E,167nm,3.0s						
HMH				IAML		11 51 07.6	
	comp=N,194nm,2.4s						
MWH	**Moku'aweowe**	**0.32**	**289**	Pg	Pg	11 51 01.1	+0.8
KHU	**Kahuku**	**0.35**	**248**	Pg	Pg	11 51 01.0	+0.3
KHU				IAML		11 51 08.4	
	comp=E,331nm,2.6s						
KHU				IAML		11 51 08.4	
	comp=N,211nm,2.9s						
HUH	**Hualalai**	**0.61**	**300**	Pg	Pg	11 51 04.5	-1.2

IDC 27 11:52:55.2±5.4, 29.77°S×178.66°W, h0km, mb3.3/2, mbtmp3.3/2, Error ellipse: s-maj=305.3km s-min=77.9km az=167.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.57**	**267**	P	P	12 00 52.7	-0.4
	0.2nm,0.8s,baz=96,slow=6.6,SNR=1.6						
	0.2nm,0.8s						
WRA	**Warramunga Arr**	**43.50**	**272**	P	P	12 01 00.6	0.0
	0.3nm,0.3s,baz=111,slow=8.0,SNR=10						
	0.3nm,0.3s						
FINES	**FINESS Array B**	**144.36**	**340**	PKP	PKPdf	12 12 32.2	-0.4
	1.1nm,0.7s,baz=48,slow=2.1,SNR=7.1						

*IDC **27** 11:58:09.2±0.8, 15.96°S×173.28°E, h0km, mb4.0/10, mbtmp4.0/10, MS3.6/10, Error ellipse: s-maj=32.5km s-min=20.7km az=141.0*

ISC 27 11:58:10.9±0.8, 15.95°S±0.2°×173.31°E±0.2, h10km, n17, σ1§18/11, mb4.0/10, MS3.6/9, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**8.88**	**225**	LR	LR	12 02 45.5	
	comp=Z,144nm,20.0s,baz=90,slow=31						
URZ	**Urewera**	**22.51**	**172**	LR	LR	12 09 52.0	
	comp=Z,243nm,18.4s,baz=28,slow=31						
STKA	**Stephens Creek**	**32.86**	**235**	P	**P**	**12 04 45.9**	**+0.8**
	4.1nm,0.8s,baz=59,slow=8.4,SNR=7.1						
	4.1nm,0.8s						
WRA	**Warramunga Arr**	**37.18**	**258**	P	**P**	**12 05 21.3**	**-1.2**
	1.1nm,0.8s,baz=80,slow=6.2,SNR=8.0						
	1.1nm,0.8s						
ASAR	**Alice Springs**	**37.72**	**252**	P	**P**	**12 05 26.9**	**-0.3**
	3.9nm,0.6s,baz=81,slow=8.8,SNR=92						
ASAR				PcP	**PcP**	**12 07 44.1**	**-0.2**
	0.4nm,0.9s,baz=87,slow=1.3,SNR=3.9						
ASAR				LR	LR	12 19 15.4	
	comp=Z,86nm,18.6s,baz=92,slow=34						
	3.9nm,0.6s						
MJAR	**Matsushiro Arr**	**61.79**	**328**	P	**P**	**12 08 29.5**	**-0.5**
	1.4nm,0.9s,baz=154,slow=6.1,SNR=4.4						
	1.4nm,0.9s						
VNDA	**Vanda**	**61.88**	**183**	LR	LR	12 32 50.0	
	comp=Z,39nm,18.1s,baz=348,slow=34						
PETK	**Petropavlovsk-**	**70.04**	**350**	LR	LR	12 33 13.9	
	comp=Z,38nm,21.5s,baz=141,slow=30						
QSPA	**South Pole Qui**	**74.12**	**180**	P	**P**	**12 09 46.5**	**-0.8**
	2.9nm,0.8s,baz=26,slow=1.4,SNR=12						
	2.9nm,0.8s						
KLR	**Kul'dur**	**74.55**	**333**	LR	LR	12 40 38.6	
	comp=Z,30nm,18.4s,baz=133,slow=34						
MA2	**Magadan**	**77.42**	**348**	LR	LR	12 39 12.8	
	comp=Z,41nm,20.3s,baz=155,slow=32						
CMAR	**Chiang Mai Arr**	**80.72**	**292**	P	**P**	**12 10 26.8**	**+1.8**
	0.8nm,0.6s,baz=89,slow=2.8,SNR=4.8						
	0.8nm,0.6s						
NVAR	**Mina Array Bea**	**83.75**	**47**	P	**P**	**12 10 41.9**	**+1.2**
	0.4nm,0.7s,baz=245,slow=9.6,SNR=4.1						
	0.4nm,0.7s						
YAK	**Yakutsk**	**84.94**	**341**	LR	LR	12 41 23.2	
	comp=Z,21nm,21.8s,baz=128,slow=30						
ILAR	**Eielson Array**	**85.97**	**16**	P	**P**	**12 10 49.3**	**-1.8**
	1.3nm,1.0s,baz=244,slow=6.6,SNR=7.8						
ILAR				LR	LR	12 44 48.5	
	comp=Z,47nm,19.2s,baz=220,slow=33						
	1.3nm,1.0s						
TXAR	**Lajitas Array**	**91.81**	**60**	P	**P**	**12 11 20.1**	**+0.4**
	0.3nm,0.8s,baz=224,slow=5.2,SNR=3.9						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**96.00**	**26**	P	**P**	**12 11 38.1**	**+0.1**
	0.4nm,0.9s,baz=260,slow=4.4,SNR=4.4						
YKA				LR	LR	12 50 33.1	
	comp=Z,43nm,18.1s,baz=286,slow=33						
	0.4nm,0.9s						

*SJA **27** 12:09:48.4±1.8, 19.13°S×67.22°W, h200km, ML3.6, MW3.4*
*SCB **27** 12:09:48.4±1.1, 19.14°S×67.38°W, h230km±12km, ML3.6/3, MW3.5, Error ellipse: s-maj=4.1km s-min=3.2km az=1.0*

ISC 27 12:09:46.7±1.9, 19.14°S±0.05°×67.42°W±0.05, h248km±15km, n28, σ1§69/46, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**0.72**	**323**	Pg	**Pn**	**12 10 20.7**	**-0.1**
GO01	**Chusmiza**	**1.75**	**252**	*e*P	**Pn**	**12 10 28.7**	**+1.3**
GO01				*e*S	**S**	**12 11 02.4**	**+3.0**
GO01				*e*S	S	12 11 02.6	+3.2
GO01				*e*S	S	12 11 02.7	+3.4
GO01	**Chusmiza**	**1.75**	**252**	Pg	**Pn**	**12 10 28.1**	**+0.7**
SOET	**ToroToro**	**1.84**	**57**	Pg	**Pn**	**12 10 27.5**	**-0.5**
PB08	**IPOC Station P**	**1.91**	**238**	*e*P	**Pn**	**12 10 29.8**	**+1.2**
PB08				*e*S	**S**	**12 11 00.7**	**-0.9**
PB08	**IPOC Station P**	**1.91**	**238**	Pg	**Pn**	**12 10 29.8**	**+1.2**
PB11	**IPOC Station P**	**2.19**	**253**	*e*P	**Pn**	**12 10 31.9**	**+0.9**
PB11				*e*S	**S**	**12 11 05.3**	**-0.6**
PB11	**IPOC Station P**	**2.19**	**253**	Pg	**Pn**	**12 10 31.6**	**+0.6**
PB11				S	**S**	**12 11 05.1**	**-0.8**
PB11				IAML		12 11 05.5	
	167nm,0.3s						
SOEJ	**Jacaque**	**2.27**	**341**	Pg	**Pn**	**12 10 33.8**	**+1.6**
AOEA	**Aiquile**	**2.29**	**66**	Pg	**Pn**	**12 10 32.1**	**0.0**
BBOE	**La Paz, Chanca**	**2.37**	**347**	Pg	**Pn**	**12 10 34.7**	**+1.5**
MOCB	**Mochara**	**2.69**	**142**	Pg	**Pn**	**12 10 37.4**	**+1.2**
MOCB				Sg	**S**	**12 11 13.9**	**-1.4**
MOCB				IAML		12 11 14.8	
	39nm,1.3s						
BBOD	**La Paz, Gloria**	**2.73**	**336**	Pg	**Pn**	**12 10 38.3**	**+1.5**
TA02	**Huaiquique**	**2.79**	**246**	*e*P	**Pn**	**12 10 38.0**	**+1.2**
TA02				*e*S	**S**	**12 11 14.4**	**-1.9**
TA02				IAML		12 11 15.2	
	comp=Z,325nm,0.1s						
PB12	**IPOC Station P**	**2.80**	**280**	*e*P	**Pn**	**12 10 37.1**	**0.0**
PB12				*e*S	**S**	**12 11 14.6**	**-2.1**
PB12				IAML		12 11 16.4	
	comp=Z,93nm,0.1s						
AP01	**Chacalluta**	**2.87**	**285**	*e*P	**Pn**	**12 10 37.9**	**+0.3**
AP01				*e*S	**S**	**12 11 17.5**	**-0.4**
AP01				IAML		12 11 18.9	
	comp=Z,102nm,0.4s						
LPAZ	**La Paz**	**2.91**	**347**	*e*P	**Pn**	**12 10 39.9**	**+1.0**
LPAZ				*e*S	**S**	**12 11 19.8**	**-0.2**
LPAZ	**La Paz**	**2.91**	**347**	Pg	**Pn**	**12 10 39.8**	**+0.9**
TA01	**Diego Aracena**	**2.96**	**241**	*e*P	**Pn**	**12 10 39.2**	**+0.6**
TA01				*e*S	**S**	**12 11 16.9**	**-2.7**
TA01				IAML		12 11 17.4	
	comp=Z,45nm,0.2s						
PATCX	**Punta Patache**	**3.06**	**236**	*e*P	**Pn**	**12 10 41.0**	**+1.1**
PATCX				*e*S	**S**	**12 11 19.6**	**-2.3**
PATCX				IAML		12 11 24.3	
	comp=Z,92nm,0.5s						
PB09	**IPOC Station P**	**3.15**	**212**	*e*P	**Pn**	**12 10 42.8**	**+2.0**
PB09				*e*S	**S**	**12 11 24.4**	**+0.7**
PB09	**IPOC Station P**	**3.15**	**212**	Pg	**Pn**	**12 10 42.6**	**+1.8**
LVC	**Limon Verde**	**3.72**	**202**	*e*P	**Pn**	**12 10 49.5**	**+2.0**
LVC				*e*S	**S**	**12 11 36.3**	**+0.5**
PB04	**IPOC Station P**	**4.08**	**218**	*e*P	**Pn**	**12 10 52.9**	**+1.4**
PB04				*e*S	**S**	**12 11 40.5**	**-2.4**
PB04				IAML		12 11 46.6	
	comp=Z,49nm,0.2s						
PB06	**IPOC Station P**	**4.08**	**209**	*e*P	**Pn**	**12 10 53.3**	**+1.8**
PB06				*e*S	**S**	**12 11 42.3**	**-0.7**
PB06				IAML		12 11 46.2	
	comp=Z,37nm,0.2s						
PB15	**IPOC Station P**	**4.48**	**205**	*e*P	**Pn**	**12 10 58.3**	**+2.0**
PB15				*e*S	**S**	**12 11 50.5**	**-1.1**
PB15				IAML		12 11 53.0	
	comp=Z,116nm,0.2s						
PB15	**IPOC Station P**	**4.48**	**205**	Pg	**Pn**	**12 10 58.3**	**+2.0**
PB15				Sg	**S**	**12 11 50.3**	**-1.3**
PB15				IAML		12 11 55.0	
	comp=Z,175nm,0.2s						
PB10	**IPOC Station P**	**5.24**	**213**	*e*P	**Pn**	**12 11 06.2**	**+0.9**
PB10				*e*S	**S**	**12 12 02.6**	**-5.6**
PB10				IAML		12 12 05.0	
	comp=Z,14nm,1.9s						

*DRS **27** 12:22:45.9, 42.79°N×47.80°E, h12km*
MOS 27 12:22:45.6, 42.74°N×47.69°E, h7km, MPVA3.9, 1C-2D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**0.26**	**328**	*e*Pg	Pb	12 22 52.4	-0.2
	138nm,0.2s						
MAK				*e*Sg	Sb	12 22 57.2	-0.2
	209nm,0.4s						
MAK	**Makhachkala**	**0.26**	**328**	*e*PG	Pb	12 22 52.4	-0.2
MAK				*e*S	Sb	12 22 58.2	+0.9
MAK				pmax	pmax		
	comp=Z,139nm,0.2s						
MAK				smax	smax		
	comp=N,2μm,0.6s						
SGKR	**Sergokala**	**0.28**	**185**	*i* Pg	Pb	12 22 53.1	+0.1
	comp=N,497nm,0.1s						
SGKR				*e*Sg	Sb	12 22 58.5	+0.4
	comp=N,74nm,0.3s						
SGKR	**Sergokala**	**0.28**	**185**	⇓ *i* PG	Pb	12 22 53.1	0.0
SGKR				*e*S	Sb	12 22 58.8	+0.8
SGKR				pmax	pmax		
	comp=Z,498nm,0.1s						
SGKR				smax	smax		
	comp=N,1μm,0.2s						
BUJR	**Buynaksk**	**0.44**	**281**	*e*Pg	Pb	12 22 56.7	+1.0
	comp=N,199nm,0.5s						
BUJR				*e*Sg	Sb	12 23 04.3	+1.7
	comp=N,81nm,0.4s						
BUJR	**Buynaksk**	**0.44**	**281**	*e*PG	Pb	12 22 55.5	-0.2
BUJR				*e*S	Sb	12 23 04.4	+1.9
ARKR	**Arakani**	**0.53**	**255**	*i* Pg	Pb	12 22 57.9	+0.6
	comp=N,209nm,0.4s						
ARKR				*e*Sg	Sn	12 23 08.1	-1.0
	comp=N,192nm,0.5s						
ARKR	**Arakani**	**0.53**	**255**	*i* PG	Pb	12 22 57.7	+0.3
ARKR				*e*S	Sn	12 23 08.0	-1.1
URKR	**Urkarakh**	**0.58**	**184**	*e*Pg	Pb	12 22 58.9	+0.8
	comp=N,92nm,0.4s						
URKR				*e*Sg	Sb	12 23 07.8	+1.2
	comp=N,50nm,0.4s						
URKR	**Urkarakh**	**0.58**	**184**	*e*PG	Pb	12 22 58.9	+0.8
URKR				*e*S	Sn	12 23 08.9	-1.3
URKR				pmax	pmax		
	comp=Z,92nm,0.4s						
URKR				smax	smax		
	comp=N,414nm,0.4s						
KRNR	**Karanay**	**0.58**	**279**	*i* Pg	Pb	12 22 58.8	+0.5
	comp=N,74nm,0.3s						
KRNR				*e*Sg	Sb	12 23 08.1	+1.3
	comp=N,456nm,0.4s						
KRNR	**Karanay**	**0.58**	**279**	⇑ *i* PG	Pb	12 22 58.8	+0.5
KRNR				*e*S	Sn	12 23 08.9	-1.5
KRNR				pmax	pmax		
	comp=Z,74nm,0.3s						
KRNR				smax	smax		
	comp=N,145nm,0.3s						
GNBR	**Gunib**	**0.64**	**237**	*e*Pg	Pn	12 23 00.9	-0.3
	comp=N,312nm,0.6s						
GNBR				*e*Sg	Sn	12 23 11.7	-0.1
	comp=N,282nm,0.6s						
GNBR	**Gunib**	**0.64**	**237**	*d i* PG	Pn	12 23 00.5	-0.8
GNBR				*e*S	Sb	12 23 07.7	-0.8
GNBR				pmax	pmax		
	comp=Z,529nm,0.8s						
UNCR	**Uncukul**	**0.66**	**268**	*i* Pg	Pb	12 23 00.4	+0.8
	comp=Z,54nm,0.4s						
UNCR				*e*Sg	Sn	12 23 11.5	-0.7
	comp=Z,474nm,0.5s						
UNCR	**Uncukul**	**0.66**	**268**	*i* PG	Pb	12 23 00.1	+0.5
UNCR				*e*S	Sb	12 23 08.6	-0.4
DBC	**Dubki**	**0.69**	**294**	*i* Pg	Pb	12 23 00.8	+0.7
	comp=Z,61nm,0.6s						
DBC				*e*Sg	Sn	12 23 12.1	-0.9
	comp=Z,2μm,0.2s						
DBC	**Dubki**	**0.69**	**294**	*e*PG	Pb	12 23 00.6	+0.5
DBC				*e*S	Sn	12 23 12.0	-1.0
HNZR	**Khunzah**	**0.74**	**256**	*e*PG	Pn	12 23 02.0	-0.7
HNZR				*e*S	Sn	12 23 15.0	+0.6
KMKR	**Kumukh**	**0.75**	**216**	*e*Pg	Pn	12 23 02.9	+0.1
	comp=Z,372nm,0.2s						
KMKR				*e*Sg	Sn	12 23 15.2	+0.5
	comp=Z,197nm,0.7s						
KMKR	**Kumukh**	**0.75**	**216**	*e*PG	Pn	12 23 02.9	0.0
KMKR				*e*S	Sn	12 23 15.1	+0.4
KMKR				pmax	pmax		
	comp=Z,373nm,0.2s						
KMKR				smax	smax		
	comp=E,2μm,0.2s						
KMKR				smax	smax		
	comp=N,2μm,0.2s						
KMKR				smax	smax		
	comp=E,2μm,0.2s						
XNZR	**Khunzakh**	**0.76**	**255**	*e*Pg	Pn	12 23 03.0	+0.1
	comp=E,101nm,0.5s						
XNZR				*e*Sg	Sn	12 23 15.2	+0.5
	comp=E,625nm,0.2s						
DLMR	**Dylym**	**0.85**	**293**	*e*Pg	Pn	12 23 04.3	+0.3
	comp=E,81nm,0.4s						
DLMR				*e*Sg	Sn	12 23 17.6	+0.9
	comp=E,231nm,0.5s						
DLMR	**Dylym**	**0.85**	**293**	*e*PG	Pn	12 23 04.3	+0.3
DLMR				*e*S	Sn	12 23 17.6	+0.9
DLMR				pmax	pmax		
	comp=E,81nm,0.4s						
DLMR				smax	smax		
	comp=N,616nm,0.4s						
DLMR				smax	smax		
	comp=E,724nm,0.6s						
DLMR				smax	smax		
	comp=E,538nm,0.4s						
DRN	**Derbent**	**0.85**	**146**	*e*Pg	Pb	12 23 03.3	+0.5
	comp=E,109nm,0.3s						
DRN				*e*Sg	Sn	12 23 16.1	-0.7
	comp=E,615nm,0.4s						
DRN	**Derbent**	**0.85**	**146**	*e*PG	Pn	12 23 04.2	+0.2
DRN				*e*S	Sn	12 23 18.2	+1.4
BTLR	**Botlikh**	**1.09**	**266**	*e*Pg	Pn	12 23 08.0	+0.6
	comp=E,50nm,0.4s						
BTLR				*e*Sg	Sn	12 23 24.7	+2.0
	comp=E,231nm,0.5s						
BTLR	**Botlikh**	**1.09**	**266**	*e*PG	Pn	12 23 08.9	+1.5
BTLR				*e*S	Sn	12 23 24.2	+1.5
DVE	**Vedeno**	**1.17**	**281**	*e*Pg	Pn	12 23 09.8	+1.3
DVE				*e*Sg	Sn	12 23 26.1	+1.2
DVE	**Vedeno**	**1.17**	**281**	*e*PG	Pn	12 23 09.8	+1.3
DVE				*e*S	Sn	12 23 26.4	+1.6
AKT	**Akhty**	**1.26**	**179**	*e*Pg	Pn	12 23 11.0	+1.2
AKT				*e*Sg	Sn	12 23 28.3	+1.2
AKT	**Akhty**	**1.26**	**179**	*e*PG	Pn	12 23 11.0	+1.2
AKT				*e*S	Sn	12 23 28.3	+1.2
GROC	**Groznyy**	**1.47**	**289**	*e*Pg	Pg	12 23 15.5	+1.8
GROC				*e*Sg	Sg	12 23 36.4	+3.6
GROC	**Groznyy**	**1.47**	**289**	*e*PG	Pg	12 23 14.4	+0.7
GROC				*e*		12 23 36.8	
GROC				pmax	pmax		
	comp=E,58nm,0.3s						
GROC				smax	smax		
	comp=N,162nm,0.6s						
GROC				smax	smax		
	comp=E,96nm,0.4s						
GROC				smax	smax		
	comp=N,157nm,0.6s						
KMGR	**Komgaron**	**2.10**	**280**	*e*Pg	Pb	12 23 23.7	-0.4
KMGR				*e*Sg	Sg	12 23 53.8	+0.7
KMGR	**Komgaron**	**2.10**	**280**	*e*PN	Pg	12 23 25.6	-0.3
KMGR				*e*S	Sg	12 23 55.3	+2.2
LACR	**Lac**	**2.50**	**273**	*e*Pn	Pb	12 23 29.3	-1.6
LACR				*e*Sn	Sb	12 24 01.0	-1.0
LACR	**Lac**	**2.50**	**273**	*e*PN	Pb	12 23 31.5	+0.5
LACR				*e*S	Sb	12 24 03.9	+1.9
KORR	**Kora**	**2.69**	**279**	*e*Pn	Pb	12 23 33.1	-0.9
KORR				*e*Sn	Sn	12 24 04.2	+2.1
KORR	**Kora**	**2.69**	**279**	*e*PN	Pb	12 23 33.1	-0.9
KORR				*e*S	Sn	12 24 04.2	+2.1
STDR	**Stavd-Durt**	**2.73**	**284**	*e*PN	Pg	12 23 36.9	-1.1
STDR				*e*S	Sg	12 24 12.9	-0.5
LSNR	**Lesken**	**2.89**	**282**	*e*Pn	Pn	12 23 34.7	+2.6
LSNR				*e*Sn	Sb	12 24 10.6	-2.4
LSNR	**Lesken**	**2.89**	**282**	*e*PN	Pn	12 23 34.7	+2.6
LSNR				*e*S	Sb	12 24 10.6	-2.4
GNI	**Garni**	**3.41**	**222**	*e*Pn	Pb	12 23 45.5	-1.0
GNI				*e*Sn	Sn	12 24 24.0	+3.9
GNI	**Garni**	**3.41**	**222**	*e*PN	Pb	12 23 45.5	-1.0
GNI				*e*S	Sn	12 24 24.0	+3.8
KBZ	**Khabaz**	**3.64**	**287**	*e*Pn	Pn	12 23 44.4	+2.0
KBZ				*e*Sn	Sn	12 24 26.5	+1.0
KBZ	**Khabaz**	**3.64**	**287**	*e*PN	Pn	12 23 44.4	+2.0
KBZ				*e*S	Sn	12 24 26.5	+0.9
SHA1	**Shidzhatmaz**	**3.81**	**287**	*e*Pn	Pn	12 23 44.6	-0.4
SHA1				*e*Sn	Sn	12 24 28.0	-2.2
SHA1	**Shidzhatmaz**	**3.81**	**287**	*e*PN	Pn	12 23 44.6	-0.4
KIV0	**Kislovodsk Arr**	**3.84**	**290**	*e*Pn	Pn	12 23 46.2	+0.9
KIV0				*e*Sn	Sn	12 24 30.2	-0.6
KIV	**Kislovodsk**	**3.85**	**290**	*e*Pn	Pn	12 23 46.8	+1.4
KIV				*e*Sn	Sn	12 24 31.2	+0.4
KIV	**Kislovodsk**	**3.85**	**290**	*e*PN	Pn	12 23 46.8	+1.5
KIV				*e*S	Sn	12 24 31.2	+0.3
OBN	**Obninsk**	**14.35**	**333**	*e*P	P	12 26 13.1	-3.1
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						

HVO 27 12:36:56.6±0.5, 19.401°N±0.005°×155.281°W±0.005, h-1km±2km, ML2.8/7, ML1.6/15(NEIC), Error ellipse: s-maj=3.1km s-min=0.9km az=161.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.02**	**61**	Pg	Pg	12 36 57.4	+0.3
UWE	**Uwekahuna**	**0.02**	**330**	IAML		12 36 57.1	
	comp=E,2μm,0.8s						
UWE				Pg	Pg	12 36 57.3	+0.2
HATHI	**Halema'uma'u T**	**0.03**	**41**		Pg	12 36 57.4	+0.2
HATHI				IAML		12 36 57.5	
	comp=E,1μm,0.6s						
RSD	**Rainshed**	**0.06**	**3**	Pg	Pg	12 36 57.8	0.0
RSD				IAML		12 36 58.9	
	comp=E,542nm,1.7s						
RSD				IAML		12 36 59.1	
	comp=N,469nm,1.5s						
PUH	**Pauahi**	**0.07**	**114**	Pg	Pg	12 36 58.3	+0.4
PUH				IAML		12 36 58.9	
	comp=N,652nm,1.3s						
KNHH	**Kane Nui o Ham**	**0.11**	**101**	Pg	Pg	12 36 59.0	+0.3
MLH	**Mauna Loa**	**0.14**	**313**	Pg	Pg	12 37 00.4	+1.2
MLH				IAML		12 37 00.5	
	comp=E,181nm,1.5s						
STCH	**Steam Cracks**	**0.15**	**96**	Pg	Pg	12 37 00.7	+1.3
STCH				IAML		12 37 02.3	
	comp=E,259nm,1.1s						
STCH				IAML		12 37 02.5	
	comp=N,186nm,1.8s						

*DNK **27** 12:46:08.1±2.0, 59.48°N×23.10°E, h0km, ML2.7, ML2.9(UPP), Suspected explosion*
*HEL **27** 12:46:09.8±0.0, 59.51°N×22.93°E, h0km, ML2.4, Explosion*
*EST **27** 12:46:09.8, 59.52°N×22.94°E, h0km, ML2.4(HEL), Explosion*
*BER **27** 12:46:11.1±2.8, 59.49°N×22.99°E, h0km, ML2.4(HEL), Suspected explosion*
*LVSN **27** 12:46:11.5±3.3, 59.53°N×22.98°E, h0km±47km, ML2.8*
*IDC **27** 12:46:11.7±1.1, 59.70°N×23.02°E, h0km, mbtmp3.3/4, ML3.1/4, Error ellipse: s-maj=12.8km s-min=8.1km az=155.0*
*UPP **27** 12:46:12.5±1.5, 59.52°N×22.49°E, h0km, ML2.9*

ISC 27 12:46:07.8±0.6, 59.51°N±0.02°×22.92°E±0.02, h0km, n99, σ1§38/137, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.47**	**129**	*e*P	**Pb**	**12 46 17.8**	**-1.1**
EE01				*e*S	**Sg**	**12 46 23.9**	**+1.0**
MTSE	**Matsula**	**0.92**	**149**	*e*P	**Pb**	**12 46 26.4**	**-0.2**
MTSE		

EE08				eS		Sn	12 46 55.4	-0.1
ARBE	**Arbavere**	**1.57**	**91**	eP		Pb	12 46 37.5	-0.2
ARBE				eS		Sg	12 46 58.0	-0.1
ARBE	**Arbavere**	**1.57**	**91**	eP		Pn	12 46 35.3	-1.6
ARBE	**Arbavere**	**1.57**	**91**	eP		Pg	12 46 37.9	0.0
ARBE				eS		Sg	12 46 58.2	+0.1
ARBE				AML	AML		12 46 59.6	
	comp=N,1μm,0.2s							
ARBE				AML	AML		12 47 00.3	
	comp=E,796nm,0.2s							
ARBE				AML	AML		12 47 02.0	
	comp=Z,225nm,0.2s							
ARBE	**Arbavere**	**1.57**	**91**	eP		Pb	12 46 37.5	-0.2
ARBE				eS		Sg	12 46 58.0	-0.1
AAL	**Aland**	**1.62**	**296**	eP		Pn	12 46 38.3	+0.7
AAL				eS		Sn	12 46 59.3	+0.1
AAL	**Aland**	**1.62**	**296**	eP		Pb	12 46 38.7	+0.1
AAL	**Aland**	**1.62**	**296**	eP		Pn	12 46 38.3	+0.7
AAL				eS		Sn	12 46 59.3	+0.1
AAL	**Aland**	**1.62**	**296**	P		Pn	12 46 38.3	+0.7
AAL				S		Sn	12 46 59.6	+0.4
AAL	**Aland**	**1.62**	**296**	P		Pn	12 46 38.3	+0.7
AAL				S		Sn	12 46 59.6	+0.4
RAF	**Rauma**	**1.63**	**340**	eP		Pb	12 46 38.6	0.0
RAF				eS		Sb	12 47 00.0	+0.3
RAF				MSG			12 47 04.0	
	comp=Z,33nm,0.2s							
RAF	**Rauma**	**1.63**	**340**	eP		Pb	12 46 38.9	+0.2
RAF	**Rauma**	**1.63**	**340**	eP		Pb	12 46 38.8	+0.2
RAF				eS		Sg	12 47 00.3	+0.3
RAF				AML	AML		12 47 04.4	
	comp=Z,49nm,0.5s							
RAF				AML	AML		12 47 04.4	
	comp=E,94nm,0.3s							
RAF				AML	AML		12 47 06.0	
	comp=N,40nm,0.2s							
RAF	**Rauma**	**1.63**	**340**	eP		Pb	12 46 38.6	0.0
RAF				eS		Sb	12 47 00.0	+0.3
RAF				MSG			12 47 04.0	
	comp=Z,33nm,0.2s							
PVF	**Pernaja**	**1.81**	**54**	ePN		Pg	12 46 42.0	-0.5
PVF				eSN		Sg	12 47 06.2	+0.3
PVF				MSG			12 47 08.7	
	comp=Z,39nm,0.2s							
PVF	**Pernaja**	**1.81**	**54**	ePN		Pg	12 46 42.0	-0.5
PVF				eSN		Sg	12 47 06.2	+0.3
PVF				MSG			12 47 08.7	
	comp=Z,39nm,0.2s							
EE03	**Tooma soojaam,**	**1.84**	**109**	eP		Pb	12 46 42.3	0.0
EE03				eSN		Sg	12 47 06.9	0.0
SLIT	**Slitere, Latvi**	**1.91**	**190**	ePN		Pb	12 46 43.4	-0.1
SLIT				eSG		Sb	12 47 08.6	+0.7
SLIT	**Slitere, Latvi**	**1.91**	**190**	eP		Pn	12 46 35.6	-6.0
SLIT	**Slitere, Latvi**	**1.91**	**190**	eP		Pb	12 46 43.1	-0.4
SLIT				AML	AML		12 46 44.5	
	comp=Z,246nm,0.1s							
SLIT				eS		Sg	12 47 09.6	+0.5
SLIT				AML	AML		12 47 10.9	
	comp=E,320nm,0.3s							
SLIT				AML	AML		12 47 11.5	
	comp=N,283nm,0.3s							
SLIT	**Slitere, Latvi**	**1.91**	**190**	ePG		Pb	12 46 43.4	-0.1
SLIT				eSG		Sb	12 47 08.6	+0.7
NRTU	**Norrtaelje**	**2.19**	**276**	ePB		Pb	12 46 48.1	-0.1
NRTU				eSB		Sb	12 47 16.3	+0.5
NRTU	**Norrtaelje**	**2.19**	**276**	ePB		Pb	12 46 48.1	-0.1
NRTU				eSB		Sb	12 47 16.3	+0.5
NRTU	**Norrtaelje**	**2.19**	**276**	P		Pn	12 46 47.0	+1.7
NRTU	**Norrtaelje**	**2.19**	**276**	P		Pn	12 46 47.0	+1.7
VSU	**Vasula**	**2.24**	**116**	ePB		Pb	12 46 48.5	-0.5
VSU				eSB		Sb	12 47 17.5	+0.2
VSU	**Vasula**	**2.24**	**116**	eP		Pb	12 46 48.7	-0.4
VSU				AML	AML		12 47 20.1	
	comp=E,128nm,0.3s							
VSU				AML	AML		12 47 21.0	
	comp=Z,2μm,0.2s							
VSU				AML	AML		12 47 21.6	
	comp=N,137nm,0.2s							
VSU	**Vasula**	**2.24**	**116**	ePB		Pb	12 46 48.5	-0.5
VSU				eSB		Sb	12 47 17.5	+0.2
GRAU	**Graesoe**	**2.35**	**293**	P		Pn	12 46 49.5	+1.8
GRAU	**Graesoe**	**2.35**	**293**	P		Pn	12 46 49.5	+1.8
KPF	**Kankaanpaa**	**2.37**	**350**	eSB		Sb	12 47 21.3	+0.1
KPF				MSG			12 47 23.7	
	comp=Z,29nm,0.2s							
KPF	**Kankaanpaa**	**2.37**	**350**	eSB		Sb	12 47 21.3	+0.1
KPF				MSG			12 47 23.7	
	comp=Z,29nm,0.2s							
FINES	**FINESS Array B**	**2.50**	**37**	Pn		Pb	12 46 52.1	-1.4
	comp=Z,5.8nm,0.3s,baz=223,slow=13,SNR=121							
FINES				Lg	Lg		12 47 23.8	
	comp=Z,12nm,0.3s,baz=226,slow=27,SNR=8.4							
	comp=Z,8.8nm,0.3s							
FORU	**Forsmark**	**2.54**	**292**	P		Pb	12 46 53.1	-1.1
FORU	**Forsmark**	**2.54**	**292**	P		Pb	12 46 53.1	-1.1
FLYU	**Flymyra**	**2.62**	**286**	P		Pn	12 46 53.2	+1.9
FLYU	**Flymyra**	**2.62**	**286**	P		Pn	12 46 53.2	+1.9
UPP	**Uppsala**	**2.71**	**280**	eP		Pn	12 46 52.8	+0.2
UPP	**Uppsala**	**2.71**	**280**	P		Pb	12 46 55.5	-1.6
UPP	**Uppsala**	**2.71**	**280**	P		Pb	12 46 55.5	-1.6
KEF	**Keuruu**	**2.84**	**19**	eP		Pn	12 46 56.3	+2.0
FIBU	**Brunna**	**2.85**	**280**	P		Pn	12 46 56.5	+2.1
FIBU	**Brunna**	**2.85**	**280**	P		Pn	12 46 56.5	+2.1
GOTU	**Gotland**	**2.92**	**233**	eP		Pn	12 46 57.5	+2.1
GOTU				eS		Sn	12 47 33.2	+2.1
GOTU	**Gotland**	**2.92**	**233**	eP		Pn	12 46 57.5	+2.1
GOTU				eS		Sn	12 47 33.2	+2.1
GOTU	**Gotland**	**2.92**	**233**	P		Pn	12 46 57.4	+2.0
GOTU	**Gotland**	**2.92**	**233**	P		Pn	12 46 57.4	+2.0
BACU	**Backbrunna**	**2.97**	**279**	P		Pn	12 46 58.2	+2.1
BACU	**Backbrunna**	**2.97**	**279**	P		Pn	12 46 58.2	+2.1
OSTU	**Oestervaala**	**3.00**	**286**	P		Pn	12 46 58.5	+1.9
OSTU	**Oestervaala**	**3.00**	**286**	P		Pn	12 46 58.5	+1.9
IGGU	**Iggoen**	**3.11**	**299**	P		Pn	12 46 59.9	+1.7
IGGU	**Iggoen**	**3.11**	**299**	P		Pn	12 46 59.9	+1.7
VIKU	**Vikbolandet**	**3.37**	**255**	eP		Pn	12 46 59.9	-1.8
PBUR	**Paburge**	**3.53**	**189**	eP		Pn	12 46 58.0	-5.9
PBUR	**Paburge**	**3.53**	**189**	eP		Pn	12 47 06.7	+2.8
PBUR				AML	AML		12 48 05.9	
	comp=N,71nm,0.3s							
PBUR				AML	AML		12 48 08.2	
	comp=Z,34nm,0.2s							
PBUR				AML	AML		12 48 08.8	
	comp=E,46nm,0.4s							
VAF	**Ylistaro**	**3.55**	**358**	eP		Pn	12 47 07.0	+2.9
HEMU	**Hemsoen**	**3.96**	**325**	eP		Pn	12 47 12.0	+2.2
HEMU	**Hemsoen**	**3.96**	**325**	eP		Pn	12 47 12.0	+2.2
PABE	**Paberze**	**4.05**	**172**	eP		Pn	12 47 15.0	+4.0
PABE				AML	AML		12 48 21.3	
	comp=Z,20nm,0.3s							
PABE				AML	AML		12 48 23.3	
	comp=E,46nm,0.5s							
PABE				AML	AML		12 48 23.5	
	comp=N,38nm,0.2s							
IDID	**Didziasalis**	**4.68**	**152**	eP		Pn	12 47 13.8	-5.9
BLEU	**Blekinge**	**4.96**	**233**	*i* P		Pn	12 47 24.7	+1.1
BLEU				*i* S		Sn	12 48 21.2	-0.4
JOF	**Joensuu**	**5.31**	**46**	eP		Pn	12 47 28.9	+0.6
BORU	**Boraas**	**5.63**	**255**	*i* P		Pn	12 47 33.6	+0.9
BORU				*i* S		Sn	12 48 38.8	+0.8
DEL	**Delary**	**5.69**	**242**	eP		Pn	12 47 30.1	-3.4
DEL	**Delary**	**5.69**	**242**	*i* P		Pn	12 47 35.0	+1.5
DEL				*i* S		Sn	12 48 38.8	-0.7
NOA	**NORSAR Array B**	**6.02**	**290**	Pn		Pn	12 47 38.3	+0.2
	comp=N,0.2nm,0.3s,baz=98,slow=12,SNR=28							
NOA				Sn		Sn	12 48 48.2	+0.6
	comp=N,0.1nm,0.3s,baz=113,slow=19,SNR=7.4							
NOA				Lg	Lg		12 49 20.6	
	comp=N,0.2nm,0.3s,baz=100,slow=18,SNR=4.1							
	comp=N,0.6nm,0.3s							
ONAU	**Onsala**	**6.15**	**255**	*i* P		Pn	12 47 42.3	+2.5
ONAU				*i* S		Sn	12 48 49.0	-1.7
BSD	**Bornholm Skovb**	**6.18**	**228**	*i* P		Pn	12 47 39.1	-1.1
BSD				*i* S		Sn	12 48 48.0	-3.4
BSD				IAML			12 48 52.3	
	comp=Z,3.7nm,0.3s							
BJUU	**Bjuv**	**6.31**	**241**	*i* P		Pn	12 47 42.5	+0.5
BJUU				*i* S		Sn	12 48 51.7	-3.0
HOMB	**Homborsund**	**7.57**	**267**	*i* P		Pn	12 47 57.0	-2.3
HOMB				*i* P		Sn	12 49 19.0	-6.6
SALU	**Saltoluokta**	**8.14**	**348**	eP		Pn	12 48 07.9	+0.7
KONS	**Konsvik**	**8.30**	**332**	eP		Pn	12 48 10.7	+1.4
HEF	**Hetta**	**8.94**	**2**	eP		Pn	12 48 18.3	+0.2
STEI	**Steigen**	**9.11**	**341**	eP		Pn	12 48 21.2	+0.9
AKASG	**Malin Array Be**	**9.53**	**155**	Pn		Pn	12 48 27.0	+0.8
	comp=Z,1.1nm,0.3s,baz=343,slow=13,SNR=3.5							
	comp=Z,0.3nm,0.3s							
CHVC	**Chvalec**	**9.76**	**207**	eP		Pn	12 48 29.9	+0.5
DPC	**Dobruska-Polom**	**9.92**	**205**	eP		Pn	12 48 32.4	+0.8
KRLC	**Kraliky**	**10.09**	**203**	eP		Pn	12 48 33.8	-0.1
ARA0	**ARCESS Array S**	**10.13**	**5**	eP		Pn	12 48 34.5	+0.2
ARCES	**ARCESS Array B**	**10.13**	**5**	Pn		Pn	12 48 33.8	-0.5
	comp=Z,0.5nm,0.3s,baz=184,slow=13,SNR=34							
	comp=Z,1.1nm,0.3s							
HSKC	**Hora Svate Kat**	**10.43**	**215**	eP		Pn	12 48 37.8	-0.8
KEV	**Kevo**	**10.44**	**8**	eP		Pn	12 48 38.3	-0.2
MAUC	**Maruska**	**10.58**	**198**	eP		Pn	12 48 40.8	+0.2
NKC	**Novy Kostel**	**11.06**	**217**	eP		Pn	12 48 46.1	-1.1

ROM 27 12:47:18.1±0.1, 42°47.0'N±0.0'0.03×13°30.1'E±0.0'0.04, h13km, ML1.8/46, 6C-5D, Error ellipse: s-maj=0.3km s-min=0.1km az=41.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.03**	**184**	⇓	P	Pg		12 47 20.8	+0.2
T1247					S	Sg		12 47 22.6	+0.3
RM33	**Pellescritta (**	**0.07**	**301**	⇓	P	Pg		12 47 21.2	+0.2
RM33					S	Sg		12 47 23.1	+0.1
RM33					AML	AML			
	comp=N,1660μm,0.1s								
RM33					AML	AML			
	comp=E,1135μm,1.1s								
RM33					AML	AML			
	comp=N,1655μm,0.1s								
RM33					AML	AML			
	comp=E,1135μm,1.1s								
RM33					AML	AML			
	comp=N,1650μm,0.1s								
CAMP	**Campotosto**	**0.10**	**51**	⇑	P	Pg		12 47 21.7	+0.3
CAMP					S	Sg		12 47 24.0	+0.4
CAMP					AML	AML			
	comp=E,356μm,0.8s								
CAMP					AML	AML			
	comp=N,330μm,0.4s								
SMA1	**SAN MARTINO**	**0.16**	**9**	⇑	P	Pb		12 47 22.7	-0.4
SMA1					S	Sb		12 47 26.0	-0.4
SMA1					AML	AML			
	comp=E,2005μm,0.3s								
SMA1					AML	AML			
	comp=N,1292μm,0.2s								
GIGS	**Gran Sasso**	**0.20**	**96**		P	Pg		12 47 22.9	+0.2
GIGS					S	Sb		12 47 26.6	-0.8
GIGS					AML	AML			
	comp=E,66μm,1.2s								
GIGS					AML	AML			
	comp=N,73μm,1.0s								
GIGS					AML	AML			
	comp=N,73μm,1.0s								
GIGS					AML	AML			
	comp=E,66μm,0.8s								
LNSS	**Leonessa**	**0.23**	**305**		P	Pg		12 47 23.6	+0.3
LNSS					S	Sb		12 47 27.6	-0.8
LNSS					AML	AML			
	comp=N,646μm,0.1s								
LNSS					AML	AML			
	comp=E,732μm,1.1s								
FIAM	**Fiamignano**	**0.24**	**214**	⇓	P	Pg		12 47 23.7	+0.3
FIAM					S	Sg		12 47 27.7	+0.7
FIAM					AML	AML			
	comp=E,144μm,0.5s								
FIAM					AML	AML			
	comp=N,171μm,0.4s								
TERO	**Teramo**	**0.27**	**56**		P	Pg		12 47 24.0	+0.2
TERO					S	Sg		12 47 28.4	+0.7
TERO					AML	AML			
	comp=N,224μm,1.0s								
TERO					AML	AML			
	comp=E,215μm,0.3s								
FAGN	**Fagnano**	**0.29**	**134**	⇓	P	Pg		12 47 24.6	+0.4
FAGN					AML	AML			
	comp=E,359μm,0.4s								
FAGN					AML	AML			
	comp=N,365μm,0.3s								
FAGN					AML	AML			
	comp=N,365μm,1.7s								
MTRA	**Matera**	**0.29**	**14**	⇑	P	Pg		12 47 24.4	+0.2
MTRA					S	Sg		12 47 29.2	+0.7
MTRA					AML	AML			
	comp=E,648μm,0.4s								
MTRA					AML	AML			
	comp=N,592μm,0.1s								
MTRA					AML	AML			
	comp=E,648μm,0.4s								
MTRA					AML	AML			
	comp=E,683μm,0.4s								
MTRA					AML	AML			
	comp=N,592μm,0.1s								
MTRA					AML	AML			
	comp=N,596μm,0.1s								
GAVE	**Gavelli**	**0.37**	**307**	⇓	P	Pg		12 47 26.0	+0.3
GAVE					S	Sg		12 47 31.5	+0.7
GAVE					AML	AML			
	comp=E,190μm,1.1s								
GAVE					AML	AML			
	comp=N,154μm,1.2s								
GAVE					AML	AML			
	comp=E,190μm,0.9s								
GAVE					AML	AML			
	comp=N,154μm,0.8s								
NRCA	**Norcia**	**0.39**	**339**	⇑	P	Pg		12 47 26.1	+0.1
NRCA					S	Sb		12 47 32.1	-0.7
NRCA					AML	AML			
	comp=N,221μm,0.4s								
NRCA					AML	AML			
	comp=E,408μm,0.1s								
NRCA					AML	AML			
	comp=N,221μm,1.6s								
VCEL	**Villa Celiera**	**0.41**	**101**	⇑	P	Pg		12 47 26.6	+0.4
VCEL					AML	AML			
	comp=E,204μm,0.7s								
VCEL					AML	AML			
	comp=N,232μm,0.5s								
VCEL					AML	AML			
	comp=E,204μm,1.3s								
T0110	**Collepietro**	**0.43**	**124**	⇑	P	Pg		12 47 26.9	+0.2
T0110					AML	AML			
	comp=E,176μm,0.3s								
T0110					AML	AML			
	comp=N,148μm,0.3s								

ROM 27 12:47:39.1±0.1, 42°47.3'N±0.0'0.04×13°29.4'E±0.0'0.06, h13km, ML2.0/38, 5C-4D, Error ellipse: s-maj=0.5km s-min=0.1km az=235.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
T1247	**Pizzolo (AQ)**	**0.03**	**174**	⇓	P	Pg		12 47 41.7	+0.1
T1247					S	Sg		12 47 43.5	+0.2
RM33	**Pellescritta (**	**0.07**	**301**	⇓	P	Pg		12 47 42.0	+0.1
RM33					S	Sg		12 47 44.0	+0.2
RM33					AML	AML			
	comp=E,1995μm,0.4s								
RM33					AML	AML			
	comp=E,2075μm,0.4s								
RM33					AML	AML			
	comp=N,3640μm,0.2s								
RM33					AML	AML			
	comp=N,3545μm,0.2s								
CAMP	**Campotosto**	**0.11**	**54**	⇑	P	Pg		12 47 42.5	+0.2
CAMP					S	Sg		12 47 44.8	+0.2
CAMP					AML	AML			
	comp=E,864μm,0.9s								
CAMP					AML	AML			
	comp=N,783μm,0.4s								
SMA1	**SAN MARTINO**	**0.16**	**11**	⇑	P	Pg		12 47 43.5	+0.5
SMA1					S	Sb		12 47 46.7	-0.6
SMA1					AML	AML			
	comp=E,4530μm,0.3s								
SMA1					AML	AML			
	comp=N,2995μm,0.3s								
GIGS	**Gran Sasso**	**0.20**	**96**	⇑	P	Pg		12 47 43.8	+0.1
GIGS					S	Sg		12 47 47.4	+0.6
GIGS					AML	AML			
	comp=E,166μm,0.9s								
GIGS					AML	AML			
	comp=N,210μm,0.9s								

LNSS	**Leonessa**	**0.23**	**305**	P		Pg	12 47 44.5	+0.4
LNSS				S		Sg	12 47 48.0	+0.5
LNSS				AML	AML			
	comp=E,1575μm,0.4s							
LNSS				AML	AML			
	comp=E,1575μm,1.6s							
LNSS				AML	AML			
	comp=N,918μm,0.3s							
FIAM	**Fiamignano**	**0.24**	**213**	⇓ P		Pg	12 47 44.7	+0.3
FIAM				S		Sg	12 47 48.5	+0.7
FIAM				AML	AML			
	comp=E,424μm,0.6s							
FIAM				AML	AML			
	comp=N,462μm,0.3s							
TERO	**Teramo**	**0.27**	**57**	⇑ P		Pg	12 47 44.9	+0.1
TERO				S		Sg	12 47 49.4	+0.6
TERO				AML	AML			
	comp=E,422μm,0.3s							
TERO				AML	AML			
	comp=N,451μm,1.0s							
MTRA	**Matera**	**0.29**	**15**	P		Pg	12 47 45.4	+0.1
MTRA				S		Sg	12 47 50.1	+0.7
FAGN	**Fagnano**	**0.30**	**134**	⇓ P		Pg	12 47 45.6	+0.3
FAGN				S		Sb	12 47 51.4	+0.2
FAGN				AML	AML			
	comp=E,934μm,0.7s							
FAGN				AML	AML			
	comp=N,929μm,0.3s							
FAGN				AML	AML			
	comp=N,929μm,1.7s							
FAGN				AML	AML			
	comp=E,934μm,1.3s							
T0110	**Collepietro**	**0.44**	**124**	⇑ P		Pg	12 47 47.8	+0.1
T0110				S		Sb	12 47 54.6	-0.5
T0110				AML	AML			
	comp=E,468μm,0.3s							
T0110				AML	AML			
	comp=N,418μm,0.3s							

IDC 27 13:04:16.6±1.7, 22°.69N×93°.47E, h0km, mb3.5/5, mbtmp3.5/5, MS3.4/3, Error ellipse: s-maj=164.2km s-min=21.1km az=56.0, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**25.69**	**342**	P		P	P	13 09 48.5	+0.1
	1.0nm,0.6s,baz=143,slow=9.5,SNR=10								
	1.0nm,0.6s								
KSRS	**Korea Array**	**33.04**	**56**	LR		LR	LR	13 24 53.6	
	comp=Z,14nm,18.5s,baz=220,slow=38								
BATI	**Baumata**	**44.09**	**135**	LR		LR	LR	13 32 20.0	
	comp=Z,139nm,18.6s,baz=174,slow=38								
BELG	**Belogornoye**	**45.79**	**322**	LR		LR	LR	13 34 22.9	
	comp=Z,40nm,19.1s,baz=76,slow=39								
WRA	**Warramunga Arr**	**58.20**	**134**	P		P	P	13 14 12.4	-0.4
	0.1nm,0.3s,baz=320,slow=7.5,SNR=8.7								
	0.1nm,0.3s								
ASAR	**Alice Springs**	**60.56**	**137**	P		P	P	13 14 29.6	+0.4
	0.2nm,0.4s,baz=317,slow=6.8,SNR=9.2								
	0.2nm,0.4s								
HFS	**Hagfors**	**65.54**	**327**	P		P	P	13 15 02.1	+0.3
	1.0nm,0.8s,baz=76,slow=6.1,SNR=1.5								
	1.0nm,0.8s								
NOA	**NORSAR Array B**	**66.70**	**328**	P		P	P	13 15 08.7	-0.5
	0.3nm,0.7s,baz=92,slow=5.5,SNR=2.6								
	0.3nm,0.7s								

NEIC ***27*** *13:33:43.8±2.7, 15°.30N±0°.09×94°.77W±0°.04, h10km±1km, mb4.3/9, Md4.4/58(MEX), Error ellipse: s-maj=15.8km s-min=5.5km az=187.0*
MEX ***27*** *13:33:50.0±1.7, 15°.46N×94°.78W, h17km±16km, MD4.4*
ISC 27 13:33:43.7±1.2, 15°.33N±0°.04×94°.79W±0°.02, h15km±8km, n58, σ1°.93/96, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CARR	**Arriaga**	**1.24**	**43**	*i* P		Pn		13 34 07.4	+0.9
CARR				*i* S		Sb		13 34 20.6	-2.1
HUIG	**Huatulco**	**1.34**	**289**			Pg		13 34 10.7	+1.1
HUIG						Sb		13 34 25.2	-0.4
HUIG	**Huatulco**	**1.34**	**289**	eP		Pg		13 34 10.7	+1.1
HUIG				eS		Sb		13 34 25.2	-0.4
PCIG		**1.56**	**76**			Pb		13 34 12.8	+0.6
PCIG						Sn		13 34 30.2	-0.6
PCIG		**1.56**	**76**	eP		Pb		13 34 12.8	+0.6
PCIG				eS		Sn		13 34 30.2	-0.6
CMIG	**Matias Romero**	**1.75**	**357**			Pn		13 34 15.3	+1.8
CMIG						Sn		13 34 34.9	-0.7
CMIG	**Matias Romero**	**1.75**	**357**	eP		Pn		13 34 15.3	+1.8
CMIG				eS		Sn		13 34 34.9	-0.7
TGIG		**2.15**	**48**			Pb		13 34 21.8	-0.6
TGIG						Sn		13 34 46.1	+0.5
TGIG		**2.15**	**48**	eP		Pb		13 34 21.8	-0.6
TGIG				eS		Sn		13 34 46.1	+0.5
TGBT	**Tuxtla Gutierr**	**2.18**	**48**			Pb		13 34 23.0	+0.3
TGBT						Sn		13 34 48.0	+2.0
TGBT	**Tuxtla Gutierr**	**2.18**	**48**	eP		Pb		13 34 23.0	+0.3
TGBT				eS		Sn		13 34 48.0	+2.0
PEIG	**Puerto Escondi**	**2.37**	**287**			Pb		13 34 25.1	-1.0
PEIG						Sn		13 34 49.8	-1.0
PEIG	**Puerto Escondi**	**2.37**	**287**	*i* P		Pb		13 34 25.1	-1.0
PEIG				*i* S		Sn		13 34 49.8	-1.0
THIG		**2.47**	**99**			Pb		13 34 27.3	-0.6
THIG						Sn		13 34 54.1	+0.8
THIG		**2.47**	**99**	eP		Pb		13 34 27.3	-0.6
THIG				eS		Sn		13 34 54.1	+0.8
PATR	**El Naranjo**	**2.48**	**95**	eP		Pn		13 34 26.2	+2.5
PATR				eS		Sn		13 34 53.4	-0.3
OXLC	**Oaxaca**	**2.52**	**313**	eP		Pb		13 34 28.9	+0.2
OXLC				eS		Sn		13 34 55.9	+1.0
PAVE	**Pavencul**	**2.52**	**93**	eP		Pb		13 34 27.3	-1.5
PAVE				eS		Sn		13 34 55.8	+0.8
OXBJ	**Oaxaca**	**2.54**	**313**			Pb		13 34 31.0	+2.0
OXBJ						Sn		13 34 57.7	+2.5
OXBJ	**Oaxaca**	**2.54**	**313**	eP		Pb		13 34 31.0	+2.0
OXBJ				eS		Sn		13 34 57.7	+2.5
OXIG	**Oaxaca**	**2.55**	**313**			Pb		13 34 29.3	+0.1
OXIG						Sn		13 34 57.0	+1.4
VHO	**Vista Hermosa**	**2.55**	**313**	*i* P		Pb		13 34 29.3	+0.1
VHO				eS		Sn		13 34 57.0	+1.4
NEUV	**Arroyo Zacate**	**2.56**	**338**	eP		Pn		13 34 26.8	+2.2
NEUV				eS		Sn		13 34 54.8	-0.7
CHUJ	**Union Juarez**	**2.60**	**95**	eP		Pb		13 34 28.1	-2.0
CHUJ				eS		Sn		13 34 57.2	+0.4
CCIG	**Comitan**	**2.72**	**69**			Pb		13 34 30.4	-1.8
CCIG	**Comitan**	**2.72**	**69**	*i* P		Pb		13 34 31.6	-0.6
CCIG			

JAUV eS Sn 13 35 36.3 -6.0
PETF Flores 4.99 71 Pn 13 34 58.6 +0.6
SCIG Sabancuy 4.99 43 eP **Pn** 13 34 59.9 +1.8
SCIG eS **Sn** 13 35 50.9 -4.7
ESQI Esquipulas 5.32 98 Pn **Pn** 13 35 04.8 +2.1
TEIG Tepich 7.88 51 Pn 13 35 39.0 +1.2
BRDY Brady 16.34 347 P **P** 13 37 36.5 +1.0
237A Washetta, Mont 16.62 357 Pn **Pn** 13 37 37.5 +1.4
237A IAmb IAmb 13 38 02.8
comp=Z,12nm,0.4s
FW06 Azle 17.74 352 P **Pn** 13 37 51.6 +1.4
FW06 IAmb IAmb 13 38 27.4
comp=Z,8.3nm,0.7s
X37A Clayton 19.18 359 P **P** 13 38 06.5 -0.4
X37A IAmb IAmb 13 38 34.8
comp=Z,15nm,1.5s
MVU Marysvale 27.72 330 P **P** 13 39 30.5 -1.4
WCT Wildcat Mounta 28.88 322 P **P** 13 39 40.1 -1.9
H43A Windswept, Lux 29.65 10 P **P** 13 39 47.4 -1.2
H43A IAmb IAmb 13 40 05.0
comp=Z,6.8nm,0.8s
BBSR BB Station 32.17 53 P **P** 13 40 10.5 -0.5
PVAQ Vaqueiros 78.57 54 P **P** 13 45 43.7 -1.2
PVAQ IAmb IAmb 13 46 12.9
comp=Z,6.2nm,1.0s

*KRSC **27** 13:43:17.0±1.9,54˚.87N×165˚.71E,h48^{km}±16^{km},Ml4.6, Felt [III-IV] at Nikolskoe.*
*NEIC **27** 13:43:18.3±2.0,54˚.9N±0˚.1×165˚.6E±0˚.1,h10^{km}±1^{km}, mb4.4/124,Error ellipse: s-maj=19.4km s-min=12.1km az=168.0*
*MOS **27** 13:43:20.8±0.9,54˚.91N×165˚.63E,h42^{km},mb4.5/18,Error ellipse: s-maj=6.5km s-min=5.1km az=135.3*
*IDC **27** 13:43:23.3±0.6,54˚.99N×165˚.63E,h50^{km}±6^{km},mb3.7/21, mbtmp4.0/24,MS3.2/7,Error ellipse: s-maj=16.8km s-min=9.5km az=162.0*
ISC 27 13:43:19.8±0.4,54˚92N±0˚.04×165˚74E±0˚.04,h20^{km},n572, σ1^{s}01/603,mb4.3/90,MS3.3/4,6C-6D,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
BKI	**Bering**	**0.32**	**25**	*eP*		**Pb**	**13 43 26.6**	**-0.2**
BKI				*eS*		**Sb**	**13 43 31.4**	**-0.1**
BKI	**Bering**	**0.32**	**25**	PN		**Pb**	**13 43 26.6**	**-0.2**
KBTR	**Krutoberegovo**	**2.10**	**309**	*eP*		**Pn**	**13 43 51.2**	**-2.6**
KBTR				*eS*		**Sn**	**13 44 16.3**	**-3.1**
KBTR	**Krutoberegovo**	**2.10**	**309**	PN		**Pn**	**13 43 51.2**	**-2.6**
KBTR				S		**Sn**	**13 44 16.3**	**-3.1**
ZLN	**Zelenaya**	**3.02**	**293**	*eP*		**Pn**	**13 44 07.0**	**+0.5**
ZLN	**Zelenaya**	**3.02**	**293**	PN		**Pn**	**13 44 07.0**	**+0.5**
BZGR	**Bezymyannyi-Gr**	**3.05**	**292**	*eP*		**Pn**	**13 44 07.4**	**+0.4**
BZGR				*eS*		**Sn**	**13 44 41.8**	**-1.2**
BZGR	**Bezymyannyi-Gr**	**3.05**	**292**	PN		**Pn**	**13 44 07.4**	**+0.4**
BZGR				S		**Sn**	**13 44 41.8**	**-1.2**
TUMD	**Tumrok D**	**3.09**	**278**	*eP*		**Pn**	**13 44 07.0**	**-0.3**
TUMD				*eS*		**Sn**	**13 44 43.8**	**+0.2**
BZP	**Bezymyannyi-Pe**	**3.13**	**291**	*eP*		**Pn**	**13 44 08.3**	**+0.3**
BZMR	**Bezymyannaya**	**3.16**	**291**	*eP*		**Pn**	**13 44 08.9**	**+0.4**
BZMR	**Bezymyannaya**	**3.16**	**291**	PN		**Pn**	**13 44 08.9**	**+0.4**
BZWR	**Bezymyannyi-We**	**3.17**	**291**	*eP*		**Pn**	**13 44 09.2**	**+0.6**
BZWR	**Bezymyannyi-We**	**3.17**	**291**	PN		**Pn**	**13 44 09.2**	**+0.6**
KLY	**Klyuchi**	**3.21**	**298**	*eP*		**Pn**	**13 44 07.3**	**-1.7**
KLY				*eS*		**Sn**	**13 44 43.2**	**-3.3**
KLY	**Klyuchi**	**3.21**	**298**	PN		**Pn**	**13 44 07.3**	**-1.7**
KLY				S		**Sn**	**13 44 43.2**	**-3.3**
KRSR	**Krestovskiy**	**3.21**	**296**	*eP*		**Pn**	**13 44 08.9**	**-0.3**
KRSR	**Krestovskiy**	**3.21**	**296**	PN		**Pn**	**13 44 08.9**	**-0.3**
TUMR	**Tumrok**	**3.24**	**279**	*eP*		**Pn**	**13 44 09.8**	**+0.3**
TUMR				*eS*		**Sn**	**13 44 48.3**	**+0.8**
TUMR	**Tumrok**	**3.24**	**279**	PN		**Pn**	**13 44 09.8**	**+0.3**
TUMR				S		**Sn**	**13 44 48.3**	**+0.8**
KIRR	**Kirishev**	**3.25**	**291**	*eP*		**Pn**	**13 44 10.0**	**+0.3**
KIRR				*eS*		**Sn**	**13 44 48.3**	**+0.5**
KIRR	**Kirishev**	**3.25**	**291**	PN		**Pn**	**13 44 10.0**	**+0.3**
KIRR				S		**Sn**	**13 44 48.3**	**+0.5**
KMNR	**Kamenistaya**	**3.25**	**287**	*eP*		**Pn**	**13 44 10.2**	**+0.5**
KMNR				*eS*		**Sn**	**13 44 47.4**	**-0.5**
KMNR	**Kamenistaya**	**3.25**	**287**	PN		**Pn**	**13 44 10.2**	**+0.5**
KMNR				S		**Sn**	**13 44 47.4**	**-0.5**
KPT	**Kopyto**	**3.31**	**291**	*eP*		**Pn**	**13 44 11.2**	**+0.6**
KPT				*eS*		**Sn**	**13 44 49.6**	**+0.2**
KPT	**Kopyto**	**3.31**	**291**	PN		**Pn**	**13 44 11.2**	**+0.6**
KPT				S		**Sn**	**13 44 49.6**	**+0.2**
KOZ	**Kozyrevsk**	**3.53**	**291**	*eP*		**Pn**	**13 44 14.5**	**+1.0**
KOZ	**Kozyrevsk**	**3.53**	**291**	PN		**Pn**	**13 44 14.5**	**+1.0**
SRDR	**Sredinnyy**	**3.69**	**295**	*eP*		**Pn**	**13 44 16.3**	**+0.6**
SRDR	**Sredinnyy**	**3.69**	**295**	PN		**Pn**	**13 44 16.3**	**+0.6**
KII	**Karymskiy**	**3.78**	**259**	*eP*		**Pn**	**13 44 16.9**	**0.0**
KII	**Karymskiy**	**3.78**	**259**	PN		**Pn**	**13 44 16.9**	**0.0**
SPN	**Mys Shipunski**	**3.83**	**244**	*eP*		**Pn**	**13 44 16.6**	**-1.0**
SPN				*eS*		**Sn**	**13 44 58.0**	**-4.1**
SPN	**Mys Shipunski**	**3.83**	**244**	PN		**Pn**	**13 44 16.6**	**-1.0**
NLC	**Nalytchevo**	**4.16**	**248**	*eP*		**Pn**	**13 44 21.5**	**-0.5**
NLC				*eS*		**Sn**	**13 45 06.8**	**-3.1**
NLC	**Nalytchevo**	**4.16**	**248**	PN		**Pn**	**13 44 21.5**	**-0.5**
SMAR	**Somma**	**4.41**	**251**	*eP*		**Pn**	**13 44 25.7**	**0.0**
SMAR				*eS*		**Sn**	**13 45 15.4**	**-1.1**
SMAR	**Somma**	**4.41**	**251**	PN		**Pn**	**13 44 25.7**	**0.0**
SMAR				S		**Sn**	**13 45 15.4**	**-1.1**
UGLR	**Uglovaya**	**4.42**	**250**	*eP*		**Pn**	**13 44 25.8**	**+0.1**
UGLR				*eS*		**Sn**	**13 45 14.8**	**-1.9**
UGLR	**Uglovaya**	**4.42**	**250**	PN		**Pn**	**13 44 25.8**	**+0.1**
UGLR				S		**Sn**	**13 45 14.8**	**-1.9**
KRER	**Koryakskii**	**4.42**	**251**	*eP*		**Pn**	**13 44 26.3**	**+0.5**
KRER				*eS*		**Sn**	**13 45 14.9**	**-1.9**
KRER	**Koryakskii**	**4.42**	**251**	PN		**Pn**	**13 44 26.3**	**+0.5**
KRER				S		**Sn**	**13 45 14.9**	**-1.9**
AVH	**Avacha**	**4.44**	**251**	*eP*		**Pn**	**13 44 26.4**	**+0.4**
AVH				*eS*		**Sn**	**13 45 14.8**	**-2.3**
AVH	**Avacha**	**4.44**	**251**	PN		**Pn**	**13 44 26.4**	**+0.4**
KRX	**Arik**	**4.45**	**252**	*eP*		**Pn**	**13 44 26.5**	**+0.2**
KRX				*eS*		**Sn**	**13 45 15.7**	**-1.8**
KRX	**Arik**	**4.45**	**252**	PN		**Pn**	**13 44 26.5**	**+0.2**
KRX				S		**Sn**	**13 45 15.7**	**-1.8**
KOK	**Koryaka**	**4.49**	**252**	*eP*		**Pn**	**13 44 27.0**	**+0.3**
KOK	**Koryaka**	**4.49**	**252**	PN		**Pn**	**13 44 27.0**	**+0.3**
DALK	**Dalny**	**4.54**	**248**	*eP*		**Pn**	**13 44 27.0**	**-0.2**
DALK				*eS*		**Sn**	**13 45 16.1**	**-3.3**
DALK	**Dalny**	**4.54**	**248**	PN		**Pn**	**13 44 27.0**	**-0.2**
OSSR	**Ossora**	**4.58**	**342**	*eP*		**Pn**	**13 44 27.7**	**-0.1**
OSSR				*eS*		**Sn**	**13 45 18.5**	**-1.9**
OSSR	**Ossora**	**4.58**	**342**	PN		**Pn**	**13 44 27.7**	**-0.1**
PET	**Petropavlovsk**	**4.59**	**249**			**Pn**	**13 44 27.6**	**-0.4**
PET	**Petropavlovsk**	**4.59**	**249**	*eP*		**Pn**	**13 44 27.9**	**-0.1**
PET				*eS*		**Sn**	**13 45 17.9**	**-2.9**
PET	**Petropavlovsk**	**4.59**	**249**	*ePN*		**Pn**	**13 44 28.1**	**+0.1**
PET				pmax	pmax			
	comp=Z,136nm,0.5s							
PET				MLR	MLR			
	comp=Z,100nm,12.0s							
INSR	**Institute**	**4.60**	**249**	*eP*		**Pn**	**13 44 28.2**	**+0.1**
INSR				*eS*		**Sn**	**13 45 18.2**	**-2.8**
GNL	**Ganaly**	**4.73**	**258**	*eP*		**Pn**	**13 44 31.2**	**+1.2**
GNL	**Ganaly**	**4.73**	**258**	PN		**Pn**	**13 44 31.2**	**+1.2**
KRMR	**Karymshinskiy**	**4.97**	**248**	*eP*		**Pn**	**13 44 33.3**	**+0.2**
KRMR				*eS*		**Sn**	**13 45 27.8**	**-2.1**
KRMR	**Karymshinskiy**	**4.97**	**248**	PN		**Pn**	**13 44 33.3**	**+0.2**
RUS	**Russkaya**	**4.97**	**243**	*eP*		**Pn**	**13 44 32.6**	**-0.5**
RUS				*eS*		**Sn**	**13 45 26.3**	**-3.6**
RUS	**Russkaya**	**4.97**	**243**	PN		**Pn**	**13 44 32.6**	**-0.5**
PEA0B	**Petropavlovsk-**	**5.08**	**252**	Pn		**Pn**	**13 44 35.1**	**+0.4**
PEA0B	**Petropavlovsk-**	**5.08**	**252**	*c i*PN		**Pn**	**13 44 35.3**	**+0.6**
PETK	**Petropavlovsk-**	**5.08**	**252**	Pn		**Pn**	**13 44 34.2**	**-0.5**
PETK	**Petropavlovsk-**	**5.08**	**252**	P		**Pn**	**13 44 34.7**	**0.0**
	comp=Z,62nm,0.4s,baz=72,slow=16,SNR=126							
PETK				S		**Sn**	**13 45 32.5**	**-0.2**
	comp=Z,24nm,0.5s,baz=64,slow=25,SNR=4.6							
MTVR	**Mutnovka**	**5.11**	**245**	*eP*		**Pn**	**13 44 35.2**	**0.0**
MTVR				*eS*		**Sn**	**13 45 30.4**	**-3.3**
MTVR	**Mutnovka**	**5.11**	**245**	PN		**Pn**	**13 44 35.2**	**0.0**
GRL	**Gorelyy**	**5.13**	**246**	*eP*		**Pn**	**13 44 36.2**	**+0.7**
GRL	**Gorelyy**	**5.13**	**246**	PN		**Pn**	**13 44 36.2**	**+0.7**
ASAK	**Asacha**	**5.31**	**245**	*eP*		**Pn**	**13 44 38.5**	**+0.6**
ASAK				*eS*		**Sn**	**13 45 35.6**	**-2.9**
ASAK	**Asacha**	**5.31**	**245**	PN		**Pn**	**13 44 38.5**	**+0.6**
SHEM	**Shemya Is, Ala**	**5.41**	**110**	P		**Pn**	**13 44 40.9**	**+1.7**
	comp=Z,39nm,0.8s,baz=281,slow=4.0,SNR=6.2							
SHEM				S		**Sn**	**13 45 40.4**	**-0.5**
	comp=Z,28nm,0.8s,baz=295,slow=19,SNR=1.5							
APC	**Apacha**	**5.45**	**252**	*eP*		**Pn**	**13 44 41.1**	**+1.3**
APC				*eS*		**Sn**	**13 45 42.3**	**+0.4**
APC	**Apacha**	**5.45**	**252**	PN		**Pn**	**13 44 41.1**	**+1.3**
APC				S		**Sn**	**13 45 42.3**	**+0.4**
KDTR	**Khodutka, Kamc**	**5.54**	**239**	*eP*		**Pn**	**13 44 40.4**	**-0.7**
KDTR				*eS*		**Sn**	**13 45 38.8**	**-5.4**
KDTR	**Khodutka, Kamc**	**5.54**	**239**	PN		**Pn**	**13 44 40.4**	**-0.7**
PAU	**Pauzhetka**	**6.38**	**241**	*eP*		**Pn**	**13 44 53.9**	**+1.3**
PAU	**Pauzhetka**	**6.38**	**241**	PN		**Pn**	**13 44 53.9**	**+1.3**
SKR	**Severo-Kuril's**	**7.21**	**238**	*eP*		**Pn**	**13 45 03.2**	**-0.8**
SKR	**Severo-Kuril's**	**7.21**	**238**	*ePN*		**Pn**	**13 45 03.7**	**-0.2**
SKR				pmax	pmax			
	comp=Z,188nm,0.4s							
SKR				MLR	MLR			
	comp=Z,200nm,13.0s							
KMSK	**Kamenskaya**	**7.58**	**2**	*eP*		**Pn**	**13 45 10.0**	**+1.1**
KMSK				*eS*		**Sn**	**13 46 33.0**	**-1.0**
KMSK	**Kamenskaya**	**7.58**	**2**	PN		**Pn**	**13 45 10.0**	**+1.1**
MA2	**Magadan**	**9.36**	**306**	LR		LR	13 49 48.9	
	comp=Z,59nm,19.4s,baz=116,slow=42							
ATKA	**Atka Island**	**12.23**	**95**	Pn		**Pn**	**13 46 14.6**	**+2.0**
BILL	**Bilibino**	**13.17**	**1**			**Pn**	**13 46 28.2**	**+2.8**
BILL	**Bilibino**	**13.17**	**1**	*ePN*		**Pn**	**13 46 28.0**	**+2.6**
BILL				pmax	pmax			
	comp=Z,11nm,2.5s							
GAMB	**Gambell**	**14.45**	**43**	P		**Pn**	**13 46 43.3**	**+0.5**
	baz=243							
NIKH	**Nikolski High**	**15.06**	**87**	P		**Pn**	**13 46 51.4**	**+0.3**
	baz=287							
M11K	**Mekoryuk**	**15.90**	**58**	P		**Pn**	**13 47 03.3**	**+1.2**
	baz=262							
YSS	**Yuzh-Sakhalins**	**16.48**	**251**	*eP*		**Pn**	**13 47 10.3**	**+0.8**
YSS				pmax	pmax			
	comp=Z,10.0nm,0.8s							
TNA	**Tin City**	**16.71**	**40**	P		**Pn**	**13 47 12.3**	**-0.1**
	baz=243							
K13K	**Kusilvak Mount**	**16.90**	**53**			**P**	**13 47 16.8**	**+0.2**
K13K	**Kusilvak Mount**	**16.90**	**53**	P		**Pn**	**13 47 14.4**	**-0.3**
	baz=259							
F14K	**Arctic Creek**	**17.27**	**41**	P		**Pn**	**13 47 18.8**	**-0.7**
	baz=246							
ANM	**Nome**	**17.30**	**45**	P		**Pn**	**13 47 19.5**	**-0.3**
	baz=250							
M13K	**Dall Lake**	**17.31**	**59**	P		**Pn**	**13 47 18.9**	**-1.1**
	baz=265							
J14K	**Nanvaranak Lak**	**17.57**	**51**	P		**P**	**13 47 25.7**	**+1.6**
J14K	**Nanvaranak Lak**	**17.57**	**51**	P		**Pn**	**13 47 22.4**	**-0.7**
	baz=258							
FALS	**False Pass**	**17.68**	**78**	P		**Pn**	**13 47 24.1**	**-0.4**
	baz=283							
L14K	**Kuka Creek**	**17.73**	**56**	P		**Pn**	**13 47 24.6**	**-0.6**
	baz=263							
G15K	**Nikuluk**	**17.99**	**44**	P		**Pn**	**13 47 27.8**	**-0.5**
	baz=255							
F15K	**North Star Dit**	**18.01**	**41**	P		**P**	**13 47 30.6**	**+1.7**
F15K	**North Star Dit**	**18.01**	**41**	P		**Pn**	**13 47 27.6**	**-1.0**
	baz=247							
M14K	**Bethel**	**18.02**	**58**	P		**P**	**13 47 30.6**	**+1.5**
M14K	**Bethel**	**18.02**	**58**	P		**Pn**	**13 47 28.7**	**0.0**
	baz=266							
N14K	**Kuskokwak Cree**	**18.12**	**61**	P		**Pn**	**13 47 29.6**	**-0.3**
	baz=268							
S12K	**Black Hills**	**18.26**	**74**	P		**Pn**	**13 47 30.4**	**-1.3**
	baz=281							
O14K	**Tigyukauivet M**	**18.33**	**63**	P		**Pn**	**13 47 33.6**	**+1.2**
O14K				IAmb	IAmb		13 47 35.6	
	comp=Z,23nm,1.1s							
O14K	**Tigyukauivet M**	**18.33**	**63**	P		**P**	**13 47 32.2**	**-0.2**
	baz=271							
L15K	**Ungalak Mounta**	**18.34**	**55**	P		**P**	**13 47 32.1**	**-0.5**
	baz=263							
K15K	**Wolf Creek Mou**	**18.41**	**53**			**Pn**	**13 47 36.1**	**+2.7**
K15K	**Wolf Creek Mou**	**18.41**	**53**	P		**P**	**13 47 33.4**	**+0.1**
	baz=261							
JKA	**Kamikawa-asahi**	**18.42**	**244**	P		**P**	**13 47 33.1**	**-0.4**
ASAJ	**Asahikawa**	**18.42**	**244**	P		**Pn**	**13 47 33.5**	**-0.2**
	comp=Z,13nm,0.7s,baz=72,slow=13,SNR=23							
ASAJ				LR		LR	13 54 49.8	
	comp=Z,60nm,19.1s,baz=110,slow=37							
H16K	**Elim**	**18.61**	**46**	P		**P**	**13 47 34.6**	**-0.9**
	baz=254							
M15K	**Kasigluk River**	**18.64**	**58**	P		**P**	**13 47 36.1**	**+0.1**
	baz=267							
G16K	**Koyuk River**	**18.79**	**43**	P		**P**	**13 47 37.7**	**+0.2**
	baz=251							
N15K	**Kwethluk River**	**18.92**	**60**			**Pn**	**13 47 41.3**	**+1.6**
N15K				IAmb	IAmb		13 47 47.6	
	comp=Z,12nm,0.8s							
N15K	**Kwethluk River**	**18.92**	**60**	P		**P**	**13 47 38.6**	**-0.4**
	baz=269							
C16K	**Lisburne Hills**	**18.92**	**34**	P		**P**	**13 47 38.6**	**-0.3**
	baz=240							
J16K	**Anvik River**	**18.99**	**50**	P		**Pn**	**13 47 41.8**	**+1.3**
J16K	**Anvik River**	**18.99**	**50**	P		**P**	**13 47 39.9**	**+0.1**
	baz=260							
O15K	**Ungalikthiuk R**	**19.07**	**63**	P		**P**	**13 47 40.9**	**+0.3**
	baz=272							
I17K	**Unalakleet**	**19.07**	**48**	P		**Pn**	**13 47 43.1**	**+1.6**
I17K				IAmb	IAmb		13 47 50.7	
	comp=Z,21nm,1.3s							
I17K	**Unalakleet**	**19.07**	**48**	P		**P**	**13 47 40.8**	**+0.2**
	baz=258							
SDPT	**Sand Point**	**19.21**	**75**	P		**P**	**13 47 42.0**	**-0.2**
	baz=283							
L16K	**Owhat River**	**19.30**	**55**	P		**P**	**13 47 43.6**	**+0.5**
	baz=265,SNR=6.2							
D17K	**Noatak River**	**19.40**	**36**	P		**P**	**13 47 44.2**	**+0.1**
	baz=244							
G17K	**Kiwalik Mounta**	**19.50**	**44**	P		**Pn**	**13 47 46.1**	**-0.5**
	baz=253							
M16K	**Timber Creek**	**19.51**	**57**	P		**Pn**	**13 47 46.9**	**+0.2**
M16K				IAmb	IAmb		13 47 51.0	
	comp=Z,21nm,1.1s							
M16K	**Timber Creek**	**19.51**	**57**	P		**P**	**13 47 45.7**	**+0.3**
	baz=268							
S14K	**Fog Glacier**	**19.54**	**72**	P		**P**	**13 47 45.6**	**-0.2**
	baz=280							
F17K	**Baldwin Pennin**	**19.57**	**41**	P		**P**	**13 47 45.9**	**-0.1**
	baz=250							
N16K	**Nishlik Lake**	**19.59**	**59**	P		**P**	**13 47 45.8**	**-0.5**
	baz=269							
E17K	**Hotham Inlet**	**19.59**	**39**	P		**P**	**13 47 45.7**	**-0.5**
	baz=248							
RDOG	**Red Dog Mine**	**19.62**	**36**	P		**P**	**13 47 46.9**	**+0.3**
	baz=244							
H17K	**Granite Mounta**	**19.65**	**46**			**Pn**	**13 47 48.6**	**+0.3**
H17K	**Granite Mounta**	**19.65**	**46**	P		**P**	**13 47 47.3**	**+0.4**
	baz=256							
ERM	**Erimo**	**19.66**	**238**	P		**P**	**13 47 45.6**	**-1.6**
ERM				IAmb	IAmb		13 48 03.7	
	comp=Z,20nm,1.4s							
ERM	**Erimo**	**19.66**	**238**	P		**P**	**13 47 45.6**	**-1.6**
ERM				pmax	pmax			
	comp=Z,20nm,1.4s							
J17K	**VABM Dome**	**19.69**	**50**	P		**Pn**	**13 47 49.0**	**+0.1**
J17K	**VABM Dome**	**19.69**	**50**	P		**P**	**13 47 47.8**	**+0.4**
	baz=261							
C17K	**DeLong Mountai**	**19.72**	**34**	P		**P**	**13 47 48.1**	**+0.4**
	baz=242							
CHNA	**Chernabura Isl**	**19.83**	**76**	P		**P**	**13 47 49.2**	**+0.3**
	baz=284							
L17K	**Donlin**	**19.89**	**54**	P		**P**	**13 47 49.6**	**0.0**
	baz=265							
YAK	**Yakutsk**	**19.93**	**306**	LR		LR	13 56 25.8	
	comp=Z,51nm,18.5s,baz=108,slow=39							
YAK	**Yakutsk**	**19.93**	**306**	*eP*		**P**	**13 47 47.5**	**-2.5**
YAK				pmax	pmax			
	comp=Z,6.0nm,0.8s							
O16K	**Kokwok River B**	**19.94**	**62**	P		**P**	**13 47 50.5**	**+0.5**
	baz=272							
K17K	**Iditarod**	**19.95**	**52**	P		**Pn**	**13 47 51.8**	**-0.1**
K17K				IAmb	IAmb		13 47 53.1	
	comp=Z,16nm,1.0s							
K17K	**Iditarod**	**19.95**	**52**	P		**P**	**13 47 51.2**	**+1.1**
	baz=264,SNR=6.1							
P16K	**Nushagak River**	**20.02**	**63**	P		**P**	**13 47 51.5**	**+0.6**
	baz=274							
E18K	**Tukpahlearik C**	**20.16**	**38**	P		Pn	13 47 54.7	+0.4
E18K	**Tukpahlearik C**	**20.16**	**38**	P		**P**	**13 47 53.3**	**+0.8**
	baz=248							
F18K	**Selawik**	**20.23**	**41**	P		**P**	**13 47 54.1**	**+1.0**
	baz=252							
M17K	**Holitna River**	**20.26**	**56**	P		Pn	13 47 55.3	-0.3
M17K				IAmb	IAmb		13 47 59.8	
	comp=Z,20nm,0.9s							
M17K	**Holitna River**	**20.26**	**56**	P		**P**	**13 47 54.1**	**+0.6**
	baz=268							
H18K	**Honhosa River**	**20.34**	**45**			Pn	13 47 56.0	-0.5
H18K	**Honhosa River**	**20.34**	**45**	P		**P**	**13 47 55.6**	**+1.1**
	baz=257							
N17K	**Nushagak Hills**	**20.37**	**59**	P		**P**	**13 47 56.0**	**+1.3**
N17K	**Nushagak Hills**	**20.37**	**59**	P		**P**	**13 47 55.9**	**+1.1**
	baz=271							
G18K	**Tagagawik**	**20.41**	**43**	P		Pn	13 47 56.9	-0.4
G18K	**Tagagawik**	**20.41**	**43**	P		**P**	**13 47 55.6**	**+0.5**
	baz=255,SNR=8.2							
O17K	**Koliganek Bris**	**20.43**	**61**	P		**P**	**13 47 56.5**	**+1.0**
	baz=273							
C18K	**Utukok River**	**20.45**	**35**	P		Pn	13 47 56.9	-1.0
C18K				IAmb	IAmb		13 47 57.8	
	comp=Z,10nm,0.9s							
C18K	**Utukok River**	**20.45**	**35**	P		**P**	**13 47 56.2**	**+0.5**
	baz=244							
B18K	**Kokolik River**	**20.58**	**33**	P		**P**	**13 47 57.1**	**+0.1**
	baz=242							
L18K	**Granite Mounta**	**20.65**	**54**	P		**P**	**13 47 59.2**	**+1.4**
L18K	**Granite Mounta**	**20.65**	**54**	P		**P**	**13 47 58.1**	**+0.2**
	baz=266							
Q16K	**King Salmon**	**20.74**	**64**	P		**P**	**13 47 59.0**	**+0.2**
	baz=276							
J18K	**Innoko River**	**20.75**	**51**	P		Pn	13 48 00.5	-0.8
J18K				IAmb	IAmb		13 48 01.6	
	comp=Z,18nm,1.1s							
J18K	**Innoko River**	**20.75**	**51**	P		**P**	**13 47 59.8**	**+0.9**
	baz=263,SNR=13							
P17K	**Kvichak River**	**20.81**	**63**	P		**P**	**13 47 59.9**	**+0.5**
	baz=275							
N18K	**Kilae Creek**	**21.00**	**58**	P		**P**	**13 48 02.8**	**+1.1**
N18K				IAmb	IAmb		13 48 07.0	
	comp=Z,8.5nm,0.7s							
N18K	**Kilae Creek**	**21.00**	**58**	P		**P**	**13 48 02.9**	**+1.2**
	baz=271							
F19K	**Shaleruckik Mo**	**21.01**	**41**	P		**P**	**13 48 03.2**	**+1.6**
	baz=253							
M18K	**Stony River**	**21.03**	**56**	P		**P**	**13 48 02.2**	**+0.2**
	baz=269							
G19K	**Purcell Mounta**	**21.09**	**43**	P		**P**	**13 48 03.4**	**+0.9**
G19K	**Purcell Mounta**	**21.09**	**43**	P		**P**	**13 48 02.7**	**+0.2**
	baz=256							
C19K	**Lookout Ridge**	**21.17**	**34**	P		**P**	**13 48 04.5**	**+1.0**
C19K				IAmb	IAmb		13 48 06.5	
	comp=Z,14nm,0.9s							
C19K	**Lookout Ridge**	**21.17**	**34**	P		**P**	**13 48 03.7**	**+0.3**
	baz=246							
H19K	**Roundabout Mou**	**21.20**	**45**	P		**P**	**13 48 04.5**	**+0.8**
H19K				IAmb	IAmb		13 48 11.8	
	comp=Z,18nm,1.4s							
H19K	**Roundabout Mou**	**21.20**	**45**	P		**P**	**13 48 04.7**	**+0.9**
	baz=258,SNR=6.3							
J19K	**Poorman**	**21.30**	**49**	P		**P**	**13 48 05.6**	**+0.8**
J19K	**Poorman**	**21.30**	**49**	P		**P**	**13 48 05.6**	**+0.8**
	baz=263							
O18K	**Koktuh Hills**	**21.38**	**61**	P		**P**	**13 48 06.2**	**+0.5**
	baz=274							
E19K	**Redstone River**	**21.39**	**40**	P		**P**	**13 48 06.3**	**+0.6**
	baz=252							
P18K	**Big Mountain,**	**21.41**	**62**	P		**P**	**13 48 06.7**	**+0.7**
	baz=275							
D19K	**Kuna River**	**21.43**	**37**	P		**P**	**13 48 06.6**	**+0.4**
	baz=249							
KLR	**Kul'dur**	**21.50**	**269**	P		**P**	**13 48 06.9**	**-0.2**
	comp=Z,1.9nm,0.6s,baz=111,slow=6.7,SNR=11							
KLR				LR		LR	13 55 54.4	
	comp=Z,61nm,20.9s,baz=98,slow=35							
	comp=Z,1.9nm,0.6s							
KLR	**Kul'dur**	**21.50**	**269**	*i*P		**P**	**13 48 08.4**	**+1.3**
KLR				pmax	pmax			
	comp=Z,8.0nm,2.0s							
L19K	**White Mountain**	**21.51**	**54**	P		**P**	**13 48 07.8**	**+0.7**
	baz=268							
N19K	**Bonanza Creek**	**21.69**	**58**	P		**P**	**13 48 10.0**	**+0.9**
N19K				IAmb	IAmb		13 48 13.2	
	comp=Z,12nm,1.1s							
**N19

baz=254
G22K Bettles 23.43 42 P P 13 48 26.8 -0.4
baz=260
SUA Susitna One 23.47 56 P P 13 48 27.8 0.0
baz=274
MLY Manley 23.51 47 P P 13 48 27.9 -0.1
baz=265
E22K Anaktuvuk Pass 23.56 39 P P 13 48 28.4 -0.1
E22K Anaktuvuk Pass 23.56 39 P P 13 48 29.0 +0.4
baz=257
B22K Teshekpuk Lake 23.63 34 P P 13 48 29.6 +0.5
baz=250
TRF Thorofare Moun 23.63 51 P P 13 48 29.7 +0.3
TRF IAmb IAmb 13 48 31.7
comp=Z,13nm,1.3s
TRF Thorofare Moun 23.63 51 P P 13 48 29.1 -0.3
baz=269
BRSE Bradley Lake S 23.64 60 P P 13 48 29.0 -0.4
baz=278
M22K Willow 23.75 55 P P 13 48 30.2 -0.1
baz=273
G23K Bananza Creek 23.98 43 P P 13 48 32.9 +0.3
G23K Bananza Creek 23.98 43 P P 13 48 32.2 -0.4
baz=262
RC01 Rabbit Creek A 23.98 57 P P 13 48 32.5 -0.1
baz=275
COLD Coldfoot 23.99 42 P P 13 48 32.1 -0.5
baz=261,SNR=9.4
BWN Browne 24.01 49 P P 13 48 35.0 +2.2
O22K Cooper Landing 24.05 58 P P 13 48 32.5 -0.7
baz=277
H23K Yukon River 24.08 45 P P 13 48 33.8 +0.3
H23K IAmb IAmb 13 48 35.6
comp=Z,6.9nm,1.0s
H23K Yukon River 24.08 45 P P 13 48 33.4 -0.1
baz=265,SNR=7.5
I23K Minto, Yukon-K 24.10 47 P P 13 48 33.9 +0.3
I23K IAmb IAmb 13 48 35.7
comp=Z,12nm,1.0s
I23K Minto, Yukon-K 24.10 47 P P 13 48 33.2 -0.4
baz=266,SNR=6.6
USRK Ussuriysk Ar. 24.14 258 P P 13 48 34.8 +0.6
comp=Z,0.6nm,0.5s,baz=49,slow=8.6,SNR=2.8
comp=Z,0.6nm,0.5s
D23K Nanushuk River 24.16 37 P P 13 48 33.0 -1.1
baz=257
NEA2 Nenana 24.20 48 P P 13 48 34.9 +0.3
NEA2 IAmb IAmb 13 48 36.1
comp=Z,9.6nm,1.0s
NEA2 Nenana 24.20 48 P P 13 48 33.9 -0.7
baz=268,SNR=12
SEW Seward 24.23 59 P P 13 48 33.8 -1.1
baz=278
MCK McKinley 24.24 50 P P 13 48 34.2 -0.8
baz=270,SNR=6.0
GHO Glory Hole Cre 24.32 55 P P 13 48 35.7 -0.1
GHO IAmb IAmb 13 48 38.2
comp=Z,6.7nm,1.0s
C23K Itkillik River 24.40 35 P P 13 48 36.3 +0.1
C23K IAmb IAmb 13 48 38.8
comp=Z,6.3nm,0.8s
C23K Itkillik River 24.40 35 P P 13 48 35.9 -0.4
baz=255
WAT1 Susitna Watana 24.43 53 P P 13 48 36.4 -0.4
baz=272
TOLK Toolik Lake Re 24.48 38 P P 13 48 37.1 -0.1
TOLK Toolik Lake Re 24.48 38 P P 13 48 36.4 -0.7
baz=258,SNR=12
MDM Murphy Dome 24.57 47 P P 13 48 37.8 -0.1
MDM IAmb IAmb 13 48 40.7
comp=Z,15nm,1.4s
KNK Knik Glacier 24.57 56 P P 13 48 37.8 -0.2
KNK IAmb IAmb 13 48 40.7
comp=Z,8.6nm,0.8s
KNK Knik Glacier 24.57 56 P P 13 48 37.2 -0.8
baz=276
SML Sawmill 24.59 55 P P 13 48 38.2 -0.1
SML IAmb IAmb 13 48 39.4
comp=Z,8.7nm,0.8s
SML Sawmill 24.59 55 P P 13 48 37.4 -0.9
baz=275
SML Sawmill 24.59 55 P P 13 48 38.2 -0.1
SML pmax pmax
comp=Z,9.0nm,0.8s
COLA College 24.73 48 P P 13 48 38.3 -1.0
baz=268
COLA College 24.73 48 *d iP* P 13 48 40.4 +1.1
COLA pmax pmax
comp=Z,14nm,0.9s
CCB Clear Creek Bu 24.74 48 P P 13 48 39.5 +0.1
H24K Noodor Dome 24.76 45 P P 13 48 39.8 +0.1
H24K Noodor Dome 24.76 45 P P 13 48 38.6 -1.1
baz=266
E24K Your Creek 24.77 40 P P 13 48 40.2 +0.4
E24K Your Creek 24.77 40 P P 13 48 38.6 -1.2
baz=261,SNR=29
WAT6 Susitna Watana 24.82 53 P P 13 48 39.7 -0.6
baz=274
D24K Happy Valley 24.85 37 P P 13 48 40.6 +0.2
D24K IAmb IAmb 13 48 43.0
comp=Z,13nm,0.9s
D24K Happy Valley 24.85 37 P P 13 48 40.3 -0.1
baz=258,SNR=9.7
M23K Glacier View 24.88 55 P P 13 48 40.6 -0.2
baz=275,SNR=7.3
POKR Poker Plat Res 24.91 47 P P 13 48 41.5 +0.4
baz=268
F24K Squaw Lake 24.92 41 P P 13 48 41.1 0.0
F24K Squaw Lake 24.92 41 P P 13 48 41.3 +0.2
baz=263
DHY Denali Highway 24.96 52 P P 13 48 41.1 -0.5
DHY IAmb IAmb 13 48 43.3
comp=Z,7.9nm,1.0s
DHY Denali Highway 24.96 52 P P 13 48 41.9 +0.3
baz=273
G24K Hadweenzic Riv 24.99 43 P P 13 48 41.3 -0.4
baz=265,SNR=5.5
C24K Franklin Bluff 25.01 36 P P 13 48 42.1 +0.3
baz=257
SCM Sheep Creek Mo 25.07 55 P P 13 48 42.6 +0.1
SCM Sheep Creek Mo 25.07 55 P P 13 48 42.5 -0.1
baz=276,SNR=6.6
SCM Sheep Creek Mo 25.07 55 P P 13 48 42.6 +0.1
SCM pmax pmax
comp=Z,19nm,0.9s
HDA Harding Lake 25.11 49 P P 13 48 42.4 -0.5
HDA IAmb IAmb 13 48 45.1
comp=Z,7.0nm,1.0s
HDA Harding Lake 25.11 49 P P 13 48 42.3 -0.5
baz=270
IL31 25.14 48 P P 13 48 43.0 0.0
IL31 IAmb IAmb 13 48 45.8
comp=Z,12nm,0.9s
ILAR Eielson Array 25.14 48 P P 13 48 43.4 +0.4
ILAR Eielson Array 25.14 48 P P 13 48 42.4 -0.7
comp=Z,6.6nm,0.8s,baz=259,slow=9.1,SNR=45
comp=Z,6.6nm,0.8s
ILAR Eielson Array 25.14 48 *eP* P 13 48 42.5 -0.6
ILAR pmax pmax
comp=Z,7.0nm,0.8s
P23K Montague Islan 25.27 59 P P 13 48 44.3 0.0
baz=279
GLI Glacier Island 25.29 57 P P 13 48 43.9 -0.5
baz=278
G25K Bearman Lake 25.54 43 P P 13 48 46.8 +0.2
baz=266
M24K Tolsona, Glenn 25.58 54 P P 13 48 47.6 +0.4
M24K Tolsona, Glenn 25.58 54 P P 13 48 47.5 +0.3
baz=276
FID Port Fidalgo 25.61 57 P P 13 48 47.1 -0.3
FID IAmb IAmb 13 49 03.7
comp=Z,14nm,1.2s
H25L Birch Creek 25.62 44 P P 13 48 47.7 +0.3
baz=267
K24K Donnelly Dome 25.64 50 P P 13 48 47.8 +0.2
baz=273
PRP Porcupine Dome 25.72 46 P P 13 48 48.7 +0.2
baz=269
D25K Kavik River 25.74 37 P P 13 48 48.5 -0.1
D25K IAmb IAmb 13 48 51.3
comp=Z,9.2nm,0.9s
D25K Kavik River 25.74 37 P P 13 48 48.1 -0.4
baz=260,SNR=17
KLU Klutina 25.77 56 P P 13 48 49.4 +0.4
KLU IAmb IAmb 13 48 54.5
comp=Z,5.7nm,0.6s
KLU Klutina 25.77 56 P P 13 48 49.0 0.0
baz=277
F25K Christian Rive 25.78 41 P P 13 48 49.1 +0.1
baz=265
J25K Salcha River, 25.79 48 P P 13 48 48.7 -0.4
baz=271
PAX Paxson 25.83 52 P P 13 48 49.5 +0.1
baz=275
E25K Arctic Village 25.86 40 P P 13 48 50.2 +0.5
E25K IAmb IAmb 13 48 54.3
comp=Z,12nm,1.5s
E25K Arctic Village 25.86 40 P P 13 48 50.0 +0.3
baz=264,SNR=5.5
EYAK Cordova Ski Ar 25.99 58 P P 13 48 50.4 -0.4
baz=279
HARP HAARP 26.03 53 P P 13 48 49.7 -1.5
baz=276
BMAR Burnt Mountain 26.18 42 P P 13 48 53.2 +0.7
MJA0 Matsu Arr-Jizo 26.30 237 *eP* P 13 48 55.4 +1.5
MJA0 pmax pmax
comp=Z,2.0nm,0.7s
MAJO Matsushiro 26.32 237 P P 13 48 53.8 -0.3
MAJO IAmb IAmb 13 48 56.1
comp=Z,11nm,1.0s
MAJO Matsushiro 26.32 237 *c iP* P 13 48 54.4 +0.4
MAJO pmax pmax
comp=Z,13nm,1.1s
MJAR Matsushiro Arr 26.32 237 P P 13 48 54.1 +0.1
comp=Z,2.1nm,0.7s,baz=26,slow=8.0,SNR=11
MJAR pP **pwP** 13 49 05.8 -1.0
comp=Z,2.3nm,0.7s,baz=23,slow=9.0,SNR=6.1
comp=Z,2.1nm,0.7s
MJB9 Matsu-Tunnel 26.32 237 P P 13 48 53.9 -0.2
MJB9 IAmb IAmb 13 48 56.1
comp=Z,11nm,1.0s
C26K Camden Bay 26.34 36 P P 13 48 53.1 -0.8
baz=261,SNR=6.5
F26K Sheenjek River 26.36 41 P P 13 48 53.7 -0.5
baz=265
N25K Chitina, Valde 26.39 55 P P 13 48 54.0 -0.5
baz=278
SCRK Sand Creek 26.42 50 P P 13 48 54.2 -0.6
SCRK Sand Creek 26.42 50 P P 13 48 54.8 0.0
baz=274
G26K Porcupine Rive 26.46 43 P P 13 48 55.0 0.0
baz=268
BMRM Bremner River 26.48 56 P P 13 48 55.1 -0.2
baz=270
J26L Joseph Creek 26.57 48 P P 13 48 56.5 +0.3
baz=273
C27K Jago River 26.71 37 P P 13 48 56.9 -0.4
baz=263,SNR=7.7
I26K Coal Creek Min 26.71 47 P P 13 48 57.0 -0.3
baz=272
L26K Log Cabin Wild 26.79 52 P P 13 48 57.9 -0.1
baz=276
VRDI Verde Repeater 26.99 56 P P 13 49 00.7 +0.7
VRDI IAmb IAmb 13 49 44.0
comp=Z,16nm,1.4s
M26K Nabesna, AK 27.03 53 P P 13 49 00.1 -0.1
baz=278
MCARA McCarthy VSAT 27.17 55 P P 13 49 00.3 -1.1
baz=280
K27K Chicken 27.26 49 P P 13 49 01.7 -0.5
baz=275
G27K Doyon Strip 27.30 43 P P 13 49 02.7 +0.1
baz=270
I27K Kandik River 27.35 46 P P 13 49 02.9 -0.2
baz=273
E27K Coleen River 27.35 40 P P 13 49 03.1 0.0
baz=268
H27K Steamboat Moun 27.36 45 P P 13 49 03.2 0.0
baz=272
L27K Beaver Creek, 27.47 51 P P 13 49 04.8 +0.6
L27K IAmb IAmb 13 49 06.5
comp=Z,16nm,1.2s
L27K Beaver Creek, 27.47 51 P P 13 49 03.9 -0.3
baz=277,SNR=8.8
BCAR Beaver Creek A 27.49 51 P P 13 49 05.1 +0.7
M27K Edge Creek, AK 27.55 53 P P 13 49 04.8 -0.2
baz=279
EGAK Eagle 27.59 48 P P 13 49 04.8 -0.4
EGAK Eagle 27.59 48 P P 13 49 04.8 -0.4
baz=275
D27M Malcolm River 27.64 38 P P 13 49 06.3 +0.6
D27M IAmb IAmb 13 49 07.0
comp=Z,5.8nm,0.7s
D27M Malcolm River 27.64 38 P P 13 49 05.2 -0.5
baz=266
MESA MESA 27.92 58 P P 13 49 07.6 -0.8
baz=283
F28M Old Crow 27.99 42 P P 13 49 09.4 +0.6
F28M IAmb IAmb 13 49 11.3
comp=Z,9.4nm,1.4s
F28M Old Crow 27.99 42 P P 13 49 08.9 +0.1
baz=270
CTG Chitna Glacier 28.05 56 P P 13 49 08.4 -1.1
baz=282
I28M Miner Creek 28.05 46 P P 13 49 08.9 -0.5
baz=274
E28M Babbage River 28.13 39 P P 13 49 10.8 +0.8
baz=269
YUK3 Moose Creek 28.30 54 P P 13 49 11.9 +0.1
baz=281
DAWY Dawson 28.43 49 P P 13 49 13.2 +0.5
baz=277
D28M Stokes Point 28.44 38 P P 13 49 12.9 +0.3
baz=268
O28M Mount Upton 28.64 56 P P 13 49 14.9 0.0
baz=283
H29M Whitestone 28.64 44 P P 13 49 14.5 0.0
baz=274
E29M Blow River 28.73 40 P P 13 49 16.2 +0.9
E29M IAmb IAmb 13 49 17.1
comp=Z,8.2nm,1.4s
E29M Blow River 28.73 40 P P 13 49 15.9 +0.6
baz=271
G29M Pine Creek 28.73 43 P P 13 49 15.4 0.0
baz=273
M29M Somme Creek 29.10 52 P P 13 49 18.4 -0.4
baz=281
L29M L29M 29.13 51 P P 13 49 19.9 +0.9
L29M IAmb IAmb 13 49 21.0
comp=Z,5.8nm,1.1s
L29M L29M 29.13 51 P P 13 49 19.4 +0.4
baz=280
YUK4 Talbot Arm 29.24 55 P P 13 49 20.6 +0.4
baz=283
K29M Barlow Dome 29.28 49 P P 13 49 21.5 +1.1
baz=279
EPYK Eagle Plains 29.29 44 P P 13 49 20.1 -0.2
baz=275
G30M tAoh Zraii Nji 29.44 43 P P 13 49 21.1 -0.5
baz=275
F30M Barrier River 29.56 41 P P 13 49 22.2 -0.5
baz=274
I30M Mount Dempster 29.56 46 P P 13 49 22.3 -0.6
baz=278
J30M Hart River 29.68 48 P P 13 49 23.9 +0.1
baz=279
M30M Minto, Yukon 29.83 52 P P 13 49 24.3 -0.9
baz=282
HYT Haines Junctio 29.90 55 P P 13 49 25.4 -0.5
baz=284
P29M Windy Craggy 30.11 58 P P 13 49 27.0 -0.7
baz=286
G31M Satah River 30.21 43 P P 13 49 29.1 +0.7
G31M IAmb IAmb 13 49 57.2
comp=Z,3.8nm,0.9s
G31M Satah River 30.21 43 P P 13 49 27.9 -0.4
baz=276
H31M Peel River 30.32 45 P P 13 49 28.5 -1.0
baz=278
P30M Million Dollar 30.35 56 P P 13 49 29.3 -0.5
baz=286
F31M Tsiigehtchic 30.35 42 P P 13 49 29.1 -0.6
baz=276
INK Inuvik 30.36 40 P P 13 49 30.2 +0.6
INK IAmb IAmb 13 49 31.2
comp=Z,6.5nm,1.2s
INK Inuvik 30.36 40 P P 13 49 29.0 -0.7
baz=275
INK Inuvik 30.36 40 P P 13 49 30.2 +0.6
INK pmax pmax
comp=Z,7.0nm,1.3s
N31M Braeburn, Yuko 30.55 54 P P 13 49 31.1 -0.4
baz=284
PLBC Pleasant Camp 30.83 58 P P 13 49 33.0 -1.0
baz=287
KSRS Korea Array 30.98 251 P P 13 49 36.5 +1.1
comp=Z,2.1nm,0.9s,baz=44,slow=9.4,SNR=12
KSRS pP **pwP** 13 49 49.0 +0.7
comp=Z,0.9nm,0.6s,baz=44,slow=8.6,SNR=4.8
KSRS LR LR 14 01 19.5
comp=Z,29nm,21.6s,baz=100,slow=35
comp=Z,2.1nm,0.9s
KSRS Korea Array 30.98 251 *eP* P 13 49 37.4 +2.0
KSRS pmax pmax
comp=Z,2.0nm,0.9s
M31M Drury Creek, Y 31.01 52 P P 13 49 36.8 +1.3
M31M IAmb IAmb 13 49 59.4
comp=Z,5.3nm,1.1s
M31M Drury Creek, Y 31.01 52 P P 13 49 34.8 -0.8
baz=284
S31K Pelican 31.37 60 P P 13 49 38.3 -0.4
baz=290
N32M Quiet Lake 31.89 54 P P 13 49 42.5 -0.9
baz=287
SIT Sitka 32.15 62 P P 13 49 44.6 -1.0
baz=292
P33M Teslin, Yukon 32.30 55 P P 13 49 46.2 -0.8
baz=288
A36M Sachs Harbour 32.83 32 P P 13 49 50.4 -0.9
baz=276
R33M Jennings River 33.46 56 P P 13 49 56.4 -0.7
baz=291
C36M Paulatuk 33.61 37 P P 13 49 58.5 +0.3
C36M Paulatuk 33.61 37 P P 13 49 57.3 -0.9
baz=281
WRAK Wrangell Islan 33.91 61 P P 13 49 59.1 -1.8
baz=294
S34M Telegraph Cree 33.93 59 P P 13 49 59.2 -1.9
baz=293
DLBC Dease Lake 34.26 57 P P 13 50 05.8 +1.7
DLBC IAmb IAmb 13 50 46.3
comp=Z,13nm,1.5s
T35M Bob Quinn 34.74 60 P P 13 50 06.3 -1.9
baz=294
H11N2 WAKE ISLAND Hy 35.14 178 T T 14 27 40.5
baz=359,slow=76,SNR=969
H11N3 WAKE ISLAND Hy 35.15 178 T T 14 27 41.6
baz=359,slow=76,SNR=843
H11N1 WAKE ISLAND Hy 35.16 178 T T 14 27 42.2
baz=359,slow=76,SNR=821
U35K Hyder 35.30 61 P P 13 50 12.4 -0.6
baz=296
WRGLY Wrigley 35.52 47 P P 13 50 14.3 -0.5
baz=290
ULN Ulaanbaatar 36.32 284 ⇑ *iP* P 13 50 23.1 +1.1
ULN pmax pmax
comp=Z,3.0nm,1.0s
H11S1 WAKE ISLAND Hy 36.35 178 T T 14 29 12.8
baz=359,slow=76,SNR=53
H11S3 WAKE ISLAND Hy 36.36 178 T T 14 29 07.1
baz=359,slow=76,SNR=33
H11S2 WAKE ISLAND Hy 36.37 178 T T 14 29 12.8
baz=359,slow=76,SNR=67
TOAD Toad River Com 36.40 55 P P 13 50 21.9 -0.5
baz=295
KOTAN Kotaneelee Air 36.42 52 P P 13 50 22.5 0.0
baz=294
SONM Songino Array 36.71 284 P P 13 50 25.1 -0.2
comp=Z,2.7nm,0.7s,baz=56,slow=9.4,SNR=15
comp=Z,2.7nm,0.7s
SONM Songino Array 36.71 284 *eP* P 13 50 26.7 +1.4
SONM pmax pmax
comp=Z,3.0nm,0.7s
HHC Hu-ho-hao-te 37.97 271 *eP* P 13 50 35.0 -1.0
HHC pmax pmax
comp=Z,11nm,0.6s
HHC pmax pmax
comp=Z,51nm,5.7s
YKA Yellowknife Ar 39.53 46 P P 13 50 48.6 -0.1
comp=Z,1.0nm,0.8s,baz=298,slow=8.5,SNR=8.6
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 39.53 46 *eP* P 13 50 49.1 +0.4
YKA pmax pmax
comp=Z,1.0nm,0.8s
BRLDA Berland Lookou 42.51 58 P P 13 51 14.4 +0.9
EDM Edmonton 44.99 57 P P 13 51 34.0 +0.7
EDM Edmonton 44.99 57 P P 13 51 34.0 +0.7
EDM pmax pmax
comp=Z,6.0nm,0.6s
SPITS Spitsbergen Ar 45.85 352 P P 13 51 39.4 -0.5
comp=Z,5.8nm,0.8s,baz=76,slow=7.0,SNR=7.8
comp=Z,5.8nm,0.8s
SPITS Spitsbergen Ar 45.85 352 P P 13 51 40.6 +0.8
SPITS pmax pmax
comp=Z,51nm,1.4s
SPB2 Spitsbergen Ar 45.85 352 P P 13 51 40.7 +0.8
NEW Newport 46.10 65 P P 13 51 41.4 -0.8
baz=309
NEW Newport 46.10 65 LR LR 14 09 37.4
comp=Z,58nm,19.0s,baz=277,slow=34
J05D Fort Rock, OR 47.08 72 P P 13 51 51.2 +1.1
J05D IAmb IAmb 13 51 55.3
comp=Z,8.2nm,1.4s
YBH Yreka Blue Hor 47.29 75 LR LR 14 09 41.5
comp=Z,56nm,19.2s,baz=290,slow=33
MSO Missoula 48.68 64 P P 13 52 01.7 -0.6
baz=311
BPMT Black Pine Rid 49.19 64 P P 13 52 06.7 +0.3
LYMT Lyon Mountain 49.44 63 P P 13 52 08.8 +0.5
KURK Kurchatov 49.56 303 P P 13 52 08.1 -0.8
KURK Kurchatov 49.56 303 P P 13 52 08.1 -0.8
KURK pmax pmax
comp=Z,4.0nm,0.5s
KURBB Kurchatov Arra 49.66 303 P P 13 52 08.9 -0.7
comp=Z,2.9nm,0.4s,baz=54,slow=8.1,SNR=11
comp=Z,2.9nm,0.4s
FCC Fort Churchill 49.93 42 P P 13 52 11.9 +0.4
FCC Fort Churchill 49.93 42 P P 13 52 11.9 +0.4
FCC pmax pmax
comp=Z,11nm,1.2s
EGMT Eagleton 50.04 61 P P 13 52 11.7 -1.0
baz=312
MK31 Makanchi Array 50.32 298 *d iP* P 13 52 13.8 -1.0
MKAR Makanchi Array 50.32 298 P P 13 52 13.2 -1.6
comp=Z,1.1nm,0.7s,baz=56,slow=6.6,SNR=9.5
MKAR pP **pwP** 13 52 27.7 +0.5
comp=Z,0.1nm,0.3s,baz=29,slow=6.8,SNR=1.9
comp=Z,1.1nm,0.7s
MKAR Makanchi Array 50.32 298 *eP* P 13 52 13.7 -1.1
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MPK Martis Peak 50.45 76 P P 13 52 16.7 +0.6
MPK IAmb IAmb 13 52 22.2
comp=Z,6.7nm,1.1s
HLID Hailey 50.60 68 P P 13 52 16.4 -0.7
baz=313
BOZ Bozeman (W) 50.70 64 P P 13 52 18.4 +0.6
BOZ Bozeman (W) 50.70 64 P P 13 52 17.5 -0.2
baz=312
BOZ Bozeman (W) 50.70 64 P P 13 52 18.4 +0.6
BOZ pmax pmax
comp=Z,1.0nm,1.0s
PNTR Pine Nut 50.83 75 P P 13 52 20.1 +1.1
PNTR IAmb IAmb 13 52 22.9
comp=Z,3.8nm,0.8s
YERR Yerington 51.10 75 P P 13 52 21.8 +0.8
YERR IAmb IAmb 13 52 22.5
comp=Z,2.2nm,0.6s
WAKR Walker 51.33 76 P P 13 52 23.9 +1.2
WAKR IAmb IAmb 13 52 24.7
comp=Z,3.8nm,0.5s
KVN Kaiserville 51.69 74 P P 13 52 26.7 +1.3
KVN IAmb IAmb 13 52 27.0
comp=Z,2.0nm,0.7s
KVN Kaiserville 51.69 74 P P 13 52 26.7 +1.3
KVN pmax pmax
comp=Z,2.0nm,0.7s
RYN Ryan 51.75 75 P P 13 52 26.9 +1.1
BVAR Borovoye Array 51.82 310 P P 13 52 24.7 -1.2
comp=Z,0.8nm,0.4s,baz=50,slow=8.4,SNR=8.7
comp=Z,0.8nm,0.4s
BRVK Borovoye 51.84 310 ⇓ *iP* P 13 52 26.1 +0.1
BRVK pmax pmax
comp=Z,1.0nm,0.7s
NVAR Mina Array Bea 52.02 75 P P 13 52 28.9 +1.1
NVAR Mina Array Bea 52.02 75 P P 13 52 28.6 +0.8
comp=Z,1.0nm,0.5s,baz=296,slow=7.8,SNR=14
comp=Z,1.0nm,0.5s
DGMT Dagmar 52.48 57 P P 13 52 30.5 -0.4
baz=313
ARCES ARCESS Array B 52.54 344 P P 13 52 29.9 -1.1
comp=Z,3.2nm,0.8s,baz=26,slow=3.4,SNR=1.8

comp=Z,3.2nm,0.8s
TPH Tonopah 52.87 75 P **P** **13 52 35.1 +1.0**
TPH Tonopah 52.87 75 P **P** **13 52 35.1 +1.0**
TPH pmax pmax
comp=Z,11nm,0.5s
CWC Cottonwood Cre 53.55 77 P **P** **13 52 38.8 -0.3**
baz=316
GRAC Grapevine Rang 53.55 76 P **P** **13 52 38.7 -0.3**
baz=316
R11B Troy Canyon, C 53.58 73 P **P** **13 52 38.6 -0.7**
baz=315
PDAR Pinedale Array 53.72 65 P **P** **13 52 39.8 -0.6**
comp=Z,0.6nm,0.5s,baz=316,slow=6.2,SNR=5.5
comp=Z,0.6nm,0.5s
SPR3 Spring Creek 3 53.81 72 P **P** **13 52 43.5 +2.3**
SPR3 IAmb IAmb 13 52 44.0
comp=Z,2.5nm,0.7s
PZH PanZhiHua 53.90 265 P **P** **13 52 42.3 +0.6**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,7.5s
ARVC Arvin 54.07 78 P **P** **13 52 42.7 -0.1**
baz=316
WCT Wildcat Mounta 54.11 75 P **P** **13 52 44.3 +1.2**
WCT IAmb IAmb 13 52 44.7
comp=Z,1.5nm,0.6s
MPMC Manual Prospec 54.16 77 P **P** **13 52 43.6 0.0**
baz=316
FURC Furnace Creek, 54.22 76 P **P** **13 52 43.8 +0.1**
baz=316
PSUT Pine Spring 54.41 72 P **P** **13 52 46.5 +1.1**
PSUT IAmb IAmb 13 53 11.9
comp=Z,3.7nm,1.3s
LRMC Laurel Mtn Rad 54.47 77 P **P** **13 52 46.0 +0.2**
baz=316
OSI Osito Audit: C 54.50 79 P **P** **13 52 45.8 -0.1**
baz=317
GWY Greenwater Val 54.52 76 P **P** **13 52 47.4 +1.2**
GWY IAmb IAmb 13 52 48.1
comp=Z,2.7nm,0.6s
PRN Pahroc Range 54.55 74 P **P** **13 52 47.8 +1.5**
PRN IAmb IAmb 13 52 48.5
comp=Z,3.1nm,0.5s
MPU Maple Canyon 54.56 69 P **P** **13 52 48.0 +1.5**
MPU IAmb IAmb 13 52 48.5
comp=Z,3.1nm,0.7s
BSUT Blindstream Ca 54.66 68 P **P** **13 52 48.7 +1.3**
BSUT IAmb IAmb 13 53 05.6
comp=Z,4.9nm,1.2s
DECC Green Verdugo 54.99 79 P **P** **13 52 49.0 -0.4**
baz=317
GSC Goldstone, Bar 55.09 77 P **P** **13 52 49.3 -0.9**
baz=317
MDND Maddock 55.12 55 P **P** **13 52 50.2 +0.1**
baz=316
MVU Marysvale 55.33 71 P **P** **13 52 53.4 +1.3**
MSU Marysvale 55.34 71 P **P** **13 52 53.8 +1.6**
MSU Marysvale 55.34 71 P **P** **13 52 53.8 +1.6**
K22A Casper 55.39 64 P **P** **13 52 51.9 -0.5**
baz=316
TUQ Turquoise Moun 55.48 76 P **P** **13 52 52.7 -0.5**
baz=317
CIS Catalina Islan 55.56 80 P **P** **13 52 52.5 -1.1**
baz=317
RSSD Black Hills 55.61 61 P **P** **13 52 53.1 -0.9**
baz=316
HEC Hector,Ludlow 55.70 77 P **P** **13 52 53.8 -0.8**
baz=317
SCI2 San Clemente I 55.80 80 P **P** **13 52 54.8 -0.5**
baz=318
SRU San Rafael Swe 55.80 69 P **P** **13 52 56.6 +1.1**
SRU San Rafael Swe 55.80 69 P **P** **13 52 56.6 +1.1**
SRU pmax pmax
comp=Z,7.0nm,0.7s
KIRV Kirov 55.84 325||*eP* **P** **13 52 56.3 +1.1**
GMRC Granite Mounta 56.11 76 P **P** **13 52 57.4 -0.3**
baz=317
MURC Murrieta 56.11 79 P **P** **13 52 56.7 -0.8**
baz=317
O20A White River Ci 56.29 67 P **P** **13 52 59.4 +0.4**
O20A White River Ci 56.29 67 P **P** **13 52 57.7 -1.3**
baz=316
BELC Belle Mtn. Jos 56.49 77 P **P** **13 52 59.1 -1.3**
baz=317
PFO Pinyon Flats O 56.52 78 P **P** **13 52 59.3 -1.2**
baz=318
TPFO Pinon Flats 56.52 78 P **P** **13 52 58.6 -2.0**
baz=318
AGMN Agassiz Nation 56.53 52 P **P** **13 52 58.9 -1.4**
baz=317
HMU Henry Mountain 56.53 70 P **P** **13 53 01.5 +0.7**
109C Camp Elliot, M 56.68 79 P **P** **13 53 01.3 -0.3**
baz=318
NEE2 Needles Airpor 56.70 76 P **P** **13 53 00.6 -1.1**
baz=317
IRM Iron Mountain 56.85 77 P **P** **13 53 01.7 -1.1**
baz=318
N23A Red Feather La 56.95 65 P **P** **13 53 03.1 -0.6**
baz=317
BC3 Big Chuckawall 57.05 77 P **P** **13 53 03.4 -0.9**
baz=318
MONP2 Monument Peak 57.07 79 P **P** **13 53 03.7 -0.9**
baz=318
AAK Ala-Archa 57.20 299||*eP* **P** **13 53 05.4 +0.1**
AAK pmax pmax
comp=Z,6.0nm,2.8s
SWSC Sam W. Stewart 57.38 78 P **P** **13 53 05.7 -0.8**
baz=316
IKP In-Ko-Pah, Jac 57.42 78 P **P** **13 53 06.2 -0.7**
baz=318
ISCO Idaho Springs 57.92 65 P **P** **13 53 09.4 -1.2**
baz=317
WUAZ Wupatki 57.96 73 P **P** **13 53 09.8 -0.9**
baz=318
MVCO Mesa Verde 58.28 69 P **P** **13 53 12.0 -1.1**
baz=318
EYMN Ely 58.76 50 P **P** **13 53 15.9 -0.1**
baz=319
Q24A Divide 58.78 66 P **P** **13 53 15.5 -1.1**
baz=318
OGNE Ogallala 58.93 62 P **P** **13 53 16.7 -0.7**
baz=318
W18A Petrified Fore 59.15 72 P **P** **13 53 18.7 -0.4**
baz=318
SDCO Great Sand Dun 59.49 67 P **P** **13 53 20.5 -1.0**
baz=318
ECSD EROS Data Cent 59.55 56 P **P** **13 53 20.9 -0.6**
baz=318
FINES FINESS Array B 59.70 339 P **P** **13 53 21.6 -0.6**
comp=Z,1.0nm,0.7s,baz=32,slow=8.2,SNR=4.2
comp=Z,1.0nm,0.7s
214A Organ Pipe Nat 59.80 77 P **P** **13 53 22.9 -0.5**
baz=319
TUC Tucson 60.67 75 P **P** **13 53 29.1 -0.3**
baz=319
ANMO Albuquerque 61.07 70 P **P** **13 53 31.5 -0.7**
baz=319
CMAR Chiang Mai Arr 61.78 262 P **P** **13 53 36.5 -0.5**
comp=Z,0.6nm,0.5s,baz=9.5,slow=6.6,SNR=1.8
comp=Z,0.6nm,0.5s
VSU Vasula 62.25 337||*eP* **P** **13 53 41.8 +2.2**
VSU pmax pmax
comp=Z,13nm,1.0s
NC204 NORSAR Array S 62.47 347 P **P** **13 53 42.7 +1.5**
SCIA State Center 62.56 56 P **P** **13 53 41.3 -0.7**
baz=320
NB2 NORSAR Subarra 62.64 346 P **P** **13 53 41.6 -0.6**
comp=Z,0.4nm,0.6s,baz=16,slow=6.5
NOA NORSAR Array B 62.64 346 P **P** **13 53 41.5 -0.8**
comp=Z,0.3nm,0.5s,baz=358,slow=7.2,SNR=4.4
comp=Z,0.3nm,0.5s
OBN Obninsk 62.69 330 *eP* **P** **13 53 43.3 +0.7**
OBN *e* 13 54 21.6
OBN *e* 13 56 01.4
OBN *eP* PPP PPP 13 57 28.1
OBN pmax pmax
comp=Z,4.0nm,0.8s
JFWS Jewell Farm 63.17 53 P **P** **13 53 45.4 -0.6**
baz=321
MSTX Muleshoe 63.79 68 P **P** **13 53 49.8 -0.5**
baz=320
MNTX Cornudas Mount 64.11 71 P **P** **13 53 51.8 -0.6**
baz=320
GLMI Grayling 64.18 48 P **P** **13 53 51.9 -0.8**
baz=323
L44A Lake County Fo 64.82 52 P **P** **13 53 57.2 +0.4**
baz=322
WMOK Wichita Mounta 65.31 64 P **P** **13 54 00.2 0.0**
baz=321
R40A Maddies Statio 65.83 58 P **P** **13 54 02.9 -0.6**
R40A IAmb IAmb 13 54 44.1
comp=Z,2.6nm,0.9s
TUL3 Leonard 65.93 62 P **P** **13 54 03.2 -1.0**
baz=321
ABTX Abilene, Hawle 66.49 67 P **P** **13 54 06.7 -1.1**
baz=321
CCM Cathedral Cave 66.51 57 P **P** **13 54 06.8 -1.0**
baz=322
TX31 Lajitas Ar. Si 66.87 72 P **P** **13 54 11.0 +0.6**
TX31 IAmb IAmb 13 54 11.9
comp=Z,6.2nm,1.5s
TXAR Lajitas Array 66.87 72 P **P** **13 54 11.1 +0.7**
TXAR Lajitas Array 66.87 72 P **P** **13 54 10.8 +0.5**
comp=Z,1.1nm,0.5s,baz=300,slow=5.3,SNR=18
comp=Z,1.1nm,0.5s
TXAR Lajitas Array 66.87 72 P **P** **13 54 11.1 +0.7**
MIAR Mount Ida 68.13 61 P **P** **13 54 16.5 -1.6**
baz=322
O52A Adamsville 69.20 49 P **P** **13 54 24.2 -0.5**
L56A Greenwood 69.34 45 P **P** **13 54 24.8 -0.8**
KIV Kislovodsk 70.29 320 *eP* **P** **13 54 31.8 +0.3**
KIV *e* 13 54 51.4
KIV pmax pmax
comp=Z,4.0nm,0.9s
G65A Princeton 70.52 37 P **P** **13 54 32.3 -0.4**
SWET Sewanee 71.33 55 P **P** **13 54 37.2 -0.6**
TZTN Tazewell 71.36 53 P **P** **13 54 37.9 -0.1**
VBMS Vicksburg 71.52 60 P **P** **13 54 37.5 -1.5**
baz=324
W50A Signal Mountai 71.64 55 P **P** **13 54 39.1 -0.7**
CPCT Cooper Cave 71.80 54 P **P** **13 54 40.5 -0.1**
CPCT IAmb IAmb 13 54 47.5
comp=Z,5.7nm,1.1s
FPAL Fort Paine 72.03 55 P **P** **13 54 41.7 -0.5**
FPAL IAmb IAmb 13 54 42.7
comp=Z,5.9nm,1.0s
U54A Nelsons Funny 72.16 51 P **P** **13 54 42.8 -0.1**
LRAL Lakeview Retre 72.59 57 P **P** **13 54 44.9 -0.6**
LRAL Lakeview Retre 72.59 57 P **P** **13 54 44.4 -1.0**
baz=325
T57A Hurt 72.91 49 P **P** **13 54 46.7 -0.6**
W57A Gilead 74.12 51 P **P** **13 54 54.0 -0.4**
WRA Warramunga Arr 79.24 210 P **P** **13 55 22.9 -0.3**
comp=Z,0.7nm,0.8s,baz=26,slow=6.2,SNR=5.0
WRA pP **pwP** **13 55 38.0 +1.8**
comp=Z,0.8nm,0.4s,baz=27,slow=6.3,SNR=7.2
comp=Z,0.7nm,0.8s
ASAR Alice Springs 82.89 209 P **P** **13 55 42.8 +0.1**
comp=Z,0.6nm,0.7s,baz=16,slow=5.0,SNR=9.2
ASAR pP **pwP** **13 55 57.9 +2.2**
comp=Z,2.0nm,0.8s,baz=16,slow=5.4,SNR=9.1
comp=Z,0.6nm,0.7s
ESDC Sonseca Array 85.37 352 P **P** **13 55 53.7 -1.7**
comp=Z,0.8nm,1.0s,baz=301,slow=8.8,SNR=4.1
comp=Z,0.8nm,1.0s
QSPA South Pole Qui 144.67 180 PKP **PKPab** **14 02 50.3 -1.9**
comp=Z,1.3nm,0.9s,baz=0.0,slow=2.0,SNR=14
QSPA pPKP **sPKPdf** **14 03 06.1 +6.5**
comp=Z,2.9nm,0.6s,baz=342,slow=1.1,SNR=6.2

*SNET **27** 13:55:28.6±0.8, 13°.83N×90°.58W, h63km±41km, ML3.2*
*GCG **27** 13:55:29.4±0.4, 13°.66N×90°.67W, h33km±999km, MD3.3*
ISC 27 13:55:28.4±2.7, 13°.5N±0°.2×90°.7W±0°.1, h38km, n11, σ0s49/14, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.86**	**3**	*eP*		**Pn**		**13 55 44.0**	**-0.4**
NUBE	**Las Nubes**	**0.93**	**66**	*eP*		**Pn**		**13 55 44.4**	**-0.7**
FUG	**Fuego 3**	**0.94**	**349**	*eP*		**Pn**		**13 55 44.8**	**-0.4**
CEVE	**Cerro Verde**	**1.04**	**73**	*eP*		**Pn**		**13 55 46.4**	**-0.4**
CEVE				*eS*		**Sn**		**13 56 00.5**	**+0.3**
RTR	**El Retiro**	**1.05**	**69**	*eP*		**Pn**		**13 55 46.6**	**-0.1**
SBLS	**San Blas**	**1.05**	**73**	*eP*		**Pn**		**13 55 46.4**	**-0.5**
SNJE	**San Jose**	**1.07**	**71**	*iP*		**Pn**		**13 55 46.8**	**-0.4**
NBG	**Las Nubes**	**1.10**	**16**	*eP*		**Pn**		**13 55 47.5**	**0.0**
JAYA	**Jayaque - finc**	**1.18**	**84**	*eP*		**Pn**		**13 55 48.0**	**-0.5**
JAYA				*eS*		**Sn**		**13 56 03.7**	**+0.3**
JAYA				IAML				13 56 04.2	
comp=Z,456nm,0.2s									
LOMA	**Loma Larga**	**1.45**	**85**	*eP*		**Pn**		**13 55 52.2**	**0.0**
LOMA				*eS*		**Sn**		**13 56 10.9**	**+0.9**
STG3	**Santiaguito 3,**	**1.48**	**323**	*eP*		**Pn**		**13 55 52.7**	**0.0**

*IDC **27** 14:14:02.8±1.2, 28°.57N×142°.66E, h0km, mb3.7/8, mbtmp3.7/12, ML3.2/4, MS2.7/1, Error ellipse: s-maj=42.1km s-min=15.8km az=81.0*
ISC 27 14:14:06.4±1.0, 28°.55N±0°.06×142°.5E±0°.2, h25km, n14, σ1s56/16, mb3.8/8, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.48**	**190**	Pn		**Pn**		**14 14 31.0**	**-0.3**
9.7nm,0.3s,baz=288,slow=20,SNR=2.2									
JCJ				Sn		**Sn**		**14 14 47.5**	**-2.3**
32nm,0.3s,baz=271,slow=23,SNR=9.7									
JHJ	**Hachijo jima 2**	**5.10**	**334**	Pn		**Pn**		**14 15 20.7**	**-0.5**
5.7nm,0.3s,baz=77,slow=19,SNR=1.6									
JHJ				Sn		**Sn**		**14 16 16.4**	**-3.0**
6.6nm,0.3s,baz=252,slow=19,SNR=1.6									
38nm,0.6s									
MJAR	**Matsushiro Arr**	**8.74**	**337**	Pn		**Pn**		**14 16 10.7**	**-0.5**
0.2nm,0.3s,baz=154,slow=5.9,SNR=15									
MJAR				Sn		**Sn**		**14 17 46.5**	**-2.3**
baz=158,slow=22,SNR=2.6									
1.3nm,0.5s									
GUMO	**Guam**	**15.06**	**171**	LR		LR		14 21 19.5	
comp=Z,28nm,20.8s,baz=174,slow=29									
KSRS	**Korea Array**	**15.08**	**310**	Pn		**Pn**		**14 17 40.0**	**+2.3**
baz=115,slow=12,SNR=6.1									
0.7nm,0.4s									
USRK	**Ussuriysk Ar.**	**17.72**	**335**	P		**P**		**14 18 13.1**	**+1.1**
0.3nm,0.3s,baz=143,slow=8.5,SNR=2.9									
1.6nm,0.6s									
ZALV	**Zalesovo Beam**	**48.56**	**318**	P		**P**		**14 22 47.7**	**+0.3**
0.5nm,0.4s,baz=75,slow=7.4,SNR=2.5									
0.5nm,0.4s									
WRA	**Warramunga Arr**	**48.85**	**190**	P		**P**		**14 22 50.6**	**+0.7**
1.4nm,0.6s,baz=13,slow=8.5,SNR=20									
1.4nm,0.6s									
MKAR	**Makanchi Array**	**49.76**	**309**	P		**P**		**14 22 58.0**	**+1.3**
0.5nm,0.7s,baz=95,slow=8.8,SNR=5.4									
0.5nm,0.7s									
KURBB	**Kurchatov Arra**	**52.21**	**314**	P		**P**		**14 23 15.9**	**+0.9**
2.3nm,0.7s,baz=91,slow=8.1,SNR=16									
2.3nm,0.7s									
ASAR	**Alice Springs**	**52.57**	**190**	P		**P**		**14 23 18.5**	**+0.5**
0.2nm,0.7s,baz=2.9,slow=4.6,SNR=6.8									
0.2nm,0.7s									
ILAR	**Eielson Array**	**56.32**	**29**	P		**P**		**14 23 44.6**	**-0.1**
0.2nm,0.6s,baz=270,slow=6.3,SNR=2.4									
0.2nm,0.6s									
BVAR	**Borovoye Array**	**57.15**	**317**	P		**P**		**14 23 52.1**	**+1.3**
2.1nm,0.6s,baz=94,slow=7.0,SNR=15									
2.1nm,0.6s									
NOA	**NORSAR Array B**	**82.35**	**338**	P		**P**		**14 26 25.9**	**0.0**
0.4nm,0.6s,baz=42,slow=5.3,SNR=2.8									
0.4nm,0.6s									

*IDC **27** 14:23:24.8±0.5, 12°.81S×45°.63E, h0km, mb4.1/24, mbtmp4.2/28, ML4.6/4, MS3.6/35, Error ellipse: s-maj=17.6km s-min=12.5km az=84.0*
*MOS **27** 14:23:25.0±1.0, 12°.83S×45°.61E, h13km, mb4.7/30, Error ellipse: s-maj=12.3km s-min=6.5km az=98.8*
*NEIC **27** 14:23:27.1±1.4, 12°.89S±0°.08×45°.7E±0°.1, h13km±4km, mb4.7/44, Error ellipse: s-maj=18.9km s-min=11.5km az=98.0*
ISC 27 14:23:26.1±0.3, 12°.84S±0°.05×45°.66E±0°.06, h10km, n220, σ1s26/209, mb4.7/87, MS3.7/34, 9C-9D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.88**	**166**	Pn		**Pn**		**14 24 53.8**	**+0.2**
5.2nm,0.3s,baz=338,slow=12,SNR=98									
OPO				Sn		**Sn**		**14 25 54.9**	**-6.4**
8.0nm,0.3s,baz=332,slow=13,SNR=18									
OPO				LR		LR		14 27 24.3	
comp=Z,857nm,19.4s,baz=191,slow=40									
79nm,0.3s									
ABPO Ambohimpanom 6.33 166				Pn		**Pn**		**14 24 59.3**	**-0.4**
ABPO Ambohimpanom 6.33 166‖				*iP*		**Pn**		**14 24 60.0**	**+0.3**
ABPO Ambohimpanom 6.33 166				P		**Pn**		**14 24 59.3**	**-0.4**
VOI Vohitsoka 9.08 173				Pn		**Pn**		**14 25 36.6**	**-0.8**
VOI Vohitsoka 9.08 173				*eP*		**Pn**		**14 25 36.5**	**-0.9**
ZOMB Zomba 10.31 255				*ePN*		**Pn**		**14 25 53.2**	**-1.2**
ZOMB				*i* SN		Sn		14 27 39.4	-11
ZOMB Zomba 10.31 255				*ePN*		**Pn**		**14 25 53.2**	**-1.2**
ZOMB				*i* SN		Sn		14 27 39.4	-11
FOMA Nahampoana Res 12.14 174				Pn		**Pn**		**14 26 18.2**	**-1.0**
MSEY Mahe Island 12.65 51				P		**Pn**		**14 26 23.9**	**-2.4**
MSEY Mahe Island 12.65 51				*eP*		**Pn**		**14 26 23.6**	**-2.7**
MSEY Mahe Island 12.65 51				P		**Pn**		**14 26 23.9**	**-2.4**
RER Riviere de l'E 12.71 132				Pn		**Pn**		**14 26 26.4**	**-0.7**
KIBK Kibwezi 12.87 324				Pn		**Pn**		**14 26 26.1**	**-3.2**
KIBK Kibwezi 12.87 324				*eP*		**Pn**		**14 26 28.0**	**-1.4**
KIBK				*eS*		Sn		14 28 40.7	-12
KMBO Kilima Mbogo 14.31 324				*eP*		**Pn**		**14 26 46.7**	**-2.5**
KMBO				*eS*		**Sn**		**14 29 26.1**	**-2.2**
LSZ Lusaka 17.12 260				P		**Pn**		**14 27 24.6**	**-1.2**
0.8nm,0.3s,baz=83,slow=9.7,SNR=15									
LSZ				S		Sn		14 30 24.0	-12
7.0nm,0.6s,baz=29,slow=4.2,SNR=3.8									
LSZ				LR		LR		14 33 40.1	
comp=Z,158nm,18.8s,baz=110,slow=36									
15nm,0.8s									
MOPA Mopani 17.20 230				*i* P		**Pn**		**14 27 24.2**	**-2.4**
MOPA Mopani 17.20 230				*eP*		**Pn**		**14 27 23.8**	**-2.9**
MUSN Musina, Limpop 17.73 236				*i* P		**P**		**14 27 33.3**	**-1.0**
MUSN Musina, Limpop 17.73 236				*eP*		**Pn**		**14 27 31.4**	**-1.9**
MPHEP Siloam, Limpop 17.79 234				*eP*		**Pn**		**14 27 33.0**	**-1.2**
HOED Hoedspruit, Li 18.07 228				*eP*		**Pn**		**14 27 36.1**	**-1.4**
MATP Matopo 18.08 243				*i* P		**P**		**14 27 37.9**	**-0.2**
MATP Matopo 18.08 243				P		**P**		**14 27 37.1**	**-1.0**
0.5nm,0.3s,baz=62,slow=11,SNR=13									
MATP				S		Sn		14 30 46.3	-13
0.7nm,0.3s,baz=328,slow=18,SNR=1.7									
3.7nm,0.5s									
PILG Pilgrimsrest, 18.54 227				*eP*		**P**		**14 27 41.9**	**-1.4**
LODK Lodwar 19.12 327						**Pn**		**14 27 50.4**	**0.0**
LODK Lodwar 19.12 327‖				*eP*		**Pn**		**14 27 52.5**	**+2.2**
MBAR Mbarara 19.14 308						**Pn**		**14 27 50.7**	**-0.1**
MBAR Mbarara 19.14 308				P		**Pn**		**14 27 49.2**	**-1.6**
1.5nm,0.3s,baz=109,slow=16,SNR=2.5									
MBAR				S		Sn		14 31 10.6	-15
2.9nm,0.2s,baz=0.0,slow=20,SNR=1.7									
MBAR				LR		LR		14 35 07.0	
comp=Z,268nm,18.4s,baz=112,slow=37									
4.6nm,0.2s									
MBAR Mbarara 19.14 308				*ceP*		**Pn**		**14 27 52.5**	**+1.7**
MBAR				pmax	pmax				
comp=Z,30nm,1.7s									
POGA Pongola 19.46 220				P		**P**		**14 27 53.2**	**+0.1**
POGA				IAmb	IAmb			14 27 57.4	
comp=Z,37nm,1.1s									
POGA Pongola 19.46 220				*eP*		**Pn**		**14 27 55.0**	**+0.7**
WTBG Waterberg Wild 19.49 232				*eP*		**Pn**		**14 27 54.2**	**-0.7**
CRLN Carolina, Mapu 19.68 226				*eP*		**P**		**14 27 55.2**	**-0.5**
LEPH Lephalale, Lim 20.16 235				*eP*		**P**		**14 28 00.5**	**-0.4**
RUST Rust De Winter 20.33 230				*eP*		**P**		**14 28 01.9**	**-0.8**
NWCL Newcastle 20.90 222				*eP*		**P**		**14 28 08.7**	**-0.2**
NWCL				IAmb	IAmb			14 28 13.1	
comp=Z,73nm,1.4s									
NHAM Northam, North 21.07 233				*eP*		**P**		**14 28 09.7**	**-1.1**
NYAT Nyati, Northwe 21.12 231				*eP*		**P**		**14 28 10.7**	**-0.6**
HRAO HartRAO 21.32 230				*eP*		**P**		**14 28 11.7**	**-1.8**
PMBG Pietermaritzbu 21.75 218				*eP*		**P**		**14 28 18.6**	**+0.7**
PMBG				IAmb	IAmb			14 28 23.3	
comp=Z,33nm,0.9s									
LBTB Lobatse 22.47 235				P		**P**		**14 28 24.6**	**-1.3**
LBTB				IAmb	IAmb			14 28 28.5	
comp=Z,19nm,0.8s									
LBTB Lobatse 22.47 235				*i* P		**P**		**14 28 26.2**	**+0.4**
LBTB Lobatse 22.47 235				*eP*		**P**		**14 28 23.6**	**-2.2**
LBTB				IAmb	IAmb			14 28 27.7	
comp=Z,27nm,1.1s									
LBTB Lobatse 22.47 235				LR		LR		14 37 20.3	
comp=Z,196nm,20.0s,baz=56,slow=37									
LBTB Lobatse 22.47 235				P		**P**		**14 28 24.6**	**-1.3**
LBTB				pmax	pmax				
comp=Z,19nm,0.9s									
SNKL Senekal, Frees 22.67 225				*eP*		**P**		**14 28 27.6**	**-0.4**
SNKL				IAmb	IAmb			14 28 30.2	
comp=Z,39nm,1.0s									
ATD Arta Tunnel 24.37 353				LR		LR		14 37 41.6	
comp=Z,5.6nm,21.1s,baz=168,slow=35									
BOSA Boshof 24.64 227				P		**P**		**14 28 46.4**	**-0.8**
BOSA Boshof 24.64 227				*iP*		**P**		**14 28 47.3**	**+0.1**
BOSA Boshof 24.64 227				*eP*		**P**		**14 28 46.5**	**-0.8**
BOSA				IAmb	IAmb			14 28 49.8	
comp=Z,6.8nm,0.6s									
BOSA Boshof 24.64 227				P		**P**		**14 28 46.5**	**-0.7**
comp=Z,4.9nm,0.4s,baz=51,slow=8.8,SNR=26									
BOSA				LR		LR		14 38 10.4	
comp=Z,199nm,19.5s,baz=48,slow=36									
comp=Z,4.9nm,0.4s									
BOSA Boshof 24.64 227				P		**P**		**14 28 46.4**	**-0.8**
BOSA				pmax	pmax				
comp=Z,9.0nm,1.0s									
GRHM Grahamstown, E 26.90 218				P		**P**		**14 29 06.4**	**-1.1**
TSUM Tsumeb 27.69 253				LR		LR		14 40 01.7	
comp=Z,177nm,18.2s,baz=156,slow=36									
MERW Merweville 29.62 224				*eP*		**P**		**14 29 32.1**	**+0.3**
SUR Sutherland 29.94 225				P		**P**		**14 29 34.9**	**+0.1**
SUR Sutherland 29.94 225				*eP*		**P**		**14 29 35.1**	**+0.3**
SUR				IAmb	IAmb			14 29 36.1	
comp=Z,28nm,0.8s									
SUR Sutherland 29.94 225				LR		LR		14 41 09.4	
comp=Z,111nm,19.6s,baz=53,slow=36									
PRTV Porterville,We 31.52 226				*eP*		**P**		**14 29 48.5**	**-0.1**
PRTV				IAmb	IAmb			14 29 50.6	
comp=Z,23nm,1.4s									
RAYN Ar Rayn 36.14 360				P		**P**		**14 30 29.9**	**+1.2**
RAYN Ar Rayn 36.14 360				P		**P**		**14 30 29.9**	**+1.2**
RAYN				pmax	pmax				
comp=Z,5.0nm,1.0s									
WSAR Wadi Sarin 38.04 20				LR		LR		14 43 45.0	
comp=Z,165nm,20.3s,baz=217,slow=32									
UOSS Minazif 38.94 15				P		**P**		**14 30 53.3**	**+0.9**
PALK Pallekele 40.15 62				LR		LR		14 44 34.8	
comp=Z,60nm,20.1s,baz=336,slow=32									
EIL Elat 43.51 346				LR		LR		14 47 49.6	
comp=Z,66nm,19.8s,baz=234,slow=34									
MMAI Mount Meron Ar 46.64 348				P		**P**		**14 31 55.5**	**+0.6**
comp=Z,1.3nm,0.6s,baz=134,slow=10,SNR=2.9									
MMAI				LR		LR		14 52 13.6	
comp=Z,76nm,18.6s,baz=96,slow=37									
comp=Z,1.3nm,0.6s									
TORD Torodi Ar. Bea 50.66 299				P		**P**		**14 32 26.6**	**+0.6**
comp=Z,2.4nm,1.0s,baz=126,slow=7.3,SNR=7.3									
TORD				LR		LR		14 55 12.9	
comp=Z,87nm,18.9s,baz=140,slow=38									
comp=Z,2.4nm,1.0s									
IDI Anoyia 51.75 338				LR		LR		14 57 39.5	
comp=Z,56nm,18.3s,baz=120,slow=40									
GEYT Alibeck 51.84 13				P		**P**		**14 32 34.4**	**-0.1**
comp=Z,1.0nm,0.4s,baz=184,slow=6.7,SNR=2.2									
GEYT				LR		LR		14 53 55.2	
comp=Z,67nm,21.2s,baz=182,slow=35									
comp=Z,1.0nm,0.4s									
ARPR Arapgir-MALATY 52.11 353				P		**P**		**14 32 37.5**	**+0.7**
ARPR				IAmb	IAmb			14 32 39.8	
comp=Z,18nm,1.4s									
GNI Garni 52.72 359				LR		LR		14 56 00.5	
comp=Z,121nm,20.2s,baz=160,slow=37									
TAM Tamanrasset 52.91 312				P		**P**		**14 32 45.5**	**+2.6**
TAM				pmax	pmax				
comp=Z,6.0nm,1.8s									
BR104 Keskin Array S 53.46 348				P		**P**		**14 32 47.3**	**+0.6**
comp=Z,2.7nm,0.8s									
BR105 Keskin Array S 53.48 348				P		**P**		**14 32 47.7**	**+0.9**
comp=Z,3.9nm,1.1s									
BR131 Keskin Array S 53.48 348				P		**P**		**14 32 47.4**	**+0.6**
BR131				IAmb	IAmb			14 32 48.7	
comp=Z,8.5nm,1.3s									
BR131 Keskin Array S 53.48 348				P		**P**		**14 32 47.4**	**+0.6**
BR131				pmax	pmax			

	comp=Z,2.0nm,0.6s							
BR106	**Keskin Array S**	**53.49**	**348**	P		**P**	**14 32 47.4**	**+0.5**
	comp=Z,3.6nm,0.8s							
DBIC	**Dimbokro**	**53.80**	**288**	LR		LR	14 55 16.6	
	comp=Z,62nm,19.3s,baz=143,slow=36							
ITM	**Ithomi**	**54.53**	**337**	P		**P**	**14 32 55.4**	**+1.0**
MAW	**Mawson**	**55.88**	**172**	P		**P**	**14 33 03.8**	**+0.2**
	comp=Z,1.5nm,0.6s,baz=334,slow=11,SNR=9.0							
MAW				LR		LR	14 54 29.6	
	comp=Z,89nm,18.0s,baz=2.5,slow=33							
	comp=Z,1.5nm,0.6s							
KBZ	**Khabaz**	**56.35**	**358**	P		**P**	**14 33 07.2**	**-0.1**
	comp=Z,3.2nm,0.8s,baz=206,slow=5.2,SNR=5.8							
KBZ				LR		LR	14 58 37.3	
	comp=Z,72nm,20.0s,baz=140,slow=38							
	comp=Z,3.2nm,0.8s							
KBZ	**Khabaz**	**56.35**	**358**⇑	*eP*		**P**	**14 33 09.1**	**+1.8**
KBZ				pmax		pmax		
	comp=Z,8.0nm,0.9s							
SHA1	**Shidzhatmaz**	**56.37**	**357**⇑	*iP*		**P**	**14 33 09.2**	**+1.4**
SOC	**Sochi**	**56.41**	**355**	*eP*		**P**	**14 33 06.9**	**-0.9**
SOC				*e*			14 35 10.5	
SOC				*eS*		**S**	**14 40 57.6**	**-0.9**
SOC				*eSS*		**SS**	**14 44 44.8**	**-1.2**
SOC				*eSSS*		SSS	14 46 56.2	
SOC				pmax		pmax		
	comp=Z,16nm,0.9s							
SOC				MLR		MLR		
	comp=Z,63nm,15.0s							
KIV	**Kislovodsk**	**56.59**	**357**	*c iP*		**P**	**14 33 10.4**	**+1.3**
KIV				pmax		pmax		
	comp=Z,20nm,1.0s							
ANN	**Anapa**	**57.85**	**353**	*eP*		**P**	**14 33 13.6**	**-4.3**
ANN				*e**PP		**pP**	**14 33 16.4**	**-3.8**
ANN				*eS*		**S**	**14 41 09.8**	**-7.6**
ANN				pmax		pmax		
	comp=Z,42nm,1.0s							
FNA	**Florina**	**57.90**	**338**	P		**P**	**14 33 19.0**	**+0.5**
FNA				IAmb		IAmb	14 33 20.8	
	comp=Z,7.8nm,0.9s							
FNA	**Florina**	**57.90**	**338**	P		**P**	**14 33 19.0**	**+0.5**
FNA				pmax		pmax		
	comp=Z,8.0nm,0.9s							
VAE	**Valguarnera**	**58.02**	**331**	LR		LR	15 02 32.3	
	comp=Z,46nm,18.1s,baz=133,slow=40							
KEST	**Kesra**	**59.27**	**326**	LR		LR	15 00 41.4	
	comp=Z,67nm,19.4s,baz=192,slow=38							
CUC	**Castrocucco**	**59.43**	**334**	P		**P**	**14 33 28.9**	**-0.2**
PUK	**Puka**	**59.54**	**338**	P		**P**	**14 33 31.2**	**+1.3**
PUK				IAmb		IAmb	14 33 32.2	
	comp=Z,8.3nm,0.9s							
PDG	**Podgorica**	**60.11**	**338**	P		**P**	**14 33 34.7**	**+1.0**
ELIB	**Princess Elisa**	**60.58**	**188**	*dP*		**P**	**14 33 38.3**	**+1.5**
	comp=Z,3.4nm,1.0s							
ODBI	**Odobesti**	**60.70**	**345**	P		**P**	**14 33 39.4**	**+1.8**
	comp=Z,4.1nm,0.6s							
NE56	**Odesa**	**60.71**	**348**	P		**P**	**14 33 37.2**	**-0.4**
MLR	**Muntele Rosu**	**60.73**	**344**	LR		LR	15 00 32.1	
	comp=Z,40nm,21.9s,baz=180,slow=37							
VOIR		**60.92**	**344**	P		**P**	**14 33 38.7**	**-0.6**
VOIR		**60.92**	**344**	P		**P**	**14 33 38.7**	**-0.6**
	comp=Z,5.7nm,1.4s							
CMAR	**Chiang Mai Arr**	**61.06**	**60**	P		**P**	**14 33 40.6**	**0.0**
	comp=Z,1.0nm,0.7s,baz=242,slow=7.4,SNR=5.5							
CMAR				LR		LR	14 57 04.1	
	comp=Z,27nm,18.9s,baz=195,slow=33							
	comp=Z,1.0nm,0.7s							
CMAR	**Chiang Mai Arr**	**61.06**	**60**	*i* P		**P**	**14 33 41.5**	**+0.8**
CMAR				pmax		pmax		
	comp=Z,1.0nm,0.3s							
AAK	**Ala-Archa**	**61.22**	**24**	LR		LR	14 57 34.7	
	comp=Z,29nm,20.3s,baz=238,slow=34							
AAK	**Ala-Archa**	**61.22**	**24**⇓	*eP*		**P**	**14 33 41.8**	**+0.3**
INTR	**Introdacqua**	**61.91**	**334**	P		**P**	**14 33 46.0**	**-0.1**
INTR				IAmb		IAmb	14 33 47.5	
	comp=Z,8.2nm,1.3s							
FRGS	**Fruska Gora**	**62.29**	**340**	P		**P**	**14 33 49.7**	**+1.2**
	comp=Z,9.2nm,1.1s							
BURAR	**Bucovina Array**	**62.89**	**345**	P		**P**	**14 33 53.1**	**+0.6**
BURAR				IAmb		IAmb	14 33 54.3	
	comp=Z,2.2nm,0.7s							
BURAR	**Bucovina Array**	**62.89**	**345**	P		**P**	**14 33 53.1**	**+0.6**
BURAR				pmax		pmax		
	comp=Z,2.0nm,0.7s							
MORH	**Mrgy, Hungar**	**63.61**	**339**	P		**P**	**14 33 58.0**	**+0.8**
AKTO	**Aktyubinsk**	**63.93**	**9**	LR		LR	15 05 48.2	
	comp=Z,44nm,18.5s,baz=102,slow=40							
PSZ	**Piszkesteto**	**64.69**	**341**	P		**P**	**14 34 04.6**	**+0.2**
PSZ				IAmb		IAmb	14 34 16.3	
	comp=Z,3.3nm,0.9s							
PSZ	**Piszkesteto**	**64.69**	**341**	P		**P**	**14 34 04.6**	**+0.2**
PSZ				pmax		pmax		
	comp=Z,3.0nm,0.9s							
KIEV	**Kiev**	**64.88**	**349**	P		**P**	**14 34 05.2**	**-0.1**
KIEV				IAmb		IAmb	14 34 06.2	
	comp=Z,7.1nm,1.2s							
KIEV	**Kiev**	**64.88**	**349**	P		**P**	**14 34 05.3**	**-0.1**
KIEV				pmax		pmax		
	comp=Z,7.0nm,1.3s							
AKASG	**Malin Array Be**	**64.88**	**349**	P		**P**	**14 34 04.4**	**-1.0**
	comp=Z,1.0nm,0.6s,baz=171,slow=5.7,SNR=8.8							
AKASG				LR		LR	15 02 08.1	
	comp=Z,27nm,19.3s,baz=130,slow=36							
	comp=Z,1.0nm,0.6s							
AKASG	**Malin Array Be**	**64.88**	**349**	*i* P		**P**	**14 34 05.4**	**0.0**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.7s							
AKBB	**Malin Array Si**	**64.88**	**349**⇓	*eP*		**P**	**14 34 05.1**	**-0.3**
AKBB				pmax		pmax		
	comp=Z,12nm,1.8s							
BELG	**Belogornoye**	**64.99**	**1**⇑	*iP*		**P**	**14 34 06.2**	**+0.2**
BELG				pmax		pmax		
	comp=Z,3.0nm,0.8s							
SRO	**Srobarova**	**65.11**	**340**	*eP*		**P**	**14 34 07.9**	**+0.9**
SRO	**Srobarova**	**65.11**	**340**	*eP*		**P**	**14 34 07.9**	**+0.9**
SRO				pmax		pmax		
	comp=Z,7.0nm,0.7s							
SABO	**M.te Sabotino**	**65.28**	**336**	P		**P**	**14 34 08.3**	**+0.1**
SABO				IAmb		IAmb	14 34 09.4	
	comp=Z,10nm,0.9s							
SOKA	**Soboth**	**65.31**	**337**	*eP*		**P**	**14 34 08.9**	**+0.5**
	comp=Z,3.9nm,0.7s,SNR=5.5							
OBKA	**Obir**	**65.35**	**337**	*i* P		**P**	**14 34 09.7**	**+1.0**
	comp=Z,5.3nm,1.0s,SNR=5.2							
VYHS	**Vyhne**	**65.54**	**341**	*eP*		**P**	**14 34 09.8**	**0.0**
VYHS	**Vyhne**	**65.54**	**341**	*eP*		**P**	**14 34 09.8**	**0.0**
VYHS				pmax		pmax		
	comp=Z,3.0nm,0.8s							
ARSA	**Arzberg**	**65.61**	**338**	*eP*		**P**	**14 34 10.9**	**+0.7**
	comp=Z,2.5nm,0.4s,SNR=5.6							
RONA	**Rosalia, Austr**	**65.71**	**339**	*eP*		**P**	**14 34 11.6**	**+0.7**
	comp=Z,3.9nm,0.5s,SNR=7.6							
STAL	**STALIGIAL**	**65.87**	**336**	P		**P**	**14 34 12.2**	**+0.3**
STAL				IAmb		IAmb	14 34 13.1	
	comp=Z,5.7nm,1.0s							
MODS	**Modra-Piesok**	**65.95**	**340**	*eP*		**P**	**14 34 13.1**	**+0.7**
MODS	**Modra-Piesok**	**65.95**	**340**	*eP*		**P**	**14 34 13.1**	**+0.7**
MODS				pmax		pmax		
	comp=Z,12nm,0.9s							
CIMO	**Cimolais**	**66.02**	**335**	P		**P**	**14 34 13.2**	**+0.3**
CIMO				IAmb		IAmb	14 34 14.1	
	comp=Z,5.0nm,0.8s							
MDT	**Midelt**	**66.05**	**315**	LR		LR	15 04 17.4	
	comp=Z,66nm,18.4s,baz=154,slow=37							
CONA	**Conrad Observa**	**66.06**	**339**	*i* P		**P**	**14 34 13.7**	**+0.4**
	comp=Z,3.8nm,0.8s							
CTI	**Castel Tesino**	**66.13**	**335**	P		**P**	**14 34 14.3**	**+0.5**
CTI	**Castel Tesino**	**66.13**	**335**	P		**P**	**14 34 14.3**	**+0.5**
CTI				pmax		pmax		
	comp=Z,8.0nm,0.8s							
KBA	**Koelnbreinsper**	**66.29**	**336**	*i* P		**P**	**14 34 15.4**	**+0.6**
	comp=Z,4.2nm,0.7s							
ABTA	**Abfaltersbach**	**66.34**	**336**	*eP*		**P**	**14 34 15.6**	**+0.6**
	comp=Z,3.2nm,0.6s							
MOA	**Molln**	**66.57**	**338**	*i* P		**P**	**14 34 16.9**	**+0.4**
	comp=Z,4.7nm,0.7s,SNR=6.3							
BIOA	**Bad Ischl, Aus**	**66.68**	**337**	*eP*		**P**	**14 34 17.3**	**+0.2**
	comp=Z,3.3nm,0.7s							
OJC	**Ojcow**	**66.76**	**342**	P		**P**	**14 34 17.4**	**-0.1**
OJC				IAmb		IAmb	14 34 18.6	
	comp=Z,4.8nm,1.1s							
OJC	**Ojcow**	**66.76**	**342**	P		**P**	**14 34 17.5**	**-0.1**
OJC				pmax		pmax		
	comp=Z,5.0nm,1.1s							
LESA	**Schwarzleotal**	**66.83**	**336**	*i* P		**P**	**14 34 18.1**	**-0.1**
	comp=Z,3.7nm,0.9s							

KRUC	**Moravsky**	**66.84**	**340**	*eP*		**P**	**14 34 18.1**	**0.0**
VRAC	**Vranov**	**66.98**	**340**	*eP*		**P**	**14 34 19.2**	**+0.2**
VRAC	**Vranov**	**66.98**	**340**	LR		LR	15 06 21.1	
	comp=Z,16nm,20.7s,baz=120,slow=38							
PZH	**PanZhiHua**	**67.07**	**54**	P		**P**	**14 34 21.8**	**+1.6**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.6s							
PZH				pmax		pmax		
	comp=Z,100nm,6.5s							
MORC	**Moravsky Berou**	**67.07**	**341**	P		**P**	**14 34 19.9**	**+0.3**
MORC				IAmb		IAmb	14 34 20.9	
	comp=Z,5.5nm,0.8s							
MORC	**Moravsky Berou**	**67.07**	**341**	*eP*		**P**	**14 34 20.0**	**+0.4**
MORC	**Moravsky Berou**	**67.07**	**341**	P		**P**	**14 34 19.9**	**+0.3**
MORC				pmax		pmax		
	comp=Z,6.0nm,0.8s							
WTTA	**Wattenberg**	**67.11**	**336**	*eP*		**P**	**14 34 20.3**	**+0.2**
	comp=Z,5.1nm,1.0s							
FUORN	**Ofenpass-Fuorn**	**67.17**	**334**	P		**P**	**14 34 20.8**	**+0.2**
FETA	**Feichten**	**67.29**	**335**	*eP*		**P**	**14 34 21.5**	**+0.2**
	comp=Z,7.6nm,1.0s							
MOTA	**Moosalm**	**67.40**	**335**	*eP*		**P**	**14 34 21.6**	**-0.3**
	comp=Z,5.6nm,1.0s							
GEC2	**GERESS Array S**	**67.61**	**338**	P		**P**	**14 34 22.5**	**-0.6**
GEC2				IAmb		IAmb	14 34 23.8	
	comp=Z,5.4nm,1.1s							
GERES	**GERESS Array B**	**67.61**	**338**	P		**P**	**14 34 22.2**	**-0.9**
	comp=Z,3.1nm,0.9s,baz=144,slow=3.1,SNR=13							
	comp=Z,3.1nm,0.9s							
RETA	**Reute**	**67.65**	**335**	*eP*		**P**	**14 34 23.4**	**0.0**
	comp=Z,5.2nm,1.0s							
MK31	**Makanchi Array**	**67.83**	**26**	*d iP*		**P**	**14 34 24.5**	**0.0**
MKAR	**Makanchi Array**	**67.83**	**26**	P		**P**	**14 34 24.1**	**-0.4**
	comp=Z,0.6nm,0.6s,baz=211,slow=7.2,SNR=5.3							
MKAR				LR		LR	15 03 19.1	
	comp=Z,26nm,19.2s,baz=157,slow=35							
	comp=Z,0.6nm,0.6s							
MKAR	**Makanchi Array**	**67.83**	**26**	*i* P		**P**	**14 34 24.5**	**0.0**
MKAR				pmax		pmax		
	comp=Z,1.0nm,0.6s							
DAVA	**Damuels**	**67.86**	**335**	*eP*		**P**	**14 34 25.9**	**+1.1**
	comp=Z,9.2nm,1.4s							
KHC	**Kasperske Hory**	**67.89**	**338**	P		**P**	**14 34 23.9**	**-1.0**
KHC	**Kasperske Hory**	**67.89**	**338**⇑	*eP*		**P**	**14 34 24.4**	**-0.4**
KHC				pmax		pmax		
	comp=Z,6.0nm,0.9s							
SENIN	**Lac Senin/Sane**	**68.26**	**332**	P		**P**	**14 34 27.4**	**0.0**
BVAR	**Borovoye Array**	**68.95**	**16**	P		**P**	**14 34 31.3**	**0.0**
	comp=Z,0.8nm,0.7s,baz=258,slow=7.1,SNR=3.8							
	comp=Z,0.8nm,0.7s							
BFO	**Black Forest**	**69.32**	**334**	P		**P**	**14 34 33.9**	**+0.2**
BFO				IAmb		IAmb	14 34 35.1	
	comp=Z,9.4nm,1.3s							
BFO	**Black Forest**	**69.32**	**334**	P		**P**	**14 34 33.9**	**+0.2**
BFO				pmax		pmax		
	comp=Z,9.0nm,1.3s							
KURBB	**Kurchatov Arra**	**69.42**	**22**	P		**P**	**14 34 34.1**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=220,slow=6.8,SNR=2.4							
	comp=Z,0.3nm,0.3s							
KURK	**Kurchatov**	**69.53**	**22**⇓	*eP*		**P**	**14 34 35.8**	**+0.9**
KURK				pmax		pmax		
	comp=Z,5.0nm,1.4s							
ESDC	**Sonseca Array**	**69.68**	**321**	P		**P**	**14 34 36.8**	**+0.6**
ESDC	**Sonseca Array**	**69.68**	**321**	P		**P**	**14 34 37.4**	**+1.2**
	comp=Z,2.5nm,0.9s,baz=132,slow=5.5,SNR=16							
ESDC				LR		LR	15 06 01.3	
	comp=Z,48nm,19.3s,baz=132,slow=37							
	comp=Z,2.5nm,0.9s							
PAB	**San Pablo**	**69.84**	**321**	P		**P**	**14 34 38.2**	**+1.0**
PAB				IAmb		IAmb	14 34 42.7	
	comp=Z,5.9nm,1.4s							
PAB	**San Pablo**	**69.84**	**321**	P		**P**	**14 34 38.2**	**+1.0**
PAB				pmax		pmax		
	comp=Z,6.0nm,1.4s							
ARU	**Arti**	**69.85**	**8**	P		**P**	**14 34 36.5**	**-0.3**
ARU	**Arti**	**69.85**	**8**	*ceP*		**P**	**14 34 37.3**	**+0.5**
ARU				pmax		pmax		
	comp=Z,17nm,1.0s							
CLL	**Collm**	**69.91**	**339**	*eP*		**P**	**14 34 37.0**	**-0.2**
CLL				*e*(pP)		**pwP**	**14 34 44.0**	**+0.6**
CLL	**Collm**	**69.91**	**339**	*eP*		**P**	**14 34 37.0**	**-0.2**
CLL				*e*			14 34 44.0	
CD2	**Chengdu**	**70.73**	**51**	P		**P**	**14 34 42.8**	**0.0**
KIRV	**Kirov**	**71.24**	**2**	LR		LR	15 09 10.6	
	comp=Z,58nm,19.0s,baz=186,slow=39							
KIRV	**Kirov**	**71.24**	**2**	*ceP*		**P**	**14 34 45.1**	**-0.1**
BMRD	**Maredsous**	**72.34**	**334**	*dP*		**P**	**14 34 52.2**	**+0.2**
GTA	**Gaotai**	**72.38**	**41**	P		**P**	**14 34 53.5**	**+0.8**
GTA				pP		pwP	14 35 00.3	+0.9
GTA				pmax		pmax		
	comp=Z,2.0nm,0.9s							
VSU	**Vasula**	**72.72**	**350**⇑	*eP*		**P**	**14 34 54.6**	**+0.5**
VSU				pmax		pmax		
	comp=Z,59nm,3.3s							
LZH	**Lanzhou**	**73.33**	**46**	*eP*		**P**	**14 34 58.0**	**-0.4**
LZH				pP		pwP	14 35 04.3	-0.8
ZALV	**Zalesovo Beam**	**74.40**	**23**	P		**P**	**14 35 04.0**	**-0.1**
	comp=Z,0.9nm,0.3s,baz=193,slow=5.9,SNR=5.4							
ZALV				LR		LR	15 06 50.3	
	comp=Z,23nm,19.2s,baz=234,slow=35							
	comp=Z,0.9nm,0.3s							
ZALV	**Zalesovo Beam**	**74.40**	**23**	*i* P		**P**	**14 35 06.5**	**+2.4**
ZALV				pmax		pmax		
	comp=Z,1.0nm,0.3s							
BELA	**Belgrano 2**	**75.48**	**192**	P		**P**	**14 35 11.5**	**+1.4**
BELA				IAmb		IAmb	14 35 12.5	
	comp=Z,4.5nm,1.0s							
FIA1	**FINESS Array S**	**75.65**	**350**	P		**P**	**14 35 11.1**	**0.0**
FINES	**FINESS Array B**	**75.65**	**350**	P		**P**	**14 35 10.9**	**-0.2**
FINES	**FINESS Array B**	**75.65**	**350**	P		**P**	**14 35 11.1**	**0.0**
	comp=Z,2.5nm,0.7s,baz=159,slow=5.9,SNR=10.0							
	comp=Z,2.5nm,0.7s							
FINES	**FINESS Array B**	**75.65**	**350**	*i* P		**P**	**14 35 11.6**	**+0.5**
FINES				pmax		pmax		
	comp=Z,3.0nm,0.7s							
HFS	**Hagfors**	**77.12**	**344**	P		**P**	**14 35 19.6**	**+0.1**
	comp=Z,3.3nm,0.7s,baz=143,slow=3.7,SNR=7.4							
HFS				LR		LR	15 13 04.8	
	comp=Z,32nm,18.2s,baz=106,slow=39							
	comp=Z,3.3nm,0.7s							
QSPA	**South Pole Qui**	**77.25**	**180**	P		**P**	**14 35 21.4**	**+0.9**
	comp=Z,7.9nm,1.0s,baz=263,slow=2.7,SNR=18							
QSPA				LR		LR	15 07 23.3	
	comp=Z,96nm,18.5s,baz=256,slow=34							
	comp=Z,7.9nm,1.0s							
KONO	**Kongsberg**	**77.87**	**342**	P		**P**	**14 35 24.7**	**+1.0**
KONO	**Kongsberg**	**77.87**	**342**	P		**P**	**14 35 24.7**	**+1.0**
KONO				pmax		pmax		
	comp=Z,16nm,1.4s							
NC602	**NORSAR Array S**	**78.20**	**344**	P		**P**	**14 35 25.9**	**+0.3**
NC602				IAmb		IAmb	14 35 26.5	
	comp=Z,8.3nm,1.1s							
NB201	**NORSAR Array S**	**78.53**	**344**	P		**P**	**14 35 27.5**	**+0.1**
NB2	**NORSAR Subarra**	**78.55**	**344**	P		**P**	**14 35 28.2**	**+0.7**
	comp=Z,1.5nm,0.9s,baz=147,slow=5.3							
NOA	**NORSAR Array B**	**78.55**	**344**	P		**P**	**14 35 27.9**	**+0.3**
	comp=Z,1.4nm,0.9s,baz=119,slow=6.3,SNR=7.1							
NOA				LR		LR	15 11 48.4	
	comp=Z,20nm,21.3s,baz=105,slow=37							
	comp=Z,1.4nm,0.9s							
NC204	**NORSAR Array S**	**78.87**	**344**	P		**P**	**14 35 29.8**	**+0.5**
NC204				IAmb		IAmb	14 35 30.9	
	comp=Z,15nm,1.3s							
EKA	**Eskdalemuir Ar**	**79.30**	**334**	P		**P**	**14 35 32.2**	**+0.6**
	comp=Z,2.0nm,0.7s,baz=134,slow=6.0,SNR=4.5							
	comp=Z,2.0nm,0.7s							
HHC	**Hu-ho-hao-te**	**80.90**	**45**	*eP*		**P**	**14 35 41.5**	**+0.6**
HHC				pmax		pmax		
	comp=Z,18nm,0.5s							
HHC				pmax		pmax		
	comp=Z,46nm,4.0s							
SONM	**Songino Array**	**80.91**	**37**	P		**P**	**14 35 41.5**	**+0.7**
	comp=Z,0.9nm,0.7s,baz=208,slow=2.8,SNR=5.1							
	comp=Z,0.9nm,0.7s							
NJ2	**Nanjing**	**82.95**	**55**	*eP*		**P**	**14 35 52.5**	**+0.8**
NJ2				pmax		pmax		
	comp=Z,6.0nm,0.5s							
NJ2				pmax		pmax		
	comp=Z,120nm,4.3s							
VNDA	**Vanda**	**83.00**	**169**	P		**P**	**14 35 53.2**	**+2.0**
VNDA	**Vanda**	**83.00**	**169**	P		**P**	**14 35 52.7**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=267,slow=6.1,SNR=7.2							
	comp=Z,0.7nm,0.6s							
VNDA	**Vanda**	**83.00**	**169**	P		**P**	**14 35 53.2**	**+2.0**
VNDA				pmax		pmax		
	comp=Z,2.0nm,1.1s							

ASAR	**Alice Springs**	**83.37**	**113**	P		**P**	**14 35 54.1**	**-0.1**
ASAR	**Alice Springs**	**83.37**	**113**	P		**P**	**14 35 54.8**	**+0.6**
	comp=Z,1.0nm,0.6s,baz=260,slow=4.9,SNR=33							
	comp=Z,1.0nm,0.6s							
ASAR	**Alice Springs**	**83.37**	**113**	P		**P**	**14 35 54.1**	**-0.1**
AS31	**Alice Springs**	**83.37**	**113**	P		**P**	**14 35 53.9**	**-0.3**
ARCES	**ARCESS Array B**	**83.38**	**353**	LR		LR	15 12 59.8	
	comp=Z,35nm,19.4s,baz=122,slow=36							
WRA	**Warramunga Arr**	**84.49**	**109**	P		**P**	**14 36 00.7**	**+0.7**
	comp=Z,2.6nm,0.7s,baz=260,slow=3.2,SNR=7.5							
	comp=Z,0.6nm,0.7s							
WRAB	**Tennant Creek**	**84.51**	**109**⇓	*eP*		**P**	**14 36 01.7**	**+1.7**
WRAB				pmax		pmax		
	comp=Z,8.0nm,1.2s							
PDAR	**Pinedale Array**	**143.27**	**329**	PKP		**PKPdf**	**14 43 01.3**	**0.0**
	comp=Z,0.4nm,0.5s,baz=341,slow=5.2,SNR=4.0							
TXAR	**Lajitas Array**	**147.15**	**305**	PKPbc		**PKPbc**	**14 43 08.8**	**-1.5**
	comp=Z,0.4nm,0.6s,baz=101,slow=3.4,SNR=5.8							
NVAR	**Mina Array Bea**	**150.79**	**334**	PKP		**PKPdf**	**14 43 14.2**	**+0.2**
	comp=Z,0.5nm,0.6s,baz=92,slow=3.4,SNR=3.6							
NVAR				PKPbc		**PKiKP**	**14 43 19.1**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=352,slow=2.0,SNR=3.8							

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*IDC **27** 14:40:25.3±5.9, 10°.83N×125°.53E, h78km±54km, mb3.8/18, mbtmp4.1/18, MS2.8/2, Error ellipse: s-maj=29.2km s-min=12.3km az=76.0*
*NEIC **27** 14:40:27.3±1.1, 10°.80N±0°.08×125°.4E±0°.2, h88km±6km, mb4.6/48, Error ellipse: s-maj=22.8km s-min=8.6km az=67.0*

ISC 27 14:40:26.6±0.5, 10°.82N±0°.08×125°.5E±0°.2, h88km, n82, σ0881/80, mb4.5/43, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPUB	**Ta-pu**	**13.24**	**340**		**P**	**14 43 37.1**	**-0.7**
SSLB	**Suanglung**	**13.60**	**342**	P	**P**	**14 43 42.0**	**+0.3**
NACB	**Ninganchiao**	**13.78**	**345**	P	**P**	**14 43 44.5**	**+0.8**
JOW	**Kunigami**	**16.15**	**9**	LR	LR	14 49 09.7	
	comp=Z,30nm,20.5s,baz=239,slow=32						
KSAR	**Wonju Array Be**	**26.60**	**4**	P	**P**	**14 45 56.8**	**+0.1**
KSRS	**Korea Array**	**26.61**	**4**	P	**P**	**14 45 56.6**	**-0.2**
	2.2nm,0.7s,baz=184,slow=10,SNR=16						
	2.2nm,0.7s						
KS19	**Wonju Array Si**	**26.66**	**4**	P	**P**	**14 45 57.2**	**0.0**
MJAR	**Matsushiro Arr**	**28.09**	**22**	P	**P**	**14 46 08.0**	**-2.0**
	0.8nm,0.7s,baz=207,slow=9.7,SNR=2.7						
MJAR				LR	LR	14 57 11.5	
	comp=Z,23nm,19.9s,baz=178,slow=36						
	0.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.73**	**180**	P	**P**	**14 46 16.1**	**+0.2**
WB0	**Warramunga Arr**	**31.64**	**164**	P	**P**	**14 46 40.1**	**-1.5**
WB0				IAmb	IAmb	14 46 54.9	
	comp=Z,12nm,1.5s						
WRAB	**Tennant Creek**	**31.79**	**164**	P	**P**	**14 46 41.7**	**-1.2**
WRAB				IAmb	IAmb	14 46 43.8	
	comp=Z,16nm,1.5s						
WRA	**Warramunga Arr**	**31.79**	**164**	P	**P**	**14 46 41.5**	**-1.4**
	comp=Z,0.5nm,0.6s,baz=347,slow=9.4,SNR=7.7						
WRA				PcP	**PcP**	**14 49 31.9**	**-0.4**
	comp=Z,0.2nm,0.5s,baz=338,slow=2.5,SNR=1.9						
	comp=Z,0.5nm,0.6s						
WB2	**Warramunga Arr**	**31.80**	**164**	P	**P**	**14 46 41.1**	**-1.8**
WR0	**Warramunga Arr**	**31.86**	**164**	P	**P**	**14 46 42.5**	**-1.0**
WR0				IAmb	IAmb	14 47 02.9	
	comp=Z,13nm,1.5s						
USA0B	**Ussuriysk Arra**	**33.74**	**8**	P	**P**	**14 46 59.7**	**0.0**
USA0B				IAmb	IAmb	14 47 00.8	
	comp=Z,8.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**33.74**	**8**	P	**P**	**14 46 59.5**	**-0.1**
USRK	**Ussuriysk Ar.**	**33.74**	**8**	P	**P**	**14 46 59.8**	**+0.2**
	comp=Z,4.9nm,0.7s,baz=199,slow=6.3,SNR=8.2						
	comp=Z,4.9nm,0.7s						
AS31	**Alice Springs**	**35.25**	**167**	P	**P**	**14 47 12.7**	**-0.3**
ASAR	**Alice Springs**	**35.25**	**167**	P	**P**	**14 47 12.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=350,slow=6.8,SNR=39						
ASAR				PcP	**PcP**	**14 49 41.8**	**-0.3**
	comp=Z,0.5nm,0.7s,baz=343,slow=3.1,SNR=5.2						
	comp=Z,0.5nm,0.4s						
HEH

TOLK	Toolik Lake Re	78.17	22	P	P	14 52 17.0	+0.9	
NEA2	Nenana	78.36	26	P	P	14 52 18.3	+1.1	
RND	Reindeer	78.48	27	P	P	14 52 17.9	0.0	
RND				IAmb	IAmb	14 52 19.3		
	comp=Z,13nm,1.4s							
CCB	Clear Creek Bu	78.91	26	P	P	14 52 20.0	-0.1	
SCM	Sheep Creek Mo	79.23	29	P	P	14 52 22.2	+0.1	
SCM				IAmb	IAmb	14 52 27.8		
	comp=Z,14nm,1.3s							
ILAR	Eielson Array	79.30	26	P	P	14 52 22.1	-0.2	
ILAR	Eielson Array	79.30	26	P	P	14 52 21.5	-0.8	
	comp=Z,0.8nm,0.8s,baz=247,slow=5.0,SNR=8.6							
	comp=Z,0.8nm,0.8s							
GLI	Glacier Island	79.39	30	P	P	14 52 23.2	+0.3	
GLI				IAmb	IAmb	14 52 23.4		
	comp=Z,13nm,1.4s							
BMAR	Burnt Mountain	80.08	23	P	P	14 52 27.9	+1.4	
D27M	Malcolm River	81.23	21	P	P	14 52 33.9	+1.1	
D27M				IAmb	IAmb	14 52 35.7		
	comp=Z,6.2nm,1.1s							
BCAR	Beaver Creek A	81.69	27	P	P	14 52 37.0	+1.7	
CTGM	Chitina Glacie	82.19	29	P	P	14 52 39.5	+1.6	
M29M	Somme Creek	83.30	28	P	P	14 52 45.5	+1.9	
M29M				IAmb	IAmb	14 53 00.8		
	comp=Z,10nm,1.5s							
SPITS	Spitsbergen Ar	83.33	349	P	P	14 52 42.9	-0.5	
	comp=Z,6.3nm,1.0s,baz=99,slow=8.9,SNR=1.7							
	comp=Z,6.3nm,1.0s							
ARCES	ARCESS Array B	83.41	340	P	P	14 52 43.5	-0.4	
	comp=Z,4.3nm,1.0s,baz=80,slow=6.2,SNR=5.8							
	comp=Z,4.3nm,1.0s							
FIA1	FINESS Array S	85.03	332	P	P	14 52 51.6	-0.6	
FINES	FINESS Array B	85.03	332	P	P	14 52 51.7	-0.6	
FINES	FINESS Array B	85.03	332	P	P	14 52 51.5	-0.8	
	comp=Z,0.9nm,0.4s,baz=80,slow=4.2,SNR=20							
	comp=Z,0.9nm,0.4s							
M31M	Drury Creek, Y	85.21	28	P	P	14 52 54.2	+1.0	
M31M				IAmb	IAmb	14 53 34.8		
	comp=Z,7.9nm,1.3s							
A36M	Sachs Harbour	85.63	17	P	P	14 52 56.1	+1.1	
AKASG	Malin Array Be	85.64	321	P	P	14 52 54.6	-0.9	
	comp=Z,0.6nm,0.6s,baz=63,slow=5.1,SNR=6.4							
	comp=Z,0.6nm,0.6s							
C36M	Paulatuk	86.99	19	P	P	14 53 02.1	+0.3	
BURAR	Bucovina Array	88.91	318	P	P	14 53 11.5	0.0	
YKA	Yellowknife Ar	93.58	24	P	P	14 53 32.9	+0.1	
	comp=Z,0.4nm,0.6s,baz=303,slow=5.3,SNR=4.8							
	comp=Z,0.4nm,0.6s							
PLCA	Paso Flores	147.02	157	PKPbc	PKPbc	15 00 00.0	+0.3	
	comp=Z,1.7nm,0.9s,baz=198,slow=3.2,SNR=3.7							

IDC ***27*** *14:51:50.2±0.8, 12°.86S×45°.66E, h0km, mb3.7/10, mbtmp3.7/11, ML4.3/2, MS3.4/8, Error ellipse: s-maj=23.7km s-min=20.4km az=109.0*
NEIC ***27*** *14:51:51.3±0.6, 12°.85S±0°.04×45°.56E±0°.1, h10km±2km, mb4.3/3, Error ellipse: s-maj=23.9km s-min=3.7km az=76.0*

ISC 27 14:51:50.9±0.6, 12°.89S±0°.06×45°.56E±0°.08, h10km, n29, σ2s33/25, mb3.8/12, MS3.3/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
OPO	Ambohidratompo	5.86	165	Pn		Pn	14 53 18.7	+0.6
	5.0nm,0.3s,baz=339,slow=12,SNR=37							
OPO				Sn		Sn	14 54 19.9	-5.6
	5.3nm,0.3s,baz=260,slow=19,SNR=12							
ABPO	Ambohimpanom	6.30	165			Pn	14 53 24.5	+0.4
VOI	Vohitsoka	9.04	173	Pn		Pn	14 54 01.2	-0.6
RER	Riviere de l'E	12.74	132	Pn		Pn	14 54 52.5	+0.1
MSEY	Mahe Island	12.75	51	Pn		Pn	14 54 51.2	-1.3
KIBK	Kibwezi	12.85	324	Pn		Pn	14 54 53.5	-0.4
KIBK	Kibwezi	12.85	324	*e*P		Pn	14 54 43.6	-10
KIBK				*e*S		Sn	14 57 05.8	-11
KMBO	Kilima Mbogo	14.29	324	*e*S		Sn	14 57 44.8	-7.8
MATP	Matopo	17.97	243	P		P	14 56 03.5	+1.9
	0.2nm,0.3s,baz=44,slow=13,SNR=4.0							
MATP				S		Sn	14 59 12.5	-9.3
	0.8nm,0.4s,baz=335,slow=18,SNR=2.1							
	1.0nm,0.7s							
MBAR	Mbarara	19.10	309	LR		LR	15 03 22.5	
	comp=Z,118nm,18.2s,baz=104,slow=36							
LODK	Lodwar	19.11	327	*e*P		Pn	14 56 17.4	+2.3
LBTB	Lobatse	22.36	234	P		P	14 56 50.9	+1.4
	3.7nm,0.9s,baz=52,slow=14,SNR=3.8							
LBTB				S		S	15 00 55.5	0.0
	1.0nm,0.4s,baz=342,slow=19,SNR=1.9							
LBTB				LR		LR	15 06 00.2	
	comp=Z,83nm,18.1s,baz=3.5,slow=38							
	3.7nm,0.9s							
BOSA	Boshof	24.54	227	P		P	14 57 10.3	-0.8
BOSA				IAmb	IAmb	14 57 52.0		
	comp=Z,8.6nm,1.4s							
BOSA	Boshof	24.54	227	P		P	14 57 12.7	+1.6
	comp=Z,1.2nm,0.5s,baz=58,slow=7.7,SNR=7.0							
BOSA				LR		LR	15 07 09.2	
	comp=Z,92nm,20.2s,baz=38,slow=37							
	comp=Z,1.2nm,0.5s							
TSUM	Tsumeb	27.58	253	LR		LR	15 07 25.4	
	comp=Z,71nm,18.7s,baz=169,slow=34							
SUR	Sutherland	29.83	225	P		P	14 57 58.8	+0.2
SUR				IAmb	IAmb	14 58 10.6		
	comp=Z,14nm,1.3s							
TORD	Torodi Ar. Bea	50.59	299	P		P	15 00 52.3	+1.9
	comp=Z,0.7nm,0.8s,baz=117,slow=6.8,SNR=3.7							
TORD				LR		LR	15 22 55.4	
	comp=Z,46nm,18.3s,baz=128,slow=37							
	comp=Z,0.7nm,0.8s							
GNI	Garni	52.77	359	LR		LR	15 22 28.7	
	comp=Z,25nm,20.9s,baz=116,slow=35							
BRTR	Keskin Array B	53.51	349	P		P	15 01 11.9	+0.1
	comp=Z,0.5nm,0.7s,baz=182,slow=2.8,SNR=1.7							
	comp=Z,0.5nm,0.7s							
MAW	Mawson	55.84	172	LR		LR	15 20 41.5	
	comp=Z,58nm,20.5s,baz=66,slow=31							
BURAR	Bucovina Array	62.91	345	P		P	15 02 17.8	+0.4
BURAR				IAmb	IAmb	15 02 36.7		
	comp=Z,1.5nm,1.1s							
VRAC	Vranov	66.99	340	LR		LR	15 34 21.5	
	comp=Z,22nm,19.4s,baz=101,slow=38							
GERES	GERESS Array B	67.62	338	P		P	15 02 47.8	-0.2
	comp=Z,0.9nm,0.8s,baz=143,slow=8.3,SNR=2.8							
	comp=Z,0.9nm,0.8s							
MKAR	Makanchi Array	67.92	26	P		P	15 02 50.1	+0.3
	comp=Z,0.3nm,0.8s,baz=223,slow=9.3,SNR=1.5							
	comp=Z,0.3nm,0.8s							
BVAR	Borovoye Array	69.03	16	P		P	15 02 58.2	+1.6
	comp=Z,0.4nm,0.6s,baz=216,slow=7.1,SNR=1.5							
	comp=Z,0.4nm,0.6s							
ESDC	Sonseca Array	69.66	321	P		P	15 03 02.4	+1.6
	comp=Z,0.9nm,0.8s,baz=139,slow=5.5,SNR=6.4							
	comp=Z,0.9nm,0.8s							
ASAR	Alice Springs	83.44	113	P		P	15 04 20.0	+0.6
	comp=Z,0.3nm,0.6s,baz=258,slow=4.4,SNR=11							
	comp=Z,0.3nm,0.6s							
WRA	Warramunga Arr	84.57	109	P		P	15 04 25.6	+0.4
	comp=Z,0.3nm,0.7s,baz=226,slow=6.8,SNR=2.1							
	comp=Z,0.3nm,0.7s							
TXAR	Lajitas Array	147.10	305	PKPbc		PKPbc	15 11 34.7	-0.3
	comp=Z,0.1nm,0.5s,baz=54,slow=2.2,SNR=3.5							

NEIC ***27*** *14:54:43.7±1.0, 19°.39N±0°.02×154°.91W±0°.02, h5km±1km, Error ellipse: s-maj=3.9km s-min=2.8km az=318.0*

HVO 27 14:54:43.5±1.1, 19°.41N±0°.01×154°.91W±0°.02, h4km±4km, ML3.4/46, ML3.4/46(NEIC), Error ellipse: s-maj=2.4km s-min=0.8km az=122.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
PHO	Puu Honuaula	0.08	15			Pg	14 54 45.7	+0.5
PHO	Puu Honuaula	0.08	15			Pg	14 54 46.9	+1.7
JOKA	Jonika Flow	0.09	288			Pg	14 54 45.7	+0.3
JOKA				IAML			14 54 48.2	
	comp=E,15μm,0.9s							
PAH	Pahoa	0.10	339	Pg		Pg	14 54 45.9	+0.4
NPOC	North of Pu'u	0.19	266			Pg	14 54 47.6	+0.4
NPOC						Sg	14 54 50.4	+0.7
STCH	Steam Cracks	0.20	264			Pg	14 54 47.6	+0.2
STCH	Steam Cracks	0.20	264	IAML			14 54 52.8	
	comp=E,5μm,0.1s							
STCH				IAML			14 54 52.9	
	comp=N,3μm,0.2s							
KNHH	Kane Nui o Ham	0.24	264			Pg	14 54 48.2	0.0
PUH	Pauahi	0.29	264			Pg	14 54 49.6	+0.4
PUH						Sg	14 54 54.2	+1.3
BYL	Byron's Ledge	0.33	271	Pg		Pg	14 54 50.0	+0.1
BYL				IAML			14 54 55.8	
	comp=E,4μm,0.3s							
BYL				IAML			14 54 55.9	
	comp=N,4μm,0.4s							
HATHI	Halema'uma'u T	0.33	273	Pg		Pg	14 54 49.8	-0.1
HATHI				IAML			14 54 55.8	
	comp=E,4μm,0.2s							
HATHI				IAML			14 54 56.0	
	comp=N,4μm,0.6s							
RSD	Rainshed	0.35	279			Pg	14 54 50.6	+0.3
RSD				IAML			14 54 56.9	
	comp=E,6μm,0.3s							
UWE	Uwekahuna	0.36	273	Pg		Pg	14 54 50.7	+0.2
UWE				IAML			14 54 59.7	
	comp=E,6μm,0.5s							
UWE				IAML			14 54 59.7	
	comp=N,5μm,0.4s							
HLP	Hilina Pali	0.39	254	Pg		Pg	14 54 51.4	+0.3
MLH	Mauna Loa	0.46	281			Pg	14 54 52.3	0.0
MLH				IAML			14 55 02.4	
	comp=E,2μm,0.4s							
MLH				IAML			14 55 02.4	
	comp=N,4μm,0.2s							
HMH	Humu'ula Sheep	0.57	290			Pg	14 54 54.2	-0.3
MLOA	Mauna Loa Obse	0.64	282			Pg	14 54 55.0	-0.8
MLOA				IAML			14 55 04.9	
	comp=N,3μm,0.5s							
MLOA				IAML			14 55 05.2	
	comp=E,3μm,0.2s							
MWH	Moku'aweowe	0.65	277			Pg	14 54 55.1	-1.0
MWH				IAML			14 55 13.6	
	comp=E,2μm,0.6s							
MWH				IAML			14 55 14.9	
	comp=N,3μm,0.7s							
POHA	Pohakuloa	0.68	301			Pg	14 54 55.4	-1.3
POHA				IAML			14 55 09.5	
	comp=N,2μm,0.5s							
POHA				IAML			14 55 13.9	
	comp=N,2μm,0.4s							
KHU	Kahuku	0.68	257			Pg	14 54 55.6	-1.0
HPO	Honuapo	0.68	243			Pg	14 54 55.5	-1.1
HUH	Hualalai	0.92	288			Pg	14 54 59.2	-1.9
HPAH	Hawaii Prepara	0.97	310	Pg		Pg	14 54 59.1	-2.9
MHA	Mahukona	1.22	310	Pg		Pg	14 55 02.8	-4.0
HON	Honolulu	3.47	304	Pn		Pn	14 55 33.8	-4.5
KIP	Kipapa	3.54	305	IAML			14 56 32.8	
	comp=N,81nm,3.5s							
KIP	Kipapa	3.54	305	Pn		Pn	14 55 34.2	-4.9

DNK ***27*** *15:05:07.0±4.0, 81°.84N×3°.72W, h36km±46km, ML0.8*
BER ***27*** *15:05:11.7±0.8, 81°.81N×0°.61W, h10km, mb(Pn)2.8, Confirmed Earthquake*

ISC 27 15:05:04.7±1.6, 81°.5N±0°.1×4°.44W±0°.05, h10km, n7, σ2s34/11, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
NOR	Nord	1.81	279	*i* P		Pn	15 05 37.0	+1.2
NOR				*i* S		Sn	15 05 56.5	-2.3
NOR				IAML			15 06 00.7	
	comp=Z,1.4nm,0.2s							
KBS	Kingsbay	3.80	125	*e*P		Pn	15 06 05.0	+1.8
KBS				IAML			15 06 09.6	
	comp=Z,2.0nm,0.7s							
KBS				*e*S		Sn	15 06 45.4	-2.4
KBS	Kingsbay	3.80	125	*i* P		Pn	15 06 03.8	+0.7
KBS				*i* S		Sn	15 06 44.5	-3.3
BRBB	Barentsburg B	4.74	127	*e*P		Pn	15 06 18.9	+2.9
SPA0	Spitsbergen Ar	4.94	122	*e*P		Pn	15 06 20.3	+1.5
DAG	Danmarks Havn	5.45	217	*i* P		Pn	15 06 27.3	+1.6
DAG				*i* S		Sn	15 07 26.5	-1.8
DAG				IAML			15 07 35.8	
	comp=Z,0.5nm,0.2s							
DBG	Daneborg	7.91	213	*i* S		Sn	15 08 28.1	-0.8
DBG				IAML			15 08 34.6	
	comp=Z,0.1nm,0.2s							

NEIC ***27*** *15:05:52.1±1.5, 56°.0S±0°.1×27°.8W±0°.2, h112km±6km, mb4.8/45, Error ellipse: s-maj=17.1km s-min=13.2km az=219.0*
IDC ***27*** *15:05:53.9±1.4, 55°.95S×27°.78W, h128km±11km, mb4.3/14, mbtmp4.7/16, MS3.6/5, Error ellipse: s-maj=17.5km s-min=10.3km az=56.0*

ISC 27 15:05:53.3±0.6, 55°.95S±0°.07×27°.82W±0°.08, h125km±4km, n224, σ0s69/243, mb4.7/32, 5C, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
HOPE	Hope Point	5.25	285	Pn		Pn	15 07 08.0	-1.6
VNA1	Neumayer--Stat	17.02	158	⇑P		P	15 09 42.6	-0.5
	comp=Z,12nm,0.6s							
VNA3	Neumayer Olymp	17.20	160	⇑P		P	15 09 44.8	-0.3
	comp=Z,80nm,1.2s							
VNA2	Neumayer--Watz	17.41	157	⇑P		P	15 09 47.0	-0.5
	comp=Z,44nm,0.5s,baz=316,slow=13							
EFI	East Falkland	18.28	271	P		P	15 09 57.5	+0.4
SNAA	Sanae	18.97	156	P		P	15 10 04.0	-0.5
SNAA	Sanae	18.97	156	⇑P		P	15 10 04.2	-0.4
	comp=Z,3μm,0.4s							
SNAA	Sanae	18.97	156	P		P	15 10 04.2	-0.4
	comp=Z,108nm,0.5s,baz=306,slow=9.2,SNR=555							
SNAA				PcP		PcP	15 14 24.8	+0.6
	comp=Z,2.3nm,0.5s,baz=223,slow=6.1,SNR=5.8							
PMSA	Palmer Station	19.70	229	P		P	15 10 13.8	+1.5
PMSA	Palmer Station	19.70	229	P		P	15 10 13.6	+1.3
	comp=Z,46nm,0.9s,baz=87,slow=6.1,SNR=5.5							
TROLL	Troll, Antarti	20.49	153	⇑P		P	15 10 20.5	-0.5
	comp=Z,4μm,0.5s							
SMAI	San Martin Ant	21.61	220	P		P	15 10 33.7	+0.9
BELA	Belgrano 2	22.15	184	P		P	15 10 37.4	-1.0
MG02	Cerro Sombrero	24.07	260	P		P	15 10 55.5	-1.2
MG03	Isla Dawson	24.33	257	P		P	15 10 58.9	-0.1
GO08	Villa O'Higgin	28.00	266	P		P	15 11 31.7	-0.3
GO08				IAmb	IAmb	15 11 32.3		
	comp=Z,16nm,0.8s							
TRQA	Tornquist	28.96	294	P		P	15 11 40.3	-0.4
TRQA				IAmb	IAmb	15 12 27.0		
	comp=Z,43nm,1.9s							
PLTB	Pedras Altas	30.17	312	P		P	15 11 51.8	+0.3
PLCA	Paso Flores	31.64	281	P		P	15 12 03.1	-1.2
PLCA				IAmb	IAmb	15 12 57.6		
	comp=Z,36nm,1.8s							
ITQB	Itaqui	33.27	310	P		P	15 12 18.8	+0.3
ITQB				IAmb	IAmb	15 12 49.5		
	comp=Z,34nm,1.5s							
QSPA	South Pole Qui	34.30	180	P		P	15 12 27.6	+0.3
QSPA	South Pole Qui	34.30	180	P		P	15 12 27.7	+0.3
	comp=Z,30nm,0.6s,baz=203,slow=3.1,SNR=260							
QSPA				ScP		ScP	15 18 31.5	-2.1
	comp=Z,1.8nm,0.9s,baz=240,slow=1.6,SNR=7.3							
QSPA				LR		LR	15 25 17.1	
	comp=Z,52nm,19.2s,baz=187,slow=34							
	comp=Z,30nm,0.6s							
QSPA	South Pole Qui	34.30	180	P		P	15 12 27.8	+0.5
QSPA				PcP		PcP	15 15 00.1	-0.2
CPUP	Villa Florida	36.48	312	P		P	15 12 45.8	-0.4
CPUP	Villa Florida	36.48	312	P		P	15 12 46.1	-0.1
	comp=Z,5.2nm,1.0s,baz=145,slow=7.3,SNR=9.7							
CPUP				PcP		PcP	15 15 07.1	-0.1
	comp=Z,0.8nm,0.5s,baz=207,slow=1.7,SNR=3.6							
	comp=Z,5.2nm,1.0s							
CPUP	Villa Florida	36.48	312	P		P	15 12 45.7	-0.4
CPUP				pP		pP	15 13 13.3	+0.9
CPUP				sP		sP	15 13 25.4	-0.6
CPUP				PcP		PcP	15 15 07.3	0.0
CPUP				ScP		ScP	15 18 42.3	+0.4
MT09	Talagante	36.95	289	P		P	15 12 48.7	-1.5
MT09				IAmb	IAmb	15 13 47.8		
	comp=Z,33nm,1.7s							
MT02	Curacav	37.42	289	P		P	15 12 52.7	-1.4
CO02	Combarbal	38.95	291	P		P	15 13 06.8	-0.3
CO02				IAmb	IAmb	15 13 13.0		
	comp=Z,44nm,1.7s							
CO01	Juntas del Tor	39.45	293	P		P	15 13 11.7	+0.3
MAW	Mawson	40.44	144	P		P	15 13 18.8	+0.1
	comp=Z,10nm,0.7s,baz=233,slow=8.3,SNR=32							
MAW				PcP		PcP	15 15 19.7	+0.8
	comp=Z,3.4nm,0.8s,baz=233,slow=10,SNR=3.5							
	comp=Z,10nm,0.7s							
AC05	El Transito	40.47	294	P		P	15 13 18.8	-0.8
SUR	Sutherland	40.95	76	LR		LR	15 27 11.2	
	comp=Z,92nm,18.3s,baz=175,slow=31							
AQDB	Aquidauana	41.09	318	P		P	15 13 23.9	-0.8
AQDB				IAmb	IAmb	15 13 25.4		
	comp=Z,23nm,1.7s							
AQDB	Aquidauana	41.09	318	*e*P		P	15 13 24.3	-0.3
AQDB				*e*S		S	15 19 39.5	+11
AC04	Llanos de Chal	41.39	294	P		P	15 13 26.4	-0.7
AC04				IAmb	IAmb	15 13 27.4		
	comp=Z,27nm,1.0s							
BDQN	Bodoquena, MS	41.52	317	*e*P		P	15 13 27.3	-0.8
BDFB	Brasilia	43.11	331	P		P	15 13 42.3	+1.2
BDFB				IAmb	IAmb	15 13 43.4		
	comp=Z,26nm,1.7s							
BDFB	Brasilia	43.11	331	P		P	15 13 41.8	+0.7
	comp=Z,1.9nm,0.6s,baz=134,slow=8.5,SNR=5.1							
	comp=Z,1.9nm,0.6s							
ARAG	Araguaiana, MT	44.17	326	*e*P		P	15 13 50.8	+1.3
LVC	Limon Verde	44.95	301	P		P	15 13 56.3	+0.2
LVC	Limon Verde	44.95	301	P		P	15 13 56.2	+0.2
	comp=Z,7.4nm,0.6s,baz=101,slow=7.0,SNR=7.0							
	comp=Z,7.4nm,0.6s							
LVC	Limon Verde	44.95	301	*e*P		P	15 13 56.3	+0.2
PB10	IPOC Station P	44.99	298	P		P	15 13 55.9	-0.1
SALV	Santo Antonio	45.29	321	*e*P		P	15 13 58.7	+0.3
PB05	IPOC Station P	45.37	299	P		P	15 13 59.0	-0.2
PB09	IPOC Station P	45.80	301	P		P	15 14 03.0	+0.5
PB09				IAmb	IAmb	15 14 05.6		
	comp=Z,33nm,1.4s							
BBSD	Serra de San D	45.99	314	*e*P		P	15 14 02.3	-1.6
BBSD				*e*S		S	15 20 51.0	+12
SBA	Scott Base	46.15	184	P		P	15 14 05.1	+0.7
SBA				IAmb	IAmb	15 14 06.7		
	comp=Z,26nm,1.0s							
SBA	Scott Base	46.15	184	P		P	15 14 05.8	+1.3
SBA				pP		pwP	15 14 33.8	-1.9
SBA				sP		sP	15 14 46.8	+1.1
SBA				PcP		PcP	15 15 39.4	+1.3
SBA				ScP		ScP	15 19 23.2	+3.8
BOSA	Boshof	46.29	76	P		P	15 14 06.3	0.0
	comp=Z,2.3nm,0.8s,baz=212,slow=7.2,SNR=6.0							
BOSA				LR		LR	15 30 54.6	
	comp=Z,63nm,20.7s,baz=196,slow=32							
	comp=Z,2.3nm,0.8s							
PB01	IPOC Station P	46.56	301	P		P	15 14 08.5	+0.1
PB01				IAmb	IAmb	15 14 10.3		
	comp=Z,14nm,0.9s							
VNDA	Vanda	46.65	183	P		P	15 14 09.0	+0.6
VNDA				IAmb	IAmb	15 14 10.2		
	comp=Z,26nm,0.8s							
VNDA	Vanda	46.65	183	P		P	15 14 09.1	+0.6
	comp=Z,23nm,0.7s,baz=186,slow=6.8,SNR=146							
	comp=Z,23nm,0.7s							
VNDA	Vanda	46.65	183	P		P	15 14 08.9	+0.6
VNDA				pP		pP	15 14 36.3	+0.3
VNDA				PcP		PcP	15 15 40.4	+0.5
PTLB	Pontes e Lacer	46.98	317	P		P	15 14 11.3	-0.3
PTLB	Pontes e Lacer	46.98	317	*e*P		P	15 14 11.7	0.0
PB08	IPOC Station P	47.17	302	P		P	15 14 14.2	+0.7
PB08				IAmb	IAmb	15 14 15.5		
	comp=Z,25nm,1.4s							
SIV	San Ignacio	47.26	314	P		P	15 14 13.5	-0.3
	comp=Z,2.1nm,0.8s,baz=159,slow=6.3,SNR=6.0							
SIV				PcP		PcP	15 15 43.6	+0.6
	comp=Z,0.7nm,0.6s,baz=141,slow=6.2,SNR=6.2							
	comp=Z,2.1nm,0.8s							
HMBC	Humberstone	47.41	301	P		P	15 14 14.7	-0.3
HMBC				IAmb	IAmb	15 14 15.8		
	comp=Z,17nm,1.4s							
GO01	Chusmiza	47.60	302	P		P	15 14 17.3	+0.3
GO01				IAmb	IAmb	15 14 18.4		
	comp=Z,11nm,0.9s							
PB11	IPOC Station P	47.74	302	P		P	15 14 17.6	-0.1
PB11				IAmb	IAmb	15 14 19.4		
	comp=Z,20nm,1.1s							
CCD	Concordia, Ant	47.83	170	P		P	15 14 17.8	-0.2
H10N1	ASCENSION HYDR	49.13	18	T		T	16 07 34.6	
	baz=188							
H10N3	ASCENSION HYDR	49.13	18	T		T	16 08 36.5	
	baz=188							
H10N2	ASCENSION HYDR	49.15	18	T		T	16 08 11.0	
	baz=188							
LBTB	Lobatse	49.32	74	P		P	15 14 29.2	-0.4
SMTB	Santa Maria do	49.49	334	*e*P		P	15 14 31.7	+0.8
PDRB	Porto dos Gac	49.63	322	*e*P		P	15 14 32.0	+0.1
TSUM	Tsumeb	49.94	62	LR		LR	15 32 26.3	
	comp=Z,54nm,18.6s,baz=318,slow=32							
LPAZ	La Paz	50.03	306	P		P	15 14 35.9	+0.2
LPAZ				IAmb	IAmb	15 14 37.3		
	comp=Z,9.5nm,1.1s							
LPAZ	La Paz	50.03	306	P		P	15 14 35.9	+0.2
	comp=Z,4.8nm,0.7s,baz=146,slow=4.8,SNR=23							
	comp=Z,4.8nm,0.7s							
LPAZ	La Paz	50.03	306	*e*P		P	15 14 36.3	+0.6
LPAZ	La Paz	50.03	306	P		P	15 14 36.1	+0.4
LPAZ				pP		pP	15 15 04.7	+0.8
LPAZ				PcP		PcP	15 15 54.5	+0.7
CASY	Casey	54.12	161	P		P	15 15 04.8	+0.2
SAML	Samuel	54.49	315	P		P	15 15 07.6	-0.3
SAML				IAmb	IAmb	15 15 08.6		
	comp=Z,8.3nm,0.9s							
SAML	Samuel	54.49	315	*e*P		P	15 15 07.8	-0.1
SAML	Samuel	54.49	315	P		P	15 15 07.5	-0.3
SAML				pP		pP	15 15 36.5	+0.3
ETMB	Extrema	54.94	312	P		P	15 15

BVAR SKPbc **SKPbc** 15 28 14.5 -0.7
comp=Z,1.1nm,0.7s,baz=236,slow=1.6,SNR=6.1
YKA Yellowknife Ar 135.86 318 PKP **PKPdf** 15 24 57.6 0.0
comp=Z,1.3nm,0.7s,baz=121,slow=2.0,SNR=12
YKA SKPbc **SKPbc** 15 28 16.2 -1.3
comp=Z,1.1nm,0.8s,baz=134,slow=3.0,SNR=9.1
MKAR Makanchi Array 137.19 72 PKhKP PKPpre 15 24 51.3
comp=Z,0.2nm,0.6s,baz=72,slow=7.8,SNR=2.7
MKAR PKP **PKiKP** 15 25 02.1 -0.4
comp=Z,0.5nm,0.6s,baz=232,slow=2.3,SNR=5.3
MKAR SKPbc **SKPbc** 15 28 20.7 -1.4
comp=Z,0.9nm,0.6s,baz=234,slow=1.9,SNR=8.6
KURBB Kurchatov Arra 137.58 65 SKPbc **SKPbc** 15 28 22.5 -0.5
comp=Z,1.6nm,0.6s,baz=233,slow=3.6,SNR=7.8
ZALV Zalesovo Beam 142.64 64 PKhKP PKPpre 15 25 06.1
comp=Z,1.4nm,0.7s,baz=220,slow=4.5,SNR=6.1
ZALV PKP **PKPdf** 15 25 11.8 +1.5
comp=Z,2.1nm,0.6s,baz=259,slow=3.6,SNR=7.3
ZALV SKPbc **SKPbc** 15 28 36.2 -0.2
comp=Z,0.6nm,0.5s,baz=264,slow=1.4,SNR=2.8
HYT Haines Junctio 144.45 307 P PKPbc 15 25 12.9 +0.6
baz=114
N30M Aishikik Lake 144.53 309 P PKPbc 15 25 13.0 +0.6
baz=114
M30M Minto, Yukon 144.84 311 P PKPbc 15 25 13.1 -0.3
baz=112
H31M Peel River 145.01 316 P **PKPbc** 15 25 13.5 -0.3
baz=110
F31M Tsiigehtchic 145.32 319 P **PKPdf** 15 25 14.3 -0.2
baz=108
G31M Satah River 145.35 318 P **PKPdf** 15 25 14.6 0.0
baz=108
J30M Hart River 145.38 314 P **PKPdf** 15 25 15.3 +0.4
baz=110
INK Inuvik 145.51 321 P **PKPdf** 15 25 15.0 +0.2
baz=107
M29M Somme Creek 145.51 310 P **PKPdf** 15 25 15.7 +0.5
baz=112
L29M L29M 145.61 311 P **PKPdf** 15 25 15.9 +0.6
baz=111
I30M Mount Dempster 145.62 315 P **PKPdf** 15 25 15.6 +0.3
baz=109
O28M Mount Upton 145.64 306 P **PKPbc** 15 25 16.6 +0.4
baz=113
YUK8 Steele Glacier 145.65 307 P **PKPab** 15 25 17.3 +0.5
baz=112
G30M tAoh Zraii Nji 146.10 318 P **PKPbc** 15 25 17.1 -0.1
baz=107,SNR=8.2
EPYK Eagle Plains 146.11 317 P **PKPdf** 15 25 16.6 +0.6
baz=107
F30M Barrier River 146.12 319 P **PKPdf** 15 25 16.7 +0.8
baz=106,SNR=7.6
JOW Kunigami 146.17 139 PKPbc **PKPbc** 15 25 18.6 0.0
comp=Z,25nm,1.0s,baz=270,slow=8.1,SNR=6.3
DAWY Dawson 146.47 312 P **PKPbc** 15 25 17.9 -0.4
baz=109
G29M Pine Creek 146.77 318 P **PKPbc** 15 25 19.2 +0.1
baz=106
E29M Blow River 147.09 320 P **PKPbc** 15 25 19.2 -0.7
baz=104
I28M Miner Creek 147.11 315 P **PKPbc** 15 25 19.7 -0.5
baz=106
L27K Beaver Creek, 147.18 310 P **PKPbc** 15 25 20.1 -0.2
baz=109
EGAK Eagle 147.41 313 P **PKPbc** 15 25 20.3 -0.5
baz=106
K27K Chicken 147.58 312 P **PKPbc** 15 25 21.8 +0.4
baz=107
D28M Stokes Point 147.59 322 P **PKPbc** 15 25 20.7 -0.5
baz=101,SNR=7.7
F28M Old Crow 147.64 318 P **PKPbc** 15 25 21.2 -0.2
baz=103
E28M Babbage River 147.73 320 P **PKPbc** 15 25 20.8 -0.9
baz=102
I27K Kandik River 147.82 314 P **PKPbc** 15 25 22.2 +0.2
baz=105
H27K Steamboat Moun 147.95 316 P **PKPbc** 15 25 22.4 +0.1
baz=104,SNR=11
EYAK Cordova Ski Ar 148.11 304 P **PKPbc** 15 25 23.1 +0.3
baz=110
G27K Doyon Strip 148.13 317 P **PKPbc** 15 25 22.8 0.0
baz=103
J26L Joseph Creek 148.34 312 P **PKPbc** 15 25 23.5 +0.1
baz=105
D27M Malcolm River 148.36 321 P **PKPbc** 15 25 23.2 -0.2
baz=100,SNR=22
I26K Coal Creek Min 148.37 314 P **PKPbc** 15 25 23.4 +0.1
baz=104
SCRK Sand Creek 148.37 311 P **PKPbc** 15 25 23.8 +0.2
baz=106
E27K Coleen River 148.40 319 P **PKPbc** 15 25 23.1 -0.4
baz=101
KLU Klutina 148.50 306 P **PKPbc** 15 25 24.5 +0.6
baz=108
P23K Montague Islan 148.69 303 P **PKiKP** 15 25 25.4 -0.3
baz=110
PAX Paxson 148.73 309 P **PKPbc** 15 25 24.6 +0.1
baz=106
GLI Glacier Island 148.84 304 P **PKiKP** 15 25 26.5 +0.5
baz=108
G26K Porcupine Rive 148.98 317 P **PKPbc** 15 25 25.1 +0.2
baz=101
K24K Donnelly Dome 149.09 310 P **PKPbc** 15 25 25.3 0.0
baz=105
J25K Salcha River, 149.12 312 P **PKPbc** 15 25 25.6 +0.2
baz=104
SCM Sheep Creek Mo 149.24 306 P **PKPbc** 15 25 25.9 +0.1
baz=107
F26K Sheenjek River 149.25 318 P **PKPbc** 15 25 25.8 +0.2
baz=100
C27K Jago River 149.37 322 P **PKPbc** 15 25 26.1 +0.3
baz=97
PRP Porcupine Dome 149.38 314 P **PKPbc** 15 25 25.9 -0.2
baz=102
M23K Glacier View 149.41 306 P **PKPbc** 15 25 26.2 0.0
baz=107
DHY Denali Highway 149.60 309 P **PKPbc** 15 25 27.2 +0.4
baz=105
KNK Knik Glacier 149.63 305 P **PKPbc** 15 25 26.8 +0.1
baz=107
WAT6 Susitna Watana 149.63 307 P **PKPbc** 15 25 27.1 +0.2
baz=105
H25L Birch Creek 149.65 315 P **PKPbc** 15 25 27.1 +0.5
baz=101
SML Sawmill 149.69 306 P **PKPbc** 15 25 26.8 0.0
baz=106
SEW Seward 149.70 302 P **PKPbc** 15 25 26.9 +0.1
baz=108
HDA Harding Lake 149.74 311 P **PKPbc** 15 25 26.6 -0.2
baz=103
ILAR Eielson Array 149.79 312 PKPbc **PKPbc** 15 25 26.8 -0.2
comp=Z,13nm,0.9s,baz=125,slow=1.5,SNR=75
F25K Christian Rive 149.81 318 P **PKPbc** 15 25 27.1 +0.1
baz=98,SNR=6.3
C26K Camden Bay 149.82 322 P **PKPbc** 15 25 27.0 +0.2
baz=95
G25K Bearman Lake 149.85 316 P **PKPbc** 15 25 27.7 +0.7
baz=100
E25K Arctic Village 149.85 319 P **PKPbc** 15 25 27.5 +0.4
baz=98,SNR=19
PMR Palmer 149.99 305 P **PKPbc** 15 25 27.6 +0.1
baz=106
WAT1 Susitna Watana 150.06 308 P **PKPbc** 15 25 27.3 -0.4
baz=104
D25K Kavik River 150.28 321 P **PKPbc** 15 25 27.5 -0.5
baz=95
G24K Hadweenzic Riv 150.38 316 P **PKPbc** 15 25 28.8 +0.5
baz=98
H24K Noodor Dome 150.40 314 P **PKPbc** 15 25 28.3 -0.1
baz=100
MCK McKinley 150.44 309 P **PKPbc** 15 25 28.5 0.0
baz=103
M22K Willow 150.49 305 P **PKiKP** 15 25 30.8 +1.5
baz=105
F24K Squaw Lake 150.65 317 P **PKPbc** 15 25 29.4 +0.4
baz=97
NEA2 Nenana 150.67 311 P **PKPbc** 15 25 28.2 -0.8
baz=101
SUA Susitna One 150.70 305 P **PKPbc** 15 25 29.2 -0.2
baz=105
CUT Chulitna 150.72 307 P **PKPbc** 15 25 29.2 0.0
baz=104
I23K Minto, Yukon-K 150.90 312 P **PKPbc** 15 25 28.7 -0.8
baz=100
E24K Your Creek 150.93 318 P **PKPbc** 15 25 27.8 -1.9
baz=95
TRF Thorofare Moun 150.97 309 P **PKPbc** 15 25 29.8 -0.1
baz=102

SONM Songino Array 151.07 87 PKPbc **PKPbc** 15 25 30.7 0.0
comp=Z,8.7nm,0.5s,baz=224,slow=3.3,SNR=34
H23K Yukon River 151.08 314 P **PKPbc** 15 25 29.9 -0.1
baz=98
C24K Franklin Bluff 151.12 322 P **PKPbc** 15 25 29.9 0.0
baz=92
D24K Happy Valley 151.14 321 P **PKPbc** 15 25 29.9 -0.1
baz=93
SKT Skwentna 151.19 305 P **PKPbc** 15 25 30.4 0.0
baz=104
TOLK Toolik Lake Re 151.38 319 P **PKPbc** 15 25 31.0 +0.3
baz=93
G23K Bananza Creek 151.39 315 P **PKPbc** 15 25 30.7 0.0
baz=96
BPAW Bear Paw Mtn. 151.40 310 P **PKPbc** 15 25 30.5 -0.3
baz=100
MLY Manley 151.45 312 P **PKPbc** 15 25 30.4 -0.5
baz=99
COLD Coldfoot 151.51 316 P **PKPbc** 15 25 31.3 +0.4
baz=95
PPLA Purkeypile 151.70 307 P **PKPbc** 15 25 31.5 -0.2
baz=102
CAST Castle Rocks 151.75 308 P **PKPbc** 15 25 30.8 -0.9
baz=101
C23K Itkillik River 151.78 322 P **PKPbc** 15 25 31.8 +0.4
baz=90
D23K Nanushuk River 151.79 320 P **PKPbc** 15 25 31.8 +0.3
baz=92
H22K Ishtalitna Cre 151.84 314 P **PKPbc** 15 25 31.5 -0.3
baz=97
M20K Styx River 151.91 305 P **PKPbc** 15 25 31.4 -0.7
baz=103
CHUM Lake Minchumin 151.94 309 P **PKPbc** 15 25 31.6 -0.4
baz=100
E22K Anaktuvuk Pass 152.18 318 P **PKPbc** 15 25 32.4 -0.1
baz=92
F22K John River 152.29 317 P **PKPbc** 15 25 33.0 +0.3
baz=93
L20K Farewell, AK 152.38 306 P **PKPbc** 15 25 32.3 -0.7
baz=101
H21K Melozitna Rive 152.39 313 P **PKPbc** 15 25 32.4 -0.5
baz=96
D22K Ayikyak River 152.52 320 P **PKPbc** 15 25 33.6 +0.5
baz=90
K20K Telida 152.62 308 P **PKPbc** 15 25 33.3 -0.3
baz=100
B22K Teshekpuk Lake 152.73 323 P **PKPbc** 15 25 33.4 -0.1
baz=86
G21K Allakaket 152.75 315 P **PKPbc** 15 25 33.4 -0.3
baz=94
J20K Nowinta River 152.78 310 P **PKPbc** 15 25 33.9 0.0
baz=98
JNU Nakatsue 152.80 138 PKPbc **PKPbc** 15 25 34.7 -0.2
comp=Z,4.6nm,0.7s,baz=4.0,slow=5.4,SNR=6.8
E21K Killik River 152.99 319 P **PKPbc** 15 25 34.4 +0.1
baz=90
I20K Naaghedeneel 153.00 311 P **PKPbc** 15 25 34.3 +0.1
baz=96
B21K Ikpikpuk River 153.18 322 P **PKiKP** 15 25 35.0 +0.3
baz=87
H20K Anotleneega Mo 153.24 312 P **PKiKP** 15 25 35.5 +0.6
baz=95
J19K Poorman 153.40 309 P **PKPbc** 15 25 35.5 +0.3
baz=94
J18K Innoko River 153.82 308 P **PKPbc** 15 25 36.5 +0.3
baz=97
E20K Nigu River 153.82 319 P **PKiKP** 15 25 36.5 +0.4
baz=88
D20K Etivluk River 153.95 320 P **PKPbc** 15 25 36.6 +0.3
baz=86
G19K Purcell Mounta 154.18 314 P **PKPbc** 15 25 36.7 -0.1
baz=91
E19K Redstone River 154.24 317 P **PKiKP** 15 25 37.7 +0.7
baz=88
KSRS Korea Array 155.33 128 PKPab **PKPab** 15 25 56.9 0.0
comp=Z,1.2nm,0.7s,baz=228,slow=3.5,SNR=4.4
MJAR Matsushiro Arr 158.39 148 PKPab **PKPab** 15 26 10.1 -0.1
comp=Z,1.7nm,0.8s,baz=168,slow=5.3,SNR=7.1
KLR Kul'dur 165.91 110 PKPab **PKPab** 15 26 41.8 -1.0
comp=Z,1.5nm,0.7s,baz=278,slow=4.0,SNR=5.9

*IDC **27** 15:17:54.7±0.6,31.°44S×71.°42W,h0km,mb4.3/9, mbtmp4.2/14,ML4.0/5,MS3.8/19,Error ellipse: s-maj=23.9km s-min=15.3km az=100.0*
*SJA **27** 15:17:57.7±0.7,31.°40S×71.°78W,h22km±3km,ML4.3, MW4.5*
*NEIC **27** 15:18:01.6±2.3,31.°43S±0.°04×71.°54W±0.°08,h41km±7km, mb4.6/28,Mwr4.6(GUC),Error ellipse: s-maj=10.8km s-min=5.4km az=105.0*
*GUC **27** 15:18:02.1±0.6,31.°31S×71.°36W,h47km±2km,ML4.4*
ISC 27 15:17:59.1±0.7,31.°47S±0.°02×71.°54W±0.°03,h27km±4km, n169,σ1°71/187,mb4.6/18,MS3.8/17,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CO02	**Combarbal**	**0.53**	**60**		**Pn**	**15 18 12.0**	**+1.0**
CO02				Sn	**Sn**	**15 18 19.6**	**+0.4**
CO02	**Combarbal**	**0.53**	**60**	*e*P	**Pn**	**15 18 11.4**	**+0.3**
CO02				IAML		15 18 21.7	
comp=Z,23μm,0.3s							
CO02	**Combarbal**	**0.53**	**60**↑	*e*P	**Pn**	**15 18 12.2**	**+1.1**
CO02				*e*S	**Sn**	**15 18 19.6**	**+0.4**
CO06	**Fray Jorge**	**0.80**	**354**		**Pn**	**15 18 16.0**	**+1.4**
CO06				Sn	**Sn**	**15 18 27.2**	**+1.5**
CO06	**Fray Jorge**	**0.80**	**354**↑	*e*P	**Pn**	**15 18 16.1**	**+1.4**
CO06				*e*S	**Sn**	**15 18 26.8**	**+1.1**
CO06				IAML		15 18 31.0	
comp=N,19μm,0.6s							
CO03	**El Pedregal**	**0.96**	**49**		**Pn**	**15 18 17.6**	**+0.7**
CO03	**El Pedregal**	**0.96**	**49**	*e*P	**Pn**	**15 18 17.2**	**+0.2**
CO03				IAML		15 18 34.0	
comp=Z,6μm,0.6s							
CO03	**El Pedregal**	**0.96**	**49**↓	*e*P	**Pn**	**15 18 18.0**	**+1.0**
CO03				*e*S	**Sb**	**15 18 29.1**	**-0.5**
CO03				IAML		15 18 30.9	
comp=E,17μm,0.3s							
GO04	**Tololo Observa**	**1.44**	**26**		**Pb**	**15 18 24.8**	**-0.7**
GO04	**Tololo Observa**	**1.44**	**26**	*e*P	**Pb**	**15 18 25.3**	**-0.2**
GO04				*e*S	**Sb**	**15 18 43.0**	**-0.5**
GO04	**Tololo Observa**	**1.44**	**26**↓	*e*P	**Pb**	**15 18 25.0**	**-0.5**
GO04				*e*S	**Sb**	**15 18 42.6**	**-1.0**
GO04				IAML		15 18 45.4	
comp=E,27μm,0.4s							
VA03	**San Esteban**	**1.53**	**147**		**Pb**	**15 18 26.4**	**-0.6**
VA03	**San Esteban**	**1.53**	**147**	*e*P	**Pb**	**15 18 26.1**	**-0.9**
VA03				*e*S	**Sb**	**15 18 47.8**	**+1.8**
VA03				IAML		15 18 52.3	
comp=Z,4μm,0.2s							
VA03	**San Esteban**	**1.53**	**147**↓	*e*P	**Pb**	**15 18 26.8**	**-0.2**
VA03				*e*S	**Sb**	**15 18 47.5**	**+1.5**
VA03				IAML		15 18 51.1	
comp=E,10μm,0.2s							
VA01	**Torpederas**	**1.55**	**183**		**Pb**	**15 18 27.1**	**0.0**
VA01	**Torpederas**	**1.55**	**183**	*e*P	**Pb**	**15 18 27.8**	**+0.7**
VA01	**Torpederas**	**1.55**	**183**	*e*P	**Pb**	**15 18 28.0**	**+0.9**
VA01				*e*S	**Sb**	**15 18 49.9**	**+3.6**
VA01				IAML		15 18 51.7	
comp=E,3μm,0.5s							
ROCH	**El Roble**	**1.56**	**164**	*i* P	**Pb**	**15 18 28.1**	**+0.7**
ROCH				*i* S	**Sb**	**15 18 48.7**	**+1.8**
ROCH				IAML		15 18 52.1	
comp=N,12μm,0.4s							
ROC1	**El Roble**	**1.56**	**164**	*e*P	**Pn**	**15 18 21.8**	**-3.6**
CO05	**La Serena**	**1.57**	**9**		**Pb**	**15 18 26.8**	**-0.7**
CO05	**La Serena**	**1.57**	**9**	*e*P	**Pb**	**15 18 26.8**	**-0.7**
CO05				*e*S	**Sn**	**15 18 44.6**	**-0.1**
CO05				IAML		15 18 51.7	
comp=E,7μm,0.4s							
MT02	**Curacav**	**1.81**	**169**		**Pb**	**15 18 30.9**	**-0.7**
MT02	**Curacav**	**1.81**	**169**	*e*P	**Pb**	**15 18 30.2**	**-1.5**
MT02				*e*S	**Sb**	**15 18 56.3**	**+2.4**
MT02				IAML		15 18 58.8	
comp=Z,1μm,0.3s							
MT02	**Curacav**	**1.81**	**169**	*e*P	**Pb**	**15 18 30.9**	**-0.7**
MT02				*e*S	**Sb**	**15 18 54.8**	**+0.8**
MT02				IAML		15 18 57.0	
comp=E,4μm,0.2s							
RTLS	**Leoncito**	**1.94**	**100**	*e*P	**Pb**	**15 18 34.1**	**+0.2**
RTLS				*e*S	**Sn**	**15 18 48.8**	**-5.4**
RTLS				IAML		15 19 03.0	
comp=Z,4μm,1.7s							
CO01	**Juntas del Tor**	**1.94**	**40**		**Pb**	**15 18 32.4**	**-1.6**

MT10 Hacienda Santa 1.98 155 *e*P **Pb** **15 18 34.1 -0.5**
MT10 *e*S **Sb** **15 18 59.5 +0.5**
MT10 IAML 15 19 06.0
comp=E,8μm,0.3s
MT05 Renca 2.03 161 **Pb** **15 18 35.1 -0.3**
MT05 Renca 2.03 161 *e*P **Pb** **15 18 35.6 +0.2**
MT05 *e*S **Sb** **15 19 02.7 +2.5**
MT05 IAML 15 19 12.0
comp=Z,2μm,1.0s
MT05 Renca 2.03 161 *e*P **Pb** **15 18 35.3 -0.1**
MT05 *e*S **Sb** **15 19 01.2 +1.0**
MT05 IAML 15 19 06.0
comp=E,5μm,0.3s
MT14 Cerro Cal¡n 2.10 156 *e*P **Pb** **15 18 35.6 -1.0**
MT14 *e*S **Sb** **15 19 03.0 +0.9**
MT14 IAML 15 19 11.5
comp=E,6μm,0.8s
FCH Farellones 2.13 151 *e*P **Pb** **15 18 36.2 -1.0**
FCH *e*S **Sb** **15 19 04.4 +1.1**
FCH IAML 15 19 11.3
comp=E,2μm,0.3s
MT16 CCHEN 2.13 157 **Pb** **15 18 36.0 -1.0**
DOCA Reserva Natura 2.17 77 *e*P **Pb** **15 18 37.3 -0.6**
DOCA *e*S **Sb** **15 19 07.6 +3.2**
DOCA IAML 15 19 12.1
comp=Z,3μm,0.7s
VA05 Santo Domingo 2.18 182 **Pb** **15 18 35.9 -2.0**
VA05 Santo Domingo 2.18 182↑ *e*P **Pb** **15 18 35.9 -2.0**
VA05 *e*S **Sb** **15 19 09.4 +4.9**
VA05 IAML 15 19 10.7
comp=E,4μm,0.3s
AROD Rodeo 2.20 54 *e*P **Pb** **15 18 38.4 -0.1**
AROD *e*S **Sn** **15 19 01.5 +0.8**
MT04 Ro Olivares 2.26 149 *e*P **Pb** **15 18 38.6 -0.8**
MT04 *e*S **Sb** **15 19 06.2 -0.8**
MT04 IAML 15 19 13.3
comp=N,2μm,0.4s
MT15 Las Vizcachas 2.29 158 *e*P **Pb** **15 18 38.3 -1.6**
MT15 *e*S **Sb** **15 19 07.9 +0.2**
ACCO Cerro Coronel 2.30 68 *e*P **Pb** **15 18 39.9 -0.2**
ACCO IAML 15 19 16.7
comp=Z,2μm,3.2s
MT09 Talagante 2.34 169 **Pb** **15 18 39.1 -1.6**
MT08 Bocatoma Ro 2.35 147 Pn **Pb** **15 18 40.0 -0.9**
MT01 Popeta 2.40 174 **Pb** **15 18 39.7 -1.9**
MT01 Popeta 2.40 174 *e*P **Pb** **15 18 39.4 -2.2**
MT01 *e*S **Sn** **15 19 05.0 -0.1**
MT01 IAML 15 19 20.1
comp=Z,984nm,0.3s
MT01 Popeta 2.40 174 *e*P **Pb** **15 18 39.1 -2.5**
MT01 *e*S **Sb** **15 19 10.2 -0.5**
MT01 IAML 15 19 16.8
comp=E,2μm,0.4s
ZON Zonda 2.44 92 Pn **Pb** **15 18 41.2 -1.2**
ZON Zonda 2.44 92 *e*P **Pn** **15 18 35.8 -1.5**
ZON IAML 15 19 32.8
comp=Z,873nm,0.5s
ACDV Cuesta del Vie 2.45 59 *e*P **Pb** **15 18 42.0 -0.6**
ACDV *e*S **Sb** **15 19 18.0 +5.6**
ACDV IAML 15 19 26.9
comp=Z,911nm,1.5s
MT13 San Alfonso 2.50 155 **Pb** **15 18 41.2 -2.1**
ASAL Salagasta 2.55 117 *e*P **Pb** **15 18 43.8 -0.5**
ASAL *e*S Sb 15 19 23.9 +8.7
ASAL IAML 15 19 24.3
comp=Z,708nm,0.5s
LCO Las Campanas 2.56 17 **Pn** **15 18 41.5 +2.3**
LCO Las Campanas 2.56 17 *e*P **Pn** **15 18 41.4 +2.3**
LCO *e*S **Sn** **15 19 12.2 +2.7**
LCO Las Campanas 2.56 17 *e*P **Pn** **15 18 41.1 +2.0**
LCO *e*S **Sn** **15 19 11.0 +1.6**
RTCV Cerro Valdivia 2.58 99 *e*P **Pb** **15 18 44.4 -0.4**
ARCO CERRO ARCO 2.59 122 *e*P **Pb** **15 18 44.8 -0.3**
ARCO *e*S **Sb** **15 19 24.4 +7.7**
ARCO IAML 15 19 27.1
comp=Z,782nm,0.7s
LMEL Las Melosas 2.62 155 **Pb** **15 18 43.0 -2.5**
RTLL Cerro Villicun 2.62 88 *e*P Pb 15 18 58.0 +13
BO04 La Punta 2.63 163 **Pb** **15 18 43.0 -2.6**
BO04 La Punta 2.63 163↑ *e*P **Pb** **15 18 42.9 -2.7**
BO04 *e*S **Sb** **15 19 15.6 -1.8**
BO04 IAML 15 19 25.7
comp=N,1μm,0.5s
AAGR Agrelo 2.80 126 *e*P **Pb** **15 18 47.2 -1.3**
AAGR IAML 15 19 45.5
comp=Z,732nm,1.0s
AC05 El Transito 2.85 23 Pn **Pn** **15 18 45.6 +2.7**
AC05 El Transito 2.85 23 *e*P **Pn** **15 18 45.0 +2.1**
AC05 *e*S **Sn** **15 19 14.4 -2.0**
AC05 IAML 15 19 31.7
comp=Z,984nm,0.7s
AC05 El Transito 2.85 23 *e*P **Pn** **15 18 44.9 +1.9**
AC05 *e*S **Sn** **15 19 17.6 +1.2**
AC05 IAML 15 19 35.8
comp=E,3μm,0.8s
BO01 Tunca 2.94 173 Pn **Pn** **15 18 46.7 +2.7**
BO01 Tunca 2.94 173 *e*P **Pn** **15 18 46.4 +2.4**
BO01 *e*S **Sb** **15 19 25.3 -0.9**
BO01 IAML 15 19 32.7
comp=Z,573nm,0.5s
AVIZ Vizcacheras 3.24 129 *e*P **Pn** **15 18 46.7 -1.6**
AC04 Llanos de Chal 3.28 7 **Pn** **15 18 50.9 +2.1**
AC04 Llanos de Chal 3.28 7 *e*P **Pn** **15 18 50.2 +1.4**
AC04 *e*S **Sn** **15 19 28.9 +2.0**
AC04 IAML 15 19 40.9
comp=Z,826nm,0.9s
AGUA GUANDACOL 3.29 54 *e*P **Pn** **15 18 51.7 +2.7**
AGUA *e*S **Sb** **15 19 37.7 +1.2**
AGUA IAML 15 19 49.4
comp=Z,946nm,0.8s
BO02 Sierra Bellavi 3.37 169 **Pn** **15 18 52.7 +2.7**
BO02 Sierra Bellavi 3.37 169 *e*P **Pn** **15 18 53.2 +3.2**
BO02 *e*S **Sb** **15 19 37.2 -1.6**
BO02 IAML 15 19 51.1
comp=Z,922nm,0.6s
GO05 Huala 3.54 185 **Pn** **15 18 53.5 +1.1**
GO05 Huala 3.54 185 *e*S **Sb** **15 19 43.4 -0.3**
GO03 Copiap 4.03 17 Pn **Pn** **15 19 00.7 +1.6**
GO03 Copiap 4.03 17 *e*P **Pn** **15 19 01.5 +2.3**
GO03 *e*S **Sn** **15 19 45.5 0.0**
RFA San Rafael 4.18 143 *e*P **Pn** **15 19 04.1 +3.0**
RFA *e*S **Sb** **15 20 08.9 +7.0**
RFA IAML 15 20 20.3
comp=Z,219nm,0.9s
AC06 Mina Casimiro 4.23 14 Pn **Pn** **15 19 03.1 +1.3**
ML02 Panimavida 4.28 179 **Pn** **15 19 04.3 +1.8**
AC01 Pan de Azucar 5.37 9 **Pn** **15 19 17.2 -0.3**
AC01 Pan de Azucar 5.37 9 *e*P Pn 15 19 01.3 -16
AC01 IAML 15 20 48.9
comp=Z,270nm,1.0s
BI05 Punta Hualpn 5.44 194 Pn **Pn** **15 19 19.0 +0.6**
GO02 Mina Guanaco 6.52 16 Pn **Pn** **15 19 33.2 -0.4**
VA04 Juan Fernndez 6.53 249 Pn **Pn** **15 19 35.0 +1.6**
H03N1 Juan Fernandez 6.54 251 T T 15 26 15.9
baz=77,slow=72
H03N3 Juan Fernandez 6.55 250 T T 15 26 20.4
baz=77,slow=72
H03N2 Juan Fernandez 6.55 251 T T 15 26 13.2
baz=77,slow=72
H03S3 Juan Fernandez 6.65 247 T T 15 26 28.6
baz=83,slow=74
H03S1 Juan Fernandez 6.65 247 T T 15 26 23.2
baz=83,slow=74
H03S2 Juan Fernandez 6.66 247 T T 15 26 25.0
baz=83,slow=74
PB14 IPOC Station P 6.89 9 Pn **Pn** **15 19 38.0 -0.7**
GO06 Curarrehue 8.09 180 Pn **Pn** **15 19 56.7 +1.7**
LR04 Corral 8.53 190 Pn **Pn** **15 20 03.4 +2.6**
PB05 IPOC Station P 8.67 8 Pn **Pn** **15 20 03.9 +0.9**
LR05 Currie 8.75 182 **Pn** **15 20 05.0 +1.2**
PB06 IPOC Station P 8.91 12 Pn **Pn** **15 20 05.8 -0.4**
LVC Limon Verde 9.13 15 Pn **Pn** **15 20 08.6 -0.9**
LVC Limon Verde 9.13 15 Pn **Pn** **15 20 07.8 -1.7**
comp=Z,0.4nm,0.3s,baz=198,slow=9.6,SNR=1.8
LVC Sn **Sn** **15 21 50.5 -1.2**
comp=Z,1.0nm,0.3s,baz=342,slow=20,SNR=1.4
LVC LR LR 15 24 01.2
comp=Z,242nm,21.9s,baz=210,slow=40
comp=Z,2.1nm,0.4s
PB04 IPOC Station P 9.19 8 Pn **Pn** **15 20 10.9 +0.8**
PLCA Paso Flores 9.28 175 Pn **Pn** **15 20 13.0 +1.9**
PLCA Paso Flores 9.28 175 Pn **Pn** **15 20 11.3 +0.2**
comp=Z,0.4nm,0.3s,baz=349,slow=12,SNR=12

comp=Z,1.0nm,0.3s
LL04 Puerto Octay 9.44 184 Pn **Pn** 15 20 14.1 +0.7
PB09 IPOC Station P 9.85 13 Pn **Pn** 15 20 19.5 +0.3
TRQA Tornquist 10.24 132 Pn **Pn** 15 20 24.9 +0.6
GO01 Chusmiza 11.94 11 Pn **Pn** 15 20 48.6 +0.5
ITQB Itaqui 12.97 86 Pn **Pn** 15 21 01.1 -0.6
CPUP Villa Florida 13.45 71 Pn **Pn** 15 21 06.5 -1.8
CPUP Villa Florida 13.45 71 Pn **Pn** 15 21 06.3 -1.9
comp=Z,0.4nm,0.3s,baz=243,slow=11,SNR=7.3
CPUP Sn **Sn** 15 23 35.7 -1.2
comp=Z,0.4nm,0.3s,baz=194,slow=17,SNR=1.3
CPUP LR LR 15 26 46.2
comp=Z,304nm,21.7s,baz=240,slow=40
comp=Z,2.0nm,0.6s
LPAZ La Paz 15.43 12 Pn 15 21 36.9 +1.3
LPAZ La Paz 15.43 12 Pn **Pn** 15 21 34.6 -1.0
comp=Z,0.2nm,0.3s,baz=182,slow=7.6,SNR=7.2
comp=Z,2.6nm,0.7s
ITAB Concordia 17.43 81 P 15 22 01.0 -0.5
ITAB IAmb IAmb 15 22 18.7
comp=Z,44nm,1.1s
SIV San Ignacio 18.13 34 P **Pn** 15 22 08.8 -0.3
comp=Z,0.1nm,0.3s,baz=211,slow=8.1,SNR=10
comp=Z,3.4nm,0.7s
PTLB Pontes e Lacer 19.56 38 P **P** 15 22 23.7 -1.3
NNA Nana 20.00 345 LR LR 15 28 30.3
comp=Z,144nm,21.8s,baz=174,slow=32
ETMB Extrema 22.11 14 P **P** 15 22 52.8 +0.3
SPB Sao Paulo 22.74 76 P **P** 15 22 58.9 -0.3
SPB IAmb IAmb 15 23 17.1
comp=Z,27nm,1.0s
VAO Valinhos 23.38 75 P **P** 15 23 05.6 -0.3
SAML Samuel 23.72 21 P **P** 15 23 08.1 -0.9
ATAH Atahualpa 25.05 344 LR LR 15 31 56.5
comp=Z,91nm,20.2s,baz=169,slow=34
BDFB Brasilia 26.62 59 P **P** 15 23 34.4 -1.3
BDFB IAmb IAmb 15 23 35.8
comp=Z,12nm,1.0s
BDFB Brasilia 26.62 59 P **P** 15 23 34.1 -1.5
comp=Z,8.4nm,1.0s,baz=217,slow=7.1,SNR=9.5
BDFB LR LR 15 35 17.6
comp=Z,438nm,19.7s,baz=168,slow=39
comp=Z,8.4nm,1.0s
PMSA Palmer Station 33.65 174 LR LR 15 36 41.4
comp=Z,262nm,19.4s,baz=16,slow=34
SDV Santo Domingo 40.14 1 LR LR 15 43 11.4
comp=Z,67nm,19.2s,baz=132,slow=38
PCRV Puerto La Cruz 41.94 10 LR LR 15 42 60.0
comp=Z,93nm,19.5s,slow=36
RCBR Riachuelo 41.98 60 LR LR 15 44 36.3
comp=Z,218nm,18.1s,baz=235,slow=38
CELP Cerrillos 49.49 6 P **P** 15 26 48.8 +1.5
CMIG Matias Romero 53.24 332 LR LR 15 46 33.8
comp=Z,78nm,18.2s,baz=186,slow=32
SNAA Sanae 53.77 159 P **P** 15 27 18.9 +0.1
SNAA IAmb IAmb 15 27 44.9
comp=Z,7.3nm,1.0s
SNAA Sanae 53.77 159 P **P** 15 27 18.5 -0.3
comp=Z,4.6nm,0.8s,baz=277,slow=6.3,SNR=7.6
comp=Z,4.6nm,0.8s
QSPA South Pole Qui 58.76 180 P **P** 15 27 55.5 +0.9
comp=Z,5.9nm,1.0s,baz=168,slow=2.8,SNR=15
QSPA LR LR 15 53 34.5
comp=Z,90nm,18.2s,baz=54,slow=36
comp=Z,5.9nm,1.0s
SAND Sanderson 67.65 331 P **P** 15 28 54.5 +0.8
SAND IAmb IAmb 15 29 08.2
comp=Z,7.3nm,1.1s
TX31 Lajitas Ar. Si 67.75 330 P **P** 15 28 55.3 +0.8
TXAR Lajitas Array 67.75 330 P **P** 15 28 55.7 +1.2
TXAR Lajitas Array 67.75 330 P **P** 15 28 54.6 +0.2
comp=Z,0.7nm,0.7s,baz=154,slow=8.0,SNR=9.7
comp=Z,0.7nm,0.7s
OXF Oxford 67.76 344 P **P** 15 28 54.3 +0.1
MNHN Monahans 69.13 332 P **P** 15 29 03.7 +0.7
MNHN IAmb IAmb 15 29 16.9
comp=Z,4.7nm,0.8s
VHRN Van Horn 69.58 330 P **P** 15 29 06.6 +0.7
LCAR Lake Charles 69.67 343 P **P** 15 29 06.0 0.0
LCAR IAmb IAmb 15 29 06.8
comp=Z,6.2nm,0.8s
R40A Maddies Statio 72.05 343 P **P** 15 29 20.4 -0.2
DBIC Dimbokro 73.97 72 P **P** 15 29 31.6 -0.9
DBIC Dimbokro 73.97 72 P **P** 15 29 31.6 -0.9
comp=Z,5.3nm,0.5s,baz=215,slow=5.7,SNR=12
DBIC LR LR 15 58 53.9
comp=Z,76nm,20.8s,baz=206,slow=33
comp=Z,5.3nm,0.5s
MAW Mawson 75.48 164 P **P** 15 29 40.4 +0.1
comp=Z,1.3nm,0.4s,baz=210,slow=5.9,SNR=11
MAW LR LR 16 05 51.5
comp=Z,47nm,18.7s,baz=232,slow=38
comp=Z,1.3nm,0.4s
SUR Sutherland 75.68 119 P **P** 15 29 42.9 +0.4
SUR Sutherland 75.68 119 LR LR 15 57 37.3
comp=Z,56nm,21.6s,baz=254,slow=32
PFO Pinyon Flats O 77.37 323 LR LR 15 58 26.6
comp=Z,87nm,19.2s,baz=230,slow=31
SMCO Snowmass 77.63 333 P **P** 15 29 54.6 +1.3
SMCO IAmb IAmb 15 30 12.9
comp=Z,5.2nm,1.1s
ISCO Idaho Springs 77.64 334 P **P** 15 29 54.0 +0.7
ECSD EROS Data Cent 78.28 342 P **P** 15 29 56.2 -0.2
ECSD IAmb IAmb 15 30 09.9
comp=Z,6.7nm,0.8s
BOSA Boshof 80.87 118 P **P** 15 30 11.0 -0.2
comp=Z,2.2nm,0.8s,baz=216,slow=2.5,SNR=3.9
BOSA LR LR 16 04 51.9
comp=Z,35nm,18.6s,baz=188,slow=35
comp=Z,2.2nm,0.8s
NVAR Mina Array Bea 82.06 325 P **P** 15 30 18.2 +1.0
comp=Z,0.6nm,0.8s,baz=172,slow=8.5,SNR=4.6
comp=Z,0.6nm,0.8s
TOA0 Torodi Ar. Sit 82.95 70 P **P** 15 30 21.3 -0.8
TOA0 pP **sP** 15 30 33.2 -0.9
TORD Torodi Ar. Bea 82.95 70 P **P** 15 30 21.2 -0.8
comp=Z,3.6nm,0.8s,baz=277,slow=4.3,SNR=17
comp=Z,3.6nm,0.8s
LBTB Lobatse 82.98 115 P **P** 15 30 21.3 -1.0
LBTB IAmb IAmb 15 30 23.3
comp=Z,3.3nm,0.8s
LBTB Lobatse 82.98 115 LR LR 16 02 36.0
comp=Z,78nm,19.8s,baz=166,slow=32
PNTR Pine Nut 83.22 324 P **P** 15 30 24.4 +1.2
PNTR IAmb IAmb 15 31 06.9
comp=Z,8.4nm,1.3s
J08A Circle Bar Ran 85.98 328 P **P** 15 30 37.8 +0.9
J08A IAmb IAmb 15 30 51.5
comp=Z,5.2nm,1.0s
MDT Midelt 89.90 51 LR LR 16 09 16.7
comp=Z,23nm,20.9s,baz=2.5,slow=34
LSZ Lusaka 90.19 108 LR LR 16 07 14.2
comp=Z,50nm,19.5s,baz=212,slow=33
ASAR Alice Springs 120.01 207 PKP **PKPdf** 15 36 46.2 -1.6
comp=Z,0.4nm,0.8s,baz=126,slow=1.6,SNR=8.2
WRA Warramunga Arr 123.17 209 PKP **PKPdf** 15 36 52.9 -1.1
comp=Z,0.5nm,0.4s,baz=157,slow=1.7,SNR=20
H11S2 WAKE ISLAND Hyl 26.20 271 T T 17 55 58.0
baz=116,slow=75
H11S1 WAKE ISLAND Hyl 26.21 271 T T 17 55 55.2
baz=116,slow=75
H11S3 WAKE ISLAND Hyl 26.22 271 T T 17 55 59.2
baz=116,slow=75
H11N3 WAKE ISLAND Hyl 26.55 272 T T 17 56 23.3
baz=116,slow=75
H11N1 WAKE ISLAND Hyl 26.56 272 T T 17 56 17.5
baz=116,slow=75
H11N2 WAKE ISLAND Hyl 26.56 272 T T 17 56 21.9
baz=116,slow=75
BVAR Borovoye Array 145.12 41 PKPbc **PKPab** 15 37 33.5 +0.2
comp=Z,4.7nm,0.4s,baz=298,slow=2.5,SNR=30
KURBB Kurchatov Arra 150.71 41 PKPbc **PKPbc** 15 37 47.9 -0.5
comp=Z,3.0nm,0.8s,baz=298,slow=3.1,SNR=21
ZALV Zalesovo Beam 151.85 30 PKPbc **PKPbc** 15 37 50.6 -0.3
comp=Z,15nm,0.6s,baz=299,slow=3.0,SNR=51
MKAR Makanchi Array 154.74 45 PKPbc **PKPbc** 15 37 56.9 -0.7
comp=Z,0.9nm,0.8s,baz=270,slow=2.4,SNR=6.5
MKAR PKPab **sPKPbc** 15 38 10.1 +0.4
comp=Z,1.9nm,0.8s,baz=281,slow=2.6,SNR=11

UCR 27 15:24:08.1±1.0, 9.56N×84.73W, h19km±5km, MW3.5, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBL1	**Cabuya**	**0.36**	**274**	*eP*	Pg	15 24 15.6	-0.2
CBL1				*eS*	Sn	15 24 23.8	-1.1
TRB2	**Turrubares**	**0.45**	**38**	*eP*	Pg	15 24 16.8	-0.5
TRB2				*eS*	Sb	15 24 23.8	0.0
SRA1	**San Ramn**	**0.57**	**25**	*eP*	Pb	15 24 18.9	-0.6
RAMO	**San Ramon**	**0.58**	**26**	*eP*	Pb	15 24 19.2	-0.4
LLNJ	**Naranjito**	**0.62**	**98**	*eP*	Pb	15 24 19.6	-0.7
TCS1	**Tacares**	**0.64**	**41**	*eP*	Pb	15 24 20.4	-0.2
SARCI	**Sarchi**	**0.65**	**36**	*eP*	Pb	15 24 20.8	0.0
SANTA	**Santa Ana**	**0.65**	**55**	*eP*	Pb	15 24 19.4	-1.5
BELE	**Belen**	**0.67**	**52**	*eP*	Pb	15 24 20.5	-0.7
ABE2	**San Pablo**	**0.68**	**78**	*eP*	Pb	15 24 20.6	-0.9
RAZU	**San Marcos de**	**0.70**	**82**	*eP*	Pb	15 24 20.8	-1.0
ZARE	**Zarcero**	**0.70**	**28**	*eP*	Pg	15 24 22.0	-0.1
LCR2	**La Lucha 2**	**0.73**	**76**	*eP*	Pb	15 24 21.3	-1.1
CENT	**San Jose**	**0.74**	**60**	*eP*	Pg	15 24 22.8	+0.2
LUJA	**Lujan**	**0.74**	**61**	*eP*	Pg	15 24 23.0	+0.3
HDC	**Heredia**	**0.75**	**54**	*eP*	Pb	15 24 21.9	-0.6
HDC3	**Heredia 3**	**0.75**	**54**	*eP*	Pb	15 24 22.0	-0.7
DOMI	**Santo Domingo**	**0.75**	**56**	*eP*	Pb	15 24 22.1	-0.6
JTS	**Las Juntas de**	**0.76**	**343**	*eP*	Pb	15 24 21.9	-0.9
SJS	**Escuela Geolog**	**0.76**	**61**	*eP*	Pb	15 24 22.3	-0.5
SJS3	**Mercedes San J**	**0.76**	**61**	*eP*	Pb	15 24 22.4	-0.4
LUPE	**Guadalupe**	**0.77**	**60**	*eP*	Pb	15 24 22.1	-0.9
CPMI	**Catarata Coope**	**0.79**	**25**	*eP*	Pb	15 24 22.9	-0.5
TRIO	**Tres Rios**	**0.80**	**65**	*eP*	Pb	15 24 22.6	-0.9
CORON	**Coronado**	**0.82**	**60**	*eP*	Pb	15 24 23.4	-0.4
SOCE	**Pocosol**	**0.82**	**8**	*eP*	Pb	15 24 23.5	-0.4
OCM	**Ochomogo**	**0.82**	**66**	*eP*	Pb	15 24 22.9	-1.0
REPA	**Paraso**	**0.89**	**73**	*eP*	Pb	15 24 25.0	0.0
ARE1	**Arenal 1**	**0.89**	**1**	*eP*	Pb	15 24 24.8	-0.2
CVIMO	**Finca Echandi**	**0.90**	**59**	*eP*	Pb	15 24 24.6	-0.6
VACR	**Volcan Arenal**	**0.91**	**3**	*eP*	Pb	15 24 25.0	-0.3
DUNO	**Dulce Nombre,**	**0.91**	**304**	*eP*	Pb	15 24 25.1	-0.3
CEDE	**Laguna Cedeo**	**0.92**	**2**	*eP*	Pb	15 24 25.3	-0.2
CDM	**Cerro de Muert**	**0.95**	**90**	*eP*	Pb	15 24 25.4	-0.9
VICA	**Volcano Irazu**	**0.97**	**64**	*eP*	Pb	15 24 25.7	-0.8
RAFA	**San Farael, Vo**	**0.99**	**66**	*eP*	Pb	15 24 26.0	-0.8
JUD3	**Juan Diaz 3**	**1.00**	**307**	*eP*	Pn	15 24 27.2	0.0
VTRT	**Volcan Turrial**	**1.02**	**65**	*eP*	Pb	15 24 26.7	-0.7
VTLA	**Turrialba Volc**	**1.04**	**65**	*eP*	Pb	15 24 26.9	-0.7
CVTQ	**Turrialba Volc**	**1.04**	**65**	*eP*	Pb	15 24 27.2	-0.6
PEZE	**Perez Zeledon,**	**1.05**	**100**	*eP*	Pb	15 24 27.0	-0.8
CVTV	**Tajo**	**1.06**	**65**	*eP*	Pb	15 24 27.9	-0.1
VTCV	**VTCV, Calle Va**	**1.07**	**67**	*eP*	Pb	15 24 27.4	-0.7
ORTG	**Ortega, Santa**	**1.07**	**318**	*eP*	Pb	15 24 26.4	-1.7
VERB	**Verbena**	**1.09**	**69**	*eP*	Pb	15 24 27.7	-0.6
RIFO	**Rio Frio, Sara**	**1.09**	**47**	*eP*	Pn	15 24 27.7	-0.7
VTLO	**VTLO**	**1.10**	**64**	*eP*	Pb	15 24 28.1	-0.6
RVSTA	**Santa Teresita**	**1.14**	**69**	*eP*	Pn	15 24 28.7	-0.4
TENO	**El Achiote**	**1.16**	**348**	*eP*	Pn	15 24 28.4	-1.0
OCHAL	**Ojochal**	**1.16**	**113**	*eP*	Pn	15 24 28.0	-1.3
CUI	**Cuipilapa**	**1.17**	**339**	*eP*	Pn	15 24 29.1	-0.4
COLC	**Colonia**	**1.19**	**337**	*eP*	Pn	15 24 29.9	+0.1
VMAR	**Armenia, Volca**	**1.30**	**343**	*eP*	Pn	15 24 31.4	+0.1
VRLE	**La Escondida,**	**1.37**	**333**	*eP*	Pn	15 24 32.6	+0.3
SRBA	**San Rafael, Bu**	**1.39**	**104**	*eP*	Pn	15 24 31.7	-0.9
VORI	**VORI**	**1.39**	**334**	*eP*	Pb	15 24 33.1	-0.4
GB1A	**Borinquen Arri**	**1.41**	**332**	*eP*	Pn	15 24 33.4	+0.5
HZTE	**Horizontes, Gu**	**1.43**	**323**	*eP*	Pb	15 24 33.7	-0.4
BATAN	**Batan**	**1.44**	**68**	*eP*	Pb	15 24 34.0	-0.2
TRT1	**Tortuguero**	**1.44**	**44**	*eP*	Pn	15 24 33.2	0.0
LCHIL	**Los Chiles**	**1.47**	**0**	*eP*	Pb	15 24 35.0	+0.2
DRK0	**Durika**	**1.49**	**101**	*eP*	Pn	15 24 33.3	-0.8
PIRO	**Carate, Puerto**	**1.79**	**130**	*eP*	Pg	15 24 41.5	-1.1
ESPN	**Las Esperanzas**	**2.65**	**9**	*eP*	Pn	15 24 51.0	+1.2

JMA ***27*** *15:30:55.8±0.3, 25°N±3°×12°4E±°, h166km±4km, MV3.0/17, NW OFF ISHIGAKIJIMA IS*

ISC 27 15:30:53.4±1.9, 25.4N±0.2×124.04E±0.09, h189km±19km, n20, σ1s01/31, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JISG	**Ishigakijimahi**	**0.82**	**163**	*i* P	**Pn**	**15 31 21.1**	**+0.2**
JISG				*eS*	**Sn**	**15 31 40.9**	**-1.2**
JTJ	**Tarama**	**0.95**	**141**	P	**Pn**	**15 31 22.5**	**+0.8**
JTJ				S	**Sn**	**15 31 43.3**	**-0.2**
JIJ	**Ishigaki jima**	**1.01**	**175**	P	**Pn**	**15 31 22.2**	**+0.1**
JIJ				S	**Sn**	**15 31 42.3**	**-2.1**
IRIF	**Iriomote-Funau**	**1.07**	**195**	*i* P	**Pn**	**15 31 22.9**	**+0.3**
IRIF				S	**Sn**	**15 31 44.5**	**-0.7**
JKRS	**Kuro-shima**	**1.14**	**181**	P	**Pn**	**15 31 23.6**	**+0.5**
JKRS				S	**Sn**	**15 31 45.5**	**-0.6**
JIRB	**Irabujima**	**1.16**	**118**	P	**Pn**	**15 31 23.8**	**+0.6**
JIRB				*eS*	**Sn**	**15 31 45.4**	**-0.9**
JIKM	**Ikemajima**	**1.18**	**112**	*eP*	**Pn**	**15 31 24.5**	**+1.1**
JIKM				*eS*	**Sn**	**15 31 45.9**	**-0.7**
JMJ	**Miyako jima 2**	**1.27**	**116**	P	**Pn**	**15 31 26.2**	**+2.1**
YOJ	**Yonaguni jima**	**1.31**	**226**	P	**Pn**	**15 31 25.5**	**+1.1**
JMJ2	**Miyako jima3**	**1.33**	**118**	P	**Pn**	**15 31 26.0**	**+1.4**
JMJ2				*eS*	**Sn**	**15 31 48.4**	**-0.3**
HATJ	**Hateruma jima**	**1.33**	**189**	*eP*	**Pn**	**15 31 25.7**	**+1.0**
HATJ				*eS*	**Sn**	**15 31 48.7**	**-0.2**
JYNG	**Yonagunijimaku**	**1.36**	**227**	P	**Pn**	**15 31 25.3**	**+0.4**
JOGS	**Gusukube**	**1.38**	**116**	P	**Pn**	**15 31 26.6**	**+1.5**
JOGS				S	**Sn**	**15 31 49.6**	**0.0**
YHNB	**Yeheng**	**2.52**	**254**	P	**Pn**	**15 31 38.5**	**+1.6**
NACB	**Ninganchiao**	**2.53**	**242**	P	**Pn**	**15 31 37.2**	**+0.3**
YULB	**Yu-li**	**3.19**	**232**	P	**Pn**	**15 31 44.8**	**0.0**
SSLB	**Suanglung**	**3.23**	**241**	P	**Pn**	**15 31 46.0**	**+0.7**
JJT3	**Tamagusuku3**	**3.46**	**76**	*eP*	**Pn**	**15 31 48.8**	**+0.8**
JJT3				*eS*	**Sn**	**15 32 29.5**	**-1.3**
TWGBT	**Beinan**	**3.72**	**227**	P	**Pn**	**15 31 51.7**	**+0.4**
JOW	**Kunigami**	**4.07**	**68**	P	**Pn**	**15 31 55.3**	**-0.4**

NAO ***27*** *15:33:03.2, 38°12N×20°25E, h33km, mb3.4*
TIR ***27*** *15:33:11.8, 39°43N×20°29E, h2km, Md3.1, Ml3.2*
IDC ***27*** *15:33:12.6±1.1, 39°57N×20°44E, h0km, mb3.4/7, mbtmp3.5/10, ML3.4/2, Error ellipse: s-maj=26.9km s-min=17.0km az=63.0*
ATH ***27*** *15:33:14.0±0.5, 39°51N×20°23E, h5km, ML3.2/9, Manual Solution by S.Liakopoulos This location: 2020/08/31 08:59:47 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 1 km; Longitude uncertainty: 3 km*
THE ***27*** *15:33:14.7, 39.51N×20.29E, h0km±1km, ML3.0/18, Error ellipse: s-maj=1.0km s-min=0.3km az=276.0*

ISC 27 15:33:13.8±0.9, 39.51N±0.01×20.28E±0.02, h4km±6km, n106, σ1s13/154, mb3.5/7, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.05**	**58**	P	**Pg**	**15 33 14.4**	**-0.5**
IGT	baz=17			S	**Sg**	**15 33 14.8**	**-0.9**
PRGA	**Parga**	**0.24**	**157**	P	**Pg**	**15 33 19.0**	**+0.6**
PRGA	baz=17			S	**Sg**	**15 33 23.0**	**+1.4**
SRN	**Sarande**	**0.43**	**330**	P	**Pg**	**15 33 22.6**	**+0.5**
SRN	baz=335			S	**Sb**	**15 33 31.2**	**+0.4**
SRN	baz=335			AMP			
	comp=N,11nm,0.5s,baz=335						
SRN	**Sarande**	**0.43**	**330**	P	**Pg**	**15 33 23.0**	**+0.9**
SRN				S	**Sb**	**15 33 30.3**	**-0.5**
	comp=N,3µm,0.5s						
JAN	**Janina**	**0.47**	**71**	P	**Pg**	**15 33 23.6**	**+0.9**
JAN				S	**Sb**	**15 33 30.5**	**-1.4**
	comp=N,4µm,0.5s						
JAN	**Janina**	**0.47**	**71**	P	**Pb**	**15 33 24.6**	**0.0**
JAN				S	**Sb**	**15 33 31.0**	**-0.9**
LSK	**Leskovik**	**0.69**	**21**	P	**Pg**	**15 33 26.4**	**-0.6**
LSK	baz=18			S	**Sb**	**15 33 39.9**	**+1.6**
LSK	baz=18			AMP			
	comp=N,9.3nm,0.5s,baz=18						
LSK	**Leskovik**	**0.69**	**21**	P	**Pg**	**15 33 27.1**	**+0.1**
LSK				S	**Sb**	**15 33 37.8**	**-0.5**
	comp=N,2µm,0.6s						
TSLK	**Tsoukalades, L**	**0.74**	**157**	P	**Pg**	**15 33 28.5**	**+0.5**
TSLK				S	**Sb**	**15 33 39.8**	**+0.1**
	comp=N,1µm,0.4s						
TSLK	**Tsoukalades, L**	**0.74**	**157**	P	**Pg**	**15 33 28.2**	**+0.2**
TSLK				S	**Sb**	**15 33 39.2**	**-0.6**
LKD2	**Lefkada island**	**0.78**	**158**	P	**Pg**	**15 33 28.8**	**+0.2**
LKD2				S	**Sb**	**15 33 41.5**	**+0.8**
DRAG	**Dragano-Lefkad**	**0.85**	**164**	P	**Pg**	**15 33 30.6**	**+0.5**
DRAG				S	**Sb**	**15 33 43.6**	**+0.6**
DRAG	**Dragano-Lefkad**	**0.85**	**164**	P	**Pg**	**15 33 30.6**	**+0.5**
DRAG				S	**Sb**	**15 33 43.5**	**+0.5**
NYDR	**Nydri-Lefkada**	**0.86**	**158**	P	**Pg**	**15 33 30.1**	**-0.1**
NYDR				S	**Sb**	**15 33 43.3**	**+0.3**
	comp=N,1µm,0.6s						
NYDR	**Nydri-Lefkada**	**0.86**	**158**	P	**Pg**	**15 33 30.4**	**+0.2**
NYDR				S	**Sb**	**15 33 43.9**	**+0.8**
EVGI	**Lefkada island**	**0.93**	**162**	P	**Pg**	**15 33 31.8**	**+0.2**
EVGI				S	**Sb**	**15 33 46.0**	**+0.8**
	comp=N,1µm,0.4s						
EVGI	**Lefkada island**	**0.93**	**162**	P	**Pb**	**15 33 32.5**	**-0.1**
EVGI				S	**Sg**	**15 33 44.4**	**+0.7**
KPRO	**Kipourio**	**0.95**	**61**	P	**Pg**	**15 33 32.2**	**+0.2**
KPRO				S	**Sb**	**15 33 46.0**	**+0.2**
	comp=N,1µm,0.5s						
KPRO	**Kipourio**	**0.95**	**61**	P	**Pg**	**15 33 32.1**	**+0.2**
KPRO				S	**Sb**	**15 33 47.0**	**+1.2**
PENT	**Pentalofos**	**0.95**	**44**	P	**Pg**	**15 33 32.4**	**+0.4**
PENT				S	**Sb**	**15 33 46.1**	**+0.1**
PENT	**Pentalofos**	**0.95**	**44**	P	**Pg**	**15 33 32.5**	**+0.4**
PENT				S	**Sb**	**15 33 46.2**	**+0.3**
FSK	**Fiskardo**	**1.07**	**168**	P	**Pg**	**15 33 34.8**	**+0.5**
FSK				S	**Sb**	**15 33 50.5**	**+1.3**
	comp=N,632nm,0.6s						
FSK	**Fiskardo**	**1.07**	**168**	P	**Pg**	**15 33 34.3**	**0.0**
NEST	**Nestorio**	**1.08**	**33**	P	**Pb**	**15 33 35.1**	**0.0**
NEST				S	**Sb**	**15 33 50.5**	**+0.8**
	comp=N,480nm,0.7s						
NEST	**Nestorio**	**1.08**	**33**	P	**Pg**	**15 33 34.5**	**0.0**
VLO	**Vlora**	**1.13**	**328**	P	**Pn**	**15 33 37.9**	**+1.5**
	baz=331						
VLO				S	**Sn**	**15 33 52.8**	**+0.4**
	baz=331						
KBN	**Korca**	**1.18**	**19**	P	**Pn**	**15 33 38.4**	**+1.2**
	baz=17						
KBN				S	**Sn**	**15 33 55.8**	**+2.0**
	baz=17						
KBN				AMP			
	comp=N,2.3nm,0.9s,baz=17						
KBN	**Korca**	**1.18**	**19**	P	**Pg**	**15 33 36.6**	**+0.2**
KBN				S	**Sn**	**15 33 54.2**	**+0.4**
	comp=N,535nm,0.9s						
DMLN	**Damoulianata-K**	**1.27**	**177**	P	**Pg**	**15 33 38.1**	**0.0**
DMLN				S	**Sn**	**15 33 57.3**	**+1.5**
DMLN	**Damoulianata-K**	**1.27**	**177**	P	**Pg**	**15 33 38.0**	**0.0**
DMLN				S	**Sb**	**15 33 55.2**	**+0.3**
KEF3	**Kipouria, Keph**	**1.30**	**178**	P	**Pg**	**15 33 38.5**	**-0.3**
KEF3				S	**Sn**	**15 33 58.4**	**+1.8**
KEF3	**Kipouria, Keph**	**1.30**	**178**	P	**Pg**	**15 33 38.4**	**-0.3**
PVO	**Paravola**	**1.32**	**132**	P	**Pg**	**15 33 38.6**	**-0.4**
PVO				S	**Sn**	**15 33 58.7**	**+1.8**
PVO	**Paravola**	**1.32**	**132**	P	**Pg**	**15 33 39.0**	**+0.1**
EVR	**Evrytania**	**1.33**	**116**	P	**Pn**	**15 33 39.5**	**+0.3**
EVR				S	**Sn**	**15 33 58.9**	**+1.5**
	comp=N,370nm,0.7s						
EVR	**Evrytania**	**1.33**	**116**	P	**Pb**	**15 33 40.0**	**+0.8**
THL	**Klokotos Trika**	**1.34**	**87**	P	**Pg**	**15 33 39.2**	**-0.3**
THL				S	**Sn**	**15 33 58.5**	**+0.9**
	comp=N,425nm,0.6s						
THL	**Klokotos Trika**	**1.34**	**87**	P	**Pb**	**15 33 39.8**	**+0.3**
THL				S	**Sn**	**15 33 58.9**	**+1.3**
VLS	**Valsamata**	**1.35**	**170**	P	**Pn**	**15 33 39.5**	**0.0**
VLS				S	**Sn**	**15 33 59.6**	**+1.8**
	comp=N,592nm,0.5s						
VLS	**Valsamata**	**1.35**	**170**	P	**Pn**	**15 33 39.4**	**0.0**
VLS				S	**Sn**	**15 33 58.3**	**+0.4**
PSDA	**Pessada-Kefalo**	**1.41**	**170**	P	**Pn**	**15 33 40.2**	**0.0**
PSDA				S	**Sn**	**15 34 01.5**	**+2.2**
PSDA	**Pessada-Kefalo**	**1.41**	**170**	P	**Pn**	**15 33 40.4**	**+0.2**
MAKR	**Makrakomi, Fth**	**1.52**	**108**	P	**Pn**	**15 33 42.2**	**+0.4**
MAKR				S	**Sg**	**15 34 04.0**	**+1.4**
	comp=N,852nm,0.7s						
FNA	**Florina**	**1.53**	**33**	S	**Sg**	**15 34 08.3**	**+5.5**
	baz=31						
FNA				AMP			
	comp=N,0.9nm,0.5s,baz=31						
FNA	**Florina**	**1.53**	**33**	P	**Pb**	**15 33 42.6**	**-0.1**
FNA				S	**Sg**	**15 34 03.9**	**+1.1**
	comp=N,690nm,0.5s						
ANX	**Ano Chora**	**1.57**	**125**	P	**Pn**	**15 33 43.2**	**+0.7**
ANX				S	**Sg**	**15 34 05.3**	**+1.1**
	comp=N,358nm,0.9s						
OHR	**Ohrid**	**1.65**	**14**	*i* Pn	**Pg**	**15 33 46.7**	**+1.3**
LIT	**Litokhoron**	**1.80**	**70**	P	**Pn**	**15 33 45.8**	**+0.1**
LIT				S	**Sb**	**15 34 10.6**	**+0.3**
	comp=N,428nm,0.5s						
TIR	**Tirane**	**1.86**	**350**	P	**Pg**	**15 33 49.5**	**0.0**
	baz=351						
TIR				S	**Sg**	**15 34 17.6**	**+3.9**
	baz=351						
TIR				AMP			
	comp=E,0.5nm,0.8s,baz=351						
GRG	**Griva**	**2.17**	**48**	P	**Pn**	**15 33 51.7**	**+0.9**
GRG				S	**Sb**	**15 34 20.3**	**-0.8**
VAY	**Valandovo**	**2.52**	**43**	*i* Pn	**Pb**	**15 33 58.3**	**-1.3**
PUK	**Puka**	**2.55**	**353**	P	**Pn**	**15 33 57.0**	**+1.0**
	baz=354						
PUK				S	**Sb**	**15 34 33.8**	**+1.9**
	baz=354						
PUK				AMP			
	comp=N,0.2nm,0.6s,baz=354						
DRME	**Dracevica, Mon**	**2.80**	**343**	*e*Pn	**Pn**	**15 34 00.1**	**+0.7**
BCI	**Bajram Curri**	**2.86**	**357**	P	**Pn**	**15 34 00.6**	**+0.3**
	baz=357						
BCI				S	**Sg**	**15 34 45.8**	**+0.1**
	baz=357						
PDG	**Podgorica**	**3.02**	**345**	*e*Pn	**Pn**	**15 34 03.6**	**+1.2**
HCY	**Herceg Novi**	**3.23**	**336**	*e*Pn	**Pn**	**15 34 04.5**	**-0.8**
TREB	**Trebinje**	**3.52**	**336**	*e*Pn	**Pn**	**15 34 06.0**	**-3.3**
DBRK	**Dubrovnik**	**3.55**	**334**	*e*Pn	**Pn**	**15 34 09.5**	**-0.1**
DBRK				Sn	**Sn**	**15 34 51.2**	**-0.8**
BRY	**Bratogost**	**3.64**	**339**	*e*Pn	**Pn**	**15 34 09.9**	**-1.1**
SJES	**Sjenica**	**3.76**	**357**	*e*Pn	**

comp=N,0.2nm,0.3s,baz=156,slow=13,SNR=4.3
comp=N,0.3nm,0.3s
DAVOX Davos/Dischmat 10.51 317 Pn **Pn 15 35 46.3 +1.0**
comp=N,0.2nm,0.3s,baz=176,slow=19,SNR=1.6
comp=N,0.7nm,0.4s
HFS Hagfors 21.06 351 P **P 15 37 57.7 -0.9**
comp=N,1.5nm,0.7s,baz=144,slow=11,SNR=7.2
comp=N,1.5nm,0.7s
EKA Eskdalemuir Ar 22.24 323 P **P 15 38 10.4 -1.0**
comp=N,0.8nm,0.7s,baz=131,slow=11,SNR=3.5
comp=N,0.8nm,0.7s
FINES FINESS Array B 22.25 7 P **P 15 38 10.0 -1.4**
comp=N,1.9nm,0.9s,baz=174,slow=14,SNR=3.6
comp=N,1.9nm,0.9s
NB2 NORSAR Subarra 22.28 348 P **P 15 38 10.3 -1.5**
comp=Z,1.1nm,0.7s,baz=162,slow=10
NOA NORSAR Array B 22.28 348 P **P 15 38 10.8 -1.0**
comp=Z,0.2nm,0.4s,baz=165,slow=11,SNR=7.0
comp=Z,0.2nm,0.4s
TORD Torodi Ar. Bea 30.96 217 P **P 15 39 32.8 +0.7**
comp=Z,0.8nm,0.7s,baz=31,slow=9.6,SNR=4.8
comp=Z,0.8nm,0.7s
MKAR Makanchi Array 44.78 59 P **P 15 41 26.7 -1.7**
comp=Z,0.3nm,0.5s,baz=282,slow=7.7,SNR=4.5
comp=Z,0.3nm,0.5s
ZALV Zalesovo Beam 44.95 49 P **P 15 41 28.3 -1.4**
comp=Z,0.6nm,0.5s,baz=303,slow=8.4,SNR=2.7
comp=Z,0.6nm,0.5s
ASAR Alice Springs 122.49 95 PKP **PKPdf 15 52 09.4 -1.3**
comp=Z,0.4nm,1.2s,baz=299,slow=1.9,SNR=1.6

IDC 27 16:02:37.7±1.9, 2°.23N×123°.52E, h0km, mb3.2/3, mbtmp3.2/3, Error ellipse: s-maj=187.5km s-min=28.3km az=63.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.45**	**155**	P	P	16 07 58.5	0.0
	0.1nm,0.3s,baz=332,slow=10,SNR=7.5						
	0.1nm,0.3s						
ASAR	**Alice Springs**	**27.65**	**159**	P	P	16 08 27.6	+0.2
	0.3nm,0.8s,baz=341,slow=6.9,SNR=12						
	0.3nm,0.8s						
MKAR	**Makanchi Array**	**57.02**	**327**	P	P	16 12 25.1	-0.3
	0.3nm,0.5s,baz=147,slow=8.1,SNR=3.1						
	0.3nm,0.5s						

IDC 27 16:25:37.7±0.9, 56°.23N×149°.26W, h0km, mb3.6/13, mbtmp3.7/18, ML3.5/5, MS3.4/38, Error ellipse: s-maj=22.1km s-min=17.1km az=33.0
NEIC 27 16:25:37.8±1.3, 56°.36N±0°.07×149°.6W±0°.1, h10km±2km, ML3.9/62, ML3.9(AEIC), Error ellipse: s-maj=12.0km s-min=9.1km az=165.0
AEIC 27 16:25:41.9±1.6, 56°.30N±0°.06×149°.5W±0°.1, h12km±6km, Error ellipse: s-maj=9.7km s-min=7.9km az=133.0
ISC 27 16:25:38.8±0.7, 56°.36N±0°.07×149°.55W±0°.05, h10km, n258, σ1$41/230, mb3.8/13, MS3.4/33, Gulf of Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KDAK	**Kodiak Island**	**2.19**	**312**	Pn	**Pn**	**16 26 14.5**	**-0.7**
KDAK	**Kodiak Island**	**2.19**	**312**		**Sn**	**16 26 39.4**	**-2.9**
KDAK	**Kodiak Island**	**2.19**	**312**	Pn	**Pn**	**16 26 14.7**	**-0.5**
	3.3nm,0.3s,baz=124,slow=7.2,SNR=20						
KDAK				Sn	**Sn**	**16 26 40.3**	**-2.0**
	13nm,0.3s,baz=179,slow=21,SNR=11						
KDAK				LR	LR	16 27 16.1	
	comp=Z,301nm,18.7s,baz=145,slow=41						
	13nm,0.3s						
OHAK	**Old Harbor**	**2.23**	**294**	P	**Pn**	**16 26 14.3**	**-1.5**
OHAK	**Old Harbor**	**2.23**	**294**		**Pn**	**16 26 14.2**	**-1.6**
OHAK					**Sn**	**16 26 40.4**	**-3.0**
OHAK	**Old Harbor**	**2.23**	**294**	P	**Pn**	**16 26 14.0**	**-1.8**
	baz=112						
OHAK				S	**Sn**	**16 26 40.4**	**-3.0**
	baz=112						
SII	**Sitkinak Islan**	**2.58**	**276**	P	**Pn**	**16 26 19.3**	**-1.4**
SII	**Sitkinak Islan**	**2.58**	**276**		**Pn**	**16 26 18.7**	**-1.9**
SII					**Sn**	**16 26 48.8**	**-3.3**
SII	**Sitkinak Islan**	**2.58**	**276**	IAML		16 27 05.3	
	comp=N,334nm,1.5s						
SII	**Sitkinak Islan**	**2.58**	**276**	P	**Pn**	**16 26 18.4**	**-2.3**
	baz=92						
SYI	**Shuyak Island**	**2.73**	**327**		**Pn**	**16 26 21.7**	**-0.9**
SYI	**Shuyak Island**	**2.73**	**327**		**Sn**	**16 26 54.4**	**-1.2**
Q20K	**Shuyak Island**	**2.73**	**327**	P	**Pn**	**16 26 22.1**	**-0.5**
	baz=145						
Q20K				S	**Sn**	**16 26 54.4**	**-1.2**
	baz=145						
R18K	**Karluk**	**2.94**	**296**		**Pn**	**16 26 24.6**	**-0.9**
R18K					**Sn**	**16 26 58.6**	**-2.4**
R18K	**Karluk**	**2.94**	**296**	IAML		16 27 06.0	
	comp=N,372nm,0.6s						
R18K	**Karluk**	**2.94**	**296**	P	**Pn**	**16 26 24.7**	**-0.9**
	baz=112						
R18K				S	**Sn**	**16 26 58.6**	**-2.4**
	baz=112						
CNPM	**China Poot**	**3.30**	**345**		**Pn**	**16 26 29.4**	**-1.1**
CNPM					**Sn**	**16 27 08.6**	**-1.1**
Q19K	**Cape Douglas,**	**3.39**	**321**		**Pn**	**16 26 31.6**	**-0.1**
Q19K	**Cape Douglas,**	**3.39**	**321**	IAML		16 27 22.7	
	comp=N,518nm,1.2s						
Q19K	**Cape Douglas,**	**3.39**	**321**	P	**Pn**	**16 26 31.6**	**-0.1**
	baz=138						
BRSE	**Bradley Lake S**	**3.45**	**350**		**Pn**	**16 26 31.4**	**-1.2**
BRSE	**Bradley Lake S**	**3.45**	**350**	P	**Pn**	**16 26 31.2**	**-1.3**
	baz=169						
CHIR	**Chirikof Islan**	**3.45**	**263**		**Pn**	**16 26 30.8**	**-1.7**
CHIR	**Chirikof Islan**	**3.45**	**263**	IAML		16 27 46.9	
	comp=N,144nm,1.4s						
BRLK	**Bradley Lake**	**3.48**	**349**		**Pn**	**16 26 31.5**	**-1.6**
BRLK				IAML		16 27 21.8	
	comp=N,182nm,0.9s						
BRLK				IAML		16 27 22.5	
	comp=E,146nm,0.7s						
HOM	**Homer**	**3.49**	**342**	Pn	**Pn**	**16 26 32.0**	**-1.0**
HOM				IAML		16 27 38.1	
	comp=N,374nm,0.8s						
HOM				IAML		16 27 45.7	
	comp=E,397nm,1.3s						
Q23K	**Middleton Isla**	**3.52**	**28**		**Pn**	**16 26 31.5**	**-1.9**
Q23K				IAML		16 27 11.8	
	comp=N,281nm,0.8s						
Q23K				IAML		16 27 23.7	
	comp=E,297nm,1.1s						
Q23K	**Middleton Isla**	**3.52**	**28**	P	**Pn**	**16 26 31.3**	**-2.2**
	baz=211						
ACHA	**Angle Creek He**	**3.64**	**303**		**Pn**	**16 26 35.6**	**+0.3**
AUCH	**Augustine Cone**	**3.66**	**327**		**Pn**	**16 26 35.8**	**+0.3**
AUL	**Augustine Lava**	**3.67**	**327**		**Pn**	**16 26 35.9**	**+0.3**
KVTA	**Katmai Vly 10**	**3.71**	**305**		**Pn**	**16 26 37.0**	**+0.8**
ANCK	**Angle Creek**	**3.72**	**302**		**Pn**	**16 26 37.0**	**+0.7**
SEW	**Seward**	**3.75**	**1**		**Pn**	**16 26 35.0**	**-1.7**
SEW	**Seward**	**3.75**	**1**	P	**Pn**	**16 26 35.0**	**-1.7**
	baz=181						
P23K	**Montague Islan**	**3.82**	**16**		**Pn**	**16 26 36.1**	**-1.5**
P23K	**Montague Islan**	**3.82**	**16**	P	**Pn**	**16 26 35.7**	**-1.9**
	baz=199						
P19K	**Oil Pt**	**3.84**	**331**		**Pn**	**16 26 37.4**	**-0.5**
P19K	**Oil Pt**	**3.84**	**331**	IAML		16 27 29.1	
	comp=N,321nm,0.6s						
P19K				IAML		16 27 45.7	
	comp=E,220nm,0.8s						
P19K	**Oil Pt**	**3.84**	**331**	P	**Pn**	**16 26 37.0**	**-0.9**
	baz=148						
KELA	**Mount Kelaz**	**3.94**	**304**		**Pn**	**16 26 40.0**	**+0.6**
O20K	**Slope Mountain**	**4.07**	**338**		**Pn**	**16 26 40.4**	**-0.7**
O20K	**Slope Mountain**	**4.07**	**338**	P	**Pn**	**16 26 40.4**	**-0.7**
	baz=156						
IVE	**Iliamna Volcan**	**4.10**	**335**		**Pn**	**16 26 40.7**	**-0.9**
ILSW	**Iliamna Southw**	**4.10**	**334**		**Pn**	**16 26 40.9**	**-0.7**
ILSW	**Iliamna Southw**	**4.10**	**334**	IAML		16 27 41.9	
	comp=E,131nm,0.7s						
ILSW				IAML		16 27 55.5	
	comp=N,95nm,0.8s						
O22K	**Cooper Landing**	**4.13**	**359**		**Pn**	**16 26 41.0**	**-0.9**
O22K	**Cooper Landing**	**4.13**	**359**	P	**Pn**	**16 26 41.0**	**-0.9**
	baz=179						
SLKM	**Skilak Lake**	**4.17**	**355**		**Pn**	**16 26 41.3**	**-1.2**
P18K	**Big Mountain,**	**4.29**	**317**		**Pn**	**16 26 43.3**	**-0.8**
P18K	**Big Mountain,**	**4.29**	**317**	P	**Pn**	**16 26 43.3**	**-0.8**
	baz=133						
HIN	**Hinchinbrook I**	**4.35**	**20**		**Pn**	**16 26 43.5**	**-1.4**
HIN	**Hinchinbrook I**	**4.35**	**20**	IAML		16 27 43.1	
	comp=E,283nm,0.6s						
HIN				IAML		16 27 43.6	
	comp=N,326nm,0.7s						
RDT	**Redoubt**	**4.48**	**342**		**Pn**	**16 26 45.7**	**-1.1**
RDWB	**Redoubt West**	**4.48**	**339**		**Pn**	**16 26 45.6**	**-1.3**
KAIM	**Kayak Island**	**4.49**	**35**	Pn	**Pn**	**16 26 45.5**	**-1.3**
CAPN	**Captain Cook N**	**4.50**	**350**	Pn	**Pn**	**16 26 45.5**	**-1.4**
DFR	**Drift River**	**4.55**	**340**		**Pn**	**16 26 46.2**	**-1.5**
NCT	**North Crescent**	**4.57**	**339**		**Pn**	**16 26 46.8**	**-1.3**
O18K	**Koktuh Hills**	**4.61**	**322**		**Pn**	**16 26 47.6**	**-0.9**
O18K				IAML		16 27 48.8	
	comp=N,74nm,0.8s						
O18K				IAML		16 27 50.9	
	comp=E,62nm,1.0s						
EYAK	**Cordova Ski Ar**	**4.64**	**24**	P	**Pn**	**16 26 47.7**	**-1.3**
EYAK	**Cordova Ski Ar**	**4.64**	**24**		**Pn**	**16 26 47.6**	**-1.3**
EYAK	**Cordova Ski Ar**	**4.64**	**24**	P	**Pn**	**16 26 47.6**	**-1.3**
	baz=207						
P17K	**Kvichak River**	**4.66**	**310**		**Pn**	**16 26 49.4**	**+0.3**
FID	**Port Fidalgo**	**4.68**	**19**		**Pn**	**16 26 47.8**	**-1.7**
FID				IAML		16 27 45.0	
	comp=N,136nm,1.0s						
FID				IAML		16 27 50.5	
	comp=E,165nm,0.8s						
GLI	**Glacier Island**	**4.71**	**15**	Pn	**Pn**	**16 26 48.5**	**-1.3**
GLI				IAML		16 27 44.5	
	comp=E,159nm,0.7s						
GLI				IAML		16 27 49.1	
	comp=N,88nm,0.6s						
RC01	**Rabbit Creek A**	**4.74**	**359**	Pn	**Pn**	**16 26 48.9**	**-1.4**
RC01				IAML		16 27 50.5	
	comp=N,100nm,0.6s						
RC01				IAML		16 28 00.2	
	comp=E,90nm,0.7s						
RAGM	**Ragged Mountai**	**4.78**	**30**		**Pn**	**16 26 49.5**	**-1.3**
FIS	**Fire Island**	**4.81**	**356**	Pn	**Pn**	**16 26 50.3**	**-0.8**
FIS				IAML		16 27 54.7	
	comp=N,254nm,0.7s						
SUCK	**Suckling Hills**	**4.81**	**37**		**Pn**	**16 26 50.1**	**-1.2**
HMT	**Hamilton**	**4.86**	**33**		**Pn**	**16 26 50.6**	**-1.4**
NICHA	**Nichawak Mount**	**4.87**	**35**		**Pn**	**16 26 50.9**	**-1.2**
GOAT	**Goat Mountain**	**4.93**	**29**		**Pn**	**16 26 52.0**	**-0.9**
SPCR	**Spurr Chakacha**	**5.04**	**345**		**Pn**	**16 26 53.2**	**-1.3**
KNK	**Knik Glacier**	**5.09**	**6**		**Pn**	**16 26 53.9**	**-1.3**
KNK				IAML		16 27 58.6	
	comp=N,79nm,0.7s						
KNK				IAML		16 28 09.4	
	comp=E,95nm,0.8s						
SPCP	**Crater Peak Br**	**5.10**	**346**		**Pn**	**16 26 54.4**	**-1.0**
SPCG	**Spurr Capps Gl**	**5.11**	**346**		**Pn**	**16 26 54.4**	**-1.0**
GRIN	**Grindle Hills**	**5.12**	**37**		**Pn**	**16 26 54.5**	**-1.0**
SUA	**Susitna One**	**5.15**	**354**	Pn	**Pn**	**16 26 54.4**	**-1.7**
SUA				IAML		16 28 14.9	
	comp=E,53nm,1.0s						
SUA				IAML		16 28 32.0	
	comp=N,52nm,1.2s						
N19K	**Bonanza Creek**	**5.16**	**332**	Pn	**Pn**	**16 26 54.6**	**-1.5**
DIV	**Divide**	**5.17**	**21**		**Pn**	**16 26 55.1**	**-1.1**
SNH	**Sunshine Point**	**5.21**	**40**	Pn	**Pn**	**16 26 55.3**	**-1.5**
SNH				IAML		16 28 15.5	
	comp=N,113nm,1.1s						
PMR	**Palmer**	**5.25**	**2**	P	**Pn**	**16 26 56.5**	**-0.7**
PMR	**Palmer**	**5.25**	**2**	Pn	**Pn**	**16 26 56.1**	**-1.1**
PMR				IAML		16 28 10.2	
	comp=N,38nm,0.8s						
PMR				IAML		16 28 16.1	
	comp=E,42nm,0.9s						
P16K	**Nushagak River**	**5.26**	**304**		**Pn**	**16 26 58.1**	**+0.7**
KHIT	**Khitrov Hills**	**5.26**	**36**		**Pn**	**16 26 55.8**	**-1.7**
O17K	**Koliganek Bris**	**5.27**	**314**		**Pn**	**16 26 57.8**	**+0.3**
SPNN	**North Nagishla**	**5.28**	**343**		**Pn**	**16 26 56.8**	**-1.0**
STLK	**Strandline Lak**	**5.28**	**348**		**Pn**	**16 26 57.2**	**-0.6**
BMRM	**Bremner River**	**5.29**	**27**		**Pn**	**16 26 56.8**	**-1.0**
VNHG	**Veniaminof 1**	**5.36**	**272**		**Pn**	**16 26 58.8**	**-0.1**
WAX	**Waxell Ridge**	**5.40**	**38**		**Pn**	**16 26 57.8**	**-1.6**
M22K	**Willow**	**5.41**	**357**	Pn	**Pn**	**16 26 57.6**	**-1.9**
GHO	**Glory Hole Cre**	**5.43**	**3**		**Pn**	**16 26 58.7**	**-1.2**
N18K	**Kilae Creek**	**5.46**	**325**	Pn	**Pn**	**16 26 59.0**	**-1.1**
KLU	**Klutina**	**5.47**	**19**		**Pn**	**16 26 59.6**	**-0.8**
BARK	**Barkley Ridge**	**5.49**	**40**		**Pn**	**16 26 59.6**	**-1.0**
SML	**Sawmill**	**5.50**	**6**		**Pn**	**16 26 59.5**	**-1.2**
M23K	**Glacier View**	**5.53**	**9**		**Pn**	**16 27 00.6**	**-0.4**
MESA	**MESA**	**5.54**	**43**	Pn	**Pn**	**16 27 00.1**	**-1.3**
VNFG	**Fog Glacier, M**	**5.57**	**273**		**Pn**	**16 27 01.3**	**-0.5**
O16K	**Kokwok River B**	**5.58**	**309**	Pn	**Pn**	**16 27 02.0**	**+0.2**
SCM	**Sheep Creek Mo**	**5.60**	**11**		**Pn**	**16 27 01.6**	**-0.6**
ISLE	**Juniper Island**	**5.69**	**39**		**Pn**	**16 27 02.3**	**-1.1**
SKT	**Skwentna**	**5.72**	**351**	Pn	**Pn**	**16 27 02.1**	**-1.8**
N17K	**Nushagak Hills**	**5.79**	**319**	Pn	**Pn**	**16 27 03.2**	**-1.5**
VRDI	**Verde Repeater**	**5.81**	**30**	Pn	**Pn**	**16 27 03.6**	**-1.6**
M20K	**Styx River**	**5.83**	**343**	Pn	**Pn**	**16 27 03.3**	**-2.0**
N25K	**Chitina, Valde**	**5.84**	**24**	Pn	**Pn**	**16 27 04.7**	**-0.9**
GLB	**Gilahina Butte**	**5.89**	**28**	Pn	**Pn**	**16 27 05.0**	**-1.1**
CNBA	**Chernabura Isl**	**5.90**	**259**		**Pn**	**16 27 04.7**	**-1.6**
KIAG	**Kiagna River**	**5.91**	**36**		**Pn**	**16 27 05.2**	**-1.4**
M24K	**Tolsona, Glenn**	**6.01**	**15**		**Pn**	**16 27 07.0**	**-0.8**
MCARA	**McCarthy VSAT**	**6.06**	**31**		**Pn**	**16 27 07.7**	**-0.7**
PTPK	**Patty Peak**	**6.08**	**34**		**Pn**	**16 27 08.2**	**-0.6**
M18K	**Stony River**	**6.08**	**330**		**Pn**	**16 27 07.6**	**-1.1**
M19K	**Big River Lodg**	**6.09**	**338**		**Pn**	**16 27 07.1**	**-1.7**
O15K	**Ungalikthiuk R**	**6.18**	**301**		**Pn**	**16 27 10.5**	**+0.5**
WASW	**Wrangell South**	**6.23**	**24**		**Pn**	**16 27 10.6**	**-0.3**
SDPT	**Sand Point**	**6.24**	**265**	P	**Pn**	**16 27 09.3**	**-1.5**
SDPT	**Sand Point**	**6.24**	**265**	Pn	**Pn**	**16 27 09.4**	**-1.5**
WACK	**Wrangell Chich**	**6.24**	**23**		**Pn**	**16 27 10.6**	**-0.5**
BARN	**Barnard Glacie**	**6.25**	**38**		**Pn**	**16 27 09.8**	**-1.3**
CTGM	**Chitina Glacie**	**6.29**	**39**		**Pn**	**16 27 10.1**	**-1.7**
WAT6	**Susitna Watana**	**6.30**	**8**		**Pn**	**16 27 11.5**	**-0.4**
LOGN	**Logan Glacier**	**6.32**	**41**		**Pn**	**16 27 10.6**	**-1.5**
PNL	**Peninsula**	**6.33**	**54**	P	**Pn**	**16 27 10.4**	**-1.7**
PNL	**Peninsula**	**6.33**	**54**		**Pn**	**16 27 10.8**	**-1.2**
BCPM	**Bancas Point**	**6.36**	**51**		**Pn**	**16 27 11.3**	**-1.2**
N16K	**Nishlik Lake**	**6.36**	**314**		**Pn**	**16 27 12.9**	**+0.3**
WAZA	**Wrangell Mount**	**6.36**	**24**		**Pn**	**16 27 12.9**	**+0.1**
L19K	**White Mountain**	**6.44**	**337**	Pn	**Pn**	**16 27 11.4**	**-2.1**
HARP	**HAARP**	**6.45**	**18**		**Pn**	**16 27 13.7**	**-0.1**
WAT7	**Susitna Watana**	**6.50**	**3**		**Pn**	**16 27 14.3**	**-0.2**
WAT1	**Susitna Watana**	**6.51**	**4**		**Pn**	**16 27 14.4**	**-0.2**
O28M	**Mount Upton**	**6.59**	**44**		**Pn**	**16 27 14.7**	**-1.3**
M16K	**Timber Creek**	**6.77**	**317**	Pn	**Pn**	**16 27 17.6**	**-0.6**
DHY	**Denali Highway**	**6.82**	**8**	Pn	**Pn**	**16 27 16.8**	**-2.2**
O14K	**Tigyukauivet M**	**6.90**	**300**	Pn	**Pn**	**16 27 19.6**	**-0.3**
M26K	**Nabesna, AK**	**6.91**	**26**		**Pn**	**16 27 19.6**	**-0.6**
L18K	**Granite Mounta**	**6.92**	**331**	Pn	**Pn**	**16 27 18.4**	**-1.7**
PS1A	**Pavlof South-1**	**6.93**	**267**		**Pn**	**16 27 19.4**	**-0.9**
PAX	**Paxson**	**6.94**	**16**		**Pn**	**16 27 20.2**	**-0.3**
PVV	**Pavlof Volcano**	**6.96**	**267**		**Pn**	**16 27 19.7**	**-1.0**
O29M	**Mount Kennedy**	**6.99**	**51**		**Pn**	**16 27 20.4**	**-1.0**
S12K	**Black Hills**	**7.05**	**270**		**Pn**	**16 27 21.2**	**-0.7**
RND	**Reindeer**	**7.07**	**3**		**Pn**	**16 27 19.3**	**-3.1**
P29M	**Windy Craggy**	**7.08**	**58**	Pn	**Pn**	**16 27 20.5**	**-1.9**
M27K	**Edge Creek, AK**	**7.17**	**30**		**Pn**	**16 27 23.3**	**-0.5**
CAST	**Castle Rocks**	**7.19**	**351**	Pn	**Pn**	**16 27 21.6**	**-2.3**
MENT	**Mentasta**	**7.22**	**22**		**Pn**	**16 27 23.5**	**-0.9**
M15K	**Kasigluk River**	**7.27**	**311**		**Pn**	**16 27 25.7**	**+0.8**
YUK7	**Dusty Glacier**	**7.29**	**50**		**Pn**	**16 27 24.5**	**-1.0**
K20K	**Telida**	**7.37**	**344**	Pn	**Pn**	**16 27 24.7**	**-1.7**
L16K	**Owhat River**	**7.41**	**320**		**Pn**	**16 27 25.4**	**-1.5**
CHUM	**Lake Minchumin**	**7.67**	**351**		**Pn**	**16 27 30.0**	**-0.4**
HYT	**Haines Junctio**	**7.71**	**50**	Pn	**Pn**	**16 27 29.4**	**-1.8**
L27K	**Beaver Creek,**	**7.76**	**27**	Pn	**Pn**	**16 27 31.0**	**-0.8**
K17K	**Iditarod**	**7.76**	**329**	Pn	**Pn**	**16 27 29.9**	**-1.8**
BPAW	**Bear Paw Mtn.**	**7.79**	**355**	Pn	**Pn**	**16 27 30.2**	**-2.0**
J18K	**Innoko River**	**7.98**	**336**	Pn	**Pn**	**16 27 33.0**	**-1.7**
FALS	**False Pass**	**8.00**	**265**	P	**Pn**	**16 27 33.9**	**-1.1**
FALS	**False Pass**	**8.00**	**265**		**Pn**	**16 27 33.8**	**-1.2**
SCRK	**Sand Creek**	**8.12**	**18**	Pn	**Pn**	**16 27 35.7**	**-1.1**
J20K	**Nowinta River**	**8.16**	**346**	Pn	**Pn**	**16 27 35.4**	**-1.8**
WRH	**Wood River Hil**	**8.17**	**4**		**Pn**	**16 27 36.2**	**-1.1**
SKAG	**Skagway**	**8.18**	**62**	P	**Pn**	**16 27 35.5**	**-1.9**
ISLZ	**Isanotski Laza**	**8.20**	**264**		**Pn**	**16 27 36.2**	**-1.6**
ISNN	**Isanotski Nort**	**8.21**	**265**		**Pn**	**16 27 36.7**	**-1.2**
N30M	**Aishikik Lake**	**8.22**	**46**		**Pn**	**16 27 37.1**	**-1.0**
J19K	**Poorman**	**8.23**	**341**	Pn	**Pn**	**16 27 36.4**	**-1.7**
S32K	**Killisnoo**	**8.27**	**76**		**Pn**	**16 27 34.6**	**-4.0**
O30N	**Mendenhall**	**8.30**	**52**	Pn	**Pn**	**16 27 39.1**	**-0.1**
M29M	**Somme Creek**	**8.30**	**38**	Pn	**Pn**	**16 27 38.7**	**-0.6**
CCB	**Clear Creek Bu**	**8.35**	**5**		**Pn**	**16 27 38.6**	**-1.2**
SSLS	**Shishaldin Sou**	**8.37**	**265**		**Pn**	**16 27 38.9**	**-1.2**
JIS	**Juneau Island**	**8.43**	**71**	P	**Pn**	**16 27 38.2**	**-2.6**
J17K	**VABM Dome**	**8.52**	**330**	Pn	**Pn**	**16 27 39.7**	**-2.4**
J25K	**Salcha River,**	**8.53**	**12**		**Pn**	**16 27 40.5**	**-1.8**
K27K	**Chicken**	**8.54**	**23**		**Pn**	**16 27 41.0**	**-1.3**
ILAR	**Eielson Array**	**8.54**	**8**	Pn	**Pn**	**16 27 42.1**	**-0.2**
	comp=E,0.5nm,0.3s,baz=192,slow=13,SNR=24						
ILAR				Sn	**Sn**	**16 29 14.0**	**-4.5**
	comp=E,0.5nm,0.3s,baz=272,slow=25,SNR=1.5						
ILAR				LR	LR	16 31 10.5	
	comp=E,240nm,19.0s,baz=147,slow=38						
	comp=E,1.5nm,0.5s						
COLA	**College**	**8.58**	**5**	P	**Pn**	**16 27 42.7**	**-0.2**
COLA	**College**	**8.58**	**5**	Pn	**Pn**	**16 27 41.5**	**-1.4**
J26L	**Joseph Creek**	**8.68**	**17**	Pn	**Pn**	**16 27 42.9**	**-1.5**
MLY	**Manley**	**8.72**	**357**	Pn	**Pn**	**16 27 43.0**	**-1.9**
WESE	**West Dahl East**	**8.76**	**264**		**Pn**	**16 27 44.3**	**-1.2**
N31M	**Braeburn, Yuko**	**8.77**	**49**	Pn	**Pn**	**16 27 45.0**	**-0.6**
WHY	**Whitehorse**	**8.79**	**55**	Pn	**Pn**	**16 27 45.3**	**-0.7**
L29M	**L29M**	**8.88**	**36**		**Pn**	**16 27 46.3**	**-0.7**
I21K	**Tanana**	**8.93**	**353**	Pn	**Pn**	**16 27 46.0**	**-1.6**
M30M	**Minto, Yukon**	**8.98**	**41**	Pn	**Pn**	**16 27 47.9**	**-0.6**
DAWY	**Dawson**	**9.22**	**29**	Pn	**Pn**	**16 27 51.2**	**-0.6**
EGAK	**Eagle**	**9.38**	**23**	Pn	**Pn**	**16 27 54.1**	**+0.2**
I26K	**Coal Creek Min**	**9.49**	**16**	Pn	**Pn**	**16 27 55.1**	**-0.3**
H23K	**Yukon River**	**9.49**	**0**	Pn	**Pn**	**16 27 54.7**	**-0.7**
K29M	**Barlow Dome**	**9.59**	**34**	Pn	**Pn**	**16 27 56.3**	**-0.6**
M31M	**Drury Creek, Y**	**9.70**	**47**	Pn	**Pn**	**16 27 58.8**	**+0.5**
H18K	**Honhosa River**	**9.80**	**338**	Pn	**Pn**	**16 27 58.1**	**-1.6**
H17K	**Granite Mounta**	**9.98**	**334**	Pn	**Pn**	**16 27 59.6**	**-2.4**
UNV	**Unalaska Valle**	**10.04**	**263**	P	**Pn**	**16 28 00.5**	**-2.4**
I28M	**Miner Creek**	**10.23**	**23**	Pn	**Pn**	**16 28 05.0**	**-0.5**
G21K	**Allakaket**	**10.36**	**351**	Pn	**Pn**	**16 28 05.9**	**-1.4**
G23K	**Bananza Creek**	**10.39**	**359**	Pn	**Pn**	**16 28 06.4**	**-1.3**
G24K	**Hadweenzic Riv**	**10.42**	**5**	Pn	**Pn**	**16 28 07.1**	**-1.0**
J30M	**Hart River**	**10.48**	**33**	Pn	**Pn**	**16 28 09.8**	**+0.7**
DLBC	**Dease Lake**	**10.73**	**71**	Pn	**Pn**	**16 28 11.7**	**-0.7**
	comp=E,1.1nm,0.3s,baz=259,slow=4.7,SNR=4.3						
DLBC				LR	LR	16 31 45.3	
	comp=E,444nm,19.1s,baz=274,slow=35						
	comp=E,2.7nm,0.3s						
F20K	**Avaraart Lake**	**11.11**	**347**	Pn	**Pn**	**16 28 16.3**	**-1.2**
MMPY	**Sheldon Lake,**	**11.18**	**48**	Pn	**Pn**	**16 28 18.2**	**-0.3**
F24K	**Squaw Lake**	**11.22**	**3**	Pn	**Pn**	**16 28 16.6**	**-2.5**
TOLK	**Toolik Lake Re**	**12.32**	**360**	Pn	**Pn**	**16 28 32.8**	**-1.3**
E29M	**Blow River**	**13.18**	**19**	Pn	**Pn**	**16 28 44.5**	**-1.3**
INK	**Inuvik**	**14.03**	**25**	Pn	**Pn**	**16 28 58.1**	**+0.8**
	comp=E,0.2nm,0.3s,baz=247,slow=14,SNR=3.7						
INK				LR	LR	16 35 15.5	
	comp=E,56nm,18.3s,baz=178,slow=41						
	comp=E,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**18.62**	**56**	P	**Pn**	**16 29 55.6**	**-0.7**
	comp=E,0.1nm,0.3s,baz=268,slow=11,SNR=27						
YKA				LR	LR	16 36 51.3	
	comp=E,153nm,19.6s,baz=348,slow=36						
	comp=E,6.2nm,1.1s						
SHEM	**Shemya Is, Ala**	**21.23**	**276**	LR	LR	16 37 50.1	
	comp=E,122nm,21.3s,baz=35,slow=34						
NEW	**Newport**	**21.25**	**99**	LR	LR	16 37 07.9	
	comp=E,134nm,19.6s,baz=298,slow=33						
HUMO	**Hull Mountain**	**21.91**	**118**	P	**P**	**16 30 31.9**

comp=E,20nm,19.5s,baz=265,slow=40
MDP Montagnes des 89.61 81 LR LR 17 16 23.2
comp=E,28nm,22.0s,baz=354,slow=34
QSPA South Pole Qui 146.16 180 PKPbc **PKPab 16 45 18.4 0.0**
comp=E,3.3nm,1.3s,baz=340,slow=1.0,SNR=2.2

*IDC **27** 16:34:30.3±0.9, 15°.89S×173°.23E, h0km, mb4.1/11, mbtmp4.1/11, MS3.6/16, Error ellipse: s-maj=31.1km s-min=20.3km az=140.0*
*NEIC **27** 16:34:33.3±2.0, 15°.9S±0°.1×173°.2E±0°.1, h10km±1km, mb4.5/11, Error ellipse: s-maj=24.4km s-min=16.7km az=204.0*
ISC 27 16:34:32.5±0.6, 15°.9S±0°.1×173°.2E±0°.1, h10km, n40, σ1§03/26, mb4.3/15, MS3.8/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.99**	**113**	Pn	**Pn**	**16 35 47.9**	**+0.3**
DZM	**Mont Dzumac**	**8.90**	**225**	LR	LR	16 39 17.8	
	comp=Z,392nm,19.9s,baz=54,slow=32						
RAO	**Raoul Island**	**15.63**	**150**	LR	LR	16 42 11.2	
	comp=Z,214nm,21.3s,baz=236,slow=30						
URZ	**Urewera**	**22.58**	**172**	LR	LR	16 46 11.8	
	comp=Z,232nm,19.3s,baz=31,slow=31						
EIDS	**Eidsvold**	**22.75**	**242**	P	**P**	**16 39 36.6**	**+1.6**
EIDS				IAmb	IAmb	16 39 56.9	
	comp=Z,23nm,1.4s						
ARMA	**Armidale**	**24.52**	**230**	P	**P**	**16 39 53.8**	**+1.3**
TUWZ	**Tuamarina**	**25.49**	**179**	P	**P**	**16 39 60.0**	**-1.0**
BSWZ	**Blackbirch Sta**	**25.77**	**179**	P	**P**	**16 40 04.6**	**+1.0**
STKA	**Stephens Creek**	**32.87**	**235**	P	**P**	**16 41 06.9**	**+0.1**
STKA	**Stephens Creek**	**32.87**	**235**	P	**P**	**16 41 06.8**	**+0.1**
	comp=Z,3.8nm,0.7s,baz=68,slow=7.1,SNR=9.2						
	comp=Z,3.8nm,0.7s						
WRA	**Warramunga Arr**	**37.17**	**258**	P	**P**	**16 41 42.7**	**-1.3**
	comp=Z,1.7nm,0.9s,baz=90,slow=8.5,SNR=8.2						
	comp=Z,1.7nm,0.9s						
BBOO	**Buckleboo**	**37.60**	**236**	P	**P**	**16 41 47.6**	**+0.1**
AS31	**Alice Springs**	**37.71**	**252**	P	**P**	**16 41 47.9**	**-0.8**
ASAR	**Alice Springs**	**37.71**	**252**	P	**P**	**16 41 47.8**	**-0.9**
	comp=Z,3.7nm,0.6s,baz=82,slow=8.7,SNR=84						
	comp=Z,3.7nm,0.6s						
GUMO	**Guam**	**40.52**	**315**	LR	LR	16 58 19.3	
	comp=Z,24nm,20.7s,baz=123,slow=35						
MJAR	**Matsushiro Arr**	**61.72**	**328**	P	**P**	**16 44 48.7**	**-2.5**
	comp=Z,2.2nm,1.0s,baz=158,slow=7.5,SNR=7.0						
	comp=Z,2.2nm,1.0s						
VNDA	**Vanda**	**61.95**	**183**	LR	LR	17 07 20.8	
	comp=Z,44nm,21.3s,baz=2.0,slow=32						
ASAJ	**Asahikawa**	**65.91**	**336**	LR	LR	17 11 22.9	
	comp=Z,60nm,18.6s,baz=158,slow=34						
KSRS	**Korea Array**	**66.02**	**322**	P	**P**	**16 45 33.0**	**+0.8**
	comp=Z,1.1nm,1.1s,baz=139,slow=7.9,SNR=5.2						
KSRS				LR	LR	17 15 49.9	
	comp=Z,15nm,18.0s,baz=180,slow=36						
	comp=Z,1.1nm,1.1s						
PETK	**Petropavlovsk-**	**69.98**	**350**	LR	LR	17 12 24.6	
	comp=Z,33nm,19.5s,baz=148,slow=32						
QSPA	**South Pole Qui**	**74.18**	**180**	P	**P**	**16 46 08.0**	**-1.3**
QSPA				IAmb	IAmb	16 46 08.6	
	comp=Z,5.2nm,0.9s						
QSPA	**South Pole Qui**	**74.18**	**180**	P	**P**	**16 46 07.7**	**-1.6**
	comp=Z,3.9nm,0.9s,baz=56,slow=3.7,SNR=5.5						
QSPA				LR	LR	17 13 25.1	
	comp=Z,22nm,21.4s,baz=48,slow=32						
	comp=Z,3.9nm,0.9s						
KLR	**Kul'dur**	**74.47**	**333**	LR	LR	17 17 12.3	
	comp=Z,36nm,19.1s,baz=152,slow=34						
KULM	**Kulim**	**74.80**	**280**	P	**P**	**16 46 14.4**	**+0.7**
KDAK	**Kodiak Island**	**78.63**	**18**	LR	LR	17 16 11.7	
	comp=Z,72nm,19.8s,baz=210,slow=32						
SEY	**Seynchan**	**80.21**	**350**	LR	LR	17 16 31.5	
	comp=Z,48nm,21.0s,baz=128,slow=31						
CMAR	**Chiang Mai Arr**	**80.67**	**292**	P	**P**	**16 46 47.2**	**+0.9**
	comp=Z,1.3nm,0.9s,baz=90,slow=2.1,SNR=6.1						
	comp=Z,1.3nm,0.9s						
YBH	**Yreka Blue Hor**	**82.25**	**43**	LR	LR	17 16 01.2	
	comp=Z,50nm,19.2s,baz=282,slow=30						
J18K	**Innoko River**	**82.44**	**13**	P	**P**	**16 46 55.1**	**+0.4**
J18K				IAmb	IAmb	16 47 14.0	
	comp=Z,7.3nm,1.4s						
PFO	**Pinyon Flats O**	**83.06**	**52**	LR	LR	17 16 28.9	
	comp=Z,42nm,18.6s,baz=230,slow=30						
NVAR	**Mina Array Bea**	**83.73**	**47**	P	**P**	**16 47 02.1**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=224,slow=7.5,SNR=4.8						
	comp=Z,0.8nm,0.8s						
J05D	**Fort Rock, OR**	**83.95**	**42**	P	**P**	**16 47 03.4**	**+0.2**
LPIG	**La Paz**	**84.52**	**63**	LR	LR	17 19 20.9	
	comp=Z,59nm,18.9s,baz=223,slow=32						
F19K	**Shaleruckik Mo**	**85.20**	**11**	P	**P**	**16 47 09.4**	**+0.7**
F19K				IAmb	IAmb	16 47 28.2	
	comp=Z,8.1nm,1.5s						
ILAR	**Eielson Array**	**85.92**	**16**	P	**P**	**16 47 11.4**	**-1.0**
	comp=Z,0.9nm,0.8s,baz=239,slow=5.9,SNR=8.4						
	comp=Z,0.9nm,0.8s						
SCRK	**Sand Creek**	**86.11**	**17**	P	**P**	**16 47 13.6**	**+0.1**
SCRK				IAmb	IAmb	16 47 21.0	
	comp=Z,2.8nm,1.2s						
PDAR	**Pinedale Array**	**91.55**	**46**	LR	LR	17 23 30.7	
	comp=Z,36nm,18.4s,baz=294,slow=32						
TXAR	**Lajitas Array**	**91.81**	**60**	P	**P**	**16 47 41.6**	**+0.3**
	comp=Z,0.6nm,0.8s,baz=226,slow=5.0,SNR=6.1						
	comp=Z,0.6nm,0.8s						
YKA	**Yellowknife Ar**	**95.95**	**26**	P	**P**	**16 47 59.3**	**-0.1**
	comp=Z,0.3nm,0.7s,baz=243,slow=2.7,SNR=1.8						
	comp=Z,0.3nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**146.20**	**339**		**PKPdf**	**16 54 13.4**	**+0.8**

*SJA **27** 16:40:16.6±0.7, 20°.20S×69°.21W, h103km±2km, ML3.8, MW3.8*
*GUC **27** 16:40:19.8±0.9, 20°.27S×69°.20W, h86km±5km, ML3.6*
*IDC **27** 16:40:20.8±1.2, 20°.32S×68°.67W, h102km±15km, mb3.3/3, mbtmp3.7/7, Error ellipse: s-maj=29.4km s-min=8.8km az=102.0*
ISC 27 16:40:17.6±0.9, 20°.22S±0°.03×69°.18W±0°.05, h94km±7km, n44, σ1§63/60, 4C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.08**	**16**	*i* P	**Pn**	**16 40 32.1**	**+0.9**
PB08				*i* S	**Sn**	**16 40 43.4**	**+2.1**
PB08				IAML		16 40 43.5	
	comp=Z,4μm,0.3s						
PB08	**IPOC Station P**	**0.08**	**16**	⇓*i* P	**Pn**	**16 40 32.1**	**+0.9**
PB08				*e*S	**Sn**	**16 40 42.4**	**+1.1**
PB08				IAML		16 40 43.5	
	comp=E,12μm,0.3s						
GO01	**Chusmiza**	**0.55**	**358**	*i* P	**Pn**	**16 40 34.4**	**+0.8**
GO01				*i* S	**Sn**	**16 40 47.2**	**+1.7**
GO01	**Chusmiza**	**0.55**	**358**	*i* P	**Pn**	**16 40 34.6**	**+0.9**
GO01				*e*S	**Sn**	**16 40 47.0**	**+1.5**
GO01				IAML		16 40 48.1	
	comp=N,5μm,0.2s						
PB11	**IPOC Station P**	**0.64**	**315**	*i* P	**Pn**	**16 40 35.1**	**+1.1**
PB11				*i* S	**Sn**	**16 40 47.4**	**+1.1**
PB11				IAML		16 40 49.5	
	comp=Z,2μm,0.2s						
PB11	**IPOC Station P**	**0.64**	**315**	⇑*i* P	**Pn**	**16 40 34.8**	**+0.8**
PB11				*e*S	**Sn**	**16 40 47.7**	**+1.4**
PB11				IAML		16 40 48.6	
	comp=E,7μm,0.2s						
HMBC	**Humberstone**	**0.67**	**265**	*i* P	**Pn**	**16 40 34.7**	**+0.4**
HMBC				*i* S	**Sn**	**16 40 48.3**	**+1.6**
HMBC				IAML		16 40 49.4	
	comp=Z,2μm,0.4s						
HMBC	**Humberstone**	**0.67**	**265**	⇑*i* P	**Pn**	**16 40 34.6**	**+0.4**
HMBC				*e*S	**Sn**	**16 40 47.3**	**+0.6**
HMBC				IAML		16 40 49.2	
	comp=E,3μm,0.5s						
PB01	**IPOC Station P**	**0.87**	**199**	*i* P	**Pn**	**16 40 37.2**	**+0.9**
PB01				*i* S	**Sn**	**16 40 51.7**	**+1.5**
PB01				IAML		16 40 53.7	
	comp=Z,2μm,0.2s						
TA02	**Huaiquique**	**0.90**	**266**	*i* P	**Pn**	**16 40 36.6**	**+0.2**
TA02				*i* S	**Sn**	**16 40 51.5**	**+1.0**
TA02				IAML		16 40 53.3	
	comp=Z,3μm,0.1s						
TA02	**Huaiquique**	**0.90**	**266**	*i* P	**Pn**	**16 40 37.1**	**+0.7**
TA02				*e*S	**Sn**	**16 40 51.7**	**+1.2**
TA02				IAML		16 40 52.4	
	comp=E,4μm,0.1s						
TA01	**Diego Aracena**	**1.00**	**250**	*i* P	**Pn**	**16 40 37.7**	**+0.2**
TA01				*i* S	**Sn**	**16 40 54.1**	**+1.5**
TA01	**Diego Aracena**	**1.00**	**250**	⇑*i* P	**Pn**	**16 40 37.9**	**+0.3**
TA01				*e*S	**Sn**	**16 40 52.8**	**+0.2**
TA01				IAML		16 40 56.1	
	comp=N,1μm,0.4s						
PATCX	**Punta Patache**	**1.10**	**237**	*i* P	**Pn**	**16 40 38.9**	**+0.2**
PATCX	**Punta Patache**	**1.10**	**237**	⇑*i* P	**Pn**	**16 40 39.2**	**+0.5**
PATCX				*e*S	**Sn**	**16 40 54.9**	**+0.3**
PATCX				IAML		16 40 56.2	
	comp=E,2μm,0.2s						
PB09	**IPOC Station P**	**1.57**	**182**	*i* P	**Pn**	**16 40 45.3**	**+0.7**
PB09				*i* S	**Sn**	**16 41 06.7**	**+1.6**
PB09				IAML		16 41 11.1	
	comp=Z,700nm,0.6s						
PB09	**IPOC Station P**	**1.57**	**182**	⇓*i* P	**Pn**	**16 40 45.8**	**+1.2**
PB09				*e*S	**Sn**	**16 41 06.9**	**+1.9**
PB09				IAML		16 41 09.8	
	comp=E,864nm,0.3s						
PB12	**IPOC Station P**	**1.93**	**325**	*i* P	**Pn**	**16 40 49.2**	**+0.1**
PB12				*i* S	**Sn**	**16 41 13.7**	**+0.6**
PB12				IAML		16 41 24.0	
	comp=Z,419nm,0.2s						
AP01	**Chacalluta**	**2.14**	**329**	*i* P	**Pn**	**16 40 51.7**	**-0.1**
AP01				IAML		16 41 30.1	
	comp=Z,772nm,0.6s						
PB04	**IPOC Station P**	**2.29**	**203**	*i* P	**Pn**	**16 40 54.2**	**+0.3**
PB04				IAML		16 41 36.5	
	comp=Z,293nm,0.4s						
PB04	**IPOC Station P**	**2.29**	**203**	*i* P	**Pn**	**16 40 54.4**	**+0.5**
PB04				*e*S	**Sn**	**16 41 18.7**	**-3.1**
PB04				IAML		16 41 40.9	
	comp=N,357nm,0.3s						
LVC	**Limon Verde**	**2.40**	**174**	*i* P	**Pn**	**16 40 56.3**	**+0.9**
LVC				*i* S	**Sn**	**16 41 25.8**	**+1.4**
LVC	**Limon Verde**	**2.40**	**174**	P	**Pn**	**16 40 57.1**	**+1.6**
	comp=N,76nm,0.3s,baz=11,slow=11,SNR=227						
LVC				S	**Sn**	**16 41 26.2**	**+1.8**
	comp=N,100nm,0.3s,baz=283,slow=23,SNR=22						
PB06	**IPOC Station P**	**2.50**	**188**	*i* P	**Pn**	**16 40 57.6**	**+0.8**
PB06				*i* S	**Sn**	**16 41 27.6**	**+0.9**
PB06				IAML		16 41 37.8	
	comp=Z,327nm,0.4s						
PB06	**IPOC Station P**	**2.50**	**188**	*i* P	**Pn**	**16 40 57.4**	**+0.7**
PB06				*e*S	**Sn**	**16 41 25.8**	**-0.9**
PB06				IAML		16 41 35.1	
	comp=N,473nm,0.5s						
PB05	**IPOC Station P**	**2.79**	**200**	*i* P	**Pn**	**16 41 00.7**	**+0.2**
PB05				IAML		16 41 44.6	
	comp=Z,147nm,0.3s						
PB05	**IPOC Station P**	**2.79**	**200**	*e*P	**Pn**	**16 41 00.5**	**0.0**
PB05				*e*S	**Sn**	**16 41 33.5**	**0.0**
PB05				IAML		16 41 44.9	
	comp=E,310nm,0.6s						
PB15	**IPOC Station P**	**2.99**	**185**	*i* P	**Pn**	**16 41 04.0**	**+0.8**
PB15				*i* S	**Sn**	**16 41 39.4**	**+0.9**
YJA	**Yavi**	**3.93**	**120**	*i* P	**Pn**	**16 41 18.4**	**+2.2**
LPAZ	**La Paz**	**4.03**	**14**	P	**Pn**	**16 41 21.6**	**+4.0**
	comp=E,16nm,0.6s,baz=185,slow=8.7,SNR=71						
LPAZ				S	**Sn**	**16 42 08.3**	**+4.2**
	comp=E,4.0nm,0.7s,baz=163,slow=7.4,SNR=1.1						
SIV	**San Ignacio**	**8.78**	**63**	P	**Pn**	**16 42 20.2**	**-1.5**
	comp=E,2.1nm,0.4s,baz=257,slow=11,SNR=15						
SIV				S	**Sn**	**16 43 52.9**	**-6.1**
	comp=E,0.4nm,0.3s,baz=284,slow=11,SNR=1.0						
CPUP	**Villa Florida**	**12.47**	**121**	P	**Pn**	**16 43 09.3**	**-2.3**
	comp=E,1.3nm,0.7s,baz=313,slow=11,SNR=4.3						
H03N1	**Juan Fernandez**	**15.77**	**211**	T	T	16 59 28.4	
	baz=32,slow=74						
H03N2	**Juan Fernandez**	**15.78**	**211**	T	T	16 59 22.7	
	baz=32						
H03N3	**Juan Fernandez**	**15.78**	**211**	T	T	16 59 19.8	
	baz=32,slow=74						
PLCA	**Paso Flores**	**20.48**	**183**	P	Pn	16 44 50.4	-0.6
	comp=E,3.6nm,1.0s,baz=359,slow=9.6,SNR=2.9						
	comp=E,3.6nm,1.0s						
BDFB	**Brasilia**	**20.64**	**81**	P	**P**	**16 44 47.9**	**-1.9**
	comp=E,0.6nm,0.3s,baz=232,slow=9.7,SNR=3.1						
	comp=E,0.6nm,0.3s						
TORD	**Torodi Ar. Bea**	**77.16**	**71**	P	**P**	**16 52 01.2**	**-0.4**
	comp=E,0.3nm,0.4s,baz=255,slow=4.6,SNR=4.2						
	comp=E,0.3nm,0.4s						
H11S2	**WAKE ISLAND Hy**	**27.46**	**278**	T	T	19 19 00.3	
	baz=102,slow=75,SNR=18						
H11S1	**WAKE ISLAND Hy**	**27.47**	**278**	T	T	19 19 01.2	
	baz=102,slow=75,SNR=12						
H11S3	**WAKE ISLAND Hy**	**27.48**	**278**	T	T	19 19 01.2	
	baz=102,slow=75,SNR=12						
H11N3	**WAKE ISLAND Hy**	**27.51**	**280**	T	T	19 19 06.3	
	baz=102,slow=74,SNR=7.1						
H11N2	**WAKE ISLAND Hy**	**27.52**	**280**	T	T	19 19 04.6	
	baz=102,slow=74,SNR=5.8						
H11N1	**WAKE ISLAND Hy**	**27.52**	**280**	T	T	19 19 04.9	
	baz=102,slow=74,SNR=3.4						

*IDC **27** 16:43:42.7±4.3, 15°.28N×146°.00E, h103km±54km, mb3.5/8, mbtmp3.8/9, Error ellipse: s-maj=53.2km s-min=28.2km az=8.0*
*NEIC **27** 16:43:44.5±0.7, 15°.3N±0°.1×145°.9E±0°.2, h110km±5km, mb4.3/15, Error ellipse: s-maj=27.7km s-min=13.6km az=113.0*
ISC 27 16:43:42.7±0.8, 15°.3N±0°.1×146°.0E±0°.2, h100km, n30, σ0§97/25, mb4.1/17, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.01**	**213**	P	**Pn**	**16 44 16.9**	**+1.4**
	88nm,0.3s,baz=352,slow=3.9,SNR=89						
GUMO				S	**Sn**	**16 44 40.8**	**+0.5**
	189nm,0.3s,baz=156,slow=22,SNR=19						
H11S3	**WAKE ISLAND Hy**	**20.04**	**78**	T	T	17 09 12.9	
	baz=263,slow=74						
H11S1	**WAKE ISLAND Hy**	**20.06**	**78**	T	T	17 09 10.6	
	baz=263						
H11S2	**WAKE ISLAND Hy**	**20.06**	**78**	T	T	17 09 13.1	
	baz=263,slow=74						
H11N1	**WAKE ISLAND Hy**	**20.40**	**74**	T	T	17 09 33.5	
	baz=263,slow=75,SNR=6.0						
H11N2	**WAKE ISLAND Hy**	**20.40**	**74**	T	T	17 09 34.0	
	baz=263,slow=75,SNR=6.4						
H11N3	**WAKE ISLAND Hy**	**20.41**	**74**	T	T	17 09 34.8	
	baz=263,slow=75,SNR=6.7						
KSRS	**Korea Array**	**27.29**	**327**	P	**P**	**16 49 17.6**	**-0.3**
	0.4nm,0.8s,baz=133,slow=8.4,SNR=3.0						
	0.4nm,0.8s						
TOLI2	**Tolitoli**	**28.60**	**243**	P	**P**	**16 49 29.7**	**-0.1**
TOLI2				IAmb	IAmb	16 49 31.6	
	comp=Z,12nm,1.3s						
SOEI	**Soe**	**32.90**	**222**	P	**P**	**16 50 08.3**	**+0.6**
WRAB	**Tennant Creek**	**36.82**	**198**	P	**P**	**16 50 38.5**	**-2.7**
WRAB				IAmb	IAmb	16 50 53.5	
	comp=Z,8.5nm,1.4s						
SONM	**Songino Array**	**46.02**	**323**	P	**P**	**16 51 56.3**	**0.0**
	comp=Z,0.5nm,0.5s,baz=142,slow=7.3,SNR=2.4						
	comp=Z,0.5nm,0.5s						
MKAR	**Makanchi Array**	**61.06**	**315**	P	**P**	**16 53 46.2**	**+0.1**
	comp=Z,0.6nm,0.4s,baz=95,slow=7.9,SNR=14						
	comp=Z,0.6nm,0.4s						
MAKZ	**Makanchi**	**61.28**	**315**	P	**P**	**16 53 47.5**	**0.0**
MAKZ				IAmb	IAmb	16 53 59.0	
	comp=Z,2.0nm,1.0s						
J19K	**Poorman**	**62.73**	**25**	P	**P**	**16 53 57.7**	**+0.7**
J19K				IAmb	IAmb	16 54 30.7	
	comp=Z,7.6nm,1.5s						
J20K	**Nowinta River**	**63.40**	**25**	P	**P**	**16 54 02.6**	**+1.2**
J20K				IAmb	IAmb	16 54 32.7	
	comp=Z,5.8nm,1.4s						
D19K	**Kuna River**	**63.70**	**20**	P	**P**	**16 54 03.8**	**+0.5**
CAST	**Castle Rocks**	**64.00**	**26**	P	**P**	**16 54 06.2**	**+0.9**
CAST				IAmb	IAmb	16 54 37.1	
	comp=Z,5.5nm,1.4s						
KURBB	**Kurchatov Arra**	**64.07**	**319**	P	**P**	**16 54 05.4**	**-0.6**
	comp=Z,2.4nm,0.7s,baz=99,slow=6.7,SNR=25						
	comp=Z,2.4nm,0.7s						
H21K	**Melozitna Rive**	**64.46**	**24**	P	**P**	**16 54 09.2**	**+0.8**
H21K				IAmb	IAmb	16 54 41.3	
	comp=Z,3.2nm,1.4s						
D22K	**Ayikyak River**	**65.67**	**20**	P	**P**	**16 54 17.1**	**+1.0**
D22K				IAmb	IAmb	16 55 00.7	
	comp=Z,4.9nm,1.2s						
ILAR	**Eielson Array**	**66.58**	**25**	P	**P**	**16 54 20.9**	**-1.1**
	comp=Z,0.5nm,0.5s,baz=248,slow=6.2,SNR=11						
	comp=Z,0.5nm,0.5s						
TOLK	**Toolik Lake Re**	**66.65**	**21**	P	**P**	**16 54 23.1**	**+0.7**
E24K	**Your Creek**	**66.86**	**22**	P	**P**	**16 54 24.6**	**+0.8**
SCRK	**Sand Creek**	**67.63**	**27**	P	**P**	**16 54 29.2**	**+0.4**
J26L	**Joseph Creek**	**67.92**	**26**	P	**P**	**16 54 30.5**	**0.0**
J26L				IAmb	IAmb	16 54 43.2	
	comp=Z,3.0nm,1.4s						
D25K	**Kavik River**	**67.96**	**21**	P	**P**	**16 54 31.3**	**+0.6**
BVAR	**Borovoye Array**	**69.30**	**321**	P	**P**	**16 54 38.4**	**-0.8**
	comp=Z,0.8nm,0.5s,baz=97,slow=7.9,SNR=8.1						
	comp=Z,0.8nm,0.5s						
YKA	**Yellowknife Ar**	**80.86**	**28**	P	**P**	**16 55 44.6**	**-0.8**
	comp=Z,0.3nm,0.5s,baz=285,slow=5.6,SNR=4.8						
	comp=Z,0.3nm,0.5s						
NVAR	**Mina Array Bea**	**85.01**	**52**	P	**P**	**16 56 08.9**	**+1.2**
	comp=Z,0.3nm,0.5s,baz=280,slow=5.4,SNR=2.5						
	comp=Z,0.3nm,0.5s						

*IDC **27** 16:59:19.4±3.2, 30°.34S×177°.75W, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=67.9km s-min=22.7km az=109.0*
ISC 27 16:59:19.2±2.8, 30°.5S±0°.1×177°.6W±0°.4, h10km, n9, σ1§84/7, mb4.1/3, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.26**	**349**	Pn	**Pn**	**16 59 42.6**	**-0.4**
	62nm,0.3s,baz=180,slow=20,SNR=1.8						
RAO				S	**Sn**	**16 59 58.2**	**-1.7**
	263nm,0.3s,baz=75,slow=20,SNR=9.1						
URZ	**Urewera**	**8.88**	**208**	Sn	**Sn**	**17 03 05.0**	**-2.6**
	0.2nm,0.3s,baz=288,slow=6.9,SNR=1.2						
STKA	**Stephens Creek**	**34.76**	**257**	P	**P**	**17 06 11.5**	**+1.7**
	2.2nm,0.6s,baz=96,slow=12,SNR=4.3						
	2.2nm,0.6s						
ASAR	**Alice Springs**	**43.41**	**267**	P	**P**	**17 07 23.2**	**+0.8**
	0.6nm,0.7s,baz=105,slow=7.2,SNR=20						
	0.6nm,0.7s						
WRA	**Warramunga Arr**	**44.41**	**272**	P	**P**	**17 07 31.0**	**+0.5**
	0.9nm,0.3s,baz=111,slow=8.1,SNR=45						
	0.9nm,0.3s						
H03S2	**Juan Fernandez**	**80.15**	**123**	T	T	18 40 44.1	
	baz=238,slow=74						
H03S1	**Juan Fernandez**	**80.17**	**123**	T	T	18 40 45.6	
	baz=238,slow=74						
H03S3	**Juan Fernandez**	**80.17**	**123**	T	T	18 40 47.9	
	baz=238,slow=74						
FINES	**FINESS Array B**	**145.34**	**340**	PKPbc	**PKPdf**	**17 18 56.8**	**+0.2**
	1.4nm,0.9s,baz=32,slow=5.4,SNR=6.3						

*CATAC **27** 17:07:03.4±0.8, 12°.24N×87°.71W, h10km, ML3.2*
*SNET **27** 17:07:04.0±1.4, 12°.28N×88°.11W, h23km±9km, ML3.2*
ISC 27 17:07:00.6±1.8, 12°.23N±0°.08×87°.87W±0°.06, h13km±11km, n29, σ1§13/38, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CRIN	**San Cristobal**	**0.93**	**60**	*i* P	**Pb**	**17 07 18.1**	**-0.5**
CRIN				*i* S	**Sb**	**17 07 30.1**	**-0.8**
CRIN				IAML		17 07 44.7	
	comp=Z,3μm,1.0s						
CNCH	**Conchagua**	**1.04**	**2**	*e*P	**Pn**	**17 07 22.2**	**+1.2**
CNCH				*e*S	**Sn**	**17 07 37.8**	**+2.4**
AMPH	**Amapala**	**1.07**	**11**	*e*P	**Pn**	**17 07 22.8**	**+1.5**
LCND	**La Caada**	**1.07**	**359**	*e*P	**Pn**	**17 07 22.5**	**+1.2**
LCND				*e*P	**Pg**	**17 07 22.9**	**+1.6**
LCND				*e*S	**Sn**	**17 07 37.7**	**+1.6**
JUCU	**Jucuarįn**	**1.08**	**340**	*e*P	**Pn**	**17 07 22.6**	**+1.1**
JUCU				*e*S	**Sn**	**17 07 34.7**	**-1.7**
JUCU				IAML		17 07 40.9	
	comp=Z,708nm,0.3s						
PACN	**Al O del Volca**	**1.09**	**76**	*i* P	**Pb**	**17 07 20.1**	**-1.2**
PACN				IAML		17 07 35.4	
	comp=Z,520nm,1.0s						
PLRN	**Geotermica Pol**	**1.14**	**72**	*i* P	**Pb**	**17 07 21.8**	**-0.3**
PLRN				*i* S	**Sb**	**17 07 36.8**	**0.0**
PLRN				IAML		17 07 47.9	
	comp=Z,430nm,1.0s						
CNGA	**Al SSO del Vol**	**1.17**	**77**	*i* P	**Pn**	**17 07 22.9**	**+0.1**
CNGA				IAML		17 07 56.8	
	comp=Z,440nm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.24**	**82**	*i* P	**Pb**	**17 07 24.0**	**+0.1**
LEVN				IAML		17 07 48.7	
	comp=Z,480nm,1.0s						
COPN	**Copaltepe**	**1.25**	**92**	*i* P	**Pn**	**17 07 23.5**	**-0.3**
COPN				IAML		17 07 55.7	
	comp=Z,340nm,1.0s						
PACA	**Pacayal**	**1.31**	**340**	*e*P	**Pg**	**17 07 25.9**	**+0.1**
PACA				*e*S	**Sg**	**17 07 43.3**	**+0.5**
MOM2	**El Cardon**	**1.37**	**81**	*i* P	**Pn**	**17 07 25.5**	**0.0**
MOM2				IAML		17 07 52.5	
	comp=Z,440nm,1.0s						
TECA	**Tecapa**	**1.40**	**334**	*e*P	**Pg**	**17 07 27.0**	**-0.5**
APYN	**Apoyeque**	**1.49**	**90**	*i* P	**Pn**	**17 07 27.1**	**0.0**
APYN				IAML		17 07 51.5	
	comp=Z,360nm,1.0s						
RB28C	**Hialeah**	**1.56**	**94**	*i* P	**Pn**	**17 07 28.2**	**+0.1**
RB28C				IAML		17 07 47.0	
	comp=Z,870nm,1.0s						
BRAN	**Las Pilas**	**1.56**	**72**	*i* P	**Pn**	**17 07 27.0**	**-1.1**
BRAN				IAML		17 08 41.6	
	comp=Z,730nm,1.0s						
TECO	**Alcaldia de Te**	**1.57**	**326**	*e*S	**Sn**	**17

MWZ	Matawai	7.27	204	P		Pn	17 49 20.1	-1.6
URZ	Urewera	7.36	207	P		Pn	17 49 22.8	0.0
	6.7nm,0.3s,baz=347,slow=6.7,SNR=26							
URZ				S		Sn	17 50 41.8	-3.2
	8.8nm,0.3s,baz=85,slow=15,SNR=8.9							
URZ	Urewera	7.36	207	P		Pn	17 49 22.1	-0.7
SNGZ	Shannon Statio	7.74	204	P		Pn	17 49 27.0	-1.1
BKZ	Black Stump Fm	8.38	207	Pn		Pn	17 49 37.5	+0.5
DZM	Mont Dzumac	16.40	302	LR		LR	17 56 29.7	
	comp=Z,173nm,20.3s,baz=113,slow=33							
CTAO	Charters Tower	33.48	282	P		P	17 54 15.4	+2.1
CTAO				IAmb		IAmb	17 54 28.7	
	comp=Z,8.6nm,1.1s							
STKA	Stephens Creek	33.64	259	P		P	17 54 14.8	+0.3
STKA	Stephens Creek	33.64	259	P		P	17 54 16.6	+2.1
	comp=Z,1.4nm,0.8s,baz=100,slow=6.1,SNR=1.9							
	comp=Z,1.4nm,0.8s							
BBOO	Buckleboo	38.07	256	P		P	17 54 51.4	-1.0
BBOO				IAmb		IAmb	17 55 15.4	
	comp=Z,5.8nm,1.0s							
COEN	Coen	39.12	288	P		P	17 54 59.1	-2.2
AS31	Alice Springs	42.49	269	P		P	17 55 29.5	+0.4
ASAR	Alice Springs	42.49	269	P		P	17 55 29.5	+0.4
	comp=Z,1.6nm,0.6s,baz=109,slow=7.8,SNR=47							
	comp=Z,1.6nm,0.6s							
WR0	Warramunga Arr	43.42	274	P		P	17 55 36.9	+0.3
WB2	Warramunga Arr	43.59	274	P		P	17 55 38.4	+0.4
WB2				IAmb		IAmb	17 55 39.9	
	comp=Z,3.6nm,0.7s							
WRAB	Tennant Creek	43.59	274	P		P	17 55 38.0	0.0
WRAB				IAmb		IAmb	17 55 38.8	
	comp=Z,2.9nm,0.7s							
WRA	Warramunga Arr	43.60	274	P		P	17 55 38.0	-0.1
	comp=Z,3.0nm,0.5s,baz=114,slow=7.9,SNR=76							
	comp=Z,3.0nm,0.5s							
WB0	Warramunga Arr	43.63	274	P		P	17 55 38.1	-0.2
WB0				IAmb		IAmb	17 55 39.3	
	comp=Z,4.9nm,0.6s							
MTN	Manton Dam	49.65	280	P		P	17 56 24.5	-1.0
FITZ	Fitzroy Crossi	51.80	271	P		P	17 56 40.6	-1.1
CASY	Casey	53.68	208	P		P	17 56 54.7	-0.1
CASY				IAmb		IAmb	17 57 10.4	
	comp=Z,8.1nm,1.2s							
PSA00	Pilbara Seismi	55.26	265	P		P	17 57 06.8	-0.1
PSA00				IAmb		IAmb	17 57 32.9	
	comp=Z,6.8nm,1.4s							
QSPA	South Pole Qui	58.36	180	P		P	17 57 29.4	+0.9
QSPA				IAmb		IAmb	17 57 39.5	
	comp=Z,2.9nm,1.0s							
QSPA	South Pole Qui	58.36	180	P		P	17 57 34.2	+5.7
	comp=Z,1.4nm,0.6s,baz=65,slow=13,SNR=20							
	comp=Z,1.4nm,0.6s							
H03S2	Juan Fernandez	80.19	124	T		T	19 28 30.7	
	baz=236,slow=74,SNR=11							
H03S1	Juan Fernandez	80.20	124	T		T	19 28 34.1	
	baz=236,slow=74,SNR=9.6							
H03S3	Juan Fernandez	80.21	124	T		T	19 28 36.7	
	baz=236,slow=74,SNR=12							
H03N3	Juan Fernandez	80.39	123	T		T	19 28 39.2	
	baz=241,slow=72,SNR=18							
H03N2	Juan Fernandez	80.40	123	T		T	19 28 36.5	
	baz=241,slow=72,SNR=9.2							
H03N1	Juan Fernandez	80.41	123	T		T	19 28 36.9	
	baz=241,slow=72,SNR=30							
MKAR	Makanchi Array	118.20	310	PKP		PKiKP	18 06 21.3	+1.3
	comp=Z,5.6nm,1.3s,baz=109,slow=3.1,SNR=1.9							
KURBB	Kurchatov Arra	121.60	313	PKhKP		PKPpre	18 06 24.0	
	comp=Z,0.7nm,0.4s,baz=115,slow=2.1,SNR=5.5							
KURBB				PKP		PKiKP	18 06 28.1	+1.6
	comp=Z,0.4nm,0.5s,baz=115,slow=2.2,SNR=4.3							
FINES	FINESS Array B	146.21	339	PKPbc		PKPdf	18 07 12.0	+0.4
	comp=Z,3.6nm,0.5s,baz=31,slow=3.2,SNR=24							
NB2	NORSAR Subarra	149.99	350	PKP		PKiKP	18 07 25.3	+1.5
	comp=Z,0.5nm,0.5s,baz=16,slow=2.6							
NOA	NORSAR Array B	149.99	350	PKPbc		PKiKP	18 07 24.2	+0.4
	comp=Z,0.7nm,0.6s,baz=15,slow=3.7,SNR=5.1							
MMAI	Mount Meron Ar	151.27	282	PKPbc		PKiKP	18 07 28.4	+1.0
	comp=Z,1.0nm,0.4s,baz=86,slow=4.6,SNR=3.0							
BRTR	Keskin Array B	152.71	296	PKPbc		PKiKP	18 07 31.0	+0.8
	comp=Z,0.7nm,0.5s,baz=131,slow=1.8,SNR=7.5							

MOS ***27*** *17:50:51.3±1.4, 45˚.16N×124˚.66E, h10km, mb5.5/70, MS5.2/44, Error ellipse: s-maj=6.0km s-min=3.6km az=129.7*

IDC ***27*** *17:50:51.4±0.4, 45˚.20N×124˚.72E, h0km, mb5.0/32, mbtmp4.9/40, ML4.3/7, MS4.9/81, Error ellipse: s-maj=9.5km s-min=8.8km az=20.0*

NEIC ***27*** *17:50:52.6, 45˚.34N×124˚.64E, h12km, Moment Tensor Solution. Duration: 2s1 Moment tensor: Scale 10^16 Nm; Mrr0.08; Mθθ8.39; Mϕϕ-8.47; Mrθ1.06; Mrϕ0.14; Mθϕ-4.45; Fault plane solution: M0 9.46000×10^16 NP1: ϕs312.91000°, δ79.60000°, λ-22.50000°. NP2: ϕs47.18000°, δ67.89000°, λ-168.77000°. Principal axes: T 8.5342, Plg8.0000°, Azm2.0000°; N 1.8485, Plg65.0000°, Azm109.0000°; P -10.3827, Plg23.0000°, Azm268.0000°;*

NEIC ***27*** *17:50:52.6±2.0, 45˚.24N±0˚.06×124˚.64E±0˚.03, h10km±1km, mb5.2/397, Mww5.3/46 Error ellipse: s-maj=10.7km s-min=2.8km az=199.0*

NEIC ***27*** *17:50:52.6, 45˚.24N×124˚.64E, h12km*

GCMT ***27*** *17:50:53.6±0.1, 45˚.26N±0˚.01×124˚.65E±0˚.01, h14km, MW5.3/145, Moment Tensor Solution. s90,c143; s145,c273; Duration: 1s0 Moment tensor: Scale 10^17 Nm; Mrr0.02±.01; Mθθ0.95±.01; Mϕϕ-0.96±.01; Mrθ-0.15±.03; Mrϕ0.04±.01; Mθϕ-0.20±.03; Best double couple: M0 0.99200×10^17 NP1: ϕs44.00000°, δ89.00000°, λ-165.00000°. NP2: ϕs314.00000°, δ75.00000°, λ-1.00000°. Principal axes: T 0.9760, Plg10.0000°, Azm178.0000°; N 0.0320, Plg75.0000°, Azm48.0000°; P -1.0080, Plg11.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

KEA ***27*** *17:50:56.5, 45˚.10N×124˚.90E, h17km, ML5.6/5*

ISC 27 17:50:51.7±0.4, 45˚.16N±0˚.03×124˚.82E±0˚.03, h5km±2km, h6km:pP-P,n1289,σ1s88/1106, mb5.2/328, MS5.0/112, 61C-63D, Northeastern China

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MDJ	Mudanjiang	3.44	97	Pn		Pn	17 51 46.3	+0.5
CHJN	Chongjin	4.94	131	Pn		Pn	17 52 07.5	+1.1
CHJN				Pg		Pg	17 52 24.6	-1.6
CHJN				Sg		Sg	17 53 29.2	-1.0
CHJN				AML		AML		
	comp=N,11μm,0.2s							
CHJN				AML		AML		
	comp=E,15μm,0.4s							
CHJN				AML		AML		
	comp=Z,12μm,1.2s							
PSTR	Posyet	5.00	118	Ilg	eP	Pn	17 52 08.8	+1.5
SUJ	Sinuiju	5.06	183	Pn		Pn	17 52 08.7	+0.5
SUJ				Pg		Pg	17 52 26.2	-2.4
SUJ				Sg		Sg	17 53 32.3	-1.8
SUJ				AML		AML		
	comp=N,5μm,0.5s							
SUJ				AML		AML		
	comp=E,8μm,0.3s							
SUJ				AML		AML		
	comp=Z,4μm,0.4s							
I45RU	USSURIYSK INFR	5.19	98	Pn		Pn	17 52 10.4	+0.4
	baz=287,slow=59							
I45RU				Pg		Pg	17 52 28.6	-2.6
	baz=266,slow=214							
I45RU				Lg		Lg	17 53 34.4	
	baz=278,slow=27							
USA0B	Ussuriysk Arra	5.20	98	Pn		Pn	17 52 11.4	+1.3
USA0B	Ussuriysk Arra	5.20	98	de	P	Pn	17 52 11.4	+1.3
USRK	Ussuriysk Ar.	5.20	98	Pn		Pn	17 52 11.5	+1.5
	comp=Z,15nm,0.3s,baz=282,slow=15,SNR=185							
USRK				Pg		Pg	17 52 28.0	-3.2
	comp=Z,135nm,0.3s,baz=280,slow=16,SNR=19							
USRK				Sn		Sn	17 53 13.9	+3.5
	comp=Z,101nm,0.3s,baz=274,slow=23,SNR=5.7							
USRK				Lg		Lg	17 53 38.6	
	comp=Z,256nm,0.3s,baz=279,slow=29,SNR=7.8							
USRK				LR		LR	17 54 30.5	
	comp=Z,15μm,18.2s,baz=302,slow=42							
	comp=Z,72nm,0.5s							
MSHR	Mys Shultsa	5.26	117	di	P	Pn	17 52 12.5	+1.7
MSHR					pmax	pmax		
	comp=Z,54nm,0.6s							
HIA	Hailar	5.37	322	P		Pn	17 52 10.1	-2.3
HIA	Hailar	5.37	322	Pn		Pn	17 52 09.6	-2.8
HIA	Hailar	5.37	322	P		Pn	17 52 09.6	-2.8
VLA	Vladivostok	5.48	109	i	P	Pn	17 52 18.0	+4.1
HHU	Hamhung	5.60	158	Pn		Pn	17 52 16.8	+1.2
HHU				Pg		Pg	17 52 36.5	-2.4
PYS	Pyongsong	5.96	172	Pn		Pn	17 52 20.9	+0.5
PYS				Pg		Pg	17 52 43.3	-2.5
PYS				Sg		Sg	17 54 01.0	-1.8
PYS				AML		AML		
	comp=N,6μm,0.6s							
PYS				AML		AML		
	comp=E,30μm,1.4s							
PYS				AML		AML		
	comp=Z,7μm,1.1s							
PYAG	Pyongyang	6.14	173	Pn		Pn	17 52 23.7	+0.7
PYAG				Pg		Pg	17 52 46.9	-2.5
PYAG				Sg		Sg	17 54 05.7	-3.2
PYAG				AML		AML		
	comp=N,4μm,0.7s							
PYAG				AML		AML		
	comp=E,5μm,1.0s							
PYAG				AML		AML		
	comp=Z,2μm,0.5s							
KLR	Kul'dur	6.23	47	Pn		Pn	17 52 24.4	+0.1
	comp=Z,7.0nm,0.3s,baz=232,slow=16,SNR=98							
KLR				Lg		Lg	17 54 08.1	
	comp=Z,496nm,0.3s,baz=162,slow=20,SNR=11							
KLR				LR		LR	17 55 20.0	
	comp=Z,5μm,19.0s,baz=234,slow=43							
	comp=Z,30nm,0.3s							
KLR	Kul'dur	6.23	47	di	P	Pn	17 52 24.3	+0.1
KLR					pmax	pmax		
	comp=Z,71nm,1.3s							
HJU	Haeju	7.14	174	Pn		Pn	17 52 37.4	+0.6
HJU				Pg		Pg	17 53 05.2	-3.2
HJU				Sg		Sg	17 54 40.0	-0.9
HJU				AML		AML		
	comp=N,5μm,0.9s							
HJU				AML		AML		
	comp=E,6μm,0.9s							
HJU				AML		AML		
	comp=Z,3μm,0.8s							
INCN	Inchon	7.79	169	P		Pn	17 52 50.5	+4.8
INCN	Inchon	7.79	169	Pn		Pn	17 52 47.6	+1.9
INCN	Inchon	7.79	169	P		Pn	17 52 47.6	+1.9
INCN	Inchon	7.79	169	P		Pn	17 52 47.6	+1.9
KS19	Wonju Array Si	7.99	162	Pn		Pn	17 52 52.1	+3.8
KSRS	Korea Array	8.04	162	Pn		Pn	17 52 51.5	+2.4
	comp=Z,6.4nm,0.3s,baz=344,slow=14,SNR=203							
KSRS				Pg		Pg	17 53 22.0	-3.7
	comp=Z,43nm,0.3s,baz=344,slow=17,SNR=43							
KSRS				Lg		Lg	17 55 09.0	
	comp=Z,71nm,0.3s,baz=347,slow=28,SNR=8.3							
KSRS				LR		LR	17 55 48.5	
	comp=Z,6μm,19.4s,baz=345,slow=37							
	comp=Z,23nm,0.6s							
BJT	Baijiatuan	8.19	234	P		Pn	17 52 52.5	+1.4
BJT	Baijiatuan	8.19	234	Pn		Pn	17 52 52.0	+0.9
BJT	Baijiatuan	8.19	234	P		Pn	17 52 52.0	+0.9
TEY	Ternei	8.34	87	eP		Pn	17 53 00.1	+7.0
ZEA	Zeya	8.73	10	eP		Pn	17 52 57.3	-1.2
ZEA				eS		Sn	17 54 37.5	+0.3
ZEA					pmax	pmax		
	comp=Z,100nm,0.7s							
ZEA					pmax	pmax		
	comp=N,40nm,0.6s							
ZEA					pmax	pmax		
	comp=Z,90nm,0.6s							
ZEA					smax	smax		
	comp=N,400nm,1.4s							
ZEA					smax	smax		
	comp=N,190nm,0.7s							
ZEA					MLR	MLR		
	comp=E,15μm,10.0s							
ZEA					MLR	MLR		
	comp=N,28μm,11.0s							
ZEA					MLR	MLR		
	comp=Z,26μm,9.0s							
TJN	Taejon	8.98	167	P		Pn	17 53 06.8	+4.8
TJN	Taejon	8.98	167	Pn		Pn	17 53 04.5	+2.5
TJN	Taejon	8.98	167	ci	P	Pn	17 53 04.5	+2.5
GRNR	Gornyy	9.59	50	Ilg	iP	Pn	17 53 09.7	-0.6
GRNR				eS		Sn	17 54 59.9	+1.6
GRNR					pmax	pmax		
	comp=N,10.0nm,0.4s							
GRNR					pmax	pmax		
	comp=E,20nm,0.4s							
GRNR					pmax	pmax		
	comp=Z,20nm,0.4s							
GRNR					smax	smax		
	comp=E,120nm,0.6s							
GRNR					MLR	MLR		
	comp=E,29μm,11.0s							
GRNR					MLR	MLR		
	comp=N,39μm,10.0s							
GRNR					MLR	MLR		
	comp=Z,10μm,13.0s							
CIT	Chita	10.13	317	eP		Pn	17 53 14.8	-3.0
CIT				e			17 55 18.6	
CIT					pmax	pmax		
	comp=Z,142nm,1.9s							
JSD	Sado	12.31	121	P		Pn	17 53 55.1	+7.5
JSD	Sado	12.31	121	Pn		Pn	17 53 51.0	+3.4
UGL	Uglegorsk	12.38	65	eP		Pn	17 53 57.2	+8.8
UGL					pmax	pmax		
	comp=Z,1μm,3.8s							
UGL					MLR	MLR		
	comp=Z,14μm,10.0s							
UGL					MLR	MLR		
	comp=N,28μm,11.0s							
UGL					MLR	MLR		
	comp=E,17μm,11.0s							
ULN	Ulaanbaatar	12.54	289	Pn		Pn	17 53 47.0	-3.7
ULN	Ulaanbaatar	12.54	289	P		Pn	17 53 59.5	+8.8
ULN	Ulaanbaatar	12.54	289	Ilg	iP	Pn	17 53 47.5	-3.2
ULN					pmax	pmax		
	comp=Z,19nm,1.2s							
YSS	Yuzh-Sakhalins	12.59	75	P		Pn	17 53 57.4	+6.1
YSS	Yuzh-Sakhalins	12.59	75	eP		Pn	17 53 54.1	+2.8
YSS				eS		Sn	17 56 19.7	+7.9
YSS				MLR		MLR		
	comp=Z,6μm,13.0s							
JTM	Tenmabayashi	12.67	104	P		Pn	17 53 58.8	+6.3
JTM	Tenmabayashi	12.67	104	Pn		Pn	17 53 57.1	+4.6
ASAJ	Asahikawa	12.71	88	Pn		Pn	17 53 55.2	+2.3
	comp=Z,0.3nm,0.3s,baz=284,slow=15,SNR=18							
ASAJ				Lg		Lg	17 57 36.4	
	baz=270,slow=20,SNR=1.6							
ASAJ				LR		LR	17 58 53.6	
	comp=Z,7μm,18.6s,baz=288,slow=38							
	comp=Z,24nm,1.0s							
JKA	Kamikawa-asahi	12.71	88			Pn	17 53 51.6	-1.4
JNU	Nakatsue	12.90	157	P		Pn	17 54 01.9	+6.2
JNU	Nakatsue	12.90	157			Pn	17 53 56.7	+1.0
JNU	Nakatsue	12.90	157	Pn		Pn	17 54 01.1	+5.4
	comp=Z,1.7nm,0.3s,baz=345,slow=14,SNR=25							
JNU				Lg		Lg	17 57 43.1	
	comp=Z,0.7nm,0.3s,baz=18,slow=19,SNR=3.8							
JNU				LR		LR	17 58 33.6	
	comp=Z,4μm,19.3s,baz=344,slow=36							
SONM	Songino Array	12.97	288	Pn		Pn	17 53 51.8	-4.9
	comp=Z,0.7nm,0.3s,baz=96,slow=13,SNR=12							
SONM				Sn		Sn	17 56 10.0	-11
	comp=Z,2.9nm,0.3s,baz=101,slow=24,SNR=3.6							
SONM				Lg		Lg	17 57 40.0	
	comp=Z,8.7nm,0.3s,baz=93,slow=29,SNR=5.8							
SONM				LR		LR	17 59 19.1	
	comp=Z,7μm,18.1s,baz=98,slow=39							
NKL	Nikolayevsk	13.08	47	eP		Pn	17 53 59.5	+1.6
NKL				eS		Sn	17 56 23.0	-0.7
NKL					pmax	pmax		
	comp=N,4.0nm,0.7s							
NKL					pmax	pmax		
	comp=Z,20nm,1.3s							
NKL					pmax	pmax		
	comp=E,5.0nm,0.9s							
NKL					MLR	MLR		
	comp=E,10μm,7.0s							
NKL					MLR	MLR		
	comp=N,2μm,5.0s							
NKL					MLR	MLR		
	comp=Z,17μm,8.0s							
TYV	Tymovskoe	13.22	58	eP		P	17 54 07.8	-2.2
TYV					pmax	pmax		
	comp=Z,8.0nm,0.7s							
TYV					pmax	pmax		
	comp=Z,200nm,3.7s							
MJB9	Matsu-Tunnel	13.28	126	Pn		Pn	17 54 02.8	+2.0
MAJO	Matsushiro	13.28	126	P		P	17 54 08.1	-2.7
MAJO	Matsushiro	13.28	126	Pn		Pn	17 54 02.5	+1.7
MAJO	Matsushiro	13.28	126	Ilg	eP	Pn	17 54 04.0	+3.2
MAJO					pmax	pmax		
	comp=Z,87nm,1.9s							
MJAR	Matsushiro Arr	13.28	126	Pn		Pn	17 54 04.2	+3.3
	comp=Z,6.7nm,1.1s,baz=324,slow=12,SNR=19							
MJAR				LR		LR	17 58 33.2	
	comp=Z,5μm,18.2s,baz=183,slow=35							
JMN	Monobe	13.38	145	P		P	17 54 09.1	-2.8
JMN	Monobe	13.38	145	Pn		Pn	17 54 05.0	+2.8
JGF	Kuroka	13.49	131	P		P	17 54 10.3	-2.9
JGF	Kuroka	13.49	131			P	17 54 10.0	-3.1
INU	Inuyama	13.51	132	P		P	17 54 10.5	-2.7
INU	Inuyama	13.51	132	Pn		P	17 54 08.6	-4.7
JEM	Erimo	13.66	97	P		P	17 54 12.8	-2.1
ERM	Erimo	13.66	97	P		P	17 54 12.8	-2.1
ERM	Erimo	13.66	97	ci	P	P	17 54 10.6	-4.3
ERM					pmax	pmax		
	comp=Z,84nm,1.7s							
JMM	Marumori	14.00	116	P		P	17 54 18.3	-0.4
JMM	Marumori	14.00	116			Pn	17 54 10.3	-0.3
BOD	Bodaibo	14.33	336	eP		P	17 54 25.6	+3.4
BOD					pmax	pmax		
	comp=Z,88nm,1.5s							
OKH	Okha	14.45	48	ci	P	P	17 54 25.0	+1.4
OKH				i	S	S	17 57 09.9	-7.3
OKH					pmax	pmax		
	comp=Z,200nm,10.3s							
OKH					smax	smax		
	comp=E,400nm,10.3s							
OKH					smax	smax		
	comp=N,500nm,14.9s							
OKH					MLR	MLR		
	comp=E,17μm,9.0s							
OKH					MLR	MLR		
	comp=Z,7μm,8.0s							
YUK	Yuzh-Kuril'sk	15.03	87	di	P	P	17 54 27.7	-2.4
YUK				i	S	Sn	17 57 12.4	+1.0
YUK					MLR	MLR		
	comp=Z,5μm,15.0s							
IRK	Irkutsk	15.27	305	eP		Pn	17 54 27.1	-0.7
IRK					pmax	pmax		
	comp=Z,214nm,1.1s							
ZAK	Zakamensk	15.38	298	eP		Pn	17 54 29.7	+0.4
ZAK					pmax	pmax		
	comp=Z,45nm,1.2s							
KUR	Kuril'sk	16.24	82	eP		P	17 54 42.3	-1.2
KUR				S		Sn	17 57 44.5	+3.8
KUR					pmax	pmax		
	comp=Z,2μm,5.1s							
KUR					MLR	MLR		
	comp=N,3μm,12.0s							
KUR					MLR	MLR		
	comp=E,2μm,12.0s							
KUR					MLR	MLR		
	comp=Z,3μm,12.0s							
JHJ	Hachijo jima 2	16.68	131	Pn		P	17 54 48.5	0.0
	comp=Z,2.6nm,0.3s,baz=315,slow=20,SNR=3.1							
JHJ				LR		LR	18 00 43.9	
	comp=Z,858nm,18.4s,baz=340,slow=35							
	comp=Z,134nm,1.1s							
MOY	Mondy	17.06	301	eP		P	17 54 58.0	+5.3
MOY					pmax	pmax		
	comp=Z,161nm,1.8s							
YAK	Yakutsk	17.14	8	Pn		Pn	17 54 49.4	-2.2
YAK				IAmb		IAmb	17 54 57.9	
	comp=Z,304nm,1.1s							
YAK	Yakutsk	17.14	8	P		Pn	17 54 50.1	-1.6
	comp=Z,2.3nm,0.3s,baz=192,slow=14,SNR=30							
YAK				Lg		Lg	17 59 39.7	
	comp=Z,1.4nm,0.3s,baz=133,slow=18,SNR=4.0							
YAK				LR		LR	18 02 05.2	
	comp=Z,4μm,18.2s,baz=188,slow=39							
	comp=Z,90nm,0.7s							
YAK	Yakutsk	17.14	8	eP		Pn	17 54 49.6	-2.0
YAK				eS		Sn	17 58 02.4	+0.1
YAK					pmax	pmax		
	comp=Z,67nm,1.4s							
YAK					MLR	MLR		
	comp=Z,10μm,20.0s							
JOW	Kunigami	18.50	170	P		Pn	17 55 08.9	+0.2
	comp=Z,2.1nm,0.3s,baz=345,slow=4.2,SNR=5.3							
JOW				LR		LR	18 02 08.7	
	comp=Z,3μm,21.9s,baz=4.5,slow=36							
	comp=Z,14nm,0.8s							
ENH	Enshi	19.14	224	P		Pn	17 55 17.5	+1.1
ENH	Enshi	19.14	224	P		P	17 55 12.1	-3.5
TATO	Taipei	20.32	189	P		Pn	17 55 31.5	+1.0
TATO	Taipei	20.32	189	P		P	17 55 27.3	-1.2
YHNB	Yeheng	20.63	189	P		Pn	17 55 35.3	+1.0
YHNB	Yeheng	20.63	189	P		P	17 55 32.3	+0.3
YHNB				IAmb		IAmb	17 55 46.5	
	comp=Z,122nm,1.2s							
YOJ	Yonaguni jima	20.70	185	P		Pn	17 55 36.8	+1.8
YOJ	Yonaguni jima	20.70	185	P		P	17 55 33.2	+0.5
YOJ				IAmb		IAmb	17 55 39.8	
	comp=Z,148nm,1.2s							
YOJ	Yonaguni jima	20.70	185	P		P	17 55 33.2	+0.5
YOJ					pmax	pmax		
	comp=Z,148nm,1.2s							
NACB	Ninganchiao	21.10	188	P		P	17 55 40.4	+3.4
NACB	Ninganchiao	21.10	188	P		P	17 55 38.6	+1.6
MA2	Magadan	21.23	38	P		P	17 55 41.1	+2.9
MA2	Magadan	21.23	38	P		P	17 55 37.9	-0.3
MA2	Magadan	21.23	38	P		P	17 55 38.5	+0.3
	comp=Z,21nm,0.9s,baz=240,slow=10,SNR=20							
MA2				Lg		Lg	18 02 09.2	
	comp=Z,0.2nm,0.3s,baz=289,slow=6.5,SNR=2.4							
MA2				LR		LR	18 03 33.5	
	comp=Z,2μm,19.1s,baz=242,slow=36							
	comp=Z,21nm,0.9s							
MA2	Magadan	21.23	38	di	P	P	17 55 38.6	+0.4
MA2					pmax	pmax		
	comp=Z,47nm,1.3s							
MA2	Magadan	21.23	38	P		P	17 55 38.7	+0.5
	comp=Z,35nm,0.8s							
SSLB	Suanglung	21.55	190	P		P	17 55 44.0	+2.1
SSLB	Suanglung	21.55	190	P		P	17 55 42.9	+1.0
YULB	Yu-li	21.91	189	P		P	17 55 49.2	+3.5
TPUB	Ta-pu	22.07	190	P		P	17 55 49.4	+1.9
TPUB	Ta-pu	22.07	190	P		P	17 55 47.0	-0.4
TPUB				IAmb		IAmb	17 55 51.4	
	comp=Z,145nm,1.0s							
TWG	Pinlang	22.50	189	P		P	17 55 51.0	-0.9
TWGBT	Beinan	22.50	189	P		P	17 55 55.0	+3.0
JCJ	Chichijima	22.76	137	LR		LR	18 03 30.1	
	comp=Z,985nm,19.3s,baz=351,slow=33							
PEA0B	Petropavlovsk-	22.77	58	P		P	17 55 56.5	+1.8
PEA0B				IAmb		IAmb	17 56 01.4	
	comp=Z,124nm,1.0s							
PEA0B	Petropavlovsk-	22.77	58	P		P	17 55 56.5	+1.8
PEA0B					pmax	pmax		
	comp=Z,124nm,1.0s

TIXI pmax pmax
comp=Z,154nm,1.3s
ZAA0 Zalesovo Array 27.08 303 P P 17 56 33.2 -1.7
ZALV Zalesovo Beam 27.08 303 P P 17 56 34.5 -0.4
comp=Z,7.6nm,0.7s,baz=96,slow=8.9,SNR=17
ZALV Lg Lg 18 04 56.7
comp=Z,0.1nm,0.3s,baz=90,slow=27,SNR=2.9
ZALV LR LR 18 08 00.2
comp=Z,2μm,18.4s,baz=92,slow=38
comp=Z,7.6nm,0.7s
ZSN Zaisan 27.49 289 *e*P **P 17 56 37.8 -0.9**
comp=Z,27nm,0.9s,baz=289
ZSN *e*S **S 18 01 18.9 -1.0**
baz=289
ZSN Zaisan 27.49 289 *e*P **P 17 56 37.8 -0.9**
ZSN *e*S **S 18 01 18.8 -1.0**
ZSN pmax pmax
comp=Z,27nm,0.9s
SLVN Son La 29.34 223 P **P 17 56 53.7 -1.7**
MK31 Makanchi Array 29.34 289*d* i P **P 17 56 54.9 -0.3**
MKAR Makanchi Array 29.34 289 P **P 17 56 55.4 +0.2**
comp=Z,9.2nm,0.8s,baz=84,slow=8.7,SNR=35
MKAR Lg Lg 18 06 12.4
baz=81,slow=31
MKAR LR LR 18 09 27.3
comp=Z,3μm,20.5s,baz=90,slow=38
comp=Z,9.2nm,0.8s
MKAR Makanchi Array 29.34 289 *i* P **P 17 56 55.5 +0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MAKZ Makanchi 29.55 289 P **P 17 56 56.5 -0.6**
MAKZ IAmb IAmb 17 57 01.2
comp=Z,40nm,1.1s
MAKZ Makanchi 29.55 289 P **P 17 56 56.5 -0.6**
MAKZ pmax pmax
comp=Z,40nm,1.2s
SEM Semipalatinsk 30.05 296 *e*P **P 17 57 00.8 -0.9**
comp=Z,30nm,0.7s,baz=296
SEM LR LR 18 09 01.0
comp=Z,1μm,14.6s,baz=296
SEM Semipalatinsk 30.05 296 *e*P **P 17 57 00.8 -0.9**
SEM pmax pmax
comp=Z,30nm,0.7s
SEM MLR MLR
comp=Z,1μm,15.0s
LSA Lhasa 30.61 251 P **P 17 57 08.2 +1.1**
LSA Lhasa 30.61 251 P **P 17 57 08.0 +0.9**
KURK Kurchatov 31.04 297 P **P 17 57 08.2 -2.0**
KURK Kurchatov 31.04 297 P **P 17 57 10.3 +0.2**
KURK Kurchatov 31.04 297*d* i P **P 17 57 09.7 -0.4**
KURK pmax pmax
comp=Z,118nm,0.8s
KURBB Kurchatov Arra 31.11 297 P **P 17 57 10.4 -0.4**
comp=Z,83nm,0.8s,baz=82,slow=9.5,SNR=186
KURBB Lg Lg 18 07 14.6
comp=Z,0.1nm,0.3s,baz=78,slow=30,SNR=7.2
KURBB LR LR 18 10 27.8
comp=Z,3μm,20.3s,baz=80,slow=38
comp=Z,83nm,0.8s
TGY Tagaytay City 31.13 187 LR LR 18 11 43.1
comp=Z,3μm,18.0s,baz=358,slow=40
BILL Bilibino 31.32 29 P **P 17 57 12.6 +0.2**
BILL IAmb IAmb 17 57 16.5
comp=Z,29nm,1.2s
BILL Bilibino 31.32 29 *e*P **P 17 57 13.1 +0.7**
BILL pmax pmax
comp=Z,31nm,1.2s
SHLS Shalkode 32.28 283 *e*P **P 17 57 17.8 -3.6**
baz=282
SHLS Shalkode 32.28 283 *e*P **P 17 57 17.7 -3.6**
TDK Taldyqorghan 32.42 287 *e*P **P 17 57 21.4 -1.0**
comp=Z,18nm,0.8s,baz=286
TDK LR LR 18 10 33.9
comp=Z,2μm,13.3s,baz=286
TDK Taldyqorghan 32.42 287 *e*P **P 17 57 21.4 -1.0**
TDK pmax pmax
comp=Z,18nm,0.8s
TDK MLR MLR
comp=Z,2μm,13.0s
UZB Uzynbulak 32.59 283 *e*P **P 17 57 23.1 -0.9**
baz=283
UZB Uzynbulak 32.59 283 *e*P **P 17 57 23.1 -0.9**
SHEM Shemya Is, Ala 32.68 59 LR LR 18 10 01.7
comp=Z,1μm,21.3s,baz=274,slow=35
SHL Shillong 32.90 245 P **P 17 57 26.1 -0.8**
SHL Shillong 32.90 245 P **P 17 57 26.7 -0.2**
SNR=21
SHL Shillong 32.90 245 P **P 17 57 26.1 -0.8**
SHL pmax pmax
comp=Z,70nm,1.0s
ZHN Zhinishke 32.98 283 *e*P **P 17 57 26.7 -0.8**
baz=283
ZHN Zhinishke 32.98 283 *e*P **P 17 57 26.6 -0.8**
SATY Saty 33.04 283 *e*P **P 17 57 26.9 -1.1**
baz=283
SATY Saty 33.04 283 *e*P **P 17 57 26.9 -1.1**
ARXS Arharly 33.06 285 *e*P **P 17 57 27.9 -0.2**
PRZ Przheval'sk 33.24 282 P **P 17 57 29.4 -0.4**
PRZ Przheval'sk 33.24 282 P **P 17 57 29.4 -0.4**
PRZ pmax pmax
comp=Z,15nm,0.9s
CHKK Chushkaly 33.75 285 *e*P **P 17 57 33.0 -1.0**
baz=285
CHKK Chushkaly 33.75 285 *e*P **P 17 57 33.0 -1.0**
MDOK Medeo 33.94 284 *e*P **P 17 57 35.1 -0.8**
baz=284
MDOK LR LR 18 11 33.2
comp=Z,2μm,13.2s,baz=284
MDOK Medeo 33.94 284 *e*P **P 17 57 35.0 -0.8**
MDOK MLR MLR
comp=Z,2μm,13.0s
CHTO Chiang Mai 33.95 228 P **P 17 57 33.5 -2.4**
CHTO Chiang Mai 33.95 228 P **P 17 57 33.5 -2.4**
CHTO pmax pmax
comp=Z,15nm,1.1s
UBPT Khong Chiam 33.97 215 P **P 17 57 37.2 +1.1**
UBPT Khong Chiam 33.97 215 P **P 17 57 34.6 -1.4**
KUU Kurty 34.18 286 *e*P **P 17 57 36.8 -0.9**
comp=Z,27nm,0.7s,baz=285
KUU LR LR 18 11 29.4
comp=Z,2μm,14.2s,baz=285
KUU Kurty 34.18 286 *e*P **P 17 57 36.8 -0.9**
KUU pmax pmax
comp=Z,27nm,0.7s
KUU MLR MLR
comp=Z,2μm,14.0s
CM31 Chiang Mai Arr 34.25 227 P **P 17 57 37.5 -1.0**
CM31 Chiang Mai Arr 34.25 227 P **P 17 57 38.9 +0.4**
CMAR Chiang Mai Arr 34.25 227 P **P 17 57 38.1 -0.4**
comp=Z,5.1nm,0.9s,baz=23,slow=9.8,SNR=15
CMAR LR LR 18 11 24.1
comp=Z,2μm,19.2s,baz=40,slow=36
comp=Z,5.1nm,0.9s
ULHL Ulahol 34.82 283 P **P 17 57 44.2 +0.7**
SNR=7.0
BRZS Berezniki 34.91 297 *e*P **P 17 57 42.8 -1.2**
baz=297
BRZS Berezniki 34.91 297 *e*P **P 17 57 42.8 -1.2**
BOOM Boomskoye usch 34.94 283 P **P 17 57 43.8 -0.8**
BOOM IAmb IAmb 17 57 51.4
comp=Z,18nm,0.7s
BOOM Boomskoye usch 34.94 283 P **P 17 57 43.8 -0.8**
BOOM pmax pmax
comp=Z,18nm,0.7s
TKM2 Tokmak 2 35.02 284 P **P 17 57 46.5 +1.2**
SNR=114
BTLS Baital 35.35 288 *e*P **P 17 57 47.1 -0.8**
baz=288
BTLS Baital 35.35 288 *e*P **P 17 57 47.0 -0.8**
KBK Karagaybulak 35.56 284 P **P 17 57 50.9 +1.1**
SNR=74
CHMS Chumysh 35.57 285 P **P 17 57 50.4 +0.6**
SNR=11
USP Ospenovka 35.65 285 P **P 17 57 51.0 +0.6**
SNR=23
FRU1 Bishkek 35.72 284 P **P 17 57 48.1 -3.0**
FRU1 Bishkek 35.72 284 P **P 17 57 48.1 -3.0**
FRU1 pmax pmax
comp=Z,48nm,0.8s
BVAR Borovoye Array 35.73 303 P **P 17 57 50.6 -0.4**
comp=Z,13nm,0.6s,baz=82,slow=10,SNR=48
BVAR PcP **PcP 18 00 19.1 +0.2**
comp=Z,3.9nm,0.7s,baz=92,slow=4.6,SNR=4.1
BVAR LR LR 18 13 19.3
comp=Z,2μm,19.4s,baz=75,slow=38
comp=Z,13nm,0.6s

GUMO Guam 35.78 145 LR LR 18 11 04.5
comp=Z,833nm,19.4s,baz=358,slow=34
BRVK Borovoye 35.78 303 P **P 17 57 49.2 -2.2**
BRVK IAmb IAmb 17 57 55.1
comp=Z,26nm,1.1s
BRVK Borovoye 35.78 303 P **P 17 57 51.8 +0.3**
BRVK Borovoye 35.78 303 ||*i* P **P 17 57 51.0 -0.5**
BRVK pmax pmax
comp=Z,28nm,1.1s
AAK Ala-Archa 35.88 284 P **P 17 57 53.3 +0.7**
SNR=24
AAK Ala-Archa 35.88 284 P **P 17 57 49.7 -2.9**
AAK IAmb IAmb 17 57 57.7
comp=Z,20nm,0.8s
AAK Ala-Archa 35.88 284 *i* P **P 17 57 53.3 +0.7**
SNR=25
AAK Ala-Archa 35.88 284 LR LR 18 13 30.9
comp=Z,3μm,18.9s,baz=72,slow=38
AAK Ala-Archa 35.88 284 P **P 17 57 53.3 +0.7**
AAK Ala-Archa 35.88 284*c i* P **P 17 57 52.6 0.0**
AAK pmax pmax
comp=Z,22nm,0.8s
DLV T Lat 35.93 208 P **P 17 57 55.0 +1.8**
UCH Uchtor 36.02 284 P **P 17 57 55.1 +0.9**
SNR=19
DZA Taraz 37.94 286 *e*P **P 17 58 09.5 -0.5**
comp=Z,30nm,0.7s,baz=286
DZA Taraz 37.94 286 *e*P **P 17 58 09.5 -0.5**
DZA pmax pmax
comp=Z,30nm,0.7s
DAV Davao City (W) 37.95 179 LR LR 18 15 01.8
comp=Z,1μm,20.8s,baz=0.5,slow=38
BRLS Borolday 38.90 287 *e*P **P 17 58 19.2 +1.1**
baz=287
BRLS Borolday 38.90 287 *e*P **P 17 58 19.2 +1.1**
DRK Karamyk 39.02 281 P **P 17 58 19.2 -0.2**
DRK Karamyk 39.02 281 P **P 17 58 19.2 -0.2**
DRK pmax pmax
comp=Z,18nm,0.8s
GAMB Gambell 39.33 39 P **P 17 58 18.7 -2.5**
baz=273
BTK Batken 39.45 282 IAmb IAmb 17 58 24.4
comp=Z,35nm,0.9s
SVE Sverdlovsk 40.56 310 *e*P **P 17 58 34.5 +2.9**
SVE pmax pmax
comp=Z,37nm,1.0s
SVE MLR MLR
comp=Z,3μm,11.0s
NIL Nilore 40.83 272 P **P 17 58 34.0 -0.3**
NIL Nilore 40.83 272 P **P 17 58 34.0 -0.3**
NIL pmax pmax
comp=Z,20nm,1.1s
TNA Tin City 40.85 36 P **P 17 58 32.3 -1.6**
baz=274
SPIA Saint Paul Isl 40.89 49 P **P 17 58 32.8 -1.6**
baz=282
CHGR Chuyangaron 41.23 281 P **P 17 58 34.9 -2.6**
CHGR Chuyangaron 41.23 281 P **P 17 58 34.9 -2.6**
CHGR pmax pmax
comp=Z,121nm,0.9s
SIMJ Simiganj 41.33 281 P **P 17 58 36.5 -1.9**
SIMJ IAmb IAmb 17 58 40.3
comp=Z,36nm,0.9s
P08K Saint George I 41.39 50 P **P 17 58 37.1 -1.3**
baz=283
F14K Arctic Creek 41.52 36 P **P 17 58 37.1 -2.3**
baz=276
C16K Lisburne Hills 41.69 32 P **P 17 58 38.2 -2.6**
baz=274
ARU Arti 41.77 310 P **P 17 58 40.8 -0.8**
ARU Arti 41.77 310 LR LR 18 15 53.4
comp=Z,2μm,18.1s,baz=76,slow=36
ARU Arti 41.77 310*d i* P **P 17 58 41.1 -0.5**
ARU 18 00 17.5
ARU S **S 18 04 58.3 -0.7**
ARU SS **SS 18 08 00.6 -3.6**
ARU pmax pmax
comp=Z,34nm,1.0s
ARU MLR MLR
comp=Z,2μm,17.0s
ARU Arti 41.77 310 P **P 17 58 42.0 +0.4**
comp=Z,32nm,1.2s
ANM Nome 42.02 37 P **P 17 58 41.2 -2.4**
baz=278
F15K North Star Dit 42.19 36 P **P 17 58 43.0 -1.9**
baz=277
M11K Mekoryuk 42.32 44 P **P 17 58 44.4 -1.5**
baz=282
SRIT Nakonsritamara 42.45 219 P **P 17 58 48.7 +1.2**
C17K DeLong Mountai 42.48 31 P **P 17 58 44.6 -2.7**
baz=275
G15K Niukluk 42.53 37 P **P 17 58 46.2 -1.5**
baz=278
D17K Noatak River 42.59 32 P **P 17 58 46.1 -2.0**
baz=276,SNR=28
RDOG Red Dog Mine 42.62 32 P **P 17 58 46.5 -1.9**
baz=276
NIKH Nikolski High 42.72 55 P **P 17 58 47.9 -1.5**
baz=288
K13K Kusilvak Mount 42.76 41 P **P 17 58 49.5 -0.1**
K13K Kusilvak Mount 42.76 41 P **P 17 58 47.7 -1.8**
baz=281
B18K Kokolik River 42.90 30 P **P 17 58 49.0 -1.6**
baz=276
A19K Wainwright 43.08 29 P **P 17 58 50.1 -1.9**
baz=275
J14K Nanvaranak Lak 43.11 40 P **P 17 58 51.4 -1.0**
J14K Nanvaranak Lak 43.11 40 P **P 17 58 50.6 -1.7**
baz=281
E17K Hotham Inlet 43.14 33 P **P 17 58 50.5 -2.2**
baz=278
G16K Kuk River 43.18 36 IAmb IAmb 17 58 56.8
comp=Z,39nm,1.1s
G16K Koyuk River 43.18 36 P **P 17 58 51.1 -1.8**
baz=279,SNR=7.9
C18K Utukok River 43.19 31 IAmb IAmb 17 58 57.0
comp=Z,38nm,1.0s
C18K Utukok River 43.19 31 P **P 17 58 51.0 -2.1**
baz=277,SNR=5.6
H16K Elim 43.35 37 P **P 17 58 52.2 -2.1**
baz=280
F17K Baldwin Pennin 43.46 34 IAmb IAmb 17 58 59.4
comp=Z,29nm,0.9s
F17K Baldwin Pennin 43.46 34 P **P 17 58 52.7 -2.5**
baz=279
E18K Tukpahlearik C 43.57 33 P **P 17 58 54.2 -1.9**
baz=279
M13K Dall Lake 43.69 43 P **P 17 58 55.9 -1.2**
baz=284
C19K Lookout Ridge 43.71 30 IAmb IAmb 17 59 01.9
comp=Z,119nm,1.9s
C19K Lookout Ridge 43.71 30 P **P 17 58 54.9 -2.3**
baz=278
L14K Kuka Creek 43.80 42 P **P 17 58 57.1 -0.8**
L14K Kuka Creek 43.80 42 P **P 17 58 56.2 -1.7**
baz=283,SNR=5.2
UNV Unalaska Valle 43.80 53 P **P 17 58 57.2 -0.9**
baz=288
AKTO Aktyubinsk 43.82 302 LR LR 18 19 09.3
comp=Z,1μm,19.1s,baz=62,slow=39
G17K Kiwalik Mounta 43.86 35 P **P 17 58 56.8 -1.6**
baz=281,SNR=12
SBUM Sibu 43.96 198 P **P 17 58 59.5 -0.2**
TOLI2 Tolitoli 44.01 186 P **P 17 59 02.6 +2.5**
TOLI2 Tolitoli 44.01 186 P **P 17 58 59.0 -1.1**
F18K Selawik 44.07 34 P **P 17 58 58.4 -1.6**
baz=280,SNR=10.0
K15K Wolf Creek Mou 44.12 40 P **P 17 58 59.5 -1.0**
baz=283,SNR=8.2
I17K Unalakleet 44.15 38 IAmb IAmb 17 59 06.5
comp=Z,27nm,1.0s
I17K Unalakleet 44.15 38 P **P 17 58 59.4 -1.4**
baz=282
H17K Granite Mounta 44.27 36 P **P 17 59 00.0 -1.7**
baz=282,SNR=9.8
M14K Bethel 44.28 42 IAmb IAmb 17 59 06.5
comp=Z,29nm,0.9s
M14K Bethel 44.28 42 P **P 17 59 00.3 -1.5**
baz=284,SNR=6.1
L15K Ungalaak Mounta 44.28 41 P **P 17 59 00.1 -1.8**
baz=284
J16K Anvik River 44.32 39 P **P 17 59 00.4 -1.7**
baz=283
D19K Kuna River 44.33 31 IAmb IAmb 17 59 06.3
comp=Z,33nm,1.0s
D19K Kuna River 44.33 31 P **P 17 59 00.3 -1.9**
baz=280

A21K Barrow 44.42 27 P **P 17 59 00.8 -2.0**
baz=278
B20K Meade River 44.43 29 P **P 17 59 00.8 -2.1**
baz=279,SNR=7.7
G18K Tagagawik 44.60 35 P **P 17 59 03.0 -1.3**
baz=282,SNR=6.3
N14K Kuskokwak Cree 44.62 43 P **P 17 59 03.3 -1.2**
baz=285
F19K Shaleruckik Mo 44.76 33 P **P 17 59 04.9 -0.7**
F19K IAmb IAmb 17 59 09.2
comp=Z,35nm,1.1s
F19K Shaleruckik Mo 44.76 33 P **P 17 59 04.0 -1.5**
baz=282,SNR=14
D20K Etivluk River 44.84 31 P **P 17 59 04.1 -2.1**
baz=281
E19K Redstone River 44.84 32 IAmb IAmb 17 59 10.4
comp=Z,29nm,0.9s
E19K Redstone River 44.84 32 P **P 17 59 04.7 -1.6**
baz=282
H18K Honhosa River 44.87 36 P **P 17 59 05.2 -1.3**
baz=283
M15K Kasigluk River 44.90 42 P **P 17 59 05.5 -1.3**
baz=285
J17K VABM Dome 44.96 38 IAmb IAmb 17 59 11.6
comp=Z,24nm,1.2s
J17K VABM Dome 44.96 38 P **P 17 59 05.7 -1.5**
baz=284,SNR=7.2
KULM Kulim 44.97 215 P **P 17 59 06.5 -1.3**
A22K Sinclair Lake 45.00 27 P **P 17 59 05.8 -1.5**
baz=280
O14K Tigyukauivet M 45.01 44 P **P 17 59 05.9 -1.7**
baz=286
E20K Nigu River 45.08 31 P **P 17 59 06.5 -1.7**
baz=282
G19K Purcell Mounta 45.17 34 P **P 17 59 07.7 -1.2**
baz=283,SNR=6.9
FALS False Pass 45.20 51 P **P 17 59 08.2 -1.1**
baz=289
L16K Owhat River 45.20 41 P **P 17 59 07.9 -1.2**
baz=285
N15K Kwethluk River 45.33 43 P **P 17 59 09.0 -1.2**
baz=286
KSM Kuching 45.35 201 P **P 17 59 10.3 -0.6**
KSM IAmb IAmb 17 59 12.6
comp=Z,58nm,1.4s
B21K Ikpikpuk River 45.37 29 P **P 17 59 11.1 +0.7**
B21K Ikpikpuk River 45.37 29 P **P 17 59 08.7 -1.6**
baz=282,SNR=19
C21K Knifeblade Rid 45.40 30 P **P 17 59 09.7 -1.0**
baz=282
K17K Iditarod 45.48 39 IAmb IAmb 17 59 15.8
comp=Z,37nm,1.1s
K17K Iditarod 45.48 39 P **P 17 59 10.6 -0.7**
baz=285,SNR=13
F20K Avaraart Lake 45.50 33 P **P 17 59 10.6 -0.9**
baz=283,SNR=11
IPM Ipoh 45.55 214 P **P 17 59 12.9 +0.4**
IPM Ipoh 45.55 214 P **P 17 59 11.4 -1.1**
H19K Roundabout Mou 45.57 35 IAmb IAmb 17 59 16.1
comp=Z,39nm,1.1s
H19K Roundabout Mou 45.57 35 P **P 17 59 10.3 -1.7**
baz=284,SNR=14
GCSA Galena City Sc 45.58 36 P **P 17 59 10.9 -1.2**
baz=284
B22K Teshekpuk Lake 45.63 28 P **P 17 59 11.2 -1.2**
baz=282,SNR=14
M16K Timber Creek 45.63 41 IAmb IAmb 17 59 17.3
comp=Z,43nm,1.4s
M16K Timber Creek 45.63 41 P **P 17 59 11.6 -0.9**
baz=286,SNR=5.8
L17K Donlin 45.63 40 P **P 17 59 11.3 -1.3**
baz=286,SNR=7.5
S12K Black Hills 45.66 49 P **P 17 59 12.0 -0.9**
baz=289
O15K Ungalikthiuk R 45.74 44 P **P 17 59 12.9 -0.6**
baz=287
E21K Killik River 45.84 31 IAmb IAmb 17 59 18.3
comp=Z,23nm,0.9s
E21K Killik River 45.84 31 P **P 17 59 13.4 -0.8**
baz=283,SNR=13
N16K Nishlik Lake 45.87 42 P **P 17 59 13.6 -0.9**
baz=287
KIRV Kirov 45.94 315 LR LR 18 20 50.4
comp=Z,2μm,19.1s,baz=70,slow=39
KIRV Kirov 45.94 315‖ *e*P **P 17 59 15.3 +0.3**
J18K Innoko River 45.98 38 P **P 17 59 14.0 -1.3**
baz=286
SWI Sorong 46.18 171 P **P 17 59 16.5 -0.9**
comp=Z,17nm,2.1s,comp=Z,544nm
D22K Ayikyak River 46.20 30 IAmb IAmb 17 59 21.9
comp=Z,57nm,1.5s
D22K Ayikyak River 46.20 30 P **P 17 59 15.2 -1.8**
baz=284,SNR=8.7
H20K Anotlenegga Mo 46.21 35 P **P 17 59 15.9 -1.2**
baz=285,SNR=9.8
M17K Holitna River 46.23 41 IAmb IAmb 17 59 22.3
comp=Z,36nm,0.9s
M17K Holitna River 46.23 41 P **P 17 59 15.5 -1.8**
baz=287,SNR=8.2
J19K Poorman 46.30 37 P **P 17 59 18.2 +0.3**
J19K IAmb IAmb 17 59 21.8
comp=Z,32nm,1.2s
J19K Poorman 46.30 37 P **P 17 59 16.2 -1.6**
baz=286,SNR=12
F21K Alatna River 46.31 32 P **P 17 59 18.4 +0.4**
F21K IAmb IAmb 17 59 22.0
comp=Z,32nm,1.1s
F21K Alatna River 46.31 32 P **P 17 59 16.5 -1.4**
baz=285,SNR=30
L18K Granite Mounta 46.33 39 P **P 17 59 16.8 -1.3**
baz=287,SNR=7.3
O16K Kokwok River B 46.46 43 P **P 17 59 18.2 -0.9**
baz=288
G21K Allakaket 46.48 33 IAmb IAmb 17 59 23.4
comp=Z,36nm,1.1s
G21K Allakaket 46.48 33 P **P 17 59 18.1 -1.2**
baz=286
I20K Naaghedeneel 46.56 36 P **P 17 59 19.1 -0.7**
I20K IAmb IAmb 17 59 24.2
comp=Z,43nm,1.3s
I20K Naaghedeneel 46.56 36 P **P 17 59 18.8 -1.0**
baz=286
N17K Nushagak Hills 46.60 42 P **P 17 59 19.6 -0.7**
baz=288
SDPT Sand Point 46.63 49 P **P 17 59 19.6 -0.9**
baz=290
C23K Itkillik River 46.68 28 P **P 17 59 19.1 -1.6**
baz=285,SNR=17
P16K Nushagak River 46.69 44 P **P 17 59 19.9 -1.0**
baz=289
E22K Anaktuvuk Pass 46.70 31 IAmb IAmb 17 59 25.2
comp=Z,38nm,1.2s
E22K Anaktuvuk Pass 46.70 31 P **P 17 59 19.3 -1.6**
baz=285,SNR=22
F22K John River 46.73 32 P **P 17 59 19.8 -1.3**
baz=286,SNR=35
S14K Fog Glacier 46.80 48 P **P 17 59 20.6 -1.4**
baz=290
J20K Nowinta River 46.87 36 IAmb IAmb 17 59 26.6
comp=Z,27nm,1.2s
J20K Nowinta River 46.87 36 P **P 17 59 20.9 -1.4**
baz=287,SNR=9.7
D23K Nanushuk River 46.88 29 P **P 17 59 21.1 -1.3**
baz=286,SNR=16
O17K Koliganek Bris 46.88 43 P **P 17 59 20.9 -1.6**
baz=289,SNR=8.4
M18K Stony River 46.94 40 P **P 17 59 20.9 -2.0**
baz=288
H21K Melozitna Rive 46.99 34 IAmb IAmb 17 59 27.3
comp=Z,23nm,1.1s
H21K Melozitna Rive 46.99 34 P **P 17 59 21.6 -1.7**
baz=287,SNR=15
G22K Bettles 47.14 32 P **P 17 59 22.6 -1.7**
baz=287
K20K Telida 47.15 37 IAmb IAmb 17 59 28.9
comp=Z,24nm,1.3s
K20K Telida 47.15 37 P **P 17 59 23.0 -1.5**
baz=288,SNR=9.0
L19K White Mountain 47.16 39 P **P 17 59 22.8 -1.9**
baz=288
N18K Kilae Creek 47.16 41 P **P 17 59 25.7 +1.0**
N18K IAmb IAmb 17 59 29.6
comp=Z,22nm,1.2s
N18K Kilae Creek 47.16 41 P **P 17 59 22.8 -1.9**
baz=289
CHNA Chernabura Isl 47.29 50 P **P 17 59 24.5 -1.2**
baz=292
C24K Franklin Bluff 47.35 28 P **P 17 59 24.0 -2.0**

baz=287
TOLK Toolik Lake Re 47.36 30 P P 17 59 26.5 +0.4
TOLK IAmb IAmb 17 59 29.8
comp=Z,16nm,0.9s
TOLK Toolik Lake Re 47.36 30 P P 17 59 24.6 -1.6
baz=287,SNR=11
R16K Pilot Point 47.38 46 P P 17 59 24.8 -1.5
baz=290
CHGN Chignik 47.39 47 P P 17 59 25.1 -1.3
baz=291
P17K Kvichak River 47.39 43 P P 17 59 25.2 -1.1
baz=290
Q16K King Salmon 47.46 44 P P 17 59 25.5 -1.4
baz=290
M19K Big River Lodg 47.46 39 P P 17 59 25.4 -1.5
baz=289
I21K Tanana 47.47 35 IAmb IAmb 17 59 31.2
comp=Z,27nm,1.1s
I21K Tanana 47.47 35 P P 17 59 25.5 -1.4
baz=288
D24K Happy Valley 47.47 29 IAmb IAmb 17 59 31.2
comp=Z,28nm,0.9s
D24K Happy Valley 47.47 29 P P 17 59 25.1 -1.8
baz=287,SNR=16
H22K Ishtalitna Cre 47.49 34 P P 17 59 25.8 -1.3
baz=288,SNR=8.7
L20K Farewell, AK 47.50 39 P P 17 59 25.9 -1.4
baz=289,SNR=7.4
COLD Coldfoot 47.54 32 P P 17 59 25.6 -1.9
baz=288,SNR=15
CHUM Lake Minchumin 47.73 36 P P 17 59 27.2 -1.8
baz=289
O18K Koktuh Hills 47.76 42 P P 17 59 27.9 -1.4
baz=290
G23K Bananza Creek 47.76 32 IAmb IAmb 17 59 33.2
comp=Z,16nm,1.1s
G23K Bananza Creek 47.76 32 P P 17 59 27.4 -1.8
baz=288,SNR=9.7
N19K Bonanza Creek 47.77 41 IAmb IAmb 17 59 34.5
comp=Z,34nm,1.1s
N19K Bonanza Creek 47.77 41 P P 17 59 28.2 -1.3
baz=290,SNR=6.9
P18K Big Mountain, 47.91 43 P P 17 59 29.0 -1.4
baz=290,SNR=6.1
E24K Your Creek 47.91 30 IAmb IAmb 17 59 52.2
comp=Z,16nm,0.9s
E24K Your Creek 47.91 30 P P 17 59 29.1 -1.3
baz=288,SNR=19
CAST Castle Rocks 47.98 37 P P 17 59 29.6 -1.4
baz=289,SNR=9.4
MLY Manley 48.01 35 P P 17 59 29.4 -1.8
baz=289,SNR=8.0
M20K Styx River 48.03 39 P P 17 59 30.1 -1.4
baz=290,SNR=11
PPLA Purkeypile 48.10 38 P P 17 59 30.1 -2.0
baz=290
BPAW Bear Paw Mtn. 48.21 36 IAmb IAmb 17 59 37.0
comp=Z,17nm,1.2s
BPAW Bear Paw Mtn. 48.21 36 P P 17 59 30.9 -1.9
baz=290,SNR=7.7
H23K Yukon River 48.23 33 IAmb IAmb 17 59 37.4
comp=Z,32nm,1.1s
H23K Yukon River 48.23 33 P P 17 59 31.6 -1.2
baz=289,SNR=27
D25K Kavik River 48.25 28 IAmb IAmb 17 59 37.3
comp=Z,21nm,0.9s
D25K Kavik River 48.25 28 P P 17 59 31.4 -1.6
baz=289,SNR=28
F24K Squaw Lake 48.30 31 IAmb IAmb 17 59 37.9
comp=Z,16nm,1.0s
F24K Squaw Lake 48.30 31 P P 17 59 32.1 -1.3
baz=289,SNR=11
I23K Minto, Yukon-K 48.52 34 IAmb IAmb 17 59 39.5
comp=Z,23nm,1.1s
I23K Minto, Yukon-K 48.52 34 P P 17 59 34.0 -1.1
baz=290,SNR=5.9
C26K Camden Bay 48.54 27 P P 17 59 33.4 -1.8
baz=290,SNR=13
N20K Mount Spurr 48.68 40 P P 17 59 35.0 -1.5
baz=291,SNR=15
ILSW Iliamna Southw 48.69 42 IAmb IAmb 17 59 41.4
comp=Z,36nm,1.3s
SKT Skwentna 48.71 39 P P 17 59 35.5 -1.1
baz=291
G24K Hadweenzic Riv 48.73 32 P P 17 59 34.7 -1.9
baz=290,SNR=12
TRF Thorofare Moun 48.73 37 IAmb IAmb 17 59 41.3
comp=Z,26nm,1.4s
TRF Thorofare Moun 48.73 37 P P 17 59 35.6 -1.4
baz=291
P19K Oil Pt 48.77 42 P P 17 59 35.1 -2.0
baz=292
HOPEN Hopen 48.80 342 *e*P P 17 59 40.4 +3.3
NEA2 Nenana 48.83 35 IAmb IAmb 17 59 41.5
comp=Z,30nm,1.2s
NEA2 Nenana 48.83 35 P P 17 59 36.3 -1.2
baz=291,SNR=11
Q19K Cape Douglas, 48.83 43 P P 17 59 36.1 -1.6
baz=292
H24K Noodor Dome 48.87 33 IAmb IAmb 17 59 42.5
comp=Z,22nm,1.1s
H24K Noodor Dome 48.87 33 P P 17 59 36.6 -1.3
baz=291,SNR=16
O20K Slope Mountain 48.89 41 P P 17 59 36.7 -1.4
baz=292
E25K Arctic Village 48.93 30 P P 17 59 36.6 -1.7
baz=290,SNR=9.1
R18K Karluk 48.95 45 P P 17 59 37.0 -1.4
baz=292
CHIR Chirikof Islan 49.02 47 P P 17 59 37.8 -1.3
baz=293
C27K Jago River 49.03 28 P P 17 59 36.8 -2.2
baz=291,SNR=6.3
F25K Christian Rive 49.09 30 P P 17 59 37.5 -2.0
baz=291,SNR=10
CUT Chulitna 49.11 38 P P 17 59 39.8 +0.2
CUT IAmb IAmb 17 59 45.8
comp=Z,42nm,1.2s
CUT Chulitna 49.11 38 P P 17 59 38.0 -1.6
baz=292
BELG Belogornoye 49.11 308 LR LR 18 21 10.4
comp=Z,2µm,18.3s,baz=59,slow=37
BELG Belogornoye 49.11 308 *d i*P P 17 59 39.5 -0.3
BELG pmax pmax
comp=Z,10.0nm,0.9s
GEYT Alibeck 49.17 286 P P 17 59 40.3 -0.2
comp=Z,15nm,0.7s,baz=54,slow=7.3,SNR=14
GEYT LR LR 18 23 00.5
comp=Z,2µm,18.5s,baz=74,slow=39
comp=Z,15nm,0.7s
GYA0 ALIBECK ARRAY 49.17 286 P P 17 59 42.3 +1.8
MCK McKinley 49.19 36 P P 17 59 38.7 -1.7
baz=291,SNR=6.7
G25K Bearman Lake 49.21 32 P P 17 59 38.7 -1.7
baz=291,SNR=5.9
COLA College 49.22 34 P P 17 59 42.3 +1.9
COLA College 49.22 34 P P 17 59 40.1 -0.3
COLA IAmb IAmb 17 59 44.8
comp=Z,30nm,1.0s
COLA College 49.22 34 P P 17 59 38.8 -1.7
baz=291
COLA College 49.22 34 *d i*P P 17 59 41.8 +1.4
COLA pmax pmax
comp=Z,33nm,1.0s
ADZR Andozero 49.24 324 *e*P P 17 59 41.4 +0.8
ADZR pmax pmax
comp=Z,18nm,0.7s
SUA Susitna One 49.24 39 P P 17 59 38.7 -2.2
baz=292
WRH Wood River Hil 49.27 35 IAmb IAmb 17 59 45.0
comp=Z,58nm,1.6s
POKR Poker Plat Res 49.30 34 IAmb IAmb 17 59 46.7
comp=Z,22nm,0.9s
POKR Poker Plat Res 49.30 34 P P 17 59 38.7 -2.4
baz=292
CAPN Captain Cook N 49.32 40 P P 17 59 39.5 -1.7
baz=292
CCB Clear Creek Bu 49.32 35 IAmb IAmb 17 59 45.2
comp=Z,41nm,1.2s
M22K Willow 49.41 39 IAmb IAmb 18 00 36.8
comp=Z,22nm,0.9s
M22K Willow 49.41 39 P P 17 59 40.6 -1.3
baz=292
SII Sitkinak Islan 49.47 46 P P 17 59 40.9 -1.6
baz=294
H25L Birch Creek 49.50 32 P P 17 59 40.8 -1.8
baz=292,SNR=15
Q20K Shuyak Island 49.56 43 P P 17 59 41.7 -1.4
baz=293
F26K Sheenjek River 49.59 30 P P 17 59 41.5 -1.8
baz=292,SNR=17
ILAR Eielson Array 49.64 34 P P 17 59 43.7 0.0
comp=Z,5.6nm,0.9s,baz=286,slow=6.9,SNR=30
ILAR LR LR 18 21 51.4
comp=Z,1µm,18.8s,baz=316,slow=38
comp=Z,5.6nm,0.9s
OHAK Old Harbor 49.66 45 P P 17 59 42.8 -1.1
baz=294
WAT1 Susitna Watana 49.69 37 P P 17 59 42.5 -1.6
baz=292
HDA Harding Lake 49.75 35 IAmb IAmb 17 59 47.9
comp=Z,30nm,1.2s
HDA Harding Lake 49.75 35 P P 17 59 43.2 -1.3
baz=292,SNR=16
APA Apatity 49.77 330 ⇓ *i*P P 17 59 41.9 -2.7
APA pmax pmax
comp=Z,17nm,0.9s
APA MLR MLR
comp=Z,2µm,14.0s
KDAK Kodiak Island 49.79 44 P P 17 59 43.7 -1.2
baz=294
KDAK Kodiak Island 49.79 44 LR LR 18 23 50.2
comp=Z,1µm,19.1s,baz=314,slow=40
SPA0 Spitsbergen Ar 49.81 345 *e*P P 17 59 48.1 +3.2
SPITS Spitsbergen Ar 49.81 345 P P 17 59 45.6 +0.8
comp=Z,107nm,0.7s,baz=68,slow=9.6,SNR=59
SPITS LR LR 18 22 07.1
comp=Z,1µm,20.6s,baz=18,slow=38
comp=Z,107nm,0.7s
RC01 Rabbit Creek A 49.84 39 IAmb IAmb 17 59 49.6
comp=Z,29nm,1.0s
RC01 Rabbit Creek A 49.84 39 P P 17 59 44.0 -1.2
baz=293,SNR=7.8
KLMR Klimovskoe 49.86 320 *e*P P 17 59 45.9 +0.5
KLMR pmax pmax
comp=Z,45nm,0.9s
KLMR MLR MLR
comp=Z,2µm,14.0s
PRP Porcupine Dome 49.89 33 IAmb IAmb 17 59 50.5
comp=Z,48nm,1.1s
PRP Porcupine Dome 49.89 33 P P 17 59 44.4 -1.4
baz=293,SNR=14
BRSE Bradley Lake S 49.90 41 P P 17 59 44.9 -0.8
baz=293
PMR Palmer 49.91 39 P P 17 59 48.7 +3.0
PMR Palmer 49.91 39 IAmb IAmb 17 59 49.5
comp=Z,43nm,1.2s
PMR Palmer 49.91 39 P P 17 59 44.8 -0.9
baz=293,SNR=11
GHO Glory Hole Cre 49.93 38 IAmb IAmb 17 59 50.8
comp=Z,53nm,1.2s
PPBI Pangkal Pinang 49.96 205 P P 17 59 47.0 +0.3
comp=Z,28nm,1.3s
G26K Porcupine Rive 50.00 31 P P 17 59 44.3 -2.1
baz=293
D27M Malcolm River 50.08 28 P P 17 59 45.7 -1.3
baz=293,SNR=6.3
O22K Cooper Landing 50.08 40 P P 17 59 45.6 -1.5
baz=293
DHY Denali Highway 50.09 36 P P 17 59 45.7 -1.6
baz=293,SNR=9.7
WAT6 Susitna Watana 50.13 37 P P 17 59 44.8 -2.8
baz=293,SNR=9.3
VADS Vadso 50.13 334 *e*P P 17 59 50.1 +2.8
KAPI Kappang 50.16 187 LR LR 18 24 00.9
comp=Z,613nm,18.2s,baz=358,slow=40
SML Sawmill 50.18 38 IAmb IAmb 17 59 51.9
comp=Z,44nm,1.1s
SML Sawmill 50.18 38 P P 17 59 46.3 -1.6
baz=293,SNR=8.2
KBS Kingsbay 50.19 347 *e*P P 17 59 50.2 +2.5
KBS Kingsbay 50.19 347 *i*P P 17 59 48.5 +0.9
KNK Knik Glacier 50.28 39 P P 17 59 46.6 -2.0
baz=294
E27K Coleen River 50.28 29 P P 17 59 46.8 -1.7
baz=294,SNR=9.3
J25K Salcha River, 50.31 34 P P 17 59 47.3 -1.5
baz=294,SNR=5.5
SEW Seward 50.35 40 P P 17 59 47.8 -1.3
baz=294
M23K Glacier View 50.45 38 P P 17 59 48.2 -1.6
baz=294
K24K Donnelly Dome 50.46 35 P P 17 59 47.5 -2.5
baz=294,SNR=16
HSPB Hornsund (broa 50.55 344 *e*P P 17 59 53.5 +3.2
HSPB Hornsund (broa 50.55 344 *e*P P 17 59 53.8 +3.4
SCM Sheep Creek Mo 50.60 38 IAmb IAmb 17 59 55.2
comp=Z,58nm,1.3s
SCM Sheep Creek Mo 50.60 38 P P 17 59 49.2 -1.9
baz=294,SNR=7.8
D28M Stokes Point 50.77 27 P P 17 59 49.9 -2.2
baz=295,SNR=6.2
E28M Babbage River 50.81 28 IAmb IAmb 17 59 57.2
comp=Z,21nm,0.9s
E28M Babbage River 50.81 28 P P 17 59 50.2 -2.4
baz=295,SNR=21
G27K Doyon Strip 50.82 31 IAmb IAmb 17 59 57.7
comp=Z,40nm,1.1s
G27K Doyon Strip 50.82 31 P P 17 59 50.6 -2.1
baz=295,SNR=42
I26K Coal Creek Min 50.89 33 P P 17 59 51.6 -1.5
baz=295
PAX Paxson 50.93 36 P P 17 59 51.3 -2.3
baz=295,SNR=5.4
M24K Tolsona, Glenn 50.99 37 P P 17 59 51.9 -2.2
baz=295,SNR=18
KEV Kevo 51.02 334 P P 17 59 53.0 -1.0
KEV IAmb IAmb 17 59 58.5
comp=Z,42nm,0.9s
KEV Kevo 51.02 334 P P 17 59 53.0 -1.0
KEV pmax pmax
comp=Z,42nm,0.9s
J26L Joseph Creek 51.06 34 P P 17 59 52.8 -1.8
baz=295,SNR=7.0
GLI Glacier Island 51.10 39 IAmb IAmb 17 59 58.7
comp=Z,35nm,1.1s
GLI Glacier Island 51.10 39 P P 17 59 52.7 -2.0
baz=295,SNR=6.8
H27K Steamboat Moun 51.11 31 P P 17 59 52.8 -2.1
baz=295,SNR=17
F28M Old Crow 51.12 29 IAmb IAmb 17 59 59.7
comp=Z,32nm,1.0s
F28M Old Crow 51.12 29 P P 17 59 53.0 -1.8
baz=296,SNR=26
SCRK Sand Creek 51.12 35 P P 17 59 52.3 -2.8
baz=295,SNR=7.7
HARP HAARP 51.30 37 P P 17 59 54.1 -2.2
baz=295
P23K Montague Islan 51.33 40 P P 17 59 54.5 -2.0
baz=295
I27K Kandik River 51.35 32 P P 17 59 54.5 -2.2
baz=296,SNR=13
KLU Klutina 51.36 38 IAmb IAmb 18 00 01.2
comp=Z,23nm,1.1s
KLU Klutina 51.36 38 P P 17 59 54.4 -2.4
baz=295,SNR=6.9
E29M Blow River 51.45 28 IAmb IAmb 18 00 02.2
comp=Z,66nm,1.8s
E29M Blow River 51.45 28 P P 17 59 54.6 -2.6
baz=296,SNR=19
ARA0 ARCESS Array S 51.59 334 *e*P P 18 00 01.2 +2.8
ARCES ARCESS Array B 51.59 334 P P 17 59 58.1 -0.2
comp=Z,10nm,0.6s,baz=68,slow=9.8,SNR=23
ARCES LR LR 18 25 32.3
comp=Z,2µm,20.4s,baz=62,slow=40
comp=Z,10nm,0.6s
MENT Mentasta 51.67 36 P P 18 00 00.9 +1.8
MENT Mentasta 51.67 36 IAmb IAmb 18 00 03.3
comp=Z,27nm,1.2s
L26K Log Cabin Wild 51.78 35 P P 17 59 57.8 -2.1
baz=296,SNR=6.7
EYAK Cordova Ski Ar 51.84 39 P P 18 00 02.7 +2.4
EYAK Cordova Ski Ar 51.84 39 P P 17 59 57.9 -2.3
baz=296
K27K Chicken 51.85 34 IAmb IAmb 18 00 04.8
comp=Z,42nm,1.1s
K27K Chicken 51.85 34 P P 17 59 59.1 -1.3
baz=296
NOR Nord 51.86 353 *i*P P 18 00 01.2 +1.0
NOR IAmb IAmb 18 00 19.9
comp=Z,3.8nm,1.1s
N25K Chitina, Valde 51.88 37 IAmb IAmb 18 00 05.6
comp=Z,30nm,1.1s
N25K Chitina, Valde 51.88 37 P P 17 59 58.6 -2.1
baz=296,SNR=7.5
EGAK Eagle 51.88 33 P P 17 59 58.6 -2.0
baz=296,SNR=10
I28M Miner Creek 52.04 32 P P 17 59 59.7 -2.2
baz=297,SNR=12
Q23K Middleton Isla 52.06 40 P P 18 00 00.2 -1.7
baz=297
G29M Pine Creek 52.07 30 IAmb IAmb 18 00 07.0
comp=Z,31nm,1.1s
G29M Pine Creek 52.07 30 P P 17 59 59.7 -2.3
baz=297,SNR=16
BMRM Bremner River 52.16 38 P P 18 00 00.8 -1.9
baz=297
M26K Nabesna, AK 52.20 36 P P 18 00 00.4 -2.7
baz=297
H29M Whitestone 52.27 31 P P 18 00 00.4 -3.1
baz=298,SNR=7.5
TABU Tabubil 52.31 159 P P 18 00 06.9 +2.6
L27K Beaver Creek, 52.39 35 P P 18 00 01.5 -2.9
baz=297,SNR=5.0
F30M Barrier River 52.51 28 P P 18 00 02.9 -2.4
baz=299,SNR=18
JOF Joensuu 52.52 325 *e*P P 18 00 06.8 +1.5
MCARA McCarthy VSAT 52.66 37 IAmb IAmb 18 00 11.8
comp=Z,32nm,1.0s
MCARA McCarthy VSAT 52.66 37 P P 18 00 04.4 -2.0
baz=298,SNR=5.4
G30M tAoh Zraii Nji 52.67 29 IAmb IAmb 18 00 10.6
comp=Z,23nm,0.9s
G30M tAoh Zraii Nji 52.67 29 P P 18 00 04.1 -2.4
baz=299,SNR=18
M27K Edge Creek, AK 52.69 36 P P 18 00 04.0 -2.8
baz=298
I29M Ogilvie Camp, 52.69 32 IAmb IAmb 18 00 10.9
comp=Z,31nm,1.1s
I29M Ogilvie Camp, 52.69 32 P P 18 00 04.2 -2.4
baz=298,SNR=24
KAIM Kayak Island 52.71 39 P P 18 00 05.0 -1.8
baz=298
EPYK Eagle Plains 52.79 30 IAmb IAmb 18 00 11.4
comp=Z,36nm,1.1s
EPYK Eagle Plains 52.79 30 P P 18 00 05.3 -2.0
baz=299,SNR=13
DAWY Dawson 52.89 33 P P 18 00 06.0 -2.2
baz=298,SNR=7.9
INK Inuvik 52.92 27 IAmb IAmb 18 00 12.7
comp=Z,43nm,1.2s
INK Inuvik 52.92 27 P P 18 00 06.0 -2.2
baz=300,SNR=21
INK Inuvik 52.92 27 LR LR 18 26 06.3
comp=Z,1µm,18.4s,baz=272,slow=40
VRH Novokhopyorsk 52.93 308 *e*P P 18 00 08.9 +0.4
VRH pmax pmax
comp=Z,40nm,0.6s
VRH MLR MLR
comp=Z,1µm,13.0s
MOS Moscow 52.96 315 *e*P P 18 00 10.5 +1.9
MOS *e* 18 01 16.9
MOS *e* 18 02 10.5
MOS *e*S S 18 07 43.9 +5.7
MOS pmax pmax
comp=Z,100nm,0.9s
MOS pmax pmax
comp=Z,114nm,1.2s
MOS MLR MLR
comp=Z,2µm,16.0s
MOS MLR MLR
comp=E,2µm,15.0s
BGLC Bering Glacier 53.13 39 P P 18 00 07.6 -2.2
baz=298
JETT Jettan, Norway 53.15 335 *e*P P 18 00 12.0 +2.1
J29N Klondike Camp 53.16 33 P P 18 00 08.0 -2.1
baz=299
F31M Tsiigehtchic 53.28 28 IAmb IAmb 18 00 15.1
comp=Z,41nm,1.1s
F31M Tsiigehtchic 53.28 28 P P 18 00 09.0 -1.9
baz=300
G31M Satah River 53.37 29 IAmb IAmb 18 00 15.3
comp=Z,29nm,0.9s
G31M Satah River 53.37 29 P P 18 00 09.7 -1.8
baz=300,SNR=14
A36M Sachs Harbour 53.37 21 P P 18 00 09.2 -2.2
baz=304,SNR=16
VALR Valaam 53.42 323 *c e*P P 18 00 11.2 -0.8
VALR pmax pmax
comp=Z,128nm,0.8s
I30M Mount Dempster 53.47 31 P P 18 00 11.2 -1.3
baz=300,SNR=12
TRO Tromso 53.55 335 *e*P P 18 00 15.2 +2.4
MAK Makhachkala 53.56 297 *e*P P 18 00 08.3 -5.0
MAK *e* 18 02 09.4
MAK *e*S S 18 07 38.1 -8.7
MAK *e*SS SS 18 11 20.9 -5.7
MAK *e*SSS SSS 18 13 16.4
MAK pmax pmax
comp=Z,407nm,1.9s
MAK MLR MLR
comp=Z,2µm,12.0s
CTG Chitna Glacier 53.57 37 P P 18 00 11.4 -2.0
baz=299
PALK Pallekele 53.65 239 LR LR 18 24 59.9
comp=Z,912nm,20.9s,baz=163,slow=38
PALK Pallekele 53.65 239 P P 18 00 13.6 -0.7
MESA MESA 53.69 38 P P 18 00 12.1 -2.1
baz=299
K29M Barlow Dome 53.72 33 IAmb IAmb 18 00 18.9
comp=Z,29nm,1.1s
K29M Barlow Dome 53.72 33 P P 18 00 12.3 -2.0
baz=300,SNR=18
LPSR Galich'ya Gora 53.78 311 *e*P P 18 00 15.6 +0.9
LPSR pmax pmax
comp=Z,60nm,0.9s
LPSR MLR MLR
comp=Z,1µm,12.0s
OBN Obninsk 53.78 315 P P 18 00 14.3 -0.4
OBN Obninsk 53.78 315 LR LR 18 25 33.6
comp=Z,2µm,18.2s,baz=62,slow=39
OBN Obninsk 53.78 315 *e*P P 18 00 14.1 -0.6
OBN *e* 18 01 19.8
OBN *e* 18 02 15.3
OBN *e*PPP PPP 18 03 20.9
OBN *e*S S 18 07 45.8 -3.6
OBN *e*SS SS 18 11 30.5 +1.0
OBN pmax pmax
comp=Z,76nm,1.4s
OBN MLR MLR
comp=Z,2µm,18.0s
J30M Hart River 53.81 32 IAmb IAmb 18 00 21.8
comp=Z,42nm,1.9s
J30M Hart River 53.81 32 P P 18 00 12.8 -2.2
baz=300,SNR=6.3
L29M L29M 53.85 34 IAmb IAmb 18 00 21.0
comp=Z,45nm,1.1s
L29M L29M 53.85 34 P P 18 00 12.7 -2.5
baz=300,SNR=18
H31M Peel River 53.91 30 IAmb IAmb 18 00 19.3
comp=Z,26nm,1.1s
H31M Peel River 53.91 30 P P 18 00 13.6 -2.0
baz=301,SNR=13
LEM Lembang 54.01 201 LR LR 18 24 30.6
comp=Z,50nm,18.7s,baz=348,slow=37
M29M Somme Creek 54.05 35 P P 18 00 14.1 -2.6
baz=300
VORR Voronezh 54.08 310 *e*P P 18 00 15.6 -1.3
VORR pmax pmax
comp=Z,30nm,0.3s
VORR MLR MLR
comp=Z,2µm,11.0s
YUK8 Steele Glacier 54.09 36 P P 18 00 14.0 -3.2
baz=300
O28M Mount Upton 54.16 37 P P 18 00 15.2 -2.6
baz=300
VSR Storozhevoye 54.33 309 *e*P P 18 00 16.3 -2.5
VSR pmax pmax
comp=Z,100nm,1.5s
VSR MLR MLR
comp=Z,2µm,15.0s
VORD Divnogorie 54.38 309 *e*P P 18 00 18.2 -0.9
VORD pmax pmax
comp=Z,50nm,1.3s
PUL Pulkovo 54.44 322 ⇓ *e*P P 18 00 18.6 -0.9
PUL pmax pmax
comp=Z,57nm,0.5s
GROC Groznyy 54.51 298 *e*P P 18 00 21.0 +0.8
GROC *e* 18 01 24.1
GROC *e*S S 18 08 00.5 +0.9
GROC pmax pmax
comp=Z,21nm,0.7s
YUK4 Talbot Arm 54.52 36 P P 18 00 18.1 -2.2

baz=301
M30M Minto, Yukon 54.65 34 IAmb IAmb 18 00 25.9
comp=Z,26nm,1.2s
M30M Minto, Yukon 54.65 34 P P **18 00 18.9 -2.1**
baz=301
SEKA Sheki 54.67 295 P P **18 00 22.2 +0.7**
ZKTA Zakatala 54.81 296 P P **18 00 22.6 +0.1**
YUK6 Outpost Mounta 54.84 36 P P **18 00 19.7 -3.0**
baz=301
MNGR Mingechevir, A 54.98 295 P P **18 00 24.4 +0.8**
LKRN Lenkeran, Azer 54.99 292 P P **18 00 24.7 +0.9**
PNL Peninsula 55.06 38 P P **18 00 21.6 -2.4**
baz=301
O29M Mount Kennedy 55.09 37 P P **18 00 21.7 -2.7**
baz=301
N30M Aishikik Lake 55.11 35 P P **18 00 21.6 -2.7**
baz=302
BATI Baumata 55.12 181 LR LR 18 26 44.3
comp=Z,254nm,19.0s,baz=300,slow=39
C36M Paulatuk 55.23 24 P P **18 00 22.0 -3.0**
baz=307,SNR=6.1
HYT Haines Junctio 55.27 36 IAmb IAmb 18 00 30.7
comp=Z,24nm,1.3s
HYT Haines Junctio 55.27 36 P P **18 00 22.4 -3.2**
baz=302
FINES FINESS Array B 55.38 325 P P **18 00 25.6 -0.6**
comp=Z,69nm,0.8s,baz=59,slow=7.1,SNR=105
FINES LR LR 18 24 56.4
comp=Z,1µm,18.1s,baz=62,slow=37
comp=Z,69nm,0.8s
FINES FINESS Array B 55.38 325 *i* P P **18 00 26.0 -0.2**
FINES pmax pmax
comp=Z,69nm,0.8s
KEF Keuruu 55.48 326 *e*P P **18 00 28.3 +1.3**
GANJ Ganja 55.53 295 P P **18 00 27.9 +0.2**
STEI Steigen 55.62 334 *e*P P **18 00 30.0 +2.2**
N31M Braeburn, Yuko 55.63 35 P P **18 00 25.3 -2.8**
baz=303
NCK Nalchik 55.72 299⇓ *e*P P **18 00 27.9 -1.1**
NCK pmax pmax
comp=Z,9.0nm,0.4s
M31M Drury Creek, Y 55.80 34 P P **18 00 26.7 -2.6**
baz=303
P29M Windy Craggy 55.80 38 P P **18 00 26.3 -3.0**
baz=302
VAF Ylistaro 55.86 327 *e*P P **18 00 31.4 +1.7**
P30M Million Dollar 55.87 37 P P **18 00 26.4 -3.4**
baz=302
FAUS Fauske 55.93 334 *e*P P **18 00 30.9 +0.8**
KBZ Khabaz 56.02 300 P P **18 00 30.9 -0.1**
comp=Z,10nm,0.9s,baz=56,slow=3.6,SNR=11
KBZ LR LR 18 24 51.2
comp=Z,3µm,18.8s,baz=163,slow=36
comp=Z,10nm,0.9s
KBZ Khabaz 56.02 300 *ce*P P **18 00 31.6 +0.5**
KBZ pmax pmax
comp=Z,16nm,0.9s
KVAR Kislovodsk Arr 56.02 300 LR LR 18 24 26.5
comp=Z,1µm,19.9s,baz=149,slow=36
KIV Kislovodsk 56.03 300 P P **18 00 31.2 -0.1**
KIV Kislovodsk 56.03 300 *i* P P **18 00 32.3 +0.9**
SNR=33
KIV Kislovodsk 56.03 300 P P **18 00 32.2 +0.9**
KIV Kislovodsk 56.03 300 *ce*P P **18 00 31.3 0.0**
KIV *e* 18 01 29.3
KIV *e*S S **18 08 18.9 -1.3**
KIV *e*SS SS **18 12 06.1 +0.5**
KIV pmax pmax
comp=Z,155nm,0.9s
KIV MLR MLR
comp=Z,2µm,18.0s
DAG Danmarks Havn 56.17 351 *i* P P **18 00 32.1 +0.5**
DAG IAmb IAmb 18 00 35.0
comp=Z,11nm,0.9s
FARO Faro, Yukon 56.19 33 P P **18 00 29.4 -2.7**
baz=304,SNR=5.8
ONI Oni 56.29 299 IAmb IAmb 18 00 37.8
comp=Z,28nm,0.9s
ERBR Yeremizino-Bor 56.41 303 *e*P P **18 00 34.5 +0.6**
ERBR *e**PP sP **18 00 37.5 +1.2**
ERBR *e*S S **18 08 28.5 +3.5**
ERBR pmax pmax
comp=Z,133nm,1.0s
ERBR MLR MLR
comp=Z,2µm,13.0s
WHY Whitehorse 56.44 36 P P **18 00 32.2 -1.8**
baz=304
TRLG Trialeti 56.46 297 P P **18 00 34.9 +0.4**
ARBE Arbavere 56.50 323 *e*P P **18 00 37.1 +2.8**
VSU Vasula 56.71 321 *de*P P **18 00 36.4 +0.7**
VSU pmax pmax
comp=Z,121nm,0.9s
MEF Metsahovi 56.74 324 *e*P P **18 00 37.8 +1.9**
MMPY Sheldon Lake, 56.77 32 P P **18 00 34.4 -1.9**
baz=305
GNI Garni 56.82 296 P P **18 00 37.2 +0.2**
GNI Garni 56.82 296 P P **18 00 38.3 +1.2**
GNI Garni 56.82 296⇓ *e*P P **18 00 38.1 +1.0**
GNI pmax pmax
comp=Z,84nm,1.5s
LABN Labinsk 56.85 302 *e*P P **18 00 38.2 +1.2**
LABN *e**PP sP **18 00 40.8 +1.4**
LABN *e*S S **18 08 34.8 +4.0**
LABN pmax pmax
comp=Z,133nm,1.0s
LABN MLR MLR
comp=Z,2µm,12.0s
LABN MLR MLR
comp=N,5µm,10.0s
LABN MLR MLR
comp=E,3µm,10.0s
NAX Nakhchivan 56.87 294 P P **18 00 38.1 +0.7**
SKAG Skagway 56.92 37 P P **18 00 35.1 -2.1**
baz=304
MOR8 Moi Rana 56.93 333 *e*P P **18 00 38.1 +0.8**
STOK Stokkvaagen 57.28 334 *e*P P **18 00 41.8 +2.1**
SHME Shamm 57.31 275 P P **18 00 41.5 +1.0**
SHME Shamm 57.31 275 P P **18 00 40.8 +0.3**
SNR=5.0
WSAR Wadi Sarin 57.32 271 LR LR 18 28 47.6
comp=E,721nm,19.7s,baz=74,slow=40
WSAR Wadi Sarin 57.32 271 P P **18 00 39.9 -0.8**
RAF Rauma 57.35 326 *e*P P **18 00 42.3 +2.0**
S31K Pelican 57.37 39 P P **18 00 38.3 -2.1**
baz=304
JLN Jalan Bani Buh 57.46 269 P P **18 00 43.3 +1.7**
WBK Wadi Bani Khal 57.48 270 P P **18 00 43.1 +1.3**
P32M Atlin 57.53 36 P P **18 00 38.4 -3.3**
baz=305
P33M Teslin, Yukon 57.54 35 P P **18 00 39.7 -2.1**
baz=305,SNR=5.2
RES Resolute Bay 57.54 12 LR LR 18 27 52.8
comp=E,884nm,19.9s,baz=358,slow=39
DRS Darwin Rock St 57.58 173 P P **18 00 43.6 +1.3**
NEEM North Greenlan 57.64 359 *i* P P **18 00 43.5 +1.0**
NEEM IAmb IAmb 18 00 46.0
comp=Z,10nm,0.7s
MTSE Matsula 57.84 323 *e*P P **18 00 46.2 +2.6**
SMDO Samad 57.84 271 P P **18 00 44.6 +0.2**
SMDO P pP **18 00 45.2 -0.9**
VSLR Vesyoloye 57.91 301⇓ *e*P P **18 00 44.5 -0.1**
PMG Port Moresby 57.93 154 LR LR 18 23 57.9
comp=Z,273nm,20.6s,baz=346,slow=34
UOSS Minazif 57.95 274 P P **18 00 44.7 -0.4**
UOSS Minazif 57.95 274 P P **18 00 45.5 +0.4**
UOSS Minazif 57.95 274 P P **18 00 45.9 +0.9**
KDU Kakadu 57.99 171 P P **18 00 46.3 +1.1**
MTN Manton Dam 58.01 173 P P **18 00 46.1 +0.7**
MTN Manton Dam 58.01 173 P P **18 00 45.6 +0.3**
HOQ Hoqain 58.03 272 P P **18 00 47.1 +1.5**
SOC Sochi 58.04 301 *e*P P **18 00 44.3 -1.1**
SOC *e*S S **18 08 46.8 +0.4**
SOC *e*SS SS **18 12 36.8 -0.2**
SOC pmax pmax
comp=Z,51nm,0.8s
SOC MLR MLR
comp=Z,2µm,18.0s
BCA Borcka 58.06 298 ⇑P P **18 00 48.2 +2.6**
HATD Hatta, Dubai 58.08 274 *i* P P **18 00 46.6 +0.6**
SNR=10
HATD Hatta, Dubai 58.08 274 P P **18 00 46.9 +0.9**
SNR=6.9
ASHO Ashiyiah 58.22 274 *i* P P **18 00 47.4 +0.4**
SNR=13
ASHO Ashiyiah 58.22 274 P P **18 00 47.7 +0.7**
SNR=9.0
SOHO SOHO 58.23 273 P P **18 00 47.8 +0.8**
JMDO Jabal Madar 58.24 271 P P **18 00 47.6 +0.5**
NAZ Nazwa, Dubai 58.31 275 P P **18 00 49.3 +1.7**
MNK Minsk 58.38 317 *i* P P **18 00 47.2 -0.4**
comp=E,36nm,0.9s
MNK *i* P P **18 00 47.2 -0.4**
comp=N,60nm,1.0s
MNK *i* P P **18 00 47.2 -0.4**
comp=Z,159nm,0.9s,baz=56
MNK *i* PP PP **18 02 55.2 -1.2**
MNK *i* PPP PPP 18 04 14.2
MNK *i* S S **18 08 50.3 -0.4**
MNK *i* SS SS **18 12 42.4 +0.5**
MNK *i* SSS SSS 18 15 14.3
MNK *i* LQ LQ 18 21 43.3
MNK *i* LR LR 18 25 21.0
MNK *i* LRM MLR 18 28 20.6
comp=N,1µm,12.2s
MNK *i* LRM MLR 18 28 22.6
comp=Z,2µm,14.9s
MNK *i* LRM MLR 18 28 27.7
comp=E,657nm,13.3s
MNK Minsk 58.38 317 *i* P P **18 00 47.2 -0.4**
MNK *i* 18 02 55.2
MNK *i* S S **18 08 50.2 -0.4**
MNK *i* SS SS **18 12 42.4 +0.5**
MNK pmax pmax
comp=Z,159nm,0.9s
MNK pmax pmax
comp=E,36nm,0.9s
MNK pmax pmax
comp=N,60nm,1.0s
MNK MLR MLR
comp=N,1µm,12.0s
MNK MLR MLR
comp=Z,2µm,15.0s
MNK MLR MLR
comp=E,657nm,13.0s
IDID Didziasalis 58.47 318 *e*P P **18 00 50.2 +2.0**
FAQ Al Faqa, Dubai 58.51 274 P P **18 00 49.3 +0.3**
FAQ Al Faqa, Dubai 58.51 274 P P **18 00 50.3 +1.3**
AAL Aland 58.56 326 *e*P P **18 00 50.4 +1.6**
ISAL Salakas 58.61 319 *e*P P **18 00 51.6 +2.5**
BSY Bisya 58.65 272 P P **18 00 51.5 +1.5**
NACGM Naroch 58.68 318 *e*P P **18 00 52.4 +2.7**
comp=E,5µm,1.2s
ANN Anapa 58.72 304 *e*P P **18 00 45.9 -4.2**
ANN *e**PP pP **18 00 49.9 -1.9**
ANN *e* 18 01 36.4
ANN *e*S S **18 08 49.9 -5.3**
ANN pmax pmax
comp=Z,28nm,1.3s
ANN MLR MLR
comp=N,2µm,15.0s
ANN MLR MLR
comp=Z,2µm,14.0s
ANN MLR MLR
comp=E,634nm,15.0s
ARQ Araqi 58.75 273 P P **18 00 51.9 +1.3**
ASUD Al Ashush, Dub 58.77 275 P P **18 00 51.6 +0.8**
ASUD Al Ashush, Dub 58.77 275 P P **18 00 52.1 +1.4**
NSS Namsos 58.77 332 *e*P P **18 00 52.2 +2.1**
R33M Jennings River 58.78 35 IAmb IAmb 18 00 55.8
comp=Z,42nm,1.8s
R33M Jennings River 58.78 35 P P **18 00 48.3 -2.2**
baz=307
ALNE Al Ain 58.83 274 *i* P P **18 00 51.9 +0.6**
SNR=12
ALNE Al Ain 58.83 274 P P **18 00 51.8 +0.6**
SNR=5.6
SLIT Slitere, Latvi 59.13 322 *e*P P **18 00 54.7 +2.0**
MHTO MHTO 59.23 269 P P **18 00 54.7 +0.6**
SNR=5.9
VSVD Vaisvydziai 59.38 320 *e*P P **18 00 57.4 +2.9**
JMIC Jan Mayen 59.43 344 LR LR 18 28 17.0
comp=Z,809nm,19.4s,baz=40,slow=38
S34M Telegraph Cree 59.61 37 P P **18 00 53.9 -2.2**
baz=308
PABE Paberze 59.64 320 *e*P P **18 00 57.5 +1.2**
UPP Uppsala 59.70 326 *e*P P **18 00 58.6 +2.0**
DLBC Dease Lake 59.75 36 LR LR 18 28 15.8
comp=Z,2µm,18.6s,baz=309,slow=38
AKASG Malin Array Be 59.90 313 P P **18 00 58.0 -0.2**
comp=Z,58nm,0.7s,baz=49,slow=8.1,SNR=52
comp=Z,58nm,0.7s
AKASG Malin Array Be 59.90 313 *i* P P **18 00 57.7 -0.5**
AKASG pmax pmax
comp=Z,68nm,0.6s
AKBB Malin Array Si 59.90 313 *c* *i*P P **18 00 57.5 -0.7**
AKBB pmax pmax
comp=Z,122nm,0.9s
KIEV Kiev 59.91 313 P P **18 00 57.5 -0.8**
KIEV Kiev 59.91 313 *i* P P **18 00 57.9 -0.3**
SNR=60
KIEV Kiev 59.91 313 P P **18 00 57.5 -0.8**
KIEV pmax pmax
comp=Z,94nm,0.8s
WRAK Wrangell Islan 59.98 39 P P **18 00 56.2 -2.5**
baz=308
UMZA Um Al Zommool 60.11 273 P P **18 00 59.9 -0.1**
TBLU Trondheim 60.19 332 *e*P P **18 01 01.7 +1.8**
CRAG Craig 60.21 40 P P **18 00 58.7 -1.5**
baz=307
PBUR Paburge 60.25 321 *e*P P **18 01 03.0 +2.4**
JRN Qarnain Island 60.32 276 P P **18 01 00.7 -0.7**
SIM Simferopol' 60.57 305 *α* *i*P P **18 01 06.0 +3.1**
SIM pmax pmax
comp=Z,100nm,1.0s
SUW Suwalki 60.91 319 *e*P P **18 01 07.4 +2.4**
SUW Suwalki 60.91 319 *e*P P **18 01 07.6 +2.6**
VIKU Vikbolandet 60.93 325 *e*P P **18 01 07.1 +2.0**
V35K Ketchikan 60.98 39 P P **18 01 03.2 -2.3**
baz=308
HFS Hagfors 61.04 328 P P **18 01 05.7 -0.2**
comp=Z,24nm,0.7s,baz=49,slow=4.4,SNR=50
HFS LR LR 18 29 47.5
comp=Z,1µm,18.9s,baz=44,slow=38
comp=Z,24nm,0.7s
KOTAN Kotelnoye Air 61.04 32 P P **18 01 03.3 -2.6**
baz=311
SHMA Al-Shehemyia 61.07 279 P P **18 01 06.8 +0.3**
MZR Muzera 61.11 274 P P **18 01 06.7 -0.2**
MZR Muzera 61.11 274 P P **18 01 07.1 +0.2**
KBD Kabd 61.28 284 P P **18 01 08.5 +0.6**
SAKB Bahrain 61.29 279 P P **18 01 08.0 0.0**
NB2 NORSAR Subarra 61.35 329 P P **18 01 07.5 -0.5**
comp=Z,58nm,1.0s,baz=45,slow=6.5
NB2 NORSAR Subarra 61.35 329 P P **18 01 07.5 -0.5**
baz=45,slow=6.5
NOA NORSAR Array B 61.35 329 P P **18 01 07.7 -0.3**
comp=Z,27nm,0.8s,baz=46,slow=6.7,SNR=86
NOA LR LR 18 29 21.3
comp=Z,1µm,18.8s,baz=70,slow=38
comp=Z,27nm,0.8s
DOMB Dombas 61.42 331 *e*P P **18 01 10.6 +2.2**
TOAD Toad River Com 61.43 34 P P **18 01 07.0 -1.6**
baz=311
NC602 NORSAR Array S 61.44 329 *e*P P **18 01 10.6 +2.1**
MOL Molde 61.56 332 *e*P P **18 01 12.1 +2.7**
TRNA Turayna 61.60 277 P P **18 01 12.3 +2.1**
SLWR Silia 61.69 276 P P **18 01 11.0 +0.3**
SORM Soroca 61.88 311 ⇑P P **18 01 14.4 +2.6**
SORM Soroca 61.88 311 P P **18 01 14.3 +2.6**
KLNR Kaliningrad 61.90 320 ⇓ *e*P P **18 01 13.2 +1.5**
KLNR pmax pmax
comp=Z,160nm,0.8s
SUMG Summit 61.98 354 P P **18 01 11.3 -1.2**
SUMG IAmb IAmb 18 01 16.5
comp=Z,32nm,1.4s
SUMG Summit 61.98 354 P P **18 01 11.3 -1.2**
SUMG pmax pmax
comp=Z,33nm,1.4s
SUMG Summit 61.98 354 *i* P P **18 01 12.9 +0.3**
SUMG IAmb IAmb 18 01 41.5
comp=Z,8.8nm,0.8s
AKN Aaknes 62.02 332 *e*P P **18 01 15.2 +2.8**
OSL Oslo 62.28 329 *e*P P **18 01 16.9 +2.7**
KIS Kishinev 62.32 310 *e*P P **18 01 16.8 +2.1**
comp=Z,60nm,0.6s
KIS Kishinev 62.32 310 *e*PP PP 18 03 28.0 -3.3
KIS *e*L L 18 25 15.0
KIS LQM 18 25 27.0
comp=Z,1µm,15.0s
KIS LRM MLR 18 28 49.0
comp=Z,800nm,16.0s
KIS Kishinev 62.32 310 *e*P P **18 01 16.8 +2.1**
KIS *e* 18 03 28.0
KIS pmax pmax
comp=Z,60nm,0.6s
KIS MLR MLR
comp=Z,800nm,16.0s
MILM Milestii Mici 62.37 310 ⇑P P **18 01 17.3 +2.3**
MILM Milestii Mici 62.37 310 ⇓ *i*P P **18 01 17.0 +2.0**
comp=Z,16nm,1.4s
MILM *e*L L 18 23 43.0
MILM LQM 18 25 54.0
comp=Z,2µm,14.0s
MILM LRM MLR 18 28 45.0
comp=Z,2µm,15.5s
MILM Milestii Mici 62.37 310 *d* *i*P P **18 01 17.0 +2.0**
MILM *i* 18 01 22.0
MILM pmax pmax
comp=Z,160nm,1.4s
MILM MLR MLR
comp=Z,2µm,15.5s
SKAR Skarslia 62.63 330 *e*P P **18 01 19.0 +2.4**
YKA Yellowknife Ar 62.69 27 P P **18 01 16.7 -0.2**
comp=Z,13nm,0.9s,baz=321,slow=6.9,SNR=49
YKA PP PP **18 03 36.8 +2.7**
comp=Z,3.5nm,1.0s,baz=317,slow=9.0,SNR=4.4
YKA LR LR 18 31 19.2
comp=Z,1µm,19.2s,baz=314,slow=39
comp=Z,13nm,0.9s
YKA Yellowknife Ar 62.69 27 *i* P P **18 01 17.7 +0.8**
YKA pmax pmax
comp=Z,13nm,0.9s
DRBR Darabani 62.76 312 ⇓P P **18 01 19.9 +2.2**
HNR Honiara 62.88 140 LR LR 18 25 10.1
comp=Z,3µm,21.6s,baz=335,slow=33
KONO Kongsberg 62.89 329 *e*P P **18 01 20.3 +2.0**
KONO Kongsberg 62.89 329 P P **18 01 19.6 +1.3**
HYA Hoyanger 63.01 331 *e*P P **18 01 21.8 +2.8**
FOO Floro 63.08 332 *e*P P **18 01 21.7 +2.2**
LVV L'vov 63.09 314 *e*P P **18 01 21.0 +1.2**
LVV *e*S S **18 09 45.6 -5.3**
LVV *e*SS SS **18 13 58.5 +2.7**
LVV MLR MLR
comp=E,3µm,13.0s
LVV MLR MLR
comp=Z,2µm,13.0s
LVV MLR MLR
comp=N,2µm,15.0s
VASR Vaslui 63.09 310 ⇑P P **18 01 21.2 +1.3**
BEL Belsk 63.40 318 *e*P P **18 01 25.1 +3.3**
DEL Delary 63.42 325 *e*P P **18 01 23.6 +1.8**
VLDR Vladesti 63.43 309 ⇑P P **18 01 25.1 +3.0**
TLCR 63.43 308 ⇑P P **18 01 25.2 +3.1**
TLCR 63.43 308 P P **18 01 25.2 +3.1**
DOK Doka 63.51 270 P P **18 01 23.2 +0.3**
SUE Sulen 63.57 332 *e*P P **18 01 25.3 +2.6**
GHRR 63.66 310 ⇑P P **18 01 25.5 +1.8**
SLCR Slobozia Conac 63.76 309 ⇓P P **18 01 26.8 +2.6**
IZVR Izvoarele 63.79 309 ⇓P P **18 01 27.6 +3.2**
TESR Tescani 63.79 310 ⇓P P **18 01 27.1 +2.6**
CFR Carcaliu 63.81 308 ⇓P P **18 01 27.1 +2.5**
CFR Carcaliu 63.81 308 P P **18 01 27.0 +2.5**
ASK Askoy 63.84 331 *e*P P **18 01 27.1 +2.6**
BUR08 Bucovina Ar. S 63.85 312 P P **18 01 24.0 -1.0**
BURAR Bucovina Array 63.86 312 ⇑P P **18 01 26.6 +1.5**
BER Bergen 63.87 331 *e*P P **18 01 27.5 +2.8**
KWP Kalwaria Pacla 63.87 315 *e*P P **18 01 27.0 +2.0**
KWP Kalwaria Pacla 63.87 315 P P **18 01 24.1 -0.9**
KWP Kalwaria Pacla 63.87 315 P P **18 01 24.1 -0.9**
KWP pmax pmax
comp=Z,114nm,0.9s
BSD Bornholm Skovb 63.89 323 *e*P P **18 01 27.2 +2.2**
BSD Bornholm Skovb 63.89 323 *i* P P **18 01 26.2 +1.2**
BSD IAmb IAmb 18 01 28.0
comp=Z,48nm,0.8s
PANC Panciu 63.92 310 ⇓P P **18 01 27.8 +2.5**
BR131 Keskin Array S 63.98 301 P P **18 01 24.7 -1.4**
BR131 Keskin Array S 63.98 301 P P **18 01 27.0 +0.9**
SNR=21
BR131 Keskin Array S 63.98 301 P P **18 01 24.7 -1.4**
BR131 pmax pmax
comp=Z,43nm,0.9s
BRTR Keskin Array B 63.98 301 P P **18 01 25.9 -0.2**
comp=Z,33nm,0.8s,baz=57,slow=5.3,SNR=42
comp=Z,33nm,0.8s
BRTR Keskin Array B 63.98 301 *i* P P **18 01 26.2 +0.1**
BRTR pmax pmax
comp=Z,35nm,0.9s
ODBI Odobesti 64.04 310 ⇓P P **18 01 29.2 +3.1**
VRI Vrincioaia 64.15 310 ⇑P P **18 01 29.8 +2.9**
VRI Vrincioaia 64.15 310 P P **18 01 29.8 +2.9**
BLS5 Blasjo 64.18 330 *e*P P **18 01 29.2 +2.3**
PLOR Plostina 64.20 310 ⇑P P **18 01 29.7 +2.4**
PLOR Plostina 64.20 310 P P **18 01 29.6 +2.4**
WHFO Wadi Hawf 64.22 270 P P **18 01 27.6 -0.2**
HARR Harsova 64.23 308 ⇓P P **18 01 29.8 +2.4**
HARR Harsova 64.23 308 P P **18 01 29.7 +2.4**
ANTO Ankara 64.41 301 P P **18 01 28.7 -0.1**
ANTO Ankara 64.41 301 P P **18 01 30.3 +1.6**
ANTO Ankara 64.41 301 P P **18 01 28.7 -0.1**
ANTO pmax pmax
comp=Z,75nm,1.1s
TURR Turia 64.42 310 ⇑P P **18 01 31.0 +2.3**
COVR Voineasa-Covas 64.45 310 ⇓P P **18 01 32.0 +3.1**
UMMG Uummannaq 64.45 359 *i* P P **18 01 29.8 +1.3**
UMMG IAmb IAmb 18 01 33.7
comp=Z,7.7nm,0.9s
OZUR 64.52 310 ⇓P P **18 01 31.0 +1.7**
BBB Bella Bella 64.59 41 LR LR 18 28 56.4
comp=Z,323nm,21.8s,baz=326,slow=35
ARCR ARCALIA 64.65 312 ⇑P P **18 01 32.7 +2.6**
ICOR Ion Corvin 64.66 308 ⇑P P **18 01 32.0 +1.7**
NEHR Nehoiu 64.67 310 ⇓P P **18 01 33.2 +2.9**
SNART Snartemo 64.69 329 *e*P P **18 01 32.9 +2.7**
BMR Baia Mare 64.72 313 ⇑P P **18 01 32.7 +2.1**
BMR Baia Mare 64.72 313 P P **18 01 32.6 +2.1**
ISR Istrita 64.72 309 ⇑P P **18 01 33.1 +2.4**
ISR Istrita 64.72 309 P P **18 01 33.1 +2.4**
STHS Stebnicka Huta 64.74 315 *e*P P **18 01 33.2 +2.5**
STHS Stebnicka Huta 64.74 315 *e*P P **18 01 33.2 +2.5**
STHS pmax pmax
comp=Z,19nm,1.1s
KMY Karmoy 64.76 330 *e*P P **18 01 33.4 +2.8**
DOPR Dopca 64.81 311 ⇑P P **18 01 32.8 +1.5**
MLR Muntele Rosu 64.82 310 ⇑P P **18 01 33.1 +1.6**
MLR Muntele Rosu 64.82 310 LR LR 18 33 01.5
comp=Z,2µm,18.4s,baz=68,slow=39
MLR Muntele Rosu 64.82 310 P P **18 01 33.0 +1.6**
OJC Ojcow 64.92 317 *e*P P **18 01 32.6 +0.8**
ABTO Aybut 64.94 270 P P **18 01 32.3 -0.1**
CRVS Cervenica-Dubn 64.97 315 *e*P P **18 01 35.4 +3.2**
CRVS Cervenica-Dubn 64.97 315 *e*P P **18 01 35.4 +3.2**
CRVS pmax pmax
comp=Z,78nm,1.4s
MDUB Mudurnu 64.99 303 P P **18 01 29.6 -2.9**
SULR 65.16 309 ⇑P P **18 01 36.7 +3.3**
WB0 Warramunga Arr 65.20 170 P P **18 01 33.7 -0.1**
WB0 IAmb IAmb 18 01 35.5
comp=Z,26nm,1.1s
NIE Niedzica 65.21 316 *e*P P **18 01 35.5 +1.7**
CJR Cluj-Napoca 65.29 312 ⇑P P **18 01 36.5 +2.2**
CJR Cluj-Napoca 65.29 312 P P **18 01 36.5 +2.2**
MUD Monsted U'grnd 65.31 327 *i* P P **18 01 36.0 +1.8**
MUD IAmb IAmb 18 01 37.8
comp=Z,36nm,0.8s
VOIR 65.33 310 ⇑P P **18 01 36.6 +1.9**
VOIR 65.33 310 P P **18 01 36.6 +1.9**
MESR Meseseni 65.34 313 ⇓P P **18 01 36.5 +1.9**
WRAB Tennant Creek 65.36 170 P P **18 01 34.8 -0.1**
WRAB IAmb IAmb 18 01 36.6
comp=Z,28nm,1.2s
WRAB Tennant Creek 65.36 170 ⇑ *i*P P **18 01 35.1 +0.2**
WRAB pmax pmax
comp=Z,24nm,1.0s
WRA Warramunga Arr 65.37 170 P P **18 01 35.3 +0.3**
comp=Z,12nm,0.9s,baz=352,slow=6.8,SNR=105
WRA LR LR 18 29 42.4
comp=Z,353nm,21.4s,baz=348,slow=36
comp=Z,12nm,0.9s
WRA Warramunga Arr 65.37 170 *i* P P **18 01 35.2 +0.3**
WRA pmax pmax
comp=Z,13nm,0.9s
WR0 Warramunga Arr 65.41 170 P P **18 01 35.0 -0.2**

PRD Provadia 65.49 307 P P 18 01 37.9 +2.3
ICESG Greenland Ices 65.49 354 *i* P **P 18 01 36.5 +0.9**
ICESG IAmb IAmb 18 01 39.5
comp=Z,18nm,1.0s
SOEG Soedalen 65.56 360 *i* P **P 18 01 37.7 +2.1**
SOEG IAmb IAmb 18 01 39.2
comp=Z,6.4nm,0.7s
MARR Marisel-Cluj 65.56 312 ⇓P **P 18 01 37.8 +1.6**
ARR Arges 65.60 310 ⇑P **P 18 01 38.8 +2.3**
DRGR 65.70 313 ⇓P **P 18 01 38.5 +1.5**
DRGR 65.70 313 P **P 18 01 38.5 +1.5**
KECS Kecovo 65.73 315 *eP* **P 18 01 40.5 +3.4**
KECS Kecovo 65.73 315 *eP* **P 18 01 40.5 +3.4**
KECS pmax pmax
comp=Z,35nm,1.4s
HUMR Humele 65.96 309 ⇑P **P 18 01 40.6 +2.0**
OKC Ostrava-Krasne 65.97 317 *eP* **P 18 01 41.7 +3.1**
OKC AMS AMS 18 32 50.0
comp=Z,3μm,13.9s
OKC Ostrava-Krasne 65.97 317 *eP* **P 18 01 41.7 +3.1**
OKC MLR MLR
comp=Z,3μm,13.9s
COPA Copaceanca 66.08 309 ⇓P **P 18 01 42.2 +2.7**
MBWA Marble Bar 66.16 185 P **P 18 01 40.8 +0.8**
MBWA Marble Bar 66.16 185 P **P 18 01 40.8 +0.8**
DEV Deva 66.19 312 ⇓P **P 18 01 43.3 +3.2**
DEV Deva 66.19 312 P **P 18 01 43.3 +3.2**
SZH Strazhitsa 66.22 308 P **P 18 01 41.1 +0.7**
MORC Moravsky Berou 66.31 317 *eP* **P 18 01 42.1 +1.3**
MORC *ep*P **sP 18 01 43.6 +0.4**
RAYN Ar Rayn 66.37 280 P **P 18 01 41.7 +0.1**
RAYN IAmb IAmb 18 01 44.9
comp=Z,44nm,1.7s
RAYN Ar Rayn 66.37 280 *i* P **P 18 01 42.0 +0.4**
SNR=6.3
RAYN Ar Rayn 66.37 280 P **P 18 01 43.0 +1.3**
RAYN Ar Rayn 66.37 280 P **P 18 01 41.7 +0.1**
RAYN pmax pmax
comp=Z,44nm,1.7s
PSZ Piszkesteto 66.40 315 ⇑P **P 18 01 43.6 +2.1**
PSZ Piszkesteto 66.40 315 P **P 18 01 43.6 +2.1**
OSTC Ostas 66.40 319 AMS AMS 18 28 50.0
comp=Z,3μm,21.5s
JMB Yambol 66.41 307 P **P 18 01 42.0 +0.4**
MAUC Maruska 66.45 317 *eP* **P 18 01 43.3 +1.6**
CHVC Chvalec 66.46 319 *eP* **P 18 01 43.2 +1.4**
CHVC AMS AMS 18 29 00.0
comp=Z,2μm,16.1s
CHVC Chvalec 66.46 319 *eP* **P 18 01 43.2 +1.4**
CHVC MLR MLR
comp=Z,2μm,16.1s
KRLC Kraliky 66.47 318 *eP* **P 18 01 43.3 +1.4**
KRLC *ep*P **sP 18 01 45.6 +1.4**
KRLC AMS AMS 18 31 00.0
comp=Z,2μm,14.6s
KRLC Kraliky 66.47 318 *eP* **P 18 01 43.3 +1.4**
KRLC *e* 18 01 45.6
KRLC MLR MLR
comp=Z,2μm,14.6s
DPC Dobruska-Polom 66.49 319 *eP* **P 18 01 43.9 +1.9**
DPC AMS AMS 18 30 50.0
comp=Z,2μm,15.0s
DPC Dobruska-Polom 66.49 319 *eP* **P 18 01 43.9 +1.9**
DPC MLR MLR
comp=Z,2μm,15.0s
ELND Elena 66.50 308 ⇑P **P 18 01 44.5 +2.3**
UPC Upice 66.53 319 *eP* **P 18 01 43.5 +1.3**
UPC AMS AMS 18 29 00.0
comp=Z,3μm,20.1s
UPC Upice 66.53 319 *eP* **P 18 01 43.5 +1.3**
UPC MLR MLR
comp=Z,3μm,20.1s
VYHS Vyhne 66.54 316 *eP* **P 18 01 46.1 +3.8**
VYHS Vyhne 66.54 316 *eP* **P 18 01 46.1 +3.8**
VYHS pmax pmax
comp=Z,60nm,1.3s
PSA00 Pilbara Seismi 66.56 185 P **P 18 01 43.9 +1.3**
PSA00 Pilbara Seismi 66.56 185 P **P 18 01 42.7 +0.1**
PSA00 IAmb IAmb 18 01 44.3
comp=Z,37nm,1.4s
PSA00 Pilbara Seismi 66.56 185 IAmb IAmb 18 01 44.3
comp=Z,82nm,1.5s
GZR Gura Zlata 66.58 311 ⇑P **P 18 01 44.2 +1.5**
GZR Gura Zlata 66.58 311 P **P 18 01 44.2 +1.5**
SIRR Siria 66.59 313 ⇑P **P 18 01 44.7 +2.0**
VLAD Vladila 66.62 309 ⇓P **P 18 01 44.3 +1.5**
QIS Mount Isa 66.78 165 P **P 18 01 45.6 +1.6**
JAVC Velka Javorina 66.86 317 *ep*P pP 18 01 48.6 +2.4
BZS Buzias 67.05 312 ⇑P **P 18 01 47.1 +1.5**
BZS Buzias 67.05 312 P **P 18 01 47.0 +1.5**
VRAC Vranov 67.08 318 ⇓P **P 18 01 48.4 +2.6**
VRAC Vranov 67.08 318 *eP* **P 18 01 46.7 +1.0**
VRAC *ep*P **sP 18 01 49.1 +1.0**
VRAC Vranov 67.08 318 LR LR 18 33 08.1
comp=Z,1μm,18.6s,baz=45,slow=38
VRAC Vranov 67.08 318 P **P 18 01 48.3 +2.6**
MMAI Mount Meron Ar 67.09 294 P **P 18 01 46.3 +0.1**
comp=Z,2.9nm,0.5s,baz=46,slow=6.2,SNR=14
MMAI LR LR 18 34 06.8
comp=Z,1μm,19.1s,baz=1.0,slow=39
comp=Z,2.9nm,0.5s
HERR Herculane 67.11 311 ⇑P **P 18 01 47.4 +1.4**
PVCC Panska Ves 67.19 319 *eP* **P 18 01 48.2 +1.8**
PVCC AMS AMS 18 32 30.0
comp=Z,2μm,12.7s
PVCC Panska Ves 67.19 319 *eP* **P 18 01 48.2 +1.8**
PVCC MLR MLR
comp=Z,2μm,12.7s
DJES Djerdap 67.20 311 ⇓P **P 18 01 49.6 +3.0**
SMOL Smolenice 67.22 317 *eP* **P 18 01 50.2 +3.6**
SMOL pmax pmax
comp=Z,22nm,1.2s
BRG Berggiesshubel 67.23 320 *eP* **P 18 01 47.7 +1.0**
BRG Amp 18 01 48.6
comp=Z,2.9nm,0.8s
BRG Berggiesshubel 67.23 320 P **P 18 01 50.0 +3.4**
BRG Amp 18 01 51.0
comp=Z,42nm,1.0s
BRG Berggiesshubel 67.23 320 P P 18 01 56.3 +10
BRG Amp 18 01 56.7
comp=Z,7.2nm,0.9s
BRG Berggiesshubel 67.23 320 P P 18 02 03.7 +17
BRG Amp 18 02 07.6
comp=Z,10nm,1.0s
BRG Berggiesshubel 67.23 320 S **S 18 10 43.0 +1.3**
BRG Amp 18 33 08.0
comp=E,1.0nm,12.4s
BRG Amp 18 33 15.0
comp=N,2.3nm,13.1s
BRG Amp 18 33 18.0
comp=Z,3.6nm,13.2s
PUNG Punghina 67.23 310 ⇓P **P 18 01 48.9 +2.2**
SRO Srobarova 67.26 316 *eP* **P 18 01 50.8 +3.9**
SRO Srobarova 67.26 316 *eP* **P 18 01 50.8 +3.9**
SRO pmax pmax
comp=Z,53nm,1.2s
BORG Borgarnes 67.27 345 LR LR 18 31 30.5
comp=Z,464nm,19.0s,baz=22,slow=36
KRUC Moravsky 67.34 317 *eP* **P 18 01 48.7 +1.3**
KRUC *ep*P **sP 18 01 50.8 +1.0**
CLL Collm 67.35 321 P **P 18 01 46.8 -0.6**
CLL Collm 67.35 321 ⇓*i*P **P 18 01 48.2 +0.8**
CLL ⇓*i*Pmax 18 01 50.1
comp=Z,61nm,1.0s
CLL *e*PcP **PcP 18 02 17.0 +2.0**
CLL *e*S **S 18 10 44.0 +0.9**
CLL *e*SSS SSS 18 18 03.0
CLL AMS AMS 18 28 00.0
comp=N,3μm,19.5s
CLL AMS AMS 18 28 00.0
comp=E,3μm,19.4s
CLL AMS AMS 18 34 00.0
comp=Z,2μm,19.8s
CLL Collm 67.35 321 *i* P **P 18 01 48.1 +0.7**
CLL *e* 18 02 17.0
CLL *e*S **S 18 10 44.0 +0.9**
CLL pmax pmax
comp=Z,61nm,1.0s
CLL MLR MLR
comp=Z,2μm,19.8s
MODS Modra-Piesok 67.39 316 *eP* **P 18 01 51.7 +4.0**
MODS Modra-Piesok 67.39 316 *eP* **P 18 01 51.7 +4.0**
MODS pmax pmax
comp=Z,81nm,1.3s

RICC Richard 67.39 320 AMS AMS 18 33 10.0
comp=Z,2μm,13.7s
MPEP Malo Peshtene 67.40 309 P **P 18 01 49.2 +1.3**
GOPC GO Pecny, Ondr 67.51 319 *eP* **P 18 01 52.0 +3.5**
GOPC AMS AMS 18 33 50.0
comp=Z,2μm,12.4s
GOPC GO Pecny, Ondr 67.51 319 *eP* **P 18 01 52.0 +3.5**
GOPC MLR MLR
comp=Z,2μm,12.4s
MDVR Moldovita 67.55 311 ⇓P **P 18 01 51.5 +2.7**
PRA Prague 67.57 319 *eP* **P 18 01 52.2 +3.4**
PRA AMS AMS 18 33 30.0
comp=Z,2μm,12.3s
PRA Prague 67.57 319 *eP* **P 18 01 52.2 +3.4**
PRA MLR MLR
comp=Z,2μm,12.3s
PRU Pruhonice 67.57 319 *eP* **P 18 01 49.9 +1.1**
PRU AMS AMS 18 33 50.0
comp=Z,2μm,12.9s
PRU Pruhonice 67.57 319 *eP* **P 18 01 49.9 +1.1**
PRU MLR MLR
comp=Z,2μm,12.9s
ZST Bratislava 67.59 316 *eP* **P 18 01 52.8 +3.8**
ZST Bratislava 67.59 316 *eP* **P 18 01 52.8 +3.8**
ZST pmax pmax
comp=Z,101nm,1.5s
TREC Trest 67.61 318 AMS AMS 18 31 40.0
comp=Z,2μm,17.6s
KDZ Kurdzhali 67.64 307 P **P 18 01 51.0 +1.6**
HSKC Hora Svate Kat 67.65 320 *eP* **P 18 01 50.8 +1.4**
HSKC *ex* x 18 01 52.9
HSKC AMS AMS 18 33 10.0
comp=Z,4μm,14.1s
PGB Panagyurishte 67.72 308 P **P 18 01 51.5 +1.6**
ALN Alexandroupoli 67.72 306 *pP* 18 01 53.3 +1.6
ALN Alexandroupoli 67.72 306 P **P 18 01 47.5 -2.4**
RZN Rozhen 67.94 307 P **P 18 01 52.7 +1.2**
SFJD Kangerlussuaq 68.12 358 LR LR 18 34 14.2
comp=Z,685nm,18.4s,baz=353,slow=38
ELL Elmali 68.14 300 P **P 18 01 51.0 -1.8**
ELL Elmali 68.14 300 P **P 18 01 51.0 -1.8**
ELL pmax pmax
comp=Z,56nm,0.8s
VTS Vitosha 68.17 309 P **P 18 01 54.4 +1.5**
MORH Mrgy, Hungar 68.18 314 ⇑P **P 18 01 53.9 +1.2**
FRGS Fruska Gora 68.30 313 ⇑P **P 18 01 56.7 +3.2**
FRGS Fruska Gora 68.30 313 ⇓*i*P **P 18 01 54.3 +0.8**
BOVS Bovan 68.32 310 ⇓P **P 18 01 55.8 +2.2**
RONA Rosalia, Austr 68.33 316 *i* pP pP 18 01 57.7 +2.2
comp=Z,54nm,0.9s,SNR=48
NKC Novy Kostel 68.36 320 *eP* **P 18 01 57.1 +3.3**
NKC AMS AMS 18 33 10.0
comp=Z,2μm,13.1s
NKC Novy Kostel 68.36 320 *eP* **P 18 01 57.1 +3.3**
NKC MLR MLR
comp=Z,2μm,13.1s
CONA Conrad Observa 68.38 317 *i* pP pP 18 01 57.9 +2.1
comp=Z,39nm,0.9s,SNR=38
DY2G Dye2 68.49 356 *i* P **P 18 01 54.1 -0.5**
DY2G IAmb IAmb 18 01 58.4
comp=Z,48nm,1.2s
CKRC Cesky Krumlov 68.50 318 *eP* **P 18 01 56.2 +1.5**
CKRC *ep*P **sP 18 01 58.4 +1.3**
CKRC *e*S **S 18 10 59.6 +2.6**
CKRC AMS AMS 18 30 20.0
comp=Z,2μm,17.4s
CKRC Cesky Krumlov 68.50 318 *eP* **P 18 01 56.2 +1.5**
CKRC *e* 18 01 58.4
CKRC *e*S **S 18 10 59.6 +2.6**
CKRC MLR MLR
comp=Z,2μm,17.4s
MMB Musomishta 68.59 308 P **P 18 01 56.5 +1.0**
KHC Kasperske Hory 68.62 319 *eP* **P 18 01 56.6 +1.1**
KHC *ep*P **sP 18 01 59.1 +1.2**
KHC *e*S **S 18 11 00.2 +1.7**
KHC AMS AMS 18 36 40.0
comp=Z,2μm,11.6s
KHC Kasperske Hory 68.62 319 *eP* **P 18 01 56.6 +1.1**
KHC *e* 18 01 59.1
KHC *e*S **S 18 11 00.2 +1.7**
KHC MLR MLR
comp=Z,2μm,11.6s
ANGG Ammassalik, Gr 68.72 352 *i* P **P 18 01 56.8 +1.0**
ANGG IAmb IAmb 18 01 59.2
comp=Z,19nm,0.8s
KKB Krupnik 68.74 308 P **P 18 01 57.6 +1.2**
GERES GERESS Array B 68.77 319 P **P 18 01 57.0 +0.5**
comp=Z,13nm,0.8s,baz=46,slow=7.0,SNR=53
GERES LR LR 18 34 56.4
comp=Z,2μm,19.1s,baz=49,slow=38
comp=Z,13nm,0.8s
GERES GERESS Array B 68.77 319 P **P 18 01 57.0 +0.5**
TEKS Tekeris 68.86 312 ⇑*i*P **P 18 01 56.6 -0.4**
AS31 Alice Springs 68.99 171 P **P 18 01 57.4 -0.5**
ASAR Alice Springs 68.99 171 P **P 18 01 58.5 +0.5**
comp=Z,8.1nm,1.0s,baz=356,slow=5.7,SNR=36
ASAR LR LR 18 34 28.8
comp=Z,194nm,18.8s,baz=336,slow=38
comp=Z,8.1nm,1.0s
AS01 Alice Springs 69.00 171 P **P 18 01 59.3 +1.3**
ARSA Arzberg 69.02 316 *i* pP pP 18 02 01.4 +1.6
comp=Z,21nm,1.0s,SNR=18
MOA Molln 69.20 318 *i* pP pP 18 02 02.4 +1.6
comp=Z,12nm,0.9s,SNR=8.5
GRFO Grafenberg 69.30 320 P **P 18 01 58.9 -0.8**
GRFO Grafenberg 69.30 320 P **P 18 01 58.9 -0.8**
GRFO pmax pmax
comp=Z,102nm,1.0s
BBLS Lazi&#263i 69.39 312 ⇑*i*P **P 18 02 01.0 +0.6**
VAY Valandovo 69.40 308 *i* P **P 18 02 03.8 +3.4**
HAPS Han Pijesak,Bl 69.48 312 ⇑*i*P **P 18 02 02.7 +1.7**
SJES Sjenica 69.50 311 ⇑*i*P **P 18 02 01.7 +0.5**
EIL Elat 69.55 292 LR LR 18 36 15.6
comp=Z,787nm,19.7s,baz=46,slow=39
RUDO Rudo 69.58 312 *eP* **P 18 02 03.3 +1.8**
SKO Skopje 69.59 309 *i* P **P 18 02 05.4 +3.9**
BIOA Bad Ischl, Aus 69.61 318 *i* pP pP 18 02 05.1 +1.6
comp=Z,25nm,1.0s,SNR=18
PERS Pernice 69.65 316 *i* P **P 18 02 02.6 +0.7**
PERS *i* pP **sP 18 02 05.0 +0.7**
SOKA Soboth 69.66 316 *i* pP pP 18 02 05.2 +1.4
comp=Z,32nm,1.0s,SNR=42
A051A Mrakovica 69.89 314 ⇑*i*P **P 18 02 04.7 +1.2**
WRKA Warakurna 69.93 177 P **P 18 02 04.9 +1.2**
BLY Banja Luka 69.93 314 ⇑*i*P **P 18 02 07.2 +3.6**
OBKA Obir 70.02 316 *ep*P pP 18 02 07.3 +1.3
comp=Z,32nm,0.8s,SNR=31
OBKA Obir 70.02 316 ⇑*i*P **P 18 02 04.8 +0.6**
CRES Cresnjev 70.05 315 ⇓*i*P **P 18 02 04.6 +0.2**
KBA Koelnbreinsper 70.19 317 *i* pP pP 18 02 08.9 +1.8
comp=Z,44nm,0.9s,SNR=50
MGRS Mrkonjic Grad 70.22 314 ⇑*i*P **P 18 02 09.4 +4.0**
LESA Schwarzleotal 70.26 318 *i* pP pP 18 02 09.1 +1.6
comp=Z,29nm,1.3s
LIT Litokhoron 70.27 307 P **P 18 02 03.8 -2.0**
LIT IAmb IAmb 18 02 09.8
comp=Z,22nm,0.9s
LIT Litokhoron 70.27 307 P **P 18 02 03.8 -2.0**
LIT pmax pmax
comp=Z,22nm,0.9s
LJU Ljubljana 70.36 316 *i* pP pP 18 02 09.1 +1.1
BOJS Bojanci 70.38 315 *eP* **P 18 02 08.8 +2.4**
SRKY Kupres RS 70.42 313 *eP* **P 18 02 08.9 +2.1**
A050A Klekovaca 70.45 314 ⇑*i*P **P 18 02 07.5 +0.6**
PDG Podgorica 70.46 311 ⇑P **P 18 02 09.4 +2.5**
PDG Podgorica 70.46 311 ⇓*i*P **P 18 02 09.3 +2.5**
BRY Bratogost 70.51 312 ⇑*i*P **P 18 02 09.5 +2.1**
OHR Ohrid 70.53 309 *i* P **P 18 02 10.5 +3.1**
CEY Cerknica 70.62 316 *i* P **P 18 02 07.3 -0.7**
CEY *i* pP **sP 18 02 10.3 0.0**
CEY Cerknica 70.62 316 ⇑*i*P **P 18 02 07.2 -0.7**
E03A Lebam 70.64 43 P **P 18 02 09.4 +1.5**
E03A IAmb IAmb 18 02 13.0
comp=Z,23nm,1.2s
EKA Eskdalemuir Ar 70.66 331 P **P 18 02 08.3 +0.4**
comp=Z,9.1nm,0.8s,baz=40,slow=5.2,SNR=20
comp=Z,9.1nm,0.8s
DRME Dracevica, Mon 70.66 311 ⇓*i*P **P 18 02 10.6 +2.4**
ABTA Abfaltersbach 70.83 318 *ep*P pP 18 02 11.4 +0.5
comp=Z,21nm,1.1s,SNR=9.8
WATA Walderalm 70.84 319 *ep*P pP 18 02 12.4 +1.3
comp=Z,33nm,1.0s,SNR=17
HCY Herceg Novi 70.85 311 ⇑*i*P **P 18 02 11.6 +2.3**
BTNL Ternell 70.85 324 *dP* **P 18 02 11.5 +2.3**

comp=Z,18nm,1.1s
WTTA Wattenberg 70.87 318 *ep*P pP 18 02 12.8 +1.5
comp=Z,39nm,0.9s,SNR=20
BEBN Eben Emael 70.88 324 *dP* **P 18 02 11.6 +2.3**
MEM Membach 70.89 324 *dP* **P 18 02 11.9 +2.5**
comp=Z,26nm,1.1s
NUUK Nuuk 70.97 358 *i* P **P 18 02 10.3 +0.7**
NUUK IAmb IAmb 18 02 13.2
comp=Z,16nm,0.8s
STON Ston 70.98 312 *eP* **P 18 02 08.1 -1.9**
MOTA Moosalm 71.06 319 *ep*P pP 18 02 13.6 +1.2
comp=Z,44nm,1.0s,SNR=32
BSTI Sart Tilman 71.09 324 *dP* **P 18 02 13.1 +2.5**
SQTA Sankt Quirin 71.10 319 *ep*P pP 18 02 13.9 +1.3
comp=Z,30nm,0.9s,SNR=15
RETA Reutte 71.11 319 *ep*P pP 18 02 14.3 +1.6
comp=Z,47nm,1.0s,SNR=24
CIMO Cimolais 71.18 317 IAmb IAmb 18 02 14.1
comp=Z,20nm,1.0s
BCLA Clavier 71.32 324 *dP* **P 18 02 14.6 +2.5**
BGES Gesves 71.44 324 *dP* **P 18 02 15.2 +2.4**
comp=Z,8.5nm,1.1s
FETA Feichten 71.47 319 *ep*P pP 18 02 16.1 +1.2
comp=Z,14nm,1.0s,SNR=7.0
WLF Walferdange 71.54 323 *dP* **P 18 02 14.1 +0.7**
RCHB Rochefort 71.56 324 *dP* **P 18 02 15.4 +2.0**
comp=Z,14nm,1.2s
FCC Fort Churchill 71.56 20 IAmb IAmb 18 02 16.1
comp=Z,32nm,1.1s
BFO Black Forest 71.59 321 P **P 18 02 13.8 0.0**
BFO Black Forest 71.59 321 P **P 18 02 13.8 0.0**
BFO pmax pmax
comp=Z,83nm,1.1s
BMRD Maredsous 71.64 324 *dP* **P 18 02 16.4 +2.5**
comp=Z,20nm,1.1s
DAVA Damuels 71.67 319 *i* pP pP 18 02 17.6 +1.5
comp=Z,74nm,0.9s,SNR=60
DOU Dourbes 71.86 324 *dP* **P 18 02 17.7 +2.4**
comp=Z,15nm,1.2s
FUORN Ofenpass-Fuorn 71.98 319 IAmb IAmb 18 02 20.7
comp=Z,28nm,1.0s
DAVOX Davos/Dischmat 72.04 319 LR LR 18 36 57.6
comp=Z,2μm,19.5s,baz=50,slow=38
IDI Anoyia 72.14 302 LR LR 18 37 40.8
comp=Z,630nm,19.3s,baz=88,slow=39
ECH Echery 72.20 322 P **P 18 02 17.4 0.0**
ECH IAmb IAmb 18 02 21.5
comp=Z,42nm,1.2s
ECH Echery 72.20 322 P **P 18 02 17.4 0.0**
ECH pmax pmax
comp=Z,42nm,1.2s
NEW Newport 72.34 38 P **P 18 02 16.8 -1.4**
baz=319
NEW Newport 72.34 38 LR LR 18 35 50.1
comp=Z,814nm,18.8s,baz=328,slow=37
ITM Ithomi 72.59 305 IAmb IAmb 18 02 22.8
comp=Z,22nm,0.7s
I03D Drain, OR 72.80 45 IAmb IAmb 18 03 06.4
comp=Z,14nm,1.0s
MATE Matera 73.07 311 ⇑P **P 18 02 25.4 +2.8**
I04A Tendick Farm, 73.20 44 IAmb IAmb 18 02 28.3
comp=Z,24nm,1.3s
FDMO Fiordimonte 73.23 315 IAmb IAmb 18 02 28.9
comp=Z,20nm,0.7s
OOD Oodnadatta 73.28 170 P **P 18 02 24.9 +1.2**
INTR Introdacqua 73.56 313 IAmb IAmb 18 02 30.8
comp=Z,24nm,1.0s
QLP Quilpie 73.56 162 P **P 18 02 28.1 +2.6**
NRS Narsarsuaq 73.74 355 *i* P **P 18 02 26.4 +0.3**
NRS IAmb IAmb 18 02 35.2
comp=Z,15nm,0.8s
CESX Cesi 73.80 315 IAmb IAmb 18 02 30.6
comp=Z,29nm,1.0s
IVI Ivigtut 73.84 356 IAmb IAmb 18 02 30.2
comp=Z,46nm,0.9s
IVI Ivigtut 73.84 356 *i* P **P 18 02 26.4 -0.3**
IVI IAmb IAmb 18 02 30.1
comp=Z,29nm,0.9s
PINE Pine Mountain 73.92 43 P **P 18 02 27.4 -0.5**
INKA Innaminka 73.99 165 P **P 18 02 29.9 +2.0**
CUC Castrocucco 74.01 311 P **P 18 02 27.0 -1.3**
CUC IAmb IAmb 18 02 32.1
comp=Z,33nm,1.5s
F10A Beach Ranch, E 74.03 40 *pP* 18 02 32.4 +2.3
MSSA Maissana 74.04 318 P **P 18 02 26.2 -2.2**
MSSA IAmb IAmb 18 02 31.6
comp=Z,26nm,1.1s
I07A Izee 74.39 42 P **P 18 02 29.9 -0.6**
L04D Klamath Falls 74.41 45 IAmb IAmb 18 02 35.8
comp=Z,48nm,1.3s
LPL La Plagne 74.44 320 *eP* **P 18 02 31.9 +1.0**
LPL pmax pmax
comp=Z,45nm,1.1s
CASP Castiglione de 74.52 316 IAmb IAmb 18 02 33.9
comp=Z,21nm,1.0s
YBH Yreka Blue Hor 74.56 46 LR LR 18 34 12.1
comp=Z,406nm,19.6s,baz=324,slow=35
BNI Bardonecchia 74.81 320 IAmb IAmb 18 02 44.6
comp=Z,19nm,0.9s
MSO Missoula 74.82 37 P **P 18 02 31.3 -1.6**
baz=322
CEL Celeste 75.22 310 IAmb IAmb 18 02 38.9
comp=Z,30nm,0.9s
PLID Pearl Lake 75.26 40 P **P 18 02 35.5 -0.1**
SSB Saint Sauveur 75.60 321 P **P 18 02 36.3 -1.1**
SSB IAmb IAmb 18 02 41.4
comp=Z,23nm,1.1s
SSB Saint Sauveur 75.60 321 P **P 18 02 36.3 -1.1**
SSB pmax pmax
comp=Z,23nm,1.1s
EGMT Eagleton 75.61 34 IAmb IAmb 18 02 41.7
comp=Z,44nm,1.5s
EGMT Eagleton 75.61 34 P **P 18 02 35.9 -1.6**
baz=324
FORT Forrest 75.64 177 P **P 18 02 39.5 +2.1**
KMBL Kambalda 76.21 183 P **P 18 02 42.4 +1.7**
LCRK Leigh Creek 76.23 168 P **P 18 02 43.5 +2.7**
ATD Arta Tunnel 76.28 273 LR LR 18 40 12.2
comp=Z,22nm,21.1s,baz=34,slow=39
MFF Saint Martin d 76.57 324 *eP* **P 18 02 43.7 +0.9**
MFF pmax pmax
comp=Z,50nm,1.4s
VAE Valguarnera 76.59 310 LR LR 18 37 54.9
comp=Z,760nm,19.3s,baz=73,slow=37
MFID Camas Ranch 76.63 41 IAmb IAmb 18 02 48.3
comp=Z,16nm,1.1s
BOZ Bozeman (W) 76.78 37 P **P 18 02 42.6 -1.6**
baz=323
DZM Mont Dzumac 76.91 141 *e*LR LR 18 26 38.6
comp=Z,687nm,24.4s
DZM Mont Dzumac 76.91 141 LR LR 18 33 12.2
comp=Z,306nm,20.5s,baz=342,slow=33
CAF Calviac 76.97 322 *eP* **P 18 02 47.5 +2.4**
CAF pmax pmax
comp=Z,38nm,1.4s
HLID Hailey 77.16 40 IAmb IAmb 18 02 51.8
comp=Z,21nm,1.2s
HLID Hailey 77.16 40 P **P 18 02 44.9 -1.5**
baz=322
DGMT Dagmar 77.37 31 P **P 18 02 44.8 -2.5**
baz=327
AFDM Forest Hills D 77.51 47 IAmb IAmb 18 02 53.3
comp=Z,18nm,1.3s
LFF La Frestale 77.53 323 *eP* **P 18 02 50.6 +2.4**
LFF pmax pmax
comp=Z,28nm,1.2s
PAHR Pah Rah Range 77.75 45 IAmb IAmb 18 02 54.9
comp=Z,28nm,1.3s
NWAO Narrogin (SRO) 78.03 187 P **P 18 02 51.5 +0.7**
comp=Z,29nm,1.0s,baz=24,slow=5.0,SNR=9.7
NWAO LR LR 18 42 12.0
comp=Z,175nm,18.3s,baz=0.5,slow=40
comp=Z,29nm,1.0s
NWAO Narrogin (SRO) 78.03 187 P **P 18 02 51.5 +0.7**
PNTR Pine Nut 78.11 46 P **P 18 02 51.9 0.0**
PNTR IAmb IAmb 18 02 56.7
comp=Z,13nm,0.8s
RLMT Red Lodge 78.15 36 P **P 18 02 52.4 +0.4**
RLMT IAmb IAmb 18 02 57.2
comp=Z,27nm,1.4s
STKA Stephens Creek 78.18 165 P **P 18 02 52.6 +0.9**
comp=Z,6.2nm,0.7s,baz=345,slow=7.3,SNR=12
STKA LR LR 18 36 11.1
comp=Z,172nm,22.0s,baz=350,slow=35
comp=Z,6.2nm,0.7s
BMN Battle Mountai 78.27 44 IAmb IAmb 18 02 58.1
comp=Z,20nm,1.1s

YERR	Yerington	78.37	46	IAmb	IAmb	18 02 58.6
	comp=Z,56nm,1.5s					
IMW	Indian Meadow	78.43	38		pP	18 02 57.1 +1.7
CMSA	Cobar Meteorol	78.66	162	P	P	18 02 56.7 +2.3
TPAW	Teton Pass	78.75	38	P	P	18 02 55.5 +0.1
KVN	Kaiserville	78.89	45	IAmb	IAmb	18 03 01.6
	comp=Z,28nm,1.2s					
REDW	Red Top Meadow	78.90	38	P	P	18 02 56.2 +0.1
RYN	Ryan	79.00	45	IAmb	IAmb	18 03 02.2
	comp=Z,24nm,1.2s					
NVAR	Mina Array Bea	79.27	45	P	P	18 02 59.7 +1.4
	comp=Z,7.1nm,0.8s,baz=317,slow=5.2,SNR=23					
NVAR				LR	LR	18 38 24.8
	comp=Z,320nm,18.4s,baz=330,slow=36					
	comp=Z,7.1nm,0.8s					
LHV	Little Huntoon	79.30	46	IAmb	IAmb	18 03 04.3
	comp=Z,47nm,1.2s					
MDND	Maddock	79.51	29	P	P	18 02 57.3 -1.9
	baz=330					
SCHQ	Schefferville	79.89	7	P	P	18 03 00.8 -0.2
	comp=Z,17nm,0.9s,baz=356,slow=7.7,SNR=16					
SCHQ				LR	LR	18 40 02.8
	comp=Z,831nm,20.4s,baz=342,slow=37					
	comp=Z,17nm,0.9s					
PDAR	Pinedale Array	79.94	37	P	P	18 03 02.2 +0.3
PDAR	Pinedale Array	79.94	37	P	P	18 03 02.9 +1.0
	comp=Z,1.6nm,0.8s,baz=332,slow=3.5,SNR=8.6					
PDAR				LR	LR	18 39 42.5
	comp=Z,563nm,19.6s,baz=344,slow=37					
	comp=Z,1.6nm,0.8s					
HWUT	Hardware Ranch	79.99	39	IAmb	IAmb	18 03 07.1
	comp=Z,35nm,1.2s					
AUDCS	Dubbo College	80.01	160	P	P	18 03 03.9 +2.2
DSP	Deep Springs	80.25	46	P	P	18 03 03.8 +0.6
AGMN	Agassiz Nation	80.34	26	IAmb	IAmb	18 03 06.4
	comp=Z,26nm,1.4s					
AGMN	Agassiz Nation	80.34	26	P	P	18 03 02.0 -1.5
	baz=332					
Q12A	Willow Creek R	80.51	43	IAmb	IAmb	18 03 10.5
	comp=Z,29nm,1.0s					
DUG	Dugway, Tooele	80.55	41	P	P	18 03 03.3 -1.8
	baz=323					
KEST	Kesra	80.60	312	P	P	18 03 06.4 +1.1
	comp=Z,14nm,0.9s,baz=7.8,slow=6.3,SNR=12					
	comp=Z,14nm,0.9s					
KEST	Kesra	80.60	312	P	P	18 03 05.5 +0.2
R11B	Troy Canyon, C	80.68	44	P	P	18 03 04.7 -1.2
	baz=322,SNR=10.0					
SMMC	Simmler	80.77	49	P	P	18 03 05.1 -1.1
	baz=320					
SPR3	Spring Creek 3	80.78	43	P	P	18 03 08.2 +1.6
SPR3				IAmb	IAmb	18 03 12.6
	comp=Z,31nm,1.3s					
GRAC	Grapevine Rang	80.84	46	P	P	18 03 05.4 -1.2
	baz=321					
VES	Vestal, Richgr	80.84	48	P	P	18 03 05.5 -1.1
	baz=320					
B35A	Bob, Littlefor	80.94	25	IAmb	IAmb	18 03 09.5
	comp=Z,16nm,1.0s					
RSSD	Black Hills	81.08	33	P	P	18 03 08.2 +0.3
RSSD				IAmb	IAmb	18 03 12.7
	comp=Z,19nm,1.0s					
RSSD	Black Hills	81.08	33	P	P	18 03 05.8 -2.1
	baz=328					
RSSD	Black Hills	81.08	33	P	P	18 03 08.3 +0.3
RSSD				pmax	pmax	
	comp=Z,19nm,1.0s					
PKM	Mcpherson Peak	81.19	49	P	P	18 03 06.5 -2.1
	baz=320					
MPU	Maple Canyon	81.24	40	P	P	18 03 09.1 +0.3
PSUT	Pine Spring	81.37	43	IAmb	IAmb	18 03 15.0
	comp=Z,18nm,1.1s					
MPMC	Manual Prospec	81.50	47	P	P	18 03 08.6 -1.7
	baz=321					
FURC	Furnace Creek,	81.51	46	P	P	18 03 08.4 -1.6
	baz=321,SNR=6.2					
ARVC	Arvin	81.52	48	P	P	18 03 08.8 -1.4
	baz=320					
PRN	Pahroc Range	81.68	44	P	P	18 03 11.8 +0.7
RDMU	Red Mountain	81.72	39	IAmb	IAmb	18 03 16.1
	comp=Z,24nm,1.1s					
LRMC	Laurel Mtn Rad	81.85	47	P	P	18 03 10.9 -1.1
	baz=321,SNR=6.4					
YNG	Young	81.93	160	P	P	18 03 14.5 +2.5
EYMN	Ely	81.96	24	IAmb	IAmb	18 03 14.4
	comp=Z,14nm,0.9s					
EYMN	Ely	81.96	24	P	P	18 03 10.5 -1.8
	baz=335,SNR=7.3					
P17A	Butcher Ranch,	82.08	40	IAmb	IAmb	18 03 18.2
	comp=Z,18nm,1.0s					
EDW2	Edwards Air Fo	82.15	48	P	P	18 03 11.9 -1.6
	baz=321					
P18A	Preston Nutter	82.18	40	IAmb	IAmb	18 03 18.8
	comp=Z,17nm,1.1s					
SHOC	Shoshone, Teco	82.25	46	P	P	18 03 13.3 -0.7
	baz=322					
SHPR	Sheep Range	82.33	45	P	P	18 03 16.2 +1.6
F33A	5 Mile Ranch,	82.37	28	IAmb	IAmb	18 03 17.8
	comp=Z,46nm,1.6s					
GSC	Goldstone, Bar	82.44	47	P	P	18 03 14.3 -0.8
	baz=321					
SZCU	Shurtz Canyon	82.49	43	IAmb	IAmb	18 03 20.8
	comp=Z,17nm,1.2s					
MTPU	Mount Pierson	82.56	42	IAmb	IAmb	18 03 22.1
	comp=Z,20nm,1.1s					
O20A	White River Ci	82.66	38	P	P	18 03 14.8 -1.5
	baz=326					
RRX	Edison Barstow	82.67	47	P	P	18 03 14.9 -1.4
	baz=321					
SUSD	Miller	82.69	30	P	P	18 03 14.9 -1.3
	baz=331					
TUQ	Turquoise Moun	82.79	46	P	P	18 03 15.4 -1.5
	baz=322					
PHWY	Pilot Hill	82.88	36	IAmb	IAmb	18 03 21.8
	comp=Z,18nm,1.3s					
PKCU	Pink Cliffs	82.98	42	IAmb	IAmb	18 03 24.3
	comp=Z,22nm,1.1s					
N23A	Red Feather La	83.01	36	IAmb	IAmb	18 03 22.9
	comp=Z,21nm,1.2s					
N23A	Red Feather La	83.01	36	P	P	18 03 17.0 -1.2
	baz=327,SNR=6.3					
CAN	Canberra	83.05	160	P	P	18 03 20.3 +2.5
CAN	Canberra	83.05	160	P	P	18 03 19.0 +1.2
CAN				IAmb	IAmb	18 03 20.8
	comp=Z,16nm,1.0s					
CAN	Canberra	83.05	160	P	P	18 03 19.0 +1.2
CAN				pmax	pmax	
	comp=Z,16nm,1.0s					
HEC	Hector,Ludlow	83.05	47	P	P	18 03 18.2 -0.1
	baz=322					
CIS	Catalina Islan	83.07	49	P	P	18 03 17.4 -0.9
	baz=321					
KNB	Kanab	83.08	43	IAmb	IAmb	18 03 24.4
	comp=Z,26nm,1.1s					
V12A	Nelson	83.10	45	IAmb	IAmb	18 03 24.3
	comp=Z,30nm,1.6s					
E38A	The Farm, Brul	83.16	24	IAmb	IAmb	18 03 21.5
	comp=Z,39nm,1.4s					
PBRG	Braganca	83.20	326	eP	P	18 03 21.5 +2.6
	comp=Z,22nm,1.3s					
F36A	Milaca	83.24	26	IAmb	IAmb	18 03 21.9
	comp=Z,27nm,1.6s					
HMU	Henry Mountain	83.32	41	IAmb	IAmb	18 03 24.7
	comp=Z,29nm,1.1s					
SCI2	San Clemente I	83.32	49	P	P	18 03 18.5 -1.1
	baz=321					
GMRC	Granite Mounta	83.43	46	P	P	18 03 19.3 -0.9
	baz=322					
MURC	Murrieta	83.56	48	P	P	18 03 20.3 -0.5
	baz=321					
D41A	Chassel	83.58	22	IAmb	IAmb	18 03 24.5
	comp=Z,42nm,1.6s					
PGAV	Gavieira, Arco	83.66	327	P	P	18 03 23.6 +2.3
PGAV	Gavieira, Arco	83.66	327	eLR	LR	18 35 41.2
	comp=Z,1μm,18.0s					
U15A	North Rim	83.80	43	IAmb	IAmb	18 03 28.2
	comp=Z,20nm,1.0s					
ESDC	Sonseca Array	83.84	323	P	P	18 03 22.8 +0.6
	comp=Z,6.4nm,0.9s,baz=40,slow=3.5,SNR=32					
ESDC				LR	LR	18 44 55.0
	comp=Z,1μm,18.7s,baz=26,slow=39					
	comp=Z,6.4nm,0.9s					
MVO	Moncorvo	83.86	326	P	P	18 03 24.8 +2.5
	comp=Z,34nm,1.2s					
MVO	Moncorvo	83.86	326	eLR	LR	18 35 33.5
	comp=Z,837nm,18.0s					
BELC	Belle Mtn. Jos	83.87	47	P	P	18 03 21.4 -1.2
	baz=322					
PFO	Pinyon Flats O	83.93	47	P	P	18 03 22.4 -0.5
PFO				IAmb	IAmb	18 03 28.3
	comp=Z,22nm,1.4s					
PFO	Pinyon Flats O	83.93	47	P	P	18 03 22.0 -0.9
	baz=322					
PFO	Pinyon Flats O	83.93	47	P	P	18 03 22.4 -0.5
PFO				pmax	pmax	
	comp=Z,22nm,1.4s					
TPFO	Pinon Flats	83.94	47	P	P	18 03 21.3 -1.6
	baz=322					
POLO	Lamas de Olo	83.98	326	P	P	18 03 25.6 +2.6
SMCO	Snowmass	84.00	38	IAmb	IAmb	18 03 28.2
	comp=Z,22nm,1.3s					
SPMN	Marine on St.	84.03	26	IAmb	IAmb	18 03 26.3
	comp=Z,17nm,1.1s					
SPMN	Marine on St.	84.03	26	P	P	18 03 22.0 -1.0
	baz=335					
PVRL	Vila Real	84.03	326	P	P	18 03 25.8 +2.6
ISCO	Idaho Springs	84.06	37	P	P	18 03 21.7 -1.9
	baz=327,SNR=5.5					
PAB	San Pablo	84.11	323	P	P	18 03 23.2 -0.4
PAB				IAmb	IAmb	18 03 27.3
	comp=Z,12nm,1.1s					
PAB	San Pablo	84.11	323	P	P	18 03 23.2 -0.4
PAB				pmax	pmax	
	comp=Z,12nm,1.1s					
ECSD	EROS Data Cent	84.12	29	P	P	18 03 21.9 -1.6
	baz=332,SNR=12					
109C	Camp Elliot, M	84.16	48	P	P	18 03 23.0 -0.8
	baz=322					
IRM	Iron Mountain	84.19	46	P	P	18 03 23.1 -0.9
	baz=322,SNR=8.4					
COWI	Conover	84.30	23	IAmb	IAmb	18 03 27.2
	comp=Z,19nm,1.4s					
BC3	Big Chuckawall	84.42	47	P	P	18 03 24.0 -1.4
	baz=322					
MONP2	Monument Peak	84.52	48	P	P	18 03 25.3 -0.7
	baz=322					
OGNE	Ogallala	84.56	34	P	P	18 03 24.5 -1.4
	baz=329					
PDMCI	Parker Dam,Lak	84.58	45	P	P	18 03 25.0 -1.0
	baz=323					
E43A	Lone Tree Farm	84.62	22	IAmb	IAmb	18 03 28.8
	comp=Z,30nm,1.3s					
MTE	Manteigas	84.71	325	P	P	18 03 29.8 +3.2
MTE	Manteigas	84.71	325	eLR	LR	18 36 05.8
	comp=Z,1μm,18.0s					
SWSC	Sam W. Stewart	84.80	47	P	P	18 03 26.3 -0.8
	baz=322					
IKP	In-Ko-Pah, Jac	84.87	48	P	P	18 03 26.6 -0.9
	baz=322					
MVCO	Mesa Verde	84.94	40	IAmb	IAmb	18 03 32.9
	comp=Z,13nm,1.1s					
MVCO	Mesa Verde	84.94	40	P	P	18 03 27.2 -0.9
	baz=326					
Q24A	Divide	84.96	37	P	P	18 03 26.9 -1.3
	baz=327					
WUAZ	Wupatki	84.97	43	P	P	18 03 26.9 -1.2
	baz=324,SNR=9.4					
VLDQ	Val d'Or	85.08	15	IAmb	IAmb	18 03 31.0
	comp=Z,19nm,1.1s					
PCBR	Castelo Branco	85.16	325	P	P	18 03 31.6 +2.8
COI	Coimbra	85.22	326	P	P	18 03 31.8 +2.7
E46A	Sault Ste Mari	85.30	20	IAmb	IAmb	18 03 32.9
	comp=Z,23nm,1.3s					
PCAS	Casmilo, Conde	85.39	326	P	P	18 03 32.8 +2.8
Y14A	Wickenburg	85.44	45	IAmb	IAmb	18 03 36.0
	comp=Z,15nm,1.3s					
ESJX	Sierra Juarez	85.46	48	IAmb	IAmb	18 03 36.3
	comp=Z,14nm,1.1s					
PMRV	Marv??o	85.48	325	P	P	18 03 32.6 +2.2
	comp=Z,35nm,1.4s					
PMRV	Marv??o	85.48	325	eLR	LR	18 36 12.7
	comp=Z,1μm,18.0s					
BGNE	Belgrade	85.63	31	P	P	18 03 30.5 -0.7
	baz=331					
X16A	Lo Mia Camp, P	85.83	44	IAmb	IAmb	18 03 38.5
	comp=Z,14nm,1.0s					
SDCO	Great Sand Dun	85.83	38	P	P	18 03 31.5 -1.1
	baz=327					
PSBE	So Bento	85.97	326	P	P	18 03 35.9 +3.0
KSCO	Kaye Shedlock'	85.97	35	P	P	18 03 32.1 -0.9
	baz=329					
113A	Mohawk Valley,	85.98	46	IAmb	IAmb	18 03 38.4
	comp=Z,16nm,1.3s					
PESTR	Estremoz	86.03	325	P	P	18 03 36.1 +2.9
W18A	Petrified Fore	86.08	42	P	P	18 03 32.8 -0.9
	baz=325					
PMTG	Montargil	86.12	325	P	P	18 03 35.7 +2.1
LDAQ	Lac Daran	86.19	11	IAmb	IAmb	18 03 37.7
	comp=Z,17nm,1.1s					
I42A	Draeger Farm,	86.40	24	IAmb	IAmb	18 03 39.0
	comp=Z,41nm,1.6s					
X18A	Snowflake	86.46	43	IAmb	IAmb	18 03 41.1
	comp=Z,15nm,1.2s					
EVO	Evora	86.49	325	P	P	18 03 38.6 +3.2
GLMI	Grayling	86.67	21	P	P	18 03 35.3 -0.9
	baz=340					
LMQ	La Malbaie	86.72	10	IAmb	IAmb	18 03 40.9
	comp=Z,27nm,1.3s					
T25A	Trinidad	86.81	37	P	P	18 03 35.1 -2.2
	baz=328,SNR=7.2					
SCIA	State Center	86.89	27	P	P	18 03 37.7 +0.4
	baz=334					
JFWS	Jewell Farm	86.90	25	P	P	18 03 36.3 -1.0
	baz=336					
214A	Organ Pipe Nat	87.12	46	P	P	18 03 38.1 -0.6
	baz=324					
PVAQ	Vaqueiros	87.33	324	eLR	LR	18 39 54.2
	comp=Z,1μm,20.0s					
TRQ	Mont Tremblant	87.41	13	IAmb	IAmb	18 03 43.6
	comp=Z,27nm,1.1s					
ANMO	Albuquerque	87.74	40	P	P	18 03 43.4 +1.5
ANMO				IAmb	IAmb	18 03 47.5
	comp=Z,12nm,1.1s					
ANMO	Albuquerque	87.74	40	P	P	18 03 41.0 -0.9
	baz=327					
ANMO	Albuquerque	87.74	40	LR	LR	18 47 18.6
	comp=Z,346nm,18.8s,baz=66,slow=39					
ANMO	Albuquerque	87.74	40	||iP	P	18 03 43.7 +1.9
ANMO				pmax	pmax	
	comp=Z,14nm,1.1s					
TUC	Tucson	87.85	44	P	P	18 03 42.1 -0.1
	baz=325					
SADO	Sadowa	87.97	17	LR	LR	18 45 23.7
	comp=Z,220nm,20.9s,baz=344,slow=37					
KSU1	Kansas State U	88.21	31	IAmb	IAmb	18 03 47.4
	comp=Z,18nm,0.9s					
KSU1	Kansas State U	88.21	31	P	P	18 03 43.3 -0.4
	baz=332					
Y22D	IRIS PASSCAL I	88.25	41	P	P	18 03 43.5 -0.7
	baz=327					
L44A	Lake County Fo	88.26	24	P	P	18 03 42.9 -1.0
	baz=338					
DELO	Dedro Mine	88.51	16	IAmb	IAmb	18 03 48.9
	comp=Z,28nm,1.4s					
LONY	Lake Ozonia	88.96	14	P	P	18 03 46.8 -0.4
	baz=347					
PKME	Peaks-Kenny Pk	89.10	10	P	P	18 03 45.7 -2.0
	baz=350					
121A	Cookes Peak, D	89.12	42	P	P	18 03 47.1 -1.3
	baz=326					
HDIL	Hopedale	89.35	25	P	P	18 03 47.6 -1.5
	baz=337					
NCB	Newcomb	89.65	14	IAmb	IAmb	18 03 54.1
	comp=Z,33nm,1.4s					
MDT	Midelt	89.84	319	LR	LR	18 46 11.5
	comp=Z,466nm,18.8s,baz=39,slow=37					
SFIN	Lafayette	90.16	24	P	P	18 03 50.7 -2.1
	baz=338					
MSTX	Muleshoe	90.20	38	P	P	18 03 52.5 -0.9
	baz=329					
ERPA	Erie	90.32	18	P	P	18 03 52.3 -1.3
	baz=343					
O48B	Farmland	90.81	22	IAmb	IAmb	18 03 59.3
	comp=Z,26nm,1.2s					
O48B	Farmland	90.81	22	P	P	18 03 54.1 -1.8
	baz=340					
M53A	WI Miller and	90.81	19	P	P	18 03 55.2 -0.7
	baz=342					
MNTX	Cornudas Mount	90.94	41	P	P	18 03 55.6 -1.1
	baz=327					
CCM	Cathedral Cave	91.01	28	P	P	18 03 55.5 -1.4
	baz=336					
BINY	Binghamton	91.06	15	P	P	18 03 54.7 -2.3
	baz=346					
WMOK	Wichita Mounta	91.21	35	IAmb	IAmb	18 04 02.6
	comp=Z,13nm,1.1s					
WMOK	Wichita Mounta	91.21	35	P	P	18 03 57.6 -0.3
	baz=331					
DKNS	Dickens	91.25	37	IAmb	IAmb	18 04 02.8
	comp=Z,15nm,1.2s					
TUL3	Leonard	91.34	32	P	P	18 03 55.9 -2.5
	baz=333					
FVM	French Village	91.34	27	IAmb	IAmb	18 04 02.0
	comp=Z,9.8nm,1.0s					
L61B	Northampton	91.38	13	P	P	18 03 57.1 -1.4
	baz=348					
ACSO	Alum Creek Sta	91.40	21	P	P	18 03 57.1 -1.5
	baz=341					
MGMO	Mountain Grove	91.48	29	IAmb	IAmb	18 04 03.5
	comp=Z,20nm,1.2s					
P49A	Miami Univ. Ec	91.60	22	P	P	18 03 58.1 -1.5
	baz=340					
O53A	New Philadelph	91.82	20	IAmb	IAmb	18 04 04.4
	comp=Z,19nm,1.1s					
O53A	New Philadelph	91.82	20	P	P	18 03 59.0 -1.6
	baz=342					
VHRN	Van Horn	91.89	41	IAmb	IAmb	18 04 06.9
	comp=Z,15nm,1.1s					
SIUC	Southern Illin	91.97	26	IAmb	IAmb	18 04 03.5
	comp=Z,13nm,0.8s					
T42A	Van Buren	91.99	28	IAmb	IAmb	18 04 05.3
	comp=Z,14nm,0.9s					
P52A	Corning	92.18	21	IAmb	IAmb	18 04 05.5
	comp=Z,20nm,1.1s					
P52A	Corning	92.18	21	P	P	18 04 01.6 -0.6
	baz=342					
SSPA	Standing Stone	92.19	17	P	P	18 04 00.9 -1.3
	baz=344					
CGM3	Cape Girardeau	92.22	27	IAmb	IAmb	18 04 06.9
	comp=Z,11nm,1.1s					
WCI	Wyandotte Cave	92.38	24	P	P	18 04 00.5 -2.7
	baz=339					
PAL	Palisades	92.59	14	P	P	18 04 03.0 -1.0
	baz=347					
FCAR	Ozark Folk Cen	92.67	29	IAmb	IAmb	18 04 08.3
	comp=Z,13nm,1.0s					
ABTX	Abilene, Hawle	92.69	36	P	P	18 04 03.5 -1.2
	baz=331					
MCWV	Mont Chateau	92.70	19	P	P	18 04 02.1 -2.5
	baz=343					
ALPN	Alpine	92.86	40	IAmb	IAmb	18 04 10.9
	comp=Z,8.4nm,1.2s					
R50A	Paris	92.88	23	IAmb	IAmb	18 04 09.2
	comp=Z,10nm,0.9s					
WHAR	Wooly Hollow	93.16	30	IAmb	IAmb	18 04 10.8
	comp=Z,11nm,1.1s					
MBAR	Mbarara	93.31	272	LR	LR	18 52 17.2
	comp=Z,620nm,18.2s,baz=32,slow=40					
MIAR	Mount Ida	93.37	31	P	P	18 04 06.8 -1.0
	baz=334					
TXAR	Lajitas Array	93.73	41	P	P	18 04 11.8 +2.1
	comp=Z,3.3nm,1.0s,baz=331,slow=3.5,SNR=18					
	comp=Z,3.3nm,1.0s					
U49A	Red Boiling Sp	94.12	24	IAmb	IAmb	18 04 15.1
	comp=Z,15nm,1.1s					
WHTX	Lake Whitney,	94.14	35	P	P	18 04 10.4 -1.1
	baz=332					
JCT	Junction City	94.48	37	P	P	18 04 12.4 -0.6
	baz=330					
V48A	Smith Brothers	94.53	25	IAmb	IAmb	18 04 16.0
	comp=Z,12nm,1.1s					
TZTN	Tazewell	94.72	23	P	P	18 04 12.6 -1.4
	baz=341					
BLA	Blacksburg	94.90	20	P	P	18 04 12.4 -2.4
	baz=343					
RAR	Rarotonga	95.04	115	LR	LR	18 39 12.4
	comp=Z,337nm,21.5s,baz=322,slow=30					
PMOZ	Porto Moniz, M	95.06	329	eLR	LR	18 39 55.5
	comp=Z,432nm,18.0s					
CPCT	Cooper Cave	95.48	24	IAmb	IAmb	18 04 20.8
	comp=Z,11nm,0.9s					
TKL	Tuckaleechee C	95.49	23	LR	LR	18 51 30.9
	comp=Z,529nm,19.3s,baz=344,slow=38					
X48A	Hartselle	95.66	26	IAmb	IAmb	18 04 21.3
	comp=Z,11nm,1.1s					
833A	Chaparral WMA,	96.52	38	P	P	18 04 21.5 -0.8
	baz=331					
KMSC	Kings Mountain	96.63	21	P	P	18 04 21.3 -1.5
	baz=342					
LRAL	Lakeview Retre	96.98	26	P	P	18 04 22.9 -1.5
	baz=338					
GOGA	Godfrey	97.69	24	P	P	18 04 25.7 -1.8
	baz=340					
PPT	Papeete	99.22	106	LR	LR	18 42 14.7
	comp=Z,258nm,21.6s,baz=316,slow=31					
PPT2	Papeete2	99.24	106	eLR	LR	18 36 53.5
	comp=Z,743nm,23.0s					
PPT2				eLR	LR	18 36 54.0
	comp=Z,580nm,23.2s					
TORD	Torodi Ar. Bea	102.53	303	PP	PP	18 09 00.6 -1.1
	comp=Z,1.9nm,0.9s,baz=30,slow=10,SNR=6.9					
TBI	Tubuai	103.30	110	eLR	LR	18 38 37.6
	comp=Z,2μm,28.8s					
VNDA	Vanda	124.54	171	PKP	PKPdf	18 09 50.5 +0.1
	comp=Z,1.8nm,0.8s,baz=288,slow=3.2,SNR=13					
QSPA	South Pole Qui	134.90	180		PKPdf	18 10 09.8 -0.6
QSPA	South Pole Qui	134.90	180	PKP	PKPdf	18 10 09.9 -0.5
	comp=Z,5.9nm,1.0s,baz=45,slow=1.4,SNR=10					
SNAA	Sanae	143.82	205	⇑PKPdf	PKPbc	18 10 25.1 +0.8
	comp=Z,88nm,0.9s					
SNAA	Sanae	143.82	205	PKP	PKPbc	18 10 25.3 +1.0
	comp=Z,3.1nm,0.8s,baz=198,slow=3.2,SNR=4.0					
VNA2	Neumayer--Watz	145.46	205	⇑PKPdf	PKPdf	18 10 27.5 -1.9
	comp=Z,17nm,0.6s,baz=107,slow=2.7					
VNA1	Neumayer--Stat	145.83	206	⇑PKPdf	PKPbc	18 10 30.4 -0.1
	comp=Z,22nm,1.0s					
VNA3	Neumayer Olymp	146.01	204	⇑PKPdf	PKPdf	18 10 28.7 -1.6
	comp=Z,17nm,0.8s					
BELA	Belgrano 2	146.18	188	PKPdf	PKPbc	18 10 31.3 -0.2
LPAZ	La Paz	149.22	25	PKPbc	PKPbc	18 10 42.4 +0.1
	comp=Z,2.8nm,0.6s,baz=314,slow=1.6,SNR=4.3					
BDFB	Brasilia	149.96	346	PKPbc	PKPbc	18 10 43.0 -0.5
	comp=Z,3.5nm,0.9s,baz=33,slow=2.4,SNR=3.5					
PTLB	Pontes e Lacer	150.19	8		PKiKP	18 10 45.6 +0.9

*JMA **27** 17:55:31.9±0.4,34°N±1°×14°1E±°, h77km, MV2.6/13, E*
OFF HACHIJOJIMA ISLAND
*IDC **27** 17:55:40.2±2.1,33°51N×140°06E, h89km±10km, mb3.4/3,*
mbtmp3.6/4, Error ellipse: s-maj=59.5km s-min=22.3km
az=72.0

ISC 27 17:55:33.0±1.4,33°65N±0°06×141°2E±0°1, h48km, n11,
σ1§40/15, mb3.9/3, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSO1	Boso 1	1.01	351	eP	Pn	17 55 49.9	-0.4
BSO1				eS	Sn	17 56 03.7	+0.5
JHJ2	Mitsune	1.26	245	eP	Pn	17 55 55.2	+1.0
BSO3	Boso 3	1.27	335	eP	Pn	17 55 54.0	-0.1
BSO3				eS	Sn	17 56 09.7	-0.2
JHJ	Hachijo jima 2	1.28	246	P	Pn	17 55 55.2	+0.7
	76nm,0.3s,baz=76,slow=23,SNR=67						
JHJ				S	Sn	17 56 07.3	-3.3
	67nm,0.3s,baz=22,slow=17,SNR=1.9						
JHCJ	Hachijojimakas	1.29	244	eP	Pn	17 55 55.4	+0.7
JMKN	Mikurajimanish	1.34	281	P	Pn	17 55 56.0	+0.6
JMKN				eS	Sn	17 56 13.3	+1.3
JOD2	Odawara 2	2.35	314	eP	Pn	17 56 09.2	-0.1
MJAR	Matsushiro Arr	3.77	321	P	Pn	17 56 30.6	+1.9
	0.8nm,0.3s,baz=156,slow=13,SNR=1.4						
KURBB	Kurchatov Arra	47.98	310	P	P	18 04 05.2	-1.7
	1.3nm,1.0s,baz=82,slow=8.5,SNR=2.1						
	1.3nm,1.0s						
WRA	Warramunga Arr	53.69	188

s-maj=12.8km s-min=12.0km az=159.0

ISC 27 18:02:06.3±1.0, 10°24'N±0°03×62°25'W±0°03, h13km±6km, n191, σ1°68/201, mb4.6/67, MS3.4/6, 11C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.66**	**47**	*eP*	**Pg**	**18 02 18.5**	**-0.8**
TCE				*eS*	**Sg**	**18 02 26.5**	**-1.6**
TPP	**Pointe-a-Pierr**	**0.79**	**85**	*eP*	**Pb**	**18 02 22.7**	**+0.8**
TRN	**Trinidad (W)**	**0.92**	**64**	*eP*	**Pg**	**18 02 23.0**	**-1.2**
TRN				*eS*	**Sg**	**18 02 34.6**	**-1.7**
CRUV	**Carupano**	**1.06**	**294**	*i P*	**Pn**	**18 02 27.3**	**+0.4**
CRUV				*eS*	**Sn**	**18 02 41.0**	**-0.5**
CRUV	**Carupano**	**1.06**	**294**	*eP*	**Pn**	**18 02 27.5**	**+0.6**
CRUV				*eS*	**Sn**	**18 02 42.6**	**+1.0**
TBH	**Brigand Hill**	**1.19**	**78**	*eP*	**Pn**	**18 02 29.5**	**+0.9**
TPR	**Prospect**	**1.72**	**57**	*eP*	**Pn**	**18 02 37.0**	**+1.0**
GRFF	**Grenada Fort F**	**1.86**	**16**	*eP*	**Pn**	**18 02 38.2**	**+0.2**
GRFF				*eS*	**Sn**	**18 03 00.7**	**-0.7**
CUMV	**Cumana_UDO**	**1.92**	**276**	*eP*	**Pg**	**18 02 41.5**	**-1.8**
CUMV				*eS*	**Sg**	**18 03 06.5**	**-1.7**
GRGR	**Grenville**	**1.97**	**17**	Pn	**Pn**	**18 02 39.5**	**+0.1**
GRGR				Sn	**Sn**	**18 03 04.1**	**+0.1**
GRGR	**Grenville**	**1.97**	**17**	*eP*	**Pn**	**18 02 39.8**	**+0.4**
GRGR				*eS*	**Sn**	**18 03 03.9**	**0.0**
GRW	**Mount Saint Ca**	**1.99**	**17**	*eP*	**Pb**	**18 02 41.2**	**-1.2**
GRW				*eS*	**Sn**	**18 03 04.7**	**+0.1**
GRHS	**Sauteurs**	**2.06**	**17**	*eP*	**Pn**	**18 02 41.3**	**+0.7**
GRHS				*eS*	**Sn**	**18 03 06.2**	**+0.1**
GRIC	**Isle de Caille**	**2.13**	**18**	*eP*	**Pn**	**18 02 42.1**	**+0.4**
GRIC				*eS*	**Sn**	**18 03 07.7**	**-0.3**
GRSS	**Sisters**	**2.14**	**17**	*eP*	**Pn**	**18 02 42.6**	**+0.9**
GRSS				*eS*	**Sn**	**18 03 08.3**	**+0.2**
PCRV	**Puerto La Cruz**	**2.35**	**269**	*eP*	**Pb**	**18 02 46.7**	**-1.9**
PCRV				*eS*	**Sb**	**18 03 15.9**	**-1.6**
PCRV	**Puerto La Cruz**	**2.35**	**269**	P	**Pb**	**18 02 46.8**	**-1.8**
	52nm,0.3s,baz=92,slow=2.3,SNR=114						
	284nm,0.6s						
PCRV	**Puerto La Cruz**	**2.35**	**269**	*eP*	**Pb**	**18 02 47.9**	**-0.7**
GCMP	**Grenada, Carri**	**2.37**	**20**	*eP*	**Pn**	**18 02 45.5**	**+0.6**
GCMP				*eS*	**Sn**	**18 03 13.9**	**0.0**
SVOC	**Richmond Hill,**	**3.06**	**19**	*eP*	**Pn**	**18 02 55.3**	**+0.8**
SVOC				*eS*	**Sn**	**18 03 31.1**	**+0.1**
SVT	**Saint Vincent**	**3.07**	**19**	*eP*	**Pn**	**18 02 55.3**	**+0.7**
SVT				*eS*	**Sn**	**18 03 31.0**	**-0.2**
SVB	**Belmont**	**3.17**	**18**	*eP*	**Pn**	**18 02 56.6**	**+0.7**
SVB				*eS*	**Sn**	**18 03 32.4**	**-1.2**
SSV	**Crater Summit**	**3.23**	**19**	*eP*	**Pn**	**18 02 58.1**	**+1.2**
SLB	**Belfond**	**3.75**	**18**	*eP*	**Pn**	**18 03 06.0**	**+2.0**
SLCP	**Castries, St.**	**3.94**	**18**	*eP*	**Pn**	**18 03 07.0**	**+0.5**
SLCP				*eS*	**Sn**	**18 03 51.6**	**-1.0**
SLBI	**Saint Lucia, B**	**3.96**	**18**	*eP*	**Pn**	**18 03 07.6**	**+0.8**
SLBI				*eS*	**Sn**	**18 03 52.4**	**-0.7**
H05S1	**Guadeloupe/Mar**	**4.38**	**18**	P	**Pn**	**18 03 14.1**	**+1.5**
H05S1				S	**Sn**	**18 03 59.4**	**-4.1**
	SNR=148						
MPOM	**Morne Pois Mar**	**4.39**	**18**	Pn	**Pn**	**18 03 13.8**	**+1.0**
BIM	**Bigot**	**4.40**	**15**		**Pn**	**18 03 13.7**	**+0.8**
BIM	**Bigot**	**4.40**	**15**	*eP*	**Pn**	**18 03 13.8**	**+0.8**
BIM				*eS*	**Sn**	**18 04 02.8**	**-1.3**
LUEV	**Luepa**	**4.44**	**170**	*eP*	**Pn**	**18 03 14.8**	**+1.2**
LUEV				*eS*	**Sn**	**18 04 05.0**	**-0.3**
FUNV	**FUNVISIS**	**4.49**	**273**	*eP*	**Pn**	**18 03 17.4**	**+3.2**
FUNV				*eS*	**Sn**	**18 04 06.7**	**+0.2**
FDF	**Fort de France**	**4.59**	**13**		**Pn**	**18 03 16.2**	**+0.7**
SVN	**Savane Anatole**	**4.69**	**13**	Pn	**Pn**	**18 03 17.8**	**+0.8**
SVN	**Savane Anatole**	**4.69**	**13**	*eP*	**Pn**	**18 03 17.4**	**+0.5**
SVN				*eS*	**Sn**	**18 04 10.1**	**-1.2**
ILAM	**Ilet Lapin Mar**	**4.70**	**16**	Pn	**Pn**	**18 03 18.0**	**+1.2**
ILAM	**Ilet Lapin Mar**	**4.70**	**16**	*eP*	**Pn**	**18 03 18.7**	**+1.7**
ILAM				*eS*	**Sn**	**18 04 10.4**	**-1.0**
TACV	**Tcata**	**4.71**	**269**	*eP*	**Pn**	**18 03 19.2**	**+2.1**
TACV				*eS*	**Sn**	**18 04 12.0**	**+0.4**
CACV	**CAICARA DEL OR**	**5.00**	**238**	*i P*	**Pn**	**18 03 17.9**	**-3.2**
CACV				*eS*	Sn	18 04 09.9	-9.1
BENV	**Beln**	**5.28**	**267**	*i P*	**Pn**	**18 03 28.5**	**+3.5**
BENV				*eS*	**Sn**	**18 04 25.1**	**-0.6**
TURV	**Turiamo**	**5.50**	**273**	*eP*	**Pn**	**18 03 29.5**	**+1.4**
TURV				*eS*	**Sn**	**18 04 29.9**	**-1.4**
TBG	**Guadaloupe-3**	**5.61**	**6**	*eP*	**Pn**	**18 03 32.0**	**+2.6**
TBG				*eS*	**Sn**	**18 04 32.9**	**-0.9**
MAGL	**Barre de l'ile**	**5.75**	**9**		**Pn**	**18 03 33.3**	**+1.9**
BAUV	**El Baul**	**5.86**	**258**	Pn	**Pn**	**18 03 34.9**	**+2.0**
BAUV	**El Baul**	**5.86**	**258**	*eP*	**Pn**	**18 03 33.9**	**+1.0**
BAUV				*eS*	**Sn**	**18 04 39.1**	**-0.8**
BAUV	**El Baul**	**5.86**	**258**	*eP*	**Pn**	**18 03 35.9**	**+3.0**
GDDS	**Morne Mazeau,**	**6.01**	**4**		**Pn**	**18 03 36.1**	**+1.0**
GDSD	**La Desirade Is**	**6.14**	**11**		**Pn**	**18 03 37.8**	**+1.0**
H05N1	**Guadeloupe/Mar**	**6.15**	**11**	P	**Pn**	**18 03 37.3**	**+0.4**
H05N1				S	**Sn**	**18 04 43.2**	**-4.0**
	SNR=4.6						
ABD	**La Joyeuse, An**	**6.24**	**7**		**Pn**	**18 03 40.5**	**+2.3**
MBFL	**Flemmings, Mon**	**6.47**	**0**	*eP*	**Pn**	**18 03 43.4**	**+2.1**
MBFL				*eS*	**Sn**	**18 04 52.7**	**-2.3**
JACV	**Jacura**	**6.52**	**278**	*eP*	**Pn**	**18 03 43.4**	**+1.3**
JACV				*eS*	**Sn**	**18 04 54.0**	**-2.5**
ANBD	**Bethesda, Anti**	**6.78**	**4**	*eP*	**Pn**	**18 03 47.8**	**+2.2**
ANBD				*eS*	**Sn**	**18 05 01.1**	**-1.6**
ANDO	**Antigua, Disas**	**6.84**	**3**	*eP*	**Pn**	**18 03 47.6**	**+1.2**
ANDO				*eS*	**Sn**	**18 05 01.0**	**-3.2**
TEPV	**Terepaima**	**6.84**	**268**	*eP*	**Pn**	**18 03 48.0**	**+1.5**
TEPV				*eS*	**Sn**	**18 05 01.7**	**-2.7**
SEUS	**St. Eustatius**	**7.24**	**354**		**Pn**	**18 03 53.3**	**+1.4**
SABA	**Saba**	**7.40**	**353**	Pn	**Pn**	**18 03 56.2**	**+2.2**
SIQV	**Siquisique**	**7.45**	**274**	*eP*	**Pn**	**18 03 55.7**	**+0.9**
CURV	**Curarigua**	**7.60**	**269**	*eP*	**Pn**	**18 03 58.0**	**+1.0**
SMRT	**St. Maarten**	**7.80**	**354**	Pn	**Pn**	**18 04 00.8**	**+1.2**
BOAV	**Boa Vista**	**7.98**	**167**	Pn	**Pn**	**18 04 02.1**	**0.0**
BOAV	**Boa Vista**	**7.98**	**167**	*eP*	**Pn**	**18 03 59.6**	**-2.5**
BOAV				*eS*	**Sn**	**18 05 28.5**	**-3.9**
SDV	**Santo Domingo**	**8.38**	**261**	P	**Pn**	**18 04 10.0**	**+2.3**
	16nm,0.3s,baz=92,slow=9.3,SNR=30						
SDV				S	**Sn**	**18 05 41.7**	**-0.7**
	16nm,0.4s,baz=355,slow=17,SNR=1.3						
SDV				LR	LR	18 08 17.6	
	comp=Z,581nm,18.0s,baz=100,slow=44						
SDV	**Santo Domingo**	**8.38**	**261**	*eP*	**Pn**	**18 04 09.0**	**+1.3**
SDV				*eS*	**Sn**	**18 05 47.1**	**+4.7**
HUMP	**Col San Antoni**	**8.59**	**336**	Pn	**Pn**	**18 04 12.1**	**+1.6**
SOCV	**Socops**	**8.72**	**258**	*eP*	**Pn**	**18 04 13.3**	**+1.1**
GCPR	**Guaynabo City**	**8.84**	**336**	Pn	**Pn**	**18 04 16.7**	**+2.8**
UUPR	**Utuado, UPR, P**	**9.06**	**332**		**Pn**	**18 04 19.3**	**+2.3**
AOPR	**Arecibo Observ**	**9.16**	**332**		**Pn**	**18 04 20.5**	**+2.2**
AOPR	**Arecibo Observ**	**9.16**	**332**	*eP*	**Pn**	**18 04 19.9**	**+1.5**
AGPR	**Aguadilla, PR**	**9.44**	**331**	Pn	**Pn**	**18 04 24.4**	**+2.3**
MCQV	**Machiques**	**10.13**	**270**	*eP*	**Pn**	**18 04 31.9**	**+0.3**
CAPV	**Capacho**	**10.22**	**257**	*eP*	**Pn**	**18 04 33.6**	**+0.6**
MDP	**Montagnes des**	**10.80**	**118**	P	**Pn**	**18 04 38.0**	**-2.8**
	68nm,0.6s,baz=307,slow=15,SNR=77						
MDP				S	Sn	18 06 30.4	-11
	30nm,0.4s,baz=50,slow=16,SNR=6.3						
MDP				LR	LR	18 09 31.3	
	comp=Z,334nm,18.1s,baz=308,slow=40						
SDDR	**Presa de Saban**	**12.32**	**316**		**Pn**	**18 05 06.0**	**+4.4**
ROSC	**El Rosal**	**13.11**	**247**	P	**Pn**	**18 05 15.6**	**+2.8**
	3.5nm,0.3s,baz=99,slow=10,SNR=12						
ROSC				LR	LR	18 11 27.8	
	comp=Z,1μm,18.8s,baz=60,slow=43						
	26nm,0.6s						
MACA	**Manacapuru-AM**	**13.41**	**173**	Pn	**Pn**	**18 05 17.1**	**+0.7**
MACA	**Manacapuru-AM**	**13.41**	**173**	*eP*	**Pn**	**18 05 14.7**	**-1.7**
MACA				*eS*	**Sn**	**18 07 42.1**	**-3.4**
TEFE	**Tefe**	**13.87**	**190**	*eP*	**Pn**	**18 05 21.8**	**-1.0**
TEFE				*eS*	**Sn**	**18 07 54.7**	**-2.0**
MCPB	**Macapa, AP**	**14.62**	**135**	*eP*	**Pn**	**18 05 29.3**	**-3.8**
ITTB	**Itaituba**	**15.90**	**156**	*eP*	**Pn**	**18 05 46.8**	**-3.2**
NPGB	**Novo Progresso**	**18.50**	**158**	*eP*	**P**	**18 06 20.0**	**-2.4**
SAML	**Samuel**	**19.09**	**183**	P	**P**	**18 06 29.0**	**+0.1**
SAML	**Samuel**	**19.09**	**183**	*eP*	**P**	**18 06 27.5**	**-1.3**
ETMB	**Extrema**	**20.32**	**191**		**P**	**18 06 44.1**	**+1.8**
ETMB	**Extrema**	**20.32**	**191**	*eP*	**P**	**18 06 42.2**	**-0.1**
PRPB	**Parauapebas**	**20.48**	**142**	*eP*	**P**	**18 06 41.8**	**-2.3**
PRPB				*eS*	**S**	**18 10 31.5**	**-1.7**
CZSB	**Cruzeiro do Su**	**20.67**	**211**	*eP*	**P**	**18 06 46.8**	**+0.7**
SRBA	**San Rafael, Bu**	**20.83**	**269**	P	Pn	18 06 51.3	+0.8
LCR2	**La Lucha 2**	**21.43**	**271**	P	**P**	**18 06 57.7**	**+3.0**
PDRB	**Porto dos Gac**	**22.39**	**166**	*eP*	**P**	**18 07 03.8**	**-0.9**
VILB	**Vilhena**	**23.13**	**175**	*eP*	**P**	**18 07 11.7**	**-0.8**
ATAH	**Atahualpa**	**23.59**	**224**	P	**P**	**18 07 20.2**	**+2.7**
	4.9nm,0.5s,baz=22,slow=8.7,SNR=6.3						
	4.9nm,0.5s						
SMTB	**Santa Maria do**	**23.94**	**142**	*eP*	**P**	**18 07 18.4**	**-2.0**
PTLB	**Pontes e Lacer**	**25.71**	**173**	P	**P**	**18 07 38.3**	**+1.8**
PTLB	**Pontes e Lacer**	**25.71**	**173**	*eP*	**P**	**18 07 35.5**	**-1.0**
NNA	**Nana**	**26.42**	**214**	P	**P**	**18 07 48.3**	**+5.3**
	2.5nm,0.3s,baz=4.3,slow=8.0,SNR=3.8						
NNA				LR	LR	18 18 46.9	
	comp=Z,60nm,19.9s,baz=20,slow=38						
SALV	**Santo Antonio**	**26.77**	**166**	*eP*	**P**	**18 07 44.5**	**-1.6**
TEIG	**Terich**	**26.96**	**295**	P	**P**	**18 07 48.3**	**+0.4**
	2.3nm,0.5s,baz=140,slow=13,SNR=2.0						
TEIG				LR	LR	18 19 06.9	
	comp=Z,86nm,18.9s,baz=224,slow=38						
	2.3nm,0.5s						
LPAZ	**La Paz**	**27.00**	**193**	P	**P**	**18 07 50.9**	**+2.1**
	1.3nm,0.7s,baz=358,slow=8.6,SNR=4.5						
	1.3nm,0.7s						
BBSD	**Serra de San D**	**27.30**	**177**	*eP*	**P**	**18 07 50.0**	**-0.9**
NBPB	**Pedra_Branca-C**	**27.49**	**124**	*eP*	**P**	**18 07 50.7**	**-1.9**
BBRB	**Robore, Bolivi**	**28.44**	**175**	*eP*	**P**	**18 08 00.0**	**-1.1**
BBRB				*eS*	**S**	**18 12 48.2**	**-0.1**
BDFB	**Brasilia**	**29.33**	**151**	P	**P**	**18 08 11.7**	**+2.5**
	1.9nm,0.4s,baz=330,slow=10,SNR=5.0						
BDFB				LR	LR	18 20 37.6	
	comp=Z,118nm,18.1s,baz=293,slow=38						
	1.9nm,0.4s						
PB01	**IPOC Station P**	**31.89**	**193**	P	**P**	**18 08 32.7**	**+1.0**
LRAL	**Lakeview Retre**	**32.15**	**319**	P	**P**	**18 08 34.8**	**+1.1**
LRAL				IAmb	IAmb	18 08 40.7	
	comp=Z,9.8nm,0.7s						
S54A	**Dingess, Beckl**	**32.35**	**331**	IAmb	IAmb	18 08 41.9	
	comp=Z,10nm,0.7s						
SWET	**Sewanee**	**32.92**	**323**	P	**P**	**18 08 41.1**	**+0.6**
SWET				IAmb	IAmb	18 08 47.9	
	comp=Z,10nm,0.9s						
X48A	**Hartselle**	**33.08**	**321**	IAmb	IAmb	18 08 47.9	
	comp=Z,11nm,1.1s						
LVC	**Limon Verde**	**33.30**	**191**	LR	LR	18 23 06.4	
	comp=Z,78nm,19.8s,baz=4.5,slow=38						
PLAL	**Pickwick Lake**	**34.07**	**320**	IAmb	IAmb	18 08 57.4	
	comp=Z,12nm,0.8s						
P49A	**Miami Univ. Ec**	**35.37**	**329**	P	**P**	**18 09 03.0**	**+1.2**
CGM3	**Cape Girardeau**	**36.55**	**322**	IAmb	IAmb	18 09 18.0	
	comp=Z,11nm,0.8s						
CPUP	**Villa Florida**	**36.67**	**173**	P	**P**	**18 09 13.6**	**+0.7**
	comp=Z,1.7nm,0.7s,baz=3.5,slow=9.0,SNR=6.1						
CPUP				LR	LR	18 25 42.0	
	comp=Z,50nm,18.3s,baz=230,slow=38						
	comp=Z,1.7nm,0.7s						
PBMO	**Poplar Bluff**	**36.69**	**321**	IAmb	IAmb	18 09 18.3	
	comp=Z,15nm,0.9s						
NATX	**Nacogdoches**	**36.84**	**310**	P	**P**	**18 09 15.6**	**+1.2**
FCAR	**Ozark Folk Cen**	**37.24**	**318**	IAmb	IAmb	18 09 22.9	
	comp=Z,12nm,0.8s						
T42A	**Van Buren**	**37.26**	**320**	IAmb	IAmb	18 09 22.6	
	comp=Z,9.5nm,1.1s						
MGMO	**Mountain Grove**	**38.08**	**320**	IAmb	IAmb	18 09 31.5	
	comp=Z,5.6nm,0.7s						
435B	**Jarrell**	**38.65**	**307**	IAmb	IAmb	18 09 35.8	
	comp=Z,18nm,0.8s						
HHAR	**Hobbs**	**38.67**	**317**	IAmb	IAmb	18 09 34.4	
	comp=Z,12nm,1.0s						
WHTX	**Lake Whitney,**	**39.06**	**309**	IAmb	IAmb	18 09 38.1	
	comp=Z,15nm,0.7s						
833A	**Chaparral WMA,**	**39.19**	**303**	IAmb	IAmb	18 09 35.6	
	comp=Z,9.4nm,0.7s						
P40A	**Paris**	**39.42**	**323**	P	**P**	**18 09 35.7**	**-0.4**
P40A				IAmb	IAmb	18 09 41.0	
	comp=Z,20nm,0.8s						
TUL3	**Leonard**	**39.72**	**315**	IAmb	IAmb	18 09 43.0	
	comp=Z,15nm,0.8s						
BRDY	**Brady**	**39.96**	**307**	P	**P**	**18 09 40.6**	**-0.1**
JCT	**Junction City**	**40.29**	**306**	P	**P**	**18 09 43.3**	**-0.2**
JCT				IAmb	IAmb	18 09 48.7	
	comp=Z,7.5nm,0.6s						
P38A	**Dawn**	**40.37**	**322**	P	**P**	**18 09 44.0**	**0.0**
P38A				IAmb	IAmb	18 09 49.8	
	comp=Z,12nm,1.2s						
L40A	**Anamosa**	**40.61**	**326**	IAmb	IAmb	18 09 52.6	
	comp=Z,19nm,0.7s						
JFWS	**Jewell Farm**	**40.68**	**328**	P	**P**	**18 09 46.4**	**-0.1**
JFWS				IAmb	IAmb	18 09 52.0	
	comp=Z,20nm,1.1s						
T35A	**Sooner Cattle**	**40.75**	**316**	IAmb	IAmb	18 09 52.5	
	comp=Z,17nm,0.8s						
ABTX	**Abilene, Hawle**	**41.00**	**309**	IAmb	IAmb	18 09 55.3	
	comp=Z,12nm,1.0s						
APMT	**Aspermont**	**41.66**	**309**	IAmb	IAmb	18 10 00.7	
	comp=Z,12nm,1.0s						
SN07	**Snyder 07**	**42.15**	**309**	IAmb	IAmb	18 10 09.4	
	comp=Z,10nm,0.4s						
DKNS	**Dickens**	**42.41**	**309**	IAmb	IAmb	18 10 06.0	
	comp=Z,6.3nm,0.7s						
SMWD	**Samnorwood**	**42.51**	**312**	IAmb	IAmb	18 10 08.4	
	comp=Z,11nm,1.2s						
MNHN	**Monahans**	**42.97**	**305**	IAmb	IAmb	18 10 13.4	
	comp=Z,6.1nm,0.8s						
TXAR	**Lajitas Array**	**43.06**	**302**	P	**P**	**18 10 06.7**	**+0.3**
	comp=Z,1.2nm,0.6s,baz=114,slow=9.7,SNR=15						
TXAR				PcP	**PcP**	**18 11 55.9**	**-0.5**
	comp=Z,1.2nm,0.6s,baz=118,slow=6.0,SNR=8.7						
	comp=Z,1.2nm,0.6s						
SCHQ	**Schefferville**	**44.62**	**356**	P	**P**	**18 10 18.4**	**+0.1**
	comp=Z,3.9nm,0.7s,baz=178,slow=6.2,SNR=11						
	comp=Z,3.9nm,0.7s						
ANMO	**Albuquerque**	**47.13**	**309**	P	**P**	**18 10 38.0**	**-0.8**
ISCO	**Idaho Springs**	**48.40**	**315**	P	**P**	**18 10 47.8**	**-0.8**
H10N3	**ASCENSION HYDR**	**50.82**	**109**	T	T	19 06 17.2	
	baz=293,slow=75,SNR=12						
H10N2	**ASCENSION HYDR**	**50.83**	**109**	T	T	19 06 19.8	
	baz=293,slow=75,SNR=11						
H10N1	**ASCENSION HYDR**	**50.84**	**109**	T	T	19 06 19.9	
	baz=293,slow=75,SNR=12						
H10S3	**ASCENSION HYDR**	**51.05**	**110**	T	T	19 06 42.5	
	baz=288						
H10S2	**ASCENSION HYDR**	**51.07**	**110**	T	T	19 06 42.5	
	baz=292						
PLCA	**Paso Flores**	**51.30**	**188**	P	**P**	**18 11 11.9**	**+1.6**
	comp=Z,2.6nm,1.0s,baz=8.5,slow=10,SNR=3.3						
	comp=Z,2.6nm,1.0s						
P18A	**Preston Nutter**	**51.62**	**313**	IAmb	IAmb	18 11 20.0	
	comp=Z,3.6nm,0.7s						
PDAR	**Pinedale Array**	**52.34**	**317**	P	**P**	**18 11 17.1**	**-1.2**
	comp=Z,2.3nm,0.7s,baz=120,slow=9.8,SNR=13						
PDAR				PcP	**PcP**	**18 12 30.0**	**+0.6**
	comp=Z,0.9nm,0.7s,baz=106,slow=6.7,SNR=1.9						
PDAR				ScP	**ScP**	**18 16 22.8**	**-3.7**
	comp=Z,0.7nm,0.7s,baz=106,slow=8.5,SNR=4.4						
	comp=Z,2.3nm,0.7s						
DBIC	**Dimbokro**	**56.82**	**89**	P	**P**	**18 11 52.1**	**+1.1**
	comp=Z,5.5nm,0.5s,baz=275,slow=6.6,SNR=13						
	comp=Z,5.5nm,0.5s						
DY2G	**Dye2**	**57.20**	**8**	*i P*	**P**	**18 11 53.3**	**+0.1**
DY2G				IAmb	IAmb	18 11 58.2	
	comp=Z,19nm,0.5s						
NVAR	**Mina Array Bea**	**57.25**	**309**	P	**P**	**18 11 53.5**	**-0.4**
	comp=Z,0.4nm,0.5s,baz=106,slow=8.6,SNR=2.8						
	comp=Z,0.4nm,0.5s						
EDM	**Edmonton**	**59.15**	**327**	P	**P**	**18 12 05.7**	**-1.1**
ESDC	**Sonseca Array**	**59.23**	**50**	P	**P**	**18 12 09.3**	**+1.7**
	comp=Z,2.1nm,0.7s,baz=261,slow=7.6,SNR=15						
	comp=Z,2.1nm,0.7s						
ICESG	**Greenland Ices**	**60.59**	**9**	*i P*	**P**	**18 12 15.6**	**-1.1**
ICESG				IAmb	IAmb	18 12 18.4	
	comp=Z,16nm,1.2s						
TORD	**Torodi Ar. Bea**	**62.54**	**80**	P	**P**	**18 12 31.2**	**+0.7**
	comp=Z,2.0nm,0.7s,baz=295,slow=5.9,SNR=19						
	comp=Z,2.0nm,0.7s						
SUMG	**Summit**	**63.91**	**8**	*i P*	**P**	**18 12 40.0**	**+1.0**
SUMG				IAmb	IAmb	18 12 44.6	
	comp=Z,7.2nm,1.1s						
YKA	**Yellowknife Ar**	**64.18**	**336**	P	**P**	**18 12 38.4**	**-2.1**
	comp=Z,0.6nm,0.5s,baz=109,slow=7.1,SNR=14						
	comp=Z,0.6nm,0.5s						
EKA	**Eskdalemuir Ar**	**64.28**	**33**	P	**P**	**18 12 42.0**	**+0.7**
	comp=Z,1.3nm,0.9s,baz=252,slow=4.4,SNR=1.8						
	comp=Z,1.3nm,0.9s						
NEEM	**North Greenlan**	**67.44**	**3**	*i P*	**P**	**18 12 59.9**	**-1.8**
NEEM				IAmb	IAmb	18 13 04.4	
	comp=Z,1.4nm,0.7s						
KEST	**Kesra**	**69.17**	**56**	P	**P**	**18 13 14.3**	**+1.3**
	comp=Z,3.4nm,0.7s,baz=312,slow=2.5,SNR=4.0						
	comp=Z,3.4nm,0.7s						
NB2	**NORSAR Subarra**	**73.10**	**29**	P	**P**	**18 13 37.7**	**+1.4**
	comp=Z,5.2nm,1.0s,baz=263,slow=6.2						
NOA	**NORSAR Array B**	**73.10**	**29**	P	**P**	**18 13 37.4**	**+1.1**
	comp=Z,1.1nm,0.9s,baz=262,slow=5.9,SNR=5.0						
	comp=Z,1.1nm,0.9s						
GERES	**GERESS Array B**	**73.11**	**42**	P	**P**	**18 13 37.2**	**+0.6**
	comp=Z,0.7nm,0.7s,baz=298,slow=5.9,SNR=4.5						
	comp=Z,0.7nm,0.7s						
NOR	**Nord**	**73.97**	**6**	*i P*	**P**	**18 13 41.0**	**0.0**
NOR				IAmb	IAmb	18 13 44.8	
	comp=Z,1.2nm,0.6s						
HFS	**Hagfors**	**74.18**	**30**	P	**P**	**18 13 43.1**	**+0.5**
	comp=Z,0.9nm,0.5s,baz=204,slow=3.3,SNR=7.6						
	comp=Z,0.9nm,0.5s						
G29M	**Pine Creek**	**75.06**	**337**	P	**P**	**18 13 46.4**	**-1.2**
G29M				IAmb	IAmb	18 13 50.8	
	comp=Z,15nm,1.4s						
E29M	**Blow River**	**75.26**	**338**	P	**P**	**18 13 47.6**	**-1.1**
I28M	**Miner Creek**	**75.63**	**335**	P	**P**	**18 13 51.0**	**0.0**
K27K	**Chicken**	**76.40**	**334**	IAmb	IAmb	18 14 01.9	
	comp=Z,7.7nm,1.1s						
I26K	**Coal Creek Min**	**76.96**	**335**	IAmb	IAmb	18 14 40.0	
	comp=Z,8.1nm,1.4s						
SCRK	**Sand Creek**	**77.23**	**333**	P	**P**	**18 13 60.0**	**-0.2**
SPITS	**Spitsbergen Ar**	**77.71**	**12**	P	**P**	**18 14 01.5**	**-0.9**
	comp=Z,6.0nm,0.8s,baz=171,slow=1.6,SNR=1.3						
	comp=Z,6.0nm,0.8s						
D25K	**Kavik River**	**78.41**	**339**	P	**P**	**18 14 05.8**	**-0.7**
ILAR	**Eielson Array**	**78.52**	**334**	P	**P**	**18 14 06.3**	**-0.8**
	comp=Z,1.1nm,0.8s,baz=96,slow=4.1,SNR=16						
	comp=Z,1.1nm,0.8s						
MDM	**Murphy Dome**	**79.09**	**334**	IAmb	IAmb	18 14 16.0	
	comp=Z,6.7nm,0.8s						
NEA2	**Nenana**	**79.46**	**334**	IAmb	IAmb	18 14 18.0	
	comp=Z,7.2nm,0.8s						
ARCES	**ARCESS Array B**	**79.69**	**21**	P	**P**	**18 14 13.7**	**+0.2**
	comp=Z,1.8nm,0.6s,baz=300,slow=7.1,SNR=1.5						
	comp=Z,1.8nm,0.6s						
FINES	**FINESS Array B**	**80.28**	**29**	P	**P**	**18 14 17.9**	**+1.1**
	comp=Z,2.1nm,0.4s,baz=272,slow=3.4,SNR=42						
	comp=Z,2.1nm,0.4s						
BPAW	**Bear Paw Mtn.**	**80.31**	**334**	IAmb	IAmb	18 14 20.5	
	comp=Z,6.7nm,1.3s						
M19K	**Big River Lodg**	**82.06**	**331**	IAmb	IAmb	18 14 31.1	
	comp=Z,5.1nm,0.7s						
AKASG	**Malin Array Be**	**83.09**	**40**	P	**P**	**18 14 31.9**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=297,slow=4.1,SNR=2.4						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**88.02**	**50**	P	**P**	**18 14 58.2**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=272,slow=4.6,SNR=13						
	comp=Z,2.2nm,0.7s						
BOSA	**Boshof**	**92.67**	**118**	P	**P**	**18 15 20.3**	**+1.7**
	comp=Z,1.5nm,0.7s,baz=277,slow=8.1,SNR=3.8						
	comp=Z,1.5n

0.3nm,0.4s,baz=143,slow=5.0,SNR=2.2
0.3nm,0.4s
ILAR Eielson Array 82.99 22 P **P** **18 36 40.0 -0.9**
0.2nm,0.6s,baz=248,slow=4.8,SNR=1.7
0.2nm,0.6s
QSPA South Pole Qui 84.79 180 P **P** **18 36 50.5 +0.2**
0.7nm,0.6s,baz=343,slow=6.1,SNR=6.0
0.7nm,0.6s
TORD Torodi Ar. Bea 149.20 287 PKPbc **PKPbc** **18 44 04.9 -0.1**
0.4nm,0.3s,baz=84,slow=2.8,SNR=6.0

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*NEIC **27** 18:30:37.6±1.4,55.45N±0.06×153.66W±0.09,h10km±2km, Error ellipse: s-maj=11.3km s-min=6.4km az=143.0*
*AEIC **27** 18:30:41.0±1.5,55.37N±0.09×153.5W±0.1,h12km±7km, ML3.6,mb4.1/2(NEIC),ML3.9/38(NEIC),Error ellipse: s-maj=14.2km s-min=7.9km az=145.0*

ISC 27 18:30:36.5±1.1,55.44N±0.07×153.60W±0.05,h10km, n170,σ1ᵍ14/174,South of Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SII	**Sitkinak Islan**	**1.17**	**344**	P	**Pb**	**18 30 59.3**	**+0.5**
SII	**Sitkinak Islan**	**1.17**	**344**		**Pb**	**18 30 59.2**	**+0.3**
SII	comp=N,2μm,0.8s			IAML		18 31 15.1	
SII	comp=E,2μm,0.3s			IAML		18 31 15.1	
SII	**Sitkinak Islan**	**1.17**	**344**		**Sb**	**18 31 14.4**	**+0.3**
SII	**Sitkinak Islan** baz=163	**1.17**	**344**	P	**Pb**	**18 30 59.4**	**+0.5**
SII	baz=163			S	**Sb**	**18 31 14.4**	**+0.3**
CHIR	**Chirikof Islan**	**1.21**	**289**		**Pb**	**18 30 59.5**	**+0.1**
CHIR	comp=E,2μm,0.5s			IAML		18 31 15.2	
CHIR	**Chirikof Islan**	**1.21**	**289**		**Sb**	**18 31 14.5**	**-0.6**
CHIR	**Chirikof Islan** baz=110	**1.21**	**289**	P	**Pb**	**18 30 59.5**	**+0.1**
CHIR	baz=110			S	**Sb**	**18 31 14.5**	**-0.6**
OHAK	**Old Harbor**	**1.80**	**5**	P	**Pn**	**18 31 07.7**	**+0.2**
OHAK	**Old Harbor**	**1.80**	**5**	Pn	**Pn**	**18 31 07.9**	**+0.3**
OHAK	comp=N,1μm,0.6s			IAML		18 31 29.4	
OHAK	**Old Harbor**	**1.80**	**5**		**Sn**	**18 31 28.3**	**-2.1**
OHAK	**Old Harbor** baz=184	**1.80**	**5**	P	**Pn**	**18 31 07.8**	**+0.3**
OHAK	baz=184			S	**Sn**	**18 31 28.3**	**-2.1**
R18K	**Karluk**	**2.19**	**348**		**Pn**	**18 31 13.6**	**+0.8**
R18K					**Sn**	**18 31 39.3**	**-0.6**
R18K	**Karluk** comp=N,885nm,0.5s	**2.19**	**348**	IAML		18 31 40.1	
R18K	comp=E,746nm,0.4s			IAML		18 31 41.6	
R18K	**Karluk** baz=167	**2.19**	**348**	P	**Pn**	**18 31 13.6**	**+0.8**
R18K	baz=167			S	**Sn**	**18 31 39.3**	**-0.6**
KDAK	**Kodiak Island**	**2.42**	**13**	Pn	**Pn**	**18 31 16.5**	**+0.4**
KDAK	comp=E,898nm,0.3s			IAML		18 31 43.1	
KDAK	comp=E,882nm,0.2s			IAML		18 31 43.3	
KDAK	**Kodiak Island**	**2.42**	**13**		**Sn**	**18 31 42.2**	**-3.4**
PLK3	**Peulik 3**	**2.70**	**328**		**Pn**	**18 31 21.3**	**+1.4**
CHGN	**Chignik**	**2.85**	**290**		**Sn**	**18 31 55.0**	**-1.2**
CHGN	**Chignik**	**2.85**	**290**	Pn	**Pn**	**18 31 22.4**	**+0.5**
CHGN	comp=N,480nm,0.2s			IAML		18 31 56.3	
CHGN	comp=E,413nm,0.1s			IAML		18 31 56.5	
CHGN	**Chignik** baz=107	**2.85**	**290**	P	**Pn**	**18 31 22.4**	**+0.5**
ANNE	**Aniakchak Nort**	**2.90**	**303**		**Pn**	**18 31 23.5**	**+0.8**
ACHA	**Angle Creek He**	**2.94**	**342**		**Pn**	**18 31 24.1**	**+0.8**
ACHA					**Sn**	**18 31 57.9**	**-0.7**
KCE	**Katmai Mt Cerb**	**2.94**	**343**		**Pn**	**18 31 24.7**	**+1.4**
ANCK	**Angle Creek**	**2.96**	**340**		**Pn**	**18 31 24.4**	**+0.8**
R16K	**Pilot Point**	**3.07**	**316**		**Pn**	**18 31 26.0**	**+1.0**
R16K	**Pilot Point** comp=N,316nm,1.3s	**3.07**	**316**	IAML		18 31 58.8	
R16K	comp=E,329nm,1.3s			IAML		18 32 34.8	
R16K	**Pilot Point** baz=133	**3.07**	**316**	P	**Pn**	**18 31 26.2**	**+1.2**
KVTA	**Katmai Vly 10**	**3.09**	**343**		**Pn**	**18 31 26.3**	**+0.9**
PLK5	**Peulik 5**	**3.14**	**326**		**Pn**	**18 31 27.4**	**+1.4**
VNHG	**Veniaminof 1**	**3.23**	**286**		**Pn**	**18 31 28.3**	**+0.9**
SYI	**Shuyak Island**	**3.25**	**11**	Pn	**Pn**	**18 31 28.8**	**+1.3**
SYI	comp=E,190nm,0.6s			IAML		18 32 03.6	
SYI	comp=N,211nm,0.2s			IAML		18 32 07.4	
KAHC	**Katmai Hardscr** baz=166	**3.31**	**347**	P	**Pn**	**18 31 29.6**	**+1.1**
S14K	**Fog Glacier** baz=103	**3.46**	**287**	P	**Pn**	**18 31 31.6**	**+1.1**
CNBA	**Chernabura Isl**	**3.49**	**262**		**Pn**	**18 31 30.3**	**-0.5**
Q19K	**Cape Douglas,**	**3.50**	**360**	Pn	**Pn**	**18 31 32.6**	**+1.6**
Q19K	comp=N,327nm,0.7s			IAML		18 32 18.8	
Q19K	**Cape Douglas,** baz=179	**3.50**	**360**	P	**Pn**	**18 31 32.7**	**+1.7**
SDPT	**Sand Point**	**3.92**	**272**	P	**Pn**	**18 31 37.3**	**+0.6**
SDPT	**Sand Point**	**3.92**	**272**	Pn	**Pn**	**18 31 36.9**	**+0.2**
SDPT	comp=N,248nm,0.7s			IAML		18 32 21.7	
SDPT	comp=E,176nm,0.4s			IAML		18 32 24.8	
AUCH	**Augustine Cone**	**3.94**	**1**		**Pn**	**18 31 38.6**	**+1.6**
P18K	**Big Mountain,**	**4.06**	**348**		**Pn**	**18 31 39.4**	**+0.7**
P18K	**Big Mountain,** baz=166	**4.06**	**348**	P	**Pn**	**18 31 39.4**	**+0.7**
P17K	**Kvichak River** baz=156	**4.07**	**339**	P	**Pn**	**18 31 39.4**	**+0.6**
P19K	**Oil Pt**	**4.23**	**3**	Pn	**Pn**	**18 31 42.1**	**+1.1**
P19K	**Oil Pt** baz=182	**4.23**	**3**	P	**Pn**	**18 31 42.4**	**+1.4**
CNPM	**China Poot**	**4.29**	**16**	Pn	**Pn**	**18 31 42.5**	**+0.6**
P16K	**Nushagak River** baz=145	**4.32**	**328**	P	**Pn**	**18 31 42.8**	**+0.7**
O18K	**Koktuh Hills**	**4.51**	**350**	Pn	**Pn**	**18 31 45.9**	**+1.0**
O18K	comp=N,69nm,0.8s			IAML		18 32 37.1	
O18K	**Koktuh Hills** baz=168	**4.51**	**350**	P	**Pn**	**18 31 45.9**	**+1.0**
ILSW	**Iliamna Southw**	**4.56**	**3**		**Pn**	**18 31 46.4**	**+0.7**
ILSW	comp=E,135nm,0.7s			IAML		18 32 38.9	
ILSW	comp=N,88nm,0.4s			IAML		18 32 40.6	
BRLK	**Bradley Lake**	**4.58**	**17**		**Pn**	**18 31 45.7**	**0.0**
BRSE	**Bradley Lake S** baz=200	**4.58**	**18**	P	**Pn**	**18 31 45.8**	**0.0**
IVE	**Iliamna Volcan**	**4.60**	**4**		**Pn**	**18 31 47.1**	**+0.9**
PS1A	**Pavlof South-1**	**4.64**	**273**		**Pn**	**18 31 47.1**	**+0.5**
PVV	**Pavlof Volcano**	**4.67**	**273**		**Pn**	**18 31 47.3**	**+0.3**
O20K	**Slope Mountain** baz=186	**4.69**	**6**	P	**Pn**	**18 31 48.8**	**+1.5**
O17K	**Koliganek Bris** baz=155	**4.74**	**338**	P	**Pn**	**18 31 48.2**	**+0.4**
O16K	**Kokwok River B**	**4.82**	**332**		**Pn**	**18 31 50.1**	**+1.1**
O16K	**Kokwok River B** baz=148	**4.82**	**332**	P	**Pn**	**18 31 49.2**	**+0.2**
RED	**Redoubt Volcan**	**5.01**	**5**		**Pn**	**18 31 52.6**	**+0.7**
O15K	**Ungalikthiuk R** baz=136	**5.04**	**321**	P	**Pn**	**18 31 52.9**	**+0.7**
SEW	**Seward** baz=206	**5.18**	**24**	P	**Pn**	**18 31 55.5**	**+1.5**
N18K	**Kilae Creek**	**5.40**	**348**	Pn	**Pn**	**18 31 57.9**	**+1.0**
N18K	**Kilae Creek** baz=166	**5.40**	**348**	P	**Pn**	**18 31 58.0**	**+1.0**
N19K	**Bonanza Creek**	**5.41**	**355**		**Pn**	**18 31 58.4**	**+1.1**
N19K	**Bonanza Creek** baz=174	**5.41**	**355**	P	**Pn**	**18 31 58.4**	**+1.1**
N17K	**Nushagak Hills**	**5.45**	**341**		**Pn**	**18 31 58.3**	**+0.6**
N17K	**Nushagak Hills** baz=158	**5.45**	**341**	P	**Pn**	**18 31 58.3**	**+0.6**
Q23K	**Middleton Isla**	**5.60**	**41**	Pn	**Pn**	**18 31 59.4**	**-0.3**
O14K	**Tigyukauivet M**	**5.64**	**316**	Pn	**Pn**	**18 32 01.1**	**+0.8**
O14K	**Tigyukauivet M** baz=130	**5.64**	**316**	P	**Pn**	**18 32 01.2**	**+0.9**
FALS	**False Pass**	**5.66**	**268**	P	**Pn**	**18 32 01.1**	**+0.5**
N16K	**Nishlik Lake** baz=149	**5.75**	**334**	P	**Pn**	**18 32 02.5**	**+0.7**
SVW2	**Sparrevohn**	**5.77**	**350**	P	**Pn**	**18 32 03.2**	**+1.0**
SVW2	**Sparrevohn**	**5.77**	**350**		**Pn**	**18 32 03.1**	**+1.0**
N20K	**Mount Spurr** baz=187	**5.83**	**7**	P	**Pn**	**18 32 04.2**	**+1.3**
SPCR	**Spurr Chakacha**	**5.83**	**7**		**Pn**	**18 32 04.2**	**+1.3**
N15K	**Kwethluk River**	**5.88**	**326**		**Pn**	**18 32 04.8**	**+1.2**
N15K	**Kwethluk River** baz=141	**5.88**	**326**	P	**Pn**	**18 32 04.6**	**+1.1**
SPCP	**Crater Peak Br**	**5.89**	**7**		**Pn**	**18 32 05.5**	**+1.5**
SPCG	**Spurr Capps Gl**	**5.93**	**7**		**Pn**	**18 32 04.6**	**+0.2**
SPNN	**North Nagishla**	**5.97**	**4**		**Pn**	**18 32 06.5**	**+1.5**
SSLS	**Shishaldin Sou**	**6.02**	**267**		**Pn**	**18 32 06.5**	**+1.0**
RC01	**Rabbit Creek A**	**6.02**	**18**		**Pn**	**18 32 06.5**	**+0.9**
RC01	**Rabbit Creek A** baz=201	**6.02**	**18**	P	**Pn**	**18 32 07.2**	**+1.6**
STLK	**Strandline Lak**	**6.15**	**8**		**Pn**	**18 32 08.3**	**+1.0**
M18K	**Stony River** baz=168	**6.18**	**350**	P	**Pn**	**18 32 08.8**	**+1.1**
SUA	**Susitna One**	**6.23**	**13**		**Pn**	**18 32 09.7**	**+1.2**
SUA	**Susitna One** baz=195	**6.23**	**13**	P	**Pn**	**18 32 08.7**	**+0.2**
HIN	**Hinchinbrook I**	**6.25**	**34**	Pn	**Pn**	**18 32 09.6**	**+1.0**
N14K	**Kuskokwak Cree**	**6.25**	**319**		**Pn**	**18 32 09.3**	**+0.7**
N14K	**Kuskokwak Cree** baz=133	**6.25**	**319**	P	**Pn**	**18 32 09.3**	**+0.7**
M16K	**Timber Creek** baz=151	**6.27**	**335**	P	**Pn**	**18 32 09.7**	**+0.7**
M17K	**Holitna River**	**6.31**	**343**		**Pn**	**18 32 10.6**	**+1.1**
GLI	**Glacier Island**	**6.45**	**30**		**Pn**	**18 32 11.2**	**-0.2**
M20K	**Styx River**	**6.47**	**2**	Pn	**Pn**	**18 32 13.2**	**+1.5**
M20K	**Styx River** baz=182	**6.47**	**2**	P	**Pn**	**18 32 12.7**	**+1.0**
M15K	**Kasigluk River** baz=142	**6.47**	**327**	P	**Pn**	**18 32 12.4**	**+0.7**
M19K	**Big River Lodg**	**6.50**	**357**		**Pn**	**18 32 12.9**	**+0.8**
M19K	**Big River Lodg** baz=176	**6.50**	**357**	P	**Pn**	**18 32 12.9**	**+0.8**
FID	**Port Fidalgo**	**6.53**	**32**		**Pn**	**18 32 11.1**	**-1.4**
KNK	**Knik Glacier**	**6.57**	**22**	Pn	**Pn**	**18 32 14.1**	**+1.0**
PMR	**Palmer**	**6.60**	**19**	P	**Pn**	**18 32 15.1**	**+1.6**
PMR	**Palmer**	**6.60**	**19**	Pn	**Pn**	**18 32 14.3**	**+0.9**
EYAK	**Cordova Ski Ar**	**6.61**	**36**	P	**Pn**	**18 32 14.5**	**+1.0**
SKT	**Skwentna**	**6.65**	**8**	Pn	**Pn**	**18 32 15.2**	**+1.1**
KAIM	**Kayak Island**	**6.67**	**44**	Pn	**Pn**	**18 32 15.1**	**+0.6**
L19K	**White Mountain** baz=174	**6.80**	**355**	P	**Pn**	**18 32 17.5**	**+1.3**
GHO	**Glory Hole Cre**	**6.80**	**19**		**Pn**	**18 32 17.7**	**+1.3**
RAGM	**Ragged Mountai**	**6.87**	**40**		**Pn**	**18 32 17.3**	**+0.1**
M14K	**Bethel** baz=137	**6.92**	**324**	P	**Pn**	**18 32 18.9**	**+1.0**
SML	**Sawmill**	**6.95**	**21**	Pn	**Pn**	**18 32 20.1**	**+1.7**
SML	**Sawmill** baz=205	**6.95**	**21**	P	**Pn**	**18 32 19.1**	**+0.8**
L18K	**Granite Mounta** baz=165	**6.99**	**348**	P	**Pn**	**18 32 20.0**	**+1.2**
HMT	**Hamilton**	**6.99**	**42**		**Pn**	**18 32 19.2**	**+0.4**
L16K	**Owhat River**	**7.00**	**336**		**Pn**	**18 32 19.3**	**+0.4**
L16K	**Owhat River** baz=151	**7.00**	**336**	P	**Pn**	**18 32 19.3**	**+0.4**
SUCK	**Suckling Hills**	**7.01**	**44**	Pn	**Pn**	**18 32 19.9**	**+0.7**
L20K	**Farewell, AK**	**7.06**	**359**		**Pn**	**18 32 21.0**	**+1.1**
L20K	**Farewell, AK** baz=178	**7.06**	**359**	P	**Pn**	**18 32 21.0**	**+1.1**
L17K	**Donlin**	**7.14**	**342**		**Pn**	**18 32 21.4**	**+0.4**
L17K	**Donlin** baz=158	**7.14**	**342**	P	**Pn**	**18 32 21.4**	**+0.4**
M13K	**Dall Lake**	**7.20**	**318**	Pn	**Pn**	**18 32 21.0**	**-0.6**
SCM	**Sheep Creek Mo**	**7.20**	**24**		**Pn**	**18 32 22.0**	**+0.2**
BGLC	**Bering Glacier**	**7.24**	**45**		**Pn**	**18 32 23.6**	**+1.4**
BGLC	**Bering Glacier** baz=234	**7.24**	**45**	P	**Pn**	**18 32 23.6**	**+1.4**
SNH	**Sunshine Point**	**7.46**	**46**		**Pn**	**18 32 26.2**	**+1.0**
L14K	**Kuka Creek** baz=137	**7.60**	**325**	P	**Pn**	**18 32 28.1**	**+1.0**
UNV	**Unalaska Valle**	**7.66**	**263**	P	**Pn**	**18 32 28.3**	**+0.3**
K17K	**Iditarod** baz=160	**7.69**	**344**	P	**Pn**	**18 32 29.4**	**+1.0**
WAT1	**Susitna Watana**	**7.85**	**17**		**Pn**	**18 32 32.2**	**+1.5**
WAT1	**Susitna Watana** baz=201	**7.85**	**17**	P	**Pn**	**18 32 32.2**	**+1.5**
K20K	**Telida** baz=178	**7.95**	**358**	P	**Pn**	**18 32 33.9**	**+1.9**
K15K	**Wolf Creek Mou** baz=146	**8.00**	**332**	P	**Pn**	**18 32 34.1**	**+1.4**
MCARA	**McCarthy VSAT**	**8.14**	**39**		**Pn**	**18 32 35.9**	**+1.3**
MCARA	**McCarthy VSAT** baz=227	**8.14**	**39**	P	**Pn**	**18 32 35.9**	**+1.3**
J18K	**Innoko River** baz=167	**8.21**	**350**	P	**Pn**	**18 32 36.8**	**+1.3**
TRF	**Thorofare Moun**	**8.21**	**10**		**Pn**	**18 32 37.0**	**+1.2**
TRF	**Thorofare Moun** baz=193	**8.21**	**10**	P	**Pn**	**18 32 37.0**	**+1.2**
J16K	**Anvik River**	**8.64**	**338**	Pn	**Pn**	**18 32 41.7**	**+0.3**
PNL	**Peninsula**	**8.73**	**55**	P	**Pn**	**18 32 44.2**	**+1.5**
J14K	**Nanvaranak Lak**	**8.93**	**329**	Pn	**Pn**	**18 32 46.0**	**+0.5**
M27K	**Edge Creek, AK**	**9.20**	**36**	Pn	**Pn**	**18 32 50.5**	**+1.2**
NIKH	**Nikolski High**	**9.27**	**261**	P	**Pn**	**18 32 50.5**	**+0.4**
P29M	**Windy Craggy**	**9.50**	**57**		**Pn**	**18 32 54.3**	**+1.0**
H18K	**Honhosa River**	**10.03**	**348**		**Pn**	**18 33 01.8**	**+1.4**
H17K	**Granite Mounta**	**10.03**	**344**		**Pn**	**18 33 01.9**	**+1.5**
HYT	**Haines Junctio**	**10.06**	**51**	Pn	**Pn**	**18 33 02.7**	**+1.6**
J25K	**Salcha River,**	**10.07**	**21**		**Pn**	**18 33 02.6**	**+1.5**
SIT	**Sitka**	**10.30**	**73**	P	**Pn**	**18 33 03.3**	**-0.8**
J26L	**Joseph Creek**	**10.37**	**25**	Pn	**Pn**	**18 33 07.7**	**+2.5**
M29M	**Somme Creek**	**10.49**	**42**		**Pn**	**18 33 08.1**	**+1.2**
H23K	**Yukon River**	**10.61**	**9**	Pn	**Pn**	**18 33 10.4**	**+2.0**
SKAG	**Skagway**	**10.63**	**60**	P	**Pn**	**18 33 10.2**	**+1.6**
SKAG	**Skagway**	**10.63**	**60**	Pn	**Pn**	**18 33 10.6**	**+2.0**
O30N	**Mendenhall**	**10.68**	**53**		**Pn**	**18 33 11.3**	**+1.9**
JIS	**Juneau Island**	**10.89**	**67**	P	**Pn**	**18 33 13.2**	**+1.0**
L29M	**L29M**	**11.01**	**39**		**Pn**	**18 33 15.1**	**+1.2**
WHY	**Whitehorse**	**11.19**	**55**		**Pn**	**18 33 18.0**	**+1.5**
P32M	**Atlin**	**11.46**	**61**	Pn	**Pn**	**18 33 21.5**	**+1.5**
CRAG	**Craig**	**11.62**	**81**	P	**Pn**	**18 33 22.4**	**+0.1**
P33M	**Teslin, Yukon**	**12.04**	**58**	Pn	**Pn**	**18 33 29.2**	**+1.2**
ATKA	**Atka Island**	**12.58**	**264**	Pn	**Pn**	**18 33 33.8**	**-1.5**
R33M	**Jennings River**	**12.80**	**63**		**Pn**	**18 33 39.8**	**+1.3**
DLBC	**Dease Lake**	**13.19**	**67**	Pn	**Pn**	**18 33 44.2**	**+0.4**
D19K	**Kuna River**	**13.27**	**353**	Pn	**Pn**	**18 33 47.3**	**+2.6**
MMPY	**Sheldon Lake,**	**13.51**	**49**	Pn	**Pn**	**18 33 49.5**	**+1.5**
H31M	**Peel River**	**13.97**	**34**	Pn	**Pn**	**18 33 57.5**	**+3.2**
E29M	**Blow River**	**14.87**	**23**	Pn	**P**	**18 34 10.7**	**-1.6**
C36M	**Paulatuk**	**19.23**	**32**	P	**P**	**18 35 00.8**	**+0.4**
C36M	comp=Z,19nm,1.2s			IAmb	IAmb	18 35 03.0	
A36M	**Sachs Harbour**	**20.45**	**25**	P	**P**	**18 35 14.3**	**+0.6**
A36M	comp=Z,10nm,1.1s			IAmb	IAmb	18 35 36.0	

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*HVO **27** 18:36:47.4±0.7,19.405N±0.004×155.29W±0.01, h-0km±8km,ML2.5/33,ML2.2/25(NEIC),Error ellipse: s-maj=1.8km s-min=0.7km az=93.0*

NEIC 27 18:36:47.2±0.7,19.41N±0.01×155.29W±0.01,h5km±4km, Error ellipse: s-maj=2.0km s-min=1.5km az=108.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**7**		Pg	18 36 48.8	+0.5
RIM	**Rim**	**0.01**	**135**		Pg	18 36 48.3	0.0
UWE	**Uwekahuna**	**0.02**	**334**		Pg	18 36 47.4	-0.9
KKO	**Keanakako`i**	**0.02**	**114**		Pg	18 36 48.5	+0.1
UWB	**Uwekahuna B**	**0.02**	**21**		Pg	18 36 49.2	+0.8
BYL	**Byron's Ledge**	**0.03**	**76**		Pg	18 36 48.0	-0.4
HATHI	**Halema'uma'u T**	**0.03**	**54**		Pg	18 36 48.4	0.0
RSD	**Rainshed**	**0.06**	**7**	Pg	Pg	18 36 48.3	-0.5
RSD	comp=N,1μm,1.0s			IAML		18 36 49.8	
RSD	comp=E,2μm,0.6s			IAML		18 36 50.0	
PUH	**Pauahi**	**0.07**	**116**		Pg	18 36 48.9	0.0
PUH					Sg	18 36 49.3	-0.8
PUH	comp=E,2μm,0.8s			IAML		18 36 51.1	
HLP	**Hilina Pali**	**0.11**	**191**		Pg	18 36 49.5	-0.1
HLP	comp=E,776nm,1.0s			IAML		18 36 52.5	
HLP	comp=N,882nm,0.6s			IAML		18 36 53.1	
KNHH	**Kane Nui o Ham**	**0.11**	**104**		Pg	18 36 49.7	+0.1
MLH	**Mauna Loa**	**0.13**	**313**		Pg	18 36 50.1	+0.2
MLH	comp=N,985nm,0.7s			IAML		18 36 54.0	
MLH	comp=E,1μm,0.5s			IAML		18 36 54.2	
MLH	**Mauna Loa**	**0.13**	**313**		Sg	18 36 54.1	+2.3
STCH	**Steam Cracks**	**0.15**	**98**		Pg	18 36 50.0	-0.3
STCH	comp=E,781nm,1.1s			IAML		18 36 54.2	
STCH	comp=N,1μm,0.9s			IAML		18 36 55.0	
NPOC	**North of Pu'u**	**0.17**	**94**		Pg	18 36 51.7	+1.1
JCUZ	**Jacuzzi**	**0.17**	**97**		Pg	18 36 52.1	+1.4
HTC	**Hot Caves**	**0.20**	**212**		Pg	18 36 52.3	+1.2
JOKA	**Jonika Flow**	**0.27**	**84**		Pg	18 36 52.8	+0.4
JOKA	comp=E,332nm,0.8s			IAML		18 37 00.2	
HMH	**Humu'ula Sheep**	**0.27**	**316**		Pg	18 36 52.8	+0.2
HMH	comp=N,416nm,0.6s			IAML		18 37 00.1	
HMH	comp=E,499nm,0.6s			IAML		18 37 00.5	
HMH	**Humu'ula Sheep**	**0.27**	**316**		Sb	18 36 58.4	-1.4
MWH	**Moku'aweowe**	**0.30**	**285**	Pg	Pg	18 36 52.7	-0.6
KHU	**Kahuku**	**0.35**	**243**	Pg	Pg	18 36 54.2	+0.2
HUH	**Hualalai**	**0.59**	**298**		Pg	18 36 58.6	+0.1

IDC 27 18:43:14.3±1.6,36.18S×52.49E,h0km,mb3.7/3, mbtmp3.7/3,Error ellipse: s-maj=61.1km s-min=44.6km az=57.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N1	**CROZET ISLANDS** baz=5.6,slow=75,SNR=55	**9.99**	**183**	T	T	18 55 34.4	
H04N2	**CROZET ISLANDS** baz=5.6,slow=75,SNR=68	**9.99**	**183**	T	T	18 55 34.7	
H04N3	**CROZET ISLANDS** baz=5.6,slow=75,SNR=59	**10.01**	**183**	T	T	18 55 39.8	
H01W2	**Cape Leeuwin H** baz=249,SNR=5.1	**49.42**	**108**	T	T	19 45 29.3	
H01W3	**Cape Leeuwin H** baz=249	**49.42**	**108**	T	T	19 45 26.6	
H01W1	**Cape Leeuwin H** baz=249	**49.44**	**108**	T	T	19 45 27.8	
VNDA	**Vanda** 0.4nm,0.5s,baz=252,slow=4.4,SNR=3.9 0.4nm,0.5s	**58.99**	**166**	P	P	18 53 15.3	+0.2
ASAR	**Alice Springs** 0.6nm,0.6s,baz=231,slow=6.0,SNR=12 0.6nm,0.6s	**69.80**	**105**	P	P	18 54 26.9	0.0
WRA	**Warramunga Arr** 0.6nm,0.8s,baz=227,slow=5.0,SNR=7.1 0.6nm,0.8s	**72.11**	**102**	P	P	18 54 40.8	-0.1
ILAR	**Eielson Array** 0.9nm,1.1s,baz=306,slow=3.0,SNR=5.0	**149.10**	**16**	PKPbc	PKPbc	19 03 03.4	-0.2
YKA	**Yellowknife Ar** 0.1nm,0.4s,baz=27,slow=2.1,SNR=2.7	**152.46**	**347**	PKPbc	PKPbc	19 03 11.0	-0.5

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*IDC **27** 19:16:39.7±1.2,14.35N×89.77W,h184km±4km,mb3.3/5, mbtmp4.0/8,Error ellipse: s-maj=39.1km s-min=18.2km az=41.0*
*SNET **27** 19:16:39.1±0.5,14.16N×89.90W,h188km±7km,ML3.6*
*RSNC **27** 19:16:40.2±5.0,14.1N±10°×9.0W±1.0,h187km±42km,M4.4, mB5.5,mb3.9,Mw(mB)5.0*
*NEIC **27** 19:16:40.3±1.5,14.3N±0.1×89.88W±0.09,h189km±8km, mb4.4/24,Error ellipse: s-maj=20.9km s-min=8.7km az=208.0*
*CATAC **27** 19:16:42.2±0.3,14.12N×89.93W,h147km±4km,MB5.1, mb4.6,ML4.4*
*GCG **27** 19:16:49.3±0.3,14.44N×90.32W,h125km±28km,MD4.0*

ISC 27 19:16:38.5±0.7,14.20N±0.06×89.94W±0.05,h183km±5km, n113,σ1ᵍ76/124,mb4.3/15,Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.34**	**152**	*i* P	**Pn**	**19 17 04.5**	**+1.1**
NUBE				*e*S	**Sn**	**19 17 23.9**	**+1.5**
RTR	**El Retiro**	**0.42**	**136**	*i* P	**Pn**	**19 17 05.2**	**+1.6**
SNJE	**San Jose**	**0.47**	**135**	*i* P	**Pn**	**19 17 05.3**	**+1.5**
CEVE	**Cerro Verde**	**0.49**	**140**	*i* P	**Pn**	**19 17 05.4**	**+1.5**
NBG	**Las Nubes**	**0.55**	**314**	*e*P	**Pn**	**19 17 07.5**	**+3.3**
GUNB	**GUNB**	**0.55**	**315**	*i* P	**Pn**	**19 17 04.2**	**0.0**
GUNB				*i* S	**Sn**	**19 17 20.7**	**-3.4**
GUNB	comp=Z,1μm,1.0s			IAML		19 17 26.6	
PCG	**Pacaya**	**0.67**	**286**	*e*P	**Pn**	**19 17 07.8**	**+3.0**
ESQI	**Esquipulas**	**0.68**	**59**		**Pn**	**19 17 06.5**	**+1.9**
ESQI	**Esquipulas**	**0.68**	**59**	*i* P	**Pn**	**19 17 06.6**	**+1.9**
ESQI				*i* S	**Sn**	**19 17 22.5**	**-2.3**
GCG4	**OSOP**	**0.69**	**304**	*i* P	**Pn**	**19 17 06.4**	**+1.6**
GCG4	comp=Z,2μm,1.0s			IAML		19 17 07.4	
GCG4				*i* S	**Sn**	**19 17 23.3**	**-1.7**
JAYA	**Jayaque - finc**	**0.73**	**139**	*e*P	**Pn**	**19 17 05.9**	**+0.9**
JAYA	comp=Z,547nm,0.2s			IAML		19 17 06.4	
GUMI	**Mixco**	**0.78**	**303**	*i* P	**Pn**	**19 17 05.8**	**+0.5**
GUMI				*i* S	**Sn**	**19 17 24.2**	**-1.8**
GUMI	comp=Z,1μm,1.0s			IAML		19 17 53.0	
PMON	**Piamonte**	**0.78**	**129**	*i* P	**Pn**	**19 17 06.7**	**+1.4**
BOQS	**Boqueron**	**0.80**	**126**	*e*P	**Pn**	**19 17 06.8**	**+1.4**
BOQS	comp=Z,510nm,0.2s			IAML		19 17 07.5	
PIC2	**El Picacho**	**0.81**	**124**	*e*P	**Pn**	**19 17 07.1**	**+1.6**
UEES	**Universidad Ev**	**0.84**	**125**	*e*P	**Pn**	**19 17 07.1**	**+1.6**
FUG	**Fuego 3**	**0.90**	**286**	*e*P	**Pn**	**19 17 08.5**	**+2.5**
MRL	**Marmol**	**0.91**	**16**	*e*P	**Pn**	**19 17 09.0**	**+2.8**
LOMA	**Loma Larga**	**0.93**	**126**	*e*P	**Pn**	**19 17 07.5**	**+1.2**
APG	**El Apazote** comp=Z,13nm,0.3s,baz=141,slow=10.0,SNR=158	**0.94**	**328**	P	**Pn**	**19 17 08.4**	**+2.0**
APG	comp=Z,19nm,0.8s,baz=239,slow=23,SNR=82			S	**Sn**	**19 17 29.4**	**+1.4**
PAVA	**Las Pavas**	**1.09**	**116**	*i* P	**Pn**	**19 17 08.9**	**+1.5**
CHTG	**Tecpan**	**1.15**	**299**	*i* P	**Pn**	**19 17 08.5**	**+0.5**
CHTG				*i* S	**Sn**

CRIN	**San Cristobal**	**3.19 118**	*i* P		**Pn**	**19 17 31.9 +2.2**	
CRIN			*i* S		**Sn**	**19 18 10.2 +0.6**	
CRIN			IAML			19 18 13.1	
	comp=Z,3μm,1.0s						
PLRN	**Geotermica Pol**	**3.48 117**	*i* P		**Pn**	**19 17 36.0 +2.7**	
PACN	**Al O del Volca**	**3.50 119**	*i* P		**Pn**	**19 17 35.9 +2.4**	
CNGA	**Al SSO del Vol**	**3.58 118**	*i* P		**Pn**	**19 17 36.3 +1.7**	
CNGA			IAML			19 18 23.0	
	comp=Z,1μm,1.0s						
MACN	**El Madrono**	**3.62 118**	*i* P		**Pn**	**19 17 36.5 +1.5**	
LIMN	**Finca el Limon**	**3.66 108**	*i* P		**Pn**	**19 17 37.5 +2.0**	
LIMN			IAML			19 18 22.3	
	comp=Z,99nm,1.0s						
LEVN	**Ruinas Leon Vi**	**3.70 119**	*i* P		**Pn**	**19 17 38.0 +2.0**	
LEVN			IAML			19 18 28.3	
	comp=Z,840nm,1.0s						
BRAN	**Las Pilas**	**3.79 112**	*i* P		Pn	19 17 42.9 +5.7	
BRAN			IAML			19 18 34.9	
	comp=Z,870nm,1.0s						
MOM2	**El Cardon**	**3.80 117**	*i* P		**Pn**	**19 17 39.0 +1.8**	
COPN	**Copaltepe**	**3.83 121**	*i* P		**Pn**	**19 17 39.8 +2.1**	
COPN			IAML			19 18 25.3	
	comp=Z,600nm,1.0s						
APYN	**Apoyeque**	**4.01 119**	*i* P		**Pn**	**19 17 41.2 +1.3**	
APYN			IAML			19 18 30.9	
	comp=Z,610nm,1.0s						
HUEN		**4.11 116**	*i* P		**Pn**	**19 17 43.9 +2.7**	
HUEN			IAML			19 18 34.4	
	comp=Z,190nm,1.0s						
TISN	**Laguna Tiscapa**	**4.12 119**	*i* P		**Pn**	**19 17 43.7 +2.4**	
TISN			IAML			19 18 34.1	
	comp=Z,64nm,1.0s						
R4DEC	**Barrio San Lui**	**4.14 119**	*i* P		**Pn**	**19 17 43.7 +2.2**	
R4DEC			IAML			19 19 17.9	
	comp=Z,550nm,1.0s						
CRUN	**El Crucero**	**4.18 121**	*i* P		**Pn**	**19 17 44.4 +2.2**	
AERN	**Aeropuerto Man**	**4.21 119**	*i* P		Pn	19 17 52.7 +10	
JAPN	**Al SSO del Vol**	**4.94 122**	*i* P		**Pn**	**19 17 53.9 +2.1**	
MORN	**Al O del Volca**	**4.95 122**	*i* P		**Pn**	**19 17 53.8 +1.8**	
CONN	**Concepcion**	**4.96 121**	*i* P		**Pn**	**19 17 54.0 +1.9**	
OMEN	**Al SSO del Vol**	**4.99 122**	*i* P		**Pn**	**19 17 55.5 +3.0**	
ACON	**Acoyapa**	**5.15 115**			**Pn**	**19 17 54.9 +0.4**	
ACON	**Acoyapa**	**5.15 115**	*i* P		**Pn**	**19 17 56.1 +1.5**	
ACON			IAML			19 17 57.1	
	comp=Z,180nm,1.0s						
ACON			IAmb	IAmb		19 17 57.2	
	comp=Z,120nm,0.7s						
HZTE	**Horizontes, Gu**	**5.48 129**	Pn		**Pn**	**19 18 00.7 +1.9**	
CMIG	**Matias Romero**	**5.56 302**	P		**Pn**	**19 18 00.8 +1.0**	
	comp=Z,11nm,0.3s,baz=158,slow=9.5,SNR=90						
CMIG			S		**Sn**	**19 18 58.9 -4.9**	
	comp=Z,33nm,0.7s,baz=75,slow=17,SNR=10						
ORTG	**Ortega, Santa**	**5.81 131**			**Pn**	**19 18 04.8 +1.6**	
ESPN	**Las Esperanzas**	**5.85 109**	*i* P		**Pn**	**19 18 05.2 +1.6**	
ESPN			IAmb	IAmb		19 18 07.0	
	comp=Z,36nm,1.1s						
ESPN			IAML			19 19 35.5	
	comp=Z,190nm,1.0s						
DUNO	**Dulce Nombre,**	**5.98 133**			**Pn**	**19 18 07.2 +1.9**	
JTS	**Las Juntas de**	**6.24 128**	Pn		**Pn**	**19 18 10.1 +1.3**	
JTS	**Las Juntas de**	**6.24 128**	P		**Pn**	**19 18 10.2 +1.4**	
	comp=Z,32nm,0.3s,baz=307,slow=19,SNR=51						
JTS			S		**Sn**	**19 19 15.8 -4.2**	
	comp=Z,44nm,0.4s,baz=270,slow=20,SNR=9.0						
ARE1	**Arenal 1**	**6.32 125**			**Pn**	**19 18 11.8 +2.0**	
SOCE	**Pocosol**	**6.44 126**			**Pn**	**19 18 12.4 +1.0**	
SOCE	**Pocosol**	**6.44 126**	*i* P		**Pn**	**19 18 12.6 +1.1**	
SOCE			IAML			19 18 18.7	
	comp=Z,200nm,1.0s						
SOCE			IVmB_BB			19 18 18.7	
	comp=Z,3μm,1.0s						
JACO	**JACO, Garabito**	**6.86 131**	Pn		**Pn**	**19 18 19.0 +2.1**	
LCR2	**La Lucha 2**	**7.31 127**			**Pn**	**19 18 24.7 +1.7**	
LCR2	**La Lucha 2**	**7.31 127**	*i* P		**Pn**	**19 18 25.2 +2.2**	
LCR2			IAML			19 18 27.2	
	comp=Z,130nm,1.0s						
LCR2			IVmB_BB			19 18 27.5	
	comp=Z,2μm,1.0s						
LCR2			IAmb	IAmb		19 18 27.6	
	comp=Z,57nm,0.4s						
PEZE	**Perez Zeledon,**	**7.78 127**			**Pn**	**19 18 31.3 +2.1**	
SRBA	**San Rafael, Bu**	**8.12 127**			**Pn**	**19 18 35.2 +1.6**	
DRK0	**Durika**	**8.19 126**			**Pn**	**19 18 36.1 +1.5**	
TLIG	**Tlapa**	**8.94 293**	Pn		**Pn**	**19 18 45.8 +1.4**	
DRIO	**Del Rio**	**18.08 329**			**P**	**19 20 37.5 +1.0**	
BRDY	**Brady**	**18.93 335**	P		**P**	**19 20 46.5 +0.9**	
BRDY			IAmb	IAmb		19 20 47.8	
	comp=Z,13nm,0.7s						
OZNA	**Ozona**	**19.56 330**	P		**P**	**19 20 53.6 +1.1**	
OZNA			IAmb	IAmb		19 20 56.1	
	comp=Z,10nm,0.7s						
TXAR	**Lajitas Array**	**19.70 322**	P		**Pn**	**19 20 56.6 -1.0**	
	comp=Z,4.0nm,0.5s,baz=144,slow=11,SNR=14						
APMT	**Aspermont**	**21.17 336**	P		**P**	**19 21 08.8 -0.8**	
APMT			IAmb	IAmb		19 21 10.5	
	comp=Z,5.7nm,0.7s						
SWET	**Sewanee**	**21.23 9**	P		**P**	**19 21 10.7 +0.4**	
SN07	**Snyder 07**	**21.28 334**	P		**P**	**19 21 11.2 +0.4**	
SN07			IAmb	IAmb		19 21 12.8	
	comp=Z,5.4nm,0.6s						
DKNS	**Dickens**	**21.79 335**	P		**P**	**19 21 16.6 +0.5**	
DKNS			IAmb	IAmb		19 21 18.3	
	comp=Z,8.4nm,0.7s						
WVT	**Waverly**	**21.92 5**	P		**P**	**19 21 18.1 +0.8**	
FNO	**Franklin**	**22.01 344**	IAmb	IAmb		19 21 19.1	
	comp=Z,6.5nm,0.5s						
BAUV	**El Baul**	**22.08 101**	P		**P**	**19 21 16.3 -2.7**	
BAUV			IAmb	IAmb		19 21 35.5	
	comp=Z,10nm,0.9s						
U49A	**Red Boiling Sp**	**22.53 9**	P		**P**	**19 21 23.4 +0.4**	
U49A			IAmb	IAmb		19 21 24.8	
	comp=Z,11nm,1.0s						
T45A	**Paducah**	**22.75 3**	P		**P**	**19 21 25.7 +0.7**	
T42A	**Van Buren**	**22.76 358**	P		**P**	**19 21 24.8 -0.3**	
S44A	**Carbondale**	**23.40 1**	P		**P**	**19 21 30.9 -0.1**	
S44A			IAmb	IAmb		19 21 35.0	
	comp=Z,8.3nm,0.7s						
WCI	**Wyandotte Cave**	**24.15 7**	P		**P**	**19 21 37.0 -0.8**	
WCI			IAmb	IAmb		19 21 40.7	
	comp=Z,5.1nm,0.7s						
PDAR	**Pinedale Array**	**33.10 333**	P		**P**	**19 22 58.6 +1.2**	
	comp=Z,0.5nm,0.4s,baz=142,slow=7.6,SNR=4.6						
	comp=Z,0.5nm,0.4s						
E28A	**Huff**	**33.51 347**	IAmb	IAmb		19 23 03.5	
	comp=Z,12nm,0.7s						
NVAR	**Mina Array Bea**	**34.79 319**	P		**P**	**19 23 14.3 +2.3**	
	comp=Z,0.8nm,0.8s,baz=120,slow=8.8,SNR=5.1						
	comp=Z,0.8nm,0.8s						
SAML	**Samuel**	**35.13 129**	P		**P**	**19 23 13.1 -1.8**	
YNM	**Yellowstone No**	**35.17 334**	P		**P**	**19 23 15.0 -0.2**	
SCHQ	**Schefferville**	**44.36 19**	P		**P**	**19 24 30.0 -0.5**	
	comp=Z,1.7nm,0.5s,baz=232,slow=7.5,SNR=7.8						
	comp=Z,1.7nm,0.5s						
CO06	**Fray Jorge**	**47.97 159**	P		**P**	**19 24 58.4 -0.5**	
YKA	**Yellowknife Ar**	**51.31 346**	P		**P**	**19 25 23.6 0.0**	
	comp=Z,1.1nm,0.7s,baz=143,slow=7.0,SNR=18						
	comp=Z,1.1nm,0.7s						
DLBC	**Dease Lake**	**53.30 335**	P		**P**	**19 25 39.4 +0.9**	
DLBC			IAmb	IAmb		19 26 10.0	
	comp=Z,7.9nm,1.2s						
ILAR	**Eielson Array**	**63.45 336**	P		**P**	**19 26 47.2 -1.3**	
	comp=Z,0.5nm,0.8s,baz=138,slow=3.5,SNR=4.1						
	comp=Z,0.5nm,0.8s						
WRA	**Warramunga Arr**	**137.38 256**	PKhKP		PKPpre	19 35 29.8	
	comp=Z,0.2nm,0.6s,baz=91,slow=3.4,SNR=5.0						
WRA			PKP		**PKPdf**	**19 35 41.5 +0.3**	
	comp=Z,0.5nm,0.7s,baz=88,slow=2.4,SNR=7.9						
ASAR	**Alice Springs**	**137.61 250**	PKhKP		PKPpre	19 35 29.5	
	comp=Z,0.3nm,0.6s,baz=106,slow=3.8,SNR=2.6						
ASAR			PKP		**PKPdf**	**19 35 41.9 +0.3**	
	comp=Z,0.4nm,0.7s,baz=107,slow=1.7,SNR=6.3						
CMAR	**Chiang Mai Arr**	**146.38 345**	PKPbc		**PKPdf**	**19 35 57.8 +0.6**	
	comp=Z,0.3nm,0.5s,baz=334,slow=2.9,SNR=1.8						

IDC 27 19:18:09.4±2.4, 7.7°26S×150.97E, h0km, mb3.5/3, mbtmp3.6/3, Error ellipse: s-maj=70.8km s-min=49.1km az=145.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.48 230**		P	P	19 22 49.3	+0.2
	0.7nm,0.9s,baz=53,slow=11,SNR=5.9						
	0.7nm,0.9s						
ASAR	**Alice Springs**	**23.12 223**		P	P	19 23 17.5	+0.1
	0.6nm,0.7s,baz=51,slow=9.3,SNR=7.4						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**82.72 180**		P	P	19 30 34.5	-0.6
	1.1nm,0.5s,baz=29,slow=5.0,SNR=22						
	1.1nm,0.5s						
TORD	**Torodi Ar. Bea**	**149.22 283**		PKPbc	PKPbc	19 38 01.6	+0.4
	0.2nm,0.6s,baz=74,slow=1.4,SNR=1.6						

*NEIC **27** 19:33:37.6±2.5, 53.42N×0.04E×163.66W±0.07, h17km±2km, mb5.1/212, ML4.9/10, Ms_20 4.9/220, Mww5.5/51, ML4.7(AEIC), Error ellipse: s-maj=6.7km s-min=5.9km az=138.0*

*AEIC **27** 19:33:37.4±2.4, 53.42N×0.06E×163.68W±0.07, h12km±3km, Error ellipse: s-maj=9.7km s-min=5.3km az=157.0*

*MOS **27** 19:33:37.2±1.1, 53.62N×163.83W, h19km, mb5.3/69, MS5.1/32, Error ellipse: s-maj=9.2km s-min=4.3km az=101.0*

*IDC **27** 19:33:39.2±2.6, 53.62N×163.79W, h22km±16km, mb4.6/37, mbtmp4.7/41, ML4.5/4, MS4.9/82, Error ellipse: s-maj=14.0km s-min=8.8km az=171.0*

*NEIC **27** 19:33:39, 53.25N×163.47W, h20km, Moment Tensor Solution. Duration: 29s Moment tensor: Scale 10^17 Nm; Mrr1.29; Mθθ-0.87; Mφφ-0.42; Mrθ1.12; Mθφ-0.89; Mφr0.97; Fault plane solution: M0 2.05000×10^17 NP1:φ49.73000°, δ68.07000°, λ87.94000°. NP2:φ235.24000°, δ22.03000°, λ95.11000°. Principal axes: T 1.9172, Plg67.0000°, Azm316.0000°; N 0.2724, Plg2.0000°, Azm51.0000°; P -2.1896, Plg23.0000°, Azm141.0000°;*

*NEIC **27** 19:33:39, 53.45N×163.64W, h20km*

*GCMT **27** 19:33:41.6±0.1, 53.46N×0.01E×163.65W±0.01, h16km, MW5.5/142, Moment Tensor Solution. s123,c225; s142,c314; Duration: 1s3 Moment tensor: Scale 10^17 Nm; Mrr1.18±.02; Mθθ-0.83±.02; Mφφ-0.35±.02; Mrθ1.45±.06; Mθφ-0.89±.01; Mφr0.34±.05; Best double couple: M0 2.02600×10^17 NP1:φ71.00000°, δ70.00000°, λ107.00000°. NP2:φ210.00000°, δ26.00000°, λ52.00000°. Principal axes: T 1.9450, Plg61.0000°, Azm6.0000°; N 0.1610, Plg16.0000°, Azm246.0000°; P -2.1060, Plg23.0000°, Azm149.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 27 19:33:37.3±0.4, 53.45N±0.04×163.47W±0.03, h19km±1km, h18km:pP-P,n1261,σ1.74/1123, mb5.1/252, MS5.0/235, 77C-22D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.22**	**328**		**Pn**	**19 33 58.7**	**-0.8**
ISLZ	**Isanotski Laza**	**1.29**	**354**		**Pn**	**19 34 00.4**	**+0.1**
ISLZ					**Sg**	**19 34 18.4**	**-0.6**
SSLS	**Shishaldin Sou**	**1.30**	**346**		**Pn**	**19 34 00.6**	**0.0**
SSLS					**Sg**	**19 34 19.8**	**+0.2**
WECS	**Westdahl Cape**	**1.33**	**325**		**Pn**	**19 34 00.3**	**-0.7**
WEBT	**Westdahl Beart**	**1.37**	**327**		**Pn**	**19 34 01.2**	**-0.3**
WEBT					**Sb**	**19 34 20.0**	**+0.4**
ISNN	**Isanotski Nort**	**1.40**	**353**		**Pb**	**19 34 02.8**	**0.0**
FALS	**False Pass**	**1.41**	**1**	P	**Pb**	**19 34 03.3**	**+0.3**
FALS	**False Pass**	**1.41**	**1**		**Pb**	**19 34 02.7**	**-0.3**
FALS					**Sg**	**19 34 22.5**	**-0.4**
FALS	**False Pass**	**1.41**	**1**	P	**Pb**	**19 34 02.8**	**-0.3**
	baz=184,SNR=431						
AKSA	**Akutan Strait**	**1.49**	**298**		**Pn**	**19 34 02.4**	**-0.7**
AKSA	**Akutan Strait**	**1.49**	**298**		**Pn**	**19 34 01.8**	**-1.3**
AKSA					**Sn**	**19 34 20.2**	**-1.8**
AHB	**Akutan Harbor**	**1.55**	**297**		**Pn**	**19 34 02.8**	**-1.1**
AKBBA	**Akutan Broad B**	**1.60**	**295**		**Pn**	**19 34 03.5**	**-1.1**
AKBBA					**Sn**	**19 34 24.1**	**-0.7**
ZRO	**Akutan Zero**	**1.62**	**294**		**Pn**	**19 34 04.0**	**-1.0**
UNV	**Unalaska Valle**	**1.85**	**284**	P	**Pn**	**19 34 07.1**	**-0.9**
UNV	**Unalaska Valle**	**1.85**	**284**		**Sn**	**19 34 29.2**	**-1.6**
UNV	**Unalaska Valle**	**1.85**	**284**	P	**Pn**	**19 34 07.2**	**-0.8**
	baz=104,SNR=161						
MREP	**Makushin Rep't**	**1.99**	**282**		**Pn**	**19 34 09.2**	**-0.7**
PVV	**Pavlof Volcano**	**2.16**	**26**		**Pb**	**19 34 14.4**	**-1.4**
PS1A	**Pavlof South-1**	**2.22**	**26**		**Pb**	**19 34 15.2**	**-1.6**
S12K	**Black Hills**	**2.40**	**19**	Pn	**Pn**	**19 34 17.9**	**+2.3**
S12K				IAML		19 35 01.7	
	comp=E,5μm,0.6s						
S12K	**Black Hills**	**2.40**	**19**	P	**Pn**	**19 34 17.3**	**+1.7**
	baz=202,SNR=76						
SDPT	**Sand Point**	**2.58**	**41**	P	**Pn**	**19 34 20.6**	**+2.5**
SDPT	**Sand Point**	**2.58**	**41**		**Pn**	**19 34 20.4**	**+2.4**
SDPT				IAML		19 35 10.2	
	comp=E,5μm,1.7s						
SDPT				IAML		19 35 21.6	
	comp=N,7μm,1.6s						
SDPT	**Sand Point**	**2.58**	**41**	P	**Pn**	**19 34 20.2**	**+2.1**
	baz=224,SNR=64						
CNBA	**Chernabura Isl**	**2.66**	**57**	Pn	**Pn**	**19 34 21.1**	**+1.9**
CNBA				IAML		19 34 55.9	
	comp=E,3μm,0.5s						
CHNA	**Chernabura Isl**	**2.67**	**57**	P	**Pn**	**19 34 20.5**	**+1.3**
	baz=240,SNR=24						
OKER	**Okmok East Rim**	**2.74**	**272**		**Pn**	**19 34 20.0**	**-0.4**
OKRE	**Okmok R'deer P**	**2.81**	**273**		**Pn**	**19 34 21.0**	**-0.2**
OKWE	**Okmok W'ng Wal**	**2.85**	**272**		**Pn**	**19 34 21.8**	**-0.1**
NIKH	**Nikolski High**	**3.28**	**264**	P	**Pn**	**19 34 27.3**	**-0.3**
NIKH	**Nikolski High**	**3.28**	**264**	P	**Pn**	**19 34 27.1**	**-0.5**
	baz=81,SNR=112						
VNWF	**Veniaminof 8**	**3.53**	**38**		**Pn**	**19 34 34.4**	**+3.2**
VNSS	**Veniaminof 8**	**3.62**	**38**		**Pn**	**19 34 35.8**	**+3.2**
S14K	**Fog Glacier**	**3.63**	**37**	P	**Pn**	**19 34 35.0**	**+2.5**
	baz=220,SNR=25						
VNFG	**Fog Glacier, M**	**3.63**	**37**		**Pn**	**19 34 35.5**	**+2.9**
VNHG	**Veniaminof 1**	**3.73**	**40**		**Pn**	**19 34 35.9**	**+2.0**
CLCO	**Concord Point,**	**3.83**	**263**		**Pn**	**19 34 34.7**	**-0.5**
CLES	**Cleveland East**	**3.92**	**263**	Pn	**Pn**	**19 34 36.3**	**-0.2**
CLES				IAML		19 35 48.7	
	comp=E,2μm,1.0s						
CLES				IAML		19 36 18.9	
	comp=N,2μm,2.0s						
CHGN	**Chignik**	**4.08**	**44**	P	**Pn**	**19 34 40.8**	**+2.1**
	baz=228,SNR=32						
ANNE	**Aniakchak Nort**	**4.65**	**40**		**Pn**	**19 34 49.7**	**+3.1**
P08K	**Saint George I**	**4.71**	**315**		**Pn**	**19 34 47.7**	**+0.3**
P08K	**Saint George I**	**4.71**	**315**	P	**Pn**	**19 34 49.3**	**+2.0**
	baz=131						
CHIR	**Chirikof Islan**	**5.14**	**59**	P	**Pn**	**19 34 54.4**	**+1.3**
	baz=245						
R16K	**Pilot Point**	**5.31**	**37**	P	**Pn**	**19 34 57.5**	**+1.9**
	baz=222						
SPIA	**Saint Paul Isl**	**5.38**	**317**	P	**Pn**	**19 34 58.3**	**+1.8**
SPIA	**Saint Paul Isl**	**5.38**	**317**		**Pn**	**19 34 57.0**	**+0.6**
PLK3	**Peulik 3**	**5.89**	**41**		**Pn**	**19 35 06.4**	**+2.9**
O14K	**Tigyukauivet M**	**5.95**	**11**		**Pn**	**19 35 06.7**	**+2.5**
O14K	**Tigyukauivet M**	**5.95**	**11**	P	**Pn**	**19 35 06.0**	**+1.7**
	baz=193,SNR=15						
O15K	**Ungalikthiuk R**	**6.09**	**18**		**Pn**	**19 35 08.2**	**+2.0**
O15K	**Ungalikthiuk R**	**6.09**	**18**	P	**Pn**	**19 35 07.7**	**+1.5**
	baz=201,SNR=14						
SII	**Sitkinak Islan**	**6.18**	**56**	P	**Pn**	**19 35 09.0**	**+1.5**
SII	**Sitkinak Islan**	**6.18**	**56**	Pn	**Pn**	**19 35 08.5**	**+1.0**
P16K	**Nushagak River**	**6.37**	**26**		**Pn**	**19 35 12.1**	**+2.1**
P16K	**Nushagak River**	**6.37**	**26**	P	**Pn**	**19 35 12.2**	**+2.1**
	baz=211						
Q16K	**King Salmon**	**6.48**	**33**	P	**Pn**	**19 35 12.5**	**+1.0**
	baz=219						
ANCK	**Angle Creek**	**6.54**	**40**		**Pn**	**19 35 14.8**	**+2.3**
KOFP	**Korovin Flat P**	**6.55**	**264**		**Pn**	**19 35 13.1**	**+0.5**
N14K	**Kuskokwak Cree**	**6.56**	**8**		**Pn**	**19 35 15.1**	**+2.4**
N14K	**Kuskokwak Cree**	**6.56**	**8**	P	**Pn**	**19 35 15.2**	**+2.4**
	baz=190,SNR=34						
R18K	**Karluk**	**6.57**	**48**		**Pn**	**19 35 14.7**	**+1.9**
R18K	**Karluk**	**6.57**	**48**	P	**Pn**	**19 35 14.0**	**+1.2**
	baz=235						
KOKL	**Mount Kliuchef**	**6.59**	**264**		**Pn**	**19 35 13.2**	**0.0**
ACHA	**Angle Creek He**	**6.62**	**41**		**Pn**	**19 35 15.3**	**+1.8**
ATKA	**Atka Island**	**6.62**	**263**	P	**Pn**	**19 35 13.8**	**+0.3**
ATKA	**Atka Island**	**6.62**	**263**	Pn	**Pn**	**19 35 14.0**	**+0.4**
KCE	**Katmai Mt Cerb**	**6.69**	**41**		**Pn**	**19 35 17.6**	**+3.1**
KVTA	**Katmai Vly 10**	**6.74**	**40**		**Pn**	**19 35 17.3**	**+2.0**
O16K	**Kokwok River B**	**6.84**	**24**		**Pn**	**19 35 18.4**	**+1.9**
O16K	**Kokwok River B**	**6.84**	**24**	P	**Pn**	**19 35 18.2**	**+1.7**
	baz=208,SNR=39						
OHAK	**Old Harbor**	**6.93**	**53**	P	**Pn**	**19 35 18.6**	**+0.9**
OHAK	**Old Harbor**	**6.93**	**53**	Pn	**Pn**	**19 35 18.5**	**+0.9**
OHAK	**Old Harbor**	**6.93**	**53**	P	**Pn**	**19 35 18.0**	**+0.4**
	baz=241,SNR=11						
P17K	**Kvichak River**	**6.96**	**31**		**Pn**	**19 35 20.9**	**+2.8**
	baz=217,SNR=19						
P17K	**Kvichak River**	**6.96**	**31**	P	**Pn**	**19 35 19.6**	**+1.5**
	baz=217,SNR=19						
M13K	**Dall Lake**	**6.98**	**0**		**Pn**	**19 35 21.7**	**+3.3**
M13K	**Dall Lake**	**6.98**	**0**	P	**Pn**	**19 35 20.8**	**+2.3**
	baz=181,SNR=13						
N15K	**Kwethluk River**	**6.99**	**14**	Pn	**Pn**	**19 35 21.6**	**+3.0**
N15K	**Kwethluk River**	**6.99**	**14**	P	**Pn**	**19 35 20.6**	**+2.1**
	baz=197,SNR=38						
KAHC	**Katmai Hardscr**	**7.04**	**39**		**Pn**	**19 35 22.1**	**+2.8**
M11K	**Mekoryuk**	**7.11**	**349**		**Pn**	**19 35 22.8**	**+2.6**
M11K	**Mekoryuk**	**7.11**	**349**	P	**Pn**	**19 35 21.7**	**+1.4**
	baz=167,SNR=14						
O17K	**Koliganek Bris**	**7.25**	**26**		**Pn**	**19 35 24.4**	**+2.4**
O17K	**Koliganek Bris**	**7.25**	**26**	P	**Pn**	**19 35 23.6**	**+1.6**
	baz=212,SNR=30						
M14K	**Bethel**	**7.37**	**6**		**Pn**	**19 35 26.4**	**+2.7**
M14K	**Bethel**	**7.37**	**6**	P	**Pn**	**19 35 25.2**	**+1.5**
	baz=188,SNR=70						
M15K	**Kasigluk River**	**7.42**	**11**	P	**Pn**	**19 35 26.1**	**+1.6**
	baz=193,SNR=32						
N16K	**Nishlik Lake**	**7.49**	**18**	P	**Pn**	**19 35 27.8**	**+2.2**
	baz=202,SNR=46						
P18K	**Big Mountain,**	**7.50**	**34**		**Pn**	**19 35 26.8**	**+1.1**
P18K	**Big Mountain,**	**7.50**	**34**	P	**Pn**	**19 35 27.1**	**+1.4**
	baz=221,SNR=11						
KDAK	**Kodiak Island**	**7.54**	**50**	P	**Pn**	**19 35 26.9**	**+0.9**
	baz=239						
KDAK	**Kodiak Island**	**7.54**	**50**	Pn	**Pn**	**19 35 26.7**	**+0.7**
	comp=N,22nm,0.3s,baz=211,slow=4.3,SNR=44						
KDAK					**Sn**	**19 36 46.3**	**-4.5**
	comp=N,4.6nm,0.3s,baz=152,slow=21,SNR=1.2						
	comp=N,62nm,0.4s						
KDAK	**Kodiak Island**	**7.54**	**50**	*c* P	**Pn**	**19 35 27.3**	**+1.3**
Q19K	**Cape Douglas,**	**7.75**	**41**		**Pn**	**19 35 31.1**	**+2.1**
Q19K	**Cape Douglas,**	**7.75**	**41**	P	**Pn**	**19 35 30.1**	**+1.0**
	baz=229,SNR=12						
O18K	**Koktuh Hills**	**7.86**	**32**		**Pn**	**19 35 33.9**	**+3.3**
O18K	**Koktuh Hills**	**7.86**	**32**	P	**Pn**	**19 35 32.7**	**+2.1**
	baz=219,SNR=20						
N17K	**Nushagak Hills**	**7.88**	**23**	P	**Pn**	**19 35 32.5**	**+1.8**
	baz=209,SNR=17						
L14K	**Kuka Creek**	**7.93**	**3**		**Pn**	**19 35 33.4**	**+2.0**
L14K	**Kuka Creek**	**7.93**	**3**	P	**Pn**	**19 35 33.1**	**+1.7**
	baz=184,SNR=50						
M16K	**Timber Creek**	**7.97**	**16**		**Pn**	**19 35 34.2**	**+2.1**
M16K	**Timber Creek**	**7.97**	**16**	P	**Pn**	**19 35 34.1**	**+2.0**
	baz=200,SNR=25						
Q20K	**Shuyak Island**	**8.07**	**46**	P	**Pn**	**19 35 35.2**	**+1.8**
	baz=235						
SYI	**Shuyak Island**	**8.07**	**46**		**Pn**	**19 35 35.9**	**+2.5**
L15K	**Ungalak Mounta**	**8.32**	**7**		**Pn**	**19 35 38.8**	**+2.0**
L15K	**Ungalak Mounta**	**8.32**	**7**	P	**Pn**	**19 35 38.6**	**+1.8**
	baz=189,SNR=42						
N18K	**Kilae Creek**	**8.34**	**27**	P	**Pn**	**19 35 38.4**	**+1.4**
	baz=213,SNR=8.2						
P19K	**Oil Pt**	**8.40**	**38**		**Pn**	**19 35 41.2**	**+3.3**
P19K	**Oil Pt**	**8.40**	**38**	P	**Pn**	**19 35 39.3**	**+1.4**
	baz=227						
K13K	**Kusilvak Mount**	**8.53**	**356**		**Pn**	**19 35 42.6**	**+2.9**
K13K	**Kusilvak Mount**	**8.53**	**356**	P	**Pn**	**19 35 41.3**	**+1.6**
	baz=176,SNR=36						
L16K	**Owhat River**	**8.55**	**13**	P	**Pn**	**19 35 41.5**	**+1.4**
	baz=197,SNR=22						
M17K	**Holitna River**	**8.61**	**20**		**Pn**	**19 35 42.6**	**+1.8**
M17K	**Holitna River**	**8.61**	**20**	P	**Pn**	**19 35 42.5**	**+1.8**
	baz=205,SNR=22						
SVW2	**Sparrevohn**	**8.77**	**26**	P	**Pn**	**19 35 46.4**	**+3.4**
N19K	**Bonanza Creek**	**8.84**	**30**		**Pn**	**19 35 47.1**	**+3.1**
N19K	**Bonanza Creek**	**8.84**	**30**	P	**Pn**	**19 35 45.8**	**+1.7**
	baz=218,SNR=23						
O20K	**Slope Mountain**	**8.91**	**37**		**Pn**	**19 35 47.9**	**+2.9**
O20K	**Slope Mountain**	**8.91**	**37**	P	**Pn**	**19 35 45.7**	**+0.7**
	baz=227						
K15K	**Wolf Creek Mou**	**8.93**	**6**		**Pn**	**19 35 47.4**	**+2.2**
K15K	**Wolf Creek Mou**	**8.93**	**6**	P	**Pn**	**19 35 47.5**	**+2.4**
	baz=188,SNR=53						
HOM	**Homer**	**9.01**	**42

CAST **Castle Rocks** 11.62 26 P Pn 19 36 24.4 +2.4
baz=216,SNR=20
SML **Sawmill** 11.63 38 P Pn 19 36 21.5 -0.7
baz=231,SNR=12
H17K **Granite Mounta** 11.66 8 P Pn 19 36 24.5 +2.0
baz=191,SNR=21
J20K **Nowinta River** 11.77 20 P Pn 19 36 26.0 +1.9
baz=208,SNR=29
GCSA **Galena City Sc** 11.82 14 P Pn 19 36 27.0 +2.4
baz=200
M23K **Glacier View** 11.85 39 P Pn 19 36 25.8 +0.7
baz=232,SNR=34
CHUM **Lake Minchumin** 11.94 24 P Pn 19 36 28.2 +1.9
baz=214,SNR=9.0
EYAK **Cordova Ski Ar** 11.96 46 P Pn 19 36 27.5 +0.8
EYAK **Cordova Ski Ar** 11.96 46 P Pn 19 36 27.0 +0.3
baz=241,SNR=9.6
G16K **Koyuk River** 12.00 2 P Pn 19 36 28.8 +1.7
baz=184
H18K **Honhosa River** 12.02 10 P Pn 19 36 28.4 +1.0
baz=195
SCM **Sheep Creek Mo** 12.02 39 P Pn 19 36 27.9 +0.4
baz=233,SNR=33
TRF **Thorofare Moun** 12.14 29 P Pn 19 36 30.0 +0.8
baz=220,SNR=10
F14K **Arctic Creek** 12.15 354 P Pn 19 36 30.9 +1.8
baz=172
G17K **Kiwalik Mounta** 12.17 6 P Pn 19 36 31.9 +2.5
baz=188
WAT1 **Susitna Watana** 12.23 34 P Pn 19 36 30.7 +0.3
baz=227
I20K **Naaghedeneel** 12.26 18 P Pn 19 36 32.6 +2.0
baz=206,SNR=5.8
KAIM **Kayak Island** 12.29 51 Pn Pn 19 36 32.7 +1.6
KAIM **Kayak Island** 12.29 51 P Pn 19 36 31.1 0.0
baz=246
F15K **North Star Dit** 12.31 358 Pn 19 36 34.7 +3.3
F15K **North Star Dit** 12.31 358 P Pn 19 36 33.7 +2.3
baz=177
WAT6 **Susitna Watana** 12.34 36 P Pn 19 36 31.5 -0.5
baz=229,SNR=19
TNA **Tin City** 12.35 351 P Pn 19 36 33.6 +1.7
baz=168
KLU **Klutina** 12.38 42 P Pn 19 36 32.5 +0.1
baz=237,SNR=75
BPAW **Bear Paw Mtn.** 12.46 26 P Pn 19 36 35.5 +2.1
baz=217,SNR=38
H19K **Roundabout Mou** 12.62 13 P Pn 19 36 37.2 +1.7
baz=200,SNR=15
M24K **Tolsona, Glenn** 12.62 40 P Pn 19 36 35.7 0.0
baz=234,SNR=18
BMRM **Bremner River** 12.66 46 P Pn 19 36 36.7 +0.5
baz=242,SNR=13
G18K **Tagagawik** 12.71 9 Pn Pn 19 36 39.9 +3.0
G18K **Tagagawik** 12.71 9 P Pn 19 36 38.9 +2.0
baz=193
MCK **McKinley** 12.75 30 P Pn 19 36 39.3 +1.8
baz=223
DHY **Denali Highway** 12.79 35 P Pn 19 36 37.2 -1.0
baz=228,SNR=15
H20K **Anotleneega Mo** 12.82 16 P Pn 19 36 39.3 +0.9
baz=204,SNR=10
BGLC **Bering Glacier** 12.89 51 P Pn 19 36 39.2 -0.1
baz=248
N25K **Chitina, Valde** 12.98 44 P Pn 19 36 40.5 -0.1
baz=239,SNR=16
F17K **Baldwin Pennin** 13.08 4 P Pn 19 36 43.7 +1.9
baz=186
I21K **Tanana** 13.11 22 Pn Pn 19 36 44.3 +2.0
I21K **Tanana** 13.11 22 P Pn 19 36 44.4 +2.0
baz=212
G19K **Purcell Mounta** 13.12 11 P Pn 19 36 44.0 +1.6
baz=197,SNR=7.4
HARP **HAARP** 13.18 40 P Pn 19 36 44.1 +0.8
baz=236,SNR=12
MLY **Manley** 13.28 24 P Pn 19 36 46.5 +1.9
baz=215,SNR=52
VRDI **Verde Repeater** 13.28 46 Pn 19 36 44.8 +0.1
F18K **Selawik** 13.33 7 P Pn 19 36 47.1 +1.9
baz=190,SNR=8.3
H21K **Melozitna Rive** 13.35 19 P Pn 19 36 47.5 +1.9
baz=209,SNR=40
NEA2 **Nenana** 13.36 28 P Pn 19 36 47.3 +1.5
baz=220,SNR=9.6
PAX **Paxson** 13.40 38 P Pn 19 36 45.4 -0.9
baz=233,SNR=37
SHEM **Shemya Is, Ala** 13.49 276 Pn Pn 19 36 47.8 +0.2
comp=N,2.2nm,0.3s,baz=272,slow=20,SNR=1.5
SHEM LR LR 19 41 40.8
comp=N,6µm,21.4s,baz=104,slow=36
comp=N,22nm,0.7s
MESA **MESA** 13.53 52 P Pn 19 36 47.1 -1.1
baz=250
MCARA **McCarthy VSAT** 13.53 46 P Pn 19 36 47.5 -0.6
baz=243
E17K **Hotham Inlet** 13.70 3 P Pn 19 36 51.5 +1.2
baz=184
F19K **Shaleruckik Mo** 13.71 10 P Pn 19 36 52.3 +1.8
baz=195,SNR=11
I23K **Minto, Yukon-K** 13.72 26 P Pn 19 36 51.1 +0.6
baz=218,SNR=9.4
CCB **Clear Creek Bu** 13.76 29 Pn Pn 19 36 49.1 -2.1
K24K **Donnelly Dome** 13.82 34 P Pn 19 36 52.5 +0.6
baz=230,SNR=18
HDA **Harding Lake** 13.85 31 P Pn 19 36 52.2 -0.2
baz=225,SNR=15
H22K **Ishtalitna Cre** 13.86 21 P Pn 19 36 54.2 +1.8
baz=212,SNR=26
COLA **College** 13.92 29 P Pn 19 36 54.8 +1.5
COLA **College** 13.92 29 P Pn 19 36 55.2 +1.9
baz=222
COLA **College** 13.92 29 eP Pn 19 36 52.8 -0.5
G21K **Allakaket** 13.99 17 Pn Pn 19 36 56.0 +1.6
G21K **Allakaket** 13.99 17 P Pn 19 36 55.9 +1.5
baz=206
M26K **Nabesna, AK** 14.03 42 Pn 19 36 54.8 -0.1
M26K **Nabesna, AK** 14.03 42 P Pn 19 36 54.9 -0.1
baz=240,SNR=43
E18K **Tukpahlearik C** 14.09 5 P Pn 19 36 57.7 +2.2
baz=187,SNR=15
CTG **Chitna Glacier** 14.10 49 P Pn 19 36 56.7 +0.8
baz=248,SNR=5.6
ILAR **Eielson Array** 14.13 30 Pn Pn 19 36 53.5 -2.6
comp=N,0.7nm,0.3s,baz=224,slow=12,SNR=41
ILAR Sn Sn 19 39 26.9 -5.3
baz=160,slow=33
ILAR PcP PcP 19 42 14.9 +0.5
comp=N,1.0nm,0.5s,baz=280,slow=3.2,SNR=5.9
ILAR LR LR 19 42 57.9
comp=N,14µm,18.1s,baz=220,slow=40
comp=N,2.3nm,0.5s
F20K **Avaraart Lake** 14.15 12 P Pn 19 36 58.1 +1.6
baz=200,SNR=17
H23K **Yukon River** 14.22 24 P Pn 19 36 58.4 +1.0
baz=216,SNR=69
POKR **Poker Plat Res** 14.22 28 P Pn 19 36 58.0 +0.5
baz=222
L26K **Log Cabin Wild** 14.22 40 P Pn 19 36 58.1 +0.6
baz=237,SNR=9.0
D17K **Noatak River** 14.30 1 P Pn 19 36 60.0 +1.5
baz=181
E19K **Redstone River** 14.37 10 P Pn 19 37 00.9 +1.4
baz=195
M27K **Edge Creek, AK** 14.46 43 P Pn 19 37 00.3 -0.6
baz=242,SNR=10
J25K **Salcha River,** 14.49 32 Pn Pn 19 36 58.2 -3.0
J25K **Salcha River,** 14.49 32 P Pn 19 37 00.8 -0.3
baz=228,SNR=22
SCRK **Sand Creek** 14.54 36 P Pn 19 37 02.4 +0.5
baz=233,SNR=13
O28M **Mount Upton** 14.55 51 P Pn 19 37 02.1 -0.2
baz=250,SNR=8.4
PNL **Peninsula** 14.60 55 P Pn 19 37 05.6 +2.9
PNL **Peninsula** 14.60 55 P Pn 19 37 01.8 -0.9
baz=255,SNR=7.3
F21K **Alatna River** 14.64 15 P Pn 19 37 03.3 +0.1
baz=204,SNR=61
H24K **Noodor Dome** 14.64 26 P Pn 19 37 02.1 -1.2
baz=220,SNR=20
RDOG **Red Dog Mine** 14.66 1 P Pn 19 37 03.6 +0.2
baz=182
G22K **Bettles** 14.72 19 P Pn 19 37 05.2 +1.0
baz=209
YUK3 **Moose Creek** 14.81 47 P Pn 19 37 05.2 -0.5
baz=246
L27K **Beaver Creek,** 14.83 41 Pn 19 37 05.5 -0.4
L27K **Beaver Creek,** 14.83 41 P Pn 19 37 05.2 -0.6
baz=240,SNR=28

G23K **Bananza Creek** 14.84 21 P Pn 19 37 06.8 +0.9
baz=213,SNR=154
C16K **Lisburne Hills** 14.90 357 P P 19 37 10.7 -1.5
C16K **Lisburne Hills** 14.90 357 P Pn 19 37 07.1 +0.4
baz=176
YUK8 **Steele Glacier** 14.93 49 P Pn 19 37 05.9 -1.4
baz=249,SNR=18
J26L **Joseph Creek** 15.01 35 IAmb IAmb 19 37 17.0
comp=Z,44nm,0.7s
J26L **Joseph Creek** 15.01 35 P Pn 19 37 07.5 -0.8
baz=232,SNR=83
PRP **Porcupine Dome** 15.06 30 P Pn 19 37 08.6 -0.4
baz=225,SNR=9.5
C17K **DeLong Mountai** 15.08 0 P Pn 19 37 10.3 +1.3
baz=181,SNR=7.0
F22K **John River** 15.12 17 P Pn 19 37 10.9 +1.3
baz=207,SNR=83
O29M **Mount Kennedy** 15.17 53 Pn Pn 19 37 12.6 +2.2
O29M IAmb IAmb 19 37 14.8
comp=Z,67nm,0.5s
O29M **Mount Kennedy** 15.17 53 P Pn 19 37 10.0 -0.4
baz=254
COLD **Coldfoot** 15.24 20 P Pn 19 37 11.9 +0.7
baz=212,SNR=75
E20K **Nigu River** 15.26 10 P Pn 19 37 11.4 -0.1
baz=197
K27K **Chicken** 15.26 38 P Pn 19 37 11.5 +0.1
baz=236
C18K **Utukok River** 15.29 3 P Pn 19 37 11.9 0.0
baz=185,SNR=7.7
D19K **Kuna River** 15.31 7 Pn Pn 19 37 14.1 +1.9
D19K **Kuna River** 15.31 7 P Pn 19 37 11.7 -0.4
baz=192
P29M **Windy Craggy** 15.41 56 IAmb IAmb 19 37 24.1
comp=Z,99nm,1.4s
P29M **Windy Craggy** 15.41 56 P Pn 19 37 12.6 -1.0
baz=258
G24K **Hadweenzic Riv** 15.42 24 P Pn 19 37 12.1 -1.5
baz=218,SNR=12
YUK4 **Talbot Arm** 15.46 49 P Pn 19 37 13.9 -0.3
baz=250
YUK6 **Outpost Mounta** 15.46 51 P Pn 19 37 11.4 -2.9
baz=252
H25L **Birch Creek** 15.52 27 P Pn 19 37 13.0 -1.9
baz=223,SNR=7.5
D20K **Etivluk River** 15.65 9 P Pn 19 37 17.1 +0.5
baz=196
I26K **Coal Creek Min** 15.65 33 Pn Pn 19 37 16.3 -0.3
I26K IAmb IAmb 19 37 22.0
comp=Z,49nm,0.5s
I26K **Coal Creek Min** 15.65 33 P Pn 19 37 15.7 -0.9
baz=230
E21K **Killik River** 15.70 13 P Pn 19 37 17.0 -0.1
baz=202,SNR=16
E22K **Anaktuvuk Pass** 15.74 16 IAmb IAmb 19 37 27.1
comp=Z,82nm,1.2s
E22K **Anaktuvuk Pass** 15.74 16 P Pn 19 37 19.3 +1.5
baz=207,SNR=34
C19K **Lookout Ridge** 15.81 5 IAmb IAmb 19 37 26.8
comp=Z,209nm,2.0s
C19K **Lookout Ridge** 15.81 5 P Pn 19 37 20.0 +1.3
baz=189,SNR=6.8
G25K **Bearman Lake** 15.82 26 P Pn 19 37 18.1 -0.6
baz=221
HYT **Haines Junctio** 15.82 52 P Pn 19 37 18.6 -0.3
baz=254
P30M **Million Dollar** 15.91 55 P Pn 19 37 19.1 -0.8
baz=257
M29M **Somme Creek** 15.94 46 IAmb IAmb 19 37 29.3
comp=Z,142nm,0.8s
M29M **Somme Creek** 15.94 46 P Pn 19 37 19.5 -0.8
baz=247,SNR=17
S31K **Pelican** 15.94 63 Pn P 19 37 22.9 -0.9
S31K **Pelican** 15.94 63 P Pn 19 37 19.2 -1.1
baz=255
F24K **Squaw Lake** 15.98 22 P Pn 19 37 20.4 -0.4
baz=216,SNR=24
B18K **Kokolik River** 15.99 2 P Pn 19 37 20.3 -0.6
baz=184
EGAK **Eagle** 16.01 36 P Pn 19 37 21.0 -0.1
baz=235,SNR=30
PLBC **Pleasant Camp** 16.07 57 P Pn 19 37 21.2 -0.7
baz=260,SNR=5.7
E23K **Chulalar** 16.07 19 P Pn 19 37 23.0 +0.9
baz=211
N30M **Aishikik Lake** 16.20 50 P Pn 19 37 24.2 +0.5
baz=252,SNR=19
C21K **Knifeblade Rid** 16.27 11 P Pn 19 37 25.8 +1.2
baz=199,SNR=22
DAWY **Dawson** 16.28 40 IAmb IAmb 19 37 33.2
comp=Z,51nm,0.6s
DAWY **Dawson** 16.28 40 P Pn 19 37 24.2 -0.5
baz=240,SNR=23
D22K **Ayikyak River** 16.29 14 Pn P 19 37 26.8 -0.8
D22K IAmb IAmb 19 37 33.9
comp=Z,113nm,1.4s
D22K **Ayikyak River** 16.29 14 P Pn 19 37 25.8 +1.1
baz=204,SNR=34
E24K **Your Creek** 16.31 20 P Pn 19 37 25.6 +0.5
baz=214,SNR=95
I27K **Kandik River** 16.34 33 P Pn 19 37 26.7 +1.3
baz=232,SNR=31
L29M **L29M** 16.35 44 P Pn 19 37 26.1 +0.5
L29M IAmb IAmb 19 37 33.6
comp=Z,179nm,0.9s
L29M **L29M** 16.35 44 P Pn 19 37 25.5 -0.1
baz=245,SNR=52
SIT **Sitka** 16.39 66 P Pn 19 37 25.2 -0.8
baz=269
O30N **Mendenhall** 16.48 53 P Pn 19 37 26.2 -1.0
baz=256,SNR=12
F25K **Christian Rive** 16.57 24 P Pn 19 37 26.7 -1.7
baz=220,SNR=43
G26K **Porcupine Rive** 16.58 28 P Pn 19 37 24.9 -3.5
baz=225,SNR=6.7
TOLK **Toolik Lake Re** 16.58 18 Pn Pn 19 37 29.8 +1.3
TOLK **Toolik Lake Re** 16.58 18 P Pn 19 37 28.7 +0.2
baz=210,SNR=58
SKAG **Skagway** 16.59 58 P P 19 37 33.1 +2.1
SKAG **Skagway** 16.59 58 P Pn 19 37 28.9 +0.4
baz=261,SNR=7.4
D23K **Nanushuk River** 16.68 16 P P 19 37 31.0 -0.9
baz=208,SNR=21
M30M **Minto, Yukon** 16.70 46 Pn Pn 19 37 31.0 +0.9
M30M **Minto, Yukon** 16.70 46 P Pn 19 37 29.8 -0.3
baz=249
B21K **Ikpikpuk River** 16.73 11 P Pn 19 37 31.0 +0.7
baz=199,SNR=13
H27K **Steamboat Moun** 16.76 32 P Pn 19 37 31.3 +0.5
baz=231,SNR=16
S32K **Killisnoo** 16.80 65 P Pn 19 37 30.3 -1.0
baz=268
N31M **Braeburn, Yuko** 16.81 50 P 19 37 33.8 +0.3
N31M **Braeburn, Yuko** 16.81 50 P Pn 19 37 31.1 -0.4
baz=254,SNR=8.9
I28M **Miner Creek** 16.82 35 P Pn 19 37 31.9 +0.3
baz=236,SNR=39
A19K **Wainwright** 16.85 3 P Pn 19 37 32.5 +0.7
baz=185
B20K **Meade River** 16.87 7 P Pn 19 37 32.6 +0.6
baz=193
R32K **Eaglecrest** 16.87 62 P Pn 19 37 31.3 -0.8
baz=266
K29M **Barlow Dome** 16.91 42 IAmb IAmb 19 37 41.5
comp=Z,127nm,1.1s
K29M **Barlow Dome** 16.91 42 P Pn 19 37 32.8 +0.1
baz=244,SNR=104
J29N **Klondike Camp** 16.92 39 P Pn 19 37 32.7 -0.1
baz=241,SNR=9.1
JIS **Juneau Island** 16.94 62 P P 19 37 37.8 +2.9
E25K **Arctic Village** 17.00 23 P Pn 19 37 34.0 +0.3
baz=219,SNR=16
F26K **Sheenjek River** 17.02 26 P Pn 19 37 33.9 -0.1
baz=223,SNR=18
WHY **Whitehorse** 17.03 54 P Pn 19 37 33.6 -0.7
baz=258,SNR=19
G27K **Doyon Strip** 17.10 30 Pn Pn 19 37 32.0 -3.0
G27K **Doyon Strip** 17.10 30 P Pn 19 37 34.5 -0.5
baz=229,SNR=17
D24K **Happy Valley** 17.17 18 P Pn 19 37 36.2 +0.4
baz=211,SNR=42
I29M **Ogilvie Camp,** 17.34 37 Pn Pn 19 37 37.7 -0.3
I29M **Ogilvie Camp,** 17.34 37 P Pn 19 37 37.9 -0.1
baz=239,SNR=47
P32M **Atlin** 17.42 57 P P 19 37 42.7 +2.5
P32M **Atlin** 17.42 57 P Pn 19 37 38.4 -0.6
baz=262,SNR=17
C23K **Itkillik River** 17.47 15 P P 19 37 40.2 -0.4
baz=206,SNR=34
MAYO **Mayo, Yukon** 17.47 44 P Pn 19 37 39.3 -0.3
baz=247,SNR=18
B22K **Teshekpuk Lake** 17.55 11 IAmb IAmb 19 37 48.1
comp=Z,190nm,1.6s
B22K **Teshekpuk Lake** 17.55 11 P Pn 19 37 40.5 0.0
baz=200,SNR=24
U33K **Whale Pass** 17.63 69 P Pn 19 37 40.1 -1.5
baz=274
M31M **Drury Creek, Y** 17.64 49 P Pn 19 37 42.0 +0.2
baz=254,SNR=49
C24K **Franklin Bluff** 17.68 17 P P 19 37 42.8 -0.2
baz=210
CRAG **Craig** 17.69 71 P P 19 37 46.4 +3.3
CRAG **Craig** 17.69 71 P Pn 19 37 40.5 -1.9
baz=276
T33K **Petersburg** 17.69 67 P Pn 19 37 41.7 -0.6
baz=272
J30M **Hart River** 17.70 40 P P 19 37 43.2 -0.1
baz=244,SNR=44
D25K **Kavik River** 17.78 20 P 19 37 44.1 -0.1
D25K **Kavik River** 17.78 20 P Pn 19 37 43.9 +0.4
baz=215,SNR=48
H29M **Whitestone** 17.79 34 P Pn 19 37 43.7 +0.2
baz=236,SNR=28
P33M **Teslin, Yukon** 17.96 56 IAmb IAmb 19 37 53.7
comp=Z,76nm,0.8s
P33M **Teslin, Yukon** 17.96 56 P P 19 37 46.3 +0.1
baz=261,SNR=44
I30M **Mount Dempster** 17.98 38 IAmb IAmb 19 37 53.3
comp=Z,75nm,0.6s
I30M **Mount Dempster** 17.98 38 P Pn 19 37 45.1 -0.9
baz=242,SNR=134
N32M **Quiet Lake** 17.99 53 P Pn 19 37 45.7 -0.5
baz=258
A22K **Sinclair Lake** 18.02 9 P Pn 19 37 45.6 -0.7
baz=197
WRAK **Wrangell Islan** 18.04 68 P Pn 19 37 45.9 -0.8
baz=274
E27K **Coleen River** 18.05 27 P Pn 19 37 45.6 -1.1
baz=226
FARO **Faro, Yukon** 18.12 49 P P 19 37 48.3 +0.3
baz=255,SNR=86
F28M **Old Crow** 18.15 29 P Pn 19 37 46.6 -1.4
baz=230,SNR=21
A21K **Barrow** 18.19 7 P Pn 19 37 47.0 -1.4
baz=193
G29M **Pine Creek** 18.29 33 P Pn 19 37 48.5 -1.2
baz=235,SNR=52
EPYK **Eagle Plains** 18.43 35 P Pn 19 37 51.9 +0.5
EPYK **Eagle Plains** 18.43 35 P P 19 37 51.2 -0.1
baz=238,SNR=47
V35K **Ketchikan** 18.56 71 IAmb IAmb 19 38 03.1
comp=Z,123nm,1.5s
V35K **Ketchikan** 18.56 71 P P 19 37 51.3 -1.5
baz=277
C26K **Camden Bay** 18.57 20 P P 19 37 53.0 +0.2
baz=217,SNR=138
C27K **Jago River** 18.59 22 P P 19 37 53.0 -0.1
baz=220,SNR=24
S34M **Telegraph Cree** 18.66 63 P P 19 37 52.9 -0.9
baz=270,SNR=7.0
R33M **Jennings River** 18.80 59 IAmb IAmb 19 38 06.8
comp=Z,102nm,1.4s
R33M **Jennings River** 18.80 59 P P 19 37 53.8 -1.7
baz=266,SNR=16
E28M **Babbage River** 18.89 27 P Pn 19 37 58.1 +1.0
E28M **Babbage River** 18.89 27 P P 19 37 56.0 -0.3
baz=229,SNR=7.1
G30M **tAoh Zraii Nji** 18.92 34 P P 19 37 56.7 0.0
G30M IAmb IAmb 19 38 02.7
comp=Z,37nm,0.5s
G30M **tAoh Zraii Nji** 18.92 34 P P 19 37 55.9 -0.9
baz=238,SNR=36
D27M **Malcolm River** 18.96 25 P P 19 37 57.5 +0.4
D27M **Malcolm River** 18.96 25 P P 19 37 55.9 -1.2
baz=225
H31M **Peel River** 19.00 38 P Pn 19 37 58.7 +0.4
H31M IAmb IAmb 19 38 02.8
comp=Z,78nm,0.8s
H31M **Peel River** 19.00 38 P P 19 37 57.0 -0.5
baz=243,SNR=71
MMPY **Sheldon Lake,** 19.16 49 IAmb IAmb 19 38 06.4
comp=Z,202nm,1.4s
MMPY **Sheldon Lake,** 19.16 49 P Pn 19 38 00.0 -0.3
baz=256,SNR=67
T35M **Bob Quinn** 19.16 66 P P 19 37 58.0 -1.4
baz=273,SNR=10
E29M **Blow River** 19.22 29 P P 19 37 59.1 -0.8
baz=232,SNR=20
DLBC **Dease Lake** 19.24 62 IAmb IAmb 19 38 08.2
comp=Z,171nm,2.0s
DLBC **Dease Lake** 19.24 62 P P 19 37 58.5 -1.9
baz=269,SNR=7.1
DLBC **Dease Lake** 19.24 62 P Pn 19 38 03.9 +2.5
comp=Z,0.7nm,0.3s,baz=279,slow=11,SNR=15
DLBC S Sn 19 41 35.4 -0.9
comp=Z,4.8nm,1.0s,baz=280,slow=21,SNR=1.5
comp=Z,16nm,0.8s
F30M **Barrier River** 19.41 32 P P 19 38 01.6 -0.3
baz=237,SNR=40
G31M **Satah River** 19.55 35 IAmb IAmb 19 38 20.2
comp=Z,61nm,0.8s
G31M **Satah River** 19.55 35 P P 19 38 02.8 -0.7
baz=241,SNR=36
D28M **Stokes Point** 19.59 26 P P 19 38 03.9 0.0
baz=228,SNR=7.9
WTLY **Watson Lake, Y** 19.94 57 P P 19 38 07.0 -0.9
baz=266
F31M **Tsiigehtchic** 19.99 34 IAMs_20 IAMs_20 19 46 31.8
comp=Z,8µm,18.0s
F31M **Tsiigehtchic** 19.99 34 P P 19 38 07.1 -1.2
baz=240
TGTN **Hyland Airport** 20.34 53 P P 19 38 11.5 -0.8
baz=262,SNR=13
BILL **Bilibino** 20.47 327 P P 19 38 14.4 +0.9
BILL IAmb IAmb 19 38 28.3
comp=Z,112nm,1.3s
BILL **Bilibino** 20.47 327 *i*P P 19 38 12.9 -0.6
BILL pmax pmax
comp=Z,99nm,1.7s
INK **Inuvik** 20.50 32 P P 19 38 12.8 -1.0
INK IAmb IAmb 19 38 19.9
comp=Z,46nm,0.7s
INK **Inuvik** 20.50 32 P P 19 38 12.6 -1.2
baz=238,SNR=33
INK **Inuvik** 20.50 32 P P 19 38 12.8 -1.0
comp=Z,13nm,0.4s,baz=248,slow=12,SNR=28
INK PcP PcP 19 42 25.7 +1.2
comp=Z,7.3nm,1.0s,baz=270,slow=2.0,SNR=2.2
comp=Z,13nm,0.4s
INK **Inuvik** 20.50 32 P P 19 38 12.8 -1.0
INK pmax pmax
comp=Z,46nm,0.7s
BBB **Bella Bella** 21.27 79 LR LR 19 45 12.6
comp=Z,1µm,21.4s,baz=293,slow=32
LIRD **Liard River Hi** 21.29 59 P P 19 38 20.9 -1.4
baz=270
TOAD **Toad River Com** 21.74 60 P P 19 38 26.1 -1.2
baz=272
KOTAN **Kotaneelee Air** 22.32 57 P P 19 38 32.7 -0.8
baz=270
PET **Petropavlovsk** 22.51 284 IAMs_20 IAMs_20 19 46 45.8
comp=Z,4µm,20.0s
PET **Petropavlovsk** 22.51 284 *e*P P 19 38 35.4 -0.1
PET *e*S S 19 42 36.6 -4.7
PET pmax pmax
comp=Z,58nm,1.4s
PET pmax pmax
comp=Z,800nm,10.8s
WRGLY **Wrigley** 22.78 49 P P 19 38 37.1 -1.3
baz=263
PEA0B **Petropavlovsk-** 23.03 285 P P 19 38 40.5 -0.6
PEA0B **Petropavlovsk-** 23.03 285 P P 19 38 40.5 -0.6
PEA0B pmax pmax
comp=Z,189nm,1.2s
PETK **Petropavlovsk-** 23.03 285 P P 19 38 39.1 -2.0
comp=Z,20nm,0.5s,baz=274,slow=7.7,SNR=83
PETK LR LR 19 47 26.0
comp=Z,4µm,20.8s,baz=83,slow=36
comp=Z,20nm,0.5s
C36M **Paulatuk** 24.04 34 P P 19 38 50.8 +0.1
C36M IAmb IAmb 19 39 11.9
comp=Z,38nm,0.9s
C36M IAMs_20 IAMs_20 19 49 04.0
comp=Z,6µm,18.0s
C36M **Paulatuk** 24.04 34 P P 19 38 51.3 +0.5
baz=249,SNR=12

SEY	**Seymchan**	**24.64**	**310**	P	**P**	**19 38 54.4**	**-1.9**	YAK			MLR	MLR			
	comp=Z,4.1nm,0.5s,baz=103,slow=12,SNR=17								comp=E,3µm,20.0s						
SEY				PcP	**PcP**	**19 42 34.6**	**+1.5**	**SMMC**	**Simmler**	**35.30**	**103**	P	**P**	**19 40 28.8**	**-2.1**
	comp=Z,2.3nm,0.6s,baz=131,slow=2.9,SNR=4.6								baz=315						
SEY				LR	LR	19 49 15.5		**RLMT**	**Red Lodge**	**35.54**	**81**	IAMs_20	IAMs_20	19 57 21.3	
	comp=Z,2µm,18.3s,baz=102,slow=38								comp=Z,1µm,18.0s						
	comp=Z,4.1nm,0.5s							**CWC**	**Cottonwood Cre**	**35.64**	**100**	P	**P**	**19 40 31.7**	**-2.3**
SEY	**Seymchan**	**24.64**	**310**	*c iP*	**P**	**19 38 54.7**	**-1.6**		baz=313						
SEY				pmax	pmax			**PKM**	**Mcpherson Peak**	**35.70**	**103**	P	**P**	**19 40 32.3**	**-2.3**
	comp=Z,8.0nm,0.9s								baz=315						
SKR	**Severo-Kuril's**	**24.77**	**280**	*eP*	**P**	**19 38 58.3**	**+0.8**	**R11B**	**Troy Canyon, C**	**35.85**	**95**	IAMs_20	IAMs_20	19 54 07.1	
A36M	**Sachs Harbour**	**24.79**	**27**	P	**P**	**19 38 58.3**	**+0.7**		comp=Z,2µm,18.0s						
A36M				IAMs_20	IAMs_20	19 49 51.5		**R11B**	**Troy Canyon, C**	**35.85**	**95**	P	**P**	**19 40 33.4**	**-2.4**
	comp=Z,5µm,20.0s								baz=311,SNR=9.4						
A36M	**Sachs Harbour**	**24.79**	**27**	P	**P**	**19 38 58.5**	**+0.9**	**JKA**	**Kamikawa-asahi**	**35.95**	**277**	P	**P**	**19 40 34.5**	**-1.8**
	baz=242,SNR=71							**ASAJ**	**Asahikawa**	**35.95**	**277**	LR	LR	19 53 30.3	
MA2	**Magadan**	**25.55**	**302**	P	**P**	**19 39 06.3**	**+1.7**		comp=Z,1µm,21.8s,baz=86,slow=33						
MA2	**Magadan**	**25.55**	**302**	P	**P**	**19 39 04.1**	**-0.5**	**ASAJ**	**Asahikawa**	**35.95**	**277**	P	**P**	**19 40 34.5**	**-1.9**
MA2				IAmb	IAmb	19 39 19.7		ASAJ				pmax	pmax		
	comp=Z,26nm,1.0s								comp=Z,51nm,0.9s						
MA2				IAMs_20	IAMs_20	19 49 49.0		**GRNR**	**Gornyy**	**36.06**	**291**	*i* P	**P**	**19 40 35.5**	**-1.8**
	comp=Z,3µm,18.0s							GRNR				pmax	pmax		
MA2	**Magadan**	**25.55**	**302**	P	**P**	**19 39 03.9**	**-0.7**		comp=Z,9.0nm,0.8s						
	comp=Z,7.2nm,0.5s,baz=85,slow=13,SNR=9.1							GRNR				MLR	MLR		
MA2				LR	LR	19 49 08.4			comp=N,870nm,16.0s						
	comp=Z,2µm,18.0s,baz=106,slow=37							GRNR				MLR	MLR		
	comp=Z,7.2nm,0.5s								comp=E,870nm,16.0s						
MA2	**Magadan**	**25.55**	**302**	P	**P**	**19 39 04.1**	**-0.5**	GRNR				MLR	MLR		
MA2				pmax	pmax				comp=Z,1µm,15.0s						
	comp=Z,26nm,1.0s							**SBC**	**Santa Barbara**	**36.08**	**104**	P	**P**	**19 40 35.4**	**-2.2**
MA2				MLR	MLR				baz=315						
	comp=Z,3µm,18.0s							**ARVC**	**Arvin**	**36.11**	**102**	P	**P**	**19 40 35.2**	**-2.6**
MA2	**Magadan**	**25.55**	**302**	P	**P**	**19 39 04.3**	**-0.3**		baz=314						
	comp=Z,33nm,1.3s,comp=Z,641nm							**MPMC**	**Manual Prospec**	**36.25**	**100**	P	**P**	**19 40 36.4**	**-3.0**
YKA	**Yellowknife Ar**	**26.81**	**51**	P	**P**	**19 39 18.5**	**+2.6**		baz=313						
	comp=Z,7.4nm,0.6s,baz=273,slow=7.1,SNR=112							**DUG**	**Dugway, Tooele**	**36.33**	**90**	IAmb	IAmb	19 41 07.8	
YKA				PcP	**PcP**	**19 42 39.3**	**+1.3**		comp=Z,25nm,1.2s						
	comp=Z,1.4nm,0.8s,baz=271,slow=3.0,SNR=3.2							**DUG**	**Dugway, Tooele**	**36.33**	**90**	P	**P**	**19 40 37.1**	**-2.7**
YKA				LR	LR	19 50 58.0			baz=309,SNR=12						
	comp=Z,5µm,18.6s,baz=270,slow=39							**DUG**	**Dugway, Tooele**	**36.33**	**90**	P	**P**	**19 40 44.3**	**+4.4**
	comp=Z,7.4nm,0.6s							DUG				pmax	pmax		
LTY	**Liberty**	**27.66**	**85**	P	**P**	**19 39 26.8**	**+3.0**		comp=Z,19nm,1.4s						
LTY				IAmb	IAmb	19 39 50.2		**FURC**	**Furnace Creek,**	**36.34**	**99**	P	**P**	**19 40 37.6**	**-2.2**
	comp=Z,26nm,1.2s								baz=313						
HAWA	**Hanford**	**28.77**	**86**	P	**P**	**19 39 35.6**	**+2.0**	**OSI**	**Osito Audit: C**	**36.53**	**103**	P	**P**	**19 40 39.8**	**-1.7**
HAWA				IAmb	IAmb	19 39 41.0			baz=315						
	comp=Z,24nm,0.7s							**LRMC**	**Laurel Mtn Rad**	**36.53**	**101**	P	**P**	**19 40 39.9**	**-1.8**
JCC	**Jacoby Creek,**	**29.26**	**99**	IAMs_20	IAMs_20	19 49 50.7			baz=314						
	comp=Z,2µm,18.0s							**PDAR**	**Pinedale Array**	**36.71**	**85**	P	**P**	**19 40 45.5**	**+2.2**
NEW	**Newport**	**29.29**	**81**	P	**P**	**19 39 36.6**	**-1.7**	**PDAR**	**Pinedale Array**	**36.71**	**85**	P	**P**	**19 40 45.8**	**+2.6**
	baz=298								comp=Z,1.9nm,0.7s,baz=298,slow=5.1,SNR=12						
NEW	**Newport**	**29.29**	**81**	P	**P**	**19 39 41.2**	**+3.0**	PDAR				ScP	**ScP**	**19 46 51.2**	**+0.3**
	comp=Z,4.9nm,0.7s,baz=305,slow=7.4,SNR=3.7								comp=Z,0.3nm,0.4s,baz=336,slow=6.3,SNR=2.5						
NEW				LR	LR	19 49 15.3		PDAR				LR	LR	19 54 04.1	
	comp=Z,1µm,21.8s,baz=301,slow=32								comp=Z,745nm,19.3s,baz=314,slow=33						
	comp=Z,4.9nm,0.7s								comp=Z,1.9nm,0.7s						
L04D	**Klamath Falls**	**29.42**	**96**	P	**P**	**19 39 41.4**	**+1.8**	**DGMT**	**Dagmar**	**36.72**	**73**	P	**P**	**19 40 41.2**	**-1.8**
L04D				IAmb	IAmb	19 40 04.4			baz=301						
	comp=Z,60nm,1.8s							**EDW2**	**Edwards Air Fo**	**36.77**	**102**	P	**P**	**19 40 42.1**	**-1.5**
L04D				PcP	**PcP**	**19 42 47.0**	**+2.0**		baz=315						
EDM	**Edmonton**	**29.43**	**70**	P	**P**	**19 39 43.1**	**+3.7**	**PRN**	**Pahroc Range**	**36.78**	**96**	IAmb	IAmb	19 41 09.2	
EDM	**Edmonton**	**29.43**	**70**	P	**P**	**19 39 43.1**	**+3.7**		comp=Z,30nm,1.2s						
EDM				pmax	pmax			**ERM**	**Erimo**	**36.84**	**274**	P	**P**	**19 40 45.7**	**+1.7**
	comp=Z,112nm,1.7s							**ERM**	**Erimo**	**36.84**	**274**	P	**P**	**19 40 43.0**	**-1.0**
YBH	**Yreka Blue Hor**	**29.47**	**97**	P	**P**	**19 39 44.2**	**+4.2**	ERM				IAmb	IAmb	19 40 57.6	
	comp=Z,3.2nm,0.7s,baz=357,slow=20,SNR=6.6								comp=Z,51nm,1.1s						
YBH				LR	LR	19 48 44.6		**ERM**	**Erimo**	**36.84**	**274**	*c iP*	**P**	**19 40 43.6**	**-0.4**
	comp=Z,2µm,20.4s,baz=307,slow=30							ERM				pmax	pmax		
	comp=Z,3.2nm,0.7s								comp=Z,27nm,0.9s						
F10A	**Beach Ranch, E**	**30.36**	**85**	P	**P**	**19 39 47.9**	**+0.1**	**JEM**	**Erimo**	**36.84**	**274**	P	**P**	**19 40 45.7**	**+1.7**
O02D	**Mt. Diablo Mer**	**30.40**	**99**	IAMs_20	IAMs_20	19 48 45.8		**DECC**	**Green Verdugo**	**37.01**	**103**	P	**P**	**19 40 44.1**	**-1.5**
	comp=Z,2µm,21.0s								baz=315						
HATC	**Hat Creek Radi**	**30.78**	**97**	IAMs_20	IAMs_20	19 51 05.0		**BSUT**	**Blindstream Ca**	**37.34**	**88**	IAmb	IAmb	19 41 21.1	
	comp=Z,2µm,18.0s								comp=Z,19nm,1.2s						
BMO	**Blue Mountains**	**30.91**	**87**	P	**P**	**19 39 54.8**	**+2.1**	**FCC**	**Fort Churchill**	**37.46**	**53**	P	**P**	**19 40 50.7**	**+1.6**
BMO	**Blue Mountains**	**30.91**	**87**	P	**P**	**19 39 54.8**	**+2.1**	FCC				IAmb	IAmb	19 41 03.2	
BMO				pmax	pmax				comp=Z,25nm,0.9s						
	comp=Z,18nm,1.4s							**FCC**	**Fort Churchill**	**37.46**	**53**	P	**P**	**19 40 50.7**	**+1.6**
BMO				MLR	MLR			FCC				pmax	pmax		
	comp=Z,2µm,21.0s								comp=Z,25nm,0.9s						
HOPS	**Hopland Field**	**31.00**	**101**	IAMs_20	IAMs_20	19 50 31.6		**TUQ**	**Turquoise Moun**	**37.60**	**99**	P	**P**	**19 40 49.2**	**-1.5**
	comp=Z,2µm,18.0s								baz=314						
MCCM	**Marconi Confer**	**31.67**	**102**	IAMs_20	IAMs_20	19 50 48.5		**CCUT**	**Cedar City**	**37.70**	**94**	IAmb	IAmb	19 41 26.7	
	comp=Z,2µm,18.0s								comp=Z,59nm,1.9s						
MSO	**Missoula**	**31.87**	**82**	P	**P**	**19 39 59.7**	**-1.4**	**HEC**	**Hector,Ludlow**	**37.78**	**100**	P	**P**	**19 40 49.5**	**-2.7**
	baz=300								baz=314						
KIP	**Kipapa**	**32.24**	**170**	IAMs_20	IAMs_20	19 48 48.0		**SCI2**	**San Clemente I**	**37.80**	**104**	P	**P**	**19 40 49.7**	**-2.5**
	comp=Z,2µm,18.0s								baz=316						
TYV	**Tymovskoe**	**32.50**	**288**	*eP*	**P**	**19 40 06.5**	**+0.1**	**MURC**	**Murrieta**	**38.14**	**102**	P	**P**	**19 40 52.6**	**-2.6**
TYV				*eS*	**S**	**19 45 22.0**	**+1.8**		baz=316						
TYV				pmax	pmax			**GMRC**	**Granite Mounta**	**38.21**	**100**	P	**P**	**19 40 53.7**	**-2.2**
	comp=Z,100nm,3.3s								baz=314						
TYV				pmax	pmax			**SRU**	**San Rafael Swe**	**38.38**	**90**	IAmb	IAmb	19 41 32.5	
	comp=Z,5.0nm,0.8s								comp=Z,59nm,1.5s						
TYV				smax	smax			**BELC**	**Belle Mtn. Jos**	**38.56**	**101**	P	**P**	**19 40 56.3**	**-2.6**
	comp=N,100nm,3.1s								baz=315						
TYV				smax	smax			**PFO**	**Pinyon Flats O**	**38.56**	**102**	P	**P**	**19 40 56.5**	**-2.3**
	comp=E,100nm,3.1s								baz=315						
YERR	**Yerington**	**33.26**	**98**	P	**P**	**19 40 14.6**	**+1.1**	**PFO**	**Pinyon Flats O**	**38.56**	**102**	LR	LR	19 54 03.0	
YERR				IAmb	IAmb	19 40 36.7			comp=Z,2µm,18.5s,baz=294,slow=32						
	comp=Z,13nm,0.8s							**TPFO**	**Pinon Flats**	**38.57**	**102**	P	**P**	**19 40 56.5**	**-2.4**
HLID	**Hailey**	**33.35**	**87**	P	**P**	**19 40 12.1**	**-2.1**		baz=315						
	baz=305,SNR=11							**109C**	**Camp Elliot, M**	**38.70**	**103**	P	**P**	**19 40 57.5**	**-2.3**
SAO	**San Andreas Ge**	**33.44**	**103**	IAMs_20	IAMs_20	19 52 05.5			baz=316						
	comp=Z,2µm,19.0s							**NEE2**	**Needles Airpor**	**38.83**	**99**	P	**P**	**19 40 59.6**	**-1.4**
TIXI	**Tiksi**	**33.68**	**328**	P	**P**	**19 40 15.7**	**-0.8**		baz=314						
TIXI				IAmb	IAmb	19 40 18.2		**IRM**	**Iron Mountain**	**38.95**	**100**	P	**P**	**19 41 00.5**	**-1.4**
	comp=Z,13nm,0.6s								baz=315						
TIXI				PcP	**PcP**	**19 42 57.2**	**+1.5**	**HMU**	**Henry Mountain**	**39.01**	**92**	IAmb	IAmb	19 41 09.7	
TIXI	**Tiksi**	**33.68**	**328**	LR	LR	19 55 52.5			comp=Z,25nm,0.7s						
	comp=Z,6µm,18.5s,baz=102,slow=40							**U15A**	**North Rim**	**39.08**	**95**	IAmb	IAmb	19 41 38.7	
TIXI	**Tiksi**	**33.68**	**328**	*c iP*	**P**	**19 40 15.5**	**-1.0**		comp=Z,36nm,1.4s						
TIXI				pmax	pmax			**O20A**	**White River Ci**	**39.10**	**87**	P	**P**	**19 41 01.0**	**-2.3**
	comp=Z,11nm,0.6s								baz=309,SNR=19						
EGMT	**Eagleton**	**33.73**	**77**	P	**P**	**19 40 14.7**	**-2.7**	**MONP2**	**Monument Peak**	**39.10**	**102**	P	**P**	**19 41 01.5**	**-1.9**
	baz=300								baz=316						
RES	**Resolute Bay**	**33.83**	**26**	P	**P**	**19 40 18.1**	**+0.3**	**BC3**	**Big Chuckawall**	**39.12**	**101**	P	**P**	**19 41 01.2**	**-2.3**
RES				IAmb	IAmb	19 40 21.7			baz=315						
	comp=Z,13nm,0.6s							**RSSD**	**Black Hills**	**39.19**	**79**	P	**P**	**19 41 06.9**	**+2.8**
RES				PcP	**PcP**	**19 42 58.2**	**+2.1**	RSSD				IAmb	IAmb	19 41 28.0	
RES	**Resolute Bay**	**33.83**	**26**	LR	LR	19 55 46.4			comp=Z,67nm,2.0s						
	comp=Z,3µm,18.8s,baz=266,slow=39							**RSSD**	**Black Hills**	**39.19**	**79**	P	**P**	**19 41 02.0**	**-2.1**
BOZ	**Bozeman (W)**	**33.88**	**82**	P	**P**	**19 40 17.0**	**-1.8**		baz=305						
	baz=302,SNR=5.5							**RSSD**	**Black Hills**	**39.19**	**79**	P	**P**	**19 41 06.9**	**+2.8**
NVAR	**Mina Array Bea**	**34.18**	**98**	P	**P**	**19 40 25.9**	**+4.4**	RSSD				pmax	pmax		
	comp=Z,2.0nm,0.6s,baz=295,slow=9.0,SNR=19								comp=Z,67nm,2.0s						
NVAR				ScP	**ScP**	**19 46 43.5**	**+1.7**	RSSD				MLR	MLR		
	comp=Z,0.6nm,0.9s,baz=331,slow=3.5,SNR=3.9								comp=Z,1µm,21.0s						
NVAR				LR	LR	19 52 27.9		**SWSC**	**Sam W. Stewart**	**39.42**	**102**	P	**P**	**19 41 04.0**	**-1.9**
	comp=Z,1µm,18.6s,baz=304,slow=33								baz=316						
	comp=Z,2.0nm,0.6s							**PDMCI**	**Parker Dam,Lak**	**39.44**	**99**	P	**P**	**19 41 03.6**	**-2.4**
POHA	**Pohakuloa**	**34.18**	**167**	IAMs_20	IAMs_20	19 50 43.5			baz=314						
	comp=Z,2µm,19.0s							**KLR**	**Kul'dur**	**39.45**	**291**	LR	LR	19 57 21.0	
YSS	**Yuzh-Sakhalins**	**34.32**	**281**	*eP*	**P**	**19 40 21.8**	**-0.5**		comp=Z,2µm,20.4s,baz=62,slow=36						
YSS				*e*		19 41 37.9		**KLR**	**Kul'dur**	**39.45**	**291**	*c iP*	**P**	**19 41 03.8**	**-2.1**
YSS				*eS*	**S**	**19 45 47.0**	**-1.4**	KLR				pmax	pmax		
YSS				*eSS*	**SS**	**19 48 22.2**	**+5.3**		comp=Z,16nm,1.7s						
YSS				pmax	pmax			**IKP**	**In-Ko-Pah, Jac**	**39.45**	**102**	P	**P**	**19 41 04.3**	**-2.0**
	comp=Z,300nm,5.2s								baz=316						
YSS				pmax	pmax			**ZEA**	**Zeya**	**39.61**	**299**	*eP*	**P**	**19 41 05.6**	**-1.6**
	comp=Z,20nm,1.2s							ZEA				*e*		19 43 02.6	
VOG	**Valley Oaks Go**	**34.96**	**101**	P	**P**	**19 40 25.9**	**-2.0**	ZEA				*eS*	**S**	**19 47 01.3**	**-7.7**
	baz=313							ZEA				pmax	pmax		
DSP	**Deep Springs**	**35.08**	**99**	IAmb	IAmb	19 41 06.1			comp=Z,100nm,5.6s						
	comp=Z,52nm,1.8s							ZEA				pmax	pmax		
YAK	**Yakutsk**	**35.16**	**311**	P	**P**	**19 40 26.8**	**-2.6**		comp=Z,10.0nm,1.2s						
YAK	**Yakutsk**	**35.16**	**311**	LR	LR	19 56 16.8		ZEA				smax	smax		
	comp=Z,4µm,19.2s,baz=85,slow=39								comp=E,100nm,6.5s						
YAK	**Yakutsk**	**35.16**	**311**	*d iP*	**P**	**19 40 26.4**	**-3.0**	ZEA				MLR	MLR		
YAK				*e**PP	**pP**	**19 40 33.4**	**-0.9**		comp=E,1µm,16.0s						
YAK				*eS*	**S**	**19 45 55.3**	**-5.7**	ZEA				MLR	MLR		
YAK				*eSS*	**SnSn**	**19 48 13.5**	**-4.4**		comp=N,1µm,13.0s						
YAK				*e*		19 50 45.0		ZEA				MLR	MLR		
YAK				pmax	pmax				comp=Z,2µm,15.0s						
	comp=Z,30nm,0.9s							**MDND**	**Maddock**	**39.66**	**71**	P	**P**	**19 41 05.7**	**-2.0**
YAK				pmax	pmax				baz=303						
	comp=N,3.0nm,1.1s							**N23A**	**Red Feather La**	**39.99**	**84**	P	**P**	**19 41 08.5**	**-2.4**
YAK				pmax	pmax				baz=308						
	comp=E,4.0nm,1.0s							**WUAZ**	**Wupatki**	**40.24**	**95**	IAMs_20	IAMs_20	19 55 03.6	
YAK				smax	smax				comp=Z,1µm,21.0s						
	comp=N,122nm,5.4s							**WUAZ**	**Wupatki**	**40.24**	**95**	P	**P**	**19 41 10.0**	**-2.9**
YAK				smax	smax				baz=313,SNR=6.6						
	comp=E,51nm,3.6s							**H11N2**	**WAKE ISLAND Hy**	**40.65**	**226**	T	T	20 24 58.3	
YAK				MLR	MLR				baz=26,slow=76,SNR=986						
	comp=Z,5µm,21.0s							**H11N3**	**WAKE ISLAND Hy**	**40.66**	**226**	T	T	20 25 02.0	
YAK				MLR	MLR				baz=26,slow=76,SNR=903						
	comp=N,4µm,23.0s							**H11N1**	**WAKE ISLAND Hy**	**40.67**	**226**	T	T	20 25 02.9	
									baz=26,slow=76,SNR=1012						

113A	**Mohawk Valley,**	**40.74**	**100**		pP	19 41 22.9	+1.3
MVCO	**Mesa Verde**	**40.83**	**91**	P	**P**	**19 41 16.1**	**-1.7**
	baz=312						
ISCO	**Idaho Springs**	**40.88**	**85**	P	**P**	**19 41 15.6**	**-2.7**
	baz=309						
HEH	**HeiHe**	**41.30**	**295**	*eP*	**P**	**19 41 18.5**	**-2.7**
HEH				pP	**pP**	**19 41 23.5**	**-2.4**
HEH				sP	**sP**	**19 41 26.5**	**-1.1**
HEH				S	**S**	**19 47 30.8**	**-3.3**
HEH				sS	**pS**	**19 47 37.5**	**-2.4**
HEH				pmax	pmax		
	comp=Z,13nm,0.8s						
HEH				pmax	pmax		
	comp=Z,230nm,7.2s						
HEH				LR	LR		
	comp=N,3µm,15.9s						
HEH				LR	LR		
	comp=E,3µm,15.2s						
HEH				LR	LR		
	comp=Z,5µm,16.0s						
W18A	**Petrified Fore**	**41.49**	**94**	P	**P**	**19 41 20.3**	**-2.9**
	baz=313						
AGMN	**Agassiz Nation**	**41.52**	**69**	IAmb	IAmb	19 41 46.5	
	comp=Z,94nm,1.6s						
AGMN				IAMs_20	IAMs_20	19 57 59.7	
	comp=Z,1µm,21.0s						
AGMN	**Agassiz Nation**	**41.52**	**69**	P	**P**	**19 41 20.5**	**-2.6**
	baz=304,SNR=8.2						
Q24A	**Divide**	**41.69**	**86**	P	**P**	**19 41 21.3**	**-3.6**
	baz=310						
H11S1	**WAKE ISLAND Hy**	**41.82**	**225**	T	T	20 26 16.0	
	baz=26,slow=76,SNR=934						
H11S2	**WAKE ISLAND Hy**	**41.84**	**225**	T	T	20 26 20.1	
	baz=26,slow=76,SNR=677						
H11S3	**WAKE ISLAND Hy**	**41.84**	**225**	T	T	20 26 22.3	
	baz=26,slow=76,SNR=1142						
214A	**Organ Pipe Nat**	**41.89**	**100**	P	**P**	**19 41 22.7**	**-3.6**
	baz=316						
SUSD	**Miller**	**41.96**	**75**	P	**P**	**19 41 24.2**	**-2.6**
	baz=306						
USRK	**Ussuriysk Ar.**	**42.13**	**284**	P	**P**	**19 41 26.9**	**-1.2**
	comp=Z,1.9nm,0.5s,baz=52,slow=7.8,SNR=8.5						
USRK				PcP	**PcP**	**19 43 22.0**	**-0.2**
	comp=Z,2.0nm,0.7s,baz=42,slow=2.3,SNR=4.2						
USRK				LR	LR	19 58 05.4	
	comp=Z,1µm,21.9s,baz=57,slow=35						
	comp=Z,1.9nm,0.5s						
SDCO	**Great Sand Dun**	**42.27**	**88**	P	**P**	**19 41 26.7**	**-3.0**
	baz=311						
OGNE	**Ogallala**	**42.28**	**81**	P	**P**	**19 41 26.3**	**-3.2**
	baz=309						
B35A	**Bob, Littlefor**	**42.67**	**67**	IAmb	IAmb	19 41 47.3	
	comp=Z,18nm,0.8s						
B35A				PcP	**PcP**	**19 43 25.1**	**+1.1**
TUC	**Tucson**	**42.83**	**98**	P	**P**	**19 41 30.5**	**-3.6**
	baz=316						
NEEM	**North Greenlan**	**42.94**	**17**	*i* P	**P**	**19 41 34.0**	**-0.6**
NEEM				IAmb	IAmb	19 41 38.3	
	comp=Z,74nm,0.7s						
KSCO	**Kaye Shedlock'**	**43.16**	**84**	P	**P**	**19 41 33.8**	**-2.9**
	baz=310						
MDJ	**Mudanjiang**	**43.26**	**286**	P	**P**	**19 41 35.3**	**-2.0**
MDJ				PP	**PP**	**19 43 12.5**	**-5.1**
MDJ				PcP	**PcP**	**19 43 22.0**	**-4.0**
MDJ				PcS	**PcS**	**19 47 13.8**	**-4.7**
MDJ				S	**S**	**19 48 07.0**	**+3.8**
MDJ				sS	sS	19 48 11.8	+1.9
MDJ				SS	**SS**	**19 51 24.0**	**+7.8**
MDJ				ScS	**ScS**	**19 51 35.8**	**-0.2**
MDJ				pmax	pmax		
	comp=Z,7.0nm,2.0s						
MDJ				pmax	pmax		
	comp=Z,430nm,10.1s						
MDJ				LR	LR		
	comp=N,2µm,19.2s						
MDJ				LR	LR		
	comp=E,2µm,19.2s						
MDJ				LR	LR		
	comp=Z,3µm,22.1s						
MDJ	**Mudanjiang**	**43.26**	**286**	IAMs_20	IAMs_20	19 57 59.6	
	comp=Z,2µm,22.0s						
MJAR	**Matsushiro Arr**	**43.28**	**271**	P	**P**	**19 41 37.3**	**-0.2**
	comp=Z,7.6nm,0.8s,baz=34,slow=6.8,SNR=25						
MJAR				PcP	**PcP**	**19 43 27.2**	**+0.9**
	comp=Z,0.9nm,0.7s,baz=53,slow=1.2,SNR=1.7						
MJAR				LR	LR	19 57 51.4	
	comp=Z,1µm,21.6s,baz=58,slow=34						
	comp=Z,7.6nm,0.8s						
MAJO	**Matsushiro**	**43.28**	**271**	P	**P**	**19 41 37.3**	**-0.3**
MAJO	**Matsushiro**	**43.28**	**271**	IAMs_20	IAMs_20	19 57 17.8	
	comp=Z,2µm,22.0s						
MAJO	**Matsushiro**	**43.28**	**271**	*c iP*	**P**	**19 41 37.3**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,33nm,1.1s						
T25A	**Trinidad**	**43.32**	**87**	P	**P**	**19 41 35.8**	**-2.3**
	baz=312						
ANMO	**Albuquerque**	**43.57**	**91**	IAMs_20	IAMs_20	19 57 07.3	
	comp=Z,1µm,20.0s						
ANMO	**Albuquerque**	**43.57**	**91**	P	**P**	**19 41 37.1**	**-3.0**
	baz=313						
ANMO	**Albuquerque**	**43.57**	**91**	LR	LR	19 57 28.2	
	comp=Z,1µm,20.4s,baz=45,slow=33						
ANMO	**Albuquerque**	**43.57**	**91**	*i* P	**P**	**19 41 44.8**	**+4.7**
ANMO				pmax	pmax		
	comp=Z,6.0nm,1.3s						
ECSD	**EROS Data Cent**	**43.74**	**75**	P	**P**	**19 41 38.8**	**-2.4**
	baz=307,SNR=9.8						
BNX	**BinXian**	**43.84**	**289**	P	**P**	**19 41 40.5**	**-1.4**
BNX				PP	**PP**	**19 43 24.0**	**+0.2**
BNX				S	**S**	**19 48 10.5**	**-1.1**
BNX				pmax	pmax		
	comp=Z,8.0nm,0.9s						
BNX				pmax	pmax		
	comp=Z,270nm,8.7s						
BNX				LR	LR		
	comp=N,1µm,19.6s						
BNX				LR	LR		
	comp=E,1µm,16.6s						
BNX				LR	LR		
	comp=Z,2µm,18.7s						
Y22D	**IRIS PASSCAL I**	**43.89**	**93**	IAMs_20	IAMs_20	19 59 38.0	
	comp=Z,1µm,18.0s						
Y22D	**IRIS PASSCAL I**	**43.89**	**93**	P	**P**	**19 41 39.9**	**-2.8**
	baz=314						
NOR	**Nord**	**44.02**	**7**	*i* P	**P**	**19 41 41.8**	**-1.1**
NOR				IAmb	IAmb	19 41 43.6	
	comp=Z,19nm,1.0s						
BOD	**Bodaibo**	**44.06**	**310**	*eP*	**P**	**19 41 41.8**	**-1.7**
BOD				pmax	pmax		
	comp=Z,40nm,1.6s						
EYMN	**Ely**	**44.13**	**67**	P	**P**	**19 41 45.5**	**+1.2**
EYMN				IAmb	IAmb	19 41 59.3	
	comp=Z,29nm,0.8s						
EYMN	**Ely**	**44.13**	**67**	IAMs_20	IAMs_20	20 01 21.7	
	comp=Z,2µm,18.0s						
EYMN	**Ely**	**44.13**	**67**	P	**P**	**19 41 42.6**	**-1.7**
	baz=305,SNR=11						
F36A	**Milaca**	**44.22**	**70**	IAmb	IAmb	19 41 48.8	
	comp=Z,15nm,0.8s						
BGNE	**Belgrade**	**44.28**	**78**	P	**P**	**19 41 43.2**	**-2.4**
	baz=309						
JGF	**Kuroka**	**44.42**	**271**	P	**P**	**19 41 48.9**	**+2.1**
JGF	**Kuroka**	**44.42**	**271**	P	**P**	**19 41 46.7**	**0.0**
JGF				IAmb	IAmb	19 42 00.7	
	comp=Z,19nm,0.8s						
121A	**Cookes Peak, D**	**44.46**	**95**	P	**P**	**19 41 44.9**	**-2.3**
	baz

NUUG IAmb IAmb 19 42 10.1
comp=Z,29nm,1.1s
CN2 Changchun 46.12 288 *e*P **P 19 41 58.8 -1.3**
CN2 *e*S **S 19 48 43.0 -1.7**
CN2 Changchun 46.12 288 *e*SS SS 19 51 59.0 -10
CN2 pmax pmax
comp=Z,20nm,1.0s
CN2 LR LR
comp=N,610nm,16.0s
CN2 LR LR
comp=E,540nm,16.0s
CN2 LR LR
comp=Z,580nm,18.0s
MSTX Muleshoe 46.45 89 IAmb IAmb 19 42 09.2
comp=Z,9.7nm,0.8s
MSTX Muleshoe 46.45 89 P **P 19 41 59.6 -3.3**
baz=314
AMTX Amarillo 46.47 88 IAMs_20 IAMs_20 19 59 18.9
comp=Z,1µm,22.0s
AMTX Amarillo 46.47 88 P **P 19 41 59.0 -4.1**
baz=313
MNTX Cornudas Mount 46.48 94 P **P 19 42 00.1 -3.0**
baz=316,SNR=7.0
COWI Conover 46.53 67 IAMs_20 IAMs_20 20 01 13.1
comp=Z,2µm,20.0s
KSU1 Kansas State U 46.66 80 IAMs_20 IAMs_20 20 05 33.5
comp=Z,2µm,18.0s
KSU1 Kansas State U 46.66 80 P **P 19 42 02.0 -2.4**
baz=311
SCIA State Center 46.83 74 P **P 19 42 03.8 -1.8**
baz=310
UMMG Uummannaq 46.90 25 *i*P **P 19 42 06.1 +0.3**
UMMG IAmb IAmb 19 42 33.6
comp=Z,68nm,1.3s
SMWD Samnorwood 47.18 86 IAmb IAmb 19 42 24.9
comp=Z,31nm,1.4s
CIT Chita 47.53 304 *e*P **P 19 42 10.4 -0.6**
CIT *e* 19 43 48.0
CIT *e* 19 44 48.4
CIT pmax pmax
comp=Z,52nm,2.6s
E43A Lone Tree Farm 47.53 66 IAmb IAmb 19 42 33.7
comp=Z,15nm,0.8s
JCJ Chichijima 47.63 259 LR LR 19 59 49.3
comp=Z,1µm,21.9s,baz=36,slow=33
DKNS Dickens 47.76 88 IAmb IAmb 19 43 59.6
comp=Z,11nm,0.8s
JMN Monobe 47.79 272 P **P 19 42 14.8 +1.5**
POST Post 47.84 89 IAmb IAmb 19 42 30.0
comp=Z,14nm,1.0s
KBS Kingsbay 47.85 1 IAMs_20 IAMs_20 20 02 07.3
KBS Kingsbay 47.85 1 *i*P **P 19 42 12.2 -0.9**
JFWS Jewell Farm 47.89 71 IAMs_20 IAMs_20 20 06 00.4
comp=Z,1µm,18.0s
JFWS Jewell Farm 47.89 71 P **P 19 42 12.5 -1.3**
baz=310,SNR=12
P38A Dawn 48.12 77 IAmb IAmb 19 42 35.9
comp=Z,16nm,0.8s
DAG Danmarks Havn 48.14 10 *i*P **P 19 42 15.0 -0.4**
DAG IAmb IAmb 19 42 16.5
comp=Z,30nm,0.8s
T35A Sooner Cattle 48.17 82 P **P 19 42 17.6 +1.5**
T35A IAmb IAmb 19 42 36.0
comp=Z,56nm,1.8s
WMOK Wichita Mounta 48.30 86 IAmb IAmb 19 42 33.2
comp=Z,15nm,1.1s
WMOK Wichita Mounta 48.30 86 P **P 19 42 14.8 -2.4**
baz=314,SNR=14
ALPN Alpine 48.47 94 IAmb IAmb 19 42 52.6
comp=Z,12nm,1.1s
SPITS Spitsbergen Ar 48.63 0 P **P 19 42 19.0 -0.3**
comp=Z,6.0nm,0.5s,baz=44,slow=3.7,SNR=18
SPITS PcP **PcP 19 43 44.9 +0.6**
comp=Z,3.5nm,0.5s,baz=59,slow=5.0,SNR=4.8
SPITS LR LR 20 01 54.8
comp=Z,2µm,21.5s,baz=336,slow=35
comp=Z,6.0nm,0.5s
SUMG Summit 48.64 19 P **P 19 42 19.4 -0.4**
SUMG Summit 48.64 19 P **P 19 42 19.4 -0.4**
SUMG pmax pmax
comp=Z,57nm,0.9s
SUMG MLR MLR
comp=Z,3µm,20.0s
SUMG Summit 48.64 19 *i*P **P 19 42 21.0 +1.2**
SUMG IAmb IAmb 19 42 26.7
comp=Z,40nm,0.8s
KSRS Korea Array 48.78 280 P **P 19 42 21.3 +0.5**
comp=Z,11nm,0.7s,baz=52,slow=7.2,SNR=52
KSRS PcP **PcP 19 43 46.0 +0.5**
comp=Z,1.2nm,0.7s,baz=75,slow=3.4,SNR=0.8
KSRS LR LR 20 02 33.1
comp=Z,718nm,20.5s,baz=50,slow=36
comp=Z,11nm,0.7s
K43A Burlington 49.10 70 IAmb IAmb 19 42 41.8
comp=Z,29nm,0.8s
TXAR Lajitas Array 49.21 95 P **P 19 42 27.4 +3.1**
comp=Z,3.0nm,0.5s,baz=299,slow=5.4,SNR=45
TXAR PcP **PcP 19 43 49.4 +2.1**
comp=Z,0.9nm,0.7s,baz=298,slow=1.9,SNR=0.6
TXAR ScP **ScP 19 47 41.0 -0.2**
comp=Z,0.8nm,0.8s,baz=306,slow=3.1,SNR=6.0
TXAR LR LR 20 02 24.6
comp=Z,521nm,18.8s,baz=314,slow=35
comp=Z,3.0nm,0.5s
LPIG La Paz 49.22 105 LR LR 20 01 08.5
comp=Z,493nm,18.5s,baz=295,slow=33
ABTX Abilene, Hawle 49.26 88 P **P 19 42 22.9 -1.7**
baz=315
TUL3 Leonard 49.27 82 IAmb IAmb 19 42 41.7
comp=Z,12nm,0.8s
TUL3 Leonard 49.27 82 P **P 19 42 21.8 -2.8**
baz=313
S39A Bolivar 49.53 79 IAmb IAmb 19 42 28.5
comp=Z,8.6nm,0.6s
L44A Lake County Fo 49.68 71 IAMs_20 IAMs_20 20 02 03.8
comp=Z,2µm,22.0s
L44A Lake County Fo 49.68 71 P **P 19 42 25.7 -1.9**
baz=311
R40A Maddies Statio 49.74 77 PcP **PcP 19 43 50.1 +1.1**
U38A Gravette 49.75 81 IAmb IAmb 19 42 44.6
comp=Z,11nm,0.8s
SFJD Kangerlussuaq 49.78 28 P **P 19 42 28.7 +0.6**
SFJD Kangerlussuaq 49.78 28 IAMs_20 IAMs_20 20 07 21.0
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 49.78 28 LR LR 20 07 15.1
comp=Z,1µm,18.6s,baz=319,slow=40
SFJD Kangerlussuaq 49.78 28 P **P 19 42 28.7 +0.6**
SFJD pmax pmax
comp=Z,41nm,0.8s
SFJD MLR MLR
comp=Z,2µm,20.0s
SFJD Kangerlussuaq 49.78 28 *i*P **P 19 42 28.7 +0.6**
SFJD IAmb IAmb 19 42 32.0
comp=Z,41nm,0.8s
GLMI Grayling 49.81 66 IAMs_20 IAMs_20 20 05 04.8
comp=Z,1µm,18.0s
GLMI Grayling 49.81 66 P **P 19 42 26.3 -2.3**
baz=310
TJN Taejon 49.84 279*c* *i*P **P 19 42 28.9 0.0**
HDIL Hopedale 49.96 73 IAMs_20 IAMs_20 20 02 16.3
comp=Z,1µm,21.0s
HDIL Hopedale 49.96 73 P **P 19 42 29.8 0.0**
baz=311
JNU Nakatsue 50.00 274 P **P 19 42 31.9 +1.6**
JNU Nakatsue 50.00 274 LR LR 20 02 29.8
comp=Z,1µm,21.7s,baz=52,slow=35
DBG Daneborg 50.15 12 *i*P **P 19 42 29.8 -1.0**
DBG IAmb IAmb 19 42 34.0
comp=Z,21nm,0.6s
X37A Clayton 50.43 83 IAmb IAmb 19 42 48.8
comp=Z,18nm,0.8s
CCM Cathedral Cave 50.50 77 IAMs_20 IAMs_20 20 06 39.8
comp=Z,1µm,18.0s
JCT Junction City 50.69 90 P **P 19 42 33.3 -2.2**
baz=316
WHTX Lake Whitney, 51.01 87 P **P 19 42 34.8 -3.1**
baz=315
FVM French Village 51.02 76 IAmb IAmb 19 42 53.5
comp=Z,28nm,1.1s
ICESG Greenland Ices 51.06 23 *i*P **P 19 42 38.3 +0.2**
ICESG IAmb IAmb 19 42 42.0
comp=Z,49nm,0.8s
T42A Van Buren 51.28 78 PcP **PcP 19 43 56.1 +1.5**
XLT XiLinHaoTe 51.28 294 *e*P **P 19 42 40.0 +0.1**
XLT sP pwP 19 42 49.5 -0.2
XLT S **S 19 49 58.0 +0.4**
XLT ScS **ScS 19 52 29.3 +0.2**
XLT pmax pmax
comp=Z,23nm,1.1s
XLT pmax pmax
comp=Z,240nm,4.5s
XLT LR LR
comp=N,150nm,17.7s
XLT LR LR
comp=E,1µm,20.2s
XLT LR LR
comp=Z,2µm,19.3s
SFIN Lafayette 51.33 72 P **P 19 42 37.7 -2.4**
baz=312
DY2G Dye2 51.37 27 *i*P **P 19 42 41.6 +1.2**
DY2G IAmb IAmb 19 42 42.6
comp=Z,162nm,1.8s
NUUK Nuuk 51.43 31 *i*P **P 19 42 41.0 +0.5**
NUUK IAmb IAmb 19 42 43.2
comp=Z,44nm,1.0s
DL2 Dalian 51.48 286 P **P 19 42 40.3 -1.0**
DL2 PP **PP 19 44 36.3 -2.0**
DL2 S **S 19 49 56.3 -3.9**
DL2 ScS **ScS 19 52 27.3 -3.0**
DL2 pmax pmax
comp=Z,30nm,0.6s
DL2 pmax pmax
comp=Z,350nm,8.2s
DL2 LR LR
comp=N,830nm,17.8s
DL2 LR LR
comp=E,2µm,19.0s
DL2 LR LR
comp=Z,2µm,21.7s
MIAR Mount Ida 51.53 82 IAmb IAmb 19 42 58.2
comp=Z,86nm,2.0s
MIAR IAMs_20 IAMs_20 20 08 41.4
comp=Z,1µm,18.0s
MIAR Mount Ida 51.53 82 P **P 19 42 39.2 -2.4**
baz=314
435B Jarrell 51.80 88 IAMs_20 IAMs_20 20 02 37.0
comp=Z,892nm,21.0s
435B Jarrell 51.80 88 P **P 19 42 41.6 -2.1**
baz=316
IRK Irkutsk 51.87 309 *e*P **P 19 42 42.2 -1.8**
IRK pmax pmax
comp=Z,55nm,1.7s
AAM Ann Arbor 51.98 68 IAMs_20 IAMs_20 20 04 31.5
comp=Z,1µm,21.0s
AAM Ann Arbor 51.98 68 P **P 19 42 43.3 -1.7**
baz=312
SCHQ Schefferville 52.14 47 P **P 19 42 47.2 +1.1**
comp=Z,9.5nm,0.6s,baz=314,slow=7.5,SNR=22
SCHQ LR LR 20 07 25.1
comp=Z,2µm,18.6s,baz=314,slow=39
comp=Z,9.5nm,0.6s
833A Chaparral WMA, 52.50 92 P **P 19 42 47.4 -1.6**
baz=317
O48B Farmland 52.51 71 IAMs_20 IAMs_20 20 06 18.7
comp=Z,1µm,18.0s
O48B Farmland 52.51 71 P **P 19 42 48.6 -0.3**
baz=312,SNR=18
N49A Columbus Grove 52.61 70 IAmb IAmb 19 43 03.5
comp=Z,16nm,0.8s
SADO Sadowa 52.80 63 LR LR 20 04 25.9
comp=Z,1µm,21.9s,baz=322,slow=35
NATX Nacogdoches 52.84 85 P **P 19 42 49.8 -1.7**
baz=316
WCI Wyandotte Cave 53.24 73 IAMs_20 IAMs_20 20 04 18.2
comp=Z,941nm,22.0s
WCI Wyandotte Cave 53.24 73 P **P 19 42 52.5 -1.9**
baz=313
P49A Miami Univ. Ec 53.25 71 IAMs_20 IAMs_20 20 06 34.2
comp=Z,1µm,19.0s
P49A Miami Univ. Ec 53.25 71 P **P 19 42 52.6 -1.8**
baz=313,SNR=13
SCO Scoresbysund 53.31 15 *i*P **P 19 42 56.1 +1.7**
SCO IAmb IAmb 19 42 58.2
comp=Z,15nm,0.5s
ULN Ulaanbaatar 53.41 303 P **P 19 42 54.5 -1.2**
ULN Ulaanbaatar 53.41 303 P **P 19 42 54.5 -1.2**
ULN pmax pmax
comp=Z,35nm,0.5s
ULN MLR MLR
comp=Z,2µm,18.0s
HKT Hockley 53.44 88 IAMs_20 IAMs_20 20 03 49.2
comp=Z,1µm,21.0s
HKT Hockley 53.44 88⇑ *e*P **P 19 42 58.2 +2.4**
HKT pmax pmax
comp=Z,11nm,1.1s
ZAK Zakamensk 53.56 307 *e*P **P 19 42 55.6 -1.1**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
SOEG Soedalen 53.58 20 *i*P **P 19 42 56.6 +0.2**
SOEG IAmb IAmb 19 43 09.1
comp=Z,21nm,0.7s
ACSO Alum Creek Sta 53.75 69 IAMs_20 IAMs_20 20 06 55.4
comp=Z,1µm,18.0s
ACSO Alum Creek Sta 53.75 69 P **P 19 42 55.9 -2.2**
baz=313
SONM Songino Array 53.76 303 P **P 19 42 58.1 -0.1**
comp=Z,12nm,0.5s,baz=46,slow=7.1,SNR=80
SONM PcP **PcP 19 44 05.0 +1.0**
comp=Z,1.9nm,0.6s,baz=72,slow=4.2,SNR=0.8
SONM LR LR 20 06 20.4
comp=Z,1µm,21.1s,baz=48,slow=37
comp=Z,12nm,0.5s
MOY Mondy 53.77 310 *e*P **P 19 42 57.8 -0.4**
MOY pmax pmax
comp=Z,30nm,1.8s
WVT Waverly 53.80 76 IAMs_20 IAMs_20 20 04 01.2
comp=Z,2µm,22.0s
BJT Baijiatuan 53.83 290 IAMs_20 IAMs_20 20 06 49.3
comp=Z,2µm,20.0s
HBVL Hebbronville 53.85 92 IAmb IAmb 19 44 21.9
comp=Z,38nm,1.5s
ISOG Isortoq, Green 54.01 25 *i*P **P 19 42 60.0 +0.5**
ISOG IAmb IAmb 19 43 14.2
comp=Z,69nm,1.0s
OXF Oxford 54.01 79 IAMs_20 IAMs_20 20 10 17.9
comp=Z,1µm,18.0s
OXF Oxford 54.01 79 P **P 19 42 57.6 -2.4**
baz=315,SNR=8.3
ERPA Erie 54.12 66 IAMs_20 IAMs_20 20 05 57.0
comp=Z,871nm,21.0s
ERPA Erie 54.12 66 P **P 19 42 58.3 -2.5**
baz=313
M53A WI Miller and 54.21 67 IAMs_20 IAMs_20 20 06 52.3
comp=Z,1µm,18.0s
M53A WI Miller and 54.21 67 P **P 19 42 59.4 -2.1**
baz=313
ANGG Ammassalik, Gr 54.29 24 *i*P **P 19 43 01.5 -0.1**
ANGG IAmb IAmb 19 43 04.3
comp=Z,26nm,0.5s
PLAL Pickwick Lake 54.46 78 IAmb IAmb 19 43 19.0
comp=Z,37nm,1.2s
PLAL IAMs_20 IAMs_20 20 08 59.8
comp=Z,782nm,18.0s
P52A Corning 54.64 69 IAMs_20 IAMs_20 20 04 55.8
comp=Z,1µm,19.0s
P52A Corning 54.64 69 P **P 19 43 02.9 -1.6**
baz=314
IVI Ivigtut 54.73 32 P **P 19 43 05.4 +0.5**
IVI Ivigtut 54.73 32 *i*P **P 19 43 05.6 +0.8**
IVI IAmb IAmb 19 43 13.7
comp=Z,35nm,0.8s
O53A New Philadelph 54.73 68 P **P 19 43 03.6 -1.6**
baz=314
T50A Nancy 54.91 74 IAmb IAmb 19 43 26.5
comp=Z,15nm,0.8s
VBMS Vicksburg 54.98 82 IAMs_20 IAMs_20 20 10 45.8
comp=Z,1µm,19.0s
P53A Whipple 55.15 69 IAmb IAmb 19 43 30.5
comp=Z,47nm,1.6s
S51A Beattyville 55.19 72 IAmb IAmb 19 43 24.1
comp=Z,19nm,0.9s
LONY Lake Ozonia 55.30 60 P **P 19 43 07.3 -2.0**
baz=313
X48A Hartselle 55.43 77 IAmb IAmb 19 43 29.7
comp=Z,60nm,1.9s
NRS Narsarsuaq 55.63 31 *i*P **P 19 43 11.6 +0.3**
NRS IAmb IAmb 19 43 13.2
comp=Z,22nm,0.9s
HHC Hu-ho-hao-te 55.81 294 *e*P **P 19 43 13.5 +0.4**
HHC sP pwP 19 43 22.0 -1.0
HHC PcP **PcP 19 44 14.0 +2.0**
HHC S **S 19 50 58.3 -0.8**
HHC sS sS 19 51 13.3 +7.1
HHC ScS **ScS 19 53 04.3 +3.1**
HHC pmax pmax
comp=Z,22nm,0.7s
HHC pmax pmax
comp=Z,230nm,3.7s
HHC LR LR
comp=N,690nm,19.8s
HHC LR LR
comp=E,1µm,14.5s
HHC LR LR
comp=Z,2µm,16.7s
MCWV Mont Chateau 55.89 68 P **P 19 43 12.6 -1.0**
baz=314
TIA Tai'an 55.93 286 P **P 19 43 13.5 -0.4**
TIA PP **PP 19 45 22.3 +3.9**
TIA S **S 19 51 02.3 +1.7**
TZTN Tazewell 55.98 73 P **P 19 43 13.4 -0.9**
baz=315
JOW Kunigami 56.10 270 LR LR 20 05 02.5
comp=Z,285nm,21.3s,baz=83,slow=34
Y49A Blount Mountai 56.23 77 IAmb IAmb 19 43 35.4
comp=Z,16nm,0.8s
BINY Binghamton 56.23 63 P **P 19 43 14.5 -1.5**
baz=314
SSPA Standing Stone 56.29 66 P **P 19 43 14.6 -1.8**
baz=314
D62A Allapoint, All 56.39 55 P **P 19 43 17.7 +0.7**
D62A IAmb IAmb 19 43 49.8
comp=Z,28nm,1.1s
HNS HongShan 56.47 289⇑ *i*P **P 19 43 18.3 +0.6**
HNS PP **PP 19 45 26.5 +3.4**
HNS S **S 19 51 06.8 -0.9**
HNS ScS **ScS 19 53 07.0 +1.3**
HNS pmax pmax
comp=Z,33nm,0.9s
HNS pmax pmax
comp=Z,370nm,4.3s
HNS LR LR
comp=N,700nm,19.1s
HNS LR LR
comp=E,2µm,21.5s
HNS LR LR
comp=Z,2µm,19.1s
LRAL Lakeview Retre 56.47 78 IAMs_20 IAMs_20 20 10 29.9
comp=Z,898nm,20.0s
LRAL Lakeview Retre 56.47 78 P **P 19 43 17.2 -0.6**
baz=316
TKL Tuckaleechee C 56.48 74 LR LR 20 05 17.6
comp=Z,547nm,21.5s,baz=321,slow=34
GUMO Guam 56.78 246 P **P 19 43 21.3 +1.1**
comp=Z,72nm,1.0s,baz=325,slow=11,SNR=2.5
GUMO LR LR 20 05 56.7
comp=Z,338nm,19.9s,baz=60,slow=34
comp=Z,72nm,1.0s
BTO Baotou 56.82 295 *e*P **P 19 43 20.3 0.0**
BTO pP **pP 19 43 25.0 -0.2**
BTO sP **sP 19 43 27.5 +0.4**
BTO PP **PP 19 45 27.3 +1.0**
BTO S **S 19 51 15.5 +3.0**
BTO sS **sS 19 51 22.8 +2.9**
BTO Baotou 56.82 295 SS **SS 19 54 57.0 -3.1**
BTO pmax pmax
comp=Z,51nm,1.4s
BTO pmax pmax
comp=Z,740nm,9.0s
BTO LR LR
comp=N,4µm,15.7s
BTO LR LR
comp=E,4µm,16.9s
BTO LR LR
comp=Z,3µm,19.1s
LBNH Lisbon 56.93 59 P **P 19 43 19.2 -1.7**
baz=315
ARCES ARCESS Array B 57.15 356 P **P 19 43 21.8 -0.4**
comp=Z,5.4nm,0.7s,baz=21,slow=2.4,SNR=21
ARCES LR LR 20 10 06.2
comp=Z,2µm,18.0s,baz=352,slow=38
comp=Z,5.4nm,0.7s
SSE Sheshan 57.20 279 P **P 19 43 22.3 -0.7**
SSE S **S 19 51 18.0 +0.5**
SSE pmax pmax
comp=Z,14nm,1.2s
SSE pmax pmax
comp=Z,260nm,5.6s
SSE LR LR
comp=N,170nm,15.7s
SSE LR LR
comp=E,330nm,15.2s
JETT Jettan, Norway 57.27 358 *e*P **P 19 43 23.9 +0.9**
BLA Blacksburg 57.29 70 IAMs_20 IAMs_20 20 07 39.1
comp=Z,1µm,20.0s
BLA Blacksburg 57.29 70 P **P 19 43 21.5 -2.1**
baz=315,SNR=7.6
TIY Taiyuan 57.53 291 *e*P **P 19 43 26.5 +1.2**
TIY S **S 19 51 22.5 +0.7**
TIY ScS **ScS 19 53 21.0 +7.4**
TIY pmax pmax
comp=Z,270nm,5.5s
TIY LR LR
comp=N,1µm,23.4s
TIY LR LR
comp=E,950nm,20.6s
TIY LR LR
comp=Z,1µm,22.7s
PKME Peaks-Kenny Pk 57.54 57 P **P 19 43 23.3 -1.9**
baz=315
BRAL Brewton 57.78 80 P **P 19 43 25.0 -2.1**
baz=317
NJ2 Nanjing 57.89 282⇑ *i*P **P 19 43 27.0 -0.8**
NJ2 S S 19 51 39.5 +13
NJ2 pmax pmax
comp=Z,12nm,1.1s
NJ2 pmax pmax
comp=Z,390nm,5.2s
NJ2 LR LR
comp=N,760nm,17.5s
NJ2 LR LR
comp=E,940nm,17.1s
NJ2 LR LR
comp=Z,870nm,21.8s
QUA2 Belchertown 58.09 61 IAMs_20 IAMs_20 20 09 47.6
comp=Z,2µm,21.0s
T57A Hurt 58.09 70 IAmb IAmb 19 43 44.0
comp=Z,13nm,0.9s
PAL Palisades 58.18 63 P **P 19 43 28.2 -1.5**
baz=315
LVZ Lovozero 58.22 352 P **P 19 43 29.5 -0.2**
KMSC Kings Mountain 58.24 73 P **P 19 43 29.6 -0.6**
baz=316
GOGA Godfrey 58.26 76 IAMs_20 IAMs_20 20 12 27.2
comp=Z,1µm,19.0s
GOGA Godfrey 58.26 76 P **P 19 43 29.2 -1.1**
baz=316
CBN Corbin Frederi 58.28 68 IAMs_20 IAMs_20 20 08 17.2
comp=Z,1µm,21.0s
CBN Corbin Frederi 58.28 68 P **P 19 43 29.7 -0.8**
baz=316
HRV Adam Dziewonsk 58.35 60 IAMs_20 IAMs_20 20 10 35.2
comp=Z,1µm,18.0s
HRV Adam Dziewonsk 58.35 60 P **P 19 43 29.7 -1.1**
baz=316
WSPT Westport, CT 58.37 62 IAMs_20 IAMs_20 20 10 26.0
comp=Z,1µm,18.0s
BORG Borgarnes 58.58 18 LR LR 20 11 01.1
comp=Z,830nm,19.2s,baz=335,slow=38
ZALV Zalesovo Beam 58.96 320 P **P 19 43 34.8 -0.2**
comp=Z,9.7nm,0.7s,baz=34,slow=7.1,SNR=31
ZALV PcP **PcP 19 44 25.0 +1.1**
comp=Z,4.1nm,0.6s,baz=37,slow=4.5,SNR=4.7
ZALV LR LR 20 11 38.7
comp=Z,3µm,18.1s,baz=38,slow=39
comp=Z,9.7nm,0.7s
ZALV Zalesovo Beam 58.96 320 *i*P **P 19 43 34.7 -0.3**
ZALV pmax pmax
comp=Z,10.0nm,0.6s
T59A Double "B" Far 59.06 69 IAmb IAmb 19 43 54.9
comp=Z,24nm,1.0s
FAUS Fauske 59.49 1 *e*P **P 19 43 36.0 -2.4**
M65A Busby, Falmout 59.50 60 P **P 19 43 36.9 -1.9**
baz=316
TIGA Tifton 59.61 77 P **P 19 43 38.7 -1.1**
baz=317
LYN LuoYang 59.77 288⇓ *i*P **P 19 43 41.5 +0.6**
LYN PP **PP 19 45 56.5 +4.0**
LYN S **S 19 51 50.8 -0.1**
LYN LuoYang 59.77 288 SS SS 19 55 46.8 +0.4
LYN pmax pmax

LYN pmax pmax
comp=Z,27nm,1.1s
LYN LR LR
comp=Z,510nm,7.2s
LYN LR LR
comp=N,2µm,19.2s
LYN LR LR
comp=E,2µm,19.6s
LYN LR LR
comp=Z,3µm,22.0s
DRLN Deer Lake 60.15 47 P P 19 43 43.9 +0.6
KONS Konsvik 60.35 2 eP P 19 43 45.5 +1.2
STOK Stokkvaagen 60.51 2 eP P 19 43 46.4 +0.9
MOR8 Moi Rana 60.70 1 eP P 19 43 45.9 -0.8
TATO Taipei 61.54 274 IAMs_20 IAMs_20 20 08 35.1
comp=Z,796nm,21.0s
WHN Wuhan 61.61 284 P P 19 43 53.3 -0.2
WHN sP **pwP 19 44 01.8 -1.4**
WHN S **S 19 52 12.3 -2.2**
WHN sS **sS 19 52 28.5 +6.3**
WHN pmax pmax
comp=Z,35nm,1.9s
WHN pmax pmax
comp=Z,780nm,3.8s
WHN LR LR
comp=N,2µm,18.9s
WHN LR LR
comp=E,3µm,18.2s
WHN LR LR
comp=Z,2µm,18.1s
YHNB Yeheng 61.83 274 P P **19 43 56.7 +1.6**
YHNB Yeheng 61.83 274 IAMs_20 IAMs_20 20 08 22.1
comp=Z,921nm,22.0s
NACB Ninganchiao 62.08 273 IAMs_20 IAMs_20 20 09 17.5
comp=Z,821nm,22.0s
XAN Xi'an 62.15 290 P P 19 43 56.8 -0.3
XAN pP pP 19 44 00.0 -2.0
XAN sP sP 19 44 04.8 +0.9
XAN S **S 19 52 20.8 -0.5**
NSS Namsos 62.30 2 eP P 19 43 57.4 -0.1
SSLB Suanglung 62.75 274 P P 19 44 02.5 +1.3
SSLB Suanglung 62.75 274 P P 19 44 00.5 -0.7
SSLB IAMs_20 IAMs_20 20 09 57.3
comp=Z,854nm,22.0s
YULB Yu-li 62.84 273 P P 19 44 04.3 +2.5
YULB Yu-li 62.84 273 IAMs_20 IAMs_20 20 09 08.9
comp=Z,910nm,21.0s
GTA Gaotai 63.09 300 P P 19 44 03.3 -0.2
GTA pP pP 19 44 08.0 -0.3
GTA S **S 19 52 33.8 +0.5**
GTA sS sS 19 52 44.3 +3.5
QZH Quanzhou 63.29 276⇑ *iP* **P 19 44 05.0 +0.3**
QZH S **S 19 52 36.0 +0.3**
QZH pmax pmax
comp=Z,330nm,7.3s
QZH LR LR
comp=N,480nm,15.1s
QZH LR LR
comp=E,770nm,14.8s
QZH LR LR
comp=Z,610nm,24.4s
TPUB Ta-pu 63.31 274 IAMs_20 IAMs_20 20 11 15.2
comp=Z,649nm,20.0s
DWPF Disney Wildern 63.33 78 P **P 19 44 02.6 -2.3**
baz=319
JOF Joensuu 63.39 352 *eP* **P 19 44 05.0 +0.1**
TWG Pinlang 63.41 273 IAMs_20 IAMs_20 20 08 51.8
comp=Z,756nm,22.0s
LZH Lanzhou 63.43 295 *eP* **P 19 44 06.0 +0.2**
LZH sP pwP 19 44 17.0 +1.3
LZH S **S 19 52 36.5 -1.2**
LZH sS sS 19 52 49.8 +4.4
LZH pmax pmax
comp=Z,35nm,1.2s
LZH pmax pmax
comp=Z,320nm,5.8s
LZH LR LR
comp=N,3µm,16.8s
LZH LR LR
comp=E,2µm,17.2s
LZH LR LR
comp=Z,3µm,17.2s
SEM Semipalatinsk 63.49 320 *eP* **P 19 44 05.7 -0.3**
baz=320
SEM Semipalatinsk 63.49 320 *eP* **P 19 44 05.6 -0.3**
TBLU Trondheim 63.53 3 *eP* **P 19 44 05.8 0.0**
CMIG Matias Romero 63.71 97 LR LR 20 08 28.3
comp=Z,597nm,20.9s,baz=330,slow=33
VAF Ylistaro 63.75 357 *eP* **P 19 44 07.3 +0.1**
KURK Kurchatov 63.86 321 P **P 19 44 08.2 +0.1**
KURK IAmb IAmb 19 44 32.1
comp=Z,24nm,1.1s
KURK Kurchatov 63.86 321 P **P 19 44 08.2 +0.1**
KURK pmax pmax
comp=Z,24nm,1.1s
KURBB Kurchatov Arra 63.97 321 P **P 19 44 08.7 -0.1**
comp=Z,5.4nm,0.6s,baz=47,slow=7.1,SNR=58
KURBB LR LR 20 14 39.5
comp=Z,3µm,18.8s,baz=49,slow=39
comp=Z,5.4nm,0.6s
ZSN Zaisan 63.98 315 *eP* **P 19 44 09.1 +0.1**
comp=Z,7.1nm,0.5s,baz=315
ZSN Zaisan 63.98 315 *eP* **P 19 44 09.1 +0.1**
ZSN pmax pmax
comp=Z,7.0nm,0.5s
MOL Molde 64.11 5 *eP* **P 19 44 10.6 +1.0**
CNSH ChangSha 64.19 283⇑ *iP* **P 19 44 11.3 +0.6**
CNSH S **S 19 52 46.0 -0.9**
CNSH LR LR
comp=N,1µm,15.9s
CNSH LR LR
comp=E,590nm,16.3s
CNSH LR LR
comp=Z,870nm,16.1s
SVE Sverdlovsk 64.32 335 *deP* **P 19 44 11.4 +0.3**
SVE *eS* **S 19 52 50.4 +2.7**
SVE pmax pmax
comp=Z,35nm,0.9s
SVE MLR MLR
comp=Z,3µm,17.0s
AKN Aaknes 64.47 5 *eP* **P 19 44 13.2 +1.2**
KEF Keuruu 64.54 356 *eP* **P 19 44 12.7 +0.3**
KLMR Klimovskoe 64.58 348 *eP* **P 19 44 10.8 -1.9**
KLMR pmax pmax
comp=Z,48nm,1.6s
KLMR MLR MLR
comp=Z,1µm,20.0s
ENH Enshi 64.62 287 IAMs_20 IAMs_20 20 11 22.9
comp=Z,953nm,22.0s
DOMB Dombas 64.70 4 *eP* **P 19 44 14.1 +0.6**
BVAR Borovoye Array 64.81 327 P **P 19 44 14.6 +0.2**
comp=Z,27nm,0.7s,baz=42,slow=7.2,SNR=83
BVAR LR LR 20 15 55.7
comp=Z,2µm,19.4s,baz=35,slow=39
comp=Z,27nm,0.7s
BRVK Borovoye 64.82 327 P **P 19 44 14.3 -0.1**
BRVK Borovoye 64.82 327 *c iP* **P 19 44 14.6 +0.2**
BRVK pmax pmax
comp=Z,20nm,0.9s
FOO Floro 64.94 6 *eP* **P 19 44 15.7 +0.8**
VALR Valaam 64.97 352 *i* P **P 19 44 15.3 +0.1**
VALR pmax pmax
comp=Z,29nm,0.9s
KIRV Kirov 65.19 342 LR LR 20 17 18.2
comp=Z,2µm,18.5s,baz=24,slow=40
KIRV Kirov 65.19 342 *c iP* **P 19 44 16.2 -0.5**
ARU Arti 65.19 336 P **P 19 44 16.7 -0.1**
ARU Arti 65.19 336 LR LR 20 18 55.0
comp=Z,1µm,18.1s,baz=28,slow=42
ARU Arti 65.19 336 *c iP* **P 19 44 16.4 -0.4**
ARU pmax pmax
comp=Z,49nm,1.7s
FINES FINESS Array B 65.20 355 P **P 19 44 16.6 -0.1**
comp=Z,8.0nm,0.5s,baz=20,slow=6.3,SNR=44
FINES LR LR 20 14 55.4
comp=Z,1µm,18.3s,baz=9.5,slow=38
comp=Z,8.0nm,0.5s
HYA Hoyanger 65.44 5 *eP* **P 19 44 19.1 +0.9**
SUE Sulen 65.46 6 *eP* **P 19 44 19.2 +0.8**
MK31 Makanchi Array 65.57 317 *c iP* **P 19 44 18.4 -1.0**
MKAR Makanchi Array 65.57 317 P **P 19 44 18.7 -0.8**
comp=Z,5.1nm,0.5s,baz=46,slow=6.8,SNR=60
MKAR LR LR 20 14 20.8
comp=Z,2µm,19.2s,baz=39,slow=37
comp=Z,5.1nm,0.5s
WMQ Urumqi 65.60 311 *eP* **P 19 44 20.3 +0.6**
WMQ sP pwP 19 44 33.3 +3.6
WMQ pmax pmax
comp=Z,15nm,1.3s
WMQ pmax pmax
comp=Z,270nm,4.7s
WMQ LR LR
comp=N,3µm,19.1s
WMQ LR LR
comp=E,2µm,18.3s
WMQ LR LR
comp=Z,970nm,19.9s
NB2 NORSAR Subarra 65.78 3 P **P 19 44 20.9 +0.3**
comp=Z,153nm,2.5s,baz=357,slow=6.2
NB2 NORSAR Subarra 65.78 3 P **P 19 44 20.9 +0.3**
baz=357,slow=6.2
NOA NORSAR Array B 65.78 3 P **P 19 44 20.9 +0.3**
comp=Z,9.5nm,0.8s,baz=359,slow=6.4,SNR=45
NOA LR LR 20 14 50.4
comp=Z,700nm,18.7s,baz=355,slow=38
comp=Z,9.5nm,0.8s
RAF Rauma 65.80 357 *eP* **P 19 44 20.9 +0.3**
LRW Lerwick 65.88 10 *eP* **P 19 44 22.3 +1.2**
LRW IAmb IAmb 19 44 23.1
comp=Z,32nm,0.8s
SKAR Skarslia 66.03 4 *eP* **P 19 44 23.1 +0.9**
ASK Askoy 66.06 6 *eP* **P 19 44 23.4 +1.2**
BER Bergen 66.16 6 *eP* **P 19 44 24.1 +1.1**
MEF Metsahovi 66.51 356 *eP* **P 19 44 24.8 -0.3**
BRZS Berezniki 66.61 324 *eP* **P 19 44 25.8 -0.2**
baz=324
BRZS Berezniki 66.61 324 *eP* **P 19 44 25.8 -0.2**
AAL Aland 66.69 358 *eP* **P 19 44 26.3 0.0**
ODD1 Odda 66.71 5 *eP* **P 19 44 27.5 +0.9**
HFS Hagfors 66.75 2 P **P 19 44 26.8 +0.1**
comp=Z,20nm,0.6s,baz=30,slow=3.6,SNR=90
HFS LR LR 20 15 03.0
comp=Z,563nm,21.4s,baz=2.5,slow=37
comp=Z,20nm,0.6s
UPP Uppsala 67.04 359 *eP* **P 19 44 28.8 +0.3**
KONO Kongsberg 67.12 4 P **P 19 44 30.1 +1.0**
KONO IAmb IAmb 19 44 30.6
comp=Z,17nm,0.9s
KONO Kongsberg 67.12 4 *eP* **P 19 44 30.3 +1.3**
KONO Kongsberg 67.12 4 P **P 19 44 30.1 +1.0**
KONO pmax pmax
comp=Z,17nm,1.0s
LEWI Lewis, Hebride 67.15 13 *eP* **P 19 44 30.0 +0.7**
BLS5 Blasjo 67.19 6 *eP* **P 19 44 30.7 +1.2**
ARBE Arbavere 67.21 355 *eP* **P 19 44 30.1 +0.4**
CD2 Chengdu 67.37 292 P **P 19 44 31.8 +0.6**
HKPS Hong Kong Po S 67.95 278 IAMs_20 IAMs_20 20 13 23.8
comp=Z,621nm,20.0s
MTSE Matsula 68.04 356 *eP* **P 19 44 35.1 +0.2**
KPL Plockton 68.10 13 *eP* **P 19 44 36.3 +1.1**
GOMU GeErMu 68.10 301 P **P 19 44 36.3 +0.2**
GOMU pP sP 19 44 43.0 0.0
GOMU sP pwP 19 44 45.0 -1.1
GOMU S **S 19 53 31.3 -3.8**
GOMU sS sS 19 53 50.5 +7.9
VSU Vasula 68.14 354 *c iP* **P 19 44 35.9 +0.4**
VSU pmax pmax
comp=Z,31nm,0.9s
MCD Coleburn Disti 68.16 11 *eP* **P 19 44 36.8 +1.2**
SNART Snartemo 68.31 5 *eP* **P 19 44 38.1 +1.5**
TDK Taldyqorghan 68.61 318 *eP* **P 19 44 38.9 +0.1**
comp=Z,12nm,0.9s,baz=318
TDK Taldyqorghan 68.61 318 *eP* **P 19 44 38.8 +0.1**
TDK pmax pmax
comp=Z,12nm,0.9s
GYA Guiyang 69.12 286 ⇓ *iP* **P 19 44 43.3 +1.0**
GYA S **S 19 53 44.8 -2.1**
GYA pmax pmax
comp=Z,27nm,1.3s
GYA pmax pmax
comp=Z,360nm,8.3s
GYA LR LR
comp=N,430nm,20.0s
GYA LR LR
comp=E,670nm,22.1s
GYA LR LR
comp=Z,760nm,27.5s
LAWE Loch Awe, Argy 69.18 13 *eP* **P 19 44 42.6 +0.6**
LAWE IAmb IAmb 19 44 43.6
comp=Z,30nm,1.0s
SLIT Slitere, Latvi 69.18 357 *eP* **P 19 44 42.2 +0.2**
ARXS Arharly 69.49 318 *eP* **P 19 44 43.9 -0.4**
BBSR BB Station 69.52 63 IAMs_20 IAMs_20 20 16 24.3
comp=Z,587nm,21.0s
SHLS Shalkode 69.70 316 *eP* **P 19 44 45.1 -0.5**
comp=Z,12nm,0.7s,baz=316
SHLS Shalkode 69.70 316 *eP* **P 19 44 45.1 -0.5**
SHLS pmax pmax
comp=Z,12nm,0.7s
MOS Moscow 69.80 347 *eP* **P 19 44 44.4 -1.5**
MOS *e* 19 45 04.9
MOS *e* 19 47 24.3
MOS *eS* **S 19 53 56.2 +2.5**
MOS pmax pmax
comp=Z,42nm,0.6s
MOS MLR MLR
comp=Z,2µm,20.0s
UZB Uzynbulak 69.89 316 *eP* **P 19 44 47.0 +0.1**
baz=316
UZB Uzynbulak 69.89 316 *eP* **P 19 44 46.0 -0.9**
UZB pmax pmax
comp=Z,14nm,1.3s
HNR Honiara 69.92 219 LR LR 20 12 38.5
comp=Z,4µm,18.5s,baz=17,slow=34
ZHN Zhinishke 70.11 317 *eP* **P 19 44 48.4 +0.2**
baz=316
ZHN Zhinishke 70.11 317 *eP* **P 19 44 48.4 +0.2**
SATY Saty 70.21 317 *eP* **P 19 44 49.3 +0.4**
comp=Z,6.8nm,0.9s,baz=316
SATY Saty 70.21 317 *eP* **P 19 44 49.2 +0.4**
SATY pmax pmax
comp=Z,7.0nm,0.9s
TGY Tagaytay City 70.22 267 LR LR 20 13 42.4
comp=Z,206nm,20.4s,baz=84,slow=34
BTLS Baital 70.28 321 *eP* **P 19 44 49.2 +0.2**
comp=Z,8.6nm,0.8s,baz=320
BTLS Baital 70.28 321 *eP* **P 19 44 49.2 +0.2**
BTLS pmax pmax
comp=Z,9.0nm,0.8s
MUD Monsted U'grnd 70.29 4 *i* P **P 19 44 49.0 +0.2**
MUD IAmb IAmb 19 44 53.2
comp=Z,30nm,1.2s
EKA Eskdalemuir Ar 70.37 12 P **P 19 44 50.6 +1.2**
comp=Z,8.2nm,0.6s,baz=340,slow=4.3,SNR=46
comp=Z,8.2nm,0.6s
DEL Delary 70.42 2 *eP* **P 19 44 49.3 -0.4**
OBN Obninsk 70.54 348⇑ P **P 19 44 51.0 +0.6**
OBN Obninsk 70.54 348 LR LR 20 19 21.3
comp=Z,1µm,18.7s,baz=18,slow=39
OBN Obninsk 70.54 348 *c iP* **P 19 44 49.8 -0.6**
OBN *e* 19 45 00.1
OBN *e* 19 45 13.1
OBN *e* 19 47 23.4
OBN *e*PPP PPP 19 49 07.7
OBN *eS* **S 19 54 03.2 +0.8**
OBN pmax pmax
comp=Z,65nm,1.7s
OBN MLR MLR
comp=Z,2µm,18.0s
TGUH Tegucigalpa,Un 70.61 93 IAMs_20 IAMs_20 20 13 35.8
comp=Z,520nm,20.0s
MDOK Medeo 70.68 318 *eP* **P 19 44 52.0 +0.2**
baz=317
MDOK Medeo 70.68 318 *eP* **P 19 44 51.9 +0.2**
AAA Alma-Ata 70.69 318 *eP* **P 19 44 51.6 -0.1**
comp=Z,12nm,0.8s,baz=318
AAA Alma-Ata 70.69 318 *eP* **P 19 44 51.6 -0.1**
AAA pmax pmax
comp=Z,12nm,0.8s
AKTO Aktyubinsk 70.76 333 LR LR 20 20 11.2
comp=Z,1µm,19.1s,baz=29,slow=40
VSVD Vaisvydziai 70.76 356 *eP* **P 19 44 52.4 +0.7**
TNSS Tian-Shan 70.83 318 *eP* **P 19 44 53.0 +0.1**
baz=317
TNSS Tian-Shan 70.83 318 *eP* **P 19 44 53.0 +0.1**
ISAL Salakas 71.06 354 *eP* **P 19 44 55.5 +2.0**
PABE Paberze 71.24 356 *eP* **P 19 44 55.3 +0.7**
IDID Didziasalis 71.27 354 *eP* **P 19 44 54.9 +0.1**
BELG Belogornoye 71.37 340 LR LR 20 18 52.3
comp=Z,2µm,21.6s,baz=27,slow=38
BELG Belogornoye 71.37 340 *c iP* **P 19 44 55.3 -0.2**
BELG pmax pmax
comp=Z,12nm,1.0s
TKM2 Tokmak 2 71.46 318 P **P 19 44 57.0 +0.4**
SNR=21
USP Ospenovka 71.60 319 P **P 19 44 58.0 +0.8**
SNR=15
BOOM Boomskoye usch 71.69 318 IAmb IAmb 19 45 21.5
comp=Z,20nm,0.8s
CHMS Chumnysh 71.73 319 P **P 19 44 58.6 +0.6**
SNR=12
PPT Papeete 71.73 166 LR LR 20 12 27.4
comp=Z,770nm,18.0s,baz=338,slow=32
ULHL Ulahol 71.77 318 P **P 19 44 58.9 +0.5**
SNR=8.0
PZH PanZhiHua 71.89 290 P **P 19 44 59.3 +0.1**
PZH PcP **PcP 19 45 16.0 -1.9**
PZH S **S 19 54 18.0 -1.1**
PZH SKS **SKSac 19 54 58.0 -4.2**
MNK Minsk 72.00 353 *i* P **P 19 44 58.1 -1.2**
MNK *i* 19 47 36.5
MNK *i* PPP PPP 19 49 18.8
MNK *i* S **S 19 54 19.3 -0.1**
MNK *i* SS **SS 19 58 56.9 +2.0**
MNK pmax pmax
comp=E,4.0nm,1.0s
MNK pmax pmax
comp=N,18nm,0.9s
MNK pmax pmax
comp=Z,24nm,0.9s
MNK MLR MLR
comp=N,768nm,18.0s
MNK MLR MLR
comp=Z,957nm,19.0s
MNK MLR MLR
comp=E,301nm,17.0s
AAK Ala-Archa 72.14 319 P **P 19 45 01.3 +0.7**
SNR=18
AAK Ala-Archa 72.14 319 P **P 19 45 00.8 +0.3**
AAK IAmb IAmb 19 45 16.7
comp=Z,23nm,0.8s
AAK Ala-Archa 72.14 319 LR LR 20 19 26.1
comp=Z,2µm,18.1s,baz=32,slow=38
AAK Ala-Archa 72.14 319 *c iP* **P 19 45 01.1 +0.6**
AAK pmax pmax
comp=Z,46nm,1.7s
KLNR Kaliningrad 72.27 358⇓ *eP* **P 19 45 01.6 +0.8**
KLNR pmax pmax
comp=Z,52nm,0.7s
EKS2 Erkin-Say 72.40 319 P **P 19 45 02.9 +0.9**
SNR=20
UCH Uchtor 72.48 319 P **P 19 45 03.5 +0.5**
SNR=9.9
LPSR Galich'ya Gora 72.68 346 *eP* **P 19 45 02.2 -1.1**
LPSR pmax pmax
comp=Z,30nm,0.9s
LPSR MLR MLR
comp=Z,1µm,18.0s
LLW Llanuwychllyn 72.74 13 *eP* **P 19 45 04.9 +1.2**
FOEL Foel Wylfa 72.76 12 *eP* **P 19 45 04.7 +0.9**
SUW Suwalki 72.76 356 *eP* **P 19 45 04.3 +0.5**
QIZ Qiongzhong 73.00 279 P **P 19 45 05.5 -0.3**
QIZ S **SKiKP 19 54 36.3 -0.9**
QIZ Qiongzhong 73.00 279 SS SS 19 59 05.5 -6.6
QIZ pmax pmax
comp=Z,210nm,9.1s
QIZ LR LR
comp=N,380nm,15.1s
QIZ LR LR
comp=E,480nm,19.6s
QIZ LR LR
comp=Z,560nm,17.6s
QIZ Qiongzhong 73.00 279 IAMs_20 IAMs_20 20 20 29.5
comp=Z,410nm,18.0s
DAV Davao City (W) 73.04 259 LR LR 20 13 08.0
comp=Z,1µm,22.0s,baz=61,slow=32
DZA Taraz 73.14 321 *eP* **P 19 45 06.3 0.0**
baz=321
DZA Taraz 73.14 321 *eP* **P 19 45 06.3 0.0**
RSBS Rosebush, Pemb 73.47 14 *eP* **P 19 45 08.9 +0.9**
RSBS IAmb IAmb 19 45 09.8
comp=Z,31nm,0.9s
VORR Voronezh 73.54 346 *eP* **P 19 45 07.6 -0.8**
VORR pmax pmax
comp=Z,10.0nm,0.9s
BRLS Boroldav 73.57 322 *eP* **P 19 45 10.4 +1.5**
baz=322
BRLS Boroldav 73.57 322 *eP* **P 19 45 10.3 +1.5**
VRH Novokhopyorsk 73.59 344 *eP* **P 19 45 06.5 -2.3**
VRH pmax pmax
comp=Z,10.0nm,0.6s
VRH MLR MLR
comp=Z,1µm,18.0s
MCH1 Michaelchurch 73.66 12 *eP* **P 19 45 09.9 +0.8**
MCH1 IAmb IAmb 19 45 11.4
comp=Z,22nm,1.1s
MONM Monmouth 73.84 12 *eP* **P 19 45 11.3 +1.1**
MONM IAmb IAmb 19 45 14.1
comp=Z,17nm,0.9s
VSR Storozhevoye 73.99 345 *eP* **P 19 45 09.6 -1.5**
VSR pmax pmax
comp=Z,30nm,0.5s
VSR MLR MLR
comp=Z,1µm,21.0s
KSH Kashi 74.18 316 P **P 19 45 16.5 +3.9**
KSH sP pwP 19 45 24.5 +1.8
KSH PcP **PcP 19 45 31.0 +3.5**
KSH PP **PP 19 48 00.8 +3.2**
KSH S S 19 55 01.8 +17
KSH Kashi 74.18 316 ScS S 19 55 28.0 +43
KSH pmax pmax
comp=Z,24nm,1.6s
KSH pmax pmax
comp=Z,320nm,6.9s
KSH LR LR
comp=N,4µm,16.0s
KSH LR LR
comp=E,2µm,17.7s
KSH LR LR
comp=Z,6µm,16.5s
VORD Divnogorie 74.21 345 *eP* **P 19 45 12.0 -0.4**
VORD pmax pmax
comp=Z,10.0nm,0.5s
SWN1 Swindon 74.28 12 *eP* **P 19 45 13.7 +0.9**
RUE Ruedersdorf 74.42 2 *eP* **P 19 45 15.0 +1.5**
RAR Rarotonga 74.42 176 LR LR 20 11 08.2
comp=Z,548nm,18.8s,baz=338,slow=30
SLVN Son La 74.68 285 IAMs_20 IAMs_20 20 18 52.7
comp=Z,599nm,20.0s
LSA Lhasa 75.11 300 P **P 19 45 19.5 +0.9**
LSA pmax pmax
comp=Z,21nm,0.7s
CCA1 Carnmenellis 75.12 14 *eP* **P 19 45 18.9 +1.2**
PMG Port Moresby 75.28 231 LR LR 20 12 18.4
comp=Z,414nm,21.6s,baz=62,slow=31
CLL Collm 75.57 2 IAmb IAmb 19 45 21.6
comp=Z,14nm,1.0s
CLL IAMs_20 IAMs_20 20 24 50.8
comp=Z,668nm,20.0s
CLL Collm 75.57 2⇑ *iP* **P 19 45 20.7 +0.4**
CLL *eS* **S 19 55 04.0 +4.3**
CLL pmax pmax
comp=Z,18nm,1.0s
CLL MLR MLR
comp=Z,700nm,19.9s
AKASG Malin Array Be 75.67 352 P **P 19 45 20.6 -0.2**
comp=Z,13nm,0.5s,baz=10,slow=5.6,SNR=71
AKASG LR LR 20 23 47.4
comp=Z,1µm,18.0s,baz=14,slow=40
comp=Z,13nm,0.5s
AKBB Malin Array Si 75.67 352 *c iP* **P 19 45 20.7 -0.1**
AKBB pmax pmax
comp=Z,25nm,0.6s
KIEV Kiev 75.68 352 P **P 19 45 20.6 -0.3**
KIEV Kiev 75.68 352 P **P 19 45 20.6 -0.3**
KIEV pmax pmax
comp=Z,23nm,0.6s
KIEV MLR MLR
comp=Z,2µm,19.0s
BTK Batken 75.78 320 IAmb IAmb 19 45 44.7
comp=Z,36nm,1.1s
BSTI Sart Tilman 75.93 7 *dP* **P 19 45 23.6 +1.3**
comp=Z,5.5nm,0.8s
MEM Membach 75.94 7 *dP* **P 19 45 23.6 +1.2**
comp=Z,16nm,1.0s
BTNL Ternell 75.97 7 *dP* **P 19 45 23.8 +1.2**
comp=Z,11nm,1.1s
BRG Berggiesshubel 76.03 2 *i* P **P 19 45 23.7 +0.8**

BRG Amp 19 45 25.3
comp=Z,7.8nm,0.9s
BRG Berggiesshubel 76.03 2 S **S** 19 55 11.0 +6.2
BGES Gesves 76.09 8 *d*P **P** 19 45 24.4 +1.2
BMRD Maredsous 76.15 8 *d*P **P** 19 45 24.5 +1.0
comp=Z,14nm,1.0s
SDDR Presa de Saban 76.25 77 IAMs_20 IAMs_20 20 17 40.0
comp=Z,513nm,22.0s
HSKC Hora Svate Kat 76.28 2 *e*P **P** 19 45 25.2 +0.8
HSKC AMS AMS 20 29 50.0
comp=Z,700nm,16.0s
RCHB Rochefort 76.33 7 *d*P **P** 19 45 25.5 +0.9
comp=Z,17nm,0.9s
CHVC Chvalec 76.33 0 *e*P **P** 19 45 25.7 +1.0
CHVC AMS AMS 20 27 40.0
comp=Z,900nm,16.4s
CHVC Chvalec 76.33 0 *e*P **P** 19 45 25.7 +1.0
CHVC MLR MLR
comp=Z,900nm,16.4s
DOU Dourbes 76.34 8 *d*P **P** 19 45 25.9 +1.2
comp=Z,8.7nm,0.9s
RICC Richard 76.36 2 AMS AMS 20 28 20.0
comp=Z,700nm,18.5s
OSTC Ostas 76.37 0 AMS AMS 20 28 20.0
comp=Z,1μm,17.1s
PVCC Panska Ves 76.38 1 *e*P **P** 19 45 26.1 +1.2
PVCC AMS AMS 20 32 30.0
comp=Z,800nm,15.8s
PVCC Panska Ves 76.38 1 *e*P **P** 19 45 26.1 +1.2
PVCC MLR MLR
comp=Z,800nm,15.8s
UPC Upice 76.42 0 *e*P **P** 19 45 26.1 +1.0
UPC AMS AMS 20 27 50.0
comp=Z,900nm,16.3s
UPC Upice 76.42 0 *e*P **P** 19 45 26.1 +1.0
UPC MLR MLR
comp=Z,900nm,16.3s
JSA Saint Aubin 76.52 12 *e*P **P** 19 45 26.7 +1.0
JSA IAmb IAmb 19 45 27.2
comp=Z,20nm,0.9s
DPC Dobruska-Polom 76.57 0 *e*P **P** 19 45 27.3 +1.2
DPC AMS AMS 20 28 30.0
comp=Z,1μm,16.1s
DPC Dobruska-Polom 76.57 0 *e*P **P** 19 45 27.3 +1.2
DPC MLR MLR
comp=Z,1μm,16.1s
NKC Novy Kostel 76.63 3 *e*P **P** 19 45 27.8 +1.4
NKC AMS AMS 20 31 30.0
comp=Z,900nm,16.8s
NKC Novy Kostel 76.63 3 *e*P **P** 19 45 27.8 +1.4
NKC MLR MLR
comp=Z,900nm,16.8s
OJC Ojcow 76.67 358 *e*P **P** 19 45 27.6 +1.1
OJC Ojcow 76.67 358 IAmb IAmb 19 45 52.5
comp=Z,14nm,0.9s
PRA Prague 76.84 1 AMS AMS 20 30 40.0
comp=Z,800nm,16.1s
KRLC Kraliky 76.85 360 *e*P **P** 19 45 28.9 +1.3
KRLC AMS AMS 20 30 10.0
comp=Z,800nm,15.4s
KRLC Kraliky 76.85 360 *e*P **P** 19 45 28.9 +1.3
KRLC MLR MLR
comp=Z,800nm,15.4s
WLF Walferdange 76.89 7 IAMs_20 IAMs_20 20 21 06.8
comp=Z,959nm,22.0s
WLF Walferdange 76.89 7 *d*P **P** 19 45 28.7 +0.9
comp=Z,13nm,0.9s
LVV L'vov 76.91 355 *e*P **P** 19 45 28.3 +0.4
LVV *e*PS **PnS** 19 55 59.6 +6.2
LVV MLR MLR
comp=N,900nm,18.0s
LVV MLR MLR
comp=E,800nm,18.0s
LVV MLR MLR
comp=Z,1μm,18.0s
PRU Pruhonice 76.92 1 *e*P **P** 19 45 29.2 +1.2
PRU AMS AMS 20 30 40.0
comp=Z,800nm,16.0s
PRU Pruhonice 76.92 1 *e*P **P** 19 45 29.2 +1.2
PRU MLR MLR
comp=Z,800nm,16.0s
GOPC GO Pecny, Ondr 77.00 1 AMS AMS 20 30 30.0
comp=Z,1μm,16.1s
OKC Ostrava-Krasne 77.08 359 AMS AMS 20 29 50.0
comp=Z,800nm,15.1s
GRFO Grafenberg 77.14 4 IAMs_20 IAMs_20 20 20 54.2
comp=Z,732nm,22.0s
MORC Moravsky Berou 77.14 359 ⇓P **P** 19 45 30.6 +1.3
MORC Moravsky Berou 77.14 359 IAmb IAmb 19 45 55.2
comp=Z,19nm,1.4s
MORC Moravsky Berou 77.14 359 *e*P **P** 19 45 30.1 +0.8
MORC Moravsky Berou 77.14 359 P P 19 45 30.6 +1.3
FAKI Fak Fak 77.37 247 IAMs_20 IAMs_20 20 13 14.1
comp=Z,598nm,22.0s
STHS Stebnicka Huta 77.43 357 *e*P **P** 19 45 31.9 +1.0
STHS Stebnicka Huta 77.43 357 *e*P **P** 19 45 31.9 +1.0
STHS pmax pmax
comp=Z,30nm,0.6s
NIE Niedzica 77.46 357 *e*P **P** 19 45 32.6 +1.6
MAUC Maruska 77.55 359 *e*P **P** 19 45 33.1 +1.5
CRAI Chiangrai 77.57 287 IAmb IAmb 19 45 45.8
comp=Z,17nm,0.9s
VRAC Vranov 77.62 360 ⇑P **P** 19 45 32.6 +0.7
VRAC Vranov 77.62 360 *e*P **P** 19 45 32.9 +1.0
VRAC Vranov 77.62 360 LR LR 20 19 30.6
comp=Z,574nm,21.9s,baz=0.0,slow=36
VRAC Vranov 77.62 360 P **P** 19 45 32.6 +0.7
TREC Trest 77.63 1 AMS AMS 20 29 20.0
comp=Z,1μm,18.6s
SIMJ Simiganj 77.68 321 P **P** 19 45 32.7 +0.1
KHC Kasperske Hory 77.76 2 IAmb IAmb 19 45 35.0
comp=Z,14nm,1.0s
KHC Kasperske Hory 77.76 2 *e*P **P** 19 45 34.5 +1.7
KHC *e*S **S** 19 55 30.3 +6.4
KHC AMS AMS 20 31 20.0
comp=Z,900nm,17.6s
KHC Kasperske Hory 77.76 2 *e*P **P** 19 45 34.5 +1.7
KHC *e*S **S** 19 55 30.3 +6.4
KHC MLR MLR
comp=Z,900nm,17.6s
KRUC Moravsky 77.86 0 *e*P **P** 19 45 34.1 +0.8
CRVS Cervenica-Dubn 77.94 357 *e*P **P** 19 45 35.1 +1.4
CRVS Cervenica-Dubn 77.94 357 *e*P **P** 19 45 35.1 +1.4
CRVS pmax pmax
comp=Z,141nm,2.4s
STU Stuttgart 77.96 5 IAMs_20 IAMs_20 20 25 05.2
comp=Z,642nm,19.0s
SHL Shillong 78.03 297 IAmb IAmb 19 45 48.8
comp=Z,27nm,1.0s
GERES GERESS Array B 78.05 2 P **P** 19 45 35.4 +1.0
comp=Z,3.7nm,0.6s,baz=15,slow=5.7,SNR=22
comp=Z,3.7nm,0.6s
JAVC Velka Javorina 78.06 359 *e*P **P** 19 45 36.5 +2.1
CKRC Cesky Krumlov 78.09 2 *e*P **P** 19 45 35.6 +1.1
CKRC *e*S **SKSac** 19 55 43.2 -4.3
CKRC AMS AMS 20 31 20.0
comp=Z,800nm,16.4s
CKRC Cesky Krumlov 78.09 2 *e*P **P** 19 45 35.6 +1.1
CKRC *e*S **SKSac** 19 55 43.2 -4.3
CKRC MLR MLR
comp=Z,800nm,16.4s
SORM Soroca 78.30 352 ⇑P **P** 19 45 35.7 0.0
SORM Soroca 78.30 352 P **P** 19 45 35.6 0.0
BFO Black Forest 78.36 6 P **P** 19 45 36.8 +0.8
BFO IAmb IAmb 19 45 37.8
comp=Z,10nm,1.0s
BFO Black Forest 78.36 6 P **P** 19 45 36.8 +0.8
BFO pmax pmax
comp=Z,10.0nm,1.0s
ECH Echery 78.40 6 IAmb IAmb 19 45 52.3
comp=Z,23nm,1.1s
ECH IAMs_20 IAMs_20 20 22 52.8
comp=Z,583nm,21.0s
SMOL Smolenice 78.41 359 *e*P **P** 19 45 38.0 +1.7
SMOL pmax pmax
comp=Z,10.0nm,1.0s
VYHS Vyhne 78.41 358 *e*P **P** 19 45 37.6 +1.3
VYHS Vyhne 78.41 358 *e*P **P** 19 45 37.6 +1.3
VYHS pmax pmax
comp=Z,15nm,1.0s
MODS Modra-Piesok 78.55 359 *e*P **P** 19 45 39.0 +1.9
MODS Modra-Piesok 78.55 359 *e*P **P** 19 45 39.0 +1.9
MODS pmax pmax
comp=Z,142nm,2.1s
ZST Bratislava 78.73 360 *e*P **P** 19 45 40.2 +2.2
ZST Bratislava 78.73 360 *e*P **P** 19 45 40.2 +2.2
ZST pmax pmax
comp=Z,393nm,2.6s
PSZ Piszkesteto 78.97 358 ⇑P **P** 19 45 41.0 +1.5
PSZ Piszkesteto 78.97 358 IAmb IAmb 19 45 54.3
comp=Z,19nm,1.1s
PSZ IAMs_20 IAMs_20 20 27 15.2
comp=Z,836nm,19.0s
PSZ Piszkesteto 78.97 358 P **P** 19 45 40.9 +1.5
CONA Conrad Observa 79.00 0 *e*pP **P** 19 45 41.2 +1.5
comp=Z,9.2nm,0.8s,SNR=16
PHRA Phrae 79.02 286 P **P** 19 45 40.1 0.0
BURAR Bucovina Array 79.04 354 ⇑P **P** 19 45 41.0 +1.1
BURAR Bucovina Array 79.04 354 P **P** 19 45 40.6 +0.7
MOA Molln 79.06 2 *e*pP **P** 19 45 40.9 +1.0
comp=Z,9.5nm,1.5s
BMR Baia Mare 79.08 355 ⇑P **P** 19 45 41.3 +1.3
BMR Baia Mare 79.08 355 P **P** 19 45 41.2 +1.3
SRO Srobarova 79.10 359 *e*P **P** 19 45 41.7 +1.6
SRO Srobarova 79.10 359 *e*P **P** 19 45 41.7 +1.6
SRO pmax pmax
comp=Z,9.0nm,1.0s
ERBR Yeremizino-Bor 79.11 343 *e*P **P** 19 45 38.7 -1.5
ERBR *e**PP **pP** 19 45 41.9 -3.2
ERBR *e*S **S** 19 55 37.3 -1.1
ERBR pmax pmax
comp=Z,78nm,1.6s
BIOA Bad Ischl, Aus 79.20 2 *e*pP **P** 19 45 41.8 +1.1
comp=Z,7.6nm,0.8s,SNR=8.1
RONA Rosalia, Austr 79.23 0 *e*pP **P** 19 45 42.5 +1.6
comp=Z,5.9nm,1.0s,SNR=6.6
MFF Saint Martin d 79.31 12 *e*P **P** 19 45 42.1 +0.8
MFF pmax pmax
comp=Z,38nm,1.4s
RETA Reutte 79.32 4 *i* pP **P** 19 45 42.5 +1.1
comp=Z,5.6nm,0.9s,SNR=7.3
LESA Schwarzleotal 79.45 3 *i* pP **P** 19 45 43.2 +1.1
comp=Z,8.3nm,0.7s
MILM Milestii Mici 79.46 351 ⇑P **P** 19 45 42.4 +0.3
MILM Milestii Mici 79.46 351 P **P** 19 45 42.4 +0.3
MOTA Moosalm 79.48 4 *i* pP **P** 19 45 43.5 +1.2
comp=Z,20nm,1.0s,SNR=11
DAVA Damuels 79.48 5 *e*pP **P** 19 45 43.2 +0.8
comp=Z,5.1nm,1.0s
WATA Walderalm 79.50 3 *i* pP **P** 19 45 43.7 +1.3
comp=Z,22nm,1.2s,SNR=13
CHTO Chiang Mai 79.51 287 IAMs_20 IAMs_20 20 22 43.5
comp=Z,781nm,20.0s
WTTA Wattenberg 79.58 3 *i* pP **P** 19 45 44.3 +1.4
comp=Z,16nm,0.7s,SNR=14
DZM Mont Dzumac 79.59 208 LR LR 20 14 47.9
comp=Z,897nm,19.5s,baz=37,slow=31
SQTA Sankt Quirin 79.60 4 *i* pP **P** 19 45 44.4 +1.4
comp=Z,23nm,0.8s,SNR=15
ARCR ARCALIA 79.62 355 ⇑P **P** 19 45 44.4 +1.4
MESR Meseseni 79.63 356 ⇑P **P** 19 45 44.2 +1.2
ARSA Arzberg 79.67 1 *e*pP **P** 19 45 44.7 +1.4
comp=Z,7.3nm,0.8s,SNR=8.2
SMF Signal de Mont 79.70 9 *e*P **P** 19 45 43.8 +0.4
SMF pmax pmax
comp=Z,12nm,0.8s
FETA Feichten 79.78 4 *i* pP **P** 19 45 45.5 +1.5
comp=Z,18nm,0.9s,SNR=9.4
CMAR Chiang Mai Arr 79.79 287 P **P** 19 45 44.5 +0.2
comp=Z,8.5nm,0.7s,baz=30,slow=6.2,SNR=47
CMAR LR LR 20 22 51.0
comp=Z,644nm,20.6s,baz=30,slow=37
comp=Z,8.5nm,0.7s
KBA Koelnbreinsper 79.81 2 *i* pP **P** 19 45 45.8 +1.6
comp=Z,26nm,1.0s,SNR=24
VASR Vaslui 79.83 352 ⇑P **P** 19 45 44.5 +0.5
SJG San Juan 79.91 73 IAMs_20 IAMs_20 20 27 52.6
comp=Z,688nm,19.0s
DRGR 80.00 356 ⇑P **P** 19 45 46.0 +0.8
DRGR 80.00 356 P **P** 19 45 45.9 +0.8
CJR Cluj-Napoca 80.03 355 ⇓P **P** 19 45 46.4 +1.2
CJR Cluj-Napoca 80.03 355 P **P** 19 45 46.4 +1.2
MARR Marisel-Cluj 80.09 355 ⇑P **P** 19 45 46.3 +0.6
LABN Labinsk 80.11 343 *e*P **P** 19 45 44.0 -1.7
LABN *e**PP **pP** 19 45 47.3 -3.2
LABN *e*S **S** 19 55 47.8 -1.2
LABN pmax pmax
comp=Z,21nm,0.2s
ABTA Abfaltersbach 80.12 3 *i* pP **P** 19 45 46.9 +1.1
comp=Z,15nm,1.3s,SNR=8.4
FUORN Ofenpass-Fuorn 80.16 4 IAmb IAmb 19 46 01.2
comp=Z,12nm,0.7s
FUORN IAMs_20 IAMs_20 20 28 13.3
comp=Z,414nm,19.0s
SOKA Soboth 80.24 1 *i* pP **P** 19 45 47.7 +1.3
comp=Z,18nm,1.0s,SNR=30
TUE Stuetta 80.27 5 IAmb IAmb 19 46 03.8
comp=Z,50nm,1.6s
TUE IAMs_20 IAMs_20 20 25 39.1
comp=Z,684nm,19.0s
PERS Pernice 80.28 1 *i* P **P** 19 45 47.9 +1.3
MAK Makhachkala 80.34 337 *e*P **P** 19 45 42.3 -4.6
MAK *e*PPP PPP 19 50 35.6
MAK *e*S **S** 19 55 45.0 -6.4
MAK *e*SS **SS** 20 00 58.0 -3.4
OBKA Obir 80.40 1 *i* pP **P** 19 45 48.6 +1.3
comp=Z,26nm,0.7s,SNR=29
OBKA Obir 80.40 1⇑ *i*P **P** 19 45 48.6 +1.3
KVAR Kislovodsk Arr 80.41 341 LR LR 20 27 14.0
comp=Z,939nm,18.7s,baz=268,slow=40
KIV Kislovodsk 80.41 341 P **P** 19 45 48.6 +1.2
KIV Kislovodsk 80.41 341*c* *i*P **P** 19 45 48.2 +0.8
KIV *e* 19 48 49.3
KIV *e*PPP PPP 19 50 38.4
KIV *e*S **S** 19 55 52.6 +0.3
KIV pmax pmax
comp=Z,23nm,0.6s
KIV MLR MLR
comp=Z,1μm,24.0s
GHRR 80.43 352 ⇑P **P** 19 45 48.5 +1.2
GROC Groznyy 80.50 339 *e*P **P** 19 45 46.4 -1.3
GROC *e* 19 48 50.9
GROC pmax pmax
comp=Z,70nm,1.7s
ANN Anapa 80.50 345 *e*P **P** 19 45 45.1 -2.6
ANN *e**PP **pP** 19 45 48.7 -3.9
ANN *e* 19 48 49.2
ANN *e*S **S** 19 55 50.2 -2.8
ANN pmax pmax
comp=Z,35nm,1.2s
OZUR 80.52 353 ⇓P **P** 19 45 49.1 +1.3
TURR Turia 80.54 353 ⇑P **P** 19 45 49.8 +1.9
SIRR Siria 80.56 356 ⇓P **P** 19 45 49.0 +0.9
KBZ Khabaz 80.59 341 P **P** 19 45 49.8 +1.6
comp=Z,17nm,0.8s,baz=6.1,slow=4.1,SNR=24
KBZ LR LR 20 26 47.5
comp=Z,1μm,18.7s,baz=12,slow=40
comp=Z,17nm,0.8s
KBZ Khabaz 80.59 341*c* *i*P **P** 19 45 49.4 +1.2
KBZ pmax pmax
comp=Z,28nm,0.9s
CADS Cadrg 80.67 2 *i* P **P** 19 45 49.2 +0.5
DOPR Dopca 80.67 354 ⇑P **P** 19 45 50.0 +1.3
NCK Nalchik 80.67 340⇑ *i*P **P** 19 45 50.6 +1.9
NCK pmax pmax
comp=Z,50nm,0.9s
VRI Vrincioaia 80.68 353 ⇑P **P** 19 45 49.8 +1.1
VRI Vrincioaia 80.68 353 P **P** 19 45 49.8 +1.1
PLOR Plostina 80.70 353 ⇑P **P** 19 45 50.1 +1.3
PLOR Plostina 80.70 353 P **P** 19 45 50.1 +1.3
COVR Voineasa-Covas 80.74 353 ⇑P **P** 19 45 50.0 +0.9
CTI Castel Tesino 80.79 3 IAmb IAmb 19 46 05.7
comp=Z,12nm,0.8s
SIM Simferopol' 80.83 347 *e*P **P** 19 45 50.7 +1.2
SIM *e*S **S** 19 55 56.8 +0.4
SIM pmax pmax
comp=Z,120nm,9.5s
SIM smax smax
comp=E,26nm,13.0s
SIM MLR MLR
comp=Z,820nm,18.0s
LJU Ljubljana 80.87 1 *i* P **P** 19 45 50.2 +0.5
SABO M.te Sabotino 80.92 2 IAmb IAmb 19 46 10.1
comp=Z,38nm,1.6s
PTJ Puntijarka 81.02 0 *i* P **P** 19 45 51.5 +0.9
LFF La Frestale 81.06 11 *e*P **P** 19 45 51.5 +0.8
LFF pmax pmax
comp=Z,6.0nm,0.5s
CRES Cresnjev 81.10 1⇑ *i*P **P** 19 45 51.2 +0.3
MLR Muntele Rosu 81.11 353 IAmb IAmb 19 46 24.1
comp=Z,17nm,1.2s
MLR Muntele Rosu 81.11 353 LR LR 20 25 10.8
comp=Z,1μm,18.2s,baz=26,slow=38
SSB Saint Sauveur 81.11 9 IAmb IAmb 19 46 05.5
comp=Z,12nm,1.1s
SSB Saint Sauveur 81.11 9 IAMs_20 IAMs_20 20 28 33.8
comp=Z,493nm,20.0s
CEY Cerknica 81.17 1⇑ *i*P **P** 19 45 51.8 +0.4
BZS Buzias 81.22 356 ⇑P **P** 19 45 52.1 +0.6
BZS Buzias 81.22 356 P **P** 19 45 52.2 +0.6
CAF Calviac 81.22 10 *e*P **P** 19 45 52.3 +0.7
CAF pmax pmax
comp=Z,19nm,1.4s
VOIR 81.22 354 ⇑P **P** 19 45 52.4 +0.7
VOIR 81.22 354 P **P** 19 45 52.3 +0.7
CFR Carcaliu 81.25 352 ⇑P **P** 19 45 52.7 +1.0
CFR Carcaliu 81.25 352 P **P** 19 45 52.7 +1.0
OZLJ Ozalj 81.31 1 *i* P **P** 19 45 53.0 +1.0
MOSL Moslavina 81.31 360 *i* P **P** 19 45 53.0 +0.9
SOC Sochi 81.31 343 *e*P **P** 19 45 50.7 -1.4
SOC *e*PPP PPP 19 50 44.4
SOC *e*S **S** 19 56 01.8 +0.3
SOC *e*SSS SSS 20 04 45.7
SOC pmax pmax
comp=Z,18nm,0.5s
SKDS Skadanscina 81.36 2 *i* P **P** 19 45 52.8 +0.4
VSLR Vesyoloye 81.38 343⇑ *e*P **P** 19 45 53.4 +0.9
VSLR pmax pmax
comp=Z,22nm,0.8s
GZR Gura Zlata 81.39 356 ⇑P **P** 19 45 53.3 +0.8
GZR Gura Zlata 81.39 356 P **P** 19 45 53.3 +0.8
BOJS Bojanci 81.42 1⇑ *i*P **P** 19 45 53.6 +1.0
BNI Bardonecchia 81.51 7 IAmb IAmb 19 46 07.4
comp=Z,14nm,0.8s
BNI IAMs_20 IAMs_20 20 26 46.2
comp=Z,779nm,20.0s
ONI Oni 81.57 340 P **P** 19 45 55.3 +1.7
SMRT St. Maarten 81.71 71 IAMs_20 IAMs_20 20 21 22.0
comp=Z,523nm,21.0s
FRGS Fruska Gora 81.73 358 ⇑P **P** 19 45 55.0 +0.7
FRGS Fruska Gora 81.73 358⇑ *i*P **P** 19 45 54.1 -0.2
HARR Harsova 81.75 352 ⇑P **P** 19 45 54.4 +0.1
HARR Harsova 81.75 352 P **P** 19 45 54.4 +0.1
ZKTA Zakatala 81.80 338 P **P** 19 45 55.8 +1.0
HERR Herculane 81.92 356 ⇑P **P** 19 45 55.7 +0.4
BRJN Brijuni 81.99 2 *i* P **P** 19 45 56.0 +0.4
MDVR Moldovita 82.05 356 ⇑P **P** 19 45 56.7 +0.7
SEKA Sheki 82.08 337 P **P** 19 45 57.2 +0.9
GEYT Alibeck 82.14 328 P **P** 19 45 57.5 +0.9
comp=Z,9.4nm,0.8s,baz=336,slow=3.3,SNR=22
GEYT LR LR 20 27 09.8
comp=Z,2μm,18.4s,baz=43,slow=39
comp=Z,9.4nm,0.8s
BLY Banja Luka 82.18 360 *e*P **P** 19 45 57.4 +0.8
SEUS St. Eustatius 82.21 71 IAMs_20 IAMs_20 20 25 17.2
comp=Z,707nm,21.0s
TEKS Tekeris 82.34 358 *e*P **P** 19 45 56.5 -1.0
UDBI Udbina 82.40 1 *i* P **P** 19 45 58.7 +0.8
MSSA Maissana 82.42 5 IAmb IAmb 19 46 11.2
comp=Z,17nm,0.8s
A050A Klekovaca 82.45 0⇑ *i*P **P** 19 45 58.8 +0.7
TRLG Trialeti 82.45 339 P **P** 19 45 59.8 +1.5
MGRS Mrkonjic Grad 82.51 360 *e*P **P** 19 46 00.0 +1.6
MNGR Mingechevir, A 82.52 337 P **P** 19 45 59.7 +1.2
PGAV Gavieira, Arco 82.59 18 *e*P **P** 19 46 02.0 +3.0
comp=Z,60nm,1.3s
PGAV *i* LQ LQ 19 46 12.0
PGAV Gavieira, Arco 82.59 18 *e*S S 19 56 34.5 +20
PGAV Gavieira, Arco 82.59 18 *e*LQ LQ 20 12 35.3
PGAV *e*LR LR 20 15 05.8
comp=Z,715nm,20.0s
VIRC Vir 82.63 1 *i* P **P** 19 45 59.4 +0.4
GANJ Ganja 82.82 338 P **P** 19 46 00.8 +0.7
HAPS Han Pijesak,Bl 82.82 358⇑ *i*P **P** 19 46 01.2 +1.1
PCAB Cabril 82.88 18 *i* LQ LQ 19 46 14.8
KIJV Kijevo 82.92 0 *i* P **P** 19 46 01.4 +0.9
DUGI Dugi Otok 82.93 1 *i* P **P** 19 46 01.6 +1.1
PBRG Braganca 83.03 17 *e*P P 19 46 06.5 +5.3
comp=Z,43nm,1.3s
PBRG *i* LQ LQ 19 46 13.5
BBLS Lazi&#263i 83.03 358⇑ *i*P **P** 19 46 02.4 +1.2
BLKB Belogradchik 83.16 356 ⇓P **P** 19 46 02.7 +0.9
BOVS Bovan 83.19 356 ⇑P **P** 19 46 02.2 +0.2
POLO Lamas de Olo 83.25 18 *e*P **P** 19 46 04.1 +1.7
comp=Z,33nm,1.4s
POLO *i* LQ LQ 19 46 17.1
PVRL Vila Real 83.36 18 *e*P **P** 19 46 05.0 +2.1
comp=Z,61nm,1.4s
PVRL *i* LQ LQ 19 46 17.3
RICI Ricice 83.43 360 *i* P **P** 19 46 03.6 +0.5
MVO Moncorvo 83.59 18 *e*P **P** 19 46 06.7 +2.6
comp=Z,58nm,1.3s
MVO *i* LQ LQ 19 46 19.1
MVO Moncorvo 83.59 18 *e*S **S** 19 56 32.7 +7.6
MVO Moncorvo 83.59 18 *e*LQ LQ 20 10 49.8
MVO *e*LR LR 20 14 32.9
comp=Z,1μm,22.0s
SJES Sjenica 83.62 357⇑ *i*P **P** 19 46 05.2 +0.9
GNI Garni 83.64 339 LR LR 20 29 00.5
comp=Z,1μm,19.4s,baz=19,slow=40
GNI Garni 83.64 339*c* *i*P **P** 19 46 06.5 +2.0
GNI pmax pmax
comp=Z,18nm,0.9s
UPM Unac-Piva 83.70 358⇑ *i*P **P** 19 46 05.9 +1.1
PVIS Viseu 83.87 18 *e*P **P** 19 46 07.6 +2.1
PVIS *i* LQ LQ 19 46 20.1
ABD La Joyeuse, An 83.87 71 IAMs_20 IAMs_20 20 22 00.2
comp=Z,934nm,22.0s
DIKM Dikmen 83.91 346 ⇑P **P** 19 46 06.7 +1.0
BRY Bratogost 84.01 359⇑ *i*P **P** 19 46 06.0 -0.3
CASP Castiglione de 84.01 4 P **P** 19 46 06.7 +0.6
STON Ston 84.05 359⇑ *i*P **P** 19 46 06.3 0.0
LKRN Lenkeran, Azer 84.07 335 P **P** 19 46 07.7 +1.2
CBE Ff, Capester 84.13 71 IAMs_20 IAMs_20 20 21 57.0
comp=Z,934nm,22.0s
TREB Trebinje 84.20 359 *e*P **P** 19 46 07.6 +0.5
MTE Manteigas 84.24 18 *e*P **P** 19 46 09.1 +1.6
comp=Z,50nm,1.4s
MTE *i* LQ LQ 19 46 22.5
MTE Manteigas 84.24 18 *e*S **S** 19 56 35.0 +3.4
MTE Manteigas 84.24 18 *e*LR LR 20 15 52.2
comp=Z,614nm,22.0s
MTE Mantegas 84.24 18 IAMs_20 IAMs_20 20 22 29.3
comp=Z,848nm,22.0s
DBRK Dubrovnik 84.25 359 *i* P **P** 19 46 07.3 0.0
COI Coimbra 84.26 19 IAMs_20 IAMs_20 20 23 16.9
comp=Z,796nm,20.0s
PCAS Casmilo, Conde 84.39 19 *e*P **P** 19 46 10.3 +2.1
comp=Z,77nm,1.4s
PCAS *i* LQ LQ 19 46 22.1
NAX Nakhchivan 84.41 338 P **P** 19 46 09.5 +1.1
HCY Herceg Novi 84.46 359⇑ *i*P **P** 19 46 07.0 -1.5
PDG Podgorica 84.47 358 ⇑P **P** 19 46 09.8 +1.4
PDG Podgorica 84.47 358 IAMs_20 IAMs_20 20 23 44.8
comp=Z,740nm,22.0s
PDG Podgorica 84.47 358⇑ *i*P **P** 19 46 08.7 +0.3
SBUM Sibu 84.65 267 P **P** 19 46 08.3 -1.5
SBUM IAmb IAmb 19 46 26.0
comp=Z,6.5nm,0.9s
DRME Dracevica, Mon 84.71 358 *e*P **P** 19 46 10.4 +0.7
PCBR Castelo Branco 84.80 18 *e*P **P** 19 46 12.5 +2.3
comp=Z,24nm,1.9s
SKO Skopje 84.86 356 *i* P **P** 19 46 12.1 +1.6
INTR Introdacqua 84.89 2 IAmb IAmb 19 46 24.2
comp=Z,15nm,0.9s
PMRV Marv??o 85.21 18 *e*S S 19 56 51.7 +11
PMRV Marv??o 85.21 18 *e*LR LR 20 16 15.2
comp=Z,335nm,22.0s
VAY Valandovo 85.46 355 *i* P **P** 19 46 14.7 +1.2
FDF Fort de France 85.46 71 IAMs_20 IAMs_20 20 22 40.5
comp=Z,910nm,22.0s
ESDC Sonseca Array 85.57 16 P **P** 19 46 15.7 +1.6
comp=Z,1.9nm,0.6s,baz=343,slow=4.9,SNR=26
comp=Z,1.9nm,0.6s
ILAM Ilet Lapin Mar 85.59 71 IAMs_20 IAMs_20 20 22 40.7
comp=Z,817nm,22.0s
PAB San Pablo 85.63 16 IAMs_20 IAMs_20 20 26 17.0
comp=Z,642nm,20.0s
BIM Bigot 85.68 72 IAMs_20 IAMs_20 20 23 08.3
comp=Z,890nm,22.0s
OHR Ohrid 85.74 357 *i* P **P** 19 46 16.4 +1.4
GURO Guroymak-BITLI 85.75 340 IAmb IAmb 19 46 30.0
comp=Z,29nm,1.5s
ARPR Arapgir-MALATY 85.92 343 IAMs_20 IAMs_20 20 30 28.5

	comp=Z,387nm,18.0s								
ANTO	**Ankara**	**86.00**	**348**	⇑P		**P**		**19 46 18.1**	**+1.8**
ANTO	**Ankara**	**86.00**	**348**	P		**P**		**19 46 18.0**	**+1.8**
BR131	**Keskin Array S**	**86.03**	**347**	*c i*P		**P**		**19 46 17.5**	**+1.0**
BRTR	**Keskin Array B**	**86.03**	**347**	P		**P**		**19 46 17.5**	**+1.0**
	comp=Z,12nm,0.9s,baz=27,slow=2.1,SNR=41								
BRTR				LR		LR		20 29 08.0	
	comp=Z,985nm,19.0s,baz=8.0,slow=39								
	comp=Z,12nm,0.9s								
BAUV	**El Baul**	**86.11**	**80**	P		**P**		**19 46 17.0**	**0.0**
MTN	**Manton Dam**	**86.23**	**243**	P		**P**		**19 46 16.3**	**-1.2**
MATE	**Matera**	**86.28**	**360**	⇑P		**P**		**19 46 19.4**	**+1.9**
LIT	**Litokhoron**	**86.68**	**355**	IAmb		IAmb		19 46 50.6	
	comp=Z,22nm,1.1s								
CUC	**Castrocucco**	**86.93**	**1**	IAMs_20		IAMs_20		20 29 11.0	
	comp=Z,537nm,20.0s								
PVAQ	**Vaqueiros**	**87.11**	**19**	*e*S		S		19 57 09.3	+10
PVAQ	**Vaqueiros**	**87.11**	**19**	*e*LR		LR		20 17 35.9	
	comp=Z,876nm,22.0s								
PCRV	**Puerto La Cruz**	**87.12**	**77**	LR		LR		20 24 11.3	
	comp=Z,308nm,21.6s,slow=35								
VSL	**Villasalto**	**87.22**	**6**	IAMs_20		IAMs_20		20 27 08.2	
	comp=Z,522nm,21.0s								
GRGR	**Grenville**	**87.27**	**73**	IAMs_20		IAMs_20		20 30 26.5	
	comp=Z,502nm,19.0s								
TIP	**Timpagrande**	**87.75**	**360**	IAMs_20		IAMs_20		20 31 29.6	
	comp=Z,486nm,20.0s								
BATI	**Baumata**	**88.15**	**250**	LR		LR		20 23 18.0	
	comp=Z,148nm,19.3s,baz=41,slow=34								
PMOZ	**Porto Moniz, M**	**89.23**	**28**	*e*S		**S**		**19 57 18.8**	**-1.5**
PMOZ	**Porto Moniz, M**	**89.23**	**28**	*e*LR		LR		20 19 09.1	
	comp=Z,554nm,18.0s								
VAE	**Valguarnera**	**89.42**	**2**	LR		LR		20 31 05.6	
	comp=Z,582nm,19.2s,baz=12,slow=39								
MYKOM	**Kota Tinggi**	**90.18**	**273**	IAMs_20		IAMs_20		20 28 26.2	
	comp=Z,474nm,19.0s								
WRAB	**Tennant Creek**	**90.52**	**236**	*e*P		**P**		**19 46 38.1**	**+0.3**
WRAB				pmax		pmax			
	comp=Z,19nm,1.5s								
WRA	**Warramunga Arr**	**90.53**	**236**	P		**P**		**19 46 37.3**	**-0.6**
	comp=Z,2.1nm,1.0s,baz=33,slow=5.8,SNR=7.0								
WRA				LR		LR		20 24 03.1	
	comp=Z,341nm,20.3s,baz=38,slow=33								
	comp=Z,2.1nm,1.0s								
WRA	**Warramunga Arr**	**90.53**	**236**	*i* P		**P**		**19 46 37.7**	**-0.2**
WRA				pmax		pmax			
	comp=Z,2.0nm,1.0s								
KARP	**Karpathos**	**90.89**	**351**	IAMs_20		IAMs_20		20 31 50.4	
	comp=Z,703nm,21.0s								
KEST	**Kesra**	**90.97**	**6**	P		**P**		**19 46 40.1**	**+0.1**
	comp=Z,3.1nm,1.0s,baz=72,slow=3.2,SNR=2.0								
	comp=Z,3.1nm,1.0s								
WDD	**Wied Dalam**	**91.06**	**2**	IAMs_20		IAMs_20		20 35 47.6	
	comp=Z,410nm,19.0s								
AVE	**Averroes**	**91.14**	**20**	IAMs_20		IAMs_20		20 28 38.9	
	comp=Z,628nm,19.0s								
MDT	**Midelt**	**92.15**	**18**	LR		LR		20 31 34.2	
	comp=Z,309nm,18.1s,baz=358,slow=38								
MMAI	**Mount Meron Ar**	**92.35**	**344**	P		**P**		**19 46 47.5**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=313,slow=2.8,SNR=2.9								
MMAI				LR		LR		20 33 19.1	
	comp=Z,280nm,18.7s,baz=320,slow=39								
	comp=Z,0.9nm,0.5s								
URZ	**Urewera**	**92.87**	**195**	LR		LR		20 25 37.3	
	comp=Z,321nm,18.3s,baz=66,slow=34								
RPN	**Rapa Nui**	**92.93**	**134**	LR		LR		20 23 46.4	
	comp=Z,383nm,18.1s,baz=320,slow=32								
ASAR	**Alice Springs**	**93.89**	**235**	P		**P**		**19 46 53.6**	**+0.3**
	comp=Z,2.6nm,1.1s,baz=31,slow=5.5,SNR=7.9								
ASAR				PKKPbc		**PKKPbc**		**20 03 56.5**	**+1.5**
	comp=Z,0.4nm,0.5s,baz=205,slow=1.9,SNR=14								
	comp=Z,2.6nm,1.1s								
GHAJ	**Ghor Haditha**	**93.99**	**344**	IAMs_20		IAMs_20		20 34 01.3	
	comp=Z,459nm,20.0s								
LEM	**Lemang**	**94.78**	**265**	LR		LR		20 26 28.2	
	comp=Z,214nm,21.4s,baz=14,slow=34								
WSAR	**Wadi Sarin**	**95.38**	**322**	LR		LR		20 36 46.2	
	comp=Z,657nm,19.4s,baz=62,slow=40								
EIL	**Elat**	**95.69**	**344**	LR		LR		20 34 31.4	
	comp=Z,392nm,21.8s,baz=46,slow=38								
STKA	**Stephens Creek**	**97.40**	**225**	LR		LR		20 28 43.3	
	comp=Z,378nm,19.0s,baz=22,slow=34								
MDP	**Montagnes des**	**98.11**	**70**	LR		LR		20 30 01.2	
	comp=Z,535nm,21.8s,baz=330,slow=34								
PALK	**Pallekele**	**99.08**	**295**	LR		LR		20 41 07.7	
	comp=Z,454nm,18.1s,baz=125,slow=41								
RPZ	**Rata Peaks**	**99.23**	**198**	LR		LR		20 30 16.1	
	comp=Z,415nm,18.2s,baz=0.0,slow=34								
SAML	**Samuel**	**103.26**	**87**	IAMs_20		IAMs_20		20 39 30.5	
	comp=Z,427nm,18.0s								
TAM	**Tamanrasset**	**103.48**	**10**	IAMs_20		IAMs_20		20 37 18.2	
	comp=Z,527nm,22.0s								
TORD	**Torodi Ar. Bea**	**112.46**	**16**	PKiKP		**PKiKP**		**19 52 11.4**	**-0.8**
	comp=Z,0.4nm,0.6s,baz=338,slow=3.3,SNR=2.5								
TORD				PKKPbc		**PKKPbc**		**20 02 59.6**	**+0.1**
	comp=Z,0.7nm,0.6s,baz=148,slow=1.9,SNR=5.3								
H03N2	**Juan Fernandez**	**113.07**	**115**	T		T		21 55 54.9	
	baz=322,slow=78,SNR=38								
H03N1	**Juan Fernandez**	**113.09**	**115**	T		T		21 55 58.8	
	baz=322,slow=78,SNR=37								
H03N3	**Juan Fernandez**	**113.09**	**115**	T		T		21 55 59.9	
	baz=322,slow=78,SNR=45								
DBIC	**Dimbokro**	**117.43**	**24**	PKP		**PKPdf**		**19 52 20.8**	**-1.0**
	comp=Z,3.9nm,0.8s,baz=97,slow=3.5,SNR=1.7								
VNDA	**Vanda**	**132.47**	**190**	SKPbc		**SKPab**		**19 56 15.1**	**-0.4**
	comp=Z,2.2nm,1.1s,baz=45,slow=1.4,SNR=4.5								
QSPA	**South Pole Qui**	**143.22**	**180**			PKPbc		19 53 06.2	+0.4
QSPA	**South Pole Qui**	**143.22**	**180**	PKhKP		PKPpre		19 53 06.0	
	comp=Z,3.4nm,0.6s,baz=255,slow=0.9,SNR=30								
CHIPN	**CHIPINGE**	**144.60**	**333**	*i* P		**PKPdf**		**19 53 13.3**	**+0.7**
MATP	**Matopo**	**145.77**	**340**	*i* P		**PKPab**		**19 53 16.8**	**+1.4**
MATP	**Matopo**	**145.77**	**340**	P		**PKPdf**		**19 53 11.2**	**-3.5**
TSUM	**Tsumeb**	**145.81**	**358**	PKPdf		**PKPab**		**19 53 16.4**	**+0.7**
MUSN	**Musina, Limpop**	**147.27**	**337**	*i* P		**PKPbc**		**19 53 19.9**	**+0.6**
MUSN	**Musina, Limpop**	**147.27**	**337**	*i* P		**PKPdf**		**19 53 14.8**	**-2.2**
MOPA	**Mopani**	**148.06**	**334**	*i* P		**PKPbc**		**19 53 21.2**	**-0.2**
MOPA	**Mopani**	**148.06**	**334**	*i* P		**PKPdf**		**19 53 15.9**	**-2.4**
WIN	**Windhoek**	**149.16**	**359**	PKPbc		**PKiKP**		**19 53 26.0**	**+0.3**
WIN	**Windhoek**	**149.16**	**359**	PKP2		**PKiKP**		**19 53 26.0**	**+0.3**
WIN				MLR		MLR			
	comp=Z,800nm,20.0s								
BELA	**Belgrano 2**	**149.61**	**161**			**PKPbc**		**19 53 23.8**	**+0.1**
MAW	**Mawson**	**153.96**	**219**	PKPbc		**PKPbc**		**19 53 33.6**	**-0.3**
	comp=Z,2.1nm,0.5s,baz=108,slow=5.6,SNR=11								
BOSA	**Boshof**	**154.37**	**342**	*i* P		**PKPbc**		**19 53 32.9**	**-3.2**
BOSA	**Boshof**	**154.37**	**342**	PKPbc		**PKiKP**		**19 53 37.4**	**+1.2**
	comp=Z,3.2nm,0.5s,baz=14,slow=3.4,SNR=13								
BOSA	**Boshof**	**154.37**	**342**	*i* P		**PKPdf**		**19 53 26.3**	**-1.6**
ELIB	**Princess Elisa**	**161.20**	**187**	*d*PKPdf		**PKPdf**		**19 53 37.2**	**+2.3**
ELIB				*d*PKP		**PKPab**		**19 54 18.6**	**-0.1**

*NEIC **27** 19:47:09.5±0.5, 19°.417N×0°.007×155°.273W×0°.008, h1km±2km, Error ellipse: s-maj=1.1km s-min=0.9km az=212.0*

HVO 27 19:47:08.7±0.5, **19°.411N**×0°.006×**155°.270W**×0°.007, **h1**km±2km, **ML2.6**/31, **ML2.6**/34(NEIC), **Error ellipse: s-maj=1.0km s-min=0.9km az=48.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**84**		Pg	19 47 09.5	+0.4
KKO	**Keanakako`i**	**0.01**	**163**		Pg	19 47 10.1	+0.9
HATHI	**Halema'uma'u T**	**0.01**	**36**		Pg	19 47 09.6	+0.4
OBL	**Observatory Le**	**0.01**	**296**		Pg	19 47 10.1	+0.9
UWB	**Uwekahuna B**	**0.01**	**332**		Pg	19 47 10.0	+0.8
RIM	**Rim**	**0.02**	**193**		Pg	19 47 10.3	+1.1
SBLHI	**Steaming Bluff**	**0.02**	**7**		Pg	19 47 09.6	+0.4
UWE	**Uwekahuna**	**0.02**	**295**		Pg	19 47 09.8	+0.6
RSD	**Rainshed**	**0.05**	**352**		Pg	19 47 10.5	+0.8
RSD	**Rainshed**	**0.05**	**352**	IAML		19 47 11.3	
	comp=N,3μm,0.1s						
RSD				IAML		19 47 11.4	
	comp=E,3μm,0.2s						
PUH	**Pauahi**	**0.06**	**126**	Pg	Pg	19 47 10.7	+0.7
PUH				IAML		19 47 11.4	
	comp=N,3μm,0.4s						
PUH				IAML		19 47 11.7	
	comp=E,4μm,0.9s						
KNHH	**Kane Nui o Ham**	**0.10**	**108**		Pg	19 47 11.6	+1.0
HLP	**Hilina Pali**	**0.12**	**197**		Pg	19 47 12.1	+1.1
HLP					Sg	19 47 14.7	+2.1
HLP	**Hilina Pali**	**0.12**	**197**	IAML		19 47 14.9	
	comp=E,2μm,0.5s						
HLP				IAML		19 47 14.9	
	comp=N,4μm,0.7s						
MLH	**Mauna Loa**	**0.14**	**307**		Pg	19 47 12.6	+1.2
MLH	**Mauna Loa**	**0.14**	**307**	IAML		19 47 15.9	
	comp=N,3μm,0.7s						
MLH				IAML		19 47 16.1	
	comp=E,2μm,0.2s						
STCH	**Steam Cracks**	**0.14**	**101**		Pg	19 47 12.2	+0.8
STCH	**Steam Cracks**	**0.14**	**101**	IAML		19 47 14.3	
	comp=E,3μm,0.9s						
STCH				IAML		19 47 16.1	
	comp=N,4μm,0.9s						
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	19 47 12.5	+0.8
JCUZ	**Jacuzzi**	**0.16**	**100**		Pg	19 47 12.6	+0.8
HTC	**Hot Caves**	**0.21**	**215**		Pg	19 47 13.7	+1.0
JOKA	**Jonika Flow**	**0.25**	**85**		Pg	19 47 14.1	+0.5
JOKA				IAML		19 47 21.7	
	comp=E,1μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**314**		Pg	19 47 15.0	+1.0
HMH				IAML		19 47 22.9	
	comp=N,946nm,0.7s						
HMH				IAML		19 47 23.0	
	comp=E,805nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	19 47 15.8	+1.0
MLOA				IAML		19 47 24.0	
	comp=N,774nm,0.8s						
MLOA				IAML		19 47 25.8	
	comp=E,1μm,0.7s						
MWH	**Moku'aweowe**	**0.32**	**283**	Pg	Pg	19 47 15.5	+0.7
KHU	**Kahuku**	**0.36**	**243**		Pg	19 47 16.3	+0.7
HUH	**Hualalai**	**0.60**	**297**		Pb	19 47 21.3	-0.9

*IDC **27** 19:47:18.9±1.2, 53°.68N×163°.81W, h0km, mb3.8/21, mbtmp3.8/24, ML3.3/3, Error ellipse: s-maj=30.9km s-min=14.4km az=172.0*

*AEIC **27** 19:47:20.4±2.2, 53°.36N±0°.05×163°.61W±0°.09, h26km±6km, Error ellipse: s-maj=10.1km s-min=2.9km az=128.0*

*NEIC **27** 19:47:20.2±2.6, 53°.38N±0°.06×163°.60W±0°.08, h19km±7km, mb3.9/12, ML3.8/10, ML3.7(AEIC), Error ellipse: s-maj=9.2km s-min=6.1km az=154.0*

ISC 27 19:47:21.9±0.6, **53°.42N**±0°.07×**163°.56W**±0°.05, **h29**km, **n121**,σ1**1**s**47**/119, **mb3.9**/20, **Unimak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.21**	**331**		**Pn**	**19 47 41.9**	**-1.0**
ISLZ	**Isanotski Laza**	**1.31**	**356**		**Pn**	**19 47 43.3**	**-0.9**
ISLZ					**Sn**	**19 48 00.7**	**0.0**
SSLS	**Shishaldin Sou**	**1.32**	**349**		**Pn**	**19 47 43.6**	**-0.7**
SSLS					**Sn**	**19 48 01.1**	**+0.1**
WECS	**Westdahl Cape**	**1.32**	**328**		**Pn**	**19 47 43.5**	**-0.9**
WEBT	**Westdahl Beart**	**1.36**	**330**		**Pn**	**19 47 44.2**	**-0.7**
WEBT					**Sb**	**19 48 03.1**	**-0.7**
ISNN	**Isanotski Nort**	**1.42**	**355**		**Pn**	**19 47 45.8**	**+0.2**
FALS	**False Pass**	**1.44**	**3**	P	**Pn**	**19 47 45.5**	**-0.4**
FALS	**False Pass**	**1.44**	**3**		**Pn**	**19 47 45.7**	**-0.2**
FALS					**Sn**	**19 48 04.6**	**+0.8**
FALS	**False Pass** baz=184	**1.44**	**3**	P	**Pn**	**19 47 45.7**	**-0.2**
FALS	baz=184			S	**Sn**	**19 48 04.6**	**+0.8**
AKSA	**Akutan Strait**	**1.45**	**300**		**Pn**	**19 47 45.0**	**-1.2**
AKSA					**Sn**	**19 48 03.4**	**-0.8**
AKSA	**Akutan Strait** AKSA	**1.45**	**300**		**Pn**	**19 47 44.8**	**-1.3**
					Sn	**19 48 02.6**	**-1.6**
AHB	**Akutan Harbor**	**1.50**	**298**		**Pn**	**19 47 45.7**	**-1.2**
AKBBA	**Akutan Broad B**	**1.56**	**297**		**Pn**	**19 47 46.4**	**-1.2**
ZRO	**Akutan Zero**	**1.58**	**296**		**Pn**	**19 47 46.8**	**-1.1**
UNV	**Unalaska Valle**	**1.80**	**285**	P	**Pn**	**19 47 49.5**	**-1.4**
UNV	**Unalaska Valle**	**1.80**	**285**		**Sn**	**19 48 13.1**	**+0.3**
UNV	**Unalaska Valle** baz=105	**1.80**	**285**	P	**Pn**	**19 47 49.6**	**-1.4**
MTBL	**Makushin Table**	**1.93**	**288**		**Pn**	**19 47 52.3**	**-0.4**
PS1A	**Pavlof South-1**	**2.27**	**27**		**Pn**	**19 47 58.2**	**+0.8**
S12K	**Black Hills**	**2.45**	**20**		**Pn**	**19 48 01.4**	**+1.6**
S12K				IAML		19 48 42.9	
	comp=E,431nm,0.4s						
S12K				IAML		19 48 43.9	
	comp=N,470nm,0.4s						
S12K	**Black Hills** baz=202	**2.45**	**20**	P	**Pn**	**19 48 00.3**	**+0.5**
SDPT	**Sand Point**	**2.64**	**42**		**Pn**	**19 48 03.3**	**+0.8**
SDPT				IAML		19 48 49.3	
	comp=E,478nm,0.7s						
SDPT				IAML		19 48 57.5	
	comp=N,379nm,0.9s						
SDPT	**Sand Point** baz=224	**2.64**	**42**	P	**Pn**	**19 48 03.2**	**+0.8**
OKER	**Okmok East Rim**	**2.68**	**272**		**Pn**	**19 48 02.1**	**-1.0**
CNBA	**Chernabura Isl**	**2.73**	**58**		**Pn**	**19 48 03.5**	**-0.1**
CHNA	**Chernabura Isl** baz=240	**2.73**	**57**	P	**Pn**	**19 48 03.5**	**-0.2**
NIKH	**Nikolski High**	**3.21**	**264**	P	**Pn**	**19 48 09.4**	**-0.9**
NIKH	**Nikolski High**	**3.21**	**264**		**Pn**	**19 48 09.1**	**-1.2**
NIKH	**Nikolski High** baz=81	**3.21**	**264**	P	**Pn**	**19 48 09.1**	**-1.2**
VNSS	**Veniaminof 8**	**3.68**	**39**		**Pn**	**19 48 18.4**	**+1.6**
S14K	**Fog Glacier** baz=220	**3.69**	**37**	P	**Pn**	**19 48 18.3**	**+1.4**
VNFG	**Fog Glacier, M**	**3.69**	**37**		**Pn**	**19 48 18.3**	**+1.4**
CLCO	**Concord Point,**	**3.77**	**263**		**Pn**	**19 48 17.3**	**-0.6**
VNHG	**Veniaminof 1**	**3.79**	**40**		**Pn**	**19 48 19.6**	**+1.4**
CHGN	**Chignik**	**4.14**	**44**		**Pn**	**19 48 23.9**	**+0.8**
CHGN				IAML		19 49 13.9	
	comp=E,127nm,0.3s						
CHGN				IAML		19 50 25.1	
	comp=N,149nm,0.1s						
SPIA	**Saint Paul Isl**	**5.36**	**317**	P	**Pn**	**19 48 41.2**	**+1.5**
O14K	**Tigyukauivet M**	**5.98**	**11**	Pn	**Pn**	**19 48 50.8**	**+2.4**
ATKA	**Atka Island**	**6.56**	**264**	P	**Pn**	**19 48 55.1**	**-1.2**
O16K	**Kokwok River B**	**6.88**	**24**		**Pn**	**19 49 01.3**	**+0.6**
OHAK	**Old Harbor**	**6.99**	**53**	P	**Pn**	**19 49 00.6**	**-1.5**
OHAK	**Old Harbor**	**6.99**	**53**	Pn	**Pn**	**19 49 01.9**	**-0.3**
N15K	**Kwethluk River**	**7.03**	**14**		**Pn**	**19 49 04.7**	**+2.1**
M14K	**Bethel**	**7.40**	**6**		**Pn**	**19 49 08.9**	**+1.2**
KDAK	**Kodiak Island**	**7.60**	**51**	Pn	**Pn**	**19 49 09.1**	**-1.3**
	comp=N,0.6nm,0.3s,baz=244,slow=5.2,SNR=13						
KDAK				Sn	**Sn**	**19 50 28.3**	**-7.2**
	comp=N,0.6nm,0.3s,baz=50,slow=23,SNR=7.1						
	comp=N,3.2nm,0.4s						
Q19K	**Cape Douglas,**	**7.81**	**41**	Pn	**Pn**	**19 49 14.3**	**+0.9**
O18K	**Koktuh Hills**	**7.92**	**32**	Pn	**Pn**	**19 49 16.5**	**+1.7**
N17K	**Nushagak Hills**	**7.92**	**23**		**Pn**	**19 49 17.1**	**+2.2**
L14K	**Kuka Creek**	**7.95**	**3**		**Pn**	**19 49 16.4**	**+1.1**
M16K	**Timber Creek**	**8.02**	**16**	Pn	**Pn**	**19 49 18.1**	**+1.9**
N18K	**Kilae Creek**	**8.39**	**27**	Pn	**Pn**	**19 49 22.2**	**+0.9**
K13K	**Kusilvak Mount**	**8.55**	**357**	Pn	**Pn**	**19 49 25.3**	**+1.8**
L16K	**Owhat River**	**8.59**	**13**		**Pn**	**19 49 25.3**	**+1.2**
M17K	**Holitna River**	**8.65**	**20**		**Pn**	**19 49 28.0**	**+3.1**
N19K	**Bonanza Creek**	**8.89**	**30**		**Pn**	**19 49 31.4**	**+3.1**
K15K	**Wolf Creek Mou**	**8.96**	**6**		**Pn**	**19 49 30.8**	**+1.7**
J14K	**Nanvaranak Lak**	**9.35**	**0**	Pn	**Pn**	**19 49 35.7**	**+1.2**
L18K	**Granite Mounta**	**9.54**	**20**	Pn	**Pn**	**19 49 37.8**	**+0.6**
K17K	**Iditarod**	**9.72**	**14**	Pn	**Pn**	**19 49 43.1**	**+3.5**
L19K	**White Mountain**	**9.92**	**24**	Pn	**Pn**	**19 49 42.4**	**0.0**
J16K	**Anvik River**	**10.01**	**8**		**Pn**	**19 49 46.7**	**+3.2**
M20K	**Styx River**	**10.14**	**29**	Pn	**Pn**	**19 49 48.5**	**+3.1**
J17K	**VÁBM Dome**	**10.27**	**11**		**Pn**	**19 49 48.2**	**+1.1**
SUA	**Susitna One**	**10.59**	**35**	Pn	**Pn**	**19 49 51.7**	**+0.1**
SKT	**Skwentna**	**10.71**	**32**	Pn	**Pn**	**19 49 53.0**	**-0.1**
K20K	**Telida**	**11.12**	**23**		**Pn**	**19 49 59.6**	**+0.9**
EYAK	**Cordova Ski Ar**	**12.03**	**47**	P	**Pn**	**19 50 10.7**	**-0.3**
KLU	**Klutina**	**12.44**	**42**		**Pn**	**19 50 14.7**	**-2.1**
BPAW	**Bear Paw Mtn.**	**12.51**	**26**	Pn	**Pn**	**19 50 17.8**	**+0.1**
HMT	**Hamilton**	**12.59**	**49**	Pn	**Pn**	**19 50 17.0**	**-1.8**
GLB	**Gilahina Butte**	**13.28**	**45**	Pn	**Pn**	**19 50 26.9**	**-1.3**
M26K	**Nabesna, AK**	**14.09**	**42**	Pn	**Pn**	**19 50 37.5**	**-1.8**
E18K	**Tukpahlearik C**	**14.12**	**5**	Pn	**Pn**	**19 50 39.3**	**-0.3**
ILAR	**Eielson Array**	**14.18**	**30**	Pn	**Pn**	**19 50 38.5**	**-2.0**
	comp=N,0.1nm,0.3s,baz=322,slow=15,SNR=1.5						
	comp=N,0.2nm,0.4s						
H23K	**Yukon River**	**14.26**	**24**	Pn	**Pn**	**19 50 40.7**	**-0.9**
J25K	**Salcha River,**	**14.54**	**32**	Pn	**Pn**	**19 50 44.6**	**-0.8**
PNL	**Peninsula**	**14.67**	**55**	P	**Pn**	**19 50 47.8**	**+0.7**
G23K	**Bananza Creek**	**14.89**	**21**	P	**P**	**19 50 54.9**	**-0.6**
C18K	**Utukok River**	**15.32**	**3**	P	**P**	**19 50 59.7**	**-0.5**
C18K				IAmb	IAmb	19 51 23.8	
	comp=Z,18nm,1.5s						
P29M	**Windy Craggy**	**15.48**	**56**	Pn	**Pn**	**19 50 55.8**	**-2.1**
C19K	**Lookout Ridge**	**15.85**	**5**	P	**P**	**19 51 05.7**	**-0.4**
C19K				IAmb	IAmb	19 51 47.1	
	comp=Z,21nm,1.4s						
E24K	**Your Creek**	**16.36**	**20**	Pn	**Pn**	**19 51 08.3**	**-0.8**
E24K				IAmb	IAmb	19 51 20.0	
	comp=Z,7.4nm,0.9s						
B21K	**Ikpikpuk River**	**16.77**	**11**	Pn	**Pn**	**19 51 14.1**	**-0.1**
B21K				IAmb	IAmb	19 51 27.0	
	comp=Z,8.1nm,1.2s						
E25K	**Arctic Village**	**17.04**	**23**	Pn	**Pn**	**19 51 15.1**	**-2.6**
C23K	**Itkillik River**	**17.51**	**15**	P	**Pn**	**19 51 23.0**	**-0.5**
C23K				IAmb	IAmb	19 51 58.3	
	comp=Z,9.7nm,1.2s						
D25K	**Kavik River**	**17.83**	**20**	P	**Pn**	**19 51 27.0**	**-0.4**
H29M	**Whitestone**	**17.84**	**34**	P	**Pn**	**19 51 26.2**	**-1.4**
H29M				IAmb	IAmb	19 51 40.3	
	comp=Z,5.2nm,0.9s						
E29M	**Blow River**	**19.27**	**29**	P	**P**	**19 51 42.8**	**-0.9**
DLBC	**Dease Lake**	**19.31**	**62**	P	**Pn**	**19 51 45.6**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=5.9,slow=9.4,SNR=1.5						
	comp=Z,2.4nm,0.8s						
INK	**Inuvik**	**20.55**	**32**	P	**P**	**19 51 56.8**	**-0.9**
	comp=Z,0.9nm,0.3s,baz=204,slow=13,SNR=2.2						
	comp=Z,0.9nm,0.3s						
PETK	**Petropavlovsk-**	**22.98**	**285**	P	**P**	**19 52 22.6**	**-1.2**
	comp=Z,1.6nm,0.6s,baz=83,slow=33,SNR=12						
	comp=Z,1.6nm,0.6s						
C36M	**Paulatuk**	**24.09**	**34**	P	**P**	**19 52 33.3**	**-1.1**
A36M	**Sachs Harbour**	**24.84**	**27**	P	**P**	**19 52 39.5**	**-1.7**
YKA	**Yellowknife Ar**	**26.87**	**51**	P	**P**	**19 53 01.4**	**+1.7**
	comp=Z,0.7nm,0.7s,baz=273,slow=7.8,SNR=11						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**34.23**	**97**	P	**P**	**19 54 06.9**	**+1.8**
	comp=Z,0.3nm,0.6s,baz=307,slow=12,SNR=2.0						
	comp=Z,0.3nm,0.6s						
H11N2	**WAKE ISLAND Hy**	**40.59**	**226**	T	T	20 38 39.1	
	baz=26,slow=76,SNR=46						
H11N3	**WAKE ISLAND Hy**	**40.60**	**226**	T	T	20 38 40.8	
	baz=26,slow=76,SNR=50						
H11N1	**WAKE ISLAND Hy**	**40.61**	**226**	T	T	20 38 41.0	
	baz=26,slow=76,SNR=56						
H11S1	**WAKE ISLAND Hy**	**41.76**	**225**	T	T	20 40 04.3	
	baz=26,slow=76,SNR=57						
H11S2	**WAKE ISLAND Hy**	**41.78**	**225**	T	T	20 40 05.4	
	baz=26,slow=76,SNR=33						
H11S3	**WAKE ISLAND Hy**	**41.78**	**225**	T	T	20 40 09.3	
	baz=26,slow=76,SNR=46						
ANMO	**Albuquerque**	**43.63**	**91**	P	**P**	**19 55 26.5**	**+2.7**
	comp=Z,0.8nm,0.5s,baz=342,slow=9.6,SNR=1.9						
	comp=Z,0.8nm,0.5s						
KSRS	**Korea Array**	**48.73**	**280**	P	**P**	**19 56 04.7**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=52,slow=6.2,SNR=4.9						
	comp=Z,0.7nm,0.6s						
SCHQ	**Schefferville**	**52.20**	**47**	P	**P**	**19 56 30.9**	**+1.3**
	comp=Z,2.0nm,0.8s,baz=206,slow=19,SNR=2.6						
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**53.72**	**303**	P	**P**	**19 56 41.2**	**+0.2**
	comp=Z,1.0nm,0.5s,baz=37,slow=8.5,SNR=8.5						
	comp=Z,1.0nm,0.5s						
ARCES	**ARCESS Array B**	**57.17**	**356**	P	**P**	**19 57 04.1**	**-1.3**
	comp=Z,2.6nm,0.8s,baz=352,slow=5.6,SNR

PAC1	Pacto, Paraso	2.50	18	P		Pn	19 59 07.5	-0.4		
PAC1	Pacto, Paraso	2.50	18	P		Pn	19 59 07.6	-0.2		
ANGU	Angureal	2.67	36	P		Pn	19 59 11.5	+1.0		
CUSE	Cuicocha Este	2.69	26	P		Pn	19 59 12.0	+1.4		
CUSE	Cuicocha Este	2.69	26	P		Pn	19 59 11.6	+1.0		
CAYA	Cayambe	2.70	36	P		Pn	19 59 12.0	+1.2		
CUIC	Cuicocha-Domo	2.70	27	P		Pn	19 59 11.8	+1.1		
COTA	Cotacachi	2.74	27	P		Pn	19 59 12.4	+1.1		
IMBA	Imbabura, San	2.76	30	P		Pn	19 59 13.2	+1.7		
AV21	Acelerografo,	2.77	1	P		Pn	19 59 10.9	-0.4		
REVS	Reventador Sur	2.81	44	P		Pn	19 59 13.3	+1.3		
REVN	San Rafael	2.82	44	P		Pn	19 59 13.5	+1.3		
URCU	Urcuqui	2.87	28	P		Pn	19 59 14.3	+1.3		
YAHU	Yahuarcocha	2.93	31	P		Pn	19 59 14.4	+1.0		
CASC	Dorado de Casc	3.17	45	P		Pn	19 59 17.6	+0.8		
RVRD	Rio Verde	3.18	4	P		Pn	19 59 16.9	+0.2		
LNGL	El Angel-Carch	3.25	29	P		Pn	19 59 19.6	+1.3		
CHL1	Volc¡n Chiles	3.33	29	P		Pn	19 59 20.1	+0.8		
ECEN	Cerro Negro	3.34	29	P		Pn	19 59 20.5	+1.0		
CHL2	Volc¡n Chiles	3.35	30	P		Pn	19 59 20.4	+0.8		
SNLR	San Lorenzo-Es	3.47	12	P		Pn	19 59 20.5	-0.3		
GCUF	Volcan Galeras	4.01	34	P		Pn	19 59 29.6	+1.1		
CRUC	La Cruz	4.51	36	P		Pn	19 59 37.1	+1.9		
BBAC	Balboa, Cauca	4.73	30	P		Pn	19 59 37.7	-0.3		
GR1C	Gorgona, Isla	5.29	16	P		Pn	19 59 44.4	-0.9		
PTLC	Puerto Leguiza	5.30	65	P		Pn	19 59 42.4	-3.1		
POPC	Popayan, Colom	5.47	32	P		Pn	19 59 46.8	-1.3		
GARC	Garzon, Huila	5.92	44	P		Pn	19 59 54.2	0.0		
JAMC	Jamundi, Valle	6.05	29	P		Pn	19 59 54.1	-1.8		
MALC	Bahia Malaga	6.50	20	P		Pn	20 00 02.9	+1.1		
YOTC	Yotoco, Valle	6.88	28	P		Pn	20 00 03.9	-3.2		
PRAC	Prado	7.46	39	P		Pn	20 00 14.0	-1.0		
	7.2nm,1.1s									
NORC	Norcasia	8.97	32	P		Pn	20 00 28.3	-7.3		
	6.4nm,1.8s									

NEIC ***27*** *20:00:30.9±2.5,53˚.40N±0˚.05×163˚.56W±0˚.04,h10km±1km, mb4.1/39,ML4.1/10,ML3.9(AEIC),Error ellipse: s-maj=8.2km s-min=4.2km az=172.0*

IDC ***27*** *20:00:31.5±0.8,53˚.59N×163˚.75W,h0km,mb3.9/28, mbtmp3.9/31,ML3.7/3,MS3.9/1,Error ellipse: s-maj=22.8km s-min=12.5km az=172.0*

AEIC ***27*** *20:00:32.3±2.6,53˚.38N±0˚.07×163˚.61W±0˚.10,h27km±6km, Error ellipse: s-maj=11.5km s-min=7.1km az=150.0*

ISC 27 20:00:32.0±2.1,53˚.43N±0˚.05×163˚.58W±0˚.04, h10km±12km,n209,σ1§63/210,mb4.1/41,Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	West Dahl East	1.21	331		Pn	20 00 53.4	-1.6
ISLZ	Isanotski Laza	1.31	357		Pn	20 00 54.8	-1.5
ISLZ					Sb	20 01 11.3	-2.1
ISLZ					Sg	20 01 14.7	+0.7
SSLS	Shishaldin Sou	1.31	349		Pn	20 00 55.1	-1.3
SSLS					Sb	20 01 13.1	-0.6
WECS	Westdahl Cape	1.32	328		Pn	20 00 55.0	-1.5
WECS					Sb	20 01 13.3	-0.5
WEBT	Westdahl Beart	1.36	330		Pn	20 00 55.8	-1.2
WEBT					Sn	20 01 14.9	-0.2
WEBT					Sg	20 01 17.0	+1.2
SSLN	Shishaldin Nor	1.41	350		Pn	20 00 56.9	-0.9
ISNN	Isanotski Nort	1.42	355		Pn	20 00 57.4	-0.4
ISNN					Sn	20 01 16.0	-0.5
ISNN					Sg	20 01 18.0	+0.5
FALS	False Pass	1.44	4	P	Pb	20 00 59.0	+0.2
FALS	False Pass	1.44	4		Pn	20 00 57.1	-0.9
FALS					Sn	20 01 16.3	-0.7
FALS	False Pass	1.44	4	P	Pn	20 00 57.1	-0.9
	baz=184						
AKSA	Akutan Strait	1.45	300		Pn	20 00 57.2	-1.0
AKSA	Akutan Strait	1.45	300		Pn	20 00 56.9	-1.3
AHB	Akutan Harbor	1.50	298		Pn	20 00 57.4	-1.5
AKBBA	Akutan Broad B	1.55	297		Pn	20 00 58.3	-1.3
ZRO	Akutan Zero	1.57	296		Pn	20 00 58.3	-1.6
LVA	Lava Point	1.63	298		Pn	20 00 59.7	-1.1
UNV	Unalaska Valle	1.79	285	P	Pb	20 01 03.4	-1.5
UNV	Unalaska Valle	1.79	285		Pn	20 01 00.9	-2.0
UNV	Unalaska Valle	1.79	285	P	Pn	20 01 01.6	-1.3
	baz=102						
MTBL	Makushin Table	1.92	288		Pn	20 01 03.6	-1.2
MTBL					Sn	20 01 27.0	-2.1
MTBL					Sb	20 01 30.2	-1.0
MREP	Makushin Rep't	1.93	283		Pn	20 01 03.6	-1.3
MGOD	Makushin Gods	2.00	282		Pn	20 01 05.0	-0.8
HAG	Hague Volcano	2.13	27		Pn	20 01 07.3	-0.3
PS1A	Pavlof South-1	2.27	27		Pn	20 01 09.4	-0.1
S12K	Black Hills	2.45	21		Pn	20 01 13.1	+1.1
S12K				IAML		20 01 53.8	
	comp=E,860nm,0.6s						
SDPT	Sand Point	2.65	42	P	Pn	20 01 16.6	+1.9
SDPT	Sand Point	2.65	42		Pn	20 01 13.7	-1.0
SDPT				IAML		20 01 58.7	
	comp=E,738nm,1.1s						
SDPT				IAML		20 02 11.4	
	comp=N,665nm,0.9s						
SDPT	Sand Point	2.65	42	P	Pn	20 01 15.7	+1.0
	baz=225						
OKWE	Okmok W'ng Wal	2.79	273		Pn	20 01 17.3	+0.6
OKSP	Okmok Steeple	2.83	268		Pn	20 01 15.9	-1.4
NIKH	Nikolski High	3.21	264	P	Pn	20 01 22.6	+0.2
NIKH	Nikolski High	3.21	264	Pn	Pn	20 01 21.4	-1.0
NIKH	Nikolski High	3.21	264	P	Pn	20 01 21.0	-1.4
	baz=80						
VNSS	Veniaminof 8	3.68	39		Pn	20 01 29.6	+0.5
S14K	Fog Glacier	3.69	37	P	Pn	20 01 29.3	+0.2
	baz=221						
VNFG	Fog Glacier, M	3.69	37		Pn	20 01 29.3	+0.2
CLCO	Concord Point,	3.76	263		Pn	20 01 29.4	-0.5
VNHG	Veniaminof 1	3.79	41		Pn	20 01 30.8	+0.4
CLES	Cleveland East	3.85	264	Pn	Pn	20 01 32.2	+0.9
CLES				IAML		20 02 40.4	
	comp=E,249nm,0.9s						
CLES				IAML		20 02 45.4	
	comp=N,323nm,1.4s						
CHGN	Chignik	4.15	44	Pn	Pn	20 01 36.7	+1.4
CHGN				IAML		20 03 10.2	
	comp=E,232nm,0.9s						
P08K	Saint George I	4.68	315		Pn	20 01 42.8	+0.2
SPIA	Saint Paul Isl	5.35	317	P	Pn	20 01 53.7	+1.9
O14K	Tigyukauived M	5.98	11	Pn	Pn	20 02 03.0	+2.6
SII	Sitkinak Islan	6.25	56	Pn	Pn	20 02 01.2	-3.0
P16K	Nushagak River	6.42	27		Pn	20 02 08.1	+1.5
P16K	Nushagak River	6.42	27	P	Pn	20 02 08.1	+1.5
	baz=212						
ATKA	Atka Island	6.55	263	P	Pn	20 02 09.6	+1.3
ATKA	Atka Island	6.55	263	Pn	Pn	20 02 09.3	+0.9
N14K	Kuskokwak Cree	6.60	8		Pn	20 02 09.7	+0.8
N14K	Kuskokwak Cree	6.60	8	P	Pn	20 02 09.7	+0.8
	baz=190						
ANCK	Angle Creek	6.60	40		Pn	20 02 10.4	+1.4
O16K	Kokwok River B	6.89	24		Pn	20 02 14.4	+1.5
OHAK	Old Harbor	6.99	53	P	Pn	20 02 14.5	+0.2
M13K	Dall Lake	7.01	1		Pn	20 02 17.8	+3.3
N15K	Kwethluk River	7.03	14	Pn	Pn	20 02 18.0	+3.2
M14K	Bethel	7.40	6		Pn	20 02 22.7	+2.9
P18K	Big Mountain,	7.56	34	Pn	Pn	20 02 23.5	+1.4
KDAK	Kodiak Island	7.60	51	Pn	Pn	20 02 22.1	-0.5
	comp=E,2.9nm,0.3s,baz=221,slow=6.2,SNR=16						
KDAK				Sn	Sn	20 03 42.3	-6.5
	comp=E,1.1nm,0.3s,baz=44,slow=22,SNR=7.1 comp=E,6.7nm,0.3s						
Q19K	Cape Douglas,	7.81	41	Pn	Pn	20 02 26.5	+0.9
N17K	Nushagak Hills	7.92	24	Pn	Pn	20 02 29.3	+2.2
L14K	Kuka Creek	7.95	3		Pn	20 02 29.7	+2.3
M16K	Timber Creek	8.02	16	Pn	Pn	20 02 30.5	+2.1
N18K	Kilae Creek	8.39	27	Pn	Pn	20 02 36.3	+2.8
K13K	Kusilvak Mount	8.55	357		Pn	20 02 38.7	+3.0
L16K	Owhat River	8.59	13		Pn	20 02 38.8	+2.6
M17K	Holitna River	8.65	20		Pn	20 02 38.8	+1.8
N19K	Bonanza Creek	8.90	30	Pn	Pn	20 02 43.5	+3.0
K15K	Wolf Creek Mou	8.96	6	Pn	Pn	20 02 40.3	-1.0
CNPM	China Poot	9.16	43	Pn	Pn	20 02 44.2	+0.2
J14K	Nanvaranak Lak	9.35	0	Pn	Pn	20 02 49.2	+2.6
L18K	Granite Mounta	9.55	20		Pn	20 02 51.0	+1.7
K17K	Iditarod	9.72	15	Pn	Pn	20 02 56.1	+4.4
M19K	Big River Lodg	9.81	26	Pn	Pn	20 02 53.2	+0.2
L19K	White Mountain	9.93	24		Pn	20 02 55.4	+0.9
J16K	Anvik River	10.01	8	Pn	Pn	20 02 57.8	+2.1
M20K	Styx River	10.14	29	Pn	Pn	20 02 55.6	-2.0
SUA	Susitna One	10.60	35	Pn	Pn	20 03 03.2	-0.7
SKT	Skwentna	10.71	32	Pn	Pn	20 03 07.0	+1.7
RC01	Rabbit Creek A	10.71	39	Pn	Pn	20 03 03.8	-1.5
K20K	Telida	11.12	23		Pn	20 03 10.9	0.0
J19K	Poorman	11.37	18		Pn	20 03 13.1	-1.1
GHO	Glory Hole Cre	11.45	37	Pn	Pn	20 03 13.3	-2.1
HIN	Hinchinbrook I	11.63	46	Pn	Pn	20 03 15.6	-2.2
FID	Port Fidalgo	11.82	45	Pn	Pn	20 03 17.9	-2.5
G16K	Koyuk River	12.02	2	Pn	Pn	20 03 24.8	+1.6
EYAK	Cordova Ski Ar	12.03	47	P	Pn	20 03 23.6	+0.3
SCM	Sheep Creek Mo	12.08	39		Pn	20 03 22.6	-1.4
TRF	Thorofare Moun	12.19	29	Pn	Pn	20 03 27.2	+1.6
KAIM	Kayak Island	12.35	51	Pn	Pn	20 03 27.9	+0.2
RAGM	Ragged Mountai	12.43	48	Pn	Pn	20 03 26.9	-1.9
KLU	Klutina	12.44	42		Pn	20 03 26.6	-2.3
HMT	Hamilton	12.59	49	Pn	Pn	20 03 28.7	-2.3
M24K	Tolsona, Glenn	12.68	40	Pn	Pn	20 03 30.0	-2.3
N25K	Chitina, Valde	13.04	44	Pn	Pn	20 03 35.1	-2.1
WAX	Waxell Ridge	13.28	50	Pn	Pn	20 03 39.4	-1.0
GLB	Gilahina Butte	13.29	45	Pn	Pn	20 03 37.8	-2.7
VRDI	Verde Repeater	13.34	46	Pn	Pn	20 03 40.2	-1.2
ISLE	Juniper Island	13.57	50	Pn	Pn	20 03 42.3	-2.1
F19K	Shaleruckik Mo	13.75	10	Pn	Pn	20 03 45.0	-1.7
CCB	Clear Creek Bu	13.82	29	Pn	Pn	20 03 45.0	-2.6
HDA	Harding Lake	13.90	31	Pn	Pn	20 03 47.4	-1.5
M26K	Nabesna, AK	14.09	42		Pn	20 03 49.9	-1.6
E18K	Tukpahlearik C	14.12	5	P	P	20 04 00.4	+1.0
CTGM	Chitina Glacie	14.17	49	Pn	Pn	20 03 50.4	-2.2
IL31		14.18	30	Pn	Pn	20 03 49.6	-2.9
ILAR	Eielson Array	14.18	30	Pn	Pn	20 03 50.8	-1.8
	comp=E,0.2nm,0.3s,baz=216,slow=12,SNR=6.6						
ILAR				LR	LR	20 09 51.9	
	comp=E,532nm,19.5s,baz=256,slow=40 comp=E,0.3nm,0.5s						
F20K	Avaraart Lake	14.19	13	Pn	Pn	20 03 51.5	-1.3
H23K	Yukon River	14.27	24		Pn	20 03 52.5	-1.3
M27K	Edge Creek, AK	14.53	43	Pn	Pn	20 03 54.6	-3.0
J25K	Salcha River,	14.54	32	Pn	Pn	20 03 54.5	-3.1
SCRK	Sand Creek	14.60	36	Pn	Pn	20 03 56.6	-1.9
PNL	Peninsula	14.67	55	P	Pn	20 03 59.8	+0.4
F21K	Alatna River	14.68	16	Pn	Pn	20 03 59.7	+0.2
H24K	Noodor Dome	14.70	26	Pn	Pn	20 03 57.7	-2.0
G23K	Bananza Creek	14.89	21	Pn	Pn	20 04 01.6	-0.7
L27K	Beaver Creek,	14.89	41	Pn	Pn	20 03 59.7	-2.7
C16K	Lisburne Hills	14.93	357	P	P	20 04 07.6	-0.7
J26L	Joseph Creek	15.07	35	Pn	Pn	20 04 03.6	-1.2
J26L				IAmb	IAmb	20 04 27.5	
	comp=Z,9.8nm,0.9s						
O29M	Mount Kennedy	15.24	53	Pn	Pn	20 04 06.2	-0.9
C18K	Utukok River	15.32	3	P	P	20 04 11.8	-1.1
C18K				IAmb	IAmb	20 04 42.6	
	comp=Z,15nm,1.1s						
G24K	Hadweenzic Riv	15.47	24	Pn	Pn	20 04 08.4	-1.6
G24K				IAmb	IAmb	20 04 27.3	
	comp=Z,6.2nm,0.8s						
I26K	Coal Creek Min	15.71	33	Pn	Pn	20 04 11.3	-1.8
E21K	Killik River	15.74	13	P	Pn	20 04 15.2	+1.8
E22K	Anaktuvuk Pass	15.78	16	IAmb	IAmb	20 04 33.2	
	comp=Z,8.2nm,0.8s						
C19K	Lookout Ridge	15.85	5	P	P	20 04 18.5	-0.1
M29M	Somme Creek	16.00	46	Pn	Pn	20 04 11.7	-5.3
N30M	Aishikik Lake	16.27	50	Pn	Pn	20 04 20.3	-0.1
N30M				IAmb	IAmb	20 04 44.3	
	comp=Z,12nm,0.8s						
D22K	Ayikyak River	16.33	14		P	20 04 22.7	-1.2
D22K				IAmb	IAmb	20 04 32.9	
	comp=Z,16nm,1.3s						
E24K	Your Creek	16.36	20		Pn	20 04 22.4	+0.9
E24K				IAmb	IAmb	20 04 36.6	
	comp=Z,19nm,0.9s						
TOLK	Toolik Lake Re	16.63	18		P	20 04 26.8	-0.5
TOLK				IAmb	IAmb	20 04 58.2	
	comp=Z,8.9nm,0.8s						
B21K	Ikpikpuk River	16.77	11	Pn	Pn	20 04 24.2	-2.4
M30M	Minto, Yukon	16.77	46		P	20 04 27.8	-1.1
M30M				IAmb	IAmb	20 04 45.6	
	comp=Z,21nm,1.4s						
I28M	Miner Creek	16.88	35	P	Pn	20 04 27.3	-0.8
K29M	Barlow Dome	16.97	42	P	Pn	20 04 28.2	-1.2
K29M				IAmb	IAmb	20 04 50.0	
	comp=Z,17nm,1.1s						
E25K	Arctic Village	17.05	23		Pn	20 04 28.3	-1.8
D24K	Happy Valley	17.21	18	P	P	20 04 33.8	+0.1
D24K				IAmb	IAmb	20 04 47.0	
	comp=Z,13nm,1.1s						
I29M	Ogilvie Camp,	17.40	37	P	Pn	20 04 34.7	+0.1
I29M				IAmb	IAmb	20 04 48.7	
	comp=Z,8.5nm,0.8s						
C23K	Itkillik River	17.51	15	P	Pn	20 04 34.5	-1.4
C23K				IAmb	IAmb	20 05 05.5	
	comp=Z,34nm,1.5s						
B22K	Teshekpuk Lake	17.59	11		Pn	20 04 36.0	-0.8
J30M	Hart River	17.76	40	P	P	20 04 40.5	+0.6
J30M				IAmb	IAmb	20 04 59.4	
	comp=Z,6.2nm,0.6s						
D25K	Kavik River	17.83	20	P	Pn	20 04 39.9	0.0
D25K				IAmb	IAmb	20 05 04.8	
	comp=Z,12nm,1.1s						
H29M	Whitestone	17.84	34	P	Pn	20 04 38.6	-1.4
I30M	Mount Dempster	18.04	38	P	Pn	20 04 39.6	-2.9
I30M				IAmb	IAmb	20 05 01.1	
	comp=Z,9.1nm,0.8s						
G29M	Pine Creek	18.35	33	P	Pn	20 04 45.0	-1.3
G29M				IAmb	IAmb	20 05 04.3	
	comp=Z,9.4nm,0.9s						
G30M	tAoh Zraii Nji	18.98	34		P	20 04 52.3	-0.9
G30M				IAmb	IAmb	20 05 05.9	
	comp=Z,13nm,1.2s						
H31M	Peel River	19.06	38	P	Pn	20 04 54.4	-0.5
H31M				IAmb	IAmb	20 05 18.0	
	comp=Z,16nm,1.0s						
MMPY	Sheldon Lake,	19.23	49	P	P	20 04 55.7	-0.3
E29M	Blow River	19.27	29	P	P	20 04 55.2	-1.2
DLBC	Dease Lake	19.31	62	P	Pn	20 04 58.7	+0.6
	comp=Z,0.1nm,0.3s,baz=226,slow=24,SNR=2.1 comp=Z,2.0nm,0.9s						
G31M	Satah River	19.61	35	P	P	20 04 57.6	-2.4
G31M				IAmb	IAmb	20 05 15.3	
	comp=Z,9.2nm,0.9s						
INK	Inuvik	20.56	32	P	P	20 05 11.3	+0.9
	comp=Z,4.1nm,0.5s,baz=236,slow=12,SNR=7.3 comp=Z,4.1nm,0.5s						
PETK	Petropavlovsk-	22.98	285	P	P	20 05 36.3	-0.1
	comp=Z,1.8nm,0.6s,baz=84,slow=13,SNR=5.8 comp=Z,1.8nm,0.6s						
C36M	Paulatuk	24.10	34	P	P	20 05 46.7	-0.5
A36M	Sachs Harbour	24.84	27	P	P	20 05 52.2	-1.8
YKA	Yellowknife Ar	26.88	51	P	P	20 06 14.4	+1.9
	comp=Z,1.5nm,0.7s,baz=272,slow=8.5,SNR=21 comp=Z,1.5nm,0.7s						
TIXI	Tiksi	33.67	328	P	P	20 07 12.2	-0.2
TIXI				IAmb	IAmb	20 07 22.6	
	comp=Z,2.3nm,0.8s						
NVAR	Mina Array Bea	34.24	97	P	P	20 07 20.3	+2.3
	comp=Z,0.6nm,0.7s,baz=301,slow=8.2,SNR=4.5 comp=Z,0.6nm,0.7s						
PDAR	Pinedale Array	36.78	84	P	P	20 07 42.1	+2.3
	comp=Z,0.4nm,0.6s,baz=304,slow=9.7,SNR=2.5 comp=Z,0.4nm,0.6s						
H11N2	WAKE ISLAND Hy	40.59	226	T	T	20 51 55.3	
	baz=26,slow=76,SNR=38						
H11N3	WAKE ISLAND Hy	40.59	225	T	T	20 51 55.8	
	baz=26,slow=76,SNR=39						
H11N1	WAKE ISLAND Hy	40.61	226	T	T	20 51 56.6	
	baz=26,slow=76,SNR=39						
H11S1	WAKE ISLAND Hy	41.76	225	T	T	20 53 23.5	
	baz=26,slow=76,SNR=55						
H11S2	WAKE ISLAND Hy	41.77	225	T	T	20 53 24.5	
	baz=26,slow=76,SNR=43						
H11S3	WAKE ISLAND Hy	41.78	225	T	T	20 53 24.2	
	baz=26,slow=76,SNR=65						
NEEM	North Greenlan	42.98	17	*i* P	P	20 08 29.8	-1.2
NEEM				IAmb	IAmb	20 08 32.4	
	comp=Z,12nm,1.1s						
MJAR	Matsushiro Arr	43.21	271	P	P	20 08 34.7	+1.7
	comp=Z,0.7nm,0.6s,baz=53,slow=6.7,SNR=1.9 comp=Z,0.7nm,0.6s						
DAG	Danmarks Havn	48.18	10	*i* P	P	20 09 11.0	-0.7
DAG				IAmb	IAmb	20 09 26.9	
	comp=Z,3.4nm,0.9s						
SPITS	Spitsbergen Ar	48.66	0	P	P	20 09 15.3	-0.1
	comp=Z,16nm,1.1s,baz=360,slow=16,SNR=1.7 comp=Z,16nm,1.1s						
SUMG	Summit	48.68	19	P	P	20 09 15.8	-0.4
SUMG	Summit	48.68	19	*i* P	P	20 09 16.0	-0.2
SUMG				IAmb	IAmb	20 09 20.3	
	comp=Z,10.0nm,1.1s						
KSRS	Korea Array	48.72	280	P	P	20 09 16.2	-0.2
	comp=Z,1.0nm,0.7s,baz=49,slow=7.3,SNR=8.5 comp=Z,1.0nm,0.7s						
TXAR	Lajitas Array	49.27	94	P	P	20 09 22.1	+1.2
	comp=Z,0.5nm,0.5s,baz=303,slow=5.5,SNR=8.8 comp=Z,0.5nm,0.5s						
ICESG	Greenland Ices	51.11	23	*i* P	P	20 09 33.4	-1.2
ICESG				IAmb	IAmb	20 09 39.3	
	comp=Z,6.7nm,0.9s						
SCHQ	Schefferville	52.21	47	P	P	20 09 42.5	0.0
	comp=Z,1.1nm,0.8s,baz=96,slow=14,SNR=1.2 comp=Z,1.1nm,0.8s						
SONM	Songino Array	53.71	303	P	P	20 09 54.3	+0.4
	comp=Z,1.4nm,0.5s,baz=42,slow=7.4,SNR=13 comp=Z,1.4nm,0.5s						
ARCES	ARCESS Array B	57.17	356	P	P	20 10 17.2	-1.2
	comp=Z,3.8nm,0.9s,baz=19,slow=6.7,SNR=2.0 comp=Z,3.8nm,0.9s						
ZALV	Zalesovo Beam	58.94	320	P	P	20 10 30.5	-0.4
	comp=Z,0.7nm,0.6s,baz=8.1,slow=2.1,SNR=4.3 comp=Z,0.7nm,0.6s						
KURBB	Korchatov Arra	63.94	321	P	P	20 11 03.9	-0.8
	comp=Z,1.1nm,0.7s,baz=25,slow=7.2,SNR=8.6 comp=Z,1.1nm,0.7s						
BVAR	Borovoye Array	64.80	327	P	P	20 11 10.4	0.0
	comp=Z,3.1nm,0.7s,baz=45,slow=7.6,SNR=13 comp=Z,3.1nm,0.7s						
BRVK	Borovoye	64.80	327	P	P	20 11 10.5	+0.2
FINES	FINESS Array B	65.22	355	P	P	20 11 12.2	-0.8
	comp=Z,0.7nm,0.5s,baz=32,slow=7.5,SNR=8.1 comp=Z,0.7nm,0.5s						
MKAR	Makanchi Array	65.54	316	P	P	20 11 14.9	-0.4
	comp=Z,0.5nm,0.6s,baz=46,slow=7.2,SNR=5.5 comp=Z,0.5nm,0.6s						
NB2	NORSAR Subarra	65.81	3	P	P	20 11 17.1	+0.3
	comp=Z,24nm,2.5s,baz=357,slow=6.2						
NOA	NORSAR Array B	65.81	3	P	P	20 11 16.1	-0.8
	comp=Z,1.3nm,1.0s,baz=324,slow=4.8,SNR=4.1 comp=Z,1.3nm,1.0s						
HFS	Hagfors	66.77	1	P	P	20 11 22.6	-0.4
	comp=Z,1.4nm,0.4s,baz=29,slow=3.4,SNR=16 comp=Z,1.4nm,0.4s						
EKA	Eskdalemuir Ar	70.41	12	P	P	20 11 45.7	0.0
	comp=Z,0.8nm,0.6s,baz=341,slow=3.9,SNR=5.7 comp=Z,0.8nm,0.6s						
BOOM	Boomskoye usch	71.66	318	P	P	20 11 54.9	+1.1
PZH	PanZhiHua	71.83	290	P	P	20 11 53.3	-1.7
PZH				pmax	pmax		
	comp=Z,10.0nm,0.9s						
CLL	Collm	75.60	2	*e*P	P	20 12 16.0	-0.5
AKASG	Malin Array Be	75.69	352	P	P	20 12 16.4	-0.6
	comp=Z,0.9nm,0.5s,baz=9.7,slow=5.8,SNR=9.2 comp=Z,0.9nm,0.5s						
GERES	GERESS Array B	78.08	2	P	P	20 12 30.8	+0.1
	comp=Z,0.5nm,0.7s,baz=321,slow=8.9,SNR=2.0 comp=Z,0.5nm,0.7s						
CONA	Conrad Observa	79.02	0	*e*PcP	P	20 12 37.2	+1.3
	comp=Z,2.3nm,1.5s						
RONA	Rosalia, Austr	79.25	0	*e*PcP	P	20 12 40.1	+3.0
	comp=Z,2.2nm,1.0s						
MOTA	Moosalm	79.50	4	*i* PcP	P	20 12 40.3	+1.7
	comp=Z,0.2nm,0.3s						
WATA	Walderalm	79.53	3	*i* PcP	P	20 12 40.0	+1.2
	comp=Z,0.4nm,0.2s						
WTTA	Wattenberg	79.60	3	*e*PcP	P	20 12 40.6	+1.4
	comp=Z,1.7nm,0.7s						
CMAR	Chiang Mai Arr	79.74	287	P	P	20 12 41.1	+1.0
	comp=Z,0.6nm,0.4s,baz=24,slow=6.2,SNR=5.3 comp=Z,0.6nm,0.4s						
KBA	Koelnbreinsper	79.84	2	*i* PcP	P	20 12 42.6	+2.2
	comp=Z,4.8nm,1.2s						
SOKA	Soboth	80.27	1	*e*PcP	P	20 12 44.7	+2.0
	comp=Z,2.9nm,1.2s						
OBKA	Obir	80.43	1	*e*PcP	P	20 12 45.2	+1.7
	comp=Z,1.4nm,0.5s						
KBZ	Khabaz	80.59	341	P	P	20 12 45.5	+1.2
	comp=Z,3.8nm,1.0s,baz=18,slow=6.4,SNR=3.1 comp=Z,3.8nm,1.0s						
GEYT	Alibeck	82.12	328	P	P	20 12 54.0	+1.4
	comp=Z,1.3nm,0.9s,baz=182,slow=19,SNR=2.3 comp=Z,1.3nm,0.9s						

EBEN2	**Beniarda presa**	**2.95**	**8**	P		**Pn**	**20 57 40.2**	**+0.2**
EBEN2				S		**Sn**	**20 58 13.5**	**-1.5**
EBEN2				*i* Vmb_Lg			20 58 27.6	
ETOB	**Tobarra**	**2.96**	**348**	Pn		**Pn**	**20 57 40.4**	**+0.2**
ETOB	**Tobarra**	**2.96**	**348**	P		**Pn**	**20 57 41.2**	**+1.1**
ETOB				S		**Sn**	**20 58 14.5**	**-0.7**
ETOB				*i* Vmb_Lg			20 58 25.6	
EGOR	**Sierra Gorda,**	**3.04**	**297**	P		**Pn**	**20 57 43.3**	**+2.0**
EGOR				S		**Sn**	**20 58 19.5**	**+2.2**
EGOR				*i* Vmb_Lg			20 58 25.0	
EMIJ	**Mijas**	**3.37**	**285**	Pn		**Pn**	**20 57 44.4**	**-1.4**
EMIJ	**Mijas**	**3.37**	**285**	S		**Sn**	**20 58 25.0**	**-0.2**
EMIJ				*i* Vmb_Lg			20 58 34.3	
EIBI	**Ibiza**	**3.66**	**26**	Pn		**Pn**	**20 57 50.1**	**+0.3**
EIBI	**Ibiza**	**3.66**	**26**	P		**Pn**	**20 57 50.3**	**+0.5**
EIBI				S		**Sn**	**20 58 30.7**	**-1.8**
EIBI				*i* Vmb_Lg			20 58 33.3	
PSIM	**Granatula de C**	**3.90**	**323**	P		**Pb**	**20 58 01.9**	**-0.4**
PSIM				S		**Sn**	**20 58 39.1**	**+0.7**
EADA	**Adamuz**	**3.91**	**309**	P		**Pn**	**20 57 57.9**	**+4.7**
EADA				S		**Sn**	**20 58 40.6**	**+2.1**
EADA				*i* Vmb_Lg			20 58 49.6	
MD31	**MD31**	**4.40**	**230**	P		**Pn**	**20 57 58.7**	**-1.3**
MD31	**MD31**	**4.40**	**230**	S		**Sn**	**20 58 53.7**	**+2.9**
ECAB	**El Cabril**	**4.41**	**303**	S		**Sn**	**20 58 53.6**	**+2.7**
ECAB				*i* Vmb_Lg			20 59 03.3	
EMOS	**Mosqueruela**	**4.61**	**3**	P		**Pn**	**20 58 04.8**	**+1.9**
EMOS				S		**Sn**	**20 58 56.5**	**+0.4**
EMOS				*i* Vmb_Lg			20 59 08.0	
ESDC	**Sonseca Array**	**4.68**	**328**	P		**Pn**	**20 58 04.6**	**+0.8**
ESDC				*i* Vmb_Lg			20 59 12.2	
ERTA	**Horta de San J**	**5.26**	**9**	P		**Pn**	**20 58 13.3**	**+1.5**

TAP 27 20:59:55.6, 24°.86N×121°.85E, h142km, ML2.0, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIPB	**Shuangxi** baz=358	**0.12**	**351**	P	Pn	21 00 13.9	-0.9
TIPB				*e*S	Sn	21 00 27.5	-1.9
SXI1	**Grass Mountain** baz=6.0	**0.24**	**6**	*e*S	Sn	21 00 29.0	-0.9
TWC	**Suao** baz=172	**0.25**	**179**	*e*S	Sn	21 00 29.0	-0.6
FUSB	**Fushanzhiwuyua** baz=247	**0.25**	**248**	P	Pn	21 00 14.6	-0.5
FUSB				S	Sn	21 00 27.8	-2.0
NWLT	**Wulai** baz=248	**0.32**	**256**	P	Pn	21 00 14.8	-0.4
NWLT				S	Sn	21 00 28.4	-1.8
ENTT	**Nioudou** baz=238	**0.33**	**230**	*e*P	Pn	21 00 15.2	0.0
ENTT				*e*S	Sn	21 00 29.1	-1.1
NDT	**Datong Townshi** baz=238	**0.40**	**230**	*e*P	Pn	21 00 14.7	-0.8
NDT				*e*S	Sn	21 00 29.6	-1.0
EWUT	**Wuta** baz=189	**0.41**	**189**	*e*P	Pn	21 00 15.9	+0.3
EWUT				*e*S	Sn	21 00 30.5	-0.3
LATG	**Datong** baz=228	**0.43**	**222**	*e*P	Pn	21 00 16.1	+0.3
LATG				*e*S	Sn	21 00 29.5	-1.6
ENA	**Nanau** baz=200	**0.44**	**193**	*e*P	Pn	21 00 15.9	+0.2
ENA				*e*S	Sn	21 00 30.3	-0.7
YHNB	**Yeheng** baz=243	**0.47**	**247**	*e*P	Pn	21 00 15.8	-0.1
YHNB				*e*S	Sn	21 00 29.6	-1.7
NTST	**Danshui** baz=310	**0.47**	**310**	*e*P	Pn	21 00 15.6	-0.3
NTST				*e*S	Sn	21 00 28.5	-2.7
NSK	**Sanguang** baz=244	**0.48**	**248**	*e*P	Pn	21 00 14.9	-1.0
NSK				*e*S	Sn	21 00 29.2	-2.1
LIOB	**Emei** baz=253	**0.78**	**255**	*e*P	Pn	21 00 18.1	+0.3
LIOB				*e*S	Sn	21 00 34.0	-0.7
WARBT	**Fenglin Townsh** baz=194	**1.21**	**200**	*e*S	Sn	21 00 39.8	-1.6

JMA 27 21:00:00.1±0.2, 24°.3N±0°.3×123°.8E±0°.4, h19km±1km, MV0.1/5, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.10**	**336**	*e*P	Pg	21 00 03.8	0.0
IRIF				S	Sg	21 00 06.3	-0.1
HATJ	**Hateruma jima**	**0.19**	**171**	*e*P	Pg	21 00 04.8	-0.2
HATJ				S	Sg	21 00 08.3	0.0
JKRS	**Kuro-shima**	**0.22**	**92**	P	Pg	21 00 05.3	0.0
JKRS				*e*S	Sg	21 00 09.0	+0.1
JIJ	**Ishigaki jima**	**0.36**	**71**	*e*P	Pg	21 00 07.4	-0.2
JIJ				S	Sg	21 00 12.2	-0.6

*IDC **27** 21:00:36.5±4.7, 44°.54N×148°.46E, h70km±38km, mb3.6/16, mbtmp3.9/17, ML3.3/1, Error ellipse: s-maj=30.6km s-min=27.4km az=89.0*
*SKHL **27** 21:00:37.8±0.2, 44°.30N×148°.30E, h96km±4km, mb4.8/3, msha5.5/3*
*JMA **27** 21:00:37.9±0.3, 44°.N±2°.×14°.8E±°, h90km, MV3.5/29, SE OFF ETOROFU*
*MOS **27** 21:00:37.3±1.0, 44°.34N×148°.29E, h96km, mb4.3/9, Error ellipse: s-maj=12.5km s-min=9.8km az=29.6*
*NEIC **27** 21:00:39.9±2.0, 44°.5N±0°.1×148°.2E±0°.1, h97km±8km, mb4.4/33, Error ellipse: s-maj=18.0km s-min=11.6km az=140.0*

ISC 27 21:00:36.3±1.1, 44°.19N±0°.05×148°.42E±0°.07, h76km±8km, n108, σ1§54/118, mb4.2/35, 3C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.12**	**340**	*i* P	**Pn**	**21 00 56.9**	**+0.4**
KUR				AMB	AMB	21 00 57.6	
	600nm,0.3s						
KUR				*i* S	**Sn**	**21 01 11.3**	**-0.4**
KUR				A	A	21 01 12.0	
	650nm,0.4s						
KUR				A	A	21 01 12.0	
	2µm,0.4s						
KUR	**Kuril'sk**	**1.12**	**340**	*d* iPN	**Pn**	**21 00 56.8**	**+0.3**
SHO	**Shikotan**	**1.19**	**255**	*i* P	**Pn**	**21 00 58.0**	**+0.6**
SHO				AMB	AMB	21 00 58.2	
	50nm,0.2s						
SHO				*i* S	**Sn**	**21 01 13.0**	**-0.3**
SHO				A	A	21 01 13.9	
	270nm,0.3s						
SHO				A	A	21 01 13.9	
	520nm,0.3s						
SHO	**Shikotan**	**1.19**	**255**	⇓*i* PN	**Pn**	**21 00 58.0**	**+0.6**
SHO				*i* S	**Sn**	**21 01 12.8**	**-0.5**
SHO				pmax	pmax		
	comp=E,30nm,0.3s						
SHO				pmax	pmax		
	comp=Z,52nm,0.3s						
SHO				smax	smax		
	comp=N,269nm,0.3s						
SHO				smax	smax		
	comp=E,518nm,0.2s						
YUK	**Yuzh-Kuril'sk**	**1.85**	**266**	*e*P	**Pn**	**21 01 07.0**	**+1.0**
YUK				AMB	AMB	21 01 09.4	
	comp=E,170nm,0.2s						
YUK				*i* S	**Sn**	**21 01 28.7**	**+0.1**
YUK				A	A	21 01 31.4	
	comp=E,450nm,0.4s						
YUK				A	A	21 01 31.4	
	comp=E,850nm,0.4s						
YUK	**Yuzh-Kuril'sk**	**1.85**	**266**	*e*PN	**Pn**	**21 01 07.4**	**+1.4**
YUK				*i* S	**Sn**	**21 01 28.4**	**-0.2**
YUK				pmax	pmax		
	comp=N,38nm,0.2s						
YUK				pmax	pmax		
	comp=Z,173nm,0.2s						
YUK				smax	smax		
	comp=E,854nm,0.4s						
YUK				smax	smax		
	comp=N,448nm,0.2s						
NEM2	**Nemuro 2**	**2.11**	**248**	P	**Pn**	**21 01 10.1**	**+0.7**
NEM2				*e*S	**Sn**	**21 01 34.2**	**-0.6**
NMR	**Nemuro--Hokkai**	**2.11**	**248**	*e*P	**Pn**	**21 01 10.0**	**+0.4**
NMR				*e*S	**Sn**	**21 01 34.4**	**-0.5**
NMR	**Nemuro--Hokkai**	**2.11**	**248**	*e*PN	**Pn**	**21 01 09.9**	**+0.4**
NMR				*e*S	**Sn**	**21 01 34.5**	**-0.5**
RUSJ	**Misakicho**	**2.29**	**269**	*e*PN	**Pn**	**21 01 13.9**	**+2.1**
RUSJ				*e*S	**Sn**	**21 01 41.2**	**+2.1**
JRA	**Rausu**	**2.39**	**265**	P	**Pn**	**21 01 15.1**	**+1.8**
JRA				*e*S	**Sn**	**21 01 43.4**	**+1.8**
JNSB	**Nemuroshibetsu**	**2.50**	**262**	*e*P	**Pn**	**21 01 16.6**	**+1.8**
JNSB				S	**Sn**	**21 01 45.4**	**+1.1**
JKHN	**Kushirohamanak**	**2.61**	**246**	P	**Pn**	**21 01 17.1**	**+0.9**
JKHN				S	**Sn**	**21 01 47.0**	**+0.1**
JNK	**Nakash**	**2.74**	**259**	P	**Pn**	**21 01 19.2**	**+1.2**
JNK				S	**Sn**	**21 01 50.5**	**+0.4**
AKK	**Akkeshi**	**2.85**	**247**	*e*P	**Pn**	**21 01 20.3**	**+0.8**
JAK	**Akkeshi**	**2.96**	**248**	P	**Pn**	**21 01 21.7**	**+0.8**
JAK				S	**Sn**	**21 01 55.0**	**-0.2**
JTKR	**Abashiri--Toko**	**3.26**	**268**	*e*P	**Pn**	**21 01 26.6**	**+1.6**
JAR	**Ashorobuto**	**3.49**	**257**	P	**Pn**	**21 01 30.3**	**+2.1**
JAR				*e*S	**Sn**	**21 02 09.3**	**+1.1**
JCH	**Churui**	**4.01**	**249**	P	**Pn**	**21 01 36.3**	**+1.1**
JCH				*e*S	**Sn**	**21 02 20.0**	**-0.9**
JKA	**Kamikawa-asahi**	**4.19**	**271**	Pn	**Pn**	**21 01 39.9**	**+2.2**
JKA	**Kamikawa-asahi**	**4.19**	**271**	*e*P	**Pn**	**21 01 40.1**	**+2.4**
ASAJ	**Asahikawa**	**4.19**	**271**	P	**Pn**	**21 01 40.0**	**+2.3**
	comp=N,1.5nm,0.3s,baz=56,slow=17,SNR=18						
ASAJ				S	**Sn**	**21 02 26.9**	**+1.5**
	comp=N,2.3nm,0.5s,baz=32,slow=19,SNR=1.0						
	comp=N,3.1nm,0.3s						
ERM	**Erimo**	**4.42**	**242**	Pn	**Pn**	**21 01 43.4**	**+2.5**
ERM	**Erimo**	**4.42**	**242**	*d* iPN	**Pn**	**21 01 44.0**	**+3.1**
JNBK	**Urakawa-nobuka**	**4.56**	**247**	*e*P	**Pn**	**21 01 43.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**4.85**	**307**	*e*P	**Pn**	**21 01 48.0**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.85**	**307**	*e*PN	**Pn**	**21 01 48.0**	**+1.4**
YSS				*e*S	**Sn**	**21 02 42.1**	**+0.7**
YSS				smax	smax		
	comp=E,30nm,0.5s						
JOT	**Ohata**	**6.11**	**245**	P	**Pn**	**21 02 04.5**	**+0.7**
JOT				*e*S	**Sn**	**21 03 08.1**	**-4.1**
JANG	**Nango**	**6.38**	**236**	*e*S	**Sn**	**21 03 13.9**	**-5.2**
JTM	**Tenmabayashi**	**6.41**	**241**	Pn	**Pn**	**21 02 11.2**	**+3.2**
JMK	**Ichinoseki**	**7.51**	**228**	*e*S	**Sn**	**21 03 42.4**	**-4.3**
PET	**Petropavlovsk**	**11.13**	**34**	Pn	**Pn**	**21 03 12.4**	**+0.1**
YAK	**Yakutsk**	**20.98**	**335**	P	**P**	**21 05 09.2**	**-3.7**
YAK				IAmb	IAmb	21 05 11.2	
	comp=E,18nm,0.7s						
YAK	**Yakutsk**	**20.98**	**335**	P	**P**	**21 05 08.9**	**-4.0**
	comp=Z,12nm,0.4s,baz=114,slow=3.0,SNR=9.2						
	comp=Z,12nm,0.4s						
YAK	**Yakutsk**	**20.98**	**335**	*d* iP	**P**	**21 05 08.7**	**-4.2**
YAK				pmax	pmax		
	comp=Z,18nm,0.7s						
ULN	**Ulaanbaatar**	**28.71**	**292**	*e*P	**P**	**21 06 26.3**	**0.0**
ULN	**Ulaanbaatar**	**28.71**	**292**	⇓*i* P	**P**	**21 06 26.3**	**0.0**
ULN				pmax	pmax		
	comp=Z,9.0nm,2.9s						
H11N2	**WAKE ISLAND Hy**	**28.85**	**142**	T	T	21 37 23.8	
	baz=333,slow=76,SNR=123						
H11N1	**WAKE ISLAND Hy**	**28.87**	**142**	T	T	21 37 27.5	
	baz=333,slow=76,SNR=118						
H11N3	**WAKE ISLAND Hy**	**28.87**	**142**	T	T	21 37 22.0	
	baz=333,slow=76,SNR=148						
SONM	**Songino Array**	**29.15**	**292**	P	**P**	**21 06 30.1**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=80,slow=8.7,SNR=8.4						
	comp=Z,0.9nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**29.84**	**143**	T	T	21 38 39.4	
	baz=334,slow=76,SNR=179						
H11S3	**WAKE ISLAND Hy**	**29.85**	**143**	T	T	21 38 40.1	
	baz=334,slow=76,SNR=93						
H11S2	**WAKE ISLAND Hy**	**29.86**	**143**	T	T	21 38 38.2	
	baz=334,slow=76,SNR=114						
H18K	**Honhosa River**	**35.75**	**35**	P	**P**	**21 07 28.3**	**+0.8**
H18K				IAmb	IAmb	21 07 55.7	
	comp=Z,8.4nm,1.4s						
G18K	**Tagagawik**	**35.77**	**34**	P	**P**	**21 07 28.4**	**+0.9**
G18K				IAmb	IAmb	21 07 32.3	
	comp=Z,3.3nm,1.1s						
D19K	**Kuna River**	**36.53**	**30**	P	**P**	**21 07 35.0**	**+1.0**
D19K				IAmb	IAmb	21 07 36.1	
	comp=Z,10nm,1.4s						
E19K	**Redstone River**	**36.63**	**32**	P	**P**	**21 07 35.8**	**+1.0**
E19K				IAmb	IAmb	21 07 44.9	
	comp=Z,6.5nm,1.4s						
B20K	**Meade River**	**37.23**	**28**	P	**P**	**21 07 40.3**	**+0.4**
B21K	**Ikpikpuk River**	**38.01**	**28**	P	**P**	**21 07 46.0**	**-0.4**
E22K	**Anaktuvuk Pass**	**38.77**	**31**	P	**P**	**21 07 53.6**	**+0.6**
E22K				IAmb	IAmb	21 08 34.9	
	comp=Z,4.9nm,1.4s						
C23K	**Itkillik River**	**39.42**	**29**	P	**P**	**21 07 58.5**	**+0.2**
C23K				IAmb	IAmb	21 08 14.6	
	comp=Z,5.5nm,1.4s						
IL31		**40.59**	**37**	P	**P**	**21 08 09.1**	**+1.1**
D25K	**Kavik River**	**40.85**	**30**	P	**P**	**21 08 10.8**	**+0.7**
E25K	**Arctic Village**	**41.10**	**31**	P	**P**	**21 08 13.4**	**+1.2**
ZALV	**Zalesovo Beam**	**41.47**	**307**	P	**P**	**21 08 15.4**	**0.0**
	comp=Z,0.4nm,0.5s,baz=101,slow=7.5,SNR=2.1						
	comp=Z,0.4nm,0.5s						
E29M	**Blow River**	**43.94**	**31**	P	**P**	**21 08 36.6**	**+1.4**
MK31	**Makanchi Array**	**45.20**	**298**	*c* iP	**P**	**21 08 45.0**	**-0.5**
MKAR	**Makanchi Array**	**45.20**	**298**	P	**P**	**21 08 45.2**	**-0.3**
	comp=Z,2.7nm,0.6s,baz=78,slow=8.7,SNR=21						
	comp=Z,2.7nm,0.6s						
MKAR	**Makanchi Array**	**45.20**	**298**	*e*P	**P**	**21 08 45.4**	**-0.1**
MKAR	**Makanchi Array**	**45.20**	**298**	*ce*P	**P**	**21 08 45.4**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MAKZ	**Makanchi**	**45.39**	**298**	P	**P**	**21 08 46.5**	**-0.5**
MAKZ				IAmb	IAmb	21 08 47.5	
	comp=Z,2.7nm,0.7s						
MAKZ	**Makanchi**	**45.39**	**298**	P	**P**	**21 08 46.5**	**-0.5**
MAKZ				pmax	pmax		
	comp=Z,3.0nm,0.7s						
KURK	**Kurchatov**	**46.05**	**304**	P	**P**	**21 08 50.4**	**-1.7**
KURK	**Kurchatov**	**46.05**	**304**	*e*P	**P**	**21 08 51.6**	**-0.5**
KURK	**Kurchatov**	**46.05**	**304**	*c* iP	**P**	**21 08 51.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,6.0nm,2.0s						
KURBB	**Kurchatov Arra**	**46.13**	**304**	P	**P**	**21 08 51.0**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=72,slow=8.6,SNR=7.4						
	comp=Z,0.7nm,0.4s						
C36M	**Paulatuk**	**48.66**	**28**	P	**P**	**21 09 11.6**	**-0.4**
BVAR	**Borovoye Array**	**49.94**	**309**	P	**P**	**21 09 21.0**	**-1.1**
	comp=Z,0.2nm,0.4s,baz=61,slow=12,SNR=2.6						
	comp=Z,0.2nm,0.4s						
BOOM	**Boomskoye usch**	**51.12**	**295**	P	**P**	**21 09 31.4**	**+0.1**
BOOM				IAmb	IAmb	21 09 33.0	
	comp=Z,2.1nm,0.8s						
BOOM	**Boomskoye usch**	**51.12**	**295**	P	**P**	**21 09 31.5**	**+0.1**
BOOM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
CHGR	**Chuyangaron**	**57.52**	**294**	P	**P**	**21 10 15.7**	**-2.1**
CHGR				IAmb	IAmb	21 10 28.5	
	comp=Z,6.3nm,1.1s						
CHGR	**Chuyangaron**	**57.52**	**294**	P	**P**	**21 10 15.7**	**-2.1**
CHGR				pmax	pmax		
	comp=Z,6.0nm,1.1s						
LVZ	**Lovozero**	**57.78**	**336**	P	**P**	**21 10 18.0**	**-1.0**
LVZ	**Lovozero**	**57.78**	**336**	P	**P**	**21 10 18.0**	**-1.0**
KNRA	**Kununurra**	**62.22**	**201**	P	**P**	**21 10 50.4**	**+0.5**
SUMG	**Summit**	**63.44**	**2**	P	**P**	**21 10 57.1**	**-0.8**
SUMG				IAmb	IAmb	21 11 01.8	
	comp=Z,4.9nm,1.4s						
SUMG	**Summit**	**63.44**	**2**	P	**P**	**21 10 57.1**	**-0.8**
SUMG				pmax	pmax		
	comp=Z,5.0nm,1.4s						
FIA1	**FINESS Array S**	**64.90**	**333**	P	**P**	**21 11 05.7**	**-1.3**
FINES	**FINESS Array B**	**64.90**	**333**	P	**P**	**21 11 05.5**	**-1.5**
	comp=Z,2.9nm,0.6s,baz=34,slow=9.1,SNR=23						
	comp=Z,2.9nm,0.6s						
GEYT	**Alibeck**	**65.03**	**299**	P	**P**	**21 11 10.0**	**+1.6**
	comp=Z,0.6nm,0.5s,baz=48,slow=2.2,SNR=2.5						
	comp=Z,0.6nm,0.5s						
GEYT	**Alibeck**	**65.03**	**299**	P	**P**	**21 11 10.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**65.39**	**204**	P	**P**	**21 11 12.7**	**+2.0**
ASAR	**Alice Springs**	**68.82**	**194**	P	**P**	**21 11 34.0**	**+1.7**
	comp=Z,0.4nm,1.0s,baz=13,slow=7.2,SNR=1.6						
	comp=Z,0.4nm,1.0s						
NC405	**NORSAR Array S**	**69.33**	**339**	P	**P**	**21 11 34.2**	**-1.0**
NC405				IAmb	IAmb	21 11 35.7	
	comp=Z,3.5nm,1.0s						
NC204	**NORSAR Array S**	**69.43**	**340**	P	**P**	**21 11 34.7**	**-1.2**
NC204				IAmb	IAmb	21 11 52.0	
	comp=Z,6.9nm,1.3s						
NB201	**NORSAR Array S**	**69.49**	**339**	P	**P**	**21 11 35.5**	**-0.7**
NB201				IAmb	IAmb	21 12 18.8	
	comp=Z,7.9nm,1.1s						
NB2	**NORSAR Subarra**	**69.52**	**339**	P	**P**	**21 11 35.7**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**69.52**	**339**	P	**P**	**21 11 35.2**	**-1.2**
	comp=Z,0.6nm,0.5s,baz=31,slow=6.6,SNR=7.3						
	comp=Z,0.6nm,0.5s						
HFS	**Hagfors**	**69.64**	**338**	P	**P**	**21 11 35.8**	**-1.3**
	comp=Z,1.6nm,0.6s,baz=38,slow=5.7,SNR=8.4						
	comp=Z,1.6nm,0.6s						
KIV	**Kislovodsk**	**70.15**	**312**	P	**P**	**21 11 41.1**	**+0.5**
KIV	**Kislovodsk**	**70.15**	**312**	*e*P	**P**	**21 11 39.7**	**-0.9**
KIV	**Kislovodsk**	**70.15**	**312**	*e*P	**P**	**21 11 39.7**	**-0.9**
KIV				*e*		21 12 03.5	
KIV				*e*		21 14 12.7	
KIV				pmax	pmax		
	comp=Z,4.0nm,0.9s						
KBZ	**Khabaz**	**70.19**	**312**	P	**P**	**21 11 40.8**	**+0.1**
	comp=Z,2.4nm,0.8s,baz=43,slow=11,SNR=3.9						
	comp=Z,2.4nm,0.8s						
PSA00	**Pilbara Seismi**	**70.48**	**208**	P	**P**	**21 11 43.9**	**+1.3**
PFO	**Pinyon Flats O**	**70.78**	**62**	P	**P**	**21 11 46.8**	**+2.1**
PFO	**Pinyon Flats O**	**70.78**	**62**	P	**P**	**21 11 46.8**	**+2.1**
PFO				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG	**Malin Array Be**	**71.77**	**324**	P	**P**	**21 11 49.4**	**-0.8**
	comp=Z,0.6nm,0.5s,baz=36,slow=6.4,SNR=6.7						
	comp=Z,0.6nm,0.5s						
BRTR	**Keskin Array B**	**77.90**	**314**	P	**P**	**21 12 26.6**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=58,slow=6.4,SNR=2.4						
	comp=Z,0.5nm,0.8s						
KHC	**Kasperske Hory**	**79.02**	**332**	P	**P**	**21 12 30.5**	**-1.2**
KHC	**Kasperske Hory**	**79.02**	**332**	P	**P**	**21 12 30.5**	**-1.2**
KHC				pmax	pmax		
	comp=Z,1.0nm,0.8s						
RDO	**Rodhopi**	**80.78**	**320**	P	**P**	**21 12 42.4**	**+1.1**
RDO				IAmb	IAmb	21 12 52.9	
	comp=Z,13nm,1.3s						
TXAR	**Lajitas Array**	**81.64**	**57**	P	**P**	**21 12 47.2**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=282,slow=4.3,SNR=2.6						
	comp=Z,0.2nm,0.5s						
MMAI	**Mount Meron Ar**	**81.93**	**309**	P	**P**	**21 12 48.1**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=60,slow=8.5,SNR=1.7						
	comp=Z,0.2nm,0.3s						
PDG	**Podgorica**	**82.50**	**325**	P	**P**	**21 12 50.4**	**0.0**
PDG				IAmb	IAmb	21 13 11.8	
	comp=Z,6.5nm,1.2s						
H03N2	**Juan Fernandez** baz=302	**142.05**	**90**	T	T	23 58 57.3	
H03N3	**Juan Fernandez** baz=302	**142.06**	**90**	T	T	23 58 57.4	
H03N1	**Juan Fernandez** baz=302	**142.06**	**90**	T	T	23 58 57.5	

*NEIC **27** 21:01:05.5±0.8, 19°.463N±0°.009×155°.337W±0°.007, h5km±2km, Error ellipse: s-maj=1.3km s-min=0.9km az=194.0*

HVO 27 21:01:05.2±0.8, 19°.460N±0°.009×155°.333W±0°.007, h5km±2km, ML3.5/52, ML3.5/48(NEIC), Error ellipse: s-maj=1.3km s-min=0.8km az=195.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSD	**Rainshed**	**0.05**	**86**	Pg	Pg	21 01 07.0	+0.3
RSD				Sg	Sg	21 01 08.0	+0.3
RSD				IAML		21 01 08.8	
	comp=E,47µm,0.3s						
RSD				IAML		21 01 09.0	
	comp=N,46µm,0.3s						
UWE	**Uwekahuna**	**0.05**	**135**		Pg	21 01 07.0	+0.3
UWE				Sg	Sg	21 01 08.5	+0.7
MLH	**Mauna Loa**	**0.06**	**305**	Pg	Pg	21 01 06.8	-0.1
MLH				Sg	Sg	21 01 08.2	+0.1
MLH				IAML		21 01 08.3	
	comp=E,38µm,0.6s						
MLH				IAML		21 01 08.4	
	comp=N,27µm,0.6s						
OBL	**Observatory Le**	**0.06**	**132**		Pg	21 01 08.9	+2.2
UWB	**Uwekahuna B**	**0.06**	**124**		Pg	21 01 08.8	+2.1
SBLHI	**Steaming Bluff**	**0.07**	**118**		Pg	21 01 07.3	+0.4
SBLHI					Sg	21 01 09.3	+1.3
HATHI	**Halema'uma'u T**	**0.08**	**118**	Pg	Pg	21 01 07.3	+0.3
HATHI				Sg	Sg	21 01 09.0	+0.8
HATHI				IAML		21 01 09.8	
	comp=N,51µm,0.4s						
BYL	**Byron's Ledge**	**0.08**	**124**	Pg	Pg	21 01 07.5	+0.4
BYL				Sg	Sg	21 01 09.2	+0.8
BYL				IAML		21 01 09.9	
	comp=N,25µm,0.8s						
BYL				IAML		21 01 10.2	
	comp=E,29µm,0.3s						
RIM	**Rim**	**0.09**	**139**		Pg	21 01 07.7	+0.5
RIM					Sg	21 01 09.7	+1.3
KKO	**Keanakako`i**	**0.09**	**134**		Pg	21 01 09.6	+2.4
PUH	**Pauahi**	**0.14**	**128**	Pg	Pg	21 01 08.2	+0.1
HLP	**Hilina Pali**	**0.16**	**172**	Pg	Pg	21 01 08.9	+0.4
HLP				Sg	Sg	21 01 12.1	+1.4
HLP				IAML		21 01 12.6	
	comp=E,20µm,0.3s						
KNHH	**Kane Nui o Ham**	**0.17**	**117**	Pg	Pg	21 01 09.1	+0.4
HMH	**Humu'ula Sheep**	**0.20**	**315**	Pg	Pg	21 01 09.7	+0.5
HMH				Sg	Sg	21 01 12.4	+0.5
HMH				IAML		21 01 15.7	
	comp=N,10µm,0.4s						
HMH				IAML		21 01 16.3	
	comp=E,10µm,0.5s						
STCH	**Steam Cracks**	**0.21**	**111**	Pg	Pg	21 01 09.6	+0.2
STCH				Sg	Sg	21 01 12.8	+0.7
NPOC	**North of Pu'u**	**0.22**	**107**		Pg	21 01 09.9	+0.3
NPOC					Sg	21 01 13.8	+1.3
HTC	**Hot Caves**	**0.23**	**195**		Pg	21 01 10.1	+0.4
JCUZ	**Jacuzzi**	**0.23**	**109**		Pg	21 01 10.0	+0.3

*NEIC **27** 21:02:55.1±1.9, 15.85S±0.09×173.6E±0.1, h35km±1km, mb4.7/29, Error ellipse: s-maj=27.1km s-min=10.3km az=119.0*

ISC 27 21:02:52.1±0.6, 15.8S±0.1×173.3E±0.1, h10km, n73, σ0.9/96/50, mb4.6/28, MS3.8/21, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.99**	**225**	LR	LR	21 07 52.1	
	comp=Z,572nm,20.4s,baz=30,slow=34						
FUNA	**Funafuti**	**9.25**	**39**	Pn	**Pn**	**21 05 03.9**	**-1.7**
URZ	**Urewera**	**22.62**	**172**	LR	LR	21 14 33.7	
	comp=Z,289nm,21.5s,baz=31,slow=31						
EIDS	**Eidsvold**	**22.84**	**242**	P	**P**	**21 07 57.3**	**+1.7**
EIDS				IAmb	IAmb	21 07 57.7	
	comp=Z,42nm,1.5s						
BKZ	**Black Stump Fm**	**23.44**	**174**	P	**P**	**21 08 01.2**	**-0.4**
BKZ				IAmb	IAmb	21 08 19.3	
	comp=Z,48nm,1.5s						
ARMA	**Armidale**	**24.61**	**230**	P	**P**	**21 08 13.8**	**+1.0**
ARMA				IAmb	IAmb	21 08 18.6	
	comp=Z,23nm,1.4s						
BFZ	**Birch Farm**	**24.92**	**175**	P	**P**	**21 08 13.7**	**-1.7**
TUWZ	**Tuamarina**	**25.54**	**179**	P	**P**	**21 08 20.7**	**-0.3**
TOO	**Toolangi**	**32.76**	**223**	P	**P**	**21 09 25.3**	**-0.1**
TOO				IAmb	IAmb	21 09 31.3	
	comp=Z,16nm,1.3s						
STKA	**Stephens Creek**	**32.96**	**235**	P	**P**	**21 09 27.4**	**+0.3**
STKA	**Stephens Creek**	**32.96**	**235**	P	**P**	**21 09 27.6**	**+0.4**
	comp=Z,6.2nm,0.8s,baz=47,slow=8.2,SNR=12						
	comp=Z,6.2nm,0.8s						
PPT	**Papeete**	**35.57**	**98**	LR	LR	21 22 30.3	
	comp=Z,68nm,18.1s,baz=290,slow=33						
WB0	**Warramunga Arr**	**37.20**	**258**	P	**P**	**21 10 03.1**	**-0.8**
WB2	**Warramunga Arr**	**37.24**	**258**	P	**P**	**21 10 03.8**	**-0.4**
WRA	**Warramunga Arr**	**37.25**	**258**	P	P	21 10 03.0	-1.3
	comp=Z,2.7nm,0.9s,baz=91,slow=8.8,SNR=12						
	comp=Z,2.7nm,0.9s						
BBOO	**Buckleboo**	**37.69**	**236**	P	**P**	**21 10 07.3**	**-0.6**
AS31	**Alice Springs**	**37.80**	**252**	P	**P**	**21 10 08.3**	**-0.7**
ASAR	**Alice Springs**	**37.80**	**252**	P	**P**	**21 10 08.1**	**-0.9**
	comp=Z,8.3nm,0.6s,baz=81,slow=8.9,SNR=71						
	comp=Z,8.3nm,0.6s						
GUMO	**Guam**	**40.54**	**315**	LR	LR	21 26 41.9	
	comp=Z,62nm,18.2s,baz=126,slow=36						
MTN	**Manton Dam**	**40.91**	**269**	P	**P**		
MTN				IAmb	IAmb	21 10 41.5	
	comp=Z,11nm,0.9s						
KNRA	**Kununurra**	**42.80**	**264**	P	**P**	**21 10 49.6**	**-0.8**
KNRA				IAmb	IAmb	21 10 59.4	
	comp=Z,8.3nm,1.0s						
NWAO	**Narrogin (SRO)**	**53.24**	**241**	P	**P**	**21 12 10.7**	**-0.4**
TOLI2	**Tolitoli**	**54.51**	**283**	P	**P**	**21 12 21.1**	**+0.4**
TOLI2				IAmb	IAmb	21 12 36.5	
	comp=Z,8.0nm,1.1s						
JHJ	**Hachijo jima 2**	**58.24**	**327**	LR	LR	21 36 22.6	
	comp=Z,26nm,18.1s,baz=111,slow=35						
MJAR	**Matsushiro Arr**	**61.71**	**328**	P	**P**	**21 13 09.6**	**-1.0**
	comp=Z,1.7nm,0.7s,baz=164,slow=6.3,SNR=6.5						
	comp=Z,1.7nm,0.7s						
VNDA	**Vanda**	**62.00**	**183**	LR	LR	21 35 54.1	
	comp=Z,165nm,21.6s,baz=239,slow=32						
JNU	**Nakatsue**	**63.31**	**321**	LR	LR	21 35 47.1	
	comp=Z,27nm,20.2s,baz=258,slow=31						
ASAJ	**Asahikawa**	**65.89**	**336**	LR	LR	21 37 13.2	
	comp=Z,58nm,20.8s,baz=160,slow=32						
KSRS	**Korea Array**	**68.02**	**322**	P	P	21 13 49.9	-1.8
	comp=Z,0.3nm,0.3s,baz=116,slow=8.3,SNR=1.6						
	comp=Z,0.3nm,0.3s						
PETK	**Petropavlovsk-**	**69.94**	**350**	P	**P**	**21 14 02.4**	**-0.9**
	comp=Z,1.9nm,0.8s,baz=142,slow=7.3,SNR=2.2						
PETK				LR	LR	21 38 06.5	
	comp=Z,62nm,21.6s,baz=159,slow=30						
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui**	**74.23**	**180**	P	**P**	**21 14 28.0**	**-1.1**
QSPA				IAmb	IAmb	21 14 29.1	
	comp=Z,6.8nm,0.9s						
QSPA	**South Pole Qui**	**74.23**	**180**	P	**P**	**21 14 28.3**	**-0.8**
	comp=Z,4.4nm,0.8s,baz=27,slow=1.8,SNR=15						
KLR	**Kul'dur**	**74.46**	**333**	LR	LR	21 48 01.3	
	comp=Z,29nm,18.1s,baz=148,slow=37						
MA2	**Magadan**	**77.32**	**348**	LR	LR	21 43 12.5	
	comp=Z,39nm,19.6s,baz=130,slow=31						
KDAK	**Kodiak Island**	**78.56**	**18**	LR	LR	21 47 31.7	
	comp=Z,52nm,18.3s,baz=228,slow=34						
SEY	**Seymchan**	**80.17**	**350**	LR	LR	21 45 02.1	
	comp=Z,64nm,20.7s,baz=165,slow=32						
K15K	**Wolf Creek Mou**	**80.33**	**12**	P	**P**	**21 15 02.6**	**-0.5**
K15K				IAmb	IAmb	21 15 07.4	
	comp=Z,9.4nm,1.1s						
CMAR	**Chiang Mai Arr**	**80.72**	**292**	P	**P**	**21 15 05.2**	**-1.0**
	comp=Z,2.3nm,1.0s,baz=114,slow=3.5,SNR=8.2						
	comp=Z,2.3nm,1.0s						
L19K	**White Mountain**	**81.69**	**14**	P	**P**	**21 15 09.3**	**-1.1**
YBH	**Yreka Blue Hor**	**82.16**	**43**	LR	LR	21 43 03.3	
	comp=Z,47nm,20.6s,baz=296,slow=29						
J18K	**Innoko River**	**82.38**	**13**	P	**P**	**21 15 14.5**	**+0.6**
J18K				IAmb	IAmb	21 15 17.3	
	comp=Z,5.3nm,0.8s						
PFO	**Pinyon Flats O**	**82.97**	**52**	LR	LR	21 46 41.6	
	comp=Z,59nm,18.4s,baz=224,slow=32						
J19K	**Poorman**	**83.08**	**13**	P	**P**	**21 15 18.0**	**+0.5**
J19K				IAmb	IAmb	21 15 21.3	
	comp=Z,9.7nm,1.2s						
CAST	**Castle Rocks**	**83.42**	**15**	P	**P**	**21 15 19.2**	**-0.1**
CAST				IAmb	IAmb	21 15 21.6	
	comp=Z,7.1nm,0.9s						
KLU	**Klutina**	**83.56**	**18**	P	P	21 15 18.2	-1.9
J20K	**Nowinta River**	**83.57**	**14**	P	**P**	**21 15 20.2**	**+0.1**
J20K				IAmb	IAmb	21 15 23.5	
	comp=Z,7.0nm,1.1s						
NVAR	**Mina Array Bea**	**83.64**	**47**	P	**P**	**21 15 22.6**	**+1.2**
	comp=Z,1.8nm,0.9s,baz=228,slow=8.5,SNR=6.3						
NVAR				LR	LR	21 46 37.5	
	comp=Z,56nm,18.9s,baz=269,slow=31						
	comp=Z,1.8nm,0.9s						
F17K	**Baldwin Pennin**	**84.17**	**10**	P	**P**	**21 15 21.9**	**-1.2**
H19K	**Roundabout Mou**	**84.24**	**12**	P	**P**	**21 15 23.0**	**-0.4**
H19K				IAmb	IAmb	21 15 27.6	
	comp=Z,8.5nm,1.1s						
LPIG	**La Paz**	**84.43**	**63**	LR	LR	21 45 44.9	
	comp=Z,68nm,19.2s,baz=192,slow=30						
F19K	**Shaleruckik Mo**	**85.14**	**11**	P	**P**	**21 15 27.8**	**-0.2**
E18K	**Tukpahlearik C**	**85.17**	**10**	P	**P**	**21 15 27.3**	**-0.8**
E18K				IAmb	IAmb	21 15 35.6	
	comp=Z,5.3nm,0.9s						
E19K	**Redstone River**	**85.79**	**11**	P	P	21 15 29.5	-1.7
ILAR	**Eielson Array**	**85.85**	**16**	P	**P**	**21 15 30.8**	**-0.8**
	comp=Z,1.9nm,0.9s,baz=234,slow=5.4,SNR=13						
ILAR				LR	LR	21 48 56.5	
	comp=Z,52nm,19.1s,baz=232,slow=32						
	comp=Z,1.9nm,0.9s						
SONM	**Songino Array**	**86.88**	**322**	P	**P**	**21 15 38.3**	**+1.0**
	comp=Z,0.2nm,0.5s,baz=96,slow=5.8,SNR=1.6						
	comp=Z,0.2nm,0.5s						
DLBC	**Dease Lake**	**87.25**	**26**	LR	LR	21 48 13.6	
	comp=Z,59nm,18.6s,baz=209,slow=31						
DUG	**Dugway, Tooele**	**88.25**	**47**	P	P	21 15 40.7	-3.3
NEW	**Newport**	**88.68**	**39**	LR	LR	21 47 55.0	
	comp=Z,41nm,19.7s,baz=246,slow=30						
I30M	**Mount Dempster**	**89.23**	**19**	P	**P**	**21 15 47.0**	**-1.0**
I30M				IAmb	IAmb	21 16 23.9	
	comp=Z,8.0nm,1.5s						
PDAR	**Pinedale Array**	**91.46**	**46**	P	**P**	**21 16 01.2**	**+2.1**
	comp=Z,0.5nm,0.9s,baz=222,slow=9.3,SNR=1.8						
	comp=Z,0.5nm,0.9s						
TXAR	**Lajitas Array**	**91.72**	**60**	P	**P**	**21 16 02.3**	**+1.9**
	comp=Z,0.9nm,0.8s,baz=226,slow=4.6,SNR=7.1						
	comp=Z,0.9nm,0.8s						
TIXI	**Tiksi**	**92.24**	**347**	LR	LR	21 54 14.6	
	comp=Z,27nm,20.4s,baz=188,slow=34						
YKA	**Yellowknife Ar**	**95.88**	**26**	P	**P**	**21 16 19.1**	**+0.5**
	comp=Z,0.6nm,0.9s,baz=257,slow=5.3,SNR=6.1						
YKA				LR	LR	21 52 38.8	
	comp=Z,62nm,20.5s,baz=322,slow=31						
	comp=Z,0.6nm,0.9s						
GERES	**GERESS Array B**	**143.06**	**337**	PKP	**PKPdf**	**21 22 28.4**	**+2.0**
	comp=Z,0.1nm,0.4s,baz=28,slow=4.4,SNR=1.6						
KBA	**Koelnbreinsper**	**144.65**	**336**	*e*PKP	**PKPab**	**21 22 29.1**	**+1.1**
	comp=Z,1.3nm,0.7s						
WATA	**Walderalm**	**145.10**	**338**	*e*PKP	**PKPbc**	**21 22 30.0**	**+0.5**
	comp=Z,3.2nm,0.9s						
WTTA	**Wattenberg**	**145.14**	**338**	*e*PKP	**PKPbc**	**21 22 29.1**	**-0.6**
	comp=Z,4.9nm,1.1s						
ABTA	**Abfaltersbach**	**145.25**	**337**	*e*PKP	**PKPbc**	**21 22 30.0**	**+0.1**
	comp=Z,3.2nm,0.8s						
RETA	**Reutte**	**145.26**	**339**	*e*PKP	**PKPbc**	**21 22 29.4**	**-0.5**
	comp=Z,4.3nm,1.2s						
MOTA	**Moosalm**	**145.26**	**339**	*e*PKP	**PKPbc**	**21 22 30.9**	**+0.8**
	comp=Z,6.6nm,1.0s						
SQTA	**Sankt Quirin**	**145.33**	**338**	*e*PKP	**PKPbc**	**21 22 31.2**	**+1.0**
	comp=Z,3.2nm,0.7s						
FETA	**Feichten**	**145.67**	**339**	*e*PKP	**PKPdf**	**21 22 30.9**	**-0.3**
	comp=Z,9.6nm,1.8s						
DAVA	**Damuels**	**145.73**	**340**	*e*PKP	**PKPdf**	**21 22 31.2**	**0.0**
	comp=Z,13nm,1.3s						

*NEIC **27** 21:15:23.9±1.1, 19.36N±0.01×155.19W±0.01, h5km±1km, Error ellipse: s-maj=2.5km s-min=1.9km az=144.0*

HVO 27 21:15:23.5±0.8, 19.32N±0.01×155.19W±0.01, h3km±3km, ML2.8/18, ML2.8/42(NEIC), Error ellipse: s-maj=2.1km s-min=1.0km az=139.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PUH	**Pauahi**	**0.06**	**334**		Pg	21 15 25.4	+0.5
KNHH	**Kane Nui o Ham**	**0.06**	**17**		Pg	21 15 25.3	+0.4
STCH	**Steam Cracks**	**0.09**	**42**		Pg	21 15 25.7	+0.4
STCH				IAML		21 15 28.3	
	comp=E,3μm,0.6s						
NPOC	**North of Pu'u**	**0.10**	**45**		Pg	21 15 26.0	+0.4
KKO	**Keanakako`i**	**0.11**	**317**		Pg	21 15 26.1	+0.4
RIM	**Rim**	**0.11**	**313**		Pg	21 15 26.2	+0.4
BYL	**Byron's Ledge**	**0.11**	**323**		Pg	21 15 26.1	+0.3
BYL	**Byron's Ledge**	**0.11**	**323**	IAML		21 15 28.7	
	comp=N,3μm,1.0s						
BYL				IAML		21 15 29.0	
	comp=E,3μm,0.4s						
HLP	**Hilina Pali**	**0.12**	**258**		Pg	21 15 26.1	+0.3
HLP				IAML		21 15 29.1	
	comp=N,5μm,0.7s						
HLP				IAML		21 15 29.3	
	comp=E,3μm,0.2s						
HATHI	**Halema'uma'u T**	**0.12**	**326**		Pg	21 15 26.3	+0.3
HATHI	**Halema'uma'u T**	**0.12**	**326**	IAML		21 15 28.8	
	comp=E,3μm,0.6s						
HATHI				IAML		21 15 28.9	
	comp=N,3μm,1.1s						
SBLHI	**Steaming Bluff**	**0.13**	**325**		Pg	21 15 26.4	+0.3
JOKA	**Jonika Flow**	**0.21**	**57**		Pg	21 15 27.5	-0.1
JOKA				IAML		21 15 32.6	
	comp=N,932nm,1.3s						
MLH	**Mauna Loa**	**0.26**	**313**	Pg	Pg	21 15 28.5	0.0
MLH				IAML		21 15 37.5	
	comp=N,844nm,0.2s						
HMH	**Humu'ula Sheep**	**0.40**	**315**		Sg	21 15 37.6	+1.2
HMH	**Humu'ula Sheep**	**0.40**	**315**		Pg	21 15 31.2	0.0
HMH	**Humu'ula Sheep**	**0.40**	**315**	IAML		21 15 38.2	
	comp=E,2μm,0.3s						
HMH				IAML		21 15 38.4	
	comp=N,2μm,0.4s						
KHU	**Kahuku**	**0.41**	**260**		Pg	21 15 31.3	-0.2
KHU	**Kahuku**	**0.41**	**260**	IAML		21 15 42.8	
	comp=E,1μm,0.4s						
KHU				IAML		21 15 43.0	
	comp=N,1μm,0.8s						
HPO	**Honuapo**	**0.41**	**236**		Pg	21 15 31.3	-0.1
MWH	**Moku'aweowe**	**0.42**	**293**		Pg	21 15 31.8	+0.1
MLOA	**Mauna Loa Obse**	**0.42**	**301**		Sg	21 15 38.6	+1.3
MLOA	**Mauna Loa Obse**	**0.42**	**301**		Pg	21 15 31.8	0.0
MLOA	**Mauna Loa Obse**	**0.42**	**301**	IAML		21 15 38.8	
	comp=N,3μm,0.3s						
MLOA				IAML		21 15 39.0	
	comp=E,1μm,0.2s						
ALEP	**Alea Permanent**	**0.48**	**297**		Pg	21 15 32.4	-0.4
POHA	**Pohakuloa**	**0.54**	**323**		Sg	21 15 41.3	+0.2
POHA	**Pohakuloa**	**0.54**	**323**		Pg	21 15 33.6	-0.3
POHA				IAML		21 15 41.7	
	comp=E,2μm,0.5s						
POHA				IAML		21 15 41.7	
	comp=E,2μm,0.5s						
CPH	**Captain Cook**	**0.71**	**284**		Pg	21 15 36.1	-1.0
HUH	**Hualalai**	**0.71**	**301**		Pg	21 15 36.1	-1.1
HPAH	**Hawaii Prepara**	**0.85**	**326**	Pg	Pg	21 15 37.5	-2.4
HPAH				IAML		21 15 50.8	
	comp=E,338nm,0.4s						
HPAH				IAML		21 16 03.7	
	comp=N,224nm,1.0s						
MHA	**Mahukona**	**1.09**	**322**	Pg	Pg	21 15 41.2	-3.3

DJA 27 21:31:44.1±1.4, 2°S±11°×14°0E±°, h14km±10km, M3.9/4, mb3.9/1, mB6.1/1, MLv3.9/4, Mw(mB)5.8/1, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GENI	**Genyem**	**0.82**	**135**	P	Pn	21 32 01.1	-0.2
GENI				S	Sg	21 32 10.9	-0.1
JAY	**Jayapura**	**1.23**	**114**	P	Pn	21 32 06.8	-0.1
JAY				S	Sb	21 32 22.8	-0.2
MMPI	**Merauke**	**6.46**	**173**	P	Pn	21 33 20.3	+1.4
FAKI	**Fak Fak**	**7.38**	**263**	P	Pn	21 33 30.1	-1.4

*TAP **27** 21:31:52.2, 24.80N×122.45E, h17km, ML2.8, D*
*JMA **27** 21:31:52.8±0.2, 24.8N±1.0×122.4E±0.4, h10km±3km, MV2.1/11, NW OFF ISHIGAKIJIMA IS*

ISC 27 21:31:52.3±1.0, 24.79N±0.03×122.45E±0.02, h16km±8km, n66, σ0.9/44/123, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS2	**EOS2**	**0.42**	**208**	*e*P	**Pb**	**21 32 01.4**	**+0.2**
	baz=218						
EOS2				*e*S	**Sb**	**21 32 09.0**	**+1.6**
	baz=218						
TWB1	**Santiao Chiao**	**0.47**	**297**	P	**Pg**	**21 32 01.7**	**0.0**
	baz=296						
TWB1				S	**Sg**	**21 32 07.7**	**-0.4**
	baz=296						
EGS		**0.47**	**277**	*e*P	**Pg**	**21 32 01.9**	**+0.2**
	baz=275						
EGS				*e*S	**Sg**	**21 32 08.8**	**+0.6**
	baz=275						
EOS3	**EOS3**	**0.52**	**194**	*e*P	**Pb**	**21 32 03.4**	**+0.4**
	baz=201						
EOS3				*e*S	**Sn**	**21 32 12.3**	**-1.0**
	baz=201						
JYNG	**Yonagunijimaku**	**0.56**	**127**	P	**Pg**	**21 32 03.4**	**0.0**
JYNG				S	**Sg**	**21 32 10.9**	**-0.1**
TWC	**Suao**	**0.57**	**252**	*e*P	**Pg**	**21 32 03.6**	**-0.1**
	baz=250						
TWC				*e*S	**Sg**	**21 32 11.0**	**-0.4**
	baz=250						
ESAO	**Su ao**	**0.59**	**249**	*e*P	**Pg**	**21 32 03.8**	**-0.2**
	baz=248						
ESAO				*e*S	**Sg**	**21 32 11.3**	**-0.6**
	baz=248						
TIPB	**Shuangxi**	**0.59**	**288**	*e*P	**Pg**	**21 32 04.1**	**0.0**
	baz=287						
TIPB				*e*S	**Sb**	**21 32 12.8**	**+0.2**
	baz=287						
SXI1	**Grass Mountain**	**0.60**	**300**	P	**Pg**	**21 32 04.6**	**+0.4**
	baz=299						
SXI1				S	**Sb**	**21 32 13.2**	**+0.3**
	baz=299						
YOJ	**Yonaguni jima**	**0.61**	**123**	P	**Pg**	**21 32 04.2**	**-0.1**
YOJ	**Yonaguni jima**	**0.61**	**123**	P	**Pg**	**21 32 04.3**	**+0.1**
YOJ				S	**Sg**	**21 32 12.2**	**-0.2**
YOJ	**Yonaguni jima**	**0.61**	**123**	P	**Pg**	**21 32 04.3**	**+0.1**
	baz=123						
YOJ				S	**Sg**	**21 32 12.6**	**+0.2**
	baz=123						
NWF	**Wu-fen Shan**	**0.67**	**295**	*e*P	**Pg**	**21 32 05.7**	**+0.2**
	baz=294						
NWF				*e*S	**Sb**	**21 32 15.1**	**+0.4**
	baz=294						
WFSB	**Wu-fen Shan**	**0.67**	**295**	*e*S	**Sg**	**21 32 14.7**	**+0.4**
	baz=294						
EOS4	**EOS4**	**0.68**	**190**	*e*P	**Pb**	**21 32 06.1**	**+0.6**
	baz=190						
EOS4				*e*S	**Sn**	**21 32 16.4**	**-0.6**
	baz=190						
NDS	**Dongshan**	**0.69**	**257**	*e*P	**Pb**	**21 32 06.1**	**+0.2**
	baz=248						
NDS				*e*S	**Sb**	**21 32 15.4**	**+0.3**
	baz=248						
EWUT	**Wuta**	**0.70**	**241**	*e*P	**Pg**	**21 32 06.1**	**+0.1**
	baz=251						
EWUT				*e*S	**Sb**	**21 32 15.7**	**+0.1**
	baz=251						
TNOU	**National Taiwa**	**0.71**	**300**	*e*P	**Pg**	**21 32 06.2**	**0.0**
	baz=299						
TNOU				*e*S	**Sg**	**21 32 15.4**	**-0.2**
	baz=299						
TWE	**Neicheng**	**0.71**	**265**	*e*P	**Pg**	**21 32 06.2**	**0.0**
	baz=263						
TWE				*e*S	**Sg**	**21 32 15.5**	**-0.3**
	baz=263						
ENA	**Nanau**	**0.74**	**241**	*e*P	**Pg**	**21 32 06.8**	**+0.1**
	baz=240						
ENA				*e*S	**Sg**	**21 32 16.5**	**0.0**
	baz=240						
FUSB	**Fushanzhiwuyua**	**0.78**	**268**	*e*P	**Pg**	**21 32 07.6**	**0.0**
	baz=267						
FUSB				*e*S	**Sg**	**21 32 17.9**	**-0.1**
	baz=267						
EAHA	**Aohua**	**0.79**	**235**	*e*P	**Pg**	**21 32 07.6**	**-0.2**
	baz=245						
EAHA				*e*S	**Sg**	**21 32 17.8**	**-0.4**
	baz=245						
TWA	**Mucha**	**0.81**	**284**	*e*P	**Pg**	**21 32 07.8**	**-0.3**
	baz=283						
TWA				*e*S	**Sb**	**21 32 19.7**	**+1.0**
	baz=283						
ENTT	**Nioudou**	**0.82**	**260**	*e*P	**Pb**	**21 32 08.4**	**+0.3**
	baz=259						
ENTT				*e*S	**Sg**	**21 32 18.5**	**-0.5**
	baz=259						
NWLT	**Wulai**	**0.86**	**269**	*e*P	**Pg**	**21 32 09.1**	**0.0**
	baz=269						
NWLT				*e*S	**Sg**	**21 32 19.9**	**-0.5**
	baz=269						
YM01	**YM01**	**0.87**	**294**	*e*P	**Pg**	**21 32 08.9**	**-0.4**
	baz=293						
YM01				*e*S	**Sg**	**21 32 20.6**	**-0.2**
	baz=293						
LATG	**Datong**	**0.88**	**253**	P	**Pg**	**21 32 09.2**	**-0.2**
	baz=253						
LATG				*e*S	**Sg**	**21 32 20.9**	**0.0**
	baz=253						
TWY	**Chenhua**	**0.91**	**302**	*e*P	**Pb**	**21 32 09.4**	**-0.4**
	baz=301						
TWY				*e*S	**Sg**	**21 32 22.2**	**+0.3**
	baz=301						
YHNB	**Yeheng**	**0.98**	**263**	P	**Pg**	**21 32 11.5**	**+0.1**
YHNB	**Yeheng**	**0.98**	**263**	P	**Pb**	**21 32 11.0**	**0.0**
	baz=263						
YHNB				*e*S	**Sb**	**21 32 24.1**	**+0.2**
	baz=263						
NACB	**Ninganchiao**	**0.99**	**232**	P	**Pg**	**21 32 11.6**	**+0.1**
NACB	**Ninganchiao**	**0.99**	**232**	*e*P	**Pb**	**21 32 10.8**	**-0.3**
	baz=241						
NACB				*e*S	**Sb**	**21 32 23.9**	**-0.1**
	baz=241						
NSK	**Sanguang**	**1.00**	**264**	*e*P	**Pb**	**21 32 11.4**	**+0.1**
	baz=263						
NSK				*e*S	**Sb**	**21 32 23.5**	**-0.7**
	baz=263						
NNSB	**Datong**	**1.04**	**250**	*e*P	**Pb**	**21 32 11.6**	**-0.4**
	baz=249						
NNSB				*e*S	**Sg**	**21 32 25.9**	**-0.1**
	baz=249						
NNS	**Nan Shan**	**1.04**	**251**	*e*P	**Pg**	**21 32 12.4**	**0.0**
	baz=250						
NNS				*e*S	**Sb**	**21 32 25.8**	**+0.3**
	baz=250						
TWD	**Chiawan**	**1.05**	**228**	*e*P	**Pb**	**21 32 12.0**	**-0.1**
	baz=235						
TWD				*e*S	**Sb**	**21 32 25.9**	**+0.2**
	baz=235						
ETM	**Tongmen**	**1.20**	**227**	*e*P	**Pn**	**21 32 13.9**	**-0.5**
	baz=209						
ETM				*e*S	**Sb**	**21 32 30.1**	**+0.2**
	baz=209						
LXIB	**Xiulin Townshi**	**1.22**	**231**	*e*P	**Pn**	**21 32 15.1**	**+0.3**
	baz=231						
LXIB				*e*S	**Sg**	**21 32 32.3**	**+0.6**
	baz=231						
NFF	**Wufeng Townshi**	**1.22**	**263**	*e*P	**Pn**	**21 32 14.7**	**-0.1**
	baz=280						
NFF				*e*S	**Sg**	**21 32 32.4**	**+0.6**
	baz=280						
FUSS	**Fushou**	**1.22**	**244**	*e*P	**Pn**	**21 32 15.2**	**+0.2**
	baz=244						
FUSS				*e*S	**Sb**	**21 32 31.1**	**+0.2**
	baz=244						
IRIF	**Iriomote-Funau**	**1.25**	**111**	*e*P	**Pg**	**21 32 16.3**	**-0.2**
IRIF				*e*S	**Sn**	**21 32 32.1**	**+0.4**
WHF	**Hehuan Shan**	**1.26**	**239**	*e*P	**Pb**	**21 32 16.3**	**+0.4**
	baz=250						
WHF				*e*S	**Sb**	**21 32 31.7**	**-0.3**
	baz=250						
TWT	**Tachien**	**1.28**	**246**	*e*P	**Pg**	**21 32 17.0**	**0.0**
	baz=254						
TWT				*e*S	**Sg**	**21 32 33.4**	**-0.3**
	baz=254						
SHUL	**Shoufeng**	**1.28**	**219**	*e*P	**Pn**	**21 32 15.7**	**0.0**
	baz=202						
SHUL				*e*S	**Sb**	**21 32 32.5**	**0.0**
	baz=202						
TDCB	**Techi**	**1.29**	**246**	*e*P	**Pb**	**21 32 16.7**	**+0.4**
	baz=245						
TDCB				*e*S	**Sb**	**21 32 33.2**	**+0.4**
	baz=245						
LIOB	**Emei**	**1.31**	**264**	*e*P	**Pn**	**21 32 16.2**	**+0.2**
	baz=280						
LIOB				*e*S	**Sg**	**21 32 35.0**	**+0.2**
	baz=280						
NSTT	**Nanjuang**	**1.33**	**263**	*e*P	**Pb**	**21 32 17.1**	**+0.3**
	baz=279						
NSTT				*e*S	**Sg**	**21 32 34.7**	**-0.5**
	baz=279						
CHGB	**Renai**	**1.37**	**238**	*e*P	**Pg**	**21 32 18.8**	**0.0**
	baz=238						
CHGB				*e*S	**Sb**	**21 32 35.3**	**+0.1**
	baz=238						
OWD	**Renai**	**1.43**	**235**	*e*P	**Pb**	**21 32 18.6**	**-0.1**
	baz=220						
OWD				*e*S	**Sg**	**21 32 38.0**	**-0.5**
	baz=220						
HATJ	**Hateruma jima**	**1.44**	**120**	S	**Sn**	**21 32 35.1**	**-1.1**
WARBT	**Fenglin Townsh**	**1.44**	**222**	*e*P	**Pb**	**21 32 18.7**	**-0.2**
	baz=223						
WARBT	

	baz=214								
CHN5	**Tsauling**	**2.01**	**234**	*e*P		**Pb**	**21 32 28.1**	**-0.5**
	baz=234								
CHN5				*e*S		**Sb**	**21 32 55.0**	**+1.7**
	baz=234								

NEIC 27 21:48:26.5±0.5, 19°.45N±0°.01×155°.346W±0°.006, h3km±9km, ML2.8/42, Error ellipse: s-maj=1.7km s-min=0.9km az=187.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.06**	**117**		Pg	21 48 27.9	+0.1
MLH	**Mauna Loa**	**0.06**	**321**	Pg	Pg	21 48 27.8	-0.1
MLH				IAML		21 48 29.3	
	comp=E,7μm,0.2s						
RSD	**Rainshed**	**0.07**	**76**	Pg	Pg	21 48 27.8	-0.2
HATHI	**Halema'uma'u T**	**0.08**	**106**	Pg	Pg	21 48 28.2	0.0
BYL	**Byron's Ledge**	**0.09**	**113**		Pg	21 48 28.6	+0.3
BYL				IAML		21 48 30.8	
	comp=N,7μm,0.6s						
PUH	**Pauahi**	**0.14**	**120**		Pg	21 48 29.7	+0.3
PUH				IAML		21 48 34.3	
	comp=E,2μm,0.5s						
HLP	**Hilina Pali**	**0.15**	**167**		Pg	21 48 29.8	+0.3
HLP				IAML		21 48 33.2	
	comp=E,4μm,0.2s						
HLP				IAML		21 48 33.2	
	comp=N,4μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.18**	**112**		Pg	21 48 30.0	0.0
HMH	**Humu'ula Sheep**	**0.20**	**320**		Pg	21 48 30.6	+0.1
HMH				IAML		21 48 37.4	
	comp=E,2μm,0.3s						
HMH				IAML		21 48 37.5	
	comp=N,4μm,0.5s						
STCH	**Steam Cracks**	**0.22**	**106**	Pg	Pg	21 48 30.7	-0.1
STCH				IAML		21 48 38.0	
	comp=E,1μm,0.4s						
MLOA	**Mauna Loa Obse**	**0.23**	**292**		Pg	21 48 30.9	-0.2
MLOA				IAML		21 48 38.7	
	comp=E,2μm,0.5s						
MLOA				IAML		21 48 39.1	
	comp=N,2μm,0.5s						
MWH	**Moku'aweowe**	**0.24**	**279**		Pg	21 48 31.3	+0.1
MWH				IAML		21 48 39.3	
	comp=E,2μm,0.4s						
MWH				IAML		21 48 39.0	
	comp=N,2μm,0.6s						
JOKA	**Jonika Flow**	**0.32**	**92**		Pg	21 48 32.6	-0.1
JOKA				IAML		21 48 41.1	
	comp=N,1μm,0.4s						
KHU	**Kahuku**	**0.32**	**232**		Pg	21 48 32.3	-0.5
KHU				IAML		21 48 41.2	
	comp=E,957nm,0.5s						
POHA	**Pohakuloa**	**0.36**	**330**	Pg	Pg	21 48 33.6	+0.2
POHA	**Pohakuloa**	**0.36**	**330**	IAML		21 48 44.2	
	comp=E,1μm,0.5s						
POHA				IAML		21 48 45.4	
	comp=E,848nm,0.6s						
PAH	**Pahoa**	**0.38**	**83**		Pg	21 48 33.5	-0.4
HUH	**Hualalai**	**0.52**	**297**		Pg	21 48 36.5	0.0
HPAH	**Hawaii Prepara**	**0.67**	**330**	Pg	Pg	21 48 39.0	-0.4
MHA	**Mahukona**	**0.91**	**325**	Pg	Pg	21 48 42.2	-1.7

RSPR 27 21:49:06.8, 18°.97N×66°.45W, h59km±5km
NEIC 27 21:49:05.7±0.9, 19°.12N±0°.03×66°.6W±0°.1, h36km±57km, ML2.0/8, Md2.1/2(RSPR), 1C-2D, Error ellipse: s-maj=14.5km s-min=3.0km az=102.0, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.64**	**176**	*e*P	Pn	21 49 18.4	+0.1
EMPR	**Esperanza - Ma**	**0.64**	**176**	*e*S	Sn	21 49 26.9	-0.3
EMPR	**Esperanza - Ma**	**0.64**	**176**		Pn	21 49 18.4	+0.1
EMPR	**Esperanza - Ma**	**0.64**	**176**	IAML		21 49 25.5	
	comp=N,80nm,1.1s						
EMPR	**Esperanza - Ma**	**0.64**	**176**		Sn	21 49 26.9	-0.3
AOPR	**Arecibo Observ**	**0.78**	**192**	*e*P	Pn	21 49 19.8	-0.4
AOPR	**Arecibo Observ**	**0.78**	**192**	*e*S	Sn	21 49 30.0	-0.8
AOPR	**Arecibo Observ**	**0.78**	**192**		Pn	21 49 19.8	-0.4
AOPR					Sn	21 49 30.0	-0.8
AOPR	**Arecibo Observ**	**0.78**	**192**	IAML		21 49 31.2	
	comp=N,48nm,0.3s						
AOPR				IAML		21 49 32.6	
	comp=E,56nm,0.2s						
UUPR	**Utuado, UPR, P**	**0.87**	**189**	Pn	Pn	21 49 22.8	+1.4
UUPR				IAML		21 49 35.5	
	comp=N,38nm,0.3s						
CELP	**Cerrillos**	**1.04**	**180**	Pn	Pn	21 49 23.3	-0.4
LSP	**Las Mesas**	**1.05**	**207**	*e*P	Pn	21 49 24.1	+0.2
LSP	**Las Mesas**	**1.05**	**207**	*e*S	Sn	21 49 37.5	+0.2
LSP	**Las Mesas**	**1.05**	**207**		Pn	21 49 24.1	+0.2
LSP					Sn	21 49 37.5	+0.2

RSPR 27 21:49:50.2, 18°.92N×66°.51W, h56km±3km, 3C-1D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMPR	**Esperanza - Ma**	**0.44**	**183**	*e*P	Pn	21 50 00.5	-0.7
EMPR	**Esperanza - Ma**	**0.44**	**183**	*e*S	Sn	21 50 08.8	-0.3
AOPR	**Arecibo Observ**	**0.61**	**202**	*e*P	Pn	21 50 02.6	-0.6
AOPR	**Arecibo Observ**	**0.61**	**202**	*e*S	Sn	21 50 10.2	-2.4
CELP	**Cerrillos**	**0.84**	**185**	*e*P	Pn	21 50 05.6	-0.4
CELP	**Cerrillos**	**0.84**	**185**	*e*S	Sn	21 50 16.9	-0.7
LSP	**Las Mesas**	**0.92**	**217**	*e*P	Pn	21 50 06.1	-1.0
LSP	**Las Mesas**	**0.92**	**217**	*e*S	Sn	21 50 18.5	-1.0

IDC 27 22:00:43.4±1.8, 53°.54N×163°.89W, h0km, mb3.6/9, mbtmp3.5/11, ML3.2/2, MS3.0/1, Error ellipse: s-maj=41.9km s-min=23.1km az=174.0
AEIC 27 22:00:46.4±1.1, 53°.39N±0°.02×163°.69W±0°.07, h26km±6km, Error ellipse: s-maj=6.0km s-min=2.4km az=80.0
NEIC 27 22:00:47.9±1.4, 53°.42N±0°.06×163°.74W±0°.09, h37km±15km, mb3.6/16, ML3.7/10, ML3.4(AEIC), Error ellipse: s-maj=10.1km s-min=6.7km az=149.0
ISC 27 22:00:46.2±2.0, 53°.41N±0°.07×163°.70W±0°.04, h23km±13km, n78, σ1°02/75, mb3.5/9, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.19**	**334**		**Pn**	**22 01 07.0**	**-0.5**
WESE					**Sn**	**22 01 22.5**	**-0.5**
WECS	**Westdahl Cape**	**1.29**	**331**		**Pb**	**22 01 09.4**	**-0.4**
SSLS	**Shishaldin Sou**	**1.32**	**352**		**Pn**	**22 01 09.1**	**-0.1**
SSLS					**Sb**	**22 01 27.1**	**+0.4**
ISLZ	**Isanotski Laza**	**1.32**	**360**		**Pn**	**22 01 08.9**	**-0.3**
ISLZ					**Sb**	**22 01 26.8**	**0.0**
WEBT	**Westdahl Beart**	**1.34**	**333**		**Pn**	**22 01 09.7**	**+0.2**
WEBT					**Sb**	**22 01 28.6**	**+1.4**
AKSA	**Akutan Strait**	**1.39**	**302**		**Pn**	**22 01 10.3**	**+0.2**
AKSA	**Akutan Strait**	**1.39**	**302**		**Pn**	**22 01 10.1**	**0.0**
AKSA					**Sn**	**22 01 27.8**	**0.0**
ISNN	**Isanotski Nort**	**1.43**	**358**		**Pn**	**22 01 11.2**	**+0.5**
ISNN					**Sb**	**22 01 30.5**	**+0.7**
AHB	**Akutan Harbor**	**1.44**	**300**		**Pn**	**22 01 11.2**	**+0.3**
FALS	**False Pass**	**1.46**	**6**		**Pn**	**22 01 11.2**	**+0.1**
FALS	**False Pass**	**1.46**	**6**	P	**Pn**	**22 01 11.5**	**+0.4**
	baz=186						
AKBBA	**Akutan Broad B**	**1.49**	**298**		**Pn**	**22 01 10.6**	**-1.0**
ZRO	**Akutan Zero**	**1.52**	**298**		**Pn**	**22 01 12.0**	**+0.1**
LVA	**Lava Point**	**1.58**	**299**		**Pn**	**22 01 13.0**	**+0.3**
UNV	**Unalaska Valle**	**1.73**	**286**		**Pn**	**22 01 14.7**	**-0.1**
UNV					**Sn**	**22 01 36.3**	**+0.2**
UNV	**Unalaska Valle**	**1.73**	**286**	P	**Pn**	**22 01 14.6**	**-0.1**
	baz=104						
UNV				S	**Sn**	**22 01 36.3**	**+0.2**
	baz=104						
MNAT	**Makushin Natee**	**1.84**	**286**		**Pn**	**22 01 16.4**	**+0.1**
MTBL	**Makushin Table**	**1.86**	**289**		**Pn**	**22 01 17.2**	**+0.5**
MSW	**Makushin Switc**	**1.90**	**287**		**Pn**	**22 01 17.5**	**+0.2**
MAPS	**Pakushin South**	**1.97**	**283**		**Pn**	**22 01 18.8**	**+0.7**
MAPS					**Sb**	**22 01 44.0**	**-1.5**
HAG	**Hague Volcano**	**2.18**	**28**		**Pn**	**22 01 21.8**	**+0.7**
PS1A	**Pavlof South-1**	**2.32**	**29**		**Pn**	**22 01 23.9**	**+0.9**
S12K	**Black Hills**	**2.49**	**22**		**Pn**	**22 01 26.7**	**+1.4**
S12K	**Black Hills**	**2.49**	**22**	IAML		22 02 03.8	
	comp=N,305nm,0.4s						
S12K				IAML		22 02 11.3	
	comp=E,362nm,0.8s						
S12K	**Black Hills**	**2.49**	**22**	P	**Pn**	**22 01 26.7**	**+1.4**
	baz=203						
OKTU	**Okmok Mt. Tuli**	**2.60**	**271**		**Pn**	**22 01 27.6**	**+0.7**
OKRE	**Okmok R'deer P**	**2.67**	**274**		**Pn**	**22 01 28.7**	**+0.9**
SDPT	**Sand Point**	**2.71**	**43**		**Pn**	**22 01 28.8**	**+0.5**
SDPT				IAML		22 02 14.1	
	comp=N,249nm,1.6s						
SDPT				IAML		22 02 21.9	
	comp=E,279nm,1.1s						
SDPT	**Sand Point**	**2.71**	**43**	P	**Pn**	**22 01 28.7**	**+0.5**
	baz=225						
CNBA	**Chernabura Isl**	**2.80**	**58**		**Pn**	**22 01 29.7**	**+0.2**
NIKH	**Nikolski High**	**3.13**	**264**		**Pn**	**22 01 34.3**	**+0.2**
NIKH	**Nikolski High**	**3.13**	**264**	P	**Pn**	**22 01 34.6**	**+0.5**
	baz=80						
CLCO	**Concord Point,**	**3.69**	**263**		**Pn**	**22 01 42.4**	**+0.7**
S14K	**Fog Glacier**	**3.75**	**38**	P	**Pn**	**22 01 44.2**	**+1.6**
	baz=221						
VNFG	**Fog Glacier, M**	**3.75**	**38**		**Pn**	**22 01 44.2**	**+1.6**
VNFG	**Fog Glacier, M**	**3.75**	**38**	IAML		22 03 12.9	
	comp=E,206nm,1.3s						
CLES	**Cleveland East**	**3.78**	**264**		**Pn**	**22 01 44.1**	**+1.1**
CLES	**Cleveland East**	**3.78**	**264**	IAML		22 02 12.9	
	comp=E,180nm,2.2s						
VNHG	**Veniaminof 1**	**3.85**	**41**		**Pn**	**22 01 45.3**	**+1.3**
KDAK	**Kodiak Island**	**7.67**	**51**	Pn	**Pn**	**22 02 36.9**	**+0.6**
	comp=E,0.8nm,0.3s,baz=171,slow=4.8,SNR=9.1						
KDAK				Sn	**Sn**	**22 03 56.8**	**-5.6**
	comp=E,0.4nm,0.3s,baz=165,slow=20,SNR=1.5						
	comp=E,8.6nm,0.9s						
VRDI	**Verde Repeater**	**13.40**	**46**	Pn	**Pn**	**22 03 55.3**	**+0.3**
ILAR	**Eielson Array**	**14.23**	**30**	Pn	**Pn**	**22 04 04.0**	**-2.0**
	comp=E,0.1nm,0.3s,baz=227,slow=12,SNR=5.9						
	comp=E,0.2nm,0.5s						
G23K	**Bananza Creek**	**14.93**	**21**	Pn	**Pn**	**22 04 15.6**	**+0.1**
I26K	**Coal Creek Min**	**15.76**	**33**	Pn	**Pn**	**22 04 25.2**	**-1.3**
I26K				IAmb	IAmb	22 04 45.1	
	comp=Z,6.7nm,1.4s						
E24K	**Your Creek**	**16.40**	**20**	Pn	**Pn**	**22 04 34.9**	**+0.3**
E24K				IAmb	IAmb	22 04 45.4	
	comp=Z,5.0nm,1.1s						
DAWY	**Dawson**	**16.40**	**40**	P	**P**	**22 04 38.0**	**+0.6**
L29M	**L29M**	**16.47**	**44**	P	**P**	**22 04 37.9**	**-0.2**
TOLK	**Toolik Lake Re**	**16.66**	**18**	Pn	**Pn**	**22 04 38.5**	**+0.5**
B21K	**Ikpikpuk River**	**16.80**	**11**		**P**	**22 04 41.0**	**-0.6**
M30M	**Minto, Yukon**	**16.83**	**46**		**P**	**22 04 43.5**	**+1.4**
M30M				IAmb	IAmb	22 05 00.8	
	comp=Z,6.3nm,1.2s						
I28M	**Miner Creek**	**16.93**	**35**		**P**	**22 04 42.3**	**-0.9**
I28M				IAmb	IAmb	22 04 56.0	
	comp=Z,4.7nm,1.2s						
K29M	**Barlow Dome**	**17.03**	**42**		**P**	**22 04 44.7**	**+0.3**
K29M				IAmb	IAmb	22 04 50.4	
	comp=Z,5.8nm,1.2s						
C23K	**Itkillik River**	**17.54**	**15**		**Pn**	**22 04 48.8**	**-0.1**
B22K	**Teshekpuk Lake**	**17.62**	**12**		**Pn**	**22 04 49.6**	**-0.1**
J30M	**Hart River**	**17.82**	**40**		**P**	**22 04 53.4**	**+0.3**
J30M				IAmb	IAmb	22 04 54.5	
	comp=Z,6.3nm,1.5s						
H29M	**Whitestone**	**17.90**	**34**		**Pn**	**22 04 52.7**	**-0.6**
H29M				IAmb	IAmb	22 05 15.9	
	comp=Z,7.5nm,1.4s						
I30M	**Mount Dempster**	**18.09**	**39**		**P**	**22 04 56.7**	**+0.6**
G29M	**Pine Creek**	**18.40**	**33**	P	**P**	**22 04 58.7**	**-0.7**
G29M				IAmb	IAmb	22 05 27.4	
	comp=Z,6.2nm,1.3s						
E29M	**Blow River**	**19.32**	**29**	P	**P**	**22 05 08.5**	**-0.9**
PETK	**Petropavlovsk-**	**22.91**	**285**	LR	LR	22 14 54.8	
	comp=Z,35nm,19.6s,baz=104,slow=37						
YKA	**Yellowknife Ar**	**26.95**	**51**	P	**P**	**22 06 26.1**	**+0.7**
	comp=Z,0.4nm,0.7s,baz=273,slow=8.1,SNR=5.5						
	comp=Z,0.4nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**40.53**	**225**	T	T	22 52 04.4	
	baz=26,slow=76,SNR=30						
H11N3	**WAKE ISLAND Hy**	**40.53**	**225**	T	T	22 52 08.4	
	baz=26,slow=76,SNR=27						
H11N1	**WAKE ISLAND Hy**	**40.54**	**225**	T	T	22 52 08.1	
	baz=26,slow=76,SNR=30						
H11S1	**WAKE ISLAND Hy**	**41.70**	**225**	T	T	22 53 36.0	
	baz=26,slow=76,SNR=40						
H11S2	**WAKE ISLAND Hy**	**41.71**	**225**	T	T	22 53 37.3	
	baz=26,slow=76,SNR=41						
H11S3	**WAKE ISLAND Hy**	**41.71**	**225**	T	T	22 53 42.4	
	baz=26,slow=76,SNR=35						
TXAR	**Lajitas Array**	**49.34**	**94**	P	**P**	**22 09 35.2**	**+1.5**
	comp=Z,0.1nm,0.4s,baz=303,slow=5.9,SNR=4.4						
	comp=Z,0.1nm,0.4s						
SONM	**Songino Array**	**53.66**	**303**	P	**P**	**22 10 06.0**	**+0.2**
	comp=Z,0.2nm,0.3s,baz=40,slow=7.9,SNR=2.0						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**64.77**	**327**	P	**P**	**22 11 23.0**	**+0.6**
	comp=Z,1.0nm,0.7s,baz=35,slow=7.8,SNR=2.0						
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**65.23**	**355**	P	**P**	**22 11 24.2**	**-1.0**
	comp=Z,0.4nm,0.7s,baz=39,slow=9.1,SNR=0.8						
	comp=Z,0.4nm,0.7s						
MKAR	**Makanchi Array**	**65.50**	**316**	P	**P**	**22 11 26.2**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=33,slow=5.8,SNR=1.3						
	comp=Z,0.2nm,0.5s						
HFS	**Hagfors**	**66.79**	**1**	P	**P**	**22 11 35.3**	**+0.1**
	comp=Z,1.5nm,0.8s,baz=96,slow=4.5,SNR=6.0						
	comp=Z,1.5nm,0.8s						
AKASG	**Malin Array Be**	**75.69**	**352**	P	**P**	**22 12 28.6**	**-0.6**
	comp=Z,0.2nm,0.4s,baz=9.3,slow=4.6,SNR=2.2						
	comp=Z,0.2nm,0.4s						
BRTR	**Keskin Array B**	**86.03**	**347**	P	**P**	**22 13 25.8**	**+1.0**
	comp=Z,0.4nm,0.8s,baz=47,slow=4.2,SNR=2.0						
	comp=Z,0.4nm,0.8s						
H03N2	**Juan Fernandez**	**113.18**	**115**	T	T	00 23 10.9	
	baz=324						
H03N1	**Juan Fernandez**	**113.20**	**115**	T	T	00 23 01.8	
	baz=324						
H03N3	**Juan Fernandez**	**113.20**	**115**	T	T	00 23 09.2	
	baz=324						

NEIC 27 22:05:57.3±0.7, 19°.32N±0°.02×155°.12W±0°.01, h9km±3km, Error ellipse: s-maj=2.7km s-min=0.7km az=145.0
HVO 27 22:05:57.5±0.8, 19°.34N±0°.02×155°.11W±0°.01, h6km±3km, ML2.8/13, ML2.7/32(NEIC), Error ellipse: s-maj=2.9km s-min=1.2km az=159.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCUZ	**Jacuzzi**	**0.05**	**12**		Pg	22 05 59.6	+0.6
STCH	**Steam Cracks**	**0.05**	**347**		Pg	22 05 59.2	+0.2
STCH				IAML		22 06 00.7	
	comp=N,9μm,0.4s						
STCH				IAML		22 06 00.8	
	comp=E,5μm,0.2s						
NPOC	**North of Pu'u**	**0.06**	**3**		Pg	22 05 59.3	+0.2
KNHH	**Kane Nui o Ham**	**0.07**	**309**		Pg	22 05 59.3	+0.1
PUH	**Pauahi**	**0.10**	**291**		Pg	22 05 59.8	0.0
PUH				IAML		22 06 02.7	
	comp=N,2μm,0.7s						
JOKA	**Jonika Flow**	**0.14**	**46**		Pg	22 06 00.5	+0.1
RSD	**Rainshed**	**0.20**	**309**		Pg	22 06 01.6	+0.1
RSD	**Rainshed**	**0.20**	**309**	IAML		22 06 06.9	
	comp=N,867nm,0.6s						
RSD				IAML		22 06 07.3	
	comp=E,694nm,0.1s						
PAH	**Pahoa**	**0.22**	**45**		Sg	22 06 06.8	+2.0
HTC	**Hot Caves**	**0.29**	**250**		Pg	22 06 03.4	+0.3
MLH	**Mauna Loa**	**0.30**	**301**		Pg	22 06 03.4	-0.1
MLH				IAML		22 06 13.8	
	comp=N,728nm,0.3s						
HMH	**Humu'ula Sheep**	**0.44**	**307**		Sg	22 06 12.9	+1.1
HMH	**Humu'ula Sheep**	**0.44**	**307**		Pg	22 06 05.9	-0.1
HMH	**Humu'ula Sheep**	**0.44**	**307**	IAML		22 06 13.4	
	comp=N,3μm,0.4s						
HMH				IAML		22 06 13.4	
	comp=E,2μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.48**	**295**		Pg	22 06 06.5	-0.3
MLOA				IAML		22 06 14.4	
	comp=N,672nm,0.5s						
MWH	**Moku'aweowe**	**0.48**	**288**		Pg	22 06 06.7	-0.1
MWH				IAML		22 06 20.9	
	comp=N,697nm,0.7s						
MWH				IAML		22 06 21.9	
	comp=E,1μm,1.0s						
KHU	**Kahuku**	**0.48**	**259**		Pg	22 06 06.3	-0.5
KHU	**Kahuku**	**0.48**	**259**	IAML		22 06 15.2	
	comp=N,414nm,0.7s						
KHU				IAML		22 06 21.4	
	comp=E,362nm,0.7s						
ALEP	**Alea Permanent**	**0.54**	**292**		Pg	22 06 07.2	-0.7
ALEP					Sg	22 06 15.5	+0.4
POHA	**Pohakuloa**	**0.58**	**317**		Pg	22 06 07.8	-0.8
POHA				IAML		22 06 17.4	
	comp=E,841nm,0.2s						
HUH	**Hualalai**	**0.77**	**297**		Pg	22 06 12.1	-0.2
CPH	**Captain Cook**	**0.78**	**281**		Pg	22 06 11.6	-0.7

IDC 27 22:08:31.2±6.5, 31°.20S×179°.78W, h0km, mb3.6/2, mbtmp3.6/2, Error ellipse: s-maj=252.9km s-min=63.7km az=157.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.55**	**269**	P	P	22 16 20.2	-0.5
	0.3nm,0.5s,baz=110,slow=8.0,SNR=4.7						
	0.3nm,0.5s						
WRA	**Warramunga Arr**	**42.61**	**274**	P	P	22 16 29.5	+0.1
	0.6nm,0.4s,baz=114,slow=7.9,SNR=19						
	0.6nm,0.4s						
FINES	**FINESS Array B**	**145.35**	**338**	PKPbc	PKPbc	22 28 09.2	-0.9
	0.7nm,0.7s,baz=52,slow=5.4,SNR=1.5						

IDC 27 22:28:33.6±7.7, 21°.12S×179°.66E, h0km, mb3.9/2, mbtmp3.9/2, Error ellipse: s-maj=325.4km s-min=72.7km az=148.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.25**	**258**	P	P	22 36 27.8	-1.2
	0.4nm,0.4s,baz=85,slow=6.8,SNR=5.4						
	0.4nm,0.4s						
WRA	**Warramunga Arr**	**42.35**	**263**	P	P	22 36 30.5	+0.7
	1.3nm,0.3s,baz=97,slow=8.3,SNR=25						
	1.3nm,0.3s						
BRTR	**Keskin Array B**	**145.60**	**310**	PKPbc	PKPdf	22 48 13.7	-0.7
	0.4nm,0.7s,baz=72,slow=4.7,SNR=2.0						

NEIC 27 22:39:53.0±1.1, 19°.419N±0°.010×155°.296W±0°.008, h1km±3km, Error ellipse: s-maj=1.4km s-min=0.9km az=193.0
HVO 27 22:39:52.2±1.2, 19°.406N±0°.009×155°.288W±0°.008, h1km±3km, ML2.8/44, ML2.6/46(NEIC), Error ellipse: s-maj=1.4km s-min=1.0km az=193.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**15**		Pg	22 39 53.9	+1.2
RIM	**Rim**	**0.02**	**128**		Pg	22 39 54.0	+1.3
UWE	**Uwekahuna**	**0.02**	**342**		Pg	22 39 53.0	+0.3
UWB	**Uwekahuna B**	**0.02**	**25**		Pg	22 39 54.0	+1.2
KKO	**Keanakako`i**	**0.02**	**111**		Pg	22 39 54.1	+1.3
BYL	**Byron's Ledge**	**0.03**	**76**		Pg	22 39 53.3	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**41**		Pg	22 39 54.5	+1.7
HATHI	**Halema'uma'u T**	**0.03**	**55**		Pg	22 39 53.8	+1.0
RSD	**Rainshed**	**0.06**	**9**		Pg	22 39 54.1	+0.7
PUH	**Pauahi**	**0.07**	**115**		Pg	22 39 54.7	+1.0
PUH	**Pauahi**	**0.07**	**115**	IAML		22 39 56.0	
	comp=E,4μm,0.8s						
PUH				IAML		22 39 56.0	
	comp=N,3μm,0.3s						
HLP	**Hilina Pali**	**0.11**	**190**		Pg	22 39 55.5	+1.1
HLP	**Hilina Pali**	**0.11**	**190**		Sg	22 39 58.3	+2.5
HLP	**Hilina Pali**	**0.11**	**190**	IAML		22 39 57.9	
	comp=E,4μm,0.9s						
HLP				IAML		22 39 58.1	
	comp=N,3μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.12**	**103**		Pg	22 39 54.9	+0.5
MLH	**Mauna Loa**	**0.13**	**313**		Pg	22 39 55.9	+1.2
MLH	**Mauna Loa**	**0.13**	**313**	IAML		22 39 58.7	
	comp=E,3μm,0.7s						
MLH				IAML		22 39 58.7	
	comp=N,3μm,0.3s						
STCH	**Steam Cracks**	**0.15**	**97**		Pg	22 39 56.2	+1.0
STCH	**Steam Cracks**	**0.15**	**97**	IAML		22 40 00.0	
	comp=E,2μm,0.9s						
STCH				IAML		22 40 00.6	
	comp=N,2μm,0.7s						
NPOC	**North of Pu'u**	**0.17**	**94**		Pg	22 39 56.4	+0.9
JCUZ	**Jacuzzi**	**0.18**	**97**		Pg	22 39 56.7	+1.0
HMH	**Humu'ula Sheep**	**0.27**	**317**		Pg	22 39 57.7	+0.3
HMH				IAML		22 40 04.3	
	comp=E,1μm,0.6s						
HMH				IAML		22 40 06.4	
	comp=N,976nm,0.7s						
JOKA	**Jonika Flow**	**0.27**	**84**		Pg	22 39 58.0	+0.6
JOKA				IAML		22 40 05.7	
	comp=E,606nm,0.7s						
JOKA				IAML		22 40 06.3	
	comp=N,1μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**		Pg	22 39 58.5	+0.5
MLOA				IAML		22 40 05.9	
	comp=E,1μm,0.8s						
MLOA				IAML		22 40 08.3	
	comp=N,1μm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**285**		Pg	22 39 58.9	+0.9
KHU	**Kahuku**	**0.35**	**243**		Pg	22 39 59.5	+0.6
KHU				IAML		22 40 07.9	
	comp=N,663nm,0.7s						
KHU				IAML		22 40 10.1	
	comp=E,467nm,0.7s						
ALEP	**Alea Permanent**	**0.36**	**292**		Pg	22 39 59.5	+0.3
ALEP					Sg	22 40 05.6	+1.7
POHA	**Pohakuloa**	**0.42**	**327**		Pg	22 40 01.1	+0.8
HUH	**Hualalai**	**0.59**	**298**		Pg	22 40 03.6	+0.1
CPH	**Captain Cook**	**0.60**	**278**		Pg	22 40 03.8	+0.1
HPAH	**Hawaii Prepara**	**0.73**	**328**		Pg	22 40 06.0	-0.3
HPAH				IAML		22 40 31.5	
	comp=N,316nm,1.0s						

IDC 27 22:47:59.0±2.6, 28°.42N×142°.04E, h0km, mb3.8/9, mbtmp3.8/11, ML3.3/2, Error ellipse: s-maj=108.1km s-min=19.8km az=74.0
*NEIC 27 22:48:04.3±1

	comp=Z,1.8nm,0.6s,baz=90,slow=7.1,SNR=16						
	comp=Z,1.8nm,0.6s						
ASAR	**Alice Springs**	**52.44**	**189**	P	**P**	**22 57 13.7**	**+0.5**
	comp=Z,0.2nm,0.4s,baz=3.5,slow=5.4,SNR=1.5						
	comp=Z,0.2nm,0.4s						
OHAK	**Old Harbor**	**52.90**	**38**	P	**P**	**22 57 16.9**	**+0.8**
BOOM	**Boomskoye usch**	**54.37**	**304**	P	**P**	**22 57 29.0**	**+1.6**
E22K	**Anaktuvuk Pass**	**55.01**	**25**	P	**P**	**22 57 32.8**	**+1.2**
C23K	**Itkillik River**	**55.76**	**23**	P	**P**	**22 57 33.0**	**-3.8**
C23K				IAmb	IAmb	22 57 34.7	
	comp=Z,5.7nm,1.2s						
BVAR	**Borovoye Array**	**56.97**	**317**	P	**P**	**22 57 46.0**	**+0.3**
	comp=Z,1.8nm,0.6s,baz=88,slow=7.9,SNR=16						
	comp=Z,1.8nm,0.6s						
CHGR	**Chuyangaron**	**60.16**	**300**	P	**P**	**22 58 07.8**	**-0.5**
P33M	**Teslin, Yukon**	**63.35**	**34**	P	**P**	**22 58 29.3**	**0.0**
P33M				IAmb	IAmb	22 58 42.3	
	comp=Z,13nm,1.4s						
CAN	**Canberra**	**63.80**	**174**	P	**P**	**22 58 32.2**	**-0.2**
CAN				IAmb	IAmb	22 58 50.4	
	comp=Z,12nm,1.3s						
AKTO	**Aktyubinsk**	**64.98**	**315**	P	**P**	**22 58 41.3**	**+1.1**
	comp=Z,0.9nm,0.5s,baz=88,slow=12,SNR=4.3						
	comp=Z,0.9nm,0.5s						
V35K	**Ketchikan**	**65.06**	**39**	P	**P**	**22 58 41.0**	**+0.5**
HRA	**Herat**	**66.72**	**298**	P	**P**	**22 58 52.7**	**+0.8**
HRA				IAmb	IAmb	22 58 52.7	
	comp=Z,3.4nm,0.6s						
FINES	**FINESS Array B**	**76.67**	**334**	P	**P**	**22 59 51.9**	**+1.0**
	comp=Z,0.2nm,0.4s,baz=54,slow=7.1,SNR=0.8						
	comp=Z,0.2nm,0.4s						
SAO	**San Andreas Ge**	**78.28**	**55**	P	**P**	**23 00 01.2**	**+0.7**
SAO				IAmb	IAmb	23 00 19.1	
	comp=Z,10nm,1.2s						
PABE	**Paberze**	**81.13**	**329**	P	**P**	**23 00 15.7**	**+0.2**
PABE				IAmb	IAmb	23 00 20.1	
	comp=Z,7.1nm,0.6s						
RAYN	**Ar Rayn**	**84.51**	**294**	P	**P**	**23 00 34.1**	**+0.4**
RAYN				IAmb	IAmb	23 00 35.2	
	comp=Z,2.6nm,0.7s						

UPP ***27*** *23:18:49.8±0.0,67°.85N×20°.21E, h0km, ML2.2, Unknown*
HEL ***27*** *23:18:50.9±0.1,67°.85N×20°.27E, h0km, ML1.7, Explosion*
IDC ***27*** *23:18:51.1±1.2,67°.85N×20°.71E, h0km, mbtmp2.7/4, ML2.0/4, Error ellipse: s-maj=18.6km s-min=7.2km az=120.0*

ISC 27 23:18:49.5±0.8,**67°.82N**±0°.02×**20°.39E**±0°.03,**h0**km,**n25**, σ0s**97**/35,**Sweden**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUA	**Kurravaara**	**0.14**	**352**	P	**Pg**	**23 18 52.3**	**+0.2**
KUA				S	**Sg**	**23 18 53.9**	**+0.1**
RATU	**Laukkuluspa**	**0.30**	**271**	P	**Pg**	**23 18 54.5**	**-0.8**
KOVU	**Salmi**	**0.41**	**348**	P	**Pg**	**23 18 57.0**	**-0.4**
LANU	**Lannavaara**	**0.65**	**69**	*eP*	**Pb**	**23 19 03.0**	**-0.7**
LANU				*eS*	**Sb**	**23 19 12.1**	**-1.3**
LANU	**Lannavaara**	**0.65**	**69**	P	**Pb**	**23 19 03.0**	**-0.7**
DUNU	**Dundret**	**0.71**	**174**	P	**Pg**	**23 19 03.6**	**+0.6**
DUNU				S	**Sb**	**23 19 14.2**	**-0.7**
MASU	**Masugnsbyn**	**0.72**	**120**	P	**Pb**	**23 19 04.8**	**-0.1**
SALU	**Saltoluokta**	**0.84**	**239**	*eP*	**Pg**	**23 19 04.9**	**-0.8**
SALU	**Saltoluokta**	**0.84**	**239**	P	**Pg**	**23 19 04.9**	**-0.8**
KIF	**Kilpisjarvi**	**1.20**	**7**	*eP*	**Pg**	**23 19 12.5**	**0.0**
KIF				*eS*	**Sg**	**23 19 28.3**	**+0.3**
PAJU	**Pajala**	**1.32**	**126**	P	**Pn**	**23 19 15.2**	**0.0**
HEF	**Hetta**	**1.36**	**63**	*eP*	**Pn**	**23 19 15.7**	**-0.1**
HEF	**Hetta**	**1.36**	**63**	*eP*	**Pg**	**23 19 15.5**	**-0.1**
HEF				*eS*	**Sn**	**23 19 34.0**	**-0.5**
HEF				MSG		23 19 40.5	
	comp=Z,6.0nm,0.1s						
ERTU	**Ertsjaerv**	**1.45**	**150**	P	**Pb**	**23 19 17.4**	**-0.1**
HARU	**Harads**	**1.68**	**172**	P	**Pb**	**23 19 21.0**	**-0.3**
TRO	**Tromso**	**1.90**	**344**	*e*PN	**Pn**	**23 19 23.8**	**+0.7**
TRO				*e*SG	**Sn**	**23 19 48.4**	**+0.8**
STEI	**Steigen**	**1.95**	**276**	*eP*	**Pn**	**23 19 24.3**	**+0.5**
STEI				*e*SG	**Sn**	**23 19 49.4**	**+0.5**
TOF	**Tornio**	**2.34**	**137**	*e*SG	**Sg**	**23 20 04.4**	**-0.1**
SGF	**Sodankyl**	**2.38**	**96**	*e*PB	**Pb**	**23 19 33.0**	**-0.2**
SGF				*e*SG	**Sg**	**23 20 06.0**	**+0.2**
SGF				MSG		23 20 09.1	
	comp=Z,1.5nm,0.1s						
RNF	**Rovaniemi**	**2.51**	**116**	*e*PB	**Pb**	**23 19 34.9**	**-0.4**
RNF				*e*SG	**Sg**	**23 20 09.2**	**-0.7**
RNF				MSG		23 20 11.9	
	comp=Z,5.0nm,0.2s						
ARCES	**ARCESS Array B**	**2.54**	**45**	Pn	**Pn**	**23 19 33.3**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=232,slow=14,SNR=12						
ARCES				Lg	Lg	23 20 06.7	
	comp=Z,0.9nm,0.3s,baz=225,slow=23,SNR=12						
	comp=Z,1.7nm,0.5s						
BURU	**Burvik**	**3.28**	**172**	*eP*	**Pn**	**23 19 44.2**	**+2.2**
FINES	**FINESS Array B**	**6.85**	**156**	Pn	**Pn**	**23 20 34.4**	**+3.3**
	comp=Z,0.1nm,0.3s,baz=343,slow=14,SNR=4.3						
FINES				Sn	**Sn**	**23 21 47.7**	**-2.0**
	comp=Z,0.1nm,0.3s,baz=350,slow=23,SNR=1.8						
FINES				Lg	Lg	23 22 26.3	
	comp=Z,0.2nm,0.3s,baz=339,slow=25,SNR=3.7						
	comp=Z,0.6nm,0.5s						
NOA	**NORSAR Array B**	**7.87**	**215**	Pn	**Pn**	**23 20 45.9**	**+0.8**
	baz=25,slow=11,SNR=3.9						
NOA				Lg	Lg	23 22 59.5	
	baz=29,slow=12,SNR=2.7						
	comp=Z,0.1nm,0.4s						
HFS	**Hagfors**	**8.25**	**204**	Pn	**Pn**	**23 20 50.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=23,slow=14,SNR=1.9						
	comp=Z,0.9nm,0.8s						

IDC ***27*** *23:24:15.8±0.6,0°.36N×125°.93E, h0km, mb4.0/17, mbtmp4.0/17, ML6.3/1, MS3.3/6, Error ellipse: s-maj=38.3km s-min=14.0km az=71.0*
NEIC ***27*** *23:24:18.3±1.4,0°.27N±0°.09×125°.97E±0°.05, h10km±1km, mb4.4/5, Error ellipse: s-maj=14.7km s-min=7.5km az=187.0*
DJA ***27*** *23:24:20.0±0.3,0°.N±5°×12°.6E±°, h10km, M4.2/9, mb4.5/3, MLv4.0/9*

ISC 27 23:24:21.9±0.5,**0°.33N**±0°.07×**125°.94E**±0°.05,**h44**km,**n38**, σ1s**39**/38,**mb4.0**/19,**MS3.3/6**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.49**	**73**		**Pn**	**23 24 45.2**	**-1.1**
TNTI	**Ternate**	**1.49**	**73**	P	**Pn**	**23 24 48.7**	**+2.4**
LBMI	**Labuha**	**1.83**	**121**	P	**Pn**	**23 24 51.7**	**+0.8**
KMSI	**Cibinong**	**1.97**	**277**	P	**Pn**	**23 24 51.8**	**-1.1**
GTOI	**Gorontalo**	**2.94**	**276**	P	**Pn**	**23 25 08.7**	**+2.5**
GTOI				S	**Sn**	**23 25 44.6**	**+4.3**
LUWI	**Luwuk**	**3.45**	**247**		**Pn**	**23 25 12.5**	**-0.6**
LUWI	**Luwuk**	**3.45**	**247**	P	**Pn**	**23 25 12.4**	**-0.6**
TOLI2	**Tolitoli**	**5.22**	**279**		**Pn**	**23 25 37.1**	**-0.3**
MPSI	**Mapaga**	**6.04**	**270**	P	**Pn**	**23 25 48.3**	**-0.5**
FAKI	**Fak Fak**	**7.08**	**117**	Pn	**Pn**	**23 26 01.5**	**-1.6**
TGY	**Tagaytay City**	**14.56**	**340**	Pn	**Pn**	**23 27 42.2**	**-3.1**
	131nm,0.3s,baz=210,slow=10,SNR=4.7						
FITZ	**Fitzroy Crossi**	**18.31**	**181**	P	**P**	**23 28 31.5**	**-0.9**
WB0	**Warramunga Arr**	**21.62**	**158**	P	**P**	**23 29 07.2**	**-1.2**
WB0				IAmb	IAmb	23 29 13.9	
	comp=Z,16nm,0.9s						
WRA	**Warramunga Arr**	**21.76**	**158**	P	**P**	**23 29 08.5**	**-1.4**
	comp=Z,3.8nm,0.6s,baz=338,slow=11,SNR=51						
WRA				PcP	**PcP**	**23 33 09.4**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=334,slow=1.7,SNR=1.7						
	comp=Z,3.8nm,0.6s						
WB2	**Warramunga Arr**	**21.76**	**158**	P	**P**	**23 29 08.6**	**-1.4**
WB2				IAmb	IAmb	23 29 14.7	
	comp=Z,17nm,1.1s						
WR0	**Warramunga Arr**	**21.85**	**158**	P	**P**	**23 29 09.6**	**-1.3**
ASAR	**Alice Springs**	**25.07**	**163**	P	**P**	**23 29 42.8**	**+0.3**
ASAR				PcP	**PcP**	**23 33 17.3**	**+0.9**
	comp=Z,0.3nm,0.4s,baz=357,slow=2.0,SNR=2.0						
	comp=Z,2.5nm,0.5s						
JCJ	**Chichijima**	**30.86**	**29**	LR	LR	23 42 09.3	
	comp=Z,37nm,21.1s,baz=196,slow=35						
STKA	**Stephens Creek**	**35.29**	**157**	P	**P**	**23 31 12.5**	**-0.2**
	comp=Z,0.7nm,0.3s,baz=328,slow=14,SNR=1.8						
	comp=Z,0.7nm,0.3s						
KSRS	**Korea Array**	**36.99**	**3**	P	**P**	**23 31 26.3**	**-0.8**
	comp=Z,0.7nm,0.4s,baz=172,slow=9.5,SNR=2.3						
KSRS				LR	LR	23 46 49.5	
	comp=Z,21nm,20.9s,baz=185,slow=37						
	comp=Z,0.7nm,0.4s						

MJAR	**Matsushiro Arr**	**37.79**	**16**	P	**P**	**23 31 33.8**	**-0.2**
	comp=Z,0.7nm,0.4s,baz=185,slow=9.9,SNR=2.0						
	comp=Z,0.7nm,0.4s						
ASAJ	**Asahikawa**	**46.06**	**17**	LR	LR	23 54 16.3	
	comp=Z,38nm,19.1s,baz=150,slow=39						
SONM	**Songino Array**	**50.28**	**343**	P	**P**	**23 33 14.2**	**+0.1**
	comp=Z,0.8nm,0.7s,baz=167,slow=8.4,SNR=3.8						
	comp=Z,0.8nm,0.7s						
PETK	**Petropavlovsk-**	**58.86**	**22**	P	**P**	**23 34 16.3**	**+0.2**
	comp=Z,2.3nm,0.8s,baz=176,slow=3.8,SNR=2.6						
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**59.92**	**327**	P	**P**	**23 34 22.9**	**-0.7**
	comp=Z,0.5nm,0.4s,baz=124,slow=8.0,SNR=12						
MKAR				LR	LR	00 02 54.2	
	comp=Z,16nm,19.8s,baz=108,slow=39						
	comp=Z,0.5nm,0.4s						
ZALV	**Zalesovo Beam**	**63.27**	**334**	P	**P**	**23 34 45.4**	**-0.5**
	comp=Z,0.9nm,0.6s,baz=113,slow=5.4,SNR=2.9						
	comp=Z,0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**64.19**	**329**	P	**P**	**23 34 51.5**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=125,slow=6.3,SNR=9.8						
	comp=Z,0.5nm,0.3s						
BVAR	**Borovoye Array**	**69.75**	**328**	P	**P**	**23 35 27.3**	**-0.1**
	comp=Z,0.7nm,0.4s,baz=126,slow=6.8,SNR=4.4						
BVAR				LR	LR	00 06 40.2	
	comp=Z,35nm,21.1s,baz=151,slow=36						
	comp=Z,0.7nm,0.4s						
GEYT	**Alibeck**	**72.43**	**310**	P	**P**	**23 35 44.6**	**+0.6**
	comp=Z,0.9nm,0.6s,baz=72,slow=4.7,SNR=2.3						
	comp=Z,0.9nm,0.6s						
ARU	**Arti**	**77.39**	**328**	P	**P**	**23 36 11.7**	**-0.5**
	comp=Z,2.5nm,0.6s,baz=83,slow=4.0,SNR=5.5						
	comp=Z,2.5nm,0.6s						
KVAR	**Kislovodsk Arr**	**84.90**	**314**	P	**P**	**23 36 54.5**	**+2.0**
	comp=Z,0.9nm,0.4s,baz=37,slow=10,SNR=1.8						
	comp=Z,0.9nm,0.4s						
QSPA	**South Pole Qui**	**90.25**	**180**	P	**P**	**23 37 18.2**	**+0.4**
QSPA				IAmb	IAmb	23 37 19.0	
	comp=Z,1.9nm,0.8s						
QSPA	**South Pole Qui**	**90.25**	**180**	P	**P**	**23 37 18.3**	**+0.5**
	comp=Z,1.5nm,0.8s,baz=281,slow=3.2,SNR=7.1						
	comp=Z,1.5nm,0.8s						
MMAI	**Mount Meron Ar**	**90.28**	**303**	P	**P**	**23 37 20.6**	**+2.0**
	comp=Z,0.2nm,0.3s,baz=119,slow=1.8,SNR=1.6						
	comp=Z,0.2nm,0.3s						
BRTR	**Keskin Array B**	**91.57**	**310**	P	**P**	**23 37 24.5**	**-0.1**
	comp=Z,0.3nm,0.6s,baz=116,slow=6.6,SNR=2.4						
	comp=Z,0.3nm,0.6s						
BOSA	**Bosa**	**99.54**	**241**	LR	LR	00 18 56.0	
	comp=Z,27nm,18.6s,baz=32,slow=33						
TORD	**Torodi Ar. Bea**	**123.15**	**286**	PKP	**PKiKP**	**23 43 15.3**	**+0.3**
	comp=Z,0.8nm,0.7s,baz=36,slow=2.6,SNR=4.6						
TXAR	**Lajitas Array**	**124.27**	**54**	PKP	**PKiKP**	**23 43 18.2**	**+1.1**
	comp=Z,0.3nm,0.9s,baz=201,slow=1.1,SNR=3.6						

NEIC ***27*** *23:25:27.8±1.0,19°.39N±0°.01×155°.287W±0°.009, h7km±1km, Error ellipse: s-maj=1.7km s-min=1.1km az=178.0*

HVO 27 23:25:27.7±0.8,**19°.404N**±0°.008×**155°.279W**±0°.009, **h0**km±2km,**ML2.6**/32,**ML2.4**/34(NEIC),**Error ellipse: s-maj=1.1km s-min=1.1km az=135.0**,**Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**151**		Pg	23 25 28.8	+0.7
KKO	**Keanakako`i**	**0.01**	**117**		Pg	23 25 29.0	+0.9
OBL	**Observatory Le**	**0.01**	**341**		Pg	23 25 29.1	+1.0
BYL	**Byron's Ledge**	**0.02**	**67**	Pg	Pg	23 25 28.4	+0.2
BYL	**Byron's Ledge**	**0.02**	**67**		Sg	23 25 29.2	+0.8
UWB	**Uwekahuna B**	**0.02**	**3**		Pg	23 25 29.3	+1.2
UWE	**Uwekahuna**	**0.02**	**322**	Pg	Pg	23 25 28.7	+0.5
UWE					Sg	23 25 29.8	+1.2
HATHI	**Halema'uma'u T**	**0.03**	**43**	Pg	Pg	23 25 28.8	+0.5
HATHI					Sg	23 25 29.8	+1.2
SBLHI	**Steaming Bluff**	**0.03**	**25**		Pg	23 25 29.5	+1.3
RSD	**Rainshed**	**0.06**	**1**		Pg	23 25 29.6	+0.7
RSD				IAML		23 25 30.6	
	comp=E,2μm,0.3s						
RSD				IAML		23 25 30.6	
	comp=N,2μm,0.3s						
PUH	**Pauahi**	**0.07**	**117**	Pg	Pg	23 25 30.0	+0.9
PUH				IAML		23 25 30.5	
	comp=N,4μm,0.3s						
PUH				IAML		23 25 30.8	
	comp=E,5μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**103**		Pg	23 25 30.3	+0.5
HLP	**Hilina Pali**	**0.11**	**194**		Pg	23 25 30.7	+0.8
HLP				IAML		23 25 33.5	
	comp=N,2μm,0.8s						
MLH	**Mauna Loa**	**0.14**	**312**		Pg	23 25 31.2	+0.9
MLH				IAML		23 25 34.7	
	comp=N,2μm,0.6s						
STCH	**Steam Cracks**	**0.15**	**97**		Pg	23 25 31.4	+0.9
STCH				IAML		23 25 35.0	
	comp=N,2μm,0.9s						
JOKA	**Jonika Flow**	**0.26**	**84**		Pg	23 25 33.8	+1.0
JOKA				IAML		23 25 39.1	
	comp=N,796nm,0.9s						
JOKA				IAML		23 25 39.4	
	comp=E,483nm,1.0s						
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg	Pg	23 25 33.1	+0.1
HMH				IAML		23 25 39.2	
	comp=E,521nm,0.6s						
HMH				IAML		23 25 42.1	
	comp=N,929nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.31**	**295**		Pg	23 25 34.2	+0.5
MLOA				IAML		23 25 43.3	
	comp=N,551nm,0.6s						
MLOA				IAML		23 25 43.7	
	comp=E,588nm,0.3s						
MWH	**Moku'aweowe**	**0.31**	**285**		Pg	23 25 33.9	+0.3
KHU	**Kahuku**	**0.35**	**244**		Pg	23 25 34.9	+0.4
POHA	**Pohakuloa**	**0.42**	**326**	Pg	Pg	23 25 36.1	+0.3
POHA				IAML		23 25 45.8	
	comp=E,598nm,1.0s						
HUH	**Hualalai**	**0.59**	**298**		Pg	23 25 39.5	+0.4
HPAH	**Hawaii Prepara**	**0.74**	**328**		Pg	23 25 41.4	-0.5

CATAC ***27*** *23:30:17.0±0.4, 14°.03N×90°.63W, h70km±5km, ML3.9*
GCG ***27*** *23:30:18.9±0.5, 14°.42N×90°.70W, h98km±13km, MD4.0*

ISC 27 23:30:16.1±1.5,**14°.10N**±0°.07×**90°.62W**±0°.05,**h102**km±9km, **n30**, σ0s**99**/40,**Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	**Pacaya**	**0.29**	**3**	*eP*	**Pn**	**23 30 33.3**	**+2.1**
FUG	**Fuego 3**	**0.40**	**328**	*eP*	**Pn**	**23 30 33.2**	**+1.5**
GCG4	**OSOP**	**0.49**	**10**	*i* P	**Pn**	**23 30 31.1**	**-1.2**
GCG4				IAML		23 30 33.6	
	comp=Z,2μm,1.0s						
GCG4				*i* S	**Sn**	**23 30 42.5**	**-1.8**
GUMI	**Mixco**	**0.53**	**1**	*i* P	**Pn**	**23 30 32.3**	**-0.3**
GUMI				*i* S	**Sn**	**23 30 42.9**	**-1.9**
GUMI				IAML		23 30 50.2	
	comp=Z,2μm,1.0s						
NBG	**Las Nubes**	**0.55**	**29**	*eP*	**Pn**	**23 30 35.0**	**+2.2**
GUNB	**GUNB**	**0.56**	**29**	*i* P	**Pn**	**23 30 33.5**	**+0.6**
GUNB				*i* S	**Sn**	**23 30 43.5**	**-1.9**
GUNB				IAML		23 30 49.3	
	comp=Z,610nm,1.0s						
CHTG	**Tecpan**	**0.74**	**332**	*i* P	**Pn**	**23 30 34.5**	**+0.1**
CHTG				IAML		23 30 35.4	
	comp=Z,7μm,1.0s						
SULM	**Suchitepequez,**	**0.94**	**282**	*eP*	**Pn**	**23 30 37.6**	**+1.6**
STG3	**Santiaguito 3,**	**1.10**	**303**	*eP*	**Pn**	**23 30 38.7**	**+0.7**
RTAL	**Retalhuleu**	**1.12**	**292**	*i* P	**Pn**	**23 30 37.9**	**-0.1**
RTAL				*i* S	**Sn**	**23 30 53.6**	**-1.0**
RTAL				IAML		23 31 02.1	
	comp=Z,3μm,1.0s						
QUIS	**Sacapulas**	**1.27**	**339**	*i* P	**Pn**	**23 30 39.9**	**+0.1**
QUIS				IAML		23 30 40.6	
	comp=Z,2μm,1.0s						
QUIS				*i* S	**Sn**	**23 30 58.4**	**+0.7**
ESQI	**Esquipulas**	**1.32**	**70**	*i* P	**Pn**	**23 30 40.7**	**+0.3**
ESQI				IAML		23 30 41.1	
	comp=Z,550nm,1.0s						
ESQI				*i* S	**Sn**	**23 30 59.3**	**+0.5**
MRL	**Marmol**	**1.33**	**43**	*eP*	**Pn**	**23 30 42.1**	**+1.4**
SMSP	**San Marcos**	**1.42**	**308**	*i* P	**Pn**	**23 30 41.4**	**-0.4**
SMSP				IAML		23 31 07.6	
	comp=Z,7μm,1.0s						
HUEH	**Huehuetenango**	**1.48**	**325**	*i* P	**Pn**	**23 30 42.0**	**-0.5**
HUEH				IAML		23 30 43.1	
	comp=Z,4μm,1.0s						

CHIHN	**Chmisales**	**2.44**	**64**	*i* P	**Pn**	**23 30 54.5**	**-0.2**
IZABA	**Izabal, Puerto**	**2.55**	**50**	*i* P	**Pn**	**23 30 56.4**	**+0.5**
IZABA				IAML		23 31 26.9	
	comp=Z,5.2nm,1.0s						
CCIG	**Comitan**	**2.61**	**326**	*i* P	**Pn**	**23 30 56.9**	**-0.1**
CCIG				IAML		23 30 57.5	
	comp=Z,580nm,1.0s						
CCIG				*i* S	**Sn**	**23 31 29.8**	**+1.5**
PETF	**Flores**	**2.89**	**14**	IAML		23 31 00.3	
	comp=Z,170nm,1.0s						
PETF				*i* P	**Pn**	**23 31 00.9**	**+0.4**
AMPH	**Amapala**	**2.99**	**105**	*i* P	**Pn**	**23 31 01.6**	**-0.2**
AMPH				*i* S	**Sn**	**23 31 37.1**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.25**	**90**	*i* P	**Pn**	**23 31 05.3**	**-0.1**
TGUH				*i* S	**Sn**	**23 31 44.1**	**+0.7**
TGUH				IAML		23 32 01.1	
	comp=Z,69nm,1.0s						
CRIN	**San Cristobal**	**3.75**	**111**	*i* P	**Pn**	**23 31 12.5**	**+0.5**
CRIN				IAML		23 31 14.3	
	comp=Z,1μm,1.0s						
CRIN				*i* S	**Sn**	**23 31 55.4**	**+0.2**
PKGN	**Cerro Pekin**	**3.82**	**111**	*i* P	**Pn**	**23 31 13.2**	**+0.2**
CNGA	**Al SSO del Vol**	**4.14**	**112**	*i* P	**Pn**	**23 31 16.1**	**-1.2**
LEVN	**Ruinas Leon Vi**	**4.25**	**113**	*i* P	**Pn**	**23 31 18.8**	**+0.1**
LIMN	**Finca el Limon**	**4.26**	**104**	*i* P	**Pn**	**23 31 19.1**	**+0.1**
LIMN				IAML		23 31 21.9	
	comp=Z,47nm,1.0s						
MOM2	**El Cardon**	**4.36**	**112**	*i* P	**Pn**	**23 31 19.9**	**-0.3**
HUEN		**4.67**	**112**	*i* P	**Pn**	**23 31 24.6**	**+0.1**
HUEN				IAML		23 31 29.0	
	comp=Z,130nm,1.0s						
R4DEC	**Barrio San Lui**	**4.68**	**114**	*i* P	**Pn**	**23 31 24.4**	**-0.2**
R4DEC				IAML		23 31 25.7	
	comp=Z,390nm,1.0s						
ACON	**Acoyapa**	**5.72**	**111**	*i* P	**Pn**	**23 31 38.4**	**-0.2**

NEIC ***27*** *23:32:20.6±1.2,36°.947N±0°.008×97°.83W±0°.01, h2km±4km, Error ellipse: s-maj=1.8km s-min=0.9km az=54.0*

TUL 27 23:32:20.6±1.4,**36°.95N**±0°.01×**97°.83W**±0°.01,**h6**km±4km, **ML2.5**,**ML2.2**/50(NEIC),**Error ellipse: s-maj=2.1km s-min=0.7km az=215.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GC02	**Grant County #**	**0.10**	**196**		Pg	23 32 23.2	+0.4
GC02				Sg	Sg	23 32 24.5	+0.3
KAN17	**Caldwell West**	**0.11**	**26**		Pg	23 32 23.5	+0.5
KAN17				Sg	Sg	23 32 25.3	+0.8
KAN14	**Manchester OK**	**0.11**	**276**	Pg	Pg	23 32 23.4	+0.4
KAN14				Sg	Sg	23 32 25.3	+0.7
KAN14				IAML		23 32 25.4	
	comp=N,1μm,0.1s						
KAN14				IAML		23 32 25.8	
	comp=E,905nm,0.1s						
KAN05	**Bluff City Nor**	**0.17**	**347**	Pg	Pg	23 32 24.3	+0.3
KAN05				Sg	Sg	23 32 27.0	+0.8
KAN05				IAML		23 32 27.2	
	comp=N,840nm,0.2s						
KAN05				IAML		23 32 27.2	
	comp=E,854nm,0.2s						
KAN01	**Argonia South**	**0.21**	**14**		Pg	23 32 25.2	+0.3
KAN01				Sg	Sg	23 32 28.5	+0.8
KAN09	**Caldwell North**	**0.25**	**41**	Pg	Pg	23 32 26.0	+0.4
KAN09				Sg	Sg	23 32 29.6	+0.7
KAN10	**Anthony SW Sta**	**0.28**	**309**	Pg	Pg	23 32 26.6	+0.5
KAN10				Sg	Sg	23 32 30.7	+0.9
KAN10				IAML		23 32 30.8	
	comp=N,266nm,0.2s						
KAN13	**South Haven SW**	**0.29**	**76**	Pg	Pg	23 32 26.5	+0.3
KAN13				Sg	Sg	23 32 30.8	+0.8
KAN13				IAML		23 32 32.4	
	comp=N,350nm,0.2s						
KAN13				IAML		23 32 33.5	
	comp=E,285nm,0.2s						
KAN06	**Argonia West S**	**0.30**	**355**	Pg	Pg	23 32 26.7	+0.1
KAN08	**Anthony NE Sta**	**0.30**	**337**	Pg	Pb	23 32 28.4	-0.1
KAN08				Sg	Sg	23 32 31.4	+0.8
KAN08				IAML		23 32 33.1	
	comp=N,281nm,0.2s						
OK032	**Salt Plains WL**	**0.34**	**245**		Pg	23 32 27.6	+0.4
OK032				Sg	Sg	23 32 32.7	+1.0
KAN12	**Harper NE Stat**	**0.38**	**339**	Pg	Pg	23 32 26.9	-1.0
KAN12				Sg	Sb	23 32 34.9	-1.0
KAN12				IAML		23 32 39.0	
	comp=N,318nm,0.3s						
CROK	**Carrier**	**0.46**	**196**		Pg	23 32 29.7	+0.3
CROK				Sg	Sg	23 32 36.1	+0.7
CROK				IAML		23 32 39.3	
	comp=N,202nm,0.3s						
CROK				IAML		23 32 41.5	
	comp=E,213nm,0.2s						
BLOK	**Blackwell**	**

P19K IAML 23 52 10.3
comp=E,1µm,0.5s
P19K IAML 23 52 11.0
comp=N,919nm,0.7s
P19K Oil Pt 0.14 129 P **Pn 23 51 55.9 -0.5**
baz=316
P19K S **Sn 23 52 09.7 -0.6**
baz=316
ILSW Iliamna Southw 0.29 32 Pn 23 51 56.0 -0.9
ILSW **Sn 23 52 09.6 -1.6**
ILSW Iliamna Southw 0.29 32 IAML 23 52 10.0
comp=E,296nm,0.7s
ILSW IAML 23 52 10.4
comp=N,324nm,0.7s
IVE Iliamna Volcan 0.35 38 Pn 23 51 56.3 -0.8
IVE **Sn 23 52 10.5 -1.0**
AUL Augustine Lava 0.36 179 Pn 23 51 56.8 -0.2
AUL **Sn 23 52 10.9 -0.4**
AU22 Augustine Moun 0.38 173 Pn 23 51 56.7 -0.3
AU22 **Sn 23 52 10.8 -0.6**
AUCH Augustine Cone 0.38 180 Pn 23 51 56.9 -0.2
AUCH **Sn 23 52 11.8 +0.1**
O20K Slope Mountain 0.54 50 Pn 23 51 57.5 -0.4
O20K **Sn 23 52 12.4 -0.6**
O20K Slope Mountain 0.54 50 P **Pn 23 51 57.5 -0.4**
baz=231
O20K S **Sn 23 52 12.4 -0.6**
baz=231
O19K Port Alsworth 0.63 316 Pn 23 51 57.5 -0.9
O19K Port Alsworth 0.63 316 IAML 23 52 12.8
comp=E,450nm,0.5s
O19K IAML 23 52 13.7
comp=N,368nm,0.4s
O19K Port Alsworth 0.63 316 P **Pn 23 51 57.5 -0.9**
baz=134
RED Redoubt Volcan 0.76 26 Pn 23 51 58.8 -0.7
RDWB Redoubt West 0.81 22 Sn 23 52 15.3 -1.2
Q19K Cape Douglas, 0.82 187 Pn **Pn 23 51 59.6 -0.3**
Q19K Sn **Sn 23 52 15.6 -0.9**
Q19K IAML 23 52 24.1
comp=E,812nm,0.9s
Q19K Cape Douglas, 0.82 187 P **Pn 23 51 59.5 -0.3**
baz=7.7
Q19K S **Sn 23 52 15.9 -0.6**
baz=7.7
O18K Koktuh Hills 0.90 278 Pn **Pn 23 51 59.2 -1.3**
O18K Sn **Sn 23 52 16.0 -1.5**
O18K Koktuh Hills 0.90 278 P **Pn 23 51 60.0 -0.5**
baz=96
O18K S **Sn 23 52 16.7 -0.8**
baz=96
RDJH Redoubt Jeurge 0.91 20 Pn 23 52 00.2 -0.5
HOM Homer 0.92 94 Pn 23 52 00.7 +0.1
HOM Sn **Sn 23 52 18.1 +0.3**
HOM IAML 23 52 18.4
comp=E,750nm,0.9s
HOM IAML 23 52 20.2
comp=N,656nm,0.4s
HOM Homer 0.92 94 P **Pn 23 52 00.5 0.0**
baz=277
DFR Drift River 0.93 24 Pn 23 51 59.8 -1.1
P18K Big Mountain, 0.97 250 Pn **Pn 23 52 00.5 -0.6**
P18K Sn **Sn 23 52 17.3 -1.4**
P18K Big Mountain, 0.97 250 P **Pn 23 52 00.3 -0.8**
baz=68
P18K S **Sn 23 52 17.2 -1.5**
baz=68
CNPM China Poot 1.15 100 Pn 23 52 02.3 -0.4
CNPM China Poot 1.15 100 Sn **Sn 23 52 21.1 -0.4**
CNPM IAML 23 52 23.1
comp=E,451nm,0.4s
CNPM IAML 23 52 23.6
comp=N,466nm,0.6s
N19K Bonanza Creek 1.19 335 Pn 23 52 02.7 -0.6
N19K Sn **Sn 23 52 21.0 -1.6**
N19K IAML 23 52 21.8
comp=N,98nm,0.8s
N19K IAML 23 52 22.1
comp=E,100nm,0.8s
N19K Bonanza Creek 1.19 335 P **Pn 23 52 02.6 -0.6**
baz=153
Q20K Shuyak Island 1.26 154 P **Pn 23 52 03.5 -0.4**
baz=336
SYI Shuyak Island 1.26 154 Pn 23 52 03.5 -0.3
SYI Sn **Sn 23 52 22.5 -1.0**
SYI IAML 23 52 23.7
comp=E,544nm,0.4s
SYI IAML 23 52 25.1
comp=N,493nm,0.5s
BRLK Bradley Lake 1.30 88 Pn 23 52 03.5 -0.7
BRLK Sn **Sn 23 52 22.5 -1.8**
BRLK IAML 23 52 23.7
comp=N,475nm,0.4s
BRLK IAML 23 52 24.0
comp=E,532nm,0.2s
KAHC Katmai Hardscr 1.36 217 Pn 23 52 04.8 -0.2
KAHC Katmai Hardscr 1.36 217 P **Pn 23 52 04.8 -0.2**
baz=36
BRSE Bradley Lake S 1.37 89 P **Pn 23 52 04.5 -0.5**
baz=272
CAPN Captain Cook N 1.54 47 Pn 23 52 08.1 +1.4
CAPN Sn **Sn 23 52 31.1 +2.3**
CAPN Captain Cook N 1.54 47 P **Pn 23 52 08.0 +1.2**
baz=229
N18K Kilae Creek 1.54 309 Pn **Pn 23 52 06.5 -0.3**
N18K Sn **Sn 23 52 27.5 -1.4**
N18K IAML 23 52 28.1
comp=N,40nm,1.0s
N18K Kilae Creek 1.54 309 P **Pn 23 52 06.4 -0.5**
baz=126
N18K S **Sn 23 52 27.4 -1.5**
baz=126
N20K Mount Spurr 1.59 22 P **Pn 23 52 07.0 -0.4**
baz=203
SPBG Spurr Blockage 1.61 19 Sn 23 52 30.3 -0.2
P17K Kvichak River 1.62 252 P **Pn 23 52 08.0 +0.2**
baz=69
SPCG Spurr Capps Gl 1.71 24 Sn 23 52 31.7 -0.8
SVW2 Sparrevohn 1.72 323 P **Pn 23 52 08.1 -0.8**
SVW2 Sparrevohn 1.72 323 Pn **Pn 23 52 07.6 -1.4**
SLKM Skilak Lake 1.79 63 Sn 23 52 31.8 -2.2
O17K Koliganek Bris 1.85 273 Pn 23 52 10.5 +0.2
O17K Koliganek Bris 1.85 273 P **Pn 23 52 10.5 +0.2**
baz=89
ANCK Angle Creek 1.88 215 Sn 23 52 35.7 -0.2
STLK Strandline Lak 1.93 24 Pn 23 52 11.2 -0.2
O22K Cooper Landing 2.01 67 Pn 23 52 12.2 0.0
O22K Cooper Landing 2.01 67 P **Pn 23 52 12.0 -0.2**
baz=250
KDAK Kodiak Island 2.02 167 Pn **Pn 23 52 11.2 -1.1**
KDAK IAML 23 52 37.3
comp=N,261nm,0.4s
KDAK IAML 23 52 37.6
comp=N,188nm,0.3s
KDAK Kodiak Island 2.02 167 P **Pn 23 52 11.1 -1.3**
comp=N,11nm,0.3s,baz=5.1,slow=10,SNR=38
KDAK S **Sn 23 52 36.2 -2.5**
comp=N,82nm,0.4s,baz=311,slow=19,SNR=13
N17K Nushagak Hills 2.03 294 Pn 23 52 12.5 0.0
N17K Nushagak Hills 2.03 294 IAML 23 52 38.9
comp=N,30nm,0.7s
N17K Nushagak Hills 2.03 294 P **Pn 23 52 12.5 0.0**
baz=111
SEW Seward 2.04 78 P **Pn 23 52 12.0 -0.6**
baz=262
M18K Stony River 2.11 327 P **Pn 23 52 12.8 -0.7**
baz=145
FIS Fire Island 2.13 47 Pn 23 52 13.0 -0.7
FIS IAML 23 52 45.0
comp=N,276nm,0.3s
FIS IAML 23 52 46.1
comp=E,282nm,0.7s
M20K Styx River 2.15 4 Pn 23 52 13.7 -0.5
M20K Styx River 2.15 4 P **Pn 23 52 13.8 -0.3**
baz=184
SUA Susitna One 2.18 36 Pn 23 52 14.2 -0.4
SUA IAML 23 52 42.8
comp=N,153nm,0.7s
SUA IAML 23 52 43.3
comp=E,246nm,0.7s
SUA Susitna One 2.18 36 P **Pn 23 52 14.1 -0.4**
baz=219
M19K Big River Lodg 2.22 348 Pn 23 52 14.2 -0.6
M19K Big River Lodg 2.22 348 P **Pn 23 52 14.2 -0.6**
baz=167

R18K Karluk 2.24 194 Pn 23 52 14.0 -1.1
R18K **Sn 23 52 41.4 -2.3**
R18K Karluk 2.24 194 IAML 23 52 44.8
comp=E,215nm,0.3s
R18K IAML 23 52 46.2
comp=N,214nm,0.5s
R18K Karluk 2.24 194 P **Pn 23 52 14.0 -1.1**
baz=13
R18K S **Sn 23 52 41.4 -2.3**
baz=13
RC01 Rabbit Creek A 2.28 52 Pn 23 52 14.7 -0.9
RC01 IAML 23 52 43.2
comp=N,242nm,0.3s
RC01 Rabbit Creek A 2.28 52 P **Pn 23 52 14.8 -0.9**
baz=235
O16K Kokwok River B 2.36 268 Pn **Pn 23 52 16.8 +0.3**
O16K Kokwok River B 2.36 268 P **Pn 23 52 17.0 +0.5**
baz=84
SKT Skwentna 2.43 22 Pn 23 52 17.0 -0.5
SKT IAML 23 52 51.5
comp=E,41nm,0.5s
SKT IAML 23 52 53.2
comp=N,48nm,0.3s
SKT Skwentna 2.43 22 P **Pn 23 52 16.9 -0.5**
baz=203
OHAK Old Harbor 2.53 178 P **Pn 23 52 17.0 -1.7**
OHAK Old Harbor 2.53 178 Pn 23 52 17.2 -1.5
OHAK IAML 23 52 48.3
comp=N,124nm,0.4s
OHAK IAML 23 52 49.1
comp=E,92nm,0.4s
OHAK Old Harbor 2.53 178 P **Pn 23 52 17.1 -1.5**
baz=358
PLK3 Peulik 3 2.53 217 Pn 23 52 19.3 +0.5
L19K White Mountain 2.54 345 P **Pn 23 52 18.1 -0.8**
baz=163
M17K Holitna River 2.58 312 Pn **Pn 23 52 19.4 +0.1**
M17K IAML 23 53 26.9
comp=E,19nm,0.9s
M17K IAML 23 53 32.3
comp=N,22nm,0.7s
M17K Holitna River 2.58 312 P **Pn 23 52 19.3 0.0**
baz=128
M22K Willow 2.60 38 Pn 23 52 18.9 -0.6
M22K Willow 2.60 38 P **Pn 23 52 18.9 -0.6**
baz=220
L20K Farewell, AK 2.75 356 P **Pn 23 52 21.2 -0.4**
baz=175
N16K Nishlik Lake 2.76 288 P **Pn 23 52 22.2 +0.5**
baz=103
PMR Palmer 2.82 47 P **Pn 23 52 22.7 +0.3**
PMR Palmer 2.82 47 Pn 23 52 21.7 -0.6
PMR IAML 23 52 54.4
comp=E,81nm,0.4s
PMR IAML 23 52 55.2
comp=N,69nm,0.7s
PMR Palmer 2.82 47 P **Pn 23 52 21.3 -1.0**
baz=231
L18K Granite Mounta 2.94 329 Pn **Pn 23 52 23.2 -0.7**
L18K Granite Mounta 2.94 329 P **Pn 23 52 23.3 -0.7**
baz=146
KNK Knik Glacier 2.98 54 Pn 23 52 23.3 -1.1
KNK IAML 23 53 04.3
comp=N,131nm,0.6s
KNK IAML 23 53 05.3
comp=E,126nm,0.6s
KNK Knik Glacier 2.98 54 P **Pn 23 52 22.9 -1.6**
baz=238
GHO Glory Hole Cre 3.01 46 Pn 23 52 23.4 -1.5
GHO IAML 23 53 00.1
comp=N,109nm,0.3s
GHO IAML 23 53 01.7
comp=E,109nm,0.6s
M16K Timber Creek 3.02 298 Pn **Pn 23 52 25.4 +0.4**
M16K Timber Creek 3.02 298 P **Pn 23 52 25.3 +0.4**
baz=112
P23K Montague Islan 3.06 83 P **Pn 23 52 25.1 -0.3**
baz=268
CUT Chulitna 3.09 29 Pn 23 52 26.0 +0.2
CUT IAML 23 53 02.0
comp=N,103nm,0.4s
CUT IAML 23 53 06.5
comp=E,93nm,0.3s
SII Sitkinak Islan 3.22 187 P **Pn 23 52 26.3 -1.2**
SII Sitkinak Islan 3.22 187 Pn **Pn 23 52 26.5 -1.0**
SII IAML 23 53 13.6
comp=E,121nm,0.6s
SII IAML 23 53 25.0
comp=N,115nm,1.1s
PPLA Purkeypile 3.22 10 P **Pn 23 52 28.0 +0.3**
baz=191
SML Sawmill 3.25 48 IAML 23 53 05.8
comp=N,56nm,0.6s
SML IAML 23 53 12.6
comp=E,63nm,0.9s
SML Sawmill 3.25 48 P **Pn 23 52 26.3 -1.7**
baz=233
GLI Glacier Island 3.36 67 Pn **Pn 23 52 29.3 0.0**
GLI IAML 23 53 08.5
comp=N,94nm,0.2s
GLI Glacier Island 3.36 67 P **Pn 23 52 29.1 -0.3**
baz=253
N15K Kwethluk River 3.37 280 Pn **Pn 23 52 29.7 +0.2**
L17K Donlin 3.37 317 P **Pn 23 52 29.3 -0.2**
baz=133
M23K Glacier View 3.48 51 P **Pn 23 52 29.5 -1.5**
baz=236
HIN Hinchinbrook I 3.54 76 Pn 23 52 31.5 -0.3
HIN IAML 23 53 15.5
comp=E,106nm,0.9s
L16K Owhat River 3.56 306 Pn **Pn 23 52 32.3 +0.4**
Q23K Middleton Isla 3.62 92 Pn **Pn 23 52 32.2 -0.6**
Q23K IAML 23 54 19.6
comp=N,93nm,0.9s
Q23K IAML 23 54 31.5
comp=E,95nm,1.0s
Q23K Middleton Isla 3.62 92 P **Pn 23 52 32.4 -0.3**
baz=278
K20K Telida 3.64 356 Pn **Pn 23 52 32.5 -0.5**
K20K Telida 3.64 356 P **Pn 23 52 32.5 -0.5**
baz=175
SCM Sheep Creek Mo 3.66 52 IAML 23 53 17.8
comp=N,70nm,0.5s
SCM Sheep Creek Mo 3.66 52 P **Pn 23 52 31.8 -1.5**
baz=238
M15K Kasigluk River 3.74 288 Pn 23 52 34.9 +0.7
M15K Kasigluk River 3.74 288 P **Pn 23 52 34.9 +0.7**
baz=102
CAST Castle Rocks 3.75 9 Pn **Pn 23 52 34.1 -0.4**
K17K Iditarod 3.80 324 Pn 23 52 34.8 -0.2
K17K Iditarod 3.80 324 IAML 23 53 22.1
comp=E,8.6nm,1.1s
K17K IAML 23 53 37.2
comp=N,7.9nm,1.1s
K17K Iditarod 3.80 324 P **Pn 23 52 34.8 -0.2**
baz=140
WAT7 Susitna Watana 3.81 34 Pn 23 52 34.2 -1.2
WAT1 Susitna Watana 3.90 35 P **Pn 23 52 35.2 -1.2**
baz=219
EYAK Cordova Ski Ar 3.93 75 P **Pn 23 52 36.7 -0.1**
WAT6 Susitna Watana 3.97 42 P **Pn 23 52 35.9 -1.6**
baz=227
TRF Thorofare Moun 4.01 21 Pn **Pn 23 52 37.3 -0.8**
TRF IAML 23 53 23.2
comp=E,13nm,0.5s
TRF IAML 23 53 23.8
comp=N,20nm,0.4s
TRF Thorofare Moun 4.01 21 P **Pn 23 52 37.0 -1.1**
baz=203
J18K Innoko River 4.05 339 Pn **Pn 23 52 37.7 -0.7**
DIV Divide 4.05 67 Pn 23 52 38.4 -0.1
KLU Klutina 4.10 61 P **Pn 23 52 37.8 -1.3**
baz=248
CHUM Lake Minchumin 4.19 7 Pn 23 52 40.0 -0.2
CHUM Lake Minchumin 4.19 7 P **Pn 23 52 40.1 -0.2**
baz=188
M24K Tolsona, Glenn 4.27 53 IAML 23 53 37.3
comp=E,57nm,0.7s
M24K Tolsona, Glenn 4.27 53 P **Pn 23 52 40.5 -0.9**
baz=239
RND Reindeer 4.28 29 Pn **Pn 23 52 40.6 -1.0**
RND IAML 23 53 32.7
comp=E,15nm,0.3s
RND IAML 23 53 33.0
comp=N,10nm,0.5s
CHGN Chignik 4.34 220 Pn **Pn 23 52 42.1 -0.2**

M14K Bethel 4.36 287 Pn **Pn 23 52 42.9 +0.4**
M14K IAML 23 55 11.2
comp=E,5.2nm,1.1s
M14K IAML 23 55 41.4
comp=N,7.0nm,1.1s
J19K Poorman 4.39 347 P **Pn 23 52 42.0 -0.9**
baz=165
DHY Denali Highway 4.44 38 IAML 23 53 33.8
comp=E,27nm,0.6s
DHY IAML 23 53 34.6
comp=N,41nm,0.4s
DHY Denali Highway 4.44 38 P **Pn 23 52 42.3 -1.4**
baz=224
GOAT Goat Mountain 4.44 75 Pn 23 52 43.0 -0.6
RAGM Ragged Mountai 4.44 78 Pn **Pn 23 52 43.4 -0.2**
J20K Nowinta River 4.46 356 IAML 23 53 26.3
comp=N,4.2nm,0.9s
J20K IAML 23 54 32.7
comp=E,4.5nm,1.1s
J20K Nowinta River 4.46 356 P **Pn 23 52 43.3 -0.6**
baz=175
BPAW Bear Paw Mtn. 4.53 14 IAML 23 53 34.1
comp=N,5.9nm,0.6s
BPAW IAML 23 53 34.2
comp=E,5.0nm,0.8s
BPAW Bear Paw Mtn. 4.53 14 P **Pn 23 52 43.8 -0.9**
baz=196
MCK McKinley 4.54 26 Pn 23 52 44.0 -0.9
MCK McKinley 4.54 26 P **Pn 23 52 44.0 -0.9**
baz=210
J17K VABM Dome 4.55 326 Pn **Pn 23 52 44.3 -0.7**
KAIM Kayak Island 4.56 84 Pn **Pn 23 52 45.2 +0.1**
KAIM IAML 23 53 48.4
comp=N,52nm,1.0s
KAIM Kayak Island 4.56 84 P **Pn 23 52 45.3 +0.1**
baz=272
BMRM Bremner River 4.56 71 P **Pn 23 52 44.7 -0.5**
baz=258
HMT Hamilton 4.65 79 Pn 23 52 45.8 -0.5
K15K Wolf Creek Mou 4.69 307 Pn **Pn 23 52 47.8 +0.9**
N25K Chitina, Valde 4.74 63 Pn 23 52 46.5 -1.1
N25K Chitina, Valde 4.74 63 P **Pn 23 52 46.5 -1.1**
baz=251
S14K Fog Glacier 4.75 226 P **Pn 23 52 48.4 +0.7**
baz=40
VNFG Fog Glacier, M 4.75 226 Pn 23 52 48.5 +0.7
NICHA Nichawak Mount 4.79 80 Pn 23 52 47.8 -0.4
BWN Browne 4.83 21 Pn **Pn 23 52 48.1 -0.5**
BWN IAML 23 53 56.2
comp=E,13nm,1.2s
BWN IAML 23 54 16.2
comp=N,16nm,0.9s
J16K Anvik River 4.94 319 Pn **Pn 23 52 49.9 -0.2**
J16K IAML 23 55 25.4
comp=E,4.1nm,1.2s
PAX Paxson 5.02 46 P **Pn 23 52 50.4 -1.0**
baz=233
WASW Wrangell South 5.04 60 Pn 23 52 51.9 +0.1
I20K Naaghedeneel 5.10 355 Pn **Pn 23 52 51.1 -1.2**
I20K IAML 23 53 53.7
comp=N,11nm,0.5s
I20K IAML 23 54 45.6
comp=E,13nm,1.1s
GRIN Grindle Hills 5.11 80 Pn 23 52 52.4 -0.2
VRDI Verde Repeater 5.16 69 Pn **Pn 23 52 53.2 -0.1**
NEA2 Nenana 5.28 21 IAML 23 53 52.9
comp=N,5.1nm,0.8s
NEA2 IAML 23 53 56.0
comp=E,4.4nm,0.7s
NEA2 Nenana 5.28 21 P **Pn 23 52 53.3 -1.4**
baz=205
SNH Sunshine Point 5.35 81 Pn **Pn 23 52 55.7 -0.1**
WAX Waxell Ridge 5.35 78 Pn **Pn 23 52 55.1 -0.7**
WRH Wood River Hil 5.37 26 IAML 23 53 55.9
comp=E,5.8nm,0.7s
WRH IAML 23 53 57.5
comp=N,5.2nm,1.1s
MCARA McCarthy VSAT 5.40 68 Pn **Pn 23 52 56.0 -0.4**
MCARA McCarthy VSAT 5.40 68 P **Pn 23 52 56.5 +0.1**
baz=257
MLY Manley 5.46 12 P **Pn 23 52 56.3 -0.9**
baz=194
K24K Donnelly Dome 5.46 38 P **Pn 23 52 57.5 +0.3**
baz=225
CCB Clear Creek Bu 5.58 26 Pn 23 52 57.1 -1.7
HDA Harding Lake 5.59 30 P **Pn 23 52 57.5 -1.4**
baz=216
ISLE Juniper Island 5.61 76 Pn **Pn 23 52 59.1 -0.2**
PTPK Patty Peak 5.62 70 Pn 23 52 59.9 +0.4
KIAG Kiagna River 5.63 73 Pn 23 52 59.7 0.0
MENT Mentasta 5.67 51 Pn **Pn 23 52 59.8 -0.2**
MDM Murphy Dome 5.77 23 Pn 23 52 60.0 -1.3
COLA College 5.77 24 Pn 23 52 59.8 -1.5
MESA MESA 5.79 81 Pn **Pn 23 53 02.3 +0.5**
MESA MESA 5.79 81 P **Pn 23 53 01.8 0.0**
baz=271
H18K Honhosa River 5.89 339 Pn **Pn 23 53 02.1 -0.8**
H18K Honhosa River 5.89 339 P **Pn 23 53 02.3 -0.5**
baz=155
IL31 5.90 28 Pn 23 53 01.5 -1.5
ILAR Eielson Array 5.90 28 P **Pn 23 53 01.6 -1.5**
comp=N,6.9nm,0.4s,baz=217,slow=13,SNR=121
ILAR S **Sn 23 54 04.3 -5.2**
comp=N,1.4nm,0.4s,baz=210,slow=25,SNR=2.5
H21K Melozitna Rive 5.95 3 P **Pn 23 53 03.0 -0.7**
baz=183
CNBA Chernabura Isl 5.95 217 Pn 23 53 04.3 +0.6
H19K Roundabout Mou 5.97 348 Pn 23 53 04.3 +0.4
BARN Barnard Glacie 5.99 72 Pn 23 53 05.6 +1.1
H17K Granite Mounta 6.02 333 Pn 23 53 04.0 -0.6
POKR Poker Plat Res 6.07 25 Pn 23 53 03.9 -1.5
CTGM Chitina Glacie 6.14 73 Pn 23 53 06.1 -0.3
S12K Black Hills 6.14 232 Pn 23 53 06.3 0.0
SCRK Sand Creek 6.17 42 P **Pn 23 53 04.9 -1.9**
baz=231
J25K Salcha River, 6.18 34 P **Pn 23 53 05.2 -1.6**
baz=221
LOGN Logan Glacier 6.29 75 Pn 23 53 09.5 +1.1
H23K Yukon River 6.36 15 P **Pn 23 53 08.4 -0.8**
baz=198
L27K Beaver Creek, 6.50 54 Pn 23 53 11.0 -0.1
L27K Beaver Creek, 6.50 54 P **Pn 23 53 11.0 -0.1**
baz=244
G18K Tagagawik 6.62 341 Pn 23 53 10.7 -2.0
H24K Noodor Dome 6.63 20 P **Pn 23 53 11.4 -1.4**
baz=205
G19K Purcell Mounta 6.64 347 Pn 23 53 12.6 -0.3
J26L Joseph Creek 6.65 40 Pn 23 53 11.4 -1.8
J26L Joseph Creek 6.65 40 P **Pn 23 53 11.4 -1.8**
baz=229
YUK3 Moose Creek 6.68 67 P **Pn 23 53 13.9 +0.1**
baz=258
G21K Allakaket 6.80 360 Pn 23 53 14.9 -0.2
G21K Allakaket 6.80 360 P **Pn 23 53 14.7 -0.4**
baz=180
PRP Porcupine Dome 6.85 29 P **Pn 23 53 14.7 -1.1**
baz=216
G16K Koyuk River 7.00 328 Pn **Pn 23 53 15.5 -2.3**
PNL Peninsula 7.11 85 P **Pn 23 53 19.3 0.0**
G23K Bananza Creek 7.16 11 P **Pn 23 53 19.1 -0.9**
baz=194
F19K Shaleruckik Mo 7.38 347 Pn 23 53 22.8 0.0
F20K Avaraart Lake 7.41 353 Pn **Pn 23 53 22.9 -0.3**
O29M Mount Kennedy 7.47 79 Pn **Pn 23 53 25.6 +1.3**
G24K Hadweenzic Riv 7.48 19 P **Pn 23 53 22.9 -1.3**
baz=204
ISLZ Isanotski Laza 7.50 232 Pn 23 53 25.0 +0.5
EGAK Eagle 7.63 43 Pn **Pn 23 53 24.8 -1.5**
M29M Somme Creek 7.75 63 Pn **Pn 23 53 28.3 +0.4**
E19K Redstone River 7.92 349 Pn **Pn 23 53 30.9 +0.7**
P29M Windy Craggy 7.95 84 Pn **Pn 23 53 32.2 +1.6**
HYT Haines Junctio 8.00 75 Pn **Pn 23 53 32.6 +1.3**
I27K Kandik River 8.00 38 Pn 23 53 31.1 -0.2
I27K Kandik River 8.00 38 P **Pn 23 53 31.1 -0.2**
baz=226
L29M L29M 8.08 59 Pn **Pn 23 53 32.3 0.0**
F24K Squaw Lake 8.19 15 Pn **Pn 23 53 32.6 -1.1**
F24K Squaw Lake 8.19 15 P **Pn 23 53 32.4 -1.3**
baz=200
N30M Aishikik Lake 8.23 71 Pn **Pn 23 53 34.5 +0.2**
E18K Tukpahlearik C 8.34 341 Pn **Pn 23 53 35.0 -0.6**
I28M Miner Creek 8.45 42 Pn 23 53 36.5 -0.7
I28M Miner Creek 8.45 42 P **Pn 23 53 35.5 -1.8**
baz=234
H27K Steamboat Moun 8.46 35 Pn 23 53 35.6 -1.8

H27K	**Steamboat Moun**	**8.46**	**35**	P		**Pn**	**23 53 35.7**	**-1.8**
	baz=225							
M30M	**Minto, Yukon**	**8.53**	**63**	Pn		**Pn**	**23 53 39.1**	**+0.7**
K29M	**Barlow Dome**	**8.58**	**55**	Pn		**Pn**	**23 53 38.6**	**-0.5**
F25K	**Christian Rive**	**8.60**	**20**			**Pn**	**23 53 37.8**	**-1.6**
F25K	**Christian Rive**	**8.60**	**20**	P		**Pn**	**23 53 37.8**	**-1.6**
	baz=207							
E24K	**Your Creek**	**8.64**	**12**	Pn		**Pn**	**23 53 38.7**	**-1.1**
O30N	**Mendenhall**	**8.69**	**76**	Pn		**Pn**	**23 53 42.1**	**+1.6**
E21K	**Killik River**	**8.74**	**359**	Pn		**Pn**	**23 53 40.4**	**-0.7**
G27K	**Doyon Strip**	**8.84**	**32**	Pn		**Pn**	**23 53 41.4**	**-1.2**
I29M	**Ogilvie Camp,**	**8.96**	**45**	Pn		**Pn**	**23 53 43.3**	**-0.8**
D19K	**Kuna River**	**9.02**	**349**	Pn		**Pn**	**23 53 45.1**	**+0.2**
E25K	**Arctic Village**	**9.09**	**19**	Pn		**Pn**	**23 53 44.4**	**-1.4**
TOLK	**Toolik Lake Re**	**9.09**	**9**	Pn		**Pn**	**23 53 44.8**	**-1.1**
J30M	**Hart River**	**9.34**	**52**	Pn		**Pn**	**23 53 49.5**	**+0.2**
H29M	**Whitestone**	**9.43**	**40**	Pn		**Pn**	**23 53 51.2**	**+0.9**
M31M	**Drury Creek, Y**	**9.58**	**67**	Pn		**Pn**	**23 53 53.6**	**+1.2**
I30M	**Mount Dempster**	**9.60**	**48**	Pn		**Pn**	**23 53 53.1**	**+0.3**
F28M	**Old Crow**	**9.91**	**31**	Pn		**Pn**	**23 53 55.9**	**-0.9**
E27K	**Coleen River**	**9.93**	**26**	Pn		**Pn**	**23 53 54.8**	**-2.2**
JIS	**Juneau Island**	**9.94**	**90**	P		**Pn**	**23 54 00.1**	**+3.0**
JIS	**Juneau Island**	**9.94**	**90**	Pn		**Pn**	**23 53 58.0**	**+0.8**
EPYK	**Eagle Plains**	**10.06**	**42**	Pn		**Pn**	**23 53 59.8**	**+1.0**
D25K	**Kavik River**	**10.08**	**14**	Pn		**Pn**	**23 53 57.9**	**-1.1**
C23K	**Itkillik River**	**10.21**	**6**	Pn		**Pn**	**23 53 59.8**	**-0.9**
P33M	**Teslin, Yukon**	**10.34**	**78**	Pn		**Pn**	**23 54 04.5**	**+1.9**
B22K	**Teshekpuk Lake**	**10.64**	**0**	Pn		**Pn**	**23 54 04.1**	**-2.4**
E29M	**Blow River**	**10.99**	**31**	Pn		**Pn**	**23 54 10.2**	**-0.8**
G31M	**Satah River**	**11.18**	**42**	Pn		**Pn**	**23 54 13.5**	**-0.1**
U33K	**Whale Pass**	**11.39**	**100**	Pn		**Pn**	**23 54 17.6**	**+1.2**
R33M	**Jennings River**	**11.39**	**82**	Pn		**Pn**	**23 54 18.4**	**+1.7**
DLBC	**Dease Lake**	**12.10**	**86**	LR		LR	23 58 45.0	
	comp=N,69nm,20.2s,baz=356,slow=35							
INK	**Inuvik**	**12.18**	**37**	P		**Pn**	**23 54 26.9**	**+0.2**
	comp=N,0.5nm,0.4s,baz=217,slow=12,SNR=3.1							
YKA	**Yellowknife Ar**	**18.77**	**65**	P		**P**	**23 55 47.2**	**+1.0**
	comp=N,0.4nm,0.7s,baz=283,slow=11,SNR=5.2							
SONM	**Songino Array**	**54.76**	**306**	P		**P**	**00 00 54.1**	**+0.9**
	comp=N,0.5nm,0.4s,baz=50,slow=6.2,SNR=5.3							
	comp=N,0.5nm,0.4s							
ZALV	**Zalesovo Beam**	**57.45**	**323**	P		**P**	**00 01 12.5**	**+0.4**
	comp=N,0.8nm,0.5s,baz=24,slow=7.9,SNR=4.2							
	comp=N,0.8nm,0.5s							
BVAR	**Borovoye Array**	**62.19**	**332**	P		**P**	**00 01 44.7**	**+0.2**
	comp=N,0.8nm,0.5s,baz=38,slow=7.3,SNR=3.8							
	comp=N,0.8nm,0.5s							

*IDC **28** 00:07:08.8±0.9, 12°.56S×44°.79E, h0km, mb3.8/8, mbtmp3.8/8, MS3.4/6, Error ellipse: s-maj=33.8km s-min=22.0km az=126.0*

ISC 28 00:07:10.9±1.0, 12°.6S±0°.2×44°.9E±0°.1, h10km, n16, σ1°.65/13, mb3.7/9, MS3.7/3, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**6.31**	**160**	LR	LR	00 10 54.9	
	comp=Z,238nm,21.0s,baz=170,slow=35						
ZOMB	**Zomba**	**9.70**	**252**	*e*PN	**Pn**	**00 09 32.7**	**+2.0**
ZOMB				*e*SN	**Sn**	**00 11 18.0**	**-1.7**
ZOMB	**Zomba**	**9.70**	**252**	*e*PN	**Pn**	**00 09 32.7**	**+2.0**
ZOMB				*e*SN	**Sn**	**00 11 18.0**	**-1.7**
LSZ	**Lusaka**	**16.46**	**259**	LR	LR	00 17 10.1	
	comp=Z,117nm,19.1s,baz=118,slow=37						
MBAR	**Mbarara**	**18.45**	**309**	LR	LR	00 18 29.6	
	comp=Z,65nm,20.1s,baz=118,slow=37						
LBTB	**Lobatse**	**22.03**	**233**	P	**P**	**00 12 04.9**	**-1.0**
	2.1nm,0.9s,baz=49,slow=13,SNR=2.3						
	2.1nm,0.9s						
BOSA	**Boshof**	**24.28**	**226**	P	**P**	**00 12 26.9**	**-1.8**
	1.0nm,0.4s,baz=48,slow=9.0,SNR=12						
	1.0nm,0.4s						
SUR	**Sutherland**	**29.59**	**224**	P	**P**	**00 13 15.9**	**-0.6**
	6.5nm,0.8s,baz=64,slow=12,SNR=2.8						
	6.5nm,0.8s						
TORD	**Torodi Ar. Bea**	**49.93**	**299**	P	**P**	**00 16 07.6**	**+2.3**
	0.4nm,0.9s,baz=132,slow=8.5,SNR=1.9						
TORD				LR	LR	00 36 25.5	
	comp=Z,36nm,18.9s,baz=106,slow=35						
BRTR	**Keskin Array B**	**53.12**	**349**	P	**P**	**00 16 28.2**	**-0.7**
	0.3nm,0.6s,baz=151,slow=6.3,SNR=2.3						
	0.3nm,0.6s						
MAW	**Mawson**	**56.20**	**172**	LR	LR	00 38 02.3	
	comp=Z,61nm,18.0s,baz=42,slow=33						
GERES	**GERESS Array B**	**67.14**	**338**	P	**P**	**00 18 03.6**	**-1.3**
	0.3nm,0.5s,baz=174,slow=9.9,SNR=4.4						
	0.3nm,0.5s						
MKAR	**Makanchi Array**	**67.95**	**27**	P	**P**	**00 18 09.4**	**-0.6**
	0.5nm,0.8s,baz=230,slow=6.6,SNR=2.5						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**84.11**	**113**	P	**P**	**00 19 42.9**	**+0.1**
	0.5nm,0.6s,baz=261,slow=4.8,SNR=7.5						
	0.5nm,0.6s						
WRA	**Warrannunga Arr**	**85.24**	**109**	P	**P**	**00 19 49.3**	**+0.8**
	0.4nm,0.7s,baz=279,slow=8.4,SNR=2.3						
	0.4nm,0.7s						
JOW	**Kunigami**	**89.79**	**63**	LR	LR	00 56 22.2	
	comp=Z,58nm,21.8s,baz=260,slow=33						

*DNK **28** 00:18:18.9±3.2, 80°.63N×3°.04W, h23km±22km, ML2.4*
*FCIAR **28** 00:18:19.0, 80°.86N×2°.66W, h10km, station ZFI2 has station magnitude of 3.50 station OMEGA has station magnitude of 3.50*
*IDC **28** 00:18:20.6±1.0, 80°.57N×3°.39W, h0km, mb3.5/8, mbtmp3.6/10, ML4.1/2, MS3.1/9, Error ellipse: s-maj=35.6km s-min=15.4km az=30.0*
*BER **28** 00:18:21.9±3.4, 80°.67N×3°.33W, h22km±25km, mb(Pn)3.6, ML3.4(NAO), Confirmed Earthquake*

ISC 28 00:18:19.4±0.6, 80°.52N±0°.05×3°.38W±0°.04, h10km, n48, σ3°.00/65, mb3.5/8, MS3.0/7, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOR	**Nord**	**2.34**	**304**	Pn	**Pn**	**00 18 56.9**	**-1.0**
NOR				Sn	**Sn**	**00 19 22.6**	**-3.9**
NOR	**Nord**	**2.34**	**304**	*e*P	**Pn**	**00 18 56.9**	**-1.0**
NOR				*e*S	**Sn**	**00 19 22.4**	**-4.1**
NOR	**Nord**	**2.34**	**304**	*i* P	**Pn**	**00 18 56.5**	**-1.3**
NOR				*i* S	**Sn**	**00 19 23.0**	**-3.6**
NOR				IAML		00 19 31.8	
	comp=Z,47nm,0.4s						
KBS	**Kingsbay**	**3.17**	**113**	Pn	**Pn**	**00 19 08.6**	**-0.7**
KBS				Sn	**Sn**	**00 19 42.1**	**-5.0**
KBS	**Kingsbay**	**3.17**	**113**	*e*P	**Pn**	**00 19 08.6**	**-0.7**
KBS				*e*S	**Sn**	**00 19 42.2**	**-4.9**
KBS				IAML		00 19 48.8	
	comp=Z,12nm,0.5s						
KBS	**Kingsbay**	**3.17**	**113**	*e*P	**Pn**	**00 19 08.0**	**-1.2**
KBS				*e*S	**Sn**	**00 19 44.7**	**-2.3**
KBS	**Kingsbay**	**3.17**	**113**	*i* P	**Pn**	**00 19 07.8**	**-1.4**
KBS				*i* S	**Sn**	**00 19 41.7**	**-5.4**
BRBB	**Barentsburg B**	**4.07**	**118**	Pn	**Pn**	**00 19 22.0**	**+0.4**
BRBB				Sn	**Sn**	**00 20 07.7**	**-1.5**
BRBB	**Barentsburg B**	**4.07**	**118**	*e*P	**Pn**	**00 19 22.1**	**+0.5**
BRBB				*e*S	**Sn**	**00 20 07.8**	**-1.4**
BRBA	**Barentsburg A**	**4.09**	**118**	Pn	**Pn**	**00 19 22.5**	**+0.6**
BRBA				Sn	**Sn**	**00 20 08.2**	**-1.5**
BRBA	**Barentsburg A**	**4.09**	**118**	*e*P	**Pn**	**00 19 23.0**	**+1.1**
BRBA				*e*S	**Sn**	**00 20 07.1**	**-2.7**
BRBA				IAML		00 20 11.8	
	comp=Z,11nm,0.5s						
SPA0	**Spitsbergen Ar**	**4.33**	**113**	Pn	**Pn**	**00 19 25.0**	**-0.2**
	baz=327,slow=11						
SPA0				Sn	**Sn**	**00 20 12.2**	**-3.6**
	baz=321,slow=37						
SPA0	**Spitsbergen Ar**	**4.33**	**113**	Pn	**Pn**	**00 19 25.0**	**-0.2**
	baz=327,slow=11						
SPA0				Sn	**Sn**	**00 20 12.2**	**-3.6**
	baz=321,slow=37						
SPA0	**Spitsbergen Ar**	**4.33**	**113**	*e*P	**Pn**	**00 19 25.0**	**-0.2**
SPA0				*e*S	**Sn**	**00 20 11.7**	**-4.1**
SPITS	**Spitsbergen Ar**	**4.33**	**113**	Pn	**Pn**	**00 19 24.9**	**-0.2**
	baz=323,slow=7.7						
SPITS				Sn	**Sn**	**00 20 13.5**	**-2.2**
	baz=320,slow=18						
	comp=Z,49nm,0.3s						
DAG	**Danmarks Havn**	**4.81**	**226**	*e*P	**Pn**	**00 19 32.8**	**+1.1**
DAG				*e*S	**Sn**	**00 20 23.1**	**-4.3**
DAG	**Danmarks Havn**	**4.81**	**226**	*i* P	**Pn**	**00 19 32.8**	**+1.1**
DAG				*i* S	**Sn**	**00 20 23.3**	**-4.0**
DAG				IAML		00 20 25.8	
	comp=Z,13nm,0.5s						

HSPB	**Hornsund (broa**	**5.08**	**124**	Pn		**Pn**	**00 19 36.9**	**+1.4**
HSPB				Sn		**Sn**	**00 20 31.9**	**-2.3**
HSPB	**Hornsund (broa**	**5.08**	**124**	*e*P		**Pn**	**00 19 36.5**	**+1.0**
HSPB				*e*S		**Sn**	**00 20 32.8**	**-1.4**
HOPEN	**Hopen**	**6.86**	**111**	Pn		**Pn**	**00 19 59.1**	**-0.8**
HOPEN				Sn		**Sn**	**00 21 11.7**	**-6.1**
HOPEN	**Hopen**	**6.86**	**111**	*e*P		**Pn**	**00 19 59.0**	**-0.8**
HOPEN				IAML			00 21 08.7	
	comp=Z,14nm,0.7s							
HOPEN				*e*S		**Sn**	**00 21 12.1**	**-5.7**
HOPEN	**Hopen**	**6.86**	**111**	*e*P		**Pn**	**00 19 58.8**	**-1.1**
HOPEN				*e*S		**Sn**	**00 21 11.3**	**-6.5**
DBG	**Daneborg**	**7.20**	**219**	Pn		**Pn**	**00 20 04.9**	**+0.4**
DBG				Sn		**Sn**	**00 21 20.2**	**-5.9**
DBG	**Daneborg**	**7.20**	**219**	*e*P		**Pn**	**00 20 05.3**	**+0.8**
DBG				*e*S		**Sn**	**00 21 20.6**	**-5.6**
DBG	**Daneborg**	**7.20**	**219**	*i* P		**Pn**	**00 20 05.5**	**+1.0**
DBG				*i* S		**Sn**	**00 21 21.1**	**-5.1**
DBG				IAML			00 21 41.3	
	comp=Z,6.0nm,0.5s							
ZFI2	**Zemlya Franca-**	**8.07**	**63**	*e*P		**Pn**	**00 20 14.4**	**-2.0**
ZFI2				*e*S		Sn	00 21 35.8	-12
	comp=Z,12nm,2.4s							
OMEGA	**Omega**	**8.09**	**63**	*e*P		**Pn**	**00 20 14.7**	**-2.1**
OMEGA				*e*S		Sn	00 21 36.1	-12
	comp=Z,13nm,3.7s							
NEEM	**North Greenlan**	**9.36**	**276**	*i* P		**Pn**	**00 20 31.7**	**-2.7**
NEEM				*i* S		Sn	00 22 08.3	-11
NEEM				IAML			00 22 21.2	
	comp=Z,14nm,0.7s							
SUMG	**Summit**	**11.12**	**244**	*i* P		**Pn**	**00 20 56.5**	**-2.0**
SUMG				*i* S		Sn	00 22 53.2	-10
SUMG				IAML			00 23 11.0	
	comp=Z,4.3nm,0.5s							
ARCES	**ARCESS Array B**	**13.04**	**131**	Pn		**Pn**	**00 21 26.2**	**+1.7**
	comp=Z,0.1nm,0.3s,baz=351,slow=10.0,SNR=6.3							
	comp=Z,6.4nm,1.0s							
UPNV	**Upernavik**	**13.76**	**265**	*i* P		Pn	00 21 28.4	-5.7
UPNV				*i* S		Sn	00 23 50.0	-17
NUUG	**Nuugaatsiaq**	**14.34**	**259**	*i* P		**Pn**	**00 21 39.1**	**-3.0**
NUUG				*i* S		Sn	00 24 05.9	-15
SFJD	**Kangerlussuaq**	**18.00**	**249**	P		**Pn**	**00 22 27.4**	**-1.9**
	comp=Z,1.4nm,0.4s,baz=22,slow=12,SNR=1.9							
SFJD				LR		LR	00 29 36.3	
	comp=Z,51nm,19.0s,baz=355,slow=38							
RES	**Resolute Bay**	**18.28**	**302**	P		**Pn**	**00 22 28.6**	**-4.0**
	comp=Z,0.7nm,0.6s,baz=39,slow=14,SNR=6.6							
RES				LR		LR	00 29 45.6	
	comp=Z,50nm,18.7s,baz=7.5,slow=36							
NOA	**NORSAR Array B**	**20.02**	**159**	LR		LR	00 28 34.9	
	comp=Z,14nm,20.2s,baz=335,slow=31							
FINES	**FINESS Array B**	**20.90**	**139**	LR		LR	00 30 19.2	
	comp=Z,26nm,22.0s,baz=356,slow=34							
HFS	**Hagfors**	**21.08**	**156**	P		**P**	**00 23 06.8**	**+3.4**
	comp=Z,1.9nm,0.8s,baz=345,slow=10,SNR=4.3							
	comp=Z,1.9nm,0.8s							
FRB	**Frobisher Bay**	**23.90**	**265**	LR		LR	00 32 46.7	
	comp=Z,48nm,20.0s,baz=322,slow=36							
ARU	**Arti**	**30.31**	**104**	LR		LR	00 38 19.4	
	comp=Z,24nm,18.3s,baz=345,slow=40							
YKA	**Yellowknife Ar**	**32.27**	**306**	P		**P**	**00 24 49.5**	**+2.0**
	comp=Z,0.3nm,0.8s,baz=12,slow=8.9,SNR=4.2							
	comp=Z,0.3nm,0.8s							
ILAR	**Eielson Array**	**33.50**	**332**	P		**P**	**00 25 00.2**	**+1.9**
	comp=Z,0.3nm,0.8s,baz=3.6,slow=7.0,SNR=3.3							
	comp=Z,0.3nm,0.8s							
KURBB	**Kurchatov Arra**	**39.19**	**86**	P		**P**	**00 25 50.1**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=354,slow=7.5,SNR=2.4							
	comp=Z,0.4nm,0.3s							
MKAR	**Makanchi Array**	**43.52**	**84**	P		**P**	**00 26 25.6**	**+3.0**
	comp=Z,0.5nm,0.6s,baz=357,slow=7.3,SNR=4.3							
	comp=Z,0.5nm,0.6s							
SONM	**Songino Array**	**46.29**	**61**	P		**P**	**00 26 47.1**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=335,slow=6.4,SNR=2.3							
SONM				LR		LR	00 47 45.0	
	comp=Z,46nm,18.1s,baz=144,slow=38							
	comp=Z,0.2nm,0.3s							
NEW	**Newport**	**46.44**	**302**	LR		LR	00 48 07.5	
	comp=Z,31nm,19.2s,baz=294,slow=38							
GEYT	**Alibeck**	**48.23**	**111**	P		P	00 27 03.8	+4.0
	comp=Z,0.6nm,0.5s,baz=11,slow=1.5,SNR=1.6							
	comp=Z,0.6nm,0.5s							
TXAR	**Lajitas Array**	**62.95**	**285**	P		**P**	**00 28 48.3**	**+2.5**
	comp=Z,0.2nm,0.6s,baz=35,slow=4.3,SNR=5.0							
	comp=Z,0.2nm,0.6s							
LPIG	**La Paz**	**69.12**	**291**	LR		LR	01 03 31.5	
	comp=Z,54nm,19.0s,baz=229,slow=39							

*MOS **28** 00:47:57.2, 41°.92N×48°.96E, h21km, MPVA3.7*
*DRS **28** 00:47:57.1, 42°.18N×49°.42E, h20km*

ISC 28 00:47:54.7±2.4, 42°.04N±0°.06×49°.1E±0°.1, h6km±10km, n38, σ1°.19/61, 1C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.57**	**269**	*e*Pg	**Pn**	**00 48 09.8**	**+0.6**
DRN				*e*Sg	**Sn**	**00 48 18.6**	**-0.4**
DRN	**Derbent**	**0.57**	**269**	*e*PG	**Pn**	**00 48 09.9**	**+0.6**
DRN				pmax	pmax		
	comp=Z,270nm,1.7s						
URKR	**Urkarakh**	**1.10**	**277**	*e*Pg	**Pn**	**00 48 17.3**	**+0.6**
URKR				*e*Sg	**Sn**	**00 48 32.4**	**+0.2**
URKR	**Urkarakh**	**1.10**	**277**	*e*PN	**Pn**	**00 48 17.3**	**+0.6**
SGKR	**Sergokala**	**1.15**	**292**	*e*Pg	**Pn**	**00 48 18.6**	**+1.3**
SGKR				*e*Sg	**Sn**	**00 48 34.7**	**+1.5**
SGKR	**Sergokala**	**1.15**	**292**	*e*PN	**Pn**	**00 48 18.6**	**+1.3**
AKT	**Akhty**	**1.17**	**242**	*e*Pg	**Pb**	**00 48 17.1**	**-0.2**
AKT				*e*Sg	**Sg**	**00 48 30.5**	**-1.7**
AKT	**Akhty**	**1.17**	**242**	*e*PN	**Pb**	**00 48 17.1**	**-0.2**
GNBR	**Gunib**	**1.62**	**283**	*e*Pg	**Pg**	**00 48 26.1**	**+0.3**
GNBR				*e*Sg	**Sb**	**00 48 46.3**	**+0.5**
GNBR	**Gunib**	**1.62**	**283**	*e*PN	**Pg**	**00 48 26.1**	**+0.3**
ARKR	**Arakani**	**1.66**	**290**	*e*Pg	**Pg**	**00 48 26.4**	**-0.1**
ARKR				*e*Sg	**Sg**	**00 48 48.2**	**+0.3**
ARKR	**Arakani**	**1.66**	**290**	*e*PN	**Pg**	**00 48 26.4**	**-0.1**
BUJR	**Buynaksk**	**1.67**	**299**	*e*Pg	**Pg**	**00 48 27.2**	**+0.6**
BUJR				*e*Sg	**Sg**	**00 48 48.2**	**0.0**
BUJR	**Buynaksk**	**1.67**	**299**	*e*PN	**Pg**	**00 48 27.2**	**+0.6**
KRNR	**Karanay**	**1.80**	**297**	*e*Pg	**Pg**	**00 48 28.6**	**-0.6**
KRNR				*e*Sg	**Sb**	**00 48 51.6**	**+0.7**
KRNR	**Karanay**	**1.80**	**297**	*e*PN	**Pg**	**00 48 28.6**	**-0.6**
KRNR				pmax	pmax		
	comp=Z,16nm,0.4s						
UNCR	**Uncukul**	**1.83**	**292**	*e*Pg	**Pb**	**00 48 28.7**	**+0.1**
UNCR				*e*Sg	**Sb**	**00 48 52.5**	**+0.7**
UNCR	**Uncukul**	**1.83**	**292**	*e*PN	**Pb**	**00 48 28.7**	**+0.1**
UNCR				pmax	pmax		
	comp=Z,16nm,0.3s						
HNZR	**Khunzah**	**1.84**	**287**	*e*PN	**Pg**	**00 48 29.4**	**-0.5**
XNZR	**Khunzakh**	**1.84**	**286**	*e*Pg	**Pg**	**00 48 29.4**	**-0.6**
XNZR				*e*Sg	**Sb**	**00 48 52.4**	**+0.2**
DBIC	**Dubki**	**1.94**	**301**	*e*Pg	**Pb**	**00 48 30.3**	**-0.1**
DBIC				*e*Sg	**Sb**	**00 48 54.3**	**-0.6**
DBIC	**Dubki**	**1.94**	**301**	*e*PN	**Pb**	**00 48 30.3**	**-0.1**
DLMR	**Dylym**	**2.09**	**300**	*e*Pg	**Pb**	**00 48 33.0**	**0.0**
DLMR				*e*Sg	**Sb**	**00 48 60.0**	**+0.7**
DLMR	**Dylym**	**2.09**	**300**	*e*PN	**Pb**	**00 48 33.0**	**0.0**
DLMR				pmax	pmax		
	comp=Z,42nm,0.4s						
BTLR	**Botlikh**	**2.22**	**287**	*e*Pg	**Pb**	**00 48 35.4**	**+0.1**
BTLR				*e*Sg	**Sn**	**00 49 00.7**	**+0.9**
BTLR	**Botlikh**	**2.22**	**287**	*e*PN	**Pb**	**00 48 35.3**	**+0.1**
BTLR				pmax	pmax		
	comp=Z,17nm,0.2s						
DVE	**Vedeno**	**2.38**	**294**	*e*Pn	**Pb**	**00 48 37.4**	**-0.5**
DVE				*e*Sn	**Sn**	**00 49 04.5**	**+0.8**
DVE	**Vedeno**	**2.38**	**294**	*e*PN	**Pb**	**00 48 37.4**	**-0.5**
GROC	**Groznyy**	**2.70**	**297**	*e*Pn	**Pb**	**00 48 40.7**	**-2.6**
GROC				*e*Sn	**Sn**	**00 49 13.0**	**+1.5**
GROC	**Groznyy**	**2.70**	**297**	*e*PN	**Pb**	**00 48 41.2**	**-2.1**
GROC				*e*		00 49 27.7	
GROC				pmax	pmax		
	comp=Z,10.0nm,0.3s						
GROC				smax	smax		
	comp=N,23nm,0.6s						
GROC				smax	smax		
	comp=E,23nm,0.5s						
GROC				smax	smax		
	comp=E,26nm,0.6s						
KMGR	**Komgaron**	**3.29**	**289**	*e*Pn	**Pb**	**00 48 51.6**	**-1.8**
KMGR				*e*Sn	**Sn**	**00 49 27.1**	**+1.0**
KMGR	**Komgaron**	**3.29**	**289**	*e*PN	**Pb**	**00 48 51.6**	**-1.8**
GUDG	**Gudauri**	**3.46**	**279**	*e*Pn	**Pb**	**00 48 57.1**	**+0.8**
GUDG				*e*Sn	**Sn**	**00 49 30.8**	**+0.2**
GUDG	**Gudauri**	**3.46**	**279**	*e*PN	**Pb**	**00 48 57.1**	**+0.8**
KBZ	**Khabaz**	**4.86**	**292**	*i* P	**Pn**	**00 49 12.0**	**+3.8**
SHA1	**Shidzhatmaz**	**5.03**	**292**	*i* P	**Pn**	**00 49 12.9**	**+2.2**
MNK	**Minsk**	**18.74**	**319**	*i* P	**Pn**	**00 52 14.2**	**-0.2**
	comp=E,6.0nm,1.4s,baz=124						
MNK				*i* P	**Pn**	**00 52 14.2**	**-0.2**
	comp=N,8.0nm,0.8s,baz=124						
MNK				*i* P	**Pn**	**00 52 14.2**	**-0.2**
	comp=Z,8.0nm,0.7s,baz=124						
MNK				*i* PP	**PnPn**	**00 52 25.7**	**-0.4**
	baz=124						
MNK				*i* PPP	PPP	00 52 33.5	
	baz=124						
MNK				*i* S	**Sn**	**00 55 40.9**	**-3.1**
	baz=124						
MNK				*i* SS	**SnSn**	**00 55 56.0**	**-1.7**
	baz=124						
MNK				*i* SSS	SSS	00 56 08.8	
	baz=124						
MNK				*i* LQ	LQ	00 57 42.5	
	baz=124						
MNK				*i* LR	LR	00 59 55.9	
	baz=124						
MNK				*i* LRM	MLR	01 00 27.3	
	comp=E,41nm,17.4s,baz=124						
MNK				*i* LRM	MLR	01 00 35.4	
	comp=N,38nm,21.4s,baz=124						
MNK				*i* LRM	MLR	01 01 34.7	
	comp=Z,66nm,18.1s,baz=124						
MNK	**Minsk**	**18.74**	**319**	*i* P	**Pn**	**00 52 14.1**	**-0.2**
MNK				*i* S	**Sn**	**00 55 40.9**	**-3.1**
MNK				pmax	pmax		
	comp=N,8.0nm,0.8s						
MNK				pmax	pmax		
	comp=E,6.0nm,1.5s						
MNK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
MNK				MLR	MLR		
	comp=E,41nm,17.0s						
MNK				MLR	MLR		
	comp=N,38nm,21.0s						
MNK				MLR	MLR		
	comp=Z,66nm,18.0s						

*SJA **28** 01:18:48.4±0.6, 21°.30S×66°.56W, h238km±7km, ML3.7, MW3.6*
*SCB **28** 01:18:49.1±0.9, 21°.35S×66°.62W, h234km±7km, ML3.8/4, MW3.9, Error ellipse: s-maj=3.6km s-min=3.2km az=0.0*

ISC 28 01:18:47.8±1.7, 21°.39S±0°.04×66°.60W±0°.04, h245km±13km, n33, σ1°.33/45, 1D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.91**	**81**	Pg	**Pn**	**01 19 23.0**	**+0.5**
MOCB				Sg	**S**	**01 19 48.0**	**-1.5**
MOCB				IAML		01 19 50.8	
	353nm,0.4s						
YJA	**Yavi**	**1.28**	**128**	*e*P	**Pn**	**01 19 25.6**	**+0.9**
YJA				*e*S	**S**	**01 19 52.8**	**-0.7**
LVC	**Limon Verde**	**2.46**	**240**	*e*P	**Pn**	**01 19 35.9**	**+1.2**
LVC	**Limon Verde**	**2.46**	**240**	*e*P	**Pn**	**01 19 36.2**	**+1.5**
LVC				*i* S	**S**	**01 20 10.2**	**-1.4**
LVC				IAML		01 20 14.0	
	comp=Z,153nm,0.3s						
PB09	**IPOC Station P**	**2.49**	**260**	*e*P	**Pn**	**01 19 36.0**	**+1.3**
PB09	**IPOC Station P**	**2.49**	**260**	*e*P	**Pn**	**01 19 36.1**	**+1.3**
PB09				*e*S	**S**	**01 20 12.2**	**+0.3**
PB09	**IPOC Station P**	**2.49**	**260**	Pg	**Pn**	**01 19 36.1**	**+1.3**
PB08	**IPOC Station P**	**2.69**	**297**	*e*P	**Pn**	**01 19 38.1**	**+0.9**
PB08	**IPOC Station P**	**2.69**	**297**	*i*P	**Pn**	**01 19 38.2**	**+1.0**
PB08				*e*S	**S**	**01 20 15.2**	**-0.8**
PB08				IAML		01 20 18.6	
	comp=E,70nm,0.3s						
PB08	**IPOC Station P**	**2.69**	**297**	Pg	**Pn**	**01 19 38.1**	**+0.9**
GO01	**Chusmiza**	**2.97**	**305**	*e*P	**Pn**	**01 19 41.7**	**+1.4**
GO01	**Chusmiza**	**2.97**	**305**	*i* P	**Pn**	**01 19 41.0**	**+0.7**
GO01				*e*S	**S**	**01 20 22.2**	**+0.6**

PB08				*e*S	**Sn**	**01 21 26.8**	**-0.1**		
PB08				IAML		01 21 27.3			
	comp=N,2μm,0.4s								
PB04	**IPOC Station P**	**1.29**	**207**	*i* P	**Pn**	**01 21 15.6**	**+0.4**		
PB04				*i* S	**Sn**	**01 21 31.2**	**-0.2**		
PB04				IAML		01 21 35.6			
	comp=Z,403nm,0.1s								
PB04	**IPOC Station P**	**1.29**	**207**	*e*P	**Pn**	**01 21 14.4**	**-0.8**		
PB04				*e*S	**Sn**	**01 21 30.5**	**-0.9**		
PB11	**IPOC Station P**	**1.42**	**354**	*i* P	**Pn**	**01 21 16.4**	**-0.6**		
PB11				*i* S	**Sn**	**01 21 35.4**	**+0.7**		
PB11				IAML		01 21 37.0			
	comp=Z,297nm,0.2s								
PB11	**IPOC Station P**	**1.42**	**354**	*e*P	**Pn**	**01 21 16.3**	**-0.7**		
PB11				*e*S	**Sn**	**01 21 35.1**	**+0.4**		
PB11				IAML		01 21 36.5			
	comp=E,2μm,0.3s								
PB06	**IPOC Station P**	**1.52**	**182**	*i* P	**Pn**	**01 21 17.5**	**-0.7**		
PB06				IAML		01 21 38.1			
	comp=Z,358nm,0.1s								
PB06	**IPOC Station P**	**1.52**	**182**	*e*P	**Pn**	**01 21 17.7**	**-0.6**		
PB06				*e*S	**Sn**	**01 21 36.6**	**-0.4**		
PB06				IAML		01 21 37.6			
	comp=N,677nm,0.3s								
LVC	**Limon Verde**	**1.52**	**159**	*i* P	**Pn**	**01 21 18.7**	**+0.1**		
LVC				IAML		01 21 45.2			
	comp=Z,120nm,0.2s								
LVC	**Limon Verde**	**1.52**	**159**	*i* P	**Pn**	**01 21 18.6**	**+0.1**		
LVC				*e*S	**Sn**	**01 21 37.7**	**+0.2**		
LVC				IAML		01 21 43.2			
	comp=Z,976nm,0.1s								
GO01	**Chusmiza**	**1.54**	**11**	*i* P	**Pn**	**01 21 18.5**	**-0.3**		
GO01				*i* S	**Sn**	**01 21 37.6**	**-0.3**		
GO01	**Chusmiza**	**1.54**	**11**	*i* P	**Pn**	**01 21 18.4**	**-0.3**		
GO01				*e*S	**Sn**	**01 21 38.0**	**+0.1**		
GO01				IAML		01 21 39.3			
PB05	**IPOC Station P**	**1.78**	**201**	*e*P	**Pn**	**01 21 21.2**	**-0.6**		
PB05				*e*S	**Sn**	**01 21 42.7**	**-0.7**		
PB05				IAML		01 21 49.8			
	comp=E,268nm,0.3s								
PB15	**IPOC Station P**	**2.01**	**179**	*e*P	**Pn**	**01 21 25.1**	**0.0**		
PB15				*e*S	**Sn**	**01 21 51.0**	**+1.8**		
AF01	**San Pedro de A**	**2.15**	**145**	*e*P	**Pn**	**01 21 28.4**	**+1.4**		

IDC 28 01:36:22.0±2.2, 21°.99S×154°.55E, h0km, mbtmp3.9/3, ML3.7/3, Error ellipse: s-maj=265.1km s-min=30.3km az=180.0, East of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**11.04**	**93**	Pn	Pn	01 39 02.2	+0.9
	0.5nm,0.3s,baz=316,slow=21,SNR=10.0 4.8nm,0.6s						
WRA	**Warramunga Arr**	**18.98**	**272**	P	Pn	01 40 46.0	+0.1
	0.3nm,0.3s,baz=100,slow=10,SNR=23 1.4nm,0.6s						
ASAR	**Alice Springs**	**19.10**	**261**	P	P	01 40 46.5	-0.1
	0.2nm,0.3s,baz=83,slow=11,SNR=21 1.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**152.70**	**256**	PKPbc	PKPbc	01 56 21.1	-0.6
	0.4nm,0.6s,baz=101,slow=2.0,SNR=4.7						

*ISK **28** 01:49:50.9, 35°.48N×31°.78E, h11km, ML2.7/26*
*NIC **28** 01:49:50.7, 35°.61N×31°.73E, h18km±1km, Ml2.5/8*
*AFAD **28** 01:49:53.0±0.0, 35°.70N×31°.88E, h7km±4km, ML2.4*
ISC 28 01:49:51.3±1.1, 35°.59N±0°.03×31°.79E±0°.02, h14km±10km, n46, σ0§98/66, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKMS	**Akamas**	**0.72**	**141**	P	**Pg**	**01 50 05.0**	**-0.4**
AKMS				S	**Sb**	**01 50 16.8**	**+1.5**
AKMS				AML	AML	01 50 19.7	
	0.7nm,0.5s						
AKMS				AML	AML	01 50 20.3	
	1.0nm,0.3s						
GAZI	**Gazipasa**	**0.78**	**33**	Pg	**Pn**	**01 50 08.2**	**+0.3**
GAZI				Sg	**Sn**	**01 50 20.5**	**+1.2**
GAZI	**Gazipasa**	**0.78**	**33**	P	**Pn**	**01 50 08.4**	**+0.5**
GAZI				S	**Sn**	**01 50 20.6**	**+1.3**
ALFC	**Alefka**	**0.79**	**123**	P	**Pg**	**01 50 06.3**	**-0.3**
ALFC				S	**Sn**	**01 50 20.0**	**+0.4**
ALFC				AML	AML	01 50 21.6	
	0.7nm,0.2s						
ALFC				AML	AML	01 50 25.0	
	0.7nm,0.5s						
ALAN	**Alanya-ANTALYA**	**0.99**	**12**	Pn	**Pn**	**01 50 11.9**	**+1.1**
AKDN	**Akdeniz- Kıbrı**	**1.00**	**106**	Pg	**Pg**	**01 50 10.3**	**-0.4**
AKDN				Sg	**Sn**	**01 50 24.9**	**0.0**
LEF	**Lefka**	**1.01**	**117**	Pg	**Pg**	**01 50 09.5**	**-1.4**
LEF	**Lefka**	**1.01**	**117**	P	**Pg**	**01 50 10.0**	**-0.9**
LEF				S	**Sn**	**01 50 26.0**	**+0.9**
NATA	**Nata**	**1.03**	**141**	P	**Pb**	**01 50 11.1**	**+0.2**
NATA				S	**Sn**	**01 50 26.4**	**+0.9**
NATA				AML	AML	01 50 32.6	
	1.9nm,0.7s						
NATA				AML	AML	01 50 34.0	
	3.5nm,0.7s						
TROD	**Troodos**	**1.09**	**125**	P	**Pb**	**01 50 11.8**	**-0.2**
TROD				S	**Sn**	**01 50 27.3**	**+0.1**
TROD				AML	AML	01 50 28.9	
	0.4nm,0.4s						
TROD				AML	AML	01 50 40.0	
	0.3nm,0.9s						
TEKE	**Tekeli-Mersin**	**1.21**	**62**	Pn	**Pg**	**01 50 14.6**	**-0.1**
AKUM	**Antalya-Kumluc**	**1.38**	**303**	P	**Pg**	**01 50 18.9**	**+0.9**
AKUM				S	**Sg**	**01 50 39.6**	**+3.7**
AKUM				*i* AML	AML	01 50 41.0	
	comp=N,74nm,0.6s						
AKUM				*i* AML	AML	01 50 43.0	
	comp=E,80nm,0.5s						
BERE	**Bereket-Mersin**	**1.39**	**56**	Pn	**Pg**	**01 50 18.1**	**0.0**
CSS	**Mathiatis**	**1.41**	**116**	Pn	**Pn**	**01 50 16.4**	**-0.1**
CSS	**Mathiatis**	**1.41**	**116**	P	**Pn**	**01 50 16.3**	**-0.3**
CSS				S	**Sn**	**01 50 35.5**	**+0.6**
CSS				AML	AML	01 50 45.5	
	0.2nm,0.6s						
CSS				AML	AML	01 50 47.3	
	0.2nm,0.6s						
YORU	**Yoruktepe-Mers**	**1.43**	**66**	Pn	**Pg**	**01 50 18.4**	**-0.5**
ASGA	**Asgata**	**1.44**	**123**	P	**Pn**	**01 50 17.1**	**+0.1**
ASGA				S	**Sb**	**01 50 36.6**	**+0.6**
ASGA				AML	AML	01 50 43.4	
	0.3nm,0.7s						
ASGA				AML	AML	01 50 44.2	
	0.4nm,0.6s						
LFK	**Lefkose**	**1.46**	**102**	Pn	**Pn**	**01 50 16.6**	**-0.6**
HDMB	**Hadim**	**1.49**	**22**	Pn	**Pg**	**01 50 19.8**	**-0.2**
AKKU	**Akkuyu-Mersin**	**1.54**	**68**	Pn	**Pb**	**01 50 18.9**	**-0.7**
GULN	**MERSIN_Gulnar**	**1.55**	**67**	P	**Pb**	**01 50 19.3**	**-0.4**
GULN				S	**Sb**	**01 50 39.4**	**+0.3**
GULN				*i* AML	AML	01 50 43.0	
	comp=E,35nm,0.7s						
GULN				*i* AML	AML	01 50 44.0	
	comp=N,28nm,0.5s						
TEVE	**Tevekalti-Mers**	**1.59**	**57**	Pn	**Pg**	**01 50 20.9**	**-0.9**
ANTB	**Antalya**	**1.60**	**325**	Pn	**Pg**	**01 50 21.3**	**-0.8**
MVOU	**Mavrovouni**	**1.61**	**110**	P	**Pn**	**01 50 18.4**	**-0.9**
MVOU				S	**Sn**	**01 50 40.8**	**+0.9**
MVOU				AML	AML	01 50 48.6	
	0.2nm,0.6s						
MVOU				AML	AML	01 50 52.8	
	0.2nm,0.7s						
TISA	**Tisan-Mersin**	**1.64**	**69**	Pn	**Pb**	**01 50 21.5**	**+0.2**
IKL	**Isikli**	**1.67**	**67**	Pn	**Pb**	**01 50 21.1**	**-0.8**
KARG	**Kargicak-Mersi**	**1.68**	**68**	Pn	**Pb**	**01 50 21.9**	**0.0**
KEBE	**Keben-Mersin**	**1.78**	**61**	Pn	**Pb**	**01 50 23.6**	**-0.2**
SEYD	**Seydisehir-KON**	**1.82**	**1**	Pn	**Pb**	**01 50 24.4**	**0.0**
KORT	**Korkueli**	**1.83**	**321**	Pn	**Pb**	**01 50 24.5**	**-0.1**
KORT	**Korkueli**	**1.83**	**321**	P	**Pg**	**01 50 26.1**	**-0.3**
KORT				*i* AML	AML	01 51 03.0	
	comp=N,40nm,0.6s						
KORT				*i* AML	AML	01 51 03.0	
	comp=E,76nm,0.7s						
SEDI	**Konya, Seydise**	**1.86**	**359**	P	**Pg**	**01 50 25.9**	**-1.2**
SEDI				S	**Sg**	**01 50 52.2**	**+0.9**
SEDI				*i* AML	AML	01 50 57.0	
	comp=E,106nm,0.7s						
SEDI				*i* AML	AML	01 51 00.0	
	comp=N,70nm,0.5s						
KSL	**Kastellorizon**	**1.88**	**288**	P	**Pn**	**01 50 21.7**	**-1.2**
KSL				S	**Sn**	**01 50 44.4**	**-2.0**
KSL				AML	AML	01 50 45.9	
KSL				AML	AML	01 50 56.5	
	0.1nm,0.7s						
KKBE	**Karaman, Kazim**	**1.88**	**29**	P	**Pg**	**01 50 26.6**	**-0.8**
KKBE				S	**Sg**	**01 50 52.4**	**+0.6**
KKBE				*i* AML	AML	01 50 57.0	
	comp=N,48nm,0.5s						
KKBE				*i* AML	AML	01 51 01.0	
	comp=E,42nm,0.7s						
AKAS	**Kas**	**1.89**	**291**	Pn	**Pb**	**01 50 24.2**	**-1.4**
SILI	**Silifke-Mersin**	**1.90**	**65**	Pn	**Pb**	**01 50 25.1**	**-0.6**
ELL	**Elmali**	**1.91**	**308**	Pn	**Pb**	**01 50 25.3**	**-0.7**
EREN	**Erenkoy**	**1.94**	**91**	Pn	**Pb**	**01 50 25.4**	**-1.1**
EREN	**Erenkoy**	**1.94**	**91**	P	**Pg**	**01 50 28.9**	**+0.3**
EREN				S	**Sb**	**01 50 49.6**	**-0.9**
EREN				*i* AML	AML	01 50 57.0	
	comp=E,46nm,0.4s						
EREN				*i* AML	AML	01 51 04.0	
	comp=N,44nm,0.8s						
KRMN	**Karaman**	**1.98**	**36**	Pn	**Pb**	**01 50 26.9**	**-0.3**
KRMN				Sn	**Sg**	**01 50 53.1**	**-2.0**
BCK	**Bucak**	**2.11**	**333**	Pn	**Pb**	**01 50 28.6**	**-0.7**
KMER	**Konya-Meram**	**2.23**	**12**	P	**Pb**	**01 50 32.1**	**+0.6**
KMER				S	**Sg**	**01 51 04.0**	**+1.0**
KMER				*i* AML	AML	01 51 05.0	
	comp=N,63nm,0.9s						
KMER				*i* AML	AML	01 51 06.0	
	comp=E,56nm,0.4s						
KONT	**Konya--Tatoy**	**2.40**	**11**	Pn	**Pb**	**01 50 33.2**	**-1.1**
KONT	**Konya--Tatoy**	**2.40**	**11**	P	**Pb**	**01 50 34.5**	**+0.2**
KONT				S	**Sg**	**01 51 09.0**	**+0.5**
KONT				*i* AML	AML	01 51 11.0	
	comp=N,15nm,0.7s						
KONT				*i* AML	AML	01 51 15.0	
	comp=E,27nm,0.6s						
ISP	**Isparta**	**2.45**	**336**	Pn	**Pb**	**01 50 33.9**	**-1.4**
LADK	**Ladik-KONYA**	**2.65**	**10**	Pn	**Pb**	**01 50 36.6**	**-2.0**

*IDC **28** 01:54:25.1±1.4, 53°.45N×163°.78W, h0km, mb3.5/8, mbtmp3.5/10, ML3.0/2, Error ellipse: s-maj=35.6km s-min=19.8km az=1.0*
*NEIC **28** 01:54:27.0±2.0, 53°.34N±0°.08×163°.58W±0°.08, h22km±10km, mb3.7/17, ML3.6/10, ML3.4(AEIC), Error ellipse: s-maj=12.0km s-min=5.8km az=157.0*
*AEIC **28** 01:54:28.0±2.3, 53°.37N±0°.08×163°.62W±0°.06, h11km±6km, Error ellipse: s-maj=12.0km s-min=1.7km az=156.0*
ISC 28 01:54:28.9±0.8, 53°.42N±0°.07×163°.56W±0°.05, h29km, n101, σ1§60/98, mb3.5/8, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.22**	**330**		**Pn**	**01 54 49.2**	**-0.8**
ISLZ	**Isanotski Laza**	**1.31**	**356**		**Pn**	**01 54 50.5**	**-0.8**
ISLZ					**Sb**	**01 55 07.6**	**-1.6**
SSLS	**Shishaldin Sou**	**1.32**	**349**		**Pn**	**01 54 50.8**	**-0.6**
WECS	**Westdahl Cape**	**1.32**	**328**		**Pn**	**01 54 50.9**	**-0.5**
WEBT	**Westdahl Beart**	**1.37**	**329**		**Pn**	**01 54 51.3**	**-0.6**
ISNN	**Isanotski Nort**	**1.42**	**355**		**Pn**	**01 54 53.0**	**+0.3**
ISNN					**Sb**	**01 55 11.5**	**-0.8**
FALS	**False Pass**	**1.44**	**3**		**Pn**	**01 54 52.1**	**-0.8**
FALS	**False Pass**	**1.44**	**3**		**Sb**	**01 55 11.2**	**-1.7**
AKSA	**Akutan Strait**	**1.46**	**300**		**Pn**	**01 54 52.1**	**-1.0**
AHB	**Akutan Harbor**	**1.51**	**298**		**Pn**	**01 54 53.1**	**-0.8**
AKBBA	**Akutan Broad B**	**1.56**	**297**		**Pn**	**01 54 52.7**	**-1.9**
AKBBA					**Sn**	**01 55 13.6**	**-0.3**
ZRO	**Akutan Zero**	**1.58**	**296**		**Pn**	**01 54 54.3**	**-0.6**
LVA	**Lava Point**	**1.64**	**298**		**Pn**	**01 54 55.1**	**-0.7**
UNV	**Unalaska Valle**	**1.80**	**285**	Pn	**Pn**	**01 54 56.0**	**-2.0**
MREP	**Makushin Rep't**	**1.94**	**283**		**Pn**	**01 54 58.8**	**-1.0**
HAG	**Hague Volcano**	**2.13**	**26**		**Sn**	**01 55 29.2**	**+1.2**
PS4A	**Pavlof South-4**	**2.17**	**27**		**Pn**	**01 55 02.9**	**-0.1**
PVV	**Pavlof Volcano**	**2.21**	**27**		**Sn**	**01 55 31.4**	**+1.5**
PS1A	**Pavlof South-1**	**2.27**	**27**		**Pn**	**01 55 05.2**	**+0.9**
S12K	**Black Hills**	**2.45**	**20**	Pn	**Pn**	**01 55 06.7**	**-0.1**
S12K				IAML		01 55 50.0	
	comp=E,314nm,0.6s						
S12K				IAML		01 55 51.1	
	comp=N,215nm,0.7s						
SDPT	**Sand Point**	**2.64**	**42**	Pn	**Pn**	**01 55 09.5**	**0.0**
SDPT				IAML		01 55 56.0	
	comp=E,275nm,0.6s						
SDPT				IAML		01 56 07.4	
	comp=N,191nm,1.2s						
CNBA	**Chernabura Isl**	**2.72**	**57**	Pn	**Pn**	**01 55 08.8**	**-1.8**
OKRE	**Okmok R'deer P**	**2.75**	**274**		**Pn**	**01 55 10.5**	**-0.6**
OKSP	**Okmok Steeple**	**2.84**	**268**		**Pn**	**01 55 11.3**	**-1.0**
NIKH	**Nikolski High**	**3.22**	**264**	Pn	Pn	01 55 15.0	-2.4
CLCO	**Concord Point,**	**3.77**	**263**		**Pn**	**01 55 24.3**	**-0.6**
CHGN	**Chignik**	**4.14**	**44**	Pn	**Pn**	**01 55 30.2**	**+0.2**
CHGN				IAML		01 56 29.9	
	comp=E,71nm,0.1s						
CHGN				IAML		01 56 31.9	
	comp=N,63nm,0.1s						
CHIR	**Chirikof Islan**	**5.20**	**59**	Pn	**Pn**	**01 55 42.9**	**-1.7**
O14K	**Tigyukauivet M**	**5.98**	**11**	Pn	**Pn**	**01 55 55.8**	**+0.5**
O16K	**Kokwok River B**	**6.88**	**24**	Pn	**Pn**	**01 56 06.3**	**-1.4**
OHAK	**Old Harbor**	**6.99**	**53**	Pn	**Pn**	**01 56 07.3**	**-1.8**
M14K	**Bethel**	**7.40**	**6**	Pn	**Pn**	**01 56 15.7**	**+1.0**
KDAK	**Kodiak Island**	**7.59**	**51**	Pn	**Pn**	**01 56 18.5**	**+1.1**
KDAK	**Kodiak Island**	**7.59**	**51**	Pn	**Pn**	**01 56 19.2**	**+1.8**
	comp=N,0.5nm,0.3s,baz=231,slow=6.5,SNR=6.9						
KDAK				Sn	**Sn**	**01 57 36.0**	**-6.4**
	comp=N,0.2nm,0.3s,baz=151,slow=19,SNR=1.9 comp=N,9.1nm,1.1s						
N17K	**Nushagak Hills**	**7.92**	**23**	Pn	**Pn**	**01 56 23.9**	**+1.9**
L14K	**Kuka Creek**	**7.96**	**3**	Pn	**Pn**	**01 56 22.1**	**-0.3**
M16K	**Timber Creek**	**8.02**	**16**	Pn	**Pn**	**01 56 25.8**	**+2.6**
K13K	**Kusilvak Mount**	**8.55**	**357**	Pn	**Pn**	**01 56 30.9**	**+0.4**
L16K	**Owhat River**	**8.59**	**13**	Pn	**Pn**	**01 56 32.6**	**+1.5**
M17K	**Holitna River**	**8.65**	**20**	Pn	**Pn**	**01 56 33.5**	**+1.6**
N19K	**Bonanza Creek**	**8.89**	**30**	Pn	**Pn**	**01 56 36.0**	**+0.6**
K15K	**Wolf Creek Mou**	**8.96**	**6**	Pn	**Pn**	**01 56 36.6**	**+0.4**
L18K	**Granite Mounta**	**9.54**	**20**	Pn	**Pn**	**01 56 42.9**	**-1.2**
K17K	**Iditarod**	**9.72**	**14**	Pn	**Pn**	**01 56 48.0**	**+1.5**
M19K	**Big River Lodg**	**9.81**	**26**	Pn	**Pn**	**01 56 46.8**	**-1.0**
L19K	**White Mountain**	**9.92**	**24**	Pn	**Pn**	**01 56 49.4**	**0.0**
J16K	**Anvik River**	**10.01**	**8**	Pn	**Pn**	**01 56 51.8**	**+1.3**
J17K	**VABM Dome**	**10.27**	**11**	Pn	**Pn**	**01 56 53.8**	**-0.3**
SUA	**Susitna One**	**10.59**	**35**	Pn	**Pn**	**01 56 56.4**	**-2.2**
J18K	**Innoko River**	**10.68**	**17**	Pn	**Pn**	**01 57 01.3**	**+1.6**
K20K	**Telida**	**11.12**	**23**	Pn	**Pn**	**01 57 06.5**	**+0.8**
J19K	**Poorman**	**11.36**	**18**	Pn	**Pn**	**01 57 06.8**	**-2.2**
HIN	**Hinchinbrook I**	**11.62**	**46**	Pn	**Pn**	**01 57 09.8**	**-2.8**
J20K	**Nowinta River**	**11.82**	**20**	Pn	**Pn**	**01 57 15.2**	**0.0**
N25K	**Chitina, Valde**	**13.03**	**44**	Pn	**Pn**	**01 57 29.8**	**-2.1**
GLB	**Gilahina Butte**	**13.28**	**45**	Pn	**Pn**	**01 57 34.0**	**-0.7**
VRDI	**Verde Repeater**	**13.34**	**46**	Pn	**Pn**	**01 57 34.4**	**-2.1**
H21K	**Melozitna River**	**13.40**	**20**	Pn	**Pn**	**01 57 37.8**	**+1.0**
G21K	**Allakaket**	**14.04**	**17**	Pn	**Pn**	**01 57 42.7**	**-2.8**
BARN	**Barnard Glacie**	**14.05**	**48**	Pn	**Pn**	**01 57 44.1**	**-1.8**
M26K	**Nabesna, AK**	**14.09**	**42**	Pn	**Pn**	**01 57 44.9**	**-1.4**
ILAR	**Eielson Array**	**14.18**	**30**	Pn	**Pn**	**01 57 45.0**	**-2.4**
	baz=224,slow=11,SNR=1.9 comp=N,0.2nm,0.5s						
H23K	**Yukon River**	**14.26**	**24**	Pn	**Pn**	**01 57 48.2**	**-0.4**
E19K	**Redstone River**	**14.41**	**10**	Pn	**Pn**	**01 57 52.0**	**+1.5**
M27K	**Edge Creek, AK**	**14.52**	**43**	Pn	**Pn**	**01 57 52.5**	**+0.2**
J25K	**Salcha River,**	**14.54**	**32**	Pn	**Pn**	**01 57 51.8**	**-0.6**
SCRK	**Sand Creek**	**14.60**	**36**	Pn	**Pn**	**01 57 52.0**	**-1.2**
H24K	**Noodor Dome**	**14.69**	**26**	Pn	**Pn**	**01 57 56.6**	**-3.8**
L22K	**Bananza Creek**	**14.89**	**21**	Pn	**Pn**	**01 57 55.8**	**-1.3**
L27K	**Beaver Creek,**	**14.89**	**41**	Pn	**Pn**	**01 57 54.4**	**-2.7**
G24K	**Hadweenzic Riv**	**15.47**	**24**	Pn	**Pn**	**01 58 01.3**	**-3.4**
G24K				IAmb	IAmb	01 58 29.3	
	comp=Z,4.6nm,1.2s						
I26K	**Coal Creek Min**	**15.71**	**33**	Pn	**Pn**	**01 58 04.8**	**-3.0**
M29M	**Somme Creek**	**16.00**	**46**	Pn	**Pn**	**01 58 11.2**	**-0.4**
N30M	**Aishikik Lake**	**16.26**	**50**	Pn	**Pn**	**01 58 14.3**	**-0.7**
N30M				IAmb	IAmb	01 58 39.7	
	comp=Z,10nm,1.4s						
E24K	**Your Creek**	**16.36**	**20**	Pn	**Pn**	**01 58 16.8**	**+0.6**
E24K				IAmb	IAmb	01 58 25.9	
	comp=Z,6.2nm,1.4s						
L29M	**L29M**	**16.41**	**44**	Pn	**Pn**	**01 58 15.9**	**-0.9**
L29M				IAmb	IAmb	01 58 34.2	
	comp=Z,6.2nm,1.1s						
O30N	**Mendenhall**	**16.54**	**53**	Pn	**Pn**	**01 58 17.8**	**-0.7**
I28M	**Miner Creek**	**16.87**	**35**	P	**Pn**	**01 58 23.9**	**+1.2**
I28M				IAmb	IAmb	01 58 33.9	
	comp=Z,8.0nm,1.5s						
K29M	**Barlow Dome**	**16.97**	**42**		**P**	**01 58 26.8**	**+1.2**
C23K	**Itkillik River**	**17.51**	**15**	Pn	**Pn**	**01 58 28.1**	**-2.3**
B22K	**Teshekpuk Lake**	**17.59**	**11**		**P**	**01 58 32.8**	**+0.6**
J30M	**Hart River**	**17.75**	**40**	P	**Pn**	**01 58 32.9**	**-0.8**
J30M				IAmb	IAmb	01 59 00.2	
	comp=Z,8.0nm,1.4s						
H29M	**Whitestone**	**17.84**	**34**	P	**Pn**	**01 58 34.7**	**+0.2**
H29M				IAmb	IAmb	01 58 52.8	
	comp=Z,6.4nm,1.4s						
P33M	**Teslin, Yukon**	**18.02**	**56**	P	**Pn**	**01 58 36.8**	**-0.1**
P33M				IAmb	IAmb	01 58 40.5	
	comp=Z,9.2nm,1.4s						
I30M	**Mount Dempster**	**18.03**	**38**	P	**Pn**	**01 58 37.6**	**+0.5**
MMPY	**Sheldon Lake,**	**19.22**	**49**	P	**Pn**	**01 58 53.7**	**+2.3**
MMPY				IAmb	IAmb	01 58 56.2	
	comp=Z,8.1nm,1.4s						
PETK	**Petropavlovsk-**	**22.99**	**285**	P	**P**	**01 59 28.2**	**-2.7**
	comp=Z,1.0nm,0.8s,baz=84,slow=13,SNR=1.6 comp=Z,1.0nm,0.8s						
C36M	**Paulatuk**	**24.09**	**34**	P	**P**	**01 59 42.3**	**+0.9**
YKA	**Yellowknife Ar**	**26.87**	**51**	P	**P**	**02 00 08.9**	**+2.2**
	comp=Z,0.3nm,0.7s,baz=274,slow=8.0,SNR=7.4 comp=Z,0.3nm,0.7s						
NVAR	**Mina Array Bea**	**34.23**	**97**	P	**P**	**02 01 13.7**	**+1.6**
	comp=Z,0.2nm,0.4s,baz=301,slow=9.3,SNR=1.7 comp=Z,0.2nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**40.59**	**226**	T	T	02 45 48.7	
	baz=26,slow=76,SNR=25						
H11N3	**WAKE ISLAND Hy**	**40.60**	**226**	T	T	02 45 50.7	
	baz=26,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**40.61**	**226**	T	T	02 45 50.2	
	baz=26,slow=76,SNR=18						
H11S1	**WAKE ISLAND Hy**	**41.76**	**225**	T	T	02 47 29.4	
	baz=26,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**41.78**	**225**	T	T	02 47 12.8	
	baz=26,slow=76,SNR=28						
H11S3	**WAKE ISLAND Hy**	**41.78**	**225**	T	T	02 47 19.8	
	baz=26,slow=76,SNR=22						
TXAR	**Lajitas Array**	**49.26**	**94**	P	**P**	**02 03 15.5**	**+0.7**
	comp=Z,0.2nm,0.6s,baz=299,slow=4.0,SNR=6.2 comp=Z,0.2nm,0.6s						
SONM	**Songino Array**	**53.72**	**303**	P	**P**	**02 03 48.6**	**+0.6**
	comp=Z,0.3nm,0.4s,baz=62,slow=9.9,SNR=1.9 comp=Z,0.3nm,0.4s						
MKAR	**Makanchi Array**	**65.55**	**316**	P	**P**	**02 05 09.9**	**+0.5**
	comp=Z,0.3nm,0.7s,baz=46,slow=7.0,SNR=2.5 comp=Z,0.3nm,0.7s						
HFS	**Hagfors**	**66.77**	**1**	P	**P**	**02 05 16.3**	**-0.6**
	comp=Z,0.7nm,0.6s,baz=38,slow=7.3,SNR=4.8 comp=Z,0.7nm,0.6s						
BRTR	**Keskin Array B**	**86.04**	**347**	P	**P**	**02 07 08.5**	**+1.9**
	comp=Z,0.5nm,0.7s,baz=0.3,slow=7.7,SNR=2.6 comp=Z,0.5nm,0.7s						

*MOS **28** 01:59:58.6±1.0, 9°.49N×93°.44E, h95km, mb5.2/82, Error ellipse: s-maj=6.8km s-min=3.3km az=118.9*
*BJI **28** 01:59:59.5±0.0, 9°.32N×93°.35E, h115km, mb5.1/72, mB4.7/38*
*NEIC **28** 02:00:00.5±2.0, 9°.52N±0°.07×93°.43E±0°.08, h89km±3km, mb5.2/178, Error ellipse: s-maj=12.9km s-min=7.7km az=53.0*
*GCMT **28** 02:00:00.5±0.3, 9°.44N±0°.02×93°.63E±0°.02, h98km±3km, MW4.8/91, Moment Tensor Solution. s29,c30; s91,c114; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.49±.08; $M_{\theta\theta}$-2.12±.08; $M_{\phi\phi}$0.63±.09; $M_{r\theta}$0.79±.06; $M_{r\phi}$0.17±.10; $M_{\theta\phi}$-0.84±.06; Best double couple: M=2.20800×10^{16} NP1:ϕs118.00000°, δ63.00000°, λ120.00000°. NP2: ϕs246.00000°, δ40.00000°, λ45.00000°. Principal axes: T 2.0900, Plg60.0000°, Azm73.0000°; N 0.2410, Plg27.0000°, Azm284.0000°; P -2.3260, Plg13.0000°, Azm187.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DJA **28** 02:00:01.0±0.3, 9°.7N±3°.9×9°.3E±°, h98km±5km, M5.2/17, mB5.8/4, mb5.0/17, MLv5.3/6, Mw(mB)5.3/4*
*IDC **28** 02:00:02.1±1.4, 9°.46N×93°.56E, h114km±11km, mb4.5/34, mbtmp4.9/35, MS3.5/44, Error ellipse: s-maj=11.8km s-min=7.7km az=55.0*
*NDI **28** 02:00:08.9±5.5, 10°.10N×93°.23E, h109km±23km, mb5.1, MW4.6, mb5.2(NEIC)*
ISC 28 02:00:01.1±0.3, 9°.53N±0°.03×93°.44E±0°.04, h104km±2km, h107km:pP-P, n1043, σ1§11/1042, mb5.1/271, 93C-35D, Nicobar Islands region

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

QIZ pP **pP** **02 04 27.5 -0.1**
QIZ sP **sP** **02 04 40.8 +0.4**
QIZ S **S** **02 07 35.8 +1.2**
QIZ pmax pmax
comp=Z,160nm,4.3s
QIZ LR LR
comp=Z,270nm,12.9s
QIZ LR LR
comp=Z,160nm,13.4s
QIZ LR LR
comp=Z,180nm,14.7s
QIZ Qiongzhong 18.47 57 P **P** **02 04 08.5 -0.5**
KASI Kota Agung 18.58 143 P **P** **02 04 09.7 -0.5**
comp=Z,50nm,1.4s
KSM Kuching 18.59 114 P **P** **02 04 10.4 +0.1**
PZH PanZhiHua 18.62 24 P **Pn** **02 04 14.0 +1.8**
PZH S **S** **02 07 38.5 +0.8**
PZH SS 02 08 02.5
PZH pmax pmax
comp=Z,30nm,0.8s
PZH pmax pmax
comp=Z,130nm,4.1s
PZH LR LR
comp=Z,200nm,15.3s
PZH LR LR
comp=Z,160nm,15.3s
PZH LR LR
comp=Z,270nm,12.9s
ALBI Allahabad 19.20 326 *e*P **Pn** **02 04 20.6 +1.8**
ALBI IAmb IAmb 02 04 24.4
comp=Z,41nm,0.6s
ALBI *e*S **S** **02 07 45.5 -3.4**
AKL Akola 19.34 307 *e*P **Pn** **02 04 20.9 +0.4**
AKL IAmb IAmb 02 04 38.4
comp=Z,25nm,0.7s
SBUM Sibu 19.95 109 P **P** **02 04 25.0 -0.2**
LSA Lhasa 20.18 354 P **P** **02 04 29.3 +1.3**
LSA Lhasa 20.18 354 P **P** **02 04 27.4 -0.6**
LSA Lhasa 20.18 354 P **P** **02 04 27.4 -0.6**
KAD Karad 20.25 294 *e*P **P** **02 04 29.3 +0.9**
KAD *ex* x 02 08 03.2
BHPL Bhopal 20.51 314 *e*P Pn 02 04 33.7 -0.5
BHPL IAmb IAmb 02 04 45.0
comp=Z,23nm,0.7s
BHPL *e*S **S** **02 08 14.9 0.0**
GYA Guiyang 20.98 35 P **P** **02 04 38.5 +2.2**
GYA pP sP 02 05 03.5 -4.4
GYA pmax pmax
comp=Z,30nm,1.0s
GYA LR LR
comp=Z,210nm,14.7s
JHNI Jhansi 21.25 320 *e*P **P** **02 04 40.4 +1.4**
JHNI IAmb IAmb 02 04 43.1
comp=Z,30nm,0.8s
LEM Lembang 21.53 138 LR LR 02 14 19.8
comp=Z,158nm,21.8s,baz=246,slow=40
CD2 Chengdu 23.34 23 P **P** **02 05 01.3 +1.0**
CD2 sS sS 02 09 45.5 +2.9
CD2 pmax pmax
comp=Z,60nm,1.2s
CD2 LR LR
comp=Z,190nm,14.6s
CD2 LR LR
comp=Z,170nm,8.9s
CD2 LR LR
comp=Z,240nm,15.9s
LGTI Lohaghat 23.35 330⇑ *e*P **P** **02 05 01.8 +1.4**
PTH Pithoragarh 23.45 330 *e*P **P** **02 05 03.4 +1.9**
UGM Wanagama 24.29 135 P **P** **02 05 10.3 +1.3**
comp=Z,169nm,1.9s
SMLA Simla 26.28 327 IAmb IAmb 02 05 34.1
comp=Z,19nm,0.6s
GOMU GeErMu 26.57 2 P **P** **02 05 31.8 +1.9**
GOMU S **S** **02 09 56.5 -0.7**
GOMU pmax pmax
comp=Z,61nm,1.0s
DHRM DHARAMSHALA 27.62 327 IAmb IAmb 02 05 50.0
comp=Z,72nm,1.3s
THN Thein Dam 28.07 327 *e*P **P** **02 05 44.4 +1.5**
THN IAmb IAmb 02 05 46.1
comp=Z,44nm,1.0s
LZH Lanzhou 28.08 18 *e*P **P** **02 05 43.5 +0.4**
LZH pP pP 02 06 04.5 -0.5
LZH pmax pmax
comp=Z,56nm,1.2s
LZH LR LR
comp=Z,240nm,13.4s
LZH LR LR
comp=Z,170nm,13.7s
LZH LR LR
comp=Z,250nm,14.4s
XAN Xi'an 28.23 28 ⇓P **P** **02 05 44.5 +0.1**
XAN pP pwP 02 06 10.0 -1.3
XAN sP sP 02 06 21.0 +2.9
XAN S **S** **02 10 19.3 -3.5**
XAN pmax pmax
comp=Z,50nm,1.1s
XAN pmax pmax
comp=Z,97nm,5.9s
XAN LR LR
comp=Z,250nm,17.2s
XAN LR LR
comp=Z,210nm,15.1s
XAN LR LR
comp=Z,440nm,20.6s
TOLI2 Tolitoli 28.46 105 P **P** **02 05 47.0 +0.5**
TWG Pinlang 29.57 60 P **P** **02 05 56.7 +0.3**
SSLB Suanglung 29.85 58 P **P** **02 06 00.3 +1.4**
KAPI Kappang 29.94 118 LR LR 02 19 57.9
comp=Z,63nm,19.7s,baz=308,slow=40
YULB Yu-li 29.98 59 P **P** **02 06 00.7 +0.8**
GTA Gaotai 30.29 10 P **P** **02 06 04.3 +1.6**
GTA pP sP 02 06 33.3 -3.7
GTA sP pwP 02 06 42.5 +14
GTA PcP **PcP** **02 09 02.0 +1.3**
GTA pmax pmax
comp=Z,33nm,0.8s
NIL Nilore 30.35 325 P **P** **02 06 04.0 +0.9**
NIL Nilore 30.35 325 P **P** **02 06 04.0 +0.9**
NIL pmax pmax
comp=Z,80nm,0.8s
NIL Nilore 30.35 325 ⇑P **P** **02 06 04.5 +1.4**
LYN LuoYang 30.40 32 *e*P **P** **02 06 05.5 +2.0**
LYN pP pP 02 06 26.0 +0.5
LYN PP **PnPn** **02 07 06.0 -0.6**
LYN PcP **PcP** **02 09 01.8 +0.9**
LYN S **S** **02 10 54.8 -1.8**
LYN pmax pmax
comp=Z,21nm,0.8s
LYN pmax pmax
comp=Z,140nm,3.9s
NACB Ninganchiao 30.54 58 P **P** **02 06 05.6 +0.8**
GTOI Gorontalo 30.72 105 P **P** **02 06 05.9 -0.7**
comp=Z,9.2nm,0.9s
YOJ Yonaguni jima 31.84 58 P **P** **02 06 17.0 +0.7**
YOJ IAmb IAmb 02 06 18.4
comp=Z,20nm,0.7s
YOJ Yonaguni jima 31.84 58 P **P** **02 06 17.0 +0.7**
YOJ pmax pmax
comp=Z,20nm,0.7s
DAV Davao City (W) 31.89 92 LR LR 02 19 28.3
comp=Z,43nm,20.9s,baz=315,slow=37
NJ2 Nanjing 32.50 43 *e*P **P** **02 06 23.3 +1.4**
NJ2 pmax pmax
comp=Z,14nm,0.6s
KBL Kabul 33.45 322 P **P** **02 06 31.0 +0.5**
KBL IAmb IAmb 02 06 32.7
comp=Z,24nm,0.9s
KBL Kabul 33.45 322 P **P** **02 06 31.0 +0.5**
KBL pmax pmax
comp=Z,24nm,1.0s
KSH Kashi 33.69 335 P **P** **02 06 32.0 -0.4**
KSH pP pP 02 06 57.0 +1.6
KSH PcP **PcP** **02 09 12.0 +2.0**
KSH S **S** **02 11 47.8 -0.2**
KSH pmax pmax
comp=Z,29nm,0.8s
HNS HongShan 33.74 31 ⇑P **P** **02 06 34.3 +1.6**
HNS S **S** **02 11 48.8 +0.2**
HNS pmax pmax
comp=Z,33nm,0.9s
HNS LR LR
comp=Z,150nm,16.4s
HNS LR LR
comp=Z,170nm,16.7s

WUS Wushi 33.95 341 P **P** **02 06 36.0 +1.3**
WUS PcP **PcP** **02 09 12.1 +1.4**
BTO Baotou 34.27 23 *e*P **P** **02 06 38.5 +1.1**
BTO pP **pwP** **02 07 03.5 -0.9**
BTO sP **sP** **02 07 16.5 +5.1**
BTO PP **PP** **02 07 58.8 +1.8**
BTO pmax pmax
comp=Z,120nm,0.8s
BTO pmax pmax
comp=Z,130nm,6.2s
WMQ Urumqi 34.52 353 *e*P **P** **02 06 40.3 +0.8**
WMQ pP pwP 02 07 05.5 -0.5
WMQ pmax pmax
comp=Z,46nm,0.9s
WMQ LR LR
comp=Z,1μm,24.2s
WMQ LR LR
comp=Z,900nm,24.2s
HHC Hu-ho-hao-te 35.08 24 ⇑P **P** **02 06 45.5 +1.1**
HHC pmax pmax
comp=Z,43nm,0.8s
HHC pmax pmax
comp=Z,44nm,3.7s
DRK Karamyk 35.53 331 P **P** **02 06 50.0 +1.5**
DRK Karamyk 35.53 331 P **P** **02 06 50.0 +1.5**
DRK pmax pmax
comp=Z,150nm,0.6s
SHLS Shalkode 35.65 342 *e*P **P** **02 06 49.3 0.0**
comp=Z,11nm,0.9s,baz=343
SHLS Shalkode 35.65 342 *e*P **P** **02 06 49.3 0.0**
SHLS pmax pmax
comp=Z,11nm,0.9s
UZB Uzynbulak 35.78 342 *e*P **P** **02 06 51.5 +1.1**
baz=342
UZB Uzynbulak 35.78 342 *e*P **P** **02 06 51.4 +1.1**
SATY Saty 35.89 341 *e*P **P** **02 06 52.5 +1.2**
comp=Z,9.8nm,0.8s,baz=341
SATY Saty 35.89 341 *e*P **P** **02 06 52.5 +1.2**
SATY pmax pmax
comp=Z,10.0nm,0.8s
ULHL Ulahol 35.92 338 P **P** **02 06 53.3 +1.6**
SNR=5.6
ZHN Zhinishke 35.98 341 *e*P **P** **02 06 53.3 +1.3**
baz=341
ZHN Zhinishke 35.98 341 *e*P **P** **02 06 53.3 +1.3**
BOOM Boomskoye usch 36.24 338 P **P** **02 06 54.4 0.0**
BOOM IAmb IAmb 02 06 56.4
comp=Z,16nm,0.8s
BOOM Boomskoye usch 36.24 338 P **P** **02 06 54.4 0.0**
BOOM pmax pmax
comp=Z,16nm,0.8s
CHGR Chuyangaron 36.26 327 P **P** **02 06 54.2 -0.2**
CHGR Chuyangaron 36.26 327 P **P** **02 06 54.3 -0.2**
CHGR pmax pmax
comp=Z,80nm,0.8s
SIMJ Simiganj 36.34 327 P **P** **02 06 55.4 +0.1**
SIMJ Simiganj 36.34 327 P **P** **02 06 55.8 +0.5**
SIMJ pP **pwP** **02 07 19.4 +0.9**
SIMJ ScP **ScP** **02 12 55.1 +0.2**
TNSS Tian-Shan 36.36 339 *e*P **P** **02 06 56.3 +0.7**
baz=340
TNSS Tian-Shan 36.36 339 *e*P **P** **02 06 56.3 +0.7**
MDOK Medeo 36.43 340 *e*P **P** **02 06 57.2 +1.2**
baz=340
MDOK Medeo 36.43 340 *e*P **P** **02 06 57.2 +1.2**
ARSB Arslanbob 36.46 334 P **P** **02 06 57.3 +1.1**
ARSB IAmb IAmb 02 06 58.8
comp=Z,18nm,0.6s
ARSB Arslanbob 36.46 334 P **P** **02 06 57.3 +1.1**
ARSB pmax pmax
comp=Z,18nm,0.6s
BTK Batken 36.46 330 P **P** **02 06 57.6 +1.5**
BTK Batken 36.46 330 P **P** **02 06 57.6 +1.5**
BTK pmax pmax
comp=Z,39nm,0.8s
BJT Baijiatuau 36.48 30 P **P** **02 06 57.7 +1.5**
BJT IAmb IAmb 02 06 59.2
comp=Z,15nm,0.7s
BJT Baijiatuau 36.48 30 P **P** **02 06 57.7 +1.5**
BJT pmax pmax
comp=Z,15nm,0.7s
BJI Beijing 36.50 30 P **P** **02 06 58.3 +1.9**
BJI S **S** **02 12 33.5 +2.7**
BJI pmax pmax
comp=Z,10.0nm,0.8s
UCH Uchtor 36.57 336 P **P** **02 06 59.0 +1.6**
SNR=26
TKM2 Tokmak 2 36.74 338 P **P** **02 06 59.2 +0.6**
SNR=18
KBK Karagaybulak 36.76 337 P **P** **02 07 00.8 +2.1**
SNR=23
AAK Ala-Archa 36.92 336 P **P** **02 07 02.0 +1.8**
SNR=23
AAK Ala-Archa 36.92 336 P **P** **02 07 01.9 +1.8**
AAK IAmb IAmb 02 07 03.1
comp=Z,31nm,0.9s
AAK Ala-Archa 36.92 336 LR LR 02 23 32.1
comp=Z,55nm,19.8s,baz=209,slow=38
AAK Ala-Archa 36.92 336 P **P** **02 07 01.9 +1.8**
AAK pmax pmax
comp=Z,31nm,1.0s
FRU1 Bishkek 37.01 337 P **P** **02 07 01.5 +0.7**
FRU1 IAmb IAmb 02 07 03.7
comp=Z,26nm,0.8s
FRU1 Bishkek 37.01 337 P **P** **02 07 01.5 +0.7**
FRU1 pmax pmax
comp=Z,26nm,0.8s
CHMS Chumysh 37.13 337 P **P** **02 07 03.3 +1.6**
SNR=11
JOW Kunigami 37.13 58 LR LR 02 23 19.7
comp=Z,62nm,19.2s,baz=296,slow=38
EKS2 Erkin-Say 37.23 336 P **P** **02 07 04.8 +2.1**
SNR=22
KUU Kurty 37.32 339 *e*P **P** **02 07 03.9 +0.5**
comp=Z,10nm,0.7s,baz=340
KUU Kurty 37.32 339 *e*P **P** **02 07 03.8 +0.5**
KUU pmax pmax
comp=Z,10.0nm,0.7s
USP Ospenovka 37.45 337 P **P** **02 07 06.3 +1.9**
SNR=10
SGDS Sogindy 37.56 337 *e*P **P** **02 07 06.3 +0.9**
baz=338
SGDS Sogindy 37.56 337 *e*P **P** **02 07 06.3 +0.9**
TDK Taldyqorghan 37.65 342 *e*P **P** **02 07 06.7 +0.7**
baz=343
TDK Taldyqorghan 37.65 342 *e*P **P** **02 07 06.7 +0.7**
MK31 Makanchi Array 38.33 348*c* *i*P **P** **02 07 12.1 +0.4**
MKAR Makanchi Array 38.33 348 P **P** **02 07 12.2 +0.4**
comp=Z,8.5nm,0.7s,baz=166,slow=8.1,SNR=71
MKAR PcP **PcP** **02 09 23.9 +0.3**
comp=Z,3.4nm,0.7s,baz=171,slow=2.5,SNR=2.2
MKAR ScP **ScP** **02 13 01.5 -0.6**
comp=Z,0.2nm,0.3s,baz=132,slow=4.3,SNR=2.8
MKAR LR LR 02 25 60.0
comp=Z,60nm,21.1s,baz=158,slow=40
comp=Z,8.5nm,0.7s
MAKZ Makanchi 38.41 347 P **P** **02 07 11.7 -0.7**
MAKZ Makanchi 38.41 347 P **P** **02 07 11.7 -0.7**
MAKZ pmax pmax
comp=Z,10.0nm,1.0s
MAKZ Makanchi 38.41 347 P **P** **02 07 12.7 +0.3**
MAKZ PcP **PcP** **02 09 24.6 +0.8**
DZA Taraz 38.45 334 *e*P **P** **02 07 13.6 +0.8**
baz=334
DZA Taraz 38.45 334 *e*P **P** **02 07 13.6 +0.8**
ZSN Zaisan 38.48 351 *e*P **P** **02 07 13.9 +0.9**
baz=351
ZSN Zaisan 38.48 351 *e*P **P** **02 07 13.9 +0.9**
CHM Chimkent 38.78 331 *e*P **P** **02 07 16.7 +1.0**
comp=Z,9.4nm,0.6s,baz=332
CHM Chimkent 38.78 331 *e*P **P** **02 07 16.6 +1.0**
CHM pmax pmax
comp=Z,9.0nm,0.6s
BRLS Boroldoy 39.23 332 *e*P **P** **02 07 18.7 -0.6**
baz=332
BRLS Boroldoy 39.23 332 *e*P **P** **02 07 18.7 -0.6**
XLT XiLinHaoTe 39.49 26 *e*P **P** **02 07 23.3 +1.8**
XLT pP pwP 02 07 51.0 +2.4
XLT sP sP 02 07 57.8 +1.7
XLT S **S** **02 13 16.8 +0.7**
XLT sS sS 02 14 04.0 +7.7
XLT SS **SS** **02 16 10.0 -4.6**
XLT pmax pmax
comp=Z,71nm,0.8s
XLT pmax pmax
comp=Z,49nm,3.5s
SONM Songino Array 39.72 14 P **P** **02 07 24.2 +0.8**
comp=Z,16nm,0.9s,baz=198,slow=8.4,SNR=80
SONM PcP **PcP** **02 09 28.7 +0.6**
comp=Z,10.0nm,0.7s,baz=202,slow=3.7,SNR=17
SONM LR LR 02 25 46.5
comp=Z,137nm,18.5s,baz=223,slow=39
comp=Z,16nm,0.9s
ULN Ulaanbaatar 39.90 14 P **P** **02 07 25.1 +0.1**
ULN Ulaanbaatar 39.90 14*c* *i*P **P** **02 07 25.4 +0.4**
ULN pmax pmax
comp=Z,20nm,1.0s
ULN Ulaanbaatar 39.90 14 P **P** **02 07 25.6 +0.6**
ULN PcP **PcP** **02 09 29.8 +1.1**
TJN Taejon 40.74 44⇓ *i*P **P** **02 07 32.6 +0.7**
ZAK Zakamensk 41.53 10 *e*P **P** **02 07 38.3 0.0**
ZAK pmax pmax
comp=Z,9.0nm,1.2s
JNU Nakatsue 41.69 50 LR LR 02 25 00.2
comp=Z,48nm,21.9s,baz=246,slow=36
KSRS Korea Array 41.70 43 P **P** **02 07 39.2 -0.5**
comp=Z,1.6nm,0.6s,baz=242,slow=9.3,SNR=4.3
KSRS LR LR 02 25 52.7
comp=Z,50nm,18.1s,baz=220,slow=37
comp=Z,1.6nm,0.6s
SEM Semipalatinsk 42.19 347 *e*P **P** **02 07 43.8 0.0**
baz=348
SEM Semipalatinsk 42.19 347 *e*P **P** **02 07 43.8 0.0**
MOY Mondy 42.46 7 *e*P **P** **02 07 47.0 +1.1**
MOY pmax pmax
comp=Z,13nm,1.6s
GEYT Alibeck 42.51 317 P **P** **02 07 48.8 +2.4**
comp=Z,31nm,0.5s,baz=148,slow=8.6,SNR=58
GEYT LR LR 02 26 12.0
comp=Z,52nm,21.1s,baz=166,slow=37
comp=Z,31nm,0.5s
GYA0 ALIBECK ARRAY 42.51 317 P **P** **02 07 47.7 +1.3**
KURBB Kurchatov Arra 42.78 346 P **P** **02 07 49.0 +0.7**
comp=Z,6.6nm,0.6s,baz=166,slow=7.5,SNR=96
KURBB PcP **PcP** **02 09 38.3 +0.5**
comp=Z,7.1nm,0.8s,baz=155,slow=2.9,SNR=14
KURBB ScP **ScP** **02 13 20.2 +0.8**
comp=Z,0.2nm,0.3s,baz=164,slow=3.8,SNR=1.6
KURBB LR LR 02 28 48.1
comp=Z,44nm,21.4s,baz=169,slow=40
comp=Z,6.6nm,0.6s
KURK Kurchatov 42.84 346 P **P** **02 07 49.1 +0.3**
KURK Kurchatov 42.84 346*c* *i*P **P** **02 07 49.4 +0.7**
KURK pmax pmax
comp=Z,27nm,1.3s
KURK Kurchatov 42.84 346 P **P** **02 07 49.5 +0.7**
KURK pP **pwP** **02 08 14.6 -1.1**
KURK PcP **PcP** **02 09 38.9 +0.8**
BRZS Berezniki 43.86 341 *e*P **P** **02 07 57.6 +0.6**
baz=341
BRZS Berezniki 43.86 341 *e*P **P** **02 07 57.6 +0.6**
CN2 Changchun 44.02 34 ⇑P **P** **02 07 59.5 +1.1**
CN2 *e*pP pwP 02 08 26.0 -0.6
CN2 *e*S **S** **02 14 23.8 +1.1**
CN2 pmax pmax
comp=Z,30nm,0.8s
CN2 pmax pmax
comp=Z,80nm,4.0s
ZALV Zalesovo Beam 44.83 353 P **P** **02 08 05.5 +0.8**
comp=Z,12nm,0.4s,baz=175,slow=9.2,SNR=59
ZALV PcP **PcP** **02 09 44.4 -0.3**
comp=Z,2.5nm,0.5s,baz=162,slow=5.0,SNR=2.5
ZALV LR LR 02 30 01.2
comp=Z,47nm,21.5s,baz=166,slow=40
comp=Z,12nm,0.4s
HIA Hailar 45.29 24 P **P** **02 08 08.5 +0.1**
HIA IAmb IAmb 02 08 11.0
comp=Z,36nm,0.9s
HIA Hailar 45.29 24 P **P** **02 08 08.5 +0.1**
HIA pmax pmax
comp=Z,36nm,0.9s
HIA Hailar 45.29 24 P **P** **02 08 09.4 +1.0**
BNX BinXian 46.34 33 ⇑P **P** **02 08 17.3 +0.6**
BNX pmax pmax
comp=Z,33nm,0.8s
BNX pmax pmax
comp=Z,58nm,4.6s
MDJ Mudanjiang 46.85 35 P **P** **02 08 23.0 +2.4**
MDJ pP pwP 02 08 47.3 -1.8
MDJ S **S** **02 15 03.8 +0.4**
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,62nm,7.7s
MDJ Mudanjiang 46.85 35 P **P** **02 08 22.0 +1.4**
MDJ IAmb IAmb 02 08 23.4
comp=Z,32nm,1.4s
BVAR Borovoye Array 47.21 341 P **P** **02 08 23.6 +0.3**
comp=Z,9.5nm,0.7s,baz=141,slow=7.6,SNR=42
BVAR PcP **PcP** **02 09 53.5 +0.4**
comp=Z,5.1nm,0.7s,baz=154,slow=4.9,SNR=5.6
BVAR ScP **ScP** **02 13 38.2 +0.6**
comp=Z,0.3nm,0.4s,baz=106,slow=3.1,SNR=3.0
BVAR S **S** **02 15 07.3 -0.9**
comp=Z,1.2nm,0.7s,baz=131,slow=18,SNR=3.7
BVAR LR LR 02 30 38.2
comp=Z,22nm,20.1s,baz=161,slow=39
comp=Z,9.5nm,0.7s
BRVK Borovoye 47.27 341 P **P** **02 08 24.1 +0.3**
BRVK Borovoye 47.27 341 P **P** **02 08 24.1 +0.3**
BRVK pmax pmax
comp=Z,12nm,0.8s
BRVK Borovoye 47.27 341 P **P** **02 08 24.0 +0.2**
BRVK pP **pP** **02 08 49.0 +1.0**
BRVK sP **sP** **02 08 59.0 -0.5**
BRVK PcP **PcP** **02 09 54.5 +1.2**
RAYN Ar Rayn 47.79 293 P **P** **02 08 29.2 +0.8**
RAYN IAmb IAmb 02 08 31.5
comp=Z,23nm,1.0s
RAYN Ar Rayn 47.79 293 P **P** **02 08 29.2 +0.8**
RAYN pmax pmax
comp=Z,23nm,1.0s
USRK Ussuriysk Ar. 48.00 37 P **P** **02 08 30.7 +1.1**
comp=Z,7.6nm,0.8s,baz=239,slow=7.4,SNR=18
comp=Z,7.6nm,0.8s
MJAR Matsushiro Arr 48.59 49 P **P** **02 08 35.1 +0.8**
comp=Z,0.6nm,0.3s,baz=263,slow=7.2,SNR=1.2
MJAR PcP **PcP** **02 09 58.6 +0.2**
comp=Z,6.6nm,0.7s,baz=252,slow=3.2,SNR=20
MJAR LR LR 02 31 57.4
comp=Z,40nm,18.0s,baz=234,slow=40
comp=Z,0.6nm,0.3s
JHJ Hachijo jima 2 48.63 54 LR LR 02 29 58.9
comp=Z,30nm,18.7s,baz=68,slow=37
LKRN Lenkeran, Azer 49.35 314 P **P** **02 08 41.7 +1.7**
HEH HeiHe 49.37 28 *e*P **P** **02 08 40.5 +0.6**
HEH pmax pmax
comp=Z,47nm,0.9s
HEH pmax pmax
comp=Z,120nm,3.9s
WB0 Warramunga Arr 49.74 126 P **P** **02 08 41.0 -2.2**
WB0 IAmb IAmb 02 08 42.4
comp=Z,24nm,0.7s
WRA Warramunga Arr 49.79 126 P **P** **02 08 42.0 -1.6**
comp=Z,22nm,0.8s,baz=305,slow=8.8,SNR=137
WRA PcP **PcP** **02 10 02.7 -0.4**
comp=Z,2.6nm,0.6s,baz=311,slow=3.3,SNR=4.6
WRA ScP **ScP** **02 13 47.0 -2.3**
comp=Z,1.2nm,0.7s,baz=318,slow=3.8,SNR=7.3
WRA S **S** **02 15 39.9 -5.6**
comp=Z,0.2nm,0.3s,baz=302,slow=15,SNR=8.8
comp=Z,22nm,0.8s
WRA Warramunga Arr 49.79 126 *i* P **P** **02 08 42.0 -1.6**
WRA pmax pmax
comp=Z,26nm,0.7s
WRAB Tennant Creek 49.79 126 P **P** **02 08 41.6 -2.1**
WRAB Tennant Creek 49.79 126*c* *i*P **P** **02 08 41.7 -1.9**
WRAB pmax pmax
comp=Z,29nm,0.8s
WB2 Warramunga Arr 49.80 126 P **P** **02 08 41.8 -1.9**
WR0 Warramunga Arr 49.96 126 P **P** **02 08 42.9 -2.0**
BOD Bodaibo 50.71 14 *e*P **P** **02 08 50.9 +0.9**
BOD pmax pmax
comp=Z,28nm,1.3s
KLR Kul'dur 50.83 32 LR LR 02 33 36.1
comp=Z,42nm,19.2s,baz=247,slow=40
KLR Kul'dur 50.83 32*c* *i*P **P** **02 08 51.9 +0.9**
KLR pmax pmax
comp=Z,11nm,0.9s
MNGR Mingechevir, A 51.38 315 P **P** **02 08 57.0 +1.7**
SEKA Sheki 51.49 316 P **P** **02 08 57.3 +1.1**

AS31 Alice Springs 51.51 131 P **P** **02 08 53.9 -2.6**
ASAR Alice Springs 51.51 131 P **P** **02 08 54.4 -2.1**
comp=Z,10nm,0.8s,baz=311,slow=7.4,SNR=50
ASAR PcP **PcP** **02 10 08.9 -0.5**
comp=Z,6.5nm,0.8s,baz=308,slow=4.1,SNR=15
ASAR ScP **ScP** **02 13 54.3 -2.4**
comp=Z,0.4nm,0.3s,baz=316,slow=3.9,SNR=3.2
comp=Z,10nm,0.8s
ZEA Zeya 51.74 25 *e*P **P** **02 08 58.8 +1.1**
ZEA pmax pmax
comp=E,20nm,0.6s
ZEA pmax pmax
comp=N,20nm,1.3s
ZEA pmax pmax
comp=Z,30nm,0.5s
GANJ Ganja 51.87 315 P **P** **02 09 00.9 +1.9**
NAX Nakhchivan 51.90 313 P **P** **02 09 00.9 +1.6**
ZKTA Zakatala 52.06 316 P **P** **02 09 01.9 +1.6**
JTM Tenmabayashi 52.28 45 P **P** **02 09 02.5 +0.6**
JTM IAmb IAmb 02 09 04.3
comp=Z,35nm,1.1s
GNI Garni 52.79 314 P **P** **02 09 06.7 +0.7**
GNI IAmb IAmb 02 09 40.3
comp=Z,28nm,1.1s
GNI Garni 52.79 314 LR LR 02 35 23.4
comp=Z,17nm,18.9s,baz=108,slow=40
GNI Garni 52.79 314 *de*P **P** **02 09 07.1 +1.1**
GNI pmax pmax
comp=Z,18nm,0.9s
GNI Garni 52.79 314 P **P** **02 09 07.4 +1.4**
comp=Z,20nm,1.0s
GROC Groznyy 53.26 318 *e*P **P** **02 09 10.1 +1.0**
GROC *e**PP **pwP** **02 09 35.8 +2.0**
GROC *e**SP **sP** **02 09 47.2 +1.9**
GROC pmax pmax
comp=Z,39nm,0.8s
OPO Ambohidratompo 53.49 238 LR LR 02 29 02.7
comp=Z,42nm,19.1s,baz=222,slow=32
SVE Sverdlovsk 53.61 338 *de*P **P** **02 09 12.4 +0.9**
SVE pmax pmax
comp=Z,37nm,0.7s
ARU Arti 54.10 337 P **P** **02 09 14.6 -0.4**
ARU IAmb IAmb 02 09 16.4
comp=Z,14nm,0.6s
ARU Arti 54.10 337 LR LR 02 34 09.9
comp=Z,31nm,19.0s,baz=138,slow=38
ARU Arti 54.10 337 *c i*P **P** **02 09 15.2 +0.2**
ARU *PP **pwP** **02 09 40.4 -1.4**
ARU 02 10 12.0
ARU 02 11 15.6
ARU S **S** **02 16 46.7 +3.2**
ARU SS **SS** **02 20 27.2 +0.8**
ARU pmax pmax
comp=Z,17nm,0.8s
ARU Arti 54.10 337 P **P** **02 09 15.3 +0.3**
ARU pP **pwP** **02 09 40.9 -0.9**
ARU Arti 54.10 337 P **P** **02 09 15.2 +0.2**
comp=Z,24nm,1.1s
GURO Guroymak-BITLI 54.23 311 P **P** **02 09 16.2 -0.3**
QIS Mount Isa 54.36 124 P **P** **02 09 16.4 -1.1**
comp=Z,43nm,0.9s
ASAJ Asahikawa 54.64 42 LR LR 02 34 27.7
comp=Z,35nm,18.3s,baz=147,slow=38
ASAJ Asahikawa 54.64 42 P **P** **02 09 19.6 +0.5**
ASAJ pmax pmax
comp=Z,30nm,1.3s
JKA Kamikawa-asahi 54.64 42 P **P** **02 09 19.6 +0.4**
JKA IAmb IAmb 02 09 21.9
comp=Z,30nm,1.3s
NCK Nalchik 54.85 317⇑ *i*P **P** **02 09 22.3 +1.6**
NCK pmax pmax
comp=Z,8.0nm,0.5s
KBZ Khabaz 55.41 317 P **P** **02 09 25.0 +0.3**
comp=Z,14nm,1.0s,baz=122,slow=5.8,SNR=15
comp=Z,14nm,1.0s
KBZ Khabaz 55.41 317 *c i*P **P** **02 09 25.3 +0.7**
KBZ pmax pmax
comp=Z,22nm,1.1s
SHA1 Shidzhatmaz 55.57 317 *c i*P **P** **02 09 26.7 +0.5**
KIV Kislovodsk 55.63 317⇓ P **P** **02 09 27.1 +0.8**
KIV Kislovodsk 55.63 317 P **P** **02 09 26.6 +0.2**
KIV Kislovodsk 55.63 317 *c i*P **P** **02 09 27.2 +0.8**
KIV *e*PP **sP** **02 09 57.2 -5.5**
KIV *e* 02 11 36.5
KIV *e*PPP PPP 02 12 51.4
KIV *e*S **S** **02 17 00.8 -3.8**
KIV *e*SS **SS** **02 20 52.8 +1.6**
KIV pmax pmax
comp=Z,52nm,1.0s
KIV Kislovodsk 55.63 317 P **P** **02 09 27.2 +0.8**
KIV Kislovodsk 55.63 317 P **P** **02 09 27.5 +1.1**
comp=Z,42nm,1.0s,comp=Z,334nm
YSS Yuzh-Sakhalins 55.92 39 P **P** **02 09 29.5 +1.2**
YSS Yuzh-Sakhalins 55.92 39⇓ *i*P **P** **02 09 30.0 +1.7**
YSS pmax pmax
comp=Z,72nm,0.7s
BELG Belogornoye 56.54 328 *c i*P **P** **02 09 32.6 0.0**
BELG pmax pmax
comp=Z,10.0nm,0.8s
MTSU Mount Surprise 57.25 119 P **P** **02 09 38.8 +0.6**
comp=Z,11nm,1.1s
GAZ Gaziantep 57.52 308 P **P** **02 09 40.0 +0.1**
GAZ IAmb IAmb 02 09 41.5
comp=Z,21nm,0.9s
TYV Tymovskoe 57.62 35 *e*P **P** **02 09 42.0 +1.8**
TYV pmax pmax
comp=Z,100nm,3.8s
TYV pmax pmax
comp=Z,10.0nm,1.1s
MMAI Mount Meron Ar 58.13 303 P **P** **02 09 45.3 +1.1**
comp=Z,3.3nm,0.7s,baz=82,slow=6.0,SNR=7.4
MMAI LR LR 02 37 33.8
comp=Z,34nm,21.3s,baz=54,slow=39
comp=Z,3.3nm,0.7s
YAK Yakutsk 58.66 19 P **P** **02 09 47.0 -0.2**
YAK Yakutsk 58.66 19 LR LR 02 37 04.5
comp=Z,91nm,18.7s,baz=234,slow=38
YAK Yakutsk 58.66 19 *e*P **P** **02 09 47.1 -0.2**
YAK *e*PP **pwP** **02 10 13.6 -1.8**
YAK *e* 02 11 59.4
YAK *e*S **S** **02 17 41.9 -1.5**
YAK *e*SS **SS** **02 21 37.3 -0.5**
YAK pmax pmax
comp=Z,72nm,0.9s
YAK pmax pmax
comp=E,23nm,1.2s
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=Z,14nm,0.4s
YAK pmax pmax
comp=N,12nm,1.0s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK smax smax
comp=E,27nm,1.5s
YAK smax smax
comp=N,36nm,1.5s
YAK Yakutsk 58.66 19 P **P** **02 09 47.7 +0.5**
BNN Bunyan 58.97 310 P **P** **02 09 49.1 -0.9**
VRH Novokhopyorsk 59.18 325 *e*P **P** **02 09 48.8 -2.3**
VRH pmax pmax
comp=Z,40nm,0.8s
KIRV Kirov 59.23 335 LR LR 02 38 08.3
comp=Z,38nm,18.5s,baz=168,slow=38
KIRV Kirov 59.23 335 *c i*P **P** **02 09 51.6 +0.4**
CTA Charters Tower 59.73 120 P **P** **02 09 54.4 -1.0**
comp=Z,0.1nm,0.6s,baz=225,slow=15,SNR=2.1
CTAO Charters Tower 59.73 120 P **P** **02 09 55.2 -0.2**
CTAO IAmb IAmb 02 09 56.2
comp=Z,29nm,1.0s
CTAO Charters Tower 59.73 120 P **P** **02 09 55.2 -0.2**
CTAO pmax pmax
comp=Z,29nm,1.0s
CTAO Charters Tower 59.73 120 P **P** **02 09 55.5 +0.2**
CSS Mathiatis 60.16 305 P **P** **02 09 57.2 -0.9**
CSS IAmb IAmb 02 09 59.2
comp=Z,8.8nm,0.8s
CSS Mathiatis 60.16 305 P **P** **02 09 58.3 +0.2**
comp=Z,14nm,1.1s
VORD Divnogorie 60.48 324 *e*P **P** **02 09 57.9 -2.0**
VORD pmax pmax
comp=Z,20nm,0.8s
VSR Storozhevoye 60.65 324 *e*P **P** **02 09 58.8 -2.3**
VSR pmax pmax
comp=Z,10.0nm,0.8s
VORR Voronezh 60.81 325 *e*P **P** **02 10 00.2 -2.0**
VORR pmax pmax
comp=Z,20nm,0.9s
BR104 Keskin Array S 60.83 310 P **P** **02 10 02.0 -0.7**
comp=Z,20nm,0.8s,comp=Z,153nm
BR131 Keskin Array S 60.83 310 *c i*P **P** **02 10 01.7 -1.1**
BRTR Keskin Array B 60.83 310 P **P** **02 10 01.9 -0.8**
comp=Z,14nm,0.7s,baz=124,slow=7.5,SNR=108
BRTR LR LR 02 39 32.8
comp=Z,33nm,19.5s,baz=109,slow=39
comp=Z,14nm,0.7s
BRTR Keskin Array B 60.83 310 P **P** **02 10 02.0 -0.8**
BR105 Keskin Array S 60.84 310 P **P** **02 10 02.1 -0.8**
comp=Z,21nm,0.8s,comp=Z,155nm
BR106 Keskin Array S 60.85 310 P **P** **02 10 02.0 -0.9**
comp=Z,22nm,0.8s,comp=Z,143nm
QLP Quilpie 60.98 127 P **P** **02 10 02.6 -1.1**
comp=Z,74nm,0.8s
LPSR Galich'ya Gora 61.34 326 *e*P **P** **02 10 03.9 -1.8**
LPSR pmax pmax
comp=Z,20nm,0.9s
ANTO Ankara 61.50 310 P **P** **02 10 06.6 -0.6**
ANTO IAmb IAmb 02 10 07.6
comp=Z,14nm,0.7s
ANTO Ankara 61.50 310 P **P** **02 10 06.6 -0.6**
ANTO pmax pmax
comp=Z,14nm,0.7s
ANTO Ankara 61.50 310 P **P** **02 10 06.7 -0.6**
comp=Z,10nm,1.0s
STKA Stephens Creek 61.75 134 P **P** **02 10 06.3 -2.5**
comp=Z,6.7nm,0.7s,baz=293,slow=6.0,SNR=11
comp=Z,6.7nm,0.7s
STKA Stephens Creek 61.75 134⇑ *e*P **P** **02 10 07.5 -1.4**
STKA Stephens Creek 61.75 134 P **P** **02 10 07.5 -1.4**
comp=Z,13nm,1.0s
SIM Simferopol' 61.76 316 *e*P **P** **02 10 08.7 0.0**
SIM S S 02 18 43.9 +20
SIM pmax pmax
comp=Z,62nm,1.3s
SIM smax smax
comp=N,7.0nm,10.3s
ISP Isparta 62.86 308 P **P** **02 10 15.3 -1.1**
ISP IAmb IAmb 02 10 17.4
comp=Z,18nm,1.0s
ISP Isparta 62.86 308⇓ *i*P **P** **02 10 15.9 -0.5**
ISP pmax pmax
comp=Z,24nm,1.3s
ELL Elmali 63.18 306 P **P** **02 10 17.7 -0.9**
ELL Elmali 63.18 306 P **P** **02 10 17.7 -0.9**
ELL pmax pmax
comp=Z,99nm,0.9s
MBAR Mbarara 63.21 264 LR LR 02 35 58.6
comp=Z,34nm,19.6s,baz=62,slow=34
MBAR Mbarara 63.21 264⇓ *e*P **P** **02 10 16.5 -2.7**
MBAR pmax pmax
comp=Z,9.0nm,1.5s
MOS Moscow 63.31 328 *e*P **P** **02 10 18.0 -0.8**
MOS *e* 02 10 53.5
MOS *e* 02 12 37.6
MOS *e*S **S** **02 18 39.4 -3.3**
MOS *e* 02 18 54.4
OBN Obninsk 63.62 328 P **P** **02 10 20.8 -0.1**
OBN Obninsk 63.62 328 *c i*P **P** **02 10 20.7 -0.1**
OBN *e*PP **sP** **02 10 55.7 -1.4**
OBN *e* 02 12 38.8
OBN *e*PPP PPP 02 14 11.5
OBN *e*S **S** **02 18 47.8 +1.3**
OBN pmax pmax
comp=Z,57nm,1.4s
CMSA Cobar Meteorol 64.54 132 P **P** **02 10 27.2 -0.1**
comp=Z,48nm,1.3s
KLMR Klimovskoe 64.67 334 *e*P **P** **02 10 27.1 -0.5**
KLMR *e*PP **pwP** **02 10 53.8 -1.4**
KLMR pmax pmax
comp=Z,33nm,1.5s
PURM Purcari 65.03 317 P **P** **02 10 30.2 0.0**
KARP Karpathos 65.24 305 P **P** **02 10 31.3 -0.6**
TLCR 65.46 315⇑ P **P** **02 10 32.9 -0.2**
TLCR 65.46 315 P **P** **02 10 32.8 -0.2**
SKR Severo-Kuril's 65.48 38⇓ *e*P **P** **02 10 34.3 +1.2**
MA2 Magadan 65.63 28 P **P** **02 10 34.2 +0.3**
MA2 IAmb IAmb 02 10 35.5
comp=Z,40nm,0.9s
MA2 Magadan 65.63 28 LR LR 02 40 41.8
comp=Z,27nm,19.7s,baz=286,slow=37
MA2 Magadan 65.63 28 *c i*P **P** **02 10 34.3 +0.3**
MA2 pmax pmax
comp=Z,44nm,0.9s
TIXI Tiksi 65.75 12 P **P** **02 10 34.1 -0.3**
TIXI Tiksi 65.75 12 LR LR 02 43 19.1
comp=Z,58nm,19.2s,baz=198,slow=40
TIXI Tiksi 65.75 12 *c i*P **P** **02 10 34.4 -0.1**
TIXI pmax pmax
comp=Z,109nm,1.5s
TIXI Tiksi 65.75 12 P **P** **02 10 34.2 -0.2**
MILM Milestii Mici 65.82 317⇑ P **P** **02 10 34.9 -0.5**
MILM Milestii Mici 65.82 317⇑ *i*P **P** **02 10 34.6 -0.8**
comp=Z,66nm,0.9s
MILM Milestii Mici 65.82 317 *c i*P **P** **02 10 34.6 -0.8**
MILM pmax pmax
comp=Z,70nm,0.9s
KIS Kishinev 65.84 317 *e*P **P** **02 10 34.8 -0.7**
comp=Z,25nm,0.8s
KIS Kishinev 65.84 317 *e*P **P** **02 10 34.8 -0.7**
KIS pmax pmax
comp=Z,25nm,0.8s
CFR Carcaliu 65.93 315⇑ P **P** **02 10 35.7 -0.4**
CFR Carcaliu 65.93 315 P **P** **02 10 35.7 -0.4**
EIDS Eidsvold 65.95 123 P **P** **02 10 36.5 -0.1**
comp=Z,25nm,1.4s
HARR Harsova 65.98 315⇑ P **P** **02 10 35.9 -0.6**
HARR Harsova 65.98 315 P **P** **02 10 35.8 -0.6**
VLDR Vladesti 66.10 316⇑ P **P** **02 10 37.6 +0.4**
SCTR Scanteiesti 66.13 316⇓ P **P** **02 10 37.5 +0.2**
VARL Varlezi 66.27 316⇓ P **P** **02 10 38.8 +0.6**
SORM Soroca 66.39 318⇑ P **P** **02 10 38.5 -0.5**
SORM Soroca 66.39 318 P **P** **02 10 38.4 -0.5**
AKASG Malin Array Be 66.43 321 P **P** **02 10 38.2 -1.0**
comp=Z,4.3nm,0.6s,baz=88,slow=5.3,SNR=53
comp=Z,4.3nm,0.6s
AKASG Malin Array Be 66.43 321 *ce*P **P** **02 10 38.2 -1.0**
AKASG pmax pmax
comp=Z,14nm,0.7s
AKBB Malin Array Si 66.43 321 *c i*P **P** **02 10 38.2 -1.0**
AKBB pmax pmax
comp=Z,20nm,0.9s
KIEV Kiev 66.44 321⇓ P **P** **02 10 38.6 -0.6**
KIEV Kiev 66.44 321 P **P** **02 10 37.7 -1.5**
KIEV IAmb IAmb 02 10 39.2
comp=Z,15nm,0.8s
KIEV Kiev 66.44 321 P **P** **02 10 37.7 -1.5**
KIEV pmax pmax
comp=Z,15nm,0.9s
KIEV Kiev 66.44 321 P **P** **02 10 38.2 -1.1**
KIEV PcP **pwP** **02 11 06.3 -0.5**
GHRR 66.60 316⇑ P **P** **02 10 40.8 +0.4**
H04N2 CROZET ISLANDS 66.79 210 T T 03 22 16.6
baz=45,slow=75,SNR=87
H04N1 CROZET ISLANDS 66.80 210 T T 03 22 10.1
baz=45,slow=75,SNR=92
H04N3 CROZET ISLANDS 66.81 210 T T 03 22 15.9
baz=45,slow=75,SNR=81
BISRR Bisoca 66.99 315⇑ P **P** **02 10 43.7 +0.7**
ISR Istrita 67.03 315⇑ P **P** **02 10 43.9 +0.7**
ISR Istrita 67.03 315 P **P** **02 10 43.9 +0.7**
VRI Vrincioaia 67.03 316⇑ P **P** **02 10 44.0 +0.8**
VRI Vrincioaia 67.03 316 P **P** **02 10 43.9 +0.8**
PETK Petropavlovsk- 67.08 36 P **P** **02 10 42.9 -0.4**
comp=Z,4.4nm,0.7s,baz=224,slow=6.2,SNR=9.0
PETK LR LR 02 41 59.5
comp=Z,39nm,19.8s,baz=242,slow=38
comp=Z,4.4nm,0.7s
PLOR Plostina 67.08 316⇓ P **P** **02 10 44.2 +0.6**
PLOR Plostina 67.08 316 P **P** **02 10 44.1 +0.6**
ELND Elena 67.16 313⇑ P **P** **02 10 43.8 -0.2**
RDO Rodhopi 67.16 311 P **P** **02 10 43.9 -0.1**
TESR Tescani 67.20 316⇑ P **P** **02 10 44.5 +0.3**
NEHR Nehoiu 67.26 315⇑ P **P** **02 10 45.6 +1.0**
SGRR Singureni 67.28 314⇓ P **P** **02 10 44.7 0.0**
COVR Voineasa-Covas 67.39 316⇑ P **P** **02 10 45.2 -0.2**
MLR Muntele Rosu 67.51 315⇓ P **P** **02 10 47.2 +0.8**
MLR Muntele Rosu 67.51 315 P **P** **02 10 46.7 +0.4**
MLR IAmb IAmb 02 10 47.9
comp=Z,40nm,0.9s
MLR Muntele Rosu 67.51 315 LR LR 02 43 59.9
comp=Z,32nm,21.8s,baz=93,slow=39
MLR Muntele Rosu 67.51 315 P **P** **02 10 46.7 +0.4**
MLR pmax pmax
comp=Z,40nm,0.9s
TOO Toolangi 67.54 137 P **P** **02 10 46.3 -0.2**
TOO IAmb IAmb 02 10 48.4
comp=Z,18nm,0.9s
TOO Toolangi 67.54 137 P **P** **02 10 46.3 -0.2**
TOO pmax pmax
comp=Z,18nm,1.0s
TOO Toolangi 67.54 137 P **P** **02 10 47.0 +0.6**
comp=Z,21nm,1.1s
TURR Turia 67.56 316⇑ P **P** **02 10 46.9 +0.4**
PET Petropavlovsk 67.61 36⇓ *e*P **P** **02 10 46.8 +0.2**
PET pmax pmax
comp=Z,38nm,0.9s
PRAR RASCA 67.64 317⇓ P **P** **02 10 46.6 -0.4**
OZUR 67.72 316⇑ P **P** **02 10 47.1 -0.4**
SEY Seymchan 67.72 25 LR LR 02 43 02.4
comp=Z,30nm,18.4s,baz=219,slow=38
SEY Seymchan 67.72 25⇑ *e*P **P** **02 10 47.0 -0.1**
SEY pmax pmax
comp=Z,19nm,1.4s
YNG Young 67.88 133 P **P** **02 10 47.1 -1.5**
comp=Z,41nm,1.5s
DOPR Dopca 67.97 316⇑ P **P** **02 10 48.2 -0.9**
HUMR Humele 68.03 314⇑ P **P** **02 10 49.1 -0.4**
VOIR 68.12 315⇓ P **P** **02 10 50.0 -0.2**
VOIR 68.12 315 P **P** **02 10 49.9 -0.2**
MNK Minsk 68.18 325 *i*P **P** **02 10 49.7 -0.4**
MNK *i**PP **pP** **02 11 14.9 -0.8**
MNK *i* 02 13 21.4
MNK *i*PPP PPP 02 15 01.3
MNK *i*S **S** **02 19 43.6 +1.6**
MNK *i**SS **sS** **02 20 27.3 +0.4**
MNK *i* 02 20 39.5
MNK *i*SS **SS** **02 24 09.1 +2.5**
MNK pmax pmax
comp=Z,55nm,0.9s
MNK pmax pmax
comp=E,12nm,0.9s
MNK pmax pmax
comp=N,13nm,0.7s
BURAR Bucovina Array 68.36 317⇓ P **P** **02 10 52.1 +0.5**
ARR Arges 68.40 315⇑ P **P** **02 10 51.5 -0.3**
ARMA Armidale 68.52 128 P **P** **02 10 53.2 +0.3**
ARMA IAmb IAmb 02 10 54.9
comp=Z,35nm,0.8s
ARMA Armidale 68.52 128 P **P** **02 10 53.9 +1.1**
comp=Z,49nm,0.9s
VALR Valaam 68.70 333 *c i*P **P** **02 10 53.1 -0.1**
VALR pmax pmax
comp=Z,30nm,0.8s
CAN Canberra 68.81 134 P **P** **02 10 53.9 -0.5**
CAN IAmb IAmb 02 10 55.5
comp=Z,15nm,0.7s
CAN Canberra 68.81 134 P **P** **02 10 53.9 -0.5**
CAN pmax pmax
comp=Z,15nm,0.7s
CAN Canberra 68.81 134 P **P** **02 10 53.9 -0.5**
comp=Z,27nm,0.7s
ARCR ARCALIA 68.85 317⇑ P **P** **02 10 55.0 +0.5**
LOT Lotru 69.02 315⇑ P **P** **02 10 55.1 -0.6**
IDID Didziasalis 69.02 326 *e*P **P** **02 10 55.2 -0.1**
JOF Joensuu 69.06 334 *e*P **P** **02 10 56.0 +0.5**
LSZ Lusaka 69.18 250 LR LR 02 38 13.5
comp=Z,22nm,18.7s,baz=164,slow=33
CJR Cluj-Napoca 69.31 316⇑ P **P** **02 10 57.9 +0.4**
CJR Cluj-Napoca 69.31 316 P **P** **02 10 57.8 +0.4**
LIT Litokhoron 69.36 309 P **P** **02 10 56.6 -1.2**
LIT IAmb IAmb 02 10 57.6
comp=Z,28nm,0.8s
LIT Litokhoron 69.36 309 P **P** **02 10 56.6 -1.2**
LIT pmax pmax
comp=Z,28nm,0.8s
LVV L'vov 69.51 320 *e*P **P** **02 10 58.2 -0.3**
BLKB Belogradchik 69.57 313⇑ P **P** **02 10 58.9 -0.2**
ITM Ithomi 69.58 306 P **P** **02 10 57.9 -1.3**
ITM IAmb IAmb 02 10 59.1
comp=Z,34nm,0.8s
MARR Marisel-Cluj 69.63 316⇓ P **P** **02 10 59.3 -0.1**
DEV Deva 69.68 315⇑ P **P** **02 11 00.3 +0.7**
DEV Deva 69.68 315 P **P** **02 11 00.3 +0.7**
GZR Gura Zlata 69.70 315⇑ P **P** **02 10 59.2 -0.7**
GZR Gura Zlata 69.70 315 P **P** **02 10 59.2 -0.7**
LVZ Lovozero 69.77 340 *ce*P **P** **02 10 59.8 0.0**
LVZ pmax pmax
comp=Z,96nm,1.6s
VSU Vasula 69.82 329 *c i*P **P** **02 11 00.0 -0.2**
VSU pmax pmax
comp=Z,26nm,0.8s
HERR Herculane 69.89 314⇑ P **P** **02 11 01.0 0.0**
DRGR 69.93 316⇑ P **P** **02 11 01.7 +0.4**
DRGR 69.93 316 P **P** **02 11 01.6 +0.4**
APA Apatity 70.06 339⇓ *i*P P 02 10 55.0 -6.5
APA *i**PP **PcP** **02 11 24.0 +1.0**
APA pmax pmax
comp=Z,18nm,0.8s
APA MLR MLR
comp=Z,700nm,14.0s
POGA Pongola 70.10 236 P **P** **02 11 03.3 +0.7**
FNA Florina 70.26 310 P **P** **02 11 01.2 -2.1**
FNA Florina 70.26 310 P **P** **02 11 01.3 -2.1**
FNA pmax pmax
comp=Z,11nm,0.7s
BOVS Bovan 70.27 313⇑ P **P** **02 11 02.4 -0.9**
KWP Kalwaria Pacla 70.33 319 *e*P **P** **02 11 04.2 +0.7**
KWP Kalwaria Pacla 70.33 319 P **P** **02 11 03.8 +0.3**
KWP IAmb IAmb 02 11 05.4
comp=Z,35nm,0.8s
KWP Kalwaria Pacla 70.33 319 P **P** **02 11 03.8 +0.3**
KWP pmax pmax
comp=Z,35nm,0.8s
MDVR Moldovita 70.38 314⇑ P **P** **02 11 03.4 -0.6**
ARBE Arbavere 70.45 330 *e*P **P** **02 11 04.5 +0.5**
KOLS Kolonicke sedl 70.51 319 *e*P **P** **02 11 05.2 +0.5**
KOLS Kolonicke sedl 70.51 319 *e*P **P** **02 11 05.2 +0.5**
KOLS pmax pmax
comp=Z,16nm,0.7s
BZS Buzias 70.54 315⇑ P **P** **02 11 04.6 -0.3**
BZS Buzias 70.54 315 P **P** **02 11 04.6 -0.3**
SIRR Siria 70.58 316⇑ P **P** **02 11 05.8 +0.6**
PABE Paberze 70.60 326 P **P** **02 11 04.2 -0.9**
PABE Paberze 70.60 326 *e*P **P** **02 11 05.2 +0.2**
VSVD Vaisvydziai 70.72 326 *e*P **P** **02 11 05.8 +0.1**
SUW Suwalki 70.76 324 *e*P **P** **02 11 05.6 -0.5**
SUW Suwalki 70.76 324 P **P** **02 11 04.4 -1.6**
SUW Suwalki 70.76 324 *e*P **P** **02 11 06.2 +0.1**
SUW Suwalki 70.76 324 P **P** **02 11 04.4 -1.6**
SUW pmax pmax
comp=Z,54nm,0.8s
FINES FINESS Array B 70.93 332 P **P** **02 11 06.9 0.0**
comp=Z,10nm,0.8s,baz=106,slow=6.5,SNR=39
FINES LR LR 02 43 59.4
comp=Z,21nm,20.9s,baz=109,slow=37
comp=Z,10nm,0.8s
CRVS Cervenica-Dubn 71.03 318 *e*P **P** **02 11 08.6 +0.7**
CRVS Cervenica-Dubn 71.03 318 *e*P **P** **02 11 08.6 +0.7**
CRVS pmax pmax
comp=Z,42nm,0.9s
STHS Stebnicka Huta 71.24 319 *e*P **P** **02 11 08.6 -0.5**
STHS Stebnicka Huta 71.24 319 *e*P **P** **02 11 08.6 -0.5**
MTSE Matsula 71.36 329 *e*P **P** **02 11 09.8 +0.2**
MEF Metsahovi 71.42 331 *e*P **P** **02 11 09.9 +0.1**
PUK Puka 71.47 311 IAmb IAmb 02 11 10.4
comp=Z,26nm,1.0s
SJES Sjenica 71.49 312⇑ *i*P **P** **02 11 09.7 -1.2**
KECS Kecovo 71.63 318 *e*P **P** **02 11 11.9 +0.5**
KECS Kecovo 71.63 318 *e*P **P** **02 11 11.9 +0.5**
KECS pmax pmax
comp=Z,23nm,0.6s
KEF Keuruu 71.67 333 *e*P **P** **02 11 11.8 +0.5**
FRGS Fruska Gora 71.76 314⇑ *i*P **P** **02 11 11.6 -0.7**
PBUR Paburge 71.83 326 *e*P **P** **02 11 13.2 +0.7**
NIE Niedzica 71.85 319 *e*P **P** **02 11 13.5 +0.7**
TEKS Tekeris 71.91 314⇑ *i*P **P** **02 11 12.5 -0.7**
BBLS Lazik#263i 71.95 313⇑ *i*P **P** **02 11 13.5 0.0**
RUDO Rudo 71.96 313⇑ *i*P **P** **02 11 12.4 -1.1**
PSZ Piszkesteto 71.96 317⇑ P **P** **02 11 13.3 -0.2**
PSZ Piszkesteto 71.96 317 P **P** **02 11 13.3 -0.2**
PDG Podgorica 71.96 311⇑ P **P** **02 11 12.7 -0.9**
PDG Podgorica 71.96 311 P **P** **02 11 12.6 -0.9**

PDG IAmb IAmb 02 11 13.6
comp=Z,18nm,0.7s
PDG Podgorica 71.96 311⇑ *i*P P 02 11 12.2 -1.3
DRME Dracevica, Mon 72.00 311⇑ *i*P P 02 11 12.6 -1.2
UPM Unac-Piva 72.27 312 *e*P P 02 11 14.5 -1.1
OJC Ojcow 72.27 320 *e*P P 02 11 15.2 0.0
OJC Ojcow 72.27 320 IAmb IAmb 02 11 16.4
comp=Z,37nm,0.7s
HAPS Han Pijesak,Bl 72.29 313⇑ *i*P P 02 11 15.6 0.0
VADS Vadso 72.42 341 *e*P P 02 11 16.7 +1.0
BRY Bratogost 72.52 312⇑ *i*P P 02 11 15.8 -1.2
HCY Herceg Novi 72.53 311 *e*P P 02 11 13.9 -3.0
KLNR Kaliningrad 72.58 324*c i*P P 02 11 16.8 -0.1
KLNR pmax pmax
comp=Z,81nm,0.7s
TREB Trebinje 72.65 312 *e*P P 02 11 16.3 -1.3
MORH Mrgy, Hungar 72.66 315 ⇓*i*P P 02 11 17.4 -0.2
VYHS Vyhne 72.72 318 *e*P P 02 11 18.1 +0.2
VYHS Vyhne 72.72 318 *e*P P 02 11 18.1 +0.2
VYHS pmax pmax
comp=Z,12nm,0.8s
RAF Rauma 72.86 331 *e*P P 02 11 18.6 +0.2
VAF Ylistaro 72.87 333 *e*P P 02 11 19.2 +0.7
SRO Srobarova 73.01 317 *e*P P 02 11 20.6 +1.0
SRO Srobarova 73.01 317 *e*P P 02 11 20.6 +1.0
SRO pmax pmax
comp=Z,28nm,0.8s
STON Ston 73.13 312 *i*P P 02 11 19.2 -1.2
STON Ston 73.13 312⇑ *i*P P 02 11 19.0 -1.4
OKC Ostrava-Krasne 73.29 319 *e*P P 02 11 22.1 +0.9
OKC Ostrava-Krasne 73.29 319 *e*P P 02 11 22.1 +0.9
MAUC Maruska 73.46 319 *e*P P 02 11 23.0 +0.7
ARA0 ARCESS Array S 73.48 340 *e*P P 02 11 22.1 +0.1
ARCES ARCESS Array B 73.48 340 P **P 02 11 22.7 +0.7**
comp=Z,8.7nm,0.5s,baz=96,slow=6.2,SNR=69
ARCES LR LR 02 48 01.1
comp=Z,47nm,18.2s,baz=160,slow=39
comp=Z,8.7nm,0.5s
JAVC Velka Javorina 73.52 318 *e*P P 02 11 23.4 +0.7
AAL Aland 73.56 330 *e*P P 02 11 22.8 +0.2
RICI Ricice 73.57 313 *i*P P 02 11 21.9 -1.2
BLY Banja Luka 73.59 314⇑ *i*P P 02 11 22.9 -0.2
MAKA Makarska 73.65 312 *i*P P 02 11 22.7 -0.7
MGRS Mrkonjic Grad 73.65 313 *e*P P 02 11 23.0 -0.5
MORC Moravsky Berou 73.67 319 ⇑P P 02 11 24.3 +0.7
MORC Moravsky Berou 73.67 319 IAmb IAmb 02 11 25.2
comp=Z,28nm,1.0s
MORC Moravsky Berou 73.67 319 *e*P P 02 11 23.9 +0.3
MORC Moravsky Berou 73.67 319 P **P 02 11 24.3 +0.7**
LSTV Lastovo 73.72 312 *i*P P 02 11 22.6 -1.3
TIP Timpagrande 73.73 308 ⇑P P 02 11 24.4 +0.3
MODS Modra-Piesok 73.74 318 *e*P P 02 11 24.4 +0.4
MODS Modra-Piesok 73.74 318 *e*P P 02 11 24.4 +0.4
MODS pmax pmax
comp=Z,27nm,0.8s
MATE Matera 73.80 310 ⇑P P 02 11 23.9 -0.5
A051A Mrakovica 73.80 314⇑ *i*P P 02 11 23.7 -0.8
ZST Bratislava 73.85 317 *e*P P 02 11 25.3 +0.8
ZST Bratislava 73.85 317 *e*P P 02 11 25.3 +0.8
ZST pmax pmax
comp=Z,81nm,0.8s
A050A Klekovaca 74.05 314⇑ *i*P P 02 11 24.3 -1.6
HVAR Hvar 74.06 312 *i*P P 02 11 24.2 -1.7
KRLC Kraliky 74.19 319 *e*P P 02 11 27.3 +0.7
KRLC Kraliky 74.19 319 *e*P P 02 11 27.3 +0.7
VRAC Vranov 74.26 319 ⇑P P 02 11 27.6 +0.7
VRAC Vranov 74.26 319 *e*P P 02 11 27.1 +0.2
VRAC Vranov 74.26 319 LR LR 02 48 17.9
comp=Z,24nm,20.6s,baz=116,slow=39
VRAC Vranov 74.26 319 P **P 02 11 27.6 +0.7**
RONA Rosalia, Austr 74.36 317 *i*P P 02 11 27.6 0.0
comp=Z,5.4nm,0.6s,SNR=8.1
KRUC Moravsky 74.37 318 *e*P P 02 11 27.6 0.0
CEL Celeste 74.40 307 IAmb IAmb 02 11 30.2
comp=Z,38nm,0.9s
HAMF Hammerfest 74.40 341 *e*P P 02 11 28.3 +1.0
DPC Dobruska-Polom 74.50 320 *e*P P 02 11 29.3 +0.9
DPC Dobruska-Polom 74.50 320 *e*P P 02 11 29.3 +0.9
OSTC Ostas 74.58 320 *e*P P 02 11 29.8 +1.0
OSTC Ostas 74.58 320 *e*P P 02 11 29.8 +1.0
MORI Morici 74.62 313 *i*P P 02 11 27.9 -1.2
ZIRJ Zirje 74.66 313 *i*P P 02 11 28.1 -1.2
CONA Conrad Observa 74.66 317 *i*P P 02 11 29.5 +0.1
comp=Z,9.6nm,1.0s,SNR=6.8
CHVC Chvalec 74.69 320 *e*P P 02 11 30.4 +1.0
CHVC Chvalec 74.69 320 *e*P P 02 11 30.4 +1.0
UPP Uppsala 74.69 330 *e*P P 02 11 29.6 +0.4
UPC Upice 74.71 320 *e*P P 02 11 30.3 +0.8
UPC Upice 74.71 320 *e*P P 02 11 30.3 +0.8
GCIS Gornji Cirnik 74.74 315 *i*P P 02 11 29.9 +0.1
BILL Bilibino 74.81 22 *i*P P 02 11 30.2 +0.4
BILL pmax pmax
comp=Z,6.0nm,1.7s
CRES Cresnjev 74.86 315⇑ *i*P P 02 11 30.4 -0.1
ARSA Arzberg 74.86 316 *e*P P 02 11 30.9 +0.4
comp=Z,15nm,1.2s,SNR=9.5
TREC Trest 74.98 318 *e*P P 02 11 31.4 +0.3
TREC Trest 74.98 318 *e*P P 02 11 31.4 +0.3
BOJS Bojanci 74.99 315 *i*P P 02 11 31.2 0.0
BOJS Bojanci 74.99 315⇑ *i*P P 02 11 31.2 0.0
VIKU Vikbolandet 75.00 328 *e*P P 02 11 31.4 +0.5
VIRC Vir 75.10 313 *i*P P 02 11 30.9 -0.9
PERS Pernice 75.12 316 *i*P P 02 11 32.3 +0.2
SOKA Soboth 75.18 316 *e*P P 02 11 32.7 +0.3
comp=Z,19nm,0.9s,SNR=21
GOPC GO Pecny, Ondr 75.46 319 *e*P P 02 11 34.6 +0.7
GOPC GO Pecny, Ondr 75.46 319 *e*P P 02 11 34.6 +0.7
OBKA Obir 75.51 316 *i*P P 02 11 34.6 +0.3
comp=Z,14nm,0.7s,SNR=14
OBKA Obir 75.51 316⇑ *i*P P 02 11 34.6 +0.3
CEY Cerknica 75.58 315⇑ *i*P P 02 11 34.2 -0.4
RAFF Raffo Rosso 75.62 306 P **P 02 11 35.2 +0.2**
PRU Pruhonice 75.62 319 *e*P P 02 11 35.5 +0.7
PRU Pruhonice 75.62 319 *e*P P 02 11 35.5 +0.7
BSD Bornholm Skovb 75.67 324 *e*P P 02 11 34.9 0.0
CKRC Cesky Krumlov 75.73 318 *e*P P 02 11 35.9 +0.4
CKRC Cesky Krumlov 75.73 318 *e*P P 02 11 35.9 +0.4
MOA Molln 75.73 317 *i*P P 02 11 35.3 -0.2
comp=Z,12nm,1.1s,SNR=8.5
TRO Tromso 75.74 340 *e*P P 02 11 35.3 +0.4
BOSA Boshof 75.88 237 P **P 02 11 37.3 +0.5**
comp=Z,11nm,0.6s,baz=80,slow=3.9,SNR=39
comp=Z,11nm,0.6s
RICC Richard 75.93 320 *e*P P 02 11 37.6 +1.1
VOJS Vojsko 75.96 315 *i*P P 02 11 36.6 -0.3
BRG Berggiesshubel 76.04 320⇓ *i*P P 02 11 37.8 +0.7
BRG Amp 02 11 38.8
comp=Z,12nm,0.8s
GERES GERESS Array B 76.14 318 P **P 02 11 38.3 +0.5**
comp=Z,24nm,0.8s,baz=85,slow=5.6,SNR=108
comp=Z,24nm,0.8s
BIOA Bad Ischl, Aus 76.15 317 *e*P P 02 11 37.6 -0.2
comp=Z,9.4nm,0.6s,SNR=8.0
SABO M.te Sabotino 76.16 315 IAmb IAmb 02 11 38.5
comp=Z,23nm,0.7s
RUE Ruedersdorf 76.20 322 *e*P P 02 11 39.0 +1.0
KHC Kasperske Hory 76.22 318 *e*P P 02 11 38.8 +0.5
KHC Kasperske Hory 76.22 318*c i*P P 02 11 38.5 +0.2
KHC pmax pmax
comp=Z,29nm,0.7s
GUMA Gualdo di Mace 76.34 312 IAmb IAmb 02 11 39.7
comp=Z,12nm,0.8s
KBA Koelnbreinsper 76.34 316 *e*P P 02 11 38.8 -0.3
comp=Z,3.7nm,0.5s,SNR=7.5
DEL Delary 76.35 326 *e*P P 02 11 39.2 +0.4
DEL Delary 76.35 326 *i*P P 02 11 38.0 -0.7
HSKC Hora Svate Kat 76.36 320 *e*P P 02 11 39.7 +0.7
NRCA Norcia 76.50 312 P **P 02 11 39.6 -0.4**
CLL Collm 76.65 320⇑ *i*P P 02 11 40.3 -0.2
comp=Z,10.0nm,0.9s
CLL *e*(sP) **pwP 02 12 11.0 +1.9**
CLL Collm 76.65 320⇑ *i*P P 02 11 40.3 -0.2
CLL *e**PP **pwP 02 12 11.0 +1.9**
CLL pmax pmax
comp=Z,10.0nm,0.9s
HFS Hagfors 76.68 330 P **P 02 11 40.9 +0.4**
comp=Z,14nm,0.7s,baz=103,slow=6.7,SNR=47
HFS LR LR 02 49 11.0
comp=Z,26nm,18.1s,baz=100,slow=38
comp=Z,14nm,0.7s
FAUS Fauske 76.70 337 *e*P P 02 11 40.9 +0.4
STAL STALIGIAL 76.78 315 IAmb IAmb 02 11 42.3
comp=Z,60nm,1.2s

STEI Steigen 76.79 338 *e*P P 02 11 41.4 +0.4
LESA Schwarzleotal 76.80 316 *i*P P 02 11 41.1 -0.5
comp=Z,11nm,0.6s
MOR8 Moi Rana 76.89 336 *e*P P 02 11 41.2 -0.4
ABTA Abfaltersbach 76.91 316 *e*P P 02 11 41.6 -0.6
comp=Z,8.9nm,0.7s,SNR=6.0
CIMO Cimolais 76.96 315 IAmb IAmb 02 11 43.6
comp=Z,45nm,0.8s
NKC Novy Kostel 76.98 319 *e*P P 02 11 43.5 +1.0
NKC Novy Kostel 76.98 319 *e*P P 02 11 43.5 +1.0
LOF Lofoten 77.44 338 *e*P P 02 11 45.0 +0.4
WTTA Wattenberg 77.51 316 *i*P P 02 11 45.2 -0.5
comp=Z,23nm,0.6s,SNR=15
TEOL Teolo 77.51 314 IAmb IAmb 02 11 46.4
comp=Z,20nm,0.9s
CTI Castel Tesino 77.52 315 IAmb IAmb 02 11 46.9
comp=Z,24nm,0.8s
WATA Walderalm 77.55 316 *i*P P 02 11 45.1 -0.7
comp=Z,13nm,0.6s,SNR=11
GRFO Grafenberg 77.77 319 P **P 02 11 47.5 +0.6**
GRFO IAmb IAmb 02 11 48.7
comp=Z,24nm,0.9s
GRFO Grafenberg 77.77 319 P **P 02 11 47.5 +0.6**
GRFO pmax pmax
comp=Z,24nm,0.9s
NC602 NORSAR Array S 77.78 330 *e*P P 02 11 46.7 0.0
NSS Namsos 77.78 334 *e*P P 02 11 46.6 0.0
SQTA Sankt Quirin 77.80 316 *i*P P 02 11 46.7 -0.5
comp=Z,23nm,0.6s,SNR=20
MOTA Moosalm 77.87 316 *i*P P 02 11 47.1 -0.6
comp=Z,21nm,0.8s,SNR=18
NB2 NORSAR Subarra 77.95 330 P **P 02 11 47.1 -0.6**
comp=Z,13nm,0.7s,baz=92,slow=5.6
NB2 NORSAR Subarra 77.95 330 P **P 02 11 47.1 -0.6**
baz=92,slow=5.6
NOA NORSAR Array B 77.95 330 P **P 02 11 47.3 -0.4**
comp=Z,11nm,0.7s,baz=93,slow=5.7,SNR=58
NOA LR LR 02 49 01.3
comp=Z,19nm,19.6s,baz=275,slow=38
comp=Z,11nm,0.7s
ZCCA Zocca 78.03 313 IAmb IAmb 02 11 51.0
comp=Z,33nm,0.7s
SPA0 Spitsbergen Ar 78.08 348 *e*P P 02 11 48.9 +0.9
SPITS Spitsbergen Ar 78.08 348 P **P 02 11 49.0 +0.9**
comp=Z,14nm,0.5s,baz=99,slow=9.6,SNR=70
SPITS LR LR 02 51 48.3
comp=Z,27nm,21.4s,baz=3.5,slow=40
comp=Z,14nm,0.5s
SPITS Spitsbergen Ar 78.08 348 P **P 02 11 49.0 +0.9**
RETA Reutte 78.10 317 *i*P P 02 11 48.6 -0.2
comp=Z,25nm,0.6s,SNR=19
DZM Mont Dzumac 78.11 115 P **P 02 11 49.7 +0.3**
comp=Z,16nm,0.8s,baz=274,slow=19,SNR=6.9
comp=Z,16nm,0.8s
FETA Feichten 78.13 316 *i*P P 02 11 48.9 -0.2
comp=Z,19nm,0.8s,SNR=9.7
OSL Oslo 78.16 329 *e*P P 02 11 49.6 +0.8
DAVA Damuels 78.70 316 *i*P P 02 11 52.1 -0.1
comp=Z,30nm,0.7s,SNR=12
KONO Kongsberg 78.73 329 P **P 02 11 51.6 -0.3**
KONO Kongsberg 78.73 329 *e*P P 02 11 52.2 +0.3
KONO Kongsberg 78.73 329*ce*P P 02 11 51.9 0.0
KONO pmax pmax
comp=Z,17nm,1.3s
MUD Monsted U'grnd 78.96 326 *i*P P 02 11 53.0 -0.1
MUD IAmb IAmb 02 11 54.7
comp=Z,32nm,0.9s
TATN Tataouine 78.99 301 IAmb IAmb 02 11 56.0
comp=Z,17nm,0.8s
DOMB Dombas 79.01 331 *e*P P 02 11 54.0 +0.5
TUE Stuetta 79.10 316 IAmb IAmb 02 11 59.1
comp=Z,16nm,0.8s
STU Stuttgart 79.11 318 IAmb IAmb 02 11 55.4
comp=Z,20nm,0.6s
SKAR Skarslia 79.37 330 *e*P P 02 11 56.5 +1.1
BFO Black Forest 79.71 317 P **P 02 11 56.1 -1.4**
BFO Black Forest 79.71 317 P **P 02 11 56.1 -1.4**
BFO pmax pmax
comp=Z,13nm,0.9s
MOL Molde 79.71 332 *e*P P 02 11 57.8 +0.6
KEST Kesra 79.73 305 P **P 02 11 58.5 +0.6**
comp=Z,14nm,0.6s,baz=71,slow=0.8,SNR=32
comp=Z,14nm,0.6s
AKN Aaknes 79.98 332 *e*P P 02 11 59.6 +0.9
TSUM Tsumeb 79.98 249 P **P 02 11 59.4 -0.2**
MAW Mawson 80.01 191 P **P 02 11 59.3 +0.8**
comp=Z,6.8nm,0.7s,baz=25,slow=5.8,SNR=17
comp=Z,6.8nm,0.7s
ODD1 Odda 80.23 329 *e* P 02 11 54.3 -5.8
ODD1 *e*P **PcP 02 12 00.9 -6.1**
BLSS Blasjo 80.33 329 *e*P P 02 12 01.4 +0.7
HYA Hoyanger 80.40 331 *e*P P 02 12 01.5 +0.6
SENIN Lac Senin/Sane 80.52 316 IAmb IAmb 02 12 03.1
comp=Z,41nm,0.8s
BER Bergen 80.85 330 *e*P P 02 12 04.1 +0.8
ASK Askoy 80.91 330 *e*P P 02 12 04.4 +0.7
FOO Floro 80.93 331 *e*P P 02 12 04.2 +0.5
KMY Karmoy 80.96 329 *e*P P 02 12 04.3 +0.3
LPL La Plagne 80.98 315 *e*P P 02 12 04.5 -0.1
LPL pmax pmax
comp=Z,46nm,0.8s
BTNL Ternell 81.01 320 *d*P P 02 12 04.0 -0.4
comp=Z,6.1nm,1.0s
BNI Bardonecchia 81.05 314 IAmb IAmb 02 12 09.7
comp=Z,20nm,0.8s
WLF Walferdange 81.06 319 *d*P P 02 12 05.8 +1.1
MEM Membach 81.08 320 *d*P P 02 12 04.8 0.0
comp=Z,8.4nm,0.9s
SUE Sulen 81.09 331 *e*P P 02 12 05.1 +0.5
WIN Windhoek 81.22 245 P **P 02 12 07.5 +1.2**
WIN Windhoek 81.22 245 P **P 02 12 07.5 +1.2**
WIN pmax pmax
comp=Z,13nm,0.7s
BSTI Sart Tilman 81.37 320 *d*P P 02 12 07.0 +0.7
BCLA Clavier 81.55 320 *d*P P 02 12 07.8 +0.5
comp=Z,5.5nm,1.0s
RCHB Rochefort 81.62 319 *d*P P 02 12 07.8 +0.2
comp=Z,3.9nm,1.0s
BGES Gesves 81.69 320 *d*P P 02 12 08.3 +0.3
comp=Z,7.4nm,1.0s
BMRD Maredsous 81.90 320 *d*P P 02 12 07.9 -1.2
comp=Z,6.3nm,1.0s
DOU Dourbes 82.03 319 *d*P P 02 12 10.0 +0.2
comp=Z,6.6nm,1.0s
SSF Saint Saulge 83.06 316 *e*P P 02 12 14.9 -0.3
SSF pmax pmax
comp=Z,9.0nm,0.9s
NOR Nord 83.52 352 *i* P **P 02 12 15.2 -1.7**
NOR IAmb IAmb 02 12 17.5
comp=Z,29nm,1.0s
GAMB Gambell 83.67 26 P **P 02 12 18.6 +0.6**
baz=279
CLF Chambon-Foret 83.78 318 IAmb IAmb 02 12 20.2
comp=Z,24nm,0.8s
ELMS Elmsett, Ipswi 84.06 322 *e*P P 02 12 19.9 -0.3
ELMS IAmb IAmb 02 12 21.1
comp=Z,52nm,0.7s
ELSH Elham, Standar 84.10 321 *e*P P 02 12 20.4 0.0
ELSH IAmb IAmb 02 12 22.0
comp=Z,74nm,0.8s
LRW Lerwick 84.11 330 *e*P P 02 12 20.5 +0.3
WACR West Acre 84.19 322 *e*P P 02 12 21.1 +0.2
WACR IAmb IAmb 02 12 23.0
comp=Z,90nm,1.0s
TNA Tin City 84.95 24 P **P 02 12 25.0 +0.6**
baz=282
HPK Haverah Park 85.34 324 *e*P P 02 12 27.1 +0.5
HPK IAmb IAmb 02 12 28.1
comp=Z,37nm,0.7s
C16K Lisburne Hills 85.34 21 P **P 02 12 27.2 +0.9**
baz=284
EDMD Edmundbyers 85.39 325 *e*P P 02 12 27.5 +0.7
EDMD IAmb IAmb 02 12 28.2
comp=Z,37nm,0.8s
SPIA Saint Paul Isl 85.47 33 P **P 02 12 27.9 +0.7**
baz=280
LBWR Ladybower, Pea 85.49 323 *e*P P 02 12 27.9 +0.5
LBWR IAmb IAmb 02 12 29.1
comp=Z,62nm,0.9s
WOL Wolverton 85.54 321 *e*P P 02 12 28.1 +0.5
MCD Coleburn Disti 85.60 328 *e*P P 02 12 28.3 +0.5
MCD IAmb IAmb 02 12 29.0
comp=Z,14nm,0.7s
MFF Saint Martin d 85.60 316 *e*P P 02 12 27.6 -0.5
MFF pmax pmax
comp=Z,14nm,0.8s

F14K Arctic Creek 85.62 24 P **P 02 12 28.7 +0.9**
baz=283
DAG Danmarks Havn 85.72 348 *i* P **P 02 12 25.8 -2.2**
DAG IAmb IAmb 02 12 27.8
comp=Z,6.9nm,0.9s
STNC Stoke 85.83 323 *e*P P 02 12 29.8 +0.8
SWN1 Swindon 85.86 321 *e*P P 02 12 29.4 +0.2
SWN1 IAmb IAmb 02 12 30.6
comp=Z,55nm,0.8s
EDI Edinburgh 85.88 326 *e*P P 02 12 29.7 +0.6
EDI IAmb IAmb 02 12 30.7
comp=Z,28nm,0.9s
P08K Saint George I 85.96 33 P **P 02 12 30.6 +1.0**
baz=281
EKA Eskdalemuir Ar 85.97 325 P **P 02 12 30.3 +0.6**
comp=Z,18nm,0.7s,baz=99,slow=5.6,SNR=69
comp=Z,18nm,0.7s
ESK Eskdalemuir 86.00 325 P **P 02 12 30.1 +0.3**
ESK IAmb IAmb 02 12 31.5
comp=Z,34nm,0.9s
ESK Eskdalemuir 86.00 325 P **P 02 12 30.1 +0.3**
ESK pmax pmax
comp=Z,34nm,1.0s
C17K DeLong Mountai 86.06 21 P **P 02 12 30.9 +0.9**
baz=286
ANM Nome 86.23 25 P **P 02 12 31.7 +0.9**
baz=284
F15K North Star Dit 86.24 24 P **P 02 12 31.6 +0.8**
baz=285
RDOG Red Dog Mine 86.28 21 P **P 02 12 31.6 +0.6**
baz=286
B18K Kokolik River 86.29 20 P **P 02 12 32.0 +1.0**
baz=287
D17K Noatak River 86.31 22 P **P 02 12 32.2 +1.1**
baz=286
HLM1 Long Mynd 86.34 323 *e*P P 02 12 31.8 +0.2
HLM1 IAmb IAmb 02 12 33.0
comp=Z,17nm,1.0s
MONM Monmouth 86.42 322 *e*P P 02 12 32.3 +0.3
MONM IAmb IAmb 02 12 33.0
comp=Z,12nm,0.8s
FOEL Foel Wylfa 86.46 323 *e*P P 02 12 32.6 +0.4
FOEL IAmb IAmb 02 12 33.7
comp=Z,32nm,0.9s
MCH1 Michaelchurch 86.51 322 *e*P P 02 12 32.3 -0.1
MCH1 IAmb IAmb 02 12 33.5
comp=Z,17nm,0.8s
JSA Saint Aubin 86.51 319 *e*P P 02 12 32.2 -0.2
JSA IAmb IAmb 02 12 33.4
comp=Z,17nm,0.9s
NEWG New Galloway 86.61 325 *e*P P 02 12 33.7 +0.9
NEWG IAmb IAmb 02 12 34.4
comp=Z,16nm,0.8s
G15K Niukluk 86.67 25 P **P 02 12 33.4 +0.5**
baz=285
C18K Utukok River 86.71 21 P **P 02 12 33.8 +0.7**
baz=288
LLW Llanuwychllyn 86.74 323 *e*P P 02 12 33.9 +0.4
M11K Mekoryuk 86.86 29 P **P 02 12 34.8 +0.9**
baz=284
KPL Plockton 86.92 328 *e*P P 02 12 35.2 +0.9
KPL IAmb IAmb 02 12 36.0
comp=Z,24nm,0.8s
GAL1 Galloway 86.94 325 *e*P P 02 12 35.2 +0.8
GAL1 IAmb IAmb 02 12 36.0
comp=Z,30nm,0.9s
E17K Hotham Inlet 86.95 22 P **P 02 12 35.4 +1.1**
baz=287,SNR=6.2
IOMK Kirk Michael 86.98 324 *e*P P 02 12 35.4 +0.7
IOMK IAmb IAmb 02 12 36.1
comp=Z,47nm,0.7s
YLL Llanberis 86.98 323 *e*P P 02 12 35.2 +0.5
WME Myndd Eilian 87.01 324 *e*P P 02 12 35.6 +0.8
WIM Isle of Man 87.07 324 *e*P P 02 12 36.2 +1.1
NIKH Nikolski High 87.08 37 P **P 02 12 36.7 +1.6**
baz=282
WLF1 Llynfaes 87.08 323 *e*P P 02 12 35.7 +0.5
WLF1 IAmb IAmb 02 12 37.0
comp=Z,53nm,0.8s
C19K Lookout Ridge 87.12 20 P **P 02 12 36.5 +1.4**
baz=289
WPS Cemaes, Angles 87.12 324 *e*P P 02 12 36.1 +0.8
WPS IAmb IAmb 02 12 37.0
comp=Z,39nm,1.2s
K13K Kusilvak Mount 87.21 28 P **P 02 12 36.3 +0.8**
baz=285
G16K Koyuk River 87.25 24 P **P 02 12 36.6 +0.9**
baz=287,SNR=5.4
A21K Barrow 87.29 18 P **P 02 12 36.6 +0.9**
baz=292
E18K Tukpahlearik C 87.30 22 IAmb IAmb 02 12 38.2
comp=Z,14nm,0.9s
E18K Tukpahlearik C 87.30 22 P **P 02 12 37.1 +1.1**
baz=288,SNR=9.7
F17K Baldwin Pennin 87.37 23 P **P 02 12 37.3 +1.1**
baz=288,SNR=6.2
J14K Nanvaranak Lak 87.49 27 P **P 02 12 37.7 +0.8**
baz=286
H16K Elim 87.51 25 P **P 02 12 37.8 +0.8**
baz=287,SNR=5.4
B20K Meade River 87.60 19 P **P 02 12 38.4 +1.1**
baz=291
HTL Hartland 87.62 321 *e*P P 02 12 38.2 +0.5
HTL IAmb IAmb 02 12 39.4
comp=Z,24nm,1.0s
MSVF Nonsavu 87.80 108 P **P 02 12 39.5 +0.1**
MSVF Nonsavu 87.80 108 P **P 02 12 39.5 +0.1**
MSVF pmax pmax
comp=Z,33nm,0.9s
D19K Kuna River 87.83 20 IAmb IAmb 02 12 40.6
comp=Z,24nm,1.2s
D19K Kuna River 87.83 20 P **P 02 12 39.5 +1.0**
baz=291,SNR=6.2
G17K Kiwalik Mounta 87.89 24 P **P 02 12 39.8 +1.0**
baz=288,SNR=5.1
A22K Sinclair Lake 87.90 18 P **P 02 12 39.9 +1.2**
baz=293,SNR=10
F18K Selawik 87.92 22 P **P 02 12 40.0 +1.2**
baz=289,SNR=6.1
M13K Dall Lake 88.22 29 P **P 02 12 41.3 +0.9**
baz=286
D20K Etivluk River 88.27 20 P **P 02 12 41.8 +1.2**
baz=292,SNR=11
L14K Kuka Creek 88.28 28 P **P 02 12 41.5 +0.8**
baz=287
H17K Granite Mounta 88.37 24 IAmb IAmb 02 12 42.9
comp=Z,8.2nm,0.7s
H17K Granite Mounta 88.37 24 P **P 02 12 42.3 +1.2**
baz=289,SNR=6.1
I17K Unalakleet 88.38 25 P **P 02 12 42.4 +1.3**
baz=288
E19K Redstone River 88.52 21 IAmb IAmb 02 12 43.7
comp=Z,15nm,0.8s
E19K Redstone River 88.52 21 P **P 02 12 42.8 +1.1**
baz=291,SNR=12
K15K Wolf Creek Mou 88.52 27 P **P 02 12 43.1 +1.3**
baz=288
G18K Tagagawik 88.54 23 P **P 02 12 42.6 +0.7**
baz=290
F19K Shaleruckik Mo 88.54 22 IAmb IAmb 02 12 43.6
comp=Z,54nm,1.9s
F19K Shaleruckik Mo 88.54 22 P **P 02 12 42.5 +0.7**
baz=291,SNR=11
B21K Ikpikpuk River 88.57 19 IAmb IAmb 02 12 44.1
comp=Z,21nm,0.9s
B21K Ikpikpuk River 88.57 19 P **P 02 12 43.1 +1.2**
baz=294,SNR=5.9
E20K Nigu River 88.58 20 P **P 02 12 43.3 +1.2**
baz=292,SNR=9.6
J16K Anvik River 88.61 26 P **P 02 12 43.2 +0.9**
J16K IAmb IAmb 02 12 44.7
comp=Z,16nm,0.8s
J16K Anvik River 88.61 26 P **P 02 12 43.7 +1.4**
baz=288
B22K Teshekpuk Lake 88.65 18 IAmb IAmb 02 12 44.1
comp=Z,22nm,0.8s
B22K Teshekpuk Lake 88.65 18 P **P 02 12 43.1 +0.9**
baz=295,SNR=7.2
C21K Knifeblade Rid 88.70 19 P **P 02 12 43.8 +1.3**
baz=294
L15K Ungalak Mounta 88.72 27 P **P 02 12 43.7 +0.9**
baz=288
M14K Bethel 88.78 28 P **P 02 12 43.9 +0.9**
baz=287
H18K Honhosa River 88.91 24 P **P 02 12 44.6 +0.9**
baz=290
G19K Purcell Mounta 89.05 23 IAmb IAmb 02 12 46.5

comp=Z,32nm,1.2s
G19K Purcell Mounta 89.05 23 P P 02 12 45.4 +1.1
baz=292,SNR=16
N14K Kuskokwak Cree 89.16 29 P P 02 12 45.8 +1.0
baz=288
F20K Avaraart Lake 89.21 22 IAmb IAmb 02 12 47.0
comp=Z,16nm,0.9s
F20K Avaraart Lake 89.21 22 P P 02 12 46.1 +1.2
baz=293,SNR=17
J17K VABM Dome 89.23 25 P P 02 12 46.5 +1.4
baz=290
E21K Killik River 89.26 20 IAmb IAmb 02 12 47.1
comp=Z,24nm,0.9s
E21K Killik River 89.26 20 P P 02 12 46.1 +0.8
baz=294
M15K Kasigluk River 89.40 28 P P 02 12 47.0 +1.0
baz=288
D22K Ayikyak River 89.51 19 P P 02 12 47.0 +0.7
D22K IAmb IAmb 02 12 48.7
comp=Z,14nm,1.1s
D22K Ayikyak River 89.51 19 P P 02 12 47.5 +1.1
baz=296,SNR=5.7
H19K Roundabout Mou 89.53 23 IAmb IAmb 02 12 49.2
comp=Z,25nm,1.1s
H19K Roundabout Mou 89.53 23 P P 02 12 48.0 +1.6
baz=292,SNR=11
TORD Torodi Ar. Bea 89.55 283 P P 02 12 48.3 +0.7
comp=Z,7.6nm,0.7s,baz=84,slow=5.5,SNR=12
comp=Z,7.6nm,0.7s
O14K Tigyukauivet M 89.57 30 P P 02 12 47.6 +0.8
baz=288
L16K Owhat River 89.62 27 P P 02 12 48.2 +1.2
baz=290
ESDC Sonseca Array 89.62 310 P P 02 12 48.1 +0.5
comp=Z,5.2nm,0.9s,baz=62,slow=4.2,SNR=41
ESDC LR LR 02 58 16.8
comp=Z,24nm,18.3s,baz=66,slow=39
comp=Z,5.2nm,0.9s
GCSA Galena City Sc 89.65 24 P P 02 12 48.4 +1.3
baz=292
C23K Itkillik River 89.73 18 IAmb IAmb 02 12 49.5
comp=Z,22nm,1.1s
C23K Itkillik River 89.73 18 P P 02 12 48.4 +1.1
baz=298,SNR=8.1
K17K Iditarod 89.79 26 P P 02 12 49.1 +1.3
baz=290,SNR=6.8
N15K Kwethluk River 89.85 29 P P 02 12 49.2 +1.1
baz=289
F21K Alatna River 89.94 21 P P 02 12 49.1 +0.7
F21K Alatna River 89.94 21 P P 02 12 49.4 +0.9
baz=295,SNR=7.7
L17K Donlin 90.00 26 P P 02 12 50.2 +1.5
baz=290
M16K Timber Creek 90.09 28 P P 02 12 50.4 +1.2
baz=290
D23K Nanushuk River 90.11 19 P P 02 12 50.5 +1.4
baz=298
E22K Anaktuvuk Pass 90.12 20 P P 02 12 50.1 +0.9
baz=296
H20K Anotleneega Mo 90.14 23 P P 02 12 50.9 +1.5
baz=294,SNR=21
J18K Innoko River 90.19 25 IAmb IAmb 02 12 52.1
comp=Z,26nm,1.6s
J18K Innoko River 90.19 25 P P 02 12 50.7 +1.0
baz=292,SNR=6.6
G21K Allakaket 90.23 22 IAmb IAmb 02 12 51.7
comp=Z,15nm,0.8s
G21K Allakaket 90.23 22 P P 02 12 50.6 +0.8
baz=295,SNR=15
S12K Black Hills 90.24 33 P P 02 12 51.0 +1.0
baz=287
F22K John River 90.28 21 P P 02 12 51.1 +1.2
baz=296
O15K Ungalikthiuk R 90.30 30 P P 02 12 51.0 +0.8
baz=289
N16K Nishlik Lake 90.36 28 P P 02 12 52.0 +1.5
baz=290,SNR=5.3
C24K Franklin Bluff 90.37 18 P P 02 12 51.2 +0.9
baz=299
J19K Poorman 90.44 24 IAmb IAmb 02 12 53.5
comp=Z,18nm,1.1s
J19K Poorman 90.44 24 P P 02 12 52.3 +1.5
baz=293,SNR=10
I20K Naaghedeneel 90.58 23 P P 02 12 53.5 +2.1
baz=294,SNR=9.0
D24K Happy Valley 90.61 18 P P 02 12 52.4 +0.9
baz=299
TOLK Toolik Lake Re 90.62 19 IAmb IAmb 02 12 53.8
comp=Z,13nm,1.1s
TOLK Toolik Lake Re 90.62 19 P P 02 12 52.6 +1.0
baz=298,SNR=6.7
M17K Holitna River 90.64 27 P P 02 12 53.4 +1.6
baz=291
L18K Granite Mounta 90.67 26 P P 02 12 53.3 +1.4
baz=292
G22K Bettles 90.77 21 P P 02 12 53.0 +0.8
baz=297
H21K Melozitna Rive 90.86 22 IAmb IAmb 02 12 55.3
comp=Z,15nm,1.1s
H21K Melozitna Rive 90.86 22 P P 02 12 54.3 +1.6
baz=296,SNR=13
NEEM North Greenlan 90.87 353 *i* P **P 02 12 51.9 -1.0**
NEEM IAmb IAmb 02 12 54.0
comp=Z,15nm,0.7s
E23K Chandalar 90.89 20 P P 02 12 54.0 +1.1
baz=298
J20K Nowinta River 90.96 24 P P 02 12 54.1 +0.9
J20K Nowinta River 90.96 24 P P 02 12 54.9 +1.7
baz=294,SNR=15
O16K Kokwok River B 90.99 29 P P 02 12 54.7 +1.3
baz=291
N17K Nushagak Hills 91.08 28 P P 02 12 55.2 +1.4
baz=292
COLD Coldfoot 91.09 20 P P 02 12 54.8 +1.1
baz=298
SDPT Sand Point 91.21 33 P P 02 12 55.8 +1.4
baz=289
PBRG Braganca 91.21 313 *eP* **P 02 12 55.5 +0.6**
P16K Nushagak River 91.24 29 P P 02 12 55.7 +1.1
baz=291
E24K Your Creek 91.25 19 P P 02 12 55.5 +1.0
baz=300,SNR=7.4
D25K Kavik River 91.28 18 P P 02 12 55.7 +1.0
baz=302,SNR=26
H22K Ishtalitna Cre 91.28 22 P P 02 12 56.2 +1.5
baz=297,SNR=13
M18K Stony River 91.33 27 P P 02 12 56.5 +1.5
baz=293
K20K Telida 91.33 25 P P 02 12 56.9 +1.9
baz=294,SNR=20
I21K Tanana 91.38 23 IAmb IAmb 02 12 57.7
comp=Z,15nm,0.9s
I21K Tanana 91.38 23 P P 02 12 56.6 +1.5
baz=296
G23K Bananza Creek 91.39 21 P P 02 12 56.4 +1.2
baz=298,SNR=7.2
S14K Fog Glacier 91.39 32 P P 02 12 56.3 +0.8
baz=289
C26K Camden Bay 91.40 17 P P 02 12 56.5 +1.5
baz=303,SNR=6.2
O17K Koliganek Bris 91.40 29 P P 02 12 57.1 +1.8
baz=292
L19K White Mountain 91.48 26 P P 02 12 56.6 +0.9
L19K IAmb IAmb 02 12 58.4
comp=Z,13nm,0.9s
L19K White Mountain 91.48 26 P P 02 12 57.2 +1.5
baz=294,SNR=6.0
MVO Moncorvo 91.57 312 *eP* **P 02 12 57.8 +1.2**
MDT Midelt 91.58 303 LR LR 03 03 10.2
comp=Z,21nm,18.2s,baz=141,slow=41
N18K Kilae Creek 91.61 27 P P 02 12 57.6 +1.3
baz=293
BORG Borgarnes 91.64 337 LR LR 02 54 60.0
comp=Z,19nm,21.5s,baz=42,slow=36
F24K Squaw Lake 91.73 20 P P 02 12 57.9 +1.2
baz=300
L20K Farewell, AK 91.78 25 P P 02 12 58.8 +1.8
baz=294,SNR=7.4
M19K Big River Lodg 91.79 26 P P 02 12 58.8 +1.7
baz=294
CHUM Lake Minchumin 91.82 24 P P 02 12 58.9 +1.7
baz=296,SNR=8.1
C27K Jago River 91.91 17 P P 02 12 58.7 +1.3
baz=304,SNR=5.3
MLY Manley 91.91 22 P P 02 12 58.9 +1.2
baz=297,SNR=12
P17K Kvichak River 91.92 29 P P 02 12 58.9 +1.2
baz=292

R16K Pilot Point 91.97 31 P P 02 12 59.0 +1.1
baz=291
H23K Yukon River 91.98 22 IAmb IAmb 02 13 00.5
comp=Z,12nm,0.9s
H23K Yukon River 91.98 22 P P 02 12 59.5 +1.6
baz=298,SNR=14
CAST Castle Rocks 92.12 24 P P 02 12 59.7 +1.1
baz=296,SNR=19
MTE Manteigas 92.14 311 *eP* **P 02 13 00.6 +1.4**
PCAB Cabril 92.16 313 *eP* **P 02 13 00.3 +1.0**
E25K Arctic Village 92.17 19 IAmb IAmb 02 13 00.9
comp=Z,6.7nm,0.9s
E25K Arctic Village 92.17 19 P P 02 12 59.8 +1.0
baz=302,SNR=7.2
N19K Bonanza Creek 92.20 27 P P 02 13 00.6 +1.5
baz=294,SNR=12
PCBR Castelo Branco 92.22 311 *eP* **P 02 13 00.8 +1.2**
BPAW Bear Paw Mtn. 92.25 23 P P 02 13 00.2 +1.0
BPAW IAmb IAmb 02 13 01.3
comp=Z,15nm,0.9s
BPAW Bear Paw Mtn. 92.25 23 P P 02 13 00.2 +1.0
baz=297,SNR=11
O18K Koktuh Hills 92.25 28 P P 02 13 00.7 +1.4
baz=293
PMRV Marv??o 92.26 310 *eP* **P 02 13 00.7 +0.9**
G24K Hadweenzic Riv 92.28 20 IAmb IAmb 02 13 01.6
comp=Z,9.6nm,0.9s
G24K Hadweenzic Riv 92.28 20 P P 02 13 00.5 +1.2
baz=300,SNR=9.3
PBAR Barrancos 92.30 309 *eP* **P 02 13 01.1 +1.2**
PPLA Purkeypile 92.30 25 P P 02 13 00.6 +1.0
baz=296
PVIS Viseu 92.32 312 *eP* **P 02 13 01.3 +1.2**
M20K Styx River 92.34 26 P P 02 13 01.1 +1.4
baz=295,SNR=7.6
I23K Minto, Yukon-K 92.38 22 IAmb IAmb 02 13 01.4
comp=Z,5.6nm,0.8s
I23K Minto, Yukon-K 92.38 22 P P 02 13 00.7 +1.0
baz=299
SUMG Summit 92.38 347 IAmb IAmb 02 13 02.0
comp=Z,14nm,1.0s
SUMG Summit 92.38 347 *i* P **P 02 12 59.9 -0.2**
SUMG IAmb IAmb 02 13 03.1
comp=Z,12nm,1.0s
F25K Christian Rive 92.43 19 P P 02 13 01.4 +1.4
baz=302,SNR=9.9
O19K Port Alsworth 92.52 28 P P 02 13 01.4 +1.0
baz=294
H24K Noodor Dome 92.58 21 P P 02 13 01.1 +0.4
H24K IAmb IAmb 02 13 02.9
comp=Z,5.7nm,0.9s
H24K Noodor Dome 92.58 21 P P 02 13 01.9 +1.2
baz=300,SNR=5.9
G25K Bearman Lake 92.72 20 P P 02 13 02.7 +1.5
baz=302
NEA2 Nenana 92.75 23 IAmb IAmb 02 13 04.9
comp=Z,8.5nm,0.8s
NEA2 Nenana 92.75 23 P P 02 13 02.6 +1.2
baz=299,SNR=5.5
TRF Thorofare Moun 92.82 24 P P 02 13 02.9 +0.9
baz=298
F26K Sheenjek River 92.85 19 P P 02 13 03.3 +1.3
baz=304,SNR=15
MDM Murphy Dome 92.89 22 IAmb IAmb 02 13 03.8
comp=Z,9.7nm,1.0s
D27M Malcolm River 92.92 17 P P 02 13 03.5 +1.2
baz=307
ELIB Princess Elisa 92.96 197 *dP* **P 02 13 03.9 +1.6**
comp=Z,5.9nm,0.9s
SKT Skwentna 92.98 25 P P 02 13 03.0 +0.4
baz=296,SNR=7.8
N20K Mount Spurr 93.04 26 P P 02 13 03.7 +0.7
baz=296
H25L Birch Creek 93.07 20 P P 02 13 04.4 +1.5
baz=302
WRH Wood River Hil 93.18 22 IAmb IAmb 02 14 37.1
comp=Z,16nm,1.6s
MCK McKinley 93.22 23 P P 02 13 04.3 +0.7
baz=299
O20K Slope Mountain 93.34 27 P P 02 13 04.7 +0.3
baz=296
E27K Coleen River 93.36 18 P P 02 13 05.0 +0.8
baz=306
G26K Porcupine Rive 93.38 19 P P 02 13 05.7 +1.4
baz=304,SNR=5.7
RAO Raul Island 93.42 119 P P 02 13 04.8 -0.4
comp=Z,219nm,0.4s,baz=233,slow=20,SNR=2.1
ILAR Eielson Array 93.48 22 P P 02 13 03.9 -0.9
comp=Z,3.7nm,0.8s,baz=302,slow=4.0,SNR=12
ILAR PP **PP 02 16 50.3 +0.4**
comp=Z,0.6nm,0.9s,baz=299,slow=8.7,SNR=4.3
ILAR PKKPbc **PKKPdf 02 30 10.6 -0.1**
comp=Z,0.5nm,0.6s,baz=148,slow=2.5,SNR=6.6
comp=Z,3.7nm,0.8s
D28M Stokes Point 93.50 16 P P 02 13 06.3 +1.6
baz=309,SNR=6.1
SUA Susitna One 93.55 26 P P 02 13 05.2 -0.1
SUA Susitna One 93.55 26 P P 02 13 05.8 +0.4
baz=297,SNR=6.4
PRP Porcupine Dome 93.58 21 P P 02 13 06.0 +0.6
baz=302
CHIR Chirikof Islan 93.62 32 P P 02 13 06.1 +0.5
baz=293
HDA Harding Lake 93.64 22 P P 02 13 05.6 0.0
baz=301
M22K Willow 93.68 25 P P 02 13 06.1 +0.4
baz=298
E28M Babbage River 93.72 17 IAmb IAmb 02 13 07.9
comp=Z,9.4nm,0.8s
E28M Babbage River 93.72 17 P P 02 13 06.2 +0.3
baz=308,SNR=9.0
HOM Homer 93.97 27 P P 02 13 08.3 +1.2
baz=296
SII Sitkinak Islan 94.07 31 P P 02 13 07.5 -0.2
baz=294
J25K Salcha River, 94.11 22 P P 02 13 06.9 -0.9
baz=302
DHY Denali Highway 94.16 23 P P 02 13 07.2 -0.9
baz=300
G27K Doyon Strip 94.16 19 P P 02 13 07.2 -0.7
baz=306
RC01 Rabbit Creek A 94.16 26 P P 02 13 08.1 +0.1
baz=298
PMR Palmer 94.17 25 P P 02 13 08.3 +0.3
baz=299
F28M Old Crow 94.23 18 IAmb IAmb 02 13 10.0
comp=Z,6.0nm,0.9s
F28M Old Crow 94.23 18 P P 02 13 08.8 +0.5
baz=308,SNR=7.9
OHAK Old Harbor 94.24 30 P P 02 13 08.9 +0.5
baz=295
WAT6 Susitna Watana 94.26 24 P P 02 13 09.2 +0.6
baz=300
E29M Blow River 94.33 17 IAmb IAmb 02 13 10.5
comp=Z,11nm,1.0s
E29M Blow River 94.33 17 P P 02 13 09.5 +0.9
baz=310,SNR=9.1
BRSE Bradley Lake S 94.34 27 P P 02 13 08.8 -0.1
baz=297
KDAK Kodiak Island 94.35 29 P P 02 13 09.5 +0.6
baz=295
K24K Donnelly Dome 94.39 22 P P 02 13 07.9 -1.2
baz=302
SML Sawmill 94.40 25 P P 02 13 08.8 -0.4
baz=299
I26K Coal Creek Min 94.52 21 P P 02 13 10.7 +1.1
baz=304
H27K Steamboat Moun 94.54 19 P P 02 13 10.6 +0.9
baz=306,SNR=5.1
KNK Knik Glacier 94.54 25 P P 02 13 10.1 +0.3
baz=299
M23K Glacier View 94.66 25 P P 02 13 10.5 +0.2
baz=300
VNDA Vanda 94.68 168 P P 02 13 09.0 -1.0
comp=Z,2.5nm,0.7s,baz=289,slow=5.1,SNR=20
VNDA LR LR 02 49 12.8
comp=Z,32nm,18.9s,baz=330,slow=31
comp=Z,2.5nm,0.7s
VNDA Vanda 94.68 168 P P 02 13 09.0 -1.0
SEW Seward 94.75 27 P P 02 13 11.7 +1.0
baz=298
A36M Sachs Harbour 94.77 11 P P 02 13 10.5 0.0
baz=322,SNR=11
SCM Sheep Creek Mo 94.80 25 P P 02 13 12.4 +1.3
baz=300
J26L Joseph Creek 94.83 21 P P 02 13 12.4 +1.2
baz=304
I27K Kandik River 94.88 20 P P 02 13 12.1 +0.9

baz=306
SCRK Sand Creek 94.97 22 IAmb IAmb 02 13 13.3
comp=Z,6.7nm,1.1s
SCRK Sand Creek 94.97 22 P P 02 13 12.4 +0.6
baz=304
ICESG Greenland Ices 95.07 345 *i* P **P 02 13 11.9 -0.6**
ICESG IAmb IAmb 02 13 16.3
comp=Z,13nm,1.1s
G29M Pine Creek 95.23 18 P P 02 13 13.7 +0.9
baz=309
GLI Glacier Island 95.38 25 P P 02 13 14.7 +1.1
baz=300
F30M Barrier River 95.44 17 P P 02 13 14.4 +0.7
baz=311
EGAK Eagle 95.52 21 P P 02 13 14.6 +0.5
baz=306
I28M Miner Creek 95.53 20 P P 02 13 13.7 -0.6
baz=307
KLU Klutina 95.56 25 P P 02 13 13.3 -1.2
baz=302
H29M Whitestone 95.56 19 P P 02 13 14.3 -0.1
baz=309
INK Inuvik 95.60 16 P P 02 13 14.8 +0.4
INK IAmb IAmb 02 13 15.8
comp=Z,11nm,1.1s
INK Inuvik 95.60 16 P P 02 13 14.8 +0.4
baz=314,SNR=10
INK Inuvik 95.60 16 P P 02 13 14.8 +0.4
INK pmax pmax
comp=Z,11nm,1.1s
K27K Chicken 95.63 21 P P 02 13 15.6 +0.9
baz=305
G30M tAoh Zraii Nji 95.73 18 P P 02 13 15.0 -0.1
baz=311,SNR=5.6
L26K Log Cabin Wild 95.74 23 P P 02 13 15.8 +0.5
baz=304
RES Resolute Bay 95.78 2 IAmb IAmb 02 13 17.0
comp=Z,8.4nm,0.8s
SBA Scott Base 95.79 168 P P 02 13 15.5 +0.5
SBA IAmb IAmb 02 13 16.7
comp=Z,6.6nm,0.8s
SBA Scott Base 95.79 168 P P 02 13 15.5 +0.5
SBA pmax pmax
comp=Z,7.0nm,0.9s
EPYK Eagle Plains 95.98 18 IAmb IAmb 02 13 18.2
comp=Z,6.4nm,0.7s
EPYK Eagle Plains 95.98 18 P P 02 13 16.8 +0.6
baz=310
N25K Chitina, Valde 96.03 24 P P 02 13 17.2 +0.6
baz=303
M26K Nabesna, AK 96.22 23 P P 02 13 17.7 +0.2
baz=304
L27K Beaver Creek, 96.29 22 P P 02 13 17.9 +0.2
baz=305
G31M Satah River 96.34 17 IAmb IAmb 02 13 18.9
comp=Z,11nm,1.0s
G31M Satah River 96.34 17 P P 02 13 17.5 -0.3
baz=313,SNR=5.2
BMRM Bremner River 96.38 25 P P 02 13 18.5 +0.3
baz=303
DAWY Dawson 96.56 21 P P 02 13 19.0 +0.1
baz=308
M27K Edge Creek, AK 96.68 23 P P 02 13 20.1 +0.5
baz=305
I30M Mount Dempster 96.83 19 IAmb IAmb 02 13 21.6
comp=Z,5.2nm,0.8s
I30M Mount Dempster 96.83 19 P P 02 13 20.4 +0.1
baz=311,SNR=6.9
DBIC Dimbokro 97.03 278 P Pdif 02 13 22.6 +0.5
comp=Z,6.3nm,1.0s,baz=117,slow=11,SNR=2.1
comp=Z,6.3nm,1.0s
H31M Peel River 97.08 18 P P 02 13 21.5 +0.2
baz=313
C36M Paulatuk 97.11 13 P P 02 13 20.7 -0.5
C36M Paulatuk 97.11 13 P P 02 13 20.8 -0.5
baz=323,SNR=8.7
J30M Hart River 97.27 19 P P 02 13 22.6 +0.3
baz=311
K29M Barlow Dome 97.35 20 P P 02 13 23.0 +0.3
baz=310
L29M L29M 97.60 21 P Pdif 02 13 24.2 +0.5
baz=309
M30M Minto, Yukon 98.41 21 P Pdif 02 13 28.2 +0.9
baz=310
QSPA South Pole Qui 99.42 180 P Pdif 02 13 32.8 +1.1
comp=Z,0.9nm,0.7s,baz=210,slow=3.1,SNR=2.1
QSPA PKKPbc **PKKPbc 02 29 54.7 -3.4**
comp=Z,1.6nm,0.9s,baz=72,slow=1.3,SNR=6.7
QSPA LR LR 02 52 34.0
comp=Z,48nm,21.9s,baz=3.5,slow=32
comp=Z,0.9nm,0.7s
O30N Mendenhall 99.84 22 P Pdif 02 13 35.0 +1.2
baz=310
YKA Yellowknife Ar 104.98 13 Pdiff Pdif 02 13 57.0 +0.5
comp=Z,0.4nm,0.8s,baz=327,slow=4.5,SNR=6.3
YKA PKiKP **PKiKP 02 18 09.1 -1.7**
comp=Z,0.9nm,0.8s,baz=0.1,slow=1.7,SNR=5.1
YKA PKKPab **PKKPab 02 29 55.5 -3.2**
comp=Z,0.4nm,0.6s,baz=146,slow=4.5,SNR=5.6
PPT2 Papeete2 118.45 105 *e*LR LR 02 54 49.5
comp=Z,112nm,30.2s
PPT2 *e*LR LR 02 54 57.7
comp=Z,56nm,23.8s
TBI Tubuai 118.54 111 *e*LR LR 02 54 52.1
comp=Z,395nm,35.0s
J05D Fort Rock, OR 118.68 28 PKPdf PKPdf 02 18 37.4 -0.1
MSO Missoula 118.80 21 P PKPdf 02 18 37.1 -0.5
baz=329
EGMT Eagleton 119.12 18 P PKPdf 02 18 37.9 -0.2
baz=334
BOZ Bozeman (W) 120.67 20 P PKPdf 02 18 41.3 0.0
baz=331,SNR=6.5
HLID Hailey 121.40 23 PKPdf PKiKP 02 18 43.1 +0.2
HLID Hailey 121.40 23 P PKiKP 02 18 43.1 +0.2
baz=327,SNR=8.2
MDND Maddock 121.71 10 P PKPdf 02 18 43.0 0.0
baz=345
AGMN Agassiz Nation 121.84 7 P PKPdf 02 18 43.0 -0.3
baz=349
EYMN Ely 122.61 4 P PKPdf 02 18 44.9 +0.2
baz=354,SNR=13
LOHW Long Hollow 122.77 21 PKPdf PKPdf 02 18 45.0 -0.4
HVU Hansel Valley 123.55 23 PKPdf PKiKP 02 18 47.4 +0.2
HVU Hansel Valley 123.55 23 PKIKP PKiKP 02 18 47.4 +0.2
NVAR Mina Array Bea 123.85 30 PKP PKiKP 02 18 48.9 +1.0
comp=Z,5.4nm,0.7s,baz=317,slow=1.7,SNR=34
PDAR Pinedale Array 123.87 20 PKPdf PKPdf 02 18 47.3 -0.3
PDAR Pinedale Array 123.87 20 PKP PKPdf 02 18 47.5 -0.1
comp=Z,6.8nm,0.7s,baz=50,slow=1.0,SNR=43
BGU Big Grassy Mou 124.17 24 PKPdf PKPdf 02 18 48.3 +0.1
RSSD Black Hills 124.30 15 P PKPdf 02 18 48.5 +0.1
baz=339
E46A Sault Ste Mari 124.32 358 PKPdf PKPdf 02 18 47.6 -0.5
TPH Tonopah 124.65 29 PKPdf PKPdf 02 18 49.2 0.0
TPH Tonopah 124.65 29 PKIKP PKPdf 02 18 49.2 0.0
DUG Dugway, Tooele 124.88 24 PKPdf PKPdf 02 18 49.6 +0.1
DUG Dugway, Tooele 124.88 24 P PKPdf 02 18 49.8 +0.3
baz=328
DUG Dugway, Tooele 124.88 24 PKIKP PKPdf 02 18 49.6 +0.1
K22A Casper 124.95 18 P PKPdf 02 18 49.5 -0.1
baz=336
LONY Lake Ozonia 125.02 350 P PKPdf 02 18 49.9 +0.4
baz=14
SUSD Miller 125.12 11 P PKPdf 02 18 50.0 +0.4
baz=345
R11B Troy Canyon, C 125.20 28 P PKiKP 02 18 50.8 +0.2
baz=324
SPMN Marine on St. 125.21 5 P PKPdf 02 18 50.2 +0.4
baz=352
GRAC Grapevine Rang 125.43 30 P PKiKP 02 18 51.0 +0.1
baz=322
VES Vestal, Richgr 125.44 32 P PKiKP 02 18 51.2 +0.3
baz=320
CWC Cottonwood Cre 125.50 31 P PKiKP 02 18 51.7 +0.5
baz=321
GLMI Grayling 125.87 358 P PKiKP 02 18 51.7 +0.2
baz=2.4
WCT Wildcat Mounta 125.95 30 PKPdf PKPdf 02 18 51.7 +0.1
FURC Furnace Creek, 126.09 30 P PKiKP 02 18 52.3 +0.1
baz=322
MPMC Manual Prospec 126.10 31 P PKiKP 02 18 52.5 +0.1
baz=321,SNR=7.1
ECSD EROS Data Cent 126.20 9 PKPdf PKPdf 02 18 51.7 0.0
ECSD EROS Data Cent 126.20 9 P PKPdf 02 18 52.0 +0.3
baz=348,SNR=20
PHWY Pilot Hill 126.51 18 PKPdf PKPdf 02 18 51.9 -0.9
Q16A Castle Valley 126.63 24 PKPdf PKiKP 02 18 53.8 +0.4

O20A	White River Ci	126.66	21	P		PKPdf	02 18 53.1	+0.1
	baz=333,SNR=16							
N23A	Red Feather La	126.73	18	P		PKPdf	02 18 53.3	+0.1
	baz=336							
EDW2	Edwards Air Fo	126.75	32	P		PKPdf	02 18 53.5	+0.4
	baz=320							
I42A	Draeger Farm,	126.79	2	PKPdf		PKPdf	02 18 52.0	-0.8
SHOC	Shoshone, Teco	126.83	30	P		PKiKP	02 18 54.1	+0.4
	baz=322							
GSC	Goldstone, Bar	127.04	31	P		PKiKP	02 18 54.5	+0.2
	baz=322,SNR=6.0							
BINY	Binghamton	127.62	350	P		PKiKP	02 18 55.1	0.0
	baz=13							
JFWS	Jewell Farm	127.70	3	PKPdf		PKPdf	02 18 54.5	-0.1
JFWS	Jewell Farm	127.70	3	P		PKPdf	02 18 54.8	+0.2
	baz=355							
JFWS	Jewell Farm	127.70	3	PKIKP		PKPdf	02 18 54.5	-0.1
ISCO	Idaho Springs	127.83	19	P		PKiKP	02 18 56.2	+0.2
	baz=336							
SCI2	San Clemente I	127.88	34	P		PKPdf	02 18 55.5	+0.3
	baz=319							
GMRC	Granite Mounta	128.02	31	P		PKiKP	02 18 56.5	+0.2
	baz=323							
MURC	Murrieta	128.15	33	P		PKPdf	02 18 55.9	+0.1
	baz=320							
BGNE	Belgrade	128.20	11	P		PKPdf	02 18 56.0	+0.4
	baz=346							
AAM	Ann Arbor	128.35	357	P		PKiKP	02 18 56.9	+0.4
	baz=3.7							
PAL	Palisades	128.38	348	P		PKPdf	02 18 56.4	+0.4
	baz=16							
BELC	Belle Mtn. Jos	128.47	31	P		PKPdf	02 18 56.8	+0.2
	baz=322							
L44A	Lake County Fo	128.53	1	P		PKiKP	02 18 57.5	+0.6
	baz=358							
PFO	Pinyon Flats O	128.53	32	P		PKPdf	02 18 57.2	+0.5
	baz=321							
TPFO	Pinon Flats	128.54	32	P		PKiKP	02 18 57.3	0.0
	baz=321							
Q24A	Divide	128.74	19	P		PKPdf	02 18 57.2	+0.1
	baz=336							
IRM	Iron Mountain	128.78	31	P		PKiKP	02 18 57.8	+0.1
	baz=323							
M53A	WI Miller and	128.99	354	P		PKPdf	02 18 57.2	+0.1
	baz=7.5							
BC3	Big Chuckawall	129.02	31	P		PKPdf	02 18 57.9	+0.4
	baz=322							
MONP2	Monument Peak	129.11	33	P		PKPdf	02 18 58.1	+0.2
	baz=321							
MVCO	Mesa Verde	129.15	23	P		PKiKP	02 18 58.9	+0.3
	baz=332							
PDMCI	Parker Dam,Lak	129.16	30	P		PKiKP	02 18 58.7	+0.4
	baz=324							
SWSC	Sam W. Stewart	129.40	32	P		PKPdf	02 18 58.5	+0.4
	baz=322							
WUAZ	Wupatki	129.44	26	P		PKPdf	02 18 58.7	+0.3
	baz=328							
SSPA	Standing Stone	129.44	351	P		PKPdf	02 18 58.5	+0.5
	baz=11							
IKP	In-Ko-Pah, Jac	129.46	33	P		PKPdf	02 18 58.5	+0.1
	baz=321							
SDCO	Great Sand Dun	129.74	20	PKPdf		PKPdf	02 18 58.5	-0.6
SDCO	Great Sand Dun	129.74	20	P		PKPdf	02 18 59.1	0.0
	baz=336							
HDIL	Hopedale	130.10	3	P		PKPdf	02 18 59.6	+0.4
	baz=356							
O53A	New Philadelph	130.22	355	P		PKPdf	02 19 00.1	+0.6
	baz=6.9							
ACSO	Alum Creek Sta	130.38	356	P		PKPdf	02 19 00.1	+0.3
	baz=4.6							
O48B	Farmland	130.45	359	P		PKPdf	02 19 00.4	+0.5
	baz=1.8							
W18A	Petrified Fore	130.48	25	P		PKPdf	02 19 00.7	+0.3
	baz=329							
O49A	Covington	130.49	358	PKPdf		PKPdf	02 18 58.1	-1.9
T25A	Trinidad	130.65	19	P		PKPdf	02 19 01.1	+0.4
	baz=337							
MCWV	Mont Chateau	130.66	353	P		PKiKP	02 19 01.6	+0.4
	baz=8.7							
KSU1	Kansas State U	130.72	10	P		PKPdf	02 19 01.1	+0.6
	baz=347							
P52A	Corning	130.91	355	P		PKPdf	02 19 01.1	+0.3
	baz=5.8							
R32A	Long Quarter,	130.97	13	PKPdf		PKPdf	02 19 01.1	+0.1
P49A	Miami Univ. Ec	131.16	358	P		PKPdf	02 19 01.2	-0.1
	baz=2.4							
P48A	Milroy	131.25	359	PKPdf		PKPdf	02 19 00.5	-1.0
214A	Organ Pipe Nat	131.71	30	P		PKiKP	02 19 03.4	-0.2
	baz=324							
ANMO	Albuquerque	131.92	22	PKPdf		PKPdf	02 19 03.3	+0.2
ANMO	Albuquerque	131.92	22	P		PKPdf	02 19 03.5	+0.3
	baz=333							
ANMO	Albuquerque	131.92	22	⇓*i*	PKIKP	PKPdf	02 19 03.6	+0.5
TUC	Tucson	132.39	28	PKPdf		PKPdf	02 19 04.0	+0.1
TUC	Tucson	132.39	28	P		PKPdf	02 19 04.5	+0.6
	baz=327							
TUC	Tucson	132.39	28	PKIKP		PKPdf	02 19 04.1	+0.1
CCM	Cathedral Cave	132.46	5	P		PKPdf	02 19 04.2	+0.4
	baz=354							
WCI	Wyandotte Cave	132.49	360	P		PKPdf	02 19 04.2	+0.4
	baz=0.4							
BLA	Blacksburg	133.15	353	P		PKPdf	02 19 05.7	+0.6
	baz=8.3							
121A	Cookes Peak, D	133.52	25	P		PKPdf	02 19 06.6	+0.4
	baz=331							
TUL3	Leonard	133.97	10	P		PKPdf	02 19 06.9	+0.2
	baz=347							
MSTX	Muleshoe	134.08	19	P		PKPdf	02 19 07.2	+0.1
	baz=338							
TZTN	Tazewell	134.08	357	P		PKPdf	02 19 07.6	+0.7
	baz=4.1							
WMOK	Wichita Mounta	134.47	14	P		PKPdf	02 19 07.7	0.0
	baz=343							
FCAR	Ozark Folk Cen	134.52	6	PKPdf		PKPdf	02 19 06.9	-0.8
MNTX	Cornudas Mount	135.22	23	P		PKPdf	02 19 10.1	+0.9
	baz=333							
KMSC	Kings Mountain	135.29	354	P		PKPdf	02 19 10.2	+1.0
	baz=7.3							
MIAR	Mount Ida	135.66	8	PKPdf		PKPdf	02 19 09.5	-0.4
MIAR	Mount Ida	135.66	8	P		PKPdf	02 19 10.3	+0.4
	baz=350							
MIAR	Mount Ida	135.66	8	PKIKP		PKPdf	02 19 09.5	-0.4
ABTX	Abilene, Hawle	136.26	16	P		PKPdf	02 19 11.7	+0.6
	baz=341							
LRAL	Lakeview Retre	137.67	1	P		PKPdf	02 19 14.8	+1.1
	baz=359							
BRDY	Brady	137.70	16	PKPpre		PKPpre	02 19 04.0	
TXAR	Lajitas Array	137.99	23	PKhKP		PKPpre	02 19 05.7	
	comp=Z,0.6nm,0.7s,baz=218,slow=1.7,SNR=6.7							
TXAR				PKP		PKPdf	02 19 15.1	+0.6
	comp=Z,2.5nm,0.5s,baz=270,slow=1.3,SNR=8.6							
TXAR				PP		PP	02 21 57.3	-4.6
	comp=Z,0.3nm,0.8s,baz=337,slow=2.1,SNR=3.1							
				SKPbc		SKPbc	02 22 38.4	-0.8
	comp=Z,0.4nm,0.8s,baz=165,slow=1.4,SNR=4.1							
JCT	Junction City	138.23	17	P		PKPdf	02 19 15.2	+0.3
	baz=340							
435B	Jarrell	138.54	14	P		PKPdf	02 19 15.7	+0.4
	baz=344							
833A	Chaparral WMA,	140.37	18	P		PKPdf	02 19 19.5	+0.7
	baz=340							
BDFB	Brasilia	141.94	257	PKhKP		PKPpre	02 19 16.7	
	comp=Z,2.7nm,0.7s,baz=344,slow=14,SNR=3.9							
BDFB				PKP		PKPdf	02 19 22.2	+0.2
	comp=Z,3.3nm,0.7s,baz=191,slow=11,SNR=5.6							
TRQA	Tornquist	144.01	214	PKPdf		PKPab	02 19 22.0	-0.4
TRQA	Tornquist	144.01	214	PKIKP		PKPab	02 19 22.0	-0.5
ZAIG	Zacatecas	144.27	26	PKPdf		PKPbc	02 19 25.1	+0.5
PLCA	Paso Flores	145.84	202	PKPbc		PKPab	02 19 29.0	-0.3
	comp=Z,14nm,0.9s,baz=182,slow=3.1,SNR=17							
CELP	Cerrillos	146.21	324	PKPdf		PKPdf	02 19 28.9	-0.4
MLPR	Magueyes Islan	146.56	325	PKPdf		PKPdf	02 19 29.9	+0.1
MOIG	Morelia	147.59	26			PKPdf	02 19 32.5	+0.7
CPUP	Villa Florida	147.68	235	PKPbc		PKPdf	02 19 32.1	+0.7
	comp=Z,12nm,1.0s,baz=76,slow=3.2,SNR=21							
BO01	Tunca	151.48	208	PKPbc		PKPbc	02 19 42.9	-0.6
ZON	Zonda	152.51	215	PKPbc		PKPbc	02 19 45.4	-0.6
ZON	Zonda	152.51	215	PKIKP		PKPbc	02 19 45.4	-0.6
PTLB	Pontes e Lacer	152.60	255	PKPdf		PKPdf	02 19 39.2	-0.2
PTLB				PKPbc		PKPbc	02 19 45.1	-1.3
PTLB				PKPab		PKPab	02 19 57.4	+0.1
BAUV	El Baul	153.98	314	PKPab		PKPab	02 20 02.1	-1.1
SDV	Santo Domingo	155.79	319	PKPab		PKPab	02 20 09.2	-1.8
LVC	Limon Verde	158.66	230	PKPab		PKPab	02 20 24.7	+1.1
	comp=Z,6.5nm,0.7s,baz=110,slow=0.8,SNR=6.5							
ETMB	Extrema	159.94	267	PKPab		PKPab	02 20 27.1	-1.9
GO01	Chusmiza	160.42	237	PKPdf		PKPdf	02 19 49.0	-1.0
GO01				PKPab		PKPab	02 20 30.1	-1.4
LPAZ	La Paz	160.83	248	PKP		PKPdf	02 19 50.6	-0.1
	comp=Z,2.1nm,1.0s,baz=90,slow=2.7,SNR=6.2							
LPAZ				PKPab		PKPab	02 20 33.7	+0.2
	comp=Z,5.0nm,0.7s,baz=99,slow=2.6,SNR=17							
ROSC	El Rosal	161.22	319	PKP		PKPdf	02 19 51.4	+0.4
	comp=Z,4.0nm,0.3s,baz=80,slow=2.0,SNR=4.7							
ROSC				PKPab		PKPab	02 20 35.2	+0.3
	comp=Z,7.8nm,0.7s,baz=112,slow=16,SNR=5.4							

TAP ***28*** *02:02:48.0,24˚.15N×122˚.54E,h38km,ML3.1,C*
JMA ***28*** *02:02:48.0±0.1,24˚N±.2˚×122˚.5E±0˚.5,h34km±3km,*
MV2.3/12, NW OFF ISHIGAKIJIMA IS

ISC 28 02:02:48.3±1.1**,24˚.10N**±0˚.02×**122˚.55E**±0˚.02**,h33**km±3km**,**
n114,σ1$20/219,18C-20D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
EOS4	EOS4	0.21	276	⇑P		Pn	02 02 55.2	+0.7
	baz=262							
EOS4				*i* S		Sb	02 03 00.5	+1.5
	baz=262							
EOS3	EOS3	0.28	312	⇓P		Pn	02 02 56.0	0.0
	baz=301							
EOS3				*e* S		Sb	02 03 02.0	+1.2
	baz=301							
EOS2	EOS2	0.43	318	⇑*i* P		Pb	02 02 58.0	+0.2
	baz=306							
EOS2				S		Sb	02 03 06.0	+1.7
	baz=306							
JYNG	Yonagunijimaku	0.50	46	P		Pb	02 02 58.5	-0.5
JYNG				*e* S		Sb	02 03 06.1	-0.2
YOJ	Yonaguni jima	0.56	49	P		Pn	02 02 59.3	-0.7
YOJ				S		Sb	02 03 07.4	-0.3
YOJ	Yonaguni jima	0.56	49	⇓*i* P		Pn	02 02 59.2	-0.7
	baz=58							
YOJ				*i* S		Sb	02 03 07.5	-0.2
	baz=58							
EHP	Heping Village	0.77	286	*e*P		Pn	02 03 02.6	-0.3
	baz=282							
EAHA	Aohua	0.78	287	⇑P		Pn	02 03 02.8	-0.2
	baz=284							
EAHA				*i* S		Sn	02 03 14.0	+0.5
	baz=284							
EWUT	Wuta	0.79	296	⇓P		Pn	02 03 02.5	-0.6
	baz=293							
EWUT				S		Sn	02 03 13.7	+0.1
	baz=293							
ENA	Nanau	0.81	294	⇓*i* P		Pn	02 03 02.7	-0.7
	baz=291							
ENA				*e* S		Sn	02 03 13.4	-0.9
	baz=291							
TWC	Suao	0.82	309	⇓*i* P		Pn	02 03 02.7	-0.8
	baz=306							
TWC				*i* S		Sn	02 03 13.6	-0.9
	baz=306							
ETL	Fush Village	0.85	274	P		Pn	02 03 03.6	-0.4
	baz=257							
ETL				*i* S		Sn	02 03 15.6	+0.3
	baz=257							
HWA	Hwalien	0.87	262	*i* P		Pn	02 03 03.9	-0.4
	baz=258							
HWA				S		Sn	02 03 16.0	+0.2
	baz=258							
TWD	Chiawan	0.87	269	P		Pn	02 03 04.0	-0.3
	baz=253							
TWD				*e* S		Sn	02 03 14.5	-1.3
	baz=253							
NACB	Ninganchiao	0.88	275	*e*P		Pn	02 03 04.0	-0.3
	baz=260							
NACB				*e* S		Sn	02 03 15.8	-0.1
	baz=260							
NDS	Dongshan	0.93	305	⇑*e*P		Pn	02 03 05.9	+0.8
	baz=303							
NDS				*e* S		Sn	02 03 18.1	+0.8
	baz=303							
EGS		0.93	323	⇑*e*P		Pn	02 03 04.9	-0.2
	baz=333							
EGS				*e* S		Sn	02 03 17.7	+0.3
	baz=333							
SHUL	Shoufeng	0.95	251	*e*P		Pn	02 03 05.5	+0.1
	baz=248							
SHUL				S		Sn	02 03 18.0	+0.1
	baz=248							
ETM	Tongmen	0.97	262	P		Pn	02 03 05.6	-0.1
	baz=259							
ETM				*i* S		Sn	02 03 17.8	-0.6
	baz=259							
ILA	Ilan	0.99	312	*e*P		Pn	02 03 04.3	-1.6
	baz=311							
ILA				*e* S		Sb	02 03 20.9	+1.1
	baz=311							
TWE	Neicheng	1.02	308	⇓*i* P		Pn	02 03 06.0	-0.2
	baz=306							
TWE				*e* S		Sn	02 03 20.1	+0.7
	baz=306							
LATG	Datong	1.03	295	⇑P		Pn	02 03 06.2	-0.4
	baz=281							
LATG				S		Sn	02 03 20.4	+0.4
	baz=281							
TWB1	Santiao Chiao	1.04	331	⇑P		Pn	02 03 06.1	-0.5
	baz=344							
TWB1				*e* S		Sn	02 03 18.2	-1.8
	baz=344							
ENTT	Nioudou	1.05	301	⇑*i* P		Pn	02 03 06.6	-0.1
	baz=299							
ENTT				*e* S		Sn	02 03 20.1	-0.1
	baz=299							
ESL	Shilin	1.06	255	P		Pn	02 03 06.5	-0.4
	baz=243							
ESL				S		Sn	02 03 20.2	-0.3
	baz=243							
NDT	Datong Townshi	1.07	298	⇓*i* P		Pn	02 03 07.0	-0.1
	baz=285							
NDT				*e* S		Sn	02 03 20.2	-0.6
	baz=285							
TIPB	Shuangxi	1.09	323	⇓P		Pn	02 03 07.0	-0.4
	baz=334							
TIPB				S		Sn	02 03 20.1	-1.3
	baz=334							
FUSB	Fushanzhiwuyua	1.10	307	⇑*e*P		Pn	02 03 07.5	0.0
	baz=297							
FUSB				*e* S		Sn	02 03 21.8	+0.3
	baz=297							
IRIF	Iriomote-Funau	1.10	77	P		Pn	02 03 08.2	+0.7
IRIF				S		Sn	02 03 22.7	+1.1
EGFH	Guangfu	1.11	248	*e*P		Pn	02 03 07.2	-0.4
	baz=245							
EGFH				*e* S		Sn	02 03 21.6	-0.1
	baz=245							
NNSB	Datong	1.11	287	*i* P		Pn	02 03 07.4	-0.3
	baz=285							
NNSB				*i* S		Sn	02 03 21.9	-0.1
	baz=285							
NNS	Nan Shan	1.13	288	*i* P		Pn	02 03 07.7	-0.2
	baz=285							
NNS				S		Sn	02 03 22.5	+0.2
	baz=285							
WARBT	Fenglin Townsh	1.13	251	⇓P		Pn	02 03 06.8	-1.0
	baz=239							
WARBT				*e* S		Sn	02 03 21.3	-0.9
	baz=239							
HATJ	Hateruma jima	1.15	92	P		Pn	02 03 09.2	+1.1
HATJ				*e* S		Sn	02 03 24.6	+2.0
SXI1	Grass Mountain	1.17	328	⇓*e*P		Pn	02 03 07.7	-0.7
	baz=339							
SXI1				*e* S		Sn	02 03 21.6	-1.7
	baz=339							
NWLT	Wulai	1.17	306	⇓P		Pn	02 03 08.6	+0.2
	baz=316							
NWLT				*e* S		Sn	02 03 23.3	0.0
	baz=316							
WHF	Hehuan Shan	1.18	273	*i* P		Pn	02 03 08.6	-0.3
	baz=258							
WHF				S		Sn	02 03 23.4	-0.5
	baz=258							
NWF	Wu-fen Shan	1.20	324	⇑*i* P		Pn	02 03 08.2	-0.6
	baz=324							
NWF				*i* S		Sn	02 03 23.4	-0.5
	baz=324							
WFSB	Wu-fen Shan	1.20	324	⇑P		Pn	02 03 08.3	-0.5
	baz=324							
WFSB				*i* S		Sn	02 03 23.3	-0.6
	baz=324							
FUSS	Fushou	1.20	277	*i* P		Pn	02 03 08.8	-0.2
	baz=263							
FUSS				*e* S		Sn	02 03 24.0	-0.3
	baz=263							
YHNB	Yeheng	1.21	298	⇑P		Pn	02 03 09.0	-0.1
	baz=296							
YHNB				*e* S		Sn	02 03 23.4	-1.0
	baz=296							
NSK	Sanguang	1.23	298	⇑P		Pn	02 03 09.1	-0.2
	baz=296							
NSK				*e* S		Sn	02 03 24.2	-0.6
	baz=296							
TWA	Mucha	1.24	315	P		Pn	02 03 09.2	-0.2
	baz=330							
TWA				*e* S		Sn	02 03 26.2	+1.2
	baz=330							
EHYH	Wanrong	1.26	242	P		Pn	02 03 09.4	-0.2
	baz=253							
EHYH				S		Sn	02 03 25.1	-0.2
	baz=253							
CHGB	Renai	1.26	269	⇓*e*P		Pn	02 03 08.5	-1.3
	baz=266							
CHGB				*e* S		Sn	02 03 25.6	-0.1
	baz=266							
OWD	Renai	1.26	264	P		Pn	02 03 09.4	-0.4
	baz=261							
OWD				*e* S		Sn	02 03 24.7	-1.0
	baz=261							
TNOU	National Taiwa	1.26	326	⇑*i* P		Pn	02 03 09.0	-0.7
	baz=326							
TNOU				*e* S		Sn	02 03 23.9	-1.6
	baz=326							
EHY	Hungye	1.27	243	P		Pn	02 03 09.5	-0.3
	baz=253							
EHY				*e* S		Sn	02 03 25.1	-0.6
	baz=253							
NHDH	Xindian Distri	1.27	313	*e*P		Pn	02 03 09.8	+0.1
	baz=326							
NHDH				*e* S		Sn	02 03 26.6	+0.9
	baz=326							
ECBN	Changbin	1.27	233	⇓*i* P		Pn	02 03 09.3	-0.5
	baz=230							
ECBN				S		Sn	02 03 24.8	-1.0
	baz=230							
TDCB	Techi	1.28	277	*e*P		Pn	02 03 09.4	-0.7
	baz=263							
TDCB				*e* S		Sn	02 03 26.6	+0.4
	baz=263							
WUSB	Renai	1.31	266	*e*P		Pn	02 03 10.5	0.0
	baz=263							
WUSB				*e* S		Sn	02 03 27.2	+0.2
	baz=263							
VWDT	VWDT	1.33	255	⇑*e*P		Pn	02 03 11.2	+0.6
	baz=253							
VWDT				*e* S		Sn	02 03 27.5	+0.3
	baz=253							
JKRS	Kuro-shima	1.34	84	P		Pn	02 03 12.1	+1.4
JKRS				S		Sn	02 03 30.0	+2.6
YULB	Yu-li	1.34	239	⇑*e*P		Pn	02 03 10.5	-0.3
	baz=251							
YULB				*e* S		Sn	02 03 26.3	-1.2
	baz=251							
EYUL	Yuli	1.35	237	P		Pn	02 03 10.8	-0.2
	baz=234							
EYUL				*e* S		Sn	02 03 27.6	-0.1
	baz=234							
TWF1	Yuli	1.37	237	⇑*i* P		Pn	02 03 10.9	-0.2
	baz=225							
TWF1				S		Sn	02 03 28.0	-0.1
	baz=225							
YM01	YM01	1.37	320	*i* P		Pn	02 03 10.7	-0.6
	baz=319							
YM01				S		Sn	02 03 27.9	-0.4
	baz=319							
CHKH	Chenggong	1.39	230	P		Pn	02 03 11.1	-0.3
	baz=218							
CHKH				*e* S		Sn	02 03 26.2	-2.4
	baz=218							
YM08	YM08	1.39	321	*e*P		Pn	02 03 12.2	+0.7
	baz=321							
YM08				*e* S		Sn	02 03 27.4	-1.3
	baz=321							
NFF	Wufeng Townshi	1.41	292	⇓P		Pn	02 03 12.6	+0.9
	baz=291							
NFF				*e* S		Sn	02 03 29.5	+0.2
	baz=291							
FULB	Fuli	1.46	232	⇓P		Pn	02 03 11.9	-0.5
	baz=230							
FULB				*e* S		Sn	02 03 29.2	-1.2
	baz=230							
CHKT	Chengkung	1.47	228	⇓P		Pn	02 03 11.7	-0.8
	baz=225							
CHKT				*e* S		Sn	02 03 29.1	-1.6
	baz=225							
WHP	Taichung City	1.48	277	⇓*e*P		Pn	02 03 14.8	+2.1
	baz=264							
WHP				*e* S		Sn	02 03 32.5	+1.6
	baz=264							
JIJ	Ishigaki jima	1.48	79	P		Pn	02 03 12.9	+0.2
JIJ				S		Sn	02 03 31.1	+0.3
SSLB	Suanglung	1.49	258	*e*P		Pn	02 03 13.6	+0.7
	baz=256							
SSLB				*e* S		Sn	02 03 31.7	+0.5
	baz=256							
WCS	Beigang Elemen	1.50	269	⇓*e*P		Pn	02 03 14.4	+1.5
	baz=258							
WCS				*i* S		Sn	02 03 31.5	+0.2
	baz=258							
LIOB	Emei	1.50	292	P		Pn	02 03 13.3	+0.3
	baz=290							
LIOB				*e* S		Sn	02 03 31.9	+0.4
	baz=290							
NSTT	Nanjuang	1.51	291	*e*P		Pn	02 03 13.2	+0.1
	baz=289							
NSTT				S		Sn	02 03 32.5	+0.9
	baz=289							
SMLT	Sun Moon Lake	1.52	262	*e*P		Pn	02 03 16.1	+2.8
	baz=260							
SMLT				*e* S		Sn	02 03 34.0	+1.9
	baz=260							
EHD	Haiduan	1.55	233	P		Pn	02 03 13.7	0.0
	baz=244							
EHD				*e* S		Sn	02 03 32.2	-0.5
	baz=244							
TYC	Yuchr	1.56	263	*e*P		Pn	02 03 15.7	+2.0
	baz=260							
ECS	Chishang	1.58	231	*e*P		Pn	02 03 13.6	-0.4
	baz=219							
ECS				*e* S		Sn	02 03 33.4	+0.1
	baz=219							
PCYT	Pengchaiyu	1.59	344	⇓*i* P		Pn	02 03 13.6	-0.6
	baz=345							
PCYT				*e* S		Sn	02 03 31.5	-2.0
	baz=345							
EDH	Donghe	1.60	226	*e*P		Pn	02 03 12.1	-2.2
	baz=216							
EDH				*e* S		Sn	02 03 30.6	-3.2
	baz=216							
WHYT	Xinyi Township	1.60	256	*e*P		Pb	02 03 17.5	+0.1
	baz=246							
ELDTW	Lidau	1.67	238	*e*P		Pn	02 03 14.2	-1.2
	baz=235							
ELDTW				S		Sn	02 03 34.6	-1.2
	baz=235							
JISG	Ishigakijimahi	1.68	73	P		Pn	02 03 15.6	+0.2
JISG				S		Sn	02 03 35.9	+0.2
ALS	Alishan	1.70	250	⇑P		Pn	02 03 17.2	+1.2
	baz=248							
ALS				*e* S		Sn	02 03 38.0	+1.3
	baz=248							
LDUT	Ludao	1.73	215	⇓*e*P		Pn	02 03 15.1	-1.0
	baz=213							
LDUT				*e* S		Sn	02 03 34.5	-2.5

	baz=247							
TPUB	**Ta-pu**	**1.93**	**246**	*i*	P	**Pn**	02 03 19.9	+1.1
	baz=244							
TPUB				*e*	S	**Sn**	02 03 44.6	+2.6
	baz=244							
CHN4	**Tsaushan**	**1.94**	**248**		P	**Pn**	02 03 20.8	+1.8
	baz=246							
CHN4				*e*	S	**Sn**	02 03 45.9	+3.6
	baz=246							
WTP	**Ta-pu**	**1.97**	**245**	*e*	P	**Pn**	02 03 20.1	+0.7
	baz=242							
WTP				*i*	S	**Sn**	02 03 44.9	+1.9
	baz=242							
WRL	**Guolierlin Hig**	**2.00**	**265**	*e*	P	**Pn**	02 03 19.8	0.0
	baz=263							
WRL				*e*	S	**Sn**	02 03 43.5	-0.1
	baz=263							
TWK	**Hsinying**	**2.06**	**247**	*e*	P	**Pn**	02 03 23.5	+2.8
	baz=244							
TWK				*e*	S	**Sn**	02 03 48.5	+3.1
	baz=244							
SLGT	**Liugui**	**2.06**	**238**	*e*	P	**Pn**	02 03 23.4	+2.6
	baz=228							
SLGT				*e*	S	**Sn**	02 03 49.2	+3.9
	baz=228							
CHN1	**Nanshi**	**2.06**	**244**	*e*	P	**Pn**	02 03 23.9	+3.2
	baz=242							
CHN1				*e*	S	**Sn**	02 03 48.5	+3.2
	baz=242							
ECL	**Taimali**	**2.09**	**225**		P	**Pn**	02 03 20.7	-0.4
	baz=233							
ECL					S	**Sn**	02 03 45.0	-1.0
	baz=233							
SSD	**Sandimen**	**2.22**	**233**	*e*	P	**Pn**	02 03 22.1	-0.7
	baz=226							
SSD				*e*	S	**Sn**	02 03 48.2	-0.9
	baz=226							
TSMG	**Majia**	**2.23**	**232**	*e*	P	**Pn**	02 03 22.9	-0.1
	baz=225							
TSMG				*e*	S	**Sn**	02 03 48.4	-1.1
	baz=225							
LYUB	**Lan-yu**	**2.27**	**203**	*e*	P	**Pn**	02 03 21.4	-2.1
	baz=201							
LYUB				*e*	S	**Sn**	02 03 46.8	-3.5
	baz=201							
CHN8	**Yiju**	**2.27**	**251**	*e*	P	**Pn**	02 03 26.0	+2.5
	baz=249							
CHN8				*e*	S	**Sn**	02 03 50.9	+0.5
	baz=249							
MASBT	**Mashibuluo**	**2.30**	**230**	*e*	P	**Pn**	02 03 26.5	+2.6
	baz=224							
MASBT				*e*	S	**Sn**	02 03 54.7	+3.5
	baz=224							
TAW	**Tawu**	**2.31**	**222**		P	**Pn**	02 03 23.9	-0.1
	baz=228							
TAW				*e*	S	**Sn**	02 03 50.9	-0.3
	baz=228							
EAST	**Anshuo**	**2.32**	**223**	*e*	P	**Pn**	02 03 24.9	+0.7
	baz=229							
EAST					S	**Sn**	02 03 50.9	-0.6
	baz=229							
TAWH	**Dawu Township**	**2.32**	**221**		P	**Pn**	02 03 23.9	-0.3
	baz=228							
TAWH				*i*	S	**Sn**	02 03 51.1	-0.6
	baz=228							
SCZT	**Fangliau**	**2.47**	**226**	*e*	P	**Pn**	02 03 25.7	-0.5
	baz=219							
SCZT				*e*	S	**Sn**	02 03 54.1	-1.2
	baz=219							
SLIU	**Shizi**	**2.47**	**221**	*e*	P	**Pn**	02 03 26.3	0.0
	baz=227							
SLIU				*e*	S	**Sn**	02 03 54.4	-0.9
	baz=227							
TWKBT	**Hengchun**	**2.68**	**217**	*e*	P	**Pn**	02 03 29.0	-0.2
	baz=215							
TWKBT				*e*	S	**Sn**	02 03 59.1	-1.3
	baz=215							
WDGT	**Dungji**	**2.78**	**253**	*e*	P	**Pn**	02 03 31.6	+1.1
	baz=251							
WDGT				*e*	S	**Sn**	02 04 02.7	-0.2
	baz=251							
PHUB	**P'eng-hu**	**2.79**	**259**	*e*	S	**Sn**	02 04 01.9	-1.3
	baz=271							
PNG	**Penghu**	**2.79**	**260**	*e*	P	**Pn**	02 03 29.7	-1.0
	baz=258							
PNG				*e*	S	**Sn**	02 04 01.8	-1.4
	baz=258							
VWUC	**VWUC**	**2.96**	**288**	*e*	P	**Pn**	02 03 32.2	-0.8
	baz=286							
VCHM	**Qimei**	**3.00**	**253**	*e*	P	**Pn**	02 03 32.1	-1.4
	baz=252							
VCHM				*e*	S	**Sn**	02 04 07.1	-1.2
	baz=252							
MATB	**Ma-tsu**	**3.12**	**311**	*e*	P	**Pn**	02 03 34.2	-1.1
	baz=320							
PTMZ	**Houxiangcun**	**3.26**	**287**	*e*	P	**Pn**	02 03 36.2	-0.9
	baz=285							
XPSS	**Dashiqiu**	**3.54**	**323**	*e*	P	**Pn**	02 03 40.7	-0.2
	baz=323							
XPSS				*e*	S	**Sn**	02 04 19.9	-1.6
	baz=323							
MHZQ	**Yeshan**	**3.76**	**303**	*e*	S	**Sn**	02 04 24.8	-2.4
	baz=301							
KNMB	**Chin-men Tao**	**3.81**	**276**	*i*	P	**Pn**	02 03 45.2	+0.5
	baz=264							
KNMB				*e*	S	**Sn**	02 04 26.8	-1.7
	baz=264							

IDC 28 02:08:02.8±46.0, 15°.69S×173°.65W, h0km, mb4.1/3, mbtmp4.1/3, Error ellipse: s-maj=876.1km s-min=175.4km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.68**	**240**	P	P	02 16 10.3	+0.6
	1.6nm,0.4s,baz=82,slow=9.4,SNR=4.9 1.6nm,0.4s						
WRA	**Warramunga Arr**	**49.54**	**257**	P	P	02 16 55.1	-0.8
	0.4nm,0.6s,baz=94,slow=8.1,SNR=13 0.4nm,0.6s						
ASAR	**Alice Springs**	**49.79**	**252**	P	P	02 16 57.7	-0.1
	5.0nm,0.6s,baz=89,slow=8.0,SNR=47 5.0nm,0.6s						

*NEIC **28** 02:08:28.3±2.0, 46°.04N±0°.01×122°.117W±0°.009, h18km±1km, Error ellipse: s-maj=1.8km s-min=0.9km az=182.0*

SEA 28 02:08:28.7±1.7, 46°.046N±0°.009×122°.128W±0°.009, h12km±1km, ML3.0/26, ML2.9/24(NEIC), Error ellipse: s-maj=1.5km s-min=0.6km az=213.0, Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTMW	**Mount Mitchell**	**0.06**	**251**		Pg	02 08 31.2	-0.1
CDFW	**Cedar Flats**	**0.09**	**38**		Pg	02 08 31.5	-0.1
JLK	**June Lake**	**0.10**	**350**		Pg	02 08 31.7	-0.1
HSR	**South Ridge**	**0.13**	**343**		Pg	02 08 32.4	+0.1
SWF2	**Southwest Flan**	**0.15**	**335**		Pg	02 08 32.5	+0.1
SWF2					Sg	02 08 35.5	+0.4
ESD	**East Dome**	**0.15**	**354**		Pg	02 08 32.5	0.0
SEPW	**September Lobe**	**0.16**	**344**		Pg	02 08 32.7	+0.1
SHW	**Mount Saint He**	**0.17**	**333**		Pg	02 08 32.8	+0.1
BOLM	**Sugar Bowl**	**0.17**	**349**		Pg	02 08 32.9	0.0
VALT	**Mount Saint He**	**0.17**	**346**		Pg	02 08 32.8	0.0
VALT					Sg	02 08 36.1	+0.4
B203	**Quarry, Mount**	**0.19**	**311**		Pg	02 08 32.9	0.0
B203					Sg	02 08 36.2	+0.3
SOSW	**Source of Smit**	**0.20**	**358**		Pg	02 08 33.0	-0.1
STD	**Studebaker Rid**	**0.20**	**341**		Pg	02 08 33.1	-0.1
FL2	**Flat Top 2**	**0.22**	**314**		Pg	02 08 33.5	0.0
F04A	**Amboy**	**0.23**	**241**		Pg	02 08 33.5	-0.2
F04A				Sg	Sg	02 08 37.0	+0.1
F04A				IAML		02 08 37.8	
	comp=E,3μm,0.2s						
JRO	**Jston Ridge Ob**	**0.24**	**345**	Pg	Pg	02 08 33.5	-0.4
JRO				Sg	Sg	02 08 37.0	-0.3
JRO				IAML		02 08 38.4	
	comp=N,3μm,0.4s						
B201	**Coldwater, Mou**	**0.28**	**340**		Pg	02 08 34.2	-0.3
B201					Sg	02 08 38.4	+0.1
ERK	**Elk Rock**	**0.30**	**330**		Pg	02 08 34.6	-0.3
TDL	**Tradedollar La**	**0.31**	**349**		Pg	02 08 34.9	-0.2
ASR	**Mount Adams--S**	**0.39**	**74**		Pg	02 08 36.0	-0.5
KOSW	**Kosmos**	**0.42**	**354**		Pg	02 08 36.6	-0.4
KOSW					Sg	02 08 42.7	0.0
APM	**Augspurger Mou**	**0.44**	**135**		Pg	02 08 37.0	-0.4
F05D	**White Salmon**	**0.49**	**109**		Pg	02 08 37.8	-0.6
ROSS	**Ross**	**0.53**	**224**		Pg	02 08 38.6	-0.5
ROSS					Sg	02 08 46.5	+0.3
HUBA	**Hudson Bay Hig**	**0.55**	**222**		Pg	02 08 39.0	-0.6
HUBA					Sg	02 08 46.6	-0.2
F04D	**Rainier, OR**	**0.62**	**274**	Pg	Pg	02 08 40.4	-0.3
F04D				Sg	Sb	02 08 49.5	-0.5
PGO	**Gresham**	**0.62**	**202**		Pg	02 08 40.5	-0.4
ALST	**Alston**	**0.63**	**276**		Sb	02 08 50.1	-0.4
HIYU	**Hiyu Mountain**	**0.65**	**160**		Pg	02 08 40.9	-0.5
HIYU					Sg	02 08 50.3	+0.3
VLL	**Laurance Lake**	**0.66**	**151**		Pg	02 08 41.1	-0.5
B023	**Chatskanie**	**0.67**	**276**		Pg	02 08 41.1	-0.6
SHRK	**Shell Rock**	**0.72**	**144**		Pg	02 08 41.8	-0.8
LON	**Longmire**	**0.74**	**17**		Pg	02 08 42.0	-1.1
LON	**Longmire**	**0.74**	**17**	Pg	Pg	02 08 41.8	-1.2
LON				Sg	Sg	02 08 51.6	-1.2
LON				IAML		02 08 52.7	
	comp=N,116nm,0.2s						
LON				IAML		02 08 54.3	
	comp=E,211nm,0.8s						
LCW	**Lucas Creek**	**0.74**	**328**		Pg	02 08 42.2	-0.8
PALME	**Palmer Lift, M**	**0.75**	**157**		Pg	02 08 42.5	-0.7
TDH	**Tom, Dick, Har**	**0.79**	**162**		Pg	02 08 43.1	-1.0
HOOD	**Mount Hood Mea**	**0.80**	**155**	Sg	Sg	02 08 53.3	-1.3
REMR	**Mount Rainier-**	**0.80**	**14**		Pg	02 08 43.1	-1.1
RCM	**Mount Rainier-**	**0.80**	**19**		Pg	02 08 43.6	-1.4
VFP	**Flag Point**	**0.86**	**147**		Pg	02 08 44.4	-1.0
RCS	**Mount Rainier-**	**0.87**	**18**		Pg	02 08 44.1	-1.5
G04A	**Mulino**	**0.88**	**196**		Pg	02 08 44.3	-1.3
BMW	**Boistfort Moun**	**0.88**	**300**		Pg	02 08 44.5	-1.1
OBSR	**Observation Ro**	**0.88**	**14**		Pg	02 08 44.5	-1.3
RVC	**Mount Rainier-**	**0.90**	**7**		Pg	02 08 45.0	-1.2
FMW	**Mount Fremont**	**0.94**	**19**		Pg	02 08 45.4	-1.5
B941	**Kapowsin**	**0.94**	**356**		Pg	02 08 45.2	-1.7
B941					Sg	02 08 57.8	-1.4
PCFR	**Pierce County**	**0.97**	**347**		Pg	02 08 46.2	-1.2
RRHS	**Rochester High**	**0.98**	**320**		Pb	02 08 46.7	-1.0
GHW	**Garrison Hill**	**1.00**	**354**		Pb	02 08 46.4	-1.6
F03A	**Seaside**	**1.00**	**264**	Pg	Pb	02 08 47.0	-1.1
F03A				Sg	Sg	02 09 00.8	-0.4
KMOR	**Kings Mountain**	**1.04**	**247**		Pb	02 08 47.0	-1.6
VBEM	**Beaver Butte**	**1.06**	**159**		Pb	02 08 48.1	-0.9
E03A	**Lebam**	**1.11**	**297**		Pb	02 08 48.4	-1.5
E03A					Sg	02 08 53.7	-0.6
TRW	**Toppenish Ridg**	**1.13**	**77**		Pb	02 08 49.4	-0.8
NAC	**Naches**	**1.13**	**52**		Pb	02 08 49.3	-1.0
D05A	**Enumclaw**	**1.15**	**5**		Pb	02 08 48.9	-1.6
D05A				Sg	Sb	02 09 04.8	-0.5
G03D	**McMinnville, O**	**1.15**	**224**		Pb	02 08 48.7	-1.9
G03D				Sg	Sb	02 09 04.8	-0.7
GSM	**Grass Mountain**	**1.18**	**11**		Pb	02 08 49.6	-1.5
YA2	**Yakima**	**1.21**	**66**		Pn	02 08 51.1	-0.3
B019	**Raymond**	**1.22**	**300**		Pn	02 08 50.7	-0.9
RADR	**Rader Ridge**	**1.22**	**289**		Pn	02 08 50.0	-1.6
RADR				IAML		02 09 12.7	
	comp=N,242nm,0.8s						
RADR				IAML		02 09 13.0	
	comp=E,182nm,0.5s						
B022	**Seaside**	**1.26**	**267**		Pn	02 08 51.0	-1.1
G06A	**Carlson Farm,**	**1.32**	**127**	Pn	Pn	02 08 52.0	-1.1
BLTW	**Bickleton**	**1.37**	**95**		Pn	02 08 53.1	-0.5
B017	**Montesano**	**1.37**	**314**		Pn	02 08 53.0	-0.6
MXC	**Moxie City**	**1.38**	**67**		Pn	02 08 53.6	-0.2
EBG	**Ellensburg**	**1.38**	**51**		Pn	02 08 54.0	+0.1
VVHS	**Vashon High Sc**	**1.40**	**351**		Pn	02 08 53.9	-0.2
RATT	**Rattlesnake La**	**1.40**	**9**		Pn	02 08 53.1	-1.0
HEBO	**Mount Hebo**	**1.41**	**234**	Pn	Pn	02 08 53.0	-1.3
HEBO				IAML		02 09 14.2	
	comp=N,250nm,0.2s						
SP2	**Seward Park 2**	**1.51**	**357**		Pn	02 08 55.9	+0.3
SMW	**South Mountain**	**1.52**	**327**		Pn	02 08 55.8	0.0
F07A	**Phinny Hill Vi**	**1.54**	**95**	Pn	Pn	02 08 55.7	-0.3
TBM	**Table Mountain**	**1.54**	**43**		Pn	02 08 56.7	+0.6
BRVW	**Black Rock Val**	**1.55**	**73**		Pn	02 08 56.5	+0.4
WISH	**Wishkah**	**1.56**	**314**	Pn	Pn	02 08 56.2	-0.1
WISH				IAML		02 09 26.1	
	comp=N,109nm,0.6s						
GMW	**Gold Mountain**	**1.57**	**343**		Pn	02 08 55.9	-0.6
LTY	**Liberty**	**1.57**	**39**	Pn	Pn	02 08 56.3	-0.3
LTY				IAML		02 09 18.2	
	comp=E,135nm,0.3s						
LTY				IAML		02 09 18.5	
	comp=N,104nm,0.5s						
H04D	**Lebanon**	**1.58**	**196**	Pn	Pn	02 08 55.7	-0.8
GNW	**Green Mountain**	**1.59**	**343**	Pn	Pn	02 08 56.0	-0.7
GNW				IAML		02 09 17.6	
	comp=E,102nm,0.4s						
E07A	**Sunnyside**	**1.66**	**71**	Pn	Pn	02 08 57.7	+0.1
C05A	**Tolt Reservoir**	**1.68**	**10**		Pn	02 08 57.9	-0.1
COR	**Corvallis**	**1.68**	**210**	Pn	Pn	02 08 57.5	-0.3
COR				IAML		02 09 24.6	
	comp=E,80nm,0.9s						
PRW	**Prosser**	**1.71**	**83**		Pn	02 08 59.0	+0.7
BVW	**Beverly**	**1.73**	**63**		Pn	02 08 59.5	+0.8
BENWA	**Benson Ranch**	**1.74**	**73**		Pn	02 08 59.0	+0.3
SNIWA	**Snively Ranch**	**1.76**	**75**		Pn	02 08 59.8	+0.8
C04A	**Brinnon**	**1.77**	**341**		Pn	02 08 59.3	+0.2
BROR	**Big Rock Looko**	**1.79**	**187**		Pn	02 08 59.7	+0.2
RSW	**Rattlesnake Hi**	**1.79**	**78**		Pn	02 09 00.1	+0.5
I05D	**Terrebonne, OR**	**1.80**	**162**	Pn	Pn	02 08 59.7	+0.2
TCBUT	**Trout Creek Bu**	**1.83**	**170**		Pb	02 09 02.5	+0.2
HAWA	**Hanford**	**1.83**	**78**	Pn	Pn	02 08 60.0	-0.1
HAWA				IAML		02 09 26.1	
	comp=E,114nm,1.0s						
PRLK	**Prince Lake**	**1.84**	**176**	Pn	Pn	02 09 00.9	+0.7
PRLK				IAML		02 09 27.3	
	comp=E,210nm,0.5s						
B013	**Quilcene**	**1.85**	**343**		Pn	02 08 60.0	-0.2
B013	**Quilcene**	**1.85**	**343**		Pn	02 08 60.0	-0.2
H2OWA	**Water**	**1.91**	**78**		Pn	02 09 01.1	0.0
GBL	**Gable Mountain**	**1.93**	**72**		Pn	02 09 02.3	+1.0
ETW	**Entiat**	**1.99**	**38**		Pn	02 09 02.8	+0.5
WIFE	**Three Sisters-**	**2.00**	**174**	Pn	Pn	02 09 03.6	+1.1
WIW	**Wooded Island**	**2.01**	**78**		Pn	02 09 02.6	+0.2
MOON	**Moon Mountain**	**2.02**	**171**		Pb	02 09 04.5	-0.9
FHE	**Frenchman Hill**	**2.03**	**63**		Pn	02 09 03.6	+0.8
JCW	**Jim Creek**	**2.15**	**4**		Pn	02 09 05.7	+1.2
E08A	**Dider Farm, El**	**2.17**	**77**	Pn	Pn	02 09 04.3	-0.4
HBO	**Huckleberry Mo**	**2.21**	**184**		Pn	02 09 06.5	+1.2
YPT	**Yellepit**	**2.21**	**89**		Pn	02 09 04.9	-0.2
I04A	**Tendick Farm,**	**2.26**	**185**	Pn	Pn	02 09 06.9	+1.0
I02E	**Swisshome, OR**	**2.29**	**213**		Pn	02 09 07.5	+1.3
G08A	**Pilot Rock**	**2.35**	**108**	Pn	Pn	02 09 05.9	-1.3
PINE	**Pine Mountain**	**2.41**	**159**	Pn	Pn	02 09 08.1	0.0
D08A	**Wollman Farm,**	**2.43**	**64**	Pn	Pn	02 09 08.0	-0.2
RPW	**Rockport**	**2.44**	**10**		Pn	02 09 09.1	+0.7
I03D	**Drain, OR**	**2.50**	**201**	Pn	Pn	02 09 09.7	+0.5
MCW	**Mount Constitu**	**2.68**	**350**		Pn	02 09 13.8	+2.1
I07A	**Izee**	**2.70**	**136**	Pn	Pn	02 09 11.8	-0.3
MBW	**Mount Baker**	**2.74**	**3**		Pn	02 09 14.9	+2.2
PGC	**Sidney**	**2.76**	**341**	Pn	Pn	02 09 13.5	+0.8
J05D	**Fort Rock, OR**	**2.83**	**167**	Pn	Pn	02 09 13.0	+0.9
B08A	**Colville Reser**	**3.00**	**38**	Pn	Pn	02 09 15.7	-0.4
DBO	**Dodson Butte**	**3.03**	**196**	Pn	Pn	02 09 16.3	-0.2
J01E	**Myrtle Point**	**3.16**	**205**	Pn	Pn	02 09 18.2	0.0
C09A	**Chrisman Ranch**	**3.17**	**55**	Pn	Pn	02 09 18.3	-0.1
F10A	**Beach Ranch, E**	**3.42**	**89**	Pn	Pn	02 09 21.4	-0.5
K05A	**Summer Lake**	**3.44**	**165**	Pn	Pn	02 09 22.7	+0.4
HUMO	**Hull Mountain**	**3.49**	**190**	Pn	Pn	02 09 23.6	+0.7
BMO	**Blue Mountains**	**3.60**	**108**	Pn	Pn	02 09 22.9	-1.4
J08A	**Circle Bar Ran**	**3.74**	**135**	Pn	Pn	02 09 25.4	-1.0
L04D	**Klamath Falls**	**3.83**	**182**	Pn	Pn	02 09 26.8	-0.8
KMRM	**Mail Ridge**	**5.93**	**192**	Pn	Pn	02 09 57.6	+1.1
BPMT	**Black Pine Rid**	**6.04**	**83**	Pn	Pn	02 09 57.2	-0.8

*NOU **28** 02:12:16.2, 38°.43S×176°.11E, h189km, MLv3.7/10, North Island, New Zealand*
*WEL **28** 02:12:20.6±0.8, 38°.S±4°×17°.6E±°, h143km±7km, M3.2/43, ML2.9/8, MLv3.2/43, Error ellipse: s-maj=0.0km s-min=0.0km az=91.5, confirmed*

ISC 28 02:12:15.2±1.6, 38°.42S±0°.04×176°.10E±0°.05, h187km±9km, n143, σ1°52/158, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRRZ	**Galatos Road**	**0.07**	**10**	P	**Pn**	**02 12 40.7**	**+0.8**
WPRZ	**Whakapapataran**	**0.12**	**153**	P	**Pn**	**02 12 40.9**	**+0.9**
KUTZ	**Kaahu Road**	**0.23**	**251**	P	**Pn**	**02 12 41.2**	**+1.2**
ALRZ	**Allen Road**	**0.24**	**127**	P	**Pn**	**02 12 41.0**	**+0.9**
PRRZ	**Plateau Road**	**0.25**	**109**	P	**Pn**	**02 12 41.0**	**+0.9**
PRRZ				S	**S**	**02 12 57.2**	**-2.1**
WHTZ	**Whakaora**	**0.27**	**203**	P	**Pn**	**02 12 41.5**	**+1.3**
RRRZ	**Republican Roa**	**0.34**	**77**	P	**Pn**	**02 12 41.1**	**+0.7**
OMRZ	**Omania**	**0.38**	**35**	P	**Pn**	**02 12 41.3**	**+0.8**
WATZ	**Wairara**	**0.41**	**224**	P	**Pn**	**02 12 41.8**	**+1.2**
KARZ	**Kaharoa**	**0.41**	**17**	P	**Pn**	**02 12 41.4**	**+0.8**
TLZ	**Tolley Road**	**0.45**	**281**	P	**Pn**	**02 12 42.0**	**+1.3**
HATZ	**Hinemaiaia**	**0.47**	**180**	P	**Pn**	**02 12 41.8**	**+1.0**
MRHZ	**Matea Rd**	**0.49**	**149**	P	**Pn**	**02 12 41.8**	**+0.9**
MRHZ				S	**S**	**02 12 58.1**	**-2.7**
RATZ	**Rangitukua**	**0.52**	**209**	P	**Pn**	**02 12 42.2**	**+1.2**
KMRZ	**Kaimai**	**0.58**	**348**	P	**Pn**	**02 12 42.3**	**+1.0**
RITZ	**Rihia Road**	**0.59**	**198**	P	**Pn**	**02 12 42.9**	**+1.6**
EDRZ	**Edgecumbe**	**0.59**	**59**	P	**Pn**	**02 12 41.1**	**-0.3**
MARZ	**Manawahe**	**0.63**	**47**	P	**Pn**	**02 12 42.3**	**+0.8**
KATZ	**Kakaramea**	**0.64**	**209**	P	**Pn**	**02 12 43.1**	**+1.4**
OPRZ	**Ohinepanea**	**0.68**	**33**	P	**Pn**	**02 12 42.3**	**+0.6**
TGRZ	**Tauranga**	**0.70**	**11**	P	**Pn**	**02 12 42.7**	**+0.8**
RTZ	**Ruatahuna**	**0.72**	**106**	P	**Pn**	**02 12 43.0**	**+1.0**
MTHZ	**Maungataniwha**	**0.73**	**127**	P	**Pn**	**02 12 43.3**	**+1.3**
MTHZ				S	**S**	**02 13 01.0**	**-1.7**
NTVZ	**North Tongarir**	**0.76**	**206**	P	**Pn**	**02 12 44.0**	**+1.7**
TMVZ	**Te Maari**	**0.76**	**203**	P	**Pn**	**02 12 43.8**	**+1.5**
ETVZ	**East Tongariro**	**0.78**	**203**	P	**Pn**	**02 12 44.0**	**+1.7**
WTVZ	**West Tongariro**	**0.80**	**209**	P	**Pn**	**02 12 44.0**	**+1.5**
BKZ	**Black Stump Fm**	**0.81**	**158**	P	**Pn**	**02 12 43.7**	**+1.2**
BKZ	**Black Stump Fm**	**0.81**	**158**	P	**Pn**	**02 12 43.9**	**+1.4**
URZ	**Urewera**	**0.81**	**79**	P	**Pn**	**02 12 42.9**	**+0.5**
URZ	**Urewera**	**0.81**	**79**	P	**Pn**	**02 12 43.0**	**+0.5**
URZ				S	**S**	**02 13 00.6**	**-2.8**
OTVZ	**Oturere**	**0.82**	**204**	P	**Pn**	**02 12 44.3**	**+1.7**
TOZ	**Tahuroa Road**	**0.83**	**325**	P	**Pn**	**02 12 43.9**	**+1.3**
TOZ				S	**S**	**02 13 02.5**	**-1.1**
TWVZ	**Taurewa**	**0.83**	**218**	P	**Pn**	**02 12 44.1**	**+1.5**
SNVZ	**South Ngauruho**	**0.85**	**205**	P	**Pn**	**02 12 44.3**	**+1.5**
NGZ	**Ngauruhoe**	**0.85**	**207**	P	**Pn**	**02 12 44.4**	**+1.5**
NMHZ	**Naumai**	**0.88**	**141**	P	**Pn**	**02 12 45.2**	**+2.3**
NMHZ				S	**S**	**02 13 04.5**	**0.0**
COVZ	**Chateau Observ**	**0.89**	**209**	P	**Pn**	**02 12 44.3**	**+1.3**
TUVZ	**Tukino**	**0.92**	**202**	P	**Pn**	**02 12 45.0**	**+1.7**
RAHZ	**Arahi**	**0.92**	**123**	P	**Pn**	**02 12 45.0**	**+1.8**
RAHZ				S	**S**	**02 13 04.0**	**-0.8**
FWVZ	**Far West T-bar**	**0.94**	**207**	P	**Pn**	**02 12 44.8**	**+1.3**
MAVZ	**Matarangi**	**0.95**	**206**	P	**Pn**	**02 12 45.1**	**+1.4**
WHVZ	**Whangaehu Hut**	**0.95**	**204**	P	**Pn**	**02 12 45.0**	**+1.4**
HIZ	**Hauiti**	**0.98**	**264**	P	**Pn**	**02 12 45.0**	**+1.5**
HIZ	**Hauiti**	**0.98**	**264**	P	**Pn**	**02 12 45.2**	**+1.7**
TRVZ	**Turoa**	**0.98**	**206**	P	**Pn**	**02 12 45.4**	**+1.6**
WNVZ	**Wahianoa**	**0.99**	**203**	P	**Pn**	**02 12 45.4**	**+1.6**
MOVZ	**Moawhango**	**1.02**	**195**	P	**Pn**	**02 12 45.2**	**+1.3**
KWHZ	**Kaweka Forest**	**1.04**	**166**	P	**Pn**	**02 12 45.8**	**+1.8**
KWHZ				S	**S**	**02 13 05.5**	**-0.9**
SNGZ	**Shannon Statio**	**1.04**	**111**	P	**Pn**	**02 12 45.7**	**+1.7**
SNGZ				S	**S**	**02 13 05.0**	**-1.2**
BHHZ	**Black Hill Sta**	**1.07**	**181**	P	**Pn**	**02 12 45.8**	**+1.5**
BHHZ				S	**S**	**02 13 05.2**	**-1.7**
MTVZ	**Mangateitei**	**1.08**	**207**	P	**Pn**	**02 12 46.0**	**+1.7**
ARHZ	**Aropaoanui**	**1.10**	**141**	P	**Pn**	**02 12 46.6**	**+2.2**
ARHZ				S	**S**	**02 13 06.7**	**-0.4**
WHHZ	**Waihua**	**1.11**	**127**	P	**Pn**	**02 12 46.4**	**+2.0**
WHHZ				S	**S**	**02 13 06.6**	**-0.5**
MCHZ	**McNeill Hill**	**1.13**	**156**	P	**Pn**	**02 12 47.1**	**+2.5**
MCHZ				S	**S**	**02 13 07.7**	**+0.2**
MWZ	**Matawai**	**1.13**	**86**	P	**Pn**	**02 12 45.9**	**+1.2**
MWZ				S	**S**	**02 13 05.4**	**-2.0**
MYRZ	**Mayor Island**	**1.14**	**6**	P	**Pn**	**02 12 46.1**	**+1.4**
KRHZ	**Kereru**	**1.24**	**170**	P	**Pn**	**02 12 47.5**	**+1.9**
KRHZ				S	**S**	**02 13 08.3**	**-0.9**
VRZ	**Vera Road**	**1.26**	**235**	P	**Pn**	**02 12 47.8**	**+2.1**
RUGZ	**Raukumara Rang**	**1.33**	**71**	P	**Pn**	**02 12 46.7**	**+0.3**
RIGZ	**Rimuhau**	**1.34**	**103**	P	**Pn**	**02 12 48.9**	**+2.5**
KNZ	**Kokohu**

mbtmp4.1/7,MS3.9/29,Error ellipse: s-maj=31.0km s-min=22.1km az=5.0
NEIC ***28*** *02:15:12.4±1.1,56°.07S±0°.07×143°.6W±0°.3,h10km±1km, mb4.8/12,Error ellipse: s-maj=26.2km s-min=9.4km az=285.0*
GCMT ***28*** *02:15:15.4±0.3,56°.43S±0°.02×143°.43W±0°.03,h22km±1km, MW4.9/83,Moment Tensor Solution. s22,c26; s83,c100; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=0.75±.17; Mθθ2.46±.17; Mφφ-1.71±.12; Mrθ0.67±.21; Mθφ1.97±.10; Mrφ0.23±.20; Best double couple: M₀2.92900×10¹⁶ NP1:φs114.00000°,δ84.00000°,λ8.00000°. NP2: φs23.00000°,δ82.00000°,λ174.00000°. Principal axes: T 3.3640, Plg10.0000°, Azm338.0000°; N -0.8700, Plg80.0000°, Azm151.0000°; P -2.4940, Plg1.0000°, Azm248.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 02:15:12.2±0.7,56°.1S±0°.2×143°.8W±0°.1,h10km,n68, σ1§09/31,mb4.5/12,MS3.9/29,4C,Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SBA	**Scott Base**	**27.58**	**200**	P	**P**	**02 20 59.4**	**+0.5**
VNDA	**Vanda**	**28.46**	**202**	P	**P**	**02 21 07.7**	**+1.0**
VNDA	**Vanda**	**28.46**	**202**	P	**P**	**02 21 07.7**	**+1.0**
	0.8nm,0.9s,baz=77,slow=9.5,SNR=3.2						
VNDA				LR	LR	02 28 38.1	
	comp=Z,91nm,20.2s,baz=76,slow=28						
	0.8nm,0.9s						
RPZ	**Rata Peaks**	**31.04**	**274**	LR	LR	02 31 03.1	
	comp=Z,384nm,20.3s,baz=127,slow=31						
URZ	**Urewera**	**31.45**	**288**	LR	LR	02 31 05.8	
	comp=Z,265nm,22.0s,baz=170,slow=30						
QSPA	**South Pole Qui**	**34.09**	**180**	P	**P**	**02 21 57.5**	**+0.9**
QSPA				IAmb	IAmb	02 21 59.2	
	comp=Z,16nm,1.4s						
QSPA	**South Pole Qui**	**34.09**	**180**	P	**P**	**02 21 57.2**	**+0.6**
	comp=Z,3.9nm,1.1s,baz=87,slow=3.8,SNR=4.6						
QSPA				LR	LR	02 33 47.1	
	comp=Z,199nm,19.1s,baz=64,slow=33						
	comp=Z,3.9nm,1.1s						
RAR	**Rarotonga**	**36.79**	**335**	LR	LR	02 32 21.3	
	comp=Z,366nm,20.9s,baz=148,slow=28						
PMSA	**Palmer Station**	**37.73**	**136**	LR	LR	02 33 57.1	
	comp=Z,138nm,18.8s,baz=243,slow=30						
PPT	**Papeete**	**38.68**	**351**	LR	LR	02 33 44.8	
	comp=Z,368nm,18.9s,baz=158,slow=29						
BELA	**Belgrano 2**	**39.62**	**162**	P	**P**	**02 22 43.0**	**-0.3**
BELA				IAmb	IAmb	02 22 44.3	
	comp=Z,12nm,1.2s						
PLCA	**Paso Flores**	**48.61**	**104**	LR	LR	02 40 25.5	
	comp=Z,68nm,18.1s,baz=223,slow=31						
H03S2	**Juan Fernandez**	**48.91**	**91**	T	T	03 16 20.7	
	baz=220,slow=74,SNR=76						
H03S1	**Juan Fernandez**	**48.91**	**91**	T	T	03 16 37.8	
	baz=220,slow=74,SNR=81						
VNA3	**Neumayer Olymp**	**48.92**	**162**	⇑P	**P**	**02 23 57.0**	**-0.8**
H03S3	**Juan Fernandez**	**48.93**	**91**	T	T	03 16 37.0	
	baz=220,slow=74,SNR=80						
H03N3	**Juan Fernandez**	**49.19**	**91**	T	T	03 16 42.2	
	baz=224,slow=72,SNR=65						
H03N2	**Juan Fernandez**	**49.20**	**91**	T	T	03 16 38.4	
	baz=224,slow=72,SNR=78						
H03N1	**Juan Fernandez**	**49.21**	**91**	T	T	03 16 44.5	
	baz=224,slow=72,SNR=72						
VNA2	**Neumayer--Watz**	**49.58**	**163**	⇑P	P	02 23 56.6	-6.1
	baz=302,slow=1.1						
SNAA	**Sanae**	**49.64**	**165**		**P**	**02 24 02.8**	**-0.5**
SNAA	**Sanae**	**49.64**	**165**	⇑P	**P**	**02 24 02.1**	**-1.2**
SNAA	**Sanae**	**49.64**	**165**	P	**P**	**02 24 01.9**	**-1.4**
	comp=Z,9.1nm,1.1s,baz=159,slow=2.6,SNR=5.0						
SNAA				LR	LR	02 44 11.2	
	comp=Z,88nm,19.2s,baz=190,slow=35						
	comp=Z,9.1nm,1.1s						
VNA1	**Neumayer--Stat**	**49.67**	**162**	⇑P	**P**	**02 24 02.5**	**-0.9**
DZM	**Mont Dzumac**	**49.82**	**292**	LR	LR	02 41 09.5	
	comp=Z,88nm,18.3s,baz=184,slow=31						
MAW	**Mawson**	**55.06**	**192**	LR	LR	02 45 09.0	
	comp=Z,123nm,21.9s,baz=158,slow=33						
STKA	**Stephens Creek**	**55.83**	**262**	LR	LR	02 44 55.5	
	comp=Z,144nm,21.4s,baz=191,slow=32						
PLTB	**Pedras Altas**	**64.39**	**109**	P	**P**	**02 25 47.4**	**-0.9**
PLTB				IAmb	IAmb	02 25 50.3	
	comp=Z,8.3nm,1.0s						
ASAR	**Alice Springs**	**66.47**	**262**	P	**P**	**02 26 00.8**	**-1.0**
	comp=Z,1.9nm,0.8s,baz=138,slow=6.3,SNR=10						
ASAR				LR	LR	02 50 12.6	
	comp=Z,122nm,21.8s,baz=158,slow=32						
	comp=Z,1.9nm,0.8s						
CPUP	**Villa Florida**	**66.64**	**103**	P	**P**	**02 26 03.9**	**+1.1**
	comp=Z,2.2nm,0.9s,baz=195,slow=9.6,SNR=4.1						
CPUP				LR	LR	02 50 44.9	
	comp=Z,69nm,18.8s,baz=220,slow=32						
	comp=Z,2.2nm,0.9s						
NNA	**Nana**	**67.30**	**77**	LR	LR	02 48 09.7	
	comp=Z,148nm,18.7s,baz=203,slow=29						
H01W1	**Cape Leeuwin H**	**67.97**	**240**	T	T	03 41 06.7	
	baz=143,slow=75,SNR=188						
H01W2	**Cape Leeuwin H**	**67.98**	**240**	T	T	03 41 07.2	
	baz=143,slow=75,SNR=151						
H01W3	**Cape Leeuwin H**	**67.99**	**240**	T	T	03 41 08.0	
	baz=143,slow=75,SNR=160						
LPAZ	**La Paz**	**68.64**	**87**	P	**P**	**02 26 15.4**	**-0.8**
LPAZ				IAmb	IAmb	02 26 23.8	
	comp=Z,13nm,1.6s						
LPAZ	**La Paz**	**68.64**	**87**	P	**P**	**02 26 18.2**	**+1.9**
	comp=Z,2.2nm,1.0s,baz=214,slow=2.5,SNR=5.9						
LPAZ				LR	LR	02 49 48.7	
	comp=Z,31nm,21.3s,baz=216,slow=30						
	comp=Z,2.2nm,1.0s						
WB2	**Warramunga Arr**	**69.19**	**265**	P	**P**	**02 26 18.3**	**-0.7**
WB2				IAmb	IAmb	02 26 26.3	
	comp=Z,10nm,1.5s						
WRA	**Warramunga Arr**	**69.19**	**265**	P	**P**	**02 26 18.4**	**-0.6**
	comp=Z,1.3nm,0.9s,baz=145,slow=5.6,SNR=9.9						
WRA				LR	LR	02 54 25.2	
	comp=Z,42nm,18.0s,baz=36,slow=34						
	comp=Z,1.3nm,0.9s						
WB0	**Warramunga Arr**	**69.30**	**265**	P	**P**	**02 26 18.9**	**-0.8**
WB0				IAmb	IAmb	02 26 20.6	
	comp=Z,12nm,1.4s						
ATAH	**Atahualpa**	**70.49**	**73**	LR	LR	02 51 12.9	
	comp=Z,67nm,19.5s,baz=212,slow=31						
SIV	**San Ignacio**	**72.83**	**93**	LR	LR	02 53 11.8	
	comp=Z,30nm,19.0s,baz=290,slow=31						
FITZ	**Fitzroy Crossi**	**75.51**	**259**	P	**P**	**02 26 55.9**	**-0.8**
PSA00	**Pilbara Seismi**	**75.84**	**253**	P	**P**	**02 26 59.6**	**+1.0**
SAML	**Samuel**	**77.38**	**87**	P	**P**	**02 27 06.9**	**-0.4**
SAML				IAmb	IAmb	02 27 09.9	
	comp=Z,12nm,1.7s						
BDFB	**Brasilia**	**80.35**	**104**	LR	LR	02 59 10.2	
	comp=Z,100nm,18.6s,baz=118,slow=33						
SDV	**Santo Domingo**	**88.07**	**71**	LR	LR	03 01 35.2	
	comp=Z,52nm,19.0s,baz=257,slow=32						
KAPI	**Kappang**	**89.49**	**262**	LR	LR	03 06 01.9	
	comp=Z,107nm,20.1s,baz=160,slow=34						
PFO	**Pinyon Flats O**	**92.31**	**23**	LR	LR	03 01 44.0	
	comp=Z,35nm,18.9s,baz=200,slow=30						
PCRV	**Puerto La Cruz**	**92.37**	**75**	LR	LR	03 04 20.9	
	comp=Z,78nm,18.8s,slow=32						
BOSA	**Boshof**	**95.14**	**170**	LR	LR	03 06 40.1	
	comp=Z,54nm,19.8s,baz=198,slow=32						
DAV	**Davao City (W)**	**96.17**	**273**	LR	LR	03 08 55.7	
	comp=Z,136nm,21.9s,baz=154,slow=34						
NVAR	**Mina Array Bea**	**96.59**	**20**	LR	LR	03 04 19.1	
	comp=Z,27nm,18.6s,baz=244,slow=30						
LBTB	**Lobatse**	**98.74**	**170**	LR	LR	03 07 50.0	
	comp=Z,58nm,21.5s,baz=164,slow=32						
YBH	**Yreka Blue Hor**	**99.05**	**16**	LR	LR	03 03 41.5	
	comp=Z,67nm,19.9s,baz=202,slow=29						
H10S3	**ASCENSION HYDR**	**102.80**	**128**	T	T	04 24 33.5	
	baz=206,slow=74,SNR=4.0						
H10S2	**ASCENSION HYDR**	**102.80**	**128**	T	T	04 24 39.4	
	baz=14,slow=74,SNR=2.7						
H10N3	**ASCENSION HYDR**	**103.86**	**128**	T	T	04 26 08.9	
	baz=206,slow=74,SNR=3.5						
H10N1	**ASCENSION HYDR**	**103.87**	**128**	T	T	04 26 05.0	
	baz=206,slow=74,SNR=6.9						
H10N2	**ASCENSION HYDR**	**103.88**	**128**	T	T	04 26 12.0	
	baz=206,slow=74,SNR=2.9						
R33M	**Jennings River**	**115.56**	**7**	PKPdf	**PKiKP**	**02 33 53.8**	**+0.7**
SCRK	**Sand Creek**	**119.71**	**360**	PKPdf	**PKiKP**	**02 34 01.3**	**+0.2**
ILAR	**Eielson Array**	**120.53**	**358**	PKP	**PKiKP**	**02 34 04.6**	**+2.1**
	comp=Z,0.7nm,0.9s,baz=198,slow=5.4,SNR=4.6						
NIL	**Nilore**	**146.11**	**244**	PKPdf	**PKPdf**	**02 34 50.2**	**-0.9**
KBL	**Kabul**	**148.91**	**240**	PKPbc	**PKPbc**	**02 34 59.5**	**-0.3**
ESDC	**Sonseca Array**	**149.00**	**105**	PKPbc	**PKPab**	**02 35 02.2**	**-1.7**
	comp=Z,0.6nm,0.9s,baz=254,slow=2.4,SNR=4.8						
MKAR	**Makanchi Array**	**150.33**	**271**	PKPbc	**PKiKP**	**02 35 05.0**	**+1.5**
	comp=Z,2.0nm,0.8s,baz=100,slow=7.5,SNR=2.3						
BVAR	**Borovoye Array**	**160.07**	**276**	PKPab	**PKPab**	**02 35 48.9**	**-1.6**
	comp=Z,1.8nm,0.7s,baz=76,slow=6.1,SNR=3.4						
AKASG	**Malin Array Be**	**173.19**	**139**	PKPab	**PKPab**	**02 36 48.8**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=264,slow=0.8,SNR=1.4						

NNC ***28*** *02:31:13.3±0.6,44°.87N×80°.96E,h0km,mb3.9,mpv3.8, Error ellipse: s-maj=6.9km s-min=3.6km az=129.0*
SOME ***28*** *02:31:14.7,44°.90N×80°.85E,h15km*

ISC 28 02:31:13.0±1.6,44°.86N±0°.04×81°.00E±0°.04,h1km±12km, n42,σ1§24/64,6C-4D,Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.01**	**239**	P	**Pb**	**02 31 33.0**	**-0.4**
	17nm,0.1s						
DJR				S	**Sg**	**02 31 46.4**	**+0.9**
	163nm,0.4s						
DJR	**Jarkent**	**1.01**	**239**	*e*P	**Pb**	**02 31 33.0**	**-0.4**
	23nm,0.1s						
DJR				*e*S	**Sg**	**02 31 46.4**	**+0.9**
	163nm,0.4s						
KNOS	**Konyrlen**	**1.39**	**250**	P	**Pn**	**02 31 39.9**	**+0.1**
	42nm,0.2s						
KNOS				S	**Sn**	**02 31 57.8**	**-1.1**
	93nm,0.3s						
KTMS	**Ketmen**	**1.49**	**198**	P	**Pn**	**02 31 41.1**	**0.0**
	13nm,0.2s						
KTMS				S	**Sn**	**02 31 59.8**	**-1.3**
	52nm,0.2s						
KTMS	**Ketmen**	**1.49**	**198**	*e*P	**Pn**	**02 31 41.1**	**0.0**
	13nm,0.1s						
KTMS				*e*S	**Sn**	**02 31 59.8**	**-1.3**
	66nm,0.1s						
TDK	**Taldyqorghan**	**1.85**	**275**	P	**Pb**	**02 31 47.0**	**-0.6**
	222nm,0.3s						
TDK				S	**Sn**	**02 32 09.7**	**-0.2**
	430nm,0.3s						
TDK	**Taldyqorghan**	**1.85**	**275**	*e*P	**Pb**	**02 31 47.0**	**-0.6**
	222nm,0.2s						
TDK				*e*S	**Sn**	**02 32 09.7**	**-0.2**
	465nm,0.2s						
BLB	**Baldybastay**	**1.96**	**248**	P	**Pb**	**02 31 49.7**	**+0.1**
	422nm,0.3s						
BLB				S	**Sb**	**02 32 14.7**	**+0.2**
	234nm,0.3s						
SHLS	**Shalkode**	**2.03**	**214**	P	**Pn**	**02 31 48.4**	**-0.1**
	30nm,0.1s						
SHLS				S	**Sn**	**02 32 12.5**	**-2.0**
	216nm,0.3s						
SHLS	**Shalkode**	**2.03**	**214**	*e*P	**Pn**	**02 31 48.5**	**-0.1**
	30nm,0.1s						
SHLS				*e*S	**Sn**	**02 32 12.3**	**-2.3**
	216nm,0.3s						
MK31	**Makanchi Array**	**2.14**	**25**	⇓Pn	**Pn**	**02 31 50.3**	**+0.4**
	6.0nm,0.3s,baz=195,slow=16						
MK31				⇑Sn	**Sb**	**02 32 17.7**	**-1.9**
	43nm,0.5s,baz=205,slow=27						
UZB	**Uzynbulak**	**2.23**	**221**	Pg	**Pb**	**02 31 54.4**	**+0.2**
	14nm,0.2s						
UZB				Lg	Lg	02 32 22.5	
	82nm,0.2s						
UZB	**Uzynbulak**	**2.23**	**221**	*e*P	**Pb**	**02 31 54.4**	**+0.2**
	5.0nm,0.1s						
UZB				*e*S	**Sb**	**02 32 22.4**	**+0.2**
	82nm,0.2s						
ARXS	**Arharly**	**2.36**	**255**	Pg	**Pb**	**02 31 56.1**	**-0.2**
	24nm,0.3s						
ARXS				Lg	Lg	02 32 26.4	
	201nm,0.4s						
ARXS	**Arharly**	**2.36**	**255**	*e*P	**Pb**	**02 31 56.7**	**+0.4**
	24nm,0.3s						
ARXS				*e*S	**Sb**	**02 32 26.4**	**+0.5**
	197nm,0.3s						
KURS	**Kuram**	**2.45**	**237**	Pg	**Pb**	**02 31 57.9**	**0.0**
	20nm,0.6s						
KURS				Lg	Lg	02 32 28.8	
	21nm,0.4s						
KURS	**Kuram**	**2.45**	**237**	*e*P	**Pb**	**02 31 57.9**	**0.0**
	21nm,0.4s						
KURS				*e*S	**Sb**	**02 32 28.8**	**+0.1**
	24nm,0.2s						
ZHN	**Zhinishke**	**2.50**	**229**	Pg	**Pb**	**02 31 59.5**	**+0.7**
	7.3nm,0.2s						
ZHN				Lg	Lg	02 32 31.2	
	157nm,0.2s						
ZHN	**Zhinishke**	**2.50**	**229**	*e*P	**Pb**	**02 31 59.5**	**+0.7**
	6.0nm,0.1s						
ZHN				*e*S	**Sb**	**02 32 31.2**	**+1.0**
	157nm,0.1s						
KOTS	**Kotyrbulak**	**3.24**	**241**	*e*P	**Pb**	**02 32 12.1**	**+0.7**
	4.6nm,0.1s						
KOTS				*e*S	**Sb**	**02 32 52.6**	**+1.2**
	80nm,0.3s						
KTBS	**Karatobe**	**3.31**	**251**	*e*P	**Pb**	**02 32 13.1**	**+0.6**
	2.8nm,0.1s						
KTBS				*e*S	**Sb**	**02 32 54.7**	**+1.5**
	132nm,0.2s						
MDOK	**Medeo**	**3.32**	**241**	Pg	**Pb**	**02 32 12.8**	**+0.1**
	6.0nm,0.3s						
MDOK				Pg	**Pg**	**02 32 14.6**	**-2.0**
	9.2nm,0.6s						
MDOK				Lg	Lg	02 32 54.2	
	32nm,0.7s						
MDOK				Lg	Lg	02 32 54.8	
	35nm,0.6s						
MDOK	**Medeo**	**3.32**	**241**	*e*P	**Pb**	**02 32 12.8**	**+0.1**
	3.6nm,0.1s						
MDOK				*e*S	**Sb**	**02 32 54.2**	**+0.5**
	32nm,0.7s						
TNSS	**Tian-Shan**	**3.45**	**240**	Pg	**Pb**	**02 32 16.7**	**+1.6**
	4.6nm,0.2s						
TNSS				Lg	Lg	02 33 00.7	
	15nm,0.3s						
TNSS	**Tian-Shan**	**3.45**	**240**	*e*P	**Pb**	**02 32 16.7**	**+1.6**
	4.6nm,0.2s						
TNSS				*e*S	**Sb**	**02 33 00.7**	**+3.0**
	15nm,0.3s						
KUU	**Kurty**	**3.48**	**256**	Pg	**Pb**	**02 32 15.9**	**+0.6**
	3.1nm,0.1s						
KUU				Lg	Lg	02 32 59.6	
	37nm,0.2s						
KUU	**Kurty**	**3.48**	**256**	*e*P	**Pb**	**02 32 16.0**	**+0.6**
	3.1nm,0.1s						
KUU				*e*S	**Sb**	**02 32 59.6**	**+1.5**
	37nm,0.2s						
MTBS	**Maitube**	**3.72**	**244**	Pg	**Pb**	**02 32 20.2**	**+0.6**
	6.8nm,0.4s						
MTBS				Lg	Lg	02 33 06.8	
	60nm,0.4s						
MTBS	**Maitube**	**3.72**	**244**	*e*P	**Pb**	**02 32 20.2**	**+0.6**
	6.8nm,0.2s						
MTBS				*e*S	**Sb**	**02 33 06.8**	**+1.5**
	60nm,0.4s						
ZSN	**Zaisan**	**3.73**	**45**	Pg	**Pb**	**02 32 21.8**	**+2.1**
	19nm,0.5s						
ZSN				Lg	Lg	02 33 09.4	
	33nm,0.6s						
ZSN	**Zaisan**	**3.73**	**45**	*e*P	**Pb**	**02 32 20.7**	**+1.0**
	19nm,0.5s						
ZSN				*e*S	**Sb**	**02 33 07.3**	**+1.8**
	27nm,0.3s						
KRBS	**Karabastau**	**4.00**	**255**	Pg	**Pb**	**02 32 24.5**	**+0.3**
	4.8nm,0.3s						
KRBS				Lg	Lg	02 33 14.4	
	8.1nm,0.5s						
KRBS	**Karabastau**	**4.00**	**255**	*e*P	**Pb**	**02 32 24.6**	**+0.4**
	2.0nm,0.1s						
KRBS				*e*S	**Sb**	**02 33 14.4**	**+1.3**
	12nm,0.2s						
KST	**Kastek**	**4.06**	**245**	Pg	**Pb**	**02 32 26.3**	**+0.9**
	5.0nm,0.3s						
KST				Lg	Lg	02 33 17.5	
	33nm,0.5s						
KST	**Kastek**	**4.06**	**245**	*e*P	**Pb**	**02 32 26.3**	**+0.9**
	5.0nm,0.3s						
KST				*e*S	**Sb**	**02 33 17.5**	**+2.3**
	33nm,0.5s						
TKM2	**Tokmak 2**	**4.36**	**246**	⇓Pg	**Pb**	**02 32 32.7**	**+2.2**
	2.1nm,0.5s						
TKM2				⇓Lg	Lg	02 33 29.1	
	20nm,0.8s						
CHMS	**Chumysh**	**4.88**	**250**	⇓Pg	**Pb**	**02 32 43.6**	**+4.3**
	2.7nm,0.5s						
CHMS				⇑Lg	Lg	02 33 46.3	
	11nm,0.7s						
AAK	**Ala-Archa**	**5.21**	**247**	⇑Pg	**Pb**	**02 32 45.4**	**+0.4**
	1.7nm,0.5s						
AAK				⇑Lg	Lg	02 33 56.6	
	17nm,0.7s						
SEM	**Semipalatinsk**	**5.58**	**355**	Pg	**Pb**	**02 32 50.7**	**-0.5**
SEM				Lg	Lg	02 33 58.7	
	16nm,0.2s						
KURBB	**Kurchatov Arra**	**6.00**	**345**	⇑Lg	Lg	02 34 25.8	
	26nm,0.6s						
KURK	**Kurchatov**	**6.08**	**346**	⇑Lg	Lg	02 34 26.7	
	26nm,0.9s						
OTUK	**Ortayu**	**6.87**	**303**	Pg	Pb	02 33 19.1	+6.0
	0.7nm,0.3s						
OTUK				Lg	Lg	02 34 47.6	
	2.8nm,0.4s						

IDC 28 02:43:12.7±9.2,34°.89S×138°.42E,h0km,mbtmp2.9/3, ML2.7/3,Error ellipse: s-maj=105.7km s-min=36.7km az=161.0,Near coast of South Australia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**4.01**	**42**	Pn	Pn	02 44 15.4	0.0
	0.2nm,0.3s,baz=227,slow=8.8,SNR=2.8						
STKA				Sn	Sn	02 45 04.5	+1.2
	0.8nm,0.3s,baz=270,slow=16,SNR=3.5						
STKA				Lg	Lg	02 45 20.4	
	2.8nm,0.3s,baz=240,slow=20,SNR=7.8						
	1.0nm,0.4s						
ASAR	**Alice Springs**	**11.86**	**339**	Pn	Pn	02 46 04.3	+1.1
	baz=169,slow=7.9,SNR=1.4						
	0.1nm,0.4s						
WRA	**Warramunga Arr**	**15.32**	**345**	Pn	Pn	02 46 48.8	-1.6
	baz=164,slow=12,SNR=1.5						
	0.4nm,0.8s						

NEIC ***28*** *02:59:51.8±1.2,19°.74S±0°.02×69°.25W±0°.07,h102km±4km, mb4.0/1,ML3.9(GUC),Error ellipse: s-maj=9.8km s-min=2.2km az=93.0*
SJA ***28*** *02:59:51.1±0.6,19°.74S×69°.24W,h104km±2km,ML3.8, MW3.8*
IDC ***28*** *02:59:52.7±1.1,19°.79S×68°.92W,h119km±11km,mb3.3/5, mbtmp3.7/9,Error ellipse: s-maj=24.6km s-min=8.7km az=97.0*
GUC ***28*** *02:59:52.3±0.7,19°.75S×69°.18W,h99km±3km,ML3.9*

ISC 28 02:59:50.9±0.7,19°.75S±0°.03×69°.23W±0°.05,h101km±5km, n60,σ1§46/94,mb3.7/3,5C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GO01	**Chusmiza**	**0.09**	**22**		**Pn**	**03 00 06.4**	**+0.7**
GO01				Sn	**Sn**	**03 00 17.6**	**+1.0**
GO01	**Chusmiza**	**0.09**	**22**	*e*P	**Pn**	**03 00 06.6**	**+0.9**
GO01				*e*S	**Sn**	**03 00 18.4**	**+1.8**
GO01				IAML		03 00 20.0	
	comp=Z,2μm,0.6s						
GO01	**Chusmiza**	**0.09**	**22**	*e*P	**Pn**	**03 00 06.6**	**+0.9**
GO01				*i* S	**Sn**	**03 00 17.4**	**+0.8**
GO01				IAML		03 00 18.7	
	comp=E,10μm,0.2s						
PB08	**IPOC Station P**	**0.40**	**170**	Pn	**Pn**	**03 00 07.4**	**+0.7**
PB08				Sn	**Sn**	**03 00 19.5**	**+1.0**
PB08	**IPOC Station P**	**0.40**	**170**	*e*P	**Pn**	**03 00 07.8**	**+1.1**
PB08				*e*S	**Sn**	**03 00 20.2**	**+1.8**
PB08				IAML		03 00 20.3	
	comp=Z,4μm,0.1s						
PB11	**IPOC Station P**	**0.40**	**268**	Pn	**Pn**	**03 00 07.2**	**+0.8**
PB11				Sn	**Sn**	**03 00 19.0**	**+1.0**
PB11	**IPOC Station P**	**0.40**	**268**	*e*P	**Pn**	**03 00 07.4**	**+1.0**
PB11				*e*S	**Sn**	**03 00 19.4**	**+1.4**
PB11				IAML		03 00 20.6	
	comp=Z,2μm,0.5s						
PB11	**IPOC Station P**	**0.40**	**268**	⇑*i*P	**Pn**	**03 00 07.4**	**+1.0**
PB11				*e*S	**Sn**	**03 00 19.2**	**+1.2**
PB11				IAML		03 00 20.3	
	comp=E,6μm,0.3s						
HMBC	**Humberstone**	**0.81**	**230**	Pn	**Pn**	**03 00 10.5**	**+0.8**
HMBC				Sn	**Sn**	**03 00 24.4**	**+0.7**
HMBC	**Humberstone**	**0.81**	**230**	*e*P	**Pn**	**03 00 07.9**	**-1.8**
HMBC				*e*S	**Sn**	**03 00 25.4**	**+1.6**
HMBC				IAML		03 00 28.3	
	comp=Z,3μm,0.3s						
HMBC	**Humberstone**	**0.81**	**230**	⇑*e*P	**Pn**	**03 00 10.5**	**+0.8**
HMBC				*e*S	**Sn**	**03 00 24.8**	**+1.0**
HMBC				IAML		03 00 26.9	
	comp=N,3μm,0.3s						
TA02	**Huaiquique**	**0.99**	**238**	Pn	**Pn**	**03 00 12.4**	**+1.1**
TA02				Sn	**Sn**	**03 00 28.0**	**+1.2**
TA02	**Huaiquique**	**0.99**	**238**	*e*P	**Pn**	**03 00 12.4**	**+1.1**
TA02				*e*S	**Sn**	**03 00 28.6**	**+1.8**
TA02				IAML		03 00 28.8	
	comp=Z,1μm,0.2s						
TA02	**Huaiquique**	**0.99**	**238**	*e*P	**Pn**	**03 00 12.4**	**+1.1**
TA02				*e*S	**Sn**	**03 00 27.9**	**+1.1**
TA02				IAML		03 00 31.7	
	comp=N,5μm,0.2s						
TA01	**Diego Aracena**	**1.21**	**228**	Pn	**Pn**	**03 00 14.4**	**+0.7**
TA01				Sn	**Sn**	**03 00 31.6**	**+0.5**
TA01	**Diego Aracena**	**1.21**	**228**	*e*P	**Pn**	**03 00 14.7**	**+0.9**
TA01				*e*S	**Sn**	**03 00 32.7**	**+1.6**
TA01				IAML		03 00 38.8	
	comp=Z,913nm,0.3s						
TA01	**Diego Aracena**	**1.21**	**228**	⇑*e*P	**Pn**	**03 00 14.5**	**+0.7**
TA01				*e*S	**Sn**	**03 00 31.8**	**+0.7**
TA01				IAML		03 00 33.2	
	comp=E,2μm,0.4s						
PATCX	**Punta Patache**	**1.38**	**219**	Pn	**Pn**	**03 00 16.2**	**+0.3**
PATCX				Sn	**Sn**	**03 00 35.4**	**+0.7**
PATCX	**Punta Patache**	**1.38**	**219**	*e*P	**Pn**	**03 00 16.9**	**+1.1**
PATCX				*e*S	**Sn**	**03 00 36.2**	**+1.5**
PATCX				IAML		03 00 39.4	
	comp=Z,956nm,0.4s						
PATCX	**Punta Patache**	**1.38**	**219**	*e*P	**Pn**	**03 00 16.8**	**+0.9**
PATCX				*e*S	**Sn**	**03 00 35.9**	**+1.2**
PATCX				IAML		03 00 40.9	
	comp=E,2

LVC				IAML			03 01 21.6	
	comp=N,945nm,0.2s							
PB06	**IPOC Station P**	**2.96**	**186**	*eP*		**Pn**	**03 00 37.7**	**+1.4**
PB06	**IPOC Station P**	**2.96**	**186**	*eP*		**Pn**	**03 00 37.9**	**+1.5**
PB06				*eS*		**Sn**	**03 01 11.9**	**+0.6**
PB06				IAML			03 01 21.0	
	comp=Z,387nm,1.1s							
PB06	**IPOC Station P**	**2.96**	**186**	*eP*		**Pn**	**03 00 37.4**	**+1.0**
PB06				IAML			03 01 20.6	
	comp=N,400nm,0.5s							
PB05	**IPOC Station P**	**3.22**	**196**	Pn		**Pn**	**03 00 40.3**	**+0.6**
PB05	**IPOC Station P**	**3.22**	**196**	*eP*		**Pn**	**03 00 40.4**	**+0.6**
PB05				*eS*		Sn	03 01 02.7	-15
PB05				IAML			03 01 41.6	
	comp=Z,139nm,0.4s							
PB05	**IPOC Station P**	**3.22**	**196**	*eP*		**Pn**	**03 00 40.1**	**+0.4**
AF01	**San Pedro de A**	**3.33**	**163**	Pn		**Pn**	**03 00 43.6**	**+2.2**
PB15	**IPOC Station P**	**3.45**	**184**	Pn		**Pn**	**03 00 45.3**	**+2.3**
PB15	**IPOC Station P**	**3.45**	**184**	*eP*		**Pn**	**03 00 45.6**	**+2.6**
PB15				*eS*		**Sn**	**03 01 23.9**	**+0.8**
PB15				IAML			03 01 38.4	
	comp=Z,618nm,0.3s							
PB15	**IPOC Station P**	**3.45**	**184**	*eP*		**Pn**	**03 00 45.2**	**+2.3**
LPAZ	**La Paz**	**3.60**	**17**	P		**Pn**	**03 00 47.7**	**+2.4**
	comp=Z,14nm,0.6s,baz=185,slow=8.8,SNR=62							
LPAZ				S		**Sn**	**03 01 29.8**	**+2.5**
	comp=Z,4.9nm,0.5s,baz=275,slow=18,SNR=4.0							
PB10	**IPOC Station P**	**3.94**	**198**	Pn		**Pn**	**03 00 48.4**	**-1.0**
PB14	**IPOC Station P**	**4.97**	**192**	Pn		**Pn**	**03 01 03.5**	**-0.1**
GO02	**Mina Guanaco**	**5.40**	**183**	Pn		**Pn**	**03 01 09.1**	**-0.2**
SIV	**San Ignacio**	**8.62**	**66**	P		**Pn**	**03 01 49.8**	**-3.2**
	comp=Z,5.2nm,0.6s,baz=254,slow=9.5,SNR=39							
VILB	**Vilhena**	**10.98**	**53**	Pn		**Pn**	**03 02 24.8**	**-0.4**
CPUP	**Villa Florida**	**12.76**	**123**	P		**Pn**	**03 02 46.2**	**-2.4**
	comp=Z,0.9nm,0.7s,baz=306,slow=11,SNR=3.0							
ITAB	**Concordia**	**17.35**	**119**			**IAmb**	**03 03 46.4**	**-0.3**
ITAB				IAmb		IAmb	03 03 47.7	
	comp=Z,11nm,1.1s							
BDFB	**Brasilia**	**20.62**	**82**	P		**P**	**03 04 20.8**	**-1.6**
	comp=Z,2.2nm,0.9s,baz=253,slow=8.5,SNR=3.7							
	comp=Z,2.2nm,0.9s							
PLCA	**Paso Flores**	**20.95**	**183**	P		**P**	**03 04 27.1**	**+1.3**
	comp=Z,1.7nm,0.8s,baz=344,slow=18,SNR=1.8							
	comp=Z,1.7nm,0.8s							
TXAR	**Lajitas Array**	**59.03**	**325**	P		**P**	**03 09 40.6**	**+0.2**
	comp=Z,0.3nm,0.9s,baz=146,slow=8.4,SNR=2.3							
	comp=Z,0.3nm,0.9s							
TORD	**Torodi Ar. Bea**	**77.06**	**71**	P		**P**	**03 11 31.8**	**-1.8**
	comp=Z,0.5nm,0.4s,baz=251,slow=5.0,SNR=8.7							
	comp=Z,0.5nm,0.4s							
YKA	**Yellowknife Ar**	**89.44**	**341**	P		**P**	**03 12 36.5**	**+0.5**
	comp=Z,1.4nm,0.8s,baz=133,slow=4.1,SNR=24							
	comp=Z,1.4nm,0.8s							
WRA	**Warramunga Arr**	**134.29**	**212**	PKP		**PKPdf**	**03 18 57.8**	**+0.1**
	comp=Z,0.5nm,1.0s,baz=155,slow=1.9,SNR=2.2							

*GUC **28** 03:03:48.5±0.7, 19°.67S×69°.49W, h85km±4km, ML3.7*
*IDC **28** 03:03:51.6±1.4, 19°.715S×69°.12W, h127km±13km, mb3.4/2, mbtmp3.7/6, MS3.4/1, Error ellipse: s-maj=36.8km s-min=9.4km az=97.0*

ISC 28 03:03:47.7±0.9, 19°.66S±0°.03×69°.55W±0°.06, h80km±7km, n26, σ2s42/31, 1C-4D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PB11	**IPOC Station P**	**0.14**	**225**	*iP*	**Pn**	**03 04 00.6**	**+1.1**
PB11				*i* S	**Sn**	**03 04 10.3**	**+2.1**
GO01	**Chusmiza**	**0.33**	**92**	*iP*	**Pn**	**03 04 01.3**	**+0.5**
GO01				*eS*	**Sn**	**03 04 12.1**	**+1.7**
GO01				IAML		03 04 15.1	
	comp=N,11μm,0.1s						
PB08	**IPOC Station P**	**0.61**	**142**	*iP*	**Pn**	**03 04 03.6**	**+0.7**
PB08				*i* S	**Sn**	**03 04 15.5**	**+1.4**
HMBC	**Humberstone**	**0.69**	**207**	*iP*	**Pn**	**03 04 04.4**	**+0.9**
HMBC				*i* S	**Sn**	**03 04 16.9**	**+1.8**
HMBC				IAML		03 04 21.5	
	comp=E,2μm,0.4s						
TA02	**Huaiquique**	**0.82**	**222**	*eP*	**Pn**	**03 04 05.7**	**+1.0**
TA02				*i* S	**Sn**	**03 04 18.9**	**+1.6**
TA02				IAML		03 04 22.3	
	comp=N,5μm,0.1s						
TA01	**Diego Aracena**	**1.08**	**213**	*eP*	**Pn**	**03 04 08.5**	**+0.8**
TA01				*i* S	**Sn**	**03 04 23.9**	**+1.1**
TA01				IAML		03 04 27.3	
	comp=E,1μm,0.2s						
PB12	**IPOC Station P**	**1.27**	**324**	*iP*	**Pn**	**03 04 10.8**	**+0.6**
PB12				*i* S	**Sn**	**03 04 28.4**	**+1.2**
PB12				IAML		03 04 31.4	
	comp=E,2μm,0.3s						
PATCX	**Punta Patache**	**1.29**	**206**	*eP*	**Pn**	**03 04 11.1**	**+0.7**
PATCX				*i* S	**Sn**	**03 04 28.7**	**+1.2**
PATCX				IAML		03 04 32.8	
	comp=E,1μm,0.3s						
AP01	**Chacalluta**	**1.48**	**329**	*eP*	**Pn**	**03 04 14.0**	**+1.2**
AP01				*eS*	**Sn**	**03 04 33.8**	**+2.1**
AP01				IAML		03 04 42.0	
	comp=E,2μm,0.3s						
PB18	**Visviri**	**2.06**	**2**	*eP*	**Pn**	**03 04 24.7**	**+3.7**
PB09	**IPOC Station P**	**2.15**	**172**	*eP*	**Pn**	**03 04 23.4**	**+1.6**
PB09				*i* S	**Sn**	**03 04 52.0**	**+4.3**
PB04	**IPOC Station P**	**2.72**	**192**	*eP*	**Pn**	**03 04 32.3**	**+2.8**
LVC	**Limon Verde**	**3.00**	**169**	P	**Pn**	**03 04 36.5**	**+3.1**
	comp=E,19nm,0.3s,baz=13,slow=10,SNR=9.4						
LVC				S	**Sn**	**03 05 12.8**	**+4.3**
	comp=E,64nm,0.3s,baz=60,slow=20,SNR=14						
PB06	**IPOC Station P**	**3.03**	**180**	*eP*	**Pn**	**03 04 35.3**	**+1.6**
LPAZ	**La Paz**	**3.61**	**22**	P	**Pn**	**03 04 44.6**	**+2.6**
	comp=E,4.1nm,0.4s,baz=188,slow=6.8,SNR=16						
LPAZ				S	**Sn**	**03 05 28.9**	**+5.0**
	comp=E,2.3nm,0.6s,baz=232,slow=11,SNR=1.3						
SIV	**San Ignacio**	**8.86**	**67**	P	**Pn**	**03 05 50.1**	**-3.0**
	comp=E,2.4nm,0.3s,baz=257,slow=10,SNR=19						
CPUP	**Villa Florida**	**13.06**	**123**	P	**Pn**	**03 06 48.0**	**-2.1**
	comp=E,1.6nm,0.9s,baz=317,slow=12,SNR=4.1						
TEIG	**Tepich**	**43.68**	**334**	LR	LR	03 32 07.4	
	comp=E,46nm,18.8s,baz=216,slow=39						
TORD	**Torodi Ar. Bea**	**77.31**	**71**	P	**P**	**03 15 31.5**	**-2.7**
	comp=E,0.3nm,0.4s,baz=250,slow=5.6,SNR=2.4						
	comp=E,0.3nm,0.4s						
YKA	**Yellowknife Ar**	**89.26**	**341**	P	**P**	**03 16 33.0**	**-1.5**
	comp=E,0.4nm,0.8s,baz=133,slow=4.3,SNR=6.9						
	comp=E,0.4nm,0.8s						
H11S2	**WAKE ISLAND Hyl**	**27.03**	**279**	T	T	05 42 20.7	
	baz=102,slow=75,SNR=25						
H11S1	**WAKE ISLAND Hyl**	**27.04**	**279**	T	T	05 42 10.0	
	baz=102,slow=75,SNR=27						
H11S3	**WAKE ISLAND Hyl**	**27.05**	**279**	T	T	05 42 12.9	
	baz=102,slow=75,SNR=32						
H11N3	**WAKE ISLAND Hyl**	**27.07**	**280**	T	T	05 42 14.2	
	baz=100,slow=75,SNR=7.7						
H11N2	**WAKE ISLAND Hyl**	**27.08**	**280**	T	T	05 42 15.3	
	baz=100,slow=75,SNR=11						
H11N1	**WAKE ISLAND Hyl**	**27.08**	**280**	T	T	05 42 16.1	
	baz=100,slow=75,SNR=5.8						

TEH 28 03:10:11.4, 33°.97N×58°.26E, h9km±19km, ML3.5, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AFRZ	**Afriz**	**0.83**	**131**	Pg	Pg	03 10 27.8	+0.3
TKDS	**Koohdasht(Taba**	**1.01**	**250**	Pg	Pg	03 10 30.9	0.0
ITEG	**Tejag**	**1.15**	**159**	Pg	Pn	03 10 33.8	-0.1
TNSJ	**Nastanj**	**1.37**	**270**	Pg	Pg	03 10 37.9	+0.2
TPRV	**Parvadeh(Tabas**	**1.62**	**235**	Pg	Pg	03 10 42.1	-0.3
IKOO	**Kooshah**	**1.67**	**158**	Pg	Pg	03 10 42.9	-0.4
IDAH	**Dahanechah**	**1.82**	**132**	Pn	Pb	03 10 45.5	+0.4
IMOG	**Moghan**	**2.31**	**22**	Pn	Pb	03 10 51.7	-1.7
SBZV	**Sabzevar**	**2.47**	**348**	Pn	Pn	03 10 53.9	+1.9
IPAY	**Payeh**	**2.54**	**14**	Pn	Pb	03 10 55.3	-2.1
JRKH	**Jarkhoshk**	**2.58**	**41**	Pn	Pn	03 10 55.2	+1.6
IAKL	**Akhelmad**	**2.66**	**9**	Pn	Pn	03 10 56.7	+2.0
IKRD	**Kardeh**	**2.98**	**20**	Pn	Pn	03 11 01.2	+2.1
IBAF	**Bafgh**	**3.28**	**224**	Pn	Pn	03 11 05.6	+2.4
ZRDN	**Zarand Kerman**	**3.33**	**206**	Pn	Pn	03 11 06.1	+2.1
IEMG	**Emamgholi**	**3.45**	**5**	Pn	Pn	03 11 07.5	+1.9
ICHK	**Chekchek**	**3.66**	**243**	Pn	Pn	03 11 10.8	+2.3
ANAR	**Anarak**	**3.86**	**260**	Pn	Pn	03 11 13.1	+2.0
KHGB	**Koh Gabri**	**3.89**	**203**	Pn	Pn	03 11 13.4	+1.7
IMEH	**Mehriz**	**4.01**	**231**	Pn	Pn	03 11 15.2	+1.9
IMND	**Minoodasht**	**4.02**	**325**	Pn	Pn	03 11 15.3	+2.2
CHMN	**Cheshme madani**	**4.14**	**189**	Pn	Pn	03 11 17.2	+2.0
TVBK	**TV Kerman**	**4.17**	**198**	Pn	Pn	03 11 17.6	+2.0
ILAS	**Lasjerd**	**4.59**	**289**	Pn	Pn	03 11 23.6	+2.4
IFIR	**Firoozkooh**	**4.83**	**292**	Pn	Pn	03 11 26.5	+2.0
ISFB	**Sefidab**	**5.00**	**276**	Pn	Pn	03 11 28.5	+1.7
KRSH	**Karshahi**	**5.09**	**272**	Pn	Pn	03 11 29.9	+1.9
IDMV	**Damavand**	**5.37**	**289**	Pn	Pn	03 11 34.1	+2.1
IVRN	**Varamin**	**5.49**	**283**	Pn	Pn	03 11 35.2	+1.7
QAMS	**Qamsar**	**5.71**	**270**	Pn	Pn	03 11 38.4	+1.7

*IDC **28** 03:44:33.2±0.9, 12°.55S×166°.37E, h0km, mb4.2/13, mbtmp4.2/14, ML3.5/1, MS3.7/17, Error ellipse: s-maj=32.9km s-min=17.5km az=94.0*

ISC 28 03:44:41.0±0.8, 12°.62S±0°.08×166°.4E±0°.2, h59km, n32, σ0s92/21, mb4.2/13, MS3.8/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.06**	**296**	LR	LR	03 49 19.3	
	comp=Z,5μm,19.0s,baz=127,slow=41						
DZM	**Mont Dzumac**	**9.40**	**180**	Pn	**Pn**	**03 46 53.1**	**-0.8**
	0.4nm,0.3s,baz=292,slow=10,SNR=2.1						
DZM				Sn	**Sn**	**03 48 38.4**	**+0.1**
	0.3nm,0.3s,baz=93,slow=19,SNR=1.1						
DZM				LR	LR	03 50 01.4	
	comp=Z,145nm,18.5s,baz=347,slow=35						
	7.3nm,0.8s						
PMG	**Port Moresby**	**19.13**	**278**	LR	LR	03 55 29.1	
	comp=Z,105nm,19.9s,baz=104,slow=34						
STKA	**Stephens Creek**	**29.77**	**226**	P	**P**	**03 50 43.1**	**+0.9**
	3.0nm,0.8s,baz=15,slow=12,SNR=3.7						
STKA				LR	LR	04 02 34.9	
	comp=Z,168nm,18.5s,baz=31,slow=36						
	3.0nm,0.8s						
WRA	**Warramunga Arr**	**31.57**	**252**	P	**P**	**03 50 56.3**	**-1.8**
	1.0nm,0.8s,baz=82,slow=8.3,SNR=5.1						
WRA				PcP	**PcP**	**03 53 49.9**	**+0.2**
	0.5nm,1.1s,baz=78,slow=2.4,SNR=1.5						
WRA				LR	LR	04 02 39.3	
	comp=Z,148nm,18.6s,baz=271,slow=34						
	1.0nm,0.8s						
ASAR	**Alice Springs**	**32.68**	**246**	P	**P**	**03 51 06.7**	**-1.3**
	1.7nm,0.8s,baz=72,slow=10,SNR=11						
	1.7nm,0.8s						
GUMO	**Guam**	**33.65**	**320**	LR	LR	04 03 38.7	
	comp=Z,80nm,20.8s,baz=90,slow=34						
BATI	**Baumata**	**41.91**	**269**	LR	LR	04 09 36.4	
	comp=Z,354nm,18.3s,baz=155,slow=36						
PPT	**Papeete**	**42.74**	**102**	LR	LR	04 05 50.2	
	comp=Z,75nm,21.2s,baz=260,slow=30						
NWAO	**Narrogin (SRO)**	**49.12**	**237**	LR	LR	04 13 55.6	
	comp=Z,150nm,18.2s,baz=66,slow=36						
MJAR	**Matsushiro Arr**	**55.64**	**333**	P	**P**	**03 54 09.9**	**-1.2**
	4.9nm,1.0s,baz=162,slow=7.6,SNR=9.9						
MJAR				LR	LR	04 21 30.8	
	comp=Z,17nm,18.0s,baz=172,slow=40						
	4.9nm,1.0s						
KSRS	**Korea Array**	**61.52**	**326**	P	**P**	**03 54 52.4**	**+0.5**
	0.7nm,0.5s,baz=156,slow=6.3,SNR=5.1						
	0.7nm,0.5s						
USRK	**Ussuriysk Ar.**	**64.62**	**333**	P	**P**	**03 55 12.8**	**+0.5**
	6.2nm,1.0s,baz=136,slow=5.9,SNR=12						
	6.2nm,1.0s						
SHEM	**Shemya Is, Ala**	**65.42**	**5**	LR	LR	04 18 01.2	
	comp=Z,42nm,21.0s,baz=158,slow=31						
PETK	**Petropavlovsk-**	**65.88**	**354**	LR	LR	04 18 45.6	
	comp=Z,88nm,19.4s,baz=138,slow=31						
CMAR	**Chiang Mai Arr**	**73.31**	**294**	P	**P**	**03 56 07.9**	**+1.1**
	0.8nm,0.3s,baz=124,slow=4.1,SNR=5.6						
	0.8nm,0.3s						
SEY	**Seymchan**	**76.09**	**353**	LR	LR	04 25 32.3	
	comp=Z,56nm,20.8s,baz=120,slow=32						
QSPA	**South Pole Qui**	**77.40**	**180**	P	**P**	**03 56 30.8**	**+1.2**
	2.4nm,0.9s,baz=334,slow=4.3,SNR=5.7						
	2.4nm,0.9s						
KDAK	**Kodiak Island**	**77.81**	**21**	LR	LR	04 23 52.9	
	comp=Z,60nm,19.7s,baz=220,slow=30						
SONM	**Songino Array**	**80.29**	**324**	P	**P**	**03 56 45.9**	**+0.2**
	0.7nm,0.5s,baz=131,slow=6.1,SNR=8.5						
	0.7nm,0.5s						
MAW	**Mawson**	**83.51**	**202**	P	**P**	**03 57 02.2**	**0.0**
	3.2nm,0.9s,baz=40,slow=9.9,SNR=4.2						
	3.2nm,0.9s						
ILAR	**Eielson Array**	**84.80**	**18**	P	**P**	**03 57 07.3**	**-1.3**
	0.5nm,1.0s,baz=231,slow=5.7,SNR=2.8						
	0.5nm,1.0s						
BBB	**Bella Bella**	**85.52**	**34**	LR	LR	04 31 52.6	
	comp=Z,61nm,18.5s,baz=12,slow=33						
PFO	**Pinyon Flats O**	**86.48**	**55**	LR	LR	04 29 27.3	
	comp=Z,53nm,18.2s,baz=234,slow=31						
INK	**Inuvik**	**91.17**	**19**	LR	LR	04 36 16.0	
	comp=Z,34nm,18.1s,baz=302,slow=34						
MKAR	**Makanchi Array**	**95.08**	**317**	P	**P**	**03 57 58.4**	**+0.7**
	2.2nm,0.9s,baz=80,slow=6.7,SNR=8.7						
	2.2nm,0.9s						
ZALV	**Zalesovo Beam**	**95.18**	**324**	P	**P**	**03 57 57.4**	**-0.5**
	0.8nm,0.4s,baz=82,slow=3.1,SNR=5.4						
	0.8nm,0.4s						
ARCES	**ARCESS Array B**	**118.00**	**345**	PKP	**PKPdf**	**04 03 20.6**	**0.0**
	3.5nm,1.0s,baz=20,slow=3.9,SNR=1.5						
HFS	**Hagfors**	**128.46**	**343**	PKP	**PKPdf**	**04 03 40.2**	**-0.7**
	1.4nm,0.9s,baz=342,slow=3.2,SNR=1.8						
KEST	**Kesra**	**149.03**	**322**	PKPbc	**PKiKP**	**04 04 24.2**	**-0.1**
	3.1nm,0.7s,baz=16,slow=4.7,SNR=4.8						
ESDC	**Sonseca Array**	**151.73**	**344**	PKPbc	**PKiKP**	**04 04 30.5**	**+0.7**
	0.4nm,0.8s,baz=11,slow=3.8,SNR=2.1						
TORD	**Torodi Ar. Bea**	**165.06**	**274**	PKPab	**PKPab**	**04 05 37.3**	**+0.7**
	0.8nm,1.0s,baz=79,slow=7.8,SNR=3.5						

*NEIC **28** 03:52:16.6±1.2, 19°.417N±0°.008×155°.263W±0°.008, h5km, Error ellipse: s-maj=1.6km s-min=1.2km az=168.0*

HVO 28 03:52:16.6±0.8, 19°.404N±0°.005×155°.278W±0°.008, h0km±4km, ML3.1/33, ML2.6/34(NEIC), Error ellipse: s-maj=1.1km s-min=0.7km az=66.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
RIM	**Rim**	**0.01**	**154**		Pg	03 52 17.1	+0.2
KKO	**Keanakako`i**	**0.01**	**116**		Pg	03 52 17.3	+0.3
OBL	**Observatory Le**	**0.01**	**339**		Pg	03 52 17.3	+0.2
BYL	**Byron's Ledge**	**0.02**	**64**		Pg	03 52 17.3	+0.2
BYL				Sg	Sg	03 52 18.1	+0.7
UWB	**Uwekahuna B**	**0.02**	**1**		Pg	03 52 17.4	+0.2
UWE	**Uwekahuna**	**0.02**	**321**	Pg	Pg	03 52 17.3	+0.1
UWE				Sg	Sg	03 52 17.8	+0.3
HATHI	**Halema'uma'u T**	**0.03**	**40**	Pg	Pg	03 52 17.4	+0.2
HATHI				Sg	Sg	03 52 18.3	+0.7
SBLHI	**Steaming Bluff**	**0.03**	**22**		Pg	03 52 17.6	+0.5
RSD	**Rainshed**	**0.06**	**0**	Pg	Pg	03 52 18.3	+0.4
RSD				Sg	Sg	03 52 19.9	+1.3
PUH	**Pauahi**	**0.07**	**117**	Pg	Pg	03 52 18.4	+0.5
PUH				IAML		03 52 19.3	
	comp=N,4μm,0.2s						
PUH				IAML		03 52 19.5	
	comp=E,5μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**103**	Pg	Pg	03 52 19.2	+0.6
HLP	**Hilina Pali**	**0.11**	**195**	Pg	Pg	03 52 19.3	+0.5
HLP				Sg	Sg	03 52 21.6	+1.4
HLP				IAML		03 52 22.2	
	comp=N,2μm,0.7s						
MLH	**Mauna Loa**	**0.14**	**312**	Pg	Pg	03 52 20.2	+0.9
MLH				Sg	Sg	03 52 22.9	+1.8
STCH	**Steam Cracks**	**0.15**	**97**	Pg	Pg	03 52 19.8	+0.3
STCH				Sg	Sg	03 52 21.5	+0.2
STCH				IAML		03 52 23.6	
	comp=N,1μm,0.9s						
NPOC	**North of Pu'u**	**0.16**	**94**		Pg	03 52 20.4	+0.7
JCUZ	**Jacuzzi**	**0.17**	**97**		Pg	03 52 20.6	+0.7
HTC	**Hot Caves**	**0.20**	**214**		Pg	03 52 21.2	+0.7
JOKA	**Jonika Flow**	**0.26**	**83**	Pg	Pg	03 52 22.0	+0.4
JOKA				Sg	Sg	03 52 23.9	-1.1
JOKA				IAML		03 52 27.8	
	comp=N,926nm,1.0s						
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg	Pg	03 52 22.5	+0.5
HMH				Sg	Sg	03 52 25.6	0.0
HMH				IAML		03 52 30.8	
	comp=N,1μm,0.5s						
HMH				IAML		03 52 31.4	
	comp=E,1μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**295**	Pg	Pg	03 52 23.2	+0.6
MLOA				Sg	Sg	03 52 26.4	-0.2
MLOA				IAML		03 52 32.2	
	comp=E,554nm,0.4s						
MLOA				IAML		03 52 32.9	
	comp=N,586nm,0.4s						
MWH	**Moku'aweowe**	**0.31**	**285**	Pg	Pg	03 52 23.4	+0.8
MWH				Sg	Sg	03 52 26.8	+0.1
KHU	**Kahuku**	**0.35**	**244**	Pg	Pg	03 52 23.8	+0.3
KHU				Sg	Sg	03 52 29.0	+0.9
ALEP	**Alea Permanent**	**0.37**	**292**		Pg	03 52 24.2	+0.5
ALEP					Sg	03 52 29.7	+1.1
POHA	**Pohakuloa**	**0.43**	**326**	Pg	Pg	03 52 25.3	+0.5
POHA				IAML		03 52 34.5	
	comp=N,607nm,0.7s						
POHA	**Pohakuloa**	**0.43**	**326**	Sg	Sg	03 52 30.8	+0.5
HUH	**Hualalai**	**0.60**	**298**	Pg	Pg	03 52 28.7	+0.7
CPH	**Captain Cook**	**0.61**	**278**		Pg	03 52 28.6	+0.3
HPAH	**Hawaii Prepara**	**0.74**	**328**	Pg	Pg	03 52 29.4	-1.4
HPAH				IAML		03 52 53.4	
	comp=E,215nm,1.3s						
HPAH				IAML		03 52 56.1	
	comp=N,240nm,1.2s						
MHA	**Mahukona**	**0.98**	**323**	Pg	Pg	03 52 33.1	-2.3

*NEIC **28** 03:55:09.2±1.2, 19°.415N±0°.010×155°.269W±0°.009, h5km±1km, Error ellipse: s-maj=3.0km s-min=1.5km az=196.0*

HVO 28 03:55:08.9±1.1, 19°.420N±0°.009×155°.246W±0°.007, h1km±3km, ML2.5/19, ML2.3/33(NEIC), Error ellipse: s-maj=1.3km s-min=0.8km az=192.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATHI	**Halema'uma'u T**	**0.01**	**282**	Pg	Pg	03 55 09.6	+0.2
HATHI					Sg	03 55 10.1	+0.3
BYL	**Byron's Ledge**	**0.02**	**240**	Pg	Pg	03 55 09.3	-0.1
BYL				Sg	Sg	03 55 10.6	+0.8
SBLHI	**Steaming Bluff**	**0.02**	**288**		Pg	03 55 10.7	+1.2
KKO	**Keanakako`i**	**0.03**	**221**		Pg	03 55 10.3	+0.8
UWB	**Uwekahuna B**	**0.03**	**279**		Pg	03 55 11.2	+1.6
OBL	**Observatory Le**	**0.04**	**266**		Pg	03 55 11.2	+1.5
RIM	**Rim**	**0.04**	**228**		Pg	03 55 11.4	+1.7
UWE	**Uwekahuna**	**0.04**	**271**	Pg	Pg	03 55 10.3	+0.4
UWE				IAML		03 55 10.8	
	comp=N,3μm,0.7s						
RSD	**Rainshed**	**0.05**	**324**	Sg	Sg	03 55 12.1	+1.3
PUH	**Pauahi**	**0.05**	**149**	Pg	Pg	03 55 10.7	+0.6
KNHH	**Kane Nui o Ham**	**0.08**	**119**	Pg	Pg	03 55 11.3	+0.7
STCH	**Steam Cracks**	**0.12**	**107**	Pg	Pg	03 55 11.6	+0.3
STCH				Sg	Sg	03 55 13.4	+0.6
STCH				IAML		03 55 14.8	
	comp=N,1μm,0.4s						
STCH				IAML		03 55 15.1	
	comp=E,1μm,0.5s						
NPOC	**North of Pu'u**	**0.13**	**102**		Pg	03 55 12.3	+0.8
HLP	**Hilina Pali**	**0.14**	**206**	Pg	Pg	03 55 11.5	-0.1
JCUZ	**Jacuzzi**	**0.14**	**105**		Pg	03 55 12.6	+1.0
JCUZ					Sg	03 55 15.3	+1.8
MLH	**Mauna Loa**	**0.15**	**299**	Pg	Pg	03 55 12.5	+0.5
MLH				IAML		03 55 15.5	
	comp=E,788nm,0.8s						
MLH				IAML		03 55 16.4	
	comp=N,1μm,1.0s						
JOKA	**Jonika Flow**	**0.23**	**87**	Pg	Pg	03 55 13.5	+0.2
JOKA				IAML		03 55 19.3	
	comp=E,447nm,0.8s						
JOKA				IAML		03 55 20.4	
	comp=N,503nm,0.7s						
HMH	**Humu'ula Sheep**	**0.29**	**309**	Pg	Pg	03 55 14.5	0.0
HMH				IAML		03 55 24.0	
	comp=N,503nm,0.6s						
HMH				IAML		03 55 24.3	
	comp=E,330nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.33**	**290**	Pg	Pg	03 55 15.4	+0.1
MLOA				IAML		03 55 26.4	
	comp=N,402nm,0.9s						
MLOA				IAML		03 55 26.9	
	comp=E,307nm,1.1s						
MWH	**Moku'aweowe**	**0.34**	**281**	Pg	Pg	03 55 15.0	-0.5
KHU	**Kahuku**	**0.39**	**244**	Pg	Pg	03 55 16.8	+0.4
KHU				IAML		03 55 24.5	
	comp=E,274nm,1.2s						
KHU				IAML		03 55 27.7	
	comp=N,286nm,1.9s						
ALEP	**Alea Permanent**	**0.40**	**288**		Sg	03 55 23.4	+1.7
POHA	**Pohakuloa**	**0.43**	**321**	Pg	Pg	03 55 17.7	+0.4
POHA				IAML		03 55 32.3	
	comp=

KURBB	**Kurchatov Arra**	**87.86**	**321**	P	P	04 27 37.1	-1.4	
	0.2nm,0.2s,baz=99,slow=4.8,SNR=1.8 0.2nm,0.2s							

*IDC **28** 04:16:08.6±6.9,25°.00N×109°.22W,h0km,mbtmp2.8/3, ML3.4/3, Error ellipse: s-maj=81.5km s-min=30.5km az=171.0*
*MEX **28** 04:16:09.5±0.4,24°.65N×109°.17W,h10km,MD3.8*
ISC 28 04:16:06.5±0.9,**24°.65N**±0°.05×**109°.22W**±0°.06,**h10**km,**n12,** σ1ᵍ**48**/15,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSIG	**Topolobambo**	**0.96**	**10**	*eP*	**Pg**	**04 16 25.0**	**-0.1**
TSIG				*i* S	**Sg**	**04 16 37.1**	**-0.5**
LPIG	**La Paz**	**1.13**	**242**	*i* P	**Pb**	**04 16 27.9**	**-0.3**
LPIG				*i* S	**Sg**	**04 16 43.0**	**0.0**
SLBS	**Sierra La Lagu**	**1.16**	**215**	*i* P	**Pb**	**04 16 28.4**	**-0.4**
SLBS				*i* S	**Sg**	**04 16 43.8**	**-0.2**
CSIG	**Choix**	**2.31**	**19**	*eP*	**Pn**	**04 16 44.6**	**0.0**
CSIG				*i* S	**Sn**	**04 17 10.7**	**-2.4**
PDIG	**Papasquiaro**	**3.49**	**83**	*eP*	**Pn**	**04 17 00.8**	**-0.4**
PDIG				*eS*	**Sn**	**04 17 41.3**	**-1.4**
HPIG		**3.93**	**54**	*eP*	**Pn**	**04 17 11.0**	**+3.9**
TXAR	**Lajitas Array**	**6.81**	**45**	Pn	**Pn**	**04 17 46.9**	**+0.4**
	baz=225,slow=13,SNR=2.1						
TXAR				Pg	**Pb**	**04 18 05.0**	**0.0**
	0.1nm,0.3s,baz=227,slow=15,SNR=2.6						
TXAR				Lg	Lg	04 19 34.7	
	0.1nm,0.3s,baz=225,slow=32,SNR=1.7 0.1nm,0.5s						
NVAR	**Mina Array Bea**	**15.76**	**333**	Pn	**Pn**	**04 19 50.5**	**+1.7**
	0.1nm,0.3s,baz=157,slow=9.5,SNR=2.6 0.1nm,0.4s						
PDAR	**Pinedale Array**	**18.08**	**359**	P	**Pn**	**04 20 18.0**	**-0.1**
	0.1nm,0.3s,baz=168,slow=9.2,SNR=1.4 0.2nm,0.4s						
H03N2	**Juan Fernandez**	**64.56**	**152**	T	T	05 36 49.6	
	baz=331,slow=77,SNR=6.3						
H03N1	**Juan Fernandez**	**64.57**	**152**	T	T	05 36 53.3	
	baz=331,slow=77,SNR=3.9						
H03N3	**Juan Fernandez**	**64.58**	**152**	T	T	05 36 51.6	
	baz=331,slow=77,SNR=3.7						

*ISN **28** 04:39:42.9±0.9,33°.35N×46°.43E,h7km±6km,ML2.9*
*TEH **28** 04:39:43.8,33°.37N×46°.42E,h13km±33km,ML2.9*
ISC 28 04:39:45.5±1.1,**33°.34N**±0°.04×**46°.35E**±0°.06,**h10**km,**n14,** σ0ᵍ**91**/15,**Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBDR	**Badra**	**0.42**	**238**	*e*Pg	**Pg**	**04 39 53.0**	**-0.8**
IBDR				*e*Sg	**Sg**	**04 39 59.0**	**-0.3**
GLG1	**Gilan-e-Gharb**	**0.86**	**335**	Pg	**Pg**	**04 40 00.9**	**-1.2**
IGHG	**Ghaleghazi**	**1.01**	**10**	Pg	Pg	04 40 03.3	-1.6
KCHF	**Cheshme Sefid,**	**1.10**	**31**	Pg	Pb	04 40 04.6	-2.1
IKFM	**Kafar-mosalman**	**1.26**	**81**	Pg	**Pn**	**04 40 08.5**	**-0.7**
IDHR	**Dehrash**	**1.36**	**1**	Pg	**Pn**	**04 40 10.9**	**+0.1**
IDOB	**Doab**	**1.59**	**73**	Pg	**Pn**	**04 40 13.9**	**-0.1**
RAFI	**Al-Rafai**	**1.62**	**187**	*e*Pn	**Pn**	**04 40 14.0**	**-0.1**
RAFI				*e*Sn	**Sn**	**04 40 37.0**	**+1.9**
RAFI				AML	AML	04 40 50.8	
	comp=N,163nm,0.3s						
RAFI				AML	AML	04 40 50.9	
	comp=E,181nm,0.4s						
ILIN	**Lien**	**1.66**	**18**	Pg	**Pn**	**04 40 15.7**	**+0.8**
IBZA	**Bozab**	**1.69**	**48**	Pg	**Pn**	**04 40 15.3**	**0.0**
SNQR	**Sonqor, Kerman**	**1.85**	**35**	Pg	**Pn**	**04 40 18.3**	**+0.7**
HSAM	**Samen**	**2.07**	**64**	Pn	**Pn**	**04 40 20.2**	**-0.3**
IKRK	**Kirkuk**	**2.65**	**322**	*e*Pn	**Pn**	**04 40 28.0**	**-0.3**
IKRK				*e*Sn	**Sn**	**04 41 02.0**	**+1.5**
HAGD	**Aghdareh**	**2.75**	**57**	Pn	**Pn**	**04 40 30.0**	**+0.1**

*IDC **28** 04:50:37.3±0.7,32°.87N×139°.04E,h190km±9km,mb3.2/4, mbtmp3.6/7,MS2.8/1,Error ellipse: s-maj=35.1km s-min=16.7km az=66.0*
*JMA **28** 04:50:37.2±0.3,33°.1N±0°.8×13°9E±°,h208km±3km, MV3.2/30,NEAR HACHIJOJIMA ISLAND*
ISC 28 04:50:38.1±0.9,**33°.05N**±0°.07×**139°.32E**±0°.07,**h202**km±7km,
n26, σ0ᵍ**84**/32,**mb3.4**/4,**Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.39**	**80**	P	**Pn**	**04 51 04.2**	**-0.9**
	193nm,0.2s,baz=237,slow=18,SNR=31						
JHJ				S	**S**	**04 51 25.6**	**-0.4**
	193nm,0.3s,baz=219,slow=19,SNR=9.8						
JHCJ	**Hachijojimakas**	**0.40**	**87**	P	**Pn**	**04 51 04.8**	**-0.2**
JHJ2	**Mitsune**	**0.42**	**82**	*e*P	**Pn**	**04 51 04.5**	**-0.6**
JHJ2				*e*S	**S**	**04 51 26.6**	**+0.5**
JAOM	**Aogashimamukai**	**0.69**	**148**	*e*P	**Pn**	**04 51 06.0**	**-0.3**
JMKN	**Mikurajimanish**	**0.87**	**15**	*e*P	**Pn**	**04 51 06.6**	**-0.6**
JMYK	**Miyake Tsubota**	**1.02**	**11**	*e*P	**Pn**	**04 51 07.8**	**-0.4**
JIM2	**Oshima 3**	**1.66**	**3**	*e*P	**Pn**	**04 51 13.2**	**-0.2**
JIM2				*e*S	**S**	**04 51 41.3**	**+0.6**
BSO3	**Boso 3**	**2.00**	**29**	P	**Pn**	**04 51 15.7**	**-0.8**
BSO3				*e*S	**S**	**04 51 46.5**	**+0.5**
TTO2	**TONANKAI O.B.S**	**2.04**	**290**	*e*P	**Pn**	**04 51 17.4**	**+0.6**
BSO1	**Boso 1**	**2.11**	**40**	P	**Pn**	**04 51 16.2**	**-1.0**
BSO1				*e*S	**S**	**04 51 47.4**	**0.0**
TTO1	**TONANKAI O.B.S**	**2.20**	**286**	*e*P	**Pn**	**04 51 19.1**	**+0.6**
JOD2	**Odawara 2**	**2.21**	**355**	*e*P	**Pn**	**04 51 19.1**	**+0.1**
JYN	**Shimob**	**2.52**	**345**	*e*P	**Pn**	**04 51 23.2**	**+0.8**
JIE	**Ise**	**2.56**	**302**	P	**Pn**	**04 51 23.0**	**+0.3**
JIE				*e*S	**S**	**04 51 57.0**	**+0.1**
JRY	**Ryogami san**	**2.98**	**353**	*e*P	**Pn**	**04 51 27.7**	**+0.1**
JTNC	**Tanabenakahech**	**3.20**	**285**	P	**Pn**	**04 51 30.3**	**+0.2**
JYTA	**Yamagatataniai**	**3.32**	**321**	*e*P	**Pn**	**04 51 32.1**	**+0.6**
JAG	**Ashikaga**	**3.37**	**2**	*e*P	**Pn**	**04 51 30.8**	**-1.3**
MJAR	**Matsushiro Arr**	**3.60**	**346**	P	**Pn**	**04 51 35.5**	**+0.5**
	1.5nm,0.4s,baz=157,slow=14,SNR=7.9						
MJAR				S	**S**	**04 52 17.7**	**-1.4**
	1.5nm,0.3s,baz=84,slow=31,SNR=1.6						
JCJ	**Chichijima**	**6.43**	**157**	P	Pn	04 52 01.9	-9.2
	60nm,0.8s,baz=276,slow=22,SNR=5.5						
JCJ				S	S	04 53 11.6	-13
	36nm,0.5s,baz=253,slow=20,SNR=1.6						
KSRS	**Korea Array**	**10.30**	**298**	P	**Pn**	**04 53 00.8**	**-0.3**
	0.9nm,0.4s,baz=113,slow=13,SNR=5.1						
KLR	**Kul'dur**	**17.12**	**343**	P	**Pn**	**04 54 25.8**	**+0.2**
	0.9nm,0.4s,baz=170,slow=13,SNR=4.2						
KLR				LR	LR	05 01 56.3	
	comp=Z,28nm,18.4s,baz=290,slow=39						
KURBB	**Kurchatov Arra**	**47.19**	**311**	P	**P**	**04 58 48.9**	**-1.4**
	0.2nm,0.4s,baz=89,slow=7.7,SNR=1.9 0.2nm,0.4s						
BVAR	**Borovoye Array**	**52.05**	**314**	P	**P**	**04 59 26.3**	**-0.6**
	0.4nm,0.5s,baz=102,slow=9.1,SNR=2.3 0.4nm,0.5s						
WRA	**Warramunga Arr**	**52.91**	**186**	P	**P**	**04 59 32.5**	**-1.1**
	0.4nm,0.3s,baz=0.7,slow=7.5,SNR=19 0.4nm,0.3s						
TXAR	**Lajitas Array**	**93.93**	**51**	P	**P**	**05 03 35.6**	**+2.4**
	0.3nm,0.6s,baz=319,slow=2.6,SNR=4.2 0.3nm,0.6s						

*NEIC **28** 05:24:55.7±1.9, 12°.71S±0°.09×45°.90E±0°.07,h10km±2km, mb4.4/3, Error ellipse: s-maj=17.3km s-min=6.9km az=34.0*
*IDC **28** 05:24:56.7±0.8, 12°.88S×45°.42E,h0km,mb3.7/11, mbtmp3.8/14,ML4.3/3,MS3.2/5,Error ellipse: s-maj=22.1km s-min=20.1km az=120.0*
ISC 28 05:24:57.4±0.6,**12°.97S**±0°.07×**45°.60E**±0°.09,**h10**km,**n28,** σ1ᵍ**85**/26,**mb3.8**/12,**Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.78**	**165**	Pn	**Pn**	**05 26 25.2**	**+1.8**
	4.7nm,0.3s,baz=337,slow=13,SNR=90						
OPO				Sn	**Sn**	**05 27 26.2**	**-3.7**
	16nm,0.3s,baz=270,slow=19,SNR=23						
OPO				LR	LR	05 28 55.8	
	comp=Z,203nm,18.9s,baz=188,slow=40						
ABPO	**Ambohimpanom**	**6.22**	**166**		**Pn**	**05 26 31.2**	**+1.7**
VOI	**Vohitsoka**	**8.96**	**173**	Pn	**Pn**	**05 27 07.9**	**+0.8**
FOMA	**Nahampoana Res**	**12.02**	**174**	Pn	**Pn**	**05 27 47.7**	**-1.1**
RER	**Riviere de l'E**	**12.66**	**131**	Pn	**Pn**	**05 27 54.3**	**-3.5**
MSEY	**Mahe Island**	**12.77**	**51**	Pn	Pn	05 27 50.9	-8.4
KIBK	**Kibwezi**	**12.94**	**324**	Pn	**Pn**	**05 27 58.7**	**-2.9**

LSZ	**Lusaka**	**17.04**	**260**		**P**	**05 28 57.8**	**-0.1**	
LSZ				IAmb	IAmb	05 29 16.1		
	comp=Z,4.2nm,0.8s							
LSZ	**Lusaka**	**17.04**	**260**	Pn	**Pn**	**05 28 54.8**	**-1.3**	
	comp=Z,0.3nm,0.3s,baz=102,slow=8.6,SNR=2.4							
LSZ				Sn	Sn	05 31 53.1	-13	
	comp=Z,0.3nm,0.3s,baz=15,slow=11,SNR=1.7							
LSZ				LR	LR	05 35 11.2		
	comp=Z,73nm,20.4s,baz=169,slow=36 comp=Z,1.6nm,0.4s							
MATP	**Matopo**	**17.97**	**243**	P	**Pn**	**05 29 06.2**	**-1.4**	
	comp=Z,0.1nm,0.3s,baz=62,slow=4.1,SNR=2.8							
MATP				S	Sn	05 32 16.8	-11	
	comp=Z,0.9nm,0.9s,baz=354,slow=18,SNR=2.4 comp=Z,0.5nm,0.5s							
MBAR	**Mbarara**	**19.18**	**309**	P	**P**	**05 29 21.3**	**-0.3**	
	comp=Z,1.9nm,0.2s,baz=206,slow=9.5,SNR=1.1							
MBAR				LR	LR	05 35 58.2		
	comp=Z,64nm,21.8s,baz=100,slow=35							
LBTB	**Lobatse**	**22.35**	**235**	P	**P**	**05 29 56.4**	**+0.5**	
	comp=Z,1.2nm,0.5s,baz=52,slow=13,SNR=1.8 comp=Z,1.2nm,0.5s							
BOSA	**Boshof**	**24.51**	**227**	P	**P**	**05 30 18.6**	**+1.3**	
BOSA				IAmb	IAmb	05 30 38.8		
	comp=Z,13nm,1.4s							
BOSA	**Boshof**	**24.51**	**227**	P	**P**	**05 30 18.0**	**+0.7**	
	comp=Z,1.1nm,0.4s,baz=50,slow=8.1,SNR=7.9 comp=Z,1.1nm,0.4s							
SUR	**Sutherland**	**29.81**	**226**	P	**P**	**05 31 07.3**	**+2.4**	
SUR				IAmb	IAmb	05 31 26.2		
	comp=Z,38nm,1.4s							
TORD	**Torodi Ar. Bea**	**50.67**	**299**	P	**P**	**05 33 58.3**	**+0.9**	
	comp=Z,0.6nm,0.9s,baz=130,slow=7.1,SNR=3.5 comp=Z,0.6nm,0.9s							
GNI	**Gani**	**52.85**	**359**	LR	LR	05 56 37.9		
	comp=Z,22nm,20.8s,baz=149,slow=36							
BRTR	**Keskin Array B**	**53.59**	**349**	P	**P**	**05 34 19.0**	**0.0**	
	comp=Z,0.5nm,0.6s,baz=156,slow=11,SNR=2.8 comp=Z,0.5nm,0.6s							
BELG	**Belogornoye**	**65.11**	**1**	LR	LR	06 05 43.0		
	comp=Z,23nm,20.2s,baz=133,slow=38							
MKAR	**Makanchi Array**	**67.97**	**26**	P	**P**	**05 35 59.5**	**+2.8**	
	comp=Z,0.6nm,0.7s,baz=234,slow=9.6,SNR=1.9 comp=Z,0.6nm,0.7s							
ESDC	**Sonseca Array**	**69.74**	**321**	P	**P**	**05 36 07.6**	**-0.3**	
	comp=Z,0.8nm,0.7s,baz=134,slow=4.3,SNR=5.3 comp=Z,0.8nm,0.7s							
FINES	**FINESS Array B**	**75.76**	**350**	P	**P**	**05 36 42.7**	**-0.4**	
	comp=Z,2.3nm,1.0s,baz=184,slow=7.8,SNR=3.2 comp=Z,2.3nm,1.0s							
EKA	**Eskdalemuir Ar**	**79.38**	**334**	P	**P**	**05 37 03.0**	**-0.4**	
	comp=Z,0.7nm,0.7s,baz=116,slow=4.8,SNR=2.5 comp=Z,0.7nm,0.7s							
SONM	**Songino Array**	**81.05**	**37**	P	**P**	**05 37 13.4**	**+0.6**	
	comp=Z,0.2nm,0.3s,baz=242,slow=3.1,SNR=1.8 comp=Z,0.2nm,0.3s							
ASAR	**Alice Springs**	**83.37**	**113**	P	**P**	**05 37 28.8**	**+3.3**	
	comp=Z,0.5nm,0.6s,baz=246,slow=5.3,SNR=4.7 comp=Z,0.5nm,0.6s							
WRA	**Warramunga Arr**	**84.51**	**109**	P	**P**	**05 37 32.9**	**+1.6**	
	comp=Z,0.4nm,1.0s,baz=262,slow=3.2,SNR=2.0 comp=Z,0.4nm,1.0s							
TXAR	**Lajitas Array**	**147.17**	**305**	PKPbc	**PKPdf**	**05 44 39.2**	**-0.3**	
	comp=Z,0.3nm,0.6s,baz=90,slow=2.7,SNR=2.6							
NVAR	**Mina Array Bea**	**150.88**	**333**	PKPbc	**PKPbc**	**05 44 49.7**	**-1.3**	
	comp=Z,0.3nm,0.6s,baz=124,slow=2.7,SNR=3.7							

IDC 28 05:39:01.2±3.3,**53°.52N**×**87°.61E**,**h0**km,**mbtmp2.7**/2, **ML2.6**/2,**Error ellipse: s-maj=30.2km s-min=17.3km az=54.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.71**	**286**	I	I	05 50 13.2	
	0.1nm,0.8s,baz=101,slow=333,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.71**	**286**	Pg	Pn	05 39 32.5	+0.2
	1.6nm,0.3s,baz=107,slow=17,SNR=11						
ZALV				Lg	Lg	05 39 55.9	
	2.1nm,0.3s,baz=105,slow=28,SNR=7.9						
KURBB	**Kurchatov Arra**	**6.30**	**246**	Pn	Pn	05 40 35.8	+0.4
	0.1nm,0.3s,baz=64,slow=15,SNR=4.6						
KURBB				Lg	Lg	05 42 19.2	
	baz=61,slow=35,SNR=2.1 0.4nm,0.5s						
MKAR	**Makanchi Array**	**7.55**	**209**	Pn	Pn	05 40 53.9	+1.4
	0.2nm,0.3s,baz=28,slow=16,SNR=1.4 0.2nm,0.3s						

*IDC **28** 05:43:16.8±4.7,22°.88N×94°.29E,h111km±40km,mb3.6/10, mbtmp3.9/11,Error ellipse: s-maj=118.6km s-min=13.7km az=57.0*
*NEIC **28** 05:43:17.0±1.5,23°.20N±0°.06×94°.62E±0°.07,h107km±8km, mb4.5/13,Error ellipse: s-maj=9.7km s-min=8.5km az=99.0*
ISC 28 05:43:16.3±0.8,**23°.1N**±0°.2×**94°.6E**±0°.2,**h105**km,**n26,** σ1ᵍ**13**/26,**mb4.1**/17,**Myanmar-India border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**3.45**	**315**		**Pn**	**05 44 08.8**	**+0.5**
CMAR	**Chiang Mai Arr**	**6.19**	**138**	P	**Pn**	**05 44 45.6**	**+0.4**
	1.6nm,0.5s,baz=311,slow=13,SNR=7.9						
PHRA	**Phrae**	**7.01**	**130**	Pn	**Pn**	**05 44 58.3**	**+1.9**
LSA	**Lhasa**	**7.22**	**335**	Pn	**Pn**	**05 45 01.0**	**+1.4**
MKAR	**Makanchi Array**	**25.60**	**340**	P	**P**	**05 48 37.7**	**+2.0**
	2.1nm,0.5s,baz=151,slow=10,SNR=15 2.1nm,0.5s						
BTK	**Batken**	**26.23**	**316**	P	**P**	**05 48 41.0**	**-0.5**
KURBB	**Kurchatov Arra**	**30.15**	**339**	P	**P**	**05 49 17.6**	**+1.4**
	1.1nm,0.7s,baz=153,slow=8.4,SNR=6.8 1.1nm,0.7s						
KURK	**Kurchatov**	**30.20**	**340**	P	**P**	**05 49 16.2**	**-0.3**
ZALV	**Zalesovo Beam**	**31.64**	**349**	P	**P**	**05 49 30.0**	**+0.9**
	1.2nm,0.3s,baz=158,slow=8.8,SNR=3.5 1.2nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**34.46**	**304**	P	**P**	**05 49 53.0**	**-1.0**
GYA0B				IAmb	IAmb	05 49 53.7	
	comp=Z,4.7nm,0.6s						
BVAR	**Borovoye Array**	**35.06**	**334**	P	**P**	**05 50 00.2**	**+1.2**
	comp=Z,0.5nm,0.3s,baz=148,slow=11,SNR=3.5 comp=Z,0.5nm,0.3s						
BRVK	**Borovoye**	**35.12**	**334**	P	**P**	**05 49 59.6**	**+0.1**
MJB9	**Matsu-Tunnel**	**39.80**	**60**	P	**P**	**05 50 37.0**	**-2.2**
MJB9				IAmb	IAmb	05 51 12.4	
	comp=Z,3.7nm,0.7s						
MAJO	**Matsushiro**	**39.80**	**60**	P	**P**	**05 50 37.1**	**-2.1**
MAJO				IAmb	IAmb	05 51 12.4	
	comp=Z,3.9nm,0.7s						
WB0	**Warramunga Arr**	**57.68**	**134**	P	**P**	**05 52 56.2**	**+0.1**
WB0				IAmb	IAmb	05 53 21.6	
	comp=Z,10.0nm,1.4s						
WRA	**Warramunga Arr**	**57.77**	**135**	P	**P**	**05 52 56.6**	**-0.1**
	comp=Z,0.6nm,0.4s,baz=318,slow=7.8,SNR=27 comp=Z,0.6nm,0.4s						
WB2	**Warramunga Arr**	**57.78**	**135**	P	**P**	**05 52 57.1**	**+0.4**
WR0	**Warramunga Arr**	**57.92**	**135**	P	**P**	**05 52 57.7**	**0.0**
WR0				IAmb	IAmb	05 53 28.2	
	comp=Z,4.1nm,1.1s						
MLR	**Muntele Rosu**	**59.10**	**310**	P	**P**	**05 53 04.9**	**-0.9**
BUR08	**Bucovina Ar. S**	**59.53**	**313**	P	**P**	**05 53 07.3**	**-1.5**
BUR08				IAmb	IAmb	05 53 32.6	
	comp=Z,3.9nm,1.3s						
FINES	**FINESS Array B**	**59.69**	**329**	P	**P**	**05 53 09.4**	**0.0**
	comp=Z,0.5nm,0.5s,baz=77,slow=7.3,SNR=1.5 comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**60.20**	**138**	P	**P**	**05 53 13.5**	**0.0**
	comp=Z,0.9nm,0.7s,baz=317,slow=5.3,SNR=6.0 comp=Z,0.9nm,0.7s						
ARCES	**ARCESS Array B**	**61.22**	**338**	P	**P**	**05 53 20.4**	**+0.7**
	comp=Z,6.1nm,1.1s,baz=99,slow=7.7,SNR=3.9 comp=Z,6.1nm,1.1s						
HFS	**Hagfors**	**65.72**	**327**	P	**P**	**05 53 49.9**	**+0.5**
	comp=Z,1.0nm,0.4s,baz=99,slow=9.2,SNR=5.0 comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**66.85**	**328**	P	**P**	**05 53 56.5**	**-0.2**
	comp=Z,0.3nm,0.5s,baz=66,slow=4.5,SNR=2.0 comp=Z,0.3nm,0.5s						
NC204	**NORSAR Array S**	**67.05**	**329**	P	**P**	**05 53 58.4**	**+0.4**
NC204				IAmb	IAmb	05 54 16.7	
	comp=Z,12nm,1.2s						

IDC 28 05:55:23.2±3.4,**53°.54N**×**87°.54E**,**h0**km,**mbtmp2.6**/2, **ML2.2**/2,**Error ellipse: s-maj=31.1km s-min=17.4km az=61.0,Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.66**	**285**	Pg	Pn	05 55 52.3	-1.3
	0.7nm,0.3s,baz=101,slow=12,SNR=7.1						
ZALV				Lg	Lg	05 56 16.8	
	0.6nm,0.3s,baz=104,slow=40,SNR=2.3						
I46RU	**ZALESOVO INFRA**	**1.66**	**285**	I	I	06 05 54.3	
	baz=103,slow=323,SNR=1.6						
KURBB	**Kurchatov Arra**	**6.27**	**246**	Pn	Pn	05 56 57.3	+0.4
	baz=62,slow=13,SNR=2.2 0.2nm,0.4s						
MKAR	**Makanchi Array**	**7.55**	**209**	Pn	Pn	05 57 16.1	+1.6
	0.1nm,0.3s,baz=30,slow=14,SNR=1.3 0.4nm,0.7s						

*DJA **28** 06:03:47.8±0.3,8°.S±4°×10°.8E±°,h10km,M4.7/21, mb4.8/10,mB5.6/1,MLv4.7/21,Mw(mB)5.1/1*
*NEIC **28** 06:03:50.6±1.8,8°.41S±0°.04×108°.04E±0°.07,h50km±8km, mb4.5/14,Error ellipse: s-maj=10.7km s-min=4.4km az=60.0*
*IDC **28** 06:03:55.1±1.3,7°.86S×108°.54E,h92km±10km,mb3.8/12, mbtmp4.1/12,MS3.0/4,Error ellipse: s-maj=56.9km s-min=12.9km az=47.0*
ISC 28 06:03:50.5±0.5,**8°.40S**±0°.06×**108°.07E**±0°.06,**h55**km,**n76,** σ1ᵍ**22**/66,**mb4.4**/22,**MS2.8**/3,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMJI	**Cimerak**	**0.72**	**31**	P	**Pn**	**06 04 02.4**	**-2.3**
KPJI	**Karang Pucung**	**1.36**	**39**	P	**Pn**	**06 04 12.3**	**-0.9**
CNJI	**Cibinong**	**1.43**	**319**	P	**Pn**	**06 04 13.3**	**-0.8**
LEM	**Lembang**	**1.63**	**344**	P	**Pn**	**06 04 17.6**	**+0.6**
	2μm,0.4s,baz=121,slow=7.4,SNR=158						
LEM				S	**Sn**	**06 04 38.5**	**+1.5**
	1μm,0.6s,baz=99,slow=21,SNR=6.1						
LEM				LR	LR	06 05 05.7	
	comp=Z,684nm,18.5s,baz=124,slow=51						
LEM	**Lembang**	**1.63**	**344**	P	**Pn**	**06 04 17.6**	**+0.6**
SKJI	**Sukabumi**	**2.04**	**313**	P	**Pn**	**06 04 22.9**	**+0.4**
DBJI	**Dramaga**	**2.26**	**324**	P	**Pn**	**06 04 26.0**	**+0.6**
YOGI	**Yogyakarta**	**2.28**	**75**	P	**Pn**	**06 04 24.4**	**-1.3**
UGM	**Wanagama**	**2.48**	**79**		**Pn**	**06 04 27.5**	**-0.9**
UGM	**Wanagama**	**2.48**	**79**	P	**Pn**	**06 04 27.0**	**-1.4**
TNG	**Tangerang**	**2.63**	**327**	P	**Pn**	**06 04 30.8**	**+0.3**
SMRI	**Semarang**	**2.71**	**60**		**Pn**	**06 04 31.9**	**+0.4**
SMRI	**Semarang**	**2.71**	**60**	P	**Pn**	**06 04 31.9**	**+0.4**
SBJI	**Serang**	**2.98**	**320**	P	**Pn**	**06 04 36.8**	**+1.6**
XMIS	**Christmas Isla**	**3.15**	**229**	Pn	**Pn**	**06 04 37.8**	**+0.1**
UWJI	**Ujung Watu**	**3.47**	**56**	P	**Pn**	**06 04 41.5**	**-0.5**
PWJI	**Pagerwojo**	**3.71**	**84**	P	**Pn**	**06 04 44.3**	**-1.1**
BLSI	**Bandar Lampung**	**4.12**	**317**	P	**Pn**	**06 04 51.6**	**+0.7**
KASI	**Kota Agung**	**4.56**	**309**	P	**Pn**	**06 04 58.1**	**+1.2**
GRJI	**Gresik**	**4.61**	**72**	P	**Pn**	**06 04 57.3**	**-0.4**
BLJI	**Banyuglugur**	**5.51**	**84**	P	**Pn**	**06 05 09.4**	**-0.6**
	62nm,0.4s,0.6nm						
JAGI	**Jajag, Banyuwa**	**6.02**	**91**	Pn	**Pn**	**06 05 17.3**	**+0.4**
JAGI	**Jajag, Banyuwa**	**6.02**	**91**	P	**Pn**	**06 05 16.3**	**-0.7**
	65nm,0.5s,0.9nm						
ABJI	**Asem Bagus**	**6.13**	**85**	P	**Pn**	**06 05 18.0**	**-0.5**
	58nm,1.3s,0.5nm						
MNAI	**Manna**	**6.48**	**308**	Pn	**Pn**	**06 05 21.3**	**-2.0**
MNAI	**Manna**	**6.48**	**308**	P	**Pn**	**06 05 24.1**	**+0.8**
	192nm,1.0s,1.7nm						
SRBI	**Singaraja**	**7.08**	**88**	P	**Pn**	**06 05 32.7**	**+1.2**
	79nm,1.6s,0.4nm						
DSRI	**Dabo**	**8.61**	**336**	P	**Pn**	**06 05 53.9**	**+1.5**
	27nm,0.6s,3μm						
TWSI	**Taliwang, Sumb**	**8.72**	**93**	P	**Pn**	**06 05 53.5**	**-0.5**
PLAI	**Plampang**	**9.61**	**93**	P	**Pn**	**06 06 05.8**	**-0.4**
	50nm,0.8s						
PPSI	**Pulau Pagai**	**9.78**	**304**	P	**Pn**	**06 06 09.7**	**+1.2**
	144nm,0.8s						
KAPI	**Kappang**	**12.08**	**75**	LR	LR	06 11 02.2	
	comp=Z,75nm,20.6s,baz=267,slow=37						
EDFI	**Ende, Flores**	**13.47**	**92**	P	**Pn**	**06 06 56.8**	**-2.3**
	18nm,1.2s						
MBWA	**Marble Bar**	**16.95**	**140**	Pn	**Pn**	**06 07 43.8**	**-0.2**
PSA00	**Pilbara Seismi**	**17.33**	**140**	P	**Pn**	**06 07 49.2**	**+0.6**
GTOI	**Gorontalo**	**17.39**	**60**	P	**Pn**	**06 07 49.7**	**+0.3**
FITZ	**Fitzroy Crossi**	**19.61**	**121**	P	**P**	**06 08 14.4**	**-0.1**
MTN	**Manton Dam**	**23.09**	**103**	P	**P**	**06 08 52.5**	**+0.7**
MTN				IAmb	IAmb	06 09 03.4	
	comp=Z,7.8nm,0.8s						
DAV	**Davao City (W)**	**

GEYT	**Alibeck**	**65.51**	**318**	P	**P**	**06 14 27.0**	**-1.3**
	comp=Z,1.8nm,0.3s,baz=152,slow=6.5,SNR=4.1						
	comp=Z,1.8nm,0.3s						
GYA0B	**ALIBECK ARRAY**	**65.51**	**318**	P	**P**	**06 14 27.9**	**-0.3**
GYA0B				IAmb	IAmb	06 14 28.8	
	comp=Z,4.6nm,0.5s						
BVAR	**Borovoye Array**	**69.07**	**337**	P	**P**	**06 14 47.5**	**-2.9**
	comp=Z,1.1nm,0.5s,baz=148,slow=8.7,SNR=5.5						
	comp=Z,1.1nm,0.5s						
KBZ	**Khabaz**	**78.39**	**318**	P	**P**	**06 15 47.1**	**+1.9**
	comp=Z,1.8nm,0.6s,baz=146,slow=5.6,SNR=3.1						
	comp=Z,1.8nm,0.6s						
QSPA	**South Pole Qui**	**81.59**	**180**	P	**P**	**06 16 04.4**	**+2.1**
BRTR	**Keskin Array B**	**83.55**	**312**	P	**P**	**06 16 12.7**	**-0.4**
	comp=Z,1.4nm,0.8s,baz=147,slow=7.1,SNR=6.2						
	comp=Z,1.4nm,0.8s						
FINES	**FINESS Array B**	**93.50**	**332**	P	**P**	**06 16 59.1**	**-0.8**
	comp=Z,0.6nm,0.6s,baz=116,slow=6.3,SNR=2.0						
	comp=Z,0.6nm,0.6s						
TXAR	**Lajitas Array**	**143.66**	**51**	PKP	PKPab	06 23 17.6	+0.8
	comp=Z,0.1nm,0.5s,baz=263,slow=0.1,SNR=3.6						
TKL	**Tuckaleechee C**	**150.79**	**20**	PKPbc	**PKPbc**	**06 23 36.8**	**-0.5**
	comp=Z,3.2nm,0.6s,baz=108,slow=3.2,SNR=5.3						

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*IDC **28** 06:08:05.2±0.5, 15°.98S×173°.27E, h0km, mb4.7/19, mbtmp4.6/20, ML3.3/1, MS4.0/46, Error ellipse: s-maj=19.9km s-min=14.3km az=127.0*

*MOS **28** 06:08:06.6±1.0, 15°.89S×173°.16E, h16km, mb5.2/33, Error ellipse: s-maj=9.7km s-min=8.8km az=77.8*

*BJI **28** 06:08:07.5±0.0, 15°.36S×173°.09E, h4km, mb5.0/48, mB5.1/22, Ms4.7/6, Ms7 4.2/7*

*NEIC **28** 06:08:07.9±1.9, 15°.89S±0°.08×173°.32E±0°.09, h10km±1km, mb5.2/268, Error ellipse: s-maj=15.5km s-min=12.1km az=133.0*

*GCMT **28** 06:08:09.9±0.3, 15°.88S±0°.02×173°.14E±0°.03, h19km±1km, MW4.9/94, Moment Tensor Solution. s19,c21; s94,c117; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=2.57±.18; Mθθ2.29±.12; Mφφ0.27±.10; Mrθ-0.52±.21; Mrφ-0.67±.07; Mθφ0.78±.23; Best double couple: M=2.69700×10^16^ NP1:φ=276.00000°, δ38.00000°, λ-108.00000°. NP2: φ=T 2.6000, Plg8.0000°, Azm199.0000°; N 0.1880, Plg11.0000°, Azm290.0000°; P -2.7930, Plg76.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NOU **28** 06:08:10.7, 15°.76S×173°.30E, h38km, mb5.0/42, Fiji Islands Region*

ISC 28 06:08:07.5±0.3, 15°.91S±0°.06×173°.26E±0°.06, h10km, n721, σ0s84/628, mb5.2/183, MS4.1/44, 10C-10D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.93**	**112**	P	**Pn**	**06 09 22.7**	**+1.0**
MSVF	**Nonsavu**	**4.93**	**112**	Pn	**Pn**	**06 09 22.9**	**+1.2**
MSVF	**Nonsavu**	**4.93**	**112**	P	**Pn**	**06 09 22.9**	**+1.2**
DZM	**Mont Dzumac**	**8.90**	**225**	P	**Pn**	**06 10 17.9**	**+1.7**
DZM	**Mont Dzumac**	**8.90**	**225**	*e*P	**Pn**	**06 10 15.3**	**-0.9**
	108nm,1.4s						
DZM				*e*LR	LR	06 12 13.1	
	3μm,25.8s						
DZM	**Mont Dzumac**	**8.90**	**225**		**Pn**	**06 10 16.8**	**+0.6**
DZM	**Mont Dzumac**	**8.90**	**225**	Pn	**Pn**	**06 10 16.1**	**-0.1**
	0.3nm,0.3s,baz=38,slow=5.0,SNR=4.1						
DZM				LR	LR	06 13 17.0	
	comp=Z,2μm,21.8s,baz=68,slow=35						
	43nm,1.3s						
NOUC	**Port Laguerre**	**9.01**	**226**	P	**Pn**	**06 10 20.6**	**+2.9**
FUNA	**Funafuti**	**9.35**	**39**	Pn	Pn	06 10 19.7	-2.7
HNR	**Honiara**	**14.50**	**295**	LR	LR	06 16 26.0	
	comp=Z,2μm,20.4s,baz=128,slow=34						
RAO	**Raoul Island**	**15.56**	**150**	LR	LR	06 16 25.8	
	comp=Z,756nm,19.2s,baz=312,slow=32						
KUZ	**Kuaotunu**	**20.87**	**174**	P	**P**	**06 12 51.2**	**+1.6**
TOZ	**Tahuroa Road**	**21.82**	**175**	P	**P**	**06 13 01.2**	**+1.2**
GD1S	**Gladstone Soft**	**22.21**	**246**	P	**P**	**06 13 04.7**	**+0.5**
URZ	**Urewera**	**22.52**	**172**	LR	LR	06 19 58.5	
	comp=Z,880nm,19.1s,baz=32,slow=32						
RK1H	**Rockhampton Ha**	**22.68**	**247**	P	**P**	**06 13 09.8**	**+0.6**
EIDS	**Eidsvold**	**22.76**	**242**	P	**P**	**06 13 10.3**	**+0.2**
EIDS	**Eidsvold**	**22.76**	**242**	P	**P**	**06 13 11.6**	**+1.4**
EIDS				IAmb	IAmb	06 13 12.8	
	comp=Z,76nm,1.2s						
ARMA	**Armidale**	**24.52**	**230**	P	**P**	**06 13 27.8**	**+0.4**
ARMA	**Armidale**	**24.52**	**230**	P	**P**	**06 13 28.2**	**+0.8**
MRZ	**Mangatainoka R**	**24.74**	**176**	P	**P**	**06 13 28.8**	**-0.3**
BFZ	**Birch Farm**	**24.82**	**175**	P	**P**	**06 13 28.4**	**-1.4**
TCW	**Tory Channel**	**25.23**	**178**	P	**P**	**06 13 33.2**	**-0.2**
AUPHS	**Peel High Scho**	**25.41**	**230**	P	**P**	**06 13 35.9**	**+0.5**
TUWZ	**Tuamarina**	**25.44**	**179**	P	**P**	**06 13 34.5**	**-0.9**
TV1H	**Townsville Har**	**25.44**	**259**	P	**P**	**06 13 36.1**	**+0.4**
CTAO	**Charters Tower**	**26.01**	**257**	P	**P**	**06 13 41.0**	**+0.1**
CTAO	**Charters Tower**	**26.01**	**257**	P	**P**	**06 13 41.3**	**+0.4**
CTAO	**Charters Tower**	**26.01**	**257**	P	**P**	**06 13 41.3**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,26nm,1.2s						
PMG	**Port Moresby**	**26.26**	**281**	LR	LR	06 21 36.5	
	comp=Z,255nm,18.8s,baz=65,slow=31						
MGCD	**Mangrove Creek**	**26.41**	**225**	P	**P**	**06 13 45.0**	**+0.6**
AULRC	**Lightning Ridg**	**26.86**	**236**	P	**P**	**06 13 49.1**	**+0.7**
SYDH	**Sydney Hard Ro**	**26.98**	**225**	P	**P**	**06 13 50.6**	**+1.1**
AUDCS	**Dubbo College**	**27.64**	**230**	P	**P**	**06 13 56.5**	**+1.0**
MTSU	**Mount Surprise**	**27.75**	**261**	P	**P**	**06 13 56.8**	**+0.1**
RPZ	**Rata Peaks**	**27.78**	**183**	LR	LR	06 23 38.4	
	comp=Z,536nm,20.3s,baz=344,slow=34						
CNB	**Canberra Magne**	**28.82**	**223**	P	**P**	**06 14 06.0**	**0.0**
YNG	**Young**	**28.89**	**226**	P	**P**	**06 14 07.1**	**+0.5**
QLP	**Quilpie**	**29.00**	**244**	P	**P**	**06 14 07.3**	**-0.3**
CAN	**Canberra**	**29.06**	**224**	P	**P**	**06 14 08.6**	**+0.5**
CAN	**Canberra**	**29.06**	**224**	P	**P**	**06 14 08.1**	**0.0**
CAN	**Canberra**	**29.06**	**224**	P	**P**	**06 14 08.1**	**0.0**
CAN				pmax	pmax		
	comp=Z,26nm,1.1s						
COEN	**Coen**	**29.13**	**270**	P	**P**	**06 14 09.0**	**+0.1**
COEN	**Coen**	**29.13**	**270**	P	**P**	**06 14 08.4**	**-0.5**
COEN				IAmb	IAmb	06 14 09.6	
	comp=Z,52nm,1.3s						
CMSA	**Cobar Meteorol**	**29.54**	**233**	P	**P**	**06 14 11.9**	**-0.4**
QIS	**Mount Isa**	**32.27**	**257**	P	**P**	**06 14 36.8**	**+0.2**
INKA	**Innaminka**	**32.30**	**243**	P	**P**	**06 14 36.9**	**+0.1**
TOO	**Toolangi**	**32.66**	**223**	P	**P**	**06 14 40.0**	**0.0**
TOO	**Toolangi**	**32.66**	**223**	P	**P**	**06 14 39.9**	**0.0**
TOO				IAmb	IAmb	06 14 41.1	
	comp=Z,29nm,1.2s						
TOO	**Toolangi**	**32.66**	**223**	P	**P**	**06 14 39.9**	**0.0**
TOO				pmax	pmax		
	comp=Z,29nm,1.2s						
STKA	**Stephens Creek**	**32.87**	**235**	P	**P**	**06 14 42.1**	**+0.3**
STKA	**Stephens Creek**	**32.87**	**235**	P	**P**	**06 14 42.3**	**+0.5**
STKA	**Stephens Creek**	**32.87**	**235**	P	**P**	**06 14 41.8**	**+0.1**
	comp=Z,24nm,0.9s,baz=63,slow=8.2,SNR=22						
	comp=Z,24nm,0.9s						
STKA	**Stephens Creek**	**32.87**	**235**	P	**P**	**06 14 42.3**	**+0.5**
STKA				pmax	pmax		
	comp=Z,7.0nm,1.0s						
GLAD	**Gladstone**	**33.20**	**216**	P	**P**	**06 14 45.0**	**+0.6**
BRAT	**Ballarat**	**33.69**	**225**	P	**P**	**06 14 49.5**	**+0.7**
ARPS	**Mount Arapiles**	**34.75**	**227**	P	**P**	**06 14 58.4**	**+0.4**
HTT	**Hallett**	**35.54**	**234**	P	**P**	**06 15 05.1**	**+0.2**
PPT2	**Papeete2**	**35.59**	**98**	*e*LR	LR	06 24 30.0	
	comp=Z,136nm,28.5s						
PPT2				*e*LR	LR	06 24 43.6	
	comp=Z,190nm,27.5s						
PPT	**Papeete**	**35.59**	**98**	LR	LR	06 28 05.2	
	comp=Z,60nm,18.7s,baz=341,slow=34						
TBI	**Tubuai**	**35.80**	**108**	*e*P	**P**	**06 15 07.9**	**+0.7**
	comp=Z,180nm,23.5s						
TBI				*e*LR	LR	06 24 36.5	
	comp=Z,874nm,30.5s						
WHYH	**Whyalla**	**36.46**	**236**	P	**P**	**06 15 13.2**	**+0.4**
OOD	**Oodnadatta**	**36.68**	**245**	P	**P**	**06 15 15.0**	**+0.3**
WR0	**Warramunga Arr**	**37.01**	**258**	P	P	06 15 16.0	-1.6
WB0	**Warramunga Arr**	**37.15**	**258**	P	P	06 15 17.3	-1.5
WB2	**Warramunga Arr**	**37.18**	**258**	P	**P**	**06 15 17.8**	**-1.3**
WRAB	**Tennant Creek**	**37.19**	**258**	P	P	06 15 17.4	-1.8
WRAB	**Tennant Creek**	**37.19**	**258**	P	P	06 15 17.4	-1.7
WRAB				pmax	pmax		
	comp=Z,20nm,1.1s						
WRA	**Warramunga Arr**	**37.20**	**258**	P	P	06 15 17.2	-2.0
	comp=Z,11nm,0.9s,baz=91,slow=8.3,SNR=43						
WRA				PcP	**PcP**	**06 17 38.4**	**-0.9**
	comp=Z,3.1nm,1.1s,baz=91,slow=3.7,SNR=5.3						
WRA				LR	LR	06 28 44.7	
	comp=Z,117nm,21.5s,baz=84,slow=33						
	comp=Z,11nm,0.9s						
BBOO	**Buckleboo**	**37.60**	**237**	P	**P**	**06 15 22.4**	**-0.1**
BBOO				IAmb	IAmb	06 15 23.2	
	comp=Z,47nm,1.2s						
AS01	**Alice Springs**	**37.69**	**252**	P	**P**	**06 15 22.3**	**-1.1**
AS31	**Alice Springs**	**37.73**	**252**	P	**P**	**06 15 22.9**	**-0.9**
ASAR	**Alice Springs**	**37.74**	**252**	P	**P**	**06 15 22.4**	**-1.4**
	comp=Z,23nm,0.7s,baz=80,slow=9.1,SNR=196						
ASAR				PcP	**PcP**	**06 17 39.9**	**-1.0**
	comp=Z,3.3nm,1.1s,baz=122,slow=3.4,SNR=6.7						
ASAR				LR	LR	06 29 49.9	
	comp=Z,300nm,18.8s,baz=97,slow=35						
	comp=Z,23nm,0.7s						
KDU	**Kakadu**	**39.62**	**269**	P	**P**	**06 15 39.2**	**-0.4**
GUMO	**Guam**	**40.59**	**315**	LR	LR	06 31 34.9	
	comp=Z,73nm,18.4s,baz=102,slow=35						
MTN	**Manton Dam**	**40.88**	**269**	P	**P**	**06 15 49.7**	**-0.4**
MTN	**Manton Dam**	**40.88**	**269**	P	**P**	**06 15 49.4**	**-0.7**
WRKA	**Warakurna**	**42.93**	**250**	P	**P**	**06 16 06.0**	**-0.9**
SWI	**Sorong**	**44.03**	**286**	P	**P**	**06 16 15.1**	**-0.7**
	comp=Z,52nm,0.7s						
FITZ	**Fitzroy Crossi**	**45.50**	**260**	P	**P**	**06 16 27.4**	**0.0**
FITZ	**Fitzroy Crossi**	**45.50**	**260**	P	**P**	**06 16 26.8**	**-0.6**
PSA00	**Pilbara Seismi**	**50.70**	**255**	P	**P**	**06 17 07.3**	**-0.4**
PSA00	**Pilbara Seismi**	**50.70**	**255**	P	**P**	**06 17 07.4**	**-0.4**
PSA00				IAmb	IAmb	06 17 08.7	
	comp=Z,51nm,1.2s						
MBWA	**Marble Bar**	**50.84**	**255**	P	**P**	**06 17 08.3**	**-0.5**
MBWA	**Marble Bar**	**50.84**	**255**	P	**P**	**06 17 08.2**	**-0.5**
MEEK	**Meekatharra**	**51.70**	**248**	P	**P**	**06 17 14.6**	**-0.6**
LUWI	**Luwuk**	**51.91**	**281**	P	**P**	**06 17 16.7**	**-0.1**
JCJ	**Chichijima**	**52.32**	**324**	LR	LR	06 35 04.3	
	comp=Z,64nm,21.9s,baz=116,slow=31						
KLBR	**Kellerberrin**	**52.63**	**242**	P	**P**	**06 17 20.9**	**-1.1**
NWAO	**Narrogin (SRO)**	**53.16**	**241**	P	**P**	**06 17 25.3**	**-0.6**
NWAO				IAmb	IAmb	06 17 25.6	
	comp=Z,46nm,1.1s						
NWAO	**Narrogin (SRO)**	**53.16**	**241**	LR	LR	06 39 10.6	
	comp=Z,183nm,19.1s,baz=98,slow=35						
NWAO	**Narrogin (SRO)**	**53.16**	**241**	P	**P**	**06 17 25.3**	**-0.6**
NWAO				pmax	pmax		
	comp=Z,46nm,1.1s						
KAPI	**Kappang**	**53.58**	**276**	LR	LR	06 41 05.7	
	comp=Z,55nm,18.6s,baz=96,slow=37						
MORW	**Morawa**	**54.01**	**245**	P	**P**	**06 17 32.0**	**-0.2**
JHJ	**Hachijo jima 2**	**58.31**	**327**	LR	LR	06 40 41.5	
	comp=Z,41nm,19.6s,baz=120,slow=34						
JOW	**Kunigami**	**60.94**	**314**	LR	LR	06 42 47.5	
	comp=Z,103nm,19.5s,baz=309,slow=34						
JGF	**Kuroka**	**61.50**	**327**	P	**P**	**06 18 24.1**	**-0.6**
MJAR	**Matsushiro Arr**	**61.78**	**328**	P	**P**	**06 18 26.0**	**-0.5**
	comp=Z,10.0nm,0.9s,baz=157,slow=6.6,SNR=21						
MJAR				LR	LR	06 41 22.4	
	comp=Z,22nm,21.8s,baz=139,slow=32						
	comp=Z,10.0nm,0.9s						
MAJO	**Matsushiro**	**61.79**	**328**	P	**P**	**06 18 26.3**	**-0.2**
MAJO	**Matsushiro**	**61.79**	**328**	*d*iP	**P**	**06 18 25.6**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,33nm,1.6s						
MJB9	**Matsu-Tunnel**	**61.79**	**328**	P	**P**	**06 18 26.3**	**-0.3**
VNDA	**Vanda**	**61.90**	**183**	P	**P**	**06 18 25.9**	**-0.8**
VNDA	**Vanda**	**61.90**	**183**	P	P	06 18 25.1	-1.7
	comp=Z,1.5nm,1.1s,baz=94,slow=4.0,SNR=4.8						
VNDA				LR	LR	06 40 33.8	
	comp=Z,238nm,21.7s,baz=16,slow=32						
	comp=Z,1.5nm,1.1s						
VNDA	**Vanda**	**61.90**	**183**	P	**P**	**06 18 25.9**	**-0.8**
VNDA				pmax	pmax		
	comp=Z,16nm,1.8s						
JMN	**Monobe**	**62.02**	**323**	P	**P**	**06 18 28.6**	**+0.4**
SBA	**Scott Base**	**62.05**	**182**	P	**P**	**06 18 27.4**	**-0.3**
SBA				IAmb	IAmb	06 18 28.7	
	comp=Z,20nm,1.2s						
SBA	**Scott Base**	**62.05**	**182**	P	**P**	**06 18 27.4**	**-0.3**
SBA				pmax	pmax		
	comp=Z,20nm,1.2s						
JSD	**Sado**	**62.92**	**329**	P	**P**	**06 18 33.9**	**-0.2**
JSD				IAmb	IAmb	06 18 35.5	
	comp=Z,15nm,0.9s						
SBUM	**Sibu**	**63.01**	**281**	P	**P**	**06 18 35.9**	**+0.7**
JNU	**Nakatsue**	**63.37**	**321**	P	**P**	**06 18 36.9**	**-0.3**
JNU	**Nakatsue**	**63.37**	**321**	LR	LR	06 42 09.6	
	comp=Z,36nm,20.9s,baz=108,slow=32						
NACB	**Ninganchiao**	**64.27**	**307**	P	**P**	**06 18 42.6**	**-0.7**
TPUB	**Ta-pu**	**64.55**	**306**	P	**P**	**06 18 43.9**	**-1.3**
TPUB				IAmb	IAmb	06 18 45.2	
	comp=Z,22nm,1.0s						
SSLB	**Suanglung**	**64.56**	**307**	P	**P**	**06 18 44.5**	**-0.7**
SSLB				IAmb	IAmb	06 18 45.5	
	comp=Z,32nm,1.5s						
CASY	**Casey**	**64.69**	**203**	P	**P**	**06 18 44.7**	**-0.6**
CASY				IAmb	IAmb	06 18 45.6	
	comp=Z,34nm,1.4s						
YHNB	**Yeheng**	**64.71**	**308**	P	**P**	**06 18 45.9**	**-0.4**
ASAJ	**Asahikawa**	**65.98**	**336**	LR	LR	06 42 06.4	
	comp=Z,132nm,21.8s,baz=156,slow=31						
TJN	**Taejon**	**67.70**	**321**	*e*P	**P**	**06 19 04.8**	**-0.3**
KSRS	**Korea Array**	**68.08**	**322**	P	**P**	**06 19 07.9**	**+0.4**
	comp=Z,4.5nm,1.1s,baz=138,slow=6.4,SNR=13						
KSRS				LR	LR	06 47 50.2	
	comp=Z,28nm,18.8s,baz=125,slow=35						
	comp=Z,4.5nm,1.1s						
YSS	**Yuzh-Sakhalins**	**68.32**	**338**	*e*P	**P**	**06 19 07.2**	**-1.6**
YSS				*e*S	S	06 28 01.2	-8.5
SHEM	**Shemya Is, Ala**	**68.36**	**1**	LR	LR	06 42 54.2	
	comp=Z,68nm,21.4s,baz=128,slow=30						
DLV	**T Lat**	**69.80**	**289**	P	**P**	**06 19 19.7**	**+0.8**
DLV				IAmb	IAmb	06 19 20.8	
	comp=Z,38nm,1.4s						
MSHR	**Mys Shultsa**	**69.91**	**328**	*e*P	**P**	**06 19 18.3**	**-0.4**
MSHR				pmax	pmax		
	comp=Z,17nm,1.2s						
VLA	**Vladivostok**	**69.94**	**329**	*e*P	P	06 19 16.3	-2.6
VLA				pmax	pmax		
	comp=Z,59nm,1.7s						
PEA0B	**Petropavlovsk-**	**70.03**	**350**	*e*P	**P**	**06 19 20.1**	**+0.8**
PETK	**Petropavlovsk-**	**70.03**	**350**	P	**P**	**06 19 18.1**	**-1.2**
	comp=Z,6.9nm,1.1s,baz=107,slow=9.9,SNR=5.4						
PETK				LR	LR	06 44 57.2	
	comp=Z,174nm,20.7s,baz=135,slow=32						
	comp=Z,6.9nm,1.1s						
PSTR	**Posyet**	**70.14**	**328**	*e*P	**P**	**06 19 20.8**	**+0.7**
NJ2	**Nanjing**	**70.63**	**313**	*e*P	**P**	**06 19 23.8**	**+0.4**
NJ2				sP	**pP**	**06 19 29.3**	**+3.6**
NJ2				pmax	pmax		
	comp=Z,15nm,0.5s						
USRK	**Ussuriysk Ar.**	**70.68**	**330**	P	**P**	**06 19 23.0**	**-0.4**
	comp=Z,16nm,1.2s,baz=127,slow=5.0,SNR=15						
USRK				LR	LR	06 45 54.6	
	comp=Z,79nm,20.9s,baz=161,slow=32						
	comp=Z,16nm,1.2s						
USRK	**Ussuriysk Ar.**	**70.68**	**330**	P	**P**	**06 19 23.0**	**-0.4**
MDJ	**Mudanjiang**	**72.16**	**329**	P	**P**	**06 19 32.8**	**+0.5**
MDJ				pP	pP	06 19 35.5	+0.8
MDJ				sP	sP	06 19 37.0	+1.4
MDJ				PcP	pwP	06 19 47.3	+8.8
MDJ				pmax	pmax		
	comp=Z,20nm,1.1s						
MDJ				pmax	pmax		
	comp=Z,95nm,4.6s						
MDJ	**Mudanjiang**	**72.16**	**329**	P	**P**	**06 19 32.9**	**+0.5**
MDJ				IAmb	IAmb	06 19 33.6	
	comp=Z,25nm,1.2s						
WHN	**Wuhan**	**73.09**	**309**	⇑P	**P**	**06 19 38.5**	**+0.3**
WHN				LR	LR		
	comp=Z,440nm,13.9s						
CN2	**Changchun**	**73.75**	**326**	*e*P	**P**	**06 19 43.0**	**+1.2**
CN2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BNX	**BinXian**	**74.05**	**328**	⇑P	**P**	**06 19 43.0**	**-0.5**
BNX				pmax	pmax		
	comp=Z,10.0nm,0.9s						
QSPA	**South Pole Qui**	**74.13**	**180**	P	**P**	**06 19 42.8**	**-1.2**
QSPA				IAmb	IAmb	06 19 43.7	
	comp=Z,36nm,1.2s						
QSPA	**South Pole Qui**	**74.13**	**180**	P	P	06 19 42.2	-1.7
	comp=Z,18nm,1.0s,baz=17,slow=2.1,SNR=27						
	comp=Z,18nm,1.0s						
TIA	**Tai'an**	**74.14**	**316**	P	**P**	**06 19 44.0**	**-0.3**
TIA				pmax	pmax		
	comp=Z,8.0nm,1.1s						
IPM	**Ipoh**	**74.25**	**279**	P	P	06 19 43.4	-2.0
IPM				IAmb	IAmb	06 19 46.2	
	comp=Z,23nm,1.1s						
S12K	**Black Hills**	**74.32**	**14**	P	**P**	**06 19 44.5**	**-0.3**
S12K	**Black Hills**	**74.32**	**14**	P	**P**	**06 19 43.4**	**-1.4**
	baz=205						
SDPT	**Sand Point**	**74.38**	**15**	P	**P**	**06 19 44.9**	**-0.3**
	baz=206						
KLR	**Kul'dur**	**74.54**	**333**	LR	LR	06 46 51.1	
	comp=Z,82nm,21.7s,baz=172,slow=31						
KLR	**Kul'dur**	**74.54**	**333**	*de*P	**P**	**06 19 46.4**	**+0.1**
KLR				pmax	pmax		
	comp=Z,13nm,1.5s						
HNS	**HongShan**	**76.41**	**316**	⇓P	**P**	**06 19 58.0**	**+0.7**
HNS				pmax	pmax		
	comp=Z,17nm,1.2s						
LYN	**LuoYang**	**76.49**	**312**	⇑P	**P**	**06 19 58.8**	**+1.0**
LYN				pP	pP	06 20 03.5	+3.3
LYN				sP	pwP	06 20 06.0	+2.0
LYN				pmax	pmax		
	comp=Z,63nm,1.2s						
LYN				pmax	pmax		
	comp=Z,120nm,6.1s						
GSI	**Gunungsitoli**	**76.61**	**275**	P	**P**	**06 19 58.8**	**-0.2**
GSI				IAmb	IAmb	06 21 07.5	
	comp=Z,36nm,1.3s						
ENH	**Enshi**	**76.64**	**307**	P	**P**	**06 19 58.9**	**0.0**
ENH				IAmb	IAmb	06 19 59.6	
	comp=Z,39nm,1.2s						
BJT	**Baijiatuau**	**76.89**	**319**	P	**P**	**06 19 59.4**	**-0.6**
BJT	**Baijiatuau**	**76.89**	**319**	P	**P**	**06 19 59.4**	**-0.6**
BJT				pmax	pmax		
	comp=Z,19nm,1.3s						
BJI	**Beijing**	**76.89**	**319**	P	**P**	**06 20 00.5**	**+0.5**
BJI				pmax	pmax		
	comp=Z,6.0nm,1.2s						
GYA	**Guiyang**	**77.18**	**302**	P	**P**	**06 20 00.5**	**-1.6**
GYA				pmax	pmax		
	comp=Z,24nm,0.6s						
HEH	**HeiHe**	**77.21**	**332**	*e*P	**P**	**06 20 01.0**	**-0.6**
HEH				pmax	pmax		
	comp=Z,8.0nm,0.7s						
HEH				pmax	pmax		
	comp=Z,49nm,4.3s						
MA2	**Magadan**	**77.41**	**348**	⇓*e*P	**P**	**06 20 01.0**	**-1.5**
MA2				pmax	pmax		
	comp=Z,15nm,1.0s						
MA2	**Magadan**	**77.41**	**348**	P	P	06 20 00.7	-1.8
	comp=Z,16nm,1.2s						
O14K	**Tigyukauivet M**	**77.73**	**13**	P	**P**	**06 20 03.8**	**-0.4**
	baz=205						
M11K	**Mekoryuk**	**77.81**	**10**	P	**P**	**06 20 04.2**	**-0.5**
	baz=206						
O15K	**Ungalikthiuk R**	**77.98**	**14**	P	**P**	**06 20 05.6**	**0.0**
	baz=206						
OHAK	**Old Harbor**	**77.99**	**18**	P	**P**	**06 20 06.1**	**+0.4**
	baz=213						
TIY	**Taiyuan**	**78.11**	**315**	*e*P	**P**	**06 20 08.5**	**+1.5**
TIY				pmax	pmax		
	comp=Z,23nm,0.7s						
N14K	**Kuskokwak Cree**	**78.25**	**13**	P	**P**	**06 20 07.2**	**+0.2**
	baz=205,SNR=5.2						
Q16K	**King Salmon**	**78.31**	**16**	P	**P**	**06 20 07.4**	**0.0**
	baz=210						
M13K	**Dall Lake**	**78.36**	**12**	P	**P**	**06 20 07.6**	**0.0**
	baz=203						
KDAK	**Kodiak Island**	**78.67**	**18**	LR	LR	06 48 46.6	
	comp=Z,172nm,20.1s,baz=228,slow=31						
O16K	**Kokwok River B**	**78.76**	**14**	P	**P**	**06 20 09.3**	**-0.6**
	baz=208						
XAN	**Xi'an**	**78.81**	**310**	⇑P	**P**	**06 20 11.5**	**+0.6**
XAN				pP	pP	06 20 15.5	+2.3
XAN				pmax	pmax		
	comp=Z,29nm,1.3s						
N15K	**Kwethluk River**	**78.81**	**13**	P	**P**	**06 20 10.2**	**0.0**
	baz=206,SNR=9.6						
P17K	**Kvichak River**	**78.82**	**15**	P	**P**	**06 20 10.0**	**-0.2**
	baz=210						
M14K	**Bethel**	**78.95**	**12**	IAmb	IAmb	06 20 12.4	
	comp=Z,40nm,1.2s						
M14K	**Bethel**	**78.95**	**12**	P	**P**	**06 20 10.7**	**-0.2**
	baz=204,SNR=5.7						
O17K	**Koliganek Bris**	**79.16**	**15**	P	**P**	**06 20 12.2**	**+0.1**
	baz=209						
M15K	**Kasigluk River**	**79.16**	**13**	P	**P**	**06 20 12.3**	**+0.2**
	baz=206,SNR=7.4						
P18K	**Big Mountain,**	**79.30**	**16**	IAmb	IAmb	06 20 13.6	
	comp=Z,28nm,1.2s						
P18K	**Big Mountain,**	**79.30**	**16**	P	**P**	**06 20 12.9**	**-0.1**
	baz=211						
Q19K	**Cape Douglas,**	**79.33**	**17**	P	**P**	**06 20 12.9**	**-0.2**
	baz=212						
L14K	**Kuka Creek**	**79.35**	**12**	P	**P**	**06 20 13.1**	**+0.1**
L14K				IAmb	IAmb	06 20 14.8	
	comp=Z,33nm,1.3s						
L14K	**Kuka Creek**	**79.35**	**12**	P	**P**	**06 20 13.4**	**+0.3**

comp=Z,34nm,1.4s
CHTO Chiang Mai 80.85 293 P **P** **06 20 22.7 +0.5**
CHTO pmax pmax
comp=Z,34nm,1.5s
L17K Donlin 80.97 13 P **P** **06 20 22.7 +0.9**
baz=208,SNR=8.7
SBC Santa Barbara 80.97 50 P **P** **06 20 21.3 -1.2**
baz=244
M18K Stony River 80.97 14 P **P** **06 20 22.2 +0.4**
baz=210,SNR=12
BTO Baotou 81.19 317 *e*P **P** **06 20 25.0 +1.3**
BTO pP **sP** **06 20 29.8 +2.9**
BTO sP **pwP** **06 20 32.3 +2.4**
BTO PP **PP** **06 23 33.3 +4.0**
BTO pmax pmax
comp=Z,25nm,1.5s
BTO pmax pmax
comp=Z,230nm,10.4s
PZH PanZhiHua 81.24 301 P P 06 20 22.0 -2.3
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,6.5s
CD2 Chengdu 81.36 305 P **P** **06 20 25.5 +0.8**
CD2 pmax pmax
comp=Z,20nm,0.8s
L18K Granite Mounta 81.40 14 IAmb IAmb 06 20 26.5
comp=Z,25nm,1.3s
L18K Granite Mounta 81.40 14 P **P** **06 20 25.1 +1.0**
baz=209,SNR=8.6
K17K Iditarod 81.48 13 IAmb IAmb 06 20 26.8
comp=Z,38nm,1.3s
K17K Iditarod 81.48 13 P **P** **06 20 25.4 +0.8**
baz=208,SNR=10.0
CIS Catalina Islan 81.49 52 P **P** **06 20 25.4 +0.1**
baz=245
SEW Seward 81.51 18 P **P** **06 20 25.8 +1.0**
baz=216
J16K Anvik River 81.52 12 P **P** **06 20 25.7 +0.9**
J16K IAmb IAmb 06 20 27.7
comp=Z,37nm,1.2s
J16K Anvik River 81.52 12 P **P** **06 20 25.8 +0.9**
baz=205,SNR=9.5
N20K Mount Spurr 81.64 16 P **P** **06 20 25.8 +0.2**
baz=214
M19K Big River Lodg 81.67 15 P **P** **06 20 26.2 +0.6**
M19K Big River Lodg 81.67 15 P **P** **06 20 26.4 +0.8**
baz=211
OSI Osito Audit: C 81.78 51 P **P** **06 20 27.2 +0.3**
baz=244
L19K White Mountain 81.80 14 P **P** **06 20 27.2 +0.9**
baz=211,SNR=23
ANM Nome 81.88 9 P **P** **06 20 27.6 +1.0**
baz=201
DECC Green Verdugo 81.91 51 P **P** **06 20 27.7 +0.2**
baz=245
ARVC Arvin 81.92 50 P **P** **06 20 27.8 +0.3**
baz=244
Q23K Middleton Isla 81.93 20 P **P** **06 20 27.9 +0.9**
baz=219
J17K VABM Dome 81.93 12 P **P** **06 20 27.6 +0.7**
J17K IAmb IAmb 06 20 28.4
comp=Z,24nm,1.2s
J17K VABM Dome 81.93 12 P **P** **06 20 27.1 +0.2**
baz=207,SNR=6.7
M20K Styx River 81.97 15 P **P** **06 20 27.3 0.0**
baz=212
ORV Oroville 82.02 45 P **P** **06 20 27.9 -0.1**
ORV IAmb IAmb 06 20 29.6
comp=Z,21nm,1.3s
ORV Oroville 82.02 45 P **P** **06 20 27.9 -0.1**
ORV pmax pmax
comp=Z,21nm,1.3s
P23K Montague Islan 82.04 19 P **P** **06 20 28.0 +0.4**
baz=218
VES Vestal, Richgr 82.04 49 P **P** **06 20 27.8 -0.4**
baz=244
I17K Unalakleet 82.05 11 P **P** **06 20 28.4 +0.9**
I17K IAmb IAmb 06 20 29.9
comp=Z,45nm,1.4s
I17K Unalakleet 82.05 11 P **P** **06 20 28.1 +0.5**
baz=205
RC01 Rabbit Creek A 82.22 17 P **P** **06 20 28.5 0.0**
RC01 Rabbit Creek A 82.22 17 P **P** **06 20 28.7 +0.2**
baz=216
SUA Susitna One 82.25 17 P **P** **06 20 29.1 +0.3**
SUA IAmb IAmb 06 20 29.9
comp=Z,35nm,1.2s
SUA Susitna One 82.25 17 P **P** **06 20 28.6 -0.2**
baz=215
YBH Yreka Blue Hor 82.26 43 P **P** **06 20 30.2 +0.9**
YBH IAmb IAmb 06 20 31.6
comp=Z,29nm,1.2s
YBH Yreka Blue Hor 82.26 43 LR LR 06 49 13.2
comp=Z,152nm,21.1s,baz=265,slow=30
YBH Yreka Blue Hor 82.26 43 P **P** **06 20 30.2 +0.9**
YBH pmax pmax
comp=Z,29nm,1.3s
109C Camp Elliot, M 82.27 53 P **P** **06 20 29.3 -0.2**
baz=246
L20K Farewell, AK 82.29 15 P **P** **06 20 29.3 +0.4**
baz=212,SNR=28
ELS Elsinore Mount 82.34 52 P **P** **06 20 30.6 +0.7**
BFSC Mount Baldy Ra 82.41 51 P **P** **06 20 29.7 -0.6**
baz=245
EDW2 Edwards Air Fo 82.43 51 P **P** **06 20 30.1 -0.2**
baz=245,SNR=6.8
H16K Elim 82.46 10 P **P** **06 20 30.0 +0.3**
baz=204
TNA Tin City 82.46 8 P **P** **06 20 29.6 0.0**
baz=198
SKT Skwentna 82.47 16 P **P** **06 20 30.3 +0.5**
baz=214
J18K Innoko River 82.49 13 IAmb IAmb 06 20 31.7
comp=Z,28nm,1.2s
J18K Innoko River 82.49 13 P **P** **06 20 29.4 -0.5**
baz=209,SNR=14
G15K Niukluk 82.49 10 P **P** **06 20 29.3 -0.5**
baz=202
MURC Murrieta 82.49 52 P **P** **06 20 30.0 -0.7**
baz=245
F14K Arctic Creek 82.60 8 P **P** **06 20 30.3 0.0**
baz=200
M22K Willow 82.66 17 P **P** **06 20 30.3 -0.4**
M22K Willow 82.66 17 P **P** **06 20 30.9 +0.1**
baz=215,SNR=6.6
L04D Klamath Falls 82.76 42 P **P** **06 20 32.3 +0.3**
MONP2 Monument Peak 82.79 53 P **P** **06 20 31.2 -1.3**
baz=246,SNR=6.8
PMR Palmer 82.80 17 P **P** **06 20 31.3 -0.2**
PMR Palmer 82.80 17 P **P** **06 20 31.3 -0.2**
baz=216,SNR=12
PMR Palmer 82.80 17 P **P** **06 20 31.3 -0.2**
PMR pmax pmax
comp=Z,71nm,1.5s
GLI Glacier Island 82.83 18 P **P** **06 20 31.3 -0.4**
GLI Glacier Island 82.83 18 P **P** **06 20 31.7 0.0**
baz=218,SNR=7.6
MDPB Devils Postpil 82.83 48 IAmb IAmb 06 20 34.5
comp=Z,13nm,1.0s
KNK Knik Glacier 82.85 17 P **P** **06 20 31.3 -0.5**
KNK Knik Glacier 82.85 17 P **P** **06 20 31.8 -0.1**
baz=217,SNR=6.1
MPK Martis Peak 82.91 46 IAmb IAmb 06 20 35.0
comp=Z,26nm,1.1s
LRMC Laurel Mtn Rad 82.92 50 P **P** **06 20 32.6 -0.3**
baz=245,SNR=6.8
MAW Mawson 82.92 201 P **P** **06 20 31.6 -0.6**
comp=Z,5.8nm,1.0s,baz=86,slow=6.9,SNR=7.9
MAW LR LR 06 54 24.9
comp=Z,68nm,18.3s,baz=117,slow=34
comp=Z,5.8nm,1.0s
IKP In-Ko-Pah, Jac 82.94 53 P **P** **06 20 32.6 -0.4**
baz=246
WAKR Walker 82.97 47 P **P** **06 20 33.8 +0.6**
WAKR IAmb IAmb 06 20 35.4
comp=Z,25nm,1.2s
EYAK Cordova Ski Ar 82.99 19 P **P** **06 20 33.2 +0.8**
baz=220
K20K Telida 82.99 14 P **P** **06 20 33.0 +0.5**
K20K Telida 82.99 14 P **P** **06 20 32.0 -0.5**
baz=212,SNR=20
GHO Glory Hole Cre 83.01 17 P **P** **06 20 32.5 -0.2**
CWC Cottonwood Cre 83.03 49 P **P** **06 20 33.3 -0.3**
baz=244
PFO Pinyon Flats O 83.06 52 P **P** **06 20 32.9 -0.8**
PFO IAmb IAmb 06 20 35.6
comp=Z,22nm,1.6s
PFO Pinyon Flats O 83.06 52 P **P** **06 20 33.2 -0.5**
baz=246
PFO Pinyon Flats O 83.06 52 P **P** **06 20 33.2 -0.5**
comp=Z,5.0nm,1.0s,baz=261,slow=6.1,SNR=5.3
PFO LR LR 06 50 26.5
comp=Z,80nm,19.1s,baz=260,slow=31
comp=Z,5.0nm,1.0s
PFO Pinyon Flats O 83.06 52 P **P** **06 20 32.9 -0.8**
PFO pmax pmax
comp=Z,22nm,1.6s
TPFO Pinon Flats 83.06 52 P **P** **06 20 33.2 -0.5**
baz=246
PPLA Purkeypile 83.06 15 P **P** **06 20 32.9 -0.1**
baz=213
F15K North Star Dit 83.06 9 P **P** **06 20 32.3 -0.5**
baz=201
PNTR Pine Nut 83.12 46 IAmb IAmb 06 20 36.0
comp=Z,29nm,1.3s
G16K Koyuk River 83.14 10 P **P** **06 20 32.7 -0.5**
G16K IAmb IAmb 06 20 35.2
comp=Z,20nm,1.3s
G16K Koyuk River 83.14 10 P **P** **06 20 33.0 -0.2**
baz=204
PMD Palm Desert 83.14 52 IAmb IAmb 06 20 35.8
comp=Z,19nm,1.5s
H17K Granite Mounta 83.15 11 P **P** **06 20 33.5 +0.2**
H17K IAmb IAmb 06 20 35.1
comp=Z,24nm,1.2s
H17K Granite Mounta 83.15 11 P **P** **06 20 33.6 +0.3**
baz=206,SNR=8.3
CUT Chulitna 83.15 16 P **P** **06 20 32.1 -1.2**
CUT Chulitna 83.15 16 P **P** **06 20 32.6 -0.7**
baz=215,SNR=5.8
J19K Poorman 83.19 13 P **P** **06 20 34.2 +0.7**
J19K Poorman 83.19 13 P **P** **06 20 33.4 -0.1**
baz=210,SNR=12
SML Sawmill 83.20 17 P **P** **06 20 32.6 -1.1**
SML Sawmill 83.20 17 P **P** **06 20 33.9 +0.2**
baz=217,SNR=5.2
SWSC Sam W. Stewart 83.29 53 P **P** **06 20 34.7 -0.1**
baz=246
MPMC Manual Prospec 83.30 50 P **P** **06 20 34.8 -0.2**
baz=245,SNR=9.8
K04D Chiloquin, OR 83.31 42 P **P** **06 20 35.4 +0.6**
K04D IAmb IAmb 06 20 36.7
comp=Z,26nm,1.0s
YERR Yerington 83.32 46 IAmb IAmb 06 20 36.9
comp=Z,18nm,1.2s
M23K Glacier View 83.37 18 P **P** **06 20 34.8 +0.4**
baz=218
LZH Lanzhou 83.44 310 *e*P **P** **06 20 36.5 +0.8**
LZH pP pP 06 20 41.5 +3.5
LZH pmax pmax
comp=Z,17nm,1.2s
BGLC Bering Glacier 83.46 20 P **P** **06 20 35.4 +0.5**
baz=222
GSC Goldstone, Bar 83.49 51 IAmb IAmb 06 20 37.8
comp=Z,18nm,1.4s
GSC Goldstone, Bar 83.49 51 P **P** **06 20 35.7 -0.1**
baz=245,SNR=5.7
DSP Deep Springs 83.51 48 P **P** **06 20 36.7 +0.9**
DSP IAmb IAmb 06 20 38.1
comp=Z,26nm,1.2s
LHV Little Huntoon 83.51 47 IAmb IAmb 06 20 38.2
comp=Z,23nm,1.1s
SCM Sheep Creek Mo 83.52 18 P **P** **06 20 34.7 -0.6**
SCM Sheep Creek Mo 83.52 18 P **P** **06 20 35.5 +0.2**
baz=218,SNR=5.2
SCM Sheep Creek Mo 83.52 18 P **P** **06 20 34.7 -0.6**
SCM pmax pmax
comp=Z,64nm,1.4s
CAST Castle Rocks 83.53 15 P **P** **06 20 34.1 -1.1**
CAST Castle Rocks 83.53 15 P **P** **06 20 33.8 -1.4**
baz=213,SNR=21
G17K Kiwalik Mounta 83.53 11 P **P** **06 20 35.0 -0.2**
baz=205,SNR=7.5
PAHR Pah Rah Range 83.54 46 IAmb IAmb 06 20 38.0
comp=Z,23nm,1.3s
BELC Belle Mtn. Jos 83.57 52 P **P** **06 20 36.0 -0.4**
baz=246,SNR=11
GCSA Galena City Sc 83.58 12 P **P** **06 20 35.6 +0.2**
baz=209
H18K Honhosa River 83.64 12 P **P** **06 20 35.6 -0.2**
H18K IAmb IAmb 06 20 45.0
comp=Z,28nm,1.6s
H18K Honhosa River 83.64 12 P **P** **06 20 35.9 +0.1**
baz=207
HEC Hector,Ludlow 83.65 51 P **P** **06 20 36.2 -0.5**
baz=246,SNR=7.5
RYN Ryan 83.67 47 P **P** **06 20 37.4 +0.6**
RYN IAmb IAmb 06 20 38.7
comp=Z,18nm,1.3s
KLU Klutina 83.67 18 P **P** **06 20 36.3 +0.2**
KLU Klutina 83.67 18 P **P** **06 20 36.5 +0.4**
baz=219,SNR=6.8
BMRM Bremner River 83.67 19 P **P** **06 20 35.8 -0.3**
BMRM Bremner River 83.67 19 P **P** **06 20 36.3 +0.2**
baz=220,SNR=5.4
J20K Nowinta River 83.68 14 P **P** **06 20 36.4 +0.4**
baz=211,SNR=9.9
NVAR Mina Array Bea 83.73 47 P **P** **06 20 37.5 +0.3**
comp=Z,7.0nm,1.0s,baz=230,slow=8.1,SNR=26
NVAR LR LR 06 49 53.0
comp=Z,176nm,20.5s,baz=224,slow=30
comp=Z,7.0nm,1.0s
GRAC Grapevine Rang 83.79 49 IAmb IAmb 06 20 39.5
comp=Z,25nm,1.2s
GRAC Grapevine Rang 83.79 49 P **P** **06 20 37.0 -0.3**
baz=245,SNR=8.8
BC3 Big Chuckawall 83.84 53 P **P** **06 20 37.5 -0.2**
baz=246,SNR=8.0
CHUM Lake Minchumin 83.86 15 P **P** **06 20 36.3 -0.6**
baz=213,SNR=9.0
BILL Bilibino 83.87 357 P **P** **06 20 35.9 -1.0**
BILL Bilibino 83.87 357 *i* P **P** **06 20 35.2 -1.7**
BILL pmax pmax
comp=Z,11nm,1.4s
FURC Furnace Creek, 83.93 50 P **P** **06 20 38.0 +0.1**
baz=245,SNR=7.4
MESA MESA 83.95 21 P **P** **06 20 37.4 -0.4**
baz=223
J05D Fort Rock, OR 83.96 42 P **P** **06 20 39.0 +0.9**
GWY Greenwater Val 83.96 50 P **P** **06 20 38.5 +0.1**
WAT1 Susitna Watana 83.96 17 P **P** **06 20 36.4 -1.2**
baz=217
WAT6 Susitna Watana 83.99 17 P **P** **06 20 37.1 -0.8**
baz=218,SNR=13
TRF Thorofare Moun 84.01 16 IAmb IAmb 06 20 54.6
comp=Z,29nm,1.4s
TRF Thorofare Moun 84.01 16 P **P** **06 20 36.5 -1.4**
baz=215
H04A Detroit Lake 84.03 40 IAmb IAmb 06 20 39.6
comp=Z,26nm,1.1s
M24K Tolsona, Glenn 84.07 18 P **P** **06 20 38.2 0.0**
baz=219,SNR=6.0
GLA Glamis 84.08 53 IAmb IAmb 06 20 41.4
comp=Z,24nm,1.2s
GLA Glamis 84.08 53 P **P** **06 20 37.8 -1.1**
baz=247
SHOC Shoshone, Teco 84.13 50 P **P** **06 20 37.8 -1.2**
baz=246,SNR=7.4
I20K Naaghedeneel 84.13 13 P **P** **06 20 39.2 +0.9**
I20K Naaghedeneel 84.13 13 P **P** **06 20 38.6 +0.4**
baz=211,SNR=11
GMRC Granite Mounta 84.14 52 P **P** **06 20 38.8 -0.5**
baz=246,SNR=7.1
KVN Kaiserville 84.15 47 P **P** **06 20 39.1 -0.1**
KVN IAmb IAmb 06 20 41.1
comp=Z,18nm,1.2s
KVN Kaiserville 84.15 47 P **P** **06 20 39.1 -0.1**
KVN pmax pmax
comp=Z,18nm,1.2s
N25K Chitina, Valde 84.16 19 P **P** **06 20 38.6 0.0**
baz=220,SNR=10
TUQ Turquoise Moun 84.20 51 P **P** **06 20 39.9 +0.3**
baz=246,SNR=5.6
VRDI Verde Repeater 84.23 19 P **P** **06 20 38.3 -0.9**
WCT Wildcat Mounta 84.24 49 IAmb IAmb 06 20 41.7
comp=Z,24nm,1.3s
G18K Tagagawik 84.25 11 P **P** **06 20 38.9 0.0**
G18K Tagagawik 84.25 11 P **P** **06 20 38.9 0.0**
baz=207,SNR=23
IRM Iron Mountain 84.28 52 P **P** **06 20 40.7 +0.9**
baz=247,SNR=11
F17K Baldwin Pennin 84.28 10 IAmb IAmb 06 20 44.9
comp=Z,19nm,0.8s
F17K Baldwin Pennin 84.28 10 P **P** **06 20 38.2 -0.7**
baz=205
GLB Gilahina Butte 84.28 19 IAmb IAmb 06 20 40.3
comp=Z,27nm,1.2s
RND Reindeer 84.35 16 P **P** **06 20 39.0 -0.6**
RND Reindeer 84.35 16 P **P** **06 20 39.0 -0.6**
RND pmax pmax
comp=Z,51nm,1.2s
TPH Tonopah 84.35 48 P **P** **06 20 40.8 +0.5**
TPH Tonopah 84.35 48 P **P** **06 20 40.8 +0.5**
TPH pmax pmax
comp=Z,101nm,1.4s
H19K Roundabout Mou 84.35 12 P **P** **06 20 39.9 +0.5**
H19K Roundabout Mou 84.35 12 P **P** **06 20 39.5 +0.1**
baz=209,SNR=22
BPAW Bear Paw Mtn. 84.36 15 P P 06 20 37.4 -2.2
BPAW IAmb IAmb 06 20 47.5
comp=Z,29nm,1.8s
BPAW Bear Paw Mtn. 84.36 15 P **P** **06 20 38.2 -1.4**
baz=214
PINE Pine Mountain 84.39 42 IAmb IAmb 06 20 42.5
comp=Z,21nm,1.1s
PNL Peninsula 84.48 22 P **P** **06 20 39.2 -1.0**
baz=225
DHY Denali Highway 84.49 17 P **P** **06 20 39.8 -0.5**
DHY IAmb IAmb 06 20 41.4
comp=Z,25nm,1.4s
DHY Denali Highway 84.49 17 P **P** **06 20 39.5 -0.9**
baz=218,SNR=5.9
MCARA McCarthy VSAT 84.49 20 P **P** **06 20 40.0 -0.3**
baz=222
F04A Amboy 84.50 39 IAmb IAmb 06 20 42.1
comp=Z,21nm,1.1s
LPIG La Paz 84.51 63 LR LR 06 49 19.5
comp=Z,163nm,21.4s,baz=213,slow=29
S31K Pelican 84.51 24 P **P** **06 20 40.4 +0.1**
baz=228
MCK McKinley 84.59 16 P **P** **06 20 40.5 -0.2**
baz=216,SNR=7.2
BLYC Blythe 84.59 53 IAmb IAmb 06 20 43.6
comp=Z,21nm,1.1s
HARP HAARP 84.60 18 P **P** **06 20 40.5 -0.3**
baz=220
U33K Whale Pass 84.61 27 P **P** **06 20 41.3 +0.5**
baz=231
BBB Bella Bella 84.62 32 LR LR 06 51 37.6
comp=Z,76nm,20.1s,baz=192,slow=31
H20K Anotleneega Mo 84.65 13 P **P** **06 20 41.5 +0.5**
baz=211,SNR=13
BARN Barnard Glacie 84.70 20 P **P** **06 20 39.8 -1.7**
BARN IAmb IAmb 06 20 42.7
comp=Z,29nm,1.2s
F18K Selawik 84.70 11 P **P** **06 20 40.6 -0.5**
baz=206
CTG Chitna Glacier 84.73 20 P **P** **06 20 41.3 -0.3**
baz=224
CTGM Chitina Glacie 84.74 20 P **P** **06 20 41.5 -0.2**
G19K Purcell Mounta 84.77 12 P **P** **06 20 41.8 +0.3**
G19K Purcell Mounta 84.77 12 P **P** **06 20 42.0 +0.5**
baz=209,SNR=24
E17K Hotham Inlet 84.77 10 P **P** **06 20 42.2 +0.7**
baz=204,SNR=20
V35K Ketchikan 84.79 28 P **P** **06 20 42.1 +0.3**
baz=232
113A Mohawk Valley, 84.80 54 IAmb IAmb 06 20 44.6
comp=Z,24nm,1.5s
S32K Killisnoo 84.85 25 P **P** **06 20 42.2 +0.1**
baz=230
YAK Yakutsk 84.93 341 LR LR 06 53 11.3
comp=Z,95nm,21.3s,baz=148,slow=32
PAX Paxson 84.95 18 P **P** **06 20 42.4 -0.2**
baz=220
O28M Mount Upton 84.98 21 P **P** **06 20 43.0 -0.1**
baz=224
I21K Tanana 85.03 14 IAmb IAmb 06 20 43.5
comp=Z,19nm,1.2s
I21K Tanana 85.03 14 P **P** **06 20 42.6 -0.2**
baz=213
P29M Windy Craggy 85.06 23 P **P** **06 20 43.3 +0.1**
P29M Windy Craggy 85.06 23 P **P** **06 20 43.7 +0.5**
baz=227
PDMCI Parker Dam,Lak 85.10 52 P **P** **06 20 44.3 +0.4**
baz=247
WRAK Wrangell Islan 85.13 27 P **P** **06 20 44.1 +0.5**
baz=232
D17K Noatak River 85.15 9 P **P** **06 20 44.1 +0.8**
baz=203,SNR=6.9
MLY Manley 85.20 14 P **P** **06 20 43.3 -0.5**
MLY Manley 85.20 14 P **P** **06 20 43.9 +0.2**
baz=215,SNR=6.5
SHPR Sheep Range 85.20 50 P **P** **06 20 44.6 0.0**
O29M Mount Kennedy 85.22 22 P **P** **06 20 44.0 0.0**
baz=226
S11A Rachel 85.23 49 IAmb IAmb 06 20 46.6
comp=Z,21nm,1.3s
214A Organ Pipe Nat 85.24 55 P **P** **06 20 45.7 +1.0**
214A IAmb IAmb 06 20 47.0
comp=Z,18nm,1.2s
214A Organ Pipe Nat 85.24 55 P **P** **06 20 44.4 -0.4**
baz=248,SNR=5.9
H21K Melozitna Rive 85.24 13 P **P** **06 20 44.1 +0.2**
H21K Melozitna Rive 85.24 13 P **P** **06 20 43.5 -0.4**
baz=213,SNR=7.6
F19K Shaleruckik Mo 85.25 11 P **P** **06 20 44.0 +0.2**
F19K IAmb IAmb 06 20 45.5
comp=Z,30nm,1.2s
F19K Shaleruckik Mo 85.25 11 P **P** **06 20 44.0 +0.2**
baz=208,SNR=15
NEA2 Nenana 85.25 15 P **P** **06 20 43.6 -0.4**
NEA2 IAmb IAmb 06 20 52.0
comp=Z,42nm,2.0s
NEA2 Nenana 85.25 15 P **P** **06 20 44.1 +0.1**
baz=216
M26K Nabesna, AK 85.26 19 P **P** **06 20 43.8 -0.3**
M26K IAmb IAmb 06 20 45.2
comp=Z,28nm,1.4s
M26K Nabesna, AK 85.26 19 P **P** **06 20 43.9 -0.2**
baz=222,SNR=9.4
E18K Tukpahlearik C 85.28 10 P **P** **06 20 44.6 +0.5**
E18K Tukpahlearik C 85.28 10 P **P** **06 20 43.9 -0.1**
baz=205,SNR=13
BMN Battle Mountai 85.35 46 IAmb IAmb 06 20 47.2
comp=Z,25nm,1.2s
C16K Lisburne Hills 85.37 8 P **P** **06 20 44.6 +0.1**
baz=201
R32K Eaglecrest 85.40 25 P **P** **06 20 44.7 -0.1**
baz=230
WRH Wood River Hil 85.41 16 P **P** **06 20 43.9 -0.9**
I07A Izee 85.44 42 P **P** **06 20 46.0 +0.5**
I07A IAmb IAmb 06 20 47.5
comp=Z,22nm,1.2s
MENT Mentasta 85.44 18 P **P** **06 20 44.9 -0.1**
MENT IAmb IAmb 06 20 46.3
comp=Z,16nm,1.3s
PLBC Pleasant Camp 85.46 23 P **P** **06 20 45.1 0.0**
baz=228
YUK8 Steele Glacier 85.50 21 P **P** **06 20 45.3 -0.3**
baz=225
RDOG Red Dog Mine 85.50 9 P **P** **06 20 46.1 +0.9**
RDOG IAmb IAmb 06 20 47.1
comp=Z,13nm,1.0s
RDOG Red Dog Mine 85.50 9 P **P** **06 20 45.7 +0.5**
baz=203
K24K Donnelly Dome 85.50 17 P **P** **06 20 45.1 -0.2**
baz=219
M27K Edge Creek, AK 85.58 19 P **P** **06 20 45.6 -0.2**
M27K IAmb IAmb 06 20 59.5
comp=Z,37nm,1.7s
M27K Edge Creek, AK 85.58 19 P **P** **06 20 46.1 +0.2**
baz=223
W13A Hualapai Mount 85.60 52 P **P** **06 20 47.1 +0.4**
YUK3 Moose Creek 85.61 20 P **P** **06 20 46.0 -0.1**
baz=224
L26K Log Cabin Wild 85.62 18 P **P** **06 20 46.4 +0.5**
baz=222
CCB Clear Creek Bu 85.62 16 P **P** **06 20 44.7 -1.1**
I23K Minto, Yukon-K 85.63 15 P **P** **06 20 46.2 +0.4**
baz=216
R11B Troy Canyon, C 85.64 48 P **P** **06 20 45.6 -1.1**
baz=246,SNR=6.2
PRN Pahroc Range 85.64 49 IAmb IAmb 06 20 49.1
comp=Z,26nm,1.2s
HDA Harding Lake 85.66 16 P **P** **06 20 45.3 -0.7**
HDA IAmb IAmb 06 20 46.8
comp=Z,34nm,1.4s
HDA Harding Lake 85.66 16 P **P** **06 20 45.3 -0.7**
baz=218,SNR=13

P30M	Million Dollar baz=228	85.68	23	P	P	06 20 46.2	-0.1
YUK6	Outpost Mounta baz=226	85.74	21	P	P	06 20 46.5	-0.3
MDM	Murphy Dome MDM	85.76	15	P IAmb	P IAmb	06 20 46.1 06 20 47.5	-0.4
	comp=Z,17nm,1.2s						
H22K	Ishtalitna Cre baz=214	85.76	14	P	P	06 20 47.1	+0.6
J08A	Circle Bar Ran J08A	85.78	43	P IAmb	P IAmb	06 20 47.8 06 20 49.0	+0.5
	comp=Z,20nm,1.2s						
COLA	College COLA	85.79	16	P IAmb	P IAmb	06 20 46.2 06 20 47.6	-0.4
	comp=Z,40nm,1.5s						
COLA	College baz=217	85.79	16	P	P	06 20 46.2	-0.4
COLA	College COLA	85.79	16	*c iP* pmax	P pmax	06 20 45.4	-1.2
	comp=Z,21nm,1.3s						
G21K	Allakaket	85.82	13	P	P	06 20 47.1	+0.3
G21K	Allakaket baz=212	85.82	13	P	P	06 20 46.3	-0.4
F20K	Avaraart Lake F20K	85.83	12	P IAmb	P IAmb	06 20 47.7 06 20 48.6	+0.9
	comp=Z,26nm,1.5s						
F20K	Avaraart Lake baz=210	85.83	12	P	P	06 20 46.9	+0.2
C17K	DeLong Mountai baz=203	85.86	9	P	P	06 20 47.7	+0.7
SKAG	Skagway	85.86	24	P	P	06 20 46.1	-0.9
SKAG	Skagway baz=229	85.86	24	P	P	06 20 47.0	-0.1
E19K	Redstone River E19K	85.90	11	P IAmb	P IAmb	06 20 47.6 06 20 57.0	+0.5
	comp=Z,41nm,1.8s						
E19K	Redstone River baz=208,SNR=5.8	85.90	11	P	P	06 20 47.8	+0.6
YUK4	Talbot Arm baz=226	85.92	21	P	P	06 20 48.0	+0.3
ILAR	Eielson Array comp=Z,6.9nm,1.1s,baz=237,slow=5.7,SNR=24 ILAR	85.96	16	P LR	P LR	06 20 45.6 06 53 59.1	-1.9
	comp=Z,144nm,19.9s,baz=230,slow=32 comp=Z,6.9nm,1.1s						
HYT	Haines Junctio baz=227	85.97	22	P	P	06 20 47.7	0.0
POKR	Poker Plat Res baz=218	86.09	16	P	P	06 20 47.9	-0.3
L27K	Beaver Creek, baz=223	86.11	19	P	P	06 20 48.0	-0.3
H23K	Yukon River baz=216	86.14	14	P	P	06 20 48.6	+0.2
SCRK	Sand Creek comp=Z,23nm,1.5s	86.15	17	IAmb	IAmb	06 20 49.8	
SCRK	Sand Creek baz=221,SNR=9.3	86.15	17	P	P	06 20 48.1	-0.5
J25K	Salcha River, comp=Z,28nm,1.7s	86.25	17	IAmb	IAmb	06 20 57.6	
J25K	Salcha River, baz=220,SNR=6.2	86.25	17	P	P	06 20 49.5	+0.5
C18K	Utukok River	86.31	9	P	P	06 20 49.1	-0.1
C18K	Utukok River baz=205	86.31	9	P	P	06 20 49.1	-0.1
G08A	Pilot Rock G08A	86.34	41	P IAmb	P IAmb	06 20 49.4 06 20 51.6	-0.5
	comp=Z,15nm,1.1s						
F21K	Alatna River baz=212	86.42	12	P	P	06 20 49.8	0.0
O30N	Mendenhall baz=228	86.44	22	P	P	06 20 49.9	-0.1
Q12A	Willow Creek R comp=Z,23nm,1.2s	86.46	48	IAmb	IAmb	06 20 52.8	
N30M	Aishikik Lake baz=227	86.55	22	P	P	06 20 50.5	-0.1
H24K	Noodor Dome baz=217	86.55	15	P	P	06 20 50.6	+0.1
ULN	Ulaanbaatar	86.56	322	P	P	06 20 49.8	-1.3
ULN	Ulaanbaatar ULN	86.56	322	*d iP* pmax	P pmax	06 20 50.4	-0.7
	comp=Z,11nm,1.5s						
P32M	Atlin baz=230	86.57	24	P	P	06 20 50.4	-0.2
S34M	Telegraph Cree comp=Z,27nm,1.4s	86.58	26	IAmb	IAmb	06 20 52.5	
S34M	Telegraph Cree baz=233	86.58	26	P	P	06 20 51.0	+0.4
G22K	Bettles baz=214	86.59	13	P	P	06 20 50.9	+0.4
D19K	Kuna River baz=208	86.66	10	P	P	06 20 51.0	+0.1
J26L	Joseph Creek comp=Z,17nm,1.4s	86.67	17	IAmb	IAmb	06 21 01.2	
J26L	Joseph Creek baz=221	86.67	17	P	P	06 20 50.9	-0.2
G23K	Bananza Creek baz=215	86.75	14	P	P	06 20 51.5	+0.1
K27K	Chicken comp=Z,24nm,1.9s	86.75	18	IAmb	IAmb	06 21 03.8	
K27K	Chicken baz=223	86.75	18	P	P	06 20 51.6	+0.2
M29M	Somme Creek baz=226	86.75	20	P	P	06 20 50.8	-0.8
E20K	Nigu River baz=209	86.80	11	P	P	06 20 51.0	-0.6
SPR3	Spring Creek 3 SPR3	86.80	48	P IAmb	P IAmb	06 20 52.5 06 20 54.3	-0.2
	comp=Z,18nm,1.3s						
WHY	Whitehorse baz=229	86.81	23	P	P	06 20 51.4	-0.5
E08A	Dider Farm, El E08A	86.82	40	P IAmb	P IAmb	06 20 52.5 06 21 01.6	+0.4
	comp=Z,24nm,1.1s						
B18K	Kokolik River baz=204	86.87	9	P	P	06 20 52.4	+0.5
PRP	Porcupine Dome baz=219	86.91	16	P	P	06 20 52.4	+0.1
CCUT	Cedar City CCUT	86.94	50	P IAmb	P IAmb	06 20 53.5 06 20 55.6	+0.2
	comp=Z,17nm,1.4s						
F22K	John River baz=213	86.94	13	P	P	06 20 52.4	+0.1
SONM	Songino Array comp=Z,1.2nm,1.0s,baz=142,slow=3.3,SNR=8.0 SONM	86.94	322	P LR	P LR	06 20 52.5 06 59 33.1	-0.4
	comp=Z,23nm,18.3s,baz=122,slow=36 comp=Z,1.2nm,1.0s						
TUC	Tucson	86.97	55	P	P	06 20 53.1	-0.2
TUC	Tucson baz=249	86.97	55	P	P	06 20 52.8	-0.6
TUC	Tucson TUC	86.97	55	P pmax	P pmax	06 20 53.1	-0.2
	comp=Z,8.0nm,1.3s						
C19K	Lookout Ridge baz=206	86.97	9	P	P	06 20 53.0	+0.5
N31M	Braeburn, Yuko baz=228	87.03	22	P	P	06 20 53.3	+0.4
D20K	Etivluk River baz=209	87.12	11	P	P	06 20 53.0	-0.1
KNB	Kanab comp=Z,22nm,1.5s	87.13	50	IAmb	IAmb	06 20 56.6	
COLD	Coldfoot baz=215	87.13	13	P	P	06 20 53.6	+0.4
SZCU	Shurtz Canyon comp=Z,18nm,1.4s	87.15	50	IAmb	IAmb	06 20 56.6	
BMO	Blue Mountains BMO	87.19	42	P IAmb	P IAmb	06 20 53.9 06 20 55.8	-0.3
	comp=Z,20nm,1.6s						
BMO	Blue Mountains BMO	87.19	42	P pmax	P pmax	06 20 53.9	-0.3
	comp=Z,20nm,1.6s						
U15A	North Rim comp=Z,24nm,1.5s	87.31	51	IAmb	IAmb	06 21 05.5	
P33M	Teslin, Yukon baz=231	87.31	24	P	P	06 20 54.3	-0.1
L29M	L29M L29M	87.33	20	P IAmb	P IAmb	06 20 53.6 06 20 56.7	-0.7
	comp=Z,18nm,1.5s						
L29M	L29M baz=226	87.33	20	P	P	06 20 54.2	-0.1
G24K	Hadweenzic Riv baz=218	87.34	15	P	P	06 20 54.0	-0.3
DLBC	Dease Lake comp=Z,19nm,1.4s	87.36	26	IAmb	IAmb	06 20 56.1	
DLBC	Dease Lake baz=234	87.36	26	P	P	06 20 53.8	-0.8
DLBC	Dease Lake	87.36	26	LR	LR	06 52 13.0	
	comp=Z,141nm,21.6s,baz=262,slow=30						
E21K	Killik River baz=211	87.37	12	P	P	06 20 53.5	-0.8
I26K	Coal Creek Min	87.39	17	P	P	06 20 53.5	-0.9
I26K	Coal Creek Min baz=222	87.39	17	P	P	06 20 54.4	-0.1
M30M	Minto, Yukon baz=228	87.41	21	P	P	06 20 54.5	-0.2
E22K	Anaktuvuk Pass	87.54	12	P	P	06 20 55.1	-0.1
E22K	Anaktuvuk Pass baz=214	87.54	12	P	P	06 20 55.0	-0.1
R33M	Jennings River baz=233	87.54	25	P	P	06 20 55.0	-0.5
MFID	Camas Ranch MFID	87.55	44	P IAmb	P IAmb	06 20 55.8 06 20 57.7	-0.1
	comp=Z,18nm,1.2s						
EGAK	Eagle EGAK	87.57	18	P IAmb	P IAmb	06 20 54.7 06 20 56.2	-0.6
	comp=Z,13nm,1.2s						
EGAK	Eagle baz=224,SNR=7.3	87.57	18	P	P	06 20 54.8	-0.6
DAWY	Dawson	87.59	19	P	P	06 20 55.0	-0.6
DAWY	Dawson baz=225	87.59	19	P	P	06 20 55.7	+0.2
WUAZ	Wupatki baz=249	87.66	52	P	P	06 20 55.9	-0.8
GTA	Gaotai GTA	87.70	312	P pP	P pwP	06 20 57.5 06 21 05.3	+0.7 +2.3
	GTA			pmax	pmax		
	comp=Z,10.0nm,1.7s						
G25K	Bearman Lake baz=219	87.73	15	P	P	06 20 56.9	+0.9
C21K	Knifeblade Rid baz=211	87.83	11	P	P	06 20 57.0	+0.4
F24K	Squaw Lake baz=217	87.90	14	P	P	06 20 56.8	-0.1
E23K	Chandalar baz=216	87.94	13	P	P	06 20 57.5	+0.3
MTPU	Mount Pierson comp=Z,19nm,1.3s	87.98	50	IAmb	IAmb	06 21 01.3	
D22K	Ayikyak River baz=213	87.99	12	P	P	06 20 57.6	+0.3
M31M	Drury Creek, Y baz=230	88.00	22	P	P	06 20 57.7	+0.2
TCRU	Three Creeks R comp=Z,23nm,1.6s	88.00	49	IAmb	IAmb	06 21 24.6	
K29M	Barlow Dome K29M	88.03	20	P IAmb	P IAmb	06 20 56.9 06 20 58.3	-0.9
	comp=Z,15nm,1.6s						
K29M	Barlow Dome baz=227	88.03	20	P	P	06 20 57.7	-0.1
I27K	Kandik River baz=223	88.04	17	P	P	06 20 57.7	0.0
PLID	Pearl Lake comp=Z,14nm,1.4s	88.13	42	IAmb	IAmb	06 21 00.1	
MSU	Marysvale	88.17	49	P	P	06 20 59.2	+0.1
MSU	Marysvale	88.17	49	P	P	06 20 59.3	+0.1
B21K	Ikpikpuk River baz=211	88.27	11	P	P	06 20 58.6	0.0
DUG	Dugway, Tooele comp=Z,19nm,1.4s	88.34	47	IAmb	IAmb	06 21 01.7	
DUG	Dugway, Tooele baz=248,SNR=9.2	88.34	47	P	P	06 20 59.2	-0.6
DUG	Dugway, Tooele DUG	88.34	47	P pmax	P pmax	06 21 00.4	+0.6
	comp=Z,10.0nm,1.4s						
MAYO	Mayo, Yukon	88.40	20	P	P	06 20 58.5	-0.8
MAYO	Mayo, Yukon baz=228	88.40	20	P	P	06 20 59.3	-0.1
I28M	Miner Creek	88.41	18	P	P	06 20 58.3	-1.2
I28M	Miner Creek baz=225	88.41	18	P	P	06 20 59.4	-0.1
TOLK	Toolik Lake Re baz=216	88.43	13	P	P	06 20 58.9	-0.6
G26K	Porcupine Rive baz=221	88.46	16	P	P	06 20 59.6	+0.1
BGU	Big Grassy Mou BGU	88.47	47	P IAmb	P IAmb	06 21 00.6 06 21 02.4	+0.2
	comp=Z,17nm,1.4s						
D23K	Nanushuk River baz=214	88.47	12	P	P	06 20 59.3	-0.3
F25K	Christian Rive baz=219	88.49	15	P	P	06 20 59.7	0.0
H27K	Steamboat Moun baz=223	88.53	17	P	P	06 21 00.1	+0.2
HLID	Hailey HLID	88.55	44	P IAmb	P IAmb	06 21 01.4 06 21 03.0	+0.6
	comp=Z,12nm,1.1s						
HLID	Hailey baz=246,SNR=15	88.55	44	P	P	06 20 59.8	-1.0
W18A	Petrified Fore comp=Z,16nm,1.1s	88.77	53	IAmb	IAmb	06 22 26.8	
W18A	Petrified Fore baz=250	88.77	53	P	P	06 21 01.0	-1.0
NLU	North Lily Min	88.78	48	P	P	06 21 02.2	+0.2
NEW	Newport baz=244	88.78	39	P	P	06 21 01.1	-0.4
NEW	Newport comp=Z,79nm,20.0s,baz=272,slow=31	88.78	39	LR	LR	06 53 50.4	
I29M	Ogilvie Camp,	88.84	18	P	P	06 21 01.1	-0.2
I29M	Ogilvie Camp, baz=226,SNR=7.5	88.84	18	P	P	06 21 01.2	-0.2
J30M	Hart River baz=228	88.91	19	P	P	06 21 01.5	-0.4
E25K	Arctic Village baz=219	88.92	14	P	P	06 21 01.9	+0.2
G27K	Doyon Strip baz=223	88.92	16	P	P	06 21 02.1	+0.3
F26K	Sheenjek River baz=221	88.94	15	P	P	06 21 01.8	0.0
D24K	Happy Valley baz=216	89.01	13	P	P	06 21 01.5	-0.6
HMU	Henry Mountain comp=Z,24nm,1.5s	89.01	50	IAmb	IAmb	06 21 05.0	
SPUT	South Promonto SPUT	89.02	46	P IAmb	P IAmb	06 21 03.5 06 21 05.0	+0.5
	comp=Z,25nm,1.3s						
Q16A	Castle Valley	89.05	49	P	P	06 21 04.3	+1.1
B22K	Teshekpuk Lake baz=212	89.10	11	P	P	06 21 02.4	0.0
MPU	Maple Canyon MPU	89.11	48	P IAmb	P IAmb	06 21 04.0 06 21 05.7	+0.5
	comp=Z,17nm,1.4s						
C23K	Itkillik River comp=Z,18nm,1.4s	89.20	12	IAmb	IAmb	06 21 04.9	
C23K	Itkillik River baz=215	89.20	12	P	P	06 21 02.8	-0.1
SHL	Shillong	89.24	297	P	P	06 21 04.1	-0.3
SHL	Shillong SHL	89.24	297	P pmax	P pmax	06 21 04.1	-0.3
	comp=Z,11nm,0.4s						
CTU	Camp Tracy comp=Z,22nm,1.4s	89.28	47	IAmb	IAmb	06 21 06.1	
I30M	Mount Dempster	89.33	19	P	P	06 21 02.6	-1.2
H29M	Whitestone comp=Z,19nm,1.7s	89.42	18	IAmb	IAmb	06 21 13.6	
H29M	Whitestone baz=226	89.42	18	P	P	06 21 03.9	-0.2
121A	Cookes Peak, D baz=251	89.43	56	P	P	06 21 03.9	-1.2
C24K	Franklin Bluff baz=216	89.49	12	P	P	06 21 04.4	+0.1
P17A	Butcher Ranch,	89.56	49	P	P	06 21 06.5	+0.9
SRU	San Rafael Swe SRU	89.58	49	P IAmb	P IAmb	06 21 05.9 06 21 07.6	+0.2
	comp=Z,17nm,1.4s						
SRU	San Rafael Swe SRU	89.58	49	P pmax	P pmax	06 21 05.9	+0.2
	comp=Z,17nm,1.4s						
TOAD	Toad River Com baz=238,SNR=7.3	89.66	27	P	P	06 21 05.2	-0.3
D25K	Kavik River baz=219	89.67	13	P	P	06 21 05.5	+0.2
TCUT	Toone Canyon	89.68	47	P	P	06 21 06.6	+0.4
HWUT	Hardware Ranch	89.75	46	P	P	06 21 05.2	-1.2
ZAK	Zakamensk ZAK	89.91	323	*eP* pmax	P pmax	06 21 06.0	-0.9
	comp=Z,4.0nm,1.6s						
BSUT	Blindstream Ca comp=Z,25nm,1.4s	89.92	48	IAmb	IAmb	06 21 09.6	
E27K	Coleen River baz=223	89.94	15	P	P	06 21 06.6	+0.1
P18A	Preston Nutter P18A	89.97	49	P IAmb	P IAmb	06 21 08.3 06 21 14.3	+0.6
	comp=Z,25nm,2.0s						
F28M	Old Crow baz=225	89.98	16	P	P	06 21 06.8	+0.1
G29M	Pine Creek baz=226	90.00	17	P	P	06 21 06.9	0.0
EPYK	Eagle Plains baz=228	90.01	18	P	P	06 21 06.8	-0.1
ELIB	Princess Elisa comp=Z,6.5nm,1.3s	90.04	189	*d*P	P	06 21 05.5	-1.8
MCMT	McKenzie Canyo	90.08	43	P	P	06 21 08.4	+0.4
MSO	Missoula	90.15	41	P	P	06 21 07.3	-0.8
MSO	Missoula baz=247	90.15	41	P	P	06 21 07.6	-0.5
GOMU	GeErMu	90.25	308	P	P	06 21 11.8	+2.6
GOMU				pP	sP	06 21 15.5	+3.1
GOMU				sP	pwP	06 21 17.0	+1.6
GOMU				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BPMT	Black Pine Rid	90.31	41	P	P	06 21 08.8	-0.3
H31M	Peel River baz=230	90.36	19	P	P	06 21 09.1	+0.6
MVCO	Mesa Verde comp=Z,24nm,1.8s	90.43	51	IAmb	IAmb	06 21 19.6	
MVCO	Mesa Verde baz=250	90.43	51	P	P	06 21 09.0	-0.8
C26K	Camden Bay baz=220	90.46	13	P	P	06 21 09.3	+0.5
C27K	Jago River baz=221	90.51	14	P	P	06 21 10.0	+0.9
G30M	tAoh Zraii Nji baz=228	90.57	18	P	P	06 21 09.7	+0.2
E28M	Babbage River baz=225	90.78	16	P	P	06 21 11.1	+0.7
REDW	Red Top Meadow	90.87	45	P	P	06 21 11.1	-0.7
D27M	Malcolm River baz=224	90.88	15	P	P	06 21 11.6	+0.7
IMW	Indian Meadow comp=Z,18nm,1.5s	91.01	45	IAmb	IAmb	06 21 14.5	
MNTX	Cornudas Mount	91.10	57	P	P	06 21 12.8	+0.1
MNTX	Cornudas Mount baz=252	91.10	57	P	P	06 21 12.4	-0.4
G31M	Satah River baz=230	91.11	18	P	P	06 21 13.0	+1.1
F30M	Barrier River baz=228	91.11	17	P	P	06 21 12.8	+0.8
VHRN	Van Horn VHRN	91.14	58	P IAmb	P IAmb	06 21 13.5 06 21 15.2	+0.3
	comp=Z,20nm,1.4s						
BOZ	Bozeman (W) comp=Z,14nm,1.3s	91.17	43	IAmb	IAmb	06 21 14.9	
BOZ	Bozeman (W) baz=248,SNR=11	91.17	43	P	P	06 21 12.8	-0.2
ANMO	Albuquerque ANMO	91.25	54	P IAmb	P IAmb	06 21 13.9 06 21 15.3	+0.2
	comp=Z,13nm,1.3s						
ANMO	Albuquerque baz=252	91.25	54	P	P	06 21 13.6	-0.1
ANMO	Albuquerque comp=Z,7.0nm,1.2s,baz=346,slow=3.8,SNR=11 ANMO	91.25	54	P LR	P LR	06 21 13.8 06 57 27.8	+0.2
	comp=Z,57nm,18.7s,baz=348,slow=32 comp=Z,7.0nm,1.2s						
ANMO	Albuquerque ANMO	91.25	54	P pmax	P pmax	06 21 13.9	+0.2
	comp=Z,13nm,1.3s						
YHH	Holmes Hill	91.39	44	P	P	06 21 13.2	-0.9
PD31	Pinedale Array	91.55	46	P	P	06 21 15.6	+0.7
PDAR	Pinedale Array	91.55	46	P	P	06 21 15.1	+0.2
PDAR	Pinedale Array comp=Z,1.1nm,0.9s,baz=274,slow=4.3,SNR=7.1 PDAR	91.55	46	P LR	P LR	06 21 15.4 06 59 03.4	+0.5
	comp=Z,48nm,18.3s,baz=281,slow=33 comp=Z,1.1nm,0.9s						
O20A	White River Ci	91.59	49	P	P	06 21 15.0	-0.1
O20A	White River Ci baz=251	91.59	49	P	P	06 21 15.3	+0.2
TXAR	Lajitas Array comp=Z,2.6nm,1.0s,baz=227,slow=4.8,SNR=20 TXAR	91.80	60	P LR	P LR	06 21 16.6 06 55 47.2	+0.5
	comp=Z,74nm,18.7s,baz=224,slow=31 comp=Z,2.6nm,1.0s						
ALPN	Alpine	92.13	59	P	P	06 21 17.6	-0.1
SMCO	Snowmass	92.21	50	P	P	06 21 17.4	-0.8
INK	Inuvik baz=230	92.22	17	P	P	06 21 16.8	-0.2
INK	Inuvik comp=Z,89nm,19.5s,baz=178,slow=32	92.22	17	LR	LR	06 57 35.3	
TIXI	Tiksi comp=Z,64nm,18.7s,baz=146,slow=35	92.33	347	LR	LR	07 01 48.7	
TIXI	Tiksi TIXI	92.33	347	*‖ iP* pmax	P pmax	06 21 16.1	-1.4
	comp=Z,5.0nm,0.9s						
SNAA	Sanae comp=Z,105nm,20.2s,baz=205,slow=34	92.59	181	LR	LR	07 00 06.4	
SNAA	Sanae SNAA	92.59	181	*‖ eP* pmax	P pmax	06 21 17.2	-1.8
	comp=Z,21nm,1.4s						
SDCO	Great Sand Dun baz=252	92.86	52	P	P	06 21 20.3	-0.8
EDM	Edmonton EDM	93.00	35	P IAmb	P IAmb	06 21 20.8 06 21 22.1	-0.2
	comp=Z,16nm,1.4s						
EDM	Edmonton EDM	93.00	35	P pmax	P pmax	06 21 20.8	-0.2
	comp=Z,16nm,1.4s						
MNHN	Monahans MNHN	93.13	58	P IAmb	P IAmb	06 21 21.8 06 21 23.4	-0.4
	comp=Z,11nm,1.4s						
N23A	Red Feather La baz=252	93.50	49	P	P	06 21 23.4	-0.5
T25A	Trinidad baz=253	93.50	53	P	P	06 21 23.3	-0.7
K22A	Casper baz=252	93.63	47	P	P	06 21 23.6	-0.8
MSTX	Muleshoe baz=254	93.87	56	P	P	06 21 25.3	-0.3
OZNA	Ozona comp=Z,11nm,1.2s	94.36	59	IAmb	IAmb	06 21 29.0	
DRIO	Del Rio comp=Z,13nm,1.3s	94.38	61	IAmb	IAmb	06 21 29.3	
PALK	Pallekele comp=Z,54nm,18.3s,baz=278,slow=36	94.41	276	LR	LR	07 04 25.4	
AMTX	Amarillo baz=254	94.99	55	P	P	06 21 30.7	-0.1
JCT	Junction City baz=255	95.34	60	P	P	06 21 32.5	+0.1
C36M	Paulatuk baz=239	95.62	18	P	P	06 21 33.0	+0.4
APMT	Aspermont APMT	95.82	57	P IAmb	P IAmb	06 21 33.7 06 21 35.9	-0.8
	comp=Z,9.9nm,1.2s						
YKAB2	New Yellowknif	95.95	26	P	P	06 21 35.0	+0.6
YKA	Yellowknife Ar comp=Z,3.1nm,1.1s,baz=254,slow=4.8,SNR=21 YKA	95.98	26	P LR	P LR	06 21 33.5 06 57 11.4	-1.0
	comp=Z,107nm,21.8s,baz=230,slow=31 comp=Z,3.1nm,1.1s						
ABTX	Abilene, Hawle	96.03	58	P	P	06 21 34.6	-0.9
ABTX	Abilene, Hawle baz=255	96.03	58	P	P	06 21 35.1	-0.3
CMIG	Matias Romero comp=Z,90nm,18.8s,baz=184,slow=30	96.28	74	LR	LR	06 56 23.3	
WMQ	Urumqi	97.71	313	*eP*	P	06 21 44.0	+1.1
ARU	Arti	116.74	326	*‖ i*PKIKP	PKPdf	06 26 50.9	-0.9
MOS	Moscow MOS	127.86	330	*i* PKIKP *e*	PKPdf	06 27 12.7 06 29 17.1	-0.5
OBN	Obninsk	128.70	330	*e*PKIKP	PKPdf	06 27 16.4	+1.6
KMBO	Kilima Mbogo	133.38	253		PKPdf	06 27 24.6	-0.7
KMBO	Kilima Mbogo	133.38	253	PKIKP	PKPdf	06 27 24.6	-0.7
AK08	Malin Array Si	134.90	328	PKP	PKPdf	06 27 27.8	+1.1
CLL	Collm comp=Z,3.0nm,0.5s	141.31	340	*e*PKPdf	PKPdf	06 27 39.0	+0.5
CLL	Collm CLL	141.31	340	*e*PKIKP pmax	PKPdf pmax	06 27 39.0	+0.5
	comp=Z,3.0nm,0.5s						
LESA	Schwarzleotal comp=Z,2.9nm,0.5s	144.71	337	*e*PKP	PKPab	06 27 43.1	-0.3
KBA	Koelnbreinsper comp=Z,9.3nm,1.4s	144.74	336	*e*PKP	PKPab	06 27 42.9	-0.8
LIT	Litokhoron	144.97	319		PKPab	06 27 43.4	-1.2
LIT	Litokhoron	144.97	319	PKIKP	PKPab	06 27 43.4	-1.2
MYKA	Terra Mystica comp=Z,10nm,1.0s	144.98	335	*e*PKP	PKPab	06 27 43.4	-1.1
VISS	Visnje	145.14	333	*e*PKPbc	PKPbc	06 27 44.1	-0.8
WATA	Walderalm comp=Z,8.6nm,0.8s	145.19	338	*i* PKP	PKPbc	06 27 44.3	-0.9
WTTA	Wattenberg comp=Z,9.4nm,0.9s	145.22	338	*e*PKP	PKPbc	06 27 44.4	-1.0
FNA	Florina	145.25	321		PKPbc	06 27 44.3	-1.2

FNA	**Florina**	**145.25**	**321**	PKIKP	**PKPbc**	06 27 44.3	-1.2
ABTA	**Abfaltersbach**	**145.33**	**337**	*e*PKP	**PKPbc**	06 27 44.4	-1.2
	comp=Z,12nm,0.8s,SNR=6.1						
RETA	**Reutte**	**145.34**	**339**	*e*PKP	**PKPbc**	06 27 44.9	-0.7
	comp=Z,27nm,1.6s,SNR=6.3						
MOTA	**Moosalm**	**145.35**	**339**	*e*PKP	**PKPbc**	06 27 44.9	-0.8
	comp=Z,16nm,1.2s,SNR=8.0						
VOJS	**Vojsko**	**145.37**	**334**	*i* PKPbc	**PKPbc**	06 27 44.2	-1.5
GBRS	**Gornja Briga**	**145.37**	**333**	*i* PKPbc	**PKPbc**	06 27 45.1	-0.6
BFO	**Black Forest**	**145.38**	**342**		**PKPbc**	06 27 45.6	0.0
BFO	**Black Forest**	**145.38**	**342**	PKIKP	**PKPbc**	06 27 45.6	0.0
JAVS	**Javornik**	**145.40**	**334**	*i* PKPbc	**PKPbc**	06 27 44.6	-1.3
SQTA	**Sankt Quirin**	**145.41**	**338**	*e*PKP	**PKPbc**	06 27 45.3	-0.6
	comp=Z,11nm,0.9s,SNR=6.5						
PDG	**Podgorica**	**145.43**	**325**		**PKPbc**	06 27 43.9	-2.0
CIMO	**Cimolais**	**145.72**	**336**	PKPdf	**PKPdf**	06 27 45.8	-0.6
FETA	**Feichten**	**145.75**	**339**	*e*PKP	**PKPdf**	06 27 46.4	-0.3
	comp=Z,12nm,0.9s,SNR=7.1						
ECH	**Echery**	**145.81**	**343**	PKPdf	**PKPdf**	06 27 45.6	-0.9
ECH	**Echery**	**145.81**	**343**	PKP2	**PKPdf**	06 27 45.6	-0.9
DAVA	**Damuels**	**145.82**	**340**	*e*PKP	**PKPdf**	06 27 46.8	+0.1
	comp=Z,38nm,1.3s,SNR=14						
FUORN	**Ofenpass-Fuorn**	**146.26**	**339**	PKPbc	**PKPdf**	06 27 49.0	+1.4
TEOL	**Teolo**	**146.81**	**336**	PKPbc	**PKPdf**	06 27 50.1	+1.8
ITM	**Ithomi**	**146.96**	**315**	PKPbc	**PKPdf**	06 27 50.0	+1.2
CLF	**Chambon-Foret**	**147.13**	**349**	PKPbc	**PKPdf**	06 27 52.0	+3.3
FDMO	**Fiordimonte**	**148.09**	**332**	PKPbc	**PKPdf**	06 27 53.4	+2.9
NRCA	**Norcia**	**148.24**	**332**	PKPbc	**PKPdf**	06 27 53.7	+2.9
INTR	**Introdacqua**	**148.50**	**330**	PKPbc	**PKPdf**	06 27 54.5	+3.2
BNI	**Bardonecchia**	**148.82**	**341**	PKPbc	**PKPdf**	06 27 56.0	+4.2
BNI	**Bardonecchia**	**148.82**	**341**	PKP2	**PKPdf**	06 27 56.0	+4.2
CUC	**Castrocucco**	**148.99**	**325**	PKPbc	**PKPdf**	06 27 55.0	+2.9
TIP	**Timpagrande**	**149.01**	**323**	PKPbc	**PKPdf**	06 27 56.1	+3.9
SSB	**Saint Sauveur**	**149.22**	**344**		**PKPdf**	06 27 56.0	+3.7
SSB	**Saint Sauveur**	**149.22**	**344**	PKP2	**PKPdf**	06 27 56.0	+3.7
RAFF	**Raffo Rosso**	**151.72**	**323**	PKPbc	**PKPbc**	06 28 03.0	+0.2
KEST	**Kesra**	**155.59**	**327**	PKPab	**PKPab**	06 28 25.4	-2.6
ESDC	**Sonseca Array**	**156.20**	**355**	PKPab	**PKPab**	06 28 29.0	-1.3
	comp=Z,1.3nm,0.9s,baz=18,slow=4.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**171.39**	**252**	PKP	**PKPdf**	06 28 15.2	-2.1
	comp=Z,1.7nm,1.1s,baz=29,slow=3.3,SNR=5.1						
TORD				PKPab	**PKPab**	06 29 35.7	-2.0
	comp=Z,1.4nm,0.9s,baz=83,slow=6.0,SNR=5.2						

*NEIC **28** 06:08:51.4±2.1, 16°.27N±0°.04×98°.27W±0°.04, h10km±1km, mb4.4/164, Md4.7/155(MEX), Error ellipse: s-maj=6.4km s-min=5.7km az=226.0*

*MEX **28** 06:08:53.7±0.7, 16°.25N×98°.30W, h7km±3km, MD4.6*

*IDC **28** 06:08:54.5±2.1, 16°.76N×98°.02W, h0km, mb4.0/6, mbtmp3.9/11, ML3.8/5, MS3.4/8, Error ellipse: s-maj=41.0km s-min=13.1km az=18.0*

ISC 28 06:08:52.9±0.9, 16°.29N±0°.03×98°.27W±0°.02, h17km±5km, n544, σ1$95/620, mb4.4/48, MS3.4/5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**52**			**Pg**	**06 08 57.8**	**+0.4**
PNIG						**Sg**	**06 09 00.9**	**+0.5**
PNIG	**Pinotepa**	**0.17**	**52**	*i* P		**Pg**	**06 08 57.8**	**+0.4**
PNIG				*i* S		**Sg**	**06 09 00.9**	**+0.5**
YOIG	**Yosondua**	**0.90**	**51**			**Pg**	**06 09 09.7**	**-0.7**
YOIG						**Sg**	**06 09 21.3**	**-1.0**
YOIG	**Yosondua**	**0.90**	**51**	*e*P		**Pg**	**06 09 09.7**	**-0.7**
YOIG				*e*S		**Sg**	**06 09 21.3**	**-1.0**
CRIG	**Cruz Grande**	**0.94**	**299**			**Pg**	**06 09 09.0**	**-2.2**
CRIG						**Sg**	**06 09 20.8**	**-2.8**
CRIG	**Cruz Grande**	**0.94**	**299**	*e*P		**Pg**	**06 09 09.0**	**-2.2**
CRIG				*e*S		**Sg**	**06 09 20.8**	**-2.8**
MGIG	**Malinaltepec**	**1.00**	**340**			**Pg**	**06 09 10.7**	**-1.8**
MGIG						**Sg**	**06 09 23.8**	**-1.9**
MGIG	**Malinaltepec**	**1.00**	**340**	*e*P		**Pg**	**06 09 10.7**	**-1.8**
MGIG				*e*S		**Sg**	**06 09 23.8**	**-1.9**
TXIG	**Tlaxiaco**	**1.07**	**26**			**Pg**	**06 09 12.5**	**-1.4**
TXIG						**Sg**	**06 09 26.1**	**-1.8**
TXIG	**Tlaxiaco**	**1.07**	**26**	*e*P		**Pg**	**06 09 12.5**	**-1.4**
TXIG				*e*S		**Sg**	**06 09 26.1**	**-1.8**
PEIG	**Puerto Escondi**	**1.12**	**105**			**Pg**	**06 09 12.4**	**-2.2**
PEIG	**Puerto Escondi**	**1.12**	**105**	*e*P		**Pg**	**06 09 12.4**	**-2.2**
PEIG				*e*S		**Sg**	**06 09 26.4**	**-2.8**
TLIG	**Tlapa**	**1.30**	**347**	Pn		**Pn**	**06 09 15.5**	**-1.0**
TLIG				Sn		**Sb**	**06 09 32.2**	**-1.3**
TLIG	**Tlapa**	**1.30**	**347**	*e*P		**Pn**	**06 09 15.4**	**-1.1**
TLIG				*e*S		**Sb**	**06 09 32.0**	**-1.5**
DAIG	**Los Arroyos**	**1.51**	**299**			**Pn**	**06 09 17.3**	**-2.0**
DAIG						**Sn**	**06 09 34.9**	**-3.7**
DAIG	**Los Arroyos**	**1.51**	**299**	*e*P		**Pn**	**06 09 17.3**	**-2.0**
DAIG				*e*S		**Sn**	**06 09 34.9**	**-3.7**
HMTT	**Tlapaneco**	**1.53**	**350**			**Pn**	**06 09 19.7**	**+0.1**
HMTT						**Sn**	**06 09 38.7**	**-0.4**
HMTT	**Tlapaneco**	**1.53**	**350**	*e*P		**Pn**	**06 09 19.7**	**+0.1**
HMTT				*e*S		**Sn**	**06 09 38.7**	**-0.4**
HLIG	**Huajuapan de L**	**1.60**	**16**			**Pn**	**06 09 20.0**	**-0.7**
HLIG						**Sn**	**06 09 41.5**	**+0.5**
HLIG	**Huajuapan de L**	**1.60**	**16**	*e*P		**Pn**	**06 09 20.0**	**-0.7**
HLIG				*e*S		**Sn**	**06 09 41.5**	**+0.5**
FTIG	**Fresnillo de T**	**1.62**	**5**			**Pn**	**06 09 20.2**	**-0.7**
FTIG	**Fresnillo de T**	**1.62**	**5**	*i* P		**Pn**	**06 09 20.2**	**-0.7**
ACP2	**Acapulco**	**1.66**	**291**			**Pn**	**06 09 19.2**	**-2.1**
ACP2						**Sn**	**06 09 43.0**	**+0.9**
ACP2	**Acapulco**	**1.66**	**291**	*e*P		**Pn**	**06 09 19.2**	**-2.1**
ACP2				*e*S		**Sn**	**06 09 43.0**	**+0.9**
OXIG	**Oaxaca**	**1.67**	**62**			**Pn**	**06 09 21.0**	**-0.6**
OXIG						**Sn**	**06 09 43.8**	**+1.1**
VHO	**Vista Hermosa**	**1.67**	**62**	*e*P		**Pn**	**06 09 21.0**	**-0.6**
VHO				*e*S		**Sn**	**06 09 42.4**	**-0.3**
OXBJ	**Oaxaca**	**1.67**	**62**			**Pn**	**06 09 21.2**	**-0.5**
OXBJ						**Sn**	**06 09 44.2**	**+1.3**
OXBJ	**Oaxaca**	**1.67**	**62**	*e*P		**Pn**	**06 09 21.2**	**-0.5**
OXBJ				*e*S		**Sn**	**06 09 44.2**	**+1.3**
OXLC	**Oaxaca**	**1.69**	**62**	*e*P		**Pn**	**06 09 21.6**	**-0.3**
OXLC				*e*S		**Sn**	**06 09 44.8**	**+1.6**
CAIG	**El Cayaco**	**2.06**	**292**			**Pn**	**06 09 25.9**	**-0.9**
CAIG						**Sn**	**06 09 55.6**	**+3.5**
CAIG	**El Cayaco**	**2.06**	**292**	*e*P		**Pn**	**06 09 25.5**	**-1.3**
CAIG				*e*S		**Sn**	**06 09 55.6**	**+3.5**
MEIG	**Mezcala**	**2.08**	**322**			**Pn**	**06 09 27.0**	**-0.1**
MEIG						**Sn**	**06 09 52.9**	**+0.2**
MEIG	**Mezcala**	**2.08**	**322**	*e*P		**Pn**	**06 09 27.0**	**-0.1**
MEIG				*e*S		**Sn**	**06 09 52.9**	**+0.2**
TOIG	**Toxpalan**	**2.14**	**32**			**Pn**	**06 09 27.2**	**-0.8**
TOIG						**Sn**	**06 09 53.8**	**-0.4**
TOIG	**Toxpalan**	**2.14**	**32**	*e*P		**Pn**	**06 09 27.2**	**-0.8**
TOIG				*e*S		**Sn**	**06 09 53.8**	**-0.4**
HUIG	**Huatulco**	**2.14**	**104**			**Pn**	**06 09 29.7**	**+1.8**
HUIG						**Sb**	**06 10 00.8**	**+3.2**
HUIG	**Huatulco**	**2.14**	**104**	*e*P		**Pn**	**06 09 27.1**	**-0.8**
HUIG				*e*S		**Sb**	**06 10 00.8**	**+3.2**
ATYC	**Atoyac**	**2.27**	**294**	*e*P		**Pn**	**06 09 31.4**	**+1.7**
TPIG	**Tehuac#an**	**2.29**	**22**			**Pn**	**06 09 30.8**	**+0.6**
TPIG						**Sn**	**06 10 03.3**	**+5.2**
TPIG	**Tehuac#an**	**2.29**	**22**	*e*P		**Pn**	**06 09 30.8**	**+0.6**
TPIG				*e*S		**Sn**	**06 09 58.4**	**+0.3**
PLIG	**Platanillo**	**2.40**	**331**			**Pn**	**06 09 32.1**	**+0.5**
PLIG						**Sn**	**06 10 05.3**	**+4.6**
PLIG	**Platanillo**	**2.40**	**331**	*e*P		**Pn**	**06 09 32.1**	**+0.5**
PLIG				*e*S		**Sn**	**06 10 00.6**	**-0.2**
YAIG	**Yautepec**	**2.67**	**344**			**Pn**	**06 09 35.1**	**-0.3**
YAIG						**Sn**	**06 10 08.2**	**+0.7**
YAIG	**Yautepec**	**2.67**	**344**	*e*P		**Pn**	**06 09 35.1**	**-0.3**
YAIG				*e*S		**Sn**	**06 10 08.2**	**+0.7**
PHPU	**Puebla**	**2.74**	**2**			**Pn**	**06 09 38.7**	**+2.2**
PHPU						**Sn**	**06 10 15.3**	**+5.9**
PHPU	**Puebla**	**2.74**	**2**	*e*P		**Pn**	**06 09 38.7**	**+2.2**
PHPU				*e*S		**Sn**	**06 10 15.3**	**+5.9**
PPIG	**Popocatepetl**	**2.79**	**353**			**Pn**	**06 09 37.5**	**+0.3**
PPIG						**Sn**	**06 10 16.3**	**+5.6**
PPM	**Popocatepetl**	**2.79**	**353**	*e*P		**Pn**	**06 09 37.5**	**+0.3**
PPM				*e*S		**Sn**	**06 10 16.3**	**+5.6**
OZST	**Orizaba**	**2.79**	**23**	*e*P		**Pn**	**06 09 39.4**	**+2.4**
OZST				*e*S		**Sn**	**06 10 15.9**	**+5.4**
ARIG	**Puente Sto Nin**	**2.81**	**315**			**Pn**	**06 09 36.8**	**-0.3**
ARIG						**Sn**	**06 10 12.2**	**+1.6**
ARIG	**Puente Sto Nin**	**2.81**	**315**	*e*P		**Pn**	**06 09 36.6**	**-0.5**
ARIG				*e*S		**Sn**	**06 10 10.9**	**+0.3**
AMVM	**AMECAMECA**	**2.87**	**350**			**Pn**	**06 09 38.9**	**+0.6**
AMVM	**AMECAMECA**	**2.87**	**350**	*e*P		**Pn**	**06 09 38.9**	**+0.6**
MAVM	**Malinalco, Edo**	**2.90**	**336**			**Pn**	**06 09 39.3**	**+0.7**
MAVM						**Sn**	**06 10 12.5**	**-0.7**
MAVM	**Malinalco, Edo**	**2.90**	**336**	*e*P		**Pn**	**06 09 39.7**	**+1.1**
MAVM				*e*S		**Sn**	**06 10 12.5**	**-0.7**
MPVM	**San Francisco**	**2.98**	**346**	*e*P		**Pn**	**06 09 43.3**	**+3.6**
MPVM				*e*S		**Sn**	**06 10 12.7**	**-2.6**
TLVM	**San Miguel Top**	**3.03**	**344**	*e*P		**Pn**	**06 09 41.5**	**+1.1**
TLVM				*e*S		**Sn**	**06 10 12.1**	**-4.4**
XCVM	**Xochimilco**	**3.06**	**345**	*e*P		**Pn**	**06 09 42.4**	**+1.6**
THVM	**De Xico**	**3.08**	**348**	*e*P		**Pn**	**06 09 42.8**	**+1.7**
THVM				*e*S		**Sn**	**06 10 13.2**	**-4.5**
PET2	**Petatlan**	**3.12**	**294**	*e*S		**Sn**	**06 10 23.5**	**+5.1**
AOVM	**Tlapan**	**3.13**	**341**	*e*P		**Pn**	**06 09 43.7**	**+1.7**
UNM	**Universidad Na**	**3.15**	**344**	Pn		**Pn**	**06 09 42.1**	**+0.1**
UNM	**Universidad Na**	**3.15**	**344**	*e*P		**Pn**	**06 09 44.6**	**+2.6**
UNM				*e*S		**Sn**	**06 10 20.3**	**+1.0**
CUP5	**Mexico City**	**3.15**	**344**	*e*P		**Pn**	**06 09 45.9**	**+3.8**
CUP5				*e*S		**Sn**	**06 10 21.2**	**+1.8**
COVM	**Coyoacan**	**3.16**	**345**	*e*P		Pn	06 09 39.7	-2.5
COVM				*e*P		Pb	06 09 42.7	-6.1
COVM				*e*S		**Sn**	**06 10 25.7**	**+6.0**
TEJU	**Tejupilco**	**3.17**	**326**	*e*P		**Pn**	**06 09 41.9**	**-0.3**
TEJU				*e*S		**Sb**	**06 10 26.9**	**-0.4**
INVM	**La Marquesa**	**3.17**	**341**	*e*P		**Pn**	**06 09 43.2**	**+0.7**
INVM				*e*S		**Sn**	**06 10 20.8**	**+0.7**
BJVM	**Benito Juarez**	**3.19**	**345**	*e*P		**Pn**	**06 09 43.6**	**+1.0**
BJVM				*e*S		**Sn**	**06 10 25.5**	**+5.1**
TXVM	**Universitario**	**3.19**	**349**	*e*P		**Pn**	**06 09 42.7**	**+0.1**
TXVM				*e*S		**Sn**	**06 10 18.1**	**-2.3**
SCT2	**Benito Juarez**	**3.20**	**345**	*e*P		**Pn**	**06 09 44.7**	**+1.9**
SCT2				*e*P		**Pn**	**06 09 44.7**	**+1.9**
CJVM	**Cuajimalpa**	**3.21**	**343**	*e*P		**Pn**	**06 09 44.0**	**+1.1**
MHVM	**Bosque de Chap**	**3.23**	**344**	*e*P		**Pn**	**06 09 44.2**	**+1.0**
PBVM	**Pinon**	**3.23**	**346**			**Pn**	**06 09 41.8**	**-1.1**
PBVM	**Pinon**	**3.23**	**346**	*e*P		**Pn**	**06 09 42.2**	**-0.7**
PBVM				*e*S		**Sn**	**06 10 16.1**	**-4.9**
TOVM	**TOLUCA**	**3.27**	**336**			**Pn**	**06 09 43.1**	**-0.6**
TOVM	**TOLUCA**	**3.27**	**336**	*e*P		**Pn**	**06 09 42.7**	**-1.0**
TOVM				*e*S		**Sn**	**06 10 21.3**	**-1.1**
APVM	**Azcapotzalco**	**3.31**	**344**	*e*P		**Pn**	**06 09 43.7**	**-0.5**
APVM				*e*S		**Sn**	**06 10 21.3**	**-2.0**
ZIIG	**Zihuatanejo**	**3.33**	**294**			Pn	06 09 44.2	-0.1
ZIIG						**Sn**	**06 10 23.9**	**+0.4**
ZIIG	**Zihuatanejo**	**3.33**	**294**	*e*P		**Pn**	**06 09 44.2**	**-0.1**
ZIIG				*e*S		**Sn**	**06 10 23.9**	**+0.4**
CMIG	**Matias Romero**	**3.34**	**76**	Pn		**Pn**	**06 09 43.6**	**-0.9**
	13nm,0.3s,baz=257,slow=13,SNR=381							
CMIG				Sn		**Sn**	**06 10 21.6**	**-2.1**
	45nm,0.3s,baz=264,slow=18,SNR=4.9							
CMIG				Lg		Lg	06 10 31.9	
	61nm,0.3s,baz=287,slow=15,SNR=5.8 30nm,0.3s							
CMIG	**Matias Romero**	**3.34**	**76**	*e*P		**Pn**	**06 09 43.4**	**-1.1**
CMIG				*e*S		**Sn**	**06 10 24.5**	**+0.7**
XALA	**Xalapa**	**3.48**	**22**	*e*P		**Pn**	**06 09 50.4**	**+4.0**
XALA				*e*S		**Sn**	**06 10 31.8**	**+4.4**
VTVM	**Tizayuca**	**3.50**	**352**			**Pn**	**06 09 47.0**	**+0.1**
VTVM						**Sn**	**06 10 26.0**	**-2.1**
VTVM	**Tizayuca**	**3.50**	**352**	*e*P		**Pn**	**06 09 47.0**	**+0.1**
VTVM				*e*S		**Sn**	**06 10 26.0**	**-2.1**
PMUV	**Sontecomapan**	**3.75**	**53**	*e*P		**Pn**	**06 09 48.2**	**-1.9**
PMUV				*e*S		**Sn**	**06 10 31.3**	**-2.7**
ATVM	**ATLACOMULCO**	**3.77**	**337**			**Pn**	**06 09 51.0**	**+0.4**
ATVM						**Sn**	**06 10 31.1**	**-3.6**
ATVM	**ATLACOMULCO**	**3.77**	**337**	*e*P		**Pn**	**06 09 51.0**	**+0.4**
ATVM				*e*S		**Sn**	**06 10 31.1**	**-3.6**
LVIG	**Laguna Verde**	**3.84**	**27**	*e*P		**Pn**	**06 09 51.9**	**+0.6**
LVIG				*e*S		**Sn**	**06 10 44.3**	**+8.1**
MIHL	**Minatitlan**	**3.94**	**64**	*e*P		Pn	06 09 48.8	-3.9
ACIG	**Acambay**	**3.98**	**338**	*e*P		**Pn**	**06 09 58.0**	**+4.6**
ACIG				*e*S		**Sn**	**06 10 40.3**	**+0.5**
DHIG	**Demacu**	**4.06**	**350**			**Pn**	**06 09 55.9**	**+1.4**
DEIG	**Demacu**	**4.06**	**350**	*e*P		**Pn**	**06 09 55.9**	**+1.3**
TUIG	**Tuzandepetl**	**4.07**	**64**	*e*P		Pn	06 09 51.7	-2.7
TUIG				*e*S		**Sn**	**06 10 47.5**	**+5.8**
UXUV	**UXUV**	**4.08**	**75**	*e*P		**Pn**	**06 09 53.7**	**-0.9**
UXUV				*e*S		**Sn**	**06 10 44.0**	**+2.0**
CARR	**Arriaga**	**4.18**	**90**	*e*P		**Pn**	**06 09 54.9**	**-1.1**
CARR				*e*S		**Sn**	**06 10 40.4**	**-4.2**
MOIG	**Morelia**	**4.37**	**321**			Pn	06 09 55.9	-2.9
MOIG	**Morelia**	**4.37**	**321**	*e*P		**Pn**	**06 09 60.0**	**+1.2**
MOIG				*e*S		**Sn**	**06 10 49.5**	**0.0**
JRQG	**Juriquilla Cam**	**4.86**	**335**	*e*P		**Pn**	**06 10 04.0**	**-1.5**
JRQG				*e*S		**Sn**	**06 11 02.0**	**+0.6**
PCIG		**4.89**	**96**			**Pn**	**06 10 04.1**	**-1.6**
PCIG		**4.89**	**96**	*e*P		**Pn**	**06 10 05.4**	**-0.4**
PCIG				*e*S		**Sn**	**06 10 57.2**	**-4.8**
TGIG		**4.96**	**84**			**Pn**	**06 10 04.8**	**-2.0**
TGIG						**Sn**	**06 11 06.5**	**+2.6**
TGIG		**4.96**	**84**	*e*P		**Pn**	**06 10 06.8**	**0.0**
TGIG				*e*S		**Sn**	**06 11 06.5**	**+2.6**
MMIG	**Aquila**	**5.24**	**293**			**Pn**	**06 10 10.5**	**-0.1**
MMIG						**Sn**	**06 11 10.7**	**+0.1**
MMIG	**Aquila**	**5.24**	**293**	*e*P		**Pn**	**06 10 10.5**	**-0.1**
MMIG				*e*S		**Sn**	**06 11 10.7**	**+0.1**
RPIG	**Rio Verde**	**5.80**	**344**	*e*P		**Pn**	**06 10 22.1**	**+3.8**
RPIG				*e*S		**Sn**	**06 11 29.6**	**+5.1**
CCIG	**Comitan**	**5.89**	**89**			**Pn**	**06 10 18.8**	**-0.9**
CCIG	**Comitan**	**5.89**	**89**	*e*P		**Pn**	**06 10 19.2**	**-0.4**
CCIG				*e*S		**Sn**	**06 11 26.2**	**-0.7**
PATR	**El Naranjo**	**5.93**	**100**	*e*P		**Pn**	**06 10 20.4**	**+0.2**
PATR				*e*S		**Sn**	**06 11 22.8**	**-5.1**
THIG		**5.95**	**103**			**Sn**	**06 11 30.6**	**+2.6**
THIG		**5.95**	**103**	*e*S		**Sn**	**06 11 30.6**	**+2.6**
PAVE	**Pavencul**	**5.97**	**100**	*e*P		**Pn**	**06 10 21.5**	**+0.7**
PAVE				*e*S		**Sn**	**06 11 25.2**	**-3.7**
JUBC	**Volcan de Coli**	**5.98**	**303**	*e*P		**Pn**	**06 10 24.1**	**+3.1**
EZ5V		**5.99**	**303**			**Pn**	**06 10 23.7**	**+2.6**
EZ5V		**5.99**	**303**	*e*P		**Pn**	**06 10 23.7**	**+2.6**
EZ5V				*e*S		**Sn**	**06 11 33.6**	**+4.2**
MNGA	**Volcan de Coli**	**6.00**	**303**	*e*P		**Pn**	**06 10 24.3**	**+3.1**
MNGA				*e*S		**Sn**	**06 11 31.7**	**+2.1**
INCO	**Volcan de Coli**	**6.01**	**303**	*e*P		**Pn**	**06 10 24.3**	**+2.7**
INCO				*e*S		**Sn**	**06 11 34.2**	**+3.9**
SOMAC	**Volcano de Col**	**6.03**	**303**	*e*P		**Pn**	**06 10 24.1**	**+2.3**
SOMAC				*e*S		**Sn**	**06 11 32.5**	**+1.7**
CHUJ	**Union Juarez**	**6.05**	**100**	*e*P		**Pn**	**06 10 21.9**	**0.0**
CDAR	**Ciudad de Arme**	**6.08**	**297**	*e*P		**Pn**	**06 10 23.9**	**+1.9**
CDAR				*e*S		**Sn**	**06 11 38.6**	**+7.3**
CEGR	**Campo Tres**	**6.15**	**301**	*e*P		**Pn**	**06 10 24.6**	**+1.3**
CEGR				*e*S		**Sn**	**06 11 38.6**	**+5.2**
R15V		**6.15**	**299**			**Pn**	**06 10 24.7**	**+1.5**
R15V		**6.15**	**299**	*e*P		**Pn**	**06 10 24.7**	**+1.5**
R15V				*e*S		**Sn**	**06 11 33.7**	**+0.4**
HUEH	**Huehuetenango**	**6.58**	**97**	Pn		**Pn**	**06 10 31.5**	**+2.2**
GTIG	**Gomez Farias**	**6.80**	**353**	*e*P		**Pn**	**06 10 36.1**	**+4.1**
GTIG				*e*S		**Sn**	**06 11 52.3**	**+3.2**
CIHU	**Emiliano Zapat**	**6.83**	**297**	*e*P		**Pn**	**06 10 33.7**	**+1.2**
CIHU				*e*S		**Sn**	**06 11 52.7**	**+2.7**
AAIG	**Aguscalientes**	**6.86**	**326**			**Pn**	**06 10 31.1**	**-1.9**
AAIG	**Aguscalientes**	**6.86**	**326**	*e*P		**Pn**	**06 10 31.1**	**-1.9**
AAIG				*e*S		**Sn**	**06 11 52.9**	**+2.0**
CJM	**Chamela**	**7.20**	**297**	*e*P		**Pn**	**06 10 40.7**	**+3.2**
CJM				*e*S		**Sn**	**06 12 02.9**	**+4.0**
SCIG	**Sabancuy**	**7.26**	**67**	*e*S		**Sn**	**06 11 58.6**	**-1.9**
ESTA	**Talpa de Allen**	**7.46**	**304**	*e*P		**Pn**	**06 10 43.5**	**+2.3**
ESTA				*e*S		**Sn**	**06 12 08.4**	**+2.8**
ANIG	**Ahuacatlan**	**7.59**	**310**			**Pn**	**06 10 45.8**	**+2.8**
ANIG	**Ahuacatlan**	**7.59**	**310**	*e*P		**Pn**	**06 10 44.5**	**+1.6**
ZAIG	**Zacatecas**	**7.62**	**329**	Pn		Pn	06 10 40.7	-2.7
ZAIG	**Zacatecas**	**7.62**	**329**	*e*P		**Pn**	**06 10 46.4**	**+2.9**
ZAIG				*e*S		**Sn**	**06 12 13.5**	**+4.0**
APG	**El Apazote**	**7.63**	**99**	Pn		**Pn**	**06 10 45.2**	**+1.6**
	0.1nm,0.3s,baz=195,slow=13,SNR=8.6							
APG				Sn		**Sn**	**06 12 04.0**	**-5.8**
	0.1nm,0.3s,baz=224,slow=19,SNR=4.8							
APG				Lg		Lg	06 12 50.9	
	0.2nm,0.3s,baz=218,slow=17,SNR=3.7							
PETF	**Flores**	**8.08**	**84**			**Pn**	**06 10 49.9**	**+0.3**
LNIG	**Linares**	**8.64**	**353**	*e*P		**Pn**	**06 11 00.5**	**+3.2**
LNIG				*e*S		**Sn**	**06 12 34.2**	**-0.2**
TEIG	**Tepich**	**10.27**	**66**	Pn		**Pn**	**06 11 18.6**	**-1.0**
TEIG	**Tepich**	**10.27**	**66**	Pn		Pn	06 11 17.0	-2.6
	2.8nm,0.3s,baz=347,slow=1.6,SNR=34							
TEIG				Sn		Sn	06 13 08.3	-6.2
	1.3nm,0.3s,baz=301,slow=23,SNR=2.4							
TEIG				LR		LR	06 16 01.2	
	comp=Z,281nm,19.2s,baz=230,slow=43 5.9nm,0.4s							
833A	**Chaparral WMA,**	**12.03**	**355**			**Pn**	**06 11 43.9**	**+0.2**
833A	**Chaparral WMA,**	**12.03**	**355**	P		**Pn**	**06 11 44.0**	**+0.4**
	baz=173							

HZTE	**Horizontes, Gu**	**13.51**	**113**	Pn		**Pn**	**06 12 02.9**	**-1.0**
HKT	**Hockley**	**13.78**	**9**	Pn		**Pn**	**06 12 07.2**	**-0.4**
TXAR	**Lajitas Array**	**13.90**	**340**	Pn		**Pn**	**06 12 09.2**	**-0.2**
	baz=146,slow=9.1,SNR=4.2							
TXAR				Lg		Lg	06 16 02.8	
	baz=168,slow=30,SNR=1.9							
TXAR				LR		LR	06 18 21.8	
	comp=Z,149nm,19.7s,baz=147,slow=42 0.3nm,0.6s							
SAND	**Sanderson**	**14.06**	**346**			**Pn**	**06 12 10.3**	**-1.1**
JCT	**Junction City**	**14.20**	**355**	Pn		**Pn**	**06 12 11.9**	**-1.5**
JCT	**Junction City**	**14.20**	**355**	P		**Pn**	**06 12 14.7**	**+1.4**
	baz=173							
JTS	**Las Juntas de**	**14.26**	**113**	Pn		**Pn**	**06 12 12.9**	**-1.4**
JTS	**Las Juntas de**	**14.26**	**113**	Pn		Pn	06 12 19.0	+4.7
	0.7nm,0.3s,baz=301,slow=15,SNR=2.1 2.6nm,0.4s							
435B	**Jarrell**	**14.44**	**2**	P		**Pn**	**06 12 16.8**	**+0.1**
	baz=181							
OZNA	**Ozona**	**14.80**	**350**	Pn		**Pn**	**06 12 20.7**	**-0.9**
JACO	**JACO, Garabito**	**14.80**	**115**	Pn		**Pn**	**06 12 22.3**	**+0.6**
BRDY	**Brady**	**14.95**	**358**			**Pn**	**06 12 22.1**	**-1.4**
LCR2	**La Lucha 2**	**15.34**	**113**	Pn		**Pn**	**06 12 28.5**	**-0.6**
LCR2				IAmb		IAmb	06

OK048 IAmb IAmb 06 13 37.0
comp=Z,27nm,1.1s
OK051 E0350 and S346 20.18 3 P **P** **06 13 25.9 -0.8**
OK051 IAmb IAmb 06 13 38.1
comp=Z,28nm,1.2s
NOKA Waynoka 20.28 358 P **P** **06 13 26.8 -1.0**
NOKA IAmb IAmb 06 13 28.7
comp=Z,13nm,0.8s
FCAR Ozark Folk Cen 20.28 15 P **P** **06 13 26.6 -1.1**
HHAR Hobbs 20.28 10 P **P** **06 13 26.4 -1.5**
U38A Gravette 20.37 9 P **P** **06 13 26.9 -1.9**
BLOK Blackwell 20.41 2 P **P** **06 13 25.2 -4.1**
OK032 Salt Plains WL 20.44 0 P **P** **06 13 26.8 -2.7**
OK032 IAmb IAmb 06 13 39.5
comp=Z,29nm,1.0s
214A Organ Pipe Nat 20.45 322 P **P** **06 13 27.2 -2.5**
214A Organ Pipe Nat 20.45 322 P **P** **06 13 32.9 +3.2**
baz=135
RTBA Rita Blanca 20.46 350 P **P** **06 13 28.7 -1.2**
RTBA IAmb IAmb 06 13 43.1
comp=Z,13nm,1.1s
Y49A Blount Mountai 20.50 29 P **P** **06 13 29.5 -0.7**
Y49A IAmb IAmb 06 14 01.3
comp=Z,16nm,1.1s
T35A Sooner Cattle 20.61 4 **P** **06 13 30.0 -1.4**
T35A IAmb IAmb 06 13 35.6
comp=Z,13nm,0.8s
LNXT Lenox 21.23 20 P **P** **06 13 35.4 -2.6**
154A Montrose 21.28 37 P **P** **06 13 38.6 -0.1**
W18A Petrified Fore 21.38 333 P **P** **06 13 42.0 +2.1**
baz=147
FPAL Fort Paine 21.44 30 P **P** **06 13 39.4 -0.9**
MGMO Mountain Grove 21.45 13 P **P** **06 13 39.5 -1.0**
T25A Trinidad 21.47 346 P **P** **06 13 42.1 +1.2**
baz=163,SNR=13
PBMO Poplar Bluff 21.56 17 P **P** **06 13 43.9 +2.3**
PBMO IAmb IAmb 06 13 45.1
comp=Z,16nm,0.9s
X16A Lo Mia Camp, P 21.59 329 P **P** **06 13 45.1 +3.0**
113A Mohawk Valley, 21.59 322 P **P** **06 13 44.6 +2.7**
T42A Van Buren 21.62 16 P **P** **06 13 44.3 +2.0**
T42A IAmb IAmb 06 13 46.4
comp=Z,10.0nm,0.9s
GOGA Godfrey 21.66 35 P **P** **06 13 41.9 -0.8**
GOGA IAmb IAmb 06 13 50.2
comp=Z,10nm,0.8s
GOGA Godfrey 21.66 35 P **P** **06 13 41.3 -1.4**
baz=221
Y52A Lilburn 21.68 34 P **P** **06 13 41.7 -1.2**
Y52A IAmb IAmb 06 13 59.2
comp=Z,24nm,1.2s
S39A Bolivar 21.77 11 P **P** **06 13 43.2 -0.6**
X51A Calhoun 21.82 31 P **P** **06 13 44.1 -0.3**
X51A IAmb IAmb 06 14 15.2
comp=Z,31nm,1.4s
WVT Waverly 21.84 23 P **P** **06 13 43.1 -1.5**
WVT IAmb IAmb 06 13 46.7
comp=Z,16nm,0.8s
SWET Sewanee 21.84 28 P **P** **06 13 43.7 -1.0**
SWET IAmb IAmb 06 13 53.4
comp=Z,15nm,0.8s
R32A Long Quarter, 22.06 359 P **P** **06 13 47.2 +0.3**
R32A IAmb IAmb 06 13 59.6
comp=Z,12nm,0.9s
W50A Signal Mountai 22.12 29 P **P** **06 13 46.9 -0.8**
CGM3 Cape Girardeau 22.27 18 P **P** **06 13 47.7 -1.6**
CGM3 IAmb IAmb 06 14 02.2
comp=Z,19nm,1.3s
SDCO Great Sand Dun 22.31 345 P **P** **06 13 50.7 +0.7**
SDCO Great Sand Dun 22.31 345 P **P** **06 13 51.4 +1.5**
baz=160
CLTN Cedars of Leba 22.41 26 P **P** **06 13 53.2 +2.5**
CLTN IAmb IAmb 06 14 01.5
comp=Z,21nm,1.3s
GLA Glamis 22.42 321 P **P** **06 13 53.8 +2.9**
baz=133
WUAZ Wupatki 22.45 331 P **P** **06 13 53.8 +2.4**
WUAZ IAmb IAmb 06 14 04.2
comp=Z,16nm,1.1s
WUAZ Wupatki 22.45 331 P **P** **06 13 53.2 +1.9**
baz=144
R40A Maddies Statio 22.55 12 IAmb IAmb 06 14 13.4
comp=Z,11nm,0.9s
CCM Cathedral Cave 22.55 15 P **P** **06 13 52.2 0.0**
baz=197
MVCO Mesa Verde 22.72 338 P **P** **06 13 54.6 +0.3**
MVCO IAmb IAmb 06 14 06.2
comp=Z,20nm,1.2s
MVCO Mesa Verde 22.72 338 P **P** **06 13 55.4 +1.1**
baz=153
S44A Carbondale 22.76 19 IAmb IAmb 06 14 07.7
comp=Z,18nm,1.1s
KSU1 Kansas State U 22.78 3 IAmb IAmb 06 14 34.6
comp=Z,8.4nm,0.8s
KSU1 Kansas State U 22.78 3 P **P** **06 13 54.8 +0.2**
baz=183
SIUC Southern Illin 22.79 19 P **P** **06 13 54.0 -0.7**
SIUC IAmb IAmb 06 14 07.3
comp=Z,22nm,1.1s
T47A Sharon Grove 22.87 24 P **P** **06 13 55.1 -0.5**
PDMCI Parker Dam,Lak 22.92 324 P **P** **06 13 59.1 +3.0**
baz=137
HODGE Hodges 22.94 36 IAmb IAmb 06 14 03.5
comp=Z,12nm,0.8s
IKP In-Ko-Pah, Jac 22.94 318 P **P** **06 13 59.1 +2.6**
baz=130
KSCO Kaye Shedlock' 22.96 351 P **P** **06 13 57.5 +0.8**
baz=168
BC3 Big Chuckawall 23.21 321 P **P** **06 14 02.2 +2.8**
baz=133
TKL Tuckaleechee C 23.23 31 P **P** **06 13 59.1 -0.2**
comp=Z,5.4nm,0.9s,baz=214,slow=8.6,SNR=4.2
TKL LR LR 06 23 16.1
comp=Z,47nm,22.0s,baz=219,slow=38
comp=Z,5.4nm,0.9s
MONP2 Monument Peak 23.30 318 P **P** **06 14 03.1 +2.8**
baz=130
Q24A Divide 23.38 346 P **P** **06 14 02.4 +1.2**
baz=162
IRM Iron Mountain 23.39 323 P **P** **06 14 03.2 +2.3**
baz=134
USIN University of 23.53 21 P **P** **06 14 01.0 -1.3**
JSC Jenkinsville 23.55 37 P **P** **06 14 01.6 -0.9**
JSC IAmb IAmb 06 14 02.3
comp=Z,9.1nm,0.8s
P38A Dawn 23.62 9 P **P** **06 14 01.5 -1.6**
P38A IAmb IAmb 06 14 03.9
comp=Z,7.6nm,0.8s
109C Camp Elliot, M 23.74 318 P **P** **06 14 07.5 +3.1**
baz=129
BELC Belle Mtn. Jos 23.78 321 P **P** **06 14 07.5 +2.5**
baz=133
TPFO Pinon Flats 23.79 320 P **P** **06 14 07.6 +2.6**
baz=131
PFO Pinyon Flats O 23.80 320 P **P** **06 14 08.2 +3.1**
baz=131
TZTN Tazewell 24.04 30 P **P** **06 14 06.5 -0.7**
baz=216
SMCO Snowmass 24.05 343 P **P** **06 14 08.7 +1.1**
SMCO IAmb IAmb 06 14 22.6
comp=Z,18nm,1.4s
OLIL Olney 24.08 20 P **P** **06 14 05.7 -1.8**
OLIL IAmb IAmb 06 14 46.2
comp=Z,18nm,1.2s
GMRC Granite Mounta 24.13 323 P **P** **06 14 10.9 +2.7**
baz=134
MURC Murrieta 24.25 319 P **P** **06 14 12.5 +3.2**
baz=130
WCI Wyandotte Cave 24.27 23 P **P** **06 14 08.2 -1.1**
WCI Wyandotte Cave 24.27 23 P **P** **06 14 09.4 +0.1**
baz=208
ISCO Idaho Springs 24.29 346 P **P** **06 14 10.1 +0.3**
ISCO IAmb IAmb 06 14 12.1
comp=Z,8.6nm,0.8s
ISCO Idaho Springs 24.29 346 P **P** **06 14 11.2 +1.4**
baz=162,SNR=12
KNB Kanab 24.34 331 P **P** **06 14 10.2 0.0**
KNB IAmb IAmb 06 14 23.1
comp=Z,20nm,1.4s
V12A Nelson 24.36 326 P **P** **06 14 11.0 +0.7**
PKCU Pink Cliffs 24.46 332 P **P** **06 14 10.7 -0.7**
P43A Skaggs, Pawnee 24.49 16 P **P** **06 14 09.1 -2.2**
LCMT Little Creek M 24.54 330 P **P** **06 14 10.7 -1.2**
HEC Hector,Ludlow 24.55 322 P **P** **06 14 14.7 +2.7**
baz=133
TUQ Turquoise Moun 24.75 324 P **P** **06 14 16.2 +2.4**
baz=135,SNR=5.0
N38A Joes South For 24.81 9 P **P** **06 14 13.7 -0.5**
X58A Rowland 24.89 40 P **P** **06 14 13.2 -1.7**
U54A Nelsons Funny 24.89 33 P **P** **06 14 12.8 -2.3**
MTPU Mount Pierson 24.90 333 P **P** **06 14 16.2 +0.8**
W57A Gilead 24.90 38 P **P** **06 14 14.7 -0.4**
S51A Beattyville 24.91 29 P **P** **06 14 14.9 -0.2**
BFSC Mount Baldy Ra 24.96 319 P **P** **06 14 18.5 +2.8**
baz=130
GSC Goldstone, Bar 25.16 322 P **P** **06 14 20.1 +2.6**
baz=133
N41A Harden Midland 25.17 13 IAmb IAmb 06 14 29.0
comp=Z,9.4nm,0.9s
Q16A Castle Valley 25.22 336 P **P** **06 14 15.2 -3.0**
Q16A IAmb IAmb 06 14 29.7
comp=Z,7.7nm,0.8s
SHOC Shoshone, Teco 25.28 324 P **P** **06 14 21.3 +2.8**
baz=135
MVU Marysvale 25.30 334 P **P** **06 14 15.9 -3.0**
O20A White River Ci 25.30 342 P **P** **06 14 20.6 +1.7**
baz=156,SNR=8.5
DECC Green Verdugo 25.40 319 P **P** **06 14 23.0 +3.4**
baz=129
HDIL Hopedale 25.41 16 P **P** **06 14 19.6 0.0**
baz=200
N23A Red Feather La 25.41 346 IAmb IAmb 06 14 23.1
comp=Z,8.3nm,0.9s
N23A Red Feather La 25.41 346 P **P** **06 14 21.6 +1.7**
baz=162,SNR=6.2
EDW2 Edwards Air Fo 25.59 320 P **P** **06 14 24.2 +2.8**
baz=130
P48A Milroy 25.67 23 P **P** **06 14 20.5 -1.5**
P48A IAmb IAmb 06 14 22.2
comp=Z,7.8nm,0.8s
LRMC Laurel Mtn Rad 25.80 321 P **P** **06 14 26.4 +3.0**
baz=132
SFIN Lafayette 25.89 20 IAmb IAmb 06 14 25.1
comp=Z,14nm,1.1s
SFIN Lafayette 25.89 20 P **P** **06 14 24.0 +0.1**
baz=205
SCIA State Center 25.90 9 P **P** **06 14 24.5 +0.5**
baz=190
P49A Miami Univ. Ec 26.01 24 P **P** **06 14 23.4 -1.7**
P49A Miami Univ. Ec 26.01 24 P **P** **06 14 24.1 -1.0**
baz=210,SNR=8.3
MPMC Manual Prospec 26.09 323 P **P** **06 14 29.0 +3.0**
baz=133
BLA Blacksburg 26.15 34 P **P** **06 14 25.6 -0.8**
baz=222
CNNC Cliffs of the 26.23 40 P **P** **06 14 26.0 -1.0**
baz=229
L40A Anamosa 26.39 12 IAmb IAmb 06 14 29.0
comp=Z,12nm,1.0s
SBC Santa Barbara 26.40 317 P **P** **06 14 31.7 +3.0**
baz=127
O48B Farmland 26.47 23 P **P** **06 14 28.1 -1.0**
O48B Farmland 26.47 23 P **P** **06 14 28.6 -0.6**
baz=209
NLU North Lily Min 26.47 336 P **P** **06 14 26.2 -3.3**
BSUT Blindstream Ca 26.48 338 P **P** **06 14 27.4 -2.3**
CWC Cottonwood Cre 26.69 323 P **P** **06 14 33.8 +2.3**
baz=133
O49A Covington 26.72 24 P **P** **06 14 29.9 -1.6**
R11B Troy Canyon, C 26.73 329 P **P** **06 14 34.2 +2.4**
baz=140
PKM Mcpherson Peak 26.74 318 P **P** **06 14 34.5 +2.5**
baz=128
N47A Urbana 26.82 21 P **P** **06 14 31.3 -1.1**
VES Vestal, Richgr 26.89 320 P **P** **06 14 35.8 +2.7**
baz=136
DUG Dugway, Tooele 26.97 335 P **P** **06 14 32.9 -1.0**
DUG Dugway, Tooele 26.97 335 P **P** **06 14 35.6 +1.7**
baz=147
P52A Corning 27.19 28 P **P** **06 14 35.5 -0.2**
baz=215
K22A Casper 27.21 347 P **P** **06 14 35.1 -1.0**
K22A IAmb IAmb 06 14 46.2
comp=Z,7.7nm,1.1s
K22A Casper 27.21 347 P **P** **06 14 37.2 +1.1**
baz=162
L44A Lake County Fo 27.30 17 P **P** **06 14 36.1 -0.5**
baz=202
ACSO Alum Creek Sta 27.31 26 P **P** **06 14 35.4 -1.4**
ACSO Alum Creek Sta 27.31 26 P **P** **06 14 36.7 -0.1**
baz=213
ECSD EROS Data Cent 27.39 3 P **P** **06 14 38.2 +0.7**
baz=183
JFWS Jewell Farm 27.41 13 P **P** **06 14 36.7 -1.0**
JFWS IAmb IAmb 06 14 39.7
comp=Z,5.8nm,0.8s
JFWS Jewell Farm 27.41 13 P **P** **06 14 37.8 +0.2**
baz=196
PDAR Pinedale Array 28.10 342 P **P** **06 14 42.2 -1.9**
PDAR Pinedale Array 28.10 342 P **P** **06 14 45.2 +1.0**
comp=Z,0.8nm,0.6s,baz=133,slow=10,SNR=7.6
PDAR LR LR 06 26 49.7
comp=Z,106nm,20.0s,baz=170,slow=39
comp=Z,0.8nm,0.6s
O53A New Philadelph 28.11 28 P **P** **06 14 43.5 -0.4**
baz=216
L48A N Adams 28.20 22 P **P** **06 14 43.4 -1.4**
NVAR Mina Array Bea 28.22 325 P **P** **06 14 47.6 +2.4**
comp=Z,1.8nm,0.9s,baz=148,slow=10.0,SNR=12
comp=Z,1.8nm,0.9s
HVU Hansel Valley 28.31 337 IAmb IAmb 06 14 56.5
comp=Z,5.3nm,1.2s
SPMN Marine on St. 29.21 8 P **P** **06 14 53.5 -0.2**
baz=190
M53A WI Miller and 29.30 28 P **P** **06 14 53.7 -0.9**
baz=216
G40A Rib Lake 29.68 12 IAmb IAmb 06 14 58.0
comp=Z,4.4nm,0.8s
F36A Milaca 29.75 7 IAmb IAmb 06 14 58.3
comp=Z,3.5nm,0.8s
ERPA Erie 30.15 28 P **P** **06 15 01.4 -0.7**
baz=216
HLID Hailey 30.46 337 P P 06 15 02.7 -2.3
HLID Hailey 30.46 337 P **P** **06 15 06.7 +1.8**
baz=148
G45A Suttons Bay 30.57 18 P P 06 15 03.5 -2.2
GLMI Grayling 30.69 19 P **P** **06 15 06.0 -0.8**
baz=206
BOZ Bozeman (W) 31.30 342 P **P** **06 15 13.4 +1.1**
baz=154
E43A Lone Tree Farm 31.44 15 P **P** **06 15 12.4 -0.9**
MDND Maddock 31.49 358 P **P** **06 15 13.0 -0.9**
MDND Maddock 31.49 358 P **P** **06 15 14.6 +0.8**
baz=177
AGMN Agassiz Nation 31.98 3 P **P** **06 15 18.0 -0.2**
baz=184,SNR=5.6
EYMN Ely 32.06 9 P **P** **06 15 18.4 -0.4**
baz=192
BINY Binghamton 32.13 32 P **P** **06 15 18.1 -1.5**
baz=223
PLID Pearl Lake 32.36 336 IAmb IAmb 06 15 32.1
comp=Z,8.4nm,1.4s
DGMT Dagmar 32.46 353 P **P** **06 15 22.8 +0.5**
baz=169
NNA Nana 35.19 142 P **P** **06 15 47.0 +0.6**
NNA Nana 35.19 142 LR LR 06 27 15.8
comp=Z,58nm,19.1s,baz=312,slow=31
NEW Newport 35.45 338 LR LR 06 32 29.7
comp=Z,87nm,18.4s,baz=167,slow=40
FFC Flin Flon 38.47 357 P **P** **06 16 13.5 -0.4**
FFC IAmb IAmb 06 16 14.8
comp=Z,7.0nm,0.9s
EDM Edmonton 38.71 346 P **P** **06 16 15.2 -0.8**
EDM IAmb IAmb 06 16 25.4
comp=Z,8.6nm,0.9s
SCHQ Schefferville 45.46 25 P **P** **06 17 10.2 -0.9**
comp=Z,4.9nm,0.9s,baz=227,slow=5.8,SNR=6.4
comp=Z,4.9nm,0.9s
CRAG Craig 47.32 334 P **P** **06 17 26.8 +1.3**
baz=131
YKA Yellowknife Ar 47.57 350 P **P** **06 17 27.3 0.0**
comp=Z,1.1nm,0.9s,baz=159,slow=6.7,SNR=11
comp=Z,1.1nm,0.9s
DLBC Dease Lake 48.20 338 P **P** **06 17 33.6 +1.2**
baz=137
P33M Teslin, Yukon 50.47 338 P **P** **06 17 51.1 +1.3**
baz=135
SKAG Skagway 50.88 337 P **P** **06 17 54.9 +2.2**
baz=131
N32M Quiet Lake 51.23 339 P **P** **06 17 57.4 +1.9**
baz=135
WHY Whitehorse 51.52 338 P **P** **06 17 59.7 +2.0**
baz=132
FRB Frobisher Bay 51.64 16 LR LR 06 41 25.1
comp=Z,41nm,20.9s,baz=191,slow=38
O30N Mendenhall 52.04 338 P **P** **06 18 03.4 +1.9**
baz=131
N31M Braeburn, Yuko 52.41 338 P **P** **06 18 05.8 +1.6**
baz=132
M31M Drury Creek, Y 52.42 340 P **P** **06 18 06.6 +2.3**
baz=134
O29M Mount Kennedy 52.67 336 P **P** **06 18 08.8 +2.4**
baz=128
H03N2 Juan Fernandez 52.78 160 T T 07 14 53.2
baz=337,slow=77,SNR=346
H03N1 Juan Fernandez 52.79 160 T T 07 14 54.5
baz=337,slow=77,SNR=474
H03N3 Juan Fernandez 52.80 160 T T 07 14 53.3
baz=337,slow=77,SNR=334
N30M Aishikik Lake 52.86 338 P **P** **06 18 09.6 +2.0**
baz=130
M30M Minto, Yukon 53.49 339 P **P** **06 18 14.6 +2.3**
baz=131
YUK8 Steele Glacier 53.74 337 P **P** **06 18 15.8 +1.4**
baz=127
M29M Somme Creek 53.99 338 P **P** **06 18 18.2 +2.2**
baz=130
L29M L29M 54.31 339 P **P** **06 18 20.4 +2.2**
baz=130
BGLC Bering Glacier 54.47 334 P **P** **06 18 21.1 +1.9**
baz=123
K29M Barlow Dome 54.59 340 P **P** **06 18 21.4 +1.1**
baz=131
KAIM Kayak Island 54.84 334 P **P** **06 18 23.6 +1.6**
baz=122
H31M Peel River 54.98 343 P **P** **06 18 24.4 +1.4**
baz=136
I30M Mount Dempster 55.16 342 P **P** **06 18 25.8 +1.3**
baz=133
DAWY Dawson 55.36 339 P **P** **06 18 27.4 +1.6**
baz=129
BMRM Bremner River 55.48 335 P **P** **06 18 28.7 +2.0**
baz=122
L27K Beaver Creek, 55.59 338 P **P** **06 18 29.3 +1.8**
baz=126
M26K Nabesna, AK 55.64 337 P **P** **06 18 29.7 +1.9**
baz=125
EYAK Cordova Ski Ar 55.73 334 P **P** **06 18 30.5 +2.1**
baz=121
G31M Satah River 55.78 344 P **P** **06 18 29.7 +1.1**
baz=136
N25K Chitina, Valde 55.82 335 P **P** **06 18 30.9 +1.8**
baz=122
I29M Ogilvie Camp, 55.85 341 P **P** **06 18 30.0 +0.7**
baz=131
EPYK Eagle Plains 56.07 342 P **P** **06 18 32.1 +1.2**
baz=134
K27K Chicken 56.26 338 P **P** **06 18 34.2 +2.0**
baz=126
EGAK Eagle 56.40 340 P **P** **06 18 34.0 +0.8**
baz=128
H29M Whitestone 56.45 342 P **P** **06 18 34.7 +1.2**
baz=132
INK Inuvik 56.61 345 P **P** **06 18 35.2 +0.6**
INK IAmb IAmb 06 18 35.9
comp=Z,3.3nm,0.8s
INK Inuvik 56.61 345 P **P** **06 18 35.5 +0.9**
baz=138,SNR=5.5
F30M Barrier River 56.68 344 P **P** **06 18 36.2 +1.0**
baz=135
PAX Paxson 56.90 336 P **P** **06 18 37.8 +0.9**
baz=122
SCRK Sand Creek 56.91 338 P **P** **06 18 38.9 +1.9**
baz=124
J26L Joseph Creek 57.07 338 P **P** **06 18 38.0 0.0**
J26L IAmb IAmb 06 18 40.9
comp=Z,5.7nm,1.0s
J26L Joseph Creek 57.07 338 P **P** **06 18 40.4 +2.3**
baz=125,SNR=5.3
I27K Kandik River 57.07 340 P **P** **06 18 39.0 +1.0**
baz=128
SEW Seward 57.13 332 P **P** **06 18 40.0 +1.6**
baz=116
KNK Knik Glacier 57.31 334 P **P** **06 18 41.9 +2.2**
baz=118
I26K Coal Creek Min 57.40 339 P **P** **06 18 41.5 +1.2**
baz=126
H27K Steamboat Moun 57.43 341 P **P** **06 18 41.9 +1.4**
baz=128
SML Sawmill 57.45 334 P **P** **06 18 42.9 +2.1**
baz=119
K24K Donnelly Dome 57.47 337 P **P** **06 18 42.2 +1.4**
baz=122
WAT6 Susitna Watana 57.59 335 P **P** **06 18 42.9 +1.0**
baz=120
KDAK Kodiak Island 57.62 329 P **P** **06 18 44.1 +2.2**
baz=112
PMR Palmer 57.68 334 P **P** **06 18 43.6 +1.3**
baz=118
DHY Denali Highway 57.70 336 P **P** **06 18 44.0 +1.4**
baz=120
J25K Salcha River, 57.77 338 P **P** **06 18 43.7 +0.7**
baz=123
E29M Blow River 57.80 344 P **P** **06 18 44.7 +1.7**
baz=133
F28M Old Crow 57.82 343 P **P** **06 18 44.2 +1.0**
F28M IAmb IAmb 06 18 56.6
comp=Z,5.5nm,1.4s
F28M Old Crow 57.82 343 P **P** **06 18 44.5 +1.2**
baz=131
G27K Doyon Strip 57.84 341 P **P** **06 18 44.1 +0.8**
baz=128
A36M Sachs Harbour 57.92 350 P **P** **06 18 45.0 +1.3**
baz=149
M22K Willow 58.17 334 P **P** **06 18 47.6 +1.9**
baz=117
HDA Harding Lake 58.23 337 P **P** **06 18 47.2 +1.1**
baz=122
SUA Susitna One 58.31 333 P **P** **06 18 48.1 +1.3**
baz=116
PRP Porcupine Dome 58.33 339 P **P** **06 18 47.8 +0.8**
baz=124
E28M Babbage River 58.39 343 P **P** **06 18 48.1 +1.0**
baz=132
ILAR Eielson Array 58.41 338 P **P** **06 18 49.0 +1.6**
comp=Z,1.1nm,0.9s,baz=141,slow=5.4,SNR=10
comp=Z,1.1nm,0.9s
R18K Karluk 58.48 328 P **P** **06 18 49.4 +1.5**
baz=110
CHIR Chirikof Islan 58.50 326 P **P** **06 18 50.3 +2.2**
baz=108
Q19K Cape Douglas, 58.58 330 P **P** **06 18 50.5 +1.8**
baz=112
MCK McKinley 58.64 336 P **P** **06 18 50.2 +1.2**
baz=119
E27K Coleen River 58.69 343 P **P** **06 18 50.1 +0.7**
baz=129
POKR Poker Plat Res 58.79 338 P **P** **06 18 50.8 +0.8**
baz=121
N20K Mount Spurr 58.83 333 P **P** **06 18 51.5 +1.1**
baz=114
SKT Skwentna 58.87 334 P **P** **06 18 51.9 +1.2**
baz=116
TRF Thorofare Moun 59.03 336 P **P** **06 18 53.4 +1.5**
baz=118,SNR=5.4
NEA2 Nenana 59.12 337 P **P** **06 18 53.6 +1.3**
baz=119
F26K Sheenjek River 59.15 341 P **P** **06 18 53.6 +1.1**
baz=126
D27M Malcolm River 59.20 344 P **P** **06 18 54.0 +1.1**
baz=130
H24K Noodor Dome 59.33 339 P **P** **06 18 54.8 +1.0**
baz=121
I23K Minto, Yukon-K 59.50 338 P **P** **06 18 55.8 +1.0**
baz=119
P18K Big Mountain, 59.51 330 P **P** **06 18 56.4 +1.3**
baz=110
M20K Styx River 59.52 333 P **P** **06 18 55.7 +0.5**
baz=114
PPLA Purkeypile 59.55 335 P **P** **06 18 56.1 +0.6**
baz=115
F25K Christian Rive 59.55 341 P **P** **06 18 56.3 +1.0**
baz=124
BPAW Bear Paw Mtn. 59.61 336 P **P** **06 18 56.3 +0.6**
baz=117
G24K Hadweenzic Riv 59.65 340 P **P** **06 18 57.0 +1.1**
baz=122
O18K Koktuh Hills 59.67 331 P **P** **06 18 57.3 +1.1**
baz=111
N19K Bonanza Creek 59.69 332 P **P** **06 18 57.4 +1.0**
baz=112

CAST	**Castle Rocks**	**59.74 335**	IAmb	IAmb	06 18 57.5
	comp=Z,3.5nm,0.8s				
CAST	**Castle Rocks**	**59.74 335**	P	**P**	**06 18 57.0 +0.4**
	baz=116				
H23K	**Yukon River**	**59.91 338**	P	**P**	**06 18 58.6 +0.8**
	baz=120				
MLY	**Manley**	**59.95 337**	P	**P**	**06 18 59.1 +1.0**
	baz=118				
R16K	**Pilot Point**	**60.07 328**	P	**P**	**06 19 00.3 +1.4**
	baz=107				
M19K	**Big River Lodg**	**60.07 333**	P	**P**	**06 18 59.5 +0.6**
	baz=113				
L20K	**Farewell, AK**	**60.08 334**	P	**P**	**06 18 59.4 +0.4**
	baz=113				
C27K	**Jago River**	**60.20 343**	P	**P**	**06 19 00.1 +0.5**
	baz=128				
N18K	**Kilae Creek**	**60.28 331**	P	**P**	**06 19 01.1 +0.7**
	baz=110				
L19K	**White Mountain**	**60.38 333**	P	**P**	**06 19 02.4 +1.3**
	baz=112				
CHNA	**Chernabura Isl**	**60.40 324**	P	**P**	**06 19 02.2 +1.0**
	baz=104				
I21K	**Tanana**	**60.49 337**	P	**P**	**06 19 02.1 +0.4**
	baz=117				
K20K	**Telida**	**60.52 335**	P	**P**	**06 19 02.5 +0.5**
	baz=114				
G23K	**Bananza Creek**	**60.52 339**	P	**P**	**06 19 02.2 +0.2**
	baz=120				
O17K	**Koliganek Bris**	**60.53 330**	P	**P**	**06 19 02.6 +0.6**
	baz=109				
M18K	**Stony River**	**60.55 332**	P	**P**	**06 19 02.6 +0.5**
	baz=111				
H22K	**Ishtalitna Cre**	**60.60 338**	P	**P**	**06 19 03.0 +0.5**
	baz=118				
C26K	**Camden Bay**	**60.71 343**	P	**P**	**06 19 03.9 +0.9**
	baz=126				
E24K	**Your Creek**	**60.72 341**	P	**P**	**06 19 04.8 +1.5**
	baz=122				
D25K	**Kavik River**	**60.77 342**	P	**P**	**06 19 04.3 +0.7**
	baz=125				
COLD	**Coldfoot**	**60.84 339**	P	**P**	**06 19 05.0 +0.9**
	baz=120				
J20K	**Nowinta River**	**60.89 335**	P	**P**	**06 19 05.5 +1.1**
	baz=114				
O16K	**Kokwok River B**	**60.95 330**	P	**P**	**06 19 06.3 +1.4**
	baz=108				
H21K	**Melozitna Rive**	**61.01 337**	P	**P**	**06 19 05.6 +0.3**
	baz=116				
E23K	**Chandalar**	**61.07 340**	P	**P**	**06 19 06.7 +0.9**
	baz=121				
G22K	**Bettles**	**61.14 339**	P	**P**	**06 19 06.2 +0.2**
	baz=118				
L18K	**Granite Mounta**	**61.19 333**	P	**P**	**06 19 07.1 +0.6**
	baz=110				
M17K	**Holitna River**	**61.24 332**	P	**P**	**06 19 07.7 +0.8**
	baz=109				
I20K	**Naaghedeneel**	**61.28 336**	P	**P**	**06 19 07.2 +0.2**
	baz=114				
TOLK	**Toolik Lake Re**	**61.36 341**	P	**P**	**06 19 08.5 +0.8**
	baz=121				
D24K	**Happy Valley**	**61.40 342**	P	**P**	**06 19 09.1 +1.2**
	baz=122				
J19K	**Poorman**	**61.41 335**	P	**P**	**06 19 06.8 -1.2**
J19K			IAmb	IAmb	06 19 09.2
	comp=Z,4.4nm,0.9s				
J19K	**Poorman**	**61.41 335**	P	**P**	**06 19 08.4 +0.4**
	baz=112				
N16K	**Nishlik Lake**	**61.55 331**	P	**P**	**06 19 10.0 +0.9**
	baz=108				
F22K	**John River**	**61.65 339**	P	**P**	**06 19 10.5 +0.9**
	baz=118				
J18K	**Innoko River**	**61.66 334**	P	**P**	**06 19 10.6 +1.0**
	baz=111				
C24K	**Franklin Bluff**	**61.67 342**	P	**P**	**06 19 11.1 +1.5**
	baz=122				
H20K	**Anotleneega Mo**	**61.72 337**	P	**P**	**06 19 11.1 +1.0**
	baz=114				
M16K	**Timber Creek**	**61.81 331**	P	**P**	**06 19 11.9 +1.2**
	baz=108				
E22K	**Anaktuvuk Pass**	**61.82 340**	P	**P**	**06 19 11.9 +1.1**
	baz=118				
L17K	**Donlin**	**61.87 333**	P	**P**	**06 19 12.0 +0.9**
	baz=109				
D23K	**Nanushuk River**	**61.87 341**	P	**P**	**06 19 12.4 +1.3**
	baz=120				
F21K	**Alatna River**	**61.96 339**	P	**P**	**06 19 12.8 +1.1**
	baz=116				
K17K	**Iditarod**	**62.07 333**	P	**P**	**06 19 13.6 +1.1**
	baz=109				
N15K	**Kwethluk River**	**62.09 330**	P	**P**	**06 19 13.8 +1.2**
	baz=106				
L16K	**Owhat River**	**62.26 332**	P	**P**	**06 19 15.1 +1.4**
	baz=108				
C23K	**Itkillik River**	**62.30 342**	P	**P**	**06 19 15.1 +1.2**
	baz=120				
H19K	**Roundabout Mou**	**62.34 336**	P	**P**	**06 19 14.5 +0.4**
	baz=112				
D22K	**Ayikyak River**	**62.46 341**	P	**P**	**06 19 15.9 +0.9**
	baz=118				
F20K	**Avaraart Lake**	**62.68 338**	P	**P**	**06 19 17.6 +1.2**
	baz=114				
E21K	**Killik River**	**62.68 340**	P	**P**	**06 19 16.9 +0.4**
	baz=116				
G19K	**Purcell Mounta**	**62.81 337**	P	**P**	**06 19 18.6 +1.2**
	baz=112				
M14K	**Bethel**	**63.14 330**	P	**P**	**06 19 20.6 +1.0**
	baz=105				
L15K	**Ungalak Mounta**	**63.17 332**	P	**P**	**06 19 20.9 +1.2**
	baz=106				
F19K	**Shaleruckik Mo**	**63.33 338**	P	**P**	**06 19 21.1 +0.3**
	baz=112				
E20K	**Nigu River**	**63.34 339**	P	**P**	**06 19 21.9 +0.9**
	baz=114				
K15K	**Wolf Creek Mou**	**63.36 332**	P	**P**	**06 19 22.4 +1.3**
	baz=106				
E19K	**Redstone River**	**63.38 338**	P	**P**	**06 19 22.6 +1.5**
	baz=113				
B22K	**Teshekpuk Lake**	**63.38 342**	P	**P**	**06 19 21.5 +0.4**
	baz=118				
I17K	**Unalakleet**	**63.47 334**	P	**P**	**06 19 23.3 +1.6**
	baz=108				
H17K	**Granite Mounta**	**63.48 335**	P	**P**	**06 19 22.5 +0.7**
	baz=109				
L14K	**Kuka Creek**	**63.63 331**	P	**P**	**06 19 23.8 +1.0**
	baz=104				
D20K	**Etivluk River**	**63.67 340**	P	**P**	**06 19 24.4 +1.3**
	baz=114				
F18K	**Selawik**	**63.95 337**	P	**P**	**06 19 26.7 +1.9**
	baz=110				
D19K	**Kuna River**	**64.09 339**	P	**P**	**06 19 26.4 +0.6**
	baz=112				
A22K	**Sinclair Lake**	**64.15 342**	P	**P**	**06 19 27.1 +1.0**
	baz=116				
B20K	**Meade River**	**64.38 341**	P	**P**	**06 19 28.7 +1.1**
	baz=114				
J14K	**Nanvaranak Lak**	**64.39 332**	P	**P**	**06 19 29.6 +1.8**
	baz=104				
E18K	**Tukpahlearik C**	**64.58 338**	P	**P**	**06 19 30.0 +1.0**
	baz=109				
G16K	**Koyuk River**	**64.61 335**	P	**P**	**06 19 31.0 +1.8**
	baz=107				
E17K	**Hotham Inlet**	**64.92 337**	P	**P**	**06 19 32.6 +1.4**
	baz=108				
G15K	**Niukluk**	**65.18 335**	P	**P**	**06 19 34.5 +1.6**
	baz=105				
D17K	**Noatak River**	**65.57 338**	P	**P**	**06 19 36.9 +1.5**
	baz=107				
F15K	**North Star Dit**	**65.61 335**	P	**P**	**06 19 37.3 +1.5**
	baz=104				

*TIR **28** 06:14:55.5,39.25N×20.70E,h1km±1km,Md2.8,MI1.2*
*ATH **28** 06:14:56.6,39.26N×20.58E,h10km±3km,ML1.8/5,Error ellipse: s-maj=4.4km s-min=1.1km az=69.0*

ISC 28 06:14:56.8±1.1,39.22N±0.03×20.54E±0.06,h9km±11km, n13,σ0s54/22,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.35**	**333**	P	**Pg**	**06 15 03.0**	**-0.6**
	baz=315						
IGT				S	**Sb**	**06 15 10.9**	**+0.1**
	baz=315						
IGT				AMP			
	comp=E,1.1nm,0.5s,baz=315						
IGT	**Igoumenitsa**	**0.35**	**333**	P	**Pg**	**06 15 03.1**	**-0.6**
IGT				S	**Sg**	**06 15 08.2**	**-0.1**
IGT				AML	AML	06 15 11.6	
	comp=E,570μm,0.5s						
IGT				AML	AML	06 15 12.2	
	comp=N,349μm,0.3s						
TSLK	**Tsoukalades, L**	**0.41**	**167**	P	**Pg**	**06 15 04.9**	**+0.1**
TSLK				S	**Sg**	**06 15 11.1**	**+1.0**
TSLK				AML	AML	06 15 17.3	
	comp=N,319μm,0.3s						
TSLK				AML	AML	06 15 18.5	
	comp=E,327μm,0.5s						
LKD2	**Lefkada island**	**0.45**	**168**	P	**Pg**	**06 15 05.4**	**0.0**
	baz=185						
LKD2				S	**Sb**	**06 15 12.9**	**-0.7**
	baz=185						
LKD2				AMP			
	comp=E,0.3nm,0.4s,baz=185						
LKD2	**Lefkada island**	**0.45**	**168**	P	**Pg**	**06 15 05.5**	**0.0**
LKD2				S	**Sb**	**06 15 12.5**	**-1.1**
LKD2				AML	AML	06 15 21.0	
	comp=E,221μm,0.5s						
LKD2				AML	AML	06 15 22.8	
	comp=N,286μm,0.3s						
DRAG	**Dragano-Lefkad**	**0.54**	**177**	P	**Pg**	**06 15 07.2**	**-0.1**
EVGI	**Lefkada island**	**0.61**	**171**	P	**Pg**	**06 15 08.1**	**-0.5**
FSK	**Fiskardo**	**0.76**	**179**	P	**Pg**	**06 15 11.6**	**+0.1**
FSK				S	**Sb**	**06 15 22.6**	**-0.2**
FSK				AML	AML	06 15 30.6	
	comp=E,169μm,0.3s						
FSK				AML	AML	06 15 32.6	
	comp=N,74μm,0.4s						
SRN	**Sarande**	**0.78**	**328**	P	**Pb**	**06 15 12.7**	**+0.2**
	baz=320						
SRN				S	**Sn**	**06 15 25.9**	**+0.1**
	baz=320						
SRN				AMP			
	comp=N,0.1nm,0.3s,baz=320						
PVO	**Paravola**	**0.98**	**128**	P	**Pb**	**06 15 15.2**	**-0.8**
KEF3	**Kipouria, Keph**	**1.03**	**188**	P	**Pb**	**06 15 17.0**	**+0.2**
VLS	**Valsamata**	**1.05**	**178**	P	**Pb**	**06 15 17.3**	**+0.2**
VLS				S	**Sb**	**06 15 31.4**	**+0.5**
VLS				AML	AML	06 15 36.4	
	comp=E,184μm,0.4s						
VLS				AML	AML	06 15 38.0	
	comp=N,177μm,0.4s						
FNA	**Florina**	**1.69**	**22**	P	**Pg**	**06 15 29.9**	**+0.8**
	baz=18						
FNA				S	**Sg**	**06 15 51.2**	**+0.2**
	baz=18						
FNA				AMP			
	comp=E,0.0nm,0.4s,baz=18						

*IDC **28** 06:21:20.8±35.0,19.43N×155.68W,h0km,mb3.4/3, mbtmp3.4/3,Error ellipse: s-maj=754.9km s-min=58.5km az=38.0*
*HVO **28** 06:21:21.7±0.7,19.403N±0.005×155.290W±0.008, h0km±3km,ML3.3/47,ML3.0/41(NEIC),Error ellipse: s-maj=1.0km s-min=0.7km az=69.0*
*NEIC **28** 06:21:22.4±0.9,19.415N±0.005×155.297W±0.009, h5km±1km,Error ellipse: s-maj=2.0km s-min=1.5km az=288.0*

ISC 28 06:21:22.1±1.0,19.41N±0.03×155.31W±0.02,h2km±7km, n33,σ0s85/39,mb3.6/3,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.02**	**52**	Pg	**Pg**	**06 21 22.4**	**-0.3**
UWE				Sg	**Sg**	**06 21 23.1**	**0.0**
OBL	**Observatory Le**	**0.03**	**71**		**Pg**	**06 21 23.0**	**+0.3**
UWB	**Uwekahuna B**	**0.03**	**62**		**Pg**	**06 21 23.4**	**+0.6**
RIM	**Rim**	**0.04**	**112**		**Pg**	**06 21 23.0**	**+0.2**
KKO	**Keanakako`i**	**0.04**	**105**		**Pg**	**06 21 23.7**	**+0.7**
SBLHI	**Steaming Bluff**	**0.04**	**65**		**Pg**	**06 21 24.0**	**+1.0**
BYL	**Byron's Ledge**	**0.05**	**86**	Pg	**Pg**	**06 21 22.7**	**-0.3**
BYL				Sg	**Sg**	**06 21 23.6**	**-0.1**
HATHI	**Halema'uma'u T**	**0.05**	**73**	Pg	**Pg**	**06 21 22.8**	**-0.3**
HATHI				Sg	**Sg**	**06 21 24.3**	**+0.5**
RSD	**Rainshed**	**0.06**	**29**	Pg	**Pg**	**06 21 23.6**	**+0.3**
RSD				IAML		06 21 24.1	
	comp=N,10μm,0.7s						
RSD				IAML		06 21 24.8	
	comp=E,12μm,0.3s						
RSD				Sg	**Sg**	**06 21 25.6**	**+1.4**
PUH	**Pauahi**	**0.10**	**112**		**Pg**	**06 21 24.1**	**+0.1**
PUH				IAML		06 21 25.5	
	comp=E,7μm,0.8s						
PUH					**Sg**	**06 21 26.3**	**+1.1**
MLH	**Mauna Loa**	**0.11**	**319**		**Pg**	**06 21 25.4**	**+1.1**
MLH				IAML		06 21 26.9	
	comp=N,4μm,0.6s						
MLH				IAML		06 21 27.5	
	comp=E,7μm,1.1s						
HLP	**Hilina Pali**	**0.11**	**179**		**Pg**	**06 21 24.9**	**+0.6**
HLP				IAML		06 21 26.7	
	comp=E,3μm,0.7s						
HLP					**Sg**	**06 21 27.6**	**+1.8**
KNHH	**Kane Nui o Ham**	**0.14**	**103**		**Pg**	**06 21 24.8**	**+0.1**
STCH	**Steam Cracks**	**0.18**	**98**		**Pg**	**06 21 25.5**	**0.0**
STCH				IAML		06 21 29.4	
	comp=N,9μm,1.2s						
STCH				IAML		06 21 29.5	
	comp=E,8μm,1.1s						
NPOC	**North of Pu'u**	**0.19**	**95**		**Pg**	**06 21 26.2**	**+0.4**
HTC	**Hot Caves**	**0.19**	**206**		**Pg**	**06 21 26.4**	**+0.6**
JCUZ	**Jacuzzi**	**0.20**	**97**		**Pg**	**06 21 26.3**	**+0.4**
HMH	**Humu'ula Sheep**	**0.25**	**320**		**Pg**	**06 21 28.0**	**+1.0**
HMH				IAML		06 21 33.0	
	comp=N,4μm,0.5s						
HMH				IAML		06 21 35.0	
	comp=E,3μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.28**	**297**		**Pg**	**06 21 28.6**	**+1.0**
MLOA				IAML		06 21 33.5	
	comp=E,4μm,0.9s						
MLOA				IAML		06 21 34.1	
	comp=N,4μm,1.3s						
MWH	**Moku'aweowe**	**0.28**	**286**		**Pg**	**06 21 28.6**	**+1.1**
JOKA	**Jonika Flow**	**0.29**	**85**		**Pg**	**06 21 27.9**	**+0.3**
JOKA				IAML		06 21 33.8	
	comp=N,4μm,0.8s						
JOKA				IAML		06 21 34.5	
	comp=E,2μm,0.9s						
KHU	**Kahuku**	**0.33**	**241**		**Pg**	**06 21 29.3**	**+0.8**
KHU				IAML		06 21 38.6	
	comp=N,1μm,0.7s						
KHU				IAML		06 21 40.5	
	comp=E,2μm,0.9s						
ALEP	**Alea Permanent**	**0.34**	**293**		**Pb**	**06 21 30.5**	**-0.7**
PAH	**Pahoa**	**0.35**	**76**		**Pg**	**06 21 29.2**	**+0.4**
HPO	**Honuapo**	**0.39**	**216**	Pg	**Pg**	**06 21 28.0**	**-1.6**
POHA	**Pohakuloa**	**0.41**	**329**		**Pg**	**06 21 30.3**	**+0.4**
HUH	**Hualalai**	**0.57**	**299**		**Pb**	**06 21 33.8**	**-1.1**
CPH	**Captain Cook**	**0.58**	**278**		**Pg**	**06 21 33.2**	**0.0**
I59US	**HAWAII INFRASO**	**0.58**	**288**	Pg	**Pg**	**06 21 32.0**	**-1.2**
	baz=102,slow=118						
HPAH	**Hawaii Prepara**	**0.72**	**329**		**Pg**	**06 21 34.9**	**-0.9**
ILAR	**Eielson Array**	**45.68**	**5**	P	**P**	**06 29 43.5**	**-0.7**
	comp=E,0.5nm,0.8s,baz=201,slow=7.9,SNR=6.0						
	comp=E,0.5nm,0.8s						
TXAR	**Lajitas Array**	**47.74**	**68**	P	**P**	**06 30 02.4**	**+1.4**
	comp=E,0.8nm,0.8s,baz=248,slow=8.3,SNR=7.4						
	comp=E,0.8nm,0.8s						
YKA	**Yellowknife Ar**	**51.33**	**23**	P	**P**	**06 30 26.9**	**-0.8**
	comp=E,0.2nm,0.8s,baz=240,slow=7.1,SNR=2.7						
	comp=E,0.2nm,0.8s						

*NEIC **28** 06:45:28.1±1.2,19.399N±0.007×155.272W±0.006, h1km±2km,Error ellipse: s-maj=1.0km s-min=0.7km az=160.0*

HVO 28 06:45:27.3±1.0,19.410N±0.007×155.270W±0.006, h0km±3km,ML2.9/35,ML2.5/43(NEIC),Error ellipse: s-maj=1.0km s-min=0.7km az=168.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**77**	Pg	**Pg**	**06 45 27.9**	**+0.4**
BYL				Sg	**Sg**	**06 45 28.5**	**+0.8**
KKO	**Keanakako`i**	**0.01**	**162**		**Pg**	**06 45 28.1**	**+0.5**
OBL	**Observatory Le**	**0.01**	**300**		**Pg**	**06 45 28.0**	**+0.3**
RIM	**Rim**	**0.01**	**195**		**Pg**	**06 45 28.1**	**+0.4**
HATHI	**Halema'uma'u T**	**0.02**	**33**		**Pg**	**06 45 28.0**	**+0.4**
HATHI				Sg	**Sg**	**06 45 28.6**	**+0.7**
SBLHI	**Steaming Bluff**	**0.02**	**6**		**Pg**	**06 45 28.1**	**+0.4**
UWB	**Uwekahuna B**	**0.02**	**333**		**Pg**	**06 45 28.0**	**+0.3**
UWE	**Uwekahuna**	**0.02**	**297**		**Pg**	**06 45 28.3**	**+0.4**
UWE				Sg	**Sg**	**06 45 29.1**	**+1.0**
RSD	**Rainshed**	**0.05**	**352**		**Pg**	**06 45 29.0**	**+0.6**
RSD				Sg	**Sg**	**06 45 29.8**	**+0.7**
RSD				IAML		06 45 29.9	
	comp=E,4μm,0.1s						
PUH	**Pauahi**	**0.06**	**125**		**Pg**	**06 45 29.3**	**+0.8**
KNHH	**Kane Nui o Ham**	**0.10**	**108**		**Pg**	**06 45 30.1**	**+0.8**
HLP	**Hilina Pali**	**0.12**	**198**		**Pg**	**06 45 30.5**	**+0.9**
HLP				Sg	**Sg**	**06 45 32.6**	**+1.5**
HLP				IAML		06 45 33.3	
	comp=E,2μm,0.4s						
MLH	**Mauna Loa**	**0.14**	**307**		**Pg**	**06 45 31.0**	**+1.0**
MLH				Sg	**Sg**	**06 45 34.1**	**+2.3**
MLH				IAML		06 45 34.3	
	comp=E,2μm,0.2s						
MLH				IAML		06 45 34.3	
	comp=N,2μm,0.6s						
STCH	**Steam Cracks**	**0.14**	**100**		**Pg**	**06 45 30.7**	**+0.7**
STCH				Sg	**Sg**	**06 45 32.6**	**+0.7**
NPOC	**North of Pu'u**	**0.15**	**96**		**Pg**	**06 45 32.2**	**+1.9**
JCUZ	**Jacuzzi**	**0.16**	**99**		**Pg**	**06 45 31.1**	**+0.7**
HTC	**Hot Caves**	**0.21**	**215**		**Pg**	**06 45 32.3**	**+1.0**
JOKA	**Jonika Flow**	**0.25**	**85**	Pg	**Pg**	**06 45 32.4**	**+0.2**
JOKA				Sg	**Sg**	**06 45 37.2**	**+1.8**
JOKA				IAML		06 45 40.1	
	comp=E,1μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**314**		**Pg**	**06 45 33.4**	**+0.7**
HMH				Sg	**Sb**	**06 45 40.7**	**-0.1**
HMH				IAML		06 45 41.4	
	comp=E,671nm,0.7s						
HMH				IAML		06 45 42.0	
	comp=N,822nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.32**	**294**		**Pg**	**06 45 34.1**	**+0.7**
MLOA				Sg	**Sg**	**06 45 39.3**	**+1.8**
MLOA				IAML		06 45 44.2	
	comp=E,820nm,0.7s						
MLOA				IAML		06 45 44.5	
	comp=N,534nm,1.0s						
PAH	**Pahoa**	**0.32**	**74**	Pg	**Pg**	**06 45 33.6**	**+0.2**
MWH	**Moku'aweowe**	**0.32**	**284**	Pg	**Pg**	**06 45 34.4**	**+0.9**
KHU	**Kahuku**	**0.36**	**244**		**Pb**	**06 45 35.6**	**-1.2**
KHU				IAML		06 45 45.4	
	comp=E,505nm,1.1s						
ALEP	**Alea Permanent**	**0.38**	**290**		**Pg**	**06 45 35.0**	**+0.4**
ALEP					**Sg**	**06 45 39.5**	**0.0**
HPO	**Honuapo**	**0.42**	**220**	Pg	**Pg**	**06 45 33.4**	**-1.9**
POHA	**Pohakuloa**	**0.42**	**324**		**Pg**	**06 45 36.1**	**+0.6**
POHA				IAML		06 45 50.1	
	comp=E,550nm,0.5s						
POHA	**Pohakuloa**	**0.42**	**324**		**Sg**	**06 45 42.7**	**+1.7**
HUH	**Hualalai**	**0.60**	**297**		**Pg**	**06 45 39.7**	**+0.8**
CPH	**Captain Cook**	**0.62**	**277**		**Pg**	**06 45 39.3**	**+0.2**
HPAH	**Hawaii Prepara**	**0.74**	**327**		**Pg**	**06 45 40.8**	**-0.7**
HPAH				IAML		06 45 56.5	
	comp=E,175nm,0.9s						
HPAH				IAML		06 46 06.7	
	comp=N,163nm,0.8s						

IDC 28 06:55:30.9±5.1,55.71N×86.44E,h0km,mbtmp2.8/2, ML2.5/2,Error ellipse: s-maj=50.3km s-min=28.5km az=23.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**2.00**	**209**	I	I	07 07 50.0	
	baz=25,slow=331,SNR=7.4						
ZALV	**Zalesovo Beam**	**2.00**	**209**	Pn	Pn	06 56 05.7	-0.2
	3.3nm,0.3s,baz=28,slow=17,SNR=19						
ZALV				Sn	Sn	06 56 32.0	+0.5
	2.1nm,0.3s,baz=31,slow=28,SNR=7.2						
KURBB	**Kurchatov Arra**	**6.97**	**226**	Pn	Pn	06 57 13.9	-0.2
	0.1nm,0.3s,baz=44,slow=14,SNR=5.4						
KURBB				Lg	Lg	06 59 12.8	
	baz=49,slow=32,SNR=4.7						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**9.30**	**198**	Pn	Pn	06 57 46.4	+0.3
	0.1nm,0.3s,baz=22,slow=10,SNR=1.4						
	0.2nm,0.5s						

*IDC **28** 07:02:07.1±5.8,20.25S×178.03W,h526km±64km,mb2.9/7, mbtmp3.9/8,Error ellipse: s-maj=27.2km s-min=26.3km az=29.0*

ISC 28 07:02:10.8±0.7,20.25S±0.1×178.2W±0.2,h569km,n11, σ1s67/13,mb3.2/7,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.48**	**192**	P	**P**	**07 05 48.6**	**-3.4**
	18nm,1.1s,baz=318,slow=12,SNR=2.2						
URZ				S	**S**	**07 08 54.7**	**+3.1**
	12nm,1.1s,baz=267,slow=12,SNR=1.7						
ASAR	**Alice Springs**	**44.44**	**256**	P	**P**	**07 09 32.4**	**+0.2**
	0.6nm,0.8s,baz=79,slow=7.7,SNR=4.3						
ASAR				PcP	**PcP**	**07 11 03.8**	**+0.4**
	0.5nm,0.6s,baz=105,slow=3.9,SNR=4.8						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**44.49**	**262**	P	**P**	**07 09 33.0**	**+0.4**
	0.2nm,0.4s,baz=97,slow=7.4,SNR=9.0						
	0.2nm,0.4s						
QSPA	**South Pole Qui**	**69.89**	**180**	P	**P**	**07 12 24.6**	**-0.4**
	1.2nm,0.8s,baz=282,slow=0.6,SNR=5.2						
	1.2nm,0.8s						
NVAR	**Mina Array Bea**	**80.90**	**43**	P	**P**	**07 13 27.1**	**+0.6**
	0.2nm,0.6s,baz=210,slow=6.3,SNR=3.1						
	0.2nm,0.6s						
TXAR	**Lajitas Array**	**87.02**	**57**	P	**P**	**07 13 57.3**	**+0.6**
	0.3nm,0.7s,baz=214,slow=6.3,SNR=5.9						
	0.3nm,0.7s						
ILAR	**Eielson Array**	**88.03**	**13**	P	**P**	**07 14 00.0**	**-0.5**
	0.5nm,0.8s,baz=221,slow=5.6,SNR=4.6						
	0.5nm,0.8s						
SNAA	**Sanae**	**88.34**	**179**	P	**P**	**07 14 02.8**	**+0.7**
	1.5nm,0.3s,baz=151,slow=21,SNR=7.2						
	1.5nm,0.3s						
BVAR	**Borovoye Array**	**118.73**	**320**	PKP	**PKPdf**	**07 19 55.1**	**+0.6**
	0.5nm,0.4s,baz=62,slow=3.4,SNR=2.6						
AKASG	**Malin Array Be**	**142.65**	**331**	PKP	**PKPdf**	**07 20 37.3**	**-2.1**
	0.7nm,0.4s,baz=43,slow=3.9,SNR=7.4						
BRTR	**Keskin Array B**	**146.50**	**313**	PKPbc	**PKPbc**	**07 20 50.0**	**+0.8**
	0.5nm,0.4s,baz=47,slow=4.2,SNR=2.4						

IDC 28 07:04:33.9±3.3,54.31N×87.31E,h0km,mbtmp2.9/2, ML2.4/2,Error ellipse: s-maj=29.3km s-min=20.7km az=44.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.51**	**257**	I	I	07 13 49.9	
	baz=76,slow=328,SNR=4.9						
ZALV	**Zalesovo Beam**	**1.51**	**257**	Pg	Pn	07 05 01.0	-1.1
	1.4nm,0.3s,baz=73,slow=18,SNR=9.8						
ZALV				Lg	Lg	07 05 21.9	
	1.7nm,0.3s,baz=76,slow=29,SNR=6.0						
KURBB	**Kurchatov Arra**	**6.51**	**239**	Pn	Pn	07 06 11.2	+0.4
	0.1nm,0.3s,baz=57,slow=14,SNR=7.6						
KURBB				Lg	Lg	07 08 00.9	
	baz=46,slow=31,SNR=1.5						
	0.7nm,0.5s						
MKAR	**Makanchi Array**	**8.17**	**205**	Pn	Pn	07 06 35.0	+1.3
	0.1nm,0.3s,baz=27,slow=15,SNR=1.3						
	0.5nm,0.7s						

*CATAC **28** 07:10:13.0±0.8,14.75N×92.26W,h92km±5km,ML3.8*
*MEX **28** 07:10:13.5±0.9,14.71N×92.26W,h102km±7km,MD4.2*
*GCG **28** 07:10:16.4±0.3,14.89N×92.05W,h78km±19km,MD3.8*

ISC 28 07:10:11.5±1.4,14.77N±0.05×92.27W±0.03,h110km±7km, n46,σ1s88/78,Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THIG		**0.14**	**1**	*i* P	**Pn**	**07 10 26.9**	**+0.1**

SMSP				*i* S		**Sn**	07 10 41.7	**-0.1**
SMSP				IAML			07 10 47.0		
	comp=Z,5µm,1.0s								
RTAL	**Retalhuleu**	**0.61**	**114**	*e*P		**Pn**	**07 10 29.0**	**-0.2**
RTAL				*e*S		**Sn**	**07 10 41.2**	**-1.1**
RTAL	**Retalhuleu**	**0.61**	**114**	*i* P		**Pn**	**07 10 28.8**	**-0.3**
RTAL				*i* S		**Sn**	**07 10 41.6**	**-0.8**
RTAL				IAML			07 10 43.7		
	comp=Z,4µm,1.0s								
STG3	**Santiaguito 3,**	**0.68**	**95**	*e*P		**Pn**	**07 10 30.6**	**+0.6**
SULM	**Suchitepequez,**	**0.82**	**124**	*e*P		**Pn**	**07 10 32.3**	**+1.3**
HUEH	**Huehuetenango**	**0.92**	**54**	*e*P		**Pn**	**07 10 32.4**	**+0.3**
HUEH				*e*S		**Sn**	**07 10 47.6**	**-0.1**
HUEH	**Huehuetenango**	**0.92**	**54**	*i* P		**Pn**	**07 10 32.2**	**+0.1**
HUEH				IAML			07 10 32.8		
	comp=Z,2µm,1.0s								
HUEH				*i* S		**Sn**	**07 10 47.5**	**-0.1**
QUIS	**Sacapulas**	**1.25**	**65**	*i* P		**Pn**	**07 10 36.0**	**+0.5**
QUIS				IAML			07 10 37.0		
	comp=Z,3µm,1.0s								
QUIS				*i* S		**Sn**	**07 10 54.7**	**+1.0**
PCIG		**1.30**	**315**	*e*P		**Pn**	**07 10 37.2**	**+1.2**
PCIG				*e*S		**Sn**	**07 10 56.2**	**+1.6**
CCIG	**Comitan**	**1.51**	**5**	*e*P		**Pn**	**07 10 40.5**	**+1.9**
CCIG				*e*S		**Sn**	**07 11 00.2**	**+1.0**
CCIG	**Comitan**	**1.51**	**5**	*i* P		**Pn**	**07 10 40.3**	**+1.7**
CCIG				*i* S		**Sn**	**07 11 00.9**	**+1.7**
CCIG				IAML			07 11 03.0		
	comp=Z,620nm,1.0s								
GUMI	**Mixco**	**1.61**	**95**	*i* P		**Pn**	**07 10 40.3**	**+0.5**
GUMI				IAML			07 10 40.9		
	comp=Z,1µm,1.0s								
GUMI				*i* S		**Sn**	**07 11 03.0**	**+1.6**
NBG	**Las Nubes**	**1.87**	**95**	*e*P		**Pn**	**07 10 45.0**	**+1.9**
GUNB	**GUNB**	**1.87**	**95**	*i* P		**Pn**	**07 10 43.9**	**+0.7**
GUNB				IAML			07 11 19.5		
	comp=Z,220nm,1.0s								
AVCB	**Coban**	**1.93**	**69**	*i* P		**Pn**	**07 10 44.3**	**+0.5**
AVCB				IAML			07 11 08.6		
	comp=Z,2µm,1.0s								
TGIG		**2.16**	**338**	*e*P		**Pn**	**07 10 47.1**	**+0.5**
TGIG				*e*S		**Sn**	**07 11 12.5**	**-1.0**
CARR	**Arriaga**	**2.16**	**313**	*i* P		**Pn**	**07 10 48.8**	**+2.2**
CARR				*e*S		**Sn**	**07 11 16.0**	**+2.6**
MRL	**Marmol**	**2.52**	**83**	*e*P		**Pn**	**07 10 53.2**	**+1.8**
ESQI	**Esquipulas**	**2.84**	**94**	*i* P		**Pn**	**07 10 56.2**	**+0.7**
ESQI				*i* S		**Sn**	**07 11 30.7**	**+1.3**
ESQI				IAML			07 11 56.3		
	comp=Z,80nm,1.0s								
UXUV	**UXUV**	**3.11**	**325**	*e*P		**Pn**	**07 11 00.6**	**+1.6**
UXUV				*e*S		**Sn**	**07 11 35.3**	**-0.3**
PETF	**Flores**	**3.14**	**47**	*i* P		**Pn**	**07 11 00.4**	**+0.9**
PETF				*e*S		**Sn**	**07 11 33.0**	**-3.4**
PETF	**Flores**	**3.14**	**47**	*i* P		**Pn**	**07 11 00.1**	**+0.7**
PETF				IAML			07 11 01.2		
	comp=Z,560nm,1.0s								
PETF				*i* S		**Sn**	**07 11 34.3**	**-2.1**
CMIG	**Matias Romero**	**3.41**	**313**	*e*P		**Pn**	**07 11 04.9**	**+1.8**
CMIG				*e*S		**Sn**	**07 11 41.9**	**-1.0**
HUIG	**Huatulco**	**3.84**	**285**	*e*P		**Pn**	**07 11 09.5**	**+0.8**
HUIG				*e*S		**Sn**	**07 11 48.4**	**-4.6**
TUIG	**Tuzandepetl**	**3.85**	**328**	*e*P		**Pn**	**07 11 08.7**	**-0.1**
SCIG	**Sabancuy**	**4.30**	**14**	*e*P		**Pn**	**07 11 16.1**	**+1.2**
SCIG				*e*S		**Sn**	**07 11 58.7**	**-5.4**
NEUV	**Arroyo Zacate**	**4.48**	**311**	*e*P		**Pn**	**07 11 17.7**	**+0.4**
NEUV				*i* S		**Sn**	**07 12 09.2**	**+0.8**
PMUV	**Sontecomapan**	**4.64**	**324**	*e*P		**Pn**	**07 11 7.9**	**-1.7**
PEIG	**Puerto Escondi**	**4.86**	**285**	*e*P		**Pn**	**07 11 23.8**	**+1.3**
PEIG				*e*S		**Sn**	**07 12 11.9**	**-5.8**
VHO	**Vista Hermosa**	**4.87**	**299**	*e*P		**Pn**	**07 11 26.3**	**+3.5**
VHO				*e*S		**Sn**	**07 12 16.7**	**-1.4**
YOIG	**Yosondua**	**5.49**	**293**	*e*P		**Pn**	**07 11 34.2**	**+3.0**
YOIG				*e*S		**Sn**	**07 12 30.6**	**-2.7**
TOIG	**Toxpalan**	**5.67**	**306**	*e*P		**Pn**	**07 11 36.0**	**+2.5**
TOIG				*e*S		**Sn**	**07 12 36.8**	**-0.6**
TXIG	**Tlaxiaco**	**5.84**	**296**	*e*P		**Pn**	**07 11 37.9**	**+1.9**
TXIG				*e*S		**Sn**	**07 12 42.1**	**+0.4**
HLIG	**Huajuapan de L**	**6.12**	**301**	*e*P		**Pn**	**07 11 40.6**	**+0.8**
HLIG				*e*S		**Sn**	**07 12 47.2**	**-1.4**
JAUV	**Jalcomulco**	**6.30**	**317**	*e*P		**Pn**	**07 11 41.3**	**-0.7**
JAUV				*e*S		**Sn**	**07 12 49.6**	**-3.0**
FTIG	**Fresnillo de T**	**6.44**	**300**	*e*P		**Pn**	**07 11 47.7**	**+3.8**
FTIG				*e*S		**Sn**	**07 12 53.4**	**-2.6**
TLIG	**Tlapa**	**6.66**	**295**	*e*P		**Pn**	**07 11 47.1**	**+0.2**
CRIG	**Cruz Grande**	**6.89**	**287**	*e*P		**Pn**	**07 11 50.8**	**+0.8**
CRIG				*e*S		Sn	07 12 58.2	-8.7
PPM	**Popocatepetl**	**7.43**	**306**	*e*P		Pn	07 12 02.9	+5.1
DAIG	**Los Arroyos**	**7.45**	**288**	*e*P		**Pn**	**07 12 00.2**	**+2.6**
DAIG				*e*S		Sn	07 13 08.4	-12
YAIG	**Yautepec**	**7.68**	**303**	*e*P		**Pn**	**07 12 04.3**	**+3.6**

*NEIC **28** 07:13:54.8±1.1, 19°.405N±0°.005×155°.283W±0°.007, h1km±4km, Error ellipse: s-maj=0.9km s-min=0.7km az=47.0*

HVO 28 07:13:53.9±1.1, 19°.401N±0°.006×155°.279W±0°.007, h1km±3km, ML2.6/38, ML2.5/42(NEIC), Error ellipse: s-maj=0.9km s-min=0.8km az=133.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**138**		Pg	07 13 55.1	+0.8
KKO	**Keanakako`i**	**0.01**	**102**		Pg	07 13 55.4	+1.0
OBL	**Observatory Le**	**0.02**	**344**		Pg	07 13 54.8	+0.4
BYL	**Byron's Ledge**	**0.02**	**57**	Pg	Pg	07 13 54.5	+0.1
BYL				Sg	Sg	07 13 55.2	+0.5
UWB	**Uwekahuna B**	**0.02**	**2**		Pg	07 13 55.6	+1.1
UWE	**Uwekahuna**	**0.02**	**327**	Pg	Pg	07 13 54.9	+0.5
UWE				Sg	Sg	07 13 55.9	+1.0
HATHI	**Halema`uma`u T**	**0.03**	**37**	Pg	Pg	07 13 55.0	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**21**		Pg	07 13 56.5	+2.0
RSD	**Rainshed**	**0.06**	**1**	Pg	Pg	07 13 56.0	+0.9
RSD				IAML		07 13 56.9	
	comp=E,3µm,0.3s						
PUH	**Pauahi**	**0.07**	**114**	Pg	Pg	07 13 56.2	+1.0
PUH				IAML		07 13 56.8	
	comp=N,4µm,0.2s						
PUH				IAML		07 13 56.9	
	comp=E,5µm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**101**		Pg	07 13 57.0	+1.0
HLP	**Hilina Pali**	**0.11**	**195**		Pg	07 13 57.1	+1.1
HLP				IAML		07 13 59.0	
	comp=E,2µm,0.5s						
HLP					Sg	07 13 59.5	+2.1
MLH	**Mauna Loa**	**0.14**	**313**		Pg	07 13 57.7	+1.1
MLH					Sg	07 14 00.4	+2.0
STCH	**Steam Cracks**	**0.15**	**96**		Pg	07 13 57.6	+0.8
STCH					Sg	07 13 59.7	+1.0
STCH				IAML		07 14 02.2	
	comp=N,2µm,0.4s						
NPOC	**North of Pu`u**	**0.16**	**93**		Pg	07 13 57.9	+0.9
JCUZ	**Jacuzzi**	**0.17**	**96**		Pg	07 13 58.0	+0.9
HTC	**Hot Caves**	**0.20**	**215**		Pg	07 13 58.7	+1.0
JOKA	**Jonika Flow**	**0.26**	**83**		Pg	07 13 59.2	+0.2
JOKA				IAML		07 14 04.4	
	comp=E,578nm,1.2s						
JOKA				IAML		07 14 05.6	
	comp=N,917nm,0.7s						
HMH	**Humu`ula Sheep**	**0.28**	**316**		Pg	07 14 00.3	+1.0
HMH				IAML		07 14 08.3	
	comp=N,1µm,0.8s						
HMH				IAML		07 14 08.9	
	comp=E,1µm,0.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**296**		Pg	07 14 00.9	+1.1
MLOA				IAML		07 14 09.7	
	comp=E,572nm,0.4s						
MLOA				IAML		07 14 10.6	
	comp=N,719nm,0.6s						
MWH	**Moku`aweowe**	**0.31**	**286**		Pb	07 14 01.8	-0.8
PAH	**Pahoa**	**0.33**	**73**		Pb	07 14 02.2	-0.4
KHU	**Kahuku**	**0.35**	**244**		Pg	07 14 01.7	+1.0
KHU				IAML		07 14 08.4	
	comp=N,669nm,0.5s						
KHU				IAML		07 14 11.7	
	comp=E,558nm,0.5s						
ALEP	**Alea Permanent**	**0.37**	**292**		Pg	07 14 01.6	+0.5
POHA	**Pohakuloa**	**0.43**	**326**		Pg	07 14 02.6	+0.4
POHA				IAML		07 14 17.5	
	comp=E,786nm,0.8s						
POHA	**Pohakuloa**	**0.43**	**326**		Sg	07 14 06.5	-1.2
HUH	**Hualalai**	**0.60**	**298**		Pb	07 14 06.6	-0.7
CPH	**Captain Cook**	**0.61**	**278**		Pg	07 14 06.1	+0.5
HPAH	**Hawaii Prepara**	**0.74**	**328**		Pg	07 14 07.3	-0.8
HPAH				IAML		07 14 30.9	
	comp=E,201nm,1.3s						
HPAH				IAML		07 14 33.5	
	comp=N,247nm,1.1s						

DJA 28 07:14:58.3±0.4, 3°S±7°×12°7E±°, h47km±6km, M4.1/6, mb5.0/3, mB5.4/1, MLv3.7/6, Mw(mB)4.9/1, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NLAI	**Namlea**	**0.24**	**300**	P	Pn	07 15 08.2	+1.6
NLAI				S	Sn	07 15 15.4	+2.9
SANI	**Sanana**	**1.85**	**315**	P	Pn	07 15 27.6	0.0
LBMI	**Labuha**	**2.71**	**4**	P	Pn	07 15 39.4	0.0
FAKI	**Fak Fak**	**4.95**	**85**	P	Pn	07 16 10.4	+0.2
LUWI	**Luwuk**	**5.09**	**297**	P	Pn	07 16 12.0	0.0
	40nm,0.4s,4µm0.5nm						
SAUI	**Saumlaki**	**6.07**	**139**	P	Pn	07 16 25.6	0.0
	275nm,1.0s,2.1nm						

*IDC **28** 07:20:59.6±1.4, 4°.905S×153°.56E, h0km, mb3.7/9, mbtmp3.8/10, ML2.2/1, MS3.5/12, Error ellipse: s-maj=48.3km s-min=21.3km az=126.0*

*NEIC **28** 07:21:00.6±1.4, 4°.9S±0°.1×153°.75E±0°.09, h10km±1km, mb4.4/11, Error ellipse: s-maj=20.9km s-min=15.6km az=182.0*

ISC 28 07:21:00.4±0.7, 4°.96S±0°.08×153°.68E±0°.10, h10km, n34, σ0s98/26, mb4.0/15, MS3.4/11, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.70**	**297**	Pn	**Pn**	**07 21 31.2**	**+1.1**
MANU	**Manus Island**	**6.94**	**294**	Pn	**Pn**	**07 22 43.6**	**+1.3**
HNR	**Honiara**	**7.64**	**126**	LR	LR	07 25 44.7	
	comp=Z,3µm,21.9s,baz=252,slow=37						
PMG	**Port Moresby**	**7.83**	**235**	Pn	**Pn**	**07 22 55.6**	**+1.1**
	2.1nm,0.3s,baz=263,slow=9.7,SNR=1.8						
PMG				Sn	**Sn**	**07 24 22.5**	**-0.8**
	8.2nm,0.3s,baz=121,slow=23,SNR=9.4						
	8.9nm,0.4s						
PATS	**Pohnpei**	**12.60**	**22**	Pn	**Pn**	**07 23 58.7**	**-1.2**
LIFNC	**LIFOU**	**20.51**	**141**	P	**P**	**07 25 38.7**	**-0.2**
MTN	**Manton Dam**	**23.60**	**249**	P	**P**	**07 26 10.2**	**-1.5**
MTN				IAmb	IAmb	07 26 13.3	
	comp=Z,9.1nm,0.8s						
WB0	**Warramunga Arr**	**23.86**	**230**	P	**P**	**07 26 14.2**	**0.0**
WR0	**Warramunga Arr**	**23.86**	**230**	P	**P**	**07 26 14.2**	**-0.1**
WRAB	**Tennant Creek**	**23.99**	**230**	P	**P**	**07 26 13.8**	**-1.7**
WRAB				IAmb	IAmb	07 26 24.4	
	comp=Z,10nm,1.0s						
WB2	**Warramunga Arr**	**24.00**	**230**	P	**P**	**07 26 16.0**	**+0.4**
WB2				IAmb	IAmb	07 26 16.6	
	comp=Z,9.8nm,1.1s						
WRA	**Warramunga Arr**	**24.00**	**230**	P	**P**	**07 26 16.1**	**+0.5**
	comp=Z,2.9nm,0.7s,baz=52,slow=9.5,SNR=29						
WRA				LR	LR	07 35 31.3	
	comp=Z,100nm,18.4s,baz=340,slow=36						
	comp=Z,2.9nm,0.7s						
ARMA	**Armidale**	**25.40**	**184**	P	**P**	**07 26 28.2**	**-0.1**
ARMA				IAmb	IAmb	07 26 45.7	
	comp=Z,8.0nm,1.1s						
ASAR	**Alice Springs**	**26.63**	**224**	P	**P**	**07 26 39.6**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=52,slow=7.7,SNR=6.2						
	comp=Z,1.0nm,0.8s						
BATI	**Baumata**	**30.20**	**258**	LR	LR	07 41 31.9	
	comp=Z,223nm,18.8s,baz=162,slow=41						
FITZ	**Fitzroy Crossi**	**30.36**	**242**	P	**P**	**07 27 12.1**	**-0.6**
DAV	**Davao City (W)**	**30.49**	**293**	LR	LR	07 39 11.5	
	comp=Z,60nm,18.2s,baz=134,slow=36						
KAPI	**Kappang**	**33.80**	**268**	LR	LR	07 43 44.0	
	comp=Z,66nm,18.2s,baz=84,slow=40						
NWAO	**Narrogin (SRO)**	**43.91**	**226**	LR	LR	07 47 30.2	
	comp=Z,103nm,18.0s,baz=280,slow=36						
KS19	**Wonju Array Si**	**48.61**	**333**	P	**P**	**07 29 43.1**	**-1.3**
CMAR	**Chiang Mai Arr**	**58.74**	**295**	P	**P**	**07 31 00.1**	**+1.0**
	comp=Z,1.7nm,0.9s,baz=106,slow=5.4,SNR=5.1						
CMAR				LR	LR	07 55 10.4	
	comp=Z,9.1nm,20.6s,baz=195,slow=35						
	comp=Z,1.7nm,0.9s						
MA2	**Magadan**	**64.38**	**358**	LR	LR	08 01 55.4	
	comp=Z,13nm,18.0s,baz=139,slow=38						
SONM	**Songino Array**	**66.93**	**327**	P	**P**	**07 31 53.5**	**+0.2**
	comp=Z,0.4nm,0.6s,baz=167,slow=6.8,SNR=1.9						
	comp=Z,0.4nm,0.6s						
KDAK	**Kodiak Island**	**75.93**	**26**	LR	LR	07 59 20.1	
	comp=Z,35nm,20.8s,baz=236,slow=30						
K20K	**Telida**	**78.56**	**21**	P	**P**	**07 33 02.8**	**+0.9**
K20K				IAmb	IAmb	07 33 07.7	
	comp=Z,5.1nm,1.4s						
KNK	**Knik Glacier**	**79.65**	**24**	P	**P**	**07 33 07.4**	**-0.6**
KNK				IAmb	IAmb	07 33 14.9	
	comp=Z,7.3nm,1.1s						
MKAR	**Makanchi Array**	**81.02**	**319**	P	**P**	**07 33 15.2**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=109,slow=7.9,SNR=2.3						
	comp=Z,0.6nm,0.8s						
ILAR	**Eielson Array**	**81.98**	**22**	P	**P**	**07 33 21.4**	**+1.1**
	comp=Z,0.3nm,0.8s,baz=235,slow=3.2,SNR=2.3						
ILAR				LR	LR	08 07 19.0	
	comp=Z,28nm,18.6s,baz=102,slow=34						
	comp=Z,0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**84.47**	**322**	P	**P**	**07 33 33.1**	**-0.3**
	comp=Z,0.5nm,0.9s,baz=110,slow=4.0,SNR=2.6						
	comp=Z,0.5nm,0.9s						
INK	**Inuvik**	**88.29**	**21**	LR	LR	08 13 51.9	
	comp=Z,15nm,18.2s,baz=178,slow=36						
YBH	**Yreka Blue Hor**	**88.51**	**48**	LR	LR	08 08 09.7	
	comp=Z,26nm,18.1s,baz=299,slow=32						
BVAR	**Borovoye Array**	**89.90**	**323**	P	**P**	**07 33 59.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=111,slow=6.3,SNR=2.0						
	comp=Z,0.7nm,0.7s						
NVAR	**Mina Array Bea**	**91.49**	**52**	P	**P**	**07 34 09.7**	**+1.9**
	comp=Z,0.2nm,0.7s,baz=230,slow=2.2,SNR=1.7						
	comp=Z,0.2nm,0.7s						
TORD	**Torodi Ar. Bea**	**151.19**	**288**	PKPbc	**PKPbc**	**07 40 54.6**	**-0.5**
	comp=Z,1.0nm,0.6s,baz=85,slow=2.3,SNR=8.4						

*IDC **28** 07:26:46.2±3.4, 0°.49N×99°.72E, h0km, mb3.8/5, mbtmp3.8/5, MS3.1/1, Error ellipse: s-maj=189.7km s-min=27.3km az=51.0*

*DJA **28** 07:27:03.8±0.4, 0°.7N±3°×10°.0E±°, h156km±5km, M4.3/13, mb4.7/3, mB5.5/1, MLv4.1/13, Mw(mB)4.9/1*

*NEIC **28** 07:27:04.1±1.4, 0°.51N±0°.08×99°.89E±0°.07, h162km±6km, mb4.3/7, Error ellipse: s-maj=13.0km s-min=9.4km az=211.0*

ISC 28 07:27:03.3±0.7, 0°.53N±0°.07×99°.88E±0°.05, h150km, n30, σ1s29/31, mb4.1/10, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKNI	**Bangkinang**	**1.18**	**100**	Pn	**Pn**	**07 27 31.3**	**+1.7**
BKNI				Sn	**Sn**	**07 27 51.7**	**+1.9**
BKNI	**Bangkinang**	**1.18**	**100**	P	**Pn**	**07 27 31.0**	**+1.3**
BKNI				S	**Sn**	**07 27 51.2**	**+1.4**
PDSI	**Padang**	**1.55**	**158**	P	**Pn**	**07 27 34.7**	**+1.3**
PBSI	**Pulau Batu**	**1.70**	**250**	P	**Pn**	**07 27 37.0**	**+1.9**
PBSI				S	**Sn**	**07 28 01.0**	**+1.6**
SISI	**Saibi**	**2.01**	**203**	P	**Pn**	**07 27 39.5**	**+0.9**
GSI	**Gunungsitoli**	**2.43**	**288**	Pn	**Pn**	**07 27 45.6**	**+2.0**
GSI				Sn	**Sn**	**07 28 14.9**	**+0.3**
GSI	**Gunungsitoli**	**2.43**	**288**	P	**Pn**	**07 27 45.2**	**+1.6**
PPSI	**Pulau Pagai**	**3.27**	**178**	P	**Pn**	**07 27 53.9**	**-0.3**
KCSI	**Kotacane, Aceh**	**3.64**	**325**	P	**Pn**	**07 28 00.0**	**+1.0**
MYKOM	**Kota Tinggi**	**4.16**	**72**	Pn	**Pn**	**07 28 06.8**	**+1.1**
KULM	**Kulim**	**4.79**	**9**	Pn	**Pn**	**07 28 15.0**	**+1.0**
MLSI	**Meulaboh, Aceh**	**5.08**	**317**	P	**Pn**	**07 28 19.2**	**+1.3**
	94nm,0.5s,6µm0.9nm						
MNAI	**Manna**	**5.75**	**148**	Pn	**Pn**	**07 28 27.2**	**+0.4**
MNAI	**Manna**	**5.75**	**148**	P	**Pn**	**07 28 26.8**	**+0.1**
	243nm,1.2s,1.4nm						
SRIT	**Nakonsritamara**	**8.02**	**358**		**Pn**	**07 28 58.5**	**+1.6**
H08S2	**Diego Garcia H**	**28.49**	**253**	T	T	08 00 35.7	
	baz=72,slow=75,SNR=7.0						
H08S3	**Diego Garcia H**	**28.50**	**253**	T	T	08 00 34.2	
	baz=72,slow=75,SNR=7.8						
H08S1	**Diego Garcia H**	**28.51**	**253**	T	T	08 00 53.7	
	baz=72,slow=75,SNR=8.9						
WRA	**Warramunga Arr**	**39.42**	**123**	P	**P**	**07 34 19.2**	**+0.3**
	0.3nm,1.0s,baz=306,slow=9.2,SNR=5.3						
	0.3nm,1.0s						
MKAR	**Makanchi Array**	**48.58**	**344**	P	**P**	**07 35 32.1**	**+0.6**
	0.9nm,0.3s,baz=155,slow=8.2,SNR=14						
MKAR				LR	LR	07 57 48.1	
	comp=Z,17nm,18.7s,baz=359,slow=38						
	0.9nm,0.3s						
KURBB	**Kurchatov Arra**	**53.11**	**343**	P	**P**	**07 36 05.7**	**+0.4**
	0.3nm,0.4s,baz=168,slow=6.6,SNR=6.1						
	0.3nm,0.4s						
KURK	**Kurchatov**	**53.16**	**343**	P	**P**	**07 36 06.2**	**+0.6**
KURK				IAmb	IAmb	07 36 34.8	
	comp=Z,5.7nm,1.4s						
GYA0B	**ALIBECK ARRAY**	**53.46**	**319**	P	**P**	**07 36 07.0**	**-1.1**
GYA0B				IAmb	IAmb	07 36 31.7	
	comp=Z,4.0nm,0.7s						
ZAA0	**Zalesovo Array**	**54.68**	**349**	P	**P**	**07 36 15.5**	**-1.1**
ZAA0				IAmb	IAmb	07 36 20.4	
	comp=Z,2.2nm,0.8s						
BVAR	**Borovoye Array**	**57.78**	**339**	P	**P**	**07 36 38.5**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=146,slow=7.8,SNR=4.7						
	comp=Z,1.2nm,0.5s						
FINES	**FINESS Array B**	**81.83**	**332**	P	**P**	**07 39 05.9**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=101,slow=6.0,SNR=4.8						
	comp=Z,1.0nm,0.8s						
VNDA	**Vanda**	**84.65**	**169**	P	**P**	**07 39 19.4**	**-0.2**
CEL	**Celeste**	**84.94**	**308**	P	**P**	**07 39 19.5**	**-2.5**
CEL				IAmb	IAmb	07 39 24.0	
	comp=Z,3.6nm,0.7s						
J16K	**Anvik River**	**93.81**	**27**	P	**P**	**07 40 03.7**	**+0.5**
H19K	**Roundabout Mou**	**95.17**	**24**	P	**P**	**07 40 07.5**	**-1.8**
H19K				IAmb	IAmb	07 40 41.1	
	comp=Z,8.5nm,1.5s						

*IDC **28** 07:32:42.0±5.0, 4°.93S×153°.51E, h52km±42km, mb3.6/13, mbtmp4.0/14, ML2.1/1, MS3.2/4, Error ellipse: s-maj=29.4km s-min=19.9km az=71.0*

*NEIC **28** 07:32:44.4±0.9, 5°.1S±0°.1×153°.4E±0°.1, h53km±8km, mb4.5/32, Error ellipse: s-maj=19.9km s-min=13.2km az=205.0*

ISC 28 07:32:43.0±0.6, 5°.05S±0°.08×153°.53E±0°.08, h56km, n48, σ1s51/50, mb4.3/27, MS3.2/3, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.61**	**302**	Pn	**Pn**	**07 33 09.1**	**0.0**
PMG	**Port Moresby**	**7.66**	**235**	P	**Pn**	**07 34 32.5**	**+0.5**
	1.7nm,0.3s,baz=119,slow=5.9,SNR=2.5						
PMG				S	**Sn**	**07 35 58.1**	**+0.8**
	69nm,0.8s,baz=100,slow=11,SNR=9.6						
PMG				LR	LR	07 37 46.6	
	comp=Z,152nm,19.6s,baz=71,slow=40						
	8.6nm,0.3s						
DZM	**Mont Dzumac**	**21.04**	**145**	P	**P**	**07 37 23.9**	**+1.5**
DZM				IAmb	IAmb	07 37 38.1	
	comp=Z,48nm,1.5s						
DZM	**Mont Dzumac**	**21.04**	**145**	P	**P**	**07 37 23.5**	**+1.1**
	comp=Z,11nm,1.1s,baz=74,slow=6.9,SNR=1.7						
DZM				S	**S**	**07 41 09.5**	**-4.3**
	comp=Z,8.8nm,0.9s,baz=133,slow=22,SNR=6.7						
	comp=Z,11nm,1.1s						
FAKI	**Fak Fak**	**21.33**	**275**	P	**P**	**07 37 25.2**	**-0.4**
FAKI				IAmb	IAmb	07 37 31.0	
	comp=Z,27nm,1.1s						
WB0	**Warramunga Arr**	**23.69**	**230**	P	**P**	**07 37 50.0**	**+0.1**
WR0	**Warramunga Arr**	**23.69**	**230**	P	**P**	**07 37 50.5**	**+0.7**
WRAB	**Tennant Creek**	**23.82**	**230**	P	**P**	**07 37 51.2**	**+0.2**
WRAB				IAmb	IAmb	07 37 59.5	
	comp=Z,7.8nm,0.7s						
WB2	**Warramunga Arr**	**23.82**	**230**	P	**P**	**07 37 51.3**	**+0.2**
WB2				IAmb	IAmb	07 37 60.0	
	comp=Z,24nm,1.4s						
WRA	**Warramunga Arr**	**23.83**	**230**	P	**P**	**07 37 51.0**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=53,slow=10.0,SNR=49						
WRA				PcP	**PcP**	**07 41 32.3**	**-1.0**
	comp=Z,0.4nm,0.6s,baz=55,slow=2.6,SNR=2.3						
WRA				LR	LR	07 47 44.9	
	comp=Z,54nm,18.1s,baz=64,slow=38						
	comp=Z,3.7nm,0.6s						
ASAR	**Alice Springs**	**26.46**	**224**	P	**P**	**07 38 15.2**	**+0.2**
	comp=Z,1.1nm,0.7s,baz=56,slow=9.1,SNR=15						
ASAR				PcP	**PcP**	**07 41 39.4**	**+0.2**
	comp=Z,0.3nm,0.6s,baz=58,slow=2.1,SNR=4.9						
ASAR				LR	LR	07 48 04.6	
	comp=Z,61nm,19.4s,baz=355,slow=35						
	comp=Z,1.1nm,0.7s						
STKA	**Stephens Creek**	**28.94**	**201**	P	**P**	**07 38 37.4**	**+0.4**
STKA	**Stephens Creek**	**28.94**	**201**	P	**P**	**07 38 36.9**	**-0.1**
	comp=Z,2.3nm,0.8s,baz=5.9,slow=12,SNR=3.5						
	comp=Z,2.3nm,0.8s						
FITZ	**Fitzroy Crossi**	**30.18**	**242**	P	**P**	**07 38 47.8**	**-0.4**
BBOO

IDC 28 07:33:39.5±2.8, 54°03'N×86°60'E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=22.0km s-min=13.4km az=66.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.05**	**266**	I	I	07 40 55.4	
	baz=82,slow=332,SNR=2.0						
ZALV	**Zalesovo Beam**	**1.05**	**266**	Pg	Pg	07 33 58.6	-1.0
	1.1nm,0.3s,baz=84,slow=17,SNR=8.1						
ZALV				Lg	Lg	07 34 15.1	
	2.1nm,0.3s,baz=89,slow=30,SNR=11						
KURBB	**Kurchatov Arra**	**6.01**	**239**	Pn	Pn	07 35 09.6	+0.1
	0.1nm,0.3s,baz=55,slow=13,SNR=9.7						
KURBB				Lg	Lg	07 36 49.0	
	baz=50,slow=32,SNR=4.1						
	0.5nm,0.3s						
MKAR	**Makanchi Array**	**7.75**	**203**	Pn	Pn	07 35 35.5	+2.1
	0.2nm,0.3s,baz=22,slow=14,SNR=1.6						
MKAR				Lg	Lg	07 37 43.6	
	0.2nm,0.3s,baz=24,slow=28,SNR=1.5						
	0.3nm,0.3s						

WEL 28 07:50:52.8±1.2, 31°S±8°×17°9E±1°4, h33km, M4.9/5, mB5.3/4, ML4.9/9, MLv5.0/5, Mw(mB)4.7/4, Error ellipse: s-maj=0.0km s-min=0.0km az=118.6, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.37**	**57**	S	Sn	07 52 23.3	+1.3
MXZ	**Matakaoa Point**	**6.41**	**184**	P	Pn	07 52 24.6	-0.4
MXZ				S	Sn	07 53 38.4	+1.4
HAZ	**Te Kaha**	**6.65**	**187**	P	Pn	07 52 26.7	-1.5
HAZ				S	Sn	07 53 44.6	+1.8
WMGZ	**Waiomatatini S**	**6.67**	**183**	P	Pn	07 52 27.6	-0.8
WMGZ				S	Sn	07 53 43.7	+0.6
PKGZ	**Pakihiroa**	**6.75**	**185**	P	Pn	07 52 29.8	+0.2
RUGZ	**Raukumara Rang**	**6.87**	**188**	P	Pn	07 52 30.9	-0.4
PUZ	**Puketiti**	**6.92**	**184**	P	Pn	07 52 29.8	-2.1
PUZ				S	Sn	07 53 49.4	-0.1
OPRZ	**Ohinepanea**	**6.94**	**195**	P	Pn	07 52 34.4	+2.3
TWGZ	**Tauwhareparae**	**7.05**	**186**	P	Pn	07 52 32.4	-1.3
TWGZ				S	Sn	07 53 54.7	+2.1
MARZ	**Manawahe**	**7.05**	**194**	P	Pn	07 52 37.5	+3.8
URZ	**Urewera**	**7.24**	**191**	P	Pn	07 52 32.6	-3.6
URZ				S	Sn	07 53 59.8	+2.6
MWZ	**Matawai**	**7.25**	**188**	P	Pn	07 52 34.2	-2.2
MWZ				S	Sn	07 53 59.6	+2.0
MUGZ	**Murupara**	**7.51**	**193**	P	Pn	07 52 40.3	+0.3
RIGZ	**Rimuhau**	**7.59**	**186**	P	Pn	07 52 36.5	-4.6
BKZ	**Black Stump Fm**	**8.23**	**193**	P	Pn	07 52 46.6	-3.3
KWHZ	**Kaweka Forest**	**8.49**	**193**	P	Pn	07 52 50.0	-3.5
KWHZ				S	Sn	07 54 26.2	-2.0
BHHZ	**Black Hill Sta**	**8.63**	**194**	P	Pn	07 52 50.5	-4.8
KRHZ	**Kereru**	**8.71**	**193**	P	Pn	07 52 52.4	-4.1
PNHZ	**Pukenui**	**9.01**	**193**	P	Pn	07 52 54.4	-6.2
TSZ	**Takapari Road**	**9.20**	**194**	P	Pn	07 52 57.1	-6.0

*NEIC **28** 07:51:49.9±1.0, 19°346N±0°.008×155°.274W±0°.004, h2km±7km, Error ellipse: s-maj=1.3km s-min=0.5km az=190.0*

HVO 28 07:51:48.9±0.8, 19°351N±0°.010×155°.262W±0°.007, h0km±5km, ML2.7/40, ML2.4/40(NEIC), Error ellipse: s-maj=1.5km s-min=0.9km az=169.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.05**	**355**		Pg	07 51 50.8	+0.9
PUH	**Pauahi**	**0.05**	**62**	Pg	Pg	07 51 50.7	+0.8
PUH				Sg	Sg	07 51 51.9	+1.4
BYL	**Byron's Ledge**	**0.06**	**1**	Pg	Pg	07 51 51.1	+1.0
BYL				IAML		07 51 52.0	
	comp=E,3μm,0.3s						
HLP	**Hilina Pali**	**0.07**	**219**	Pg	Pg	07 51 51.5	+1.2
HLP				IAML		07 51 52.3	
	comp=N,2μm,0.4s						
HATHI	**Halema'uma'u T**	**0.07**	**0**		Pg	07 51 51.3	+1.0
HATHI				IAML		07 51 52.2	
	comp=N,3μm,0.4s						
HATHI				IAML		07 51 52.4	
	comp=E,5μm,0.3s						
UWB	**Uwekahuna B**	**0.07**	**348**		Pg	07 51 51.4	+1.0
SBLHI	**Steaming Bluff**	**0.08**	**355**		Pg	07 51 51.4	+1.0
UWE	**Uwekahuna**	**0.08**	**337**	Pg	Pg	07 51 50.6	+0.2
UWE				IAML		07 51 52.6	
	comp=E,2μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.09**	**72**		Pg	07 51 51.8	+1.1
RSD	**Rainshed**	**0.11**	**352**		Pg	07 51 51.8	+0.7
RSD					Sg	07 51 54.9	+2.3
STCH	**Steam Cracks**	**0.13**	**75**		Pg	07 51 52.4	+0.9
STCH				IAML		07 51 55.5	
	comp=E,1μm,0.6s						
STCH				IAML		07 51 56.1	
	comp=N,2μm,1.0s						
NPOC	**North of Pu'u**	**0.15**	**74**		Pg	07 51 52.7	+0.9
NPOC					Sg	07 51 56.1	+2.3
JCUZ	**Jacuzzi**	**0.15**	**78**		Pg	07 51 52.9	+1.0
JCUZ					Sg	07 51 56.0	+2.1
HTC	**Hot Caves**	**0.17**	**229**		Pg	07 51 53.3	+1.1
MLH	**Mauna Loa**	**0.18**	**320**		Pg	07 51 53.5	+1.0
MLH				IAML		07 51 57.1	
	comp=E,712nm,0.8s						
JOKA	**Jonika Flow**	**0.26**	**71**		Pg	07 51 54.4	+0.5
JOKA				IAML		07 52 01.9	
	comp=N,620nm,0.7s						
JOKA				IAML		07 52 02.5	
	comp=E,534nm,0.9s						
HMH	**Humu'ula Sheep**	**0.33**	**320**		Pg	07 51 56.2	+1.0
HMH				IAML		07 52 05.6	
	comp=E,511nm,1.2s						
HMH				IAML		07 52 05.7	
	comp=N,608nm,1.0s						
MWH	**Moku'aweowe**	**0.34**	**293**		Pg	07 51 56.5	+1.0
MLOA	**Mauna Loa Obse**	**0.35**	**302**		Pg	07 51 56.4	+0.8
KHU	**Kahuku**	**0.35**	**253**		Pg	07 51 56.5	+0.9
KHU				IAML		07 52 03.9	
	comp=N,452nm,0.7s						
KHU				IAML		07 52 07.3	
	comp=E,481nm,1.2s						
HPO	**Honuapo**	**0.38**	**227**	Pg	Pg	07 51 55.1	-1.1
ALEP	**Alea Permanent**	**0.41**	**298**		Pg	07 51 57.1	+0.4
POHA	**Pohakuloa**	**0.48**	**328**		Pg	07 51 58.8	+0.7
POHA				IAML		07 52 11.1	
	comp=E,323nm,0.8s						
POHA				IAML		07 52 14.4	
	comp=E,378nm,0.8s						
POHA	**Pohakuloa**	**0.48**	**328**		Sg	07 52 06.1	+1.8
CPH	**Captain Cook**	**0.63**	**283**		Pg	07 52 01.1	0.0
HUH	**Hualalai**	**0.64**	**302**		Pb	07 52 02.4	-0.6
HPAH	**Hawaii Prepara**	**0.79**	**329**	Pg	Pg	07 52 04.7	+0.6

*NNC **28** 08:04:59.0±3.0, 54°.15N×86°.93E, h0km, mb3.2, mpv3.0, Error ellipse: s-maj=32.3km s-min=14.5km az=9.0, Suspected Mining explosion.*

IDC 28 08:05:06.0±2.3, 54°04N×86°46E, h0km, mbtmp3.5/2, ML3.3/2, 6C-3D, Error ellipse: s-maj=18.8km s-min=12.6km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**0.97**	**265**	I	I	08 12 04.3	
	baz=82,slow=329,SNR=6.6						
ZAA0	**Zalesovo Array**	**0.97**	**265**	⇑P	Pg	08 05 22.4	-2.1
	0.3nm,0.3s						
ZAA0				⇓S	Sn	08 05 40.1	-1.2
	0.9nm,0.5s						
ZALV	**Zalesovo Beam**	**0.97**	**265**	Pg	Pg	08 05 23.1	-1.4
	2.0nm,0.3s,baz=87,slow=17,SNR=16						
ZALV				Lg	Lg	08 05 38.5	
	4.9nm,0.3s,baz=87,slow=27,SNR=15						
ZALV				Rg	Rg	08 05 44.5	
	25nm,0.9s,baz=73,slow=30,SNR=6.6						
KURK	**Kurchatov**	**5.84**	**238**	⇑Pn	Pn	08 06 32.3	-1.4
	0.7nm,0.3s						
KURK				⇑Lg	Lg	08 08 15.1	
	1.8nm,0.9s						
KURBB	**Kurchatov Arra**	**5.94**	**238**	⇓Pn	Pn	08 06 31.3	-3.8
	2.0nm,0.3s						
KURBB				⇑Lg	Lg	08 08 17.5	
	4.6nm,0.8s						
KURBB	**Kurchatov Arra**	**5.94**	**238**	Pn	Pn	08 06 36.2	+1.1
	0.4nm,0.3s,baz=54,slow=13,SNR=33						
KURBB				Sn	Sn	08 07 42.8	-1.0
	baz=21,slow=25						
KURBB				Lg	Lg	08 08 15.1	
	baz=55,slow=33,SNR=4.8						
	1.5nm,0.3s						
MK31	**Makanchi Array**	**7.72**	**202**	⇓Pn	Pn	08 06 59.2	-0.4
	0.5nm,0.3s,baz=319,slow=15,SNR=32						
MK31				⇑Sn	Sn	08 08 25.8	-2.0
	0.5nm,0.6s,baz=22,slow=27						
MK31				⇑Lg	Lg	08 09 09.8	
	1.9nm,0.8s,baz=24,slow=34						
MKAR	**Makanchi Array**	**7.72**	**202**	Pn	Pn	08 07 00.6	+1.0
	0.9nm,0.3s,baz=25,slow=14,SNR=26						
	1.2nm,0.3s						

*IDC **28** 08:20:50.3±0.8, 43°.97S×39°.22E, h0km, mb3.9/9, mbtmp4.0/11, ML4.4/2, MS3.9/44, Error ellipse: s-maj=35.9km s-min=17.1km az=51.0*
*NEIC **28** 08:20:51.3±1.6, 44°.05S±0°.1×38°.7E±0°.2, h10km±2km, mb4.4/9, Error ellipse: s-maj=30.0km s-min=15.1km az=233.0*
*GCMT **28** 08:20:53.3±0.4, 43°.98S±0°.02×39°.25E±0°.03, h21km±1km, MW4.9/78, Moment Tensor Solution. s21,c24; s78,c108; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr~0.65±.17; Mθθ 1.38±.12; Mϕϕ~0.73±.12; Mrθ 0.11±.21; Mθϕ 2.40±.11; Mϕr~1.07±.24; Best double couple: M◎2.88000×10^16 NP1:ϕs 280.00000°, δ67.00000°, λ-13.00000°. Principal axes: T 3.0140, Plg8.0000°, Azm145.0000°; N -0.2700, Plg64.0000°, Azm39.0000°; P -2.7470, Plg25.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 08:20:51.4±0.6, 44°0S±0°.1×39°0E±0°.1, h10km, n58, σ1§44/22, mb4.1/11, MS3.9/42, Prince Edward Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRHM	**Grahamstown, E**	**14.50**	**313**		**Pn**	**08 24 15.0**	**-1.8**
POGA	**Pongola**	**17.58**	**338**	P	**Pn**	**08 24 57.8**	**+1.2**
SUR	**Sutherland**	**18.34**	**303**		**P**	**08 25 04.4**	**-1.7**
SUR				IAmb	IAmb	08 25 20.9	
	comp=Z,26nm,1.1s						
SUR	**Sutherland**	**18.34**	**303**	P	**P**	**08 25 06.8**	**+0.7**
	comp=Z,1.4nm,0.3s,baz=130,slow=15,SNR=23						
SUR				S	Sn	08 28 20.5	-10
	comp=Z,2.9nm,0.6s,baz=81,slow=18,SNR=1.1						
SUR				LR	LR	08 30 41.8	
	comp=Z,392nm,21.1s,baz=144,slow=32						
	comp=Z,4.1nm,0.3s						
BOSA	**Boshof**	**18.85**	**320**	P	**P**	**08 25 10.0**	**-1.7**
BOSA				IAmb	IAmb	08 25 14.5	
	comp=Z,14nm,1.0s						
BOSA	**Boshof**	**18.85**	**320**	P	**P**	**08 25 12.8**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=150,slow=14,SNR=20						
BOSA				LR	LR	08 31 13.0	
	comp=Z,536nm,20.3s,baz=186,slow=33						
	comp=Z,7.6nm,0.8s						
LBTB	**Lobatse**	**21.83**	**326**	P	**P**	**08 25 40.0**	**-4.1**
LBTB				IAmb	IAmb	08 25 57.2	
	comp=Z,18nm,1.3s						
LBTB	**Lobatse**	**21.83**	**326**	P	**P**	**08 25 45.1**	**+1.1**
	comp=Z,2.8nm,0.6s,baz=165,slow=6.8,SNR=3.7						
LBTB				LR	LR	08 33 11.9	
	comp=Z,353nm,18.3s,baz=159,slow=34						
	comp=Z,2.8nm,0.6s						
VOI	**Vohitsoka**	**22.91**	**19**	P	**P**	**08 25 55.4**	**-0.2**
VOI				IAmb	IAmb	08 26 09.1	
	comp=Z,24nm,1.4s						
OPO	**Ambohidratompo**	**26.22**	**18**	LR	LR	08 35 00.8	
	comp=Z,227nm,20.7s,baz=345,slow=32						
MAW	**Mawson**	**26.89**	**160**	P	**P**	**08 26 31.4**	**-0.6**
	comp=Z,1.2nm,0.6s,baz=299,slow=10,SNR=2.7						
MAW				LR	LR	08 34 38.0	
	comp=Z,230nm,20.3s,baz=328,slow=31						
	comp=Z,1.2nm,0.6s						
LSZ	**Lusaka**	**30.03**	**339**	LR	LR	08 37 37.8	
	comp=Z,172nm,19.5s,baz=200,slow=34						
TSUM	**Tsumeb**	**30.50**	**317**	LR	LR	08 38 25.6	
	comp=Z,321nm,19.6s,baz=151,slow=34						
SNAA	**Sanae**	**34.27**	**202**	LR	LR	08 38 12.9	
	comp=Z,112nm,20.5s,baz=29,slow=30						
MSEY	**Mahe Island**	**41.73**	**25**	P	**P**	**08 28 40.8**	**+0.1**
MBAR	**Mbarara**	**43.78**	**348**	LR	LR	08 46 29.1	
	comp=Z,180nm,18.9s,baz=151,slow=35						
QSPA	**South Pole Qui**	**46.26**	**180**	P	**P**	**08 29 16.4**	**-0.3**
QSPA	**South Pole Qui**	**46.26**	**180**	P	**P**	**08 29 17.1**	**+0.4**
	comp=Z,1.9nm,0.6s,baz=260,slow=2.0,SNR=26						
QSPA				LR	LR	08 47 24.9	
	comp=Z,122nm,19.1s,baz=252,slow=34						
	comp=Z,1.9nm,0.6s						
VNDA	**Vanda**	**53.86**	**167**	P	**P**	**08 30 13.2**	**-0.7**
VNDA	**Vanda**	**53.86**	**167**	P	**P**	**08 30 13.5**	**-0.5**
	comp=Z,0.3nm,0.6s,baz=259,slow=5.2,SNR=1.7						
VNDA				LR	LR	08 51 25.9	
	comp=Z,113nm,19.7s,baz=222,slow=34						
	comp=Z,0.3nm,0.6s						
H01W2	**Cape Leeuwin H**	**56.90**	**108**	T	T	09 32 03.3	
	baz=238,slow=75,SNR=16						
H01W3	**Cape Leeuwin H**	**56.91**	**108**	T	T	09 32 04.0	
	baz=238,slow=75,SNR=14						
H01W1	**Cape Leeuwin H**	**56.91**	**108**	T	T	09 32 04.6	
	baz=238,slow=75,SNR=14						
NWAO	**Narrogin (SRO)**	**60.13**	**108**	LR	LR	08 52 01.6	
	comp=Z,90nm,18.0s,baz=122,slow=31						
PALK	**Pallekele**	**63.39**	**48**	LR	LR	08 52 21.9	
	comp=Z,64nm,19.9s,baz=291,slow=30						
DBIC	**Dimbokro**	**64.05**	**310**	LR	LR	08 56 04.3	
	comp=Z,61nm,20.2s,baz=162,slow=33						
TORD	**Torodi Ar. Bea**	**66.21**	**320**	P	**P**	**08 31 41.4**	**+1.9**
	comp=Z,1.0nm,0.9s,baz=157,slow=4.4,SNR=4.4						
TORD				LR	LR	08 58 49.5	
	comp=Z,121nm,21.0s,baz=148,slow=34						
	comp=Z,1.0nm,0.9s						
WSAR	**Wadi Sarin**	**69.24**	**19**	LR	LR	08 56 19.4	
	comp=Z,56nm,21.7s,baz=208,slow=31						
EIL	**Elat**	**73.36**	**356**	LR	LR	09 05 00.4	
	comp=Z,54nm,18.1s,baz=243,slow=36						
PLCA	**Paso Flores**	**74.58**	**228**	LR	LR	08 59 50.5	
	comp=Z,63nm,18.2s,baz=152,slow=31						
CPUP	**Villa Florida**	**76.48**	**247**	P	**P**	**08 32 43.2**	**+1.6**
	comp=Z,1.8nm,0.9s,baz=223,slow=0.4,SNR=4.4						
CPUP				LR	LR	09 02 26.3	
	comp=Z,31nm,19.5s,baz=198,slow=33						
	comp=Z,1.8nm,0.9s						
MMAI	**Mount Meron Ar**	**76.67**	**357**	LR	LR	09 06 30.8	
	comp=Z,47nm,18.2s,baz=122,slow=36						
STKA	**Stephens Creek**	**76.74**	**121**	P	**P**	**08 32 42.2**	**-0.8**
	comp=Z,2.6nm,1.0s,baz=195,slow=4.2,SNR=2.9						
STKA				LR	LR	09 00 14.5	
	comp=Z,87nm,18.6s,baz=204,slow=31						
	comp=Z,2.6nm,1.0s						
ASAR	**Alice Springs**	**77.33**	**111**	P	**P**	**08 32 46.9**	**+0.4**
	comp=Z,0.4nm,0.7s,baz=225,slow=6.0,SNR=5.1						
ASAR				LR	LR	09 00 39.5	
	comp=Z,114nm,19.6s,baz=224,slow=31						
	comp=Z,0.4nm,0.7s						
WRA	**Warramunga Arr**	**80.14**	**108**	P	**P**	**08 33 01.3**	**-0.7**
	comp=Z,0.7nm,1.0s,baz=230,slow=5.5,SNR=3.1						
WRA				LR	LR	09 03 23.8	
	comp=Z,144nm,18.2s,baz=24,slow=32						
	comp=Z,0.7nm,1.0s						
WB0	**Warramunga Arr**	**80.30**	**108**	P	**P**	**08 33 03.0**	**+0.2**
WB0				IAmb	IAmb	08 33 19.6	
	comp=Z,11nm,1.4s						
CMAR	**Chiang Mai Arr**	**82.78**	**56**	LR	LR	09 03 08.3	
	comp=Z,27nm,21.7s,baz=220,slow=31						
BRTR	**Keskin Array B**	**83.43**	**356**	LR	LR	09 08 42.3	
	comp=Z,44nm,21.7s,baz=160,slow=34						
KEST	**Kesra**	**83.77**	**336**	LR	LR	09 13 04.0	
	comp=Z,136nm,18.2s,baz=290,slow=37						
GNI	**Garni**	**83.88**	**4**	LR	LR	09 10 44.9	
	comp=Z,32nm,18.8s,baz=187,slow=36						
VAE	**Valguarnera**	**84.06**	**341**	LR	LR	09 11 21.2	
	comp=Z,115nm,18.8s,baz=138,slow=36						
MDT	**Midelt**	**86.13**	**324**	LR	LR	09 12 22.4	
	comp=Z,115nm,18.7s,baz=168,slow=36						
KBZ	**Khabaz**	**87.36**	**3**	LR	LR	09 12 43.0	
	comp=Z,20nm,18.2s,baz=176,slow=36						
MLR	**Muntele Rosu**	**89.81**	**351**	LR	LR	09 17 12.0	
	comp=Z,55nm,19.4s,baz=187,slow=38						
URZ	**Urewera**	**89.82**	**148**	LR	LR	09 13 14.6	
	comp=Z,85nm,18.1s,baz=66,slow=35						
LPAZ	**La Paz**	**90.66**	**247**	LR	LR	09 10 56.5	
	comp=Z,27nm,20.2s,baz=108,slow=33						
ESDC	**Sonseca Array**	**91.82**	**328**	LR	LR	09 16 26.2	
	comp=Z,122nm,18.1s,baz=148,slow=36						
DAVOX	**Davos/Dischmat**	**93.94**	**340**	LR	LR	09 17 30.3	
	comp=Z,40nm,19.9s,baz=78,slow=36						
AKASG	**Malin Array Be**	**94.65**	**354**	LR	LR	09 20 40.9	
	comp=Z,27nm,18.3s,baz=70,slow=38						
MDP	**Montagnes des**	**94.68**	**273**	LR	LR	09 14 46.5	
	comp=Z,43nm,18.6s,baz=148,slow=34						
VRAC	**Vranov**	**94.92**	**346**	LR	LR	09 21 05.3	
	comp=Z,28nm,18.0s,baz=186,slow=38						
GERES	**GERESS Array B**	**95.04**	**344**	LR	LR	09 18 41.2	
	comp=Z,32nm,21.8s,baz=190,slow=36						
BELG	**Belogornoye**	**96.25**	**5**	LR	LR	09 17 24.9	
	comp=Z,38nm,21.4s,baz=147,slow=35						
PMG	**Port Moresby**	**96.31**	**109**	LR	LR	09 14 09.2	
	comp=Z,86nm,18.1s,baz=201,slow=33						
MKAR	**Makanchi Array**	**98.12**	**28**	LR	LR	09 17 47.4	
	comp=Z,16nm,18.2s,baz=230,slow=35						
DZM	**Mont Dzumac**	**98.57**	**132**	LR	LR	09 13 31.0	
	comp=Z,67nm,18.4s,baz=202,slow=32						
NNA	**Nana**	**99.51**	**243**	LR	LR	09 16 40.9	
	comp=Z,32nm,19.5s,baz=130,slow=34						
TXAR	**Lajitas Array**	**146.98**	**256**	PKPbc	**PKPbc**	**08 40 35.2**	**+0.8**
	comp=Z,0.6nm,0.8s,baz=144,slow=4.7,SNR=7.8						

*IDC **28** 09:29:34.4±4.9, 47°.37N×129°.28W, h0km, mb3.2/2, mbtmp3.3/6, ML3.3/4, MS2.7/1, Error ellipse: s-maj=92.4km s-min=20.3km az=71.0*

ISC 28 09:29:39.6±3.9, 47°.7N±0°.2×128°.3W±0°.5, h10km, n13, σ1§10/5, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBB	**Bella Bella**	**4.50**	**1**	Pn	**Pn**	**09 30 47.1**	**-0.6**
	1.7nm,0.3s,baz=210,slow=5.8,SNR=10						
	7.4nm,0.3s						
YBH	**Yreka Blue Hor**	**7.17**	**144**	LR	LR	09 33 28.6	
	comp=Z,56nm,18.6s,baz=298,slow=32						
NVAR	**Mina Array Bea**	**11.79**	**138**	Pn	**Pn**	**09 32 28.1**	**+0.1**
	0.1nm,0.3s,baz=308,slow=13,SNR=4.8						
	0.5nm,0.8s						
PDAR	**Pinedale Array**	**14.09**	**104**	Pn	**P**	**09 33 06.6**	**-0.7**
	0.1nm,0.3s,baz=293,slow=9.7,SNR=2.1						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**16.71**	**22**	Pn	**Pn**	**09 33 34.7**	**+1.2**
	baz=204,slow=12,SNR=5.3						
	0.4nm,0.9s						
ANMO	**Albuquerque**	**20.68**	**120**	P	Pn	09 34 21.7	-0.6
	0.3nm,0.3s,baz=353,slow=9.1,SNR=3.1						
	0.3nm,0.3s						
TXAR	**Lajitas Array**	**26.42**	**125**	P	**P**	**09 35 17.1**	**+0.5**
	0.6nm,1.0s,baz=293,slow=6.7,SNR=3.5						
	0.6nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**58.78**	**265**	T	T	10 42 36.3	
	baz=45,slow=75,SNR=9.4						
H11N3	**WAKE ISLAND Hy**	**58.78**	**265**	T	T	10 42 35.9	
	baz=45,slow=75,SNR=15						
H11N1	**WAKE ISLAND Hy**	**58.79**	**265**	T	T	10 42 39.3	
	baz=45,slow=75,SNR=7.7						
H11S1	**WAKE ISLAND Hy**	**59.76**	**265**	T	T	10 43 48.9	
	baz=45,slow=74						
H11S2	**WAKE ISLAND Hy**	**59.77**	**264**	T	T	10 43 49.9	
	baz=45,slow=74						
H11S3	**WAKE ISLAND Hy**	**59.78**	**265**	T	T	10 43 47.6	
	baz=45						

IDC 28 09:57:36.9±3.3, 53°52N×87°66E, h0km, mbtmp2.8/2, ML2.2/2, Error ellipse: s-maj=29.8km s-min=16.9km az=53.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.74**	**285**	I	I	10 08 52.3	
	baz=101,slow=329,SNR=4.4						
ZALV	**Zalesovo Beam**	**1.74**	**285**	Pg	Pn	09 58 08.0	-0.3
	0.5nm,0.3s,baz=106,slow=17,SNR=4.5						
ZALV				Lg	Lg	09 58 33.2	
	1.3nm,0.3s,baz=105,slow=25,SNR=9.8						
KURBB	**Kurchatov Arra**	**6.33**	**246**	Pn	Pn	09 59 11.1	-0.3
	baz=60,slow=14,SNR=1.7						
KURBB				Lg	Lg	10 00 55.1	
	baz=59,slow=32						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**7.56**	**209**	Pn	Pn	09 59 30.2	+1.8
	0.1nm,0.3s,baz=28,slow=14,SNR=4.6						
	1.0nm,0.8s						

PRU 28 10:03:44.2, 49°87N×18°38E, h0km, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OKC	**Ostrava-Krasne**	**0.15**	**258**	*e*Pg	Pg	10 03 46.5	-0.6
OKC				*e*Sg	Sg	10 03 50.0	+0.9
	comp=Z,28nm,0.2s						
MORC	**Moravsky Berou**	**0.55**	**261**	*e*Pg	Pg	10 03 54.3	-0.4
MORC				*e*Sg	Sg	10 04 01.3	-0.6
KRLC	**Kraliky**	**1.05**	**282**	*e*Sg	Sg	10 04 16.9	-1.1
DPC	**Dobruska-Polom**	**1.41**	**291**	*e*Sg	Sg	10 04 29.4	-0.1
VYHS	**Vyhne**	**1.41**	**168**	*e*Sg	Sn	10 04 35.8	+5.4

VIE 28 10:04:10.9±0.3, 49°.43N×15°.54E, h0km, mb1.3/2, ml1.6/2, Error ellipse: s-maj=2.8km s-min=1.9km az=5.0, Suspected Mining explosion., Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUC	**Moravsky**	**0.67**	**123**	*e*Pg	Pg	10 04 24.2	+0.5
KRUC				*e*SG	Sb	10 04 34.0	-1.3
VRAC	**Vranov**	**0.70**	**99**	*e*Pg	Pg	10 04 24.7	+0.4
MORC	**Moravsky Berou**	**1.35**	**74**	*e*Pg	Pn	10 04 37.0	-0.1
CONA	**Conrad Observa**	**1.51**	**172**	*e*Pn	Pn	10 04 39.0	-0.4
	0.6nm,0.2s						
CONA				*e*Sn	Sn	10 04 59.7	-0.1
	3.8nm,0.3s						

*NEIC **28** 10:11:53.3±0.7, 19°.38N±0°.01×155°.285W±0°.007, h2km±4km, Error ellipse: s-maj=1.8km s-min=0.8km az=182.0*

JOKA	**Jonika Flow**	**0.26**	**84**	Pg	Pg	10 11 58.2	+0.7
JOKA				IAML		10 12 02.0	
	comp=E,436nm,0.9s						
MWH	**Moku'aweowe**	**0.32**	**284**	Pg	Pg	10 11 58.7	0.0

IDC ***28*** *10:13:29.8±0.8,2.˚19N×126.˚40E, h0km, mb3.9/10, mbtmp3.9/10, MS2.9/2, Error ellipse: s-maj=48.4km s-min=15.0km az=70.0*
NEIC ***28*** *10:13:34.6±2.7,2.˚3N±0.˚1×126.˚8E±0.˚1, h46km±12km, mb4.1/11, Error ellipse: s-maj=19.8km s-min=10.4km az=224.0*
DJA ***28*** *10:13:34.4±0.4,2.˚N±4.˚×12.˚7E±.˚, h10km, M3.8/10, mb4.0/2, MLv3.7/10*

ISC 28 10:13:35.8±0.6,2.˚34N±0.˚07×126.˚79E±0.˚10, h53km, n31, σ1§61/32, mb4.0/15, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNTI	**Ternate**	**1.66**	**160**		**Pn**	**10 14 02.8**	**+0.2**
TNTI	**Ternate**	**1.66**	**160**	P	**Pn**	**10 14 02.6**	**0.0**
SGSI	**Sangihe**	**1.84**	**317**	P	**Pn**	**10 14 05.2**	**+0.2**
LBMI	**Labuha**	**3.04**	**167**	P	**Pn**	**10 14 23.2**	**+1.7**
GTOI	**Gorontalo**	**4.14**	**246**	P	**Pn**	**10 14 39.6**	**+3.0**
SANI	**Sanana**	**4.44**	**190**	P	**Pn**	**10 14 40.8**	**+0.2**
DAV	**Davao City (W)**	**4.85**	**346**	LR	LR	10 17 03.0	
	comp=Z,45nm,20.4s,baz=158,slow=43						
TOLI2	**Tolitoli**	**6.13**	**259**	Pn	**Pn**	**10 15 01.1**	**-2.8**
MPSI	**Mapaga**	**7.17**	**254**	P	**Pn**	**10 15 19.4**	**+1.2**
FAKI	**Fak Fak**	**7.55**	**134**	Pn	**Pn**	**10 15 21.2**	**-2.2**
MTN	**Manton Dam**	**15.69**	**164**		**Pn**	**10 17 14.7**	**+1.1**
MTN				IAmb	IAmb	10 17 30.4	
	comp=Z,12nm,1.1s						
KNRA	**Kununurra**	**18.01**	**174**	P	**P**	**10 17 39.9**	**-2.5**
FITZ	**Fitzroy Crossi**	**20.34**	**183**	P	**P**	**10 18 05.8**	**-2.1**
YULB	**Yu-li**	**21.59**	**346**	P	**P**	**10 18 18.4**	**-2.9**
YULB				IAmb	IAmb	10 18 20.1	
	comp=Z,3.8nm,0.6s						
TPUB	**Ta-pu**	**21.67**	**345**	P	**P**	**10 18 20.9**	**-1.3**
TPUB				IAmb	IAmb	10 18 32.6	
	comp=Z,17nm,1.1s						
WB0	**Warramunga Arr**	**23.20**	**162**	P	**P**	**10 18 37.2**	**-1.2**
WB0				IAmb	IAmb	10 18 50.4	
	comp=Z,17nm,1.3s						
WRAB	**Tennant Creek**	**23.35**	**162**	P	**P**	**10 18 39.1**	**-0.6**
WRAB				IAmb	IAmb	10 18 56.5	
	comp=Z,4.9nm,0.9s						
WRA	**Warramunga Arr**	**23.35**	**162**	P	**P**	**10 18 39.5**	**-0.3**
	comp=Z,1.3nm,0.5s,baz=338,slow=11,SNR=34						
WRA				PcP	**PcP**	**10 22 26.5**	**+1.0**
	comp=Z,0.6nm,1.1s,baz=335,slow=1.7,SNR=1.8						
	comp=Z,1.3nm,0.5s						
AS31	**Alice Springs**	**26.76**	**165**	P	**P**	**10 19 10.9**	**+0.1**
ASAR	**Alice Springs**	**26.76**	**165**	P	**P**	**10 19 12.2**	**+1.4**
	comp=Z,0.5nm,0.3s,baz=347,slow=12,SNR=15						
ASAR				PcP	**PcP**	**10 22 34.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=346,slow=1.8,SNR=4.5						
	comp=Z,0.5nm,0.3s						
CMAR	**Chiang Mai Arr**	**31.64**	**302**	P	**P**	**10 19 52.2**	**-2.0**
	comp=Z,0.5nm,0.4s,baz=108,slow=5.8,SNR=4.2						
	comp=Z,0.5nm,0.4s						
KSRS	**Korea Array**	**34.96**	**2**	P	**P**	**10 20 25.1**	**+2.3**
	comp=Z,0.7nm,0.6s,baz=183,slow=9.5,SNR=4.2						
	comp=Z,0.7nm,0.6s						
STKA	**Stephens Creek**	**36.82**	**159**	P	**P**	**10 20 38.8**	**0.0**
	comp=Z,1.0nm,0.4s,baz=334,slow=17,SNR=1.8						
	comp=Z,1.0nm,0.4s						
ARMA	**Armidale**	**40.29**	**146**	P	**P**	**10 21 08.0**	**-0.1**
USRK	**Ussuriysk Ar.**	**41.94**	**6**	P	**P**	**10 21 23.4**	**+2.1**
	comp=Z,2.6nm,0.8s,baz=198,slow=6.2,SNR=7.8						
	comp=Z,2.6nm,0.8s						
SONM	**Songino Arrey**	**48.62**	**342**	P	**P**	**10 22 15.0**	**+0.6**
	comp=Z,0.4nm,0.4s,baz=168,slow=8.8,SNR=2.4						
SONM				LR	LR	10 46 21.2	
	comp=Z,35nm,18.3s,baz=166,slow=40						
	comp=Z,0.4nm,0.4s						
MKAR	**Makanchi Array**	**58.73**	**326**	P	**P**	**10 23 28.4**	**+0.1**
	comp=Z,0.5nm,0.4s,baz=117,slow=8.4,SNR=8.9						
	comp=Z,0.5nm,0.4s						
KURBB	**Kurchatov Arra**	**62.94**	**328**	P	**P**	**10 23 57.5**	**+0.7**
	comp=Z,1.1nm,0.6s,baz=130,slow=6.4,SNR=9.2						
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**62.94**	**328**	P	**P**	**10 23 55.8**	**-0.9**
BVAR	**Borovoye Array**	**68.51**	**327**	P	**P**	**10 24 34.7**	**+2.1**
	comp=Z,0.7nm,0.4s,baz=125,slow=9.3,SNR=4.5						
	comp=Z,0.7nm,0.4s						
ABKAR	**Akbulak array**	**73.26**	**321**	P	**P**	**10 25 01.0**	**-0.5**
ABKAR				IAmb	IAmb	10 25 03.9	
	comp=Z,3.7nm,1.4s						

HEL ***28*** *10:18:01.8±0.1,64.˚15N×28.˚48E, h0km, ML1.3, Explosion*
IDC ***28*** *10:18:02.1±2.4,64.˚09N×28.˚86E, h0km, mbtmp2.6/2, ML1.6/2, Error ellipse: s-maj=49.6km s-min=11.1km az=97.0*

ISC 28 10:18:00.4±0.8,64.˚12N±0.˚02×28.˚58E±0.˚03, h0km, n23, σ1§12/33, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMF	**Romuvaara**	**0.60**	**80**	PG	**Pb**	**10 18 13.7**	**0.0**
RMF				MSG		10 18 22.0	
	comp=Z,3.7nm,0.2s						
RMF				SG	**Sb**	**10 18 22.1**	**-0.6**
NIF	**Nilsia**	**0.81**	**205**	PB	**Pb**	**10 18 16.6**	**-0.6**
NIF				SB	**Sb**	**10 18 27.6**	**-1.1**
OUL	**Oulu**	**1.51**	**311**	SN	**Sn**	**10 18 50.9**	**+1.9**
OBF4	**Vikkela, Lumij**	**1.66**	**296**	PN	**Pb**	**10 18 31.3**	**-0.5**
OBF4				MSG		10 18 50.0	
	comp=Z,1.3nm,0.2s						
OUF	**Merijarvi**	**1.70**	**280**	PG	**Pb**	**10 18 31.7**	**-0.7**
OUF				MSG		10 18 51.3	
	comp=Z,1.4nm,0.2s						
OUF				SN	**Sg**	**10 18 55.2**	**+0.3**
JOF	**Joensuu**	**1.72**	**133**	PG	**Pg**	**10 18 33.5**	**+0.2**
JOF				SN	**Sg**	**10 18 57.0**	**+1.5**
SUF	**Sumiainen**	**1.78**	**219**	PG	**Pg**	**10 18 34.1**	**-0.3**
	baz=34						
SUF				MSG		10 18 54.7	
	comp=Z,0.9nm,0.2s						
SUF				SN	**Sg**	**10 18 57.6**	**+0.2**
MSF	**Maaselka**	**1.81**	**6**	PG	**Pb**	**10 18 33.7**	**-0.6**
MSF				SG	**Sb**	**10 18 56.5**	**-1.0**
KU6	**Riekki**	**1.99**	**16**	PG	**Pb**	**10 18 37.0**	**-0.5**
	baz=197						
KU6				MSG		10 19 00.6	
	comp=Z,1.1nm,0.2s						
KU6				SB	**Sb**	**10 19 01.6**	**-1.2**
RANF	**Ranua**	**2.05**	**339**	PG	**Pb**	**10 18 38.3**	**-0.1**
RANF				SG	**Sb**	**10 19 04.0**	**-0.4**
OLKF	**Oulanka, Finla**	**2.24**	**9**	PG	**Pb**	**10 18 41.3**	**-0.3**
OLKF				MSG		10 19 07.4	
	comp=Z,1.3nm,0.2s						
OLKF				SG	**Sb**	**10 19 08.7**	**-1.1**
KAF	**Kangasniemi**	**2.26**	**208**	MSG		10 19 08.9	
	comp=Z,2.1nm,0.2s						
KAF				SG	**Sb**	**10 19 11.6**	**+1.1**
KEF	**Keuruu**	**2.58**	**222**	MSG		10 19 17.7	
	comp=Z,1.1nm,0.2s						
KEF				SG	**Sb**	**10 19 19.5**	**-0.3**
RNF	**Rovaniemi**	**2.72**	**338**	SG	**Sb**	**10 19 22.7**	**-1.0**
VAF	**Ylistaro**	**2.85**	**250**	MSG		10 19 25.0	
	comp=Z,0.9nm,0.2s						
VAF				SG	**Sb**	**10 19 27.2**	**-0.3**
FIA0	**FINESS Array S**	**2.92**	**204**	PB	**Pb**	**10 18 52.2**	**-1.0**
FIA0				MSG		10 19 28.1	
	comp=Z,0.6nm,0.2s						
FINES	**FINESS Array B**	**2.92**	**204**	Pn	**Pb**	**10 18 50.8**	**-2.4**
	comp=Z,0.2nm,0.3s,baz=29,slow=14,SNR=6.1						
FINES				Sn	**Sb**	**10 19 29.4**	**0.0**
	comp=Z,0.4nm,0.3s,baz=23,slow=26,SNR=8.3						
	comp=Z,0.6nm,0.4s						
BURU	**Burvik**	**3.17**	**282**	SG	**Sb**	**10 19 37.8**	**+1.3**
VRF	**Varrio**	**3.67**	**6**	SN	**Sn**	**10 19 39.8**	**-2.4**
PAJU	**Pajala**	**3.70**	**325**	SN	**Sn**	**10 19 42.7**	**-0.2**
MEF	**Metsahovi**	**4.38**	**208**	PB	**Pb**	**10 19 16.9**	**-1.1**
ARCES	**ARCESS Array B**	**5.57**	**349**	Pn	**Pn**	**10 19 26.3**	**+1.9**
	baz=165,slow=12,SNR=1.3						
ARCES				Sn	**Sn**	**10 20 27.7**	**-1.4**
	comp=Z,0.1nm,0.3s,baz=167,slow=24,SNR=1.6						
	comp=Z,1.1nm,0.8s						
I37NO	**I37NO**	**6.36**	**326**	I	I	10 58 32.5	
	baz=138,slow=323,SNR=3.9						

IDC ***28*** *11:04:17.4±0.9,53.˚67N×163.˚65W, h0km, mb3.9/19, mbtmp3.9/22, ML3.7/3, MS3.4/6, Error ellipse: s-maj=25.2km s-min=12.7km az=172.0*
NEIC ***28*** *11:04:18.0±2.8,53.˚38N±0.˚05×163.˚66W±0.˚07, h16km±7km, mb3.9/39, ML4.0/12, ML3.9(AEIC), Error ellipse: s-maj=8.5km s-min=5.1km az=150.0*
AEIC ***28*** *11:04:20.2±2.7,53.˚45N±0.˚06×163.˚67W±0.˚07, h10km±7km, Error ellipse: s-maj=9.1km s-min=5.0km az=150.0*

ISC 28 11:04:18.7±3.2,53.˚42N±0.˚06×163.˚60W±0.˚04, h17km±20km, n200, σ1§20/198, mb4.0/23, MS3.3/5, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.21**	**331**		**Pn**	**11 04 40.3**	**-0.5**
ISLZ	**Isanotski Laza**	**1.31**	**357**		**Pn**	**11 04 41.7**	**-0.5**
ISLZ					**Sn**	**11 04 59.5**	**+0.2**
WECS	**Westdahl Cape**	**1.31**	**328**		**Pn**	**11 04 41.9**	**-0.4**
SSLS	**Shishaldin Sou**	**1.32**	**350**		**Pn**	**11 04 42.2**	**-0.1**
ISNN	**Isanotski Nort**	**1.42**	**356**		**Pn**	**11 04 44.0**	**+0.3**
ISNN					**Sn**	**11 05 02.5**	**+0.5**
AKSA	**Akutan Strait**	**1.44**	**301**		**Pn**	**11 04 43.4**	**-0.5**
AKSA					**Sn**	**11 05 00.7**	**-1.6**
FALS	**False Pass**	**1.44**	**4**		**Pn**	**11 04 43.7**	**-0.3**
FALS					**Sn**	**11 05 02.1**	**-0.4**
FALS					**Sb**	**11 05 04.2**	**+1.1**
FALS	**False Pass**	**1.44**	**4**	P	**Pn**	**11 04 43.7**	**-0.3**
	baz=185						
FALS				S	**Sb**	**11 05 04.2**	**+1.1**
	baz=185						
AHB	**Akutan Harbor**	**1.49**	**299**		**Pb**	**11 04 44.7**	**-1.2**
AKBBA	**Akutan Broad B**	**1.54**	**297**		**Pn**	**11 04 44.1**	**-1.3**
AKBBA					**Sn**	**11 05 03.0**	**-1.9**
ZRO	**Akutan Zero**	**1.56**	**296**		**Pn**	**11 04 45.5**	**-0.2**
HSB	**Akutan Spr's B**	**1.57**	**300**		**Pn**	**11 04 45.6**	**-0.2**
UNV	**Unalaska Valle**	**1.78**	**285**		**Pn**	**11 04 47.9**	**-0.7**
UNV					**Sn**	**11 05 09.4**	**-1.4**
UNV	**Unalaska Valle**	**1.78**	**285**	P	**Pn**	**11 04 47.9**	**-0.7**
	baz=105						
UNV				S	**Sn**	**11 05 10.1**	**-0.7**
	baz=105						
MREP	**Makushin Rep't**	**1.91**	**283**		**Pn**	**11 04 50.6**	**+0.1**
HAG	**Hague Volcano**	**2.15**	**27**		**Pn**	**11 04 54.5**	**+0.8**
HAG					**Sn**	**11 05 20.6**	**+0.8**
PS4A	**Pavlof South-4**	**2.18**	**27**		**Pn**	**11 04 55.1**	**+1.0**
PVV	**Pavlof Volcano**	**2.23**	**28**		**Pn**	**11 04 55.6**	**+0.9**
PS1A	**Pavlof South-1**	**2.28**	**28**		**Pn**	**11 04 56.5**	**+1.0**
S12K	**Black Hills**	**2.46**	**21**		**Pn**	**11 04 58.6**	**+0.6**
S12K	**Black Hills**	**2.46**	**21**	IAML		11 05 39.3	
	comp=N,625nm,0.7s						
S12K				IAML		11 05 48.3	
	comp=E,560nm,0.6s						
S12K	**Black Hills**	**2.46**	**21**	P	**Pn**	**11 04 58.6**	**+0.6**
	baz=202						
OKTU	**Okmok Mt. Tuli**	**2.66**	**271**		**Pn**	**11 05 01.1**	**+0.3**
SDPT	**Sand Point**	**2.66**	**42**		**Pn**	**11 05 01.3**	**+0.6**
SDPT				IAML		11 05 47.6	
	comp=N,598nm,1.0s						
SDPT				IAML		11 05 51.4	
	comp=E,578nm,0.8s						
SDPT	**Sand Point**	**2.66**	**42**	P	**Pn**	**11 05 01.5**	**+0.8**
	baz=224						
CNBA	**Chernabura Isl**	**2.75**	**58**		**Pn**	**11 05 02.1**	**+0.2**
CHNA	**Chernabura Isl**	**2.75**	**57**	P	**Pn**	**11 05 02.1**	**+0.1**
	baz=240						
OKSP	**Okmok Steeple**	**2.82**	**268**		**Pn**	**11 05 03.0**	**+0.1**
VNSS	**Veniaminof 8**	**3.70**	**39**		**Pn**	**11 05 16.9**	**+1.8**
S14K	**Fog Glacier**	**3.70**	**38**	P	**Pn**	**11 05 16.7**	**+1.6**
	baz=221						
VNFG	**Fog Glacier, M**	**3.70**	**38**		**Pn**	**11 05 16.7**	**+1.6**
VNFG	**Fog Glacier, M**	**3.70**	**38**	IAML		11 06 37.4	
	comp=N,389nm,0.9s						
VNHG	**Veniaminof 1**	**3.80**	**41**		**Pn**	**11 05 18.0**	**+1.5**
CHGN	**Chignik**	**4.16**	**44**		**Pn**	**11 05 22.4**	**+1.1**
CHGN	**Chignik**	**4.16**	**44**	IAML		11 06 32.5	
	comp=E,154nm,0.8s						
P08K	**Saint George I**	**4.68**	**315**		**Pn**	**11 05 29.1**	**+0.7**
P08K	**Saint George I**	**4.68**	**315**	P	**Pn**	**11 05 29.1**	**+0.7**
	baz=131						
CHIR	**Chirikof Islan**	**5.22**	**59**		**Pn**	**11 05 35.9**	**0.0**
CHIR	**Chirikof Islan**	**5.22**	**59**	P	**Pn**	**11 05 35.9**	**0.0**
	baz=246						
SPIA	**Saint Paul Isl**	**5.35**	**317**		**Pn**	**11 05 38.4**	**+0.9**
SPIA	**Saint Paul Isl**	**5.35**	**317**	P	**Pn**	**11 05 38.4**	**+0.9**
	baz=133						
O14K	**Tigyukauivet M**	**5.99**	**12**		**Pn**	**11 05 48.0**	**+1.6**
O15K	**Ungalikthiuk R**	**6.14**	**18**		**Pn**	**11 05 49.4**	**+0.9**
O15K	**Ungalikthiuk R**	**6.14**	**18**	P	**Pn**	**11 05 49.4**	**+0.9**
	baz=202						
SII	**Sitkinak Islan**	**6.26**	**56**	Pn	**Pn**	**11 05 50.6**	**+0.4**
N14K	**Kuskokwak Cree**	**6.61**	**8**		**Pn**	**11 05 56.1**	**+1.3**
N14K	**Kuskokwak Cree**	**6.61**	**8**	P	**Pn**	**11 05 56.1**	**+1.3**
	baz=190						
ANCK	**Angle Creek**	**6.62**	**40**		**Pn**	**11 05 55.6**	**+0.5**
ACHA	**Angle Creek He**	**6.69**	**41**		**Pn**	**11 05 56.3**	**+0.2**
O16K	**Kokwok River B**	**6.90**	**24**		**Pn**	**11 05 58.8**	**0.0**
O16K	**Kokwok River B**	**6.90**	**24**	P	**Pn**	**11 05 58.8**	**0.0**
	baz=209						
OHAK	**Old Harbor**	**7.01**	**53**		**Pn**	**11 05 59.3**	**-1.0**
OHAK	**Old Harbor**	**7.01**	**53**	P	**Pn**	**11 05 59.3**	**-1.0**
	baz=241						
M13K	**Dall Lake**	**7.01**	**1**	Pn	**Pn**	**11 06 01.8**	**+1.3**
N15K	**Kwethluk River**	**7.03**	**14**		**Pn**	**11 06 01.0**	**+0.2**
N15K	**Kwethluk River**	**7.03**	**14**	P	**Pn**	**11 06 01.0**	**+0.2**
	baz=198						
M11K	**Mekoryuk**	**7.13**	**350**		**Pn**	**11 06 01.9**	**-0.1**
M11K	**Mekoryuk**	**7.13**	**350**	P	**Pn**	**11 06 01.9**	**-0.1**
	baz=168						
M14K	**Bethel**	**7.41**	**6**		**Pn**	**11 06 06.7**	**+0.9**
M14K	**Bethel**	**7.41**	**6**	P	**Pn**	**11 06 06.7**	**+0.9**
	baz=188						
M15K	**Kasigluk River**	**7.46**	**11**		**Pn**	**11 06 06.8**	**+0.2**
M15K	**Kasigluk River**	**7.46**	**11**	P	**Pn**	**11 06 06.6**	**0.0**
	baz=194						
P18K	**Big Mountain,**	**7.57**	**34**	Pn	**Pn**	**11 06 08.7**	**+0.5**
KDAK	**Kodiak Island**	**7.62**	**51**	Pn	**Pn**	**11 06 07.5**	**-1.2**
	comp=E,1.8nm,0.3s,baz=241,slow=7.7,SNR=24						
KDAK				Sn	**Sn**	**11 07 29.0**	**-5.5**
	comp=E,1.1nm,0.3s,baz=330,slow=20,SNR=6.8						
	comp=E,5.8nm,0.4s						
Q19K	**Cape Douglas,**	**7.83**	**41**	Pn	**Pn**	**11 06 12.1**	**+0.4**
O18K	**Koktuh Hills**	**7.93**	**32**		**Pn**	**11 06 15.5**	**+2.4**
N17K	**Nushagak Hills**	**7.94**	**24**		**Pn**	**11 06 12.7**	**-0.4**
N17K	**Nushagak Hills**	**7.94**	**24**	P	**Pn**	**11 06 12.7**	**-0.4**
	baz=205						
L14K	**Kuka Creek**	**7.96**	**3**		**Pn**	**11 06 13.0**	**-0.4**
L14K	**Kuka Creek**	**7.96**	**3**	P	**Pn**	**11 06 13.0**	**-0.4**
	baz=184						
M16K	**Timber Creek**	**8.03**	**16**		**Pn**	**11 06 16.5**	**+2.2**
SYI	**Shuyak Island**	**8.15**	**46**	Pn	**Pn**	**11 06 16.1**	**+0.1**
L15K	**Ungalak Mounta**	**8.36**	**7**		**Pn**	**11 06 19.5**	**+0.6**
L15K	**Ungalak Mounta**	**8.36**	**7**	P	**Pn**	**11 06 19.5**	**+0.6**
	baz=189						
N18K	**Kilae Creek**	**8.40**	**27**	Pn	**Pn**	**11 06 19.5**	**0.0**
K13K	**Kusilvak Mount**	**8.56**	**357**		**Pn**	**11 06 23.7**	**+2.1**
L16K	**Owhat River**	**8.60**	**13**		**Pn**	**11 06 22.2**	**0.0**
L16K	**Owhat River**	**8.60**	**13**	P	**Pn**	**11 06 22.2**	**0.0**
	baz=197						
M17K	**Holitna River**	**8.66**	**20**		**Pn**	**11 06 25.3**	**+2.3**
N19K	**Bonanza Creek**	**8.91**	**30**	Pn	**Pn**	**11 06 28.4**	**+1.9**
K15K	**Wolf Creek Mou**	**8.97**	**6**		**Pn**	**11 06 28.3**	**+1.1**
K15K	**Wolf Creek Mou**	**8.97**	**6**	P	**Pn**	**11 06 28.3**	**+1.1**
	baz=188						
CNPM	**China Poot**	**9.17**	**43**	Pn	**Pn**	**11 06 30.7**	**+0.7**
J14K	**Nanvaranak Lak**	**9.36**	**0**	Pn	**Pn**	**11 06 33.4**	**+0.9**
BRLK	**Bradley Lake**	**9.46**	**43**	Pn	**Pn**	**11 06 32.9**	**-1.1**
L18K	**Granite Mounta**	**9.56**	**20**	Pn	**Pn**	**11 06 36.3**	**+1.0**
K17K	**Iditarod**	**9.73**	**15**	Pn	**Pn**	**11 06 40.3**	**+2.6**
M19K	**Big River Lodg**	**9.82**	**26**	Pn	**Pn**	**11 06 40.0**	**+1.1**
L19K	**White Mountain**	**9.94**	**24**	Pn	**Pn**	**11 06 41.6**	**+1.0**
J16K	**Anvik River**	**10.02**	**8**		**Pn**	**11 06 42.0**	**+0.4**
J16K	**Anvik River**	**10.02**	**8**	P	**Pn**	**11 06 42.0**	**+0.4**
	baz=190						
M20K	**Styx River**	**10.16**	**29**		**Pn**	**11 06 46.1**	**+2.6**
J17K	**VABM Dome**	**10.28**	**11**		**Pn**	**11 06 46.3**	**+1.1**
J18K	**Innoko River**	**10.69**	**17**	Pn	**Pn**	**11 06 53.3**	**+2.4**
RC01	**Rabbit Creek A**	**10.72**	**39**	Pn	**Pn**	**11 06 50.6**	**-0.7**
K20K	**Telida**	**11.13**	**23**		**Pn**	**11 06 57.3**	**+0.4**
J19K	**Poorman**	**11.37**	**18**		**Pn**	**11 07 01.8**	**+1.6**
CAST	**Castle Rocks**	**11.68**	**26**	Pn	**Pn**	**11 07 06.5**	**+2.2**
J20K	**Nowinta River**	**11.83**	**21**	Pn	**Pn**	**11 07 08.7**	**+2.3**
FID	**Port Fidalgo**	**11.83**	**45**	Pn	**Pn**	**11 07 03.9**	**-2.5**
SCM	**Sheep Creek Mo**	**12.10**	**39**	Pn	**Pn**	**11 07 09.2**	**-0.9**
TRF	**Thorofare Moun**	**12.21**	**29**	Pn	**Pn**	**11 07 12.0**	**+0.4**
KLU	**Klutina**	**12.45**	**43**		**Pn**	**11 07 13.6**	**-1.3**
BPAW	**Bear Paw Mtn.**	**12.52**	**26**		**Pn**	**11 07 16.9**	**+1.1**
HMT	**Hamilton**	**12.61**	**49**	Pn	**Pn**	**11 07 15.2**	**-1.8**
M24K	**Tolsona, Glenn**	**12.70**	**40**	Pn	**Pn**	**11 07 17.0**	**-1.3**
N25K	**Chitina, Valde**	**13.05**	**44**	Pn	**Pn**	**11 07 21.2**	**-1.9**
WAX	**Waxell Ridge**	**13.29**	**50**	Pn	**Pn**	**11 07 26.1**	**-0.3**
GLB	**Gilahina Butte**	**13.30**	**45**	Pn	**Pn**	**11 07 24.9**	**-1.6**
MLY	**Manley**	**13.34**	**24**		**Pn**	**11 07 26.1**	**-0.9**
VRDI	**Verde Repeater**	**13.36**	**46**	Pn	**Pn**	**11 07 26.5**	**-0.9**
H21K	**Melozitna Rive**	**13.41**	**20**	Pn	**Pn**	**11 07 29.4**	**+1.5**
ISLE	**Juniper Island**	**13.59**	**50**	Pn	**Pn**	**11 07 29.5**	**-1.0**
CCB	**Clear Creek Bu**	**13.83**	**29**	Pn	**Pn**	**11 07 32.3**	**-1.3**
HDA	**Hardinz Lake**	**13.92**	**31**	Pn	**Pn**	**11 07 32.9**	**-2.0**
M26K	**Nabesna, AK**	**14.11**	**42**		**Pn**	**11 07 36.5**	**-1.0**
MENT	**Mentasta**	**14.11**	**40**		**Pn**	**11 07 37.8**	**+0.3**
E18K	**Tukpahlearik C**	**14.12**	**5**		**Pn**	**11 07 37.7**	**+0.1**
IL31		**14.19**	**30**	Pn	**Pn**	**11 07 36.7**	**-1.9**
ILAR	**Eielson Array**	**14.19**	**30**	Pn	**Pn**	**11 07 35.9**	**-2.7**
	comp=E,0.1nm,0.3s,baz=223,slow=12,SNR=8.2						
ILAR				LR	LR	11 13 38.1	
	comp=E,281nm,18.3s,baz=228,slow=40						
	comp=E,0.3nm,0.5s						
F20K	**Avaraart Lake**	**14.20**	**13**	Pn	**Pn**	**11 07 37.2**	**-1.5**
H23K	**Yukon River**	**14.28**	**24**		**Pn**	**11 07 38.8**	**-1.0**
J25K	**Salcha River,**	**14.55**	**32**		**Pn**	**11 07 42.2**	**-1.4**
SCRK	**Sand Creek**	**14.61**	**36**		**Pn**	**11 07 42.7**	**-1.8**
H24K	**Noodor Dome**	**14.71**	**26**		**Pn**	**11 07 44.0**	**-1.6**
L27K	**Beaver Creek,**	**14.91**	**41**		**Pn**	**11 07 47.1**	**-1.3**
J26L	**Joseph Creek**	**15.08**	**35**	Pn	**Pn**	**11 07 49.8**	**-0.9**
J26L				IAmb	IAmb	11 07 58.9	
	comp=Z,4.7nm,0.9s						
O29M	**Mount Kennedy**	**15.25**	**53**		**Pn**	**11 07 53.2**	**+0.1**
G24K	**Hadweenzic Riv**	**15.48**	**24**		**Pn**	**11 07 56.3**	**+0.4**
G24K				IAmb	IAmb	11 08 13.8	
	comp=Z,6.4nm,1.1s						
I26K	**Coal Creek Min**	**15.72**	**33**		**Pn**	**11 07 58.5**	**-0.6**
C19K	**Lookout Ridge**	**15.85**	**5**	P	**P**	**11 08 03.6**	**-0.8**
M29M	**Somme Creek**	**16.02**	**46**	Pn	**Pn**	**11 08 02.6**	**-0.3**
EGAK	**Eagle**	**16.08**	**36**		**Pn**	**11 08 03.5**	**-0.1**
EGAK				IAmb	IAmb	11 08 17.6	
	comp=Z,14nm,1.5s						
N30M	**Aishikik Lake**	**16.28**	**50**	Pn	**Pn**	**11 08 04.3**	**-2.1**
N30M				IAmb	IAmb	11 08 24.2	
	comp=Z,8.3nm,0.9s						
D22K	**Ayikyak River**	**16.34**	**14**	Pn	**Pn**	**11 08 06.1**	**-0.8**
DAWY	**Dawson**	**16.36**	**40**	P	**P**	**11 08 10.9**	**+0.9**
DAWY				IAmb	IAmb	11 08 23.5	
	comp=Z,10nm,1.3s						
E24K	**Your Creek**	**16.37**	**20**		**Pn**	**11 08 08.0**	**+0.7**
E24K				IAmb	IAmb	11 08 18.2	
	comp=Z,9.8nm,1.1s						
L29M	**L29M**	**16.42**	**44**		**P**	**11 08 11.5**	**+0.7**
O30N	**Mendenhall**	**16.56**	**53**	P	**Pn**	**11 08 11.0**	**+1.1**
O30N				IAmb	IAmb	11 08 54.4	
	comp=Z,7.1nm,0.9s						
TOLK	**Toolik Lake Re**	**16.64**	**18**		**Pn**	**11 08 12.0**	**+1.3**
B21K	**Ikpikpuk River**	**16.78**	**11**	P	**Pn**	**11 08 12.7**	**+0.2**
B21K				IAmb	IAmb	11 08 54.2	
	comp=Z,15nm,1.4s						
M30M	**Minto, Yukon**	**16.78**	**46**		**P**	**11 08 14.9**	**+0.1**
M30M				IAmb	IAmb	11 08 27.9	
	comp=Z,9.1nm,1.1s						
I28M	**Miner Creek**	**16.89**	**35**		**Pn**	**11 08 14.4**	**+0.4**
N31M	**Braeburn, Yuko**	**16.89**	**50**

comp=Z,4.5nm,0.2s
KSRS **Korea Array** 48.71 280 P P 11 13 03.1 +1.2
comp=Z,1.1nm,0.7s,baz=59,slow=6.1,SNR=7.5
comp=Z,1.1nm,0.7s
TXAR **Lajitas Array** 49.29 94 P P 11 13 07.2 +0.7
comp=Z,0.6nm,0.4s,baz=309,slow=5.7,SNR=7.2
comp=Z,0.6nm,0.4s
SONM **Songino Array** 53.70 303 P P 11 13 39.7 +0.3
comp=Z,2.2nm,0.9s,baz=50,slow=7.6,SNR=9.5
comp=Z,2.2nm,0.9s
ANGG **Ammassalik, Gr** 54.35 24 *i* P P 11 13 42.4 -1.3
ANGG IAmb IAmb 11 13 47.1
comp=Z,9.6nm,0.6s
KURBB **Kurchatov Arra** 63.94 321 P P 11 14 50.2 0.0
comp=Z,0.8nm,0.2s,baz=34,slow=6.5,SNR=6.0
comp=Z,0.8nm,0.2s
BVAR **Borovoye Array** 64.79 327 P P 11 14 56.5 +0.6
comp=Z,1.9nm,0.8s,baz=45,slow=4.3,SNR=7.6
comp=Z,1.9nm,0.8s
FINES **FINESS Array B** 65.22 355 P P 11 14 57.9 -0.6
comp=Z,2.3nm,0.9s,baz=4.5,slow=8.8,SNR=5.2
comp=Z,2.3nm,0.9s
MKAR **Makanchi Array** 65.54 316 P P 11 14 59.9 -1.0
comp=Z,0.6nm,0.8s,baz=32,slow=8.5,SNR=2.3
comp=Z,0.6nm,0.8s
NOA **NORSAR Array B** 65.81 3 P P 11 15 02.2 -0.2
comp=Z,1.1nm,0.9s,baz=357,slow=6.2,SNR=3.5
comp=Z,1.1nm,0.9s
HFS **Hagfors** 66.78 1 P P 11 15 08.0 -0.5
comp=Z,1.8nm,0.6s,baz=2.8,slow=12,SNR=7.5
comp=Z,1.8nm,0.6s
EKA **Eskdalemuir Ar** 70.42 12 P P 11 15 30.9 -0.4
comp=Z,0.9nm,0.7s,baz=340,slow=6.0,SNR=4.2
comp=Z,0.9nm,0.7s
AKASG **Malin Array Be** 75.69 352 P P 11 16 02.3 -0.2
comp=Z,0.7nm,0.5s,baz=10,slow=5.8,SNR=4.5
comp=Z,0.7nm,0.5s
CMAR **Chiang Mai Arr** 79.72 287 P P 11 16 26.5 +0.9
comp=Z,0.8nm,0.8s,baz=31,slow=5.2,SNR=2.1
comp=Z,0.8nm,0.8s
BRTR **Keskin Array B** 86.04 347 P P 11 16 58.8 +0.5
comp=Z,1.2nm,0.9s,baz=29,slow=3.3,SNR=5.3
comp=Z,1.2nm,0.9s
H03N2 **Juan Fernandez** 113.13 115 T T 13 26 38.0
baz=321
H03N1 **Juan Fernandez** 113.15 115 T T 13 26 37.9
baz=321,slow=74
H03N3 **Juan Fernandez** 113.15 115 T T 13 26 43.5
baz=321,slow=74

*NEIC **28** 11:07:09.9±0.7, 19.°403N×0.°007×155.°281W±0.°009, h2km±1km, Error ellipse: s-maj=1.2km s-min=1.0km az=119.0*
HVO 28 11:07:09.1±0.8, **19.°401N**±0.°007×**155.°279W**±0.°009, **h0**km±3km, **ML2.8**/42, **ML2.8**/46(NEIC), **Error ellipse: s-maj=1.2km s-min=1.0km az=126.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**140**		Pg	11 07 10.3	+0.9
KKO	**Keanakako`i**	**0.01**	**104**		Pg	11 07 10.3	+0.8
OBL	**Observatory Le**	**0.02**	**344**		Pg	11 07 10.5	+0.9
BYL	**Byron's Ledge**	**0.02**	**58**	Pg	Pg	11 07 10.0	+0.5
BYL					Sg	11 07 10.8	+0.9
UWB	**Uwekahuna B**	**0.02**	**2**		Pg	11 07 10.7	+1.1
UWE	**Uwekahuna**	**0.02**	**326**	Pg	Pg	11 07 10.1	+0.5
UWE					Sg	11 07 11.0	+1.0
HATHI	**Halema`uma`u T**	**0.03**	**37**		Pg	11 07 10.3	+0.6
HATHI	**Halema`uma`u T**	**0.03**	**37**	IAML		11 07 10.8	
	comp=E,6μm,0.2s						
HATHI				IAML		11 07 10.8	
	comp=N,7μm,0.8s						
SBLHI	**Steaming Bluff**	**0.03**	**21**		Pg	11 07 11.3	+1.7
RSD	**Rainshed**	**0.06**	**1**		Pg	11 07 11.2	+0.8
RSD	**Rainshed**	**0.06**	**1**	IAML		11 07 12.4	
	comp=N,6μm,0.3s						
RSD				IAML		11 07 12.6	
	comp=E,11μm,0.3s						
PUH	**Pauahi**	**0.07**	**114**	Pg	Pg	11 07 11.1	+0.8
PUH				IAML		11 07 11.8	
	comp=E,7μm,1.0s						
PUH				IAML		11 07 11.8	
	comp=N,6μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.11**	**102**		Pg	11 07 12.2	+1.1
HLP	**Hilina Pali**	**0.11**	**195**		Pg	11 07 12.2	+1.1
HLP	**Hilina Pali**	**0.11**	**195**		Sg	11 07 14.8	+2.2
HLP	**Hilina Pali**	**0.11**	**195**	IAML		11 07 14.2	
	comp=E,4μm,0.5s						
HLP				IAML		11 07 14.4	
	comp=N,3μm,0.8s						
MLH	**Mauna Loa**	**0.14**	**313**		Pg	11 07 13.0	+1.2
MLH	**Mauna Loa**	**0.14**	**313**		Sg	11 07 15.7	+2.1
MLH				IAML		11 07 16.2	
	comp=E,6μm,0.8s						
MLH				IAML		11 07 16.4	
	comp=N,6μm,0.6s						
STCH	**Steam Cracks**	**0.15**	**96**		Pg	11 07 12.8	+0.9
STCH	**Steam Cracks**	**0.15**	**96**	IAML		11 07 16.3	
	comp=N,2μm,0.8s						
STCH				IAML		11 07 16.4	
	comp=E,5μm,1.1s						
NPOC	**North of Pu'u**	**0.16**	**93**		Pg	11 07 13.0	+0.9
JCUZ	**Jacuzzi**	**0.17**	**96**		Pg	11 07 13.2	+0.9
HTC	**Hot Caves**	**0.20**	**215**		Pg	11 07 13.8	+1.0
JOKA	**Jonika Flow**	**0.26**	**83**		Pg	11 07 14.2	+0.1
JOKA				IAML		11 07 20.4	
	comp=N,2μm,0.9s						
HMH	**Humu'ula Sheep**	**0.28**	**316**		Pg	11 07 15.0	+0.6
HMH				IAML		11 07 23.5	
	comp=N,2μm,0.8s						
HMH				IAML		11 07 24.1	
	comp=E,2μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**296**		Pg	11 07 15.0	-0.1
MLOA				IAML		11 07 24.2	
	comp=E,915nm,1.0s						
MLOA				IAML		11 07 25.8	
	comp=N,1μm,0.6s						
MWH	**Moku'aweowe**	**0.31**	**286**		Pg	11 07 15.8	+0.8
KHU	**Kahuku**	**0.35**	**244**		Pg	11 07 16.4	+0.6
KHU				IAML		11 07 23.6	
	comp=N,1μm,0.5s						
KHU				IAML		11 07 26.8	
	comp=E,1μm,0.6s						
ALEP	**Alea Permanent**	**0.37**	**292**		Pg	11 07 16.8	+0.6
POHA	**Pohakuloa**	**0.43**	**326**		Pg	11 07 17.8	+0.5
POHA				IAML		11 07 32.8	
	comp=E,1μm,0.8s						
POHA	**Pohakuloa**	**0.43**	**326**		Sg	11 07 24.0	+1.1
HUH	**Hualalai**	**0.60**	**298**		Pg	11 07 21.3	+0.8
CPH	**Captain Cook**	**0.61**	**278**		Pg	11 07 20.8	0.0
HPAH	**Hawaii Prepara**	**0.74**	**328**		Pg	11 07 22.3	-1.0
HPAH	**Hawaii Prepara**	**0.74**	**328**		Sg	11 07 32.1	-0.8
HPAH	**Hawaii Prepara**	**0.74**	**328**	IAML		11 07 48.6	
	comp=E,340nm,1.3s						
HPAH				IAML		11 07 50.4	
	comp=N,382nm,0.7s						

*IDC **28** 11:11:27.4±13.0, 19.°26N×145.°48E, h216km±137km, mb3.0/8, mbtmp3.6/8, Error ellipse: s-maj=50.2km s-min=16.9km az=86.0*
ISC 28 11:11:20.2±1.0, **19.°3N**±0.°2×**145.°6E**±0.°2, **h147**km, **n11**, **s0°79/8, mb3.4/8, Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H11S3	**WAKE ISLAND Hy**	**19.95**	**89**	T	T	11 36 32.7	
	baz=276						
H11S1	**WAKE ISLAND Hy**	**19.96**	**89**	T	T	11 36 33.9	
	baz=276						
H11S2	**WAKE ISLAND Hy**	**19.97**	**89**	T	T	11 36 34.7	
	baz=276						
KSRS	**Korea Array**	**23.82**	**323**	P	**P**	**11 16 19.9**	**+0.3**
	0.9nm,0.7s,baz=145,slow=9.0,SNR=5.6						
	0.9nm,0.7s						
WRA	**Warramunga Arr**	**40.51**	**196**	P	**P**	**11 18 45.0**	**+0.1**
	0.6nm,0.3s,baz=16,slow=8.5,SNR=11						
	0.6nm,0.3s						
SONM	**Songino Array**	**42.65**	**321**	P	**P**	**11 19 03.1**	**+0.7**
	0.4nm,0.4s,baz=125,slow=7.6,SNR=2.0						
	0.4nm,0.4s						
ASAR	**Alice Springs**	**44.18**	**195**	P	**P**	**11 19 14.7**	**0.0**
	0.1nm,0.3s,baz=17,slow=7.0,SNR=4.4						
	0.1nm,0.3s						
ILAR	**Eielson Array**	**63.17**	**26**	P	**P**	**11 21 32.0**	**-0.2**
	0.2nm,0.5s,baz=240,slow=5.0,SNR=2.5						
	0.2nm,0.5s						
YKA	**Yellowknife Ar**	**77.52**	**28**	P	**P**	**11 22 59.4**	**-0.1**
	0.3nm,0.7s,baz=292,slow=5.4,SNR=6.2						
	0.3nm,0.7s						
NVAR	**Mina Array Bea**	**82.85**	**52**	P	**P**	**11 23 29.4**	**+0.7**
	0.4nm,0.7s,baz=276,slow=9.0,SNR=4.2						
	0.4nm,0.7s						
FINES	**FINESS Array B**	**86.34**	**335**	P	**P**	**11 23 44.1**	**-1.4**
	0.6nm,0.7s,baz=72,slow=4.5,SNR=5.0						
	0.6nm,0.7s						

*IDC **28** 11:16:30.0±1.9, 14.°10N×92.°15W, h0km, mb3.6/3, mbtmp3.8/7, ML3.9/4, Error ellipse: s-maj=33.9km s-min=18.3km az=3.0*
*CATAC **28** 11:16:32.2±0.9, 13.°90N×92.°04W, h20km±7km, MB5.2, mb4.5, ML4.2*
*MEX **28** 11:16:33.6±0.6, 13.°97N×92.°20W, h10km, MD4.4*
*SNET **28** 11:16:37.2±1.0, 13.°88N×91.°52W, h103km±40km, ML3.7*
*GCG **28** 11:16:38.8±0.3, 14.°33N×91.°68W, h50km, MD3.9*
ISC 28 11:16:29.4±3.0, **13.°81N**±0.°06×**92.°12W**±0.03, **h17**km±19km, **n75**, **σ2°62**/119, **mb3.8**/3, **Off coast of Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SULM	**Suchitepequez,**	**0.72**	**48**	*e*P	**Pn**	**11 16 46.6**	**+1.8**
RTAL	**Retalhuleu**	**0.82**	**30**	*e*P	**Pn**	**11 16 46.1**	**-0.1**
RTAL				*e*S	**Sb**	**11 16 56.7**	**+0.9**
RTAL	**Retalhuleu**	**0.82**	**30**	*i* P	**Pn**	**11 16 45.9**	**-0.2**
RTAL				IAML		11 16 46.7	
	comp=Z,10μm,1.0s						
RTAL				*i* S	**Sn**	**11 16 57.4**	**-0.4**
STG3	**Santiaguito 3,**	**1.04**	**31**	*e*P	**Pn**	**11 16 49.5**	**+0.2**
THIG		**1.10**	**352**	*e*P	**Pb**	**11 16 49.3**	**-0.6**
THIG				*e*S	**Sb**	**11 17 01.8**	**-2.1**
SMSP	**San Marcos**	**1.20**	**16**	*e*P	**Pn**	**11 16 51.2**	**-0.5**
SMSP				*e*S	**Sb**	**11 17 05.1**	**-2.1**
SMSP	**San Marcos**	**1.20**	**16**	*i* P	**Pn**	**11 16 51.4**	**-0.2**
SMSP				*i* S	**Sb**	**11 17 07.2**	**+0.1**
SMSP				IAML		11 17 09.9	
	comp=Z,8μm,1.0s						
CHUJ	**Union Juarez**	**1.27**	**0**	*e*P	**Pn**	**11 16 51.3**	**-1.3**
CHUJ				*e*S	**Sb**	**11 17 05.2**	**-4.0**
PATR	**El Naranjo**	**1.30**	**355**	*e*P	**Pn**	**11 16 51.6**	**-1.4**
PATR				*e*S	**Sb**	**11 17 05.9**	**-4.1**
PAVE	**Pavencul**	**1.37**	**358**	*e*P	**Pn**	**11 16 52.8**	**-1.2**
PAVE				*e*S	**Sn**	**11 17 08.2**	**-3.7**
FUG	**Fuego 3**	**1.39**	**63**	*e*P	**Pb**	**11 16 54.7**	**-0.3**
CHTG	**Tecpan**	**1.45**	**49**	*i* P	**Pn**	**11 16 55.1**	**+0.1**
CHTG				IAML		11 16 56.6	
	comp=Z,4μm,1.0s						
CHTG				*i* S	**Sn**	**11 17 12.6**	**-1.2**
HUEH	**Huehuetenango**	**1.61**	**22**	*e*P	**Pn**	**11 16 57.5**	**+0.2**
HUEH				*e*S	**Sn**	**11 17 16.3**	**-1.4**
HUEH	**Huehuetenango**	**1.61**	**22**	*i* P	**Pn**	**11 16 58.0**	**+0.8**
HUEH				IAML		11 17 11.8	
	comp=Z,2μm,1.0s						
GUMI	**Mixco**	**1.67**	**61**	*i* P	**Pn**	**11 16 58.2**	**+0.2**
GUMI				*i* S	**Sn**	**11 17 19.2**	**0.0**
GUMI				IAML		11 17 30.6	
	comp=Z,5μm,1.0s						
QUIS	**Sacapulas**	**1.77**	**34**	*i* P	**Pb**	**11 17 00.6**	**-0.9**
QUIS				IAML		11 17 02.5	
	comp=Z,3μm,1.0s						
NBG	**Las Nubes**	**1.88**	**66**	*e*P	**Pb**	**11 17 03.3**	**-0.1**
GUNB	**GUNB**	**1.89**	**65**	*i* P	**Pb**	**11 17 02.5**	**-1.0**
GUNB				IAML		11 17 36.0	
	comp=Z,800nm,1.0s						
APG	**El Apazote**	**1.99**	**53**	Pg	**Pb**	**11 17 04.1**	**-1.2**
	comp=Z,3.6nm,0.3s,baz=208,slow=16,SNR=132						
APG				Sn	**Sb**	**11 17 29.4**	**-0.5**
	comp=Z,4.1nm,0.3s,baz=224,slow=18,SNR=6.2						
PCIG		**2.16**	**331**	*e*P	**Pn**	**11 17 03.9**	**-0.7**
PCIG				*e*S	**Sn**	**11 17 27.9**	**-3.1**
NUBE	**Las Nubes**	**2.27**	**87**	*e*P	**Pn**	**11 17 05.8**	**-0.4**
NUBE				*e*S	**Sn**	**11 17 29.2**	**-4.8**
NUBE				IAML		11 17 41.8	
	comp=Z,239nm,0.3s						
RTR	**El Retiro**	**2.40**	**88**	*e*P	**Pn**	**11 17 08.0**	**-0.1**
CEVE	**Cerro Verde**	**2.42**	**89**	*e*P	**Pn**	**11 17 08.7**	**+0.3**
CEVE				*e*S	**Sn**	**11 17 33.5**	**-4.3**
CEVE				IAML		11 17 50.7	
	comp=Z,1μm,0.4s						
SNJE	**San Jose**	**2.44**	**88**	*e*P	**Pn**	**11 17 08.8**	**+0.2**
SNJE				*e*S	**Sn**	**11 17 34.3**	**-3.9**
CCIG	**Comitan**	**2.45**	**360**	*e*P	**Pb**	**11 17 11.3**	**-1.8**
CCIG				*e*S	**Sn**	**11 17 39.7**	**+1.1**
JAYA	**Jayaque - finc**	**2.60**	**93**	*e*P	**Pn**	**11 17 10.8**	**+0.1**
JAYA				*e*S	**Sn**	**11 17 36.3**	**-5.7**
JAYA				IAML		11 17 49.3	
	comp=Z,852nm,0.2s						
PMON	**Piamonte**	**2.72**	**92**	*e*P	**Pn**	**11 17 12.4**	**-0.1**
PMON				*e*S	**Sn**	**11 17 39.4**	**-5.7**
MTO3	**Montecristo**	**2.74**	**77**	*e*P	**Pn**	**11 17 13.1**	**+0.3**
ESQI	**Esquipulas**	**2.79**	**74**	*i* P	**Pn**	**11 17 14.3**	**+0.9**
ESQI				IAML		11 18 37.7	
	comp=Z,270nm,1.0s						
PANCS	**Alcalda de**	**2.86**	**94**	*e*P	**Pn**	**11 17 14.9**	**+0.6**
CARR	**Arriaga**	**2.98**	**325**	*e*P	**Pn**	**11 17 16.2**	**+0.4**
CARR				*e*S	**Sn**	**11 17 50.3**	**-0.9**
PAVA	**Las Pavas**	**3.09**	**91**	*e*P	**Pn**	**11 17 17.6**	**0.0**
TGIG		**3.10**	**342**	*e*P	**Pn**	**11 17 15.0**	**-2.6**
TGIG				*e*S	**Sn**	**11 17 52.0**	**-2.4**
SCLA	**Alcaldia de Sa**	**3.29**	**92**	*e*P	**Pn**	**11 17 20.3**	**0.0**
PETF	**Flores**	**3.77**	**35**	*e*P	**Pn**	**11 17 28.0**	**+1.2**
PETF				*e*S	**Sn**	**11 18 11.2**	**+0.4**
PETF	**Flores**	**3.77**	**35**	*i* P	**Pn**	**11 17 28.4**	**+1.6**
PETF				IAML		11 18 28.2	
	comp=Z,170nm,1.0s						
IZABA	**Izabal, Puerto**	**3.91**	**60**	*e*P	**Pn**	**11 17 32.2**	**+3.6**
IZABA				*e*S	**Sb**	**11 18 22.8**	**-2.2**
UXUV	**UXUV**	**4.00**	**331**	*e*P	**Pn**	**11 17 31.6**	**+1.7**
UXUV				*e*S	**Sn**	**11 18 14.0**	**-2.4**
CMIG	**Matias Romero**	**4.21**	**321**	Pn	**Pn**	**11 17 33.6**	**+0.7**
	comp=Z,4.5nm,0.3s,baz=138,slow=8.1,SNR=23						
CMIG				Sn	**Sn**	**11 18 20.2**	**-1.5**
	comp=Z,11nm,0.3s,baz=150,slow=16,SNR=5.2						
CMIG				Lg	Lg	11 18 30.3	
	comp=Z,9.8nm,0.3s,baz=60,slow=20,SNR=12						
	comp=Z,11nm,0.4s						
CMIG	**Matias Romero**	**4.21**	**321**	*e*P	**Pn**	**11 17 33.1**	**+0.3**
CMIG				*e*S	**Sn**	**11 18 19.3**	**-2.4**
HUIG	**Huatulco**	**4.32**	**297**	*e*P	**Pn**	**11 17 33.7**	**-0.6**
HUIG				*e*S	**Sn**	**11 18 16.7**	**-7.7**
TUIG	**Tuzandepetl**	**4.75**	**332**	*e*P	**Pn**	**11 17 37.9**	**-2.3**
TUIG				*e*S	**Sn**	**11 18 38.7**	**+3.8**
PKGN	**Cerro Pekin**	**5.13**	**102**	*i* P	**Pn**	**11 17 47.9**	**+2.4**
PKGN				IVmB_BB		11 17 58.6	
	comp=Z,6μm,1.0s						
PKGN				IAmb	IAmb	11 18 00.6	
	comp=Z,69nm,0.5s						
PKGN				IAML		11 19 06.7	
	comp=Z,230nm,1.0s						
SCIG	**Sabancuy**	**5.20**	**10**	*e*P	**Pn**	**11 17 46.8**	**+0.4**
SCIG				*e*S	**Sn**	**11 18 48.5**	**+2.4**
NEUV	**Arroyo Zacate**	**5.26**	**318**	*e*P	**Pn**	**11 17 47.8**	**+0.6**
NEUV				*e*S	**Sn**	**11 18 49.4**	**+2.0**
PEIG	**Puerto Escondi**	**5.33**	**295**	*e*P	**Pn**	**11 17 46.6**	**-1.5**
PEIG				*e*S	Sn	11 18 40.9	-8.4
CNGA	**Al SSO del Vol**	**5.43**	**103**	*i* P	**Pn**	**11 17 51.1**	**+1.4**
CNGA				IAML		11 18 03.2	
	comp=Z,53nm,1.0s						
CNGA				IVmB_BB		11 18 32.9	
	comp=Z,2μm,1.0s						
VHO	**Vista Hermosa**	**5.51**	**307**	*e*P	**Pn**	**11 17 53.9**	**+3.1**
VHO				*e*S	**Sn**	**11 18 53.4**	**-0.5**
COPN	**Copaltepe**	**5.62**	**106**	*i* P	**Pn**	**11 17 54.0**	**+1.7**
COPN				IAmb	IAmb	11 18 15.2	
	comp=Z,30nm,0.8s						
COPN				IAML		11 19 57.6	
	comp=Z,60nm,1.0s						
LIMN	**Finca el Limon**	**5.64**	**97**	*i* P	**Pn**	**11 17 53.5**	**+0.9**
LIMN				IAmb	IAmb	11 17 56.7	
	comp=Z,21nm,0.7s						
LIMN				IAML		11 19 28.3	
	comp=Z,36nm,1.0s						
APYN	**Apoyeque**	**5.83**	**105**	*i* P	**Pn**	**11 17 57.4**	**+2.2**
APYN				IAML		11 18 03.7	
	comp=Z,70nm,1.0s						
APYN				IAmb	IAmb	11 18 03.8	
	comp=Z,39nm,0.5s						
APYN				IVmB_BB		11 18 12.5	
	comp=Z,1μm,1.0s						
YOIG	**Yosondua**	**6.05**	**301**	*e*P	**Pn**	**11 18 01.8**	**+3.5**
YOIG				*e*S	**Sn**	**11 19 08.1**	**+0.7**
PNIG	**Pinotepa**	**6.35**	**295**	*e*P	**Pn**	**11 18 04.3**	**+2.1**
PNIG				*e*S	**Sn**	**11 19 08.3**	**-6.1**
TOIG	**Toxpalan**	**6.39**	**312**	*e*P	**Pn**	**11 18 03.5**	**+0.6**
TOIG				*e*S	**Sn**	**11 19 13.9**	**-1.5**
TXIG	**Tlaxiaco**	**6.43**	**303**	*e*P	**Pn**	**11 18 07.2**	**+3.6**
TXIG				*e*S	**Sn**	**11 19 14.7**	**-2.1**
HLIG	**Huajuapan de L**	**6.78**	**307**	*e*P	**Pn**	**11 18 12.2**	**+3.9**
HLIG				*e*S	**Sn**	**11 19 26.6**	**+1.3**
TPIG	**Tehuac#an**	**6.81**	**313**	*e*S	**Sn**	**11 19 22.4**	**-3.6**
FTIG	**Fresnillo de T**	**7.08**	**306**	*e*P	**Pn**	**11 18 16.0**	**+3.7**
FTIG				*e*S	**Sn**	**11 19 31.4**	**-1.1**
JAUV	**Jalcomulco**	**7.12**	**321**	*e*P	**Pn**	**11 18 10.2**	**-2.6**
JAUV				*e*S	**Sn**	**11 19 25.6**	**-7.8**
MGIG	**Malinaltepec**	**7.14**	**299**	*e*P	**Pn**	**11 18 14.9**	**+1.6**
MGIG				*e*S	**Sn**	**11 19 29.8**	**-4.4**
TLIG	**Tlapa**	**7.24**	**302**	*e*P	**Pn**	**11 18 16.0**	**+1.4**
TLIG				*e*S	**Sn**	**11 19 38.7**	**+2.0**
TEIG	**Tepich**	**7.36**	**29**	Pn	**Pn**	**11 18 17.3**	**+1.3**
	comp=Z,15nm,0.3s,baz=227,slow=1.6,SNR=55						
TEIG				Sn	**Sn**	**11 19 37.6**	**-1.6**
	baz=144,slow=21						
	comp=Z,34nm,0.4s						
CRIG	**Cruz Grande**	**7.37**	**294**	*e*P	**Pn**	**11 18 18.5**	**+2.3**
CRIG				*e*S	Sn	11 19 30.9	-8.5
JTS	**Las Juntas de**	**7.83**	**116**	Pn	Pn	11 18 29.3	+6.7
	comp=Z,0.6nm,0.3s,baz=300,slow=20,SNR=2.3						
JTS				Lg	Lg	11 20 29.3	
	comp=Z,0.4nm,0.3s,baz=232,slow=19,SNR=1.8						
	comp=Z,1.8nm,0.4s						
DAIG	**Los Arroyos**	**7.94**	**295**	*e*P	**Pn**	**11 18 27.0**	**+3.0**
DAIG				*e*S	**Sn**	**11 19 52.6**	**-0.9**
MEIG	**Mezcala**	**8.30**	**301**	*e*P	**Pn**	**11 18 32.9**	**+3.9**
MEIG				*e*S	**Sn**	**11 20 09.2**	**+6.7**
YAIG	**Yautepec**	**8.35**	**308**	*e*P	Pn	11 18 23.0	-6.9
YAIG				*e*S	**Sn**	**11 20 00.9**	**-2.9**
PLIG	**Platanillo**	**8.43**	**304**	*e*P	Pn	11 18 35.9	+5.0
PLIG				*e*S	**Sn**	**11 20 13.8**	**+7.9**
CAIG	**El Cayaco**	**8.49**	**293**	*e*P	**Pn**	**11 18 34.4**	**+2.7**
CAIG				*e*S	**Sn**	**11 20 11.2**	**+4.0**
ARIG	**Puente Sto Nin**	**9.07**	**300**	*e*P	**Pn**	**11 18 41.9**	**+2.3**
ARIG				*e*S	**Sn**	**11 20 22.7**	**+1.2**
TXAR	**Lajitas Array**	**18.79**	**327**	P	**Pn**	**11 20 50.0**	**+1.4**
	comp=Z,0.1nm,0.3s,baz=155,slow=13,SNR=14						
	comp=Z,1.0nm,0.8s						
NVAR	**Mina Array Bea**	**33.74**	**321**	P	**P**	**11 23 13.0**	**+2.6**
	comp=Z,0.9nm,0.7s,baz=130,slow=8.4,SNR=9.0						
	comp=Z,0.9nm,0.7s						
YKA	**Yellowknife Ar**	**51.18**	**347**	P	**P**	**11 25 30.9**	**-0.5**
	comp=Z,0.4nm,0.6s,baz=147,slow=6.9,SNR=18						
	comp=Z,0.4nm,0.6s						
ILAR	**Eielson Array**	**62.97**	**337**	P	**P**	**11 26 55.7**	**+0.9**
	comp=Z,0.6nm,0.8s,baz=93,slow=6.2,SNR=6.5						
	comp=Z,0.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**146.13**	**341**	PKPbc	**PKPab**	**11 36 10.6**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=341,slow=4.2,SNR=7.3						

*LVSN **28** 11:17:37.7±6.1, 59.°54N×21.°36E, h0km±142km, ML1.1*
EST 28 11:17:29.8±0.1, **59.°28N×27.°67E, h0**km, **ML1.0**(HEL), **Explosion, Baltic States-Belarus-Northwestern Russia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE03	**Tooma soojaam,**	**0.83**	**241**	*e*P	Pg	11 17 44.3	-1.4
EE03				*e*S	Sg	11 17 54.7	-1.7
ARBE	**Arbavere**	**0.88**	**281**	*e*P	Pg	11 17 45.8	-0.7
VSU	**Vasula**	**0.95**	**211**	*e*P	Pg	11 17 47.2	-0.8
VJF	**Virojoki**	**1.26**	**358**	*e*P	Pg	11 17 52.6	-1.4
EE08	**Sarghaua, Vand**	**1.40**	**245**	*e*P	Pn	11 17 54.7	-1.8
EE08				*e*S	Sg	11 18 12.8	-2.1
EE08				*e*SN	Sn	11 18 15.9	+0.2
EE02	**Kiisa, Saku**	**1.53**	**268**	*e*PG	Pn	11 17 57.4	-0.9
EE02				*e*S	Sb	11 18 16.2	-2.6
PVF	**Pernaja**	**1.56**	**325**	*e*PG	Pn	11 17 57.9	-0.8
PVF				*e*SB	Sn	11 18 17.8	-1.8
PVF				MSG		11 18 22.6	
	comp=Z,0.8nm,0.1s						
MEF	**Metsahovi**	**1.90**	**301**	*e*P	Pn	11 18 04.0	+0.6
MEF				AML	AML	11 18 04.5	
	comp=E,4.7nm,0.4s						
MEF				*e*S	Sn	11 18 27.7	-0.4
MEF				AML	AML	11 18 30.6	
	comp=N,8.0nm,0.5s						
MEF				AML	AML	11 18 30.8	
	comp=Z,5.2nm,0.4s						
MEF	**Metsahovi**	**1.90**	**301**	*e*PG	Pn	11 18 04.0	+0.6
MEF				*e*S	Sn	11 18 27.6	-0.4
MEF				MSG		11 18 29.7	
	comp=Z,0.9nm,0.1s						
MTSE	**Matsula**	**2.07**	**256**	*e*P	Pn	11 18 05.7	0.0
MTSE	**Matsula**	**2.07**	**256**	*e*PB	Pn	11 18 06.2	+0.4
MTSE				*e*SG	Sb	11 18 33.5	-1.0
EE01	**Perakula, Nova**	**2.08**	**270**	*e*PB	Pn	11 18 06.4	+0.6
EE01				*e*SG	Sn	11 18 33.4	+1.0
RUF	**Ruokolahti**	**2.24**	**16**	*e*P	Pn	11 18 07.6	-0.5
FIA0	**FINESS Array S**	**2.31**	**341**	*e*P	Pn	11 18 08.7	-0.3
FIA0				*e*PB	Pb	11 18 10.1	-2.2
FIA0				MSG		11 18 43.0	
	comp=Z,0.4nm,0.1s						
FIA1	**FINESS Array S**	**2.31**	**341**	*e*P	Pn	11 18 08.6	-0.4
FIA1				*e*PB	Pb	11 18 10.0	-2.3
FIA1

UNV Sb 11 26 00.8 +0.4
UNV Unalaska Valle 1.69 284 P Pn 11 25 37.4 -0.1
baz=101
MREP Makushin Rep't 1.83 282 Pn 11 25 39.7 +0.3
MGOD Makushin Gods 1.90 281 Pn 11 25 40.5 +0.1
HAG Hague Volcano 2.14 29 Pn 11 25 44.0 +0.4
HAG Sn 11 26 11.5 +1.7
HAG Hague Volcano 2.14 29 P Pn 11 25 44.1 +0.4
HAG 11 26 11.5
PS4A Pavlof South-4 2.18 29 Pn 11 25 44.6 +0.5
PVV Pavlof Volcano 2.22 30 Pn 11 25 45.5 +0.8
PVV Sn 11 26 13.1 +1.3
PS1A Pavlof South-1 2.28 30 Pn 11 25 46.2 +0.6
S12K Black Hills 2.44 23 Pn 11 25 47.8 0.0
S12K Black Hills 2.44 23 IAML 11 26 35.8
comp=E,2µm,1.0s
S12K Black Hills 2.44 23 P Pn 11 25 48.9 +1.1
baz=204
OKTU Okmok Mt. Tuli 2.58 270 Pn 11 25 50.5 +0.8
OKER Okmok East Rim 2.58 271 Pn 11 25 50.4 +0.6
SDPT Sand Point 2.68 44 P Pn 11 25 51.9 +0.9
SDPT Sand Point 2.68 44 Pn 11 25 50.8 -0.2
SDPT Sn 11 26 22.3 -0.7
SDPT Sand Point 2.68 44 IAML 11 26 56.2
comp=E,1µm,1.2s
SDPT Sand Point 2.68 44 P Pn 11 25 51.7 +0.7
baz=227
CNBA Chernabura Isl 2.79 59 Pn 11 25 52.1 -0.4
CHNA Chernabura Isl 2.79 59 P Pn 11 25 52.5 -0.1
baz=243
NIKH Nikolski High 3.12 263 P Pn 11 25 57.9 +0.8
NIKH Nikolski High 3.12 263 Pn 11 25 57.5 +0.4
VNWF Veniaminof 8 3.61 40 Pn 11 26 05.3 +1.4
CLCO Concord Point, 3.67 262 Pn 11 26 05.1 +0.4
VNSS Veniaminof 8 3.71 40 Pn 11 26 05.8 +0.4
S14K Fog Glacier 3.71 39 P Pn 11 26 07.2 +1.9
baz=222
VNFG Fog Glacier, M 3.71 39 Pn 11 26 06.2 +0.8
CLES Cleveland East 3.77 263 Pn Pn 11 26 05.8 -0.2
CLES IAML 11 27 00.2
comp=E,689nm,1.3s
CLES IAML 11 27 31.7
comp=N,892nm,1.3s
VNHG Veniaminof 1 3.82 42 Pn 11 26 08.0 +1.2
CHGN Chignik 4.18 45 Pn 11 26 12.1 +0.5
CHGN Chignik 4.18 45 IAML 11 27 20.6
comp=E,450nm,1.2s
CHGN IAML 11 27 32.3
comp=N,294nm,1.1s
P08K Saint George I 4.59 316 Pn 11 26 18.6 +1.4
ANNE Aniakchak Nort 4.74 41 Pn 11 26 19.9 +0.5
SPIA Saint Paul Isl 5.26 318 P Pn 11 26 29.2 +2.7
SPIA Saint Paul Isl 5.26 318 Pn 11 26 27.3 +0.8
CHIR Chirikof Islan 5.27 60 Pn Pn 11 26 26.0 -0.6
CHIR IAML 11 28 08.0
comp=E,247nm,1.4s
CHIR IAML 11 28 18.1
comp=N,274nm,2.1s
O14K Tigyukauivet M 5.96 12 Pn 11 26 37.2 +1.1
O15K Ungalikthiuk R 6.12 19 Pn 11 26 39.3 +1.0
SII Sitkinak Islan 6.30 57 P Pn 11 26 40.1 -0.7
SII Sitkinak Islan 6.30 57 Pn Pn 11 26 40.4 -0.4
P16K Nushagak River 6.43 28 Pn 11 26 43.4 +0.9
ATKA Atka Island 6.47 263 P Pn 11 26 44.4 +1.4
ATKA Atka Island 6.47 263 Pn Pn 11 26 44.6 +1.6
N14K Kuskokwak Cree 6.57 9 Pn 11 26 45.1 +0.7
ANCK Angle Creek 6.63 41 Pn 11 26 45.5 +0.2
O16K Kokwok River B 6.89 25 Pn 11 26 48.9 +0.1
M13K Dall Lake 6.97 2 Pn 11 26 48.9 -1.0
N15K Kwethluk River 7.01 15 Pn 11 26 51.5 +1.0
P17K Kvichak River 7.03 32 Pn 11 26 49.7 -0.9
OHAK Old Harbor 7.04 54 P Pn 11 26 49.3 -1.6
OHAK Old Harbor 7.04 54 Pn Pn 11 26 50.2 -0.7
M11K Mekoryuk 7.07 350 Pn 11 26 52.8 +1.6
O17K Koliganek Bris 7.30 27 Pn 11 26 54.8 +0.3
M14K Bethel 7.37 7 Pn 11 26 57.0 +1.6
M15K Kasigluk River 7.43 12 Pn 11 26 57.5 +1.2
N16K Nishlik Lake 7.53 19 Pn 11 26 59.0 +1.4
P18K Big Mountain, 7.58 35 Pn 11 27 00.5 +2.2
KDAK Kodiak Island 7.65 51 P Pn 11 26 58.3 -0.9
KDAK Kodiak Island 7.65 51 Pn Pn 11 26 57.9 -1.3
comp=N,2.2nm,0.3s,baz=241,slow=9.2,SNR=31
KDAK Sn Sn 11 28 20.4 -4.9
comp=N,2.3nm,0.3s,baz=283,slow=19,SNR=6.9
comp=N,5.3nm,0.3s
KDAK Kodiak Island 7.65 51 P Pn 11 26 58.3 -0.9
Q19K Cape Douglas, 7.84 42 Pn Pn 11 27 04.4 +2.4
L14K Kuka Creek 7.92 4 Pn 11 27 03.1 +0.2
N17K Nushagak Hills 7.93 24 Pn 11 27 04.0 +1.0
O18K Koktuh Hills 7.94 33 Pn 11 27 03.9 +0.7
M16K Timber Creek 8.01 17 Pn Pn 11 27 05.8 +1.7
SYI Shuyak Island 8.17 46 Pn Pn 11 27 07.3 +0.9
L15K Ungalak Mounta 8.32 7 Pn 11 27 09.4 +1.0
N18K Kilae Creek 8.39 27 Pn Pn 11 27 11.7 +2.2
O19K Port Alsworth 8.49 34 Pn 11 27 11.6 +0.9
K13K Kusilvak Mount 8.51 357 Pn 11 27 13.6 +2.6
L16K Owhat River 8.58 14 Pn 11 27 11.6 -0.3
M17K Holitna River 8.65 21 Pn 11 27 14.2 +1.3
N19K Bonanza Creek 8.91 31 Pn Pn 11 27 19.5 +2.9
K15K Wolf Creek Mou 8.93 7 Pn 11 27 17.4 +0.6
M18K Stony River 9.10 25 Pn 11 27 18.5 -0.6
L17K Donlin 9.16 16 Pn 11 27 20.0 0.0
CNPM China Poot 9.19 44 Pn Pn 11 27 21.3 +0.9
J14K Nanvaranak Lak 9.31 0 Pn 11 27 22.6 +0.6
BRLK Bradley Lake 9.47 43 Pn Pn 11 27 24.7 +0.5
BRSE Bradley Lake S 9.52 43 Pn 11 27 24.4 -0.5
L18K Granite Mounta 9.54 20 Pn Pn 11 27 26.6 +1.5
K17K Iditarod 9.71 15 Pn Pn 11 27 28.4 +1.0
M19K Big River Lodg 9.82 27 Pn 11 27 31.1 +2.2
L19K White Mountain 9.93 25 Pn Pn 11 27 31.8 +1.3
J16K Anvik River 9.98 8 Pn Pn 11 27 31.6 +0.5
SPCP Crater Peak Br 10.00 34 Pn 11 27 29.7 -1.8
M20K Styx River 10.15 30 Pn 11 27 36.0 +2.4
J17K VABM Dome 10.25 12 Pn Pn 11 27 36.4 +1.6
O22K Cooper Landing 10.37 42 Pn 11 27 37.1 +0.7
I17K Unalakleet 10.57 7 Pn 11 27 41.6 +2.4
SUA Susitna One 10.62 36 Pn 11 27 40.7 +0.7
J18K Innoko River 10.67 17 Pn Pn 11 27 43.1 +2.5
SKT Skwentna 10.72 32 Pn Pn 11 27 42.7 +1.4
RC01 Rabbit Creek A 10.74 39 Pn Pn 11 27 41.9 +0.3
K20K Telida 11.12 23 Pn Pn 11 27 48.0 +1.2
PMR Palmer 11.28 38 P Pn 11 27 49.4 +0.4
PMR Palmer 11.28 38 Pn Pn 11 27 48.9 -0.1
PMR Palmer 11.28 38 P Pn 11 27 48.9 -0.1
J19K Poorman 11.36 18 Pn Pn 11 27 50.7 +0.8
KNIK Knik Glacier 11.43 40 Pn 11 27 51.5 +0.6
CUT Chulitna 11.44 33 Pn 11 27 50.9 -0.2
GLI Glacier Island 11.66 44 Pn 11 27 52.7 -1.4
H17K Granite Mounta 11.67 8 Pn Pn 11 27 56.6 +2.4
HIN Hinchinbrook I 11.67 47 Pn 11 27 53.7 -0.6
J20K Nowinta River 11.81 21 Pn Pn 11 27 58.8 +2.6
FID Port Fidalgo 11.85 45 Pn 11 27 55.2 -1.6
G16K Koyuk River 11.99 3 Pn 11 28 00.9 +2.4
H18K Honhosa River 12.03 11 Pn 11 28 01.8 +2.6
EYAK Cordova Ski Ar 12.07 47 P Pn 11 27 59.1 -0.6
SCM Sheep Creek Mo 12.11 40 Pn 11 27 59.5 -0.8
SCM Sheep Creek Mo 12.11 40 P Pn 11 27 59.5 -0.8
F15K North Star Dit 12.29 358 Pn 11 28 04.5 +1.8
I20K Naaghedeneel 12.30 19 Pn 11 28 04.7 +1.9
KLU Klutina 12.47 43 Pn 11 28 04.1 -1.1
BPAW Bear Paw Mtn. 12.51 27 Pn Pn 11 28 07.1 +1.3
H19K Roundabout Mou 12.64 14 Pn Pn 11 28 09.1 +1.7
HMT Hamilton 12.64 49 Pn 11 28 06.6 -0.9
N25K Chitina, Valde 13.07 44 Pn 11 28 12.6 -0.9
GLB Gilahina Butte 13.32 45 Pn Pn 11 28 16.3 -0.6
MLY Manley 13.33 24 Pn Pn 11 28 16.8 -0.1
SHEM Shemya Is, Ala 13.34 276 LR LR 11 33 11.2
comp=N,581nm,20.7s,baz=122,slow=36
VRDI Verde Repeater 13.38 46 Pn 11 28 18.2 +0.4
H21K Melozitna Rive 13.39 20 Pn Pn 11 28 19.8 +2.0
NEA2 Nenana 13.42 28 Pn 11 28 18.2 +0.1
ISLE Juniper Island 13.62 50 Pn Pn 11 28 20.9 -0.1
F19K Shaleruckik Mo 13.72 10 Pn Pn 11 28 24.1 +1.9
I23K Minto, Yukon-K 13.77 26 Pn 11 28 22.6 -0.3
CCB Clear Creek Bu 13.83 30 Pn 11 28 22.4 -1.3
HDA Harding Lake 13.92 31 Pn 11 28 24.2 -0.7
MDM Murphy Dome 13.94 28 Pn 11 28 24.4 -0.8
COLA College 13.98 29 eP Pn 11 28 24.0 -1.7
G21K Allakaket 14.02 17 Pn Pn 11 28 28.4 +2.0
BARN Barnard Glacie 14.10 49 Pn 11 28 26.9 -0.7
MENT Mentasta 14.12 40 Pn 11 28 27.8 0.0

M26K Nabesna, AK 14.13 42 Pn 11 28 27.0 -0.8
F20K Avaraart Lake 14.17 13 Pn 11 28 26.1 -2.3
ILAR Eielson Array 14.19 30 Pn Pn 11 28 26.2 -2.4
comp=N,0.2nm,0.3s,baz=226,slow=12,SNR=14
ILAR LR LR 11 34 28.9
comp=N,2µm,18.1s,baz=217,slow=40
comp=N,1.0nm,0.6s
H23K Yukon River 14.27 24 Pn 11 28 29.7 0.0
M27K Edge Creek, AK 14.56 44 Pn Pn 11 28 33.6 -0.3
BCPM Bancas Point 14.68 54 Pn Pn 11 28 35.2 -0.2
H24K Noodor Dome 14.70 26 Pn 11 28 33.5 -2.2
PNL Peninsula 14.72 55 Pn Pn 11 28 35.3 -0.7
G23K Bananza Creek 14.88 22 Pn Pn 11 28 38.4 +0.3
PRP Porcupine Dome 15.13 30 Pn Pn 11 28 39.6 -1.9
PRP IAmb IAmb 11 28 55.5
comp=E,11nm,1.1s
O29M Mount Kennedy 15.29 53 Pn 11 28 44.3 +0.7
K27K Chicken 15.34 38 Pn 11 28 42.4 -1.8
K27K IAmb IAmb 11 29 00.2
comp=E,16nm,1.2s
P29M Windy Craggy 15.54 56 Pn 11 28 47.6 +0.8
P29M IAmb IAmb 11 29 08.4
comp=E,24nm,1.0s
E21K Killik River 15.72 13 Pn 11 28 50.9 +1.8
I26K Coal Creek Min 15.73 33 Pn 11 28 47.5 -1.6
I26K IAmb IAmb 11 28 58.2
comp=E,10nm,0.6s
E22K Anaktuvuk Pass 15.77 17 Pn Pn 11 28 51.2 +1.5
E22K IAmb IAmb 11 29 16.2
comp=E,26nm,1.1s
F24K Squaw Lake 16.03 22 Pn 11 28 52.3 -0.7
M29M Somme Creek 16.04 46 Pn Pn 11 28 52.4 -0.9
S31K Pelican 16.07 63 Pn Pn 11 28 53.6 -0.1
S31K IAmb IAmb 11 29 15.4
comp=E,60nm,1.4s
EGAK Eagle 16.09 36 Pn 11 28 53.6 -0.2
D22K Ayikyak River 16.31 14 Pn Pn 11 28 58.0 +1.4
D22K IAmb IAmb 11 29 29.8
comp=E,27nm,1.2s
N30M Aishikik Lake 16.31 50 Pn Pn 11 28 56.9 +0.1
N30M IAmb IAmb 11 29 13.0
comp=E,17nm,0.8s
E24K Your Creek 16.35 21 Pn 11 28 57.2 -0.1
E24K IAmb IAmb 11 29 01.8
comp=E,28nm,0.9s
O30N Mendenhall 16.59 53 Pn 11 29 00.6 +0.2
O30N IAmb IAmb 11 29 27.4
comp=E,23nm,1.1s
TOLK Toolik Lake Re 16.62 18 Pn Pn 11 29 01.5 +0.9
TOLK IAmb IAmb 11 29 15.5
comp=E,33nm,1.1s
SKAG Skagway 16.71 58 P Pn 11 29 01.2 -0.6
SKAG Skagway 16.71 58 Pn 11 29 01.3 -0.4
SKAG IAmb IAmb 11 29 26.5
comp=E,47nm,1.5s
B21K Ikpikpuk River 16.75 11 P P 11 29 03.8 -0.5
I28M Miner Creek 16.90 35 Pn Pn 11 29 02.2 -1.9
N31M Braeburn, Yuko 16.92 51 P P 11 29 06.7 +0.3
N31M IAmb IAmb 11 29 20.7
comp=E,36nm,0.9s
K29M Barlow Dome 17.00 42 Pn 11 29 06.0 +0.5
K29M IAmb IAmb 11 29 11.1
comp=E,35nm,1.1s
E25K Arctic Village 17.05 23 P Pn 11 29 04.4 -1.6
JIS Juneau Island 17.08 62 P Pn 11 29 05.2 -1.1
JIS Juneau Island 17.08 62 P P 11 29 07.9 -0.1
JIS IAmb IAmb 11 29 40.4
comp=E,32nm,1.2s
WHY Whitehorse 17.15 54 P 11 29 08.3 -0.6
WHY IAmb IAmb 11 29 23.5
comp=E,19nm,0.9s
G27K Doyon Strip 17.16 30 P Pn 11 29 07.0 -0.4
D24K Happy Valley 17.20 18 P 11 29 09.0 -0.3
D24K IAmb IAmb 11 29 41.5
comp=E,27nm,1.1s
I29M Ogilvie Camp, 17.42 37 P Pn 11 29 10.9 +0.3
C23K Itkillik River 17.49 15 Pn 11 29 10.9 -0.5
C23K IAmb IAmb 11 29 37.9
comp=E,22nm,1.0s
P32M Atlin 17.55 58 P P 11 29 13.6 +0.3
MAYO Mayo, Yukon 17.56 44 P P 11 29 14.1 +0.6
B22K Teshekpuk Lake 17.57 12 Pn 11 29 12.0 -0.3
B22K IAmb IAmb 11 29 39.8
comp=E,46nm,1.4s
M31M Drury Creek, Y 17.75 49 P P 11 29 15.5 -0.1
J30M Hart River 17.79 41 Pn 11 29 15.1 -0.2
D25K Kavik River 17.82 20 P Pn 11 29 15.8 +0.1
H29M Whitestone 17.86 34 Pn 11 29 15.9 -0.2
I30M Mount Dempster 18.06 39 P Pn 11 29 18.7 0.0
P33M Teslin, Yukon 18.08 56 P P 11 29 20.3 +1.1
P33M IAmb IAmb 11 29 42.8
comp=E,22nm,0.9s
E27K Coleen River 18.11 27 P Pn 11 29 18.0 -1.1
N32M Quiet Lake 18.11 53 P P 11 29 21.7 +2.2
F28M Old Crow 18.21 30 P Pn 11 29 18.5 -1.9
FARO Faro, Yukon 18.23 49 P P 11 29 22.9 +2.1
G29M Pine Creek 18.37 33 P P 11 29 20.3 -1.9
G29M IAmb IAmb 11 29 23.4
comp=E,17nm,0.8s
EPYK Eagle Plains 18.51 35 P P 11 29 23.1 -0.7
EPYK IAmb IAmb 11 29 28.4
comp=E,18nm,0.9s
E28M Babbage River 18.95 28 P 11 29 28.4 -0.3
G30M tAoh Zraii Nji 19.00 34 P P 11 29 27.6 -1.6
D27M Malcolm River 19.01 25 P P 11 29 29.2 -0.1
H31M Peel River 19.08 38 P P 11 29 29.9 -0.2
E29M Blow River 19.28 29 P P 11 29 31.9 -0.3
DLBC Dease Lake 19.38 62 P Pn 11 29 35.6 +1.0
comp=Z,0.1nm,0.3s,baz=283,slow=9.9,SNR=3.9
comp=Z,6.6nm,1.2s
G31M Satah River 19.63 35 P P 11 29 34.5 -1.5
BILL Bilibino 20.37 327 eP P 11 29 43.7 -0.4
BILL pmax pmax
comp=Z,9.0nm,0.9s
INK Inuvik 20.57 32 P P 11 29 44.7 -1.5
INK IAmb IAmb 11 30 02.5
comp=Z,26nm,1.2s
INK Inuvik 20.57 32 P P 11 29 45.2 -1.0
comp=Z,5.2nm,0.5s,baz=228,slow=9.9,SNR=60
INK LR LR 11 38 31.0
comp=Z,721nm,19.7s,baz=206,slow=39
comp=Z,5.2nm,0.5s
INK Inuvik 20.57 32 P P 11 29 44.7 -1.5
INK pmax pmax
comp=Z,26nm,1.3s
PET Petropavlovsk 22.35 284 c iP P 11 30 06.0 +0.5
PET pmax pmax
comp=Z,24nm,0.9s
PEA0B Petropavlovsk- 22.88 285 c iP P 11 30 08.5 -2.6
PETK Petropavlovsk- 22.88 285 P P 11 30 11.6 +0.5
comp=Z,6.6nm,0.5s,baz=72,slow=14,SNR=6.9
PETK LR LR 11 38 56.4
comp=Z,411nm,20.3s,baz=83,slow=36
comp=Z,6.6nm,0.5s
C36M Paulatuk 24.11 34 P P 11 30 23.0 -0.1
C36M IAmb IAmb 11 30 24.9
comp=Z,13nm,1.1s
SEY Seymchan 24.51 310 LR LR 11 41 53.6
comp=Z,383nm,18.2s,baz=119,slow=41
SEY Seymchan 24.51 310 c eP P 11 30 25.8 -1.0
SEY pmax pmax
comp=Z,4.0nm,1.1s
SKR Severo-Kuril's 24.61 280 eP P 11 30 28.6 +0.8
A36M Sachs Harbour 24.85 27 P P 11 30 29.4 -0.3
MA2 Magadan 25.41 302 LR LR 11 40 48.6
comp=Z,156nm,18.1s,baz=110,slow=37
MA2 Magadan 25.41 302 eP P 11 30 36.3 +1.4
MA2 pmax pmax
comp=Z,7.0nm,1.2s
YKA Yellowknife Ar 26.92 51 P P 11 30 50.2 +1.6
comp=Z,1.9nm,0.7s,baz=273,slow=8.4,SNR=43
YKA LR LR 11 42 29.5
comp=Z,501nm,19.4s,baz=234,slow=39
comp=Z,1.9nm,0.7s
I07A Izee 30.18 90 P P 11 31 19.0 +1.1
J08A Circle Bar Ran 31.20 90 P P 11 31 27.6 +0.7
J08A IAmb IAmb 11 31 45.0
comp=Z,5.6nm,1.1s
MFID Camas Ranch 32.75 88 P P 11 31 40.8 +0.3
MFID IAmb IAmb 11 31 43.0
comp=Z,4.7nm,0.8s
PAHR Pah Rah Range 32.87 97 P P 11 31 42.5 +0.9
HLID Hailey 33.51 87 P P 11 31 47.6 +0.3
HLID IAmb IAmb 11 31 50.0

comp=Z,3.5nm,1.1s
TIXI Tiksi 33.59 328 P P 11 31 46.8 -0.6
TIXI Tiksi 33.59 328 LR LR 11 47 23.0
comp=Z,631nm,18.8s,baz=105,slow=40
TIXI Tiksi 33.59 328 ⇑ iP P 11 31 46.5 -0.8
TIXI pmax pmax
comp=Z,8.0nm,1.0s
RES Resolute Bay 33.89 26 P P 11 31 49.5 -0.5
RES IAmb IAmb 11 31 51.6
comp=Z,3.7nm,0.8s
RES Resolute Bay 33.89 26 LR LR 11 47 16.7
comp=Z,400nm,18.4s,baz=299,slow=39
RES Resolute Bay 33.89 26 P P 11 31 49.5 -0.5
RES pmax pmax
comp=Z,4.0nm,0.8s
NVAR Mina Array Bea 34.34 97 P P 11 31 56.7 +2.1
comp=Z,1.8nm,0.9s,baz=298,slow=8.8,SNR=10
NVAR LR LR 11 43 09.0
comp=Z,154nm,19.1s,baz=290,slow=31
comp=Z,1.8nm,0.9s
YAK Yakutsk 35.02 311 LR LR 11 47 47.6
comp=Z,479nm,19.5s,baz=86,slow=39
YAK Yakutsk 35.02 311 eP P 11 31 58.3 -1.6
YAK e*PP pP 11 32 02.4 -2.0
YAK e 11 33 15.2
YAK eS S 11 37 29.2 -1.7
YAK eSS SnSn 11 39 39.2 -7.3
YAK pmax pmax
comp=Z,11nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.9s
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,4.0nm,0.5s
YAK smax smax
comp=E,16nm,14.7s
YAK smax smax
comp=N,31nm,12.5s
YAK MLR MLR
comp=Z,448nm,18.0s
YAK MLR MLR
comp=N,425nm,16.0s
YAK MLR MLR
comp=E,367nm,20.0s
JKA Kamikawa-asahi 35.79 277 P P 11 32 06.8 0.0
ASAJ Asahikawa 35.79 277 LR LR 11 45 01.0
comp=E,149nm,21.8s,baz=99,slow=33
ASAJ Asahikawa 35.79 277 P P 11 32 06.8 +0.1
ASAJ pmax pmax
comp=Z,31nm,1.4s
GRAC Grapevine Rang 35.84 98 P P 11 32 09.2 +1.8
GRAC IAmb IAmb 11 32 32.9
comp=Z,5.9nm,1.0s
BGU Big Grassy Mou 35.90 89 P P 11 32 08.7 +0.8
BGU IAmb IAmb 11 32 10.5
comp=Z,3.0nm,0.9s
DUG Dugway, Tooele 36.48 90 P P 11 32 14.1 +1.1
DUG IAmb IAmb 11 32 15.6
comp=Z,7.4nm,1.1s
DUG Dugway, Tooele 36.48 90 P P 11 32 14.0 +1.1
DUG pmax pmax
comp=Z,7.0nm,1.2s
ERM Erimo 36.68 274 ⇑ iP P 11 32 14.6 +0.3
ERM pmax pmax
comp=Z,18nm,1.1s
PDAR Pinedale Array 36.87 84 P P 11 32 17.0 +0.8
comp=Z,0.5nm,0.6s,baz=306,slow=7.7,SNR=5.4
PDAR LR LR 11 45 34.1
comp=Z,82nm,18.5s,baz=313,slow=33
comp=Z,0.5nm,0.6s
RDMU Red Mountain 38.19 87 P P 11 32 27.9 +0.5
RDMU IAmb IAmb 11 32 31.5
comp=Z,5.0nm,0.9s
SRU San Rafael Swe 38.54 90 P P 11 32 31.7 +1.4
SRU IAmb IAmb 11 32 53.9
comp=Z,4.6nm,0.9s
SRU San Rafael Swe 38.54 90 P P 11 32 31.7 +1.4
SRU pmax pmax
comp=Z,5.0nm,0.9s
PFO Pinyon Flats O 38.72 101 LR LR 11 45 52.0
comp=Z,183nm,18.3s,baz=298,slow=32
O20A White River Ci 39.25 87 P P 11 32 37.2 +0.9
O20A IAmb IAmb 11 32 59.0
comp=Z,7.6nm,0.8s
KLR Kul'dur 39.29 291 LR LR 11 48 51.2
comp=Z,227nm,20.1s,baz=62,slow=36
KLR Kul'dur 39.29 291 ⇑ iP P 11 32 34.8 -1.5
KLR pmax pmax
comp=Z,5.0nm,1.1s
ZEA Zeya 39.47 299 eP P 11 32 36.8 -0.9
ZEA eS S 11 38 32.7 -6.0
ZEA eSS SnSn 11 41 57.2 +23
ZEA MLR MLR
comp=N,100nm,15.0s
ZEA MLR MLR
comp=Z,200nm,14.0s
H11N2 WAKE ISLAND Hy 40.55 225 T T 12 16 26.2
baz=26,slow=76,SNR=97
H11N3 WAKE ISLAND Hy 40.56 225 T T 12 16 30.7
baz=26,slow=76
H11N1 WAKE ISLAND Hy 40.57 225 T T 12 16 30.0
baz=26,slow=76,SNR=100
HEH HeiHe 41.14 294 eP P 11 32 49.8 -1.8
HEH pmax pmax
comp=Z,4.0nm,0.7s
HEH pmax pmax
comp=Z,73nm,4.3s
H11S1 WAKE ISLAND Hy 41.72 225 T T 12 17 52.9
baz=26,slow=76,SNR=148
H11S2 WAKE ISLAND Hy 41.74 225 T T 12 17 56.6
baz=26,slow=76,SNR=134
H11S3 WAKE ISLAND Hy 41.74 225 T T 12 17 56.7
baz=26,slow=76,SNR=162
USRK Ussuriysk Ar. 41.97 284 LR LR 11 52 25.5
comp=Z,133nm,18.9s,baz=85,slow=39
B35A Bob, Littlefor 42.81 67 P P 11 33 04.8 -0.4
B35A IAmb IAmb 11 33 17.4
comp=Z,9.5nm,1.2s
NEEM North Greenlan 42.97 17 i P P 11 33 05.9 -0.7
NEEM IAmb IAmb 11 33 08.7
comp=Z,16nm,0.7s
MAJO Matsushiro 43.12 271 d iP P 11 33 08.2 +0.3
MAJO pmax pmax
comp=Z,14nm,1.1s
MJAR Matsushiro Arr 43.12 271 P P 11 33 08.6 +0.6
comp=Z,2.4nm,0.9s,baz=42,slow=5.7,SNR=8.0
MJAR LR LR 11 51 56.8
comp=Z,146nm,19.6s,baz=58,slow=37
comp=Z,2.4nm,0.9s
MSHR Mys Shultsa 43.43 283 ⇑ iP P 11 33 10.5 +0.2
MSHR pmax pmax
comp=Z,13nm,1.1s
ANMO Albuquerque 43.73 91 LR LR 11 48 59.3
comp=Z,104nm,20.7s,baz=45,slow=33
ANMO Albuquerque 43.73 91 eP P 11 33 13.1 0.0
ANMO pmax pmax
comp=Z,5.0nm,3.2s
ECSD EROS Data Cent 43.89 74 P P 11 33 13.5 -0.5
ECSD IAmb IAmb 11 33 14.4
comp=Z,6.6nm,1.1s
NOR Nord 44.02 7 i P P 11 33 12.5 -2.1
NOR IAmb IAmb 11 33 15.7
comp=Z,6.0nm,0.9s
JGF Kuroka 44.26 271 P P 11 33 17.8 +0.6
JGF IAmb IAmb 11 33 29.5
comp=Z,10nm,1.3s
EYMN Ely 44.27 67 P P 11 33 17.8 +0.7
EYMN IAmb IAmb 11 33 29.2
comp=Z,7.5nm,0.9s
JHJ Hachijo jima 2 44.52 266 LR LR 11 49 28.9
comp=Z,84nm,21.8s,baz=57,slow=33
L34A Svendsen Farm, 45.11 76 P P 11 33 23.9 +0.1
FRB Frobisher Bay 46.06 38 LR LR 11 55 43.3
comp=Z,534nm,18.9s,baz=305,slow=40
G40A Rib Lake 46.59 69 P P 11 33 34.5 -0.9
KBS Kingsbay 47.84 1 ⇑ iP P 11 33 45.1 +0.4
KBS pmax pmax
comp=Z,27nm,1.1s
KBS Kingsbay 47.84 1 i P P 11 33 42.3 -2.4
DAG Danmarks Havn 48.15 10 P P 11 33 47.0 -0.2
DAG pmax pmax
comp=Z,13nm,1.0s
DAG Danmarks Havn 48.15 10 i P P 11 33 46.0 -1.2
DAG IAmb IAmb 11 33 47.6
comp=Z,12nm,1.0s

SPITS Spitsbergen Ar 48.62 360 LR LR 11 53 25.6
comp=Z,210nm,21.6s,baz=336,slow=35
KSRS Korea Array 48.63 280 P **P** **11 33 52.5 +1.1**
comp=Z,3.7nm,0.8s,baz=56,slow=6.6,SNR=17
KSRS LR LR 11 54 03.2
comp=Z,80nm,20.7s,baz=50,slow=36
comp=Z,3.7nm,0.8s
SUMG Summit 48.68 19 *i* P **P** **11 33 50.9 -0.9**
SUMG IAmb IAmb 11 34 04.4
comp=Z,22nm,1.0s
TXAR Lajitas Array 49.37 94 P **P** **11 33 58.3 +1.1**
comp=Z,1.2nm,0.5s,baz=300,slow=5.7,SNR=52
TXAR ScP **ScP** **11 39 13.2 -0.6**
comp=Z,0.5nm,0.9s,baz=298,slow=3.8,SNR=4.2
TXAR LR LR 11 53 35.7
comp=Z,79nm,19.4s,baz=311,slow=35
comp=Z,1.2nm,0.5s
LPIG La Paz 49.38 105 LR LR 11 52 30.0
comp=Z,58nm,18.3s,baz=316,slow=33
TJN Taejon 49.68 279⇑ *i*P **P** **11 33 58.2 -1.2**
JNU Nakatsue 49.84 273 LR LR 11 55 24.4
comp=Z,139nm,20.9s,baz=47,slow=36
SFJD Kangerlussuaq 49.85 28 LR LR 11 55 58.9
comp=Z,182nm,21.4s,baz=317,slow=37
SFJD Kangerlussuaq 49.85 28 *i* P **P** **11 33 59.4 -0.8**
SFJD IAmb IAmb 11 34 01.9
comp=Z,15nm,1.0s
R40A Maddies Statio 49.89 77 P **P** **11 33 59.4 -1.6**
HDIL Hopedale 50.10 73 P **P** **11 34 02.3 -0.3**
DBG Daneborg 50.17 12 *i* P **P** **11 34 01.3 -1.3**
DBG IAmb IAmb 11 34 03.5
comp=Z,12nm,1.2s
P43A Skaggs, Pawnee 50.58 74 P **P** **11 34 05.2 -1.0**
BRDY Brady 50.75 89 P **P** **11 34 07.0 -0.6**
BRDY IAmb IAmb 11 34 23.4
comp=Z,4.4nm,1.0s
ICESG Greenland Ices 51.11 22 *i* P **P** **11 34 09.6 -0.6**
ICESG IAmb IAmb 11 34 12.7
comp=Z,17nm,1.0s
FCAR Ozark Folk Cen 51.61 79 P **P** **11 34 12.4 -1.5**
FCAR IAmb IAmb 11 34 20.7
comp=Z,5.4nm,0.9s
SCHQ Schefferville 52.25 47 P **P** **11 34 18.4 -0.1**
comp=Z,3.8nm,0.9s,baz=319,slow=9.0,SNR=4.3
SCHQ LR LR 11 59 46.1
comp=Z,192nm,18.1s,baz=286,slow=40
comp=Z,3.8nm,0.9s
O48B Farmland 52.66 71 P **P** **11 34 20.3 -1.4**
ULN Ulaanbaatar 53.27 303 P **P** **11 34 26.3 0.0**
ULN Ulaanbaatar 53.27 303 *c i*P **P** **11 34 26.0 -0.3**
ULN pmax pmax
comp=Z,20nm,1.1s
ZAK Zakamensk 53.43 307 *e*P **P** **11 34 26.1 -1.3**
ZAK pmax pmax
comp=Z,5.0nm,1.3s
HKT Hockley 53.60 87 P **P** **11 34 29.6 +0.9**
SONM Songino Array 53.62 303 P **P** **11 34 28.9 0.0**
comp=Z,6.6nm,0.8s,baz=48,slow=7.4,SNR=42
comp=Z,6.6nm,0.8s
SOEG Soedalen 53.62 20 *i* P **P** **11 34 28.2 -0.2**
SOEG IAmb IAmb 11 34 29.8
comp=Z,6.4nm,0.9s
ISOG Isortoq, Green 54.06 25 *i* P **P** **11 34 30.7 -0.9**
ISOG IAmb IAmb 11 34 45.2
comp=Z,9.9nm,1.2s
HHC Hu-ho-hao-te 55.66 294 *e*P **P** **11 34 44.0 +0.3**
HHC *e*S **S** **11 42 26.5 -2.5**
HHC pmax pmax
comp=Z,10.0nm,0.8s
HHC pmax pmax
comp=Z,64nm,4.7s
HHC LR LR
comp=N,200nm,15.2s
HHC LR LR
comp=E,210nm,15.1s
HHC LR LR
comp=Z,200nm,17.1s
TKL Tuckaleechee C 56.62 74 LR LR 11 59 11.8
comp=Z,61nm,19.4s,baz=320,slow=36
GUMO Guam 56.64 245 LR LR 11 57 55.6
comp=Z,39nm,18.6s,baz=102,slow=35
ARCES ARCESS Array B 57.12 356 P **P** **11 34 52.8 -0.8**
comp=Z,4.1nm,0.9s,baz=10,slow=7.6,SNR=5.3
ARCES LR LR 12 01 45.6
comp=Z,178nm,18.0s,baz=332,slow=39
comp=Z,4.1nm,0.9s
APA Apatity 58.60 352⇓ *i*P P 11 34 53.7 -10
APA pmax pmax
comp=Z,6.0nm,1.0s
APA MLR MLR
comp=Z,500nm,17.0s
BORG Borgarnes 58.61 18 LR LR 12 02 42.0
comp=Z,102nm,18.4s,baz=335,slow=39
ZALV Zalesovo Beam 58.85 320 P **P** **11 35 05.9 0.0**
comp=Z,2.3nm,0.6s,baz=40,slow=6.8,SNR=9.5
ZALV PcP **PcP** **11 35 55.4 +0.2**
comp=Z,1.2nm,0.5s,baz=29,slow=6.6,SNR=4.4
ZALV LR LR 12 03 00.5
comp=Z,292nm,18.6s,baz=40,slow=39
comp=Z,2.3nm,0.6s
GTA Gaotai 62.95 300 *e*P **P** **11 35 34.0 -0.2**
GTA pP sP 11 35 40.8 +0.7
GTA pmax pmax
comp=Z,7.0nm,1.1s
LZH Lanzhou 63.28 295 *e*P **P** **11 35 36.0 -0.5**
LZH pP pwP 11 35 47.5 +1.7
LZH pmax pmax
comp=Z,18nm,1.4s
KURK Kurchatov 63.74 321 P **P** **11 35 38.9 -0.1**
KURK Kurchatov 63.74 321 *c e*P **P** **11 35 39.2 +0.1**
KURK pmax pmax
comp=Z,11nm,0.9s
KURBB Kurchatov Arra 63.85 321 P **P** **11 35 39.9 +0.1**
KURBB comp=Z,6.3nm,0.9s,baz=40,slow=6.7,SNR=21
LR LR 12 06 10.3
comp=Z,377nm,18.7s,baz=163,slow=39
comp=Z,6.3nm,0.9s
BVAR Borovoye Array 64.71 327 P **P** **11 35 45.8 +0.4**
comp=Z,11nm,0.8s,baz=37,slow=7.4,SNR=35
BVAR LR LR 12 07 26.2
comp=Z,212nm,19.4s,baz=36,slow=39
comp=Z,11nm,0.8s
BRVK Borovoye 64.72 327 *c e*P **P** **11 35 45.7 +0.3**
BRVK pmax pmax
comp=Z,12nm,1.0s
VALR Valaam 64.93 352⇑ *i*P **P** **11 35 47.3 +0.6**
VALR pmax pmax
comp=Z,12nm,0.9s
ARU Arti 65.11 336⇑ *i*P **P** **11 35 47.8 -0.2**
ARU pmax pmax
comp=Z,19nm,1.3s
ARU Arti 65.11 336 P **P** **11 35 47.0 -1.0**
comp=Z,14nm,1.1s
KIRV Kirov 65.13 342⇑ *i*P **P** **11 35 47.6 -0.3**
FINES FINESS Array B 65.17 355 P **P** **11 35 48.0 -0.2**
comp=Z,5.5nm,0.8s,baz=12,slow=7.7,SNR=16
FINES LR LR 12 06 35.3
comp=Z,138nm,18.1s,baz=5.0,slow=38
comp=Z,5.5nm,0.8s
MKAR Makanchi Array 65.45 316 P **P** **11 35 50.0 -0.4**
comp=Z,3.1nm,0.8s,baz=50,slow=6.9,SNR=11
MKAR LR LR 12 05 51.6
comp=Z,194nm,19.3s,baz=22,slow=37
comp=Z,3.1nm,0.8s
WMQ Urumqi 65.47 311 *e*P **P** **11 35 53.3 +2.7**
WMQ LR LR
comp=N,330nm,17.7s
WMQ LR LR
comp=Z,110nm,14.3s
NB2 NORSAR Subarra 65.77 3 P **P** **11 35 51.9 -0.3**
comp=Z,10nm,1.1s,baz=359,slow=6.9
NOA NORSAR Array B 65.77 3 P **P** **11 35 52.2 0.0**
comp=Z,3.3nm,0.9s,baz=357,slow=6.6,SNR=8.1
comp=Z,3.3nm,0.9s
HFS Hagfors 66.73 1 P **P** **11 35 58.1 -0.2**
comp=Z,3.9nm,0.4s,baz=27,slow=4.8,SNR=27
HFS LR LR 12 06 34.4
comp=Z,63nm,21.5s,baz=5.0,slow=37
comp=Z,3.9nm,0.4s
GOMU GeErMu 67.96 301 P **P** **11 36 06.5 -0.4**
GOMU pP pP 11 36 11.8 +0.6
GOMU sP sP 11 36 14.3 +1.4
GOMU S S 11 44 00.5 -65
GOMU sS S 11 44 24.3 -41
GOMU ScS S 11 45 18.5 +13
EKA Eskdalemuir Ar 70.39 12 P **P** **11 36 21.6 +0.5**
comp=Z,2.7nm,0.8s,baz=341,slow=4.0,SNR=10
comp=Z,2.7nm,0.8s
OBN Obninsk 70.50 348 LR LR 12 10 52.0
comp=Z,156nm,18.5s,baz=353,slow=39
OBN Obninsk 70.50 348 *de*P **P** **11 36 22.0 +0.2**
OBN *e* 11 36 47.8
OBN *e* 11 39 04.1
OBN *e*SS SS 11 50 07.3 +3.7
OBN pmax pmax
comp=Z,8.0nm,0.4s
OBN MLR MLR
comp=Z,154nm,17.0s
AKTO Aktyubinsk 70.67 333 LR LR 12 11 51.0
comp=Z,104nm,18.8s,baz=16,slow=40
BELG Belogornoye 71.30 340 *c i*P **P** **11 36 26.5 -0.3**
BELG pmax pmax
comp=Z,6.0nm,1.0s
PZH PanZhiHua 71.73 290 P **P** **11 36 31.0 +1.0**
PZH pmax pmax
comp=Z,20nm,0.6s
PZH pmax pmax
comp=Z,100nm,5.7s
PPT2 Papeete2 71.81 166 *e*S **S** **11 45 44.4 -5.4**
comp=Z,62nm,23.5s
PPT2 Papeete2 71.81 166 *e*LR LR 11 58 10.4
comp=Z,185nm,22.5s
PPT2 *e*LR LR 11 58 17.4
comp=Z,227nm,24.2s
MNK Minsk 71.97 353 *i* P **P** **11 36 28.7 -2.1**
MNK *i* 11 36 47.3
MNK *i* 11 39 07.9
MNK *i* PPP PPP 11 40 51.5
MNK *i* S **S** **11 45 49.9 -1.0**
MNK *i* 11 46 34.2
MNK *i* SS **SS** **11 50 33.5 +7.2**
MNK pmax pmax
comp=N,11nm,0.8s
MNK pmax pmax
comp=Z,10.0nm,0.6s
MNK pmax pmax
comp=E,4.0nm,0.6s
MNK MLR MLR
comp=Z,102nm,17.0s
MNK MLR MLR
comp=N,172nm,20.0s
MNK MLR MLR
comp=E,70nm,16.0s
AAK Ala-Archa 72.02 319 LR LR 12 12 08.1
comp=E,171nm,18.2s,baz=32,slow=39
AAK Ala-Archa 72.02 319 *c i*P **P** **11 36 32.3 +0.8**
AAK pmax pmax
comp=Z,11nm,1.0s
KSH Kashi 74.06 316 P **P** **11 36 47.8 +4.2**
KSH sP PcP 11 36 56.5 -2.2
KSH S **S** **11 46 19.5 +4.1**
KSH pmax pmax
comp=Z,11nm,1.0s
KSH LR LR
comp=N,1μm,18.0s
KSH LR LR
comp=E,470nm,18.2s
KSH LR LR
comp=Z,610nm,15.1s
CLL Collm 75.56 2 *i* P **P** **11 36 51.9 0.0**
comp=Z,8.0nm,1.1s
CLL Collm 75.56 2 *i* P **P** **11 36 51.9 0.0**
CLL pmax pmax
comp=Z,8.0nm,1.1s
AK21 Malin Array Si 75.58 352 P **P** **11 36 50.6 -1.4**
AK20 Malin Array Si 75.61 352 P **P** **11 36 51.2 -1.0**
AKASG Malin Array Be 75.64 352 P **P** **11 36 51.8 -0.6**
comp=Z,2.3nm,0.5s,baz=7.1,slow=5.5,SNR=16
AKASG LR LR 12 12 17.2
comp=Z,134nm,19.3s,baz=40,slow=38
comp=Z,2.3nm,0.5s
AKASG Malin Array Be 75.64 352 *c e*P **P** **11 36 51.7 -0.6**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 75.64 352 *c i*P **P** **11 36 51.7 -0.6**
AKBB pmax pmax
comp=Z,4.0nm,0.6s
AKBB Malin Array Si 75.64 352 P **P** **11 36 51.1 -1.2**
LUBAR Lubar, Ukraine 76.53 352 P **P** **11 36 56.6 -0.9**
HORU Horodok 77.33 353 P **P** **11 37 01.0 -1.0**
HORU Horodok 77.33 353 P **P** **11 37 01.0 -1.0**
STHS Stebnicka Huta 77.41 357 *e*P **P** **11 37 03.3 +0.9**
STHS Stebnicka Huta 77.41 357 *e*P **P** **11 37 03.3 +0.9**
TBI Tubuai 77.49 167 *e*LR LR 12 00 55.5
comp=Z,573nm,25.2s
SHIU Shidnytsya 77.51 355 P **P** **11 37 02.6 -0.4**
KHC Kasperske Hory 77.75 2 *c i*P **P** **11 37 05.5 +1.1**
KHC pmax pmax
comp=Z,10.0nm,1.1s
CRVS Cervenica-Dubn 77.91 356 *e*P **P** **11 37 06.9 +1.7**
CRVS Cervenica-Dubn 77.91 356 *e*P **P** **11 37 06.9 +1.7**
GERES GERESS Array B 78.04 2 P **P** **11 37 06.2 +0.2**
comp=Z,1.8nm,0.4s,baz=23,slow=3.2,SNR=3.6
comp=Z,1.8nm,0.4s
HOLU Holmets 78.25 356 P **P** **11 37 07.5 +0.4**
CHRU Chernivtsi 78.28 353 P **P** **11 37 07.6 +0.3**
comp=Z,58nm,0.5s,comp=Z,3μm
MUKU Mukachevo 78.31 356 P **P** **11 37 07.9 +0.5**
KSV Kosov 78.32 354 P **P** **11 37 06.3 -1.2**
VYHS Vyhne 78.39 358 *e*P **P** **11 37 08.9 +1.0**
VYHS Vyhne 78.39 358 *e*P **P** **11 37 08.9 +1.0**
BRIU Brid 78.41 355 P **P** **11 37 09.2 +1.2**
NSLU Nyzhne Selyshc 78.47 354 P **P** **11 37 07.7 -0.6**
KORU Korolevo 78.59 355 P **P** **11 37 08.1 -0.8**
DZM Mont Dzumac 79.53 208 *e*LR LR 12 01 52.5
comp=Z,172nm,22.4s
DZM Mont Dzumac 79.53 208 LR LR 12 06 07.3
comp=Z,126nm,19.6s,baz=332,slow=31
CMAR Chiang Mai Arr 79.64 287 P **P** **11 37 15.8 +0.6**
comp=Z,1.8nm,0.7s,baz=23,slow=6.4,SNR=8.7
CMAR LR LR 12 14 10.9
comp=Z,67nm,20.7s,baz=25,slow=37
comp=Z,1.8nm,0.7s
KIV Kislovodsk 80.34 341⇓ *e*P **P** **11 37 17.8 -0.9**
KIV *e* 11 37 26.9
KIV *e* 11 40 21.0
KIV *e*S S 11 48 35.5 +72
KIV pmax pmax
comp=Z,8.0nm,1.1s
KBZ Khabaz 80.52 341 P **P** **11 37 20.5 +0.9**
comp=Z,4.5nm,0.8s,baz=20,slow=4.3,SNR=7.9
comp=Z,4.5nm,0.8s
KBZ Khabaz 80.52 341⇑ *i*P **P** **11 37 20.6 +1.1**
KBZ pmax pmax
comp=Z,5.0nm,0.9s
MLR Muntele Rosu 81.07 353 LR LR 12 16 42.0
comp=Z,151nm,18.1s,baz=27,slow=38
GEYT Alibeck 82.04 328 P **P** **11 37 28.0 +0.2**
comp=Z,2.7nm,0.4s,baz=48,slow=2.1,SNR=4.8
GEYT LR LR 12 18 49.3
comp=Z,189nm,18.7s,baz=8.0,slow=39
comp=Z,2.7nm,0.4s
GEYT Alibeck 82.04 328 P **P** **11 37 28.0 +0.2**
RAO Raoul Island 83.29 192 LR LR 12 06 35.8
comp=Z,98nm,20.5s,baz=337,slow=30
GNI Garni 83.57 338 LR LR 12 20 30.9
comp=Z,129nm,19.3s,baz=20,slow=40
SDV Santo Domingo 84.77 82 LR LR 12 15 23.3
comp=Z,21nm,21.5s,baz=5.0,slow=36
ESDC Sonseca Array 85.60 16 P **P** **11 37 47.4 +1.4**
comp=Z,0.3nm,0.5s,baz=349,slow=3.4,SNR=2.0
ESDC LR LR 12 18 35.5
comp=Z,78nm,18.6s,baz=344,slow=38
comp=Z,0.3nm,0.5s
BRTR Keskin Array B 85.98 347 P **P** **11 37 49.0 +1.0**
comp=Z,4.2nm,0.9s,baz=47,slow=2.2,SNR=16
comp=Z,4.2nm,0.9s
BRTR Keskin Array B 85.98 347 P **P** **11 37 49.0 +1.0**
PCRV Puerto La Cruz 87.27 77 LR LR 12 17 01.6
comp=Z,44nm,19.2s,slow=36
VAE Valguarnera 89.41 1 LR LR 12 22 45.6
comp=Z,72nm,18.2s,baz=312,slow=39
MDT Midelt 92.18 17 LR LR 12 23 13.3
comp=Z,33nm,18.1s,baz=351,slow=38
MMAI Mount Meron Ar 92.29 344 LR LR 12 26 41.9
comp=Z,36nm,18.1s,baz=320,slow=40
URZ Urewera 92.85 195 LR LR 12 14 03.8
comp=Z,41nm,19.4s,baz=50,slow=32
ASAR Alice Springs 93.77 234 P **P** **11 38 24.6 +0.1**
comp=Z,0.4nm,0.9s,baz=30,slow=4.6,SNR=2.1
comp=Z,0.4nm,0.9s
WSAR Wadi Sarin 95.27 322 LR LR 12 28 16.1
comp=Z,88nm,18.5s,baz=70,slow=40
EIL Elat 95.63 344 LR LR 12 26 01.7
comp=Z,39nm,21.3s,baz=65,slow=38
MDP Montagnes des 98.25 70 LR LR 12 21 42.7
comp=Z,62nm,21.8s,baz=313,slow=35
PALK Pallekele 98.93 295 LR LR 12 32 29.7
comp=Z,68nm,18.0s,baz=150,slow=41
H03N2 Juan Fernandez 113.22 115 T T 13 47 27.2
baz=323,slow=78,SNR=7.4
H03N1 Juan Fernandez 113.24 115 T T 13 47 31.0
baz=323,slow=78,SNR=6.7
H03N3 Juan Fernandez 113.24 115 T T 13 47 26.2
baz=323,slow=78,SNR=7.5
ELIB Princess Elisa 161.19 187 *d*PKP **PKPab** **11 45 49.7 -0.8**

*IDC **28** 11:34:25.9±1.2, 14°.89N×147°.05E, h0km, mb3.8/11, mbtmp3.8/12, ML4.1/1, MS2.0/1, Error ellipse: s-maj=29.9km s-min=18.9km az=105.0*
ISC 28 11:34:30.7±1.1, 14°.9N±0°.1×147°.0E±0°.1, h32km, n15, σ0s90/13, mb3.9/11, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**2.45**	**239**	Pn	**Pn**	**11 35 07.3**	**-1.2**
	39nm,0.3s,baz=76,slow=3.8,SNR=22						
GUMO				Sn	**Sn**	**11 35 38.2**	**+0.8**
	45nm,0.3s,baz=0.0,slow=19,SNR=6.1						
GUMO				LR	LR	11 35 51.2	
	comp=Z,30nm,20.5s,baz=132,slow=34						
	78nm,0.3s						
H11N1	**WAKE ISLAND Hy**	**19.56**	**73**	T	T	11 58 57.9	
	baz=261						
H11N2	**WAKE ISLAND Hy**	**19.57**	**73**	T	T	11 59 03.3	
	baz=261						
H11N3	**WAKE ISLAND Hy**	**19.58**	**73**	T	T	11 58 58.3	
	baz=261						
JOW	**Kunigami**	**21.16**	**307**	P	**P**	**11 39 14.7**	**+1.3**
	13nm,0.9s,baz=119,slow=13,SNR=7.6						
	13nm,0.9s						
KSRS	**Korea Array**	**28.18**	**327**	P	**P**	**11 40 20.1**	**-0.2**
	1.0nm,0.8s,baz=141,slow=8.6,SNR=5.0						
	1.0nm,0.8s						
WRA	**Warramunga Arr**	**36.77**	**200**	P	**P**	**11 41 34.9**	**-0.7**
	0.5nm,0.9s,baz=24,slow=9.2,SNR=4.6						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**40.38**	**199**	P	**P**	**11 42 07.5**	**+1.6**
	0.5nm,1.0s,baz=12,slow=9.5,SNR=1.8						
	0.5nm,1.0s						
SONM	**Songino Array**	**46.95**	**323**	P	**P**	**11 42 58.5**	**-0.2**
	0.9nm,0.6s,baz=128,slow=9.3,SNR=5.6						
	0.9nm,0.6s						
ZALV	**Zalesovo Beam**	**61.84**	**324**	P	**P**	**11 44 46.1**	**-0.6**
	0.9nm,0.4s,baz=117,slow=5.0,SNR=2.1						
	0.9nm,0.4s						
MKAR	**Makanchi Array**	**62.05**	**315**	P	**P**	**11 44 48.9**	**+0.6**
	0.8nm,0.4s,baz=104,slow=6.6,SNR=7.5						
	0.8nm,0.4s						
KURBB	**Kurchatov Arra**	**65.03**	**319**	P	**P**	**11 45 07.2**	**-0.6**
	3.2nm,0.7s,baz=98,slow=6.7,SNR=35						
	3.2nm,0.7s						
ILAR	**Eielson Array**	**66.53**	**25**	P	**P**	**11 45 17.4**	**+0.2**
	0.1nm,0.4s,baz=253,slow=5.3,SNR=2.1						
	0.1nm,0.4s						
BVAR	**Borovoye Array**	**70.25**	**321**	P	**P**	**11 45 40.2**	**-0.5**
	1.1nm,0.6s,baz=88,slow=9.4,SNR=3.0						
	1.1nm,0.6s						
YKA	**Yellowknife Ar**	**80.77**	**28**	P	**P**	**11 46 40.9**	**+0.1**
	0.2nm,0.8s,baz=286,slow=5.2,SNR=2.7						
	0.2nm,0.8s						

MIRAS 28 11:35:43.9, 58°.44N×57°.73E, h0km, ML1.9/6, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PR0R	**Verkhnechusovs**	**0.39**	**232**	*e*P	Pg	11 35 50.1	-1.4
	13nm,0.3s,baz=227						
PR0R				*e*S	Sg	11 35 57.6	+1.1
	9.7nm,0.5s,baz=227						
PR0R				*i* AML	AML	11 35 59.4	
PR0R	**Verkhnechusovs**	**0.39**	**232**	*e*P	Pg	11 35 52.2	+0.7
	30nm,0.6s,baz=232						
PR0R				*e*S	Sg	11 35 57.6	+1.1
	109nm,0.5s,baz=232						
PR0R				*i* AML	AML	11 36 02.4	
	210nm,0.8s						
PR7R	**Sarany**	**0.55**	**78**	*e*P	Pg	11 35 54.0	-0.5
	30nm,0.7s,baz=83						
PR7R				*e*S	Sg	11 36 01.8	+0.1
	baz=83						
PR7R				*i* AML	AML	11 36 04.1	
	143nm,0.7s						
PR1R	**Pomanovo**	**0.90**	**326**	*e*P	Pg	11 36 01.3	+0.1
	10nm,0.5s,baz=326						
PR1R				*e*S	Sg	11 36 13.6	+0.7
	baz=326						
PR1R				*i* AML	AML	11 36 25.1	
	28nm,1.4s						
PR6R	**Ekimyata**	**0.91**	**253**	*e*P	Pg	11 35 59.5	-1.7
	16nm,0.1s,baz=250						
PR6R				*e*S	Sb	11 36 15.6	+0.5
	26nm,0.1s,baz=250						
PR6R				*i* AML	AML	11 36 16.7	
	47nm,0.9s						
PR6R	**Ekimyata**	**0.91**	**253**	*e*P	Pg	11 36 01.2	0.0
	12nm,0.1s,baz=253						
PR6R				*e*S	Sg	11 36 13.8	+0.8
	baz=253						
PR6R				*i* AML	AML	11 36 21.3	
	47nm,0.9s						
PR3R	**Kungur**	**1.07**	**201**	*e*P	Pg	11 36 03.6	-0.9
	baz=201						
PR3R				*e*S	Sn	11 36 21.4	-0.3
	53nm,0.3s,baz=201						
PR3R				*i* AML	AML	11 36 23.0	
	51nm,0.6s						
PR3R	**Kungur**	**1.07**	**201**	*e*P	Pg	11 36 03.9	-0.5
	15nm,0.2s,baz=201						
PR3R				*e*S	Sb	11 36 19.6	-0.3
	11nm,0.5s,baz=201						
PR3R				*i* AML	AML	11 36 27.2	
	51nm,0.6s						
ARU	**Arti**	**2.07**	**167**	*e*S	Sn	11 36 46.9	+0.6
	12nm,0.2s,baz=168						
ARU	**Arti**	**2.07**	**167**	*e*P	Pn	11 36 19.5	-0.3
	baz=167						
ARU				*e*S	Sb	11 36 47.7	-0.8
	baz=167						
ARU				*i* AML	AML	11 36 51.1	
	14nm,0.6s						
SVUR	**Severouralsk**	**2.11**	**32**	*e*S	Sb	11 36 48.8	-0.8
	baz=32						
SVUR				*i* AML	AML	11 36 54.8	
	6.9nm,0.5s						

*MDD **28** 11:39:41.3±1.6, 32°.21N×8°.21W, h13km±14km, Mb4.0/3, M_mb3.3/3, Error ellipse: s-maj=14.3km s-min=5.2km az=77.0*
ISC 28 11:39:40.8±1.4, 32°.25N±0°.05×7°.9W±0°.1, h10km, n9, σ2s25/16, 3C, Morocco

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AVE	**Averroes**	**1.11**	**19**	Sn	**Sg**	**11 40 20.3**	**+3.7**
AVE				Pn	**Pb**	**11 40 02.5**	**+0.3**
TIO	**Tiouine**	**1.41**	**159**	Sn	**Sb**	**11 40 25.8**	**+0.4**
TIO				Pn	**Pn**	**11 40 07.0**	**+0.3**
IFR	**Ifrane**	**2.62**	**60**	Sn	**Sb**	**11 41 01.0**	**+0.8**
PVAQ	**Vaqueiros**	**5.14**	**1**	Pn	**Pn**	**11 40 58.1**	**+0.2**
PVAQ				Sn	**Sn**	**11 41 55.0**	**-2.4**
EGRO	**El Granado**	**5.28**	**3**	Pn	**Pn**	**11 41 00.7**	**+0.9**
EGRO				Sn	**Sn**	**11 41 58.5**	**-2.2**
EGRO	**El Granado**	**5.28**	**3**	Pn	**Pn**	**11 41 00.6**	**+0.8**
EGRO				⇑ *i*Vmb_V		11 41 04.2	
	85nm,SNR=1.3						
EGRO				Sn	**Sn**	**11 41 58.2**	**-2.5**
PCVE	**Castro Verde**	**5.37**	**358**	Pn	**Pn**	**11 41 02.5**	**+1.4**
ECAB	**El Cabril**	**6.15**	**18**	Pn	**Pn**	**11 41 12.3**	**+0.7**
ECAB				⇑ *i*Vmb_V		11 41 13.4	
	75nm,SNR=1.4						
ECAB				Sn	**Sn**	**11 42 18.6**	**-3.4**
EADA	**Adamuz**	**6.49**	**23**	Pn	**Pn**	**11 41 16.1**	**-0.2**
EADA				⇑ *i*Vmb_V		11 41 19.2	
	86nm,SNR=2.1						
EADA				Sn	**Sn**	**11 42 26.1**	**-4.3**

*IDC **28** 11:56:57.4±1.0,53˚.69N×163˚.80W,h0km,mb4.0/23, mbtmp3.9/26,ML3.5/3,MS3.4/17, Error ellipse: s-maj=25.4km s-min=13.0km az=173.0*

*NEIC **28** 11:56:57.7±2.8,53˚.38N±0˚.06×163˚.76W±0˚.08,h10km±2km, mb3.9/36,ML4.0/12,ML3.9(AEIC), Error ellipse: s-maj=11.5km s-min=6.0km az=150.0*

*AEIC **28** 11:57:00.2±2.7,53˚.39N±0˚.07×163˚.70W±0˚.08,h14km±7km, Error ellipse: s-maj=10.5km s-min=5.6km az=150.0*

ISC 28 11:56:58.4±1.9,53˚.43N±0˚.07×163˚.69W±0˚.04, h16km±10km,n204,σ1°36/194,mb4.2/28,MS3.3/16, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.17**	**333**		**Pg**	**11 57 20.5**	**-0.5**
WECS	**Westdahl Cape**	**1.27**	**330**		**Pb**	**11 57 22.0**	**-0.1**
SSLS	**Shishaldin Sou**	**1.29**	**352**		**Pn**	**11 57 22.3**	**+0.4**
SSLS					**Sg**	**11 57 40.3**	**+0.1**
ISLZ	**Isanotski Laza**	**1.30**	**359**		**Pn**	**11 57 22.0**	**+0.1**
AKSA	**Akutan Strait**	**1.38**	**301**		**Pb**	**11 57 23.2**	**-0.7**
AKSA					**Sb**	**11 57 40.7**	**-0.7**
ISNN	**Isanotski Nort**	**1.40**	**358**		**Pb**	**11 57 24.4**	**+0.1**
ISNN					**Sg**	**11 57 44.0**	**+0.3**
FALS	**False Pass**	**1.44**	**6**	P	**Pn**	**11 57 23.8**	**0.0**
FALS	**False Pass**	**1.44**	**6**		**Pn**	**11 57 24.2**	**+0.4**
FALS					**Sn**	**11 57 43.2**	**+0.9**
FALS	**False Pass** baz=187	**1.44**	**6**	P	**Pn**	**11 57 24.2**	**+0.4**
FALS	baz=187			S	**Sg**	**11 57 44.7**	**0.0**
AHB	**Akutan Harbor**	**1.44**	**299**		**Pb**	**11 57 24.3**	**-0.5**
ZRO	**Akutan Zero**	**1.51**	**297**		**Pb**	**11 57 25.1**	**-1.0**
HSP	**Akutan Spr's B**	**1.52**	**301**		**Pn**	**11 57 25.2**	**+0.2**
UNV	**Unalaska Valle**	**1.73**	**285**	P	**Pn**	**11 57 27.8**	**0.0**
UNV	**Unalaska Valle**	**1.73**	**285**		**Pn**	**11 57 27.7**	**0.0**
UNV					**Sn**	**11 57 48.6**	**-0.9**
UNV	**Unalaska Valle** baz=105	**1.73**	**285**	P	**Pn**	**11 57 27.7**	**0.0**
UNV	baz=105			S	**Sb**	**11 57 50.3**	**-0.9**
HAG	**Hague Volcano**	**2.16**	**28**		**Pn**	**11 57 35.0**	**+1.2**
PS4A	**Pavlof South-4**	**2.20**	**28**		**Pn**	**11 57 35.6**	**+1.3**
PS1A	**Pavlof South-1**	**2.29**	**29**		**Pn**	**11 57 36.9**	**+1.3**
S12K	**Black Hills**	**2.46**	**22**		**Pn**	**11 57 38.7**	**+0.8**
S12K	**Black Hills** comp=N,569nm,0.6s	**2.46**	**22**	IAML		11 58 15.4	
S12K	comp=E,842nm,0.9s			IAML		11 58 25.8	
S12K	**Black Hills** baz=203	**2.46**	**22**	P	**Pn**	**11 57 38.7**	**+0.8**
OKTU	**Okmok Mt. Tuli**	**2.61**	**271**		**Pn**	**11 57 40.6**	**+0.7**
OKER	**Okmok East Rim**	**2.61**	**272**		**Pn**	**11 57 40.3**	**+0.2**
SDPT	**Sand Point**	**2.69**	**43**	P	**Pn**	**11 57 41.6**	**+0.6**
SDPT	**Sand Point**	**2.69**	**43**		**Pn**	**11 57 41.8**	**+0.8**
SDPT	**Sand Point** comp=E,499nm,1.0s	**2.69**	**43**	IAML		11 58 26.8	
SDPT	comp=N,684nm,1.1s			IAML		11 58 38.8	
SDPT	**Sand Point** baz=225	**2.69**	**43**	P	**Pn**	**11 57 41.8**	**+0.8**
CNBA	**Chernabura Isl**	**2.78**	**58**	Pn	**Pn**	**11 57 42.5**	**+0.2**
CHNA	**Chernabura Isl** baz=241	**2.79**	**58**	P	**Pn**	**11 57 42.2**	**-0.2**
NIKH	**Nikolski High**	**3.14**	**264**	P	**Pn**	**11 57 47.4**	**+0.2**
CLCO	**Concord Point,**	**3.69**	**262**		**Pn**	**11 57 54.9**	**+0.1**
S14K	**Fog Glacier** baz=221	**3.73**	**38**	P	**Pn**	**11 57 56.9**	**+1.6**
VNFG	**Fog Glacier, M**	**3.73**	**38**		**Pn**	**11 57 56.9**	**+1.6**
CHGN	**Chignik**	**4.19**	**45**	Pn	**Pn**	**11 58 02.4**	**+0.8**
CHGN	comp=E,151nm,0.8s			IAML		11 59 12.6	
CHGN	**Chignik** baz=228	**4.19**	**45**	P	**Pn**	**11 58 02.8**	**+1.2**
CHIR	**Chirikof Islan**	**5.26**	**60**	Pn	**Pn**	**11 58 16.6**	**+0.2**
CHIR	comp=N,126nm,2.3s			IAML		12 01 27.3	
CHIR	**Chirikof Islan** baz=246	**5.26**	**60**	P	**Pn**	**11 58 16.6**	**+0.2**
SPIA	**Saint Paul Isl**	**5.30**	**318**	P	**Pn**	**11 58 19.0**	**+2.1**
SPIA	**Saint Paul Isl**	**5.30**	**318**		**Pn**	**11 58 17.6**	**+0.8**
SPIA	**Saint Paul Isl** baz=133	**5.30**	**318**	P	**Pn**	**11 58 17.6**	**+0.8**
O14K	**Tigyukauivet M**	**5.99**	**12**	Pn	**Pn**	**11 58 28.9**	**+2.6**
O15K	**Ungalikthiuk R**	**6.15**	**19**		**Pn**	**11 58 29.6**	**+1.1**
O15K	**Ungalikthiuk R** baz=202	**6.15**	**19**	P	**Pn**	**11 58 29.6**	**+1.1**
SII	**Sitkinak Islan**	**6.30**	**56**	P	**Pn**	**11 58 30.1**	**-0.6**
SII	**Sitkinak Islan**	**6.30**	**56**	Pn	**Pn**	**11 58 31.0**	**+0.4**
ATKA	**Atka Island**	**6.49**	**263**	P	**Pn**	**11 58 34.6**	**+1.4**
ATKA	**Atka Island**	**6.49**	**263**		**Pn**	**11 58 33.4**	**+0.2**
N14K	**Kuskokwak Cree**	**6.60**	**9**		**Pn**	**11 58 35.8**	**+1.1**
N14K	**Kuskokwak Cree** baz=191	**6.60**	**9**	P	**Pn**	**11 58 35.8**	**+1.1**
ANCK	**Angle Creek**	**6.64**	**41**		**Pn**	**11 58 36.0**	**+0.6**
O16K	**Kokwok River B**	**6.91**	**24**	Pn	**Pn**	**11 58 39.8**	**+0.9**
M13K	**Dall Lake**	**7.00**	**1**		**Pn**	**11 58 42.3**	**+2.2**
N15K	**Kwethluk River**	**7.04**	**15**	Pn	**Pn**	**11 58 43.1**	**+2.4**
OHAK	**Old Harbor**	**7.04**	**53**	P	**Pn**	**11 58 39.7**	**-1.1**
OHAK	**Old Harbor**	**7.04**	**53**	Pn	**Pn**	**11 58 40.7**	**-0.1**
M11K	**Mekoryuk**	**7.10**	**350**		**Pn**	**11 58 42.3**	**+0.7**
M11K	**Mekoryuk** baz=168	**7.10**	**350**	P	**Pn**	**11 58 42.3**	**+0.7**
O17K	**Koliganek Bris**	**7.32**	**27**		**Pn**	**11 58 44.9**	**+0.3**
O17K	**Koliganek Bris** baz=213	**7.32**	**27**	P	**Pn**	**11 58 44.9**	**+0.3**
M14K	**Bethel**	**7.40**	**7**	Pn	**Pn**	**11 58 47.7**	**+2.1**
M15K	**Kasigluk River**	**7.46**	**11**		**Pn**	**11 58 47.5**	**+1.0**
N16K	**Nishlik Lake**	**7.55**	**19**		**Pn**	**11 58 49.3**	**+1.5**
KDAK	**Kodiak Island**	**7.65**	**51**		**Pn**	**11 58 48.2**	**-0.9**
KDAK	**Kodiak Island** comp=N,1.9nm,0.3s,baz=251,slow=8.2,SNR=27	**7.65**	**51**	Pn	**Pn**	**11 58 46.9**	**-2.2**
KDAK	comp=N,1.2nm,0.3s,baz=227,slow=18,SNR=6.7			Sn	**Sn**	**12 00 08.1**	**-7.2**
Q19K	comp=N,3.9nm,0.3s **Cape Douglas,**	**7.85**	**41**	Pn	**Pn**	**11 58 53.9**	**+1.9**
N17K	**Nushagak Hills**	**7.95**	**24**	Pn	**Pn**	**11 58 56.2**	**+3.1**
L14K	**Kuka Creek**	**7.95**	**4**		**Pn**	**11 58 53.6**	**+0.4**
L14K	**Kuka Creek** baz=185	**7.95**	**4**	P	**Pn**	**11 58 53.6**	**+0.4**
O18K	**Koktuh Hills**	**7.95**	**33**		**Pn**	**11 58 56.7**	**+3.4**
M16K	**Timber Creek**	**8.03**	**17**		**Pn**	**11 58 56.9**	**+2.6**
SYI	**Shuyak Island**	**8.18**	**46**	Pn	**Pn**	**11 58 57.8**	**+1.4**
N18K	**Kilae Creek**	**8.41**	**27**	Pn	**Pn**	**11 59 00.9**	**+1.3**
K13K	**Kusilvak Mount**	**8.54**	**357**		**Pn**	**11 59 03.7**	**+2.4**
L16K	**Owhat River**	**8.60**	**14**		**Pn**	**11 59 02.5**	**+0.3**
L16K	**Owhat River** baz=197	**8.60**	**14**	P	**Pn**	**11 59 02.5**	**+0.3**
M17K	**Holitna River**	**8.67**	**20**		**Pn**	**11 59 04.4**	**+1.4**
N19K	**Bonanza Creek**	**8.93**	**30**		**Pn**	**11 59 10.3**	**+3.6**
K15K	**Wolf Creek Mou**	**8.96**	**6**		**Pn**	**11 59 08.6**	**+1.5**
K15K	**Wolf Creek Mou** baz=188	**8.96**	**6**	P	**Pn**	**11 59 07.6**	**+0.5**
CNPM	**China Poot**	**9.20**	**43**	Pn	**Pn**	**11 59 10.9**	**+0.6**
J14K	**Nanvaranak Lak**	**9.34**	**0**	Pn	**Pn**	**11 59 13.3**	**+1.1**
L18K	**Granite Mounta**	**9.56**	**20**		**Pn**	**11 59 16.9**	**+1.6**
K17K	**Iditarod**	**9.73**	**15**		**Pn**	**11 59 19.4**	**+1.8**
L19K	**White Mountain**	**9.95**	**25**		**Pn**	**11 59 22.2**	**+1.6**
J16K	**Anvik River**	**10.01**	**8**	Pn	**Pn**	**11 59 22.9**	**+1.5**
M20K	**Styx River**	**10.17**	**29**		**Pn**	**11 59 25.7**	**+2.0**
J17K	**VÄBM Dome**	**10.28**	**12**		**Pn**	**11 59 25.7**	**+0.7**
SUA	**Susitna One**	**10.63**	**36**	Pn	**Pn**	**11 59 29.9**	**-0.1**
J18K	**Innoko River**	**10.70**	**17**		**Pn**	**11 59 32.8**	**+2.0**
SKT	**Skwentna**	**10.74**	**32**	Pn	**Pn**	**11 59 32.0**	**+0.7**
K20K	**Telida**	**11.14**	**23**		**Pn**	**11 59 38.8**	**+1.9**
PMR	**Palmer**	**11.29**	**38**	P	**Pn**	**11 59 39.0**	**0.0**
J19K	**Poorman**	**11.38**	**18**		**Pn**	**11 59 42.6**	**+2.4**
GLI	**Glacier Island**	**11.67**	**44**		**Pn**	**11 59 43.9**	**-0.2**
HIN	**Hinchinbrook I**	**11.67**	**46**	Pn	**Pn**	**11 59 43.2**	**-1.0**
CAST	**Castle Rocks**	**11.69**	**27**		**Pn**	**11 59 45.1**	**+0.7**
H17K	**Granite Mounta**	**11.70**	**8**		**Pn**	**11 59 46.2**	**+1.7**
SML	**Sawmill**	**11.73**	**38**	Pn	**Pn**	**11 59 45.0**	**+0.1**
J20K	**Nowinta River**	**11.84**	**21**		**Pn**	**11 59 46.7**	**+0.3**
FID	**Port Fidalgo**	**11.86**	**45**	Pn	**Pn**	**11 59 45.0**	**-1.7**
H18K	**Honhosa River**	**12.06**	**11**		**Pn**	**11 59 52.0**	**+2.6**
EYAK	**Cordova Ski Ar**	**12.07**	**47**	P	**Pn**	**11 59 49.1**	**-0.5**
SCM	**Sheep Creek Mo**	**12.12**	**40**	Pn	**Pn**	**11 59 49.3**	**-1.0**
KLU	**Klutina**	**12.48**	**43**		**Pn**	**11 59 53.9**	**-1.4**
BPAW	**Bear Paw Mtn.**	**12.53**	**26**	Pn	**Pn**	**11 59 57.6**	**+1.7**
HMT	**Hamilton**	**12.64**	**49**	Pn	**Pn**	**11 59 57.4**	**0.0**
M24K	**Tolsona, Glenn**	**12.72**	**40**		**Pn**	**11 59 58.0**	**-0.6**
DHY	**Denali Highway**	**12.88**	**35**	Pn	**Pn**	**11 59 57.9**	**-2.9**
N25K	**Chitina, Valde**	**13.08**	**44**		**Pn**	**12 00 02.5**	**-0.9**
GLB	**Gilahina Butte**	**13.33**	**45**		**Pn**	**12 00 06.3**	**-0.5**
VRDI	**Verde Repeater**	**13.38**	**46**	Pn	**Pn**	**12 00 06.2**	**-1.5**
H21K	**Melozitna Rive**	**13.41**	**20**		**Pn**	**12 00 09.8**	**+1.9**
CCB	**Clear Creek Bu**	**13.84**	**30**		**Pn**	**12 00 12.7**	**-1.0**
HDA	**Harding Lake**	**13.93**	**31**	Pn	**Pn**	**12 00 13.5**	**-1.5**
M26K	**Nabesna, AK**	**14.13**	**42**		**Pn**	**12 00 16.6**	**-1.2**
F20K	**Avaraart Lake**	**14.20**	**13**		**Pn**	**12 00 17.1**	**-1.5**
IL31		**14.21**	**30**	Pn	**Pn**	**12 00 16.6**	**-2.1**
ILAR	**Eielson Array** comp=N,0.1nm,0.3s,baz=225,slow=11,SNR=8.8	**14.21**	**30**	Pn	**Pn**	**12 00 15.2**	**-3.5**
ILAR	comp=N,331nm,18.3s,baz=229,slow=40 comp=N,0.4nm,0.6s			LR	LR	12 06 18.9	
H23K	**Yukon River**	**14.29**	**24**		**Pn**	**12 00 19.8**	**-0.1**
J25K	**Salcha River,**	**14.57**	**33**		**Pn**	**12 00 21.2**	**-2.6**
G23K	**Bananza Creek**	**14.90**	**21**	Pn	**Pn**	**12 00 29.1**	**+0.8**
L27K	**Beaver Creek,**	**14.93**	**41**	Pn	**Pn**	**12 00 27.7**	**-1.0**
L27K	comp=Z,4.0nm,1.0s			IAmb	IAmb	12 00 37.9	
J26L	**Joseph Creek** comp=Z,5.3nm,0.7s	**15.10**	**35**	Pn	**Pn**	**12 00 30.7**	**-0.2**
J26L				IAmb	IAmb	12 00 39.4	
O29M	**Mount Kennedy**	**15.29**	**53**		**Pn**	**12 00 34.7**	**+1.3**
C18K	**Utukok River**	**15.31**	**3**	P	**P**	**12 00 39.0**	**+0.6**
D19K	**Kuna River**	**15.34**	**8**		**P**	**12 00 37.9**	**-0.8**
D19K	comp=Z,13nm,1.4s			IAmb	IAmb	12 00 46.1	
I26K	**Coal Creek Min**	**15.74**	**33**		**Pn**	**12 00 37.1**	**-2.1**
I26K	comp=Z,4.4nm,0.7s			IAmb	IAmb	12 00 48.2	
E21K	**Killik River**	**15.74**	**13**		**Pn**	**12 00 39.9**	**+0.6**
E22K	**Anaktuvuk Pass**	**15.80**	**16**	Pn	**Pn**	**12 00 41.5**	**+1.6**
E22K	comp=Z,5.5nm,0.8s			IAmb	IAmb	12 00 49.1	
M29M	**Somme Creek**	**16.04**	**46**		**Pn**	**12 00 42.9**	**-0.3**
D22K	**Ayikyak River**	**16.34**	**14**	Pn	**Pn**	**12 00 47.9**	**+1.1**
D22K	comp=Z,11nm,1.3s			IAmb	IAmb	12 01 22.3	
E24K	**Your Creek**	**16.38**	**20**	P	**Pn**	**12 00 46.8**	**-0.6**
E24K	comp=Z,8.9nm,0.8s			IAmb	IAmb	12 01 00.8	
DAWY	**Dawson**	**16.38**	**40**	P	**P**	**12 00 51.3**	**+1.0**
DAWY	comp=Z,7.5nm,1.0s			IAmb	IAmb	12 01 03.5	
L29M	**L29M**	**16.45**	**44**		**P**	**12 00 53.3**	**+2.2**
TOLK	**Toolik Lake Re**	**16.64**	**18**	P	**Pn**	**12 00 51.3**	**+0.6**
TOLK	comp=Z,8.2nm,0.8s			IAmb	IAmb	12 01 06.0	
I28M	**Miner Creek**	**16.91**	**35**		**Pn**	**12 00 54.6**	**+0.4**
I28M	comp=Z,4.1nm,0.6s			IAmb	IAmb	12 00 59.8	
K29M	**Barlow Dome**	**17.01**	**42**		**Pn**	**12 00 56.5**	**+1.0**
K29M	comp=Z,8.4nm,0.7s			IAmb	IAmb	12 01 01.0	
E25K	**Arctic Village**	**17.07**	**23**	P	**Pn**	**12 00 55.8**	**-0.3**
G27K	**Doyon Strip**	**17.18**	**30**	P	**Pn**	**12 00 57.9**	**+0.4**
I29M	**Ogilvie Camp,**	**17.43**	**37**	P	**Pn**	**12 01 00.1**	**-0.6**
C23K	**Itkillik River**	**17.52**	**15**		**Pn**	**12 01 01.4**	**-0.2**
C23K	comp=Z,14nm,1.1s			IAmb	IAmb	12 01 27.9	
J30M	**Hart River**	**17.80**	**40**		**Pn**	**12 01 06.3**	**+1.0**
D25K	**Kavik River**	**17.84**	**20**	P	**Pn**	**12 01 05.9**	**+0.2**
H29M	**Whitestone**	**17.88**	**34**		**Pn**	**12 01 05.8**	**-0.4**
H29M	comp=Z,7.0nm,0.8s			IAmb	IAmb	12 01 17.6	
I30M	**Mount Dempster**	**18.07**	**39**		**Pn**	**12 01 08.8**	**+0.1**
P33M	**Teslin, Yukon**	**18.08**	**56**	P	**P**	**12 01 11.3**	**+2.2**
P33M	comp=Z,10.0nm,0.8s			IAmb	IAmb	12 01 24.6	
N32M	**Quiet Lake**	**18.11**	**53**	P	**P**	**12 01 12.4**	**+3.0**
F28M	**Old Crow**	**18.23**	**30**	P	**Pn**	**12 01 09.9**	**-0.6**
FARO	**Faro, Yukon**	**18.23**	**49**	P	**P**	**12 01 13.5**	**+2.7**
G29M	**Pine Creek**	**18.38**	**33**		**P**	**12 01 11.2**	**-1.1**
G29M	comp=Z,7.0nm,0.8s			IAmb	IAmb	12 01 13.5	
EPYK	**Eagle Plains**	**18.52**	**35**	P	**P**	**12 01 13.7**	**-0.2**
EPYK	comp=Z,17nm,1.2s			IAmb	IAmb	12 01 18.4	
G30M	**tAoh Zraii Nji**	**19.01**	**34**		**P**	**12 01 18.3**	**-0.9**
G30M	comp=Z,4.5nm,0.8s			IAmb	IAmb	12 01 21.0	
H31M	**Peel River**	**19.09**	**38**		**P**	**12 01 20.6**	**+0.4**
E29M	**Blow River**	**19.30**	**29**		**P**	**12 01 21.9**	**-0.5**
DLBC	**Dease Lake** comp=Z,0.1nm,0.3s,baz=182,slow=16,SNR=1.5 comp=Z,0.8nm,0.5s	**19.37**	**62**	P	**P**	**12 01 23.0**	**-0.2**
INK	**Inuvik**	**20.59**	**32**		**P**	**12 01 35.5**	**-0.8**
INK	comp=Z,4.5nm,0.7s			IAmb	IAmb	12 01 41.1	
INK	**Inuvik** comp=Z,2.0nm,0.5s,baz=239,slow=11,SNR=29	**20.59**	**32**	P	**P**	**12 01 34.8**	**-1.5**
INK	comp=Z,169nm,19.3s,baz=360,slow=39 comp=Z,2.0nm,0.5s			LR	LR	12 10 21.2	
PETK	**Petropavlovsk-** comp=Z,2.2nm,0.5s,baz=79,slow=12,SNR=16	**22.91**	**285**	P	**P**	**12 02 01.3**	**0.0**
PETK	comp=Z,74nm,18.9s,baz=89,slow=37 comp=Z,2.2nm,0.5s			LR	LR	12 10 56.2	
C36M	**Paulatuk**	**24.13**	**34**	P	**P**	**12 02 12.7**	**-0.5**
SEY	**Seymchan** comp=Z,65nm,18.0s,baz=138,slow=41	**24.55**	**310**	LR	LR	12 13 34.6	
A36M	**Sachs Harbour**	**24.87**	**27**	P	**P**	**12 02 19.5**	**-0.3**
YKA	**Yellowknife Ar** comp=Z,0.9nm,0.8s,baz=276,slow=7.0,SNR=10	**26.93**	**51**	P	**P**	**12 02 39.9**	**+1.4**
YKA	comp=Z,105nm,18.9s,baz=250,slow=39 comp=Z,0.9nm,0.8s			LR	LR	12 14 19.1	
YBH	**Yreka Blue Hor** comp=Z,43nm,20.4s,baz=245,slow=31	**29.61**	**97**	LR	LR	12 12 05.2	
TIXI	**Tiksi** comp=Z,100nm,18.9s,baz=106,slow=40	**33.62**	**328**	LR	LR	12 19 13.0	
NVAR	**Mina Array Bea** comp=Z,0.2nm,0.6s,baz=307,slow=8.7,SNR=1.8 comp=Z,0.2nm,0.6s	**34.31**	**97**	P	**P**	**12 03 46.8**	**+2.6**
ASAJ	**Asahikawa** comp=Z,40nm,20.7s,baz=108,slow=33	**35.82**	**277**	LR	LR	12 16 51.7	
PDAR	**Pinedale Array** comp=Z,0.2nm,0.4s,baz=308,slow=7.9,SNR=2.6	**36.85**	**84**	P	**P**	**12 04 08.0**	**+2.0**
PDAR	comp=Z,31nm,18.7s,baz=308,slow=31 comp=Z,0.2nm,0.4s			LR	LR	12 16 03.5	
KLR	**Kul'dur** comp=Z,38nm,19.7s,baz=64,slow=37	**39.33**	**291**	LR	LR	12 20 59.8	
H11N2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=86	**40.55**	**225**	T	T	12 48 24.9	
H11N3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=83	**40.55**	**225**	T	T	12 48 20.9	
H11N1	**WAKE ISLAND Hy** baz=26,slow=76,SNR=45	**40.56**	**225**	T	T	12 48 24.6	
H11S1	**WAKE ISLAND Hy** baz=26,slow=76	**41.72**	**225**	T	T	12 49 46.9	
H11S2	**WAKE ISLAND Hy** baz=26,slow=76,SNR=65	**41.73**	**225**	T	T	12 49 47.6	
H11S3	**WAKE ISLAND Hy** baz=26,slow=76,SNR=85	**41.73**	**225**	T	T	12 49 44.2	
NEEM	**North Greenlan** comp=Z,12nm,1.1s	**42.99**	**17**	*i* P	**P**	**12 04 56.3**	**-0.4**
NEEM				IAmb	IAmb	12 04 58.6	
MJAR	**Matsushiro Arr** comp=Z,0.6nm,0.5s,baz=59,slow=11,SNR=2.6 comp=Z,0.6nm,0.5s	**43.15**	**271**	P	**P**	**12 04 57.7**	**-0.4**
FRB	**Frobisher Bay** comp=Z,98nm,20.6s,baz=331,slow=38	**46.07**	**38**	LR	LR	12 26 14.8	
DAG	**Danmarks Havn** comp=Z,4.0nm,0.9s	**48.18**	**10**	*i* P	**P**	**12 05 36.5**	**-0.7**
DAG				IAmb	IAmb	12 05 37.6	
SPITS	**Spitsbergen Ar** comp=Z,4.9nm,0.8s,baz=12,slow=7.4,SNR=2.0 comp=Z,4.9nm,0.8s	**48.65**	**360**	P	**P**	**12 05 39.2**	**-1.8**
KSRS	**Korea Array** comp=Z,0.8nm,0.6s,baz=61,slow=8.3,SNR=6.5 comp=Z,0.8nm,0.6s	**48.66**	**280**	P	**P**	**12 05 42.2**	**+0.8**
SUMG	**Summit** comp=Z,5.2nm,0.9s	**48.70**	**19**	*i* P	**P**	**12 05 42.9**	**+1.1**
SUMG				IAmb	IAmb	12 05 46.9	
TXAR	**Lajitas Array** comp=Z,0.3nm,0.4s,baz=304,slow=6.4,SNR=6.9 comp=Z,0.3nm,0.4s	**49.34**	**94**	P	**P**	**12 05 48.3**	**+1.4**
SFJD	**Kangerlussuaq** comp=Z,5.4nm,1.0s	**49.86**	**28**	*i* P	**P**	**12 05 49.2**	**-1.1**
SFJD				IAmb	IAmb	12 05 51.4	
JNU	**Nakatsue** comp=Z,35nm,20.1s,baz=114,slow=37	**49.87**	**273**	LR	LR	12 27 24.1	
DBG	**Daneborg**	**50.20**	**12**	*i* P	**P**	**12 05 52.6**	**-0.1**
DBG	comp=Z,2.9nm,0.8s			IAmb	IAmb	12 05 57.1	
ICESG	**Greenland Ices**	**51.13**	**22**	*i* P	**P**	**12 06 00.3**	**+0.1**
ICESG	comp=Z,8.2nm,0.9s			IAmb	IAmb	12 06 01.7	
SONM	**Songino Array** comp=Z,3.0nm,0.9s,baz=51,slow=7.3,SNR=13 comp=Z,3.0nm,0.9s	**53.65**	**303**	P	**P**	**12 06 19.2**	**+0.2**
ARCES	**ARCESS Array B** comp=Z,5.4nm,1.0s,baz=22,slow=7.8,SNR=1.8	**57.16**	**356**	P	**P**	**12 06 42.8**	**-1.0**
ARCES	comp=Z,44nm,20.0s,baz=60,slow=36 comp=Z,5.4nm,1.0s			LR	LR	12 31 10.2	
ZALV	**Zalesovo Beam** comp=Z,0.6nm,0.3s,baz=34,slow=5.6,SNR=4.8 comp=Z,0.6nm,0.3s	**58.89**	**320**	P	**P**	**12 06 56.0**	**-0.1**
KURBB	**Kurchatov Arra** comp=Z,2.1nm,0.9s,baz=40,slow=6.8,SNR=10	**63.89**	**321**	P	**P**	**12 07 29.8**	**-0.2**
KURBB	comp=Z,65nm,18.2s,baz=171,slow=39 comp=Z,2.1nm,0.9s			LR	LR	12 38 09.2	
BVAR	**Borovoye Array** comp=Z,3.1nm,0.6s,baz=44,slow=6.8,SNR=12 comp=Z,3.1nm,0.6s	**64.75**	**327**	P	**P**	**12 07 36.1**	**+0.5**
FINES	**FINESS Array B** comp=Z,2.8nm,0.9s,baz=22,slow=9.0,SNR=5.1	**65.21**	**355**	P	**P**	**12 07 38.1**	**-0.2**
FINES	comp=Z,27nm,19.2s,baz=12,slow=38 comp=Z,2.8nm,0.9s			LR	LR	12 37 47.2	
MKAR	**Makanchi Array** comp=Z,0.6nm,0.6s,baz=48,slow=7.1,SNR=4.0 comp=Z,0.6nm,0.6s	**65.49**	**316**	P	**P**	**12 07 40.5**	**0.0**
NB2	**NORSAR Subarra** comp=Z,0.5nm,0.6s,baz=0.5,slow=6.9	**65.80**	**3**	P	**P**	**12 07 42.7**	**+0.4**
NOA	**NORSAR Array B** comp=Z,1.1nm,0.8s,baz=358,slow=6.9,SNR=3.7	**65.80**	**3**	P	**P**	**12 07 42.3**	**0.0**
NOA	comp=Z,12nm,18.5s,baz=345,slow=37 comp=Z,1.1nm,0.8s			LR	LR	12 37 14.9	
HFS	**Hagfors** comp=Z,1.6nm,0.4s,baz=35,slow=5.4,SNR=11	**66.77**	**1**	P	**P**	**12 07 48.1**	**-0.3**
HFS	comp=Z,16nm,21.8s,baz=22,slow=36 comp=Z,1.6nm,0.4s			LR	LR	12 36 37.0	
EKA	**Eskdalemuir Ar** comp=Z,0.9nm,0.6s,baz=332,slow=18,SNR=16 comp=Z,0.9nm,0.6s	**70.41**	**12**	P	**P**	**12 08 11.7**	**+0.4**
AKASG	**Malin Array Be** comp=Z,1.1nm,0.5s,baz=9.3,slow=5.5,SNR=7.3 comp=Z,1.1nm,0.5s	**75.67**	**352**	P	**P**	**12 08 42.1**	**-0.4**
CMAR	**Chiang Mai Arr** comp=Z,0.5nm,0.5s,baz=36,slow=5.6,SNR=2.4 comp=Z,0.5nm,0.5s	**79.67**	**287**	P	**P**	**12 09 05.4**	**+0.1**
KBZ	**Khabaz** comp=Z,2.1nm,0.8s,baz=8.4,slow=5.6,SNR=4.0 comp=Z,2.1nm,0.8s	**80.56**	**341**	P	**P**	**12 09 11.3**	**+1.6**
BRTR	**Keskin Array B** comp=Z,1.7nm,0.9s,baz=30,slow=41,SNR=7.3 comp=Z,1.7nm,0.9s	**86.01**	**347**	P	**P**	**12 09 37.5**	**-0.6**
H03N2	**Juan Fernandez** baz=324	**113.19**	**115**	T	T	14 19 15.4	
H03N1	**Juan Fernandez** baz=324	**113.20**	**115**	T	T	14 19 17.1	
H03N3	**Juan Fernandez** baz=324	**113.20**	**115**	T	T	14 19 24.1	

NOU 28 12:16:50.1,19˚.33S×169˚.11E,h3km,MLv3.6/10,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIFNC	**LIFOU**	**2.27**	**230**	P	Pn	12 17 27.5	-1.0
MARNC	**Mare, Loyalty**	**2.37**	**205**	P	Pn	12 17 29.3	-0.6
YATNC	**Mamie plateau,**	**3.42**	**217**	P	Pn	12 17 44.0	-0.3
PINNC	**Pines Island,**	**3.62**	**205**	P	Pn	12 17 47.5	+0.4
DZM	**Mont Dzumac**	**3.70**	**222**	P	Pn	12 17 48.6	+0.3
OUENC	**Ouen Island, N**	**3.73**	**214**	P	Pn	12 17 49.1	+0.4
NOUC	**Port Laguerre**	**3.81**	**223**	P	Pn	12 17 50.7	+1.0
ONTNC	**Ouen Toro**	**3.87**	**220**	P	Pn	12 17 50.8	+0.3
KOUNC	**Koumac, New Ca**	**4.70**	**254**	P	Pn	12 18 02.1	+0.2

*NIED **28** 12:21:27.5,37˚.83N×141˚.75E,h40km,MW3.5,Moment Tensor Solution. s3 Moment tensor: Scale 10^14^Nm; Mrr1.17; Mθθ-0.15; Mφφ-1.02; Mrθ-0.31; Mθφ-0.86; Mφr1.24; Fault plane solution: M0 1.90000×10^14^ NP1:φ3.00000°, δ68.00000°,λ62.00000°. NP2:φ238.00000°,δ35.00000°, λ139.00000°.*

JMA 28 12:21:27.5±0.1,37˚.8N±0˚.3×141˚.8E±0˚.6,h40km±1km, MV3.5/40,16D,SE OFF MIYAGI PREF,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIKH	**Ishinomakibobu**	**0.53**	**335**	*i* P	Pn	12 21 38.6	-0.1
JIKH				S

	comp=N,8μm,1.1s							
STCH				IAML		12 29 27.6		
	comp=E,7μm,1.1s							
NPOC	**North of Pu'u**	**0.18**	**94**		Pg	12 29 24.3	+0.1	
JCUZ	**Jacuzzi**	**0.18**	**97**		Pg	12 29 24.4	+0.1	
HTC	**Hot Caves**	**0.19**	**210**		Pg	12 29 24.6	+0.1	
HMH	**Humu'ula Sheep**	**0.26**	**318**		Pg	12 29 26.2	+0.3	
HMH				IAML		12 29 32.8		
	comp=N,3μm,0.8s							
HMH				IAML		12 29 33.2		
	comp=E,3μm,0.8s							
JOKA	**Jonika Flow**	**0.28**	**84**		Pg	12 29 25.6	-0.5	
JOKA				IAML		12 29 32.7		
	comp=E,2μm,0.9s							
JOKA				IAML		12 29 33.0		
	comp=N,3μm,0.8s							
MLOA	**Mauna Loa Obse**	**0.29**	**296**		Pg	12 29 26.6	+0.1	
MLOA				IAML		12 29 31.7		
	comp=E,4μm,0.9s							
MLOA				IAML		12 29 32.4		
	comp=N,3μm,1.3s							
MWH	**Moku'aweowe**	**0.29**	**286**		Pg	12 29 26.9	+0.4	
KHU	**Kahuku**	**0.34**	**242**		Pg	12 29 27.2	-0.1	
KHU				IAML		12 29 35.0		
	comp=N,1μm,1.4s							
KHU				IAML		12 29 36.9		
	comp=E,1μm,0.8s							
PAH	**Pahoa**	**0.34**	**75**		Pg	12 29 27.5	+0.2	
ALEP	**Alea Permanent**	**0.35**	**292**		Pg	12 29 27.4	-0.3	
HPO	**Honuapo**	**0.40**	**218**	Pg	Pg	12 29 25.9	-2.5	
POHA	**Pohakuloa**	**0.41**	**328**	Pg	Pg	12 29 28.0	-0.8	
HUH	**Hualalai**	**0.58**	**299**		Pg	12 29 31.6	-0.3	
CPH	**Captain Cook**	**0.59**	**278**		Pg	12 29 31.1	-1.1	
HPAH	**Hawaii Prepara**	**0.73**	**329**		Pg	12 29 33.3	-1.4	
HPAH				IAML		12 29 55.5		
	comp=E,1μm,1.1s							

*NEIC **28** 12:31:19.4±1.0, 19°.403N±0°.007×155°.301W±0°.006, h7km±1km, Error ellipse: s-maj=1.2km s-min=0.6km az=208.0*

HVO 28 12:31:19.0±1.0, 19°.399N±0°.007×155°.289W±0°.005, h1km±3km, ML2.7/7, ML2.4/26(NEIC), Error ellipse: s-maj=1.0km s-min=0.6km az=198.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**105**		Pg	12 31 20.5	+1.0
OBL	**Observatory Le**	**0.02**	**14**		Pg	12 31 21.2	+1.6
KKO	**Keanakako'i**	**0.02**	**93**		Pg	12 31 20.8	+1.2
UWE	**Uwekahuna**	**0.02**	**350**	Pg	Pg	12 31 20.1	+0.5
UWE					Sg	12 31 21.1	+1.0
UWB	**Uwekahuna B**	**0.03**	**22**		Pg	12 31 21.1	+1.5
BYL	**Byron's Ledge**	**0.03**	**65**	Pg	Pg	12 31 20.3	+0.7
BYL					Sg	12 31 21.3	+1.2
HATHI	**Halema'uma'u T**	**0.04**	**48**	Pg	Pg	12 31 20.4	+0.7
RSD	**Rainshed**	**0.06**	**9**		Pg	12 31 21.0	+0.7
RSD					Sg	12 31 23.1	+1.8
RSD	**Rainshed**	**0.06**	**9**	IAML		12 31 20.6	
	comp=E,1μm,1.2s						
PUH	**Pauahi**	**0.07**	**110**		Pg	12 31 21.4	+0.9
PUH	**Pauahi**	**0.07**	**110**	IAML		12 31 21.5	
	comp=E,1μm,1.2s						
PUH				IAML		12 31 22.5	
	comp=N,2μm,1.2s						
HLP	**Hilina Pali**	**0.10**	**190**		Pg	12 31 22.1	+1.0
HLP	**Hilina Pali**	**0.10**	**190**		Sg	12 31 24.3	+1.9
HLP	**Hilina Pali**	**0.10**	**190**	IAML		12 31 23.3	
	comp=E,4μm,1.3s						
HLP				IAML		12 31 23.8	
	comp=N,3μm,1.2s						
KNHH	**Kane Nui o Ham**	**0.11**	**100**		Pg	12 31 22.7	+1.4
MLH	**Mauna Loa**	**0.13**	**316**		Pg	12 31 22.6	+1.0
MLH	**Mauna Loa**	**0.13**	**316**	IAML		12 31 23.1	
	comp=N,3μm,1.2s						
MLH				IAML		12 31 25.1	
	comp=E,934nm,1.3s						
MLH	**Mauna Loa**	**0.13**	**316**		Sg	12 31 25.2	+1.8
STCH	**Steam Cracks**	**0.15**	**95**		Pg	12 31 23.0	+1.0
STCH				IAML		12 31 23.7	
	comp=E,695nm,1.3s						
STCH				IAML		12 31 26.7	
	comp=N,857nm,1.5s						
JOKA	**Jonika Flow**	**0.27**	**83**	Pg	Pg	12 31 24.6	+0.3
JOKA				IAML		12 31 28.5	
	comp=E,959nm,1.2s						
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg	Pg	12 31 24.0	-0.3
HMH				IAML		12 31 25.1	
	comp=E,2μm,1.1s						
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	12 31 25.2	+0.3
KHU	**Kahuku**	**0.34**	**244**	Pg	Pg	12 31 26.2	+0.6

*HEL **28** 12:31:54.3±0.2, 68°.17N×33°.21E, h0km, ML1.8, Explosion*
*UPP **28** 12:31:55.0±3.3, 68°.01N×33°.06E, h0km, ML1.8*
*KOLA **28** 12:31:55.1, 68°.11N×33°.26E, h0km, ML2.1, Error ellipse: s-maj=2.3km s-min=1.4km az=100.0, Olenegorsk City, Mines*
*IDC **28** 12:31:56.8±1.8, 68°.30N×33°.00E, h0km, mbtmp3.3/3, ML2.5/3, Error ellipse: s-maj=19.6km s-min=11.4km az=72.0*

ISC 28 12:31:53.5±0.8, 68°.16N±0°.03×33°.10E±0°.03, h0km, n32, σ1§44/51, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	**0.56**	**184**	P	**Pg**	**12 32 04.1**	**-0.1**
APA0				S	**Sg**	**12 32 10.9**	**-0.6**
APA	**Apatity**	**0.61**	**169**	P	**Pg**	**12 32 04.8**	**-0.3**
APA				S	**Sg**	**12 32 12.7**	**-0.2**
LVZ	**Lovozero**	**0.64**	**114**	P	**Pg**	**12 32 05.4**	**-0.4**
LVZ				S	**Sg**	**12 32 12.2**	**-2.0**
LVZ	**Lovozero**	**0.64**	**114**	PG	**Pg**	**12 32 05.5**	**-0.4**
LVZ				SG	**Sg**	**12 32 12.9**	**-1.2**
TERR	**Teriberka**	**1.28**	**34**	P	**Pg**	**12 32 17.9**	**-0.1**
TERR				S	**Sb**	**12 32 35.5**	**+0.1**
VRF	**Varrio**	**1.38**	**254**	PG	**Pn**	**12 32 20.0**	**0.0**
VRF				MSG		12 32 37.1	
	comp=Z,8.1nm,0.2s						
VRF				SN	**Sb**	**12 32 39.3**	**+1.0**
RAJF	**Raja-Jooseppi**	**1.81**	**282**	PG	**Pn**	**12 32 27.4**	**+1.6**
RAJF				SG	**Sb**	**12 32 52.1**	**+1.5**
OLKF	**Oulanka, Finla**	**2.34**	**220**	PN	**Pn**	**12 32 34.8**	**+1.6**
OLKF				MSG		12 33 04.5	
	comp=Z,3.2nm,0.2s						
OLKF				SG	**Sb**	**12 33 07.1**	**+1.1**
VADS	**Vadso**	**2.38**	**328**	P	**Pn**	**12 32 36.2**	**+2.5**
VADS				S	**Sn**	**12 33 05.4**	**+1.9**
KU6	**Riekki**	**2.49**	**212**	PN	**Pn**	**12 32 36.9**	**+1.7**
KU6				MSG		12 33 08.7	
	comp=Z,2.3nm,0.2s						
KU6				SG	**Sb**	**12 33 11.9**	**+1.8**
SGF	**Sodankyl**	**2.60**	**257**	PN	**Pn**	**12 32 38.0**	**+1.3**
	baz=68						
SGF				SG	**Sb**	**12 33 14.7**	**+1.4**
KEV	**Kevo**	**2.72**	**309**	*eP*	**Pn**	**12 32 40.9**	**+2.5**
KEV	**Kevo**	**2.72**	**309**	PB	**Pn**	**12 32 40.8**	**+2.4**
KEV				MSG		12 33 15.1	
	comp=Z,8.7nm,0.2s						
KEV				SB	**Sb**	**12 33 16.2**	**-0.6**
MSF	**Maaselka**	**2.76**	**217**	PB	**Pb**	**12 32 42.3**	**-1.4**
ARCES	**ARCESS Array B**	**3.08**	**300**	Pn	**Pn**	**12 32 45.1**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=107,slow=15,SNR=16						
ARCES				Sn	**Sn**	**12 33 22.7**	**+1.9**
	comp=Z,0.3nm,0.3s,baz=113,slow=23,SNR=2.2						
ARCES				Lg	Lg	12 33 29.2	
	comp=Z,1.9nm,0.3s,baz=109,slow=28,SNR=17						
	comp=Z,0.8nm,0.3s						
RNF	**Rovaniemi**	**3.15**	**244**	PN	**Pn**	**12 32 46.1**	**+1.8**
	baz=57						
RNF				SN	**Sn**	**12 33 25.0**	**+2.5**
RANF	**Ranua**	**3.28**	**232**	PN	**Pn**	**12 32 46.9**	**+0.8**
HEF	**Hetta**	**3.52**	**278**	*eP*	**Pn**	**12 32 50.2**	**+0.8**
HEF	**Hetta**	**3.52**	**278**	PN	**Pn**	**12 32 50.5**	**+1.2**
	baz=94						
HEF				SG	**Sg**	**12 33 45.0**	**-1.4**
PAJU	**Pajala**	**3.99**	**258**	PN	**Pn**	**12 32 56.6**	**+0.7**
PAJU				SG	**Sg**	**12 33 59.1**	**-2.5**
TOF	**Tornio**	**4.01**	**243**	PN	**Pn**	**12 32 56.7**	**+0.6**
LANU	**Lannavaara**	**4.16**	**274**	PN	**Pn**	**12 32 58.7**	**+0.5**
LANU				SG	**Sg**	**12 34 04.2**	**-2.7**
RMF	**Romuvaara**	**4.16**	**199**	PN	**Pn**	**12 32 58.3**	**0.0**
KALU	**Kalix**	**4.46**	**243**	P	**Pn**	**12 33 02.4**	**+0.1**
KALU				S	**Sn**	**12 33 53.5**	**-1.3**
ERTU	**Ertsjaerv**	**4.51**	**254**	PN	**Pn**	**12 33 03.7**	**+0.7**
ERTU				SN	**Sn**	**12 33 56.6**	**+0.4**
KUA	**Kurravaara**	**4.79**	**273**	P	**Pn**	**12 33 07.3**	**+0.4**
KOVU	**Salmi**	**4.83**	**277**	P	**Pn**	**12 33 08.4**	**+1.1**
HARU	**Harads**	**5.13**	**253**	P	**Pn**	**12 33 10.8**	**-0.7**
I37NO	**I37NO**	**5.38**	**286**	I	I	13 05 30.4	
	baz=94,slow=323,SNR=8.0						
FAUS	**Fauske**	**6.80**	**272**	S	**Sn**	**12 34 50.5**	**-1.8**
FINES	**FINESS Array B**	**7.38**	**207**	Pn	**Pn**	**12 33 43.8**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=1.8						
FINES				Sn	**Sn**	**12 35 07.7**	**+1.1**
	comp=Z,0.1nm,0.3s,baz=25,slow=23,SNR=1.7						
	comp=Z,0.4nm,0.3s						
SPITS	**Spitsbergen Ar**	**11.09**	**342**	Pn	**Pn**	**12 34 31.4**	**-1.6**
	baz=139,slow=19						
	comp=Z,4.8nm,0.9s						

*NEIC **28** 12:34:47.5±1.1, 19°.400N±0°.008×155°.280W±0°.007, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.3km az=173.0*

HVO 28 12:34:46.8±0.9, 19°.395N±0°.003×155°.272W±0°.007, h0km±4km, ML2.7/33, ML2.4/41(NEIC), Error ellipse: s-maj=1.0km s-min=0.4km az=102.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.02**	**34**	Pg	Pg	12 34 47.7	+0.5
BYL					Sg	12 34 48.4	+0.8
OBL	**Observatory Le**	**0.03**	**332**		Pg	12 34 48.4	+1.1
HATHI	**Halema'uma'u T**	**0.03**	**20**	Pg	Pg	12 34 47.9	+0.6
HATHI					Sg	12 34 48.7	+0.9
UWB	**Uwekahuna B**	**0.03**	**349**		Pg	12 34 49.0	+1.6
SBLHI	**Steaming Bluff**	**0.03**	**6**		Pg	12 34 49.3	+1.9
UWE	**Uwekahuna**	**0.03**	**322**	Pg	Pg	12 34 48.3	+0.9
UWE					Sg	12 34 49.0	+1.1
PUH	**Pauahi**	**0.06**	**112**	Pg	Pg	12 34 48.8	+1.0
PUH				IAML		12 34 49.3	
	comp=E,2μm,1.0s						
PUH				IAML		12 34 49.3	
	comp=N,2μm,0.3s						
PUH					Sg	12 34 50.3	+1.7
RSD	**Rainshed**	**0.07**	**355**		Pg	12 34 49.0	+0.9
RSD	**Rainshed**	**0.07**	**355**	IAML		12 34 50.1	
	comp=N,3μm,0.5s						
RSD				IAML		12 34 50.4	
	comp=E,2μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**99**		Pg	12 34 49.7	+1.1
HLP	**Hilina Pali**	**0.10**	**199**		Pg	12 34 49.9	+1.1
HLP	**Hilina Pali**	**0.10**	**199**	IAML		12 34 51.4	
	comp=E,1μm,0.8s						
HLP				IAML		12 34 52.1	
	comp=N,2μm,0.4s						
STCH	**Steam Cracks**	**0.14**	**94**		Pg	12 34 50.4	+0.9
STCH					Sg	12 34 53.4	+2.1
STCH	**Steam Cracks**	**0.14**	**94**	IAML		12 34 53.6	
	comp=E,2μm,0.5s						
STCH				IAML		12 34 54.5	
	comp=N,2μm,0.3s						
MLH	**Mauna Loa**	**0.15**	**312**		Pg	12 34 50.3	+0.7
MLH				IAML		12 34 54.2	
	comp=E,2μm,0.8s						
MLH				IAML		12 34 54.3	
	comp=N,772nm,0.2s						
NPOC	**North of Pu'u**	**0.15**	**91**		Pg	12 34 50.7	+1.0
NPOC					Sg	12 34 53.8	+2.1
JCUZ	**Jacuzzi**	**0.16**	**94**		Pg	12 34 51.0	+1.1
JCUZ					Sg	12 34 54.0	+2.0
HTC	**Hot Caves**	**0.20**	**217**		Pg	12 34 51.6	+1.1
JOKA	**Jonika Flow**	**0.26**	**81**		Pg	12 34 52.4	+0.8
JOKA				IAML		12 34 59.7	
	comp=E,588nm,1.0s						
HMH	**Humu'ula Sheep**	**0.29**	**316**		Pg	12 34 53.2	+1.0
HMH				IAML		12 35 02.0	
	comp=E,422nm,0.7s						
HMH				IAML		12 35 02.4	
	comp=N,469nm,0.4s						
MLOA	**Mauna Loa Obse**	**0.32**	**296**		Pg	12 34 53.5	+0.6
MLOA				IAML		12 35 02.9	
	comp=E,404nm,0.4s						
MLOA				IAML		12 35 03.0	
	comp=N,549nm,0.5s						
MWH	**Moku'aweowe**	**0.32**	**286**		Pg	12 34 54.1	+1.2
KHU	**Kahuku**	**0.36**	**245**		Pg	12 34 54.2	+0.6
KHU				IAML		12 35 02.8	
	comp=E,412nm,0.5s						
KHU				IAML		12 35 05.8	
	comp=N,408nm,0.4s						
ALEP	**Alea Permanent**	**0.38**	**293**		Pg	12 34 54.8	+0.7
ALEP					Sg	12 35 00.3	+1.3
POHA	**Pohakuloa**	**0.44**	**326**		Pg	12 34 55.9	+0.8
POHA				IAML		12 35 03.6	
	comp=N,584nm,0.6s						
POHA				IAML		12 35 10.4	
	comp=N,510nm,0.6s						
HUH	**Hualalai**	**0.60**	**299**		Pb	12 34 59.8	-0.6
CPH	**Captain Cook**	**0.62**	**279**		Pg	12 34 58.6	0.0
HPAH	**Hawaii Prepara**	**0.75**	**328**		Pg	12 35 00.8	-0.3

*NEIC **28** 12:40:24.8±1.6, 19°.440N±0°.02×154°.87W±0°.03, h5km±2km, Error ellipse: s-maj=5.5km s-min=3.0km az=297.0*

HVO 28 12:40:24.8±1.6, 19°.44N±0°.02×154°.88W±0°.03, h6km±3km, ML2.8/8, ML2.6/34(NEIC), Error ellipse: s-maj=4.7km s-min=1.7km az=115.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**342**		Pg	12 40 28.0	+1.8
PAH	**Pahoa**	**0.09**	**308**	Pg	Pg	12 40 27.0	+0.3
PAH					Sg	12 40 28.8	+0.7
JOKA	**Jonika Flow**	**0.12**	**266**		Pg	12 40 27.5	+0.1
JCUZ	**Jacuzzi**	**0.22**	**255**		Sg	12 40 33.5	+1.4
NPOC	**North of Pu'u**	**0.23**	**258**		Pg	12 40 29.6	+0.4
NPOC					Sg	12 40 33.0	+0.7
STCH	**Steam Cracks**	**0.24**	**257**		Pg	12 40 29.9	+0.3
STCH	**Steam Cracks**	**0.24**	**257**	IAML		12 40 34.7	
	comp=E,426nm,0.3s						
STCH				IAML		12 40 35.4	
	comp=N,321nm,0.4s						
KNHH	**Kane Nui o Ham**	**0.28**	**257**		Pg	12 40 30.2	-0.1
PUH	**Pauahi**	**0.33**	**258**		Pg	12 40 31.3	+0.1
PUH					Sg	12 40 36.3	+0.8
PUH	**Pauahi**	**0.33**	**258**	IAML		12 40 39.2	
	comp=N,945nm,1.3s						
PUH				IAML		12 40 40.1	
	comp=E,498nm,0.6s						
BYL	**Byron's Ledge**	**0.36**	**265**	Pg	Pg	12 40 31.1	-0.8
RSD	**Rainshed**	**0.38**	**273**		Pg	12 40 32.5	+0.3
RSD	**Rainshed**	**0.38**	**273**	IAML		12 40 38.5	
	comp=E,1μm,0.5s						
RSD				IAML		12 40 38.9	
	comp=N,1μm,0.4s						
HLP	**Hilina Pali**	**0.43**	**250**	IAML		12 40 40.2	
	comp=N,754nm,0.4s						
HLP	**Hilina Pali**	**0.43**	**250**		Pg	12 40 33.2	0.0
HLP					Sg	12 40 39.6	+0.7
MLH	**Mauna Loa**	**0.48**	**276**		Pg	12 40 33.9	-0.3
MLH	**Mauna Loa**	**0.48**	**276**	IAML		12 40 41.8	
	comp=N,404nm,0.7s						
MLH				IAML		12 40 42.2	
	comp=E,407nm,0.5s						
HTC	**Hot Caves**	**0.53**	**248**		Pg	12 40 35.2	+0.2
HMH	**Humu'ula Sheep**	**0.59**	**286**		Pg	12 40 36.1	-0.1
HMH	**Humu'ula Sheep**	**0.59**	**286**		Sb	12 40 46.1	-0.4
HMH	**Humu'ula Sheep**	**0.59**	**286**	IAML		12 40 50.3	
	comp=E,1μm,0.4s						
HMH				IAML		12 40 50.3	
	comp=N,997nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.67**	**278**	Pg	Pg	12 40 36.2	-1.4
MLOA				IAML		12 40 45.6	
	comp=E,225nm,0.6s						
MLOA				IAML		12 40 48.2	
	comp=N,251nm,0.3s						
MWH	**Moku'aweowe**	**0.68**	**274**	Pg	Pg	12 40 36.7	-1.2
MWH				IAML		12 40 56.2	
	comp=N,401nm,1.1s						
KHU	**Kahuku**	**0.72**	**255**		Sg	12 40 48.0	-0.2
KHU	**Kahuku**	**0.72**	**255**	Pg	Pg	12 40 37.5	-1.2
KHU	**Kahuku**	**0.72**	**255**	IAML		12 40 48.6	
	comp=E,324nm,1.9s						
KHU				IAML		12 40 55.7	
	comp=N,161nm,1.1s						
ALEP	**Alea Permanent**	**0.73**	**278**		Pg	12 40 37.8	-1.1

*NEIC **28** 13:23:50.1±0.7, 19°.399N±0°.009×155°.292W±0°.005, h1km±4km, Error ellipse: s-maj=1.4km s-min=0.3km az=156.0*

HVO 28 13:23:49.5±0.7, 19°.402N±0°.009×155°.280W±0°.009, h0km±3km, ML3.0/23, ML2.7/32(NEIC), Error ellipse: s-maj=1.3km s-min=1.2km az=174.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**140**		Pg	13 23 50.5	+0.7
KKO	**Keanakako'i**	**0.01**	**108**		Pg	13 23 50.7	+0.8
OBL	**Observatory Le**	**0.02**	**347**		Pg	13 23 50.8	+0.9
BYL	**Byron's Ledge**	**0.02**	**63**		Pg	13 23 50.1	+0.1
UWB	**Uwekahuna B**	**0.02**	**5**		Pg	13 23 51.1	+1.1
UWE	**Uwekahuna**	**0.02**	**327**		Pg	13 23 50.5	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**25**		Pg	13 23 51.8	+1.7
HATHI	**Halema'uma'u T**	**0.03**	**41**		Pg	13 23 50.5	+0.5
RSD	**Rainshed**	**0.06**	**2**		Pg	13 23 51.1	+0.4
RSD				IAML		13 23 52.9	
	comp=N,5μm,0.3s						
PUH	**Pauahi**	**0.07**	**115**	Pg	Pg	13 23 51.5	+0.7
PUH				IAML		13 23 52.4	
	comp=N,6μm,0.2s						
PUH				IAML		13 23 52.5	
	comp=E,6μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.11**	**102**		Pg	13 23 52.4	+0.9
HLP	**Hilina Pali**	**0.11**	**194**		Pg	13 23 52.1	+0.5
HLP				IAML		13 23 54.4	
	comp=E,4μm,0.8s						
HLP				IAML		13 23 54.4	
	comp=N,3μm,1.1s						
HLP	**Hilina Pali**	**0.11**	**194**		Sg	13 23 55.2	+2.2
MLH	**Mauna Loa**	**0.14**	**312**		Pg	13 23 53.4	+1.3
MLH					Sg	13 23 56.6	+2.7
MLH	**Mauna Loa**	**0.14**	**312**	IAML		13 23 57.0	
	comp=N,9μm,0.5s						
MLH				IAML		13 23 57.1	
	comp=E,6μm,0.5s						
STCH	**Steam Cracks**	**0.15**	**97**		Pg	13 23 53.2	+0.9
STCH	**Steam Cracks**	**0.15**	**97**	IAML		13 23 56.3	
	comp=E,4μm,0.6s						
STCH				IAML		13 23 56.3	
	comp=N,2μm,0.5s						
NPOC	**North of Pu'u**	**0.16**	**93**		Pg	13 23 53.5	+0.9
JCUZ	**Jacuzzi**	**0.17**	**96**		Pg	13 23 53.6	+0.9
HTC	**Hot Caves**	**0.20**	**214**		Pg	13 23 54.3	+1.0
JOKA	**Jonika Flow**	**0.26**	**83**	Pg	Pg	13 23 54.7	+0.2
JOKA				IAML		13 24 01.2	
	comp=N,2μm,1.1s						
JOKA				IAML		13 24 02.1	
	comp=E,842nm,1.0s						
HMH	**Humu'ula Sheep**	**0.28**	**316**		Sg	13 24 00.5	+2.1
HMH	**Humu'ula Sheep**	**0.28**	**316**		Pg	13 23 55.4	+0.6
HMH				IAML		13 24 00.9	
	comp=E,2μm,1.0s						
HMH				IAML		13 24 03.8	
	comp=N,2μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**296**	Pg	Pg	13 23 54.8	-0.6
MLOA				IAML		13 24 03.5	
	comp=E,2μm,0.7s						
MWH	**Moku'aweowe**	**0.31**	**285**	Pg	Pg	13 23 55.8	+0.3
KHU	**Kahuku**	**0.35**	**244**		Pg	13 23 56.4	+0.2
POHA	**Pohakuloa**	**0.43**	**326**	Pg	Pg	13 23 57.4	-0.2
POHA				IAML		13 24 07.1	
	comp=E,1μm,0.9s						
HUH	**Hualalai**	**0.59**	**298**		Pg	13 24 01.1	+0.2
CPH	**Captain Cook**	**0.61**	**278**		Pg	13 24 01.6	+0.5
HPAH	**Hawaii Prepara**	**0.74**	**328**	Pg	Pg	13 24 02.9	-0.7
MHA	**Mahukona**	**0.98**	**323**	Pg	Pg	13 24 06.3	-1.9

*NNC **28** 13:34:47.5±1.0, 42°.63N×78°.90E, h0km±3km, mb2.7, mpv2.7, Error ellipse: s-maj=7.0km s-min=3.3km az=172.0*
*SOME **28** 13:34:48.9, 42°.70N×78°.82E, h10km*
*KRNET **28** 13:34:50.4±0.1, 41°.71N×78°.78E, mb2.2*

ISC 28 13:34:48.5±1.5, 42°.68N±0°.05×78°.83E±0°.04, h7km±11km, n28, σ0§98/53, 8C, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRZ	**Przheval'sk**	**0.37**	**239**	⇑*eP*	**Sb**	**13 35 06.8**	**+3.1**
	baz=40						
PRZ				⇑*eS*	Sg	13 35 18.7	+18
	baz=40						
UZB	**Uzynbulak**	**0.49**	**17**	P	**Pg**	**13 34 58.3**	**+0.3**
	1.5nm,0.1s						
UZB				S	**Sg**	**13 35 05.3**	**+0.9**
	4.7nm,0.2s						
UZB	**Uzynbulak**	**0.49**	**17**	*eP*	**Pg**	**13 34 58.4**	**+0.3**
	1.5nm,0.1s						
UZB				*eS*	**Sg**	**13 35 05.3**	**+0.9**
	4.7nm,0.2s						
SATY	**Saty**	**0.49**	**321**	P	**Pb**	**13 34 58.9**	**-0.8**
	2.1nm,0.1s						
SATY				S	**Sb**	**13 35 06.3**	**-0.8**
	47nm,0.1s						
SATY	**Saty**	**0.49**	**321**	*eP*	**Pb**	**13 34 58.9**	**-0.8**
	2.4nm,0.1s						
SATY				*eS*	**Sb**	**13 35 06.3**	**-0.8**
	47nm,0.1s						
ZHN	**Zhinishke**	**0.57**	**329**	P	**Pb**	**13 35 00.4**	**-0.5**
	10nm,0.1s						
ZHN				S	**Sb**	**13 35 08.9**	**-0.4**
	56nm,0.2s						
ZHN	**Zhinishke**	**0.57**	**329**	*eP*	**Pb**	**13 35 00.4**	**-0.5**
	10nm,0.1s						
ZHN				*eS*	**Sb**	**13 35 08.9**	**-0.4**
	60nm,0.1s						
SHLS	**Shalkode**	**0.67**	**44**	P	**Pn**	**13 35 05.1**	**+0.5**
	4.2nm,0.2s						
SHLS				S	**Sn**	**13 35 17.1**	**+1.7**
	19nm,0.3s						
SHLS	**Shalkode**	**0.67**	**44**	*eP*	**Pn**	**13 35 05.0**	**+0.5**
	4.3nm,0.1s						
SHLS				*eS*	**Sn**	**13 35 17.1**	**+1.7**
	22nm,0.1s						
KDJ	**Kajisay**	**1.34**	**246**	⇑*eP*	**Pn**	**13 35 13.0**	**-0.9**
	baz=90						
KDJ				⇑*eS*	**Sb**	**13 35 29.6**	**-2.0**
	baz=90						
KTMS	**Ketmen**	**1.35**	**55**	P	**Pn**	**13 35 12.4**	**-1.6**
	0.3nm,0.2s						
KTMS				S	**Sb**	**13 35 29.5**	**-2.5**
	2.2nm,0.4s						
KOTS	**Kotyrbulak**	**1.38**	**294**	P	**Pb**	**13 35 14.6**	**-0.1**
	3.2nm,0.5s						
KOTS				S	**Sg**

	5.3nm,0.2s								
DJR	**Jarkent**	**1.79**	**23**	*e*P		**Pb**	**13 35 21.5**	**-0.3**
	0.5nm,0.0s								
DJR				*e*S		**Sg**	**13 35 45.1**	**-1.1**
	3.7nm,0.2s								
KTBS	**Karatobe**	**1.88**	**304**	Pg		**Pb**	**13 35 23.3**	**0.0**
	2.5nm,0.2s								
KTBS				Lg	Lg		13 35 49.1		
	4.4nm,0.2s								
KTBS	**Karatobe**	**1.88**	**304**	*e*P		**Pb**	**13 35 23.3**	**0.0**
	2.7nm,0.1s								
KTBS				*e*S		**Sg**	**13 35 48.2**	**-0.8**
	5.4nm,0.2s								
BOOM	**Boomskoye usch**	**2.14**	**266**⇑	*e*P		**Pb**	**13 35 27.0**	**-0.8**
	baz=91								
BOOM				⇑*e*S		**Sb**	**13 35 53.5**	**-1.2**
	baz=91								
TKM2	**Tokmak 2**	**2.39**	**277**⇑	*e*P		**Pb**	**13 35 32.4**	**+0.3**
	baz=98								
TKM2				⇑*e*S		**Sb**	**13 36 03.1**	**+1.2**
	baz=98								
KRBS	**Karabastau**	**2.52**	**295**	Pg		**Pb**	**13 35 34.7**	**+0.5**
	0.6nm,0.5s								
KRBS				Lg	Lg		13 36 07.8		
	2.2nm,0.3s								
KRBS	**Karabastau**	**2.52**	**295**	*e*P		**Pb**	**13 35 34.7**	**+0.5**
	0.8nm,0.3s								
KRBS				*e*S		**Sg**	**13 36 07.8**	**-1.8**
	2.2nm,0.3s								

*NEIC **28** 13:35:00.9±0.9, 19°.356N±0°.010×155°.230W±0°.009, h5km±1km, ML3.0/46, ML2.9/40(HVO), Error ellipse: s-maj=2.3km s-min=1.9km az=126.0*

HVO 28 13:35:00.1±1.1, 19°.355N±0°.009×155°.226W±0°.008, h0km±7km, Error ellipse: s-maj=1.4km s-min=1.0km az=167.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.02**	**26**		Pg	13 35 01.1	+0.5
KKO	**Keanakako`i**	**0.06**	**318**		Pg	13 35 04.1	+2.8
KNHH	**Kane Nui o Ham**	**0.06**	**65**		Pg	13 35 02.1	+0.8
RIM	**Rim**	**0.06**	**311**		Pg	13 35 04.2	+2.9
BYL	**Byron's Ledge**	**0.07**	**330**		Pg	13 35 02.3	+0.9
BYL				IAML		13 35 04.8	
	comp=E,16μm,0.7s						
HATHI	**Halema'uma'u T**	**0.07**	**334**		Pg	13 35 02.8	+1.2
HATHI				IAML		13 35 04.8	
	comp=N,17μm,1.0s						
HATHI				IAML		13 35 05.0	
	comp=E,19μm,0.6s						
SBLHI	**Steaming Bluff**	**0.08**	**331**		Pg	13 35 02.8	+1.0
SBLHI					Sg	13 35 04.9	+2.0
OBL	**Observatory Le**	**0.08**	**319**		Pg	13 35 04.6	+2.8
UWB	**Uwekahuna B**	**0.09**	**325**		Pg	13 35 02.9	+1.1
UWB					Sg	13 35 05.0	+2.1
UWE	**Uwekahuna**	**0.09**	**316**		Pg	13 35 03.2	+1.3
UWE					Sg	13 35 05.4	+2.2
UWE	**Uwekahuna**	**0.09**	**316**	IAML		13 35 05.8	
	comp=N,10μm,0.6s						
UWE				IAML		13 35 05.8	
	comp=E,17μm,0.6s						
HLP	**Hilina Pali**	**0.10**	**233**		Pg	13 35 03.3	+1.2
HLP					Sg	13 35 05.7	+2.4
HLP	**Hilina Pali**	**0.10**	**233**	IAML		13 35 05.9	
	comp=N,21μm,1.0s						
HLP				IAML		13 35 06.2	
	comp=E,26μm,0.6s						
STCH	**Steam Cracks**	**0.10**	**72**		Pg	13 35 03.1	+1.0
STCH	**Steam Cracks**	**0.10**	**72**	IAML		13 35 05.9	
	comp=N,4μm,0.9s						
STCH				IAML		13 35 06.5	
	comp=E,4μm,1.0s						
NPOC	**North of Pu'u**	**0.12**	**71**		Pg	13 35 03.4	+1.0
NPOC					Sg	13 35 06.1	+2.2
RSD	**Rainshed**	**0.12**	**335**		Pg	13 35 03.5	+1.0
RSD				IAML		13 35 06.5	
	comp=N,7μm,1.0s						
JCUZ	**Jacuzzi**	**0.12**	**76**		Pg	13 35 03.6	+1.1
HTC	**Hot Caves**	**0.20**	**234**		Pg	13 35 05.1	+1.1
MLH	**Mauna Loa**	**0.20**	**312**		Pg	13 35 05.2	+1.0
MLH					Sg	13 35 09.3	+2.5
MLH	**Mauna Loa**	**0.20**	**312**	IAML		13 35 09.4	
	comp=E,1μm,1.2s						
MLH				IAML		13 35 09.8	
	comp=N,2μm,0.8s						
JOKA	**Jonika Flow**	**0.22**	**69**		Pg	13 35 04.7	+0.3
HMH	**Humu'ula Sheep**	**0.35**	**315**		Pg	13 35 07.4	+0.6
HMH	**Humu'ula Sheep**	**0.35**	**315**		Sb	13 35 13.7	-1.8
MWH	**Moku'aweowe**	**0.37**	**290**		Pg	13 35 08.0	+0.7
MWH				IAML		13 35 20.4	
	comp=N,3μm,0.6s						
MWH	**Moku'aweowe**	**0.37**	**290**		Sg	13 35 14.1	+1.9
MLOA	**Mauna Loa Obse**	**0.38**	**299**		Pg	13 35 08.0	+0.6
MLOA				IAML		13 35 16.1	
	comp=E,2μm,0.6s						
MLOA				IAML		13 35 19.1	
	comp=N,1μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.38**	**299**		Sg	13 35 13.9	+1.6
KHU	**Kahuku**	**0.38**	**254**		Pg	13 35 08.1	+0.6
KHU				IAML		13 35 15.8	
	comp=E,1μm,0.4s						
KHU				IAML		13 35 15.9	
	comp=N,2μm,0.8s						
ALEP	**Alea Permanent**	**0.44**	**295**		Pg	13 35 08.7	+0.2
POHA	**Pohakuloa**	**0.49**	**324**		Pg	13 35 10.2	+0.5
POHA				IAML		13 35 18.4	
	comp=N,1μm,0.6s						
POHA				IAML		13 35 25.5	
	comp=N,858nm,0.8s						
POHA	**Pohakuloa**	**0.49**	**324**		Sg	13 35 17.7	+1.6
HUH	**Hualalai**	**0.67**	**300**		Pg	13 35 13.6	+0.8
CPH	**Captain Cook**	**0.67**	**282**		Pg	13 35 12.8	-0.1
HPAH	**Hawaii Prepara**	**0.81**	**327**		Pg	13 35 14.3	-1.3
HPAH				IAML		13 35 40.5	
	comp=E,363nm,0.8s						
MHA	**Mahukona**	**1.05**	**323**	Pg	Pg	13 35 17.9	-2.3

*IDC **28** 13:42:42.5±1.4, 53°.53N×163°.79W, h0km, mb3.6/10, mbtmp3.6/12, ML3.0/2, MS3.1/5, Error ellipse: s-maj=33.6km s-min=17.6km az=179.0*

*NEIC **28** 13:42:42.9±1.4, 53°.37N±0°.04×163°.61W±0°.07, h10km±2km, ML3.5/10, ML3.4(AEIC), Error ellipse: s-maj=8.0km s-min=4.2km az=129.0*

*AEIC **28** 13:42:43.9±1.6, 53°.32N±0°.07×163°.57W±0°.07, h7km±7km, Error ellipse: s-maj=10.3km s-min=5.5km az=168.0*

ISC 28 13:42:44.0±4.6, 53°.38N±0°.07×163°.59W±0°.04, h15km±29km, n59, σ1s20/60, mb3.7/9, MS3.1/4, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WESE	**West Dahl East**	**1.24**	**332**		**Pn**	**13 43 06.2**	**-0.6**
ISLZ	**Isanotski Laza**	**1.35**	**357**		**Pn**	**13 43 07.4**	**-0.8**
ISLZ					**Sn**	**13 43 25.6**	**-0.3**
WECS	**Westdahl Cape**	**1.35**	**329**		**Pn**	**13 43 07.8**	**-0.5**
SSLS	**Shishaldin Sou**	**1.35**	**350**		**Pn**	**13 43 08.0**	**-0.4**
ISNN	**Isanotski Nort**	**1.46**	**356**		**Pn**	**13 43 10.0**	**+0.3**
AKSA	**Akutan Strait**	**1.46**	**302**		**Pn**	**13 43 09.3**	**-0.5**
AKSA					**Sn**	**13 43 27.6**	**-1.0**
FALS	**False Pass**	**1.48**	**4**		**Pn**	**13 43 09.2**	**-0.8**
FALS	**False Pass**	**1.48**	**4**		**Sb**	**13 43 30.2**	**+0.5**
FALS	**False Pass**	**1.48**	**4**	P	**Pn**	**13 43 09.8**	**-0.2**
	baz=184						
FALS				S	**Sb**	**13 43 30.2**	**+0.5**
	baz=184						
ZRO	**Akutan Zero**	**1.59**	**298**		**Pn**	**13 43 11.4**	**-0.1**
UNV	**Unalaska Valle**	**1.80**	**286**		**Pn**	**13 43 13.8**	**-0.6**
UNV					**Sn**	**13 43 36.5**	**-0.4**
UNV	**Unalaska Valle**	**1.80**	**286**	P	**Pn**	**13 43 13.8**	**-0.6**
	baz=104						
UNV				S	**Sn**	**13 43 36.5**	**-0.4**
	baz=104						
PS1A	**Pavlof South-1**	**2.31**	**27**		**Pn**	**13 43 22.1**	**+0.6**
PS1A					**Sn**	**13 43 51.2**	**+1.7**
S12K	**Black Hills**	**2.49**	**20**		**Pn**	**13 43 24.2**	**+0.3**
S12K	**Black Hills**	**2.49**	**20**	IAML		13 44 10.2	
	comp=E,238nm,0.8s						
S12K				IAML		13 44 13.1	
	comp=N,216nm,0.7s						
S12K	**Black Hills**	**2.49**	**20**	P	**Pn**	**13 43 24.2**	**+0.3**
	baz=202						
SDPT	**Sand Point**	**2.68**	**41**		**Pn**	**13 43 27.1**	**+0.5**
SDPT					**Sn**	**13 43 58.2**	**-0.5**
SDPT	**Sand Point**	**2.68**	**41**	IAML		13 44 18.4	
	comp=E,229nm,0.8s						
SDPT				IAML		13 44 24.3	
	comp=N,225nm,1.1s						
SDPT	**Sand Point**	**2.68**	**41**	P	**Pn**	**13 43 27.1**	**+0.5**
	baz=224						
SDPT				S	**Sn**	**13 43 58.2**	**-0.5**
	baz=224						
CNBA	**Chernabura Isl**	**2.76**	**57**		**Pn**	**13 43 27.3**	**-0.3**
CNBA					**Sn**	**13 43 59.8**	**-0.8**
CHNA	**Chernabura Isl**	**2.77**	**57**	P	**Pn**	**13 43 27.3**	**-0.4**
	baz=240						
CHNA				S	**Sn**	**13 43 59.8**	**-1.0**
	baz=240						
CHGN	**Chignik**	**4.18**	**44**	Pn	**Pn**	**13 43 47.7**	**+0.6**
CHGN				IAML		13 44 46.8	
	comp=N,40nm,0.8s						
CHGN				IAML		13 44 60.0	
	comp=E,60nm,0.9s						
P08K	**Saint George I**	**4.71**	**316**		**Pn**	**13 43 54.1**	**-0.3**
P08K	**Saint George I**	**4.71**	**316**	P	**Pn**	**13 43 54.1**	**-0.3**
	baz=131						
CHIR	**Chirikof Islan**	**5.24**	**59**	Pn	**Pn**	**13 44 01.5**	**-0.1**
O14K	**Tigyukauivet M**	**6.03**	**11**	Pn	**Pn**	**13 44 12.8**	**+0.4**
ATKA	**Atka Island**	**6.54**	**264**	Pn	**Pn**	**13 44 18.8**	**-0.8**
OHAK	**Old Harbor**	**7.02**	**53**	Pn	**Pn**	**13 44 25.1**	**-1.0**
N15K	**Kwethluk River**	**7.07**	**14**	Pn	**Pn**	**13 44 26.2**	**-0.5**
M14K	**Bethel**	**7.44**	**6**	Pn	**Pn**	**13 44 31.3**	**-0.5**
KDAK	**Kodiak Island**	**7.63**	**50**	Pn	**Pn**	**13 44 33.3**	**-1.1**
KDAK	**Kodiak Island**	**7.63**	**50**	Pn	**Pn**	**13 44 33.5**	**-0.9**
	comp=E,0.4nm,0.3s,baz=239,slow=3.6,SNR=7.6						
KDAK				Sn	**Sn**	**13 45 54.2**	**-6.4**
	baz=279,slow=24						
	comp=E,2.0nm,0.5s						
L14K	**Kuka Creek**	**8.00**	**3**	Pn	**Pn**	**13 44 39.4**	**0.0**
SYI	**Shuyak Island**	**8.17**	**46**	Pn	**Pn**	**13 44 42.2**	**+0.4**
L16K	**Owhat River**	**8.64**	**13**	Pn	**Pn**	**13 44 48.7**	**+0.5**
SUA	**Susitna One**	**10.63**	**35**	Pn	**Pn**	**13 45 15.8**	**+0.1**
K20K	**Telida**	**11.16**	**23**	Pn	**Pn**	**13 45 23.5**	**+0.7**
FID	**Port Fidalgo**	**11.85**	**45**	Pn	**Pn**	**13 45 30.9**	**-1.3**
J20K	**Nowhita River**	**11.86**	**20**	Pn	**Pn**	**13 45 32.2**	**-0.1**
SCM	**Sheep Creek Mo**	**12.12**	**39**	Pn	**Pn**	**13 45 35.4**	**-0.6**
ILAR	**Eielson Array**	**14.22**	**30**	Pn	**Pn**	**13 46 02.6**	**-2.0**
	baz=217,slow=14,SNR=2.0						
ILAR				LR	LR	13 52 04.0	
	comp=E,75nm,19.0s,baz=270,slow=40						
	comp=E,0.2nm,0.5s						
INK	**Inuvik**	**20.60**	**32**	P	**P**	**13 47 23.1**	**+1.0**
	comp=E,1.1nm,0.6s,baz=257,slow=9.2,SNR=6.7						
	comp=E,1.1nm,0.6s						
PETK	**Petropavlovsk-**	**22.98**	**285**	P	**P**	**13 47 45.7**	**-2.0**
	comp=E,0.7nm,0.5s,baz=84,slow=14,SNR=9.7						
PETK				LR	LR	13 55 30.2	
	comp=E,28nm,21.8s,baz=104,slow=34						
	comp=E,0.7nm,0.5s						
YKA	**Yellowknife Ar**	**26.91**	**51**	P	**P**	**13 48 24.2**	**+0.2**
	comp=E,0.3nm,0.8s,baz=274,slow=8.4,SNR=5.7						
YKA				LR	LR	14 00 05.9	
	comp=E,50nm,21.3s,baz=328,slow=39						
	comp=E,0.3nm,0.8s						
TIXI	**Tiksi**	**33.70**	**328**	LR	LR	14 04 59.3	
	comp=E,40nm,19.0s,baz=355,slow=40						
NVAR	**Mina Array Bea**	**34.24**	**97**	P	**P**	**13 49 31.8**	**+2.6**
	comp=E,0.3nm,0.6s,baz=297,slow=13,SNR=1.9						
	comp=E,0.3nm,0.6s						
KLR	**Kul'dur**	**39.40**	**291**	LR	LR	14 06 27.1	
	comp=E,37nm,19.2s,baz=128,slow=36						
H11N2	**WAKE ISLAND Hy**	**40.55**	**226**	T	T	14 34 02.7	
	baz=26,slow=76,SNR=27						
H11N3	**WAKE ISLAND Hy**	**40.56**	**226**	T	T	14 34 03.2	
	baz=26,slow=76,SNR=24						
H11N1	**WAKE ISLAND Hy**	**40.57**	**226**	T	T	14 34 06.1	
	baz=26,slow=76,SNR=25						
H11S1	**WAKE ISLAND Hy**	**41.73**	**225**	T	T	14 35 31.5	
	baz=26,slow=76,SNR=28						
H11S2	**WAKE ISLAND Hy**	**41.74**	**225**	T	T	14 35 27.0	
	baz=26,slow=76,SNR=25						
H11S3	**WAKE ISLAND Hy**	**41.74**	**225**	T	T	14 35 26.4	
	baz=26,slow=76,SNR=30						
TXAR	**Lajitas Array**	**49.27**	**94**	P	**P**	**13 51 33.7**	**+1.6**
	comp=E,0.2nm,0.4s,baz=302,slow=7.0,SNR=5.9						
	comp=E,0.2nm,0.4s						
SONM	**Songino Array**	**53.73**	**303**	P	**P**	**13 52 05.6**	**+0.3**
	comp=E,0.8nm,0.6s,baz=65,slow=6.8,SNR=2.1						
	comp=E,0.8nm,0.6s						
KURBB	**Kurchatov Arra**	**63.97**	**321**	P	**P**	**13 53 16.2**	**+0.1**
	comp=E,0.3nm,0.2s,baz=21,slow=8.8,SNR=1.8						
	comp=E,0.3nm,0.2s						
BVAR	**Borovoye Array**	**64.83**	**327**	P	**P**	**13 53 22.1**	**+0.4**
	comp=E,0.8nm,0.5s,baz=2.9,slow=5.9,SNR=4.4						
	comp=E,0.8nm,0.5s						
FINES	**FINESS Array B**	**65.26**	**355**	P	**P**	**13 53 24.0**	**-0.4**
	comp=E,1.9nm,0.9s,baz=337,slow=3.2,SNR=2.3						
	comp=E,1.9nm,0.9s						
MKAR	**Makanchi Array**	**65.57**	**316**	P	**P**	**13 53 25.6**	**-1.1**
	comp=E,0.3nm,0.5s,baz=48,slow=6.1,SNR=1.6						
	comp=E,0.3nm,0.5s						

*MOS **28** 13:55:14.6±0.9, 12°.80S×45°.69E, h10km, mb5.0/42, MS4.0/5, Error ellipse: s-maj=10.3km s-min=5.2km az=96.1*

*IDC **28** 13:55:15.0±0.4, 12°.76S×45°.68E, h0km, mb4.4/32, mbtmp4.5/36, ML4.8/4, MS3.8/50, Error ellipse: s-maj=14.3km s-min=11.4km az=90.0*

*NEIC **28** 13:55:16.8±1.6, 12°.88S±0°.08×45°.8E±0°.1, h10km±1km, mb4.9/75, Error ellipse: s-maj=19.0km s-min=13.1km az=100.0*

ISC 28 13:55:16.1±0.3, 12°.87S±0°.04×45°.61E±0°.05, h10km, n403, σ1s18/384, mb4.9/136, MS3.9/53, 32C-18D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.86**	**165**	Pn	**Pn**	**13 56 44.0**	**+0.7**
	6.8nm,0.3s,baz=335,slow=12,SNR=22						
OPO				Sn	**Sn**	**13 57 44.2**	**-6.6**
	10.0nm,0.3s,baz=321,slow=13,SNR=4.5						
OPO				LR	LR	13 59 14.4	
	comp=Z,2μm,19.5s,baz=200,slow=40						
	271nm,0.6s						
ABPO	**Ambohimpanom**	**6.30**	**166**	Pn	**Pn**	**13 56 49.2**	**-0.2**
ABPO	**Ambohimpanom**	**6.30**	**166**	*e*P	Pn	13 56 39.5	-10
ABPO	**Ambohimpanom**	**6.30**	**166**	P	**Pn**	**13 56 49.2**	**-0.2**
VOI	**Vohitsoka**	**9.05**	**173**	P	Pn	13 57 30.7	+3.6
VOI	**Vohitsoka**	**9.05**	**173**	Pn	**Pn**	**13 57 26.5**	**-0.6**
VOI	**Vohitsoka**	**9.05**	**173**	*e*P	**Pn**	**13 57 27.1**	**-0.1**
ZOMB	**Zomba**	**10.26**	**255**	*e*PN	**Pn**	**13 57 42.5**	**-1.2**
ZOMB				*e*SN	Sn	13 59 27.5	-11
ZOMB	**Zomba**	**10.26**	**255**	*e*PN	**Pn**	**13 57 42.5**	**-1.2**
ZOMB				*e*SN	Sn	13 59 27.5	-11
FOMA	**Nahampoana Res**	**12.11**	**174**	Pn	**Pn**	**13 58 08.8**	**0.0**
MSEY	**Mahe Island**	**12.70**	**51**	Pn	**Pn**	**13 58 14.8**	**-2.2**
MSEY	**Mahe Island**	**12.70**	**51**	*e*P	**Pn**	**13 58 14.4**	**-2.7**
MSEY	**Mahe Island**	**12.70**	**51**	P	**Pn**	**13 58 14.8**	**-2.2**
RER	**Riviere de l'E**	**12.71**	**132**	Pn	**Pn**	**13 58 15.3**	**-1.9**
KIBK	**Kibwezi**	**12.87**	**324**	Pn	**Pn**	**13 58 17.2**	**-2.2**
KIBK	**Kibwezi**	**12.87**	**324**	*e*P	**Pn**	**13 58 16.6**	**-2.8**
KIBK				*e*S	Sn	14 00 30.5	-12
KMBO	**Kilima Mbogo**	**14.31**	**324**	*e*P	**Pn**	**13 58 38.0**	**-1.2**
KMBO				*e*S	**Sn**	**14 01 17.9**	**-0.5**
LSZ	**Lusaka**	**17.07**	**260**	P	**Pn**	**13 59 15.3**	**0.0**
	1.5nm,0.3s,baz=95,slow=12,SNR=18						
LSZ				S	**S**	**14 02 30.5**	**-4.6**
	7.0nm,0.6s,baz=37,slow=20,SNR=3.2						
LSZ				LR	LR	14 05 25.9	
	comp=Z,227nm,18.6s,baz=114,slow=36						
	20nm,0.7s						
MOPA	**Mopani**	**17.14**	**230**	*e*P	**Pn**	**13 59 14.2**	**-1.8**
MUSN	**Musina, Limpop**	**17.68**	**236**	*e*P	**Pn**	**13 59 21.9**	**-0.9**
MATP	**Matopo**	**18.02**	**243**	P	**P**	**13 59 27.6**	**0.0**
	1.2nm,0.3s,baz=57,slow=12,SNR=28						
MATP				S	**Sn**	**14 02 41.8**	**-6.6**
	1.0nm,0.4s,baz=334,slow=20,SNR=1.3						
	13nm,0.8s						
LODK	**Lodwar**	**19.12**	**327**		**P**	**13 59 40.5**	**+0.9**
LODK	**Lodwar**	**19.12**	**327**	*e*P	**Pn**	**13 59 42.9**	**+2.4**
MBAR	**Mbarara**	**19.13**	**308**		**Pn**	**13 59 41.8**	**+1.2**
MBAR	**Mbarara**	**19.13**	**308**	P	**P**	**13 59 40.5**	**+0.7**
	1.3nm,0.3s,baz=117,slow=12,SNR=11						
MBAR				LR	LR	14 06 57.1	
	comp=Z,426nm,18.3s,baz=86,slow=37						
	4.1nm,0.3s						
MBAR	**Mbarara**	**19.13**	**308**	P	**Pn**	**13 59 41.8**	**+1.2**
MBAR				pmax	pmax		
	comp=Z,37nm,1.3s						
POGA	**Pongola**	**19.41**	**220**	P	**Pn**	**13 59 43.4**	**-0.4**
POGA				IAmb	IAmb	13 59 47.0	
	comp=Z,107nm,1.3s						
POGA	**Pongola**	**19.41**	**220**	*e*P	**Pn**	**13 59 43.6**	**-0.2**
CRLN	**Carolina, Mapu**	**19.63**	**226**	*e*P	**Pn**	**13 59 45.7**	**-0.9**
LEPH	**Lephalale, Lim**	**20.11**	**235**	*e*P	**P**	**13 59 50.5**	**+0.2**
HRAO	**HartRAO**	**21.26**	**230**	*e*P	**P**	**14 00 03.2**	**+0.3**
PMBG	**Pietermaritzbu**	**21.69**	**218**	*e*P	**P**	**14 00 08.0**	**+0.6**
PMBG				IAmb	IAmb	14 00 13.4	
	comp=Z,57nm,0.9s						
PRYS	**Parys**	**22.09**	**228**	*e*P	**P**	**14 00 11.0**	**-0.9**
PRYS				IAmb	IAmb	14 00 14.8	
	comp=Z,26nm,0.8s						
LBTB	**Lobatse**	**22.42**	**235**	P	**P**	**14 00 14.5**	**-0.8**
LBTB				IAmb	IAmb	14 00 18.7	
	comp=Z,41nm,0.9s						
LBTB	**Lobatse**	**22.42**	**235**	*e*P	**P**	**14 00 15.0**	**-0.3**
LBTB				IAmb	IAmb	14 00 18.4	
	comp=Z,14nm,0.9s						
LBTB	**Lobatse**	**22.42**	**235**	LR	LR	14 09 10.9	
	comp=Z,570nm,19.1s,baz=56,slow=37						
LBTB	**Lobatse**	**22.42**	**235**	P	**P**	**14 00 14.5**	**-0.8**
LBTB				pmax	pmax		
	comp=Z,41nm,0.9s						
SNKL	**Senekal, Frees**	**22.62**	**225**	*e*P	**P**	**14 00 16.5**	**-1.0**
SNKL				IAmb	IAmb	14 00 24.0	
	comp=Z,60nm,0.8s						
ATD	**Arta Tunnel**	**24.40**	**353**	P	**P**	**14 00 35.3**	**+0.3**
ATD	**Arta Tunnel**	**24.40**	**353**	LR	LR	14 09 31.0	
	comp=Z,10nm,19.2s,baz=170,slow=35						
BOSA	**Boshof**	**24.59**	**227**	P	**P**	**14 00 36.6**	**-0.2**
BOSA	**Boshof**	**24.59**	**227**	*e*P	**P**	**14 00 36.4**	**-0.4**
BOSA				IAmb	IAmb	14 00 38.5	
	comp=Z,71nm,2.8s						
BOSA	**Boshof**	**24.59**	**227**	P	**P**	**14 00 37.0**	**+0.2**
	comp=Z,11nm,0.5s,baz=54,slow=8.9,SNR=30						
BOSA				LR	LR	14 10 20.7	
	comp=Z,288nm,20.1s,baz=35,slow=37						
	comp=Z,11nm,0.5s						
BOSA	**Boshof**	**24.59**	**227**	P	**P**	**14 00 36.6**	**-0.2**
BOSA				pmax	pmax		
	comp=Z,14nm,0.7s						
HVD	**Gariep Dam**	**25.62**	**223**	*e*P	**P**	**14 00 46.4**	**+0.3**
TSUM	**Tsumeb**	**27.64**	**253**	P	**P**	**14 01 05.6**	**+1.2**
KEIM	**Keimoes**	**27.82**	**232**	*e*P	**P**	**14 01 06.0**	**+0.1**
SUR	**Sutherland**	**29.89**	**225**	P	**P**	**14 01 25.4**	**+1.0**
SUR	**Sutherland**	**29.89**	**225**	LR	LR	14 13 19.8	
	comp=Z,158nm,18.9s,baz=57,slow=36						
RAYN	**Ar Rayn**	**36.17**	**360**	P	**P**	**14 02 20.0**	**+0.9**
RAYN	**Ar Rayn**	**36.17**	**360**	P	**P**	**14 02 20.0**	**+0.9**
RAYN				pmax	pmax		
	comp=Z,16nm,1.2s						
WSAR	**Wadi Sarin**	**38.09**	**20**	LR	LR	14 15 25.2	
	comp=Z,294nm,20.1s,baz=208,slow=32						
UOSS	**Minazif**	**38.98**	**15**	P	**P**	**14 02 43.3**	**+0.5**
PALK	**Pallekele**	**40.20**	**62**	LR	LR	14 16 12.3	
	comp=Z,151nm,18.0s,baz=359,slow=31						
EIL	**Elat**	**43.53**	**346**	LR	LR	14 19 40.3	
	comp=Z,73nm,21.1s,baz=244,slow=34						
MMAI	**Mount Meron Ar**	**46.66**	**348**	P	**P**	**14 03 44.0**	**-1.1**
	comp=Z,2.5nm,0.6s,baz=171,slow=5.9,SNR=4.9						
MMAI				LR	LR	14 24 12.4	
	comp=Z,176nm,18.2s,baz=114,slow=37						
	comp=Z,2.5nm,0.6s						
HRA	**Herat**	**49.59**	**18**	P	**P**	**14 04 07.5**	**-0.3**
HRA				IAmb	IAmb	14 05 41.2	
	comp=Z,6.6nm,0.7s						
TOAO	**Torodi Ar. Sit**	**50.64**	**299**	P	**P**	**14 04 16.6**	**+0.6**
TORD	**Torodi Ar. Bea**	**50.64**	**299**	P	**P**	**14 04 16.5**	**+0.6**
TORD	**Torodi Ar. Bea**	**50.64**	**299**	P	**P**	**14 04 16.8**	**+0.9**
	comp=Z,4.1nm,1.0s,baz=116,slow=7.2,SNR=12						
TORD				LR	LR	14 26 44.6	
	comp=Z,213nm,18.0s,baz=160,slow=37						
	comp=Z,4.1nm,1.0s						
GEYT	**Alibeck**	**51.88**	**13**	P	**P**	**14 04 24.1**	**-0.8**
GEYT	**Alibeck**	**51.88**	**13**	P	**P**	**14 04 23.7**	**-1.1**
	comp=Z,3.9nm,0.8s,baz=231,slow=9.4,SNR=7.4						
GEYT				LR	LR	14 25 45.8	
	comp=Z,116nm,21.9s,baz=175,slow=35						
	comp=Z,3.9nm,0.8s						
GEYT	**Alibeck**	**51.88**	**13**	P	**P**	**14 04 24.1**	**-0.8**
GEYT				pmax	pmax		
	comp=Z,7.0nm,1.0s						
ARPR	**Arapgir-MALATY**	**52.14**	**353**	P	**P**	**14 04 28.0**	**+1.1**
KBL	**Kabul**	**52.14**	**25**	P	**P**	**14 04 26.5**	**-0.7**
KBL				IAmb	IAmb	14 04 36.6	
	comp=Z,19nm,1.2s						
KBL	**Kabul**	**52.14**	**25**	P	**P**	**14 04 26.5**	**-0.7**
KBL				pmax	pmax		
	comp=Z,19nm,1.3s						
SNSI	**Sinabang, Aceh**	**52.58**	**77**	P	**P**	**14 04 28.0**	**-2.5**
	comp=Z,133nm,0.5s						
GNI	**Garni**	**52.76**	**359**	P	**P**	**14 04 32.1**	**+0.6**
GNI				IAmb	IAmb	14 04 41.1	
	comp=Z,22nm,1.0s						
GNI	**Garni

SHA1 Shidzhatmaz 56.40 357 *ce* P **P** **14 04 59.9 +1.9**
SOC Sochi 56.44 355 *e* P **P** **14 04 55.4 -2.6**
SOC *e* 14 07 01.3
SOC *e* PPP PPP 14 08 15.9
SOC *e* S **S** **14 12 45.6 -3.3**
SOC *e* SS **SS** **14 16 34.1 -2.4**
SOC *e* SSS SSS 14 18 43.1
SOC MLR MLR
comp=Z,115nm,16.0s
KIV Kislovodsk 56.62 357 P **P** **14 05 00.3 +1.0**
KIV Kislovodsk 56.62 357 *d i* P **P** **14 05 00.1 +0.7**
KIV *e* 14 07 00.5
KIV *e* S **S** **14 12 55.0 +3.5**
KIV pmax pmax
comp=Z,27nm,1.1s
KIV MLR MLR
comp=Z,141nm,19.0s
KIV Kislovodsk 56.62 357 P **P** **14 05 01.3 +1.9**
comp=Z,18nm,1.1s
RAFF Raffo Rosso 57.85 331 P **P** **14 05 09.1 +0.9**
ANN Anapa 57.88 353 *e* P **P** **14 05 07.0 -1.1**
ANN *e* *PP **pP** **14 05 10.3 0.0**
ANN pmax pmax
comp=Z,24nm,0.9s
VAE Valguarnera 58.03 331 LR LR 14 34 20.7
comp=Z,84nm,18.2s,baz=138,slow=40
TIP Timpagrande 58.36 334 ⇑P **P** **14 05 13.3 +1.6**
TIP Timpagrande 58.36 334 P **P** **14 05 12.6 +0.9**
TIP Timpagrande 58.36 334 P **P** **14 05 12.9 +1.2**
comp=Z,7.1nm,1.3s
ELND Elena 58.40 343 ⇓P **P** **14 05 12.7 +0.8**
TIR Tirane 58.96 338 P **P** **14 05 17.1 +1.3**
TIR Tirane 58.96 338 P **P** **14 05 17.1 +1.3**
TIR pmax pmax
comp=Z,24nm,0.7s
TIR Tirane 58.96 338 P **P** **14 05 17.0 +1.3**
comp=Z,35nm,0.8s
KEST Kesra 59.27 326 P **P** **14 05 19.1 +0.9**
comp=Z,6.6nm,0.9s,baz=336,slow=8.1,SNR=5.5
KEST LR LR 14 32 01.3
comp=Z,153nm,18.7s,baz=238,slow=37
comp=Z,6.6nm,0.9s
KSH Kashi 59.30 27 P **P** **14 05 18.8 +0.5**
CUC Castrocucco 59.44 334 P **P** **14 05 19.7 +0.5**
PUK Puka 59.55 338 P **P** **14 05 20.8 +0.8**
CFR Carcaliu 59.91 346 ⇑P **P** **14 05 22.4 +0.1**
CFR Carcaliu 59.91 346 P **P** **14 05 22.3 +0.1**
BLKB Belogradchik 60.00 341 ⇑P **P** **14 05 23.7 +0.7**
PDG Podgorica 60.12 338 P **P** **14 05 24.5 +0.7**
KKAR Karatay Array 60.19 21 P **P** **14 05 23.2 -1.1**
KKAR Karatay Array 60.19 21 P **P** **14 05 23.2 -1.1**
ISR Istrita 60.25 345 P **P** **14 05 25.5 +0.8**
comp=Z,12nm,0.7s
BOVS Bovan 60.33 340 ⇑P **P** **14 05 25.5 +0.3**
DBJI Dramaga 60.48 90 P **P** **14 05 25.7 -1.1**
ELIB Princess Elisa 60.55 188 *d* P **P** **14 05 28.2 +1.7**
comp=Z,5.3nm,1.4s
BISRR Bisoca 60.61 345 P **P** **14 05 27.6 +0.5**
comp=Z,199nm,1.4s,comp=Z,7um
NE56 Odesa 60.73 348 P **P** **14 05 28.4 +0.6**
MLR Muntele Rosu 60.75 344 ⇑P **P** **14 05 29.2 +1.0**
MLR Muntele Rosu 60.75 344 P **P** **14 05 28.9 +0.7**
MLR Muntele Rosu 60.75 344 P **P** **14 05 28.4 +0.2**
comp=Z,2.6nm,0.4s,baz=191,slow=10,SNR=4.1
comp=Z,2.6nm,0.4s
MLR Muntele Rosu 60.75 344 P **P** **14 05 28.9 +0.7**
MLR pmax pmax
comp=Z,7.0nm,1.0s
MLR Muntele Rosu 60.75 344 P **P** **14 05 28.6 +0.4**
comp=Z,6.6nm,1.3s
PLOR5 Plostina Array 60.90 345 P **P** **14 05 29.3 +0.2**
comp=Z,12nm,1.5s
VRI Vrincioaia 60.90 345 ⇓P **P** **14 05 29.0 0.0**
VRI Vrincioaia 60.90 345 P **P** **14 05 29.0 0.0**
VRI Vrincioaia 60.90 345 P **P** **14 05 29.3 +0.2**
comp=Z,20nm,1.5s,comp=Z,640nm
PLOR Plostina 60.90 345 ⇑P **P** **14 05 29.9 +0.7**
PLOR Plostina 60.90 345 P **P** **14 05 29.8 +0.7**
PLOR3 Plostina Array 60.91 345 P **P** **14 05 29.4 +0.2**
comp=Z,12nm,1.2s
VOIR 60.94 344 ⇓P **P** **14 05 29.8 +0.3**
VOIR 60.94 344 P **P** **14 05 29.7 +0.3**
VOIR 60.94 344 P **P** **14 05 29.3 -0.2**
comp=Z,8.6nm,1.2s
ARR Arges 61.00 343 ⇑P **P** **14 05 30.5 +0.7**
COVR Voineasa-Covas 61.01 345 ⇑P **P** **14 05 30.4 +0.6**
CMAR Chiang Mai Arr 61.11 60 P **P** **14 05 31.6 +0.6**
comp=Z,3.8nm,0.8s,baz=249,slow=8.5,SNR=20
CMAR LR LR 14 29 58.4
comp=Z,63nm,18.4s,baz=235,slow=34
comp=Z,3.8nm,0.8s
HERR Herculane 61.21 341 ⇑P **P** **14 05 32.0 +0.9**
TURR Turia 61.26 345 ⇑P **P** **14 05 31.9 +0.4**
AAK Ala-Archa 61.27 24 LR LR 14 30 24.8
comp=Z,46nm,20.3s,baz=212,slow=34
MDVR Moldovita 61.34 341 ⇑P **P** **14 05 32.4 +0.2**
GZR Gura Zlata 61.56 342 ⇑P **P** **14 05 34.8 +1.1**
GZR Gura Zlata 61.56 342 P **P** **14 05 34.7 +1.1**
INTR Introdacqua 61.92 334 P **P** **14 05 36.7 +0.6**
VSL Villasalto 62.07 329 P **P** **14 05 38.3 +1.2**
BZS Buzias 62.12 341 ⇓P **P** **14 05 38.2 +0.8**
BZS Buzias 62.12 341 P **P** **14 05 38.1 +0.8**
CAMP Campotosto 62.56 334 P **P** **14 05 41.2 +0.7**
CAMP IAmb IAmb 14 05 43.0
comp=Z,12nm,1.0s
MARR Marisel-Cluj 62.62 343 ⇓P **P** **14 05 41.5 +0.8**
SORM Soroca 62.65 347 ⇓P **P** **14 05 41.2 +0.4**
SORM Soroca 62.65 347 P **P** **14 05 41.1 +0.4**
SIRR Siria 62.69 342 ⇑P **P** **14 05 42.3 +1.2**
DRGR 62.85 343 ⇑P **P** **14 05 43.4 +1.2**
DRGR 62.85 343 P **P** **14 05 43.4 +1.2**
BURAR Bucovina Array 62.91 345 ⇑P **P** **14 05 44.1 +1.4**
BURAR Bucovina Array 62.91 345 P **P** **14 05 43.3 +0.7**
NRCA Norcia 62.93 334 P **P** **14 05 43.0 +0.2**
NRCA IAmb IAmb 14 05 44.3
comp=Z,16nm,1.4s
BUR08 Bucovina Ar. S 62.94 345 P **P** **14 05 43.6 +0.7**
BUR08 IAmb IAmb 14 05 45.1
comp=Z,20nm,1.6s
CESX Cesi 62.98 333 P **P** **14 05 43.4 +0.2**
CESX IAmb IAmb 14 07 37.3
comp=Z,5.5nm,0.5s
GUMA Gualdo di Mace 63.02 334 P **P** **14 05 43.3 -0.1**
GUMA IAmb IAmb 14 05 46.6
comp=Z,12nm,0.9s
FDMO Fiordimonte 63.11 334 P **P** **14 05 43.8 -0.2**
ABKAR Akbulak array 63.14 10 P **P** **14 05 43.7 -0.3**
KMPD K-Podol'skiy 63.48 346 P **P** **14 05 45.5 -0.8**
KSV Kosov 63.59 345 P **P** **14 05 46.8 -0.3**
MORH Mrgy, Hungar 63.63 339 ⇑P **P** **14 05 48.5 +1.3**
TNCH TengChong 63.87 54 *eP* P **P** **14 05 50.5 +0.9**
TNCH pP pwP 14 05 55.5 -0.3
TNCH pmax pmax
comp=Z,11nm,0.8s
TNCH pmax pmax
comp=Z,33nm,3.3s
KORU Korolevo 63.97 343 P **P** **14 05 49.9 +0.4**
AKTO Aktyubinsk 63.97 9 LR LR 14 34 25.3
comp=Z,80nm,20.5s,baz=203,slow=37
STNU Starunia 64.11 345 P **P** **14 05 51.0 +0.6**
BRIU Brid 64.16 343 P **P** **14 05 50.5 -0.3**
BERU Beregovo 64.17 343 P **P** **14 05 51.3 +0.5**
MUKU Mukachevo 64.36 343 P **P** **14 05 52.0 -0.1**
TROLL Troll, Antarti 64.42 194 ⇑P **P** **14 05 54.8 +2.4**
comp=Z,717nm,0.8s
GBRS Gornja Briga 64.45 336 *i* P **P** **14 05 53.5 +0.7**
LUBAR Lubar, Ukraine 64.47 347 P **P** **14 05 51.6 -1.1**
HOLU Holmets 64.51 343 P **P** **14 05 52.2 -0.8**
VISS Visnje 64.66 337 *i* P **P** **14 05 54.5 +0.4**
PSZ Piszkesteto 64.71 341 P **P** **14 05 54.3 -0.2**
PSZ IAmb IAmb 14 05 55.6
comp=Z,5.3nm,0.8s
PSZ Piszkesteto 64.71 341 P **P** **14 05 54.3 -0.2**
PSZ pmax pmax
comp=Z,5.0nm,0.8s
AK07 Malin Array Si 64.77 349 P **P** **14 05 54.5 -0.2**
AK08 Malin Array Si 64.84 349 P **P** **14 05 54.2 -0.9**
SHIU Shidnytsya 64.88 344 P **P** **14 05 55.5 0.0**
AK11 Malin Array Si 64.90 349 P **P** **14 05 54.8 -0.7**
KIEV Kiev 64.90 349 ⇑P **P** **14 05 55.6 +0.1**
KIEV Kiev 64.90 349 P **P** **14 05 55.3 -0.3**
KIEV IAmb IAmb 14 05 56.5
comp=Z,9.9nm,1.0s

KIEV Kiev 64.90 349 P **P** **14 05 55.3 -0.3**
KIEV pmax pmax
comp=Z,10.0nm,1.0s
KIEV Kiev 64.90 349 P **P** **14 05 55.7 +0.1**
comp=Z,51nm,1.4s
AKASG Malin Array Be 64.91 349 P **P** **14 05 55.4 -0.2**
comp=Z,4.4nm,0.9s,baz=174,slow=5.9,SNR=18
AKASG LR LR 14 34 19.3
comp=Z,44nm,19.9s,baz=195,slow=36
comp=Z,4.4nm,0.9s
AKBB Malin Array Si 64.91 349 *d i* P **P** **14 05 55.1 -0.5**
AKBB pmax pmax
comp=Z,14nm,1.1s
KOLS Kolonicke sedl 64.91 343 *eP* **P** **14 05 58.2 +2.5**
KOLS Kolonicke sedl 64.91 343 *eP* **P** **14 05 58.2 +2.5**
KOLS pmax pmax
comp=Z,7.0nm,0.8s
BELG Belogornoye 65.02 1 LR LR 14 37 33.1
comp=Z,149nm,18.8s,baz=195,slow=39
BELG Belogornoye 65.02 1 *i* P **P** **14 05 56.1 -0.2**
BELG pmax pmax
comp=Z,7.0nm,0.8s
CRVS Cervenica-Dubn 65.11 343 *eP* **P** **14 05 57.4 +0.4**
CRVS Cervenica-Dubn 65.11 343 *eP* **P** **14 05 57.4 +0.4**
CRVS pmax pmax
comp=Z,11nm,1.1s
VOJS Vojsko 65.23 336 *i* P **P** **14 05 58.3 +0.4**
SABO M.te Sabotino 65.30 336 P **P** **14 05 58.5 +0.2**
SABO IAmb IAmb 14 05 59.7
comp=Z,11nm,0.9s
SOKA Soboth 65.32 337 *i* P **P** **14 05 59.4 +0.9**
comp=Z,10nm,0.9s,SNR=9.5
OBKA Obir 65.36 337 *i* P **P** **14 06 00.2 +1.4**
comp=Z,12nm,1.0s
SNAA Sanae 65.50 195 ⇑P **P** **14 06 01.0 +1.6**
SNAA Sanae 65.50 195 P **P** **14 06 00.9 +1.5**
comp=Z,3.6nm,0.9s,baz=85,slow=15,SNR=3.5
SNAA LR LR 14 32 45.1
comp=Z,115nm,18.1s,baz=38,slow=34
comp=Z,3.6nm,0.9s
SNAA Sanae 65.50 195 *ce* P **P** **14 06 01.0 +1.6**
SNAA pmax pmax
comp=Z,20nm,2.5s
VYHS Vyhne 65.55 341 *eP* **P** **14 06 00.1 +0.2**
VYHS Vyhne 65.55 341 *eP* **P** **14 06 00.1 +0.2**
VYHS pmax pmax
comp=Z,8.0nm,1.1s
ARSA Arzberg 65.62 338 *eP* **P** **14 06 01.4 +1.0**
comp=Z,12nm,0.9s,SNR=6.4
STHS Stebnicka Huta 65.64 343 *eP* **P** **14 06 00.2 -0.2**
STHS Stebnicka Huta 65.64 343 *eP* **P** **14 06 00.2 -0.2**
STHS pmax pmax
comp=Z,4.0nm,1.0s
PRED Cave del Predi 65.69 336 P **P** **14 06 00.1 -0.8**
PRED IAmb IAmb 14 06 08.9
comp=Z,7.6nm,0.9s
RONA Rosalia, Austr 65.72 339 *eP* **P** **14 06 02.0 +0.9**
comp=Z,18nm,0.8s,SNR=9.8
MYKA Terra Mystica 65.81 336 *i* P **P** **14 06 02.8 +1.1**
comp=Z,6.4nm,0.9s
ZST Bratislava 65.87 340 *eP* **P** **14 06 02.5 +0.6**
ZST Bratislava 65.87 340 *eP* **P** **14 06 02.5 +0.6**
STAL STALIGIAL 65.88 336 P **P** **14 06 02.3 +0.2**
STAL IAmb IAmb 14 06 03.4
comp=Z,11nm,0.9s
MODS Modra-Piesok 65.96 340 *eP* **P** **14 06 04.7 +2.2**
MODS Modra-Piesok 65.96 340 *eP* **P** **14 06 04.7 +2.2**
MODS pmax pmax
comp=Z,34nm,1.2s
CIMO Cimolais 66.03 335 P **P** **14 06 03.1 0.0**
CIMO IAmb IAmb 14 06 04.4
comp=Z,9.9nm,0.8s
MDT Midelt 66.04 315 P **P** **14 06 03.9 +0.4**
comp=Z,5.8nm,0.9s,baz=133,slow=14,SNR=7.9
MDT LR LR 14 36 07.8
comp=Z,130nm,18.8s,baz=150,slow=37
comp=Z,5.8nm,0.9s
CONA Conrad Observa 66.07 339 *i* P **P** **14 06 04.1 +0.8**
comp=Z,11nm,0.9s,SNR=7.5
JAVC Velka Javorina 66.25 340 *eP* **P** **14 06 05.5 +1.1**
RNPP9 Sopachiv 66.28 347 P **P** **14 06 04.2 -0.2**
KBA Koelnbreinsper 66.30 337 *i* P **P** **14 06 05.3 +0.4**
comp=Z,12nm,1.0s,SNR=7.4
ABTA Abfaltersbach 66.36 336 *i* P **P** **14 06 06.0 +0.8**
comp=Z,5.7nm,0.7s
VNA1 Neumayer--Stat 66.40 197 ⇑P **P** **14 06 06.3 +1.2**
MOA Molln 66.59 338 *i* P **P** **14 06 06.8 +0.2**
comp=Z,14nm,0.9s
MAUC Maruska 66.64 341 *eP* **P** **14 06 07.7 +0.8**
BIOA Bad Ischl, Aus 66.69 337 *i* P **P** **14 06 07.7 +0.5**
comp=Z,8.9nm,0.8s
OJC Ojcow 66.78 342 P **P** **14 06 07.9 +0.2**
OJC IAmb IAmb 14 06 08.1
comp=Z,5.6nm,0.7s
OJC Ojcow 66.78 342 P **P** **14 06 07.9 +0.2**
OJC pmax pmax
comp=Z,6.0nm,0.7s
OJC Ojcow 66.78 342 P **P** **14 06 07.5 -0.2**
comp=Z,8.3nm,1.3s
LESA Schwarzleotal 66.84 336 *i* P **P** **14 06 08.2 -0.1**
comp=Z,8.0nm,1.0s
KRUC Moravsky 66.85 340 *eP* **P** **14 06 08.2 0.0**
VRAC Vranov 67.00 340 *eP* **P** **14 06 09.1 0.0**
VRAC Vranov 67.00 340 P **P** **14 06 08.5 -0.6**
comp=Z,7.4nm,0.6s,baz=161,slow=7.6,SNR=8.6
VRAC LR LR 14 37 37.7
comp=Z,42nm,20.8s,baz=169,slow=38
comp=Z,7.4nm,0.6s
MORC Moravsky Berou 67.09 341 P **P** **14 06 09.7 0.0**
MORC IAmb IAmb 14 06 11.2
comp=Z,12nm,0.9s
MORC Moravsky Berou 67.09 341 *eP* **P** **14 06 09.5 -0.3**
MORC Moravsky Berou 67.09 341 P **P** **14 06 09.7 0.0**
MORC pmax pmax
comp=Z,13nm,0.9s
VNA3 Neumayer Olymp 67.10 197 ⇑P **P** **14 06 11.4 +1.8**
PZH PanZhiHua 67.12 54 P **P** **14 06 11.5 +0.9**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.3s
WTTA Wattenberg 67.13 336 *eP* **P** **14 06 10.4 +0.2**
comp=Z,7.1nm,0.9s
FUORN Ofenpass-Fuorn 67.18 334 P **P** **14 06 10.9 +0.2**
FUORN IAmb IAmb 14 06 12.3
comp=Z,6.9nm,1.0s
WATA Walderalm 67.21 336 *eP* **P** **14 06 10.8 +0.1**
comp=Z,11nm,1.3s
SQTA Sankt Quirin 67.27 335 *i* P **P** **14 06 11.4 +0.4**
comp=Z,4.2nm,0.6s
FETA Feichten 67.30 335 *i* P **P** **14 06 12.0 +0.7**
comp=Z,20nm,1.0s,SNR=9.0
GOMU GeErMu 67.34 42 P **P** **14 06 13.0 +0.9**
GOMU pP pwP 14 06 18.0 -0.3
GOMU sP sP 14 06 22.0 +6.8
GOMU pmax pmax
comp=Z,6.0nm,0.5s
CKRC Cesky Krumlov 67.38 338 *eP* **P** **14 06 12.6 +1.0**
CKRC Cesky Krumlov 67.38 338 *eP* **P** **14 06 12.6 +1.0**
MOTA Moosalm 67.41 335 *i* P **P** **14 06 12.0 0.0**
comp=Z,12nm,0.9s
TUE Stuetta 67.45 334 P **P** **14 06 12.4 +0.1**
TUE IAmb IAmb 14 06 13.4
comp=Z,6.7nm,0.9s
DAVOX Davos/Dischmat 67.47 334 P **P** **14 06 11.9 -0.5**
comp=Z,1.9nm,0.4s,baz=130,slow=13,SNR=5.1
comp=Z,1.9nm,0.4s
KRLC Kraliky 67.59 340 *eP* **P** **14 06 13.3 +0.3**
KRLC Kraliky 67.59 340 *eP* **P** **14 06 13.3 +0.3**
GEC2 GERESS Array S 67.63 338 P **P** **14 06 12.8 -0.4**
GEC2 IAmb IAmb 14 06 14.0
comp=Z,12nm,1.1s
GERES GERESS Array B 67.63 338 P **P** **14 06 13.1 -0.1**
GERES GERESS Array B 67.63 338 P **P** **14 06 12.2 -1.1**
comp=Z,5.6nm,0.8s,baz=142,slow=4.8,SNR=13
GERES LR LR 14 39 04.2
comp=Z,21nm,19.2s,baz=102,slow=39
comp=Z,5.6nm,0.8s
GERES GERESS Array B 67.63 338 P **P** **14 06 13.1 -0.1**
RETA Reutte 67.66 335 *i* P **P** **14 06 13.5 0.0**
comp=Z,7.2nm,1.0s,SNR=5.5
NWAO Narrogin (SRO) 67.77 120 LR LR 14 31 44.9
comp=Z,51nm,18.9s,baz=242,slow=32
DAVA Damuels 67.87 335 *i* P **P** **14 06 15.8 +0.9**
comp=Z,15nm,1.3s
MK31 Makanchi Array 67.88 26 P **P** **14 06 14.5 -0.3**

MK31 Makanchi Array 67.88 26 P **P** **14 06 14.5 -0.3**
MK31 pmax pmax
comp=Z,6.0nm,1.3s
MKAR Makanchi Array 67.88 26 P **P** **14 06 13.9 -0.9**
MKAR Makanchi Array 67.88 26 P **P** **14 06 14.6 -0.3**
comp=Z,3.5nm,0.9s,baz=216,slow=6.0,SNR=8.3
MKAR LR LR 14 34 31.4
comp=Z,23nm,18.7s,baz=266,slow=35
comp=Z,3.5nm,0.9s
MKAR Makanchi Array 67.88 26 P **P** **14 06 13.9 -0.9**
LPL La Plagne 67.89 332 *eP* **P** **14 06 15.0 -0.2**
LPL pmax pmax
comp=Z,6.0nm,0.8s
KHC Kasperske Hory 67.91 338 P **P** **14 06 14.5 -0.4**
KHC IAmb IAmb 14 06 15.5
comp=Z,5.4nm,0.9s
KHC Kasperske Hory 67.91 338 *eP* **P** **14 06 14.8 -0.1**
KHC Kasperske Hory 67.91 338 P **P** **14 06 14.5 -0.4**
KHC pmax pmax
comp=Z,5.0nm,0.9s
KHC Kasperske Hory 67.91 338 P **P** **14 06 14.8 -0.1**
comp=Z,6.3nm,1.0s
ZVC Zvikov 67.94 338 *eP* **P** **14 06 15.1 0.0**
DPC Dobruska-Polom 67.98 340 *eP* **P** **14 06 16.0 +0.6**
DPC Dobruska-Polom 67.98 340 *eP* **P** **14 06 16.0 +0.6**
DPC Dobruska-Polom 67.98 340 P **P** **14 06 15.8 +0.4**
comp=Z,7.7nm,0.9s
OBN Obninsk 68.15 354 ⇓ *eP* **P** **14 06 15.5 -0.7**
OBN *e* 14 08 45.2
OBN pmax pmax
comp=Z,8.0nm,1.0s
OBN MLR MLR
comp=Z,100nm,20.0s
WMQ Urumqi 68.21 31 *eP* **P** **14 06 19.0 +2.0**
CASY Casey 68.31 157 P **P** **14 06 16.9 -0.3**
SSB Saint Sauveur 68.76 330 P **P** **14 06 20.4 0.0**
SSB Saint Sauveur 68.76 330 P **P** **14 06 20.4 0.0**
SSB pmax pmax
comp=Z,38nm,1.7s
MNK Minsk 68.78 349 *i* P **P** **14 06 18.3 -1.9**
MNK *i* 14 06 42.8
MNK *i* 14 08 49.8
MNK *i* PPP PPP 14 10 29.1
MNK *i* S **S** **14 15 22.2 -1.4**
MNK *i* *SS sS 14 15 44.6 +17
MNK *i* 14 16 18.3
MNK *i* SS **SS** **14 19 43.5 -5.5**
MNK pmax pmax
comp=N,12nm,0.9s
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,25nm,0.9s
MNK MLR MLR
comp=E,139nm,23.0s
MNK MLR MLR
comp=N,237nm,20.0s
MNK MLR MLR
comp=Z,94nm,20.0s
BVAR Borovoye Array 69.00 16 P **P** **14 06 21.0 -0.6**
comp=Z,2.4nm,0.8s,baz=200,slow=7.9,SNR=9.8
BVAR LR LR 14 37 18.1
comp=Z,52nm,20.0s,baz=198,slow=37
comp=Z,2.4nm,0.8s
BRVK Borovoye 69.00 16 P **P** **14 06 21.6 0.0**
BRVK IAmb IAmb 14 06 30.2
comp=Z,13nm,1.6s
BRVK Borovoye 69.00 16 *ce* P **P** **14 06 22.0 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,1.0s
BRG Berggiesshubel 69.23 339 *eP* **P** **14 06 23.5 +0.4**
BRG Amp 14 06 24.4
comp=Z,7.7nm,1.0s
BRG Berggiesshubel 69.23 339 P P **14 06 31.2 +8.1**
BRG Amp 14 06 32.2
comp=Z,2.4nm,0.7s
BFO Black Forest 69.33 334 P **P** **14 06 23.5 -0.3**
BFO IAmb IAmb 14 06 24.8
comp=Z,6.0nm,0.9s
BFO Black Forest 69.33 334 P **P** **14 06 23.5 -0.3**
BFO pmax pmax
comp=Z,6.0nm,0.9s
KURBB Kurchatov Arra 69.47 22 P **P** **14 06 23.8 -0.8**
comp=Z,1.0nm,0.8s,baz=215,slow=7.0,SNR=6.8
KURBB LR LR 14 34 47.1
comp=Z,71nm,21.0s,baz=172,slow=34
comp=Z,1.0nm,0.8s
KURK Kurchatov 69.57 22 *ce* P **P** **14 06 24.1 -1.1**
KURK pmax pmax
comp=Z,2.0nm,1.0s
ESDC Sonseca Array 69.68 321 P **P** **14 06 27.4 +1.2**
comp=Z,5.7nm,1.0s,baz=130,slow=6.1,SNR=20
ESDC LR LR 14 39 20.2
comp=Z,74nm,18.2s,baz=130,slow=38
comp=Z,5.7nm,1.0s
CAF Calviac 69.74 329 *eP* **P** **14 06 27.4 +1.0**
CAF pmax pmax
comp=Z,11nm,1.0s
ECH Echery 69.75 334 P **P** **14 06 26.7 +0.3**
ECH IAmb IAmb 14 06 27.6
comp=Z,8.3nm,1.0s
ECH Echery 69.75 334 P **P** **14 06 26.7 +0.3**
ECH pmax pmax
comp=Z,8.0nm,1.0s
PAB San Pablo 69.84 321 P **P** **14 06 28.5 +1.3**
PAB IAmb IAmb 14 06 40.6
comp=Z,11nm,1.3s
PAB San Pablo 69.84 321 P **P** **14 06 28.5 +1.3**
PAB pmax pmax
comp=Z,11nm,1.3s
ARU Arti 69.89 8 P **P** **14 06 27.1 +0.1**
ARU Arti 69.89 8 LR LR 14 38 53.2
comp=Z,70nm,21.4s,baz=152,slow=38
ARU Arti 69.89 8 *d i* P **P** **14 06 27.0 0.0**
ARU 14 08 57.8
ARU S **S** **14 15 36.9 +0.3**
ARU SS **SS** **14 20 02.2 -3.8**
ARU pmax pmax
comp=Z,23nm,1.2s
ARU Arti 69.89 8 P **P** **14 06 27.3 +0.3**
comp=Z,23nm,1.2s
CLL Collm 69.92 339 P **P** **14 06 27.4 0.0**
CLL Collm 69.92 339 ⇓ *i* P **P** **14 06 27.2 -0.2**
comp=Z,9.0nm,1.1s
CLL Collm 69.92 339 ⇓ *i* P **P** **14 06 27.2 -0.2**
CLL pmax pmax
comp=Z,9.0nm,1.1s
PABE Paberze 70.51 347 P **P** **14 06 31.2 +0.3**
KIRV Kirov 71.27 2 LR LR 14 41 00.3
comp=Z,102nm,19.2s,baz=191,slow=39
KIRV Kirov 71.27 2 *ce* P **P** **14 06 35.9 +0.5**
MEM Membach 72.06 335 *dP* **P** **14 06 41.5 +1.1**
BCLA Clavier 72.21 334 *dP* **P** **14 06 42.2 +1.0**
BGES Gesves 72.27 334 *dP* **P** **14 06 42.5 +0.8**
BMRD Maredsous 72.35 334 *dP* **P** **14 06 43.1 +1.0**
GTA Gaotai 72.43 41 P **P** **14 06 43.8 +0.8**
GTA pP pwP 14 06 51.0 +1.8
GTA pmax pmax
comp=Z,4.0nm,0.9s
VSU Vasula 72.74 350 *ce* P **P** **14 06 45.3 +1.1**
VSU pmax pmax
comp=Z,61nm,2.5s
LZH Lanzhou 73.38 46 *eP* **P** **14 06 49.5 +0.7**
LZH pP pwP 14 06 54.3 -0.7
LZH pmax pmax
comp=Z,17nm,1.3s
MTSE Matsula 73.52 348 *eP* **P** **14 06 49.5 +0.7**
KLMR Klimovskoe 73.64 357 *eP* **P** **14 06 48.4 -1.1**
KLMR pmax pmax
comp=Z,31nm,1.3s
DEL Delary 73.97 342 *eP* **P** **14 06 52.1 +0.5**
ZAA0 Zalesovo Array 74.45 23 P **P** **14 06 52.6 -1.7**
ZALV Zalesovo Beam 74.45 23 P **P** **14 06 52.0 -2.4**
ZALV Zalesovo Beam 74.45 23 P **P** **14 06 52.8 -1.6**
comp=Z,2.0nm,0.7s,baz=224,slow=6.2,SNR=9.5
comp=Z,2.0nm,0.7s
ZALV Zalesovo Beam 74.45 23 *i* P **P** **14 06 53.4 -1.0**
ZALV pmax pmax
comp=Z,2.0nm,0.7s
MEF Metsahovi 74.81 349 *eP* **P** **14 06 56.7 +0.4**
BELA Belgrano 2 75.44 192 P **P** **14 07 01.3 +1.4**
BELA IAmb IAmb 14 08 36.1
comp=Z,30nm,2.0s
AAL Aland 75.66 347 *eP* **P** **14 07 01.1 0.0**
FIA1 FINESS Array S 75.67 350 P **P** **14 07 01.6 +0.3**

FINES **FINESS Array B** 75.67 350 P P 14 07 01.1 -0.2
FINES **FINESS Array B** 75.67 350 P P 14 07 01.8 +0.5
comp=Z,6.9nm,0.8s,baz=134,slow=8.2,SNR=22
FINES LR LR 14 42 25.7
comp=Z,43nm,18.1s,baz=181,slow=38
comp=Z,6.9nm,0.8s
TOLI2 Tolitoli 75.80 86 P P 14 07 02.4 -0.7
TOLI2 IAmb IAmb 14 08 50.4
comp=Z,14nm,0.9s
RAF Rauma 76.06 348 *e*P P 14 07 03.5 +0.1
JOF Joensuu 76.37 353 *e*P P 14 07 05.5 +0.3
KEF Keuruu 76.55 350 *e*P P 14 07 06.5 +0.3
HFS Hagfors 77.14 344 P P 14 07 10.0 +0.4
comp=Z,6.9nm,0.7s,baz=145,slow=5.4,SNR=18
HFS LR LR 14 42 22.2
comp=Z,33nm,20.8s,baz=131,slow=37
comp=Z,6.9nm,0.7s
QSPA South Pole Qui 77.22 180 P P 14 07 12.0 +1.7
comp=Z,8.9nm,1.0s,baz=260,slow=2.3,SNR=16
QSPA PKKP **PKKPdf** 14 26 11.7 +5.8
comp=Z,1.5nm,1.1s,baz=70,slow=2.2,SNR=3.0
QSPA LR LR 14 39 03.7
comp=Z,206nm,18.8s,baz=266,slow=34
comp=Z,8.9nm,1.0s
KONO Kongsberg 77.89 342 *ce*P P 14 07 15.2 +1.4
KONO pmax pmax
comp=Z,20nm,1.3s
NC602 NORSAR Array S 78.22 344 P P 14 07 15.9 +0.2
NC602 IAmb IAmb 14 07 17.2
comp=Z,15nm,1.1s
NAO01 NORSAR Array S 78.50 343 P P 14 07 17.9 +0.7
NAO01 IAmb IAmb 14 07 19.0
comp=Z,16nm,1.1s
NB201 NORSAR Array S 78.55 344 P P 14 07 18.0 +0.5
NB2 NORSAR Subarra 78.57 344 P P 14 07 17.9 +0.2
comp=Z,20nm,1.7s,baz=146,slow=5.6
NOA NORSAR Array B 78.57 344 P P 14 07 17.8 +0.2
comp=Z,3.1nm,0.9s,baz=136,slow=5.8,SNR=13
NOA LR LR 14 46 59.7
comp=Z,37nm,18.5s,baz=115,slow=40
comp=Z,3.1nm,0.9s
NC303 NORSAR Array S 78.68 344 P P 14 07 18.6 +0.4
NC303 IAmb IAmb 14 07 19.7
comp=Z,13nm,1.0s
NBO00 NORSAR Array S 78.68 344 P P 14 07 18.8 +0.5
NBO00 IAmb IAmb 14 07 20.9
comp=Z,25nm,1.4s
NC204 NORSAR Array S 78.89 344 P P 14 07 20.0 +0.6
NC204 IAmb IAmb 14 07 21.2
comp=Z,9.6nm,1.0s
EKA Eskdalemuir Ar 79.31 334 P P 14 07 22.4 +0.7
comp=Z,3.6nm,0.8s,baz=142,slow=6.2,SNR=14
comp=Z,3.6nm,0.8s
LVZ Lovozero 80.94 356 P P 14 07 31.0 +0.6
LVZ Lovozero 80.94 356 P P 14 07 31.0 +0.6
LVZ pmax pmax
comp=Z,131nm,2.0s
HHC Hu-ho-hao-te 80.95 45 *e*P P 14 07 29.8 -1.4
HHC pmax pmax
comp=Z,5.0nm,0.7s
HHC pmax pmax
comp=Z,35nm,3.7s
SONM Songino Array 80.96 37 P P 14 07 31.4 +0.3
comp=Z,3.4nm,0.9s,baz=230,slow=5.4,SNR=8.3
SONM LR LR 14 42 32.6
comp=Z,43nm,19.0s,baz=221,slow=35
comp=Z,3.4nm,0.9s
ULN Ulaanbaatar 81.36 37 *ce*P P 14 07 33.8 +0.6
ULN pmax pmax
comp=Z,2.0nm,0.8s
VNDA Vanda 82.98 169 P P 14 07 42.4 +1.3
comp=Z,0.7nm,0.7s,baz=255,slow=5.4,SNR=5.6
comp=Z,0.7nm,0.7s
NJ2 Nanjing 83.00 55 *e*P P 14 07 41.5 -0.5
NJ2 pP **sP** 14 07 45.0 -0.2
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
NJ2 pmax pmax
comp=Z,39nm,3.8s
ASAR Alice Springs 83.39 113 P P 14 07 45.2 +0.8
comp=Z,1.0nm,0.8s,baz=255,slow=4.9,SNR=3.3
ASAR LR LR 14 39 58.4
comp=Z,135nm,18.9s,baz=286,slow=32
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 83.41 353 P P 14 07 42.9 -0.4
comp=Z,3.1nm,0.8s,baz=38,slow=4.6,SNR=4.4
comp=Z,3.1nm,0.8s
WRA Warramunga Arr 84.52 109 P P 14 07 50.4 +0.3
comp=Z,1.7nm,0.9s,baz=268,slow=4.1,SNR=5.2
comp=Z,1.7nm,0.9s
PMSA Palmer Station 86.59 204 LR LR 14 42 38.5
comp=Z,66nm,18.5s,baz=98,slow=33
JOW Kunigami 89.32 62 LR LR 14 45 25.3
comp=Z,29nm,21.1s,baz=320,slow=34
BDFB Brasilia 90.01 254 LR LR 14 46 09.9
comp=Z,71nm,19.4s,baz=138,slow=34
JMIC Jan Mayen 91.25 345 LR LR 14 51 03.4
comp=Z,24nm,19.4s,baz=280,slow=37
KSRS Korea Array 91.73 52 P P 14 08 23.8 -0.4
comp=Z,0.9nm,0.9s,baz=173,slow=39,SNR=2.7
KSRS LR LR 14 50 06.8
comp=Z,21nm,19.3s,baz=235,slow=36
comp=Z,0.9nm,0.9s
BORG Borgarnes 92.07 337 LR LR 14 55 19.7
comp=Z,36nm,18.9s,baz=137,slow=39
SPITS Spitsbergen Ar 92.36 354 LR LR 14 53 06.1
comp=Z,32nm,18.5s,baz=126,slow=38
CPUP Villa Florida 95.64 242 LR LR 14 48 55.2
comp=Z,101nm,18.5s,baz=42,slow=34
KLR Kul'dur 97.13 41 LR LR 14 53 19.2
comp=Z,32nm,18.2s,baz=216,slow=36
KLR Kul'dur 97.13 41 *i* P P 14 08 48.3 -0.4
KLR pmax pmax
comp=Z,6.0nm,2.8s
MJAR Matsushiro Arr 99.60 55 LR LR 14 57 11.6
comp=Z,16nm,18.0s,baz=202,slow=37
BILL Bilibino 113.09 21 *i* PKIKP **PKiKP** 14 13 55.4 +2.1
BILL pmax pmax
comp=Z,1.0nm,1.1s
ILAR Eielson Array 127.45 7 PKP **PKPdf** 14 14 19.6 -1.3
comp=Z,0.2nm,0.8s,baz=299,slow=2.5,SNR=4.2
J30M Hart River 128.35 1 PKPdf **PKiKP** 14 14 23.4 0.0
YKA Yellowknife Ar 128.47 348 PKP **PKPdf** 14 14 22.8 -0.2
comp=Z,1.2nm,1.0s,baz=8.2,slow=2.4,SNR=9.4
YKA PP **PP** 14 16 25.9 -1.5
comp=Z,0.1nm,0.3s,baz=18,slow=7.1,SNR=5.6
TBI Tubuai 141.09 158 *e*LR LR 15 00 40.4
comp=Z,254nm,24.0s
PDAR Pinedale Array 143.28 329 PKPdf **PKPdf** 14 14 51.0 -0.3
PDAR Pinedale Array 143.28 329 PKP **PKPdf** 14 14 50.2 -1.1
comp=Z,2.2nm,1.0s,baz=93,slow=3.0,SNR=11
T25A Trinidad 143.91 317 PKPdf PKPbc 14 14 51.1 +0.8
SDCO Great Sand Dun 144.27 319 PKPdf PKPbc 14 14 52.1 +0.6
SMCO Snowmass 144.31 322 PKPdf PKPbc 14 14 52.5 +0.8
MSTX Muleshoe 144.42 312 PKPdf PKPbc 14 14 52.5 +0.7
BMO Blue Mountains 144.95 339 **PKPbc** 14 14 52.9 -0.3
BMO Blue Mountains 144.95 339 PKIKP **PKPbc** 14 14 52.9 -0.3
G08A Pilot Rock 145.12 341 **PKPbc** 14 14 53.5 -0.3
HWUT Hardware Ranch 145.14 329 **PKPbc** 14 14 53.8 -0.2
SAND Sanderson 145.65 305 **PKPbc** 14 14 55.9 +0.1
PPT2 Papeete2 146.22 153 *e*LR LR 15 02 53.2
comp=Z,126nm,26.5s
SRU San Rafael Swe 146.40 325 PKPbc **PKPbc** 14 14 57.7 -0.3
SRU San Rafael Swe 146.40 325 PKP2 **PKPbc** 14 14 57.7 -0.3
ANMO Albuquerque 146.51 316 *c i* PKP2 **PKPbc** 14 14 58.2 -0.3
ANMO pmax pmax
comp=Z,3.0nm,1.0s
NLU North Lily Min 146.62 328 PKPbc **PKPbc** 14 14 58.7 0.0
J08A Circle Bar Ran 146.66 339 PKPbc **PKPbc** 14 14 58.7 +0.2
DUG Dugway, Tooele 146.82 329 **PKPbc** 14 14 58.8 -0.4
DUG Dugway, Tooele 146.82 329 PKP2 **PKPbc** 14 14 58.8 -0.4
PINE Pine Mountain 147.09 342 **PKPbc** 14 14 59.6 -0.2
TXAR Lajitas Array 147.13 305 PKPbc **PKPbc** 14 14 59.3 -1.0
comp=Z,1.6nm,0.8s,baz=79,slow=2.4,SNR=17
HMU Henry Mountain 147.34 324 **PKPdf** 14 14 59.6 +1.1
VHRN Van Horn 147.55 308 PKPdf **PKPdf** 14 14 58.4 -0.4
MSU Marysvale 147.73 326 **PKPbc** 14 15 01.1 -0.7
MSU Marysvale 147.73 326 PKP2 **PKPbc** 14 15 01.1 -0.7
121A Cookes Peak, D 148.76 313 **PKPbc** 14 15 02.8 -1.9
U15A North Rim 149.27 324 PKPbc **PKPbc** 14 15 04.1 -1.9
KVN Kaiserville 150.20 334 **PKPbc** 14 15 07.8 -0.3
KVN Kaiserville 150.20 334 PKIKP **PKPbc** 14 15 07.8 -0.3
NVAR Mina Array Bea 150.81 334 PKPdf **PKPdf** 14 15 05.3 +1.3
NVAR Mina Array Bea 150.81 334 PKPbc **PKPdf** 14 15 06.2 +2.2
comp=Z,2.3nm,0.7s,baz=131,slow=0.9,SNR=13
V12A Nelson 151.22 326 **PKiKP** 14 15 11.1 +0.1

AFDM Forest Hills D 151.44 338 **PKiKP** 14 15 11.1 -0.2

*IDC **28** 13:57:08.1±0.9, 6.95°S×123.55°E, h0km, mb4.0/7, mbtmp4.0/10, ML4.4/3, MS3.2/3, Error ellipse: s-maj=66.6km s-min=15.9km az=57.0*
*NEIC **28** 13:57:09.9±2.5, 9.205±0.08×120.20E±0.07, h40km±10km, mb4.0/10, Error ellipse: s-maj=12.2km s-min=9.6km az=205.0*
*DJA **28** 13:57:10.4±0.3, 9°S±2°×12°0E±°, h35km±5km, M4.7/15, mb4.6/12, MLv4.7/15*
ISC 28 13:57:11.2±0.6, 9°23S±0.05×120°24E±0.05, h51km, n85, σ1§46/84, mb3.9/9, Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BASI	**Baing, Sumba**	**1.04**	**161**	P		P	**Pn**	**13 57 28.7**	**-0.8**
EDFI	**Ende, Flores**	**1.51**	**72**	P		P	**Pn**	**13 57 34.5**	**-1.5**
EDFI				S		S	**Sn**	**13 57 53.8**	**-0.8**
MMRI	**Maumere**	**2.06**	**74**	P		P	**Pn**	**13 57 44.0**	**+0.6**
MMRI	**Maumere**	**2.06**	**74**			P	**Pn**	**13 57 43.0**	**-0.4**
MMRI	**Maumere**	**2.06**	**74**	P		P	**Pn**	**13 57 43.3**	**-0.1**
PLAI	**Plampang**	**2.46**	**279**	P		P	**Pn**	**13 57 48.1**	**-0.8**
PLAI	**Plampang**	**2.46**	**279**	P		P	**Pn**	**13 57 47.7**	**-1.2**
TWSI	**Taliwang, Sumb**	**3.35**	**278**	P		P	**Pn**	**13 58 00.5**	**-0.5**
BATI	**Baumata**	**3.52**	**106**				**Pn**	**13 58 05.0**	**+1.7**
BATI							**Sn**	**13 58 44.4**	**+0.6**
BATI	**Baumata**	**3.52**	**106**	Pn			**Pn**	**13 58 05.0**	**+1.7**
	20nm,0.3s,baz=291,slow=3.4,SNR=16								
BATI				Sn			**Sn**	**13 58 44.4**	**+0.6**
	32nm,0.3s,baz=314,slow=23,SNR=3.7								
BATI	**Baumata**	**3.52**	**106**	P			**Pn**	**13 58 05.4**	**+2.0**
BKSI	**Bulukumba**	**3.88**	**358**	P			**Pn**	**13 58 07.5**	**-0.8**
SOEI	**Soe**	**4.01**	**98**	P			**Pn**	**13 58 09.9**	**-0.3**
SOEI	**Soe**	**4.01**	**98**	Pn			**Pn**	**13 58 09.4**	**-0.9**
KAPI	**Kappang**	**4.21**	**353**	P			**Pn**	**13 58 13.8**	**+0.9**
KAPI	**Kappang**	**4.21**	**353**				**Pn**	**13 58 11.3**	**-1.6**
KAPI	**Kappang**	**4.21**	**353**	Pn			**Pn**	**13 58 13.5**	**+0.6**
	62nm,0.3s,baz=168,slow=5.9,SNR=32								
KAPI				Sn			**Sn**	**13 59 00.9**	**+0.1**
	13nm,0.3s,baz=254,slow=20,SNR=7.0								
KAPI				LR		LR		14 00 25.8	
	comp=Z,160nm,18.4s,baz=173,slow=47								
	145nm,0.4s								
SRBI	**Singaraja**	**5.09**	**282**	P			**Pn**	**13 58 23.8**	**-1.2**
	111nm,0.6s,0.8nm								
JAGI	**Jajag, Banyuwa**	**6.06**	**277**	P			**Pn**	**13 58 37.5**	**-0.7**
JAGI	**Jajag, Banyuwa**	**6.06**	**277**	Pn			**Pn**	**13 58 37.0**	**-1.2**
JAGI	**Jajag, Banyuwa**	**6.06**	**277**	P			**Pn**	**13 58 37.5**	**-0.7**
	115nm,0.6s,0.8nm								
ABJI	**Asem Bagus**	**6.10**	**283**	P			**Pn**	**13 58 38.5**	**-0.3**
	87nm,0.7s,0.5nm								
BLJI	**Banyuglugur**	**6.73**	**282**	P			**Pn**	**13 58 47.0**	**-0.5**
SANI	**Sanana**	**9.14**	**39**	P			**Pn**	**13 59 21.1**	**+0.6**
UGM	**Wanagama**	**9.69**	**277**	P			**Pn**	**13 59 28.2**	**+0.1**
UGM	**Wanagama**	**9.69**	**277**	Pn			**Pn**	**13 59 28.6**	**+0.5**
UGM	**Wanagama**	**9.69**	**277**	P			**Pn**	**13 59 28.1**	**0.0**
	203nm,2.0s								
FITZ	**Fitzroy Crossi**	**10.26**	**150**	P			**Pn**	**13 59 34.3**	**-1.5**
FITZ	**Fitzroy Crossi**	**10.26**	**150**	Pn			**Pn**	**13 59 34.4**	**-1.5**
DRS	**Darwin Rock St**	**10.95**	**108**	P			**Pn**	**13 59 44.1**	**-1.1**
MTN	**Manton Dam**	**11.28**	**110**	P			**Pn**	**13 59 48.5**	**-1.3**
MTN	**Manton Dam**	**11.28**	**110**	Pn			**Pn**	**13 59 47.2**	**-2.6**
KPJI	**Karang Pucung**	**11.34**	**279**	P			**Pn**	**13 59 50.0**	**-0.7**
	16nm,1.1s								
MBWA	**Marble Bar**	**11.88**	**182**	P			**Pn**	**13 59 56.2**	**-1.7**
MBWA	**Marble Bar**	**11.88**	**182**	Pn			**Pn**	**13 59 55.7**	**-2.2**
PSA00	**Pilbara Seismi**	**12.28**	**182**	P			**Pn**	**14 00 01.9**	**-1.5**
PSA00	**Pilbara Seismi**	**12.28**	**182**	Pn			**Pn**	**14 00 01.4**	**-2.0**
PSA00	**Pilbara Seismi**	**12.28**	**182**	Pn			**Pn**	**14 00 01.4**	**-2.0**
KDU	**Kakadu**	**12.50**	**107**	P			**Pn**	**14 00 05.6**	**-0.8**
BBJI	**Bungbulang**	**12.58**	**277**	P			**Pn**	**14 00 07.5**	**0.0**
FAKI	**Fak Fak**	**13.48**	**63**	Pn			**Pn**	**14 00 18.4**	**-1.5**
FAKI	**Fak Fak**	**13.48**	**63**	P			**Pn**	**14 00 20.0**	**+0.1**
	18nm,0.8s								
GIRL	**Giralia**	**14.53**	**203**	Pn			**Pn**	**14 00 33.2**	**-0.8**
WB0	**Warramunga Arr**	**17.24**	**129**	Pn			**Pn**	**14 01 06.0**	**-2.5**
WB0				IAmb		IAmb		14 01 18.6	
	comp=Z,7.7nm,0.8s								
WRA	**Warramunga Arr**	**17.30**	**130**	Pn			**Pn**	**14 01 06.8**	**-2.4**
WRA	**Warramunga Arr**	**17.30**	**130**	Pn			**Pn**	**14 01 04.7**	**-4.5**
	comp=Z,1.0nm,0.3s,baz=298,slow=14,SNR=48								
WRA				Sn			Sn	14 04 09.9	-11
	comp=Z,0.7nm,0.3s,baz=312,slow=24,SNR=7.8								
	comp=Z,0.9nm,0.5s								
WRAB	**Tennant Creek**	**17.30**	**130**	Pn			**Pn**	**14 01 07.4**	**-1.9**
WRAB				IAmb		IAmb		14 01 38.3	
	comp=Z,8.5nm,0.8s								
WB2	**Warramunga Arr**	**17.31**	**130**	Pn			**Pn**	**14 01 07.6**	**-1.7**
WB2				IAmb		IAmb		14 01 31.0	
	comp=Z,25nm,1.4s								
MEEK	**Meekatharra**	**17.39**	**185**	P			**Pn**	**14 01 10.3**	**0.0**
WR0	**Warramunga Arr**	**17.46**	**129**				**Pn**	**14 01 10.0**	**-1.3**
WR0				IAmb		IAmb		14 01 24.5	
	comp=Z,15nm,1.1s								
WRKA	**Warakurna**	**17.50**	**155**	P			**Pn**	**14 01 11.3**	**-0.4**
MNAI	**Manna**	**17.82**	**285**	P			**P**	**14 01 17.0**	**+1.1**
AS31	**Alice Springs**	**19.42**	**139**				**Pn**	**14 01 34.5**	**-0.4**
AS31				IAmb		IAmb		14 01 46.0	
	comp=Z,3.7nm,0.7s								
ASAR	**Alice Springs**	**19.42**	**139**				**Pn**	**14 01 34.9**	**0.0**
ASAR	**Alice Springs**	**19.42**	**139**	P			**Pn**	**14 01 35.1**	**+0.2**
	comp=Z,0.7nm,0.3s,baz=315,slow=10,SNR=49								
ASAR				S			**S**	**14 05 08.7**	**-1.7**
	comp=Z,2.3nm,0.7s,baz=312,slow=22,SNR=5.7								
	comp=Z,7.0nm,0.7s								
AS01	**Alice Springs**	**19.45**	**139**	P			**Pn**	**14 01 35.2**	**-0.1**
MORW	**Morawa**	**20.13**	**191**	P			**P**	**14 01 41.8**	**+0.8**
BLDU	**Ballidu**	**21.54**	**188**	P			**P**	**14 01 57.2**	**+1.1**
QIS	**Mount Isa**	**21.82**	**123**	P			**P**	**14 02 00.5**	**+1.2**
KLBR	**Kellerberrin**	**22.38**	**186**	P			**P**	**14 02 06.5**	**+1.3**
COEN	**Coen**	**22.95**	**104**	P			**P**	**14 02 12.1**	**+0.7**
COEN	**Coen**	**22.95**	**104**	P			**P**	**14 02 11.7**	**+0.3**
OOD	**Oodnadatta**	**23.53**	**144**	P			**P**	**14 02 19.1**	**+2.2**
NWAO	**Narrogin (SRO)**	**23.75**	**186**	P			**P**	**14 02 20.5**	**+1.6**
MULG	**Mulgathing**	**24.61**	**150**	P			**P**	**14 02 28.5**	**+1.7**
MTSU	**Mount Surprise**	**24.99**	**113**	P			**P**	**14 02 32.3**	**+1.9**
LCRK	**Leigh Creek**	**26.97**	**144**	P			**P**	**14 02 50.0**	**+1.8**
BBOO	**Bucketboo**	**27.66**	**150**	P			**P**	**14 02 56.1**	**+1.8**
HTT	**Hallett**	**29.61**	**147**	P			**P**	**14 03 13.4**	**+1.7**
STKA	**Stephens Creek**	**30.01**	**142**	P			**P**	**14 03 16.6**	**+1.4**
STKA	**Stephens Creek**	**30.01**	**142**	P			**P**	**14 03 15.7**	**+0.4**
STKA	**Stephens Creek**	**30.01**	**142**	P			**P**	**14 03 17.7**	**+2.5**
	comp=Z,4.0nm,0.7s,baz=312,slow=8.8,SNR=8.3								
STKA				LR		LR		14 15 32.7	
	comp=Z,92nm,19.5s,baz=22,slow=37								
	comp=Z,4.0nm,0.7s								
CMAR	**Chiang Mai Arr**	**34.62**	**323**	P		P		14 04 02.9	+7.3
	comp=Z,0.4nm,0.3s,baz=159,slow=7.7,SNR=1.9								
	comp=Z,0.4nm,0.3s								
MJAR	**Matsushiro Arr**	**48.56**	**19**	LR		LR		14 23 54.2	
	comp=Z,19nm,20.0s,baz=192,slow=35								
HHC	**Hu-ho-hao-te**	**50.46**	**351**	*e*P		P		14 06 09.5	+5.5
HHC				sP		pP		14 06 16.3	-1.4
HHC				pmax		pmax			
	comp=Z,8.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,83nm,5.0s								
KSH	**Kashi**	**63.52**	**323**	P		**P**		**14 07 39.8**	**+3.3**
MKAR	**Makanchi Array**	**65.22**	**332**	P		**P**		**14 07 49.2**	**+1.9**
	comp=Z,0.7nm,0.5s,baz=148,slow=7.5,SNR=7.1								
	comp=Z,0.7nm,0.5s								
ARSB	**Arslanbob**	**66.43**	**323**	P		**P**		**14 07 55.0**	**-0.4**
ARSB				IAmb		IAmb		14 08 03.7	
	comp=Z,4.4nm,1.4s								
ZALV	**Zalesovo Beam**	**69.69**	**339**	P		**P**		**14 08 14.7**	**-0.7**
ZALV	**Zalesovo Beam**	**69.69**	**339**	P		**P**		**14 08 13.9**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=152,slow=7.0,SNR=2.6								
	comp=Z,1.0nm,0.5s								
KURBB	**Kurotov Arra**	**69.71**	**333**	P		**P**		**14 08 16.8**	**+1.2**
	comp=Z,0.2nm,0.2s,baz=139,slow=6.0,SNR=4.7								
	comp=Z,0.2nm,0.2s								
VNDA	**Vanda**	**71.58**	**171**	P		P		14 08 41.8	+15
	comp=Z,0.5nm,0.7s,baz=269,slow=2.5,SNR=1.7								
	comp=Z,0.5nm,0.7s								
ABKAR	**Akbulak array**	**78.45**	**324**	P		**P**		**14 09 03.9**	**-2.7**
QSPA	**South Pole Qui**	**80.77**	**180**	P		P		14 09 35.2	+16
	comp=Z,1.2nm,0.7s,baz=337,slow=2.0,SNR=5.3								
	comp=Z,1.2nm,0.7s								
TORD	**Torodi Ar. Bea**	**119.70**	**280**	PKP		PKiKP		14 16 07.0	+10
	comp=Z,0.3nm,0.5s,baz=107,slow=1.3,SNR=2.1								

*NEIC **28** 14:33:27.0±0.9, 19.421N±0.007×155.283W±0.009, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.3km az=160.0*
HVO 28 14:33:26.7±0.7, 19.410N±0.007×155.280W±0.009, h0km±3km, ML3.0/30, ML2.5/32(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=122.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**334**				Pg	14 33 27.3	+0.2
RIM	**Rim**	**0.01**	**158**				Pg	14 33 27.4	+0.3
UWB	**Uwekahuna B**	**0.01**	**7**				Pg	14 33 27.4	+0.2
UWE	**Uwekahuna**	**0.02**	**313**				Pg	14 33 27.5	+0.3
KKO	**Keanakako'i**	**0.02**	**132**				Pg	14 33 27.5	+0.3
BYL	**Byron's Ledge**	**0.02**	**83**				Pg	14 33 27.4	+0.2
SBLHI	**Steaming Bluff**	**0.02**	**33**				Pg	14 33 27.5	+0.3
HATHI	**Halema'uma'u T**	**0.02**	**54**				Pg	14 33 27.5	+0.3
RSD	**Rainshed**	**0.05**	**2**				Pg	14 33 28.3	+0.5
RSD				IAML				14 33 28.9	
	comp=N,5μm,0.3s								
RSD				IAML				14 33 29.3	
	comp=E,4μm,0.4s								
PUH	**Pauahi**	**0.07**	**120**				Pg	14 33 28.8	+0.7
PUH				IAML				14 33 29.4	
	comp=N,4μm,0.2s								
PUH				IAML				14 33 29.7	
	comp=E,4μm,0.2s								
KNHH	**Kane Nui o Ham**	**0.11**	**106**				Pg	14 33 29.6	+0.7
HLP	**Hilina Pali**	**0.12**	**193**				Pg	14 33 29.6	+0.6
HLP				IAML				14 33 32.5	
	comp=N,2μm,0.7s								
MLH	**Mauna Loa**	**0.13**	**310**				Pg	14 33 30.3	+1.0
STCH	**Steam Cracks**	**0.15**	**99**				Pg	14 33 30.2	+0.6
STCH				IAML				14 33 33.3	
	comp=E,1μm,0.5s								
STCH				IAML				14 33 33.8	
	comp=N,2μm,0.6s								
NPOC	**North of Pu'u**	**0.16**	**96**				Pg	14 33 32.0	+2.1
JCUZ	**Jacuzzi**	**0.17**	**99**				Pg	14 33 30.6	+0.6
HTC	**Hot Caves**	**0.20**	**213**				Pg	14 33 31.5	+0.8
JOKA	**Jonika Flow**	**0.26**	**85**				Pg	14 33 32.1	+0.4
JOKA				IAML				14 33 38.6	
	comp=N,862nm,0.6s								
HMH	**Humu'ula Sheep**	**0.27**	**315**				Pg	14 33 32.6	+0.6
HMH				IAML				14 33 40.4	
	comp=E,763nm,0.5s								
MLOA	**Mauna Loa Obse**	**0.31**	**294**				Pg	14 33 33.2	+0.5
MLOA				IAML				14 33 41.5	
	comp=N,657nm,0.6s								
KHU	**Kahuku**	**0.36**	**243**				Pg	14 33 34.2	+0.7
KHU				IAML				14 33 45.7	
	comp=N,421nm,0.7s								
ALEP	**Alea Permanent**	**0.37**	**291**				Pg	14 33 34.2	+0.4
POHA	**Pohakuloa**	**0.42**	**326**				Pg	14 33 35.0	+0.2
HUH	**Hualalai**	**0.59**	**298**				Pg	14 33 38.4	+0.3
CPH	**Captain Cook**	**0.61**	**277**				Pg	14 33 38.2	-0.1
HPAH	**Hawaii Prepara**	**0.73**	**328**				Pg	14 33 39.7	-1.1
HPAH				IAML				14 34 06.3	
	comp=N,185nm,0.8s								
MHA	**Mahukona**	**0.97**	**323**	Pg		Pg		14 33 43.3	-2.1

*NNC **28** 14:40:19.7±0.3, 43.17N×78.33E, h2km±3km, mb2.8, mpv2.9, Error ellipse: s-maj=3.6km s-min=2.3km az=176.0*
*KRNET **28** 14:40:20.3±0.1, 43.16N×78.29E, h15km, mb2.8*
*SOME **28** 14:40:20.1, 43.13N×78.35E, h15km*
ISC 28 14:40:20.2±0.8, 43.17N±0.02×78.31E±0.02, h10km±5km, n57, σ0§96/112, 10C-2D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ZHN	**Zhinishke**	**0.09**	**88**	P		P	**Pg**	**14 40 22.7**	**-0.1**
	384nm,0.1s								
ZHN				S			**Sg**	**14 40 24.8**	**+0.1**
	339nm,0.1s								
ZHN	**Zhinishke**	**0.09**	**88**	*e*P			**Pg**	**14 40 22.7**	**-0.1**
	384nm,0.1s								
ZHN				*e*S			**Sg**	**14 40 24.8**	**+0.1**
	339nm,0.0s								
ZHN	**Zhinishke**	**0.09**	**88**	*e*P			**Pg**	**14 40 22.7**	**-0.1**
	baz=86								
ZHN				*e*S			**Sg**	**14 40 24.8**	**+0.1**
	baz=86								
SATY	**Saty**	**0.13**	**147**	P			**Pg**	**14 40 23.0**	**-0.3**
	590nm,0.1s								
SATY				S			**Sg**	**14 40 25.3**	**-0.2**
	4μm,0.1s								
SATY	**Saty**	**0.13**	**147**	*e*P			**Pg**	**14 40 23.0**	**-0.3**
	590nm,0.1s								
SATY				*e*S			**Sg**	**14 40 25.3**	**-0.2**
	4μm,0.1s								
SATY	**Saty**	**0.13**	**147**	*e*P			**Pg**	**14 40 23.0**	**-0.3**
	baz=40								
SATY				*e*S			**Sg**	**14 40 25.3**	**-0.2**
	baz=40								
KURS	**Kuram**	**0.34**	**342**	P			**Pg**	**14 40 26.8**	**-0.1**
	3.6nm,0.1s								
KURS				S			**Sg**	**14 40 31.9**	**+0.4**
	6.5nm,0.2s								
KURS	**Kuram**	**0.34**	**342**	*e*P			**Pg**	**14 40 26.8**	**-0.1**
	3.6nm,0.1s								
KURS				*e*S			**Sg**	**14 40 31.9**	**+0.4**
	6.5nm,0.2s								
KURS	**Kuram**	**0.34**	**342**	*e*P			**Pg**	**14 40 26.8**	**-0.1**
	baz=45								
KURS				*e*S			**Sg**	**14 40 31.9**	**+0.4**
	baz=45								
UZB	**Uzynbulak**	**0.52**	**92**	P			**Pg**	**14 40 29.2**	**-1.1**
	28nm,0.1s								
UZB				S			**Sg**	**14 40 36.0**	**-1.3**
	125nm,0.1s								
UZB	**U

	5.1nm,0.2s							
TNSS	**Tian-Shan**	**1.01**	**263**	*e*P		**Pb**	**14 40 38.8**	**-1.1**
	baz=64							
TNSS				*e*S		**Sb**	**14 40 52.4**	**-0.9**
	baz=64							
ARXS	**Arharly**	**1.10**	**342**	P		**Pb**	**14 40 40.9**	**-0.5**
	2.2nm,0.1s							
ARXS				S		**Sn**	**14 40 56.3**	**-0.7**
	7.7nm,0.2s							
ARXS	**Arharly**	**1.10**	**342**	*e*P		**Pb**	**14 40 41.1**	**-0.3**
	2.2nm,0.1s							
ARXS				*e*S		**Sn**	**14 40 56.3**	**-0.7**
	7.7nm,0.2s							
IZV	**Izvestkoviy**	**1.25**	**265**	P		**Pn**	**14 40 43.4**	**-0.4**
	0.9nm,0.2s							
IZV				S		**Sn**	**14 41 00.4**	**-0.4**
	4.9nm,0.2s							
IZV	**Izvestkoviy**	**1.25**	**265**	*e*P		**Pn**	**14 40 43.5**	**-0.3**
	0.9nm,0.2s							
IZV				*e*S		**Sn**	**14 41 00.4**	**-0.4**
	6.1nm,0.1s							
IZV	**Izvestkoviy**	**1.25**	**265**	*e*P		**Pn**	**14 40 43.5**	**-0.3**
	baz=65							
IZV				*e*S		**Sn**	**14 41 00.4**	**-0.4**
	baz=65							
KTBS	**Karatobe**	**1.31**	**295**	P		**Pb**	**14 40 44.5**	**-0.2**
	3.2nm,0.2s							
KTBS				S		**Sg**	**14 41 02.3**	**+0.1**
	8.1nm,0.3s							
KTBS	**Karatobe**	**1.31**	**295**	*e*P		**Pb**	**14 40 44.5**	**-0.2**
	3.2nm,0.2s							
KTBS				*e*S		**Sg**	**14 41 02.3**	**+0.1**
	8.1nm,0.3s							
KTBS	**Karatobe**	**1.31**	**295**	*e*P		**Pb**	**14 40 44.6**	**-0.2**
	baz=96							
KTBS				*e*S		**Sg**	**14 41 02.3**	**+0.1**
	baz=96							
KDJ	**Kajisay**	**1.33**	**219**⇑	*e*P		**Pb**	**14 40 44.8**	**-0.4**
	baz=18							
KDJ				⇑*e*S		**Sg**	**14 41 02.8**	**-0.1**
	baz=18							
KNOS	**Konyrlen**	**1.35**	**27**	P		**Pn**	**14 40 44.7**	**-0.5**
	1.1nm,0.1s							
KNOS				S		**Sb**	**14 41 02.9**	**-0.1**
	2.7nm,0.2s							
MTBS	**Maitube**	**1.38**	**269**	P		**Pb**	**14 40 45.6**	**-0.5**
	2.3nm,0.2s							
MTBS				S		**Sb**	**14 41 04.0**	**+0.4**
	9.0nm,0.2s							
MTBS	**Maitube**	**1.38**	**269**	*e*P		**Pb**	**14 40 45.5**	**-0.5**
	1.3nm,0.1s							
MTBS				*e*S		**Sb**	**14 41 04.0**	**+0.4**
	9.0nm,0.2s							
MTBS	**Maitube**	**1.38**	**269**	*e*P		**Pb**	**14 40 45.6**	**-0.5**
	baz=69							
MTBS				*e*S		**Sb**	**14 41 04.1**	**+0.4**
	baz=69							
KTMS	**Ketmen**	**1.52**	**79**	P		**Pg**	**14 40 48.8**	**-0.5**
	1.3nm,0.2s							
KTMS				S		**Sg**	**14 41 09.6**	**+0.6**
	5.0nm,0.2s							
KTMS	**Ketmen**	**1.52**	**79**	*e*P		**Pn**	**14 40 47.2**	**-0.2**
	1.3nm,0.2s							
KTMS				*e*S		**Sb**	**14 41 06.7**	**-1.0**
	5.2nm,0.0s							
DJR	**Jarkent**	**1.58**	**42**	P		**Pb**	**14 40 48.8**	**-0.8**
	0.7nm,0.1s							
DJR				S		**Sg**	**14 41 10.0**	**-1.1**
	6.6nm,0.2s							
DJR	**Jarkent**	**1.58**	**42**	*e*P		**Pb**	**14 40 49.0**	**-0.5**
	0.7nm,0.1s							
DJR				*e*S		**Sg**	**14 41 10.1**	**-1.1**
	6.6nm,0.1s							
KUU	**Kurty**	**1.61**	**298**	P		**Pb**	**14 40 49.9**	**0.0**
	1.7nm,0.1s							
KUU				S		**Sg**	**14 41 11.5**	**-0.4**
	4.4nm,0.1s							
KUU	**Kurty**	**1.61**	**298**	*e*P		**Pb**	**14 40 49.9**	**0.0**
	1.7nm,0.1s							
KUU				*e*S		**Sg**	**14 41 11.5**	**-0.4**
	6.1nm,0.1s							
KUU	**Kurty**	**1.61**	**298**	*e*P		**Pb**	**14 40 49.9**	**0.0**
	baz=98							
KUU				*e*S		**Sg**	**14 41 11.5**	**-0.4**
	baz=98							
KST	**Kastek**	**1.72**	**267**	P		**Pb**	**14 40 51.9**	**-0.1**
	3.3nm,0.3s							
KST				S		**Sg**	**14 41 14.8**	**-0.8**
	8.0nm,0.3s							
KST	**Kastek**	**1.72**	**267**	*e*P		**Pb**	**14 40 51.9**	**-0.1**
	3.3nm,0.3s							
KST				*e*S		**Sg**	**14 41 14.8**	**-0.8**
	8.0nm,0.3s							
KST	**Kastek**	**1.72**	**267**	*e*P		**Pb**	**14 40 51.9**	**-0.1**
	baz=67							
KST				*e*S		**Sg**	**14 41 14.8**	**-0.8**
	baz=67							
ULHL	**Ulahol**	**1.78**	**240**⇑	*e*P		**Pb**	**14 40 52.8**	**-0.2**
	baz=39							
ULHL				⇑*e*S		**Sg**	**14 41 17.1**	**-0.3**
	baz=39							
DGS	**Degeres**	**1.86**	**273**	P		**Pb**	**14 40 54.0**	**-0.2**
	3.8nm,0.4s							
DGS				S		**Sb**	**14 41 18.4**	**+0.9**
	15nm,0.4s							
DGS	**Degeres**	**1.86**	**273**	*e*P		**Pb**	**14 40 54.0**	**-0.2**
	3.8nm,0.4s							
DGS				*e*S		**Sb**	**14 41 18.4**	**+0.9**
	15nm,0.4s							
DGS	**Degeres**	**1.86**	**273**	*e*P		**Pb**	**14 40 54.0**	**-0.2**
	baz=73							
DGS				*e*S		**Sb**	**14 41 18.4**	**+0.9**
	baz=73							
BOOM	**Boomskoye usch**	**1.87**	**250**⇑	*e*P		**Pb**	**14 40 54.3**	**-0.2**
	baz=50							
BOOM				⇑*e*S		**Sg**	**14 41 19.7**	**-0.6**
	baz=50							
KRBS	**Karabastau**	**1.99**	**286**	Pg		**Pb**	**14 40 56.5**	**0.0**
	1.3nm,0.4s							
KRBS				Lg		Lg	14 41 22.7	
	17nm,0.3s							
KRBS	**Karabastau**	**1.99**	**286**	*e*P		**Pb**	**14 40 56.5**	**0.0**
	1.3nm,0.4s							
KRBS				*e*S		**Sb**	**14 41 22.7**	**+1.3**
	17nm,0.3s							
KRBS	**Karabastau**	**1.99**	**286**	*e*P		**Pb**	**14 40 56.5**	**0.0**
	baz=87							
KRBS				*e*S		**Sb**	**14 41 22.7**	**+1.3**
	baz=87							
TKM2	**Tokmak 2**	**2.00**	**264**⇓	*e*P		**Pb**	**14 40 56.4**	**-0.4**
	baz=64							
TKM2				⇓*e*S		**Sb**	**14 41 23.1**	**+1.2**
	baz=64							

NEIC ***28*** *14:42:54.3±0.6, 19°.20N±0°.03×155°.48W±0°.02, h39km±3km, Error ellipse: s-maj=3.8km s-min=2.3km az=159.0*
HVO 28 14:42:56.1±1.5,**19°.18N**±0°.05×**155°.47W**±0°.03,**h31**km±7km, **ML3.5**/57,**ML3.7**/48(NEIC),**Error ellipse: s-maj=7.2km s-min=2.1km az=156.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTC	**Hot Caves**	**0.09**	**51**		**Pb**	14 43 01.2	-0.4
HPO	**Honuapo**	**0.12**	**221**		**Pb**	14 42 58.3	-3.4
HPO					Sn	14 43 02.2	-3.1
KHU	**Kahuku**	**0.15**	**294**		**Pb**	14 43 01.5	-0.8
KHU					Sn	14 43 05.4	-0.9
KHU	**Kahuku**	**0.15**	**294**	IAML		14 43 05.7	
	comp=E,6μm,0.1s						
KHU				IAML		14 43 05.7	
	comp=N,10μm,0.4s						
HLP	**Hilina Pali**	**0.19**	**53**		Pb	14 43 01.9	-0.6
HLP					Sb	14 43 06.3	-0.5
HLP	**Hilina Pali**	**0.19**	**53**	IAML		14 43 06.5	
	comp=N,13μm,0.3s						
HLP				IAML		14 43 08.9	
	comp=E,8μm,0.2s						
RIM	**Rim**	**0.28**	**41**		Sb	14 43 07.0	-1.6
UWE	**Uwekahuna**	**0.29**	**35**	Pg	Pb	14 43 02.6	-1.0
UWE				IAML		14 43 12.0	
	comp=N,10μm,0.6s						
BYL	**Byron's Ledge**	**0.30**	**41**	Pg	Pb	14 43 02.6	-1.2
BYL				IAML		14 43 09.2	
	comp=E,6μm,0.4s						
UWB	**Uwekahuna B**	**0.30**	**37**		Sb	14 43 07.3	-1.7
PUH	**Pauahi**	**0.30**	**51**		Pb	14 43 02.6	-1.2
PUH				IAML		14 43 07.9	
	comp=E,7μm,0.5s						
PUH				IAML		14 43 09.4	
	comp=N,6μm,0.3s						
SBLHI	**Steaming Bluff**	**0.31**	**38**		Sb	14 43 07.5	-1.7
HATHI	**Halema'uma'u T**	**0.31**	**39**	Pg	Pb	14 43 02.7	-1.2
HATHI				IAML		14 43 08.2	
	comp=E,6μm,0.4s						
HATHI				IAML		14 43 11.1	
	comp=N,6μm,0.5s						
MLH	**Mauna Loa**	**0.32**	**14**		Pb	14 43 03.0	-1.1
MWH	**Moku'aweowe**	**0.32**	**338**		Pb	14 43 03.1	-1.4
MWH				IAML		14 43 08.6	
	comp=N,6μm,0.6s						
RSD	**Rainshed**	**0.33**	**33**		Pb	14 43 03.0	-1.3
KNHH	**Kane Nui o Ham**	**0.34**	**55**		Pb	14 43 03.1	-1.2
MLOA	**Mauna Loa Obse**	**0.37**	**344**		Pb	14 43 03.5	-1.4
MLOA	**Mauna Loa Obse**	**0.37**	**344**		Sb	14 43 08.9	-2.1
MLOA	**Mauna Loa Obse**	**0.37**	**344**	IAML		14 43 09.2	
	comp=N,10μm,0.6s						
MLOA				IAML		14 43 09.5	
	comp=E,5μm,0.3s						
STCH	**Steam Cracks**	**0.38**	**58**		Pb	14 43 03.5	-1.3
STCH				IAML		14 43 09.4	
	comp=E,4μm,0.2s						
ALEP	**Alea Permanent**	**0.39**	**335**		Sb	14 43 09.2	-2.3
JCUZ	**Jacuzzi**	**0.40**	**60**		Pb	14 43 03.7	-1.4
JCUZ					Sb	14 43 09.3	-2.0
HMH	**Humu'ula Sheep**	**0.42**	**358**		Pb	14 43 04.5	-1.1
HMH				IAML		14 43 11.0	
	comp=E,7μm,0.3s						
HMH	**Humu'ula Sheep**	**0.42**	**358**		Sb	14 43 10.5	-1.6
JOKA	**Jonika Flow**	**0.50**	**60**		Pb	14 43 04.9	-1.7
JOKA	**Jonika Flow**	**0.50**	**60**		Sb	14 43 11.5	-2.4
CPH	**Captain Cook**	**0.52**	**306**		Pb	14 43 05.0	-2.0
POHA	**Pohakuloa**	**0.57**	**354**		Pb	14 43 05.9	-2.1
POHA				IAML		14 43 19.3	
	comp=E,5μm,0.2s						
POHA	**Pohakuloa**	**0.57**	**354**		Sb	14 43 12.6	-3.5
PAH	**Pahoa**	**0.58**	**58**		Pb	14 43 06.0	-1.9
HUH	**Hualalai**	**0.61**	**325**		Pb	14 43 06.7	-1.9
HUH				IAML		14 43 20.2	
	comp=N,5μm,0.3s						
HUH				IAML		14 43 24.1	
	comp=E,4μm,0.4s						
PHO	**Puu Honuaula**	**0.62**	**61**		Pb	14 43 06.6	-2.0
HPAH	**Hawaii Prepara**	**0.87**	**346**		Pn	14 43 09.7	-2.6
HPAH	**Hawaii Prepara**	**0.87**	**346**		Sn	14 43 19.9	-4.0
HPAH	**Hawaii Prepara**	**0.87**	**346**	IAML		14 43 20.2	
	comp=E,3μm,0.3s						
HPAH				IAML		14 43 20.5	
	comp=N,2μm,0.1s						
MHA	**Mahukona**	**1.08**	**338**	Pn	Pn	14 43 12.6	-2.4
HLK	**Haleakala**	**1.73**	**335**	Pn	Pn	14 43 21.3	-2.9
KHLH	**Kahului Airpor**	**1.93**	**332**	Pn	Pn	14 43 24.5	-2.2
KPA	**Kalaupapa**	**2.45**	**325**	Pn	Pn	14 43 30.6	-3.3
DHH	**Diamond Head**	**3.01**	**314**	Pn	Pn	14 43 38.2	-3.5
HON	**Honolulu**	**3.19**	**312**	Pn	Pn	14 43 40.8	-3.3
KIP	**Kipapa**	**3.27**	**312**	Pn	Pn	14 43 41.8	-3.3
KEKH	**Kekaha**	**4.85**	**306**	Pn	Pn	14 44 02.9	-4.1
JOHN	**Johnston Islan**	**13.60**	**262**	Pn	Pn	14 46 02.3	-4.6

NOU ***28*** *15:04:43.7,36°.63S×179°.25W,h0km,mb4.5/6,East of North Island, N.Z.*
WEL ***28*** *15:05:04.2±1.0,37°S±4°×17°9E±°,h12km,M3.5/13, ML3.7/18,MLv3.5/13,Error ellipse: s-maj=0.0km s-min=0.0km az=100.5,confirmed*
ISC 28 15:05:01.5±2.8,**37.14S**±0°.07×**179.3E**±0°.1,**h11**km±11km, **n58,σ0s88/65,Off east coast of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.93**	**242**	P	**Pg**	**15 05 19.4**	**0.0**
MXZ	**Matakaoa Point**	**0.93**	**242**	P	**Pg**	**15 05 19.6**	**+0.2**
MXZ				S	**Sg**	**15 05 30.5**	**-1.0**
WMGZ	**Waiomatatini S**	**1.00**	**227**	P	**Pn**	**15 05 22.5**	**+1.0**
WMGZ				S	**Sn**	**15 05 36.1**	**+0.5**
PKGZ	**Pakihiroa**	**1.26**	**233**	P	**Pb**	**15 05 25.7**	**+0.5**
PKGZ				S	**Sb**	**15 05 41.2**	**-0.2**
PUZ	**Puketiti**	**1.27**	**222**	P	**Pg**	**15 05 26.1**	**+0.1**
HAZ	**Te Kaha**	**1.39**	**243**	P	**Pn**	**15 05 26.5**	**-0.3**
HAZ				S	**Sn**	**15 05 44.9**	**-0.1**
TWGZ	**Tauwhareparae**	**1.50**	**226**	P	**Pb**	**15 05 29.9**	**+0.5**
RUGZ	**Raukumara Rang**	**1.56**	**237**	P	**Pb**	**15 05 30.5**	**+0.1**
CNGZ	**Carnagh Statio**	**1.62**	**213**	P	**Pb**	**15 05 31.8**	**+0.4**
MWZ	**Matawai**	**1.87**	**230**	P	**Pn**	**15 05 34.2**	**+0.7**
MWZ				S	**Sn**	**15 05 56.4**	**-0.7**
RIGZ	**Rimuhau**	**2.00**	**218**	P	**Pn**	**15 05 35.9**	**+0.6**
RIGZ				S	**Sn**	**15 06 00.1**	**-0.3**
WHRZ	**Whale Island**	**2.02**	**248**	P	**Pn**	**15 05 36.3**	**+0.9**
URZ	**Urewera**	**2.10**	**237**	P	**Pn**	**15 05 37.2**	**+0.7**
URZ	**Urewera**	**2.10**	**237**	P	**Pn**	**15 05 37.2**	**+0.7**
URZ				S	**Sn**	**15 06 09.1**	**-1.6**
PRGZ	**Paritu Road**	**2.12**	**212**	P	**Pn**	**15 05 37.5**	**+0.6**
SNGZ	**Shannon Statio**	**2.28**	**223**	P	**Pn**	**15 05 39.4**	**+0.3**
MHGZ	**Mahia Peninsul**	**2.31**	**209**	P	**Pn**	**15 05 40.2**	**+0.7**
OPRZ	**Ohinepanea**	**2.33**	**251**	P	**Pn**	**15 05 39.5**	**-0.2**
RTZ	**Ruatahuna**	**2.38**	**231**	P	**Pn**	**15 05 41.3**	**+0.8**
MUGZ	**Murupara**	**2.44**	**236**	P	**Pn**	**15 05 41.6**	**+0.4**
RAHZ	**Arahi**	**2.52**	**224**	P	**Pn**	**15 05 43.4**	**+1.1**
TGRZ	**Tauranga**	**2.52**	**255**	P	**Pn**	**15 05 42.2**	**-0.2**
RRRZ	**Republican Roa**	**2.54**	**241**	P	**Pn**	**15 05 43.8**	**+1.1**
MTHZ	**Maungataniwha**	**2.62**	**228**	P	**Pn**	**15 05 44.7**	**+1.0**
PRRZ	**Plateau Road**	**2.70**	**239**	P	**Pn**	**15 05 45.0**	**+0.2**
KMRZ	**Kaimai**	**2.80**	**254**	P	**Pn**	**15 05 46.0**	**-0.2**
NMHZ	**Naumai**	**2.80**	**225**	P	**Pn**	**15 05 47.0**	**+0.8**
ARHZ	**Aropaoanui**	**2.82**	**220**	P	**Pn**	**15 05 46.9**	**+0.5**
KUZ	**Kuaotunu**	**2.93**	**277**	P	**Pn**	**15 05 46.8**	**-1.1**
KUZ	**Kuaotunu**	**2.93**	**277**	P	**Pn**	**15 05 46.8**	**-1.1**
BKZ	**Black Stump Fm**	**3.03**	**227**	P	**Pn**	**15 05 49.5**	**+0.2**
BKZ	**Black Stump Fm**	**3.03**	**227**	P	**Pn**	**15 05 49.7**	**+0.4**
TOZ	**Tokaroa Road**	**3.11**	**258**	P	**Pn**	**15 05 50.1**	**+0.4**
KWHZ	**Kaweka Forest**	**3.24**	**224**	P	**Pn**	**15 05 52.1**	**-0.2**
GRZ	**Great Barrier**	**3.25**	**285**	P	**Pn**	**15 05 52.2**	**-0.1**
KAHZ	**Kahuranaki**	**3.29**	**215**	P	**Pn**	**15 05 52.1**	**-0.8**
MKAZ	**Moumakai**	**3.34**	**269**	P	**Pn**	**15 05 53.1**	**-0.5**
WIAZ	**Waiheke Island**	**3.39**	**275**	P	**Pn**	**15 05 53.8**	**-0.4**
BHHZ	**Black Hill Sta**	**3.49**	**227**	P	**Pn**	**15 05 56.3**	**+0.6**
ETAZ	**East Tamaki Re**	**3.54**	**272**	P	**Pn**	**15 05 56.4**	**+0.1**
KBAZ	**Karaka Road Bo**	**3.56**	**269**	P	**Pn**	**15 05 56.8**	**+0.2**
SNVZ	**South Ngauruho**	**3.56**	**234**	P	**Pn**	**15 05 56.8**	**-0.1**
MBAZ	**Motutapu North**	**3.58**	**275**	P	**Pn**	**15 05 56.9**	**0.0**
MOVZ	**Moawhango**	**3.62**	**230**	P	**Pn**	**15 05 58.3**	**+0.8**
ABAZ	**Army Bay**	**3.66**	**277**	P	**Pn**	**15 05 58.5**	**+0.6**
HBAZ	**Herne Bay Bore**	**3.70**	**273**	P	**Pn**	**15 05 59.5**	**+1.0**
PNHZ	**Pukenui**	**3.71**	**221**	P	**Pn**	**15 05 57.5**	**-1.2**
AWAZ	**Awhitu Peninsu**	**3.76**	**270**	P	**Pn**	**15 05 59.4**	**+0.1**
HIZ	**Hauiti**	**3.81**	**247**	P	**Pn**	**15 06 01.2**	**+1.1**
HIZ	**Hauiti**	**3.81**	**247**	P	**Pn**	**15 06 01.2**	**+1.1**
WTAZ	**Waiatarua**	**3.82**	**272**	P	**Pn**	**15 06 00.6**	**+0.4**
RVAZ	**Riverhead Bore**	**3.83**	**274**	P	**Pn**	**15 06 00.7**	**+0.3**
TSZ	**Takapari Road**	**3.94**	**221**	P	**Pn**	**15 06 00.4**	**-1.5**
DVHZ	**Dannevirke**	**4.02**	**217**	P	**Pn**	**15 06 01.4**	**-1.6**
WCZ	**Waipu Caves**	**4.20**	**285**	P	**Pn**	**15 06 05.8**	**+0.4**
BFZ	**Birch Farm**	**4.29**	**213**	P	**Pn**	**15 06 04.7**	**-1.9**
PKE	**Pukeiti**	**4.69**	**242**	P	**Pn**	**15 06 15.7**	**+3.5**
OUZ	**Omahuta**	**5.03**	**291**	P	**Pn**	**15 06 17.6**	**+0.9**

IDC ***28*** *15:09:41.8±5.3,5°.47S×147°.50E,h170km±55km,mb3.2/2, mbtmp3.9/4,Error ellipse: s-maj=83.8km s-min=31.6km az=131.0*
NEIC ***28*** *15:09:45.7±1.4,5°.57S±0°.07×147°.6E±0°.2,h215km±12km, mb4.3/12,Error ellipse: s-maj=28.5km s-min=6.2km az=108.0*
ISC 28 15:09:43.9±0.8,**5.54S**±0°.08×**147.5E**±0°.2,**h200**km,**n29,** **σ1s37/30,mb4.1/4,Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MANU	**Manus Island**	**3.47**	**358**	Pn	**Pn**	**15 10 41.6**	**+2.3**
PMG	**Port Moresby**	**3.86**	**185**	P	**Pn**	**15 10 43.7**	**-0.2**
	23nm,0.3s,baz=352,slow=7.1,SNR=35						
PMG				S	**Sn**	**15 11 28.6**	**-2.5**
	41nm,0.5s,baz=359,slow=20,SNR=13						
COEN	**Coen**	**9.38**	**207**	Pn	**Pn**	**15 11 56.7**	**+1.6**
TV1H	**Townsville Har**	**13.66**	**183**	P	**Pn**	**15 12 51.7**	**+2.1**
CTAO	**Charters Tower**	**14.51**	**185**	Pn	**Pn**	**15 12 58.3**	**-2.0**
PATS	**Pohnpei**	**16.37**	**41**		**P**	**15 13 20.6**	**-1.4**
KDU	**Kakadu**	**16.42**	**243**	P	**P**	**15 13 22.9**	**+0.3**
QIS	**Mount Isa**	**16.77**	**206**	P	**P**	**15 13 28.7**	**+2.3**
MTN	**Manton Dam**	**17.68**	**245**	P	**P**	**15 13 37.2**	**+0.8**
MTN	**Manton Dam**	**17.68**	**245**		**P**	**15 13 36.5**	**+0.1**
MTN				IAmb	IAmb	15 13 45.4	
	comp=Z,14nm,1.3s						
WB0	**Warramunga Arr**	**19.03**	**221**	P	**P**	**15 13 51.1**	**+0.2**
WB0				IAmb	IAmb	15 13 55.4	
	comp=Z,4.9nm,0.8s						
WR0	**Warramunga Arr**	**19.07**	**220**	P	**P**	**15 13 52.1**	**+0.6**
WR0				IAmb	IAmb	15 13 52.9	
	comp=Z,6.5nm,0.6s						
WRAB	**Tennant Creek**	**19.18**	**221**	P	**P**	**15 13 53.0**	**+0.4**
WRAB				IAmb	IAmb	15 13 54.4	
	comp=Z,5.1nm,0.7s						
WB2	**Warramunga Arr**	**19.18**	**221**	P	**P**	**15 13 53.2**	**+0.6**
WB2				IAmb	IAmb	15 13 54.7	
	comp=Z,18nm,1.4s						
WRA	**Warramunga Arr**	**19.19**	**221**	P	**P**	**15 13 53.2**	**+0.4**
	comp=Z,1.5nm,0.3s,baz=49,slow=12,SNR=43						
AS01	**Alice Springs**	**22.24**	**215**	P	**P**	**15 14 25.8**	**+1.3**
AS31	**Alice Springs**	**22.26**	**215**	P	**P**	**15 14 25.8**	**+1.1**
ASAR	**Alice Springs**	**22.27**	**215**	P	**P**	**15 14 25.4**	**+0.7**
ASAR	**Alice Springs**	**22.27**	**215**	P	**P**	**15 14 25.9**	**+1.2**
	comp=Z,2.7nm,0.7s,baz=49,slow=9.3,SNR=51						
	comp=Z,2.7nm,0.7s						
INKA	**Innaminka**	**22.99**	**195**	P	**P**	**15 14 33.1**	**+1.9**
FITZ	**Fitzroy Crossi**	**24.71**	**238**	P	**P**	**15 14 47.5**	**+0.6**
OOD	**Oodnadatta**	**24.81**	**206**	P	**P**	**15 14 50.0**	**+2.3**
WRKA	**Warakurna**	**26.73**	**222**	P	**P**	**15 15 05.6**	**+0.5**
BBOO	**Buckleboo**	**29.15**	**200**	P	**P**	**15 15 26.6**	**+0.2**
MORW	**Morawa**	**37.83**	**228**	P	**P**	**15 16 40.3**	**-1.1**
MORW				IAmb	IAmb	15 17 22.6	
	comp=Z,19nm,1.4s						
YULB	**Yu-li**	**38.47**	**319**	P	**P**	**15 16 45.1**	**-1.7**
YULB				IAmb	IAmb	15 17 22.6	
	comp=Z,8.3nm,1.2s						
IL31		**84.87**	**23**	P	**P**	**15 21 55.6**	**-0.2**
ILAR	**Eielson Array**	**84.87**	**23**	P	**P**	**15 21 55.8**	**0.0**
ILAR	**Eielson Array**	**84.87**	**23**	P	**P**	**15 21 56.1**	**+0.3**
	comp=Z,0.2nm,0.6s,baz=251,slow=5.6,SNR=2.3						
	comp=Z,0.2nm,0.6s						

DJA 28 15:30:42.7±0.3,**8°S**±4°×**12°8E**±°,**h204**km±8km,**M4.0/6, mb3.5/6,MLv4.2/6,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**3.29**	**95**	P	Pn	15 31 34.9	-1.1
SOEI	**Soe**	**4.21**	**241**	P	Pn	15 31 47.2	-0.2
BATI	**Baumata**	**4.95**	**239**	P	Pn	15 31 56.9	+0.2
EDFI	**Ende, Flores**	**6.32**	**260**	P	Pn	15 32 15.0	+0.6
	13nm,1.2s,0.1nm						
FAKI	**Fak Fak**	**6.36**	**42**	P	Pn	15 32 14.3	-0.4
	15nm,1.9s,0.1nm						
LBMI	**Labuha**	**7.02**	**356**	P	Pn	15 32 23.3	0.0
	10nm,0.8s,0.1nm						

OSUNB ***28*** *15:41:14.6±0.2,1°.20S×60°.54W,h0km,mR4.0/13,Error ellipse: s-maj=1.8km s-min=1.6km az=0.0*
VAO ***28*** *15:41:15.7±0.3,1°.19S×60°.55W,h0km,mbR4.2*
ISC 28 15:41:16.2±0.8,**1°.18S**±0°.05×**60°.52W**±0°.05,**h10**km,**n42,** **σ2s68/63,Brazil**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MACA	**Manacapuru-AM**	**1.98**	**185**	*e*P	**Pb**	**15 41 53.6**	**+1.2**
MACA				*e*S	**Sg**	**15 42 19.5**	**-0.3**
MACA	**Manacapuru-AM**	**1.98**	**185**	*e*P	**Pb**	**15 41 53.7**	**+1.4**
MACA				*e*S	**Sg**	**15 42 22.0**	**+2.2**
BOAV	**Boa Vista**	**3.55**	**360**	*e*P	**Pn**	**15 42 12.4**	**+1.0**
BOAV	**Boa Vista**	**3.55**	**360**	*e*P	**Pn**	**15 42 12.5**	**+1.0**
BOAV				*e*S	**Sn**	**15 42 54.0**	**+0.5**
TEFE	**Tefe**	**4.72**	**241**	*e*P	**Pn**	**15 42 28.5**	**+0.9**
TEFE	**Tefe**	**4.72**	**241**	*e*P	**Pn**	**15 42 29.3**	**+1.7**
TEFE				*e*S	**Sn**	**15 43 20.3**	**-2.1**
ITTB	**Itaituba**	**5.73**	**124**	*e*P	**Pn**	**15 42 44.2**	**+2.7**
ITTB				*e*S	**Sn**	**15 43 48.3**	**+1.0**
ITTB	**Itaituba**	**5.73**	**124**	*e*P	**Pn**	**15 43 44.1**	**+2.7**
ITTB				*e*S	**Sn**	**15 43 48.3**	**+1.0**
NPGB	**Novo Progresso**	**7.77**	**139**	*e*P	**Pn**	**15 43 10.5**	**+1.0**
NPGB				*e*S	**Sn**	**15 44 37.3**	**-0.4**
NPGB	**Novo Progresso**	**7.77**	**139**	*e*P	**Pn**	**15 43 11.7**	**+2.1**
NPGB				*e*S	**Sn**	**15 44 36.5**	**-1.2**
SAML	**Samuel**	**8.16**	**199**	*e*P	**Pn**	**15 43 15.4**	**+0.5**
SAML	**Samuel**	**8.16**	**199**	*e*P	**Pn**	**15 43 15.9**	**+1.0**
SAML				*e*S	**Sn**	**15 44 48.5**	**+1.3**
MCPB	**Macapa, AP**	**8.50**	**85**	*e*P	**Pn**	**15 43 20.7**	**+1.2**
MCPB	**Macapa, AP**	**8.50**	**85**	*e*P	**Pn**	**15

JIKH ⇓S Sn 15 47 19.9 -1.1
JIKH Ishinomakikobu 0.42 276 A A 15 47 13.7
comp=E,94nm,1.8s,comp=N,43nm,0.3s
JIO Ouri 0.54 290 ⇓*i*P Pn 15 47 15.0 -0.5
JIO ⇓S Sn 15 47 22.1 -1.6
JIO Ouri 0.54 290 A A 15 47 15.0
comp=E,29nm,1.0s,comp=N,20nm,2.2s
JKMT Kesennumamotoy 0.68 323 ⇓*i*P Pn 15 47 16.9 -0.4
JKMT ⇓*e*S Sn 15 47 25.1 -1.8
JKMT Kesennumamotoy 0.68 323 A A 15 47 16.9
comp=E,35nm,1.0s,comp=N,16nm,1.0s
OFUJ Ofunato 0.85 342 ⇓*i*P Pn 15 47 19.3 -0.3
OFUJ ⇓S Sn 15 47 29.4 -1.5
OFUJ Ofunato 0.85 342 A A 15 47 19.3
comp=E,27nm,0.8s,comp=N,16nm,0.5s
JMK Ichinoseki 0.91 318 ⇓*i*P Pn 15 47 20.1 -0.4
JMK ⇓S Sn 15 47 31.0 -1.5
JMK Ichinoseki 0.91 318 A A 15 47 20.1
comp=E,9.0nm,0.6s,comp=N,14nm,2.8s
JOFO Osakifurukawao 0.91 292 A A 15 47 19.9
comp=E,29nm,2.6s,comp=N,27nm,2.8s
JMST Minamisoumatoc 1.03 238 A A 15 47 22.4
comp=E,12nm,0.3s,comp=N,17nm,0.6s
JMM Marumori 1.03 247 Pn Pn 15 47 21.4 -0.7
JMM Sn Sn 15 47 32.0 -3.4
JMM Marumori 1.03 247 ⇓*i*P Pn 15 47 21.4 -0.7
JMM Marumori 1.03 247 A A 15 47 21.4
comp=E,7.0nm,0.6s,comp=N,9.0nm,2.2s
JOU Okura 1.05 276 ⇓*i*P Pn 15 47 21.9 -0.5
JOU ⇓*e*S Sn 15 47 34.7 -1.3
JOU Okura 1.05 276 A A 15 47 21.9
comp=E,13nm,0.6s,comp=N,17nm,0.5s
JFK Kawauchi 1.27 225 ⇓*i*P Pn 15 47 25.1 -0.2
JFK ⇓*e*S Sn 15 47 40.3 -0.9
JFK Kawauchi 1.27 225 A A 15 47 25.1
comp=E,6.0nm,0.7s,comp=N,4.0nm,1.0s
JOM Ohasama 1.32 336 ⇓*i*P Pn 15 47 25.9 -0.1
JOM Ohasama 1.32 336 A A 15 47 25.9
comp=E,9.0nm,0.4s,comp=N,5.0nm,0.5s
JYK Kaneyama 1.44 297 A A 15 47 27.4
comp=E,4.0nm,0.8s,comp=N,4.0nm,0.7s
JOTO OTAMA OYAMA 1.50 242 A A 15 47 29.0
comp=E,8.0nm,0.3s,comp=N,12nm,1.0s
JYAR Yonezawaarcadi 1.50 257 A A 15 47 28.8
comp=E,10.0nm,1.0s,comp=N,11nm,0.5s
ONAJ Iwakimizuishiy 1.51 220 A A 15 47 29.7
comp=E,14nm,0.3s,comp=N,8.0nm,0.3s
JYS Shirataka 1.52 269 A A 15 47 28.8
comp=E,7.0nm,1.9s,comp=N,7.0nm,1.4s
JRG Rokugo 1.55 317 A A 15 47 29.1
comp=E,6.0nm,0.6s,comp=N,6.0nm,1.2s
JSZI Iwateshizukuis 1.68 331 A A 15 47 31.1
comp=E,6.0nm,1.2s,comp=N,10.0nm,2.0s
JYYZ Yamagatayuza 1.78 295 A A 15 47 32.3
comp=E,8.0nm,3.3s,comp=N,11nm,2.0s
JYA Atsumi 1.82 281 A A 15 47 33.0
comp=E,13nm,0.5s,comp=N,9.0nm,1.1s
JYW Yuwa 1.89 313 A A 15 47 33.9
comp=E,12nm,0.6s,comp=N,12nm,1.2s
JKEN Kujiedanarisaw 1.94 354 A A 15 47 35.3
comp=E,13nm,0.4s,comp=N,15nm,0.4s
JSB Shiboa 2.10 232 A A 15 47 37.9
comp=E,6.0nm,1.5s,comp=N,5.0nm,1.5s
JYT Yasato 2.50 216 A A 15 47 44.0
comp=E,6.0nm,0.3s,comp=N,4.0nm,0.3s
JTM Tenmabayashi 2.61 344 Pn Pn 15 47 44.1 +0.4
JSD Sado 2.96 267 Pn Pn 15 47 47.7 -0.7
MJAR Matsushiro Arr 3.48 241 P Pn 15 47 56.6 +1.0
comp=N,17nm,0.4s,baz=49,slow=10,SNR=81
MJAR S Sn 15 48 37.3 +1.7
comp=N,15nm,0.4s,baz=30,slow=20,SNR=4.7
MJAR LR LR 15 49 30.8
comp=N,476nm,20.6s,baz=64,slow=42
MAJO Matsushiro 3.48 241 Pn Pn 15 47 56.1 +0.4
MAJO Matsushiro 3.48 241 *d*iP Pn 15 47 57.0 +1.4
MJB9 Matsu-Tunnel 3.48 241 Pn Pn 15 47 56.5 +0.9
ERM Erimo 3.84 13 Pn Pn 15 48 00.8 +0.2
ERM Erimo 3.84 13 *ce*P Pn 15 48 01.4 +0.8
ERM pmax pmax
comp=Z,40nm,0.7s
INU Inuyama 4.95 235 Pn Pn 15 48 17.5 +1.7
JHJ Hachijo jima 2 5.45 200 P Pn 15 48 23.2 +0.5
comp=Z,53nm,0.3s,baz=342,slow=6.7,SNR=23
JHJ S Sn 15 49 23.6 -0.5
comp=Z,109nm,0.3s,baz=232,slow=23,SNR=7.9
NMR Nemuro--Hokkai 5.83 28 ⇑*i*P Pn 15 48 26.6 -1.2
NMR *e*S Sn 15 49 27.9 -5.4
ASAJ Asahikawa 5.86 4 P Pn 15 48 28.9 +0.6
comp=Z,13nm,0.4s,baz=224,slow=12,SNR=28
ASAJ S Sn 15 49 35.0 +0.9
comp=Z,26nm,0.5s,baz=132,slow=16,SNR=3.7
RUSJ Misakicho 6.32 22 *e*P Pn 15 48 34.5 -0.1
RUSJ *e*S Sn 15 49 43.2 -2.3
YUK Yuzh-Kuril'sk 6.45 26 *e*P Pn 15 48 35.7 -0.7
YUK *e*S Sn 15 49 45.0 -3.7
YUK pmax pmax
comp=E,40nm,0.4s
YUK pmax pmax
comp=Z,114nm,0.4s
YUK pmax pmax
comp=N,29nm,0.1s
SHO Shikotan 6.68 32 P Pn 15 48 37.0 -2.5
SHO *i*S Sn 15 49 47.7 -6.6
TEY Ternei 7.87 331 ⇑*e*P Pn 15 49 00.5 +4.6
TEY pmax pmax
comp=N,70nm,0.7s
TEY pmax pmax
comp=E,40nm,0.7s
TEY pmax pmax
comp=Z,70nm,0.7s
KUR Kuril'sk 8.22 30 *e*P Pn 15 49 01.9 +1.2
KUR *e*S Sn 15 50 27.3 -4.8
KUR pmax pmax
comp=Z,45nm,0.5s
KUR smax smax
comp=N,87nm,0.5s
KUR smax smax
comp=E,81nm,0.6s
YSS Yuzh-Sakhalins 8.70 3 *e*P Pn 15 49 07.3 +0.2
YSS pmax pmax
comp=Z,40nm,0.9s
YSS MLR MLR
comp=Z,200nm,16.0s
MSHR Mys Shultsa 9.32 301 *i*P Pn 15 49 15.5 -0.2
USRK Ussuriysk Ar. 9.58 311 Pn Pn 15 49 19.9 +0.6
USRK Ussuriysk Ar. 9.58 311 P Pn 15 49 19.6 +0.3
comp=Z,21nm,0.7s,baz=127,slow=15,SNR=22
USRK LR LR 15 52 48.4
comp=Z,175nm,19.9s,baz=109,slow=36
USRK Ussuriysk Ar. 9.58 311 P Pn 15 49 19.9 +0.6
USA0B Ussuriysk Arra 9.58 311 Pn Pn 15 49 19.5 +0.2
USA0B Ussuriysk Arra 9.58 311 *i*P Pn 15 49 20.0 +0.7
JNU Nakatsue 10.40 244 P Pn 15 49 31.6 +1.0
comp=Z,7.9nm,0.7s,baz=68,slow=5.4,SNR=9.9
JNU LR LR 15 53 51.5
comp=Z,238nm,20.7s,baz=46,slow=39
JCJ Chichijima 11.15 179 P Pn 15 49 35.5 -5.3
comp=Z,18nm,0.3s,baz=4.6,slow=19,SNR=6.3
JCJ S Sn 15 51 31.8 -12
comp=Z,39nm,0.3s,baz=294,slow=23,SNR=4.9
JCJ LR LR 15 58 39.5
comp=Z,16nm,18.1s,baz=184,slow=62
KSRS Korea Array 11.16 270 P Pn 15 49 42.4 +1.5
comp=Z,1.2nm,0.4s,baz=78,slow=14,SNR=9.4
KSRS LR LR 15 53 36.7
comp=Z,136nm,20.5s,baz=80,slow=35
KSAR Wonju Array Be 11.19 270 Pn Pn 15 49 43.9 +2.5
KSAR Wonju Array Be 11.19 270 P Pn 15 49 43.9 +2.5
KS19 Wonju Array Si 11.20 270 Pn Pn 15 49 44.3 +2.9
MDJ Mudanjiang 11.26 308 P Pn 15 49 42.5 +0.3
MDJ sP 15 49 59.5
MDJ S Sn 15 51 46.8 +0.2
MDJ pmax pmax
comp=Z,20nm,1.3s
MDJ pmax pmax
comp=Z,98nm,4.8s
KLR Kul'dur 13.21 329 P Pn 15 50 08.8 -0.1
comp=Z,0.8nm,0.5s,baz=143,slow=12,SNR=4.3
KLR LR LR 15 55 15.5
comp=Z,147nm,18.2s,baz=144,slow=37
JOW Kunigami 16.23 229 P Pn 15 50 48.3 -0.6
comp=Z,5.4nm,0.8s,baz=27,slow=11,SNR=1.8
PETK Petropavlovsk- 18.39 31 P Pn 15 51 15.7 +0.3
comp=Z,1.5nm,0.9s,baz=243,slow=19,SNR=2.8
PETK LR LR 15 57 45.8
comp=Z,48nm,21.1s,baz=204,slow=35

ZEA Zeya 18.49 332 *e*P P 15 51 14.8 -1.4
ZEA pmax pmax
comp=N,10.0nm,0.5s
ZEA pmax pmax
comp=Z,10.0nm,0.6s
PET Petropavlovsk 18.72 33 P Pn 15 51 22.1 +2.6
PET Petropavlovsk 18.72 33 P Pn 15 51 22.1 +2.6
comp=Z,19nm,1.2s
NJ2 Nanjing 19.89 259 *e*P P 15 51 31.5 -0.1
NJ2 pP pP 15 51 42.3 0.0
NJ2 pmax pmax
comp=Z,6.0nm,0.7s
MA2 Magadan 22.05 12 P P 15 51 54.4 -0.3
MA2 Magadan 22.05 12 LR LR 15 59 50.1
comp=Z,54nm,19.4s,baz=264,slow=35
MA2 Magadan 22.05 12 *ce*P P 15 51 54.8 +0.1
MA2 pmax pmax
comp=Z,10.0nm,1.0s
YHNB Yeheng 22.14 238 P P 15 51 53.1 -2.9
YHNB IAmb IAmb 15 52 08.7
comp=Z,38nm,1.5s
NACB Ninganchiao 22.34 237 P P 15 51 55.6 -2.5
NACB IAmb IAmb 15 52 22.1
comp=Z,16nm,0.8s
SSLB Suanglung 23.02 237 P P 15 52 05.5 +0.2
HHC Hu-ho-hao-te 23.55 286 *e*P P 15 52 09.5 -0.9
HHC pmax pmax
comp=Z,15nm,0.5s
HHC pmax pmax
comp=Z,48nm,4.7s
HHC LR LR
comp=Z,89nm,14.3s
HHC LR LR
comp=Z,110nm,14.1s
HHC LR LR
comp=Z,76nm,12.2s
TPUB Ta-pu 23.58 237 P P 15 52 07.3 -3.3
TPUB IAmb IAmb 15 52 24.6
comp=Z,13nm,0.8s
LYN LuoYang 24.00 270 *e*P P 15 52 13.3 -1.3
LYN pmax pmax
comp=Z,42nm,0.9s
GUMO Guam 24.71 173 LR LR 16 01 54.1
comp=Z,14nm,21.9s,baz=60,slow=36
BTO Baotou 24.74 286 *e*P P 15 52 23.5 +2.2
BTO pP sP 15 52 37.8 -0.6
BTO sP pP 15 52 45.8 +13
BTO pmax pmax
comp=Z,15nm,0.8s
BTO pmax pmax
comp=Z,110nm,4.9s
YAK Yakutsk 24.97 346 P P 15 52 20.7 -2.3
YAK IAmb IAmb 15 52 25.6
comp=Z,15nm,0.7s
YAK Yakutsk 24.97 346 *e*P P 15 52 22.9 -0.2
YAK *e**PP pP 15 52 35.1 +0.4
YAK *e*S S 15 56 46.7 +3.2
YAK *e*SS SnSn 15 57 52.2 +17
YAK pmax pmax
comp=Z,8.0nm,0.9s
YAK smax smax
comp=E,16nm,1.8s
YAK smax smax
comp=N,19nm,2.2s
SEY Seymchan 25.49 11 *ce*P P 15 52 28.6 +0.8
SEY pmax pmax
comp=Z,5.0nm,1.3s
ULN Ulaanbaatar 27.07 302 *ce*P P 15 52 43.1 +0.7
ULN pmax pmax
comp=Z,5.0nm,1.3s
SONM Songino Array 27.50 302 P P 15 52 45.4 -0.9
SONM Songino Array 27.50 302 P P 15 52 45.5 -0.7
comp=Z,1.7nm,0.6s,baz=108,slow=9.5,SNR=9.3
SONM LR LR 16 03 56.1
comp=Z,47nm,18.9s,baz=122,slow=37
comp=Z,1.7nm,0.6s
SONM Songino Array 27.50 302 P P 15 52 45.4 -0.9
SONM pmax pmax
comp=Z,4.0nm,1.3s
ENH Enshi 27.92 263 P P 15 52 47.2 -2.8
H11N2 WAKE ISLAND Hy 28.41 124 T T 16 23 08.7
baz=316,slow=75,SNR=3806
H11N1 WAKE ISLAND Hy 28.42 124 T T 16 23 09.9
baz=316,slow=75,SNR=2692
H11N3 WAKE ISLAND Hy 28.43 124 T T 16 23 10.0
baz=316,slow=75,SNR=2742
H11S1 WAKE ISLAND Hy 29.17 126 T T 16 24 06.1
baz=318,slow=76,SNR=927
H11S3 WAKE ISLAND Hy 29.17 126 T T 16 24 04.5
baz=318,slow=76,SNR=1756
H11S2 WAKE ISLAND Hy 29.19 126 T T 16 24 07.4
baz=318,slow=76,SNR=1072
ZAK Zakamensk 29.89 307 *e*P P 15 53 05.8 -1.6
ZAK pmax pmax
comp=Z,4.0nm,0.9s
GYA Guiyang 31.90 259 P P 15 53 25.3 -0.1
GYA pP sP 15 53 40.5 -2.1
GYA pmax pmax
comp=Z,13nm,0.6s
GTA Gaotai 32.66 285 P P 15 53 31.0 -1.0
GTA pmax pmax
comp=Z,2.0nm,1.0s
GTA LR LR
comp=Z,39nm,11.2s
GTA LR LR
comp=Z,97nm,17.1s
GTA LR LR
comp=Z,110nm,15.5s
BILL Bilibino 32.71 17 P P 15 53 31.2 -0.6
BILL Bilibino 32.71 17 *i*P P 15 53 32.4 +0.5
BILL pmax pmax
comp=Z,3.0nm,1.2s
TIXI Tiksi 34.12 353 *ce*P P 15 53 44.0 -0.1
TIXI pmax pmax
comp=Z,5.0nm,1.7s
PZH PanZhiHua 35.70 263 P P 15 53 58.5 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,90nm,7.0s
GOMU GeErMu 37.31 282 P P 15 54 11.8 -0.5
GOMU pmax pmax
comp=Z,15nm,0.6s
PHRA Phrae 41.27 253 P P 15 54 44.6 -0.4
ZAA0 Zalesovo Array 41.44 311 P P 15 54 45.4 -0.6
ZAA0 IAmb IAmb 15 54 46.3
comp=Z,7.5nm,0.7s
ZALV Zalesovo Beam 41.44 311 P P 15 54 45.4 -0.6
comp=Z,7.7nm,0.5s,baz=86,slow=8.0,SNR=29
ZALV PcP PcP 15 56 42.8 -0.3
comp=Z,1.3nm,0.4s,baz=126,slow=2.6,SNR=4.2
ZALV LR LR 16 12 28.2
comp=Z,58nm,18.3s,baz=78,slow=37
comp=Z,7.7nm,0.5s
CMAR Chiang Mai Arr 42.27 254 P P 15 54 53.2 0.0
comp=Z,0.7nm,0.6s,baz=41,slow=4.9,SNR=6.2
CMAR PcP PcP 15 56 46.9 +0.4
comp=Z,0.7nm,0.6s,baz=73,slow=1.0,SNR=4.4
CMAR LR LR 16 13 46.0
comp=Z,18nm,18.7s,baz=135,slow=38
comp=Z,0.7nm,0.6s
MK31 Makanchi Array 43.87 301 P P 15 55 06.0 +0.1
MK31 Makanchi Array 43.87 301 P P 15 55 06.0 +0.1
MK31 pmax pmax
comp=Z,5.0nm,0.8s
MKAR Makanchi Array 43.87 301 P P 15 55 06.0 +0.1
MKAR Makanchi Array 43.87 301 P P 15 55 06.0 +0.1
B20K Meade River 44.68 25 P P 15 55 13.6 +1.6
KURK Kurchatov 45.54 307 P P 15 55 18.5 -0.7
KURK Kurchatov 45.54 307 *ce*P P 15 55 18.6 -0.5
KURK pmax pmax
comp=Z,18nm,0.6s
KURBB Kurchatov Arra 45.62 307 P P 15 55 19.1 -0.6
comp=Z,18nm,0.8s,baz=83,slow=8.2,SNR=134
KURBB LR LR 16 15 04.4
comp=Z,58nm,19.2s,baz=180,slow=37
comp=Z,18nm,0.8s
D22K Ayikyak River 46.05 27 P P 15 55 22.4 -0.5
D22K IAmb IAmb 15 55 51.0
comp=Z,8.0nm,1.2s
ILAR Eielson Array 48.20 33 P P 15 55 40.5 +0.8
comp=Z,0.7nm,0.7s,baz=269,slow=5.7,SNR=8.9
ILAR pP pP 15 55 54.4 +2.4
comp=Z,1.1nm,0.6s,baz=268,slow=6.5,SNR=7.8
comp=Z,0.7nm,0.7s
BVAR Borovoye Array 50.09 312 P P 15 55 53.9 -0.5
comp=Z,2.0nm,0.5s,baz=69,slow=8.1,SNR=8.4
BVAR pP pP 15 56 08.6 +1.9
comp=Z,2.4nm,0.6s,baz=79,slow=8.1,SNR=4.9
BVAR PcP PcP 15 57 13.7 +0.3
comp=Z,2.6nm,0.5s,baz=90,slow=3.0,SNR=6.4
comp=Z,2.0nm,0.5s
BRVK Borovoye 50.14 312 *ce*P P 15 55 53.5 -1.2
BRVK pmax pmax
comp=Z,3.0nm,1.0s
AAK Ala-Archa 50.32 298 LR LR 16 16 53.5
comp=Z,45nm,19.7s,baz=90,slow=36
HNR Honiara 50.33 157 LR LR 16 16 48.8
comp=Z,627nm,19.1s,baz=276,slow=35
KSH Kashi 50.33 293 P P 15 56 00.0 +3.5
I30M Mount Dempster 52.58 32 P P 15 56 14.8 +1.9
KKAR Karatay Array 52.91 299 P P 15 56 14.1 -1.5
KKAR Karatay Array 52.91 299 P P 15 56 14.1 -1.5
TRKS Terek-Say 53.04 297 P P 15 56 15.8 -1.0
TRKS pmax pmax
comp=Z,7.0nm,0.9s
CHGR Chuyangaron 55.56 295 P P 15 56 34.2 -0.8
CHGR Chuyangaron 55.56 295 P P 15 56 34.2 -0.8
CHGR pmax pmax
comp=Z,11nm,0.7s
ARU Arti 55.74 318 P P 15 56 34.9 -1.1
ARU IAmb IAmb 15 56 36.0
comp=Z,6.8nm,0.7s
ARU Arti 55.74 318 LR LR 16 22 15.0
comp=Z,48nm,19.7s,baz=293,slow=38
ARU Arti 55.74 318 *ce*P P 15 56 35.4 -0.5
ARU pmax pmax
comp=Z,9.0nm,1.3s
ARU Arti 55.74 318 P P 15 56 33.2 -2.7
comp=Z,11nm,1.1s
KBL Kabul 57.41 290 P P 15 56 47.7 -0.7
KBL IAmb IAmb 15 56 49.5
comp=Z,6.6nm,0.7s
KBL Kabul 57.41 290 P P 15 56 47.7 -0.7
KBL pmax pmax
comp=Z,7.0nm,0.7s
ABKAR Akbulak array 57.50 310 P P 15 56 47.4 -1.1
WB0 Warramunga Arr 58.17 188 P P 15 56 53.3 -0.1
WRAB Tennant Creek 58.34 188 P P 15 56 54.5 -0.1
WRAB IAmb IAmb 15 57 13.7
comp=Z,7.6nm,0.8s
WRAB Tennant Creek 58.34 188 P P 15 56 54.5 -0.1
WRAB pmax pmax
comp=Z,8.0nm,0.9s
WR0 Warramunga Arr 58.34 188 P P 15 56 54.6 0.0
WR0 IAmb IAmb 15 57 13.3
comp=Z,5.3nm,0.7s
WB2 Warramunga Arr 58.35 188 P P 15 56 54.5 -0.1
WRA Warramunga Arr 58.35 188 P P 15 56 54.6 -0.1
WRA Warramunga Arr 58.35 188 P P 15 56 54.5 -0.2
comp=Z,3.8nm,0.5s,baz=5.4,slow=7.0,SNR=76
WRA pP pP 15 57 09.5 +2.2
comp=Z,5.4nm,0.7s,baz=4.1,slow=7.3,SNR=14
comp=Z,3.8nm,0.5s
SPITS Spitsbergen Ar 59.40 349 P P 15 57 03.2 +1.9
comp=Z,3.6nm,0.9s,baz=34,slow=14,SNR=1.5
comp=Z,3.6nm,0.9s
KIRV Kirov 59.54 323 *ce*P P 15 57 02.3 -0.2
RES Resolute Bay 61.29 15 P P 15 57 14.3 +0.1
RES Resolute Bay 61.29 15 P P 15 57 14.3 +0.1
RES pmax pmax
comp=Z,3.0nm,1.1s
AS31 Alice Springs 62.08 188 P P 15 57 20.5 +0.4
ASAR Alice Springs 62.08 188 P P 15 57 20.2 +0.1
ASAR Alice Springs 62.08 188 P P 15 57 20.5 +0.4
comp=Z,2.3nm,0.7s,baz=12,slow=6.0,SNR=36
ASAR pP sP 15 57 35.9 -2.0
comp=Z,1.6nm,0.8s,baz=18,slow=11,SNR=6.1
comp=Z,2.3nm,0.7s
KEV Kevo 62.45 339 P P 15 57 22.2 +0.2
KEV Kevo 62.45 339 P P 15 57 22.3 +0.2
KEV pmax pmax
comp=Z,43nm,1.4s
YKA Yellowknife Ar 62.51 31 P P 15 57 23.4 +0.8
comp=Z,0.3nm,0.6s,baz=326,slow=9.3,SNR=6.0
YKA pP sP 15 57 38.2 -2.1
comp=Z,0.4nm,0.8s,baz=297,slow=6.8,SNR=3.3
comp=Z,0.3nm,0.6s
ARCES ARCESS Array B 63.00 339 P P 15 57 25.9 0.0
ARCES ARCESS Array B 63.00 339 P P 15 57 25.9 0.0
comp=Z,2.0nm,0.6s,baz=53,slow=7.3,SNR=14
ARCES pP sP 15 57 42.6 -1.0
comp=Z,1.8nm,0.8s,baz=50,slow=8.0,SNR=2.1
comp=Z,2.0nm,0.6s
GEYT Alibeck 63.65 299 P P 15 57 30.3 -0.3
comp=Z,0.8nm,0.5s,baz=81,slow=12,SNR=4.1
GEYT pP pP 15 57 46.2 +2.8
comp=Z,1.3nm,0.6s,baz=20,slow=4.7,SNR=3.4
comp=Z,0.8nm,0.5s
DAG Danmarks Havn 64.58 355 P P 15 57 35.9 -0.2
OBN Obninsk 67.38 323 *de*P P 15 57 54.2 -0.2
OBN *e* 15 58 17.1
OBN *e*S S 16 06 53.9 +7.4
OBN pmax pmax
comp=Z,6.0nm,0.7s
OBN MLR MLR
comp=Z,27nm,15.0s
FIA1 FINESS Array S 67.94 332 P P 15 57 57.3 -0.4
FINES FINESS Array B 67.94 332 P P 15 57 57.2 -0.5
comp=Z,4.3nm,0.6s,baz=56,slow=7.6,SNR=18
FINES pP sP 15 58 14.3 -1.4
comp=Z,2.5nm,0.8s,baz=73,slow=8.4,SNR=3.2
FINES LR LR 16 28 26.3
comp=Z,30nm,21.8s,baz=62,slow=36
comp=Z,4.3nm,0.6s
FINES FINESS Array B 67.94 332 *ce*P P 15 57 57.5 -0.3
FINES pmax pmax
comp=Z,4.0nm,0.6s
VSU Vasula 69.62 330 *ce*P P 15 58 09.1 +0.8
VSU pmax pmax
comp=Z,6.0nm,1.0s
STKA Stephens Creek 69.79 180 P P 15 58 10.2 +0.7
comp=Z,2.8nm,0.9s,baz=0.0,slow=14,SNR=1.9
comp=Z,2.8nm,0.9s
KIV Kislovodsk 70.45 311 *d*iP P 15 58 14.3 +0.5
KIV *e* 15 58 32.9
KIV pmax pmax
comp=Z,13nm,0.8s
KIV Kislovodsk 70.45 311 P P 15 58 10.9 -2.9
comp=Z,16nm,1.2s
KBZ Khabaz 70.45 311 P P 15 58 13.8 +0.1
comp=Z,4.5nm,0.9s,baz=44,slow=1.2,SNR=5.6
KBZ LR LR 16 31 00.2
comp=Z,18nm,21.4s,baz=38,slow=37
comp=Z,4.5nm,0.9s
KBZ Khabaz 70.45 311 *ce*P P 15 58 13.9 +0.3
KBZ pmax pmax
comp=Z,5.0nm,0.9s
NC405 NORSAR Array S 73.02 337 P P 15 58 28.6 -0.2
NC405 IAmb IAmb 15 58 29.4
comp=Z,7.1nm,0.7s
HFS Hagfors 73.15 336 P P 15 58 29.1 -0.5
comp=Z,4.6nm,0.4s,baz=48,slow=4.4,SNR=36
HFS LR LR 16 33 30.9
comp=Z,47nm,18.0s,baz=28,slow=38
comp=Z,4.6nm,0.4s
NC204 NORSAR Array S 73.17 338 P P 15 58 29.1 -0.7
NC204 IAmb IAmb 15 58 30.8
comp=Z,10nm,0.8s
NB201 NORSAR Array S 73.19 337 P P 15 58 29.4 -0.5
NB201 IAmb IAmb 15 58 30.8
comp=Z,8.8nm,0.8s
NB2 NORSAR Subarra 73.22 337 P P 15 58 29.9 -0.2
comp=Z,3.9nm,0.6s,baz=39,slow=6.2
NOA NORSAR Array B 73.22 337 P P 15 58 29.8 -0.3
comp=Z,4.7nm,0.7s,baz=38,slow=5.9,SNR=22
NOA LR LR 16 33 13.5
comp=Z,25nm,21.2s,baz=45,slow=38
comp=Z,4.7nm,0.7s
NBO00 NORSAR Array S 73.36 338 P P 15 58 31.0 +0.1
NBO00 IAmb IAmb 15 58 31.7
comp=Z,6.2nm,0.8s
AK03 Malin Array Si 73.59 322 P P 15 58 31.5 -0.8
AKASG Malin Array Be 73.60 322 P P 15 58 31.9 -0.5
comp=Z,2.8nm,0.4s,baz=45,slow=6.0,SNR=23
comp=Z,2.8nm,0.4s
AKASG Malin Array Be 73.60 322 *ce*P P 15 58 31.8 -0.6
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKBB Malin Array Si 73.60 322 P P 15 58 31.9 -0.5
AKBB IAmb IAmb 15 58 32.7
comp=Z,6.4nm,0.8s
AKBB Malin Array Si 73.60 322 *ce*P P 15 58 32.1 -0.3

AKBB pmax pmax
comp=Z,6.0nm,0.6s
AKBB Malin Array Si 73.60 322 P **P** **15 58 31.5 -0.9**
AK01 Malin Array Si 73.61 322 P **P** **15 58 32.1 -0.4**
KIEV Kiev 73.61 322 P **P** **15 58 31.7 -0.7**
KIEV IAmb IAmb 15 58 32.7
comp=Z,5.7nm,0.8s
KIEV Kiev 73.61 322 P **P** **15 58 31.7 -0.7**
KIEV pmax pmax
comp=Z,6.0nm,0.8s
AK04 Malin Array Si 73.62 322 P **P** **15 58 32.3 -0.2**
AK09 Malin Array Si 73.63 322 P **P** **15 58 32.4 -0.2**
AK18 Malin Array Si 73.66 322 P **P** **15 58 32.3 -0.5**
AK19 Malin Array Si 73.69 322 P **P** **15 58 32.5 -0.4**
AK14 Malin Array Si 73.70 322 P **P** **15 58 32.8 -0.2**
NVAR Mina Array Bea 73.88 54 P **P** **15 58 36.4 +1.8**
comp=Z,0.4nm,0.7s,baz=298,slow=5.9,SNR=2.4
NVAR pP **PcP** **15 58 51.0 +1.1**
comp=Z,1.7nm,0.9s,baz=291,slow=7.0,SNR=5.7
comp=Z,0.4nm,0.7s
RNPP9 Sopachiv 74.69 324 P **P** **15 58 38.5 -0.2**
RNPP5 Staryi Chortor 74.82 324 P **P** **15 58 38.9 -0.6**
LUBAR Lubar, Ukraine 74.83 322 P **P** **15 58 39.0 -0.5**
SORM Soroca 75.73 321 P **P** **15 58 44.1 -0.6**
HORU Horodok 75.94 322 P **P** **15 58 45.5 -0.5**
HORU Horodok 75.94 322 P **P** **15 58 45.5 -0.5**
KMPD K-Podol'skiy 76.37 322 P **P** **15 58 47.8 -0.6**
KMPD P **P** **15 58 47.3 -1.1**
PDAR Pinedale Array 76.47 46 P **P** **15 58 50.6 +1.2**
comp=Z,0.3nm,0.5s,baz=213,slow=0.5,SNR=4.3
PDAR pP **pP** **15 59 04.7 +2.4**
comp=Z,1.4nm,0.6s,baz=263,slow=1.9,SNR=7.4
comp=Z,0.3nm,0.5s
STNU Starunia 77.21 323 P **P** **15 58 53.2 +0.1**
KSV Kosov 77.21 322 P **P** **15 58 51.6 -1.6**
BURAR Bucovina Array 77.63 322 P **P** **15 58 55.5 -0.1**
BURAR IAmb IAmb 15 58 56.6
comp=Z,2.8nm,0.7s
BURAR Bucovina Array 77.63 322 P **P** **15 58 55.5 -0.1**
BURAR pmax pmax
comp=Z,3.0nm,0.7s
RAKU Rahkiv 77.85 323 P **P** **15 58 57.0 +0.3**
ODBI Odobesti 77.99 320 P **P** **15 58 58.7 +1.2**
KOLS Kolonicke sedl 78.09 324 *eP* **P** **15 58 59.0 +0.9**
KOLS Kolonicke sedl 78.09 324 *eP* **P** **15 58 59.0 +0.9**
OJC Ojcow 78.27 326 P **P** **15 58 59.2 +0.2**
comp=Z,10nm,0.9s
HOLU Holmets 78.33 324 P **P** **15 58 59.9 +0.5**
BR131 Keskin Array S 78.38 312 P **P** **15 58 59.8 -0.2**
BR131 Keskin Array S 78.38 312 P **P** **15 58 59.8 -0.2**
BR131 pmax pmax
comp=Z,6.0nm,1.5s
BRTR Keskin Array B 78.38 312 P **P** **15 58 59.6 -0.4**
comp=Z,0.8nm,0.6s,baz=84,slow=3.7,SNR=5.1
comp=Z,0.8nm,0.6s
BRTR Keskin Array B 78.38 312 *ceP* **P** **15 59 00.0 0.0**
BRTR pmax pmax
comp=Z,1.0nm,0.4s
BR104 Keskin Array S 78.39 312 P **P** **15 59 00.4 +0.3**
comp=Z,3.0nm,1.1s
NIE Niedzica 78.64 325 P **P** **15 59 02.1 +1.0**
comp=Z,2.7nm,0.9s
MLR Muntele Rosu 78.74 320 LR LR 16 35 43.0
comp=Z,112nm,18.7s,baz=152,slow=37
VOIR 79.23 320 P **P** **15 59 04.7 +0.2**
VOIR 79.23 320 P **P** **15 59 04.7 +0.2**
MORC Moravsky Berou 79.58 327 *eP* **P** **15 59 06.4 +0.1**
MORC Moravsky Berou 79.58 327 P **P** **15 59 06.8 +0.6**
MORC pmax pmax
comp=Z,6.0nm,0.9s
VYHS Vyhne 79.97 326 *eP* **P** **15 59 09.4 +1.0**
VYHS Vyhne 79.97 326 *eP* **P** **15 59 09.4 +1.0**
CLL Collm 80.25 330 P **P** **15 59 09.1 -0.7**
CLL IAmb IAmb 15 59 10.5
comp=Z,5.8nm,0.7s
CLL Collm 80.25 330 *i* P **P** **15 59 09.5 -0.3**
comp=Z,7.0nm,0.7s
CLL *e*PcP **PcP** **15 59 16.0 -0.9**
CLL Collm 80.25 330 *i* P **P** **15 59 09.5 -0.3**
CLL pmax pmax
comp=Z,7.0nm,0.7s
VRAC Vranov 80.33 327 *eP* **P** **15 59 10.9 +0.6**
KRUC Moravsky 80.61 327 *eP* **P** **15 59 12.0 +0.2**
RAYN Ar Rayn 80.61 292 P **P** **15 59 11.7 -0.6**
RAYN IAmb IAmb 15 59 12.9
comp=Z,5.8nm,1.1s
RAYN Ar Rayn 80.61 292 P **P** **15 59 11.7 -0.6**
RAYN pmax pmax
comp=Z,6.0nm,1.1s
MMAI Mount Meron Ar 81.63 306 P **P** **15 59 18.0 +0.4**
comp=Z,3.6nm,0.7s,baz=53,slow=7.4,SNR=6.4
comp=Z,3.6nm,0.7s
RONA Rosalia, Austr 81.69 326 *i* P **P** **15 59 18.6 +1.0**
comp=Z,5.2nm,0.8s
CONA Conrad Observa 81.70 327 *eP* **P** **15 59 18.8 +1.0**
comp=Z,2.9nm,0.9s
KHC Kasperske Hory 81.73 329 *ceP* **P** **15 59 17.8 0.0**
KHC pmax pmax
comp=Z,10.0nm,1.3s
GERES GERESS Array B 81.90 328 P **P** **15 59 18.1 -0.7**
comp=Z,0.8nm,0.5s,baz=34,slow=11,SNR=2.1
comp=Z,0.8nm,0.5s
EKA Eskdalemuir Ar 82.12 341 P **P** **15 59 19.6 -0.1**
comp=Z,0.4nm,0.4s,baz=24,slow=4.8,SNR=6.7
comp=Z,0.4nm,0.4s
SOKA Soboth 83.03 326 *eP* **P** **15 59 25.0 +0.3**
comp=Z,4.4nm,0.8s
KBA Koelnbreinsper 83.44 328 *ePcP* **P** **15 59 27.6 +0.7**
comp=Z,2.9nm,0.9s
LESA Schwarzleotal 83.44 328 *eP* **P** **15 59 26.9 +0.1**
comp=Z,4.1nm,0.8s
MYKA Terra Mystica 83.66 327 *eP* **P** **15 59 27.6 -0.3**
comp=Z,2.5nm,0.5s
ABTA Abfaltersbach 84.05 328 *eP* **P** **15 59 29.3 -0.6**
comp=Z,3.1nm,0.7s
MOTA Moosalm 84.16 329 *ePcP* **P** **15 59 30.8 +0.2**
comp=Z,3.8nm,1.0s
STAL STALIGIAL 84.35 327 P **P** **15 59 29.8 -1.6**
STAL IAmb IAmb 15 59 30.7
comp=Z,5.3nm,0.7s
CIMO Cimolais 84.43 328 P **P** **15 59 30.1 -1.6**
CIMO IAmb IAmb 15 59 31.1
comp=Z,2.4nm,0.6s
DAVA Damuels 84.70 330 *ePcP* **P** **15 59 33.3 +0.1**
comp=Z,5.7nm,0.7s
FUORN Ofenpass-Fuorn 85.08 329 P **P** **15 59 35.2 -0.1**
FUORN IAmb IAmb 15 59 36.4
comp=Z,5.4nm,0.8s
DAVOX Davos/Dischmat 85.11 329 LR LR 16 40 06.0
comp=Z,33nm,18.3s,baz=76,slow=37
TXAR Lajitas Array 89.00 53 P **P** **15 59 54.6 +0.1**
comp=Z,0.3nm,0.5s,baz=284,slow=2.8,SNR=5.2
TXAR pP **pP** **16 00 10.5 +2.9**
comp=Z,1.3nm,0.6s,baz=297,slow=3.1,SNR=15
comp=Z,0.3nm,0.5s
ESDC Sonseca Array 96.38 334 LR LR 16 48 19.2
comp=Z,27nm,18.5s,baz=4.5,slow=38
QSPA South Pole Qui 128.01 180 PKP **PKPdf** **16 06 03.2 -0.8**
comp=Z,0.2nm,0.5s,baz=333,slow=2.3,SNR=6.6
LPAZ La Paz 145.66 59 PKPbc **PKPdf** **16 06 38.7 0.0**
comp=Z,1.8nm,0.7s,baz=342,slow=6.4,SNR=7.0
LPAZ pPKP pPKPab 16 06 54.2 +1.5
comp=Z,2.3nm,0.6s,baz=0.0,slow=4.0,SNR=5.5

IDC 28 16:13:20.5±2.7, 19°66S×179°35E, h0km, mb3.5/4, mbtmp3.5/4, MS3.3/1, Error ellipse: s-maj=191.0km s-min=31.3km az=157.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**42.26**	**262**	P	P	16 21 15.8	-0.2
	0.4nm,1.0s,baz=97,slow=7.8,SNR=4.9						
	0.4nm,1.0s						
ASAR	**Alice Springs**	**42.30**	**256**	P	P	16 21 16.1	-0.1
	0.5nm,0.5s,baz=97,slow=7.2,SNR=9.5						
ASAR				LR	LR	16 37 26.9	
	comp=Z,36nm,18.3s,baz=40,slow=34						
	0.5nm,0.5s						
TXAR	**Lajitas Array**	**88.72**	**58**	P	P	16 26 16.4	0.0
	0.1nm,0.5s,baz=246,slow=6.6,SNR=2.7						
	0.1nm,0.5s						
YKA	**Yellowknife Ar**	**96.80**	**25**	P	P	16 26 52.5	-0.3
	0.1nm,0.6s,baz=242,slow=5.4,SNR=1.7						
	0.1nm,0.6s						

TEH 28 16:32:42.3, 34°17N×51°25E, h9km±17km, ML4.0, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
QAMS	**Qamsar**	**0.45**	**164**	Pg	Pg	16 32 51.6	+0.5
QAMS				Sg	Sg	16 32 58.0	+1.1
IQOM	**Qom**	**0.69**	**347**	Pg	Pb	16 32 56.2	-0.5
IQOM				Sg	Sb	16 33 05.9	-0.6
KRSH	**Karshahi**	**0.76**	**105**	Pg	Pb	16 32 57.6	-0.2
ISFB	**Sefidab**	**0.84**	**77**	Pg	Pg	16 32 58.6	+0.1
IKLH	**Kolahrood**	**0.89**	**162**	Pg	Pg	16 32 59.7	+0.3
IVRN	**Varamin**	**0.92**	**25**	Pg	Pb	16 33 00.4	-0.1
IHSB	**Hasanabad**	**1.27**	**1**	Pg	Pb	16 33 06.6	+0.1
IPIR	**Pirpir**	**1.51**	**192**	Pg	Pn	16 33 10.1	+0.3
IDMV	**Damavand**	**1.55**	**24**	Pg	Pb	16 33 11.1	-0.2
IZEF	**Zefreh**	**1.55**	**144**	Pg	Pn	16 33 10.9	+0.5
TEH	**Tehran**	**1.57**	**4**	Pg	Pb	16 33 11.7	0.0
TEHA	**Amirabad Tehra**	**1.58**	**4**	Pg	Pb	16 33 11.5	-0.3
IMHD	**Mahdasht**	**1.59**	**343**	Pg	Pb	16 33 11.5	-0.5
AMDI	**Meshkindasht**	**1.60**	**351**	Pg	Pb	16 33 12.1	0.0
ILAS	**Lasjerd**	**1.86**	**49**	Pn	Pb	16 33 16.3	-0.2
HAGD	**Aghdareh**	**1.86**	**291**	Pn	Pb	16 33 16.3	-0.4
IGAR	**Gharneh**	**1.88**	**159**	Pn	Pb	16 33 17.4	+0.5
IFIR	**Firoozkooh**	**1.92**	**40**	Pn	Pb	16 33 17.4	-0.3
JHBN	**Jahan bin**	**1.99**	**194**	Pn	Pb	16 33 19.1	+0.2
QABG	**Abgarm-Qazvin**	**2.06**	**319**	Pn	Pb	16 33 19.1	-1.0
ZNGN	**Zangian**	**2.07**	**189**	Pn	Pb	16 33 20.2	0.0
HSAM	**Samen**	**2.20**	**272**	Pn	Pb	16 33 21.1	-1.3
IBRJ	**Brojen**	**2.25**	**180**	Pn	Pb	16 33 22.6	-0.7
IPRN	**Peran**	**2.25**	**23**	Pn	Pb	16 33 22.2	-1.1
ANAR	**Anarak**	**2.28**	**115**	Pn	Pb	16 33 22.6	-1.2
IALA	**Alasht**	**2.30**	**33**	Pn	Pn	16 33 22.0	+1.3
IRAM	**Ramesheh**	**2.54**	**158**	Pn	Pb	16 33 26.6	-1.6
IANJ	**Anjilo**	**2.54**	**59**	Pn	Pn	16 33 25.7	+1.6
IDOB	**Doab**	**2.58**	**262**	Pn	Pb	16 33 27.1	-1.8
JIR1	**Jirandeh**	**2.80**	**335**	Pn	Pn	16 33 29.7	+2.3
IKFM	**Kafar-mosalman**	**2.91**	**258**	Pn	Pb	16 33 31.4	+2.7
ISAD	**Sadrabad**	**3.04**	**137**	Pn	Pb	16 33 34.2	-2.5
SNQR	**Sonqor, Kerman**	**3.07**	**284**	Pn	Pb	16 33 35.0	-2.3
LHJ2	**Lahijan - Gila**	**3.15**	**342**	Pn	Pn	16 33 34.1	+2.0
KLNJ	**Kolanjah**	**3.16**	**175**	Pn	Pn	16 33 35.5	+2.9
ICHK	**Chekchek**	**3.27**	**125**	Pn	Pn	16 33 36.4	+2.5
ILIN	**Lien**	**3.62**	**283**	Pn	Pn	16 33 41.3	+2.4
IGHG	**Ghaleghazi**	**3.88**	**274**	Pn	Pn	16 33 45.0	+2.6
IMEH	**Mehriz**	**3.96**	**133**	Pn	Pn	16 33 46.2	+2.7
IDHR	**Dehrash**	**4.06**	**279**	Pn	Pn	16 33 47.9	+3.1
ILBA	**Ilam Banvizeh**	**4.23**	**264**	Pn	Pn	16 33 49.9	+2.9
GLG1	**Gilan-e-Gharb**	**4.43**	**271**	Pn	Pn	16 33 52.3	+2.5
IBAF	**Bafgh**	**4.45**	**124**	Pn	Pn	16 33 52.3	+2.2
TNSJ	**Nastanj**	**4.45**	**91**	Pn	Pn	16 33 52.3	+2.2
ISRB	**Sarab**	**4.67**	**322**	Pn	Pn	16 33 55.7	+2.5
TKDS	**Koohdasht(Taba**	**4.91**	**95**	Pn	Pn	16 33 59.0	+2.6
IHRS	**Heris**	**5.36**	**322**	Pn	Pn	16 34 05.2	+2.5
GRMI	**Germi**	**5.37**	**331**	Pn	Pn	16 34 05.0	+2.3
SBZV	**Sabzevar**	**5.65**	**65**	Pn	Pn	16 34 08.6	+1.8
DSBU	**Dashti - Bushe**	**5.79**	**180**	Pn	Pn	16 34 11.2	+2.7
ISFR	**Sfrayin**	**6.21**	**60**	Pn	Pn	16 34 16.7	+2.4
ITEG	**Tejag**	**6.39**	**99**	Pn	Pn	16 34 19.6	+2.9
IAKL	**Akhelmad**	**6.59**	**66**	Pn	Pn	16 34 22.1	+2.4
IKOO	**Kooshah**	**6.72**	**103**	Pn	Pn	16 34 23.7	+2.3
IEMG	**Emamgholi**	**6.83**	**60**	Pn	Pn	16 34 25.3	+2.3
BSRN	**Basiran**	**6.96**	**106**	Pn	Pn	16 34 27.1	+2.4
TBJM	**Torbat-e-JAM**	**7.55**	**79**	Pn	Pn	16 34 34.8	+2.0

*HVO **28** 16:33:38.9±0.8, 19°.419N±0°.006×155°.284W±0°.007, h-0km±2km, ML3.2/48, ML2.9/34(NEIC), Error ellipse: s-maj=0.9km s-min=0.9km az=186.0*
NEIC 28 16:33:39.7±0.9, 19°.418N±0°.009×155°.292W±0°.005, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.6km az=338.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UWE	**Uwekahuna**	**0.00**	**346**		Pg	16 33 39.8	-1.0
OBL	**Observatory Le**	**0.01**	**91**		Pg	16 33 39.5	-1.3
UWB	**Uwekahuna B**	**0.01**	**62**		Pg	16 33 40.5	-0.2
RIM	**Rim**	**0.03**	**143**		Pg	16 33 40.1	-0.8
HATHI	**Halema'uma'u T**	**0.03**	**80**		Pg	16 33 40.2	-0.7
BYL	**Byron's Ledge**	**0.03**	**101**		Pg	16 33 40.2	-0.7
KKO	**Keanakako`i**	**0.03**	**129**		Pg	16 33 41.3	+0.4
RSD	**Rainshed**	**0.05**	**16**		Sg	16 33 42.1	0.0
RSD	**Rainshed**	**0.05**	**16**	Pg	Pg	16 33 40.6	-0.5
PUH	**Pauahi**	**0.08**	**121**		Sg	16 33 43.9	+1.0
PUH	**Pauahi**	**0.08**	**121**		Pg	16 33 41.6	0.0
PUH				IAML		16 33 43.0	
	comp=E,3μm,0.2s						
PUH				IAML		16 33 43.0	
	comp=N,2μm,0.2s						
MLH	**Mauna Loa**	**0.12**	**311**		Sg	16 33 46.4	+2.5
MLH	**Mauna Loa**	**0.12**	**311**		Pg	16 33 42.5	+0.2
MLH				IAML		16 33 44.7	
	comp=E,6μm,0.5s						
MLH				IAML		16 33 45.2	
	comp=N,6μm,0.2s						
HLP	**Hilina Pali**	**0.12**	**187**		Pg	16 33 42.5	+0.3
HLP	**Hilina Pali**	**0.12**	**187**		Sg	16 33 45.1	+1.2
HLP	**Hilina Pali**	**0.12**	**187**	IAML		16 33 44.6	
HLP	comp=N,2μm,0.7s			IAML		16 33 45.0	
	comp=E,3μm,0.8s						
KNHH	**Kane Nui o Ham**	**0.12**	**108**		Pg	16 33 42.2	0.0
STCH	**Steam Cracks**	**0.16**	**102**		Pg	16 33 42.8	-0.2
STCH	**Steam Cracks**	**0.16**	**102**	IAML		16 33 46.8	
STCH	comp=E,8μm,0.9s			IAML		16 33 47.1	
	comp=N,4μm,0.8s						
NPOC	**North of Pu'u**	**0.17**	**98**		Pg	16 33 43.0	-0.2
NPOC					Sg	16 33 46.4	+0.9
JCUZ	**Jacuzzi**	**0.18**	**100**		Pg	16 33 43.1	-0.3
HTC	**Hot Caves**	**0.20**	**209**		Pg	16 33 43.9	+0.2
HMH	**Humu'ula Sheep**	**0.26**	**316**		Pg	16 33 45.1	+0.3
HMH				IAML		16 33 51.3	
	comp=N,3μm,0.5s						
HMH				IAML		16 33 52.4	
	comp=E,3μm,0.6s						
JOKA	**Jonika Flow**	**0.27**	**87**		Pg	16 33 44.3	-0.7
JOKA				IAML		16 33 52.8	
	comp=E,1μm,0.6s						
JOKA				IAML		16 33 53.2	
	comp=N,3μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.29**	**294**		Pg	16 33 45.6	+0.1
MLOA				IAML		16 33 52.9	
	comp=N,3μm,0.5s						
MLOA				IAML		16 33 55.1	
	comp=E,4μm,0.6s						
MWH	**Moku'aweowe**	**0.29**	**283**		Pg	16 33 45.4	-0.1
KHU	**Kahuku**	**0.35**	**241**		Pg	16 33 46.8	+0.2
KHU				IAML		16 33 54.8	
	comp=N,2μm,0.8s						
KHU				IAML		16 33 55.3	
	comp=E,2μm,0.7s						
ALEP	**Alea Permanent**	**0.35**	**290**		Pg	16 33 46.6	-0.1
POHA	**Pohakuloa**	**0.41**	**326**		Pg	16 33 47.9	+0.3
HPO	**Honuapo**	**0.41**	**217**		Sg	16 33 52.5	-0.4
HPO	**Honuapo**	**0.41**	**217**	Pg	Pg	16 33 46.1	-1.5
HUH	**Hualalai**	**0.58**	**297**		Pg	16 33 50.6	-0.2
CPH	**Captain Cook**	**0.59**	**277**		Pg	16 33 50.7	-0.4
HPAH	**Hawaii Prepara**	**0.72**	**328**		Pg	16 33 52.2	-1.3
MHA	**Mahukona**	**0.96**	**323**		Pg	16 33 55.8	-2.3

*IDC **28** 16:34:50.7±0.8, 29°.21N×139°.55E, h387km±14km, mb3.2/12, mbtmp3.9/16, Error ellipse: s-maj=42.4km s-min=9.6km az=72.0*
*JMA **28** 16:34:51.9±0.2, 29°.2N±1°×14°.0E±°, h431km, MV3.3/33, NEAR TORISHIMA IS*
ISC 28 16:34:51.5±0.7, 29°.24N±0°.06×139°.7E±0°.1, h400km, n30, σ1§41°/36, mb3.5/12, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**3.07**	**133**	P	**Pn**	**16 35 57.9**	**+2.5**
CBIJ				S	**S**	**16 36 48.9**	**+1.9**
JCJ	**Chichijima**	**3.07**	**133**	P	**Pn**	**16 35 53.2**	**-2.2**
JCJ	70nm,0.3s,baz=274,slow=23,SNR=22			S	**S**	**16 36 44.6**	**-2.4**
	160nm,0.4s,baz=299,slow=21,SNR=13						
JHJ2	**Mitsune**	**3.87**	**2**	*eP*	**Pn**	**16 36 04.5**	**+2.3**
JHJ	**Hachijo jima 2**	**3.87**	**1**	P	**Pn**	**16 36 02.5**	**+0.3**
JHJ	110nm,1.0s,baz=90,slow=22,SNR=6.5			S	**S**	**16 36 59.6**	**-0.1**
	94nm,0.8s,baz=78,slow=20,SNR=1.9						
JWKM	**Wakayamakushim**	**5.38**	**322**	*eS*	S	16 37 42.5	+15
BSO1	**Boso 1**	**5.51**	**11**	S	**S**	**16 37 29.9**	**+1.0**
BSO3	**Boso 3**	**5.59**	**7**	*eP*	**Pn**	**16 36 21.0**	**+1.6**
BSO3				S	**S**	**16 37 31.3**	**+0.3**
BSO4	**Boso 4**	**5.76**	**5**	*eS*	**S**	**16 37 35.1**	**+0.5**
JRY	**Ryogami san**	**6.79**	**355**	P	**P**	**16 36 33.5**	**+0.1**
JWT	**Wachi**	**7.03**	**330**	P	**P**	**16 36 37.8**	**+1.8**
JAG	**Ashikaga**	**7.17**	**359**	P	**Pn**	**16 36 36.3**	**-0.7**
JNG	**Nsakai**	**7.27**	**350**	*eP*	**P**	**16 36 39.1**	**+0.3**
MJAR	**Matsushiro Arr**	**7.39**	**351**	P	**Pn**	**16 36 39.4**	**-0.1**
	1.6nm,0.5s,baz=174,slow=9.5,SNR=7.9						
JHO	**Hitachi**	**7.39**	**6**	P	**P**	**16 36 39.9**	**-0.2**
JMM	**Marumori**	**8.66**	**6**	P	**P**	**16 36 55.5**	**+1.5**
JMM				*eS*	**S**	**16 38 31.3**	**-3.0**
JMK	**Ichinoseki**	**9.77**	**7**	P	**Pn**	**16 37 08.2**	**+1.4**
JMK				S	**S**	**16 38 54.7**	**-2.9**
JRG	**Rokugo**	**10.16**	**4**	P	**Pn**	**16 37 13.3**	**+2.0**
USRK	**Ussuriysk Ar.**	**16.14**	**340**	P	**P**	**16 38 15.9**	**-0.2**
	1.8nm,0.7s,baz=167,slow=14,SNR=6.5						
SONM	**Songino Array**	**31.64**	**315**	P	**P**	**16 40 38.1**	**-1.4**
	0.5nm,0.4s,baz=108,slow=8.1,SNR=3.5						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**47.41**	**308**	P	**P**	**16 42 47.3**	**-0.3**
	0.8nm,0.6s,baz=93,slow=9.6,SNR=5.2						
	0.8nm,0.6s						
WRA	**Warramunga Arr**	**49.16**	**187**	P	**P**	**16 43 01.6**	**+0.6**
	0.2nm,0.4s,baz=2.0,slow=7.7,SNR=11						
WRA				PcP	**PcP**	**16 44 18.8**	**+1.4**
	0.3nm,0.5s,baz=359,slow=4.1,SNR=5.8						
	0.2nm,0.4s						
KURBB	**Kurchatov Arra**	**49.97**	**313**	P	**P**	**16 43 05.8**	**-0.9**
	1.3nm,0.5s,baz=92,slow=7.3,SNR=24						
	1.3nm,0.5s						
ASAR	**Alice Springs**	**52.89**	**187**	P	**P**	**16 43 28.7**	**+0.4**
	0.5nm,0.9s,baz=353,slow=3.6,SNR=2.0						
	0.5nm,0.9s						
BVAR	**Borowoye Array**	**54.98**	**316**	P	**P**	**16 43 42.6**	**-0.3**
	2.4nm,0.5s,baz=88,slow=7.6,SNR=10						
	2.4nm,0.5s						
ARCES	**ARCESS Array B**	**70.79**	**340**	P	**P**	**16 45 26.6**	**+1.1**
	3.8nm,1.1s,baz=80,slow=5.6,SNR=5.8						
	3.8nm,1.1s						
FINES	**FINESS Array B**	**75.05**	**333**	P	**P**	**16 45 50.0**	**-0.2**
	0.7nm,0.5s,baz=70,slow=5.0,SNR=8.7						
	0.7nm,0.5s						
AKASG	**Malin Array Be**	**79.59**	**323**	P	**P**	**16 46 14.8**	**-0.6**
	0.5nm,0.4s,baz=54,slow=5.4,SNR=2.4						
	0.5nm,0.4s						
HFS	**Hagfors**	**80.58**	**336**	P	**P**	**16 46 20.2**	**-0.2**
	0.8nm,0.5s,baz=17,slow=1.5,SNR=5.6						
	0.8nm,0.5s						
NOA	**NORSAR Array B**	**80.80**	**337**	P	**P**	**16 46 21.6**	**0.0**
	0.6nm,0.6s,baz=54,slow=6.4,SNR=3.6						
	0.6nm,0.6s						
BRTR	**Keskin Array B**	**82.93**	**312**	P	**P**	**16 46 32.9**	**-0.2**
	0.4nm,0.6s,baz=98,slow=10,SNR=3.6						
	0.4nm,0.6s						

*NEIC **28** 16:36:43.5±1.0, 19°.385N±0°.009×155°.264W±0°.007, h2km±4km, Error ellipse: s-maj=1.5km s-min=0.5km az=145.0*
HVO 28 16:36:42.8±0.7, 19°.412N±0°.009×155°.270W±0°.009, h1km±3km, ML3.5/11, ML2.6/29(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=197.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BYL	**Byron's Ledge**	**0.01**	**89**		Pg	16 36 43.5	+0.3
HATHI	**Halema'uma'u T**	**0.01**	**36**		Pg	16 36 43.7	+0.4
KKO	**Keanakako`i**	**0.01**	**166**		Pg	16 36 44.3	+1.1
OBL	**Observatory Le**	**0.01**	**293**		Pg	16 36 44.0	+0.7
SBLHI	**Steaming Bluff**	**0.01**	**6**		Pg	16 36 44.2	+0.9
UWB	**Uwekahuna B**	**0.01**	**329**		Pg	16 36 44.1	+0.8
RIM	**Rim**	**0.02**	**194**		Pg	16 36 44.3	+1.0
UWE	**Uwekahuna**	**0.02**	**293**		Pg	16 36 43.9	+0.6
UWE	**Uwekahuna**	**0.02**	**293**	IAML		16 36 44.0	
	comp=N,2μm,1.1s						
RSD	**Rainshed**	**0.05**	**351**		Pg	16 36 44.6	+0.8
RSD	**Rainshed**	**0.05**	**351**	IAML		16 36 45.1	
	comp=E,1μm,0.5s						
RSD				IAML		16 36 45.3	
	comp=N,2μm,0.1s						
PUH	**Pauahi**	**0.06**	**127**		Pg	16 36 45.0	+0.9
PUH	**Pauahi**	**0.06**	**127**	IAML		16 36 45.8	
	comp=E,5μm,0.7s						
PUH				IAML		16 36 46.4	
	comp=N,4μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.10**	**109**		Pg	16 36 45.7	+0.9
HLP	**Hilina Pali**	**0.12**	**197**		Pg	16 36 46.3	+1.1
HLP	**Hilina Pali**	**0.12**	**197**	IAML		16 36 49.0	
	comp=E,2μm,0.4s						
HLP				IAML		16 36 49.0	
	comp=N,4μm,0.8s						
MLH	**Mauna Loa**	**0.14**	**307**		Pg	16 36 46.6	+1.0
MLH				IAML		16 36 49.9	
	comp=E,1μm,0.3s						
MLH				IAML		16 36 50.1	
	comp=N,3μm,0.6s						
STCH	**Steam Cracks**	**0.14**	**101**		Pg	16 36 46.4	+0.8
STCH	**Steam Cracks**	**0.14**	**101**	IAML		16 36 49.5	
	comp=E,3μm,0.6s						
STCH				IAML		16 36 49.8	
	comp=N,4μm,1.0s						
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	16 36 46.6	+0.8
JCUZ	**Jacuzzi**	**0.16**	**100**		Pg	16 36 46.8	+0.8
HTC	**Hot Caves**	**0.21**	**215**		Pg	16 36 48.0	+1.2
JOKA	**Jonika Flow**	**0.25**	**85**	Pg	Pg	16 36 48.0	+0.3
JOKA				IAML		16 36 56.2	
	comp=E,1μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**313**		Sg	16 36 53.6	+1.8
HMH	**Humu'ula Sheep**	**0.28**	**313**	Pg	Pg	16 36 49.0	+0.8
HMH				IAML		16 36 53.9	
	comp=E,1μm,1.3s						
HMH				IAML		16 36 57.1	
	comp=N,966nm,0.7s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	16 36 49.7	+0.8
MLOA				IAML		16 36 59.5	
	comp=N,1μm,1.2s

PUH			IAML		16 37 43.9	
	comp=N,7μm,0.6s					
KNHH	**Kane Nui o Ham**	**0.11 102**		Pg	16 37 43.9	+1.0
HLP	**Hilina Pali**	**0.11 194**		Sg	16 37 46.5	+2.2
HLP	**Hilina Pali**	**0.11 194**		Pg	16 37 44.0	+1.1
HLP			IAML		16 37 46.6	
	comp=E,15μm,0.9s					
HLP	**Hilina Pali**	**0.11 194**	IAML		16 37 45.1	
	comp=N,3μm,0.8s					
MLH	**Mauna Loa**	**0.14 312**		Pg	16 37 44.2	+0.8
STCH	**Steam Cracks**	**0.15 96**		Pg	16 37 44.3	+0.7
STCH			IAML		16 37 48.1	
	comp=N,3μm,1.0s					
NPOC	**North of Pu'u**	**0.16 93**		Pg	16 37 44.8	+0.9
JCUZ	**Jacuzzi**	**0.17 96**		Pg	16 37 44.9	+0.9
HTC	**Hot Caves**	**0.20 214**		Pg	16 37 45.6	+1.0
JOKA	**Jonika Flow**	**0.26 83**		Sg	16 37 49.2	+0.1
HMH	**Humu'ula Sheep**	**0.28 316**		Sg	16 37 51.9	+2.2
HMH	**Humu'ula Sheep**	**0.28 316**		Pg	16 37 46.9	+0.8
HMH			IAML		16 37 53.9	
	comp=E,1μm,0.7s					
HMH			IAML		16 37 55.2	
	comp=N,2μm,0.9s					
MLOA	**Mauna Loa Obse**	**0.31 296**	Pg	Pg	16 37 47.5	+0.8
MLOA			IAML		16 37 50.6	
	comp=E,1μm,1.2s					
MLOA			IAML		16 37 57.5	
	comp=N,1μm,0.6s					
MWH	**Moku'aweowe**	**0.31 285**	Pg	Pg	16 37 47.3	+0.6
PAH	**Pahoa**	**0.33 74**	Pg	Pg	16 37 47.4	+0.4
KHU	**Kahuku**	**0.35 244**		Pg	16 37 48.0	+0.5
KHU			IAML		16 37 55.1	
	comp=E,2μm,0.9s					
KHU			IAML		16 37 55.3	
	comp=N,1μm,0.6s					
HPO	**Honuapo**	**0.41 220**		Sg	16 37 53.5	-0.3
POHA	**Pohakuloa**	**0.43 326**		Sb	16 37 56.9	-1.5
POHA	**Pohakuloa**	**0.43 326**	Pg	Pg	16 37 49.3	+0.4
POHA			IAML		16 37 57.1	
	comp=N,1μm,0.8s					
POHA			IAML		16 37 59.8	
	comp=N,2μm,0.8s					
HUH	**Hualalai**	**0.59 298**	Pg	Pg	16 37 52.9	+0.7
MHA	**Mahukona**	**0.98 323**	Pg	Pg	16 37 57.6	-1.9

*NEIC **28** 16:40:10.9±0.9, 19°.414N±0°.007×155°.300W±0°.005, h2km±4km, Error ellipse: s-maj=1.2km s-min=0.3km az=152.0*

HVO 28 16:40:10.2±0.9, 19°.411N±0°.007×155°.292W±0°.005, h0km±4km, ML3.2/39, ML3.0/45(NEIC), Error ellipse: s-maj=1.2km s-min=0.3km az=149.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**48**		Pg	16 40 11.5	+0.9
UWE	**Uwekahuna**	**0.01**	**356**		Pg	16 40 10.7	+0.1
UWB	**Uwekahuna B**	**0.02**	**44**		Pg	16 40 11.8	+1.2
RIM	**Rim**	**0.02**	**131**		Pg	16 40 12.1	+1.4
KKO	**Keanakako`i**	**0.03**	**117**		Pg	16 40 12.5	+1.8
SBLHI	**Steaming Bluff**	**0.03**	**54**		Pg	16 40 12.6	+1.9
BYL	**Byron's Ledge**	**0.03**	**87**		Pg	16 40 11.4	+0.6
HATHI	**Halema'uma'u T**	**0.03**	**67**		Pg	16 40 11.7	+0.8
RSD	**Rainshed**	**0.05**	**14**	Pg	Pg	16 40 11.9	+0.6
PUH	**Pauahi**	**0.08**	**117**	Pg	Pg	16 40 12.6	+0.9
PUH				IAML		16 40 14.2	
	comp=E,7μm,0.8s						
HLP	**Hilina Pali**	**0.12**	**187**		Pg	16 40 13.5	+1.1
HLP					Sg	16 40 16.0	+2.1
HLP	**Hilina Pali**	**0.12**	**187**	IAML		16 40 16.0	
	comp=E,2μm,0.3s						
HLP				IAML		16 40 16.1	
	comp=N,7μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.12**	**105**		Pg	16 40 13.4	+0.9
MLH	**Mauna Loa**	**0.12**	**313**		Pg	16 40 13.8	+1.2
MLH	**Mauna Loa**	**0.12**	**313**	IAML		16 40 16.1	
	comp=N,7μm,0.2s						
MLH				IAML		16 40 17.0	
	comp=E,17μm,0.3s						
STCH	**Steam Cracks**	**0.16**	**99**		Pg	16 40 14.0	+0.7
STCH	**Steam Cracks**	**0.16**	**99**	IAML		16 40 17.5	
	comp=N,5μm,0.8s						
STCH				IAML		16 40 17.8	
	comp=E,5μm,1.2s						
NPOC	**North of Pu'u**	**0.17**	**96**		Pg	16 40 14.5	+1.0
JCUZ	**Jacuzzi**	**0.18**	**98**		Pg	16 40 14.5	+0.8
JCUZ					Sg	16 40 17.9	+1.8
HTC	**Hot Caves**	**0.20**	**210**		Pg	16 40 14.9	+0.9
HMH	**Humu'ula Sheep**	**0.26**	**317**		Pg	16 40 16.2	+1.0
HMH					Sg	16 40 20.7	+2.1
HMH	**Humu'ula Sheep**	**0.26**	**317**	IAML		16 40 23.7	
	comp=E,2μm,0.5s						
HMH				IAML		16 40 24.5	
	comp=N,5μm,0.4s						
JOKA	**Jonika Flow**	**0.27**	**85**		Pg	16 40 15.6	+0.2
JOKA				IAML		16 40 24.5	
	comp=E,2μm,1.0s						
JOKA				IAML		16 40 24.9	
	comp=N,2μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.29**	**295**		Pg	16 40 15.8	0.0
MLOA				IAML		16 40 24.0	
	comp=N,3μm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**284**		Pg	16 40 16.6	+0.7
PAH	**Pahoa**	**0.34**	**75**		Pg	16 40 17.4	+0.7
KHU	**Kahuku**	**0.35**	**242**		Pg	16 40 17.3	+0.5
KHU				IAML		16 40 24.8	
	comp=N,1μm,0.6s						
KHU				IAML		16 40 28.0	
	comp=E,1μm,0.7s						
ALEP	**Alea Permanent**	**0.36**	**291**		Pg	16 40 17.9	+0.8
POHA	**Pohakuloa**	**0.41**	**327**		Pg	16 40 19.1	+1.0
POHA	**Pohakuloa**	**0.41**	**327**	IAML		16 40 27.2	
	comp=E,3μm,0.2s						
POHA				IAML		16 40 32.5	
	comp=E,4μm,0.9s						
HUH	**Hualalai**	**0.58**	**298**		Pg	16 40 22.0	+0.7
CPH	**Captain Cook**	**0.60**	**278**		Pg	16 40 21.7	+0.1
HPAH	**Hawaii Prepara**	**0.72**	**328**		Sg	16 40 33.2	-0.3
HPAH	**Hawaii Prepara**	**0.72**	**328**	Pg	Pg	16 40 23.2	-0.9
HPAH	**Hawaii Prepara**	**0.72**	**328**	IAML		16 40 49.1	
	comp=N,1μm,1.0s						
HPAH				IAML		16 40 50.0	
	comp=E,967nm,0.8s						
MHA	**Mahukona**	**0.96**	**323**	Pg	Pg	16 40 27.0	-1.7

KRSC 28 16:44:12.0±1.8, 49°.43N×156°.59E, h7km±19km, Ml3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.29**	**346**	*eP*	Pn	16 44 34.5	-1.9
SKR				*eS*	Sb	16 44 52.6	-0.7
PAU	**Pauzhetka**	**2.04**	**4**	*eS*	Sb	16 45 13.8	-1.2
KDTR	**Khodutka, Kamc**	**2.56**	**21**	*eP*	Pn	16 44 55.4	+1.6
KDTR				*eS*	Sb	16 45 28.9	-1.0
ASAK	**Asacha**	**3.07**	**15**	*eP*	Pb	16 45 04.7	-2.3
MTVR	**Mutnovka**	**3.22**	**18**	*eP*	Pn	16 45 06.2	+3.2
RUS	**Russkaya**	**3.24**	**21**	*eP*	Pn	16 45 05.7	+2.5
DALK	**Dalny**	**3.85**	**20**	*eP*	Pn	16 45 14.7	+3.2
UGLR	**Uglovaya**	**4.03**	**19**	*eP*	Pn	16 45 18.3	+4.1
AVH	**Avacha**	**4.07**	**18**	*eP*	Pb	16 45 19.5	-4.4
KOK	**Koryaka**	**4.07**	**18**	*eP*	Pb	16 45 19.5	-4.5
SMAR	**Somma**	**4.08**	**19**	*eP*	Pb	16 45 19.8	-4.4
KRX	**Arik**	**4.14**	**17**	*eP*	Pn	16 45 20.2	+4.5

TEH 28 16:49:37.0, 34°.18N×51°.25E, h12km±19km, ML3.6, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QAMS	**Qamsar**	**0.46**	**164**	Pg	Pg	16 49 46.0	-0.2
IQOM	**Qom**	**0.68**	**348**	Pg	Pb	16 49 50.6	-0.3
KRSH	**Karshahi**	**0.77**	**106**	Pg	Pb	16 49 52.2	-0.2
KRSH				Sg	Sb	16 50 03.8	+0.9
ISFB	**Sefidab**	**0.84**	**78**	Pg	Pg	16 49 53.2	-0.1
IKLH	**Kolahrood**	**0.90**	**162**	Pg	Pg	16 49 53.9	-0.6
IVRN	**Varamin**	**0.90**	**26**	Pg	Pb	16 49 55.0	+0.3
IHSB	**Hasanabad**	**1.25**	**1**	Pg	Pb	16 50 00.9	+0.2
IPIR	**Pirpir**	**1.52**	**191**	Pg	Pb	16 50 04.9	-0.5
IDMV	**Damavand**	**1.54**	**25**	Pg	Pb	16 50 05.5	-0.1
TEH	**Tehran**	**1.56**	**4**	Pg	Pb	16 50 06.0	+0.1
TEHA	**Amirabad Tehra**	**1.57**	**4**	Pg	Pb	16 50 06.1	0.0
IZEF	**Zefreh**	**1.57**	**144**	Pg	Pn	16 50 05.6	+0.6
IMHD	**Mahdasht**	**1.57**	**343**	Pg	Pb	16 50 05.6	-0.5
AMD1	**Meshkindasht**	**1.58**	**352**	Pg	Pb	16 50 06.4	+0.1
IRAZ	**Razeghan**	**1.63**	**319**	Pg	Pb	16 50 06.8	-0.4
ILAS	**Lasjerd**	**1.85**	**49**	Pn	Pb	16 50 10.6	-0.4
HAGD	**Aghdareh**	**1.85**	**291**	Pn	Pb	16 50 10.6	-0.4
IGAR	**Gharneh**	**1.89**	**159**	Pn	Pb	16 50 12.0	+0.3
IFIR	**Firoozkooh**	**1.91**	**40**	Pn	Pb	16 50 11.7	-0.3
JHBN	**Jahan bin**	**2.00**	**194**	Pn	Pb	16 50 13.6	0.0
QABG	**Abgarm-Qazvin**	**2.05**	**319**	Pn	Pb	16 50 13.7	-0.6
ZNGN	**Zangian**	**2.08**	**189**	Pn	Pb	16 50 14.7	-0.3
HSAM	**Samen**	**2.19**	**272**	Pn	Pb	16 50 15.4	-1.3
IPRN	**Peran**	**2.24**	**23**	Pn	Pb	16 50 16.7	-0.8
IBRJ	**Brojen**	**2.27**	**180**	Pn	Pb	16 50 17.8	-0.3
IALA	**Alasht**	**2.29**	**34**	Pn	Pb	16 50 17.4	-1.1
ANAR	**Anarak**	**2.29**	**115**	Pn	Pb	16 50 16.9	-1.6
IANJ	**Anjilo**	**2.54**	**59**	Pn	Pb	16 50 19.8	+1.5
IRAM	**Ramesheh**	**2.55**	**158**	Pn	Pb	16 50 21.4	-1.5
JIR1	**Jirandeh**	**2.78**	**335**	Pn	Pn	16 50 23.8	+2.2
IKFM	**Kafar-mosalman**	**2.90**	**258**	Pn	Pn	16 50 25.9	+2.8
SNQR	**Sonqor, Kerman**	**3.06**	**284**	Pn	Pb	16 50 29.5	-2.1
LHJ2	**Lahijan - Gila**	**3.13**	**342**	Pn	Pn	16 50 28.6	+2.4
IGLO	**Ghaloghah**	**3.13**	**42**	Pn	Pn	16 50 29.4	+2.9
KLNJ	**Kolanjah**	**3.18**	**175**	Pn	Pn	16 50 29.8	+2.6
KCHF	**Cheshme Sefid,**	**3.49**	**273**	Pn	Pn	16 50 34.4	+3.1
IGHG	**Ghaleghazi**	**3.88**	**273**	Pn	Pn	16 50 40.2	+3.5
IMEH	**Mehriz**	**3.97**	**134**	Pn	Pn	16 50 40.4	+2.3
IDHR	**Dehrash**	**4.05**	**279**	Pn	Pn	16 50 42.7	+3.7
ILBA	**Ilam Banvizeh**	**4.23**	**264**	Pn	Pn	16 50 44.2	+2.9
TNSJ	**Nastanj**	**4.46**	**91**	Pn	Pn	16 50 46.9	+2.3
IBAF	**Bafgh**	**4.46**	**124**	Pn	Pn	16 50 47.2	+2.6
TPRV	**Parvadeh(Tabas**	**4.68**	**103**	Pn	Pn	16 50 50.1	+2.4
TKDS	**Koohdasht(Taba**	**4.92**	**95**	Pn	Pn	16 50 53.3	+2.4
SBZV	**Sabzevar**	**5.65**	**65**	Pn	Pn	16 51 02.9	+1.8
ISFR	**Sfrayin**	**6.20**	**61**	Pn	Pn	16 51 11.3	+2.6
ITEG	**Tejag**	**6.39**	**99**	Pn	Pn	16 51 13.7	+2.5
AFRZ	**Afriz**	**6.51**	**94**	Pn	Pn	16 51 14.7	+1.9
IAKL	**Akhelmad**	**6.59**	**66**	Pn	Pn	16 51 15.9	+1.9
IKOO	**Kooshah**	**6.73**	**103**	Pn	Pn	16 51 17.9	+2.0
IPAY	**Payeh**	**6.73**	**68**	Pn	Pn	16 51 18.3	+2.5
BSRN	**Basiran**	**6.97**	**106**	Pn	Pn	16 51 21.4	+2.2
IKRD	**Kardeh**	**7.22**	**67**	Pn	Pn	16 51 25.1	+2.4

*NOU **28** 16:51:50.1, 29°.94S×174°.43W, h95km, mb4.7/9, Kermadec Islands Region*
*WEL **28** 16:52:47.3±0.6, 33°.5±5°×17°.9W±1°.3, h33km, M4.8/13, mB5.1/6, ML5.2/17, MLv5.0/13, Mw(mB)4.5/6, Error ellipse: s-maj=0.0km s-min=0.0km az=108.9, confirmed*
*IDC **28** 16:52:48.0±1.4, 32°.34S×179°.10W, h94km±12km, mb4.7/5, mbtmp4.9/7, MS3.3/1, Error ellipse: s-maj=23.1km s-min=10.4km az=112.0*
*NEIC **28** 16:52:52.3±1.7, 32°.4S±0°.1×179°.1W±0°.2, h125km±8km, mb4.9/26, Error ellipse: s-maj=23.2km s-min=15.9km az=79.0*

ISC 28 16:52:47.9±0.5, 32°.53S±0°.05×178°.86W±0°.09, h100km, n114, σ1s97/128, mb5.1/20, 5C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLKZ	**Green Lake**	**3.36**	**14**	P	**Pn**	**16 53 38.3**	**-0.2**
GLKZ				S	**Sn**	**16 54 15.8**	**-1.7**
RAO	**Raoul Island**	**3.37**	**14**		**Pn**	**16 53 42.0**	**+3.4**
RAO	**Raoul Island**	**3.37**	**14**	P	**Pn**	**16 53 37.3**	**-1.3**
	118nm,0.3s,baz=282,slow=20,SNR=1.1						
RAO				S	**Sn**	**16 54 15.4**	**-2.4**
	973nm,0.4s,baz=195,slow=20,SNR=11						
RIZ	**Raoul Island**	**3.38**	**14**	S	**Sn**	**16 54 17.9**	**-0.1**
MXZ	**Matakaoa Point**	**5.53**	**204**	P	**Pn**	**16 54 08.1**	**+0.5**
MXZ	**Matakaoa Point**	**5.53**	**204**	Pn	**Pn**	**16 54 08.0**	**+0.3**
MXZ	**Matakaoa Point**	**5.53**	**204**	P	**Pn**	**16 54 08.2**	**+0.5**
MXZ				S	**Sn**	**16 55 10.6**	**+0.7**
WMGZ	**Waiomatatini S**	**5.72**	**202**	P	**Pn**	**16 54 11.7**	**+1.4**
WMGZ				S	**Sn**	**16 55 15.8**	**+1.1**
HAZ	**Te Kaha**	**5.89**	**207**	P	**Pn**	**16 54 13.5**	**+0.9**
HAZ				S	**Sn**	**16 55 20.9**	**+2.2**
PKGZ	**Pakihiroa**	**5.90**	**204**	P	**Pn**	**16 54 13.4**	**+0.6**
PKGZ				S	**Sn**	**16 55 17.9**	**-1.2**
PUZ	**Puketiti**	**6.00**	**202**	P	**Pn**	**16 54 14.4**	**+0.2**
PUZ				S	**Sn**	**16 55 21.0**	**-0.6**
RUGZ	**Raukumara Rang**	**6.11**	**207**	P	**Pn**	**16 54 16.2**	**+0.5**
RUGZ				S	**Sn**	**16 55 26.3**	**+1.9**
KUZ	**Kuaotunu**	**6.13**	**225**	P	Pn	16 54 19.9	+4.0
KUZ	**Kuaotunu**	**6.13**	**225**	P	**Pn**	**16 54 19.2**	**+3.3**
TWGZ	**Tauwhareparae**	**6.19**	**204**	P	**Pn**	**16 54 17.5**	**+0.7**
TWGZ				S	**Sn**	**16 55 26.8**	**+0.6**
CNGZ	**Carnagh Statio**	**6.40**	**201**	P	**Pn**	**16 54 20.1**	**+0.6**
CNGZ				S	**Sn**	**16 55 33.0**	**+1.9**
MWZ	**Matawai**	**6.49**	**206**	P	**Pn**	**16 54 20.6**	**-0.2**
MWZ				S	**Sn**	**16 55 33.4**	**-0.1**
WCZ	**Waipu Caves**	**6.57**	**237**	P	Pn	16 54 26.4	+4.5
URZ	**Urewera**	**6.59**	**209**	P	**Pn**	**16 54 22.0**	**-0.1**
URZ	**Urewera**	**6.59**	**209**	P	**Pn**	**16 54 22.3**	**+0.2**
	14nm,0.4s,baz=353,slow=4.2,SNR=139						
URZ				S	**Sn**	**16 55 34.4**	**-1.3**
	62nm,0.4s,baz=248,slow=21,SNR=14						
URZ	**Urewera**	**6.59**	**209**	P	**Pn**	**16 54 21.8**	**-0.3**
URZ				S	**Sn**	**16 55 37.5**	**+1.8**
MKAZ	**Moumakai**	**6.70**	**225**	P	Pn	16 54 27.8	+4.2
RIGZ	**Rimuhau**	**6.74**	**203**	P	**Pn**	**16 54 22.7**	**-1.5**
RIGZ				S	**Sn**	**16 55 37.0**	**-2.6**
OUZ	**Omahuta**	**6.82**	**245**	P	Pn	16 54 29.4	+4.2
OUZ	**Omahuta**	**6.82**	**245**	P	Pn	16 54 29.6	+4.3
PRGZ	**Paritu Road**	**6.90**	**202**	P	**Pn**	**16 54 26.0**	**-0.4**
PRGZ				S	**Sn**	**16 55 40.8**	**-2.6**
MUGZ	**Murupara**	**6.92**	**210**	P	**Pn**	**16 54 26.2**	**-0.4**
MUGZ				S	**Sn**	**16 55 41.6**	**-2.1**
TOZ	**Tahuroa Road**	**6.94**	**220**	P	**Pn**	**16 54 29.8**	**+2.9**
RTZ	**Ruatahuna**	**6.95**	**208**	Pn	**Pn**	**16 54 26.5**	**-0.6**
SNGZ	**Shannon Statio**	**6.96**	**205**	P	**Pn**	**16 54 26.8**	**-0.3**
SNGZ				S	**Sn**	**16 55 42.9**	**-1.9**
RAHZ	**Arahi**	**7.17**	**206**	P	**Pn**	**16 54 29.5**	**-0.5**
RAHZ				S	**Sn**	**16 55 48.0**	**-1.9**
NMHZ	**Naumai**	**7.43**	**207**	P	**Pn**	**16 54 32.9**	**-0.7**
NMHZ				S	**Sn**	**16 55 55.3**	**-1.1**
BKZ	**Black Stump Fm**	**7.61**	**208**	P	**Pn**	**16 54 35.1**	**-1.0**
BKZ	**Black Stump Fm**	**7.61**	**208**	P	**Pn**	**16 54 34.9**	**-1.2**
BKZ				S	**Sn**	**16 55 58.6**	**-2.2**
HIZ	**Hauiti**	**7.86**	**219**	P	**Pn**	**16 54 41.8**	**+2.4**
HIZ	**Hauiti**	**7.86**	**219**	Pn	**Pn**	**16 54 41.2**	**+1.8**
HIZ	**Hauiti**	**7.86**	**219**	P	**Pn**	**16 54 41.9**	**+2.5**
KWHZ	**Kaweka Forest**	**7.86**	**208**	P	**Pn**	**16 54 39.0**	**-0.6**
KWHZ				S	**Sn**	**16 56 05.3**	**-1.6**
KAHZ	**Kahuranaki**	**8.02**	**204**	P	**Pn**	**16 54 39.8**	**-1.9**
KAHZ				S	**Sn**	**16 56 06.2**	**-3.0**
BHHZ	**Black Hill Sta**	**8.06**	**209**	P	**Pn**	**16 54 40.5**	**-1.8**
BHHZ				S	**Sn**	**16 56 08.0**	**-3.7**
KRHZ	**Kereru**	**8.07**	**207**	P	Pn	16 54 36.9	-5.4
VRZ	**Vera Road**	**8.37**	**216**	P	**Pn**	**16 54 49.6**	**+3.4**
PNHZ	**Pukenui**	**8.37**	**207**	P	**Pn**	**16 54 43.6**	**-2.8**
PNHZ				S	**Sn**	**16 56 12.7**	**-6.5**
TSZ	**Takapari Road**	**8.59**	**208**	P	**Pn**	**16 54 46.2**	**-3.2**
TSZ				S	**Sn**	**16 56 21.3**	**-3.2**
BFZ	**Birch Farm**	**9.03**	**204**	P	**Pn**	**16 54 52.3**	**-3.0**
BFZ	**Birch Farm**	**9.03**	**204**	Pn	**Pn**	**16 54 52.0**	**-3.3**
BFZ	**Birch Farm**	**9.03**	**204**	P	**Pn**	**16 54 51.8**	**-3.5**
BFZ				S	**Sn**	**16 56 28.5**	**-6.7**
MRZ	**Mangatainoka R**	**9.26**	**207**	Pn	**Pn**	**16 54 54.4**	**-3.9**
MRZ	**Mangatainoka R**	**9.26**	**207**	P	Pn	16 54 54.0	-4.4
MRZ				S	Sn	16 56 31.9	-8.8
TUWZ	**Tuamarina**	**10.57**	**211**	Pn	Pn	16 55 11.0	-5.3
QRZ	**Quartz Range**	**10.78**	**217**	P	**Pn**	**16 55 19.8**	**+0.8**
MRNZ	**Matariki Terra**	**11.09**	**215**	Pn	Pn	16 55 18.5	-4.8
KHZ	**Kahutara**	**11.56**	**209**	P	**Pn**	**16 55 26.7**	**-2.8**
RPZ	**Rata Peaks**	**13.68**	**212**	P	Pn	16 55 51.5	-6.1
	7.0nm,0.7s,baz=26,slow=8.6,SNR=2.0						
RPZ				S	Sn	16 58 16.4	-12
	11nm,0.8s,baz=46,slow=8.5,SNR=1.9						
MSVF	**Nonsavu**	**15.00**	**349**	P	**P**	**16 56 16.9**	**-0.8**
MLZ	**Mavora Lakes**	**16.30**	**214**	P	**P**	**16 56 32.8**	**+0.9**
DZM	**Mont Dzumac**	**16.69**	**305**	P	**P**	**16 56 38.8**	**+2.3**
DZM	**Mont Dzumac**	**16.69**	**305**	P	**P**	**16 56 37.4**	**+0.9**
	14nm,0.8s,baz=122,slow=16,SNR=5.0						
DZM				LR	LR	17 01 24.8	
	comp=Z,112nm,19.2s,baz=22,slow=32						
ARMA	**Armidale**	**25.22**	**267**	P	**P**	**16 58 05.5**	**+0.9**
EIDS	**Eidsvold**	**27.19**	**277**	P	**P**	**16 58 22.7**	**+0.5**
EIDS				IAmb	IAmb	16 59 25.7	
	comp=Z,32nm,1.6s						
STKA	**Stephens Creek**	**33.33**	**260**	P	**P**	**16 59 17.4**	**+1.1**
STKA	**Stephens Creek**	**33.33**	**260**	P	**P**	**16 59 17.3**	**+0.9**
	comp=Z,4.2nm,0.7s,baz=86,slow=8.5,SNR=7.4						
	comp=Z,4.2nm,0.7s						
CTAO	**Charters Tower**	**33.48**	**283**	P	**P**	**16 59 18.2**	**+0.4**
CTAO				IAmb	IAmb	16 59 20.4	
	comp=Z,13nm,0.7s						
CTAO	**Charters Tower**	**33.48**	**283**	P	**P**	**16 59 18.5**	**+0.7**
BBOO	**Buckleboo**	**37.72**	**257**	P	**P**	**16 59 53.8**	**-0.2**
COEN	**Coen**	**39.21**	**289**	P	**P**	**17 00 07.1**	**+0.6**
COEN				IAmb	IAmb	17 00 45.1	
	comp=Z,35nm,1.4s						
AS31	**Alice Springs**	**42.31**	**270**	P	**P**	**17 00 31.4**	**-0.5**
ASAR	**Alice Springs**	**42.31**	**270**	P	**P**	**17 00 31.5**	**-0.4**
ASAR	**Alice Springs**	**42.31**	**270**	P	**P**	**17 00 31.6**	**-0.3**
	comp=Z,24nm,0.7s,baz=108,slow=7.3,SNR=386						
	comp=Z,24nm,0.7s						
WR0	**Warramunga Arr**	**43.31**	**275**	P	**P**	**17 00 39.5**	**-0.6**
WR0				IAmb	IAmb	17 00 40.3	
	comp=Z,24nm,0.7s						
WB2	**Warramunga Arr**	**43.48**	**275**	P	**P**	**17 00 40.8**	**-0.6**
WRAB	**Tennant Creek**	**43.48**	**275**	P	**P**	**17 00 40.8**	**-0.7**
WRA	**Warramunga Arr**	**43.49**	**275**	P	**P**	**17 00 40.7**	**-0.8**
WRA	**Warramunga Arr**	**43.49**	**275**	P	**P**	**17 00 41.0**	**-0.5**
	comp=Z,47nm,0.5s,baz=114,slow=7.8,SNR=726						
	comp=Z,47nm,0.5s						
WB0	**Warramunga Arr**	**43.52**	**275**	P	**P**	**17 00 41.1**	**-0.7**
FORT	**Forrest**	**44.82**	**257**	P	**P**	**17 00 51.2**	**-0.8**
FORT				IAmb	IAmb	17 00 52.0	
	comp=Z,39nm,0.7s						
SBA	**Scott Base**	**45.86**	**184**	P	**P**	**17 01 04.3**	**+4.8**
SBA				IAmb	IAmb	17 01 09.8	
	comp=Z,25nm,1.6s						
SBA	**Scott Base**	**45.86**	**184**	P	P	17 01 06.0	+6.5
VNDA	**Vanda**	**45.90**	**186**	P	**P**	**17 01 02.6**	**+2.8**
VNDA	**Vanda**	**45.90**	**186**	P	P	17 01 05.0	+5.2
MTN	**Manton Dam**	**49.63**	**281**	P	**P**	**17 01 28.7**	**-0.8**
MTN				IAmb	IAmb	17 01 29.4	
	comp=Z,18nm,0.8s						
CCD	**Concordia, Ant**	**50.70**	**196**	P	**P**	**17 01 39.5**	**+2.2**
FITZ	**Fitzroy Crossi**	**51.66**	**272**	P	**P**	**17 01 44.3**	**-0.4**
CASY	**Casey**	**52.91**	**209**	P	**P**	**17 01 53.9**	**+0.6**
CASY				IAmb	IAmb	17 02 16.6	
	comp=Z,13nm,1.4s						
CASY	**Casey**	**52.91**	**209**	P	**P**	**17 01 53.6**	**+0.3**
FAKI	**Fak Fak**	**54.42**	**292**	P	**P**	**17 02 03.5**	**-1.5**
FAKI				IAmb	IAmb	17 02 26.2	
	comp=Z,20nm,1.1s						
PSA00	**Pilbara Seismi**	**55.02**	**265**	P	**P**	**17 02 08.0**	**-1.3**
PSA00				IAmb	IAmb	17 03 53.9	
	comp=Z,19nm,1.6s						
MORW	**Morawa**	**55.24**	**255**	P	**P**	**17 02 09.1**	**-1.7**
MORW				IAmb	IAmb	17 03 07.3	
	comp=Z,33nm,1.4s						
MBWA	**Marble Bar**	**55.29**	**266**	P	**P**	**17 02 09.7**	**-1.6**
MBWA				IAmb	IAmb	17 03 13.1	
	comp=Z,47nm,1.6s						
QSPA	**South Pole Qui**	**57.58**	**180**	P	**P**	**17 02 31.4**	**+4.4**
QSPA	**South Pole Qui**	**57.58**	**180**	P	**P**	**17 02 31.0**	**+4.0**
	comp=Z,36nm,0.7s,baz=21,slow=2.6,SNR=46						
	comp=Z,36nm,0.7s						
GIRL	**Giralia**	**59.27**	**261**	P	**P**	**17 02 39.3**	**+0.1**
BELA	**Belgrano 2**	**67.78**	**172**	P	**P**	**17 03 37.3**	**+2.9**
TROLL	**Troll, Antarti**	**75.74**	**180**	⇑P	**P**	**17 04 22.1**	**-0.2**
	comp=Z,249nm,0.8s						
SNAA	**Sanae**	**76.05**	**179**	⇑P	**P**	**17 04 25.8**	**+1.9**
	comp=Z,79nm,0.8s						
SNAA	**Sanae**	**76.05**	**179**	P	**P**	**17 04 26.5**	**+2.6**
	comp=Z,4.0nm,0.9s,baz=180,slow=7.1,SNR=4.0					

MBAR Mbarara 19.09 309 P **P** **17 13 51.8 +0.7**
comp=Z,2.1nm,0.3s,baz=121,slow=11,SNR=14
MBAR LR LR 17 20 50.4
comp=Z,333nm,19.3s,baz=119,slow=36
comp=Z,4.5nm,0.3s
LODK Lodwar 19.09 327 P **P** **17 13 50.2 -0.8**
LODK Lodwar 19.09 327 *eP* **Pn** **17 13 53.6 +1.8**
POGA Pongola 19.38 220 **P** **17 13 50.8 -3.3**
POGA Pongola 19.38 220 *eP* **P** **17 13 55.4 +1.3**
CRLN Carolina, Mapu 19.60 226 *eP* **P** **17 13 56.6 0.0**
LEPH Lephalale, Lim 20.07 234 *eP* **P** **17 14 02.4 +0.6**
LEPH IAmb IAmb 17 14 03.2
comp=Z,36nm,1.3s
HRAO HartRAO 21.23 230 *eP* **P** **17 14 17.0 +2.7**
PMBG Pietermaritzbu 21.67 218 *eP* **P** **17 14 19.0 +0.1**
PMBG IAmb IAmb 17 14 24.1
comp=Z,43nm,0.8s
PRYS Parys 22.06 228 *eP* **P** **17 14 22.0 -1.3**
LBTB Lobatse 22.38 234 P **P** **17 14 24.9 -1.8**
LBTB IAmb IAmb 17 14 29.2
comp=Z,19nm,0.9s
LBTB Lobatse 22.38 234 *i* P **P** **17 14 24.2 -2.4**
LBTB Lobatse 22.38 234 *eP* **P** **17 14 25.5 -1.1**
LBTB IAmb IAmb 17 14 31.6
comp=Z,98nm,1.9s
LBTB Lobatse 22.38 234 LR LR 17 22 50.4
comp=Z,154nm,19.4s,baz=60,slow=36
SNKL Senekal, Frees 22.59 225 *eP* **P** **17 14 28.1 -0.9**
SNKL IAmb IAmb 17 14 35.1
comp=Z,28nm,0.9s
ATD Arta Tunnel 24.39 354 LR LR 17 23 23.7
comp=Z,8.0nm,20.4s,baz=166,slow=34
BOSA Boshof 24.56 227 P **P** **17 14 46.8 -1.4**
BOSA IAmb IAmb 17 14 50.6
comp=Z,20nm,1.3s
BOSA Boshof 24.56 227 *i* P **P** **17 14 48.4 +0.2**
BOSA Boshof 24.56 227 *eP* **P** **17 14 47.5 -0.7**
BOSA IAmb IAmb 17 14 49.9
comp=Z,147nm,2.3s
BOSA Boshof 24.56 227 P **P** **17 14 47.5 -0.7**
comp=Z,7.1nm,0.5s,baz=57,slow=9.1,SNR=25
BOSA LR LR 17 24 12.0
comp=Z,173nm,20.2s,baz=38,slow=36
comp=Z,7.1nm,0.5s
TSUM Tsumeb 27.59 253 *eP* **P** **17 15 17.2 +1.4**
TSUM Tsumeb 27.59 253 LR LR 17 25 45.2
comp=Z,78nm,18.1s,baz=83,slow=36
SUR Sutherland 29.85 225 P **P** **17 15 36.1 +0.3**
SUR Sutherland 29.85 225 *eP* **P** **17 15 36.6 +0.7**
SUR Sutherland 29.85 225 LR LR 17 27 11.1
comp=Z,113nm,20.7s,baz=50,slow=36
RAYN Ar Rayn 36.16 360 P **P** **17 16 30.5 -0.3**
WSAR Wadi Sarin 38.10 20 LR LR 17 29 36.6
comp=Z,149nm,18.6s,baz=208,slow=32
EIL Elat 43.51 347 LR LR 17 34 03.3
comp=Z,58nm,20.3s,baz=233,slow=34
MMAI Mount Meron Ar 46.64 348 P **P** **17 17 57.0 +0.3**
comp=Z,2.1nm,0.8s,baz=169,slow=10.0,SNR=3.0
MMAI LR LR 17 38 24.5
comp=Z,109nm,18.1s,baz=112,slow=37
comp=Z,2.1nm,0.8s
TOA0 Torodi Ar. Sit 50.59 299 P **P** **17 18 27.4 +0.1**
TOA0 IAmb IAmb 17 18 29.3
comp=Z,6.6nm,1.1s
TORD Torodi Ar. Bea 50.59 299 P **P** **17 18 27.9 +0.5**
TORD Torodi Ar. Bea 50.59 299 P **P** **17 18 27.0 -0.3**
comp=Z,3.6nm,1.0s,baz=113,slow=5.8,SNR=10
TORD LR LR 17 41 07.3
comp=Z,161nm,18.2s,baz=141,slow=38
comp=Z,3.6nm,1.0s
ELL Elmali 51.51 344 P **P** **17 18 34.5 +0.5**
GEYT Alibeck 51.88 13 P **P** **17 18 35.9 -0.8**
GEYT Alibeck 51.88 13 P **P** **17 18 36.1 -0.6**
comp=Z,1.5nm,0.6s,baz=214,slow=5.0,SNR=2.7
GEYT LR LR 17 39 57.6
comp=Z,69nm,21.9s,baz=172,slow=35
comp=Z,1.5nm,0.6s
ARPR Arapgir-MALATY 52.13 353 P **P** **17 18 39.0 +0.3**
ARPR IAmb IAmb 17 18 50.1
comp=Z,11nm,1.1s
BNN Bunyan 52.24 350 P **P** **17 18 39.0 -0.5**
GNI Garni 52.75 359 LR LR 17 41 41.4
comp=Z,125nm,20.6s,baz=172,slow=37
TAM Tamanrasset 52.86 312 P **P** **17 18 44.8 +0.4**
TAM IAmb IAmb 17 18 47.7
comp=Z,9.3nm,1.4s
BR131 Keskin Array S 53.48 349 P **P** **17 18 48.7 0.0**
BRTR Keskin Array B 53.48 349 P **P** **17 18 48.3 -0.3**
BRTR Keskin Array B 53.48 349 P **P** **17 18 48.0 -0.7**
comp=Z,3.1nm,1.0s,baz=175,slow=11,SNR=13
BRTR LR LR 17 42 34.5
comp=Z,58nm,18.7s,baz=151,slow=37
comp=Z,3.1nm,1.0s
DBIC Dimbokro 53.72 288 LR LR 17 41 48.8
comp=Z,102nm,18.5s,baz=120,slow=36
SIMJ Simiganj 55.75 22 P **P** **17 19 05.0 -0.1**
CHGR Chuyangaron 55.80 22 **P** **17 19 05.5 0.0**
MAW Mawson 55.87 172 P **P** **17 19 05.4 0.0**
comp=Z,2.9nm,0.8s,baz=317,slow=10,SNR=7.1
MAW LR LR 17 40 31.1
comp=Z,135nm,18.0s,baz=354,slow=33
comp=Z,2.9nm,0.8s
KBZ Khabaz 56.37 358 P **P** **17 19 09.8 +0.5**
comp=Z,2.3nm,0.8s,baz=153,slow=7.9,SNR=4.0
KBZ LR LR 17 45 08.7
comp=Z,69nm,19.6s,baz=152,slow=38
comp=Z,2.3nm,0.8s
KIV Kislovodsk 56.61 358 P **P** **17 19 10.5 -0.6**
WDD Wied Dalam 56.63 330 P **P** **17 19 09.8 -1.5**
BTK Batken 57.65 23 P **P** **17 19 17.7 -0.9**
BTK IAmb IAmb 17 19 34.3
comp=Z,5.1nm,0.7s
FNA Florina 57.89 338 P **P** **17 19 19.6 -0.6**
FNA IAmb IAmb 17 19 21.1
comp=Z,13nm,1.3s
VAE Valguarnera 58.00 331 LR LR 17 48 43.0
comp=Z,50nm,18.5s,baz=134,slow=41
KEST Kesra 59.23 326 P **P** **17 19 29.9 +0.2**
comp=Z,5.8nm,0.9s,baz=231,slow=3.6,SNR=4.6
KEST LR LR 17 46 03.3
comp=Z,84nm,18.7s,baz=322,slow=37
comp=Z,5.8nm,0.9s
KSH Kashi 59.31 27 P **P** **17 19 34.0 +3.8**
PUK Puka 59.53 338 P **P** **17 19 32.0 +0.4**
ARSB Arslanbob 59.57 24 P **P** **17 19 29.3 -2.7**
KK31 Karatay Array 60.20 21 P **P** **17 19 38.8 +2.6**
KK31 IAmb IAmb 17 19 48.6
comp=Z,5.5nm,0.7s
KKAR Karatay Array 60.20 21 P **P** **17 19 38.6 +2.5**
KKAR Karatay Array 60.20 21 P **P** **17 19 38.4 +2.3**
KKAR IAmb IAmb 17 19 48.6
comp=Z,5.4nm,0.7s
ELIB Princess Elisa 60.55 188 *dP* **P** **17 19 38.8 +0.5**
comp=Z,5.3nm,1.1s
MLR Muntele Rosu 60.73 344 LR LR 17 47 32.3
comp=Z,21nm,21.1s,baz=170,slow=38
CMAR Chiang Mai Arr 61.15 60 P **P** **17 19 44.3 +1.2**
comp=Z,0.8nm,0.9s,baz=246,slow=7.8,SNR=2.5
comp=Z,0.8nm,0.9s
AAK Ala-Archa 61.28 24 LR LR 17 46 22.6
comp=Z,20nm,18.1s,baz=208,slow=36
CAMP Campotosto 62.53 334 P **P** **17 19 50.4 -1.6**
CAMP IAmb IAmb 17 19 53.8
comp=Z,4.6nm,0.6s
BURAR Bucovina Array 62.89 345 P **P** **17 19 53.8 -0.5**
NRCA Norcia 62.90 334 P **P** **17 19 52.9 -1.6**
NRCA IAmb IAmb 17 19 59.7
comp=Z,3.2nm,0.9s
BUR08 Bucovina Ar. S 62.92 345 P **P** **17 19 53.7 -0.8**
BUR08 IAmb IAmb 17 20 03.7
comp=Z,3.5nm,1.1s
ABKAR Akbulak array 63.14 11 P **P** **17 19 54.7 -1.1**
ABKAR Akbulak array 63.14 11 IAmb IAmb 17 20 03.3
comp=Z,15nm,0.8s
AKTO Aktyubinsk 63.97 9 LR LR 17 50 38.7
comp=Z,61nm,19.5s,baz=203,slow=39
TROLL Troll, Antarti 64.42 194 ⇑P **P** **17 20 05.9 +1.7**
comp=Z,793nm,0.8s
GBRS Gornja Briga 64.42 337 *eP* **P** **17 20 04.4 0.0**
PSZ Piszkesteto 64.69 341 P **P** **17 20 04.8 -1.4**
PSZ IAmb IAmb 17 20 06.5
comp=Z,4.0nm,0.8s
PDKS Podkum 64.79 337 *i* P **P** **17 20 07.2 +0.4**
KIEV Kiev 64.89 349 P **P** **17 20 06.5 -0.8**
KIEV IAmb IAmb 17 20 15.2
comp=Z,12nm,1.4s

KOLS Kolonicke sedl 64.89 343 *eP* **P** **17 20 09.2 +1.9**
AKASG Malin Array Be 64.89 349 P **P** **17 20 06.2 -1.0**
comp=Z,1.2nm,0.7s,baz=172,slow=5.4,SNR=7.6
AKASG LR LR 17 49 52.3
comp=Z,24nm,19.1s,baz=146,slow=37
comp=Z,1.2nm,0.7s
BELG Belogornoye 65.02 1 LR LR 17 51 25.9
comp=Z,85nm,19.3s,baz=206,slow=39
JAVS Javornik 65.02 336 *eP* **P** **17 20 08.0 -0.3**
SABO M.te Sabotino 65.27 336 P **P** **17 20 09.8 -0.1**
SABO IAmb IAmb 17 20 10.6
comp=Z,8.3nm,1.0s
SOKA Soboth 65.30 337 *i* P **P** **17 20 10.3 +0.2**
comp=Z,5.0nm,0.8s
OBKA Obir 65.34 337 *eP* **P** **17 20 10.5 +0.1**
comp=Z,5.6nm,0.9s
SNAA Sanae 65.50 195 ⇑P P 17 20 08.9 -2.2
comp=Z,42nm,0.6s
PRED Cave del Predi 65.66 336 P **P** **17 20 11.0 -1.5**
PRED IAmb IAmb 17 20 19.2
comp=Z,4.4nm,1.0s
RONA Rosalia, Austr 65.70 339 *i* P **P** **17 20 12.7 +0.1**
comp=Z,11nm,0.9s
MYKA Terra Mystica 65.79 336 *eP* **P** **17 20 13.9 +0.6**
comp=Z,1.3nm,0.4s
MODS Modra-Piesok 65.94 340 *eP* **P** **17 20 14.1 -0.1**
CIMO Cimolais 66.00 336 P **P** **17 20 14.0 -0.6**
CIMO IAmb IAmb 17 20 15.3
comp=Z,4.5nm,0.8s
MDT Midelt 66.00 315 LR LR 17 50 00.3
comp=Z,100nm,18.6s,baz=158,slow=37
CONA Conrad Observa 66.05 339 *eP* **P** **17 20 15.1 +0.1**
comp=Z,5.8nm,1.0s
CTI Castel Tesino 66.11 335 P **P** **17 20 15.0 -0.5**
JAVC Velka Javorina 66.23 340 *eP* **P** **17 20 16.8 +0.7**
KBA Koelnbreinsper 66.27 337 *eP* **P** **17 20 16.4 -0.2**
comp=Z,4.9nm,0.9s
ABTA Abfaltersbach 66.33 336 *i* P **P** **17 20 17.0 +0.1**
comp=Z,4.1nm,1.0s
VNA1 Neumayer--Stat 66.39 197 ⇑P **P** **17 20 18.1 +1.3**
comp=Z,7.6nm,1.0s
BIOA Bad Ischl, Aus 66.67 337 *eP* **P** **17 20 18.5 -0.4**
comp=Z,3.5nm,1.1s
LESA Schwarzleotal 66.82 336 *eP* **P** **17 20 19.0 -0.9**
comp=Z,2.3nm,0.7s
KRUC Moravsky 66.83 340 *eP* **P** **17 20 18.6 -1.2**
VRAC Vranov 66.97 340 *eP* **P** **17 20 19.8 -1.0**
VRAC Vranov 66.97 340 LR LR 17 51 59.7
comp=Z,36nm,20.1s,baz=162,slow=38
MORC Moravsky Berou 67.07 341 P **P** **17 20 20.2 -1.2**
MORC IAmb IAmb 17 20 22.0
comp=Z,4.7nm,0.8s
MORC Moravsky Berou 67.07 341 *eP* **P** **17 20 20.1 -1.3**
VNA3 Neumayer Olymp 67.09 197 ⇑P **P** **17 20 22.2 +1.0**
comp=Z,12nm,0.7s
WTTA Wattenberg 67.10 336 *eP* **P** **17 20 21.0 -0.8**
comp=Z,7.0nm,1.1s
PZH PanZhiHua 67.16 54 P **P** **17 20 24.5 +1.9**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,100nm,7.1s
WATA Walderalm 67.18 336 *eP* **P** **17 20 21.8 -0.5**
comp=Z,2.5nm,0.5s
SQTA Sankt Quirin 67.24 335 *i* P **P** **17 20 22.7 +0.1**
comp=Z,3.7nm,0.8s
FETA Feichten 67.28 335 *eP* **P** **17 20 22.8 -0.1**
comp=Z,10nm,1.0s
GOMU GeErMu 67.37 42 P P 17 20 29.5 +5.5
GOMU pP pwP 17 20 36.0 +6.3
GOMU sP sP 17 20 38.0 +11
GOMU pmax pmax
comp=Z,6.0nm,0.7s
MOTA Moosalm 67.38 335 *eP* **P** **17 20 22.8 -0.8**
comp=Z,5.4nm,1.0s
GEC2 GERESS Array S 67.60 338 P **P** **17 20 23.0 -1.8**
GEC2 IAmb IAmb 17 20 24.9
comp=Z,6.8nm,1.1s
GERES GERESS Array B 67.60 338 P **P** **17 20 23.7 -1.1**
GERES GERESS Array B 67.60 338 P **P** **17 20 24.1 -0.8**
comp=Z,2.6nm,0.8s,baz=171,slow=9.5,SNR=8.3
GERES LR LR 17 54 37.8
comp=Z,22nm,18.4s,baz=120,slow=40
comp=Z,2.6nm,0.8s
RETA Reutte 67.63 335 *i* P **P** **17 20 24.1 -1.0**
comp=Z,2.6nm,0.5s
DAVA Damuels 67.84 335 *eP* **P** **17 20 26.3 -0.2**
comp=Z,8.2nm,1.5s
MK31 Makanchi Array 67.90 26 P **P** **17 20 26.2 -0.5**
MK31 IAmb IAmb 17 20 34.0
comp=Z,5.6nm,0.9s
MKAR Makanchi Array 67.90 26 P **P** **17 20 27.9 +1.2**
MKAR Makanchi Array 67.90 26 P **P** **17 20 30.8 +4.1**
comp=Z,3.5nm,0.9s,baz=219,slow=7.5,SNR=7.1
BVAR Borovoye Array 69.00 16 P **P** **17 20 37.9 +4.5**
comp=Z,4.0nm,0.8s,baz=208,slow=6.0,SNR=14
BVAR LR LR 17 51 39.7
comp=Z,35nm,20.0s,baz=204,slow=37
BRG Berggiesshubel 69.21 339 *eP* **P** **17 20 34.4 -0.4**
BRG Amp 17 20 35.8
comp=Z,2.7nm,1.0s
BRG Berggiesshubel 69.21 339 P P 17 20 42.3 +7.6
BRG Amp 17 20 44.5
comp=Z,4.1nm,1.1s
ESDC Sonseca Array 69.64 321 P **P** **17 20 38.4 +0.6**
comp=Z,2.6nm,0.9s,baz=131,slow=6.3,SNR=18
ESDC LR LR 17 52 54.8
comp=Z,53nm,19.2s,baz=136,slow=38
comp=Z,2.6nm,0.9s
ARU Arti 69.89 8 P **P** **17 20 37.9 -0.8**
ARU Arti 69.89 8 LR LR 17 53 03.9
comp=Z,46nm,21.7s,baz=226,slow=38
KIRV Kirov 71.27 2 LR LR 17 55 03.5
comp=Z,62nm,19.2s,baz=191,slow=38
GTA Gaotai 72.45 41 *eP* **P** **17 20 54.3 -0.6**
GTA pP pwP 17 21 01.8 +1.2
GTA pmax pmax
comp=Z,2.0nm,1.1s
ZAA0 Zalesovo Array 74.46 23 P **P** **17 21 07.0 +0.8**
ZALV Zalesovo Beam 74.46 23 P **P** **17 21 06.6 +0.3**
ZALV Zalesovo Beam 74.46 23 P **P** **17 21 05.4 -0.9**
comp=Z,0.4nm,0.5s,baz=215,slow=7.6,SNR=1.6
comp=Z,0.4nm,0.5s
BELA Belgrano 2 75.44 192 P **P** **17 21 12.0 +0.3**
BELA IAmb IAmb 17 21 13.5
comp=Z,7.1nm,1.0s
FINES FINESS Array B 75.66 350 P **P** **17 21 12.3 -0.7**
comp=Z,2.1nm,0.8s,baz=154,slow=10.0,SNR=6.9
comp=Z,2.1nm,0.8s
HFS Hagfors 77.12 344 P **P** **17 21 19.5 -1.8**
comp=Z,2.3nm,0.8s,baz=181,slow=12,SNR=5.5
HFS LR LR 17 57 02.6
comp=Z,24nm,18.9s,baz=134,slow=37
comp=Z,2.3nm,0.8s
QSPA South Pole Qui 77.23 180 P **P** **17 21 22.2 0.0**
QSPA South Pole Qui 77.23 180 P **P** **17 21 21.5 -0.7**
comp=Z,14nm,1.0s,baz=269,slow=2.4,SNR=31
QSPA LR LR 17 53 23.6
comp=Z,128nm,18.4s,baz=256,slow=34
comp=Z,14nm,1.0s
NB2 NORSAR Subarra 78.55 344 P **P** **17 21 28.9 -0.4**
comp=Z,1.3nm,1.0s,baz=147,slow=5.1
NOA NORSAR Array B 78.55 344 P **P** **17 21 28.0 -1.3**
comp=Z,1.1nm,0.9s,baz=138,slow=5.3,SNR=4.3
NOA LR LR 18 01 21.4
comp=Z,22nm,18.1s,baz=110,slow=40
comp=Z,1.1nm,0.9s
EKA Eskdalemuir Ar 79.28 334 P **P** **17 21 32.4 -0.9**
comp=Z,1.0nm,0.6s,baz=138,slow=6.4,SNR=7.4
comp=Z,1.0nm,0.6s
HHC Hu-ho-hao-te 80.98 45 *eP* **P** **17 21 46.0 +2.9**
HHC pmax pmax
comp=Z,13nm,0.5s
HHC pmax pmax
comp=Z,47nm,4.5s
SONM Songino Array 80.98 37 P **P** **17 21 42.5 -0.5**
comp=Z,0.3nm,0.4s,baz=251,slow=9.0,SNR=1.8
comp=Z,0.3nm,0.4s
VNDA Vanda 82.99 169 P **P** **17 21 53.3 +0.4**
comp=Z,1.7nm,0.8s,baz=250,slow=6.7,SNR=13
VNDA LR LR 17 55 57.5
comp=Z,131nm,19.0s,baz=264,slow=34
comp=Z,1.7nm,0.8s
NJ2 Nanjing 83.04 55 *eP* **P** **17 21 54.3 +0.4**
NJ2 sP **sP** **17 21 59.0 +1.6**
NJ2 pmax pmax
comp=Z,4.0nm,0.6s

ASAR Alice Springs 83.44 113 P **P** **17 21 55.6 -0.7**
comp=Z,3.1nm,0.6s,baz=260,slow=4.9,SNR=72
comp=Z,3.1nm,0.6s
WRA Warramunga Arr 84.57 109 P **P** **17 22 01.1 -1.1**
WRA Warramunga Arr 84.57 109 P **P** **17 22 01.2 -0.9**
comp=Z,3.4nm,0.8s,baz=262,slow=3.4,SNR=23
WRA LR LR 17 53 43.8
comp=Z,71nm,20.8s,baz=21,slow=31
comp=Z,3.4nm,0.8s
STKA Stephens Creek 88.33 122 P **P** **17 22 19.5 -0.9**
comp=Z,3.2nm,0.7s,baz=297,slow=6.8,SNR=4.6
comp=Z,3.2nm,0.7s
BDFB Brasilia 89.96 254 LR LR 18 00 51.5
comp=Z,53nm,18.2s,baz=133,slow=34
JMIC Jan Mayen 91.23 345 LR LR 18 05 44.7
comp=Z,18nm,19.1s,baz=87,slow=37
CPUP Villa Florida 95.60 242 LR LR 18 00 14.5
comp=Z,45nm,21.1s,baz=217,slow=32
PDAR Pinedale Array 143.24 329 PKP PKPbc 17 29 02.3 +2.3
comp=Z,0.2nm,0.4s,baz=48,slow=5.4,SNR=1.5
TXAR Lajitas Array 147.09 305 PKPbc **PKPdf** **17 29 10.2 +0.4**
comp=Z,0.5nm,0.7s,baz=97,slow=3.4,SNR=5.7
NVAR Mina Array Bea 150.78 333 PKPbc **PKPdf** **17 29 18.9 +3.1**
comp=Z,0.1nm,0.3s,baz=53,slow=3.6,SNR=1.5
NVAR PKPab **PKPab** **17 29 29.2 +1.0**
comp=Z,0.7nm,0.7s,baz=40,slow=2.2,SNR=5.6

IDC 28 17:14:29.3±2.3, 15°60S×173°00E, h0km, mb3.7/5, mbtmp3.7/5, MS3.5/1, Error ellipse: s-maj=142.0km s-min=26.9km az=150.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**8.94**	**223**	LR	LR	17 19 39.4	
	comp=Z,246nm,18.1s,baz=24,slow=35						
WRA	**Warramunga Arr**	**37.01**	**257**	P	P	17 21 40.7	-0.4
	0.5nm,0.8s,baz=90,slow=7.3,SNR=4.7						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**37.59**	**251**	P	P	17 21 46.0	+0.1
	1.7nm,0.7s,baz=80,slow=9.0,SNR=26						
	1.7nm,0.7s						
ILAR	**Eielson Array**	**85.73**	**16**	P	P	17 27 09.6	-0.2
	0.5nm,0.9s,baz=224,slow=6.2,SNR=4.1						
	0.5nm,0.9s						
TXAR	**Lajitas Array**	**91.87**	**60**	P	P	17 27 39.6	-0.4
	0.2nm,0.6s,baz=240,slow=7.2,SNR=3.4						
	0.2nm,0.6s						
YKA	**Yellowknife Ar**	**95.82**	**26**	P	P	17 27 57.7	+0.5
	0.2nm,0.5s,baz=261,slow=4.6,SNR=2.5						
	0.2nm,0.5s						

IDC 28 17:29:51.1±8.1, 15°29S×172°81E, h0km, mb3.8/3, mbtmp3.8/3, MS3.4/1, Error ellipse: s-maj=382.7km s-min=35.9km az=143.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.04**	**221**	LR	LR	17 34 50.2	
	comp=Z,242nm,20.4s,baz=92,slow=33						
WRA	**Warramunga Arr**	**36.90**	**257**	P	P	17 37 01.7	-0.2
	0.9nm,0.9s,baz=82,slow=7.1,SNR=7.3						
	0.9nm,0.9s						
ASAR	**Alice Springs**	**37.52**	**251**	P	P	17 37 07.1	0.0
	2.1nm,0.6s,baz=80,slow=8.8,SNR=43						
	2.1nm,0.6s						
ILAR	**Eielson Array**	**85.49**	**16**	P	P	17 42 30.5	0.0
	0.5nm,0.7s,baz=215,slow=3.0,SNR=4.3						
	0.5nm,0.7s						

*IDC **28** 17:37:52.7±0.8, 30°.64S×59°.98E, h0km, mb4.1/9, mbtmp4.1/10, ML3.8/1, MS3.4/26, Error ellipse: s-maj=30.9km s-min=19.2km az=85.0*
*NEIC **28** 17:37:54±1.6, 30°.47S±0°.04×59°.7E±0°.2, h10km±1km, mb4.5/13, Error ellipse: s-maj=24.6km s-min=6.7km az=88.0*

ISC 28 17:37:53.6±0.6, 30°45S±0°.10×59°7E±0°.1, h10km, n62, σ1°79/30, mb4.3/14, MS3.5/26, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RER	**Riviere de l'E**	**9.91**	**338**	Pn	**Pn**	**17 40 14.2**	**-2.0**
FOMA	**Nahampoana Res**	**12.50**	**293**	Pn	**Pn**	**17 40 50.9**	**-0.7**
VOI	**Vohitsoka**	**14.35**	**303**		**Pn**	**17 41 20.4**	**+3.3**
ABPO	**Ambohimpanom**	**16.03**	**312**	P	**P**	**17 41 42.2**	**-0.8**
OPO	**Ambohidratompo**	**16.39**	**313**	Pn	**P**	**17 41 47.9**	**+1.0**
	baz=225,slow=8.8,SNR=1.9						
OPO				Sn	**Sn**	**17 44 40.3**	**-5.8**
	baz=150,slow=14,SNR=1.9						
	2.3nm,0.7s						
H04N2	**CROZET ISLANDS**	**16.84**	**199**	T	T	17 59 07.6	
	baz=25,slow=74,SNR=830						
H04N1	**CROZET ISLANDS**	**16.85**	**199**	T	T	17 59 11.4	
	baz=25,slow=74,SNR=908						
H04N3	**CROZET ISLANDS**	**16.86**	**199**	T	T	17 59 07.9	
	baz=25,slow=74,SNR=1288						
H04S1	**CROZET ISLANDS**	**17.43**	**198**	T	T	17 59 54.0	
	baz=20						
H04S3	**CROZET ISLANDS**	**17.44**	**198**	T	T	18 00 07.9	
	baz=20						
H04S2	**CROZET ISLANDS**	**17.45**	**198**	T	T	18 00 05.8	
	baz=20						
H08S1	**Diego Carcia H**	**25.66**	**30**	T	T	18 10 01.7	
	baz=204,slow=75,SNR=8.0						
H08S2	**Diego Garcia H**	**25.67**	**30**	T	T	18 10 06.3	
	baz=204,slow=75,SNR=3.8						
H08S3	**Diego Garcia H**	**25.68**	**30**	T	T	18 10 15.2	
	baz=204,slow=75,SNR=15						
BOSA	**Boshof**	**29.94**	**265**	LR	LR	17 54 14.4	
	comp=Z,32nm,19.8s,baz=154,slow=32						
LSZ	**Lusaka**	**32.57**	**291**	LR	LR	17 56 55.7	
	comp=Z,30nm,18.4s,baz=139,slow=35						
SUR	**Sutherland**	**33.10**	**256**	LR	LR	17 55 23.1	
	comp=Z,58nm,21.5s,baz=133,slow=32						
MAW	**Mawson**	**37.23**	**178**	P	**P**	**17 45 03.3**	**-1.6**
	1.7nm,0.3s,baz=254,slow=17,SNR=14						
MAW				LR	LR	17 56 32.2	
	comp=Z,85nm,20.3s,baz=360,slow=30						
	1.7nm,0.3s						
TSUM	**Tsumeb**	**39.61**	**276**	LR	LR	18 00 15.7	
	comp=Z,39nm,21.2s,baz=110,slow=34						
MBAR	**Mbarara**	**40.46**	**312**	LR	LR	18 00 43.7	
	comp=Z,64nm,20.0s,baz=124,slow=34						
H01W2	**Cape Leeuwin H**	**45.58**	**111**	T	T	18 34 40.4	
	baz=259,slow=75,SNR=42						
H01W3	**Cape Leeuwin H**	**45.59**	**111**	T	T	18 34 40.8	
	baz=259,slow=75,SNR=43						
H01W1	**Cape Leeuwin H**	**45.60**	**111**	T	T	18 34 41.7	
	baz=259,slow=75,SNR=51						
NWAO	**Narrogin (SRO)**	**48.51**	**109**	LR	LR	18 01 52.9	
	comp=Z,48nm,19.5s,baz=240,slow=30						
SNAA	**Sanae**	**52.81**	**201**	LR	LR	18 04 50.3	
	comp=Z,72nm,21.2s,baz=44,slow=31						
QSPA	**South Pole Qui**	**59.71**	**180**	P	**P**	**17 47 58.1**	**-0.1**
QSPA				IAmb	IAmb	17 48 18.9	
	comp=Z,7.9nm,1.4s						
QSPA	**South Pole Qui**	**59.71**	**180**	P	**P**	**17 47 58.3**	**0.0**
	comp=Z,1.3nm,0.6s,baz=178,slow=0.9,SNR=14						
QSPA				LR	LR	18 10 49.3	
	comp=Z,77nm,20.4s,baz=238,slow=33						
	comp=Z,1.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**60.64**	**95**	P	**P**	**17 48 04.4**	**-0.7**
CMAR	**Chiang Mai Arr**	**61.58**	**43**	P	**P**	**17 48 11.7**	**+0.3**
	comp=Z,1.1nm,0.8s,baz=228,slow=7.2,SNR=5.5						
CMAR				LR	LR	18 12 20.7	
	comp=Z,14nm,18.2s,baz=230,slow=34						
	comp=Z,1.1nm,0.8s						
VNDA	**Vanda**	**63.09**	**166**	P	**P**	**17 48 19.6**	**-1.1**
	comp=Z,1.6nm,1.1s,baz=265,slow=5.8,SNR=3.3						
VNDA				LR	LR	18 13 45.1	
	comp=Z,33nm,18.2s,baz=347,slow=34						
	comp=Z,1.6nm,1.1s						
SOEI	**Soe**	**63.24**	**86**	P	**P**	**17 48 21.9**	**-1.0**
SBA	**Scott Base**	**63.95**	**167**	P	**P**	**17 48 27.1**	**+0.7**
SBA				IAmb	IAmb	17 49 07.3	
	comp=Z,4.6nm,1.4s						
EIL	**Elat**	**64.26**	**336**	LR	LR	18 12 23.1	
	comp=Z,32nm,20.6s,baz=246,slow=32						
ASAR	**Alice Springs**	**65.38**	**104**	P	**P**	**17 48 35.4**	**-1.4**
ASAR	**Alice Springs**	**65.38**	**104**	P	**P**	**17 48 35.2**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=245,slow=6.0,SNR=33						
	comp=Z,1.0nm,0.5s						
AS31	**Alice Springs**	**65.39**	**104**	P	**P**	**17 48 35.6**	**-1.1**
MMAI	**Mount Meron Ar**	**67.18**	**338**	LR	LR	18 13 36.1	
	comp=Z,23nm,21.6s,baz=113,slow=32						
WRA	**Warramunga Arr**	**67.30**	**100**	P	**P**	**17 48 47.5**	**-1.5**

WRA **Warramunga Arr** 67.30 100 P P 17 48 47.7 -1.3
comp=Z,1.7nm,0.5s,baz=245,slow=6.0,SNR=41
comp=Z,1.7nm,0.5s
WB2 **Warramunga Arr** 67.31 100 P P 17 48 47.8 -1.3
WB2 IAmb IAmb 17 48 55.5
comp=Z,5.9nm,1.1s
WB0 **Warramunga Arr** 67.42 100 P P 17 48 48.7 -1.1
WB0 IAmb IAmb 17 49 09.8
comp=Z,12nm,1.5s
MTN **Manton Dam** 67.71 92 P P 17 48 50.8 -0.8
GEYT **Alibeck** 68.04 359 LR LR 18 16 09.9
comp=Z,27nm,20.7s,baz=184,slow=34
SIMJ **Simiganj** 69.31 8 P P 17 49 01.7 +0.5
SIMJ IAmb IAmb 17 49 24.3
comp=Z,2.7nm,0.9s
GNI **Garni** 71.60 348 LR LR 18 18 56.7
comp=Z,39nm,19.8s,baz=165,slow=34
DBIC **Dimbokro** 71.91 289 LR LR 18 18 28.0
comp=Z,29nm,21.2s,baz=124,slow=34
KK31 **Karatay Array** 73.87 8 P P 17 49 29.5 +1.1
KK31 IAmb IAmb 17 49 40.7
comp=Z,2.4nm,1.2s
KKAR **Karatay Array** 73.87 8 P P 17 49 29.7 +1.3
BRTR **Keskin Array B** 73.90 339 P P 17 49 30.0 +1.1
comp=Z,0.4nm,0.7s,baz=142,slow=5.4,SNR=2.3
BRTR LR LR 18 18 28.5
comp=Z,18nm,19.8s,baz=142,slow=33
comp=Z,0.4nm,0.7s
KBZ **Khabaz** 75.41 348 LR LR 18 22 03.8
comp=Z,40nm,19.2s,baz=142,slow=35
ABKAR **Akbulak array** 79.35 0 P P 17 50 00.2 +0.9
MKAR **Makanchi Array** 79.56 16 LR LR 18 21 51.7
comp=Z,19nm,21.6s,baz=214,slow=33
VAE **Valguarnera** 79.75 325 LR LR 18 29 00.8
comp=Z,30nm,18.1s,baz=160,slow=38
KEST **Kesra** 81.07 321 LR LR 18 25 44.5
comp=Z,34nm,20.4s,baz=269,slow=35
MLR **Muntele Rosu** 81.56 337 LR LR 18 24 35.9
comp=Z,14nm,19.9s,baz=98,slow=34
KURBB **Kurchatov Arra** 82.43 12 P P 17 50 17.1 +1.4
comp=Z,1.0nm,0.3s,baz=198,slow=8.6,SNR=4.2
comp=Z,1.0nm,0.3s
ZALV **Zalesovo Beam** 86.83 15 P P 17 50 40.9 +3.1
comp=Z,0.7nm,0.5s,baz=197,slow=2.5,SNR=5.1
comp=Z,0.7nm,0.5s
DAVOX **Davos/Dischmat** 89.04 328 LR LR 18 31 04.0
comp=Z,12nm,20.9s,baz=74,slow=36
JNU **Nakatsue** 92.33 53 LR LR 18 27 30.1
comp=Z,14nm,20.4s,baz=146,slow=32
MJAR **Matsushiro Arr** 99.25 53 LR LR 18 35 31.9
comp=Z,14nm,19.2s,baz=182,slow=35
NOA **NORSAR Array B** 99.32 338 LR LR 18 36 35.6
comp=Z,9.8nm,19.4s,baz=5.0,slow=35
YKA **Yellowknife Ar** 147.74 355 PKPbc **PKPbc** 17 57 38.2 +0.3
comp=Z,0.7nm,0.7s,baz=352,slow=3.1,SNR=8.4

IDC 28 17:44:14.3±7.6, 5°.91S×151°.67E, h57$^{km}_{\pm 64}$km, mb3.3/3, mbtmp3.7/4, ML2.2/1, Error ellipse: s-maj=124.7km s-min=35.1km az=126.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.66**	**232**	P	Pn	17 45 36.5	+0.6
	4.3nm,0.3s,baz=52,slow=7.4,SNR=14						
PMG				S	Sn	17 46 39.6	0.0
	7.5nm,0.3s,baz=358,slow=18,SNR=1.4						
	8.5nm,0.3s						
WRA	**Warramunga Arr**	**21.87**	**229**	P	P	17 49 02.9	+0.4
	0.7nm,0.6s,baz=54,slow=9.8,SNR=10.0						
	0.7nm,0.6s						
ASAR	**Alice Springs**	**24.58**	**222**	P	P	17 49 29.4	+0.2
	1.1nm,0.6s,baz=57,slow=9.0,SNR=31						
	1.1nm,0.6s						
ILAR	**Eielson Array**	**83.61**	**22**	P	P	17 56 35.9	-0.3
	0.5nm,0.8s,baz=230,slow=6.4,SNR=4.9						
	0.5nm,0.8s						

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*NEIC **28** 17:51:40.2±1.5, 18°.80N±0°.08×145°.6E±0°.1, h211$^{km}_{\pm 6}$km, mb4.5/66, Error ellipse: s-maj=15.1km s-min=10.5km az=71.0*
*IDC **28** 17:51:40.1±0.8, 18°.80N×145°.54E, h221$^{km}_{\pm 7}$km, mb3.6/18, mbtmp4.3/23, Error ellipse: s-maj=15.1km s-min=6.9km az=86.0*
*BJI **28** 17:51:46.4±0.0, 19°.59N×144°.81E, h211^{km}, mb4.1/16, mB4.3/9*
ISC 28 17:51:39.4±0.4, 18°.85N±0°.04×145°.54E±0°.08, h214km, n111, σ1°.24/114, mb4.4/52, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.27**	**187**		**Pn**	**17 52 57.1**	**-0.6**
GUMO	**Guam**	**5.27**	**187**	P	**Pn**	**17 52 57.8**	**+0.2**
	50nm,0.3s,baz=111,slow=5.8,SNR=19						
GUMO				S	**S**	**17 53 58.1**	**-1.3**
	103nm,0.3s,baz=355,slow=22,SNR=6.8						
JCJ	**Chichijima**	**8.77**	**340**	P	Pn	17 53 37.5	-5.1
	34nm,0.6s,baz=97,slow=23,SNR=1.4						
JCJ				S	**S**	**17 55 13.6**	**-7.8**
	83nm,0.4s,baz=304,slow=22,SNR=9.7						
JMZ	**Minamidaito 2**	**14.94**	**300**		**P**	**17 55 04.1**	**+3.3**
JHJ2	**Mitsune**	**15.10**	**341**		**P**	**17 55 04.6**	**+2.1**
JHJ	**Hachijo jima 2**	**15.12**	**341**	P	**P**	**17 55 04.0**	**+1.3**
	38nm,0.4s,baz=247,slow=24,SNR=15						
JHJ				S	**S**	**17 57 47.6**	**-2.1**
	85nm,0.9s,baz=52,slow=20,SNR=1.4						
JOW	**Kunigami**	**17.77**	**300**	P	**Pn**	**17 55 35.3**	**+1.2**
JOW	**Kunigami**	**17.77**	**300**		**Pn**	**17 55 34.9**	**+0.8**
JOW	**Kunigami**	**17.77**	**300**	P	**Pn**	**17 55 34.2**	**+0.1**
	37nm,0.4s,baz=134,slow=10,SNR=28						
INU	**Inuyama**	**18.09**	**337**	P	**Pn**	**17 55 38.2**	**+0.5**
INU	**Inuyama**	**18.09**	**337**	P	**Pn**	**17 55 36.8**	**-0.9**
INU				IAmb	IAmb	17 55 38.5	
	comp=Z,25nm,1.2s						
JMN	**Monobe**	**18.11**	**327**	P	**Pn**	**17 55 38.1**	**+0.1**
JMN				IAmb	IAmb	17 55 46.8	
	comp=Z,40nm,1.4s						
JGF	**Kuroka**	**18.19**	**338**	P	**Pn**	**17 55 38.5**	**-0.4**
JGF	**Kuroka**	**18.19**	**338**	P	**P**	**17 55 36.9**	**+0.5**
JGF				IAmb	IAmb	17 55 39.5	
	comp=Z,20nm,0.7s						
MJAR	**Matsushiro Arr**	**18.77**	**341**	P	**P**	**17 55 42.6**	**0.0**
	comp=Z,6.9nm,0.6s,baz=167,slow=9.8,SNR=18						
MJAR				S	**S**	**17 59 05.2**	**+0.5**
	comp=Z,0.8nm,0.4s,baz=212,slow=47,SNR=2.4						
MAJO	**Matsushiro**	**18.77**	**341**		**P**	**17 55 43.5**	**+0.9**
MAJO	**Matsushiro**	**18.77**	**341**	P	**P**	**17 55 43.0**	**+0.3**
MAJO				IAmb	IAmb	17 55 47.7	
	comp=Z,18nm,0.9s						
MJB9	**Matsu-Tunnel**	**18.77**	**341**	P	**P**	**17 55 43.5**	**+0.9**
MJB9				IAmb	IAmb	17 55 48.7	
	comp=Z,18nm,0.9s						
JNU	**Nakatsue**	**19.35**	**320**	P	**P**	**17 55 50.5**	**+1.6**
	comp=Z,6.7nm,1.1s,baz=203,slow=2.4,SNR=2.0						
JMM	**Marumori**	**19.39**	**349**	P	**Pn**	**17 55 52.5**	**-0.6**
JMM	**Marumori**	**19.39**	**349**	P	**P**	**17 55 51.2**	**+1.9**
H11S3	**WAKE ISLAND Hy**	**20.04**	**88**	T	T	18 17 05.6	
	baz=275						
H11S1	**WAKE ISLAND Hy**	**20.05**	**88**	T	T	18 17 13.8	
	baz=275,slow=74						
H11S2	**WAKE ISLAND Hy**	**20.06**	**88**	T	T	18 17 22.3	
	baz=275,slow=74						
JSD	**Sado**	**20.14**	**343**	P	**P**	**17 55 58.8**	**+1.5**
JSD	**Sado**	**20.14**	**343**	P	**P**	**17 55 57.3**	**0.0**
H11N1	**WAKE ISLAND Hy**	**20.18**	**84**	T	T	18 17 24.1	
	baz=274,slow=76,SNR=4.8						
H11N2	**WAKE ISLAND Hy**	**20.18**	**84**	T	T	18 17 29.5	
	baz=274,slow=76,SNR=5.0						
H11N3	**WAKE ISLAND Hy**	**20.20**	**84**	T	T	18 17 25.5	
	baz=274,slow=76,SNR=5.0						
MANU	**Manus Island**	**20.84**	**175**	P	**P**	**17 56 04.1**	**-0.9**
MANU	**Manus Island**	**20.84**	**175**	P	**P**	**17 56 03.6**	**-1.3**
JTM	**Tenmabayashi**	**22.20**	**351**	P	**P**	**17 56 19.2**	**+1.0**
JTM				IAmb	IAmb	17 56 22.5	
	comp=Z,12nm,0.8s						
YHNB	**Yeheng**	**23.16**	**289**	P	**P**	**17 56 29.0**	**+1.8**
YHNB				IAmb	IAmb	17 56 32.1	
	comp=Z,20nm,1.2s						
ERM	**Erimo**	**23.18**	**355**	P	**P**	**17 56 30.0**	**+3.0**
ERM				IAmb	IAmb	17 57 03.5	
	comp=Z,22nm,1.1s						
RABL	**Rabaul**	**23.81**	**163**	P	**P**	**17 56 30.9**	**-2.2**
KSRS	**Korea Array**	**24.11**	**324**	P	**P**	**17 56 35.1**	**-0.4**
	comp=Z,4.1nm,0.9s,baz=148,slow=9.5,SNR=12						
KSRS				pP	**pwP**	**17 57 19.4**	**-0.1**
	comp=Z,4.1nm,0.8s,baz=148,slow=9.0,SNR=5.9						
	comp=Z,4.1nm,0.9s						
KSAR	**Wonju Array Be**	**24.12**	**324**	P	**P**	**17 56 35.1**	**-0.6**
FAKI	**Fak Fak**	**25.28**	**213**	P	**P**	**17 56 46.5**	**+0.1**
FAKI				IAmb	IAmb	17 57 28.9	
	comp=Z,18nm,1.0s						
JKA	**Kamikawa-asahi**	**25.31**	**355**	P	**P**	**17 56 47.2**	**+0.8**
JKA				IAmb	IAmb	17 56 50.0	
	comp=Z,11nm,0.9s						
NJ2	**Nanjing**	**27.36**	**304**	*eP*	**P**	**17 57 06.3**	**+1.5**
NJ2				pmax	pmax		
	comp=Z,4.0nm,0.6s						
TOLI2	**Tolitoli**	**30.00**	**237**	P	**P**	**17 57 29.1**	**+0.7**
TOLI2				IAmb	IAmb	17 57 54.8	
	comp=Z,11nm,0.9s						
COEN	**Coen**	**32.68**	**184**	P	**P**	**17 57 51.3**	**-0.5**
COEN				IAmb	IAmb	17 58 24.3	
	comp=Z,19nm,1.2s						
HEH	**HeiHe**	**34.51**	**339**	*eP*	**P**	**17 58 06.8**	**-0.4**
HEH				pmax	pmax		
	comp=Z,6.0nm,1.0s						
SOEI	**Soe**	**35.33**	**218**	P	**P**	**17 58 16.1**	**+1.4**
PEA0B	**Petropavlovsk-**	**35.48**	**13**	P	**P**	**17 58 16.2**	**+0.8**
PEA0B				IAmb	IAmb	17 58 51.7	
	comp=Z,24nm,1.4s						
PETK	**Petropavlovsk-**	**35.48**	**13**	P	**P**	**17 58 15.9**	**+0.5**
PETK	**Petropavlovsk-**	**35.48**	**13**	P	**P**	**17 58 16.4**	**+1.0**
	comp=Z,1.6nm,0.6s,baz=155,slow=6.2,SNR=6.6						
	comp=Z,1.6nm,0.6s						
HHC	**Hu-ho-hao-te**	**36.39**	**314**	*eP*	**P**	**17 58 24.0**	**+0.5**
HHC				pmax	pmax		
	comp=Z,16nm,0.6s						
HHC				pmax	pmax		
	comp=Z,38nm,4.3s						
SBUM	**Sibu**	**36.46**	**247**	P	**P**	**17 58 24.7**	**+0.5**
SBUM				IAmb	IAmb	17 59 00.3	
	comp=Z,9.2nm,1.3s						
CTAO	**Charters Tower**	**38.70**	**179**	P	**P**	**17 58 42.4**	**-0.5**
CTAO				IAmb	IAmb	17 58 44.5	
	comp=Z,22nm,1.2s						
WB0	**Warramunga Arr**	**39.90**	**196**	P	**P**	**17 58 53.2**	**+0.3**
WB0				IAmb	IAmb	17 58 53.8	
	comp=Z,31nm,1.2s						
WR0	**Warramunga Arr**	**40.05**	**196**	P	**P**	**17 58 54.1**	**+0.1**
WR0				IAmb	IAmb	17 58 55.1	
	comp=Z,27nm,1.4s						
WRAB	**Tennant Creek**	**40.07**	**196**	P	**P**	**17 58 54.6**	**+0.3**
WB2	**Warramunga Arr**	**40.08**	**196**	P	**P**	**17 58 54.7**	**+0.4**
WB2				IAmb	IAmb	17 58 55.3	
	comp=Z,21nm,0.9s						
WRA	**Warramunga Arr**	**40.09**	**196**	P	**P**	**17 58 53.4**	**-0.9**
WRA	**Warramunga Arr**	**40.09**	**196**	P	**P**	**17 58 54.5**	**+0.1**
	comp=Z,9.8nm,0.6s,baz=1.8,slow=9.2,SNR=129						
WRA				PcP	**PcP**	**18 00 54.3**	**-0.4**
	comp=Z,1.5nm,0.5s,baz=16,slow=3.7,SNR=6.2						
WRA				S	**S**	**18 04 42.9**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=23,slow=14,SNR=2.6						
	comp=Z,9.8nm,0.6s						
LZH	**Lanzhou**	**40.44**	**304**	*eP*	**P**	**17 58 57.0**	**-0.3**
LZH				pmax	pmax		
	comp=Z,11nm,1.2s						
PZH	**PanZhiHua**	**40.96**	**289**	P	**P**	**17 59 03.0**	**+1.3**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,80nm,5.7s						
FITZ	**Fitzroy Crossi**	**41.60**	**209**	P	**P**	**17 59 07.2**	**+0.5**
SONM	**Songino Array**	**42.93**	**321**	P	**P**	**17 59 17.6**	**+0.3**
SONM	**Songino Array**	**42.93**	**321**	P	**P**	**17 59 17.6**	**+0.3**
	comp=Z,0.7nm,0.3s,baz=125,slow=6.2,SNR=6.2						
	comp=Z,0.7nm,0.3s						
KOUNC	**Koumac, New Ca**	**43.25**	**154**	P	**P**	**17 59 20.8**	**+0.8**
AS31	**Alice Springs**	**43.75**	**196**	P	**P**	**17 59 24.0**	**0.0**
ASAR	**Alice Springs**	**43.76**	**196**	P	**P**	**17 59 23.4**	**-0.6**
ASAR				PcP	**PcP**	**18 01 06.2**	**-0.6**
ASAR	**Alice Springs**	**43.76**	**196**	P	**P**	**17 59 23.7**	**-0.3**
	comp=Z,2.9nm,0.6s,baz=9.2,slow=6.3,SNR=84						
ASAR				PcP	**PcP**	**18 01 06.5**	**-0.3**
	comp=Z,1.1nm,0.7s,baz=30,slow=3.0,SNR=5.6						
ASAR				S	**S**	**18 05 37.4**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=18,slow=18,SNR=4.4						
	comp=Z,2.9nm,0.6s						
CMAR	**Chiang Mai Arr**	**44.05**	**277**	P	**P**	**17 59 27.4**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=68,slow=5.2,SNR=4.0						
	comp=Z,0.8nm,0.8s						
YAK	**Yakutsk**	**44.54**	**349**	P	**P**	**17 59 29.4**	**-0.3**
YAK				IAmb	IAmb	17 59 30.4	
	comp=Z,19nm,0.7s						
DZM	**Mont Dzumac**	**45.52**	**152**	P	**P**	**17 59 38.0**	**0.0**
DZM				IAmb	IAmb	17 59 39.0	
	comp=Z,27nm,0.9s						
OUENC	**Ouen Island, N**	**46.00**	**152**	P	**P**	**17 59 42.0**	**+0.4**
OUENC				IAmb	IAmb	17 59 42.5	
	comp=Z,23nm,0.7s						
MBWA	**Marble Bar**	**47.11**	**214**	P	**P**	**17 59 50.4**	**+0.1**
MBWA				IAmb	IAmb	18 00 11.0	
	comp=Z,33nm,1.3s						
PSA00	**Pilbara Seismi**	**47.39**	**213**	P	**P**	**17 59 52.7**	**+0.2**
PSA00				IAmb	IAmb	17 59 52.8	
	comp=Z,12nm,1.0s						
ARMA	**Armidale**	**49.33**	**173**	P	**P**	**18 00 06.8**	**-0.4**
ARMA				IAmb	IAmb	18 00 09.8	
	comp=Z,16nm,1.5s						
STKA	**Stephens Creek**	**50.58**	**184**	P	**P**	**18 00 15.8**	**-0.7**
STKA	**Stephens Creek**	**50.58**	**184**	P	**P**	**18 00 15.5**	**-0.9**
	comp=Z,1.8nm,0.5s,baz=11,slow=8.5,SNR=4.8						
	comp=Z,1.8nm,0.5s						
FORT	**Forrest**	**52.13**	**199**	P	**P**	**18 00 27.9**	**0.0**
S12K	**Black Hills**	**53.72**	**34**	P	**P**	**18 00 39.5**	**+0.2**
CAN	**Canberra**	**53.97**	**176**	P	**P**	**18 00 40.8**	**-0.5**
CAN				IAmb	IAmb	18 00 53.8	
	comp=Z,21nm,1.5s						
K13K	**Kusilvak Mount**	**55.11**	**26**	P	**P**	**18 00 51.4**	**+2.2**
K13K				IAmb	IAmb	18 01 33.2	
	comp=Z,11nm,1.4s						
MORW	**Morawa**	**55.50**	**212**	P	**P**	**18 00 53.1**	**+0.7**
MORW				IAmb	IAmb	18 00 53.7	
	comp=Z,9.2nm,0.7s						
M14K	**Bethel**	**55.75**	**28**	P	**P**	**18 00 55.6**	**+1.9**
M14K				IAmb	IAmb	18 01 39.7	
	comp=Z,11nm,1.2s						
ZALV	**Zalesovo Beam**	**57.80**	**322**	P	**P**	**18 01 08.1**	**-0.2**
	comp=Z,1.0nm,0.5s,baz=120,slow=8.8,SNR=4.9						
	comp=Z,1.0nm,0.5s						
C16K	**Lisburne Hills**	**58.08**	**19**	P	**P**	**18 01 11.0**	**+1.1**
C16K				IAmb	IAmb	18 01 29.8	
	comp=Z,16nm,1.5s						
NWAO	**Narrogin (SRO)**	**58.16**	**208**	P	**P**	**18 01 11.6**	**+0.6**
MK31	**Makanchi Array**	**58.25**	**314**	P	**P**	**18 01 11.8**	**+0.2**
MKAR	**Makanchi Array**	**58.25**	**314**	P	**P**	**18 01 11.0**	**-0.6**
MKAR	**Makanchi Array**	**58.25**	**314**	P	**P**	**18 01 11.8**	**+0.2**
	comp=Z,0.9nm,0.5s,baz=92,slow=7.5,SNR=15						
MKAR				pP	**PcP**	**18 02 00.2**	**-0.2**
	comp=Z,0.9nm,0.7s,baz=83,slow=9.1,SNR=2.9						
	comp=Z,0.9nm,0.5s						
KDAK	**Kodiak Island**	**59.32**	**33**	P	**P**	**18 01 19.8**	**+1.1**
H19K	**Roundabout Mou**	**59.94**	**24**	P	**P**	**18 01 24.1**	**+1.4**
CNPM	**China Poot**	**60.41**	**32**	P	**P**	**18 01 26.5**	**+0.4**
KURBB	**Kurchatov Arra**	**61.10**	**318**	P	**P**	**18 01 30.5**	**-0.4**
	comp=Z,1.3nm,0.4s,baz=94,slow=7.4,SNR=37						
	comp=Z,1.3nm,0.4s						
D22K	**Ayikyak River**	**62.51**	**21**	P	**P**	**18 01 41.3**	**+1.3**
D22K				IAmb	IAmb	18 01 42.3	
	comp=Z,3.1nm,0.6s						
ILAR	**Eielson Array**	**63.58**	**26**	P	**P**	**18 01 46.3**	**-0.8**
	comp=Z,0.5nm,0.6s,baz=251,slow=5.3,SNR=8.1						
	comp=Z,0.5nm,0.6s						
D25K	**Kavik River**	**64.80**	**21**	P	**P**	**18 01 56.2**	**+1.2**
BVAR	**Borovoye Array**	**66.26**	**320**	P	**P**	**18 02 04.4**	**-0.2**
	comp=Z,3.1nm,0.4s,baz=86,slow=7.3,SNR=13						
BVAR				pP	**pwP**	**18 02 55.8**	**-1.6**
	comp=Z,2.9nm,0.6s,baz=91,slow=7.7,SNR=3.8						
	comp=Z,3.1nm,0.4s						
ABKAR	**Akbulak array**	**73.12**	**317**	P	**P**	**18 02 45.3**	**-1.1**
YKA	**Yellowknife Ar**	**77.93**	**28**	P	**P**	**18 03 13.8**	**+0.3**
	comp=Z,0.5nm,0.6s,baz=294,slow=5.7,SNR=5.3						
	comp=Z,0.5nm,0.6s						
SPITS	**Spitsbergen Ar**	**78.99**	**351**	P	**P**	**18 03 18.9**	**-0.2**
	comp=Z,4.3nm,1.1s,baz=76,slow=12,SNR=1.0						
	comp=Z,4.3nm,1.1s						
PINE	**Pine Mountain**	**79.67**	**47**		**P**	**18 03 24.8**	**+1.2**
PINE				IAmb	IAmb	18 03 26.5	
	comp=Z,6.0nm,0.9s						
ARCES	**ARCESS Array B**	**82.30**	**342**	P	**P**	**18 03 36.4**	**-0.3**
	comp=Z,3.0nm,0.9s,baz=69,slow=8.1,SNR=2.2						
	comp=Z,3.0nm,0.9s						
RYN	**Ryan**	**82.94**	**52**	P	**P**	**18 03 41.7**	**+0.8**
NVAR	**Mina Array Bea**	**83.17**	**52**	P	**P**	**18 03 42.7**	**+0.6**
NVAR	**Mina Array Bea**	**83.17**	**52**	P	**P**	**18 03 43.1**	**+1.0**
	comp=Z,3.5nm,0.7s,baz=264,slow=5.9,SNR=26						
	comp=Z,3.5nm,0.7s						
TPH	**Tonopah**	**84.09**	**52**	P	**P**	**18 03 47.3**	**+0.6**
TPH				IAmb	IAmb	18 03 48.7	
	comp=Z,12nm,0.9s						
GMN	**Gold Mountain**	**84.31**	**53**	P	**P**	**18 03 48.8**	**+0.8**
BOZ	**Bozeman (W)**	**85.36**	**43**	P	**P**	**18 03 53.6**	**+0.7**
FINES	**FINESS Array B**	**86.68**	**335**	P	**P**	**18 03 57.4**	**-1.4**
	comp=Z,1.2nm,0.4s,baz=68,slow=4.7,SNR=16						
	comp=Z,1.2nm,0.4s						
TCRU	**Three Creeks R**	**87.42**	**50**	IAmb	IAmb	18 04 05.7	
	comp=Z,6.6nm,0.5s						
PDAR	**Pinedale Array**	**87.83**	**45**	P	**P**	**18 04 04.6**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=241,slow=0.9,SNR=2.3						
	comp=Z,0.3nm,0.7s						
Y14A	**Wickenburg**	**88.74**	**55**	IAmb	IAmb	18 04 11.0	
	comp=Z,3.7nm,0.8s						
MT08	**Bocatoma Ro**	**145.12**	**122**		**PKPbc**	**18 10 50.6**	**-1.5**
LPAZ	**La Paz**	**147.83**	**91**	PKPbc	**PKPbc**	**18 11 01.2**	**+0.4**
	comp=Z,3.6nm,0.8s,baz=270,slow=2.9,SNR=9.9						

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*IDC **28** 18:09:41.8±5.0, 35°.19N×22°.97E, h0km, mb3.5/4, mbtmp3.5/6, ML3.3/2, Error ellipse: s-maj=103.2km s-min=29.5km az=20.0*
*ATH **28** 18:09:48.0, 35°.55N×23°.28E, h11$^{km}_{\pm 2}$km, ML3.1/6, Error ellipse: s-maj=3.2km s-min=0.9km az=65.0*
*THE **28** 18:09:48.1, 35°.55N×23°.29E, h2$^{km}_{\pm 4}$km, ML2.9/9, Error ellipse: s-maj=2.2km s-min=0.7km az=229.0*
ISC 28 18:09:47.6±1.1, 35°.56N±0°.04×23°.29E±0°.04, h16km±8km, n36, σ1°.32/47, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANKY	**Antikythira Is**	**0.31**	**2**	P	**Pg**	**18 09 54.1**	**0.0**
ANKY				S	**Sb**	**18 09 58.9**	**-0.7**
	4µm,0.2s						
ANKY	**Antikythira Is**	**0.31**	**2**	P	**Pg**	**18 09 54.1**	**0.0**
ANKY				S	**Sb**	**18 09 59.4**	**-0.2**
ANKY				AML	AML	18 10 00.5	
	comp=E,7739µm,0.2s						
ANKY				AML	AML	18 10 00.6	
	comp=N,7042µm,0.3s						
RODP	**Rodopos**	**0.39**	**89**	P	**Pb**	**18 09 55.9**	**-0.1**
RODP				S	**Sb**	**18 10 02.2**	**+0.5**
	comp=N,892nm,0.3s						
KNDR	**Palaiochora Ch**	**0.46**	**134**	P	**Pg**	**18 09 55.7**	**-1.0**
KNDR				S	**Sg**	**18 10 02.5**	**-0.4**
KNDR				AML	AML	18 10 02.9	
	comp=E,14855µm,0.3s						
KNDR				AML	AML	18 10 04.5	
	comp=N,12495µm,0.5s						
IMMV	**Iera Moni Meta**	**0.57**	**99**	P	**Pg**	**18 09 58.5**	**-0.4**
IMMV				S	**Sb**	**18 10 06.8**	**-0.4**
	comp=N,8µm,0.5s						
IMMV	**Iera Moni Meta**	**0.57**	**99**	P	**Pb**	**18 09 58.7**	**-0.6**
IMMV				S	**Sb**	**18 10 07.2**	**0.0**
IMMV				AML	AML	18 10 08.9	
	comp=E,20152µm,0.4s						
IMMV				AML	AML	18 10 09.9	
	comp=N,13124µm,0.6s						
CHAN	**Chania**	**0.62**	**93**	P	**Pb**	**18 09 59.5**	**-0.5**
GVDS	**Gavdos**	**0.97**	**137**	P	**Pg**	**18 10 05.5**	**-0.8**
GVDS				S	**Sb**	**18 10 19.8**	**+1.3**
	comp=N,532nm,0.3s						
GVD	**Gavdhos**	**0.97**	**137**	P	**Pg**	**18 10 06.0**	**-0.4**
GVD				S	**Sn**	**18 10 20.1**	**+0.1**
	comp=N,810nm,0.4s						
GVD	**Gavdhos**	**0.97**	**137**	P	**Pg**	**18 10 06.0**	**-0.4**
GVD				AML	AML	18 10 25.9	
	comp=E,1384µm,0.3s						
GVD				AML	AML	18 10 26.7	
	comp=N,1848µm,0.4s						
PRNS	**Prines Rethymn**	**1.01**	**101**	P	**Pn**	**18 10 07.0**	**-0.1**
PRNS				S	**Sg**	**18 10 19.0**	**-1.4**
	comp=N,415nm,0.4s						
MNVA	**Monemvasia**	**1.15**	**350**	P	**Pg**	**18 10 09.6**	**-0.1**
VLI	**Velíai**	**1.19**	**346**	P	**Pb**	**18 10 09.6**	**-0.3**
VLI				S	**Sn**	**18 10 27.4**	**+1.9**
	comp=N,658nm,0.7s						
VLI	**Velíai**	**1.19**	**346**	P	**Pb**	**18 10 09.5**	**-0.3**
VLI				AML	AML	18 10 34.4	
	comp=N,1353µm,0.8s						
VLI				AML	AML	18 10 34.5	
	comp=E,1282µm,0.7s						
IDI	**Anoyia**	**1.34**	**101**	P	**Pb**	**18 10 12.4**	**+0.1**
IDI				S	**Sg**	**18 10 31.4**	**+0.6**
	comp=E,312nm,0.4s						
IDI	**Anoyia**	**1.34**	**101**	P	**Pb**	**18 10 12.4**	**+0.1**
IDI				AML	AML	18 10 34.8	
	comp=N,950µm,0.4s						
IDI				AML	AML	18 10 36.6	
	comp=E,559µm,0.5s						
MHLO	**Agia Marina, M**	**1.45**	**38**	P	**Pg**	**18 10 14.5**	**-0.9**
MHLO				S	**Sg**	**18 10 34.6**	**+0.3**
	comp=E,1µm,0.5s						
KSTL	**Kastelli Herak**	**1.48**	**99**	P	Pg	18 10 20.9	+4.9
KSTL				S	**Sg**	**18 10 40.7**	**+5.4**
PYL	**PYLOS**	**1.83**	**317**	P	**Pn**	**18 10 19.9**	**+1.5**
PYL	**PYLOS**	**1.83**	**317**	P	**Pn**	**18 10 19.6**	**+1.3**
SNT5	**Nea Kammeni, S**	**1.91**	**63**	P	**Pn**	**18 10 20.0**	**+0.6**
THR3	**Thira Island,**	**1.92**	**63**	P	**Pb**	**18 10 21.8**	**-0.3**
ITM	**Ithomi**	**1.96**	**326**	P	**Pb**	**18 10 22.5**	**-0.3**

		99nm,0.3s,baz=322,slow=12,SNR=33						
NNA				S	Sn	18 35 21.9	+2.0	
		179nm,0.4s,baz=344,slow=7.4,SNR=9.6						
NNA				LR	LR	18 36 14.1		
		comp=Z,36nm,21.2s,baz=2.0,slow=41						
LPAZ	**La Paz**	**12.96**	**123**	LR	LR	18 42 37.5		
		comp=Z,59nm,21.8s,baz=10.0,slow=41						
ROSC	**El Rosal**	**14.93**	**20**	LR	LR	18 44 28.2		
		comp=Z,76nm,18.8s,baz=229,slow=43						
SIV	**San Ignacio**	**19.04**	**112**	P	**P**	**18 38 01.7**	**-0.7**	
		0.6nm,0.2s,baz=301,slow=18,SNR=1.3						
SDV	**Santo Domingo**	**20.06**	**26**	LR	LR	18 46 36.0		
		comp=Z,24nm,18.6s,baz=157,slow=39						
H03N2	**Juan Fernandez**	**24.02**	**179**	T	T	19 03 45.1		
		baz=359,slow=75,SNR=102						
H03N1	**Juan Fernandez**	**24.02**	**179**	T	T	19 03 46.0		
		baz=359,slow=75,SNR=56						
H03N3	**Juan Fernandez**	**24.03**	**179**	T	T	19 03 44.7		
		baz=359,slow=75,SNR=52						
PCRV	**Puerto La Cruz**	**24.28**	**37**	LR	LR	18 49 54.8		
		comp=Z,69nm,19.2s,slow=40						
TXAR	**Lajitas Array**	**45.00**	**329**	P	**P**	**18 41 54.7**	**-0.3**	
		0.6nm,0.9s,baz=138,slow=8.3,SNR=5.6						
		0.6nm,0.9s						
PDAR	**Pinedale Array**	**58.70**	**334**	P	**P**	**18 43 36.8**	**-0.3**	
		0.3nm,0.5s,baz=148,slow=7.0,SNR=2.9						
		0.3nm,0.5s						
NVAR	**Mina Array Bea**	**59.77**	**325**	P	**P**	**18 43 46.2**	**+1.6**	
		0.6nm,0.6s,baz=137,slow=7.1,SNR=5.9						
		0.6nm,0.6s						
YKA	**Yellowknife Ar**	**76.59**	**344**	P	**P**	**18 45 28.2**	**-0.9**	
		0.5nm,0.6s,baz=136,slow=6.5,SNR=5.9						
		0.5nm,0.6s						
QSPA	**South Pole Qui**	**80.80**	**180**	P	**P**	**18 45 53.5**	**+1.0**	
		1.4nm,0.8s,baz=194,slow=2.8,SNR=6.2						
		1.4nm,0.8s						
TORD	**Torodi Ar. Bea**	**83.51**	**76**	P	**P**	**18 46 05.7**	**-1.7**	
		1.2nm,0.9s,baz=277,slow=3.8,SNR=5.4						
		1.2nm,0.9s						
ESDC	**Sonseca Array**	**84.85**	**49**	P	**P**	**18 46 13.2**	**-0.7**	
		0.7nm,0.8s,baz=263,slow=5.2,SNR=3.0						
		0.7nm,0.8s						
ILAR	**Eielson Array**	**89.05**	**337**	P	**P**	**18 46 33.0**	**-0.6**	
		0.5nm,0.9s,baz=121,slow=3.5,SNR=5.1						
		0.5nm,0.9s						
EKA	**Eskdalemuir Ar**	**89.85**	**34**	P	**P**	**18 46 37.6**	**+0.1**	
		0.9nm,0.9s,baz=238,slow=7.3,SNR=2.8						
		0.9nm,0.9s						
BVAR	**Borovoye Array**	**130.03**	**23**	PKP	**PKPdf**	**18 52 48.7**	**+0.2**	
		0.2nm,0.3s,baz=322,slow=0.2,SNR=1.8						
ZALV	**Zalesovo Beam**	**133.71**	**13**	PKP	**PKPdf**	**18 52 55.0**	**-0.4**	
		0.2nm,0.2s,baz=332,slow=0.0,SNR=1.7						
ASAR	**Alice Springs**	**133.83**	**224**	PKP	**PKPdf**	**18 52 56.8**	**+0.2**	
		0.2nm,0.7s,baz=123,slow=2.1,SNR=1.7						
KURBB	**Kurchatov Arra**	**134.94**	**20**	PKP	**PKPdf**	**18 52 57.7**	**-0.1**	
		0.6nm,0.7s,baz=330,slow=2.6,SNR=7.5						
WRA	**Warramunga Arr**	**135.89**	**229**	PKP	**PKPdf**	**18 53 01.1**	**+0.6**	
		0.3nm,0.6s,baz=126,slow=1.8,SNR=8.0						
MKAR	**Makanchi Array**	**139.50**	**19**	PKP	**PKPdf**	**18 53 06.3**	**-0.2**	
		0.6nm,0.8s,baz=302,slow=3.0,SNR=2.2						
SONM	**Songino Array**	**141.30**	**354**	PKP	**PKPdf**	**18 53 11.0**	**+1.3**	
		0.5nm,0.6s,baz=5.7,slow=1.4,SNR=3.2						

*NEIC **28** 19:03:30.2±1.4, 19°.379N±0°.006×155°.287W±0°.009, h1km±5km, Error ellipse: s-maj=1.2km s-min=0.8km az=114.0*

HVO 28 19:03:29.6±1.0, 19°.404N±0°.008×155°.287W±0°.009, h0km±3km, ML3.0/25, ML2.8/44(NEIC), Error ellipse: s-maj=1.2km s-min=1.0km az=48.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**10**		Pg	19 03 30.4	+0.4
RIM	**Rim**	**0.01**	**125**		Pg	19 03 30.5	+0.5
UWE	**Uwekahuna**	**0.02**	**341**		Sg	19 03 30.6	+0.2
UWE	**Uwekahuna**	**0.02**	**341**	Pg	Pg	19 03 30.4	+0.3
KKO	**Keanakako`i**	**0.02**	**106**		Pg	19 03 30.7	+0.6
UWB	**Uwekahuna B**	**0.02**	**21**		Pg	19 03 30.7	+0.6
BYL	**Byron's Ledge**	**0.03**	**71**		Pg	19 03 30.8	+0.6
SBLHI	**Steaming Bluff**	**0.03**	**37**		Pg	19 03 31.0	+0.7
HATHI	**Halema'uma'u T**	**0.03**	**51**		Pg	19 03 31.0	+0.7
RSD	**Rainshed**	**0.06**	**8**		Pg	19 03 31.6	+0.8
RSD	**Rainshed**	**0.06**	**8**	IAML		19 03 32.6	
RSD	comp=N,6µm,0.3s			IAML		19 03 32.6	
	comp=E,5µm,0.4s						
PUH	**Pauahi**	**0.07**	**114**		Pg	19 03 32.1	+1.1
PUH	**Pauahi**	**0.07**	**114**	IAML		19 03 33.1	
PUH	comp=E,2µm,0.2s			IAML		19 03 33.5	
	comp=N,3µm,0.2s						
HLP	**Hilina Pali**	**0.11**	**191**		Pg	19 03 32.9	+1.2
HLP	**Hilina Pali**	**0.11**	**191**	IAML		19 03 35.2	
HLP	comp=E,2µm,0.7s			IAML		19 03 35.3	
	comp=N,1µm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**102**		Pg	19 03 32.9	+1.1
MLH	**Mauna Loa**	**0.13**	**314**		Pg	19 03 33.4	+1.3
MLH	**Mauna Loa**	**0.13**	**314**	IAML		19 03 35.6	
MLH	comp=E,3µm,1.1s			IAML		19 03 36.6	
	comp=N,4µm,0.4s						
STCH	**Steam Cracks**	**0.15**	**97**		Pg	19 03 33.4	+0.8
STCH	comp=E,5µm,1.1s			IAML		19 03 36.9	
STCH	comp=N,4µm,1.2s			IAML		19 03 37.5	
JCUZ	**Jacuzzi**	**0.18**	**96**		Pg	19 03 34.2	+1.2
HTC	**Hot Caves**	**0.20**	**212**		Pg	19 03 34.4	+1.0
JOKA	**Jonika Flow**	**0.27**	**84**		Pg	19 03 35.3	+0.5
JOKA	comp=E,885nm,1.9s			IAML		19 03 41.7	
JOKA	comp=N,2µm,1.0s			IAML		19 03 41.9	
HMH	**Humu'ula Sheep**	**0.27**	**317**		Pg	19 03 35.9	+1.0
HMH	**Humu'ula Sheep**	**0.27**	**317**	IAML		19 03 41.7	
HMH	comp=N,2µm,0.5s			IAML		19 03 43.1	
	comp=E,2µm,0.8s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**		Pg	19 03 36.4	+0.9
MLOA	**Mauna Loa Obse**	**0.30**	**296**	IAML		19 03 41.6	
MLOA	comp=E,2µm,1.0s			IAML		19 03 45.8	
	comp=N,3µm,1.0s						
MWH	**Moku'aweowe**	**0.30**	**286**		Pg	19 03 36.3	+0.8
PAH	**Pahoa**	**0.33**	**74**		Pb	19 03 37.3	-1.1
KHU	**Kahuku**	**0.35**	**243**		Pg	19 03 37.6	+1.3
KHU	comp=N,894nm,1.5s			IAML		19 03 45.9	
KHU	comp=E,774nm,0.7s			IAML		19 03 48.9	
HPO	**Honuapo**	**0.40**	**219**	Pg	Pg	19 03 35.9	-1.5
POHA	**Pohakuloa**	**0.42**	**327**		Pg	19 03 37.9	+0.2
HUH	**Hualalai**	**0.59**	**298**		Pg	19 03 41.6	+0.7
HPAH	**Hawaii Prepara**	**0.73**	**328**		Pg	19 03 43.2	-0.6

*IDC **28** 19:03:45.4±1.3, 32°.43N×137°.45E, h401km±18km, mb2.8/5, mbtmp3.6/6, Error ellipse: s-maj=41.8km s-min=17.1km az=85.0*

*JMA **28** 19:03:46.1±0.4, 33°.N±2°.×13°.7E±°, h409km±3km, MV2.9/32, FAR S OFF TOKAI DISTRICT*

ISC 28 19:03:45.6±0.9, 32°.48N±0°.09×137°.49E±0°.07, h394km, n25, σ1§68/33, mb3.1/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO1	**TONANKAI O.B.S**	**1.29**	**333**	*eP*	**Pn**	**19 04 39.3**	**+2.5**
TTO2	**TONANKAI O.B.S**	**1.31**	**343**	*eP*	**Pn**	**19 04 39.5**	**+2.7**
TTO3	**TONANKAI O.B.S**	**1.39**	**357**	*eP*	**Pn**	**19 04 40.0**	**+2.7**
TTO4	**TONANKAI O.B.S**	**1.53**	**2**	*eP*	**Pn**	**19 04 40.5**	**+2.5**
JIE	**Ise**	**2.02**	**341**	P	**Pn**	**19 04 42.8**	**+1.8**
JIE				*eS*	**S**	**19 05 28.0**	**+2.1**
JHJ2	**Mitsune**	**2.06**	**71**	*eP*	**Pn**	**19 04 44.1**	**+2.7**
JHJ2				*eS*	**S**	**19 05 29.6**	**+3.2**
JTNC	**Tanabenakahech**	**2.07**	**311**	*eP*	**Pn**	**19 04 42.6**	**+1.2**
JTNC				*eS*	**S**	**19 05 27.0**	**+0.5**
JWY	**Kouya**	**2.35**	**318**	*eP*	**Pn**	**19 04 45.1**	**+1.7**
JAI	**Aioi**	**2.87**	**298**	*eP*	**Pn**	**19 04 48.5**	**+1.3**
JOD2	**Odawara 2**	**3.08**	**25**	*eP*	**Pn**	**19 04 50.0**	**+1.0**
JOD2				*eS*	**S**	**19 05 41.5**	**+1.2**
JYN	**Shimob**	**3.14**	**16**	P	**Pn**	**19 04 51.3**	**+1.8**
JYTA	**Yamagatataniai**	**3.17**	**349**	P	**Pn**	**19 04 51.1**	**+1.5**
JMN	**Monobe**	**3.27**	**293**	P	**Pn**	**19 04 52.2**	**+1.5**
JWT	**Wachi**	**3.29**	**329**	*eP*	**Pn**	**19 04 52.1**	**+1.3**
JWT				*eS*	**S**	**19 05 44.0**	**+0.4**
BSO1	**Boso 1**	**3.64**	**52**	*eP*	**Pn**	**19 04 52.4**	**-0.8**
BSO1				*eS*	**S**	**19 05 47.4**	**-0.7**
JRY	**Ryogami san**	**3.72**	**18**	P	**Pn**	**19 04 55.7**	**+1.1**
JRY				*eS*	**S**	**19 05 50.8**	**+0.1**
JKG	**Kaga**	**3.91**	**346**	*eP*	**Pn**	**19 04 57.5**	**+1.1**
JTO	**Tosashimizu**	**3.97**	**277**	*eP*	**Pn**	**19 04 58.1**	**+1.1**
MJAR	**Matsushiro Arr**	**4.10**	**8**	P	**Pn**	**19 04 58.7**	**+0.5**
MJAR	13nm,0.6s,baz=177,slow=9.1,SNR=50			S	**S**	**19 05 58.8**	**+1.7**
	2.0nm,0.7s,baz=183,slow=20,SNR=5.7						
JNA	**Nagahama**	**4.34**	**286**	*eP*	**Pn**	**19 05 01.7**	**+1.1**
MKAR	**Makanchi Array**	**43.97**	**306**	P	**P**	**19 11 14.7**	**-0.9**
	0.3nm,0.6s,baz=78,slow=9.0,SNR=1.8						
	0.3nm,0.6s						
WRA	**Warramunga Arr**	**52.21**	**184**	P	**P**	**19 12 16.5**	**-1.5**
	1.0nm,0.6s,baz=0.7,slow=7.6,SNR=40						
	1.0nm,0.6s						
ILAR	**Eielson Array**	**55.06**	**30**	P	**P**	**19 12 37.3**	**-0.6**
	0.2nm,0.6s,baz=267,slow=5.4,SNR=2.3						
	0.2nm,0.6s						
ASAR	**Alice Springs**	**55.93**	**184**	P	**P**	**19 12 43.4**	**-1.1**
	0.5nm,0.6s,baz=1.3,slow=4.1,SNR=12						
	0.5nm,0.6s						
FINES	**FINESS Array B**	**71.31**	**332**	P	**P**	**19 14 22.5**	**-0.8**
	0.5nm,0.7s,baz=56,slow=7.4,SNR=3.4						
	0.5nm,0.7s						

*NEIC **28** 19:05:06.8±1.1, 19°.408N±0°.008×155°.298W±0°.007, h2km±2km, Error ellipse: s-maj=1.2km s-min=0.9km az=184.0*

HVO 28 19:05:06.7±0.9, 19°.404N±0°.008×155°.290W±0°.006, h1km±5km, ML3.3/7, ML2.4/29(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=184.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**22**		Pg	19 05 07.7	+0.5
RIM	**Rim**	**0.02**	**119**		Pg	19 05 07.7	+0.4
UWE	**Uwekahuna**	**0.02**	**351**	Pg	Pg	19 05 06.9	-0.5
UWE	comp=E,6µm,0.9s			IAML		19 05 07.2	
KKO	**Keanakako`i**	**0.02**	**104**		Pg	19 05 08.5	+1.2
BYL	**Byron's Ledge**	**0.03**	**74**	Pg	Pg	19 05 07.2	-0.1
HATHI	**Halema'uma'u T**	**0.03**	**55**	Pg	Pg	19 05 06.9	-0.5
RSD	**Rainshed**	**0.06**	**11**	Pg	Pg	19 05 07.3	-0.7
RSD	comp=N,3µm,1.2s			IAML		19 05 10.1	
RSD	comp=E,5µm,0.3s			IAML		19 05 10.2	
PUH	**Pauahi**	**0.08**	**113**	Pg	Pg	19 05 08.2	-0.1
PUH	comp=N,2µm,1.3s			IAML		19 05 09.3	
PUH	comp=E,1µm,0.8s			IAML		19 05 10.2	
HLP	**Hilina Pali**	**0.11**	**189**	Pg	Pg	19 05 08.8	0.0
HLP	comp=N,4µm,1.3s			IAML		19 05 10.8	
HLP	comp=E,3µm,0.9s			IAML		19 05 11.7	
KNHH	**Kane Nui o Ham**	**0.12**	**102**	Pg	Pg	19 05 09.3	+0.3
MLH	**Mauna Loa**	**0.13**	**315**	Pg	Pg	19 05 08.9	-0.3
MLH	comp=N,3µm,1.1s			IAML		19 05 12.7	
MLH	comp=E,2µm,1.0s			IAML		19 05 13.2	
STCH	**Steam Cracks**	**0.16**	**97**	Pg	Pg	19 05 10.4	+0.6
STCH	comp=N,1µm,1.2s			IAML		19 05 13.1	
STCH	comp=E,758nm,0.6s			IAML		19 05 13.9	
HMH	**Humu'ula Sheep**	**0.27**	**317**	Pg	Pg	19 05 12.1	+0.2
JOKA	**Jonika Flow**	**0.27**	**84**	Pg	Pg	19 05 12.3	+0.3
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	19 05 12.3	-0.2
HUH	**Hualalai**	**0.59**	**299**	Pg	Pg	19 05 18.0	0.0

*NEIC **28** 19:05:51.4±0.6, 19°.395N±0°.006×155°.27W±0°.01, h1km±4km, Error ellipse: s-maj=1.8km s-min=0.9km az=80.0*

HVO 28 19:05:50.4±0.5, 19°.41N±0°.01×155°.27W±0°.01, h0km±4km, ML3.6/12, ML2.4/19(NEIC), Error ellipse: s-maj=2.0km s-min=1.0km az=45.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**76**		Pg	19 05 51.6	+0.8
KKO	**Keanakako`i**	**0.01**	**157**		Pg	19 05 51.6	+0.8
RIM	**Rim**	**0.01**	**191**		Pg	19 05 51.6	+0.8
OBL	**Observatory Le**	**0.01**	**304**		Pg	19 05 51.6	+0.8
HATHI	**Halema'uma'u T**	**0.02**	**35**	IAML		19 05 51.1	
HATHI	**Halema'uma'u T**	**0.02**	**35**		Pg	19 05 52.1	+1.2
UWB	**Uwekahuna B**	**0.02**	**337**		Pg	19 05 51.7	+0.9
SBLHI	**Steaming Bluff**	**0.02**	**10**		Pg	19 05 52.0	+1.1
UWE	**Uwekahuna**	**0.02**	**300**	IAML		19 05 51.1	
UWE	comp=N,8µm,0.6s			IAML		19 05 51.1	
	comp=E,8µm,0.5s						
UWE	**Uwekahuna**	**0.02**	**300**		Pg	19 05 52.3	+1.4
RSD	**Rainshed**	**0.05**	**353**		Pg	19 05 53.7	+2.2
PUH	**Pauahi**	**0.06**	**124**		Pg	19 05 52.6	+0.9
PUH	**Pauahi**	**0.06**	**124**	IAML		19 05 53.3	
PUH	comp=E,4µm,0.4s			IAML		19 05 53.9	
	comp=N,5µm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**107**		Pg	19 05 53.4	+1.0
HLP	**Hilina Pali**	**0.12**	**197**		Pg	19 05 53.9	+1.2
HLP					Sg	19 05 56.4	+2.2
HLP	**Hilina Pali**	**0.12**	**197**	IAML		19 05 53.6	
	comp=N,2µm,0.7s						
MLH	**Mauna Loa**	**0.14**	**308**		Pg	19 05 54.2	+1.2
MLH	**Mauna Loa**	**0.14**	**308**	IAML		19 05 57.5	
MLH	comp=N,3µm,0.7s			IAML		19 05 57.6	
	comp=E,2µm,0.7s						
STCH	**Steam Cracks**	**0.14**	**100**		Pg	19 05 54.0	+0.9
STCH	**Steam Cracks**	**0.14**	**100**	IAML		19 05 56.9	
STCH	comp=E,4µm,0.9s			IAML		19 05 57.7	
	comp=N,3µm,0.8s						
NPOC	**North of Pu'u**	**0.15**	**96**		Pg	19 05 54.2	+0.9
JCUZ	**Jacuzzi**	**0.16**	**99**		Pg	19 05 54.3	+0.8
HTC	**Hot Caves**	**0.21**	**215**		Pg	19 05 55.6	+1.2

*IDC **28** 19:09:35.8±9.1, 15°.37N×100°.04W, h0km, mb3.4/2, mbtmp3.4/3, ML2.9/1, MS3.0/1, Error ellipse: s-maj=154.0km s-min=147.2km az=78.0*

*MEX **28** 19:09:56.0±2.4, 17°.09N×100°.07W, h37km±15km, MD4.1*

ISC 28 19:09:53.8±1.0, 17°.11N±0°.03×100°.08W±0°.02, h32km±8km, n33, σ1§01/54, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.19**	**250**	*eP*	**Pn**	**19 10 01.0**	**+0.5**
CAIG				*i S*	**Sb**	**19 10 05.8**	**+1.2**
ACP2	**Acapulco**	**0.30**	**142**	*eP*	**Pn**	**19 10 02.0**	**0.0**
ACP2				*eS*	**Sn**	**19 10 08.0**	**+0.6**
VNTA	**La Mica**	**0.32**	**128**	*eP*	**Pn**	**19 10 02.3**	**0.0**
VNTA				*eS*	**Sn**	**19 10 08.2**	**+0.4**
ATYC	**Atoyac**	**0.35**	**286**	*eP*	**Pn**	**19 10 02.6**	**-0.1**
ATYC				*eS*	**Sn**	**19 10 08.5**	**0.0**
DAIG	**Los Arroyos**	**0.42**	**103**	*eP*	**Pn**	**19 10 03.5**	**-0.1**
DAIG				*eS*	**Sn**	**19 10 10.3**	**-0.1**
MEIG	**Mezcala**	**0.92**	**29**	*eP*	**Pb**	**19 10 10.6**	**-0.8**
MEIG				*eS*	**Sb**	**19 10 23.0**	**-0.4**
CRIG	**Cruz Grande**	**0.98**	**112**	*eP*	**Pb**	**19 10 11.3**	**-1.1**
CRIG				*eS*	**Sb**	**19 10 24.3**	**-0.8**
ARIG	**Puente Sto Nin**	**1.19**	**348**	*eP*	**Pn**	**19 10 14.5**	**+0.3**
ARIG				*eS*	**Sn**	**19 10 28.4**	**-0.9**
PET2	**Petatlan**	**1.20**	**291**	*eP*	**Pn**	**19 10 15.2**	**+0.8**
PET2				*eS*	**Sn**	**19 10 30.2**	**+0.6**
PLIG	**Platanillo**	**1.39**	**23**	*eP*	**Pn**	**19 10 17.7**	**+0.7**
PLIG				*eS*	**Sn**	**19 10 35.0**	**+0.7**
ZIIG	**Zihuatanejo**	**1.41**	**291**	*eP*	**Pn**	**19 10 17.3**	**0.0**
ZIIG				*eS*	**Sn**	**19 10 34.0**	**-0.7**
TLIG	**Tlapa**	**1.51**	**73**	*eP*	**Pn**	**19 10 19.5**	**+0.7**
TLIG				*eS*	**Sn**	**19 10 37.3**	**-0.2**
HMTT	**Tlapaneco**	**1.60**	**65**	*eP*	**Pn**	**19 10 21.2**	**+1.2**
HMTT				*eS*	**Sb**	**19 10 42.0**	**-0.9**
TEJU	**Tejupilco**	**1.78**	**358**	*eP*	**Pn**	**19 10 23.7**	**+1.1**
TEJU				*eS*	**Sb**	**19 10 47.5**	**-0.6**
UON	**La Union**	**1.86**	**297**	*eP*	**Pn**	**19 10 25.1**	**+1.6**
UON				*eS*	**Sb**	**19 10 49.4**	**-0.7**
MAVM	**Malinalco, Edo**	**1.92**	**17**	*eP*	**Pn**	**19 10 25.4**	**+0.9**
YAIG	**Yautepec**	**1.99**	**29**	*eP*	**Pn**	**19 10 24.9**	**-0.5**
YAIG				*eS*	**Sb**	**19 10 53.6**	**-0.4**
PNIG	**Pinotepa**	**2.00**	**111**	*eP*	**Pn**	**19 10 27.5**	**+2.0**
PNIG				*eS*	**Sb**	**19 10 55.0**	**+0.7**
FTIG	**Fresnillo de T**	**2.02**	**67**	*eP*	**Pn**	**19 10 26.5**	**+0.7**
FTIG				*eS*	**Sb**	**19 10 55.0**	**+0.1**
TXIG	**Tlaxiaco**	**2.22**	**86**	*eP*	**Pn**	**19 10 29.6**	**+1.0**
TXIG				*eS*	**Sb**	**19 11 01.5**	**+0.9**
AOVM	**Tlapan**	**2.26**	**19**	*eP*	**Pn**	**19 10 30.3**	**+0.9**
TLVM	**San Miguel Top**	**2.26**	**23**	*eP*	**Pn**	**19 10 29.4**	**+0.1**
HLIG	**Huajuapan de L**	**2.29**	**72**	*eP*	**Pn**	**19 10 30.3**	**+0.8**
HLIG				*eS*	**Sb**	**19 11 01.9**	**-0.6**
XCVM	**Xochimilco**	**2.32**	**23**	*eP*	**Pn**	**19 10 30.7**	**+0.7**
UNM	**Universidad Na**	**2.37**	**21**	*eP*	**Pn**	**19 10 32.3**	**+1.6**
UNM				*eS*	**Sn**	**19 11 01.6**	**+2.9**
PPM	**Popocatepetl**	**2.38**	**35**	*eP*	**Pn**	**19 10 31.2**	**+0.1**
PPM				*eS*	**Sb**	**19 11 04.3**	**-1.4**
PBVM	**Pinon**	**2.50**	**22**	*eP*	**Pn**	**19 10 32.5**	**+0.3**
ACIG	**Acambay**	**2.86**	**4**	*eP*	**Pn**	**19 10 40.6**	**+3.2**
VTVM	**Tizayuca**	**2.92**	**25**	*eP*	**Pn**	**19 10 38.9**	**+0.6**
TXAR	**Lajitas Array**	**12.60**	**346**	Pn	**P**	**19 13 01.5**	**-0.6**
	baz=161,slow=14,SNR=4.3						
	0.5nm,0.9s						
NVAR	**Mina Array Bea**	**26.57**	**327**	P	**P**	**19 15 30.2**	**+1.0**
	0.4nm,0.7s,baz=135,slow=12,SNR=2.4						
	0.4nm,0.7s						
PDAR	**Pinedale Array**	**26.82**	**344**	LR	LR	19 26 51.2	
	comp=Z,29nm,19.7s,baz=245,slow=36						
YKA	**Yellowknife Ar**	**46.46**	**351**	P	**P**	**19 18 16.8**	**-0.7**
	0.3nm,0.7s,baz=173,slow=6.2,SNR=3.8						
	0.3nm,0.7s						

*IDC **28** 19:19:35.8±0.8, 32°.89N×68°.57E, h0km, mb4.2/21, mbtmp4.2/27, ML4.0/6, MS3.6/27, Error ellipse: s-maj=18.4km s-min=12.2km az=174.0*

*BJI **28** 19:19:36.3±0.0, 32°.95N×68°.46E, h11km, mb4.6/37, mB4.7/9, ML4.5/1, Ms4.2/16, Ms7 4.0/14*

*MOS **28** 19:19:37.8±1.1, 32°.97N×68°.62E, h18km, mb4.8/37, Error ellipse: s-maj=5.9km s-min=3.8km az=95.7*

*NNC **28** 19:19:39.5±3.9, 32°.81N×68°.40E, h53km±28km, mb4.4, Error ellipse: s-maj=37.3km s-min=27.6km az=121.0*

*NEIC **28** 19:19:42.5±1.9, 32°.97N±0°.07×68°.56E±0°.08, h40km±6km, mb4.6/144, Error ellipse: s-maj=10.9km s-min=9.3km az=165.0*

ISC 28 19:19:41.4±0.3, 32°.88N±0°.04×68°.57E±0°.03, h35km, n638, σ1§39/609, mb4.6/154, MS3.6/28, 46C-13D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.71**	**13**	Pn	**Pn**	**19 20 07.0**	**-1.9**
KBL	**Kabul**	**1.71**	**13**	P	**Pn**	**19 20 08.0**	**-0.9**
KBL	SNR=311			S	**Sn**	**19 20 29.3**	**-0.4**
KBL	**Kabul**	**1.71**	**13**	P	**Pn**	**19 20 07.0**	**-1.9**
NIL	**Nilore**	**4.00**	**78**		**Pn**	**19 20 41.9**	**+1.7**
NIL	**Nilore**	**4.00**	**78**	P	**Pn**	**19 20 41.9**	**+1.7**
JMU	**Jammu**	**5.34**	**90**	*eP*	**Pn**	**19 20 59.7**	**+1.2**
HRA	**Herat**	**5.49**	**288**	Pn	**Pn**	**19 21 01.8**	**+1.0**
SIMJ	**Simiganj**	**5.78**	**3**	Pn	**Pn**	**19 21 05.4**	**+0.6**
CHGR	**Chuyangaron**	**5.79**	**5**	Pn	**Pn**	**19 21 05.2**	**+0.3**
CHGR	**Chuyangaron**	**5.79**	**5**	P	**Pn**	**19 21 05.2**	**+0.3**
THN	**Thein Dam**	**6.05**	**92**	*eP*	**Pn**	**19 21 09.8**	**+1.5**
THN				*eS*	**Sn**	**19 22 18.1**	**+1.8**
THN	comp=N,131nm,0.2s			IAML		19 22 25.6	
THN	comp=E,208nm,0.8s			IAML		19 22 27.6	
DHRM	**DHARAMSHALA**	**6.56**	**93**	*eP*	**Pn**	**19 21 16.8**	**+1.3**
DHRM				*eS*	**Sn**	**19 22 30.7**	**+1.4**
DHRM	comp=N,415nm,0.6s			IAML		19 22 55.8	
DHRM	comp=E,535nm,0.8s			IAML		19 23 02.0	
BHK	**Bhakra**	**6.81**	**100**	*eP*	**Pn**	**19 21 19.3**	**+0.4**
BHK				*eS*	**Sn**	**19 22 35.4**	**+0.2**
BHK	comp=N,238nm,1.1s			IAML		19 22 39.5	
BHK	comp=E,180nm,0.7s			IAML		19 22 45.2	
DRK	**Karamyk**	**7.09**	**21**		**Pn**	**19 21 22.8**	**-0.1**
DRK	**Karamyk**	**7.09**	**21**	P	**Pn**	**19 21 22.8**	**-0.1**
BTK	**Batken**	**7.39**	**14**	Pn	**Pn**	**19 21 26.9**	**0.0**
BTK	**Batken**	**7.39**	**14**	P	**Pn**	**19 21 26.9**	**0.0**
SMLA	**Simla**	**7.51**	**101**	*eP*	**Pn**	**19 21 28.5**	**+0.2**
SMLA				*eS*	**Sn**	**19 22 55.7**	**+3.4**
SMLA	comp=E,153nm,0.8s			IAML		19 23 01.2	
AJM	**Ajmer**	**8.28**	**139**	*eP*	**Pn**	**19 21 39.0**	**-0.1**
AJM				*ex*	x	19 23 06.2	
AJM	comp=N,37nm,0.9s			IAML		19 23 16.5	
AJM	comp=E,40nm,0.9s			IAML		19 23 21.4	
KUDL	**Kundal**	**8.30**	**123**	*eP*	**Pn**	**19 21 37.5**	**-1.8**
KUDL				*eS*	**Sn**	**19 23 08.0**	**-3.8**
OHH	**Os

AAK	**Ala-Archa**	**10.81**	**24**			**Pn**		**19 22 12.9**	**-0.9**
AAK	**Ala-Archa**	**10.81**	**24**	Pn		**Pn**		**19 22 12.6**	**-1.2**
	comp=N,4.5nm,0.3s,baz=200,slow=6.6,SNR=29								
AAK				Sn		**Sn**		**19 24 13.2**	**-0.4**
	comp=N,0.6nm,0.3s,baz=183,slow=19,SNR=3.7								
AAK				Lg		Lg		19 25 21.5	
	comp=N,0.1nm,0.3s,baz=193,slow=19,SNR=0.7								
AAK				LR		LR		19 27 03.9	
	comp=N,267nm,19.8s,baz=224,slow=42								
	comp=N,23nm,0.5s								
KBK	**Karagaybulak**	**10.99**	**25**	P		**Pn**		**19 22 16.4**	**+0.1**
	SNR=16								
FRU1	**Bishkek**	**11.01**	**24**			**Pn**		**19 22 14.0**	**-2.4**
FRU1	**Bishkek**	**11.01**	**24**	P		**Pn**		**19 22 14.0**	**-2.4**
CHMS	**Chumysh**	**11.22**	**24**	P		**Pn**		**19 22 18.1**	**-1.2**
	SNR=22								
CHMS	**Chumysh**	**11.22**	**24**	⇑P		**Pn**		**19 22 17.7**	**-1.5**
	comp=N,17nm,0.6s								
CHMS				⇓S		**Sn**		**19 24 24.0**	**+0.6**
	comp=N,20nm,0.7s								
CHMS	**Chumysh**	**11.22**	**24**	P		**Pn**		**19 22 17.7**	**-1.5**
CHMS				S		**Sn**		**19 24 24.2**	**+0.8**
BOOM	**Boomskoye usch**	**11.23**	**29**	Pn		**Pn**		**19 22 18.6**	**-0.9**
BOOM	**Boomskoye usch**	**11.23**	**29**	P		**Pn**		**19 22 18.6**	**-0.9**
USP	**Ospenovka**	**11.38**	**23**	P		**Pn**		**19 22 20.7**	**-0.7**
	SNR=8.6								
JHNI	**Jhansi**	**11.42**	**128**	*e*P		**Pn**		**19 22 22.1**	**+0.1**
JHNI				*e*S		**Sn**		**19 24 23.3**	**-5.0**
JHNI				IAML				19 24 32.8	
	comp=N,19nm,1.4s								
JHNI				IAML				19 24 41.2	
	comp=E,25nm,0.6s								
TKM2	**Tokmak 2**	**11.46**	**27**	P		**Pn**		**19 22 21.8**	**-0.9**
	SNR=14								
TKM2	**Tokmak 2**	**11.46**	**27**	⇓P		**Pn**		**19 22 20.8**	**-1.9**
	comp=E,12nm,0.6s								
TKM2				⇑S		**Sn**		**19 24 33.3**	**+3.8**
	comp=E,14nm,1.0s								
TKM2	**Tokmak 2**	**11.46**	**27**	P		Pn		19 22 29.8	+7.1
TKM2				S		**Sn**		**19 24 33.3**	**+3.8**
BHPL	**Bhopal**	**12.37**	**139**	*e*P		**Pn**		**19 22 34.2**	**-1.0**
BHPL				*ex*		x		19 24 43.9	
BHPL				IAML				19 24 53.8	
	comp=E,32nm,0.7s								
BHPL				IAML				19 24 59.1	
	comp=E,38nm,0.8s								
WSAR	**Wadi Sarin**	**13.00**	**225**	Pn		**Pn**		**19 22 42.0**	**-1.6**
	comp=E,0.4nm,0.3s,baz=66,slow=5.3,SNR=6.9								
WSAR				LR		LR		19 28 53.6	
	comp=E,162nm,19.3s,baz=62,slow=43								
	comp=E,8.6nm,1.0s								
BIDO	**Bidbid**	**13.09**	**227**	P		**Pn**		**19 22 47.7**	**+2.8**
WBK	**Wadi Bani Khal**	**13.29**	**222**	P		**Pn**		**19 22 50.4**	**+2.8**
SMDO	**Samad**	**13.48**	**226**	P		**Pn**		**19 22 53.8**	**+3.5**
SMDO				P		**Pn**		**19 22 53.8**	**+3.5**
PDGK	**Podgornoye**	**13.51**	**36**	⇑P		**Pn**		**19 22 52.9**	**+2.3**
	comp=E,12nm,0.9s								
PDGK	**Podgornoye**	**13.51**	**36**	P		**Pn**		**19 22 52.9**	**+2.3**
HOQ	**Hoqain**	**13.56**	**230**	P		**Pn**		**19 22 51.9**	**+0.6**
HOQ				P		**Pn**		**19 22 51.9**	**+0.6**
ASHO	**Ashiyiah**	**13.66**	**237**	P		**Pn**		**19 22 55.3**	**+2.6**
SOHO	**SOHO**	**13.69**	**234**	P		**Pn**		**19 22 54.9**	**+1.8**
JMDO	**Jabal Madar**	**13.97**	**224**	P		**Pn**		**19 22 59.9**	**+3.0**
ASUD	**Al Ashush, Dub**	**14.21**	**238**	P		**Pn**		**19 23 03.3**	**+3.1**
BSY	**Bisya**	**14.24**	**228**	P		**Pn**		**19 23 03.5**	**+2.9**
ARQ	**Araqi**	**14.24**	**231**	P		**P**		**19 23 04.7**	**-2.8**
AKL	**Akola**	**14.27**	**146**	*ex*		**Pn**		**19 23 01.3**	**+0.3**
VLK	**Valmikinagar**	**14.35**	**109**	*ex*		**Pn**		**19 22 59.6**	**-2.5**
MHTO	**MHTO**	**15.14**	**221**	P		**P**		**19 23 17.1**	**-0.3**
UMZA	**Um Al Zommool**	**15.58**	**233**	P		**P**		**19 23 21.9**	**-0.4**
UMZA				P		**P**		**19 23 21.9**	**-0.4**
OTUK	**Ortayu**	**15.62**	**9**	⇓P		**Pn**		**19 23 16.2**	**-2.6**
	comp=E,16nm,0.8s								
OTUK	**Ortayu**	**15.62**	**9**	P		**Pn**		**19 23 16.2**	**-2.6**
JRN	**Qarnain Island**	**15.86**	**244**	P		**P**		**19 23 25.1**	**-0.2**
MZR	**Muzera**	**16.55**	**237**	P		**P**		**19 23 35.0**	**+1.9**
	SNR=13								
SHMA	**Al-Shehemyia**	**16.85**	**250**	P		**P**		**19 23 37.2**	**+0.8**
	SNR=6.9								
TRNA	**Turayna**	**17.22**	**246**	P		**P**		**19 23 42.5**	**+2.0**
MAKZ	**Makanchi**	**17.28**	**32**			**Pn**		**19 23 37.3**	**-2.5**
MAKZ	**Makanchi**	**17.28**	**32**	P		**Pn**		**19 23 37.3**	**-2.5**
MAKZ				pmax		pmax			
	comp=Z,28nm,1.2s								
MK31	**Makanchi Array**	**17.41**	**33**	⇓P		**Pn**		**19 23 41.1**	**-0.4**
	comp=Z,5.0nm,0.6s,baz=209,slow=11,SNR=46								
MK31	**Makanchi Array**	**17.41**	**33**	P		**Pn**		**19 23 39.9**	**-1.5**
MK31	**Makanchi Array**	**17.41**	**33**	P		**Pn**		**19 23 39.9**	**-1.5**
MK31				pmax		pmax			
	comp=Z,6.0nm,0.8s								
MKAR	**Makanchi Array**	**17.41**	**33**			**Pn**		**19 23 38.2**	**-3.3**
MKAR	**Makanchi Array**	**17.41**	**33**	P		**Pn**		**19 23 38.8**	**-2.7**
	comp=Z,0.7nm,0.3s,baz=214,slow=9.2,SNR=31								
MKAR				Lg		Lg		19 28 51.3	
	baz=222,slow=27								
MKAR				LR		LR		19 31 15.5	
	comp=Z,240nm,20.7s,baz=226,slow=40								
	comp=Z,1.9nm,0.5s								
SMRA	**Abu-Samra**	**17.52**	**247**	P		**P**		**19 23 44.5**	**+0.8**
	SNR=6.9								
AB31	**Akbulak array**	**17.59**	**341**	⇑P		**Pn**		**19 23 41.6**	**-2.0**
	comp=Z,9.3nm,0.9s								
AB31	**Akbulak array**	**17.59**	**341**	P		**Pn**		**19 23 41.6**	**-2.0**
ABKAR	**Akbulak array**	**17.59**	**341**	Pn		**Pn**		**19 23 41.0**	**-2.6**
ABKAR	**Akbulak array**	**17.59**	**341**	Pn		**Pn**		**19 23 41.8**	**-1.8**
BOK	**Bokaro**	**17.71**	**116**	*e*P		**Pn**		**19 23 43.6**	**-1.6**
GTK	**Tadong**	**18.19**	**102**	*e*P		**Pn**		**19 23 50.3**	**-1.0**
WMQ	**Urumqi**	**18.52**	**48**	*e*P		**Pn**		**19 23 56.0**	**+0.9**
WMQ				pmax		pmax			
	comp=Z,13nm,2.3s								
WMQ				LR		LR			
	comp=Z,1μm,20.5s								
WMQ				LR		LR			
	comp=Z,620nm,24.9s								
WMQ				LR		LR			
	comp=Z,140nm,22.1s								
KURBB	**Kurchatov Arra**	**19.20**	**20**	⇑P		**P**		**19 23 58.7**	**-3.4**
	comp=Z,28nm,0.9s								
KURBB	**Kurchatov Arra**	**19.20**	**20**	P		**P**		**19 24 00.3**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=210,slow=11,SNR=30								
KURBB				LR		LR		19 32 11.5	
	comp=Z,87nm,20.0s,baz=185,slow=39								
	comp=Z,4.9nm,0.8s								
KURBB	**Kurchatov Arra**	**19.20**	**20**	P		**P**		**19 23 58.7**	**-3.4**
AKTO	**Aktyubinsk**	**19.20**	**339**	P		**P**		**19 24 02.0**	**-0.1**
	comp=Z,0.8nm,0.3s,baz=158,slow=9.5,SNR=26								
AKTO				LR		LR		19 32 08.4	
	comp=Z,92nm,21.2s,baz=224,slow=39								
	comp=Z,15nm,0.9s								
AKTO	**Aktyubinsk**	**19.20**	**339**	P		**P**		**19 24 02.0**	**-0.1**
DOK	**Doka**	**19.22**	**226**	P		**Pn**		**19 24 07.7**	**+4.0**
KURK	**Kurchatov**	**19.30**	**20**	⇑P		**P**		**19 24 00.7**	**-2.5**
	comp=Z,19nm,1.2s								
KURK	**Kurchatov**	**19.30**	**20**			**P**		**19 24 00.7**	**-2.5**
KURK	**Kurchatov**	**19.30**	**20**	P		**P**		**19 24 01.8**	**-1.5**
KURK	**Kurchatov**	**19.30**	**20**	*ce*P		**P**		**19 24 02.1**	**-1.1**
KURK				pmax		pmax			
	comp=Z,11nm,1.0s								
MAK	**Makhachkala**	**19.38**	**307**	*e*P		**P**		**19 24 00.5**	**-3.6**
MAK				*e*S		**S**		**19 27 39.4**	**-1.9**
MAK				pmax		pmax			
	comp=Z,169nm,1.4s								
MAK				MLR		MLR			
	comp=Z,155nm,13.0s								
LSA	**Lhasa**	**19.55**	**93**	P		**Pn**		**19 24 07.8**	**-0.3**
LSA				pmax		pmax			
	comp=Z,11nm,1.1s								
LSA	**Lhasa**	**19.55**	**93**			**P**		**19 24 06.4**	**-0.2**
LSA	**Lhasa**	**19.55**	**93**	P		**P**		**19 24 06.4**	**-0.2**
LSA				pmax		pmax			
	comp=Z,11nm,0.7s								
WHFO	**Wadi Hawf**	**19.98**	**225**	P		**Pn**		**19 24 12.8**	**+0.1**
BVA0	**Borovoye Array**	**20.18**	**3**	⇓P		**P**		**19 24 11.6**	**-1.2**
	comp=Z,21nm,1.1s								
BVA0	**Borovoye Array**	**20.18**	**3**	P		**P**		**19 24 11.6**	**-1.2**
BVAR	**Borovoye Array**	**20.18**	**3**	P		**P**		**19 24 11.7**	**-1.1**
	comp=Z,9.6nm,0.4s,baz=182,slow=11,SNR=36								
BVAR				LR		LR		19 32 14.9	
	comp=Z,93nm,21.9s,baz=188,slow=38								
	comp=Z,9.6nm,0.4s								
BRVK	**Borovoye**	**20.21**	**3**	⇑P		**P**		**19 24 11.6**	**-1.5**
	comp=Z,36nm,1.1s								
BRVK	**Borovoye**	**20.21**	**3**			**P**		**19 24 12.0**	**-1.1**
BRVK				IAmb		IAmb		19 24 21.9	
	comp=Z,36nm,1.1s								
BRVK	**Borovoye**	**20.21**	**3**	P		**P**		**19 24 12.2**	**-0.8**
BRVK	**Borovoye**	**20.21**	**3**	*ce*P		**P**		**19 24 12.5**	**-0.6**
BRVK				pmax		pmax			
	comp=Z,22nm,1.0s								
GNI	**Garni**	**20.44**	**298**			**P**		**19 24 16.8**	**+0.9**
GNI				IAmb		IAmb		19 24 25.5	
	comp=Z,33nm,0.9s								
GNI	**Garni**	**20.44**	**298**	P		Pn		19 24 17.7	-0.5
	comp=Z,22nm,0.8s,baz=117,slow=5.1,SNR=8.3								
GNI				LR		LR		19 34 10.7	
	comp=Z,124nm,18.4s,baz=102,slow=43								
GNI	**Garni**	**20.44**	**298**	P		Pn		19 24 19.2	+1.0
GNI	**Garni**	**20.44**	**298**	*ce*P		Pn		19 24 17.9	-0.3
GNI				pmax		pmax			
	comp=Z,29nm,1.3s								
GNI	**Garni**	**20.44**	**298**	P		Pn		19 24 19.1	+0.9
	comp=Z,35nm,0.9s,comp=Z,390nm								
GROC	**Groznyy**	**20.63**	**307**	*e*P		**P**		**19 24 18.6**	**+0.9**
GROC				*e*				19 24 36.7	
GROC				pmax		pmax			
	comp=Z,19nm,0.6s								
ABTO	**Aybut**	**20.70**	**225**	P		Pn		19 24 23.1	+2.0
SHL	**Shillong**	**21.59**	**104**	P		**P**		**19 24 27.8**	**-0.6**
SHL	**Shillong**	**21.59**	**104**	P		**P**		**19 24 28.6**	**+0.3**
	SNR=16								
SHL	**Shillong**	**21.59**	**104**	P		**P**		**19 24 27.8**	**-0.6**
SHL				pmax		pmax			
	comp=Z,33nm,0.7s								
GOMU	**GeErMu**	**21.85**	**74**	P		**P**		**19 24 33.0**	**+1.7**
GOMU				pP		pP		19 24 37.3	-4.1
GOMU				sP		sP		19 24 39.3	-6.8
GOMU				pmax		pmax			
	comp=Z,23nm,0.9s								
GOMU				LR		LR			
	comp=Z,490nm,15.8s								
GOMU				LR		LR			
	comp=Z,150nm,11.6s								
GOMU				LR		LR			
	comp=Z,340nm,12.7s								
ONI	**Oni**	**22.03**	**303**	P		**P**		**19 24 33.5**	**+0.6**
ONI	**Oni**	**22.03**	**303**	P		**P**		**19 24 33.5**	**+0.6**
ONI				pmax		pmax			
	comp=Z,11nm,0.9s								
GURO	**Guroymak-BITLI**	**22.24**	**292**	P		**P**		**19 24 36.0**	**+0.8**
GURO				IAmb		IAmb		19 24 56.0	
	comp=Z,8.3nm,0.2s								
RAYN	**Ar Rayn**	**22.32**	**251**	P		**P**		**19 24 36.9**	**+0.8**
RAYN				IAmb		IAmb		19 24 40.8	
	comp=Z,21nm,0.9s								
RAYN	**Ar Rayn**	**22.32**	**251**	P		**P**		**19 24 37.1**	**+1.0**
RAYN	**Ar Rayn**	**22.32**	**251**	P		**P**		**19 24 36.9**	**+0.8**
RAYN				pmax		pmax			
	comp=Z,21nm,0.9s								
ZIRO	**ZIRO**	**22.47**	**97**	⇑*e*P		**P**		**19 24 38.9**	**+1.0**
KBZ	**Khabaz**	**22.79**	**306**	P		**P**		**19 24 41.3**	**+0.5**
	comp=Z,5.2nm,1.0s,baz=141,slow=6.5,SNR=5.4								
KBZ				LR		LR		19 36 02.3	
	comp=Z,122nm,18.1s,baz=99,slow=43								
	comp=Z,5.2nm,1.0s								
KBZ	**Khabaz**	**22.79**	**306**	*ce*P		**P**		**19 24 42.0**	**+1.2**
KBZ				pmax		pmax			
	comp=Z,9.0nm,1.3s								
SHA1	**Shidzhatmaz**	**22.95**	**306**	*ce*P		**P**		**19 24 45.0**	**+2.2**
KIV	**Kislovodsk**	**23.01**	**306**	P		**P**		**19 24 43.0**	**-0.3**
KIV				IAmb		IAmb		19 24 53.0	
	comp=Z,26nm,1.2s								
KIV	**Kislovodsk**	**23.01**	**306**	P		**P**		**19 24 45.0**	**+1.8**
KIV	**Kislovodsk**	**23.01**	**306**	*de*P		**P**		**19 24 44.5**	**+1.3**
KIV				*e*				19 25 11.3	
KIV				pmax		pmax			
	comp=Z,21nm,1.3s								
KIV				MLR		MLR			
	comp=Z,97nm,18.0s								
KIV	**Kislovodsk**	**23.01**	**306**	P		**P**		**19 24 43.3**	**+0.1**
	comp=Z,16nm,1.1s								
GOF	**Gofitskoye**	**23.17**	**309**	*ce*P		P		19 24 54.5	+10
KOHI	**KOHIMA**	**23.35**	**101**	*e*P		**P**		**19 24 47.6**	**+0.7**
SAIH	**SAIHA**	**23.92**	**109**	⇑*e*P		**P**		**19 24 54.3**	**+2.0**
ZAA0	**Zalesovo Array**	**24.04**	**24**	⇑P		**P**		**19 24 49.9**	**-3.0**
	comp=Z,1.3nm,0.7s								
ZAA0	**Zalesovo Array**	**24.04**	**24**	P		**P**		**19 24 51.6**	**-1.3**
ZAA0				IAmb		IAmb		19 24 57.9	
	comp=Z,23nm,1.2s								
ZALV	**Zalesovo Beam**	**24.04**	**24**	P		**P**		**19 24 51.5**	**-1.4**
	comp=Z,9.5nm,0.5s,baz=220,slow=11,SNR=38								
	comp=Z,9.5nm,0.5s								
ARU	**Arti**	**24.55**	**347**	P		**P**		**19 24 57.7**	**+0.1**
ARU				IAmb		IAmb		19 25 03.4	
	comp=Z,25nm,1.0s								
ARU	**Arti**	**24.55**	**347**	*d* iP		**P**		**19 24 58.2**	**+0.6**
ARU								19 25 26.4	
ARU				S		**S**		**19 29 20.6**	**+4.7**
ARU				SS		**SnSn**		**19 30 02.8**	**+0.3**
ARU				pmax		pmax			
	comp=Z,30nm,1.0s								
ARU	**Arti**	**24.55**	**347**	P		**P**		**19 24 57.9**	**+0.3**
	comp=Z,21nm,1.1s								
SVE	**Sverdlovsk**	**24.57**	**349**	*e*P		**P**		**19 24 58.5**	**+0.7**
SVE				pmax		pmax			
	comp=Z,25nm,1.3s								
SVE				MLR		MLR			
	comp=Z,244nm,10.0s								
BELG	**Belogornoye**	**24.70**	**328**	LR		LR		19 38 21.0	
	comp=Z,77nm,20.5s,baz=99,slow=46								
ARPR	**Arapgir-MALATY**	**25.17**	**293**	P		**P**		**19 25 03.8**	**+0.2**
GAZ	**Gaziantep**	**25.97**	**288**	P		**P**		**19 25 11.3**	**+0.5**
GAZ				IAmb		IAmb		19 25 16.9	
	comp=Z,14nm,1.0s								
GTA	**Gaotai**	**25.98**	**67**	P		**P**		**19 25 12.8**	**+1.9**
GTA				pP		pP		19 25 19.5	-2.1
GTA				pmax		pmax			
	comp=Z,10.0nm,1.0s								
GTA				LR		LR			
	comp=Z,170nm,9.6s								
GTA				LR		LR			
	comp=Z,110nm,14.3s								
GTA				LR		LR			
	comp=Z,100nm,12.3s								
TNCH	**TengChong**	**27.29**	**99**	⇑P		**P**		**19 25 24.3**	**+1.4**
TNCH				PP		**PnPn**		**19 26 11.5**	**+4.1**
TNCH				S		**S**		**19 29 56.3**	**-3.9**
TNCH				SS		**SnSn**		**19 31 15.5**	**+5.4**
TNCH				pmax		pmax			
	comp=Z,15nm,1.0s								
TNCH				pmax		pmax			
	comp=Z,120nm,4.6s								
MMAI	**Mount Meron Ar**	**27.77**	**279**	LR		LR		19 38 10.5	
	comp=Z,183nm,18.3s,baz=360,slow=40								
KIRV	**Kirov**	**28.77**	**339**	LR		LR		19 38 10.0	
	comp=Z,63nm,21.5s,baz=132,slow=39								
BR104	**Keskin Array S**	**28.84**	**294**	P		**P**		**19 25 35.7**	**-0.8**
	comp=Z,3.4nm,1.1s								
BRTR	**Keskin Array B**	**28.84**	**294**	P		**P**		**19 25 36.8**	**+0.3**
BRTR	**Keskin Array B**	**28.84**	**294**	P		**P**		**19 25 37.0**	**+0.4**
	comp=Z,3.0nm,1.0s,baz=112,slow=8.3,SNR=13								
BRTR				LR		LR		19 40 05.1	
	comp=Z,56nm,19.7s,baz=89,slow=43								
	comp=Z,3.0nm,1.0s								
BRTR	**Keskin Array B**	**28.84**	**294**	P		**P**		**19 25 37.0**	**+0.4**
EIL	**Elat**	**28.84**	**273**	LR		LR		19 39 03.7	
	comp=Z,147nm,18.6s,baz=74,slow=40								
BR105	**Keskin Array S**	**28.85**	**294**	P		**P**		**19 25 36.7**	**0.0**
	comp=Z,4.4nm,1.1s								
BR106	**Keskin Array S**	**28.85**	**294**	P		**P**		**19 25 35.3**	**-1.4**
	comp=Z,3.0nm,0.9s								
PZH	**PanZhiHua**	**29.43**	**94**	P		**P**		**19 25 44.8**	**+2.9**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.6s								
PZH				pmax		pmax			
	comp=Z,110nm,6.9s								
CHTO	**Chiang Mai**	**30.59**	**110**	P		**P**		**19 25 52.7**	**+0.6**
CHTO				IAmb		IAmb		19 25 54.1	
	comp=Z,11nm,1.1s								
CHTO	**Chiang Mai**	**30.59**	**110**	P		**P**		**19 25 52.7**	**+0.6**
CHTO				pmax		pmax			
	comp=Z,11nm,1.2s								
CM31	**Chiang Mai Arr**	**30.78**	**110**	P		**P**		**19 25 54.2**	**+0.4**
CM31				IAmb		IAmb		19 26 00.6	
	comp=Z,11nm,1.1s								
CMAR	**Chiang Mai Arr**	**30.78**	**110**	P		**P**		**19 25 54.5**	**+0.8**
CMAR	**Chiang Mai Arr**	**30.78**	**110**	P		**P**		**19 25 54.7**	**+0.9**
	comp=Z,4.1nm,0.8s,baz=300,slow=8.9,SNR=19								
	comp=Z,4.1nm,0.8s								
CRAI	**Chiangrai**	**30.99**	**106**	P		**P**		**19 25 56.0**	**+0.4**
OBN	**Obninsk**	**31.55**	**324**	LR		LR		19 41 50.5	
	comp=Z,153nm,18.1s,baz=164,slow=42								
OBN	**Obninsk**	**31.55**	**324**	⇑*e*P		**P**		**19 26 01.7**	**+1.6**
OBN				*e*				19 27 12.8	
OBN				pmax		pmax			
	comp=Z,6.0nm,0.9s								
OBN				MLR		MLR			
	comp=Z,108nm,20.0s								
PHRA	**Phrae**	**31.78**	**109**	P		**P**		**19 26 03.9**	**+1.3**
SONM	**Songino Array**	**32.11**	**51**	P		**P**		**19 26 05.9**	**+0.6**
SONM	**Songino Array**	**32.11**	**51**	P		**P**		**19 26 05.7**	**+0.4**
	comp=Z,1.7nm,0.9s,baz=260,slow=9.0,SNR=10								
	comp=Z,1.7nm,0.9s								
SONM	**Songino Array**	**32.11**	**51**	P		**P**		**19 26 05.9**	**+0.6**
SONM				pmax		pmax			
	comp=Z,3.0nm,1.1s								
KLYT	**Kilyos**	**32.40**	**296**	P		**P**		**19 26 09.1**	**+1.3**
	comp=Z,153nm,1.1s								
ULN	**Ulaanbaatar**	**32.55**	**51**	*ce*P		**P**		**19 26 10.1**	**+0.9**
ULN				pmax		pmax			
	comp=Z,5.0nm,2.5s								
SLVN	**Son La**	**33.34**	**101**	P		**P**		**19 26 17.0**	**+0.7**
SLVN				IAmb		IAmb		19 26 19.0	
	comp=Z,9.5nm,0.9s								
GYA	**Guiyang**	**33.59**	**91**	⇓P		**P**		**19 26 19.0**	**+0.5**
GYA				pmax		pmax			
	comp=Z,17nm,0.9s								
SORM	**Soroca**	**33.74**	**309**	⇑P		**P**		**19 26 19.0**	**-0.4**
SORM	**Soroca**	**33.74**	**309**	⇑P		**P**		**19 26 19.0**	**-0.4**
SORM	**Soroca**	**33.74**	**309**	P		**P**		**19 26 18.9**	**-0.5**
	comp=Z,12nm,0.9s								
AK09	**Malin Array Si**	**33.76**	**313**	P		**P**		**19 26 19.5**	**0.0**
AK10	**Malin Array Si**	**33.77**	**313**	P		**P**		**19 26 19.4**	**-0.3**
KLMR	**Klimovskoe**	**33.78**	**335**	*e*P		**P**		**19 26 18.1**	**-1.5**
KLMR				*e*				19 27 36.8	
AK08	**Malin Array Si**	**33.78**	**313**	P		**P**		**19 26 19.4**	**-0.3**
AK07	**Malin Array Si**	**33.79**	**313**	P		**P**		**19 26 19.7**	**-0.1**
AK05	**Malin Array Si**	**33.81**	**313**	P		**P**		**19 26 19.5**	**-0.5**
AK02	**Malin Array Si**	**33.82**	**314**	P		**P**		**19 26 20.3**	**+0.2**
AKASG	**Malin Array Be**	**33.82**	**314**	P		**P**		**19 26 19.6**	**-0.4**
	comp=Z,8.6nm,0.8s,baz=104,slow=6.9,SNR=22								
AKASG				LR		LR		19 42 20.1	
	comp=Z,134nm,19.9s,baz=109,slow=40								
	comp=Z,8.6nm,0.8s								
AKBB	**Malin Array Si**	**33.82**	**314**	P		**P**		**19 26 19.2**	**-0.9**
AKBB	**Malin Array Si**	**33.82**	**314**	*ce*P		**P**		**19 26 19.8**	**-0.3**
AKBB				pmax		pmax			
	comp=Z,24nm,1.0s								
AKBB	**Malin Array Si**	**33.82**	**314**	P		**P**		**19 26 19.0**	**-1.1**
AK01	**Malin Array Si**	**33.82**	**314**	P		**P**		**19 26 19.9**	**-0.2**
KIEV	**Kiev**	**33.83**	**314**	P		**P**		**19 26 19.8**	**-0.3**
KIEV	**Kiev**	**33.83**	**314**	P		**P**		**19 26 19.8**	**-0.3**
KIEV				pmax		pmax			
	comp=Z,21nm,1.1s								
AK03	**Malin Array Si**	**33.83**	**314**	P		**P**		**19 26 19.8**	**-0.3**
AK12	**Malin Array Si**	**33.85**	**313**	P		**P**		**19 26 19.6**	**-0.7**
AK11	**Malin Array Si**	**33.85**	**314**	P		**P**		**19 26 20.0**	**-0.3**
BTO	**Baotou**	**33.86**	**65**	*e*P		**P**		**19 26 21.5**	**+0.8**
BTO				SS		SS		19 33 49.0	-21
BTO				pmax		pmax			
	comp=Z,27nm,1.2s								
BTO				pmax		pmax			
	comp=Z,200nm,8.6s								
BTO				LR		LR			
	comp=Z,240nm,9.3s								
BTO				LR		LR			
	comp=Z,380nm,12.5s								
BTO				LR		LR			
	comp=Z,340nm,13.5s								
AK04	**Malin Array Si**	**33.86**	**314**	P		**P**		**19 26 19.9**	**-0.5**
AK14	**Malin Array Si**	**33.87**	**313**	P		**P**		**19 26 20.2**	**-0.3**
AK15	**Malin Array Si**	**33.88**	**314**	P		**P**		**19 26 20.3**	**-0.3**
AK13	**Malin Array Si**	**33.90**	**313**	P		**P**		**19 26 20.6**	**-0.1**
AK18	**Malin Array Si**	**33.92**	**314**	P		**P**		**19 26 19.6**	**-1.4**
AK22	**Malin Array Si**	**33.93**	**314**	P		**P**		**19 26 20.7**	**-0.3**
AK21	**Malin Array Si**	**33.95**	**314**	P		**P**		**19 26 20.6**	**-0.6**
AK19	**Malin Array Si**	**33.96**	**314**	P		**P**		**19 26 21.6**	**+0.4**
AK20	**Malin Array Si**	**33.96**	**314**	P		**

STNU Starunia 36.37 309 P P 19 26 42.2 +0.1
RAKU Rahkiv 36.48 308 P P 19 26 42.8 -0.3
NACGM Naroch 36.54 320 *eP* **P 19 26 48.1 +4.6**
comp=Z,15nm,0.8s,baz=110
LVV L'vov 36.86 311 P P 19 26 48.1 +1.9
LVV L'vov 36.86 311 P P 19 26 48.1 +1.9
MARR Marisel-Cluj 37.03 305 ⇑*i*P **P 19 26 49.2 +1.3**
BLKB Belogradchik 37.18 300 ⇑P **P 19 26 50.0 +0.9**
BRIU Brid 37.29 308 P P 19 26 50.1 +0.2
TRSU Trosnyk 37.30 308 P P 19 26 50.7 +0.8
DRGR 37.32 306 ⇑P **P 19 26 51.7 +1.4**
DRGR 37.32 306 ⇑P **P 19 26 51.7 +1.4**
BERU Beregovo 37.52 308 P P 19 26 51.1 -0.7
MUKU Mukachevo 37.52 308 P P 19 26 52.7 +0.9
UBPT Khong Chiam 37.73 109 P P 19 26 54.0 +0.1
UBPT IAmb IAmb 19 26 55.2
comp=Z,11nm,1.0s
UZHM Uzhgorod 37.80 309 P P 19 26 55.6 +1.4
KOLS Kolonicke sedl 37.86 309 *eP* **P 19 26 55.8 +1.1**
KOLS *e* 19 26 59.1
KOLS Kolonicke sedl 37.86 309 *eP* **P 19 26 55.8 +1.1**
KOLS *e* 19 26 59.1
VSU Vasula 37.89 325 *ceP* **P 19 26 56.9 +2.1**
VSU pmax pmax
comp=Z,11nm,1.3s
BZS Buzias 38.00 304 ⇑P **P 19 26 57.1 +1.1**
BZS Buzias 38.00 304 ⇑P **P 19 26 57.1 +1.1**
SIRR Siria 38.01 305 ⇑P **P 19 26 55.2 -0.8**
CRVS Cervenica-Dubn 38.38 309 *eP* **P 19 27 00.5 +1.3**
CRVS Cervenica-Dubn 38.38 309 *eP* **P 19 27 00.5 +1.3**
CRVS pmax pmax
comp=Z,18nm,0.9s
STHS Stebnicka Huta 38.59 310 *eP* **P 19 27 00.2 -0.7**
STHS Stebnicka Huta 38.59 310 *eP* **P 19 27 00.2 -0.7**
NIE Niedzica 39.20 310 *eP* **P 19 27 07.5 +1.5**
NIE Niedzica 39.20 310 P P 19 27 06.5 +0.5
comp=Z,12nm,1.0s
FRGS Fruska Gora 39.26 303 P P 19 27 05.9 -0.6
comp=Z,5.3nm,1.1s
PSZ Piszkesteto 39.33 307 P P 19 27 07.8 +0.7
PSZ Piszkesteto 39.33 307 P P 19 27 07.8 +0.7
PSZ pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 39.47 329 P P 19 27 07.9 -0.1
comp=Z,1.2nm,0.8s,baz=116,slow=9.4,SNR=4.0
FINES LR LR 19 45 36.3
comp=Z,76nm,20.2s,baz=129,slow=40
comp=Z,1.2nm,0.8s
OJC Ojcow 39.62 311 P P 19 27 07.6 -1.9
OJC IAmb IAmb 19 27 16.3
comp=Z,14nm,1.3s
OJC Ojcow 39.62 311 P P 19 27 07.6 -1.9
OJC pmax pmax
comp=Z,14nm,1.3s
OJC Ojcow 39.62 311 P P 19 27 10.1 +0.7
comp=Z,9.6nm,1.1s
VYHS Vyhne 40.08 308 *eP* **P 19 27 17.5 +4.2**
MORH Mrgy, Hungar 40.10 304 ⇑P **P 19 27 14.1 +0.6**
MORH Mrgy, Hungar 40.10 304 P P 19 27 12.4 -1.0
comp=Z,3.3nm,1.1s
MAUC Maruska 40.80 309 *eP* **P 19 27 21.7 +2.4**
MPLH Magyarpolny 40.88 306 P P 19 27 20.1 +0.2
comp=Z,21nm,1.3s
MORC Moravsky Berou 41.02 310 ⇓P **P 19 27 21.2 +0.1**
MORC Moravsky Berou 41.02 310 P P 19 27 20.4 -0.7
MORC Moravsky Berou 41.02 310 *eP* **P 19 27 21.6 +0.5**
MORC Moravsky Berou 41.02 310 P P 19 27 20.4 -0.7
MORC pmax pmax
comp=Z,8.0nm,0.9s
MODS Modra-Piesok 41.10 308 *eP* **P 19 27 22.8 +1.0**
MODS Modra-Piesok 41.10 308 *eP* **P 19 27 22.8 +1.0**
MODS pmax pmax
comp=Z,22nm,1.4s
KRLC Kraliky 41.53 310 *eP* **P 19 27 26.2 +0.9**
KRLC *ex* x 19 27 29.8
KRLC Kraliky 41.53 310 *eP* **P 19 27 26.2 +0.9**
KRLC *e* 19 27 29.8
VRAC Vranov 41.60 309 *eP* **P 19 27 24.6 -1.3**
VRAC Vranov 41.60 309 LR LR 19 48 33.5
comp=Z,52nm,18.6s,baz=76,slow=42
KRUC Moravsky 41.72 309 *eP* **P 19 27 25.6 -1.2**
RONA Rosalia, Austr 41.74 307 *eP* **P 19 27 27.7 +0.7**
comp=Z,2.6nm,0.9s
DPC Dobruska-Polom 41.85 311 *eP* **P 19 27 29.2 +1.3**
DPC *ex* x 19 27 32.3
DPC Dobruska-Polom 41.85 311 *eP* **P 19 27 29.2 +1.3**
DPC *e* 19 27 32.3
DPC Dobruska-Polom 41.85 311 P P 19 27 28.6 +0.7
comp=Z,10nm,1.0s
TIP Timpagrande 41.90 294 P P 19 27 27.5 -1.0
UPC Upice 42.06 311 *eP* **P 19 27 31.1 +1.5**
UPC *ex* x 19 27 34.7
UPC Upice 42.06 311 *eP* **P 19 27 31.1 +1.5**
UPC *e* 19 27 34.7
ARSA Arzberg 42.26 306 *eP* **P 19 27 31.3 +0.1**
comp=Z,8.0nm,1.0s
GROS Grobnik 42.27 305 *i*P **P 19 27 31.5 +0.1**
GROS *i*pP **pP 19 27 35.6 -6.9**
CUC Castrocucco 42.51 295 P P 19 27 32.3 -1.2
CUC IAmb IAmb 19 27 38.7
comp=Z,17nm,1.0s
SOKA Soboth 42.59 305 *eP* **P 19 27 34.4 +0.3**
comp=Z,6.5nm,1.5s
LODK Lodwar 42.70 234 P P 19 27 35.4 +0.2
GBRS Gornja Briga 42.78 303 *i*P **P 19 27 35.9 +0.4**
OBKA Obir 42.93 305 *eP* **P 19 27 37.7 +0.9**
comp=Z,4.0nm,1.0s
PRU Pruhonice 42.97 310 *eP* **P 19 27 41.3 +4.3**
PRU Pruhonice 42.97 310 *eP* **P 19 27 41.3 +4.3**
ZVC Zvikov 43.18 309 *eP* **P 19 27 38.7 0.0**
ZVC *ex* x 19 27 42.7
BRG Berggiesshubel 43.40 311 *eP* **P 19 27 41.3 +0.9**
BRG Amp 19 27 45.9
comp=Z,7.6nm,1.0s
BRG Amp 19 48 39.0
comp=E,0.1nm,15.9s
BRG Amp 19 49 00.0
comp=Z,0.1nm,15.8s
BRG Amp 19 49 41.0
comp=N,0.1nm,15.4s
BRG Amp 20 32 06.0
comp=E,0.1nm,22.6s
BRG Amp 20 32 09.0
comp=N,0.1nm,22.6s
BRG Amp 20 32 13.0
comp=Z,0.1nm,20.0s
GEC2 GERESS Array S 43.49 308 P P 19 27 40.5 -0.8
GERES GERESS Array B 43.49 308 P P 19 27 40.3 -1.0
GERES GERESS Array B 43.49 308 P P 19 27 41.6 +0.3
comp=Z,3.7nm,0.9s,baz=83,slow=8.0,SNR=8.8
GERES LR LR 19 48 42.1
comp=Z,31nm,18.7s,baz=73,slow=40
comp=Z,3.7nm,0.9s
BIOA Bad Ischl, Aus 43.53 307 *eP* **P 19 27 41.6 0.0**
comp=Z,6.1nm,1.1s
MYKA Terra Mystica 43.55 305 *eP* **P 19 27 43.0 +1.2**
comp=Z,2.8nm,0.8s
KHC Kasperske Hory 43.57 309 *ceP* **P 19 27 42.8 +0.9**
KHC pmax pmax
comp=Z,10.0nm,1.0s
KHC Kasperske Hory 43.57 309 P P 19 27 41.4 -0.5
comp=Z,4.3nm,1.0s
SABO M.te Sabotino 43.61 304 IAmb IAmb 19 27 47.1
comp=Z,16nm,1.3s
KBA Koelnbreinsper 43.74 306 *eP* **P 19 27 44.1 +0.6**
comp=Z,10nm,1.2s
ARCES ARCESS Array B 43.78 340 P P 19 27 43.2 0.0
comp=Z,1.5nm,0.5s,baz=120,slow=8.4,SNR=13
ARCES LR LR 19 46 37.4
comp=Z,54nm,18.5s,baz=120,slow=37
comp=Z,1.5nm,0.5s
CLL Collm 44.01 312 *eP* **P 19 27 45.0 -0.3**
CLL *i* x x 19 27 49.1
comp=Z,5.0nm,0.8s
CLL *e*PP **PP 19 29 29.0 +1.0**
CLL *ex* x 19 29 39.0
CLL *es*PP 19 29 47.0
CLL AMS AMS 20 35 00.0
comp=Z,100nm,18.9s
CLL Collm 44.01 312 *i*P **P 19 27 44.6 -0.7**
CLL *i* 19 27 49.1
CLL pmax pmax
comp=Z,3.0nm,0.9s
CLL Collm 44.01 312 P P 19 27 45.2 -0.1
comp=Z,6.5nm,1.0s
LESA Schwarzleotal 44.19 306 *eP* **P 19 27 46.8 -0.1**
comp=Z,6.2nm,1.1s
STAL STALIGIAL 44.21 305 P P 19 27 46.0 -1.1
STAL IAmb IAmb 19 27 51.8
comp=Z,11nm,1.2s
ABTA Abfaltersbach 44.33 305 *eP* **P 19 27 48.2 +0.2**
comp=Z,4.9nm,1.1s
CIMO Cimolais 44.40 305 IAmb IAmb 19 27 53.3
comp=Z,15nm,1.0s
CESX Cesi 44.61 299 P P 19 27 48.9 -1.4
HFS Hagfors 44.76 324 P P 19 27 51.0 -0.2
comp=Z,2.0nm,0.8s,baz=109,slow=7.8,SNR=5.9
HFS LR LR 19 49 37.3
comp=Z,145nm,18.2s,baz=101,slow=40
comp=Z,2.0nm,0.8s
HFS Hagfors 44.76 324 P P 19 27 51.0 -0.2
WTTA Wattenberg 44.90 306 *eP* **P 19 27 52.4 -0.3**
comp=Z,5.3nm,0.8s
WATA Walderalm 44.94 306 *eP* **P 19 27 52.6 -0.4**
comp=Z,6.3nm,1.0s
CTI Castel Tesino 44.96 304 IAmb IAmb 19 27 58.0
comp=Z,8.9nm,1.0s
GRFO Grafenberg 45.12 309 P P 19 27 52.2 -2.0
GRFO Grafenberg 45.12 309 P P 19 27 52.2 -2.0
GRFO pmax pmax
comp=Z,15nm,0.9s
SQTA Sankt Quirin 45.20 306 *ep*P **P 19 27 57.8 +2.8**
comp=Z,6.6nm,1.1s
MOTA Moosalm 45.26 306 *ep*P **P 19 27 58.2 +2.7**
comp=Z,7.0nm,0.9s
RETA Reutte 45.49 306 *eP* **P 19 27 56.5 -0.7**
comp=Z,3.0nm,1.0s
FETA Feichten 45.53 306 *i*P **P 19 27 57.3 -0.4**
comp=Z,5.1nm,1.0s
NC405 NORSAR Array S 45.92 326 P P 19 28 00.7 +0.3
NC405 IAmb IAmb 19 28 05.3
comp=Z,8.7nm,1.1s
ZEA Zeya 46.02 45 *eP* **P 19 28 04.1 +2.9**
HEH HeiHe 46.08 50 *eP* **P 19 28 02.0 +0.3**
HEH pmax pmax
comp=Z,3.0nm,0.8s
DAVA Damuels 46.10 306 *eP* **P 19 28 01.7 -0.5**
comp=Z,9.0nm,1.2s
DAVOX Davos/Dischmat 46.13 305 LR LR 19 51 34.7
comp=Z,50nm,18.1s,baz=78,slow=42
NB2 NORSAR Subarra 46.14 325 P **P 19 28 00.7 -1.5**
comp=Z,2.1nm,0.7s,baz=104,slow=7.9
NOA NORSAR Array B 46.14 325 P P 19 28 00.5 -1.7
comp=Z,0.8nm,0.6s,baz=104,slow=7.9,SNR=8.5
NOA LR LR 19 50 22.1
comp=Z,136nm,18.5s,baz=105,slow=40
comp=Z,0.8nm,0.6s
STU Stuttgart 46.47 308 P P 19 28 04.8 -0.1
STU Stuttgart 46.47 308 P P 19 28 04.8 -0.1
STU pmax pmax
comp=Z,21nm,1.0s
BFO Black Forest 47.07 308 P P 19 28 08.0 -1.6
BFO IAmb IAmb 19 28 13.5
comp=Z,6.1nm,1.0s
BFO Black Forest 47.07 308 P P 19 28 08.0 -1.6
BFO pmax pmax
comp=Z,6.0nm,1.0s
KSRS Korea Array 48.05 67 P P 19 28 17.3 0.0
comp=Z,7.6nm,1.4s,baz=284,slow=4.9,SNR=5.8
comp=Z,7.6nm,1.4s
YAK Yakutsk 48.08 34 P P 19 28 15.3 -1.9
YAK Yakutsk 48.08 34 *ceP* **P 19 28 17.2 0.0**
YAK pmax pmax
comp=Z,7.0nm,0.7s
KEST Kesra 48.36 291 P P 19 28 20.2 +0.3
comp=Z,3.9nm,0.7s,baz=112,slow=2.2,SNR=4.9
comp=Z,3.9nm,0.7s
LPL La Plagne 48.44 304 *eP* **P 19 28 19.7 -0.8**
LPL pmax pmax
comp=Z,8.0nm,0.9s
KLR Kul'dur 48.94 51 *ceP* **P 19 28 24.6 +0.6**
KLR pmax pmax
comp=Z,4.0nm,1.3s
USRK Ussuriysk Ar. 49.75 57 P P 19 28 29.5 -0.8
comp=Z,1.6nm,0.8s,baz=253,slow=9.9,SNR=2.2
comp=Z,1.6nm,0.8s
TIXI Tiksi 49.87 21 P P 19 28 30.2 -0.6
TIXI IAmb IAmb 19 28 34.7
comp=Z,6.4nm,1.1s
TIXI Tiksi 49.87 21 *ceP* **P 19 28 31.3 +0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.0s
SSB Saint Sauveur 50.00 304 P P 19 28 31.9 -0.2
SSB Saint Sauveur 50.00 304 P P 19 28 32.0 -0.2
SSB pmax pmax
comp=Z,4.0nm,0.8s
SSF Saint Saulge 50.44 306 *eP* **P 19 28 34.8 -0.7**
SSF pmax pmax
comp=Z,9.0nm,1.0s
JNU Nakatsue 51.54 72 LR LR 19 54 33.6
comp=Z,150nm,18.0s,baz=196,slow=41
CAF Calviac 51.79 304 *eP* **P 19 28 45.2 -0.5**
CAF pmax pmax
comp=Z,7.0nm,0.9s
LFF La Frestale 52.71 304 *eP* **P 19 28 53.1 +0.7**
LFF pmax pmax
comp=Z,18nm,1.4s
MFF Saint Martin d 52.99 306 *eP* **P 19 28 56.9 +2.4**
MFF pmax pmax
comp=Z,12nm,1.2s
EKA Eskdalemuir Ar 53.55 318 P P 19 28 56.7 -1.8
comp=Z,1.0nm,0.6s,baz=95,slow=7.3,SNR=7.6
comp=Z,1.0nm,0.6s
JMIC Jan Mayen 55.10 337 LR LR 19 55 36.6
comp=Z,63nm,18.5s,baz=198,slow=39
ABPO Ambohimpanom 55.49 205 *i*P **P 19 29 14.3 +1.2**
ESDC Sonseca Array 57.42 299 P P 19 29 25.2 -1.4
comp=Z,2.3nm,0.8s,baz=64,slow=6.7,SNR=8.1
comp=Z,2.3nm,0.8s
SEY Seymchan 58.54 32 *i*P **P 19 29 34.0 0.0**
SEY pmax pmax
comp=Z,2.0nm,0.9s
DAV Davao City (W) 58.62 103 P P 19 29 34.5 -0.8
BORG Borgarnes 60.75 331 LR LR 19 58 51.4
comp=Z,58nm,18.8s,baz=69,slow=39
BILL Bilibino 62.73 25 *eP* **P 19 30 03.6 +1.1**
BILL pmax pmax
comp=Z,4.0nm,1.3s
TOA0 Torodi Ar. Sit 63.63 269 P P 19 30 07.2 -2.1
TORD Torodi Ar. Bea 63.63 269 P P 19 30 07.3 -2.0
TORD Torodi Ar. Bea 63.63 269 P P 19 30 07.7 -1.6
comp=Z,7.1nm,0.8s,baz=60,slow=6.7,SNR=20
comp=Z,7.1nm,0.8s
PETK Petropavlovsk- 63.98 42 P P 19 30 09.6 -1.4
comp=Z,0.8nm,0.6s,baz=318,slow=4.1,SNR=2.7
comp=Z,0.8nm,0.6s
A19K Wainwright 71.20 16 P P 19 30 55.6 -0.6
baz=317
A21K Barrow 71.32 14 P P 19 30 56.4 -0.5
baz=321
C16K Lisburne Hills 71.53 18 P P 19 30 58.1 -0.2
baz=314
A22K Sinclair Lake 71.90 14 P P 19 31 00.3 -0.2
baz=322
C17K DeLong Mountai 71.95 18 P P 19 31 01.1 +0.2
baz=316
B20K Meade River 72.23 15 P P 19 31 02.5 0.0
baz=321
C18K Utukok River 72.33 17 P P 19 31 03.7 +0.5
baz=318
C19K Lookout Ridge 72.37 16 P P 19 31 02.6 -0.8
baz=319
D17K Noatak River 72.54 18 P P 19 31 04.5 +0.1
baz=316,SNR=5.7
GAMB Gambell 72.63 24 P P 19 31 03.9 -0.9
baz=310
TNA Tin City 72.66 21 P P 19 31 05.1 0.0
baz=313
B22K Teshekpuk Lake 72.74 14 P P 19 31 05.5 0.0
baz=324
B21K Ikpikpuk River 73.08 15 P P 19 31 07.9 +0.4
baz=323
D19K Kuna River 73.18 16 P P 19 31 08.5 +0.3
baz=320
F14K Arctic Creek 73.21 21 P P 19 31 08.1 -0.2
baz=314
E17K Hotham Inlet 73.32 18 P P 19 31 08.9 -0.1
baz=318
D20K Etivluk River 73.36 16 P P 19 31 09.5 +0.3
baz=322
E18K Tukpahlearik C 73.39 18 IAmb IAmb 19 31 10.4
comp=Z,8.6nm,0.9s
E18K Tukpahlearik C 73.39 18 P P 19 31 09.5 +0.2
baz=318,SNR=6.1
C21K Knifeblade Rid 73.42 15 P P 19 31 10.0 +0.5
baz=323
F15K North Star Dit 73.54 20 IAmb IAmb 19 31 11.8
comp=Z,8.0nm,0.9s
F15K North Star Dit 73.54 20 P P 19 31 10.3 0.0
baz=315
C23K Itkillik River 73.71 13 IAmb IAmb 19 31 12.9
comp=Z,9.8nm,0.9s
C23K Itkillik River 73.71 13 P P 19 31 11.9 +0.7
baz=326,SNR=5.4
E20K Nigu River 73.82 16 P P 19 31 12.5 +0.6
baz=322
F17K Baldwin Pennin 73.95 19 P P 19 31 12.6 -0.1
baz=318
D22K Ayikyak River 74.09 14 IAmb IAmb 19 31 24.2
comp=Z,7.4nm,1.2s
D22K Ayikyak River 74.09 14 P P 19 31 12.9 -0.6
baz=325
ANM Nome 74.14 21 P P 19 31 13.9 +0.1
baz=315
C24K Franklin Bluff 74.17 13 P P 19 31 14.4 +0.5
baz=328
E21K Killik River 74.17 15 IAmb IAmb 19 31 14.7
comp=Z,7.3nm,0.9s
E21K Killik River 74.17 15 P P 19 31 13.8 -0.2
baz=324,SNR=6.9
E19K Redstone River 74.20 17 IAmb IAmb 19 31 14.9
comp=Z,5.3nm,0.8s
E19K Redstone River 74.20 17 P P 19 31 14.4 +0.2
baz=321
G15K Niukluk 74.23 21 P P 19 31 14.9 +0.5
baz=316
F18K Selawik 74.26 18 P P 19 31 14.8 +0.4
baz=319
D23K Nanushuk River 74.42 14 P P 19 31 16.0 +0.6
baz=326
G16K Koyuk River 74.43 20 P P 19 31 14.5 -0.9
baz=317
F19K Shaleruckik Mo 74.56 17 P P 19 31 14.8 -1.4
baz=321
C26K Camden Bay 74.66 11 P P 19 31 16.6 -0.1
baz=331
G17K Kiwalik Mounta 74.82 19 P P 19 31 16.9 -0.8
baz=319
E22K Anaktuvuk Pass 74.88 15 IAmb IAmb 19 31 19.2
comp=Z,6.8nm,1.1s
E22K Anaktuvuk Pass 74.88 15 P P 19 31 18.2 0.0
baz=326,SNR=5.4
F20K Avaraart Lake 74.89 16 P P 19 31 18.0 -0.1
baz=323
TOLK Toolik Lake Re 74.92 14 IAmb IAmb 19 31 19.6
comp=Z,7.9nm,0.9s
TOLK Toolik Lake Re 74.92 14 P P 19 31 18.6 +0.3
baz=328,SNR=6.4
D25K Kavik River 74.93 12 IAmb IAmb 19 31 24.4
comp=Z,7.8nm,1.0s
D25K Kavik River 74.93 12 P P 19 31 19.1 +0.7
baz=330,SNR=11
A36M Sachs Harbour 74.98 4 P P 19 31 18.7 +0.2
baz=348
H16K Elim 75.02 20 P P 19 31 18.7 -0.2
baz=318
G18K Tagagawik 75.06 18 P P 19 31 18.8 -0.3
baz=320
C27K Jago River 75.12 11 P P 19 31 20.6 +1.2
baz=332
F21K Alatna River 75.27 16 IAmb IAmb 19 31 22.6
comp=Z,9.0nm,1.2s
F21K Alatna River 75.27 16 P P 19 31 20.4 +0.1
baz=324,SNR=6.3
G19K Purcell Mounta 75.27 18 IAmb IAmb 19 31 21.2
comp=Z,6.0nm,0.8s
G19K Purcell Mounta 75.27 18 P P 19 31 20.3 -0.1
baz=322,SNR=8.7
F22K John River 75.33 15 P P 19 31 21.1 +0.4
baz=326,SNR=8.4
E23K Chandalar 75.40 14 P P 19 31 21.7 +0.5
baz=328
H17K Granite Mounta 75.45 19 IAmb IAmb 19 31 22.7
comp=Z,4.9nm,0.8s
H17K Granite Mounta 75.45 19 P P 19 31 21.9 +0.4
baz=320
E24K Your Creek 75.61 14 P P 19 31 22.7 +0.4
baz=328,SNR=5.4
H18K Honhosa River 75.71 19 P P 19 31 23.4 +0.5
baz=321
G21K Allakaket 75.84 16 IAmb IAmb 19 31 24.6
comp=Z,6.6nm,1.1s
G21K Allakaket 75.84 16 P P 19 31 22.9 -0.7
baz=324
D27M Malcolm River 75.89 10 P P 19 31 23.8 -0.1
baz=335
H19K Roundabout Mou 75.92 18 P P 19 31 24.3 +0.3
baz=322,SNR=5.5
G22K Bettles 75.96 15 P P 19 31 24.7 +0.4
baz=326
COLD Coldfoot 75.98 15 P P 19 31 24.7 +0.3
baz=327,SNR=6.8
J14K Nanvaranak Lak 76.01 22 P P 19 31 25.3 +0.7
baz=317
I17K Unalakleet 76.03 20 P P 19 31 24.5 -0.2
baz=319
E25K Arctic Village 76.13 13 P P 19 31 25.5 +0.2
baz=331,SNR=5.3
D28M Stokes Point 76.14 10 P P 19 31 26.4 +1.2
baz=337
F24K Squaw Lake 76.21 14 P P 19 31 26.3 +0.5
baz=329
K13K Kusilvak Mount 76.25 23 P P 19 31 25.9 -0.1
baz=316
H20K Anotleneega Mo 76.34 17 P P 19 31 25.5 -1.0
baz=324,SNR=7.4
GCSA Galena City Sc 76.42 18 P P 19 31 26.5 -0.4
baz=322
G23K Bananza Creek 76.46 15 IAmb IAmb 19 31 28.5
comp=Z,5.4nm,0.9s
G23K Bananza Creek 76.46 15 P P 19 31 27.4 +0.3
baz=327,SNR=6.7
J16K Anvik River 76.51 21 P P 19 31 27.9 +0.5
baz=319
F25K Christian Rive 76.58 13 P P 19 31 28.5 +0.6
baz=331
E28M Babbage River 76.69 10 IAmb IAmb 19 31 30.4
comp=Z,6.0nm,1.1s
E28M Babbage River 76.69 10 P P 19 31 29.0 +0.6
baz=336,SNR=7.1
H21K Melozitna Rive 76.71 16 IAmb IAmb 19 31 29.7
comp=Z,9.3nm,1.1s
H21K Melozitna Rive 76.71 16 P P 19 31 28.7 +0.1
baz=325,SNR=8.3
E27K Coleen River 76.75 11 IAmb IAmb 19 31 30.6
comp=Z,5.9nm,1.1s
E27K Coleen River 76.75 11 P P 19 31 29.2 +0.4
baz=334,SNR=6.2
F26K Sheenjek River 76.76 12 P P 19 31 29.2 +0.4
baz=332
M11K Mekoryuk 76.83 25 P P 19 31 28.5 -0.8
baz=315
H22K Ishtalitna Cre 76.84 16 P P 19 31 29.8 +0.4
baz=326
J17K VABM Dome 76.87 20 P P 19 31 29.5 0.0
baz=320
BMAR Burnt Mountain 76.92 13 P P 19 31 30.2 +0.5
G24K Hadweenzic Riv 77.00 14 IAmb IAmb 19 31 32.0
comp=Z,9.2nm,1.1s
G24K Hadweenzic Riv 77.00 14 P P 19 31 30.7 +0.5
baz=330,SNR=8.5
I20K Naaghedeneel 77.00 17 P P 19 31 31.0 +0.8
baz=324
E29M Blow River 77.13 10 P P 19 31 31.7 +0.9
baz=337
G25K Bearman Lake 77.21 13 P P 19 31 32.4 +1.1
baz=331
I21K Tanana 77.30 16 IAmb IAmb 19 31 33.1
comp=Z,6.0nm,0.9s
I21K Tanana 77.30 16 P P 19 31 32.5 +0.7
baz=326
H23K Yukon River 77.31 15 IAmb IAmb 19 31 33.8
comp=Z,7.2nm,0.9s
H23K Yukon River 77.31 15 P P 19 31 32.6 +0.6
baz=328,SNR=6.0
L14K Kuka Creek 77.33 23 P P 19 31 32.7 +0.6
baz=318
J19K Poorman 77.36 18 P P 19 31 32.7 +0.5
baz=323,SNR=11

L15K	Ungalak Mounta baz=319	77.46	22	P	P	19 31 33.5	+0.7
J18K	Innoko River comp=Z,6.1nm,0.9s	77.48	19	IAmb	IAmb	19 31 34.6	
J18K	Innoko River baz=322,SNR=5.5	77.48	19	P	P	19 31 33.2	+0.2
G26K	Porcupine Rive baz=333	77.49	12	P	P	19 31 33.2	+0.3
SPIA	Saint Paul Isl baz=313	77.54	28	P	P	19 31 34.1	+0.8
F28M	Old Crow comp=Z,8.4nm,1.4s	77.55	11	IAmb	IAmb	19 31 42.6	
F28M	Old Crow baz=336	77.55	11	P	P	19 31 34.0	+0.8
FYU	Fort Yukon comp=Z,10nm,1.1s	77.56	13	IAmb	IAmb	19 31 34.9	
J20K	Nowinta River baz=324,SNR=7.9	77.59	18	P	P	19 31 33.9	+0.4
K17K	Iditarod comp=Z,9.0nm,0.9s	77.62	20	IAmb	IAmb	19 31 35.2	
K17K	Iditarod baz=321	77.62	20	P	P	19 31 33.9	+0.1
C36M	Paulatuk baz=349	77.66	5	P	P	19 31 34.2	+0.4
H24K	Noodor Dome comp=Z,5.9nm,0.9s	77.66	14	IAmb	IAmb	19 31 35.6	
H24K	Noodor Dome baz=329,SNR=6.5	77.66	14	P	P	19 31 34.4	+0.5
H25L	Birch Creek baz=331	77.71	14	P	P	19 31 34.5	+0.4
MLY	Manley comp=Z,4.1nm,0.9s	77.72	16	IAmb	IAmb	19 31 35.4	
MLY	Manley baz=327,SNR=6.2	77.72	16	P	P	19 31 34.5	+0.2
INK	Inuvik baz=341	77.78	8	P	P	19 31 34.9	+0.4
M13K	Dall Lake baz=317	77.79	24	P	P	19 31 34.9	+0.2
I23K	Minto, Yukon-K comp=Z,5.6nm,0.9s	77.93	15	IAmb	IAmb	19 31 36.9	
I23K	Minto, Yukon-K baz=328	77.93	15	P	P	19 31 35.6	+0.3
G27K	Doyon Strip baz=334,SNR=5.4	77.99	12	P	P	19 31 36.4	+0.7
M14K	Bethel baz=318	78.00	23	P	P	19 31 36.5	+0.7
L16K	Owhat River baz=320,SNR=5.1	78.06	21	P	P	19 31 36.6	+0.5
L17K	Donlin baz=321	78.08	21	P	P	19 31 36.9	+0.7
F30M	Barrier River baz=339	78.15	9	P	P	19 31 37.5	+0.9
K20K	Telida baz=324,SNR=8.2	78.28	18	P	P	19 31 37.8	+0.4
CHUM	Lake Minchumin baz=326	78.30	17	P	P	19 31 38.2	+0.7
POKR	Poker Plat Res baz=330,SNR=5.2	78.38	15	P	P	19 31 38.1	+0.2
BPAW	Bear Paw Mtn. comp=Z,4.6nm,0.8s	78.44	17	IAmb	IAmb	19 31 39.8	
BPAW	Bear Paw Mtn. baz=327,SNR=6.3	78.44	17	P	P	19 31 38.0	-0.2
M15K	Kasigluk River baz=320	78.46	22	P	P	19 31 39.5	+1.2
NEA2	Nenana baz=328,SNR=15	78.47	16	P	P	19 31 38.2	-0.2
L18K	Granite Mounta comp=Z,8.6nm,1.2s	78.48	20	IAmb	IAmb	19 31 39.5	
L18K	Granite Mounta baz=322	78.48	20	P	P	19 31 38.7	+0.2
G29M	Pine Creek baz=337	78.48	10	P	P	19 31 39.7	+1.2
COLA	College baz=329	78.50	15	P	P	19 31 39.2	+0.7
H27K	Steamboat Moun baz=335,SNR=6.3	78.54	12	P	P	19 31 39.4	+0.6
F31M	Tsiigehtchic baz=341	78.58	9	P	P	19 31 39.1	+0.2
G30M	tAoh Zrail Nji comp=Z,7.3nm,1.1s	78.68	10	IAmb	IAmb	19 31 41.3	
G30M	tAoh Zrail Nji baz=339,SNR=5.9	78.68	10	P	P	19 31 39.9	+0.3
CAST	Castle Rocks baz=326,SNR=21	78.74	17	P	P	19 31 40.0	+0.1
M16K	Timber Creek baz=321	78.75	21	P	P	19 31 40.9	+0.9
IL31	comp=Z,8.7nm,1.2s	78.80	15	IAmb	IAmb	19 31 40.5	
ILAR	Eielson Array comp=Z,2.9nm,0.9s,baz=318,slow=4.3,SNR=25 comp=Z,2.9nm,0.9s	78.80	15	P	P	19 31 39.3	-0.9
M17K	Holitna River baz=322	78.91	21	P	P	19 31 41.7	+0.9
G31M	Satah River baz=341	79.00	9	P	P	19 31 41.9	+0.7
L19K	White Mountain baz=324	79.03	19	P	P	19 31 41.2	-0.3
L20K	Farewell, AK baz=325	79.05	19	P	P	19 31 41.8	+0.1
N15K	Kwethluk River baz=320	79.05	22	P	P	19 31 42.5	+0.8
H29M	Whitestone baz=337	79.07	11	P	P	19 31 42.2	+0.5
I26K	Coal Creek Min baz=333	79.07	13	P	P	19 31 42.6	+0.9
I27K	Kandik River baz=334	79.09	12	P	P	19 31 42.0	+0.1
PPLA	Purkeypile baz=326	79.15	18	P	P	19 31 42.2	-0.1
TRF	Thorofare Moun baz=328	79.16	17	P	P	19 31 42.4	0.0
EPYK	Eagle Plains baz=339	79.18	10	P	P	19 31 42.3	0.0
N16K	Nishlik Lake baz=321	79.23	22	P	P	19 31 43.8	+1.1
MCK	McKinley baz=329	79.24	16	P	P	19 31 42.7	0.0
J25K	Salcha River, baz=332,SNR=5.2	79.25	14	P	P	19 31 42.4	-0.4
M18K	Stony River baz=323	79.31	20	P	P	19 31 43.4	+0.3
O14K	Tigyukauivet M baz=319	79.36	24	P	P	19 31 43.5	+0.2
M19K	Big River Lodg baz=324	79.38	19	P	P	19 31 43.8	+0.3
I28M	Miner Creek comp=Z,5.6nm,1.1s	79.52	12	IAmb	IAmb	19 31 45.2	
I28M	Miner Creek baz=336,SNR=6.8	79.52	12	P	P	19 31 44.2	-0.1
RND	Reindeer comp=Z,6.9nm,0.8s	79.54	16	IAmb	IAmb	19 31 44.4	
N17K	Nushagak Hills baz=322	79.68	21	P	P	19 31 45.3	+0.3
J26L	Joseph Creek comp=Z,7.3nm,0.9s	79.72	14	IAmb	IAmb	19 31 46.3	
J26L	Joseph Creek baz=333,SNR=10.0	79.72	14	P	P	19 31 45.1	-0.3
K24K	Donnelly Dome baz=331,SNR=5.8	79.88	15	P	P	19 31 45.6	-0.5
O15K	Ungalikthiuk R baz=320	79.90	23	P	P	19 31 46.8	+0.5
EGAK	Eagle baz=335	79.92	12	P	P	19 31 46.4	+0.1
H31M	Peel River baz=341	80.05	9	P	P	19 31 47.6	+0.5
SKT	Skwentna baz=327,SNR=8.1	80.08	18	P	P	19 31 46.5	-0.8
SCRK	Sand Creek comp=Z,4.7nm,0.8s	80.10	14	IAmb	IAmb	19 31 48.6	
SCRK	Sand Creek baz=333,SNR=7.0	80.10	14	P	P	19 31 47.5	0.0
WAT1	Susitna Watana baz=329	80.10	16	P	P	19 31 46.0	-1.4
O16K	Kokwok River B comp=Z,9.4nm,0.9s	80.13	22	IAmb	IAmb	19 31 49.5	
O16K	Kokwok River B baz=322	80.13	22	P	P	19 31 48.2	+0.7
DHY	Denali Highway comp=Z,7.8nm,0.8s	80.16	16	IAmb	IAmb	19 31 49.3	
DHY	Denali Highway baz=330,SNR=10	80.16	16	P	P	19 31 47.6	-0.2
N19K	Bonanza Creek comp=Z,9.4nm,0.8s	80.24	20	IAmb	IAmb	19 31 51.4	
N19K	Bonanza Creek baz=324	80.24	20	P	P	19 31 48.2	-0.1
O17K	Koliganek Bris baz=322	80.30	22	P	P	19 31 48.4	-0.1
I30M	Mount Dempster baz=339	80.31	10	P	P	19 31 48.8	+0.2
K27K	Chicken comp=Z,7.0nm,1.0s	80.43	13	IAmb	IAmb	19 31 50.7	
K27K	Chicken baz=334	80.43	13	P	P	19 31 50.0	+0.9
WAT6	Susitna Watana baz=330,SNR=5.5	80.51	16	P	P	19 31 49.7	0.0
PAX	Paxson baz=332,SNR=5.9	80.68	15	P	P	19 31 50.5	0.0
SUA	Susitna One baz=327	80.72	18	P	P	19 31 50.1	-0.7
O18K	Koktuh Hills baz=324	80.81	21	P	P	19 31 52.2	+1.0
DAWY	Dawson comp=Z,5.8nm,1.0s	80.89	12	IAmb	IAmb	19 31 52.7	
DAWY	Dawson baz=336,SNR=6.3	80.89	12	P	P	19 31 51.7	+0.1
J30M	Hart River baz=339	80.92	11	P	P	19 31 52.4	+0.5
P17K	Kvichak River baz=323	80.97	22	P	P	19 31 52.7	+0.7
PMR	Palmer comp=Z,10nm,1.0s	81.02	17	IAmb	IAmb	19 31 52.8	
PMR	Palmer baz=329	81.02	17	P	P	19 31 52.3	+0.1
SML	Sawmill baz=329,SNR=8.0	81.03	17	P	P	19 31 52.3	-0.1
L26K	Log Cabin Wild comp=Z,6.0nm,0.6s	81.08	14	IAmb	IAmb	19 32 34.9	
P18K	Big Mountain, baz=324	81.18	21	P	P	19 31 54.1	+0.9
M23K	Glacier View baz=330,SNR=6.0	81.19	17	P	P	19 31 52.9	-0.3
SCM	Sheep Creek Mo baz=330	81.25	16	P	P	19 31 53.8	+0.2
HARP	HAARP baz=332	81.25	15	P	P	19 31 54.7	+1.1
M24K	Tolsona, Glenn baz=331	81.28	16	P	P	19 31 54.6	+0.8
RC01	Rabbit Creek A baz=328	81.30	18	P	P	19 31 53.6	-0.2
KNK	Knik Glacier baz=329,SNR=6.3	81.34	17	P	P	19 31 54.1	+0.1
L27K	Beaver Creek, comp=Z,5.3nm,0.9s	81.35	13	IAmb	IAmb	19 31 55.7	
L27K	Beaver Creek, baz=335	81.35	13	P	P	19 31 55.1	+1.1
BCAR	Beaver Creek A	81.36	13	P	P	19 31 54.1	0.0
UNV	Unalaska Valle baz=316	81.39	29	P	P	19 31 53.0	-1.4
K29M	Barlow Dome comp=Z,6.7nm,1.0s	81.41	11	IAmb	IAmb	19 31 56.0	
K29M	Barlow Dome baz=338,SNR=5.9	81.41	11	P	P	19 31 54.9	+0.4
P19K	Oil Pt baz=326	81.56	20	P	P	19 31 55.2	0.0
M26K	Nabesna, AK baz=334	81.71	14	P	P	19 31 57.0	+1.0
S12K	Black Hills baz=319	81.77	26	P	P	19 31 56.8	+0.4
KLU	Klutina	81.88	16	P	P	19 31 57.0	+0.1
KLU	comp=Z,8.2nm,0.9s			IAmb	IAmb	19 31 58.6	
KLU	Klutina baz=331,SNR=6.2	81.88	16	P	P	19 31 57.2	+0.2
M27K	Edge Creek, AK baz=335,SNR=8.4	81.98	14	P	P	19 31 58.2	+0.7
L29M	L29M comp=Z,8.8nm,1.1s	81.99	12	IAmb	IAmb	19 31 59.1	
L29M	L29M baz=338	81.99	12	P	P	19 31 57.6	+0.2
N25K	Chitina, Valde baz=332	82.08	15	P	P	19 31 58.1	+0.1
GLI	Glacier Island baz=330	82.14	17	P	P	19 31 58.4	+0.2
BRSE	Bradley Lake S baz=328	82.18	19	P	P	19 31 57.9	-0.6
S14K	Fog Glacier baz=321	82.23	25	P	P	19 31 57.9	-1.0
M29M	Somme Creek comp=Z,5.9nm,1.1s	82.55	12	IAmb	IAmb	19 32 02.9	
M29M	Somme Creek baz=337	82.55	12	P	P	19 32 01.0	+0.5
BMRM	Bremner River baz=332	82.65	16	P	P	19 32 01.3	+0.3
M30M	Minto, Yukon baz=339	82.72	12	P	P	19 32 01.6	+0.4
EYAK	Cordova Ski Ar baz=332	82.75	16	P	P	19 32 01.9	+0.5
YUK3	Moose Creek baz=336	82.79	13	P	P	19 32 01.3	-0.6
KDAK	Kodiak Island baz=326	83.30	21	P	P	19 32 04.3	+0.1
CTG	Chitna Glacier baz=335	83.35	14	P	P	19 32 04.9	+0.2
M31M	Drury Creek, Y baz=341	83.46	11	P	P	19 32 05.2	+0.1
YUK4	Talbot Arm baz=337	83.53	13	P	P	19 32 05.8	+0.1
OHAK	Old Harbor baz=326	83.55	21	P	P	19 32 05.8	+0.3
N30M	Aishikik Lake baz=339	83.71	12	P	P	19 32 07.3	+0.9
SII	Sitkinak Islan baz=325	83.81	22	P	P	19 32 06.8	-0.1
N31M	Braeburn, Yuko baz=340	83.91	11	P	P	19 32 08.7	+1.3
YUK6	Outpost Mounta baz=338	83.96	13	P	P	19 32 08.3	+0.4
HYT	Haines Junctio baz=338	84.23	12	P	P	19 32 09.7	+0.6
O29M	Mount Kennedy baz=337	84.51	13	P	P	19 32 10.7	+0.1
O30N	Mendenhall baz=339	84.53	12	P	P	19 32 10.8	+0.2
WHY	Whitehorse baz=340	84.84	11	P	P	19 32 12.1	-0.1
YKA	Yellowknife Ar comp=Z,1.2nm,0.7s,baz=350,slow=5.5,SNR=12 comp=Z,1.2nm,0.7s	84.93	1	P	P	19 32 11.9	-0.5
YKA	Yellowknife Ar	84.93	1	P	P	19 32 12.0	-0.5
PNL	Peninsula baz=337	84.94	14	P	P	19 32 13.2	+0.6
P30M	Million Dollar baz=339	84.98	13	P	P	19 32 13.1	+0.2
P29M	Windy Craggy baz=338	85.30	13	P	P	19 32 14.6	+0.2
P33M	Teslin, Yukon baz=342	85.59	11	P	P	19 32 15.6	-0.4
PLBC	Pleasant Camp baz=339	85.71	12	P	P	19 32 17.2	+0.7

*NEIC **28** 19:22:20₀1.4, 7.°0S±0.°2×127.°8E±0.°1, h287km±18km, mb4.3/4, Error ellipse: s-maj=26.3km s-min=11.1km az=143.0*

*IDC **28** 19:22:22.9₀3.7, 7.°17S×127.°74E, h297km±36km, mb3.1/4, mbtmp3.9/6, Error ellipse: s-maj=47.1km s-min=15.4km az=57.0*

ISC 28 19:22:23.5±1.1, 7.°2S±0.°1×127.°76E±0.°08, h309km, n19, σ1°43/22, mb3.5/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SOEI	Soe	4.28	234	Pn	Pn	19 23 32.1	-1.3
SOEI				Sn	S	19 24 26.3	-3.2
BATI	Baumata 308nm,0.4s,baz=321,slow=20,SNR=175	5.03	233	P	Pn	19 23 41.3	-0.4
BATI				S	S	19 24 43.6	-1.1
FAKI	Fak Fak 101nm,0.6s,baz=43,slow=19,SNR=12	6.18	47	Pn	Pn	19 23 48.2	-7.0
MTN	Manton Dam	6.50	150	Pn	Pn	19 23 57.1	-2.0
FITZ	Fitzroy Crossi	11.02	191	P	Pn	19 24 54.5	+0.5
WB0	Warramunga Arr	14.04	153	P	P	19 25 28.6	-1.1
WRAB	Tennant Creek	14.17	154	P	P	19 25 30.6	-0.4
WRA	Warramunga Arr 1.8nm,0.8s,baz=330,slow=12,SNR=19	14.17	154	P	P	19 25 29.8	-1.2
WRA				S	S	19 28 06.6	-0.3
WB2	Warramunga Arr	14.18	154	P	P	19 25 29.8	-1.3
WR0	Warramunga Arr	14.27	153	P	P	19 25 31.7	-0.5
MBWA	Marble Bar	15.89	208	Pn	P	19 25 51.0	+1.1
PSA00	Pilbara Seismi 2.0nm,0.7s,baz=335,slow=21,SNR=8.8	16.20	207	Pn	P	19 25 54.9	+1.6
PSA00				IAmb	IAmb	19 26 03.3	
COEN	Coen comp=Z,18nm,1.1s	16.56	115	P	P	19 25 56.2	-1.0
COEN				IAmb	IAmb	19 26 10.7	

AS31	Alice Springs	17.39	161	P	P	19 26 07.5	+1.4
ASAR	Alice Springs comp=Z,5.6nm,0.7s,baz=341,slow=12,SNR=79	17.39	161	P	P	19 26 07.5	+1.3
ASAR				S	S	19 29 13.2	+2.2
STKA	Stephens Creek comp=Z,2.1nm,0.8s,baz=330,slow=20,SNR=1.4 comp=Z,2.1nm,0.8s	27.72	154	P	P	19 27 45.2	+1.0
MKAR	Makanchi Array comp=Z,0.2nm,0.4s,baz=117,slow=8.0,SNR=5.1 comp=Z,0.2nm,0.4s	67.21	328	P	P	19 32 45.1	+0.2
KURBB	Kurchatov Arra comp=Z,0.4nm,0.4s,baz=122,slow=7.3,SNR=1.8 comp=Z,0.4nm,0.4s	71.55	329	P	P	19 33 11.4	+0.2
QSPA	South Pole Qui comp=Z,0.7nm,0.9s,baz=256,slow=4.2,SNR=3.1 comp=Z,0.7nm,0.9s	82.77	180	P	P	19 34 14.5	+1.4

*BJI **28** 19:25:21.0₀0.0, 9.°89S×118.°83E, h60km, mb5.0/70, mB5.1/37, Ms4.6/65, Ms7 4.4/68*

*NEIC **28** 19:25:22.4±3.1, 9.°15S±0.°07×118.°41E±0.°08, h10km±1km, mb5.4/146, Mww5.1/24, Error ellipse: s-maj=14.1km s-min=11.6km az=93.0*

*MOS **28** 19:25:24.9±1.0, 8.°98S×118.°38E, h42km, mb5.4/50, Error ellipse: s-maj=10.0km s-min=5.0km az=108.4*

*IDC **28** 19:25:26.9±1.1, 8.°99S×118.°41E, h40km±8km, mb4.6/26, mbtmp4.8/27, ML5.6/2, MS4.2/53, Error ellipse: s-maj=16.2km s-min=10.2km az=71.0*

*GCMT **28** 19:25:27.9±0.1, 9.°31S±0.°01×118.°38E±0.°01, h31km, MW5.2/127, Moment Tensor Solution. s96,c149; s127,c226; Duration: 1s0 Moment tensor: Scale 10¹⁶ Nm; Mrr2.01±.15; Mθθ-2.55±.12; Mφφ0.53±.14; Mrθ1.86±.19; Mθφ-6.90±.09; Mφr-2.95±.23; Best double couple: M₀8.07400×10¹⁶ NP1:φs190.00000°, δ71.00000°, λ24.00000°. NP2:φs92.00000°, δ68.00000°, λ160.00000°. Principal axes: T 8.0520, Plg30.0000°, Azm52.0000°; N 0.0360, Plg60.0000°, Azm226.0000°; P -8.0950, Plg2.0000°, Azm321.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

*NEIC **28** 19:25:27.9, 9.°58S×118.°43E, h14km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10¹⁶ Nm; Mrr0.07; Mθθ-0.49; Mφφ0.43; Mrθ2.50; Mθφ-4.85; Mφr-2.13; Fault plane solution: M₀5.72000×10¹⁶ NP1: φs90.22000°, δ75.73000°, λ156.00000°. NP2: φs186.48000°, δ66.79000°, λ15.56000°. Principal axes: T 6.4926, Plg27.0000°, Azm47.0000°; N -1.5468, Plg62.0000°, Azm241.0000°; P -4.9459, Plg6.0000°, Azm140.0000°;*

*NEIC **28** 19:25:27.9, 9.°18S×118.°43E, h14km*

*DJA **28** 19:25:28.1±0.1, 9.°S±2.°×11.°8E±.°, h48km±2km, M5.3/76, mb5.5/76, mB5.7/54, MLv6.0/20, Mw5.2/33, Mw(mB)5.3/54, MwMwp4.8/13, Mwp5.2/13*

ISC 28 19:25:27.1±0.4, 9.°20S±0.°03×118.°44E±0.°04, h47km±2km, h47km:pP-P, n828, σ1°48/769, mb5.3/160, MS4.3/76, 12C-2D, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLAI	Plampang	0.75	299	P	Pn	19 25 40.7	-0.7
PLAI	Plampang	0.75	299	P	Pn	19 25 40.4	-1.0
TWSI	Taliwang, Sumb	1.60	286	P	Pn	19 25 53.0	0.0
TWSI				S	Sn	19 26 12.3	-0.2
BASI	Baing, Sumba	2.34	116	P	Pn	19 26 02.6	-0.6
DNP	Denpasar	3.23	279	P	Pn	19 26 16.8	+1.5
EDFI	Ende, Flores	3.25	82	P	Pn	19 26 16.4	+0.7
SRBI	Singaraja	3.37	289	P	Pn	19 26 17.9	+0.6
MMRI	Maumere	3.80	82	P	Pn	19 26 25.1	+1.9
MMRI	Maumere	3.80	82	Pn	Pn	19 26 24.2	+1.0
MMRI	Maumere	3.80	82	P	Pn	19 26 24.8	+1.6
BKSI	Bulukumba	4.20	24	P	Pn	19 26 30.9	+2.3
JAGI	Jajag, Banyuwa	4.29	279	P	Pn	19 26 30.4	+0.4
JAGI	Jajag, Banyuwa	4.29	279	Pn	Pn	19 26 30.4	+0.4
JAGI	Jajag, Banyuwa	4.29	279	P	Pn	19 26 30.6	+0.6
KAPI	Kappang	4.36	18	P	Pn	19 26 33.1	+2.3
KAPI	Kappang 154nm,0.3s,baz=192,slow=6.2,SNR=483	4.36	18	Pn	Pn	19 26 33.2	+2.3
KAPI				Sn	Sn	19 27 20.8	+0.4
KAPI	222nm,0.3s,baz=180,slow=20,SNR=2.9			LR	LR	19 28 34.5	
ABJI	comp=Z,5μm,21.2s,baz=194,slow=45 Asem Bagus	4.38	288	P	Pn	19 26 32.7	+1.5
BLJI	Banyuglugur	5.00	286	P	Pn	19 26 40.9	+1.2
BATI	Baumata 1μm,0.3s,baz=288,slow=1.2,SNR=791	5.25	101	Pn	Pn	19 26 45.4	+2.3
BATI				Sn	Sn	19 27 45.0	+2.5
BATI	367nm,0.3s,baz=218,slow=20,SNR=11 Baumata 5μm,0.5s,59μm4μm20nm	5.25	101	P	Pn	19 26 45.2	+2.0
BBSI	Bau Bau 2μm,0.9s,18μm5μm6.3nm	5.51	48	P	Pn	19 26 49.4	+2.7
SOEI	Soe	5.78	96	P	Pn	19 26 52.6	+2.1
SOEI	Soe	5.78	96	Pn	Pn	19 26 52.4	+1.9
SOEI	Soe 3μm,0.8s,20μm5μm17nm	5.78	96	P	Pn	19 26 53.2	+2.7
GRJI	Gresik 2μm,0.8s,20μm6μm6.9nm	6.32	291	P	Pn	19 27 00.4	+2.6
BWJI	Bawean 2μm,0.6s,18μm6μm5.7nm	6.62	300	P	Pn	19 27 04.0	+2.1
PWJI	Pagerwojo 1μm,0.5s,14μm11nm	6.66	280	P	Pn	19 27 04.9	+2.4
UGM	Wanagama	7.93	279	P	Pn	19 27 21.7	+1.8
UGM	Wanagama	7.93	279	Pn	Pn	19 27 20.4	+0.5
UGM	Wanagama 1μm,0.7s,7.8nm	7.93	279	P	Pn	19 27 21.1	+1.2
BKB	Balikpapan	8.03	349	Pn	Pn	19 27 21.2	-0.1
SMRI	Semarang	8.20	284	P	Pn	19 27 26.0	+2.4
SMRI	Semarang	8.20	284		Pn	19 27 21.7	-1.9
SMRI	Semarang 466nm,0.7s	8.20	284	P	Pn	19 27 26.4	+2.8
MTKI	Muara Teweh, K 147nm,0.8s,4μm5μm	8.92	337	P	Pn	19 27 35.8	+2.3
LUWI	Luwuk	9.18	28	P	Pn	19 27 41.0	+4.0
LUWI	Luwuk	9.18	28	Pn	Pn	19 27 35.7	-1.3
LUWI	Luwuk 413nm,1.1s,4μm	9.18	28	P	Pn	19 27 41.4	+4.4
MPSI	Mapaga 140nm,1.5s,2μm	9.58	9	P	Pn	19 27 47.1	+4.6
CMJI	Cimerak 235nm,0.6s	9.98	277	P	Pn	19 27 47.3	-0.6
SANI	Sanana	10.34	47	P	Pn	19 27 56.3	+3.4
SANI	Sanana 659nm,1.2s,7μm2μm	10.34	47	P	Pn	19 27 57.6	+4.7
TOLI2	Tolitoli	10.50	13	P	Pn	19 27 59.1	+3.9
TOLI2	Tolitoli	10.50	13	Pn	Pn	19 27 58.1	+3.0
GTOI	Gorontalo 60nm,1.0s,587nm	10.78	25	P	Pn	19 28 03.0	+4.1
BBJI	Bungbulang	10.81	278	P	Pn	19 27 59.6	+0.2
LEM	Lembang 8.0nm,0.3s,baz=142,slow=19,SNR=6.9	10.97	282	Pn	Pn	19 28 02.6	+0.9
LEM				Sn	Sn	19 30 03.3	+0.1
LEM	5.5nm,0.3s,baz=127,slow=10,SNR=1.5 30nm,0.5s Lembang 237nm,0.8s,3μm	10.97	282	P	Pn	19 28 03.4	+1.7
KMSI	Cibinong 554nm,0.8s,6μm	11.17	30	P	Pn	19 28 09.1	+4.8
FITZ	Fitzroy Crossi	11.28	142	P	Pn	19 28 03.5	-2.3
FITZ	Fitzroy Crossi	11.28	142		Pn	19 28 03.4	-2.3
CNJI	Cibinong 134nm,0.7s,1μm	11.35	279	P	Pn	19 28 05.7	-1.0
STKI	Sintang 126nm,0.9s,4μm3μm	11.52	323	P	Pn	19 28 11.6	+2.6
CBJI	Citeko 339nm,0.9s,6μm	11.80	283	P	Pn	19 28 12.9	-0.1
DBJI	Dramaga 214nm,1.3s,3μm	11.87	282	P	Pn	19 28 15.4	+1.5
MBWA	Marble Bar	11.96	174	P	Pn	19 28 11.6	-3.5
MBWA	Marble Bar	11.96	174	Pn	Pn	19 28 11.7	-3.3
SKJI	Sukabumi	11.96	280	P	Pn	19 28 30.6	+16
BNDI	Bandanaira	12.30	69	P	P	19 28 33.2	+2.4
PSA00	Pilbara Seismi	12.38	174	P	Pn	19 28 17.4	-3.4
PSA00	Pilbara Seismi	12.38	174		Pn	19 28 16.9	-3.9
LBMI	Labuha 546nm,1.2s,6μm	12.40	47	P	Pn	19 28 25.4	+4.3
DRS	Darwin Rock St	12.66	106	P	Pn	19 28 22.9	-1.7
SAUI	Saumlaki	12.78	86	P	Pn	19 28 28.7	+2.4
SAUI	Saumlaki	12.78	86		Pn	19 28 23.4	-2.9
SAUI	Saumlaki	12.78	86	P	Pn	19 28 27.1	+0.8

1µm,0.9s
MTN Manton Dam 12.98 107 P **Pn** **19 28 26.9 -2.1**
MTN Manton Dam 12.98 107 **Pn** **19 28 26.6 -2.4**
SBUM Sibu 13.12 332 **Pn** **19 28 33.8 +2.9**
TNTI Ternate 13.31 42 P **Pn** **19 28 36.1 +2.5**
TNTI Ternate 13.31 42 **Pn** **19 28 34.6 +1.0**
TNTI Ternate 13.31 42 P **Pn** **19 28 36.7 +3.1**
125nm,1.1s,3µm2µm
KSM Kuching 13.34 322 P Pn 19 28 37.8 +3.9
KSM Kuching 13.34 322 **Pn** **19 28 36.7 +2.8**
GIRL Giralia 13.96 196 **Pn** **19 28 40.4 -2.0**
PPBI Pangkal Pinang 14.09 299 P **P** **19 28 47.9 -2.8**
76nm,1.1s,1µm
KDU Kakadu 14.21 105 P **Pn** **19 28 44.0 -1.8**
KASI Kota Agung 14.29 284 P **Pn** **19 28 50.0 +3.1**
291nm,0.7s,3µm
LWLI Liwa 14.86 285 P **Pn** **19 28 56.5 +2.1**
417nm,0.7s,5µm
FAKI Fak Fak 15.08 66 P **Pn** **19 28 57.2 -0.1**
FAKI Fak Fak 15.08 66 **Pn** **19 28 55.4 -1.9**
FAKI IAmb IAmb 19 28 59.2
comp=Z,201nm,0.9s
FAKI Fak Fak 15.08 66 P **Pn** **19 28 56.5 -0.8**
comp=Z,379nm,0.8s,comp=Z,3µmcomp=Z,1µm
SWI Sorong 15.21 58 P **Pn** **19 28 59.1 +0.1**
comp=Z,358nm,0.8s,comp=Z,4µm
DSRI Dabo 16.29 301 P **P** **19 29 14.7 -0.5**
comp=Z,65nm,0.6s,comp=Z,854nm
MEEK Meekatharra 17.35 179 P **Pn** **19 29 23.6 -2.4**
DAV Davao City (W) 17.66 24 P **P** **19 29 31.4 +1.1**
comp=Z,92nm,0.5s,baz=252,slow=6.4,SNR=8.2
DAV LR LR 19 36 56.4
comp=Z,1µm,19.8s,baz=208,slow=39
DAV Davao City (W) 17.66 24⇑ *e*P **P** **19 29 33.0 +2.7**
BTDF Bukit Timah Da 17.98 305 P **P** **19 29 36.4 +2.5**
MYKOM Kota Tinggi 18.17 306 P **P** **19 29 35.9 -0.1**
WRKA Warakurna 18.34 150 P **P** **19 29 37.3 -0.5**
WB0 Warramunga Arr 18.67 126 P **P** **19 29 39.7 -1.8**
WRA Warramunga Arr 18.72 127 P **P** **19 29 39.2 -2.8**
WRA Warramunga Arr 18.72 127 P **P** **19 29 40.7 -1.3**
comp=Z,51nm,0.6s,baz=304,slow=12,SNR=97
WRA S Sn 19 33 00.1 -11
comp=Z,34nm,0.7s,baz=302,slow=26,SNR=6.8
WRA ScP **ScP** **19 37 40.8 0.0**
comp=Z,12nm,0.8s,baz=313,slow=2.1,SNR=5.1
WRA LR LR 19 38 35.5
comp=Z,1µm,18.2s,baz=262,slow=42
WRA Warramunga Arr 18.72 127 P **P** **19 29 39.2 -2.8**
WRA pmax pmax
comp=Z,11nm,0.7s
WRAB Tennant Creek 18.72 127 P **P** **19 29 40.2 -1.8**
WRAB Tennant Creek 18.72 127 P **P** **19 29 40.2 -1.8**
WRAB pmax pmax
comp=Z,85nm,0.8s
WB2 Warramunga Arr 18.73 127 P **P** **19 29 40.2 -1.9**
WR0 Warramunga Arr 18.89 126 P **P** **19 29 43.1 -0.7**
PDSI Padang 19.69 294 P **P** **19 29 50.7 -2.0**
comp=Z,76nm,0.5s,comp=Z,1µm
BKNI Bangkinang 19.74 298 P **Pn** **19 29 54.9 -0.1**
MORW Morawa 19.90 186 P **Pn** **19 29 56.8 +0.1**
MORW Morawa 19.90 186 **P** **19 29 55.4 +0.6**
MORW IAmb IAmb 19 30 07.5
comp=Z,80nm,0.6s
AS31 Alice Springs 20.64 136 P **P** **19 30 03.4 +0.5**
AS31 IAmb IAmb 19 30 06.0
comp=Z,90nm,0.7s
ASAR Alice Springs 20.64 136 P **P** **19 30 03.4 +0.5**
ASAR Alice Springs 20.64 136 P **P** **19 30 03.8 +0.8**
comp=Z,225nm,0.7s,baz=314,slow=10,SNR=2145
ASAR S **S** **19 33 46.4 -4.8**
comp=Z,34nm,0.8s,baz=312,slow=22,SNR=5.8
ASAR ScP **ScP** **19 37 46.2 +1.1**
comp=Z,17nm,0.7s,baz=306,slow=2.0,SNR=8.6
ASAR LR LR 19 38 41.2
comp=Z,2µm,18.6s,baz=316,slow=38
AS01 Alice Springs 20.67 136 P **P** **19 30 04.0 +0.7**
SISI Saibi 20.78 291 P **P** **19 30 02.7 -1.7**
comp=Z,87nm,0.8s
BLDU Ballidu 21.37 184 P **P** **19 30 10.9 +0.2**
MMPI Merauke 21.70 90 P **P** **19 30 15.3 +0.9**
comp=Z,1µm,0.9s,comp=Z,14µm
IPM Ipoh 22.04 307 P **P** **19 30 21.0 +3.0**
IPM Ipoh 22.04 307 P **P** **19 30 18.8 +0.7**
KLBR Kellerberrin 22.29 182 P **P** **19 30 21.5 +0.9**
KMBL Kambalda 22.29 172 P **P** **19 30 19.9 -0.7**
GENI Genyem 22.58 74 P **P** **19 30 22.5 -1.3**
GENI Genyem 22.58 74 P **P** **19 30 22.5 -1.3**
comp=Z,222nm,1.5s,comp=Z,2µm
MTKN Mount Kenneth 22.76 186 P **P** **19 30 28.1 +2.6**
MUN Mundaring 22.76 185 P **P** **19 30 26.8 +1.2**
KULM Kulim 22.83 308 P 19 30 35.8 +9.3
TABU Tabubil 22.94 82 P **P** **19 30 27.1 -0.5**
JAY Jayapura 23.11 75 P **P** **19 30 27.1 -2.3**
comp=Z,81nm,0.9s,comp=Z,1µm
JAY pP **pP** **19 30 39.3 -0.9**
comp=Z,81nm,0.9s,comp=Z,1µm
DLV T Lat 23.21 335 P **P** **19 30 33.5 +3.0**
DLV T Lat 23.21 335 P 19 30 39.7 +9.2
DLV IAmb IAmb 19 30 45.2
comp=Z,92nm,1.1s
FORT Forrest 23.27 159 P **P** **19 30 31.6 +0.9**
FORT Forrest 23.27 159 P **P** **19 30 30.2 -0.5**
QIS Mount Isa 23.34 121 P **P** **19 30 32.3 +0.8**
NWAO Narrogin (SRO) 23.64 183 P **P** **19 30 35.1 +0.9**
NWAO Narrogin (SRO) 23.64 183 P **P** **19 30 35.2 +1.0**
NWAO Narrogin (SRO) 23.64 183 P **P** **19 30 33.5 -0.7**
NWAO Narrogin (SRO) 23.64 183 LR LR 19 39 51.7
comp=Z,800nm,20.6s,baz=352,slow=36
NWAO Narrogin (SRO) 23.64 183 P **P** **19 30 33.5 -0.7**
NWAO pmax pmax
comp=Z,146nm,0.8s
KCSI Kotacane, Aceh 24.16 301 P **P** **19 30 38.2 -1.0**
comp=Z,99nm,1.0s,comp=Z,1µm
OOD Oodnadatta 24.64 141 P **P** **19 30 44.3 +0.9**
COEN Coen 24.69 103 P **P** **19 30 45.5 +1.5**
COEN Coen 24.69 103 P **P** **19 30 44.2 +0.1**
RKGY Rocky Gully 25.33 183 P **P** **19 30 51.0 +1.4**
MULG Mulgathing 25.56 147 P **P** **19 30 52.5 +0.8**
MLSI Meulaboh, Aceh 25.71 300 P **P** **19 30 51.4 -1.9**
comp=Z,115nm,0.8s
LHMI Lhok Sumawe 25.77 303 P **P** 19 31 06.4 +13
SRIT Nakonsritamara 25.77 313 P **P** **19 30 56.7 +2.9**
MTSU Mount Surprise 26.64 112 P **P** **19 31 03.4 +1.7**
UBPT Khong Chiam 27.50 332 P **P** **19 31 12.5 +3.1**
UBPT Khong Chiam 27.50 332 P **P** **19 31 11.7 +2.3**
INKA Innaminka 27.98 134 P **P** **19 31 14.9 +1.3**
LCRK Leigh Creek 28.07 142 P **P** **19 31 15.3 +0.9**
PMG Port Moresby 28.34 93 LR LR 19 44 45.6
comp=Z,393nm,18.0s,baz=263,slow=41
BBOO Buckleboo 28.59 148 P **P** **19 31 20.1 +1.1**
BBOO Buckleboo 28.59 148 P **P** **19 31 18.8 -0.2**
BBOO IAmb IAmb 19 31 31.1
comp=Z,61nm,0.8s
CTAO Charters Tower 28.96 115 P **P** **19 31 23.6 +1.1**
CTAO Charters Tower 28.96 115 P **P** **19 31 23.5 +1.1**
CTAO IAmb IAmb 19 31 35.5
comp=Z,79nm,1.1s
CTAO Charters Tower 28.96 115 P **P** **19 31 23.5 +1.1**
CTAO pmax pmax
comp=Z,79nm,1.1s
TV1H Townsville Har 29.21 113 P **P** **19 31 25.8 +1.2**
QIZ Qiongzhong 29.30 343 P **P** **19 31 28.4 +3.1**
QIZ Qiongzhong 29.30 343 P P 19 31 30.3 +5.0
QIZ PP **PP** **19 32 31.3 -0.9**
QIZ S **S** **19 36 16.8 +1.3**
QIZ pmax pmax
comp=Z,28nm,1.2s
QIZ LR LR
comp=Z,370nm,13.9s
QIZ LR LR
comp=Z,330nm,14.3s
QIZ LR LR
comp=Z,410nm,15.2s
WHYH Whyalla 29.58 146 P **P** **19 31 28.8 +1.1**
MANU Manus Island 29.64 78 P **P** **19 31 29.2 +0.7**
comp=Z,59nm,0.9s
MANU Manus Island 29.64 78 P **P** **19 31 28.2 -0.3**
MANU IAmb IAmb 19 31 30.0
comp=Z,47nm,0.9s
QLP Quilpie 29.93 129 P **P** **19 31 33.0 +2.1**
HTT Hallett 30.63 145 P **P** **19 31 38.3 +1.2**
STKA Stephens Creek 31.16 140 P **P** **19 31 42.9 +1.1**
STKA Stephens Creek 31.16 140 P **P** **19 31 42.5 +0.7**
STKA Stephens Creek 31.16 140 P **P** **19 31 42.8 +1.1**
comp=Z,45nm,0.6s,baz=309,slow=10,SNR=103
STKA ScP **ScP** **19 38 16.9 +1.6**
comp=Z,18nm,0.8s,baz=277,slow=4.5,SNR=5.4
STKA LR LR 19 47 04.5
comp=Z,785nm,18.7s,baz=307,slow=41
comp=Z,45nm,0.6s
STKA Stephens Creek 31.16 140 P **P** **19 31 42.5 +0.7**
STKA pmax pmax
comp=Z,9.0nm,0.7s
TWGBT Beinan 31.92 5 P **P** **19 31 52.3 +3.8**
TPUB Ta-pu 32.37 4 P **P** **19 31 52.1 -0.3**
YULB Yu-li 32.51 5 P **P** **19 31 56.0 +2.4**
YULB Yu-li 32.51 5 P **P** **19 31 52.4 -1.3**
SSLB Suanglung 32.87 4 P **P** **19 31 58.4 +1.6**
SSLB Suanglung 32.87 4 P **P** **19 31 56.6 -0.3**
CMAR Chiang Mai Arr 33.54 325 P **P** **19 32 04.6 +1.8**
CMAR Chiang Mai Arr 33.54 325 P **P** **19 32 02.8 0.0**
comp=Z,2.5nm,0.7s,baz=153,slow=6.8,SNR=15
CMAR PcP **PcP** **19 34 44.0 +1.2**
comp=Z,8.4nm,1.0s,baz=169,slow=3.3,SNR=6.3
CMAR ScP **ScP** **19 38 24.2 +0.5**
comp=Z,4.6nm,0.8s,baz=149,slow=2.1,SNR=13
CMAR LR LR 19 47 02.7
comp=Z,734nm,18.5s,baz=165,slow=39
comp=Z,2.5nm,0.7s
CMSA Cobar Meteorol 33.69 135 P **P** **19 32 05.4 +1.5**
RK1H Rockhampton Ha 33.75 119 P **P** **19 32 05.5 +1.0**
YHNB Yeheng 33.78 5 P **P** **19 32 08.0 +3.2**
comp=Z,45nm,1.7s
YHNB Yeheng 33.78 5 IAmb IAmb 19 32 32.7
comp=Z,98nm,1.6s
CHTO Chiang Mai 33.83 325 P **P** **19 32 03.2 -1.9**
CHTO Chiang Mai 33.83 325 P **P** **19 32 03.3 -1.9**
CHTO pmax pmax
comp=Z,17nm,1.2s
AULRC Lightning Ridg 34.22 130 P **P** **19 32 10.0 +1.5**
CRAI Chiangrai 34.22 329 IAmb IAmb 19 32 22.9
comp=Z,33nm,0.8s
ARPS Mount Arapiles 34.70 146 P **P** **19 32 14.1 +1.6**
AUMAG Moama Anglican 35.92 142 P **P** **19 32 25.2 +2.1**
AUDCS Dubbo College 36.15 134 P **P** **19 32 27.3 +2.2**
JOW Kunigami 37.06 15 P **P** **19 32 33.7 +0.8**
JOW Kunigami 37.06 15 P **P** **19 32 32.9 0.0**
JOW IAmb IAmb 19 32 34.0
comp=Z,68nm,1.3s
JOW Kunigami 37.06 15 LR LR 19 47 41.5
comp=Z,170nm,21.6s,baz=138,slow=36
YNG Young 37.14 137 P **P** **19 32 35.4 +1.9**
AUPHS Peel High Scho 37.23 130 P **P** **19 32 36.3 +2.0**
GYA Guiyang 37.24 342 *e*P **P** **19 32 35.5 +1.0**
GYA pP pP 19 32 47.3 +0.5
GYA PcP **PcP** **19 34 55.0 +1.4**
GYA S **S** **19 38 18.8 +0.1**
GYA LR LR
comp=Z,540nm,23.4s
GYA LR LR
comp=Z,310nm,20.3s
GYA LR LR
comp=Z,690nm,24.1s
AUWSH Wavell State H 37.33 124 P **P** **19 32 37.1 +1.9**
TOO Toolangi 37.34 143 P **P** **19 32 37.6 +2.4**
ARMA Armidale 37.47 129 P **P** **19 32 37.8 +1.3**
CNSH ChangSha 37.54 352 P **P** **19 32 38.0 +1.1**
CNSH S **S** **19 38 24.3 +1.5**
CNSH LR LR
comp=Z,470nm,18.8s
CNSH LR LR
comp=Z,350nm,20.0s
CNSH LR LR
comp=Z,600nm,20.6s
CAN Canberra 38.13 138 P **P** **19 32 44.2 +2.2**
CAN Canberra 38.13 138 P **P** **19 32 44.1 +2.1**
CAN pmax pmax
comp=Z,44nm,0.8s
CNB Canberra Magne 38.37 137 P **P** **19 32 46.2 +2.2**
MGCD Mangrove Creek 38.44 133 P **P** **19 32 47.0 +2.5**
WOLH Wollongong Har 38.90 135 P **P** **19 32 50.6 +2.3**
PZH PanZhiHua 39.02 336 P **P** **19 32 51.0 +1.5**
PZH pP **pP** **19 33 03.3 +1.5**
PZH pmax pmax
comp=Z,20nm,0.9s
PZH pmax pmax
comp=Z,130nm,5.1s
PZH LR LR
comp=Z,310nm,18.8s
PZH LR LR
comp=Z,530nm,19.4s
PZH LR LR
comp=Z,390nm,19.8s
TNCH TengChong 39.17 331 P **P** **19 32 51.8 +0.9**
TNCH pP sP 19 33 06.0 -2.6
TNCH sP pP 19 33 09.8 +6.6
TNCH PP **PnPn** **19 34 26.0 +1.7**
TNCH S **S** **19 38 46.0 -2.0**
TNCH pmax pmax
comp=Z,9.0nm,0.8s
TNCH pmax pmax
comp=Z,110nm,5.0s
TNCH LR LR
comp=Z,300nm,17.3s
TNCH LR LR
comp=Z,460nm,19.9s
TNCH LR LR
comp=Z,510nm,19.7s
WHN Wuhan 39.70 354 P **P** **19 32 56.5 +1.5**
WHN pP **sP** **19 33 10.0 -2.6**
WHN PcP **PcP** **19 35 02.0 +1.0**
WHN S **S** **19 38 58.8 +3.3**
WHN LR LR
comp=Z,850nm,15.6s
WHN LR LR
comp=Z,500nm,16.3s
WHN LR LR
comp=Z,1µm,20.1s
ENH Enshi 40.17 348 P **P** **19 32 59.7 +0.7**
ENH Enshi 40.17 348 IAmb IAmb 19 33 05.9
comp=Z,37nm,0.6s
HNR Honiara 40.95 94 P **P** **19 33 07.9 +2.3**
HNR Honiara 40.95 94 P **P** **19 33 03.2 -2.4**
HNR Honiara 40.95 94 LR LR 19 53 03.9
comp=Z,4µm,18.1s,baz=266,slow=40
HNR Honiara 40.95 94 P **P** **19 33 03.2 -2.4**
HNR pmax pmax
comp=Z,183nm,0.8s
NJ2 Nanjing 41.02 1 ⇑P **P** **19 33 06.8 +1.0**
NJ2 pP **pP** **19 33 17.5 -0.7**
NJ2 sP sP 19 33 27.8 +4.3
NJ2 PcP **PcP** **19 35 06.3 +1.1**
NJ2 pmax pmax
comp=Z,23nm,0.7s
NJ2 LR LR
comp=Z,300nm,17.1s
NJ2 LR LR
comp=Z,310nm,15.2s
NJ2 LR LR
comp=Z,490nm,17.1s
CD2 Chengdu 42.29 341 P **P** **19 33 16.5 +0.1**
CD2 S **S** **19 39 36.0 +1.9**
CD2 pmax pmax
comp=Z,30nm,0.4s
CD2 pmax pmax
comp=Z,150nm,4.5s
CD2 LR LR
comp=Z,210nm,11.4s
CD2 LR LR
comp=Z,220nm,12.7s
CD2 LR LR
comp=Z,450nm,16.5s
SHL Shillong 43.15 324 P **P** **19 33 21.9 -1.7**
SHL Shillong 43.15 324 P **P** **19 33 21.9 -1.7**
SHL pmax pmax
comp=Z,32nm,0.7s
JNU Nakatsue 43.72 15 P **P** **19 33 27.8 -0.1**
JNU Nakatsue 43.72 15 P **P** **19 33 26.9 -1.0**
LYN LuoYang 43.87 353 *e*P **P** **19 33 30.3 +1.3**
LYN sP sP 19 33 52.3 +5.5
LYN PP **PcP** **19 35 15.8 +1.1**
LYN S **S** **19 39 55.0 -2.0**
LYN pmax pmax
comp=Z,21nm,0.5s
LYN LR LR
comp=Z,540nm,20.0s
LYN LR LR
comp=Z,570nm,17.3s
LYN LR LR
comp=Z,830nm,22.4s
XAN Xi'an 43.94 349 ⇓P **P** **19 33 29.5 -0.1**
XAN pP sP 19 33 44.5 -2.9
XAN S **S** **19 39 58.0 -0.1**
XAN pmax pmax
comp=Z,26nm,0.7s
XAN pmax pmax
comp=Z,120nm,4.8s
XAN LR LR
comp=Z,810nm,23.4s
XAN LR LR
comp=Z,420nm,15.9s
XAN LR LR
comp=Z,1µm,24.7s
JTU Tsushima 44.71 13 P **P** **19 33 35.9 +0.2**
JTU Tsushima 44.71 13 IAmb IAmb 19 33 50.4
comp=Z,33nm,0.8s
JMN Monobe 45.14 18 P **P** **19 33 38.2 -1.1**
JMN IAmb IAmb 19 35 21.1
comp=Z,40nm,1.2s
H08S2 Diego Garcia H 45.45 268 T T 20 22 39.9
baz=95,slow=75,SNR=133
H08S3 Diego Garcia H 45.46 268 T T 20 22 36.5
baz=95,slow=75,SNR=125
H08S1 Diego Garcia H 45.47 268 T T 20 22 37.1
baz=95,slow=75,SNR=26
TJN Taejon 46.10 10 P **P** **19 33 48.1 +1.4**
TJN Taejon 46.10 10 *i*P **P** **19 33 45.6 -1.1**
HNS HongShan 46.48 356 ⇑P **P** **19 33 50.3 +0.6**
HNS pmax pmax
comp=Z,11nm,0.8s
HNS LR LR
comp=Z,380nm,20.7s
HNS LR LR
comp=Z,170nm,19.5s
HNS LR LR
comp=Z,360nm,18.4s
JHJ Hachijo jima 2 46.73 25 LR LR 19 52 36.8
comp=Z,190nm,21.8s,baz=227,slow=35
LSA Lhasa 46.75 327 P **P** **19 33 53.0 +0.5**
LSA pmax pmax
comp=Z,5.0nm,0.7s
LZH Lanzhou 47.09 344 *e*P P 19 34 02.8 +8.1
LZH pP sP 19 34 16.0 +3.4
LZH sP pP 19 34 19.0 +12
LZH PcP **PcP** **19 35 26.8 +0.7**
LZH pmax pmax
comp=Z,32nm,1.3s
LZH LR LR
comp=N,380nm,17.2s
LZH LR LR
comp=E,360nm,17.9s
LZH LR LR
comp=Z,400nm,17.5s
KSAR Wonju Array Be 47.23 10 P **P** **19 33 55.1 -0.5**
KSAR Wonju Array Be 47.23 10 P **P** **19 33 55.1 -0.5**
KSRS Korea Array 47.25 10 P **P** **19 33 55.7 +0.1**
comp=Z,24nm,0.8s,baz=189,slow=8.3,SNR=96
KSRS PcP **PcP** **19 35 26.8 +0.4**
comp=Z,19nm,0.7s,baz=187,slow=3.4,SNR=14
KSRS ScP **ScP** **19 39 16.6 0.0**
comp=Z,3.6nm,0.8s,baz=189,slow=3.2,SNR=12
comp=Z,24nm,0.8s
KS19 Wonju Array Si 47.28 10 IAmb IAmb 19 33 57.5
comp=Z,54nm,1.1s
DZM Mont Dzumac 47.78 111 *e*P P 19 34 08.9 +8.6
comp=Z,84nm,1.2s
DZM *e*S **S** **19 40 48.4 -5.6**
comp=Z,192nm,29.1s
DZM *e*LR LR 19 47 29.1
comp=Z,1µm,23.4s
DZM Mont Dzumac 47.78 111 LR LR 19 55 06.9
comp=Z,568nm,19.5s,baz=280,slow=37
DL2 Dalian 47.95 3 P **P** **19 34 02.0 +0.9**
DL2 S **S** **19 41 01.0 +5.6**
DL2 pmax pmax
comp=Z,48nm,1.0s
DL2 LR LR
comp=Z,310nm,19.8s
DL2 LR LR
comp=Z,250nm,23.3s
DL2 LR LR
comp=Z,370nm,18.4s
JGF Kuroka 48.00 21 P **P** **19 34 00.9 -0.7**
YATNC Mamie plateau, 48.19 111 P **P** **19 34 04.8 +1.5**
BJT Baijiatuau 49.01 358 P **P** **19 34 11.7 +2.5**
BJT Baijiatuau 49.01 358 IAmb IAmb 19 34 15.4
comp=Z,24nm,0.6s
MAJO Matsushiro 49.15 21 P **P** **19 34 09.1 -1.4**
MAJO Matsushiro 49.15 21 P **P** **19 34 08.2 -2.2**
MAJO IAmb IAmb 19 34 11.8
comp=Z,34nm,0.8s
MAJO Matsushiro 49.15 21 *i*P **P** **19 34 09.0 -1.4**
MAJO pmax pmax
comp=Z,37nm,0.8s
MJAR Matsushiro Arr 49.15 21 P **P** **19 34 08.9 -1.5**
comp=Z,30nm,0.8s,baz=197,slow=8.8,SNR=70
MJAR PcP **PcP** **19 35 33.2 -0.1**
comp=Z,7.4nm,0.8s,baz=200,slow=4.7,SNR=3.1
MJAR ScP **ScP** **19 39 25.2 +0.4**
comp=Z,4.4nm,0.8s,baz=191,slow=4.3,SNR=6.3
comp=Z,30nm,0.8s
MJB9 Matsu-Tunnel 49.15 21 IAmb IAmb 19 34 12.8
comp=Z,32nm,0.8s
BTO Baotou 50.16 352 *e*P **P** **19 34 19.0 +0.9**
BTO pP **sP** **19 34 37.0 +0.9**
BTO sP pP 19 34 44.3 +14
BTO S **S** **19 41 30.8 +4.1**
BTO sS sS 19 41 56.8 +9.3
BTO SS **SS** **19 45 00.0 -0.8**
BTO pmax pmax
comp=Z,30nm,1.0s
BTO pmax pmax
comp=Z,240nm,6.2s
BTO LR LR
comp=Z,690nm,21.5s
BTO LR LR
comp=Z,660nm,21.7s
BTO LR LR
comp=Z,880nm,21.7s
HHC Hu-ho-hao-te 50.20 353 *e*P **P** **19 34 21.5 +3.1**
HHC pP sP 19 34 34.0 -2.4
HHC pmax pmax
comp=Z,14nm,0.7s
HHC pmax pmax
comp=Z,140nm,4.5s
HHC LR LR
comp=Z,220nm,21.1s
HHC LR LR
comp=Z,190nm,17.5s
HHC LR LR
comp=Z,370nm,20.4s
GOMU GeErMu 50.33 335 P P 19 34 26.5 +6.6
GOMU pP pP 19 34 33.0 +0.7
GOMU sP sP 19 34 35.0 -2.6
GOMU pmax pmax
comp=Z,7.0nm,0.6s
GOMU LR LR
comp=N,370nm,16.5s
GOMU LR LR
comp=E,460nm,19.6s
GOMU LR LR
comp=Z,780nm,23.7s
JSD Sado 50.51 20 P **P** **19 34 19.8 -0.9**
JMM Marumori 51.27 23 P **P** **19 34 26.3 -0.1**
GTA Gaotai 51.36 342 P **P** **19 34 27.8 +0.6**
GTA pP pP 19 34 40.0 +0.1
GTA sP sP 19 34 45.5 +0.2
GTA PcS **PcS** **19 39 39.5 +0.1**
GTA ScS ScS 19 44 12.5 -1.4
GTA pmax pmax
comp=Z,9.0nm,1.0s
GTA LR LR
comp=Z,210nm,19.9s
GTA LR LR
comp=Z,340nm,17.5s
GTA LR LR
comp=Z,270nm,17.5s
PSTR Posyet 52.82 11 *i*P **P** **19 34 36.8 -1.0**
MSHR Mys Shultsa 52.82 12 *i*P **P** **19 34 36.8 -1.0**
MSHR pmax pmax
comp=Z,3.0nm,0.3s
XLT XiLinHaoTe 52.89 358 *e*P **P** **19 34 38.0 -0.4**
XLT pP pP 19 34 51.3 +0.1
XLT sP sP 19 34 56.0 -0.5
XLT PcP **PcP** **19 35 44.8 -2.3**

XLT PP **PP** **19 36 39.3 +0.8**
XLT S **S** **19 42 09.0 +4.8**
XLT sS sS 19 42 32.0 +7.4
XLT pmax pmax
comp=Z,17nm,1.1s
XLT LR LR
comp=Z,18nm,18.7s
XLT LR LR
comp=Z,120nm,16.2s
XLT LR LR
comp=Z,220nm,17.0s
CN2 Changchun 53.13 6 *e*P **P** **19 34 43.3 +3.2**
CN2 *e*pP sP 19 34 59.3 +1.1
CN2 *e*S **S** **19 42 08.5 +1.2**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,40nm,4.0s
VLA Vladivostok 53.49 12 *i* P **P** **19 34 41.8 -0.9**
VLA pmax pmax
comp=Z,42nm,0.9s
JTM Tenmabayashi 53.94 21 P **P** **19 34 45.6 -0.5**
JTM Tenmabayashi 53.94 21 IAmb IAmb 19 34 46.2
comp=Z,52nm,0.9s
MDJ Mudanjiang 54.50 10 P **P** **19 34 50.6 +0.5**
MDJ Mudanjiang 54.50 10 P **P** **19 34 49.5 -0.6**
MDJ pP pP 19 35 03.3 +0.3
MDJ sP sP 19 35 09.8 +1.6
MDJ S **S** **19 42 23.3 -2.5**
MDJ pmax pmax
comp=Z,190nm,0.9s
MDJ pmax pmax
comp=Z,250nm,3.6s
MDJ LR LR
comp=Z,130nm,13.7s
MDJ LR LR
comp=Z,290nm,16.5s
MDJ LR LR
comp=Z,250nm,15.1s
USRK Ussuriysk Ar. 54.55 12 P **P** **19 34 50.2 -0.2**
USRK Ussuriysk Ar. 54.55 12 P **P** **19 34 49.8 -0.6**
comp=Z,47nm,0.6s,baz=190,slow=6.7,SNR=95
USRK ScP **ScP** **19 39 48.2 +0.2**
comp=Z,2.3nm,0.8s,baz=174,slow=2.9,SNR=4.5
USRK LR LR 19 58 46.6
comp=Z,137nm,20.3s,baz=172,slow=37
comp=Z,47nm,0.6s
USA0B Ussuriysk Arra 54.55 12 *i* P **P** **19 34 49.4 -1.1**
BNX BinXian 55.27 8 ⇓P **P** **19 34 55.3 -0.4**
BNX pP **sP** **19 35 12.0 -1.8**
BNX sP pP 19 35 17.5 +9.0
BNX PP **PP** **19 37 01.3 +1.5**
BNX S **S** **19 42 34.0 -2.1**
BNX sS sS 19 43 04.0 +5.7
BNX pmax pmax
comp=Z,47nm,0.7s
BNX pmax pmax
comp=Z,68nm,3.6s
BNX LR LR
comp=Z,98nm,13.0s
BNX LR LR
comp=Z,230nm,14.6s
BNX LR LR
comp=Z,130nm,18.0s
JCZ Jackson Bay 55.66 138 P **P** **19 35 00.6 +1.9**
MLZ Mavora Lakes 55.74 139 P **P** **19 34 58.2 -1.0**
MLZ IAmb IAmb 19 35 36.8
comp=Z,28nm,1.0s
TEY Ternei 56.41 15⇑ *e*P **P** **19 35 03.2 -0.6**
TEY *e* 19 36 00.9
TEY pmax pmax
comp=N,20nm,0.9s
TEY pmax pmax
comp=Z,30nm,0.9s
RPZ Rata Peaks 57.05 137 P **P** **19 35 09.6 +1.0**
RPZ Rata Peaks 57.05 137 LR LR 19 58 36.7
comp=Z,679nm,21.9s,baz=290,slow=35
ASAJ Asahikawa 57.41 20 LR LR 20 02 49.8
comp=Z,96nm,18.3s,baz=199,slow=39
JKA Kamikawa-asahi 57.41 20 IAmb IAmb 19 35 11.3
comp=Z,28nm,0.7s
OXZ Oxford 57.58 136 P **P** **19 35 13.6 +1.3**
OXZ IAmb IAmb 19 35 25.9
comp=Z,36nm,0.6s
ULN Ulaanbaatar 57.70 351 P **P** **19 35 12.8 -0.3**
ULN IAmb IAmb 19 35 26.0
comp=Z,52nm,1.5s
ULN Ulaanbaatar 57.70 351 P **P** **19 35 12.8 -0.3**
ULN pmax pmax
comp=Z,52nm,1.5s
SONM Songino Array 57.77 350 P **P** **19 35 12.9 -0.7**
SONM IAmb IAmb 19 35 32.2
comp=Z,26nm,1.0s
SONM Songino Array 57.77 350 P **P** **19 35 13.1 -0.5**
comp=Z,14nm,0.6s,baz=166,slow=8.3,SNR=56
SONM ScP **ScP** **19 40 02.5 +0.2**
comp=Z,4.5nm,0.9s,baz=166,slow=4.9,SNR=6.4
SONM LR LR 20 00 50.0
comp=Z,304nm,21.9s,baz=172,slow=37
comp=Z,14nm,0.6s
SONM Songino Array 57.77 350 P **P** **19 35 12.9 -0.7**
SONM pmax pmax
comp=Z,26nm,1.0s
HIA Hailar 58.22 1 P **P** **19 35 18.8 +2.2**
MSVF Nonsavu 58.40 105 P **P** **19 35 20.9 +2.4**
KLR Kul'dur 59.34 10 LR LR 20 00 10.3
comp=Z,69nm,21.9s,baz=192,slow=35
KLR Kul'dur 59.34 10 *i* P **P** **19 35 23.4 -0.9**
KLR pmax pmax
comp=Z,37nm,1.0s
WMQ Urumqi 59.69 335 *e*P **P** **19 35 27.8 +0.9**
WMQ LR LR
comp=Z,230nm,20.5s
HEH HeiHe 59.72 7 *e*P **P** **19 35 26.0 -0.9**
HEH pP **pP** **19 35 38.3 -1.3**
HEH PcP **PcP** **19 36 09.8 -3.6**
HEH PP **PP** **19 37 41.0 +1.8**
HEH S **S** **19 43 31.0 -3.3**
HEH ScS **ScS** **19 45 09.5 -3.7**
HEH pmax pmax
comp=Z,220nm,3.8s
HEH LR LR
comp=Z,190nm,15.7s
HEH LR LR
comp=Z,140nm,16.9s
HEH LR LR
comp=Z,290nm,16.7s
URZ Urewera 59.87 129 LR LR 20 03 13.0
comp=Z,457nm,18.3s,baz=22,slow=38
YSS Yuzh-Sakhalins 59.96 19 *e*P **P** **19 35 27.9 -0.7**
YSS *e*S **S** **19 43 35.5 -2.0**
YSS pmax pmax
comp=Z,20nm,0.6s
NIL Nilore 60.47 317 P **P** **19 35 30.5 -2.0**
NIL IAmb IAmb 19 35 56.0
comp=Z,19nm,0.9s
NIL Nilore 60.47 317 P **P** **19 35 30.5 -2.0**
NIL pmax pmax
comp=Z,19nm,1.0s
ZAK Zakamensk 60.78 349 *e*P **P** **19 35 32.7 -1.6**
ZAK pmax pmax
comp=Z,13nm,1.4s
CIT Chita 61.12 357 *e*P **P** **19 35 36.4 -0.1**
CIT *e* 19 35 53.6
CIT *e* 19 36 19.4
CIT pmax pmax
comp=Z,33nm,1.3s
GRNR Gornyy 61.73 13⇑ *i*P **P** **19 35 40.7 +0.1**
GRNR pmax pmax
comp=E,20nm,0.9s
GRNR pmax pmax
comp=Z,50nm,0.9s
GRNR MLR MLR
comp=E,70nm,18.0s
GRNR MLR MLR
comp=Z,110nm,14.0s
FUTU Fugatoga 62.17 101 P **P** **19 35 47.3 +3.1**
IRK Irkutsk 62.39 350 *e*P **P** **19 35 44.1 -0.9**
IRK pmax pmax
comp=Z,30nm,2.0s
KSH Kashi 62.43 324 P **P** **19 35 45.5 -0.2**
KSH sP sP 19 36 03.5 -0.3
KSH pmax pmax
comp=Z,12nm,0.6s
MOY Mondy 62.46 348 *e*P **P** **19 35 45.5 -0.1**
MOY pmax pmax
comp=Z,34nm,1.6s
SHLS Shalkode 63.03 329 *e*P **P** **19 35 47.5 -2.1**
baz=329
SHLS Shalkode 63.03 329 *e*P **P** **19 35 47.5 -2.1**
ZEA Zeya 63.14 6 *e*P **P** **19 35 50.0 +0.1**
ZEA *e* 19 44 05.2
ZEA pmax pmax
comp=E,10.0nm,0.6s
ZEA pmax pmax
comp=N,50nm,0.9s
ZEA pmax pmax
comp=Z,100nm,0.8s
UZB Uzynbulak 63.25 329 *e*P **P** **19 35 49.8 -1.4**
baz=329
UZB Uzynbulak 63.25 329 *e*P **P** **19 35 49.7 -1.4**
TYV Tymovskoe 63.40 17 *e*P **P** **19 35 52.1 +0.4**
TYV pmax pmax
comp=Z,100nm,5.0s
TYV pmax pmax
comp=Z,16nm,0.9s
SATY Saty 63.51 328 *e*P **P** **19 35 51.6 -1.2**
comp=Z,7.3nm,0.8s,baz=328
SATY Saty 63.51 328 *e*P **P** **19 35 51.6 -1.2**
SATY pmax pmax
comp=Z,7.0nm,0.8s
ZSN Zaisan 63.79 335 *e*P **P** **19 35 54.4 0.0**
baz=335
ZSN Zaisan 63.79 335 *e*P **P** **19 35 54.3 0.0**
KBL Kabul 63.84 316 P **P** **19 35 53.4 -1.9**
KBL IAmb IAmb 19 36 14.6
comp=Z,20nm,0.7s
KBL Kabul 63.84 316 P **P** **19 35 53.4 -1.9**
KBL pmax pmax
comp=Z,20nm,0.7s
TNSS Tian-Shan 64.26 327 *e*P **P** **19 35 56.9 -1.2**
baz=327
TNSS Tian-Shan 64.26 327 *e*P **P** **19 35 56.9 -1.2**
MDOK Medeo 64.29 328 *e*P **P** **19 35 56.8 -1.2**
baz=328
MDOK Medeo 64.29 328 *e*P **P** **19 35 56.8 -1.2**
MKAR Makanchi Array 64.38 333 P **P** **19 35 57.0 -1.3**
MKAR Makanchi Array 64.38 333 P **P** **19 35 57.0 -1.3**
comp=Z,2.3nm,0.4s,baz=146,slow=7.8,SNR=42
MKAR LR LR 20 07 33.6
comp=Z,281nm,20.5s,baz=144,slow=39
comp=Z,2.3nm,0.4s
AAA Alma-Ata 64.39 327 *e*P **P** **19 35 57.2 -1.3**
comp=Z,7.3nm,0.6s,baz=328
AAA Alma-Ata 64.39 327 *e*P **P** **19 35 57.2 -1.3**
AAA pmax pmax
comp=Z,7.0nm,0.6s
BOOM Boomskoye usch 64.43 326 IAmb IAmb 19 36 10.5
comp=Z,20nm,0.9s
MAKZ Makanchi 64.53 333 P **P** **19 35 59.6 +0.3**
MAKZ Makanchi 64.53 333 P **P** **19 35 59.6 +0.3**
MAKZ pmax pmax
comp=Z,13nm,1.1s
CHKK Chushkaly 64.80 328 *e*P **P** **19 35 59.5 -1.7**
baz=328
CHKK Chushkaly 64.80 328 *e*P **P** **19 35 59.4 -1.7**
TDK Taldyqorghan 64.88 330 *e*P **P** **19 36 00.0 -1.6**
comp=Z,6.6nm,0.5s,baz=330
TDK Taldyqorghan 64.88 330 *e*P **P** **19 36 00.0 -1.6**
TDK pmax pmax
comp=Z,7.0nm,0.5s
DRK Karamyk 64.90 322 IAmb IAmb 19 36 17.2
comp=Z,25nm,0.7s
KUU Kurty 65.17 328 *e*P **P** **19 36 02.0 -1.6**
comp=Z,11nm,1.0s,baz=328
KUU Kurty 65.17 328 *e*P **P** **19 36 01.9 -1.6**
KUU pmax pmax
comp=Z,11nm,1.0s
AAK Ala-Archa 65.33 326 P **P** **19 36 03.6 -1.1**
AAK IAmb IAmb 19 36 16.6
comp=Z,26nm,0.9s
AAK Ala-Archa 65.33 326 P **P** **19 36 03.6 -1.1**
AAK pmax pmax
comp=Z,27nm,0.9s
SGDS Sogindy 65.79 326 *e*P **P** **19 36 06.3 -1.4**
baz=326
SGDS Sogindy 65.79 326 *e*P **P** **19 36 06.2 -1.4**
BTK Batken 65.86 322 IAmb IAmb 19 36 19.7
comp=Z,23nm,0.9s
CHGR Chuyangaron 66.07 320 P **P** **19 36 07.8 -1.8**
CHGR pmax pmax
comp=Z,83nm,1.1s
SIMJ Simiganj 66.17 319 P **P** **19 36 08.5 -1.7**
BOD Bodaibo 66.88 357 *e*P **P** **19 36 14.4 +0.3**
BOD pmax pmax
comp=Z,47nm,1.1s
DZA Taraz 67.28 324 *e*P **P** **19 36 15.8 -1.3**
baz=324
DZA Taraz 67.28 324 *e*P **P** **19 36 15.8 -1.3**
IUG Iuzhnay 67.59 323 *e*P **P** **19 36 18.2 -0.9**
comp=Z,13nm,0.8s,baz=323
IUG Iuzhnay 67.59 323 *e*P **P** **19 36 18.2 -0.9**
IUG pmax pmax
comp=Z,13nm,0.8s
KK31 Karatay Array 67.88 324 P **P** **19 36 19.4 -1.5**
KK31 Karatay Array 67.88 324 P **P** **19 36 19.4 -1.5**
KK31 pmax pmax
comp=Z,8.0nm,0.8s
KKAR Karatay Array 67.88 324 P **P** **19 36 18.4 -2.5**
KKAR Karatay Array 67.88 324 P **P** **19 36 18.4 -2.5**
CHM Chimkent 67.94 323 *e*P **P** **19 36 20.6 -0.6**
baz=323
CHM Chimkent 67.94 323 *e*P **P** **19 36 20.6 -0.6**
SKR Severo-Kuril's 68.00 25 *i* P **P** **19 36 20.5 -0.9**
SEM Semipalatinsk 68.00 335 *e*P **P** **19 36 20.0 -1.7**
baz=335
SEM Semipalatinsk 68.00 335 *e*P **P** **19 36 20.0 -1.7**
BRLS Borolday 68.23 324 *e*P **P** **19 36 21.2 -1.9**
baz=323
BRLS Borolday 68.23 324 *e*P **P** **19 36 21.2 -1.9**
MAW Mawson 68.86 200 P **P** **19 36 28.2 +1.7**
comp=Z,4.0nm,0.6s,baz=65,slow=9.5,SNR=13
MAW LR LR 20 00 42.6
comp=Z,276nm,21.7s,baz=50,slow=31
MAW PKP2bc 20 04 37.8
comp=Z,8.8nm,1.1s,baz=247,slow=6.8,SNR=8.0
comp=Z,4.0nm,0.6s
KURBB Kurchatov Arra 68.90 334 P **P** **19 36 25.9 -1.1**
comp=Z,3.7nm,0.5s,baz=140,slow=5.3,SNR=44
KURBB PKP2bc 20 04 41.0
comp=Z,1.4nm,0.2s,baz=316,slow=3.9,SNR=4.9
comp=Z,3.7nm,0.5s
KURK Kurchatov 68.93 334 P **P** **19 36 25.4 -1.8**
KURK IAmb IAmb 19 36 39.0
comp=Z,31nm,1.1s
KURK Kurchatov 68.93 334 P **P** **19 36 25.4 -1.8**
KURK pmax pmax
comp=Z,31nm,1.2s
ZALV Zalesovo Beam 69.03 339 P **P** **19 36 25.1 -2.6**
ZALV Zalesovo Beam 69.03 339 P **P** **19 36 25.9 -1.8**
comp=Z,8.0nm,0.6s,baz=140,slow=4.7,SNR=28
comp=Z,8.0nm,0.6s
PEA0B Petropavlovsk- 70.48 24 *i* P **P** **19 36 35.8 -0.9**
PETK Petropavlovsk- 70.48 24 P **P** **19 36 35.5 -1.2**
PETK Petropavlovsk- 70.48 24 P **P** **19 36 35.7 -0.9**
comp=Z,35nm,1.0s,baz=207,slow=4.7,SNR=48
PETK LR LR 20 09 14.4
comp=Z,82nm,19.2s,baz=218,slow=37
comp=Z,35nm,1.0s
PET Petropavlovsk 70.80 24 P **P** **19 36 37.5 -1.1**
PET Petropavlovsk 70.80 24 *e*P **P** **19 36 38.4 -0.2**
PET *e*S **S** **19 45 51.4 +1.5**
PET pmax pmax
comp=Z,63nm,1.3s
PET pmax pmax
comp=Z,100nm,16.4s
PET MLR MLR
comp=Z,100nm,21.0s
PET Petropavlovsk 70.80 24 P **P** **19 36 38.3 -0.3**
comp=Z,56nm,1.2s
BRZS Berezniki 71.13 331 *e*P **P** **19 36 39.0 -1.7**
baz=331
BRZS Berezniki 71.13 331 *e*P **P** **19 36 39.0 -1.7**
YAK Yakutsk 71.55 6 P **P** **19 36 41.7 -1.2**
YAK Yakutsk 71.55 6 LR LR 20 13 01.3
comp=Z,77nm,18.6s,baz=196,slow=40
YAK Yakutsk 71.55 6*c* *i*P **P** **19 36 42.0 -0.9**
YAK *e* 19 36 53.0
YAK *e**PP **PcP** **19 37 02.4 +0.3**
YAK *e* 19 39 22.0
YAK *e*S **S** **19 45 52.0 -6.3**
YAK *e**SS **SKiKP** **19 46 26.1 +7.8**
YAK *e*SSS SSS 19 53 39.0
YAK pmax pmax
comp=Z,64nm,1.1s
YAK pmax pmax
comp=N,33nm,1.2s
YAK pmax pmax
comp=E,8.0nm,1.2s
YAK pmax pmax
comp=Z,10.0nm,1.1s
YAK pmax pmax
comp=N,20nm,1.5s
YAK pmax pmax
comp=E,20nm,1.5s
YAK smax smax
comp=N,26nm,1.7s
YAK smax smax
comp=E,75nm,2.5s
VNDA Vanda 71.88 171 P **P** **19 36 46.6 +1.8**
VNDA IAmb IAmb 19 36 59.3
comp=Z,35nm,1.1s
VNDA Vanda 71.88 171 P **P** **19 36 47.0 +2.1**
comp=Z,5.1nm,0.5s,baz=312,slow=7.6,SNR=68
VNDA LR LR 20 06 20.2
comp=Z,201nm,19.9s,baz=326,slow=34
comp=Z,5.1nm,0.5s
VNDA Vanda 71.88 171 P **P** **19 36 46.6 +1.8**
VNDA pmax pmax
comp=Z,35nm,1.2s
SBA Scott Base 72.89 170 P **P** **19 36 53.5 +2.7**
SBA IAmb IAmb 19 37 16.9
comp=Z,27nm,1.1s
SBA Scott Base 72.89 170 P **P** **19 36 53.5 +2.7**
SBA pmax pmax
comp=Z,27nm,1.1s
GEYT Alibeck 73.18 314 P **P** **19 36 52.8 -0.5**
GEYT Alibeck 73.18 314 P **P** **19 36 53.9 +0.7**
comp=Z,1.8nm,0.5s,baz=114,slow=3.5,SNR=4.9
GEYT LR LR 20 13 44.1
comp=Z,87nm,19.8s,baz=143,slow=40
comp=Z,1.8nm,0.5s
GEYT Alibeck 73.18 314 P **P** **19 36 52.8 -0.5**
GEYT pmax pmax
comp=Z,13nm,1.0s
MA2 Magadan 73.27 17 P **P** **19 36 50.7 -2.6**
MA2 Magadan 73.27 17 LR LR 20 10 14.9
comp=Z,48nm,20.5s,baz=190,slow=37
MA2 Magadan 73.27 17 *i* P **P** **19 36 52.5 -0.8**
MA2 pmax pmax
comp=Z,67nm,0.9s
MA2 Magadan 73.27 17 P **P** **19 36 52.4 -0.8**
comp=Z,85nm,0.9s,comp=Z,764nm
BVAR Borovoye Array 74.21 332 P **P** **19 36 57.6 -1.3**
comp=Z,3.7nm,0.7s,baz=130,slow=6.1,SNR=12
BVAR LR LR 20 13 27.3
comp=Z,231nm,19.7s,baz=122,slow=39
comp=Z,3.7nm,0.7s
BRVK Borovoye 74.28 332 P **P** **19 36 57.0 -2.3**
BRVK IAmb IAmb 19 37 11.7
comp=Z,46nm,1.4s
BRVK Borovoye 74.28 332 *i* P **P** **19 36 58.0 -1.3**
BRVK pmax pmax
comp=Z,10.0nm,1.0s
SEY Seymchan 76.50 15 LR LR 20 13 14.6
comp=Z,54nm,19.2s,baz=194,slow=38
SEY Seymchan 76.50 15 *i* P **P** **19 37 11.1 -0.7**
SEY pmax pmax
comp=Z,41nm,0.9s
ABKAR Akbulak array 77.40 325 IAmb IAmb 19 37 28.7
comp=Z,47nm,1.3s
SHEM Shemya Is, Ala 77.72 31 LR LR 20 11 33.9
comp=Z,50nm,19.7s,baz=146,slow=36
RAYN Ar Rayn 78.29 296 P **P** **19 37 21.8 -1.0**
RAYN Ar Rayn 78.29 296 P **P** **19 37 21.8 -1.0**
RAYN pmax pmax
comp=Z,17nm,0.9s
AKTO Aktyubinsk 79.07 325 P **P** **19 37 25.2 -1.2**
comp=Z,3.4nm,0.5s,baz=107,slow=6.0,SNR=12
AKTO LR LR 20 17 02.1
comp=Z,123nm,18.6s,baz=70,slow=39
comp=Z,3.4nm,0.5s
RAR Rarotonga 79.13 110 LR LR 20 12 55.8
comp=Z,95nm,19.1s,baz=272,slow=36
QSPA South Pole Qui 80.80 180 P **P** **19 37 36.8 +1.1**
QSPA IAmb IAmb 19 37 52.1
comp=Z,51nm,1.0s
QSPA South Pole Qui 80.80 180 P **P** **19 37 36.9 +1.1**
comp=Z,7.2nm,0.8s,baz=335,slow=3.9,SNR=27
QSPA LR LR 20 10 24.7
comp=Z,328nm,21.9s,baz=330,slow=33
comp=Z,7.2nm,0.8s
TIXI Tiksi 80.97 3 P **P** **19 37 34.4 -1.9**
TIXI IAmb IAmb 19 37 48.0
comp=Z,49nm,1.1s
TIXI Tiksi 80.97 3 LR LR 20 18 39.2
comp=Z,136nm,18.3s,baz=215,slow=40
TIXI Tiksi 80.97 3 *i* P **P** **19 37 35.6 -0.6**
TIXI pmax pmax
comp=Z,28nm,0.9s
SVE Sverdlovsk 80.99 332 *e*P **P** **19 37 35.8 -0.9**
SVE pmax pmax
comp=Z,15nm,0.8s
ARU Arti 81.76 331 P **P** **19 37 39.2 -1.6**
ARU Arti 81.76 331 P **P** **19 37 39.4 -1.4**
comp=Z,2.4nm,0.6s,baz=102,slow=3.9,SNR=5.3
ARU LR LR 20 18 18.3
comp=Z,152nm,20.6s,baz=108,slow=39
comp=Z,2.4nm,0.6s
ARU Arti 81.76 331 *i* P **P** **19 37 39.5 -1.3**
ARU pmax pmax
comp=Z,6.0nm,1.0s
ARU Arti 81.76 331 P **P** **19 37 38.8 -2.0**
comp=Z,7.7nm,1.2s
GNI Garni 83.66 312 LR LR 20 20 21.2
comp=Z,49nm,18.2s,baz=108,slow=40
GROC Groznyy 83.85 315 *e*P **P** **19 37 50.8 -1.1**
GROC *e**PP **pP** **19 38 06.7 +1.5**
GROC *e* 19 41 05.0
GROC pmax pmax
comp=Z,51nm,1.0s
BILL Bilibino 84.14 16 *i* P **P** **19 37 52.5 -0.3**
BILL pmax pmax
comp=Z,6.0nm,1.0s
BELG Belogornoye 85.79 325 P **P** **19 38 00.6 -0.8**
comp=Z,22nm,0.9s,baz=127,slow=20,SNR=4.1
BELG LR LR 20 21 59.0
comp=Z,131nm,20.9s,baz=109,slow=40
comp=Z,22nm,0.9s
BELG Belogornoye 85.79 325 *i* P **P** **19 37 59.9 -1.5**
BELG pmax pmax
comp=Z,6.0nm,0.9s
KBZ Khabaz 86.02 315 P **P** **19 38 02.8 +0.1**
comp=Z,1.5nm,0.7s,baz=79,slow=5.2,SNR=2.2
KBZ LR LR 20 23 20.2
comp=Z,53nm,19.2s,baz=104,slow=40
comp=Z,1.5nm,0.7s
KBZ Khabaz 86.02 315 *i* P **P** **19 38 01.0 -1.8**
KBZ pmax pmax
comp=Z,12nm,1.4s
KVAR Kislovodsk Arr 86.23 315 LR LR 20 22 50.4
comp=Z,70nm,20.4s,baz=208,slow=40
KIV Kislovodsk 86.23 315 *i* P **P** **19 38 02.0 -2.0**
KIV pmax pmax
comp=Z,3.0nm,1.0s
GOF Gofitskoye 86.30 317*c* *e*P P 19 38 15.4 +11
NVL N'lazarevskaya 86.77 199 *e*P P 19 38 18.2 +12
NVL pmax pmax
comp=Z,16nm,1.1s
NIKH Nikolski High 87.08 35 P **P** **19 38 08.1 +0.4**
baz=251
KIRV Kirov 87.14 331 P **P** **19 38 07.7 -0.2**
comp=Z,4.5nm,0.6s,baz=96,slow=9.2,SNR=1.9
KIRV LR LR 20 24 05.2
comp=Z,156nm,18.5s,baz=128,slow=40
comp=Z,4.5nm,0.6s
MBAR Mbarara 87.63 270 P **P** **19 38 12.3 +0.8**
MBAR Mbarara 87.63 270 LR LR 20 14 05.8
comp=Z,108nm,19.1s,baz=88,slow=33
MBAR Mbarara 87.63 270 P **P** **19 38 12.4 +0.8**
MBAR pmax pmax
comp=Z,40nm,0.7s
TBI Tubuai 88.32 113 *e*SS SS 19 54 37.2 -10
comp=Z,276nm,27.2s
TBI Tubuai 88.32 113 *e*LR LR 20 06 20.5
comp=Z,1µm,26.0s
BOSA Boshof 88.42 241 P **P** **19 38 16.6 +1.6**
comp=Z,2.6nm,0.4s,baz=115,slow=5.6,SNR=17

BOSA LR LR 20 11 14.3
comp=Z,310nm,21.4s,baz=95,slow=31
comp=Z,2.6nm,0.4s
UNV Unalaska Valle 88.69 35 P P **19 38 15.2 -0.2**
baz=253
LBTB Lobatse 88.72 245 P P **19 38 17.9 +1.5**
LBTB IAmb IAmb 19 38 33.5
comp=Z,23nm,0.8s
LBTB Lobatse 88.72 245 LR LR 20 11 14.6
comp=Z,119nm,21.8s,baz=115,slow=31
LBTB Lobatse 88.72 245 P P **19 38 17.9 +1.5**
LBTB pmax pmax
comp=Z,23nm,0.8s
VRH Novokhopyorsk 88.89 322 eP P **19 38 20.6 +4.2**
VRH pmax pmax
comp=Z,17nm,0.7s
EIL Elat 88.89 300 LR LR 20 21 47.7
comp=Z,149nm,18.1s,baz=76,slow=38
TROLL Troll, Antarti 89.03 196 ⇑P P **19 38 19.2 +2.2**
comp=Z,1µm,0.6s
PPT Papeete 89.14 108 LR LR 20 13 47.1
comp=Z,119nm,21.2s,baz=296,slow=32
MMAI Mount Meron Ar 89.17 303 P P **19 38 19.3 +1.0**
comp=Z,1.5nm,0.6s,baz=101,slow=7.6,SNR=3.1
MMAI LR LR 20 24 46.8
comp=Z,116nm,18.0s,baz=52,slow=40
comp=Z,1.5nm,0.6s
GAMB Gambell 89.50 25 P P **19 38 19.0 0.0**
baz=248
VSR Storozhevoye 90.45 322 eP P 19 38 31.0 +7.3
VSR pmax pmax
comp=Z,20nm,1.3s
VORR Voronezh 90.53 322 eP P 19 38 31.6 +7.5
VORR pmax pmax
comp=Z,18nm,0.4s
SNAA Sanae 90.66 196 ⇑P P **19 38 25.9 +1.4**
comp=Z,254nm,0.8s
SNAA Sanae 90.66 196 P P **19 38 25.9 +1.4**
comp=Z,5.8nm,1.0s,baz=151,slow=4.6,SNR=7.6
SNAA LR LR 20 15 02.2
comp=Z,431nm,20.7s,baz=58,slow=33
comp=Z,5.8nm,1.0s
SNAA Sanae 90.66 196 *i* P P **19 38 22.6 -1.9**
SNAA pmax pmax
comp=Z,6.0nm,1.0s
FALS False Pass 90.70 34 P P **19 38 24.5 -0.3**
baz=255
M11K Mekoryuk 90.80 29 P P **19 38 24.7 -0.3**
baz=253
LPSR Galich'ya Gora 90.92 323 eP P **19 38 30.4 +4.5**
LPSR pmax pmax
comp=Z,10.0nm,0.8s
SUR Sutherland 91.50 237 LR LR 20 12 04.1
comp=Z,210nm,21.8s,baz=135,slow=30
TNA Tin City 91.64 24 P P **19 38 28.4 -0.5**
baz=251
S12K Black Hills 91.67 34 P P **19 38 28.7 -0.6**
baz=256
BELA Belgrano 2 91.77 185 P P **19 38 30.4 +0.9**
BELA IAmb IAmb 19 38 46.1
comp=Z,16nm,0.9s
BR104 Keskin Array S 91.83 310 P P **19 38 30.7 +0.1**
BR131 Keskin Array S 91.83 310 *i* P P **19 38 28.4 -2.3**
BRTR Keskin Array B 91.83 310 P P **19 38 28.3 -2.3**
BRTR Keskin Array B 91.83 310 P P **19 38 28.8 -1.8**
comp=Z,0.9nm,0.7s,baz=133,slow=5.8,SNR=6.8
BRTR LR LR 20 21 54.6
comp=Z,94nm,22.0s,baz=118,slow=37
comp=Z,0.9nm,0.7s
BRTR Keskin Array B 91.83 310 *i* P P **19 38 29.3 -1.3**
BRTR pmax pmax
comp=Z,1.0nm,0.7s
K13K Kusilvak Mount 91.96 27 IAmb IAmb 19 38 31.8
comp=Z,16nm,1.2s
K13K Kusilvak Mount 91.96 27 P P **19 38 30.3 -0.2**
baz=254
M13K Dall Lake 92.17 29 P P **19 38 31.4 -0.1**
baz=255
F14K Arctic Creek 92.25 24 P P **19 38 31.8 0.0**
baz=253,SNR=5.7
VNA2 Neumayer--Watz 92.30 195 ⇑P P 19 38 37.6 +5.5
comp=Z,8.2nm,0.6s,baz=101,slow=9.8
ANM Nome 92.38 25 P P **19 38 32.1 -0.3**
baz=254
SDPT Sand Point 92.46 34 P P **19 38 32.5 -0.4**
baz=258
KLMR Klimovskoe 92.61 331 eP P **19 38 30.7 -2.8**
KLMR *e* 19 42 15.7
KLMR pmax pmax
comp=Z,23nm,1.8s
J14K Nanvaranak Lak 92.67 27 P P **19 38 33.7 0.0**
baz=255
VNA3 Neumayer Olymp 92.69 195 ⇑P P **19 38 38.4 +4.6**
comp=Z,5.3nm,0.7s
VNA1 Neumayer--Stat 92.69 196 ⇑P P **19 38 38.5 +4.7**
comp=Z,4.4nm,0.7s
OBN Obninsk 92.85 325 LR LR 20 24 52.2
comp=Z,178nm,20.1s,baz=125,slow=38
N14K Kuskokwak Cree 92.85 30 P P **19 38 34.3 -0.3**
baz=257
O14K Tigyukauivet M 92.91 30 P P **19 38 34.3 -0.6**
baz=257
M14K Bethel 92.91 29 P P **19 38 34.5 -0.4**
baz=256
F15K North Star Dit 92.99 24 IAmb IAmb 19 38 36.5
comp=Z,15nm,1.2s
F15K North Star Dit 92.99 24 P P **19 38 34.9 -0.3**
baz=254,SNR=6.4
G15K Niukluk 93.04 25 P P **19 38 35.0 -0.4**
baz=255
L15K Ungalak Mounta 93.35 28 P P **19 38 36.8 -0.1**
baz=257
C16K Lisburne Hills 93.43 21 P P **19 38 37.3 +0.1**
baz=254,SNR=7.0
K15K Wolf Creek Mou 93.47 27 P P **19 38 37.3 -0.1**
baz=257
M15K Kasigluk River 93.51 29 P P **19 38 37.2 -0.5**
baz=258
O15K Ungalikthiuk R 93.62 31 P P **19 38 38.0 -0.2**
baz=258
N15K Kwethluk River 93.69 30 IAmb IAmb 19 38 39.6
comp=Z,31nm,1.3s
N15K Kwethluk River 93.69 30 P P **19 38 38.2 -0.3**
baz=258
H16K Elim 93.70 25 P P **19 38 38.0 -0.4**
baz=256
G16K Koyuk River 93.83 24 IAmb IAmb 19 38 40.8
comp=Z,18nm,0.8s
G16K Koyuk River 93.83 24 P P **19 38 39.1 +0.1**
baz=256,SNR=14
D17K Noatak River 94.10 22 P P **19 38 40.4 +0.2**
baz=255,SNR=21
J16K Anvik River 94.10 27 IAmb IAmb 19 38 41.7
comp=Z,27nm,1.4s
J16K Anvik River 94.10 27 P P **19 38 40.2 -0.1**
baz=258,SNR=5.4
I17K Unalakleet 94.19 26 P P **19 38 40.8 +0.1**
baz=258
RDOG Red Dog Mine 94.25 22 P P **19 38 41.0 0.0**
baz=256
C17K DeLong Mountai 94.26 21 P P **19 38 40.8 -0.2**
baz=256,SNR=6.9
L16K Owhat River 94.29 28 P P **19 38 41.1 -0.2**
baz=259
N16K Nishlik Lake 94.39 30 P P **19 38 41.8 0.0**
baz=259
M16K Timber Creek 94.41 29 IAmb IAmb 19 38 58.8
comp=Z,23nm,1.4s
M16K Timber Creek 94.41 29 P P **19 38 41.8 0.0**
baz=259
E17K Hotham Inlet 94.43 23 P P **19 38 42.1 +0.3**
baz=257,SNR=10
R16K Pilot Point 94.48 33 P P **19 38 41.9 -0.2**
baz=260
F17K Baldwin Pennin 94.51 23 IAmb IAmb 19 38 43.5
comp=Z,15nm,1.1s
F17K Baldwin Pennin 94.51 23 P P **19 38 41.9 -0.2**
baz=258
P16K Nushagak River 94.52 31 P P **19 38 41.4 -0.9**
baz=260
G17K Kiwalik Mounta 94.55 24 P P **19 38 42.6 +0.3**
baz=258,SNR=25
O16K Kokwok River B 94.57 30 IAmb IAmb 19 38 43.3
comp=Z,20nm,1.2s
O16K Kokwok River B 94.57 30 P P **19 38 42.1 -0.4**
baz=260,SNR=6.0
H17K Granite Mounta 94.74 25 P P **19 38 43.6 +0.3**
baz=259,SNR=17

J17K VABM Dome 94.80 27 IAmb IAmb 19 38 50.8
comp=Z,21nm,1.6s
J17K VABM Dome 94.80 27 P P **19 38 43.5 -0.1**
baz=259
L17K Donlin 94.92 28 P P **19 38 44.0 -0.1**
baz=260
B18K Kokolik River 94.95 20 P P **19 38 44.5 +0.4**
baz=257
E18K Tukpahlearik C 94.97 23 P P **19 38 44.1 -0.1**
baz=258,SNR=12
C18K Utukok River 95.01 21 P P **19 38 44.6 +0.2**
baz=258
K17K Iditarod 95.02 27 IAmb IAmb 19 38 46.2
comp=Z,9.8nm,0.9s
K17K Iditarod 95.02 27 P P **19 38 44.5 -0.1**
baz=260,SNR=5.6
O17K Koliganek Bris 95.10 30 P P **19 38 45.1 +0.1**
baz=261
N17K Nushagak Hills 95.17 30 P P **19 38 45.0 -0.4**
baz=261
M17K Holitna River 95.20 29 P P **19 38 44.9 -0.5**
baz=260
H18K Honhosa River 95.42 25 IAmb IAmb 19 38 47.4
comp=Z,15nm,1.1s
H18K Honhosa River 95.42 25 P P **19 38 46.2 -0.2**
baz=260
G18K Tagagawik 95.44 24 P P **19 38 46.1 -0.3**
baz=260,SNR=8.8
C19K Lookout Ridge 95.67 21 P P **19 38 48.1 +0.6**
baz=259,SNR=10
L18K Granite Mounta 95.68 28 IAmb IAmb 19 38 49.2
comp=Z,14nm,1.1s
L18K Granite Mounta 95.68 28 P P **19 38 47.6 0.0**
baz=261,SNR=6.3
N18K Kilae Creek 95.83 30 P P **19 38 48.0 -0.3**
baz=262
J18K Innoko River 95.86 27 IAmb IAmb 19 38 49.1
comp=Z,18nm,1.4s
J18K Innoko River 95.86 27 P P **19 38 47.9 -0.5**
baz=261,SNR=7.1
F19K Shaleruckik Mo 95.94 23 P P **19 38 48.8 +0.1**
baz=261,SNR=7.4
M18K Stony River 95.98 29 P P **19 38 49.0 +0.1**
baz=262,SNR=5.0
P18K Big Mountain, 95.98 31 P P **19 38 49.2 +0.2**
baz=262
GCSA Galena City Sc 95.98 25 P P **19 38 48.5 -0.4**
baz=261
O18K Koktuh Hills 96.05 30 P P **19 38 49.2 -0.1**
baz=262
D19K Kuna River 96.09 22 P P **19 38 49.4 0.0**
baz=261
G19K Purcell Mounta 96.11 24 P P **19 38 49.7 +0.2**
baz=261,SNR=22
SII Sitkinak Islan 96.16 34 P P **19 38 49.3 -0.7**
baz=263
E19K Redstone River 96.25 23 P P **19 38 50.1 0.0**
baz=261
H19K Roundabout Mou 96.28 25 P P **19 38 50.6 +0.4**
baz=262,SNR=25
J19K Poorman 96.42 26 IAmb IAmb 19 38 52.0
comp=Z,16nm,1.4s
J19K Poorman 96.42 26 P P **19 38 50.5 -0.4**
baz=262,SNR=9.4
AK10 Malin Array Si 96.51 320 P P **19 38 50.7 -0.9**
L19K White Mountain 96.53 28 P P **19 38 51.6 +0.1**
baz=263
N19K Bonanza Creek 96.53 30 P P **19 38 51.2 -0.5**
baz=263,SNR=7.2
O19K Port Alsworth 96.54 30 P P **19 38 51.5 0.0**
baz=263
AKASG Malin Array Be 96.54 320 P P **19 38 50.0 -1.7**
comp=Z,0.1nm,0.3s,baz=73,slow=5.0,SNR=1.8
AKASG LR LR 20 29 18.9
comp=Z,110nm,19.6s,baz=92,slow=40
comp=Z,0.1nm,0.3s
AK15 Malin Array Si 96.60 320 P P **19 38 53.6 +1.6**
B20K Meade River 96.66 20 P P **19 38 51.7 -0.1**
baz=262
D20K Etivluk River 96.67 21 P P **19 38 52.3 +0.3**
baz=262
M19K Big River Lodg 96.71 28 IAmb IAmb 19 38 53.5
comp=Z,9.4nm,1.1s
M19K Big River Lodg 96.71 28 P P **19 38 52.3 0.0**
baz=263
OHAK Old Harbor 96.72 33 P P **19 38 52.1 -0.3**
baz=264
Q19K Cape Douglas, 96.73 31 P P **19 38 51.7 -0.8**
baz=264
E20K Nigu River 96.76 22 P P **19 38 53.0 +0.5**
baz=262
F20K Avaraart Lake 96.78 23 P P **19 38 52.7 +0.3**
baz=263,SNR=12
H20K Anotleneega Mo 96.92 25 P P **19 38 53.1 -0.1**
baz=263,SNR=7.7
I20K Naaghedeneel 97.01 26 P P **19 38 53.2 -0.4**
baz=263
L20K Farewell, AK 97.01 28 P P **19 38 53.0 -0.7**
baz=264,SNR=5.3
P19K Oil Pt 97.02 31 P P **19 38 53.7 -0.1**
baz=264
K20K Telida 97.02 27 IAmb IAmb 19 38 54.9
comp=Z,16nm,1.4s
K20K Telida 97.02 27 P P **19 38 53.5 -0.2**
baz=264,SNR=5.0
A21K Barrow 97.02 19 P P **19 38 53.3 -0.1**
baz=262
J20K Nowinta River 97.08 26 IAmb IAmb 19 38 55.2
comp=Z,14nm,1.4s
J20K Nowinta River 97.08 26 P P **19 38 54.0 +0.1**
baz=264,SNR=7.3
TSUM Tsumeb 97.11 249 LR LR 20 17 06.6
comp=Z,87nm,21.9s,baz=97,slow=32
KDAK Kodiak Island 97.16 33 P P **19 38 54.4 0.0**
baz=264
KDAK Kodiak Island 97.16 33 LR LR 20 18 44.0
comp=Z,64nm,21.1s,baz=279,slow=33
M20K Styx River 97.30 29 P P **19 38 54.8 -0.3**
baz=264,SNR=7.6
C21K Knifeblade Rid 97.38 21 P P **19 38 55.4 +0.2**
baz=264
LUBAR Lubar, Ukraine 97.39 319 P P **19 38 53.7 -1.9**
B21K Ikpikpuk River 97.49 21 P Pdif 19 38 55.9 +0.2
baz=264
A22K Sinclair Lake 97.52 19 P Pdif 19 38 56.2 +0.4
baz=264
G21K Allakaket 97.59 24 IAmb IAmb 19 38 57.5
comp=Z,16nm,1.1s
G21K Allakaket 97.59 24 P P **19 38 56.0 -0.2**
baz=265
E21K Killik River 97.60 22 IAmb IAmb 19 38 58.4
comp=Z,13nm,1.1s
E21K Killik River 97.60 22 P P **19 38 56.5 +0.2**
baz=264,SNR=5.8
F21K Alatna River 97.67 23 P P **19 38 56.1 -0.5**
baz=265
N20K Mount Spurr 97.67 29 P P **19 38 56.1 -0.6**
baz=265
MNK Minsk 97.73 324 *i* P P **19 38 53.7 -3.3**
MNK *i* *PP **pP** **19 39 08.4 -2.1**
MNK *i* 19 42 52.1
MNK *i* PPP PPP 19 45 01.0
MNK *i* S **SKSac** **19 49 26.7 -4.0**
MNK *i* PS **PS** **19 51 48.8 +0.7**
MNK *i* SS **SS** **19 56 56.0 -4.3**
MNK *i* SSS SSS 20 00 44.9
MNK pmax pmax
comp=E,6.0nm,0.8s
MNK pmax pmax
comp=Z,18nm,0.6s
MNK pmax pmax
comp=N,11nm,0.7s
MNK MLR MLR
comp=N,93nm,18.0s
H21K Melozitna Rive 97.80 25 IAmb IAmb 19 38 58.5
comp=Z,17nm,1.4s
H21K Melozitna Rive 97.80 25 P P **19 38 56.9 -0.2**
baz=265,SNR=11
PPLA Purkeypile 97.83 28 P P **19 38 57.0 -0.5**
baz=265
CHUM Lake Minchumin 97.85 27 P P **19 38 57.0 -0.3**
baz=265,SNR=6.3
CAST Castle Rocks 97.92 27 IAmb IAmb 19 38 59.7
comp=Z,4.8nm,0.6s
CAST Castle Rocks 97.92 27 P P **19 38 57.1 -0.7**
baz=265,SNR=6.3
B22K Teshekpuk Lake 97.97 20 P P **19 38 57.9 +0.1**
baz=265

SKT Skwentna 98.06 28 P P **19 38 57.6 -0.8**
baz=266
I21K Tanana 98.10 25 IAmb IAmb 19 38 59.9
comp=Z,14nm,1.4s
I21K Tanana 98.10 25 P P **19 38 58.2 -0.2**
baz=266
D22K Ayikyak River 98.11 21 IAmb IAmb 19 39 01.1
comp=Z,7.8nm,1.1s
D22K Ayikyak River 98.11 21 P P **19 38 58.1 -0.3**
baz=266
IDI Anoyia 98.12 304 LR LR 20 27 36.5
comp=Z,56nm,21.9s,baz=80,slow=38
F22K John River 98.19 23 P P **19 38 58.5 -0.4**
baz=266,SNR=8.0
MLR Muntele Rosu 98.22 315 LR LR 20 31 07.7
comp=Z,119nm,19.9s,baz=102,slow=40
BRSE Bradley Lake S 98.28 31 P P **19 38 58.8 -0.6**
baz=266
E22K Anaktuvuk Pass 98.37 22 P Pdif 19 39 00.1 +0.3
baz=266,SNR=13
SUA Susitna One 98.40 29 IAmb IAmb 19 38 59.7
comp=Z,10nm,0.8s
SUA Susitna One 98.40 29 P P **19 38 59.7 -0.4**
baz=266
H22K Ishtalitna Cre 98.40 25 P P **19 38 59.9 0.0**
baz=266
G22K Bettles 98.41 23 P P **19 38 60.0 +0.1**
baz=266
BPAW Bear Paw Mtn. 98.45 26 IAmb IAmb 19 39 01.6
comp=Z,8.6nm,1.3s
BPAW Bear Paw Mtn. 98.45 26 P P **19 39 00.3 +0.1**
baz=266
MLY Manley 98.61 25 IAmb IAmb 19 39 01.8
comp=Z,9.6nm,1.4s
MLY Manley 98.61 25 P P **19 39 01.0 +0.1**
baz=267,SNR=7.0
TRF Thorofare Moun 98.73 27 IAmb IAmb 19 39 01.5
comp=Z,15nm,1.3s
TRF Thorofare Moun 98.73 27 P P **19 39 01.2 -0.3**
baz=267
D23K Nanushuk River 98.83 21 P Pdif 19 39 02.1 +0.4
baz=268
RC01 Rabbit Creek A 98.86 29 P P **19 39 01.7 -0.3**
baz=267
C23K Itkillik River 98.89 21 P P **19 39 02.1 +0.1**
baz=268,SNR=6.0
COLD Coldfoot 98.94 23 P Pdif 19 39 02.5 +0.3
baz=268,SNR=7.5
SEW Seward 98.95 30 P P **19 39 02.6 +0.2**
baz=267
G23K Bananza Creek 98.99 24 P P **19 39 02.5 0.0**
baz=268,SNR=18
FINES FINESS Array B 99.14 331 P **Pdif** **19 39 01.7 -1.5**
comp=Z,2.8nm,0.8s,baz=94,slow=8.4,SNR=12
comp=Z,2.8nm,0.8s
FINES FINESS Array B 99.14 331 *i* P **Pdif** **19 39 02.0 -1.2**
FINES pmax pmax
comp=Z,3.0nm,0.8s
H23K Yukon River 99.15 25 IAmb IAmb 19 39 04.7
comp=Z,8.3nm,1.1s
H23K Yukon River 99.15 25 P **Pdif** **19 39 03.4 +0.2**
baz=268
PMR Palmer 99.18 29 P **Pdif** **19 39 03.1 -0.2**
baz=268
E23K Chandalar 99.19 22 P **Pdif** **19 39 03.5 +0.1**
baz=268
I23K Minto, Yukon-K 99.20 25 P **Pdif** **19 39 03.3 -0.1**
baz=268,SNR=8.9
TOLK Toolik Lake Re 99.22 22 IAmb IAmb 19 39 06.2
comp=Z,5.0nm,0.8s
TOLK Toolik Lake Re 99.22 22 P **Pdif** **19 39 03.3 -0.2**
baz=268
NEA2 Nenana 99.31 26 P **Pdif** **19 39 03.7 -0.2**
baz=268
MCK McKinley 99.34 27 P **Pdif** **19 39 03.7 -0.4**
baz=268
RND Reindeer 99.37 27 IAmb IAmb 19 39 04.1
comp=Z,18nm,1.2s
WAT1 Susitna Watana 99.49 28 P **Pdif** **19 39 04.5 -0.3**
baz=268
KNK Knik Glacier 99.49 29 P **Pdif** **19 39 04.8 0.0**
baz=268,SNR=7.1
D24K Happy Valley 99.51 21 P **Pdif** **19 39 04.8 +0.1**
baz=269
C24K Franklin Bluff 99.56 21 P **Pdif** **19 39 04.6 -0.2**
baz=270
SML Sawmill 99.56 29 P **Pdif** **19 39 04.5 -0.7**
baz=268,SNR=9.0
ARCES ARCESS Array B 99.58 339 LR LR 20 28 30.6
comp=Z,129nm,21.6s,baz=98,slow=38
H24K Noodor Dome 99.84 25 IAmb IAmb 19 39 08.6
comp=Z,8.1nm,1.1s
H24K Noodor Dome 99.84 25 P **Pdif** **19 39 06.5 +0.2**
baz=270,SNR=7.9
F24K Squaw Lake 99.84 23 IAmb IAmb 19 39 09.0
comp=Z,10nm,1.3s
F24K Squaw Lake 99.84 23 P **Pdif** **19 39 06.7 +0.4**
baz=270,SNR=5.3
M23K Glacier View 99.85 29 P **Pdif** **19 39 05.8 -0.6**
baz=269,SNR=5.9
WAT6 Susitna Watana 99.86 28 P **Pdif** **19 39 06.4 -0.3**
baz=269,SNR=8.2
P23K Montague Islan 99.98 31 P **Pdif** **19 39 06.9 -0.1**
baz=269
G24K Hadweenzic Riv 100.00 24 P **Pdif** **19 39 07.0 0.0**
baz=270
POKR Poker Plat Res 100.02 25 P **Pdif** **19 39 06.4 -0.7**
baz=270
DHY Denali Highway 100.03 27 P **Pdif** **19 39 06.9 -0.5**
baz=270,SNR=5.2
SCM Sheep Creek Mo 100.04 29 P **Pdif** **19 39 06.6 -0.8**
baz=269
GLI Glacier Island 100.14 30 P **Pdif** **19 39 07.2 -0.6**
baz=269
HDA Harding Lake 100.23 26 P **Pdif** **19 39 07.3 -0.7**
baz=270
ILAR Eielson Array 100.25 26 P **Pdif** **19 39 06.9 -1.2**
comp=Z,1.0nm,0.8s,baz=264,slow=4.8,SNR=8.6
D25K Akvik River 100.38 21 P **Pdif** **19 39 08.3 -0.4**
baz=272
Q23K Middleton Isla 100.51 31 P **Pdif** **19 39 08.6 -0.7**
baz=270
G25K Bearman Lake 100.55 24 P **Pdif** **19 39 08.7 -0.7**
baz=271
M24K Tolsona, Glenn 100.59 28 P **Pdif** **19 39 09.0 -0.7**
baz=270
H25L Birch Creek 100.67 24 P **Pdif** **19 39 09.7 -0.2**
baz=272
F25K Christian Rive 100.70 23 P **Pdif** **19 39 10.1 -0.1**
baz=272
E25K Arctic Village 100.71 22 P **Pdif** **19 39 10.1 0.0**
baz=272
KLU Klutina 100.71 29 P **Pdif** **19 39 09.7 -0.7**
baz=270
K24K Donnelly Dome 100.75 27 P **Pdif** **19 39 10.3 -0.1**
baz=271
EYAK Cordova Ski Ar 100.81 30 P **Pdif** **19 39 10.2 -0.4**
baz=270
PAX Paxson 100.90 28 P **Pdif** **19 39 11.0 -0.2**
baz=271,SNR=5.9
J25K Salcha River, 100.91 26 P **Pdif** **19 39 10.6 -0.5**
baz=272
HARP HAARP 101.06 28 P **Pdif** **19 39 11.7 -0.1**
baz=271
BMAR Burnt Mountain 101.12 23 Pdif **Pdif** **19 39 12.6 +0.6**
F26K Sheenjek River 101.27 23 P **Pdif** **19 39 12.6 -0.1**
baz=273
C27K Jago River 101.30 21 P **Pdif** **19 39 12.8 +0.1**
baz=274,SNR=10
N25K Chitina, Valde 101.34 29 P **Pdif** **19 39 12.7 -0.5**
baz=272
BMRM Bremner River 101.36 30 P **Pdif** **19 39 13.3 +0.1**
baz=272
SPITS Spitsbergen Ar 101.42 348 P **Pdif** **19 39 12.2 -0.9**
comp=Z,1.2nm,0.5s,baz=95,slow=11,SNR=6.5
G26K Porcupine Rive 101.45 23 P **Pdif** **19 39 13.7 +0.3**
baz=274
KAIM Kayak Island 101.48 31 P **Pdif** **19 39 13.6 0.0**
baz=272
SCRK Sand Creek 101.53 27 P **Pdif** **19 39 13.6 -0.4**
baz=273
J26L Joseph Creek 101.69 26 P **Pdif** **19 39 14.0 -0.7**
baz=273,SNR=8.4
I26K Coal Creek Min 101.81 25 P **Pdif** **19 39 14.5 -0.5**
baz=274
BGLC Bering Glacier 102.04 30 P **Pdif** **19 39 15.9 -0.2**
baz=273
M26K Nabesna, AK 102.06 28 P **Pdif** **19 39 16.4 +0.1**

	baz=273								
E27K	Coleen River	102.19	22	P		Pdif	19 39 16.7	0.0	
	baz=276								
G27K	Doyon Strip	102.30	24	P		Pdif	19 39 17.5	+0.2	
	baz=276								
K27K	Chicken	102.37	26	P		Pdif	19 39 18.3	+0.8	
	baz=274								
H27K	Steamboat Moun	102.41	24	P		Pdif	19 39 18.3	+0.5	
	baz=276,SNR=6.9								
I27K	Kandik River	102.43	25	P		Pdif	19 39 18.2	+0.3	
	baz=275,SNR=8.9								
L27K	Beaver Creek,	102.56	27	P		Pdif	19 39 18.7	+0.3	
	baz=274								
BCAR	Beaver Creek A	102.58	27	Pdif		Pdif	19 39 19.1	+0.5	
M27K	Edge Creek, AK	102.59	28	P		Pdif	19 39 18.5	-0.2	
	baz=274								
EGAK	Eagle	102.70	26	P		Pdif	19 39 19.1	+0.1	
	baz=276								
MESA	MESA	102.70	30	P		Pdif	19 39 19.4	0.0	
	baz=274								
E28M	Babbage River	102.90	22	P		Pdif	19 39 20.5	+0.7	
	baz=278								
F28M	Old Crow	102.90	23	P		Pdif	19 39 20.6	+0.7	
	baz=277								
CTG	Chitna Glacier	102.95	30	P		Pdif	19 39 20.5	+0.1	
	baz=274								
D28M	Stokes Point	103.08	21	P		Pdif	19 39 21.0	+0.4	
	baz=279								
I28M	Miner Creek	103.14	25	P		Pdif	19 39 21.6	+0.5	
	baz=277,SNR=5.4								
YUK3	Moose Creek	103.30	29	P		Pdif	19 39 22.2	+0.2	
	baz=275								
E29M	Blow River	103.53	22	P		Pdif	19 39 23.1	+0.5	
	baz=279								
O28M	Mount Upton	103.53	30	P		Pdif	19 39 22.8	-0.4	
	baz=275								
H29M	Whitestone	103.68	24	P		Pdif	19 39 23.9	+0.5	
	baz=278								
YUK8	Steele Glacier	103.68	29	P		Pdif	19 39 23.9	+0.1	
	baz=276								
G29M	Pine Creek	103.71	23	P		Pdif	19 39 24.0	+0.5	
	baz=279								
I29M	Ogilvie Camp,	103.83	25	P		Pdif	19 39 24.8	+0.7	
	baz=278								
M29M	Somme Creek	104.16	28	P		Pdif	19 39 26.7	+1.0	
	baz=277								
YUK4	Talbot Arm	104.21	29	P		Pdif	19 39 26.9	+0.8	
	baz=277								
L29M	L29M	104.22	27	P		Pdif	19 39 26.9	+1.0	
	baz=278								
K29M	Barlow Dome	104.39	26	P		Pdif	19 39 27.5	+0.8	
	baz=279								
YUK6	Outpost Mounta	104.40	29	P		Pdif	19 39 27.3	+0.4	
	baz=277								
G30M	tAoh Zraii Nji	104.40	23	P		Pdif	19 39 27.3	+0.7	
	baz=281								
I30M	Mount Dempster	104.66	25	P		Pdif	19 39 28.1	+0.2	
	baz=280								
J30M	Hart River	104.79	26	P		Pdif	19 39 28.9	+0.4	
	baz=280								
HYT	Haines Junctio	104.83	29	P		Pdif	19 39 29.1	+0.4	
	baz=278								
P29M	Windy Craggy	104.87	31	P		PKiKP	19 43 43.9	+0.1	
	baz=277								
M30M	Minto, Yukon	104.91	28	P		PKiKP	19 43 43.7	0.0	
	baz=279								
G31M	Satah River	105.17	23	P		PKiKP	19 43 43.6	-0.4	
	baz=282								
CONA	Conrad Observa	105.19	317	*e*pPKiKP		pPKiKP	19 43 59.6	+1.0	
	comp=Z,5.1nm,1.4s								
P30M	Million Dollar	105.19	30	P		PKiKP	19 43 44.0	-0.3	
	baz=278								
HFS	Hagfors	105.26	330	Pdiff		Pdif	19 39 29.9	-0.5	
	comp=Z,0.5nm,0.5s,baz=90,slow=12,SNR=4.4								
H31M	Peel River	105.38	24	P		PKiKP	19 43 44.0	-0.5	
	baz=282								
SOKA	Soboth	105.83	316	*e*pPKiKP		pPKiKP	19 43 58.3	-1.5	
	comp=Z,2.1nm,1.1s								
SKAG	Skagway	106.11	31	P		PKiKP	19 43 45.1	-0.8	
	baz=279								
WHY	Whitehorse	106.13	29	P		PKiKP	19 43 45.3	-0.9	
	baz=280								
CLL	Collm	106.77	321	*e*P		Pdif	19 39 34.0	-3.4	
ABTA	Abfaltersbach	107.55	316	*e*PKiKP		PKiKP	19 43 49.3	+0.1	
	comp=Z,2.1nm,0.7s								
WTTA	Wattenberg	108.09	317	*e*PKiKP		PKiKP	19 43 50.3	+0.1	
	comp=Z,6.5nm,0.6s								
WRAK	Wrangell Islan	108.22	34	P		PKiKP	19 43 49.5	-0.4	
	baz=281								
MOTA	Moosalm	108.45	317	*e*PKiKP		PKiKP	19 43 50.8	-0.1	
	comp=Z,2.1nm,0.8s								
YKA	Yellowknife Ar	114.60	24	PKiKP		PKiKP	19 44 01.6	-0.2	
	comp=Z,3.4nm,0.5s,baz=310,slow=2.5,SNR=37								
YKA				SKP			19 47 33.5		
	comp=Z,0.7nm,0.7s,baz=317,slow=1.8,SNR=4.0								
YKA				PKKPab		PKKPab	19 54 46.1	-0.3	
	comp=Z,0.1nm,0.3s,baz=101,slow=3.2,SNR=2.1								
EKA	Eskdalemuir Ar	115.20	327	PKP		PKiKP	19 44 02.7	-0.6	
	comp=Z,0.4nm,0.6s,baz=53,slow=3.6,SNR=5.4								
EKA				PKKPbc		PKKPbc	19 54 40.6	+0.3	
	comp=Z,0.2nm,0.4s,baz=246,slow=3.6,SNR=2.5								
TOA0	Torodi Ar. Sit	117.94	280	PKPdf		PKPdf	19 44 10.0	+0.3	
TORD	Torodi Ar. Bea	117.94	280			PKPdf	19 44 09.2	-0.6	
TORD	Torodi Ar. Bea	117.94	280	PKP		PKPdf	19 44 09.6	-0.1	
	comp=Z,3.5nm,0.7s,baz=68,slow=2.1,SNR=20								
TORD				SKP			19 47 42.1		
	comp=Z,2.7nm,1.2s,baz=70,slow=2.6,SNR=3.7								
TORD				PKKPbc		PKKPbc	19 54 28.6	-1.0	
	comp=Z,0.5nm,0.6s,baz=275,slow=3.6,SNR=2.7								
ESDC	Sonseca Array	120.61	311	PKP		PKPdf	19 44 14.4	+0.2	
	comp=Z,2.1nm,1.0s,baz=31,slow=2.5,SNR=8.9								
SMMC	Simmler	120.94	54	P		PKPdf	19 44 14.2	-0.8	
	baz=281								
PKM	Mcpherson Peak	121.17	55	P		PKPdf	19 44 14.7	-0.9	
	baz=281								
NVAR	Mina Array Bea	121.57	50			PKiKP	19 44 16.8	+0.3	
NVAR	Mina Array Bea	121.57	50	PKP		PKiKP	19 44 17.4	+0.9	
	comp=Z,4.9nm,0.6s,baz=260,slow=2.5,SNR=40								
NVAR				PP		PP	19 45 45.8	-3.0	
	comp=Z,3.9nm,0.9s,baz=271,slow=8.0,SNR=8.2								
MFID	Camas Ranch	121.93	44	PKPdf		PKPdf	19 44 17.0	+0.3	
MSO	Missoula	121.96	40	P		PKPdf	19 44 16.3	-0.4	
	baz=293								
CWC	Cottonwood Cre	122.22	53	P		PKPdf	19 44 17.5	-0.1	
	baz=283								
SCI2	San Clemente I	122.56	57	P		PKPdf	19 44 17.8	-0.3	
	baz=281								
CIS	Catalina Islan	122.59	56	P		PKPdf	19 44 18.1	-0.1	
	baz=281								
EDW2	Edwards Air Fo	122.63	54	P		PKPdf	19 44 18.3	0.0	
	baz=282,SNR=9.5								
GRAC	Grapevine Rang	122.64	52	P		PKPdf	19 44 18.4	+0.2	
	baz=284								
LRMC	Laurel Mtn Rad	122.75	54	P		PKiKP	19 44 19.1	+0.3	
	baz=283								
MPMC	Manual Prospec	122.77	53	P		PKPdf	19 44 19.0	+0.3	
	baz=284,SNR=9.3								
HLID	Hailey	122.85	44	P		PKiKP	19 44 19.2	+0.4	
	baz=291								
BFSC	Mount Baldy Ra	123.04	55	P		PKPdf	19 44 19.5	+0.3	
	baz=282								
MTE	Manteigas	123.06	312	*e*pPKPdf		pPKPdf	19 44 32.8	0.0	
PGAV	Gavieira, Arco	123.08	314	*e*pPKPdf		pPKPdf	19 44 32.8	-0.1	
FURC	Furnace Creek,	123.17	52	P		PKPdf	19 44 19.5	+0.4	
	baz=284								
PCBR	Castelo Branco	123.17	312	*e*pPKPdf		pPKPdf	19 44 33.1	+0.2	
PVIS	Viseu	123.21	313	*e*pPKPdf		pPKPdf	19 44 33.1	0.0	
PMRV	Marv??o	123.23	311	*e*pPKPdf		pPKPdf	19 44 33.0	-0.1	
PBAR	Barrancos	123.32	310	*e*pPKPdf		pPKPdf	19 44 33.5	+0.2	
GSC	Goldstone, Bar	123.49	54	P		PKPdf	19 44 20.0	+0.1	
	baz=284,SNR=5.5								
MURC	Murrieta	123.55	56	P		PKiKP	19 44 21.0	+0.6	
	baz=282								
R11B	Troy Canyon, C	123.65	50	P		PKPdf	19 44 20.7	+0.4	
	baz=286								
SHOC	Shoshone, Teco	123.77	53	P		PKiKP	19 44 21.0	+0.4	
	baz=284								
DBIC	Dimbokro	123.82	272	PKP		PKiKP	19 44 21.7	+0.4	
	comp=Z,3.7nm,0.6s,baz=144,slow=1.8,SNR=3.7								
BOZ	Bozeman (W)	123.92	40	P		PKiKP	19 44 21.5	+0.7	
	baz=294								
HEC	Hector,Ludlow	123.97	54	P		PKPdf	19 44 21.0	+0.1	
	baz=284								
PBEJ	Beja	123.99	310	*e*pPKPdf		pPKPdf	19 44 34.7	+0.1	
EGMT	Eagleton	124.02	37	P		PKiKP	19 44 21.3	+0.5	
	baz=298								
PFO	Pinyon Flats O	124.15	56	P		PKPdf	19 44 21.8	+0.4	
	baz=283								
TPFO	Pinon Flats	124.15	56	P		PKiKP	19 44 21.9	+0.3	
	baz=283								
TUQ	Turquoise Moun	124.16	53	P		PKiKP	19 44 22.0	+0.4	
	baz=284								
PCVE	Castro Verde	124.23	309	*e*pPKPdf		pPKPdf	19 44 35.2	+0.2	
MONP2	Monument Peak	124.33	56	P		PKPdf	19 44 21.6	-0.2	
	baz=282								
FFC	Flin Flon	124.43	27	PKPdf		PKPdf	19 44 20.3	-0.7	
FFC	Flin Flon	124.43	27	PKiKP		PKPdf	19 44 20.3	-0.7	
BELC	Belle Mtn. Jos	124.44	55	P		PKPdf	19 44 22.1	+0.2	
	baz=283,SNR=10								
GMRC	Granite Mounta	124.52	54	P		PKPdf	19 44 22.5	+0.4	
	baz=284,SNR=9.5								
IKP	In-Ko-Pah, Jac	124.64	57	P		PKiKP	19 44 22.9	+0.4	
	baz=282								
BC3	Big Chuckawall	124.95	55	P		PKiKP	19 44 23.6	+0.4	
	baz=283,SNR=5.6								
IRM	Iron Mountain	125.09	55	P		PKiKP	19 44 23.6	+0.3	
	baz=284								
DUG	Dugway, Tooele	125.13	47	P		PKiKP	19 44 24.2	+0.8	
	baz=290								
GLA	Glamis	125.60	56	P		PKPdf	19 44 24.4	+0.4	
	baz=283								
PDAR	Pinedale Array	126.44	43	PKPdf		PKPdf	19 44 24.8	-0.8	
PDAR	Pinedale Array	126.44	43	PKP		PKiKP	19 44 26.2	+0.2	
	comp=Z,1.2nm,0.4s,baz=272,slow=3.4,SNR=16								
214A	Organ Pipe Nat	127.52	57	P		PKiKP	19 44 28.6	+0.3	
	baz=284								
WUAZ	Wupatki	127.71	52	P		PKiKP	19 44 29.3	+0.6	
	baz=288								
O20A	White River Ci	128.41	45	P		PKiKP	19 44 30.2	+0.2	
	baz=294,SNR=12								
K22A	Casper	128.51	42	P		PKiKP	19 44 30.8	+0.7	
	baz=297								
TUC	Tucson	129.09	56	P		PKiKP	19 44 31.8	+0.3	
	baz=286								
MVCO	Mesa Verde	129.34	49	P		PKiKP	19 44 32.2	+0.2	
	baz=291								
RSSD	Black Hills	129.39	39	PKPdf		PKPdf	19 44 30.4	-0.8	
RSSD	Black Hills	129.39	39	P		PKiKP	19 44 32.2	+0.3	
	baz=300								
RSSD	Black Hills	129.39	39	PKIKP		PKPdf	19 44 30.4	-0.8	
PLCA	Paso Flores	129.63	171	PKP		PKiKP	19 44 32.6	+0.2	
	comp=Z,1.3nm,0.6s,baz=207,slow=2.3,SNR=4.0								
PLCA				SKPbc		SKPbc	19 47 51.3	+1.3	
	comp=Z,5.4nm,1.1s,baz=225,slow=1.4,SNR=3.5								
ISCO	Idaho Springs	130.39	45	P		PKiKP	19 44 34.2	0.0	
	baz=296								
SDCO	Great Sand Dun	131.33	47	P		PKPdf	19 44 35.7	+0.6	
	baz=294								
121A	Cookes Peak, D	131.45	54	P		PKiKP	19 44 36.2	-0.1	
	baz=288								
ANMO	Albuquerque	131.69	51	P		PKiKP	19 44 37.0	+0.2	
	baz=291								
T25A	Trinidad	132.37	47	P		PKiKP	19 44 38.1	0.0	
	baz=295								
MNTX	Cornudas Mount	133.65	55	P		PKiKP	19 44 40.4	-0.1	
	baz=289,SNR=7.3								
EYMN	Ely	133.85	28	P		PKiKP	19 44 40.5	0.0	
	baz=317								
ECSD	EROS Data Cent	134.05	35	P		PKPdf	19 44 40.3	+0.6	
	baz=308								
VHRN	Van Horn	134.27	56			PKPpre	19 44 30.5		
SCHQ	Schefferville	134.29	4			PKPdf	19 44 39.3	-0.5	
SCHQ	Schefferville	134.29	4	PKP		PKPdf	19 44 40.0	+0.2	
	comp=Z,3.9nm,0.6s,baz=11,slow=3.4,SNR=8.6								
SCHQ				SKPbc		SKPbc	19 48 06.1	+0.3	
	comp=Z,13nm,0.8s,baz=36,slow=4.7,SNR=10								
BGNE	Belgrade	134.50	39	P		PKiKP	19 44 41.7	-0.3	
	baz=304								
CBKS	Cedar Bluff	134.87	43	P		PKPdf	19 44 42.1	+0.6	
	baz=301								
MSTX	Muleshoe	134.88	51	P		PKPdf	19 44 42.0	+0.3	
	baz=294								
TXAR	Lajitas Array	135.81	57			PKPpre	19 44 31.4		
TXAR	Lajitas Array	135.81	57	PKhKP		PKPpre	19 44 30.8		
	comp=Z,1.2nm,0.8s,baz=304,slow=1.6,SNR=8.2								
TXAR				PKP		PKPdf	19 44 43.7	+0.2	
	comp=Z,1.6nm,0.6s,baz=295,slow=0.7,SNR=11								
TXAR				PP		PP	19 47 18.8	-3.4	
	comp=Z,0.1nm,0.3s,baz=286,slow=6.5,SNR=3.9								
TXAR				SKPbc		SKPbc	19 48 11.6	+0.1	
	comp=Z,5.9nm,1.0s,baz=270,slow=1.8,SNR=14								
U38A	Gravette	139.73	43			PKPpre	19 44 42.0		
HBVL	Hebbronville	140.72	58	PKPdf		PKPdf	19 44 49.2	-3.2	
CCM	Cathedral Cave	140.77	38			PKPpre	19 44 45.4		
CCM	Cathedral Cave	140.77	38	PKHKP		PKPpre	19 44 45.4		
AC05	El Tresesito	141.27	168	PKPdf		PKPdf	19 44 49.2	-4.4	
MIAR	Mount Ida	141.32	44	PKPdf		PKPdf	19 44 48.4	-4.9	
MIAR	Mount Ida	141.32	44	PKIKP		PKPdf	19 44 48.4	-4.9	
HKT	Hockley	141.91	52	PKIKP		PKPdf	19 44 51.6	-2.8	
F64A	Sherman	143.00	8	PKPdf		PKPdf	19 44 52.3	-3.7	
ERPA	Erie	143.42	23	P		PKPbc	19 44 55.0	+0.9	
	baz=329								
PKME	Peaks-Kenny Pk	143.45	9	P		PKPbc	19 44 54.7	+0.7	
	baz=347								
WCI	Wyandotte Cave	143.52	34	PKPdf		PKPab	19 44 53.5	0.0	
WCI	Wyandotte Cave	143.52	34	P		PKPbc	19 44 54.5	0.0	
	baz=316								
WCI	Wyandotte Cave	143.52	34	PKIKP		PKPab	19 44 53.5	0.0	
ACSO	Alum Creek Sta	143.69	28	P		PKPbc	19 44 55.0	+0.1	
	baz=323								
M53A	WI Miller and	143.72	25	P		PKPab	19 44 54.8	+0.6	
	baz=327,SNR=16								
LBNH	Lisbon	143.95	13	P		PKPbc	19 44 56.4	+0.9	
	baz=342								
OXF	Oxford	144.14	41	P		PKPab	19 44 56.2	+0.2	
	baz=308,SNR=17								
EMMW	East Machias	144.25	7			PKPbc	19 44 56.5	+0.1	
CPUP	Villa Florida	144.45	187	PKP		PKPdf	19 44 59.0	-0.1	
	comp=Z,12nm,0.9s,baz=177,slow=1.4,SNR=15								
CPUP				SKPbc		SKPbc	19 48 35.9	+0.5	
	comp=Z,3.0nm,0.7s,baz=192,slow=2.4,SNR=3.1								
CPUP	Villa Florida	144.45	187	PKIKP		PKPdf	19 44 59.0	-0.1	
O53A	New Philadelph	144.47	26	P		PKPbc	19 44 57.5	+0.2	
	baz=325,SNR=19								
P52A	Corning	144.56	28	P		PKPab	19 44 56.9	-0.5	
	baz=323,SNR=20								
VBMS	Vicksburg	144.74	45	P		PKPbc	19 44 58.9	+0.5	
	baz=304								
BINY	Binghamton	144.76	19	P		PKPab	19 44 57.8	-0.2	
	baz=335								
L61B	Northampton	145.47	15	P		PKPdf	19 45 00.7	+0.3	
	baz=340,SNR=24								
SSPA	Standing Stone	145.50	22	P		PKPbc	19 45 00.9	+0.4	
	baz=331								
MCWV	Mont Chateau	145.55	25	P		PKPab	19 45 01.3	+0.2	
	baz=327,SNR=38								
HRV	Adam Dziewonsk	145.68	13			PKPdf	19 45 01.2	+0.4	
HRV	Adam Dziewonsk	145.68	13	P		PKPbc	19 45 01.3	+0.2	
	baz=342								
HRV	Adam Dziewonsk	145.68	13	PKIKP		PKPdf	19 45 01.2	+0.4	
Z47A	Carrollton	145.83	42			PKPdf	19 45 01.8	+0.6	
WES	Weston	145.85	13			PKPdf	19 45 00.5	-0.5	
WES	Weston	145.85	13	PKP2		PKPdf	19 45 00.5	-0.5	
SWET	Sewanee	145.85	37			PKPdf	19 45 00.8	-0.5	
TZTN	Tazewell	146.24	33	P		PKPbc	19 45 03.1	+0.1	
	baz=318								
S54A	Dingess, Beckl	146.41	29			PKPdf	19 45 02.7	+0.5	
PAL	Palisades	146.48	17	P		PKPbc	19 45 03.8	+0.3	
	baz=338								
LRAL	Lakeview Retre	146.63	41	P		PKPbc	19 45 04.3	0.0	
	baz=310								
M65A	Busby, Falmout	146.78	12	P		PKPbc	19 45 04.7	+0.4	
	baz=344								
BLA	Blacksburg	147.30	29	P		PKPbc	19 45 06.7	+0.6	
	baz=324								
LVC	Limon Verde	147.58	167	PKPbc		PKPbc	19 45 08.2	+0.6	
	comp=Z,5.8nm,0.6s,baz=206,slow=2.9,SNR=4.0								
BRAL	Brewton	147.75	44	P		PKPbc	19 45 07.8	+0.4	
	baz=307								
CBN	Corbin Frederi	147.80	24	P		PKPbc	19 45 07.0	-0.3	
	baz=330								
KMSC	Kings Mountain	148.48	32	P		PKPbc	19 45 09.3	+0.1	
	baz=320								
GOGA	Godfrey	148.57	37	P		PKPbc	19 45 09.9	+0.4	
	baz=315								
TA01	Diego Aracena	149.24	164			PKiKP	19 45 13.4	+0.6	
TIGA	Tifton	149.85	40	P		PKPbc	19 45 13.0	+0.2	
	baz=313								
AQDB	Aguadauana	149.96	191	PKPdf		PKPdf	19 45 06.4	-2.1	
CNNC	Cliffs of the	150.09	27	P		PKPbc	19 45 13.0	-0.2	
	baz=326								
GO01	Chusmiza	150.35	165	PKPdf		PKPdf	19 45 07.1	-2.6	
BDFB	Brasilia	151.91	209			PKPdf	19 45 12.7	+1.0	
BDFB	Brasilia	151.91	209	PKP		PKPdf	19 45 12.9	+1.2	
	comp=Z,5.4nm,0.9s,baz=108,slow=3.2,SNR=4.1								
BDFB				PKPbc		PKiKP	19 45 19.2	+0.7	
	comp=Z,10nm,0.8s,baz=132,slow=2.6,SNR=12								
LPAZ	La Paz	153.86	166	PKPbc		PKiKP	19 45 23.8	+0.7	
	comp=Z,4.7nm,0.8s,baz=172,slow=2.3,SNR=8.9								
SIV	San Ignacio	154.97	181	PKP		PKPdf	19 45 17.1	+1.1	
	comp=Z,2.3nm,0.7s,baz=221,slow=1.1,SNR=10								
PTLB	Pontes e Lacer	155.40	186	PKPdf		PKPdf	19 45 17.8	+1.2	

SOME ***28*** *19:31:10.3, 41.28N×73.45E, h0km*
ISU ***28*** *19:31:13.7, 41.23N×73.43E, h14km*
NNC ***28*** *19:31:13.6±1.8, 41.35N×73.34E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=15.1km s-min=7.4km az=162.0*

ISC 28 19:31:11.8±1.4, 41.28N±0.05×73.50E±0.04, h3km±16km, n17, σ0.97/29, 6C-2D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time	Res
				Op			h m s	ISC
TSTA	Tashata	1.04	228	P		Pg	19 31 32.1	+0.4
TSTA				S		Sg	19 31 45.7	+0.5
MRKS	Merke	1.48	352	P		Pn	19 31 38.8	-0.7
	1.8nm,0.2s							
MRKS				S		Sg	19 31 59.7	+0.3
	18nm,0.3s							
MRKS	Merke	1.48	352	*e*P		Pn	19 31 38.8	-0.7
	1.8nm,0.2s							
MRKS				*e*S		Sg	19 31 59.7	+0.3
	18nm,0.3s							
AAK	Ala-Archa	1.55	28	⇑P		Pb	19 31 41.1	-0.2
	1.3nm,0.3s							
AAK				⇑S		Sg	19 32 02.5	+0.9
	1.9nm,0.6s							
CHMI	Chimion	1.80	237	P		Pb	19 31 45.3	-0.2
CHMI				S		Sb	19 32 08.7	+0.2
CHMS	Chumysh	1.96	28	⇑Pn		Pb	19 31 48.5	+0.4
	1.3nm,0.5s							
CHMS				⇓Sn		Sg	19 32 15.3	+0.6
	3.3nm,0.7s							
TKM2	Tokmak 2	2.27	43	⇓Pn		Pg	19 31 55.1	-0.1
	0.7nm,0.5s							
TKM2				⇑Sn		Sg	19 32 24.6	-0.1
	2.9nm,0.5s							
KST	Kastek	2.55	45	Pg		Pb	19 31 58.7	+0.4
	0.6nm,0.2s							
KST				Lg		Lg	19 32 34.1	
	6.4nm,0.5s							
KST	Kastek	2.55	45	*e*P		Pb	19 31 58.9	+0.6
	0.6nm,0.2s							
KST				*e*S		Sg	19 32 34.0	+0.5
	6.3nm,0.2s							
DGS	Degeres	2.59	40	Pg		Pb	19 31 58.9	-0.1
	2.8nm,0.6s							
DGS				Lg		Lg	19 32 34.4	
	3.5nm,0.5s							
DGS	Degeres	2.59	40	*e*P		Pb	19 31 58.9	-0.1
	2.8nm,0.6s							
DGS				*e*S		Sg	19 32 34.5	-0.6
	5.9nm,0.3s							
IUG	luzhnay	2.74	290	Pg		Pb	19 31 59.9	-1.5
	6.5nm,0.6s							
IUG				Lg		Lg	19 32 35.8	
	16nm,0.5s							
IUG	luzhnay	2.74	290	*e*P		Pb	19 31 60.0	-1.5
	6.1nm,0.5s							
IUG				*e*S		Sb	19 32 35.8	+0.4
	16nm,0.5s							
KK31	Karatay Array	2.87	310	⇑Pg		Pb	19 32 04.0	+0.3
	0.2nm,0.3s,baz=131,slow=17,SNR=2.6							
KK31				⇑Lg		Lg	19 32 41.6	
	2.0nm,0.5s,baz=130,slow=29,SNR=8.6							
KRBS	Karabastau	2.91	33	*e*P		Pb	19 32 03.8	-0.5
	1.0nm,0.3s							
KRBS				*e*S		Sg	19 32 42.6	-2.6
	1.9nm,0.2s							
BRLS	Boroldaу	3.24	304	Pg		Pb	19 32 09.6	-0.4
BRLS				Lg		Lg	19 32 52.3	
BRLS	Boroldaу	3.24	304	*e*P		Pb	19 32 09.6	-0.4
	0.8nm,0.2s							
BRLS				*e*S		Sb	19 32 52.5	+2.8
	1.4nm,0.2s							

NEIC ***28*** *19:41:28.9±1.3, 4.99S±0.10×129.7E±0.1, h207km±11km, mb4.2/16, Error ellipse: s-maj=18.3km s-min=11.9km az=119.0*
IDC ***28*** *19:41:30.0±2.5, 5.03S×129.65E, h223km±24km, mb3.6/13, mbtmp4.2/16, Error ellipse: s-maj=21.7km s-min=10.4km az=80.0*
DJA ***28*** *19:41:29.7±0.3, 5.4S×13.0E±°, h200km±4km, M4.7/8, mb4.6/7, MLv4.7/8*

**ISC 28 19:41:27.8±0.5, 4.99S

PETK	**Petropavlovsk-** comp=Z,3.6nm,0.6s,baz=182,slow=5.5,SNR=13 comp=Z,3.6nm,0.6s	**62.53**	**19**	P	**P**	**19 51 30.6**	**+0.5**
MK31	**Makanchi Array**	**66.38**	**327**	P	**P**	**19 51 55.6**	**+0.4**
MK31				IAmb	IAmb	19 51 56.5	
MKAR	comp=Z,3.3nm,0.9s **Makanchi Array** comp=Z,3.1nm,0.5s,baz=131,slow=7.5,SNR=54 comp=Z,3.1nm,0.5s	**66.38**	**327**	P	**P**	**19 51 55.6**	**+0.4**
MAKZ	**Makanchi**	**66.56**	**326**	P	**P**	**19 51 56.8**	**+0.4**
MAKZ				IAmb	IAmb	19 52 02.8	
YAK	comp=Z,5.9nm,1.2s **Yakutsk**	**66.83**	**0**	P	**P**	**19 51 57.5**	**-0.2**
ZALV	**Zalesovo Beam**	**69.65**	**334**	P	**P**	**19 52 15.3**	**-0.1**
ZALV	**Zalesovo Beam** comp=Z,2.3nm,0.5s,baz=132,slow=5.5,SNR=13 comp=Z,2.3nm,0.5s	**69.65**	**334**	P	**P**	**19 52 15.1**	**-0.3**
KURBB	**Kurchatov Arra** comp=Z,5.2nm,0.6s,baz=132,slow=5.3,SNR=63 comp=Z,5.2nm,0.6s	**70.64**	**328**	P	**P**	**19 52 21.8**	**+0.3**
KURK	**Kurchatov**	**70.65**	**328**	P	**P**	**19 52 21.8**	**+0.3**
KKAR	**Karatay Array**	**71.63**	**318**	P	**P**	**19 52 27.4**	**-0.2**
BVAR	**Borovoye Array** comp=Z,1.2nm,0.7s,baz=125,slow=10.0,SNR=3.1 comp=Z,1.2nm,0.7s	**76.20**	**328**	P	**P**	**19 52 53.3**	**-0.6**
TIXI	**Tiksi**	**76.49**	**360**	P	**P**	**19 52 54.8**	**-0.3**
TIXI				IAmb	IAmb	19 52 55.9	
GEYT	comp=Z,3.1nm,0.7s **Alibeck** comp=Z,0.9nm,0.5s,baz=103,slow=6.5,SNR=2.3 comp=Z,0.9nm,0.5s	**78.68**	**310**	P	**P**	**19 53 08.0**	**-0.1**
ABKAR	**Akbulak array**	**80.74**	**321**	P	**P**	**19 53 18.6**	**-0.2**
AKTO	**Aktyubinsk** comp=Z,1.2nm,0.6s,baz=100,slow=11,SNR=4.0 comp=Z,1.2nm,0.6s	**82.30**	**322**	P	**P**	**19 53 26.6**	**-0.4**
ILAR	**Eielson Array** comp=Z,0.5nm,0.9s,baz=270,slow=4.5,SNR=4.2 comp=Z,0.5nm,0.9s	**91.67**	**25**	P	**P**	**19 54 10.2**	**-1.9**
TORD	**Torodi Ar. Bea** comp=Z,0.4nm,0.7s,baz=48,slow=2.1,SNR=1.9	**128.08**	**283**	PKP	**PKPdf**	**20 00 12.0**	**+0.9**

TAP 28 19:43:35.2, 24.36N×121.79E, h12km, ML0.8, 2C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
EAHA	**Aohua** baz=241	**0.05**	**241**	P		Pg	19 43 38.0	+0.4
EAHA				S		Sg	19 43 39.9	+0.6
ENA	baz=241 **Nanau** baz=332	**0.09**	**328**	*i*	P	Pg	19 43 38.5	+0.6
ENA				*i*	S	Sg	19 43 40.9	+1.0
EWUT	baz=332 **Wuta** baz=352	**0.09**	**353**	*i*	P	Pg	19 43 38.6	+0.6
EWUT				*i*	S	Sg	19 43 40.1	+0.1
ESAO	baz=352 **Su ao** baz=12	**0.23**	**13**	*e*	P	Pg	19 43 39.6	-0.5
NACB	**Ninganchiao** baz=224	**0.25**	**225**	*e*	P	Pb	19 43 41.5	-0.3
NACB				*e*	S	Sb	19 43 45.7	-0.4
NDS	baz=224 **Dongshan** baz=346	**0.28**	**346**	*e*	P	Pb	19 43 41.8	-0.5
NDS				*e*	S	Sb	19 43 46.7	-0.3
LATG	baz=346 **Datong** baz=306	**0.30**	**307**	*e*	P	Pb	19 43 42.5	-0.2
LATG				*e*	S	Sb	19 43 47.4	-0.2
ENTT	baz=306 **Nioudou** baz=324	**0.35**	**324**	P		Pb	19 43 43.2	-0.3
ENTT				S		Sb	19 43 48.3	-0.7
NDT	baz=324 **Datong Townshi** baz=314	**0.35**	**314**	*e*	P	Pb	19 43 43.8	+0.3
NDT				*e*	S	Sb	19 43 49.5	+0.5
NNSB	baz=314 **Datong** baz=281	**0.38**	**281**	*e*	P	Pb	19 43 43.5	-0.5
NNSB				*e*	S	Sb	19 43 48.9	-0.9
	baz=281							

JMA 28 19:44:11.5±0.2, 24.3N±0.7°×123.6E±0.5°, h44km±1km, MV0.3/7, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IRIF	**Iriomote-Funau**	**0.15**	**74**	*e*	P	Pn	19 44 18.7	-0.2
IRIF				S		Sn	19 44 24.5	+0.3
HATJ	**Hateruma jima**	**0.32**	**137**	*e*	P	Pn	19 44 20.1	-0.2
HATJ				*e*	S	Sn	19 44 26.4	-0.1
JKRS	**Kuro-shima**	**0.41**	**98**	*e*	P	Pn	19 44 21.4	+0.1
JKRS				*e*	S	Sn	19 44 28.6	+0.4
JIJ	**Ishigaki jima**	**0.53**	**82**	*e*	P	Pn	19 44 22.7	-0.1
JIJ				*e*	S	Sn	19 44 30.8	-0.1
JISG	**Ishigakijimahi**	**0.74**	**66**	*e*	P	Pn	19 44 25.6	+0.1
JISG				*e*	S	Sn	19 44 36.3	+0.6

*SJA **28** 19:54:52.3±0.7, 22.12S×68.57W, h120km±4km, ML3.4, MW3.6*
*GUC **28** 19:54:53.6±0.9, 22.08S×68.51W, h105km±5km, ML3.4*
ISC 28 19:54:53.6±1.5, 22.10S±0.03°×68.64W±0.05°, h115km±9km, n34, σ1.9s7/56, 3C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.57**	**206**	*e*	P	**Pn**	**19 55 11.6**	**-0.3**
LVC				*e*	S	**Sn**	**19 55 26.2**	**+0.4**
LVC	**Limon Verde**	**0.57**	**206**	*e*	P	**Pn**	**19 55 11.1**	**-0.8**
LVC				*e*	S	**Sn**	**19 55 24.8**	**-1.0**
LVC	2μm,0.3s			IAML			19 55 26.5	
PB09	**IPOC Station P**	**0.64**	**298**	*e*	P	**Pn**	**19 55 12.7**	**+0.5**
PB09	comp=Z,801nm,0.8s			IAML			19 55 29.3	
PB09	**IPOC Station P**	**0.64**	**298**	*e*	P	**Pn**	**19 55 12.2**	**0.0**
PB09				*e*	S	**Sn**	**19 55 26.5**	**+0.3**
PB09	comp=N,1μm,0.2s			IAML			19 55 27.8	
AF01	**San Pedro de A**	**0.95**	**154**	*e*	S	**Sn**	**19 55 29.3**	**-2.0**
AF01	comp=E,903nm,0.5s			IAML			19 55 47.1	
PB06	**IPOC Station P**	**1.06**	**235**	*e*	P	**Pn**	**19 55 16.4**	**+0.4**
PB06	comp=Z,414nm,0.4s			IAML			19 55 39.2	
PB06	**IPOC Station P**	**1.06**	**235**	*e*	P	**Pn**	**19 55 16.4**	**+0.4**
PB06				*e*	S	**Sn**	**19 55 33.7**	**+0.8**
PB06	comp=E,744nm,0.3s			IAML			19 55 35.8	
PB01	**IPOC Station P**	**1.32**	**323**	*e*	P	**Pn**	**19 55 19.0**	**+0.3**
PB01				*e*	S	**Sn**	**19 55 39.0**	**+1.3**
PB01	comp=Z,345nm,0.3s			IAML			19 55 41.4	
PB01	**IPOC Station P**	**1.32**	**323**	*e*	P	**Pn**	**19 55 18.1**	**-0.7**
PB01				*e*	S	**Sn**	**19 55 37.5**	**-0.2**
PB01	comp=N,661nm,0.2s			IAML			19 55 40.5	
PB15	**IPOC Station P**	**1.35**	**215**	*e*	P	**Pn**	**19 55 19.8**	**+0.6**
PB15	comp=Z,2μm,0.3s			IAML			19 55 41.2	
PB15	**IPOC Station P**	**1.35**	**215**	*i*	P	**Pn**	**19 55 19.6**	**+0.4**
PB15				*i*	S	**Sn**	**19 55 39.6**	**+1.0**
PB04	**IPOC Station P**	**1.42**	**260**	*e*	P	**Pn**	**19 55 20.3**	**+0.3**
PB04	comp=Z,293nm,0.3s			IAML			19 55 53.9	
PB04	**IPOC Station P**	**1.42**	**260**	*e*	P	**Pn**	**19 55 20.3**	**+0.3**
PB04				*e*	S	**Sn**	**19 55 40.3**	**+0.3**
PB04	comp=N,608nm,0.2s			IAML			19 55 45.1	
PB05	**IPOC Station P**	**1.63**	**242**	*e*	P	**Pn**	**19 55 22.7**	**+0.3**
PB05				*e*	S	**Sn**	**19 55 45.6**	**+1.3**
PB05	comp=Z,162nm,0.7s			IAML			19 55 52.9	
PB05	**IPOC Station P**	**1.63**	**242**	*e*	P	**Pn**	**19 55 22.6**	**+0.2**
PB05				*e*	S	**Sn**	**19 55 45.1**	**+0.8**
PB05	comp=E,306nm,0.4s			IAML			19 55 53.6	
PATCX	**Punta Patache**	**1.90**	**312**	*e*	P	**Pn**	**19 55 26.1**	**+0.4**
PATCX				*e*	S	**Sn**	**19 55 52.3**	**+2.1**
PATCX	comp=Z,278nm,0.7s			IAML			19 55 56.5	
PATCX	**Punta Patache**	**1.90**	**312**	*e*	P	**Pn**	**19 55 25.4**	**-0.3**
PATCX				*e*	S	**Sn**	**19 55 51.2**	**+1.0**
PB08	**IPOC Station P**	**2.01**	**346**	*e*	P	**Pn**	**19 55 28.6**	**+1.3**
PB08	comp=Z,104nm,0.3s			IAML			19 55 59.5	
PB08	**IPOC Station P**	**2.01**	**346**	*e*	P	**Pn**	**19 55 27.6**	**+0.3**
PB08				*e*	S	**Sn**	**19 55 52.2**	**-0.8**
PB08	comp=E,216nm,0.3s			IAML			19 55 57.2	
TA01	**Diego Aracena**	**2.10**	**316**	*e*	P	**Pn**	**19 55 28.2**	**+0.1**
TA01				*e*	S	**Sn**	**19 55 59.7**	**+5.3**
TA01	comp=Z,153nm,0.3s			IAML			19 56 01.2	
TA01	**Diego Aracena**	**2.10**	**316**	*i*	P	**Pn**	**19 55 27.8**	**-0.3**
TA01				*i*	S	**Sn**	**19 55 53.5**	**-1.0**
TA01	comp=E,432nm,0.3s			IAML			19 56 01.3	
HMBC	**Humberstone**	**2.16**	**327**	*e*	P	**Pn**	**19 55 28.7**	**-0.3**
HMBC				*e*	S	**Sn**	**19 55 50.7**	**-5.3**
HMBC	comp=Z,275nm,0.2s			IAML			19 56 02.7	
HMBC	**Humberstone**	**2.16**	**327**	*e*	P	**Pn**	**19 55 28.5**	**-0.4**
HMBC				*e*	S	**Sn**	**19 55 55.6**	**-0.4**
HMBC	comp=N,343nm,0.4s			IAML			19 55 58.1	
PB10	**IPOC Station P**	**2.26**	**231**	*e*	P	**Pn**	**19 55 31.5**	**+1.3**
PB10				*e*	S	**Sn**	**19 55 52.0**	**-6.2**
PB10	comp=Z,80nm,0.4s			IAML			19 56 12.5	
PB10	**IPOC Station P**	**2.26**	**231**	*e*	P	**Pn**	**19 55 30.1**	**0.0**
PB10				*e*	S	**Sn**	**19 55 56.8**	**-1.4**
PB10	comp=N,101nm,0.4s			IAML			19 56 10.4	
GO01	**Chusmiza**	**2.47**	**348**	*e*	P	**Pn**	**19 55 34.3**	**+0.9**
GO01	**Chusmiza**	**2.47**	**348**	*e*	P	**Pn**	**19 55 33.5**	**+0.2**
GO01				*e*	S	**Sn**	**19 56 02.9**	**-0.9**
GO01	comp=E,228nm,0.4s			IAML			19 56 10.6	
PB11	**IPOC Station P**	**2.51**	**338**	*e*	P	**Pn**	**19 55 33.5**	**-0.1**
PB11	comp=Z,82nm,0.6s			IAML			19 56 10.1	
PB11	**IPOC Station P**	**2.51**	**338**	*e*	P	**Pn**	**19 55 33.1**	**-0.5**
PB11				*e*	S	**Sn**	**19 56 03.5**	**-0.8**
PB11	comp=E,261nm,0.3s			IAML			19 56 07.1	
YJA	**Yavi**	**2.90**	**92**	*e*	P	**Pn**	**19 55 40.0**	**+1.2**
PB14	**IPOC Station P**	**2.99**	**213**	*e*	P	**Pn**	**19 55 39.9**	**-0.1**
PB14	comp=Z,126nm,0.6s			IAML			19 56 23.9	
GO02	**Mina Guanaco**	**3.17**	**196**	*e*	P	**Pn**	**19 55 42.5**	**+0.1**
GO02				*e*	S	**Sn**	**19 56 21.5**	**+1.6**
GO02	**Mina Guanaco** comp=N,91nm,0.3s	**3.17**	**196**	IAML			19 56 27.5	
PB12	**IPOC Station P**	**3.81**	**335**	*e*	P	**Pn**	**19 55 49.9**	**-0.8**
PB12				*e*	S	**Sn**	**19 56 34.9**	**0.0**
PB12	comp=Z,58nm,0.5s			IAML			19 56 50.1	

*TAP **28** 19:58:32.9, 24.79N×122.58E, h125km±1km, ML3.5, D*
*JMA **28** 19:58:32.6±0.2, 25.1°N×122.6E±0.5, h125km±1km, MV3.0/19, NW OFF ISHIGAKIJIMA IS*
ISC 28 19:58:33.0±1.5, 24.76N±0.05°×122.59E±0.03, h125km±8km, n114, σ0.62/173, 3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.45**	**134**	P		**Pn**	**19 58 51.2**	**+0.1**
JYNG				S		**Sn**	**19 59 05.1**	**+0.3**
EOS2	**EOS2** baz=220	**0.48**	**224**	P		**Pn**	**19 58 51.7**	**+0.6**
YOJ	**Yonaguni jima**	**0.48**	**128**	P		**Pn**	**19 58 51.4**	**+0.1**
YOJ	**Yonaguni jima**	**0.48**	**128**	*e*	P	**Pn**	**19 58 51.4**	**+0.1**
YOJ				*e*	S	**Sn**	**19 59 05.3**	**+0.1**
EOS3	**EOS3** baz=205	**0.54**	**208**	P		**Pn**	**19 58 52.1**	**+0.6**
TWB1	**Santiao Chiao** baz=292	**0.60**	**294**	P		**Pn**	**19 58 52.3**	**+0.3**
TWB1	baz=292			S		**Sn**	**19 59 06.3**	**-0.1**
EGS	baz=275	**0.61**	**278**	*e*	P	**Pn**	**19 58 52.5**	**+0.4**
EOS4	**EOS4** baz=199	**0.69**	**202**	P		**Pn**	**19 58 52.4**	**+0.1**
EOS4	baz=199			S		**Sn**	**19 59 07.8**	**+1.0**
TWC	**Suao** baz=254	**0.69**	**257**	P		**Pn**	**19 58 52.5**	**-0.3**
TWC	baz=254			S		**Sn**	**19 59 06.5**	**-1.1**
ESAO	**Su ao** baz=252	**0.71**	**255**	P		**Pn**	**19 58 52.6**	**-0.2**
ESAO	baz=252			S		**Sn**	**19 59 06.5**	**-1.3**
TIPB	**Shuangxi** baz=284	**0.73**	**287**	P		**Pn**	**19 58 53.0**	**-0.1**
TIPB	baz=284			S		**Sn**	**19 59 07.5**	**-0.7**
SXI1	**Grass Mountain** baz=295	**0.73**	**297**	*i*	P	**Pn**	**19 58 53.0**	**-0.1**
SXI1	baz=295			S		**Sn**	**19 59 09.0**	**+0.7**
ILA	**Ilan** baz=268	**0.77**	**270**	*e*	P	**Pn**	**19 58 53.5**	**+0.2**
ILA	baz=268			*e*	S	**Sn**	**19 59 08.8**	**+0.1**
NWF	**Wu-fen Shan** baz=291	**0.80**	**293**	*e*	S	**Sn**	**19 59 09.3**	**0.0**
WFSB	**Wu-fen Shan** baz=291	**0.80**	**293**	*e*	S	**Sn**	**19 59 09.3**	**+0.2**
EWUT	**Wuta** baz=244	**0.81**	**247**	P		**Pn**	**19 58 54.3**	**+0.7**
EWUT	baz=244			S		**Sn**	**19 59 09.3**	**+0.1**
NDS	**Dongshan** baz=258	**0.81**	**261**	*e*	P	**Pn**	**19 58 53.9**	**+0.3**
NDS	baz=258			*e*	S	**Sn**	**19 59 09.0**	**-0.3**
TWE	**Neicheng** baz=265	**0.84**	**267**	*i*	P	**Pn**	**19 58 53.9**	**0.0**
TWE	baz=265			*i*	S	**Sn**	**19 59 09.4**	**-0.4**
ENA	**Nanau** baz=244	**0.85**	**247**	P		**Pn**	**19 58 54.3**	**+0.3**
ENA	baz=244			S		**Sn**	**19 59 10.2**	**+0.4**
EAHA	**Aohua** baz=239	**0.89**	**241**	*e*	P	**Pn**	**19 58 55.5**	**+1.2**
EAHA	baz=239			*e*	S	**Sn**	**19 59 10.9**	**+0.3**
FUSB	**Fushanzhiwuyua** baz=268	**0.92**	**270**	*i*	P	**Pn**	**19 58 54.5**	**-0.2**
FUSB	baz=268			*i*	S	**Sn**	**19 59 10.2**	**-0.9**
TWA	**Mucha** baz=281	**0.94**	**283**	*i*	P	**Pn**	**19 58 54.4**	**-0.4**
TWA	baz=281			*i*	S	**Sn**	**19 59 10.1**	**-1.3**
ENTT	**Nioudou** baz=260	**0.94**	**263**	*i*	P	**Pn**	**19 58 55.2**	**+0.4**
ENTT	baz=260			S		**Sn**	**19 59 11.3**	**-0.1**
NHY	**Taipei** baz=285	**0.97**	**287**	*e*	S	**Sn**	**19 59 10.7**	**-1.1**
PCYT	**Pengchaiyu** baz=331	**0.98**	**331**	*e*	P	**Pn**	**19 58 56.8**	**+1.6**
NWLT	**Wulai** baz=269	**0.99**	**271**	P		**Pn**	**19 58 54.9**	**-0.4**
NWLT	baz=269			*e*	S	**Sn**	**19 59 11.2**	**-1.1**
NDT	**Datong Townshi** baz=259	**1.00**	**261**	P		**Pn**	**19 58 55.8**	**+0.4**
NDT	baz=259			S		**Sn**	**19 59 12.9**	**+0.5**
LATG	**Datong** baz=255	**1.00**	**257**	*i*	P	**Pn**	**19 58 56.0**	**+0.5**
LATG	baz=255			*i*	S	**Sn**	**19 59 12.9**	**+0.3**
YM01	**YM01** baz=291	**1.00**	**292**	P		**Pn**	**19 58 55.1**	**-0.3**
YM01	baz=291			S		**Sn**	**19 59 11.8**	**-0.7**
YM08	**YM08** baz=293	**1.00**	**295**	P		**Pn**	**19 58 55.4**	**0.0**
YM08	baz=293			S		**Sn**	**19 59 11.6**	**-0.9**
ANP	**Anpu** baz=292	**1.06**	**294**	*e*	P	**Pn**	**19 58 56.9**	**+0.8**
ANP	baz=292			*e*	S	**Sn**	**19 59 14.2**	**+0.6**
ETL	**Fush Village** baz=234	**1.07**	**236**	*e*	P	**Pn**	**19 58 56.5**	**+0.3**
ETL	baz=234			*e*	S	**Sn**	**19 59 13.1**	**-0.6**
NACB	**Ninganchiao**	**1.08**	**237**	P		**Pn**	**19 58 55.9**	**-0.3**
NACB	**Ninganchiao** baz=235	**1.08**	**237**	*e*	P	**Pn**	**19 58 55.5**	**-0.7**
NACB	baz=235			*e*	S	**Sn**	**19 59 12.7**	**-1.1**
YHNB	**Yeheng**	**1.11**	**265**	P		**Pn**	**19 58 56.6**	**0.0**
YHNB	**Yeheng** baz=263	**1.11**	**265**	P		**Pn**	**19 58 56.6**	**0.0**
YHNB	baz=263			S		**Sn**	**19 59 14.2**	**-0.3**
NTST	**Danshui** baz=290	**1.11**	**291**	*e*	P	**Pn**	**19 58 56.0**	**-0.4**
NTST	baz=290			*e*	S	**Sn**	**19 59 14.1**	**-0.2**
IRIF	**Iriomote-Funau**	**1.12**	**112**	P		**Pn**	**19 58 56.6**	**0.0**
IRIF				*e*	S	**Sn**	**19 59 14.4**	**0.0**
TWS1	**Kuangyinshan** baz=286	**1.12**	**288**	*e*	P	**Pn**	**19 58 56.4**	**-0.2**
TWS1	baz=286			*e*	S	**Sn**	**19 59 14.2**	**-0.2**
NSK	**Sanguang** baz=264	**1.13**	**266**	*i*	P	**Pn**	**19 58 56.8**	**+0.1**
NSK	baz=264			*i*	S	**Sn**	**19 59 14.0**	**-0.7**
TWD	**Chiawan** baz=231	**1.14**	**233**	P		**Pn**	**19 58 56.8**	**0.0**
TWD	baz=231			S		**Sn**	**19 59 14.3**	**-0.5**
NNSB	**Datong** baz=251	**1.15**	**253**	P		**Pn**	**19 58 57.2**	**+0.2**
NNSB	baz=251			S		**Sn**	**19 59 15.0**	**-0.2**
NNS	**Nan Shan** baz=252	**1.16**	**254**	*i*	P	**Pn**	**19 58 57.3**	**+0.2**
NNS	baz=252			*i*	S	**Sn**	**19 59 15.3**	**-0.1**
HWA	**Hwalien** baz=227	**1.20**	**229**	*e*	P	**Pn**	**19 58 56.8**	**-0.5**
HWA	baz=227			*e*	S	**Sn**	**19 59 16.4**	**+0.6**
TEYL	**Yanliau Villag** baz=225	**1.27**	**226**	*e*	P	**Pn**	**19 58 57.6**	**-0.5**
TEYL	baz=225			*e*	S	**Sn**	**19 59 16.9**	**-0.4**
ETM	**Tongmen** baz=230	**1.28**	**232**	*e*	P	**Pn**	**19 58 58.4**	**+0.1**
ETM	baz=230			S		**Sn**	**19 59 16.9**	**-0.6**
NCUH	**Zhongli** baz=278	**1.30**	**279**	*e*	P	**Pn**	**19 58 58.2**	**-0.3**
NCUH	baz=278			*e*	S	**Sn**	**19 59 17.8**	**+0.1**
LXIB	**Xiulin Townshi** baz=234	**1.31**	**236**	P		**Pn**	**19 58 58.1**	**-0.6**
LXIB	baz=234			S		**Sn**	**19 59 17.7**	**-0.6**
HATJ	**Hateruma jima**	**1.31**	**122**	*e*	P	**Pn**	**19 58 59.0**	**+0.5**
HATJ				*e*	S	**Sn**	**19 59 18.4**	**+0.4**
FUSS	**Fushou** baz=246	**1.33**	**248**	P		**Pn**	**19 58 59.5**	**+0.4**
FUSS	baz=246			S		**Sn**	**19 59 18.7**	**-0.2**
NFF	**Wufeng Townshi** baz=263	**1.35**	**265**	P		**Pn**	**19 58 58.9**	**-0.1**
NFF	baz=263			S		**Sn**	**19 59 17.6**	**-1.3**
SHUL	**Shoufeng** baz=222	**1.35**	**224**	*e*	P	**Pn**	**19 58 59.1**	**0.0**
SHUL	baz=222			*e*	S	**Sn**	**19 59 19.1**	**+0.2**
WHF	**Hehuan Shan** baz=241	**1.36**	**243**	P		**Pn**	**19 58 60.0**	**+0.4**
WHF	baz=241			S		**Sn**	**19 59 19.2**	**-0.5**
TWT	**Tachien** baz=247	**1.39**	**249**	P		**Pn**	**19 59 00.4**	**+0.8**
TWT	baz=247			S		**Sn**	**19 59 20.4**	**+0.5**
JKRS	**Kuro-shima**	**1.39**	**112**	*e*	P	**Pn**	**19 58 60.0**	**+0.5**
JKRS				*e*	S	**Sn**	**19 59 19.9**	**+0.3**
TDCB	**Techi** baz=247	**1.40**	**249**	P		**Pn**	**19 59 00.2**	**+0.4**
TDCB	baz=247			S		**Sn**	**19 59 19.4**	**-0.8**
ESL	**Shilin** baz=226	**1.42**	**228**	*e*	P	**Pn**	**19 58 59.3**	**-0.5**
LIOB	**Emei** baz=264	**1.44**	**266**	*e*	P	**Pn**	**19 59 00.0**	**0.0**
LIOB	baz=264			*e*	S	**Sn**	**19 59 19.5**	**-1.1**
NSTT	**Nanjuang** baz=263	**1.46**	**265**	P		**Pn**	**19 59 00.4**	**+0.2**
NSTT	baz=263			S		**Sn**	**19 59 20.2**	**-0.7**
SBCB	**Hsinchu** baz=270	**1.46**	**271**	*e*	P	**Pn**	**19 59 00.6**	**+0.4**
JIJ	**Ishigaki jima**	**1.47**	**105**	P		**Pn**	**19 59 00.3**	**0.0**
JIJ				*e*	S	**Sn**	**19 59 19.9**	**-1.1**
CHGB	**Renai** baz=240	**1.47**	**242**	*e*	P	**Pn**	**19 59 01.1**	**+0.4**
CHGB	baz=240			*e*	S	**Sn**	**19 59 21.3**	**-0.3**
WARBT	**Fenglin Townsh** baz=225	**1.52**	**227**	*e*	P	**Pn**	**19 58 60.0**	**-1.0**
WARBT	baz=225			*e*	S	**Sn**	**19 59 21.0**	**-1.2**
OWD	**Renai** baz=236	**1.52**	**238**	*e*	P	**Pn**	**19 59 01.1**	**-0.1**
EGFH	**Guangfu** baz=223	**1.52**	**225**	*e*	P	**Pn**	**19 59 01.1**	**+0.1**
WUSB	**Renai** baz=239	**1.55**	**241**	P		**Pn**	**19 59 01.9**	**+0.5**
JISG	**Ishigakijimahi**	**1.57**	**96**	P		**Pn**	**19 59 01.4**	**-0.1**
JISG				*e*	S	**Sn**	**19 59 22.4**	**-0.9**
WHP	**Taichung City** baz=251	**1.58**	**252**	P		**Pn**	**19 59 02.4**	**+0.7**
WHP	baz=251			S		**Sn**	**19 59 24.0**	**+0.5**
NMLH	**Miaoli** baz=261	**1.66**	**263**	*e*	P	**Pn**	**19 59 02.8**	**+0.2**
NMLH	baz=261			*e*	S	**Sn**	**19 59 24.6**	**-0.5**
VWDT	**VWDT** baz=231	**1.67**	**233**	*e*	P	**Pn**	**19 59 02.8**	**+0.2**
VWDT	baz=231			*e*	S	**Sn**	**19 59 25.4**	**+0.2**
WCS	**Beigang Elemen** baz=244	**1.69**	**246**	*e*	P	**Pn**	**19 59 03.6**	**+0.7**
WCS	baz=244			*e*	S	**Sn**	**19 59 25.9**	**+0.2**
EHYH	**Wanrong** baz=221	**1.70**	**222**	*e*	S	**Sn**	**19 59 24.6**	**-1.5**
NSY	**Sanyi** baz=257	**1.71**	**259**	*e*	P	**Pn**	**19 59 03.2**	**+0.1**
EHY	**Hungye** baz=221	**1.71**	**223**	*e*	P	**Pn**	**19 59 03.2**	**0.0**
TWQ1	**Liyutan** baz=254	**1.71**	**256**	*e*	P	**Pn**	**19 59 03.4**	**+0.3**
SMLT	**Sun Moon Lake** baz=239	**1.78**	**241**	*e*	P	**Pn**	**19 59 05.1**	**+1.1**
ECBN	**Changbin** baz=215	**1.78**	**216**	*e*	P	**Pn**	**19 59 03.7**	**-0.3**
SSLB	**Suanglung**	**1.79**	**237**	P		**Pn**	**19 59 04.4**	**+0.3**
SSLB	**Suanglung** baz=236	**1.79**	**237**	*e*	P	**Pn**	**19 59 04.8**	**+0.7**
TYC	**Yuchr** baz=240	**1.80**	**242**	*e*	P	**Pn**	**19 59 04.8**	**+0.6**
YULB	**Yu-li**	**1.81**	**221**	P		**Pn**	**19 59 04.4**	**0.0**
YULB	**Yu-li** baz=220	**1.81**	**221**	*e*	P	**Pn**	**19 59 03.8**	**-0.6**
WDJ	**Dajia District** baz=256	**1.83**	**257**	*e*	P	**Pn**	**19 59 04.5**	**0.0**
EYUL	**Yuli** baz=218	**1.83**	**220**	*e*	P	**Pn**	**19 59 06.1**	**+1.5**
TWF1	**Yuli** baz=219	**1.84**	**220**	*e*	P	**Pn**	**19 59 05.1**	**+0.4**
TCU	**Taichung** baz=249	**1.85**	**251**	*e*	P	**Pn**	**19 59 05.4**	**+0.6**

CHKH	**Chenggong**	**1.91**	**215**	*eP*		**Pn**	**19 59 05.5**	**-0.1**
	baz=214								
WHYT	**Xinyi Township**	**1.91**	**237**	*eP*		**Pn**	**19 59 06.7**	**+1.0**
	baz=235								
JTJ	**Tarama**	**1.92**	**93**	P		**Pn**	**19 59 05.9**	**+0.3**
JTJ				*eS*		**Sn**	**19 59 30.0**	**-0.7**
WJS	**Zhushan**	**1.94**	**242**	*eP*		**Pn**	**19 59 06.8**	**+0.8**
	baz=240								
WNT	**Mingjian**	**1.95**	**244**	*eP*		**Pn**	**19 59 06.8**	**+0.8**
	baz=242								
FULB	**Fuli**	**1.96**	**218**	*eP*		**Pn**	**19 59 06.0**	**-0.2**
	baz=216								
ALS	**Alishan**	**2.06**	**233**	*eP*		**Pn**	**19 59 08.6**	**+1.0**
	baz=231								
ELDTW	**Lidau**	**2.13**	**223**	*eP*		**Pn**	**19 59 08.3**	**-0.1**
	baz=221								
WGK	**Gukeng**	**2.14**	**240**	*eP*		**Pn**	**19 59 09.3**	**+0.9**
	baz=239								
WDLH	**Douliu**	**2.16**	**241**	*eP*		**Pn**	**19 59 09.2**	**+0.6**
	baz=239								
WRL	**Guolierlin Hig**	**2.20**	**247**	*eP*		**Pn**	**19 59 09.1**	**0.0**
	baz=246								
WCKO	**Fanlu**	**2.25**	**234**	*eP*		**Pn**	**19 59 10.6**	**+0.8**
	baz=233								
WTK	**Tuku**	**2.28**	**242**	*eP*		**Pn**	**19 59 10.3**	**+0.2**
	baz=241								
LONT	**Longtian**	**2.29**	**216**	*eP*		**Pn**	**19 59 11.9**	**+1.7**
	baz=215								
STYH	**Taoyuan**	**2.30**	**227**	*eP*		**Pn**	**19 59 11.7**	**+1.3**
	baz=225								
TPUB	**Ta-pu**	**2.31**	**231**	P		**Pn**	**19 59 11.2**	**+0.6**
TPUB	**Ta-pu**	**2.31**	**231**	*eP*		**Pn**	**19 59 11.5**	**+0.9**
	baz=230								
LDUT	**Ludao**	**2.32**	**207**	*eP*		**Pn**	**19 59 09.8**	**-0.9**
	baz=205								
JIRB	**Irabujima**	**2.34**	**88**	*eP*		**Pn**	**19 59 10.9**	**0.0**
JIRB				*eS*		**Sn**	**19 59 39.4**	**-0.7**
WTP	**Ta-pu**	**2.36**	**231**	*eP*		**Pn**	**19 59 11.9**	**+0.7**
	baz=229								
JIKM	**Ikemajima**	**2.42**	**86**	*eP*		**Pn**	**19 59 12.1**	**+0.3**
JIKM				*eS*		**Sn**	**19 59 40.9**	**-0.8**
TWK	**Hsinying**	**2.44**	**233**	*eP*		**Pn**	**19 59 13.2**	**+1.0**
	baz=231								
SNST	**Tainan City**	**2.46**	**232**	*eP*		**Pn**	**19 59 13.1**	**+0.6**
	baz=230								
CHN1	**Nanshi**	**2.46**	**231**	*eP*		**Pn**	**19 59 13.1**	**+0.7**
	baz=229								
JMJ2	**Miyako jima3**	**2.48**	**90**	*eP*		**Pn**	**19 59 13.1**	**+0.4**
SGST	**Jiashian**	**2.49**	**228**	*eP*		**Pn**	**19 59 13.0**	**+0.1**
	baz=226								
SLGT	**Liugui**	**2.51**	**226**	*eP*		**Pn**	**19 59 14.1**	**+1.0**
	baz=224								
JOGS	**Gusukube**	**2.56**	**90**	*eP*		**Pn**	**19 59 14.3**	**+0.6**

NEIC 28 20:15:46±0.7, 31°.13N±0°.01×103°.22W±0°.02, h5km±1km, mb_Lg2.8/53, ML3.0/70, Error ellipse: s-maj=3.5km s-min=2.7km az=299.0, Western Texas

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MNHN	**Monahans**	**0.45**	**62**			Pg	20 15 55.0	+0.4
MNHN				Sg		Sg	20 16 01.8	+1.3
PECS	**Pecos**	**0.60**	**294**			Pg	20 15 58.1	+0.5
PECS				IAML			20 16 12.1	
	535nm,0.4s							
ALPN	**Alpine**	**0.83**	**205**	Pg		Pg	20 16 02.0	0.0
ALPN				Sg		Sg	20 16 13.2	+0.3
ODSA	**Odessa**	**1.14**	**30**	Pg		Pg	20 16 07.7	-0.2
ODSA				Sg		Sb	20 16 23.9	+0.4
SAND	**Sanderson**	**1.51**	**141**			Pn	20 16 13.9	+0.1
SAND				Sg		Sg	20 16 35.6	+1.1
VHRN	**Van Horn**	**1.55**	**258**	Pg		Pn	20 16 14.8	+0.4
VHRN				Sg		Sb	20 16 35.5	+0.1
VHRN				IAML			20 16 40.5	
	148nm,0.6s							
VHRN				IAML			20 16 40.5	
	150nm,0.5s							
OZNA	**Ozona**	**1.81**	**96**	Pn		Pb	20 16 19.1	-0.6
TX31	**Lajitas Ar. Si**	**1.83**	**192**			Pb	20 16 19.6	-0.5
TX31						Sb	20 16 43.7	+0.4
TXAR	**Lajitas Array**	**1.83**	**192**			Pb	20 16 19.6	-0.5
SGCY	**Sterling City**	**1.95**	**66**	Pn		Pb	20 16 21.2	-1.0
SGCY				IAmb_Lg			20 16 50.3	
	comp=Z,41nm,0.9s							
POST	**Post**	**2.42**	**37**	Pn		Pn	20 16 27.7	+1.4
SN05	**Snyder 5**	**2.64**	**48**			Pn	20 16 30.7	+1.3
SN07	**Snyder 07**	**2.78**	**45**			Pn	20 16 32.9	+1.6
DRIO	**Del Rio**	**2.82**	**126**			Pn	20 16 32.9	+1.0
MSTX	**Muleshoe**	**2.85**	**8**			Pn	20 16 33.5	+1.2
EPT	**El Paso**	**2.88**	**284**	Pn		Pn	20 16 33.5	+0.8
EPT				IAML			20 17 26.0	
	comp=E,27nm,0.7s							
JCT	**Junction City**	**3.02**	**102**	Pn		Pn	20 16 35.6	+1.1
DKNS	**Dickens**	**3.19**	**37**	Pn		Pn	20 16 38.1	+1.2
DKNS				IAmb_Lg			20 17 28.6	
	comp=Z,29nm,0.9s							
ABTX	**Abilene, Hawle**	**3.39**	**63**			Pn	20 16 41.1	+1.5
ABTX				IAmb_Lg			20 17 37.6	
	comp=Z,22nm,0.9s							
APMT	**Aspermont**	**3.42**	**49**			Pn	20 16 41.5	+1.5
APMT				IAmb_Lg			20 17 42.9	
	comp=Z,25nm,0.8s							
BRDY	**Brady**	**3.62**	**86**	Pn		Pn	20 16 44.0	+1.2
BRDY				IAmb_Lg			20 17 46.6	
	comp=Z,38nm,0.7s							
AMTX	**Amarillo**	**3.96**	**19**	IAmb_Lg			20 17 58.2	
	comp=Z,23nm,0.8s							
121A	**Cookes Peak, D**	**4.13**	**291**	IAML			20 18 12.5	
	comp=N,25nm,0.9s							
121A				IAML			20 18 13.0	
	comp=E,16nm,0.6s							
Y22D	**IRIS PASSCAL I**	**4.28**	**314**	Pn		Pn	20 16 51.1	-0.8
833A	**Chaparral WMA,**	**4.35**	**129**	Pn		Pn	20 16 51.9	-0.9
PLPT	**Palo Pinto**	**4.50**	**67**	IAmb_Lg			20 18 11.8	
	comp=Z,18nm,0.9s							
ANMO	**Albuquerque**	**4.67**	**325**	IAML			20 18 15.3	
	comp=Z,16nm,0.8s							
ANMO				IAML			20 18 21.5	
	comp=Z,13nm,0.7s							
SMWD	**Samnorwood**	**4.69**	**31**			Pn	20 16 56.3	-1.1
SMWD				IAmb_Lg			20 18 19.0	
	comp=Z,23nm,0.7s							
FW03	**Perrin-Whitt E**	**4.77**	**65**	IAmb_Lg			20 18 25.2	
	comp=Z,25nm,0.9s							
WTFS	**Witchita Falls**	**4.80**	**56**	Pn		Pn	20 16 59.9	+0.9
435B	**Jarrell**	**4.86**	**93**	IAmb_Lg			20 18 32.5	
	comp=Z,23nm,0.8s							
FW07	**Weatherford**	**4.88**	**70**	Pn		Pn	20 17 01.1	+1.0
FW07				IAmb_Lg			20 18 31.8	
	comp=Z,26nm,0.8s							
WHTX	**Lake Whitney,**	**5.00**	**79**	IAmb_Lg			20 18 38.0	
	comp=Z,13nm,0.9s							
WMOK	**Wichita Mounta**	**5.18**	**45**	IAmb_Lg			20 18 35.0	
	comp=Z,12nm,0.8s							
WMOK				IAML			20 18 37.3	
	comp=Z,14nm,0.6s							
WMOK				IAML			20 18 37.7	
	comp=Z,18nm,0.8s							
319A	**Douglas**	**5.19**	**274**			Pn	20 17 03.5	-0.9
MLDN	**Muldoon**	**5.48**	**103**	IAmb_Lg			20 18 52.3	
	comp=Z,13nm,0.8s							
HBVL	**Hebbronville**	**5.68**	**134**	Pn		Pn	20 17 12.2	+1.1
LOOK	**Love County**	**5.84**	**59**	IAmb_Lg			20 19 00.9	
	comp=Z,22nm,1.0s							
T25A	**Trinidad**	**6.07**	**351**	Pn		Pn	20 17 15.3	-1.4
237A	**Washetta, Mont**	**6.39**	**80**	IAmb_Lg			20 19 21.5	
	comp=Z,20nm,0.8s							
OK031	**S. Brethren Rd**	**7.18**	**46**	IAmb_Lg			20 19 39.9	
	comp=Z,11nm,0.8s							
X37A	**Clayton**	**7.45**	**60**	IAmb_Lg			20 20 01.9	
	comp=Z,12nm,0.8s							
KSU1	**Kansas State U**	**9.62**	**32**	IAmb_Lg			20 20 52.7	
	comp=Z,6.6nm,0.7s							

IDC 28 20:21:09.8±46.0, 15°.57S×171°.29W, h0km, mb4.2/3, mbtmp4.2/3, Error ellipse: s-maj=910.4km s-min=185.8km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STKA	**Stephens Creek**	**45.72**	**241**	P		P	20 29 33.8	+0.7
	3.3nm,0.8s,baz=101,slow=10,SNR=4.9							
	3.3nm,0.8s							
WRA	**Warramunga Arr**	**51.79**	**257**	P		P	20 30 19.3	-0.6
	0.4nm,0.5s,baz=97,slow=7.0,SNR=12							
	0.4nm,0.5s							
ASAR	**Alice Springs**	**52.00**	**252**	P		P	20 30 21.2	-0.2
	5.0nm,0.6s,baz=89,slow=8.1,SNR=92							
	5.0nm,0.6s							

ROM 28 20:29:45.6±0.1, 43°.003N±0°.002×13°.033E±0°.004, h5km, ML1.2/4, Error ellipse: s-maj=0.3km s-min=0.0km az=117.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
FEMA	**Monte Fema**	**0.04**	**163**	P		Pg	20 29 46.9	0.0
FEMA				S		Sg	20 29 47.9	0.0
FDMO	**Fiordimonte**	**0.05**	**50**	P		Pg	20 29 47.0	0.0
FDMO				S		Sg	20 29 48.1	+0.1
T1219	**Muccia, Frazio**	**0.06**	**341**	P		Pg	20 29 47.1	+0.1
T1219				S		Sg	20 29 48.3	+0.2
CESI	**CESI - Serrava**	**0.09**	**271**	P		Pg	20 29 48.0	+0.4
CESI				S		Sg	20 29 49.9	+0.9
CESI				AML		AML		
	comp=E,387μm,0.4s							
CESI				AML		AML		
	comp=N,626μm,0.3s							
CESI				AML		AML		
	comp=E,387μm,1.6s							
T1220	**Camerino, Fraz**	**0.12**	**21**	P		Pg	20 29 48.3	+0.3
T1220				S		Sg	20 29 50.6	+1.0
MML1	**Montelago di S**	**0.12**	**338**	P		Pg	20 29 48.3	+0.2
MML1				S		Sg	20 29 50.4	+0.7
MC2	**Monte Cornacci**	**0.15**	**128**	S		Sg	20 29 52.0	+1.4
CSP1	**Cessapalombo**	**0.15**	**55**	P		Pg	20 29 49.0	+0.3
CSP1				S		Sg	20 29 52.0	+1.2
NRCA	**Norcia**	**0.18**	**160**	P		Pg	20 29 49.4	+0.3
PF6	**Pievefavera**	**0.19**	**39**	P		Pg	20 29 49.9	+0.6
PF6				S		Sg	20 29 52.5	+0.7
T1221	**Campello sul C**	**0.20**	**224**	P		Pg	20 29 49.9	+0.4
T1221				S		Sg	20 29 53.4	+1.4
GAVE	**Gavelli**	**0.33**	**198**	AML		AML		
	comp=N,51μm,0.6s							
GAVE				AML		AML		
	comp=E,49μm,1.2s							
GAVE				AML		AML		
	comp=E,25μm,1.4s							
GAVE				AML		AML		
	comp=N,40μm,0.5s							
GAVE				AML		AML		
	comp=E,25μm,0.6s							
RM33	**Pellescritta (**	**0.51**	**165**	AML		AML		
	comp=E,95μm,0.1s							
RM33				AML		AML		
	comp=N,97μm,0.3s							
TERO	**Teramo**	**0.57**	**132**	AML		AML		
	comp=N,81μm,0.3s							
TERO				AML		AML		
	comp=E,68μm,0.2s							

IDC 28 20:30:11.4±2.1, 5°.53S×150°.59E, h0km, mb3.3/3, mbtmp3.5/4, ML1.8/1, Error ellipse: s-maj=122.8km s-min=27.5km az=124.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
PMG	**Port Moresby**	**5.13**	**221**	Pn		Pn	20 31 31.3	+1.7
	2.5nm,0.3s,baz=56,slow=9.8,SNR=5.8							
PMG				Sn		Sn	20 32 24.4	-5.2
	2.4nm,0.3s,baz=128,slow=15,SNR=2.1							
	16nm,0.8s							
WRA	**Warramunga Arr**	**21.33**	**226**	P		P	20 34 59.3	-0.9
	1.1nm,0.7s,baz=51,slow=10,SNR=15							
	1.1nm,0.7s							
ASAR	**Alice Springs**	**24.15**	**220**	P		P	20 35 28.7	-0.7
	0.6nm,0.7s,baz=55,slow=8.8,SNR=9.8							
	0.6nm,0.7s							
ILAR	**Eielson Array**	**83.67**	**22**	P		P	20 42 41.0	-0.7
	0.2nm,0.7s,baz=251,slow=4.5,SNR=2.0							
	0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**148.42**	**286**	PKPbc		PKPbc	20 50 01.5	+0.5
	1.8nm,0.6s,baz=71,slow=2.6,SNR=11							

*IDC **28** 20:46:34.8±9.2, 17°.55S×176°.09E, h0km, mb4.0/3, mbtmp4.2/4, ML4.5/1, Error ellipse: s-maj=181.3km s-min=106.8km az=114.0*
*NEIC **28** 20:46:34.1±0.6, 17°.5S×0°.2×176°.44E±0°.06, h10km±1km, mb4.2/7, Error ellipse: s-maj=41.8km s-min=7.0km az=350.0*

ISC 28 20:46:32.0±2.2, 17°.1S±0°.4×176°.4E±0°.1, h10km, n17, σ1s21/17, mb4.1/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**1.72**	**112**	Pn		**Pn**	**20 47 01.7**	**-0.4**
LIFNC	**LIFOU**	**9.38**	**246**	Pn		**Pn**	**20 48 45.7**	**-1.7**
PINNC	**Pines Island,**	**10.03**	**235**	Pn		**Pn**	**20 48 57.9**	**+1.7**
OUENC	**Ouen Island, N**	**10.41**	**238**	Pn		**Pn**	**20 49 01.1**	**-0.4**
DZM	**Mont Dzumac**	**10.58**	**241**	Pn		**Pn**	**20 49 01.7**	**-2.2**
	4.2nm,0.3s,baz=70,slow=18,SNR=31							
	22nm,0.5s							
ONTNC	**Ouen Toro**	**10.68**	**239**			**Pn**	**20 49 03.4**	**-1.7**
STKA	**Stephens Creek**	**34.73**	**238**	P		**P**	**20 53 22.4**	**-0.1**
STKA				IAmb		IAmb	20 53 28.4	
	comp=Z,3.2nm,1.3s							
STKA	**Stephens Creek**	**34.73**	**238**	P		**P**	**20 53 23.4**	**+0.9**
	comp=Z,5.3nm,1.1s,baz=62,slow=6.2,SNR=4.6							
	comp=Z,5.3nm,1.1s							
WR0	**Warramunga Arr**	**39.69**	**259**	P		**P**	**20 54 05.9**	**+1.1**
WR0				IAmb		IAmb	20 54 07.8	
	comp=Z,5.7nm,1.2s							
WB0	**Warramunga Arr**	**39.84**	**259**	P		**P**	**20 54 06.9**	**+0.8**
WB0				IAmb		IAmb	20 54 45.9	
	comp=Z,14nm,1.4s							
WB2	**Warramunga Arr**	**39.87**	**259**	P		**P**	**20 54 07.2**	**+0.9**
WB2				IAmb		IAmb	20 54 35.9	
	comp=Z,18nm,1.5s							
WRA	**Warramunga Arr**	**39.88**	**259**	P		**P**	**20 54 07.3**	**+0.9**
WRA	**Warramunga Arr**	**39.88**	**259**	P		**P**	**20 54 07.5**	**+1.0**
	comp=Z,0.3nm,0.4s,baz=97,slow=8.0,SNR=17							
	comp=Z,0.3nm,0.4s							
AS31	**Alice Springs**	**40.23**	**253**	P		**P**	**20 54 10.0**	**+0.8**
AS31				IAmb		IAmb	20 54 10.6	
	comp=Z,1.1nm,0.7s							
ASAR	**Alice Springs**	**40.23**	**253**	P		**P**	**20 54 09.7**	**+0.4**
ASAR	**Alice Springs**	**40.23**	**253**	P		**P**	**20 54 10.1**	**+0.8**
	comp=Z,1.9nm,0.6s,baz=83,slow=9.3,SNR=32							
	comp=Z,1.9nm,0.6s							
CASY	**Casey**	**64.81**	**204**	P		**P**	**20 57 10.6**	**-0.1**

*BJI **28** 20:53:33.9±0.0, 48°.30N×154°.86E, h83km, mb4.6/26, mB4.7/11*
*KRSC **28** 20:53:34.7±2.1, 48°.07N×154°.67E, h102km±35km, Ml5.1*
*SKHL **28** 20:53:36.5±0.1, 48°.00N×154°.80E, h82km±8km, mb5.5/4, mshа6.3/5*
*MOS **28** 20:53:36.5±1.3, 48°.18N×154°.42E, h74km, mb4.7/15, Error ellipse: s-maj=8.2km s-min=3.8km az=71.5*
*NEIC **28** 20:53:37.3±1.3, 48°.3N±0°.1×154°.1E±0°.1, h53km±8km, mb4.6/138, Error ellipse: s-maj=18.9km s-min=4.8km az=145.0*
*IDC **28** 20:53:40.1±2.0, 48°.34N×154°.11E, h80km±17km, mb3.8/25, mbtmp4.3/30, MS3.3/24, Error ellipse: s-maj=15.1km s-min=10.7km az=149.0*

ISC 28 20:53:37.1±0.5, 48°.15N±0°.06×154°.49E±0°.05, h50km, n501, σ1s28/399, mb4.5/120, MS3.4/19, 7C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
SKR	**Severo-Kuril's**	**2.75**	**22**	*eP*		**Pn**	**20 54 19.5**	**+0.9**
SKR				*eS*		**Sn**	**20 54 51.3**	**+0.6**
SKR	**Severo-Kuril's**	**2.75**	**22**	*eP*		**Pn**	**20 54 19.3**	**+0.6**
SKR				AMB		AMB	20 54 20.5	
	510nm,0.4s							
SKR				*eS*		**Sn**	**20 54 51.3**	**+0.6**
SKR				A		A	20 54 59.4	
	2μm,0.4s							
SKR				A		A	20 54 59.4	
	2μm,0.4s							
SKR	**Severo-Kuril's**	**2.75**	**22**	*e*PN		**Pn**	**20 54 19.6**	**+0.9**
SKR				*eS*		**Sn**	**20 54 50.8**	**+0.1**
SKR				pmax		pmax		
	comp=Z,487nm,0.4s							
SKR				smax		smax		
	comp=E,2μm,0.4s							
SKR				smax		smax		
	comp=N,2μm,0.5s							
SKR				MLR		MLR		
	comp=Z,1μm,12.0s							
PAU	**Pauzhetka**	**3.65**	**24**	*eP*		**Pn**	**20 54 33.1**	**+2.1**
PAU				*eS*		**Sn**	**20 55 15.2**	**+2.5**
PAU	**Pauzhetka**	**3.65**	**24**	*eP*		**Pn**	**20 54 32.9**	**+1.9**
PAU				AMB		AMB	20 54 36.5	
	comp=Z,360nm,0.4s							
PAU				*eS*		**Sn**	**20 55 14.4**	**+1.7**
PAU				A		A	20 55 19.9	
	comp=Z,2μm,0.3s							
PAU				A		A	20 55 19.9	
	comp=Z,2μm,0.3s							
PAU	**Pauzhetka**	**3.65**	**24**	PN		**Pn**	**20 54 33.1**	**+2.1**
PAU				S		**Sn**	**20 55 15.2**	**+2.5**
KDTR	**Khodutka, Kamc**	**4.33**	**31**	*eP*		**Pn**	**20 54 39.9**	**-0.5**
KDTR				*eS*		**Sn**	**20 55 27.8**	**-1.8**
KDTR	**Khodutka, Kamc**	**4.33**	**31**	*eP*		**Pn**	**20 54 39.9**	**-0.5**
KDTR	**Khodutka, Kamc**	**4.33**	**31**	PN		**Pn**	**20 54 39.9**	**-0.5**
KDTR				S		**Sn**	**20 55 27.8**	**-1.8**
ASAK	**Asacha**	**4.77**	**26**	*eP*		**Pn**	**20 54 47.3**	**+0.8**
ASAK	**Asacha**	**4.77**	**26**	PN		**Pn**	**20 54 47.3**	**+0.8**
MTVR	**Mutnovka**	**4.94**	**27**	*eP*		**Pn**	**20 54 49.2**	**+0.3**
MTVR				*eS*		**Sn**	**20 55 44.5**	**-0.3**
MTVR	**Mutnovka**	**4.94**	**27**	PN		**Pn**	**20 54 49.2**	**+0.3**
MTVR				S		**Sn**	**20 55 44.5**	**-0.3**
GRL	**Gorelyy**	**4.97**	**26**	*eP*		**Pn**	**20 54 50.3**	**+1.0**
GRL				*eS*		**Sn**	**20 55 46.3**	**+0.9**
GRL	**Gorelyy**	**4.97**	**26**	PN		**Pn**	**20 54 50.3**	**+1.0**
GRL				S		**Sn**	**20 55 46.3**	**+0.9**
RUS	**Russkaya**	**5.01**	**30**	*eP*		**Pn**	**20 54 48.9**	**-0.7**
RUS				*eS*		**Sn**	**20 55 43.6**	**-2.5**
RUS	**Russkaya**	**5.01**	**30**	PN		**Pn**	**20 54 48.9**	**-0.7**
RUS				S		**Sn**	**20 55 43.6**	**-2.5**
APC	**Apacha**	**5.08**	**19**	*eP*		**Pn**	**20 54 52.5**	**+1.9**
APC	**Apacha**	**5.08**	**19**	PN		**Pn**	**20 54 52.5**	**+1.9**
KRMR	**Karymshinskiy**	**5.23**	**25**	*eP*		**Pn**	**20 54 53.7**	**+1.0**
KRMR	**Karymshinskiy**	**5.23**	**25**	*eP*		**Pn**	**20 54 53.7**	**+1.0**
KRMR	**Karymshinskiy**	**5.23**	**25**	PN		**Pn**	**20 54 53.7**	**+1.0**
PEA0B	**Petropavlovsk-**	**5.37**	**21**			**Pn**	**20 54 55.4**	**+0.8**
PEA0B	**Petropavlovsk-**	**5.37**	**21**	*i* PN		**Pn**	**20 54 55.4**	**+0.8**
PETK	**Petropavlovsk-**	**5.37**	**21**			**Pn**	**20 54 54.7**	**+0.1**
PETK	**Petropavlovsk-**	**5.37**	**21**	P		**Pn**	**20 54 55.4**	**+0.8**
	comp=Z,41nm,0.4s,baz=181,slow=12,SNR=296							
PETK	**Petropavlovsk-**	**5.37**	**21**	PN		**Pn**	**20 54 54.7**	**+0.1**
KUR	**Kuril'sk**	**5.41**	**240**	*eP*		**Pn**	**20 54 57.6**	**+2.5**
KUR				AMB		AMB	20 55 08.1	
	comp=Z,240nm,0.6s							
KUR				*i* S		**Sn**	**20 55 57.6**	**+1.6**
KUR				A		A	20 56 18.2	
	comp=Z,360nm,0.6s							
KUR				A		A	20 56 18.2	
	comp=Z,470nm,0.6s							
KUR	**Kuril'sk**	**5.41**	**240**	*e*PN		**Pn**	**20 54 57.9**	**+2.8**
KUR				*i* S		**Sn**	**20 56 01.0**	**+5.0**
KUR				pmax		pmax		
	comp=Z,235nm,0.6s							
KUR				pmax		pmax		
	comp=E,61nm,0.5s							
KUR				smax		smax		
	comp=N,308nm,0.6s							
KUR				smax		smax		
	comp=E,185nm,0.6s							
PET	**Petropavlovsk**	**5.55**	**27**			**Pn**	**20 54 55.5**	**-1.6**
PET	**Petropavlovsk**	**5.55**	**27**	*eS*		**Sn**	**20 55 59.5**	**-0.1**
PET	**Petropavlovsk**	**5.55**	**27**	*eP*		**Pn**	**20 54 57.5**	**+0.4**
PET				AMB		AMB	20 54 59.2	
	comp=E,50nm,0.3s							
PET				*eS*		**Sn**	**20 55 58.8**	**-0.8**
PET				A		A	20 56 04.7	
	comp=E,30nm,0.4s							
PET				A		A	20 56 04.7	
	comp=E,270nm,0.4s							
PET	**Petropavlovsk**	**5.55**	**27**	*e*PN		**Pn**	**20 54 58.0**	**+0.9**
PET				*eS*		**Sn**	**20 55 58.4**	**-1.2**
PET				pmax		pmax		
	comp=Z,91nm,0.7s							
PET				smax		smax		
	comp=E,342nm,0.6s							
PET				smax		smax		
	comp=N,315nm,0.5s							
PET				MLR		MLR		
	comp=Z,100nm,13.0s							
DALK	**Dalny**	**5.59**	**27**	*eP*		**Pn**	**20 54 57.9**	**+0.3**
DALK				*eS*		**Sn**	**20 56 00.2**	**-0.3**
DALK	**Dalny**	**5.59**	**27**	PN		**Pn**	**20 54 57.9**	**+0.3**
DALK				S		**Sn**	**20 56 00.2**	**-0.3**
UGLR	**Uglovaya**	**5.77**	**27**	*eP*		**Pn**	**20 55 01.1**	**+0.9**
UGLR	**Uglovaya**	**5.77**	**27**	PN		**Pn**	**20 55 01.1**	**+0.9**
KOK	**Koryaka**	**5.78**	**26**	*eP*		**Pn**	**20 55 02.0**	**+1.6**
KOK	**Koryaka**	**5.78**	**26**	*eP*		**Pn**	**20 55 02.0**	**+1.6**
KOK	**Koryaka**	**5.78**	**26**	PN		**Pn**	**20 55 02.0**	**+1.6**
AVH	**Avacha**	**5.79**	**26**	*eP*		**Pn**	**20 55 02.2**	**+1.7**
AVH	**Avacha**	**5.79**	**26**	PN		**Pn**	**20 55 02.2**	**+1.7**
SMAR	**Somma**	**5.81**	**27**	*eP*		**Pn**	**20 55 01.9**	**+1.1**
SMAR	**Somma**	**5.81**	**27**	PN		**Pn**	**20 55 01.9**	**+1.1**
KRER	**Koryakskii**	**5.83**	**26**	*eP*		**Pn**	**20 55 02.4**	**+1.3**
KRER				*eS*		**Sn**	**20 56 07.0**	**+0.4**
KRER	**Koryakskii**	**5.83**	**26**	PN		**Pn**	**20 55 02.4**	**+1.3**
KRER				S		**Sn**	**20 56 07.0**	**+0.4**
KRX	**Arik**	**5.85**	**25**	*eP*		**Pn**	**20 55 02.6**	**+1.3**
KRX	**Arik**	**5.85**	**25**	PN		**Pn**	**20 55 02.6**	**+1.3**
NLC	**Nalytchevo**	**5.90**	**30**	*eS*		**Sn**	**20 56 03.3**	**-4.8**
GNL	**Ganaly**	**5.97**	**20**	*eP*		**Pn**	**20 55 04.7**	**+1.8**
GNL	**Ganaly**	**5.97**	**20**	PN		**Pn**	**20 55 04.7**	**+1.8**
SPN	**Mys Shipunski**	**6.08**	**33**	*eP*		**Pn**	**20 55 03.8**	**-0.

JKA	Kamikawa-asahi	9.18	248			Pn		20 55 49.0	+2.1	
JKA	Kamikawa-asahi	9.18	248	*e*	P	Pn		20 55 49.4	+2.5	
ASAJ	Asahikawa	9.19	248		P	Pn		20 55 49.4	+2.5	
	comp=E,86nm,0.8s,baz=77,slow=12,SNR=51									
ASAJ					LR	LR		20 59 02.0		
	comp=E,201nm,20.4s,baz=358,slow=36									
ERM	Erimo	10.08	237			Pn		20 55 57.1	-2.0	
ERM	Erimo	10.08	237	*i*	PN	Pn		20 55 57.4	-1.8	
MA2	Magadan	11.65	351		P	Pn		20 56 21.7	+1.1	
	comp=E,8.1nm,0.2s,baz=181,slow=14,SNR=12									
JTM	Tenmabayashi	12.07	237			Pn		20 56 21.2	-5.2	
SHEM	Shemya Is, Ala	13.30	63		P	Pn		20 56 43.3	+0.3	
	comp=E,244nm,0.5s,baz=232,slow=0.9,SNR=41									
SHEM					S	Sn		20 58 58.0	-11	
	comp=E,26nm,0.3s,baz=60,slow=23,SNR=1.4									
SHEM					LR	LR		21 02 39.2		
	comp=E,58nm,19.4s,baz=114,slow=40									
JMM	Marumori	14.33	229		Pn	Pn		20 56 52.6	-4.4	
SEY	Seymchan	14.87	356		P	Pn		20 57 06.7	+2.8	
	comp=E,1.6nm,0.4s,baz=167,slow=11,SNR=8.0									
SEY	Seymchan	14.87	356	*ce*	P	Pn		20 57 05.1	+1.2	
SEY					pmax	pmax				
	comp=Z,6.0nm,1.7s									
KLR	Kul'dur	15.05	283		P	Pn		20 57 07.0	+0.7	
	comp=Z,4.1nm,0.8s,baz=87,slow=12,SNR=12									
KLR	Kul'dur	15.05	283	*e*	P	Pn		20 57 04.5	-1.9	
KLR	Kul'dur	15.05	283	*ce*	P	Pn		20 57 07.9	+1.5	
KLR					pmax	pmax				
	comp=Z,20nm,1.7s									
JSD	Sado	15.54	235			Pn		20 57 07.0	-5.8	
JSD					IAmb	IAmb		20 57 16.9		
	comp=Z,36nm,0.9s									
USA0B	Ussuriysk Arra	16.06	264		P	Pn		20 57 18.7	-0.7	
USA0B	Ussuriysk Arra	16.06	264		P	Pn		20 57 18.7	-0.7	
USA0B					pmax	pmax				
	comp=Z,14nm,0.7s									
USRK	Ussuriysk Ar.	16.06	264			Pn		20 57 17.6	-1.8	
USRK	Ussuriysk Ar.	16.06	264		P	Pn		20 57 19.8	+0.4	
	comp=Z,14nm,0.6s,baz=68,slow=11,SNR=24									
USRK					LR	LR		21 02 55.3		
	comp=Z,91nm,21.5s,baz=96,slow=35									
MAJO	Matsushiro	16.67	232		Pn	Pn		20 57 24.2	-3.0	
MAJO	Matsushiro	16.67	232	*i*	P	Pn		20 57 24.9	-2.3	
MAJO					pmax	pmax				
	comp=Z,11nm,0.6s									
MJAR	Matsushiro Arr	16.67	232		P	Pn		20 57 24.4	-2.8	
	comp=Z,8.3nm,0.8s,baz=32,slow=9.9,SNR=14									
MJAR					LR	LR		21 04 37.9		
	comp=Z,65nm,20.0s,baz=55,slow=40									
MJB9	Matsu-Tunnel	16.67	232		Pn	Pn		20 57 24.6	-2.6	
MSHR	Mys Shultsa	17.28	260	*ce*	P	Pn		20 57 34.0	-0.7	
MSHR					pmax	pmax				
	comp=Z,8.0nm,0.7s									
PSTR	Posyet	17.48	260	*i*	P	Pn		20 57 36.5	-0.7	
MDJ	Mudanjiang	17.51	268		P	Pn		20 57 34.3	-3.2	
HEH	HeiHe	17.78	287	*e*	P	Pn		20 57 41.0	+0.2	
HEH					pmax	pmax				
	comp=Z,26nm,0.9s									
JGF	Kuroka	17.83	232		P	Pn		20 57 39.0	-2.6	
ZEA	Zeya	17.99	298	*e*	P	Pn		20 57 43.4	+0.1	
ZEA	Zeya	17.99	298	*e*	P	Pn		20 57 43.4	+0.1	
ZEA					pmax	pmax				
	comp=N,10.0nm,0.4s									
ZEA					pmax	pmax				
	comp=Z,10.0nm,0.7s									
INU	Inuyama	18.20	232			P		20 57 42.2	-3.6	
BNX	BinXian	18.61	273		P	P		20 57 47.5	-2.7	
BNX					pmax	pmax				
	comp=Z,7.0nm,1.5s									
JHJ	Hachijo jima 2	18.66	222		LR	LR		21 04 45.9		
	comp=Z,36nm,19.6s,baz=322,slow=36									
YAK	Yakutsk	19.69	324		P	P		20 58 00.8	-1.0	
YAK	Yakutsk	19.69	324		P	P		20 58 01.0	-0.8	
	comp=Z,36nm,0.7s,baz=93,slow=1.0,SNR=15									
YAK					LR	LR		21 05 23.8		
	comp=Z,49nm,21.4s,baz=130,slow=36									
YAK	Yakutsk	19.69	324	*e*	P	P		20 58 02.2	+0.4	
YAK	Yakutsk	19.69	324	*e*	P	P		20 58 02.2	+0.4	
YAK				*e*	S	S		21 01 38.4	-2.5	
YAK					pmax	pmax				
	comp=Z,15nm,0.9s									
YAK					pmax	pmax				
	comp=E,6.0nm,1.1s									
YAK					pmax	pmax				
	comp=N,5.0nm,1.3s									
YAK					smax	smax				
	comp=E,21nm,1.7s									
YAK					smax	smax				
	comp=N,8.0nm,1.0s									
BILL	Bilibino	20.82	12	*i*	P	P		20 58 11.7	-2.3	
BILL					pmax	pmax				
	comp=Z,14nm,3.2s									
KSRS	Korea Array	22.12	251		P	P		20 58 27.4	-0.8	
	comp=Z,18nm,0.7s,baz=48,slow=10.0,SNR=58									
KSRS					LR	LR		21 06 41.5		
	comp=Z,86nm,19.0s,baz=50,slow=36									
	comp=Z,18nm,0.7s									
KS19	Wonju Array Si	22.13	251		P	P		20 58 26.5	-1.8	
KS19					IAmb	IAmb		20 58 30.0		
	comp=Z,23nm,0.7s									
KSAR	Wonju Array Be	22.15	251		P	P		20 58 26.5	-2.0	
KSAR	Wonju Array Be	22.15	251		P	P		20 58 26.5	-2.0	
TJN	Taejon	23.14	249		P	P		20 58 37.4	-1.4	
TJN	Taejon	23.14	249		P	P		20 58 37.4	-1.4	
TJN					pmax	pmax				
	comp=Z,85nm,0.9s									
JNU	Nakatsue	23.24	238		P	P		20 58 38.5	-1.5	
JNU					IAmb	IAmb		20 59 21.2		
	comp=Z,26nm,1.4s									
JNU	Nakatsue	23.24	238		LR	LR		21 07 22.5		
	comp=Z,56nm,20.1s,baz=40,slow=36									
NIKH	Nikolski High	23.60	64		P	P		20 58 43.7	+0.5	
	baz=274									
GAMB	Gambell	24.14	37		P	P		20 58 47.0	-1.0	
	baz=246									
M11K	Mekoryuk	25.59	47		P	P		20 59 01.4	+0.2	
	baz=260									
TNA	Tin City	26.35	35		P	P		20 59 08.4	+0.4	
	baz=248									
TIXI	Tiksi	26.41	342		LR	LR		21 09 40.7		
	comp=Z,41nm,18.3s,baz=142,slow=37									
K13K	Kusilvak Mount	26.63	44		P	P		20 59 11.6	+0.9	
	baz=258									
F14K	Arctic Creek	26.93	36		P	P		20 59 13.0	-0.3	
	baz=250									
ANM	Nome	27.01	38		P	P		20 59 14.0	-0.1	
ANM					IAmb	IAmb		20 59 15.8		
	comp=Z,16nm,1.4s									
ANM	Nome	27.01	38		P	P		20 59 13.9	-0.1	
	baz=252									
ANM	Nome	27.01	38		P	P		20 59 14.0	-0.1	
ANM					pmax	pmax				
	comp=Z,16nm,1.4s									
J14K	Nanvaranak Lak	27.31	42		P	P		20 59 17.4	+0.7	
J14K					IAmb	IAmb		20 59 26.6		
	comp=Z,12nm,1.1s									
J14K	Nanvaranak Lak	27.31	42		P	P		20 59 16.9	+0.2	
	baz=258									
L14K	Kuka Creek	27.45	45		P	P		20 59 18.5	+0.5	
	baz=262									
F15K	North Star Dit	27.67	36		P	P		20 59 19.7	-0.2	
	baz=251									
G15K	Niukluk	27.69	37		P	P		20 59 19.9	-0.1	
	baz=253									
M14K	Bethel	27.72	47		P	P		20 59 20.6	+0.3	
	baz=263									
O14K	Tigyukauivet M	27.92	50		P	P		20 59 23.2	+1.1	
K15K	Wolf Creek Mou	28.14	43		P	P		20 59 25.2	+1.1	
H16K	Elim	28.33	38		P	P		20 59 26.8	+1.0	
	baz=256									
M15K	Kasigluk River	28.33	47		P	P		20 59 26.2	+0.4	
	baz=265									
C16K	Lisburne Hills	28.39	30		P	P		20 59 25.7	-0.5	
C16K					IAmb	IAmb		21 00 04.9		
	comp=Z,29nm,1.4s									
C16K	Lisburne Hills	28.39	30		P	P		20 59 26.1	-0.1	
	baz=246									
G16K	Koyuk River	28.48	37		P	P		20 59 27.3	+0.2	
	baz=254									
N15K	Kwethluk River	28.58	48		P	P		20 59 28.2	+0.2	
	baz=266									
O15K	Ungalikthiuk R	28.66	50		P	P		20 59 29.2	+0.5	
	baz=268									
J16K	Anvik River	28.74	42		P	P		20 59 30.1	+0.7	
I17K	Unalakleet	28.82	40		P	P		20 59 30.1	0.0	
	baz=259									
S14K	Fog Glacier	28.83	56		P	P		20 59 31.4	+1.0	
	baz=274									
D17K	Noatak River	28.95	32		P	P		20 59 31.9	+0.7	
	baz=250									
L16K	Owhat River	29.02	45		P	P		20 59 31.9	0.0	
L16K	Owhat River	29.02	45		P	P		20 59 32.5	+0.5	
	baz=264									
RDOG	Red Dog Mine	29.14	32		P	P		20 59 32.7	-0.3	
RDOG	Red Dog Mine	29.14	32		P	P		20 59 33.3	+0.3	
	baz=249									
E17K	Hotham Inlet	29.19	34		P	P		20 59 32.9	-0.5	
	baz=252									
G17K	Kiwalik Mounta	29.20	37		P	P		20 59 33.6	+0.1	
	baz=256									
C17K	DeLong Mountai	29.20	31		P	P		20 59 33.0	-0.5	
	baz=248									
M16K	Timber Creek	29.20	46		P	P		20 59 34.0	+0.4	
M16K	Timber Creek	29.20	46		P	P		20 59 34.5	+0.9	
	baz=266									
N16K	Nishlik Lake	29.26	48		P	P		20 59 34.9	+0.8	
	baz=267									
H17K	Granite Mounta	29.37	38		P	P		20 59 35.1	+0.1	
H17K	Granite Mounta	29.37	38		P	P		20 59 35.2	+0.1	
	baz=258									
J17K	VABM Dome	29.44	42		P	P		20 59 36.5	+0.9	
J17K	VABM Dome	29.44	42		P	P		20 59 36.2	+0.6	
	baz=261									
JOW	Kunigami	29.51	233		LR	LR		21 11 18.6		
	comp=Z,47nm,21.0s,baz=278,slow=36									
L17K	Donlin	29.62	44		P	P		20 59 38.0	+0.7	
	baz=264									
K17K	Iditarod	29.69	43		P	P		20 59 38.9	+1.0	
K17K	Iditarod	29.69	43		P	P		20 59 38.2	+0.3	
	baz=263									
E18K	Tukpahlearik C	29.75	33		P	P		20 59 37.5	-0.9	
	baz=253									
F18K	Selawik	29.88	35		P	P		20 59 39.7	+0.3	
	baz=255									
C18K	Utukok River	29.94	31		P	P		20 59 40.0	-0.1	
C18K					IAmb	IAmb		20 59 40.7		
	comp=Z,6.2nm,0.7s									
C18K	Utukok River	29.94	31		P	P		20 59 40.3	+0.2	
	baz=250									
M17K	Holitna River	29.97	46		P	P		20 59 40.9	+0.5	
M17K	Holitna River	29.97	46		P	P		20 59 41.2	+0.9	
	baz=266,SNR=6.4									
B18K	Kokolik River	30.00	29		P	P		20 59 39.9	-0.6	
	baz=248									
N17K	Nushagak Hills	30.04	48		P	P		20 59 41.9	+0.9	
	baz=268									
H18K	Honhosa River	30.06	38		P	P		20 59 40.8	-0.3	
	baz=259									
O17K	Koliganek Bris	30.07	49		P	P		20 59 42.6	+1.4	
	baz=270									
H11N2	WAKE ISLAND Hy	30.08	156		T	T		21 31 49.6		
	baz=347,slow=74									
H11N1	WAKE ISLAND Hy	30.09	156		T	T		21 31 32.1		
	baz=347,slow=74									
H11N3	WAKE ISLAND Hy	30.09	156		T	T		21 32 05.4		
	baz=347									
G18K	Tagagawik	30.10	37		P	P		20 59 41.6	+0.1	
G18K	Tagagawik	30.10	37		P	P		20 59 41.7	+0.2	
	baz=258,SNR=5.1									
L18K	Granite Mounta	30.38	44		P	P		20 59 45.1	+1.1	
	baz=266									
J18K	Innoko River	30.50	42		P	P		20 59 45.0	-0.1	
J18K	Innoko River	30.50	42		P	P		20 59 44.8	-0.2	
	baz=264									
C19K	Lookout Ridge	30.65	30		P	P		20 59 46.1	-0.3	
C19K					IAmb	IAmb		21 00 03.0		
	comp=Z,21nm,1.4s									
C19K	Lookout Ridge	30.65	30		P	P		20 59 46.0	-0.3	
	baz=251									
F19K	Shaleruckik Mo	30.66	35		P	P		20 59 46.0	-0.4	
	baz=257									
N18K	Kilae Creek	30.68	47		P	P		20 59 47.6	+0.9	
N18K					IAmb	IAmb		20 59 48.9		
	comp=Z,7.5nm,0.8s									
N18K	Kilae Creek	30.68	47		P	P		20 59 47.0	+0.3	
	baz=269									
M18K	Stony River	30.75	46		P	P		20 59 48.2	+1.0	
	baz=268									
G19K	Purcell Mounta	30.77	36		P	P		20 59 46.9	-0.6	
	baz=259									
H19K	Roundabout Mou	30.92	38		P	P		20 59 49.0	+0.3	
H19K					IAmb	IAmb		20 59 49.9		
	comp=Z,7.8nm,0.8s									
H19K	Roundabout Mou	30.92	38		P	P		20 59 48.6	-0.1	
	baz=260,SNR=6.7									
D19K	Kuna River	30.97	32		IAmb	IAmb		20 59 51.4		
	comp=Z,13nm,1.2s									
D19K	Kuna River	30.97	32		P	P		20 59 49.5	+0.4	
	baz=254									
E19K	Redstone River	31.01	34		P	P		20 59 50.3	+0.8	
	baz=256									
P18K	Big Mountain,	31.02	50		P	P		20 59 50.0	+0.3	
	baz=272									
O18K	Koktuh Hills	31.02	49		P	P		20 59 49.8	+0.2	
	baz=271									
J19K	Poorman	31.04	41		IAmb	IAmb		20 59 50.8		
	comp=Z,5.6nm,0.6s									
J19K	Poorman	31.04	41		P	P		20 59 50.3	+0.5	
	baz=264									
HHC	Hu-ho-hao-te	31.14	273	*e*	P	P		20 59 46.8	-4.2	
HHC					pmax	pmax				
	comp=Z,8.0nm,0.6s									
HHC					pmax	pmax				
	comp=Z,45nm,5.1s									
H11S1	WAKE ISLAND Hy	31.20	157		T	T		21 32 58.6		
	baz=344,slow=76,SNR=6833									
H11S3	WAKE ISLAND Hy	31.20	157		T	T		21 32 59.4		
	baz=344,slow=76,SNR=5907									
H11S2	WAKE ISLAND Hy	31.21	157		T	T		21 33 00.0		
	baz=344,slow=76,SNR=5718									
N19K	Bonanza Creek	31.38	47		P	P		20 59 53.8	+0.9	
N19K					IAmb	IAmb		20 59 54.8		
	comp=Z,6.2nm,0.8s									
N19K	Bonanza Creek	31.38	47		P	P		20 59 54.0	+1.1	
	baz=270									
M19K	Big River Lodg	31.45	45		P	P		20 59 54.7	+1.3	
	baz=268									
F20K	Avaraart Lake	31.49	35		P	P		20 59 53.5	-0.2	
	baz=259									
H20K	Anotleneega Mo	31.56	38		P	P		20 59 54.3	0.0	
	baz=262,SNR=7.3									
D20K	Etiuk River	31.56	32		P	P		20 59 54.4	+0.1	
	baz=255,SNR=6.0									
E20K	Nigu River	31.59	33		P	P		20 59 54.6	0.0	
	baz=256,SNR=8.2									
I20K	Naaghedeneel	31.63	39		P	P		20 59 55.6	+0.7	
	baz=264									
K20K	Telida	31.67	42		P	P		20 59 56.7	+1.4	
	baz=266									
J20K	Nowinta River	31.71	41		P	P		20 59 56.5	+0.9	
	baz=262									
L20K	Farewell, AK	31.71	44		P	P		20 59 56.6	+0.9	
	baz=268									
B20K	Meade River	31.75	29		P	P		20 59 56.2	+0.3	
	baz=252									
SONM	Songino Array	31.77	288		P	P		20 59 54.6	-1.9	
	comp=Z,1.2nm,1.1s,baz=77,slow=7.8,SNR=4.4									
SONM					PcP	PcP		21 02 44.8	-1.9	
	comp=Z,0.1nm,0.3s,baz=57,slow=4.1,SNR=3.5									
SONM					ScP	ScP		21 06 22.7	-3.0	
	comp=Z,0.2nm,0.3s,baz=66,slow=2.7,SNR=4.1									
	comp=Z,1.2nm,1.1s									
M20K	Styx River	32.04	45		P	P		20 59 59.6	+0.9	
	baz=270									
OHAK	Old Harbor	32.19	54		P	P		21 00 00.2	+0.3	
	baz=277									
G21K	Allakaket	32.26	36		P	P		21 00 00.6	+0.1	
	baz=262									
C21K	Knifeblade Rid	32.31	31		P	P		21 00 01.3	+0.4	
	baz=256,SNR=8.7									
F21K	Alatna River	32.39	35		P	P		21 00 02.5	+0.9	
	baz=261									
H21K	Melozitna Rive	32.43	38		P	P		21 00 02.4	+0.4	
	baz=264									
E21K	Killik River	32.44	33		P	P		21 00 02.4	+0.3	
	baz=258									
N20K	Mount Spurr	32.48	46		P	P		21 00 03.2	+0.6	
	baz=272									
B21K	Ikpikpuk River	32.48	30		P	P		21 00 02.7	+0.3	
	baz=256,SNR=12									
CHUM	Lake Minchumin	32.49	41		P	P		21 00 03.4	+0.9	
	baz=267									
KDAK	Kodiak Island	32.51	53		LR	LR		21 14 13.8		
	comp=Z,44nm,20.7s,baz=270,slow=38									
CAST	Castle Rocks	32.57	42		P	P		21 00 03.7	+0.5	
	baz=268									
I21K	Tanana	32.73	39		P	P		21 00 04.7	+0.2	
	baz=266									
A22K	Sinclair Lake	32.75	28		P	P		21 00 04.4	-0.2	
	baz=253,SNR=5.2									
SKT	Skwentna	32.80	45		IAmb	IAmb		21 00 07.5		
	comp=Z,5.8nm,0.9s									
SKT	Skwentna	32.80	45		P	P		21 00 06.1	+0.8	
	baz=271									
HOM	Homer	32.83	49		P	P		21 00 06.3	+0.8	
	baz=274									
F22K	John River	32.93	35		P	P		21 00 07.1	+0.7	
	baz=262									
D22K	Ayikyak River	32.99	32		P	P		21 00 07.5	+0.7	
	baz=259									
H22K	Ishtalitna Cre	33.04	38		P	P		21 00 07.9	+0.5	
	baz=265									
B22K	Teshekpuk Lake	33.06	29		P	P		21 00 07.2	-0.2	
	baz=256,SNR=6.0									
BPAW	Bear Paw Mtn.	33.08	41		P	P		21 00 08.1	+0.4	
BPAW	Bear Paw Mtn.	33.08	41		P	P		21 00 07.7	0.0	
	baz=268									
G22K	Bettles	33.11	36		P	P		21 00 07.7	-0.1	
	baz=263,SNR=7.7									
E22K	Anaktuvuk Pass	33.17	33		IAmb	IAmb		21 00 09.5		
	comp=Z,6.5nm,0.6s									
E22K	Anaktuvuk Pass	33.17	33		P	P		21 00 08.7	+0.3	
	baz=261,SNR=13									
SUA	Susitna One	33.18	46		P	P		21 00 08.8	+0.1	
	baz=272									
MLY	Manley	33.24	39		IAmb	IAmb		21 00 10.7		
	comp=Z,6.7nm,1.3s									
MLY	Manley	33.24	39		P	P		21 00 09.6	+0.5	
	baz=267,SNR=6.2									
BRSE	Bradley Lake S	33.28	49		P	P		21 00 09.4	-0.1	
	baz=275									
TRF	Thorofare Moun	33.38	42		IAmb	IAmb		21 00 11.3		
	comp=Z,4.3nm,0.6s									
TRF	Thorofare Moun	33.38	42		P	P		21 00 11.0	+0.6	
	baz=270									
COLD	Coldfoot	33.65	35		P	P		21 00 12.8	+0.3	
	baz=264,SNR=6.0									
G23K	Bananza Creek	33.67	36		P	P		21 00 12.9	+0.1	
	baz=265									
RC01	Rabbit Creek A	33.69	46		P	P		21 00 13.5	+0.6	
	baz=274									
D23K	Nanushuk River	33.72	32		P	P		21 00 13.1	0.0	
	baz=261									
H23K	Yukon River	33.79	38		IAmb	IAmb		21 00 15.6		
	comp=Z,14nm,1.5s									
H23K	Yukon River	33.79	38		P	P		21 00 14.7	+0.8	
	baz=267,SNR=6.9									
I23K	Minto, Yukon-K	33.83	39		P	P		21 00 13.8	-0.3	
	baz=268									
C23K	Itkillik River	33.89	31		P	P		21 00 14.8	+0.2	
	baz=260,SNR=8.2									
NEA2	Nenana	33.94	40		IAmb	IAmb		21 00 16.8		
	comp=Z,7.6nm,0.7s									
NEA2	Nenana	33.94	40		P	P		21 00 15.5	+0.4	
	baz=269,SNR=8.5									
PMR	Palmer	33.95	45		P	P		21 00 16.4	+1.2	
	baz=274									
E23K	Chandalar	33.97	34		P	P		21 00 16.4	+0.9	
	baz=263									
MCK	McKinley	33.98	42		P	P		21 00 16.1	+0.5	
	baz=270									
TOLK	Toolik Lake Re	34.06	33		IAmb	IAmb		21 00 37.5		
	comp=Z,3.2nm,0.5s									
TOLK	Toolik Lake Re	34.06	33		P	P		21 00 16.2	0.0	
	baz=263									
YOJ	Yonaguni jima	34.28	238		P	P		21 00 14.5	-3.9	
YOJ					pmax	pmax				
	comp=Z,29nm,1.8s									
KNK	Knik Glacier	34.28	46		P	P		21 00 18.2	+0.1	
	baz=274,SNR=7.3									
MDM	Murphy Dome	34.30	39		IAmb	IAmb		21 00 19.8		
	comp=Z,7.9nm,1.0s									
SML	Sawmill	34.32	45		P	P		21 00 18.8	+0.3	
	baz=274,SNR=14									
WRH	Wood River Hil	34.36	40		IAmb	IAmb		21 00 23.4		
	comp=Z,6.3nm,1.2s									
E24K	Your Creek	34.40	34		P	P		21 00 19.5	+0.4	
	baz=264,SNR=12									
D24K	Happy Valley	34.40	32		P	P		21 00 19.3	+0.2	
	baz=263,SNR=5.1									
COLA	College	34.46	40		P	P		21 00 20.2	+0.6	
	baz=270									
COLA	College	34.46	40		P	P		21 00 20.5	+0.9	
COLA					pmax	pmax				
	comp=Z,20nm,0.7s									
H24K	Noodor Dome	34.48	38		P	P		21 00 20.1	+0.3	
	baz=268									
CCB	Clear Creek Bu	34.48	40		IAmb	IAmb		21 00 24.2		
	comp=Z,8.3nm,1.1s									
C24K	Franklin Bluff	34.53	31		P	P		21 00 20.9	+0.7	
	baz=262									
WAT6	Susitna Watana	34.55	44		P	P		21 00 21.6	+0.9	
	baz=273									
F24K	Squaw Lake	34.57	35		P	P		21 00 20.8	+0.2	
	baz=266,SNR=5.2									
M23K	Glacier View	34.61	45		P	P		21 00 21.9	+1.0	
	baz=274									
POKR	Poker Flat Res	34.64	39		P	P		21 00 22.5	+1.2	
	baz=270									
G24K	Hadweenzic Riv	34.68	36		P	P		21 00 22.0	+0.5	
G24K					IAmb	IAmb		21 00 24.0		
	comp=Z,10nm,1.2s									
G24K	Hadweenzic Riv	34.68	36		P	P		21 00 22.5	+1.0	
	baz=268,SNR=7.0									
DHY	Denali Highway	34.70	43		IAmb	IAmb		21 00 23.4		
	comp=Z,15nm,1.4s									
DHY	Denali Highway	34.70	43		P	P		21 00 22.0	+0.2	

baz=270,SNR=8.1
SCRK Sand Creek 36.17 41 IAmb IAmb 21 00 35.6
comp=Z,12nm,1.4s
SCRK Sand Creek 36.17 41 P P 21 00 33.7 -0.7
baz=274,SNR=5.6
BMRM Bremner River 36.19 46 P **P** **21 00 35.1 +0.6**
baz=278
C27K Jago River 36.25 31 P **P** **21 00 35.8 +0.8**
baz=267
J26L Joseph Creek 36.31 40 IAmb IAmb 21 00 46.9
comp=Z,6.5nm,1.4s
J26L Joseph Creek 36.31 40 P **P** **21 00 36.5 +0.8**
baz=274
MENT Mentasta 36.37 43 IAmb IAmb 21 00 41.0
comp=Z,4.6nm,1.0s
KAIM Kayak Island 36.43 48 P **P** **21 00 37.7 +1.1**
baz=280
L26K Log Cabin Wild 36.53 43 IAmb IAmb 21 00 39.9
comp=Z,4.0nm,0.8s
L26K Log Cabin Wild 36.53 43 P **P** **21 00 38.3 +0.8**
baz=276
TPUB Ta-pu 36.54 239 P P 21 00 36.8 -1.1
TWG Pinlang 36.66 238 P P 21 00 36.7 -2.3
VRDI Verde Repeater 36.70 46 IAmb IAmb 21 00 40.6
comp=Z,5.0nm,0.7s
M26K Nabesna, AK 36.76 44 IAmb IAmb 21 00 41.7
comp=Z,8.8nm,0.8s
M26K Nabesna, AK 36.76 44 P **P** **21 00 40.8 +1.3**
baz=277,SNR=10
MCARA McCarthy VSAT 36.89 45 P **P** **21 00 40.5 +0.1**
baz=279
E27K Coleen River 36.98 34 P **P** **21 00 41.9 +0.7**
baz=271
G27K Doyon Strip 36.99 36 P **P** **21 00 42.1 +0.8**
baz=273
K27K Chicken 37.00 41 IAmb IAmb 21 00 43.0
comp=Z,9.4nm,0.8s
K27K Chicken 37.00 41 P **P** **21 00 41.9 +0.5**
baz=276
H27K Steamboat Moun 37.07 37 P **P** **21 00 42.7 +0.8**
baz=274,SNR=7.2
I27K Kandik River 37.07 38 P **P** **21 00 41.7 -0.3**
baz=274
L27K Beaver Creek, 37.22 42 P **P** **21 00 44.7 +1.4**
baz=278,SNR=18
BCAR Beaver Creek A 37.24 42 P **P** **21 00 44.3 +0.8**
M27K Edge Creek, AK 37.29 44 IAmb IAmb 21 00 46.2
comp=Z,7.7nm,0.8s
M27K Edge Creek, AK 37.29 44 P **P** **21 00 45.2 +1.2**
baz=278,SNR=6.9
EGAK Eagle 37.33 40 IAmb IAmb 21 00 44.8
comp=Z,9.5nm,0.9s
EGAK Eagle 37.33 40 P **P** **21 00 44.0 -0.1**
baz=276,SNR=9.1
MESA MESA 37.60 47 P **P** **21 00 47.5 +0.7**
baz=281
F28M Old Crow 37.65 35 P **P** **21 00 47.2 +0.4**
baz=273,SNR=6.3
CTG Chitna Glacier 37.76 46 P **P** **21 00 49.2 +1.2**
baz=281,SNR=12
I28M Miner Creek 37.78 38 IAmb IAmb 21 00 49.6
comp=Z,9.1nm,1.0s
I28M Miner Creek 37.78 38 P **P** **21 00 48.5 +0.4**
baz=276,SNR=8.7
D28M Stokes Point 38.00 32 P **P** **21 00 50.2 +0.5**
baz=272
YUK3 Moose Creek 38.04 44 P **P** **21 00 51.2 +0.8**
baz=280
H29M Whitestone 38.34 37 P **P** **21 00 53.6 +0.9**
baz=276
E29M Blow River 38.35 34 IAmb IAmb 21 00 54.8
comp=Z,7.1nm,1.2s
E29M Blow River 38.35 34 P **P** **21 00 53.6 +0.9**
baz=274,SNR=7.4
O28M Mount Upton 38.35 46 P **P** **21 00 53.7 +0.6**
baz=282
G29M Pine Creek 38.41 36 IAmb IAmb 21 00 55.6
comp=Z,6.1nm,0.9s
G29M Pine Creek 38.41 36 P **P** **21 00 54.6 +1.3**
baz=276,SNR=5.3
YUK8 Steele Glacier 38.45 45 P **P** **21 00 55.1 +1.1**
baz=281
I29M Ogilvie Camp, 38.47 38 IAmb IAmb 21 00 55.2
comp=Z,4.7nm,0.7s
I29M Ogilvie Camp, 38.47 38 P **P** **21 00 54.6 +0.8**
baz=277
M29M Somme Creek 38.84 43 P **P** **21 00 58.4 +1.4**
baz=281,SNR=9.1
L29M L29M 38.88 42 P **P** **21 00 58.9 +1.7**
baz=280,SNR=15
PNL Peninsula 38.97 48 P **P** **21 00 58.9 +0.8**
baz=284
YUK4 Talbot Arm 38.97 45 P **P** **21 00 59.8 +1.5**
baz=282
EPYK Eagle Plains 38.99 37 IAmb IAmb 21 00 59.3
comp=Z,12nm,1.4s
EPYK Eagle Plains 38.99 37 P **P** **21 00 59.0 +0.8**
baz=278
K29M Barlow Dome 39.02 41 IAmb IAmb 21 01 00.7
comp=Z,5.6nm,0.9s
K29M Barlow Dome 39.02 41 P **P** **21 00 59.5 +1.0**
baz=280,SNR=6.4
G30M tAoh Zraii Nji 39.11 36 P **P** **21 01 00.2 +1.0**
baz=277
YUK6 Outpost Mounta 39.19 45 P **P** **21 01 01.0 +0.9**
baz=283
F30M Barrier River 39.21 35 P **P** **21 01 00.8 +0.9**
baz=277
O29M Mount Kennedy 39.23 46 P **P** **21 01 01.7 +1.4**
baz=283
I30M Mount Dempster 39.29 38 IAmb IAmb 21 01 02.2
comp=Z,9.3nm,0.7s
I30M Mount Dempster 39.29 38 P **P** **21 01 01.5 +0.8**
baz=279,SNR=16
J30M Hart River 39.41 39 P **P** **21 01 02.3 +0.5**
baz=280
M30M Minto, Yukon 39.58 43 P **P** **21 01 04.6 +1.5**
baz=282
HYT Haines Junctio 39.62 45 P **P** **21 01 05.6 +2.0**
baz=284
N30M Aishikik Lake 39.68 44 P **P** **21 01 05.7 +1.7**
baz=283
MAYO Mayo, Yukon 39.78 41 P **P** **21 01 06.2 +1.4**
baz=282
P29M Windy Craggy 39.80 47 P **P** **21 01 07.2 +2.2**
baz=285
G31M Satah River 39.88 36 P **P** **21 01 06.9 +1.5**
baz=279
INK Inuvik 39.97 33 P **P** **21 01 06.3 +0.1**
INK IAmb IAmb 21 01 07.3
comp=Z,4.1nm,0.6s
INK Inuvik 39.97 33 P **P** **21 01 07.0 +0.8**
baz=278
INK Inuvik 39.97 33 P **P** **21 01 06.3 +0.1**
INK pmax pmax
comp=Z,4.0nm,0.6s
H31M Peel River 40.03 37 P **P** **21 01 07.3 +0.5**
H31M IAmb IAmb 21 01 08.3
comp=Z,7.5nm,1.1s
H31M Peel River 40.03 37 P **P** **21 01 08.6 +1.8**
baz=280
P30M Million Dollar 40.05 46 P **P** **21 01 09.3 +2.2**
baz=285
N31M Braeburn, Yuko 40.28 44 P **P** **21 01 10.5 +1.6**
baz=284
O30N Mendenhall 40.31 45 P **P** **21 01 11.1 +1.9**
O30N IAmb IAmb 21 01 11.7
comp=Z,8.6nm,0.8s
O30N Mendenhall 40.31 45 P **P** **21 01 10.6 +1.4**
baz=285,SNR=6.1
PLBC Pleasant Camp 40.52 47 P **P** **21 01 13.2 +2.3**
baz=286
M31M Drury Creek, Y 40.75 43 P **P** **21 01 13.9 +1.1**
M31M IAmb IAmb 21 01 14.8
comp=Z,5.9nm,0.7s
M31M Drury Creek, Y 40.75 43 P **P** **21 01 14.6 +1.8**
baz=284
WHY Whitehorse 40.91 45 P **P** **21 01 15.7 +1.5**
baz=286
FARO Faro, Yukon 41.22 43 P **P** **21 01 18.3 +1.6**
baz=285
P33M Teslin, Yukon 42.02 45 P **P** **21 01 24.6 +1.3**
P33M IAmb IAmb 21 01 25.8
comp=Z,12nm,1.2s
P33M Teslin, Yukon 42.02 45 P **P** **21 01 24.6 +1.3**
baz=288
MMPY Sheldon Lake, 42.05 42 P **P** **21 01 25.2 +1.8**
baz=286

A36M Sachs Harbour 42.18 27 P **P** **21 01 25.0 +0.7**
A36M Sachs Harbour 42.18 27 P **P** **21 01 25.5 +1.2**
baz=281
ZALV Zalesovo Beam 42.56 305 P P 21 01 24.2 -3.4
comp=Z,0.6nm,0.3s,baz=59,slow=7.2,SNR=5.2
ZALV PcP **PcP** **21 03 18.0 -1.2**
comp=Z,1.7nm,0.7s,baz=64,slow=3.4,SNR=8.2
ZALV LR LR 21 20 05.5
comp=Z,51nm,19.2s,baz=98,slow=38
comp=Z,0.6nm,0.3s
R33M Jennings River 43.17 46 P **P** **21 01 34.3 +1.7**
baz=290
TGTN Hyland Airport 43.72 43 P **P** **21 01 38.8 +1.8**
baz=290
DLBC Dease Lake 43.95 47 P **P** **21 01 40.9 +2.0**
baz=291
T35M Bob Quinn 44.38 49 P **P** **21 01 45.2 +2.9**
baz=293
PZH PanZhiHua 46.14 262 P P 21 01 50.8 -5.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.5s
MKAR Makanchi Array 47.13 297 P P 21 02 01.6 -2.5
MKAR Makanchi Array 47.13 297 P P 21 02 01.2 -3.0
comp=Z,1.7nm,0.7s,baz=77,slow=8.2,SNR=11
MKAR LR LR 21 23 18.8
comp=Z,49nm,19.4s,baz=69,slow=38
comp=Z,1.7nm,0.7s
MKAR Makanchi Array 47.13 297 P P 21 02 01.6 -2.5
KURK Kurchatov 47.37 303 P P 21 02 01.6 -4.3
KURK IAmb IAmb 21 02 06.1
comp=Z,4.3nm,0.8s
KURK Kurchatov 47.37 303 *ce*P P 21 02 02.2 -3.7
KURK pmax pmax
comp=Z,3.0nm,0.8s
KURBB Kurchatov Arra 47.47 303 P P 21 02 02.9 -3.7
comp=Z,2.6nm,0.6s,baz=65,slow=8.7,SNR=16
KURBB PcP **PcP** **21 03 34.9 -1.3**
comp=Z,0.9nm,0.8s,baz=68,slow=3.3,SNR=4.2
KURBB LR LR 21 22 51.0
comp=Z,48nm,20.7s,baz=164,slow=37
comp=Z,2.6nm,0.6s
BBB Bella Bella 47.54 55 LR LR 21 24 06.1
comp=Z,52nm,18.4s,baz=334,slow=38
SLVN Son La 48.31 255 P P 21 02 12.0 -1.6
SLVN IAmb IAmb 21 02 13.4
comp=Z,4.9nm,0.9s
RES Resolute Bay 49.21 19 P **P** **21 02 19.4 -0.3**
RES IAmb IAmb 21 02 36.0
comp=Z,6.8nm,1.4s
RES Resolute Bay 49.21 19 LR LR 21 24 29.1
comp=Z,28nm,18.4s,baz=280,slow=38
RES Resolute Bay 49.21 19 P **P** **21 02 19.4 -0.3**
RES pmax pmax
comp=Z,7.0nm,1.4s
YKA Yellowknife Ar 49.25 38 P **P** **21 02 19.6 -0.6**
YKA Yellowknife Ar 49.25 38 P **P** **21 02 19.9 -0.2**
comp=Z,3.1nm,0.7s,baz=299,slow=7.8,SNR=17
comp=Z,3.1nm,0.7s
BVAR Borovoye Array 50.69 309 P P 21 02 27.3 -4.0
comp=Z,2.6nm,0.3s,baz=54,slow=8.5,SNR=22
BVAR PcP **PcP** **21 03 45.9 -2.0**
comp=Z,1.4nm,0.5s,baz=60,slow=4.1,SNR=4.2
BVAR LR LR 21 25 42.2
comp=Z,47nm,18.1s,baz=61,slow=38
comp=Z,2.6nm,0.3s
LSA Lhasa 51.13 273 P **P** **21 02 35.3 -0.1**
LSA pmax pmax
comp=Z,7.0nm,0.8s
CRAI Chiangrai 51.40 257 P P 21 02 34.9 -2.0
CRAI IAmb IAmb 21 02 39.0
comp=Z,7.5nm,1.1s
SPITS Spitsbergen Ar 51.40 350 P P 21 02 33.6 -2.7
comp=Z,4.0nm,1.0s,baz=50,slow=7.8,SNR=1.3
comp=Z,4.0nm,1.0s
SHL Shillong 53.34 268 P P 21 02 49.4 -2.1
SHL pmax pmax
comp=Z,15nm,0.4s
CHTO Chiang Mai 53.35 257 P P 21 02 50.4 -1.0
CHTO Chiang Mai 53.35 257 P P 21 02 50.4 -1.0
CHTO pmax pmax
comp=Z,8.0nm,0.7s
CMAR Chiang Mai Arr 53.60 256 P P 21 02 51.7 -1.6
CMAR Chiang Mai Arr 53.60 256 P P 21 02 51.9 -1.4
comp=Z,4.6nm,0.7s,baz=32,slow=7.1,SNR=28
CMAR LR LR 21 26 39.1
comp=Z,28nm,18.0s,baz=245,slow=37
comp=Z,4.6nm,0.7s
AAK Ala-Archa 54.05 296 LR LR 21 27 13.1
comp=Z,42nm,19.1s,baz=66,slow=38
ARLS Aral 54.60 295 P P 21 02 57.5 -3.0
ARLS pmax pmax
comp=Z,4.0nm,1.2s
ARU Arti 54.61 317 LR LR 21 27 37.0
comp=Z,22nm,18.9s,baz=7.0,slow=38
ARU Arti 54.61 317 *eP* P 21 02 57.1 -3.0
ARU Arti 54.61 317 *c iP* P 21 02 57.1 -3.0
ARU 21 03 58.5
ARU 21 04 56.6
ARU S **S** **21 10 33.3 -2.5**
ARU SS **SKiKP** **21 14 13.0 +9.2**
ARU pmax pmax
comp=Z,2.0nm,0.6s
NEW Newport 55.59 54 LR LR 21 29 34.9
comp=Z,44nm,18.6s,baz=139,slow=39
J05D Fort Rock, OR 56.21 61 IAmb IAmb 21 03 14.7
comp=Z,6.9nm,0.9s
KIRV Kirov 57.22 323 LR LR 21 30 21.8
comp=Z,20nm,18.2s,baz=34,slow=39
BTK Batken 57.81 296 P **P** **21 03 22.2 -1.1**
BTK pmax pmax
comp=Z,5.0nm,0.8s
PLID Pearl Lake 58.12 57 P **P** **21 03 26.1 +0.6**
PLID IAmb IAmb 21 03 27.2
comp=Z,4.7nm,0.7s
AKTO Aktyubinsk 58.49 312 LR LR 21 29 47.8
comp=Z,40nm,19.6s,baz=102,slow=37
SIMJ Simiganj 59.78 295 P P 21 03 33.3 -3.8
SIMJ IAmb IAmb 21 03 37.5
comp=Z,3.6nm,0.8s
YERR Yerington 60.05 64 IAmb IAmb 21 03 40.9
comp=Z,2.9nm,0.8s
BOZ Bozeman (W) 60.20 54 IAmb IAmb 21 03 41.3
comp=Z,3.2nm,0.6s
BOZ Bozeman (W) 60.20 54 P **P** **21 03 40.7 +0.8**
baz=310
KVN Kaiserville 60.69 63 IAmb IAmb 21 03 45.3
comp=Z,7.8nm,1.3s
LHV Little Huntoon 60.96 64 IAmb IAmb 21 03 48.0
comp=Z,6.1nm,1.0s
NVAR Mina Array Bea 60.97 64 P **P** **21 03 46.3 +1.0**
comp=Z,1.5nm,0.5s,baz=294,slow=7.6,SNR=16
comp=Z,1.5nm,0.5s
DSP Deep Springs 61.85 65 P **P** **21 03 51.9 +0.9**
TPAW Teton Pass 61.93 55 IAmb IAmb 21 03 54.5
comp=Z,7.9nm,1.1s
CWC Cottonwood Cre 62.40 65 P **P** **21 03 55.8 +0.9**
baz=311
GRAC Grapevine Rang 62.46 64 P **P** **21 03 56.6 +1.5**
baz=311
R11B Troy Canyon, C 62.64 62 P **P** **21 03 57.4 +0.9**
baz=311
SPR3 Spring Creek 3 62.96 61 P **P** **21 04 00.1 +1.4**
MPMC Manual Prospec 63.01 65 P **P** **21 03 59.7 +0.8**
baz=312
DUG Dugway, Tooele 63.05 59 P **P** **21 03 59.9 +0.8**
baz=312
FURC Furnace Creek, 63.12 65 P **P** **21 04 00.5 +1.2**
baz=312
FINES FINESS Array B 63.17 335 P P 21 03 57.0 -2.3
comp=Z,1.2nm,0.5s,baz=33,slow=7.6,SNR=13
comp=Z,1.2nm,0.5s
PDAR Pinedale Array 63.18 55 P **P** **21 04 00.8 +0.7**
comp=Z,1.1nm,0.8s,baz=323,slow=2.2,SNR=7.9
comp=Z,1.1nm,0.8s
LRMC Laurel Mtn Rad 63.27 66 P **P** **21 04 01.3 +0.6**
baz=312
EDW2 Edwards Air Fo 63.48 67 P **P** **21 04 03.0 +1.1**
baz=312
OBN Obninsk 64.68 326 *eP* P 21 04 06.5 -2.8
OBN Obninsk 64.68 326 *ll eP* P 21 04 06.5 -2.8
OBN *e* 21 04 40.2
OBN *e* 21 06 26.8
OBN pmax pmax
comp=Z,4.0nm,0.8s
OBN MLR MLR

LCMT Little Creek M 64.92 62 IAmb IAmb 21 04 18.6
comp=Z,6.4nm,0.9s
RSSD Black Hills 65.21 51 P **P** **21 04 13.4 0.0**
RSSD IAmb IAmb 21 04 14.4
comp=Z,2.8nm,0.8s
RSSD Black Hills 65.21 51 P **P** **21 04 13.6 +0.3**
baz=314
RSSD Black Hills 65.21 51 P **P** **21 04 13.4 0.0**
RSSD pmax pmax
comp=Z,3.0nm,0.8s
PFO Pinyon Flats O 65.27 67 P **P** **21 04 14.3 +0.6**
O20A White River Ci 65.68 57 P **P** **21 04 16.4 0.0**
baz=314
IRM Iron Mountain 65.70 65 P **P** **21 04 16.8 +0.4**
baz=313
GEYT Alibeck 66.68 301 P P 21 04 20.4 -2.3
comp=Z,0.7nm,0.3s,baz=228,slow=3.8,SNR=4.4
comp=Z,0.7nm,0.3s
NB2 NORSAR Subarra 67.20 342 P P 21 04 23.5 -2.0
comp=Z,0.6nm,0.8s,baz=31,slow=6.5
NOA NORSAR Array B 67.20 342 P P 21 04 23.1 -2.4
comp=Z,0.2nm,0.4s,baz=22,slow=6.2,SNR=2.4
comp=Z,0.2nm,0.4s
HFS Hagfors 67.47 340 P P 21 04 24.8 -2.4
comp=Z,1.0nm,0.5s,baz=67,slow=4.8,SNR=12
comp=Z,1.0nm,0.5s
TUC Tucson 69.62 64 P P 21 04 41.1 -0.1
baz=315
WRA Warramunga Arr 70.14 200 P P 21 04 43.5 -0.7
comp=Z,2.6nm,0.6s,baz=16,slow=6.4,SNR=25
comp=Z,2.6nm,0.6s
ANMO Albuquerque 70.31 59 P **P** **21 04 46.0 +0.4**
baz=316
AKASG Malin Array Be 70.89 327 P P 21 04 45.9 -2.6
comp=Z,0.5nm,0.4s,baz=32,slow=5.9,SNR=3.0
comp=Z,0.5nm,0.4s
SCHQ Schefferville 71.66 24 P **P** **21 04 52.4 -0.7**
comp=Z,1.7nm,0.5s,baz=326,slow=5.4,SNR=7.2
comp=Z,1.7nm,0.5s
GNI Garni 72.33 311 LR LR 21 39 41.1
comp=Z,31nm,19.0s,baz=56,slow=38
ASAR Alice Springs 73.83 200 P P 21 05 06.4 +0.1
comp=Z,0.9nm,0.7s,baz=11,slow=5.2,SNR=14
comp=Z,0.9nm,0.7s
WMOK Wichita Mounta 74.78 55 P **P** **21 05 12.0 +0.1**
baz=319
BUR08 Bucovina Ar. S 74.91 327 P P 21 05 10.1 -2.5
EKA Eskdalemuir Ar 75.19 347 P P 21 05 12.1 -1.7
comp=Z,0.7nm,0.4s,baz=19,slow=5.2,SNR=13
comp=Z,0.7nm,0.4s
TUL3 Leonard 75.51 52 P **P** **21 05 16.4 +0.4**
baz=320
CLL Collm 75.57 336 *i* P P 21 05 13.5 -2.6
comp=Z,5.0nm,0.8s
CLL Collm 75.57 336 *i* P P 21 05 13.5 -2.6
CLL pmax pmax
comp=Z,5.0nm,0.8s
TXAR Lajitas Array 76.00 62 P P 21 05 19.1 0.0
TXAR Lajitas Array 76.00 62 P **P** **21 05 19.4 +0.3**
comp=Z,1.6nm,0.4s,baz=304,slow=5.2,SNR=35
comp=Z,1.6nm,0.4s
KHC Kasperske Hory 77.38 335 *ce*P P 21 05 22.9 -3.5
KHC pmax pmax
comp=Z,12nm,2.5s
GERES GERESS Array B 77.60 335 P P 21 05 26.0 -1.7
comp=Z,0.8nm,0.6s,baz=36,slow=5.2,SNR=3.3
comp=Z,0.8nm,0.6s
CONA Conrad Observa 77.78 333 *e*PcP **P** **21 05 27.9 -0.9**
comp=Z,0.6nm,0.6s
RONA Ronsalia, Austr 77.85 333 *e*PcP P 21 05 27.0 -2.1
comp=Z,2.2nm,1.0s
BRTR Keskin Array B 78.00 317 P P 21 05 28.2 -2.0
comp=Z,1.4nm,0.8s,baz=53,slow=1.4,SNR=7.6
comp=Z,1.4nm,0.8s
SOKA Soboth 79.15 333 *i* PcP P 21 05 34.7 -1.6
comp=Z,2.3nm,0.9s
LESA Schwarzleotal 79.18 335 *i* PcP **P** **21 05 35.4 -1.1**
comp=Z,5.0nm,1.2s
KBA Koelnbreinsper 79.30 334 *i* PcP **P** **21 05 36.3 -1.0**
comp=Z,4.0nm,0.6s
OBKA Obir 79.45 333 *e*PcP P 21 05 36.4 -1.5
comp=Z,1.4nm,0.6s
WATA Walderalm 79.57 335 *e*PcP P 21 05 37.4 -1.3
comp=Z,2.8nm,0.7s
WTTA Wattenberg 79.62 335 *e*PcP **P** **21 05 38.0 -1.0**
comp=Z,4.3nm,0.6s
RETA Reutte 79.65 336 *e*P P 21 05 34.7 -4.3
comp=Z,3.4nm,1.2s
MOTA Moosalm 79.69 336 *i* PcP **P** **21 05 38.1 -1.2**
comp=Z,5.6nm,1.0s
SQTA Sankt Quirin 79.78 336 *i* PcP P 21 05 38.1 -1.6
comp=Z,3.5nm,1.0s
ABTA Abfaltersbach 79.84 335 *e*PcP **P** **21 05 42.0 +2.0**
comp=Z,1.0nm,0.6s
DAVA Damuels 80.08 336 *e*P P 21 05 36.8 -4.7
comp=Z,5.9nm,1.7s
FETA Feichten 80.09 336 *e*PcP P 21 05 37.4 -4.2
comp=Z,5.8nm,1.4s
MMAI Mount Meron Ar 82.57 312 P P 21 05 53.6 -1.2
comp=Z,2.2nm,0.5s,baz=48,slow=6.8,SNR=9.8
comp=Z,2.2nm,0.5s
NRCA Norcia 83.21 332 P P 21 05 56.4 -1.5
NRCA IAmb IAmb 21 05 57.3
comp=Z,6.5nm,1.1s
H03N2 Juan Fernandez 137.82 90 T T 23 46 19.0
baz=309,slow=77,SNR=229
H03N1 Juan Fernandez 137.84 90 T T 23 46 21.3
baz=309,slow=77,SNR=217
H03N3 Juan Fernandez 137.84 90 T T 23 46 18.4
baz=309,slow=77,SNR=179

VAO ***28*** *20:59:20.0±0.3,31°.61S×69°.32W,h10km,mb5.0*
SJA ***28*** *20:59:34.7±0.8,31°.28S×68°.70W,h113km±2km,ML5.1, MW4.9*
MOS ***28*** *20:59:34.1±1.0,31°.24S×68°.57W,h109km,mb5.0/13, Error ellipse: s-maj=13.6km s-min=7.2km az=96.9*
GUC ***28*** *20:59:35.1±0.8,31°.24S×68°.96W,h150km±11km,ML5.2*
IDC ***28*** *20:59:35.6±0.4,31°.28S×68°.57W,h114km±3km,mb4.7/14, mbtmp5.0/18,MS3.7/13,Error ellipse: s-maj=13.3km s-min=9.9km az=84.0*
NEIC ***28*** *20:59:35.2,31°.25S×68°.57W,h102km*
NEIC ***28*** *20:59:35.4±1.4,31°.23S±0°.05×68°.61W±0°.10,h106km±2km, mb5.0/355,Mwr5.0/56,Mww5.0/25,Mwr5.0(GUC),Error ellipse: s-maj=11.8km s-min=7.4km az=88.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr=3.45; Mθθ=0.50; Mφφ=2.95; Mrθ=1.47; Mθφ=2.06; Mφr=1.13; Fault plane solution: M₀=4.26000×10¹⁶ NP1: φs=221.10000°,δ=58.28000°,λ=-76.56000°. NP2:φs=16.65000°, δ=34.17000°,λ=-110.62000°. Principal axes: T 4.4961, Plg12.0000°, Azm301.0000°; N -0.5308, Plg11.0000°, Azm34.0000°; P -3.9653, Plg73.0000°, Azm166.0000°;*
NEIC ***28*** *20:59:35.4,31°.23S×68°.72W,h100km,Moment Tensor Solution. Duration: 1s7 Moment tensor: Scale 10¹⁶Nm; Mrr=3.85; Mθθ=1.10; Mφφ=2.75; Mrθ=0.86; Mθφ=1.98; Mφr=0.64; Fault plane solution: M₀=4.10000×10¹⁶ NP1: φs=219.00000°,δ=52.37000°,λ=-83.39000°. NP2:φs=28.25000°, δ=38.12000°,λ=-98.50000°. Principal axes: T 4.1974, Plg7.0000°, Azm304.0000°; N -0.1881, Plg5.0000°, Azm35.0000°; P -4.0093, Plg81.0000°, Azm161.0000°;*
NEIC ***28*** *20:59:35.4,31°.23S×68°.61W,h100km*
GCMT ***28*** *20:59:38.4±0.2,31°.30S±0°.02×68°.71W±0°.03,h119km±1km, MW5.0/100,Moment Tensor Solution. s59,c71; s100,c138; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr=4.08±.09; Mθθ=0.39±.13; Mφφ=3.70±.16; Mrθ=0.67±.09; Mθφ=1.43±.13; Mφr=0.53±.13; Best double couple: M₀=4.24500×10¹⁶ NP1:φs=207.00000°,δ=50.00000°, λ=-82.00000°. NP2:φs=14.00000°,δ=40.00000°, λ=-100.00000°. Principal axes: T 4.2970, Plg5.0000°, Azm291.0000°; N -0.0950, Plg6.0000°, Azm21.0000°; P -4.1920, Plg82.0000°, Azm162.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 28 20:59:35.2±0.2,31°.26S±0°.03×68°.70W±0°.03,h114km±2km, h114km:pP-P,n772,σ1935/704,mb5.0/183,33C-4D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RTLL	**Cerro Villicun**	**0.21**	**110**	*eP*		**Pn**	**20 59 51.0**	**-0.1**

RTLL eS Sn 21 00 03.2 +0.1
RTLL Cerro Villicun 0.21 110 *i* P Pn 20 59 50.9 -0.1
ZON Zonda 0.29 176 Pn Pn 20 59 51.6 +0.1
ZON Sn Sn 21 00 02.6 -1.0
ZON Zonda 0.29 176 eP Pn 20 59 51.4 0.0
ZON eS Sn 21 00 04.0 +0.4
ZON IAML 21 00 05.5
comp=Z,41µm,0.5s
ZON Zonda 0.29 176 P Pn 20 59 51.5 +0.1
ZON S Sn 21 00 02.6 -1.0
SJA San Juan 0.29 156 eP Pn 20 59 51.7 +0.2
SJA eS Sn 21 00 04.0 +0.3
SJA IAML 21 00 05.2
comp=Z,26µm,0.6s
DOCA Reserva Natura 0.45 313 eP Pn 20 59 46.8 -5.8
DOCA eP 20 59 52.4
DOCA eS Sn 21 00 06.3 +0.6
DOCA IAML 21 00 07.6
comp=Z,28µm,0.6s
RTCV Cerro Valdivia 0.62 167 eP Pn 20 59 53.3 0.0
ACCO Cerro Coronel 0.74 335 eP Pn 20 59 55.2 +0.6
RTLS Leoncito 0.74 223 eP Pn 20 59 54.9 +0.4
RTLS eS Sn 21 00 09.7 +0.5
RTLS IAML 21 00 10.8
comp=Z,80µm,0.2s
ACDV Cuesta del Vie 1.14 342 eP Pn 20 59 53.3 -5.0
ACDV eP 20 59 59.0
ACDV eS Sn 21 00 17.4 +1.6
ACDV IAML 21 00 17.9
comp=Z,19µm,0.7s
AROD Rodeo 1.27 328 eP Pn 21 00 00.8 +0.9
ASAL Salagasta 1.33 185 eP Pn 21 00 00.8 +0.5
ASAL eS Sn 21 00 21.9 +2.4
ARCO CERRO ARCO 1.59 187 eP Pn 21 00 04.1 +0.7
ARCO eS Sn 21 00 23.9 -1.0
ARCO IAML 21 00 27.2
comp=Z,22µm,0.7s
CO01 Juntas del Tor 1.75 316 Pn Pn 21 00 06.9 +1.4
CO01 Juntas del Tor 1.75 316 eP Pn 21 00 07.0 +1.5
CO01 eS Sn 21 00 30.9 +2.3
CO01 IAML 21 00 34.4
comp=Z,10µm,0.8s
CO01 Juntas del Tor 1.75 316⇑ *i*P Pn 21 00 07.2 +1.6
CO01 eS Sn 21 00 30.7 +2.1
CO01 IAML 21 00 31.7
comp=E,21µm,0.3s
CO03 El Pedregal 1.75 283 Pn Pn 21 00 06.2 +0.9
CO03 El Pedregal 1.75 283 eP Pn 21 00 06.1 +0.7
CO03 eP 21 00 06.3
CO03 eS Sn 21 00 30.1 +1.7
CO03 IAML 21 00 30.8
comp=Z,22µm,0.6s
CO03 El Pedregal 1.75 283⇑ *i*P Pn 21 00 06.2 +0.9
CO03 eS Sn 21 00 29.2 +0.9
AAGR Agrelo 1.82 183 eP Pn 21 00 06.3 +0.1
AAGR eS Sn 21 00 29.8 -0.1
CO02 Combarbal 1.97 271 Pn Pn 21 00 08.4 +0.4
CO02 Combarbal 1.97 271 eP Pn 21 00 08.4 +0.4
CO02 eS Sn 21 00 34.4 +1.2
CO02 IAML 21 00 38.3
comp=Z,23µm,0.6s
CO02 Combarbal 1.97 271⇑ *i*P Pn 21 00 08.4 +0.4
CO02 eS Sn 21 00 33.8 +0.6
CO02 IAML 21 00 34.8
comp=N,59µm,0.3s
VA03 San Esteban 2.17 226 Pn Pn 21 00 11.4 +0.7
VA03 San Esteban 2.17 226 eP Pn 21 00 11.1 +0.6
VA03 eS Sn 21 00 40.9 +3.2
VA03 IAML 21 00 43.6
comp=Z,8µm,0.7s
VA03 San Esteban 2.17 226⇑ *i*P Pn 21 00 11.3 +0.7
VA03 eS Sn 21 00 38.7 +1.0
VA03 IAML 21 00 43.3
comp=E,12µm,0.3s
AVIZ Vizcacheras 2.21 176 eP Pn 21 00 11.6 +0.5
MT08 Bocatoma Ro 2.45 207 Pn Pn 21 00 15.2 +0.9
MT08 Bocatoma Ro 2.45 207 *i* P Pn 21 00 15.3 +1.1
MT08 IAML 21 00 49.4
comp=N,5µm,0.8s
MT04 Ro Olivares 2.46 209 *i* P Pn 21 00 15.6 +1.2
MT04 IAML 21 00 56.1
comp=E,2µm,0.5s
FCH Farellones 2.46 213⇑ *i*P Pn 21 00 15.6 +1.1
MT10 Hacienda Santa 2.54 217⇑ *i*P Pn 21 00 16.1 +0.8
MT10 IAML 21 00 55.8
comp=N,11µm,0.6s
VCA Vinchina 2.55 10 eP Pn 21 00 11.8 -3.7
VCA eP 21 00 16.8
VCA eS Sn 21 00 48.3 +1.8
VCA IAML 21 00 53.5
comp=Z,10µm,0.6s
VCA Vinchina 2.55 10 *i* P Pn 21 00 16.7 +1.1
CO05 La Serena 2.56 301 Pn Pn 21 00 14.8 -0.6
CO05 La Serena 2.56 301 *i* P Pn 21 00 14.9 -0.6
CO05 eS Sn 21 00 44.8 -1.7
CO05 IAML 21 00 46.3
comp=E,13µm,0.5s
CO06 Fray Jorge 2.58 282 Pn Pn 21 00 14.5 -1.3
CO06 Fray Jorge 2.58 282⇑ *i*P Pn 21 00 14.5 -1.3
CO06 eS Sn 21 00 43.3 -3.7
CO06 IAML 21 00 52.2
comp=E,6µm,0.6s
ROCH El Roble 2.60 228⇑ *i*P Pn 21 00 15.8 -0.4
ROCH IAML 21 00 54.4
comp=N,12µm,0.6s
MT14 Cerro Cal¡n 2.64 216 *i* P Pn 21 00 17.1 +0.6
MT14 IAML 21 00 52.6
comp=E,10µm,0.5s
MT16 CCHEN 2.66 215 Pn Pn 21 00 17.5 +0.7
MT16 CCHEN 2.66 215 *i* P Pn 21 00 17.5 +0.7
MT16 IAML 21 00 52.9
comp=E,5µm,0.8s
MT05 Renca 2.74 218 Pn Pn 21 00 19.1 +1.3
MT05 Renca 2.74 218 eP Pn 21 00 19.0 +1.2
MT05 eS Sn 21 00 46.8 -3.9
MT05 eS 21 00 52.5
MT05 IAML 21 00 54.1
comp=Z,5µm,0.7s
MT05 Renca 2.74 218 *i* P Pn 21 00 18.8 +0.9
AC05 El Transito 2.77 330 Pn Pn 21 00 19.6 +1.2
AC05 El Transito 2.77 330 eP Pn 21 00 19.9 +1.4
AC05 eS Sn 21 00 35.8 -16
AC05 IAML 21 00 55.4
comp=Z,5µm,0.9s
AC05 El Transito 2.77 330⇑ *i*P Pn 21 00 19.7 +1.2
MT15 Las Vizcachas 2.79 213 eP Pn 21 00 19.6 +1.1
MT15 IAML 21 01 01.6
comp=N,9µm,0.3s
MRA San Martin 2.79 115 eP Pn 21 00 19.0 +0.4
MRA eS Sn 21 00 52.3 +0.2
MRA IAML 21 01 18.2
comp=Z,5µm,1.0s
MT13 San Alfonso 2.82 208 Pn Pn 21 00 20.4 +1.5
MT13 San Alfonso 2.82 208 eP Pn 21 00 19.9 +0.9
MT13 IAML 21 01 00.8
comp=E,3µm,0.5s
LCO Las Campanas 2.83 322 Pn Pn 21 00 19.5 +0.2
LCO Las Campanas 2.83 322 eP Pn 21 00 19.6 +0.3
LCO IAML 21 01 00.3
comp=Z,20µm,1.1s
LCO Las Campanas 2.83 322 eP Pn 21 00 19.3 0.0
LCO Las Campanas 2.83 322 P Pn 21 00 19.5 +0.2
MT02 Curacav 2.87 225 Pn Pn 21 00 18.4 -1.0
MT02 Curacav 2.87 225 eP Pn 21 00 18.7 -0.8
MT02 IAML 21 00 58.4
comp=Z,3µm,0.7s
MT02 Curacav 2.87 225⇑ *i*P Pn 21 00 18.5 -1.0
LMEL Las Melosas 2.88 206 Pn Pn 21 00 20.3 +0.6
LMEL Las Melosas 2.88 206 eP Pn 21 00 20.4 +0.6
MT12 Pirque 2.92 212 eP Pn 21 00 20.8 +0.5
VA01 Torpederas 3.05 234 Pn Pn 21 00 20.1 -1.8
VA01 Torpederas 3.05 234 eP Pn 21 00 20.6 -1.3
VA01 Torpederas 3.05 234 eP Pn 21 00 20.4 -1.5
BO04 La Punta 3.16 210 Pn Pn 21 00 24.0 +0.5
BO04 La Punta 3.16 210⇑ *i*P Pn 21 00 23.7 +0.3
MT09 Talagante 3.17 217 Pn Pn 21 00 23.0 -0.6
MT09 Talagante 3.17 217⇑ *i*P Pn 21 00 22.8 -0.8
MT09 IAML 21 01 02.9
comp=N,6µm,0.6s
MT01 Popeta 3.37 219 Pn Pn 21 00 24.7 -1.5
MT01 Popeta 3.37 219⇑ *i*P Pn 21 00 24.7 -1.5
VA05 Santo Domingo 3.43 225 Pn 21 00 25.1 -1.9
VA05 Santo Domingo 3.43 225 eP Pn 21 00 25.2 -1.7
VA05 IAML 21 01 14.5
comp=N,6µm,0.3s
RFA San Rafael 3.51 177 eS Sn 21 01 00.8 -8.1
AC04 Llanos de Chal 3.68 325 Pn Pn 21 00 29.7 -0.6
AC04 Llanos de Chal 3.68 325⇑ *i*P Pn 21 00 29.4 -0.9
BO01 Tunca 3.71 212 Pn Pn 21 00 29.4 -1.3
BO01 Tunca 3.71 212 *i* P Pn 21 00 29.4 -1.3
GO03 Copiap 3.89 340 Pn Pn 21 00 32.8 -0.4
GO03 Copiap 3.89 340⇑ *i*P Pn 21 00 33.0 -0.2
BO02 Sierra Bellavi 3.93 206 Pn Pn 21 00 33.5 -0.2
BO02 Sierra Bellavi 3.93 206 eP Pn 21 00 33.5 -0.2
AC06 Mina Casimiro 4.15 339 Pn Pn 21 00 36.2 -0.4
AC06 Mina Casimiro 4.15 339 *i* P Pn 21 00 36.0 -0.6
GO05 Huala 4.62 215 eP Pn 21 00 39.8 -3.1
ML02 Panimavida 5.03 206 Pn 21 00 46.5 -1.9
AC01 Pan de Azucar 5.36 341 Pn 21 00 51.8 -1.1
GO06 Curarrehue 8.61 194 Pn Pn 21 01 34.2 -2.8
LVC Limon Verde 8.62 359 Pn Pn 21 01 35.0 -2.4
LVC Limon Verde 8.62 359 P Pn 21 01 35.1 -2.3
comp=N,71nm,0.4s,baz=165,slow=6.2,SNR=88
LVC S Sn 21 03 06.4 -6.6
comp=N,38nm,0.4s,baz=222,slow=4.6,SNR=4.2
LVC Limon Verde 8.62 359 eP Pn 21 01 29.7 -7.7
LVC eS Sn 21 03 11.6 -1.4
TRQA Tornquist 8.75 143 Pn Pn 21 01 37.6 -1.2
TRQA Tornquist 8.75 143 P Pn 21 01 37.6 -1.2
TICA Tres Isletas 8.76 58 eP Pn 21 01 36.3 -2.7
VA04 Juan Fernndez 8.88 252‖ *i*P Pn 21 00 52.4 -48
LR05 Currie 9.34 196 Pn Pn 21 01 43.9 -2.9
PSAL Palomas, Salto 9.51 92 eP Pn 21 01 45.7 -3.4
PLCA Paso Flores 9.57 188 Pn 21 01 48.0 -2.0
PLCA Paso Flores 9.57 188 P Pn 21 01 48.6 -1.3
comp=N,6.3nm,0.6s,baz=6.2,slow=12,SNR=23
PLCA S Sn 21 03 40.1 +4.5
comp=N,17nm,0.8s,baz=352,slow=24,SNR=1.0
PLCA Paso Flores 9.57 188 eP Pn 21 01 31.5 -18
PATCX Punta Patache 10.48 353 Pn 21 02 02.0 -0.3
ITQB Itaqui 10.54 84 Pn Pn 21 02 00.0 -3.0
ITQB Itaqui 10.54 84 P Pn 21 02 00.2 -2.8
TBOT Tacuaremb 10.91 96 eP Pn 21 02 04.8 -3.2
TBOT eS Sn 21 04 11.4 +3.4
PB08 IPOC Station P 11.08 358 Pn 21 02 06.2 -4.5
CPUP Villa Florida 11.12 67 Pn Pn 21 02 06.7 -4.1
CPUP Villa Florida 11.12 67 P Pn 21 02 07.9 -2.9
comp=N,36nm,0.8s,baz=243,slow=12,SNR=58
CPUP S Sn 21 04 14.1 +0.9
comp=N,48nm,0.8s,baz=294,slow=9.9,SNR=1.8
CPUP LR LR 21 06 56.9
comp=N,292nm,18.7s,baz=242,slow=40
CPUP Villa Florida 11.12 67 eP Pn 21 02 07.0 -3.8
GO01 Chusmiza 11.55 358 Pn 21 02 12.4 -4.6
RODS Rosario do Sul 11.65 89 eP Pn 21 02 14.6 -3.3
RODS eS Sn 21 04 31.0 +5.0
PAPY Pozo Azul 11.71 55 eP Pn 21 02 16.4 -2.2
PAPY eS Sn 21 04 34.6 +7.1
UNIS Unistalda (Bra 12.00 83 eP Pn 21 02 19.4 -3.1
UNIS eS Sn 21 04 40.6 +6.1
PB12 IPOC Station P 12.68 353 Pn Pn 21 02 32.0 +0.4
PLTB Pedras Altas 12.90 96 Pn Pn 21 02 30.3 -3.9
PLTB Pedras Altas 12.90 96 eP Pn 21 02 30.4 -3.9
PLTB eS Sn 21 04 59.9 +3.7
CPSB Cacapava Do Su 13.15 90 eP Pn 21 02 33.7 -3.8
CPSB eS Sn 21 05 07.1 +4.8
CRSM Crissiumal (Br 13.32 77 eP Pn 21 02 37.3 -2.5
CRSM eS Sn 21 05 12.4 +5.8
PB18 Visviri 13.63 357 P 21 02 47.6 -1.7
MURT Porto Murtinho 13.78 49 eP Pn 21 02 44.5 -1.3
MURT eS S 21 05 25.2 -6.8
ALGR Alto Alegre (B 13.80 84 eP Pn 21 02 43.5 -2.6
ALGR eS Sn 21 05 24.2 +5.9
COYC Coyhaique 14.53 189 Pn 21 02 56.0 +0.8
LPAZ La Paz 14.91 2 Pn Pn 21 03 00.7 -0.1
LPAZ La Paz 14.91 2 P Pn 21 03 01.8 +1.0
comp=N,31nm,0.8s,baz=174,slow=8.1,SNR=88
LPAZ La Paz 14.91 2 P Pn 21 03 00.7 -0.1
LPAZ La Paz 14.91 2 eP Pn 21 02 56.1 -4.7
LPAZ eS Sn 21 05 46.7 +0.7
ITAB Concordia 15.01 79 Pn Pn 21 02 58.9 -2.5
ITAB Concordia 15.01 79 eP Pn 21 02 58.9 -2.5
ITAB eS S 21 05 53.9 -3.1
BDQN Bodoquena, MS 15.21 48 eP Pn 21 03 02.7 -1.2
BDQN eS S 21 05 59.7 -1.3
BBRB Robore, Bolivi 15.23 34 eP Pn 21 03 03.2 -1.0
BBRB eS S 21 05 59.1 -2.4
CNLB Canela 15.54 87 eP Pn 21 03 36.3 -1.8
BBSD Serra de San D 15.82 30 eP Pn 21 03 10.1 -1.5
AQDB Aquidauana 15.87 50 Pn 21 03 11.4 -0.8
AQDB Aquidauana 15.87 50 eP Pn 21 03 11.3 -0.8
PTGB Pitanga 16.07 70 eP Pn 21 03 14.1 -0.7
AY03 Cochrane 16.25 190 P Pn 21 03 15.9 -0.7
TRCB Terra Rica 16.60 63 Pn Pn 21 03 19.4 -1.8
SIV San Ignacio 16.72 26 P P 21 03 23.2 +0.1
comp=N,13nm,0.5s,baz=217,slow=12,SNR=58
GO08 Villa O'Higgin 17.43 189 P P 21 03 29.6 -1.0
LDASE Londrina, Braz 17.47 68 eP P 21 03 30.6 -0.7
PTLB Pontes e Lacer 18.01 31 P 21 03 37.8 +0.6
PTLB Pontes e Lacer 18.01 31 eP Pn 21 03 38.4 +0.2
PCMB Pacaembu 18.32 63 eP Pn 21 03 41.8 -0.1
FRTB Fartura 18.73 70 eP Pn 21 03 46.1 -0.8
SALV Santo Antonio 19.36 41 eP P 21 03 52.9 +1.0
VILB Vilhena 19.83 25 P P 21 03 57.1 0.0
VILB IAmb IAmb 21 03 58.3
comp=Z,69nm,1.1s
VILB Vilhena 19.83 25 eP P 21 03 57.5 +0.4
ITRB Iturama 20.13 59 eP P 21 04 00.9 +0.6
PET01 Itanhaem-SP 20.17 75 eP P 21 04 02.2 +1.5
GO09 Cerro Castillo 20.18 187 P P 21 04 01.4 +0.9
SPB Sao Paulo 20.35 73 P P 21 04 01.0 -1.6
SPB Sao Paulo 20.35 73 eP Pn 21 04 04.2 -1.4
NNA Nana 20.60 337 P P 21 04 06.3 +0.9
NNA Nana 20.60 337 P P 21 04 05.8 +0.4
comp=Z,20nm,0.8s,baz=161,slow=13,SNR=4.1
comp=Z,20nm,0.8s
NNA Nana 20.60 337 P P 21 04 06.3 +0.9
NNA pmax pmax
comp=Z,25nm,0.8s
BB19B Bebedouro 20.73 66 eP P 21 04 06.0 -0.8
RCLB Rio Claro- Sao 20.82 70 eP Pn 21 04 09.7 -1.5
VAO Valinhos 21.00 72 P P 21 04 09.2 -0.5
VAO IAmb IAmb 21 04 14.2
comp=Z,52nm,1.1s
VAO Valinhos 21.00 72 eP P 21 04 10.4 +0.7
ETMB Extrema 21.46 7 P P 21 04 14.7 +0.1
ETMB Extrema 21.46 7 eP P 21 04 14.3 -0.2
ARAG Araguaiana, MT 21.86 49 eP P 21 04 17.9 -0.9
EFI East Falkland 21.86 162 P P 21 04 18.1 -0.4
EFI East Falkland 21.86 162 *i* P P 21 04 19.4 +1.0
EFI pmax pmax
comp=Z,68nm,1.1s
GO10 Punta Arenas 21.95 184 P P 21 04 20.2 +0.8
PDRB Porto dos Gac 22.47 32 eP P 21 04 25.6 +0.5
MG03 Isla Dawson 22.61 183 P P 21 04 26.7 +0.5
SAML Samuel 22.79 14 P P 21 04 28.0 -0.2
SAML Samuel 22.79 14 P P 21 04 28.0 -0.2
SAML pmax pmax
comp=Z,8.0nm,0.7s
SAML Samuel 22.79 14 eP P 21 04 28.9 +0.6
IPMB Ipameri, GO 22.79 59 eP P 21 04 27.6 -0.8
CLDB Colider 23.55 33 eP P 21 04 36.1 +0.8
MG01 Puerto William 23.68 178 IAmb IAmb 21 04 50.8
comp=Z,110nm,1.1s
CZSB Cruzeiro do Su 23.71 350 P P 21 04 37.2 +0.4
CZSB IAmb IAmb 21 04 44.1
comp=Z,49nm,0.8s
BDFB Brasilia 24.47 55 P P 21 04 43.4 -0.4
BDFB Brasilia 24.47 55 P P 21 04 43.2 -0.6
comp=Z,10nm,0.9s,baz=226,slow=8.3,SNR=9.1
BDFB LR LR 21 15 05.0
comp=Z,335nm,19.1s,baz=241,slow=38
comp=Z,10nm,0.9s
BDFB Brasilia 24.47 55 P P 21 04 43.4 -0.4
BDFB pmax pmax
comp=Z,9.0nm,0.9s
SNDB Serra Nova Dou 25.04 44 eP P 21 04 49.6 +0.7
NPGB Novo Progresso 27.13 30 eP P 21 05 07.2 -0.6
JANB Januaria 27.53 60 eP P 21 05 10.9 -0.4
SDBA SAO DESIDERIO 28.87 55 eP P 21 05 23.5 +0.2
ITTB Itaituba 29.40 27 eP P 21 05 27.9 0.0
HOPE Hope Point 32.53 144 P P 21 05 56.4 +1.4
BOAV Boa Vista 34.36 15 P 21 06 10.4 -0.9
MCPB Macapa, AP 34.54 30 eP P 21 06 13.0 +0.1
TMAB Tom-Au,PA,Br 34.70 38 eP P 21 06 15.7 +1.4
NBPB Pedra_Branca-C 37.42 53 eP P 21 06 38.6 +1.1
RCBR Riachuelo 39.80 57 LR LR 21 23 28.3
comp=Z,121nm,18.6s,baz=330,slow=36
SDV Santo Domingo 39.96 357 P P 21 06 57.6 -1.2
SDV IAmb IAmb 21 06 58.8
comp=Z,31nm,1.4s
SDV pP pP 21 07 23.9 -1.0
SDV Santo Domingo 39.96 357 eP P 21 06 58.8 0.0
BAUV El Baul 39.98 1 P P 21 06 58.0 -0.7
BAUV IAmb IAmb 21 06 59.0
comp=Z,40nm,1.0s
BAUV pP pP 21 07 23.9 -1.0
PCRV Puerto La Cruz 41.38 6 LR LR 21 24 32.6
comp=Z,94nm,20.9s,slow=36
OBIP Obispado Ponce 49.06 3 P P 21 08 09.6 -1.2
CELP Cerrillos 49.09 3 P P 21 08 09.8 -1.2
CELP pP pP 21 08 36.7 -1.5
UUPR Utuado, UPR, P 49.26 2 P P 21 08 11.2 -1.2
UUPR IAmb IAmb 21 08 13.4
comp=Z,25nm,0.8s
VNA3 Neumayer Olymp 50.87 159⇑ P P 21 08 24.5 +0.5
comp=Z,45nm,0.8s
VNA1 Neumayer--Stat 51.12 158⇑ P P 21 08 26.3 +0.5
comp=Z,34nm,1.0s
VNA2 Neumayer--Watz 51.48 158⇑ P P 21 08 29.0 +0.5
comp=Z,38nm,0.8s,baz=287,slow=8.8
SNAA Sanae 53.09 159 P P 21 08 40.5 +0.1
SNAA Sanae 53.09 159⇓ P P 21 08 40.9 +0.5
comp=Z,898nm,0.9s
SNAA Sanae 53.09 159 P P 21 08 40.7 +0.3
comp=Z,55nm,1.1s,baz=287,slow=6.2,SNR=45
comp=Z,55nm,1.1s
SNAA Sanae 53.09 159 *i* P P 21 08 41.7 +1.3
SNAA pmax pmax
comp=Z,56nm,1.0s
TEIG Tepich 54.53 337 P P 21 08 51.6 +0.2
TEIG Tepich 54.53 337 P P 21 08 51.9 +0.4
TEIG pP pP 21 09 19.0 -0.1
TEIG sP sP 21 09 32.5 +0.6
TROLL Troll, Antarti 54.80 159⇑ P P 21 08 53.4 +0.4
comp=Z,1µm,0.6s
NVL N'lazarevskaya 57.73 157 eP P 21 09 13.4 -0.2
NVL e*PP sP 21 09 51.4 -2.4
NVL pmax pmax
comp=Z,53nm,1.0s
QSPA South Pole Qui 58.97 180 P P 21 09 22.8 +0.2
QSPA South Pole Qui 58.97 180 P P 21 09 23.0 +0.5
comp=Z,64nm,1.0s,baz=156,slow=1.9,SNR=201
comp=Z,64nm,1.0s
QSPA South Pole Qui 58.97 180 P P 21 09 23.4 +0.9
QSPA pP pP 21 09 51.4 +0.9
QSPA sP sP 21 10 03.8 +0.7
BBSR BB Station 63.40 4 P P 21 09 52.4 0.0
BBSR pP pP 21 10 20.1 -0.5
TIGA Tifton 63.93 346 P P 21 09 56.3 +0.3
baz=166
BRAL Brewton 64.48 343 P P 21 09 59.7 +0.1
baz=163
HBVL Hebbronville 64.67 330 IAmb IAmb 21 10 03.7
comp=Z,30nm,1.1s
GOGA Godfrey 65.82 346 P P 21 10 07.3 -0.9
baz=166
833A Chaparral WMA, 66.08 331 P P 21 10 10.5 +0.5
baz=152,SNR=8.3
HKT Hockley 66.11 334 *i* P P 21 10 11.6 +1.6
HKT pmax pmax
comp=Z,27nm,1.9s
HKT Hockley 66.11 334 P P 21 10 11.2 +1.1
HKT pP pP 21 10 38.6 -0.1
HKT PcP PcP 21 10 40.4 +0.9
HKT sP sP 21 10 50.7 -0.6
LRAL Lakeview Retre 66.25 343 P P 21 10 11.3 +0.4
baz=163
SBA Scott Base 66.31 191 P P 21 10 12.1 +1.3
SBA Scott Base 66.31 191 P P 21 10 12.1 +1.3
SBA pmax pmax
comp=Z,13nm,1.0s
SBA Scott Base 66.31 191 P P 21 10 12.5 +1.7
VBMS Vicksburg 66.43 340 P P 21 10 13.0 +0.9
baz=160
CNNC Cliffs of the 66.71 352 P P 21 10 14.6 +0.9
baz=171
KMSC Kings Mountain 67.11 349 P P 21 10 17.2 +0.8
baz=168
VNDA Vanda 67.32 190 P P 21 10 18.7 +1.5
VNDA Vanda 67.32 190 P P 21 10 18.2 +0.9
comp=Z,8.2nm,1.0s,baz=139,slow=5.6,SNR=23
comp=Z,8.2nm,1.0s
VNDA Vanda 67.32 190 P P 21 10 18.7 +1.5
VNDA pmax pmax
comp=Z,13nm,1.1s
VNDA Vanda 67.32 190 P P 21 10 18.8 +1.5
VNDA pP pP 21 10 47.7 +1.9
NATX Nacogdoches 67.33 336 P P 21 10 18.7 +0.9
baz=156
435B Jarrell 67.52 333 P P 21 10 20.0 +1.0
baz=153
X48A Hartselle 67.61 344 IAmb IAmb 21 10 20.7
comp=Z,27nm,0.9s
HPIG 67.78 325 IAmb IAmb 21 10 23.4
comp=Z,12nm,0.6s
W50A Signal Mountai 67.93 345 IAmb IAmb 21 10 22.6
comp=Z,26nm,0.9s
CPCT Cooper Cave 68.00 346 IAmb IAmb 21 10 22.9
comp=Z,18nm,1.1s
TKL Tuckaleechee C 68.05 347 IAmb IAmb 21 10 22.3
comp=Z,15nm,0.9s
JCT Junction City 68.13 331 P P 21 10 24.2 +1.2
baz=152,SNR=11
OXF Oxford 68.27 342 P P 21 10 23.8 +0.2
baz=161
PLAL Pickwick Lake 68.37 343 IAmb IAmb 21 10 25.0
comp=Z,14nm,0.8s
T59A Double "B" Far 68.38 352 IAmb IAmb 21 10 25.9
comp=Z,28nm,1.2s
BRDY Brady 68.52 332 P P 21 10 25.7 +0.3
BRDY IAmb IAmb 21 10 27.1
comp=Z,27nm,1.0s
U54A Nelsons Funny 68.54 349 IAmb IAmb 21 10 26.3
comp=Z,23nm,0.9s
WHTX Lake Whitney, 68.55 334 P P 21 10 26.0 +0.5
baz=154
SAND Sanderson 68.67 329 IAmb IAmb 21 10 28.7
comp=Z,38nm,1.1s
V48A Smith Brothers 68.78 344 IAmb IAmb 21 10 27.9
comp=Z,36nm,1.0s
TXAR Lajitas Array 68.83 328 P P 21 10 27.9 +0.5
TXAR Lajitas Array 68.83 328 P P 21 10 28.5 +1.1
comp=Z,5.9nm,0.7s,baz=150,slow=8.1,SNR=72
TXAR pP pP 21 10 57.5 +0.9
comp=Z,3.4nm,0.8s,baz=139,slow=7.9,SNR=5.1
comp=Z,5.9nm,0.7s
TX31 Lajitas Ar. Si 68.83 328 IAmb IAmb 21 10 29.6
comp=Z,57nm,1.9s
TZTN Tazewell 68.87 347 P P 21 10 28.2 +0.8
baz=166
BLA Blacksburg 68.99 350 P P 21 10 28.2 0.0
baz=169
CLTN Cedars of Leba 69.01 345 IAmb IAmb 21 10 29.2
comp=Z,23nm,1.2s
OZNA Ozona 69.07 330 P P 21 10 29.2 +0.4
S57A Dark Hollow, R 69.33 351 IAmb IAmb 21 10 31.8
comp=Z,26nm,1.1s
UALR University of 69.35 339 IAmb IAmb 21 10 31.6
comp=Z,13nm,0.8s
R58B Mineral 69.40 352 IAmb IAmb 21 10 32.6
comp=Z,37nm,1.2s
WVT Waverly 69.40 344 P P 21 10 30.5 -0.1
WVT pP pP 21 10 60.0 +0.5
WVT sP sP 21 11 12.3 +0.4
MIAR Mount Ida 69.52 338 IAmb IAmb 21 10 33.1
comp=Z,20nm,1.0s
MIAR Mount Ida 69.52 338 P P 21 10 31.5 +0.1
baz=157,SNR=9.3
CBN Corbin Frederi 69.58 353 P P 21 10 31.7 +0.1
baz=172
PLPT Palo Pinto 69.61 334 IAmb IAmb 21 10 33.6
comp=Z,24nm,0.8s
FW03 Perrin-Whitt E 69.71 334 IAmb IAmb 21 10 34.4
comp=Z,26nm,0.9s
WHAR Wooly Hollow 69.81 340 IAmb IAmb 21 10 35.3
comp=Z,78nm,1.9s
SGCY Sterling City 69.93 331 IAmb IAmb 21 10 35.6
comp=Z,23nm,1.0s
ABTX Abilene, Hawle 69.95 332 IAmb IAmb 21 10 36.0

comp=Z,38nm,1.1s
ABTX Abilene, Hawle 69.95 332 P P 21 10 34.5 +0.4
baz=152,SNR=9.4
R55A Marlinton 70.00 350 IAmb IAmb 21 10 36.2
comp=Z,28nm,0.9s
T47A Sharon Grove 70.04 344 IAmb IAmb 21 10 35.2
comp=Z,27nm,1.1s
X37A Clayton 70.15 337 IAmb IAmb 21 10 37.8
comp=Z,28nm,1.1s
LOOK Love County 70.24 335 IAmb IAmb 21 10 37.7
comp=Z,42nm,1.3s
FCAR Ozark Folk Cen 70.32 340 IAmb IAmb 21 10 37.4
comp=Z,33nm,1.3s
WTFS Witchita Falls 70.51 334 IAmb IAmb 21 10 39.0
comp=Z,26nm,0.8s
PECS Pecos 70.65 329 IAmb IAmb 21 10 40.9
comp=Z,50nm,1.8s
TBI Tubuai 70.74 254 *e*LR LR 21 32 18.0
comp=Z,784nm,36.8s
APMT Aspermont 70.76 332 IAmb IAmb 21 10 40.3
comp=Z,27nm,0.8s
SN07 Snyder 07 70.86 332 IAmb IAmb 21 10 41.2
comp=Z,34nm,1.2s
P57A Homestead Farm 70.91 352 IAmb IAmb 21 10 42.0
comp=Z,34nm,1.1s
Q52A Bidwell 71.00 349 IAmb IAmb 21 10 41.2
comp=Z,29nm,1.1s
WCI Wyandotte Cave 71.05 345 P P 21 10 40.4 -0.3
WCI IAmb IAmb 21 10 41.0
comp=Z,27nm,0.9s
WCI Wyandotte Cave 71.05 345 P P 21 10 39.7 -0.9
baz=164
WCI Wyandotte Cave 71.05 345 P P 21 10 40.4 -0.3
WCI pmax pmax
comp=Z,27nm,1.0s
WCI Wyandotte Cave 71.05 345 P P 21 10 40.1 -0.5
WCI PcP PcP 21 10 59.7 -0.5
WCI pP pP 21 11 09.1 -0.5
LIC Lamto 71.22 70⇓ *e*P P 21 10 42.4 +0.1
comp=Z,66nm,0.9s
S44A Carbondale 71.23 343 IAmb IAmb 21 10 42.5
comp=Z,24nm,1.1s
HHAR Hobbs 71.23 339 IAmb IAmb 21 10 43.2
comp=Z,29nm,0.9s
Q51A Peebles 71.24 348 IAmb IAmb 21 10 42.6
comp=Z,25nm,1.1s
SIUC Southern Illin 71.25 343 IAmb IAmb 21 10 42.6
comp=Z,28nm,1.1s
MVL Millersville 71.25 354 IAmb IAmb 21 10 43.9
comp=Z,20nm,1.1s
MCWV Mont Chateau 71.31 351 P P 21 10 42.3 +0.1
baz=170
P53A Whipple 71.37 350 IAmb IAmb 21 10 43.7
comp=Z,23nm,1.1s
DKNS Dickens 71.38 332 IAmb IAmb 21 10 44.2
comp=Z,17nm,0.9s
TIC Toumodi 71.47 70⇑ *e*P P 21 10 44.3 +0.5
comp=Z,43nm,1.0s
RLO Rose Lookout 71.47 338 IAmb IAmb 21 10 44.6
comp=Z,26nm,0.9s
TUL3 Leonard 71.49 337 IAmb IAmb 21 10 44.7
comp=Z,36nm,0.9s
TUL3 Leonard 71.49 337 P P 21 10 43.6 +0.2
baz=156,SNR=9.8
WMOK Wichita Mounta 71.49 334 P P 21 10 43.5 +0.1
baz=153
U38A Gravette 71.52 338 IAmb IAmb 21 10 44.8
comp=Z,17nm,0.9s
KIC Kosan Boka 71.53 70⇓ *e*P P 21 10 44.5 +0.4
comp=Z,102nm,0.9s
MGMO Mountain Grove 71.54 340 IAmb IAmb 21 10 45.1
comp=Z,28nm,0.9s
MNTX Cornudas Mount 71.61 328 P P 21 10 44.0 -0.2
baz=147
DBIC Dimbokro 71.62 70 P P 21 10 45.1 +0.4
comp=Z,32nm,0.8s,baz=222,slow=6.0,SNR=27
DBIC pP pP 21 11 13.0 -0.2
comp=Z,19nm,0.7s,baz=225,slow=6.0,SNR=6.8
DBIC LR LR 21 39 15.1
comp=Z,56nm,22.0s,baz=230,slow=33
comp=Z,32nm,0.8s
DBIC Dimbokro 71.62 70 P P 21 10 45.0 +0.3
DBIC pP pP 21 11 13.1 -0.2
P52A Corning 71.63 349 IAmb IAmb 21 10 44.8
comp=Z,23nm,0.9s
P52A Corning 71.63 349 P P 21 10 43.2 -0.9
baz=168,SNR=5.7
P51A Williamsport 71.64 348 IAmb IAmb 21 10 44.2
comp=Z,22nm,0.9s
OK031 S. Brethren Rd 71.89 336 IAmb IAmb 21 10 47.0
comp=Z,40nm,1.0s
OLIL Olney 71.94 344 IAmb IAmb 21 10 46.4
comp=Z,32nm,1.1s
OK029 Liberty Lake 71.96 336 IAmb IAmb 21 10 47.5
comp=Z,38nm,0.9s
P49A Miami Univ. Ec 71.99 347 IAmb IAmb 21 10 46.7
comp=Z,18nm,0.9s
P49A Miami Univ. Ec 71.99 347 P P 21 10 45.7 -0.6
baz=166
BLO Bloomington 72.01 346 IAmb IAmb 21 10 46.8
comp=Z,20nm,0.9s
SSPA Standing Stone 72.04 353 P P 21 10 46.8 +0.2
baz=172
O52A Adamsville 72.05 349 IAmb IAmb 21 10 46.9
comp=Z,16nm,0.8s
P48A Milroy 72.06 346 IAmb IAmb 21 10 47.0
comp=Z,28nm,1.1s
PAL Palisades 72.06 356 P P 21 10 47.0 +0.4
baz=175
O53A New Philadelph 72.09 350 P P 21 10 47.1 +0.2
baz=169
CCM Cathedral Cave 72.10 341 P P 21 10 46.5 -0.4
CCM IAmb IAmb 21 10 48.2
comp=Z,32nm,0.9s
CCM Cathedral Cave 72.10 341 P P 21 10 46.4 -0.5
baz=160
CCM Cathedral Cave 72.10 341 P P 21 10 46.5 -0.4
CCM pmax pmax
comp=Z,33nm,1.0s
ACSO Alum Creek Sta 72.35 349 IAmb IAmb 21 10 49.2
comp=Z,37nm,1.0s
ACSO Alum Creek Sta 72.35 349 P P 21 10 48.4 0.0
baz=167,SNR=7.2
SMWD Samnorwood 72.37 333 IAmb IAmb 21 10 50.4
comp=Z,38nm,1.0s
MSTX Muleshoe 72.40 331 P P 21 10 48.8 -0.2
baz=150
M65A Busby, Falmout 72.48 358 P P 21 10 49.2 +0.1
baz=178
P46A Rosedale 72.58 345 IAmb IAmb 21 10 50.1
comp=Z,30nm,0.9s
T35A Sooner Cattle 72.65 337 IAmb IAmb 21 10 51.9
comp=Z,31nm,0.9s
AMTX Amarillo 72.75 332 IAmb IAmb 21 10 52.7
comp=Z,26nm,0.9s
AMTX Amarillo 72.75 332 P P 21 10 50.6 -0.4
baz=151
O48B Farmland 72.77 347 IAmb IAmb 21 10 51.4
comp=Z,33nm,1.0s
O48B Farmland 72.77 347 P P 21 10 50.2 -0.7
baz=165
ELIS Ellis County 72.91 334 IAmb IAmb 21 10 53.9
comp=Z,28nm,0.9s
M55A Ridgway 72.96 352 IAmb IAmb 21 10 53.4
comp=Z,22nm,0.8s
OK032 Salt Plains WL 73.13 336 IAmb IAmb 21 10 54.7
comp=Z,30nm,1.0s
P43A Skaggs, Pawnee 73.14 343 IAmb IAmb 21 10 53.8
comp=Z,36nm,0.9s
M53A WI Miller and 73.18 351 IAmb IAmb 21 10 54.3
comp=Z,16nm,0.9s
M53A WI Miller and 73.18 351 P P 21 10 52.9 -0.4
baz=169
319A Douglas 73.21 324 IAmb IAmb 21 10 56.7
comp=Z,35nm,1.0s
SFIN Lafayette 73.29 345 P P 21 10 53.1 -0.8
baz=164
L59A Walton 73.32 355 IAmb IAmb 21 10 56.1
comp=Z,24nm,1.0s
M52A Chesterland 73.37 350 IAmb IAmb 21 10 55.4
comp=Z,20nm,0.9s
BINY Binghamton 73.40 354 P P 21 10 55.2 +0.6
baz=173
121A Cookes Peak, D 73.43 326 P P 21 10 56.6 +1.4
baz=146
L61B Northampton 73.44 357 IAmb IAmb 21 10 57.0
comp=Z,29nm,1.2s
L61B Northampton 73.44 357 P P 21 10 56.3 +1.5
baz=176
HRV Adam Dziewonsk 73.45 358 P P 21 10 55.6 +0.8
baz=177
PPT2 Papeete2 73.46 259 *e*S SKiKP 21 20 13.4 -1.8
comp=Z,92nm,23.0s
PPT2 Papeete2 73.46 259 *e*LR LR 21 33 34.8
comp=Z,137nm,24.2s
PPT2 *e*LR LR 21 33 37.0
comp=Z,148nm,30.2s
N47A Urbana 73.48 347 IAmb IAmb 21 10 55.3
comp=Z,45nm,1.2s
L56A Greenwood 73.49 353 IAmb IAmb 21 10 56.6
comp=Z,24nm,1.1s
ERPA Erie 73.75 351 P P 21 10 55.7 -0.9
baz=170
WVNY West Valley, N 73.87 352 IAmb IAmb 21 10 58.9
comp=Z,28nm,1.0s
HDIL Hopedale 73.96 344 IAmb IAmb 21 10 58.4
comp=Z,40nm,1.1s
HDIL Hopedale 73.96 344 P P 21 10 57.4 -0.4
baz=162
Y22D IRIS PASSCAL I 74.31 328 P P 21 11 00.3 +0.1
baz=147
J61A Chester 74.33 357 IAmb IAmb 21 11 02.1
comp=Z,27nm,1.1s
J56A Wolcott 74.55 354 IAmb IAmb 21 11 02.2
comp=Z,18nm,0.9s
KSU1 Kansas State U 74.66 338 IAmb IAmb 21 11 02.6
comp=Z,17nm,0.8s
KSU1 Kansas State U 74.66 338 P P 21 11 01.9 -0.1
baz=155
TUC Tucson 74.72 324 P P 21 11 04.0 +1.4
TUC Tucson 74.72 324 P P 21 11 03.6 +1.0
baz=144
TUC Tucson 74.72 324 P P 21 11 04.0 +1.4
TUC pmax pmax
comp=Z,8.0nm,1.2s
ANMO Albuquerque 74.82 329 P P 21 11 04.3 +1.1
ANMO IAmb IAmb 21 11 06.0
comp=Z,34nm,1.4s
ANMO Albuquerque 74.82 329 P P 21 11 04.3 +1.1
baz=147
ANMO Albuquerque 74.82 329 *i* P P 21 11 04.5 +1.2
ANMO pmax pmax
comp=Z,14nm,1.2s
I63A Otisfield 74.97 359 IAmb IAmb 21 11 06.7
comp=Z,34nm,1.1s
MAW Mawson 74.98 163 P P 21 11 03.6 +0.1
comp=Z,26nm,0.8s,baz=212,slow=6.4,SNR=53
MAW pP pP 21 11 32.5 +0.1
comp=Z,9.1nm,0.8s,baz=248,slow=9.7,SNR=3.1
comp=Z,26nm,0.8s
L44A Lake County Fo 75.19 345 P P 21 11 04.8 -0.1
baz=163
LBNH Lisbon 75.19 358 P P 21 11 06.4 +1.5
baz=177
CBKS Cedar Bluff 75.47 335 P P 21 11 07.7 +1.0
baz=153
214A Organ Pipe Nat 75.48 322 IAmb IAmb 21 11 09.8
comp=Z,22nm,1.1s
214A Organ Pipe Nat 75.48 322 P P 21 11 08.3 +1.5
baz=142,SNR=9.4
EMMW East Machias 75.61 1 P P 21 11 08.2 +1.0
EMMW IAmb IAmb 21 11 09.4
comp=Z,20nm,0.8s
LONY Lake Ozonia 75.71 356 P P 21 11 08.9 +1.1
baz=175
T25A Trinidad 75.80 331 IAmb IAmb 21 11 11.6
comp=Z,46nm,1.1s
T25A Trinidad 75.80 331 P P 21 11 10.0 +1.1
baz=149,SNR=17
L40A Anamosa 75.85 343 pP 21 11 37.0 -0.9
FRNY Flat Rock 75.86 356 IAmb IAmb 21 11 10.4
comp=Z,24nm,1.1s
WBO Williamsburg 76.13 355 IAmb IAmb 21 11 11.6
comp=Z,21nm,0.9s
G62A West of Eustis 76.13 359 IAmb IAmb 21 11 12.5
comp=Z,30nm,1.1s
PKME Peaks-Kenny Pk 76.16 360 IAmb IAmb 21 11 11.9
comp=Z,17nm,0.9s
PKME Peaks-Kenny Pk 76.16 360 P P 21 11 10.8 +0.5
baz=179
SCIA State Center 76.23 341 P P 21 11 11.0 +0.2
baz=158
JFWS Jewell Farm 76.42 344 IAmb IAmb 21 11 13.1
comp=Z,33nm,1.2s
JFWS Jewell Farm 76.42 344 P P 21 11 11.9 0.0
baz=161
W18A Petrified Fore 76.47 326 P P 21 11 13.7 +1.0
baz=145
F63A Nahmakanta, Br 76.60 360 IAmb IAmb 21 11 15.0
comp=Z,20nm,1.0s
KSCO Kaye Shedlock' 76.71 333 P P 21 11 14.7 +0.9
baz=151
X16A Lo Mia Camp, P 76.73 325 IAmb IAmb 21 11 17.0
comp=Z,25nm,1.1s
F64A Sherman 76.76 0 IAmb IAmb 21 11 15.9
comp=Z,43nm,1.1s
SDCO Great Sand Dun 76.77 331 P P 21 11 15.4 +1.0
baz=148
F62A Pittston Farm, 76.80 359 IAmb IAmb 21 11 16.3
comp=Z,22nm,1.1s
LMN Caledonia Moun 76.83 3 P P 21 11 14.7 +0.6
LMN IAmb IAmb 21 11 15.8
comp=Z,26nm,1.0s
I42A Draeger Farm, 77.04 345 IAmb IAmb 21 11 16.4
comp=Z,30nm,1.1s
L34A Svendsen Farm, 77.20 339 pP pP 21 11 45.0 -0.7
TSUM Tsumeb 77.22 105 P P 21 11 17.1 -0.2
TSUM IAmb IAmb 21 11 19.2
comp=Z,23nm,0.9s
TSUM Tsumeb 77.22 105 LR LR 21 41 11.4
comp=Z,47nm,18.9s,baz=232,slow=32
BGNE Belgrade 77.25 338 P P 21 11 18.2 +1.5
baz=154
TRQ Mont Tremblant 77.30 356 IAmb IAmb 21 11 18.1
comp=Z,24nm,1.0s
H43A Windswept, Lux 77.35 346 IAmb IAmb 21 11 18.0
comp=Z,30nm,1.1s
GLA Glamis 77.40 322 P P 21 11 18.7 +1.0
baz=141
I40A Newalk 77.43 344 IAmb IAmb 21 11 18.5
comp=Z,20nm,1.0s
E62A Clayton Lake 77.52 359 IAmb IAmb 21 11 20.1
comp=Z,31nm,0.9s
WUAZ Wupatki 77.58 326 IAmb IAmb 21 11 21.7
comp=Z,21nm,0.9s
WUAZ Wupatki 77.58 326 P P 21 11 20.1 +1.3
baz=144,SNR=14
MVCO Mesa Verde 77.62 328 IAmb IAmb 21 11 21.6
comp=Z,25nm,1.2s
MVCO Mesa Verde 77.62 328 P P 21 11 19.9 +0.9
baz=146,SNR=9.4
Q24A Divide 77.66 332 P P 21 11 20.6 +1.3
baz=149,SNR=9.0
IKP In-Ko-Pah, Jac 77.78 321 P P 21 11 21.5 +1.7
baz=140,SNR=6.1
SWSC Sam W. Stewart 77.83 321 P P 21 11 21.6 +1.6
baz=140
D62A Allapoint, All 77.98 360 IAmb IAmb 21 11 22.4
comp=Z,29nm,0.9s
MONP2 Monument Peak 78.13 320 P P 21 11 23.0 +1.0
baz=140
OGNE Ogallala 78.17 335 P P 21 11 22.6 +0.7
baz=151
BC3 Big Chuckawall 78.19 322 P P 21 11 23.3 +1.1
baz=140,SNR=13
IRM Iron Mountain 78.42 322 P P 21 11 24.9 +1.6
baz=141,SNR=6.4
E46A Sault Ste Mari 78.54 349 IAmb IAmb 21 11 24.5
comp=Z,31nm,1.0s
ISCO Idaho Springs 78.56 332 P P 21 11 25.8 +1.5
baz=148,SNR=15
SMCO Snowmass 78.60 331 IAmb IAmb 21 11 27.5
comp=Z,31nm,1.0s
NEE2 Needles Airpor 78.62 323 P P 21 11 25.7 +1.4
baz=141
TPFO Pinon Flats 78.69 321 P P 21 11 26.3 +1.4
baz=140,SNR=9.0
PFO Pinyon Flats O 78.70 321 P P 21 11 26.1 +1.1
PFO IAmb IAmb 21 11 27.9
comp=Z,19nm,1.1s
PFO Pinyon Flats O 78.70 321 P P 21 11 26.5 +1.5
baz=140,SNR=9.3
PFO Pinyon Flats O 78.70 321 *i* P P 21 11 26.3 +1.3
PFO pmax pmax
comp=Z,24nm,1.0s
BRIGG Briggsdale 78.72 333 IAmb IAmb 21 11 27.7
comp=Z,50nm,1.3s
BELC Belle Mtn. Jos 78.75 322 P P 21 11 26.9 +1.7
baz=140,SNR=6.7
BOSA Boshof 78.81 117 P P 21 11 25.2 -0.7
BOSA IAmb IAmb 21 11 27.1
comp=Z,41nm,0.9s
BOSA Boshof 78.81 117 P P 21 11 25.6 -0.3
comp=Z,26nm,0.8s,baz=244,slow=5.2,SNR=33
BOSA pP pP 21 11 54.5 -0.6
comp=Z,8.7nm,0.8s,baz=218,slow=4.0,SNR=3.1
comp=Z,26nm,0.8s
BOSA Boshof 78.81 117 P P 21 11 25.2 -0.7
BOSA pmax pmax
comp=Z,41nm,1.0s
ECSD EROS Data Cent 78.88 340 IAmb IAmb 21 11 26.8
comp=Z,33nm,0.9s
ECSD EROS Data Cent 78.88 340 P P 21 11 25.8 +0.2
baz=156,SNR=5.5
MURC Murrieta 79.09 320 P P 21 11 28.8 +1.8
baz=139,SNR=5.4
GMRC Granite Mounta 79.17 322 P P 21 11 29.3 +1.8
baz=140,SNR=14
SPMN Marine on St. 79.22 343 IAmb IAmb 21 11 27.4
comp=Z,10nm,0.5s
HMU Henry Mountain 79.24 327 IAmb IAmb 21 11 30.2
comp=Z,17nm,1.0s
VLDQ Val d'Or 79.40 354 IAmb IAmb 21 11 29.6
comp=Z,19nm,1.0s
BBRC Big Bear Solar 79.44 321 P P 21 11 30.3 +1.1
baz=140
KNB Kanab 79.48 325 IAmb IAmb 21 11 32.2
comp=Z,37nm,1.1s
HEC Hector,Ludlow 79.56 322 P P 21 11 31.5 +1.9
baz=140,SNR=9.7
N23A Red Feather La 79.62 332 IAmb IAmb 21 11 32.6
comp=Z,21nm,1.1s
N23A Red Feather La 79.62 332 P P 21 11 31.5 +1.5
baz=148,SNR=11
PHWY Pilot Hill 79.78 333 IAmb IAmb 21 11 33.0
comp=Z,20nm,0.9s
TUQ Turquoise Moun 79.81 322 P P 21 11 32.3 +1.3
baz=140
BFSC Mount Baldy Ra 79.82 321 P P 21 11 32.3 +1.3
baz=139
O20A White River Ci 79.93 330 IAmb IAmb 21 11 34.0
comp=Z,49nm,1.6s
O20A White River Ci 79.93 330 P P 21 11 32.9 +1.2
baz=146,SNR=7.8
SRU San Rafael Swe 80.09 328 IAmb IAmb 21 11 34.4
comp=Z,20nm,1.0s
CCUT Cedar City 80.17 325 IAmb IAmb 21 11 36.1
comp=Z,24nm,1.0s
GSC Goldstone, Bar 80.17 322 P P 21 11 33.9 +1.0
baz=140,SNR=7.3
DECC Green Verdugo 80.20 320 P P 21 11 34.3 +1.3
baz=139
E38A The Farm, Brul 80.21 344 IAmb IAmb 21 11 33.6
comp=Z,21nm,1.1s
Q16A Castle Valley 80.23 328 IAmb IAmb 21 11 35.8
comp=Z,22nm,1.1s
SUSD Miller 80.24 339 P P 21 11 33.2 +0.3
baz=154
P18A Preston Nutter 80.39 329 IAmb IAmb 21 11 36.6
comp=Z,26nm,1.1s
P17A Butcher Ranch, 80.48 328 IAmb IAmb 21 11 36.7
comp=Z,22nm,1.2s
P17A pP 21 12 02.5 -1.7
EDW2 Edwards Air Fo 80.49 321 P P 21 11 35.7 +1.2
baz=139,SNR=9.0
TOA0 Torodi Ar. Sit 80.61 68 P P 21 11 35.8 +0.2
TORD Torodi Ar. Bea 80.61 68 P P 21 11 35.5 0.0
TORD Torodi Ar. Bea 80.61 68 P P 21 11 35.8 +0.3
comp=Z,47nm,0.8s,baz=274,slow=3.5,SNR=48
TORD LR LR 21 45 09.6
comp=Z,64nm,20.4s,baz=216,slow=34
comp=Z,47nm,0.8s
CCAC Calif City Air 80.70 321 IAmb IAmb 21 11 38.3
comp=Z,22nm,1.1s
LRMC Laurel Mtn Rad 80.77 321 P P 21 11 37.6 +1.4
baz=139,SNR=8.2
DRLN Deer Lake 80.78 7 IAmb IAmb 21 11 36.6
comp=Z,21nm,0.9s
LBTB Lobatse 80.86 114 P P 21 11 37.1 +0.1
LBTB IAmb IAmb 21 11 38.1
comp=Z,32nm,1.1s
LBTB Lobatse 80.86 114 LR LR 21 41 46.7
comp=Z,44nm,21.2s,baz=196,slow=31
LBTB Lobatse 80.86 114 P P 21 11 37.1 +0.1
LBTB pmax pmax
comp=Z,32nm,1.1s
RDMU Red Mountain 80.86 330 IAmb IAmb 21 11 38.6
comp=Z,24nm,0.9s
FURC Furnace Creek, 81.09 323 P P 21 11 39.1 +1.5
baz=140
MPMC Manual Prospec 81.11 322 P P 21 11 39.2 +1.2
baz=139,SNR=8.5
ARVC Arvin 81.13 320 P P 21 11 39.3 +1.5
baz=138
BCW Bitter Crk WRg 81.31 320 P P 21 11 40.7 +1.7
BCW IAmb IAmb 21 11 41.9
comp=Z,40nm,1.2s
K22A Casper 81.34 333 P P 21 11 40.1 +1.1
baz=148
EYMN Ely 81.46 345 IAmb IAmb 21 11 40.2
comp=Z,18nm,1.0s
EYMN Ely 81.46 345 P P 21 11 39.1 -0.2
baz=160,SNR=15
PKM Mcpherson Peak 81.49 320 P P 21 11 41.5 +1.5
baz=138,SNR=13
RSSD Black Hills 81.67 335 P P 21 11 40.6 -0.2
RSSD IAmb IAmb 21 11 42.6
comp=Z,22nm,1.1s
RSSD Black Hills 81.67 335 P P 21 11 41.3 +0.5
baz=150
RSSD Black Hills 81.67 335 P P 21 11 40.6 -0.2
RSSD pmax pmax
comp=Z,22nm,1.1s
CWC Cottonwood Cre 81.71 322 P P 21 11 43.0 +1.9
baz=139
GRAC Grapevine Rang 81.75 323 P P 21 11 43.3 +2.1
baz=140
SPR3 Spring Creek 3 81.78 326 IAmb IAmb 21 11 43.7
comp=Z,20nm,1.1s
VES Vestal, Richgr 81.80 321 P P 21 11 42.3 +1.0
baz=138,SNR=5.3
R11B Troy Canyon, C 81.88 325 P P 21 11 43.5 +1.5
baz=141,SNR=19
SMMC Simmler 81.91 320 P P 21 11 43.7 +1.7
baz=138
DUG Dugway, Tooele 82.01 327 IAmb IAmb 21 11 45.1
comp=Z,34nm,1.9s
DUG Dugway, Tooele 82.01 327 P P 21 11 43.3 +0.7
baz=143,SNR=9.4
DUG Dugway, Tooele 82.01 327 P P 21 11 43.8 +1.2
TCUT Toone Canyon 82.11 329 IAmb IAmb 21 11 45.4
comp=Z,27nm,1.4s
B35A Bob, Littlefor 82.37 343 IAmb IAmb 21 11 45.0
comp=Z,16nm,0.8s
HWUT Hardware Ranch 82.58 329 IAmb IAmb 21 11 47.3
comp=Z,51nm,1.7s
PDAR Pinedale Array 82.67 331 P P 21 11 45.9 -0.2
PDAR Pinedale Array 82.67 331 P P 21 11 46.4 +0.3
comp=Z,6.5nm,0.9s,baz=145,slow=6.1,SNR=35
PDAR pP pP 21 12 17.4 +1.6
comp=Z,6.0nm,0.8s,baz=124,slow=5.0,SNR=9.8
comp=Z,6.5nm,0.9s
SPUT South Promonto 82.73 328 IAmb IAmb 21 11 48.2
comp=Z,29nm,1.4s
CASY Casey 82.77 180 P P 21 11 46.1 0.0
AGMN Agassiz Nation 82.85 342 IAmb IAmb 21 11 47.7
comp=Z,20nm,1.1s
AGMN Agassiz Nation 82.85 342 P P 21 11 46.6 +0.1
baz=157,SNR=7.1
LHV Little Huntoon 83.29 323 IAmb IAmb 21 11 51.9
comp=Z,20nm,1.1s
AHID Auburn Hatcher 83.32 330 IAmb IAmb 21 11 51.1
comp=Z,62nm,1.9s
NVAR Mina Array Bea 83.32 323 P P 21 11 50.2 +0.7
NVAR Mina Array Bea 83.32 323 P P 21 11 50.7 +1.2
comp=Z,7.2nm,0.9s,baz=155,slow=6.2,SNR=23
NVAR pP pP 21 12 20.2 +0.9
comp=Z,7.7nm,0.9s,baz=157,slow=5.7,SNR=9.6
comp=Z,7.2nm,0.9s
LOHW Long Hollow 83.80 331 IAmb IAmb 21 11 53.9
comp=Z,38nm,1.9s
WAKR Walker 83.97 322 IAmb IAmb 21 11 55.7
comp=Z,23nm,1.1s
IMW Indian Meadow 84.17 331 pP pP 21 12 22.1 -1.6

FLWY Flagg Ranch 84.22 331 IAmb IAmb 21 11 56.1
comp=Z,33nm,1.4s
YERR Yerington 84.22 323 IAmb IAmb 21 11 56.6
comp=Z,19nm,1.1s
PNTR Pine Nut 84.49 323 IAmb IAmb 21 11 58.0
comp=Z,27nm,0.8s
YMP Mirror Lake Pl 84.54 332 IAmb IAmb 21 12 15.0
comp=Z,13nm,0.9s
PAHR Pah Rah Range 84.83 323 IAmb IAmb 21 11 59.6
comp=Z,24nm,1.2s
AFDM Forest Hills D 85.10 322 IAmb IAmb 21 12 00.2
comp=Z,20nm,1.4s
HLID Hailey 85.41 329 IAmb IAmb 21 12 02.2
comp=Z,23nm,1.1s
HLID Hailey 85.41 329 P **P** **21 12 01.2 +1.4**
baz=142,SNR=31
DGMT Dagmar 85.49 337 P **P** **21 12 01.0 +1.0**
baz=150,SNR=6.3
SCHQ Schefferville 85.75 1 IAmb IAmb 21 12 02.0
comp=Z,28nm,1.1s
SCHQ Schefferville 85.75 1 P **P** **21 12 00.4 -0.7**
comp=Z,14nm,0.8s,baz=157,slow=4.5,SNR=13
SCHQ LR LR 21 49 55.7
comp=Z,25nm,21.8s,baz=277,slow=35
comp=Z,14nm,0.8s
ORV Oroville 85.83 322 IAmb IAmb 21 12 04.3
comp=Z,22nm,1.2s
BOZ Bozeman (W) 85.84 331 P **P** **21 12 02.6 +0.7**
baz=144,SNR=7.6
EGMT Eagleton 87.09 334 IAmb IAmb 21 12 09.2
comp=Z,33nm,1.2s
EGMT Eagleton 87.09 334 P **P** **21 12 07.9 +0.1**
baz=146,SNR=9.2
MSO Missoula 87.78 331 P **P** **21 12 12.3 +1.1**
baz=142
YBH Yreka Blue Hor 88.04 323 IAmb IAmb 21 12 13.6
comp=Z,13nm,0.9s
YBH Yreka Blue Hor 88.04 323 LR LR 21 46 58.4
comp=Z,51nm,19.1s,baz=152,slow=32
I07A Izee 88.16 326 IAmb IAmb 21 12 15.5
comp=Z,14nm,1.0s
TAM Tamanrasset 89.09 63 P **P** **21 12 17.2 -0.8**
TAM Tamanrasset 89.09 63 P **P** **21 12 17.3 -0.8**
TAM pmax pmax
comp=Z,6.0nm,1.0s
DBO Dodson Butte 89.31 323 IAmb IAmb 21 12 21.0
comp=Z,16nm,1.0s
H04A Detroit Lake 89.91 325 IAmb IAmb 21 12 22.7
comp=Z,16nm,0.9s
NEW Newport 90.25 330 LR LR 21 50 04.5
comp=Z,44nm,19.7s,baz=145,slow=34
FFC Flin Flon 90.30 341 P **P** **21 12 22.9 +0.2**
FFC IAmb IAmb 21 12 23.9
comp=Z,15nm,1.1s
FFC Flin Flon 90.30 341 P **P** **21 12 22.9 +0.2**
FFC pmax pmax
comp=Z,15nm,1.1s
PAB San Pablo 92.34 44 P **P** **21 12 33.1 +0.4**
ESDC Sonseca Array 92.65 44 P **P** **21 12 34.2 +0.1**
comp=Z,1.8nm,0.9s,baz=242,slow=3.8,SNR=10
comp=Z,1.8nm,0.9s
FRB Frobisher Bay 94.68 0 LR LR 21 55 51.7
comp=Z,20nm,21.7s,baz=210,slow=36
BBB Bella Bella 97.97 328 LR LR 21 54 24.7
comp=Z,59nm,18.4s,baz=216,slow=34
YKA Yellowknife Ar 100.41 340 P **Pdif** **21 13 08.2 -0.3**
comp=Z,2.1nm,0.9s,baz=138,slow=4.3,SNR=15
EKA Eskdalemuir Ar 102.78 32 P **Pdif** **21 13 18.6 -0.7**
comp=Z,0.8nm,0.8s,baz=245,slow=6.0,SNR=3.9
DZM Mont Dzumac 105.13 232 *e*LR LR 21 48 16.3
comp=Z,129nm,30.6s
K29M Barlow Dome 109.01 334 P **PKiKP** **21 17 52.1 +1.4**
baz=122
EPYK Eagle Plains 110.08 337 P **PKiKP** **21 17 54.1 +1.6**
baz=122
INK Inuvik 110.11 339 P **PKiKP** **21 17 53.6 +1.2**
baz=124
F30M Barrier River 110.44 338 P **PKiKP** **21 17 54.7 +1.7**
baz=123
H29M Whitestone 110.57 336 P **PKiKP** **21 17 54.3 +0.9**
baz=121
K27K Chicken 110.84 333 P **PKiKP** **21 17 55.1 +1.1**
baz=118
L26K Log Cabin Wild 110.86 332 P **PKiKP** **21 17 54.9 +0.9**
baz=118
KLU Klutina 111.23 330 P **PKiKP** **21 17 56.5 +1.6**
baz=116
E29M Blow River 111.53 338 P **PKiKP** **21 17 55.5 +0.4**
baz=120
SCRK Sand Creek 111.56 333 P **PKiKP** **21 17 55.9 +0.5**
baz=117
J26L Joseph Creek 111.63 333 P **PKiKP** **21 17 56.0 +0.4**
baz=117
H27K Steamboat Moun 111.69 335 P **PKiKP** **21 17 55.9 +0.3**
baz=118
F28M Old Crow 111.78 337 P **PKiKP** **21 17 56.1 +0.5**
baz=119
I26K Coal Creek Min 111.85 334 P **PKiKP** **21 17 55.6 -0.2**
baz=117
D28M Stokes Point 112.26 339 P **PKiKP** **21 17 56.5 0.0**
baz=120
J25K Salcha River, 112.38 333 P **PKiKP** **21 17 57.7 +0.8**
baz=116
DHY Denali Highway 112.53 331 P **PKiKP** **21 17 57.9 +0.5**
baz=114
E27K Coleen River 112.63 337 P **PKiKP** **21 17 58.2 +0.9**
baz=118
PMR Palmer 112.67 329 P **PKiKP** **21 17 58.5 +1.1**
baz=114
RC01 Rabbit Creek A 112.73 329 P **PKiKP** **21 17 58.6 +1.0**
baz=113
ILAR Eielson Array 113.04 333 PKiKP **PKiKP** **21 17 57.5 -0.6**
comp=Z,1.2nm,0.6s,baz=171,slow=1.1,SNR=11
F26K Sheenjek River 113.27 336 P **PKiKP** **21 17 59.5 +1.0**
baz=116
MCK McKinley 113.44 331 P **PKiKP** **21 17 59.8 +0.9**
baz=113
G25K Bearman Lake 113.57 335 P **PKiKP** **21 18 00.3 +1.2**
baz=114
CHIR Chirikof Islan 113.60 322 P **PKiKP** **21 17 59.7 +0.3**
baz=111
R18K Karluk 113.63 324 P **PKiKP** **21 17 59.3 0.0**
baz=111
F25K Christian Rive 113.75 336 P **PKiKP** **21 18 00.4 +0.9**
baz=114
NEA2 Nenana 113.83 332 P **PKiKP** **21 18 00.3 +0.7**
baz=113
H24K Noodor Dome 113.85 334 P **PKiKP** **21 18 00.4 +0.7**
baz=113
SKT Skwentna 113.87 329 P **PKiKP** **21 18 00.2 +0.4**
baz=112
N20K Mount Spurr 113.88 328 P **PKiKP** **21 18 00.4 +0.4**
baz=111
TRF Thorofare Moun 113.89 331 P **PKiKP** **21 18 00.3 +0.3**
baz=112
E25K Arctic Village 113.94 336 P **PKiKP** **21 18 00.0 +0.2**
baz=114
C27K Jago River 113.96 338 P **PKiKP** **21 17 59.8 +0.1**
baz=115
G24K Hadweenzic Riv 114.04 335 P **PKiKP** **21 18 00.1 +0.1**
baz=113
BPAW Bear Paw Mtn. 114.42 331 P **PKiKP** **21 18 00.8 0.0**
baz=111
C26K Camden Bay 114.46 338 P **PKiKP** **21 18 01.3 +0.7**
baz=114
H23K Yukon River 114.48 333 P **PKiKP** **21 18 01.4 +0.5**
baz=112
PPLA Purkeypile 114.49 330 P **PKiKP** **21 18 01.5 +0.4**
baz=111
F24K Squaw Lake 114.51 335 P **PKiKP** **21 18 01.6 +0.7**
baz=112
M20K Styx River 114.54 329 P **PKiKP** **21 18 01.3 +0.1**
baz=110
CAST Castle Rocks 114.63 331 P **PKiKP** **21 18 01.2 0.0**
baz=111
P18K Big Mountain, 114.65 326 P PKPdf 21 18 01.4 0.0
baz=110
MLY Manley 114.66 332 P **PKiKP** **21 18 02.1 +0.9**
baz=111
CHUM Lake Minchumin 114.89 331 P **PKiKP** **21 18 01.9 +0.3**
baz=110
E24K Your Creek 114.93 336 P PKPdf 21 18 02.4 +0.6
baz=112
G23K Bananza Creek 114.99 334 P **PKPdf** **21 18 02.8 +1.0**
baz=111
P17K Kvichak River 115.17 325 P **PKiKP** **21 18 03.5 +1.2**
baz=109
I21K Tanana 115.20 332 P **PKPdf** **21 18 03.2 +1.0**
baz=110
R16K Pilot Point 115.21 323 P **PKiKP** **21 18 02.7 +0.3**
baz=109
H22K Ishtalitna Cre 115.21 333 P **PKPdf** **21 18 03.6 +1.3**
baz=110
COLD Coldfoot 115.23 335 P **PKPdf** **21 18 03.6 +1.4**
baz=110
K20K Telida 115.45 330 P **PKiKP** **21 18 03.9 +1.1**
baz=109
TOLK Toolik Lake Re 115.51 336 P **PKiKP** **21 18 03.5 +0.7**
baz=110
C24K Franklin Bluff 115.60 338 P **PKiKP** **21 18 03.7 +0.9**
baz=111
O17K Koliganek Bris 115.67 326 P **PKiKP** **21 18 03.7 +0.4**
baz=108
H21K Melozitna Rive 115.69 333 P **PKiKP** **21 18 03.8 +0.6**
baz=109
J20K Nowinta River 115.75 331 P **PKiKP** **21 18 04.3 +1.0**
baz=108
N17K Nushagak Hills 115.95 327 P **PKiKP** **21 18 04.5 +0.7**
baz=108
D23K Nanushuk River 116.00 337 P **PKiKP** **21 18 04.5 +0.8**
baz=109
F22K John River 116.05 335 P **PKiKP** **21 18 05.0 +1.1**
baz=109
I20K Naaghedeneel 116.08 332 P **PKiKP** **21 18 04.9 +1.0**
baz=108
O16K Kokwok River B 116.10 326 P **PKiKP** **21 18 04.5 +0.4**
baz=108
E22K Anaktuvuk Pass 116.12 336 P **PKiKP** **21 18 04.5 +0.5**
baz=109
G21K Allakaket 116.23 334 P **PKiKP** **21 18 04.8 +0.6**
baz=108
L18K Granite Mounta 116.24 329 **PKiKP** **21 18 05.0 +0.7**
L18K Granite Mounta 116.24 329 P **PKiKP** **21 18 04.6 +0.3**
baz=107
C23K Itkillik River 116.27 337 P **PKiKP** **21 18 05.1 +1.0**
baz=109
J19K Poorman 116.31 331 P **PKiKP** **21 18 05.5 +1.1**
baz=107
F21K Alatna River 116.44 334 PKPdf **PKiKP** **21 18 05.0 +0.4**
F21K Alatna River 116.44 334 P **PKiKP** **21 18 05.0 +0.4**
baz=108
H20K Anotleneega Mo 116.45 332 P **PKiKP** **21 18 05.3 +0.6**
baz=107
J18K Inruko River 116.62 330 P **PKiKP** **21 18 05.7 +0.6**
baz=107
D22K Ayikyak River 116.66 336 P **PKiKP** **21 18 06.4 +1.4**
baz=108
E21K Killik River 116.98 336 P **PKiKP** **21 18 06.3 +0.7**
baz=107
GCSA Galena City Sc 117.05 331 P **PKiKP** **21 18 06.6 +0.9**
baz=106
H19K Roundabout Mou 117.09 332 P **PKiKP** **21 18 06.8 +0.9**
baz=106
MMAI Mount Meron Ar 117.09 66 PKP **PKPdf** **21 18 06.9 -0.1**
comp=Z,0.2nm,0.3s,baz=210,slow=1.2,SNR=4.4
MMAI PKKPab **PKKPab** **21 28 33.5 -1.3**
comp=Z,1.1nm,0.6s,baz=50,slow=4.4,SNR=4.7
K17K Iditarod 117.10 329 P **PKiKP** **21 18 06.8 +0.8**
baz=106
F20K Avaraart Lake 117.23 334 P **PKiKP** **21 18 07.2 +1.2**
baz=106
B22K Teshekpuk Lake 117.33 338 P **PKiKP** **21 18 07.2 +1.0**
baz=106
L16K Owhat River 117.35 328 P **PKiKP** **21 18 06.9 +0.4**
baz=105
C21K Knifeblade Rid 117.47 336 P **PKiKP** **21 18 07.3 +0.7**
baz=106
G19K Purcell Mounta 117.51 333 P **PKiKP** **21 18 07.0 +0.4**
baz=105,SNR=7.1
B21K Ikpikpuk River 117.53 337 P **PKiKP** **21 18 07.1 +0.5**
baz=105
O14K Tigvukauivet M 117.56 325 P **PKiKP** **21 18 07.1 +0.2**
baz=105
J17K VABM Dome 117.62 329 P **PKiKP** **21 18 07.8 +0.9**
baz=105
M15K Kasigluk River 117.66 326 P **PKiKP** **21 18 08.3 +1.2**
baz=105
E20K Nigu River 117.72 335 P **PKiKP** **21 18 08.1 +1.0**
baz=105,SNR=5.9
H18K Honhosa River 117.77 331 P **PKiKP** **21 18 07.8 +0.5**
baz=104
E19K Redstone River 117.90 334 P **PKiKP** **21 18 08.5 +1.1**
baz=104
N14K Kuskokwak Cree 117.94 325 P **PKiKP** **21 18 08.6 +1.0**
baz=104
F19K Shaleruckik Mo 117.95 333 P **PKiKP** **21 18 08.6 +1.1**
baz=104
D20K Etivluk River 117.99 336 P **PKiKP** **21 18 08.3 +0.7**
baz=104
A22K Sinclair Lake 118.01 338 P **PKiKP** **21 18 07.8 +0.3**
baz=104
BRTR Keskin Array B 118.03 59 PKPdf **PKPdf** **21 18 08.5 -0.2**
BRTR Keskin Array B 118.03 59 PKP **PKPdf** **21 18 08.3 -0.3**
comp=Z,2.5nm,0.8s,baz=200,slow=3.8,SNR=16
BRTR pPKP **pPKPdf** **21 18 39.1 -0.7**
comp=Z,1.7nm,0.9s,baz=214,slow=3.8,SNR=5.9
BRTR PKKPab **PKKPab** **21 28 29.9 -0.4**
comp=Z,0.8nm,0.8s,baz=90,slow=2.6,SNR=5.0
G18K Tagagawik 118.07 332 P **PKiKP** **21 18 08.8 +1.0**
baz=104
J16K Anvik River 118.26 329 P **PKiKP** **21 18 09.6 +1.4**
baz=104
KIEV Kiev 118.26 46 PKPdf **PKPdf** **21 18 07.6 -0.9**
KIEV Kiev 118.26 46 PKIKP **PKPdf** **21 18 07.6 -0.9**
AKASG Malin Array Be 118.27 46 PKP **PKPdf** **21 18 07.5 -1.0**
comp=Z,2.1nm,0.6s,baz=267,slow=2.6,SNR=13
AKASG pPKP **pPKPdf** **21 18 38.1 -1.6**
comp=Z,2.0nm,0.8s,baz=270,slow=2.2,SNR=2.9
AKBB Malin Array Si 118.27 46 *i* PKIKP **PKPdf** **21 18 08.1 -0.4**
L15K Ungalak Mounta 118.27 327 P **PKiKP** **21 18 09.9 +1.6**
baz=104
H17K Granite Mounta 118.35 331 P **PKiKP** **21 18 09.6 +1.2**
baz=103
I17K Unalakleet 118.44 330 P **PKiKP** **21 18 09.8 +1.3**
baz=103
K15K Wolf Creek Mou 118.44 328 P **PKiKP** **21 18 09.5 +1.0**
baz=103
D19K Kuna River 118.47 335 P **PKiKP** **21 18 09.4 +0.8**
baz=103
MNK Minsk 118.47 41 *i* PKIKP **PKPdf** **21 18 08.6 -0.2**
MNK *i* 21 18 38.5
MNK *i* 21 19 27.2
MNK *i* PPP PPP 21 21 58.4
MNK *i* 21 25 10.3
MNK *i* PS **PS** **21 29 15.4 0.0**
MNK *i* SS SS 21 35 37.5 +1.6
MNK *i* SSS SSS 21 40 01.7
MNK pmax pmax
comp=Z,15nm,0.8s
MNK pmax pmax
comp=N,33nm,0.8s
MNK pmax pmax
comp=E,10.0nm,0.8s
MNK MLR MLR
comp=E,113nm,21.0s
B20K Meade River 118.48 337 P **PKiKP** **21 18 09.8 +1.4**
baz=103
F18K Selawik 118.62 333 P **PKiKP** **21 18 09.2 +0.4**
baz=103
L14K Kuka Creek 118.75 327 P **PKPdf** **21 18 09.1 0.0**
baz=103
G17K Kiwalik Mounta 118.78 332 P **PKiKP** **21 18 09.3 +0.2**
baz=102
VSU Vasula 118.81 37 *c* *i* PKIKP **PKiKP** **21 18 09.5 +0.1**
VSU pmax pmax
comp=Z,6.0nm,0.6s
C19K Lookout Ridge 119.13 336 P **PKiKP** **21 18 10.2 +0.4**
baz=101
FINES FINESS Array B 119.15 33 PKP **PKPdf** **21 18 09.7 -0.2**
comp=Z,1.7nm,0.7s,baz=172,slow=3.9,SNR=6.5
E18K Uahlearik C 119.16 334 P **PKiKP** **21 18 10.7 +0.8**
baz=101,SNR=7.8
F17K Baldwin Pennin 119.22 333 P **PKiKP** **21 18 10.3 +0.3**
baz=101
H16K Elim 119.26 330 P **PKiKP** **21 18 11.1 +1.0**
baz=102
SPITS Spitsbergen Ar 119.35 14 PKP **PKPdf** **21 18 09.9 -0.1**
comp=Z,12nm,1.2s,baz=194,slow=3.0,SNR=1.8
G16K Koyuk River 119.46 331 P **PKiKP** **21 18 11.9 +1.4**
baz=101
E17K Hotham Inlet 119.56 333 P **PKiKP** **21 18 11.5 +0.8**
baz=100
C18K Utukok River 119.61 335 P **PKiKP** **21 18 11.8 +1.0**
baz=100
K13K Kusilvak Mount 119.80 327 P **PKiKP** **21 18 12.3 +1.1**
baz=101
A19K Wainwright 119.84 337 P **PKiKP** **21 18 11.6 +0.5**
baz=99
B18K Kokolik River 119.95 336 P **PKiKP** **21 18 12.0 +0.7**
baz=99
G15K Niukluk 120.08 331 P **PKiKP** **21 18 12.7 +1.0**
baz=100
D17K Noatak River 120.15 334 P **PKiKP** **21 18 13.2 +1.4**
baz=99
M11K Mekoryuk 120.24 325 P **PKiKP** **21 18 12.8 +0.7**
baz=100
C17K DeLong Mountai 120.30 335 P **PKiKP** **21 18 12.7 +0.6**
baz=98
ARCES ARCESS Array B 120.36 24 PKP **PKPdf** **21 18 11.8 -0.3**
comp=Z,1.7nm,0.7s,baz=244,slow=3.6,SNR=12
F15K North Star Dit 120.45 331 P **PKiKP** **21 18 12.9 +0.4**
baz=99
C16K Lisburne Hills 121.07 334 P **PKiKP** **21 18 14.5 +1.0**
baz=97
F14K Arctic Creek 121.11 331 P **PKiKP** **21 18 14.6 +0.9**
baz=97
ASAR Alice Springs 121.25 204 PKPdf **PKPdf** **21 18 14.1 -1.2**
ASAR Alice Springs 121.25 204 PKP **PKPdf** **21 18 14.2 -1.1**
comp=Z,5.9nm,0.8s,baz=138,slow=1.8,SNR=56
ASAR pPKP **pPKPdf** **21 18 45.0 -1.7**
comp=Z,1.4nm,0.7s,baz=151,slow=1.8,SNR=3.7
ASAR PKKPbc **PKKPbc** **21 28 16.9 +0.1**
comp=Z,1.3nm,0.8s,baz=346,slow=3.7,SNR=8.6
TNA Tin City 121.78 331 P **PKiKP** **21 18 15.9 +0.9**
baz=96
RAYN Ar Rayn 121.82 80 **PKiKP** **21 18 16.4 -0.1**
RAYN Ar Rayn 121.82 80 PKIKP **PKiKP** **21 18 16.4 -0.1**
GAMB Gambell 123.24 329 P **PKiKP** **21 18 19.3 +1.4**
baz=94
OBN Obninsk 123.52 42 *c* *i* PKIKP **PKPdf** **21 18 18.3 -0.2**
OBN *e* 21 18 49.8
OBN *e* 21 20 01.0
OBN *e* SS SS 21 36 56.8 +16
OBN pmax pmax
comp=Z,35nm,1.7s
WRA Warramunga Arr 124.49 207 PKPdf **PKPdf** **21 18 20.8 -0.8**
WRA Warramunga Arr 124.49 207 PKP **PKPdf** **21 18 20.9 -0.7**
comp=Z,12nm,0.6s,baz=167,slow=1.6,SNR=154
WRA pPKP **pPKPdf** **21 18 51.0 -2.0**
comp=Z,2.7nm,0.8s,baz=164,slow=1.5,SNR=4.0
WRA PKKPbc **PKKPbc** **21 28 04.6 +0.4**
comp=Z,0.9nm,0.6s,baz=342,slow=4.2,SNR=15
WRAB Tennant Creek 124.50 207 **PKPdf** **21 18 20.9 -0.7**
WRAB Tennant Creek 124.50 207 PKIKP **PKPdf** **21 18 20.9 -0.7**
VSR Storozhevoye 124.52 47 *e* PKIKP **PKPdf** **21 18 18.4 -2.1**
VSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 124.56 47 *e* PKIKP **PKPdf** **21 18 18.7 -1.9**
VORD pmax pmax
comp=Z,6.0nm,0.8s
LPSR Galich'ya Gora 124.57 45 *e* PKIKP **PKPdf** **21 18 19.5 -1.1**
LPSR pmax pmax
comp=Z,30nm,1.0s
VORR Voronezh 124.61 46 *e* PKIKP **PKPdf** **21 18 19.5 -1.2**
VORR pmax pmax
comp=Z,20nm,0.4s
WB0 Warramunga Arr 124.63 207 PKPdf **PKPdf** **21 18 21.4 -0.5**
KLMR Klimovskoe 125.55 35 *e* PKIKP **PKPdf** **21 18 21.0 -1.2**
KLMR *e* 21 18 52.5
KLMR pmax pmax
comp=Z,29nm,1.3s
SHA1 Shidzhatmaz 125.58 56 *c* *i* PKIKP **PKiKP** **21 18 24.6 +1.0**
KIV Kislovodsk 125.64 56 PKPdf **PKiKP** **21 18 23.3 -0.1**
KIV Kislovodsk 125.64 56 *c* *i* PKIKP **PKPdf** **21 18 23.2 +0.1**
KIV *e* 21 18 54.0
KIV *e* 21 20 14.8
KIV pmax pmax
comp=Z,11nm,1.0s
KIV Kislovodsk 125.64 56 PKP **PKiKP** **21 18 23.4 -0.1**
KIV PKP **PKPdf** **21 18 24.0 +0.9**
KBZ Khabaz 125.75 56 PKP **PKiKP** **21 18 23.4 -0.2**
comp=Z,2.2nm,0.7s,baz=159,slow=2.2,SNR=5.9
VRH Novokhopyorsk 126.11 47 *e* PKIKP **PKPdf** **21 18 21.7 -1.9**
VRH pmax pmax
comp=Z,10.0nm,1.1s
GNI Garni 126.36 61 *c* *i* PKIKP **PKiKP** **21 18 25.9 +0.8**
GNI pmax pmax
comp=Z,16nm,2.5s
BELG Belogornoye 129.85 46 PKP **PKiKP** **21 18 31.1 -0.3**
comp=Z,4.3nm,0.3s,baz=138,slow=1.6,SNR=5.1
KIRV Kirov 130.64 38 PKP **PKPdf** **21 18 32.3 +0.3**
comp=Z,5.4nm,0.4s,baz=276,slow=1.2,SNR=7.6
KIRV Kirov 130.64 38 *c* *i* PKIKP **PKiKP** **21 18 33.0 +0.2**
BILL Bilibino 131.55 336 PKPdf **PKPdf** **21 18 34.0 +0.5**
BILL Bilibino 131.55 336 *e* PKIKP **PKPdf** **21 18 34.9 +0.4**
BILL pmax pmax
comp=Z,16nm,1.3s
ARU Arti 135.84 39 PKPdf **PKPdf** **21 18 41.9 0.0**
ARU Arti 135.84 39 PKP **PKPdf** **21 18 42.5 +0.6**
comp=Z,3.3nm,0.4s,baz=303,slow=1.4,SNR=11
ARU pPKP **pPKPdf** **21 19 13.6 +0.5**
comp=Z,5.2nm,0.9s,baz=160,slow=2.9,SNR=3.3
ARU Arti 135.84 39 *c* *i* PKIKP **PKiKP** **21 18 43.0 -0.5**
ARU pmax pmax
comp=Z,7.0nm,0.8s
ARU Arti 135.84 39 PKP **PKiKP** **21 18 42.7 -0.8**
GEYT Alibeck 136.21 66 PKP **PKPdf** **21 18 43.6 +0.4**
comp=Z,4.2nm,0.8s,baz=276,slow=5.5,SNR=10
GEYT pPKP **pPKPdf** **21 19 13.3 -1.1**
comp=Z,3.0nm,0.8s,baz=251,slow=4.5,SNR=3.6
ABKAR Akbulak array 137.77 50 PKPpre 21 18 35.5
TIXI Tiksi 138.45 352 *c* *i* PKIKP **PKPdf** **21 18 45.9 -0.3**
TIXI pmax pmax
comp=Z,8.0nm,1.1s
SEY Seymchan 138.98 333 *c* *i* PKIKP **PKiKP** **21 18 48.9 -0.8**
SEY pmax pmax
comp=Z,30nm,1.3s
PETK Petropavlovsk- 140.17 317 PKhKP PKPpre 21 18 42.3
comp=Z,2.1nm,0.7s,baz=114,slow=3.6,SNR=5.6
PETK PKP **PKPdf** **21 18 51.0 +1.0**
comp=Z,6.7nm,0.8s,baz=116,slow=4.3,SNR=12
PETK pPKP pPKPdf 21 19 20.4 -0.9
comp=Z,10nm,1.0s,baz=90,slow=4.6,SNR=5.4
BRVK Borovoye 143.29 42 PKPdf PKPbc 21 18 54.0 +1.1
BRVK Borovoye 143.29 42 *c* *i* PKIKP **PKPdf** **21 18 56.1 +0.6**
BRVK pmax pmax
comp=Z,13nm,1.7s
BVAR Borovoye Array 143.37 42 PKP PKPbc 21 18 53.9 +0.7
comp=Z,2.0nm,0.3s,baz=329,slow=2.0,SNR=18
GUMO Guam 144.52 248 PKPdf **PKPab** **21 18 57.1 -0.4**
GUMO Guam 144.52 248 PKIKP **PKPab** **21 18 57.1 -0.4**
KBL Kabul 144.56 73 PKPdf **PKPab** **21 18 56.4 -1.0**
KBL Kabul 144.56 73 PKIKP **PKPab** **21 18 56.4 -1.0**
SIMJ Simiganj 144.81 66 PKPdf **PKPab** **21 18 57.7 -0.5**
KKAR Karatay Array 145.74 58 PKPdf **PKPdf** **21 18 59.7 -0.4**
KKAR Karatay Array 145.74 58 PKIKP **PKPdf** **21 18 59.7 -0.4**
TNTI Ternate 146.07 210 PKPdf **PKPdf** **21 19 00.9 -0.6**
YAK Yakutsk 146.98 344 PKPdf **PKPdf** **21 19 01.6 0.0**
YAK Yakutsk 146.98 344 *c* *i* PKIKP **PKPdf** **21 19 02.6 +1.1**
YAK pmax pmax
comp=Z,156nm,0.8s
HYB Hyderabad 147.28 107 *e* PKPbc **PKPbc** **21 19 05.1 -0.8**
GSI Gunungsitoli 147.50 154 **PKPdf** **21 19 02.8 -1.2**
ARSB Arslanbob 147.75 61 **PKPdf** **21 19 03.6 -0.1**
ARSB Arslanbob 147.75 61 PKIKP **PKPdf** **21 19 03.7 -0.1**
NIL Nilore 147.93 75 **PKPdf** **21 19 04.5 +0.4**
NIL Nilore 147.93 75 PKIKP **PKPdf** **21 19 04.5 +0.4**
EKS2 Erkin-Say 148.18 58 P **PKiKP** **21 19 08.8 -0.6**
SNR=26
USP Ospenovka 148.60 57 P **PKiKP** **21 19 09.5 -0.6**
SNR=28
TOLI2 Tolitoli 148.70 198 **PKPbc** **21 19 08.2 -1.6**
AAK Ala-Archa 148.70 58 P **PKiKP** **21 19 10.3 -0.3**
SNR=40
AAK Ala-Archa 148.70 58 **PKPdf** **21 19 05.6 +0.3**
AAK Ala-Archa 148.70 58 PKIKP **PKPdf** **21 19 05.6 +0.3**
UCH Uchtor 148.78 59 P **PKPdf** **21 19 07.5 +1.7**
SNR=58
CHMS Chumysh 148.83 58 P **PKiKP** **21 19 10.2 -0.4**
SNR=24
KURBB Kurchatov Arra 148.95 42 PKP **PKPdf** **21 19 05.5 +0.4**
comp=Z,10nm,0.5s,baz=299,slow=3.1,SNR=59
KURBB PKPbc **PKPbc** **21 19 09.6 +0.3**
comp=Z,10nm,0.5s,baz=300,slow=3.1,SNR=66
KURBB pPKPbc **pPKPbc** **21 19 40.2 -0.1**
comp=Z,7.4nm,0.7s,baz=300,slow=3.1,SNR=5.5
KURK Kurchatov 148.96 42 PKPdf **PKPdf** **21 19 06.0 +0.8**
KURK Kurchatov 148.96 42 PKIKP **PKPdf** **21 19 05.6 +0.4**
KURK 21 19 09.6
KURK 21 19 40.2
KBK Karagaybulak 149.03 58 P **PKiKP** **21 19 11.2 -0.1**

	SNR=24							
TKM2	**Tokmak 2**	**149.45**	**58**	P		**PKiKP**	**21 19 11.8**	**-0.3**
	SNR=28							
MYKOM	**Kota Tinggi**	**149.85**	**165**			**PKPbc**	**21 19 12.0**	**-0.7**
ULHL	**Ulahol**	**150.04**	**59**	P		**PKiKP**	**21 19 13.9**	**+0.5**
	SNR=17							
KSH	**Kashi**	**150.19**	**64**	PKPbc		**PKPdf**	**21 19 08.5**	**+0.8**
KSH				sPKP			21 19 41.0	
KSH				PP		**PP**	**21 22 47.3**	**-2.0**
ZAA0	**Zalesovo Array**	**150.41**	**32**			**PKPbc**	**21 19 12.2**	**-0.5**
ZALV	**Zalesovo Beam**	**150.41**	**32**	PKPdf		**PKPdf**	**21 19 07.2**	**-0.1**
ZALV	**Zalesovo Beam**	**150.41**	**32**	PKP		**PKPdf**	**21 19 07.8**	**+0.5**
	comp=Z,1.7nm,0.6s,baz=260,slow=4.4,SNR=8.6							
ZALV				PKPbc		**PKiKP**	**21 19 13.3**	**-0.1**
	comp=Z,32nm,0.4s,baz=317,slow=3.4,SNR=138							
ZALV				pPKPbc		**pPKPbc**	**21 19 43.2**	**-0.6**
	comp=Z,38nm,0.8s,baz=298,slow=3.1,SNR=8.7							
YSS	**Yuzh-Sakhalins**	**151.23**	**312**	*e*PKIKP		**PKPbc**	**21 19 15.1**	**+0.2**
YSS				*e*			21 19 46.6	
YSS				pmax	pmax			
	comp=Z,30nm,0.6s							
SBUM	**Sibu**	**151.33**	**182**			**PKPbc**	**21 19 16.1**	**-0.1**
IPM	**Ipoh**	**151.66**	**158**			**PKPbc**	**21 19 15.3**	**-1.7**
JKA	**Kamikawa-asahi**	**152.28**	**306**			**PKPdf**	**21 19 10.2**	**-0.4**
ASAJ	**Asahikawa**	**152.28**	**306**	PKIKP		**PKPdf**	**21 19 10.2**	**-0.3**
MKAR	**Makanchi Array**	**152.84**	**47**	PKPdf		**PKPdf**	**21 19 11.2**	**-0.1**
MKAR	**Makanchi Array**	**152.84**	**47**	PKP		**PKPdf**	**21 19 11.4**	**+0.1**
	comp=Z,1.5nm,0.9s,baz=240,slow=2.0,SNR=3.6							
MKAR				PKPbc		**PKPbc**	**21 19 18.6**	**0.0**
	comp=Z,18nm,0.8s,baz=306,slow=2.2,SNR=51							
MKAR				PKPab		**PKPab**	**21 19 30.5**	**+0.4**
	comp=Z,15nm,0.7s,baz=305,slow=2.8,SNR=24							
MKAR				pPKPbc		**pPKPbc**	**21 19 49.2**	**-0.5**
	comp=Z,16nm,0.9s,baz=304,slow=2.5,SNR=6.5							
ZEA	**Zeya**	**154.76**	**337**	*e*PKIKP		**PKPdf**	**21 19 13.8**	**0.0**
ZEA				pmax	pmax			
	comp=Z,10.0nm,1.1s							
KLR	**Kul'dur**	**156.34**	**325**	*e*PKIKP		**PKPdf**	**21 19 14.1**	**-1.9**
KLR				pmax	pmax			
	comp=Z,3.0nm,0.9s							
MJAR	**Matsushiro Arr**	**157.09**	**291**	PKP		**PKPdf**	**21 19 17.4**	**0.0**
	comp=Z,1.9nm,0.9s,baz=322,slow=1.6,SNR=5.6							
MJAR				PKPab		**pPKPdf**	**21 19 49.2**	**+0.2**
	comp=Z,7.9nm,0.8s,baz=106,slow=2.5,SNR=14							
MJAR				pPKPab		**pPKPab**	**21 20 19.6**	**+0.4**
	comp=Z,5.0nm,0.8s,baz=101,slow=2.4,SNR=6.1							
WMQ	**Urumqi**	**157.56**	**49**	*e*PKP		**PKPdf**	**21 19 18.5**	**+0.6**
WMQ				PKPab		**PKPab**	**21 19 51.5**	**+1.1**
USRK	**Ussuriysk Ar.**	**159.22**	**314**			**PKPab**	**21 19 57.5**	**0.0**
USRK	**Ussuriysk Ar.**	**159.22**	**314**	PKPab		**PKPab**	**21 19 58.4**	**+0.9**
	comp=Z,8.0nm,0.8s,baz=60,slow=3.2,SNR=11							
USRK				pPKPab		**pPKPab**	**21 20 28.0**	**0.0**
	comp=Z,3.1nm,0.8s,baz=140,slow=3.5,SNR=3.5							
USRK	**Ussuriysk Ar.**	**159.22**	**314**	PKP2		**PKPab**	**21 19 57.5**	**0.0**
ZAK	**Zakamensk**	**159.98**	**15**	*e*PKIKP		**PKPdf**	**21 19 20.1**	**-0.5**
ZAK				pmax	pmax			
	comp=Z,5.0nm,1.2s							
SONM	**Songino Array**	**163.03**	**11**	PKP		**PKPdf**	**21 19 24.5**	**+0.6**
	comp=Z,1.7nm,0.9s,baz=273,slow=0.9,SNR=9.7							
SONM				PKPab		**PKPab**	**21 20 14.5**	**+0.4**
	comp=Z,4.6nm,0.7s,baz=321,slow=4.7,SNR=17							
SONM				pPKPab		**pPKPab**	**21 20 44.3**	**+0.1**
	comp=Z,2.3nm,0.8s,baz=318,slow=4.3,SNR=4.2							
CMAR	**Chiang Mai Arr**	**163.04**	**136**			**PKPdf**	**21 19 23.7**	**-0.9**
CMAR	**Chiang Mai Arr**	**163.04**	**136**	PKP		**PKPdf**	**21 19 25.2**	**+0.6**
	comp=Z,0.8nm,0.3s,baz=240,slow=2.8,SNR=6.8							
CMAR				pPKP		**pPKPdf**	**21 19 55.4**	**-0.6**
	comp=Z,1.1nm,0.4s,baz=238,slow=2.8,SNR=4.4							
CMAR				PKPab		**PKPab**	**21 20 14.2**	**-0.6**
	comp=Z,1.3nm,0.3s,baz=241,slow=5.0,SNR=9.2							
CMAR				pPKPab		**pPKPab**	**21 20 45.0**	**+0.3**
	comp=Z,2.8nm,0.9s,baz=236,slow=5.2,SNR=3.6							
KSRS	**Korea Array**	**164.95**	**299**	PKP		**PKPdf**	**21 19 25.9**	**+0.2**
	comp=Z,2.5nm,0.8s,baz=236,slow=0.4,SNR=17							
KSRS				PKPab		**PKPab**	**21 20 24.2**	**+1.4**
	comp=Z,0.8nm,0.4s,baz=52,slow=2.6,SNR=4.3							
KSAR	**Wonju Array Be**	**164.98**	**299**			**PKPdf**	**21 19 25.3**	**-0.5**
KSAR	**Wonju Array Be**	**164.98**	**299**	PKIKP		**PKPdf**	**21 19 25.3**	**-0.5**
GOMU	**GeErMu**	**165.43**	**66**	PKP		**PKPdf**	**21 19 27.8**	**+1.1**
GOMU				AMB	AMB			
	comp=Z,84nm,5.1s							
TNCH	**TengChong**	**167.14**	**116**	PKP		**PKPdf**	**21 19 28.5**	**+0.4**
TNCH				pPKP	pPKPdf		21 19 59.5	-0.1
TNCH				sPKP			21 20 09.0	
TNCH				PKPab		**PKPab**	**21 20 33.5**	**+0.4**
TNCH				PP		**PP**	**21 24 19.5**	**-2.1**
TNCH				AMB	AMB			
	comp=Z,100nm,5.5s							
GTA	**Gaotai**	**167.60**	**46**	PKP		**PKPdf**	**21 19 28.5**	**+0.5**
GTA				pPKP	pPKPdf		21 19 59.0	-0.4
GTA				PKPab		**PKPab**	**21 20 35.3**	**+0.7**
PZH	**PanZhiHua**	**170.38**	**117**	PKP		**PKPdf**	**21 19 30.0**	**-0.1**
PZH				pPKP		**pPKPdf**	**21 20 01.0**	**-0.6**
PZH				PKPab		**PKPab**	**21 20 47.8**	**+0.5**
HHC	**Hu-ho-hao-te**	**170.43**	**359**	*e*PKP		**PKPdf**	**21 19 32.0**	**+2.3**
BTO	**Baotou**	**170.62**	**6**	*e*PKP		**PKPdf**	**21 19 29.5**	**-0.3**
BTO				PP		**PP**	**21 24 40.0**	**+2.5**
BTO				SS		SS	21 45 32.0	+2.3
LZH	**Lanzhou**	**172.14**	**50**	*e*PKP		**PKPdf**	**21 19 32.0**	**+1.2**
HNS	**HongShan**	**173.26**	**336**	⇑PKP		**PKPdf**	**21 19 32.0**	**+1.1**
NJ2	**Nanjing**	**173.51**	**279**	*e*PKP		**PKPdf**	**21 19 31.5**	**+0.3**
CD2	**Chengdu**	**173.52**	**91**	PKP		**PKPdf**	**21 19 31.5**	**+0.2**

*IDC **28** 21:15:26.2±1.9, 10°.90S×161°.90E, h0km, mb3.9/4, mbtmp4.1/5, ML4.8/1, MS3.5/8, Error ellipse: s-maj=49.2km s-min=32.0km az=95.0*

*NEIC **28** 21:15:29.5±2.0, 11°.15S±0°.06×162°.20E±0°.06, h10km±2km, mb4.3/12, Error ellipse: s-maj=12.8km s-min=7.4km az=136.0*

ISC 28 21:15:31.2±0.8,**11°.11S**±0°.09×**162°.2E**±0°.1,**h36**km,**n32,** σ1§**59**/27,**mb4.2**/9,**MS3.5**/5,**Bougainville-Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.78**	**307**	Pn	**Pn**	**21 16 14.2**	**+1.0**
HNR				Sn	**Sn**	**21 16 43.9**	**-1.6**
HNR	**Honiara**	**2.78**	**307**	LR	LR	21 16 49.7	
	comp=Z,µm,21.6s,baz=118,slow=35						
KOUNC	**Koumac, New Ca**	**9.60**	**168**	Pn	**Pn**	**21 17 46.3**	**-0.5**
LIFNC	**LIFOU**	**10.76**	**154**	Pn	**Pn**	**21 18 03.3**	**+0.6**
DZM	**Mont Dzumac**	**11.63**	**160**	Pn	**Pn**	**21 18 16.7**	**+2.0**
DZM	**Mont Dzumac**	**11.63**	**160**	Pn	**Pn**	**21 18 17.6**	**+2.9**
	6.4nm,0.3s,baz=15,slow=9.0,SNR=135						
DZM				Sn	**Sn**	**21 20 20.3**	**-3.1**
	0.7nm,0.3s,baz=104,slow=20,SNR=1.4						
DZM				LR	LR	21 21 57.3	
	comp=Z,231nm,20.5s,baz=18,slow=33						
	14nm,0.3s						
ONTNC	**Ouen Toro**	**11.85**	**160**	Pn	**Pn**	**21 18 18.7**	**+1.1**
OUENC	**Ouen Island, N**	**12.09**	**159**	Pn	**Pn**	**21 18 22.2**	**+1.3**
PINNC	**Pines Island,**	**12.48**	**157**	Pn	**Pn**	**21 18 28.5**	**+2.1**
PMG	**Port Moresby**	**14.90**	**275**	LR	LR	21 24 24.0	
	comp=Z,220nm,18.8s,baz=114,slow=37						
PATS	**Pohnpei**	**18.25**	**348**		**P**	**21 19 43.4**	**+1.8**
COEN	**Coen**	**18.79**	**259**	P	**Pn**	**21 19 50.0**	**+1.7**
COEN				IAmb	IAmb	21 19 52.9	
	comp=Z,24nm,1.2s						
ARMA	**Armidale**	**21.58**	**206**	P	**P**	**21 20 18.9**	**+1.0**
ARMA				IAmb	IAmb	21 20 46.6	
	comp=Z,13nm,1.4s						
WR0	**Warramunga Arr**	**28.03**	**248**	P	**P**	**21 21 17.5**	**-1.7**
WR0				IAmb	IAmb	21 21 38.7	
	comp=Z,3.5nm,0.9s						
WB0	**Warramunga Arr**	**28.12**	**249**	P	**P**	**21 21 20.0**	**0.0**
WB0				IAmb	IAmb	21 21 38.0	
	comp=Z,8.1nm,1.1s						
WRA	**Warramunga Arr**	**28.21**	**248**	P	**P**	**21 21 19.2**	**-1.6**
	comp=Z,0.6nm,0.3s,baz=77,slow=8.8,SNR=18						
	comp=Z,0.6nm,0.3s						
AS31	**Alice Springs**	**29.68**	**241**	P	**P**	**21 21 35.4**	**+1.5**
ASAR	**Alice Springs**	**29.68**	**241**	P	**P**	**21 21 34.5**	**+0.7**
ASAR	**Alice Springs**	**29.68**	**241**	P	**P**	**21 21 32.3**	**-1.6**
	comp=Z,0.5nm,0.8s,baz=65,slow=10,SNR=3.1						
	comp=Z,0.5nm,0.8s						
GUMO	**Guam**	**29.97**	**325**	LR	LR	21 35 07.2	
	comp=Z,44nm,18.2s,baz=107,slow=40						
MTN	**Manton Dam**	**30.44**	**264**	P	**P**	**21 21 41.6**	**+1.1**
FITZ	**Fitzroy Crossi**	**36.01**	**255**	P	**P**	**21 22 29.3**	**+0.2**
JKA	**Kamikawa-asahi**	**57.78**	**343**	P	**P**	**21 25 18.6**	**-0.1**
JKA				IAmb	IAmb	21 25 44.5	
	comp=Z,11nm,1.3s						
ASAJ	**Asahikawa**	**57.78**	**343**	LR	LR	21 46 50.3	
	comp=Z,45nm,21.6s,baz=186,slow=33						
KSRS	**Korea Array**	**58.03**	**328**	LR	LR	21 48 22.4	
	comp=Z,16nm,19.9s,baz=140,slow=34						
PETK	**Petropavlovsk-**	**64.08**	**357**	LR	LR	21 50 42.3	
	comp=Z,30nm,20.3s,baz=119,slow=33						
SBA	**Scott Base**	**66.77**	**179**	P	**P**	**21 26 18.9**	**+0.5**
SONM	**Songino Array**	**76.70**	**325**	P	**P**	**21 27 16.5**	**-2.2**
SONM				IAmb	IAmb	21 27 18.9	
	comp=Z,2.4nm,1.0s						
SONM	**Songino Array**	**76.70**	**325**	P	**P**	**21 27 18.0**	**-0.7**
	comp=Z,2.4nm,0.9s,baz=139,slow=6.2,SNR=11						
	comp=Z,2.4nm,0.9s						
QSPA	**South Pole Qui**	**78.89**	**180**	P	**P**	**21 27 30.6**	**-0.1**
QSPA				IAmb	IAmb	21 27 33.8	
	comp=Z,4.7nm,1.2s						
ILAR	**Eielson Array**	**84.71**	**20**	LR	LR	22 03 38.1	
	comp=Z,30nm,18.9s,baz=127,slow=34						
MKAR	**Makanchi Array**	**91.21**	**317**	P	**P**	**21 28 31.0**	**-1.6**
	comp=Z,0.2nm,0.3s,baz=95,slow=6.4,SNR=8.1						
	comp=Z,0.2nm,0.3s						

*NEIC **28** 21:27:50.4±1.1, 19°.423N±0°.007×155°.267W±0°.007, h5km, Error ellipse: s-maj=1.6km s-min=1.0km az=180.0*

HVO 28 21:27:50.3±0.7,**19°.414N**±0°.008×**155°.274W**±0°.005, **h1**km±2km,**ML2.9**/31,**ML2.4**/30(NEIC),**Error ellipse: s-maj=1.2km s-min=0.6km az=192.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**292**		Pg	21 27 50.9	0.0
UWB	**Uwekahuna B**	**0.01**	**342**		Pg	21 27 50.8	0.0
BYL	**Byron's Ledge**	**0.01**	**97**		Pg	21 27 50.8	0.0
BYL				Sg	Sg	21 27 51.6	+0.3
SBLHI	**Steaming Bluff**	**0.01**	**24**		Pg	21 27 50.9	0.0
HATHI	**Halema'uma'u T**	**0.02**	**53**	Pg	Pg	21 27 51.0	+0.1
HATHI				Sg	Sg	21 27 51.5	+0.2
KKO	**Keanakako`i**	**0.02**	**154**		Pg	21 27 51.1	+0.2
RIM	**Rim**	**0.02**	**179**		Pg	21 27 51.1	+0.2
UWE	**Uwekahuna**	**0.02**	**293**	Pg	Pg	21 27 51.0	0.0
UWE				Sg	Sg	21 27 51.7	+0.4
RSD	**Rainshed**	**0.05**	**356**	Pg	Pg	21 27 51.6	+0.2
RSD				IAML		21 27 52.2	
	comp=N,3µm,0.3s						
RSD				Sg	Sg	21 27 52.8	+0.7
RSD				IAML		21 27 52.9	
	comp=E,3µm,0.2s						
PUH	**Pauahi**	**0.07**	**126**	Pg	Pg	21 27 52.0	+0.3
PUH				IAML		21 27 53.6	
	comp=E,2µm,0.5s						
PUH				IAML		21 27 53.7	
	comp=N,2µm,0.4s						
KNHH	**Kane Nui o Ham**	**0.10**	**109**	Pg	Pg	21 27 52.9	+0.5
HLP	**Hilina Pali**	**0.12**	**195**	Pg	Pg	21 27 53.3	+0.6
HLP				Sg	Sg	21 27 55.4	+1.2
HLP				IAML		21 27 56.4	
	comp=N,2µm,0.5s						
HLP				IAML		21 27 56.5	
	comp=E,2µm,0.7s						
MLH	**Mauna Loa**	**0.13**	**307**	Pg	Pg	21 27 53.4	+0.4
MLH				Sg	Sg	21 27 55.3	+0.6
STCH	**Steam Cracks**	**0.14**	**101**	Pg	Pg	21 27 53.6	+0.5
STCH				Sg	Sg	21 27 55.3	+0.3
STCH				IAML		21 27 57.5	
	comp=N,2µm,0.9s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	21 27 53.8	+0.4
JCUZ	**Jacuzzi**	**0.17**	**100**		Pg	21 27 54.0	+0.5
HTC	**Hot Caves**	**0.21**	**214**		Pg	21 27 54.9	+0.6
JOKA	**Jonika Flow**	**0.26**	**86**	Pg	Pg	21 27 55.2	0.0
JOKA				Sg	Sg	21 27 59.0	+0.5
JOKA				IAML		21 28 03.1	
	comp=N,593nm,0.7s						
HMH	**Humu'ula Sheep**	**0.27**	**314**	Pg	Pg	21 27 56.1	+0.5
HMH				Sg	Sg	21 27 59.1	0.0
HMH				IAML		21 28 03.9	
	comp=E,675nm,0.4s						
HMH				IAML		21 28 04.9	
	comp=N,759nm,0.6s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	21 27 56.7	+0.4
MLOA				IAML		21 28 05.4	
	comp=E,696nm,0.7s						
MLOA				IAML		21 28 05.4	
	comp=N,544nm,0.2s						
MWH	**Moku'aweowe**	**0.31**	**283**	Pg	Pg	21 27 56.6	+0.3
PAH	**Pahoa**	**0.32**	**75**	Pg	Pg	21 27 56.8	+0.3
KHU	**Kahuku**	**0.36**	**243**	Pg	Pg	21 27 57.1	-0.2
ALEP	**Alea Permanent**	**0.37**	**290**		Pg	21 27 57.6	+0.1
POHA	**Pohakuloa**	**0.42**	**325**	Pg	Pg	21 27 58.8	+0.4
HUH	**Hualalai**	**0.59**	**297**	Pg	Pg	21 28 01.9	+0.2
CPH	**Captain Cook**	**0.61**	**277**		Pg	21 28 01.7	-0.3
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	21 28 02.9	-1.4
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	21 28 06.5	-2.4

*HVO **28** 21:29:04.9±0.8, 19°.35N±0°.01×155°.257W±0°.009, h-1km,7km, ML2.9/8, ML2.0/26(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=171.0*

NEIC 28 21:29:04.8±0.8,**19°.32N**±0°.04×**155°.24W**±0°.01,**h5**km±1km, **Error ellipse: s-maj=6.1km s-min=3.0km az=164.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.06**	**26**	Pg	Pg	21 29 06.3	-0.1
HLP	**Hilina Pali**	**0.07**	**248**	IAML		21 29 06.7	
	comp=N,779nm,1.4s						
HLP				Pg	Pg	21 29 07.1	+0.7
HLP				IAML		21 29 08.1	
	comp=E,683nm,1.0s						
KNHH	**Kane Nui o Ham**	**0.09**	**50**	Pg	Pg	21 29 07.4	+0.5
BYL	**Byron's Ledge**	**0.09**	**350**	Pg	Pg	21 29 06.1	-0.8
BYL				IAML		21 29 07.7	
	comp=E,1µm,0.8s						
BYL				IAML		21 29 07.9	
	comp=N,874nm,0.5s						
HATHI	**Halema'uma'u T**	**0.10**	**351**	Pg	Pg	21 29 07.0	-0.1
HATHI				IAML		21 29 08.6	
	comp=E,2µm,0.8s						
HATHI				IAML		21 29 08.7	
	comp=N,1µm,1.0s						
UWE	**Uwekahuna**	**0.11**	**335**	Pg	Pg	21 29 06.9	-0.3
UWE				IAML		21 29 07.1	
	comp=E,2µm,0.5s						
STCH	**Steam Cracks**	**0.13**	**60**	Pg	Pg	21 29 07.3	-0.2
STCH				IAML		21 29 11.7	
	comp=N,349nm,1.2s						
RSD	**Rainshed**	**0.15**	**347**	Pg	Pg	21 29 06.9	-0.9
RSD				IAML		21 29 09.4	
	comp=N,512nm,0.7s						
RSD				IAML		21 29 10.9	
	comp=E,376nm,0.3s						
JOKA	**Jonika Flow**	**0.25**	**63**	Pg	Pg	21 29 10.0	+0.2
JOKA				IAML		21 29 15.9	
	comp=E,513nm,1.2s						
MWH	**Moku'aweowe**	**0.37**	**296**	Pg	Pg	21 29 12.3	+0.2
HUH	**Hualalai**	**0.67**	**303**	Pg	Pg	21 29 18.3	+0.7

*IDC **28** 22:12:33.7±0.5, 12°.91S×45°.64E, h0km, mb4.1/24, mbtmp4.1/26, ML4.6/3, MS3.6/32, Error ellipse: s-maj=18.5km s-min=13.0km az=79.0*

*NEIC **28** 22:12:35.2±1.4, 12°.79S±0°.07×45°.65E±0°.09, h10km±1km, mb4.7/45, Error ellipse: s-maj=15.6km s-min=11.6km az=267.0*

*PRE **28** 22:12:56.3±3.3, 15°.04S×44°.70E, h10km, mb4.9*

ISC 28 22:12:34.7±0.3,**12°.85S**±0°.05×**45°.68E**±0°.07,**h10**km,**n155,** σ1§**34**/132,**mb4.5**/60,**MS3.6**/31,**3C-1D,Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.87**	**166**	Pn	**Pn**	**22 14 02.9**	**+1.0**
	6.9nm,0.3s,baz=336,slow=12,SNR=92						
OPO				Sn	**Sn**	**22 15 03.4**	**-6.0**
	41nm,0.3s,baz=306,slow=17,SNR=14						
ABPO	**Ambohimpanom**	**6.31**	**167**		**Pn**	**22 14 08.5**	**+0.5**
ABPO	**Ambohimpanom**	**6.31**	**167**	*e*P	**Pn**	**22 14 08.6**	**+0.6**
ABPO				*e*S	Sn	22 14 57.7	-23
VOI	**Vohitsoka**	**9.07**	**173**	Pn	**Pn**	**22 14 46.0**	**+0.2**
VOI	**Vohitsoka**	**9.07**	**173**	*e*P	**Pn**	**22 14 46.1**	**+0.2**
VOI				*e*S	Sn	22 15 59.7	-28
ZOMB	**Zomba**	**10.33**	**255**	*i* PN	**Pn**	**22 15 01.3**	**-1.8**
ZOMB				*i* SN	Sn	22 16 47.1	-12
ZOMB	**Zomba**	**10.33**	**255**	*i* PN	**Pn**	**22 15 01.3**	**-1.8**
ZOMB				*i* SN	Sn	22 16 47.1	-12
FOMA	**Nahampoana Res**	**12.12**	**174**	Pn	**Pn**	**22 15 28.1**	**+0.6**
MSEY	**Mahe Island**	**12.64**	**51**	Pn	**Pn**	**22 15 32.6**	**-2.2**
RER	**Riviere de l'E**	**12.68**	**132**	Pn	**Pn**	**22 15 34.0**	**-1.3**
KIBK	**Kibwezi**	**12.89**	**324**	Pn	**Pn**	**22 15 35.8**	**-2.4**
KIBK	**Kibwezi**	**12.89**	**324**	*e*P	**Pn**	**22 15 35.5**	**-2.7**
KIBK				*e*S	Sn	22 17 51.3	-11
KMBO	**Kilima Mbogo**	**14.33**	**324**	Pn	**Pn**	**22 15 55.4**	**-2.6**
KMBO	**Kilima Mbogo**	**14.33**	**324**	*e*P	**Pn**	**22 15 54.9**	**-3.2**
KMBO				*e*S	Sn	22 18 23.8	-14
CHIPN	**CHIPINGE**	**14.48**	**238**	*i* P	**Pn**	**22 15 55.9**	**-4.0**
CHIPN	**CHIPINGE**	**14.48**	**238**	*i* P	Pn	22 15 47.6	-12
LSZ	**Lusaka**	**17.14**	**260**	Pn	**Pn**	**22 16 32.3**	**-2.3**
LSZ				IAmb	IAmb	22 16 43.6	
	comp=Z,28nm,0.8s						
MOPA	**Mopani**	**17.20**	**230**	*i* P	**Pn**	**22 16 33.2**	**-2.1**
MOPA	**Mopani**	**17.20**	**230**	*e*P	**Pn**	**22 16 32.5**	**-2.8**
MUSN	**Musina, Limpop**	**17.74**	**236**	*i* P	**Pn**	**22 16 41.5**	**-0.5**
MUSN	**Musina, Limpop**	**17.74**	**236**	*e*P	**Pn**	**22 16 41.0**	**-1.1**
MATP	**Matopo**	**18.09**	**243**	*i* P	**Pn**	**22 16 44.2**	**-2.2**
MATP	**Matopo**	**18.09**	**243**	P	**Pn**	**22 16 46.2**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=73,slow=12,SNR=23						
MATP				S	Sn	22 19 50.5	-18
	comp=Z,1.6nm,0.6s,baz=336,slow=19,SNR=1.2						
	comp=Z,7.8nm,0.8s						
LODK	**Lodwar**	**19.14**	**327**	P	**P**	**22 16 57.4**	**-0.9**
LODK	**Lodwar**	**19.14**	**327**	*e*P	**Pn**	**22 17 01.2**	**+2.0**
MBAR	**Mbarara**	**19.17**	**308**	P	**P**	**22 16 59.4**	**+0.7**
MBAR	**Mbarara**	**19.17**	**308**	P	**Pn**	**22 17 00.0**	**+0.4**
	comp=Z,1.8nm,0.3s,baz=122,slow=9.7,SNR=11						
MBAR				S	Sn	22 20 14.4	-20
	comp=Z,3.1nm,0.2s,baz=301,slow=24,SNR=1.8						
MBAR				LR	LR	22 23 38.9	
	comp=Z,65nm,20.3s,baz=119,slow=35						
	comp=Z,4.2nm,0.2s						
POGA	**Pongola**	**19.46**	**220**	P	**P**	**22 17 02.2**	**+0.4**
POGA				IAmb	IAmb	22 17 19.5	
	comp=Z,32nm,0.9s						
POGA	**Pongola**	**19.46**	**220**	*e*P	**Pn**	**22 17 02.7**	**-0.2**
CRLN	**Carolina, Mapu**	**19.69**	**226**	*e*P	**Pn**	**22 17 08.4**	**+2.6**
LEPH	**Lephalale, Lim**	**20.17**	**235**	*e*P	**P**	**22 17 10.4**	**+0.9**
HRAO	**HartRAO**	**21.32**	**230**	*e*P	**P**	**22 17 21.2**	**-0.9**
PMBG	**Pietermaritzbu**	**21.75**	**218**	*e*P	**P**	**22 17 30.6**	**+4.1**
PRYS	**Parys**	**22.15**	**228**	*e*P	**P**	**22 17 30.4**	**-0.7**
PRYS				IAmb	IAmb	22 17 36.0	
	comp=Z,33nm,1.1s						
LBTB	**Lobatse**	**22.48**	**235**	P	**P**	**22 17 33.6**	**-0.9**
LBTB				IAmb	IAmb	22 17 40.6	
	comp=Z,22nm,0.8s						
LBTB	**Lobatse**	**22.48**	**235**	*i* P	**P**	**22 17 33.0**	**-1.5**
LBTB	**Lobatse**	**22.48**	**235**	*e*P	**P**	**22 17 33.3**	**-1.2**
LBTB				IAmb	IAmb	22 17 39.3	
	comp=Z,181nm,2.1s						
LBTB	**Lobatse**	**22.48**	**235**	LR	LR	22 26 21.7	
	comp=Z,245nm,19.7s,baz=60,slow=37						
SNKL	**Senekal, Frees**	**22.68**	**225**	*e*P	**P**	**22 17 37.0**	**+0.4**
SNKL				IAmb	IAmb	22 17 43.2	
	comp=Z,65nm,1.1s						
FURI	**Furi**	**22.70**	**342**	P	**P**	**22 17 36.5**	**-0.5**
FURI				IAmb	IAmb	22 18 08.1	
	comp=Z,16nm,0.7s						
ATD	**Arta Tunnel**	**24.39**	**353**	P	**P**	**22 17 52.9**	**-0.6**
ATD				IAmb	IAmb	22 17 55.6	
	comp=Z,11nm,0.8s						
BOSA	**Boshof**	**24.65**	**227**	P	**P**	**22 17 55.3**	**-0.5**
BOSA				IAmb	IAmb	22 18 28.8	
	comp=Z,46nm,1.4s						
BOSA	**Boshof**	**24.65**	**227**	*i* P	**P**	**22 17 55.9**	**+0.1**
BOSA	**Boshof**	**24.65**	**227**	*e*P	**P**	**22 17 55.3**	**-0.5**
BOSA				IAmb	IAmb	22 17 58.5	
	comp=Z,146nm,2.3s						
BOSA	**Boshof**	**24.65**	**227**	P	**P**	**22 17 55.4**	**-0.5**
	comp=Z,7.8nm,0.7s,baz=54,slow=9.3,SNR=20						
BOSA				LR	LR	22 27 32.7	
	comp=Z,249nm,19.9s,

comp=Z,37nm,18.2s,baz=48,slow=34
ARSA Arzberg 65.63 338 *e*P **P 22 23 19.9 +1.0**
comp=Z,3.0nm,1.1s
PRED Cave del Predi 65.70 336 P **P 22 23 17.8 -1.6**
PRED IAmb IAmb 22 23 37.3
comp=Z,3.0nm,1.0s
RONA Rosalia, Austr 65.73 339 *e*P **P 22 23 20.4 +0.8**
comp=Z,4.0nm,0.8s
CIMO Cimolais 66.04 335 P **P 22 23 21.5 -0.1**
CIMO IAmb IAmb 22 23 22.6
comp=Z,2.3nm,0.7s
MDT Midelt 66.07 315 LR LR 22 51 12.2
comp=Z,32nm,20.4s,baz=114,slow=35
ABTA Abfaltersbach 66.36 336 *e*P **P 22 23 24.3 +0.5**
comp=Z,2.4nm,1.1s
MOA Molln 66.59 338 *e*P **P 22 23 25.9 +0.7**
comp=Z,1.5nm,0.6s
BIOA Bad Ischl, Aus 66.70 337 *e*P **P 22 23 25.6 -0.2**
comp=Z,1.9nm,0.7s
MORW Morawa 66.81 116 P **P 22 23 27.6 +0.5**
LESA Schwarzleotal 66.85 336 *e*pP pP 22 23 32.4 +3.1
comp=Z,2.8nm,0.9s
VRAC Vranov 67.00 340 LR LR 22 54 41.0
comp=Z,16nm,19.6s,baz=194,slow=38
PZH PanZhiHua 67.06 54 P **P 22 23 30.5 +1.8**
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,130nm,5.5s
VNA3 Neumayer Olymp 67.14 197 ⇑P **P 22 23 28.6 +0.3**
comp=Z,8.6nm,0.8s
WTTA Wattenberg 67.14 336 *e*P **P 22 23 29.2 +0.4**
comp=Z,4.1nm,1.2s
GOMU GeErMu 67.29 42 P P 22 23 40.3 +10
GOMU pP pwP 22 23 45.5 +8.6
GOMU sP PcP 22 23 47.5 -11
GOMU pmax pmax
comp=Z,6.0nm,1.2s
FETA Feichten 67.31 335 *e*P **P 22 23 30.8 +0.9**
comp=Z,4.7nm,1.1s
MOTA Moosalm 67.42 335 *e*P **P 22 23 31.2 +0.6**
comp=Z,2.1nm,1.0s
DAVOX Davos/Dischmat 67.48 334 LR LR 22 57 27.2
comp=Z,18nm,18.3s,baz=98,slow=40
GEC2 GERESS Array S 67.63 338 P **P 22 23 30.1 -1.7**
GEC2 IAmb IAmb 22 23 44.7
comp=Z,2.7nm,0.9s
GERES GERESS Array B 67.63 338 P **P 22 23 31.4 -0.4**
GERES GERESS Array B 67.63 338 P **P 22 23 31.6 -0.2**
comp=Z,0.9nm,0.7s,baz=158,slow=8.1,SNR=4.5
comp=Z,0.9nm,0.7s
RETA Reutte 67.67 335 *e*pP pP 22 23 37.6 +3.2
comp=Z,2.3nm,0.9s
MK31 Makanchi Array 67.84 26 P **P 22 23 34.0 +0.9**
MK31 IAmb IAmb 22 23 47.5
comp=Z,5.1nm,0.8s
MKAR Makanchi Array 67.84 26 P **P 22 23 32.5 -0.6**
MKAR Makanchi Array 67.84 26 P **P 22 23 33.8 +0.7**
comp=Z,0.7nm,0.7s,baz=227,slow=9.4,SNR=2.3
comp=Z,0.7nm,0.7s
KURBB Kurchatov Arra 69.42 22 P **P 22 23 44.7 +1.9**
comp=Z,0.2nm,0.4s,baz=220,slow=6.4,SNR=2.4
KURBB LR LR 22 52 26.5
comp=Z,32nm,20.2s,baz=179,slow=34
comp=Z,0.2nm,0.4s
ESDC Sonseca Array 69.70 321 P **P 22 23 46.1 +1.2**
comp=Z,0.8nm,0.7s,baz=120,slow=7.2,SNR=6.0
ESDC LR LR 22 55 41.3
comp=Z,57nm,18.2s,baz=125,slow=37
comp=Z,0.8nm,0.7s
ARU Arti 69.86 8 P **P 22 23 45.6 +0.3**
KIRV Kirov 71.25 2 LR LR 22 57 46.4
comp=Z,48nm,19.5s,baz=187,slow=38
ZAA0 Zalesovo Array 74.41 23 P **P 22 24 13.0 +0.4**
ZALV Zalesovo Beam 74.41 23 P **P 22 24 12.9 +0.2**
ZALV Zalesovo Beam 74.41 23 P **P 22 24 12.7 0.0**
comp=Z,0.5nm,0.4s,baz=217,slow=9.1,SNR=2.8
ZALV LR LR 22 55 46.1
comp=Z,20nm,19.1s,baz=74,slow=35
comp=Z,0.5nm,0.4s
BELA Belgrano 2 75.48 192 P **P 22 24 20.3 +1.7**
BELA IAmb IAmb 22 24 20.9
comp=Z,3.6nm,0.8s
FIA1 FINESS Array S 75.66 350 P **P 22 24 19.2 -0.5**
FIA1 IAmb IAmb 22 24 42.2
comp=Z,10nm,1.0s
FINES FINESS Array B 75.66 350 P **P 22 24 19.5 -0.3**
FINES FINESS Array B 75.66 350 P **P 22 24 20.1 +0.3**
comp=Z,1.0nm,0.7s,baz=178,slow=6.4,SNR=4.1
comp=Z,1.0nm,0.7s
FORT Forrest 77.07 119 P **P 22 24 29.5 +0.9**
HFS Hagfors 77.14 344 P **P 22 24 28.3 +0.1**
comp=Z,1.7nm,0.8s,baz=152,slow=9.5,SNR=4.3
comp=Z,1.7nm,0.8s
QSPA South Pole Qui 77.24 180 P **P 22 24 29.9 +0.9**
QSPA IAmb IAmb 22 24 33.0
comp=Z,13nm,1.1s
QSPA South Pole Qui 77.24 180 P **P 22 24 29.8 +0.8**
comp=Z,8.6nm,1.0s,baz=269,slow=2.9,SNR=21
QSPA LR LR 22 55 36.5
comp=Z,66nm,19.5s,baz=267,slow=34
comp=Z,8.6nm,1.0s
NB2 NORSAR Subarra 78.56 344 P P 22 24 41.8 +5.6
comp=Z,2.7nm,1.2s,baz=146,slow=5.6
NOA NORSAR Array B 78.56 344 P **P 22 24 36.2 0.0**
comp=Z,0.2nm,0.6s,baz=117,slow=6.6,SNR=2.7
NOA LR LR 23 03 46.0
comp=Z,14nm,18.1s,baz=125,slow=39
comp=Z,0.2nm,0.6s
EKA Eskdalemuir Ar 79.32 334 P **P 22 24 41.1 +0.7**
comp=Z,0.6nm,0.6s,baz=123,slow=7.7,SNR=3.9
comp=Z,0.6nm,0.6s
HHC Hu-ho-hao-te 80.90 45 *e*P **P 22 24 49.8 +0.4**
HHC pmax pmax
comp=Z,6.0nm,0.5s
HHC pmax pmax
comp=Z,120nm,5.2s
SONM Songino Array 80.91 37 P **P 22 24 49.5 +0.1**
SONM Songino Array 80.91 37 P **P 22 24 50.9 +1.5**
comp=Z,0.7nm,1.1s,baz=223,slow=4.3,SNR=2.7
comp=Z,0.7nm,1.1s
NJ2 Nanjing 82.94 55 *e*P **P 22 25 00.8 +0.6**
NJ2 sP **pwP 22 25 06.3 -0.5**
NJ2 pmax pmax
comp=Z,7.0nm,0.6s
VNDA Vanda 82.98 169 P **P 22 25 01.3 +1.6**
comp=Z,1.3nm,0.7s,baz=260,slow=6.1,SNR=6.8
VNDA LR LR 22 59 22.5
comp=Z,52nm,19.2s,baz=282,slow=34
comp=Z,1.3nm,0.7s
ASAR Alice Springs 83.34 113 P **P 22 25 02.6 0.0**
ASAR Alice Springs 83.34 113 P **P 22 25 03.3 +0.7**
comp=Z,6.4nm,0.7s,baz=263,slow=4.8,SNR=60
ASAR LR LR 22 58 47.6
comp=Z,57nm,18.1s,baz=268,slow=33
comp=Z,6.4nm,0.7s
AS31 Alice Springs 83.35 113 P **P 22 25 02.8 +0.1**
AS31 IAmb IAmb 22 25 04.0
comp=Z,2.7nm,0.7s
ARCES ARCESS Array B 83.39 353 P **P 22 25 03.5 +1.7**
comp=Z,2.2nm,1.1s,baz=146,slow=8.7,SNR=1.4
comp=Z,2.2nm,1.1s
WRA Warramunga Arr 84.47 109 P **P 22 25 08.1 -0.3**
WRA Warramunga Arr 84.47 109 P **P 22 25 08.9 +0.5**
comp=Z,6.3nm,0.8s,baz=264,slow=3.7,SNR=39
comp=Z,6.3nm,0.8s
WB2 Warramunga Arr 84.48 109 P **P 22 25 07.5 -1.0**
WRAB Tennant Creek 84.48 109 P **P 22 25 08.0 -0.5**
WB0 Warramunga Arr 84.56 109 P **P 22 25 09.2 +0.4**
WR0 Warramunga Arr 84.65 109 P **P 22 25 09.7 +0.4**
WR0 IAmb IAmb 22 25 10.8
comp=Z,5.7nm,0.9s
STKA Stephens Creek 88.25 122 P **P 22 25 27.2 +0.4**
comp=Z,5.5nm,0.8s,baz=307,slow=9.2,SNR=7.7
comp=Z,5.5nm,0.8s
KSRS Korea Array 91.67 52 LR LR 23 07 25.7
comp=Z,18nm,19.0s,baz=245,slow=36
BORG Borgarnes 92.08 337 LR LR 23 11 07.9
comp=Z,14nm,19.1s,baz=179,slow=38
JNU Nakatsue 92.97 57 LR LR 23 06 35.9
comp=Z,22nm,19.6s,baz=145,slow=35
CPUP Villa Florida 95.71 241 LR LR 23 03 01.4
comp=Z,48nm,21.0s,baz=138,slow=32
KLR Kul'dur 97.07 41 LR LR 23 09 38.1
comp=Z,24nm,18.4s,baz=155,slow=35
PDAR Pinedale Array 143.29 329 PKP **PKPdf 22 32 09.9 +0.1**
comp=Z,1.2nm,1.0s,baz=83,slow=2.2,SNR=4.5
TXAR Lajitas Array 147.17 305 PKPbc **PKPbc 22 32 18.3 -0.7**
comp=Z,0.3nm,0.6s,baz=95,slow=1.0,SNR=7.0
NVAR Mina Array Bea 150.81 334 PKP **PKPdf 22 32 24.6 +2.0**
comp=Z,1.1nm,0.8s,baz=64,slow=3.4,SNR=4.3

*NEIC **28** 22:19:57.2±1.6, 21.0°S±0.1°×178.5°W±0.1°, h577km±8km, mb4.1/11, Error ellipse: s-maj=21.8km s-min=17.7km az=133.0*
*IDC **28** 22:19:58.1±5.2, 20.97°S×178.63°W, h584km±62km, mb3.0/7, mbtmp4.0/8, Error ellipse: s-maj=29.0km s-min=26.2km az=180.0*
ISC 28 22:19:57.0±0.6, **20.9°S**±0.1°×**178.7°W**±0.2°, **h579**km, **n36, s103/34, mb3.8/14, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MSVF	**Nonsavu**	**4.41**	**315**	P		**P**	**22 21 24.2**	**0.0**
URZ	**Urewera**	**17.67**	**191**	P		**P**	**22 23 29.1**	**-1.2**
	2.4nm,0.3s,baz=45,slow=1.4,SNR=1.4							
BHW	**Baring Head**	**21.15**	**194**	P		**P**	**22 24 01.3**	**-0.6**
NNZ	**Nelson**	**21.33**	**197**	P		**P**	**22 24 02.8**	**-0.7**
WHZ	**Wether Hill Ro**	**27.22**	**201**	P		**P**	**22 24 55.3**	**-0.2**
WHZ				IAmb		IAmb	22 25 24.7	
	comp=Z,9.8nm,1.1s							
ASAR	**Alice Springs**	**43.79**	**257**	P		**P**	**22 27 13.8**	**+1.0**
ASAR	**Alice Springs**	**43.79**	**257**	P		**P**	**22 27 14.1**	**+1.3**
	comp=Z,1.4nm,0.5s,baz=94,slow=7.7,SNR=15							
	comp=Z,1.4nm,0.5s							
WB0	**Warramunga Arr**	**43.88**	**263**	P		**P**	**22 27 14.5**	**+1.0**
WB0				IAmb		IAmb	22 27 25.0	
	comp=Z,6.0nm,1.1s							
WB2	**Warramunga Arr**	**43.89**	**263**	P		**P**	**22 27 13.3**	**-0.2**
WB2				IAmb		IAmb	22 27 17.0	
	comp=Z,2.7nm,1.0s							
WRA	**Warramunga Arr**	**43.90**	**263**	P		**P**	**22 27 14.4**	**+0.7**
WRA	**Warramunga Arr**	**43.90**	**263**	P		**P**	**22 27 14.6**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=97,slow=7.5,SNR=47							
	comp=Z,0.8nm,0.3s							
FITZ	**Fitzroy Crossi**	**52.33**	**263**	P		**P**	**22 28 16.6**	**+0.4**
FITZ				IAmb		IAmb	22 28 26.5	
	comp=Z,4.4nm,0.6s							
SBA	**Scott Base**	**57.42**	**184**	P		**P**	**22 28 51.0**	**+0.3**
QSPA	**South Pole Qui**	**69.16**	**180**	P		**P**	**22 30 07.0**	**+1.0**
QSPA	**South Pole Qui**	**69.16**	**180**	P		**P**	**22 30 07.4**	**+1.4**
	comp=Z,1.6nm,1.1s,baz=182,slow=3.7,SNR=2.6							
	comp=Z,1.6nm,1.1s							
PEA0B	**Petropavlovsk-**	**76.50**	**346**	P		**P**	**22 30 48.7**	**+0.7**
PEA0B				IAmb		IAmb	22 30 49.8	
	comp=Z,6.1nm,1.0s							
PETK	**Petropavlovsk-**	**76.50**	**346**	P		**P**	**22 30 49.4**	**+1.4**
PETK	**Petropavlovsk-**	**76.50**	**346**	P		**P**	**22 30 49.1**	**+1.2**
	comp=Z,1.9nm,0.8s,baz=128,slow=9.7,SNR=4.3							
	comp=Z,1.9nm,0.8s							
NVAR	**Mina Array Bea**	**81.77**	**44**	P		**P**	**22 31 17.9**	**+1.5**
	comp=Z,0.5nm,0.6s,baz=226,slow=8.2,SNR=4.8							
	comp=Z,0.5nm,0.6s							
P18K	**Big Mountain,**	**82.30**	**12**	P		**P**	**22 31 18.8**	**+0.5**
P18K				IAmb		IAmb	22 31 33.0	
	comp=Z,9.5nm,1.1s							
O18K	**Koktuh Hills**	**82.73**	**12**	P		**P**	**22 31 20.3**	**-0.2**
O18K				IAmb		IAmb	22 31 32.5	
	comp=Z,7.5nm,1.1s							
ILAR	**Eielson Array**	**88.86**	**13**	P		**P**	**22 31 49.0**	**-0.6**
	comp=Z,0.3nm,0.6s,baz=217,slow=5.5,SNR=5.4							
	comp=Z,0.3nm,0.6s							
PDAR	**Pinedale Array**	**89.70**	**43**	P		**P**	**22 31 55.3**	**+0.9**
	comp=Z,0.4nm,0.7s,baz=191,slow=4.3,SNR=3.8							
	comp=Z,0.4nm,0.7s							
ARCES	**ARCESS Array B**	**129.20**	**349**	PKPdf		**PKiKP**	**22 37 58.9**	**-1.3**
ARCES	**ARCESS Array B**	**129.20**	**349**	PKP		**PKiKP**	**22 37 59.6**	**-0.6**
	comp=Z,3.9nm,1.2s,baz=29,slow=2.3,SNR=4.5							
FINES	**FINESS Array B**	**135.98**	**343**	PKPdf		**PKiKP**	**22 38 12.8**	**-1.3**
HFS	**Hagfors**	**139.84**	**350**	PKhKP		PKPpre	22 38 13.8	
	comp=Z,0.5nm,0.3s,baz=56,slow=3.6,SNR=8.2							
AKASG	**Malin Array Be**	**143.05**	**330**	PKP		PKPbc	22 38 23.1	-0.5
	comp=Z,1.6nm,0.4s,baz=44,slow=4.2,SNR=14							
ARPR	**Arapgir-MALATY**	**143.48**	**308**			**PKPdf**	**22 38 26.6**	**-0.1**
EKA	**Eskdalemuir Ar**	**145.47**	**5**	PKPbc		**PKPab**	**22 38 31.1**	**-1.2**
	comp=Z,1.5nm,0.8s,baz=347,slow=3.4,SNR=4.9							
BRTR	**Keskin Array B**	**146.63**	**311**	PKPbc		**PKiKP**	**22 38 35.1**	**-1.7**
BRTR	**Keskin Array B**	**146.63**	**311**	PKPbc		**PKiKP**	**22 38 35.0**	**-1.8**
	comp=Z,0.6nm,0.5s,baz=162,slow=4.2,SNR=5.4							
KWP	**Kalwaria Pacla**	**146.68**	**334**	PKPbc		**PKiKP**	**22 38 35.6**	**-0.8**
BUR08	**Bucovina Ar. S**	**147.08**	**330**	PKPbc		**PKiKP**	**22 38 36.8**	**-0.6**
BURAR	**Bucovina Array**	**147.09**	**330**	PKPbc		**PKiKP**	**22 38 36.3**	**-1.2**
MMAI	**Mount Meron Ar**	**147.45**	**299**	PKPbc		**PKiKP**	**22 38 37.5**	**-1.1**
	comp=Z,1.4nm,0.5s,baz=58,slow=5.0,SNR=5.0							

*IDC **28** 22:26:51.3±4.8, 4.38°S×153.67°E, h118km±40km, mb3.7/9, mbtmp4.1/10, Error ellipse: s-maj=38.1km s-min=17.1km az=97.0*
*NEIC **28** 22:26:53.2±1.7, 4.4°S±0.1°×153.5°E±0.1°, h121km±8km, mb4.4/27, Error ellipse: s-maj=19.4km s-min=16.2km az=152.0*
ISC 28 22:26:49.9±0.7, **4.37S**±0.08×**153.71E**±0.10, **h100**km, **n54, s36/54, mb4.3/24, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RABL	**Rabaul**	**1.55**	**277**	P		**Pn**	**22 27 18.9**	**+2.1**
RABL	**Rabaul**	**1.55**	**277**	Pn		**Pn**	**22 27 18.7**	**+1.9**
RABL				Sn		**Sn**	**22 27 36.9**	**-0.4**
PMG	**Port Moresby**	**8.20**	**232**	P		**Pn**	**22 28 48.8**	**+2.6**
	31nm,0.4s,baz=68,slow=4.9,SNR=8.7							
PMG				S		**Sn**	**22 30 15.7**	**-1.5**
	61nm,0.6s,baz=102,slow=17,SNR=12							
COEN	**Coen**	**14.09**	**227**			**P**	**22 30 08.9**	**-0.8**
EIDS	**Eidsvold**	**21.03**	**187**	P		**P**	**22 31 28.4**	**+2.6**
EIDS				IAmb		IAmb	22 31 45.2	
	comp=Z,19nm,1.2s							
QIS	**Mount Isa**	**21.15**	**219**	P		**P**	**22 31 29.7**	**+2.7**
KDU	**Kakadu**	**22.55**	**247**	P		**P**	**22 31 40.7**	**-1.2**
QLP	**Quilpie**	**23.87**	**201**	P		**P**	**22 31 55.9**	**+1.6**
WB0	**Warramunga Arr**	**24.26**	**229**	P		**P**	**22 31 58.1**	**+0.3**
WB0				IAmb		IAmb	22 32 03.5	
	comp=Z,8.1nm,0.8s							
WR0	**Warramunga Arr**	**24.27**	**229**	P		**P**	**22 31 57.9**	**0.0**
WR0				IAmb		IAmb	22 32 03.4	
	comp=Z,8.6nm,0.6s							
WRAB	**Tennant Creek**	**24.39**	**229**	P		**P**	**22 31 59.7**	**+0.6**
WB2	**Warramunga Arr**	**24.40**	**229**	P		**P**	**22 32 00.1**	**+1.0**
WRA	**Warramunga Arr**	**24.41**	**229**	P		**P**	**22 31 59.5**	**+0.2**
WRA	**Warramunga Arr**	**24.41**	**229**	P		**P**	**22 31 59.4**	**+0.2**
	comp=Z,16nm,0.4s,baz=50,slow=9.3,SNR=35							
WRA				PcP		**PcP**	**22 35 36.1**	**0.0**
	comp=Z,1.0nm,0.6s,baz=51,slow=2.6,SNR=5.3							
ARMA	**Armidale**	**25.98**	**184**	P		**P**	**22 32 15.8**	**+2.3**
ARMA				IAmb		IAmb	22 32 17.0	
	comp=Z,9.2nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**26.07**	**29**	T		T	22 58 35.0	
	baz=210,slow=74							
H11S2	**WAKE ISLAND Hy**	**26.08**	**29**	T		T	22 58 36.2	
	baz=210							
H11S1	**WAKE ISLAND Hy**	**26.09**	**29**	T		T	22 58 38.1	
	baz=210,slow=74							
ASAR	**Alice Springs**	**27.08**	**223**	P		**P**	**22 32 22.8**	**-0.6**
	comp=Z,0.5nm,0.4s,baz=57,slow=9.0,SNR=6.4							
	comp=Z,0.5nm,0.4s							
STKA	**Stephens Creek**	**29.63**	**201**	P		**P**	**22 32 48.2**	**+2.3**
STKA	**Stephens Creek**	**29.63**	**201**	P		**P**	**22 32 45.2**	**-0.7**
STKA	**Stephens Creek**	**29.63**	**201**	P		**P**	**22 32 45.5**	**-0.4**
	comp=Z,5.3nm,0.7s,baz=32,slow=14,SNR=11							
	comp=Z,5.3nm,0.7s							
LCRK	**Leigh Creek**	**29.77**	**208**	P		**P**	**22 32 48.8**	**+1.6**
FITZ	**Fitzroy Crossi**	**30.66**	**241**	P		**P**	**22 32 54.0**	**-1.1**
WRKA	**Warakurna**	**31.91**	**227**	P		**P**	**22 33 05.4**	**-0.8**
HTT	**Hallett**	**32.03**	**204**	P		**P**	**22 33 08.2**	**+1.1**
BBOO	**Buckleboo**	**32.75**	**208**	P		**P**	**22 33 13.3**	**-0.1**
FORT	**Forrest**	**35.69**	**220**	P		**P**	**22 33 38.6**	**-0.2**
FORT	**Forrest**	**35.69**	**220**	P		**P**	**22 33 38.1**	**-0.7**
PEA0B	**Petropavlovsk-**	**57.37**	**3**	P		**P**	**22 36 29.1**	**+1.5**
PETK	**Petropavlovsk-**	**57.37**	**3**	P		**P**	**22 36 27.8**	**+0.3**
PETK	**Petropavlovsk-**	**57.37**	**3**	P		**P**	**22 36 28.0**	**+0.4**
	comp=Z,1.0nm,0.5s,baz=171,slow=7.0,SNR=7.5							
	comp=Z,1.0nm,0.5s							
CASY	**Casey**	**68.69**	**197**	P		**P**	**22 37 40.7**	**-1.6**
CASY				IAmb		IAmb	22 38 17.9	
	comp=Z,3.9nm,1.1s							
VNDA	**Vanda**	**73.22**	**178**	P		**P**	**22 38 07.7**	**-1.8**
VNDA	**Vanda**	**73.22**	**178**	P		**P**	**22 38 07.5**	**-2.1**
	comp=Z,1.2nm,0.7s,baz=342,slow=7.8,SNR=6.7							
	comp=Z,1.2nm,0.7s							
K15K	**Wolf Creek Mou**	**74.69**	**20**	P		**P**	**22 38 19.6**	**+1.3**
K15K				IAmb		IAmb	22 38 27.4	
	comp=Z,17nm,1.4s							
M16K	**Timber Creek**	**74.75**	**22**	P		**P**	**22 38 20.3**	**+1.6**
M16K				IAmb		IAmb	22 38 32.7	
	comp=Z,15nm,1.4s							
O18K	**Koktuh Hills**	**75.48**	**24**	P		**P**	**22 38 24.5**	**+1.6**
O18K				IAmb		IAmb	22 39 06.7	
	comp=Z,18nm,1.5s							
J17K	**VABM Dome**	**76.27**	**20**	P		**P**	**22 38 28.3**	**+1.0**
J17K				IAmb		IAmb	22 38 41.8	
	comp=Z,12nm,1.5s							
L18K	**Granite Mounta**	**76.36**	**22**	P		**P**	**22 38 29.6**	**+1.8**
L18K				IAmb		IAmb	22 38 38.4	
	comp=Z,7.7nm,1.4s							
L19K	**White Mountain**	**77.01**	**22**	P		**P**	**22 38 32.3**	**+0.7**
L19K				IAmb		IAmb	22 38 52.3	
	comp=Z,7.0nm,1.4s							
H17K	**Granite Mounta**	**77.03**	**18**	P		**P**	**22 38 32.8**	**+1.2**
H17K				IAmb		IAmb	22 39 12.1	
	comp=Z,6.6nm,1.3s							
SUA	**Susitna One**	**78.20**	**24**	P		**P**	**22 38 38.5**	**+0.1**
J20K	**Nowinta River**	**78.47**	**21**	P		**P**	**22 38 40.7**	**+1.1**
J20K				IAmb		IAmb	22 39 20.3	
	comp=Z,5.1nm,1.4s							
E19K	**Redstone River**	**79.51**	**17**	P		**P**	**22 38 46.4**	**+1.1**
MLY	**Manley**	**80.16**	**21**	P		**P**	**22 38 49.5**	**+0.6**
MKAR	**Makanchi Array**	**80.60**	**319**	P		**P**	**22 38 50.7**	**-0.9**
	comp=Z,0.3nm,0.4s,baz=96,slow=9.7,SNR=4.9							
	comp=Z,0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**81.30**	**326**	P		**P**	**22 38 53.7**	**-1.3**
	comp=Z,0.6nm,0.5s,baz=90,slow=8.6,SNR=2.6							
	comp=Z,0.6nm,0.5s							
ILAR	**Eielson Array**	**81.42**	**22**	P		**P**	**22 38 54.2**	**-1.3**
	comp=Z,0.5nm,0.7s,baz=253,slow=5.5,SNR=5.7							
	comp=Z,0.5nm,0.7s							
J25K	**Salcha River,**	**81.92**	**22**	P		**P**	**22 38 57.7**	**-0.5**
M27K	**Edge Creek, AK**	**82.31**	**25**	P		**P**	**22 39 01.5**	**+1.2**
M27K				IAmb		IAmb	22 39 33.2	
	comp=Z,6.8nm,1.2s							
QSPA	**South Pole Qui**	**85.58**	**180**	P		**P**	**22 39 17.5**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=3.3,slow=0.8,SNR=18							
	comp=Z,2.0nm,0.7s							
BVAR	**Borovoye Array**	**89.44**	**323**	P		**P**	**22 39 34.2**	**-1.3**
	comp=Z,1.0nm,0.5s,baz=90,slow=2.0,SNR=4.9							
	comp=Z,1.0nm,0.5s							
TORD	**Torodi Ar. Bea**	**151.03**	**289**	PKPbc		**PKiKP**	**22 46 31.1**	**-1.7**
	comp=Z,1.5nm,0.4s,baz=79,slow=2.3,SNR=19							

*NEIC **28** 22:36:53.5±2.0, 45.05°S±0.07°×167.36°E±0.10, h66km±8km, mb4.0/2, Error ellipse: s-maj=11.8km s-min=7.7km az=131.0*
*WEL **28** 22:36:54.7±0.8, 45°S±4°×16°E±°, h51km±8km, M4.1/14, ML4.4/14, MLv4.1/14, Error ellipse: s-maj=0.0km s-min=0.0km az=106.4, confirmed*
*NOU **28** 22:36:55.1, 45.07°S×167.62E, h26km, MLv4.6/8, South Island, New Zealand*
ISC 28 22:36:54.2±1.0, **45.13S**±0.04×**167.45E**±0.05, **h68**km±8km, **n93, s18/107, South Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
DCZ	**Deep Cove**	**0.40**	**212**			**Pn**	**22 37 05.5**	**-0.3**
DCZ				Sn		**Sn**	**22 37 13.8**	**-0.6**
DCZ	**Deep Cove**	**0.40**	**212**	P		**Pn**	**22 37 05.8**	**-0.1**
DCZ				S		**Sn**	**22 37 14.4**	**+0.1**
MLZ	**Mavora Lakes**	**0.53**	**117**	Pn		**Pn**	**22 37 07.5**	**+0.4**
MLZ				Sn		**Sn**	**22 37 17.1**	**+0.5**
MLZ	**Mavora Lakes**	**0.53**	**117**	P		**Pn**	**22 37 07.6**	**+0.5**
MLZ				S		**Sn**	**22 37 17.4**	**+0.8**
MSZ	**Milford Sound**	**0.56**	**37**	P		**Pn**	**22 37 07.7**	**+0.2**
MSZ				S		**Sn**	**22 37 18.7**	**+1.6**
WHZ	**Wether Hill Ro**	**0.84**	**156**	Pn		**Pn**	**22 37 11.1**	**+0.5**
WHZ				Sn		**Sn**	**22 37 22.8**	**0.0**
WHZ	**Wether Hill Ro**	**0.84**	**156**	P		**Pn**	**22 37 11.2**	**+0.6**
WKZ	**Wanaka**	**1.15**	**76**	Pn		**Pn**	**22 37 15.6**	**+1.0**
WKZ				Sn		**Sn**	**22 37 30.7**	**+1.0**
WKZ	**Wanaka**	**1.15**	**76**	P		**Pn**	**22 37 15.7**	**+1.2**
PYZ	**Puysegur Point**	**1.17**	**207**			**Pn**	**22 37 15.2**	**+0.5**
EAZ	**Earnscleugh**	**1.32**	**95**	P		**Pn**	**22 37 18.0**	**+1.4**
EAZ				S		**Sn**	**22 37 34.6**	**+1.1**
JCZ	**Jackson Bay**	**1.42**	**43**	P		**Pn**	**22 37 17.5**	**-0.6**
JCZ	**Jackson Bay**	**1.42**	**43**	P		**Pn**	**22 37 18.6**	**+0.5**
JCZ				S		**Sn**	**22 37 36.9**	**+0.9**
TUZ	**Tuapeka**	**1.74**	**119**	P		**Pn**	**22 37 23.5**	**+1.2**
APZ	**The Paps**	**1.75**	**168**	P		**Pn**	**22 37 22.8**	**+0.4**
APZ				S		**Sn**	**22 37 44.5**	**+0.7**
SYZ	**Scrubby Hill**	**1.84**	**141**	P		**Pn**	**22 37 24.5**	**+0.9**
SYZ	**Scrubby Hill**	**1.84**	**141**	P		**Pn**	**22 37 24.4**	**+0.9**
SYZ				S		**Sn**	**22 37 46.8**	**+0.9**
LBZ	**Lake Benmore**	**2.08**	**70**	Pn		**Pn**	**22 37 26.6**	**-0.3**
LBZ				Sn		**Sn**	**22 37 49.8**	**-2.0**
LBZ	**Lake Benmore**	**2.08**	**70**	P		**Pn**	**22 37 26.9**	**0.0**
ODZ	**Otahua Downs**	**2.27**	**89**	P		**Pn**	**22 37 29.6**	**+0.3**
ODZ	**Otahua Downs**	**2.27**	**89**	Pn		**Pn**	**22 37 29.4**	**+0.1**
ODZ	**Otahua Downs**	**2.27**	**89**	P		**Pn**	**22 37 29.6**	**+0.3**
ODZ				S		**Sn**	**22 37 54.5**	**-1.7**
FOZ	**Fox Glacier**	**2.33**	**48**	Pn		**Pn**	**22 37 29.7**	**-0.4**
FOZ	**Fox Glacier**	**2.33**	**48**	P		**Pn**	**22 37 29.8**	**-0.3**
HHSZ	**Highcliff Hill**	**2.34**	**110**	P		**Pn**	**22 37 31.5**	**+1.1**
HHSZ				S		**Sn**	**22 37 56.8**	**-1.3**
TMZ	**Timaru**	**2.64**	**75**	P		**Pn**	**22 37 34.0**	**-0.5**
GCSZ	**Gaunt Creek Bo**	**2.75**	**50**	P		**Pn**	**22 37 35.2**	**-0.6**
ARCZ	**Arundel**	**2.91**	**67**	P		**Pn**	**22 37 37.2**	**-1.0**
RPZ	**Rata Peaks**	**2.94**	**63**	P		**Pn**	**22 37 37.8**	**-0.8**
RPZ	**Rata Peaks**	**2.94**	**63**	Pn		**Pn**	**22 37 37.5**	**-1.1**
RPZ	**Rata Peaks**	**2.94**	**63**	P		**Pn**	**22 37 37.7**	**-0.8**
WVZ	**Waitaha Valley

URZ	**Urewera**	**9.96**	**50**	P	**Pn**	**22 39 13.9**	**-0.5**
WIAZ	**Waiheke Island**	**10.15**	**38**	P	**Pn**	**22 39 18.5**	**+1.5**
TWGZ	**Tauwhareparae**	**10.49**	**52**	P	**Pn**	**22 39 20.7**	**-1.1**
WCZ	**Waipu Caves**	**10.57**	**32**	P	**Pn**	**22 39 23.8**	**+1.1**
OUZ	**Omahuta**	**10.95**	**27**	P	**Pn**	**22 39 28.8**	**+0.9**
OUZ	**Omahuta**	**10.95**	**27**	P	**Pn**	**22 39 28.5**	**+0.6**
STKA	**Stephens Creek**	**24.05**	**294**		**P**	**22 42 01.1**	**-1.8**
STKA				IAmb	IAmb	22 42 04.1	
	comp=Z,3.6nm,1.4s						
QSPA	**South Pole Qui**	**45.00**	**180**	P	**P**	**22 45 04.0**	**+1.4**
QSPA				IAmb	IAmb	22 45 25.7	
	comp=Z,8.3nm,1.5s						

*IDC **28** 22:37:51.2±1.6,36˚.94N×78˚.81E, h0km, mb3.5/2, mbtmp3.5/3, ML3.5/1, MS3.0/1, Error ellipse: s-maj=38.2km s-min=29.0km az=82.0*
*NNC **28** 22:37:58.4±5.0,37˚.30N×79˚.21E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=39.4km s-min=27.9km az=17.0*
ISC 28 22:37:57.5±1.9,37˚.1N±0˚.1×79˚.7E±0˚.2, h10km, n9, σ1§58/9, 2C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MDOK	**Medeo**	**6.40**	**342**	Pg	**Pb**	**22 39 46.7**	**-2.5**
	6.9nm,0.5s						
MDOK				Lg	Lg	22 41 16.1	
	8.4nm,0.6s						
TKM2	**Tokmak 2**	**6.63**	**333**	⇓Pg	**Pb**	**22 39 51.8**	**-1.2**
	1.3nm,0.3s						
TKM2				⇓Lg	Lg	22 41 19.2	
	8.2nm,0.8s						
AAK	**Ala-Archa**	**6.85**	**326**	⇓Pg	**Pb**	**22 39 56.9**	**+0.2**
	2.0nm,0.4s						
AAK				⇓Lg	Lg	22 41 22.2	
	16nm,0.8s						
CHMS	**Chumysh**	**7.03**	**329**	⇑Pg	**Pb**	**22 39 59.3**	**-0.4**
	1.6nm,0.5s						
CHMS				⇑Lg	Lg	22 41 30.6	
	12nm,0.9s						
MK31	**Makanchi Array**	**9.88**	**10**	⇓Pn	**Pn**	**22 40 21.7**	**+2.1**
	0.8nm,0.5s,baz=200,slow=13,SNR=40						
MK31				⇓Sn	**Sn**	**22 42 10.5**	**-0.1**
	5.1nm,0.7s,baz=196,slow=23,SNR=7.7						
MKAR	**Makanchi Array**	**9.88**	**10**	Pn	**Pn**	**22 40 21.1**	**+1.5**
	0.4nm,0.3s,baz=196,slow=13,SNR=25						
MKAR				Sn	**Sn**	**22 42 10.4**	**-0.2**
	0.8nm,0.3s,baz=195,slow=23,SNR=10						
	0.4nm,0.3s						
CMAR	**Chiang Mai Arr**	**25.08**	**133**	P	**P**	**22 43 21.6**	**-0.7**
	0.6nm,0.6s,baz=306,slow=11,SNR=4.7						
	0.6nm,0.6s						
YAK	**Yakutsk**	**39.46**	**35**	LR	LR	23 02 47.6	
	comp=Z,18nm,18.9s,baz=242,slow=37						
TORD	**Torodi Ar. Bea**	**72.71**	**274**	P	P	22 49 17.1	-9.0
	0.2nm,0.4s,baz=53,slow=6.2,SNR=4.1						
	0.2nm,0.4s						

*WEL **28** 22:45:37.3±0.3,40˚.5S×172˚.6E±1˚, h17km±3km, M4.0/17, ML4.3/17, MLv4.0/17, Error ellipse: s-maj=0.0km s-min=0.0km az=130.2, confirmed*
*NOU **28** 22:45:37.2, 40˚.43S×176˚.15E, h26km, MLv3.9/9, North Island, New Zealand*
*IDC **28** 22:45:44.7±1.3,39˚.51S×175˚.63E, h72km±26km, mb3.3/2, mbtmp3.7/3, Error ellipse: s-maj=63.3km s-min=11.1km az=129.0*
ISC 28 22:45:37.2±0.8,40˚.43S±0˚.02×176˚.02E±0˚.03, h31km±5km, n117, σ1§45/133, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRWZ	**Pori Road**	**0.13**	**196**	P	**Pb**	**22 45 43.0**	**+0.1**
PRWZ				S	**Sb**	**22 45 47.8**	**+1.0**
DVHZ	**Dannevirke**	**0.17**	**41**	P	**Pb**	**22 45 42.7**	**-0.5**
DVHZ				S	**Sb**	**22 45 47.0**	**-0.3**
POWZ	**Post Office Ro**	**0.20**	**280**	P	**Pb**	**22 45 43.0**	**-0.5**
BFZ	**Birch Farm**	**0.31**	**146**	P	**Pb**	**22 45 45.2**	**+0.3**
BFZ	**Birch Farm**	**0.31**	**146**	P	**Pb**	**22 45 45.3**	**+0.5**
ANWZ	**Angora Road**	**0.35**	**96**	P	**Pb**	**22 45 45.9**	**+0.6**
ANWZ				S	**Sn**	**22 45 53.3**	**+1.2**
TIWZ	**Tintock**	**0.36**	**196**	P	**Pb**	**22 45 46.1**	**+0.5**
TIWZ				S	**Sn**	**22 45 53.1**	**+0.5**
TSZ	**Takapari Road**	**0.37**	**353**	P	**Pb**	**22 45 45.1**	**-0.7**
TSZ				S	**Sb**	**22 45 51.1**	**-0.4**
MRZ	**Mangatainoka R**	**0.41**	**235**	P	**Pb**	**22 45 46.2**	**-0.1**
MRZ				S	**Sb**	**22 45 52.8**	**+0.4**
WPHZ	**Waipukurau**	**0.48**	**42**	P	**Pb**	**22 45 47.7**	**+0.3**
PRHZ	**Porangahau**	**0.50**	**71**	P	**Pb**	**22 45 48.3**	**+0.7**
PRHZ				S	**Sn**	**22 45 57.5**	**+1.7**
PNHZ	**Pukenui**	**0.53**	**15**	P	**Pb**	**22 45 47.8**	**-0.4**
PNHZ				S	**Sn**	**22 45 56.1**	**-0.6**
OHWZ	**Ohakea**	**0.58**	**292**	P	**Pn**	**22 45 49.4**	**0.0**
OHWZ				S	**Sn**	**22 45 59.0**	**+1.1**
OGWZ	**Otaki Gorge**	**0.76**	**239**	P	**Pb**	**22 45 51.7**	**-0.2**
OGWZ				S	**Sn**	**22 46 02.5**	**+0.3**
KIW	**Kapiti Island**	**0.95**	**242**	P	**Pn**	**22 45 54.7**	**+0.2**
KIW				S	**Sn**	**22 46 07.8**	**+0.8**
CAW	**Cannon Point**	**0.99**	**227**	P	**Pn**	**22 45 54.8**	**-0.3**
MOVZ	**Moawhango**	**1.04**	**349**	P	**Pn**	**22 45 55.9**	**+0.2**
MOVZ				S	**Sn**	**22 46 10.5**	**+1.2**
WAZ	**Wanganui**	**1.04**	**310**	P	**Pb**	**22 45 56.8**	**+0.2**
WAZ				S	**Sn**	**22 46 12.0**	**+2.8**
KWHZ	**Kaweka Forest**	**1.05**	**17**	P	**Pn**	**22 45 55.9**	**0.0**
KWHZ				S	**Sn**	**22 46 10.7**	**+1.2**
CKHZ	**Cape Kidnapper**	**1.12**	**47**	P	**Pb**	**22 45 59.7**	**+1.7**
MTVZ	**Mangateitei**	**1.12**	**338**	P	**Pb**	**22 45 57.6**	**-0.6**
TRVZ	**Turoa**	**1.18**	**342**	P	**Pb**	**22 45 58.5**	**-0.7**
WHVZ	**Whangaehu Hut**	**1.19**	**344**	P	**Pb**	**22 45 58.6**	**-0.8**
TUVZ	**Tukino**	**1.19**	**346**	P	**Pb**	**22 45 58.7**	**-0.6**
MAVZ	**Matarangi**	**1.21**	**343**	P	**Pb**	**22 45 59.0**	**-0.7**
FWVZ	**Far West T-bar**	**1.23**	**343**	P	**Pb**	**22 45 59.1**	**-0.9**
PKVZ	**Pokaka**	**1.25**	**335**	P	**Pb**	**22 45 59.4**	**-0.8**
SNVZ	**South Ngauruho**	**1.27**	**347**	P	**Pb**	**22 45 59.8**	**-0.9**
WEL	**Wellington**	**1.28**	**228**	P	**Pn**	**22 45 58.6**	**-0.4**
COVZ	**Chateau Observ**	**1.28**	**343**	P	**Pb**	**22 45 59.9**	**-0.9**
PLWZ	**Palliser**	**1.28**	**207**	P	**Pn**	**22 45 58.1**	**-0.9**
NGZ	**Ngauruhoe**	**1.29**	**345**	P	**Pb**	**22 46 00.2**	**-0.8**
OTVZ	**Oturere**	**1.29**	**348**	P	**Pb**	**22 46 00.1**	**-0.9**
BHW	**Baring Head**	**1.31**	**221**	P	**Pn**	**22 45 58.6**	**-0.8**
BKZ	**Black Stump Fm**	**1.31**	**16**	P	**Pn**	**22 45 59.2**	**-0.3**
BKZ	**Black Stump Fm**	**1.31**	**16**	P	**Pn**	**22 45 59.2**	**-0.3**
ETVZ	**East Tongariro**	**1.31**	**349**	P	**Pb**	**22 46 00.7**	**-0.7**
NNVZ	**North Ngauruho**	**1.33**	**346**	P	**Pb**	**22 46 00.9**	**-0.7**
TMVZ	**Te Maari**	**1.33**	**349**	P	**Pb**	**22 46 00.9**	**-0.8**
WTVZ	**West Tongariro**	**1.35**	**346**	P	**Pb**	**22 46 01.1**	**-0.8**
NTVZ	**North Tongarir**	**1.35**	**349**	P	**Pb**	**22 46 01.3**	**-0.7**
KRVZ	**Karewarewa**	**1.36**	**347**	P	**Pb**	**22 46 01.5**	**-0.6**
ARHZ	**Aropaoanui**	**1.38**	**33**	P	**Pn**	**22 46 00.4**	**0.0**
TWVZ	**Taurewa**	**1.43**	**341**	P	**Pn**	**22 46 01.7**	**+0.6**
RITZ	**Rihia Road**	**1.45**	**355**	P	**Pb**	**22 46 03.0**	**-0.7**
NMHZ	**Naumai**	**1.46**	**25**	P	**Pn**	**22 46 01.5**	**0.0**
KATZ	**Kakaramea**	**1.47**	**350**	P	**Pb**	**22 46 03.7**	**-0.4**
HATZ	**Hinemaiaia**	**1.54**	**2**	P	**Pb**	**22 46 05.0**	**-0.1**
TCW	**Tory Channel**	**1.54**	**239**	P	**Pn**	**22 46 01.9**	**-0.6**
RATZ	**Rangitukua**	**1.57**	**353**	P	**Pb**	**22 46 05.7**	**0.0**
LREZ	**Lake Rotokare**	**1.57**	**307**	P	**Pb**	**22 46 04.9**	**-0.8**
MRHZ	**Matea Rd**	**1.62**	**11**	P	**Pn**	**22 46 04.1**	**+0.4**
VRZ	**Vera Road**	**1.62**	**323**	P	**Pn**	**22 46 04.2**	**+0.5**
DUWZ	**D'Urville Isla**	**1.64**	**256**	P	**Pn**	**22 46 04.0**	**+0.1**
MTHZ	**Maungataniwha**	**1.70**	**22**	P	**Pn**	**22 46 04.4**	**-0.3**
RAHZ	**Arahi**	**1.72**	**29**	P	**Pn**	**22 46 04.5**	**-0.6**
WATZ	**Wairara**	**1.73**	**353**	P	**Pb**	**22 46 07.0**	**-1.4**
WHTZ	**Whakaora**	**1.76**	**358**	P	**Pb**	**22 46 09.5**	**+0.6**
TUWZ	**Tuamarina**	**1.87**	**237**	P	**Pn**	**22 46 05.9**	**-1.2**
DREZ	**Durham Road**	**1.87**	**311**	P	**Pb**	**22 46 09.1**	**-1.6**
ALRZ	**Allen Road**	**1.88**	**8**	P	**Pn**	**22 46 09.0**	**+1.8**
NEZ	**North Egmont**	**1.88**	**307**	P	**Pb**	**22 46 09.3**	**-1.6**
KNZ	**Kokohu**	**1.90**	**43**	P	**Pn**	**22 46 06.3**	**-1.2**
CMWZ	**Cape Campbell**	**1.90**	**225**	P	**Pb**	**22 46 13.2**	**+1.9**
WPRZ	**Whakapapatarin**	**1.91**	**3**	P	**Pb**	**22 46 11.2**	**-0.2**
KHEZ	**Kahui Hut**	**1.91**	**306**	P	**Pb**	**22 46 10.8**	**-0.7**
KHEZ	**Kahui Hut**	**1.91**	**306**	P	**Pb**	**22 46 10.0**	**-1.5**
NMEZ	**Namu Road**	**1.93**	**301**	P	**Pb**	**22 46 10.2**	**-1.6**
SNGZ	**Shannon Statio**	**1.93**	**32**	P	**Pn**	**22 46 07.0**	**-1.0**
KUTZ	**Kaahu Road**	**1.94**	**355**	P	**Pb**	**22 46 10.4**	**-1.5**
PRRZ	**Plateau Road**	**1.95**	**9**	P	**Pn**	**22 46 09.5**	**+1.3**
PKE	**Pukeiti**	**1.99**	**308**	P	**Pb**	**22 46 10.8**	**-2.0**
NBEZ	**Newall Road No**	**2.02**	**304**	P	**Pb**	**22 46 11.7**	**-1.5**
HRRZ	**Handcock Road**	**2.04**	**6**	P	**Pn**	**22 46 11.1**	**+1.5**
BSWZ	**Blackbirch Sta**	**2.07**	**231**	P	**Pn**	**22 46 08.8**	**-1.1**
GRRZ	**Galatos Road**	**2.08**	**2**	P	**Pb**	**22 46 15.4**	**+1.2**
PRGZ	**Paritu Road**	**2.08**	**44**	P	**Pn**	**22 46 08.7**	**-1.4**
HIZ	**Hauiti**	**2.11**	**334**	P	**Pn**	**22 46 11.6**	**+1.1**
HIZ	**Hauiti**	**2.11**	**334**	P	**Pn**	**22 46 11.9**	**+1.5**
HSRZ	**Hossack Road**	**2.12**	**5**	P	**Pn**	**22 46 12.2**	**+1.7**
TLZ	**Tolley Road**	**2.13**	**350**	P	**Pn**	**22 46 11.5**	**+0.8**
NNZ	**Nelson**	**2.15**	**248**	P	**Pn**	**22 46 12.6**	**+1.6**
TARZ	**Mount Tarawera**	**2.22**	**10**	P	**Pn**	**22 46 11.8**	**-0.3**
URZ	**Urewera**	**2.32**	**22**	P	**Pn**	**22 46 11.8**	**-1.5**
URZ	**Urewera**	**2.32**	**22**	P	**Pn**	**22 46 11.7**	**-1.7**
	13nm,0.4s,baz=313,slow=7.4,SNR=10						
URZ				S	**Sn**	**22 46 33.5**	**-7.3**
	77nm,0.4s,baz=63,slow=5.5,SNR=7.5						
OMRZ	**Omania**	**2.33**	**7**	P	**Pb**	**22 46 20.3**	**+1.7**
TKNZ	**Takaka Hill**	**2.40**	**254**	P	**Pn**	**22 46 14.7**	**+0.3**
MRNZ	**Matariki Terra**	**2.66**	**248**	P	**Pn**	**22 46 17.7**	**-0.3**
QRZ	**Quartz Range**	**2.69**	**260**	P	**Pn**	**22 46 17.9**	**-0.4**
QRZ	**Quartz Range**	**2.69**	**260**	P	**Pn**	**22 46 17.6**	**-0.8**
THZ	**Tophouse**	**2.71**	**239**	P	**Pn**	**22 46 17.5**	**-1.2**
TOZ	**Tahuroa Road**	**2.72**	**351**	P	**Pn**	**22 46 21.4**	**+2.5**
KHZ	**Kahutara**	**2.73**	**222**	P	**Pn**	**22 46 21.2**	**+2.4**
MXZ	**Matakaoa Point**	**3.37**	**33**	P	**Pn**	**22 46 28.4**	**+0.7**
MXZ	**Matakaoa Point**	**3.37**	**33**	P	**Pn**	**22 46 26.3**	**-1.5**
GVZ	**Greta Valley S**	**3.38**	**220**	P	**Pn**	**22 46 27.0**	**-0.9**
MKAZ	**Moumakai**	**3.38**	**348**	P	**Pn**	**22 46 30.9**	**+3.0**
DSZ	**Denniston Nort**	**3.45**	**246**	P	**Pn**	**22 46 28.6**	**-0.2**
LTZ	**Lake Taylor**	**3.67**	**229**	P	**Pn**	**22 46 29.9**	**-1.9**
WTAZ	**Waiatarua**	**3.67**	**342**	P	**Pn**	**22 46 36.1**	**+4.2**
KUZ	**Kuaotunu**	**3.68**	**356**	P	**Pn**	**22 46 33.3**	**+1.3**
WIAZ	**Waiheke Island**	**3.69**	**349**	P	**Pn**	**22 46 35.8**	**+3.6**
OKCZ	**Okains Bay**	**3.96**	**213**	P	**Pn**	**22 46 34.3**	**-1.6**
MQZ	**McQueen's Vall**	**4.12**	**216**	P	**Pn**	**22 46 36.5**	**-1.5**
INZ	**Inchbonnie**	**4.13**	**235**	P	**Pn**	**22 46 36.0**	**-2.1**
OXZ	**Oxford**	**4.15**	**224**	P	**Pn**	**22 46 36.2**	**-2.3**
WCZ	**Waipu Caves**	**4.67**	**343**	P	**Pn**	**22 46 48.5**	**+2.9**
WACZ	**Wakanui South**	**4.69**	**220**	P	**Pn**	**22 46 44.3**	**-1.5**
RPZ	**Rata Peaks**	**4.95**	**227**	P	**Pb**	**22 47 02.2**	**-0.9**
	22nm,0.5s,baz=290,slow=5.8,SNR=15						
RPZ				S	**Sb**	**22 48 05.4**	**+3.4**
	8.2nm,0.5s,baz=44,slow=18,SNR=1.0						
GCSZ	**Gaunt Creek Bo**	**5.14**	**234**	P	**Pn**	**22 46 53.6**	**+1.6**
TMZ	**Timaru**	**5.42**	**222**	P	**Pn**	**22 46 53.6**	**-2.3**
FOZ	**Fox Glacier**	**5.57**	**234**	P	**Pn**	**22 46 57.4**	**-0.5**
ODZ	**Otahua Downs**	**6.08**	**219**	P	**Pn**	**22 47 02.7**	**-2.3**
JCZ	**Jackson Bay**	**6.49**	**233**	P	**Pn**	**22 47 12.2**	**+1.6**
ASAR	**Alice Springs**	**39.01**	**282**	P	**P**	**22 52 59.8**	**-1.3**
	0.3nm,0.4s,baz=124,slow=6.4,SNR=4.9						
	0.3nm,0.4s						
WRA	**Warramunga Arr**	**40.94**	**287**	P	**P**	**22 53 15.8**	**-1.3**
	0.3nm,0.3s,baz=125,slow=8.2,SNR=11						
	0.3nm,0.3s						
ARCES	**ARCESS Array B**	**146.97**	**341**	PKPbc	**PKPdf**	**23 05 14.3**	**+0.8**
	0.7nm,0.5s,baz=64,slow=2.8,SNR=6.4						

*NIED **28** 22:55:41.3, 38˚.48N×142˚.20E, h29km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.22; $M_{\theta\theta}$=1.20; $M_{\phi\phi}$=1.43; $M_{r\theta}$=0.17; $M_{\theta\phi}$=-1.96; $M_{r\phi}$=0.63; Fault plane solution: $M_0$2.45000×10^{14} NP1: ϕ_s197.00000°, δ88.00000°, λ-16.00000°. NP2: ϕ_s287.00000°, δ74.00000°, λ-178.00000°.*
JMA 28 22:55:41.3±0.1,38˚.5N±0˚.3×142˚.2E±0˚.7, h29km±1km, MV3.8/40, 4D, E OFF MIYAGI PREF, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIKH	**Ishinomakikobu**	**0.60**	**254**	*i* P	Pb	22 55 52.9	-0.4
JIKH				*eS*	Sb	22 56 00.7	-0.8
JKMT	**Kesennumamotoy**	**0.66**	**301**	⇓*i* P	Pb	22 55 54.2	-0.1
JKMT				⇓S	Sb	22 56 02.9	-0.3
JIO	**Ouri**	**0.67**	**268**	P	Pb	22 55 54.2	-0.2
JIO				S	Sb	22 56 02.9	-0.5
OFUJ	**Ofunato**	**0.73**	**325**	⇓P	Pb	22 55 55.0	-0.5
OFUJ				⇓S	Sb	22 56 04.7	-0.6
JMK	**Ichinoseki**	**0.90**	**302**	*i* P	Pn	22 55 57.9	-0.2
JMK				S	Sb	22 56 09.6	-0.4
JOU	**Okura**	**1.21**	**265**	*i* P	Pn	22 56 02.8	+0.5
JOU				S	Sb	22 56 18.8	-0.1
JOM	**Ohasama**	**1.22**	**325**	*i* P	Pn	22 56 02.7	+0.2
JOM				S	Sn	22 56 18.1	+0.1
JMM	**Marumori**	**1.27**	**242**	*i* P	Pn	22 56 02.8	-0.3
JMM				S	Sn	22 56 18.5	-0.6
JYK	**Kaneyama**	**1.51**	**288**	*i* P	Pn	22 56 07.3	+0.9
JYK				S	Sb	22 56 27.3	0.0
JFK	**Kawauchi**	**1.53**	**224**	P	Pn	22 56 05.8	-0.9
JFK				S	Sn	22 56 24.0	-1.6
JRG	**Rokugo**	**1.53**	**307**	P	Pb	22 56 07.9	-1.1
JRG				*eS*	Sb	22 56 27.7	-0.2

*IDC **28** 23:11:03.0±1.3,34˚.68N×24˚.14E, h0km, mb3.5/4, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=42.2km s-min=24.5km az=144.0*
*ISK **28** 23:11:05.7,34˚.70N×24˚.03E, h24km, ML3.0/13*
*THE **28** 23:11:06.0,34˚.63N×24˚.17E, h12km±1km, ML3.1/5, Error ellipse: s-maj=2.7km s-min=1.7km az=31.0*
*ATH **28** 23:11:06.8±0.5,34˚.66N×24˚.08E, h10km, ML3.0/6, Manual Solution by A.Papageorgiou This location: 2020/06/10 09:59:12 ML Amplitudes are expressed in micrometers, All distances are expressed in degrees Latitude uncertainty: 2 km; Longitude uncertainty: 1 km*
*AFAD **28** 23:11:08.0±0.0,33˚.64N×25˚.31E, h5km±5km, ML2.8*
ISC 28 23:11:05.9±1.0,34˚.62N±0˚.05×24˚.12E±0˚.03, h18km±2km, n61, σ1§75/88, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GVD	**Gavdhos**	**0.22**	**354**	Pg	**Pg**	**23 11 10.4**	**-0.9**
GVD				Sg	**Sb**	**23 11 14.8**	**+0.3**
GVD	**Gavdhos**	**0.22**	**354**	P	**Pg**	**23 11 10.9**	**-0.4**
GVD				S	**Sb**	**23 11 14.8**	**+0.3**
	26µm,0.2s						
GVD	**Gavdhos**	**0.22**	**354**	P	**Pg**	**23 11 11.1**	**-0.2**
GVD				S	**Sb**	**23 11 14.9**	**+0.4**
GVDS	**Gavdos**	**0.23**	**354**	Pg	**Pg**	**23 11 10.9**	**-0.4**
GVDS				Sg	**Sb**	**23 11 14.9**	**+0.3**
GVDS	**Gavdos**	**0.23**	**354**	P	**Pg**	**23 11 10.9**	**-0.4**
GVDS				S	**Sb**	**23 11 14.9**	**+0.3**
	35µm,0.1s						
GVDS	**Gavdos**	**0.23**	**354**	P	**Pg**	**23 11 10.9**	**-0.4**
TMBK	**Timbaki Herakl**	**0.70**	**49**	P	**Pg**	**23 11 19.4**	**-0.3**
TMBK	**Timbaki Herakl**	**0.70**	**49**	P	**Pb**	**23 11 19.9**	**+0.4**
TMBK				S	**Sn**	**23 11 30.8**	**-0.4**
KNDR	**Palaiochora Ch**	**0.71**	**330**	Pg	**Pg**	**23 11 18.8**	**-1.1**
KNDR	**Palaiochora Ch**	**0.71**	**330**	P	**Pg**	**23 11 19.6**	**-0.3**
KNDR				S	**Sb**	**23 11 30.1**	**+1.1**
PRNS	**Prines Rethymn**	**0.81**	**23**	P	**Pg**	**23 11 19.8**	**-2.0**
PRNS				S	**Sg**	**23 11 31.1**	**-1.4**
	242nm,0.4s						
PRNS	**Prines Rethymn**	**0.81**	**23**	P	**Pg**	**23 11 20.4**	**-1.4**
PRNS				S	**Sb**	**23 11 32.0**	**0.0**
IMMV	**Iera Moni Meta**	**0.85**	**353**	Pg	**Pb**	**23 11 20.9**	**-1.2**
IMMV	**Iera Moni Meta**	**0.85**	**353**	P	**Pb**	**23 11 20.9**	**-1.2**
IMMV				S	**Sn**	**23 11 34.2**	**-0.7**
	4µm,0.4s						
IMMV	**Iera Moni Meta**	**0.85**	**353**	P	**Pb**	**23 11 21.7**	**-0.4**
IMMV				S	**Sn**	**23 11 34.7**	**-0.2**
CHAN	**Chania**	**0.90**	**356**	P	**Pb**	**23 11 22.4**	**-0.6**
CHAN				S	**Sn**	**23 11 36.6**	**+0.4**
IDI	**Anoyia**	**0.92**	**43**	Pg	**Pg**	**23 11 23.7**	**-0.2**
IDI	**Anoyia**	**0.92**	**43**	P	**Pb**	**23 11 22.2**	**-1.2**
IDI	**Anoyia**	**0.92**	**43**	P	**Pg**	**23 11 23.8**	**-0.2**
IDI				S	**Sn**	**23 11 38.4**	**+1.6**
RODP	**Rodopos**	**0.99**	**343**	Pg	**Pb**	**23 11 23.2**	**-1.2**
RODP	**Rodopos**	**0.99**	**343**	P	**Pb**	**23 11 23.6**	**-0.8**
RODP				S	**Sn**	**23 11 38.7**	**+0.4**
	178nm,0.5s						
RODP	**Rodopos**	**0.99**	**343**	P	**Pb**	**23 11 24.1**	**-0.3**
RODP				S	**Sg**	**23 11 37.9**	**-0.2**
KSTL	**Kastelli Herak**	**1.04**	**49**	P	**Pn**	**23 11 28.1**	**+2.6**
KSTL				S	**Sn**	**23 11 45.1**	**+5.5**
FRMA	**Ierapetra Chan**	**1.39**	**73**	P	**Pg**	**23 11 32.8**	**+0.1**
FRMA				S	**Sg**	**23 11 54.1**	**+3.2**
ANKY	**Antikythira Is**	**1.42**	**332**	P	**Pn**	**23 11 31.5**	**+0.8**
ANKY	**Antikythira Is**	**1.42**	**332**	P	**Pb**	**23 11 31.8**	**+0.1**
ZKR	**Zakros**	**1.80**	**73**	Pn	**Pn**	**23 11 36.9**	**+1.0**
THR6	**Thira Island,**	**2.03**	**31**	P	**Pb**	**23 11 41.3**	**-0.8**
THR5	**Thira Island,**	**2.06**	**29**	P	**Pb**	**23 11 41.4**	**-1.3**
THR8	**Santorini-Mono**	**2.10**	**31**	P	**Pn**	**23 11 41.8**	**+1.6**
VLI	**Veliai**	**2.31**	**336**	P	**Pn**	**23 11 45.5**	**-1.4**
VLI	**Veliai**	**2.31**	**336**	P	**Pb**	**23 11 46.2**	**-0.7**
KARP	**Karpathos**	**2.66**	**69**	Pn	**Pn**	**23 11 48.8**	**+0.9**
APE	**Apeiranthos**	**2.70**	**25**	Pn	**Pn**	**23 11 48.3**	**-0.2**
PYL	**PYLOS**	**2.98**	**320**	P	**Pn**	**23 11 53.4**	**+1.2**
ITM	**Ithomi**	**3.12**	**326**	Pn	**Pn**	**23 11 53.3**	**-0.8**
ITM	**Ithomi**	**3.12**	**326**	P	**Pn**	**23 11 55.4**	**+1.3**
VLY	**Voula,Athens**	**3.24**	**355**	P	**Pn**	**23 11 57.0**	**+1.3**
PTL	**Penteli**	**3.43**	**357**	P	**Pn**	**23 12 00.4**	**+1.9**
DION	**Dionisos Attik**	**3.46**	**358**	P	**Pn**	**23 12 00.8**	**+2.0**
DAT	**Datca**	**3.52**	**52**	Pn	**Pn**	**23 12 00.9**	**+1.2**
LTK	**Loutraki**	**3.52**	**345**	P	**Pn**	**23 12 01.6**	**+1.9**
GUR	**Goura**	**3.61**	**337**	P	**Pn**	**23 12 02.9**	**+2.0**
KLV	**Kalavryta, Ach**	**3.77**	**336**	P	**Pn**	**23 12 05.8**	**+2.6**
TURN	**Turunc**	**3.99**	**56**	Pn	**Pn**	**23 12 07.6**	**+1.5**
DALY	**Dalyan (Mula)**	**4.29**	**58**	Pn	**Pn**	**23 12 11.8**	**+1.5**
SABU	**Mula-Dalaman**	**4.52**	**59**	P	**Pn**	**23 12 15.1**	**+1.7**
SABU				S	**Sn**	**23 13 04.7**	**-0.8**
SABU				*i* AML	AML	23 13 27.0	
	comp=N,9.5nm,2.0s						
SABU				*i* AML	AML	23 13 27.0	
	comp=E,11nm,1.6s						
IZZE	**Mula-Seydike**	**4.54**	**65**	P	**Pn**	**23 12 13.8**	**+0.1**
IZZE				S	**Sn**	**23 13 00.2**	**-5.9**
IZZE				*i* AML	AML	23 13 12.0	
	comp=N,18nm,0.4s						
IZZE				*i* AML	AML	23 13 13.0	
	comp=E,12nm,0.5s						
AKAS	**Kas**	**4.76**	**69**	P	**Pn**	**23 12 18.2**	**+1.3**
AKAS				S	**Sn**	**23 13 05.7**	**-5.9**
AKAS				*i* AML	AML	23 13 24.0	
	comp=E,13nm,0.5s						
AKAS				*i* AML	AML	23 13 32.0	
	comp=N,16nm,0.4s						
DNZT	**Denizli-Tavas-**	**4.79**	**55**	P	**Pn**	**23 12 19.0**	**+1.9**
DNZT				S	**Sn**	**23 13 13.0**	**+0.9**
TAVA	**DENIZLI_Tavas**	**4.81**	**52**	P	**Pn**	**23 12 20.0**	**+2.5**
TAVA				S	**Sn**	**23 13 14.8**	**+1.9**
TAVA				*i* AML	AML	23 14 22.0	
	comp=N,8.1nm,2.3s						
TAVA				*i* AML	AML	23 14 30.0	
	comp=Z,7.3nm,2.4s						
CAEL	**Denizli, Camel**	**4.91**	**58**	P	**Pn**	**23 12 20.9**	**+2.0**
CAEL				S	**Sn**	**23 13 16.7**	**+1.4**
CAEL				*i* AML	AML	23 13 31.0	
	comp=N,30nm,1.6s						
CAEL				*i* AML	AML	23 13 37.0	
	comp=Z,17nm,1.3s						
CAEL				*i* AML	AML	23 13 39.0	
	comp=E,30nm,1.9s						
KNIK	**Mula-Seydike**	**4.96**	**62**	P	**Pn**	**23 12 20.9**	**+1.3**
KNIK				S	**Sn**	**23 13 16.7**	**+0.1**
GOLH	**Golhisar**	**5.13**	**58**

AKSA						Sn	23 25 51.1	-1.1
ISNN	**Isanotski Nort**	**1.49**	**356**			**Pn**	**23 25 33.8**	**-0.3**
ISNN						Sn	23 25 52.7	0.0
FALS	**False Pass**	**1.51**	**4**	P		**Pn**	**23 25 33.2**	**-1.2**
FALS	**False Pass**	**1.51**	**4**	Pn		**Pn**	**23 25 33.4**	**-1.0**
FALS					Sn	Sn	23 25 52.5	-0.7
FALS	**False Pass**	**1.51**	**4**	P		**Pn**	**23 25 33.5**	**-0.9**
	baz=183							
AHB	**Akutan Harbor**	**1.52**	**301**			**Pn**	**23 25 33.8**	**-0.7**
AKBBA	**Akutan Broad B**	**1.57**	**299**			**Pn**	**23 25 34.4**	**-0.8**
AKBBA						Sn	23 25 53.6	-1.2
ZRO	**Akutan Zero**	**1.60**	**299**			**Pn**	**23 25 34.7**	**-0.8**
AKLV	**Akutan Long Va**	**1.62**	**301**			**Pn**	**23 25 34.9**	**-0.9**
AKLV						Sn	23 25 54.6	-1.2
AKGG	**Akutan Green G**	**1.65**	**302**			**Pn**	**23 25 35.6**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.66**	**299**			**Pn**	**23 25 35.7**	**-0.7**
UNV	**Unalaska Valle**	**1.80**	**287**	P		**Pn**	**23 25 37.1**	**-1.2**
UNV	**Unalaska Valle**	**1.80**	**287**	Sn		**Sn**	**23 25 59.6**	**-0.7**
UNV	**Unalaska Valle**	**1.80**	**287**	Pn		**Pn**	**23 25 37.3**	**-1.0**
UNV	**Unalaska Valle**	**1.80**	**287**			**Sn**	**23 25 59.1**	**-1.1**
UNV	**Unalaska Valle**	**1.80**	**287**	P		**Pn**	**23 25 37.4**	**-1.0**
	baz=104							
MNAT	**Makushin Natee**	**1.91**	**287**			**Pn**	**23 25 39.2**	**-0.6**
MNAT						Sn	23 26 02.3	-0.8
MSW	**Makushin Switc**	**1.98**	**288**			**Pn**	**23 25 40.1**	**-0.7**
MAPS	**Pakushin South**	**2.04**	**284**			**Pn**	**23 25 41.5**	**-0.2**
PVV	**Pavlof Volcano**	**2.29**	**27**			**Pn**	**23 25 44.6**	**-0.4**
PVV						Sn	23 26 12.1	-0.3
PS1A	**Pavlof South-1**	**2.34**	**27**			**Pn**	**23 25 45.4**	**-0.4**
PS1A						Sn	23 26 13.7	0.0
S12K	**Black Hills**	**2.52**	**20**	Pn		**Pn**	**23 25 48.6**	**+0.3**
S12K				IAML			23 26 33.6	
	comp=N,313nm,0.7s							
S12K				IAML			23 26 34.2	
	comp=E,402nm,0.7s							
OKFG	**Magazine Ridge**	**2.58**	**273**			**Pn**	**23 25 48.6**	**-0.4**
SDPT	**Sand Point**	**2.71**	**41**	P		**Pn**	**23 25 50.5**	**-0.3**
SDPT	**Sand Point**	**2.71**	**41**			**Pn**	**23 25 50.5**	**-0.3**
SDPT	**Sand Point**	**2.71**	**41**			**Sn**	**23 26 21.2**	**-1.6**
SDPT				IAML			23 26 36.2	
	comp=E,331nm,0.8s							
SDPT				IAML			23 26 42.2	
	comp=N,227nm,1.1s							
SDPT	**Sand Point**	**2.71**	**41**	P		**Pn**	**23 25 50.8**	**0.0**
	baz=224							
SDPT				S		**Sn**	**23 26 22.1**	**-0.6**
	baz=224							
OKCE	**Okmok Cone E**	**2.73**	**273**			**Pn**	**23 25 51.8**	**+0.6**
CNBA	**Chernabura Isl**	**2.78**	**56**	Pn		**Pn**	**23 25 51.6**	**-0.2**
CHNA	**Chernabura Isl**	**2.79**	**56**	P		**Pn**	**23 25 51.0**	**-0.9**
	baz=240							
NIKH	**Nikolski High**	**3.19**	**265**	P		**Pn**	**23 25 57.4**	**+0.1**
NIKH	**Nikolski High**	**3.19**	**265**	Pn		**Pn**	**23 25 56.6**	**-0.7**
S14K	**Fog Glacier**	**3.76**	**37**	P		**Pn**	**23 26 05.2**	**-0.2**
	baz=220							
VNFG	**Fog Glacier, M**	**3.76**	**37**			**Pn**	**23 26 05.2**	**-0.2**
CHGN	**Chignik**	**4.21**	**43**	Pn		**Pn**	**23 26 11.9**	**+0.5**
CHGN				IAML			23 27 24.1	
	comp=E,75nm,0.7s							
CHIR	**Chirikof Islan**	**5.26**	**59**	Pn		**Pn**	**23 26 22.8**	**-3.0**
CHIR				IAML			23 29 09.7	
	comp=E,59nm,1.3s							
O14K	**Tigyukuivet M**	**6.06**	**11**	Pn		**Pn**	**23 26 38.1**	**+1.3**
SII	**Sitkinak Islan**	**6.30**	**56**	P		**Pn**	**23 26 39.3**	**-0.9**
SII	**Sitkinak Islan**	**6.30**	**56**	Pn		**Pn**	**23 26 39.9**	**-0.3**
ATKA	**Atka Island**	**6.53**	**264**	Pn		**Pn**	**23 26 43.4**	**+0.1**
ANCK	**Angle Creek**	**6.67**	**40**			**Pn**	**23 26 44.0**	**-1.2**
O16K	**Kokwok River B**	**6.96**	**24**	Pn		**Pn**	**23 26 49.1**	**0.0**
OHAK	**Old Harbor**	**7.05**	**53**	Pn		**Pn**	**23 26 48.3**	**-2.0**
N15K	**Kwethluk River**	**7.10**	**14**	Pn		**Pn**	**23 26 50.8**	**-0.3**
M14K	**Bethel**	**7.47**	**6**	Pn		**Pn**	**23 26 58.1**	**+2.0**
P18K	**Big Mountain,**	**7.63**	**34**	Pn		**Pn**	**23 26 58.9**	**+0.5**
KDAK	**Kodiak Island**	**7.66**	**50**	Pn		**Pn**	**23 26 57.0**	**-1.7**
KDAK	**Kodiak Island**	**7.66**	**50**	Pn		**Pn**	**23 26 56.8**	**-1.9**
	comp=E,1.4nm,0.3s,baz=188,slow=5.0,SNR=14							
KDAK				Sn		**Sn**	**23 28 18.5**	**-6.0**
	comp=E,0.5nm,0.3s,baz=165,slow=22,SNR=6.5							
	comp=E,3.3nm,0.4s							
Q19K	**Cape Douglas,**	**7.88**	**41**	Pn		**Pn**	**23 27 01.8**	**0.0**
O18K	**Koktuh Hills**	**7.99**	**32**	Pn		**Pn**	**23 27 05.0**	**+1.6**
O18K	**Koktuh Hills**	**7.99**	**32**	P		**Pn**	**23 27 02.1**	**-1.2**
	baz=219							
N17K	**Nushagak Hills**	**8.00**	**23**	Pn		**Pn**	**23 27 05.8**	**+2.4**
L14K	**Kuka Creek**	**8.03**	**3**			**Pn**	**23 27 06.3**	**+2.6**
N18K	**Kilae Creek**	**8.46**	**27**	Pn		**Pn**	**23 27 12.2**	**+2.4**
K13K	**Kusilvak Mount**	**8.62**	**357**	Pn		**Pn**	**23 27 14.0**	**+2.0**
L16K	**Owhat River**	**8.67**	**13**	Pn		**Pn**	**23 27 16.7**	**+4.1**
M17K	**Holitna River**	**8.73**	**20**	Pn		**Pn**	**23 27 15.9**	**+2.6**
N19K	**Bonanza Creek**	**8.97**	**30**	Pn		**Pn**	**23 27 18.9**	**+2.1**
K15K	**Wolf Creek Mou**	**9.04**	**6**	Pn		**Pn**	**23 27 19.6**	**+2.0**
CNPM	**China Poot**	**9.22**	**43**	Pn		**Pn**	**23 27 19.6**	**-0.6**
J20K	**Nowinta River**	**11.89**	**20**	Pn		**Pn**	**23 27 58.1**	**+1.4**
G16K	**Koyuk River**	**12.10**	**2**	Pn		**Pn**	**23 27 59.6**	**+0.2**
H18K	**Honhosa River**	**12.13**	**11**	Pn		**Pn**	**23 28 02.2**	**+2.3**
SCM	**Sheep Creek Mo**	**12.15**	**39**	Pn		**Pn**	**23 27 58.0**	**-2.3**
TRF	**Thorofare Moun**	**12.27**	**29**	Pn		**Pn**	**23 28 00.7**	**-1.3**
F15K	**North Star Dit**	**12.41**	**358**	Pn		**Pn**	**23 28 04.7**	**+1.0**
KAIM	**Kayak Island**	**12.41**	**50**	Pn		**Pn**	**23 28 03.2**	**-0.6**
BPAW	**Bear Paw Mtn.**	**12.58**	**26**	Pn		**Pn**	**23 28 08.4**	**+2.3**
HMT	**Hamilton**	**12.65**	**49**	Pn		**Pn**	**23 28 04.6**	**-2.5**
H19K	**Roundabout Mou**	**12.73**	**14**	Pn		**Pn**	**23 28 10.0**	**+1.9**
N25K	**Chitina, Valde**	**13.10**	**43**	Pn		**Pn**	**23 28 11.2**	**-2.1**
ILAR	**Eielson Array**	**14.25**	**30**	Pn		**Pn**	**23 28 26.6**	**-2.2**
	comp=E,0.1nm,0.3s,baz=222,slow=12,SNR=2.3							
	comp=E,0.2nm,0.5s							
H23K	**Yukon River**	**14.34**	**24**			**Pn**	**23 28 29.2**	**-0.9**
E19K	**Redstone River**	**14.48**	**10**	P		**P**	**23 28 37.0**	**-1.5**
M27K	**Edge Creek, AK**	**14.59**	**43**	P		**P**	**23 28 39.6**	**-0.3**
J25K	**Salcha River,**	**14.61**	**32**	Pn		**Pn**	**23 28 34.1**	**+0.3**
SCRK	**Sand Creek**	**14.67**	**36**	P		**P**	**23 28 39.9**	**-0.7**
PNL	**Peninsula**	**14.73**	**55**	P		**Pn**	**23 28 34.9**	**-0.5**
	comp=E,26nm,1.5s							
L27K	**Beaver Creek,**	**14.96**	**41**	Pn		**Pn**	**23 28 37.8**	**-0.7**
G23K	**Bananza Creek**	**14.96**	**21**	Pn		**Pn**	**23 28 39.0**	**+0.5**
BCAR	**Beaver Creek A**	**14.98**	**41**	Pn		**Pn**	**23 28 36.7**	**-2.0**
J26L	**Joseph Creek**	**15.14**	**35**	P		**P**	**23 28 45.1**	**-0.7**
J26L				IAmb		IAmb	23 29 02.3	
	comp=Z,5.8nm,1.3s							
O29M	**Mount Kennedy**	**15.29**	**53**	Pn		**Pn**	**23 28 43.7**	**+0.7**
K27K	**Chicken**	**15.38**	**38**	P		**P**	**23 28 49.4**	**+1.0**
K27K				IAmb		IAmb	23 29 13.3	
	comp=Z,4.8nm,1.2s							
C18K	**Utukok River**	**15.39**	**3**	P		**P**	**23 28 48.9**	**+0.4**
G24K	**Hadweenzic Riv**	**15.54**	**24**	P		**P**	**23 28 49.9**	**-0.3**
G24K				IAmb		IAmb	23 29 30.1	
	comp=Z,7.6nm,1.4s							
I26K	**Coal Creek Min**	**15.78**	**33**	P		**P**	**23 28 51.4**	**-1.4**
I26K				IAmb		IAmb	23 29 20.6	
	comp=Z,5.2nm,1.3s							
C19K	**Lookout Ridge**	**15.92**	**5**	Pn		**Pn**	**23 28 51.3**	**+0.3**
M29M	**Somme Creek**	**16.06**	**46**	P		**P**	**23 28 58.7**	**+2.6**
N30M	**Aishikik Lake**	**16.33**	**50**	Pn		**Pn**	**23 28 56.8**	**+0.5**
N30M				IAmb		IAmb	23 29 15.9	
	comp=Z,5.0nm,1.2s							
DAWY	**Dawson**	**16.41**	**40**	Pn		**Pn**	**23 28 55.4**	**-1.8**
DAWY				IAmb		IAmb	23 29 12.5	
	comp=Z,7.8nm,1.4s							
L29M	**L29M**	**16.47**	**44**	P		**P**	**23 29 01.4**	**+0.8**
L29M				IAmb		IAmb	23 29 14.3	
	comp=Z,6.9nm,0.9s							
I28M	**Miner Creek**	**16.95**	**35**	Pn		**Pn**	**23 29 02.8**	**-1.3**
K29M	**Barlow Dome**	**17.04**	**42**	P		**P**	**23 29 07.2**	**+0.4**
WHY	**Whitehorse**	**17.16**	**53**	P		**P**	**23 29 08.5**	**+0.3**
WHY				IAmb		IAmb	23 29 20.7	
	comp=Z,6.9nm,1.4s							
M31M	**Drury Creek, Y**	**17.77**	**49**	P		**P**	**23 29 15.8**	**+0.9**
M31M				IAmb		IAmb	23 29 34.3	
	comp=Z,3.6nm,0.7s							
J30M	**Hart River**	**17.83**	**40**	P		**P**	**23 29 15.8**	**+0.2**
J30M				IAmb		IAmb	23 29 32.1	
	comp=Z,7.3nm,1.4s							
H29M	**Whitestone**	**17.91**	**34**			**Pn**	**23 29 15.2**	**-0.7**
PETK	**Petropavlovsk-**	**22.98**	**285**	P		**P**	**23 30 11.4**	**+0.1**
	comp=Z,1.2nm,0.5s,baz=76,slow=15,SNR=5.6							
	comp=Z,1.2nm,0.5s							
YKA	**Yellowknife Ar**	**26.94**	**51**	P		**P**	**23 30 49.5**	**+1.7**
	comp=Z,0.6nm,0.8s,baz=274,slow=7.6,SNR=6.2							
	comp=Z,0.6nm,0.8s							
TIXI	**Tiksi**	**33.72**	**328**	LR		LR	23 47 40.1	
	comp=Z,52nm,18.3s,baz=178,slow=40							
NVAR	**Mina Array Bea**	**34.25**	**97**	P		**P**	**23 31 55.1**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=299,slow=4.0,SNR=2.2							
	comp=Z,0.3nm,0.7s							

H11N2	**WAKE ISLAND Hy**	**40.53**	**226**	T		T	00 16 25.9	
	baz=26,slow=75,SNR=42							
H11N3	**WAKE ISLAND Hy**	**40.53**	**226**	T		T	00 16 27.6	
	baz=26,slow=75,SNR=50							
H11N1	**WAKE ISLAND Hy**	**40.54**	**226**	T		T	00 16 26.4	
	baz=26,slow=75,SNR=45							
H11S1	**WAKE ISLAND Hy**	**41.70**	**225**	T		T	00 17 50.4	
	baz=26,slow=76,SNR=69							
H11S2	**WAKE ISLAND Hy**	**41.71**	**225**	T		T	00 17 55.1	
	baz=26,slow=76,SNR=53							
H11S3	**WAKE ISLAND Hy**	**41.71**	**225**	T		T	00 17 50.4	
	baz=26,slow=76,SNR=70							
FRB	**Frobisher Bay**	**46.10**	**38**	LR		LR	23 55 23.4	
	comp=Z,34nm,20.1s,baz=242,slow=40							
TXAR	**Lajitas Array**	**49.28**	**94**	P		**P**	**23 33 57.4**	**+1.8**
	comp=Z,0.3nm,0.5s,baz=302,slow=5.5,SNR=8.8							
	comp=Z,0.3nm,0.5s							
SONM	**Songino Array**	**53.74**	**303**	P		**P**	**23 34 28.1**	**-0.7**
	comp=Z,0.5nm,0.5s,baz=51,slow=7.0,SNR=5.5							
	comp=Z,0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**58.99**	**320**	LR		LR	00 05 06.4	
	comp=Z,14nm,18.3s,baz=50,slow=41							
KURBB	**Kurchatov Arra**	**63.99**	**321**	P		**P**	**23 35 38.2**	**-1.4**
	comp=Z,0.5nm,0.8s,baz=34,slow=6.9,SNR=4.4							
	comp=Z,0.5nm,0.8s							
BVAR	**Borovoye Array**	**64.85**	**327**	P		**P**	**23 35 44.5**	**-0.8**
	comp=Z,1.1nm,0.7s,baz=46,slow=8.5,SNR=5.5							
	comp=Z,1.1nm,0.7s							
MKAR	**Makanchi Array**	**65.59**	**316**	P		**P**	**23 35 48.9**	**-1.3**
	comp=Z,0.3nm,0.6s,baz=45,slow=7.6,SNR=1.7							
	comp=Z,0.3nm,0.6s							
EKA	**Eskdalemuir Ar**	**70.48**	**12**	P		**P**	**23 36 20.8**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=357,slow=4.3,SNR=1.8							
	comp=Z,0.1nm,0.3s							
AKASG	**Malin Array Be**	**75.76**	**352**	P		**P**	**23 36 51.2**	**-0.7**
	comp=Z,0.2nm,0.3s,baz=10,slow=6.8,SNR=2.1							
	comp=Z,0.2nm,0.3s							
BRTR	**Keskin Array B**	**86.11**	**347**	P		**P**	**23 37 48.4**	**+0.9**
	comp=Z,0.6nm,0.9s,baz=30,slow=3.8,SNR=3.3							
	comp=Z,0.6nm,0.9s							

*NEIC **28** 23:25:27.7±1.0, 19°.41N±0°.01×155°.28W±0°.01, h5km±1km, Error ellipse: s-maj=2.8km s-min=2.1km az=19.0*

HVO 28 23:25:27.2±0.9, 19°.40N±0°.01×155°.29W±0°.01, h0km±7km, ML3.0/45, ML2.8/45(NEIC), Error ellipse: s-maj=2.4km s-min=0.9km az=131.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**12**		Pg	23 25 28.6	+1.0
RIM	**Rim**	**0.01**	**123**		Sg	23 25 28.6	+1.0
UWE	**Uwekahuna**	**0.02**	**343**	Pg	Pg	23 25 28.0	+0.3
UWE	**Uwekahuna**	**0.02**	**343**		Sg	23 25 29.2	+1.1
KKO	**Keanakako`i**	**0.02**	**106**		Pg	23 25 29.2	+1.4
UWB	**Uwekahuna B**	**0.02**	**22**		Pg	23 25 29.0	+1.3
BYL	**Byron's Ledge**	**0.03**	**72**	Pg	Pg	23 25 28.2	+0.4
BYL					Sg	23 25 29.3	+1.1
SBLHI	**Steaming Bluff**	**0.03**	**38**		Pg	23 25 29.4	+1.6
HATHI	**Halema'uma'u T**	**0.03**	**52**	Pg	Pg	23 25 28.2	+0.3
HATHI					Sg	23 25 29.6	+1.3
RSD	**Rainshed**	**0.06**	**8**		Pg	23 25 29.2	+0.8
RSD	**Rainshed**	**0.06**	**8**	IAML		23 25 30.1	
	comp=E,5μm,0.5s						
RSD				IAML		23 25 30.1	
	comp=N,5μm,0.4s						
PUH	**Pauahi**	**0.07**	**114**		Pg	23 25 29.7	+1.0
PUH				IAML		23 25 30.7	
	comp=E,4μm,0.7s						
PUH				IAML		23 25 30.7	
	comp=N,3μm,0.7s						
HLP	**Hilina Pali**	**0.11**	**190**		Pg	23 25 29.9	+0.5
KNHH	**Kane Nui o Ham**	**0.11**	**102**		Pg	23 25 30.3	+0.8
MLH	**Mauna Loa**	**0.13**	**314**		Pg	23 25 30.9	+1.2
MLH	**Mauna Loa**	**0.13**	**314**	IAML		23 25 31.9	
	comp=E,4μm,0.8s						
MLH				IAML		23 25 34.0	
	comp=N,4μm,0.7s						
STCH	**Steam Cracks**	**0.15**	**97**		Pg	23 25 31.1	+0.9
STCH	**Steam Cracks**	**0.15**	**97**	IAML		23 25 34.4	
	comp=E,4μm,1.1s						
STCH				IAML		23 25 34.9	
	comp=N,4μm,1.1s						
NPOC	**North of Pu'u**	**0.17**	**94**		Pg	23 25 31.4	+0.9
JCUZ	**Jacuzzi**	**0.18**	**96**		Pg	23 25 31.5	+0.9
HTC	**Hot Caves**	**0.20**	**212**		Pg	23 25 31.9	+0.9
JOKA	**Jonika Flow**	**0.27**	**84**	IAML		23 25 39.1	
	comp=E,991nm,2.0s						
JOKA				IAML		23 25 39.3	
	comp=N,2μm,0.8s						
HMH	**Humu'ula Sheep**	**0.27**	**317**		Pg	23 25 32.9	+0.4
HMH				IAML		23 25 41.8	
	comp=E,1μm,0.6s						
HMH				IAML		23 25 42.0	
	comp=N,2μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**		Pg	23 25 33.2	+0.1
MLOA				IAML		23 25 39.2	
	comp=E,2μm,0.9s						
PAH	**Pahoa**	**0.33**	**74**		Pg	23 25 33.5	-0.2
KHU	**Kahuku**	**0.35**	**243**		Pg	23 25 34.2	+0.3
KHU				IAML		23 25 46.9	
	comp=E,1μm,0.6s						
POHA	**Pohakuloa**	**0.42**	**327**		Sg	23 25 36.3	-4.5
POHA	**Pohakuloa**	**0.42**	**327**		Pg	23 25 34.2	-1.2
POHA				IAML		23 25 46.4	
	comp=E,2μm,0.7s						
POHA				IAML		23 25 49.5	
	comp=E,2μm,0.8s						
HUH	**Hualalai**	**0.59**	**298**		Pb	23 25 39.6	-0.9
HPAH	**Hawaii Prepara**	**0.73**	**328**		Pg	23 25 40.7	-0.6
HPAH				IAML		23 26 03.0	
	comp=E,724nm,1.1s						
MHA	**Mahukona**	**0.97**	**323**	Pg	Pg	23 25 44.4	-1.5

*NEIC **28** 23:40:23.8±1.0, 19°.42N±0°.01×155°.293W±0°.009, h6km±1km, Error ellipse: s-maj=1.9km s-min=1.2km az=159.0*

HVO 28 23:40:24.1±1.8, 19°.402N±0°.009×155°.28W±0°.01, h1km±2km, ML2.8/12, ML1.8/16(NEIC), Error ellipse: s-maj=1.6km s-min=1.2km az=119.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**135**		Pg	23 40 25.3	+0.8
KKO	**Keanakako`i**	**0.01**	**106**		Pg	23 40 25.5	+0.9
OBL	**Observatory Le**	**0.02**	**350**		Pg	23 40 25.5	+0.9
BYL	**Byron's Ledge**	**0.02**	**63**	Pg	Pg	23 40 23.8	-0.8
BYL					Sg	23 40 25.9	+0.9
UWE	**Uwekahuna**	**0.02**	**329**		Pg	23 40 24.8	+0.2
UWE				IAML		23 40 24.8	
	comp=E,3μm,0.5s						
UWB	**Uwekahuna B**	**0.02**	**7**		Pg	23 40 25.8	+1.1
HATHI	**Halema'uma'u T**	**0.03**	**42**		Pg	23 40 24.0	-0.7
HATHI				IAML		23 40 25.0	
	comp=N,2μm,0.3s						
HATHI				IAML		23 40 25.4	
	comp=E,2μm,0.6s						
SBLHI	**Steaming Bluff**	**0.03**	**26**		Pg	23 40 26.0	+1.3
RSD	**Rainshed**	**0.06**	**3**		Pg	23 40 25.5	+0.2
RSD				IAML		23 40 26.7	
	comp=N,699nm,0.7s						
PUH	**Pauahi**	**0.07**	**114**	Pg	Pg	23 40 25.5	+0.1
PUH				IAML		23 40 27.1	
	comp=E,776nm,0.4s						
PUH				IAML		23 40 27.4	
	comp=N,889nm,0.6s						
PUH					Sg	23 40 27.8	+1.5
KNHH	**Kane Nui o Ham**	**0.11**	**102**		Pg	23 40 25.7	-0.5
MLH	**Mauna Loa**	**0.14**	**313**		Pg	23 40 26.0	-0.7
MLH				IAML		23 40 31.2	
	comp=E,331nm,0.3s						
STCH	**Steam Cracks**	**0.15**	**96**	Sg	Sg	23 40 28.9	0.0
NPOC	**North of Pu'u**	**0.16**	**93**		Pg	23 40 28.1	+0.9
MWH	**Moku'aweowe**	**0.31**	**286**	Pg	Pg	23 40 28.5	-1.5
PAH	**Pahoa**	**0.33**	**74**	Pg	Pg	23 40 28.9	-1.5
KHU	**Kahuku**	**0.35**	**244**	Pg	Pg	23 40 30.3	-0.5

*NEIC **29** 00:14:50.9±1.6, 37°.28N±0°.01×121°.69W±0°.02, h10km±1km, Error ellipse: s-maj=3.4km s-min=2.6km az=229.0*

NCEDC 29 00:14:50.7±1.1, 37°.29N±0°.02×121°.66W±0°.04, h5km±4km, Md3.0/136, ML2.8/66(NEIC), Error ellipse: s-maj=4.2km s-min=1.8km az=71.0, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCOB	**Coe Ranch Numb**	**0.03**	**201**		Pg	00 14 53.5	+1.7
MHC	**Mount Hamilton**	**0.05**	**14**		Pg	00 14 53.8	+1.6
C072	**Blauer Lane Sa**	**0.08**	**267**		Pg	00 14 53.0	+0.5
C059	**Quail Canyon R**	**0.10**	**300**		Pg	00 14 53.4	+0.5
ARN	**Arnold Ranch**	**0.12**	**59**		Pg	00 14 53.4	+0.2
ARN					Sg	00 14 55.5	+0.8
CADM	**Anderson Res.**	**0.13**	**168**		Pg	00 14 54.0	+0.7
C054	**Valleyhaven Wa**	**0.13**	**262**		Pg	00 14 54.0	+0.5
JLAB	**Laurel Hill**	**0.15**	**204**		Pg	00 14 54.2	+0.5
JLAB					Sg	00 14 57.2	+1.6
C041	**El Campo Drive**	**0.16**	**303**		Pg	00 14 54.8	+0.9
SCCB	**Santa Clara Co**	**0.16**	**269**		Pg	00 14 54.5	+0.5
C046	**N 16th Street**	**0.19**	**290**		Pg	00 14 55.4	+0.9
CALM	**Calaveras Res.**	**0.20**	**325**		Pg	00 14 55.0	+0.4
CALM					Sg	00 14 58.5	+1.2
C016	**Longford Drive**	**0.20**	**303**		Pg	00 14 55.7	+1.1
HLPM	**Lions Peak**	**0.25**	**175**		Pg	00 14 56.2	+0.6
GHS	**Gilroy Hot Spr**	**0.26**	**139**		Pg	00 14 56.1	+0.4
JJOM	**Saint Joseph's**	**0.27**	**252**		Pg	00 14 56.3	+0.4
HCAM	**Canada Road**	**0.30**	**152**		Pg	00 14 57.1	+0.6
JTGM	**Trout Gulch Ro**	**0.31**	**214**		Pg	00 14 57.5	+0.7
MTOS	**Mt Oso, Westle**	**0.34**	**51**		Pg	00 14 57.8	+0.5
WENL	**Wente Vineyard**	**0.34**	**347**		Pg	00 14 58.1	+0.7
JSJM	**St Joseph**	**0.35**	**277**		Pg	00 14 58.3	+0.9
HCBM	**Chamberlain**	**0.36**	**180**		Pg	00 14 58.3	+0.7
CVLM	**Vallecito**	**0.36**	**337**		Pg	00 14 58.6	+0.8
HFEM	**San Felipe**	**0.37**	**146**		Pg	00 14 58.2	+0.4
CSTL	**Corral Hollow**	**0.37**	**20**		Pg	00 14 58.9	+0.9
CSTL	**Corral Hollow**	**0.37**	**20**		Pg	00 14 58.9	+0.9
HPCM	**Pacheco Lake**	**0.38**	**127**		Pg	00 14 58.6	+0.4
CSPM	**Sandia**	**0.39**	**355**		Pg	00 14 59.0	+0.8
JELB	**Ellicott, Sant**	**0.39**	**201**		Pg	00 14 59.0	+0.8
JBMM	**Black Mountain**	**0.40**	**274**		Pg	00 14 58.8	+0.4
CNIC	**Niles Canyon**	**0.40**	**323**		Pg	00 14 59.0	+0.5
HCOM	**Corn Cob Canyo**	**0.40**	**186**		Pg	00 14 59.3	+0.8
CBZL	**Buffer Zone**	**0.40**	**354**		Pg	00 14 59.2	+0.7
ANZ	**Anzar Road**	**0.41**	**172**		Pg	00 14 59.4	+0.9
PACP	**Pacheco Peak**	**0.41**	**133**		Pg	00 14 59.0	+0.4
SLD	**San Luis Dam**	**0.41**	**121**		Pg	00 14 59.0	+0.4
JSFB	**Stanford Teles**	**0.43**	**286**		Pg	00 14 59.4	+0.4
JFP	**Foothills Park**	**0.43**	**280**		Pg	00 14 59.4	+0.3
CYD1	**Coyote D'meter**	**0.44**	**308**		Pg	00 14 59.5	+0.2
HBTM	**San Juan Bauti**	**0.45**	**169**		Pb	00 15 00.3	-0.8
HTUM	**Tustin Road**	**0.46**	**178**		Pg	00 15 00.2	+0.6
JRSC	**Jasper Ridge**	**0.48**	**284**		Pg	00 14 60.0	+0.1
HERM	**Elkhorn Road**	**0.49**	**185**		Pg	00 15 00.8	+0.7
HLTM	**Lone Tree Road**	**0.49**	**145**		Pg	00 15 00.7	+0.5
HSFM	**Saint Francis**	**0.49**	**165**		Pb	00 15 01.5	-0.5
C055	**Cottonwood Ave**	**0.51**	**316**		Pg	00 15 01.1	+0.5
CBSNC	**Byron Hot Spri**	**0.53**	**1**		Pb	00 15 02.1	-0.4
CMOB	**Morgan Territo**	**0.53**	**348**		Pb	00 15 02.3	-0.3
BGH	**Bear Gulch**	**0.55**	**276**		Pg	00 15 01.6	+0.4
FRP	**Fremont Peak**	**0.55**	**166**		Pg	00 15 02.0	+0.7
SAO	**San Andreas Ge**	**0.55**

comp=N,69nm,0.9s
PEAR Peavine Mounta 2.67 29 Pn Pn 00 15 36.5 +1.8
LHV Little Huntoon 2.68 68 Pn Pn 00 15 35.5 +1.0
LHV IAML 00 16 25.5
comp=N,32nm,1.2s
LHV IAML 00 16 29.7
comp=E,41nm,0.7s
BEKR Beckworth 2.77 21 Pn Pn 00 15 36.9 +0.9
RYN Ryan 2.82 61 Pn Pn 00 15 37.3 +0.7
RYN IAML 00 16 24.2
comp=E,30nm,0.8s
RYN IAML 00 16 29.4
comp=N,23nm,0.7s
NVAR Mina Array Bea 2.89 66 Pb 00 15 43.9 +1.0
DSP Deep Springs 2.94 87 Pb 00 15 45.3 +1.7
DSP IAML 00 16 30.4
comp=E,33nm,1.3s
DSP IAML 00 16 37.9
comp=N,22nm,1.6s
BCW Bitter Crk WRg 2.97 142 Pg Pg 00 15 48.3 +0.7
BCW IAML 00 16 32.5
comp=N,27nm,3.8s
BCW IAML 00 16 52.9
comp=E,34nm,1.6s
PAHR Pah Rah Range 3.00 36 IAML 00 16 32.3
comp=N,20nm,2.4s
PAHR IAML 00 16 37.1
comp=E,25nm,1.2s
KVN Kaiserville 3.31 57 IAML 00 16 38.9
comp=N,16nm,0.6s
KVN IAML 00 16 41.7
comp=E,18nm,2.3s
GRAC Grapevine Rang 3.44 94 IAML 00 16 49.2
comp=E,35nm,0.8s
GRAC IAML 00 16 49.4
comp=N,32nm,1.6s
CCAC Calif City Air 3.64 125 IAML 00 17 22.9
comp=E,18nm,1.5s
CCAC IAML 00 17 32.3
comp=N,18nm,1.1s
WCT Wildcat Mounta 4.06 96 IAML 00 17 05.8
comp=N,8.2nm,1.9s
WCT IAML 00 17 06.2
comp=E,9.5nm,1.0s
GWY Greenwater Val 4.16 104 IAML 00 17 15.3
comp=N,9.3nm,1.6s
GWY IAML 00 17 19.3
comp=E,9.4nm,0.9s
GSC Goldstone, Bar 4.39 115 IAML 00 17 09.2
comp=E,8.9nm,2.2s
GSC IAML 00 17 22.4
comp=N,8.3nm,2.2s

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*NEIC **29** 00:27:03.8±1.1, 14°N±90°×17°3W±9°3, h5km±2km, Error ellipse: s-maj=9999.9km s-min=29.7km az=340.0*
*NEIC **29** 00:30:18.8±3.0, 19°.433N±0°.009×155°.280W±0°.004, h5km±2km, Error ellipse: s-maj=3.0km s-min=1.5km az=152.0*
HVO 29 00:30:21.6±3.0, 19°.41N±0°.01×155°.28W±0°.01, h0km±8km, ML2.8/16, ML2.5/17(NEIC), Error ellipse: s-maj=2.2km s-min=1.2km az=134.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWB	Uwekahuna B	0.02	0	Pg	Pg	00 30 22.2	+0.1
HLP	Hilina Pali	0.11	195	Pg	Pg	00 30 19.7	-4.1
HLP				IAML		00 30 24.8	
	comp=N,3μm,1.7s						
MLH	Mauna Loa	0.14	311	Pg	Pg	00 30 22.0	-2.3
MLH				IAML		00 30 27.8	
	comp=E,2μm,1.2s						
STCH	Steam Cracks	0.15	98	Pg	Pg	00 30 19.9	-4.5
STCH				IAML		00 30 27.8	
	comp=E,2μm,2.4s						
STCH				IAML		00 30 28.5	
	comp=N,2μm,1.6s						
HTC	Hot Caves	0.20	214		Pg	00 30 26.8	+1.3
JOKA	Jonika Flow	0.26	84	Pg	Pg	00 30 22.8	-3.8
JOKA				IAML		00 30 34.7	
	comp=N,916nm,1.8s						
HMH	Humu'ula Sheep	0.28	316	Pg	Pg	00 30 24.8	-2.1
MLOA	Mauna Loa Obse	0.31	295	Pg	Pg	00 30 23.8	-3.8
MWH	Moku'aweowe	0.31	285		Pg	00 30 24.8	-2.8
KHU	Kahuku	0.35	244	Pg	Pg	00 30 25.9	-2.6
ALEP	Alea Permanent	0.37	291		Pg	00 30 27.3	-1.5
POHA	Pohakuloa	0.42	326		Sg	00 30 28.8	-6.6
POHA				IAML		00 30 41.0	
	comp=N,430nm,1.3s						
POHA				IAML		00 30 44.0	
	comp=N,448nm,2.2s						
POHA	Pohakuloa	0.42	326	Pg	Pg	00 30 28.0	-1.8
HUH	Hualalai	0.59	298		Pg	00 30 29.6	-3.4
HPAH	Hawaii Prepara	0.74	328		Pg	00 30 35.3	-0.5

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*NOU **29** 00:30:51.0, 18°.48S×174°.70W, h90km, mb5.0/44, Tonga Islands*
*NEIC **29** 00:30:51.9±1.5, 18°.52S±0°.08×174°.61W±0°.08, h94km±6km, mb4.9/335, Error ellipse: s-maj=11.7km s-min=10.6km az=185.0*
*GCMT **29** 00:30:56.9±0.3, 18°.74S±0°.03×174°.18W±0°.03, h159km±4km, MW5.0/92, Moment Tensor Solution. s25,c25; s92,c112; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr 1.39±.13; Mθθ 1.40±.17; Mφφ -2.79±.15; Mrθ 1.56±.11; Mrφ -1.36±.19; Mθφ -1.42±.11; Best double couple: M0 3.48100×10^16 NP1:φs 159.00000°, δ 71.00000°, λ 42.00000°. NP2:φs 53.00000°, δ 51.00000°, λ 155.00000°. Principal axes: T 3.5630, Plg 43.0000°, Azm 24.0000°; N -0.1640, Plg 45.0000°, Azm 179.0000°; P -3.3990, Plg 13.0000°, Azm 282.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **29** 00:30:56.4±3.2, 18°.62S×174°.81W, h140km±27km, mb4.3/14, mbtmp4.7/14, MS3.7/10 Error ellipse: s-maj=18.3km s-min=11.2km az=134.0*
ISC 29 00:30:51.7±0.3, 18°.62S±0°.04×174°.65W±0°.05, h100km, n840, σ1s 03/818, mb4.8/187, 20C-24D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	Niue	4.50	97	P	Pn	00 31 56.5	-1.1
NIUE	Niue	4.50	97	Pn	Pn	00 31 56.1	-1.5
NIUE				Sn	Sn	00 32 45.8	-3.0
AFI	Afiamalu	5.43	31	P	Pn	00 32 08.6	-1.8
AFI	Afiamalu	5.43	31	Pn	Pn	00 32 08.0	-2.4
AFI				Sn	Sn	00 33 03.8	-7.9
MSVF	Nonsavu	7.00	276	Pn	Pn	00 32 35.6	+3.9
RAO	Raoul Island	11.00	195	P	Pn	00 33 25.2	-0.8
	273nm,0.2s,baz=65,slow=16,SNR=5.3						
RAO				S	Sn	00 35 21.6	-5.4
	412nm,0.3s,baz=90,slow=20,SNR=2.2						
GLKZ	Green Lake	11.01	195	P	Pn	00 33 26.5	+0.3
GLKZ				S	Sn	00 35 22.9	-4.4
RAR	Rarotonga	14.23	103	P	Pn	00 34 09.7	+1.1
RAR	Rarotonga	14.23	103	Pn	Pn	00 34 09.0	+0.4
RAR	Rarotonga	14.23	103	P	Pn	00 34 08.9	+0.2
	39nm,0.3s,baz=232,slow=4.1,SNR=11						
LIFNC	LIFOU	17.19	260	P	P	00 34 45.4	-0.4
LIFNC	LIFOU	17.19	260	P	P	00 34 46.0	+0.3
PINNC	Pines Island,	17.22	254	P	P	00 34 45.8	-0.3
PINNC	Pines Island,	17.22	254	P	Pn	00 34 47.4	+1.3
YATNC	Mamie plateau,	17.65	256	P	P	00 34 47.9	-2.9
OUENC	Ouen Island, N	17.74	255	P	P	00 34 51.1	-0.8
OUENC	Ouen Island, N	17.74	255	P	Pn	00 34 53.4	+1.0
DZM	Mont Dzumac	18.06	256	P	P	00 34 53.7	-1.7
DZM	Mont Dzumac	18.06	256	eP	P	00 34 53.3	-2.1
	95nm,0.9s						
DZM				eLR	LR	00 38 58.0	
	249nm,27.9s						
DZM	Mont Dzumac	18.06	256	P	P	00 34 54.4	-1.0
DZM	Mont Dzumac	18.06	256	LR	LR	00 41 00.7	
	comp=Z,168nm,21.2s,baz=58,slow=34						
ONTNC	Ouen Toro	18.08	255	P	P	00 34 56.2	+0.6
ONTNC	Ouen Toro	18.08	255	P	P	00 34 55.6	0.0
NOUC	Port Laguerre	18.19	256	P	P	00 34 54.7	-2.1
OUZ	Omahuta	19.55	210	P	P	00 35 12.8	+1.3
OUZ	Omahuta	19.55	210	P	P	00 35 12.9	+1.4
WCZ	Waipu Caves	19.81	207	P	Pn	00 35 17.4	+0.6
MXZ	Matakaoa Point	19.86	197	P	P	00 35 15.9	+1.1
MXZ	Matakaoa Point	19.86	197	P	P	00 35 17.0	+2.1
MXZ	Matakaoa Point	19.86	197	P	Pn	00 35 18.2	+0.9
KOUNC	Koumac, New Ca	19.94	261	P	P	00 35 17.7	+1.8
KUZ	Kuaotunu	19.95	203	P	P	00 35 18.0	+2.2
WMGZ	Waiomatatini S	20.07	196	P	Pn	00 35 21.2	+1.4
WMGZ				S	S	00 38 49.4	-7.8
HAZ	Te Kaha	20.19	198	P	P	00 35 20.4	+2.0
HAZ				S	S	00 38 48.5	-11
WIAZ	Waiheke Island	20.22	204	P	Pn	00 35 21.7	+0.2
PKGZ	Pakihiroa	20.23	197	P	P	00 35 21.3	+2.5
PKGZ				S	S	00 38 47.4	-13
MBAZ	Motutapu North	20.29	205	P	Pn	00 35 22.6	+0.3
PUZ	Puketiti	20.35	196	P	P	00 35 22.4	+2.3
PUZ				S	S	00 38 52.2	-11
RUGZ	Raukumara Rang	20.41	198	P	P	00 35 22.7	+1.8
MKAZ	Moumakai	20.48	204	P	P	00 35 24.1	+2.6
WHRZ	Whale Island	20.52	199	P	Pn	00 35 26.6	+1.6
TWGZ	Tauwhareparae	20.52	197	P	P	00 35 24.4	+2.4
TWGZ				S	S	00 38 56.3	-10
OPRZ	Ohinepanea	20.64	200	P	Pn	00 35 26.7	+0.3
AWAZ	Awhitu Peninsu	20.65	205	P	P	00 35 25.9	+2.7
MARZ	Manawahe	20.73	200	P	P	00 35 27.2	+2.9
CNGZ	Carnagh Statio	20.75	196	P	Pn	00 35 28.2	+0.5
MWZ	Matawai	20.80	198	P	P	00 35 27.4	+2.5
MWZ				S	S	00 39 02.5	-9.0
EDRZ	Edgecumbe	20.82	199	P	P	00 35 27.8	+2.5
URZ	Urewera	20.85	198	P	P	00 35 24.9	-0.6
URZ	Urewera	20.85	198	P	P	00 35 25.0	-0.5
	53nm,0.3s,baz=349,slow=2.1,SNR=64						
URZ				S	S	00 39 03.1	-9.3
	15nm,0.7s,baz=16,slow=22,SNR=9.2						
	53nm,0.3s						
URZ	Urewera	20.85	198	P	P	00 35 25.6	+0.1
URZ				S	S	00 39 01.2	-11
KMRZ	Kaimai	20.85	201	P	Pn	00 35 29.0	0.0
TOZ	Tahuroa Road	20.90	202	P	P	00 35 27.6	+1.6
KARZ	Kaharoa	20.91	201	P	P	00 35 29.8	+3.7
HLRZ	Highlands Stat	21.08	200	P	P	00 35 31.8	+3.8
RTZ	Ruatahuna	21.22	198	P	P	00 35 30.6	+1.0
RTZ	Ruatahuna	21.22	198	P	P	00 35 31.8	+2.2
PRGZ	Paritu Road	21.25	196	P	P	00 35 34.2	+4.4
PRRZ	Plateau Road	21.29	200	P	P	00 35 32.6	+2.4
MTHZ	Maungataniwha	21.48	198	P	P	00 35 33.5	+1.3
HIZ	Hauiti	21.83	203	P	P	00 35 38.8	+2.8
HIZ	Hauiti	21.83	203	P	P	00 35 37.4	+1.4
BKZ	Black Stump Fm	21.87	199	P	P	00 35 36.2	-0.3
BFZ	Birch Farm	23.34	198	P	P	00 35 50.9	-0.3
BFZ	Birch Farm	23.34	198	P	P	00 35 51.7	+0.6
PPT2	Papeete2	23.85	92	eP	P	00 36 01.5	+5.4
	92nm,24.8s						
PPT2				eLR	LR	00 41 28.0	
	184nm,41.5s						
PPT2				eLR	LR	00 41 47.2	
	174nm,26.2s						
TBI	Tubuai	23.97	106	eLR	LR	00 41 25.0	
	1μm,39.8s						
SNZO	South Karori	24.39	200	P	P	00 36 03.7	+3.2
QRZ	Quartz Range	24.72	204	P	P	00 36 06.0	+2.4
TKNZ	Takaka Hill	24.74	203	P	P	00 36 04.6	+0.8
KHZ	Kahutara	25.76	200	P	P	00 36 15.8	+2.8
RPZ	Rata Peaks	27.77	203	P	P	00 36 32.7	+1.6
JCZ	Jackson Bay	28.94	205	P	P	00 36 41.6	0.0
ODZ	Otahua Downs	29.07	202	P	P	00 36 45.4	+2.8
MLZ	Mavora Lakes	30.28	204	P	P	00 36 54.8	+1.4
WHZ	Wether Hill Ro	30.79	204	P	P	00 36 59.2	+1.4
EIDS	Eidsvold	32.41	252	P	P	00 37 12.6	+0.3
EIDS				IAmb	IAmb	00 38 20.6	
	comp=Z,30nm,1.4s						
ARMA	Armidale	32.73	242	P	P	00 37 16.1	+0.9
ARMA	Armidale	32.73	242	P	P	00 37 15.4	+0.2
SYDH	Sydney Hard Ro	34.34	237	P	P	00 37 29.7	+0.8
CTAO	Charters Tower	36.86	261	P	P	00 37 51.1	+0.4
CTAO	Charters Tower	36.86	261	P	P	00 37 50.6	-0.1
CTAO	Charters Tower	36.86	261	P	P	00 37 51.2	+0.4
CTAO				sP	sP	00 38 24.6	+0.5
QLP	Quilpie	38.65	251	P	P	00 38 05.5	-0.2
TOO	Toolangi	39.55	233	P	P	00 38 11.8	-1.3
COEN	Coen	40.68	270	P	P	00 38 23.1	+0.4
COEN	Coen	40.68	270	P	P	00 38 22.4	-0.3
H11S2	WAKE ISLAND Hy	41.17	333	T	T	01 22 31.7	
	baz=144						
H11S3	WAKE ISLAND Hy	41.19	333	T	T	01 22 35.6	
	baz=144						
H11S1	WAKE ISLAND Hy	41.19	333	T	T	01 22 37.4	
	baz=144						
STKA	Stephens Creek	41.45	243	P	P	00 38 27.7	-1.1
STKA	Stephens Creek	41.45	243	P	P	00 38 27.7	-1.1
	comp=Z,7.4nm,0.8s,baz=89,slow=12,SNR=7.5						
	comp=Z,7.4nm,0.8s						
H11N3	WAKE ISLAND Hy	42.17	334	T	T	01 23 33.8	
	baz=153						
H11N1	WAKE ISLAND Hy	42.18	334	T	T	01 23 39.1	
	baz=153						
H11N2	WAKE ISLAND Hy	42.19	334	T	T	01 23 33.1	
	baz=153						
QIS	Mount Isa	43.04	260	P	P	00 38 41.6	-0.2
HTT	Hallett	43.90	241	P	P	00 38 48.6	0.0
LCRK	Leigh Creek	44.18	245	P	P	00 38 50.7	-0.2
BBOO	Buckleboo	46.21	242	P	P	00 39 06.1	-0.8
BBOO	Buckleboo	46.21	242	P	P	00 39 06.1	-0.8
OOD	Oodnadatta	46.29	249	P	P	00 39 08.6	+1.0
MULG	Mulgathing	47.76	246	P	P	00 39 18.5	-0.5
WR0	Warramunga Arr	47.83	260	P	P	00 39 19.0	-0.7
WB0	Warramunga Arr	47.99	260	P	P	00 39 20.1	-0.8
WB0				IAmb	IAmb	00 39 21.1	
	comp=Z,19nm,0.7s						
AS01	Alice Springs	48.00	255	P	P	00 39 20.9	-0.1
WB2	Warramunga Arr	48.01	260	P	P	00 39 20.3	-0.8
WRAB	Tennant Creek	48.01	260	P	P	00 39 19.8	-1.3
WRA	Warramunga Arr	48.02	260	P	P	00 39 19.7	-1.4
WRA	Warramunga Arr	48.02	260	P	P	00 39 20.4	-0.8
	comp=Z,9.7nm,0.3s,baz=96,slow=7.7,SNR=490						
WRA				PcP	PcP	00 40 47.9	+0.1
	comp=Z,1.1nm,0.4s,baz=94,slow=3.4,SNR=2.9						
WRA				LR	LR	01 00 22.0	
	comp=Z,48nm,18.0s,baz=282,slow=37						
	comp=Z,9.7nm,0.3s						
AS31	Alice Springs	48.04	255	P	P	00 39 21.1	-0.2
AS31				IAmb	IAmb	00 39 23.2	
	comp=Z,9.9nm,0.5s						
ASAR	Alice Springs	48.04	255	P	P	00 39 21.1	-0.3
ASAR	Alice Springs	48.04	255	P	P	00 39 20.9	-0.4
	comp=Z,16nm,0.4s,baz=90,slow=8.4,SNR=163						
ASAR				PcP	PcP	00 40 47.4	-0.4
	comp=Z,2.0nm,0.4s,baz=111,slow=4.2,SNR=5.9						
ASAR				S	S	00 46 07.2	-5.2
	comp=Z,2.8nm,0.9s,baz=94,slow=16,SNR=14						
ASAR				LR	LR	00 58 49.4	
	comp=Z,78nm,19.1s,baz=118,slow=35						
	comp=Z,16nm,0.4s						
KDU	Kakadu	51.11	269	P	P	00 39 44.5	-0.1
MTN	Manton Dam	52.35	268	P	P	00 39 52.9	-1.0
FORT	Forrest	52.94	245	P	P	00 39 56.9	-1.2
FORT	Forrest	52.94	245	P	P	00 39 56.9	-1.2
WRKA	Warakurna	53.03	252	P	P	00 39 58.3	-0.5
FAKI	Fak Fak	54.22	280	P	P	00 40 07.3	-0.3
SWI	Sorong	55.88	282	P	P	00 40 20.2	+0.7
	comp=Z,96nm,0.7s						
FITZ	Fitzroy Crossi	56.43	260	P	P	00 40 23.3	-0.1
LBMI	Labuha	59.46	281	P	P	00 40 45.2	+0.5
	comp=Z,36nm,0.6s						
SBA	Scott Base	59.97	184	P	P	00 40 49.6	+2.5
SBA				IAmb	IAmb	00 40 50.8	
	comp=Z,7.6nm,0.7s						
SBA	Scott Base	59.97	184	P	P	00 40 49.7	+2.6
SBA				pP	pP	00 41 13.4	+2.2
SBA				sP	sP	00 41 22.7	+0.7
VNDA	Vanda	60.07	186	P	P	00 40 49.2	+1.4
VNDA	Vanda	60.07	186	P	P	00 40 49.0	+1.1
	comp=Z,2.4nm,0.6s,baz=360,slow=6.5,SNR=23						
	comp=Z,2.4nm,0.6s						
PSA00	Pilbara Seismi	61.19	255	P	P	00 40 55.2	-1.1
MBWA	Marble Bar	61.36	256	P	P	00 40 55.6	-1.9
MEEK	Meekatharra	61.53	249	P	P	00 40 57.4	-1.2
KLBR	Kellerberrin	61.72	244	P	P	00 41 00.3	+0.5
NWAO	Narrogin (SRO)	62.04	242	LR	LR	01 07 32.1	
	comp=Z,47nm,18.3s,baz=266,slow=36						
BLDU	Ballidu	62.71	245	P	P	00 41 05.7	-0.7
DAV	Davao City (W)	64.21	288	LR	LR	01 09 19.4	
	comp=Z,31nm,18.3s,baz=148,slow=36						
CCD	Concordia, Ant	65.07	195	P	P	00 41 22.4	+0.8
KAPI	Kappang	65.30	273	P	P	00 41 23.6	0.0
CASY	Casey	67.00	205	P	P	00 41 33.8	+0.2
CASY				IAmb	IAmb	00 43 11.2	
	comp=Z,38nm,2.0s						
CASY	Casey	67.00	205	P	P	00 41 34.1	+0.6
CASY				PcP	PcP	00 42 01.7	+0.5
CASY				sP	sP	00 42 07.8	-1.3
MJAR	Matsushiro Arr	70.65	321	P	P	00 41 57.0	+0.4
	comp=Z,2.0nm,0.6s,baz=150,slow=6.3,SNR=6.0						
	comp=Z,2.0nm,0.6s						
QSPA	South Pole Qui	71.44	180	P	P	00 42 01.7	+0.6
QSPA				IAmb	IAmb	00 42 03.3	
	comp=Z,8.0nm,0.8s						
QSPA	South Pole Qui	71.44	180	P	P	00 42 01.8	+0.6
	comp=Z,7.3nm,0.7s,baz=35,slow=1.2,SNR=48						
	comp=Z,7.3nm,0.7s						
QSPA	South Pole Qui	71.44	180	P	P	00 42 02.0	+0.8
QSPA				sP	sP	00 42 35.2	-1.5
JSD	Sado	71.63	322	P	P	00 42 02.2	-0.2
CNBA	Chernabura Isl	74.26	9	P	P	00 42 17.3	-0.3
CHNA	Chernabura Isl	74.27	9	P	P	00 42 19.6	+2.0
	baz=195						
PKM	Mcpherson Peak	74.44	44	P	P	00 42 20.3	+1.0
	baz=234						
SMMC	Simmler	74.57	44	P	P	00 42 21.1	+1.1
	baz=233						
ARVC	Arvin	75.23	45	P	P	00 42 24.4	+0.7
	baz=234						
KMRM	Mail Ridge	75.32	38	P	P	00 42 25.8	+1.6
ESJX	Sierra Juarez	75.45	49	P	P	00 42 26.2	+1.0
MURC	Murrieta	75.46	47	P	P	00 42 25.8	+0.7
	baz=236						
VES	Vestal, Richgr	75.48	44	P	P	00 42 25.8	+0.8
	baz=234,SNR=6.6						
BFSC	Mount Baldy Ra	75.50	46	P	P	00 42 26.3	+0.8
	baz=235						
MONP2	Monument Peak	75.60	48	P	P	00 42 26.4	+0.2
	baz=236						
EDW2	Edwards Air Fo	75.64	45	P	P	00 42 26.7	+0.5
	baz=235,SNR=14						
S14K	Fog Glacier	75.69	9	P	P	00 42 27.9	+2.0
	baz=195						
IKP	In-Ko-Pah, Jac	75.69	48	P	P	00 42 27.2	+0.7
	baz=237						
CHGN	Chignik	75.87	9	P	P	00 42 28.8	+2.0
	baz=196						
CMB	Columbia Colle	75.95	41	P	P	00 42 28.2	+0.3
PFO	Pinyon Flats O	75.98	47	P	P	00 42 28.8	+0.7
	baz=236						
TPFO	Pinon Flats	75.98	47	P	P	00 42 28.9	+0.7
	baz=236						
SWSC	Sam W. Stewart	76.07	48	P	P	00 42 29.1	+0.6
	baz=237						
LRMC	Laurel Mtn Rad	76.20	45	P	P	00 42 30.1	+0.7
	baz=235,SNR=8.5						
CWC	Cottonwood Cre	76.49	44	P	P	00 42 31.9	+0.9
	baz=234						
BELC	Belle Mtn. Jos	76.51	47	P	P	00 42 32.0	+0.8
	baz=236,SNR=8.0						
MDPB	Devils Postpil	76.54	42	P	P	00 42 30.7	-0.8
MPMC	Manual Prospec	76.66	44	P	P	00 42 32.8	+0.8
	baz=235,SNR=12						
GSC	Goldstone, Bar	76.69	45	P	P	00 42 31.5	-0.5
GSC	Goldstone, Bar	76.69	45	P	P	00 42 32.8	+0.7
	baz=236,SNR=8.4						
BC3	Big Chuckawall	76.70	47	P	P	00 42 33.1	+0.9
	baz=237						
HEC	Hector,Ludlow	76.74	46	P	P	00 42 33.0	+0.6
	baz=236,SNR=10.0						
GLA	Glamis	76.81	48	P	P	00 42 32.4	-0.4
GLA				IAmb	IAmb	00 42 35.0	
	comp=Z,12nm,1.1s						
GLA	Glamis	76.81	48	P	P	00 42 33.9	+1.1
	baz=237						
WAKR	Walker	76.83	41	P	P	00 42 33.0	0.0
YBH	Yreka Blue Hor	76.87	37	P	P	00 42 32.8	-0.1
YBH	Yreka Blue Hor	76.87	37	LR	LR	01 10 01.0	
	comp=Z,34nm,18.2s,baz=250,slow=30						
PNTR	Pine Nut	77.08	41	P	P	00 42 33.9	-0.5
PNTR				IAmb	IAmb	00 42 36.3	
	comp=Z,11nm,0.8s						
DSP	Deep Springs	77.10	43	P	P	00 42 34.9	+0.7
DSP				IAmb	IAmb	00 42 36.5	
	comp=Z,16nm,1.2s						
GMRC	Granite Mounta	77.18	46	P	P	00 42 35.4	+0.5
	baz=236,SNR=5.1						
IRM	Iron Mountain	77.19	47	P	P	00 42 35.6	+0.8
	baz=237,SNR=8.0						
YERR	Yerington	77.24	41	P	P	00 42 34.9	-0.3
YERR				IAmb	IAmb	00 42 36.9	
	comp=Z,17nm,1.3s						
LHV	Little Huntoon	77.27	42	P	P	00 42 35.6	+0.4
LHV				IAmb	IAmb	00 42 37.5	
	comp=Z,14nm,1.1s						
GWY	Greenwater Val	77.28	45	P	P	00 42 35.5	0.0
GWY				IAmb	IAmb	00 42 36.9	
	comp=Z,21nm,1.7s						
GRAC	Grapevine Rang	77.28	44	P	P	00 42 35.3	0.0
GRAC				IAmb	IAmb	00 42 37.6	
	comp=Z,33nm,1.3s						
GRAC	Grapevine Rang	77.28	44	P	P	00 42 36.2	+0.9
	baz=235,SNR=5.6						
FURC	Furnace Creek,	77.31	44	P	P	00 42 36.0	+0.6
	baz=235						
TUQ	Turquoise Moun	77.36	46	P	P	00 42 36.4	+0.5
	baz=236						
SHOC	Shoshone, Teco	77.38	45	P	P	00 42 36.6	+0.7
	baz=236						
BLYC	Blythe	77.40	48	P	P	00 42 37.0	+1.0
113A	Mohawk Valley,	77.42	49	P	P	00 42 36.3	+0.2
RYN	Ryan	77.48	42	P	P	00 42 34.1	-2.4
NVAR	Mina Array Bea	77.50	42	P	P	00 42 36.9	+0.2
NVAR	Mina Array Bea	77.50	42	P	P	00 42 37.7	+1.0
	comp=Z,5.9nm,0.8s,baz=226,slow=9.4,SNR=40						
NVAR				LR	LR	01 13 16.3	
	comp=Z,27nm,18.9s,baz=260,slow=33						
	comp=Z,5.9nm,0.8s						
GMN	Gold Mountain	77.52	43	P	P	00 42 34.6	-2.3
GMN				IAmb	IAmb	00 43 27.0	
	comp=Z,12nm,0.9s						
PAHR	Pah Rah Range	77.59	40	P	P	00 42 37.5	+0.4
NV11	Mina Array Sit	77.60	42	P	P	00 42 37.0	-0.2
NV11				IAmb	IAmb	00 42 39.0	
	comp=Z,14nm,1.1s						
WCT	Wildcat Mounta	77.65	44	P	P	00 42 37.5	+0.1
KSAR	Wonju Array Be	77.65	317	P	P	00 42 37.6	+0.3
MZP	Montezuma Peak	77.67	43	P	P	00 42 37.1	-0.7
214A	Organ Pipe Nat	77.68	50	P	P	00 42 37.8	+0.1
214A	Organ Pipe Nat	77.68	50	P	P	00 42 38.5	+0.9
	baz=239						
R18K	Karluk	77.74	11	P	P	00 42 38.6	+1.3
	baz=200						
PDMCI	Parker Dam,Lak	77.97	47	P	P	00 42 39.7	+0.6
	baz=238						
TPH	Tonopah	77.99	43	P	P	00 42 39.6	+0.1
KVN	Kaiserville	78.00	42	P	P	00 42 38.8	-0.6
V12A	Nelson	78.25	46	P	P	00 42 41.1	+0.3
KDAK	Kodiak Island	78.30	12	P	P	00 42 41.5	+1.2
	baz=201						
WTNK	Soaring Height	78.39	45	P	P	00 42 41.5	0.0
O15K	Ungalikthiu

baz=196
PINE **Pine Mountain** **79.18** **36** P **P** **00 42 46.9 +1.1**
PINE IAmb IAmb 00 42 47.9
comp=Z,12nm,1.0s
R11B **Troy Canyon, C** **79.21** **43** P **P** **00 42 45.6 -0.5**
R11B **Troy Canyon, C** **79.21** **43** P **P** **00 42 46.4 +0.3**
baz=236,SNR=6.2
M13K **Dall Lake** **79.28** **6** P **P** **00 42 46.3 +0.6**
baz=191
P18K **Big Mountain,** **79.34** **10** P **P** **00 42 45.7 -0.4**
P18K IAmb IAmb 00 42 46.9
comp=Z,27nm,0.9s
P18K **Big Mountain,** **79.34** **10** P **P** **00 42 46.1 0.0**
baz=199
TUC **Tucson** **79.34** **51** P **P** **00 42 46.8 0.0**
TUC IAmb IAmb 00 42 49.2
comp=Z,12nm,0.9s
TUC **Tucson** **79.34** **51** P **P** **00 42 48.2 +1.4**
baz=240
BMN **Battle Mountai** **79.35** **41** P **P** **00 42 46.6 -0.2**
N15K **Kwethluk River** **79.39** **7** P **P** **00 42 46.8 +0.4**
baz=194
O17K **Koliganek Bris** **79.41** **9** P **P** **00 42 47.0 +0.6**
baz=197
WVOR **Wild Horse Val** **79.68** **39** P **P** **00 42 48.7 +0.2**
M14K **Bethel** **79.75** **6** P **P** **00 42 48.7 +0.5**
M14K **Bethel** **79.75** **6** P **P** **00 42 48.6 +0.4**
baz=192
O18K **Koktuh Hills** **79.78** **10** P **P** **00 42 47.9 -0.5**
O18K IAmb IAmb 00 42 49.7
comp=Z,19nm,1.1s
O18K **Koktuh Hills** **79.78** **10** P **P** **00 42 48.8 +0.3**
baz=199
M15K **Kasigluk River** **79.83** **7** P **P** **00 42 49.4 +0.7**
baz=194
N16K **Nishlik Lake** **79.85** **8** P **P** **00 42 49.4 +0.6**
baz=195
P19K **Oil Pt** **79.92** **11** P **P** **00 42 49.4 +0.2**
baz=201
X16A **Lo Mia Camp, P** **79.93** **49** P **P** **00 42 50.7 +0.6**
X16A IAmb IAmb 00 42 52.5
comp=Z,11nm,0.9s
319A **Douglas** **80.00** **52** P **P** **00 42 51.2 +0.8**
319A IAmb IAmb 00 42 52.8
comp=Z,14nm,0.8s
LCMT **Little Creek M** **80.03** **46** P **P** **00 42 51.0 +0.5**
Q12A **Willow Creek R** **80.08** **43** P **P** **00 42 51.2 +0.4**
Q12A IAmb IAmb 00 42 52.0
comp=Z,36nm,1.9s
N17K **Nushagak Hills** **80.12** **9** P **P** **00 42 50.5 +0.2**
baz=197
I07A **Izee** **80.18** **37** P **P** **00 42 51.2 +0.1**
CCUT **Cedar City** **80.24** **45** P **P** **00 42 52.6 +0.8**
O19K **Port Alsworth** **80.25** **10** P **P** **00 42 50.8 -0.1**
O19K **Port Alsworth** **80.25** **10** P **P** **00 42 51.3 +0.4**
baz=200
KNB **Kanab** **80.32** **46** P **P** **00 42 52.2 +0.1**
J08A **Circle Bar Ran** **80.33** **38** P **P** **00 42 52.3 +0.4**
M16K **Timber Creek** **80.36** **8** P **P** **00 42 52.5 +1.0**
M16K IAmb IAmb 00 42 54.0
comp=Z,27nm,1.1s
M16K **Timber Creek** **80.36** **8** P **P** **00 42 52.6 +1.0**
baz=195
U15A **North Rim** **80.37** **46** P **P** **00 42 53.1 +0.6**
U15A IAmb IAmb 00 42 55.0
comp=Z,16nm,1.1s
SPR3 **Spring Creek 3** **80.38** **43** P **P** **00 42 53.0 +0.4**
O20K **Slope Mountain** **80.44** **11** P **P** **00 42 52.8 +0.7**
baz=201
PSUT **Pine Spring** **80.44** **44** P **P** **00 42 52.1 -0.7**
N18K **Kilae Creek** **80.46** **9** P **P** **00 42 52.5 +0.4**
baz=198
BRSE **Bradley Lake S** **80.48** **12** P **P** **00 42 52.6 +0.4**
baz=203
WUAZ **Wupatki** **80.54** **48** P **P** **00 42 53.7 +0.4**
WUAZ **Wupatki** **80.54** **48** P **P** **00 42 53.7 +0.4**
baz=239
GNW **Green Mountain** **80.59** **33** P **P** **00 42 52.8 -0.3**
K13K **Kusilvak Mount** **80.67** **5** P **P** **00 42 54.3 +1.2**
baz=190
L15K **Ungalak Mounta** **80.71** **6** P **P** **00 42 54.2 +0.9**
baz=193
DUN6 **Lazy B Ranch** **80.71** **51** P **P** **00 42 55.1 +0.8**
HPIG **80.75** **58** P **P** **00 42 54.8 +0.1**
HPIG IAmb IAmb 00 42 56.7
comp=Z,19nm,1.4s
N19K **Bonanza Creek** **80.81** **10** P **P** **00 42 54.7 +0.6**
baz=199
MDJ **Mudanjiang** **80.85** **323** P **P** **00 42 56.5 +2.0**
MDJ pmax pmax
comp=Z,6.0nm,1.2s
MDJ pmax pmax
comp=Z,78nm,8.9s
PKCU **Pink Cliffs** **80.89** **46** P **P** **00 42 56.0 +0.6**
PKCU IAmb IAmb 00 42 58.4
comp=Z,24nm,1.2s
M17K **Holitna River** **80.93** **8** P **P** **00 42 55.6 +1.1**
baz=197
L16K **Owhat River** **80.96** **7** P **P** **00 42 55.6 +0.9**
L16K IAmb IAmb 00 42 57.0
comp=Z,23nm,1.2s
L16K **Owhat River** **80.96** **7** P **P** **00 42 55.8 +1.1**
baz=195,SNR=7.3
X18A **Snowflake** **81.05** **49** P **P** **00 42 56.7 +0.6**
Q23K **Middleton Isla** **81.14** **14** P **P** **00 42 56.0 +0.3**
baz=207
NJ2 **Nanjing** **81.17** **308** *e*P **P** **00 42 58.0 +1.5**
NJ2 pmax pmax
comp=Z,6.0nm,0.6s
G08A **Pilot Rock** **81.22** **36** P **P** **00 42 56.3 -0.3**
G08A IAmb IAmb 00 42 58.3
comp=Z,13nm,1.0s
M18K **Stony River** **81.24** **9** P **P** **00 42 56.7 +0.5**
baz=198
MTPU **Mount Pierson** **81.29** **45** P **P** **00 42 58.4 +0.8**
MTPU IAmb IAmb 00 43 00.4
comp=Z,30nm,1.7s
K15K **Wolf Creek Mou** **81.31** **6** P **P** **00 42 57.7 +1.2**
K15K **Wolf Creek Mou** **81.31** **6** P **P** **00 42 58.0 +1.5**
baz=193,SNR=15
P23K **Montague Islan** **81.41** **13** P **P** **00 42 57.9 +0.8**
baz=206
MVU **Marysvale** **81.51** **45** P **P** **00 42 59.1 +0.6**
MVU IAmb IAmb 00 43 01.0
comp=Z,27nm,0.9s
L17K **Donlin** **81.52** **8** P **P** **00 42 58.6 +0.9**
baz=196,SNR=5.8
ZAIG **Zacatecas** **81.54** **63** P **P** **00 42 59.3 +0.3**
MSU **Marysvale** **81.54** **45** P **P** **00 42 59.7 +1.0**
N20K **Mount Spurr** **81.56** **11** P **P** **00 42 58.2 +0.2**
baz=202
J14K **Nanvaranak Lak** **81.56** **5** P **P** **00 42 58.9 +1.1**
baz=191
121A **Cookes Peak, D** **81.67** **52** P **P** **00 42 59.7 +0.4**
121A **Cookes Peak, D** **81.67** **52** P **P** **00 42 59.8 +0.4**
baz=242
CRAG **Craig** **81.75** **22** P **P** **00 42 59.7 +0.7**
baz=220
L18K **Granite Mounta** **81.81** **8** P **P** **00 42 59.3 +0.1**
L18K **Granite Mounta** **81.81** **8** P **P** **00 43 00.2 +1.0**
baz=197
M19K **Big River Lodg** **81.85** **10** P **P** **00 43 00.4 +1.0**
baz=199
BMO **Blue Mountains** **81.90** **37** P **P** **00 43 00.3 +0.1**
E08A **Dider Farm, El** **81.90** **35** P **P** **00 42 59.4 -0.6**
E08A IAmb IAmb 00 43 09.2
comp=Z,11nm,0.8s
RC01 **Rabbit Creek A** **81.92** **12** P **P** **00 43 00.8 +1.0**
baz=204
MFID **Camas Ranch** **81.93** **39** P **P** **00 43 00.3 -0.1**
DUG **Dugway, Tooele** **82.02** **43** P **P** **00 43 00.7 -0.3**
DUG **Dugway, Tooele** **82.02** **43** P **P** **00 43 01.1 +0.1**
baz=238
KAIM **Kayak Island** **82.04** **15** P **P** **00 43 01.7 +1.3**
baz=209
M20K **Styx River** **82.04** **10** P **P** **00 43 01.3 +0.8**
baz=201
L19K **White Mountain** **82.05** **9** P **P** **00 43 01.4 +0.9**
baz=199
SUA **Susitna One** **82.07** **11** P **P** **00 43 01.0 +0.3**
baz=203
K17K **Iditarod** **82.08** **8** **P** **00 43 01.4 +0.8**
K17K IAmb IAmb 00 43 03.1
comp=Z,34nm,1.8s
K17K **Iditarod** **82.08** **8** P **P** **00 43 01.4 +0.8**
baz=196

GAMB **Gambell** **82.15** **1** P **P** **00 43 01.8 +0.9**
baz=183
V35K **Ketchikan** **82.20** **23** P **P** **00 43 02.2 +0.9**
baz=221
SIT **Sitka** **82.24** **20** P **P** **00 43 02.1 +0.6**
baz=217
U33K **Whale Pass** **82.25** **22** P **P** **00 43 02.0 +0.4**
baz=219
GLI **Glacier Island** **82.27** **13** P **P** **00 43 01.0 -0.6**
GLI IAmb IAmb 00 43 02.4
comp=Z,21nm,0.8s
GLI **Glacier Island** **82.27** **13** P **P** **00 43 02.0 +0.3**
baz=206
BGU **Big Grassy Mou** **82.27** **42** P **P** **00 43 02.2 -0.2**
EYAK **Cordova Ski Ar** **82.27** **14** P **P** **00 43 02.0 +0.4**
baz=208
FID **Port Fidalgo** **82.29** **14** P **P** **00 43 01.3 -0.5**
J16K **Anvik River** **82.37** **6** P **P** **00 43 03.0 +0.8**
J16K IAmb IAmb 00 43 04.5
comp=Z,14nm,1.0s
J16K **Anvik River** **82.37** **6** P **P** **00 43 03.2 +1.1**
baz=194,SNR=6.6
SKT **Skwentna** **82.40** **11** P **P** **00 43 02.9 +0.5**
baz=202
E09A **Wood Farm, Sta** **82.42** **36** P **P** **00 43 02.9 +0.1**
E09A IAmb IAmb 00 46 07.3
comp=Z,9.4nm,0.7s
Q16A **Castle Valley** **82.42** **45** P **P** **00 43 03.9 +0.6**
M22K **Willow** **82.45** **11** P **P** **00 43 03.0 +0.4**
M22K **Willow** **82.45** **11** P **P** **00 43 02.7 +0.2**
baz=203
KNK **Knik Glacier** **82.47** **12** P **P** **00 43 02.8 +0.1**
baz=205
L20K **Farewell, AK** **82.48** **10** P **P** **00 43 02.6 -0.1**
baz=200
PMR **Palmer** **82.50** **12** P **P** **00 43 02.3 -0.4**
PMR IAmb IAmb 00 43 03.7
comp=Z,28nm,1.6s
PMR **Palmer** **82.50** **12** P **P** **00 43 02.8 0.0**
baz=204
F10A **Beach Ranch, E** **82.61** **36** P **P** **00 43 04.0 +0.1**
F10A IAmb IAmb 00 43 05.0
comp=Z,15nm,1.1s
J17K **VABM Dome** **82.65** **7** P **P** **00 43 04.5 +1.0**
J17K IAmb IAmb 00 43 05.8
comp=Z,44nm,1.9s
J17K **VABM Dome** **82.65** **7** P **P** **00 43 04.5 +1.0**
baz=195
GHO **Glory Hole Cre** **82.70** **12** P **P** **00 43 03.8 -0.2**
GHO IAmb IAmb 00 43 04.9
comp=Z,17nm,0.9s
BNX **BinXian** **82.76** **323** JP **P** **00 43 05.8 +1.3**
BNX pmax pmax
comp=Z,6.0nm,1.1s
PLID **Pearl Lake** **82.79** **38** P **P** **00 43 05.0 0.0**
PLID IAmb IAmb 00 43 06.4
comp=Z,28nm,1.9s
CN2 **Changchun** **82.79** **321** *e*P **P** **00 43 01.5 -3.2**
CN2 *e*sP pP 00 43 30.3 +0.2
CN2 **Changchun** **82.79** **321** *e*S **S** **00 53 12.0 -2.7**
CN2 LR LR
comp=N,110nm,16.0s
CN2 LR LR
comp=E,90nm,16.0s
S32K **Killisnoo** **82.81** **21** P **P** **00 43 05.6 +1.1**
baz=218
SPUT **South Promonto** **82.85** **42** P **P** **00 43 06.2 +0.9**
SML **Sawmill** **82.85** **12** P **P** **00 43 05.0 +0.3**
baz=205
HLID **Hailey** **82.86** **39** P **P** **00 43 05.9 +0.6**
HLID IAmb IAmb 00 43 07.3
comp=Z,12nm,1.1s
HLID **Hailey** **82.86** **39** P **P** **00 43 05.8 +0.4**
baz=236,SNR=14
MESA **MESA** **82.87** **16** P **P** **00 43 05.5 +0.4**
baz=211
WAX **Waxell Ridge** **82.88** **15** P **P** **00 43 05.3 +0.4**
WAX IAmb IAmb 00 43 06.4
comp=Z,13nm,0.7s
HVU **Hansel Valley** **82.89** **42** P **P** **00 43 06.0 +0.5**
BMRM **Bremner River** **82.91** **14** P **P** **00 43 05.4 +0.4**
baz=209
I17K **Unalakleet** **82.95** **6** P **P** **00 43 06.4 +1.3**
baz=193
SRU **San Rafael Swe** **82.96** **45** P **P** **00 43 06.6 +0.7**
SRU IAmb IAmb 00 43 07.9
comp=Z,15nm,0.9s
M23K **Glacier View** **82.96** **13** P **P** **00 43 05.6 +0.4**
baz=206
CTU **Camp Tracy** **82.97** **43** P **P** **00 43 06.5 +0.6**
VHRN **Van Horn** **82.99** **54** P **P** **00 43 07.2 +0.9**
VHRN IAmb IAmb 00 43 08.7
comp=Z,16nm,0.8s
P17A **Butcher Ranch,** **83.00** **44** P **P** **00 43 06.8 +0.7**
P17A IAmb IAmb 00 43 08.3
comp=Z,12nm,1.1s
J18K **Innoko River** **83.01** **8** P **P** **00 43 05.5 +0.1**
J18K IAmb IAmb 00 43 07.2
comp=Z,9.4nm,0.8s
J18K **Innoko River** **83.01** **8** P **P** **00 43 06.5 +1.1**
baz=197,SNR=7.6
KLU **Klutina** **83.08** **13** P **P** **00 43 06.8 +0.9**
baz=207
SCM **Sheep Creek Mo** **83.08** **13** P **P** **00 43 06.0 +0.1**
SCM IAmb IAmb 00 43 06.9
comp=Z,16nm,0.7s
SCM **Sheep Creek Mo** **83.08** **13** P **P** **00 43 06.0 +0.1**
baz=206,SNR=6.4
MNTX **Cornudas Mount** **83.09** **53** P **P** **00 43 07.3 +0.7**
baz=243
C09A **Chrisman Ranch** **83.12** **34** P **P** **00 43 06.3 -0.1**
PNL **Peninsula** **83.13** **17** P **P** **00 43 06.8 +0.7**
baz=214
ISLE **Juniper Island** **83.14** **15** P **P** **00 43 06.3 0.0**
ISLE IAmb IAmb 00 43 07.6
comp=Z,11nm,0.9s
ANM **Nome** **83.22** **4** P **P** **00 43 07.4 +0.9**
baz=189
K20K **Telida** **83.28** **9** P **P** **00 43 06.7 -0.1**
K20K IAmb IAmb 00 43 08.2
comp=Z,18nm,1.6s
K20K **Telida** **83.28** **9** P **P** **00 43 07.3 +0.4**
baz=200
TX31 **Lajitas Ar. Si** **83.39** **56** P **P** **00 43 09.0 +0.7**
TX31 IAmb IAmb 00 43 11.0
comp=Z,24nm,1.3s
TXAR **Lajitas Array** **83.39** **56** P **P** **00 43 08.8 +0.5**
TXAR **Lajitas Array** **83.39** **56** P **P** **00 43 09.1 +0.8**
comp=Z,9.4nm,1.1s,baz=218,slow=7.3,SNR=54
comp=Z,9.4nm,1.1s
MVCO **Mesa Verde** **83.39** **47** P **P** **00 43 08.2 -0.1**
baz=241
PV05 **Paradox Valley** **83.40** **46** P **P** **00 43 09.4 +1.1**
PV05 IAmb IAmb 00 43 10.7
comp=Z,15nm,0.9s
P18A **Preston Nutter** **83.41** **45** P **P** **00 43 08.5 +0.1**
VRDI **Verde Repeater** **83.41** **15** P **P** **00 43 07.3 -0.5**
VRDI IAmb IAmb 00 43 09.0
comp=Z,14nm,1.2s
TCUT **Toone Canyon** **83.41** **43** P **P** **00 43 08.6 +0.3**
R32K **Eaglecrest** **83.47** **20** P **P** **00 43 08.1 +0.2**
baz=218
N25K **Chitina, Valde** **83.47** **14** P **P** **00 43 07.5 -0.5**
N25K IAmb IAmb 00 43 09.2
comp=Z,11nm,0.8s
N25K **Chitina, Valde** **83.47** **14** P **P** **00 43 08.1 +0.1**
baz=209,SNR=9.2
GLB **Gilahina Butte** **83.51** **14** P **P** **00 43 07.8 -0.3**
GLB IAmb IAmb 00 43 09.3
comp=Z,10nm,1.0s
BSUT **Blindstream Ca** **83.53** **44** P **P** **00 43 09.4 +0.3**
BSUT IAmb IAmb 00 43 10.9
comp=Z,9.1nm,1.0s
H16K **Elim** **83.54** **5** P **P** **00 43 08.6 +0.5**
baz=192,SNR=7.7
HWUT **Hardware Ranch** **83.57** **42** P **P** **00 43 08.6 -0.5**
M24K **Tolsona, Glenn** **83.57** **13** P **P** **00 43 08.4 0.0**
M24K **Tolsona, Glenn** **83.57** **13** P **P** **00 43 09.0 +0.6**
baz=207
P29M **Windy Craggy** **83.57** **18** P **P** **00 43 08.9 +0.5**
baz=215
PV19 **Morning Glory** **83.60** **46** P **P** **00 43 09.4 +0.1**
PV19 IAmb IAmb 00 43 11.7
comp=Z,14nm,1.0s
PV17 **East Wray Mesa** **83.60** **46** P **P** **00 43 09.3 -0.1**
PV17 IAmb IAmb 00 44 45.2

comp=Z,12nm,0.6s
PV14 **Lion Creek, Pa** **83.60** **46** P **P** **00 43 10.0 +0.6**
PV14 IAmb IAmb 00 43 11.1
comp=Z,18nm,1.0s
PV18 **Skein Mesa, Pa** **83.62** **46** P **P** **00 43 09.3 -0.1**
PV18 IAmb IAmb 00 43 11.2
comp=Z,24nm,1.1s
PV20 **West Nyswonger** **83.62** **46** P **P** **00 43 09.4 0.0**
PV13 **Radium Mtn., P** **83.63** **46** P **P** **00 43 09.7 +0.2**
PV13 IAmb IAmb 00 43 11.3
comp=Z,13nm,1.1s
PV16 **Nyswonger Mesa** **83.64** **46** P **P** **00 43 09.1 -0.5**
PV16 IAmb IAmb 00 43 11.4
comp=Z,23nm,1.5s
MCARA **McCarthy VSAT** **83.65** **15** **P** **00 43 08.8 +0.1**
MCARA IAmb IAmb 00 43 10.1
comp=Z,12nm,1.1s
MCARA **McCarthy VSAT** **83.65** **15** P **P** **00 43 09.3 +0.6**
baz=210
CAST **Castle Rocks** **83.65** **10** P **P** **00 43 07.7 -1.1**
baz=202
J19K **Poorman** **83.66** **8** P **P** **00 43 09.4 +0.6**
J19K IAmb IAmb 00 43 15.1
comp=Z,15nm,1.6s
J19K **Poorman** **83.66** **8** P **P** **00 43 09.1 +0.4**
baz=198
PV03 **Paradox Valley** **83.66** **46** P **P** **00 43 10.0 +0.4**
PV03 IAmb IAmb 00 43 11.4
comp=Z,12nm,1.2s
PV11 **David Mesa, Pa** **83.67** **46** P **P** **00 43 09.9 +0.2**
PV11 IAmb IAmb 00 43 12.2
comp=Z,35nm,1.5s
WAT6 **Susitna Watana** **83.67** **12** P **P** **00 43 09.1 +0.1**
baz=206,SNR=5.6
PV04 **Paradox Valley** **83.69** **46** P **P** **00 43 09.9 +0.1**
PV04 IAmb IAmb 00 43 11.6
comp=Z,13nm,0.8s
BARN **Barnard Glacie** **83.70** **15** P **P** **00 43 09.7 +0.4**
BARN IAmb IAmb 00 43 10.7
comp=Z,15nm,1.0s
CTG **Chitna Glacier** **83.70** **16** P **P** **00 43 09.4 +0.2**
baz=212
CTGM **Chitina Glacie** **83.71** **16** P **P** **00 43 08.8 -0.4**
CTGM IAmb IAmb 00 43 10.1
comp=Z,8.4nm,0.8s
PV02 **Paradox Valley** **83.72** **46** P **P** **00 43 09.9 -0.1**
PV02 IAmb IAmb 00 43 11.7
comp=Z,25nm,1.1s
PV12 **Saucer Basin,** **83.72** **46** P **P** **00 43 10.2 +0.2**
PV21 **Cone Mtn., Par** **83.73** **46** P **P** **00 43 09.5 -0.5**
PV21 IAmb IAmb 00 43 11.9
comp=Z,13nm,0.8s
WAT1 **Susitna Watana** **83.74** **12** P **P** **00 43 09.0 -0.3**
baz=205
G15K **Niukluk** **83.74** **5** P **P** **00 43 10.1 +1.0**
baz=190
ANMO **Albuquerque** **83.77** **50** P **P** **00 43 10.7 +0.5**
ANMO IAmb IAmb 00 43 12.6
comp=Z,18nm,1.2s
ANMO **Albuquerque** **83.77** **50** P **P** **00 43 11.1 +0.9**
baz=242
PV01 **Paradox Valley** **83.79** **46** P **P** **00 43 10.6 +0.2**
PV01 IAmb IAmb 00 43 12.0
comp=Z,9.1nm,0.8s
PLBC **Pleasant Camp** **83.83** **19** P **P** **00 43 10.5 +0.8**
baz=216
O28M **Mount Upton** **83.84** **16** P **P** **00 43 10.3 +0.2**
baz=213
PV22 **Blue Mesa, Par** **83.84** **46** P **P** **00 43 10.7 +0.1**
PV22 IAmb IAmb 00 43 12.4
comp=Z,11nm,1.1s
ALPN **Alpine** **83.86** **55** P **P** **00 43 11.5 +0.8**
ALPN IAmb IAmb 00 43 12.9
comp=Z,21nm,1.2s
O29M **Mount Kennedy** **83.89** **17** P **P** **00 43 10.6 +0.4**
baz=214
PV07 **Paradox Valley** **83.89** **46** P **P** **00 43 10.9 +0.1**
T35M **Bob Quinn** **83.95** **23** P **P** **00 43 10.9 +0.5**
baz=222
PV15 **Paradox Valley** **83.96** **46** P **P** **00 43 10.9 -0.3**
PV15 IAmb IAmb 00 43 12.8
comp=Z,9.1nm,0.9s
TRF **Thorofare Moun** **83.99** **11** P **P** **00 43 10.8 +0.2**
TRF **Thorofare Moun** **83.99** **11** P **P** **00 43 10.2 -0.4**
baz=203,SNR=9.4
NEW **Newport** **84.02** **35** LR LR 01 15 51.0
comp=Z,27nm,18.6s,baz=295,slow=32
J20K **Nowinta River** **84.04** **9** P **P** **00 43 10.4 -0.3**
J20K **Nowinta River** **84.04** **9** P **P** **00 43 10.8 +0.1**
baz=200,SNR=8.7
CHUM **Lake Minchumin** **84.05** **10** P **P** **00 43 10.4 -0.3**
baz=201
HARP **HAARP** **84.05** **13** P **P** **00 43 10.9 +0.1**
baz=208
H17K **Granite Mounta** **84.05** **6** P **P** **00 43 10.9 +0.2**
H17K IAmb IAmb 00 43 12.3
comp=Z,11nm,1.1s
H17K **Granite Mounta** **84.05** **6** P **P** **00 43 11.2 +0.5**
baz=194,SNR=5.5
F14K **Arctic Creek** **84.07** **3** P **P** **00 43 11.6 +0.8**
baz=188
TNA **Tin City** **84.07** **3** P **P** **00 43 10.5 -0.2**
TNA IAmb IAmb 00 43 12.7
comp=Z,8.1nm,0.9s
TNA **Tin City** **84.07** **3** P **P** **00 43 11.4 +0.6**
baz=186
GDL2 **Guadalupe Moun** **84.09** **53** P **P** **00 43 12.7 +0.8**
PECS **Pecos** **84.11** **54** P **P** **00 43 12.6 +0.7**
PECS IAmb IAmb 00 43 14.1
comp=Z,40nm,1.9s
SKAG **Skagway** **84.15** **19** P **P** **00 43 11.4 +0.1**
SKAG IAmb IAmb 00 46 14.8
comp=Z,14nm,0.9s
SKAG **Skagway** **84.15** **19** P **P** **00 43 11.9 +0.6**
baz=217
DHY **Denali Highway** **84.19** **12** P **P** **00 43 11.3 -0.4**
DHY IAmb IAmb 00 43 12.7
comp=Z,32nm,2.0s
DHY **Denali Highway** **84.19** **12** P **P** **00 43 11.5 -0.1**
baz=206
P30M **Million Dollar** **84.20** **18** P **P** **00 43 12.5 +0.9**
baz=216
RND **Reindeer** **84.21** **11** P **P** **00 43 11.1 -0.6**
GCSA **Galena City Sc** **84.22** **8** P **P** **00 43 12.5 +1.0**
baz=197
G16K **Koyuk River** **84.27** **5** P **P** **00 43 12.2 +0.4**
G16K IAmb IAmb 00 43 13.6
comp=Z,11nm,1.0s
G16K **Koyuk River** **84.27** **5** P **P** **00 43 12.3 +0.4**
baz=192,SNR=5.4
RDMU **Red Mountain** **84.33** **44** P **P** **00 43 13.1 +0.1**
RDMU IAmb IAmb 00 43 14.3
comp=Z,8.0nm,0.8s
S34M **Telegraph Cree** **84.33** **22** P **P** **00 43 12.5 +0.2**
S34M IAmb IAmb 00 43 14.3
comp=Z,13nm,1.1s
S34M **Telegraph Cree** **84.33** **22** P **P** **00 43 12.9 +0.6**
baz=221
MAW **Mawson** **84.38** **199** P **P** **00 43 12.8 +0.3**
comp=Z,3.4nm,0.6s,baz=141,slow=6.8,SNR=16
comp=Z,3.4nm,0.6s
YUK8 **Steele Glacier** **84.38** **16** P **P** **00 43 13.1 +0.3**
baz=213
F15K **North Star Dit** **84.41** **4** P **P** **00 43 12.3 -0.2**
F15K IAmb IAmb 00 43 14.2
comp=Z,13nm,1.2s
F15K **North Star Dit** **84.41** **4** P **P** **00 43 12.8 +0.3**
baz=190
AY03 **Cochrane** **84.42** **138** P **P** **00 43 14.9 +1.8**
H03S2 **Juan Fernandez** **84.42** **124** T T 02 16 10.7
baz=250,slow=75
H18K **Honhosa River** **84.43** **7** P **P** **00 43 13.1 +0.4**
H18K **Honhosa River** **84.43** **7** P **P** **00 43 12.9 +0.3**
baz=196
H03S1 **Juan Fernandez** **84.44** **124** T T 02 16 09.4
baz=250,slow=75
H03S3 **Juan Fernandez** **84.44** **124** T T 02 16 10.5
baz=250,slow=75
AHID **Auburn Hatcher** **84.47** **41** P **P** **00 43 13.8 +0.2**
AHID IAmb IAmb 00 43 15.7
comp=Z,7.9nm,0.8s
YUK6 **Outpost Mounta** **84.48** **17** P **P** **00 43 13.5 +0.2**
baz=214
CLNB **Carlsbad** **84.49** **53** P **P** **00 43 14.4 +0.6**
PAX **Paxson** **84.49** **13** P **P** **00 43 12.3 -0.8**
PAX IAmb IAmb 00 43 13.9

comp=Z,13nm,1.4s
PAX Paxson 84.49 13 P P 00 43 12.7 -0.4
baz=208,SNR=5.1
MCK McKinley 84.49 11 P P 00 43 12.5 -0.5
MCK McKinley 84.49 11 P P 00 43 12.9 -0.1
baz=204,SNR=11
MCMT McKenzie Canyo 84.49 39 P P 00 43 13.9 +0.1
G17K Kiwalik Mounta 84.53 6 P P 00 43 13.7 +0.6
baz=193,SNR=6.9
M26K Nabesna, AK 84.54 14 P P 00 43 13.3 0.0
M26K IAmb IAmb 00 43 14.8
comp=Z,15nm,1.1s
M26K Nabesna, AK 84.54 14 P P 00 43 13.8 +0.5
baz=210,SNR=12
H03N2 Juan Fernandez 84.55 123 T T 02 16 13.2
baz=249,slow=72
H03N3 Juan Fernandez 84.55 123 T T 02 16 15.2
baz=249,slow=72
H03N1 Juan Fernandez 84.56 123 T T 02 16 13.4
baz=249,slow=72
I20K Naaghedeneel 84.58 9 P P 00 43 14.3 +0.9
I20K IAmb IAmb 00 43 15.2
comp=Z,17nm,1.0s
I20K Naaghedeneel 84.58 9 P P 00 43 14.4 +1.1
baz=199
CLN7 Carlsbad 7 84.61 53 P P 00 43 15.3 +0.9
HYT Haines Junctio 84.62 17 P P 00 43 13.8 -0.1
HYT IAmb IAmb 00 43 15.7
comp=Z,25nm,1.4s
HYT Haines Junctio 84.62 17 P P 00 43 14.4 +0.5
baz=215
YUK3 Moose Creek 84.62 16 P P 00 43 15.1 +1.1
baz=212
YUK4 Talbot Arm 84.73 17 P P 00 43 15.9 +1.4
baz=214
P32M Atlin 84.76 20 P P 00 43 14.4 -0.1
P32M IAmb IAmb 00 43 16.3
comp=Z,20nm,1.1s
P32M Atlin 84.76 20 P P 00 43 15.4 +0.9
baz=219
HTMS Hat Mesa 84.77 53 P P 00 43 16.1 +0.9
M27K Edge Creek, AK 84.77 15 P P 00 43 15.3 +0.8
M27K IAmb IAmb 00 43 16.5
comp=Z,24nm,1.1s
M27K Edge Creek, AK 84.77 15 P P 00 43 15.3 +0.8
baz=211,SNR=12
BWN Browne 84.80 11 P P 00 43 14.3 -0.2
MENT Mentasta 84.84 14 P P 00 43 15.1 +0.3
MENT IAmb IAmb 00 43 16.9
comp=Z,17nm,0.9s
SAND Sanderson 84.86 56 P P 00 43 15.9 +0.2
SAND IAmb IAmb 00 43 17.6
comp=Z,15nm,1.0s
REDW Red Top Meadow 84.93 41 P P 00 43 15.9 -0.1
TPAW Teton Pass 84.94 41 P P 00 43 16.1 +0.1
TPAW IAmb IAmb 00 43 17.7
comp=Z,8.4nm,0.9s
MNHN Monahans 84.95 55 P P 00 43 16.6 +0.5
MNHN IAmb IAmb 00 43 18.0
comp=Z,15nm,0.8s
MSO Missoula 84.96 37 P P 00 43 15.7 -0.2
MSO Missoula 84.96 37 P P 00 43 16.9 +1.0
baz=236
FXWY Fox Creek 84.97 41 P P 00 43 16.6 +0.4
O30N Mendenhall 84.98 18 P P 00 43 15.7 +0.2
O30N IAmb IAmb 00 43 17.4
comp=Z,17nm,1.4s
O30N Mendenhall 84.98 18 P P 00 43 16.4 +0.9
baz=216
O20A White River Ci 84.99 45 P P 00 43 16.2 -0.1
O20A IAmb IAmb 00 43 17.8
comp=Z,8.3nm,0.9s
O20A White River Ci 84.99 45 P P 00 43 16.8 +0.5
baz=241
L26K Log Cabin Wild 85.00 14 P P 00 43 15.6 0.0
L26K IAmb IAmb 00 43 17.2
comp=Z,12nm,1.0s
L26K Log Cabin Wild 85.00 14 P P 00 43 17.0 +1.4
baz=210,SNR=5.2
H19K Roundabout Mou 85.02 8 P P 00 43 15.9 +0.4
H19K IAmb IAmb 00 43 17.5
comp=Z,19nm,1.2s
H19K Roundabout Mou 85.02 8 P P 00 43 16.5 +1.0
baz=197,SNR=9.8
BPMT Black Pine Rid 85.02 37 P P 00 43 16.3 -0.1
SNOW Snow King Moun 85.05 41 P P 00 43 17.0 +0.4
SNOW IAmb IAmb 00 43 18.3
comp=Z,13nm,0.9s
DLBC Dease Lake 85.11 22 P P 00 43 16.6 +0.3
baz=222
G18K Tagagawik 85.12 7 P P 00 43 16.5 +0.4
G18K IAmb IAmb 00 43 17.4
comp=Z,14nm,1.0s
G18K Tagagawik 85.12 7 P P 00 43 16.5 +0.4
baz=195,SNR=9.4
IMW Indian Meadow 85.16 41 P P 00 43 16.8 -0.4
IMW IAmb IAmb 00 43 18.9
comp=Z,9.0nm,0.9s
K24K Donnelly Dome 85.17 12 P P 00 43 16.8 +0.4
baz=207,SNR=10.0
H20K Anotlenegga Mo 85.19 8 P P 00 43 17.1 +0.7
baz=199,SNR=12
MOOW Moose Ponds 85.20 41 P P 00 43 17.3 0.0
LOHW Long Hollow 85.22 41 P P 00 43 17.3 -0.1
WHY Whitehorse 85.25 18 P P 00 43 17.5 +0.6
baz=218
NEA2 Nenana 85.25 11 P P 00 43 15.9 -0.9
NEA2 IAmb IAmb 00 43 18.0
comp=Z,8.1nm,0.8s
NEA2 Nenana 85.25 11 P P 00 43 16.2 -0.6
baz=204,SNR=10.0
N30M Aishikik Lake 85.25 17 P P 00 43 16.8 -0.1
N30M Aishikik Lake 85.25 17 P P 00 43 17.0 0.0
baz=216
I21K Tanana 85.31 9 P P 00 43 17.0 0.0
I21K IAmb IAmb 00 43 18.2
comp=Z,16nm,1.0s
I21K Tanana 85.31 9 P P 00 43 17.1 0.0
baz=202
WRH Wood River Hil 85.32 11 P P 00 43 16.5 -0.6
MLY Manley 85.37 10 P P 00 43 16.5 -1.0
MLY IAmb IAmb 00 43 17.9
comp=Z,12nm,0.9s
MLY Manley 85.37 10 P P 00 43 16.8 -0.6
baz=203,SNR=13
L27K Beaver Creek, 85.38 14 P P 00 43 17.6 +0.1
L27K Beaver Creek, 85.38 14 P P 00 43 17.7 +0.2
baz=211,SNR=7.4
SMCO Snowmass 85.39 46 P P 00 43 18.4 -0.2
BCAR Beaver Creek A 85.40 14 P P 00 43 17.2 -0.3
F17K Baldwin Pennin 85.40 5 P P 00 43 16.1 -1.3
F17K IAmb IAmb 00 43 19.1
comp=Z,14nm,0.9s
F17K Baldwin Pennin 85.40 5 P P 00 43 18.0 +0.6
baz=193
FLWY Flagg Ranch 85.40 41 P P 00 43 17.9 -0.4
FLWY IAmb IAmb 00 43 20.3
comp=Z,12nm,1.0s
PD31 Pinedale Array 85.44 42 P P 00 43 18.4 -0.2
PDAR Pinedale Array 85.44 42 P P 00 43 17.4 -1.2
PDAR Pinedale Array 85.44 42 P P 00 43 18.2 -0.3
comp=Z,3.3nm,0.8s,baz=220,slow=3.5,SNR=26
comp=Z,3.3nm,0.8s
ODSA Odessa 85.44 54 P P 00 43 19.2 +0.6
HDA Harding Lake 85.48 12 P P 00 43 17.6 -0.3
HDA Harding Lake 85.48 12 P P 00 43 17.8 -0.1
baz=206,SNR=24
R33M Jennings River 85.51 21 P P 00 43 18.4 +0.1
R33M IAmb IAmb 00 43 20.3
comp=Z,25nm,1.4s
R33M Jennings River 85.51 21 P P 00 43 18.8 +0.4
baz=221
CCB Clear Creek Bu 85.53 11 P P 00 43 17.1 -1.0
P33M Teslin, Yukon 85.53 20 P P 00 43 17.6 -0.7
P33M Teslin, Yukon 85.53 20 P P 00 43 18.6 +0.3
baz=219
G19K Purcell Mounta 85.53 7 P P 00 43 18.5 +0.3
G19K IAmb IAmb 00 43 19.9
comp=Z,14nm,0.9s
G19K Purcell Mounta 85.53 7 P P 00 43 19.0 +0.8
baz=197,SNR=10
BOZ Bozeman (W) 85.63 39 P P 00 43 19.3 0.0
BOZ Bozeman (W) 85.63 39 P P 00 43 19.7 +0.4
baz=238,SNR=6.2
H21K Melozitna Rive 85.64 9 P P 00 43 18.2 -0.5
H21K IAmb IAmb 00 43 20.5
comp=Z,30nm,1.4s
H21K Melozitna Rive 85.64 9 P P 00 43 19.3 +0.6
baz=201,SNR=14
N31M Braeburn, Yuko 85.65 18 P P 00 43 17.7 -1.1
N31M IAmb IAmb 00 43 20.6
comp=Z,9.1nm,1.0s
N31M Braeburn, Yuko 85.65 18 P P 00 43 19.5 +0.7
baz=217
SCRK Sand Creek 85.69 13 P P 00 43 19.1 -0.1
SCRK IAmb IAmb 00 43 20.4
comp=Z,10nm,1.0s
SCRK Sand Creek 85.69 13 P P 00 43 19.4 +0.2
baz=209,SNR=12
M29M Somme Creek 85.69 16 P P 00 43 19.4 +0.3
M29M Somme Creek 85.69 16 P P 00 43 19.6 +0.4
baz=214,SNR=5.8
F18K Selawik 85.70 6 P P 00 43 19.2 +0.3
baz=194
I23K Minto, Yukon-K 85.71 10 P P 00 43 18.3 -0.7
I23K IAmb IAmb 00 43 19.8
comp=Z,12nm,1.1s
I23K Minto, Yukon-K 85.71 10 P P 00 43 18.7 -0.3
baz=204,SNR=8.5
COLA College 85.73 11 P P 00 43 18.3 -0.8
MDM Murphy Dome 85.74 11 P P 00 43 18.6 -0.6
SDCO Great Sand Dun 85.75 48 P P 00 43 19.6 -0.6
baz=243
IL31 85.81 12 P P 00 43 18.9 -0.6
ILAR Eielson Array 85.81 12 P P 00 43 19.3 -0.2
ILAR Eielson Array 85.81 12 P P 00 43 19.2 -0.4
comp=Z,5.2nm,0.7s,baz=230,slow=6.1,SNR=91
comp=Z,5.2nm,0.7s
IL03 Eielson Array 85.82 12 P P 00 43 19.5 -0.1
DRIO Del Rio 85.84 57 P P 00 43 20.6 0.0
J25K Salcha River, 85.97 12 P P 00 43 20.3 -0.1
J25K IAmb IAmb 00 43 21.6
comp=Z,13nm,0.7s
J25K Salcha River, 85.97 12 P P 00 43 20.6 +0.2
baz=208,SNR=18
E17K Hotham Inlet 85.97 5 P P 00 43 20.9 +0.6
baz=214,SNR=6.4
LYMT Lyon Mountain 85.98 37 P P 00 43 19.9 -1.3
POKR Poker Plat Res 86.03 11 P P 00 43 20.6 0.0
POKR Poker Plat Res 86.03 11 P P 00 43 20.4 -0.2
baz=206,SNR=7.7
OZNA Ozona 86.05 56 P P 00 43 21.4 -0.1
MSTX Muleshoe 86.06 52 P P 00 43 21.8 +0.1
MSTX Muleshoe 86.06 52 P P 00 43 22.3 +0.7
baz=245
H22K Ishtalitna Cre 86.07 9 P P 00 43 20.9 +0.1
baz=202
F19K Shaleruckik Mo 86.12 7 P P 00 43 21.0 0.0
F19K IAmb IAmb 00 43 22.5
comp=Z,14nm,1.0s
F19K Shaleruckik Mo 86.12 7 P P 00 43 21.3 +0.3
baz=196,SNR=13
K27K Chicken 86.16 14 P P 00 43 21.9 +0.7
K27K IAmb IAmb 00 43 23.3
comp=Z,12nm,1.1s
K27K Chicken 86.16 14 P P 00 43 22.1 +0.8
baz=211,SNR=12
J26L Joseph Creek 86.24 13 P P 00 43 22.1 +0.3
J26L Joseph Creek 86.24 13 P P 00 43 22.6 +0.8
baz=209,SNR=37
T25A Trinidad 86.25 49 P P 00 43 22.3 -0.3
baz=243
M30M Minto, Yukon 86.25 17 P P 00 43 21.8 0.0
M30M IAmb IAmb 00 43 23.1
comp=Z,6.7nm,0.9s
M30M Minto, Yukon 86.25 17 P P 00 43 22.1 +0.3
baz=216,SNR=7.0
H23K Yukon River 86.30 10 P P 00 43 21.5 -0.5
H23K Yukon River 86.30 10 P P 00 43 21.9 0.0
baz=204,SNR=5.3
L29M L29M 86.33 16 P P 00 43 22.9 +0.7
baz=214,SNR=19
G21K Allakaket 86.34 8 P P 00 43 22.4 +0.3
G21K IAmb IAmb 00 43 23.8
comp=Z,11nm,0.8s
G21K Allakaket 86.34 8 P P 00 43 22.6 +0.5
baz=200,SNR=11
833A Chaparral WMA, 86.39 59 P P 00 43 23.2 -0.1
833A IAmb IAmb 00 43 25.0
comp=Z,26nm,1.6s
833A Chaparral WMA, 86.39 59 P P 00 43 21.7 -1.5
baz=247
E18K Tukpahlearik C 86.41 5 P P 00 43 22.7 +0.3
E18K IAmb IAmb 00 43 24.1
comp=Z,9.4nm,0.9s
E18K Tukpahlearik C 86.41 5 P P 00 43 22.9 +0.5
baz=193,SNR=6.8
SGCY Sterling City 86.46 55 P P 00 43 23.6 0.0
D17K Noatak River 86.48 4 P P 00 43 23.9 +1.1
baz=191
HBVL Hebbronville 86.49 60 P P 00 43 24.6 +0.9
HBVL IAmb IAmb 00 43 27.5
comp=Z,17nm,1.2s
Q24A Divide 86.55 47 P P 00 43 24.1 -0.1
baz=243
F20K Avaraart Lake 86.56 7 P P 00 43 23.8 +0.7
F20K IAmb IAmb 00 43 24.8
comp=Z,11nm,1.0s
F20K Avaraart Lake 86.56 7 P P 00 43 23.9 +0.7
baz=198,SNR=12
ISCO Idaho Springs 86.61 46 P P 00 43 23.9 -0.5
baz=242
M31M Drury Creek, Y 86.62 18 P P 00 43 24.6 +1.0
baz=218
POST Post 86.64 54 P P 00 43 24.9 +0.4
PRP Porcupine Dome 86.74 12 P P 00 43 23.9 -0.4
PRP IAmb IAmb 00 43 25.5
comp=Z,17nm,1.1s
PRP Porcupine Dome 86.74 12 P P 00 43 24.6 +0.3
baz=208,SNR=11
WTLY Watson Lake, Y 86.78 21 P P 00 43 23.5 -1.0
E19K Redstone River 86.78 7 P P 00 43 24.4 +0.1
E19K IAmb IAmb 00 43 26.0
comp=Z,18nm,1.1s
E19K Redstone River 86.78 7 P P 00 43 25.0 +0.7
baz=197,SNR=13
RLMT Red Lodge 86.81 40 P P 00 43 24.9 -0.3
RLMT IAmb IAmb 00 43 27.0
comp=Z,16nm,1.6s
DAWY Dawson 86.82 15 P P 00 43 24.9 +0.3
DAWY IAmb IAmb 00 43 26.2
comp=Z,13nm,0.8s
DAWY Dawson 86.82 15 P P 00 43 25.2 +0.7
baz=213,SNR=5.4
RDOG Red Dog Mine 86.85 4 P P 00 43 25.5 +1.0
baz=191
N23A Red Feather La 86.89 45 P P 00 43 25.5 -0.3
N23A Red Feather La 86.89 45 P P 00 43 25.9 +0.2
baz=242
C16K Lisburne Hills 86.91 3 P P 00 43 26.1 +1.4
baz=189
JCT Junction City 86.91 57 P P 00 43 26.0 +0.2
JCT IAmb IAmb 00 43 27.3
comp=Z,8.2nm,0.9s
JCT Junction City 86.91 57 P P 00 43 26.0 +0.2
baz=246
FARO Faro, Yukon 86.94 18 P P 00 43 25.3 +0.1
baz=219
HNDO Hondo 86.95 58 P P 00 43 26.4 +0.4
HNDO IAmb IAmb 00 43 28.3
comp=Z,21nm,1.2s
EGAK Eagle 87.01 14 P P 00 43 25.4 0.0
EGAK IAmb IAmb 00 43 26.9
comp=Z,12nm,0.9s
EGAK Eagle 87.01 14 P P 00 43 25.8 +0.4
baz=212,SNR=11
G22K Bettles 87.01 9 P P 00 43 25.8 +0.4
baz=202
F21K Alatna River 87.01 8 P P 00 43 24.4 -1.1
F21K Alatna River 87.01 8 P P 00 43 25.5 +0.1
baz=200
I26K Coal Creek Min 87.03 13 IAmb IAmb 00 43 27.1
comp=Z,10nm,1.0s
I26K Coal Creek Min 87.03 13 P P 00 43 26.1 +0.6
baz=210,SNR=7.6
SN05 Snyder 5 87.04 54 P P 00 43 27.0 +0.6
G23K Bananza Creek 87.04 10 P P 00 43 25.8 +0.2
G23K IAmb IAmb 00 43 27.1
comp=Z,8.4nm,1.1s
G23K Bananza Creek 87.04 10 P P 00 43 26.0 +0.4
baz=203,SNR=6.6
K29M Barlow Dome 87.09 16 IAmb IAmb 00 43 27.9
comp=Z,12nm,1.1s
K29M Barlow Dome 87.09 16 P P 00 43 26.5 +0.5
baz=215,SNR=13
SN07 Snyder 07 87.12 54 IAmb IAmb 00 43 28.1
comp=Z,17nm,0.9s
TOAD Toad River Com 87.15 23 P P 00 43 27.2 +1.0
baz=226,SNR=5.9
DKNS Dickens 87.33 53 P P 00 43 28.7 +0.9
DKNS IAmb IAmb 00 43 30.4
comp=Z,18nm,1.1s
H25L Birch Creek 87.36 11 P P 00 43 27.8 +0.8
baz=207
J29N Klondike Camp 87.42 15 P P 00 43 28.4 +0.9
G24K Hadweenzic Riv 87.45 10 P P 00 43 28.4 +0.9
baz=206
F22K John River 87.46 8 P P 00 43 28.2 +0.6
baz=201
COLD Coldfoot 87.49 9 P P 00 43 28.1 +0.4
COLD Coldfoot 87.49 9 P P 00 43 28.3 +0.6
baz=203
BILL Bilibino 87.53 353 P P 00 43 27.8 0.0
BILL IAmb IAmb 00 43 29.1
comp=Z,11nm,1.1s
C18K Utukok River 87.56 5 P P 00 43 29.1 +1.1
baz=193
I27K Kandik River 87.62 13 P P 00 43 29.1 +0.7
baz=211
E20K Nigu River 87.67 7 P P 00 43 29.0 +0.5
baz=198
D19K Kuna River 87.69 6 P P 00 43 29.1 +0.5
baz=196
APMT Aspermont 87.80 54 P P 00 43 30.3 +0.3
I28M Miner Creek 87.85 14 P P 00 43 29.3 -0.2
I28M IAmb IAmb 00 43 30.7
comp=Z,5.6nm,0.8s
I28M Miner Creek 87.85 14 P P 00 43 29.9 +0.3
baz=213,SNR=8.7
MMPY Sheldon Lake, 87.86 19 P P 00 43 30.0 +0.4
baz=221
BRDY Brady 87.86 56 P P 00 43 30.3 -0.1
BRDY IAmb IAmb 00 43 32.1
comp=Z,13nm,1.2s
ABTX Abilene, Hawle 87.89 55 P P 00 43 30.6 +0.2
ABTX Abilene, Hawle 87.89 55 P P 00 43 31.1 +0.7
baz=246
TGTN Hyland Airport 87.99 20 P P 00 43 30.7 +0.4
baz=223
J30M Hart River 88.00 16 P P 00 43 30.3 0.0
J30M IAmb IAmb 00 43 31.9
comp=Z,6.5nm,0.9s
J30M Hart River 88.00 16 P P 00 43 30.6 +0.3
baz=216,SNR=5.8
EGMT Eagleton 88.00 37 P P 00 43 30.5 -0.1
baz=239
D20K Etivluk River 88.06 6 P P 00 43 30.9 +0.5
baz=197
E22K Anaktuvuk Pass 88.10 8 P P 00 43 30.9 +0.3
E22K IAmb IAmb 00 43 32.0
comp=Z,6.3nm,0.8s
E22K Anaktuvuk Pass 88.10 8 P P 00 43 31.1 +0.5
baz=202
E21K Killik River 88.10 8 P P 00 43 30.7 +0.1
E21K Killik River 88.10 8 P P 00 43 30.6 0.0
baz=200
F24K Squaw Lake 88.12 10 P P 00 43 31.1 +0.4
F24K Squaw Lake 88.12 10 P P 00 43 31.4 +0.7
baz=205
C19K Lookout Ridge 88.15 5 P P 00 43 31.3 +0.5
baz=194
I29M Ogilvie Camp, 88.16 14 IAmb IAmb 00 43 32.0
comp=Z,11nm,1.2s
I29M Ogilvie Camp, 88.16 14 P P 00 43 31.1 +0.1
baz=214,SNR=5.7
H27K Steamboat Moun 88.17 13 P P 00 43 31.5 +0.5
baz=211,SNR=8.2
B18K Kokolik River 88.22 5 P P 00 43 31.5 +0.4
baz=192
E23K Chandalar 88.34 9 P P 00 43 32.3 +0.5
baz=204
G26K Porcupine Rive 88.34 12 P P 00 43 32.2 +0.5
baz=209,SNR=6.0
KOTAN Kotaneelee Air 88.47 23 P P 00 43 33.0 +0.6
baz=227
I30M Mount Dempster 88.51 15 IAmb IAmb 00 43 34.2
comp=Z,15nm,1.3s
I30M Mount Dempster 88.51 15 P P 00 43 32.8 +0.1
baz=216,SNR=8.6
E24K Your Creek 88.53 10 P P 00 43 32.8 +0.1
E24K Your Creek 88.53 10 P P 00 43 33.7 +1.0
baz=205
F25K Christian Rive 88.57 11 P P 00 43 33.8 +0.9
baz=207
BMAR Burnt Mountain 88.62 11 P P 00 43 33.7 +0.7
G27K Doyon Strip 88.64 12 P P 00 43 33.0 -0.2
G27K Doyon Strip 88.64 12 P P 00 43 33.8 +0.6
baz=211
D22K Ayikyak River 88.68 8 P P 00 43 34.0 +0.6
D22K IAmb IAmb 00 43 35.0
comp=Z,8.9nm,0.8s
D22K Ayikyak River 88.68 8 P P 00 43 33.9 +0.6
baz=201
C21K Knifeblade Rid 88.69 7 P P 00 43 34.0 +0.7
baz=199
EDM Edmonton 88.84 32 P P 00 43 33.6 -0.8
EDM IAmb IAmb 00 45 40.2
comp=Z,12nm,1.3s
ELIB Princess Elisa 88.84 186 *d*P P 00 43 34.1 -0.3
comp=Z,4.4nm,0.7s
H29M Whitestone 88.86 14 P P 00 43 34.7 +0.6
H29M IAmb IAmb 00 43 35.7
comp=Z,14nm,1.1s
H29M Whitestone 88.86 14 P P 00 43 34.8 +0.7
baz=214,SNR=5.5
TOLK Toolik Lake Re 88.89 9 P P 00 43 34.7 +0.3
baz=204
F26K Sheenjek River 88.93 11 P P 00 43 35.7 +1.2
baz=209
PLPT Palo Pinto 88.99 55 P P 00 43 36.9 +1.2
D23K Nanushuk River 89.03 8 P P 00 43 35.8 +0.9
baz=203
E25K Arctic Village 89.06 10 P P 00 43 35.8 +0.7
E25K Arctic Village 89.06 10 P P 00 43 35.8 +0.7
baz=208
B20K Meade River 89.25 6 P P 00 43 36.8 +1.0
baz=197
WHTX Lake Whitney, 89.35 56 P P 00 43 36.7 -0.5
baz=248
EPYK Eagle Plains 89.36 14 P P 00 43 37.0 +0.4
baz=216
WMOK Wichita Mounta 89.39 53 P P 00 43 37.2 -0.2
baz=247
G29M Pine Creek 89.51 14 P P 00 43 37.5 +0.3
baz=214
TROLL Troll, Antarti 89.58 179 ⇑P P 00 43 37.6 -0.3
comp=Z,96nm,0.6s
RSSD Black Hills 89.62 43 P P 00 43 37.0 -1.5
RSSD IAmb IAmb 00 43 39.3
comp=Z,5.4nm,1.0s
RSSD Black Hills 89.62 43 P P 00 43 38.1 -0.4
baz=244
F28M Old Crow 89.70 13 P P 00 43 37.9 -0.1
F28M Old Crow 89.70 13 P P 00 43 38.6 +0.5
baz=213
SNAA Sanae 89.77 177 ⇑P P 00 43 38.5 -0.2
comp=Z,60nm,0.9s
SNAA Sanae 89.77 177 P P 00 43 37.4 -1.2
comp=Z,2.7nm,1.0s,baz=198,slow=3.2,SNR=2.8
comp=Z,2.7nm,1.0s
VNA3 Neumayer Olymp 89.78 175 ⇑P P 00 43 38.2 -0.4
comp=Z,3.3nm,0.5s
E27K Coleen River 89.84 12 P P 00 43 39.4 +0.6
baz=211
C23K Itkillik River 89.84 8 IAmb IAmb 00 43 42.0
comp=Z,10nm,1.1s
C23K Itkillik River 89.84 8 P P 00 43 39.4 +0.7
baz=203
B22K Teshekpuk Lake 89.97 7 P P 00 43 39.6 +0.4
baz=200
G30M tAoh Zraii Nji 89.97 14 IAmb IAmb 00 43 40.8
comp=Z,16nm,1.1s
G30M tAoh Zraii Nji 89.97 14 P P 00 43 39.7 +0.3
baz=216,SNR=7.1
D25K Kavik River 90.00 10 P P 00 43 40.0 +0.5
baz=207
C24K Franklin Bluff 90.00 9 P P 00 43 39.8 +0.4
baz=205
VNA2 Neumayer--Watz 90.25 176 ⇑P P 00 43 41.1 +0.2

comp=Z,8.1nm,0.7s,baz=195,slow=4.2
HHC **Hu-ho-hao-te** 90.34 313 *e*P P 00 43 41.5 -0.3
HHC pmax pmax
comp=Z,15nm,0.6s
HHC pmax pmax
comp=Z,81nm,4.8s
G31M **Satah River** 90.39 15 P P 00 43 41.6 +0.4
baz=218,SNR=8.5
A22K **Sinclair Lake** 90.42 6 P P 00 43 42.0 +0.6
baz=199
VNA1 **Neumayer--Stat** 90.46 176 ⇑P P 00 43 41.1 -0.7
comp=Z,7.5nm,0.8s
F30M **Barrier River** 90.58 14 P P 00 43 42.7 +0.5
baz=217
E28M **Babbage River** 90.60 12 P P 00 43 42.4 +0.2
E28M IAmb IAmb 00 43 43.9
comp=Z,10nm,1.4s
E28M **Babbage River** 90.60 12 P P 00 43 43.1 +0.8
baz=213
TREL **Terrell** 90.70 56 P P 00 43 42.9 -0.6
C27K **Jago River** 90.71 10 P P 00 43 43.1 +0.4
baz=209
E29M **Blow River** 90.76 13 P P 00 43 42.4 -0.5
E29M IAmb IAmb 00 43 44.2
comp=Z,9.5nm,1.5s
E29M **Blow River** 90.76 13 P P 00 43 43.5 +0.5
baz=215
C26K **Camden Bay** 90.76 10 P P 00 43 43.7 +0.7
baz=206
D27M **Malcolm River** 90.87 11 P P 00 43 44.5 +0.9
baz=212
R32A **Long Quarter,** 90.88 50 P P 00 43 44.2 -0.2
F31M **Tsiigehtchic** 90.93 15 P P 00 43 44.6 +0.9
F31M **Tsiigehtchic** 90.93 15 P P 00 43 44.0 +0.3
baz=218
OK031 **S. Brethren Rd** 91.32 52 P P 00 43 46.9 +0.6
BLOK **Blackwell** 91.34 52 P P 00 43 46.3 -0.1
OK052 **Battle Ridge R** 91.36 52 P P 00 43 46.9 +0.3
D28M **Stokes Point** 91.37 12 P P 00 43 46.4 +0.6
baz=214
OK048 **Pawnee Station** 91.41 52 P P 00 43 46.5 -0.3
NATX **Nacogdoches** 91.48 57 P P 00 43 46.8 -0.3
baz=249
DEOK **Depew** 91.53 53 P P 00 43 48.1 +0.7
INK **Inuvik** 91.66 14 P P 00 43 46.3 -0.8
INK IAmb IAmb 00 43 48.2
comp=Z,9.2nm,1.0s
INK **Inuvik** 91.66 14 P P 00 43 47.2 0.0
baz=219
T35A **Sooner Cattle** 91.92 52 P P 00 43 49.4 +0.3
X37A **Clayton** 91.93 54 P P 00 43 49.5 +0.3
X37A IAmb IAmb 00 43 50.7
comp=Z,8.9nm,0.9s
TUL3 **Leonard** 92.09 53 P P 00 43 49.4 -0.5
TUL3 IAmb IAmb 00 43 51.6
comp=Z,9.3nm,1.0s
TUL3 **Leonard** 92.09 53 P P 00 43 50.3 +0.3
baz=249
PZH **PanZhiHua** 92.65 297 P P 00 43 53.0 +0.1
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,5.0s
RLO **Rose Lookout** 92.77 53 P P 00 43 53.2 +0.1
RLO IAmb IAmb 00 43 54.6
comp=Z,8.7nm,1.1s
JTS **Las Juntas de** 92.94 80 P P 00 43 54.4 0.0
MIAR **Mount Ida** 93.30 55 P P 00 43 55.6 0.0
baz=250
U38A **Gravette** 93.34 53 P P 00 43 55.6 -0.1
U38A IAmb IAmb 00 43 57.1
comp=Z,8.9nm,1.1s
WLAR **White Oak Lake** 93.37 56 P P 00 43 56.4 +0.6
YKA **Yellowknife Ar** 93.51 24 P P 00 43 54.6 -1.1
YKA **Yellowknife Ar** 93.51 24 P P 00 43 54.9 -0.9
comp=Z,1.9nm,1.0s,baz=241,slow=4.0,SNR=9.4
comp=Z,1.9nm,1.0s
HHAR **Hobbs** 93.63 53 P P 00 43 57.3 +0.3
HHAR IAmb IAmb 00 43 58.2
comp=Z,10.0nm,1.2s
ECSD **EROS Data Cent** 94.36 45 P P 00 44 00.6 +0.4
ECSD **EROS Data Cent** 94.36 45 P P 00 44 00.4 +0.1
baz=248
S39A **Bolivar** 94.57 52 P P 00 44 00.7 -0.7
FCAR **Ozark Folk Cen** 94.88 54 P P 00 44 02.9 +0.2
FCAR IAmb IAmb 00 44 04.8
comp=Z,11nm,1.4s
P38A **Dawn** 95.08 50 P P 00 44 03.9 +0.4
MGMO **Mountain Grove** 95.18 53 P P 00 44 04.0 -0.1
F33A **5 Mile Ranch,** 95.34 43 P P 00 44 04.3 -0.3
F33A IAmb IAmb 00 44 05.4
comp=Z,5.3nm,1.1s
PB05 **IPOC Station P** 95.49 116 P P 00 44 06.3 +0.2
R40A **Maddies Statio** 95.56 52 P P 00 44 05.7 -0.1
T42A **Van Buren** 96.03 53 P P 00 44 07.2 -0.8
T42A IAmb IAmb 00 44 09.0
comp=Z,8.2nm,1.3s
CCM **Cathedral Cave** 96.25 52 P P 00 44 08.3 -0.6
CCM **Cathedral Cave** 96.25 52 P P 00 44 08.9 0.0
baz=251
A36M **Sachs Harbour** 96.29 14 P P 00 44 09.0 +0.7
baz=226
AGMN **Agassiz Nation** 96.49 41 P P 00 44 10.1 +0.3
baz=250
LVC **Limon Verde** 96.69 116 LR LR 01 17 14.9
comp=Z,175nm,19.6s,baz=359,slow=29
F36A **Milaca** 97.17 44 P P 00 44 12.6 -0.3
F36A IAmb IAmb 00 44 14.0
comp=Z,6.3nm,1.0s
SPMN **Marine on St.** 97.44 45 P Pdif 00 44 14.6 +0.4
baz=251
EYMN **Ely** 99.14 43 P **Pdif** 00 44 22.5 +0.7
baz=253
LPAZ **La Paz** 99.82 111 LR LR 01 17 53.1
comp=Z,110nm,21.8s,baz=190,slow=28
MKAR **Makanchi Array** 112.20 314 PKiKP **PKiKP** 00 49 14.6 -1.1
comp=Z,0.5nm,0.9s,baz=38,slow=0.6,SNR=4.2
BVAR **Borovoye Array** 119.64 321 PKP **PKPdf** 00 49 29.2 -0.5
comp=Z,0.6nm,0.3s,baz=82,slow=1.0,SNR=5.2
ARCES **ARCESS Array B** 127.60 351 PKP **PKPdf** 00 49 44.3 -0.2
comp=Z,4.0nm,1.1s,baz=36,slow=1.5,SNR=11
EKA **Eskdalemuir Ar** 142.78 8 PKhKP PKPpre 00 50 07.8
comp=Z,0.5nm,0.7s,baz=338,slow=1.7,SNR=4.0
SORM **Soroca** 145.12 333 ⇓P **PKPbc** 00 50 16.9 -0.2
PURM **Purcari** 145.61 330 ⇑P **PKPab** 00 50 19.1 0.0
KIS **Kishinev** 145.76 331 *e*PKP **PKPbc** 00 50 19.0 -0.2
comp=Z,20nm,0.8s
MILM **Milestii Mici** 145.83 331 ⇑P **PKPbc** 00 50 19.1 -0.2
MILM **Milestii Mici** 145.83 331 ⇓*i*PKP **PKPdf** 00 50 19.0 +0.3
comp=Z,40nm,1.3s
KWP **Kalwaria Pacla** 146.06 340 *e*PKP **PKPab** 00 50 21.4 +0.6
OJC **Ojcow** 146.42 343 *e*PKP **PKPab** 00 50 21.5 -0.5
VASR **Vaslui** 146.50 332 ⇑P **PKPab** 00 50 22.4 -0.1
KOLS **Kolonicke sedl** 146.81 339 *e*PKP **PKPab** 00 50 23.1 -0.5
CLL **Collm** 146.82 351 ⇑*i*PKPbc **PKPbc** 00 50 22.3 +0.2
comp=Z,19nm,0.9s
BURAR **Bucovina Array** 146.83 335 ⇑P **PKPab** 00 50 23.8 -0.1
BRG **Berggiesshubel** 147.10 350 *e*PKP **PKPbc** 00 50 23.2 +0.3
BRG Amp 00 50 25.2
comp=Z,13nm,1.3s
BRG **Berggiesshubel** 147.10 350 P **PKiKP** 00 50 31.7 +6.3
BRG Amp 00 50 32.6
comp=Z,4.3nm,1.1s
CRVS **Cervenica-Dubn** 147.10 340 *e*PKP **PKiKP** 00 50 25.7 +0.3
TESR **Tescani** 147.11 332 ⇑P **PKPdf** 00 50 21.2 +0.4
DPC **Dobruska-Polom** 147.15 347 *e*PKP **PKPab** 00 50 24.5 -0.5
MORC **Moravsky Berou** 147.41 345 ⇑P **PKPbc** 00 50 23.4 -0.5
MORC **Moravsky Berou** 147.41 345 *e*PKP **PKPbc** 00 50 23.9 0.0
BMR **Baia Mare** 147.45 337 ⇑P **PKPbc** 00 50 25.0 +1.0
VRI **Vrincioaia** 147.57 332 ⇓P **PKPbc** 00 50 25.0 +0.6
ARCR **ARCALIA** 147.60 335 ⇑P **PKPbc** 00 50 25.5 +1.0
TURR **Turia** 147.74 333 ⇓P **PKiKP** 00 50 26.0 -0.9
BRTR **Keskin Array B** 147.78 317 PKPbc **PKPbc** 00 50 25.1 -0.2
comp=Z,2.6nm,0.9s,baz=126,slow=2.5,SNR=11
HARR **Harsova** 147.88 329 ⇓P **PKPbc** 00 50 26.0 +0.7
VRAC **Vranov** 148.07 346 ⇑P **PKiKP** 00 50 26.9 -0.5
VRAC **Vranov** 148.07 346 *e*PKP **PKPbc** 00 50 26.1 +0.4
MEM **Membach** 148.07 359 *d*PKP **PKPbc** 00 50 25.9 +0.3
DOPR **Dopca** 148.08 333 ⇑P **PKPbc** 00 50 26.3 +0.5
BTNL **Ternell** 148.10 359 *d*PKP **PKPbc** 00 50 24.4 -1.3
CJR **Cluj-Napoca** 148.21 336 ⇓P **PKiKP** 00 50 27.0 -0.8
MLR **Muntele Rosu** 148.21 332 ⇑P **PKPbc** 00 50 25.8 -0.5
JAVC **Velka Javorina** 148.22 344 *e*PKP **PKiKP** 00 50 27.3 -0.5
VYHS **Vyhne** 148.25 343 *e*PKP **PKPbc** 00 50 26.9 +0.7
BGES **Gesves** 148.30 0 *d*PKP **PKiKP** 00 50 27.3 -0.5
KRUC **Moravsky** 148.34 346 *e*PKP **PKPbc** 00 50 26.4 0.0
BMRD **Maredsous** 148.38 1 *d*PKP **PKPdf** 00 50 21.0 -1.9
MARR **Marisel-Cluj** 148.42 336 ⇓P **PKPbc** 00 50 27.1 +0.3
PSZ **Piszkesteto** 148.46 341 ⇓P **PKPbc** 00 50 27.5 +0.7
RCHB **Rochefort** 148.53 0 *d*PKP **PKPab** 00 50 29.7 -0.7
DOU **Dourbes** 148.59 1 *d*PKP **PKPbc** 00 50 26.1 -0.9
MODS **Modra-Piesok** 148.77 345 *e*PKP **PKiKP** 00 50 28.5 -0.4
KHC **Kasperske Hory** 148.84 350 *e*PKP **PKPbc** 00 50 28.2 +0.5
CKRC **Cesky Krumlov** 149.01 348 *e*PKP **PKPbc** 00 50 28.4 +0.3
WLF **Walferdange** 149.02 359 *d*PKP **PKiKP** 00 50 29.1 -0.2
GERES **GERESS Array B** 149.10 349 PKPbc **PKPbc** 00 50 28.8 +0.4
comp=Z,2.2nm,0.8s,baz=26,slow=4.8,SNR=9.6
SIRR **Siria** 149.31 338 ⇓P **PKiKP** 00 50 29.7 -0.4
MMAI **Mount Meron Ar** 149.51 304 PKPbc **PKPbc** 00 50 30.4 +0.5
comp=Z,2.1nm,0.6s,baz=55,slow=3.2,SNR=5.9
CONA **Conrad Observa** 149.53 346 *e*PKP **PKPbc** 00 50 29.9 +0.4
comp=Z,15nm,1.4s,SNR=9.7
GZR **Gura Zlata** 149.62 335 ⇓P **PKPbc** 00 50 30.3 +0.5
RONA **Rosalia, Austr** 149.64 345 *e*PKP **PKPbc** 00 50 30.1 +0.4
comp=Z,7.1nm,0.9s,SNR=6.1
BZS **Buzias** 149.88 337 ⇓P **PKPbc** 00 50 30.7 +0.4
MOA **Molln** 149.95 348 *e*PKP **PKPbc** 00 50 30.5 +0.1
comp=Z,9.5nm,1.4s
ELND **Elena** 150.19 329 ⇓P **PKPbc** 00 50 31.5 +0.3
HERR **Herculane** 150.19 335 ⇑P **PKPbc** 00 50 30.9 -0.2
BIOA **Bad Ischl, Aus** 150.22 349 *e*PKP **PKPbc** 00 50 31.3 +0.1
comp=Z,5.5nm,1.1s
ARSA **Arzberg** 150.25 346 *i* PKiKP **PKiKP** 00 50 31.8 -0.2
comp=Z,3.6nm,1.1s
MORH **Mrgy, Hungar** 150.36 341 ⇓P **PKPbc** 00 50 31.7 +0.2
MDVR **Moldovita** 150.55 336 ⇓P **PKPbc** 00 50 32.3 +0.3
LESA **Schwarzleotal** 150.65 350 *i* PKP **PKPbc** 00 50 32.3 +0.1
comp=Z,5.8nm,1.1s
KBA **Koelnbreinsper** 150.86 349 *e*PKP **PKPbc** 00 50 33.1 +0.2
comp=Z,3.7nm,0.6s
RETA **Reutte** 150.87 352 *i* PKP **PKPbc** 00 50 32.9 +0.2
comp=Z,6.7nm,1.2s
SOKA **Soboth** 150.90 346 *e*PKP **PKPbc** 00 50 32.3 -0.5
comp=Z,7.3nm,1.1s,SNR=5.8
WATA **Walderalm** 150.90 351 *i* PKP **PKPbc** 00 50 32.5 -0.4
comp=Z,8.8nm,1.1s
PERS **Pernice** 150.92 346 *i* PKPbc **PKPbc** 00 50 32.2 -0.6
FRGS **Fruska Gora** 150.92 339 ⇑P **PKPbc** 00 50 32.9 +0.1
MOTA **Moosalm** 150.96 352 *e*PKP **PKPbc** 00 50 33.1 0.0
comp=Z,14nm,1.2s,SNR=7.4
WTTA **Wattenberg** 150.97 351 *e*PKP **PKPbc** 00 50 33.2 +0.1
comp=Z,14nm,0.9s,SNR=6.6
SQTA **Sankt Quirin** 151.07 352 *i* PKP **PKiKP** 00 50 33.6 -0.2
comp=Z,9.4nm,1.1s,SNR=5.3
BLKB **Belogradchik** 151.11 333 ⇑P **PKPbc** 00 50 33.4 0.0
DAVA **Damuels** 151.16 354 *i* PKiKP **PKiKP** 00 50 34.1 0.0
comp=Z,16nm,1.2s,SNR=6.3
OBKA **Obir** 151.16 347 *e*PKiKP **PKiKP** 00 50 34.6 +0.6
comp=Z,2.2nm,0.7s
MYKA **Terra Mystica** 151.24 348 *i* PKP **PKPbc** 00 50 32.6 -1.0
comp=Z,6.6nm,1.0s
FETA **Feichten** 151.33 352 *i* PKiKP **PKiKP** 00 50 34.5 +0.1
comp=Z,9.8nm,1.0s
ABTA **Abfaltersbach** 151.33 350 *e*PKP **PKPbc** 00 50 33.4 -0.4
comp=Z,16nm,1.0s,SNR=8.0
BOVS **Bovan** 151.50 335 ⇓P **PKPbc** 00 50 33.9 -0.3
LJU **Ljubljana** 151.61 346 *i* PKPbc **PKPbc** 00 50 34.1 -0.3
GBRS **Gornja Briga** 152.03 346 *i* PKPbc **PKPbc** 00 50 35.3 -0.1
ESDC **Sonseca Array** 157.52 19 PKPab **PKPab** 00 51 07.9 -0.8
comp=Z,2.4nm,1.0s,baz=323,slow=3.3,SNR=9.6
TORD **Torodi Ar. Bea** 173.53 147 PKPab **PKPab** 00 52 19.2 -0.4
comp=Z,2.0nm,1.2s,baz=211,slow=1.7,SNR=4.5

*NOU **29** 00:48:35.6, 31˚.44S×138˚.62E, h0km, MLv3.5/9, South Australia*
*IDC **29** 00:48:39.6±3.4, 30˚.56S×139˚.05E, h0km, mbtmp3.0/3, ML3.2/2, Error ellipse: s-maj=92.1km s-min=20.3km az=46.0*
ISC 29 00:48:34.7±1.1,**31˚.26S**±0˚.07×**138˚.57E**±0˚.06,**h10**km,**n12,** σ2s**48**/15,**South Australia**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LCRK	**Leigh Creek**	**0.87**	**339**	P	**Pn**			**00 48 56.4**	**+3.4**
WHYH	**Whyalla**	**1.96**	**205**	P	**Pn**			**00 49 08.0**	**0.0**
HTT	**Hattett**	**2.18**	**172**	P	**Pn**			**00 49 11.0**	**-0.2**
BBOO	**Buckleboo**	**2.63**	**233**	P	**Pn**			**00 49 18.4**	**+1.1**
STKA	**Stephens Creek**	**2.65**	**104**	P	**Pn**			**00 49 18.3**	**+0.7**
STKA	**Stephens Creek**	**2.65**	**104**	Pn	**Pb**			**00 49 22.5**	**+0.2**
	4.4nm,0.3s,baz=286,slow=15,SNR=26								
STKA				Sn	**Sb**			**00 49 54.1**	**-0.9**
	4.8nm,0.3s,baz=349,slow=22,SNR=15								
	8.4nm,0.3s								
INKA	**Innaminka**	**3.99**	**29**	P	**Pn**			**00 49 39.7**	**+3.8**
MUG	**Mulgathing**	**4.01**	**283**	P	**Pn**			**00 49 38.5**	**+2.3**
OOD	**Oodnadatta**	**4.27**	**323**	P	**Pn**			**00 49 43.7**	**+3.8**
CMSA	**Cooper Meteorol**	**5.09**	**94**	P	**Pn**			**00 50 05.5**	**+0.6**
ASAR	**Alice Springs**	**8.63**	**330**	Pn	**Pn**			**00 50 41.0**	**+1.2**
	0.2nm,0.3s,baz=153,slow=12,SNR=1.7								
ASAR				Sn	**Sn**			**00 52 15.0**	**-2.2**
	0.4nm,0.3s,baz=150,slow=22,SNR=8.6								
WRA	**Warramunga Arr**	**11.90**	**340**	Pn	**Pn**			**00 51 23.6**	**-1.0**
	0.1nm,0.3s,baz=163,slow=14,SNR=6.8								
WRA				Sn	**Sn**			**00 53 33.2**	**-4.2**
	0.1nm,0.3s,baz=155,slow=24,SNR=5.1								
	0.6nm,1.0s								

*VAO **29** 01:16:09.5±0.4,20˚.08S×68˚.90W, h95km±2km, mb5.0*
*SJA **29** 01:16:09.4±0.8,20˚.17S×69˚.11W, h116km±3km, ML4.7, MW4.6*
*NEIC **29** 01:16:10.6±1.6,20˚.22S±0˚.05×69˚.04W±0˚.07, h101km±5km, mb4.9/124, Error ellipse: s-maj=9.8km s-min=6.5km az=102.0*
*GUC **29** 01:16:11.1±0.7,20˚.17S×69˚.04W, h105km±2km, ML4.9*
*GCMT **29** 01:16:11.6±0.4,20˚.31S±0˚.03×69˚.15W±0˚.03, h149km±5km, MW4.9/84, Moment Tensor Solution. s16,c17; s84,c107; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.88±. 14; Mθθ-1.21±.14; Mφφ2.09±.18; Mrθ1.33±.09; Mrφ0.36±.16; Mθφ-2.04±.13; Best double couple: Mo3.05600×10^16 NP1:φs331.00000°, δ80.00000°, λ-122.00000°. NP2: φs225.00000°, δ33.00000°, λ-19.00000°. Principal axes: T 3.1480, Plg28.0000°, Azm85.0000°; N -0.1830, Plg31.0000°, Azm337.0000°; P -2.9630, Plg46.0000°, Azm209.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*IDC **29** 01:16:11.2±0.3,20˚.14S×68˚.84W, h111km±2km, mb4.3/17, mbtmp4.7/23, MS3.4/9 Error ellipse: s-maj=13.1km s-min=6.2km az=88.0*
ISC 29 01:16:10.1±0.3,**20˚.15S**±0˚.02×**69˚.00W**±0˚.04,**h107**km±2km, **h107**km:**pP-P,n297,**σ1s**38**/318,**mb4.8**/75,**14C-10D,** **Northern Chile**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PB08	**IPOC Station P**	**0.14**	**272**	P	**Pn**			**01 16 25.2**	**-0.3**
PB08				Sn	**Sn**			**01 16 37.0**	**0.0**
PB08	**IPOC Station P**	**0.14**	**272**	*e*P	**Pn**			**01 16 26.0**	**+0.5**
PB08				*e*S	**Sn**			**01 16 38.2**	**+1.2**
PB08				IAML				01 16 40.6	
	comp=Z,28μm,0.8s								
PB08	**IPOC Station P**	**0.14**	**272**	⇑*i*P	**Pn**			**01 16 26.1**	**+0.5**
PB08				*i* S	**Sn**			**01 16 37.4**	**+0.4**
PB08				IAML				01 16 38.3	
	comp=E,88μm,0.3s								
GO01	**Chusmiza**	**0.51**	**339**	Pn	**Pn**			**01 16 27.9**	**+0.5**
GO01				Sn	**Sn**			**01 16 41.1**	**+1.0**
GO01	**Chusmiza**	**0.51**	**339**	*e*P	**Pn**			**01 16 28.2**	**+0.9**
GO01				*e*S	**Sn**			**01 16 42.4**	**+2.2**
GO01				IAML				01 16 43.7	
	comp=Z,45μm,0.7s								
GO01	**Chusmiza**	**0.51**	**339**	⇓*i*P	**Pn**			**01 16 28.0**	**+0.6**
GO01				*i* S	**Sn**			**01 16 41.2**	**+1.0**
GO01				IAML				01 16 44.4	
	comp=E,101μm,0.2s								
PB11	**IPOC Station P**	**0.73**	**302**	Pn	**Pn**			**01 16 28.8**	**+0.1**
PB11				Sn	**Sn**			**01 16 42.5**	**0.0**
PB11	**IPOC Station P**	**0.73**	**302**	*e*P	**Pn**			**01 16 28.8**	**+0.1**
PB11				*e*S	**Sn**			**01 16 43.3**	**+0.8**
PB11				IAML				01 16 45.9	
	comp=Z,19μm,0.1s								
PB11	**IPOC Station P**	**0.73**	**302**	⇑*i*P	**Pn**			**01 16 28.8**	**+0.1**
PB11				*i* S	**Sn**			**01 16 42.5**	**0.0**
PB11				IAML				01 16 43.8	

comp=E,53μm,0.2s
HMBC **Humberstone** 0.84 261 Pn **01 16 28.7 -1.0**
HMBC Sn **Sn 01 16 43.3 -1.1**
HMBC **Humberstone** 0.84 261 *e*P **Pn 01 16 29.2 -0.4**
HMBC *e*S **Sn 01 16 44.3 -0.1**
HMBC IAML 01 16 46.5
comp=Z,15μm,0.4s
HMBC **Humberstone** 0.84 261 ⇑*i*P **Pn 01 16 29.3 -0.4**
HMBC *i* S **Sn 01 16 43.6 -0.8**
HMBC IAML 01 16 44.6
comp=E,36μm,0.1s
TA02 **Huaiquique** 1.07 263 **Pn 01 16 31.6 -0.1**
TA02 **Huaiquique** 1.07 263 *e*P **Pn 01 16 31.8 0.0**
TA02 *e*S **Sn 01 16 49.0 +0.8**
TA02 IAML 01 16 50.3
comp=Z,28μm,0.6s
TA02 **Huaiquique** 1.07 263 ⇑*i*P **Pn 01 16 31.7 -0.1**
TA02 *i* S **Sn 01 16 47.6 -0.6**
TA02 IAML 01 16 50.5
comp=N,44μm,0.1s
TA01 **Diego Aracena** 1.18 249 **Pn 01 16 32.5 -0.6**
TA01 Sn **Sn 01 16 48.5 -1.9**
TA01 **Diego Aracena** 1.18 249 *e*P **Pn 01 16 29.8 -3.3**
TA01 *e*S Sn 01 16 32.5 -18
TA01 IAML 01 16 51.9
comp=Z,5μm,0.6s
TA01 **Diego Aracena** 1.18 249 ⇑*i*P **Pn 01 16 32.5 -0.6**
TA01 *i* S **Sn 01 16 48.8 -1.6**
PATCX **Punta Patache** 1.27 238 **Pn 01 16 33.5 -0.7**
PATCX **Punta Patache** 1.27 238 *e*P **Pn 01 16 33.9 -0.3**
PATCX *e*S **Sn 01 16 52.0 -0.3**
PATCX IAML 01 16 57.0
comp=Z,6μm,0.9s
PATCX **Punta Patache** 1.27 238 ⇑*i*P **Pn 01 16 33.8 -0.3**
PATCX *i* S **Sn 01 16 51.0 -1.4**
PB09 **IPOC Station P** 1.66 188 **Pn 01 16 39.4 +0.6**
PB09 **IPOC Station P** 1.66 188 *e*P **Pn 01 16 39.8 +0.7**
PB09 *e*S **Sn 01 17 02.7 +1.9**
PB09 IAML 01 17 04.1
comp=Z,8μm,0.5s
PB09 **IPOC Station P** 1.66 188 ⇓*i*P **Pn 01 16 39.5 +0.6**
PB09 *i* S **Sn 01 17 01.4 +0.7**
PB12 **IPOC Station P** 1.97 320 Pn **Pn 01 16 43.0 +0.2**
PB12 **IPOC Station P** 1.97 320 *e*P **Pn 01 16 42.8 +0.1**
PB12 *e*S **Sn 01 17 07.5 -0.1**
PB12 IAML 01 17 13.1
comp=Z,4μm,0.6s
PB12 **IPOC Station P** 1.97 320 ⇑*i*P **Pn 01 16 42.8 +0.1**
PB12 *i* S **Sn 01 17 06.8 -0.9**
PB12 IAML 01 17 16.7
comp=N,8μm,0.3s
AP01 **Chacalluta** 2.17 324 **Pn 01 16 45.6 +0.3**
AP01 **Chacalluta** 2.17 324 *e*P **Pn 01 16 45.7 +0.5**
AP01 *e*S **Sn 01 17 11.2 -0.9**
AP01 IAML 01 17 23.4
comp=Z,5μm,0.5s
AP01 **Chacalluta** 2.17 324 *e*P **Pn 01 16 45.4 +0.2**
AP01 *i* S **Sn 01 17 11.4 -0.7**
AP01 IAML 01 17 20.6
comp=N,15μm,0.3s
PB04 **IPOC Station P** 2.43 206 **Pn 01 16 48.3 -0.4**
PB04 **IPOC Station P** 2.43 206 *e*P **Pn 01 16 49.0 +0.3**
PB04 *e*S **Sn 01 17 15.5 -2.7**
PB04 IAML 01 17 24.5
comp=Z,4μm,1.0s
PB04 **IPOC Station P** 2.43 206 ⇓*i*P **Pn 01 16 48.5 -0.2**
PB04 *i* S **Sn 01 17 14.9 -3.3**
LVC **Limon Verde** 2.45 178 *e*P **Pn 01 16 50.0 +0.8**
LVC *e*S **Sn 01 17 19.7 +0.5**
LVC IAML 01 17 23.8
comp=Z,2μm,0.7s
LVC **Limon Verde** 2.45 178 P **Pn 01 16 50.1 +0.8**
comp=Z,305nm,0.3s,baz=11,slow=8.1,SNR=284
LVC S **Sn 01 17 19.9 +0.8**
comp=Z,1μm,0.3s,baz=290,slow=22,SNR=16
LVC **Limon Verde** 2.45 178 ⇓*i*P **Pn 01 16 50.1 +0.8**
LVC *i* S **Sn 01 17 20.1 +0.9**
LVC IAML 01 17 27.2
comp=Z,7μm,0.6s
LVC **Limon Verde** 2.45 178 *e*P **Pn 01 16 49.6 +0.3**
PB18 **Visviri** 2.58 350 Pn **Pn 01 16 52.2 +1.1**
PB18 **Visviri** 2.58 350 ⇓*i*P **Pn 01 16 54.4 +3.3**
PB06 **IPOC Station P** 2.60 192 **Pn 01 16 50.1 -0.9**
PB06 **IPOC Station P** 2.60 192 *e*P **Pn 01 16 50.7 -0.3**
PB06 *e*S **Sn 01 17 21.8 -0.6**
PB06 IAML 01 17 31.7
comp=Z,3μm,0.8s
PB06 **IPOC Station P** 2.60 192 *e*P **Pn 01 16 50.5 -0.5**
PB06 *i* S **Sn 01 17 20.0 -2.4**
AF01 **San Pedro de A** 2.90 165 **Pn 01 16 55.4 +0.5**
AF01 **San Pedro de A** 2.90 165 ⇓*i*P **Pn 01 16 56.8 +1.9**
PB05 **IPOC Station P** 2.92 202 **Pn 01 16 54.7 -0.4**
PB05 **IPOC Station P** 2.92 202 *e*P **Pn 01 16 54.6 -0.4**
PB05 *e*S Sn 01 17 16.5 -13
PB05 IAML 01 18 03.8
comp=Z,2μm,0.6s
PB05 **IPOC Station P** 2.92 202 ⇓*i*P **Pn 01 16 54.4 -0.7**
PB05 *e*S **Sn 01 17 25.3 -4.4**
PB15 **IPOC Station P** 3.08 188 **Pn 01 16 56.9 -0.4**
PB15 **IPOC Station P** 3.08 188 *e*P **Pn 01 16 57.2 -0.1**
PB15 *e*S **Sn 01 17 33.0 -0.6**
PB15 IAML 01 17 35.4
comp=Z,6μm,0.3s
PB15 **IPOC Station P** 3.08 188 ⇓*i*P **Pn 01 16 57.0 -0.4**
PB10 **IPOC Station P** 3.65 203 Pn **Pn 01 17 03.0 -1.7**
PB10 **IPOC Station P** 3.65 203 *e*P **Pn 01 17 03.4 -1.3**
PB10 *e*S **Sn 01 17 43.1 -3.9**
PB10 IAML 01 18 04.4
comp=Z,707nm,0.7s
PB10 **IPOC Station P** 3.65 203 ⇓*i*P **Pn 01 17 03.1 -1.7**
YJA **Yavi** 3.83 122 *e*P **Pn 01 17 11.4 +3.8**
LPAZ **La Paz** 3.92 12 Pn **Pn 01 17 12.1 +3.1**
LPAZ **La Paz** 3.92 12 *e*P **Pn 01 17 07.7 -1.3**
LPAZ **La Paz** 3.92 12 P **Pn 01 17 11.3 +2.3**
comp=Z,102nm,0.4s,baz=198,slow=5.8,SNR=772
LPAZ S **Sn 01 17 54.7 +0.2**
comp=Z,109nm,0.6s,baz=196,slow=20,SNR=4.2
LPAZ **La Paz** 3.92 12 *e*P **Pn 01 17 06.4 -2.6**
LPAZ *e*S **Sn 01 17 51.2 -3.4**
PB14 **IPOC Station P** 4.64 196 Pn **Pn 01 17 16.1 -2.4**
PB14 **IPOC Station P** 4.64 196 *e*P **Pn 01 17 16.8 -1.7**
PB14 *e*S **Sn 01 18 06.3 -5.1**
PB14 IAML 01 18 44.5
comp=Z,517nm,1.5s
PB14 **IPOC Station P** 4.64 196 *e*P **Pn 01 17 16.5 -1.9**
GO02 **Mina Guanaco** 5.02 186 Pn **Pn 01 17 22.3 -1.3**
GO02 **Mina Guanaco** 5.02 186 *e*P **Pn 01 17 22.3 -1.3**
GO02 *e*S **Sn 01 18 18.3 -2.3**
GO02 IAML 01 18 46.3
comp=Z,817nm,1.2s
AC01 **Pan de Azucar** 6.15 194 **Pn 01 17 35.4 -3.2**
AC06 **Mina Casimiro** 7.29 190 Pn **Pn 01 17 50.4 -3.5**
BBSD **Serra de San D** 8.48 71 *e*P **Pn 01 18 07.5 -2.7**
SIV **San Ignacio** 8.60 63 P **Pn 01 18 10.5 -1.3**
comp=Z,113nm,0.7s,baz=251,slow=10.0,SNR=372
SIV S **Sn 01 19 41.5 -5.6**
comp=Z,29nm,1.0s,baz=305,slow=18,SNR=1.6
BBRB **Robore, Bolivi** 8.88 79 *e*P **Pn 01 18 11.7 -4.0**
TICA **Tres Isletas** 10.06 130 *e*P **Pn 01 18 31.5 -0.2**
PTLB **Pontes e Lacer** 10.49 65 *e*P **Pn 01 18 35.2 -2.3**
ETMB **Extrema** 10.62 15 *e*P **Pn 01 18 38.8 -0.4**
COO3 **El Pedregal** 10.76 188 **Pn 01 18 40.8 -0.3**
VILB **Vilhena** 11.06 51 Pn **Pn 01 18 43.9 -1.3**
VILB **Vilhena** 11.06 51 *e*P **Pn 01 18 43.7 -1.5**
NNA **Nana** 11.07 316 P **Pn 01 18 48.3 +2.9**
comp=Z,9.7nm,0.7s,baz=177,slow=14,SNR=4.6
NNA S **Sn 01 20 40.4 -6.8**
comp=Z,9.2nm,0.4s,baz=221,slow=20,SNR=2.5
NNA LR LR 01 22 18.6
comp=Z,80nm,20.6s,baz=176,slow=33
CO02 **Combarbal** 11.16 189 **Pn 01 18 46.4 -0.1**
ZON **Zonda** 11.36 179 **Pn 01 18 49.5 +0.3**
BDQN **Bodoquena, MS** 11.50 94 *e*P **Pn 01 18 48.4 -2.7**
CPUP **Villa Florida** 12.37 122 **Pn 01 19 01.5 -1.0**
CPUP **Villa Florida** 12.37 122 P **Pn 01 19 01.0 -1.5**
comp=Z,34nm,0.7s,baz=303,slow=12,SNR=80
CPUP LR LR 01 24 21.7
comp=Z,99nm,18.4s,baz=300,slow=40
CPUP **Villa Florida** 12.37 122 *e*P **Pn 01 19 01.8 -0.7**
SAML **Samuel** 12.47 28 *e*P **Pn 01 19 02.6 -1.3**
AQDB **Aquidauana** 12.48 94 *e*P **Pn 01 19 03.0 -1.1**
VA03 **San Esteban** 12.64 186 Pn 01 19 01.3 -4.9
CZSB **Cruzeiro do Su** 12.85 343 *e*P **Pn 01 19 07.7 -1.3**

MT08 Bocatoma Ro 13.28 184 Pn Pn 01 19 14.7 +0.1
MT05 Renca 13.28 186 Pn Pn 01 19 12.8 -1.8
MT16 CCHEN 13.30 186 Pn 01 19 13.2 -1.6
RVDE Rio Verde (Bra 13.30 88 eP Pn 01 19 12.1 -2.8
SALV Santo Antonio 13.34 74 eP Pn 01 19 13.2 -2.1
MT13 San Alfonso 13.59 185 Pn 01 19 17.9 -0.7
LMEL Las Melosas 13.69 184 Pn 01 19 18.8 -1.1
MT09 Talagante 13.69 187 Pn 01 19 18.6 -1.3
MT01 Popeta 13.81 188 Pn 01 19 18.6 -2.8
BO04 La Punta 13.86 186 Pn 01 19 21.3 -0.7
BO01 Tunca 14.31 187 Pn 01 19 26.4 -1.3
PDRB Porto dos Gac 14.53 56 eP Pn 01 19 27.7 -3.0
ITQB Itaqui 14.69 133 Pn 01 19 32.0 -0.5
ITQB Itaqui 14.69 133 eP Pn 01 19 32.4 -0.2
PSAL Palomas, Salto 14.96 139 eP Pn 01 19 35.0 -1.0
UNIS Unistalda (Bra 15.46 128 eP Pn 01 19 40.1 -2.2
TRCB Terra Rica 15.46 103 eP Pn 01 19 42.3 -0.1
CRSM Crissiumal (Br 15.51 121 eP Pn 01 19 42.9 -0.1
CLDB Colider 15.70 56 eP Pn 01 19 46.0 +0.5
ML02 Panimavida 15.70 187 P Pn 01 19 43.8 -1.5
ATAH Atahualpa 15.82 324 P P 01 19 49.6 +0.6
comp=Z,3.6nm,0.8s,baz=77,slow=6.5,SNR=2.6
TBTG Tabatinga, AM 15.89 357 Pn Pn 01 19 46.1 -1.6
TBTG Tabatinga, AM 15.89 357 eP Pn 01 19 46.0 -1.7
RODS Rosario do Sul 16.08 132 eP Pn 01 19 50.3 +0.2
PTGB Pitanga 16.30 109 eP Pn 01 19 53.0 +0.1
TBOT Tacuaremb 16.42 137 eP Pn 01 19 54.1 0.0
PCMB Pacaembu 16.64 98 eP Pn 01 19 55.9 -1.1
ALGR Alto Alegre (B 16.89 124 eP Pn 01 19 59.6 -0.4
LDASE Londrina, Braz 16.92 104 eP Pn 01 20 00.1 -0.4
ARAG Araguaiana, MT 16.94 78 eP Pn 01 20 00.3 -0.4
ITAB Concordia 16.98 118 Pn 01 20 00.7 -0.3
ITAB Concordia 16.98 118 eP Pn 01 20 00.9 -0.2
TEFE Tefe 17.07 15 eP Pn 01 20 01.6 -0.8
ITRB Iturama 17.54 92 eP P 01 20 07.7 +0.2
PLTB Pedras Altas 18.02 133 P 01 20 12.0 -0.7
PLTB Pedras Altas 18.02 133 eP P 01 20 12.1 -0.6
FRTB Fartura 18.33 104 eP P 01 20 16.2 -0.1
NPGB Novo Progresso 18.56 47 eP P 01 20 17.5 -1.3
MACA Manacapuru-AM 18.73 27 P P 01 20 20.7 +0.1
MACA Manacapuru-AM 18.73 27 eP P 01 20 20.2 -0.4
CNLB Canela 18.82 123 eP P 01 20 22.0 +0.4
SNDB Serra Nova Dou 18.84 67 eP P 01 20 21.9 0.0
TRQA Tornquist 18.86 163 P P 01 20 22.1 +0.2
BB19B Bebedouro 19.19 96 eP P 01 20 25.6 0.0
GO06 Curarrehue 19.49 186 P P 01 20 28.9 +0.1
LR03 Panguipulli 19.63 188 P P 01 20 30.2 -0.1
IPMB Ipameri, GO 19.77 eP P 01 20 31.1 -0.9
RCLB Rio Claro- Sao 20.13 100 eP P 01 20 34.2 -1.6
LR05 Currie 20.18 187 P P 01 20 36.9 +0.8
SPB Sao Paulo 20.31 104 P P 01 20 37.0 -0.7
SPB Sao Paulo 20.31 104 eP P 01 20 37.0 -0.7
ITTB Itaituba 20.32 41 eP P 01 20 36.1 -1.7
BDFB Brasilia 20.46 81 P P 01 20 39.1 -0.4
comp=Z,62nm,0.5s,baz=259,slow=11,SNR=162
BDFB LR LR 01 29 33.2
comp=Z,254nm,18.7s,baz=262,slow=40
comp=Z,62nm,0.5s
PET01 Itanhaem-SP 20.53 106 eP P 01 20 39.5 -0.5
PLCA Paso Flores 20.56 183 P P 01 20 40.8 +0.5
PLCA Paso Flores 20.56 183 P P 01 20 41.1 +0.7
comp=Z,46nm,0.8s,baz=8.8,slow=12,SNR=63
comp=Z,46nm,0.8s
PLCA Paso Flores 20.56 183 eP P 01 20 41.0 +0.6
VAO Valinhos 20.68 102 P P 01 20 40.7 -1.2
VAO Valinhos 20.68 102 eP P 01 20 40.5 -1.3
LL04 Puerto Octay 20.90 187 P P 01 20 42.9 -1.0
LL03 Petrohue 21.13 187 P P 01 20 47.2 +0.9
PMNB Patos De Minas 21.35 90 eP P 01 20 47.9 -1.1
PARB Paraibuna 21.94 103 eP P 01 20 53.8 -1.5
LL01 San Ignacio de 22.35 187 P P 01 20 58.7 -0.5
LL02 Futaleuf 23.10 185 P P 01 21 06.1 -0.5
GO07 Milladeo Hill, 23.23 189 P P 01 21 07.9 +0.1
PRPB Parauapebas 23.24 56 eP P 01 21 06.4 -1.8
SMTB Santa Maria do 23.54 65 eP P 01 21 10.6 -0.4
BOAV Boa Vista 23.90 21 P P 01 21 14.5 +0.4
BOAV Boa Vista 23.90 21 eP P 01 21 14.2 0.0
DIAM Diamantina, MG 23.98 90 eP P 01 21 13.9 -1.1
JANB Januaria 24.06 82 eP P 01 21 14.2 -1.5
SDBA SAO DESIDERIO 24.36 75 eP P 01 21 17.5 -0.9
DUB01 Friburgo-RJ 24.90 99 eP P 01 21 23.6 +0.3
ROSC El Rosal 25.37 348 P P 01 21 29.2 +1.3
comp=Z,3.6nm,0.4s,baz=120,slow=20,SNR=1.6
comp=Z,3.6nm,0.4s
COYC Coyhaique 25.49 185 P P 01 21 28.6 +0.4
COYC IAmb IAmb 01 21 29.4
comp=Z,45nm,0.8s
MCPB Macapa, AP 25.72 42 eP P 01 21 29.7 -1.0
SJMB Sao Joao De Ma 26.26 92 eP P 01 21 35.4 -0.2
ALF01 Guarapari-ES 26.50 96 eP P 01 21 38.3 +0.7
RIB01 Linhares ES 26.93 93 eP P 01 21 41.0 -0.5
TMAB Tom-Au,PA,Br 27.00 52 eP P 01 21 40.8 -1.4
GUA01 Guaratinga, BA 27.92 88 eP P 01 21 50.7 +0.3
GO08 Villa O'Higgin 28.40 185 P P 01 21 54.8 +0.5
GO08 IAmb IAmb 01 22 25.1
comp=Z,20nm,1.0s
SDV Santo Domingo 28.89 357 LR LR 01 33 45.3
comp=Z,85nm,22.0s,baz=182,slow=36
BAUV El Baul 28.92 2 P P 01 21 58.9 -0.4
BAUV IAmb IAmb 01 22 26.8
comp=Z,36nm,0.9s
MDP Montagnes des 29.80 34 LR LR 01 33 51.4
comp=Z,103nm,19.2s,baz=192,slow=36
PCRV Puerto La Cruz 30.43 9 LR LR 01 35 54.9
comp=Z,139nm,20.6s,slow=39
NBLA Lagarto - SE 31.36 78 eP P 01 22 19.7 -1.2
NBPB Pedra_Branca-C 32.06 67 eP P 01 22 26.2 -0.8
EFI East Falkland 32.61 167 P P 01 22 32.0 +0.6
NBAN Anadia - AL 33.23 77 eP P 01 22 36.5 -0.8
NBCL Cascavel-CE 33.83 66 eP P 01 22 43.2 +0.8
JTS Las Juntas de 34.08 331 LR LR 01 38 21.5
comp=Z,38nm,19.9s,baz=163,slow=39
RCBR Riachuelo 35.15 71 P P 01 22 53.9 0.0
RCBR Riachuelo 35.15 71 LR LR 01 38 15.8
comp=Z,96nm,18.0s,baz=333,slow=38
RCBR Riachuelo 35.15 71 eP P 01 22 54.6 +0.7
RCBR Riachuelo 35.15 71 P P 01 22 54.9 +0.9
FDF Fort de France 35.51 13 P P 01 22 55.7 -1.1
MLPR Magueyes Islan 37.93 3 P P 01 23 16.4 -0.9
SJG San Juan 38.12 4 P P 01 23 17.3 -1.6
SJG pP pP 01 23 42.2 -2.4
SJG sP sP 01 23 55.2 -2.1
TEIG Tepich 44.34 334 P P 01 24 10.7 +0.9
TEIG pP pP 01 24 36.1 +0.5
TEIG sP sP 01 24 48.4 +0.4
ZAIG Zacatecas 53.78 321 IAmb IAmb 01 26 03.3
comp=Z,8.2nm,0.9s
BIRD Birdtown, Kers 55.57 349 P P 01 25 35.4 +0.9
V48A Smith Brothers 58.09 343 IAmb IAmb 01 26 31.9
comp=Z,12nm,0.8s
CLTN Cedars of Leba 58.29 344 IAmb IAmb 01 26 21.5
comp=Z,13nm,1.0s
WVT Waverly 58.74 342 P P 01 25 56.2 -0.6
WVT pP pP 01 26 23.1 -0.8
WVT sP sP 01 26 34.8 -1.2
MIAR Mount Ida 59.20 336 P P 01 26 00.5 +0.5
MIAR IAmb IAmb 01 26 40.0
comp=Z,8.7nm,0.9s
TXAR Lajitas Array 59.48 325 P P 01 26 02.5 +0.3
comp=Z,0.9nm,0.9s,baz=146,slow=8.8,SNR=7.9
TXAR pP pP 01 26 29.5 +0.3
comp=Z,1.2nm,0.8s,baz=148,slow=8.1,SNR=7.5
comp=Z,0.9nm,0.9s
TX31 Lajitas Ar. Si 59.48 325 IAmb IAmb 01 26 43.2
comp=Z,7.7nm,1.4s
FCAR Ozark Folk Cen 59.88 338 IAmb IAmb 01 26 05.4
comp=Z,4.5nm,0.7s
X37A Clayton 59.93 335 P P 01 26 06.4 +1.3
PBMO Poplar Bluff 60.12 340 IAmb IAmb 01 26 07.2
comp=Z,11nm,0.8s
CGM3 Cape Girardeau 60.36 341 IAmb IAmb 01 26 47.1
comp=Z,18nm,1.3s
P52A Corning 60.72 348 IAmb IAmb 01 26 40.0
comp=Z,19nm,1.1s
HHAR Hobbs 60.88 337 IAmb IAmb 01 26 12.7
comp=Z,11nm,1.2s
O54A Avella 60.95 350 IAmb IAmb 01 26 13.8
comp=Z,12nm,0.8s
SSPA Standing Stone 61.03 352 P P 01 26 13.1 +0.7
MGMO Mountain Grove 61.07 339 IAmb IAmb 01 26 13.9
comp=Z,7.2nm,1.0s
O53A New Philadelph 61.15 349 IAmb IAmb 01 26 14.4
comp=Z,10.0nm,0.6s

RLO Rose Lookout 61.18 336 P P 01 26 14.4 +0.9
RLO IAmb IAmb 01 26 41.9
comp=Z,14nm,1.0s
FVM French Village 61.23 341 IAmb IAmb 01 26 53.7
comp=Z,16nm,0.8s
TUL3 Leonard 61.25 335 IAmb IAmb 01 26 15.9
comp=Z,10nm,1.0s
VHRN Van Horn 61.32 325 P P 01 26 15.6 +0.9
VHRN IAmb IAmb 01 26 55.1
comp=Z,23nm,1.6s
VNA3 Neumayer Olymp 61.38 162 ⇑P P 01 26 15.4 +0.9
comp=Z,7.5nm,0.7s
ACSO Alum Creek Sta 61.46 348 IAmb IAmb 01 26 16.2
comp=Z,13nm,0.8s
CCM Cathedral Cave 61.55 340 P P 01 26 15.8 -0.1
CCM pP pP 01 26 43.0 -0.2
VNA1 Neumayer--Stat 61.58 161 ⇑P P 01 26 17.1 +1.3
comp=Z,4.5nm,0.6s
MBO M'Bour 61.61 60 P P 01 26 17.1 +0.3
MBO M'Bour 61.61 60 P P 01 26 16.9 +0.2
N53A Lisbon 61.63 350 IAmb IAmb 01 26 17.7
comp=Z,11nm,0.6s
O49A Covington 61.70 347 IAmb IAmb 01 26 58.9
comp=Z,15nm,1.1s
O48B Farmland 61.95 346 IAmb IAmb 01 26 19.4
comp=Z,15nm,0.9s
VNA2 Neumayer--Stat 61.95 161 ⇑P P 01 26 19.3 +1.0
comp=Z,10.0nm,0.8s,baz=278,slow=7.8
R40A Maddies Statio 62.10 339 IAmb IAmb 01 26 20.6
comp=Z,8.7nm,1.0s
OK051 E0350 and S346 62.18 335 IAmb IAmb 01 27 00.6
comp=Z,25nm,1.2s
HRV Adam Dziewonsk 62.38 358 P P 01 26 21.8 +0.4
HRV pP pP 01 26 49.4 +0.3
HRV PcP PcP 01 26 59.6 -0.3
T35A Sooner Cattle 62.41 335 IAmb IAmb 01 26 52.9
comp=Z,11nm,1.1s
MSTX Muleshoe 62.70 329 IAmb IAmb 01 27 03.6
comp=Z,7.3nm,0.8s
P40A Paris 63.15 340 IAmb IAmb 01 26 27.2
comp=Z,9.1nm,0.6s
SNAA Sanae 63.58 161 P P 01 26 29.8 +0.7
SNAA IAmb IAmb 01 26 31.1
comp=Z,8.7nm,0.8s
SNAA Sanae 63.58 161 ⇑P P 01 26 30.0 +0.9
comp=Z,191nm,0.7s
SNAA Sanae 63.58 161 P P 01 26 29.7 +0.5
comp=Z,7.1nm,0.7s,baz=276,slow=7.2,SNR=25
SNAA pP pP 01 26 57.2 +0.3
comp=Z,6.8nm,1.0s,baz=273,slow=3.5,SNR=4.7
comp=Z,7.1nm,0.7s
P38A Dawn 63.73 339 IAmb IAmb 01 26 31.4
comp=Z,11nm,0.7s
319A Douglas 64.17 322 IAmb IAmb 01 27 03.0
comp=Z,9.9nm,0.9s
L40A Anamosa 65.22 342 IAmb IAmb 01 27 19.9
comp=Z,13nm,1.0s
TROLL Troll, Antarti 65.30 161 ⇑P P 01 26 41.3 +0.9
comp=Z,83nm,0.6s
ANMO Albuquerque 65.33 327 P P 01 26 42.2 +1.0
ANMO Albuquerque 65.33 327 P P 01 26 42.7 +1.6
ANMO pP pP 01 27 09.7 +1.1
TUC Tucson 65.72 322 P P 01 26 44.8 +1.2
JFWS Jewell Farm 65.73 343 IAmb IAmb 01 27 14.7
comp=Z,11nm,0.9s
I42A Draeger Farm, 66.29 344 IAmb IAmb 01 27 17.0
comp=Z,9.4nm,0.8s
H43A Windswept, Lux 66.55 345 IAmb IAmb 01 27 18.4
comp=Z,30nm,1.4s
214A Iron Pipe Nat 66.67 320 IAmb IAmb 01 27 31.5
comp=Z,31nm,1.5s
L34A Svendsen Farm, 66.79 338 IAmb IAmb 01 26 51.7
comp=Z,17nm,0.8s
X16A Lo Mia Camp, P 67.63 323 IAmb IAmb 01 27 37.9
comp=Z,16nm,1.7s
I37A Lemond, Waseca 67.65 341 IAmb IAmb 01 26 56.6
comp=Z,12nm,0.7s
LIC Lamto 68.10 74⇊eP P 01 26 58.2 -0.8
comp=Z,68nm,0.9s
E43A Lone Tree Farm 68.18 347 IAmb IAmb 01 26 59.2
comp=Z,5.1nm,0.6s
TIC Toumodi 68.28 74⇊eP P 01 26 59.9 -0.2
comp=Z,58nm,0.9s
KIC Kosan Boka 68.41 74⇊eP P 01 27 00.4 -0.5
comp=Z,85nm,0.8s
ECSD EROS Data Cent 68.43 339 IAmb IAmb 01 27 38.4
comp=Z,28nm,2.0s
DBIC Dimbokro 68.44 74 P P 01 27 00.7 -0.4
comp=Z,54nm,0.8s,baz=229,slow=5.7,SNR=38
DBIC pP pP 01 27 29.1 -0.1
comp=Z,16nm,0.8s,baz=230,slow=6.1,SNR=3.5
DBIC LR LR 01 55 25.8
comp=Z,21nm,21.6s,baz=246,slow=34
comp=Z,54nm,0.8s
DBIC Dimbokro 68.44 74 P P 01 27 00.6 -0.4
DBIC pP pP 01 27 28.7 -0.6
DBIC sP sP 01 27 41.1 -0.2
D41A Chassel 69.18 346 IAmb IAmb 01 27 06.0
comp=Z,12nm,0.9s
W13A Hualapai Mount 69.52 322 IAmb IAmb 01 27 50.1
comp=Z,24nm,1.9s
U15A North Rim 69.56 324 IAmb IAmb 01 27 50.2
comp=Z,33nm,1.9s
QSPA South Pole Qui 70.04 180 P P 01 27 11.9 +1.6
QSPA IAmb IAmb 01 27 13.1
comp=Z,18nm,1.1s
QSPA South Pole Qui 70.04 180 P P 01 27 11.8 +1.6
comp=Z,11nm,1.0s,baz=133,slow=1.5,SNR=20
QSPA pP pP 01 27 39.5 +1.4
comp=Z,4.5nm,0.9s,baz=148,slow=2.3,SNR=2.9
comp=Z,11nm,1.0s
QSPA South Pole Qui 70.04 180 P P 01 27 11.7 +1.4
QSPA PcP PcP 01 27 31.3 -0.5
QSPA pP pP 01 27 40.0 +2.0
QSPA sP sP 01 27 51.3 +1.3
LCMT Little Creek M 70.52 324 IAmb IAmb 01 27 55.8
comp=Z,20nm,1.7s
MTPU Mount Pierson 70.68 325 IAmb IAmb 01 27 56.6
comp=Z,32nm,2.0s
MVU Marysvale 71.03 325 IAmb IAmb 01 27 58.4
comp=Z,25nm,0.8s
RSSD Black Hills 71.55 334 P P 01 27 19.7 -0.1
RSSD Black Hills 71.55 334 P P 01 27 21.4 +1.6
RSSD pP pP 01 27 50.6 +3.0
WCT Wildcat Mounta 72.29 322 IAmb IAmb 01 28 06.9
comp=Z,16nm,1.3s
PDAR Pinedale Array 72.90 330 P P 01 27 29.6 +1.8
comp=Z,0.6nm,0.7s,baz=111,slow=8.1,SNR=4.4
PDAR pP pP 01 27 56.8 +0.8
comp=Z,0.6nm,0.6s,baz=146,slow=8.1,SNR=3.0
PDAR sP sP 01 28 09.2 +1.3
comp=Z,1.2nm,0.7s,baz=147,slow=6.3,SNR=4.0
comp=Z,0.6nm,0.7s
NVAR Mina Array Bea 74.38 322 P P 01 27 38.0 +1.4
comp=Z,1.6nm,0.9s,baz=151,slow=6.9,SNR=11
NVAR pP pP 01 28 05.6 +1.0
comp=Z,1.8nm,0.9s,baz=148,slow=7.2,SNR=4.9
NVAR sP sP 01 28 17.4 +1.0
comp=Z,2.5nm,0.7s,baz=152,slow=5.7,SNR=7.7
comp=Z,1.6nm,0.9s
SCHQ Schefferville 74.69 1 P P 01 27 37.3 -0.5
comp=Z,7.6nm,0.7s,baz=187,slow=5.1,SNR=14
comp=Z,7.6nm,0.7s
PAHR Pah Rah Range 75.86 322 IAmb IAmb 01 28 27.4
comp=Z,13nm,0.8s
MFID Camas Ranch 76.47 327 IAmb IAmb 01 28 30.8
comp=Z,13nm,1.3s
TOA0 Torodi Ar. Sit 76.98 71 P P 01 27 51.0 -0.7
TORD Torodi Ar. Bea 76.98 71 P P 01 27 50.9 -0.8
comp=Z,13nm,0.4s,baz=259,slow=5.1,SNR=46
TORD pP pP 01 28 20.0 -0.4
comp=Z,24nm,0.9s,baz=278,slow=4.4,SNR=9.4
comp=Z,13nm,0.4s
ORV Oroville 77.00 321 IAmb IAmb 01 28 33.6
comp=Z,15nm,1.1s
EGMT Eagleton 77.05 333 IAmb IAmb 01 27 53.6
comp=Z,14nm,1.4s
VNDA Vanda 78.16 190 P P 01 27 58.6 +1.5
comp=Z,1.8nm,0.8s,baz=132,slow=7.0,SNR=9.8
VNDA pP pP 01 28 27.4 +1.7
comp=Z,1.5nm,0.8s,baz=62,slow=2.3,SNR=3.0
comp=Z,1.8nm,0.8s
TSUM Tsumeb 80.51 107 P P 01 28 12.2 +1.0
TSUM IAmb IAmb 01 28 13.0
comp=Z,12nm,0.9s
EDM Edmonton 82.50 335 IAmb IAmb 01 29 01.1
comp=Z,13nm,0.9s

BOSA Boshof 84.16 118 P P 01 28 30.1 +0.1
comp=Z,6.7nm,0.9s,baz=265,slow=4.9,SNR=6.9
comp=Z,6.7nm,0.9s
ESDC Sonseca Array 84.93 45 P P 01 28 34.1 +0.7
ESDC Sonseca Array 84.93 45 P P 01 28 33.4 -0.1
comp=Z,3.4nm,1.0s,baz=249,slow=5.6,SNR=16
ESDC pP pP 01 29 02.7 +0.1
comp=Z,2.1nm,0.9s,baz=238,slow=5.2,SNR=3.5
comp=Z,3.4nm,1.0s
MAW Mawson 85.65 163 P P 01 28 37.2 +0.8
comp=Z,2.2nm,0.6s,baz=222,slow=6.6,SNR=9.5
comp=Z,2.2nm,0.6s
YKA Yellowknife Ar 89.89 341 P P 01 28 57.4 +0.8
YKA Yellowknife Ar 89.89 341 P P 01 28 57.5 +1.0
comp=Z,5.6nm,0.9s,baz=131,slow=4.3,SNR=42
YKA pP pP 01 29 26.0 +0.3
comp=Z,7.5nm,0.9s,baz=132,slow=4.1,SNR=7.2
comp=Z,5.6nm,0.9s
EKA Eskdalemuir Ar 93.51 31 P P 01 29 12.5 -1.1
comp=Z,1.5nm,0.9s,baz=246,slow=7.2,SNR=4.6
comp=Z,1.5nm,0.9s
AKASG Malin Array Be 110.47 42 PP PP 01 35 07.7 +0.6
comp=Z,0.2nm,0.3s,baz=251,slow=8.9,SNR=5.9
BRTR Keskin Array B 112.12 54 PP PP 01 35 14.9 -4.6
comp=Z,0.8nm,0.8s,baz=243,slow=7.9,SNR=4.9
SEY Seymchan 128.82 337 PKP PKPdf 01 35 04.2 -0.3
comp=Z,0.6nm,0.4s,baz=82,slow=7.1,SNR=2.1
ASAR Alice Springs 131.06 208 PKP PKPdf 01 35 09.8 -0.3
comp=Z,1.0nm,0.6s,baz=153,slow=2.3,SNR=8.4
ASAR pPKP pPKPdf 01 35 40.7 0.0
comp=Z,0.9nm,0.8s,baz=152,slow=3.1,SNR=3.0
WRA Warramunga Arr 134.07 211 PKP PKPdf 01 35 16.0 +0.2
comp=Z,1.3nm,0.6s,baz=158,slow=1.7,SNR=15
WRA pPKP pPKPdf 01 35 46.3 -0.2
comp=Z,0.7nm,0.6s,baz=164,slow=1.7,SNR=2.2
BVAR Borovoye Array 134.72 34 PKP PKPdf 01 35 16.4 +0.4
comp=Z,1.2nm,0.8s,baz=266,slow=2.2,SNR=5.6
BVAR pPKP pPKPdf 01 35 47.2 +0.4
comp=Z,1.5nm,0.7s,baz=305,slow=3.1,SNR=5.1
KURBB Kurchatov Arra 140.25 32 PKhKP PKPpre 01 35 17.7
comp=Z,0.2nm,0.3s,baz=272,slow=27,SNR=1.5
KURBB PKP PKPdf 01 35 27.3 +1.1
comp=Z,0.8nm,0.7s,baz=302,slow=2.8,SNR=7.9
KURBB pPKP pPKPdf 01 35 57.4 +0.4
comp=Z,1.6nm,0.8s,baz=301,slow=2.7,SNR=4.1
ZALV Zalesovo Beam 140.76 24 PKhKP PKPpre 01 35 20.4
comp=Z,1.2nm,0.5s,baz=348,slow=2.1,SNR=6.5
ZALV pPKP pPKPdf 01 35 58.2 +0.4
comp=Z,3.6nm,0.8s,baz=277,slow=2.5,SNR=4.3
KSH Kashi 144.31 50 PKP PKPbc 01 35 33.5 +0.9
KSH pPKP pPKPdf 01 36 04.5 -0.2
MKAR Makanchi Array 144.58 35 PKP PKPab 01 35 33.5 +0.7
comp=Z,3.7nm,0.7s,baz=305,slow=3.3,SNR=35
MKAR pPKP pPKPdf 01 36 04.2 -0.7
comp=Z,2.2nm,0.8s,baz=325,slow=1.9,SNR=3.8
WMQ Urumqi 149.41 34 ePKPbc PKPdf 01 35 43.5 +1.2
WMQ LR LR
comp=Z,280nm,21.3s
USRK Ussuriysk Ar. 150.32 329 PKPbc PKiKP 01 35 50.3 +0.7
comp=Z,3.9nm,0.8s,baz=42,slow=2.3,SNR=7.8
USRK pPKPbc pPKPbc 01 36 18.9 -0.2
comp=Z,9.0nm,0.9s,baz=9.4,slow=4.6,SNR=3.3
MJAR Matsushiro Arr 151.15 310 PKPbc PKPbc 01 35 51.7 +0.5
comp=Z,2.2nm,0.6s,baz=74,slow=4.3,SNR=5.9
MJAR pPKPbc pPKPbc 01 36 20.8 -0.7
comp=Z,1.9nm,0.3s,baz=77,slow=1.5,SNR=2.6
SONM Songino Array 152.13 7 PKP PKPdf 01 35 47.3 +0.9
comp=Z,0.8nm,0.6s,baz=164,slow=3.8,SNR=4.4
SONM PKPbc PKiKP 01 35 54.3 +0.8
comp=Z,2.3nm,0.8s,baz=342,slow=2.5,SNR=9.6
SONM pPKPbc pPKPbc 01 36 23.7 -0.1
comp=Z,5.3nm,0.8s,baz=322,slow=1.4,SNR=7.4
KSRS Korea Array 157.32 323 PKP PKPdf 01 35 52.7 -1.1
comp=Z,0.4nm,0.2s,baz=353,slow=1.7,SNR=2.0
HHC Hu-ho-hao-te 159.36 359 eP PKPdf 01 35 55.5 -0.8
NJ2 Nanjing 166.21 331 eP PKPdf 01 36 04.3 +1.3
NJ2 pmax pmax
comp=Z,17nm,0.5s
PZH PanZhiHua 169.40 52 PKP PKPdf 01 36 05.0 -0.6

MOS ***29*** *01:18:04.0±1.1,43°.70N×147°.49E,h57km,mb4.0/4, Error ellipse: s-maj=10.7km s-min=8.1km az=69.9*
JMA ***29*** *01:18:06.5±0.3,43°.7N±0°.9×14°7E±°,h28km,MV4.1/32,E OFF HOKKAIDO*
NIED ***29*** *01:18:06.5,43°.65N×147°.28E,h28km,MW3.8,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}0.23; $M_{\theta\theta}$-0.94; $M_{\phi\phi}$0.71; $M_{r\theta}$3.24; $M_{\theta\phi}$-0.34; $M_{\phi r}$-3.49; Fault plane solution: $M_0$4.83000×10^{14} NP1: ϕ_s136.00000°,δ90.00000°,λ100.00000°. NP2: ϕ_s226.00000°,δ10.00000°,λ0.00000°.*
SKHL ***29*** *01:18:07.7±0.6,43°.90N×147°.30E,h72km±6km,mb5.0/3*
IDC ***29*** *01:18:07.6±2.6,43°.82N×147°.19E,h67km±23km,mb3.4/12, mbtmp3.8/16,MS2.5/3,Error ellipse: s-maj=26.9km s-min=18.5km az=148.0*
NEIC ***29*** *01:18:07.5±1.4,43°.9N±0°.1×147°.2E±0°.2,h56km±9km, mb4.3/34,Error ellipse: s-maj=19.4km s-min=12.2km az=132.0*

ISC 29 01:18:05.6±1.0, 43°.72N±0°.06×147°.42E±0°.06, h47km±8km, n109,σ1§12/119, mb4.2/33, 3C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SHO	Shikotan	0.45	290	*i* P		Pn	01 18 16.4	+0.3
SHO					AMB	AMB	01 18 17.2	
	1μm,0.2s							
SHO				*e*S		Sn	01 18 23.5	-0.1
SHO				A		A	01 18 24.0	
	6μm,0.4s							
SHO				A		A	01 18 24.0	
	7μm,0.4s							
SHO	Shikotan	0.45	290	⇑*i* PN		Pn	01 18 16.2	+0.1
SHO				*e*S		Sn	01 18 23.0	-0.6
SHO				pmax	pmax			
	comp=E,531nm,0.2s							
SHO				pmax	pmax			
	comp=Z,1μm,0.2s							
SHO				smax	smax			
	comp=N,6μm,0.1s							
SHO				smax	smax			
	comp=E,7μm,0.2s							
YUK	Yuzh-Kuril'sk	1.17	286	*e*P		Pn	01 18 25.8	+0.3
YUK					AMB	AMB	01 18 26.2	
	comp=E,320nm,0.2s							
YUK				*e*S		Sn	01 18 39.3	-1.0
YUK				A		A	01 18 40.5	
	comp=E,4μm,0.4s							
YUK				A		A	01 18 40.5	
	comp=E,4μm,0.4s							
YUK	Yuzh-Kuril'sk	1.17	286	*e*PN		Pn	01 18 25.6	+0.1
YUK				*e*S		Sn	01 18 39.0	-1.3
YUK				smax	smax			
	comp=N,4μm,0.3s							
YUK				smax	smax			
	comp=E,4μm,0.5s							
NEM2	Nemuro 2	1.27	254	P		Pn	01 18 27.1	+0.3
NEM2				*e*S		Sn	01 18 42.0	-0.8
NMR	Nemuro--Hokkai	1.28	255	*i* P		Pn	01 18 27.2	+0.2
NMR				*e*S		Sn	01 18 41.4	-1.6
NMR	Nemuro--Hokkai	1.28	255	⇑*i* PN		Pn	01 18 27.1	+0.1
NMR				*e*S		Sn	01 18 41.9	-1.1
KUR	Kuril'sk	1.55	12	*i* P		Pn	01 18 31.4	+0.7
KUR				AMB		AMB	01 18 34.1	
	comp=E,130nm,0.2s							
KUR				*i* S		Sn	01 18 48.7	-0.9
KUR				A		A	01 18 50.8	
	comp=E,2μm,0.3s							
KUR				A		A	01 18 50.8	
	comp=E,1μm,0.3s							
KUR	Kuril'sk	1.55	12	*c* iPN		Pn	01 18 31.6	+0.9
KUR				*i* S		Sn	01 18 49.1	-0.5
KUR				pmax	pmax			
	comp=N,52nm,0.2s							
KUR				pmax	pmax			
	comp=E,45nm,0.2s							
KUR				pmax	pmax			
	comp=Z,126nm,0.2s							
KUR				smax	smax			
	comp=N,2μm,0.2s							
KUR				smax	smax			
	comp=E,1μm,0.3s							
RUSJ	Misakicho	1.61	285	*e*PN		Pn	01 18 32.8	+1.2
RUSJ				*e*S		Sn	01 18 52.0	+0.8
JRA	Rausu	1.68	278	*e*P		Pn	01 18 33.5	+1.0

JRA				*e*S		**Sn**	01 18 53.2	+0.5
JNSB	**Nemuroshibetsu**	**1.75**	**273**	P		**Pn**	01 18 34.6	+1.2
JNSB				*e*S		**Sn**	01 18 55.1	+0.5
JKHN	**Kushirohamanak**	**1.76**	**250**	P		**Pn**	01 18 34.5	+0.9
JKHN				*e*S		**Sn**	01 18 54.8	-0.1
JNK	**Nakash**	**1.96**	**267**	*e*P		**Pn**	01 18 37.2	+0.8
JNK				*e*S		**Sn**	01 18 59.5	-0.3
AKK	**Akkeshi**	**2.00**	**250**	*e*P		**Pn**	01 18 37.5	+0.5
JAK	**Akkeshi**	**2.11**	**251**	*e*P		**Pn**	01 18 39.1	+0.7
JAK				*e*S		**Sn**	01 19 02.8	-0.6
JTKR	**Abashiri--Toko**	**2.55**	**277**	*e*P		**Pn**	01 18 46.0	+1.5
JAR	**Ashorobuto**	**2.69**	**262**	*e*P		**Pn**	01 18 48.1	+1.8
JOB	**Onbets**	**2.74**	**254**	*e*P		**Pn**	01 18 48.3	+1.3
JOB				*e*S		**Sn**	01 19 18.9	0.0
JMP	**Maruseppu**	**2.95**	**277**	*e*P		**Pn**	01 18 51.7	+1.8
JCH	**Churui**	**3.17**	**251**	*e*P		**Pn**	01 18 53.8	+0.9
JKK2	**Kamakawa 2**	**3.38**	**274**	*e*P		**Pn**	01 18 58.6	+2.7
JKA	**Kamikawa-asahi**	**3.50**	**278**	Pn		**Pn**	01 18 57.1	-0.4
JKA	**Kamikawa-asahi**	**3.50**	**278**	*e*P		**Pn**	01 18 58.8	+1.3
ASAJ	**Asahikawa**	**3.51**	**278**	P		**Pn**	01 18 58.8	+1.3
	comp=E,9.3nm,0.5s,baz=95,slow=15,SNR=12							
ASAJ				S		**Sn**	01 19 42.8	+5.1
	comp=E,22nm,0.5s,baz=210,slow=20,SNR=2.9							
JFR	**Furan**	**3.56**	**263**	*e*P		**Pn**	01 19 00.8	+2.6
ERM	**Erimo**	**3.56**	**243**	Pn		**Pn**	01 19 01.0	+2.7
ERM	**Erimo**	**3.56**	**243**	*i* PN		**Pn**	01 19 01.0	+2.7
JNBK	**Urakawa-nobuka**	**3.71**	**249**	*e*P		**Pn**	01 19 01.8	+1.4
YSS	**Yuzh-Sakhalins**	**4.61**	**316**	*e*P		**Pn**	01 19 12.8	+0.1
YSS	**Yuzh-Sakhalins**	**4.61**	**316**	*i* PN		**Pn**	01 19 12.7	+0.1
YSS				pmax		pmax		
	comp=Z,7.0nm,0.3s							
JTM	**Tenmabayashi**	**5.55**	**240**	Pn		**Pn**	01 19 26.4	+0.8
JMM	**Marumori**	**7.71**	**223**	Pn		**Pn**	01 19 54.9	-0.3
JSD	**Sado**	**8.96**	**234**	Pn		**Pn**	01 20 12.5	+0.2
SKR	**Severo-Kuril's**	**9.14**	**37**	*e*P		**Pn**	01 20 16.7	+2.0
SKR	**Severo-Kuril's**	**9.14**	**37**	*i* PN		**Pn**	01 20 15.1	+0.4
MJAR	**Matsushiro Arr**	**10.05**	**228**	P		**Pn**	01 20 27.5	+0.2
	comp=Z,1.3nm,0.3s,baz=41,slow=16,SNR=1.7							
MJAR				LR		LR	01 24 47.1	
	comp=Z,17nm,20.5s,baz=54,slow=40							
MAJO	**Matsushiro**	**10.05**	**228**	*i* PN		**Pn**	01 20 26.6	-0.7
JGF	**Kuroka**	**11.21**	**227**	Pn		**Pn**	01 20 44.9	+1.7
PEA0B	**Petropavlovsk-**	**11.60**	**32**	Pn		**Pn**	01 20 48.3	-0.1
PEA0B	**Petropavlovsk-**	**11.60**	**32**	PN		**Pn**	01 20 48.3	-0.1
PETK	**Petropavlovsk-**	**11.60**	**32**	P		**Pn**	01 20 48.5	0.0
	comp=Z,4.5nm,0.6s,baz=203,slow=11,SNR=16							
MA2	**Magadan**	**16.01**	**6**	LR		LR	01 28 56.4	
	comp=Z,22nm,18.4s,baz=284,slow=41							
KSRS	**Korea Array**	**16.06**	**254**	P		**Pn**	01 21 48.2	+0.2
	comp=Z,0.6nm,0.4s,baz=56,slow=12,SNR=4.1							
KSRS				LR		LR	01 27 15.0	
	comp=Z,19nm,21.8s,baz=220,slow=34							
YAK	**Yakutsk**	**21.10**	**336**	*e*P		**P**	01 22 45.8	0.0
YAK	**Yakutsk**	**21.10**	**336**	*i* P		**P**	01 22 45.8	0.0
YAK				pmax		pmax		
	comp=Z,15nm,0.5s							
H11N2	**WAKE ISLAND Hy**	**28.95**	**140**	T		T	01 54 41.4	
	baz=330,slow=76,SNR=381							
H11N1	**WAKE ISLAND Hy**	**28.96**	**140**	T		T	01 54 42.4	
	baz=330,slow=76,SNR=269							
H11N3	**WAKE ISLAND Hy**	**28.97**	**140**	T		T	01 54 42.8	
	baz=330,slow=76,SNR=288							
H11S1	**WAKE ISLAND Hy**	**29.92**	**141**	T		T	01 55 55.0	
	baz=331,slow=76,SNR=808							
H11S3	**WAKE ISLAND Hy**	**29.93**	**141**	T		T	01 55 58.6	
	baz=331,slow=76,SNR=562							
H11S2	**WAKE ISLAND Hy**	**29.94**	**141**	T		T	01 55 52.3	
	baz=331,slow=76,SNR=531							
M14K	**Bethel**	**34.33**	**42**	P		**P**	01 24 48.2	+1.0
N15K	**Kwethluk River**	**35.20**	**43**	P		**P**	01 24 55.2	+0.4
L16K	**Owhat River**	**35.62**	**41**	P		**P**	01 24 59.2	+0.8
M16K	**Timber Creek**	**35.81**	**42**	P		**P**	01 25 01.3	+1.2
E18K	**Tukpahlearik C**	**36.12**	**31**	P		**P**	01 25 03.1	+0.4
C18K	**Utukok River**	**36.24**	**29**	P		**P**	01 25 03.1	-0.6
H18K	**Honhosa River**	**36.55**	**35**	P		**P**	01 25 07.1	+0.8
G18K	**Tagagawik**	**36.56**	**34**	P		**P**	01 25 07.0	+0.6
G18K				IAmb		IAmb	01 25 24.4	
	comp=Z,5.1nm,1.4s							
M17K	**Holitna River**	**36.57**	**42**	P		**P**	01 25 07.9	+1.4
D19K	**Kuna River**	**37.29**	**30**	P		**P**	01 25 12.2	-0.4
D19K				IAmb		IAmb	01 25 13.4	
	comp=Z,5.8nm,1.1s							
H19K	**Roundabout Mou**	**37.40**	**35**	P		**P**	01 25 14.2	+0.7
H19K				IAmb		IAmb	01 25 16.1	
	comp=Z,3.9nm,0.9s							
E19K	**Redstone River**	**37.40**	**31**	P		**P**	01 25 14.5	+0.9
E19K				IAmb		IAmb	01 25 15.2	
	comp=Z,2.9nm,0.8s							
CAST	**Castle Rocks**	**39.13**	**38**	P		**P**	01 25 29.3	+1.1
CAST				IAmb		IAmb	01 25 30.4	
	comp=Z,5.1nm,0.7s							
E22K	**Anaktuvuk Pass**	**39.54**	**31**	P		**P**	01 25 31.4	-0.1
E22K				IAmb		IAmb	01 25 32.5	
	comp=Z,3.2nm,0.8s							
NEA2	**Nenana**	**40.46**	**37**	P		**P**	01 25 40.1	+0.9
NEA2				IAmb		IAmb	01 25 40.9	
	comp=Z,4.3nm,0.6s							
E24K	**Your Creek**	**40.78**	**31**	P		**P**	01 25 42.5	+0.7
MDM	**Murphy Dome**	**40.82**	**36**	P		**P**	01 25 42.5	+0.4
HDA	**Harding Lake**	**41.39**	**37**	P		**P**	01 25 46.8	0.0
HDA				IAmb		IAmb	01 25 47.7	
	comp=Z,4.3nm,0.5s							
ILAR	**Eielson Array**	**41.40**	**36**	P		**P**	01 25 47.2	+0.4
	comp=Z,0.9nm,0.7s,baz=268,slow=8.6,SNR=14							
	comp=Z,0.9nm,0.7s							
D25K	**Kavik River**	**41.61**	**29**	P		**P**	01 25 48.2	-0.3
D25K				IAmb		IAmb	01 25 49.1	
	comp=Z,2.8nm,0.7s							
SCRK	**Sand Creek**	**42.71**	**37**	P		**P**	01 25 57.9	+0.2
SCRK				IAmb		IAmb	01 25 58.6	
	comp=Z,2.8nm,0.7s							
K27K	**Chicken**	**43.54**	**37**	P		**P**	01 26 05.1	+0.9
K27K				IAmb		IAmb	01 26 06.2	
	comp=Z,4.0nm,0.7s							
L27K	**Beaver Creek,**	**43.78**	**38**	P		**P**	01 26 08.0	+1.8
L27K				IAmb		IAmb	01 26 08.7	
	comp=Z,4.3nm,0.8s							
I28M	**Miner Creek**	**44.27**	**35**	P		**P**	01 26 11.4	+1.2
I28M				IAmb		IAmb	01 26 12.5	
	comp=Z,5.0nm,0.8s							
DAWY	**Dawson**	**44.70**	**37**	P		**P**	01 26 14.4	+0.8
E29M	**Blow River**	**44.71**	**31**	P		**P**	01 26 14.7	+1.1
KURK	**Kurchatov**	**45.71**	**304**	*e*P		**P**	01 26 22.7	+1.1
KURK	**Kurchatov**	**45.71**	**304**	*i* P		**P**	01 26 22.7	+1.1
KURK				pmax		pmax		
	comp=Z,1.0nm,1.0s							
I30M	**Mount Dempster**	**45.78**	**35**	P		**P**	01 26 23.2	+1.0
I30M				IAmb		IAmb	01 26 24.1	
	comp=Z,3.5nm,0.7s							
KURBB	**Kurchatov Arra**	**45.79**	**304**	P		**P**	01 26 20.5	-1.9
	comp=Z,0.3nm,0.4s,baz=74,slow=8.6,SNR=1.8							
	comp=Z,0.3nm,0.4s							
C36M	**Paulatuk**	**49.41**	**28**	P		**P**	01 26 50.3	+0.1
ARU	**Arti**	**54.50**	**317**	*e*P		**P**	01 27 27.1	-1.1
ARU	**Arti**	**54.50**	**317**	*i* P		**P**	01 27 27.1	-1.1
ARU				pmax		pmax		
	comp=Z,1.0nm,1.0s							
RES	**Resolute Bay**	**54.94**	**17**	P		**P**	01 27 31.2	+0.1
RES				IAmb		IAmb	01 27 33.6	
	comp=Z,7.4nm,1.5s							
RES	**Resolute Bay**	**54.94**	**17**	P		**P**	01 27 31.2	+0.1
RES				pmax		pmax		
	comp=Z,7.0nm,1.5s							
YKA	**Yellowknife Ar**	**55.72**	**34**	P		**P**	01 27 36.8	-0.1
	comp=Z,0.6nm,0.7s,baz=301,slow=6.2,SNR=4.7							
	comp=Z,0.6nm,0.7s							
YKA	**Yellowknife Ar**	**55.72**	**34**	*e*P		**P**	01 27 37.3	+0.5
YKA				pmax		pmax		
	comp=Z,1.0nm,0.9s							
ABKAR	**Akbulak array**	**57.23**	**309**	P		**P**	01 27 47.5	-0.3
ABKAR	**Akbulak array**	**57.23**	**309**	P		**P**	01 27 46.7	-1.1
WB2	**Warramunga Arr**	**64.47**	**194**	P		**P**	01 28 38.4	+1.2
WB2				IAmb		IAmb	01 28 39.2	
	comp=Z,4.3nm,1.0s							
WRA	**Warramunga Arr**	**64.48**	**194**	P		**P**	01 28 37.2	-0.1
	comp=Z,0.8nm,1.0s,baz=8.0,slow=6.9,SNR=3.1							
	comp=Z,0.8nm,1.0s							
FINES	**FINESS Array B**	**64.99**	**333**	P		**P**	01 28 37.7	-2.4
FINES	**FINESS Array B**	**64.99**	**333**	P		**P**	01 28 38.6	-1.5
	comp=Z,0.8nm,0.7s,baz=32,slow=7.6,SNR=5.7							
	comp=Z,0.8nm,0.7s							
NVAR	**Mina Array Bea**	**67.43**	**58**	P		**P**	01 28 57.6	+1.2
	comp=Z,0.7nm,0.6s,baz=284,slow=7.3,SNR=3.5							
	comp=Z,0.7nm,0.6s							

NC303	**NORSAR Array S**	**69.50**	**339**	P		**P**	01 29 09.1	+0.3
NC303				IAmb		IAmb	01 29 11.2	
	comp=Z,6.8nm,1.2s							
NC405	**NORSAR Array S**	**69.51**	**339**	P		**P**	01 29 08.2	-0.6
NC405				IAmb		IAmb	01 29 26.9	
	comp=Z,5.9nm,1.2s							
NOA	**NORSAR Array B**	**69.70**	**339**	P		**P**	01 29 08.6	-1.4
	comp=Z,0.2nm,0.4s,baz=38,slow=5.9,SNR=7.1							
	comp=Z,0.2nm,0.4s							
NOA	**NORSAR Array B**	**69.70**	**339**	*e*P		**P**	01 29 09.1	-0.9
PDAR	**Pinedale Array**	**69.78**	**50**	P		**P**	01 29 11.5	+0.5
	comp=Z,0.2nm,0.4s,baz=331,slow=5.4,SNR=1.7							
	comp=Z,0.2nm,0.4s							
HFS	**Hagfors**	**69.79**	**337**	P		**P**	01 29 09.4	-1.1
	comp=Z,0.5nm,0.3s,baz=40,slow=5.8,SNR=11							
	comp=Z,0.5nm,0.3s							
AKASG	**Malin Array B**	**71.72**	**324**	P		**P**	01 29 21.7	-0.7
	comp=Z,0.2nm,0.4s,baz=38,slow=4.9,SNR=2.2							
	comp=Z,0.2nm,0.4s							
BUR08	**Bucovina Ar. S**	**75.76**	**324**	P		**P**	01 29 45.9	-0.3
BURAR	**Bucovina Array**	**75.78**	**324**	P		**P**	01 29 46.8	+0.4
SCHQ	**Schefferville**	**77.58**	**19**	P		**P**	01 29 55.9	-0.4
	comp=Z,2.7nm,0.8s,baz=342,slow=6.4,SNR=1.8							
	comp=Z,2.7nm,0.8s							
EKA	**Eskdalemuir Ar**	**78.21**	**343**	P		**P**	01 29 58.6	-1.1
	comp=Z,0.6nm,0.6s,baz=21,slow=4.1,SNR=4.3							
	comp=Z,0.6nm,0.6s							
GERES	**GERESS Array B**	**79.28**	**331**	P		**P**	01 30 05.2	-0.7
GERES	**GERESS Array B**	**79.28**	**331**	P		**P**	01 30 05.2	-0.7

UPA ***29*** *01:30:00.9±0.5, 9.°28N×84.°13W, h0km±4km, MW3.3*
UCR ***29*** *01:30:01.9±0.6, 9.°27N×84.°20W, h25km±1km, MW3.5*

ISC 29 01:30:01.7±1.3, 9.°27N±0.°05×84.°20W±0.°05, h25km±8km, n44, σ0°45/49, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
SVQ2	**Quepos**	**0.17**	**13**	*e*P		**Pb**	01 30 06.8	-0.4
SVQ2				*e*S		**Sb**	01 30 10.9	+0.2
LLNJ	**Naranjito**	**0.23**	**26**	*e*P		**Pb**	01 30 07.8	-0.1
RAZU	**San Marcos de**	**0.43**	**25**	*e*P		**Pb**	01 30 10.9	0.0
ABE2	**San Pablo**	**0.46**	**19**	*e*P		**Pb**	01 30 11.2	-0.3
LCR2	**La Lucha 2**	**0.51**	**22**	*e*P		**Pb**	01 30 11.9	-0.4
CDM	**Cerro de Muert**	**0.52**	**57**	*e*P		**Pb**	01 30 12.2	-0.5
ACOS	**Acosta**	**0.53**	**4**	*e*P		**Pb**	01 30 12.2	-0.4
PEZE	**Perez Zeledon,**	**0.53**	**77**	*e*P		**Pb**	01 30 12.0	-0.6
OCHAL	**Ojochal**	**0.58**	**107**	*e*P		**Pb**	01 30 12.7	-0.5
OCM	**Ochomogo**	**0.67**	**21**	*e*P		**Pb**	01 30 14.2	-0.7
SJS3	**Mercedes San J**	**0.68**	**13**	*e*P		**Pb**	01 30 14.8	-0.4
BELE	**Belen**	**0.71**	**1**	*e*P		**Pb**	01 30 14.9	-0.6
HDC	**Heredia**	**0.74**	**7**	*e*P		**Pb**	01 30 15.7	-0.4
RAFA	**San Farael, Vo**	**0.79**	**29**	*e*P		**Pb**	01 30 16.6	-0.4
CVIMO	**Finca Echandi**	**0.80**	**19**	*e*P		**Pb**	01 30 16.8	-0.3
VICA	**Volcano Irazu**	**0.80**	**26**	*e*P		**Pb**	01 30 16.7	-0.5
SRBA	**San Rafael, Bu**	**0.83**	**92**	*e*P		**Pb**	01 30 16.9	-0.7
VERB	**Verbena**	**0.84**	**37**	*e*P		**Pb**	01 30 17.4	-0.4
CVTQ	**Turrialba Volc**	**0.85**	**30**	*e*P		**Pb**	01 30 17.8	-0.4
VTCV	**VTCV, Calle Va**	**0.85**	**33**	*e*P		**Pb**	01 30 17.6	-0.4
CVTV	**Tajo**	**0.86**	**31**	*e*P		**Pb**	01 30 17.9	-0.4
VTR0	**Volcan Turrial**	**0.86**	**30**	*e*P		**Pb**	01 30 18.0	-0.4
CVTR	**Volcan Turrial**	**0.87**	**30**	*e*P		**Pb**	01 30 18.0	-0.5
VTLO	**VTLO**	**0.91**	**31**	*e*P		**Pb**	01 30 18.4	-0.6
DRK0	**Durika**	**0.95**	**90**	*e*P		**Pb**	01 30 19.1	-0.5
DRK0				*e*S		**Sn**	01 30 32.8	+0.4
DRK0	**Durika**	**0.95**	**90**	*e*P		**Pb**	01 30 18.8	-0.8
CPMI	**Catarata Coope**	**1.02**	**350**	*e*P		**Pn**	01 30 20.3	-0.4
LCOCO	**El Coco**	**1.03**	**38**	*e*P		**Pn**	01 30 20.6	-0.1
IRES	**Siquirres**	**1.07**	**40**	*e*P		**Pb**	01 30 21.6	-0.1
RIFO	**Rio Frio, Sara**	**1.08**	**15**	*e*P		**Pn**	01 30 21.4	+0.1
BATAN	**Batan**	**1.16**	**45**	*e*P		**Pn**	01 30 21.4	0.0
BATAN	**Batan**	**1.16**	**45**	*e*P		**Pb**	01 30 23.0	-0.2
SOCE	**Pocosol**	**1.18**	**340**	*e*P		**Pb**	01 30 23.3	-0.3
MTEVE	**Monteverde**	**1.21**	**330**	*e*P		**Pn**	01 30 23.6	+0.3
JTS	**Las Juntas de**	**1.26**	**324**	*e*P		**Pn**	01 30 23.3	-0.5
VACR	**Volcan Arenal**	**1.29**	**339**	*e*P		**Pb**	01 30 25.0	-0.4
ARE1	**Arenal 1**	**1.29**	**337**	*e*P		**Pb**	01 30 25.1	-0.3
CEDE	**Laguna Cedeo**	**1.31**	**338**	*e*P		**Pb**	01 30 25.6	-0.2
TRT1	**Tortuguero**	**1.41**	**21**	*e*P		**Pn**	01 30 26.4	+0.5
COVE	**Coope Vega, Sa**	**1.46**	**352**	*e*P		**Pn**	01 30 27.2	+0.8
BRU2	**Volcan**	**1.57**	**107**	*e*P		**Pn**	01 30 28.8	+0.7
BRU2				*e*S		**Sb**	01 30 49.7	+0.1
TENO	**El Achiote**	**1.62**	**332**	*e*P		**Pn**	01 30 29.1	+0.4
PTPM	**Petroterminale**	**1.68**	**129**	*e*P		**Pn**	01 30 29.8	+0.3
PTPM				*e*S		**Sb**	01 30 52.8	0.0
BCO2	**Palmira**	**1.74**	**108**	*e*P		**Pn**	01 30 31.2	+0.7
BCO2				*e*S		**Sb**	01 30 54.6	-0.1

NOU ***29*** *01:29:51.9, 27.°62S×175.°25W, h0km, mb5.1/67, Kermadec Islands Region*
GCMT ***29*** *01:30:03.2±0.1, 27.°17S±0.°01×176.°10W±0.°01, h19km, MW5.4/141, Moment Tensor Solution. s120,c200; s141,c252; Duration: 1ŝ2 Moment tensor: Scale 10^17 Nm; Mrr1.12±.02; Mθθ0.01±.01; Mϕϕ-1.13±.01; Mrθ0.27±.03; Mθϕ-0.22±.01; Mϕr1.01±.04; Best double couple: M₀1.55100×10^17 NP1:ϕs14.00000°, δ66.00000°, λ93.00000°. NP2:ϕs187.00000°, δ24.00000°, λ84.00000°. Principal axes: T 1.5270, Plg69.0000°, Azm289.0000°; N 0.0520, Plg2.0000°, Azm193.0000°; P -1.5750, Plg21.0000°, Azm102.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
MOS ***29*** *01:30:03.0±1.0, 27.°21S×176.°56W, h47km, mb5.3/38, MS5.0/6 Error ellipse: s-maj=10.9km s-min=8.3km az=97.1*
NEIC ***29*** *01:30:03.2±1.8, 27.°21S±0.°08×176.°5W±0.°1, h35km±1km, mb5.2/138, Error ellipse: s-maj=18.9km s-min=13.2km az=98.0*
IDC ***29*** *01:30:05.4±2.1, 27.°17S×176.°55W, h60km±18km, mb4.5/17, mbtmp4.8/17, MS4.8/51, Error ellipse: s-maj=15.3km s-min=13.3km az=126.0*

ISC 29 01:30:04.9±0.4, 27.°40S±0.°04×176.°41W±0.°05, h58km±2km, h58km:pP-P, n668, σ1ŝ63/675, mb5.2/132, MS5.0/88, 41C-15D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
					Op	ISC	h m s	ISC
RAO	**Raoul Island**	**2.28**	**215**	P		**Pn**	01 30 39.9	-0.2
RAO	**Raoul Island**	**2.28**	**215**	P		**Pn**	01 30 40.5	+0.4
	7μm,0.3s,baz=53,slow=5.7,SNR=63							
RAO				S		**Sn**	01 31 11.7	+4.7
	4μm,0.3s,baz=56,slow=22,SNR=7.4							
GLKZ	**Green Lake**	**2.29**	**215**	P		**Pn**	01 30 41.1	+0.8
GLKZ				S		**Sn**	01 31 14.3	+7.0
MSVF	**Nonsavu**	**10.89**	**331**	P		**Pn**	01 32 37.1	-1.0
MSVF	**Nonsavu**	**10.89**	**331**	Pn		**Pn**	01 32 34.4	-3.7
MSVF	**Nonsavu**	**10.89**	**331**	*i* P		**Pn**	01 32 36.0	-2.1
HAZ	**Te Kaha**	**11.43**	**204**	P		Pn	01 32 37.2	-8.1
HAZ				S		**Sn**	01 34 48.8	-2.6
PUZ	**Puketiti**	**11.55**	**201**	P		Pn	01 32 39.5	-7.5
PUZ				S		**Sn**	01 34 49.2	-5.2
OUZ	**Omahuta**	**11.56**	**225**	P		Pn	01 32 55.3	+8.2
RUGZ	**Raukumara Rang**	**11.65**	**204**	P		Pn	01 32 39.3	-9.2
RUGZ				S		**Sn**	01 34 52.5	-4.6
TWGZ	**Tauwhareparae**	**11.74**	**202**	P		Pn	01 32 41.5	-8.1
TWGZ				S		**Sn**	01 34 54.9	-4.1
CNGZ	**Carnagh Statio**	**11.94**	**201**	P		Pn	01 32 43.2	-9.1
CNGZ				S		**Sn**	01 34 59.6	-4.4
MWZ	**Matawai**	**12.03**	**203**	P		Pn	01 32 45.7	-7.9
MWZ				S		**Sn**	01 35 01.8	-4.5
URZ	**Urewera**	**12.12**	**205**	P		Pn	01 32 48.9	-5.9
URZ	**Urewera**	**12.12**	**205**	P		Pn	01 32 46.3	-8.5
	8.0nm,0.4s,baz=351,slow=3.9,SNR=10.0							
URZ				S		**Sn**	01 35 03.0	-5.2
	24nm,0.4s,baz=335,slow=23,SNR=9.6							
URZ				LR		LR	01 37 39.0	
	comp=Z,5μm,19.9s,baz=108,slow=37							
URZ	**Urewera**	**12.12**	**205**	P		Pn	01 32 47.1	-7.7
URZ				S		**Sn**	01 35 03.6	-4.6
RAHZ	**Arahi**	**12.71**	**204**	P		Pn	01 32 55.4	-7.4
RAHZ				S		**Sn**	01 35 18.1	-4.6
MTHZ	**Maungataniwha**	**12.74**	**205**	P		Pn	01 32 57.6	-5.7
MTHZ				S		**Sn**	01 35 19.6	-3.9
MRHZ	**Matea Rd**	**12.89**	**206**	P		**Pn**	01 33 02.6	-2.7
NTVZ	**North Tongarir**	**13.41**	**208**	P		**Pn**	01 33 13.8	+1.4
SNVZ	**South Ngauruho**	**13.50**	**207**	P		Pn	01 33 08.6	-5.1
KAHZ	**Kahuranaki**	**13.56**	**203**	P		Pn	01 33 09.2	-5.3
KAHZ				S		**Sn**	01 35 35.9	-7.6

AFI	**Afiamalu**	**14.10**	**19**	P		Pn	01 33 10.8	-11
BFZ	**Birch Farm**	**14.57**	**203**	Pn		Pn	01 33 19.9	-7.9
MARNC	**Mare, Loyalty**	**15.34**	**289**	P		**P**	01 33 43.0	+1.6
PINNC	**Pines Island,**	**15.38**	**284**	P		**P**	01 33 45.1	+3.1
OUENC	**Ouen Island, N**	**15.98**	**284**	P		**P**	01 33 51.8	+3.2
YATNC	**Mamie plateau,**	**16.07**	**286**	P		**P**	01 33 53.6	+4.0
QRZ	**Quartz Range**	**16.21**	**211**	P		**Pn**	01 33 45.5	-3.3
QRZ	**Quartz Range**	**16.21**	**211**	Pn		**Pn**	01 33 42.8	-6.0
LIFNC	**LIFOU**	**16.31**	**290**	P		**P**	01 33 56.6	+4.4
ONTNC	**Ouen Toro**	**16.35**	**284**	P		**P**	01 33 56.5	+3.8
RAR	**Rarotonga**	**16.36**	**72**	P		Pn	01 33 31.0	-20
RAR	**Rarotonga**	**16.36**	**72**	P		Pn	01 33 40.3	-11
	19nm,0.3s,baz=225,slow=16,SNR=8.1							
RAR				S		Sn	01 36 25.1	-27
	8.1nm,0.3s,baz=49,slow=20,SNR=1.2							
RAR				LR		LR	01 38 56.9	
	comp=Z,3μm,18.4s,baz=250,slow=32							
DZM	**Mont Dzumac**	**16.45**	**285**	P		**P**	01 33 58.6	+4.7
DZM	**Mont Dzumac**	**16.45**	**285**	*e*Pn		**Pn**	01 33 52.8	+0.8
	479nm,1.6s							
DZM				*e*LR		LR	01 37 46.0	
	15μm,23.8s							
DZM	**Mont Dzumac**	**16.45**	**285**			**Pn**	01 33 51.5	-0.5
DZM	**Mont Dzumac**	**16.45**	**285**	P		**P**	01 33 54.9	+1.0
	39nm,0.8s,baz=109,slow=12,SNR=15							
DZM				LR		LR	01 39 13.3	
	comp=Z,10μm,18.6s,baz=112,slow=34							
NOUC	**Port Laguerre**	**16.56**	**285**	P		**P**	01 34 00.0	+5.0
DVP	**Devils Point**	**17.16**	**301**	P		**P**	01 34 05.8	+4.2
OXZ	**Oxford**	**18.45**	**208**	P		**P**	01 34 10.2	-5.5
KOUNC	**Koumac, New Ca**	**18.90**	**287**	P		**Pn**	01 34 24.4	+2.5
RPZ	**Rata Peaks**	**19.18**	**209**	P		**P**	01 34 20.0	-3.7
	13nm,0.5s,baz=15,slow=3.2,SNR=9.9							
RPZ				S			01 37 44.4	-14
	12nm,0.8s,baz=120,slow=20,SNR=2.4							
ODZ	**Otahua Downs**	**20.43**	**207**	P		**P**	01 34 32.3	-5.0
WKZ	**Wanaka**	**20.95**	**210**	P		**P**	01 34 40.0	-2.9
TBI	**Tubuai**	**24.66**	**87**	*e*P		**P**	01 35 19.3	-1.0
	560nm,24.0s							
TBI				*e*S		**S**	01 39 38.2	+0.2
	13μm,28.2s							
TBI				*e*LR		LR	01 41 28.8	
	4μm,22.2s							
TBI				*e*LR		LR	01 41 32.2	
	19μm,24.2s							
PPT2	**Papeete2**	**26.59**	**74**	*e*P		**P**	01 35 33.7	-4.3
	136nm,22.8s							
PPT2				*e*S		**S**	01 40 12.8	+4.0
	4μm,24.2s							
PPT2				*e*LR		LR	01

comp=Z,27nm,1.2s
VNDA Vanda 51.22 186 P **P** **01 39 04.5 +2.5**
comp=Z,1.7nm,0.7s,baz=4.3,slow=3.1,SNR=17
VNDA LR LR 01 57 04.0
comp=Z,804nm,20.8s,baz=26,slow=32
comp=Z,1.7nm,0.7s
VNDA Vanda 51.22 186 P **P** **01 39 04.2 +2.2**
VNDA pmax pmax
comp=Z,27nm,1.2s
VNDA Vanda 51.22 186 P **P** **01 39 05.3 +3.3**
VNDA pP **pP** **01 39 16.9 +0.9**
VNDA sP **sP** **01 39 22.1 -0.1**
FITZ Fitzroy Crossi 53.84 267 P **P** **01 39 21.5 -0.7**
GUMO Guam 55.41 312 LR LR 02 03 01.5
comp=Z,590nm,18.4s,baz=124,slow=36
CCD Concordia, Ant 56.21 196 P **P** **01 39 41.2 +2.2**
CCD pP **pP** **01 39 53.5 +0.3**
NWAO Narrogin (SRO) 56.80 247 LR LR 02 03 50.7
comp=Z,2µm,18.0s,baz=80,slow=36
MEEK Meekatharra 57.27 255 P **P** **01 39 47.8 +1.0**
MBWA Marble Bar 58.00 261 P **P** **01 39 51.8 -0.2**
CASY Casey 58.44 207 P **P** **01 39 54.3 0.0**
CASY Casey 58.44 207 P **P** **01 39 55.3 +1.0**
CASY pP **pP** **01 40 07.3 -1.5**
BATI Baumata 58.72 275 LR LR 02 05 56.3
comp=Z,4µm,18.2s,baz=142,slow=37
MORW Morawa 58.77 251 P **P** **01 39 55.4 -1.9**
RPN Rapa Nui 58.92 107 LR LR 02 01 14.3
comp=Z,631nm,18.2s,baz=262,slow=32
LBMI Labuha 59.93 286 pP **P** **01 40 08.1 +2.7**
comp=Z,47nm,0.8s,comp=Z,2µm
BASI Baing, Sumba 61.45 273 P **P** **01 40 15.4 -0.4**
comp=Z,227nm,1.5s
QSPA South Pole Qui 62.70 180 P **P** **01 40 25.7 +2.2**
QSPA South Pole Qui 62.70 180 P **P** **01 40 25.8 +2.2**
comp=Z,26nm,0.8s,baz=32,slow=1.5,SNR=112
QSPA LR LR 02 04 52.2
comp=Z,2µm,19.4s,baz=38,slow=33
comp=Z,26nm,0.8s
QSPA South Pole Qui 62.70 180 P **P** **01 40 26.0 +2.4**
QSPA pP **pP** **01 40 38.2 +0.4**
KAPI Kappang 64.51 278 LR LR 02 09 22.6
comp=Z,856nm,19.1s,baz=133,slow=37
DAV Davao City (W) 65.70 293 LR LR 02 07 24.2
comp=Z,296nm,21.1s,baz=152,slow=34
JCJ Chichijima 67.22 320 LR LR 02 04 27.0
comp=Z,621nm,21.8s,baz=152,slow=31
KPJI Karang Pucung 73.06 270 P **P** **01 41 28.4 -0.9**
comp=Z,57nm,1.4s
JHJ Hachijo jima 2 73.17 323 LR LR 02 14 01.2
comp=Z,290nm,18.0s,baz=97,slow=36
STKI Sintang 74.18 278 P **P** **01 41 35.5 -0.4**
comp=Z,46nm,0.6s
PMSA Palmer Station 74.42 156 LR LR 02 12 18.9
comp=Z,662nm,18.4s,baz=244,slow=34
LEM Lembang 74.45 270 LR LR 02 14 16.5
comp=Z,2µm,20.2s,baz=141,slow=36
LEM Lembang 74.45 270 P **P** **01 41 37.4 -0.3**
comp=Z,74nm,1.4s
JSG Sagara 75.21 323 P **P** **01 41 41.3 0.0**
MAW Mawson 75.60 200 P **P** **01 41 44.9 +1.8**
comp=Z,18nm,0.8s,baz=132,slow=7.2,SNR=36
MAW LR LR 02 15 11.4
comp=Z,1µm,18.8s,baz=118,slow=36
comp=Z,18nm,0.8s
JOW Kunigami 75.72 311 P **P** **01 41 45.1 +0.7**
JOW Kunigami 75.72 311 P **P** **01 41 44.1 -0.3**
JOW Kunigami 75.72 311 LR LR 02 11 18.5
comp=Z,532nm,20.9s,baz=152,slow=33
KSM Kuching 75.88 279 P **P** **01 41 47.0 +1.3**
JMM Marumori 76.31 326 P **P** **01 41 47.7 +0.2**
INU Inuyama 76.35 322 P **P** **01 41 48.1 +0.3**
INU Inuyama 76.35 322 P **P** **01 41 46.4 -1.4**
JGF Kuroka 76.35 323 P **P** **01 41 47.9 0.0**
JGF Kuroka 76.35 323 P **P** **01 41 46.2 -1.7**
JGF IAmb IAmb 01 41 49.4
comp=Z,30nm,1.1s
MJAR Matsushiro Arr 76.61 324 P **P** **01 41 48.2 -1.1**
comp=Z,19nm,0.9s,baz=159,slow=5.7,SNR=38
MJAR LR LR 02 09 42.6
comp=Z,432nm,21.9s,baz=144,slow=31
comp=Z,19nm,0.9s
MAJO Matsushiro 76.61 324 P **P** **01 41 49.0 -0.3**
MAJO Matsushiro 76.61 324 P **P** **01 41 48.1 -1.2**
MAJO Matsushiro 76.61 324 P **P** **01 41 48.1 -1.2**
MAJO pmax pmax
comp=Z,104nm,1.5s
MJB9 Matsu-Tunnel 76.61 324 P **P** **01 41 49.3 0.0**
JMN Monobe 76.92 319 P **P** **01 41 51.6 +0.4**
JMN Monobe 76.92 319 P **P** **01 41 50.4 -0.8**
JSD Sado 77.72 325 P **P** **01 41 55.8 +0.4**
JSD Sado 77.72 325 P **P** **01 41 55.4 0.0**
YOJ Yonaguni jima 77.90 306 P **P** **01 41 57.5 +0.7**
YOJ Yonaguni jima 77.90 306 P **P** **01 41 55.9 -0.9**
YOJ Yonaguni jima 77.90 306 P **P** **01 41 55.9 -0.9**
YOJ pmax pmax
comp=Z,79nm,1.1s
JNU Nakatsue 78.28 317 P **P** **01 41 59.1 +0.4**
JNU Nakatsue 78.28 317 P **P** **01 41 57.8 -1.0**
JNU Nakatsue 78.28 317 LR LR 02 11 22.1
comp=Z,391nm,22.0s,baz=95,slow=32
JTM Tenmabayashi 78.48 328 P **P** **01 41 59.2 -0.4**
JTM Tenmabayashi 78.48 328 P **P** **01 41 59.7 +0.1**
ERM Erimo 78.51 330 P **P** **01 41 59.6 -0.1**
ERM Erimo 78.51 330 P **P** **01 41 59.6 -0.1**
ERM pmax pmax
comp=Z,148nm,2.0s
ELIB Princess Elisa 79.98 186 *d*P **P** **01 42 09.2 +1.6**
comp=Z,21nm,0.5s
SHEM Shemya Is, Ala 80.21 354 LR LR 02 14 01.9
comp=Z,784nm,19.1s,baz=140,slow=33
JKA Kamikawa-asahi 80.45 331 P **P** **01 42 10.2 0.0**
JKA IAmb IAmb 01 42 31.1
comp=Z,41nm,1.4s
ASAJ Asahikawa 80.45 331 LR LR 02 17 13.7
comp=Z,745nm,18.1s,baz=175,slow=35
ASAJ Asahikawa 80.45 331 P **P** **01 42 10.2 0.0**
ASAJ pmax pmax
comp=Z,41nm,1.4s
TROLL Troll, Antarti 80.86 180 ⇑P **P** **01 42 13.8 +1.4**
comp=Z,599nm,0.7s
H03S2 Juan Fernandez 80.95 123 T T 03 11 21.3
baz=242,slow=74
H03S1 Juan Fernandez 80.97 123 T T 03 11 22.5
baz=242,slow=74
H03S3 Juan Fernandez 80.97 123 T T 03 11 23.6
baz=242,slow=74
SNAA Sanae 81.10 178 P **P** **01 42 15.0 +1.4**
SNAA IAmb IAmb 01 42 27.4
comp=Z,21nm,1.1s
SNAA Sanae 81.10 178 ⇑P **P** **01 42 14.0 +0.4**
comp=Z,132nm,1.0s
SNAA Sanae 81.10 178 P **P** **01 42 14.0 +0.4**
comp=Z,6.3nm,0.9s,baz=212,slow=5.7,SNR=12
SNAA LR LR 02 17 59.8
comp=Z,783nm,18.0s,baz=214,slow=35
comp=Z,6.3nm,0.9s
SNAA Sanae 81.10 178 *ce*P **P** **01 42 14.7 +1.1**
SNAA pmax pmax
comp=Z,20nm,1.4s
VNA3 Neumayer Olymp 81.19 176 ⇑P **P** **01 42 14.4 +0.4**
comp=Z,10nm,0.8s
QZH Quanzhou 81.42 304 P **P** **01 42 14.8 -1.0**
QZH S **S** **01 52 27.3 +4.5**
QZH pmax pmax
comp=Z,450nm,4.0s
QZH LR LR
comp=Z,420nm,17.9s
QZH LR LR
comp=Z,330nm,15.1s
QZH LR LR
comp=Z,550nm,19.2s
VNA2 Neumayer--Watz 81.65 176 ⇑P **P** **01 42 17.5 +1.1**
comp=Z,16nm,0.6s,baz=193,slow=4.5
LPIG La Paz 81.76 58 LR LR 02 10 27.9
comp=Z,725nm,19.7s,baz=207,slow=30
VNA1 Neumayer--Stat 81.87 176 ⇑P **P** **01 42 18.6 +1.1**
comp=Z,7.2nm,0.9s
NVL N'lazarevskaya 81.94 183 *e*P **P** **01 42 17.7 -0.2**
NVL *e*S **S** **01 52 25.7 -1.2**
NVL pmax pmax
comp=Z,13nm,0.8s
NVL MLR MLR
comp=Z,849nm,19.0s
DLV T Lat 82.55 287 P **P** **01 42 22.8 +0.5**
DLV T Lat 82.55 287 P **P** **01 42 21.5 -0.8**
DLV IAmb IAmb 01 42 36.0
comp=Z,68nm,1.6s
TJN Taejon 82.61 317 P **P** **01 42 22.4 +0.6**
TJN Taejon 82.61 317 P **P** **01 42 20.5 -1.3**
TJN Taejon 82.61 317 P **P** **01 42 20.5 -1.3**
YSS Yuzh-Sakhalins 82.68 333 P **P** **01 42 21.2 -0.7**
YSS Yuzh-Sakhalins 82.68 333 *α iP* **P** **01 42 22.6 +0.7**
YSS *e**SP **sP** **01 42 44.7 +1.4**
YSS *e*S **S** **01 52 36.2 +1.4**
YSS pmax pmax
comp=Z,300nm,4.5s
YSS pmax pmax
comp=Z,30nm,1.0s
YSS smax smax
comp=N,200nm,4.3s
VES Vestal, Richgr 82.92 44 P **P** **01 42 23.9 +0.5**
baz=229
PET Petropavlovsk 82.98 345 *e*P **P** **01 42 22.1 -1.2**
PET *e* 01 45 33.5
PET *e*S **SKSac** **01 52 41.7 +2.1**
PET *e*SS **SS** **01 58 04.8 +1.9**
PET pmax pmax
comp=Z,200nm,13.1s
PET MLR MLR
comp=Z,400nm,19.0s
EDW2 Edwards Air Fo 82.98 45 P **P** **01 42 24.8 +1.0**
baz=230
KSRS Korea Array 83.00 319 P **P** **01 42 23.7 -0.1**
comp=Z,33nm,1.2s,baz=142,slow=5.2,SNR=43
KSRS LR LR 02 17 59.7
comp=Z,276nm,18.4s,baz=120,slow=35
comp=Z,33nm,1.2s
KSAR Wonju Array Be 83.01 319 P **P** **01 42 23.4 -0.5**
KSAR Wonju Array Be 83.01 319 P **P** **01 42 23.4 -0.5**
KS19 Wonju Array Si 83.06 319 P **P** **01 42 23.6 -0.5**
PFO Pinyon Flats O 83.15 47 LR LR 02 12 29.3
comp=Z,683nm,19.5s,baz=242,slow=31
PFO Pinyon Flats O 83.15 47 *i* P **P** **01 42 25.6 +0.8**
PFO pmax pmax
comp=Z,13nm,1.5s
PEA0B Petropavlovsk- 83.28 345 *ce*P **P** **01 42 25.1 +0.2**
PETK Petropavlovsk- 83.28 345 P **P** **01 42 24.3 -0.6**
comp=Z,7.2nm,0.8s,baz=151,slow=5.0,SNR=13
comp=Z,7.2nm,0.8s
PLCA Paso Flores 83.52 133 P **P** **01 42 26.6 -0.2**
PLCA IAmb IAmb 01 42 28.1
comp=Z,50nm,1.9s
PLCA Paso Flores 83.52 133 P **P** **01 42 27.6 +0.8**
comp=Z,6.3nm,1.1s,baz=226,slow=9.7,SNR=5.5
PLCA LR LR 02 13 32.5
comp=Z,533nm,19.2s,baz=248,slow=31
comp=Z,6.3nm,1.1s
PLCA Paso Flores 83.52 133 P **P** **01 42 26.6 -0.2**
PLCA pmax pmax
comp=Z,49nm,1.9s
CMB Columbia Colle 83.60 41 P **P** **01 42 26.2 -0.7**
CMB IAmb IAmb 01 42 49.7
comp=Z,17nm,1.3s
CMB Columbia Colle 83.60 41 P **P** **01 42 26.2 -0.7**
CMB pmax pmax
comp=Z,17nm,1.3s
BELC Belle Mtn. Jos 83.69 47 P **P** **01 42 27.9 +0.3**
baz=231
BC3 Big Chuckawall 83.83 47 P **P** **01 42 29.6 +1.2**
baz=232
TEY Ternei 83.84 329 *e*P **P** **01 42 27.2 -0.7**
AFDM Forest Hills D 83.87 40 P **P** **01 42 28.1 -0.2**
CWC Cottonwood Cre 83.93 44 P **P** **01 42 29.2 +0.3**
baz=230
ORV Oroville 83.98 40 P **P** **01 42 29.0 +0.2**
ORV Oroville 83.98 40 P **P** **01 42 29.0 +0.2**
ORV pmax pmax
comp=Z,9.0nm,1.2s
GSC Goldstone, Bar 83.99 45 P **P** **01 42 29.2 +0.1**
GSC Goldstone, Bar 83.99 45 P **P** **01 42 30.0 +0.9**
baz=230
GSC Goldstone, Bar 83.99 45 P **P** **01 42 29.2 +0.1**
GSC pmax pmax
comp=Z,7.0nm,0.9s
HEC Hector,Ludlow 83.99 46 P **P** **01 42 29.4 +0.3**
baz=231
MPMC Manual Prospec 84.05 44 P **P** **01 42 30.4 +0.9**
baz=230
IRM Iron Mountain 84.34 47 P **P** **01 42 31.7 +0.9**
baz=232
113A Mohawk Valley, 84.40 49 P **P** **01 42 31.0 0.0**
GMRC Granite Mounta 84.40 46 P **P** **01 42 32.2 +0.9**
baz=231
WAKR Walker 84.47 41 P **P** **01 42 32.2 +0.7**
WAKR IAmb IAmb 01 43 01.2
comp=Z,35nm,1.5s
214A Organ Pipe Nat 84.55 50 P **P** **01 42 32.9 +1.0**
baz=233
DSP Deep Springs 84.60 43 P **P** **01 42 32.5 +0.6**
TUQ Turquoise Moun 84.64 46 P **P** **01 42 33.5 +1.1**
baz=231
GWY Greenwater Val 84.64 45 P **P** **01 42 32.9 +0.4**
GWY IAmb IAmb 01 42 54.6
comp=Z,16nm,1.3s
GRAC Grapevine Rang 84.73 44 P **P** **01 42 31.7 -1.1**
GRAC IAmb IAmb 01 42 57.3
comp=Z,45nm,1.6s
GRAC Grapevine Rang 84.73 44 P **P** **01 42 34.0 +1.2**
baz=230
MSHR Mys Shultsa 84.73 324 *ce*P **P** **01 42 31.6 -0.9**
MSHR pmax pmax
comp=Z,21nm,1.3s
PNTR Pine Nut 84.76 41 P **P** **01 42 32.4 -0.7**
PNTR IAmb IAmb 01 42 58.8
comp=Z,13nm,1.0s
YBH Yreka Blue Hor 84.81 37 P **P** **01 42 32.2 -0.9**
YBH Yreka Blue Hor 84.81 37 LR LR 02 12 56.2
comp=Z,291nm,21.4s,baz=227,slow=30
YBH Yreka Blue Hor 84.81 37 P **P** **01 42 32.2 -0.9**
YBH pmax pmax
comp=Z,10.0nm,1.1s
LHV Little Huntoon 84.85 42 P **P** **01 42 33.7 +0.5**
LHV IAmb IAmb 01 42 59.3
comp=Z,16nm,1.3s
YERR Yerington 84.90 41 P **P** **01 42 34.1 +0.4**
YERR IAmb IAmb 01 42 49.0
comp=Z,14nm,1.3s
PSTR Posyet 84.97 324 *i* P **P** **01 42 34.0 +0.3**
GMN Gold Mountain 84.99 43 P **P** **01 42 34.2 0.0**
GMN IAmb IAmb 01 42 50.5
comp=Z,32nm,2.0s
QIZ Qiongzhong 85.00 294 P **P** **01 42 34.5 +0.1**
QIZ PP **PP** **01 45 51.3 -1.0**
QIZ S **S** **01 53 04.8 +5.5**
QIZ SS **SS** **01 58 34.3 +0.3**
QIZ pmax pmax
comp=Z,11nm,1.5s
QIZ pmax pmax
comp=Z,290nm,6.9s
QIZ LR LR
comp=Z,120nm,18.6s
QIZ LR LR
comp=Z,180nm,16.4s
QIZ LR LR
comp=Z,260nm,16.3s
WCT Wildcat Mounta 85.05 44 P **P** **01 42 35.1 +0.7**
PDMCI Parker Dam,Lak 85.08 47 P **P** **01 42 35.6 +1.1**
baz=232
RYN Ryan 85.09 42 P **P** **01 42 34.7 +0.1**
RYN IAmb IAmb 01 42 59.5
comp=Z,16nm,1.4s
NVAR Mina Array Bea 85.09 42 P **P** **01 42 34.2 -0.5**
NVAR Mina Array Bea 85.09 42 P **P** **01 42 34.6 -0.1**
comp=Z,4.0nm,1.0s,baz=221,slow=8.3,SNR=16
NVAR LR LR 02 13 39.5
comp=Z,816nm,19.6s,baz=250,slow=31
comp=Z,4.0nm,1.0s
MZP Montezuma Peak 85.17 43 P **P** **01 42 35.1 -0.1**
NV11 Mina Array Sit 85.18 42 P **P** **01 42 35.6 +0.6**
NV11 IAmb IAmb 01 42 50.3
comp=Z,14nm,1.2s
PAHR Pah Rah Range 85.29 40 P **P** **01 42 35.0 -0.6**
NJ2 Nanjing 85.38 310 ⇑P **P** **01 42 36.5 +0.5**
NJ2 S **S** **01 53 07.5 +5.0**
NJ2 pmax pmax
comp=Z,28nm,0.7s
NJ2 pmax pmax
comp=Z,220nm,4.2s
NJ2 LR LR
comp=Z,410nm,18.5s
NJ2 LR LR
comp=Z,250nm,13.7s
NJ2 LR LR
USRK Ussuriysk Ar. 85.45 326 P **P** **01 42 36.0 -0.1**
USRK Ussuriysk Ar. 85.45 326 P **P** **01 42 35.6 -0.5**
comp=Z,23nm,1.3s,baz=124,slow=3.4,SNR=26
USRK LR LR 02 14 28.8
comp=Z,536nm,21.6s,baz=139,slow=31
comp=Z,23nm,1.3s
USRK Ussuriysk Ar. 85.45 326 P **P** **01 42 36.0 -0.1**
USA0B Ussuriysk Arra 85.45 326 P **P** **01 42 35.5 -0.6**
USA0B Ussuriysk Arra 85.45 326 P **P** **01 42 35.5 -0.6**
USA0B pmax pmax
comp=Z,106nm,1.8s
V12A Nelson 85.50 46 P **P** **01 42 35.7 -1.0**
TPH Tonopah 85.51 43 P **P** **01 42 36.9 +0.1**
TPH Tonopah 85.51 43 P **P** **01 42 36.9 +0.1**
TPH pmax pmax
comp=Z,91nm,1.3s
Y14A Wickenburg 85.61 48 P **P** **01 42 36.3 -0.9**
Y14A IAmb IAmb 01 42 53.0
comp=Z,22nm,1.5s
KVN Kaiserville 85.61 42 P **P** **01 42 36.6 -0.7**
KVN Kaiserville 85.61 42 P **P** **01 42 36.6 -0.7**
KVN pmax pmax
comp=Z,9.0nm,1.1s
W13A Hualapai Mount 85.74 47 P **P** **01 42 38.1 +0.1**
SHPR Sheep Range 85.79 45 P **P** **01 42 38.5 +0.3**
TYV Tymovskoe 85.89 335 *e*P **P** **01 42 37.5 -0.6**
TYV *e*S **S** **01 53 05.9 -0.8**
TYV pmax pmax
comp=Z,200nm,5.2s
TYV pmax pmax
comp=Z,11nm,0.9s
TYV smax smax
comp=N,100nm,5.5s
TYV smax smax
comp=E,100nm,5.5s
S11A Rachel 86.14 44 P **P** **01 42 40.4 +0.5**
S11A IAmb IAmb 01 43 25.5
comp=Z,12nm,0.9s
TUC Tucson 86.14 51 P **P** **01 42 39.9 -0.1**
TUC IAmb IAmb 01 42 56.3
comp=Z,19nm,1.3s
TUC Tucson 86.14 51 P **P** **01 42 41.0 +1.1**
baz=234
TUC Tucson 86.14 51 P **P** **01 42 39.9 -0.1**
TUC pmax pmax
comp=Z,19nm,1.3s
PRN Pahroc Range 86.42 44 P **P** **01 42 41.3 0.0**
PRN IAmb IAmb 01 42 58.0
comp=Z,22nm,1.2s
319A Douglas 86.65 52 P **P** **01 42 43.1 +0.6**
319A IAmb IAmb 01 42 58.6
comp=Z,22nm,1.4s
X16A Lo Mia Camp, P 86.94 49 P **P** **01 42 44.3 +0.4**
MDJ Mudanjiang 86.97 325 P **P** **01 42 43.5 0.0**
MDJ Mudanjiang 86.97 325 P **P** **01 42 43.5 0.0**
MDJ pP pP 01 42 58.0 -1.0
MDJ sP sP 01 43 04.0 -1.0
MDJ S **S** **01 53 17.5 0.0**
MDJ pmax pmax
comp=Z,20nm,1.9s
MDJ pmax pmax
comp=Z,300nm,8.3s
MDJ LR LR
comp=Z,290nm,20.5s
MDJ LR LR
comp=Z,190nm,17.1s
MDJ LR LR
comp=Z,410nm,21.3s
BMN Battle Mountai 87.02 41 P **P** **01 42 44.3 +0.2**
BMN Battle Mountai 87.02 41 P **P** **01 42 44.3 +0.2**
BMN pmax pmax
comp=Z,10.0nm,1.2s
KDAK Kodiak Island 87.18 13 LR LR 02 19 12.2
comp=Z,429nm,18.3s,baz=229,slow=34
LCMT Little Creek M 87.31 46 P **P** **01 42 45.9 +0.3**
CNSH ChangSha 87.42 304 P **P** **01 42 46.3 +0.2**
CNSH S **S** **01 53 24.5 +1.9**
CNSH pmax pmax
comp=Z,24nm,1.4s
CNSH LR LR
comp=Z,260nm,20.6s
CNSH LR LR
comp=Z,300nm,19.6s
CNSH LR LR
comp=Z,280nm,18.2s
DUN6 Lazy B Ranch 87.46 51 P **P** **01 42 47.1 +0.7**
CCUT Cedar City 87.56 45 P **P** **01 42 47.5 +0.5**
CCUT IAmb IAmb 01 43 03.0
comp=Z,14nm,1.4s
U15A North Rim 87.57 47 P **P** **01 42 47.3 +0.3**
U15A IAmb IAmb 01 43 02.5
comp=Z,13nm,0.9s
KNB Kanab 87.58 46 P **P** **01 42 47.5 +0.5**
KNB IAmb IAmb 01 43 20.8
comp=Z,39nm,1.7s
KNB Kanab 87.58 46 P **P** **01 42 47.5 +0.5**
KNB pmax pmax
comp=Z,39nm,1.7s
WHN Wuhan 87.68 306 P **P** **01 42 48.0 +0.7**
WHN S **S** **01 53 23.5 -1.4**
WHN LR LR
comp=Z,2µm,23.0s
WHN LR LR
comp=Z,2µm,19.0s
WHN LR LR
comp=Z,4µm,24.0s
SZCU Shurtz Canyon 87.77 45 P **P** **01 42 48.9 +1.0**
GULI GuiLin 87.83 300 P **P** **01 42 48.5 +0.3**
GULI S **S** **01 53 23.5 -3.1**
GULI pmax pmax
comp=Z,20nm,1.4s
GULI LR LR
comp=Z,270nm,18.4s
GULI LR LR
comp=Z,200nm,22.8s
GULI LR LR
comp=Z,420nm,20.2s
N14K Kuskokwak Cree 87.84 7 P **P** **01 42 48.2 +0.9**
baz=193
SPR3 Spring Creek 3 87.85 44 P **P** **01 42 48.3 -0.1**
PSUT Pine Spring 87.86 44 P **P** **01 42 48.0 -0.3**
PKCU Pink Cliffs 88.17 46 P **P** **01 42 49.9 0.0**
PKCU IAmb IAmb 01 43 06.4
comp=Z,18nm,1.2s
J08A Circle Bar Ran 88.22 38 P **P** **01 42 49.5 -0.2**
J08A IAmb IAmb 01 43 07.0
comp=Z,13nm,1.4s
P18K Big Mountain, 88.22 11 P **P** **01 42 48.1 -1.1**
P18K IAmb IAmb 01 42 50.4
comp=Z,19nm,1.2s
GRNR Gornyy 88.27 332 ⇑*i*P **P** **01 42 50.3 +0.7**
GRNR pmax pmax
comp=Z,9.0nm,1.1s
N15K Kwethluk River 88.27 8 P **P** **01 42 49.5 +0.2**
N15K IAmb IAmb 01 43 04.7
comp=Z,31nm,1.1s
N15K Kwethluk River 88.27 8 P **P** **01 42 49.9 +0.5**
baz=195
SNY Shenyang 88.39 320 ⇓P **P** **01 42 51.0 +0.6**
SNY pmax pmax
comp=Z,17nm,1.1s
SNY pmax pmax
comp=Z,180nm,10.7s
SNY LR LR
comp=Z,190nm,20.8s
SNY LR LR
comp=Z,200nm,21.3s
SNY LR LR
comp=Z,400nm,25.8s
MTPU Mount Pierson 88.60 45 P **P** **01 42 52.5 +0.4**
MTPU IAmb IAmb 01 43 09.2
comp=Z,10nm,1.2s
CN2 Changchun 88.62 322 *e*P **P** **01 42 51.3 -0.1**
CN2 *es*P sP 01 43 15.3 +2.4
CN2 SKS **SKSac** **01 53 13.3 -2.2**
CN2 *es*S sS 01 54 01.0 +1.1
CN2 pmax pmax
comp=Z,20nm,1.4s
CN2 pmax pmax
comp=Z,480nm,3.0s
CN2 LR LR
comp=Z,130nm,17.0s

CN2 LR LR
comp=Z,80nm,17.0s
O18K Koktuh Hills 88.67 11 P **P** **01 42 51.2 -0.1**
O18K Koktuh Hills 88.67 11 P **P** **01 42 51.0 -0.3**
baz=199
M15K Kasigluk River 88.71 8 P **P** **01 42 52.2 +0.8**
baz=194
BNX BinXian 88.86 324 ⇓P **P** **01 42 52.3 -0.2**
BNX S **S** **01 53 35.0 -0.5**
BNX pmax pmax
comp=Z,16nm,1.5s
BNX pmax pmax
comp=Z,210nm,7.5s
BNX LR LR
comp=Z,310nm,20.1s
BNX LR LR
comp=Z,360nm,20.1s
BNX LR LR
comp=Z,470nm,24.6s
D05A Enumclaw 88.96 34 P **P** **01 42 53.8 +0.9**
TIA Tai'an 88.97 312 P **P** **01 42 54.0 +0.7**
TIA S **S** **01 53 33.8 -3.2**
TIA pmax pmax
comp=Z,33nm,1.5s
TIA pmax pmax
comp=Z,190nm,6.9s
TIA LR LR
comp=Z,110nm,17.2s
TIA LR LR
comp=Z,170nm,16.2s
TIA LR LR
comp=Z,260nm,16.2s
O19K Port Alsworth 89.14 11 P **P** **01 42 52.9 -0.5**
baz=200
KLR Kul'dur 89.17 329 LR LR 02 16 07.1
comp=Z,550nm,21.7s,baz=141,slow=31
KLR Kul'dur 89.17 329 *ce*P **P** **01 42 53.8 -0.1**
KLR pmax pmax
comp=Z,27nm,1.7s
TXAR Lajitas Array 89.59 57 P **P** **01 42 56.9 +0.4**
TXAR Lajitas Array 89.59 57 P **P** **01 42 56.2 -0.3**
comp=Z,6.2nm,1.3s,baz=220,slow=4.9,SNR=7.7
TXAR LR LR 02 14 54.4
comp=Z,302nm,20.3s,baz=234,slow=30
comp=Z,6.2nm,1.3s
TXAR Lajitas Array 89.59 57 P **P** **01 42 56.9 +0.4**
MNTX Cornudas Mount 89.60 54 P **P** **01 42 57.1 +0.7**
baz=237
M17K Holitna River 89.81 9 P **P** **01 42 57.2 +0.6**
M17K IAmb IAmb 01 43 34.0
comp=Z,23nm,1.2s
CMIG Matias Romero 90.48 71 LR LR 02 15 49.2
comp=Z,246nm,18.7s,baz=181,slow=30
HVU Hansel Valley 90.49 42 P **P** **01 43 00.6 +0.1**
HVU IAmb IAmb 01 43 15.8
comp=Z,33nm,1.8s
HVU Hansel Valley 90.49 42 P **P** **01 43 00.6 +0.1**
HVU pmax pmax
comp=Z,33nm,1.8s
F10A Beach Ranch, E 90.59 37 P **P** **01 43 00.5 -0.3**
F10A IAmb IAmb 01 43 17.2
comp=Z,12nm,0.9s
ANMO Albuquerque 90.61 51 P **P** **01 43 00.9 -0.4**
ANMO IAmb IAmb 01 43 17.6
comp=Z,14nm,1.2s
ANMO Albuquerque 90.61 51 P **P** **01 43 02.2 +1.0**
baz=237
ANMO Albuquerque 90.61 51 LR LR 02 16 36.5
comp=Z,537nm,20.1s,baz=327,slow=31
ANMO Albuquerque 90.61 51 P **P** **01 43 00.9 -0.4**
ANMO pmax pmax
comp=Z,14nm,1.3s
HLID Hailey 90.62 40 P **P** **01 43 01.5 +0.4**
HLID IAmb IAmb 01 43 16.5
comp=Z,13nm,1.6s
PLID Pearl Lake 90.69 38 P **P** **01 43 00.9 -0.5**
PLID IAmb IAmb 01 43 16.4
comp=Z,16nm,1.2s
L18K Granite Mounta 90.70 9 P **P** **01 43 00.7 0.0**
L18K IAmb IAmb 01 43 20.1
comp=Z,25nm,1.8s
MA2 Magadan 90.78 344 LR LR 02 17 04.9
comp=Z,284nm,21.7s,baz=150,slow=31
TCUT Toone Canyon 90.92 43 P **P** **01 43 02.5 -0.1**
L19K White Mountain 90.93 10 P **P** **01 43 01.6 -0.2**
L19K White Mountain 90.93 10 P **P** **01 43 02.4 +0.5**
baz=199
BSUT Blindstream Ca 90.97 44 P **P** **01 43 02.9 -0.1**
BSUT IAmb IAmb 01 43 24.7
comp=Z,15nm,1.5s
SLVN Son La 90.98 293 P **P** **01 43 03.0 -0.2**
ENH Enshi 91.08 304 P **P** **01 43 03.5 +0.2**
GLI Glacier Island 91.14 14 P **P** **01 43 02.5 -0.3**
baz=206
FID Port Fidalgo 91.16 14 P **P** **01 43 02.9 -0.1**
FID IAmb IAmb 01 43 23.4
comp=Z,21nm,1.2s
LYN LuoYang 91.20 309 ⇓P **P** **01 43 05.0 +1.3**
LYN sP sP 01 43 28.0 +2.8
LYN SKS **SKSac** **01 53 27.3 -3.7**
LYN S **S** **01 53 53.0 -4.6**
LYN pmax pmax
comp=Z,32nm,1.3s
LYN pmax pmax
comp=Z,360nm,7.2s
LYN LR LR
comp=Z,430nm,20.3s
LYN LR LR
comp=Z,330nm,18.9s
LYN LR LR
comp=Z,720nm,18.9s
HNS HongShan 91.24 312 ⇑P **P** **01 43 04.3 +0.5**
HNS sP **pwP** **01 43 23.5 0.0**
HNS S **S** **01 53 55.5 -2.3**
HNS pmax pmax
comp=Z,41nm,1.5s
HNS pmax pmax
comp=Z,280nm,9.6s
HNS LR LR
comp=Z,320nm,19.8s
HNS LR LR
comp=Z,450nm,19.8s
HNS LR LR
comp=Z,610nm,20.2s
GYA Guiyang 91.29 299 P **P** **01 43 05.8 +1.3**
GYA pP pP 01 43 19.0 -0.9
GYA SKS **SKSac** **01 53 33.3 +1.1**
GYA S **SKKSac** **01 53 49.5 +1.7**
GYA pmax pmax
comp=Z,35nm,1.2s
GYA LR LR
comp=Z,310nm,17.6s
GYA LR LR
comp=Z,310nm,15.8s
GYA LR LR
comp=Z,370nm,21.0s
PMR Palmer 91.38 13 P P 01 42 58.7 -5.2
SML Sawmill 91.73 13 P **P** **01 43 06.9 +1.3**
baz=205
WAX Waxell Ridge 91.73 16 P **P** **01 43 05.8 +0.1**
BJT Baijiatuau 91.77 315 P **P** **01 43 06.6 +0.3**
BJT Baijiatuau 91.77 315 P **P** **01 43 06.6 +0.3**
BJT pmax pmax
comp=Z,62nm,1.6s
BMRM Bremner River 91.78 15 P **P** **01 43 06.5 +0.7**
baz=208
BJI Beijing 91.78 315 P **P** **01 43 06.8 +0.5**
BJI sS **sS** **01 54 24.3 -5.0**
BJI pmax pmax
comp=Z,12nm,1.4s
BJI pmax pmax
comp=Z,100nm,10.1s
BJI LR LR
comp=Z,130nm,18.7s
BJI LR LR
comp=Z,98nm,17.9s
BJI LR LR
comp=Z,160nm,17.2s
J18K Innoko River 91.89 9 P **P** **01 43 06.0 -0.3**
J18K IAmb IAmb 01 43 16.4
comp=Z,23nm,1.8s
HEH HeiHe 91.90 328 *e*P **P** **01 43 06.0 -0.6**
HEH pmax pmax
comp=Z,8.0nm,1.0s
AHID Auburn Hatcher 92.07 42 P **P** **01 43 07.7 -0.2**
AHID IAmb IAmb 01 43 29.9
comp=Z,13nm,1.2s
NEW Newport 92.13 35 LR LR 02 17 21.4
comp=Z,551nm,21.1s,baz=231,slow=31
K20K Telida 92.17 10 P **P** **01 43 06.9 -0.7**
baz=200
HBVL Hebbronville 92.22 61 P **P** **01 43 09.7 +1.0**
VRDI Verde Repeater 92.27 15 P **P** **01 43 08.7 +0.4**
VRDI IAmb IAmb 01 43 09.5
comp=Z,35nm,1.7s
N25K Chitina, Valde 92.34 15 P **P** **01 43 08.8 +0.3**
N25K IAmb IAmb 01 43 29.4
comp=Z,12nm,1.3s
GLB Gilahina Butte 92.38 15 P **P** **01 43 08.3 -0.3**
GLB IAmb IAmb 01 43 49.0
comp=Z,14nm,1.4s
CAST Castle Rocks 92.54 11 P **P** **01 43 08.1 -1.2**
CAST IAmb IAmb 01 43 09.5
comp=Z,16nm,1.4s
WAT6 Susitna Watana 92.55 13 P **P** **01 43 10.4 +0.9**
baz=205
REDW Red Top Meadow 92.57 42 P **P** **01 43 09.6 -0.6**
FXWY Fox Creek 92.63 41 P **P** **01 43 11.1 +0.6**
FXWY IAmb IAmb 01 43 25.9
comp=Z,9.5nm,1.2s
MSTX Muleshoe 92.66 53 P **P** **01 43 10.9 +0.3**
baz=239
SDCO Great Sand Dun 92.78 49 P **P** **01 43 11.8 +0.4**
baz=237
IMW Indian Meadow 92.83 41 P **P** **01 43 11.7 +0.3**
IMW IAmb IAmb 01 43 34.3
comp=Z,12nm,1.3s
TRF Thorofare Moun 92.87 11 P **P** **01 43 09.9 -1.1**
TRF IAmb IAmb 01 43 21.2
comp=Z,14nm,1.2s
NNA Nana 92.88 105 LR LR 02 15 17.0
comp=Z,321nm,21.5s,baz=246,slow=29
TIY Taiyuan 92.92 311 *e*P **P** **01 43 12.5 +0.8**
TIY LR LR
comp=Z,240nm,16.2s
TIY LR LR
comp=Z,190nm,22.6s
TIY LR LR
comp=Z,350nm,19.6s
PDAR Pinedale Array 93.00 43 P **P** **01 43 11.7 -0.5**
comp=Z,0.6nm,0.6s,baz=197,slow=4.6,SNR=5.4
PDAR LR LR 02 18 43.2
comp=Z,517nm,19.4s,baz=254,slow=31
comp=Z,0.6nm,0.6s
FLWY Flagg Ranch 93.08 41 P **P** **01 43 12.9 +0.4**
FLWY IAmb IAmb 01 43 28.1
comp=Z,11nm,1.1s
APG El Apazote 93.27 75 LR LR 02 16 00.4
comp=Z,15nm,20.9s,baz=250,slow=30
CRAI Chiangrai 93.36 291 P **P** **01 43 14.5 +0.4**
SEY Seymchan 93.39 346 LR LR 02 21 11.1
comp=Z,446nm,20.0s,baz=168,slow=33
SEY Seymchan 93.39 346 *ce*P **P** **01 43 12.4 -0.7**
SEY pmax pmax
comp=Z,5.0nm,1.1s
XAN Xi'an 93.43 307 ⇓P **P** **01 43 15.3 +1.2**
XAN pP pP 01 43 29.8 +0.2
XAN SKS **SKSac** **01 53 39.8 -3.8**
XAN pmax pmax
comp=Z,25nm,1.3s
XAN LR LR
comp=Z,510nm,15.8s
XAN LR LR
comp=Z,740nm,17.1s
XAN LR LR
comp=Z,1μm,20.6s
BOZ Bozeman (W) 93.44 40 P **P** **01 43 13.8 -0.2**
BOZ IAmb IAmb 01 43 29.3
comp=Z,13nm,1.4s
BOZ Bozeman (W) 93.44 40 P **P** **01 43 14.4 +0.4**
baz=234
BOZ Bozeman (W) 93.44 40 P **P** **01 43 13.8 -0.2**
BOZ pmax pmax
comp=Z,13nm,1.5s
YUK3 Moose Creek 93.47 16 P **P** **01 43 14.5 +0.7**
baz=212
M27K Edge Creek, AK 93.63 15 P **P** **01 43 14.3 -0.1**
M27K IAmb IAmb 01 43 15.3
comp=Z,12nm,1.4s
M27K Edge Creek, AK 93.63 15 P **P** **01 43 14.9 +0.4**
baz=210
CMAR Chiang Mai Arr 93.74 289 P **P** **01 43 16.4 +0.6**
CMAR Chiang Mai Arr 93.74 289 P **P** **01 43 15.7 -0.2**
comp=Z,3.0nm,0.9s,baz=127,slow=3.1,SNR=16
comp=Z,3.0nm,0.9s
CMAR Chiang Mai Arr 93.74 289 *ce*P **P** **01 43 17.3 +1.4**
CMAR pmax pmax
comp=Z,3.0nm,0.9s
ATAH Atahualpa 93.82 100 LR LR 02 15 40.8
comp=Z,877nm,21.1s,baz=234,slow=29
DLBC Dease Lake 93.82 22 LR LR 02 19 51.1
comp=Z,193nm,19.1s,baz=248,slow=32
CHTO Chiang Mai 93.91 289 P **P** **01 43 17.2 +0.6**
CHTO Chiang Mai 93.91 289 P **P** **01 43 17.2 +0.6**
CHTO pmax pmax
comp=Z,77nm,2.0s
XLT XiLinHaoTe 94.03 318 *e*P **P** **01 43 17.0 +0.3**
XLT SKS **SKSac** **01 53 49.5 +2.9**
XLT S **ScS** **01 54 27.5 +3.6**
XLT pmax pmax
comp=Z,9.0nm,1.1s
XLT pmax pmax
comp=Z,86nm,8.8s
XLT LR LR
comp=Z,300nm,20.8s
XLT LR LR
comp=Z,290nm,19.5s
LVC Limon Verde 94.14 118 LR LR 02 16 53.0
comp=Z,519nm,20.6s,baz=278,slow=30
ZEA Zeya 94.32 330 *i* P **P** **01 43 18.3 +0.6**
HDA Harding Lake 94.36 12 P **P** **01 43 17.1 -0.5**
CCB Clear Creek Bu 94.42 12 P **P** **01 43 16.8 -1.0**
CCB IAmb IAmb 01 43 36.7
comp=Z,30nm,1.8s
MDM Murphy Dome 94.62 12 P **P** **01 43 19.3 +0.5**
MDM IAmb IAmb 01 43 20.3
comp=Z,9.6nm,1.3s
IL31 94.70 12 P **P** **01 43 18.2 -0.9**
IL31 IAmb IAmb 01 43 20.6
comp=Z,13nm,1.5s
ILAR Eielson Array 94.70 12 P **P** **01 43 17.5 -1.7**
ILAR Eielson Array 94.70 12 P **P** **01 43 17.8 -1.4**
comp=Z,1.1nm,0.8s,baz=222,slow=5.9,SNR=14
ILAR PP **PP** **01 47 06.3 -2.2**
comp=Z,0.3nm,0.9s,baz=216,slow=7.6,SNR=1.6
ILAR LR LR 02 19 35.4
comp=Z,115nm,20.7s,baz=224,slow=31
comp=Z,1.1nm,0.8s
J25K Salcha River, 94.85 13 P **P** **01 43 19.6 -0.3**
J25K Salcha River, 94.85 13 P **P** **01 43 19.7 -0.3**
baz=208
J26L Joseph Creek 95.12 14 P **P** **01 43 21.4 +0.2**
J26L IAmb IAmb 01 43 42.2
comp=Z,8.6nm,1.1s
J26L Joseph Creek 95.12 14 P **P** **01 43 21.7 +0.5**
baz=209
HHC Hu-ho-hao-te 95.17 314 *e*P **P** **01 43 22.8 +0.8**
HHC SKS **SKSac** **01 53 54.5 +1.7**
HHC S **S** **01 54 25.5 -7.1**
HHC sS sS 01 54 57.0 -2.5
HHC pmax pmax
comp=Z,12nm,1.1s
HHC pmax pmax
comp=Z,150nm,5.0s
HHC LR LR
comp=Z,270nm,15.4s
HHC LR LR
comp=Z,330nm,16.0s
HHC LR LR
comp=Z,490nm,15.3s
PZH PanZhiHua 95.17 297 P **P** **01 43 21.3 -1.1**
PZH SKS **SKSac** **01 53 50.8 -2.8**
PZH S **ScS** **01 54 35.5 +1.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,120nm,4.8s
PZH LR LR
comp=Z,200nm,17.1s
PZH LR LR
comp=Z,200nm,18.0s
PZH LR LR
comp=Z,250nm,18.6s
L29M L29M 95.18 16 P **P** **01 43 21.5 +0.1**
L29M IAmb IAmb 01 43 23.6
comp=Z,16nm,1.6s
L29M L29M 95.18 16 P **P** **01 43 22.4 +0.9**
baz=214
CD2 Chengdu 95.68 302 P **P** **01 43 26.0 +1.5**
CD2 SKS **SKSac** **01 53 56.3 +0.4**
CD2 S **S** **01 54 36.0 -1.4**
CD2 sS sS 01 55 00.8 -3.5
CD2 pmax pmax
comp=Z,20nm,1.0s
CD2 pmax pmax
comp=Z,230nm,4.1s
CD2 LR LR
comp=Z,220nm,16.5s
CD2 LR LR
comp=Z,300nm,18.4s
CD2 LR LR
comp=Z,230nm,17.1s
JTS Las Juntas de 95.94 82 LR LR 02 17 45.4
comp=Z,522nm,18.8s,baz=238,slow=30
BILL Bilibino 96.02 354 P **P** **01 43 24.4 -0.6**
BILL IAmb IAmb 01 43 37.9
comp=Z,7.9nm,1.1s
BILL Bilibino 96.02 354 *e*P **P** **01 43 24.3 -0.8**
BILL pmax pmax
comp=Z,11nm,1.3s
BTO Baotou 96.04 313 *e*P **P** **01 43 27.8 +1.8**
BTO pP **pwP** **01 43 45.3 -0.4**
BTO sP **sP** **01 43 51.8 +4.3**
BTO SKS **SKSac** **01 53 56.8 -0.7**
BTO S **S** **01 54 39.8 -0.4**
BTO pmax pmax
comp=Z,10.0nm,0.9s
BTO pmax pmax
comp=Z,340nm,10.2s
BTO LR LR
comp=Z,790nm,18.4s
BTO LR LR
comp=Z,460nm,21.0s
BTO LR LR
comp=Z,1μm,20.6s
DRK0 Durika 96.99 83 P **P** **01 43 32.0 +0.9**
RSSD Black Hills 97.10 44 P **P** **01 43 30.3 -0.6**
RSSD IAmb IAmb 01 43 46.1
comp=Z,24nm,1.6s
RSSD Black Hills 97.10 44 P Pdif 01 43 31.0 0.0
baz=239
RSSD Black Hills 97.10 44 P **P** **01 43 30.3 -0.6**
RSSD pmax pmax
comp=Z,24nm,1.6s
I30M Mount Dempster 97.36 16 P **P** **01 43 29.8 -1.7**
LZH Lanzhou 98.06 306 *e*P Pdif 01 43 37.3 +1.9
LZH sP sP 01 43 57.3 +0.5
LZH pmax pmax
comp=Z,18nm,1.2s
LZH LR LR
comp=Z,420nm,18.6s
LZH LR LR
comp=Z,540nm,19.2s
LZH LR LR
comp=Z,910nm,20.6s
LPAZ La Paz 98.06 113 LR LR 02 18 56.7
comp=Z,318nm,21.1s,baz=230,slow=30
YAK Yakutsk 99.02 337 LR LR 02 29 25.0
comp=Z,281nm,18.7s,baz=142,slow=36
YAK Yakutsk 99.02 337 *i* P **Pdif** **01 43 38.8 +0.1**
YAK pmax pmax
comp=Z,15nm,0.6s
SONM Songino Array 101.85 318 P **Pdif** **01 43 50.9 -1.0**
comp=Z,0.3nm,0.5s,baz=116,slow=3.4,SNR=1.8
YKA Yellowknife Ar 102.14 25 PP **PP** **01 48 04.1 -1.4**
comp=Z,0.1nm,0.5s,baz=243,slow=6.2,SNR=1.5
GTA Gaotai 102.40 308 P **Pdif** **01 43 55.0 +0.5**
GTA sP sPdif 01 44 15.3 -0.7
GTA SKS **SKSac** **01 54 29.3 0.0**
GTA pmax pmax
comp=Z,4.0nm,1.3s
GTA LR LR
comp=Z,200nm,22.3s
GTA LR LR
comp=Z,290nm,23.9s
GTA LR LR
comp=Z,380nm,23.1s
WMQ Urumqi 112.45 309 *e*PKP **PKiKP** **01 48 36.0 +1.6**
WMQ LR LR
comp=Z,290nm,21.9s
ZALV Zalesovo Beam 116.70 319 PKP **PKPdf** **01 48 41.1 -1.0**
comp=Z,1.3nm,0.6s,baz=204,slow=3.3,SNR=5.4
MK31 Makanchi Array 116.89 311 PKPdf **PKPdf** **01 48 41.2 -1.6**
MK31 Makanchi Array 116.89 311 PKiKP **PKPdf** **01 48 41.2 -1.6**
MKAR Makanchi Array 116.89 311 PKPdf **PKPdf** **01 48 41.8 -1.0**
MKAR Makanchi Array 116.89 311 PKP **PKPdf** **01 48 41.5 -1.2**
comp=Z,1.5nm,0.6s,baz=161,slow=0.8,SNR=14
MKAR Makanchi Array 116.89 311 PKiKP **PKPdf** **01 48 41.8 -1.0**
KSH Kashi 119.88 302 PKP **PKiKP** **01 48 50.5 +1.5**
KURK Kurchatov 119.95 315 PKPdf **PKPdf** **01 48 47.9 -0.6**
KURK Kurchatov 119.95 315 *c* iPKiKP **PKPdf** **01 48 48.2 -0.3**
KURK pmax pmax
comp=Z,9.0nm,1.3s
KURBB Kurchatov Arra 120.00 315 PKP **PKPdf** **01 48 47.5 -1.1**
comp=Z,2.3nm,0.9s,baz=103,slow=1.9,SNR=14
KURBB PP **PP** **01 50 14.7 +0.7**
comp=Z,0.2nm,0.3s,baz=97,slow=8.3,SNR=1.8
KKAR Karatay Array 124.53 305 PKPdf **PKPdf** **01 48 57.1 -0.5**
KKAR Karatay Array 124.53 305 PKiKP **PKPdf** **01 48 57.1 -0.5**
BVAR Borovoye Array 125.19 317 PKP **PKPdf** **01 48 57.9 -0.6**
comp=Z,2.4nm,0.5s,baz=114,slow=1.8,SNR=15
BRVK Borovoye 125.26 317 PKPdf **PKPdf** **01 48 57.3 -1.4**
BRVK Borovoye 125.26 317 *c* iPKiKP **PKPdf** **01 48 58.5 -0.1**
BRVK pmax pmax
comp=Z,10.0nm,1.3s
SPITS Spitsbergen Ar 128.80 357 PKP **PKPdf** **01 49 04.9 +0.1**
comp=Z,12nm,1.1s,baz=274,slow=6.5,SNR=2.3
ARU Arti 131.61 323 PKPdf **PKiKP** **01 49 11.2 -0.4**
ARU Arti 131.61 323 *c* iPKiKP **PKiKP** **01 49 11.8 +0.2**
ARU pmax pmax
comp=Z,19nm,1.7s
ABKAR Akbulak array 131.95 313 PKPdf **PKPdf** **01 49 11.1 -0.4**
GEYT Alibeck 133.48 297 PKPdf **PKiKP** **01 49 15.8 -0.3**
GEYT Alibeck 133.48 297 PKP **PKPdf** **01 49 15.1 +0.3**
comp=Z,1.9nm,0.8s,baz=222,slow=1.9,SNR=5.8
GEYT Alibeck 133.48 297 PKiKP **PKiKP** **01 49 15.8 -0.3**
KIRV Kirov 135.59 328 *c* iPKiKP **PKPdf** **01 49 18.5 +0.5**
ARA0 ARCESS Array S 135.94 349 *e*P **PKPdf** **01 49 18.3 -0.1**
ARCES ARCESS Array B 135.94 349 PKhKP PKPpre 01 49 12.2
comp=Z,1.4nm,0.8s,baz=344,slow=26,SNR=1.4
ARCES PKP **PKPdf** **01 49 17.8 -0.7**
comp=Z,4.7nm,0.8s,baz=42,slow=1.7,SNR=17
KLMR Klimovskoe 138.72 334 *e*PKiKP **PKPdf** **01 49 19.3 -4.4**
KLMR pmax pmax
comp=Z,21nm,1.4s
MAK Makhachkala 141.35 305 *i* P **Pdif** **01 46 50.5 +3.1**
MAK *e* 01 52 31.8
MAK *e*PPP PPP 01 55 42.1
MAK *e*SS SS 02 10 57.3 -0.6
RAYN Ar Rayn 142.09 274 PKPdf **PKPdf** **01 49 28.4 -2.7**
RAYN Ar Rayn 142.09 274 PKiKP **PKPdf** **01 49 28.4 -2.7**
KEF Keuruu 142.47 344 *e*P **PKPdf** **01 49 28.2 -2.3**
GROC Groznyy 142.54 306 *e*PKiKP **PKPdf** **01 49 27.5 -3.7**
GROC *e* 01 49 45.7
GROC *e* 01 52 36.2
GROC pmax pmax
comp=Z,27nm,1.5s
MOS Moscow 142.57 329 *i* PKiKP **PKPdf** **01 49 29.8 -1.0**
MOS *e* 01 52 42.3
VRH Novokhopyorsk 142.72 320 *e*PKHKP PKPpre 01 49 26.8
VRH pmax pmax
comp=Z,12nm,1.1s
FINES FINESS Array B 142.76 342 PKhKP PKPpre 01 49 26.2
comp=Z,1.9nm,0.5s,baz=39,slow=2.4,SNR=27
OBN Obninsk 143.43 328 *d* iPKiKP PKPab 01 49 29.0 +0.4
OBN *i* 01 49 47.0
OBN *i* 01 52 46.7
OBN *e* 02 05 03.4
OBN *e*SS SS 02 11 21.7 +1.1
OBN pmax pmax
comp=Z,21nm,1.2s
GNI Garni 143.81 301 PKPdf PKPbc 01 49 31.8 +0.2
GNI Garni 143.81 301 *i* PKiKP PKPbc 01 49 32.2 +0.6
VORR Voronezh 143.92 322 *e*PKiKP PKPbc 01 49 31.8 +0.5
VORR pmax pmax
comp=Z,18nm,0.4s
GOF Gofitskoye 144.04 310 *ce*PKiKP PKPbc 01 49 32.3 +0.4

VSR	Storozhevoye	144.16	321	*e*PKHKP	PKPpre	01 49 29.2		
VSR				pmax	pmax			
	comp=Z,20nm,1.3s							
RAF	Rauma	144.20	345	*e*P	**PKPab**	**01 49 31.5**	**+0.1**	
TASB	TASBURUN-IGDIR	144.22	301	*e*P	**PKPab**	**01 49 32.1**	**-0.2**	
MEF	Metsahovi	144.24	342	*e*P	**PKPdf**	**01 49 33.6**	**0.0**	
ONI	Oni	144.35	306	*e*P	**PKPdf**	**01 49 34.4**	**-0.1**	
ARBE	Arbavere	144.44	340	*e*P	PKPbc	01 49 32.8	+0.1	
KBZ	Khabaz	144.49	308	PKP	**PKPab**	**01 49 32.8**	**-0.3**	
	comp=Z,4.0nm,0.9s,baz=103,slow=4.7,SNR=9.7							
KBZ	Khabaz	144.49	308	*c i*PKIKP	PKPbc	01 49 33.5	+0.2	
AKH	Akhalkalaki	144.55	304	*e*P	**PKPdf**	**01 49 34.8**	**-0.3**	
CLDR	Caldiran	144.57	300	*e*P	**PKPdf**	**01 49 34.7**	**-0.5**	
KIV	Kislovodsk	144.58	308	⇑P	PKPbc	01 49 34.2	+0.5	
KIV	Kislovodsk	144.58	308	PKPdf	PKPbc	01 49 33.9	+0.2	
KIV	Kislovodsk	144.58	308	*c i*PKIKP	**PKPab**	**01 49 33.2**	**-0.4**	
KIV				*i*		01 49 47.4		
KIV				*i*		01 49 52.1		
KIV				*i*		01 52 50.4		
KIV				SS	SS	02 11 39.0	+3.7	
KIV				SSS	SSS	02 16 54.0		
KIV				pmax	pmax			
	comp=Z,25nm,1.2s							
SHA1	Shidzhatmaz	144.65	308	*c i*PKIKP	**PKPdf**	**01 49 35.7**	**+0.5**	
VSU	Vasula	144.99	339	*i*PKIKP	**PKPab**	**01 49 34.5**	**+0.1**	
KARS	Kars	145.00	302	*e*P	**PKPdf**	**01 49 36.3**	**+0.5**	
VANB	Van	145.04	296	*e*P	**PKPdf**	**01 49 36.4**	**+0.5**	
AKN	Aaknes	145.15	357	*e*P	**PKPbc**	**01 49 34.6**	**-0.3**	
DOMB	Dombas	145.16	355	*e*P	**PKPbc**	**01 49 34.1**	**-0.9**	
AAL	Aland	145.36	346	*e*P	**PKPbc**	**01 49 34.5**	**-1.0**	
AKDM	Akdamar-Van	145.40	298	*e*P	**PKPab**	**01 49 37.3**	**+0.4**	
SENK	Senkaya-Erzuru	145.55	303	*e*P	**PKPab**	**01 49 37.9**	**+0.5**	
ERBR	Yeremizino-Bor	145.56	312	*e*PKIKP	**PKPbc**	**01 49 36.6**	**-0.1**	
ERBR				pmax	pmax			
	comp=Z,178nm,1.2s							
MLAZ	Malazgirt-MUS	145.63	300	*e*P	**PKPab**	**01 49 38.4**	**+0.7**	
MTSE	Matsula	145.67	341	*e*P	**PKPbc**	**01 49 36.5**	**-0.1**	
LABN	Labinsk	145.74	310	*e*PKIKP	**PKPdf**	**01 49 36.8**	**0.0**	
LABN				pmax	pmax			
	comp=Z,58nm,1.3s							
NC303	NORSAR Array S	145.77	353		**PKPdf**	**01 49 36.5**	**+0.2**	
NC204	NORSAR Array S	145.78	354	PKPdf	**PKPdf**	**01 49 36.5**	**+0.1**	
FOO	Floro	145.79	359	*e*P	**PKPdf**	**01 49 36.5**	**+0.2**	
BATM	Batumi	145.84	304	*e*P	**PKPbc**	**01 49 37.9**	**+0.2**	
NC405	NORSAR Array S	145.84	353		**PKPdf**	**01 49 36.7**	**+0.3**	
BCA	Borcka	145.92	304	⇑P	**PKPbc**	**01 49 37.8**	**-0.2**	
BCA	Borcka	145.92	304	*e*P	**PKPbc**	**01 49 38.2**	**+0.2**	
NB201	NORSAR Array S	145.95	353	PKPdf	**PKPdf**	**01 49 37.0**	**+0.3**	
NB2	NORSAR Subarra	145.97	353	PKP	**PKPdf**	**01 49 36.3**	**-0.4**	
	comp=Z,117nm,1.7s,baz=12,slow=3.1							
NB2	NORSAR Subarra	145.97	353	PKP	**PKPdf**	**01 49 36.3**	**-0.4**	
	baz=12,slow=3.1							
NOA	NORSAR Array B	145.97	353	PKPbc	**PKPdf**	**01 49 36.6**	**-0.1**	
	comp=Z,15nm,1.0s,baz=14,slow=4.4,SNR=32							
NOA				PP	**PP**	**01 52 59.5**	**+0.4**	
	comp=Z,0.5nm,1.0s,baz=23,slow=5.0,SNR=1.9							
NBO00	NORSAR Array S	146.02	354		**PKPbc**	**01 49 37.4**	**-0.2**	
KOPR	Koprukoy-ERZUR	146.03	302	*e*P	**PKPbc**	**01 49 38.6**	**0.0**	
GURO	Guroymak-BITLI	146.11	299	*e*P	**PKPab**	**01 49 39.8**	**+0.3**	
UPP	Uppsala	146.14	347	*e*P	**PKPdf**	**01 49 36.8**	**-0.1**	
HYA	Hoyanger	146.19	358	*e*P	**PKPbc**	**01 49 37.7**	**-0.4**	
NAO01	NORSAR Array S	146.19	354		**PKPbc**	**01 49 37.6**	**-0.6**	
NC602	NORSAR Array S	146.23	353		**PKPdf**	**01 49 37.6**	**+0.5**	
NC602	NORSAR Array S	146.23	353	*e*P	**PKPdf**	**01 49 37.2**	**+0.1**	
SUE	Sulen	146.34	359	*e*P	**PKPbc**	**01 49 38.2**	**-0.3**	
VRTB	Varto-Mus	146.46	300	*e*P	**PKPab**	**01 49 41.5**	**+0.6**	
HFS	Hagfors	146.55	351	PKPbc	**PKPdf**	**01 49 38.3**	**+0.7**	
	comp=Z,17nm,0.6s,baz=60,slow=3.6,SNR=69							
SKAR	Skarslia	146.57	356	*e*P	**PKPbc**	**01 49 39.2**	**-0.1**	
CHOM	Cayeli-Rize	146.63	304	*e*P	**PKPdf**	**01 49 37.9**	**-0.5**	
SOC	Sochi	146.75	309	*e*PKIKP	**PKPdf**	**01 49 37.9**	**-0.6**	
SOC				*e*		01 53 02.3		
SOC				*e*PPP	PPP	01 56 18.1		
SOC				pmax	pmax			
	comp=Z,24nm,0.9s							
SVAN	Silvan-Diyarba	146.81	298	*e*P	**PKPbc**	**01 49 41.1**	**+0.4**	
ASK	Askoy	146.90	359	*e*P	**PKPbc**	**01 49 39.9**	**-0.3**	
SLIT	Slitere, Latvi	147.02	342	*e*P	**PKPbc**	**01 49 39.6**	**-0.9**	
BNGB	Bingl	147.09	300	*e*P	**PKPab**	**01 49 42.6**	**-0.7**	
OSL	Oslo	147.10	353	*e*P	**PKPab**	**01 49 42.2**	**-0.2**	
IDID	Didziasalis	147.44	335	*e*P	**PKPbc**	**01 49 41.2**	**-0.6**	
ISAL	Salakas	147.47	336	*e*P	**PKPbc**	**01 49 41.2**	**-0.7**	
MAZI	Mazidag	147.49	297	*e*P	**PKPbc**	**01 49 43.4**	**+0.7**	
KONO	Kongsberg	147.49	354	PKPdf	**PKPdf**	**01 49 40.2**	**+1.0**	
KONO	Kongsberg	147.49	354	*e*P	**PKPbc**	**01 49 41.6**	**-0.2**	
KONO	Kongsberg	147.49	354	⇓PKP2	**PKPbc**	**01 49 41.0**	**-0.8**	
VIKU	Vikbolandet	147.58	347	*e*P	**PKPdf**	**01 49 40.5**	**+1.1**	
MNK	Minsk	147.61	333	*i*PKP2	**PKPbc**	**01 49 43.3**	**+1.0**	
MNK				*i*		01 53 07.1		
MNK				*i*SS	SS	02 12 07.2	-0.8	
MNK				pmax	pmax			
	comp=Z,48nm,0.9s							
MNK				pmax	pmax			
	comp=N,12nm,0.9s							
MNK				pmax	pmax			
	comp=E,4.0nm,1.0s							
DYBB	Diyarbakir	147.66	298	*e*P	**PKPbc**	**01 49 42.9**	**-0.2**	
VSVD	Vaisvydziai	147.90	338	*e*P	**PKPbc**	**01 49 42.1**	**-0.9**	
ANN	Anapa	147.90	312	*e*PKP2	**PKPbc**	**01 49 43.7**	**+0.3**	
ANN				pmax	pmax			
	comp=Z,69nm,1.0s							
BLS5	Blasjo	147.92	357	*e*P	**PKiKP**	**01 49 44.7**	**-0.2**	
PTK	Pertek	148.09	300	*e*P	**PKiKP**	**01 49 45.8**	**-0.4**	
ESPY	Espiye-Giresun	148.17	304	*e*P	**PKPbc**	**01 49 43.2**	**-1.1**	
KMY	Karmoy	148.18	358	*e*P	**PKPbc**	**01 49 43.5**	**-0.2**	
PABE	Paberze	148.27	338	PKPdf	**PKPdf**	**01 49 41.1**	**+0.5**	
PABE	Paberze	148.27	338	*e*P	**PKPbc**	**01 49 43.1**	**-0.9**	
PBUR	Paburge	148.49	340	*e*P	**PKPbc**	**01 49 43.5**	**-1.1**	
URFA	Urfa	148.77	298	*e*P	**PKPbc**	**01 49 46.6**	**+0.5**	
ARPR	Arapgir-MALATY	148.87	301	*e*P	**PKiKP**	**01 49 47.5**	**-0.2**	
ARPR	Arapgir-MALATY	148.87	301		**PKiKP**	**01 49 47.3**	**-0.4**	
HOMB	Homborsund	148.95	355	*e*P	**PKPbc**	**01 49 45.6**	**-0.1**	
SNART	Snartemo	148.97	356	*e*P	**PKPbc**	**01 49 45.7**	**-0.1**	
RSDY	Resadiye-TOKAT	149.33	304	*e*P	**PKPbc**	**01 49 47.7**	**+0.4**	
DARE	Darende-Malaty	149.62	300	*e*P	**PKiKP**	**01 49 49.6**	**+0.4**	
AKASG	Malin Array Be	149.65	327	PKPbc	**PKPbc**	**01 49 46.6**	**-1.0**	
	comp=Z,6.4nm,0.6s,baz=38,slow=2.8,SNR=12							
AKASG				PP	**PP**	**01 53 17.5**	**-3.6**	
	comp=Z,0.1nm,0.3s,baz=41,slow=5.6,SNR=1.5							
AKBB	Malin Array Si	149.65	327	*i*PKHKP	PKPpre	01 49 43.3		
KIEV	Kiev	149.66	327		**PKPdf**	**01 49 43.0**	**0.0**	
KIEV	Kiev	149.66	327	PKHKP	PKPpre	01 49 43.0		
SVSK	Karacayir	149.69	303	*e*P	**PKiKP**	**01 49 49.4**	**+0.3**	
SUW	Suwalki	149.73	337	*e*PKP	**PKPbc**	**01 49 47.8**	**0.0**	
SUW	Suwalki	149.75	337	*e*P	**PKPbc**	**01 49 45.6**	**-2.2**	
DEL	Delary	150.02	349	*e*P	**PKPdf**	**01 49 45.3**	**+1.9**	
GAZ	Gaziantep	150.08	298	*e*P	**PKPbc**	**01 49 49.2**	**-0.1**	
KVT	Kavak	150.08	306	*e*P	**PKPab**	**01 49 55.8**	**+0.6**	
KMRS	Kahramanmaras	150.27	298	*e*P	**PKiKP**	**01 49 50.2**	**-0.3**	
SARI	SarD1z-Kayseri	150.47	300	*e*P	**PKiKP**	**01 49 51.1**	**0.0**	
BNN	Bunyan	150.81	301	*e*P	**PKPbc**	**01 49 50.3**	**-0.8**	
BNN	Bunyan	150.81	301		**PKiKP**	**01 49 51.4**	**-0.3**	
BSD	Bornholm Skovb	151.10	346	*e*P	**PKPdf**	**01 49 47.4**	**+2.3**	
CEYT	Ceyhan	151.26	298	*e*P	**PKPbc**	**01 49 51.4**	**-0.6**	
CORM	Corum	151.38	304	*e*P	**PKPbc**	**01 49 50.6**	**-1.7**	
EKA	Eskdalemuir Ar	151.66	8	PKPbc	**PKPbc**	**01 49 51.4**	**-0.9**	
	comp=Z,1.0nm,0.5s,baz=302,slow=1.9,SNR=9.4							
ESK	Eskdalemuir	151.67	8		**PKiKP**	**01 49 52.7**	**0.0**	
ESK	Eskdalemuir	151.67	8	PKIKP	**PKiKP**	**01 49 52.7**	**0.0**	
SORM	Soroca	151.72	324	⇓P	**PKPbc**	**01 49 51.6**	**-1.0**	
SORM	Soroca	151.72	324	⇓PKIKP	**PKPbc**	**01 49 51.6**	**-1.0**	
CMRD	Camardi-Nigde	151.73	299	*e*P	**PKiKP**	**01 49 54.1**	**+0.5**	
MMAI	Mount Meron Ar	152.00	289	PKPbc	**PKiKP**	**01 49 54.8**	**+0.6**	
	comp=Z,10nm,0.8s,baz=64,slow=5.0,SNR=18							
MMAI				PKPab	**PKPab**	**01 50 03.7**	**+0.2**	
	comp=Z,46nm,1.0s,baz=88,slow=4.6,SNR=17							
MMLI	Mount Malkishu	152.01	288	*e*P	**PKiKP**	**01 49 54.4**	**+0.2**	
MILM	Milestii Mici	152.20	321	⇓P	**PKPbc**	**01 49 52.9**	**-0.9**	
MILM	Milestii Mici	152.20	321	*e*PKP	**PKPdf**	**01 49 47.0**	**0.0**	
	comp=Z,60nm,1.4s							
MILM	Milestii Mici	152.20	321	*e*PKIKP	**PKPdf**	**01 49 47.0**	**0.0**	
MILM				pmax	pmax			
	comp=Z,60nm,1.4s							
BR131	Keskin Array S	152.24	304	*e*P	**PKPbc**	**01 49 53.1**	**-1.2**	
BR131	Keskin Array S	152.24	304		**PKPbc**	**01 49 54.1**	**-0.2**	
BR131	Keskin Array S	152.24	304	PKIKP	**PKPbc**	**01 49 54.1**	**-0.2**	
BRTR	Keskin Array B	152.24	304		**PKPdf**	**01 49 47.1**	**-0.4**	
BRTR					**PKPbc**	**01 49 53.9**	**-0.4**	
BRTR	Keskin Array B	152.24	304	PKP	**PKPdf**	**01 49 47.0**	**-0.6**	
	comp=Z,0.5nm,0.9s,baz=332,slow=2.1,SNR=5.3							
BRTR				PKPbc	**PKPbc**	**01 49 54.0**	**-0.2**	
	comp=Z,4.4nm,0.9s,baz=90,slow=1.2,SNR=17							
BRTR				PKPab	**pPKPdf**	**01 50 03.5**	**0.0**	
	comp=Z,6.9nm,0.8s,baz=108,slow=2.4,SNR=11							
BRTR				PP	**PP**	**01 53 35.6**	**-1.3**	
	comp=Z,3.0nm,1.2s,baz=90,slow=4.3,SNR=4.4							
GKP	Gorka Klasztor	152.24	342	*e*PKP	**PKPbc**	**01 49 53.7**	**0.0**	
GKP	Gorka Klasztor	152.24	342	*e*P	**PKPdf**	**01 49 49.5**	**+2.6**	
LVV	L'vov	152.66	330	*e*PKIKP	**PKiKP**	**01 49 55.0**	**0.0**	
AFSR	Afar-Bala (An	152.74	304	*e*P	**PKPbc**	**01 49 54.5**	**-0.9**	
ANTO	Ankara	152.81	305	⇓P	**PKPbc**	**01 49 55.2**	**-0.3**	
ANTO	Ankara	152.81	305		**PKiKP**	**01 49 55.6**	**-0.1**	
ANTO	Ankara	152.81	305	⇓PKIKP	**PKPbc**	**01 49 55.2**	**-0.3**	
KWP	Kalwaria Pacla	153.38	332	*e*PKP	**PKPbc**	**01 49 55.9**	**-0.4**	
CFR	Carcaliu	153.58	319	⇑P	**PKPbc**	**01 49 54.6**	**-2.3**	
CFR	Carcaliu	153.58	319	⇑PKIKP	**PKPbc**	**01 49 54.6**	**-2.3**	
TESR	Tescani	153.63	322	⇑P	**PKPbc**	**01 49 56.7**	**-0.3**	
BURAR	Bucovina Array	153.67	326	⇑P	**PKiKP**	**01 49 57.4**	**+0.2**	
BURAR	Bucovina Array	153.67	326		**PKPdf**	**01 49 49.5**	**+0.2**	
BURAR					**PKiKP**	**01 49 57.4**	**+0.2**	
PLOR	Plostina	154.04	321	⇑P	**PKPab**	**01 50 11.2**	**-0.4**	
PLOR	Plostina	154.04	321	⇑PKP2	**PKPab**	**01 50 11.2**	**-0.4**	
OJC	Ojcow	154.05	336	*e*PKP	**PKPbc**	**01 49 57.5**	**-0.3**	
KOLS	Kolonicke sedl	154.09	331	*e*PKP	**PKPdf**	**01 49 50.3**	**+0.5**	
KOLS				*e*		01 50 10.1		
KOLS	Kolonicke sedl	154.09	331	*e*PKIKP	**PKPdf**	**01 49 50.3**	**+0.5**	
KOLS				*e*		01 50 10.1		
TURR	Turia	154.26	322	⇑P	**PKiKP**	**01 50 00.5**	**+2.0**	
CRVS	Cervenica-Dubn	154.46	332	*e*PKP	**PKPdf**	**01 49 50.9**	**+0.6**	
CRVS				*e*		01 50 13.3		
CRVS	Cervenica-Dubn	154.46	332	*e*PKIKP	**PKPdf**	**01 49 50.9**	**+0.6**	
NIE	Niedzica	154.52	334	*e*PKP	**PKPdf**	**01 49 50.7**	**+0.3**	
MLR	Muntele Rosu	154.65	321	⇑P	**PKPdf**	**01 49 50.1**	**-0.7**	
MLR	Muntele Rosu	154.65	321	⇑PKIKP	**PKPdf**	**01 49 50.1**	**-0.7**	
DOPR	Dopca	154.66	323	⇑P	**PKiKP**	**01 49 59.3**	**+0.1**	
OSTC	Ostas	154.94	341	AMS	AMS	02 59 40.0		
	comp=Z,400nm,18.8s							
OKC	Ostrava-Krasne	154.96	337	AMS	AMS	02 56 10.0		
	comp=Z,300nm,22.0s							
UPC	Upice	155.05	341	*e*PKPAB	**PKPab**	**01 50 15.7**	**+0.1**	
UPC				AMS	AMS	02 59 20.0		
	comp=Z,400nm,18.5s							
UPC	Upice	155.05	341	*e*PKP2	**PKPab**	**01 50 15.7**	**+0.1**	
UPC				MLR	MLR			
	comp=Z,400nm,18.5s							
CLL	Collm	155.08	346	*i*PKIKP	**PKPdf**	**01 49 49.8**	**-1.2**	
CLL				*i*		01 49 59.0		
CLL				*e*		01 50 10.0		
CLL				*i*		01 50 14.2		
CLL				pmax	pmax			
	comp=Z,6.0nm,1.2s							
CLL				pmax	pmax			
	comp=Z,20nm,1.4s							
CLL				MLR	MLR			
	comp=Z,300nm,21.4s							
CJR	Cluj-Napoca	155.09	326	⇓P	PKPdf	01 50 00.9	+10	
CJR	Cluj-Napoca	155.09	326	⇓PKIKP	PKPdf	01 50 00.9	+10	
DPC	Dobruska-Polom	155.10	340	AMS	AMS	02 59 50.0		
	comp=Z,400nm,19.2s							
MORC	Moravsky Berou	155.21	338	PKPdf	**PKPdf**	**01 49 52.4**	**+1.0**	
MORC	Moravsky Berou	155.21	338	*e*PKP	**PKPdf**	**01 49 49.4**	**-1.9**	
MORC	Moravsky Berou	155.21	338	PKIKP	**PKPdf**	**01 49 52.4**	**+1.0**	
BRG	Berggiesshubel	155.26	344	*e*PKP	**PKPdf**	**01 49 51.6**	**+0.3**	
BRG				Amp		01 49 53.3		
	comp=Z,9.0nm,1.4s							
BRG	Berggiesshubel	155.26	344	P	PKPdf	01 50 00.9	+10	
BRG				Amp		01 50 03.3		
	comp=Z,16nm,1.4s							
BRG	Berggiesshubel	155.26	344	P	**PKPab**	**01 50 13.4**	**-3.2**	
BRG				Amp		01 50 18.3		
	comp=Z,12nm,1.1s							
BRG	Berggiesshubel	155.26	344	PP	PP	01 53 52.0	-0.5	
MARR	Marisel-Cluj	155.35	326	⇑P	PKPdf	01 50 01.2	+9.5	
HSKC	Hora Svate Kat	155.63	345	AMS	AMS	03 11 40.0		
	comp=Z,400nm,18.2s							
VYHS	Vyhne	155.83	335	*e*PKP	PKPdf	01 50 02.3	+10	
VYHS				*e*		01 50 17.8		
VYHS	Vyhne	155.83	335	*e*PKIKP	PKPdf	01 50 02.3	+10	
VYHS				*e*		01 50 17.8		
PSZ	Piszkesteto	155.88	332	PKPdf	**PKPdf**	**01 49 51.8**	**-0.5**	
PSZ	Piszkesteto	155.88	332	PKIKP	**PKPdf**	**01 49 51.8**	**-0.5**	
PRA	Prague	155.88	343	AMS	AMS	03 11 50.0		
	comp=Z,300nm,15.8s							
PRU	Pruhonice	155.93	343	AMS	AMS	03 11 20.0		
	comp=Z,300nm,18.7s							
GOPC	GO Pecny, Ondr	155.93	342	AMS	AMS	03 12 20.0		
	comp=Z,400nm,22.0s							
VRAC	Vranov	155.93	339	*e*PKP	**PKPdf**	**01 49 51.2**	**-1.1**	
JAVC	Velka Javorina	155.95	337	*e*PKP	**PKPdf**	**01 49 52.7**	**+0.3**	
ELND	Elena	156.18	316	⇑P	**PKPab**	**01 50 21.5**	**+0.7**	
KRUC	Moravsky	156.21	339	*e*PKP	**PKPdf**	**01 49 52.0**	**-0.6**	
NKC	Novy Kostel	156.21	346	AMS	AMS	03 10 50.0		
	comp=Z,400nm,18.5s							
MODS	Modra-Piesok	156.50	337	*e*PKP	**PKPdf**	**01 49 54.2**	**+1.1**	
MODS				*e*		01 50 22.6		
MODS	Modra-Piesok	156.50	337	*e*PKIKP	**PKPdf**	**01 49 54.2**	**+1.1**	
BZS	Buzias	156.84	326	⇑P	**PKPdf**	**01 49 52.2**	**-1.3**	
BZS	Buzias	156.84	326	⇑PKIKP	**PKPdf**	**01 49 52.2**	**-1.3**	
KHC	Kasperske Hory	156.96	343		**PKPdf**	**01 49 54.5**	**+0.8**	
KHC	Kasperske Hory	156.96	343	*e*PKPAB	**PKPab**	**01 50 20.1**	**-3.8**	
KHC				AMS	AMS	03 12 20.0		
	comp=Z,400nm,18.1s							
KHC	Kasperske Hory	156.96	343	*e*PKP2	**PKPab**	**01 50 20.1**	**-3.8**	
KHC				MLR	MLR			
	comp=Z,400nm,18.1s							
CKRC	Cesky Krumlov	157.05	342	AMS	AMS	03 12 10.0		
	comp=Z,300nm,16.9s							
GERES	GERESS Array B	157.19	343		**PKPdf**	**01 49 54.1**	**0.0**	
GERES	GERESS Array B	157.19	343	PKP	**PKPdf**	**01 49 53.6**	**-0.5**	
	comp=Z,0.2nm,0.3s,baz=284,slow=4.0,SNR=1.4							
GERES				PKPab	**PKPab**	**01 50 24.3**	**-0.7**	
	comp=Z,0.6nm,0.5s,baz=19,slow=9.3,SNR=3.6							
CONA	Conrad Observa	157.37	338	*e*PKP	**PKPab**	**01 50 23.8**	**-1.9**	
	comp=Z,19nm,1.5s,SNR=6.2							
CONA				*e*PP	**PP**	**01 54 06.0**	**+1.6**	
	comp=Z,6.6nm,1.6s							
RONA	Rosalia, Austr	157.42	337	*e*PKP	**PKPab**	**01 50 25.4**	**-0.5**	
	comp=Z,21nm,1.2s,SNR=7.2							
RONA				*e*PP	**PP**	**01 54 00.6**	**-4.0**	
	comp=Z,1.4nm,0.7s							
BLKB	Belogradchik	157.64	321	⇑P	**PKPdf**	**01 49 53.6**	**-1.1**	
MORH	Mrgy, Hungar	157.75	332	⇓P	**PKPdf**	**01 49 54.6**	**-0.1**	
MOA	Moiln	157.94	341	*e*PKP	**PKPab**	**01 50 28.1**	**0.0**	
	comp=Z,15nm,1.5s							
MOA				*e*PP	**PP**	**01 54 08.8**	**+1.4**	
	comp=Z,5.3nm,1.6s							
ARSA	Arzberg	158.07	338	*e*PKP	**PKPab**	**01 50 29.0**	**+0.3**	
	comp=Z,6.5nm,1.1s							
ARSA				*e*PP	**PP**	**01 54 08.4**	**+0.2**	
	comp=Z,0.3nm,0.4s							
BIOA	Bad Ischl, Aus	158.26	341	*e*PKP	**PKPab**	**01 50 29.7**	**+0.1**	
	comp=Z,22nm,1.3s,SNR=10.0							
BIOA				*e*PP	**PP**	**01 54 08.0**	**-1.2**	
	comp=Z,0.2nm,0.3s							
SOKA	Soboth	158.74	338	*e*PKP	**PKPab**	**01 50 31.2**	**-0.5**	
	comp=Z,18nm,1.5s,SNR=7.0							
SOKA				*e*PP	**PP**	**01 54 06.4**	**-5.5**	
	comp=Z,3.8nm,1.3s							
LESA	Schwarzleotal	158.77	343	*e*PKP	**PKPab**	**01 50 32.1**	**+0.3**	
	comp=Z,23nm,1.5s							
LESA				*e*PP	**PP**	**01 54 08.9**	**-3.0**	
	comp=Z,3.0nm,1.0s							
KBA	Koelnbreinsper	158.91	341	*i*PKP	**PKPab**	**01 50 33.2**	**+0.6**	
	comp=Z,7.2nm,1.0s							
KBA				*e*PP	**PP**	**01 54 11.6**	**-1.2**	
	comp=Z,0.1nm,0.2s							
OBKA	Obir	159.05	338	*e*PKP	**PKPab**	**01 50 33.7**	**+0.6**	
	comp=Z,4.5nm,1.1s							
OBKA				*e*PP	**PP**	**01 54 13.2**	**-0.4**	
	comp=Z,2.1nm,1.0s							
VAY	Valandovo	159.12	317	*i*P	**PKPab**	**01 50 34.0**	**+0.5**	
WATA	Walderalm	159.13	345	*e*PKP	**PKPab**	**01 50 33.6**	**+0.2**	
	comp=Z,18nm,1.5s,SNR=6.8							
WATA				*e*PP	**PP**	**01 54 12.2**	**-1.8**	
	comp=Z,4.2nm,1.1s							
STIP	Stip	159.13	318	*i*P	**PKPab**	**01 50 33.1**	**-0.5**	
RETA	Reutte	159.17	346	*e*PKP	**PKPab**	**01 50 33.4**	**-0.2**	
	comp=Z,7.4nm,1.2s							
RETA				*e*PP	**PP**	**01 54 17.9**	**+3.9**	
	comp=Z,4.3nm,1.6s							
WTTA	Wattenberg	159.18	344	*i*PKP	**PKPab**	**01 50 33.2**	**-0.5**	
	comp=Z,18nm,1.6s							
WTTA				*e*PP	**PP**	**01 54 16.5**	**+2.2**	
	comp=Z,9.9nm,1.7s							
MYKA	Terra Mystica	159.22	340	*e*PKP	**PKPab**	**01 50 33.9**	**+0.1**	
	comp=Z,12nm,1.2s							
MOTA	Moosalm	159.23	345	*e*PKP	**PKPab**	**01 50 33.3**	**-0.6**	
	comp=Z,6.6nm,0.9s							
MOTA				*e*PP	**PP**	**01 54 17.1**	**+2.7**	
	comp=Z,5.1nm,1.5s							
SQTA	Sankt Quirin	159.32	345	*e*PKP	**PKPab**	**01 50 35.1**	**+0.8**	
	comp=Z,10nm,1.8s							
SQTA				*e*PP	**PP**	**01 54 13.5**	**-1.5**	
	comp=Z,4.4nm,1.1s							
SKO	Skopje	159.40	319	*i*P	**PKPab**	**01 50 36.1**	**+1.4**	
ABTA	Abfaltersbach	159.44	342	*e*PKP	**PKPab**	**01 50 34.0**	**-0.7**	
	comp=Z,6.4nm,1.2s							
LJU	Ljubljana	159.46	338	*e*PKPdf	**PKPdf**	**01 49 55.9**	**-0.8**	
LJU				*e*PKPab	**PKPab**	**01 50 34.0**	**-0.8**	
DAVA	Damuels	159.54	348	*i*PKP	**PKPab**	**01 50 36.0**	**+0.8**	
	comp=Z,6.2nm,1.2s							
DAVA				*e*PP	**PP**	**01 54 22.2**	**+6.0**	
	comp=Z,7.1nm,1.3s							
FETA	Feichten	159.62	346	*e*PKP	**PKPab**	**01 50 35.4**	**-0.2**	
	comp=Z,5.0nm,1.3s							
FETA				*e*PP	**PP**	**01 54 17.8**	**+1.2**	
	comp=Z,3.7nm,1.0s							
BOJS	Bojanci	159.68	336	*i*PKPdf	**PKPdf**	**01 49 56.8**	**-0.2**	
FUORN	Ofenpass-Fuorn	160.10	346	PKPab	**PKPab**	**01 50 37.3**	**-0.5**	
FNA	Florina	160.16	317	PKPdf	**PKPdf**	**01 49 56.8**	**-1.0**	
FNA	Florina	160.16	317	PKIKP	**PKPdf**	**01 49 56.8**	**-1.0**	
OHR	Ohrid	160.31	318	*i*P	**PKPab**	**01 50 39.4**	**+0.6**	
CTI	Castel Tesino	160.31	343	PKPdf	**PKPdf**	**01 49 57.1**	**-0.7**	
CTI				PKPab	**PKPab**	**01 50 37.3**	**-1.3**	
CTI	Castel Tesino	160.31	343	PKIKP	**PKPdf**	**01 49 57.1**	**-0.7**	
CTI				PKP	**PKPab**	**01 50 37.3**	**-1.3**	
MESJ	Messejana	165.61	41	*e*PKPdf	**PKPdf

CTCC					Sg	02 06 04.8	+0.7		
CHNC	**Chino**	**0.78**	**269**		**Pb**	**02 05 55.2**	**-0.1**		
CHNC					Sg	02 06 05.8	+0.2		
ADO	**Adelanto Recei**	**0.78**	**313**		**Pg**	**02 05 55.6**	**+0.2**		
ADO					Sg	02 06 06.3	+0.6		
BFSC	**Mount Baldy Ra**	**0.79**	**286**		**Pb**	**02 05 55.1**	**-0.5**		
BFSC					Sb	02 06 06.1	+0.1		
BFSC	**Mount Baldy Ra**	**0.79**	**286**	P	**Pb**	**02 05 55.2**	**-0.3**		
	baz=106,SNR=29								
BFSC				S	**Sb**	**02 06 06.1**	**+0.1**		
	baz=106								
BORC	**Borrego Spring**	**0.80**	**160**		**Pb**	**02 05 55.7**	**+0.1**		
BORC					Sb	02 06 06.1	0.0		
CTW	**Cottonwood Mou**	**0.80**	**115**		**Pb**	**02 05 55.9**	**+0.1**		
CTW					Sg	02 06 06.8	+0.3		
SSK	**Sunset Peak**	**0.81**	**284**		**Pb**	**02 05 55.8**	**-0.1**		
MATG	**Mataguay Scout**	**0.82**	**174**		**Pb**	**02 05 56.3**	**+0.2**		
MATG					Sg	02 06 07.3	+0.2		
HEC	**Hector,Ludlow**	**0.88**	**23**		**Pb**	**02 05 57.0**	**-0.1**		
HEC					Sb	02 06 08.8	+0.3		
HEC	**Hector,Ludlow**	**0.88**	**23**	P	**Pb**	**02 05 56.9**	**-0.1**		
	baz=203,SNR=54								
HEC				S	**Sb**	**02 06 08.9**	**+0.3**		
	baz=203								
RRX	**Edison Barstow**	**0.88**	**346**		**Pb**	**02 05 57.2**	**+0.1**		
RRX					Sg	02 06 09.4	+0.5		
RRX	**Edison Barstow**	**0.88**	**346**	P	**Pb**	**02 05 57.1**	**+0.1**		
	baz=166,SNR=8.6								
RRX				S	**Sg**	**02 06 09.6**	**+0.7**		
	baz=166								
PSRC	**Puddingstone R**	**0.88**	**275**		**Pb**	**02 05 57.0**	**-0.1**		
PSRC					Sb	02 06 08.9	+0.3		
SLH	**Sleepy Hollow**	**0.92**	**153**		**Pg**	**02 05 58.2**	**+0.1**		
JUEM	**Julian Eagle M**	**0.94**	**172**		**Pb**	**02 05 58.3**	**+0.1**		
JUEM					Sb	02 06 10.5	0.0		
PEM	**Pine Mountain**	**0.94**	**279**		**Pb**	**02 05 58.0**	**0.0**		
GORC	**Green Oak Ranc**	**0.95**	**205**		**Pb**	**02 05 57.8**	**-0.5**		
GORC					Sb	02 06 10.3	-0.3		
XTL	**Crystal Lake,**	**0.96**	**287**		**Pb**	**02 05 58.4**	**-0.2**		
DPP	**Dos Picos Cty**	**1.03**	**189**		**Pb**	**02 05 59.2**	**-0.4**		
DPP					Sb	02 06 12.5	-0.3		
HYS	**Haystack Butte**	**1.08**	**321**		**Pb**	**02 06 00.7**	**+0.1**		
JNH	**Juniper Hills**	**1.09**	**293**		**Pb**	**02 06 00.8**	**+0.2**		
JNH					Sb	02 06 15.1	+0.5		
CHFC	**Chilao Flat St**	**1.11**	**287**		**Pb**	**02 06 00.9**	**-0.1**		
CHFC					Sb	02 06 15.7	+0.5		
MWC	**Mount Wilson**	**1.11**	**281**		**Pb**	**02 06 00.8**	**-0.2**		
MWC					Sb	02 06 15.7	+0.5		
SBB	**Saddle Back Bu**	**1.11**	**307**		**Pb**	**02 06 01.1**	**+0.1**		
SBB					Sb	02 06 15.4	+0.1		
EML	**El Monte Cty P**	**1.13**	**184**		**Sb**	**02 06 15.5**	**-0.2**		
BC3	**Big Chuckawall**	**1.14**	**108**	P	**Pn**	**02 06 00.7**	**-0.7**		
	baz=289,SNR=48								
BC3				S	**Sn**	**02 06 16.9**	**+0.2**		
	baz=289								
GVRC	**Garvey Reservo**	**1.14**	**272**		**Pb**	**02 06 01.7**	**+0.2**		
MONP2	**Monument Peak**	**1.16**	**166**		**Pn**	**02 06 01.7**	**-0.1**		
MONP2	**Monument Peak**	**1.16**	**166**	P	**Pn**	**02 06 01.6**	**-0.3**		
	baz=347,SNR=21								
MONP2				S	**Sb**	**02 06 16.9**	**+0.2**		
	baz=347								
109C	**Camp Elliot, M**	**1.17**	**195**		**Pn**	**02 06 01.4**	**-0.4**		
109C	**Camp Elliot, M**	**1.17**	**195**	P	**Pn**	**02 06 01.4**	**-0.4**		
	baz=15,SNR=16								
109C				S	**Sb**	**02 06 16.4**	**-0.3**		
	baz=15								
GMRC	**Granite Mounta**	**1.18**	**49**	P	**Pn**	**02 06 01.7**	**-0.4**		
	baz=230,SNR=48								
GMRC				S	**Sn**	**02 06 17.8**	**0.0**		
	baz=230								
PASC	**Pasadena Art C**	**1.20**	**278**		**Pn**	**02 06 02.1**	**-0.2**		
PASC				IAML		02 06 19.6			
	comp=N,139nm,0.3s								
PASC				IAML		02 06 19.6			
	comp=E,106nm,0.3s								
GSC	**Goldstone, Bar**	**1.28**	**358**	Pn	**Pn**	**02 06 03.7**	**+0.3**		
GSC				IAML		02 06 23.0			
	comp=E,89nm,0.3s								
GSC	**Goldstone, Bar**	**1.28**	**358**	P	**Pn**	**02 06 03.6**	**+0.3**		
	baz=178								
GSC				S	**Sg**	**02 06 21.1**	**-0.6**		
	baz=178								
FMP	**Fort Macarthur**	**1.32**	**257**	S	**Sb**	**02 06 21.7**	**+0.5**		
	baz=76								
SWSC	**Sam W. Stewart**	**1.33**	**143**	P	**Pn**	**02 06 03.1**	**-1.0**		
	baz=324								
IRM	**Iron Mountain**	**1.34**	**84**	Pb	**Pb**	**02 06 05.3**	**+0.5**		
	baz=265								
BAR	**Barrett**	**1.34**	**177**		**Pn**	**02 06 04.2**	**+0.1**		
BAR				IAML		02 06 23.3			
	comp=N,134nm,0.2s								
BAR				IAML		02 06 24.3			
	comp=E,127nm,0.2s								
DECC	**Green Verdugo**	**1.34**	**281**	Pb	**Pb**	**02 06 04.7**	**-0.1**		
	baz=100								
DECC				S	**Sb**	**02 06 22.5**	**+0.8**		
	baz=100								
EDW2	**Edwards Air Fo**	**1.34**	**310**	P	**Pn**	**02 06 04.3**	**+0.1**		
	baz=129,SNR=26								
EDW2				S	**Sb**	**02 06 22.7**	**+0.8**		
	baz=129								
IKP	**In-Ko-Pah, Jac**	**1.47**	**158**	P	**Pn**	**02 06 05.6**	**-0.3**		
	baz=339,SNR=13								
IKP				Sb	**Sb**	**02 06 26.6**	**+1.2**		
	baz=339								
RMX	**La Rumorosa**	**1.52**	**158**		**Pn**	**02 06 07.1**	**+0.3**		
RMX				IAML		02 06 32.3			
	comp=E,55nm,0.2s								
CIS	**Catalina Islan**	**1.52**	**247**	P	**Pn**	**02 06 06.3**	**-0.3**		
	baz=66								
CIS				Sb	**Sb**	**02 06 27.7**	**+0.7**		
	baz=66								
YUH	**Yuha Desert**	**1.53**	**153**		**Pn**	**02 06 06.1**	**-0.7**		
CCAC	**Calif City Air**	**1.54**	**318**		**Pb**	**02 06 08.1**	**-0.3**		
TUQ	**Turquoise Moun**	**1.57**	**25**	Pb	**Pb**	**02 06 09.2**	**+0.4**		
	baz=206,SNR=10								
TUQ				Sb	**Sg**	**02 06 30.1**	**-0.7**		
	baz=206								
LRMC	**Laurel Mtn Rad**	**1.65**	**332**	Pb	**Pb**	**02 06 10.8**	**+0.6**		
	baz=152,SNR=10								
LRMC				Sb	**Sg**	**02 06 32.6**	**-0.8**		
	baz=152								
CBX	**Cerro Bola**	**1.70**	**178**		**Pn**	**02 06 09.6**	**+0.4**		
OSI	**Osito Audit: C**	**1.74**	**291**	Sb	**Sg**	**02 06 35.1**	**-1.2**		
	baz=109								
BLYC	**Blythe**	**1.87**	**98**		**Pb**	**02 06 13.1**	**-0.8**		
BLYC				IAML		02 06 41.3			
	comp=E,69nm,0.8s								
BLYC				IAML		02 06 43.2			
	comp=N,69nm,0.6s								
GLA	**Glamis**	**1.87**	**121**	Pn	**Pn**	**02 06 12.7**	**+1.2**		
GLA				IAML		02 06 48.3			
	comp=N,41nm,0.5s								
GLA	**Glamis**	**1.87**	**121**	Pg	**Pg**	**02 06 15.8**	**-0.3**		
	baz=302								
GLA				S	**Sn**	**02 06 35.2**	**+0.4**		
	baz=302								
NEE2	**Needles Airpor**	**1.91**	**66**	Pb	**Pb**	**02 06 15.7**	**+1.1**		
	baz=248,SNR=14								
NEE2				Sb	**Sg**	**02 06 40.5**	**-1.3**		
	baz=248								
SHOC	**Shoshone, Teco**	**1.92**	**12**	Pb	**Pb**	**02 06 15.7**	**+1.0**		
	baz=192,SNR=20								
SHOC				Sb	**Sg**	**02 06 40.8**	**-1.1**		
	baz=192								
ARVC	**Arvin**	**2.04**	**303**	P	**Pn**	**02 06 13.9**	**+0.1**		
	baz=122								
ARVC				Sb	**Sg**	**02 06 44.6**	**-1.4**		
	baz=122								
ESJX	**Sierra Juarez**	**2.12**	**161**		**Pn**	**02 06 15.4**	**+0.4**		
ESJX				IAML		02 06 50.0			
	comp=E,27nm,0.2s								
MPMC	**Manual Prospec**	**2.12**	**344**	P	**Pn**	**02 06 15.4**	**+0.3**		
	baz=163								
MPMC				Sb	**Sg**	**02 06 47.1**	**-1.5**		
	baz=163								
GWY	**Greenwater Val**	**2.16**	**2**	Pn	**Pn**	**02 06 15.9**	**+0.2**		
GWY				IAML		02 06 52.1			
	comp=E,57nm,0.5s								
GWY				IAML		02 06 54.2			
	comp=N,40nm,0.4s								
V12A	**Nelson**	**2.31**	**42**	Pn	**Pn**	**02 06 18.0**	**+0.4**		
V12A				IAML		02 06 54.3			
	comp=N,22nm,0.5s								
V12A				IAML		02 06 55.5			
	comp=E,27nm,0.4s								
BCW	**Bitter Crk WRg**	**2.39**	**293**	Pn	**Pn**	**02 06 18.2**	**-0.4**		
BCW				IAML		02 06 59.6			
	comp=E,41nm,1.1s								
W13A	**Hualapai Mount**	**2.60**	**65**	Pn	**Pn**	**02 06 21.7**	**+0.1**		
W13A				IAML		02 07 03.4			
	comp=N,15nm,0.5s								
W13A				IAML		02 07 07.2			
	comp=E,15nm,0.5s								
PKM	**Mcpherson Peak**	**2.68**	**290**	P	**Pn**	**02 06 23.3**	**+0.6**		
	baz=108								
WCT	**Wildcat Mounta**	**2.77**	**2**	Pn	**Pn**	**02 06 24.4**	**+0.5**		
WCT				IAML		02 07 09.7			
	comp=E,16nm,0.6s								
113A	**Mohawk Valley,**	**2.79**	**116**	Pn	**Pn**	**02 06 23.3**	**-0.7**		
SHPR	**Sheep Range**	**2.80**	**27**	Pn	**Pn**	**02 06 25.1**	**+0.7**		
Y14A	**Wickenburg**	**3.11**	**90**		**Pn**	**02 06 29.3**	**+0.8**		
Y14A				IAML		02 07 19.5			
	comp=N,21nm,0.3s								
Y14A				IAML		02 07 24.6			
	comp=E,13nm,0.5s								
DSP	**Deep Springs**	**3.49**	**344**	Pn	**Pn**	**02 06 35.1**	**+1.5**		
PRN	**Pahroc Range**	**3.65**	**22**	Pn	**Pn**	**02 06 37.6**	**+1.5**		
MDPB	**Devils Postpil**	**4.07**	**333**	Pn	**Pn**	**02 06 43.7**	**+1.7**		

*NEIC **29** 02:28:17.4±1.3, 12°.17N±0°.07×144°.4E±0°.2, h43km±10km, mb4.3/13, Error ellipse: s-maj=31.4km s-min=2.3km az=108.0*

*IDC **29** 02:28:18.1±2.2, 12°.28N×144°.35E, h54km±22km, mb3.6/10, mbtmp3.9/10, Error ellipse: s-maj=35.3km s-min=14.8km az=99.0*

ISC 29 02:28:16.8±0.7, 12°.11N±0°.08×144°.5E±0°.2, h50km, n36, σ1°10/32, mb4.2/17, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.50**	**13**			**Pn**	**Pn**	**02 28 40.6**	**-0.8**
GUMO						Sn	**Sn**	**02 28 59.6**	**-0.3**
GUMO	**Guam**	**1.50**	**13**	P		**Pn**	**Pn**	**02 28 41.1**	**-0.3**
	255nm,0.3s,baz=248,slow=1.1,SNR=16								
GUMO				S		**Sn**	**Sn**	**02 28 58.8**	**-1.1**
	408nm,0.3s,baz=304,slow=22,SNR=16								
H11S3	**WAKE ISLAND Hy**	**22.28**	**71**	T		T	T	02 56 29.7	
	baz=253,slow=74								
H11S1	**WAKE ISLAND Hy**	**22.30**	**71**	T		T	T	02 56 31.2	
	baz=253								
H11S2	**WAKE ISLAND Hy**	**22.30**	**71**	T		T	T	02 56 30.3	
	baz=253,slow=74								
H11N1	**WAKE ISLAND Hy**	**22.78**	**68**	T		T	T	02 56 56.5	
	baz=255,slow=76								
H11N2	**WAKE ISLAND Hy**	**22.79**	**68**	T		T	T	02 57 04.0	
	baz=255								
H11N3	**WAKE ISLAND Hy**	**22.80**	**68**	T		T	T	02 57 05.0	
	baz=255,slow=76								
WB0	**Warramunga Arr**	**33.21**	**198**	P		**P**	**P**	**02 34 49.7**	**+0.5**
WB0						IAmb	IAmb	02 35 03.7	
	comp=Z,8.2nm,1.4s								
WR0	**Warramunga Arr**	**33.35**	**197**	P		**P**	**P**	**02 34 51.5**	**+1.1**
WR0						IAmb	IAmb	02 35 11.4	
	comp=Z,3.9nm,0.9s								
WB2	**Warramunga Arr**	**33.39**	**198**	P		**P**	**P**	**02 34 50.6**	**-0.2**
WB2						IAmb	IAmb	02 34 54.1	
	comp=Z,4.8nm,1.0s								
WRA	**Warramunga Arr**	**33.40**	**198**	P		**P**	**P**	**02 34 52.0**	**+1.2**
WRA	**Warramunga Arr**	**33.40**	**198**	P		**P**	**P**	**02 34 52.2**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=21,slow=9.9,SNR=13								
	comp=Z,0.8nm,0.6s								
FITZ	**Fitzroy Crossi**	**35.34**	**212**	P		**P**	**P**	**02 35 07.8**	**+0.2**
ASAR	**Alice Springs**	**37.05**	**196**	P		**P**	**P**	**02 35 24.1**	**+1.9**
	comp=Z,1.0nm,0.7s,baz=18,slow=10.0,SNR=16								
	comp=Z,1.0nm,0.7s								
EIDS	**Eidsvold**	**37.80**	**170**	P		**P**	**P**	**02 35 25.5**	**-2.9**
SONM	**Songino Array**	**47.75**	**326**	P		**P**	**P**	**02 36 49.4**	**+0.4**
SONM	**Songino Array**	**47.75**	**326**	P		**P**	**P**	**02 36 48.6**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=144,slow=8.2,SNR=2.5								
	comp=Z,0.3nm,0.4s								
MK31	**Makanchi Array**	**62.32**	**317**	P		**P**	**P**	**02 38 34.1**	**0.0**
MKAR	**Makanchi Array**	**62.32**	**317**	P		**P**	**P**	**02 38 34.1**	**0.0**
MKAR	**Makanchi Array**	**62.32**	**317**	P		**P**	**P**	**02 38 33.9**	**-0.3**
	comp=Z,0.3nm,0.4s,baz=88,slow=10.0,SNR=5.3								
	comp=Z,0.3nm,0.4s								
ZAA0	**Zalesovo Array**	**62.63**	**325**	P		**P**	**P**	**02 38 36.5**	**+0.6**
ZAA0						IAmb	IAmb	02 38 38.4	
	comp=Z,1.9nm,0.5s								
KURK	**Kurchatov**	**65.50**	**320**	P		**P**	**P**	**02 38 54.6**	**-0.3**
KURBB	**Kurchatov Arra**	**65.54**	**320**	P		**P**	**P**	**02 38 54.6**	**-0.5**
	comp=Z,1.1nm,0.4s,baz=105,slow=6.6,SNR=11								
	comp=Z,1.1nm,0.4s								
D22K	**Ayikyak River**	**69.12**	**20**	P		**P**	**P**	**02 39 17.3**	**-0.2**
D22K						IAmb	IAmb	02 39 22.1	
	comp=Z,3.6nm,1.2s								
ILAR	**Eielson Array**	**70.04**	**25**	P		**P**	**P**	**02 39 22.6**	**-0.6**
	comp=Z,0.3nm,0.5s,baz=263,slow=5.6,SNR=4.6								
	comp=Z,0.3nm,0.5s								
KKAR	**Karatay Array**	**70.17**	**312**	P		**P**	**P**	**02 39 25.1**	**+0.6**
BVAR	**Borovoye Array**	**70.88**	**322**	P		**P**	**P**	**02 39 27.5**	**-1.1**
	comp=Z,1.4nm,0.4s,baz=104,slow=7.4,SNR=7.6								
	comp=Z,1.4nm,0.4s								
D25K	**Kavik River**	**71.41**	**20**	P		**P**	**P**	**02 39 32.9**	**+1.4**
BMAR	**Burnt Mountain**	**71.58**	**23**	P		**P**	**P**	**02 39 34.1**	**+1.5**
G31M	**Satah River**	**75.49**	**24**	P		**P**	**P**	**02 39 56.6**	**+1.1**
G31M						IAmb	IAmb	02 39 59.0	
	comp=Z,3.1nm,0.9s								
ABKAR	**Akbulak array**	**77.41**	**318**	P		**P**	**P**	**02 40 06.6**	**-0.2**
ABKAR						IAmb	IAmb	02 40 07.2	
	comp=Z,1.8nm,0.7s								
ABKAR	**Akbulak array**	**77.41**	**318**	P		**P**	**P**	**02 40 06.5**	**-0.2**
NVAR	**Mina Array Bea**	**88.10**	**51**	P		**P**	**P**	**02 41 04.9**	**+2.2**
	comp=Z,0.5nm,0.7s,baz=263,slow=5.3,SNR=4.0								
	comp=Z,0.5nm,0.7s								
ARCES	**ARCESS Array B**	**88.38**	**342**	P		**P**	**P**	**02 41 03.7**	**+0.6**
	comp=Z,1.1nm,0.6s,baz=68,slow=8.1,SNR=6.0								
	comp=Z,1.1nm,0.6s								
FINES	**FINESS Array B**	**92.35**	**335**	P		**P**	**P**	**02 41 20.4**	**-1.3**
	comp=Z,0.8nm,0.3s,baz=74,slow=4.3,SNR=24								
	comp=Z,0.8nm,0.3s								

*IDC **29** 02:40:13.5±3.3, 5°.19S×153°.21E, h18km±19km, mb4.1/16, mbtmp4.2/17, ML2.1/1, MS3.5/16, Error ellipse: s-maj=24.0km s-min=14.0km az=93.0*

*NEIC **29** 02:40:16.4±1.3, 5°.31S±0°.07×153°.30E±0°.09, h22km±5km, mb4.6/73, Error ellipse: s-maj=14.6km s-min=9.0km az=60.0*

ISC 29 02:40:17.2±0.4, 5°.38S±0°.05×153°.26E±0°.08, h35km, n120, σ1°32/111, mb4.5/54, MS3.5/16, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RABL	**Rabaul**	**1.61**	**317**			**Pn**	**Pn**	**02 40 42.6**	**-0.6**
RABL						Sn	**Sn**	**02 41 03.2**	**+0.4**
PMG	**Port Moresby**	**7.25**	**236**	Pn		**Pn**	**Pn**	**02 41 58.1**	**-2.7**
	1.7nm,0.3s,baz=353,slow=16,SNR=2.0								
PMG				Sn		**Sn**	**Sn**	**02 43 24.5**	**+2.6**
	1.3nm,0.3s,baz=303,slow=18,SNR=2.2								
PMG				LR		LR	LR	02 44 04.3	
	comp=Z,138nm,20.9s,baz=38,slow=32								
	15nm,0.7s								
PATS	**Pohnpei**	**13.14**	**23**	Pn		Pn	Pn	02 43 15.4	-6.1
EIDS	**Eidsvold**	**19.98**	**186**	Pn		**Pn**	**Pn**	**02 44 49.9**	**+1.3**
LIFNC	**LIFOU**	**20.46**	**140**	P		**P**	**P**	**02 44 52.1**	**+0.2**
DZM	**Mont Dzumac**	**20.93**	**144**	eLR		LR	LR	02 49 55.9	
	359nm,24.9s								
DZM	**Mont Dzumac**	**20.93**	**144**	P		**P**	**P**	**02 44 57.4**	**+0.3**
DZM						IAmb	IAmb	02 45 01.2	
	comp=Z,23nm,0.8s								
DZM	**Mont Dzumac**	**20.93**	**144**	P		**P**	**P**	**02 44 57.0**	**-0.2**
	comp=Z,16nm,0.5s,baz=273,slow=5.3,SNR=18								
DZM				LR		LR	LR	02 52 33.4	
	comp=Z,274nm,18.3s,baz=308,slow=35								
	comp=Z,16nm,0.5s								
FAKI	**Fak Fak**	**21.10**	**276**	P		**P**	**P**	**02 44 58.4**	**-0.5**
FAKI						IAmb	IAmb	02 45 21.0	
	comp=Z,65nm,1.5s								
OUENC	**Ouen Island, N**	**21.43**	**144**	P		**P**	**P**	**02 45 03.5**	**+1.2**
OUENC						IAmb	IAmb	02 45 06.1	
	comp=Z,24nm,0.8s								
MTN	**Manton Dam**	**23.06**	**250**	P		**P**	**P**	**02 45 21.5**	**+1.7**
MTN						IAmb	IAmb	02 45 42.6	
	comp=Z,14nm,1.1s								
WR0	**Warramunga Arr**	**23.27**	**230**	P		**P**	**P**	**02 45 21.9**	**0.0**
WB0	**Warramunga Arr**	**23.27**	**230**	P		**P**	**P**	**02 45 21.9**	**0.0**
WB2	**Warramunga Arr**	**23.41**	**230**	P		**P**	**P**	**02 45 23.6**	**+0.3**
WRA	**Warramunga Arr**	**23.42**	**230**	P		**P**	**P**	**02 45 24.4**	**+1.1**
WRA	**Warramunga Arr**	**23.42**	**230**	P		**P**	**P**	**02 45 23.4**	**0.0**
	comp=Z,5.0nm,0.8s,baz=53,slow=9.3,SNR=26								
WRA				PcP		**PcP**	**PcP**	**02 49 08.4**	**-0.9**
	comp=Z,0.7nm,0.8s,baz=49,slow=2.3,SNR=3.3								
WRA				ScP		**ScP**	**ScP**	**02 52 45.0**	**+0.1**
	comp=Z,1.9nm,1.2s,baz=56,slow=2.7,SNR=5.5								
WRA				LR		LR	LR	02 54 57.6	
	comp=Z,117nm,18.2s,baz=44,slow=38								
	comp=Z,5.0nm,0.8s								
ARMA	**Armidale**	**24.95**	**183**	P		**P**	**P**	**02 45 39.4**	**+1.9**
ASAR	**Alice Springs**	**26.04**	**224**	P		**P**	**P**	**02 45 47.2**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=57,slow=8.8,SNR=9.2								
ASAR				PcP		**PcP**	**PcP**	**02 49 14.2**	**-0.8**
	comp=Z,0.7nm,0.8s,baz=66,slow=2.3,SNR=2.9								
ASAR				ScP		**ScP**	**ScP**	**02 52 52.9**	**+0.7**
	comp=Z,1.4nm,0.9s,baz=61,slow=3.4,SNR=6.6								
ASAR				LR		LR	LR	02 56 16.5	
	comp=Z,155nm,18.7s,baz=34,slow=37								
	comp=Z,1.4nm,0.8s								
H11S3	**WAKE ISLAND Hy**	**27.17**	**29**	T		T	T	03 14 13.8	
	baz=209,slow=74,SNR=6.0								
H11S2	**WAKE ISLAND Hy**	**27.17**	**29**	T		T	T	03 14 12.4	
	baz=209,slow=74								
H11S1	**WAKE ISLAND Hy**	**27.19**	**29**	T		T	T	03 14 10.4	
	baz=209								
STKA	**Stephens Creek**	**28.54**	**201**	P		**P**	**P**	**02 46 09.5**	**-0.2**
STKA	**Stephens Creek**	**28.54**	**201**	P		**P**	**P**	**02 46 09.1**	**-0.6**
	comp=Z,2.2nm,0.8s,baz=27,slow=14,SNR=1.6								
STKA				LR		LR	LR	02 57 07.9	
	comp=Z,210nm,19.6s,baz=20,slow=35								
	comp=Z,2.2nm,0.8s								
FITZ	**Fitzroy Crossi**	**29.79**	**243**	P		**P**	**P**	**02 46 20.8**	**-0.2**
JCJ	**Chichijima**	**34.02**	**342**	LR		LR	LR	02 59 19.8	
	comp=Z,76nm,20.9s,baz=168,slow=34								
FORT	**Forrest**	**34.64**	**220**	P		**P**	**P**	**02 47 03.3**	**0.0**
RTZ	**Ruatahuna**	**39.47**	**150**	P		**P**	**P**	**02 47 44.8**	**+0.4**
JOW	**Kunigami**	**40.13**	**324**	LR		LR	LR	03 03 26.8	
	comp=Z,55nm,18.4s,baz=335,slow=35								
JHJ	**Hachijo jima 2**	**40.37**	**342**	LR		LR	LR	03 03 24.3	
	comp=Z,61nm,19.5s,baz=7.5,slow=35								
TUWZ	**Tuamarina**	**40.37**	**156**	P		**P**	**P**	**02 47 52.6**	**+0.9**
LTZ	**Lake Taylor**	**40.88**	**159**	P		**P**	**P**	**02 47 56.8**	**+0.8**
LTZ				IAmb		IAmb	IAmb	02 48 19.8	
	comp=Z,23nm,1.1s								
GVZ	**Greta Valley S**	**41.32**	**158**	P		**P**	**P**	**02 47 60.0**	**+0.4**
JNU	**Nakatsue**	**43.79**	**332**	LR		LR	LR	03 03 11.5	
	comp=Z,39nm,20.8s,baz=165,slow=32								
MJAR	**Matsushiro Arr**	**44.02**	**342**	LR		LR	LR	03 05 43.5	
	comp=Z,53nm,18.6s,baz=178,slow=35								
KSRS	**Korea Array**	**48.72**	**333**	P		**P**	**P**	**02 48 54.4**	**-4.0**
	comp=Z,1.3nm,0.6s,baz=154,slow=8.9,SNR=5.2								
KSRS				LR		LR	LR	03 06 46.5	
	comp=Z,17nm,21.9s,baz=125,slow=33								
	comp=Z,1.3nm,0.6s								
KSAR	**Wonju Array Be**	**48.73**	**333**	P		**P**	**P**	**02 48 58.0**	**-0.5**
NJ2	**Nanjing**	**49.58**	**321**	*e*P		**P**	**P**	**02 49 07.0**	**+1.9**
NJ2				pmax		pmax			
	comp=Z,12nm,0.5s								
ASAJ	**Asahikawa**	**50.20**	**350**	LR		LR	LR	03 06 59.3	
	comp=Z,56nm,20.8s,baz=100,slow=32								
USRK	**Ussuriysk Ar.**	**52.94**	**341**	P		**P**	**P**	**02 49 27.7**	**-2.3**
USRK	**Ussuriysk Ar.**	**52.94**	**341**	P		**P**	**P**	**02 49 26.5**	**-3.6**
	comp=Z,1.6nm,0.6s,baz=169,slow=11,SNR=4.6								
	comp=Z,1.6nm,0.6s								
CN2	**Changchun**	**55.01**	**336**	*e*P		**P**	**P**	**02 49 49.0**	**+3.8**
CN2				*es*P		sP	sP	02 50 00.0	+1.3
CN2				*e*S		**S**	**S**	**02 57 29.0**	**+3.9**
CN2				pmax		pmax	pmax		
	comp=Z,10.0nm,1.0s								
CN2				LR		LR	LR		
	comp=N,130nm,18.0s								
CN2				LR		LR	LR		
	comp=E,130nm,18.0s								
PPT2	**Papeete2**	**57.12**	**107**	*e*LR		LR	LR	03 06 38.3	
	comp=E,96nm,26.5s								
TBI	**Tubuai**	**57.90**	**114**	*e*LR		LR	LR	03 06 59.2	
	comp=E,399nm,29.0s								
PEA0B	**Petropavlovsk

comp=Z,1.0nm,0.5s,baz=99,slow=7.7,SNR=4.2
comp=Z,1.0nm,0.5s

WRH	**Wood River Hil**	**81.92**	**22**	P	**P**	**02 52 32.5**	**-0.4**
VRDI	**Verde Repeater**	**82.24**	**26**	P	**P**	**02 52 35.3**	**+0.4**
VRDI				IAmb	IAmb	02 53 02.4	

comp=Z,12nm,1.4s

B20K	**Meade River**	**82.27**	**15**	P	**P**	**02 52 35.6**	**+1.1**
HDA	**Harding Lake**	**82.32**	**22**	P	**P**	**02 52 34.9**	**-0.1**
HDA				IAmb	IAmb	02 52 36.5	

comp=Z,5.5nm,1.3s

G23K	**Bananza Creek**	**82.43**	**20**	P	**P**	**02 52 36.4**	**+0.8**
ILAR	**Eielson Array**	**82.52**	**22**	P	**P**	**02 52 34.3**	**-1.8**

comp=Z,0.9nm,0.6s,baz=245,slow=5.2,SNR=24

ILAR				LR	LR	03 24 05.5	

comp=Z,43nm,20.2s,baz=299,slow=32
comp=Z,0.9nm,0.6s

E22K	**Anaktuvuk Pass**	**82.65**	**18**	P	**P**	**02 52 37.2**	**+0.5**
E22K				IAmb	IAmb	02 53 01.7	

comp=Z,5.2nm,1.4s

H24K	**Noodor Dome**	**82.70**	**21**	P	**P**	**02 52 37.6**	**+0.6**
B21K	**Ikpikpuk River**	**82.71**	**16**	P	**P**	**02 52 37.7**	**+0.8**
B21K				IAmb	IAmb	02 53 15.8	

comp=Z,10.0nm,1.4s

D22K	**Ayikyak River**	**82.82**	**17**	P	**P**	**02 52 37.8**	**+0.2**
D22K				IAmb	IAmb	02 53 18.3	

comp=Z,3.4nm,1.0s

J25K	**Salcha River,**	**83.01**	**22**	P	**P**	**02 52 38.9**	**+0.2**
J25K				IAmb	IAmb	02 52 39.6	

comp=Z,3.6nm,0.5s

SCRK	**Sand Creek**	**83.25**	**23**	P	**P**	**02 52 39.9**	**-0.1**
M27K	**Edge Creek, AK**	**83.40**	**25**	P	**P**	**02 52 41.8**	**+1.0**
M27K				IAmb	IAmb	02 53 04.5	

comp=Z,3.0nm,0.9s

B22K	**Teshekpuk Lake**	**83.47**	**16**	P	**P**	**02 52 41.2**	**+0.3**
B22K				IAmb	IAmb	02 53 10.2	

comp=Z,11nm,1.4s

F24K	**Squaw Lake**	**83.56**	**19**	P	**P**	**02 52 42.0**	**+0.6**
TOLK	**Toolik Lake Re**	**83.62**	**18**	P	**P**	**02 52 42.8**	**+1.1**
TOLK				IAmb	IAmb	02 52 46.1	

comp=Z,3.4nm,1.1s

J26L	**Joseph Creek**	**83.66**	**23**	P	**P**	**02 52 42.6**	**+0.6**
L27K	**Beaver Creek,**	**83.72**	**25**	P	**P**	**02 52 42.8**	**+0.5**
L27K				IAmb	IAmb	02 53 19.9	

comp=Z,4.6nm,1.4s

BCAR	**Beaver Creek A**	**83.74**	**25**	P	**P**	**02 52 43.2**	**+0.8**
C23K	**Itkillik River**	**83.97**	**17**	P	**P**	**02 52 43.8**	**+0.4**
C23K				IAmb	IAmb	02 52 56.7	

comp=Z,7.7nm,1.3s

I26K	**Coal Creek Min**	**84.17**	**22**	P	**P**	**02 52 45.1**	**+0.6**
I26K				IAmb	IAmb	02 53 19.4	

comp=Z,5.6nm,1.3s

KURBB	**Kurchatov Arra**	**84.54**	**322**	P	**P**	**02 52 44.3**	**-2.4**

comp=Z,0.7nm,0.7s,baz=105,slow=5.4,SNR=5.2
comp=Z,0.7nm,0.7s

QSPA	**South Pole Qui**	**84.58**	**180**	P	**P**	**02 52 46.5**	**-0.3**
QSPA				IAmb	IAmb	02 52 47.6	

comp=Z,7.4nm,1.0s

QSPA	**South Pole Qui**	**84.58**	**180**	P	**P**	**02 52 46.6**	**-0.3**

comp=Z,5.3nm,0.8s,baz=341,slow=1.1,SNR=27
comp=Z,5.3nm,0.8s

BMAR	**Burnt Mountain**	**84.63**	**20**	P	**P**	**02 52 48.2**	**+1.3**
EGAK	**Eagle**	**84.71**	**23**	P	**P**	**02 52 47.8**	**+0.6**
HYT	**Haines Junctio**	**84.73**	**27**	P	**P**	**02 52 49.1**	**+1.5**
HYT				IAmb	IAmb	02 53 23.6	

comp=Z,3.8nm,1.1s

D25K	**Kavik River**	**84.96**	**18**	P	**P**	**02 52 49.5**	**+1.0**
D25K				IAmb	IAmb	02 53 25.6	

comp=Z,4.3nm,1.4s

S32K	**Killisnoo**	**85.04**	**31**	P	**P**	**02 52 51.0**	**+1.9**
DAWY	**Dawson**	**85.13**	**24**	P	**P**	**02 52 50.5**	**+1.1**
DAWY				IAmb	IAmb	02 52 51.9	

comp=Z,4.4nm,1.4s

L29M	**L29M**	**85.29**	**25**	P	**P**	**02 52 51.1**	**+0.8**
L29M				IAmb	IAmb	02 53 06.3	

comp=Z,3.2nm,1.1s

I29M	**Ogilvie Camp,**	**86.05**	**23**	P	**P**	**02 52 54.7**	**+0.7**
I29M				IAmb	IAmb	02 52 55.1	

comp=Z,3.1nm,0.5s

J30M	**Hart River**	**86.55**	**24**	P	**P**	**02 52 58.2**	**+1.6**
J30M				IAmb	IAmb	02 52 58.9	

comp=Z,2.1nm,0.7s

BVAR	**Borovoye Array**	**89.98**	**323**	P	**P**	**02 53 10.7**	**-2.3**

comp=Z,2.9nm,0.8s,baz=100,slow=5.0,SNR=7.3
comp=Z,2.9nm,0.8s

TCRU	**Three Creeks R**	**96.68**	**52**	P	**P**	**02 53 43.7**	**-0.8**
SLBS	**Sierra La Lagu**	**98.35**	**67**	P	**P**	**02 53 52.2**	**0.0**
TORD	**Torodi Ar. Bea**	**150.92**	**287**	PKPbc	**PKPbc**	**03 00 04.8**	**-2.6**

comp=Z,1.2nm,0.4s,baz=52,slow=2.1,SNR=18

*IDC **29** 02:41:37.5±1.3, 12°.24N×144°.16E, h0km, mb3.9/5, mbtmp3.8/5, Error ellipse: s-maj=49.3km s-min=18.9km az=108.0*

ISC 29 02:41:41.3±1.2, 12°.2N±0°.2×144°.2E±0°.3, h26km, n9, σ0^{s}75/7, mb4.0/5, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**1.52**	**25**	Pn	**Pn**	**02 42 06.3**	**-0.5**

56nm,0.3s,baz=162,slow=12,SNR=5.4

GUMO				Sn	**Sn**	**02 42 26.5**	**+0.8**

103nm,0.3s,baz=279,slow=21,SNR=11

H11N1	**WAKE ISLAND Hy**	**23.04**	**68**	T	T	03 10 26.9	

baz=255

H11N2	**WAKE ISLAND Hy**	**23.05**	**68**	T	T	03 10 23.5	

baz=255

H11N3	**WAKE ISLAND Hy**	**23.06**	**68**	T	T	03 10 29.8	

baz=255

WRA	**Warramunga Arr**	**33.39**	**197**	P	**P**	**02 48 17.6**	**-0.2**

0.7nm,0.7s,baz=17,slow=9.2,SNR=2.3
0.7nm,0.7s

ASAR	**Alice Springs**	**37.05**	**196**	P	**P**	**02 48 50.0**	**+0.6**

0.5nm,0.6s,baz=20,slow=11,SNR=4.5
0.5nm,0.6s

KURBB	**Kurchatov Arra**	**65.26**	**320**	P	**P**	**02 52 20.9**	**+0.2**

0.6nm,0.4s,baz=104,slow=6.6,SNR=4.9
0.6nm,0.4s

BVAR	**Borovoye Array**	**70.60**	**322**	P	**P**	**02 52 55.0**	**+0.6**

0.9nm,0.5s,baz=102,slow=6.6,SNR=4.3
0.9nm,0.5s

FINES	**FINESS Array B**	**92.13**	**335**	P	**P**	**02 54 47.5**	**-0.7**

0.4nm,0.4s,baz=64,slow=3.6,SNR=10
0.4nm,0.4s

*IDC **29** 03:00:59.0±2.1, 23°.67S×179°.95W, h496km±21km, mb3.5/12, mbtmp4.3/13, Error ellipse: s-maj=18.0km s-min=14.8km az=124.0*
*NEIC **29** 03:01:03.4±1.9, 23°.5S±0°.2×179°.9W±0°.2, h554km±10km, mb4.4/31, Error ellipse: s-maj=27.5km s-min=19.2km az=153.0*

ISC 29 03:01:01.6±0.5, 23°.75S±0°.08×179°.90W±0°.10, h532km, n62, σ1^{s}28/63, mb4.3/29, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**6.28**	**342**	P	**P**	**03 02 41.5**	**-0.7**
PINNC	**Pines Island,**	**11.70**	**273**	P	**P**	**03 03 38.0**	**+1.0**
LIFNC	**LIFOU**	**12.27**	**281**	P	**P**	**03 03 42.0**	**-1.0**
OUENC	**Ouen Island, N**	**12.28**	**274**	P	**P**	**03 03 44.2**	**+1.2**
DZM	**Mont Dzumac**	**12.70**	**275**	P	**P**	**03 03 48.5**	**+0.9**
DZM	**Mont Dzumac**	**12.70**	**275**	P	**P**	**03 03 48.3**	**+0.8**

2.4nm,0.4s,baz=74,slow=16,SNR=5.2

URZ	**Urewera**	**14.69**	**189**	P	**P**	**03 04 06.3**	**-1.7**

14nm,0.5s,baz=26,slow=3.1,SNR=15

URZ				S	**S**	**03 06 40.6**	**-1.1**

12nm,0.9s,baz=311,slow=19,SNR=5.7

RPZ	**Rata Peaks**	**21.26**	**198**	P	**P**	**03 05 09.7**	**-0.1**

6.9nm,0.8s,baz=26,slow=14,SNR=1.7
6.9nm,0.8s

ARMA	**Armidale**	**26.16**	**249**	P	**P**	**03 05 54.8**	**+1.1**
ARMA				IAmb	IAmb	03 05 56.7	

comp=Z,23nm,1.5s

EIDS	**Eidsvold**	**26.42**	**260**	P	**P**	**03 05 56.2**	**+0.3**
EIDS				IAmb	IAmb	03 05 57.0	

comp=Z,9.3nm,0.6s

CAN	**Canberra**	**29.30**	**240**	P	**P**	**03 06 22.0**	**+0.9**
CAN				IAmb	IAmb	03 06 46.3	

comp=Z,19nm,1.3s

CTAO	**Charters Tower**	**31.57**	**270**	P	**P**	**03 06 41.1**	**+0.4**
TOO	**Toolangi**	**32.61**	**237**	P	**P**	**03 06 49.9**	**+0.5**
STKA	**Stephens Creek**	**34.86**	**248**	P	**P**	**03 07 08.4**	**0.0**
STKA	**Stephens Creek**	**34.86**	**248**	P	**P**	**03 07 08.4**	**0.0**

comp=Z,1.5nm,0.4s,baz=98,slow=11,SNR=4.4
comp=Z,1.5nm,0.4s

COEN	**Coen**	**36.18**	**279**	P	**P**	**03 07 19.7**	**+0.2**
COEN				IAmb	IAmb	03 07 25.9	

comp=Z,22nm,1.4s

BBOO	**Buckleboo**	**39.59**	**247**	P	**P**	**03 07 46.6**	**-0.5**
AS31	**Alice Springs**	**42.15**	**260**		**P**	**03 08 07.6**	**-0.1**
ASAR	**Alice Springs**	**42.15**	**260**	P	**P**	**03 08 07.0**	**-0.7**
ASAR	**Alice Springs**	**42.15**	**260**	P	**P**	**03 08 07.3**	**-0.3**

comp=Z,14nm,1.0s,baz=96,slow=7.8,SNR=58

ASAR				ScP	**ScP**	**03 12 53.2**	**+3.5**

comp=Z,3.3nm,0.8s,baz=111,slow=4.3,SNR=20
comp=Z,14nm,1.0s

WR0	**Warramunga Arr**	**42.32**	**266**	P	**P**	**03 08 08.1**	**-0.9**
WR0				IAmb	IAmb	03 08 29.9	

comp=Z,21nm,1.5s

WB2	**Warramunga Arr**	**42.50**	**266**	P	**P**	**03 08 09.6**	**-0.8**
WB0	**Warramunga Arr**	**42.50**	**266**	P	**P**	**03 08 09.6**	**-0.9**
WB0				IAmb	IAmb	03 08 10.3	

comp=Z,13nm,0.7s

WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**03 08 09.5**	**-1.0**
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**03 08 09.7**	**-0.9**

comp=Z,12nm,0.6s,baz=95,slow=8.4,SNR=198

WRA				ScP	**ScP**	**03 12 55.1**	**+3.9**

comp=Z,0.9nm,1.0s,baz=98,slow=4.2,SNR=8.2
comp=Z,12nm,0.6s

FORT	**Forrest**	**46.45**	**249**	P	**P**	**03 08 39.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.93**	**265**	P	**P**	**03 09 13.8**	**-0.4**
MORW	**Morawa**	**57.01**	**250**	P	**P**	**03 09 56.2**	**-0.8**
MORW				IAmb	IAmb	03 10 27.3	

comp=Z,20nm,1.4s

QSPA	**South Pole Qui**	**66.33**	**180**	P	**P**	**03 10 58.7**	**+1.4**
QSPA	**South Pole Qui**	**66.33**	**180**	P	**P**	**03 10 58.6**	**+1.4**

comp=Z,2.9nm,0.7s,baz=315,slow=0.7,SNR=22
comp=Z,2.9nm,0.7s

MAW	**Mawson**	**77.92**	**200**	P	**P**	**03 12 04.6**	**+0.4**

comp=Z,1.7nm,0.7s,baz=136,slow=2.0,SNR=3.5
comp=Z,1.7nm,0.7s

PETK	**Petropavlovsk-**	**78.97**	**346**	P	**P**	**03 12 10.4**	**+0.5**

comp=Z,1.6nm,0.6s,baz=87,slow=6.4,SNR=4.3
comp=Z,1.6nm,0.6s

CMB	**Columbia Colle**	**83.03**	**43**	P	**P**	**03 12 30.9**	**-0.3**
NVAR	**Mina Array Bea**	**84.58**	**44**	P	**P**	**03 12 40.1**	**+1.0**

comp=Z,0.6nm,0.5s,baz=225,slow=8.2,SNR=8.9
comp=Z,0.6nm,0.5s

SNAA	**Sanae**	**84.82**	**179**	P	**P**	**03 12 39.5**	**-0.1**

comp=Z,1.1nm,0.6s,baz=225,slow=2.9,SNR=12
comp=Z,1.1nm,0.6s

I07A	**Izee**	**87.21**	**39**	P	**P**	**03 12 53.0**	**+1.6**
I07A				IAmb	IAmb	03 12 54.0	

comp=Z,4.6nm,0.9s

CCUT	**Cedar City**	**87.31**	**47**	P	**P**	**03 12 51.5**	**-0.7**
J08A	**Circle Bar Ran**	**87.38**	**40**	P	**P**	**03 12 52.0**	**-0.3**
J08A				IAmb	IAmb	03 12 54.5	

comp=Z,9.0nm,1.3s

U15A	**North Rim**	**87.43**	**48**	P	**P**	**03 12 51.2**	**-1.7**
U15A				IAmb	IAmb	03 12 56.1	

comp=Z,4.6nm,1.0s

MTPU	**Mount Pierson**	**88.36**	**47**	P	**P**	**03 12 59.5**	**+2.2**
MTPU				IAmb	IAmb	03 12 59.9	

comp=Z,2.4nm,0.6s

MFID	**Camas Ranch**	**88.98**	**41**	P	**P**	**03 12 59.3**	**-0.5**
MFID				IAmb	IAmb	03 13 01.9	

comp=Z,4.5nm,1.0s

CAST	**Castle Rocks**	**89.60**	**12**	P	**P**	**03 13 00.6**	**-1.4**
CAST				IAmb	IAmb	03 13 02.1	

comp=Z,2.9nm,0.8s

HLID	**Hailey**	**89.92**	**41**	P	**P**	**03 13 04.3**	**+0.1**
HLID				IAmb	IAmb	03 13 06.6	

comp=Z,4.5nm,1.2s

SRU	**San Rafael Swe**	**90.03**	**47**		**P**	**03 13 05.3**	**+0.5**
SRU				IAmb	IAmb	03 13 06.8	

comp=Z,4.7nm,0.8s

TX31	**Lajitas Ar. Si**	**90.27**	**58**		**P**	**03 13 07.2**	**+1.1**
TXAR	**Lajitas Array**	**90.27**	**58**	P	**P**	**03 13 07.9**	**+1.9**

comp=Z,1.6nm,0.7s,baz=214,slow=6.6,SNR=27
comp=Z,1.6nm,0.7s

BSUT	**Blindstream Ca**	**90.60**	**45**		**P**	**03 13 09.2**	**+1.6**
BSUT				IAmb	IAmb	03 13 09.9	

comp=Z,6.1nm,0.8s

ILAR	**Eielson Array**	**91.86**	**14**	P	**P**	**03 13 11.6**	**-0.8**

comp=Z,0.3nm,0.5s,baz=216,slow=4.9,SNR=7.7
comp=Z,0.3nm,0.5s

PDAR	**Pinedale Array**	**92.52**	**44**	P	**P**	**03 13 16.4**	**+0.2**

comp=Z,0.7nm,0.7s,baz=181,slow=2.4,SNR=6.1
comp=Z,0.7nm,0.7s

DRIO	**Del Rio**	**92.70**	**59**		**P**	**03 13 17.0**	**-0.1**
DRIO				IAmb	IAmb	03 13 18.8	

comp=Z,4.4nm,0.8s

BVAR	**Borovoye Array**	**120.39**	**319**	PKP	**PKPdf**	**03 18 51.8**	**-0.4**

comp=Z,0.8nm,0.4s,baz=0.0,slow=0.0,SNR=3.8

ARCES	**ARCESS Array B**	**131.76**	**348**	PKP	**PKPdf**	**03 19 13.7**	**+0.3**

comp=Z,2.6nm,0.9s,baz=45,slow=2.1,SNR=8.7

FINES	**FINESS Array B**	**138.33**	**342**	PKP	**PKPdf**	**03 19 26.8**	**+0.9**

comp=Z,0.4nm,0.4s,baz=79,slow=4.1,SNR=2.1

NB2	**NORSAR Subarra**	**141.94**	**351**	PKP	**PKPdf**	**03 19 27.7**	**-4.8**

comp=Z,0.4nm,0.5s,baz=14,slow=3.2

NOA	**NORSAR Array B**	**141.94**	**351**	PKhKP	PKPpre	03 19 28.5	

comp=Z,0.6nm,0.7s,baz=16,slow=2.3,SNR=6.4

HFS	**Hagfors**	**142.41**	**349**	PKhKP	PKPpre	03 19 29.6	

comp=Z,3.5nm,0.4s,baz=66,slow=3.6,SNR=38

AKASG	**Malin Array Be**	**144.89**	**327**	PKP	**PKPdf**	**03 19 37.8**	**0.0**

comp=Z,1.2nm,0.4s,baz=43,slow=3.6,SNR=12

BRTR	**Keskin Array B**	**147.56**	**307**	PKPbc	**PKPbc**	**03 19 46.3**	**-0.1**

comp=Z,0.6nm,0.7s,baz=148,slow=5.6,SNR=4.4

MMAI	**Mount Meron Ar**	**147.72**	**295**	PKPbc	**PKiKP**	**03 19 48.2**	**-0.2**

comp=Z,2.3nm,0.5s,baz=90,slow=4.2,SNR=7.6

EKA	**Eskdalemuir Ar**	**148.36**	**4**	PKPbc	**PKPbc**	**03 19 47.5**	**-0.2**

comp=Z,0.9nm,0.4s,baz=336,slow=2.4,SNR=17

CLL	**Collm**	**150.74**	**343**		**PKPdf**	**03 19 48.4**	**+1.1**
ESDC	**Sonseca Array**	**163.75**	**11**	PKPab	**PKPab**	**03 20 58.9**	**-0.7**

comp=Z,0.5nm,0.3s,baz=354,slow=3.9,SNR=4.2

*IDC **29** 03:08:28.3±1.0, 4°.38N×125°.38E, h0km, mb3.8/6, mbtmp3.8/6, Error ellipse: s-maj=73.5km s-min=18.7km az=72.0*
*DJA **29** 03:08:48.3±0.8, 4°.N±6°×12°6E±°, h141km±5km, M4.2/7, mb4.5/3, mB4.9/1, MLv4.1/7, Mw(mB)4.1/1*

ISC 29 03:08:45.0±0.9, 4°.50N±0°.10×126°.0E±0°.2, h150km, n8, σ1^{s}70/10, mb3.7/6, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SGSI	**Sangihe**	**0.94**	**211**	P	**Pn**	**03 09 10.4**	**+1.2**
SGSI				S	**Sn**	**03 09 28.0**	**+0.3**
LBMI	**Labuha**	**5.31**	**164**	P	**Pn**	**03 10 04.7**	**+2.1**

36nm,0.4s,1μm0.6nm

LBMI				S	**Sn**	**03 11 00.5**	**-2.7**

36nm,0.4s,1μm0.6nm

WRA	**Warramunga Arr**	**25.63**	**162**	P	**P**	**03 14 00.7**	**-0.1**

0.8nm,0.7s,baz=338,slow=10,SNR=14
0.8nm,0.7s

ASAR	**Alice Springs**	**29.03**	**165**	P	**P**	**03 14 30.9**	**-0.3**

0.7nm,0.4s,baz=344,slow=7.4,SNR=11
0.7nm,0.4s

USRK	**Ussuriysk Ar.**	**39.89**	**7**	P	**P**	**03 16 05.6**	**+1.5**

1.9nm,0.7s,baz=188,slow=8.7,SNR=5.2
1.9nm,0.7s

SONM	**Songino Array**	**46.35**	**342**	P	**P**	**03 16 54.2**	**-1.9**

0.3nm,0.5s,baz=152,slow=8.8,SNR=1.8
0.3nm,0.5s

MKAR	**Makanchi Array**	**56.52**	**325**	P	**P**	**03 18 10.6**	**-1.1**

0.5nm,0.5s,baz=115,slow=8.2,SNR=4.1
0.5nm,0.5s

KURBB	**Kurchatov Arra**	**60.71**	**327**	P	**P**	**03 18 40.7**	**+0.2**

0.4nm,0.3s,baz=131,slow=6.6,SNR=5.3
0.4nm,0.3s

*IDC **29** 03:10:01.2±1.8, 26°.36N×125°.54E, h126km±17km, mb3.6/18, mbtmp3.9/21, Error ellipse: s-maj=18.9km s-min=15.7km az=54.0*
*JMA **29** 03:10:02.0±0.2, 26°.N±2°×12°5E±°, h133km±4km, MV3.8/30, NW OFF MIYAKOJIMA ISLAND*
*NIED **29** 03:10:02.0, 26°.31N×125°.49E, h133km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; Mrr-0.64; Mθθ-0.07; Mϕϕ0.71; Mrθ0.03; Mϕθ0.26; Mϕr-1.06; Fault plane solution: M0 1.29000×10^{15} NP1:ϕs 1.00000°, δ74.00000°, λ-101.00000°. NP2:ϕs216.00000°, δ20.00000°, λ-57.00000°.*

ISC 29 03:10:01.7±0.7, 26°.32N±0°.07×125°.52E±0°.06, h135km±8km, n53, σ0^{s}99/79, mb3.8/18, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**1.13**	**90**	P	**Pn**	**03 10 27.2**	**+0.9**
JKE					e^{s}	**Sn**	**03 10 45.3**	**+0.3**
JIKM	**Ikemajima**	**1.41**	**190**	P	**Pn**	**03 10 29.8**	**+0.6**
JIKM				S	**Sn**	**03 10 49.7**	**-0.5**
JMJ	**Miyako jima 2**	**1.52**	**188**	P	**Pn**	**03 10 31.8**	**+1.5**
JIRB	**Irabujima**	**1.52**	**192**	P	**Pn**	**03 10 30.4**	**+0.1**
JIRB				S	**Sn**	**03 10 51.1**	**-1.2**
JOGS	**Gusukube**	**1.56**	**184**	P	**Pn**	**03 10 31.6**	**+0.7**
JOGS				S	**Sn**	**03 10 52.8**	**-0.2**
JAGN	**Aguni-jima**	**1.56**	**80**	P	**Pn**	**03 10 31.8**	**+1.0**
JAGN				S	**Sn**	**03 10 53.1**	**+0.1**
JMJ2	**Miyako jima3**	**1.58**	**186**	*i* P	**Pn**	**03 10 31.7**	**+0.6**
JMJ2				S	**Sn**	**03 10 52.9**	**-0.6**
JTJ	**Tarama**	**1.83**	**204**	P	**Pn**	**03 10 34.1**	**+0.2**
JTJ				S	**Sn**	**03 10 57.0**	**-1.6**
JJT3	**Tamagusuku3**	**2.04**	**95**	P	**Pn**	**03 10 37.6**	**+1.2**
JJT3				S	**Sn**	**03 11 03.4**	**+0.5**
JISG	**Ishigakijimahi**	**2.05**	**213**	*i* P	**Pn**	**03 10 36.7**	**+0.2**
JISG				S	**Sn**	**03 11 01.4**	**-1.8**
JNTH	**Nagotoyohara**	**2.25**	**84**	*i* P	**Pn**	**03 10 39.7**	**+0.7**
JNTH				S	**Sn**	**03 11 05.7**	**-1.8**
JIH	**Iheya**	**2.30**	**71**	P	**Pn**	**03 10 40.6**	**+1.0**
JIH				S	**Sn**	**03 11 08.4**	**-0.3**
JIJ	**Ishigaki jima**	**2.32**	**213**	*i* P	**Pn**	**03 10 39.5**	**-0.3**
JIJ				S	**Sn**	**03 11 06.0**	**-3.1**
JKRS	**Kuro-shima**	**2.49**	**214**	P	**Pn**	**03 10 41.6**	**-0.3**
JKRS				S	**Sn**	**03 11 11.5**	**-1.4**
JOW	**Kunigami**	**2.52**	**78**	P	**Pn**	**03 10 43.2**	**+0.9**
JOW	**Kunigami**	**2.52**	**78**	P	**Pn**	**03 10 42.9**	**+0.6**

49nm,0.3s,baz=274,slow=19,SNR=97

JOW				S	**Sn**	**03 11 11.9**	**-1.6**

1μm,0.3s,baz=322,slow=20,SNR=45

JOW	**Kunigami**	**2.52**	**78**	*i* P	**Pn**	**03 10 42.9**	**+0.6**
JOW				S	**Sn**	**03 11 11.7**	**-1.8**
IRIF	**Iriomote-Funau**	**2.56**	**220**	P	**Pn**	**03 10 42.7**	**-0.1**
IRIF				S	**Sn**	**03 11 13.6**	**-1.0**
JYRO	**Yoronjima**	**2.71**	**74**	*i* P	**Pn**	**03 10 45.2**	**+0.5**
JYRO				S	**Sn**	**03 11 16.2**	**-1.7**
HATJ	**Hateruma jima**	**2.74**	**215**	P	**Pn**	**03 10 44.9**	**-0.3**
HATJ					e^{s}	**Sn**	**03 11 16.9**	**-1.8**
JOKE	**Okinoerabujima**	**2.91**	**69**	P	**Pn**	**03 10 47.7**	**+0.3**
YOJ	**Yonaguni jima**	**2.93**	**231**	P	**Pn**	**03 10 48.2**	**+0.6**
YOJ	**Yonaguni jima**	**2.93**	**231**	e^{P}	**Pn**	**03 10 48.4**	**+0.8**
JYNG	**Yonagunijimaku**	**2.98**	**232**	P	**Pn**	**03 10 49.0**	**+0.7**
JYNG					e^{S}	**Sn**	**03 11 24.9**	**+0.7**
JTK	**Tokunoshima**	**3.39**	**64**	P	**Pn**	**03 10

moment-rate function
ISC 29 03:21:55.9$_E$0.4,**1°37N**$_E$0.0°04×**97°08E**$_E$0.0°04,**h25**^{km}$_E$2km,
h25^{km}**:pP-P,n726,**$_\sigma$**1°44/695,mb5.1**/208,**MS4.7**/86,
34C-11D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**0.50**	**97**	Pg	**Pb**	**03 22 06.3**	**+0.3**
GSI				Sg	**Sn**	**03 22 14.8**	**-0.4**
GSI	**Gunungsitoli**	**0.50**	**97**	P	**Pn**	**03 22 07.2**	**-0.2**
GSI				S	**Sn**	**03 22 15.8**	**+0.6**
SNSI	**Sinabang, Aceh**	**1.28**	**324**	P	**Pn**	**03 22 18.2**	**0.0**
PBSI	**Pulau Batu**	**1.85**	**140**	P	**Pn**	**03 22 26.0**	**-0.1**
KCSI	**Kotacane, Aceh**	**2.25**	**18**	P	**Pn**	**03 22 32.1**	**+0.6**
MLSI	**Meulaboh, Aceh**	**2.96**	**347**	P	**Pn**	**03 22 41.2**	**-0.1**
SISI	**Saibi**	**3.34**	**143**	P	**Pn**	**03 22 46.2**	**-0.4**
LHMI	**Lhok Sumawe**	**3.84**	**358**		**Pn**	**03 22 53.7**	**+0.2**
LHMI	**Lhok Sumawe**	**3.84**	**358**	P	**Pn**	**03 22 53.6**	**+0.2**
PDSI	**Padang**	**4.07**	**124**	P	**Pn**	**03 22 57.1**	**+0.5**
BKNI	**Bangkinang**	**4.09**	**105**		**Pn**	**03 22 57.0**	**+0.2**
IPM	**Ipoh**	**5.00**	**52**		**Pn**	**03 23 10.5**	**+1.0**
KULM	**Kulim**	**5.28**	**42**		**Pn**	**03 23 13.6**	**+0.4**
MYKOM	**Kota Tinggi**	**6.78**	**86**		**Pn**	**03 23 35.0**	**+1.2**
SRIT	**Nakonsritamara**	**7.61**	**19**	Pn	**Pn**	**03 23 44.0**	**-1.2**
LWLI	**Liwa**	**9.42**	**132**	P	**Pn**	**03 24 10.8**	**+0.5**
	280nm,0.8s						
PPBI	**Pangkal Pinang**	**9.71**	**111**	P	**Pn**	**03 24 14.8**	**+0.7**
	26nm,0.9s,15µm						
KSM	**Kuching**	**13.22**	**89**	Pn	**Pn**	**03 25 02.6**	**+0.4**
STKI	**Sintang**	**14.45**	**95**	P	**Pn**	**03 25 20.7**	**+1.7**
	126nm,0.7s,11µm						
STKI				pP	**P**	**03 25 27.2**	**+1.7**
	126nm,0.7s,11µm						
SBUM	**Sibu**	**15.17**	**86**	Pn	**Pn**	**03 25 26.7**	**-1.9**
DLV	**T Lat**	**15.44**	**47**	Pn	**Pn**	**03 25 31.9**	**-0.5**
DLV				IAmb	IAmb	03 25 38.0	
	comp=Z,219nm,1.9s						
UBPT	**Khong Chiam**	**16.11**	**30**	Pn	**Pn**	**03 25 40.3**	**-0.6**
CM31	**Chiang Mai Arr**	**17.08**	**6**	P	**Pn**	**03 25 52.9**	**-0.3**
CMAR	**Chiang Mai Arr**	**17.08**	**6**	Pn	**Pn**	**03 25 52.3**	**-0.8**
CMAR	**Chiang Mai Arr**	**17.08**	**6**	P	**Pn**	**03 25 52.9**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=195,slow=13,SNR=29						
CMAR				LR	LR	03 33 30.0	
	comp=Z,3µm,18.1s,baz=180,slow=41						
	comp=Z,18nm,0.8s						
CMAR	**Chiang Mai Arr**	**17.08**	**6**	*i* P	**Pn**	**03 25 52.7**	**-0.4**
CMAR				pmax	pmax		
	comp=Z,20nm,0.8s						
PHRA	**Phrae**	**17.30**	**10**	Pn	**Pn**	**03 25 55.2**	**-0.6**
PHRA				IAmb	IAmb	03 26 00.5	
	comp=Z,153nm,0.6s						
PALK	**Pallekele**	**17.35**	**290**	P	**P**	**03 25 57.7**	**0.0**
	comp=Z,0.9nm,0.3s,baz=202,slow=14,SNR=6.6						
PALK				LR	LR	03 32 19.7	
	comp=Z,2µm,18.6s,baz=214,slow=36						
	comp=Z,10nm,0.6s						
CHTO	**Chiang Mai**	**17.43**	**6**	Pn	**Pn**	**03 25 56.7**	**-0.8**
CHTO	**Chiang Mai**	**17.43**	**6**	P	**Pn**	**03 25 56.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,21nm,0.9s						
MTKI	**Muara Teweh, K**	**17.96**	**97**	P	P	03 26 21.4	+17
CRAI	**Chiangrai**	**19.02**	**10**		**P**	**03 26 15.8**	**-0.3**
SLVN	**Son La**	**20.93**	**18**	P	**P**	**03 26 36.7**	**-0.2**
SAIH	**SAIHA**	**21.37**	**350**	*e*P	**P**	**03 26 41.8**	**+0.1**
SAIH				IAmb	IAmb	03 26 50.1	
	comp=Z,108nm,0.8s						
KOD	**Kodaikanal**	**21.39**	**295**	*e*P	P	03 26 52.9	+11
QIZ	**Qiongzhong**	**21.55**	**35**	P	**P**	**03 26 43.0**	**-0.6**
QIZ				pmax	pmax		
	comp=Z,35nm,0.8s						
QIZ				pmax	pmax		
	comp=Z,350nm,6.2s						
QIZ				LR	LR		
	comp=Z,2µm,14.5s						
QIZ				LR	LR		
	comp=Z,2µm,13.4s						
QIZ				LR	LR		
	comp=Z,2µm,14.9s						
QIZ	**Qiongzhong**	**21.55**	**35**	P	**P**	**03 26 43.5**	**-0.1**
RAGD	**RAYAGADA**	**22.22**	**324**	*e*P	**P**	**03 26 53.3**	**+2.5**
RAGD				IAmb	IAmb	03 26 57.9	
	comp=Z,60nm,1.1s						
KAPI	**Kappang**	**23.52**	**106**	P	**P**	**03 27 04.0**	**-0.3**
KAPI				IAmb	IAmb	03 27 27.8	
	comp=Z,55nm,1.4s						
KAPI	**Kappang**	**23.52**	**106**	P	**P**	**03 27 03.8**	**-0.4**
	comp=Z,24nm,0.9s,baz=281,slow=12,SNR=6.3						
	comp=Z,24nm,0.9s						
KAPI	**Kappang**	**23.52**	**106**	P	**P**	**03 27 04.0**	**-0.3**
KAPI				pmax	pmax		
	comp=Z,55nm,1.4s						
IMP	**Imphal**	**23.52**	**353**	*e*P	**P**	**03 27 03.5**	**-0.8**
IMP				IAmb	IAmb	03 27 06.9	
	comp=Z,25nm,0.7s						
TNCH	**TengChong**	**23.56**	**3**	⇑P	**P**	**03 27 04.3**	**-0.5**
TNCH				pP	pP	03 27 13.0	+1.2
TNCH				sP	sP	03 27 16.8	+1.9
TNCH				PP	**PnPn**	**03 27 41.0**	**+8.8**
TNCH				S	**S**	**03 31 19.0**	**+1.2**
TNCH				sS	pS	03 31 26.8	+0.9
TNCH				pmax	pmax		
	comp=Z,82nm,2.4s						
TNCH				pmax	pmax		
	comp=Z,680nm,2.9s						
TNCH				LR	LR		
	comp=Z,3µm,13.7s						
TNCH				LR	LR		
	comp=Z,1µm,9.8s						
TNCH				LR	LR		
	comp=Z,4µm,13.9s						
TOLI2	**Tolitoli**	**23.69**	**90**	P	**P**	**03 27 05.1**	**-0.9**
TOLI2				IAmb	IAmb	03 27 06.3	
	comp=Z,74nm,1.0s						
JHSG	**JHARSUGUGA**	**24.06**	**328**	*e*P	**P**	**03 27 12.1**	**+2.7**
JHSG				IAmb	IAmb	03 27 14.4	
	comp=Z,115nm,0.9s						
KOHI	**KOHIMA**	**24.38**	**353**	*e*P	**P**	**03 27 11.9**	**-0.5**
KOHI				IAmb	IAmb	03 27 18.8	
	comp=Z,107nm,1.0s						
SHL	**Shillong**	**24.57**	**349**	P	**P**	**03 27 14.5**	**+0.3**
SHL	**Shillong**	**24.57**	**349**	*e*P	**P**	**03 27 14.4**	**+0.1**
SHL	**Shillong**	**24.57**	**349**	P	**P**	**03 27 14.5**	**+0.3**
SHL				pmax	pmax		
	comp=Z,231nm,0.7s						
BOK	**Bokaro**	**24.80**	**335**	*e*P	**P**	**03 27 17.7**	**+1.7**
BOK				IAmb	IAmb	03 27 19.4	
	comp=Z,75nm,0.6s						
MOKO	**MOKOCHONG**	**24.93**	**355**	*e*P	**P**	**03 27 17.6**	**+0.1**
MOKO				IAmb	IAmb	03 27 21.1	
	comp=Z,175nm,0.6s						
PZH	**PanZhiHua**	**25.39**	**10**	P	**P**	**03 27 21.5**	**0.0**
PZH				S	**S**	**03 31 46.5**	**-0.4**
PZH				pmax	pmax		
	comp=Z,20nm,0.8s						
PZH				pmax	pmax		
	comp=Z,360nm,5.0s						
PZH				LR	LR		
	comp=Z,2µm,16.7s						
PZH				LR	LR		
	comp=Z,2µm,16.3s						
PZH				LR	LR		
	comp=Z,3µm,6.7s						
ITAN	**ITANAGAR**	**25.83**	**353**	*e*P	**P**	**03 27 26.2**	**+0.8**
LKP	**Lekhapani**	**25.84**	**357**	*e*P	**P**	**03 27 27.0**	**+1.5**
H08S2	**Diego Garcia H**	**26.11**	**250**	T	T	03 54 34.1	
	baz=70,slow=76						
H08S3	**Diego Garcia H**	**26.11**	**250**	T	T	03 54 34.5	
	baz=70,slow=76						
H08S1	**Diego Carcia H**	**26.13**	**250**	T	T	03 54 35.5	
	baz=70,slow=76						
ZIRO	**ZIRO**	**26.19**	**353**	*e*P	**P**	**03 27 29.8**	**+0.9**
ZIRO				IAmb	IAmb	03 27 37.5	
	comp=Z,80nm,0.5s						
GYA	**Guiyang**	**26.59**	**19**	⇑P	**P**	**03 27 32.3**	**-0.2**
GYA				pP	pP	03 27 39.3	-0.5
GYA				S	**S**	**03 32 12.3**	**+6.3**
GYA				pmax	pmax		
	comp=Z,51nm,1.2s						
GYA				LR	LR		
	comp=Z,6µm,14.2s						
GYA				LR	LR		
	comp=Z,3µm,13.5s						
GYA				LR	LR		
	comp=Z,9µm,14.6s						
GTK	**Tadong**	**27.06**	**343**	*e*P	**P**	**03 27 38.1**	**+1.4**
GTK				IAmb	IAmb	03 27 41.6	
	comp=Z,111nm,0.8s						
ALBI	**Allahabad**	**28.00**	**329**	*e*P	**P**	**03 27 46.8**	**+1.9**
ALBI				IAmb	IAmb	03 27 51.2	
	comp=Z,34nm,0.7s						
LSA	**Lhasa**	**28.74**	**349**	P	**P**	**03 27 54.0**	**+2.0**
LSA				pmax	pmax		
	comp=Z,30nm,1.0s						
LSA	**Lhasa**	**28.74**	**349**	P	**P**	**03 27 51.6**	**-0.4**
LSA				IAmb	IAmb	03 27 56.4	
	comp=Z,24nm,0.7s						
LSA	**Lhasa**	**28.74**	**349**	P	**P**	**03 27 51.6**	**-0.4**
LSA				pmax	pmax		
	comp=Z,25nm,0.7s						
BATI	**Baumata**	**28.85**	**114**	LR	LR	03 41 32.0	
	comp=Z,3µm,19.5s,baz=296,slow=41						
BHPL	**Bhopal**	**28.93**	**320**	*e*P	**P**	**03 27 54.0**	**+0.8**
DAV	**Davao City (W)**	**28.96**	**78**	LR	LR	03 41 36.8	
	comp=Z,667nm,19.5s,baz=212,slow=41						
JHNI	**Jhansi**	**29.90**	**325**	*e*P	**P**	**03 28 02.1**	**+0.3**
JHNI				IAmb	IAmb	03 28 03.3	
	comp=Z,28nm,0.8s						
CD2	**Chengdu**	**30.05**	**12**	P	**P**	**03 28 02.8**	**-0.4**
CD2				S	**S**	**03 32 59.8**	**-0.4**
CD2				pmax	pmax		
	comp=Z,30nm,0.9s						
CD2				pmax	pmax		
	comp=Z,330nm,3.7s						
CD2				LR	LR		
	comp=Z,3µm,18.4s						
CD2				LR	LR		
	comp=Z,5µm,15.2s						
CD2				LR	LR		
	comp=Z,4µm,15.2s						
CNSH	**ChangSha**	**30.67**	**28**	P	**P**	**03 28 08.3**	**-0.3**
CNSH				S	**S**	**03 33 05.5**	**-4.3**
CNSH				pmax	pmax		
	comp=Z,10.0nm,0.7s						
CNSH				LR	LR		
	comp=Z,3µm,16.1s						
CNSH				LR	LR		
	comp=Z,1µm,15.2s						
CNSH				LR	LR		
	comp=Z,4µm,15.5s						
ENH	**Enshi**	**31.07**	**21**	P	**P**	**03 28 11.6**	**-0.6**
QZH	**Quanzhou**	**31.32**	**40**	P	**P**	**03 28 14.5**	**+0.1**
QZH				S	**S**	**03 33 19.5**	**-0.6**
QZH				pmax	pmax		
	comp=Z,370nm,4.6s						
QZH				LR	LR		
	comp=Z,3µm,13.1s						
QZH				LR	LR		
	comp=Z,3µm,15.1s						
QZH				LR	LR		
	comp=Z,4µm,14.8s						
TPUB	**Ta-pu**	**31.58**	**45**	P	**P**	**03 28 16.5**	**-0.2**
TPUB				IAmb	IAmb	03 28 18.0	
	comp=Z,43nm,1.1s						
YULB	**Yu-li**	**32.11**	**45**	P	**P**	**03 28 21.2**	**-0.2**
YULB				IAmb	IAmb	03 28 23.2	
	comp=Z,37nm,0.9s						
SSLB	**Suanglung**	**32.12**	**44**	P	**P**	**03 28 21.4**	**-0.1**
LGTI	**Lohaghat**	**32.20**	**332**	*e*P	**P**	**03 28 23.4**	**+1.3**
LGTI				IAmb	IAmb	03 28 29.9	
	comp=Z,39nm,0.7s						
PTH	**Pithoragarh**	**32.30**	**332**	*e*P	**P**	**03 28 24.9**	**+1.7**
AJM	**Ajmer**	**33.00**	**321**	*e*P	P	03 28 34.2	+5.0
WHN	**Wuhan**	**33.32**	**28**	P	**P**	**03 28 32.0**	**+0.1**
WHN				pmax	pmax		
	comp=Z,39nm,0.7s						
WHN				pmax	pmax		
	comp=Z,490nm,4.1s						
WHN				LR	LR		
	comp=Z,5µm,16.8s						
WHN				LR	LR		
	comp=Z,5µm,14.6s						
WHN				LR	LR		
	comp=Z,8µm,15.0s						
YOJ	**Yonaguni jima**	**33.99**	**45**	P	**P**	**03 28 37.5**	**-0.3**
YOJ				IAmb	IAmb	03 28 45.6	
	comp=Z,20nm,0.8s						
YOJ	**Yonaguni jima**	**33.99**	**45**	P	**P**	**03 28 37.5**	**-0.3**
YOJ				pmax	pmax		
	comp=Z,20nm,0.8s						
FITZ	**Fitzroy Crossi**	**34.12**	**126**	P	**P**	**03 28 38.3**	**-0.7**
XAN	**Xi'an**	**34.34**	**18**	⇑P	**P**	**03 28 39.8**	**-0.9**
XAN				pP	sP	03 28 54.5	+3.2
XAN				S	**S**	**03 34 03.0**	**-4.0**
XAN				pmax	pmax		
	comp=Z,120nm,0.9s						
XAN				LR	LR		
	comp=Z,5µm,13.7s						
XAN				LR	LR		
	comp=Z,4µm,16.2s						
XAN				LR	LR		
	comp=Z,6µm,15.1s						
GOMU	**GeErMu**	**34.72**	**357**	P	**P**	**03 28 47.0**	**+2.6**
GOMU				pP	pP	03 28 52.0	+0.3
GOMU				sP	sP	03 28 53.5	-1.2
GOMU				S	**S**	**03 34 13.8**	**+0.4**
GOMU				sS	sS	03 34 28.8	+3.5
GOMU				pmax	pmax		
	comp=Z,20nm,0.8s						
GOMU				LR	LR		
	comp=Z,1µm,14.3s						
GOMU				LR	LR		
	comp=Z,1µm,15.6s						
GOMU				LR	LR		
	comp=Z,1µm,14.1s						
SMLA	**Simla**	**35.09**	**329**	*e*P	**P**	**03 28 48.7**	**+1.5**
SMLA				IAmb	IAmb	03 28 55.0	
	comp=Z,21nm,0.7s						
LZH	**Lanzhou**	**35.11**	**10**	⇑P	**P**	**03 28 47.8**	**+0.3**
LZH				pP	pP	03 28 55.0	0.0
LZH				PP	**PP**	**03 30 10.0**	**+2.5**
LZH				S	**S**	**03 34 17.5**	**-1.5**
LZH				sS	sS	03 34 31.3	+0.3
LZH				pmax	pmax		
	comp=Z,35nm,1.2s						
LZH				pmax	pmax		
	comp=Z,340nm,4.5s						
LZH				LR	LR		
	comp=Z,3µm,14.8s						
LZH				LR	LR		
	comp=Z,3µm,15.8s						
LZH				LR	LR		
	comp=Z,4µm,15.8s						
LYN	**LuoYang**	**36.00**	**22**	⇑P	**P**	**03 28 55.5**	**+0.5**
LYN				pP	pP	03 29 02.5	0.0
LYN				sP	sP	03 29 05.5	0.0
LYN				S	**S**	**03 34 33.8**	**+1.4**
LYN				sS	sS	03 34 45.5	+1.0
LYN				pmax	pmax		
	comp=Z,82nm,0.8s						
LYN				pmax	pmax		
	comp=Z,530nm,4.4s						
LYN				LR	LR		
	comp=Z,3µm,14.4s						
LYN				LR	LR		
	comp=Z,2µm,15.5s						
LYN				LR	LR		
	comp=Z,2µm,14.4s						
DHRM	**DHARAMSHALA**	**36.43**	**330**	*e*P	**P**	**03 29 00.1**	**+1.1**
DHRM				IAmb	IAmb	03 29 06.2	
	comp=Z,64nm,1.0s						
NJ2	**Nanjing**	**36.78**	**32**	⇑P	**P**	**03 29 02.0**	**+0.3**
NJ2				pP	**pP**	**03 29 06.5**	**-2.7**
NJ2				pmax	pmax		
	comp=Z,15nm,0.7s						
NJ2				pmax	pmax		
	comp=Z,120nm,3.5s						
NJ2				LR	LR		
	comp=Z,2µm,13.7s						
NJ2				LR	LR		
	comp=Z,2µm,14.7s						
NJ2				LR	LR		
	comp=Z,2µm,13.7s						
THN	**Thein Dam**	**36.87**	**329**	*e*P	**P**	**03 29 01.7**	**-0.7**
THN				IAmb	IAmb	03 29 10.0	
	comp=Z,79nm,1.1s						
SSE	**Sheshan**	**37.34**	**35**	P	**P**	**03 29 08.3**	**+1.8**
SSE				S	**S**	**03 34 56.5**	**+3.5**
SSE				pmax	pmax		
	comp=Z,10.0nm,0.8s						
SSE				LR	LR		
	comp=Z,600nm,17.1s						
SSE				LR	LR		
	comp=Z,540nm,16.3s						
KDU	**Kakadu**	**37.80**	**113**	P	**P**	**03 29 08.9**	**-1.7**
GTA	**Gaotai**	**37.95**	**3**	P	**P**	**03 29 12.0**	**+0.4**
GTA				pP	pP	03 29 19.0	-0.2
GTA				sP	sP	03 29 22.8	+0.6
GTA				S	**S**	**03 34 56.5**	**-5.7**
GTA				pmax	pmax		
	comp=Z,23nm,1.4s						
GTA				pmax	pmax		
	comp=Z,220nm,10.0s						
GTA				LR	LR		
	comp=Z,1µm,14.7s						
GTA				LR	LR		
	comp=Z,1µm,15.5s						
GTA				LR	LR		
	comp=Z,2µm,15.1s						
TIY	**Taiyuan**	**38.83**	**20**	*e*P	**P**	**03 29 20.5**	**+1.5**
TIY				S	**S**	**03 35 23.0**	**+7.5**
TIY				SS	**SnSn**	**03 38 01.0**	**-5.3**
TIY				pmax	pmax		
	comp=Z,200nm,5.9s						
TIY				LR	LR		
	comp=Z,4µm,13.7s						
TIY				LR	LR		
	comp=Z,2µm,13.5s						
TIY				LR	LR		
	comp=Z,4µm,14.1s						
NIL	**Nilore**	**39.11**	**328**	P	**P**	**03 29 21.9**	**+0.5**
NIL				IAmb	IAmb	03 29 28.5	
	comp=Z,27nm,0.6s						
NIL	**Nilore**	**39.11**	**328**	P	**P**	**03 29 21.9**	**+0.5**
NIL				pmax	pmax		
	comp=Z,27nm,0.6s						
JOW	**Kunigami**	**39.21**	**47**	P	**P**	**03 29 23.0**	**+0.7**
JOW	**Kunigami**	**39.21**	**47**	P	**P**	**03 29 22.5**	**+0.2**
	comp=Z,51nm,0.5s,baz=234,slow=6.6,SNR=24						
	comp=Z,51nm,0.5s						
TIA	**Tai'an**	**39.33**	**26**	*e*P	**P**	**03 29 22.5**	**-0.7**
TIA				S	**S**	**03 35 22.8**	**-0.1**
TIA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
TIA				pmax	pmax		
	comp=Z,130nm,4.4s						
TIA				LR	LR		
	comp=Z,1µm,16.2s						
TIA				LR	LR		
	comp=Z,990nm,15.7s						
TIA				LR	LR		
	comp=Z,2µm,16.2s						
HNS	**HongShan**	**39.36**	**22**	⇑P	**P**	**03 29 24.0**	**+0.6**
HNS				PP	**PnPn**	**03 30 56.3**	**-0.6**
HNS				S	**S**	**03 35 21.5**	**-1.8**
HNS				SS	**SS**	**03 38 05.3**	**-12**
HNS				pmax	pmax		
	comp=Z,35nm,0.9s						
HNS				pmax	pmax		
	comp=Z,310nm,5.0s						
HNS				LR	LR		
	comp=Z,850nm,16.0s						
HNS				LR	LR		
	comp=Z,1µm,15.7s						
HNS				LR	LR		
	comp=Z,930nm,16.3s						
H01W3	**Cape Leeuwin H**	**39.44**	**158**	T	T	04 11 05.9	
	baz=333,slow=76,SNR=120						
H01W2	**Cape Leeuwin H**	**39.46**	**158**	T	T	04 11 05.6	
	baz=333,slow=76,SNR=123						
H01W1	**Cape Leeuwin H**	**39.46**	**158**	T	T	04 11 05.9	
	baz=333,slow=76,SNR=92						
WRKA	**Warakurna**	**40.04**	**133**	P	**P**	**03 29 29.6**	**+0.3**
	comp=Z,17nm,1.7s						
BTO	**Baotou**	**40.78**	**15**	*e*P	**P**	**03 29 36.8**	**+1.5**
BTO				pP	**sP**	**03 29 44.3**	**-1.6**
BTO				sP	**pP**	**03 29 47.8**	**+5.0**
BTO				PP	**PnPn**	**03 31 15.8**	**+2.0**
BTO				S	**S**	**03 35 46.8**	**+2.1**
BTO				sS	**sS**	**03 36 01.5**	**+4.6**
BTO				SS	**SS**	**03 38 46.0**	**-0.3**
BTO				pmax	pmax		
	comp=Z,48nm,1.3s						
BTO				pmax	pmax		
	comp=Z,760nm,10.9s						
BTO				LR	LR		
	comp=Z,3µm,15.5s						
BTO				LR	LR		
	comp=Z,7µm,15.3s						
BTO				LR	LR		
	comp=Z,2µm,17.8s						
HHC	**Hu-ho-hao-te**	**41.43**	**17**	*e*P	**P**	**03 29 41.8**	**+1.2**
HHC				sP	sP	03 29 52.5	+1.3
HHC				S	**S**	**03 35 56.0**	**+1.6**
HHC				sS	sS	03 36 09.3	+2.6
HHC				SS	**SS**	**03 38 58.5**	**-0.7**
HHC				pmax	pmax		
	comp=Z,28nm,0.9s						
HHC				pmax	pmax		
	comp=Z,300nm,5.4s						
HHC				LR	LR		
	comp=Z,3µm,16.1s						
HHC				LR	LR		
	comp=Z,1µm,14.7s						
HHC				LR	LR		
	comp=Z,3µm,15.1s						
WB0	**Warramunga Arr**	**42.19**	**122**	P	**P**	**03 29 46.0**	**-1.0**
BJT	**Baijiatuao**	**42.21**	**22**	P	**P**	**03 29 47.5**	**+0.7**
BJT				IAmb	IAmb	03 29 49.7	
	comp=Z,43nm,0.7s						
BJT	**Baijiatuao**	**42.21**	**22**	P	**P**	**03 29 47.5**	**+0.7**
BJT				pmax	pmax		
	comp=Z,43nm,0.7s						
WRA	**Warramunga Arr**	**42.22**	**122**	P	**P**	**03 29 46.1**	**-1.2**
WRA	**Warramunga Arr**	**42.22**	**122**	P	**P**	**03 29 46.5**	**-0.8**
	comp=Z,6.8nm,0.8s,baz=302,slow=9.0,SNR=48						
WRA				LR	LR	03 47 46.3	
	comp=Z,775nm,21.4s,baz=292,slow=37						
	comp=Z,6.8nm,0.8s						
BJI	**Beijing**	**42.23**	**22**	P	**P**	**03 29 48.0**	**+1.0**
BJI				pP	**pP**	**03 29 54.8**	**+0.3**
BJI				sP	**sP**	**03 29 56.5**	**-1.1**
BJI				S	**S**	**03 36 08.5**	**+2.6**
BJI				pmax	pmax		
	comp=Z,30nm,0.7s						
BJI				pmax	pmax		
	comp=Z,180nm,4.1s						
BJI				LR	LR		
	comp=Z,420nm,15.1s						
BJI				LR	LR		
	comp=Z,330nm,15.6s						
BJI				LR	LR		
	comp=Z,490nm,14.1s						
WB2	**Warramunga Arr**	**42.23**	**122**	P	**P**	**03 29 46.9**	**-0.5**
WR0	**Warramunga Arr**	**42.40**	**122**	P	**P**	**03 29 48.2**	**-0.5**
KSH	**Kashi**	**42.57**	**336**	P	**P**	**03 29 49.5**	**-0.5**
KSH				pP	pP	03 29 57.0	-0.4
KSH				PP	**PP**	**03 31 32.3**	**+3.3**
KSH				S	**S**	**03 36 08.3**	**-3.0**
KSH				ScS	**ScS**	**03 39 48.3**	**-1.9**
KSH				pmax	pmax		
	comp=Z,8.0nm,0.8s						
KSH				LR	LR		
	comp=Z,460nm,18.5s						
KSH				LR	LR		
	comp=Z,600nm,18.7s						
KSH				LR	LR		
	comp=Z,770nm,19.8s						
WMQ	**Urumqi**	**43.09**	**350**	*e*P	**P**	**03 29 55.3**	**+1.3**
WMQ				pP	sP	03 30 03.5	-0.9
WMQ				sP	pP	03 30 09.0	+7.5
WMQ				S	**S**	**03 36 20.3**	**+1.6**
WMQ				pmax	pmax		
	comp=Z,34nm,0.9s						
WMQ				pmax	pmax		
	comp=Z,370nm,4.7s						
WMQ				LR	LR		
	comp=Z,610nm,17.7s						
WMQ				LR	LR		
	comp=Z,1µm,20.1s						
WMQ				LR	LR		
	comp=Z,380nm,20.1s						
WSAR	**Wadi Sarin**	**43.16**	**303**	LR	LR	03 46 33.0	
	comp=Z,175nm,21.3s,baz=130,slow=34						
FORT	**Forrest**	**43.48**	**140**	P	**P**	**03 29 57.4**	**+0.1**
FORT	**Forrest**	**43.48**	**140**	P	P	03 30 03.3	+6.0
DL2	**Dalian**	**43.58**	**28**	P	**P**	**03 29 58.5**	**+0.5**
DL2				S	**S**	**03 36 28.0**	**+2.1**

DL2 pmax pmax
comp=Z,34nm,0.7s
DL2 pmax pmax
comp=Z,460nm,5.8s
DL2 LR LR
comp=Z,1μm,17.0s
DL2 LR LR
comp=Z,780nm,15.2s
DL2 LR LR
comp=Z,1μm,16.0s
AS31 Alice Springs 43.59 127 P **P** **03 29 58.3 0.0**
ASAR Alice Springs 43.59 127 P **P** **03 29 58.0 -0.4**
comp=Z,5.7nm,0.8s,baz=303,slow=7.6,SNR=40
ASAR PcP **PcP** **03 31 46.0 +0.2**
comp=Z,2.0nm,0.8s,baz=306,slow=4.5,SNR=4.4
comp=Z,5.7nm,0.8s
TARG Taragay, Kyrgy 43.77 339 P **P** **03 30 01.9 +1.9**
TARG pmax pmax
comp=Z,31nm,1.1s
DRK Karamyk 44.39 332 P **P** **03 30 05.8 +1.0**
DRK Karamyk 44.39 332 P **P** **03 30 05.8 +1.0**
DRK pmax pmax
comp=Z,76nm,0.7s
SHLS Shalkode 44.49 342 *e*P **P** **03 30 04.8 -0.6**
comp=Z,11nm,0.7s,baz=342
SHLS Shalkode 44.49 342 *e*P **P** **03 30 04.8 -0.6**
SHLS pmax pmax
comp=Z,11nm,0.7s
UZB Uzynbulak 44.62 341 *e*P **P** **03 30 06.8 +0.4**
comp=Z,8.4nm,0.6s,baz=341
UZB Uzynbulak 44.62 341 *e*P **P** **03 30 06.8 +0.4**
UZB pmax pmax
comp=Z,8.0nm,0.6s
TJN Taejon 44.71 35 P **P** **03 30 06.9 -0.2**
TJN Taejon 44.71 35 P **P** **03 30 06.9 -0.2**
SATY Saty 44.74 341 *e*P **P** **03 30 07.8 +0.3**
comp=Z,9.2nm,0.7s,baz=340
SATY Saty 44.74 341 *e*P **P** **03 30 07.7 +0.3**
SATY pmax pmax
comp=Z,9.0nm,0.7s
JNU Nakatsue 44.76 42 P **P** **03 30 07.0 -0.6**
JNU IAmb IAmb 03 30 08.8
comp=Z,39nm,0.9s
JNU Nakatsue 44.76 42 LR LR 03 51 29.0
comp=Z,853nm,18.3s,baz=231,slow=40
OHH Osh 44.77 334 P **P** **03 30 09.6 +2.0**
OHH pmax pmax
comp=Z,23nm,0.9s
CHGR Chuyangaron 45.06 329 P **P** **03 30 09.6 -0.4**
CHGR Chuyangaron 45.06 329 P **P** **03 30 09.6 -0.4**
CHGR pmax pmax
comp=Z,119nm,1.4s
BOOM Boomskoye usch 45.12 338 P **P** **03 30 11.1 +0.6**
BOOM Boomskoye usch 45.12 338 P **P** **03 30 11.1 +0.6**
BOOM pmax pmax
comp=Z,13nm,0.8s
SIMJ Simiganj 45.14 329 P **P** **03 30 10.6 0.0**
SIMJ IAmb IAmb 03 30 25.0
comp=Z,45nm,1.1s
ARLS Aral 45.22 336 P **P** **03 30 13.2 +1.9**
ARLS pmax pmax
comp=Z,35nm,1.1s
TNSS Tian-Shan 45.23 339 *e*P **P** **03 30 11.9 +0.2**
baz=339
TNSS Tian-Shan 45.23 339 *e*P **P** **03 30 11.8 +0.2**
MDOK Medeo 45.30 339 *e*P **P** **03 30 11.9 0.0**
baz=339
MDOK Medeo 45.30 339 *e*P **P** **03 30 11.9 0.0**
BTK Batken 45.31 331 P **P** **03 30 12.2 +0.3**
BTK IAmb IAmb 03 30 21.1
comp=Z,31nm,1.1s
BTK Batken 45.31 331 P **P** **03 30 12.2 +0.3**
BTK pmax pmax
comp=Z,31nm,1.2s
ARSB Arslanbob 45.34 334 P **P** **03 30 12.4 +0.2**
ARSB Arslanbob 45.34 334 P **P** **03 30 12.4 +0.2**
ARSB pmax pmax
comp=Z,6.0nm,0.7s
AAA Alma-Ata 45.39 339 *e*P **P** **03 30 12.8 +0.3**
comp=Z,13nm,0.5s,baz=339
AAA Alma-Ata 45.39 339 *e*P **P** **03 30 12.8 +0.3**
AAA pmax pmax
comp=Z,13nm,0.5s
XLT XiLinHaoTe 45.60 19 *e*P **P** **03 30 15.3 +1.2**
XLT pP pP 03 30 23.0 +1.3
XLT S **S** **03 36 57.0 +1.8**
XLT sS sS 03 37 11.5 +3.9
XLT pmax pmax
comp=Z,18nm,0.8s
XLT pmax pmax
comp=Z,130nm,5.7s
XLT LR LR
comp=Z,320nm,13.8s
XLT LR LR
comp=Z,2μm,13.4s
XLT LR LR
comp=Z,5μm,14.7s
KSRS Korea Array 45.78 35 P **P** **03 30 15.5 0.0**
comp=Z,28nm,0.8s,baz=221,slow=9.1,SNR=94
KSRS LR LR 03 49 49.5
comp=Z,625nm,21.1s,baz=200,slow=37
comp=Z,28nm,0.8s
KS19 Wonju Array Si 45.78 35 P **P** **03 30 15.6 +0.1**
AAK Ala-Archa 45.80 337 P **P** **03 30 15.7 -0.2**
AAK IAmb IAmb 03 30 48.9
comp=Z,35nm,1.4s
AAK Ala-Archa 45.80 337 P **P** **03 30 17.3 +1.4**
comp=Z,2.8nm,0.7s,baz=118,slow=12,SNR=5.2
AAK LR LR 03 52 37.7
comp=Z,616nm,18.5s,baz=156,slow=40
comp=Z,2.8nm,0.7s
AAK Ala-Archa 45.80 337 P **P** **03 30 15.7 -0.2**
AAK pmax pmax
comp=Z,35nm,1.5s
ARK Arkit 46.17 334 P **P** **03 30 20.3 +1.6**
ARK pmax pmax
comp=Z,19nm,0.7s
KUU Kurty 46.19 339 *e*P **P** **03 30 18.9 +0.2**
comp=Z,11nm,0.9s,baz=339
KUU Kurty 46.19 339 *e*P **P** **03 30 18.9 +0.2**
KUU pmax pmax
comp=Z,11nm,0.9s
TRKS Terek-Say 46.32 333 P **P** **03 30 21.0 +1.0**
TRKS pmax pmax
comp=Z,27nm,0.9s
SGDS Sogindy 46.44 337 *e*P **P** **03 30 21.2 +0.4**
baz=337
SGDS Sogindy 46.44 337 *e*P **P** **03 30 21.2 +0.4**
TDK Taldyqorghan 46.48 342 *e*P **P** **03 30 21.2 +0.2**
comp=Z,9.1nm,0.4s,baz=342
TDK Taldyqorghan 46.48 342 *e*P **P** **03 30 21.2 +0.2**
TDK pmax pmax
comp=Z,9.0nm,0.4s
SNY Shenyang 46.81 27 ⇑P **P** **03 30 23.3 -0.2**
SNY pmax pmax
comp=Z,21nm,0.9s
SNY pmax pmax
comp=Z,230nm,2.8s
SNY LR LR
comp=Z,970nm,16.6s
SNY LR LR
comp=Z,1μm,16.1s
SNY LR LR
comp=Z,2μm,15.2s
SONM Songino Array 46.98 9 P **P** **03 30 25.4 +0.4**
SONM IAmb IAmb 03 30 26.9
comp=Z,27nm,0.8s
SONM Songino Array 46.98 9 P **P** **03 30 25.8 +0.8**
comp=Z,30nm,0.9s,baz=190,slow=9.0,SNR=99
SONM PcP **PcP** **03 31 57.8 +0.7**
comp=Z,3.3nm,0.9s,baz=200,slow=4.2,SNR=1.7
SONM LR LR 03 52 39.9
comp=Z,2μm,18.6s,baz=220,slow=39
comp=Z,30nm,0.9s
SONM Songino Array 46.98 9 P **P** **03 30 25.4 +0.4**
SONM pmax pmax
comp=Z,27nm,0.8s
QIS Mount Isa 46.99 120 P **P** **03 30 28.1 +2.7**
MK31 Makanchi Array 47.05 346 P **P** **03 30 25.9 +0.5**
MK31 IAmb IAmb 03 30 28.9
comp=Z,27nm,1.1s
MK31 Makanchi Array 47.05 346 P **P** **03 30 25.9 +0.5**
MK31 pmax pmax
comp=Z,27nm,1.2s
MKAR Makanchi Array 47.05 346 P **P** **03 30 26.3 +0.9**
comp=Z,18nm,0.7s,baz=159,slow=7.8,SNR=99
MKAR LR LR 03 54 02.0
comp=Z,553nm,21.3s,baz=165,slow=41
comp=Z,18nm,0.7s
ZSN Zaisan 47.11 349 *e*P **P** **03 30 26.3 +0.4**
comp=Z,16nm,0.9s,baz=349
ZSN Zaisan 47.11 349 *e*P **P** **03 30 26.3 +0.4**
ZSN pmax pmax
comp=Z,16nm,0.9s
ULN Ulaanbaatar 47.12 9 P **P** **03 30 25.9 -0.2**
ULN IAmb IAmb 03 30 27.8
comp=Z,18nm,0.8s
ULN Ulaanbaatar 47.12 9 P **P** **03 30 25.9 -0.2**
ULN pmax pmax
comp=Z,18nm,0.9s
JMN Monobe 47.13 43 P **P** **03 30 26.1 -0.3**
MAKZ Makanchi 47.14 346 P **P** **03 30 26.1 0.0**
MAKZ IAmb IAmb 03 30 28.9
comp=Z,18nm,0.9s
MAKZ Makanchi 47.14 346 P **P** **03 30 26.1 0.0**
MAKZ pmax pmax
comp=Z,18nm,0.9s
IUG luzhnay 47.31 333 *e*P **P** **03 30 28.2 +0.4**
comp=Z,18nm,0.9s,baz=333
IUG luzhnay 47.31 333 *e*P **P** **03 30 28.1 +0.4**
IUG pmax pmax
comp=Z,17nm,0.9s
DZA Taraz 47.33 334 *e*P **P** **03 30 28.2 +0.5**
comp=Z,8.3nm,0.5s,baz=334
DZA Taraz 47.33 334 *e*P **P** **03 30 28.1 +0.5**
DZA pmax pmax
comp=Z,8.0nm,0.5s
KK31 Karatay Array 47.85 334 P **P** **03 30 32.0 +0.2**
KK31 Karatay Array 47.85 334 P **P** **03 30 32.0 +0.2**
KK31 pmax pmax
comp=Z,10.0nm,1.0s
KKAR Karatay Array 47.85 334 P **P** **03 30 31.8 +0.1**
KKAR Karatay Array 47.85 334 P **P** **03 30 32.3 +0.5**
KKAR Karatay Array 47.85 334 P **P** **03 30 32.3 +0.5**
KKAR pmax pmax
comp=Z,10.0nm,1.0s
BTLS Baital 48.01 338 *e*P **P** **03 30 33.3 +0.4**
baz=338
BTLS Baital 48.01 338 *e*P **P** **03 30 32.8 -0.1**
BRLS Boroldoy 48.10 333 *e*P **P** **03 30 33.2 -0.5**
baz=333
BRLS Boroldoy 48.10 333 *e*P **P** **03 30 33.5 -0.2**
BRLS pmax pmax
comp=Z,29nm,3.8s
COEN Coen 48.13 110 IAmb IAmb 03 30 34.0
comp=Z,31nm,1.2s
COEN P **P** **03 30 34.0 -0.3**
COEN Coen 48.13 110 P **P** **03 30 33.9 -0.4**
comp=Z,28nm,1.2s
ZAK Zakamensk 49.12 5 *e*P **P** **03 30 41.4 0.0**
ZAK pmax pmax
comp=Z,13nm,0.9s
CN2 Changchun 49.21 27 *e*P **P** **03 30 41.5 -0.6**
CN2 *e*PP **PP** **03 32 35.5 -0.6**
CN2 *e*S **S** **03 37 44.5 -1.9**
CN2 *e*sS sS 03 37 57.0 -1.8
CN2 *e*SS **SS** **03 41 11.8 -6.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
CN2 pmax pmax
comp=Z,490nm,3.5s
CN2 LR LR
comp=Z,330nm,16.0s
CN2 LR LR
comp=Z,630nm,16.0s
CN2 LR LR
comp=Z,670nm,17.0s
JCJ Chichijima 50.22 55 LR LR 03 49 53.3
comp=Z,138nm,21.5s,baz=238,slow=34
MOY Mondy 50.23 3 *e*P **P** **03 30 50.4 +0.5**
MOY pmax pmax
comp=Z,31nm,2.4s
MTSU Mount Surprise 50.34 115 P **P** **03 30 51.2 0.0**
comp=Z,14nm,0.8s
JGF Kuroka 50.55 43 P **P** **03 30 53.0 +0.4**
SEM Semipalatinsk 50.91 346 *e*P **P** **03 30 55.4 +0.1**
comp=Z,9.7nm,0.8s,baz=346
SEM Semipalatinsk 50.91 346 *e*P **P** **03 30 55.3 +0.1**
SEM pmax pmax
comp=Z,10.0nm,0.8s
PSTR Posyet 50.99 32 *i* P **P** **03 30 56.1 +0.5**
PMG Port Moresby 51.01 103 LR LR 03 55 58.1
comp=Z,347nm,19.4s,baz=280,slow=40
GEYT Alibeck 51.01 320 P **P** **03 30 56.2 +0.2**
GEYT IAmb IAmb 03 31 06.5
comp=Z,18nm,0.8s
GEYT Alibeck 51.01 320 P **P** **03 30 56.8 +0.8**
comp=Z,3.4nm,0.6s,baz=157,slow=8.0,SNR=6.5
comp=Z,3.4nm,0.6s
GEYT Alibeck 51.01 320 P **P** **03 30 56.2 +0.2**
GEYT pmax pmax
comp=Z,18nm,0.9s
GYA0B ALIBECK ARRAY 51.01 320 P **P** **03 30 56.1 +0.2**
GYA0B IAmb IAmb 03 31 06.4
comp=Z,17nm,0.8s
IRK Irkutsk 51.05 6 *e*P **P** **03 30 56.5 +0.5**
IRK pmax pmax
comp=Z,44nm,1.8s
KURBB Kurchatov Arra 51.54 345 P **P** **03 31 00.6 +1.0**
comp=Z,9.2nm,0.5s,baz=167,slow=7.0,SNR=86
KURBB LR LR 03 56 34.8
comp=Z,569nm,18.3s,baz=170,slow=40
comp=Z,9.2nm,0.5s
BNX BinXian 51.59 27 ⇑P **P** **03 31 00.0 -0.1**
BNX pmax pmax
comp=Z,57nm,0.8s
KURK Kurchatov 51.60 345 P **P** **03 31 00.3 +0.3**
KURK IAmb IAmb 03 31 25.1
comp=Z,30nm,0.9s
KURK Kurchatov 51.60 345 *c*eP **P** **03 31 00.5 +0.4**
KURK pmax pmax
comp=Z,24nm,0.8s
MAJO Matsushiro 51.65 42 *c i*P **P** **03 30 59.3 -1.4**
MAJO pmax pmax
comp=Z,35nm,2.7s
MJB9 Matsu-Tunnel 51.65 42 P **P** **03 31 00.9 +0.1**
MJAR Matsushiro Arr 51.65 42 P **P** **03 31 00.9 +0.2**
comp=Z,4.9nm,0.8s,baz=221,slow=6.1,SNR=17
MJAR LR LR 03 53 27.1
comp=Z,498nm,20.7s,baz=252,slow=37
comp=Z,4.9nm,0.8s
MDJ Mudanjiang 51.78 29 P **P** **03 31 02.3 +0.8**
MDJ pP pP 03 31 08.5 -0.7
MDJ sP sP 03 31 10.0 -2.2
MDJ PcP **PcP** **03 32 09.3 -5.2**
MDJ PP **PP** **03 33 02.0 +2.5**
MDJ ScP **ScP** **03 36 04.0 -5.9**
MDJ PcS **PcS** **03 36 09.5 -2.9**
MDJ S **S** **03 38 28.0 +5.9**
MDJ pmax pmax
comp=Z,23nm,1.2s
MDJ pmax pmax
comp=Z,260nm,3.8s
MDJ LR LR
comp=Z,1μm,17.0s
MDJ LR LR
comp=Z,940nm,15.8s
MDJ LR LR
comp=Z,2μm,16.8s
MDJ Mudanjiang 51.78 29 P **P** **03 31 02.0 +0.4**
MDJ IAmb IAmb 03 31 05.5
comp=Z,22nm,0.7s
VLA Vladivostok 51.89 32 *i* P **P** **03 31 03.0 +0.7**
VLA pmax pmax
comp=Z,34nm,0.8s
CIT Chita 52.33 13 *e*P **P** **03 31 06.8 +1.2**
CIT *e* 03 31 14.6
CIT *e* 03 31 20.8
CIT *e* 03 32 15.0
CIT pmax pmax
comp=Z,91nm,1.8s
JSD Sado 52.50 41 P **P** **03 31 06.7 -0.3**
JSD IAmb IAmb 03 31 08.1
comp=Z,16nm,0.8s
USA0B Ussuriysk Arra 52.69 31 P **P** **03 31 08.5 +0.2**
USA0B Ussuriysk Arra 52.69 31 P **P** **03 31 08.5 +0.2**
USA0B pmax pmax
comp=Z,52nm,0.9s
USRK Ussuriysk Ar. 52.69 31 P **P** **03 31 08.7 +0.4**
USRK Ussuriysk Ar. 52.69 31 P **P** **03 31 08.9 +0.6**
comp=Z,51nm,0.9s,baz=231,slow=6.1,SNR=101
USRK LR LR 03 55 25.4
comp=Z,1μm,19.4s,baz=222,slow=38
comp=Z,51nm,0.9s
BRZS Berezniki 52.71 340 *e*P **P** **03 31 08.9 +0.5**
baz=340
BRZS Berezniki 52.71 340 *e*P **P** **03 31 08.9 +0.5**
QLP Quilpie 53.25 125 P **P** **03 31 13.8 +1.0**
comp=Z,40nm,0.8s
ZAA0 Zalesovo Array 53.38 351 P **P** **03 31 13.7 +0.6**
ZALV Zalesovo Beam 53.38 351 P **P** **03 31 13.9 +0.7**
comp=Z,34nm,0.6s,baz=176,slow=6.2,SNR=111
ZALV LR LR 03 59 02.7
comp=Z,502nm,19.1s,baz=161,slow=42
comp=Z,34nm,0.6s
ZALV Zalesovo Beam 53.38 351 *i* P **P** **03 31 13.8 +0.6**
ZALV pmax pmax
comp=Z,24nm,0.4s
STKA Stephens Creek 53.55 132 P **P** **03 31 15.6 +0.6**
comp=Z,12nm,0.9s,baz=310,slow=9.0,SNR=11
STKA LR LR 03 55 50.2
comp=Z,840nm,21.7s,baz=301,slow=38
comp=Z,12nm,0.9s
STKA Stephens Creek 53.55 132 P **P** **03 31 15.4 +0.5**
comp=Z,21nm,1.0s
RAYN Ar Rayn 54.58 298 P **P** **03 31 23.0 +0.4**
RAYN Ar Rayn 54.58 298 P **P** **03 31 23.0 +0.4**
RAYN pmax pmax
comp=Z,8.0nm,0.9s
ATD Arta Tunnel 54.74 283 LR LR 03 51 21.3
comp=Z,7.8nm,18.9s,baz=65,slow=32
HEH HeiHe 55.10 23 *e*P **P** **03 31 26.0 +0.2**
HEH pP **pP** **03 31 33.0 -0.6**
HEH S **S** **03 39 07.5 +0.4**
HEH pmax pmax
comp=Z,31nm,0.9s
HEH pmax pmax
comp=Z,300nm,6.2s
HEH LR LR
comp=Z,600nm,16.3s
HEH LR LR
comp=Z,1μm,16.5s
HEH LR LR
comp=Z,1μm,14.7s
BVAR Borovoye Array 56.05 341 LR LR 03 59 28.1
comp=Z,408nm,20.2s,baz=144,slow=40
BRVK Borovoye 56.12 341 *i* P **P** **03 31 33.8 +0.7**
BRVK pmax pmax
comp=Z,17nm,0.9s
KLR Kul'dur 56.16 27 *c e*P **P** **03 31 34.3 +0.9**
comp=Z,38nm,0.8s,baz=239,slow=7.3,SNR=92
comp=Z,38nm,0.8s
KLR Kul'dur 56.16 27 *c e*P **P** **03 31 34.1 +0.7**
KLR pmax pmax
comp=Z,39nm,0.8s
CMSA Cobar Meteorol 56.49 130 P **P** **03 31 36.9 +0.7**
comp=Z,29nm,0.9s
ABKAR Akbulak array 57.31 332 P **P** **03 31 42.0 +0.3**
ABKAR Akbulak array 57.31 332 IAmb IAmb 03 31 42.9
comp=Z,28nm,0.8s
ZEA Zeya 57.82 21 *e*P **P** **03 31 45.7 +0.5**
ZEA pmax pmax
comp=Z,20nm,1.0s
ZEA MLR MLR
comp=E,600nm,15.0s
ZEA MLR MLR
comp=N,1μm,16.0s
ZEA MLR MLR
comp=Z,1μm,16.0s
BOD Bodaibo 57.87 11 *e*P **P** **03 31 45.3 -0.1**
BOD pmax pmax
comp=Z,33nm,1.9s
EIDS Eidsvold 58.56 121 IAmb IAmb 03 31 52.5
comp=Z,24nm,0.9s
EIDS Eidsvold 58.56 121 P **P** **03 31 51.3 +0.4**
comp=Z,32nm,1.1s
JKA Kamikawa-asahi 58.60 37 IAmb IAmb 03 32 13.6
comp=Z,19nm,0.9s
AKTO Aktyubinsk 59.03 332 LR LR 04 01 16.1
comp=Z,216nm,18.9s,baz=206,slow=40
GRNR Gornyy 59.38 28 ⇓ *i*P **P** **03 31 56.4 +0.3**
GRNR pmax pmax
comp=Z,10.0nm,0.9s
GRNR MLR MLR
comp=N,660nm,15.0s
GRNR MLR MLR
comp=E,330nm,15.0s
GRNR MLR MLR
comp=Z,810nm,15.0s
YSS Yuzh-Sakhalins 60.28 34 P **P** **03 32 02.5 +0.2**
YSS Yuzh-Sakhalins 60.28 34 *e*P **P** **03 32 02.6 +0.3**
YSS *e*S **S** **03 40 13.8 -1.2**
YSS pmax pmax
comp=Z,45nm,1.0s
YSS MLR MLR
comp=Z,900nm,14.0s
MAK Makhachkala 60.53 320 *e*P **P** **03 32 00.8 -3.3**
MAK *e* 03 34 17.3
MAK *e*S **S** **03 40 15.8 -2.6**
MAK *e*SS **SS** **03 44 15.3 -1.6**
MAK pmax pmax
comp=Z,140nm,1.1s
GNI Garni 61.09 316 *c e*P **P** **03 32 09.3 +1.1**
GNI pmax pmax
comp=Z,8.0nm,1.0s
GROC Groznyy 61.75 320 *e*P **P** **03 32 12.3 -0.1**
GROC *e* 03 32 52.8
GROC pmax pmax
comp=Z,9.0nm,0.4s
H04N2 CROZET ISLANDS 61.85 214 T T 04 39 09.5
baz=54,slow=75
H04N1 CROZET ISLANDS 61.86 214 T T 04 39 09.7
baz=54,slow=75
H04N3 CROZET ISLANDS 61.87 214 T T 04 39 08.7
baz=54,slow=75
H04S1 CROZET ISLANDS 62.19 213 T T 04 39 31.4
baz=53,slow=76,SNR=192
H04S3 CROZET ISLANDS 62.20 213 T T 04 39 31.1
baz=53,slow=76,SNR=269
H04S2 CROZET ISLANDS 62.21 213 T T 04 39 32.4
baz=53,slow=76,SNR=193
SVE Sverdlovsk 62.49 338 *e*P **P** **03 32 17.4 +0.3**
SVE pmax pmax
comp=Z,26nm,0.8s
TYV Tymovskoe 62.49 31 *e*P P 03 32 32.4 +15
TYV *e* 03 41 16.2
TYV pmax pmax
comp=Z,9.0nm,1.4s
TYV pmax pmax
comp=Z,100nm,2.6s
TYV MLR MLR
comp=Z,800nm,17.0s
TYV MLR MLR
comp=E,600nm,17.0s
ARU Arti 62.98 337 P **P** **03 32 20.2 -0.1**
ARU IAmb IAmb 03 32 21.3
comp=Z,20nm,1.1s
ARU Arti 62.98 337 LR LR 04 02 50.2
comp=Z,275nm,18.7s,baz=138,slow=39
ARU Arti 62.98 337 *c i*P **P** **03 32 20.2 -0.1**
ARU S **S** **03 40 50.6 +1.5**
ARU SS **SS** **03 44 49.3 -5.6**
ARU pmax pmax
comp=Z,11nm,0.6s
ARU Arti 62.98 337 P **P** **03 32 20.3 -0.1**
comp=Z,19nm,1.3s
KBZ Khabaz 63.87 319 P **P** **03 32 26.6 +0.1**
comp=Z,8.2nm,0.9s,baz=128,slow=6.5,SNR=13
comp=Z,8.2nm,0.9s
KBZ Khabaz 63.87 319 *c e*P **P** **03 32 27.3 +0.8**
KBZ pmax pmax
comp=Z,11nm,0.9s
SHA1 Shidzhatmaz 64.03 319 *c e*P **P** **03 32 29.0 +1.1**
KIV Kislovodsk 64.11 319 P **P** **03 32 28.3 +0.2**
KIV IAmb IAmb 03 32 57.9
comp=Z,16nm,0.8s
KIV Kislovodsk 64.11 319 *c i*P **P** **03 32 28.4 +0.2**
KIV *i* *SP **pP** **03 32 36.7 +0.8**
KIV *i* S **S** **03 41 03.7 0.0**
KIV pmax pmax
comp=Z,20nm,1.0s
KIV Kislovodsk 64.11 319 P **P** **03 32 28.1 -0.1**
comp=Z,18nm,0.9s
EIL Elat 65.27 302 LR LR 04 01 26.2
comp=Z,367nm,18.1s,baz=86,slow=36
YAK Yakutsk 65.29 16 P **P** **03 32 35.2 -0.2**
YAK Yakutsk 65.29 16 P **P** **03 32 35.2 -0.2**
comp=Z,73nm,0.5s,baz=203,slow=1.8,SNR=21
YAK Yakutsk 65.29 16 *c i*P **P** **03 32 34.8 -0.6**

YAK e*PP pP 03 32 41.0 -2.3
YAK e 03 33 06.9
YAK e 03 34 57.6
YAK ePPP PPP 03 36 30.9
YAK eS S 03 41 18.0 +0.6
YAK e 03 42 29.5
YAK eSS SS 03 45 32.1 +1.5
YAK pmax pmax
comp=Z,150nm,1.1s
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,26nm,1.8s
YAK pmax pmax
comp=Z,252nm,6.5s
YAK pmax pmax
comp=N,142nm,7.3s
YAK pmax pmax
comp=E,120nm,7.2s
YAK smax smax
comp=N,143nm,8.4s
YAK smax smax
comp=E,110nm,4.9s
YAK MLR MLR
comp=Z,445nm,19.0s
YAK MLR MLR
comp=N,476nm,34.0s
YAK MLR MLR
comp=E,324nm,16.0s
BELG Belogornoye 65.36 329 *i* P P 03 32 35.2 -0.8
BELG pmax pmax
comp=Z,7.0nm,0.9s
GAZ Gaziantep 65.47 311 IAmb IAmb 03 32 54.5
comp=Z,14nm,0.9s
MMAI Mount Meron Ar 65.71 306 P P 03 32 39.3 +0.5
comp=Z,1.4nm,0.6s,baz=101,slow=7.5,SNR=1.9
MMAI LR LR 04 02 13.3
comp=Z,213nm,19.1s,baz=43,slow=37
comp=Z,1.4nm,0.6s
SOC Sochi 65.92 318 *e*P P 03 32 38.0 -1.8
SOC *e* 03 35 01.7
SOC *e*PPP PPP 03 36 36.5
SOC *e*S S 03 41 24.9 -0.9
SOC *e*SS SS 03 45 41.4 +0.3
SOC pmax pmax
comp=Z,21nm,0.7s
SOC MLR MLR
comp=Z,120nm,20.0s
MBAR Mbarara 66.37 269 LR LR 03 57 58.0
comp=Z,222nm,20.7s,baz=65,slow=33
VRH Novokhopyorsk 67.92 326 *e*P P 03 32 51.3 -1.1
VRH pmax pmax
comp=Z,24nm,0.9s
KIRV Kirov 68.11 335 LR LR 04 07 48.0
comp=Z,130nm,18.7s,baz=128,slow=40
KIRV Kirov 68.11 335 *ce*P P 03 32 53.7 +0.3
BR104 Keskin Array S 68.91 312 P P 03 32 58.7 -0.3
comp=Z,8.3nm,0.8s,comp=Z,70nm
BR131 Keskin Array S 68.91 312 IAmb IAmb 03 33 13.1
comp=Z,7.8nm,0.7s
BR131 Keskin Array S 68.91 312 *i* P P 03 32 59.5 +0.4
BRTR Keskin Array B 68.91 312 P P 03 32 58.9 -0.2
comp=Z,1.7nm,0.7s,baz=130,slow=6.3,SNR=13
comp=Z,1.7nm,0.7s
BRTR Keskin Array B 68.91 312 *ce*P P 03 32 58.5 -0.6
BRTR pmax pmax
comp=Z,2.0nm,0.8s
BR105 Keskin Array S 68.93 312 P P 03 32 59.0 -0.2
comp=Z,11nm,0.8s,comp=Z,84nm
BR106 Keskin Array S 68.93 312 P P 03 32 58.8 -0.4
comp=Z,9.7nm,0.8s,comp=Z,71nm
VORD Divnogorie 69.19 325 *e*P P 03 32 58.2 -2.1
VORD pmax pmax
comp=Z,10.0nm,0.6s
VSR Storozhevoye 69.37 325 *e*P P 03 32 59.2 -2.2
VSR pmax pmax
comp=Z,10.0nm,0.6s
VORR Voronezh 69.54 326 *e*P P 03 33 04.6 +2.1
VORR pmax pmax
comp=Z,53nm,0.4s
ANTO Ankara 69.58 312 P P 03 33 06.5 +3.4
comp=Z,4.3nm,0.8s
LPSR Galich'ya Gora 70.09 327 *e*P P 03 33 04.5 -1.4
LPSR pmax pmax
comp=Z,20nm,0.7s
MA2 Magadan 71.23 26 P P 03 33 12.9 +0.2
comp=Z,42nm,0.9s
DZM Mont Dzumac 71.46 114 *e*P P 03 33 12.9 -2.0
comp=Z,58nm,27.5s
DZM Mont Dzumac 71.46 114 *e*LR LR 03 54 59.1
comp=Z,476nm,21.6s
DZM Mont Dzumac 71.46 114 LR LR 04 08 46.7
comp=Z,292nm,18.7s,baz=272,slow=39
PETK Petropavlovsk- 71.66 34 P P 03 33 14.8 -0.7
PETK Petropavlovsk- 71.66 34 P P 03 33 15.3 -0.1
comp=Z,5.4nm,0.8s,baz=224,slow=5.3,SNR=15
comp=Z,5.4nm,0.8s
MOS Moscow 72.13 329 *e*P P 03 33 16.1 -2.1
MOS *e* 03 33 40.8
PET Petropavlovsk 72.16 34 *e*P P 03 33 21.7 +3.3
PET *e*S S 03 42 43.7 +4.5
PET Petropavlovsk 72.16 34 P P 03 33 18.5 +0.1
comp=Z,39nm,0.9s
OBN Obninsk 72.42 328 LR LR 04 09 43.0
comp=Z,210nm,18.9s,baz=162,slow=40
OBN Obninsk 72.42 328 *c i*P P 03 33 17.4 -2.5
OBN *e*PP pP 03 33 21.7 -6.0
OBN *e*SP sP 03 33 28.5 -2.1
OBN *e* 03 33 35.9
OBN *e*S SKiKP 03 42 48.4 -5.5
OBN *e* 03 43 33.1
OBN SS SS 03 47 23.0 +2.2
OBN pmax pmax
comp=Z,9.0nm,0.6s
OBN MLR MLR
comp=Z,245nm,19.0s
MAW Mawson 72.85 193 P P 03 33 22.6 +0.5
comp=Z,1.6nm,0.7s,baz=52,slow=8.2,SNR=3.1
MAW LR LR 04 00 00.9
comp=Z,296nm,19.4s,baz=28,slow=31
comp=Z,1.6nm,0.7s
TIXI Tiksi 73.04 10 P P 03 33 22.8 -0.5
TIXI IAmb IAmb 03 33 24.9
comp=Z,20nm,0.7s
TIXI Tiksi 73.04 10 LR LR 04 07 19.4
comp=Z,350nm,18.7s,baz=234,slow=37
TIXI Tiksi 73.04 10 *ce*P P 03 33 22.2 -1.1
TIXI pmax pmax
comp=Z,22nm,0.8s
KLMR Klimovskoe 73.55 334 *e*P P 03 33 25.9 -0.6
KLMR pmax pmax
comp=Z,19nm,1.4s
SEY Seymchan 73.65 23 *ce*P P 03 33 26.9 -0.2
SEY pmax pmax
comp=Z,19nm,0.8s
LBTB Lobatse 73.86 244 LR LR 04 03 56.5
comp=Z,331nm,18.0s,baz=71,slow=34
BOSA Boshof 74.76 240 P P 03 33 34.9 +0.5
comp=Z,3.8nm,0.9s,baz=63,slow=4.5,SNR=3.3
BOSA LR LR 04 01 22.5
comp=Z,310nm,19.7s,baz=46,slow=32
comp=Z,3.8nm,0.9s
SORM Soroca 74.90 320 ⇓P P 03 33 34.7 +0.1
SORM Soroca 74.90 320 P P 03 33 34.7 +0.1
SORM Soroca 74.90 320 P P 03 33 33.8 -0.8
comp=Z,19nm,0.7s,comp=Z,4μm
AK09 Malin Array Si 74.99 322 P P 03 33 34.0 -1.1
AK10 Malin Array Si 75.01 322 P P 03 33 34.1 -1.1
AK08 Malin Array Si 75.02 322 P P 03 33 34.2 -1.1
AK05 Malin Array Si 75.04 322 P P 03 33 34.8 -0.6
AKASG Malin Array Be 75.06 322 P P 03 33 35.1 -0.4
AKASG Malin Array Be 75.06 322 P P 03 33 34.9 -0.6
comp=Z,1.7nm,0.6s,baz=87,slow=5.2,SNR=21
comp=Z,1.7nm,0.6s
AKASG Malin Array Be 75.06 322 P P 03 33 35.1 -0.4
AKASG pmax pmax
comp=Z,5.0nm,1.0s
AKBB Malin Array Si 75.06 322 *ce*P P 03 33 35.2 -0.3
AKBB pmax pmax
comp=Z,8.0nm,0.9s
KIEV Kiev 75.06 322 P P 03 33 34.5 -1.0
KIEV Kiev 75.06 322 P P 03 33 34.5 -1.0
KIEV pmax pmax
comp=Z,8.0nm,0.8s
VRI Vrincioaia 75.42 317 ⇓P P 03 33 38.7 +1.0
VRI Vrincioaia 75.42 317 P P 03 33 38.7 +1.0

PLOR Plostina 75.47 317 ⇓P P 03 33 39.1 +1.1
PLOR Plostina 75.47 317 P P 03 33 39.1 +1.1
TESR Tescani 75.62 318 ⇑P P 03 33 39.5 +0.7
LUBAR Lubar, Ukraine 75.75 321 P P 03 33 38.9 -0.6
MLR Muntele Rosu 75.87 317 ⇑P P 03 33 41.8 +1.3
MLR Muntele Rosu 75.87 317 IAmb IAmb 03 34 00.2
comp=Z,22nm,1.3s
MLR Muntele Rosu 75.87 317 P P 03 33 41.7 +1.3
MLR Muntele Rosu 75.87 317 P P 03 33 41.3 +0.8
comp=Z,12nm,1.1s
VOIR 76.47 316 ⇓P P 03 33 44.7 +0.9
VOIR 76.47 316 P P 03 33 44.7 +0.9
VOIR 76.47 316 P P 03 33 44.7 +0.9
comp=Z,3.6nm,0.6s
BURAR Bucovina Array 76.82 319 ⇑P P 03 33 47.0 +1.2
BURAR Bucovina Array 76.82 319 P P 03 33 46.6 +0.8
BURAR Bucovina Array 76.82 319 P P 03 33 46.8 +1.0
BUR08 Bucovina Ar. S 76.84 319 IAmb IAmb 03 34 10.3
comp=Z,28nm,1.6s
MNK Minsk 76.92 326 *i* P P 03 33 44.0 -2.0
MNK *i* 03 33 54.8
MNK *i* 03 36 36.9
MNK *i* PPP PPP 03 38 23.9
MNK *i* S S 03 43 31.6 -0.9
MNK *i* SS SS 03 48 29.2 -0.1
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,16nm,0.9s
MNK pmax pmax
comp=N,9.0nm,0.8s
MNK MLR MLR
comp=E,72nm,19.0s
MNK MLR MLR
comp=Z,158nm,20.0s
KSV Kosov 77.07 319 P P 03 33 46.5 -0.6
STNU Starunia 77.53 320 P P 03 33 49.1 -0.5
BLKB Belogradchik 77.79 314 ⇑P P 03 33 51.2 0.0
JOF Joensuu 77.94 335 *e*P P 03 33 51.2 -0.4
MARR Marisel-Cluj 78.03 317 ⇑P P 03 33 53.3 +0.7
LVV L'vov 78.06 321 *e*P P 03 33 52.1 -0.5
LVV 03 34 05.4
LVV *e*S S 03 43 41.7 -3.4
LVV *e*PS PnS 03 44 34.7 +6.9
LVV pmax pmax
comp=Z,20nm,1.4s
MESR Meseseni 78.24 318 ⇑P P 03 33 54.7 +1.1
DRGR 78.33 317 ⇑P P 03 33 55.0 +0.7
DRGR 78.33 317 P P 03 33 54.9 +0.7
TRSU Trosnyk 78.41 319 P P 03 33 55.4 +0.9
LVZ Lovozero 78.64 340 P P 03 33 55.6 +0.2
LVZ Lovozero 78.64 340 P P 03 33 55.6 +0.2
LVZ pmax pmax
comp=Z,93nm,1.9s
KWP Kalwaria Pacla 78.87 320 IAmb IAmb 03 34 16.1
comp=Z,14nm,1.1s
KWP Kalwaria Pacla 78.87 320 P P 03 33 57.6 +0.6
comp=Z,12nm,1.3s
BZS Buzias 78.87 316 ⇓P P 03 33 57.8 +0.6
BZS Buzias 78.87 316 P P 03 33 57.7 +0.6
SIRR Siria 78.95 317 ⇓P P 03 33 58.0 +0.4
KOLS Kolonicke sedl 79.01 320 *e*P P 03 33 59.6 +1.8
KOLS Kolonicke sedl 79.01 320 *e*P P 03 33 59.6 +1.8
SUR Sutherland 79.16 237 LR LR 04 04 07.1
comp=Z,306nm,18.0s,baz=90,slow=32
PABE Paberze 79.36 326 IAmb IAmb 03 34 23.6
comp=Z,27nm,1.1s
PABE Paberze 79.36 326 *e*P P 03 34 00.3 +0.8
CRVS Cervenica-Dubn 79.54 319 *e*P P 03 34 02.8 +2.1
CRVS Cervenica-Dubn 79.54 319 *e*P P 03 34 02.8 +2.1
STHS Stebnicka Huta 79.77 320 *e*P P 03 34 02.6 +0.7
STHS Stebnicka Huta 79.77 320 *e*P P 03 34 02.6 +0.7
FIA1 FINESS Array S 79.80 333 P P 03 34 02.2 +0.4
FIA1 IAmb IAmb 03 34 03.7
comp=Z,26nm,1.0s
FINES FINESS Array B 79.80 333 P P 03 34 02.6 +0.8
FINES FINESS Array B 79.80 333 P P 03 34 01.8 0.0
comp=Z,3.6nm,0.6s,baz=105,slow=5.8,SNR=38
comp=Z,3.6nm,0.6s
MTSE Matsula 80.19 330 *e*P P 03 34 03.9 0.0
MEF Metsahovi 80.27 331 *e*P P 03 34 05.5 +1.1
NIE Niedzica 80.37 320 P P 03 34 05.5 +0.2
comp=Z,2.6nm,1.3s
PSZ Piszkesteto 80.41 318 ⇑P P 03 34 06.6 +1.1
PSZ Piszkesteto 80.41 318 P P 03 34 06.6 +1.1
TSUM Tsumeb 80.54 250 LR LR 04 05 10.0
comp=Z,117nm,21.6s,baz=77,slow=32
KEF Keuruu 80.55 333 *e*P P 03 34 05.5 -0.3
PBUR Paburge 80.59 327 *e*P P 03 34 07.1 +0.9
OJC Ojcow 80.82 321 P P 03 34 08.8 +1.2
OJC Ojcow 80.82 321 P P 03 34 08.8 +1.2
comp=Z,5.6nm,0.9s
MORH Mrgy, Hungar 81.02 316 ⇓P P 03 34 09.3 +0.6
MORH Mrgy, Hungar 81.02 316 P P 03 34 09.0 +0.3
comp=Z,6.2nm,2.4s
BILL Bilibino 81.05 21 *e*P P 03 34 09.2 +0.8
BILL pmax pmax
comp=Z,4.0nm,0.7s
RAF Rauma 81.72 332 *e*P P 03 34 12.0 0.0
VAF Ylistaro 81.75 334 *e*P P 03 34 13.0 +0.8
MPLH Magyarpolny 81.89 317 P P 03 34 14.0 +0.7
comp=Z,48nm,1.4s
JAVC Velka Javorina 82.00 319 *e*P P 03 34 14.9 +0.9
MORC Moravsky Berou 82.20 320 ⇑P P 03 34 15.8 +0.9
MORC Moravsky Berou 82.20 320 P P 03 34 15.8 +0.9
MODS Modra-Piesok 82.20 319 *e*P P 03 34 16.6 +1.6
MODS Modra-Piesok 82.20 319 *e*P P 03 34 16.6 +1.6
ARCES ARCESS Array B 82.34 340 P P 03 34 16.0 +0.8
ARCES IAmb IAmb 03 34 52.1
comp=Z,37nm,1.5s
ARCES ARCESS Array B 82.34 340 P P 03 34 15.8 +0.6
comp=Z,6.7nm,0.8s,baz=98,slow=4.4,SNR=33
ARCES LR LR 04 15 18.5
comp=Z,332nm,19.7s,baz=102,slow=39
comp=Z,6.7nm,0.8s
ARCES ARCESS Array B 82.34 340 P P 03 34 16.0 +0.8
ARCES pmax pmax
comp=Z,37nm,1.5s
AAL Aland 82.40 331 *e*P P 03 34 16.6 +0.9
KRLC Kraliky 82.72 320 *e*P P 03 34 18.7 +1.0
KRLC Kraliky 82.72 320 *e*P P 03 34 18.7 +1.0
VRAC Vranov 82.76 319 *e*P P 03 34 18.7 +0.9
KRUC Moravsky 82.86 319 *e*P P 03 34 19.8 +1.4
URZ Urewera 83.01 129 LR LR 04 15 29.6
comp=Z,388nm,18.3s,baz=20,slow=39
DPC Dobruska-Polom 83.05 320 *e*P P 03 34 20.6 +1.2
DPC *ep*P pP 03 34 28.1 +0.8
DPC Dobruska-Polom 83.05 320 *e*P P 03 34 20.6 +1.2
DPC *e* 03 34 28.1
DPC Dobruska-Polom 83.05 320 P P 03 34 20.1 +0.7
comp=Z,4.4nm,1.4s
UPC Upice 83.26 321 AMS AMS 04 18 10.0
comp=Z,200nm,18.1s
VIKU Vikbolandet 83.81 329 *e*P P 03 34 23.3 +0.3
PRU Pruhonice 84.15 320 AMS AMS 04 17 50.0
comp=Z,200nm,21.5s
CKRC Cesky Krumlov 84.21 319 *e*P P 03 34 26.1 +0.8
CKRC *ex* x 03 34 33.5
CKRC AMS AMS 04 21 40.0
comp=Z,100nm,19.2s
CKRC Cesky Krumlov 84.21 319 *e*P P 03 34 26.1 +0.8
CKRC *e* 03 34 33.5
CKRC MLR MLR
comp=Z,100nm,19.2s
PRED Cave del Predi 84.54 316 IAmb IAmb 03 35 10.9
comp=Z,8.2nm,0.9s
BRG Berggiesshubel 84.61 321 *e*P P 03 34 28.6 +1.3
BRG Amp 03 34 29.5
comp=Z,3.5nm,1.0s
GEC2 GERESS Array S 84.61 319 IAmb IAmb 03 34 47.0
comp=Z,9.8nm,1.1s
GERES GERESS Array B 84.61 319 P P 03 34 28.1 +0.6
GERES GERESS Array B 84.61 319 P P 03 34 27.4 0.0
comp=Z,2.8nm,0.8s,baz=60,slow=5.8,SNR=8.1
comp=Z,2.8nm,0.8s
GERES GERESS Array B 84.61 319 P P 03 34 28.1 +0.6
KHC Kasperske Hory 84.71 319 AMS AMS 04 18 30.0
comp=Z,200nm,13.9s
CLL Collm 85.23 321 *i* P P 03 34 30.9 +0.5
CLL *i* *PP pP 03 34 37.7 -0.7
CLL *i* *SP sP 03 34 40.8 -0.4
CIMO Cimolais 85.31 316 IAmb IAmb 03 35 05.8
comp=Z,13nm,1.0s
HFS Hagfors 85.52 330 P P 03 34 31.7 +0.1

comp=Z,2.1nm,0.6s,baz=124,slow=3.9,SNR=12
HFS LR LR 04 17 43.7
comp=Z,163nm,18.7s,baz=92,slow=39
comp=Z,2.1nm,0.6s
CTI Castel Tesino 85.84 316 P P 03 34 33.9 +0.2
CTI IAmb IAmb 03 34 57.8
comp=Z,11nm,1.1s
CTI Castel Tesino 85.84 316 P P 03 34 33.9 +0.2
CTI pmax pmax
comp=Z,11nm,1.1s
VNDA Vanda 86.01 169 P P 03 34 34.5 +0.8
VNDA Vanda 86.01 169 P P 03 34 34.2 +0.5
comp=Z,1.3nm,0.9s,baz=303,slow=6.0,SNR=3.9
VNDA LR LR 04 10 26.0
comp=Z,266nm,18.3s,baz=311,slow=34
comp=Z,1.3nm,0.9s
VNDA Vanda 86.01 169 P P 03 34 34.5 +0.8
VNDA pmax pmax
comp=Z,5.0nm,1.0s
ELIB Princess Elisa 86.29 197 *d*P P 03 34 37.7 +2.3
comp=Z,4.8nm,0.8s
NC602 NORSAR Array S 86.63 331 IAmb IAmb 03 35 22.8
comp=Z,9.6nm,1.0s
SPITS Spitsbergen Ar 86.76 348 P P 03 34 37.4 0.0
comp=Z,7.9nm,0.9s,baz=106,slow=8.8,SNR=5.3
SPITS LR LR 04 20 39.8
comp=Z,410nm,19.8s,baz=69,slow=41
comp=Z,7.9nm,0.9s
NB2 NORSAR Subarra 86.80 331 P P 03 34 37.5 -0.5
comp=Z,8.0nm,1.1s,baz=93,slow=5.1
NOA NORSAR Array B 86.80 331 P P 03 34 37.7 -0.3
comp=Z,2.8nm,0.8s,baz=94,slow=5.0,SNR=16
NOA LR LR 04 18 24.9
comp=Z,159nm,19.3s,baz=105,slow=39
comp=Z,2.8nm,0.8s
DAVOX Davos/Dischmat 87.09 317 LR LR 04 20 22.4
comp=Z,68nm,19.2s,baz=78,slow=40
KEST Kesra 87.37 306 P P 03 34 42.3 +0.9
comp=Z,3.6nm,0.9s,baz=94,slow=19,SNR=2.4
KEST LR LR 04 18 00.7
comp=Z,139nm,19.0s,baz=310,slow=38
comp=Z,3.6nm,0.9s
GAMB Gambell 89.32 26 P P 03 34 49.7 -0.1
baz=272
NVL N'lazarevskaya 89.71 199 *e*P P 03 35 00.0 +8.5
NVL *e*S SKSac 03 45 26.4 +6.2
NVL pmax pmax
comp=Z,14nm,0.7s
NVL MLR MLR
comp=Z,628nm,22.0s
SPIA Saint Paul Isl 90.31 33 P P 03 34 54.0 -0.6
baz=273
BMRD Maredsous 90.44 320 *d*P P 03 34 54.4 -1.0
BMRD *d*PcP PcP 03 34 55.7 -0.8
TAM Tamanrasset 90.92 293 P P 03 35 00.8 +2.4
TAM pmax pmax
comp=Z,4.0nm,1.4s
QSPA South Pole Qui 91.31 180 P P 03 35 00.1 +0.8
comp=Z,1.7nm,1.0s,baz=344,slow=3.3,SNR=3.0
QSPA LR LR 04 12 14.1
comp=Z,281nm,18.4s,baz=310,slow=33
comp=Z,1.7nm,1.0s
NIKH Nikolski High 91.37 37 P P 03 34 59.3 -0.3
baz=274
F14K Arctic Creek 91.51 25 P P 03 35 00.4 +0.4
baz=277
C16K Lisburne Hills 91.55 22 P P 03 34 59.9 -0.2
baz=278
NOR Nord 92.05 352 *i* P P 03 35 01.1 -1.2
NOR IAmb IAmb 03 35 10.4
comp=Z,49nm,2.3s
F15K North Star Dit 92.17 24 P P 03 35 03.3 +0.2
baz=278
C17K DeLong Mountai 92.31 21 P P 03 35 03.9 +0.1
baz=280
D17K Noatak River 92.48 22 P P 03 35 04.5 +0.1
baz=280
RDOG Red Dog Mine 92.48 22 P P 03 35 05.1 +0.6
RDOG IAmb IAmb 03 35 06.9
comp=Z,5.8nm,0.8s
RDOG Red Dog Mine 92.48 22 P P 03 35 04.5 0.0
baz=280
G15K Niukluk 92.53 25 P P 03 35 04.8 0.0
baz=279
B18K Kokolik River 92.64 20 P P 03 35 05.3 +0.1
baz=281
A19K Wainwright 92.73 20 P P 03 35 05.7 +0.1
baz=282
C18K Utukok River 93.00 21 P P 03 35 07.6 +0.6
C18K IAmb IAmb 03 35 08.5
comp=Z,10.0nm,0.9s
C18K Utukok River 93.00 21 P P 03 35 06.2 -0.7
baz=281
E17K Hotham Inlet 93.07 23 P P 03 35 07.4 +0.2
baz=281
J14K Nanvaranak Lak 93.08 27 P P 03 35 07.2 -0.1
baz=279
G16K Koyuk River 93.16 24 IAmb IAmb 03 35 09.3
comp=Z,7.4nm,1.0s
G16K Koyuk River 93.16 24 P P 03 35 07.8 +0.1
baz=280
H16K Elim 93.35 25 P P 03 35 08.7 +0.2
baz=280
F17K Baldwin Pennin 93.41 23 P P 03 35 08.7 -0.1
baz=281
E18K Tukpahlearik C 93.47 22 IAmb IAmb 03 35 10.8
comp=Z,6.7nm,0.9s
E18K Tukpahlearik C 93.47 22 P P 03 35 09.6 +0.6
baz=282
C19K Lookout Ridge 93.47 20 P P 03 35 08.8 -0.3
baz=283
L14K Kuka Creek 93.72 28 P P 03 35 10.5 +0.3
baz=280
G17K Kiwalik Mounta 93.84 24 P P 03 35 11.0 +0.2
baz=282
F18K Selawik 94.01 23 P P 03 35 12.2 +0.7
baz=283,SNR=6.5
B20K Meade River 94.08 19 P P 03 35 12.3 +0.5
baz=285
K15K Wolf Creek Mou 94.09 27 P P 03 35 12.0 0.0
baz=281
D19K Kuna River 94.14 21 P P 03 35 12.5 +0.4
baz=284,SNR=9.8
M14K Bethel 94.17 29 P P 03 35 12.2 -0.1
baz=280
L15K Ungalak Mounta 94.22 28 P P 03 35 12.3 -0.4
baz=281
H17K Granite Mounta 94.27 25 IAmb IAmb 03 35 21.8
comp=Z,7.9nm,1.0s
H17K Granite Mounta 94.27 25 P P 03 35 12.7 -0.1
baz=282
J16K Anvik River 94.31 26 P P 03 35 13.5 +0.4
baz=282
FALS False Pass 94.36 35 P P 03 35 13.6 +0.2
baz=279
DAG Danmarks Havn 94.41 348 P P 03 35 13.0 -0.2
DAG Danmarks Havn 94.41 348 *i* P P 03 35 11.0 -2.2
DAG IAmb IAmb 03 35 13.8
comp=Z,2.7nm,0.9s
SNAA Sanae 94.42 198 LR LR 04 16 03.0
comp=Z,133nm,18.7s,baz=78,slow=34
N14K Kuskokwak Cree 94.45 30 P P 03 35 13.2 -0.5
baz=280
A22K Sinclair Lake 94.50 18 P P 03 35 14.2 +0.5
baz=287
G18K Tagagawik 94.56 24 P P 03 35 14.5 +0.3
baz=284
D20K Etivluk River 94.61 21 P P 03 35 14.9 +0.6
baz=286
F19K Shaleruckik Mo 94.68 23 IAmb IAmb 03 35 15.8
comp=Z,5.9nm,0.9s
F19K Shaleruckik Mo 94.68 23 P P 03 35 14.8 +0.2
baz=284,SNR=5.6
EKA Eskdalemuir Ar 94.71 326 P P 03 35 15.6 +0.5
comp=Z,0.7nm,0.5s,baz=97,slow=5.1,SNR=6.2
comp=Z,0.7nm,0.5s
E19K Redstone River 94.72 22 IAmb IAmb 03 35 16.3
comp=Z,11nm,0.9s
E19K Redstone River 94.72 22 P P 03 35 15.4 +0.6
baz=285,SNR=13
M15K Kasigluk River 94.79 29 P P 03 35 15.8 +0.5
baz=281
H18K Honhosa River 94.86 24 IAmb IAmb 03 35 31.2
comp=Z,7.3nm,1.1s
H18K Honhosa River 94.86 24 P P 03 35 16.3 +0.8
baz=284
E20K Nigu River 94.89 21 P P 03 35 16.3 +0.6
baz=286,SNR=23

TORD	**Torodi Ar. Bea**	94.94	283	P		**P**	03 35 17.1	+0.2
	comp=Z,0.5nm,0.9s,baz=95,slow=5.2,SNR=2.1							
TORD				LR		LR	04 16 52.6	
	comp=Z,250nm,19.3s,baz=100,slow=35							
	comp=Z,0.5nm,0.9s							
J17K	**VABM Dome**	94.96	26	IAmb		IAmb	03 36 44.4	
	comp=Z,21nm,1.6s							
J17K	**VABM Dome**	94.96	26	P		**P**	03 35 16.6	+0.6
	baz=283							
B21K	**Ikpikpuk River**	95.03	20	P		**P**	03 35 17.2	+1.0
	baz=288							
C21K	**Knifeblade Rid**	95.12	20	P		**P**	03 35 17.6	+0.9
	baz=288							
G19K	**Purcell Mounta**	95.12	23	IAmb		IAmb	03 35 18.2	
	comp=Z,8.2nm,1.0s							
G19K	**Purcell Mounta**	95.12	23	P		**P**	03 35 17.2	+0.6
	baz=285,SNR=7.9							
L16K	**Owhat River**	95.16	28	P		**P**	03 35 17.1	+0.2
	baz=282							
N15K	**Kwethluk River**	95.19	29	P		**P**	03 35 17.8	+0.7
	baz=282							
B22K	**Teshekpuk Lake**	95.20	19	P		**P**	03 35 17.6	+0.7
	baz=289							
F20K	**Avaraart Lake**	95.40	22	P		**P**	03 35 18.4	+0.6
	baz=286,SNR=24							
K17K	**Iditarod**	95.46	27	P		**P**	03 35 19.0	+0.7
	baz=284,SNR=7.0							
O15K	**Ungalikthiuk R**	95.53	30	P		**P**	03 35 19.0	+0.3
	baz=282							
H19K	**Roundabout Mou**	95.54	24	P		**P**	03 35 18.8	+0.2
	baz=286,SNR=12							
M16K	**Timber Creek**	95.55	28	P		**P**	03 35 18.3	-0.5
	baz=283							
GCSA	**Galena City Sc**	95.57	24	P		**P**	03 35 19.0	+0.3
	baz=285							
L17K	**Donlin**	95.60	27	P		**P**	03 35 19.3	+0.4
	baz=284							
E21K	**Killik River**	95.62	21	IAmb		IAmb	03 35 19.8	
	comp=Z,6.3nm,0.9s							
E21K	**Killik River**	95.62	21	P		**P**	03 35 19.6	+0.6
	baz=288							
N16K	**Nishlik Lake**	95.76	29	P		**P**	03 35 20.2	+0.4
	baz=283							
D22K	**Ayikyak River**	95.92	20	P		**P**	03 35 21.1	+0.8
	baz=288							
SDPT	**Sand Point**	95.94	34	P		**P**	03 35 20.5	-0.1
	baz=281							
J18K	**Innoko River**	95.97	26	IAmb		IAmb	03 35 36.3	
	comp=Z,6.5nm,1.1s							
J18K	**Innoko River**	95.97	26	P		**P**	03 35 21.3	+0.7
	baz=285							
H20K	**Anotleneega Mo**	96.17	24	P		**P**	03 35 22.3	+0.8
	baz=287,SNR=8.5							
M17K	**Holitna River**	96.18	28	P		**P**	03 35 21.6	0.0
	baz=284							
F21K	**Alatna River**	96.18	22	IAmb		IAmb	03 35 37.6	
	comp=Z,7.9nm,1.1s							
F21K	**Alatna River**	96.18	22	P		**P**	03 35 22.1	+0.6
	baz=288,SNR=6.6							
C23K	**Itkillik River**	96.28	19	P		**P**	03 35 22.2	+0.4
	baz=292							
O16K	**Kokwok River B**	96.30	30	P		**P**	03 35 22.0	-0.2
	baz=284							
J19K	**Poorman**	96.30	25	IAmb		IAmb	03 35 23.9	
	comp=Z,9.8nm,1.0s							
J19K	**Poorman**	96.30	25	P		**P**	03 35 22.7	+0.6
	baz=286,SNR=6.9							
L18K	**Granite Mounta**	96.31	27	P		**P**	03 35 22.7	+0.6
	baz=285							
G21K	**Allakaket**	96.40	22	IAmb		IAmb	03 35 24.4	
	comp=Z,10nm,0.8s							
G21K	**Allakaket**	96.40	22	P		**P**	03 35 22.9	+0.4
	baz=288,SNR=23							
E22K	**Anaktuvuk Pass**	96.48	21	P		**P**	03 35 23.7	+0.8
	baz=290							
P16K	**Nushagak River**	96.48	30	P		**P**	03 35 23.1	+0.2
	baz=284							
N17K	**Nushagak Hills**	96.51	29	P		**P**	03 35 23.5	+0.4
	baz=284							
I20K	**Naaghedeneel**	96.54	24	P		**P**	03 35 23.6	+0.5
	baz=287,SNR=5.2							
F22K	**John River**	96.56	21	P		**P**	03 35 24.1	+0.8
	baz=290							
D23K	**Nanushuk River**	96.57	20	P		**P**	03 35 23.9	+0.6
	baz=291							
O17K	**Koliganek Bris**	96.75	29	P		**P**	03 35 24.9	+0.7
	baz=284							
J20K	**Nowinta River**	96.87	25	IAmb		IAmb	03 35 26.6	
	comp=Z,6.0nm,1.0s							
J20K	**Nowinta River**	96.87	25	P		**P**	03 35 25.1	+0.4
	baz=288							
M18K	**Stony River**	96.90	28	P		**P**	03 35 25.0	+0.2
	baz=286							
C24K	**Franklin Bluff**	96.94	19	P		**P**	03 35 25.4	+0.6
	baz=293							
H21K	**Melozitna Rive**	96.94	23	P		**P**	03 35 25.4	+0.4
	baz=289,SNR=5.8							
G22K	**Bettles**	97.01	22	P		Pdif	03 35 26.1	+0.8
	baz=290							
TOLK	**Toolik Lake Re**	97.07	20	P		Pdif	03 35 26.0	+0.3
	baz=292							
N18K	**Kilae Creek**	97.09	28	P		Pdif	03 35 26.2	+0.4
	baz=286							
K20K	**Telida**	97.15	25	IAmb		IAmb	03 35 34.9	
	comp=Z,10nm,1.0s							
K20K	**Telida**	97.15	25	P		Pdif	03 35 26.7	+0.6
	baz=288,SNR=9.1							
L19K	**White Mountain**	97.15	27	P		Pdif	03 35 26.8	+0.7
	baz=287							
P17K	**Kvichak River**	97.22	30	P		Pdif	03 35 26.9	+0.5
	baz=285							
E23K	**Chandalar**	97.28	20	P		Pdif	03 35 26.8	+0.2
	baz=292							
H22K	**Ishtalitna Cre**	97.42	23	P		Pdif	03 35 27.4	+0.2
	baz=290							
I21K	**Tanana**	97.43	23	IAmb		IAmb	03 35 29.8	
	comp=Z,6.2nm,1.0s							
I21K	**Tanana**	97.43	23	P		Pdif	03 35 27.5	+0.3
	baz=290							
M19K	**Big River Lodg**	97.44	27	P		Pdif	03 35 28.2	+0.8
	baz=287							
L20K	**Farewell, AK**	97.50	26	P		Pdif	03 35 28.1	+0.5
	baz=288							
ESDC	**Sonseca Array**	97.63	310	P		Pdif	03 35 29.5	+0.7
	comp=Z,0.2nm,0.7s,baz=66,slow=4.5,SNR=1.8							
ESDC				LR		LR	04 21 50.2	
	comp=Z,93nm,21.1s,baz=60,slow=37							
	comp=Z,0.2nm,0.7s							
G23K	**Bananza Creek**	97.64	22	P		Pdif	03 35 28.5	+0.3
	baz=292							
O18K	**Koktuh Hills**	97.64	29	P		Pdif	03 35 29.0	+0.7
	baz=286							
E24K	**Your Creek**	97.66	20	P		Pdif	03 35 29.2	+0.9
	baz=293							
N19K	**Bonanza Creek**	97.72	28	IAmb		IAmb	03 35 37.7	
	comp=Z,8.0nm,0.9s							
N19K	**Bonanza Creek**	97.72	28	P		Pdif	03 35 29.5	+0.7
	baz=287							
CHUM	**Lake Minchumin**	97.72	25	P		Pdif	03 35 28.9	+0.4
	baz=289							
D25K	**Kavik River**	97.85	19	P		Pdif	03 35 29.8	+0.7
	baz=296							
MLY	**Manley**	97.97	23	P		Pdif	03 35 30.2	+0.5
	baz=291							
O19K	**Port Alsworth**	97.97	29	P		Pdif	03 35 30.8	+1.1
	baz=287							
CAST	**Castle Rocks**	97.98	25	IAmb		IAmb	03 35 46.0	
	comp=Z,9.0nm,1.2s							
CAST	**Castle Rocks**	97.98	25	P		Pdif	03 35 30.0	+0.3
	baz=289							
M20K	**Styx River**	98.02	27	P		Pdif	03 35 30.7	+0.6
	baz=288							
C26K	**Camden Bay**	98.04	18	P		Pdif	03 35 30.8	+0.9
	baz=297							
F24K	**Squaw Lake**	98.09	21	P		Pdif	03 35 30.9	+0.7
	baz=294							
PPLA	**Purkeypile**	98.10	26	P		Pdif	03 35 30.6	+0.1
	baz=289							
BPAW	**Bear Paw Mtn.**	98.20	24	IAmb		IAmb	03 35 46.3	
	comp=Z,7.0nm,1.0s							
BPAW	**Bear Paw Mtn.**	98.20	24	P		Pdif	03 35 30.8	+0.1
	baz=290,SNR=5.3							
I23K	**Minto, Yukon-K**	98.47	23	P		Pdif	03 35 32.1	+0.3
	baz=292							
C27K	**Jago River**	98.55	18	P		Pdif	03 35 33.1	+1.0
	baz=298							
E25K	**Arctic Village**	98.64	20	P		Pdif	03 35 32.8	+0.2
	baz=296							
N20K	**Mount Spurr**	98.65	27	P		**P**	03 35 32.7	-0.2
	baz=289							
P19K	**Oil Pt**	98.66	29	P		**P**	03 35 32.7	-0.1
	baz=288							
SKT	**Skwentna**	98.70	26	P		Pdif	03 35 33.1	+0.1
	baz=290							
TRF	**Thorofare Moun**	98.72	25	P		**P**	03 35 32.9	-0.4
	baz=291							
H24K	**Noodor Dome**	98.78	22	P		**P**	03 35 32.9	-0.4
	baz=294							
NEA2	**Nenana**	98.80	24	P		**P**	03 35 33.2	-0.1
	baz=292							
F25K	**Christian Rive**	98.84	20	P		**P**	03 35 33.4	-0.2
	baz=296							
MDT	**Midelt**	99.08	303	LR		LR	04 25 45.2	
	comp=Z,104nm,18.1s,baz=109,slow=39							
MCK	**McKinley**	99.18	24	P		Pdif	03 35 34.7	-0.4
	baz=292							
SUA	**Susitna One**	99.23	27	P		Pdif	03 35 35.0	-0.5
	baz=290							
F26K	**Sheenjek River**	99.31	20	P		Pdif	03 35 35.3	-0.3
	baz=297							
H25L	**Birch Creek**	99.36	21	P		Pdif	03 35 35.8	0.0
	baz=296							
NEEM	**North Greenlan**	99.36	353	*i* P		Pdif	03 35 39.6	+3.6
NEEM						IAmb	IAmb	03 35 42.1
	comp=Z,3.4nm,1.0s							
D27M	**Malcolm River**	99.58	18	P		Pdif	03 35 36.2	-0.7
	baz=301							
ILAR	**Eielson Array**	99.59	23	P		Pdif	03 35 35.2	-1.7
	comp=Z,0.4nm,0.8s,baz=291,slow=5.5,SNR=5.5							
	comp=Z,0.4nm,0.8s							
G26K	**Porcupine Rive**	99.78	20	P		Pdif	03 35 37.2	-0.5
	baz=298							
RC01	**Rabbit Creek A**	99.82	27	P		Pdif	03 35 37.4	-0.6
	baz=291							
DHY	**Denali Highway**	100.08	25	P		Pdif	03 35 38.4	-0.9
	baz=294							
WAT6	**Susitna Watana**	100.13	25	P		Pdif	03 35 38.6	-0.9
	baz=293							
SML	**Sawmill**	100.17	26	P		Pdif	03 35 38.7	-0.9
	baz=293							
D28M	**Stokes Point**	100.21	17	P		Pdif	03 35 38.4	-1.1
	baz=303							
J25K	**Salcha River,**	100.25	23	P		Pdif	03 35 38.6	-1.3
	baz=296							
KNK	**Knik Glacier**	100.27	26	P		Pdif	03 35 38.7	-1.3
	baz=292							
E28M	**Babbage River**	100.36	18	P		Pdif	03 35 40.3	+0.1
	baz=302							
K24K	**Donnelly Dome**	100.44	24	P		Pdif	03 35 40.2	-0.5
	baz=295							
M23K	**Glacier View**	100.45	26	P		Pdif	03 35 39.8	-1.0
	baz=293							
SCM	**Sheep Creek Mo**	100.60	26	P		Pdif	03 35 40.5	-1.0
	baz=294							
H27K	**Steamboat Moun**	100.92	21	P		Pdif	03 35 41.9	-0.9
	baz=300							
PAX	**Paxson**	100.92	24	P		Pdif	03 35 41.9	-1.1
	baz=295							
M24K	**Tolsona, Glenn**	100.99	25	P		Pdif	03 35 42.3	-0.9
	baz=295							
G29M	**Pine Creek**	101.76	19	P		Pdif	03 35 45.8	-0.7
	baz=303							
EGAK	**Eagle**	101.77	22	P		Pdif	03 35 45.8	-0.7
	baz=300							
K27K	**Chicken**	101.79	23	P		Pdif	03 35 45.1	-1.6
	baz=299							
EYAK	**Cordova Ski Ar**	101.83	27	P		Pdif	03 35 44.9	-2.0
	baz=295							
I28M	**Miner Creek**	101.88	21	P		Pdif	03 35 45.4	-1.7
	baz=301							
N25K	**Nenana, Valde**	101.88	25	P		Pdif	03 35 45.7	-1.6
	baz=296							
BMRM	**Bremner River**	102.16	26	P		Pdif	03 35 46.0	-2.4
	baz=296							
G30M	**tAoh Zraii Nji**	102.31	19	P		Pdif	03 35 47.4	-1.5
	baz=305							
INK	**Inuvik**	102.35	17	P		Pdif	03 35 48.0	-1.1
	baz=308							
L27K	**Beaver Creek,**	102.36	24	P		Pdif	03 35 48.2	-1.1
	baz=296							
EPYK	**Eagle Plains**	102.49	19	P		Pdif	03 35 48.6	-1.2
	baz=304							
MCARA	**McCarthy VSAT**	102.66	25	P		Pdif	03 35 49.2	-1.4
	baz=297							
M27K	**Edge Creek, AK**	102.68	24	P		Pdif	03 35 49.4	-1.4
	baz=299							
F31M	**Tsiigehtchic**	102.81	18	P		Pdif	03 35 50.2	-0.9
	baz=307							
G31M	**Satah River**	102.96	18	P		Pdif	03 35 50.9	-0.9
	baz=307							
M29M	**Somme Creek**	104.01	23	P		Pdif	03 35 55.5	-1.2
	baz=302							
YUK8	**Steele Glacier**	104.08	25	P		Pdif	03 35 56.1	-1.2
	baz=300							
YUK4	**Talbot Arm**	104.51	24	P		Pdif	03 35 58.4	-0.7
	baz=302							
M30M	**Minto, Yukon**	104.59	23	P		Pdif	03 35 58.0	-1.2
	baz=304							
YUK6	**Outpost Mounta**	104.84	25	P		Pdif	03 35 59.4	-1.2
	baz=302							
O29M	**Mount Kennedy**	105.08	25	P		Pdif	03 36 00.6	-0.9
	baz=301							
HYT	**Haines Junctio**	105.26	24	P		PKiKP	03 40 15.9	-0.5
	baz=302							
P29M	**Windy Craggy**	105.80	26	P		PKiKP	03 40 17.0	-0.3
	baz=302							
P30M	**Million Dollar**	105.86	25	P		PKiKP	03 40 17.0	-0.4
	baz=303							
O30N	**Mendenhall**	105.87	24	P		PKiKP	03 40 17.0	-0.4
	baz=304							
WHY	**Whitehorse**	106.42	24	P		PKiKP	03 40 18.1	-0.3
	baz=305							
PLBC	**Pleasant Camp**	106.48	25	P		PKiKP	03 40 18.7	+0.3
	baz=303							
MMPY	**Sheldon Lake,**	106.63	21	P		PKiKP	03 40 18.4	-0.3
	baz=309							
P33M	**Whitehorse, Yukon**	107.52	24	P		PKiKP	03 40 19.7	-0.8
	baz=307							
SIT	**Sitka**	108.26	27	P		PKiKP	03 40 21.1	-0.7
	baz=304							
DLBC	**Dease Lake**	109.74	24	P		PKiKP	03 40 24.1	-0.6
	baz=309							
WRAK	**Wrangell Islan**	109.97	27	P		PKiKP	03 40 24.2	-0.9
	baz=306							
KOTAN	**Kotaneelee Air**	110.88	21	P		PKiKP	03 40 26.0	-0.7
	baz=315							
TBI	**Tubuai**	112.03	115	*e*LR		LR	04 13 54.3	
	comp=Z,1μm,23.2s							
PPT2	**Papeete2**	112.64	108	*e*LR		LR	04 14 07.8	
	comp=Z,228nm,23.5s							
PPT2				*e*LR		LR	04 14 10.0	
	comp=Z,199nm,26.8s							
SCHQ	**Schefferville**	122.44	349	PKP		PKPdf	03 40 48.8	-0.3
	comp=Z,4.2nm,1.1s,baz=301,slow=5.9,SNR=2.1							
MSO	**Missoula**	124.82	26	P		PKPdf	03 40 52.7	-1.3
	baz=321							
PLID	**Pearl Lake**	125.22	28			PKPdf	03 40 54.5	-0.5
EGMT	**Eagleton**	125.54	22	P		PKPdf	03 40 54.1	-1.2
	baz=326							
BOZ	**Bozeman (W)**	126.78	25	P		PKPdf	03 40 57.2	-0.7
	baz=323							
HLID	**Hailey**	127.11	28	P		PKPdf	03 40 57.7	-0.9
	baz=319							
NVAR	**Mina Array Bea**	128.72	36	PKP		PKiKP	03 41 02.6	+0.1
	comp=Z,1.5nm,0.9s,baz=289,slow=2.8,SNR=9.5							
PDAR	**Pinedale Array**	129.94	26	PKP		PKPdf	03 41 04.0	0.0
	comp=Z,0.4nm,0.5s,baz=64,slow=2.1,SNR=1.8							
PKM	**Mcpherson Peak**	130.07	40	P		PKPdf	03 41 03.6	-0.9
	baz=308							
R11B	**Troy Canyon, C**	130.32	34	P		PKPdf	03 41 03.7	-1.2
	baz=315							
DUG	**Dugway, Tooele**	130.44	30	P		PKPdf	03 41 04.2	-0.7
	baz=319							
ARVC	**Arvin**	130.55	39	P		PKPdf	03 41 04.5	-0.6
	baz=310							
MPMC	**Manual Prospec**	130.78	37	P		PKPdf	03 41 04.7	-1.1
	baz=312							
RSSD	**Black Hills**	130.93	20	P		PKPdf	03 41 05.3	-0.6
	baz=332							
EDW2	**Edwards Air Fo**	131.23	39	P		PKPdf	03 41 05.9	-0.6
	baz=310							
K22A	**Casper**	131.29	23	P		PKPdf	03 41 05.7	-0.9
	baz=328							
DECC	**Green Verdugo**	131.42	40	P		PKPdf	03 41 05.8	-1.1
	baz=310							
BFSC	**Mount Baldy Ra**	131.86	39	P		PKPdf	03 41 06.4	-1.5
	baz=310							
CIS	**Catalina Islan**	131.90	41	P		PKPdf	03 41 07.0	-0.8
	baz=309							
PKME	**Peaks-Kenny Pk**	132.02	347	P		PKPdf	03 41 06.6	-1.0
	baz=18							
SUSD	**Miller**	132.20	15	P		PKPdf	03 41 07.4	-0.6
	baz=338							
HEC	**Hector,Ludlow**	132.30	38	P		PKPdf	03 41 07.8	-0.8
	baz=312							
O20A	**White River Ci**	132.65	26	P		PKPdf	03 41 07.7	-1.6
	baz=324							
GMRC	**Granite Mounta**	132.74	37	P		PKPdf	03 41 09.3	-0.2
	baz=313							
SPMN	**Marine on St.**	132.78	10	P		PKPdf	03 41 08.3	-0.7
	baz=346							
N23A	**Red Feather La**	133.00	24	P		PKPdf	03 41 09.7	-0.3
	baz=328							
PFO	**Pinyon Flats O**	133.02	39	P		PKPdf	03 41 09.1	-0.9
	baz=311							
TPFO	**Pinon Flats**	133.03	39	P		PKPdf	03 41 09.2	-0.8
	baz=311							
BELC	**Belle Mtn. Jos**	133.06	38	P		PKPdf	03 41 09.1	-1.0
	baz=312							
109C	**Camp Elliot, M**	133.08	40	P		PKPdf	03 41 09.4	-0.6
	baz=310							
NEE2	**Needles Airpor**	133.37	37	P		PKPdf	03 41 10.9	+0.5
	baz=314							
ECSD	**EROS Data Cent**	133.45	14	P		PKPdf	03 41 10.7	+0.3
	baz=341							
IRM	**Iron Mountain**	133.47	38	P		PKPdf	03 41 11.2	+0.5
	baz=313							
MONP2	**Monument Peak**	133.51	40	P		PKPdf	03 41 10.2	-0.9
	baz=311							
LBNH	**Lisbon**	133.54	349	P		PKPdf	03 41 10.4	-0.1
	baz=15							
LONY	**Lake Ozonia**	133.61	352	P		PKPdf	03 41 10.2	-0.4
	baz=12							
BC3	**Big Chuckawall**	133.62	38	P		PKPdf	03 41 10.9	-0.2
	baz=312							
GLMI	**Grayling**	133.98	2	P		PKPdf	03 41 11.0	-0.4
	baz=358							
ISCO	**Idaho Springs**	134.06	24	P		PKPdf	03 41 10.9	-1.2
	baz=328							
GLA	**Glamis**	134.41	38	P		PKPdf	03 41 12.4	-0.2
	baz=312							
OGNE	**Ogallala**	134.43	20	P		PKPdf	03 41 11.9	-0.5
	baz=333							
WUAZ	**Wupatki**	134.69	33	P		PKPdf	03 41 12.2	-1.0
	baz=318							
MVCO	**Mesa Verde**	134.88	29	P		PKPdf	03 41 12.9	-0.7
	baz=323							
L61B	**Northampton**	135.41	349	P		PKPdf	03 41 13.2	-0.8
	baz=15							
JFWS	**Jewell Farm**	135.43	8	P		PKPdf	03 41 13.6	-0.4
	baz=350							
SDCO	**Great Sand Dun**	135.83	26	P		PKPdf	03 41 13.4	-2.0
	baz=327							
W18A	**Petrified Fore**	135.87	32	P		PKPdf	03 41 14.5	-0.9
	baz=320							
SCIA	**State Center**	135.93	11	P		PKPdf	03 41 15.0	-0.1
	baz=345							
214A	**Organ Pipe Nat**	136.41	38	P		PKPdf	03 41 16.3	0.0
	baz=314							
L44A	**Lake County Fo**	136.42	5	P		PKPdf	03 41 16.1	+0.2
	baz=353							
ERPA	**Erie**	136.63	357	P		PKPdf	03 41 16.9	+0.5
	baz=4.2							
T25A	**Trinidad**	136.81	25	P		PKPdf	03 41 16.7	-0.4
	baz=328							
CBKS	**Cedar Bluff**	137.12	19	P		PKPdf	03 41 17.3	-0.1
	baz=335							
M53A	**WI Miller and**	137.34	358	P		PKPdf	03 41 18.2	+0.5
	baz=3.3							
ANMO	**Albuquerque**	137.68	29	P		PKPdf	03 41 18.4	-0.4
	baz=324							
ANMO	**Albuquerque**	137.68	29	*c i* PKIKP		PKPdf	03 41 18.5	-0.3
ANMO						pmax	pmax	
	comp=Z,2.0nm,1.3s							
KSU1	**Kansas State U**	137.81	16	P		PKPdf	03 41 18.6	0.0
	baz=339							
HDIL	**Hopedale**	137.87	7	P		PKPdf	03 41 18.8	+0.1
	baz=350							
SFIN	**Lafayette**	138.28	5	P		PKPdf	03 41 19.6	+0.2
	baz=354							
O48B	**Farmland**	138.52	3	P		PKPdf	03 41 19.9	0.0
	baz=357							
121A	**Cookes Peak, D**	138.89	33	P		PKPdf	03 41 20.8	-0.2
	baz=320							
P52A	**Corning**	139.19	359	P		PKPdf	03 41 20.7	-0.4
	baz=1.2							
AMTX	**Amarillo**	139.88	24	P		PKPdf	03 41 22.1	-0.6
	baz=330							
CCM	**Cathedral Cave**	140.02	10	P		PKPdf	03 41 22.7	0.0
	baz=347							
MSTX	**Muleshoe**	140.20	26	P		PKPdf	03 41 22.9	-0.4
	baz=328							
WCI	**Wyandotte Cave**	140.48	4	P		PKPdf	03 41 23.1	-0.4
	baz=355							
MNTX	**Cornudas Mount**	140.81	31	P		PKPdf	03 41 23.8	-0.5
	baz=323							
TUL3	**Leonard**	141.02	17	P		PKPdf	03 41 24.2	-0.3
	baz=339							
WMOK	**Wichita Mounta**	141.12	21	P		PKPdf	03 41 24.3	-0.5
	baz=334							
BLA	**Blacksburg**	141.54	357	P		PKPdf	03 41 24.8	-0.7
	baz=4.0							
TZTN	**Tazewell**	142.28	1	P		PKPdf	03 41 26.2	-0.6
	baz=359							
MIAR	**Mount Ida**	142.90	15	P		PKPdf	03 41 27.7	-0.3
	baz=342							
TXAR	**Lajitas Array**	143.59	31	PKP		PKPbc	03 41 27.1	+0.3
	comp=Z,2.0nm,0.8s,baz=354,slow=0.4,SNR=29							
Z38A	**Mt. Pleasant**	143.72	17			PKPdf	03 41 28.3	-1.1
WHTX	**Lake Whitney,**	144.07	21	P		PKPdf	03 41 29.4	-0.7
	baz=335							
JCT	**Junction City**	144.48	26	P		PKPdf	03 41 30.3	-0.6
	baz=330,SNR=8.4							
CPUP	**Villa Florida**	145.05	223	PKPbc		PKPdf	03 41 31.8	-0.1
	comp=Z,5.4nm,0.9s,baz=129,slow=3.4,SNR=13							
435B	**Jarrell**	145.11	22	P		PKPbc	03 41 31.3	-0.1
	baz=334							
NATX	**Nacogdoches**	145.22	18	P		PKPbc	03 41 31.3	-0.3
	baz=339							
GOGA	**Godfrey**	145.40	1	P		PKPbc	03 41 31.3	-0.9
	baz=359							
LRAL	**Lakeview Retre**	145.57	6	P		PKPdf	03 41 32.1	-0.5
	baz=353							
VBMS	**Vicksburg**	145.83	12	P		PKPbc	03 41 33.5	-0.1
	baz=346							
833A	**

0.5nm,0.5s,baz=123,slow=6.8,SNR=1.9
0.5nm,0.5s
BRTR Keskin Array B 84.35 309 P **P** **03 36 57.1 -0.1**
0.5nm,0.7s,baz=106,slow=4.7,SNR=2.5
0.5nm,0.7s
FINES FINESS Array B 85.02 332 P **P** **03 36 59.2 -0.5**
0.7nm,0.3s,baz=76,slow=5.0,SNR=5.7
0.7nm,0.3s
TORD Torodi Ar. Bea 118.97 291 PKP **PKPdf** **03 43 12.3 -0.6**
0.4nm,0.7s,baz=57,slow=2.7,SNR=4.9
PLCA Paso Flores 146.98 158 PKPbc **PKPbc** **03 44 06.8 +0.4**
1.6nm,0.9s,baz=199,slow=5.4,SNR=4.2

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*HVO **29** 03:39:36.5±0.7,19°.353N±0°.007×155°.246W±0°.008, h1km±5km,ML4.1/48,ML3.8/38(NEIC),Error ellipse: s-maj=1.1km s-min=0.9km az=139.0*
*NEIC **29** 03:39:36.9±0.7,19°.36N±0°.01×155°.256W±0°.008, h7km±1km,Error ellipse: s-maj=2.0km s-min=1.0km az=175.0*
*IDC **29** 03:39:38.6±1.3,19°.31N×155°.18W,h0km,mb4.0/13, mbtmp4.0/13,MS3.9/25,Error ellipse: s-maj=40.4km s-min=19.2km az=168.0*
*GCMT **29** 03:39:45.5±0.6,19°.46N±0°.03×155°.35W±0°.06,h12km, MW4.7/66,Moment Tensor Solution. s7,c8; s66,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.97±.06; $M_{\theta\theta}$=0.69±.05; $M_{\phi\phi}$=0.28±.05; $M_{r\theta}$=0.98±.17; $M_{r\phi}$=0.28±.05; $M_{\theta\phi}$=0.18±.24; Best double couple: M_0=1.34000×10^{16} NP1:ϕ_s=255.00000°,δ=89.00000°,λ=-83.00000°. NP2: ϕ_s=56.00000°,δ=22.00000°,λ=-107.00000°. Principal axes: T 1.2530, Plg24.0000°, Azm339.0000°; N 0.1730, Plg6.0000°, Azm72.0000°; P -1.4260, Plg65.0000°, Azm176.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=40s. Triangular moment-rate function*

ISC 29 03:39:38.0±0.9,19°.36N±0°.04×155°.24W±0°.02,h3km±5km, n348,σ0°92/321,mb4.2/18,MS3.9/25,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.02**	**57**	Pg	**Pg**	**03 39 38.1**	**-0.8**
KKO	**Keanakako`i**	**0.05**	**322**		**Pg**	**03 39 38.4**	**-0.8**
KKO					**Sg**	**03 39 40.8**	**+0.8**
RIM	**Rim**	**0.05**	**313**		**Pg**	**03 39 38.6**	**-0.6**
RIM					**Sg**	**03 39 40.7**	**+0.7**
BYL	**Byron's Ledge**	**0.06**	**336**		**Pg**	**03 39 38.5**	**-0.8**
HATHI	**Halema'uma'u T**	**0.07**	**339**		**Pg**	**03 39 38.9**	**-0.6**
HATHI	comp=N,17μm,0.2s			IAML		03 39 40.4	
KNHH	**Kane Nui o Ham**	**0.07**	**74**	Pg	**Pg**	**03 39 38.9**	**-0.6**
OBL	**Observatory Le**	**0.07**	**321**		**Pg**	**03 39 39.0**	**-0.6**
SBLHI	**Steaming Bluff**	**0.07**	**335**		**Pg**	**03 39 39.2**	**-0.4**
UWB	**Uwekahuna B**	**0.07**	**328**		**Pg**	**03 39 39.0**	**-0.7**
UWE	**Uwekahuna**	**0.08**	**318**		**Pg**	**03 39 38.8**	**-0.9**
HLP	**Hilina Pali**	**0.09**	**226**	Pg	**Pg**	**03 39 39.0**	**-0.9**
RSD	**Rainshed**	**0.11**	**339**	Pg	**Pg**	**03 39 39.2**	**-1.0**
RSD	comp=E,10μm,0.6s			IAML		03 39 42.7	
RSD	comp=N,12μm,0.5s			IAML		03 39 42.7	
STCH	**Steam Cracks**	**0.11**	**77**	Pg	**Pg**	**03 39 39.6**	**-0.6**
STCH	comp=E,11μm,0.7s			IAML		03 39 42.6	
STCH	comp=N,6μm,0.2s			IAML		03 39 42.9	
NPOC	**North of Pu'u**	**0.12**	**75**		**Pg**	**03 39 40.0**	**-0.6**
JCUZ	**Jacuzzi**	**0.13**	**80**		**Pg**	**03 39 40.1**	**-0.5**
MLH	**Mauna Loa**	**0.19**	**313**	Pg	**Pg**	**03 39 41.1**	**-0.7**
MLH	comp=E,12μm,1.1s			IAML		03 39 46.0	
MLH	comp=N,10μm,0.5s			IAML		03 39 46.6	
HTC	**Hot Caves**	**0.20**	**231**		**Pg**	**03 39 41.0**	**-0.9**
JOKA	**Jonika Flow**	**0.23**	**72**	Pg	**Pg**	**03 39 41.9**	**-0.6**
JOKA	comp=E,24μm,1.4s			IAML		03 39 48.9	
JOKA	comp=N,29μm,0.9s			IAML		03 39 49.1	
PAH	**Pahoa**	**0.30**	**64**		**Pg**	**03 39 42.8**	**-1.1**
HMH	**Humu'ula Sheep**	**0.33**	**316**	Pg	**Pg**	**03 39 43.7**	**-0.9**
HMH	comp=N,26μm,1.2s			IAML		03 39 53.3	
HMH	comp=E,29μm,1.8s			IAML		03 39 54.3	
MWH	**Moku'aweowe**	**0.36**	**290**	Pg	**Pg**	**03 39 44.0**	**-1.1**
MLOA	**Mauna Loa Obse**	**0.36**	**298**	Pg	**Pg**	**03 39 43.7**	**-1.5**
MLOA	comp=N,30μm,0.8s			IAML		03 39 54.5	
MLOA	comp=E,48μm,0.9s			IAML		03 39 55.2	
KHU	**Kahuku**	**0.38**	**252**	Pg	**Pg**	**03 39 44.1**	**-1.2**
KHU	comp=N,21μm,2.0s			IAML		03 39 56.2	
KHU	comp=E,25μm,0.9s			IAML		03 39 56.7	
POHA	**Pohakuloa**	**0.48**	**325**	Pg	**Pg**	**03 39 46.1**	**-1.2**
POHA	comp=E,27μm,0.7s			IAML		03 40 01.2	
HUH	**Hualalai**	**0.65**	**300**	Pg	**Pg**	**03 39 49.5**	**-1.1**
I59US	**HAWAII INFRASO** baz=118,slow=30	**0.66**	**290**	Pg	**Pg**	**03 39 49.7**	**-1.0**
I59US	baz=144,slow=16			Lg	Lg	03 40 00.3	
I59US	baz=108,slow=316,SNR=1.1			I	I	03 43 50.0	
HPAH	**Hawaii Prepara**	**0.79**	**327**	Pg	**Pg**	**03 39 51.2**	**-2.1**
PKM	**Mcpherson Peak** baz=253	**34.90**	**56**	P	**P**	**03 46 30.1**	**-1.2**
NIKH	**Nikolski High** baz=157	**35.17**	**346**	P	**P**	**03 46 32.7**	**-0.3**
YBH	**Yreka Blue Hor** comp=E,102nm,20.6s,baz=212,slow=29	**35.48**	**44**	LR	LR	03 56 50.3	
H11N3	**WAKE ISLAND Hy** baz=84,slow=74,SNR=169	**35.63**	**277**	T	T	04 23 43.1	
CIS	**Catalina Islan** baz=256	**35.63**	**59**	P	**P**	**03 46 35.2**	**-2.2**
H11N2	**WAKE ISLAND Hy** baz=84,slow=74,SNR=131	**35.64**	**277**	T	T	04 23 43.9	
H11N1	**WAKE ISLAND Hy** baz=84,slow=74,SNR=91	**35.65**	**277**	T	T	04 23 44.6	
H11S2	**WAKE ISLAND Hy** baz=82,slow=74,SNR=20	**35.96**	**275**	T	T	04 24 08.1	
H11S1	**WAKE ISLAND Hy** baz=82,slow=74,SNR=21	**35.97**	**275**	T	T	04 24 08.4	
H11S3	**WAKE ISLAND Hy** baz=82,slow=74,SNR=31	**35.98**	**275**	T	T	04 24 09.3	
PPT	**Papeete** comp=E,384nm,19.6s,baz=339,slow=29	**37.12**	**171**	LR	LR	03 57 20.1	
PPT2	**Papeete2** comp=E,391nm,26.8s	**37.14**	**171**	eLR	LR	03 56 43.3	
PPT2	comp=E,513nm,24.8s			eLR	LR	03 56 49.5	
MONP2	**Monument Peak** baz=258	**37.15**	**61**	P	**P**	**03 46 49.4**	**-1.1**
SII	**Sitkinak Islan** baz=182	**37.15**	**1**	P	**P**	**03 46 49.6**	**-0.4**
NVAR	**Mina Array Bea** comp=E,1.1nm,0.8s,baz=243,slow=10.0,SNR=6.0	**37.18**	**51**	P	**P**	**03 46 52.2**	**+1.5**
NVAR	comp=E,140nm,18.3s,baz=58,slow=31 comp=E,1.1nm,0.8s			LR	LR	03 58 51.2	
PFO	**Pinyon Flats O** baz=258	**37.27**	**60**	P	**P**	**03 46 51.0**	**-0.4**
TPFO	**Pinon Flats** baz=258	**37.27**	**60**	P	**P**	**03 46 50.1**	**-1.4**
GSC	**Goldstone, Bar** baz=255	**37.39**	**57**	P	**P**	**03 46 51.8**	**-0.6**
GRAC	**Grapevine Rang** baz=252	**37.42**	**54**	P	**P**	**03 46 51.6**	**-1.0**
FURC	**Furnace Creek,** baz=254	**37.66**	**55**	P	**P**	**03 46 54.2**	**-0.3**
SWSC	**Sam W. Stewart** baz=259	**37.67**	**61**	P	**P**	**03 46 54.3**	**-0.4**
BELC	**Belle Mtn. Jos** baz=257	**37.73**	**59**	P	**P**	**03 46 54.1**	**-1.3**
OHAK	**Old Harbor** baz=183	**37.83**	**2**	P	**P**	**03 46 55.4**	**-0.3**
BC3	**Big Chuckawall** baz=258	**38.10**	**60**	P	**P**	**03 46 56.9**	**-1.6**
TUQ	**Turquoise Moun** baz=256	**38.12**	**57**	P	**P**	**03 46 57.6**	**-1.0**
GMRC	**Granite Mounta** baz=257	**38.17**	**58**	P	**P**	**03 46 57.9**	**-1.2**
KDAK	**Kodiak Island**	**38.42**	**2**	LR	LR	04 00 15.3	
	comp=E,189nm,19.4s,baz=204,slow=32						
IRM	**Iron Mountain** baz=258	**38.45**	**59**	P	**P**	**03 47 00.4**	**-1.0**
BBB	**Bella Bella** comp=E,108nm,20.1s,baz=258,slow=31	**39.01**	**26**	LR	LR	03 59 57.2	
R11B	**Troy Canyon, C** baz=252	**39.18**	**53**	P	**P**	**03 47 06.4**	**-1.1**
Q20K	**Shuyak Island** baz=184	**39.25**	**2**	P	**P**	**03 47 07.0**	**-0.6**
P18K	**Big Mountain,** baz=180	**39.98**	**0**	P	**P**	**03 47 13.6**	**-0.2**
O17K	**Koliganek Bris** baz=177	**40.39**	**359**	P	**P**	**03 47 17.1**	**0.0**
O18K	**Koktuh Hills** baz=180	**40.45**	**0**	P	**P**	**03 47 17.3**	**-0.3**
SIT	**Sitka** baz=210	**40.45**	**17**	P	**P**	**03 47 17.6**	**+0.1**
BRSE	**Bradley Lake S** baz=187	**40.46**	**4**	P	**P**	**03 47 18.5**	**+0.7**
RAR	**Rarotonga** comp=E,287nm,19.4s,baz=338,slow=33	**40.57**	**187**	LR	LR	04 02 01.6	
SEW	**Seward** baz=188	**40.91**	**4**	P	**P**	**03 47 21.3**	**0.0**
N15K	**Kwethluk River** baz=173	**40.91**	**356**	P	**P**	**03 47 21.0**	**-0.4**
SHEM	**Shemya Is, Ala** comp=E,208nm,19.6s,baz=116,slow=31	**40.93**	**332**	LR	LR	04 00 38.8	
P23K	**Montague Islan** baz=191	**40.98**	**6**	P	**P**	**03 47 20.9**	**-1.0**
S31K	**Pelican** baz=208	**41.00**	**15**	P	**P**	**03 47 22.5**	**+0.4**
S32K	**Killisnoo** baz=210	**41.01**	**17**	P	**P**	**03 47 21.0**	**-1.2**
N17K	**Nushagak Hills** baz=177	**41.14**	**359**	P	**P**	**03 47 23.2**	**-0.1**
N16K	**Nishlik Lake** baz=175	**41.15**	**357**	P	**P**	**03 47 23.3**	**-0.1**
KAIM	**Kayak Island** baz=196	**41.26**	**8**	P	**P**	**03 47 24.3**	**+0.1**
N18K	**Kilae Creek** baz=179	**41.28**	**360**	P	**P**	**03 47 24.5**	**+0.1**
N19K	**Bonanza Creek** baz=181,SNR=9.5	**41.41**	**1**	P	**P**	**03 47 25.2**	**-0.4**
M13K	**Dall Lake** baz=168	**41.41**	**354**	P	**P**	**03 47 25.0**	**-0.5**
CAPN	**Captain Cook N** baz=186	**41.46**	**3**	P	**P**	**03 47 25.5**	**-0.4**
M15K	**Kasigluk River** baz=172	**41.47**	**356**	P	**P**	**03 47 25.2**	**-0.8**
M14K	**Bethel** baz=170	**41.62**	**355**	P	**P**	**03 47 25.6**	**-1.6**
EYAK	**Cordova Ski Ar** baz=194	**41.70**	**7**	P	**P**	**03 47 26.7**	**-1.1**
M16K	**Timber Creek** baz=175	**41.70**	**357**	P	**P**	**03 47 26.9**	**-1.0**
WUAZ	**Wupatki** baz=259	**41.76**	**58**	P	**P**	**03 47 27.7**	**-1.3**
DUG	**Dugway, Tooele** baz=253	**41.78**	**51**	P	**P**	**03 47 27.3**	**-1.8**
HLID	**Hailey** baz=248	**41.78**	**45**	P	**P**	**03 47 27.7**	**-1.4**
PNL	**Peninsula** baz=203	**41.85**	**12**	P	**P**	**03 47 29.6**	**+0.4**
N20K	**Mount Spurr** baz=184	**41.85**	**2**	P	**P**	**03 47 28.7**	**-0.5**
MESA	**MESA** baz=199	**41.87**	**10**	P	**P**	**03 47 28.8**	**-0.6**
GLI	**Glacier Island** baz=192	**41.88**	**6**	P	**P**	**03 47 29.1**	**-0.2**
M18K	**Stony River** baz=179,SNR=5.2	**42.09**	**360**	P	**P**	**03 47 31.1**	**+0.1**
NEW	**Newport** baz=240	**42.14**	**38**	P	**P**	**03 47 31.1**	**-0.6**
NEW	**Newport** comp=E,72nm,20.6s,baz=150,slow=30	**42.14**	**38**	LR	LR	04 00 46.5	
P29M	**Windy Craggy** baz=205	**42.15**	**13**	P	**P**	**03 47 30.4**	**-1.3**
SUA	**Susitna One** baz=186	**42.18**	**3**	P	**P**	**03 47 30.9**	**-1.0**
BMRM	**Bremner River** baz=195	**42.24**	**8**	P	**P**	**03 47 32.3**	**0.0**
L14K	**Kuka Creek** baz=170	**42.27**	**355**	P	**P**	**03 47 30.7**	**-1.7**
KNK	**Knik Glacier** baz=190	**42.28**	**5**	P	**P**	**03 47 31.8**	**-0.9**
PLBC	**Pleasant Camp** baz=207	**42.30**	**14**	P	**P**	**03 47 32.6**	**-0.2**
S34M	**Telegraph Cree** baz=215	**42.38**	**19**	P	**P**	**03 47 33.4**	**0.0**
PMR	**Palmer** baz=189	**42.41**	**4**	P	**P**	**03 47 33.5**	**-0.1**
L16K	**Owhat River** baz=174	**42.41**	**357**	P	**P**	**03 47 32.1**	**-1.5**
L15K	**Ungalak Mounta** baz=171	**42.50**	**356**	P	**P**	**03 47 32.9**	**-1.5**
M22K	**Willow** baz=187	**42.50**	**4**	P	**P**	**03 47 34.0**	**-0.3**
M19K	**Big River Lodg** baz=181	**42.51**	**1**	P	**P**	**03 47 34.0**	**-0.4**
M20K	**Styx River** baz=183	**42.51**	**1**	P	**P**	**03 47 34.5**	**0.0**
SKAG	**Skagway** baz=208	**42.55**	**15**	P	**P**	**03 47 35.1**	**+0.3**
O29M	**Mount Kennedy** baz=204	**42.59**	**12**	P	**P**	**03 47 35.8**	**+0.4**
KLU	**Klutina** baz=193	**42.60**	**7**	P	**P**	**03 47 35.4**	**+0.1**
SKT	**Skwentna** baz=185,SNR=6.2	**42.66**	**3**	P	**P**	**03 47 35.5**	**-0.2**
SML	**Sawmill** baz=190	**42.68**	**5**	P	**P**	**03 47 34.7**	**-1.3**
CTG	**Chitna Glacier** baz=200	**42.71**	**10**	P	**P**	**03 47 35.2**	**-1.1**
M23K	**Glacier View** baz=190	**42.72**	**5**	P	**P**	**03 47 36.1**	**-0.1**
O28M	**Mount Upton** baz=201,SNR=5.9	**42.73**	**11**	P	**P**	**03 47 35.5**	**-1.1**
P30M	**Mount Dollar** baz=206	**42.77**	**13**	P	**P**	**03 47 35.9**	**-0.8**
L19K	**White Mountain** baz=180,SNR=9.6	**42.78**	**0**	P	**P**	**03 47 36.5**	**-0.2**
L17K	**Donlin** baz=176	**42.79**	**358**	P	**P**	**03 47 35.4**	**-1.3**
SCM	**Sheep Creek Mo** baz=191	**42.79**	**6**	P	**P**	**03 47 36.3**	**-0.5**
TBI	**Tubuai** comp=E,819nm,26.2s	**42.82**	**172**	eLR	LR	03 59 18.3	
TBI	comp=E,2μm,28.0s			eLR	LR	03 59 19.1	
L18K	**Granite Mounta** baz=178	**42.83**	**359**	P	**P**	**03 47 37.4**	**+0.3**
MCARA	**McCarthy VSAT** baz=197	**42.85**	**9**	P	**P**	**03 47 37.2**	**-0.1**
N25K	**Chitina, Valde** baz=195	**42.86**	**7**	P	**P**	**03 47 36.9**	**-0.5**
L20K	**Farewell, AK** baz=182,SNR=7.9	**43.09**	**1**	P	**P**	**03 47 39.4**	**+0.2**
K15K	**Wolf Creek Mou** baz=171	**43.12**	**356**	P	**P**	**03 47 39.6**	**+0.2**
DLBC	**Dease Lake** baz=216	**43.15**	**19**	P	**P**	**03 47 39.4**	**-0.3**
DLBC	**Dease Lake** comp=E,150nm,18.2s,baz=215,slow=34	**43.15**	**19**	LR	LR	04 03 43.5	
M24K	**Tolsona, Glenn** baz=193	**43.17**	**6**	P	**P**	**03 47 38.7**	**-1.2**
YUK6	**Outpost Mounta** baz=204	**43.23**	**12**	P	**P**	**03 47 39.6**	**-1.0**
YUK8	**Steele Glacier** baz=202	**43.28**	**11**	P	**P**	**03 47 40.3**	**-0.7**
HYT	**Haines Junctio** baz=205	**43.29**	**13**	P	**P**	**03 47 40.7**	**-0.3**
K17K	**Iditarod** baz=176	**43.37**	**358**	P	**P**	**03 47 41.1**	**-0.3**
MSO	**Missoula** baz=245	**43.40**	**41**	P	**P**	**03 47 41.4**	**-0.7**
WAT6	**Susitna Watana** baz=190,SNR=12	**43.49**	**5**	P	**P**	**03 47 41.3**	**-1.3**
O30N	**Mendenhall** baz=207	**43.54**	**14**	P	**P**	**03 47 41.6**	**-1.2**
YUK4	**Talbot Arm** baz=203	**43.54**	**12**	P	**P**	**03 47 43.5**	**+0.5**
PPLA	**Purkeypile** baz=184	**43.55**	**2**	P	**P**	**03 47 42.1**	**-1.0**
YUK3	**Moose Creek** baz=200	**43.62**	**10**	P	**P**	**03 47 43.0**	**-0.7**
R33M	**Jennings River** baz=214	**43.65**	**18**	P	**P**	**03 47 42.2**	**-1.7**
WAT1	**Susitna Watana** baz=189	**43.68**	**4**	P	**P**	**03 47 43.3**	**-0.6**
WHY	**Whitehorse** baz=208	**43.72**	**14**	P	**P**	**03 47 42.6**	**-1.8**
M26K	**Nabesna, AK** baz=197,SNR=12	**43.84**	**8**	P	**P**	**03 47 44.6**	**-0.6**
M27K	**Edge Creek, AK** baz=198,SNR=6.8	**43.95**	**9**	P	**P**	**03 47 45.2**	**-1.1**
N30M	**Aishikik Lake** baz=205	**43.95**	**12**	P	**P**	**03 47 45.2**	**-1.0**
K20K	**Telida** baz=182	**43.97**	**1**	P	**P**	**03 47 45.1**	**-1.2**
DHY	**Denali Highway** baz=191,SNR=6.5	**44.01**	**5**	P	**P**	**03 47 45.1**	**-1.7**
J16K	**Anvik River** baz=173	**44.04**	**357**	P	**P**	**03 47 45.4**	**-1.4**
CAST	**Castle Rocks** baz=184	**44.08**	**2**	P	**P**	**03 47 46.5**	**-0.7**
J17K	**VABM Dome** baz=175	**44.08**	**358**	P	**P**	**03 47 46.0**	**-1.1**
J18K	**Innoko River** baz=178,SNR=5.1	**44.08**	**359**	P	**P**	**03 47 46.6**	**-0.6**
PAX	**Paxson** baz=193,SNR=14	**44.09**	**6**	P	**P**	**03 47 46.4**	**-0.9**
TRF	**Thorofare Moun** baz=187,SNR=7.9	**44.19**	**3**	P	**P**	**03 47 46.8**	**-1.4**
N31M	**Braeburn, Yuko** baz=207	**44.25**	**13**	P	**P**	**03 47 47.8**	**-0.8**
121A	**Cookes Peak, D** baz=265	**44.30**	**63**	P	**P**	**03 47 48.4**	**-1.2**
MVCO	**Mesa Verde** baz=260	**44.35**	**56**	P	**P**	**03 47 48.2**	**-1.9**
BOZ	**Bozeman (W)** baz=248	**44.38**	**44**	P	**P**	**03 47 48.1**	**-1.9**
L26K	**Log Cabin Wild** baz=196	**44.39**	**8**	P	**P**	**03 47 49.2**	**-0.5**
CHUM	**Lake Minchumin** baz=184	**44.53**	**2**	P	**P**	**03 47 50.0**	**-0.7**
MCK	**McKinley** baz=188	**44.55**	**4**	P	**P**	**03 47 50.4**	**-0.4**
M29M	**Somme Creek** baz=203,SNR=9.2	**44.59**	**11**	P	**P**	**03 47 50.6**	**-0.8**
J19K	**Poorman** baz=180	**44.60**	**360**	P	**P**	**03 47 50.7**	**-0.6**
L27K	**Beaver Creek,** baz=198,SNR=8.8	**44.63**	**9**	P	**P**	**03 47 51.1**	**-0.5**
I17K	**Unalakleet** baz=173	**44.65**	**357**	P	**P**	**03 47 50.8**	**-0.8**
J20K	**Nowinta River** baz=182	**44.79**	**1**	P	**P**	**03 47 52.2**	**-0.6**
BPAW	**Bear Paw Mtn.** baz=186,SNR=6.3	**44.80**	**3**	P	**P**	**03 47 53.2**	**+0.3**
PDAR	**Pinedale Array** comp=E,1.8nm,0.9s,baz=241,slow=4.9,SNR=12 comp=E,1.8nm,0.9s	**44.87**	**48**	P	**P**	**03 47 55.1**	**+1.1**
K24K	**Donnelly Dome** baz=193,SNR=6.2	**44.87**	**6**	P	**P**	**03 47 53.2**	**-0.3**
M30M	**Minto, Yukon** baz=205,SNR=5.3	**45.03**	**12**	P	**P**	**03 47 54.8**	**+0.1**
O20A	**White River Ci** baz=257	**45.15**	**52**	P	**P**	**03 47 55.4**	**-0.9**
M31M	**Drury Creek, Y** baz=208	**45.19**	**14**	P	**P**	**03 47 56.5**	**+0.5**
SCRK	**Sand Creek** baz=195,SNR=6.1	**45.23**	**7**	P	**P**	**03 47 57.1**	**+0.6**
L29M	**L29M** baz=203	**45.27**	**11**	P	**P**	**03 47 57.3**	**+0.7**
HDA	**Harding Lake** baz=191,SNR=8.5	**45.36**	**5**	P	**P**	**03 47 57.5**	**+0.1**
GCSA	**Galena City Sc** baz=178,SNR=6.7	**45.37**	**359**	P	**P**	**03 47 56.2**	**-1.2**
NEA2	**Nenana** baz=188,SNR=7.1	**45.39**	**4**	P	**P**	**03 47 57.7**	**+0.1**
I20K	**Naaghedeneel** baz=181	**45.41**	**0**	P	**P**	**03 47 57.7**	**0.0**
FARO	**Faro, Yukon** baz=210	**45.45**	**14**	P	**P**	**03 47 58.4**	**+0.2**
H16K	**Elim** baz=171	**45.49**	**356**	P	**P**	**03 47 57.3**	**-1.0**
K27K	**Chicken** baz=198	**45.52**	**8**	P	**P**	**03 47 58.5**	**-0.1**
ANMO	**Albuquerque** baz=263	**45.65**	**60**	P	**P**	**03 47 59.7**	**-0.6**
H17K	**Granite Mounta** baz=174	**45.66**	**357**	P	**P**	**03 48 00.0**	**+0.3**
J25K	**Salcha River,** baz=193,SNR=12	**45.71**	**6**	P	**P**	**03 48 00.6**	**+0.5**
ILAR	**Eielson Array** comp=E,4.6nm,0.9s,baz=196,slow=7.0,SNR=31	**45.73**	**5**	P PcP	**P PcP**	**03 47 59.6** **03 49 39.2**	**-0.6** **+1.2**
ILAR	comp=E,1.3nm,1.0s,baz=208,slow=4.6,SNR=4.1 comp=E,123nm,18.7s,baz=230,slow=34 comp=E,4.6nm,0.9s			LR	LR	04 05 23.8	
MLY	**Manley** baz=186,SNR=11	**45.74**	**3**	P	**P**	**03 48 00.9**	**+0.5**
J26L	**Joseph Creek** baz=195,SNR=7.6	**45.79**	**7**	P	**P**	**03 48 00.1**	**-0.8**
H18K	**Honhosa River** baz=176	**45.81**	**358**	P	**P**	**03 48 00.1**	**-0.9**
I21K	**Tanana** baz=184	**45.84**	**2**	P	**P**	**03 48 00.3**	**-0.8**
I23K	**Minto, Yukon-K** baz=188	**45.93**	**3**	P	**P**	**03 48 01.4**	**-0.4**
DAWY	**Dawson** baz=201,SNR=7.5	**45.94**	**10**	P	**P**	**03 48 02.5**	**+0.4**
G15K	**Niukluk** baz=168	**45.98**	**355**	P	**P**	**03 48 01.2**	**-1.0**
POKR	**Poker Plat Res** baz=190	**46.02**	**5**	P	**P**	**03 48 01.1**	**-1.5**
K29M	**Barlow Dome** baz=204	**46.05**	**11**	P	**P**	**03 48 02.3**	**-0.6**
H20K	**Anotleneega Mo** baz=180,SNR=7.6	**46.11**	**0**	P	**P**	**03 48 02.8**	**-0.5**
H19K	**Roundabout Mou** baz=178	**46.15**	**359**	P	**P**	**03 48 03.7**	**+0.2**
TGTN	**Hyland Airport** baz=216	**46.17**	**18**	P	**P**	**03 48 04.6**	**+0.8**
G16K	**Koyuk River** baz=171	**46.25**	**356**	P	**P**	**03 48 04.9**	**+0.6**
G17K	**Kiwalik Mounta** baz=173	**46.25**	**357**	P	**P**	**03 48 04.7**	**+0.3**
MNTX	**Cornudas Mount** baz=267	**46.28**	**64**	P	**P**	**03 48 04.2**	**-0.9**
MMPY	**Sheldon Lake,** baz=212	**46.28**	**15**	P	**P**	**03 48 05.3**	**+0.6**
H21K	**Melozitna Rive** baz=183	**46.30**	**1**	P	**P**	**03 48 03.7**	**-1.1**
EGAK	**Eagle** baz=198,SNR=9.4	**46.36**	**8**	P	**P**	**03 48 05.1**	**-0.1**
KOTAN	**Kotaneelee Air** baz=222	**46.40**	**21**	P	**P**	**03 48 05.4**	**-0.2**
EGMT	**Eagleton** baz=248	**46.48**	**41**	P	**P**	**03 48 05.4**	**-1.1**
G18K	**Tagagawik** baz=176	**46.56**	**358**	P	**P**	**03 48 06.1**	**-0.7**
PRP	**Porcupine Dome** baz=193,SNR=8.3	**46.58**	**6**	P	**P**	**03 48 07.4**	**+0.3**
H22K	**Ishtalitna Cre** baz=185	**46.58**	**2**	P	**P**	**03 48 05.5**	**-1.5**
H23K	**Yukon River** baz=187,SNR=7.8	**46.59**	**3**	P	**P**	**03 48 07.0**	**-0.1**
I26K	**Coal Creek Min** baz=196	**46.62**	**7**	P	**P**	**03 48 07.1**	**-0.1**
F14K	**Arctic Creek** baz=166	**46.67**	**354**	P	**P**	**03 48 07.5**	**-0.1**
H24K	**Noodor Dome** baz=190,SNR=8.2	**46.70**	**4**	P	**P**	**03 48 07.6**	**-0.3**
G19K	**Purcell Mounta** baz=178	**46.77**	**359**	P	**P**	**03 48 07.8**	**-0.7**
SDCO	**Great Sand Dun** baz=261	**46.79**	**56**	P	**P**	**03 48 08.7**	**-0.7**
TNA	**Tin City** baz=164	**46.93**	**353**	P	**P**	**03 48 09.6**	**-0.1**
J30M	**Hart River** baz=205,SNR=7.1	**46.93**	**11**	P	**P**	**03 48 08.2**	**-1.7**
K22A	**Casper** baz=256	**46.99**	**49**	P	**P**	**03 48 10.1**	**-0.6**
N23A	**Red Feather La** baz=258	**47.02**	**52**	P	**P**	**03 48 10.7**	**-0.4**
ISCO	**Idaho Springs** baz=259	**47.05**	**53**	P	**P**	**03 48 11.0**	**-0.5**
I27K	**Kandik River** baz=198,SNR=6.2	**47.09**	**8**	P	**P**	**03 48 11.0**	**0.0**
G21K	**Allakaket** baz=182	**47.15**	**1**	P	**P**	**03 48 11.7**	**+0.3**
I28M	**Miner Creek** baz=200,SNR=9.7	**47.16**	**9**	P	**P**	**03 48 10.8**	**-0.8**
F17K	**Baldwin Pennin** baz=172	**47.22**	**357**	P	**P**	**03 48 11.7**	**-0.2**
Q24A	**Divide**	**47.26**	**55**	P	**P**	**03 48 11.8**	**-1.3**

	baz=260								
H25L	**Birch Creek**	**47.29**	**5**	P		**P**	**03 48 11.8**	**-0.6**
	baz=192,SNR=10								
F18K	**Selawik**	**47.30**	**358**	P		**P**	**03 48 12.7**	**+0.2**
	baz=174								
G23K	**Bananza Creek**	**47.45**	**3**	P		**P**	**03 48 13.6**	**-0.1**
	baz=187,SNR=5.2								
F19K	**Shaleruckik Mo**	**47.48**	**359**	P		**P**	**03 48 14.3**	**+0.3**
	baz=177,SNR=6.4								
I30M	**Mount Dempster**	**47.52**	**11**	P		**P**	**03 48 13.8**	**-0.7**
	baz=204,SNR=12								
T25A	**Trinidad**	**47.57**	**57**	P		**P**	**03 48 14.6**	**-0.8**
	baz=263								
G24K	**Hadweenzic Riv**	**47.59**	**4**	P		**P**	**03 48 14.5**	**-0.3**
	baz=190,SNR=8.3								
G22K	**Bettles**	**47.60**	**2**	P		**P**	**03 48 15.4**	**+0.5**
	baz=185								
F20K	**Avaraart Lake**	**47.67**	**360**	P		**P**	**03 48 16.7**	**+1.3**
	baz=179								
H27K	**Steamboat Moun**	**47.70**	**7**	P		**P**	**03 48 14.0**	**-1.7**
	baz=198,SNR=11								
TXAR	**Lajitas Array**	**47.70**	**68**	P		**P**	**03 48 17.5**	**+1.1**
	comp=E,3.5nm,0.8s,baz=256,slow=8.8,SNR=23								
	comp=E,3.5nm,0.8s								
G25K	**Bearman Lake**	**47.75**	**5**	P		**P**	**03 48 14.8**	**-1.2**
	baz=192								
F21K	**Alatna River**	**47.86**	**1**	P		**P**	**03 48 17.0**	**+0.1**
	baz=182,SNR=8.5								
E17K	**Hotham Inlet**	**47.89**	**357**	P		**P**	**03 48 17.0**	**-0.1**
	baz=172								
COLD	**Coldfoot**	**47.96**	**3**	P		**P**	**03 48 17.2**	**-0.5**
	baz=186								
E19K	**Redstone River**	**48.10**	**359**	P		**P**	**03 48 18.0**	**-0.7**
	baz=178,SNR=6.4								
H29M	**Whitestone**	**48.12**	**9**	P		**P**	**03 48 18.6**	**-0.3**
	baz=202,SNR=8.9								
G26K	**Porcupine Rive**	**48.14**	**6**	P		**P**	**03 48 18.0**	**-1.1**
	baz=195,SNR=6.1								
E18K	**Tukpahlearik C**	**48.17**	**357**	P		**P**	**03 48 19.4**	**+0.1**
	baz=173,SNR=6.7								
F22K	**John River**	**48.17**	**2**	P		**P**	**03 48 17.2**	**-2.1**
	baz=184								
G27K	**Doyon Strip**	**48.24**	**7**	P		**P**	**03 48 18.1**	**-1.7**
	baz=197								
F24K	**Squaw Lake**	**48.37**	**4**	P		**P**	**03 48 19.7**	**-1.1**
	baz=189								
EPYK	**Eagle Plains**	**48.51**	**10**	P		**P**	**03 48 22.4**	**+0.4**
	baz=204,SNR=5.7								
D17K	**Noatak River**	**48.58**	**356**	P		**P**	**03 48 22.3**	**-0.1**
	baz=170								
MSTX	**Muleshoe**	**48.60**	**61**	P		**P**	**03 48 22.3**	**-1.0**
	baz=266								
F25K	**Christian Rive**	**48.60**	**5**	P		**P**	**03 48 22.9**	**+0.2**
	baz=192,SNR=6.0								
E22K	**Anaktuvuk Pass**	**48.81**	**2**	P		**P**	**03 48 24.3**	**0.0**
	baz=184								
E23K	**Chandalar**	**48.81**	**3**	P		**P**	**03 48 24.5**	**+0.2**
	baz=187								
G29M	**Pine Creek**	**48.81**	**9**	P		**P**	**03 48 24.5**	**+0.2**
	baz=202,SNR=8.6								
F26K	**Sheenjek River**	**48.83**	**6**	P		**P**	**03 48 25.5**	**+1.0**
	baz=194,SNR=7.0								
E20K	**Nigu River**	**48.89**	**360**	P		**P**	**03 48 24.9**	**0.0**
	baz=179,SNR=6.8								
E24K	**Your Creek**	**48.89**	**3**	P		**P**	**03 48 25.3**	**+0.4**
	baz=188								
RDOG	**Red Dog Mine**	**48.92**	**356**	P		**P**	**03 48 25.1**	**+0.1**
	baz=170								
E21K	**Killik River**	**49.07**	**1**	P		**P**	**03 48 26.5**	**+0.2**
	baz=182								
RSSD	**Black Hills**	**49.10**	**48**	P		**P**	**03 48 27.0**	**-0.1**
	baz=257								
E25K	**Arctic Village**	**49.13**	**5**	P		**P**	**03 48 26.9**	**+0.2**
	baz=192,SNR=7.9								
G30M	**tAoh Zraii Nji**	**49.15**	**10**	P		**P**	**03 48 26.7**	**-0.2**
	baz=204								
D19K	**Kuna River**	**49.16**	**359**	P		**P**	**03 48 27.3**	**+0.4**
	baz=176								
KSCO	**Kaye Shedlock'**	**49.21**	**55**	P		**P**	**03 48 29.0**	**+1.1**
	baz=262								
F28M	**Old Crow**	**49.22**	**8**	P		**P**	**03 48 27.2**	**-0.2**
	baz=199,SNR=8.4								
C16K	**Lisburne Hills**	**49.31**	**355**	P		**P**	**03 48 26.8**	**-1.3**
	baz=167								
D20K	**Etivluk River**	**49.35**	**359**	P		**P**	**03 48 28.2**	**-0.2**
	baz=178								
C17K	**DeLong Mountai**	**49.35**	**356**	P		**P**	**03 48 28.8**	**+0.4**
	baz=170								
TOLK	**Toolik Lake Re**	**49.40**	**3**	P		**P**	**03 48 29.4**	**+0.6**
	baz=187								
PETK	**Petropavlovsk-**	**49.41**	**324**	P		**P**	**03 48 31.9**	**+2.9**
	comp=E,1.4nm,0.7s,baz=100,slow=12,SNR=4.0								
	comp=E,1.4nm,0.7s								
C18K	**Utukok River**	**49.42**	**357**	P		**P**	**03 48 29.5**	**+0.6**
	baz=173								
G31M	**Satah River**	**49.43**	**11**	P		**P**	**03 48 29.2**	**+0.3**
	baz=206,SNR=6.7								
D22K	**Ayikyak River**	**49.53**	**1**	P		**P**	**03 48 30.2**	**+0.4**
	baz=183,SNR=5.7								
AMTX	**Amarillo**	**49.56**	**60**	P		**P**	**03 48 30.0**	**-0.6**
	baz=266								
E27K	**Coleen River**	**49.56**	**7**	P		**P**	**03 48 29.7**	**-0.4**
	baz=197,SNR=6.8								
D23K	**Nanushuk River**	**49.68**	**2**	P		**P**	**03 48 30.7**	**-0.1**
	baz=186								
C21K	**Knifeblade Rid**	**49.79**	**0**	P		**P**	**03 48 31.0**	**-0.7**
	baz=181								
F30M	**Barrier River**	**49.80**	**10**	P		**P**	**03 48 31.2**	**-0.6**
	baz=204								
C19K	**Lookout Ridge**	**49.81**	**358**	P		**P**	**03 48 30.7**	**-1.2**
	baz=175								
D24K	**Happy Valley**	**49.94**	**3**	P		**P**	**03 48 32.9**	**+0.1**
	baz=188								
F31M	**Tsiigehtchic**	**49.98**	**11**	P		**P**	**03 48 33.4**	**+0.3**
	baz=207								
DGMT	**Dagmar**	**50.13**	**42**	P		**P**	**03 48 33.9**	**-0.8**
	baz=253								
B18K	**Kokolik River**	**50.16**	**357**	P		**P**	**03 48 33.2**	**-1.3**
	baz=172								
E28M	**Babbage River**	**50.20**	**7**	P		**P**	**03 48 33.9**	**-1.0**
	baz=199,SNR=5.1								
E29M	**Blow River**	**50.21**	**8**	P		**P**	**03 48 33.4**	**-1.5**
	baz=202,SNR=8.1								
D25K	**Kavik River**	**50.25**	**4**	P		**P**	**03 48 34.9**	**-0.4**
	baz=191,SNR=9.1								
B21K	**Ikpikpuk River**	**50.26**	**0**	P		**P**	**03 48 33.9**	**-1.3**
	baz=181								
C24K	**Franklin Bluff**	**50.51**	**3**	P		**P**	**03 48 37.8**	**+0.7**
	baz=188								
C23K	**Itkillik River**	**50.55**	**2**	P		**P**	**03 48 38.9**	**+1.5**
	baz=186,SNR=12								
D27M	**Malcolm River**	**50.65**	**7**	P		**P**	**03 48 39.2**	**+0.9**
	baz=198								
B20K	**Meade River**	**50.66**	**359**	P		**P**	**03 48 39.1**	**+0.9**
	baz=178								
C27K	**Jago River**	**50.75**	**5**	P		**P**	**03 48 39.8**	**+0.8**
	baz=194,SNR=6.2								
INK	**Inuvik**	**50.80**	**10**	P		**P**	**03 48 40.0**	**+0.7**
	baz=207,SNR=8.6								
C26K	**Camden Bay**	**50.94**	**5**	P		**P**	**03 48 40.7**	**+0.3**
	baz=193,SNR=8.9								
D28M	**Stokes Point**	**50.98**	**7**	P		**P**	**03 48 41.2**	**+0.5**
	baz=200								
B22K	**Teshekpuk Lake**	**50.99**	**1**	P		**P**	**03 48 41.4**	**+0.7**
	baz=182								
ABTX	**Abilene, Hawle**	**51.17**	**63**	P		**P**	**03 48 42.6**	**-0.1**
	baz=269								
YKA	**Yellowknife Ar**	**51.35**	**23**	P		**P**	**03 48 43.8**	**+0.2**
	comp=E,2.2nm,0.8s,baz=237,slow=7.4,SNR=15								
	comp=E,2.2nm,0.8s								
833A	**Chaparral WMA,**	**51.47**	**69**	P		**P**	**03 48 44.5**	**-0.5**
	baz=273								
A22K	**Sinclair Lake**	**51.64**	**0**	P		**P**	**03 48 45.1**	**-0.5**
	baz=180								
WMOK	**Wichita Mounta**	**51.93**	**61**	P		**P**	**03 48 48.1**	**-0.3**
	baz=268								
BGNE	**Belgrade**	**52.91**	**52**	P		**P**	**03 48 55.0**	**-0.6**
	baz=264								
KSU1	**Kansas State U**	**53.88**	**55**	P		**P**	**03 49 02.5**	**-0.2**
	baz=266								
ECSD	**EROS Data Cent**	**54.31**	**50**	P		**P**	**03 49 04.1**	**-1.7**
	baz=263								
TUL3	**Leonard**	**54.40**	**59**	P		**P**	**03 49 05.3**	**-1.3**
	baz=269								
NATX	**Nacogdoches**	**55.41**	**64**	P		**P**	**03 49 12.6**	**-1.3**
	baz=273								
A36M	**Sachs Harbour**	**55.42**	**11**	P		**P**	**03 49 12.7**	**-0.6**
	baz=215								
AGMN	**Agassiz Nation**	**55.49**	**44**	P		**P**	**03 49 13.5**	**-0.8**

	baz=260								
MIAR	**Mount Ida**	**56.22**	**61**	P		**P**	**03 49 19.2**	**-0.5**
	baz=271								
ASAJ	**Asahikawa**	**56.90**	**311**	LR		LR	04 08 16.6		
	comp=E,169nm,21.9s,baz=141,slow=30								
SPMN	**Marine on St.**	**57.18**	**48**	P		**P**	**03 49 25.9**	**-0.5**
	baz=265								
CCM	**Cathedral Cave**	**58.05**	**57**	P		**P**	**03 49 31.8**	**-0.9**
	baz=270								
EYMN	**Ely**	**58.35**	**45**	P		**P**	**03 49 33.0**	**-1.5**
	baz=264								
JFWS	**Jewell Farm**	**58.88**	**51**	P		**P**	**03 49 37.1**	**-1.2**
	baz=268								
JHJ	**Hachijo jima 2**	**59.05**	**298**	LR		LR	04 12 50.2		
	comp=E,66nm,19.1s,baz=60,slow=34								
HDIL	**Hopedale**	**59.56**	**54**	P		**P**	**03 49 42.8**	**-0.3**
	baz=270								
MJAR	**Matsushiro Arr**	**60.14**	**302**	P		**P**	**03 49 47.2**	**0.0**
	comp=E,1.9nm,1.0s,baz=93,slow=4.2,SNR=6.5								
	comp=E,1.9nm,1.0s								
SFIN	**Lafayette**	**61.23**	**54**	P		**P**	**03 49 54.1**	**-0.5**
	baz=272								
WCI	**Wyandotte Cave**	**61.95**	**56**	P		**P**	**03 49 59.1**	**-0.3**
	baz=273								
O48B	**Farmland**	**62.72**	**54**	P		**P**	**03 50 03.5**	**-1.1**
	baz=273								
GLMI	**Grayling**	**62.97**	**49**	P		**P**	**03 50 05.5**	**-0.6**
	baz=271								
RES	**Resolute Bay**	**63.78**	**15**	LR		LR	04 16 15.2		
	comp=E,96nm,18.0s,baz=342,slow=34								
RPN	**Rapa Nui**	**64.15**	**135**	LR		LR	04 11 08.6		
	comp=E,72nm,21.1s,baz=265,slow=30								
USRK	**Ussuriysk Ar.**	**64.53**	**310**	P		**P**	**03 50 19.1**	**+2.7**
	comp=E,0.8nm,0.7s,baz=118,slow=2.9,SNR=4.0								
	comp=E,0.8nm,0.7s								
P52A	**Corning**	**65.08**	**55**	P		**P**	**03 50 19.8**	**-0.3**
	baz=275								
O53A	**New Philadelph**	**65.73**	**54**	P		**P**	**03 50 24.0**	**-0.3**
	baz=275								
KMSC	**Kings Mountain**	**66.21**	**59**	P		**P**	**03 50 27.3**	**-0.2**
	baz=278								
JNU	**Nakatsue**	**66.48**	**298**	LR		LR	04 17 30.7		
	comp=E,82nm,18.9s,baz=132,slow=34								
BLA	**Blacksburg**	**66.68**	**57**	P		**P**	**03 50 29.5**	**-1.0**
	baz=277								
MCWV	**Mont Chateau**	**66.84**	**54**	P		**P**	**03 50 30.5**	**-0.9**
	baz=276								
DWPF	**Disney Wildern**	**67.23**	**67**	P		**P**	**03 50 33.5**	**-0.6**
	baz=280								
SSPA	**Standing Stone**	**68.21**	**53**	P		**P**	**03 50 40.2**	**0.0**
	baz=277								
KSRS	**Korea Array**	**68.25**	**303**	P		**P**	**03 50 44.0**	**+3.7**
	comp=E,0.4nm,0.4s,baz=92,slow=6.2,SNR=1.8								
KSRS						LR	LR	04 19 27.3	
	comp=E,36nm,18.6s,baz=240,slow=35								
	comp=E,0.4nm,0.4s								
JOW	**Kunigami**	**69.81**	**292**	LR		LR	04 15 48.5		
	comp=E,59nm,21.8s,baz=294,slow=31								
PKME	**Peaks-Kenny Pk**	**73.71**	**47**	P		**P**	**03 51 12.7**	**-0.7**
	baz=281								
NEEM	**North Greenlan**	**74.28**	**13**	*i* P		**P**	**03 51 16.8**	**+0.2**
NEEM					IAmb	IAmb	03 51 20.7		
	comp=E,6.7nm,1.2s								
SFJD	**Kangerlussuaq**	**77.91**	**23**	*e*P		**P**	**03 51 39.2**	**+2.2**
SFJD					IAmb	IAmb	03 51 59.8		
	comp=Z,4.5nm,0.9s								
SUMG	**Summit**	**79.28**	**16**	*i* P		**P**	**03 51 46.0**	**+1.0**
SUMG					IAmb	IAmb	03 51 48.5		
	comp=Z,3.2nm,1.0s								
HHC	**Hu-ho-hao-te**	**79.94**	**310**	*e*P		**P**	**03 51 47.5**	**-1.3**
HHC					pmax	pmax			
	comp=Z,9.0nm,0.6s								
HHC					pmax	pmax			
	comp=Z,520nm,6.0s								
DAG	**Danmarks Havn**	**80.63**	**9**	*i* P		**P**	**03 51 51.3**	**-0.4**
DAG					IAML		03 51 54.4		
	comp=Z,2.0nm,1.0s								
ASAR	**Alice Springs**	**81.24**	**241**	P		**P**	**03 51 55.7**	**-0.2**
	comp=Z,0.7nm,0.7s,baz=77,slow=5.7,SNR=4.8								
	comp=Z,0.7nm,0.7s								
SONM	**Songino Array**	**81.32**	**318**	P		**P**	**03 51 57.0**	**+0.9**
	comp=Z,0.9nm,0.6s,baz=115,slow=6.8,SNR=9.6								
SONM						LR	LR	04 25 39.7	
	comp=Z,78nm,21.3s,baz=109,slow=34								
	comp=Z,0.9nm,0.6s								
H03N2	**Juan Fernandez**	**89.65**	**126**		T	T		05 31 40.9	
	baz=298,slow=76,SNR=93								
H03N3	**Juan Fernandez**	**89.66**	**126**		T	T		05 31 41.8	
	baz=298,slow=76,SNR=91								
H03N1	**Juan Fernandez**	**89.66**	**126**		T	T		05 31 42.1	
	baz=298,slow=76,SNR=83								
ZALV	**Zalesovo Beam**	**90.73**	**329**	P		**P**	**03 52 44.7**	**+2.3**
	comp=Z,0.7nm,0.5s,baz=56,slow=5.6,SNR=5.3								
ZALV						LR	LR	04 31 09.5	
	comp=Z,78nm,20.6s,baz=76,slow=34								
	comp=Z,0.7nm,0.5s								
PZH	**PanZhiHua**	**92.54**	**299**	P		**P**	**03 52 49.5**	**-2.0**
PZH					pmax	pmax			
	comp=Z,10.0nm,0.5s								
PZH					pmax	pmax			
	comp=Z,100nm,4.8s								
MKAR	**Makanchi Array**	**96.25**	**324**	P		**P**	**03 53 10.3**	**+2.3**
	comp=Z,0.3nm,0.7s,baz=76,slow=10,SNR=3.6								
MKAR						LR	LR	04 33 23.6	
	comp=Z,53nm,22.0s,baz=79,slow=34								
	comp=Z,0.3nm,0.7s								
BVAR	**Borovoye Array**	**97.83**	**334**	LR		LR		04 37 04.7	
	comp=Z,60nm,21.8s,baz=59,slow=35								
CMAR	**Chiang Mai Arr**	**98.08**	**293**	LR		LR		04 33 46.9	
	comp=Z,25nm,21.1s,baz=75,slow=33								
NOA	**NORSAR Array B**	**99.14**	**7**	LR		LR		04 36 16.6	
	comp=Z,37nm,21.1s,baz=100,slow=34								
ARU	**Arti**	**99.31**	**342**	LR		LR		04 38 40.4	
	comp=Z,69nm,21.5s,baz=192,slow=36								
KIRV	**Kirov**	**99.71**	**347**	LR		LR		04 38 17.9	
	comp=Z,79nm,21.5s,baz=42,slow=35								
TORD	**Torodi Ar. Bea**	**140.50**	**37**	PKP		**PKiKP**		**03 59 12.0**	**-0.4**
	comp=Z,0.8nm,1.0s,baz=328,slow=3.9,SNR=3.7								

*NEIC **29** 03:42:29.6±1.4, 19°.321N×0°.010×155°.264W×0°.008, h5km±1km, Error ellipse: s-maj=2.6km s-min=1.1km az=346.0*

HVO 29 03:42:28.9±1.2, **19°.35N**±0°.01×**155°.251W**±0°.007, **h1**km±3km, **ML3.4**/9, **ML2.8**/26(NEIC), **Error ellipse: s-maj=1.6km s-min=0.9km az=169.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUH	**Pauahi**	**0.04**	**56**		Pg	03 42 30.6	+0.8
KKO	**Keanakako`i**	**0.05**	**343**		Pg	03 42 32.2	+2.3
RIM	**Rim**	**0.05**	**333**		Pg	03 42 32.3	+2.4
BYL	**Byron's Ledge**	**0.06**	**352**		Pg	03 42 31.0	+0.9
HATHI	**Halema`uma`u T**	**0.07**	**352**	IAML		03 42 30.8	
	comp=N,7μm,1.9s						
HATHI					Pg	03 42 31.4	+1.0
HATHI				IAML		03 42 32.7	
	comp=E,4μm,0.3s						
OBL	**Observatory Le**	**0.07**	**335**		Pg	03 42 33.0	+2.6
HLP	**Hilina Pali**	**0.08**	**224**	IAML		03 42 31.0	
	comp=N,7μm,1.4s						
HLP				IAML		03 42 31.4	
	comp=E,10μm,2.0s						
HLP					Pg	03 42 31.6	+1.2
SBLHI	**Steaming Bluff**	**0.08**	**348**		Pg	03 42 33.2	+2.8
UWB	**Uwekahuna B**	**0.08**	**341**		Pg	03 42 33.2	+2.7
UWE	**Uwekahuna**	**0.08**	**330**	IAML		03 42 31.1	
	comp=E,5μm,1.6s						
UWE				IAML		03 42 31.7	
	comp=N,8μm,2.6s						
UWE					Pg	03 42 31.8	+1.3
KNHH	**Kane Nui o Ham**	**0.08**	**70**		Pg	03 42 31.4	+0.9
RSD	**Rainshed**	**0.11**	**347**		Sg	03 42 34.3	+1.6
RSD	**Rainshed**	**0.11**	**347**	IAML		03 42 31.9	
	comp=E,8μm,2.3s						
RSD				IAML		03 42 32.9	
	comp=N,6μm,2.0s						
RSD	**Rainshed**	**0.11**	**347**		Pg	03 42 32.0	+0.8
STCH	**Steam Cracks**	**0.12**	**74**		Pg	03 42 32.2	+0.8
STCH	**Steam Cracks**	**0.12**	**74**	IAML		03 42 33.1	
	comp=E,2μm,2.7s						
STCH				IAML		03 42 34.5	
	comp=N,3μm,2.6s						
NPOC	**North of Pu'u**	**0.14**	**73**		Pg	03 42 32.5	+0.8
NPOC					Sg	03 42 35.4	+2.0
JCUZ	**Jacuzzi**	**0.14**	**77**		Pg	03 42 32.6	+0.9
HTC	**Hot Caves**	**0.18**	**231**		Pg	03 42 33.3	+1.0
MLH	**Mauna Loa**	**0.19**	**318**		Pg	03 42 33.6	+1.0
MLH					Sg	03 42 37.1	+1.9
MLH	**Mauna Loa**	**0.19**	**318**	IAML		03 42 37.5	
	comp=N,8μm,2.7s						
MLH				IAML		03 42 38.8	
	comp=E,6μm,2.2s						
JOKA	**Jonika Flow**	**0.25**	**71**		Pg	03 42 34.0	+0.4
JOKA	**Jonika Flow**	**0.25**	**71**	IAML		03 42 41.0	
	comp=N,5μm,2.5s						
JOKA				IAML		03 42 41.8	
	comp=E,2μm,1.4s						
KHU	**Kahuku**	**0.36**	**253**		Pg	03 42 36.2	+0.4

*AZER **29** 03:48:24.6, 38°.63N×44°.03E, h5km, ml3.8*
*TEH **29** 03:48:26.5, 38°.66N×44°.20E, h6km±24km, ML3.5*
*AFAD **29** 03:48:26.1±0.0, 38°.68N×44°.24E, h8km±1km, MW3.8*
*ISK **29** 03:48:26.6, 38°.71N×44°.11E, h5km, ML3.4/18*
*NSSP **29** 03:48:26.1, 38°.58N×44°.32E, h10km, Ms3.9*

ISC 29 03:48:27.0±0.9, **38°.66N**±0°.02×**44°.19E**±0°.01, **h9**km±7km, **n82**, **σ1s56**/132, **8C-5D, Turkey-Iran border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.15**	**272**	P	**Pg**	**03 48 30.8**	**+0.3**
OZAP				S	**Sg**	**03 48 33.7**	**+0.8**
CLDR	**Caldiran**	**0.53**	**337**	Pg	**Pg**	**03 48 36.4**	**-1.0**
CLDR				Sg	**Sg**	**03 48 44.4**	**0.0**
CLDR	**Caldiran**	**0.53**	**337**	P	**Pg**	**03 48 36.2**	**-1.2**
CLDR				S	**Sg**	**03 48 44.0**	**-0.5**
CLDR	**Caldiran**	**0.53**	**337**	Pg	**Pg**	**03 48 36.6**	**-0.8**
VANB	**Van**	**0.63**	**265**	Pg	**Pg**	**03 48 38.8**	**-0.4**
VANB				Sg	**Sb**	**03 48 48.4**	**-0.8**
VANB	**Van**	**0.63**	**265**	Pg	**Pg**	**03 48 38.8**	**-0.4**
MAKU	**Maku**	**0.80**	**29**	Pg	**Pg**	**03 48 41.7**	**-0.8**
MAKU				Sg	**Sb**	**03 48 53.2**	**-1.0**
AKDM	**Akdamar-Van**	**1.00**	**251**	Pg	**Pg**	**03 48 45.7**	**-0.6**
AKDM				Sg	**Sn**	**03 49 00.8**	**-1.0**
AKDM	**Akdamar-Van**	**1.00**	**251**	Pg	**Pg**	**03 48 45.7**	**-0.6**
YOVA	**Hakkari_Yksek**	**1.07**	**176**	P	**Pb**	**03 48 47.1**	**-0.7**
YOVA				S	**Sn**	**03 49 02.5**	**-1.0**
YOVA	**Hakkari_Yksek**	**1.07**	**176**	Pg	**Pb**	**03 48 47.7**	**-0.7**
NAX	**Nakhchīvan**	**1.14**	**63**	P	**Pn**	**03 48 48.9**	**-0.5**
NAX				S	**Sn**	**03 49 06.2**	**+1.0**
ADCV	**BITLIS_Adilcev**	**1.15**	**278**	P	**Pg**	**03 48 48.4**	**-0.9**
ADCV				S	**Sn**	**03 49 06.1**	**+0.5**
ADCV	**BITLIS_Adilcev**	**1.15**	**278**	Pg	**Pg**	**03 48 48.3**	**-0.9**
HYR	**Heyderabad**	**1.18**	**26**	P	**Pb**	**03 48 48.9**	**-0.8**
HYR				S	**Sn**	**03 49 06.5**	**+0.4**
ISHB	**Shabestar**	**1.18**	**108**	Pg	**Pg**	**03 48 48.3**	**-1.5**
ISHB				Sg	**Sn**	**03 49 05.3**	**-1.1**
IMRD	**Marand**	**1.19**	**87**	Pg	**Pg**	**03 48 48.8**	**-1.1**
IGDI	**IGDIR**	**1.21**	**356**	P	**Pg**	**03 48 49.1**	**-1.3**
IGDI				S	**Sn**	**03 49 06.6**	**-0.3**
IGDI	**IGDIR**	**1.21**	**356**	Pg	**Pg**	**03 48 49.1**	**-1.3**
SBZ	**Shahbuz**	**1.30**	**55**	P	**Pb**	**03 48 51.2**	**-0.5**
SBZ				S	**Sn**	**03 49 10.8**	**+1.8**
DORK	**Agr/Tutak/Do**	**1.32**	**304**	P	**Pn**	**03 48 49.3**	**-2.5**
DORK				S	**Sg**	**03 49 08.0**	**-1.5**
TASB	**TASBURUN-IGDIR**	**1.33**	**2**	Pn	**Pb**	**03 48 51.4**	**-0.8**
TASB				Sn	**Sn**	**03 49 11.1**	**+1.4**
TASB	**TASBURUN-IGDIR**	**1.33**	**2**	Pg	**Pg**	**03 48 52.5**	**0.0**
MLAZ	**Malazgirt-MUS**	**1.37**	**291**	Pn	**Pg**	**03 48 52.5**	**-0.8**
MLAZ				Sn	**Sn**	**03 49 11.4**	**+0.6**
KOTA	**Agri, Merkez-K**	**1.38**	**327**	P	**Pn**	**03 48 50.8**	**-1.8**
KOTA				S	**Sn**	**03 49 12.6**	**+1.6**
NRKZ	**NAREK**	**1.39**	**15**	⇑*i*P	**Pg**	**03 48 52.6**	**-1.1**
NRKZ				⇓*i*S	**Sn**	**03 49 12.4**	**+1.1**
ORD	**Ordubad**	**1.44**	**79**	P	**Pg**	**03 48 53.7**	**-0.9**
ORD				S	**Sg**	**03 49 14.2**	**+0.9**
VNNZ	**Vanand**	**1.47**	**349**	⇑*i*P	**Pg**	**03 48 55.6**	**+0.3**
VNNZ				⇑*i*S	**Sg**	**03 49 18.2**	**+3.7**
PERV	**Siirt/Pervari-**	**1.48**	**242**	P	**Pb**	**03 48 54.2**	**-0.5**
PERV				S	**Sg**	**03 49 15.8**	**+1.3**
METS	**Metsamor**	**1.50**	**357**	*e*P	**Pg**	**03 48 55.3**	**-0.5**
METS				*e*S	**Sg**	**03 49 17.7**	**+2.6**
GNI	**Garni**	**1.55**	**16**	*i* P	**Pg**	**03 48 55.7**	**-1.2**
GNI				⇑*i*S	**Sg**	**03 49 18.4**	**+1.4**
ITBZ	**Tabriz**	**1.60**	**105**	Pg	**Pg**	**03 48 55.4**	**-0.2**
ITBZ				Sg	**Sg**	**03 49 17.8**	**-0.6**
ARUZ	**Aruch**	**1.63**	**357**	⇓*i*P	**Pg**	**03 48 57.8**	**-0.5**
ARUZ				⇑*i*S	**Sg**	**03 49 21.4**	**+2.0**
BLIS	**Bitlis-Merkez**	**1.64**	**262**	P	**Pb**	**03 48 56.8**	**-0.8**
BLIS				S	**Sg**	**03 49 21.3**	**+1.4**
GURO	**Guroymak-BITLI**	**1.69**	**267**	Pn	**Pb**	**03 48 57.5**	**-0.9**
GURO				Sn	**Sg**	**03 49 20.6**	**-0.8**

mbtmp3.8/14, ML2.6/2, MS3.2/1, Error ellipse: s-maj=40.3km s-min=18.7km az=162.0
TEH ***29*** *04:39:02.3, 31.92N× 48.66E, h11km± 27km, ML3.8*
ISC 29 04:39:02.6±0.7, 31.94N±0.04× 48.63E±0.04, h10km, n52, σ2.02/51, mb3.8/12, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AHWZ	**Ahwaz**	**0.61**	**179**	Pg	**Pb**	**04 39 15.2**	**-0.1**
IKFM	**Kafar-mosalman**	**1.71**	**337**	Pg	**Pg**	**04 39 36.2**	**+0.8**
JHBN	**Jahan bin**	**1.75**	**80**	Pg	**Pg**	**04 39 35.1**	**-1.0**
IDOB	**Doab**	**1.88**	**348**	Pn	**Pg**	**04 39 39.0**	**+0.3**
ZNGN	**Zangian**	**1.90**	**84**	Pn	**Pb**	**04 39 37.5**	**+0.1**
ABEH	**Behbahan**	**1.93**	**134**	Pn	**Pb**	**04 39 37.7**	**-0.2**
IPIR	**Pirpir**	**2.05**	**68**	Pn	**Pb**	**04 39 39.9**	**-0.2**
IBRJ	**Brojen**	**2.23**	**90**	Pn	**Pb**	**04 39 42.0**	**-1.3**
HSAM	**Samen**	**2.26**	**359**	Pn	**Pb**	**04 39 43.2**	**-0.5**
IBZA	**Bozab**	**2.60**	**346**	Pn	**Pb**	**04 39 47.9**	**-1.6**
ILBA	**Ilam Banvizeh**	**2.64**	**310**	Pn	**Pb**	**04 39 48.0**	**-2.1**
KCHF	**Cheshme Sefid,**	**2.68**	**331**	Pn	**Pn**	**04 39 48.6**	**+2.6**
KLNJ	**Kolanjah**	**2.69**	**109**	Pn	**Pn**	**04 39 47.8**	**+1.5**
IKLH	**Kolahrood**	**2.84**	**60**	Pn	**Pb**	**04 39 51.4**	**-2.2**
HAGD	**Aghdareh**	**2.90**	**8**	Pn	**Pb**	**04 39 52.5**	**-2.1**
IGAR	**Gharneh**	**2.93**	**80**	Pn	**Pb**	**04 39 51.7**	**-3.3**
IGHG	**Ghaleghazi**	**2.94**	**325**	Pn	**Pb**	**04 39 52.8**	**-2.5**
SNQR	**Sonqor, Kerman**	**3.03**	**344**	Pn	**Pn**	**04 39 53.6**	**+2.8**
GLG1	**Gilan-e-Gharb**	**3.15**	**314**	Pn	**Pn**	**04 39 54.9**	**+2.6**
IRAM	**Ramesheh**	**3.19**	**91**	Pn	**Pn**	**04 39 54.7**	**+1.6**
IZEF	**Zefreh**	**3.27**	**72**	Pn	**Pn**	**04 39 56.3**	**+2.2**
ILIN	**Lien**	**3.28**	**335**	Pn	**Pb**	**04 39 57.9**	**-3.1**
IDHR	**Dehrash**	**3.33**	**326**	Pn	**Pn**	**04 39 57.9**	**+2.9**
IQOM	**Qom**	**3.54**	**35**	Pn	**Pn**	**04 40 00.6**	**+2.7**
KRSH	**Karshahi**	**3.57**	**55**	Pn	**Pn**	**04 40 00.8**	**+2.6**
IRAZ	**Razeghan**	**3.62**	**17**	Pn	**Pn**	**04 40 02.5**	**+3.6**
QABG	**Abgarm-Qazvin**	**3.84**	**12**	Pn	**Pn**	**04 40 05.0**	**+3.1**
ISFB	**Sefidab**	**3.86**	**51**	Pn	**Pn**	**04 40 04.6**	**+2.4**
IVRN	**Varamin**	**4.00**	**40**	Pn	**Pn**	**04 40 06.9**	**+3.0**
DSBU	**Dashti - Bushe**	**4.23**	**147**	Pn	**Pn**	**04 40 08.8**	**+1.6**
ANAR	**Anarak**	**4.48**	**73**	Pn	**Pn**	**04 40 12.6**	**+2.0**
IDMV	**Damavand**	**4.60**	**37**	Pn	**Pn**	**04 40 15.1**	**+2.7**
ICHK	**Chekchek**	**4.91**	**85**	Pn	**Pn**	**04 40 18.4**	**+1.7**
IFIR	**Firoozkooh**	**5.04**	**42**	Pn	**Pn**	**04 40 21.0**	**+2.6**
IMEH	**Mehriz**	**5.13**	**95**	Pn	**Pn**	**04 40 21.3**	**+1.6**
IGLO	**Ghalogh ah**	**6.26**	**42**	Pn	**Pn**	**04 40 38.7**	**+3.5**
TKDS	**Koohdasht(Taba**	**7.34**	**75**	Pn	**Pn**	**04 40 52.0**	**+2.0**
GEYT	**Alibeck** baz=250,slow=15,SNR=2.1 1.5nm,0.6s	**9.81**	**50**	Pn	**Pn**	**04 41 26.8**	**+3.1**
BRTR	**Keskin Array B** baz=137,slow=13,SNR=1.4 0.5nm,0.8s	**14.42**	**307**	Pn	**Pn**	**04 42 27.6**	**+0.7**
AAK	**Ala-Archa** comp=Z,56nm,19.5s,baz=289,slow=39	**23.09**	**55**	LR	LR	04 54 10.5	
BVAR	**Borovoye Array** 2.1nm,0.5s,baz=232,slow=7.1,SNR=12 2.1nm,0.5s	**26.29**	**30**	P	**P**	**04 44 38.8**	**+0.7**
KURBB	**Kurchatov Arra** 0.7nm,0.6s,baz=243,slow=9.3,SNR=4.2 0.7nm,0.6s	**28.91**	**41**	P	**P**	**04 45 02.4**	**+0.8**
MKAR	**Makanchi Array** 0.6nm,0.8s,baz=250,slow=7.3,SNR=4.3 0.6nm,0.8s	**29.68**	**50**	P	**P**	**04 45 09.4**	**+0.8**
FINES	**FINESS Array B** 0.4nm,0.4s,baz=147,slow=7.9,SNR=7.2 0.4nm,0.4s	**32.97**	**340**	P	**P**	**04 45 36.8**	**-0.3**
ZALV	**Zalesovo Beam** 0.6nm,0.4s,baz=253,slow=7.4,SNR=3.7 0.6nm,0.4s	**33.87**	**39**	P	**P**	**04 45 45.4**	**+0.2**
HFS	**Hagfors** 1.3nm,0.3s,baz=119,slow=8.9,SNR=12 1.3nm,0.3s	**36.42**	**331**	P	**P**	**04 46 06.9**	**-0.2**
NOA	**NORSAR Array B** 0.3nm,0.5s,baz=125,slow=8.7,SNR=2.3 0.3nm,0.5s	**37.95**	**331**	P	**P**	**04 46 19.2**	**-0.9**
ARCES	**ARCESS Array B** 1.6nm,0.8s,baz=153,slow=10,SNR=4.2 1.6nm,0.8s	**39.84**	**348**	P	**P**	**04 46 35.1**	**-0.7**
ESDC	**Sonseca Array** 0.4nm,0.6s,baz=75,slow=8.2,SNR=2.8 0.4nm,0.6s	**42.83**	**296**	P	**P**	**04 47 00.3**	**-0.6**
EKA	**Eskdalemuir Ar** 0.2nm,0.3s,baz=105,slow=8.8,SNR=2.2 0.2nm,0.3s	**42.90**	**319**	P	**P**	**04 47 00.6**	**-0.5**
TORD	**Toradi Ar. Bea** 2.8nm,1.1s,baz=57,slow=7.9,SNR=17 2.8nm,1.1s	**46.81**	**257**	P	**P**	**04 47 32.2**	**-0.5**
SPITS	**Spitsbergen Ar** 4.3nm,0.8s,baz=133,slow=10,SNR=2.0 4.3nm,0.8s	**48.44**	**352**	P	**P**	**04 47 43.2**	**-1.4**

NEIC ***29*** *04:54:19.6±0.9, 19.417N±0.009× 155.288W±0.005, h5km±2km, Error ellipse: s-maj=1.4km s-min=0.6km az=187.0*
HVO 29 04:54:19.0±0.9, 19.403N±0.009× 155.280W±0.005, h1km±4km, ML2.9/45, ML2.9/43(NEIC), Error ellipse: s-maj=1.3km s-min=0.5km az=162.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**145**		Pg	04 54 19.8	+0.4
KKO	**Keanakako`i**	**0.01**	**111**		Pg	04 54 19.9	+0.4
OBL	**Observatory Le**	**0.01**	**344**		Pg	04 54 20.4	+0.9
BYL	**Byron's Ledge**	**0.02**	**64**		Pg	04 54 20.0	+0.5
UWB	**Uwekahuna B**	**0.02**	**4**		Pg	04 54 20.6	+1.1
UWE	**Uwekahuna**	**0.02**	**325**		Pg	04 54 20.0	+0.4
SBLHI	**Steaming Bluff**	**0.03**	**24**		Pg	04 54 20.2	+0.6
HATHI	**Halema'uma'u T**	**0.03**	**41**		Pg	04 54 20.2	+0.6
RSD	**Rainshed**	**0.06**	**1**		Pg	04 54 21.1	+0.9
RSD	**Rainshed** comp=N,4μm,0.3s	**0.06**	**1**	IAML		04 54 21.8	
RSD	comp=E,4μm,0.2s			IAML		04 54 22.2	
PUH	**Pauahi**	**0.07**	**116**		Pg	04 54 21.4	+1.0
PUH	**Pauahi** comp=E,9μm,0.7s	**0.07**	**116**	IAML		04 54 21.8	
PUH	comp=N,11μm,0.3s			IAML		04 54 23.0	
KNHH	**Kane Nui o Ham**	**0.11**	**103**		Pg	04 54 22.1	+1.0
HLP	**Hilina Pali**	**0.11**	**194**		Pg	04 54 22.2	+1.1
HLP					Sg	04 54 24.8	+2.2
HLP	**Hilina Pali** comp=N,6μm,0.7s	**0.11**	**194**	IAML		04 54 24.8	
HLP	comp=E,23μm,0.7s			IAML		04 54 25.2	
MLH	**Mauna Loa**	**0.14**	**312**		Pg	04 54 22.9	+1.3
MLH	**Mauna Loa** comp=E,4μm,1.4s	**0.14**	**312**	IAML		04 54 25.6	
MLH	comp=N,8μm,0.6s			IAML		04 54 26.4	
STCH	**Steam Cracks**	**0.15**	**97**		Pg	04 54 22.8	+0.9
STCH	**Steam Cracks** comp=E,7μm,1.2s	**0.15**	**97**	IAML		04 54 26.4	
STCH	comp=N,3μm,1.1s			IAML		04 54 26.4	
NPOC	**North of Pu'u**	**0.16**	**93**		Pg	04 54 23.0	+0.9
JCUZ	**Jacuzzi**	**0.17**	**96**		Pg	04 54 23.1	+0.8
HTC	**Hot Caves**	**0.20**	**214**		Pg	04 54 23.8	+1.0
JOKA	**Jonika Flow**	**0.26**	**83**		Pg	04 54 24.5	+0.5
JOKA	**Jonika Flow** comp=E,923nm,1.2s	**0.26**	**83**	IAML		04 54 29.6	
JOKA	comp=N,2μm,1.0s			IAML		04 54 30.4	
HMH	**Humu'ula Sheep**	**0.28**	**316**		Pg	04 54 24.7	+0.3
HMH	comp=N,2μm,0.6s			IAML		04 54 33.5	
HMH	comp=E,2μm,0.9s			IAML		04 54 34.0	
MLOA	**Mauna Loa Obse**	**0.31**	**295**		Pg	04 54 25.5	+0.5
MLOA	comp=E,1μm,1.0s			IAML		04 54 34.2	
MLOA	comp=N,2μm,0.6s			IAML		04 54 35.8	
MWH	**Moku'aweowe**	**0.31**	**285**		Pg	04 54 25.6	+0.6
KHU	**Kahuku**	**0.35**	**244**		Pg	04 54 26.4	+0.5
KHU	comp=N,1μm,0.5s			IAML		04 54 33.6	
KHU	comp=E,1μm,0.5s			IAML		04 54 38.6	
ALEP	**Alea Permanent**	**0.37**	**292**		Pg	04 54 26.8	+0.7
POHA	**Pohakuloa**	**0.43**	**326**		Pg	04 54 27.8	+0.6
POHA	comp=E,1μm,0.7s			IAML		04 54 37.9	
HUH	**Hualalai**	**0.59**	**298**		Pg	04 54 31.0	+0.6
CPH	**Captain Cook**	**0.61**	**278**		Pg	04 54 30.8	+0.1
HPAH	**Hawaii Prepara**	**0.74**	**328**		Pg	04 54 32.3	-0.9
HPAH	comp=N,580nm,1.3s			IAML		04 54 58.1	
HPAH	comp=E,458nm,0.9s			IAML		04 54 59.1	
HPAH	**Hawaii Prepara**	**0.74**	**328**		Sg	04 54 42.5	-0.3

DJA ***29*** *05:00:57.6±2.3, 0.S±8.×9.7E±., h15km±16km, M3.5/6, MLv3.5/6*
IDC ***29*** *05:01:02.3±6.2, 1.09N× 99.23E, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=324.8km s-min=29.9km az=54.0*
ISC 29 05:00:57.3±1.4, 0.19S±0.10× 97.42E±0.09, h10km, n11, σ0.90/10, mb3.6/3, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBSI	**Pulau Batu**	**0.87**	**81**	P	**Pg**	**05 01 14.6**	**+0.4**
PBSI				S	**Sb**	**05 01 27.2**	**+0.9**
GSI	**Gunungsitoli**	**1.49**	**6**	P	**Pn**	**05 01 22.9**	**-1.3**
SISI	**Saibi**	**2.02**	**124**	P	**Pn**	**05 01 31.3**	**-0.2**
SISI				S	**Sn**	**05 01 55.5**	**-1.3**
SNSI	**Sinabang, Aceh**	**2.80**	**337**	P	**Pn**	**05 01 42.2**	**0.0**
PDSI	**Padang**	**3.13**	**103**	P	**Pn**	**05 01 46.2**	**-0.6**
H01W3	**Cape Leeuwin H** baz=334	**37.89**	**157**	T	T	05 48 16.1	
H01W2	**Cape Leeuwin H** baz=334	**37.90**	**157**	T	T	05 48 15.2	
H01W1	**Cape Leeuwin H** baz=334	**37.91**	**157**	T	T	05 48 14.9	
WRA	**Warramunga Arr** 1.0nm,0.7s,baz=302,slow=9.0,SNR=7.4 1.0nm,0.7s	**41.13**	**121**	P	**P**	**05 08 41.5**	**-0.6**
ASAR	**Alice Springs** 0.3nm,0.3s,baz=296,slow=8.6,SNR=1.9 0.3nm,0.3s	**42.40**	**126**	P	**P**	**05 08 53.0**	**+0.6**
MKAR	**Makanchi Array** 0.4nm,0.5s,baz=152,slow=8.0,SNR=4.6 0.4nm,0.5s	**48.63**	**346**	P	**P**	**05 09 41.9**	**+0.5**

SKHL ***29*** *05:08:13.9±0.1, 43.70N× 146.10E, h53km±4km, mb4.4/3*
JMA ***29*** *05:08:14.1±0.2, 43.61N±0.6× 14.6E±., h75km± 1km, MV3.0/31, NEAR KUNASHIRI ISLAND*
MOS ***29*** *05:08:15.6±1.9, 43.61N× 146.09E, h31km, mb4.0/1, Error ellipse: s-maj=17.4km s-min=11.5km az=75.5*
ISC 29 05:08:17.4±0.9, 43.67N±0.04× 146.09E±0.04, h48km±8km, n29, σ1.69/46, 4C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.40**	**220**	P	**Pn**	**05 08 26.5**	**-0.9**
NEM2				S	**Sn**	**05 08 35.2**	**+0.8**
YUK	**Yuzh-Kuril'sk**	**0.40**	**335**	*e*P	**Pn**	**05 08 26.0**	**-1.3**
YUK	700nm,0.3s			AMB	AMB	05 08 26.4	
YUK				*e*S	**Sn**	**05 08 35.4**	**+1.0**
YUK	2μm,0.3s			A	A	05 08 36.2	
YUK	2μm,0.3s			A	A	05 08 36.2	
YUK	**Yuzh-Kuril'sk**	**0.40**	**335**	*c* iPN	**Pn**	**05 08 26.3**	**-1.0**
YUK				*i* S	**Sn**	**05 08 34.7**	**+0.3**
NMR	**Nemuro--Hokkai**	**0.40**	**221**	*e*P	**Pn**	**05 08 25.9**	**-1.4**
NMR				*e*S	**Sn**	**05 08 34.8**	**+0.4**
NMR	**Nemuro--Hokkai**	**0.40**	**221**	*e*PN	**Pn**	**05 08 26.0**	**-1.4**
NMR				*e*S	**Sn**	**05 08 34.8**	**+0.4**
SHO	**Shikotan**	**0.57**	**70**	*e*P	**Pn**	**05 08 27.5**	**-1.8**
SHO	200nm,0.2s			AMB	AMB	05 08 28.0	
SHO				*e*S	**Sn**	**05 08 37.8**	**-0.2**
SHO	600nm,0.4s			A	A	05 08 38.2	
SHO	2μm,0.4s			A	A	05 08 38.2	
SHO	**Shikotan**	**0.57**	**70**	*e*PN	**Pn**	**05 08 27.6**	**-1.8**
SHO				*e*S	**Sn**	**05 08 37.6**	**-0.4**
SHO	comp=N,135nm,0.2s			pmax	pmax		
SHO	comp=E,182nm,0.2s			pmax	pmax		
SHO	comp=Z,375nm,0.2s			pmax	pmax		
SHO	comp=E,2μm,0.3s			smax	smax		
SHO	comp=N,613nm,0.2s			smax	smax		
RUSJ	**Misakicho**	**0.75**	**306**	*e*PN	**Pn**	**05 08 29.7**	**-2.0**
RUSJ				*e*S	**Sn**	**05 08 42.3**	**+0.3**
JRA	**Rausu**	**0.75**	**291**	P	**Pn**	**05 08 30.3**	**-1.4**
JRA				S	**Sn**	**05 08 42.7**	**+0.6**
JNSB	**Nemuroshibetsu**	**0.79**	**278**	P	**Pn**	**05 08 30.9**	**-1.4**
JNSB				S	**Sn**	**05 08 43.5**	**+0.4**
JKHN	**Kushirohamanak**	**0.90**	**229**	P	**Pn**	**05 08 31.7**	**-2.0**
JKHN				S	**Sn**	**05 08 44.6**	**-1.0**
JNK	**Nakash**	**1.00**	**265**	*i* P	**Pn**	**05 08 32.8**	**-2.3**
JNK				S	**Sn**	**05 08 46.0**	**-2.1**
AKK	**Akkeshi**	**1.12**	**235**	*e*P	**Pn**	**05 08 34.6**	**-2.1**
JAK	**Akkeshi**	**1.22**	**237**	P	**Pn**	**05 08 35.6**	**-2.4**
JAK				S	**Sn**	**05 08 51.3**	**-2.1**
JTKR	**Abashiri--Toko**	**1.61**	**281**	P	**Pn**	**05 08 41.2**	**-2.1**
JAR	**Ashorobuto**	**1.73**	**258**	P	**Pn**	**05 08 43.3**	**-1.7**
JAR				S	**Sn**	**05 09 05.2**	**-0.7**
JOB	**Onbets**	**1.82**	**246**	P	**Pn**	**05 08 44.1**	**-2.1**
JOB				S	**Sn**	**05 09 06.4**	**-1.7**
KUR	**Kuril'sk**	**2.01**	**39**	*e*P	**Pn**	**05 08 47.4**	**-1.5**
KUR	comp=N,40nm,0.5s			AMB	AMB	05 08 48.8	
KUR				*e*S	**Sn**	**05 09 11.7**	**-1.1**
KUR				A	A	05 09 15.9	
KUR	comp=N,140nm,0.3s			A	A	05 09 15.9	
KUR	comp=N,110nm,0.3s			A	A	05 09 15.9	
KUR	**Kuril'sk**	**2.01**	**39**	PN	**Pn**	**05 08 47.6**	**-1.3**
KUR				*e*S	**Sn**	**05 09 11.6**	**-1.2**
KUR	comp=N,179nm,0.2s			smax	smax		
KUR	comp=E,106nm,0.2s			smax	smax		
ERM	**Erimo**	**2.72**	**233**	*i* PN	**Pn**	**05 08 57.9**	**-0.7**
ERM				*i* S	**Sn**	**05 09 32.3**	**+2.1**
ERM	comp=Z,35nm,0.4s			pmax	pmax		
ERM	comp=Z,34nm,0.7s			smax	smax		
YSS	**Yuzh-Sakhalins**	**4.04**	**326**	*e*P	**Pn**	**05 09 14.8**	**-1.8**
YSS	**Yuzh-Sakhalins**	**4.04**	**326**	*e*PN	**Pn**	**05 09 14.8**	**-1.8**
YSS	comp=Z,20nm,1.1s			pmax	pmax		
MAJO	**Matsushiro**	**9.33**	**223**	*e*PN	**Pn**	**05 10 28.9**	**-0.4**
MAJO	comp=Z,6.0nm,1.4s			pmax	pmax		
SKR	**Severo-Kuril's**	**9.78**	**41**	*e*P	**Pn**	**05 10 35.7**	**+0.4**
SKR	**Severo-Kuril's**	**9.78**	**41**	*e*PN	Pn	05 10 39.7	+4.4
ZEA	**Zeya**	**15.95**	**316**	*e*P	**Pn**	**05 11 55.6**	**-2.8**
ZEA	**Zeya**	**15.95**	**316**	*e*P	**P**	**05 12 02.7**	**+1.4**
KURK	**Kurchatov**	**44.94**	**304**	*e*P	**P**	**05 16 30.6**	**+3.3**
KURK	**Kurchatov**	**44.94**	**304**	*e*P	**P**	**05 16 30.6**	**+3.3**

IDC 29 05:15:27.6±8.9, 24.69N× 142.42E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=359.4km s-min=31.1km az=74.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr** 0.9nm,0.8s,baz=9.3,slow=8.5,SNR=5.0 0.9nm,0.8s	**45.06**	**191**	P	P	05 23 45.2	-0.2
ZALV	**Zalesovo Beam** 0.5nm,0.3s,baz=112,slow=9.6,SNR=1.7 0.5nm,0.3s	**51.45**	**320**	P	P	05 24 33.2	-1.3
MKAR	**Makanchi Array** 0.2nm,0.6s,baz=94,slow=9.0,SNR=1.7 0.2nm,0.6s	**52.19**	**311**	P	P	05 24 41.2	+1.1
KURBB	**Kurchatov Arra** 0.4nm,0.5s,baz=90,slow=8.5,SNR=5.1 0.4nm,0.5s	**54.88**	**316**	P	P	05 24 59.8	0.0

AFAD ***29*** *05:22:37.5±0.0, 38.69N× 44.25E, h7km±1km, ML2.6*
ISK ***29*** *05:22:37.4, 38.68N× 44.21E, h5km, ML2.4/4*

AZER ***29*** *05:22:38.7, 38.62N× 44.30E, h7km, ml2.6*
TEH ***29*** *05:22:39.6, 38.75N× 44.24E, h20km, ML2.8*
ISC 29 05:22:38.6±1.1, 38.69N±0.02× 44.20E±0.02, h5km±10km, n29, σ1.12/52, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OZAP	**Van, Ozalp-Mer**	**0.16**	**260**	P	**Pg**	**05 22 42.3**	**+0.4**
OZAP				S	**Sg**	**05 22 45.6**	**+1.5**
OZAP	comp=E,2μm,0.2s			*i* AML	AML	05 22 47.0	
OZAP	comp=N,1μm,0.5s			*i* AML	AML	05 22 49.0	
CLDR	**Caldiran**	**0.50**	**334**	Pg	**Pg**	**05 22 47.8**	**-0.5**
CLDR				Sg	**Sg**	**05 22 55.7**	**+0.9**
CLDR	**Caldiran**	**0.50**	**334**	P	**Pg**	**05 22 47.8**	**-0.5**
CLDR				S	**Sg**	**05 22 55.3**	**+0.5**
CLDR	comp=E,881nm,0.4s			*i* AML	AML	05 22 56.0	
VMUR	**Van-Muradiye**	**0.57**	**301**	P	**Pg**	**05 22 49.6**	**-0.1**
VMUR				S	**Sg**	**05 22 58.6**	**+1.5**
VMUR	comp=E,254nm,0.8s			*i* AML	AML	05 23 01.0	
VANB	**Van**	**0.64**	**262**	Pg	**Pg**	**05 22 50.5**	**-0.4**
VANB				Sg	**Sg**	**05 22 59.9**	**+0.6**
DYDN	**Diyadin**	**0.94**	**335**	P	**Pg**	**05 22 55.6**	**-1.0**
DYDN				S	**Sg**	**05 23 08.9**	**+0.1**
GEVA	**Gevas**	**0.97**	**247**	P	**Pg**	**05 22 55.4**	**-1.8**
GEVA				S	**Sg**	**05 23 10.3**	**+0.4**
GEVA	comp=N,150nm,0.4s			*i* AML	AML	05 23 11.0	
GEVA	comp=E,121nm,0.2s			*i* AML	AML	05 23 12.0	
AKDM	**Akdamar-Van**	**1.02**	**250**	Pg	**Pg**	**05 22 57.6**	**-0.6**
AKDM				Sg	**Sg**	**05 23 12.1**	**+0.6**
NAX	**Nakhchivan**	**1.12**	**64**	P	**Pn**	**05 23 01.0**	**0.0**
NAX				S	**Sn**	**05 23 17.8**	**+0.9**
HYR	**Heyderabad**	**1.15**	**26**	P	**Pn**	**05 23 02.5**	**+1.1**
HYR				S	**Sn**	**05 23 18.6**	**+1.1**
ADCV	**BITLIS_Adilcev**	**1.16**	**276**	P	**Pg**	**05 22 59.4**	**-1.4**
ADCV				S	**Sb**	**05 23 18.1**	**+1.4**
IMRD	**Marand**	**1.18**	**88**	Pg	**Pn**	**05 23 01.2**	**-0.7**
IGDI	**IGDIR**	**1.18**	**355**	P	**Pg**	**05 23 00.6**	**-0.6**
IGDI				S	**Sb**	**05 23 17.4**	**+0.2**
ISHB	**Shabestar**	**1.18**	**110**	Pg	**Pg**	**05 23 00.5**	**-0.8**
ISHB				Sg	**Sn**	**05 23 18.7**	**0.0**
HAKT	**HAKKARI**	**1.20**	**199**	P	**Pg**	**05 23 00.4**	**-1.1**
HAKT				S	**Sg**	**05 23 17.1**	**+0.1**
HAKT	comp=E,112nm,0.6s			*i* AML	AML	05 23 22.0	
SBZ	**Shahbuz**	**1.27**	**56**	P	**Pn**	**05 23 03.9**	**+0.8**
SBZ				S	**Sn**	**05 23 23.6**	**+3.0**
TASB	**TASBURUN-IGDIR**	**1.29**	**1**	Pn	**Pn**	**05 23 03.3**	**-0.1**
DORK	**Agr/Tutak/Do**	**1.31**	**303**	P	**Pn**	**05 23 02.0**	**-1.7**
DORK				S	**Sb**	**05 23 19.9**	**-0.9**
KOTA	**Agri, Merkez-K**	**1.35**	**326**	P	**Pn**	**05 23 02.8**	**-1.5**
KOTA				S	**Sb**	**05 23 21.2**	**-1.0**
ORD	**Ordubad**	**1.42**	**80**	P	**Pg**	**05 23 06.3**	**+0.4**
ORD				S	**Sg**	**05 23 26.4**	**+2.1**
PERV	**Siirt/Pervari-**	**1.50**	**241**	P	**Pn**	**05 23 07.1**	**+0.8**
PERV				S	**Sg**	**05 23 27.8**	**+1.0**
PERV	comp=N,88nm,0.5s			*i* AML	AML	05 23 33.0	
PERV	comp=E,110nm,0.6s			*i* AML	AML	05 23 36.0	
GURO	**Guroymak-BITLI**	**1.70**	**266**	Pn	**Pn**	**05 23 08.8**	**-0.3**
IAZR	**Azarshahr**	**1.73**	**125**	Pg	**Pg**	**05 23 11.1**	**-0.6**
EATA	**Eleskirt**	**1.77**	**312**	P	**Pn**	**05 23 10.3**	**+0.1**
EATA				S	**Sg**	**05 23 38.1**	**+2.7**
SRTM	**Siirt_Merkez**	**1.92**	**249**	P	**Pn**	**05 23 12.9**	**+0.9**
SRTM				S	**Sg**	**05 23 41.4**	**+1.0**
SRTM	comp=N,42nm,0.8s			*i* AML	AML	05 23 53.0	
IHRS	**Heris**	**2.26**	**99**	Pn	**Pb**	**05 23 18.6**	**-1.4**
GDB	**GEDABAY**	**2.36**	**30**	P	**Pg**	**05 23 22.7**	**-1.0**
GDB				S	**Sg**	**05 23 54.9**	**+0.6**
QZX	**Qazax, Azerbai**	**2.53**	**21**	P	**Pg**	**05 23 26.1**	**-1.0**
QZX				S	**Sg**	**05 24 00.2**	**+0.3**
GANJ	**Ganja**	**2.55**	**39**	S	**Sg**	**05 23 59.6**	**-0.8**

JMA ***29*** *05:25:02.1±0.5, 33.2.×13.8E±., h341km±4km, MV3.9/33, FAR S OFF TOKAI DISTRICT*
NIED ***29*** *05:25:02.1, 33.12N× 138.23E, h341km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10^15Nm; Mrr1.56; Mθθ-1.18; Mφφ-0.38; Mrθ-0.54; Mθφ-0.66; Mφr-0.91; Fault plane solution: M0.1.88000×10^15 NP1: φs.225.00000°, δ62.00000°, λ75.00000°. NP2:φs74.00000°, δ31.00000°, λ115.00000°.*
IDC ***29*** *05:25:04.0±0.8, 33.13N× 137.99E, h318km±8km, mb3.5/14, mbtmp4.2/19 Error ellipse: s-maj=12.6km s-min=10.3km az=79.0*
NEIC ***29*** *05:25:04.5±1.5, 33.15N±0.08× 138.08E±0.07, h323km±7km, mb4.1/76, Error ellipse: s-maj=12.3km s-min=8.4km az=186.0*
ISC 29 05:25:03.7±0.7, 33.09N±0.06× 138.11E±0.05, h314km±5km, n351, σ1.32/335, mb4.1/52, 2C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTO3	**TONANKAI O.B.S**	**0.98**	**323**	P	**Pn**	**05 25 47.7**	**+2.5**
TTO4	**TONANKAI O.B.S**	**1.04**	**333**	P	**Pn**	**05 25 47.5**	**+2.1**
TTO2	**TONANKAI O.B.S**	**1.11**	**306**	P	**Pn**	**05 25 48.2**	**+2.5**
TTO5	**TONANKAI O.B.S**	**1.21**	**344**	P	**Pn**	**05 25 48.5**	**+2.1**
TTO1	**TONANKAI O.B.S**	**1.23**	**296**	P	**Pn**	**05 25 48.4**	**+2.1**
JHJ	**Hachijo jima 2** 89nm,0.4s,baz=253,slow=19,SNR=18	**1.41**	**88**	P	**Pn**	**05 25 49.9**	**+2.3**
JHJ	86nm,0.4s,baz=100,slow=24,SNR=5.4			S	**S**	**05 26 18.6**	**-4.1**
JHJ2	**Mitsune**	**1.43**	**88**	Pn	**Pn**	**05 25 49.9**	**+2.1**
JSG	**Sagara**	**1.59**	**2**		**Pn**	**05 25 50.3**	**+1.6**
JIE	**Ise**	**1.75**	**318**	*i* P	**Pn**	**05 25 51.2**	**+1.4**
JIE				S	**S**	**05 26 28.1**	**+1.5**
JTNC	**Tanabenakahech**	**2.21**	**290**	P	**Pn**	**05 25 54.5**	**+1.1**
JTNC				S	**S**	**05 26 33.8**	**+0.8**
JOD2	**Odawara 2**	**2.32**	**20**	P	**Pn**	**05 25 55.4**	**+1.2**
JWY	**Kouya**	**2.38**	**299**	P	**Pn**	**05 25 56.4**	**+1.5**
INU	**Inuyama**	**2.43**	**338**	Pn	**Pn**	**05 25 56.3**	**+1.1**
JYN	**Shimob**	**2.43**	**8**	P	**Pn**	**05 25 56.2**	**+0.9**
JGF	**Kuroka**	**2.59**	**346**	Pn	**Pn**	**05 25 57.5**	**+0.9**
JYTA	**Yamagatataniai**	**2.75**	**336**	P	**Pn**	**05 25 59.0**	**+1.1**
JYTA				S	**S**	**05 26 41.8**	**+0.4**
BSO1	**Boso 1**	**2.85**	**56**	P	**Pn**	**05 25 57.9**	**-0.5**
BSO1				S	**S**	**05 26 41.0

USA0B	Ussuriysk Arra	12.08	339	P		Pn	05 27 46.0	-0.8
USRK	Ussuriysk Ar.	12.08	339			Pn	05 27 46.0	-0.7
USRK	Ussuriysk Ar.	12.08	339	P		Pn	05 27 45.4	-1.4
	14nm,0.7s,baz=151,slow=11,SNR=26							
MDJ	Mudanjiang	13.28	333			Pn	05 28 00.1	-1.0
BNX	BinXian	15.09	330	⇑P		P	05 28 19.8	-1.0
BNX				pmax	pmax			
	comp=Z,34nm,1.0s							
KLR	Kul'dur	16.82	345	P		P	05 28 38.1	-1.5
	comp=Z,6.0nm,0.5s,baz=166,slow=13,SNR=24							
BJT	Baijiatuau	18.91	298			P	05 29 01.2	-0.9
XLT	XiLinHaoTe	20.28	309	eP		P	05 29 15.8	-0.8
XLT				pmax	pmax			
	comp=Z,13nm,0.5s							
HIA	Hailar	21.18	325	P		P	05 29 23.1	-1.9
LYN	LuoYang	21.34	281	eP		P	05 29 25.3	-1.3
LYN				pmax	pmax			
	comp=Z,18nm,0.9s							
LYN				pmax	pmax			
	comp=Z,100nm,4.8s							
XAN	Xi'an	24.31	280	⇑P		P	05 29 52.5	-1.1
XAN				pmax	pmax			
	comp=Z,30nm,0.7s							
XAN				LR	LR			
	comp=N,710nm,13.7s							
XAN				LR	LR			
	comp=E,470nm,11.3s							
PETK	Petropavlovsk-	24.45	29	P		P	05 29 54.1	-0.5
	comp=E,0.9nm,0.5s,baz=222,slow=5.8,SNR=2.0							
	comp=E,0.9nm,0.5s							
ULN	Ulaanbaatar	27.63	311	P		P	05 30 22.9	-0.2
SONM	Songino Array	28.04	311	P		P	05 30 26.8	+0.1
SONM	Songino Array	28.04	311	P		P	05 30 26.8	+0.1
	comp=E,8.5nm,0.6s,baz=127,slow=9.5,SNR=39							
SONM				PcP		PcP	05 33 32.0	-0.5
	comp=E,0.2nm,0.3s,baz=92,slow=4.3,SNR=2.0							
	comp=E,8.5nm,0.6s							
GOMU	GeErMu	35.54	287	P		P	05 31 32.0	-0.2
GOMU				pmax	pmax			
	comp=Z,8.0nm,1.1s							
ZALV	Zalesovo Beam	42.70	316	P		P	05 32 28.3	-2.0
ZALV	Zalesovo Beam	42.70	316	P		P	05 32 29.3	-1.0
	comp=Z,1.1nm,0.4s,baz=86,slow=7.9,SNR=5.3							
ZALV				PcP		PcP	05 34 14.4	-1.2
	comp=Z,1.0nm,0.5s,baz=79,slow=3.1,SNR=4.9							
	comp=Z,1.1nm,0.4s							
MKAR	Makanchi Array	44.04	305	P		P	05 32 39.5	-1.5
MKAR	Makanchi Array	44.04	305	P		P	05 32 40.0	-1.0
	comp=Z,2.3nm,0.7s,baz=88,slow=12,SNR=9.9							
	comp=Z,2.3nm,0.7s							
F14K	Arctic Creek	46.22	28	P		P	05 32 58.9	+1.2
	baz=254							
KURK	Kurchatov	46.34	311	P		P	05 32 57.7	-1.2
KURBB	Kurchatov Arra	46.40	311	P		P	05 32 57.9	-1.4
	comp=Z,2.2nm,0.5s,baz=92,slow=6.6,SNR=25							
	comp=Z,2.2nm,0.5s							
J14K	Nanvaranak Lak	46.75	33	P		P	05 33 02.7	+0.9
	baz=259							
F15K	North Star Dit	46.96	28	P		P	05 33 05.1	+1.7
	baz=255							
C16K	Lisburne Hills	47.42	25	P		P	05 33 07.8	+0.9
	baz=252							
K15K	Wolf Creek Mou	47.59	33	P		P	05 33 10.1	+1.8
	baz=261							
H16K	Elim	47.70	30	P		P	05 33 10.5	+1.5
	baz=258							
PMBI	Palembang	47.71	228	P		P	05 33 09.7	0.0
N15K	Kwethluk River	48.02	36	P		P	05 33 11.9	+0.3
	baz=264							
O15K	Ungalikthiuk R	48.07	38	P		P	05 33 13.4	+1.4
	baz=266							
D17K	Noatak River	48.08	26	P		P	05 33 13.4	+1.5
	baz=255							
C17K	DeLong Mountai	48.25	25	P		P	05 33 14.4	+1.2
	baz=254							
E17K	Hotham Inlet	48.40	27	P		P	05 33 15.8	+1.5
	baz=257							
F17K	Baldwin Pennin	48.48	28	P		P	05 33 16.6	+1.7
	baz=258							
L16K	Owhat River	48.48	34	P		P	05 33 16.4	+1.4
	baz=264							
G17K	Kiwalik Mounta	48.53	29	P		P	05 33 16.5	+1.2
	baz=259							
M16K	Timber Creek	48.66	35	P		P	05 33 16.8	+0.4
	baz=265							
CHGN	Chignik	48.70	42	P		P	05 33 17.1	+0.4
	baz=269							
N16K	Nishlik Lake	48.70	36	P		P	05 33 18.5	+1.7
	baz=265							
H17K	Granite Mounta	48.73	30	P		P	05 33 18.2	+1.3
	baz=260							
J17K	VABM Dome	48.87	32	P		P	05 33 19.0	+1.1
	baz=263							
E18K	Tukpahlearik C	48.94	27	IAmb		IAmb	05 33 20.9	
	comp=Z,5.1nm,0.7s							
E18K	Tukpahlearik C	48.94	27	P		P	05 33 20.5	+2.1
	baz=258,SNR=5.5							
O16K	Kokwok River B	48.98	37	P		P	05 33 19.9	+1.1
	baz=267							
C18K	Utukok River	49.00	25	P		P	05 33 20.0	+1.1
	baz=256							
L17K	Donlin	49.08	34	P		P	05 33 20.8	+1.3
	baz=264							
F18K	Selawik	49.13	28	P		P	05 33 21.2	+1.4
	baz=259							
K17K	Iditarod	49.14	33	P		P	05 33 21.6	+1.7
	baz=264							
G18K	Tagagawik	49.41	29	P		P	05 33 23.6	+1.6
	baz=261							
H18K	Honhosa River	49.42	30	P		P	05 33 23.6	+1.5
	baz=262							
M17K	Holitna River	49.42	35	P		P	05 33 23.5	+1.4
	baz=266							
N17K	Nushagak Hills	49.49	36	P		P	05 33 24.1	+1.5
	baz=267							
O17K	Koliganek Bris	49.49	37	P		P	05 33 23.7	+1.0
	baz=268							
C19K	Lookout Ridge	49.67	25	P		P	05 33 25.4	+1.4
	baz=257							
Q16K	King Salmon	49.68	38	P		P	05 33 25.1	+1.1
	baz=269							
L18K	Granite Mounta	49.84	34	P		P	05 33 26.1	+0.8
	baz=266							
F19K	Shaleruckik Mo	49.91	28	P		P	05 33 26.1	+0.4
	baz=261							
D19K	Kuna River	50.07	26	P		P	05 33 28.2	+1.2
	baz=259							
G19K	Purcell Mounta	50.08	29	P		P	05 33 28.2	+1.2
	baz=262							
N18K	Kilae Creek	50.13	36	P		P	05 33 28.9	+1.4
	baz=268							
E19K	Redstone River	50.22	27	P		P	05 33 29.1	+1.1
E19K	Redstone River	50.22	27	P		P	05 33 29.4	+1.4
	baz=261,SNR=16							
H19K	Roundabout Mou	50.26	30	P		P	05 33 29.6	+1.3
	baz=263							
P18K	Big Mountain,	50.43	38	P		P	05 33 31.2	+1.5
	baz=270							
O18K	Koktuh Hills	50.45	37	P		P	05 33 32.1	+2.3
	baz=269							
J19K	Poorman	50.46	32	P		P	05 33 31.1	+1.3
	baz=265							
D20K	Etivluk River	50.65	25	P		P	05 33 32.9	+1.6
	baz=260,SNR=5.6							
L19K	White Mountain	50.69	34	P		P	05 33 32.2	+0.6
	baz=268							
B20K	Meade River	50.70	24	P		P	05 33 32.8	+1.3
	baz=259							
E20K	Nigu River	50.73	26	P		P	05 33 33.3	+1.4
	baz=261							
F20K	Avaraart Lake	50.74	28	P		P	05 33 33.0	+1.1
	baz=263							
N19K	Bonanza Creek	50.83	36	P		P	05 33 34.6	+1.9
	baz=269							
O19K	Port Alsworth	50.90	37	P		P	05 33 34.9	+1.8
	baz=270							
H20K	Anotleneega Mo	50.91	30	P		P	05 33 34.8	+1.6
	baz=265							
K20K	Telida	51.11	32	IAmb		IAmb	05 33 37.1	
	comp=Z,6.3nm,0.7s							
K20K	Telida	51.11	32	P		P	05 33 36.6	+1.9
	baz=267,SNR=6.3							
J20K	Nowinta River	51.12	31	IAmb		IAmb	05 33 37.1	
	comp=Z,5.8nm,0.8s							
J20K	Nowinta River	51.12	31	P		P	05 33 36.4	+1.7
	baz=266,SNR=5.4							
L20K	Farewell, AK	51.16	34	P		P	05 33 36.6	+1.5
	baz=268							
BVAR	Borovoye Array	51.30	314	P		P	05 33 35.1	-1.1
	comp=Z,1.1nm,0.5s,baz=98,slow=6.0,SNR=3.9							
	comp=Z,1.1nm,0.5s							
C21K	Knifeblade Rid	51.38	25	P		P	05 33 38.1	+1.6
	baz=262							
P19K	Oil Pt	51.45	37	P		P	05 33 38.2	+1.0
	baz=271							
M20K	Styx River	51.50	34	P		P	05 33 39.3	+1.6
	baz=269							
B21K	Ikpikpuk River	51.50	24	P		P	05 33 38.9	+1.4
	baz=262							
G21K	Allakaket	51.56	28	P		P	05 33 38.8	+0.9
	baz=265							
E21K	Killik River	51.58	26	IAmb		IAmb	05 33 39.8	
	comp=Z,5.6nm,0.7s							
E21K	Killik River	51.58	26	P		P	05 33 39.1	+1.0
	baz=263							
A22K	Sinclair Lake	51.60	23	P		P	05 33 39.4	+1.2
	baz=260							
F21K	Alatna River	51.63	28	P		P	05 33 39.4	+0.9
	baz=265							
O20K	Slope Mountain	51.75	37	P		P	05 33 40.6	+1.1
	baz=271							
H21K	Melozitna Rive	51.78	30	P		P	05 33 38.8	-0.8
H21K	Melozitna Rive	51.78	30	P		P	05 33 41.0	+1.4
	baz=267							
KDAK	Kodiak Island	51.85	40	P		P	05 33 40.2	0.0
KDAK	Kodiak Island	51.85	40	P		P	05 33 41.0	+0.8
	baz=273							
CHUM	Lake Minchumin	51.91	32	P		P	05 33 42.0	+1.4
	baz=268							
N20K	Mount Spurr	51.94	35	P		P	05 33 42.1	+1.2
	baz=271							
PPLA	Purkeypile	51.95	33	P		P	05 33 42.3	+1.3
	baz=269							
CAST	Castle Rocks	52.00	32	P		P	05 33 42.7	+1.5
	baz=269							
B22K	Teshekpuk Lake	52.01	24	P		P	05 33 42.8	+1.7
	baz=262							
D22K	Ayikyak River	52.09	25	IAmb		IAmb	05 33 44.1	
	comp=Z,7.0nm,0.7s							
D22K	Ayikyak River	52.09	25	P		P	05 33 43.5	+1.7
	baz=264,SNR=6.4							
I21K	Tanana	52.10	30	P		P	05 33 43.4	+1.5
	baz=268							
F22K	John River	52.16	27	P		P	05 33 43.8	+1.5
	baz=266							
SKT	Skwentna	52.25	34	P		P	05 33 44.1	+1.0
	baz=271							
E22K	Anaktuvuk Pass	52.34	26	IAmb		IAmb	05 33 45.8	
	comp=Z,6.5nm,0.6s							
E22K	Anaktuvuk Pass	52.34	26	P		P	05 33 45.1	+1.4
	baz=266							
G22K	Bettles	52.38	28	P		P	05 33 45.0	+1.1
	baz=267							
H22K	Ishtalitna Cre	52.38	29	P		P	05 33 45.4	+1.5
	baz=268							
BPAW	Bear Paw Mtn.	52.50	32	P		P	05 33 46.5	+1.6
	baz=270							
MLY	Manley	52.62	30	P		P	05 33 47.4	+1.6
	baz=269							
SUA	Susitna One	52.64	35	P		P	05 33 47.8	+1.7
	baz=272							
BRSE	Brindle Lake S	52.71	37	P		P	05 33 47.5	+1.1
	baz=273							
TRF	Thorofare Moun	52.81	32	P		P	05 33 49.1	+1.8
	baz=271							
D23K	Nanushuk River	52.82	25	P		P	05 33 48.9	+1.8
	baz=266							
WB2	Warramunga Arr	52.85	184	P		P	05 33 47.8	-0.1
WB2				IAmb		IAmb	05 34 28.3	
	comp=Z,10nm,1.3s							
WRA	Warramunga Arr	52.85	184	P		P	05 33 47.4	-0.5
WRA	Warramunga Arr	52.85	184	P		P	05 33 47.5	-0.4
	comp=Z,2.9nm,0.4s,baz=359,slow=7.5,SNR=66							
WRA				PcP		PcP	05 34 53.0	+0.5
	comp=Z,0.5nm,0.5s,baz=1.1,slow=3.9,SNR=5.1							
	comp=Z,2.9nm,0.4s							
WR0	Warramunga Arr	52.86	184	P		P	05 33 48.0	+0.1
WR0				IAmb		IAmb	05 33 48.5	
	comp=Z,8.0nm,0.6s							
COLD	Coldfoot	52.91	28	P		P	05 33 49.1	+1.4
	baz=268							
C23K	Itkillik River	52.91	24	P		P	05 33 49.2	+1.5
	baz=265							
M22K	Willow	52.93	34	P		P	05 33 48.8	+0.9
	baz=272							
G23K	Bananza Creek	52.96	28	P		P	05 33 49.0	+0.8
	baz=268							
H23K	Yukon River	53.13	29	P		P	05 33 50.8	+1.3
	baz=270							
RC01	Rabbit Creek A	53.14	35	P		P	05 33 48.1	-1.4
RC01				IAmb		IAmb	05 34 24.2	
	comp=Z,14nm,1.0s							
E23K	Chandalar	53.16	27	P		P	05 33 51.1	+1.4
	baz=268							
TOLK	Toolik Lake Re	53.20	26	P		P	05 33 51.9	+1.9
	baz=267							
I23K	Minto, Yukon-K	53.21	30	P		P	05 33 51.4	+1.4
	baz=270							
SEW	Seward	53.34	37	P		P	05 33 52.0	+1.1
	baz=274							
PMR	Palmer	53.41	35	P		P	05 33 52.3	+0.9
	baz=273							
MCK	McKinley	53.41	32	P		P	05 33 52.3	+0.8
	baz=272							
RND	Reindeer	53.46	32	IAmb		IAmb	05 33 53.0	
	comp=Z,6.1nm,0.8s							
D24K	Happy Valley	53.50	25	IAmb		IAmb	05 33 54.7	
	comp=Z,8.4nm,0.8s							
D24K	Happy Valley	53.50	25	P		P	05 33 53.6	+1.6
	baz=268,SNR=5.8							
C24K	Franklin Bluff	53.57	25	P		P	05 33 53.9	+1.4
	baz=267,SNR=5.2							
E24K	Your Creek	53.59	27	P		P	05 33 54.2	+1.5
	baz=269							
MDM	Murphy Dome	53.69	30	IAmb		IAmb	05 33 55.5	
	comp=Z,6.2nm,0.7s							
KNK	Knik Glacier	53.74	35	P		P	05 33 54.5	+0.6
	baz=274							
SML	Sawmill	53.77	34	P		P	05 33 55.1	+0.9
	baz=274							
F24K	Squaw Lake	53.81	27	P		P	05 33 55.9	+1.6
	baz=270,SNR=7.4							
H24K	Noodor Dome	53.82	29	P		P	05 33 56.2	+1.8
	baz=271							
G24K	Hadweenzic Riv	53.97	28	P		P	05 33 57.0	+1.6
	baz=271							
WAT6	Susitna Watana	54.00	33	P		P	05 33 56.4	+0.5
	baz=274							
POKR	Poker Plat Res	54.02	30	P		P	05 33 57.2	+1.3
	baz=272							
M23K	Glacier View	54.06	34	P		P	05 33 57.5	+1.3
	baz=274							
DHY	Denali Highway	54.14	33	P		P	05 33 58.5	+1.6
	baz=273							
SCM	Sheep Creek Mo	54.25	34	P		P	05 33 58.8	+1.2
	baz=274							
HDA	Harding Lake	54.26	31	IAmb		IAmb	05 33 58.4	
	comp=Z,6.7nm,1.1s							
HDA	Harding Lake	54.26	31	P		P	05 33 58.0	+0.4
	baz=273							
IL31		54.27	31	P		P	05 33 57.6	+0.1
ILAR	Eielson Array	54.27	31	P		P	05 33 56.9	-0.7
ILAR	Eielson Array	54.27	31	P		P	05 33 57.5	-0.2
	comp=Z,1.7nm,0.7s,baz=270,slow=5.3,SNR=19							
	comp=Z,1.7nm,0.7s							
D25K	Kavik River	54.38	25	P		P	05 34 00.0	+1.7
	baz=270							
G25K	Bearman Lake	54.52	28	P		P	05 34 01.3	+2.0
	baz=272							
H25L	Birch Creek	54.65	29	P		P	05 34 01.0	+0.8
	baz=272							
F25K	Christian Rive	54.67	27	P		P	05 34 02.1	+1.6
	baz=272							
E25K	Arctic Village	54.68	27	P		P	05 34 02.0	+1.4
	baz=271							
M24K	Tolsona, Glenn	54.77	34	P		P	05 34 02.3	+1.0
	baz=275							
PRP	Porcupine Dome	54.80	30	P		P	05 34 01.9	+0.3
PRP	Porcupine Dome	54.80	30	P		P	05 34 02.5	+0.9
	baz=273							
K24K	Donnelly Dome	54.81	32	P		P	05 34 02.4	+0.9
	baz=274							
C26K	Camden Bay	54.89	24	P		P	05 34 04.0	+2.1
	baz=271							
J25K	Salcha River,	54.93	31	P		P	05 34 03.5	+1.2
	baz=274							
PAX	Paxson	55.02	33	P		P	05 34 04.4	+1.3
	baz=275							
HARP	HAARP	55.21	34	P		P	05 34 05.4	+1.0
	baz=276							
F26K	Sheenjek River	55.24	27	P		P	05 34 06.7	+2.2
	baz=273,SNR=6.3							
C27K	Jago River	55.31	25	P		P	05 34 06.6	+1.7
	baz=272							
N25K	Chitina, Valde	55.56	34	P		P	05 34 07.4	+0.5
	baz=277							
SCRK	Sand Creek	55.58	32	P		P	05 34 07.2	+0.1
SCRK				IAmb		IAmb	05 34 08.4	
	comp=Z,5.8nm,0.7s							
SCRK	Sand Creek	55.58	32	P		P	05 34 08.0	+0.9
	baz=276,SNR=8.1							
BMRM	Bremner River	55.64	35	P		P	05 34 08.1	+0.7
	baz=277							
J26L	Joseph Creek	55.72	31	IAmb		IAmb	05 34 09.3	
	comp=Z,5.0nm,0.7s							
J26L	Joseph Creek	55.72	31	P		P	05 34 08.5	+0.5
	baz=276,SNR=8.4							
L26K	Log Cabin Wild	55.97	33	P		P	05 34 11.6	+1.8
	baz=277							
E27K	Coleen River	56.16	26	P		P	05 34 13.1	+2.1
	baz=275							
M26K	Nabesna, AK	56.21	33	P		P	05 34 13.5	+2.0
	baz=278							
G27K	Doyon Strip	56.27	28	P		P	05 34 12.5	+0.7
	baz=276							
D27M	Malcolm River	56.30	25	P		P	05 34 13.4	+1.4
	baz=275							
MCARA	McCarthy VSAT	56.34	35	P		P	05 34 13.5	+1.2
	baz=278							
H27K	Steamboat Moun	56.38	29	P		P	05 34 13.9	+1.3
	baz=276							
K27K	Chicken	56.41	31	IAmb		IAmb	05 34 14.9	
	comp=Z,4.8nm,0.8s							
K27K	Chicken	56.41	31	P		P	05 34 14.2	+1.4
	baz=277							
I27K	Kandik River	56.42	29	P		P	05 34 14.2	+1.3
	baz=277							
AS31	Alice Springs	56.58	185	P		P	05 34 14.7	+0.3
ASAR	Alice Springs	56.58	185	P		P	05 34 13.6	-0.8
ASAR	Alice Springs	56.58	185	P		P	05 34 14.4	0.0
	comp=Z,1.7nm,0.5s,baz=18,slow=10,SNR=27							
	comp=Z,1.7nm,0.5s							
L27K	Beaver Creek,	56.66	32	P		P	05 34 16.0	+1.5
	baz=278							
EGAK	Eagle	56.71	30	P		P	05 34 16.4	+1.5
	baz=278							
M27K	Edge Creek, AK	56.73	33	P		P	05 34 16.6	+1.3
	baz=279							
ISLE	Juniper Island	56.79	35	P		P	05 34 16.3	+0.7
ISLE				IAmb		IAmb	05 34 17.3	
	comp=Z,7.3nm,1.0s							
F28M	Old Crow	56.87	27	P		P	05 34 18.0	+2.0
	baz=277							
E28M	Babbage River	56.88	26	P		P	05 34 18.6	+2.6
	baz=277							
D28M	Stokes Point	57.08	25	P		P	05 34 19.0	+1.7
	baz=277							
I28M	Miner Creek	57.13	30	IAmb		IAmb	05 34 20.1	
	comp=Z,6.7nm,0.8s							
I28M	Miner Creek	57.13	30	P		P	05 34 19.5	+1.6
	baz=278,SNR=7.7							
CTG	Chitna Glacier	57.21	35	P		P	05 34 20.5	+1.9
	baz=280							
YUK3	Moose Creek	57.49	34	P		P	05 34 22.0	+1.4
	baz=280							
E29M	Blow River	57.51	26	P		P	05 34 21.9	+1.6
	baz=278							
DAWY	Dawson	57.58	31	P		P	05 34 22.4	+1.4
	baz=280							
H29M	Whitestone	57.65	28	P		P	05 34 23.4	+2.0
	baz=279							
G29M	Pine Creek	57.68	28	P		P	05 34 23.6	+2.0
	baz=279							
I29M	Ogilvie Camp,	57.82	29	P		P	05 34 23.7	+1.1
	baz=280							
YUK8	Steele Glacier	57.91	34	P		P	05 34 24.6	+1.0
	baz=281							
EPYK	Eagle Plains	58.28	28	P		P	05 34 27.2	+1.4
	baz=280,SNR=6.6							
M29M	Somme Creek	58.29	33	P		P	05 34 27.6	+1.7
	baz=281							
L29M	L29M	58.31	32	IAmb		IAmb	05 34 28.9	
	comp=Z,4.2nm,0.8s							
L29M	L29M	58.31	32	P		P	05 34 27.7	+1.7
	baz=281							
G30M	tAoh Zraii Nji	58.37	27	P		P	05 34 27.5	+1.1
	baz=281							
F30M	Barrier River	58.42	27	P		P	05 34 28.2	+1.5
	baz=281							
YUK4	Talbot Arm	58.42	34	P		P	05 34 27.3	+0.2
	baz=282							
K29M	Barlow Dome	58.43	31	IAmb		IAmb	05 34 29.3	
	comp=Z,5.8nm,1.0s							
K29M	Barlow Dome	58.43	31	P		P	05 34 28.2	+1.3
	baz=281							
ABKAR	Akbulak array	58.45	311	P		P	05 34 25.8	-1.3
I30M	Mount Dempster	58.64	29	IAmb		IAmb	05 34 31.0	
	comp=Z,6.1nm,0.7s							
I30M	Mount Dempster	58.64	29	P		P	05 34 29.9	+1.5
	baz=282,SNR=13							
O29M	Mount Kennedy	58.68	35	P		P	05 34 29.5	+0.8
	baz=283							
J30M	Hart River	58.79	30	P		P	05 34 29.7	+0.3
	baz=282							
M30M	Minto, Yukon	59.02	33	P		P	05 34 31.6	+0.7
	baz=283							
HYT	Haines Junctio	59.08	35	P		P	05 34 32.4	+1.0
	baz=283							
INK	Inuvik	59.12	26	P		P	05 34 31.9	+0.6
	baz=282							
N30M	Aishikik Lake	59.13	34	P		P	05 34 32.4	+0.7
	baz=283							
G31M	Satah River	59.13	27	P		P	05 34 32.0	+0.5
	baz=282							
F31M	Tsiigehtchic	59.22	27	P		P	05 34 33.3	+1.2
	baz=282							
P29M	Windy Craggy	59.24	36	P		P	05 34 33.9	+1.5
	baz=284							
P30M	Million Dollar	59.51	35	P		P	05 34 35.8	+1.6
	baz=284							
N31M	Braeburn, Yuko	59.73	34	P		P	05 34 37.3	+1.6
	baz=284							
PLBC	Pleasant Camp	59.96	36	P		P	05 34 37.9	+0.7
	baz=285							
M31M	Drury Creek, Y	60.19	33	P		P	05 34 39.4	+0.6
	baz=285							
WHY	Whitehorse	60.37	34	P		P	05 34 40.6	+0.5
	baz=285							
SKAG	Skagway	60.47	36	P		P	05 34 42.2	+1.5
	baz=286							
FARO	Faro, Yukon	60.66	32	P		P	05 34 42.6	+0.7
	baz=286							
A36M	Sachs Harbour	60.91	21	P		P	05 34 43.3	-0.1
	baz=288							
P33M	Teslin, Yukon	61.48	35	P		P	05 34 49.0	+1.5
	baz=287							
C36M	Paulatuk	62.13	23	P		P	05 34 52.0	+0.5
	baz=290							
TGTN	Hyland Airport	63.16	32	P		P	05 35 00.0	+1.5
	baz=290							
T35M	Bob Quinn	63.80	38	P		P	05 35 04.2	+1.5
	baz=291							
WRGLY	Wrigley	64.62	30	P		P	05 35 08.9	+1.1
	baz=293							
LIRD	Liard River Hi	64.94	34	P		P	05 35 11.1	+1.1
	baz=293							
YKA	Yellowknife Ar	68.57	28	P		P	05 35 32.6	-0.1
	comp=Z,0.8nm,0.8s,baz=308,slow=6.8,SNR=5.1							
	comp=Z,0.8nm,0.8s							
FINES	FINESS Array B	71.03	332	P		P	05 35 46.9

HLID	Hailey baz=306	79.06	45	P	P	05 36 34.7	+0.9
KVN	Kaiserville	79.33	50	P	P	05 36 34.6	-0.7
BOZ	Bozeman (W) comp=Z,2.6nm,0.8s	79.47	42	IAmb	IAmb	05 36 37.6	
BOZ	Bozeman (W) baz=307	79.47	42	P	P	05 36 36.7	+0.8
NVAR	Mina Array Bea comp=Z,2.0nm,0.8s,baz=293,slow=5.8,SNR=12 comp=Z,2.0nm,0.8s	79.55	51	P	P	05 36 37.4	+0.8
VES	Vestal, Richgr baz=304	80.47	53	P	P	05 36 41.8	+0.6
H17A	Grant Village baz=308	80.79	43	P	P	05 36 45.0	+1.9
CWC	Cottonwood Cre baz=304	80.81	52	P	P	05 36 44.8	+1.6
GRAC	Grapevine Rang baz=305	80.97	52	P	P	05 36 45.4	+1.6
ARVC	Arvin baz=304	81.04	54	P	P	05 36 46.2	+2.0
R11B	Troy Canyon, C comp=Z,2.2nm,0.9s	81.35	50	IAmb	IAmb	05 36 47.9	
R11B	Troy Canyon, C baz=306	81.35	50	P	P	05 36 46.7	+0.7
MPMC	Manual Prospec baz=305	81.42	53	P	P	05 36 47.0	+0.6
FURC	Furnace Creek, baz=305	81.60	52	P	P	05 36 47.4	+0.4
LRMC	Laurel Mtn Rad baz=305	81.62	53	P	P	05 36 47.8	+0.4
EDW2	Edwards Air Fo baz=305	81.75	54	P	P	05 36 49.1	+1.1
DUG	Dugway, Tooele comp=Z,3.0nm,0.8s	82.00	47	IAmb	IAmb	05 36 51.5	
DUG	Dugway, Tooele baz=307	82.00	47	P	P	05 36 50.5	+1.2
GSC	Goldstone, Bar baz=305	82.31	53	P	P	05 36 52.2	+1.3
SHOC	Shoshone, Teco baz=306	82.32	52	P	P	05 36 52.2	+1.3
BFSC	Mount Baldy Ra baz=305	82.34	54	P	P	05 36 52.9	+1.7
PDAR	Pinedale Array comp=Z,1.0nm,0.7s,baz=284,slow=3.6,SNR=8.6 comp=Z,1.0nm,0.7s	82.38	43	P	P	05 36 51.8	+0.5
TUQ	Turquoise Moun baz=306	82.82	52	P	P	05 36 54.5	+0.9
MPU	Maple Canyon comp=Z,3.3nm,0.8s	82.83	47	IAmb	IAmb	05 36 55.7	
HEC	Hector,Ludlow baz=306	82.89	53	P	P	05 36 55.4	+1.5
CLL	Collm comp=Z,5.0nm,0.9s	83.11	329	*i* P	P	05 36 56.3	+1.7
GMRC	Granite Mounta baz=306	83.37	53	P	P	05 36 56.7	+0.3
MSU	Marysvale	83.41	48	P	P	05 36 58.5	+1.9
109C	Camp Elliot, M baz=305	83.49	55	P	P	05 36 57.9	+1.1
PFO	Pinyon Flats O baz=306	83.52	54	P	P	05 36 57.7	+0.6
TPFO	Pinon Flats baz=306	83.52	54	P	P	05 36 57.4	+0.3
BELC	Belle Mtn. Jos baz=306	83.60	54	P	P	05 36 58.1	+0.5
LCMT	Little Creek M comp=Z,3.9nm,1.0s	83.64	50	IAmb	IAmb	05 36 59.8	
MTPU	Mount Pierson comp=Z,2.4nm,0.9s	83.69	48	IAmb	IAmb	05 37 00.3	
RDMU	Red Mountain comp=Z,3.3nm,0.7s	83.74	45	IAmb	IAmb	05 36 59.7	
KNB	Kanab comp=Z,3.9nm,0.9s	83.91	50	IAmb	IAmb	05 37 01.4	
IRM	Iron Mountain baz=306	84.08	53	P	P	05 37 00.3	+0.5
BC3	Big Chuckawall baz=306	84.17	54	P	P	05 37 00.8	+0.4
K22A	Casper baz=310	84.18	42	P	P	05 37 01.5	+1.1
SWSC	Sam W. Stewart baz=306	84.35	54	P	P	05 37 04.0	+2.9
RWWY	Rawlins comp=Z,3.6nm,0.8s	84.41	43	IAmb	IAmb	05 37 02.7	
RSSD	Black Hills baz=312	84.58	40	P	P	05 37 04.0	+1.7
U15A	North Rim comp=Z,2.5nm,0.9s	84.60	50	IAmb	IAmb	05 37 05.7	
O20A	White River Ci baz=310	84.80	45	P	P	05 37 04.1	+0.6
N23A	Red Feather La baz=311	85.65	43	P	P	05 37 08.9	+1.1
WUAZ	Wupatki baz=308	85.75	50	P	P	05 37 11.0	+2.8
ISCO	Idaho Springs baz=311	86.56	44	P	P	05 37 13.6	+1.4
TUC	Tucson baz=309	88.11	52	P	P	05 37 21.2	+1.7
ECSD	EROS Data Cent baz=317	88.69	36	P	P	05 37 22.7	+0.9
ANMO	Albuquerque baz=311	89.22	48	P	P	05 37 26.8	+2.1
SPMN	Marine on St. baz=320	89.41	33	P	P	05 37 26.3	+1.2
Y22D	IRIS PASSCAL I baz=311	89.49	49	P	P	05 37 28.7	+2.7
121A	Cookes Peak, D baz=310	89.93	50	P	P	05 37 30.9	+2.8
WMOK	Wichita Mounta baz=315	93.98	44	P	P	05 37 45.4	-1.2
HDIL	Hopedale baz=322	94.65	34	P	P	05 37 48.4	-1.0
TXAR	Lajitas Array comp=Z,0.8nm,0.7s,baz=305,slow=2.8,SNR=11 comp=Z,0.8nm,0.7s	94.70	51	P	P	05 37 50.7	+0.8
MIAR	Mount Ida baz=319	97.06	41	P	Pdif	05 38 01.0	+0.5
ACSO	Alum Creek Sta baz=326	97.75	31	P	Pdif	05 38 05.5	+2.1
P52A	Corning baz=327	98.61	30	P	P	05 38 09.3	+2.1
L61B	Northampton baz=334	99.70	23	P	Pdif	05 38 13.6	+1.6
HRV	Adam Dziewonsk baz=335	100.00	22	P	Pdif	05 38 14.7	+1.3
TZTN	Tazewell baz=326	100.55	33	P	Pdif	05 38 16.8	+0.9
PAL	Palisades baz=333	100.58	24	P	Pdif	05 38 16.5	+0.6
QSPA	South Pole Qui comp=Z,0.4nm,0.5s,baz=241,slow=1.4,SNR=7.6	122.84	180	PKP	PKPdf	05 43 20.7	-0.9
LPAZ	La Paz comp=Z,2.8nm,0.8s,baz=301,slow=2.0,SNR=13	151.00	61	PKPbc	PKiKP	05 44 21.1	-0.3

MOS ***29*** *05:48:40.4±0.7, 41°.99N×144°.48E, h48km, mb4.5/1, Error ellipse: s-maj=14.0km s-min=8.7km az=77.9*

NIED ***29*** *05:48:40.8, 42°.00N×144°.51E, h59km, MW4.0, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.02; $M_{\theta\theta}$=8.16; $M_{\phi\phi}$=-8.14; $M_{r\theta}$=3.81; $M_{\theta\phi}$=-3.38; $M_{\phi r}$=2.14; Fault plane solution: M_0=9.85000×10^{14} NP1:ϕ_s=56.00000°, δ=89.00000°, λ=154.00000°. NP2:ϕ_s=147.00000°, δ=64.00000°, λ=1.00000°*

JMA ***29*** *05:48:40.8±0.1, 42°.00N±0°.4×144°.5E±0°.5, h59km±1km, MV4.1/39, SE OFF TOKACHI*

NEIC ***29*** *05:48:41.5±2.9, 41°.92N±0°.07×144°.7E±0°.1, h34km±7km, mb4.4/16, Error ellipse: s-maj=15.8km s-min=9.2km az=111.0*

SKHL ***29*** *05:48:42.1±0.1, 42°.00N×144°.50E, h64km±4km, mb5.1/3*

IDC ***29*** *05:48:42.7±2.6, 42°.03N×144°.47E, h48km±21km, mb3.7/12, mbtmp3.8/15, ML3.2/3, MS2.7/4, Error ellipse: s-maj=21.6km s-min=20.2km az=1.0*

ISC 29 05:48:39.6±1.6, 41°.97N±0°.06×144°.56E±0°.04, h24km±11km, n75, σ1s04/84, mb4.2/20, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JTHR	Tokachihiroo	0.99	289	P	Pn	05 48 58.4	+0.3
JTHR				S	Sn	05 49 10.9	-0.5
JAK	Akkeshi	1.03	5	P	Pb	05 48 59.3	+0.5
JAK				S	Sn	05 49 12.9	+0.7
JEM	Erimo	1.05	273	P	Pb	05 48 59.4	+0.3
JEM				eS	Sn	05 49 13.0	+0.3
ERM	Erimo	1.05	273		Pb	05 48 59.9	+0.8
ERM	Erimo	1.05	273	P	Pb	05 48 59.9	+0.8
AKK	Akkeshi	1.06	11	eP	Pb	05 48 59.8	+0.4
JOB	Onbets	1.07	330	P	Pb	05 48 59.8	+0.3
JOB				S	Sn	05 49 13.8	+0.5
JCH	Churui	1.10	306	P	Pb	05 48 59.8	-0.1
JCH				S	Sb	05 49 12.8	-1.0
JKHN	Kushirohamanak	1.19	22	*i* P	Pb	05 49 02.1	+0.5
JKHN				S	Sn	05 49 17.1	+0.8
JNBK	Urakawa-nobuka	1.38	283	P	Pn	05 49 03.2	-0.2
JAR	Ashorobuto	1.45	336	*i* P	Pn	05 49 04.4	0.0
JAR				eS	Sn	05 49 21.7	-0.9
JNK	Nakash	1.61	4	*i* P	Pn	05 49 06.5	-0.2
JNK				S	Sn	05 49 25.1	-1.7
JSHD	Hidakashinhida	1.62	286	P	Pn	05 49 07.2	+0.6
NMR	Nemuro--Hokkai	1.64	31	eP	Pn	05 49 07.4	+0.5
NMR				eS	Sn	05 49 26.4	-0.9
NMR	Nemuro--Hokkai	1.64	31	eP	Pn	05 49 07.2	+0.3
NMR				eS	Sn	05 49 26.4	-0.9
RUSJ	Misakicho	2.19	13	eP	Pn	05 49 15.2	+0.7
RUSJ				eS	Sn	05 49 40.9	+0.1
YUK	Yuzh-Kuril'sk	2.27	24	eP	Pn	05 49 16.5	+0.9
YUK				AMB	AMB	05 49 18.6	
	330nm,0.3s						
YUK				eS	Sn	05 49 42.3	-0.5
YUK				A	A	05 49 44.6	
	1μm,0.5s						
YUK				A	A	05 49 44.6	
	720nm,0.5s						
YUK	Yuzh-Kuril'sk	2.27	24	eP	Pn	05 49 16.6	+0.9
YUK				eS	Sn	05 49 42.3	-0.5
YUK				pmax	pmax		
	comp=N,125nm,0.1s						
YUK				pmax	pmax		
	comp=E,177nm,0.1s						
YUK				pmax	pmax		
	comp=Z,360nm,0.1s						
YUK				smax	smax		
	comp=N,1μm,0.5s						
YUK				smax	smax		
	comp=E,718nm,0.2s						
SHO	Shikotan	2.52	41	eP	Pn	05 49 20.0	+0.9
SHO				AMB	AMB	05 49 20.9	
	comp=E,90nm,0.2s						
SHO				eS	Sn	05 49 47.3	-1.8
SHO				A	A	05 49 50.0	
	comp=E,400nm,0.3s						
SHO				A	A	05 49 50.0	
	comp=E,200nm,0.3s						
SHO	Shikotan	2.52	41	eP	Pn	05 49 19.8	+0.7
SHO				eS	Sn	05 49 47.2	-1.8
SHO				pmax	pmax		
	comp=N,27nm,0.2s						
SHO				pmax	pmax		
	comp=Z,111nm,0.2s						
SHO				pmax	pmax		
	comp=E,27nm,0.1s						
SHO				smax	smax		
	comp=N,442nm,0.2s						
SHO				smax	smax		
	comp=E,237nm,0.4s						
JKA	Kamikawa-asahi	2.58	327		Pn	05 49 20.9	+1.0
JKA	Kamikawa-asahi	2.58	327	eP	Pn	05 49 20.5	+0.6
ASAJ	Asahikawa	2.58	327	P	Pn	05 49 20.5	+0.5
	comp=E,7.2nm,0.3s,baz=211,slow=8.3,SNR=16						
ASAJ				S	Sn	05 49 51.0	+0.4
	comp=E,38nm,0.3s,baz=140,slow=22,SNR=6.0 comp=E,8.4nm,0.3s						
JTM	Tenmabayashi	2.88	247		Pn	05 49 24.8	+0.7
KUR	Kuril'sk	4.05	35	eP	Pn	05 49 42.3	+2.3
KUR				AMB	AMB	05 49 43.4	
	comp=E,140nm,0.4s						
KUR				eS	Sn	05 50 26.7	+0.1
KUR				A	A	05 50 31.0	
	comp=E,170nm,0.3s						
KUR				A	A	05 50 31.0	
	comp=E,200nm,0.3s						
KUR	Kuril'sk	4.05	35	eP	Pn	05 49 42.5	+2.5
KUR				eS	Sn	05 50 27.4	+0.8
KUR				pmax	pmax		
	comp=Z,161nm,0.4s						
KUR				smax	smax		
	comp=E,244nm,0.3s						
KUR				smax	smax		
	comp=N,84nm,0.2s						
JMM	Marumori	5.02	216		Pn	05 49 52.6	-0.9
JSD	Sado	6.23	233	Pn	Pn	05 50 09.6	-0.5
MJAR	Matsushiro Arr	7.33	224	P	Pn	05 50 26.2	+1.0
	comp=N,0.1nm,0.3s,baz=24,slow=13,SNR=4.9						
MJAR				LR	LR	05 53 45.9	
	comp=N,32nm,19.9s,baz=0.5,slow=41 comp=N,1.7nm,0.3s						
USRK	Ussuriysk Ar.	9.47	288	P	Pn	05 50 55.6	+1.1
	comp=N,0.1nm,0.3s,baz=89,slow=16,SNR=2.0 comp=N,1.2nm,0.6s						
JHJ2	Mitsune	9.61	205	Pn	Pn	05 50 55.6	-0.9
KLR	Kul'dur	11.53	313	LR	LR	05 56 08.3	
	comp=N,37nm,18.1s,baz=134,slow=39						
KSRS	Korea Array	13.58	256	LR	LR	05 56 47.4	
	comp=N,23nm,19.6s,baz=235,slow=36						
PETK	Petropavlovsk-	14.21	34	Pn	Pn	05 51 57.7	-1.6
PETK	Petropavlovsk-	14.21	34	P	Pn	05 51 57.7	-1.6
YAK	Yakutsk	21.97	341	LR	LR	06 01 50.7	
	comp=N,38nm,20.6s,baz=37,slow=36						
SONM	Songino Array	27.46	295	P	P	05 54 23.7	-0.1
	comp=N,0.7nm,0.5s,baz=95,slow=9.6,SNR=4.5 comp=N,0.7nm,0.5s						
H11N2	WAKE ISLAND Hy	29.15	133	T	T	06 26 05.2	
	baz=326,slow=75,SNR=88						
H11N1	WAKE ISLAND Hy	29.16	133	T	T	06 26 13.9	
	baz=326,slow=75,SNR=60						
H11N3	WAKE ISLAND Hy	29.17	133	T	T	06 26 14.9	
	baz=326,slow=75,SNR=59						
H11S1	WAKE ISLAND Hy	30.04	134	T	T	06 27 10.0	
	baz=327,slow=76,SNR=61						
H11S3	WAKE ISLAND Hy	30.05	134	T	T	06 27 15.7	
	baz=327,slow=76,SNR=64						
H11S2	WAKE ISLAND Hy	30.06	134	T	T	06 27 23.0	
	baz=327,slow=76,SNR=54						
C16K	Lisburne Hills	37.20	28	P	P	05 55 48.5	0.0
L16K	Owhat River	38.31	40	P	P	05 55 59.1	+1.2
M17K	Holitna River	39.26	40	P	P	05 56 07.9	+1.9
M17K				IAmb	IAmb	05 56 08.9	
	comp=Z,11nm,1.2s						
H19K	Roundabout Mou	40.02	34	P	P	05 56 13.4	+1.2
H19K				IAmb	IAmb	05 56 14.1	
	comp=Z,5.9nm,0.7s						
J19K	Poorman	40.24	36	P	P	05 56 15.4	+1.3
ZALV	Zalesovo Beam	40.58	308	P	P	05 56 16.6	-0.4
	comp=Z,1.2nm,0.5s,baz=92,slow=8.1,SNR=4.1 comp=Z,1.2nm,0.5s						
E22K	Anaktuvuk Pass	42.11	30	P	P	05 56 30.2	+0.7
H23K	Yukon River	42.90	34	P	P	05 56 37.0	+1.1
H23K				IAmb	IAmb	05 56 37.8	
	comp=Z,4.5nm,0.8s						
TOLK	Toolik Lake Re	42.97	29	P	P	05 56 38.3	+1.8
MKAR	Makanchi Array	43.74	298	P	P	05 56 43.4	+0.4
	comp=Z,0.3nm,0.4s,baz=90,slow=8.2,SNR=4.7 comp=Z,0.3nm,0.4s						
ILAR	Eielson Array	44.04	35	P	P	05 56 45.2	+0.2
	comp=Z,0.9nm,0.8s,baz=257,slow=5.6,SNR=14 comp=Z,0.9nm,0.8s						
KURK	Kurchatov	44.96	305	eP	P	05 56 52.4	-0.2
KURK	Kurchatov	44.96	305	P	P	05 56 52.4	-0.2
KURBB	Kurchatov Arra	45.04	305	P	P	05 56 52.4	-0.8
	comp=Z,0.9nm,0.5s,baz=72,slow=8.9,SNR=6.8 comp=Z,0.9nm,0.5s						
SCRK	Sand Creek	45.36	36	P	P	05 56 55.7	0.0
SCRK				IAmb	IAmb	05 56 56.3	
	comp=Z,3.2nm,1.0s						
L27K	Beaver Creek,	46.45	37	P	P	05 57 06.1	+1.8
L27K				IAmb	IAmb	05 57 06.6	
	comp=Z,3.5nm,0.8s						
EGAK	Eagle	46.48	35	P	P	05 57 04.3	-0.1
I28M	Miner Creek	46.89	34	P	P	05 57 09.0	+1.2
I28M				IAmb	IAmb	05 57 09.7	
	comp=Z,2.2nm,0.6s						
L29M	L29M	48.09	37	P	P	05 57 19.1	+2.1
L29M				IAmb	IAmb	05 57 19.6	
	comp=Z,2.2nm,0.7s						
I30M	Mount Dempster	48.40	34	P	P	05 57 20.8	+1.3
INK	Inuvik	48.89	29	P	P	05 57 23.7	+0.7
INK				IAmb	IAmb	05 57 24.5	
	comp=Z,5.1nm,1.2s						
INK	Inuvik	48.89	29	P	P	05 57 23.7	+0.7
INK				pmax	pmax		
	comp=Z,5.0nm,1.3s						
BVAR	Borovoye Array	49.17	310	P	P	05 57 25.1	-0.3
	comp=Z,0.8nm,0.4s,baz=94,slow=9.5,SNR=3.5 comp=Z,0.8nm,0.4s						
FINES	FINESS Array B	65.58	332	P	P	05 59 19.7	-1.3
	comp=Z,2.4nm,0.5s,baz=54,slow=7.2,SNR=17 comp=Z,2.4nm,0.5s						
SUMG	Summit	65.73	1	P	P	05 59 21.4	-0.9
SUMG	Summit	65.73	1	P	P	05 59 21.4	-0.9
NVAR	Mina Array Bea comp=Z,0.4nm,0.7s,baz=280,slow=7.2,SNR=3.6 comp=Z,0.4nm,0.7s	70.14	56	P	P	05 59 50.8	+0.4
NB2	NORSAR Subarra comp=Z,1.3nm,0.5s,baz=32,slow=6.9	70.55	338	P	P	05 59 55.3	+3.0
NOA	NORSAR Array B comp=Z,0.8nm,0.5s,baz=34,slow=6.5,SNR=2.2 comp=Z,0.8nm,0.5s	70.55	338	P	P	05 59 51.3	-1.0
HFS	Hagfors comp=Z,3.4nm,0.5s,baz=60,slow=8.5,SNR=2.2 comp=Z,3.4nm,0.5s	70.57	336	P	P	05 59 51.2	-1.1
PDAR	Pinedale Array comp=Z,0.3nm,0.5s,baz=272,slow=2.3,SNR=3.7 comp=Z,0.3nm,0.5s	72.51	48	P	P	06 00 04.9	+0.3
TXAR	Lajitas Array comp=Z,0.5nm,0.7s,baz=310,slow=3.4,SNR=7.6 comp=Z,0.5nm,0.7s	85.22	54	P	P	06 01 14.8	+0.4

NEIC ***29*** *06:10:57.5±1.7, 19°.37N±0°.01×155°.279W±0°.009, h2km±9km, Error ellipse: s-maj=1.8km s-min=1.2km az=144.0*

HVO 29 06:10:56.9±0.7, 19°.41N±0°.01×155°.268W±0°.009, h0km±2km, ML3.2/13, ML2.3/23(NEIC), Error ellipse: s-maj=1.6km s-min=1.1km az=194.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BYL	Byron's Ledge	0.01	88		Pg	06 10 57.9	+0.7
HATHI	Halema'uma'u T	0.01	32		Pg	06 10 58.4	+1.0
KKO	Keanakako`i	0.01	171		Pg	06 10 58.2	+0.9
SBLHI	Steaming Bluff	0.01	1		Pg	06 10 58.3	+0.9
OBL	Observatory Le	0.02	291		Pg	06 10 58.0	+0.6
UWB	Uwekahuna B	0.02	325		Pg	06 10 58.1	+0.8
RIM	Rim	0.02	198		Pg	06 10 58.2	+0.8
UWE	Uwekahuna	0.03	292		Pg	06 10 57.9	+0.5
RSD	Rainshed	0.05	350		Pg	06 10 58.7	+0.7
RSD				IAML		06 10 59.5	
	comp=N,2μm,0.1s						
PUH	Pauahi	0.06	127		Sg	06 11 00.8	+1.8
PUH	Pauahi	0.06	127		Pg	06 10 59.1	+0.9
PUH	Pauahi	0.06	127	IAML		06 11 00.1	
	comp=E,2μm,0.2s						
PUH				IAML		06 11 00.5	
	comp=N,3μm,0.9s						
KNHH	Kane Nui o Ham	0.10	109		Pg	06 10 59.9	+1.0
HLP	Hilina Pali	0.12	198	Pg	Pg	06 10 58.6	-0.7
HLP				IAML		06 10 59.8	
	comp=E,2μm,0.9s						
MLH	Mauna Loa	0.14	306		Pg	06 11 00.8	+1.2
MLH	Mauna Loa	0.14	306	IAML		06 11 04.1	
	comp=N,1μm,0.5s						
MLH				IAML		06 11 04.4	
	comp=E,1μm,0.4s						
STCH	Steam Cracks	0.14	101		Pg	06 11 00.6	+1.0
STCH	Steam Cracks	0.14	101	IAML		06 11 03.0	
	comp=E,2μm,0.9s						
STCH				IAML		06 11 04.0	
	comp=N,1μm,0.7s						
NPOC	North of Pu'u	0.15	97		Pg	06 11 00.7	+0.9
JCUZ	Jacuzzi	0.16	100		Pg	06 11 00.8	+0.8
HTC	Hot Caves	0.21	215		Pg	06 11 02.1	+1.2
JOKA	Jonika Flow	0.25	85	Pg	Pg	06 11 01.7	-0.1
JOKA				IAML		06 11 09.9	
	comp=E,535nm,0.9s						
HMH	Humu'ula Sheep	0.28	313	Pg	Pg	06 11 01.8	-0.5
HMH				IAML		06 11 11.2	
	comp=E,528nm,0.6s						
HMH				IAML		06 11 11.8	
	comp=N,585nm,0.9s						
KHU	Kahuku	0.37	243		Pb	06 11 05.3	-1.2
KHU	Kahuku	0.37	243	IAML		06 11 12.1	
	comp=N,311nm,1.1s						
KHU				IAML		06 11 15.9	
	comp=E,416nm,0.8s						

TIR ***29*** *06:10:54.0, 36°.92N×21°.27E, h37km±21km, Ml3.4*

IDC ***29*** *06:10:60.0±1.6, 37°.42N×21°.94E, h0km, mb3.5/6, mbtmp3.5/6, Error ellipse: s-maj=40.5km s-min=25.0km az=149.0*

ATH ***29*** *06:11:02.2, 37°.46N×21°.82E, h8km±1km, ML3.3/10, Error ellipse: s-maj=1.8km s-min=0.8km az=97.0*

THE ***29*** *06:11:02.1, 37°.43N×21°.83E, h0km±2km, ML3.3/12, Error ellipse: s-maj=2.1km s-min=0.6km az=210.0*

ISC 29 06:11:01.2±1.2, 37°.43N±0°.02×21°.81E±0°.02, h10km±9km, n76, σ0s90/104, mb3.5/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ITM	Ithomi	0.27	159	P	Pb	06 11 07.6	-0.5
ITM				S	Sb	06 11 12.4	-0.3
	8μm,0.3s						
ITM	Ithomi	0.27	159	P	Pb	06 11 07.5	-0.5
ITM				S	Sb	06 11 11.9	-0.8
ITM				AML	AML	06 11 13.2	
	comp=N,13803μm,0.4s						
ITM				AML	AML	06 11 13.4	
	comp=E,19478μm,0.3s						
KLMT	Kalamata	0.42	151	P	Pb	06 11 10.7	+0.1
KLMT				S	Sb	06 11 16.1	-0.9
	comp=E,5μm,0.3s						
PYL	PYLOS	0.54	186	P	Pb	06 11 12.0	-0.6
PYL				S	Sb	06 11 20.7	+0.3
	comp=E,8μm,0.3s						
PYL	PYLOS	0.54	186	P	Pb	06 11 12.2	-0.4
PYL				S	Sb	06 11 20.8	+0.3
PYL				AML	AML	06 11 21.9	
	comp=E,14438μm,0.3s						
PYL				AML	AML	06 11 21.9	
	comp=N,17384μm,0.3s						
GUR	Goura	0.66	40	P	Pb	06 11 13.9	-1.0
GUR				S	Sb	06 11 23.4	-0.8
	comp=N,9μm,0.4s						
GUR	Goura	0.66	40	P	Pb	06 11 13.9	-1.0
GUR				S	Sb	06 11 23.4	-0.8
GUR				AML	AML	06 11 23.7	
	comp=E,14016μm,0.5s						
GUR				AML	AML	06 11 25.8	
	comp=N,21282μm,0.3s						
KLV	Kalavryta, Ach	0.67	24	P	Pb	06 11 14.1	-0.9
KLV				S	Sb	06 11 24.7	+0.3
	comp=N,1μm,0.2s						
KLV	Kalavryta, Ach	0.67	24	P	Pg	06 11 13.9	-0.3
KLV				S	Sb	06 11 23.2	-1.2
KLV				AML	AML	06 11 25.5	
	comp=N,2126μm,0.2s						
KLV				AML	AML	06 11 25.7	
	comp=E,2554μm,0.2s						
RLS	Riolos of Patr	0.68	337	P	Pg	06 11 14.3	-0.1
RLS				S	Sn	06 11 26.2	-1.4
	comp=E,2μm,0.2s						
RLS	Riolos of Patr	0.68	337	P	Pb	06 11 14.4	-0.8
RLS				S	Sb	06 11 24.1	-0.6
RLS				AML	AML	06 11 27.4	
	comp=N,5126μm,0.3s						
RLS				AML	AML	06 11 28.9	
	comp=E,4519μm,0.2s						
LAKA	Lakka	0.82	9	P	Pg	06 11 16.4	-0.7
LTHK	Lithakia	0.82	290	P	Pb	06 11 17.5	-0.1
LTHK				S	Sn	06 11 30.1	-0.9
	comp=E,4μm,0.3s						
LTHK	Lithakia	0.82	290	P	Pb	06 11 17.4	-0.1
LTHK				S	Sb	06 11 28.8	+0.1
LTHK				AML	AML	06 11 32.8	
	comp=N,7872μm,0.4s						
LTHK				AML	AML	06 11 33.7	
	comp=E,6138μm,0.2s						
UPR	University Cam	0.85	359	P	Pn	06 11 18.5	-0.8
UPR				S	Sn	06 11 31.8	0.0
THAL	Thalero	0.91	48	P	Pb	06 11 18.7	-0.4
THAL	Thalero	0.91	48	P	Pb	06 11 18.4	-0.6
THAL				S	Sb	06 11 31.0	-0.2
THAL				AML	AML	06 11 36.1	
	comp=N,8159μm,0.4s						
THAL				AML	AML	06 11 36.2	
	comp=E,9573μm,0.4s						
EFP	Efpalio	1.00	4	P	Pb	06 11 20.2	-0.4
EFP				S	Sn	06 11 35.8	+0.4

EFP	**Efpalio**	**1.00**	**4**	P		**Pb**	**06 11 20.3**	**-0.4**
EFP				S		**Sb**	**06 11 34.0**	**+0.2**
LOUT	**Loutraki**	**1.08**	**59**	P		**Pb**	**06 11 21.8**	**-0.2**
LOUT				S		**Sn**	**06 11 36.7**	**-0.7**
	comp=E,930nm,0.8s							
LOUT	**Loutraki**	**1.08**	**59**	P		**Pb**	**06 11 21.8**	**-0.2**
LTK	**Loutraki**	**1.09**	**57**	P		**Pb**	**06 11 21.8**	**-0.4**
LTK				S		**Sn**	**06 11 37.3**	**-0.5**
LTK				AML	AML		06 11 39.5	
	comp=N,1778μm,0.4s							
LTK				AML	AML		06 11 41.1	
	comp=E,1594μm,0.4s							
VLI	**Veliai**	**1.15**	**128**	P		**Pn**	**06 11 23.7**	**+0.4**
VLI	**Veliai**	**1.15**	**128**	P		**Pn**	**06 11 23.8**	**+0.4**
VLI				AML	AML		06 11 49.1	
	comp=E,1836μm,0.7s							
VLI				AML	AML		06 11 50.9	
	comp=N,1176μm,0.5s							
ANX	**Ano Chora**	**1.17**	**4**	P		**Pb**	**06 11 23.2**	**-0.3**
ANX				S		**Sn**	**06 11 42.0**	**+2.3**
	comp=N,2μm,0.4s							
ANX	**Ano Chora**	**1.17**	**4**	P		**Pb**	**06 11 23.2**	**-0.3**
DLFA	**Delphi**	**1.18**	**27**	P		**Pn**	**06 11 24.1**	**+0.3**
PSDA	**Pessada-Kefalo**	**1.19**	**306**	P		**Pn**	**06 11 23.6**	**-0.2**
PSDA	**Pessada-Kefalo**	**1.19**	**306**	P		**Pn**	**06 11 23.7**	**-0.2**
PVO	**Paravola**	**1.21**	**349**	P		**Pn**	**06 11 24.5**	**+0.4**
PVO	**Paravola**	**1.21**	**349**	P		**Pn**	**06 11 24.5**	**+0.4**
VLS	**Valsamata**	**1.22**	**308**	P		**Pn**	**06 11 24.2**	**-0.1**
VLS	**Valsamata**	**1.22**	**308**	P		**Pn**	**06 11 24.5**	**+0.2**
VLS				AML	AML		06 11 51.3	
	comp=E,869μm,0.3s							
VLS				AML	AML		06 11 52.0	
	comp=N,1024μm,0.5s							
MNVA	**Monemvasia**	**1.23**	**127**	P		**Pn**	**06 11 25.3**	**+0.9**
KEF3	**Kipouria, Keph**	**1.39**	**304**	P		**Pg**	**06 11 27.4**	**-0.5**
DMLN	**Damoulianata-K**	**1.39**	**306**	P		**Pg**	**06 11 27.9**	**-0.1**
DMLN	**Damoulianata-K**	**1.39**	**306**	P		**Pg**	**06 11 27.8**	**-0.1**
VIL2	**Platees**	**1.40**	**55**	P		**Pb**	**06 11 27.0**	**-0.4**
VILL	**Villia**	**1.40**	**58**	P		**Pg**	**06 11 27.5**	**-0.6**
FSK	**Fiskardo**	**1.42**	**317**	P		**Pb**	**06 11 27.7**	**-0.1**
FSK	**Fiskardo**	**1.42**	**317**	P		**Pb**	**06 11 27.4**	**-0.4**
EVR	**Evrytania**	**1.48**	**0**	P		**Pg**	**06 11 30.4**	**+0.7**
AXAR	**Agios Charalam**	**1.49**	**26**	P		**Pg**	**06 11 29.1**	**-0.8**
AXAR				S		**Sg**	**06 11 49.8**	**+0.5**
	comp=N,1μm,0.6s							
EVGI	**Lefkada island**	**1.50**	**323**	P		**Pb**	**06 11 28.5**	**-0.6**
EVGI	**Lefkada island**	**1.50**	**323**	P		**Pn**	**06 11 27.4**	**-0.7**
NYDR	**Nydri-Lefkada**	**1.55**	**326**	P		**Pg**	**06 11 30.1**	**-0.9**
NYDR				S		**Sg**	**06 11 53.4**	**+2.3**
	comp=N,502nm,0.8s							
NYDR	**Nydri-Lefkada**	**1.55**	**326**	P		**Pb**	**06 11 29.9**	**-0.1**
DRAG	**Dragano-Lefkad**	**1.59**	**323**	P		**Pg**	**06 11 31.1**	**-0.5**
DRAG	**Dragano-Lefkad**	**1.59**	**323**	P		**Pb**	**06 11 30.2**	**-0.4**
MAKR	**Makrakomi, Fth**	**1.60**	**9**	P		**Pg**	**06 11 31.2**	**-0.7**
MAKR				S		**Sg**	**06 11 53.8**	**+1.1**
	comp=N,872nm,0.4s							
MAKR	**Makrakomi, Fth**	**1.60**	**9**	P		**Pb**	**06 11 30.6**	**-0.3**
VLY	**Voula,Athens**	**1.63**	**74**	P		**Pb**	**06 11 31.3**	**-0.1**
VLY	**Voula,Athens**	**1.63**	**74**	P		**Pb**	**06 11 30.6**	**-0.7**
LKD2	**Lefkada island**	**1.63**	**327**	P		**Pn**	**06 11 28.1**	**-1.9**
	baz=346							
LKD2				S		**Sg**	**06 11 53.3**	**-0.5**
	baz=346							
LKD2				AMP				
	comp=E,1.7nm,0.5s,baz=346							
LKD2	**Lefkada island**	**1.63**	**327**	P		**Pg**	**06 11 31.6**	**-0.9**
LKD2	**Lefkada island**	**1.63**	**327**	P		**Pb**	**06 11 31.1**	**-0.3**
AGG	**Agios Georgios**	**1.64**	**14**	P		**Pb**	**06 11 31.6**	**0.0**
AGG				S		**Sg**	**06 11 54.5**	**+0.5**
AGG	**Agios Georgios**	**1.64**	**14**	P		**Pb**	**06 11 31.0**	**-0.6**
DION	**Dionisos Attik**	**1.80**	**68**	P		**Pg**	**06 11 35.2**	**-0.6**
NEO	**Neokhori**	**2.18**	**30**	P		**Pb**	**06 11 38.9**	**-1.8**
XOR	**Xorichti**	**2.22**	**29**	P		**Pn**	**06 11 39.2**	**+1.1**
IGT	**Igoumenitsa**	**2.40**	**332**	P		**Pn**	**06 11 39.6**	**-0.9**
	baz=345							
IGT				S		**Sb**	**06 12 13.5**	**-0.6**
	baz=345							
IGT				AMP				
	comp=E,0.3nm,1.0s,baz=345							
SRN	**Sarande**	**2.83**	**331**	P		**Pn**	**06 11 44.9**	**-1.5**
	baz=342							
SRN				S		**Sn**	**06 12 23.3**	**+2.9**
	baz=342							
LSK	**Leskovik**	**2.88**	**341**	P		**Pn**	**06 11 47.8**	**+0.7**
	baz=351							
FNA	**Florina**	**3.37**	**354**	P		**Pn**	**06 11 56.0**	**+2.2**
	baz=1.0							
FNA				S		**Sb**	**06 12 42.4**	**+0.3**
	baz=1.0							
FNA				AMP				
	comp=E,0.1nm,0.6s,baz=1.0							
PUK	**Puka**	**4.84**	**343**	P		**Pn**	**06 12 15.9**	**+1.8**
	baz=349							
SGRT	**San Giovanni R**	**6.37**	**315**	P		**Pn**	**06 12 34.0**	**-1.2**
	baz=321							
LSTV	**Lastovo**	**6.53**	**326**	*e*Pn		**Pn**	**06 12 37.6**	**+0.4**
LSTV				Sn		**Sn**	**06 13 48.2**	**-3.6**
ZIRJ	**Zirje**	**7.79**	**325**	*e*Pn		**Pn**	**06 12 54.9**	**+0.4**
DUGI	**Dugi Otok**	**8.32**	**324**	*e*Pn		**Pn**	**06 13 02.8**	**+0.9**
ESDC	**Sonseca Array**	**20.26**	**284**	P		Pn	06 15 38.5	-0.2
	comp=E,0.6nm,0.8s,baz=80,slow=9.2,SNR=4.0							
	comp=E,0.6nm,0.8s							
FINES	**FINESS Array B**	**24.19**	**5**	P		**P**	**06 16 17.6**	**+0.1**
	comp=E,0.4nm,0.5s,baz=182,slow=7.1,SNR=4.0							
	comp=E,0.4nm,0.5s							
EKA	**Eskdalemuir Ar**	**24.63**	**325**	P		**P**	**06 16 22.4**	**+0.8**
	comp=E,0.7nm,0.6s,baz=125,slow=8.7,SNR=3.0							
	comp=E,0.7nm,0.6s							
TORD	**Torodi Ar. Bea**	**30.12**	**222**	P		**P**	**06 17 11.9**	**+0.7**
	comp=E,0.2nm,0.5s,baz=35,slow=10,SNR=2.3							
	comp=E,0.2nm,0.5s							
KURBB	**Kurchatov Arra**	**41.86**	**53**	P		**P**	**06 18 50.9**	**-0.3**
	comp=E,0.8nm,0.5s,baz=277,slow=9.0,SNR=2.4							
	comp=E,0.8nm,0.5s							
ZALV	**Zalesovo Beam**	**45.44**	**48**	P		**P**	**06 19 19.7**	**-0.2**
	comp=E,2.0nm,0.7s,baz=278,slow=7.8,SNR=6.9							
	comp=E,2.0nm,0.7s							

*IDC **29** 06:24:05.4±1.2,3°.23N×127°.10E, h0km, mb3.6/5, mbtmp3.6/5, Error ellipse: s-maj=82.5km s-min=23.7km az=74.0*
*DJA **29** 06:24:18.2±2.1,3°.7N±7°×12°.8E±°, h27km±20km, M4.2/7, mb4.5/2, mB4.5/1, MLv4.1/7, Mw(mB)3.6/1*
ISC 29 06:24:04.4±1.5, 3°.9N±0°.2×128°.8E±0°.1, h10km, n13, σ0°.72/7, mb3.6/5, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**3.29**	**267**	P	**Pb**	**06 25 02.2**	**-0.6**
SGSI				S	**Sn**	**06 25 36.1**	**+1.0**
LBMI	**Labuha**	**4.67**	**196**	P	**Pn**	**06 25 14.6**	**-0.5**
WRA	**Warramunga Arr**	**24.29**	**167**	P	**P**	**06 29 22.4**	**+0.2**
	0.8nm,0.4s,baz=344,slow=10,SNR=25						
	0.8nm,0.4s						
ASAR	**Alice Springs**	**27.82**	**170**	P	**P**	**06 29 54.7**	**+0.6**
	0.2nm,0.3s,baz=357,slow=7.5,SNR=5.4						
	0.2nm,0.3s						
H11S3	**WAKE ISLAND Hy**	**39.77**	**66**	T	T	07 15 09.8	
	baz=253,slow=74,SNR=5.2						
H11S2	**WAKE ISLAND Hy**	**39.79**	**66**	T	T	07 15 10.4	
	baz=253,slow=74,SNR=3.8						
H11S1	**WAKE ISLAND Hy**	**39.79**	**66**	T	T	07 15 11.6	
	baz=253						
H11N1	**WAKE ISLAND Hy**	**40.32**	**64**	T	T	07 16 03.4	
	baz=258						
H11N2	**WAKE ISLAND Hy**	**40.33**	**64**	T	T	07 16 08.9	
	baz=258						
H11N3	**WAKE ISLAND Hy**	**40.34**	**64**	T	T	07 16 07.0	
	baz=258						
KURBB	**Kurchatov Arra**	**62.75**	**327**	P	**P**	**06 34 29.6**	**-0.1**
	0.1nm,0.4s,baz=126,slow=4.7,SNR=5.3						
	0.1nm,0.4s						
VNDA	**Vanda**	**83.32**	**173**	P	**P**	**06 36 31.2**	**+0.2**
	1.0nm,0.9s,baz=311,slow=5.9,SNR=4.2						
	1.0nm,0.9s						
ILAR	**Eielson Array**	**84.08**	**25**	P	P	06 36 45.1	+10
	0.3nm,0.7s,baz=253,slow=5.4,SNR=3.0						
	0.3nm,0.7s						

*NEIC **29** 06:32:04.1±1.5, 19°.32N±0°.02×155°.13W±0°.01, h5km±5km, Error ellipse: s-maj=3.6km s-min=0.7km az=148.0*
HVO 29 06:32:03.7±1.3, 19°.34N±0°.02×155°.15W±0°.01, h0km±9km,
ML2.9/18, ML2.8/30(NEIC), Error ellipse: s-maj=2.8km s-min=1.1km az=158.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNHH	**Kane Nui o Ham**	**0.05**	**333**	Pg	Pg	06 32 01.9	-2.7
STCH	**Steam Cracks**	**0.05**	**22**	Pg	Pg	06 32 04.7	0.0
NPOC	**North of Pu'u**	**0.07**	**31**		Pg	06 32 05.9	+0.9
JOKA	**Jonika Flow**	**0.17**	**54**	Pg	Pg	06 32 06.2	-0.7
HTC	**Hot Caves**	**0.26**	**248**		Pg	06 32 09.8	+1.2
MLH	**Mauna Loa**	**0.28**	**305**		Pg	06 32 09.3	+0.4
MLH				IAML		06 32 16.5	
	comp=N,1μm,0.3s						
MLH				IAML		06 32 17.7	
	comp=E,1μm,0.2s						
PHO	**Puu Honuaula**	**0.28**	**59**		Sb	06 32 15.0	-1.9
HMH	**Humu'ula Sheep**	**0.41**	**310**		Pg	06 32 12.4	+0.7
HMH	**Humu'ula Sheep**	**0.41**	**310**	IAML		06 32 19.7	
	comp=N,3μm,0.3s						
HMH				IAML		06 32 19.7	
	comp=E,2μm,0.3s						
MWH	**Moku'aweowe**	**0.45**	**289**		Pg	06 32 12.9	+0.5
MWH				IAML		06 32 20.9	
	comp=N,2μm,0.6s						
MWH				IAML		06 32 21.6	
	comp=E,2μm,0.6s						
KHU	**Kahuku**	**0.45**	**259**	Pg	Pg	06 32 12.6	+0.2
KHU				IAML		06 32 24.0	
	comp=N,868nm,0.8s						
KHU				IAML		06 32 26.7	
	comp=E,597nm,1.3s						
MLOA	**Mauna Loa Obse**	**0.45**	**296**	IAML		06 32 20.6	
	comp=E,1μm,0.8s						
MLOA				IAML		06 32 21.0	
	comp=N,916nm,0.5s						
HPO	**Honuapo**	**0.46**	**238**	Pg	Pg	06 32 11.7	-0.7
POHA	**Pohakuloa**	**0.56**	**319**		Pg	06 32 14.3	-0.1
POHA	**Pohakuloa**	**0.56**	**319**	IAML		06 32 23.0	
	comp=N,2μm,0.5s						
POHA				IAML		06 32 23.7	
	comp=N,2μm,0.4s						
HUH	**Hualalai**	**0.74**	**298**	Pg	Pg	06 32 18.6	+0.8
HPAH	**Hawaii Prepara**	**0.86**	**323**		Pg	06 32 18.3	-1.9
HPAH	**Hawaii Prepara**	**0.86**	**323**	IAML		06 32 32.5	
	comp=E,368nm,0.4s						
HPAH				IAML		06 32 39.1	
	comp=N,264nm,0.3s						

*IDC **29** 06:33:40.2±1.9, 7°.98S×68°.63E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=53.7km s-min=29.3km az=41.0*
ISC 29 06:33:41.3±1.6, 8°.0S±0°.3×68°.6E±0°.1, h10km, n8, σ0°.50/11, mb3.8/4, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H08S1	**Diego Carcia H**	**3.88**	**85**	Pn	**Pn**	**06 34 41.4**	**+0.6**
H08S1				Sn	**Sn**	**06 35 25.8**	**-0.6**
	baz=84,slow=78						
H08S3	**Diego Garcia H**	**3.89**	**85**	Pn	**Pn**	**06 34 41.6**	**+0.6**
H08S3				Sn	**Sn**	**06 35 26.3**	**-0.3**
	baz=84,slow=78						
H08S2	**Diego Garcia H**	**3.90**	**85**	Pn	**Pn**	**06 34 41.7**	**+0.6**
H08S2				Sn	**Sn**	**06 35 26.4**	**-0.4**
	baz=84,slow=78						
MKAR	**Makanchi Array**	**55.89**	**11**	P	**P**	**06 43 19.4**	**+0.1**
	0.3nm,0.5s,baz=193,slow=5.6,SNR=2.8						
	0.3nm,0.5s						
KURBB	**Kurchatov Arra**	**59.01**	**7**	P	**P**	**06 43 41.2**	**0.0**
	0.5nm,0.8s,baz=206,slow=6.2,SNR=2.1						
	0.5nm,0.8s						
ASAR	**Alice Springs**	**64.27**	**112**	P	**P**	**06 44 17.4**	**0.0**
	0.6nm,0.8s,baz=287,slow=5.9,SNR=6.1						
	0.6nm,0.8s						
WRA	**Warramunga Arr**	**64.58**	**108**	P	**P**	**06 44 19.3**	**-0.2**
	0.8nm,0.8s,baz=279,slow=6.4,SNR=5.1						
	0.8nm,0.8s						
NVAR	**Mina Array Bea**	**149.06**	**11**	PKPbc	**PKiKP**	**06 53 31.3**	**-0.6**
	0.4nm,0.6s,baz=333,slow=1.7,SNR=4.2						

IDC 29 06:33:56.0±4.4, 5°.08S×152°.15E, h0km, mb3.1/2, mbtmp3.1/2, Error ellipse: s-maj=196.3km s-min=55.2km az=120.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.77**	**228**	P	P	06 39 00.5	+0.1
	0.3nm,0.7s,baz=52,slow=10.0,SNR=2.4						
	0.3nm,0.7s						
ASAR	**Alice Springs**	**25.51**	**222**	P	P	06 39 26.4	0.0
	0.5nm,0.7s,baz=60,slow=8.4,SNR=4.2						
	0.5nm,0.7s						
TORD	**Torodi Ar. Bea**	**149.77**	**287**	PKPbc	PKPbc	06 53 48.6	-0.5
	0.2nm,0.4s,baz=83,slow=1.9,SNR=2.1						

*IDC **29** 06:36:11.8±1.0, 45°.23N×124°.76E, h0km, mb3.6/6, mbtmp3.6/10, ML3.4/4, MS3.0/8, Error ellipse: s-maj=20.4km s-min=16.0km az=5.0*
*KEA **29** 06:36:16.2, 44°.78N×124°.91E, h3km, ML3.8/4*
ISC 29 06:36:14.3±0.7, 45°.23N±0°.05×124°.80E±0°.07, h10km, n17, σ3°.56/20, mb3.7/6, MS3.3/3, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SUJ	**Sinuiju**	**5.13**	**183**	Pg	**Pb**	**06 37 45.9**	**+1.8**
SUJ				Sg	**Sb**	**06 38 52.9**	**+7.1**
SUJ				AML	AML		
	comp=N,139nm,0.2s						
SUJ				AML	AML		
	comp=E,214nm,0.4s						
SUJ				AML	AML		
	comp=Z,124nm,0.5s						
USRK	**Ussuriysk Ar.**	**5.23**	**99**	Pn	**Pn**	**06 37 32.3**	**-0.2**
	comp=Z,1.1nm,0.3s,baz=279,slow=14,SNR=7.7						
USRK				Pg	**Pb**	**06 37 47.3**	**+1.6**
	comp=Z,4.7nm,0.3s,baz=284,slow=13,SNR=12						
USRK				Lg	Lg	06 38 55.1	
	comp=Z,13nm,0.3s,baz=280,slow=33,SNR=10						
USRK				LR	LR	06 39 50.3	
	comp=Z,120nm,18.9s,baz=329,slow=42						
	comp=Z,2.5nm,0.4s						
HHU	**Hamhung**	**5.67**	**158**	Pg	**Pb**	**06 37 56.6**	**+3.3**
HHU				Sg	**Sg**	**06 39 11.1**	**-5.2**
HHU				AML	AML		
	comp=N,128nm,0.4s						
HHU				AML	AML		
	comp=E,86nm,0.3s						
HHU				AML	AML		
	comp=Z,104nm,1.1s						
PYS	**Pyongsong**	**6.03**	**172**	Pg	**Pb**	**06 38 03.1**	**+3.7**
PYS				Sg	**Sg**	**06 39 21.8**	**-5.9**
PYS				AML	AML		
	comp=N,219nm,0.4s						
PYS				AML	AML		
	comp=E,529nm,0.8s						
PYS				AML	AML		
	comp=Z,146nm,0.6s						
KLR	**Kul'dur**	**6.20**	**47**	Pn	**Pn**	**06 37 45.0**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=198,slow=13,SNR=5.6						
KLR				Pg	**Pb**	**06 38 05.8**	**+3.5**
	comp=Z,3.4nm,0.3s,baz=197,slow=18,SNR=8.5						
KLR				Lg	Lg	06 39 27.1	
	comp=Z,6.9nm,0.3s,baz=174,slow=11,SNR=4.5						
KLR				LR	LR	06 40 28.9	
	comp=Z,68nm,21.7s,baz=170,slow=41						
	comp=Z,2.0nm,0.3s						
PYAG	**Pyongyang**	**6.22**	**173**	Pg	**Pb**	**06 38 06.7**	**+4.1**
PYAG				Sg	**Sg**	**06 39 28.4**	**-5.5**
KSRS	**Korea Array**	**8.12**	**162**	Pn	**Pn**	**06 38 11.6**	**-0.5**
	comp=Z,0.5nm,0.3s,baz=350,slow=13,SNR=4.6						
KSRS				Pg	Pb	06 38 41.1	+6.1
	comp=Z,2.4nm,0.3s,baz=343,slow=17,SNR=21						
KSRS				Lg	Lg	06 40 24.1	
	comp=Z,2.5nm,0.3s,baz=353,slow=28,SNR=8.9						
KSRS				LR	LR	06 41 08.0	
	comp=Z,57nm,20.4s,baz=335,slow=36						
	comp=Z,0.9nm,0.4s						
SONM	**Songino Array**	**12.94**	**288**	Pn	**Pn**	**06 39 17.5**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=88,slow=13,SNR=2.2						
SONM				Pg		06 40 08.1	
	comp=Z,0.2nm,0.3s,baz=101,slow=15,SNR=1.7						
SONM				Lg	Lg	06 42 56.4	
	comp=Z,0.7nm,0.3s,baz=91,slow=28,SNR=5.6						
SONM				LR	LR	06 44 47.4	
	comp=Z,63nm,19.3s,baz=196,slow=40						
	comp=Z,0.3nm,0.4s						
YAK	**Yakutsk**	**17.07**	**8**	LR	LR	06 47 24.3	
	comp=Z,46nm,18.1s,baz=205,slow=39						
PETK	**Petropavlovsk-**	**22.75**	**58**	P	**P**	**06 41 16.1**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=277,slow=12,SNR=2.0						
PETK				LR	LR	06 50 39.4	
	comp=Z,39nm,19.7s,baz=132,slow=38						
	comp=Z,0.7nm,0.8s						
TIXI	**Tiksi**	**26.57**	**3**	LR	LR	06 53 33.5	
	comp=Z,74nm,18.2s,baz=201,slow=39						
MKAR	**Makanchi Array**	**29.30**	**288**	P	**P**	**06 42 14.9**	**-1.9**
	comp=Z,0.1nm,0.5s,baz=98,slow=6.0,SNR=1.9						
	comp=Z,0.1nm,0.5s						
KURBB	**Kurchatov Arra**	**31.06**	**297**	P	**P**	**06 42 30.6**	**-1.6**
	comp=Z,1.0nm,0.7s,baz=83,slow=9.2,SNR=6.7						
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**55.31**	**325**	P	**P**	**06 45 46.6**	**-1.0**
	comp=Z,2.2nm,0.9s,baz=108,slow=4.5,SNR=5.0						
	comp=Z,2.2nm,0.9s						
HFS	**Hagfors**	**60.97**	**328**	P	**P**	**06 46 26.9**	**-0.4**
	comp=Z,0.7nm,0.6s,baz=54,slow=7.3,SNR=1.8						
	comp=Z,0.7nm,0.6s						
WRA	**Warramunga Arr**	**65.44**	**170**	P	**P**	**06 46 55.4**	**-1.9**
	comp=Z,0.4nm,0.9s,baz=352,slow=5.1,SNR=1.7						
	comp=Z,0.4nm,0.9s						
KEST	**Kesra**	**80.54**	**312**	LR	LR	07 30 51.4	
	comp=Z,31nm,19.0s,baz=230,slow=41						

*IDC **29** 06:38:28.9±1.7, 32°.41N×124°.05E, h0km, mb4.0/4, mbtmp3.9/6, ML3.1/2, MS3.0/5, Error ellipse: s-maj=47.1km s-min=20.3km az=16.0*
ISC 29 06:38:30.2±1.2, 32°.4N±0°.1×124°.1E±0°.1, h10km, n11, σ0°.33/6, mb4.0/4, MS3.2/3, Off east coast of southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**5.76**	**81**	Pn	**Pn**	**06 39 55.8**	**0.0**
	0.5nm,0.3s,baz=267,slow=15,SNR=1.8						
JNU				Lg	Lg	06 41 33.8	
	1.3nm,0.3s,baz=270,slow=3.7,SNR=2.2						
	3.1nm,0.7s						
KSRS	**Korea Array**	**5.93**	**31**	Lg	Lg	06 41 36.9	
	5.0nm,0.3s,baz=222,slow=30,SNR=4.2						
JOW	**Kunigami**	**6.65**	**146**	Pn	**Pn**	**06 40 08.0**	**0.0**
	0.9nm,0.3s,baz=43,slow=19,SNR=1.9						
JOW				LR	LR	06 43 21.9	
	comp=Z,52nm,20.4s,baz=97,slow=44						
	2.2nm,0.3s						
MJAR	**Matsushiro Arr**	**12.35**	**67**	LR	LR	06 46 10.9	
	comp=Z,46nm,18.7s,baz=188,slow=37						
MA2	**Magadan**	**32.45**	**25**	LR	LR	06 59 49.9	
	comp=Z,32nm,18.4s,baz=256,slow=40						
MKAR	**Makanchi Array**	**34.83**	**307**	P	**P**	**06 45 21.3**	**0.0**
	1.1nm,0.6s,baz=95,slow=10,SNR=15						
	1.1nm,0.6s						
ZALV	**Zalesovo Beam**	**35.18**	**319**	P	**P**	**06 45 23.9**	**-0.2**
	1.5nm,0.6s,baz=119,slow=12,SNR=4.5						
	1.5nm,0.6s						
KURBB	**Kurchatov Arra**	**37.96**	**312**	P	**P**	**06 45 48.4**	**+0.5**
	1.3nm,0.7s,baz=102,slow=8.7,SNR=7.9						
	1.3nm,0.7s						
BVAR	**Borovoye Array**	**43.32**	**315**	LR	LR	07 04 04.7	
	comp=Z,26nm,18.2s,baz=82,slow=36						
AKTO	**Aktyubinsk**	**50.99**	**311**	LR	LR	07 08 49.9	
	comp=Z,33nm,19.2s,baz=60,slow=36						
FINES	**FINESS Array B**	**65.72**	**329**	P	**P**	**06 49 14.6**	**-0.2**
	0.8nm,0.5s,baz=65,slow=5.0,SNR=5.6						
	0.8nm,0.5s						

IDC 29 06:43:51.3±3.7, 53°.71N×88°.10E, h0km, mbtmp2.6/2, ML2.5/2, Error ellipse: s-maj=35.6km s-min=20.4km az=49.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.96**	**278**	I	I	06 56 30.0	
	0.1nm,0.8s,baz=94,slow=329,SNR=5.7						
ZALV	**Zalesovo Beam**	**1.96**	**278**	Pn	Pn	06 44 26.1	+0.4
	1.1nm,0.3s,baz=98,slow=12,SNR=7.5						
ZALV				Lg	Lg	06 44 53.0	
	2.0nm,0.3s,baz=97,slow=28,SNR=9.8						
KURBB	**Kurchatov Arra**	**6.65**	**246**	Pn	Pn	06 45 30.9	+0.7
	0.1nm,0.3s,baz=62,slow=14,SNR=2.3						
	0.2nm,0.3s						
MKAR	**Makanchi Array**	**7.86**	**211**	Pn	Pn	06 45 47.6	+0.8
	0.1nm,0.3s,baz=30,slow=14,SNR=1.9						
	0.2nm,0.4s						

RSNC 29 06:49:29.0±0.0, 7°.N±2°×7°.3W±°, h144km±3km, M1.9, mb3.8, ML1.9, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.22**	**186**	P	Pn	06 49 47.6	-1.3
BARC				S	Sn	06 50 03.0	-1.0
PAMC	**Pamplona, Colo**	**0.70**	**41**	P	Pn	06 49 50.7	-0.7
PAMC				S	Sn	06 50 07.9	-0.5
RUSC	**La Rusia**	**0.92**	**175**	P	Pn	06 49 51.7	-1.4
RUSC				S	Sn	06 50 10.4	-1.0
PTBC	**PUERTO BERRIO,**	**1.31**	**258**	P	Pn	06 49 54.2	-2.0
PTBC				S	Sn	06 50 15.4	-1.5
TAMC	**Tame, Arauca**	**1.41**	**105**	P	Pn	06 49 56.1	-1.1
TAMC				S	Sn	06 50 17.9	-0.8
OCAC	**Ocana**	**1.43**	**354**	P	Pn	06 49 56.1	-1.4
OCAC				S	Sn	06 50 18.6	-0.8
SPBC	**San Pablo de B**	**1.47**	**218**	P	Pn	06 49 56.7	-1.2
SPBC				S	Sn	06 50 18.9	-1.0
ZARC	**Zaragoza, Cauc**	**1.82**	**292**	P	Pn	06 50 00.2	-1.4
ZARC				S	Sn	06 50 26.1	-0.5
NORC	**Norcasia**	**2.10**	**234**	P	Pn	06 50

	comp=N,12μm,0.5s						
HLP				IAML		06 54 04.4	
	comp=E,12μm,0.5s						
MLH	**Mauna Loa**	**0.13 307**			Pg	06 54 01.6	+1.0
MLH	**Mauna Loa**	**0.13 307**		IAML		06 54 04.2	
	comp=N,7μm,0.7s						
MLH				IAML		06 54 04.4	
	comp=E,9μm,0.3s						
STCH	**Steam Cracks**	**0.14 102**			Pg	06 54 01.6	+0.8
STCH	**Steam Cracks**	**0.14 102**		IAML		06 54 05.6	
	comp=N,9μm,0.9s						
STCH				IAML		06 54 05.6	
	comp=E,11μm,0.5s						
NPOC	**North of Pu'u**	**0.16 98**			Pg	06 54 01.8	+0.8
JCUZ	**Jacuzzi**	**0.17 101**			Pg	06 54 02.0	+0.7
HTC	**Hot Caves**	**0.21 213**			Pg	06 54 02.9	+0.8
JOKA	**Jonika Flow**	**0.26 86**			Pg	06 54 03.2	+0.3
JOKA				IAML		06 54 12.1	
	comp=N,4μm,0.7s						
HMH	**Humu'ula Sheep**	**0.27 313**		IAML		06 54 11.8	
	comp=E,4μm,0.7s						
MLOA	**Mauna Loa Obse**	**0.31 293**		IAML		06 54 12.8	
	comp=E,4μm,0.8s						
MLOA				IAML		06 54 13.1	
	comp=N,5μm,0.4s						
KHU	**Kahuku**	**0.36 242**		IAML		06 54 15.9	
	comp=E,3μm,0.5s						
POHA	**Pohakuloa**	**0.42 324**			Pg	06 54 06.3	+0.2
HUH	**Hualalai**	**0.59 297**			Pg	06 54 10.0	+0.6
HPAH	**Hawaii Prepara**	**0.73 327**	Pg		Pg	06 54 11.2	-0.8
MHA	**Mahukona**	**0.97 323**	Pg		Pg	06 54 14.8	-1.9

*SJA **29** 07:02:14.8±0.8,24.°14S×66.°81W,h233km±37km,ML3.9, MW3.7*
*IDC **29** 07:02:16.5±1.2,24.°03S×66.°65W,h200km±13km,mb3.1/3, mbtmp3.6/9,Error ellipse: s-maj=17.5km s-min=15.9km az=149.0*
*GUC **29** 07:02:17.9±0.6,24.°09S×67.°05W,h235km±6km,ML4.1*

ISC 29 07:02:16.5±0.8,24.°10S±0.°05×66.°82W±0.°07,h213km±9km, n33,σ1°50/49,mb3.3/3,6C,Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
AF01	**San Pedro de A**	**1.69**	**312**	*e*P			**Pn**	**07 02 55.1**	**+1.7**
AF01				*i* S			**S**	**07 03 22.7**	**+0.9**
AF01				IAML				07 03 35.0	
	comp=N,273nm,0.3s								
LVC	**Limon Verde**	**2.43**	**307**	P			**Pn**	**07 03 01.9**	**+1.1**
	comp=N,69nm,0.3s,baz=121,slow=7.7,SNR=383								
LVC				S			**S**	**07 03 35.4**	**+0.4**
	comp=N,76nm,0.3s,baz=103,slow=2.4,SNR=28								
LVC	**Limon Verde**	**2.43**	**307**	*i* P			**Pn**	**07 03 01.8**	**+1.0**
LVC				*e*S			**S**	**07 03 35.7**	**+0.7**
ALOL	**LOMAS DE OLMED**	**2.61**	**84**	*i* P			**Pn**	**07 03 02.4**	**-0.1**
GO02	**Mina Guanaco**	**2.74**	**247**	*i* P			**Pn**	**07 03 05.1**	**+1.0**
GO02				*e*S			**S**	**07 03 41.6**	**+0.7**
PB06	**IPOC Station P**	**2.89**	**298**	*i* P			**Pn**	**07 03 06.6**	**+0.9**
PB06				*e*S			**S**	**07 03 43.2**	**-0.6**
PB06				IAML				07 03 44.9	
	comp=N,658nm,0.3s								
PB09	**IPOC Station P**	**3.20**	**315**	*e*P			**Pn**	**07 03 10.4**	**+1.0**
PB09				*e*S			**S**	**07 03 50.7**	**+0.3**
PB09				IAML				07 03 52.6	
	comp=N,276nm,0.5s								
PB14	**IPOC Station P**	**3.31**	**260**	*i* P			**Pn**	**07 03 10.7**	**0.0**
PB14				IAML				07 03 54.9	
	comp=Z,224nm,0.5s								
PB14	**IPOC Station P**	**3.31**	**260**	*e*P			**Pn**	**07 03 11.1**	**+0.4**
PB14				*i* S			**S**	**07 03 51.0**	**-1.9**
PB05	**IPOC Station P**	**3.35**	**291**	*e*P			**Pn**	**07 03 11.6**	**+0.6**
PB05				*i* S			**S**	**07 03 51.4**	**-2.0**
PB05				IAML				07 03 54.9	
	comp=N,170nm,0.3s								
PB10	**IPOC Station P**	**3.47**	**279**	*i* P			**Pn**	**07 03 12.5**	**+0.2**
PB10				IAML				07 03 59.7	
	comp=Z,100nm,0.3s								
PB10	**IPOC Station P**	**3.47**	**279**	*e*P			**Pn**	**07 03 12.6**	**+0.2**
PB10				*i* S			**S**	**07 03 54.1**	**-1.7**
PB04	**IPOC Station P**	**3.53**	**299**	*e*P			**Pn**	**07 03 13.7**	**+0.4**
PB04				*i* S			**S**	**07 03 56.3**	**-1.1**
AC01	**Pan de Azucar**	**3.99**	**238**	*e*P			**Pn**	**07 03 18.1**	**-0.5**
AC01				*i* S			**S**	**07 04 04.8**	**-2.3**
PATCX	**Punta Patache**	**4.49**	**316**	*i* P			**Pn**	**07 03 24.4**	**-0.6**
PATCX				IAML				07 04 22.0	
	comp=Z,128nm,0.3s								
PATCX	**Punta Patache**	**4.49**	**316**	*e*P			**Pn**	**07 03 24.6**	**-0.3**
PATCX				*i* S			**S**	**07 04 14.4**	**-4.2**
PB08	**IPOC Station P**	**4.50**	**331**	*i* P			**Pn**	**07 03 25.9**	**+0.6**
PB08				IAML				07 04 22.2	
	comp=Z,78nm,0.2s								
AC06	**Mina Casimiro**	**4.55**	**224**	*e*P			**Pn**	**07 03 24.5**	**-1.0**
AC06				*i* S			**S**	**07 04 16.8**	**-3.0**
GO03	**Copiap**	**4.64**	**221**	*i* P			**Pn**	**07 03 26.0**	**-0.8**
GO03	**Copiap**	**4.64**	**221**	*e*P			**Pn**	**07 03 26.1**	**-0.6**
GO03				*i* S			**S**	**07 04 19.4**	**-2.5**
TA01	**Diego Aracena**	**4.70**	**318**	*i* P			**Pn**	**07 03 26.9**	**-0.5**
TA01				IAML				07 04 26.8	
	comp=Z,48nm,0.8s								
HMBC	**Humberstone**	**4.75**	**323**	*e*P			**Pn**	**07 03 27.0**	**-1.3**
HMBC				*i* S			**S**	**07 04 20.8**	**-3.8**
GO01	**Chusmiza**	**4.93**	**333**	*i* P			**Pn**	**07 03 31.4**	**+0.5**
AC04	**Llanos de Chal**	**5.60**	**222**	*e*P			**Pn**	**07 03 37.9**	**-0.9**
AC04				*i* S			S	07 04 33.4	-10
LPAZ	**La Paz**	**7.87**	**351**	P			**Pn**	**07 04 09.2**	**+0.5**
	comp=Z,1.7nm,0.4s,baz=135,slow=4.2,SNR=28								
LPAZ				S			**S**	**07 05 35.9**	**-2.3**
	comp=Z,1.4nm,0.7s,baz=117,slow=18,SNR=2.6								
CPUP	**Villa Florida**	**8.87**	**106**	P			**Pn**	**07 04 19.1**	**-2.0**
	comp=Z,1.3nm,0.7s,baz=308,slow=12,SNR=3.2								
SIV	**San Ignacio**	**9.71**	**35**	P			**Pn**	**07 04 30.4**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=204,slow=14,SNR=4.8								
PLCA	**Paso Flores**	**16.88**	**190**	P			**Pn**	**07 06 01.3**	**+0.6**
	comp=Z,0.6nm,0.7s,baz=4.8,slow=12,SNR=1.2								
BDFB	**Brasilia**	**19.57**	**68**	P			**P**	**07 06 27.7**	**-1.0**
	comp=Z,2.2nm,0.6s,baz=250,slow=5.4,SNR=5.4								
TXAR	**Lajitas Array**	**63.86**	**324**	P			**P**	**07 12 28.5**	**+1.9**
	comp=Z,0.1nm,0.6s,baz=140,slow=5.9,SNR=1.9								
	comp=Z,0.1nm,0.6s								
QSPA	**South Pole Qui**	**66.10**	**180**	P			**P**	**07 12 42.4**	**+1.8**
	comp=Z,1.0nm,0.5s,baz=197,slow=0.6,SNR=12								
	comp=Z,1.0nm,0.5s								
TORD	**Torodi Ar. Bea**	**76.45**	**69**	P			**P**	**07 13 43.5**	**+0.3**
	comp=Z,0.3nm,0.4s,baz=252,slow=4.2,SNR=4.2								
	comp=Z,0.3nm,0.4s								
MKAR	**Makanchi Array**	**146.50**	**40**	PKPbc			**PKPbc**	**07 21 32.3**	**-0.3**
	comp=Z,0.8nm,0.6s,baz=300,slow=4.1,SNR=5.6								

IDC 29 07:02:20.3±10.0,12.°49S×166.°69E,h364km±134km, mb3.1/4,mbtmp3.9/5,Error ellipse: s-maj=112.5km s-min=29.0km az=158.0,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**9.53**	**181**	P			Pn	07 04 33.1	+0.4
	2.9nm,0.3s,baz=334,slow=22,SNR=45								
DZM				S			S	07 06 20.2	-1.1
	4.8nm,1.0s,baz=247,slow=18,SNR=1.4								
WRA	**Warramunga Arr**	**31.89**	**252**	P			P	07 08 12.7	-0.7
	0.6nm,0.6s,baz=81,slow=7.3,SNR=7.4								
	0.6nm,0.6s								
ASAR	**Alice Springs**	**33.01**	**246**	P			P	07 08 23.5	+0.5
	0.6nm,0.6s,baz=71,slow=10,SNR=8.4								
	0.6nm,0.6s								
ILAR	**Eielson Array**	**84.59**	**18**	P			P	07 14 12.9	-0.2
	0.5nm,0.6s,baz=224,slow=5.0,SNR=8.6								
	0.5nm,0.6s								
MKAR	**Makanchi Array**	**95.21**	**317**	P			P	07 15 03.1	-0.1
	0.3nm,0.6s,baz=104,slow=5.8,SNR=4.0								
	0.3nm,0.6s								

IDC 29 07:21:29.0±3.4,10.°90S×119.°18E,h0km,mb3.2/1, mbtmp3.4/3,ML3.7/2,MS3.0/1,Error ellipse: s-maj=240.1km s-min=31.2km az=48.0,Sumba region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.15**	**123**	P			Pn	07 25 31.0	+0.8
	0.4nm,0.3s,baz=302,slow=12,SNR=26								
	1.2nm,0.4s								
ASAR	**Alice Springs**	**18.92**	**134**	P			P	07 25 50.7	-0.8
	0.1nm,0.3s,baz=312,slow=9.2,SNR=7.1								
	0.2nm,0.5s								
MJAR	**Matsushiro Arr**	**50.48**	**20**	LR			LR	07 51 31.2	
	comp=Z,16nm,19.7s,baz=174,slow=36								
MKAR	**Makanchi Array**	**66.22**	**333**	P			P	07 32 18.9	+0.2
	0.1nm,0.4s,baz=142,slow=5.4,SNR=1.7								
	0.1nm,0.4s								

IDC 29 07:30:59.1±6.7,9.°28S×126.°87E,h83km±75km,mb3.3/2, mbtmp3.7/5,ML3.7/3,Error ellipse: s-maj=75.5km s-min=18.9km az=27.0,Timor region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BATI	**Baumata**	**3.30**	**253**	P			Pn	07 31 46.9	-1.7
	10nm,0.3s,baz=39,slow=12,SNR=2.0								
BATI				S			Sn	07 32 27.8	+1.0
	75nm,0.5s,baz=180,slow=20,SNR=6.2								
	30nm,0.3s								
WRA	**Warramunga Arr**	**12.82**	**147**	P			Pn	07 33 58.2	-0.1
	0.4nm,0.3s,baz=319,slow=14,SNR=21								
WRA				S			Sn	07 36 18.6	-0.8
	4.8nm,0.8s,baz=320,slow=26,SNR=9.3								
	0.5nm,0.3s								
ASAR	**Alice Springs**	**15.81**	**156**	P			P	07 34 38.5	-0.6
	0.3nm,0.3s,baz=332,slow=12,SNR=19								
	0.9nm,0.5s								
MKAR	**Makanchi Array**	**68.49**	**329**	P			P	07 41 52.7	+0.2
	0.5nm,0.7s,baz=117,slow=7.7,SNR=5.1								
	0.5nm,0.7s								
KURBB	**Kurchatov Arra**	**72.88**	**330**	P			P	07 42 18.7	-0.3
	0.4nm,0.6s,baz=127,slow=5.4,SNR=2.8								
	0.4nm,0.6s								

*CATAC **29** 07:31:47.5±0.9,12.°50N×88.°09W,h32km±21km,ML3.8*
*UCR **29** 07:31:55.3±4.0,9.°74N×88.°32W,h0km±730km,MW3.8*

ISC 29 07:31:35.6±1.5,11.°92N±0.°05×88.°44W±0.°05,h32km±15km, n69,σ2°31/83,Off coast of central America

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.47**	**24**	*i* P			**Pb**	**07 32 02.8**	**+0.3**
LCND	**La Caada**	**1.48**	**21**	*i* P			**Pb**	**07 32 02.7**	**+0.1**
RANC	**El Ranchito**	**1.51**	**5**	*e*P			**Pb**	**07 32 04.2**	**+1.0**
RANC				*e*S			**Sn**	**07 32 16.9**	**-2.4**
BLLM	**Bellamira**	**1.52**	**7**	*i* P			**Pb**	**07 32 04.1**	**+0.7**
PACA	**Pacayal**	**1.54**	**4**	*e*P			**Pb**	**07 32 04.9**	**+1.2**
PACA				*e*S			**Sn**	**07 32 17.9**	**-2.2**
AMPH	**Amapala**	**1.55**	**29**	*e*P			**Pb**	**07 32 04.0**	**+0.2**
CRIN	**San Cristobal**	**1.56**	**60**	*i* P			**Pb**	**07 32 06.6**	**+2.6**
CRIN				IAML				07 32 29.2	
	comp=Z,4μm,1.0s								
CNRM	**Centro Naciona**	**1.56**	**9**	*e*P			**Pb**	**07 32 04.4**	**+0.4**
TECA	**Tecapa**	**1.56**	**358**	*i* P			**Pb**	**07 32 05.6**	**+1.5**
COEB	**Comit de Eme**	**1.57**	**357**	*e*P			**Pb**	**07 32 05.6**	**+1.4**
COEB				*e*S			**Sn**	**07 32 19.5**	**-1.3**
PKGN	**Cerro Pekin**	**1.61**	**62**	*i* P			**Pb**	**07 32 07.2**	**+2.5**
PKGN				*i* S			**Sn**	**07 32 22.6**	**+1.1**
PKGN				IAML				07 32 28.6	
	comp=Z,7μm,1.0s								
TECO	**Alcaldia de Te**	**1.64**	**348**	*e*S			**Sn**	**07 32 22.0**	**-0.4**
PACN	**Al O del Volca**	**1.71**	**70**	*i* P			**Pb**	**07 32 08.4**	**+2.0**
PACN				*i* S			**Sn**	**07 32 25.2**	**+1.2**
PACN				IAML				07 32 27.6	
	comp=Z,1μm,1.0s								
UESV	**Universidad de**	**1.74**	**349**	*e*P			**Pb**	**07 32 08.8**	**+1.8**
UESV				*e*S			**Sn**	**07 32 25.0**	**+0.2**
COEG	**Centro de Oper**	**1.74**	**346**	*e*P			**Pb**	**07 32 09.2**	**+2.2**
COEG				*e*S			**Sn**	**07 32 25.6**	**+0.6**
CNGA	**Al SSO del Vol**	**1.79**	**71**	*i* P			**Pb**	**07 32 09.4**	**+1.6**
CNGA				*i* S			**Sn**	**07 32 26.9**	**+0.8**
CNGA				IAML				07 32 35.0	
	comp=Z,1μm,1.0s								
SCLA	**Alcaldia de Sa**	**1.79**	**351**	*e*P			**Pb**	**07 32 09.7**	**+1.8**
COPN	**Copaltepe**	**1.82**	**82**	*i* P			**Pb**	**07 32 12.1**	**+3.7**
COPN				IAML				07 32 34.1	
	comp=Z,950nm,1.0s								
PAVA	**La Pavas**	**1.85**	**345**	*e*P			**Pb**	**07 32 11.2**	**+2.3**
PAVA				*e*S			**Sn**	**07 32 29.0**	**+1.4**
LOMA	**Loma Larga**	**1.86**	**337**	*i* P			**Pb**	**07 32 11.8**	**+2.8**
PMON	**Piamonte**	**1.98**	**334**	*e*P			**Pb**	**07 32 13.9**	**+2.9**
MOM2	**El Cardon**	**1.98**	**75**	*i* P			**Pb**	**07 32 13.0**	**+2.0**
MOM2				*i* S			**Sn**	**07 32 33.5**	**+2.9**
MOM2				IAML				07 32 42.6	
	comp=Z,630nm,1.0s								
PIC2	**El Picacho**	**1.98**	**336**	*e*P			**Pb**	**07 32 14.2**	**+3.0**
JAYA	**Jayaque - finc**	**1.99**	**330**	*e*P			**Pb**	**07 32 14.2**	**+2.9**
SAPS	**Ciudad Sandino**	**2.00**	**83**	*i* P			**Pb**	**07 32 14.5**	**+3.1**
SAPS				IAML				07 32 39.0	
	comp=Z,2μm,1.0s								
APYN	**Apoyeque**	**2.06**	**81**	*i* P			**Pb**	**07 32 15.2**	**+2.7**
APYN				IAML				07 32 39.1	
	comp=Z,1μm,1.0s								
RB28C	**Hialeah**	**2.12**	**84**	*i* P			**Pb**	**07 32 16.7**	**+3.3**
RB28C				IAML				07 32 58.4	
	comp=Z,2μm,1.0s								
TISN	**Laguna Tiscapa**	**2.13**	**84**	*i* P			**Pb**	**07 32 15.6**	**+2.0**
TISN				IAML				07 32 44.4	
	comp=Z,72nm,1.0s								
R4DEC	**Barrio San Lui**	**2.15**	**84**	*i* P			Pn	07 32 19.4	+10
R4DEC				*i* P			**Pb**	**07 32 16.7**	**+2.7**
R4DEC				*i* S			**Sb**	**07 32 39.3**	**-1.0**
R4DEC				IAML				07 32 43.8	
	comp=Z,660nm,1.0s								
R4DEC				IAML				07 32 44.0	
	comp=Z,600nm,1.0s								
R0529	**La Mascota**	**2.16**	**84**	*i* P			**Pb**	**07 32 17.0**	**+2.9**
R0529				IAML				07 32 42.2	
	comp=Z,840nm,1.0s								
BRAN	**Las Pilas**	**2.19**	**69**	*i* P			**Pb**	**07 32 15.1**	**+0.5**
BRAN				IAML				07 32 15.8	
	comp=Z,860nm,1.0s								
BRAN				*i* S			**Sn**	**07 32 37.4**	**+1.6**
WILN	**Americas 2**	**2.21**	**84**	*i* P			**Pb**	**07 32 18.0**	**+3.0**
WILN				*i* S			**Sb**	**07 32 41.0**	**-1.0**
WILN				IAML				07 32 50.9	
	comp=Z,440nm,1.0s								
RB213	**Mirador 2 Volc**	**2.22**	**88**	*i* P			**Pb**	**07 32 16.5**	**+1.4**
RB213				IAML				07 32 41.5	
	comp=Z,830nm,1.0s								
HUEN		**2.25**	**79**	*i* P			**Pb**	**07 32 17.4**	**+1.7**
HUEN				*i* S			**Sn**	**07 32 41.3**	**+3.9**
HUEN				IAML				07 32 44.1	
	comp=Z,400nm,1.0s								
LIMN	**Finca el Limon**	**2.32**	**60**	*i* P			**Pb**	**07 32 16.0**	**-0.8**
LIMN				IAML				07 32 43.0	
	comp=Z,460nm,1.0s								
NUBE	**Las Nubes**	**2.37**	**326**	*e*P			**Pb**	**07 32 20.4**	**+2.7**
JAPN	**Al SSO del Vol**	**2.73**	**98**	*i* P			**Pb**	**07 32 27.0**	**+3.2**
JAPN				IAML				07 33 14.2	
	comp=Z,200nm,1.0s								
MORN	**Al O del Volca**	**2.76**	**97**	*i* P			**Pb**	**07 32 27.1**	**+2.8**
MORN				IAML				07 33 03.1	
	comp=Z,470nm,1.0s								
ESQI	**Esquipulas**	**2.77**	**342**	*i* P			**Pb**	**07 32 24.3**	**-0.2**
ESQI				IAML				07 33 01.9	
	comp=Z,230nm,1.0s								
ORTG	**Ortega, Santa**	**3.31**	**118**	*e*P			Pb	07 32 50.2	+16
TRB2	**Turrubares**	**4.39**	**117**	*e*P			**Pb**	**07 32 54.6**	**+2.4**
TCS1	**Tacares**	**4.47**	**114**	*e*P			**Pb**	**07 32 55.9**	**+2.3**
BELE	**Belen**	**4.60**	**114**	*e*P			**Pb**	**07 32 59.1**	**+3.5**
SANTA	**Santa Ana**	**4.62**	**115**	*e*P			**Pb**	**07 32 59.2**	**+3.1**
HDC	**Heredia**	**4.65**	**114**	*e*P			Pb	07 32 50.9	-5.7
HDC3	**Heredia 3**	**4.66**	**114**	*e*P			**Pb**	**07 33 00.3**	**+3.6**
ACOS	**Acosta**	**4.70**	**116**	*e*P			**Pb**	**07 32 59.6**	**+2.2**
ACOS				*e*S			**Sb**	**07 33 49.1**	**-4.5**
SJS	**Escuela Geolog**	**4.73**	**114**	*e*P			**Pb**	**07 33 00.9**	**+2.9**
SJS3	**Mercedes San J**	**4.74**	**114**	*e*P			**Pb**	**07 33 01.1**	**+3.0**
CORON	**Coronado**	**4.76**	**114**	*e*P			**Pb**	**07 33 01.8**	**+3.3**
OCM	**Ochomogo**	**4.83**	**114**	*e*P			**Pb**	**07 33 01.7**	**+1.9**
ABE2	**San Pablo**	**4.84**	**117**	*e*P			**Pb**	**07 33 01.0**	**+1.2**
LCR2	**La Lucha 2**	**4.86**	**116**	*e*P			**Pb**	**07 33 01.2**	**+1.0**
RAZU	**San Marcos de**	**4.88**	**117**	*e*P			**Pb**	**07 33 01.4**	**+0.8**
VICA	**Volcano Irazu**	**4.90**	**113**	*e*P			**Pb**	**07 33 03.0**	**+1.9**
LLNJ	**Naranjito**	**4.91**	**119**	*e*P			**Pb**	**07 33 01.8**	**+0.9**
RAFA	**San Farael, Vo**	**4.94**	**113**	*e*P			**Pb**	**07 33 04.4**	**+2.7**
REPA	**Paraso**	**4.95**	**114**	*e*P			**Pb**	**07 33 04.1**	**+2.5**
PCAYA	**Pacayas**	**4.96**	**113**	*e*P			**Pb**	**07 33 05.2**	**+3.3**
RIMA	**Rio Macho**	**4.98**	**115**	*e*P			**Pb**	**07 33 02.6**	**+0.4**
VTLO	**VTLO**	**4.99**	**112**	*e*P			**Pb**	**07 33 04.5**	**+2.1**
VERB	**Verbena**	**5.05**	**112**	*e*P			**Pb**	**07 33 04.8**	**+1.4**
CDM	**Cerro de Muert**	**5.16**	**117**	*e*P			**Pb**	**07 33 05.5**	**0.0**
CDM				*e*S			**Sb**	**07 34 02.0**	**-5.2**
PEZE	**Perez Zeledon,**	**5.31**	**118**	*e*P			**Pb**	**07 33 07.0**	**-0.9**
OCHAL	**Ojochal**	**5.48**	**120**	*e*P			**Pb**	**07 33 09.7**	**-1.1**
SRBA	**San Rafael, Bu**	**5.66**	**118**	*e*P			**Pb**	**07 33 11.8**	**-2.0**
BURE	**Buenos Aires**	**5.71**	**118**	*e*P			**Pb**	**07 33 12.6**	**-2.0**
DRK0	**Durika**	**5.75**	**117**	*e*P			**Pb**	**07 33 12.9**	**-2.3**
EDBA	**Buenos Aires**	**5.77**	**118**	*e*P			**Pb**	**07 33 12.8**	**-2.7**

IDC 29 07:32:04.8±4.6,0.°72N×131.°11E,h0km,mb3.9/4, mbtmp4.0/4,Error ellipse: s-maj=346.4km s-min=23.6km az=72.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.78**	**171**	P			P	07 36 47.4	-0.2
	5.9nm,0.7s,baz=353,slow=11,SNR=14								
	5.9nm,0.7s								
ASAR	**Alice Springs**	**24.39**	**174**	P			P	07 37 25.2	+0.2
	14nm,1.0s,baz=353,slow=11,SNR=37								
	14nm,1.0s								
MKAR	**Makanchi Array**	**62.52**	**324**	P			P	07 42 29.8	-0.7
	0.4nm,0.6s,baz=111,slow=8.2,SNR=3.8								
	0.4nm,0.6s								
KURBB	**Kurchatov Arra**	**66.63**	**327**	P			P	07 42 57.8	+0.6
	0.2nm,0.2s,baz=120,slow=5.6,SNR=1.7								
	0.2nm,0.2s								

*IDC **29** 07:36:09.8±0.7,0.°53N×24.°89W,h0km,mb4.0/12, mbtmp4.0/12,MS3.7/60,Error ellipse: s-maj=27.8km s-min=19.1km az=144.0*
*GCMT **29** 07:36:16.0±0.4,0.°59N±0.°05×24.°98W±0.°02,h18km±1km, MW4.8/83,Moment Tensor Solution. s14,c16; s83,c102; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.78±.18; $M_{\theta\theta}$0.02±.10; $M_{\phi\phi}$1.76±.12; $M_{r\theta}$-0.25±.32; $M_{\theta\phi}$-0.12±.07; $M_{\phi r}$-0.15±.23; Best double couple: $M_0$1.79700×10^{16} NP1:ϕ_s4.00000°,δ48.00000°,λ-79.00000°. NP2: ϕ_s168.00000°,δ43.00000°,λ-102.00000°. Principal axes: T 1.7730, Plg2.0000°, Azm86.0000°; N 0.0440, Plg8.0000°, Azm177.0000°; P -1.8210, Plg82.0000°, Azm341.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Surface-wave location Triangular moment-rate function*

ISC 29 07:36:11.4±0.7,0.°5N±0.°2×24.°9W±0.°1,h10km,n70, σ0°82/15,mb4.1/11,MS3.8/59,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RCBR	**Riachuelo**	**12.69**	**240**	LR			LR	07 42 51.9	
	comp=Z,511nm,19.5s,baz=130,slow=32								
H10N3	**ASCENSION HYDR**	**13.28**	**129**	T			T	07 53 00.2	
	baz=307,slow=74,SNR=52								
H10N2	**ASCENSION HYDR**	**13.29**	**129**	T			T	07 52 59.0	
	baz=307,slow=74,SNR=63								
H10N1	**ASCENSION HYDR**	**13.30**	**129**	T			T	07 52 59.6	
	baz=307,slow=74,SNR=73								
H10S3	**ASCENSION HYDR**	**13.88**	**133**	T			T	07 53 44.7	
	baz=310,slow=74,SNR=46								
H10S2	**ASCENSION HYDR**	**13.89**	**133**	T			T	07 53 45.9	
	baz=270,slow=74,SNR=16								
DBIC	**Dimbokro**	**20.88**	**73**	P			**P**	**07 40 54.0**	**0.0**
	4.6nm,0.8s,baz=254,slow=15,SNR=3.2								
DBIC				LR			LR	07 47 13.5	
	comp=Z,406nm,21.3s,baz=242,slow=32								
	4.6nm,0.8s								
BDFB	**Brasilia**	**27.94**	**234**	LR			LR	07 52 01.1	
	comp=Z,420nm,20.1s,baz=63,slow=34								
MDP	**Montagnes des**	**28.09**	**280**	LR			LR	07 50 52.5	
	comp=Z,170nm,20.8s,baz=80,slow=31								
TORD	**Torodi Ar. Bea**	**29.16**	**63**	P			**P**	**07 42 12.5**	**-0.6**
	1.0nm,0.7s,baz=255,slow=8.1,SNR=5.3								
TORD				LR			LR	07 52 38.0	
	comp=Z,492nm,19.7s,baz=276,slow=34								
	1.0nm,0.7s								
MDT	**Midelt**	**37.35**	**29**	LR			LR	07 57 27.7	
	comp=Z,134nm,21.0s,baz=204,slow=34								
SIV	**San Ignacio**	**39.32**	**244**	LR			LR	07 59 10.2	
	comp=Z,218nm,18.2s,baz=105,slow=35								
PCRV	**Puerto La Cruz**	**40.67**	**285**	LR			LR

	0.6nm,0.8s,baz=125,slow=6.3,SNR=6.9							
TXAR				LR	LR	08 21 19.0		
	comp=Z,14nm,19.3s,baz=84,slow=34							
	0.6nm,0.8s							
KIRV	**Kirov**	**81.39**	**31**	LR	LR	08 24 33.0		
	comp=Z,26nm,20.2s,baz=238,slow=36							
ANMO	**Albuquerque**	**82.78**	**305**	LR		08 20 16.1		
	comp=Z,53nm,21.2s,baz=204,slow=32							
GEYT	**Alibeck**	**84.14**	**52**	LR	LR	08 30 10.0		
	comp=Z,33nm,18.3s,baz=195,slow=38							
AKTO	**Aktyubinsk**	**85.05**	**40**	LR	LR	08 30 43.5		
	comp=Z,33nm,18.6s,baz=224,slow=38							
RPN	**Rapa Nui**	**85.30**	**243**	LR	LR	08 23 18.8		
	comp=Z,61nm,18.9s,baz=65,slow=33							
LPIG	**La Paz**	**85.60**	**294**	LR	LR	08 23 27.3		
	comp=Z,34nm,20.0s,baz=182,slow=33							
PDAR	**Pinedale Array**	**85.72**	**313**	P	**P**	**07 48 51.0**	**-0.2**	
	0.9nm,0.8s,baz=90,slow=6.7,SNR=6.6							
PDAR				LR	LR	08 25 28.8		
	comp=Z,20nm,19.7s,baz=120,slow=34							
	0.9nm,0.8s							
ARU	**Arti**	**85.92**	**34**	LR	LR	08 29 45.8		
	comp=Z,24nm,18.6s,baz=243,slow=37							
YKA	**Yellowknife Ar**	**89.40**	**332**	P	**P**	**07 49 07.4**	**-0.8**	
	0.2nm,0.6s,baz=92,slow=4.3,SNR=3.7							
YKA				LR	LR	08 25 10.6		
	comp=Z,57nm,20.4s,baz=336,slow=33							
	0.2nm,0.6s							
MAW	**Mawson**	**89.64**	**157**	P	**P**	**07 49 09.3**	**+0.2**	
	1.6nm,0.9s,baz=269,slow=8.0,SNR=2.6							
	1.6nm,0.9s							
QSPA	**South Pole Qui**	**90.61**	**180**	P	**P**	**07 49 14.0**	**+0.1**	
	1.9nm,1.0s,baz=270,slow=18,SNR=2.7							
	1.9nm,1.0s							
PFO	**Pinyon Flats O**	**91.02**	**303**	LR	LR	08 23 25.7		
	comp=Z,36nm,21.5s,baz=72,slow=31							
NEW	**Newport**	**91.10**	**318**	LR	LR	08 24 41.1		
	comp=Z,58nm,21.1s,baz=118,slow=32							
BVAR	**Borovoye Array**	**92.75**	**37**	LR	LR	08 35 12.3		
	comp=Z,30nm,18.1s,baz=245,slow=38							
YBH	**Yreka Blue Hor**	**95.49**	**312**	LR	LR	08 27 52.4		
	comp=Z,50nm,20.0s,baz=102,slow=32							
INK	**Inuvik**	**96.32**	**339**	LR	LR	08 32 03.8		
	comp=Z,15nm,18.0s,baz=4.0,slow=35							
AAK	**Ala-Archa**	**96.54**	**47**	LR	LR	08 39 16.6		
	comp=Z,26nm,18.6s,baz=276,slow=39							
BBB	**Bella Bella**	**97.67**	**323**	LR	LR	08 31 00.3		
	comp=Z,46nm,20.2s,baz=115,slow=34							
STKA	**Stephens Creek**	**146.31**	**159**	PKPbc	**PKPdf**	**07 55 53.5**	**+1.6**	
	3.0nm,0.8s,baz=304,slow=8.9,SNR=2.9							
ASAR	**Alice Springs**	**149.14**	**140**	PKPbc	**PKPbc**	**07 56 00.8**	**-0.3**	
	1.5nm,0.8s,baz=213,slow=2.1,SNR=14							
WRA	**Warramunga Arr**	**151.97**	**135**	PKPbc	**PKPbc**	**07 56 06.4**	**-1.5**	
	0.5nm,0.8s,baz=238,slow=1.8,SNR=5.0							

*HVO **29** 07:43:20.8±1.3, 19°.405N±0°.008×155°.293W±0°.007, h-0km±3km, ML2.9/47, ML2.7/36(NEIC), Error ellipse: s-maj=1.2km s-min=0.9km az=198.0*

NEIC 29 07:43:21.2±1.7, 19°.383N±0°.009×155°.283W±0°.008, h5km±1km, Error ellipse: s-maj=2.1km s-min=1.5km az=121.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**34**		Pg	07 43 22.7	+0.4
KKO	**Keanakako`i**	**0.02**	**46**		Pg	07 43 23.0	+0.6
OBL	**Observatory Le**	**0.04**	**358**		Pg	07 43 22.1	-0.3
BYL	**Byron's Ledge**	**0.04**	**36**		Pg	07 43 21.3	-1.1
UWE	**Uwekahuna**	**0.04**	**346**		Pg	07 43 21.4	-1.1
UWB	**Uwekahuna B**	**0.04**	**6**		Pg	07 43 22.9	+0.4
HATHI	**Halema'uma'u T**	**0.04**	**27**		Pg	07 43 21.7	-0.9
SBLHI	**Steaming Bluff**	**0.05**	**18**		Pg	07 43 23.2	+0.6
PUH	**Pauahi**	**0.06**	**98**		Pg	07 43 22.6	-0.2
PUH				IAML		07 43 24.6	
	comp=E,6μm,0.8s						
PUH				IAML		07 43 24.8	
	comp=N,3μm,0.5s						
RSD	**Rainshed**	**0.08**	**3**		Pg	07 43 22.2	-0.9
RSD				IAML		07 43 23.6	
	comp=E,6μm,0.7s						
RSD				IAML		07 43 23.7	
	comp=N,4μm,0.3s						
HLP	**Hilina Pali**	**0.09**	**195**		Pg	07 43 24.2	+1.0
KNHH	**Kane Nui o Ham**	**0.11**	**92**		Pg	07 43 23.4	-0.1
MLH	**Mauna Loa**	**0.15**	**319**		Pg	07 43 24.4	+0.1
MLH				IAML		07 43 26.7	
	comp=E,3μm,1.1s						
MLH				IAML		07 43 27.1	
	comp=N,3μm,0.6s						
STCH	**Steam Cracks**	**0.15**	**89**		Pg	07 43 24.8	+0.5
STCH				IAML		07 43 27.9	
	comp=E,3μm,1.1s						
STCH				IAML		07 43 28.5	
	comp=N,3μm,1.1s						
NPOC	**North of Pu'u**	**0.16**	**86**		Pg	07 43 25.4	+0.9
JCUZ	**Jacuzzi**	**0.17**	**89**		Pg	07 43 25.6	+0.9
HTC	**Hot Caves**	**0.18**	**217**		Pg	07 43 25.6	+0.8
JOKA	**Jonika Flow**	**0.27**	**79**		Pg	07 43 26.8	+0.4
JOKA				IAML		07 43 32.9	
	comp=N,2μm,0.8s						
JOKA				IAML		07 43 33.7	
	comp=E,970nm,1.4s						
HMH	**Humu'ula Sheep**	**0.29**	**319**		Pg	07 43 26.7	-0.3
HMH				IAML		07 43 33.6	
	comp=E,2μm,0.7s						
HMH				IAML		07 43 33.7	
	comp=N,2μm,0.6s						
MWH	**Moku'aweowe**	**0.31**	**289**		Pg	07 43 27.2	-0.2
MLOA	**Mauna Loa Obse**	**0.32**	**299**		Pg	07 43 27.0	-0.5
MLOA				IAML		07 43 32.7	
	comp=E,2μm,1.0s						
PAH	**Pahoa**	**0.34**	**71**	Pg	Pg	07 43 28.1	+0.3
KHU	**Kahuku**	**0.34**	**247**		Pg	07 43 28.4	+0.5
KHU				IAML		07 43 36.0	
	comp=N,797nm,1.0s						
KHU				IAML		07 43 39.2	
	comp=E,704nm,0.7s						
ALEP	**Alea Permanent**	**0.38**	**295**		Pb	07 43 29.8	-0.8
POHA	**Pohakuloa**	**0.44**	**328**		Pg	07 43 28.9	-0.9
HUH	**Hualalai**	**0.60**	**300**		Pg	07 43 32.5	-0.3
CPH	**Captain Cook**	**0.61**	**280**		Pg	07 43 32.5	-0.4
HPAH	**Hawaii Prepara**	**0.75**	**329**		Pg	07 43 34.3	-1.4
MHA	**Mahukona**	**0.99**	**324**		Pg	07 43 37.9	-2.3

IDC 29 08:10:07.0±2.8, 17°.36S×177°.17W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=306.9km s-min=35.3km az=159.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.89**	**259**	P	P	08 18 31.0	-0.7
	0.5nm,0.9s,baz=95,slow=7.6,SNR=6.9						
	0.5nm,0.9s						
ASAR	**Alice Springs**	**46.08**	**254**	P	P	08 18 33.4	+0.3
	1.3nm,0.4s,baz=88,slow=8.0,SNR=28						
	1.3nm,0.4s						
TXAR	**Lajitas Array**	**84.71**	**57**	P	P	08 22 43.4	0.0
	0.2nm,0.8s,baz=215,slow=7.4,SNR=2.5						
	0.2nm,0.8s						

IDC 29 08:10:30.6±2.8, 19°.03S×177°.46W, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=280.5km s-min=35.3km az=160.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**45.33**	**260**	P	P	08 18 50.8	-0.1
	0.3nm,0.3s,baz=97,slow=7.6,SNR=17						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**45.37**	**255**	P	P	08 18 51.0	-0.2
	2.8nm,0.8s,baz=89,slow=8.3,SNR=18						
	2.8nm,0.8s						
TXAR	**Lajitas Array**	**85.83**	**57**	P	P	08 23 12.6	0.0
	0.1nm,0.7s,baz=206,slow=8.0,SNR=1.6						
	0.1nm,0.7s						

IDC 29 08:39:28.0±3.2, 54°.46N×87°.09E, h0km, mbtmp2.8/2, ML2.5/2, Error ellipse: s-maj=27.4km s-min=19.8km az=55.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.43**	**250**	I	I	08 48 05.9	
	baz=67,slow=328,SNR=3.2						
ZALV	**Zalesovo Beam**	**1.43**	**250**	Pg	Pn	08 39 53.2	-2.0
	1.0nm,0.3s,baz=66,slow=18,SNR=9.4						
ZALV				Lg	Lg	08 40 13.5	
	1.3nm,0.3s,baz=68,slow=30,SNR=5.0						
KURBB	**Kurchatov Arra**	**6.48**	**237**	Pn	Pn	08 41 05.4	+0.8
	0.1nm,0.3s,baz=54,slow=14,SNR=9.2						
KURBB				Lg	Lg	08 42 55.3	
	baz=55,slow=30,SNR=2.4						
	1.1nm,0.6s						
MKAR	**Makanchi Array**	**8.26**	**204**	Pn	Pn	08 41 30.4	+1.3
	0.1nm,0.3s,baz=21,slow=12,SNR=2.2						
MKAR				Lg	Lg	08 43 47.1	
	0.1nm,0.3s,baz=27,slow=27,SNR=2.5						
	0.2nm,0.5s						

*NNC **29** 08:50:18.8±1.0, 53°.45N×87°.60E, h0km, mb3.0, mpv2.7, Error ellipse: s-maj=8.7km s-min=3.9km az=51.0, Suspected Mining explosion.*

*IDC **29** 08:50:19.1±2.7, 53°.44N×87°.53E, h0km, mbtmp3.2/2, ML3.0/2, Error ellipse: s-maj=24.5km s-min=13.2km az=65.0*

ISC 29 08:50:17.9±3.6, 53°.5N±0°.1×87°.6E±0°.2, h0km, n8, σ0s82/9, 4C-3D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.72**	**286**	I	I	09 01 00.0	
	baz=106,slow=324,SNR=2.7						
ZAA0	**Zalesovo Array**	**1.72**	**286**	⇓P	**Pb**	**08 50 49.8**	**-0.6**
	0.5nm,0.3s						
ZAA0				⇑S	**Sg**	**08 51 13.2**	**+0.1**
	4.0nm,0.7s						
ZALV	**Zalesovo Beam**	**1.72**	**286**	Pg	**Pn**	**08 50 49.5**	**+0.4**
	1.7nm,0.3s,baz=107,slow=17,SNR=17						
ZALV				Lg	Lg	08 51 13.0	
	4.9nm,0.3s,baz=110,slow=31,SNR=14						
KURK	**Kurchatov**	**6.21**	**247**	⇓Lg	Lg	08 53 34.9	
	6.0nm,0.7s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	⇓Pn	**Pn**	**08 51 52.7**	**+0.6**
	0.9nm,0.4s						
KURBB				⇑Lg	Lg	08 53 36.0	
	10nm,0.7s						
KURBB	**Kurchatov Arra**	**6.31**	**246**	Pn	**Pn**	**08 51 52.6**	**+0.5**
	0.1nm,0.3s,baz=61,slow=14,SNR=4.3						
KURBB				Lg	Lg	08 53 36.0	
	0.1nm,0.3s,baz=59,slow=30,SNR=7.2						
	0.8nm,0.6s						
MK31	**Makanchi Array**	**7.55**	**209**	Pn	**Pn**	**08 52 08.5**	**-0.7**
	0.2nm,0.3s,baz=31,slow=14,SNR=4.0						
MK31				⇑Sn	**Sn**	**08 53 36.1**	**+0.6**
	0.8nm,0.5s,baz=29,slow=25,SNR=5.4						
MK31				⇑Lg	Lg	08 54 17.4	
	1.4nm,0.6s,baz=30,slow=32,SNR=4.5						
MKAR	**Makanchi Array**	**7.55**	**209**	Pn	**Pn**	**08 52 10.3**	**+1.1**
	0.7nm,0.3s,baz=31,slow=13,SNR=22						
MKAR				Sn	**Sn**	**08 53 34.6**	**-0.9**
	0.2nm,0.3s,baz=30,slow=27,SNR=6.3						
MKAR				Lg	Lg	08 54 17.2	
	0.1nm,0.3s,baz=26,slow=33,SNR=5.2						
	0.9nm,0.3s						

*GCG **29** 08:50:44.6±0.6, 13°.45N×90°.01W, h42km±80km, MD3.6*
*SNET **29** 08:50:44.6±0.8, 13°.51N×90°.06W, h62km±10km, ML3.2*

ISC 29 08:50:46.1±1.7, 13°.5N±0°.1×90°.02W±0°.07, h56km±18km, n26, σ0s72/34, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NUBE	**Las Nubes**	**0.47**	**30**	*i* P	**Pn**	**08 50 56.8**	**-0.9**
NUBE				IAML		08 51 09.2	
	comp=Z,714nm,0.3s						
CEVE	**Cerro Verde**	**0.51**	**49**	*e*P	**Pn**	**08 50 57.6**	**-0.6**
CEVE				*e*S	**Sn**	**08 51 07.8**	**+0.9**
SBLS	**San Blas**	**0.52**	**48**	*e*P	**Pn**	**08 50 57.5**	**-0.7**
SBLS				IAML		08 51 12.3	
	comp=Z,384nm,0.2s						
RTR	**El Retiro**	**0.55**	**42**	*i* P	**Pn**	**08 50 58.0**	**-0.5**
SNJE	**San Jose**	**0.55**	**47**	*i* P	**Pn**	**08 50 57.9**	**-0.7**
LOAL	**Lomas de Alarc**	**0.56**	**25**	*e*P	**Pn**	**08 50 58.1**	**-0.4**
JAYA	**Jayaque - finc**	**0.58**	**74**	*e*P	**Pn**	**08 50 58.0**	**-0.9**
JAYA				*e*S	**Sn**	**08 51 08.6**	**+0.5**
JAYA				IAML		08 51 11.3	
	comp=Z,4μm,0.2s						
SLOZ	**Alcaldia de Sa**	**0.58**	**23**	*e*P	**Pn**	**08 50 57.9**	**-0.8**
SLOZ				*e*S	**Sn**	**08 51 08.3**	**+0.4**
UNIC	**Universidad Ca**	**0.67**	**43**	*e*P	**Pn**	**08 50 58.9**	**-0.9**
CEDA	**San Andres**	**0.68**	**63**	*e*P	**Pn**	**08 50 59.6**	**-0.4**
CEDA				*e*S	**Sn**	**08 51 11.3**	**+1.2**
PMON	**Piamonte**	**0.72**	**72**	*e*P	**Pn**	**08 50 59.9**	**-0.6**
ITCA	**Escuela Especi**	**0.75**	**76**	*e*P	**Pn**	**08 51 00.2**	**-0.6**
ITCA				*e*S	**Sn**	**08 51 12.2**	**+0.6**
SNET	**Serv Nac Est T**	**0.79**	**76**	*e*P	**Pn**	**08 51 00.9**	**-0.5**
UEES	**Universidad Ev**	**0.79**	**73**	*e*P	**Pn**	**08 51 01.0**	**-0.4**
LOMA	**Loma Larga**	**0.84**	**79**	*e*P	**Pn**	**08 51 01.4**	**-0.6**
LOMA				IAML		08 51 09.0	
	comp=Z,436nm,0.2s						
PCG	**Pacaya**	**1.06**	**328**	*i* P	**Pn**	**08 51 04.5**	**-0.6**
PCG				*i* S	**Sn**	**08 51 19.8**	**+0.7**
PAVA	**Las Pavas**	**1.08**	**78**	*e*P	**Pn**	**08 51 04.6**	**-0.5**
MTO3	**Montecristo**	**1.11**	**35**	*e*P	**Pn**	**08 51 04.6**	**-1.1**
COEG	**Centro de Oper**	**1.12**	**83**	*e*P	**Pn**	**08 51 05.2**	**-0.5**
NBG	**Las Nubes**	**1.14**	**344**	*i* P	**Pn**	**08 51 06.2**	**+0.2**
TECO	**Alcaldia de Te**	**1.21**	**88**	*e*P	**Pn**	**08 51 06.2**	**-0.6**
FUG	**Fuego 3**	**1.24**	**320**	*i* P	**Pn**	**08 51 06.4**	**-1.0**
FUG				*i* S	**Sn**	**08 51 23.9**	**+0.6**
COEB	**Comit de Eme**	**1.45**	**89**	*e*P	**Pn**	**08 51 09.7**	**-0.4**
MRL	**Marmol**	**1.62**	**12**	*i* P	**Pn**	**08 51 11.8**	**-0.7**
STG3	**Santiaguito 3,**	**1.93**	**309**	*i* P	**Pn**	**08 51 16.2**	**-0.5**
STG3				*i* S	**Sn**	**08 51 40.9**	**+0.9**
LCND	**La Caada**	**2.08**	**95**	*e*P	**Pn**	**08 51 18.3**	**-0.4**

IDC 29 08:51:16.5±2.2, 6°.96S×128°.93E, h0km, mb3.3/1, mbtmp3.4/3, ML3.4/2, Error ellipse: s-maj=120.6km s-min=33.1km az=67.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.93**	**158**	Pn	Pn	08 54 34.8	-0.7
	0.2nm,0.3s,baz=337,slow=13,SNR=13						
WRA				Sn	Sn	08 56 57.5	-13
	0.5nm,0.3s,baz=337,slow=22,SNR=9.4						
	0.3nm,0.4s						
ASAR	**Alice Springs**	**17.29**	**164**	P	Pn	08 55 20.1	+0.5
	0.2nm,0.3s,baz=337,slow=10,SNR=22						
ASAR				S	Sn	08 58 19.6	-13
	0.3nm,0.6s,baz=342,slow=24,SNR=2.2						
	1.6nm,0.8s						
MKAR	**Makanchi Array**	**67.61**	**327**	P	P	09 02 15.2	0.0
	0.2nm,0.5s,baz=116,slow=6.6,SNR=2.0						
	0.2nm,0.5s						

*NEIC **29** 09:23:58.3±0.7, 19°.424N±0°.004×155°.334W±0°.008, h6km±2km, Error ellipse: s-maj=1.1km s-min=0.6km az=89.0*

HVO 29 09:23:58.2±0.8, 19°.419N±0°.008×155°.325W±0°.003, h3km±2km, ML2.7/26, ML2.5/40(NEIC), Error ellipse: s-maj=1.2km s-min=0.4km az=171.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.03**	**86**	Pg	Pg	09 23 59.5	+0.4
UWE				Sg	Sg	09 24 00.7	+0.8
OBL	**Observatory Le**	**0.04**	**92**		Pg	09 24 00.4	+1.2
UWB	**Uwekahuna B**	**0.04**	**82**		Pg	09 23 59.7	+0.4
RIM	**Rim**	**0.05**	**116**		Pg	09 24 00.1	+0.6
SBLHI	**Steaming Bluff**	**0.05**	**81**		Pg	09 23 59.8	+0.3
KKO	**Keanakako`i**	**0.06**	**111**		Pg	09 24 00.2	+0.6
HATHI	**Halema'uma'u T**	**0.06**	**86**	Pg	Pg	09 23 59.9	+0.3
HATHI				Sg	Sg	09 24 01.1	+0.6
HATHI				IAML		09 24 01.6	
	comp=N,4μm,0.4s						
HATHI				IAML		09 24 01.8	
	comp=E,4μm,0.1s						
BYL	**Byron's Ledge**	**0.06**	**96**	Pg	Pg	09 23 59.9	+0.3
BYL				Sg	Sg	09 24 01.5	+1.0
BYL				IAML		09 24 01.7	
	comp=E,3μm,0.5s						
RSD	**Rainshed**	**0.06**	**45**	Pg	Pg	09 23 59.9	+0.3
RSD				Sg	Sg	09 24 01.1	+0.4
RSD				IAML		09 24 01.7	
	comp=N,3μm,0.2s						
RSD				IAML		09 24 01.9	
	comp=E,3μm,0.1s						
MLH	**Mauna Loa**	**0.10**	**322**		Pg	09 24 00.7	+0.4
MLH				Sg	Sg	09 24 02.8	+1.2
PUH	**Pauahi**	**0.11**	**113**		Pg	09 24 00.8	+0.3
HLP	**Hilina Pali**	**0.12**	**173**		Pg	09 24 01.2	+0.6
HLP				IAML		09 24 03.9	
	comp=N,3μm,0.2s						
HLP				IAML		09 24 04.2	
	comp=E,3μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.15**	**105**		Pg	09 24 01.5	+0.2
STCH	**Steam Cracks**	**0.19**	**100**		Pg	09 24 02.1	+0.1
STCH				IAML		09 24 08.2	
	comp=N,463nm,0.3s						
HTC	**Hot Caves**	**0.19**	**201**		Pg	09 24 03.6	+1.6
NPOC	**North of Pu'u**	**0.20**	**97**		Pg	09 24 02.3	+0.1
NPOC					Sg	09 24 05.7	+0.8
JCUZ	**Jacuzzi**	**0.21**	**99**		Pg	09 24 02.5	+0.1
JCUZ					Sg	09 24 05.9	+0.7
HMH	**Humu'ula Sheep**	**0.24**	**321**		Pg	09 24 03.3	+0.5
MLOA	**Mauna Loa Obse**	**0.26**	**296**		Pg	09 24 03.7	+0.3
MLOA				IAML		09 24 11.7	
	comp=N,1μm,0.2s						
MLOA				IAML		09 24 11.9	
	comp=E,1μm,0.4s						
MWH	**Moku'aweowe**	**0.27**	**284**	Pg	Pg	09 24 03.8	+0.4
MWH				IAML		09 24 12.5	
	comp=E,1μm,0.6s						
JOKA	**Jonika Flow**	**0.30**	**87**		Pg	09 24 04.0	0.0
JOKA				IAML		09 24 06.9	
	comp=N,306nm,1.9s						
JOKA				Sg	Sg	09 24 07.3	-0.7
KHU	**Kahuku**	**0.32**	**238**		Pg	09 24 04.5	0.0
KHU				IAML		09 24 09.8	
	comp=N,878nm,0.1s						
ALEP	**Alea Permanent**	**0.33**	**292**		Pg	09 24 04.5	-0.1
PAH	**Pahoa**	**0.36**	**78**	Pg	Pg	09 24 05.2	0.0
POHA	**Pohakuloa**	**0.39**	**330**		Pg	09 24 05.7	0.0
HUH	**Hualalai**	**0.55**	**299**		Pg	09 24 09.2	+0.4
CPH	**Captain Cook**	**0.56**	**277**		Pg	09 24 08.8	-0.3
HPAH	**Hawaii Prepara**	**0.70**	**330**		Pg	09 24 10.7	-1.0
HPAH					Sg	09 24 20.3	-0.6

*KRNET **29** 09:26:29.8±0.1, 40°.79N×69°.47E, h18km, mb2.5*

ISC 29 09:26:29.4±1.9, 40°.76N±0°.07×69°.4E±0°.1, h10km, n5, σ1s54/11, 6C-5D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TAS	**Tashkent**	**0.57**	**353**	⇑*e*P	**Pg**	**09 26 40.7**	**+0.2**
	baz=46						
TAS				⇑*e*S	**Sg**	**09 26 48.4**	**+0.3**
	baz=46						
BTK	**Batken**	**1.29**	**122**	⇑*e*P	**Pn**	**09 26 53.2**	**-0.4**
	baz=25						
BTK				⇑*e*S	**Sb**	**09 27 09.8**	**-0.8**
	baz=25						
TRKS	**Terek-Say**	**1.53**	**59**	⇓*e*P	**Pn**	**09 26 56.6**	**-0.3**
	baz=62						
TRKS				⇓*e*S	**Sb**	**09 27 15.8**	**-1.7**
	baz=62						
DRK	**Karamyk**	**2.25**	**124**	⇓*e*P	**Pn**	**09 27 07.6**	**+0.7**
	baz=25						
DRK				⇓*e*S	**Sn**	**09 27 35.7**	**+0.9**
	baz=25						
KK31	**Karatay Array**	**2.49**	**19**	⇑Pn	**Pb**	**09 27 12.1**	**-2.1**
	0.6nm,0.2s,baz=187,slow=14,SNR=7.1						
KK31				Pg	**Pg**	**09 27 20.0**	**+2.9**
KK31				⇑Sn	**Sb**	**09 27 45.7**	**+0.8**
	0.3nm,0.2s,baz=292,slow=56,SNR=5.0						
KK31				⇓Lg	Lg	09 27 51.9	
	0.7nm,0.2s,baz=193,slow=27,SNR=3.9						

ISK 29 09:26:34.1, 37°.02N×29°.05E, h28km, ML1.6/5, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SABU	**Mula-Dalaman**	**0.20**	**198**	P	Pb	09 26 40.5	+0.4
SABU				*i* AML	AML	09 26 45.0	
	comp=E,90nm,0.4s						
SABU				S	Sb	09 26 45.4	+1.2
SABU				*i* AML	AML	09 26 46.0	
	comp=N,85nm,0.4s						
SABU	**Mula-Dalaman**	**0.20**	**198**	P	Pb	09 26 40.6	+0.5
SABU				*i* AML	AML	09 26 45.0	
	comp=E,90nm,0.4s						
SABU				S	Sb	09 26 45.3	+1.1
SABU				*i* AML	AML	09 26 46.0	
	comp=N,85nm,0.4s						
CAME	**Cameli-Denizli**	**0.22**	**109**	Pg	Pb	09 26 40.9	+0.5
CAEL	**Denizli, Camel**	**0.24**	**63**	P	Pb	09 26 40.8	+0.1
CAEL				S	Sb	09 26 46.8	+1.6
CAEL				*i* AML	AML	09 26 47.0	
	comp=N,69nm,0.4s						
CAEL				*i* AML	AML	09 26 50.0	
	comp=E,128nm,0.4s						
DNZT	**Denizli-Tavas-**	**0.26**	**356**	P	Pb	09 26 39.1	-1.8
DNZT				S	Sb	09 26 43.3	-2.4
DNZT	**Denizli-Tavas-**	**0.26**	**356**	P	Pb	09 26 39.5	-1.5
DNZT				S	Sb	09 26 43.2	-2.4
DALY	**Dalyan (Mula)**	**0.37**	**238**	Pg	Pb	09 26 42.9	+0.5
DALY				Sg	Sn	09 26 49.5	-0.5
FETY	**Fethiye**	**0.38**	**176**	Pg	Pb	09 26 42.9	+0.4
TAVA	**DENİZLİ_Tavas**	**0.46**	**347**	P	Pb	09 26 42.5	-1.4
TAVA				S	Sb	09 26 48.5	-2.1
TAVA				*i* AML	AML	09 26 50.0	
	comp=N,34nm,0.6s						
TAVA	**DENİZLİ_Tavas**	**0.46**	**347**	P	Pb	09 26 42.8	-1.2
TAVA				S	Sb	09 26 48.0	-2.5
TAVA				*i* AML	AML	09 26 50.0	
	comp=N,34nm,0.6s						
TAVA				*i* AML	AML	09 26 52.0	
	comp=E,22nm,0.2s						
GOLH	**Golhisar**	**0.47**	**61**	P	Pn	09 26 45.2	+0.2
GOLH				S	Sn	09 26 54.3	+1.8
GOLH				*i* AML	AML	09 26 56.0	
	comp=E,34nm,0.4s						
GOLH				*i* AML	AML	09 26 59.0	
	comp=N,27nm,0.4s						
APMY	**Acipayam-Deniz**	**0.50**	**24**	Pg	Pb	09 26 44.3	-0.2
AP

KUR				AMB	AMB	09 29 57.7		
	180nm,0.4s							
KUR				*eS*	**Sn**	**09 30 12.3**	**-2.4**	
KUR				A	A	09 30 16.6		
	420nm,0.4s							
KUR				A	A	09 30 16.6		
	420nm,0.4s							
SHO	**Shikotan**	**2.12**	**254**	*eP*	**Pn**	**09 30 05.8**	**+0.4**	
SHO				AMB	AMB	09 30 08.9		
	20nm,0.2s							
SHO				*eS*	**Sn**	**09 30 29.6**	**-0.9**	
SHO				A	A	09 30 34.2		
	80nm,0.4s							
SHO				A	A	09 30 34.2		
	220nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**2.76**	**262**	*eP*	**Pn**	**09 30 15.0**	**+0.8**	
YUK				AMB	AMB	09 30 19.7		
	90nm,0.2s							
YUK				*eS*	**Sn**	**09 30 45.7**	**-0.6**	
YUK				A	A	09 30 49.4		
	60nm,0.4s							
YUK				A	A	09 30 49.4		
	210nm,0.4s							
NEM2	**Nemuro 2**	**3.04**	**250**	*eP*	**Pn**	**09 30 18.1**	**+0.1**	
NEM2				*eS*	**Sn**	**09 30 51.3**	**-1.7**	
NMR	**Nemuro--Hokkai**	**3.04**	**250**	*eP*	**Pn**	**09 30 18.5**	**+0.4**	
NMR				*eS*	**Sn**	**09 30 52.0**	**-1.3**	
JRA	**Rausu**	**3.30**	**262**	*eP*	**Pn**	**09 30 23.0**	**+1.4**	
JRA				*eS*	**Sn**	**09 30 60.0**	**+0.3**	
JNK	**Nakash**	**3.67**	**258**	*eP*	**Pn**	**09 30 27.5**	**+0.8**	
JNK				*eS*	**Sn**	**09 31 07.0**	**-1.7**	
AKK	**Akkeshi**	**3.78**	**249**	*eP*	**Pn**	**09 30 29.7**	**+1.5**	
JAK	**Akkeshi**	**3.88**	**249**	*eP*	**Pn**	**09 30 29.6**	**-0.1**	
JAK				*eS*	**Sn**	**09 31 11.9**	**-2.1**	
JTKR	**Abashiri--Toko**	**4.16**	**265**	*eP*	**Pn**	**09 30 36.5**	**+3.1**	
JTKR				*eS*	**Sn**	**09 31 22.9**	**+2.1**	
JAR	**Ashorobuto**	**4.41**	**257**	*eP*	**Pn**	**09 30 38.5**	**+1.6**	
JAR				*eS*	**Sn**	**09 31 27.4**	**+0.3**	
JOB	**Onbets**	**4.50**	**252**	*eP*	**Pn**	**09 30 39.6**	**+1.4**	
JOB				*eS*	**Sn**	**09 31 27.6**	**-1.6**	
JCH	**Churui**	**4.94**	**250**	*eP*	**Pn**	**09 30 45.6**	**+1.5**	
JCH				*eS*	**Sn**	**09 31 37.0**	**-2.9**	
JKK2	**Kamakawa 2**	**5.00**	**266**	*eP*	**Pn**	**09 30 48.5**	**+3.4**	
JNBK	**Urakawa-nobuka**	**5.49**	**249**	*eP*	**Pn**	**09 30 52.0**	**+0.3**	
JNBK				*eS*	**Sn**	**09 31 51.6**	**-1.9**	
JANG	**Nango**	**7.28**	**239**	*eS*	Sn	09 32 29.0	-8.7	
JTH	**Tanohata**	**7.34**	**235**	*eS*	Sn	09 32 29.9	-9.3	

IDC 29 09:40:03.1±3.9, 54°.21N×87°.51E, h0km, mbtmp2.7/2, ML2.5/2, Error ellipse: s-maj=34.6km s-min=20.6km az=38.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**1.61**	**262**	I	I	09 49 30.0	
	baz=80,slow=324,SNR=2.1						
ZALV	**Zalesovo Beam**	**1.61**	**262**	Pg	Pn	09 40 32.3	-0.5
	2.8nm,0.3s,baz=78,slow=12,SNR=18						
ZALV				Lg	Lg	09 40 54.3	
	3.7nm,0.3s,baz=80,slow=20,SNR=9.4						
KURBB	**Kurchatov Arra**	**6.56**	**240**	Pn	Pn	09 41 41.2	+0.4
	0.1nm,0.3s,baz=56,slow=14,SNR=2.8						
	0.4nm,0.4s						
MKAR	**Makanchi Array**	**8.14**	**206**	Pn	Pn	09 42 03.7	+1.2
	0.1nm,0.3s,baz=24,slow=13,SNR=2.0						
	0.2nm,0.5s						

VAO 29 09:58:58.1±0.7, 28°.22S×64°.34W, h10km, mb4.1, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TICA	**Tres Isletas**	**3.96**	**64**	*eP*	Pn	09 59 58.6	-0.3
TICA				*eS*	Sn	10 00 47.4	+1.9
CPUP	**Villa Florida**	**6.51**	**75**	*eP*	Pn	10 00 33.3	-0.7
CPUP				*eS*	Sn	10 01 49.3	+0.9
PSAL	**Palomas, Salto**	**6.51**	**118**	*eP*	Pn	10 00 34.5	+0.5
PSAL				*eS*	Sn	10 01 47.8	-0.6
ITQB	**Itaqui**	**6.91**	**104**	*eP*	Pn	10 00 40.1	+0.6
ITQB				*eS*	Sn	10 01 59.1	+0.9
TBOT	**Tacuaremb**	**8.06**	**117**	*eP*	Pn	10 00 55.8	+0.5
TBOT				*eS*	Sn	10 02 27.9	+1.3
UNIS	**Unistalda (Bra**	**8.19**	**98**	*eP*	Pn	10 00 56.8	-0.2
UNIS				*eS*	Sn	10 02 30.3	+0.7
RODS	**Rosario do Sul**	**8.26**	**107**	*eP*	Pn	10 00 59.2	+1.2
MURT	**Porto Murtinho**	**8.94**	**45**	*eP*	Pn	10 01 08.1	+0.8
CRSM	**Crissiumal (Br**	**9.14**	**88**	*eP*	Pn	10 01 11.0	+0.9
CPSB	**Cacapava Do Su**	**9.76**	**106**	*eP*	Pn	10 01 18.5	-0.1
PLTB	**Pedras Altas**	**9.95**	**113**	*eP*	Pn	10 01 20.7	-0.6
ALGR	**Alto Alegre (B**	**9.97**	**96**	*eP*	Pn	10 01 21.4	-0.1
BBRB	**Robore, Bolivi**	**10.73**	**24**	*eP*	Pn	10 01 30.3	-1.7
BBSD	**Serra de San D**	**11.50**	**18**	*eP*	Pn	10 01 42.4	-0.1

*NEIC **29** 10:01:58.5±0.9, 19°.414N×0°.008×155°.298W±0°.008, h2km±1km, Error ellipse: s-maj=1.2km s-min=0.9km az=206.0*

HVO 29 10:01:57.9±1.1, 19°.402N±0°.007×155°.291W±0°.008, h1km±2km, ML2.5/24, ML2.2/32(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=221.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.02**	**22**		Pg	10 01 59.7	+1.3
RIM	**Rim**	**0.02**	**112**		Pg	10 01 59.5	+1.1
UWE	**Uwekahuna**	**0.02**	**354**		Pg	10 01 58.9	+0.5
UWE				Sg	Sg	10 01 59.6	+0.8
KKO	**Keanakako`i**	**0.02**	**99**		Pg	10 02 00.1	+1.6
UWB	**Uwekahuna B**	**0.03**	**28**		Pg	10 01 59.1	+0.6
BYL	**Byron's Ledge**	**0.03**	**71**		Pg	10 01 59.1	+0.6
BYL				Sg	Sg	10 01 60.0	+1.0
SBLHI	**Steaming Bluff**	**0.03**	**40**		Pg	10 01 59.2	+0.7
HATHI	**Halema'uma'u T**	**0.04**	**53**	Pg	Pg	10 01 59.3	+0.7
HATHI				Sg	Sg	10 02 00.3	+1.1
RSD	**Rainshed**	**0.06**	**11**		Pg	10 01 59.9	+0.8
RSD				IAML		10 02 01.1	
	comp=E,2μm,0.1s						
RSD				Sg	Sg	10 02 01.5	+1.4
PUH	**Pauahi**	**0.08**	**111**	Pg	Pg	10 02 00.4	+1.0
PUH				Sg	Sg	10 02 00.5	+0.1
PUH				IAML		10 02 01.4	
	comp=N,956nm,0.5s						
PUH				IAML		10 02 01.5	
	comp=E,1μm,1.0s						
HLP	**Hilina Pali**	**0.11**	**189**		Pg	10 02 00.9	+1.0
HLP				IAML		10 02 03.6	
	comp=N,1μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.12**	**101**	Pg	Pg	10 02 01.1	+0.9
MLH	**Mauna Loa**	**0.13**	**316**		Pg	10 02 01.4	+1.0
MLH				Sg	Sg	10 02 03.4	+1.3
MLH				IAML		10 02 04.7	
	comp=N,1μm,0.2s						
STCH	**Steam Cracks**	**0.16**	**96**	Pg	Pg	10 02 01.5	+0.6
STCH				Sg	Sg	10 02 04.6	+1.6
STCH				IAML		10 02 04.7	
	comp=E,854nm,0.7s						
STCH				IAML		10 02 04.8	
	comp=N,881nm,0.5s						
NPOC	**North of Pu'u**	**0.17**	**93**		Pg	10 02 01.9	+0.7
JCUZ	**Jacuzzi**	**0.18**	**96**		Pg	10 02 02.0	+0.6
HTC	**Hot Caves**	**0.19**	**212**		Pg	10 02 02.4	+0.8
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg	Pg	10 02 03.1	+0.1
HMH				Sg	Sg	10 02 06.1	-0.5
HMH				IAML		10 02 09.5	
	comp=E,337nm,0.8s						
HMH				IAML		10 02 12.6	
	comp=N,372nm,0.6s						
JOKA	**Jonika Flow**	**0.27**	**83**	Pg	Pg	10 02 03.2	+0.1
JOKA				Sg	Sg	10 02 06.8	+0.2
JOKA				IAML		10 02 08.4	
	comp=N,425nm,2.1s						
JOKA				IAML		10 02 10.7	
	comp=E,234nm,0.5s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**		Pg	10 02 04.3	+0.7
MLOA				IAML		10 02 12.7	
	comp=N,477nm,0.5s						
MLOA				IAML		10 02 14.2	
	comp=E,434nm,0.5s						
MWH	**Moku'aweowe**	**0.30**	**286**	Pg	Pg	10 02 04.2	+0.5
MWH				Sg	Sg	10 02 07.6	0.0
PAH	**Pahoa**	**0.34**	**74**	Pg	Pg	10 02 04.3	0.0
KHU	**Kahuku**	**0.34**	**243**		Pg	10 02 04.4	-0.1
KHU				Sg	Sg	10 02 10.6	+1.7
ALEP	**Alea Permanent**	**0.36**	**293**		Pg	10 02 05.4	+0.5
ALEP					Sg	10 02 07.7	-1.8
POHA	**Pohakuloa**	**0.42**	**327**	Pg	Pg	10 02 05.8	-0.2
HUH	**Hualalai**	**0.59**	**299**		Pb	10 02 10.6	-0.5
CPH	**Captain Cook**	**0.60**	**278**		Pg	10 02 09.4	+0.1

*NEIC **29** 10:02:20.3±0.9, 19°.400N±0°.008×155°.293W±0°.003, h5km±1km, Error ellipse: s-maj=2.2km s-min=1.4km az=159.0*

HVO 29 10:02:20±1.1, 19°.401N±0°.007×155°.280W±0°.007, h0km±2km, ML2.9/34, ML2.8/31(NEIC), Error ellipse: s-maj=1.0km s-min=1.0km az=173.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**134**		Pg	10 02 20.7	+0.4
KKO	**Keanakako`i**	**0.01**	**103**		Pg	10 02 21.4	+1.0
OBL	**Observatory Le**	**0.02**	**348**		Pg	10 02 21.4	+1.0
BYL	**Byron's Ledge**	**0.02**	**60**		Pg	10 02 21.0	+0.5
BYL				IAML		10 02 21.2	
	comp=E,15μm,0.7s						
UWE	**Uwekahuna**	**0.02**	**329**		Pg	10 02 21.1	+0.6
UWB	**Uwekahuna B**	**0.02**	**5**		Pg	10 02 21.7	+1.2
HATHI	**Halema'uma'u T**	**0.03**	**40**		Pg	10 02 21.1	+0.5
SBLHI	**Steaming Bluff**	**0.03**	**24**		Pg	10 02 22.2	+1.6
RSD	**Rainshed**	**0.06**	**2**		Pg	10 02 21.1	+0.9
RSD				IAML		10 02 22.9	
	comp=E,4μm,0.3s						
RSD				Sg	Sg	10 02 23.5	+1.4
PUH	**Pauahi**	**0.07**	**114**		Pg	10 02 22.2	+0.9
PUH				IAML		10 02 22.8	
	comp=E,9μm,0.7s						
PUH				IAML		10 02 23.6	
	comp=N,8μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**102**	Pg	Pg	10 02 23.0	+0.9
HLP	**Hilina Pali**	**0.11**	**194**	Pg	Pg	10 02 22.4	+0.3
HLP				IAML		10 02 22.9	
	comp=E,6μm,0.6s						
HLP				Sg	Sg	10 02 24.2	+0.7
HLP				IAML		10 02 25.3	
	comp=N,5μm,1.0s						
MLH	**Mauna Loa**	**0.14**	**313**		Pg	10 02 22.6	-0.1
MLH				Sg	Sg	10 02 24.9	+0.5
MLH				IAML		10 02 26.6	
	comp=E,3μm,0.9s						
MLH				IAML		10 02 26.9	
	comp=N,3μm,0.7s						
STCH	**Steam Cracks**	**0.15**	**96**		Pg	10 02 22.9	0.0
STCH				Sg	Sg	10 02 25.3	+0.6
STCH				IAML		10 02 27.4	
	comp=N,3μm,0.8s						
NPOC	**North of Pu'u**	**0.16**	**93**		Pg	10 02 24.0	+0.9
NPOC					Sg	10 02 27.4	+2.1
JCUZ	**Jacuzzi**	**0.17**	**96**		Pg	10 02 24.1	+0.8
HTC	**Hot Caves**	**0.20**	**214**		Pg	10 02 24.8	+1.0
JOKA	**Jonika Flow**	**0.26**	**83**		Pg	10 02 25.0	0.0
JOKA				Sg	Sg	10 02 28.3	-0.2
JOKA				IAML		10 02 31.4	
	comp=N,2μm,0.9s						
JOKA				IAML		10 02 31.6	
	comp=E,2μm,1.2s						
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg	Pg	10 02 25.5	+0.1
HMH				Sg	Sg	10 02 29.5	+0.6
HMH				IAML		10 02 31.4	
	comp=E,2μm,1.3s						
HMH				IAML		10 02 34.4	
	comp=N,2μm,0.9s						
MLOA	**Mauna Loa Obse**	**0.31**	**296**	Pg	Pg	10 02 25.6	-0.4
MLOA				Sg	Sg	10 02 29.2	-0.8
MLOA				IAML		10 02 32.2	
	comp=E,1μm,1.0s						
MLOA				IAML		10 02 36.7	
	comp=N,2μm,0.6s						
MWH	**Moku'aweowe**	**0.31**	**286**	Pg	Pg	10 02 25.6	-0.4
PAH	**Pahoa**	**0.33**	**73**	Pg	Pg	10 02 26.3	0.0
PAH				Sg	Sg	10 02 30.5	0.0
KHU	**Kahuku**	**0.35**	**244**		Pg	10 02 26.9	+0.1
POHA	**Pohakuloa**	**0.43**	**326**	Pg	Pg	10 02 28.1	-0.1
POHA	**Pohakuloa**	**0.43**	**326**	Sg	Sb	10 02 36.4	-1.2
HUH	**Hualalai**	**0.59**	**298**	Pg	Pg	10 02 31.6	+0.2
CPH	**Captain Cook**	**0.61**	**278**		Pg	10 02 32.2	+0.6
HPAH	**Hawaii Prepara**	**0.74**	**328**	Pg	Pg	10 02 33.7	-0.5

*IDC **29** 10:02:26.1±13.0, 12°.31N×90°.51W, h0km, mb3.2/3, mbtmp3.2/3, MS3.1/1, Error ellipse: s-maj=285.6km s-min=117.0km az=11.0*
*CATAC **29** 10:02:45.2±0.4, 14°.57N×91°.03W, h4km±2km, ML4.0*
*GCG **29** 10:02:45.9±0.6, 14°.54N×90°.96W, h8km, MD4.0*
*SNET **29** 10:02:47.2±2.4, 14°.59N×90°.84W, h0km±47km, ML3.0*

ISC 29 10:02:45.5±1.1, 14°.56N±0°.04×91°.01W±0°.02, h7km±9km, n27, σ1°.05/35, 1D, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.20**	**123**	*i* P	**Pg**	**10 02 50.0**	**+0.4**
GUMI	**Mixco**	**0.40**	**79**	*i* P	**Pg**	**10 02 52.8**	**-0.5**
GUMI				*i* S	**Sg**	**10 02 59.5**	**+1.0**
GUMI				IAML		10 03 00.4	
	comp=Z,19μm,1.0s						
PCG	**Pacaya**	**0.43**	**113**	*i* P	**Pg**	**10 02 54.3**	**+0.4**
GCG4	**OSOP**	**0.47**	**86**	*i* P	**Pg**	**10 02 54.4**	**-0.2**
GCG4				*i* S	**Sg**	**10 03 01.6**	**+0.8**
GCG4				IAML		10 03 05.7	
	comp=Z,6μm,1.0s						
STG3	**Santiaguito 3,**	**0.56**	**286**	*i* P	**Pg**	**10 02 56.4**	**+0.1**
SULM	**Suchitepequez,**	**0.59**	**245**	*eP*	**Pb**	**10 02 58.0**	**-0.1**
NBG	**Las Nubes**	**0.65**	**87**	*eP*	**Pb**	**10 02 58.8**	**-0.5**
NBG				*i* S	**Sb**	**10 03 08.6**	**-0.1**
GUNB	**GUNB**	**0.65**	**87**	*i* P	**Pg**	**10 02 57.9**	**-0.2**
GUNB				IAML		10 03 08.7	
	comp=Z,2μm,1.0s						
RTAL	**Retalhuleu**	**0.66**	**267**	*i* P	**Pg**	**10 02 57.7**	**-0.5**
RTAL				*i* S	**Sg**	**10 03 07.2**	**+0.4**
RTAL				IAML		10 03 17.6	
	comp=Z,4μm,1.0s						
QUIS	**Sacapulas**	**0.73**	**354**	*i* P	**Pg**	**10 02 59.0**	**-0.6**
QUIS				*i* S	**Sg**	**10 03 08.7**	**-0.5**
QUIS				IAML		10 03 09.8	
	comp=Z,4μm,1.0s						
SMSP	**San Marcos**	**0.85**	**299**	*i* P	**Pg**	**10 03 01.6**	**-0.3**
SMSP				IAML		10 03 17.1	
	comp=Z,5μm,1.0s						
HUEH	**Huehuetenango**	**0.89**	**328**	*i* P	**Pg**	**10 03 01.9**	**-0.8**
HUEH				IAML		10 03 17.5	
	comp=Z,3μm,1.0s						
AVCB	**Coban**	**1.08**	**33**	*i* P	**Pb**	**10 03 06.3**	**-0.3**
AVCB				IAML		10 03 26.7	
	comp=Z,6μm,1.0s						
SLOZ	**Alcaldia de Sa**	**1.30**	**114**	*eP*	**Pn**	**10 03 08.9**	**-1.3**
SLOZ				*eS*	**Sg**	**10 03 26.6**	**-0.9**
SLOZ				IAML		10 03 39.1	
	comp=Z,216nm,0.5s						
NUBE	**Las Nubes**	**1.36**	**118**	*eP*	**Pn**	**10 03 09.9**	**-1.2**
NUBE				*eS*	**Sg**	**10 03 28.4**	**-1.0**
MRL	**Marmol**	**1.39**	**68**	*i* P	**Pb**	**10 03 12.0**	**+0.1**
MRL				*i* S	**Sn**	**10 03 30.5**	**+0.3**
SNJE	**San Jose**	**1.53**	**116**	*eP*	**Pn**	**10 03 13.1**	**-0.3**
SNJE				IAML		10 03 44.7	
	comp=Z,86nm,0.6s						
MTO3	**Montecristo**	**1.61**	**95**	*eP*	**Pn**	**10 03 14.1**	**-0.4**
ESQI	**Esquipulas**	**1.62**	**90**	*i* P	**Pn**	**10 03 14.2**	**-0.4**
JAYA	**Jayaque - finc**	**1.76**	**120**	*i* P	**Pn**	**10 03 16.2**	**-0.4**
JAYA				*eS*	**Sn**	**10 03 40.6**	**+1.2**
JAYA				IAML		10 03 43.3	
	comp=Z,704nm,0.2s						
PIC2	**El Picacho**	**1.89**	**115**	*eP*	**Pn**	**10 03 19.2**	**+0.9**
PETF	**Flores**	**2.59**	**25**	*i* P	**Pn**	**10 03 28.4**	**+0.5**
PETF				IAML		10 04 11.4	
	comp=Z,1μm,1.0s						
COEB	**Comit de Eme**	**2.63**	**113**	*eP*	**Pb**	**10 03 31.9**	**-1.1**
TXAR	**Lajitas Array**	**18.79**	**324**	P	**Pn**	**10 07 10.3**	**+4.3**
	comp=Z,0.2nm,0.5s,baz=144,slow=11,SNR=4.1						
	comp=Z,0.2nm,0.5s						
NVAR	**Mina Array Bea**	**33.85**	**320**	P	**P**	**10 09 27.9**	**-1.1**
	comp=Z,0.2nm,0.5s,baz=133,slow=8.7,SNR=2.4						
	comp=Z,0.2nm,0.5s						
NEW	**Newport**	**39.93**	**333**	LR	LR	10 30 32.5	
	comp=Z,25nm,19.1s,baz=197,slow=40						
YKA	**Yellowknife Ar**	**50.71**	**346**	P	**P**	**10 11 44.5**	**-1.1**
	comp=Z,0.7nm,0.8s,baz=138,slow=7.5,SNR=5.6						
	comp=Z,0.7nm,0.8s						

IDC 29 10:05:32.1±1.9, 1°.94N×125°.90E, h0km, mb3.4/3, mbtmp3.5/3, Error ellipse: s-maj=179.0km s-min=27.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.27**	**160**	P	P	10 10 40.9	-0.5
	0.6nm,0.4s,baz=338,slow=11,SNR=24						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**26.61**	**163**	P	P	10 11 13.0	+0.5
	0.3nm,0.4s,baz=346,slow=7.1,SNR=13						
ASAR				PcP	PcP	10 14 36.6	-0.3
	0.1nm,0.5s,baz=336,slow=2.0,SNR=1.6						
	0.3nm,0.4s						
MKAR	**Makanchi Array**	**58.56**	**326**	P	P	10 15 30.5	-0.2
	0.2nm,0.5s,baz=115,slow=7.4,SNR=1.1						
	0.2nm,0.5s						

*NEIC **29** 10:06:30.9±1.2, 19°.398N±0°.008×155°.281W±0°.006, h5km±1km, Error ellipse: s-maj=2.0km s-min=1.5km az=131.0*

HVO 29 10:06:30.4±1.0, 19°.411N±0°.006×155°.271W±0°.008, h0km±2km, ML2.7/36, ML2.6/33(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=123.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**84**	Pg	Pg	10 06 31.1	+0.4
BYL				Sg	Sg	10 06 31.7	+0.6
KKO	**Keanakako`i**	**0.01**	**159**		Pg	10 06 31.2	+0.5
OBL	**Observatory Le**	**0.01**	**299**		Pg	10 06 31.9	+1.0
UWB	**Uwekahuna B**	**0.01**	**335**		Pg	10 06 31.2	+0.3
HATHI	**Halema'uma'u T**	**0.02**	**39**		Pg	10 06 31.3	+0.5
HATHI				Sg	Sg	10 06 31.8	+0.6
RIM	**Rim**	**0.02**	**189**		Pg	10 06 31.3	+0.5
SBLHI	**Steaming Bluff**	**0.02**	**11**		Pg	10 06 31.2	+0.4
UWE	**Uwekahuna**	**0.02**	**297**		Pg	10 06 31.5	+0.6
UWE				Sg	Sg	10 06 32.2	+0.9
RSD	**Rainshed**	**0.05**	**353**		Pg	10 06 32.2	+0.8
RSD				IAML		10 06 32.9	
	comp=N,4μm,0.1s						
RSD				Sg	Sg	10 06 33.4	+1.2
PUH	**Pauahi**	**0.06**	**125**		Pg	10 06 32.5	+0.8
PUH				IAML		10 06 33.0	
	comp=N,3μm,0.5s						
PUH				IAML		10 06 33.3	
	comp=E,5μm,0.9s						
KNHH	**Kane Nui o Ham**	**0.10**	**108**		Pg	10 06 33.3	+1.0
HLP	**Hilina Pali**	**0.12**	**197**		Pg	10 06 33.1	+0.5
HLP				IAML		10 06 36.5	
	comp=N,3μm,0.8s						
HLP				IAML		10 06 36.5	
	comp=E,3μm,0.5s						
MLH	**Mauna Loa**	**0.14**	**307**		Pg	10 06 34.1	+1.1
MLH				IAML		10 06 36.4	
	comp=E,1μm,0.8s						
MLH				IAML		10 06 37.5	
	comp=N,2μm,0.6s						
STCH	**Steam Cracks**	**0.14**	**100**	Pg	Pg	10 06 33.8	+0.7
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	10 06 34.1	+0.8
JCUZ	**Jacuzzi**	**0.16**	**99**		Pg	10 06 35.7	+2.2
JOKA	**Jonika Flow**	**0.25**	**85**		Pg	10 06 35.9	+0.7
HMH	**Humu'ula Sheep**	**0.28**	**314**		Pb	10 06 37.6	-0.8
HMH				IAML		10 06 42.7	
	comp=E,863nm,0.7s						
HMH				IAML		10 06 44.9	
	comp=N,1μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	Pg	Pg	10 06 37.3	+0.9
MLOA				IAML		10 06 47.1	
	comp=N,695nm,1.1s						
MWH	**Moku'aweowe**	**0.32**	**284**		Pg	10 06 37.5	+1.1
PAH	**Pahoa**	**0.32**	**75**	Pg	Pg	10 06 37.4	+0.9
KHU	**Kahuku**	**0.36**	**243**		Pb	10 06 38.7	-1.1
KHU				IAML		10 06 46.6	
	comp=N,511nm,1.0s						
KHU				IAML		10 06 48.3	
	comp=E,799nm,0.8s						
ALEP	**Alea Permanent**	**0.38**	**290**		Pg	10 06 38.8	+1.2
HPO	**Honuapo**	**0.42**	**220**	Pg	Pg	10 06 36.5	-1.9
HPO					Sg	10 06 43.5	-0.3
POHA	**Pohakuloa**	**0.42**	**325**	Pg	Pg	10 06 38.3	-0.2
POHA				IAML		10 06 53.4	
	comp=E,782nm,0.8s						
HUH	**Hualalai**	**0.60**	**297**	Pg	Pg	10 06 41.8	0.0
CPH	**Captain Cook**	**0.61**	**277**		Pg	10 06 42.3	+0.1
HPAH	**Hawaii Prepara**	**0.73**	**327**		Pg	10 06 44.5	0.0

*HVO **29** 10:06:48.1±1.6, 19°.405N±0°.007×155°.287W±0°.008, h-0km±3km, ML3.1/31, ML3.1/31(NEIC), Error ellipse: s-maj=1.1km s-min=0.9km az=141.0*

NEIC 29 10:06:48.2±1.3, 19°.407N±0°.008×155°.304W±0°.007, h5km, Error ellipse: s-maj=1.4km s-min=1.2km az=0.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.02**	**34**	Pg	Pg	10 06 48.8	-0.6
OBL	**Observatory Le**	**0.02**	**59**		Pg	10 06 49.4	0.0
RIM	**Rim**	**0.03**	**112**		Pg	10 06 49.5	+0.1
UWB	**Uwekahuna B**	**0.03**	**53**		Pg	10 06 49.9	+0.4
KKO	**Keanakako`i**	**0.04**	**104**		Pg	10 06 49.8	+0.3
SBLHI	**Steaming Bluff**	**0.04**	**59**		Pg	10 06 50.4	+0.9
BYL	**Byron's Ledge**	**0.04**	**83**	Pg	Pg	10 06 49.5	-0.1
BYL				Sg	Sg	10 06 50.5	0.0
HATHI	**Halema'uma'u T**	**0.04**	**68**		Pg	10 06 49.5	-0.1
HATHI				Sg	Sg	10 06 50.5	0.0
RSD	**Rainshed**	**0.06**	**23**		Pg	10 06 49.8	-0.1
PUH	**Pauahi**	**0.09**	**111**	Pg	Pg	10 06 49.6	-0.6
PUH				IAML		10 06 51.5	
	comp=E,12μm,1.0s						
HLP	**Hilina Pali**	**0.11**	**182**	Pg	Pg	10 06 49.9	-0.7
HLP				IAML		10 06 51.0	
	comp=N,13μm,1.0s						
HLP				IAML		10 06 52.3	
	comp=E,12μm,0.8s						

explosion
ISC 29 10:16:10.0±1.0, **64°.70N**±0°.02×**30°.65E**±0°.06, **h0**km, **n34**, σ1**s72**/56, **Finland-Karelia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.57**	**213**	PG	**Pg**	**10 16 20.8**	**-0.2**
RMF				SG	**Sg**	**10 16 28.6**	**+0.2**
RMF				MSG		10 16 29.0	
	comp=Z,26nm,0.2s						
KU6	**Riekki**	**1.37**	**347**	PN	**Pg**	**10 16 35.5**	**-0.8**
	baz=164						
KU6				MSG		10 16 51.3	
	comp=Z,11nm,0.2s						
KU6				SN	**Sg**	**10 16 53.7**	**-0.4**
MSF	**Maaselka**	**1.40**	**332**	PN	**Pg**	**10 16 35.9**	**-0.9**
	baz=149						
MSF				SN	**Sg**	**10 16 54.8**	**0.0**
OLKF	**Oulanka, Finla**	**1.71**	**343**	PG	**Pn**	**10 16 41.5**	**+0.4**
OLKF				MSG		10 17 01.1	
	comp=Z,15nm,0.2s						
OLKF				SN	**Sg**	**10 17 05.4**	**+0.4**
JOF	**Joensuu**	**1.81**	**170**	PG	**Pn**	**10 16 42.1**	**-0.3**
	baz=351						
JOF				SN	**Sn**	**10 17 05.9**	**-0.1**
NIF	**Nilsia**	**1.81**	**225**	PG	**Pn**	**10 16 42.9**	**+0.5**
	baz=40						
NIF				SG	**Sb**	**10 17 06.9**	**-0.3**
OUL	**Oulu**	**2.07**	**283**	PG	**Pb**	**10 16 47.6**	**-0.7**
OUL				SG	**Sb**	**10 17 14.6**	**+0.1**
RANF	**Ranua**	**2.09**	**311**	PG	**Pb**	**10 16 47.8**	**-1.0**
	baz=122						
RANF				SG	**Sb**	**10 17 15.3**	**0.0**
OBF4	**Vikkela, Lumij**	**2.38**	**275**	PG	**Pb**	**10 16 52.5**	**-1.2**
OBF4				MSG		10 17 21.6	
	comp=Z,6.8nm,0.2s						
OBF4				SG	**Sb**	**10 17 24.8**	**+1.2**
OUF	**Merijarvi**	**2.58**	**265**	PB	**Pn**	**10 16 54.3**	**+1.4**
OUF				MSG		10 17 27.3	
	comp=Z,7.1nm,0.2s						
OUF				SG	**Sb**	**10 17 29.0**	**-0.3**
RNF	**Rovaniemi**	**2.72**	**317**	PG	**Pb**	**10 16 58.4**	**-1.1**
	baz=129						
RNF				SG	**Sb**	**10 17 33.5**	**+0.3**
OBF0	**Syolatti, Pyha**	**2.77**	**269**	PB	**Pb**	**10 16 58.8**	**-1.5**
	baz=87						
OBF0				MSG		10 17 33.0	
	comp=Z,4.4nm,0.2s						
OBF0				SB	**Sb**	**10 17 35.1**	**+0.3**
SUF	**Sumiainen**	**2.82**	**227**	PB	**Pb**	**10 16 59.4**	**-1.8**
SUF				MSG		10 17 34.0	
	comp=Z,2.9nm,0.2s						
SUF				SG	**Sb**	**10 17 37.0**	**+0.8**
TOF	**Tornio**	**2.99**	**301**	PG	**Pb**	**10 17 03.6**	**-0.5**
TOF				MSG		10 17 38.7	
	comp=Z,2.0nm,0.2s						
TOF				SG	**Sb**	**10 17 42.2**	**+1.1**
SGF	**Sodankyl**	**3.23**	**330**	PG	**Pb**	**10 17 08.0**	**-0.2**
SGF				SG	**Sb**	**10 17 47.6**	**-0.4**
KAF	**Kangasniemi**	**3.25**	**219**	PB	**Pb**	**10 17 06.7**	**-1.7**
KAF				SB	**Sb**	**10 17 47.0**	**-1.4**
KALU	**Kalix**	**3.28**	**294**	PG	**Pb**	**10 17 09.4**	**+0.4**
	baz=105						
KALU				SG	**Sb**	**10 17 52.3**	**+2.9**
RUF	**Ruokolahti**	**3.37**	**194**	SB	**Sb**	**10 17 49.9**	**-2.1**
KEF	**Keuruu**	**3.63**	**228**	PB	**Pn**	**10 17 10.6**	**+3.2**
KLF	**Kolari**	**3.74**	**316**	PG	**Pb**	**10 17 18.0**	**+1.2**
	baz=127						
KLF				SG	**Sb**	**10 18 06.1**	**+3.5**
FIA0	**FINESS Array S**	**3.87**	**215**	PB	**Pn**	**10 17 14.4**	**+3.7**
FINES	**FINESS Array B**	**3.87**	**215**	Pn	**Pn**	**10 17 11.3**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=30,slow=16,SNR=4.3						
FINES				Pg	**Pb**	**10 17 19.4**	**+0.4**
	comp=Z,0.4nm,0.3s,baz=31,slow=16,SNR=7.8						
FINES				Sn	**Sn**	**10 17 57.7**	**+0.9**
	comp=Z,0.4nm,0.3s,baz=37,slow=23,SNR=2.7						
FINES				Lg	Lg	10 18 08.8	
	comp=Z,0.9nm,0.3s,baz=38,slow=30,SNR=8.8						
	comp=Z,0.4nm,0.3s						
PAJU	**Pajala**	**3.88**	**310**	PG	**Pb**	**10 17 20.7**	**+1.4**
PAJU				SG	**Sg**	**10 18 11.0**	**-3.5**
VAF	**Ylistaro**	**3.90**	**248**	PN	**Pn**	**10 17 12.9**	**+1.9**
RAJF	**Raja-Jooseppi**	**3.91**	**347**	PN	**Pn**	**10 17 12.1**	**+0.9**
ERTU	**Ertsjaerv**	**3.97**	**302**	PB	**Pn**	**10 17 16.2**	**+4.1**
ERTU				SG	**Sb**	**10 18 11.9**	**+2.5**
BURU	**Burvik**	**3.99**	**273**	PN	**Pn**	**10 17 12.7**	**+0.4**
VJF	**Virojoki**	**4.41**	**200**	SG	**Sb**	**10 18 26.4**	**+4.6**
UMAU	**Umeaa**	**4.42**	**264**	PN	**Pn**	**10 17 18.1**	**-0.2**
HEF	**Hetta**	**4.66**	**326**	PB	**Pb**	**10 17 28.9**	**-3.6**
ARCES	**ARCESS Array B**	**5.26**	**340**	Pn	**Pn**	**10 17 29.7**	**0.0**
	comp=Z,0.1nm,0.3s,baz=154,slow=13,SNR=17						
ARCES				Sn	**Sn**	**10 18 28.6**	**-2.4**
	comp=Z,0.1nm,0.3s,baz=153,slow=22,SNR=1.8						
ARCES				Lg	Lg	10 18 50.5	
	comp=Z,0.3nm,0.3s,baz=158,slow=23,SNR=1.5						
	comp=Z,0.4nm,0.2s						
I37NO	**I37NO**	**6.46**	**318**	I	I	10 57 40.0	
	baz=128,slow=323,SNR=1.5						
HFS	**Hagfors**	**9.09**	**248**	Pn	**Pn**	**10 18 21.2**	**-1.0**
	comp=Z,0.2nm,0.3s,baz=60,slow=13,SNR=4.3						
	comp=Z,0.5nm,0.3s						
NOA	**NORSAR Array B**	**9.59**	**256**	Pn	**Pn**	**10 18 29.3**	**+0.1**
	baz=57,slow=12,SNR=3.9						
	comp=Z,0.1nm,0.3s						

IDC ***29*** *10:24:58.4±0.8, 39°.49N×25°.96E, h0km, mb3.7/15, mbtmp3.7/20, ML3.8/6, MS3.1/19, Error ellipse: s-maj=12.8km s-min=11.9km az=80.0*
ISK ***29*** *10:24:59.9, 39°.59N×25°.99E, h4km, ML4.0/69*
THE ***29*** *10:25:00.8, 39°.58N×25°.99E, h12km, ML3.9/14, Error ellipse: s-maj=0.9km s-min=0.4km az=101.0*
AFAD ***29*** *10:25:00.9±0.0, 39°.59N×26°.00E, h6km±2km, MW4.1*
MED_RC ***29*** *10:25:00.0±0.4, 39°.59N×25°.97E, h10km, MW4.1/13, Moment Tensor Solution.Mantle waves: s13,c14; Duration: 1⁰ Moment tensor: Scale 10¹⁵Nm; Mrr-1.57±.15; Mθθ 1.72±.10; Mϕϕ-0.14±.15; Mrθ 0.40±.30; Mθϕ-0.26±.14; Mϕr-0.15±.37; Best double couple: M₀1.72000×10¹⁵ NP1:ϕs281.00000°, δ52.00000°, λ-86.00000°. NP2:ϕs94.00000°, δ38.00000°, λ-96.00000°. Principal axes: T 1.8100, Plg7.0000°, Azm8.0000°; N -0.1700, Plg3.0000°, Azm98.0000°; P -1.6300, Plg82.0000°, Azm214.0000°; nsta1 refers to body waves. nsta2 refers to surface waves, cutoff=35s.*
ATH ***29*** *10:25:01.2, 39°.57N×25°.99E, h17km±1km, ML3.9/15 Error ellipse: s-maj=1.9km s-min=0.7km az=176.0*
MCSM ***29*** *10:25:01.6±1.8, 39°.N±5°.×2°.6E±°, h9km±16km, mb4.3, MLv4.3*
SOF ***29*** *10:25:02.7, 39°.78N±0°.03×25°.90E±0°.03, h15km±4km, MD3.7/12*
NEIC ***29*** *10:25:02.1±1.5, 39°.60N±0°.05×25°.98E±0°.06, h17km±7km, mb4.3/20, Error ellipse: s-maj=7.8km s-min=5.5km az=218.0*
BEO ***29*** *10:25:06.3±0.8, 40°.03N×25°.79E, h0km, ML4.0/4*
ISC 29 10:25:00.9±0.8, **39°.59N**±0°.01×**25°.97E**±0°.02, **h13**km±5km, **n315**, σ1**s17**/377, **mb4.0**/25, **MS3.1**/14, **17C-8D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GPNR	**Gulpinar-Canak**	**0.18**	**136**	Pg	**Pg**	**10 25 04.3**	**-0.7**
GPNR				Sg	**Sg**	**10 25 07.2**	**-0.6**
EZNE	**Ezine-Canakkal**	**0.35**	**61**	Pg	**Pg**	**10 25 07.1**	**-0.8**
EZNE				Sg	**Sg**	**10 25 12.6**	**-0.1**
EZN	**Ezine**	**0.36**	**49**	Pg	**Pg**	**10 25 07.6**	**-0.7**
EZN				Sg	**Sg**	**10 25 12.9**	**-0.2**
EZN	**Ezine**	**0.36**	**49**	P	**Pg**	**10 25 07.5**	**-0.7**
EZN				S	**Sg**	**10 25 13.0**	**-0.2**
	38μm,0.3s						
SIGR	**SIGRI**	**0.39**	**194**	Pg	**Pg**	**10 25 09.0**	**+0.4**
SIGR				Sg	**Sg**	**10 25 14.9**	**+1.1**
SIGR	**SIGRI**	**0.39**	**194**	P	**Pg**	**10 25 09.3**	**+0.7**
SIGR				S	**Sg**	**10 25 14.6**	**+0.8**
	16μm,0.8s						
SIGR	**SIGRI**	**0.39**	**194**	P	**Pg**	**10 25 09.4**	**+0.7**
SIGR				S	**Sg**	**10 25 14.6**	**+0.8**
SIGR				AML	AML	10 25 18.7	
	comp=E,19329μm,0.2s						
SIGR				AML	AML	10 25 19.3	
	comp=N,32887μm,0.3s						
PRK	**Paraskevi**	**0.41**	**146**	P	**Pg**	**10 25 08.5**	**-0.6**
PRK				S	**Sg**	**10 25 14.2**	**-0.4**
	comp=N,32μm,0.3s						
PRK	**Paraskevi**	**0.41**	**146**	P	**Pg**	**10 25 08.5**	**-0.6**
PRK				S	**Sg**	**10 25 13.9**	**-0.7**
PRK				AML	AML	10 25 15.5	
	comp=E,73192μm,0.3s						
PRK				AML	AML	10 25 18.4	
	comp=N,55780μm,0.4s						
BAYC	**CANAKKALE_Bayr**	**0.47**	**71**	P	**Pg**	**10 25 09.5**	**-0.7**
BAYC				S	**Sg**	**10 25 16.1**	**-0.4**
ECEA	**Canakkale, Ece**	**0.48**	**19**	P	**Pg**	**10 25 10.2**	**-0.3**
ECEA				S	**Sb**	**10 25 18.0**	**-0.3**
GADA	**Gvkgeada**	**0.61**	**355**	Pg	**Pg**	**10 25 12.2**	**-0.6**
GADA				Sg	**Sg**	**10 25 20.9**	**+0.1**
GOKC	**Gokceada-Canak**	**0.61**	**356**	Pg	**Pg**	**10 25 12.5**	**-0.4**
GOKC				Sg	**Sg**	**10 25 21.4**	**+0.4**
COMU	**Canakkale**	**0.64**	**37**	Pg	**Pg**	**10 25 12.8**	**-0.6**
COMU				Sg	**Sg**	**10 25 22.1**	**+0.2**
LESV	**Lesvos island,**	**0.66**	**136**	P	**Pg**	**10 25 13.8**	**0.0**
LESV				S	**Sg**	**10 25 22.9**	**+0.4**
	comp=N,47μm,0.3s						
EAG3	**Mitilini, Lesv**	**0.68**	**137**	P	**Pg**	**10 25 13.5**	**-0.6**
EAG3				S	**Sg**	**10 25 21.9**	**-1.2**
EAG3				AML	AML	10 25 28.7	
	comp=E,38801μm,0.2s						
EAG3				AML	AML	10 25 29.0	
	comp=N,38025μm,0.3s						
LIA	**Limnos Island**	**0.68**	**297**	P	**Pg**	**10 25 13.9**	**-0.3**
LIA				S	**Sg**	**10 25 24.0**	**+0.8**
	comp=N,21μm,0.5s						
LIA	**Limnos Island**	**0.68**	**297**	P	**Pg**	**10 25 14.0**	**-0.3**
LIA				S	**Sg**	**10 25 23.0**	**-0.2**
LIA				AML	AML	10 25 24.0	
	comp=E,39133μm,0.5s						
LIA				AML	AML	10 25 28.0	
	comp=N,46170μm,0.4s						
EFSA	**Agios Efstrati**	**0.76**	**267**	P	**Pg**	**10 25 15.4**	**-0.3**
EFSA				S	**Sg**	**10 25 26.1**	**+0.4**
EFSA				AML	AML	10 25 28.8	
	comp=E,19164μm,0.4s						
EFSA				AML	AML	10 25 29.1	
	comp=N,19642μm,0.3s						
BUHA	**Balikesir, Bur**	**0.86**	**95**	P	**Pg**	**10 25 17.0**	**-0.5**
BUHA				S	**Sg**	**10 25 29.2**	**+0.5**
DKL	**Dikili**	**0.89**	**125**	Pg	**Pg**	**10 25 17.5**	**-0.6**
DKL				Sg	**Sb**	**10 25 30.3**	**+0.4**
GELI	**Tayfur-Gelibol**	**0.90**	**25**	Pg	**Pg**	**10 25 17.3**	**-1.0**
GELI				Sg	**Sb**	**10 25 30.5**	**+0.3**
CAND	**Candarli**	**0.90**	**134**	Pg	**Pg**	**10 25 17.9**	**-0.4**
CAND				Sg	**Sg**	**10 25 30.4**	**+0.3**
CANM	**Can-anakkale**	**0.94**	**63**	Pg	**Pg**	**10 25 18.4**	**-0.6**
CANM				Sg	**Sb**	**10 25 32.0**	**+0.7**
SMTH	**Samothraki Isl**	**0.95**	**339**	P	**Pg**	**10 25 18.5**	**-0.7**
SMTH				S	**Sb**	**10 25 32.2**	**+0.5**
	comp=N,10μm,0.9s						
SMTH	**Samothraki Isl**	**0.95**	**339**	P	**Pg**	**10 25 18.8**	**-0.4**
SMTH				S	**Sg**	**10 25 30.6**	**-0.9**
SMTH				AML	AML	10 25 33.4	
	comp=N,21134μm,0.6s						
SMTH				AML	AML	10 25 34.9	
	comp=E,16493μm,0.5s						
LPK	**Lapseki**	**0.99**	**37**	Pg	**Pg**	**10 25 19.0**	**-1.0**
LPK				Sg	**Sg**	**10 25 33.0**	**0.0**
YENI	**Yenice-Canakka**	**1.04**	**70**	Pg	**Pg**	**10 25 20.3**	**-0.6**
YENI				Sg	**Sb**	**10 25 34.9**	**+0.6**
FOCM	**Foa**	**1.05**	**146**	Pg	**Pg**	**10 25 20.4**	**-0.8**
FOCM				Sg	**Sg**	**10 25 34.9**	**0.0**
ZEDA	**zmir-Bergama**	**1.06**	**125**	P	**Pg**	**10 25 20.9**	**-0.3**
ZEDA				S	**Sb**	**10 25 35.8**	**+1.0**
PSRA	**Psara**	**1.09**	**197**	P	**Pb**	**10 25 20.6**	**-1.0**
PSRA				S	**Sg**	**10 25 35.4**	**-0.7**
PSRA				AML	AML	10 25 39.4	
	comp=N,16988μm,0.3s						
PSRA				AML	AML	10 25 41.0	
	comp=E,20431μm,0.4s						
ENEZ	**Enez**	**1.16**	**7**	Pn	**Pb**	**10 25 22.4**	**-0.4**
ENEZ	**Enez**	**1.16**	**7**	P	**Pb**	**10 25 22.2**	**-0.6**
ENEZ				S	**Sg**	**10 25 38.5**	**+0.3**
	comp=E,21μm,0.5s						
ERIK	**Erikli-Kesan**	**1.16**	**21**	Pn	**Pb**	**10 25 21.8**	**-1.0**
ERIK				Sn	**Sn**	**10 25 39.1**	**+0.5**
CHOS	**Chios island**	**1.20**	**177**	Pn	**Pb**	**10 25 22.4**	**-1.1**
CHOS	**Chios island**	**1.20**	**177**	P	**Pb**	**10 25 22.2**	**-1.3**
CHOS				S	**Sb**	**10 25 38.1**	**-0.9**
	comp=E,6μm,0.4s						
CHOS	**Chios island**	**1.20**	**177**	P	**Pb**	**10 25 22.1**	**-1.5**
CHOS				S	**Sb**	**10 25 38.0**	**-0.9**
CESE	**eme**	**1.28**	**168**	Pn	**Pb**	**10 25 25.3**	**+0.4**
SOMA	**Soma-Manisa**	**1.28**	**109**	Pn	**Pn**	**10 25 25.1**	**+0.5**
KRBG	**Karabiga-Canak**	**1.30**	**51**	Pn	**Pn**	**10 25 24.4**	**-0.4**
ALN	**Alexandroupoli**	**1.31**	**2**	Pn	**Pn**	**10 25 25.3**	**+0.4**
ALN	**Alexandroupoli**	**1.31**	**2**	P	**Pn**	**10 25 24.6**	**-0.3**
ALN				S	**Sb**	**10 25 41.7**	**-0.4**
	comp=E,4μm,0.7s						
ALN	**Alexandroupoli**	**1.31**	**2**	Pn	**Pn**	**10 25 24.5**	**-0.5**
ALN				Sn	**Sb**	**10 25 42.0**	**-0.1**
ALN	**Alexandroupoli**	**1.31**	**2**	P	**Pn**	**10 25 24.5**	**-0.5**
ALN				S	**Sb**	**10 25 40.3**	**-1.8**
ALN				AML	AML	10 25 44.6	
	comp=N,8956μm,0.8s						
ALN				AML	AML	10 25 46.1	
	comp=E,5788μm,0.6s						
URLA	**Izmir**	**1.32**	**158**	Pn	**Pn**	**10 25 24.0**	**-1.1**
STEP	**BALIKESIR_Sava**	**1.37**	**98**	P	**Pn**	**10 25 25.5**	**-0.3**
STEP				S	**Sg**	**10 25 44.9**	**-0.1**
KNL	**Balıkesir**	**1.38**	**60**	P	**Pn**	**10 25 25.6**	**-0.2**
KNL				S	**Sg**	**10 25 45.3**	**0.0**
GONE	**Gonen-Balikesi**	**1.40**	**70**	Pn	**Pn**	**10 25 26.9**	**+0.8**
THAS	**Thassos island**	**1.40**	**317**	P	**Pn**	**10 25 25.3**	**-0.8**
THAS				S	**Sn**	**10 25 43.6**	**-0.9**
	comp=E,3μm,0.4s						
THAS	**Thassos island**	**1.40**	**317**	P	**Pn**	**10 25 25.4**	**-0.8**
THAS				S	**Sn**	**10 25 42.4**	**-2.1**
THAS				AML	AML	10 25 44.7	
	comp=N,5490μm,0.5s						
THAS				AML	AML	10 25 46.7	
	comp=E,4582μm,0.4s						
BLCB	**Balcova**	**1.46**	**145**	Pn	**Pn**	**10 25 27.9**	**+0.9**
BLCB	**Balcova**	**1.46**	**145**	P	**Pn**	**10 25 26.6**	**-0.4**
BLCB				S	**Sn**	**10 25 45.4**	**-0.6**
BALB	**Balikesir**	**1.48**	**87**	Pn	**Pn**	**10 25 27.8**	**+0.6**
BALB	**Balikesir**	**1.48**	**87**	Pn	**Pn**	**10 25 27.0**	**-0.1**
BALB				Sn	**Sn**	**10 25 46.3**	**0.0**
BKES	**Balkesir-Mer**	**1.52**	**84**	P	**Pn**	**10 25 28.2**	**+0.5**
BKES				S	**Sb**	**10 25 48.4**	**+0.3**
RDO	**Rodhopi**	**1.59**	**348**	Pn	**Pn**	**10 25 29.0**	**+0.2**
RDO	**Rodhopi**	**1.59**	**348**	P	**Pn**	**10 25 28.8**	**-0.1**
RDO				S	**Sn**	**10 25 49.0**	**-0.3**
	comp=E,2μm,0.9s						
RDO	**Rodhopi**	**1.59**	**348**	Pn	**Pn**	**10 25 28.7**	**-0.1**
RDO				Sn	**Sn**	**10 25 49.3**	**0.0**
RDO	**Rodhopi**	**1.59**	**348**	P	**Pn**	**10 25 28.7**	**-0.1**
RDO				S	**Sn**	**10 25 47.9**	**-1.4**
RDO				AML	AML	10 25 52.9	
	comp=N,4604μm,1.0s						
RDO				AML	AML	10 25 54.1	
	comp=E,4055μm,0.8s						
AKS	**Akhisar**	**1.59**	**116**	Pn	**Pn**	**10 25 29.0**	**+0.1**
MRMT	**Marmara Adasi**	**1.61**	**50**	Pn	**Pn**	**10 25 29.4**	**+0.3**
UKOP	**Uzunkopru-Edir**	**1.62**	**18**	Pn	**Pn**	**10 25 30.2**	**+1.0**
EDC	**Edincik**	**1.64**	**62**	Pn	**Pn**	**10 25 29.6**	**+1.0**
SUSR	**Susurluk-Balik**	**1.67**	**76**	Pn	**Pn**	**10 25 29.7**	**-0.2**
GMLD	**Gumuldur**	**1.68**	**154**	Pn	**Pn**	**10 25 30.2**	**+0.2**
OUR	**Ouranopolis**	**1.70**	**297**	Pn	**Pn**	**10 25 30.6**	**+0.3**
OUR	**Ouranopolis**	**1.70**	**297**	P	**Pn**	**10 25 29.8**	**-0.4**
OUR				S	**Sb**	**10 25 53.5**	**+0.1**
	comp=E,2μm,0.6s						
OUR	**Ouranopolis**	**1.70**	**297**	P	**Pn**	**10 25 29.9**	**-0.4**
OUR				S	**Sn**	**10 25 50.6**	**-1.3**
OUR				AML	AML	10 25 58.0	
	comp=E,4434μm,0.5s						
OUR				AML	AML	10 25 59.4	
	comp=N,5037μm,0.8s						
GOMA	**Golmarmara-Man**	**1.75**	**120**	Pn	**Pn**	**10 25 31.8**	**+0.9**
KAVA	**Kavala**	**1.80**	**322**	P	**Pn**	**10 25 31.2**	**-0.4**
KAVA				S	**Sn**	**10 25 52.9**	**-1.4**
	comp=N,4μm,0.5s						
KAVA	**Kavala**	**1.80**	**322**	P	**Pn**	**10 25 31.5**	**-0.1**
KAVA				S	**Sn**	**10 25 52.1**	**-2.2**
PAIG	**Paliouri**	**1.80**	**282**	Pn	**Pn**	**10 25 32.7**	**+1.1**
PAIG	**Paliouri**	**1.80**	**282**	P	**Pn**	**10 25 31.2**	**-0.4**
BAND	**Balkesir-Ban**	**1.81**	**64**	P	**Pn**	**10 25 31.9**	**+0.2**
BAND				S	**Sb**	**10 25 57.6**	**+1.2**
KVLA	**Kavala**	**1.81**	**319**	P	**Pn**	**10 25 31.6**	**-0.3**
KVLA				S	**Sn**	**10 25 52.2**	**-2.6**
GORD	**Gordes-Manisa**	**1.84**	**111**	Pn	**Pn**	**10 25 32.9**	**+0.6**
TKR	**Tekirdag**	**1.84**	**40**	Pn	**Pn**	**10 25 32.7**	**+0.5**
KCTX	**Karacabey (Bur**	**1.96**	**69**	Pn	**Pn**	**10 25 34.8**	**+1.0**
SMG	**Samos**	**1.99**	**160**	P	**Pn**	**10 25 33.6**	**-0.7**
SMG				S	**Sn**	**10 25 58.6**	**-0.6**
	comp=N,2μm,0.4s						
SMG	**Samos**	**1.99**	**160**	P	**Pn**	**10 25 33.5**	**-0.8**
SMG				S	**Sn**	**10 25 57.5**	**-1.7**
SMG				AML	AML	10 26 08.6	
	comp=E,4615μm,0.4s						
SMG				AML	AML	10 26 08.9	
	comp=N,4104μm,0.4s						
DST	**Dursunbey**	**2.04**	**89**	Pn	**Pn**	**10 25 35.8**	**+0.7**
CRLT	**Corlu**	**2.05**	**41**	Pn	**Pn**	**10 25 35.3**	**+0.2**
PLG	**Polygyros**	**2.09**	**293**	P	**Pn**	**10 25 35.9**	**+0.1**
PLG	**Polygyros**	**2.09**	**293**	P	**Pn**	**10 25 35.8**	**0.0**
PLG				S	**Sn**	**10 25 59.3**	**-2.4**
PLG				AML	AML	10 26 10.9	
	comp=N,2454μm,0.6s						
PLG				AML	AML	10 26 13.6	
	comp=E,1471μm,0.6s						
KDZ	**Kurdzhali**	**2.10**	**347**	Pn	**Pn**	**10 25 36.6**	**+0.8**
KDZ	**Kurdzhali**	**2.10**	**347**	P	**Pn**	**10 25 35.9**	**+0.1**
KDZ				S	**Sn**	**10 26 01.4**	**-0.3**
ODEM	**Odemis-Izmir**	**2.10**	**128**	Pn	**Pn**	**10 25 35.9**	**+0.1**
GCAM	**G?zelcaml?**	**2.13**	**152**	Pn	**Pn**	**10 25 37.5**	**+1.4**
NEO	**Neokhori**	**2.15**	**263**	P	**Pn**	**10 25 35.6**	**-0.8**
XOR	**Xorichti**	**2.16**	**265**	P	**Pn**	**10 25 35.9**	**-0.8**
XOR	**Xorichti**	**2.16**	**265**	P	**Pn**	**10 25 35.5**	**-1.2**
AYDB	**Zeytinkoy-Aydi**	**2.22**	**137**	Pn	**Pn**	**10 25 38.5**	**+0.9**
ORLT	**Orhaneli**	**2.30**	**78**	Pn	**Pn**	**10 25 39.7**	**+1.1**
RZN	**Rozhen**	**2.31**	**336**	P	**Pn**	**10 25 39.1**	**+0.3**
RZN				S	**Sn**	**10 26 06.3**	**-0.8**
EDRB	**Edirne**	**2.33**	**14**	Pn	**Pn**	**10 25 40.3**	**+1.3**
EDRB	**Edirne**	**2.33**	**14**	P	**Pn**	**10 25 39.2**	**+0.2**
KULA	**Kula-Manisa**	**2.35**	**116**	Pn	**Pn**	**10 25 39.5**	**+0.2**
KULA	**Kula-Manisa**	**2.35**	**116**	P	**Pn**	**10 25 39.5**	**+0.2**
SOH	**Sokhos**	**2.35**	**302**	P	**Pn**	**10 25 39.5**	**+0.1**
SOH	**Sokhos**	**2.35**	**302**	P	**Pn**	**10 25 39.5**	**+0.1**
SOH				S	**Sn**	**10 26 04.7**	**-3.4**
SOH				AML	AML	10 26 17.3	
	comp=N,2740μm,0.5s						
SOH				AML	AML	10 26 20.3	
	comp=E,6633μm,0.6s						
PHSR	**Pinarhisar**	**2.36**	**30**	Pn	**Pn**	**10 25 40.3**	**+0.9**
MDNY	**Mudanya-Bursa**	**2.37**	**70**	Pn	**Pn**	**10 25 40.5**	**+1.0**
SLVT	**Silivri**	**2.37**	**45**	Pn	**Pn**	**10 25 40.7**	**+1.2**
SRS	**Serrai**	**2.38**	**311**	P	**Pn**	**10 25 39.5**	**-0.1**
SRS	**Serrai**	**2.38**	**311**	*e*Pg	**Pn**	**10 25 39.5**	**-0.1**
SRS				*e*Sg	**Sn**	**10 26 10.3**	**+1.7**
SRS	**Serrai**	**2.38**	**311**	P	**Pn**	**10 25 39.4**	**-0.1**
SRS				S	**Sn**	**10 26 06.8**	**-1.9**
SRS				AML	AML	10 26 19.4	
	comp=E,3554μm,0.5s						
SRS				AML	AML	10 26 22.7	
	comp=N,478μm,1.3s						
SMAA	**Simav-Kutahya**	**2.38**	**101**	Pn	**Pn**	**10 25 39.5**	**-0.2**
NVR	**Nevrokopi**	**2.39**	**318**	P	**Pn**	**10 25 40.0**	**+0.2**
NVR	**Nevrokopi**	**2.39**	**318**	P	**Pn**	**10 25 40.0**	**+0.2**
NVR				S	**Sn**	**10 26 07.0**	**-2.0**
ARMT	**Armutlu**	**2.42**	**65**	Pn	**Pn**	**10 25 40.5**	**+0.2**
HORT	**Hortiatis**	**2.42**	**296**	Pn	**Pn**	**10 25 41.6**	**+1.3**
HORT	**Hortiatis**	**2.42**	**296**	P	**Pn**	**10 25 40.2**	**-0.1**
HORT	**Hortiatis**	**2.42**	**296**	P	**Pn**	**10 25 40.2**	**-0.1**
DIM	**Dimitrovgrad**	**2.48**	**353**	P	**Pn**	**10 25 40.8**	**-0.1**
VILL	**Villia**	**2.52**	**236**	P	**Pn**	**10 25 41.5**	**-1.0**
APE	**Apeiranthos**	**2.54**	**188**	⇑P	**Pn**	**10 25 41.0**	**-0.8**
APE				⇓S	**Sn**	**10 26 12.1**	**-0.6**
APE	**Apeiranthos**	**2.54**	**188**	Pn	**Pn**	**10 25 42.4**	**+0.5**
CTKS	**Kestenelik-??a**	**2.54**	**49**	Pn	**Pn**	**10 25 42.9**	**+1.1**
CTYL	**Yalikoy Yolu**	**2.58**	**42**	Pn	**Pn**	**10 25 44.3**	**+1.9**
CTYL	**Yalikoy Yolu**	**2.58**	**42**	P	**Pb**	**10 25 47.0**	**-0.1**
CTYL				S	**Sb**	**10 26 18.9**	**+0.1**
MMB	**Musomishta**	**2.59**	**320**	P	**Pn**	**10 25 42.8**	**+0.2**
MMB				S	**Sn**	**10 26 13.1**	**-0.8**
GEMT	**Gemlik**	**2.61**	**70**	Pn	**Pn**	**10 25 44.3**	**+1.5**
BGKT	**Bogazkoy**	**2.67**	**52**	Pn	**Pn**	**10 25 44.9**	**+1.3**
MLSB	**Milas**	**2.69**	**148**	Pn	**Pn**	**10 25 45.2**	**+1.3**
PLD	**Plovdiv**	**2.72**	**340**	Pn	**Pn**	**10 25 45.4**	**+1.1**

MLR					Lg		Lg	10 28 08.4	
	comp=N,0.7nm,0.3s,baz=97,slow=19,SNR=2.4								
MLR	**Muntele Rosu**	**5.90**	**360**		P		**Pn**	**10 26 30.2**	**+2.1**
	comp=N,126nm,0.7s,comp=N,0.4nm								
BR105	**Keskin Array S**	**5.90**	**86**		P		**Pn**	**10 26 29.5**	**+1.3**
	comp=N,12nm,0.7s,comp=N,0.1nm								
BR106	**Keskin Array S**	**5.90**	**86**		P		**Pn**	**10 26 29.1**	**+0.9**
	comp=N,5.7nm,0.8s,comp=N,0.1nm								
IVAS	**Ivanjica**	**5.91**	**314**	*e*	Pn		**Pn**	**10 26 28.6**	**+0.4**
HERR	**Herculane**	**5.91**	**335**	⇑	P		**Pn**	**10 26 28.1**	**0.0**
BR131	**Keskin Array S**	**5.92**	**86**		Pn		**Pn**	**10 26 29.1**	**+0.7**
BRTR	**Keskin Array B**	**5.92**	**86**		Pn		**Pn**	**10 26 29.3**	**+0.9**
BRTR	**Keskin Array B**	**5.92**	**86**		Pn		**Pn**	**10 26 28.4**	**-0.1**
	comp=N,1.5nm,0.3s,baz=256,slow=11,SNR=37								
BRTR					Sn		**Sn**	**10 27 35.0**	**-1.2**
	comp=N,0.4nm,0.3s,baz=294,slow=12,SNR=1.5								
BRTR					Lg		Lg	10 28 08.2	
	baz=255,slow=22								
	comp=N,3.8nm,0.5s								
BR104	**Keskin Array S**	**5.92**	**86**		P		**Pn**	**10 26 29.7**	**+1.3**
	comp=N,7.2nm,0.6s,comp=N,0.1nm								
MDVR	**Moldovita**	**6.08**	**330**	⇓	P		**Pn**	**10 26 30.6**	**+0.1**
LOT	**Lotru**	**6.08**	**345**	⇑	P		**Pn**	**10 26 31.3**	**+0.7**
TRUS	**Trudelj**	**6.22**	**320**	*e*	Pn		**Pn**	**10 26 32.6**	**+0.2**
ODBI	**Odobesti**	**6.22**	**7**		P		**Pn**	**10 26 36.2**	**+3.8**
	comp=N,59nm,0.4s,comp=N,0.3nm								
COVR	**Voineasa-Covas**	**6.26**	**1**	⇑	P		**Pn**	**10 26 35.2**	**+2.2**
PLOR5	**Plostina Array**	**6.28**	**4**		P		**Pn**	**10 26 36.0**	**+2.8**
	comp=N,139nm,0.9s,comp=N,0.4nm								
PLOR	**Plostina**	**6.28**	**4**	⇓	P		**Pn**	**10 26 36.0**	**+2.7**
PLOR3	**Plostina Array**	**6.28**	**4**		P		**Pn**	**10 26 36.0**	**+2.7**
	comp=N,137nm,0.9s,comp=N,0.4nm								
VRI	**Vrincioaia**	**6.30**	**5**	⇓	P		**Pn**	**10 26 36.0**	**+2.5**
VRI	**Vrincioaia**	**6.30**	**5**		P		**Pn**	**10 26 36.3**	**+2.8**
	comp=N,160nm,0.7s,comp=N,0.5nm								
DIVS	**Divibare**	**6.34**	**317**	*e*	Pn		**Pn**	**10 26 35.3**	**+1.1**
DOPR	**Dopca**	**6.39**	**356**	⇓	P		**Pn**	**10 26 36.6**	**+1.8**
VLDR	**Vladesti**	**6.44**	**13**	⇑	P		**Pn**	**10 26 36.9**	**+1.5**
TURR	**Turia**	**6.46**	**0**	⇑	P		**Pn**	**10 26 38.2**	**+2.4**
OZUR		**6.51**	**359**	⇑	P		**Pn**	**10 26 38.1**	**+1.7**
BZS	**Buzias**	**6.83**	**333**	⇓	P		**Pn**	**10 26 42.0**	**+1.2**
TESR	**Tescani**	**6.94**	**4**	⇓	P		**Pn**	**10 26 44.1**	**+1.8**
TESR	**Tescani**	**6.94**	**4**		P		**Pn**	**10 26 44.2**	**+1.9**
	comp=N,244nm,0.8s,comp=N,0.7nm								
TIP	**Timpagrande**	**7.15**	**270**	⇑	P		**Pn**	**10 26 44.7**	**-0.6**
TIP	**Timpagrande**	**7.15**	**270**				**Pn**	**10 26 46.6**	**+1.4**
TIP	**Timpagrande**	**7.15**	**270**		P		**Pn**	**10 26 46.4**	**+1.2**
	comp=N,11nm,1.0s,comp=N,0.0nm								
MARR	**Marisel-Cluj**	**7.39**	**345**	⇑	P		**Pn**	**10 26 49.9**	**+1.4**
CSS	**Mathiatis**	**7.46**	**126**		Pn		**Pn**	**10 26 51.9**	**+2.3**
DRGR		**7.58**	**343**	⇑	P		**Pn**	**10 26 52.4**	**+1.2**
MILM	**Milestii Mici**	**7.62**	**15**	*e*	P		**Pn**	**10 26 53.0**	**+1.5**
	comp=N,30nm,0.3s								
MILM				*e*	L		L	10 29 51.0	
MILM					LRM		MLR	10 29 59.0	
	comp=N,200nm,11.0s								
CUC	**Castrocucco**	**7.83**	**276**		Pn		**Pn**	**10 26 56.3**	**+1.7**
CEL	**Celeste**	**7.97**	**264**				**Pn**	**10 26 58.5**	**+2.0**
BURAR	**Bucovina Array**	**8.04**	**356**	⇑	P		**Pn**	**10 27 00.6**	**+3.1**
BURAR	**Bucovina Array**	**8.04**	**356**		Pn		**Pn**	**10 26 59.4**	**+1.9**
SGRT	**San Giovanni R**	**8.07**	**289**		Pn		**Pn**	**10 26 57.9**	**0.0**
BUR08	**Bucovina Ar. S**	**8.07**	**356**		Pn		**Pn**	**10 26 59.1**	**+1.1**
MORH	**Mrgy, Hungar**	**8.53**	**323**		P		**Pn**	**10 27 04.8**	**+0.7**
SUDU	**Sudak**	**8.54**	**49**	*e*	P		**Pn**	**10 27 06.8**	**+2.6**
SUDU					Pm			10 27 13.8	
	comp=Z,7.0nm,0.4s								
SUDU				*ex*			x	10 28 39.0	
SUDU					Sm			10 28 47.2	
	comp=N,54nm,0.8s								
SUDU					Sm			10 28 47.2	
	comp=E,14nm,0.6s								
NSLU	**Nyzhne Selyshc**	**8.68**	**353**		P		Pn	10 27 12.1	+6.0
KSV	**Kosov**	**8.75**	**356**		P		**Pn**	**10 27 11.3**	**+4.2**
PAOL	**Paolisi**	**8.83**	**283**				**Pn**	**10 27 09.9**	**+1.6**
KMPD	**K-Podol'skiy**	**8.98**	**2**		P		**Pn**	**10 27 11.3**	**+1.1**
VAE	**Valguarnera**	**9.30**	**261**		Pn		**Pn**	**10 27 15.4**	**+0.6**
	comp=E,8.5nm,0.3s,baz=46,slow=10,SNR=2.3								
INTR	**Introdacqua**	**9.47**	**289**		Pn		**Pn**	**10 27 18.7**	**+1.7**
HORU	**Horodok**	**9.63**	**2**		P		**Pn**	**10 27 22.6**	**+3.4**
CAMP	**Campotosto**	**9.94**	**291**		Pn		**Pn**	**10 27 23.9**	**+0.5**
MMAI	**Mount Meron Ar**	**10.04**	**128**		Pn		**Pn**	**10 27 23.7**	**-1.2**
	comp=E,1.5nm,0.3s,baz=239,slow=14,SNR=2.4								
MMAI					LR		LR	10 33 13.5	
	comp=E,56nm,18.1s,baz=314,slow=50								
	comp=E,0.8nm,0.3s								
NRCA	**Norcia**	**10.22**	**293**		Pn		**Pn**	**10 27 27.1**	**-0.2**
FDMO	**Fiordimonte**	**10.29**	**294**		Pn		**Pn**	**10 27 28.3**	**+0.1**
BALJ	**Balqa**	**10.84**	**131**		Pn		**Pn**	**10 27 35.3**	**-0.5**
MI29	**MI29, Kamyanyy**	**10.91**	**6**		P		**Pn**	**10 27 39.4**	**+2.7**
SABO	**M.te Sabotino**	**11.11**	**309**		Pn		**Pn**	**10 27 39.6**	**+0.2**
MI30	**MI30,Zelenitsa**	**11.27**	**7**		P		**Pn**	**10 27 44.0**	**+2.5**
AK09	**Malin Array Si**	**11.27**	**11**		P		**Pn**	**10 27 44.3**	**+2.7**
AK11	**Malin Array Si**	**11.32**	**10**		P		**Pn**	**10 27 44.7**	**+2.5**
KIEV	**Kiev**	**11.34**	**11**		Pn		**Pn**	**10 27 42.9**	**+0.4**
AK18	**Malin Array Si**	**11.35**	**10**		P		**Pn**	**10 27 44.5**	**+1.9**
AKASG	**Malin Array Be**	**11.35**	**11**		Pn		**Pn**	**10 27 42.5**	**-0.1**
	comp=E,0.7nm,0.3s,baz=201,slow=12,SNR=5.3								
	comp=E,0.5nm,0.5s								
PRED	**Cave del Predi**	**11.37**	**311**		Pn		**Pn**	**10 27 44.1**	**+1.0**
MI28	**Mi28,Pidlybu**	**11.41**	**5**		P		**Pn**	**10 27 45.8**	**+2.4**
RNPP5	**Staryi Chortor**	**11.64**	**360**		P		**Pn**	**10 27 50.2**	**+3.5**
VRAC	**Vranov**	**11.79**	**329**		LR		LR	10 32 26.1	
	comp=E,73nm,19.9s,baz=155,slow=38								
MORC	**Moravsky Berou**	**11.81**	**332**		Pn		**Pn**	**10 27 48.8**	**-0.3**
RNPP9	**Sopachiv**	**11.83**	**360**		P		**Pn**	**10 27 51.0**	**+1.8**
CIMO	**Cimolais**	**11.97**	**309**		Pn		**Pn**	**10 27 50.8**	**-0.4**
TEOL	**Teolo**	**12.03**	**303**		Pn		**Pn**	**10 27 51.6**	**-0.4**
ZCCA	**Zocca**	**12.13**	**298**		Pn		**Pn**	**10 27 54.2**	**+0.8**
CTI	**Castel Tesino**	**12.33**	**306**		Pn		**Pn**	**10 27 56.5**	**+0.3**
GEC2	**GERESS Array S**	**12.76**	**321**		Pn		**Pn**	**10 28 03.0**	**+1.0**
GERES	**GERESS Array B**	**12.76**	**321**		LR		LR	10 33 31.4	
	comp=E,61nm,21.8s,baz=98,slow=40								
VSL	**Villasalto**	**12.81**	**275**		Pn		**Pn**	**10 28 04.3**	**+1.5**
FUORN	**Ofenpass-Fuorn**	**13.45**	**307**		Pn		**Pn**	**10 28 12.3**	**+0.8**
DAVOX	**Davos/Dischmat**	**13.75**	**307**		Pn		**Pn**	**10 28 14.2**	**-1.5**
	comp=E,0.1nm,0.3s,baz=155,slow=14,SNR=5.6								
DAVOX					LR		LR	10 34 29.7	
	comp=E,60nm,20.0s,baz=79,slow=41								
	comp=E,2.6nm,0.8s								
TUE	**Stuetta**	**13.96**	**305**		Pn		**Pn**	**10 28 19.6**	**+1.0**
GNI	**Garni**	**14.43**	**82**		LR		LR	10 33 55.8	
	comp=E,41nm,21.2s,baz=200,slow=37								
SENIN	**Lac Senin/Sane**	**15.24**	**302**		Pn		**Pn**	**10 28 36.1**	**+0.2**
BNI	**Bardonecchia**	**15.27**	**297**		Pn		**Pn**	**10 28 38.2**	**+2.0**
BFO	**Black Forest**	**15.39**	**310**		Pn		**Pn**	**10 28 37.6**	**-0.2**
PABE	**Paberze**	**15.98**	**356**		Pn		**Pn**	**10 28 46.0**	**+0.7**
PABE					IAmb		IAmb	10 28 50.8	
	comp=Z,15nm,0.7s								
FINES	**FINESS Array B**	**21.88**	**0**		P		**P**	**10 29 53.4**	**+0.1**
	comp=Z,1.2nm,0.8s,baz=193,slow=11,SNR=2.1								
FINES					LR		LR	10 38 56.1	
	comp=Z,66nm,18.6s,baz=250,slow=38								
	comp=Z,1.2nm,0.8s								
FIA1	**FINESS Array S**	**21.89**	**0**		P		**P**	**10 29 53.7**	**+0.4**
FIA1					IAmb		IAmb	10 29 59.9	
	comp=Z,19nm,1.0s								
HFS	**Hagfors**	**21.97**	**343**		P		**P**	**10 29 54.0**	**-0.2**
	comp=Z,1.4nm,0.8s,baz=178,slow=7.2,SNR=2.4								
HFS					LR		LR	10 39 35.7	
	comp=Z,54nm,18.0s,baz=160,slow=40								
	comp=Z,1.4nm,0.8s								
NC602	**NORSAR Array S**	**23.00**	**342**		P		**P**	**10 30 05.3**	**+0.1**
NC602					IAmb		IAmb	10 30 05.6	
	comp=Z,9.1nm,1.0s								
ESDC	**Sonseca Array**	**23.01**	**280**		P		**P**	**10 30 03.9**	**-1.6**
	comp=Z,1.7nm,0.9s,baz=69,slow=11,SNR=10								
ESDC					LR		LR	10 39 12.9	
	comp=Z,20nm,18.8s,baz=145,slow=37								
	comp=Z,1.7nm,0.9s								
NAO01	**NORSAR Array S**	**23.25**	**341**		P		**P**	**10 30 06.9**	**-0.9**
NAO01					IAmb		IAmb	10 30 13.6	
	comp=Z,14nm,0.9s								
NC405	**NORSAR Array S**	**23.29**	**342**		P		**P**	**10 30 08.0**	**-0.1**
NC405					IAmb		IAmb	10 30 35.7	
	comp=Z,11nm,1.4s								
NB201	**NORSAR Array S**	**23.33**	**342**		P		**P**	**10 30 08.6**	**0.0**
NOA	**NORSAR Array B**	**23.34**	**342**		P		**P**	**10 30 09.0**	**+0.2**
	comp=Z,1.9nm,1.0s,baz=147,slow=9.6,SNR=4.3								
NOA					LR		LR	10 41 36.0	
	comp=Z,16nm,18.8s,baz=155,slow=43								
	comp=Z,1.9nm,1.0s								
NBO00	**NORSAR Array S**	**23.44**	**341**		P		**P**	**10 30 09.3**	**-0.4**
NBO00					IAmb		IAmb	10 30 15.1	
	comp=Z,12nm,1.0s								
NC303	**NORSAR Array S**	**23.47**	**342**		P		**P**	**10 30 10.6**	**+0.6**
NC303					IAmb		IAmb	10 30 36.0	
	comp=Z,9.5nm,1.2s								
NC204	**NORSAR Array S**	**23.66**	**342**		P		**P**	**10 30 11.5**	**-0.3**
NC204					IAmb		IAmb	10 30 39.8	
	comp=Z,11nm,1.4s								
AKTO	**Aktyubinsk**	**24.93**	**54**		LR		LR	10 42 26.4	
	comp=Z,33nm,18.3s,baz=55,slow=42								
EKA	**Eskdalemuir Ar**	**24.96**	**319**		P		**P**	**10 30 24.5**	**+0.6**
	comp=Z,3.3nm,0.8s,baz=115,slow=9.1,SNR=23								
	comp=Z,6.3nm,0.8s								
ESK	**Eskdalemuir**	**24.98**	**319**		P		**P**	**10 30 24.5**	**+0.5**
EKB	**Eskdalemuir**	**24.98**	**319**		P		**P**	**10 30 24.7**	**+0.7**
GEYT	**Alibeck**	**25.05**	**83**		P		**P**	**10 30 26.0**	**+1.1**
GEYT					IAmb		IAmb	10 30 31.5	
	comp=Z,14nm,1.4s								
GEYT	**Alibeck**	**25.05**	**83**		P		**P**	**10 30 26.0**	**+1.1**
	comp=Z,1.1nm,0.4s,baz=296,slow=11,SNR=2.9								
	comp=Z,1.1nm,0.4s								
GYA0B	**ALIBECK ARRAY**	**25.05**	**83**		P		**P**	**10 30 25.2**	**+0.3**
GYA0B					IAmb		IAmb	10 30 31.4	
	comp=Z,15nm,1.5s								
SFS	**San Fernando**	**25.47**	**273**		P		**P**	**10 30 28.4**	**-0.2**
ABKAR	**Akbulak array**	**25.92**	**57**		P		**P**	**10 30 32.9**	**+0.3**
MORF	**Marmelete**	**27.12**	**276**		P		**P**	**10 30 43.8**	**+0.2**
ARU	**Arti**	**27.20**	**41**		LR		LR	10 42 32.2	
	comp=Z,41nm,20.0s,baz=245,slow=39								
ARCES	**ARCESS Array B**	**30.01**	**360**		LR		LR	10 43 36.6	
	comp=Z,44nm,19.2s,baz=158,slow=37								
BVAR	**Borovoye Array**	**32.94**	**51**		P		**P**	**10 31 35.8**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=254,slow=2.6,SNR=1.3								
	comp=Z,0.3nm,0.4s								
TORD	**Torodi Ar. Bea**	**33.94**	**226**		P		**P**	**10 31 44.1**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=22,slow=9.2,SNR=3.0								
	comp=Z,0.6nm,0.7s								
KURBB	**Kurchatov Arra**	**37.95**	**55**		P		**P**	**10 32 18.1**	**+0.1**
	comp=Z,0.1nm,0.3s,baz=278,slow=8.0,SNR=1.6								
	comp=Z,0.1nm,0.3s								
MKAR	**Makachi Array**	**40.92**	**61**		P		**P**	**10 32 43.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=274,slow=5.6,SNR=2.5								
	comp=Z,0.3nm,0.6s								
ZALV	**Zalesovo Beam**	**41.56**	**50**		P		**P**	**10 32 47.8**	**-0.2**
	comp=Z,0.7nm,0.6s,baz=255,slow=11,SNR=1.8								
ZALV					LR		LR	10 51 59.0	
	comp=Z,16nm,19.2s,baz=19,slow=39								
	comp=Z,0.7nm,0.6s								
DBIC	**Dimbokro**	**42.91**	**228**		LR		LR	10 54 26.3	
	comp=Z,26nm,18.5s,baz=56,slow=41								
HHC	**Hu-ho-hao-te**	**62.70**	**58**	*e*	P		**P**	**10 35 26.5**	**+0.9**
HHC					pmax		pmax		
	comp=Z,20nm,0.6s								
HHC					pmax		pmax		
	comp=Z,70nm,5.1s								
PZH	**PanZhiHua**	**63.13**	**77**		P		**P**	**10 35 29.5**	**+0.8**
PZH					pmax		pmax		
	comp=Z,10.0nm,0.5s								
PZH					pmax		pmax		
	comp=Z,100nm,4.5s								
MA2	**Magadan**	**71.22**	**26**		LR		LR	11 10 01.2	
	comp=Z,29nm,18.9s,baz=64,slow=38								
INK	**Inuvik**	**71.33**	**352**		LR		LR	11 11 37.9	
	comp=Z,20nm,18.5s,baz=325,slow=39								
YKA	**Yellowknife Ar**	**73.44**	**342**		P		**P**	**10 36 32.0**	**-0.5**
	comp=Z,0.7nm,1.0s,baz=19,slow=6.7,SNR=4.1								
	comp=Z,0.7nm,1.0s								
KSRS	**Kona Array**	**75.11**	**54**		P		**P**	**10 36 41.0**	**-1.6**
	comp=Z,0.6nm,0.4s,baz=318,slow=5.3,SNR=3.0								
KSRS					LR		LR	11 14 10.1	
	comp=Z,10nm,18.3s,baz=225,slow=39								
	comp=Z,0.6nm,0.4s								
ILAR	**Eielson Array**	**75.83**	**357**		P		**P**	**10 36 45.2**	**-1.1**
	comp=Z,0.6nm,1.0s,baz=342,slow=3.2,SNR=4.9								
	comp=Z,0.6nm,1.0s								
JOW	**Kunigami**	**82.08**	**62**		LR		LR	11 21 13.5	
	comp=Z,13nm,19.2s,baz=170,slow=41								
PDAR	**Pinedale Array**	**88.66**	**329**		LR		LR	11 18 31.5	
	comp=Z,28nm,18.4s,baz=284,slow=36								
TXAR	**Lajitas Array**	**96.96**	**317**		P		**P**	**10 38 31.0**	**-1.5**
	comp=Z,0.3nm,0.9s,baz=79,slow=4.7,SNR=2.8								
	comp=Z,0.3nm,0.9s								

IDC 29 10:34:41.3±4.3, 47°47S×99°30E, h0km, mb3.6/4, mbtmp3.6/4, MS3.5/4, Error ellipse: s-maj=139.3km s-min=27.0km az=116.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
H01W2	**Cape Leeuwin H**	**16.76**	**47**	T	T	10 54 58.2		
	baz=215,slow=74,SNR=85							
H01W3	**Cape Leeuwin H**	**16.78**	**47**	T	T	10 54 59.2		
	baz=215,slow=74,SNR=110							
H01W1	**Cape Leeuwin H**	**16.78**	**47**	T	T	10 54 53.3		
	baz=215,slow=74,SNR=134							
NWAO	**Narrogin (SRO)**	**19.89**	**50**	LR	LR	10 44 17.6		
	comp=Z,53nm,18.8s,baz=234,slow=29							
STKA	**Stephens Creek**	**35.61**	**80**	LR	LR	10 55 21.7		
	comp=Z,68nm,18.1s,baz=207,slow=35							
ASAR	**Alice Springs**	**36.36**	**61**	P	P	10 41 46.9		-0.2
	0.5nm,0.8s,baz=211,slow=7.9,SNR=6.7							
	0.5nm,0.8s							
VNDA	**Vanda**	**38.28**	**162**	P	P	10 42 02.5		-0.2
	1.3nm,1.1s,baz=280,slow=5.6,SNR=3.4							
VNDA				LR	LR	10 56 36.3		
	comp=Z,122nm,18.4s,baz=337,slow=34							
	1.3nm,1.1s							
WRA	**Warramunga Arr**	**39.49**	**58**	P	P	10 42 13.7		+0.1
	0.6nm,0.7s,baz=222,slow=9.5,SNR=8.9							
	0.6nm,0.7s							
QSPA	**South Pole Qui**	**42.68**	**180**	P	P	10 42 39.6		+0.2
	1.0nm,0.9s,baz=0.0,slow=8.1,SNR=1.9							
	1.0nm,0.9s							
H08S2	**Diego Garcia H**	**45.78**	**321**	T	T	11 32 07.2		
	baz=154,slow=76,SNR=16							
H08S1	**Diego Carcia H**	**45.79**	**321**	T	T	11 32 09.0		
	baz=154,slow=76,SNR=14							
H08S3	**Diego Garcia H**	**45.80**	**321**	T	T	11 32 08.1		
	baz=154,slow=76,SNR=15							
SUR	**Sutherland**	**59.60**	**254**	LR	LR	11 04 53.1		
	comp=Z,43nm,19.8s,baz=138,slow=30							
NVAR	**Mina Array Bea**	**151.27**	**94**	PKPbc	PKPbc	10 54 35.8		-0.7
	0.3nm,0.7s,baz=213,slow=4.3,SNR=2.6							

IDC 29 10:45:22.6±1.6, 36°74N×141°33E, h0km, mb3.5/5, mbtmp3.4/6, ML2.0/1, MS2.9/1, Error ellipse: s-maj=31.2km s-min=27.7km az=168.0
JMA 29 10:45:25.3±0.1, 36°9N±0°3×141°3E±0°6, h32km, MV3.6/40, E OFF FUKUSHIMA PREF
JMA Felt I J1 at E OFF FUKUSHIMA PREF .
NIED 29 10:45:25.3, 36°87N×141°32E, h32km, MW3.3, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.82; $M_{\theta\theta}$=0.21; $M_{\phi\phi}$=1.04; $M_{r\theta}$=0.05; $M_{\theta\phi}$=0.36; $M_{\phi r}$=0.25; Fault plane solution: M_0=1.01000×10^{14} NP1: ϕ_s=193.00000°, δ_s=52.00000°, λ_s=-92.00000°. NP2:ϕ_s=17.00000°, δ_s=38.00000°, λ_s=-87.00000°.

ISC 29 10:45:25.3±1.5, 36°85N±0°05×141°34E±0°07, h19km±4km, n22, σ0°77/24, mb3.5/5, 9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
ONAJ	**Iwakimizuishiy**	**0.50**	**300**	*i* P	**Pg**	**10 45 35.2**		**-0.3**
ONAJ				S	**Sg**	**10 45 42.1**		**-0.2**
JFK	**Kawauchi**	**0.63**	**324**	*i* P	**Pb**	**10 45 37.2**		**-0.4**
JFK				S	**Sb**	**10 45 45.6**		**-0.5**
JHO	**Hitachi**	**0.66**	**249**	⇓*i* P	**Pb**	**10 45 37.9**		**-0.3**
JHO				⇓S	**Sb**	**10 45 47.0**		**0.0**
JFFD	**Fukushimafurud**	**0.67**	**291**	⇓*i* P	**Pb**	**10 45 37.7**		**-0.5**
JFFD				⇓S	**Sb**	**10 45 46.4**		**-0.7**
JOTO	**OTAMA OYAMA**	**1.07**	**312**	*i* P	**Pb**	**10 45 44.7**		**-0.4**
JOTO				S	**Sb**	**10 45 58.8**		**+0.1**
JMM	**Marumori**	**1.10**	**337**	⇓*i* P	**Pn**	**10 45 44.2**		**-1.4**
JYT	**Yasato**	**1.11**	**236**	P	**Pn**	**10 45 44.5**		**-1.3**
JYT				S	**Sb**	**10 45 59.0**		**-1.0**
JSB	**Shiboa**	**1.14**	**276**	⇓P	**Pn**	**10 45 46.3**		**+0.1**
JSB				⇓*e*S	**Sn**	**10 46 01.5**		**+0.1**
JFY	**Yanaizu**	**1.42**	**293**	⇓*i* P	**Pn**	**10 45 50.2**		**+0.2**
JFY				⇓S	**Sn**	**10 46 08.4**		**+0.3**
MJAR	**Matsushiro Arr**	**2.53**	**264**	Pn	**Pn**	**10 46 06.0**		**+0.6**
MJAR	0.3nm,0.3s,baz=88,slow=16,SNR=16			Sn	**Sn**	**10 46 37.0**		**+1.3**
	0.8nm,0.3s,baz=79,slow=14,SNR=5.6							
	2.5nm,0.4s							
SONM	**Songino Array**	**27.84**	**304**	P	**P**	**10 51 13.9**		**+0.4**
	0.4nm,0.6s,baz=102,slow=9.1,SNR=2.3							
	0.4nm,0.6s							
H11N2	**WAKE ISLAND Hy**	**28.11**	**120**	T	T	11 20 40.1		
	baz=313,slow=75,SNR=112							
H11N1	**WAKE ISLAND Hy**	**28.12**	**120**	T	T	11 20 43.2		
	baz=313,slow=75,SNR=112							
H11N3	**WAKE ISLAND Hy**	**28.13**	**120**	T	T	11 20 43.9		
	baz=313,slow=75,SNR=95							
H11S1	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	11 21 35.7		
	baz=315,slow=75,SNR=71							
H11S3	**WAKE ISLAND Hy**	**28.81**	**123**	T	T	11 21 32.1		
	baz=315,slow=75,SNR=66							
H11S2	**WAKE ISLAND Hy**	**28.83**	**123**	T	T	11 21 33.5		
	baz=315,slow=75,SNR=33							
CMAR	**Chiang Mai Arr**	**41.39**	**255**	LR	LR	11 12 12.6		
	comp=Z,15nm,19.0s,baz=180,slow=39							
MKAR	**Makanchi Array**	**44.16**	**302**	P	**P**	**10 53 32.8**		**+0.2**
	0.4nm,0.6s,baz=90,slow=9.7,SNR=2.1							
	0.4nm,0.6s							
KURBB	**Kurchatov Arra**	**46.06**	**308**	P	**P**	**10 53 48.0**		**+0.3**
	0.8nm,0.6s,baz=82,slow=8.3,SNR=6.2							
	0.8nm,0.6s							
ILAR	**Eielson Array**	**49.68**	**32**	P	**P**	**10 54 17.1**		**+1.6**
	0.3nm,0.7s,baz=282,slow=5.9,SNR=3.1							
	0.3nm,0.7s							
WRA	**Warramunga Arr**	**56.87**	**188**	P	**P**	**10 55 08.0**		**-0.8**
	0.4nm,0.7s,baz=3.1,slow=7.2,SNR=2.6							
	0.4nm,0.7s							

KRNET 29 10:48:59.8±0.1, 43°35N×70°25E, mb2.4
SOME 29 10:48:59.6, 43°42N×70°27E, h5km
NNC 29 10:49:00.0±0.4, 43°34N×70°24E, h0km, mb3.6, mpv3.1, Error ellipse: s-maj=2.8km s-min=1.8km az=24.0

ISC 29 10:49:04.6±1.1, 43°22N±0°06×70°50E±0°03, h10km±6km, n23, σ1°26/44, 24C-3D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID		Time		Res
				Op	ISC	h m s		ISC
KK09	**Karatay Array**	**0.10**	**182**	⇑P	**Pg**	**10 49 05.7**		**-1.5**
KK09				⇑S	**Sg**	**10 49 10.0**		**+0.9**
KK05	**Karatay Array**	**0.11**	**172**	⇑P	**Pg**	**10 49 05.9**		**-1.4**
KK05				⇑S	**Sg**	**10 49 10.3**		**+1.0**
KK04	**Karatay Array**	**0.11**	**179**	⇑P	**Pg**	**10 49 05.9**		**-1.6**
KK04				⇓S	**Sg**	**10 49 10.3**		**+0.8**
KK01	**Karatay Array**	**0.12**	**179**	⇑P	**Pg**	**10 49 05.9**		**-1.6**
KK01				⇓S	**Sg**	**10 49 10.4**		**+0.8**
KK02	**Karatay Array**	**0.12**	**177**	⇑P	**Pg**	**10 49 06.1**		**-1.5**
KK02				⇑S	**Sg**	**10 49

GOKC				Sg	Sb	10 51 49.5	-0.3	
COMU	**Canakkale**	**0.64**	**38**	Pg	Pg	10 51 40.7	-0.5	
LIA	**Limnos Island**	**0.67**	**297**	P	Pg	10 51 42.1	+0.2	
LIA				S	Sb	10 51 51.5	-0.2	
	comp=N,7μm,0.3s							
LIA	**Limnos Island**	**0.67**	**297**	P	Pg	10 51 42.1	+0.2	
LIA				S	Sg	10 51 51.2	+0.5	
LIA				AML	AML	10 51 52.4		
	comp=E,17137μm,0.3s							
LIA				AML	AML	10 51 55.5		
	comp=N,12736μm,0.3s							
LESV	**Lesvos island,**	**0.67**	**136**	P	Pg	10 51 41.8	-0.1	
LESV				S	Sg	10 51 50.9	+0.2	
	comp=N,31μm,0.5s							
EAG3	**Mitilini, Lesv**	**0.69**	**137**	P	Pg	10 51 41.7	-0.5	
EAG3				S	Sg	10 51 51.2	-0.2	
EFSA	**Agios Efstrati**	**0.75**	**266**	P	Pg	10 51 43.5	+0.1	
EFSA				S	Sb	10 51 54.2	+0.1	
EFSA				AML	AML	10 51 57.1		
	comp=N,5893μm,0.4s							
EFSA				AML	AML	10 51 59.4		
	comp=E,5298μm,0.3s							
BUHA	**Balikesir, Bur**	**0.87**	**96**	P	Pg	10 51 45.2	-0.4	
BUHA				S	Sg	10 51 56.4	-0.5	
GELI	**Tayfur-Gelibol**	**0.89**	**26**	Pg	Pg	10 51 45.2	-0.8	
DKL	**Dikili**	**0.90**	**125**	Pg	Pg	10 51 45.9	-0.3	
CAND	**Candarli**	**0.92**	**134**	Pg	Pg	10 51 45.9	-0.5	
SMTH	**Samothraki Isl**	**0.94**	**339**	P	Pg	10 51 46.7	-0.2	
SMTH				S	Sb	10 52 00.4	+1.1	
	comp=E,4μm,0.4s							
SMTH	**Samothraki Isl**	**0.94**	**339**	P	Pg	10 51 46.6	-0.2	
SMTH				S	Sg	10 51 59.0	0.0	
SMTH				AML	AML	10 52 01.3		
	comp=N,6655μm,0.4s							
SMTH				AML	AML	10 52 01.9		
	comp=E,5081μm,0.2s							
CANM	**Can-anakkale**	**0.94**	**63**	Pg	Pg	10 51 46.8	-0.1	
CANM				Sg	Sn	10 52 01.0	-0.1	
LPK	**Lapseki**	**0.99**	**38**	Pg	Pg	10 51 47.3	-0.6	
YENI	**Yenice-Canakka**	**1.04**	**71**	Pn	Pg	10 51 49.0	+0.1	
EAG2	**Marmaro, Chios**	**1.06**	**174**	P	Pb	10 51 48.6	-0.3	
EAG2				S	Sg	10 52 02.8	-0.1	
EAG2				AML	AML	10 52 07.4		
	comp=N,29335μm,0.3s							
EAG2				AML	AML	10 52 09.0		
	comp=E,22662μm,0.4s							
FOCM	**Foa**	**1.06**	**146**	Pg	Pb	10 51 49.0	-0.1	
PSRA	**Psara**	**1.10**	**197**	P	Pb	10 51 48.9	-0.8	
PSRA				S	Sn	10 52 04.8	-0.2	
PSRA				AML	AML	10 52 07.8		
	comp=E,14294μm,0.2s							
PSRA				AML	AML	10 52 08.1		
	comp=N,13517μm,0.2s							
ENEZ	**Enez**	**1.15**	**7**	Pn	Pb	10 51 50.8	+0.2	
ENEZ	**Enez**	**1.15**	**7**	P	Pb	10 51 50.4	-0.2	
ENEZ				S	Sn	10 52 06.6	+0.3	
	comp=N,8μm,0.4s							
ERIK	**Erikli-Kesan**	**1.15**	**21**	Pn	Pb	10 51 49.9	-0.8	
CHOS	**Chios island**	**1.21**	**177**	Pn	Pn	10 51 50.7	-0.9	
CHOS	**Chios island**	**1.21**	**177**	P	Pn	10 51 50.6	-1.0	
CHOS	**Chios island**	**1.21**	**177**	P	Pn	10 51 50.6	-1.0	
CHOS				S	Sb	10 52 07.1	-0.2	
CHOS				AML	AML	10 52 11.9		
	comp=N,4904μm,0.3s							
CHOS				AML	AML	10 52 15.8		
	comp=E,6869μm,0.3s							
CESE	**eme**	**1.29**	**168**	Pn	Pn	10 51 52.0	-0.6	
SOMA	**Soma-Manisa**	**1.29**	**109**	Pn	Pn	10 51 52.6	-0.1	
KRBG	**Karabiga-Canak**	**1.30**	**52**	Pn	Pn	10 51 52.6	-0.1	
ALN	**Alexandroupoli**	**1.30**	**3**	Pn	Pn	10 51 52.7	-0.1	
ALN	**Alexandroupoli**	**1.30**	**3**	P	Pn	10 51 52.6	-0.2	
ALN				S	Sn	10 52 10.4	+0.3	
	comp=E,1μm,0.5s							
ALN	**Alexandroupoli**	**1.30**	**3**	P	Pn	10 51 52.5	-0.2	
ALN				S	Sb	10 52 09.5	-0.3	
ALN				AML	AML	10 52 11.9		
	comp=E,1815μm,0.2s							
ALN				AML	AML	10 52 12.5		
	comp=N,3145μm,0.4s							
URLA	**Izmir**	**1.33**	**158**	Pn	Pn	10 51 52.4	-0.8	
STEP	**BALIKESIR_Sava**	**1.38**	**99**	P	Pb	10 51 54.6	+0.1	
STEP				S	Sg	10 52 14.1	+0.9	
KNL	**Balıkesir**	**1.38**	**60**	P	Pb	10 51 54.4	-0.1	
KNL				S	Sg	10 52 13.0	-0.2	
THAS	**Thassos island**	**1.39**	**317**	P	Pn	10 51 53.5	-0.5	
THAS				S	Sn	10 52 11.6	-0.6	
	comp=N,1μm,0.3s							
THAS	**Thassos island**	**1.39**	**317**	P	Pn	10 51 53.4	-0.5	
THAS				S	Sn	10 52 11.3	-0.9	
THAS				AML	AML	10 52 12.6		
	comp=N,2601μm,0.4s							
THAS				AML	AML	10 52 15.8		
	comp=E,1884μm,0.3s							
GONE	**Gonen-Balikesi**	**1.40**	**71**	Pn	Pb	10 51 55.0	+0.1	
BLCB	**Balcova**	**1.47**	**145**	Pn	Pn	10 51 55.5	+0.4	
BLCB	**Balcova**	**1.47**	**145**	P	Pn	10 51 54.8	-0.3	
BALB	**Balikesir**	**1.48**	**88**	Pn	Pn	10 51 55.8	+0.5	
BKES	**Balkesir-Mer**	**1.52**	**84**	P	Pb	10 51 57.3	+0.3	
BKES				S	Sg	10 52 17.2	-0.6	
BLKS	**Balkesir-Sus**	**1.57**	**79**	P	Pb	10 51 57.9	+0.1	
BLKS				S	Sb	10 52 18.1	+0.5	
RDO	**Rodhopi**	**1.58**	**348**	Pn	Pn	10 51 57.2	+0.6	
RDO	**Rodhopi**	**1.58**	**348**	P	Pn	10 51 56.5	-0.1	
RDO				S	Sn	10 52 16.7	-0.3	
	comp=E,660nm,0.2s							
RDO	**Rodhopi**	**1.58**	**348**	P	Pn	10 51 56.6	-0.1	
RDO				S	Sn	10 52 16.9	-0.1	
RDO				AML	AML	10 52 19.9		
	comp=N,1287μm,0.2s							
RDO				AML	AML	10 52 21.7		
	comp=E,1254μm,0.3s							
AKS	**Akhisar**	**1.61**	**116**	Pn	Pn	10 51 57.6	+0.6	
MRMT	**Marmara Adasi**	**1.61**	**51**	Pn	Pb	10 51 58.1	-0.3	
UKOP	**Uzunkopru-Edir**	**1.61**	**18**	Pn	Pn	10 51 57.9	+0.8	
EDC	**Edincik**	**1.64**	**62**	Pn	Pn	10 51 58.2	+0.7	
SUSR	**Susurluk-Balik**	**1.68**	**77**	Pn	Pn	10 51 58.8	+0.9	
OUR	**Ouranopolis**	**1.69**	**296**	Pn	Pn	10 51 57.9	-0.2	
OUR	**Ouranopolis**	**1.69**	**296**	P	Pn	10 51 57.9	-0.2	
OUR	**Ouranopolis**	**1.69**	**296**	P	Pn	10 51 58.0	-0.2	
OUR				S	Sn	10 52 19.0	-0.7	
OUR				AML	AML	10 52 25.9		
	comp=E,1758μm,0.4s							
OUR				AML	AML	10 52 29.5		
	comp=N,1516μm,0.6s							
KAVA	**Kavala**	**1.79**	**322**	P	Pn	10 51 59.4	0.0	
KAVA				S	Sn	10 52 20.6	-1.4	
KAVA	**Kavala**	**1.79**	**322**	P	Pn	10 51 59.5	0.0	
KAVA				S	Sn	10 52 20.7	-1.4	
PAIG	**Paliouri**	**1.79**	**281**	Pn	Pn	10 51 59.2	-0.3	
PAIG	**Paliouri**	**1.79**	**281**	P	Pn	10 51 59.2	-0.3	
KVLA	**Kavala**	**1.80**	**319**	P	Pn	10 51 59.7	0.0	
KVLA				S	Sn	10 52 21.2	-1.3	
BAND	**Balkesir-Ban**	**1.81**	**65**	P	Pn	10 52 00.5	+0.7	
BAND				S	Sg	10 52 25.9	-1.1	
TKR	**Tekirdag**	**1.84**	**40**	Pn	Pn	10 52 01.1	+0.9	
GORD	**Gordes-Manisa**	**1.85**	**111**	Pn	Pn	10 52 01.2	+0.8	
KCTX	**Karacabey (Bur**	**1.96**	**69**	Pn	Pn	10 52 02.7	+0.8	
SMG	**Samos**	**2.00**	**160**	P	Pn	10 52 01.8	-0.7	
SMG				S	Sn	10 52 27.6	+0.1	
SMG	**Samos**	**2.00**	**160**	P	Pn	10 52 01.6	-0.9	
DST	**Dursunbey**	**2.05**	**89**	Pn	Pn	10 52 04.4	+1.2	
PLG	**Polygyros**	**2.08**	**293**	P	Pn	10 52 03.9	+0.3	
PLG	**Polygyros**	**2.08**	**293**	P	Pn	10 52 03.7	+0.1	
KDZ	**Kurdzhali**	**2.09**	**347**	Pn	Pn	10 52 04.4	+0.8	
KDZ	**Kurdzhali**	**2.09**	**347**	P	Pn	10 52 04.0	+0.4	
KDZ				S	Sn	10 52 29.2	-0.3	
ODEM	**Odemis-Izmir**	**2.11**	**128**	Pn	Pn	10 52 04.8	+0.8	
GCAM	**G?zelcaml?**	**2.14**	**152**	Pn	Pn	10 52 04.9	+0.6	
NEO	**Neokhori**	**2.14**	**263**	P	Pn	10 52 03.4	-1.0	
XOR	**Xorichti**	**2.16**	**265**	P	Pn	10 52 04.0	-0.5	
DION	**Dionisos Attik**	**2.19**	**227**	P	Pn	10 52 05.0	-0.1	
AYDB	**Zeytinkoy-Aydi**	**2.23**	**137**	Pn	Pn	10 52 06.7	+1.0	
RZN	**Rozhen**	**2.29**	**336**	P	Pn	10 52 07.2	+0.6	
RZN				S	Sn	10 52 33.8	-1.1	
EDRB	**Edirne**	**2.33**	**15**	Pn	Pn	10 52 07.9	+1.0	
SOH	**Sokhos**	**2.34**	**302**	P	Pn	10 52 07.2	0.0	
SOH	**Sokhos**	**2.34**	**302**	P	Pn	10 52 07.3	+0.2	
PHSR	**Pinarhisar**	**2.35**	**30**	Pn	Pn	10 52 08.7	+1.4	
KULA	**Kula-Manisa**	**2.36**	**116**	Pn	Pn	10 52 08.5	+1.0	
KULA	**Kula-Manisa**	**2.36**	**116**	P	Pn	10 52 07.8	+0.3	
SRS	**Serrai**	**2.36**	**311**	P	Pn	10 52 07.6	+0.2	
SRS	**Serrai**	**2.36**	**311**	*e*Pn	Pn	10 52 07.7	+0.2	
SRS				*e*Sg	Sb	10 52 39.0	-1.5	
SRS	**Serrai**	**2.36**	**311**	P	Pn	10 52 07.6	+0.2	
SLVT	**Silivri**	**2.37**	**46**	Pn	Pn	10 52 08.7	+1.2	
MDNY	**Mudanya-Bursa**	**2.37**	**70**	Pn	Pn	10 52 08.8	+1.3	
NVR	**Nevrokopi**	**2.37**	**318**	P	Pn	10 52 08.8	+1.2	
NVR	**Nevrokopi**	**2.37**	**318**	P	Pn	10 52 08.7	+1.1	
HORT	**Hortiatis**	**2.41**	**295**	Pn	Pn	10 52 08.4	+0.2	
HORT	**Hortiatis**	**2.41**	**295**	P	Pn	10 52 08.5	+0.4	
ARMT	**Armutlu**	**2.43**	**66**	Pn	Pn	10 52 09.4	+1.1	
VLY	**Voula,Athens**	**2.43**	**225**	P	Pn	10 52 08.4	+0.1	
VIL2	**Platees**	**2.52**	**238**	P	Pn	10 52 08.7	-0.8	
CTKS	**Kestanelik-??a**	**2.54**	**49**	Pn	Pn	10 52 10.9	+1.1	
APE	**Apeiranthos**	**2.55**	**188**	⇑P	Pn	10 52 09.1	-0.9	
APE				⇓S	Sn	10 52 40.2	-0.7	
APE	**Apeiranthos**	**2.55**	**188**	Pn	Pn	10 52 08.7	-1.2	
MMB	**Musomishta**	**2.58**	**320**	P	Pn	10 52 10.8	+0.4	
MMB				S	Sn	10 52 41.1	-0.5	
CTYL	**Yalikoy Yolu**	**2.58**	**43**	Pn	Pn	10 52 11.8	+1.4	
CTYL	**Yalikoy Yolu**	**2.58**	**43**	P	Pn	10 52 11.5	+1.1	
GEMT	**Gemlik**	**2.62**	**70**	Pn	Pn	10 52 12.0	+1.1	
BGKT	**Bogazkoy**	**2.67**	**53**	Pn	Pn	10 52 12.9	+1.3	
MLSB	**Milas**	**2.70**	**148**	Pn	Pn	10 52 13.0	+0.9	
PLD	**Plovdiv**	**2.71**	**341**	Pn	Pn	10 52 12.8	+0.6	
PLD	**Plovdiv**	**2.71**	**341**	*e*Pn	Pn	10 52 14.3	+2.1	
PLD				*e*Sg	Sb	10 52 48.5	-1.9	
BODT	**Bodrum**	**2.74**	**157**	Pn	Pn	10 52 12.1	-0.5	
KAVV	**Kandilli-Istan**	**2.79**	**57**	Pn	Pn	10 52 14.7	+1.5	
ISK	**Istanbul-Kandi**	**2.79**	**57**	Pn	Pn	10 52 14.9	+1.7	
KNT	**Kendrikon**	**2.81**	**305**	Pn	Pn	10 52 13.9	+0.3	
KNT	**Kendrikon**	**2.81**	**305**	P	Pn	10 52 13.7	+0.1	
KNT	**Kendrikon**	**2.81**	**305**	P	Pn	10 52 13.7	+0.1	
LTK	**Loutraki**	**2.82**	**237**	P	Pn	10 52 12.8	-0.8	
AGG	**Agios Georgios**	**2.88**	**260**	Pn	Pn	10 52 14.1	-0.4	
AGG	**Agios Georgios**	**2.88**	**260**	P	Pn	10 52 14.4	-0.1	
KLYT	**Kilyos**	**2.88**	**54**	Pn	Pn	10 52 15.9	+1.5	
KLYT	**Kilyos**	**2.88**	**54**	P	Pn	10 52 16.4	+2.0	
ADVT	**Abdulvahap**	**3.02**	**73**	Pn	Pn	10 52 18.0	+1.6	
MAKR	**Makrakomi, Fth**	**3.03**	**260**	P	Pn	10 52 17.1	+0.5	
GRG	**Griva**	**3.04**	**298**	P	Pn	10 52 17.7	+0.9	
CAVI	**Cavuskoy**	**3.05**	**77**	Pn	Pn	10 52 18.2	+1.4	
THL	**Klokotos Trika**	**3.05**	**271**	P	Pn	10 52 17.3	+0.5	
THL	**Klokotos Trika**	**3.05**	**271**	P	Pn	10 52 17.3	+0.5	
KKB	**Krupnik**	**3.11**	**317**	P	Pn	10 52 18.7	+1.0	
VAY	**Valandovo**	**3.11**	**305**	*i* Pn	Pn	10 52 19.4	+1.7	
PGB	**Panagyurishte**	**3.21**	**336**	P	Pn	10 52 20.6	+1.5	
GUR	**Goura**	**3.28**	**241**	P	Pn	10 52 19.8	-0.3	
GUR	**Goura**	**3.28**	**241**	P	Pn	10 52 19.8	-0.3	
ANX	**Ano Chora**	**3.30**	**254**	P	Pn	10 52 20.8	+0.4	
ELND	**Elena**	**3.33**	**359**	⇓P	Pn	10 52 22.5	+1.8	
KLV	**Kalavryta, Ach**	**3.36**	**244**	P	Pn	10 52 20.8	-0.3	
EFP	**Efpalio**	**3.37**	**251**	P	Pn	10 52 21.0	-0.2	
PLNA	**Plana**	**3.46**	**327**	P	Pn	10 52 23.9	+1.3	
PLNA				S	Sn	10 53 03.2	-0.3	
STIP	**Stip**	**3.56**	**307**	*i* Pn	Pn	10 52 23.4	-0.4	
VTS	**Vitosha**	**3.66**	**327**	P	Pn	10 52 26.3	+1.0	
VTS				S	Sn	10 53 07.5	-0.9	
VTS	**Vitosha**	**3.66**	**327**	*e*Pn	Pn	10 52 26.5	+1.2	
FNA	**Florina**	**3.71**	**290**	*e*Pn	Pn	10 52 27.1	+1.2	
FNA	**Florina**	**3.71**	**290**	P	Pn	10 52 27.2	+1.2	
NEF	**NEVSHA**	**3.80**	**15**	P	Pn	10 52 29.2	+2.1	
NEST	**Nestorio**	**3.86**	**284**	P	Pn	10 52 29.6	+1.5	
BOSS	**Bosilegrad**	**3.92**	**319**	*e*Pn	Pn	10 52 30.4	+1.7	
MPEP	**Malo Peshtene**	**4.11**	**337**	P	Pn	10 52 32.7	+1.3	
PRVS	**Prvonek**	**4.13**	**316**	*e*Pn	Pn	10 52 33.1	+1.3	
ZAPS	**Zavoj**	**4.45**	**327**	*e*Pn	Pn	10 52 38.0	+2.0	
BARS	**Barje**	**4.49**	**317**	*e*Pn	Pn	10 52 37.8	+1.2	
BLKB	**Belogradchik**	**4.72**	**86**	⇑P	Pn	10 52 40.9	+1.2	
ZAGS	**Zajecar**	**5.05**	**328**	*e*Pn	Pn	10 52 44.8	+0.4	
SELS	**Selova**	**5.13**	**316**	*e*Pn	Pn	10 52 46.5	+1.0	
BOVS	**Bovan**	**5.14**	**323**	⇑P	Pn	10 52 46.4	+0.8	
BOVS	**Bovan**	**5.14**	**323**	*e*Pn	Pn	10 52 46.4	+0.8	
GRUS	**Gruza**	**5.81**	**319**	*e*Pn	Pn	10 52 55.6	+0.8	
VOIR		**5.88**	**354**	P	Pn	10 52 57.1	+1.4	
	comp=N,11nm,0.9s,comp=N,0.0nm							
MLR	**Muntele Rosu**	**5.89**	**360**	⇓P	Pn	10 52 57.9	+1.9	
MLR	**Muntele Rosu**	**5.89**	**360**	LR	LR	10 55 52.6		
	comp=N,36nm,19.5s,baz=100,slow=44							
MLR	**Muntele Rosu**	**5.89**	**360**	P	Pn	10 52 57.9	+1.9	
	comp=N,49nm,0.6s,comp=N,0.1nm							
BR105	**Keskin Array S**	**5.91**	**86**	P	Pn	10 52 56.1	-0.2	
	comp=N,5.1nm,0.7s,comp=N,110nmcomp=N,0.0nm							
BR106	**Keskin Array S**	**5.91**	**86**	P	Pn	10 52 58.1	+1.8	
	comp=N,3.5nm,0.5s,comp=N,131nmcomp=N,0.0nm							
BRTR	**Keskin Array B**	**5.93**	**86**	Pn	Pn	10 52 57.9	+1.4	
	comp=N,1.7nm,0.3s,baz=264,slow=12,SNR=28							
BRTR				Pg	Pg	10 53 17.4	-4.9	
	comp=N,0.3nm,0.3s,baz=266,slow=13,SNR=2.1							
BRTR				Sn	Sn	10 54 02.2	-2.2	
	baz=264,slow=23							
BRTR				Lg	Lg	10 54 31.5		
	baz=273,slow=14							
	comp=N,3.3nm,0.5s							
BR104	**Keskin Array S**	**5.93**	**86**	P	Pn	10 52 57.5	+1.0	
	comp=N,4.8nm,0.6s,comp=N,96nmcomp=N,0.0nm							
MDVR	**Moldovita**	**6.07**	**330**	⇑P	Pn	10 52 59.2	+0.8	
LOT	**Lotru**	**6.07**	**345**	⇑P	Pn	10 52 59.6	+1.2	
COVR	**Voineasa-Covas**	**6.25**	**2**	⇓P	Pn	10 53 02.2	+1.3	
PLOR5	**Plostina Array**	**6.27**	**4**	P	Pn	10 53 03.3	+2.2	
	comp=N,52nm,0.7s,comp=N,0.2nm							
PLOR	**Plostina**	**6.27**	**4**	⇓P	Pn	10 53 04.0	+2.8	
PLOR3	**Plostina Array**	**6.28**	**4**	P	Pn	10 53 02.7	+1.5	
	comp=N,58nm,0.7s,comp=N,635nmcomp=N,0.2nm							
VRI	**Vrincioaia**	**6.29**	**5**	⇑P	Pn	10 53 04.4	+3.0	
VRI	**Vrincioaia**	**6.29**	**5**	P	Pn	10 53 04.1	+2.7	
	comp=N,58nm,0.6s,comp=N,628nmcomp=N,0.2nm							
DOPR	**Dopca**	**6.38**	**356**	⇑P	Pn	10 53 05.0	+2.4	
TURR	**Turia**	**6.46**	**0**	⇓P	Pn	10 53 06.2	+2.5	
BZS	**Buzias**	**6.82**	**333**	⇓P	Pn	10 53 09.1	+0.5	
TESR	**Tescani**	**6.93**	**4**	⇓P	Pn	10 53 12.1	+2.0	
TESR	**Tescani**	**6.93**	**4**	P	Pn	10 53 11.6	+1.5	
	comp=N,70nm,0.7s,comp=N,0.2nm							
TIP	**Timpagrande**	**7.14**	**270**	⇑P	Pn	10 53 12.3	-0.8	
TIP	**Timpagrande**	**7.14**	**270**	P	Pn	10 53 14.5	+1.4	
MARR	**Marisel-Cluj**	**7.38**	**345**	⇓P	Pn	10 53 18.2	+1.9	
SIRR	**Siria**	**7.38**	**336**	⇑P	Pn	10 53 18.3	+2.1	
TARU	**Tarkhankut**	**7.54**	**38**	*e*S	Sn	10 54 41.9	-2.0	
TARU				Sm		10 54 43.5		
	comp=E,7.0nm,0.3s,comp=N,18nm,0.3s							
SEV	**Sevastopol'**	**7.57**	**47**	*e*P	Pn	10 53 17.5	-1.4	
SEV				Pm		10 53 23.5		
	comp=Z,2.0nm,0.4s							
SEV				*e*S	Sn	10 54 40.1	-4.4	
SEV				Sm		10 54 45.3		
	comp=N,2.0nm,0.4s							
SEV				Sm		10 54 45.3		
	comp=E,4.0nm,0.3s							
SUDU	**Sudak**	**8.54**	**49**	*e*P	Pn	10 53 28.1	-4.0	
SUDU				Pm		10 53 28.2		
	comp=Z,5.0nm,0.3s							
KMPD	**K-Podol'skiy**	**8.97**	**2**	P	Pn	10 53 39.8	+1.7	
KMPD				P	Pn	10 53 39.9	+1.8	
LUBAR	**Lubar, Ukraine**	**10.40**	**6**	P	Pn	10 53 58.6	+0.9	
AKASG	**Malin Array Be**	**11.34**	**11**	Pn	Pn	10 54 10.3	-0.2	
	comp=Z,0.4nm,0.3s,baz=198,slow=12,SNR=2.5							
	comp=Z,0.3nm,0.4s							
RNPP9	**Sopachiv**	**11.82**	**360**	P	Pn	10 54 18.8	+1.8	
NOA	**NORSAR Array B**	**23.33**	**342**	LR	LR	11 07 04.5		
	comp=Z,10nm,18.5s,baz=345,slow=40							
EKA	**Eskdalemuir Ar**	**24.95**	**319**	P	P	10 56 52.5	+0.8	
	comp=Z,1.4nm,0.5s,baz=108,slow=9.9,SNR=5.1							
	comp=Z,1.4nm,0.5s							
TORD	**Torodi Ar. Bea**	**33.94**	**226**	P	P	10 58 12.6	+0.6	
	comp=Z,0.5nm,0.8s,baz=30,slow=9.7,SNR=2.8							
	comp=Z,0.5nm,0.8s							

HEL 29 11:00:01.9±0.1, 60°.51N×26°.85E, h0km, ML1.5, Explosion, Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.35**	**86**	PG	Pg	11 00 08.2	-0.4
VJF				SG	Sg	11 00 13.1	0.0
PVF	**Pernaja**	**0.49**	**274**	PG	Pg	11 00 10.4	-0.9
PVF				SG	Sg	11 00 16.8	-0.8
PVF				MSG		11 00 18.0	
	comp=Z,4.0nm,0.2s						
FIA0	**FINESS Array S**	**1.01**	**338**	PG	Pg	11 00 19.9	-1.3
	baz=161						
FIA0				MSG		11 00 32.8	
	comp=Z,2.5nm,0.2s						
FIA0				SB	Sg	11 00 33.5	-0.7
NUR	**Nurmijrvi**	**1.09**	**271**	PG	Pg	11 00 21.7	-1.0
NUR				MSG		11 00 35.1	
	comp=Z,4.1nm,0.2s						
NUR				SG	Sg	11 00 35.4	-1.4
MEF	**Metsahovi**	**1.25**	**257**	PG	Pg	11 00 24.2	-1.7
	baz=77						
MEF				MSG		11 00 39.8	
	comp=Z,4.6nm,0.2s						
MEF				SG	Sg	11 00 41.0	-1.1
RUF	**Ruokolahti**	**1.37**	**47**	PG	Pg	11 00 26.1	-2.0
	baz=234						
RUF				MSG		11 00 43.4	
	comp=Z,4.4nm,0.2s						
RUF				SN	Sn	11 00 47.6	+0.5
KAF	**Kangasniemi**	**1.63**	**351**	PG	Pn	11 00 31.4	-0.4
	baz=175						
KAF				MSG		11 00 50.6	
	comp=Z,5.0nm,0.2s						
KAF				SN	Sg	11 00 54.0	-0.1
KEF	**Keuruu**	**1.91**	**331**	MSG		11 00 58.9	
	comp=Z,3.5nm,0.2s						
KEF				SG	Sb	11 01 02.4	+0.3
VSU	**Vasula**	**2.06**	**182**	SG	Sn	11 01 03.6	-0.4
SUF	**Sumiainen**	**2.24**	**352**	MSG		11 01 08.2	
	comp=Z,1.2nm,0.2s						
SUF				SG	Sb	11 01 11.3	-0.1
RAF	**Rauma**	**2.55**	**284**	MSG		11 01 17.1	
	comp=Z,1.6nm,0.2s						
RAF				SG	Sb	11 01 19.2	-1.0
KPF	**Kankaanpaa**	**2.67**	**302**	SB	Sb	11 01 22.3	-1.4
RMF	**Romuvaara**	**3.98**	**20**	SB	Sb	11 01 57.0	-4.6

MIRAS 29 11:32:33.5, 56°.94N×61°.49E, h0km, ML2.4/4, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVE	**Sverdlovsk**	**0.48**	**256**	*e*P	Pg	11 32 42.0	-0.8
	baz=255						
SVE				*e*S	Sb	11 32 51.2	-1.3
	76nm,0.7s,baz=255						
SVE				*i* AML	AML	11 32 54.1	
	93nm,0.9s						
SVE	**Sverdlovsk**	**0.48**	**256**	*e*P	Pg	11 32 42.5	-0.2
	14nm,0.2s,baz=256						
SVE				*e*S	Sg	11 32 48.8	-0.2
	30nm,0.5s,baz=256						
SVE				*i* AML	AML	11 32 54.7	
	93nm,0.9s						
KAUR	**Kamensk Uralsk**	**0.51**	**179**	*e*P	Pg	11 32 43.2	-0.1
	74nm,0.1s,baz=188						
KAUR				*e*S	Sg	11 32 51.0	+1.0
	baz=188						
KAUR				*i* AML	AML	11 32 53.5	
	155nm,0.8s						
KAUR	**Kamensk Uralsk**	**0.51**	**179**	*e*P	Pg	11 32 43.1	-0.2
	19nm,0.1s,baz=179						
KAUR				*e*S	Sg	11 32 50.9	+1.0
	64nm,0.1s,baz=179						
KAUR				*i* AML	AML	11 32 57.0	
	231nm,0.8s						
ARU	**Arti**	**1.69**	**254**	*e*P	Pn	11 33 04.4	+0.1
	18nm,0.2s,baz=253						
ARU				*e*S	Sg	11 33 28.8	+0.9
	baz=253						
ARU				*i* AML	AML	11 33 30.4	
	65nm,0.8s						
ARU	**Arti**	**1.69**	**254**	*e*P	Pb	11 33 04.9	-0.6
	5.2nm,0.1s,baz=254						
ARU				*e*S	Sg	11 33 28

comp=Z,0.3nm,0.7s,baz=128,slow=4.3,SNR=5.0
comp=Z,7.8nm,0.7s

WR0	**Warramunga Arr**	**42.62**	**266**	P		**P**	**11 48 42.8**	**-1.1**
WR0				IAmb		IAmb	11 48 43.3	

comp=Z,7.3nm,0.8s

WB2	**Warramunga Arr**	**42.80**	**266**	P		**P**	**11 48 44.4**	**-1.0**
WB2				IAmb		IAmb	11 48 44.8	

comp=Z,14nm,0.8s

WRAB	**Tennant Creek**	**42.80**	**266**	P		**P**	**11 48 44.5**	**-0.8**
WRAB				IAmb		IAmb	11 48 44.8	

comp=Z,13nm,0.8s

WB0	**Warramunga Arr**	**42.80**	**266**	P		**P**	**11 48 43.8**	**-1.6**
WRA	**Warramunga Arr**	**42.81**	**266**	P		**P**	**11 48 44.4**	**-1.0**
WRA	**Warramunga Arr**	**42.81**	**266**	P		**P**	**11 48 44.2**	**-1.2**

comp=Z,12nm,0.5s,baz=96,slow=8.4,SNR=388

WRA				ScP		**ScP**	**11 53 30.0**	**+2.6**

comp=Z,0.6nm,0.7s,baz=100,slow=3.7,SNR=6.0
comp=Z,12nm,0.5s

FORT	**Forrest**	**46.67**	**250**			**P**	**11 49 14.2**	**-0.9**
MTN	**Manton Dam**	**47.86**	**274**	P		**P**	**11 49 23.6**	**-0.6**
MTN				IAmb		IAmb	11 49 27.4	

comp=Z,18nm,1.4s

FITZ	**Fitzroy Crossi**	**51.23**	**265**	P		**P**	**11 49 49.0**	**0.0**
PSA00	**Pilbara Seismi**	**55.55**	**260**	P		**P**	**11 50 18.9**	**-0.8**
PSA00				IAmb		IAmb	11 50 20.8	

comp=Z,15nm,1.1s

MBWA	**Marble Bar**	**55.76**	**260**	P		**P**	**11 50 18.9**	**-2.3**
MBWA				IAmb		IAmb	11 50 50.0	

comp=Z,15nm,1.1s

MORW	**Morawa**	**57.24**	**250**	P		**P**	**11 50 30.7**	**-0.5**
TOLI2	**Tolitoli**	**62.98**	**284**	P		**P**	**11 51 08.8**	**-0.8**
TOLI2				IAmb		IAmb	11 51 10.6	

comp=Z,12nm,0.7s

QSPA	**South Pole Qui**	**66.14**	**180**	P		**P**	**11 51 31.1**	**+2.2**
QSPA	**South Pole Qui**	**66.14**	**180**	P		**P**	**11 51 30.7**	**+1.8**

comp=Z,2.4nm,0.8s,baz=98,slow=3.5,SNR=12
comp=Z,2.4nm,0.8s

MAW	**Mawson**	**77.85**	**200**	P		**P**	**11 52 37.7**	**+1.0**

comp=Z,1.9nm,0.7s,baz=140,slow=4.8,SNR=4.2
comp=Z,1.9nm,0.7s

NVAR	**Mina Array Bea**	**84.50**	**44**	P		**P**	**11 53 13.2**	**+1.5**

comp=Z,0.5nm,0.8s,baz=220,slow=9.1,SNR=4.3
comp=Z,0.5nm,0.8s

TXAR	**Lajitas Array**	**90.11**	**58**	P		**P**	**11 53 40.7**	**+2.4**

comp=Z,0.8nm,0.8s,baz=211,slow=6.7,SNR=12
comp=Z,0.8nm,0.8s

PDAR	**Pinedale Array**	**92.44**	**44**	P		**P**	**11 53 51.2**	**+2.3**

comp=Z,0.4nm,0.7s,baz=240,slow=5.1,SNR=2.1
comp=Z,0.4nm,0.7s

BRTR	**Keskin Array B**	**147.93**	**307**	PKPbc		**PKPbc**	**12 00 20.0**	**-0.5**

comp=Z,0.6nm,0.8s,baz=112,slow=1.6,SNR=2.1

MMAI	**Mount Meron Ar**	**148.09**	**294**	PKPbc		**PKiKP**	**12 00 21.9**	**-0.4**

comp=Z,0.6nm,0.3s,baz=137,slow=3.2,SNR=1.5

TORD	**Torodi Ar. Bea**	**169.19**	**187**	PKPab		**PKPab**	**12 01 57.9**	**+0.7**

comp=Z,0.2nm,0.5s,baz=167,slow=4.6,SNR=2.1

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*IDC **29** 11:56:12.0±1.1, 19˚.35N×155˚.32W, h0km, mb4.0/11, mbtmp4.0/11, MS4.3/78, Error ellipse: s-maj=37.4km s-min=19.0km az=156.0*

*HVO **29** 11:56:11.6±1.9, 19˚.4N±0˚.1×155˚.28W±0˚.06, h-0km±4km, ML4.1/45, mb4.7/178(NEIC), ML3.9/39(NEIC), Mww5.3/12(NEIC), Error ellipse: s-maj=17.4km s-min=8.3km az=180.0*

*NEIC **29** 11:56:12.5, 19˚.48N×154˚.86W, h12km, Moment Tensor Solution. Duration: 2s2 Moment tensor: Scale 10^17^Nm; Mrr=0.99; Mθθ=0.54; Mφφ=0.45; Mrθ=-0.76; Mθφ=0.15; Mrφ=0.09; Fault plane solution: M0=1.09000×10^17^ NP1:φ=83.02000°, δ=66.51000°, λ=-79.58000°. NP2:φ=238.25000°, δ=25.58000°, λ=-112.59000°. Principal axes: T 0.8733, Plg=21.0000°, Azm=165.0000°; N 0.4382, Plg=10.0000°, Azm=259.0000°; P =1.3114, Plg=67.0000°, Azm=12.0000°;*

*NEIC **29** 11:56:12.7±2.3, 19˚.4N±0˚.1×155˚.3W±0˚.1, h5km±1km Error ellipse: s-maj=22.0km s-min=17.3km az=276.0*

*NEIC **29** 11:56:12.5, 19˚.38N×155˚.28W, h12km*

ISC 29 11:56:11.7±0.8, 19˚.41N±0˚.03×155˚.32W±0˚.03, h3km±5km, n612, σ1φ03/529, mb4.7/99, MS4.4/82, 1C, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time			Res
				Op		ISC	h	m	s	ISC
UWE	**Uwekahuna**	**0.02**	**68**	Pg		**Pg**	**11 56 12.6**			**-0.1**
OBL	**Observatory Le**	**0.03**	**81**			**Pg**	**11 56 12.4**			**-0.3**
UWB	**Uwekahuna B**	**0.04**	**71**			**Pg**	**11 56 12.7**			**-0.1**
RIM	**Rim**	**0.04**	**114**			**Pg**	**11 56 12.8**			**0.0**
SBLHI	**Steaming Bluff**	**0.05**	**72**			**Pg**	**11 56 13.3**			**+0.4**
KKO	**Keanakako`i**	**0.05**	**108**			**Pg**	**11 56 13.4**			**+0.5**
BYL	**Byron's Ledge**	**0.05**	**91**	Pg		**Pg**	**11 56 13.2**			**+0.2**
HATHI	**Halema`uma`u T**	**0.05**	**79**	Pg		**Pg**	**11 56 13.0**			**0.0**
RSD	**Rainshed**	**0.06**	**35**	Pg		**Pg**	**11 56 13.6**			**+0.4**
RSD				IAML			11 56 14.1			

comp=N,19μm,0.3s

PUH	**Pauahi**	**0.10**	**112**	IAML			11 56 14.2			

comp=E,26μm,1.8s

PUH				Pg		**Pg**	**11 56 14.5**			**+0.7**
MLH	**Mauna Loa**	**0.10**	**320**	Pg		**Pg**	**11 56 15.5**			**+1.6**
MLH				IAML			11 56 16.3			

comp=E,48μm,1.0s

MLH				IAML			11 56 17.1			

comp=N,29μm,0.8s

HLP	**Hilina Pali**	**0.12**	**177**	Pg		**Pg**	**11 56 15.1**			**+1.1**
HLP				IAML			11 56 17.0			

comp=E,40μm,0.7s

HLP				IAML			11 56 17.2			

comp=N,55μm,1.2s

KNHH	**Kane Nui o Ham**	**0.14**	**104**	Pg		**Pg**	**11 56 15.1**			**+0.5**
STCH	**Steam Cracks**	**0.18**	**99**			**Pg**	**11 56 16.1**			**+0.8**
STCH				IAML			11 56 19.0			

comp=N,32μm,1.4s

STCH				IAML			11 56 19.1			

comp=E,77μm,0.9s

HTC	**Hot Caves**	**0.19**	**204**			**Pg**	**11 56 16.5**			**+1.0**
NPOC	**North of Pu`u**	**0.19**	**96**			**Pg**	**11 56 15.8**			**+0.3**
NPOC						**Sg**	**11 56 19.1**			**+1.0**
JCUZ	**Jacuzzi**	**0.20**	**98**			**Pg**	**11 56 16.0**			**+0.3**
JCUZ						**Sg**	**11 56 19.5**			**+1.2**
HMH	**Humu`ula Sheep**	**0.25**	**320**			**Pb**	**11 56 17.9**			**+1.4**
HMH				IAML			11 56 24.0			

comp=E,34μm,1.1s

HMH				IAML			11 56 25.6			

comp=N,29μm,1.2s

MLOA	**Mauna Loa Obse**	**0.28**	**296**			**Pb**	**11 56 18.6**			**-1.0**
MWH	**Moku`aweowe**	**0.28**	**285**			**Pb**	**11 56 18.7**			**-1.0**
JOKA	**Jonika Flow**	**0.29**	**86**			**Pg**	**11 56 17.8**			**+0.4**
JOKA				IAML			11 56 24.2			

comp=E,37μm,3.2s

JOKA				IAML			11 56 25.4			

comp=N,33μm,1.0s

KHU	**Kahuku**	**0.33**	**240**			**Pb**	**11 56 19.4**			**-1.0**
KHU				IAML			11 56 28.8			

comp=N,19μm,1.9s

KHU				IAML			11 56 30.0			

comp=E,24μm,2.5s

PAH	**Pahoa**	**0.36**	**77**			**Pb**	**11 56 19.2**			**-1.5**
HPO	**Honuapo**	**0.39**	**215**	Pg		**Pg**	**11 56 17.6**			**-1.7**
POHA	**Pohakuloa**	**0.40**	**329**			**Pg**	**11 56 20.1**			**+0.6**
HUH	**Hualalai**	**0.56**	**299**			**Pb**	**11 56 23.8**			**-0.6**
I59US	**HAWAII INFRASO**	**0.57**	**288**	Pg		**Pb**	**11 56 24.0**			**-0.5**

baz=117,slow=39

I59US				Lg		Lg	11 56 30.0			

baz=126,slow=22

I59US				l		l	11 59 35.0			

comp=E,0.1nm,1.3s,baz=105,slow=319,SNR=17

HPAH	**Hawaii Prepara**	**0.71**	**330**			**Pg**	**11 56 24.9**			**-0.5**
MHA	**Mahukona**	**0.95**	**324**			**Pg**	**11 56 28.5**			**-1.4**
HLK	**Haleakala**	**1.60**	**327**			**Pn**	**11 56 40.2**			**-0.9**
KHLH	**Kahului Airpor**	**1.81**	**325**			**Pn**	**11 56 41.2**			**-2.6**
KPA	**Kalaupapa**	**2.36**	**319**	Pn		**Pn**	**11 56 49.5**			**-1.9**
DHH	**Diamond Head**	**2.97**	**309**	Pn		**Pn**	**11 56 58.7**			**-1.1**
HON	**Honolulu**	**3.16**	**307**			**Pn**	**11 56 59.1**			**-3.2**
KIP	**Kipapa**	**3.23**	**309**			**Pn**	**11 56 59.9**			**-3.4**
OPA	**Opana**	**3.39**	**312**	Pn		**Pn**	**11 57 03.4**			**-2.2**
KEKH	**Kekaha**	**4.84**	**303**	Pn		**Pn**	**11 57 23.2**			**-2.4**
SBC	**Santa Barbara**	**34.89**	**57**	P		**P**	**12 03 04.0**			**-0.5**

baz=254

SMMC	**Simmler**	**34.92**	**56**	P		**P**	**12 03 03.6**			**-1.3**

baz=252

PKM	**Mcpherson Peak**	**34.94**	**56**	P		**P**	**12 03 03.5**			**-1.7**

baz=253

NIKH	**Nikolski High**	**35.11**	**346**	P		**P**	**12 03 05.8**			**-0.3**

baz=157

UNV	**Unalaska Valle**	**35.43**	**349**	P		**P**	**12 03 09.3**			**+0.4**

baz=162

AFDM	**Forest Hills D**	**35.46**	**49**	P		**P**	**12 03 09.2**			**-0.3**
AFDM				IAmb		IAmb	12 03 15.0			

comp=Z,12nm,1.4s

SCI2	**San Clemente I**	**35.46**	**60**	P		**P**	**12 03 08.7**			**-0.8**

baz=257

YBH	**Yreka Blue Hor**	**35.49**	**44**	LR		LR	12 13 50.8			

comp=Z,852nm,21.6s,baz=242,slow=30

CNBA	**Chernabura Isl**	**35.50**	**356**	P		**P**	**12 03 09.0**			**-0.5**
CHNA	**Chernabura Isl**	**35.51**	**356**	P		**P**	**12 03 09.3**			**-0.3**

baz=173

H11N3	**WAKE ISLAND Hy**	**35.55**	**277**	T		T	12 40 18.6			

baz=82,slow=74

H11N2	**WAKE ISLAND Hy**	**35.56**	**277**	T		T	12 40 20.7			

baz=82,slow=74

H11N1	**WAKE ISLAND Hy**	**35.57**	**277**	T		T	12 40 19.9			

baz=82

CIS	**Catalina Islan**	**35.67**	**59**	P		**P**	**12 03 09.2**			**-2.1**

baz=256

OSI	**Osito Audit: C**	**35.72**	**57**	P		**P**	**12 03 10.1**			**-1.7**

baz=254

ARVC	**Arvin**	**35.78**	**56**	P		**P**	**12 03 10.2**			**-2.0**

baz=254

FMP	**Fort Macarthur**	**35.84**	**59**	P		**P**	**12 03 12.0**			**-0.7**

baz=256

H11S2	**WAKE ISLAND Hy**	**35.89**	**275**	T		T	12 40 40.2			

baz=83

H11S1	**WAKE ISLAND Hy**	**35.89**	**275**	T		T	12 40 40.0			

baz=83

HATC	**Hat Creek Radi**	**35.90**	**46**	P		**P**	**12 03 11.8**			**-1.5**
H11S3	**WAKE ISLAND Hy**	**35.90**	**275**	T		T	12 40 42.5			

baz=83

FALS	**False Pass**	**35.92**	**352**	P		**P**	**12 03 13.1**			**0.0**

baz=167

SDPT	**Sand Point**	**36.09**	**355**	P		**P**	**12 03 14.2**			**-0.3**

baz=172

EDW2	**Edwards Air Fo**	**36.37**	**57**	P		**P**	**12 03 16.9**			**-0.5**

baz=255

WAKR	**Walker**	**36.40**	**51**	P		**P**	**12 03 15.8**			**-2.0**
WAKR				IAmb		IAmb	12 03 26.9			

comp=Z,24nm,1.4s

BFSC	**Mount Baldy Ra**	**36.48**	**58**	P		**P**	**12 03 17.6**			**-0.7**

baz=256

PNTR	**Pine Nut**	**36.50**	**50**	P		**P**	**12 03 17.0**			**-1.6**
PNTR				IAmb		IAmb	12 03 59.0			

comp=Z,10nm,1.1s

ELS	**Elsinore Mount**	**36.53**	**59**	P		**P**	**12 03 17.5**			**-1.2**
ELS				IAmb		IAmb	12 03 22.4			

comp=Z,9.9nm,1.1s

K04D	**Chiloquin, OR**	**36.54**	**43**	P		**P**	**12 03 18.2**			**-0.6**
CWC	**Cottonwood Cre**	**36.74**	**55**	P		**P**	**12 03 19.7**			**-0.9**

baz=253

AFI	**Afiamalu**	**36.87**	**207**	P		**P**	**12 03 20.2**			**-1.5**
AFI				IAmb		IAmb	12 03 31.3			

comp=Z,22nm,0.9s

H04D	**Lebanon**	**36.89**	**40**	P		**P**	**12 03 19.7**			**-1.9**
PAHR	**Pah Rah Range**	**36.89**	**49**	P		**P**	**12 03 21.3**			**-0.5**
PAHR				IAmb		IAmb	12 03 35.5			

comp=Z,21nm,1.6s

TKX	**Tecate**	**36.97**	**61**	P		**P**	**12 03 20.7**			**-1.8**
MPMC	**Manual Prospec**	**37.09**	**55**	P		**P**	**12 03 23.2**			**-0.4**

baz=254

SII	**Sitkinak Islan**	**37.10**	**1**	P		**P**	**12 03 23.7**			**+0.5**

baz=182

DSP	**Deep Springs**	**37.11**	**53**	P		**P**	**12 03 22.1**			**-1.5**
DSP				IAmb		IAmb	12 03 39.1			

comp=Z,24nm,1.7s

RYN	**Ryan**	**37.12**	**51**	P		**P**	**12 03 22.0**			**-1.8**
PPT	**Papeete**	**37.18**	**171**	LR		LR	12 14 26.1			

comp=Z,557nm,21.1s,baz=341,slow=30

MONP2	**Monument Peak**	**37.19**	**61**	P		**P**	**12 03 23.3**			**-1.2**

baz=259

PPT2	**Papeete2**	**37.20**	**171**	*e*P		**P**	**12 03 22.2**			**-2.3**
PPT2					*e*S	**S**	**12 09 14.8**			**+2.6**

comp=Z,73nm,24.2s

PPT2					*e*LR	LR	12 13 21.5			

comp=Z,344nm,24.8s

PPT2					*e*LR	LR	12 13 22.9			

comp=Z,2μm,32.0s

PPTF	**Pamatai, Papee**	**37.20**	**171**	P		**P**	**12 03 22.1**			**-2.4**
NVAR	**Mina Array Bea**	**37.21**	**51**	P		**P**	**12 03 23.9**			**-0.8**
NVAR	**Mina Array Bea**	**37.21**	**51**	P		**P**	**12 03 24.9**			**+0.2**

comp=Z,0.8nm,0.7s,baz=240,slow=11,SNR=6.7

NVAR					PcP	**PcP**	**12 05 45.7**			**+1.0**

comp=Z,0.8nm,1.0s,baz=217,slow=4.3,SNR=2.7

NVAR					LR	LR	12 15 39.0			

comp=Z,1μm,18.8s,baz=239,slow=31
comp=Z,0.8nm,0.7s

PFO	**Pinyon Flats O**	**37.31**	**60**	P		**P**	**12 03 23.6**			**-1.8**
PFO				IAmb		IAmb	12 03 32.3			

comp=Z,16nm,1.6s

PFO	**Pinyon Flats O**	**37.31**	**60**	P		**P**	**12 03 24.7**			**-0.8**

baz=258

PFO	**Pinyon Flats O**	**37.31**	**60**	LR		LR	12 15 06.2			

comp=Z,906nm,18.8s,baz=275,slow=30

H04A	**Detroit Lake**	**37.31**	**40**	P		**P**	**12 03 24.3**			**-0.8**
TPFO	**Pinon Flats**	**37.31**	**60**	P		**P**	**12 03 25.0**			**-0.4**

baz=258

NV11	**Mina Array Sit**	**37.32**	**51**	P		**P**	**12 03 25.6**			**+0.1**
PMD	**Palm Desert**	**37.38**	**60**	P		**P**	**12 03 24.9**			**-1.0**
IKP	**In-Ko-Pah, Jac**	**37.40**	**61**	P		**P**	**12 03 25.9**			**-0.3**

baz=259

RMX	**La Rumorosa**	**37.42**	**61**	P		**P**	**12 03 26.0**			**-0.4**
GSC	**Goldstone, Bar**	**37.42**	**57**	P		**P**	**12 03 27.4**			**+1.1**
GSC	**Goldstone, Bar**	**37.42**	**57**	P		**P**	**12 03 26.2**			**-0.1**

baz=255

GRAC	**Grapevine Rang**	**37.45**	**54**	P		**P**	**12 03 27.6**			**+1.0**
GRAC				IAmb		IAmb	12 03 37.1			

comp=Z,32nm,1.9s

GRAC	**Grapevine Rang**	**37.45**	**54**	P		**P**	**12 03 26.7**			**+0.1**

baz=252

YUH	**Yuha Desert**	**37.55**	**61**	P		**P**	**12 03 25.4**			**-2.0**
KVN	**Kaiserville**	**37.57**	**51**	P		**P**	**12 03 25.2**			**-2.5**
GMN	**Gold Mountain**	**37.63**	**54**	P		**P**	**12 03 26.3**			**-1.9**
PINE	**Pine Mountain**	**37.63**	**42**	P		**P**	**12 03 27.4**			**-0.7**
PINE				IAmb		IAmb	12 04 44.7			

comp=Z,16nm,1.6s

I05D	**Terrebonne, OR**	**37.65**	**41**	P		**P**	**12 03 27.4**			**-0.7**
MZP	**Montezuma Peak**	**37.66**	**53**	P		**P**	**12 03 28.3**			**-0.2**
HEC	**Hector,Ludlow**	**37.68**	**58**	P		**P**	**12 03 28.6**			**+0.1**

baz=256

FURC	**Furnace Creek,**	**37.69**	**55**	P		**P**	**12 03 28.4**			**0.0**

baz=254

SWSC	**Sam W. Stewart**	**37.71**	**61**	P		**P**	**12 03 29.1**			**+0.4**

baz=259

GWY	**Greenwater Val**	**37.76**	**56**	P		**P**	**12 03 28.0**			**-1.3**
BELC	**Belle Mtn. Jos**	**37.76**	**59**	P		**P**	**12 03 28.9**			**-0.4**

baz=258

OHAK	**Old Harbor**	**37.78**	**2**	P		**P**	**12 03 30.4**			**+1.5**

baz=183

WCT	**Wildcat Mounta**	**37.96**	**55**	P		**P**	**12 03 31.3**			**+0.4**
SHOC	**Shoshone, Teco**	**37.99**	**56**	P		**P**	**12 03 31.5**			**+0.4**

baz=255

R18K	**Karluk**	**38.10**	**1**	P		**P**	**12 03 31.6**			**0.0**

baz=181

G05A	**Wamic**	**38.13**	**40**	P		**P**	**12 03 31.3**			**-0.8**
G05A				IAmb		IAmb	12 04 31.1			

comp=Z,20nm,0.9s

BC3	**Big Chuckawall**	**38.14**	**60**	P		**P**	**12 03 31.9**			**-0.5**

baz=258

TUQ	**Turquoise Moun**	**38.15**	**57**	P		**P**	**12 03 31.7**			**-0.9**

baz=256

GMRC	**Granite Mounta**	**38.21**	**58**	P		**P**	**12 03 31.9**			**-1.2**

baz=257

KDAK	**Kodiak Island**	**38.37**	**2**	LR		LR	12 16 48.0			

comp=Z,258nm,18.2s,baz=205,slow=32

IRM	**Iron Mountain**	**38.49**	**59**	P		**P**	**12 03 34.9**			**-0.4**

baz=258

WVOR	**Wild Horse Val**	**38.51**	**45**	P		**P**	**12 03 33.9**			**-1.5**
WVOR				IAmb		IAmb	12 03 45.9			

comp=Z,31nm,1.9s

P08K	**Saint George I**	**38.63**	**347**	P		**P**	**12 03 36.1**			**+0.1**

baz=158

I07A	**Izee**	**38.68**	**42**	P		**P**	**12 03 37.8**			**+1.0**
I07A				IAmb		IAmb	12 03 47.8			

comp=Z,18nm,1.5s

BMN	**Battle Mountai**	**38.70**	**49**	P		**P**	**12 03 37.1**			**0.0**
S11A	**Rachel**	**38.88**	**54**	P		**P**	**12 03 37.4**			**-1.3**
S11A				IAmb		IAmb	12 03 49.6			

comp=Z,15nm,1.2s

BBB	**Bella Bella**	**39.00**	**27**	LR		LR	12 16 03.9			

comp=Z,571nm,19.7s,baz=220,slow=30

J08A	**Circle Bar Ran**	**39.02**	**44**	P		**P**	**12 03 39.4**			**-0.3**
SHPR	**Sheep Range**	**39.02**	**56**	P		**P**	**12 03 39.9**			**0.0**
V12A	**Nelson**	**39.07**	**57**	P		**P**	**12 03 38.2**			**-2.1**
R11B	**Troy Canyon, C**	**39.20**	**53**	P		**P**	**12 03 41.4**			**-0.1**

R11B	**Troy Canyon, C**	**39.20**	**53**	P		**P**	**12 03 40.9**			**-0.5**

baz=252

Q16K	**King Salmon**	**39.23**	**359**	P		**P**	**12 03 41.9**			**+0.9**

baz=178

PRN	**Pahroc Range**	**39.34**	**54**	P		**P**	**12 03 42.8**			**+0.2**
G08A	**Pilot Rock**	**39.59**	**41**	P		**P**	**12 03 46.3**			**+1.8**
W13A	**Hualapai Mount**	**39.70**	**58**	P		**P**	**12 03 47.1**			**+1.5**
W13A				IAmb		IAmb	12 04 00.7			

comp=Z,23nm,1.9s

comp=Z,15nm,1.2s
SKT Skwentna 42.61 3 P P 12 04 10.5 +1.5
SKT IAmb IAmb 12 04 11.2
comp=Z,17nm,1.2s
SKT Skwentna 42.61 3 P P 12 04 09.0 0.0
baz=185
SML Sawmill 42.64 5 P P 12 04 10.1 +0.9
SML IAmb IAmb 12 04 11.3
comp=Z,12nm,1.0s
SML Sawmill 42.64 5 P P 12 04 09.6 +0.4
baz=190
CTG Chitna Glacier 42.67 10 P P 12 04 10.4 +0.7
baz=200
CTGM Chitina Glacie 42.67 10 P P 12 04 09.9 +0.2
CTGM IAmb IAmb 12 04 15.2
comp=Z,11nm,1.0s
O28M Mount Upton 42.69 11 P P 12 04 10.2 +0.3
baz=201
BARN Barnard Glacie 42.71 10 P P 12 04 12.5 +2.5
CTU Camp Tracy 42.73 51 P P 12 04 09.8 -0.6
L19K White Mountain 42.73 0 P P 12 04 11.1 +1.1
L19K IAmb IAmb 12 04 12.1
comp=Z,19nm,1.1s
L19K White Mountain 42.73 0 P P 12 04 10.6 +0.6
baz=181,SNR=6.3
L17K Donlin 42.73 358 P P 12 04 10.5 +0.5
baz=176
P30M Million Dollar 42.73 13 P P 12 04 10.9 +0.9
baz=206
SCM Sheep Creek Mo 42.75 6 P P 12 04 10.5 +0.4
baz=191
L18K Granite Mounta 42.78 359 P P 12 04 10.8 +0.5
baz=178
HMU Henry Mountain 42.79 55 P P 12 04 12.5 +1.5
HMU IAmb IAmb 12 04 17.7
comp=Z,28nm,1.9s
MCARA McCarthy VSAT 42.81 9 P P 12 04 11.1 +0.5
baz=197
N25K Chitina, Valde 42.82 8 P P 12 04 11.5 +0.7
baz=195
TBI Tubuai 42.88 172 *e*P **P 12 04 13.5 +2.0**
comp=Z,297nm,27.5s
TBI *e*S **S 12 10 37.0 0.0**
comp=Z,1μm,26.2s
TBI *e*LR LR 12 15 54.2
comp=Z,2μm,31.8s
TBI *e*LR LR 12 15 58.3
comp=Z,8μm,29.5s
319A Douglas 42.98 65 P P 12 04 14.3 +1.8
L20K Farewell, AK 43.04 1 P P 12 04 13.2 +0.7
baz=182,SNR=5.5
P32M Atlin 43.04 16 P P 12 04 13.3 +0.7
baz=210
W18A Petrified Fore 43.05 59 P P 12 04 12.5 -0.6
baz=261
K15K Wolf Creek Mou 43.06 356 P P 12 04 12.9 +0.3
baz=171
TCUT Toone Canyon 43.09 50 P P 12 04 15.6 +2.1
TCUT IAmb IAmb 12 04 24.0
comp=Z,45nm,1.7s
CUT Chulitna 43.10 3 P P 12 04 13.7 +0.9
baz=187
DLBC Dease Lake 43.12 19 P P 12 04 13.5 +0.3
baz=216
DLBC Dease Lake 43.12 19 LR LR 12 18 49.5
comp=Z,576nm,19.0s,baz=232,slow=31
HWUT Hardware Ranch 43.12 49 P P 12 04 15.3 +1.6
HWUT IAmb IAmb 12 04 16.5
comp=Z,24nm,1.8s
M24K Tolsona, Glenn 43.13 6 P P 12 04 13.6 +0.4
baz=193
YUK6 Outpost Mounta 43.19 12 P P 12 04 14.5 +0.6
baz=204
SRU San Rafael Swe 43.22 53 P P 12 04 16.1 +1.6
SRU IAmb IAmb 12 04 28.3
comp=Z,33nm,2.0s
YUK8 Steele Glacier 43.24 11 P P 12 04 14.5 +0.1
baz=202
DUN6 Lazy B Ranch 43.25 63 P P 12 04 16.9 +2.2
HYT Haines Junctio 43.26 13 P P 12 04 15.2 +0.8
baz=205
MSO Missoula 43.41 41 P P 12 04 15.2 -0.5
baz=245
BSUT Blindstream Ca 43.41 51 P P 12 04 18.1 +1.9
BSUT IAmb IAmb 12 04 32.5
comp=Z,15nm,1.6s
WAT6 Susitna Watana 43.45 5 P P 12 04 16.3 +0.4
baz=190,SNR=11
PPLA Purkeypile 43.50 2 P P 12 04 16.6 +0.3
baz=184
YUK4 Talbot Arm 43.51 12 P P 12 04 17.6 +1.2
baz=203
O30N Mendenhall 43.51 14 P P 12 04 16.0 -0.3
baz=207
HARP HAARP 43.52 7 P P 12 04 16.6 +0.2
baz=194
BPMT Black Pine Rid 43.55 42 P P 12 04 17.2 0.0
YUK3 Moose Creek 43.58 10 P P 12 04 17.5 +0.4
baz=200
R33M Jennings River 43.63 18 P P 12 04 17.6 +0.2
baz=214
WAT1 Susitna Watana 43.63 4 P P 12 04 17.7 +0.4
baz=189
J14K Nanvaranak Lak 43.67 355 P P 12 04 17.4 -0.1
baz=169
WHY Whitehorse 43.69 14 P P 12 04 17.9 +0.1
baz=208
M26K Nabesna, AK 43.80 8 IAmb IAmb 12 04 21.3
comp=Z,14nm,1.0s
M26K Nabesna, AK 43.80 8 P P 12 04 18.8 +0.2
baz=197,SNR=9.8
P33M Teslin, Yukon 43.81 16 P P 12 04 18.7 -0.1
baz=211
M27K Edge Creek, AK 43.91 9 IAmb IAmb 12 04 25.7
comp=Z,14nm,1.1s
M27K Edge Creek, AK 43.91 9 P P 12 04 19.6 0.0
baz=198,SNR=11
N30M Aishikik Lake 43.92 13 P P 12 04 19.8 +0.2
baz=205
K20K Telida 43.92 1 P P 12 04 20.8 +1.3
baz=182
DHY Denali Highway 43.97 5 IAmb IAmb 12 04 22.7
comp=Z,18nm,1.3s
DHY Denali Highway 43.97 5 P P 12 04 20.8 +0.7
baz=191,SNR=6.7
J16K Anvik River 43.99 357 P P 12 04 20.6 +0.6
baz=173
J17K VABM Dome 44.02 358 P P 12 04 21.0 +0.7
baz=175
CAST Castle Rocks 44.03 2 P P 12 04 20.7 +0.2
baz=184
J18K Innoko River 44.03 359 P P 12 04 20.8 +0.4
J18K IAmb IAmb 12 04 31.9
comp=Z,12nm,1.4s
J18K Innoko River 44.03 359 P P 12 04 20.7 +0.4
baz=178
PAX Paxson 44.05 6 P P 12 04 21.1 +0.4
baz=193,SNR=11
FXWY Fox Creek 44.13 47 P P 12 04 20.4 -1.4
FXWY IAmb IAmb 12 04 32.1
comp=Z,13nm,1.6s
TPAW Teton Pass 44.14 47 P P 12 04 20.8 -1.1
TPAW IAmb IAmb 12 04 32.2
comp=Z,21nm,1.4s
TRF Thorofare Moun 44.14 3 P P 12 04 21.9 +0.4
TRF Thorofare Moun 44.14 3 P P 12 04 21.8 +0.4
baz=187
REDW Red Top Meadow 44.16 47 P P 12 04 22.6 +0.5
RND Reindeer 44.18 4 P P 12 04 22.9 +1.2
RND IAmb IAmb 12 04 24.2
comp=Z,19nm,1.3s
N31M Braeburn, Yuko 44.22 13 P P 12 04 22.3 +0.4
baz=207
MENT Mentasta 44.22 8 P P 12 04 22.4 +0.5
MENT IAmb IAmb 12 04 35.7
comp=Z,30nm,1.8s
121A Cookes Peak, D 44.34 63 P P 12 04 22.5 -1.1
baz=265
L26K Log Cabin Wild 44.35 8 P P 12 04 23.6 +0.6
baz=196
MVCO Mesa Verde 44.39 56 P P 12 04 24.1 +0.1
MVCO Mesa Verde 44.39 56 P P 12 04 22.6 -1.3
baz=260
BOZ Bozeman (W) 44.40 44 P P 12 04 23.3 -0.5
BOZ IAmb IAmb 12 04 26.7
comp=Z,22nm,1.8s
BOZ Bozeman (W) 44.40 44 P P 12 04 23.5 -0.4
baz=249
CHUM Lake Minchumin 44.48 2 P P 12 04 24.7 +0.7
baz=184
MCK McKinley 44.50 4 P P 12 04 25.3 +1.1
baz=189
N32M Quiet Lake 44.55 15 P P 12 04 24.8 +0.2
baz=210
J19K Poorman 44.55 360 P P 12 04 25.0 +0.4
baz=180
M29M Somme Creek 44.55 11 IAmb IAmb 12 04 28.1
comp=Z,6.3nm,0.8s
M29M Somme Creek 44.55 11 P P 12 04 25.2 +0.4
baz=203,SNR=9.4
L27K Beaver Creek, 44.59 9 IAmb IAmb 12 04 29.1
comp=Z,16nm,1.3s
L27K Beaver Creek, 44.59 9 P P 12 04 26.2 +1.3
baz=204,SNR=9.9
I17K Unalakleet 44.59 357 P P 12 04 25.9 +1.1
baz=173
BCAR Beaver Creek A 44.60 9 P P 12 04 25.8 +0.7
H17A Grant Village 44.69 46 P P 12 04 25.1 -1.2
baz=251
J20K Nowinta River 44.74 1 P P 12 04 26.0 0.0
baz=182
BPAW Bear Paw Mtn. 44.75 3 IAmb IAmb 12 04 38.1
comp=Z,16nm,1.2s
BPAW Bear Paw Mtn. 44.75 3 P P 12 04 25.8 -0.4
baz=186,SNR=5.8
K24K Donnelly Dome 44.83 6 P P 12 04 27.1 +0.2
baz=193
WTLY Watson Lake, Y 44.85 18 P P 12 04 27.9 +0.8
baz=217
PDAR Pinedale Array 44.89 48 P P
PDAR Pinedale Array 44.89 48 P P 12 04 28.9 +1.1
comp=Z,2.7nm,1.0s,baz=256,slow=6.0,SNR=12
PDAR LR LR 12 19 42.4
comp=Z,282nm,21.3s,baz=274,slow=31
comp=Z,2.7nm,1.0s
M30M Minto, Yukon 44.99 12 P P 12 04 30.0 +1.8
M30M IAmb IAmb 12 04 31.3
comp=Z,9.3nm,1.1s
M30M Minto, Yukon 44.99 12 P P 12 04 28.0 -0.1
baz=205,SNR=6.6
TOAD Toad River Com 45.02 22 P P 12 04 28.4 0.0
baz=222
M31M Drury Creek, Y 45.16 14 P P 12 04 31.2 +1.7
M31M IAmb IAmb 12 04 34.2
comp=Z,13nm,1.5s
M31M Drury Creek, Y 45.16 14 P P 12 04 29.5 0.0
baz=208
O20A White River Ci 45.17 52 P P 12 04 29.9 -0.3
baz=257
SCRK Sand Creek 45.19 7 P P 12 04 31.4 +1.6
SCRK IAmb IAmb 12 04 31.5
comp=Z,8.7nm,1.2s
SCRK Sand Creek 45.19 7 P P 12 04 29.9 +0.1
baz=195,SNR=5.3
GCSA Galena City Sc 45.32 359 P P 12 04 31.4 +0.8
baz=178,SNR=7.4
HDA Harding Lake 45.32 5 P P 12 04 31.9 +1.2
HDA IAmb IAmb 12 04 32.7
comp=Z,12nm,1.2s
HDA Harding Lake 45.32 5 P P 12 04 30.5 -0.2
baz=191,SNR=8.0
NEA2 Nenana 45.35 4 P P 12 04 31.8 +0.9
NEA2 IAmb IAmb 12 04 32.8
comp=Z,18nm,1.4s
NEA2 Nenana 45.35 4 P P 12 04 31.0 +0.2
baz=188,SNR=6.5
I20K Naaghedeneel 45.36 1 P P 12 04 30.7 -0.2
baz=181
FARO Faro, Yukon 45.42 14 P P 12 04 33.9 +2.4
FARO IAmb IAmb 12 04 35.0
comp=Z,8.8nm,1.1s
FARO Faro, Yukon 45.42 14 P P 12 04 32.1 +0.6
baz=210
H16K Elim 45.44 356 P P 12 04 32.1 +0.6
baz=171
K27K Chicken 45.48 8 P P 12 04 32.5 +0.6
baz=198
H17K Granite Mounta 45.60 357 P P 12 04 33.4 +0.5
baz=174
ANM Nome 45.63 354 P P 12 04 33.5 +0.4
ANM Nome 45.63 354 P P 12 04 33.5 +0.4
baz=167
J25K Salcha River, 45.66 6 P P 12 04 33.9 +0.4
J25K IAmb IAmb 12 04 35.7
comp=Z,15nm,1.1s
J25K Salcha River, 45.66 6 P P 12 04 33.5 +0.1
baz=193,SNR=13
ILAR Eielson Array 45.68 5 P P 12 04 34.0 +0.5
comp=Z,3.3nm,0.9s,baz=194,slow=7.3,SNR=25
ILAR LR LR 12 21 02.9
comp=Z,184nm,18.1s,baz=176,slow=33
comp=Z,3.3nm,0.9s
ANMO Albuquerque 45.69 60 P P 12 04 35.0 +0.6
ANMO IAmb IAmb 12 04 39.8
comp=Z,9.2nm,1.4s
ANMO Albuquerque 45.69 60 P P 12 04 33.1 -1.2
baz=263
ANMO Albuquerque 45.69 60 LR LR 12 21 42.9
comp=Z,435nm,18.2s,baz=342,slow=34
MLY Manley 45.69 3 P P 12 04 34.2 +0.5
MLY IAmb IAmb 12 04 37.9
comp=Z,9.8nm,1.2s
MLY Manley 45.69 3 P P 12 04 33.5 -0.1
baz=186,SNR=6.5
COLA College 45.71 4 P P 12 04 33.9 +0.2
COLA College 45.71 4 P P 12 04 34.1 +0.4
baz=190
J26L Joseph Creek 45.75 7 P P 12 04 35.2 +1.0
J26L IAmb IAmb 12 04 41.1
comp=Z,7.3nm,1.1s
J26L Joseph Creek 45.75 7 P P 12 04 35.1 +1.0
baz=196,SNR=8.0
H18K Honhosa River 45.76 358 P P 12 04 34.6 +0.4
baz=176
MDM Murphy Dome 45.76 4 P P 12 04 34.6 +0.4
I21K Tanana 45.79 2 P P 12 04 33.8 -0.6
baz=184
I23K Minto, Yukon-K 45.88 4 P P 12 04 35.4 +0.3
baz=188
DAWY Dawson 45.91 10 IAmb IAmb 12 04 38.0
comp=Z,9.7nm,1.0s
DAWY Dawson 45.91 10 P P 12 04 36.1 +0.7
baz=201,SNR=8.9
G15K Niukluk 45.92 355 P P 12 04 36.1 +0.7
baz=168
SMCO Snowmass 45.93 54 IAmb IAmb 12 04 41.8
comp=Z,11nm,1.1s
POKR Poker Plat Res 45.98 5 P P 12 04 36.5 +0.6
baz=190
K29M Barlow Dome 46.01 11 IAmb IAmb 12 04 39.2
comp=Z,7.9nm,1.3s
K29M Barlow Dome 46.01 11 P P 12 04 36.5 +0.2
baz=204
H20K Anotleneega Mo 46.05 0 P P 12 04 36.5 0.0
baz=180,SNR=5.8
H19K Roundabout Mou 46.10 359 P 12 04 38.5 +1.7
H19K Roundabout Mou 46.10 359 P P 12 04 38.0 +1.3
baz=178
TGTN Hyland Airport 46.14 18 P P 12 04 38.1 +0.8
baz=216
G16K Koyuk River 46.19 356 P P 12 04 37.5 0.0
baz=171
G17K Kiwalik Mounta 46.20 357 P P 12 04 37.8 +0.2
baz=173
H21K Melozitna Rive 46.25 1 P P 12 04 37.5 -0.6
baz=183
RWWY Rawlins 46.29 50 P P 12 04 37.2 -1.9
RWWY IAmb IAmb 12 04 51.5
comp=Z,7.2nm,1.1s
EGAK Eagle 46.32 8 P P 12 04 38.9 +0.3
EGAK IAmb IAmb 12 04 41.5
comp=Z,10nm,1.0s
EGAK Eagle 46.32 8 P P 12 04 37.7 -0.8
baz=199,SNR=7.8
MNTX Cornudas Mount 46.32 64 P P 12 04 38.1 -1.0
baz=267
KOTAN Kotaneelee Air 46.38 21 P P 12 04 38.9 -0.2
baz=222
EGMT Eagleton 46.49 41 P P 12 04 40.0 -0.3
baz=248
G18K Tagagawik 46.51 358 P P 12 04 40.7 +0.6
baz=176
H22K Ishtalitna Cre 46.53 2 P P 12 04 40.4 +0.2
baz=185
PRP Porcupine Dome 46.53 6 IAmb IAmb 12 04 42.6
comp=Z,12nm,1.2s
PRP Porcupine Dome 46.53 6 P P 12 04 40.7 +0.3
baz=193,SNR=5.2
H23K Yukon River 46.54 3 P P 12 04 41.4 +1.1
baz=188,SNR=6.0
I26K Coal Creek Min 46.57 7 P P 12 04 41.0 +0.5
baz=196
F14K Arctic Creek 46.61 354 P P 12 04 41.4 +0.5
baz=166
VHRN Van Horn 46.62 66 IAmb IAmb 12 04 44.7
comp=Z,12nm,1.1s
H24K Noodor Dome 46.66 4 P P 12 04 40.2 -1.1
H24K IAmb IAmb 12 04 43.2
comp=Z,12nm,1.3s
H24K Noodor Dome 46.66 4 P P 12 04 42.3 +1.0
baz=190,SNR=6.1
EDM Edmonton 46.69 34 P P 12 04 41.1 -0.5
G19K Purcell Mounta 46.72 359 P P 12 04 43.3 +1.6
G19K Purcell Mounta 46.72 359 P P 12 04 42.2 +0.5
baz=178
SDCO Great Sand Dun 46.83 56 P P 12 04 41.8 -1.6
SDCO IAmb IAmb 12 04 48.8
comp=Z,6.9nm,1.1s
SDCO Great Sand Dun 46.83 56 P P 12 04 42.0 -1.3
baz=261
J30M Hart River 46.90 11 P P 12 04 42.9 -0.3
baz=205,SNR=6.7
K22A Casper 47.02 49 P P 12 04 43.4 -1.2
K22A Casper 47.02 49 P P 12 04 43.9 -0.7
baz=256
I27K Kandik River 47.05 8 P P 12 04 44.2 -0.1
baz=198,SNR=6.1
N23A Red Feather La 47.05 52 P P 12 04 44.4 -0.6
baz=258
ISCO Idaho Springs 47.08 53 P P 12 04 43.8 -1.6
baz=259
G21K Allakaket 47.10 1 P P 12 04 44.7 0.0
baz=182
I28M Miner Creek 47.12 9 P P 12 04 45.8 +0.8
I28M IAmb IAmb 12 04 51.4
comp=Z,12nm,1.3s
I28M Miner Creek 47.12 9 P P 12 04 45.3 +0.3
baz=200
F17K Baldwin Pennin 47.17 357 P P 12 04 45.3 +0.2
F17K Baldwin Pennin 47.17 357 P P 12 04 45.6 +0.4
baz=172
H25L Birch Creek 47.24 5 P P 12 04 46.4 +0.6
baz=192,SNR=11
F18K Selawik 47.25 358 P P 12 04 46.3 +0.6
baz=174
I29M Ogilvie Camp, 47.29 10 P P 12 04 46.8 +0.6
baz=202
Q24A Divide 47.29 55 P P 12 04 46.1 -0.9
baz=260
G23K Bananza Creek 47.40 3 P P 12 04 47.3 +0.2
baz=187
F19K Shaleruckik Mo 47.43 359 P P 12 04 48.1 +1.0
F19K Shaleruckik Mo 47.43 359 P P 12 04 47.4 +0.2
baz=177,SNR=5.1
I30M Mount Dempster 47.48 11 P P 12 04 48.3 +0.5
I30M Mount Dempster 47.48 11 P P 12 04 47.7 -0.1
baz=204,SNR=9.5
G24K Hadweenzic Riv 47.54 4 P P 12 04 48.8 +0.7
G24K Hadweenzic Riv 47.54 4 P P 12 04 48.0 -0.1
baz=190,SNR=7.1
G22K Bettles 47.55 2 P P 12 04 48.9 +0.8
baz=185
FYU Fort Yukon 47.59 5 P P 12 04 49.0 +0.6
PECS Pecos 47.60 65 P P 12 04 48.1 -1.1
PECS IAmb IAmb 12 04 52.1
comp=Z,6.5nm,0.9s
T25A Trinidad 47.60 57 P P 12 04 49.0 -0.3
baz=263
F20K Avaraart Lake 47.62 360 P P 12 04 49.2 +0.5
baz=179
H27K Steamboat Moun 47.66 8 P P 12 04 49.8 +0.7
baz=198,SNR=12
G25K Bearman Lake 47.71 5 P P 12 04 49.8 +0.5
baz=192
TX31 Lajitas Ar. Si 47.75 68 P P 12 04 52.3 +1.9
TX31 IAmb IAmb 12 04 53.5
comp=Z,10nm,1.1s
TXAR Lajitas Array 47.75 68 P P 12 04 52.5 +2.1
TXAR Lajitas Array 47.75 68 P P 12 04 52.1 +1.7
comp=Z,6.3nm,0.9s,baz=263,slow=7.1,SNR=49
TXAR LR LR 12 20 24.6
comp=Z,302nm,21.6s,baz=232,slow=30
comp=Z,6.3nm,0.9s
ALPN Alpine 47.77 66 P P 12 04 52.2 +1.5
ALPN IAmb IAmb 12 04 53.6
comp=Z,7.3nm,0.9s
F21K Alatna River 47.81 1 P P 12 04 51.9 +1.8
F21K Alatna River 47.81 1 P P 12 04 50.7 +0.6
baz=182,SNR=7.3
E17K Hotham Inlet 47.84 357 P P 12 04 50.5 +0.2
baz=172
HTMS Hat Mesa 47.84 63 P P 12 04 51.6 +0.5
COLD Coldfoot 47.91 3 P P 12 04 51.5 +0.6
COLD Coldfoot 47.91 3 P P 12 04 51.2 +0.2
baz=186
HILA High Level 47.96 26 P P 12 04 52.8 +1.3
E19K Redstone River 48.04 359 P P 12 04 52.3 +0.3
E19K IAmb IAmb 12 05 40.7
comp=Z,12nm,1.4s
E19K Redstone River 48.04 359 P P 12 04 52.4 +0.3
baz=178
H29M Whitestone 48.08 9 P 12 04 53.2 +1.0
H29M Whitestone 48.08 9 P P 12 04 52.9 +0.6
baz=202,SNR=9.4
G26K Porcupine Rive 48.10 6 P P 12 04 53.2 +0.8
baz=195,SNR=10
E18K Tukpahlearik C 48.11 357 P P 12 04 52.8 +0.3
E18K Tukpahlearik C 48.11 357 P P 12 04 53.1 +0.6
baz=173
F22K John River 48.12 2 P P 12 04 53.0 +0.5
baz=184
G27K Doyon Strip 48.20 7 P P 12 04 54.0 +0.8
G27K IAmb IAmb 12 04 59.9
comp=Z,12nm,1.7s
G27K Doyon Strip 48.20 7 P P 12 04 54.1 +0.8
baz=197
F24K Squaw Lake 48.32 4 P P 12 04 54.4 +0.2
baz=189
H31M Peel River 48.38 11 P P 12 04 55.2 +0.6
baz=207
EPYK Eagle Plains 48.48 10 P P 12 04 56.5 +1.2
EPYK IAmb IAmb 12 04 57.4
comp=Z,9.7nm,1.0s
EPYK Eagle Plains 48.48 10 P P 12 04 56.2 +0.8
baz=204,SNR=6.1
BMAR Burnt Mountain 48.49 6 P P 12 04 57.1 +1.6
D17K Noatak River 48.52 356 P P 12 04 56.2 +0.5
baz=170
F25K Christian Rive 48.56 5 P P 12 04 57.2 +1.2
baz=192
MSTX Muleshoe 48.64 62 P P 12 04 58.8 +1.6
MSTX Muleshoe 48.64 62 P P 12 04 56.5 -0.8
baz=267
E22K Anaktuvuk Pass 48.76 2 P P 12 04 59.6 +2.0
E22K Anaktuvuk Pass 48.76 2 P P 12 04 58.1 +0.5
baz=184,SNR=10
G29M Pine Creek 48.77 9 P P 12 04 59.0 +1.3
G29M Pine Creek 48.77 9 P P 12 04 58.1 +0.5
baz=202,SNR=8.4
F26K Sheenjek River 48.79 6 P P 12 04 59.6 +1.8
baz=194,SNR=8.6
E20K Nigu River 48.84 360 P P 12 04 58.7 +0.5
baz=179,SNR=6.0
E24K Your Creek 48.84 3 P P 12 04 58.4 +0.3
baz=188
RTBA Rita Blanca 48.86 58 P P 12 04 59.9 +0.9
RTBA IAmb IAmb 12 05 03.2
comp=Z,7.6nm,1.1s
RDOG Red Dog Mine 48.87 356 P P 12 04 58.8 +0.5
baz=170
WRGLY Wrigley 48.88 18 P P 12 04 59.8 +1.3
WRGLY IAmb IAmb 12 05 01.1
comp=Z,14nm,1.4s
WRGLY Wrigley 48.88 18 P P 12 04 59.3 +0.8
baz=221
E21K Killik River 49.02 1 P P 12 05 00.5 +0.9
baz=182
E25K Arctic Village 49.08 5 P P 12 05 00.3 +0.3
baz=192
D19K Kuna River 49.10 359 P P 12 05 01.5 +1.4
D19K Kuna River 49.10 359 P P 12 05 00.9 +0.8
baz=176

G30M	**tAoh Zraii Nji**	**49.12**	**10**	P		**P**		**12 05 00.3**	**0.0**
	baz=204,SNR=5.6								
RSSD	**Black Hills**	**49.12**	**48**	P		**P**		**12 05 00.8**	**-0.1**
RSSD				IAmb		IAmb		12 05 02.5	
	comp=Z,10nm,1.1s								
RSSD	**Black Hills**	**49.12**	**48**	P		**P**		**12 05 00.3**	**-0.6**
	baz=257								
F28M	**Old Crow**	**49.18**	**8**	P		**P**		**12 05 02.1**	**+1.3**
	baz=199,SNR=6.3								
KSCO	**Kaye Shedlock'**	**49.24**	**55**	P		**P**		**12 05 02.7**	**+0.9**
KSCO	**Kaye Shedlock'**	**49.24**	**55**	P		**P**		**12 05 02.0**	**+0.1**
	baz=262								
C16K	**Lisburne Hills**	**49.26**	**355**	P		**P**		**12 05 01.5**	**+0.3**
	baz=167								
D20K	**Etivluk River**	**49.30**	**359**	P		**P**		**12 05 02.5**	**+0.9**
	baz=178								
C17K	**DeLong Mountai**	**49.30**	**356**	P		**P**		**12 05 02.1**	**+0.4**
	baz=170								
TOLK	**Toolik Lake Re**	**49.35**	**3**	P		**P**		**12 05 02.5**	**+0.5**
TOLK	**Toolik Lake Re**	**49.35**	**3**	P		**P**		**12 05 02.2**	**+0.1**
	baz=187								
C18K	**Utukok River**	**49.36**	**357**	P		**P**		**12 05 02.9**	**+0.7**
C18K	**Utukok River**	**49.36**	**357**	P		**P**		**12 05 02.8**	**+0.7**
	baz=173								
G31M	**Satah River**	**49.39**	**11**	P		**P**		**12 05 02.9**	**+0.6**
G31M				IAmb		IAmb		12 05 04.2	
	comp=Z,15nm,1.1s								
G31M	**Satah River**	**49.39**	**11**	P		**P**		**12 05 02.9**	**+0.6**
	baz=206,SNR=8.5								
D22K	**Ayikyak River**	**49.48**	**1**	P		**P**		**12 05 04.9**	**+1.8**
D22K	**Ayikyak River**	**49.48**	**1**	P		**P**		**12 05 03.3**	**+0.2**
	baz=183								
E27K	**Coleen River**	**49.52**	**7**	P		**P**		**12 05 04.2**	**+0.8**
E27K	**Coleen River**	**49.52**	**7**	P		**P**		**12 05 04.0**	**+0.6**
	baz=197								
AMTX	**Amarillo**	**49.59**	**60**	P		**P**		**12 05 04.1**	**-0.4**
	baz=266								
D23K	**Nanushuk River**	**49.63**	**2**	P		**P**		**12 05 05.6**	**+1.5**
	baz=186								
C21K	**Kniefelade Rid**	**49.74**	**0**	P		**P**		**12 05 06.5**	**+1.5**
	baz=181								
C19K	**Lookout Ridge**	**49.76**	**358**	P		**P**		**12 05 06.6**	**+1.5**
	baz=175								
F30M	**Barrier River**	**49.76**	**10**	P		**P**		**12 05 05.9**	**+0.7**
	baz=204								
D24K	**Happy Valley**	**49.90**	**3**	P		**P**		**12 05 06.5**	**+0.3**
	baz=188								
F31M	**Tsiigehtchic**	**49.95**	**11**	P		**P**		**12 05 06.6**	**+0.1**
	baz=207,SNR=7.3								
OGNE	**Ogallala**	**49.97**	**52**	P		**P**		**12 05 07.0**	**-0.4**
	baz=261								
B18K	**Kokolik River**	**50.10**	**357**	P		**P**		**12 05 06.9**	**-0.8**
	baz=172								
DGMT	**Dagmar**	**50.14**	**42**	P		**P**		**12 05 07.8**	**-0.6**
	baz=253								
E28M	**Babbage River**	**50.16**	**7**	P		**P**		**12 05 08.1**	**-0.1**
	baz=200								
E29M	**Blow River**	**50.17**	**8**	P		**P**		**12 05 08.5**	**+0.3**
	baz=202,SNR=8.1								
B21K	**Ikpikpuk River**	**50.20**	**0**	P		**P**		**12 05 08.7**	**+0.2**
	baz=181								
D25K	**Kavik River**	**50.21**	**4**	P		**P**		**12 05 09.3**	**+0.7**
	baz=191,SNR=7.0								
C24K	**Franklin Bluff**	**50.47**	**3**	P		**P**		**12 05 11.6**	**+1.2**
	baz=188								
C23K	**Itkillik River**	**50.50**	**2**	P		**P**		**12 05 11.4**	**+0.7**
	baz=186,SNR=6.4								
B20K	**Meade River**	**50.60**	**359**	P		**P**		**12 05 11.5**	**0.0**
	baz=178								
D27M	**Malcolm River**	**50.60**	**7**	P		**P**		**12 05 12.0**	**+0.4**
	baz=198								
C27K	**Jago River**	**50.71**	**5**	P		**P**		**12 05 12.6**	**+0.3**
	baz=194								
INK	**Inuvik**	**50.76**	**10**	P		**P**		**12 05 12.7**	**0.0**
	baz=207,SNR=8.0								
INK	**Inuvik**	**50.76**	**10**	LR		LR		12 24 08.7	
	comp=Z,402nm,19.0s,baz=191,slow=33								
C26K	**Camden Bay**	**50.90**	**5**	P		**P**		**12 05 14.3**	**+0.6**
	baz=193,SNR=6.9								
A19K	**Wainwright**	**50.91**	**357**	P		**P**		**12 05 14.0**	**+0.3**
	baz=173								
B22K	**Teshekpuk Lake**	**50.94**	**1**	P		**P**		**12 05 14.9**	**+0.9**
	baz=182								
D28M	**Stokes Point**	**50.94**	**7**	P		**P**		**12 05 14.3**	**+0.3**
	baz=200								
JCT	**Junction City**	**51.09**	**66**	P		**P**		**12 05 15.1**	**-0.8**
	baz=271								
ABTX	**Abilene, Hawle**	**51.21**	**63**	P		**P**		**12 05 15.7**	**-1.1**
	baz=270								
YKA	**Yellowknife Ar**	**51.33**	**23**	P		**P**		**12 05 16.7**	**-0.4**
YKA	**Yellowknife Ar**	**51.33**	**23**	P		**P**		**12 05 17.6**	**+0.6**
	comp=Z,1.9nm,0.9s,baz=236,slow=7.9,SNR=16								
YKA				LR		LR		12 25 14.4	
	comp=Z,416nm,18.3s,baz=239,slow=34								
	comp=Z,1.9nm,0.9s								
CBKS	**Cedar Bluff**	**51.46**	**55**	P		**P**		**12 05 17.9**	**-0.6**
CBKS	**Cedar Bluff**	**51.46**	**55**	P		**P**		**12 05 17.4**	**-1.1**
	baz=264								
833A	**Chaparral WMA,**	**51.52**	**69**	P		**P**		**12 05 18.9**	**-0.2**
	baz=273								
HNDO	**Hondo**	**51.57**	**67**	P		**P**		**12 05 18.5**	**-0.9**
HNDO				IAmb		IAmb		12 05 27.0	
	comp=Z,24nm,1.7s								
A22K	**Sinclair Lake**	**51.59**	**0**	P		**P**		**12 05 19.8**	**+0.9**
	baz=180								
A21K	**Barrow**	**51.92**	**359**	P		**P**		**12 05 21.8**	**+0.5**
	baz=178								
WMOK	**Wichita Mounta**	**51.97**	**61**	P		**P**		**12 05 21.3**	**-1.0**
	baz=268								
HNR	**Honiara**	**52.58**	**241**	LR		LR		12 23 35.8	
	comp=Z,2μm,21.9s,baz=36,slow=31								
SUSD	**Miller**	**52.77**	**49**	P		**P**		**12 05 27.0**	**-1.1**
	baz=261								
BGNE	**Belgrade**	**52.94**	**52**	P		**P**		**12 05 28.8**	**-0.7**
	baz=264								
MDND	**Maddock**	**52.96**	**44**	P		**P**		**12 05 28.8**	**-0.7**
	baz=258								
435B	**Jarrell**	**52.99**	**66**	P		**P**		**12 05 28.9**	**-1.1**
	baz=272								
WHTX	**Lake Whitney,**	**53.07**	**64**	P		**P**		**12 05 28.9**	**-1.6**
	baz=271								
C36M	**Paulatuk**	**53.47**	**13**	P		**P**		**12 05 32.1**	**-0.8**
	baz=218								
KSU1	**Kansas State U**	**53.91**	**55**	P		**P**		**12 05 35.5**	**-1.2**
	baz=266								
ECSD	**EROS Data Cent**	**54.34**	**50**	P		**P**		**12 05 38.5**	**-1.2**
	baz=263								
TUL3	**Leonard**	**54.44**	**59**	P		**P**		**12 05 38.9**	**-1.6**
	baz=269								
A36M	**Sachs Harbour**	**55.38**	**11**	P		**P**		**12 05 45.6**	**-1.1**
	baz=215								
MA2	**Magadan**	**55.44**	**330**	LR		LR		12 25 15.8	
	comp=Z,444nm,21.9s,baz=116,slow=31								
AGMN	**Agassiz Nation**	**55.51**	**44**	P		**P**		**12 05 47.3**	**-0.7**
	baz=260								
DZM	**Mont Dzumac**	**55.65**	**224**	*e*P		**P**		**12 05 51.6**	**+2.1**
	comp=Z,64nm,27.2s								
DZM				*e*S		**S**		**12 13 36.5**	**-0.1**
	comp=Z,181nm,25.2s								
DZM				*e*LR		LR		12 21 57.6	
	comp=Z,291nm,31.6s								
DZM	**Mont Dzumac**	**55.65**	**224**	LR		LR		12 25 00.9	
	comp=Z,150nm,20.3s,baz=40,slow=31								
SEY	**Seymchan**	**56.09**	**334**	LR		LR		12 26 01.8	
	comp=Z,134nm,20.6s,baz=115,slow=32								
MIAR	**Mount Ida**	**56.26**	**61**	P		**P**		**12 05 53.1**	**-0.6**
	baz=271								
ASAJ	**Asahikawa**	**56.81**	**310**	LR		LR		12 25 05.3	
	comp=Z,562nm,21.9s,baz=116,slow=30								
CMIG	**Matias Romero**	**57.18**	**82**	LR		LR		12 27 07.2	
	comp=Z,425nm,18.4s,baz=286,slow=32								
R40A	**Maddies Statio**	**57.28**	**56**	P		**P**		**12 06 01.2**	**+0.4**
R40A				IAmb		IAmb		12 06 02.1	
	comp=Z,8.7nm,1.0s								
GUMO	**Guam**	**57.41**	**274**	LR		LR		12 25 29.6	
	comp=Z,181nm,21.4s,baz=76,slow=31								
JCJ	**Chichijima**	**57.44**	**290**	LR		LR		12 25 54.3	
	comp=Z,135nm,19.7s,baz=78,slow=31								
CCM	**Cathedral Cave**	**58.09**	**57**	P		**P**		**12 06 05.3**	**-1.2**
	baz=270								
T42A	**Van Buren**	**58.22**	**58**	P		**P**		**12 06 07.5**	**0.0**
T42A				IAmb		IAmb		12 06 13.7	
	comp=Z,18nm,1.4s								
EYMN	**Ely**	**58.36**	**45**	P		**P**		**12 06 07.2**	**-1.1**
	baz=264								
N41A	**Harden Midland**	**58.40**	**54**	P		**P**		**12 06 09.1**	**+0.4**
N41A				IAmb		IAmb		12 06 11.9	
	comp=Z,10nm,1.0s								
JFWS	**Jewell Farm**	**58.91**	**51**	P		**P**		**12 06 10.8**	**-1.4**
	baz=268								
JHJ	**Hachijo jima 2**	**58.96**	**298**	LR		LR		12 28 00.8	
	comp=Z,138nm,20.2s,baz=84,slow=32								
HDIL	**Hopedale**	**59.59**	**54**	P		**P**		**12 06 16.1**	**-0.8**
	baz=270								
OXF	**Oxford**	**59.70**	**61**	P		**P**		**12 06 16.2**	**-1.6**
	baz=274								
MJAR	**Matsushiro Arr**	**60.05**	**302**	P		**P**		**12 06 21.2**	**+0.9**
	comp=Z,1.4nm,0.9s,baz=86,slow=6.2,SNR=3.1								
MJAR				LR		LR		12 27 31.7	
	comp=Z,133nm,21.9s,baz=76,slow=31								
	comp=Z,1.4nm,0.9s								
SFIN	**Lafayette**	**61.27**	**54**	P		**P**		**12 06 27.7**	**-0.7**
	baz=272								
E43A	**Lone Tree Farm**	**61.33**	**47**	P		**P**		**12 06 28.6**	**-0.1**
E43A				IAmb		IAmb		12 06 31.3	
	comp=Z,6.6nm,0.9s								
APG	**El Apazote**	**61.80**	**83**	LR		LR		12 28 16.4	
	comp=Z,320nm,19.7s,baz=228,slow=31								
TEIG	**Tepich**	**62.66**	**77**	LR		LR		12 30 24.8	
	comp=Z,300nm,19.7s,baz=228,slow=33								
O48B	**Farmland**	**62.75**	**54**	P		**P**		**12 06 37.1**	**-1.3**
	baz=273								
URZ	**Urewera**	**62.94**	**204**	LR		LR		12 29 29.8	
	comp=Z,103nm,21.9s,baz=161,slow=32								
P49A	**Miami Univ. Ec**	**63.13**	**55**	P		**P**		**12 06 39.5**	**-1.5**
	baz=274								
PMG	**Port Moresby**	**63.49**	**248**	LR		LR		12 34 26.8	
	comp=Z,133nm,18.1s,baz=76,slow=36								
RES	**Resolute Bay**	**63.75**	**15**	LR		LR		12 31 28.7	
	comp=Z,338nm,19.6s,baz=242,slow=33								
TKL	**Tuckaleechee C**	**64.21**	**59**	LR		LR		12 32 47.6	
	comp=Z,320nm,18.3s,baz=256,slow=34								
RPN	**Rapa Nui**	**64.23**	**135**	LR		LR		12 27 28.3	
	comp=Z,419nm,21.4s,baz=310,slow=29								
USRK	**Ussuriysk Ar.**	**64.44**	**310**	LR		LR		12 29 17.1	
	comp=Z,281nm,21.5s,baz=98,slow=31								
KLR	**Kul'dur**	**64.47**	**316**	LR		LR		12 30 00.3	
	comp=Z,200nm,21.2s,baz=106,slow=31								
YAK	**Yakutsk**	**66.02**	**330**	LR		LR		12 32 04.4	
	comp=Z,427nm,21.7s,baz=86,slow=33								
JNU	**Nakatsue**	**66.39**	**298**	LR		LR		12 30 09.1	
	comp=Z,135nm,21.8s,baz=86,slow=31								
SADO	**Sadowa**	**66.89**	**49**	LR		LR		12 36 00.5	
	comp=Z,198nm,18.1s,baz=312,slow=36								
TIXI	**Tiksi**	**67.26**	**341**	LR		LR		12 36 03.6	
	comp=Z,140nm,19.7s,baz=128,slow=36								
KSRS	**Korea Array**	**68.16**	**303**	P		**P**		**12 07 16.0**	**+2.6**
	comp=Z,1.1nm,0.9s,baz=83,slow=5.6,SNR=4.4								
KSRS				LR		LR		12 35 18.2	
	comp=Z,83nm,19.2s,baz=80,slow=34								
	comp=Z,1.1nm,0.9s								
JTS	**Las Juntas de**	**68.23**	**86**	LR		LR		12 31 00.0	
	comp=Z,456nm,18.8s,baz=296,slow=31								
JOW	**Kunigami**	**69.73**	**292**	LR		LR		12 33 13.0	
	comp=Z,157nm,21.9s,baz=84,slow=32								
RPZ	**Rata Peaks**	**69.98**	**205**	LR		LR		12 31 45.9	
	comp=Z,102nm,21.9s,baz=89,slow=30								
PAL	**Palisades**	**71.17**	**52**	P		**P**		**12 07 30.3**	**-1.7**
	baz=280								
FRB	**Frobisher Bay**	**71.36**	**28**	LR		LR		12 37 15.2	
	comp=Z,230nm,18.3s,baz=320,slow=34								
L61B	**Northampton**	**71.84**	**51**	P		**P**		**12 07 34.8**	**-1.2**
	baz=280								
LBNH	**Lisbon**	**72.07**	**49**	P		**P**		**12 07 37.4**	**+0.1**
	baz=280								
HRV	**Adam Dziewonsk**	**72.64**	**50**	P		**P**		**12 07 40.9**	**0.0**
	baz=281								
SCHQ	**Schefferville**	**73.50**	**37**	LR		LR		12 39 33.9	
	comp=Z,310nm,18.2s,baz=280,slow=35								
DAV	**Davao City (W)**	**77.44**	**273**	LR		LR		12 36 30.8	
	comp=Z,118nm,21.9s,baz=60,slow=31								
SFJD	**Kangerlussuaq**	**77.89**	**23**	LR		LR		12 40 46.8	
	comp=Z,506nm,18.6s,baz=298,slow=34								
HNS	**HongShan**	**78.46**	**306**	⇑P		**P**		**12 08 12.5**	**-1.8**
HNS	**HongShan**	**78.46**	**306**	S		**S**		**12 18 16.0**	**+4.7**
HNS				LR		LR			
	comp=E,250nm,22.8s								
HNS				LR		LR			
	comp=Z,310nm,24.7s								
STKA	**Stephens Creek**	**79.06**	**231**	LR		LR		12 39 12.8	
	comp=Z,154nm,19.4s,baz=25,slow=33								
WRA	**Warramunga Arr**	**79.24**	**244**	P		**P**		**12 08 17.9**	**-1.0**
	comp=Z,0.6nm,0.9s,baz=70,slow=5.5,SNR=2.5								
WRA				LR		LR		12 42 25.5	
	comp=Z,172nm,18.3s,baz=41,slow=35								
	comp=Z,0.6nm,0.9s								
HHC	**Hu-ho-hao-te**	**79.85**	**310**	*e*P		**P**		**12 08 22.5**	**+0.5**
HHC	**Hu-ho-hao-te**	**79.85**	**310**	S		**S**		**12 18 25.3**	**-1.0**
HHC	**Hu-ho-hao-te**	**79.85**	**310**	SS		SS		12 23 37.3	+2.4
HHC				pmax		pmax			
	comp=Z,9.0nm,0.6s								
HHC				pmax		pmax			
	comp=Z,82nm,4.8s								
HHC				LR		LR			
	comp=N,140nm,16.0s								
HHC				LR		LR			
	comp=E,170nm,16.0s								
HHC				LR		LR			
	comp=Z,250nm,16.2s								
ROSC	**El Rosal**	**79.93**	**88**	LR		LR		12 36 20.3	
	comp=Z,263nm,22.0s,baz=276,slow=30								
ATAH	**Atahualpa**	**80.14**	**101**	LR		LR		12 37 21.1	
	comp=Z,327nm,18.4s,baz=303,slow=31								
ASAR	**Alice Springs**	**81.20**	**241**	P		**P**		**12 08 30.1**	**+0.8**
	comp=Z,1.0nm,0.9s,baz=59,slow=6.1,SNR=7.1								
ASAR				LR		LR		12 38 41.4	
	comp=Z,140nm,20.3s,baz=59,slow=31								
	comp=Z,1.0nm,0.9s								
SONM	**Songino Array**	**81.23**	**318**	P		**P**		**12 08 29.0**	**-0.3**
SONM				IAmb		IAmb		12 08 31.8	
	comp=Z,16nm,1.9s								
SONM	**Songino Array**	**81.23**	**318**	P		**P**		**12 08 29.8**	**+0.5**
	comp=Z,1.4nm,0.9s,baz=97,slow=6.3,SNR=8.1								
SONM				LR		LR		12 42 18.3	
	comp=Z,196nm,21.0s,baz=65,slow=34								
	comp=Z,1.4nm,0.9s								
SDV	**Santo Domingo**	**82.12**	**83**	LR		LR		12 39 56.6	
	comp=Z,202nm,21.2s,baz=280,slow=32								
SPITS	**Spitsbergen Ar**	**82.49**	**2**	LR		LR		12 42 06.9	
	comp=Z,103nm,19.8s,baz=326,slow=33								
CNSH	**ChangSha**	**82.55**	**297**	S		S		12 19 03.0	+8.5
CNSH				LR		LR			
	comp=N,160nm,17.8s								
CNSH				LR		LR			
	comp=E,190nm,27.5s								
CNSH				LR		LR			
	comp=Z,410nm,34.3s								
NNA	**Nana**	**83.32**	**105**	LR		LR		12 36 40.0	
	comp=Z,319nm,21.5s,baz=290,slow=29								
BATI	**Baumata**	**85.02**	**257**	LR		LR		12 44 40.1	
	comp=Z,167nm,18.4s,baz=128,slow=34								
KAPI	**Kappang**	**86.88**	**264**	LR		LR		12 44 11.5	
	comp=Z,55nm,18.6s,baz=81,slow=33								
JMIC	**Jan Mayen**	**86.95**	**10**	LR		LR		12 46 21.6	
	comp=Z,117nm,18.9s,baz=298,slow=35								
PCRV	**Puerto La Cruz**	**87.31**	**80**	LR		LR		12 44 46.5	
	comp=Z,255nm,19.3s,slow=33								
BORG	**Borgarnes**	**89.01**	**18**	LR		LR		12 48 05.6	
	comp=Z,82nm,18.1s,baz=341,slow=35								
H03N2	**Juan Fernandez**	**89.74**	**126**	T		T		13 49 29.1	
	baz=292,slow=76,SNR=9.9								
H03N3	**Juan Fernandez**	**89.75**	**126**	T		T		13 49 28.2	
	baz=292,slow=76,SNR=11								
H03N1	**Juan Fernandez**	**89.75**	**126**	T		T		13 49 28.3	
	baz=292,slow=76,SNR=9.9								
ZAA0	**Zalesovo Array**	**90.65**	**329**	P		**P**		**12 09 17.3**	**+1.7**
ZALV	**Zalesovo Beam**	**90.65**	**329**	P		**P**		**12 09 17.7**	**+2.1**
ZALV	**Zalesovo Beam**	**90.65**	**329**	P		**P**		**12 09 17.4**	**+1.8**
	comp=Z,0.7nm,0.4s,baz=46,slow=4.7,SNR=4.6								
ZALV				LR		LR		12 47 17.1	
	comp=Z,252nm,21.6s,baz=95,slow=34								
	comp=Z,0.7nm,0.4s								
ARCES	**ARCESS Array B**	**91.30**	**360**	LR		LR		12 49 37.5	
	comp=Z,55nm,19.7s,baz=16,slow=35								
PZH	**PanZhiHua**	**92.45**	**299**	P		**P**		**12 09 24.5**	**-0.2**
PZH				pmax		pmax			
	comp=Z,10.0nm,0.5s								
PZH				pmax		pmax			
	comp=Z,70nm,4.7s								
LPAZ	**La Paz**	**92.73**	**106**	LR		LR		12 43 33.4	
	comp=Z,141nm,20.3s,baz=295,slow=31								
LVC	**Limon Verde**	**94.11**	**112**	LR		LR		12 42 50.1	
	comp=Z,368nm,20.1s,baz=276,slow=30								
WMQ	**Urumqi**	**94.71**	**320**	*e*P		**P**		**12 09 35.5**	**+0.8**
WMQ				pmax		pmax			
	comp=Z,11nm,0.8s								
WMQ				LR		LR			
	comp=N,260nm,19.3s								
WMQ				LR		LR			
	comp=Z,200nm,19.3s								
KURBB	**Kurchatov Arra**	**95.74**	**329**	LR		LR		12 50 50.2	
	comp=Z,208nm,21.9s,baz=169,slow=34								
MKAR	**Makanchi Array**	**96.16**	**324**	LR		LR		12 50 24.6	
	comp=Z,184nm,21.9s,baz=57,slow=34								
BVAR	**Borovoye Array**	**97.75**	**334**	LR		LR		12 54 08.6	
	comp=Z,88nm,20.7s,baz=52,slow=36								
CMAR	**Chiang Mai Arr**	**98.00**	**293**	LR		LR		12 50 24.0	
	comp=Z,72nm,20.9s,baz=65,slow=33								
NWAO	**Narrogin (SRO)**	**98.25**	**238**	LR		LR		12 48 18.9	
	comp=Z,56nm,21.2s,baz=156,slow=32								
PLCA	**Paso Flores**	**98.59**	**130**	LR		LR		12 44 17.6	
	comp=Z,324nm,20.6s,baz=274,slow=29								
LEM	**Lembang**	**98.88**	**266**	LR		LR		12 50 58.3	
	comp=Z,69nm,19.6s,baz=23,slow=33								
SIV	**San Ignacio**	**99.07**	**104**	LR		LR		12 49 32.8	
	comp=Z,456nm,18.1s,baz=290,slow=32								
NOA	**NORSAR Array B**	**99.10**	**7**	LR		LR		12 52 01.2	
	comp=Z,68nm,21.0s,baz=355,slow=34								
ARU	**Arti**	**99.24**	**342**	LR		LR		12 55 09.1	
	comp=Z,227nm,21.8s,baz=26,slow=36								
KIRV	**Kirov**	**99.65**	**347**	LR		LR		12 54 59.5	
	comp=Z,111nm,21.8s,baz=22,slow=35								
VNDA	**Vanda**	**99.90**	**189**	LR		LR		12 46 09.1	
	comp=Z,102nm,21.7s,baz=356,slow=30								
TORD	**Torodi Ar. Bea**	**140.51**	**37**	PKP		**PKiKP**		**12 15 43.8**	**-2.2**
	comp=Z,0.8nm,1.0s,baz=350,slow=1.8,SNR=3.3								

NEIC ***29*** *12:01:26.5±1.4,36˚.26N±0˚.05×141˚.3E±0˚.1, h35km±2km, mb4.5/7, Error ellipse: s-maj=14.4km s-min=8.6km az=277.0*

IDC ***29*** *12:01:28.5±2.5,36˚.50N×140˚.89E, h75km×21km, mb3.3/4, mbtmp3.8/7, MS2.6/1, Error ellipse: s-maj=37.5km s-min=18.8km az=78.0*

JMA ***29*** *12:01:30.4±0.1,36˚.4N±0˚.3×140˚.7E±0˚.6, h76km, MV3.7/39, NORTHERN IBARAKI PREF*

JMA Felt II J1 at NORTHERN IBARAKI PREF .

NIED ***29*** *12:01:30.4,36˚.41N×140˚.67E, h76km, MW3.6, Moment Tensor Solution. s3 Moment tensor: Scale 1014Nm; Mrr=2.78; Mθθ=2.22; Mφφ=0.57; Mrθ=1.09; Mθφ=-0.81; Mφr=-0.92; Fault plane solution: M0 3.02000×1014 NP1: φs=300.00000°, δs=59.00000°, λs=-83.00000°. NP2: φs=106.00000°, δs=32.00000°, λs=-102.00000°.*

ISC 29 12:01:29.6±0.8, 36˚.42N±0˚.04×140˚.73E±0˚.05, h81km±6km, n58, σ1s30/61, mb4.2/8, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JHYU	**Hitachinakayam**	**0.14**	**236**	⇓*i*P		**Pn**	**12 01 41.5**	**+0.2**
JHYU				⇓S		**Sn**	**12 01 49.7**	**-0.2**
JHO	**Hitachi**	**0.23**	**327**	⇓*i*P		**Pn**	**12 01 41.9**	**+0.2**
JHO				⇓S		**Sn**	**12 01 50.5**	**-0.1**
JYT	**Yasato**	**0.47**	**247**	⇓*i*P		**Pn**	**12 01 43.2**	**+0.1**
JYT				⇓S		**Sn**	**12 01 52.6**	**-0.6**
JIHU	**Itakohorinouch**	**0.48**	**200**	*i*P		**Pn**	**12 01 44.0**	**+0.8**
JIHU				S		**Sn**	**12 01 54.5**	**+1.2**
JFK	**Kawauchi**	**0.96**	**7**	⇓*i*P		**Pn**	**12 01 48.4**	**+0.2**
JFK				⇓S		**Sn**	**12 02 02.0**	**-0.2**
JAG	**Ashikaga**	**1.03**	**271**	*i*P		**Pn**	**12 01 49.3**	**+0.2**
JAG				S		**Sn**	**12 02 03.1**	**-0.5**
JOTO	**OTAMA OYAMA**	**1.18**	**345**	*i*P		**Pn**	**12 01 51.8**	**+0.8**
JOTO				S		**Sn**	**12 02 07.9**	**+0.9**
JKT	**Katashina**	**1.24**	**287**	*i*P		**Pn**	**12 01 52.4**	**+0.6**
JKT				S		**Sn**	**12 02 09.0**	**+0.6**
JFY	**Yanaizu**	**1.28**	**321**	P		**Pn**	**12 01 52.6**	**+0.4**
JMM	**Marumori**	**1.45**	**2**	P		**Pn**	**12 01 54.9**	**+0.6**
JMM	**Marumori**	**1.45**	**2**			**Pn**	**12 01 55.0**	**+0.7**
JMM						**Sn**	**12 02 13.5**	**+0.6**
JMM	**Marumori**	**1.45**	**2**	P		**Pn**	**12 01 55.0**	**+0.7**
JMM				S		**Sn**	**12 02 13.3**	**+0.3**
JRY	**Ryogami san**	**1.53**	**255**	P		**Pn**	**12 01 55.8**	**+0.4**
BSO3	**Boso 3**	**1.62**	**186**	P		**Pn**	**12 01 56.7**	**+0.4**
MJAR	**Matsushiro Arr**	**2.03**	**274**	P		**Pn**	**12 02 02.9**	**+0.9**
	22nm,0.3s,baz=90,slow=15,SNR=136							
MJAR				S		**Sn**	**12 02 21.1**	**-5.6**
	43nm,0.4s,baz=48,slow=16,SNR=11							
MAJO	**Matsushiro**	**2.03**	**274**	P		**Pn**	**12 02 03.4**	**+1.4**
MAJO	**Matsushiro**	**2.03**	**274**			**Pn**	**12 02

az=76.0

ISC 29 12:10:16.3±0.9, 34°37N±0°07×137°01E±0°06, h349km±7km, n26, σ1§40/36, mb3.0/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JIE	**Ise**	**0.25**	**275**	P	**Pn**	**12 11 00.5**	**+0.4**
JIE				*e*S	**S**	**12 11 34.7**	**-0.4**
JAA	**Atsumi**	**0.28**	**23**	P	**Pn**	**12 11 00.8**	**+0.7**
JAA				*e*S	**S**	**12 11 35.7**	**+0.6**
TTO1	**TONANKAI O.B.S**	**0.77**	**194**	*e*P	**Pn**	**12 11 01.2**	**+0.3**
JWY	**Kouya**	**1.18**	**263**	P	**Pn**	**12 11 03.0**	**+0.1**
JWY				S	**S**	**12 11 39.0**	**-1.2**
JYTA	**Yamagatataniai**	**1.24**	**350**	P	**Pn**	**12 11 03.8**	**+0.8**
JYTA				S	**S**	**12 11 40.7**	**+0.3**
JTNC	**Tanabenakahech**	**1.28**	**245**	P	**Pn**	**12 11 03.1**	**-0.2**
JTNC				S	**S**	**12 11 39.9**	**-1.1**
JWT	**Wachi**	**1.61**	**305**	*i* P	**Pn**	**12 11 05.4**	**+0.5**
JWT				S	**S**	**12 11 43.1**	**-0.9**
JOD2	**Odawara 2**	**1.93**	**62**	*i* P	**Pn**	**12 11 07.7**	**+0.7**
JKG	**Kaga**	**1.98**	**344**	P	**Pn**	**12 11 08.1**	**+0.8**
JAI	**Aioi**	**2.20**	**256**	P	**Pn**	**12 11 08.6**	**-0.4**
JRY	**Ryogami san**	**2.26**	**43**	*i* P	**Pn**	**12 11 10.3**	**+0.9**
MAT	**Matsushiro**	**2.38**	**24**	S	**S**	**12 11 54.0**	**+0.3**
MJAR	**Matsushiro Arr**	**2.38**	**24**	P	**Pn**	**12 11 11.2**	**+0.9**
	16nm,1.1s,baz=192,slow=8.4,SNR=19						
MJAR				S	**S**	**12 11 54.8**	**+1.0**
	3.9nm,0.6s,baz=214,slow=8.4,SNR=2.0						
JHJ	**Hachijo jima 2**	**2.63**	**118**	P	**Pn**	**12 11 11.8**	**-0.6**
	117nm,0.8s,baz=338,slow=22,SNR=18						
JHJ				S	**S**	**12 11 59.8**	**+2.3**
	21nm,0.3s,baz=275,slow=11,SNR=5.6						
JMN	**Monobe**	**2.68**	**257**	P	**Pn**	**12 11 12.5**	**-0.3**
JAG	**Ashikaga**	**2.86**	**44**	*i* P	**Pn**	**12 11 13.8**	**-0.5**
JAG				S	**S**	**12 11 59.3**	**-1.7**
JHS	**Saijyo**	**3.27**	**282**	*i* P	**Pn**	**12 11 18.5**	**+0.4**
BSO1	**Boso 1**	**3.29**	**84**	P	**Pn**	**12 11 16.2**	**-1.5**
JOI	**OKI**	**3.62**	**303**	P	**Pn**	**12 11 21.7**	**+0.3**
KSRS	**Korea Array**	**7.99**	**295**	P	**Pn**	**12 12 11.7**	**+1.4**
	1.0nm,0.5s,baz=107,slow=13,SNR=6.6						
USRK	**Ussuriysk Ar.**	**10.56**	**340**	P	**P**	**12 12 42.9**	**+1.1**
	2.1nm,0.6s,baz=163,slow=10,SNR=7.5						
JOW	**Kunigami**	**10.63**	**227**	P	**Pn**	**12 12 40.3**	**-1.5**
	3.6nm,0.5s,baz=68,slow=9.2,SNR=5.0						
ASAJ	**Asahikawa**	**10.65**	**22**	P	**P**	**12 12 43.5**	**+0.7**
	4.4nm,1.1s,baz=266,slow=13,SNR=1.6						
ASAJ				S	**S**	**12 14 35.6**	**-5.8**
	1.0nm,0.5s,baz=278,slow=30,SNR=1.4						
SONM	**Songino Array**	**26.51**	**310**	P	**P**	**12 15 23.9**	**+0.9**
	0.2nm,0.3s,baz=98,slow=8.9,SNR=1.5						
	0.2nm,0.3s						
CMAR	**Chiang Mai Arr**	**37.35**	**255**	P	**P**	**12 16 56.2**	**-0.5**
	0.6nm,0.4s,baz=63,slow=6.2,SNR=2.0						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**42.56**	**304**	P	**P**	**12 17 39.5**	**+0.6**
	0.7nm,0.7s,baz=99,slow=7.6,SNR=5.5						
	0.7nm,0.7s						

IDC 29 12:12:45.3±19.0, 6°07S×133°21E, h245km±218km, mb3.2/1, mbtmp3.6/3, ML3.7/2, Error ellipse: s-maj=315.2km s-min=93.3km az=77.0, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**13.84**	**176**	P	Pn	12 15 51.9	+0.2
	0.4nm,0.3s,baz=357,slow=13,SNR=26						
WRA				S	S	12 18 15.2	-10
	2.1nm,0.6s,baz=348,slow=21,SNR=7.3						
	0.5nm,0.3s						
ASAR	**Alice Springs**	**17.51**	**178**	P	P	12 16 33.0	0.0
	0.2nm,0.3s,baz=356,slow=12,SNR=20						
ASAR				S	S	12 19 33.0	-9.3
	0.4nm,0.7s,baz=356,slow=26,SNR=3.0						
	0.5nm,0.5s						
MKAR	**Makanchi Array**	**69.24**	**325**	P	P	12 23 25.9	0.0
	0.4nm,0.4s,baz=124,slow=6.6,SNR=5.6						
	0.4nm,0.4s						

*SOME **29** 12:25:38.6, 44.67N×82.00E, h15km*
*NNC **29** 12:25:39.8±0.9, 44.71N×81.92E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=11.3km s-min=3.0km az=121.0, Suspected Mining explosion.*

ISC 29 12:25:39.5±1.3, 44°67N±0°04×81°85E±0°07, h10km, n24, σ1§23/38, 4C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DJR	**Jarkent**	**1.51**	**258**	*e*P	**Pg**	**12 26 08.7**	**+0.2**
	14nm,0.2s						
DJR				*e*S	**Sg**	**12 26 30.2**	**+2.1**
	21nm,0.4s						
KTMS	**Ketmen**	**1.63**	**222**	*e*P	**Pg**	**12 26 10.5**	**-0.3**
	3.2nm,0.3s						
KTMS				*e*S	**Sg**	**12 26 33.4**	**+1.4**
	28nm,0.5s						
KAPS	**Kapalarasan**	**1.87**	**290**	Pg	**Pg**	**12 26 14.8**	**-0.7**
	4.9nm,0.2s						
KAPS				Lg	Lg	12 26 41.0	
	19nm,0.2s						
KAPS	**Kapalarasan**	**1.87**	**290**	*e*P	**Pg**	**12 26 14.8**	**-0.7**
	4.9nm,0.2s						
KAPS				*e*S	**Sg**	**12 26 41.0**	**+1.2**
	19nm,0.2s						
KNOS	**Konyrlen**	**1.94**	**262**	Pg	**Pg**	**12 26 16.4**	**-0.3**
	31nm,0.1s						
KNOS				Lg	Lg	12 26 44.0	
	47nm,0.2s						
MAKZ	**Makanchi**	**2.14**	**2**	⇑Pn	**Pn**	**12 26 16.0**	**+0.6**
	3.8nm,0.3s						
MAKZ				⇑Sn	**Sb**	**12 26 44.1**	**-1.0**
	11nm,0.4s						
MK31	**Makanchi Array**	**2.15**	**8**	⇑Pn	**Pn**	**12 26 16.1**	**+0.7**
	5.2nm,0.3s,baz=183,slow=15,SNR=176						
MK31				⇓Sn	**Sb**	**12 26 44.0**	**-1.3**
	12nm,0.5s,baz=185,slow=25,SNR=20						
PDGK	**Podgornoye**	**2.17**	**233**	Pg	**Pb**	**12 26 18.9**	**+0.1**
	5.3nm,0.2s						
PDGK				Lg	Lg	12 26 48.2	
	9.2nm,0.7s						
PDGK	**Podgornoye**	**2.17**	**233**	⇑Pn	**Pb**	**12 26 19.0**	**+0.1**
	5.7nm,0.5s						
PDGK				⇓Sn	**Sg**	**12 26 48.8**	**-0.3**
	24nm,0.9s						
SHLS	**Shalkode**	**2.29**	**230**	Pg	**Pn**	**12 26 18.3**	**+0.8**
	24nm,0.2s						
SHLS				Lg	Lg	12 26 47.2	
	38nm,0.3s						
SHLS	**Shalkode**	**2.29**	**230**	*e*P	**Pn**	**12 26 18.3**	**+0.8**
	24nm,0.2s						
SHLS				*e*S	**Sn**	**12 26 47.2**	**+1.3**
	38nm,0.3s						
BLB	**Baldybastay**	**2.48**	**258**	Pg	**Pb**	**12 26 25.1**	**+0.8**
	41nm,0.2s						
BLB				Lg	Lg	12 26 59.7	
	24nm,0.2s						
UZB	**Uzynbulak**	**2.55**	**234**	Pg	**Pb**	**12 26 26.1**	**+0.7**
	8.9nm,0.2s						
UZB				Lg	Lg	12 27 00.3	
	8.1nm,0.4s						
UZB	**Uzynbulak**	**2.55**	**234**	*e*P	**Pb**	**12 26 26.1**	**+0.7**
	8.9nm,0.2s						
UZB				*e*S	**Sg**	**12 27 00.3**	**-1.0**
	8.1nm,0.4s						
ZHN	**Zhinishke**	**2.89**	**240**	Pg	**Pb**	**12 26 32.5**	**+1.3**
	2.0nm,0.1s						
ZHN				Lg	Lg	12 27 11.2	
	27nm,0.2s						
ZHN	**Zhinishke**	**2.89**	**240**	*e*P	**Pb**	**12 26 32.5**	**+1.3**
	2.0nm,0.1s						
ZHN				*e*S	**Sg**	**12 27 11.2**	**-1.0**
	27nm,0.2s						
KURS	**Kuram**	**2.90**	**247**	Pg	**Pb**	**12 26 32.8**	**+1.4**
	2.4nm,0.3s						
KURS				Lg	Lg	12 27 11.7	
	3.9nm,0.3s						
KURS	**Kuram**	**2.90**	**247**	*e*P	**Pb**	**12 26 32.8**	**+1.4**
	2.4nm,0.3s						
KURS				*e*S	**Sg**	**12 27 11.8**	**-1.0**
	3.9nm,0.3s						
ARXS	**Arharly**	**2.92**	**262**	*e*P	**Pb**	**12 26 32.7**	**+1.0**
	5.3nm,0.3s						
ARXS				*e*S	**Sg**	**12 27 11.4**	**-1.8**
	16nm,0.6s						
SATY	**Saty**	**2.96**	**238**	Pg	**Pb**	**12 26 32.9**	**+0.4**
	4.2nm,0.3s						
SATY				Lg	Lg	12 27 12.9	
	18nm,0.3s						
SATY	**Saty**	**2.96**	**238**	*e*P	**Pg**	**12 26 34.0**	**-2.3**
	2.2nm,0.1s						
SATY				*e*S	**Sg**	**12 27 13.8**	**-0.9**
	18nm,0.3s						
KTBS	**Karatobe**	**3.84**	**257**	*e*P	**Pg**	**12 26 50.3**	**-2.8**
	0.7nm,0.1s						
KTBS				*e*S	**Sg**	**12 27 41.6**	**-1.1**
	7.3nm,0.5s						
TNSS	**Tian-Shan**	**3.90**	**247**	Pg	**Pg**	**12 26 53.2**	**-1.1**
	3.6nm,0.4s						
TNSS				Lg	Lg	12 27 46.7	
	1.0nm,0.2s						
TNSS	**Tian-Shan**	**3.90**	**247**	*e*P	**Pg**	**12 26 52.1**	**-2.2**
	3.6nm,0.4s						
TNSS				*e*S	**Sg**	**12 27 44.8**	**0.0**
	2.0nm,0.5s						

TAP 29 12:37:32.4, 23°23N×120°79E, h2km, ML0.5, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STYH	**Taoyuan**	**0.06**	**192**	*i* P	Pg	12 37 34.1	+0.5
	baz=188						
STYH				S	Sg	12 37 35.2	+0.8
	baz=188						
STYT	**Tauyuan**	**0.07**	**204**	*i* P	Pg	12 37 34.5	+0.7
	baz=197						
STYT				*i* S	Sg	12 37 36.1	+1.2
	baz=197						
WTP	**Ta-pu**	**0.16**	**276**	P	Pg	12 37 36.3	+0.8
	baz=275						
WTP				S	Sg	12 37 39.8	+2.2
	baz=275						
TPUB	**Ta-pu**	**0.16**	**296**	*e*P	Pg	12 37 37.0	+1.5
	baz=295						
TPUB				S	Sg	12 37 39.9	+2.3
	baz=295						
ELDTW	**Lidau**	**0.21**	**101**	*e*P	Pg	12 37 38.0	+1.5
	baz=100						
CHN4	**Tsaushan**	**0.22**	**304**	*e*P	Pg	12 37 37.7	+1.2
	baz=304						

JMA 29 12:37:41.2±0.1, 24°2N±1°0×123°9E±0°9, h19km±2km, MV1.2/8, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKRS	**Kuro-shima**	**0.13**	**81**	*i* P	Pg	12 37 45.3	0.0
JKRS				*e*S	Sg	12 37 48.5	+0.4
HATJ	**Hateruma jima**	**0.17**	**199**	*i* P	Pg	12 37 45.6	-0.2
HATJ				*e*S	Sg	12 37 48.9	0.0
JIJ	**Ishigaki jima**	**0.29**	**60**	*i* P	Pg	12 37 47.4	-0.3
JIJ				*e*S	Sg	12 37 51.7	-0.4
JISG	**Ishigakijimahi**	**0.55**	**48**	P	Pb	12 37 52.0	-0.1
JISG				*e*S	Sg	12 38 00.1	+0.4
YOJ	**Yonaguni jima**	**0.82**	**288**	*e*P	Pb	12 37 56.6	-0.2
JTJ	**Tarama**	**0.87**	**61**	P	Pg	12 37 58.0	-0.2
JTJ				*e*S	Sn	12 38 10.3	-0.4

*IDC **29** 12:49:07.7±0.9, 19°51N×120°24E, h0km, mb3.6/6, mbtmp3.6/7, ML3.3/1, MS3.0/2, Error ellipse: s-maj=47.5km s-min=19.1km az=74.0*

ISC 29 12:49:09.2±1.0, 19°5N±0°2×120°2E±0°3, h10km, n9, σ0§49/8, mb3.7/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**13.40**	**156**	LR	LR	12 57 11.2	
	comp=Z,54nm,20.2s,baz=342,slow=36						
KSRS	**Korea Array**	**19.12**	**19**	P	**P**	**12 53 32.7**	**+0.5**
	0.1nm,0.3s,baz=212,slow=16,SNR=2.4						
	0.3nm,0.4s						
CMAR	**Chiang Mai Arr**	**20.16**	**271**	LR	LR	13 01 09.2	
	comp=Z,42nm,18.8s,baz=110,slow=36						
MKAR	**Makanchi Array**	**41.22**	**320**	P	**P**	**12 56 54.7**	**+0.5**
	0.4nm,0.7s,baz=120,slow=7.7,SNR=2.6						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**41.56**	**160**	P	**P**	**12 56 57.1**	**-0.2**
	0.5nm,0.4s,baz=337,slow=9.1,SNR=13						
WRA				PcP	**PcP**	**12 58 54.4**	**-0.2**
	0.5nm,0.5s,baz=347,slow=3.3,SNR=4.9						
	0.5nm,0.4s						
ASAR	**Alice Springs**	**44.92**	**162**	P	**P**	**12 57 24.9**	**+0.5**
	1.2nm,0.6s,baz=341,slow=6.8,SNR=23						
	1.2nm,0.6s						
KURBB	**Kurchatov Arra**	**45.22**	**323**	P	**P**	**12 57 26.0**	**-0.5**
	0.9nm,0.7s,baz=123,slow=8.0,SNR=7.6						
	0.9nm,0.7s						
ILAR	**Eielson Array**	**73.78**	**26**	P	**P**	**13 00 43.3**	**-0.2**
	0.3nm,0.8s,baz=297,slow=4.0,SNR=4.2						
	0.3nm,0.8s						
YKA	**Yellowknife Ar**	**87.62**	**22**	P	**P**	**13 01 57.2**	**-0.3**
	0.4nm,0.8s,baz=316,slow=4.3,SNR=4.0						
	0.4nm,0.8s						

*IDC **29** 12:52:00.8±0.8, 16°06S×173°40E, h0km, mb4.1/11, mbtmp4.1/11, MS3.6/25, Error ellipse: s-maj=30.2km s-min=20.2km az=140.0*
*NEIC **29** 12:52:02.4±2.4, 15°98S±0°04×173°63E±0°08, h10km±1km, mb4.6/24, Error ellipse: s-maj=13.6km s-min=7.2km az=76.0*

ISC 29 12:52:02.0±0.5, 15°98S±0°10×173°56E±0°08, h10km, n62, σ1§18/45, mb4.4/23, MS3.7/23, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MSVF	**Nonsavu**	**4.64**	**113**	Pn	**Pn**	**12 53 11.3**	**-0.9**
PINNC	**Pines Island,**	**8.76**	**220**	Pn	**Pn**	**12 54 09.0**	**+0.2**
DZM	**Mont Dzumac**	**9.05**	**227**	LR	LR	12 57 02.7	
	comp=Z,497nm,21.8s,baz=63,slow=34						
FUNA	**Funafuti**	**9.23**	**37**	Pn	**Pn**	**12 54 14.4**	**-0.9**
AFI	**Afiamalu**	**14.32**	**84**	Pn	**Pn**	**12 55 24.4**	**-0.6**
HNR	**Honiara**	**14.78**	**294**	LR	LR	13 00 13.6	
	comp=Z,907nm,20.2s,baz=124,slow=34						
EIDS	**Eidsvold**	**22.98**	**242**	P	**P**	**12 57 07.9**	**+1.0**
EIDS				IAmb	IAmb	12 57 26.0	
	comp=Z,27nm,1.4s						
ARMA	**Armidale**	**24.69**	**231**	P	**P**	**12 57 24.0**	**+0.6**
ARMA				IAmb	IAmb	12 57 40.8	
	comp=Z,15nm,1.4s						
BFZ	**Birch Farm**	**24.72**	**175**	P	**P**	**12 57 23.9**	**+0.4**
MRNZ	**Matariki Terra**	**25.34**	**181**	P	**P**	**12 57 29.1**	**+0.1**
PLWZ	**Palliser**	**25.54**	**177**	P	**P**	**12 57 30.9**	**0.0**
THZ	**Tophouse**	**25.70**	**181**	P	**P**	**12 57 34.2**	**+1.9**
THZ				IAmb	IAmb	12 58 03.8	
	comp=Z,31nm,1.5s						
RAR	**Rarotonga**	**25.79**	**106**	LR	LR	13 06 15.0	
	comp=Z,38nm,18.8s,baz=311,slow=33						
STKA	**Stephens Creek**	**33.06**	**236**	P	**P**	**12 58 38.5**	**+0.6**
STKA	**Stephens Creek**	**33.06**	**236**	P	**P**	**12 58 36.6**	**-1.3**
	comp=Z,4.0nm,0.9s,baz=78,slow=6.5,SNR=5.2						
STKA				LR	LR	13 10 54.5	
	comp=Z,124nm,19.9s,baz=28,slow=34						
	comp=Z,4.0nm,0.9s						
PPT	**Papeete**	**35.30**	**98**	LR	LR	13 12 23.6	
	comp=Z,56nm,18.0s,baz=47,slow=34						
WB0	**Warramunga Arr**	**37.41**	**258**	P	**P**	**12 59 13.7**	**-1.8**
WB2	**Warramunga Arr**	**37.45**	**258**	P	**P**	**12 59 13.5**	**-2.3**
WB2				IAmb	IAmb	12 59 23.4	
	comp=Z,16nm,1.4s						
WRA	**Warramunga Arr**	**37.46**	**258**	P	**P**	**12 59 14.2**	**-1.8**
WRA	**Warramunga Arr**	**37.46**	**258**	P	**P**	**12 59 13.7**	**-2.2**
	comp=Z,2.3nm,1.0s,baz=90,slow=8.0,SNR=8.6						
WRA				LR	LR	13 13 28.5	
	comp=Z,87nm,19.4s,baz=18,slow=34						
	comp=Z,2.3nm,1.0s						
AS31	**Alice Springs**	**37.98**	**252**	P	**P**	**12 59 19.6**	**-0.8**
ASAR	**Alice Springs**	**37.98**	**252**	P	**P**	**12 59 18.8**	**-1.5**
ASAR	**Alice Springs**	**37.98**	**252**	P	**P**	**12 59 19.2**	**-1.2**
	comp=Z,4.0nm,0.6s,baz=81,slow=8.8,SNR=57						
ASAR				PcP	**PcP**	**13 01 36.1**	**-0.1**
	comp=Z,0.4nm,1.0s,baz=75,slow=4.0,SNR=2.0						
ASAR				LR	LR	13 13 37.1	
	comp=Z,138nm,19.1s,baz=100,slow=34						
	comp=Z,4.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**45.76**	**260**	P	**P**	**13 00 23.9**	**-0.2**
PSA00	**Pilbara Seismi**	**50.96**	**255**	P	**P**	**13 01 02.9**	**-1.2**
PSA00				IAmb	IAmb	13 01 45.0	
	comp=Z,14nm,1.1s						
JCJ	**Chichijima**	**52.54**	**324**	LR	LR	13 22 38.7	
	comp=Z,18nm,18.5s,baz=138,slow=35						
NWAO	**Narrogin (SRO)**	**53.37**	**241**	LR	LR	13 24 19.1	
	comp=Z,84nm,18.7s,baz=356,slow=36						
VNDA	**Vanda**	**61.84**	**183**	LR	LR	13 26 46.5	
	comp=Z,48nm,18.1s,baz=336,slow=34						
MJAR	**Matsushiro Arr**	**61.99**	**328**	P	**P**	**13 02 22.1**	**-0.4**
	comp=Z,1.7nm,0.8s,baz=155,slow=5.8,SNR=4.3						
	comp=Z,1.7nm,0.8s						
KSRS	**Korea Array**	**68.31**	**322**	P	**P**	**13 03 04.3**	**+0.9**
	comp=Z,1.0nm,0.8s,baz=144,slow=6.6,SNR=6.9						
KSRS				LR	LR	13 32 37.3	
	comp=Z,9.4nm,18.1s,baz=210,slow=36						
	comp=Z,1.0nm,0.8s						
PETK	**Petropavlovsk-**	**70.15**	**350**	LR	LR	13 29 05.3	
	comp=Z,30nm,19.1s,baz=141,slow=32						
QSPA	**South Pole Qui**	**74.06**	**180**	P	**P**	**13 03 38.6**	**+0.6**
QSPA	**South Pole Qui**	**74.06**	**180**	P	**P**	**13 03 38.0**	**-0.1**
	comp=Z,2.6nm,0.9s,baz=11,slow=1.8,SNR=7.6						
	comp=Z,2.6nm,0.9s						
MA2	**Magadan**	**77.54**	**348**	LR	LR	13 33 06.5	
	comp=Z,22nm,21.7s,baz=178,slow=32						
KDAK	**Kodiak Island**	**78.65**	**18**	LR	LR	13 32 13.9	
	comp=Z,49nm,19.9s,baz=227,slow=31						
SEY	**Seymchan**	**80.39**	**350**	LR	LR	13 35 16.4	
	comp=Z,38nm,20.1s,baz=118,slow=32						
CMAR	**Chiang Mai Arr**	**81.02**	**292**	P	**P**	**13 04 18.6**	**+1.0**
CMAR	**Chiang Mai Arr**	**81.02**	**292**	P	**P**	**13 04 19.0**	**+1.4**
	comp=Z,2.1nm,0.9s,baz=106,slow=4.0,SNR=7.0						
	comp=Z,2.1nm,0.9s						
CHTO	**Chiang Mai**	**81.14**	**292**	P	**P**	**13 04 16.9**	**-1.4**
BCW	**Bitter Crk WRg**	**81.24**	**50**	P	**P**	**13 04 17.1**	**-1.5**
L19K	**White Mountain**	**81.80**	**14**	P	**P**	**13 04 22.0**	**+1.2**
L19K				IAmb	IAmb	13 04 23.8	
	comp=Z,5.4nm,1.1s						
YBH	**Yreka Blue Hor**	**82.12**	**43**	LR	LR	13 33 30.7	
	comp=Z,41nm,20.3s,baz=258,slow=30						
J18K	**Innoko River**	**82.49**	**13**	P	**P**	**13 04 24.7**	**+0.3**
J18K				IAmb	IAmb	13 04 26.4	
	comp=Z,4.9nm,1.1s						
PFO	**Pinyon Flats O**	**82.88**	**52**	LR	LR	13 37 07.0	
	comp=Z,29nm,18.0s,baz=262,slow=33						
SML	**Sawmill**	**83.19**	**17**	P	**P**	**13 04 28.5**	**+0.4**
SML				IAmb	IAmb	13 04 36.2	
	comp=Z,6.4nm,1.1s						
SCM	**Sheep Creek Mo**	**83.50**	**18**	P	**P**	**13 04 29.0**	**-0.7**
CAST	**Castle Rocks**	**83.52**	**15**	P	**P**	**13 04 30.4**	**+0.6**
CAST				IAmb	IAmb	13 04 32.4	
	comp=Z,3.3nm,0.8s						
NVAR	**Mina Array Bea**	**83.58**	**47**	P	**P**	**13 04 32.0**	**+1.2**
	comp=Z,0.8nm,0.8s,baz=235,slow=9.0,SNR=6.9						
NVAR				LR	LR	13 36 44.1	
	comp=Z,42nm,18.1s,baz=218,slow=32						
	comp=Z,0.8nm,0.8s						
J05D	**Fort Rock, OR**	**83.82**	**42**	P	**P**	**13 04 32.7**	**+0.7**
J05D				IAmb	IAmb	13 04 36.6	
	comp=Z,5.5nm,0.9s						
LPIG	**La Paz**	**84.29**	**63**	LR	LR	13 32 53.2	
	comp=Z,57nm,21.0s,baz=205,slow=29						
H19K	**Roundabout Mou**	**84.36**	**12**	P	**P**	**13 04 33.1**	**-0.8**
BBB	**Bella Bella**	**84.53**	**32**	LR	LR	13 38 15.8	
	comp=Z,30nm,19.9s,baz=244,slow=33						
G19K	**Purcell Mounta**	**84.78**	**12**	P	**P**	**13 04 37.8**	**+1.8**
F19K	**Shaleruckik Mo**	**85.26**	**11**	P	**P**	**13 04 38.5**	**+0.1**
F19K				IAmb	IAmb	13 04 42.1	
	comp=Z,4.8nm,1.2s						
ILAR	**Eielson Array**	**85.95**	**16**	P	**P**	**13 04 42.0**	**0.0**
ILAR	**Eielson Array**	**85.95**	**16**	P	**P**	**13 04 41.5**	**-0.4**
	comp=Z,1.5nm,0.8s,baz=227,slow=5.7,SNR=11						
ILAR				LR	LR	13 36 55.5	
	comp=Z,42nm,21.0s,baz=198,slow=31						
	comp=Z,1.5nm,0.8s						
SCRK	**Sand Creek**	**86.13**	**17**	P	**P**	**13 04 41.9**	**-1.1**
SCRK				IAmb	IAmb	13 04 54.1	
	comp=Z,4.2nm,1.4s						
NEW	**Newport**	**88.66**	**39**	LR	LR	13 40 42.7	
	comp=Z,21nm,18.9s,baz=264,slow=33						
ANMO	**Albuquerque**	**91.07**	**54**	LR	LR	13 38 08.5	
	comp=Z,19nm,19.9s,baz=37,slow=30						
TXAR	**Lajitas Array**	**91.59**	**60**	P	**P**	**13 05 12.6**	**+2.9**
	comp=Z,0.5nm,0.7s,baz=238,slow=5.2,SNR=5.2						
	comp=Z,0.5nm,0.7s						
YKA	**Yellowknife Ar**	**95.92**	**26**	P	**P**	**13 05 28.7**	**0.0**
	comp=Z,0.3nm,0.7s,baz=233,slow=3.8,SNR=2.5						
YKA				LR	LR	13 42 18.8	
	comp=Z,25nm,20.1s,baz=325,slow=31						
	comp=Z,0.3nm,0.7s						
CMIG	**Matias Romero**	**96.03**	**74**	LR	LR	13 38 18.5	
	comp=Z,22nm,21.7s,baz=176,slow=29						

*ISK **29** 12:55:45.9, 39°59N×25°99E, h10km, ML2.6/25*
*ATH **29** 12:55:47.0, 39°58N×25°99E, h8km±1km, ML2.2/6, Error ellipse: s-maj=2.4km s-min=0.9km az=244.0*
*AFAD **29** 12:55:46.2±0.0, 39°58N×25°99E, h7km±5km, ML2.2*
*THE **29** 12:55:46.6, 39°58N×25°99E, h11km±1km, ML2.3/8, Error ellipse: s-maj=1.1km s-min=0.5km az=177.0*

ISC 29 12:55:46.5±0.9, 39°59N±0°01×25°99E±0°02, h12km±7km, n56, σ0§49/85, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KOCA	**Canakkale, Ayv**	**0.14**	**125**	P	**Pg**	**12 55 50.3**	**+0.4**
KOCA				*i* AML	AML	12 55 54.0	
	comp=N,2μm,0.4s						
KOCA				*i* AML	AML	12 55 54.0	
	comp=E,1μm,0.3s						
GPNR	**Gulpinar-Canak**	**0.17**	**139**	Pg	**Pg**	**12 55 49.9**	**-0.5**
GPNR				Sg	Sg	12 55 52.7	-0.4
BOZC	**Bozcaada**	**0.26**	**11**	P	**Pg**	**12 55 51.2**	**-0.8**
BOZC				P	**Pg**	**12 55 51.2**	**-0.8**
BOZC				*i* AML	AML	12 55 56.0	
	comp=N,345nm,0.2s						
BOZC				*i* AML	AML	12 55 56.0	
	comp=N,290nm,0.2s

COMU					Sg	Sg	12 56 07.9	+0.6
EAG3	**Mitilini, Lesv**	**0.67**	**138**		P	Pg	12 55 59.3	-0.3
LIA	**Limnos Island**	**0.69**	**297**		P	Pg	12 56 00.1	+0.1
LIA					S	Sb	12 56 10.0	0.0
	comp=E,468nm,0.3s							
LIA	**Limnos Island**	**0.69**	**297**		P	Pg	12 55 60.0	0.0
LIA					S	Sg	12 56 09.3	+0.3
LIA					AML	AML	12 56 10.2	
	comp=E,775μm,0.2s							
LIA					AML	AML	12 56 13.7	
	comp=N,1090μm,0.3s							
EFSA	**Agios Efstrati**	**0.77**	**267**		P	Pb	12 56 02.0	+0.2
BUHA	**Balikesir, Bur**	**0.85**	**95**		P	Pg	12 56 02.6	-0.2
BUHA					S	Sg	12 56 14.0	+0.1
BUHA				*i*	AML	AML	12 56 17.0	
	comp=N,106nm,0.4s							
BUHA				*i*	AML	AML	12 56 18.0	
	comp=N,78nm,0.3s							
DKL	**Dikili**	**0.88**	**125**		Pg	Pg	12 56 03.4	0.0
GELI	**Tayfur-Gelibol**	**0.89**	**25**		Pg	Pg	12 56 03.4	-0.4
GELI					Sg	Sb	12 56 16.3	+0.5
CANM	**Can-anakkale**	**0.93**	**62**		Pg	Pg	12 56 03.9	-0.4
IZMD	**zmir-Dikili-**	**0.94**	**129**		S	Sg	12 56 16.5	-0.6
SMTH	**Samothraki Isl**	**0.95**	**339**		P	Pg	12 56 04.7	-0.2
SMTH					S	Sb	12 56 17.9	+0.4
	comp=N,110nm,0.3s							
SMTH	**Samothraki Isl**	**0.95**	**339**		P	Pg	12 56 04.6	-0.3
SMTH					S	Sb	12 56 17.8	+0.4
SMTH					AML	AML	12 56 19.2	
	comp=N,236μm,0.4s							
SMTH					AML	AML	12 56 19.3	
	comp=E,202μm,0.3s							
KARB	**zmir-Karabur**	**0.98**	**160**		P	Pg	12 56 05.1	-0.3
KARB					S	Sb	12 56 18.9	+0.7
KARB				*i*	AML	AML	12 56 20.0	
	comp=E,114nm,0.4s							
KARB				*i*	AML	AML	12 56 20.0	
	comp=E,185nm,0.2s							
LPK	**Lapseki**	**0.99**	**37**		Pg	Pg	12 56 04.9	-0.6
LPK					Sg	Sb	12 56 18.7	+0.2
YENI	**Yenice-Canakka**	**1.03**	**70**		Pg	Pg	12 56 06.0	-0.3
FOCM	**Foa**	**1.05**	**146**		Pg	Pg	12 56 06.2	-0.4
ZEDA	**zmir-Bergama**	**1.05**	**126**		S	Sn	12 56 21.4	-0.1
ENEZ	**Enez**	**1.16**	**6**		Pn	Pb	12 56 08.5	+0.1
ENEZ	**Enez**	**1.16**	**6**		P	Pb	12 56 08.1	-0.3
ENEZ					S	Sg	12 56 24.4	+0.6
	comp=E,258nm,0.5s							
ERIK	**Erikli-Kesam**	**1.16**	**20**		Pn	Pb	12 56 07.9	-0.5
CHOS	**Chios island**	**1.20**	**177**		Pn	Pb	12 56 08.9	-0.3
CHOS	**Chios island**	**1.20**	**177**		P	Pb	12 56 07.9	-1.3
CHOS					S	Sb	12 56 24.4	-0.2
	comp=E,180nm,0.3s							
CHOS	**Chios island**	**1.20**	**177**		P	Pb	12 56 08.8	-0.4
CHOS					S	Sb	12 56 24.5	-0.1
CHOS					AML	AML	12 56 31.3	
	comp=N,291μm,0.2s							
CHOS					AML	AML	12 56 31.9	
	comp=E,452μm,0.2s							
SOMA	**Soma-Manisa**	**1.27**	**109**		Pn	Pn	12 56 10.3	+0.2
KRBG	**Karabiga-Canak**	**1.29**	**51**		Pn	Pn	12 56 10.2	-0.1
ALN	**Alexandroupoli**	**1.31**	**2**		Pn	Pn	12 56 10.2	-0.4
ALN	**Alexandroupoli**	**1.31**	**2**		P	Pn	12 56 10.4	-0.2
ALN					S	Sb	12 56 28.2	+0.4
	comp=E,35nm,0.3s							
ALN	**Alexandroupoli**	**1.31**	**2**		P	Pn	12 56 11.0	+0.4
ALN					S	Sb	12 56 28.5	+0.6
ALN					AML	AML	12 56 30.2	
	comp=E,58μm,0.3s							
ALN					AML	AML	12 56 31.1	
	comp=N,73μm,0.5s							
URLA	**Izmir**	**1.31**	**159**		Pn	Pn	12 56 10.5	-0.2
GONE	**Gonen-Balikesi**	**1.39**	**70**		Pn	Pb	12 56 12.3	0.0
THAS	**Thassos island**	**1.41**	**317**		P	Pn	12 56 11.9	0.0
RDO	**Rodhopi**	**1.60**	**348**		Pn	Pn	12 56 14.5	0.0
RDO	**Rodhopi**	**1.60**	**348**		P	Pn	12 56 15.1	+0.5
MRMT	**Marmara Adasi**	**1.60**	**50**		Pn	Pn	12 56 14.9	+0.2
EDC	**Edincik**	**1.63**	**62**		Pn	Pn	12 56 14.9	-0.1
SUSR	**Susurluk-Balik**	**1.66**	**76**		Pn	Pn	12 56 15.7	+0.3
GORD	**Gordes-Manisa**	**1.83**	**111**		Pn	Pn	12 56 18.5	+0.7
KCTX	**Karacabey (Bur**	**1.94**	**69**		Pn	Pn	12 56 19.3	-0.1
KDZ	**Kurdzhali**	**2.10**	**347**		Pn	Pn	12 56 21.8	+0.3
AYDB	**Zeytinkoy-Aydi**	**2.21**	**137**		Pn	Pn	12 56 22.9	-0.2
ARMT	**Armutlu**	**2.41**	**65**		Pn	Pn	12 56 26.5	+0.7

IDC 29 13:18:04.9±6.2, 7°07'S×148°21'E, h94km±41km, mb3.5/2, mbtmp3.8/4, MS3.4/3, Error ellipse: s-maj=73.3km s-min=48.5km az=99.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**2.54**	**204**	P	Pn	13 18 44.3	-0.2
	32nm,0.4s,baz=31,slow=11,SNR=15						
PMG				S	Sn	13 19 15.7	+0.9
	134nm,0.7s,baz=341,slow=8.6,SNR=6.0						
WRA	**Warramunga Arr**	**18.57**	**225**	P	P	13 22 13.2	-1.4
	1.2nm,0.5s,baz=52,slow=11,SNR=16						
ASAR	**Alice Springs**	**21.47**	**218**	P	P	13 22 45.9	-0.2
	2.0nm,0.5s,baz=55,slow=9.3,SNR=44						
ASAR				LR	LR	13 32 05.0	
	comp=Z,85nm,19.5s,baz=56,slow=39						
	2.0nm,0.5s						
DZM	**Mont Dzumac**	**23.06**	**132**	LR	LR	13 30 15.1	
	comp=Z,76nm,19.2s,baz=16,slow=32						
STKA	**Stephens Creek**	**25.44**	**193**	P	P	13 23 24.9	+0.8
	0.8nm,0.4s,baz=12,slow=9.0,SNR=3.3						
	0.8nm,0.4s						
PALK	**Pallekele**	**68.82**	**281**	LR	LR	14 04 48.5	
	comp=Z,35nm,18.1s,baz=348,slow=41						
TORD	**Torodi Ar. Bea**	**146.51**	**283**	PKPbc	PKPbc	13 37 35.7	-0.7
	0.6nm,0.5s,baz=60,slow=3.4,SNR=7.0						

*IDC **29** 14:09:31.3±3.0, 10°.56S×12°.95W, h0km, mb4.0/2, mbtmp4.0/3, ML3.6/1, MS3.5/33, Error ellipse: s-maj=50.5km s-min=29.0km az=18.0*

ISC 29 14:09:32.7±1.9, 10°.6S±0°.2×13°.0W±0°.1, h14km, n41, σ1§42/13, MS3.5/32, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H10S2	**ASCENSION HYDR**	**2.35**	**315**	Pn	**Pn**	**14 10 09.0**	**-1.7**
H10S2				Sn	**Sn**	**14 10 41.2**	**+1.8**
H10S3	**ASCENSION HYDR**	**2.37**	**315**	Pn	**Pn**	**14 10 09.0**	**-2.0**
H10S3				Sn	**Sn**	**14 10 41.4**	**+1.7**
H10N1	**ASCENSION HYDR**	**3.15**	**331**	Pn	**Pn**	**14 10 22.9**	**+1.1**
H10N1				Sn	**Sn**	**14 10 58.4**	**-0.7**
	baz=62,slow=74						
H10N3	**ASCENSION HYDR**	**3.17**	**331**	Pn	**Pn**	**14 10 22.9**	**+0.9**
H10N3				Sn	**Sn**	**14 10 58.4**	**-1.0**
	baz=143,slow=74						
H10N2	**ASCENSION HYDR**	**3.17**	**331**	Pn	**Pn**	**14 10 22.9**	**+0.9**
H10N2				Sn	**Sn**	**14 10 58.4**	**-1.1**
DBIC	**Dimbokro**	**18.99**	**25**	P	**P**	**14 13 53.0**	**-1.0**
	0.2nm,0.3s,baz=198,slow=13,SNR=1.9						
DBIC				LR	LR	14 19 51.3	
	comp=Z,96nm,18.9s,baz=202,slow=33						
	5.3nm,1.1s						
RCBR	**Riachuelo**	**23.20**	**280**	LR	LR	14 21 00.3	
	comp=Z,74nm,21.4s,baz=145,slow=30						
TORD	**Torodi Ar. Bea**	**27.75**	**32**	P	**P**	**14 15 21.4**	**+0.2**
	1.9nm,0.6s,baz=217,slow=8.5,SNR=8.2						
TORD				LR	LR	14 25 07.4	
	comp=Z,69nm,20.5s,baz=214,slow=34						
	1.9nm,0.6s						
TSUM	**Tsumeb**	**30.68**	**110**	LR	LR	14 25 34.7	
	comp=Z,93nm,21.0s,baz=334,slow=31						
SUR	**Sutherland**	**37.89**	**130**	LR	LR	14 28 44.1	
	comp=Z,153nm,19.4s,baz=285,slow=30						
LBTB	**Lobatse**	**39.23**	**117**	LR	LR	14 31 45.3	
	comp=Z,56nm,18.5s,baz=236,slow=34						
BOSA	**Boshof**	**39.97**	**122**	LR	LR	14 29 58.7	
	comp=Z,107nm,21.8s,baz=336,slow=31						
MDP	**Montagnes des**	**42.49**	**290**	LR	LR	14 31 32.2	
	comp=Z,69nm,22.0s,baz=110,slow=31						
MDT	**Midelt**	**43.93**	**10**	LR	LR	14 35 32.0	
	comp=Z,109nm,18.4s,baz=166,slow=36						
CPUP	**Villa Florida**	**44.64**	**243**	LR	LR	14 32 31.2	
	comp=Z,56nm,19.9s,baz=94,slow=31						
KEST	**Kesra**	**50.70**	**24**	LR	LR	14 39 31.2	
	comp=Z,55nm,19.5s,baz=246,slow=36						
ESDC	**Sonseca Array**	**50.74**	**9**	LR	LR	14 38 24.2	
	comp=Z,59nm,20.9s,baz=198,slow=34						
H05S1	**Guadeloupe/Mar**	**53.60**	**297**	T	T	15 16 31.7	
	SNR=9.0						
H05N1	**Guadeloupe/Mar**	**54.60**	**299**	T	T	15 17 50.8	
PCRV	**Puerto La Cruz**	**55.39**	**290**	LR	LR	14 39 24.5	
	comp=Z,17nm,21.4s,slow=32						
PLCA	**Paso Flores**	**58.70**	**229**	LR	LR	14 40 57.8	
	comp=Z,27nm,21.7s,baz=126,slow=32						
SDV	**Santo Domingo**	**60.57**	**287**	LR	LR	14 42 51.2	
	comp=Z,25nm,22.0s,baz=124,slow=33						
DAVOX	**Davos/Dischmat**	**60.70**	**18**	LR	LR	14 46 05.7	
	comp=Z,32nm,19.1s,baz=262,slow=36						
EIL	**Elat**	**61.11**	**48**	LR	LR	14 45 49.9	
	comp=Z,42nm,18.2s,baz=248,slow=36						
NNA	**Nana**	**62.53**	**262**	LR	LR	14 45 37.0	
	comp=Z,34nm,18.6s,baz=100,slow=35						
ROSC	**El Rosal**	**62.99**	**281**	LR	LR	14 45 44.2	
	comp=Z,76nm,20.3s,baz=99,slow=34						
ATAH	**Atahualpa**	**64.65**	**267**	LR	LR	14 46 12.8	
	comp=Z,50nm,20.3s,baz=114,slow=34						
VRAC	**Vranov**	**65.10**	**21**	LR	LR	14 49 27.1	
	comp=Z,37nm,18.4s,baz=244,slow=37						
BRTR	**Keskin Array B**	**66.16**	**38**	LR	LR	14 50 41.9	
	comp=Z,21nm,18.1s,baz=260,slow=37						
AKASG	**Malin Array Be**	**71.23**	**27**	LR	LR	14 53 34.8	
	comp=Z,28nm,18.9s,baz=227,slow=37						
GNI	**Garni**	**73.45**	**43**	LR	LR	14 53 41.6	
	comp=Z,20nm,20.7s,baz=256,slow=36						
NOA	**NORSAR Array B**	**73.96**	**12**	LR	LR	14 52 41.3	
	comp=Z,21nm,19.8s,baz=210,slow=35						
MAW	**Mawson**	**74.84**	**157**	LR	LR	14 47 44.3	
	comp=Z,53nm,21.8s,baz=106,slow=31						
BORG	**Borgarnes**	**75.43**	**356**	LR	LR	14 49 40.5	
	comp=Z,20nm,19.6s,baz=260,slow=32						
FINES	**FINESS Array B**	**78.11**	**18**	LR	LR	14 54 36.2	
	comp=Z,36nm,21.8s,baz=38,slow=35						
SADO	**Sadowa**	**81.14**	**319**	LR	LR	14 53 07.6	
	comp=Z,29nm,18.7s,baz=284,slow=32						
ARCES	**ARCESS Array B**	**84.31**	**13**	LR	LR	14 58 19.6	
	comp=Z,17nm,21.6s,baz=260,slow=35						
CMIG	**Matias Romero**	**85.50**	**288**	LR	LR	15 02 21.9	
	comp=Z,16nm,18.2s,baz=181,slow=37						
BVAR	**Borovoye Array**	**94.43**	**37**	LR	LR	15 11 38.6	
	comp=Z,22nm,18.0s,baz=230,slow=40						
TXAR	**Lajitas Array**	**95.74**	**299**	P	**P**	**14 22 59.7**	**+0.7**
	0.2nm,0.7s,baz=120,slow=5.3,SNR=2.6						
	0.2nm,0.7s						
ANMO	**Albuquerque**	**98.85**	**304**	LR	LR	15 00 46.1	
	comp=Z,37nm,21.3s,baz=198,slow=31						

*RSNC **29** 14:15:00.5±0.0, 1°.1N±2°.×7°.7W±°, h7km±1km, M2.8, ML4.1*
*NEIC **29** 14:15:41.8±2.0, 1°.3N±0°.2×77°.5W±0°.3, h10km±1km, ML3.4/6, Error ellipse: s-maj=53.0km s-min=3.9km az=120.0*

ISC 29 14:15:36.5±0.9, 1°.30N±0°.08×77°.3W±0°.1, h10km, n13, σ1§38/20, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GCUF	**Volcan Galeras**	**0.09**	**221**	P	**Pg**	**14 15 38.6**	**-0.9**
GCUF				S	**Sg**	**14 15 39.3**	**-2.3**
CRUC	**La Cruz**	**0.43**	**51**	P	**Pg**	**14 15 47.3**	**+0.8**
CRUC				S	**Sb**	**14 15 54.4**	**+1.3**
CMBC	**Cumbal**	**0.65**	**237**	P	**Pg**	**14 15 49.5**	**+0.3**
BBAC	**Balboa, Cauca**	**0.72**	**3**	P	**Pn**	**14 15 52.6**	**-0.4**
BBAC				S	**Sn**	**14 16 04.4**	**+0.1**
TULM	**Tulcn-Chalpat**	**0.76**	**221**	Pg	**Pg**	**14 15 51.8**	**+0.4**
TULM					**Sg**	**14 16 02.5**	**+1.0**
TULM				IAML		14 16 07.0	
	comp=N,2μm,0.8s						
TULM	**Tulcn-Chalpat**	**0.76**	**221**	P	**Pg**	**14 15 51.8**	**+0.4**
TULM				S	**Sg**	**14 16 01.6**	**+0.2**
IMBA	**Imbabura, San**	**1.36**	**222**		**Pg**	**14 16 04.3**	**+1.5**
IMBA				Sn	**Sg**	**14 16 21.9**	**+1.4**
IMBA				IAML		14 16 27.3	
	comp=N,694nm,0.8s						
IMBA				IAML		14 16 32.1	
	comp=E,595nm,0.6s						
POPC	**Popayan, Colom**	**1.38**	**26**	P	**Pg**	**14 16 03.6**	**+0.5**
POPC				S	**Sg**	**14 16 23.0**	**+2.0**
PULU	**Pululahua**	**1.76**	**224**	Pn	**Pb**	**14 16 08.9**	**-0.2**
PULU				IAML		14 16 48.7	
	comp=N,1μm,0.4s						
PAC1	**Pacto, Paraso**	**1.82**	**236**	P	**Pg**	**14 16 11.5**	**0.0**
SLOR	**San Lorenzo -**	**2.35**	**211**	P	**Pb**	**14 16 19.9**	**+0.6**
CHSH	**Refugio Sur-Vo**	**3.19**	**210**	Pn	**Pb**	**14 16 32.4**	**-1.3**
ROSC	**El Rosal**	**4.60**	**40**	Pn	**Pb**	**14 16 54.2**	**-3.4**

*IDC **29** 15:12:00.6±0.6, 6°.88S×132°.34E, h0km, mb4.2/15, mbtmp4.2/19, ML4.3/2, MS3.5/10, Error ellipse: s-maj=27.2km s-min=14.2km az=75.0*
*NEIC **29** 15:12:05.8±1.0, 6°.81S±0°.06×132°.41E±0°.08, h35km±6km, mb4.6/19, Error ellipse: s-maj=12.3km s-min=8.5km az=104.0*
*DJA **29** 15:12:06.0±0.2, 7°.5±3°×13°.2E±°, h127km±8km, M4.6/15, mB4.9/5, mb4.6/15, MLv4.8/9, Mw(mB)4.2/5*

ISC 29 15:12:05.8±0.4, 6°.87S±0°.05×132°.28E±0°.06, h35km, n106, σ1§55/100, mb4.4/26, MS3.6/7, 1D, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SAUI	**Saumlaki**	**1.47**	**221**	P	**Pn**	**15 12 31.5**	**+1.6**
SAUI	**Saumlaki**	**1.47**	**221**	Pn	**Pn**	**15 12 31.7**	**+1.8**
SAUI	**Saumlaki**	**1.47**	**221**	P	Pn	15 12 35.3	+5.4
BNDI	**Bandanaira**	**3.32**	**314**	P	**Pn**	**15 12 55.2**	**-0.1**
BNDI	**Bandanaira**	**3.32**	**314**	P	**Pn**	**15 12 54.6**	**-0.7**
KMPI	**Kaimana, Papua**	**3.49**	**24**	P	**Pn**	**15 12 55.2**	**-2.4**
FAKI	**Fak Fak**	**3.92**	**360**	P	**Pn**	**15 13 01.7**	**-1.9**
FAKI	**Fak Fak**	**3.92**	**360**	Pn	**Pn**	**15 13 01.5**	**-2.1**
FAKI	**Fak Fak**	**3.92**	**360**	P	**Pn**	**15 13 01.7**	**-1.9**
DRS	**Darwin Rock St**	**5.69**	**194**	P	**Pn**	**15 13 07.6**	**+0.6**
KDU	**Kakadu**	**5.79**	**178**	P	**Pn**	**15 13 29.2**	**0.0**
MTN	**Manton Dam**	**6.04**	**191**	P	**Pn**	**15 13 33.1**	**+0.3**
MTN	**Manton Dam**	**6.04**	**191**	Pn	**Pn**	**15 13 33.4**	**+0.6**
SWI	**Sorong**	**6.05**	**350**	P	**Pn**	**15 13 30.5**	**-2.4**
	39nm,0.6s,983nm0.8nm						
LBMI	**Labuha**	**7.81**	**322**	P	**Pn**	**15 13 54.0**	**-3.1**
	125nm,1.0s,1μm0.4nm						
SANI	**Sanana**	**7.89**	**307**	P	**Pn**	**15 13 58.7**	**+0.6**
MMPI	**Merauke**	**8.19**	**102**	P	**Pn**	**15 14 05.0**	**+2.8**
	209nm,0.5s						
SOEI	**Soe**	**8.43**	**250**	P	**Pn**	**15 14 06.5**	**+0.8**
SOEI	**Soe**	**8.43**	**250**	P	**Pn**	**15 14 06.2**	**+0.5**
SOEI	**Soe**	**8.43**	**250**	P	**Pn**	**15 14 05.8**	**+0.1**
	79nm,0.9s						
BATI	**Baumata**	**9.14**	**248**	Pn	**Pn**	**15 14 14.9**	**-0.5**
	28nm,0.4s,baz=114,slow=3.6,SNR=10						
BATI				Sn	**Sn**	**15 15 54.1**	**-3.1**
	4.3nm,0.3s,baz=287,slow=20,SNR=2.5						
BATI	**Baumata**	**9.14**	**248**	P	**Pn**	**15 14 16.4**	**+1.0**
	44nm,0.5s						
JAY	**Jayapura**	**9.44**	**63**	P	**Pn**	**15 14 22.1**	**+2.6**
	37nm,1.1s						
EDFI	**Ende, Flores**	**10.66**	**259**	P	**Pn**	**15 14 35.8**	**-0.4**
	17nm,0.8s						
GTOI	**Gorontalo**	**11.88**	**309**	P	**Pn**	**15 14 51.5**	**-1.4**
	8.1nm,1.0s						
KAPI	**Kappang**	**12.60**	**278**	LR	LR	15 20 53.3	
	comp=Z,143nm,18.5s,baz=92,slow=42						
COEN	**Coen**	**12.82**	**124**	P	**Pn**	**15 15 02.8**	**-2.9**
COEN	**Coen**	**12.82**	**124**	Pn	**Pn**	**15 15 02.3**	**-3.5**
FITZ	**Fitzroy Crossi**	**12.90**	**210**	P	**Pn**	**15 15 05.6**	**-1.2**
FITZ	**Fitzroy Crossi**	**12.90**	**210**	Pn	**Pn**	**15 15 04.7**	**-2.1**
WB0	**Warramunga Arr**	**12.98**	**171**	Pn	**Pn**	**15 15 04.8**	**-3.2**
WRAB	**Tennant Creek**	**13.14**	**171**	Pn	**Pn**	**15 15 07.4**	**-2.7**
WRA	**Warramunga Arr**	**13.15**	**171**	P	Pn	15 15 05.7	-4.5
WRA	**Warramunga Arr**	**13.15**	**171**	Pn	**Pn**	**15 15 06.5**	**-3.7**
	1.5nm,0.3s,baz=355,slow=13,SNR=53						
WRA				Sn	Sn	15 17 24.7	-11
	3.1nm,0.3s,baz=6.8,slow=21,SNR=6.1						
WRA				Lg	Lg	15 18 53.5	
	baz=360,slow=21						
WRA				LR	LR	15 20 45.4	
	comp=Z,452nm,18.7s,baz=32,slow=40						
	7.4nm,0.6s						
WB2	**Warramunga Arr**	**13.15**	**171**	Pn	**Pn**	**15 15 06.0**	**-4.3**
WR0	**Warramunga Arr**	**13.20**	**171**	Pn	Pn	15 15 06.2	-4.7
TOLI2	**Tolitoli**	**13.95**	**304**	Pn	**Pn**	**15 15 21.1**	**0.0**
PLAI	**Plampang**	**14.50**	**261**	P	**Pn**	**15 15 29.5**	**+0.8**
PMG	**Port Moresby**	**14.94**	**101**	Pn	**Pn**	**15 15 33.5**	**-1.1**
	9.6nm,0.8s,baz=262,slow=17,SNR=1.2						
PMG				Sn	Sn	15 18 08.9	-10
	0.7nm,0.3s,baz=140,slow=20,SNR=0.8						
PMG				LR	LR	15 22 23.4	
	comp=Z,225nm,21.5s,baz=258,slow=42						
QIS	**Mount Isa**	**15.35**	**153**	P	**Pn**	**15 15 39.5**	**-0.5**
MTSU	**Mount Surprise**	**16.22**	**135**	P	**Pn**	**15 15 49.8**	**-1.4**
AS31	**Alice Springs**	**16.77**	**175**	Pn	**Pn**	**15 15 54.4**	**-3.8**
ASAR	**Alice Springs**	**16.77**	**175**	Pn	**Pn**	**15 15 54.8**	**-3.4**
ASAR	**Alice Springs**	**16.77**	**175**	Pn	**Pn**	**15 15 56.2**	**-2.0**
	0.9nm,0.3s,baz=351,slow=9.3,SNR=81						
ASAR				Sn	Sn	15 18 52.1	-12
	0.6nm,0.3s,baz=354,slow=26,SNR=9.8						
ASAR				Lg	Lg	15 20 49.0	
	0.1nm,0.3s,baz=358,slow=32,SNR=1.6						
ASAR				LR	LR	15 22 59.4	
	comp=Z,223nm,21.4s,baz=350,slow=39						
	3.4nm,0.5s						
AS01	**Alice Springs**	**16.78**	**175**	P	**Pn**	**15 15 57.1**	**-1.2**
WRKA	**Warakurna**	**18.46**	**191**	P	**P**	**15 16 17.9**	**-0.9**
MBWA	**Marble Bar**	**18.69**	**219**	P	**P**	**15 16 21.8**	**+0.6**
MBWA				IAmb	IAmb	15 16 26.4	
	comp=Z,36nm,1.4s						
TV1H	**Townsville Har**	**18.73**	**132**	P	**Pn**	**15 16 23.1**	**+0.8**
CTAO	**Charters Tower**	**18.88**	**135**	P	**Pn**	**15 16 24.5**	**+0.4**
CTAO	**Charters Tower**	**18.88**	**135**	P	**P**	**15 16 23.1**	**-0.2**
CTAO				IAmb	IAmb	15 16 40.1	
	comp=Z,20nm,0.9s						
PSA00	**Pilbara Seismi**	**18.93**	**218**	P	**P**	**15 16 24.5**	**+0.7**
OOD	**Oodnadatta**	**21.06**	**172**	P	**P**	**15 16 47.5**	**+0.5**
SBUM	**Sibu**	**22.06**	**294**	P	**P**	**15 16 58.1**	**+0.2**
INKA	**Innaminka**	**22.26**	**160**	P	**P**	**15 17 01.2**	**+1.4**
QLP	**Quilpie**	**22.67**	**151**	P	**P**	**15 17 05.2**	**+0.9**
MULG	**Mulgathing**	**23.35**	**176**	P	**P**	**15 17 11.5**	**+0.3**
RK1H	**Rockhampton Ha**	**24.01**	**135**	P	**P**	**15 17 18.7**	**+1.2**
LCRK	**Leigh Creek**	**24.11**	**167**	P	**P**	**15 17 19.0**	**+0.6**
FORT	**Forrest**	**24.11**	**189**	P	**P**	**15 17 19.0**	**+0.6**
FORT	**Forrest**	**24.11**	**189**	P	**P**	**15 17 18.5**	**+0.1**
BBOO	**Buckleboo**	**26.05**	**173**	P	**P**	**15 17 35.9**	**-0.1**
BBOO	**Buckleboo**	**26.05**	**173**	P	**P**	**15 17 35.4**	**-0.6**
BBOO				IAmb	IAmb	15 18 14.0	
	comp=Z,34nm,1.2s						
STKA	**Stephens Creek**	**26.36**	**162**	P	**P**	**15 17 39.2**	**+0.4**
STKA	**Stephens Creek**	**26.36**	**162**	P	**P**	**15 17 38.0**	**-0.8**
	comp=Z,4.4nm,0.6s,baz=350,slow=8.2,SNR=12						
STKA				LR	LR	15 29 00.4	
	comp=Z,210nm,20.9s,baz=2.2,slow=39						
	comp=Z,4.4nm,0.6s						
MORW	**Morawa**	**26.88**	**213**	P	**P**	**15 17 43.9**	**+0.4**
MORW				IAmb	IAmb	15 18 25.3	
	comp=Z,15nm,1.1s						
HTT	**Hallett**	**27.14**	**168**	P	**P**	**15 17 46.1**	**+0.2**
HNR	**Honiara**	**27.50**	**97**	LR	LR	15 29 28.3	
	comp=Z,2μm,20.2s,baz=236,slow=38						
BLDU	**Ballidu**	**27.78**	**210**	P	**P**	**15 17 52.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**29.46**	**206**	P	**P**	**15 18 07.6**	**+1.1**
NWAO				IAmb	IAmb	15 18 42.4	
	comp=Z,37nm,1.4s						
NWAO	**Narrogin (SRO)**	**29.46**	**206**	LR	LR	15 31 51.8	
	comp=Z,128nm,18.9s,baz=202,slow=40						
ARPS	**Mount Arapiles**	**31.02**	**165**	P	**P**	**15 18 21.2**	**+1.0**
KULM	**Kulim**	**33.80**	**290**	P	**P**	**15 18 45.0**	**+0.1**
KULM				IAmb	IAmb	15 19 05.5	
	comp=Z,11nm,1.2s						
UBPT	**Khong Chiam**	**34.50**	**310**	P	**P**	**15 18 50.1**	**-0.8**
UBPT				IAmb	IAmb	15 18 50.9	
	comp=Z,6.3nm,0.6s						
JNU	**Nakatsue**	**39.79**	**358**	LR	LR	15 37 50.1	
	comp=Z,40nm,18.5s,baz=164,slow=39						
PHRA	**Phrae**	**40.43**	**309**	P	**P**	**15 19 41.2**	**0.0**
NJ2	**Nanjing**	**40.77**	**342**	*eP*	**P**	**15 19 46.3**	**+2.6**
NJ2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
CMAR	**Chiang Mai Arr**	**41.41**	**308**	P	**P**	**15 19 49.2**	**0.0**
	comp=Z,2.9nm,0.4s,baz=140,slow=7.7,SNR=14						
CMAR				LR	LR	15 40 31.8	
	comp=Z,23nm,18.5s,baz=130,slow=41						
	comp=Z,2.9nm,0.4s						
MJAR	**Matsushiro Arr**	**43.54**	**7**	P	**P**	**15 20 04.8**	**-1.4**
	comp=Z,0.9nm,0.6s,baz=189,slow=8.9,SNR=2.2						
	comp=Z,0.9nm,0.6s						
KSRS	**Korea Array**	**44.28**	**355**	P	**P**	**15 20 12.2**	**+0.1**
	comp=Z,0.4

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.14**	**128**	**P**	**Pg**	**15 14 26.3**	**-1.3**
KOCA				S	Sg	**15 14 30.0**	**+0.2**
GPNR	**Gulpinar-Canak**	**0.17**	**141**	Pg	**Pg**	**15 14 27.6**	**-0.6**
GPNR				Sg	**Sg**	**15 14 31.4**	**+0.9**
BOZC	**Bozcaada**	**0.26**	**10**	**P**	**Pg**	**15 14 29.8**	**0.0**
BOZC				P		15 14 29.8	
BOZC				S	**Sg**	**15 14 33.2**	**0.0**
EZNE	**Ezine-Canakkal**	**0.33**	**60**	Pg	**Pg**	**15 14 31.0**	**-0.2**
EZNE				Sg	**Sg**	**15 14 36.6**	**+1.0**
EZN	**Ezine**	**0.35**	**47**	Pg	**Pg**	**15 14 31.4**	**-0.1**
EZN				Sg	**Sg**	**15 14 36.9**	**+0.8**
EZN	**Ezine**	**0.35**	**47**	P	**Pg**	**15 14 31.7**	**+0.2**
EZN				S	**Sg**	**15 14 37.1**	**+1.0**
	938nm,0.3s						
SIGR	**SIGRI**	**0.39**	**196**	Pg	**Pg**	**15 14 32.9**	**+0.6**
SIGR				Sg	**Sb**	**15 14 39.7**	**-0.3**
SIGR	**SIGRI**	**0.39**	**196**	P	**Pg**	**15 14 32.9**	**+0.6**
SIGR				S	**Sg**	**15 14 38.7**	**+1.3**
	598nm,0.2s						
SIGR	**SIGRI**	**0.39**	**196**	P	**Pg**	**15 14 33.0**	**+0.7**
SIGR				S	**Sg**	**15 14 38.2**	**+0.8**
SIGR				AML	AML	15 14 40.6	
	comp=E,1129µm,0.2s						
SIGR				AML	AML	15 14 41.6	
	comp=N,1240µm,0.2s						
PRK	**Paraskevi**	**0.41**	**148**	P	**Pg**	**15 14 32.6**	**+0.1**
PRK				S	**Sg**	**15 14 38.6**	**+0.7**
	comp=N,590nm,0.3s						
PRK	**Paraskevi**	**0.41**	**148**	P	**Pg**	**15 14 32.6**	**+0.1**
PRK				S	**Sg**	**15 14 38.5**	**+0.7**
PRK				AML	AML	15 14 38.9	
	comp=E,1277µm,0.4s						
PRK				AML	AML	15 14 39.5	
	comp=N,1070µm,0.3s						
BAYC	**CANAKKALE_Bayr**	**0.45**	**70**	P	**Pg**	**15 14 33.6**	**+0.1**
BAYC				S	**Sg**	**15 14 39.0**	**-0.4**
BAYC				*i* AML	AML	15 14 40.0	
	comp=N,224nm,0.3s						
ECEA	**Canakkale, Ece**	**0.48**	**17**	P	**Pg**	**15 14 34.5**	**+0.6**
ECEA				S	**Sg**	**15 14 41.1**	**+0.9**
ECEA				*i* AML	AML	15 14 46.0	
	comp=N,246nm,0.3s						
ECEA				*i* AML	AML	15 14 46.0	
	comp=N,215nm,0.7s						
CNKL	**anakkale-Mer**	**0.56**	**32**	P	**Pg**	**15 14 35.2**	**-0.3**
CNKL				P	**Pb**	**15 14 35.4**	**-1.4**
CNKL				S	**Sg**	**15 14 43.0**	**+0.1**
CNKL				*i* AML	AML	15 14 44.0	
	comp=N,313nm,0.3s						
CNKL				*i* AML	AML	15 14 44.0	
	comp=N,306nm,0.3s						
GOAD	**anakkale-G¶**	**0.58**	**354**	P	**Pg**	**15 14 35.8**	**0.0**
GOAD				S	**Sg**	**15 14 43.4**	**+0.1**
GOAD				*i* AML	AML	15 14 51.0	
	comp=N,190nm,0.3s						
GOAD				*i* AML	AML	15 14 51.0	
	comp=N,173nm,0.3s						
GADA	**Gvkgeada**	**0.61**	**353**	Pg	**Pg**	**15 14 36.2**	**-0.1**
GADA				Sg	**Sg**	**15 14 45.4**	**+1.1**
AYVA	**Ayvalik**	**0.61**	**117**	P	**Pb**	**15 14 37.8**	**+0.3**
AYVA				*i* AML	AML	15 14 49.0	
	comp=N,190nm,0.6s						
AYVA				*i* AML	AML	15 14 51.0	
	comp=N,127nm,0.4s						
COMU	**Canakkale**	**0.63**	**36**	Pg	**Pg**	**15 14 36.9**	**+0.1**
COMU				Sg	**Sg**	**15 14 45.8**	**+0.8**
LIA	**Limnos Island**	**0.70**	**297**	P	**Pg**	**15 14 37.8**	**-0.3**
LIA				S	**Sg**	**15 14 47.8**	**+0.6**
	comp=N,585nm,0.2s						
LIA	**Limnos Island**	**0.70**	**297**	P	**Pg**	**15 14 38.1**	**0.0**
LIA				S	**Sg**	**15 14 47.7**	**+0.6**
LIA				AML	AML	15 14 48.4	
	comp=E,1211µm,0.3s						
LIA				AML	AML	15 14 51.9	
	comp=N,1115µm,0.3s						
EFSA	**Agios Efstrati**	**0.78**	**267**	P	**Pg**	**15 14 39.7**	**+0.1**
BUHA	**Balikesir, Bur**	**0.84**	**96**	P	**Pb**	**15 14 41.9**	**+0.4**
BUHA				S	**Sb**	**15 14 53.0**	**-0.1**
BUHA				*i* AML	AML	15 14 55.0	
	comp=N,136nm,0.4s						
DKL	**Dikili**	**0.88**	**126**	Pg	**Pg**	**15 14 41.6**	**+0.1**
GELI	**Tayfur-Gelibol**	**0.89**	**24**	Pg	**Pg**	**15 14 41.5**	**-0.2**
GELI				Sg	**Sb**	**15 14 54.4**	**0.0**
CANM	**Can-anakkale**	**0.92**	**62**	Pg	**Pg**	**15 14 42.1**	**-0.2**
IZMD	**zmir-Dikili-**	**0.94**	**129**	P	**Pb**	**15 14 43.6**	**+0.3**
SMTH	**Samothraki Isl**	**0.95**	**338**	P	**Pg**	**15 14 42.5**	**-0.4**
SMTH				S	**Sb**	**15 14 56.3**	**+0.2**
	comp=N,168nm,0.1s						
SMTH	**Samothraki Isl**	**0.95**	**338**	P	**Pg**	**15 14 42.8**	**-0.1**
SMTH				S	**Sb**	**15 14 56.4**	**+0.2**
SMTH				AML	AML	15 14 57.9	
	comp=E,333µm,0.2s						
SMTH				AML	AML	15 14 58.1	
	comp=N,326µm,0.1s						
KARB	**zmir-Karabur**	**0.98**	**160**	P	**Pg**	**15 14 43.3**	**-0.2**
KARB				S	**Sg**	**15 14 55.6**	**-0.6**
LPK	**Lapseki**	**0.98**	**37**	Pg	**Pg**	**15 14 43.1**	**-0.4**
ZEDA	**zmir-Bergama**	**1.05**	**126**	P	**Pg**	**15 14 44.8**	**+0.1**
PSRA	**Psara**	**1.10**	**198**	P	**Pg**	**15 14 46.0**	**+0.3**
PSRA				S	**Sg**	**15 15 00.2**	**+0.3**
PSRA				AML	AML	15 15 03.0	
	comp=E,830µm,0.3s						
PSRA				AML	AML	15 15 05.3	
	comp=N,614µm,0.3s						
ENEZ	**Enez**	**1.15**	**6**	Pn	**Pg**	**15 14 46.5**	**-0.2**
ENEZ	**Enez**	**1.15**	**6**	P	**Pg**	**15 14 46.6**	**-0.2**
ENEZ				S	**Sb**	**15 15 02.5**	**+0.5**
	comp=N,325nm,0.4s						
ERIK	**Erikli-Kesan**	**1.15**	**20**	Pn	**Pg**	**15 14 46.5**	**-0.2**
CHOS	**Chios island**	**1.20**	**178**	Pn	**Pb**	**15 14 47.7**	**0.0**
CHOS	**Chios island**	**1.20**	**178**	P	**Pb**	**15 14 46.8**	**-0.9**
CHOS				S	**Sg**	**15 15 03.3**	**0.0**
	comp=N,185nm,0.3s						
CHOS	**Chios island**	**1.20**	**178**	P	**Pb**	**15 14 47.1**	**-0.6**
CHOS				S	**Sg**	**15 15 02.7**	**-0.6**
KRBG	**Karabiga-Canak**	**1.28**	**51**	Pn	**Pn**	**15 14 48.8**	**-0.1**
ALN	**Alexandroupoli**	**1.31**	**2**	Pn	**Pn**	**15 14 49.4**	**+0.2**
ALN	**Alexandroupoli**	**1.31**	**2**	P	**Pn**	**15 14 48.9**	**-0.3**
ALN				S	**Sg**	**15 15 06.8**	**+0.1**
	comp=N,48nm,0.3s						
ALN	**Alexandroupoli**	**1.31**	**2**	P	**Pn**	**15 14 49.1**	**-0.1**
URLA	**Izmir**	**1.31**	**159**	Pn	**Pn**	**15 14 48.8**	**-0.5**
GONE	**Gonen-Balikesi**	**1.38**	**70**	Pn	**Pn**	**15 14 50.7**	**+0.5**
THAS	**Thassos island**	**1.41**	**317**	P	**Pn**	**15 14 49.8**	**-0.8**
MRMT	**Marmara Adasi**	**1.59**	**50**	Pn	**Pn**	**15 14 53.6**	**+0.4**
RDO	**Rodhopi**	**1.59**	**348**	P	**Pn**	**15 14 53.5**	**+0.3**
EDC	**Edincik**	**1.62**	**62**	Pn	**Pn**	**15 14 53.8**	**+0.2**
SUSR	**Susurluk-Balik**	**1.65**	**76**	Pn	**Pn**	**15 14 54.6**	**+0.6**
KAVA	**Kavala**	**1.81**	**322**	P	**Pn**	**15 14 55.6**	**-0.4**
SMG	**Samos**	**1.99**	**160**	P	**Pn**	**15 14 57.9**	**-0.8**

*NEIC **29** 15:21:28.2±1.1,22.1°S±0.1°×179.3°W±0.1,h593km±8km, mb4.4/45, Error ellipse: s-maj=18.7km s-min=16.2km az=169.0*

*IDC **29** 15:21:29.1±2.1,22.01°S×179.55W,h597km±21km,mb3.3/8, mbtmp4.2/9,Error ellipse: s-maj=21.5km s-min=16.8km az=140.0*

ISC 29 15:21:28.1±0.5,22°19S±0.09°×179°45W±0.09,h592km, n72,σ1§16/74,mb4.3/31,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**5.02**	**332**	**P**	**P**	**15 23 01.1**	**+0.2**
PINNC	**Pines Island,**	**12.13**	**266**	**P**	**P**	**15 24 08.8**	**+0.6**
LIFNC	**LIFOU**	**12.47**	**274**	**P**	**P**	**15 24 11.3**	**-0.4**
DZM	**Mont Dzumac**	**13.08**	**268**	**P**	**P**	**15 24 16.4**	**-1.5**
	2.6nm,0.5s,baz=96,slow=20,SNR=1.6						
URZ	**Urewera**	**16.29**	**190**	P	**P**	**15 24 46.7**	**-1.5**
	6.9nm,0.9s,baz=242,slow=9.1,SNR=1.6						
URZ				S	**S**	**15 27 26.6**	**-4.8**
	7.0nm,1.0s,baz=30,slow=15,SNR=1.5						
BKZ	**Black Stump Fm**	**17.27**	**191**	P	**P**	**15 24 58.0**	**+0.7**
RAR	**Rarotonga**	**18.31**	**91**	P	**P**	**15 25 05.7**	**-1.3**
ARMA	**Armidale**	**27.13**	**246**	P	**P**	**15 26 27.6**	**+2.0**
ARMA				IAmb	IAmb	15 26 29.2	
	comp=Z,16nm,1.4s						
CAN	**Canberra**	**30.46**	**238**	P	**P**	**15 26 55.4**	**+1.2**
CTAO	**Charters Tower**	**32.02**	**267**	P	**P**	**15 27 08.5**	**+0.8**
CTAO				IAmb	IAmb	15 27 35.8	
	comp=Z,17nm,1.2s						
TOO	**Toolangi**	**33.82**	**235**	P	**P**	**15 27 24.5**	**+1.9**
STKA	**Stephens Creek**	**35.85**	**246**	P	**P**	**15 27 41.1**	**+1.6**
STKA	**Stephens Creek**	**35.85**	**246**	P	**P**	**15 27 40.8**	**+1.2**
	comp=Z,2.6nm,0.5s,baz=87,slow=12,SNR=9.0						
	comp=Z,2.6nm,0.5s						
BBOO	**Buckleboo**	**40.60**	**245**	P	**P**	**15 28 18.6**	**+0.7**
AS31	**Alice Springs**	**42.84**	**259**	P	**P**	**15 28 36.0**	**+0.3**
ASAR	**Alice Springs**	**42.84**	**259**	P	**P**	**15 28 35.9**	**+0.3**
ASAR	**Alice Springs**	**42.84**	**259**	P	**P**	**15 28 36.2**	**+0.5**
	comp=Z,4.3nm,0.6s,baz=98,slow=8.5,SNR=68						
ASAR				PcP	**PcP**	**15 30 13.5**	**+0.5**
	comp=Z,0.8nm,0.5s,baz=110,slow=3.6,SNR=7.7						
ASAR				ScP	**ScP**	**15 33 08.7**	**+0.4**
	comp=Z,0.3nm,0.9s,baz=109,slow=5.1,SNR=1.7						
ASAR				S	**S**	**15 34 16.4**	**-2.0**
	comp=Z,0.8nm,1.0s,baz=101,slow=13,SNR=5.4						
	comp=Z,4.3nm,0.6s						
WR0	**Warramunga Arr**	**42.87**	**264**	P	**P**	**15 28 35.7**	**-0.2**
WB0	**Warramunga Arr**	**43.04**	**264**	P	**P**	**15 28 37.0**	**-0.2**
WB0				IAmb	IAmb	15 28 37.8	
	comp=Z,5.8nm,0.8s						
WB2	**Warramunga Arr**	**43.05**	**264**	P	**P**	**15 28 37.1**	**-0.2**
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**15 28 37.1**	**-0.3**
WRA	**Warramunga Arr**	**43.06**	**264**	P	**P**	**15 28 37.2**	**-0.2**
	comp=Z,1.8nm,0.3s,baz=96,slow=7.9,SNR=61						
WRA				ScP	**ScP**	**15 33 10.4**	**+1.2**
	comp=Z,0.5nm,0.8s,baz=83,slow=1.7,SNR=2.7						
WRA				S	**S**	**15 34 17.8**	**-3.7**
	comp=Z,0.3nm,0.7s,baz=99,slow=14,SNR=2.2						
	comp=Z,1.8nm,0.3s						
FORT	**Forrest**	**47.40**	**248**	P	**P**	**15 29 10.8**	**+0.5**
FORT				IAmb	IAmb	15 29 29.7	
	comp=Z,17nm,1.0s						
MTN	**Manton Dam**	**47.86**	**273**	P	**P**	**15 29 13.6**	**-0.3**
MTN				IAmb	IAmb	15 29 43.3	
	comp=Z,16nm,1.2s						
FITZ	**Fitzroy Crossi**	**51.49**	**264**	P	**P**	**15 29 41.0**	**+0.6**
PSA00	**Pilbara Seismi**	**55.99**	**258**	P	**P**	**15 30 11.9**	**-0.2**
PSA00	**Pilbara Seismi**	**55.99**	**258**	P	**P**	**15 30 11.9**	**-0.2**
PSA00				IAmb	IAmb	15 30 49.7	
	comp=Z,20nm,1.5s						
MBWA	**Marble Bar**	**56.18**	**259**	P	**P**	**15 30 13.2**	**-0.2**
MBWA				IAmb	IAmb	15 30 13.8	
	comp=Z,9.0nm,0.6s						
MMRI	**Maumere**	**57.49**	**274**	P	**P**	**15 30 22.4**	**0.0**
MORW	**Morawa**	**57.95**	**249**	P	**P**	**15 30 25.4**	**+0.1**
TOLI2	**Tolitoli**	**62.66**	**283**	P	**P**	**15 30 57.5**	**+1.0**
QSPA	**South Pole Qui**	**67.89**	**180**	P	**P**	**15 31 30.4**	**+2.0**
QSPA	**South Pole Qui**	**67.89**	**180**	P	**P**	**15 31 29.7**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=211,slow=2.2,SNR=8.3						
	comp=Z,0.7nm,0.6s						
JOW	**Kunigami**	**70.24**	**311**	P	**P**	**15 31 43.3**	**+0.3**
JOW				IAmb	IAmb	15 32 12.1	
	comp=Z,11nm,1.3s						
MJAR	**Matsushiro Arr**	**70.79**	**325**	P	**P**	**15 31 45.3**	**-0.7**
	comp=Z,1.2nm,0.8s,baz=147,slow=6.8,SNR=4.2						
	comp=Z,1.2nm,0.8s						
TPUB	**Ta-pu**	**73.78**	**304**	P	**P**	**15 32 02.0**	**-1.5**
TPUB				IAmb	IAmb	15 32 02.9	
	comp=Z,8.1nm,0.8s						
SSLB	**Suanglung**	**73.80**	**305**	P	**P**	**15 32 02.1**	**-1.5**
SSLB				IAmb	IAmb	15 32 03.0	
	comp=Z,4.9nm,0.7s						
SMAI	**San Martin Ant**	**77.52**	**159**	P	**P**	**15 32 22.9**	**-0.4**
PEA0B	**Petropavlovsk-**	**77.56**	**346**	P	**P**	**15 32 23.9**	**+0.2**
PETK	**Petropavlovsk-**	**77.56**	**346**	P	**P**	**15 32 24.0**	**+0.3**
PETK	**Petropavlovsk-**	**77.56**	**346**	P	**P**	**15 32 23.5**	**-0.2**
	comp=Z,3.5nm,0.7s,baz=137,slow=3.9,SNR=8.6						
	comp=Z,3.5nm,0.7s						
MAW	**Mawson**	**79.52**	**200**	P	**P**	**15 32 35.9**	**+1.9**
	comp=Z,1.4nm,0.8s,baz=111,slow=8.6,SNR=2.3						
	comp=Z,1.4nm,0.8s						
MCCM	**Marconi Confer**	**80.12**	**42**	P	**P**	**15 32 37.0**	**-0.6**
KULM	**Kulim**	**82.68**	**279**	P	**P**	**15 32 51.2**	**0.0**
KULM				IAmb	IAmb	15 33 26.8	
	comp=Z,14nm,1.5s						
K15K	**Wolf Creek Mou**	**85.40**	**8**	P	**P**	**15 33 04.0**	**+0.6**
K15K				IAmb	IAmb	15 33 04.5	
	comp=Z,18nm,1.4s						
L19K	**White Mountain**	**86.35**	**11**	P	**P**	**15 33 08.4**	**+0.5**
L19K				IAmb	IAmb	15 33 44.0	
	comp=Z,9.9nm,1.4s						
SUA	**Susitna One**	**86.50**	**13**	P	**P**	**15 33 08.3**	**-0.5**
SUA				IAmb	IAmb	15 33 13.9	
	comp=Z,17nm,1.5s						
GHO	**Glory Hole Cre**	**87.18**	**14**	P	**P**	**15 33 11.7**	**-0.2**
GHO				IAmb	IAmb	15 33 13.9	
	comp=Z,6.3nm,1.0s						
J18K	**Innoko River**	**87.22**	**10**	P	**P**	**15 33 11.8**	**-0.2**
SML	**Sawmill**	**87.34**	**14**	P	**P**	**15 33 12.9**	**+0.2**
SML				IAmb	IAmb	15 33 40.1	
	comp=Z,10nm,1.4s						
WAX	**Waxell Ridge**	**87.55**	**17**	P	**P**	**15 33 14.1**	**+0.4**
WAX				IAmb	IAmb	15 33 25.6	
	comp=Z,13nm,1.5s						
K20K	**Telida**	**87.57**	**11**	P	**P**	**15 33 13.2**	**-0.5**
K20K				IAmb	IAmb	15 33 17.6	
	comp=Z,9.2nm,1.4s						
MESA	**MESA**	**87.58**	**18**	P	**P**	**15 33 14.2**	**+0.2**
SCM	**Sheep Creek Mo**	**87.60**	**15**	P	**P**	**15 33 13.5**	**-0.4**
SCM				IAmb	IAmb	15 33 47.9	
	comp=Z,14nm,1.4s						
J19K	**Poorman**	**87.90**	**10**	P	**P**	**15 33 14.8**	**-0.3**
J19K				IAmb	IAmb	15 33 50.0	
	comp=Z,8.3nm,1.5s						
GLB	**Gilahina Butte**	**88.13**	**16**	P	**P**	**15 33 16.4**	**+0.1**
GLB				IAmb	IAmb	15 33 31.7	
	comp=Z,6.3nm,1.5s						
J20K	**Nowinta River**	**88.31**	**11**	P	**P**	**15 33 16.7**	**-0.3**
J20K				IAmb	IAmb	15 33 35.0	
	comp=Z,7.4nm,1.4s						
TRF	**Thorofare Moun**	**88.38**	**13**	P	**P**	**15 33 16.8**	**-0.9**
TRF				IAmb	IAmb	15 33 54.7	
	comp=Z,7.6nm,1.4s						
CMAR	**Chiang Mai Arr**	**89.41**	**290**	P	**P**	**15 33 23.9**	**+0.6**
	comp=Z,2.0nm,0.8s,baz=124,slow=2.9,SNR=8.9						
	comp=Z,2.0nm,0.8s						
MLY	**Manley**	**89.71**	**12**	P	**P**	**15 33 21.0**	**-2.6**
MKAR	**Makanchi Array**	**111.37**	**313**	PKiKP	**PKiKP**	**15 38 54.6**	**-1.1**
	comp=Z,0.1nm,0.4s,baz=144,slow=1.9,SNR=1.6						
KURBB	**Kurchatov Arra**	**114.36**	**317**	PKiKP	PKPdf	15 38 59.9	-1.3
	comp=Z,0.2nm,0.3s,baz=117,slow=1.5,SNR=2.2						
BVAR	**Borovoye Array**	**119.49**	**319**	PKP	**PKPdf**	**15 39 10.4**	**-0.7**
	comp=Z,1.3nm,0.4s,baz=106,slow=2.0,SNR=12						
ARCES	**ARCESS Array B**	**130.32**	**349**	PKP	**PKPdf**	**15 39 30.8**	**-0.6**
	comp=Z,1.3nm,0.8s,baz=25,slow=3.2,SNR=5.1						
FINES	**FINESS Array B**	**136.99**	**342**	PKP	**PKPdf**	**15 39 44.3**	**+0.4**
	comp=Z,2.1nm,0.9s,baz=48,slow=2.1,SNR=4.3						
HFS	**Hagfors**	**140.97**	**350**	PKhKP	PKPpre	15 39 45.2	
	comp=Z,0.9nm,0.4s,baz=67,slow=5.0,SNR=12						
AKASG	**Malin Array Be**	**143.79**	**329**	PKP	PKPbc	15 39 54.7	-1.0
	comp=Z,1.7nm,0.3s,baz=39,slow=4.4,SNR=20						
KIEV	**Kiev**	**143.81**	**329**	PKP	PKPbc	15 39 54.9	-0.9
EKA	**Eskdalemuir Ar**	**146.79**	**4**	PKPbc	**PKPdf**	**15 40 02.6**	**+1.1**
	comp=Z,1.2nm,0.7s,baz=349,slow=1.4,SNR=2.2						
BRTR	**Keskin Array B**	**146.92**	**310**	PKPbc	**PKPbc**	**15 40 04.8**	**-0.6**
	comp=Z,1.1nm,0.6s,baz=120,slow=3.4,SNR=6.4						
MMAI	**Mount Meron Ar**	**147.42**	**297**	PKPbc	**PKPbc**	**15 40 07.6**	**+0.7**
	comp=Z,1.3nm,0.4s,baz=66,slow=4.7,SNR=5.8						
GERES	**GERESS Array B**	**151.41**	**342**	PKPbc	**PKPbc**	**15 40 15.6**	**-0.3**
	comp=Z,0.7nm,0.5s,baz=46,slow=2.8,SNR=3.5						

*SJA **29** 15:25:23.8±0.7,23.84S×66.96W,h217km±7km, ML3.5, MW3.4*

*GUC **29** 15:25:26.1±0.7,23.79S×66.95W,h189km±9km, ML3.6*

ISC 29 15:25:22.8±1.7,23°80S±0.04°×66°94W±0.04°, h221km±14km,n35,σ1§58/63,3C-1D,Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.60**	**125**	*eP*	**Pn**	**15 26 01.2**	**+1.7**
AZAP	**Zapla**	**1.77**	**104**	*eP*	**Pn**	**15 26 01.7**	**+0.7**
YJA	**Yavi**	**2.08**	**39**	*eP*	**Pn**	**15 26 06.2**	**+1.9**
YJA				*eS*	**S**	**15 26 33.0**	**-3.4**
YJA	**Yavi**	**2.08**	**39**	*eP*	**Pn**	**15 26 05.2**	**+0.9**
YJA				*eS*	**S**	**15 26 34.4**	**-2.0**
LVC	**Limon Verde**	**2.16**	**303**	*eP*	**Pn**	**15 26 06.3**	**+1.3**
LVC				*eS*	**S**	**15 26 37.9**	**+0.3**
LVC				IAML		15 26 39.1	
	comp=Z,55nm,0.9s						
LVC	**Limon Verde**	**2.16**	**303**	*eP*	**Pn**	**15 26 06.3**	**+1.3**
LVC				*eS*	**S**	**15 26 35.8**	**-1.8**
LVC				IAML		15 26 39.1	
	comp=Z,304nm,0.2s						
PB15	**IPOC Station P**	**2.40**	**284**	*eP*	**Pn**	**15 26 08.6**	**+1.4**
PB15				*eS*	**S**	**15 26 41.0**	**-0.6**
PB15	**IPOC Station P**	**2.40**	**284**	*iP*	**Pn**	**15 26 08.6**	**+1.4**
PB15				*eS*	**S**	**15 26 40.6**	**-1.0**
FSA	**Cafayete**	**2.46**	**159**	*eP*	Pn	15 26 03.5	-4.3
PB06	**IPOC Station P**	**2.65**	**294**	*eP*	**Pn**	**15 26 11.4**	**+1.5**
PB06				*eS*	**S**	**15 26 45.7**	**-0.8**
PB06				IAML		15 26 47.4	
	comp=Z,139nm,0.2s						
PB06	**IPOC Station P**	**2.65**	**294**	*eP*	**Pn**	**15 26 11.6**	**+1.7**
PB06				*eS*	**S**	**15 26 45.1**	**-1.4**
PB06				IAML		15 26 47.1	
	comp=N,238nm,0.2s						
ALOL	**LOMAS DE OLMED**	**2.71**	**91**	*eP*	**Pn**	**15 26 11.5**	**+1.1**
GO02	**Mina Guanaco**	**2.77**	**240**	*eP*	**Pn**	**15 26 10.4**	**-0.9**
GO02				*eS*	**S**	**15 26 49.6**	**+0.5**
GO02	**Mina Guanaco**	**2.77**	**240**	*iP*	**Pn**	**15 26 12.8**	**+1.5**
GO02				*eS*	**S**	**15 26 49.3**	**+0.2**
GO02				IAML		15 26 50.9	
	comp=E,88nm,0.3s						
PB09	**IPOC Station P**	**2.91**	**313**	*eP*	**Pn**	**15 26 14.8**	**+2.0**
PB09				*eS*	**S**	**15 26 51.5**	**-0.3**
PB09				IAML		15 26 52.0	
	comp=Z,86nm,0.3s						
PB09	**IPOC Station P**	**2.91**	**313**	*eP*	**Pn**	**15 26 15.1**	**+2.3**
PB09				*eS*	**S**	**15 26 51.2**	**-0.5**
PB09				IAML		15 26 55.5	
	comp=E,78nm,0.2s						
PB05	**IPOC Station P**	**3.14**	**287**	*eP*	**Pn**	**15 26 16.4**	**+1.1**
PB05				*eS*	**S**	**15 26 54.5**	**-1.8**
PB05				IAML		15 26 58.5	
	comp=Z,53nm,0.2s						
PB05	**IPOC Station P**	**3.14**	**287**	*eP*	**Pn**	**15 26 16.4**	**+1.1**
PB05				*eS*	**S**	**15 26 54.0**	**-2.3**
PB05				IAML		15 26 58.1	
	comp=N,83nm,0.2s						
PB14	**IPOC Station P**	**3.27**	**255**	*eP*	**Pn**	**15 26 18.0**	**+1.0**
PB14				*eS*	**S**	**15 26 57.9**	**-1.3**
PB14				IAML		15 26 59.4	
	comp=Z,50nm,0.5s						
PB14	**IPOC Station P**	**3.27**	**255**	*eP*	**Pn**	**15 26 18.3**	**+1.4**
PB14				*eS*	**S**	**15 26 58.1**	**-1.1**
PB04	**IPOC Station P**	**3.29**	**296**	*eP*	**Pn**	**15 26 18.6**	**+1.5**
PB04				*eS*	**S**	**15 26 59.1**	**-0.5**
PB04				IAML		15 27 02.3	
	comp=Z,134nm,0.2s						
PB04	**IPOC Station P**	**3.29**	**296**	*eP*	**Pn**	**15 26 18.7**	**+1.5**
PB04				*eS*	**S**	**15 26 57.2**	**-2.4**
AHML	**Horco Molle**	**3.31**	**154**	*eP*	**Pn**	**15 26 18.6**	**+1.4**
AHML				*eS*	S	15 26 40.0	-20
PB10	**IPOC Station P**	**3.32**	**274**	*eP*	**Pn**	**15 26 18.8**	**+1.4**
PB10				*eS*	**S**	**15 26 58.8**	**-1.1**
PB10				IAML		15 27 01.9	
	comp=Z,52nm,0.3s						
PB10	**IPOC Station P**	**3.32**	**274**	*eP*	**Pn**	**15 26 19.1**	**+1.7**
PB10				*eS*	**S**	**15 26 57.6**	**-2.3**
AC01	**Pan de Azucar**	**4.06**	**234**	*eP*	**Pn**	**15 26 26.6**	**+0.4**
AC01				IAML		15 27 14.1	
	comp=Z,30nm,2.0s						
AC01				*eS*	**S**	**15 27 14.2**	**-1.7**
PB08	**IPOC Station P**	**4.18**	**330**	*eP*	**Pn**	**15 26 30.6**	**+2.6**
PB08				*eS*	**S**	**15 27 19.1**	**0.0**
PB08				IAML		15 27 20.6	
	comp=Z,23nm,0.2s						
PATCX	**Punta Patache**	**4.20**	**314**	*eP*	**Pn**	**15 26 29.1**	**+1.2**
PATCX				*eS*	**S**	**15 27 17.3**	**-1.8**
PATCX				IAML		15 27 23.7	
	comp=Z,32nm,0.4s						
PATCX	**Punta Patache**	**4.20**	**314**	*eP*	**Pn**	**15 26 28.6**	**+0.7**
PATCX				*eS*	**S**	**15 27 15.7**	**-3.4**
TA01	**Diego Aracena**	**4.40**	**316**	*eP*	**Pn**	**15 26 31.7**	**+1.4**
TA01				*eS*	**S**	**15 27 22.4**	**-1.1**
TA01				IAML		15 27 22.8	
	comp=Z,27nm,1.1s						
HMBC	**Humberstone**	**4.44**	**321**	*eP*	**Pn**	**15 26 31.5**	**+0.5**
HMBC				*eS*	**S**	**15 27 22.2**	**-2.5**
HMBC				IAML		15 27 24.5	
	comp=Z,71nm,0.2s						
HMBC	**Humberstone**	**4.44**	**321**	*eP*	**Pn**	**15 26 30.8**	**-0.2**
GO01	**Chusmiza**	**4.61**	**333**	*eP*	**Pn**	**15 26 36.1**	**+2.

Fault plane solution: $M_0$1.51000×10^{15} NP1:ϕ_s55.85000°, δ67.72000°,λ102.46000°. NP2:ϕ_s205.61000°, δ25.38000°, λ62.22000°. Principal axes: T 1.4407, Plg65.0000°, Azm347.0000°; N 0.1359, Plg12.0000°, Azm231.0000°; P -1.5766, Plg22.0000°, Azm136.0000°;
*IDC **29** 15:42:49.4±2.0,62.82N×149.35W,h35km±14km,mb3.9/24, mbtmp4.1/29,ML3.9/5,MS3.3/32 Error ellipse: s-maj=14.1km s-min=10.3km az=53.0*
ISC 29 15:42:46.7±0.8,**62.75N**±0.02×**149.08W**±0.02,**h18**km±5km, **n321**,σ1$23/278,**mb4.4**/38,**MS3.2**/27,**Central Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
WAT7	**Susitna Watana**	**0.14**	**51**			**Pg**	**15 42 50.8**	**0.0**
WAT7						**Sg**	**15 42 53.5**	**-0.2**
WAT1	**Susitna Watana**	**0.26**	**71**			**Pn**	**15 42 56.3**	**+0.5**
WAT1	**Susitna Watana**	**0.26**	**71**	P		**Pg**	**15 42 52.5**	**-0.1**
	baz=254							
WAT1				S		**Pn**	**15 42 56.3**	**+0.5**
	baz=254							
WAT6	**Susitna Watana**	**0.64**	**105**			**Pg**	**15 42 58.8**	**-0.7**
WAT6						Pn	15 43 06.8	+5.7
WAT6	**Susitna Watana**	**0.64**	**105**	P		**Pg**	**15 42 58.6**	**-0.8**
	baz=287							
WAT6				S		**Sg**	**15 43 06.8**	**-1.1**
	baz=287							
CUT	**Chulitna**	**0.65**	**238**			**Pg**	**15 42 59.1**	**-0.4**
CUT	**Chulitna**	**0.65**	**238**			**Sb**	**15 43 08.6**	**+0.3**
CUT	**Chulitna**	**0.65**	**238**	P		**Pg**	**15 42 59.3**	**-0.2**
	baz=57							
CUT				S		**Sg**	**15 43 08.4**	**+0.2**
	baz=57							
RND	**Reindeer**	**0.67**	**9**	Pg		**Pg**	**15 42 59.5**	**-0.4**
RND				IAML			15 43 09.0	
	comp=N,22μm,0.4s							
RND	**Reindeer**	**0.67**	**9**			**Sg**	**15 43 08.4**	**-0.4**
DHY	**Denali Highway**	**0.84**	**66**	Pg		**Pb**	**15 43 02.4**	**-0.6**
DHY				IAML			15 43 17.7	
	comp=E,20μm,0.4s							
DHY				IAML			15 43 17.9	
	comp=N,16μm,0.5s							
DHY	**Denali Highway**	**0.84**	**66**			**Sb**	**15 43 13.9**	**-0.2**
DHY	**Denali Highway**	**0.84**	**66**	P		**Pb**	**15 43 02.2**	**-0.8**
	baz=248							
DHY				S		**Sb**	**15 43 13.9**	**-0.2**
	baz=248							
TRF	**Thorofare Moun**	**0.89**	**323**	Pg		**Pb**	**15 43 03.6**	**-0.2**
TRF				IAML			15 43 16.5	
	comp=N,17μm,0.5s							
TRF				IAML			15 43 18.4	
	comp=E,17μm,0.5s							
TRF	**Thorofare Moun**	**0.89**	**323**			**Sg**	**15 43 16.2**	**+0.2**
TRF	**Thorofare Moun**	**0.89**	**323**	P		**Pb**	**15 43 03.8**	**-0.1**
	baz=141							
TRF				S		**Sb**	**15 43 15.6**	**+0.1**
	baz=141							
GHO	**Glory Hole Cre**	**0.98**	**176**			**Pb**	**15 43 04.3**	**-0.9**
GHO				IAML			15 43 19.5	
	comp=E,9μm,0.9s							
GHO				IAML			15 43 25.5	
	comp=N,10μm,0.8s							
MCK	**McKinley**	**0.99**	**4**			**Pb**	**15 43 05.3**	**0.0**
MCK						**Sg**	**15 43 18.7**	**-0.2**
MCK	**McKinley**	**0.99**	**4**	P		**Pb**	**15 43 05.3**	**0.0**
	baz=184							
SML	**Sawmill**	**1.01**	**159**	Pg		**Pb**	**15 43 04.9**	**-0.8**
SML				IAML			15 43 19.2	
	comp=E,14μm,0.8s							
SML				IAML			15 43 20.0	
	comp=N,12μm,0.8s							
SML	**Sawmill**	**1.01**	**159**	P		**Pb**	**15 43 04.8**	**-0.9**
	baz=340							
M22K	**Willow**	**1.11**	**206**			**Pb**	**15 43 06.6**	**-0.9**
M22K	**Willow**	**1.11**	**206**	P		**Pb**	**15 43 06.5**	**-0.9**
	baz=25							
M23K	**Glacier View**	**1.15**	**146**			**Pn**	**15 43 07.0**	**-1.0**
M23K	**Glacier View**	**1.15**	**146**	P		**Pn**	**15 43 07.0**	**-1.0**
	baz=327							
PMR	**Palmer**	**1.16**	**181**	P		**Pn**	**15 43 07.7**	**-0.4**
PMR	**Palmer**	**1.16**	**181**	Pn		**Pn**	**15 43 07.3**	**-0.8**
PMR	**Palmer**	**1.16**	**181**	P		**Pn**	**15 43 07.5**	**-0.6**
	baz=1.1							
SCM	**Sheep Creek Mo**	**1.23**	**138**			**Pn**	**15 43 08.2**	**-1.0**
SCM				IAML			15 43 26.6	
	comp=N,8μm,0.5s							
SCM				IAML			15 43 27.3	
	comp=E,8μm,0.6s							
SCM	**Sheep Creek Mo**	**1.23**	**138**	P		**Pn**	**15 43 08.5**	**-0.7**
	baz=319							
KNK	**Knik Glacier**	**1.37**	**167**			**Pn**	**15 43 10.7**	**-0.4**
KNK				IAML			15 43 29.7	
	comp=N,5μm,0.7s							
KNK				IAML			15 43 30.2	
	comp=E,7μm,0.8s							
KNK	**Knik Glacier**	**1.37**	**167**	P		**Pn**	**15 43 10.6**	**-0.4**
	baz=348							
SKT	**Skwentna**	**1.38**	**237**			**Pn**	**15 43 11.5**	**+0.4**
SKT						**Sb**	**15 43 30.1**	**+0.8**
SKT	**Skwentna**	**1.38**	**237**	P		**Pn**	**15 43 11.5**	**+0.4**
	baz=54							
PPLA	**Purkeypile**	**1.44**	**277**			**Pn**	**15 43 12.5**	**+0.5**
PPLA	**Purkeypile**	**1.44**	**277**	P		**Pn**	**15 43 12.5**	**+0.5**
	baz=94							
BWN	**Browne**	**1.44**	**353**			**Pb**	**15 43 12.8**	**-0.2**
BWN	**Browne**	**1.44**	**353**			**Sb**	**15 43 31.3**	**+0.3**
M24K	**Tolsona, Glenn**	**1.50**	**114**			**Pn**	**15 43 13.3**	**+0.5**
M24K	**Tolsona, Glenn**	**1.50**	**114**	P		**Pn**	**15 43 13.3**	**+0.5**
	baz=297							
SUA	**Susitna One**	**1.51**	**212**			**Pn**	**15 43 13.1**	**0.0**
SUA						**Sb**	**15 43 33.8**	**+0.7**
SUA	**Susitna One**	**1.51**	**212**	IAML			15 43 35.7	
	comp=E,5μm,0.7s							
SUA	**Susitna One**	**1.51**	**212**	P		**Pn**	**15 43 13.0**	**0.0**
	baz=30							
CAST	**Castle Rocks**	**1.52**	**298**			**Pb**	**15 43 14.0**	**-0.5**
CAST	**Castle Rocks**	**1.52**	**298**	IAML			15 43 35.1	
	comp=N,5μm,0.9s							
CAST				IAML			15 43 35.5	
	comp=E,7μm,0.7s							
CAST	**Castle Rocks**	**1.52**	**298**	P		**Pn**	**15 43 13.7**	**+0.5**
	baz=115							
BPAW	**Bear Paw Mtn.**	**1.60**	**329**	Pn		**Pn**	**15 43 14.4**	**+0.1**
BPAW				IAML			15 43 38.3	
	comp=N,6μm,0.5s							
BPAW				IAML			15 43 38.7	
	comp=E,7μm,0.5s							
BPAW	**Bear Paw Mtn.**	**1.60**	**329**	P		**Pn**	**15 43 14.2**	**-0.1**
	baz=147							
PAX	**Paxson**	**1.67**	**81**			**Pn**	**15 43 15.5**	**+0.3**
PAX						**Sn**	**15 43 36.9**	**+0.7**
PAX	**Paxson**	**1.67**	**81**	P		**Pn**	**15 43 15.5**	**+0.3**
	baz=264							
RC01	**Rabbit Creek A**	**1.69**	**191**			**Pn**	**15 43 15.7**	**+0.2**
RC01	**Rabbit Creek A**	**1.69**	**191**	P		**Pn**	**15 43 16.0**	**+0.6**
	baz=10							
FIS	**Fire Island**	**1.70**	**199**			**Pn**	**15 43 16.5**	**+1.0**
FIS				IAML			15 43 52.1	
	comp=E,6μm,0.7s							
FIS				IAML			15 43 55.3	
	comp=N,5μm,0.8s							
WRH	**Wood River Hil**	**1.79**	**14**			**Pn**	**15 43 16.8**	**+0.1**
WRH	**Wood River Hil**	**1.79**	**14**	IAML			15 43 43.2	
	comp=N,5μm,0.6s							
STLK	**Strandline Lak**	**1.80**	**227**			**Pn**	**15 43 17.7**	**+0.7**
STLK						**Sb**	**15 43 41.2**	**-0.4**
K24K	**Donnelly Dome**	**1.83**	**53**			**Pb**	**15 43 18.7**	**-1.0**
K24K	**Donnelly Dome**	**1.83**	**53**	P		**Pb**	**15 43 18.8**	**-0.9**
	baz=236							
HARP	**HAARP**	**1.85**	**99**			**Pn**	**15 43 18.4**	**+0.8**
HARP	**HAARP**	**1.85**	**99**	P		**Pn**	**15 43 18.4**	**+0.8**
	baz=283							
NEA2	**Nenana**	**1.85**	**0**			**Pn**	**15 43 17.5**	**-0.1**
NEA2				IAML			15 43 46.4	
	comp=E,4μm,0.5s							
NEA2	**Nenana**	**1.85**	**0**	P		**Pn**	**15 43 17.6**	**-0.1**
	baz=180							
CHUM	**Lake Minchumin**	**1.85**	**309**			**Pn**	**15 43 17.8**	**+0.2**
CHUM	**Lake Minchumin**	**1.85**	**309**	P		**Pn**	**15 43 18.1**	**+0.5**
	baz=126							
HDA	**Harding Lake**	**1.92**	**29**			**Pn**	**15 43 18.6**	**+0.1**
HDA	**Harding Lake**	**1.92**	**29**	P		**Pn**	**15 43 18.6**	**+0.1**
	baz=211							
KLU	**Klutina**	**1.95**	**129**			**Pn**	**15 43 19.4**	**+0.4**
KLU						**Sn**	**15 43 44.3**	**+1.3**
KLU	**Klutina**	**1.95**	**129**	IAML			15 43 49.3	
	comp=E,3μm,0.5s							
KLU				IAML			15 43 49.5	
	comp=N,3μm,0.5s							
KLU	**Klutina**	**1.95**	**129**	P		**Pn**	**15 43 19.4**	**+0.4**
	baz=312							
CCB	**Clear Creek Bu**	**1.99**	**16**			**Pn**	**15 43 19.2**	**-0.3**
CCB	**Clear Creek Bu**	**1.99**	**16**	IAML			15 43 49.7	
	comp=N,5μm,0.5s							
SPCG	**Spurr Capps Gl**	**2.02**	**225**			**Pn**	**15 43 20.4**	**+0.4**
SPCP	**Crater Peak Br**	**2.08**	**226**			**Pn**	**15 43 22.0**	**+1.1**
M20K	**Styx River**	**2.08**	**247**			**Pn**	**15 43 21.2**	**+0.4**
M20K	**Styx River**	**2.08**	**247**	P		**Pn**	**15 43 21.4**	**+0.5**
	baz=63							
GLI	**Glacier Island**	**2.10**	**152**			**Pn**	**15 43 22.2**	**+1.2**
GLI	**Glacier Island**	**2.10**	**152**	P		**Pn**	**15 43 22.5**	**+1.5**
	baz=334							
SPCN	**Chakachatna No**	**2.12**	**225**			**Pn**	**15 43 22.6**	**+1.3**
N20K	**Mount Spurr**	**2.15**	**225**	P		**Pn**	**15 43 22.6**	**+0.9**
	baz=42							
SPBG	**Spurr Blockage**	**2.15**	**228**			**Pn**	**15 43 23.6**	**+1.7**
SPNN	**North Nagishla**	**2.20**	**232**			**Pn**	**15 43 24.0**	**+1.5**
COLA	**College**	**2.20**	**14**	P		**Pn**	**15 43 23.0**	**+0.6**
COLA	**College**	**2.20**	**14**			**Pn**	**15 43 22.9**	**+0.6**
L20K	**Farewell, AK**	**2.24**	**265**			**Pn**	**15 43 23.0**	**+0.1**
L20K	**Farewell, AK**	**2.24**	**265**	P		**Pn**	**15 43 23.3**	**+0.4**
	baz=81							
MDM	**Murphy Dome**	**2.25**	**9**	IAML			15 43 58.2	
	comp=N,2μm,0.7s							
ILAR	**Eielson Array**	**2.25**	**25**	Pn		**Pn**	**15 43 23.1**	**0.0**
	comp=N,27nm,0.3s,baz=207,slow=14,SNR=117							
ILAR				Pg		**Pg**	**15 43 30.3**	**+0.4**
	comp=N,90nm,0.3s,baz=214,slow=17,SNR=42							
ILAR				Sn		**Sn**	**15 43 48.5**	**-2.0**
	comp=N,369nm,0.3s,baz=63,slow=28,SNR=7.9							
ILAR				LR		LR	15 43 52.0	
	comp=N,721nm,19.8s,baz=24,slow=28							
ILAR				Lg		Lg	15 43 55.6	
	comp=N,758nm,0.3s,baz=208,slow=29,SNR=16 comp=N,181nm,0.7s							
O22K	**Cooper Landing**	**2.30**	**188**			**Pn**	**15 43 25.4**	**+1.7**
O22K	**Cooper Landing**	**2.30**	**188**	P		**Pn**	**15 43 26.0**	**+2.3**
	baz=7.4							
FID	**Port Fidalgo**	**2.36**	**147**			**Pn**	**15 43 25.9**	**+1.4**
FID				IAML			15 43 59.1	
	comp=N,3μm,0.4s							
N25K	**Chitina, Valde**	**2.39**	**117**	Pn		**Pn**	**15 43 26.3**	**+1.1**
N25K				IAML			15 44 08.4	
	comp=E,2μm,0.8s							
N25K	**Chitina, Valde**	**2.39**	**117**	P		**Pn**	**15 43 26.2**	**+1.1**
	baz=301							
MLY	**Manley**	**2.41**	**343**	Pn		**Pn**	**15 43 25.7**	**+0.5**
MLY	**Manley**	**2.41**	**343**	P		**Pn**	**15 43 25.8**	**+0.5**
	baz=161							
I23K	**Minto, Yukon-K**	**2.41**	**357**	IAML			15 44 02.6	
	comp=E,2μm,0.6s							
I23K	**Minto, Yukon-K**	**2.41**	**357**	P		**Pn**	**15 43 25.8**	**+0.5**
	baz=177							
MENT	**Mentasta**	**2.47**	**83**	P		**Pb**	**15 43 28.6**	**-1.9**
POKR	**Poker Plat Res**	**2.49**	**16**			**Pn**	**15 43 26.8**	**+0.4**
POKR				IAML			15 44 04.2	
	comp=N,2μm,0.5s							
POKR				IAML			15 44 04.8	
	comp=E,2μm,0.7s							
POKR	**Poker Plat Res**	**2.49**	**16**	P		**Pn**	**15 43 26.8**	**+0.4**
	baz=198							
J25K	**Salcha River,**	**2.50**	**40**	IAML			15 44 05.8	
	comp=E,2μm,0.6s							
J25K	**Salcha River,**	**2.50**	**40**	P		**Pn**	**15 43 26.5**	**0.0**
	baz=223							
SCRK	**Sand Creek**	**2.60**	**60**	IAML			15 44 12.1	
	comp=E,2μm,0.6s							
SCRK	**Sand Creek**	**2.60**	**60**	P		**Pn**	**15 43 29.0**	**+0.9**
	baz=244							
L26K	**Log Cabin Wild**	**2.64**	**81**			**Pn**	**15 43 28.9**	**+0.5**
SEW	**Seward**	**2.66**	**184**			**Pn**	**15 43 31.1**	**+2.4**
SEW	**Seward**	**2.66**	**184**	P		**Pn**	**15 43 31.5**	**+2.8**
	baz=3.7							
HIN	**Hinchinbrook I**	**2.66**	**151**			**Pn**	**15 43 30.4**	**+1.6**
HIN				IAML			15 44 13.0	
	comp=E,2μm,1.0s							
J20K	**Nowinta River**	**2.69**	**304**	IAML			15 44 10.9	
	comp=E,3μm,0.5s							
J20K				IAML			15 44 12.5	
	comp=N,3μm,0.5s							
J20K	**Nowinta River**	**2.69**	**304**	P		**Pn**	**15 43 29.8**	**+0.7**
	baz=120							
RDT	**Redoubt**	**2.70**	**218**			**Pn**	**15 43 31.6**	**+2.3**
EYAK	**Cordova Ski Ar**	**2.72**	**143**	P		**Pn**	**15 43 31.6**	**+2.1**
EYAK	**Cordova Ski Ar**	**2.72**	**143**	P		**Pn**	**15 43 31.8**	**+2.3**
	baz=326							
L19K	**White Mountain**	**2.74**	**261**			**Pn**	**15 43 30.1**	**+0.2**
L19K				IAML			15 44 16.7	
	comp=E,1μm,1.3s							
L19K	**White Mountain**	**2.74**	**261**	P		**Pn**	**15 43 30.1**	**+0.2**
	baz=75							
BMRM	**Bremner River**	**2.77**	**128**	P		**Pn**	**15 43 31.5**	**+1.2**
	baz=312							
GLB	**Gilahina Butte**	**2.80**	**116**	Pn		**Pn**	**15 43 32.3**	**+1.6**
GLB				IAML			15 44 16.0	
	comp=N,1μm,1.0s							
GLB				IAML			15 44 17.9	
	comp=E,1μm,1.2s							
M26K	**Nabesna, AK**	**2.84**	**94**	Pn		**Pn**	**15 43 32.4**	**+1.3**
M26K				IAML			15 44 12.3	
	comp=E,2μm,0.5s							
M26K	**Nabesna, AK**	**2.84**	**94**	P		**Pn**	**15 43 32.5**	**+1.3**
	baz=280							
NCT	**North Crescent**	**2.86**	**222**			**Pn**	**15 43 33.5**	**+1.9**
P23K	**Montague Islan**	**2.88**	**163**	P		**Pn**	**15 43 33.2**	**+1.6**
	baz=344							
RDWB	**Redoubt West**	**2.89**	**220**			**Pn**	**15 43 33.9**	**+1.8**
RED	**Redoubt Volcan**	**2.93**	**219**			**Pn**	**15 43 34.4**	**+1.9**
J26L	**Joseph Creek**	**3.02**	**52**	IAML			15 44 24.7	
	comp=E,986nm,0.8s							
J26L				IAML			15 44 27.9	
	comp=N,1μm,0.5s							
J26L	**Joseph Creek**	**3.02**	**52**	P		**Pn**	**15 43 34.5**	**+0.7**
	baz=237							
VRDI	**Verde Repeater**	**3.06**	**117**	Pn		**Pn**	**15 43 35.9**	**+1.5**
H23K	**Yukon River**	**3.10**	**356**	IAML			15 44 30.8	
	comp=E,1μm,1.1s							
H23K				IAML			15 44 33.1	
	comp=N,834nm,0.5s							
H23K	**Yukon River**	**3.10**	**356**	P		**Pn**	**15 43 35.5**	**+0.7**
	baz=176							
BRLK	**Bradley Lake**	**3.12**	**197**			**Pn**	**15 43 36.7**	**+1.6**
BRSE	**Bradley Lake S**	**3.12**	**196**			**Pn**	**15 43 36.9**	**+1.8**
BRSE	**Bradley Lake S**	**3.12**	**196**	P		**Pn**	**15 43 36.9**	**+1.8**
	baz=14							
H24K	**Noodor Dome**	**3.15**	**9**	IAML			15 44 24.9	
	comp=N,966nm,0.7s							
H24K	**Noodor Dome**	**3.15**	**9**	P		**Pn**	**15 43 36.1**	**+0.7**
	baz=190							
I20K	**Naaghedeneel**	**3.16**	**313**	P		**Pn**	**15 43 36.5**	**+1.0**
	baz=128							
MCARA	**McCarthy VSAT**	**3.16**	**113**			**Pn**	**15 43 37.8**	**+2.2**
MCARA	**McCarthy VSAT**	**3.16**	**113**	IAML			15 44 30.8	
	comp=E,1μm,0.8s							
MCARA	**McCarthy VSAT**	**3.16**	**113**	P		**Pn**	**15 43 38.1**	**+2.5**
	baz=298							
O20K	**Slope Mountain**	**3.17**	**214**			**Pn**	**15 43 38.4**	**+2.5**
O20K	**Slope Mountain**	**3.17**	**214**	P		**Pn**	**15 43 38.7**	**+2.9**
	baz=31							
PRP	**Porcupine Dome**	**3.19**	**28**	IAML			15 44 28.1	
	comp=E,2μm,0.5s							
PRP				IAML			15 44 28.3	
	comp=N,1μm,0.4s							
PRP	**Porcupine Dome**	**3.19**	**28**	P		**Pn**	**15 43 36.5**	**+0.5**
	baz=211							
J19K	**Poorman**	**3.20**	**296**	Pn		**Pn**	**15 43 36.5**	**+0.4**
J19K				IAML			15 44 28.8	
	comp=E,2μm,0.6s							
J19K				IAML			15 44 33.4	
	comp=N,1μm,1.1s							
J19K	**Poorman**	**3.20**	**296**	P		**Pn**	**15 43 36.9**	**+0.8**
	baz=110							
N19K	**Bonanza Creek**	**3.22**	**235**			**Pn**	**15 43 37.4**	**+0.9**
N19K	**Bonanza Creek**	**3.22**	**235**	P		**Pn**	**15 43 39.2**	**+2.7**
	baz=50							
H22K	**Ishtalitna Cre**	**3.31**	**343**	P		**Pn**	**15 43 38.5**	**+0.8**
	baz=161							
IVE	**Iliamna Volcan**	**3.33**	**216**			**Pn**	**15 43 40.1**	**+2.1**
L27K	**Beaver Creek,**	**3.33**	**81**	P		**Pn**	**15 43 39.9**	**+1.9**
	baz=268							
HOM	**Homer**	**3.34**	**203**			**Pn**	**15 43 37.2**	**-0.8**
HOM				IAML			15 44 44.8	
	comp=N,1μm,0.9s							
H21K	**Melozitna Rive**	**3.34**	**332**			**Pn**	**15 43 38.5**	**+0.4**
H21K				IAML			15 44 36.9	
	comp=N,758nm,0.8s							
H21K				IAML			15 44 38.5	
	comp=E,709nm,0.6s							
H21K	**Melozitna Rive**	**3.34**	**332**	P		**Pn**	**15 43 38.7**	**+0.6**
	baz=149							
HMT	**Hamilton**	**3.34**	**134**			**Pn**	**15 43 40.0**	**+1.9**
M27K	**Edge Creek, AK**	**3.36**	**94**			**Pn**	**15 43 40.9**	**+2.4**
M27K	**Edge Creek, AK**	**3.36**	**94**	IAML			15 44 33.6	
	comp=N,827nm,0.8s							
CNPM	**China Poot**	**3.40**	**199**			**Pn**	**15 43 41.5**	**+2.6**
M18K	**Stony River**	**3.41**	**251**	P		**Pn**	**15 43 39.5**	**+0.5**
	baz=65							
SVW2	**Sparrevohn**	**3.49**	**245**	P		**Pn**	**15 43 41.3**	**+1.2**
SVW2	**Sparrevohn**	**3.49**	**245**			**Pn**	**15 43 40.3**	**+0.2**
J18K	**Innoko River**	**3.54**	**285**	Pn		**Pn**	**15 43 41.2**	**+0.4**
J18K				IAML			15 44 39.7	
	comp=N,818nm,0.8s							
J18K				IAML			15 44 48.4	
	comp=E,607nm,0.7s							
J18K	**Innoko River**	**3.54**	**285**	P		**Pn**	**15 43 41.4**	**+0.5**
	baz=98							
L18K	**Granite Mounta**	**3.57**	**265**			**Pn**	**15 43 41.4**	**+0.2**
L18K	**Granite Mounta**	**3.57**	**265**	P		**Pn**	**15 43 41.4**	**+0.2**
	baz=78							
Q23K	**Middleton Isla**	**3.58**	**157**			**Pn**	**15 43 43.8**	**+2.5**
Q23K	**Middleton Isla**	**3.58**	**157**	IAML			15 44 43.7	
	comp=N,1μm,0.9s							
Q23K				IAML			15 44 55.1	
	comp=E,841nm,1.2s							
Q23K	**Middleton Isla**	**3.58**	**157**	P		**Pn**	**15 43 44.8**	**+3.4**
	baz=340							
O19K	**Port Alsworth**	**3.59**	**227**	IAML			15 44 43.1	
	comp=N,680nm,0.5s							
O19K				IAML			15 44 47.3	
	comp=E,702nm,0.5s							
KAIM	**Kayak Island**	**3.61**	**140**	IAML			15 45 00.4	
	comp=N,628nm,1.8s							
KAIM				IAML			15 45 00.5	
	comp=E,700nm,1.7s							
P19K	**Oil Pt**	**3.70**	**215**			**Pn**	**15 43 45.0**	**+1.9**
P19K	**Oil Pt**	**3.70**	**215**	IAML			15 44 40.3	
	comp=E,747nm,0.6s							
P19K				IAML			15 44 45.9	
	comp=N,634nm,0.8s							
SUCK	**Suckling Hills**	**3.70**	**134**			**Pn**	**15 43 44.7**	**+1.7**
SUCK	**Suckling Hills**	**3.70**	**134**	IAML			15 44 47.4	
	comp=N,932nm,0.6s							
SUCK				IAML			15 45 02.1	
	comp=E,656nm,1.1s							
GRIN	**Grindle Hills**	**3.71**	**129**			**Pn**	**15 43 44.9**	**+1.7**
H20K	**Anotleneega Mo**	**3.75**	**320**	P		**Pn**	**15 43 44.7**	**+1.0**
	baz=135							
N18K	**Kilae Creek**	**3.85**	**240**	P		**Pn**	**15 43 47.4**	**+2.3**
	baz=54							
BARN	**Barnard Glacie**	**3.90**	**112**	IAML			15 44 57.8	
	comp=N,460nm,1.0s							
SNH	**Sunshine Point**	**3.95**	**128**			**Pn**	**15 43 48.5**	**+2.1**
SNH	**Sunshine Point**	**3.95**	**128**	IAML			15 45 05.4	
	comp=E,572nm,1.0s							
AU22	**Augustine Moun**	**3.98**	**213**			**Pn**	**15 43 50.6**	**+3.8**
G23K	**Bananza Creek**	**4.00**	**355**			**Pn**	**15 43 46.9**	**-0.3**
G23K	**Bananza Creek**	**4.00**	**355**	P		**Pn**	**15 43 47.9**	**+0.8**
	baz=174							
GCSA	**Galena City Sc**	**4.00**	**303**	P		**Pn**	**15 43 48.1**	**+1.0**
	baz=116							
G24K	**Hadweenzic Riv**	**4.03**	**9**	IAML			15 44 55.9	
	comp=E,728nm,0.8s							
G24K				IAML			15 44 58.3	
	comp=N,818nm,1.0s							
G24K	**Hadweenzic Riv**	**4.03**	**9**	P		**Pn**	**15 43 48.0**	**+0.6**
	baz=191							
EGAK	**Eagle**	**4.06**	**56**	P		**Pn**	**15 43 49.8**	**+1.8**
	baz=244							
CTGM	**Chitina Glacie**	**4.08**	**113**	IAML			15 45 02.5	
	comp=N,565nm,2.0s							
Q18K	**Koktuh Hills**	**4.14**	**228**			**Pn**	**15 43 51.2**	**+2.1**
YUK3	**Moose Creek**	**4.15**	**100**			**Pn**	**15 43 51.7**	**+2.4**
M17K	**Holitna River**	**4.16**	**255**			**Pn**	**15 43 49.7**	**+0.4**
M17K	**Holitna River**	**4.16**	**255**	IAML			15 45 01.9	
	comp=N,763nm,1.3s							
M17K				IAML			15 45 04.4	
	comp=E,718nm,0.9s							
K17K	**Iditarod**	**4.24**	**274**	IAML			15 45 06.9	
	comp=E,468nm,1.5s							
K17K				IAML			15 45 16.2	
	comp=N,509nm,1.1s							
H19K	**Roundabout Mou**	**4.27**	**314**	Pn		**Pn**	**15 43 51.2**	**+0.5**
H19K				IAML			15 45 08.2	
	comp=N,585nm,1.1s							
H19K				IAML			15 45 08.5	
	comp=E,651nm,0.8s							
LOGN	**Logan Glacier**	**4.29**	**113**			**Pn**	**15 43 52.7**	**+1.5**
LOGN	**Logan Glacier**	**4.29**	**113**	IAML			15 44 59.9	
	comp=N,520nm,1.1s							
LOGN				IAML			15 45 07.2	
	comp=E,563nm,1.0s							
Q19K	**Cape Douglas,**	**4.44**	**212**			**Pn**	**15 43 55.3**	**+2.2**
N17K	**Nushagak Hills**	**4.46**	**244**	IAML			15 45 19.1	
	comp=N,309nm,0.9s							
N17K				IAML			15 45 25.7	
	comp=E,405nm,1.1s							
DAWY	**Dawson**	**4.55**	**69**			**Pn**	**15 43 56.1**	**+1.4**
DAWY				IAML			15 45 14.4	
	comp=N,480nm,0.6s							
DAWY				IAML			15 45 15

comp=N,177nm,1.4s
I17K IAML 15 45 42.1
comp=E,224nm,1.1s
YUK6 Outpost Mounta 5.39 105 Pn Pn 15 44 07.8 +1.5
PNL Peninsula 5.61 119 Pn Pn 15 44 10.5 +1.4
M30M Minto, Yukon 5.67 86 Pn Pn 15 44 10.9 +0.9
K15K Wolf Creek Mou 5.79 271 Pn Pn 15 44 11.9 +0.4
H29M Whitestone 5.79 48 Pn Pn 15 44 11.5 -0.1
N15K Kwethluk River 5.88 249 Pn Pn 15 44 13.6 +0.7
OHAK Old Harbor 5.93 203 P Pn 15 44 14.4 +0.8
L14K Kuka Creek 6.55 264 Pn Pn 15 44 22.5 +0.5
D25K Kavik River 6.69 8 Pn Pn 15 44 25.3 +1.2
SII Sitkinak Islan 6.72 205 P Pn 15 44 25.4 +0.9
C21K Knifeblade Rid 6.84 343 Pn Pn 15 44 26.9 +0.8
G30M tAoh Zraii Nji 6.92 47 Pn Pn 15 44 27.1 -0.2
G15K Niukluk 6.98 295 Pn Pn 15 44 29.0 +1.1
C23K Itkillik River 7.15 356 Pn Pn 15 44 32.2 +2.0
C27K Jago River 7.24 15 Pn Pn 15 44 33.2 +1.8
C26K Camden Bay 7.39 11 Pn Pn 15 44 35.3 +1.7
F30M Barrier River 7.41 43 Pn Pn 15 44 34.4 +0.5
G31M Satah River 7.56 50 Pn Pn 15 44 35.1 -0.8
D28M Stokes Point 7.82 28 Pn Pn 15 44 40.9 +1.4
B20K Meade River 7.97 340 Pn Pn 15 44 42.3 +0.8
F14K Arctic Creek 8.02 297 Pn Pn 15 44 43.3 +1.0
BESE Bessie Mountai 8.13 115 Pn Pn 15 44 44.7 +0.9
INK Inuvik 8.51 42 Pn Pn 15 44 49.2 +0.3
INK Inuvik 8.51 42 Pn Pn 15 44 49.6 +0.7
comp=E,2.6nm,0.3s,baz=238,slow=16,SNR=38
INK Sn **Sn 15 46 23.5 -0.8**
comp=E,0.7nm,0.3s,baz=265,slow=17,SNR=1.7
INK Lg Lg 15 47 08.5
comp=E,0.9nm,0.3s,baz=184,slow=12,SNR=1.3
comp=E,15nm,0.5s
JIS Juneau Island 8.52 115 P Pn 15 44 50.8 +1.8
TNA Tin City 8.69 297 Pn Pn 15 44 52.5 +1.1
C16K Lisburne Hills 8.72 317 Pn Pn 15 44 52.9 +1.2
SIT Sitka 8.95 123 P Pn 15 44 57.4 +2.4
S34M Telegraph Cree 10.11 111 Pn Pn 15 45 12.3 +1.4
DLBC Dease Lake 10.30 106 Pn Pn 15 45 16.8 +3.2
comp=E,0.6nm,0.3s,baz=216,slow=25,SNR=3.9
DLBC Lg Lg 15 48 06.2
comp=E,0.6nm,0.3s,baz=9.6,slow=27,SNR=1.5
DLBC LR LR 15 49 36.1
comp=E,233nm,21.8s,baz=288,slow=39
comp=E,1.9nm,0.3s
T35M Bob Quinn 11.06 113 Pn Pn 15 45 25.6 +1.6
C36M Paulatuk 12.04 46 Pn Pn 15 45 36.0 -1.2
BBB Bella Bella 15.38 124 Pn Pn 15 46 25.0 +2.4
comp=E,0.2nm,0.3s,baz=338,slow=11,SNR=1.2
BBB LR LR 15 51 58.6
comp=E,119nm,18.8s,baz=297,slow=35
comp=E,6.6nm,1.1s
YKA Yellowknife Ar 15.75 76 Pn Pn 15 46 28.6 +1.3
comp=E,0.4nm,0.3s,baz=288,slow=11,SNR=11
YKA Lg Lg 15 51 00.0
baz=282,slow=29,SNR=1.3
YKA LR LR 15 53 03.2
comp=E,83nm,18.4s,baz=311,slow=39
comp=E,2.3nm,0.7s
BILL Bilibino 18.96 306 P P 15 47 06.9 +0.3
RES Resolute Bay 21.96 35 P P 15 47 38.3 -0.7
comp=E,1.8nm,0.6s,baz=245,slow=11,SNR=6.8
RES LR LR 15 57 13.8
comp=E,46nm,18.4s,baz=24,slow=39
comp=E,1.8nm,0.6s
NEW Newport 22.86 114 LR LR 15 55 59.6
comp=E,67nm,20.1s,baz=330,slow=34
I07A Izee 25.31 124 P P 15 48 13.1 +0.9
LYMT Lyon Mountain 25.93 110 P P 15 48 19.2 +1.4
SEY Seymchan 25.93 297 LR LR 15 58 47.8
comp=E,57nm,18.7s,baz=92,slow=37
YBH Yreka Blue Hor 26.18 131 LR LR 15 57 00.1
comp=E,72nm,20.4s,baz=321,slow=32
MA2 Magadan 28.26 291 LR LR 16 00 58.9
comp=E,31nm,19.7s,baz=97,slow=39
PETK Petropavlovsk- 29.02 276 LR LR 16 01 30.3
comp=E,38nm,18.5s,baz=69,slow=39
TIXI Tiksi 30.44 322 P P 15 48 56.7 -0.9
TIXI IAmb IAmb 15 48 57.5
comp=Z,3.3nm,0.6s
TIXI Tiksi 30.44 322 LR LR 16 03 57.5
comp=Z,50nm,18.1s,baz=92,slow=42
PDAR Pinedale Array 30.45 112 P P 15 49 00.8 +2.5
comp=Z,1.2nm,0.8s,baz=330,slow=5.6,SNR=7.4
PDAR LR LR 16 00 54.8
comp=Z,48nm,19.1s,baz=350,slow=36
comp=Z,1.2nm,0.8s
NVAR Mina Array Bea 30.67 128 P P 15 49 03.0 +2.8
comp=Z,0.9nm,0.8s,baz=303,slow=8.6,SNR=11
NVAR LR LR 16 02 19.4
comp=Z,22nm,19.0s,baz=330,slow=38
comp=Z,0.9nm,0.8s
RSSD Black Hills 31.77 105 P P 15 49 11.5 +1.6
RSSD IAmb IAmb 15 49 12.7
comp=Z,3.8nm,0.6s
CCUT Cedar City 33.30 122 P P 15 49 25.5 +2.1
CCUT IAmb IAmb 15 49 31.9
comp=Z,3.3nm,0.8s
KNB Kanab 33.98 122 P P 15 49 30.2 +1.0
KNB IAmb IAmb 15 49 40.6
comp=Z,6.6nm,0.9s
FRB Frobisher Bay 34.02 52 LR LR 16 04 07.3
comp=Z,27nm,19.9s,baz=262,slow=38
YAK Yakutsk 35.32 306 LR LR 16 05 37.7
comp=Z,67nm,19.0s,baz=319,slow=39
SUMG Summit 37.09 28 P P 15 49 56.6 +0.7
SUMG IAmb IAmb 15 49 57.1
comp=Z,5.0nm,0.6s
ESJX Sierra Juarez 37.27 130 IAmb IAmb 15 49 57.7
comp=Z,6.5nm,1.0s
ANMO Albuquerque 38.33 116 LR LR 16 05 38.6
comp=Z,59nm,18.8s,baz=64,slow=36
SPITS Spitsbergen Ar 39.03 5 P P 15 50 10.6 -1.1
comp=Z,1.7nm,0.5s,baz=8.8,slow=6.0,SNR=12
comp=Z,1.7nm,0.5s
SCHQ Schefferville 40.53 62 P P 15 50 25.0 +0.6
SCHQ IAmb IAmb 15 50 26.2
comp=Z,13nm,1.1s
SCHQ Schefferville 40.53 62 P P 15 50 24.8 +0.4
comp=Z,7.1nm,0.8s,baz=310,slow=7.4,SNR=11
comp=Z,7.1nm,0.8s
ASAJ Asahikawa 42.41 277 LR LR 16 11 50.4
comp=Z,22nm,18.0s,baz=4.5,slow=41
VHRN Van Horn 42.55 118 P P 15 50 43.2 +1.9
KLR Kul'dur 43.36 290 LR LR 16 08 57.9
comp=Z,16nm,18.1s,baz=140,slow=36
TX31 Lajitas Ar. Si 44.37 117 P P 15 50 57.4 +1.5
TXAR Lajitas Array 44.37 117 P P 15 50 58.0 +2.1
comp=Z,0.8nm,0.7s,baz=332,slow=6.4,SNR=11
TXAR LR LR 16 10 21.8
comp=Z,52nm,19.2s,baz=332,slow=37
comp=Z,0.8nm,0.7s
HEH HeiHe 44.43 294 eP P 15 50 54.8 -1.3
HEH pmax pmax
comp=E,5.0nm,1.0s
HEH pmax pmax
comp=E,110nm,5.0s
TRNY Table Rock, Ra 47.72 80 P P 15 51 21.9 -0.2
TKL Tuckaleechee C 47.79 93 LR LR 16 13 52.3
comp=Z,32nm,18.8s,baz=329,slow=39
ARCES ARCESS Array B 47.94 3 P P 15 51 22.1 -1.4
comp=Z,3.4nm,0.6s,baz=0.5,slow=7.3,SNR=13
ARCES PcP **PcP 15 52 50.5 -0.9**
comp=Z,6.0nm,1.0s,baz=349,slow=4.3,SNR=4.8
comp=Z,3.4nm,0.6s
MJAR Matsushiro Arr 50.47 274 P P 15 51 42.5 -0.7
comp=Z,1.0nm,0.7s,baz=2.6,slow=10,SNR=5.2
comp=Z,1.0nm,0.7s
KS19 Wonju Array Si 54.38 284 P P 15 52 11.9 -0.2
KS19 IAmb IAmb 15 52 13.6
comp=Z,4.8nm,0.8s
KSRS Korea Array 54.39 284 P P 15 52 12.7 +0.5
comp=Z,4.7nm,0.6s,baz=28,slow=7.1,SNR=35
KSRS PcP **PcP 15 53 16.1 +0.3**
comp=Z,0.9nm,0.7s,baz=26,slow=5.5,SNR=2.0
KSRS LR LR 16 15 57.1
comp=Z,18nm,18.9s,baz=125,slow=37
comp=Z,4.7nm,0.6s
KSAR Wonju Array Be 54.42 284 P P 15 52 12.3 -0.1
SONM Songino Array 54.67 307 P P 15 52 14.4 0.0
SONM Songino Array 54.67 307 P P 15 52 14.7 +0.4
comp=Z,1.6nm,0.6s,baz=31,slow=5.3,SNR=9.6
SONM PcP **PcP 15 53 16.3 -0.7**
comp=Z,0.4nm,0.5s,baz=20,slow=4.6,SNR=1.3
comp=Z,1.6nm,0.6s
NB2 NORSAR Subarra 55.63 11 P P 15 52 20.0 -0.9
comp=Z,0.5nm,0.6s,baz=350,slow=7.4
NOA NORSAR Array B 55.63 11 P P 15 52 19.4 -1.5
comp=Z,0.7nm,0.6s,baz=350,slow=7.2,SNR=3.7
NOA LR LR 16 17 36.7
comp=Z,7.9nm,18.6s,baz=285,slow=38
comp=Z,0.7nm,0.6s
FINES FINESS Array B 56.07 3 P P 15 52 23.8 -0.2
comp=Z,0.9nm,0.4s,baz=358,slow=8.0,SNR=16
comp=Z,0.9nm,0.4s
ZALV Zalesovo Beam 56.24 325 P P 15 52 24.4 -0.9
ZALV Zalesovo Beam 56.24 325 P P 15 52 24.2 -1.1
comp=Z,1.4nm,0.5s,baz=14,slow=7.3,SNR=6.4
ZALV LR LR 16 18 09.3
comp=Z,40nm,20.5s,baz=24,slow=38
comp=Z,1.4nm,0.5s
HFS Hagfors 56.74 10 P P 15 52 27.6 -1.2
comp=Z,1.7nm,0.7s,baz=0.0,slow=4.4,SNR=11
comp=Z,1.7nm,0.7s
HHC Hu-ho-hao-te 58.56 299 eP P 15 52 43.8 +1.8
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,74nm,5.3s
CMIG Matias Romero 58.88 115 LR LR 16 18 52.9
comp=Z,30nm,19.6s,baz=178,slow=37
ARU Arti 59.23 343 P P 15 52 45.5 -0.8
ARU Arti 59.23 343 LR LR 16 19 37.5
comp=Z,38nm,19.7s,baz=7.0,slow=37
EKA Eskdalemuir Ar 59.29 22 P P 15 52 46.8 +0.1
comp=Z,4.5nm,0.6s,baz=331,slow=5.4,SNR=17
comp=Z,4.5nm,0.6s
BRVK Borovoye 60.46 334 P P 15 52 53.9 -0.9
BVAR Borovoye Array 60.47 334 P P 15 52 54.0 -0.9
comp=Z,4.0nm,0.6s,baz=34,slow=7.7,SNR=22
BVAR LR LR 16 22 32.8
comp=Z,23nm,19.5s,baz=25,slow=40
comp=Z,4.0nm,0.6s
KURK Kurchatov 60.77 327 P P 15 52 55.6 -1.3
KURK IAmb IAmb 15 53 03.7
comp=Z,4.0nm,1.1s
KURBB Kurchatov Arra 60.88 327 P P 15 52 56.5 -1.1
comp=Z,1.0nm,0.5s,baz=28,slow=7.2,SNR=12
KURBB PcP **PcP 15 53 39.7 -1.4**
comp=Z,1.3nm,0.8s,baz=24,slow=4.7,SNR=5.7
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 63.41 323 P P 15 53 13.2 -1.6
comp=Z,1.5nm,0.5s,baz=49,slow=7.3,SNR=17
comp=Z,1.5nm,0.5s
GTA Gaotai 64.35 307 eP P 15 53 21.3 +0.1
GTA pP sP 15 53 28.0 -1.3
GTA pmax pmax
comp=Z,4.0nm,1.0s
ABKAR Akbulak array 65.99 340 P P 15 53 30.7 -0.8
AKASG Malin Array Be 66.89 1 P P 15 53 36.4 -0.8
comp=Z,0.9nm,0.4s,baz=358,slow=5.9,SNR=5.1
AKASG LR LR 16 26 28.0
comp=Z,16nm,18.1s,baz=359,slow=39
comp=Z,0.9nm,0.4s
GERES GERESS Array B 67.91 12 P P 15 53 43.6 -0.2
comp=Z,0.6nm,0.5s,baz=0.0,slow=8.0,SNR=2.9
comp=Z,0.6nm,0.5s
GOMU GeErMu 69.01 309 P P 15 53 49.8 -1.5
GOMU pP pP 15 53 54.8 -2.5
GOMU sP sP 15 53 57.3 -2.1
GOMU pmax pmax
comp=Z,8.0nm,0.8s
KSH Kashi 71.88 325 P P 15 54 10.8 +2.4
KSH pmax pmax
comp=Z,4.0nm,0.7s
KBZ Khabaz 73.44 351 LR LR 16 29 50.5
comp=Z,23nm,19.6s,baz=188,slow=38
ESDC Sonseca Array 74.15 27 P P 15 54 22.2 +0.4
comp=Z,3.7nm,0.8s,baz=342,slow=7.0,SNR=16
ESDC LR LR 16 29 05.9
comp=Z,25nm,18.6s,baz=166,slow=37
comp=Z,3.7nm,0.8s
SIMJ Simiganj 74.42 330 P P 15 54 22.2 -1.3
PZH PanZhiHua 75.02 299 P P 15 54 28.0 +0.9
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
GEYT Alibeck 77.31 338 P P 15 54 39.5 -0.3
comp=Z,2.2nm,0.7s,baz=316,slow=4.1,SNR=4.2
comp=Z,2.2nm,0.7s
BRTR Keskin Array B 77.85 358 P P 15 54 43.1 +0.1
comp=Z,0.3nm,0.5s,baz=7.5,slow=7.7,SNR=2.3
comp=Z,0.3nm,0.5s
PCRV Puerto La Cruz 78.48 90 LR LR 16 32 40.5
comp=Z,19nm,18.1s,baz=38
PPT2 Papeete2 80.07 180 eLR LR 16 19 45.5
comp=Z,47nm,23.0s
CMAR Chiang Mai Arr 83.35 298 P P 15 55 12.0 -0.6
comp=Z,1.8nm,0.8s,baz=2.4,slow=5.3,SNR=10.0
CMAR LR LR 16 37 20.6
comp=Z,20nm,18.2s,baz=200,slow=39
comp=Z,1.8nm,0.8s
TBI Tubuai 85.80 180 eLR LR 16 22 35.8
comp=Z,157nm,24.8s
BOSA Boshof 145.66 9 PKPbc PKPdf 16 02 23.6 0.0
comp=Z,2.6nm,0.4s,baz=4.1,slow=3.2,SNR=11
QSPA South Pole Qui 152.56 180 PKPbc PKiKP 16 02 40.8 +0.3
comp=Z,1.9nm,0.5s,baz=217,slow=0.5,SNR=20

*NEIC **29** 15:53:34.7±2.0, 12.°85S±0.°08×45.°55E±0.°07, h10km±1km, mb4.7/8, Error ellipse: s-maj=13.2km s-min=10.7km az=167.0*
*IDC **29** 15:53:34.7±0.8, 13.°09S×45.°54E, h0km, mb3.8/10, mbtmp3.9/13, ML4.4/3, MS3.5/8, Error ellipse: s-maj=22.5km s-min=20.6km az=92.0*
ISC 29 15:53:34.2±0.5, 12.°91S±0.°06×45.°53E±0.°07, h10km, n36, σ2§39/34, mb3.9/12, MS3.4/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.85**	**164**		**Pn**	**15 55 02.2**	**+0.9**
	3.5nm,0.3s,baz=336,slow=12,SNR=45						
OPO				Sn	**Sn**	**15 56 02.8**	**-5.7**
	14nm,0.3s,baz=350,slow=14,SNR=9.9						
	79nm,0.4s						
ABPO	**Ambohimpanom**	**6.29**	**165**		**Pn**	**15 55 07.7**	**+0.5**
VOI	**Vohitsoka**	**9.03**	**173**	Pn	**Pn**	**15 55 45.0**	**+0.2**
RER	**Riviere de l'E**	**12.75**	**131**		**Pn**	**15 56 34.1**	**-1.7**
MSEY	**Mahe Island**	**12.78**	**51**	Pn	**Pn**	**15 56 31.9**	**-4.4**
KIBK	**Kibwezi**	**12.85**	**324**		**Pn**	**15 56 34.3**	**-2.9**
KIBK	**Kibwezi**	**12.85**	**324**	*eP*	**Pn**	**15 56 34.6**	**-2.7**
KIBK				eS	Sn	15 58 50.2	-10
KMBO	**Kilima Mbogo**	**14.30**	**324**	Pn	**Pn**	**15 56 55.3**	**-1.8**
KMBO	**Kilima Mbogo**	**14.30**	**324**	*eP*	**Pn**	**15 56 54.4**	**-2.7**
KMBO				eS	**Sn**	**15 59 30.4**	**-5.6**
LSZ	**Lusaka**	**16.99**	**260**	P	**P**	**15 57 34.3**	**+0.1**
MATP	**Matopo**	**17.94**	**243**	P	**P**	**15 57 46.2**	**+1.5**
	0.3nm,0.3s,baz=59,slow=14,SNR=7.9						
MATP				S	**Sn**	**16 01 00.3**	**-4.1**
	1.3nm,0.6s,baz=315,slow=15,SNR=2.3						
	4.9nm,0.9s						
ROCAM	**Rodrigues Isla**	**18.41**	**114**	P	**Pn**	**15 57 49.5**	**-0.2**
ROCAM				IAmb	IAmb	15 58 00.7	
	comp=Z,144nm,1.2s						
MBAR	**Mbarara**	**19.09**	**309**	P	**Pn**	**15 58 01.0**	**+2.8**
	comp=Z,1.4nm,0.3s,baz=115,slow=13,SNR=6.0						
MBAR				LR	LR	16 05 14.8	
	comp=Z,76nm,18.0s,baz=130,slow=36						
	comp=Z,3.8nm,0.2s						
LODK	**Lodwar**	**19.11**	**327**	*eP*	**Pn**	**15 57 58.1**	**-0.3**
LBTB	**Lobatse**	**22.34**	**234**	P	**P**	**15 58 32.3**	**-0.1**
LBTB				IAmb	IAmb	15 58 39.8	
	comp=Z,12nm,0.8s						
LBTB	**Lobatse**	**22.34**	**234**	LR	LR	16 07 35.3	
	comp=Z,60nm,18.2s,baz=56,slow=38						
BOSA	**Boshof**	**24.51**	**227**	P	**P**	**15 58 54.9**	**+0.8**
BOSA				IAmb	IAmb	15 59 07.7	
	comp=Z,18nm,1.2s						
BOSA	**Boshof**	**24.51**	**227**	P	**P**	**15 58 55.4**	**+1.3**
	comp=Z,5.2nm,0.6s,baz=50,slow=7.9,SNR=7.5						
BOSA				LR	LR	16 08 31.5	
	comp=Z,126nm,19.0s,baz=35,slow=37						
	comp=Z,5.2nm,0.6s						
TSUM	**Tsumeb**	**27.56**	**253**	LR	LR	16 10 01.0	
	comp=Z,101nm,18.0s,baz=80,slow=36						
SUR	**Sutherland**	**29.80**	**225**	P	**P**	**15 59 41.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**50.59**	**299**	P	**P**	**16 02 35.6**	**+2.0**
	comp=Z,1.7nm,1.1s,baz=116,slow=6.6,SNR=4.2						
TORD				LR	LR	16 24 55.9	
	comp=Z,50nm,20.4s,baz=163,slow=37						
	comp=Z,1.7nm,1.1s						
IDI	**Anoyia**	**51.77**	**338**	P	**P**	**16 02 42.4**	**+0.1**
GEYT	**Alibeck**	**51.93**	**13**	P	**P**	**16 02 45.5**	**+2.2**
	comp=Z,1.0nm,0.7s,baz=232,slow=7.1,SNR=1.7						
	comp=Z,1.0nm,0.7s						
BRTR	**Keskin Array B**	**53.52**	**349**	P	**P**	**16 02 56.7**	**+1.5**
	comp=Z,0.5nm,0.7s,baz=191,slow=7.0,SNR=2.4						
BRTR				LR	LR	16 24 43.5	
	comp=Z,35nm,19.1s,baz=111,slow=35						
	comp=Z,0.5nm,0.7s						
DBIC	**Dimbokro**	**53.71**	**288**	LR	LR	16 26 23.9	
	comp=Z,46nm,18.8s,baz=134,slow=37						
KKAR	**Karatay Array**	**60.25**	**21**	P	**P**	**16 03 42.3**	**-0.5**
BURAR	**Bucovina Array**	**62.92**	**345**	P	**P**	**16 04 00.9**	**+0.1**
ABKAR	**Akbulak array**	**63.19**	**11**	P	**P**	**16 04 02.7**	**+0.3**
MKAR	**Makanchi Array**	**67.95**	**26**	P	**P**	**16 04 37.6**	**+4.3**
	comp=Z,0.9nm,0.8s,baz=217,slow=4.5,SNR=5.6						
	comp=Z,0.9nm,0.8s						
BVAR	**Borovoye Array**	**69.05**	**16**	P	P	16 04 44.8	+4.8
	comp=Z,0.6nm,0.6s,baz=212,slow=5.3,SNR=3.6						
	comp=Z,0.6nm,0.6s						
KURBB	**Kurchatov Arra**	**69.53**	**22**	P	P	16 04 47.6	+4.7
	comp=Z,0.2nm,0.5s,baz=224,slow=6.5,SNR=2.1						
	comp=Z,0.2nm,0.5s						
ESDC	**Sonseca Array**	**69.66**	**321**	P	**P**	**16 04 46.3**	**+2.2**
	comp=Z,0.8nm,0.8s,baz=132,slow=6.6,SNR=4.7						
	comp=Z,0.8nm,0.8s						
PSA00	**Pilbara Seismi**	**70.94**	**109**	P	**P**	**16 04 52.4**	**0.0**
PSA00				IAmb	IAmb	16 04 56.9	
	comp=Z,18nm,1.5s						
ASAR	**Alice Springs**	**83.45**	**113**	P	**P**	**16 06 03.5**	**+0.8**
	comp=Z,0.8nm,0.7s,baz=260,slow=4.8,SNR=15						
ASAR				LR	LR	16 38 25.0	
	comp=Z,47nm,18.7s,baz=231,slow=32						
	comp=Z,0.8nm,0.7s						
WRA	**Warramunga Arr**	**84.58**	**109**	P	**P**	**16 06 09.2**	**+0.7**
	comp=Z,0.5nm,0.8s,baz=271,slow=3.3,SNR=2.7						
	comp=Z,0.5nm,0.8s						
TXAR	**Lajitas Array**	**147.09**	**305**	PKPbc	**PKPab**	**16 13 19.9**	**+0.1**
	comp=Z,0.3nm,0.9s,baz=99,slow=5.8,SNR=4.1						

IDC 29 15:55:36.3±1.4, 10.°62S×166.°16E, h0km, mb3.9/4, mbtmp3.9/5, ML3.1/1, MS3.5/9, Error ellipse: s-maj=54.7km s-min=25.9km az=137.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**11.39**	**179**	Pn	Pn	15 58 20.6	+0.1
	0.1nm,0.3s,baz=22,slow=19,SNR=1.2						
DZM				Sn	Sn	16 00 21.8	-6.9
	0.2nm,0.3s,baz=93,slow=16,SNR=1.0						
DZM				LR	LR	16 02 23.5	
	comp=Z,168nm,18.7s,baz=1.5,slow=36						
	3.4nm,0.7s						
H11S2	**WAKE ISLAND Hy 28.93**	**1**		T	T	16 32 05.6	
	baz=181,slow=76,SNR=9.8						
H11S3	**WAKE ISLAND Hy 28.93**	**1**		T	T	16 32 00.6	
	baz=181,slow=76,SNR=12						
H11S1	**WAKE ISLAND Hy 28.95**	**1**		T	T	16 32 00.5	
	baz=181,slow=76,SNR=8.4						
H11N1	**WAKE ISLAND Hy 30.15**	**1**		T	T	16 33 37.5	
	baz=182						
H11N3	**WAKE ISLAND Hy 30.15**	**1**		T	T	16 33 38.1	
	baz=182						
H11N2	**WAKE ISLAND Hy 30.17**	**1**		T	T	16 33 40.6	
	baz=182						
STKA	**Stephens Creek**	**31.03**	**223**	LR	LR	16 13 27.0	
	comp=Z,86nm,19.6s,baz=15,slow=34						
WRA	**Warramunga Arr**	**32.01**	**249**	P	P	16 02 05.0	+0.2
	2.8nm,1.0s,baz=81,slow=8.9,SNR=8.0						
	2.8nm,1.0s						
ASAR	**Alice Springs**	**33.34**	**243**	P	P	16 02 16.1	-0.3
	1.5nm,0.8s,baz=69,slow=9.7,SNR=18						
ASAR				LR	LR	16 14 50.8	
	comp=Z,84nm,19.1s,baz=99,slow=35						
	1.5nm,0.8s						
NWAO	**Narrogin (SRO)**	**50.03**	**236**	LR	LR	16 25 50.6	
	comp=Z,103nm,18.2s,baz=224,slow=36						
SEY	**Seymchan**	**74.10**	**353**	LR	LR	16 36 24.1	
	comp=Z,14nm,19.2s,baz=130,slow=33						
KDAK	**Kodiak Island**	**76.04**	**21**	LR	LR	16 34 10.8	
	comp=Z,20nm,19.8s,baz=195,slow=30						
ILAR	**Eielson Array**	**82.98**	**18**	P	P	16 08 03.0	0.0
	0.7nm,0.8s,baz=228,slow=5.7,SNR=6.9						
	0.7nm,0.8s						
BBB	**Bella Bella**	**84.00**	**34**	LR	LR	16 39 09.0	
	comp=Z,30nm,18.5s,baz=280,slow=31						
NVAR	**Mina Array Bea**	**85.44**	**50**	P	P	16 08 16.4	0.0
	0.3nm,0.5s,baz=225,slow=7.5,SNR=1.8						
NVAR				LR	LR	16 38 32.7	
	comp=Z,36nm,20.0s,baz=248,slow=30						
	0.3nm,0.5s						
PFO	**Pinyon Flats O**	**85.51**	**55**	LR	LR	16 38 48.9	
	comp=Z,20nm,19.1s,baz=130,slow=30						

*UPA **29** 16:04:29.1±1.7, 5.°33N×82.°57W, h0km±24km, ML4.4, MW4.5*
*UCR **29** 16:04:32.6±1.6, 5.°29N×82.°73W, h36km±93km, MW3.6*
*RSNC **29** 16:04:41.1±0.0, 6.°1N±7.°7×8.°2W±.°, h9km±15km, M3.8, mB5.0, mb4.2, ML2.8, Mw(mB)4.3, MwMwp5.7, Mwp5.8*
ISC 29 16:04:28.6±2.0, 5.°2N±0.°1×82.°65W±0.°08, h12km, n68, σ1§44/90, 3C-2D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
CACAO	**El Cacao, Vera**	**2.79**	**40**	*eP*	**Pn**	**16 05 12.4**	**-0.7**
CACAO				AMP		16 05 15.0	
	comp=Z,2µm,0.1s						
CACAO				eS	**Sn**	**16 05 44.5**	**-2.1**
CACAO	**El Cacao, Vera**	**2.79**	**40**	P	**Pn**	**16 05 12.2**	**-0.9**
CACAO				S	**Sn**	**16 05 43.7**	**-2.9**
GMAL	**Guarumal, Vera**	**2.92**	**29**	*eP*	**Pn**	**16 05 14.4**	**-0.6**
GMAL				AMP		16 05 15.3	
	comp=Z,311nm,0.1s						
GMAL				eS	**Sn**	**16 05 48.5**	**-1.5**
GMAL	**Guarumal, Vera**	**2.92**	**29**	P	**Pn**	**16 05 14.2**	**-0.7**
GMAL				S	**Sn**	**16 05 47.0**	**-3.0**
PTPM	**Petroterminale**	**3.00**	**356**	*eP*	**Pn**	**16 05 15.2**	**-0.8**
PTPM				eS	**Sn**	**16 05 51.6**	**-0.4**
PIRO	**Carate, Puerto**	**3.27**	**348**	*eP*	**Pn**	**16 05 19.4**	**-0.3**
PIRO				eS	**Sn**	**16 05 57.7**	**-0.8**
PIRO	**Carate, Puerto**	**3.27**	**348**	*eP*	**Pn**	**16 05 19.2**	**-0.5**
PTJ1	**Puerto Jimnez**	**3.39**	**349**	*eP*	**Pn**	**16 05 21.4**	**+0.1**
PTJ1				eS	**Sn**	**16 06 02.1**	**+0.6**
AZU	**Azuero**	**3.50**	**42**	*eP*	**Pn**	**16 05 22.9**	**-0.1**
AZU				eS	**Sn**	**16 06 02.5**	**-1.8**
AZU	**Azuero**	**3.50**	**42**	P	**Pn**	**16 05 22.8**	**-0.1**
AZU				S	**Sn**	**16 06 02.0**	**-2.4**
AZU	**Azuero**	**3.50**	**42**	*eP*	**Pn**	**16 05 22.8**	**-0.1**
BCO2	**Palmira**	**3.51**	**2**	*eP*	**Pn**	**16 05 23.2**	**0.0**
BCO2				AMP		16 05 24.0	
	comp=Z,2µm,0.2s						
BCO2				eS	**Sn**	**16 06 04.2**	**-0.6**
CHIT3	**Chitre**	**3.53**	**39**	*eP*	**Pn**	**16 05 23.6**	**+0.2**
CHIT3				eS	**Sn**	**16 06 04.3**	**-0.9**
BRU2	**Volcan**	**3.58**	**359**	*eP*	**Pn**	**16 05 23.8**	**-0.3**
BRU2				AMP		16 05 25.2	
	comp=Z,528nm,0.1s						
BRU2				eS	**Sn**	**16 06 06.2**	**-0.4**
OCHAL	**Ojochal**	**4.01**	**346**	*eP*	**Pn**	**16 05 29.5**	**-0.4**
SRBA	**San Rafael, Bu**	**4.08**	**350**	*eP*	**Pn**	**16 05 31.1**	**+0.1**
DRK0	**Durika**	**4.09**	**352**	*eP*	**Pn**	**16 05 31.5**	**+0.3**
DRK0				eS	**Sn**	**16 06 19.1**	**-0.1**
DRK0	**Durika**	**4.09**	**352**	*eP*	**Pn**	**16 05 31.4**	**+0.2**
PEZE	**Perez Zeledon,**	**4.29**	**346**	*eP*	**Pn**	**16 05 34.4**	**+0.5**
CDM	**Cerro de Muert**	**4.47**	**346**	*iP*	**Pn**	**16 05 37.3**	**+0.5**
CDM				eS	**Sn**	**16 06 27.2**	**-1.8**
ABE2	**San Pablo**	**4.70**	**343**	*eP*	**Pn**	**16 05 40.0**	**+0.4**
LCR2	**La Lucha 2**	**4.72**	**344**	*eP*	**Pn**	**16 05 40.1**	**+0.3**
ACOS	**Acosta**	**4.82**	**342**	*eP*	**Pn**	**16 05 41.4**	**+0.2**
BCIP	**Isla Barro Col**	**4.84**	**35**	*eP*	**Pn**	**16 05 42.5**	**+1.1**
BCIP				AMP		16 05 43.8	
	comp=Z,554nm,0.2s						
BCIP				eS	**Sn**	**16 06 36.7**	**-0.7**
BCIP	**Isla

VTLO	**VTLO**	**4.94**	**348**	*eP*	**Pn**	**16 05 43.8**	**+0.8**
LCOCO	**El Coco**	**4.95**	**350**	*eP*	**Pn**	**16 05 44.9**	**+2.1**
CVIMO	**Finca Echandi**	**4.97**	**345**	*eP*	**Pn**	**16 05 44.3**	**+0.9**
GR1C	**Gorgona, Isla**	**4.97**	**116**	P	**Pn**	**16 05 41.8**	**-1.4**
GR1C				S	**Sn**	**16 06 35.5**	**-5.2**
CBL1	**Cabuya**	**5.00**	**331**	*eP*	**Pn**	**16 05 43.4**	**-0.1**
HDC	**Heredia**	**5.00**	**343**	*eP*	**Pn**	**16 05 44.6**	**+1.0**
HDC3	**Heredia 3**	**5.00**	**343**	*eP*	**Pn**	**16 05 44.6**	**+1.0**
PTAC	**Punta Ardita,**	**5.19**	**68**	P	**Pn**	**16 05 47.9**	**+1.7**
PTAC				S	**Sn**	**16 06 43.0**	**-3.1**
RIFO	**Rio Frio, Sara**	**5.25**	**346**	*eP*	**Pn**	**16 05 49.2**	**+2.2**
CPMI	**Catarata Coope**	**5.34**	**341**	*eP*	**Pn**	**16 05 48.9**	**+0.4**
INDI	**Punta indio, G**	**5.44**	**329**	*eP*	**Pn**	**16 05 49.4**	**-0.2**
SOCE	**Pocosol**	**5.52**	**339**	*eP*	**Pn**	**16 05 51.5**	**+0.9**
CMARA	**Lajas Hojancha**	**5.53**	**330**	*eP*	**Pn**	**16 05 50.6**	**-0.3**
JTS	**Las Juntas de**	**5.56**	**336**	*eP*	**Pn**	**16 05 51.6**	**+0.4**
JTS				*eS*	**Sn**	**16 06 55.0**	**-0.2**
JTS	**Las Juntas de** comp=Z,31nm,0.5s,comp=Z,1µm	**5.56**	**336**	P	**Pn**	**16 05 51.6**	**+0.4**
JTS	comp=Z,31nm,0.5s,comp=Z,1µm			S	**Sn**	**16 06 55.1**	**0.0**
JTS	**Las Juntas de**	**5.56**	**336**	*eP*	**Pn**	**16 05 51.6**	**+0.4**
VACR	**Volcan Arenal**	**5.62**	**339**	*eP*	**Pn**	**16 05 53.8**	**+1.7**
ARE1	**Arenal 1**	**5.62**	**339**	*eP*	**Pn**	**16 05 53.0**	**+0.8**
CEDE	**Laguna Cedeo**	**5.64**	**339**	*eP*	**Pn**	**16 05 53.9**	**+1.5**
JUD3	**Juan Diaz 3**	**5.71**	**330**	*eP*	**Pn**	**16 05 53.3**	**-0.1**
COVE	**Coope Vega, Sa**	**5.76**	**343**	*eP*	**Pn**	**16 05 55.3**	**+1.3**
ORTG	**Ortega, Santa**	**5.84**	**332**	*eP*	**Pn**	**16 05 55.1**	**-0.1**
TENO	**El Achiote**	**5.94**	**337**	*eP*	**Pn**	**16 05 57.1**	**+0.5**
CUI	**Cuipilapa**	**5.98**	**336**	*eP*	**Pn**	**16 05 57.8**	**+0.8**
VMAR	**Armenia, Volca**	**6.10**	**337**	*eP*	**Pn**	**16 05 58.4**	**-0.3**
VRLE	**La Escondida,**	**6.18**	**334**	*eP*	**Pn**	**16 06 02.1**	**+2.3**
HZTE	**Horizontes, Gu**	**6.21**	**332**	*eP*	**Pn**	**16 06 02.4**	**+2.1**
BBAC	**Balboa, Cauca** comp=Z,5.3nm,0.8s	**6.25**	**120**	P	**Pn**	**16 06 02.4**	**+1.5**
JAMC	**Jamundi, Valle** comp=Z,7.0nm,0.6s	**6.28**	**108**	P	**Pn**	**16 06 02.4**	**+1.1**
PLMC	**San Jos del P** comp=Z,11nm,1.1s	**6.35**	**92**	P	**Pn**	**16 06 03.2**	**+1.0**
PLMC	comp=Z,11nm,1.1s			S	**Sn**	**16 07 12.5**	**-2.3**
YOTC	**Yotoco, Valle** comp=Z,17nm,0.7s	**6.40**	**101**	P	**Pn**	**16 06 04.0**	**+1.1**
POPC	**Popayan, Colom** comp=Z,6.0nm,1.1s	**6.52**	**114**	P	**Pn**	**16 06 08.3**	**+3.7**
APAC	**Apartado, Choc** comp=Z,25nm,0.6s	**6.61**	**66**	P	Pn	16 06 10.8	+5.2
APAC	comp=Z,25nm,0.6s			S	**Sn**	**16 07 24.3**	**+3.3**
ACON	**Acoyapa** comp=Z,20nm,0.8s	**7.18**	**340**	P	**Pn**	**16 06 13.9**	**+0.4**
PRAC	**Prado**	**7.88**	**100**	P	**Pn**	**16 06 25.8**	**+2.6**
PRAC				S	**Sn**	**16 07 52.3**	**-0.1**

IDC ***29*** *16:10:15.8±2.0,29˚96S×177˚95W,h68km±32km,mb3.6/4, mbtmp3.9/4,Error ellipse: s-maj=57.0km s-min=32.0km az=34.0*

ISC 29 16:10:14.6±1.5,30˚1S±0˚1×178˚0W±0˚3,h50km,n9, σ0.99/7,mb3.9/4,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.86**	**5**	P	**Pn**	**16 10 30.0**	**-0.5**
	239nm,0.2s,baz=58,slow=21,SNR=1.4						
RAO				S	**Sn**	**16 10 43.2**	**+1.1**
	619nm,0.3s,baz=83,slow=16,SNR=9.1						
STKA	**Stephens Creek**	**34.54**	**257**	P	**P**	**16 16 59.0**	**+0.7**
	1.8nm,0.6s,baz=96,slow=9.8,SNR=2.9 1.8nm,0.6s						
ASAR	**Alice Springs**	**43.12**	**267**	P	**P**	**16 18 09.9**	**-0.4**
	0.4nm,0.5s,baz=103,slow=7.5,SNR=20 0.4nm,0.5s						
WRA	**Warramunga Arr**	**44.08**	**272**	P	**P**	**16 18 17.6**	**-0.4**
	1.0nm,0.4s,baz=111,slow=8.0,SNR=19 1.0nm,0.4s						
QSPA	**South Pole Qui**	**60.00**	**180**	P	**P**	**16 20 16.4**	**+0.5**
	1.1nm,1.0s,baz=45,slow=4.3,SNR=6.9 1.1nm,1.0s						
H03S2	**Juan Fernandez**	**80.63**	**124**	T	T	17 51 24.2	
	baz=238,slow=75,SNR=4.2						
H03S1	**Juan Fernandez**	**80.64**	**124**	T	T	17 51 22.2	
	baz=238,slow=75,SNR=3.9						
H03S3	**Juan Fernandez**	**80.65**	**124**	T	T	17 51 24.7	
	baz=238,slow=75,SNR=3.9						
FINES	**FINESS Array B**	**144.87**	**340**	PKP	**PKPab**	**16 29 43.3**	**-1.2**
	2.2nm,0.8s,baz=29,slow=4.4,SNR=5.7						

OMAN 29 16:53:09.3±1.3,23˚28N×64˚44E,h43km±118km,mb4.0/7, ml3.7/2,Error ellipse: s-maj=19.0km s-min=11.5km az=126.0,Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JLN	**Jalan Bani Buh** SNR=24	**4.78**	**257**	P	Pn	16 54 18.7	-0.2
JLN				S	Sn	16 55 13.6	+0.6
WBK	**Wadi Bani Khal** SNR=14	**5.09**	**264**	P	Pn	16 54 23.0	-0.1
WBK				S	Sn	16 55 19.8	-0.8
BIDO	**Bidbid**	**5.81**	**274**	P	Pn	16 54 34.4	+1.4
BIDO				S	Sn	16 55 39.5	+1.2
SMDO	**Samad**	**5.89**	**269**	P	Pn	16 54 33.3	-0.8
SMDO				S	Sn	16 55 41.1	+0.7
JMDO	**Jabal Madar** SNR=29	**5.92**	**262**	P	Pn	16 54 35.5	+1.0
JMDO	SNR=6.2			S	Sn	16 55 41.7	+0.6
MHTO	**MHTO**	**6.42**	**250**	P	Pn	16 54 40.9	-0.5
MHTO				S	Sn	16 55 54.9	+1.5
JASK	**Jask - Hormozg**	**6.52**	**295**	P	Pn	16 54 41.4	-1.3
HOQ	**Hoqain**	**6.56**	**274**	P	Pn	16 54 42.0	-1.3
HOQ				S	Sn	16 55 58.6	+1.8
BSY	**Bisya**	**6.69**	**267**	P	Pn	16 54 44.9	-0.3
ARQ	**Araqi**	**7.28**	**272**	P	Pn	16 54 54.6	+1.4
ARQ				S	Sn	16 56 13.7	-0.9
SOHO	**SOHO**	**7.30**	**278**	P	Pn	16 54 52.2	-1.1
MDH	**Madha**	**7.70**	**287**	P	Pn	16 54 58.5	-0.3
UOSS	**Minazif**	**7.71**	**284**	P	Pn	16 54 58.7	-0.3
UOSS				S	Sn	16 56 27.0	+1.9
ASHO	**Ashiyiah** SNR=6.5	**7.79**	**282**	P	Pn	16 55 02.0	+1.7
ASHO				S	Sn	16 56 26.5	-0.7
UMZA	**Um Al Zommool**	**8.57**	**268**	P	Pn	16 55 11.3	+0.5
UMZA				S	Sn	16 56 46.3	+0.1

IDC ***29*** *17:21:34.3±0.6,29˚01N×142˚67E,h0km,mb4.1/22, mbtmp4.1/28,ML3.2/5,MS3.4/19,Error ellipse: s-maj=18.3km s-min=15.0km az=62.0*

BJI ***29*** *17:21:35.2±0.0,28˚93N×142˚43E,h15km,mb4.4/22, mB4.5/7,Ms3.9/1,Ms7 3.6/2*

MOS ***29*** *17:21:36.1±1.0,29˚00N×142˚45E,h18km,mb4.6/24,Error ellipse: s-maj=11.5km s-min=5.5km az=119.4*

NEIC ***29*** *17:21:39.3±1.1,28˚99N±0˚05×142˚5E±0˚1,h26km±5km, mb4.6/84,Error ellipse: s-maj=15.4km s-min=6.8km az=85.0*

ISC 29 17:21:36.9±1.0,28˚98N±0˚04×142˚48E±0˚07,h15km±5km, n194,σ1.916/194,mb4.5/80,MS3.5/15,6C-7D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**1.90**	**188**		**Pn**	**17 22 08.7**	**0.0**
JCJ				Sn	**Sn**	**17 22 30.8**	**-1.5**
JCJ	**Chichijima** 21nm,0.3s,baz=9.6,slow=21,SNR=15	**1.90**	**188**	Pn	Pn	17 22 04.4	-4.3
JCJ	54nm,0.3s,baz=28,slow=22,SNR=19			Sn	**Sn**	**17 22 26.4**	**-5.9**
JHJ2	**Mitsune**	**4.71**	**332**	Pn	**Pn**	**17 22 44.4**	**-3.0**
JHJ	**Hachijo jima 2** 2.9nm,0.3s,baz=340,slow=6.7,SNR=2.5	**4.73**	**331**	Pn	**Pn**	**17 22 45.9**	**-1.7**
JHJ	12nm,0.3s,baz=62,slow=22,SNR=2.0			Sn	**Sn**	**17 23 41.3**	**-0.9**
JHJ	comp=Z,321nm,18.5s,baz=214,slow=39 106nm,0.8s			LR	LR	17 24 38.4	
INU	**Inuyama**	**7.86**	**325**	Pn	**Pn**	**17 23 30.3**	**-0.3**
JGF	**Kuroka**	**7.89**	**328**	Pn	**Pn**	**17 23 31.4**	**+0.2**
MJA0	**Matsu Arr-Jizo**	**8.34**	**336**	*eP*	**Pn**	**17 23 38.0**	**+0.7**
MJAR	**Matsushiro Arr** 0.4nm,0.3s,baz=160,slow=11,SNR=56	**8.35**	**336**	Pn	**Pn**	**17 23 37.1**	**-0.4**
MJAR	baz=310,slow=33 6.0nm,0.6s			Sn	**Sn**	**17 25 09.6**	**-1.8**
MAJO	**Matsushiro**	**8.35**	**336**		**Pn**	**17 23 37.3**	**-0.1**
MAJO	**Matsushiro**	**8.35**	**336**	*deP*	**Pn**	**17 23 38.1**	**+0.6**
MJB9	**Matsu-Tunnel**	**8.36**	**336**		**Pn**	**17 23 37.7**	**+0.1**
JMM	**Marumori**	**8.97**	**351**		**Pn**	**17 23 42.2**	**-3.7**
JNU	**Nakatsue** 0.1nm,0.3s,baz=67,slow=10.0,SNR=1.7	**10.77**	**295**	Pn	**Pn**	**17 24 11.4**	**+0.8**
JNU	comp=Z,150nm,18.9s,baz=127,slow=36 7.7nm,1.1s			LR	LR	17 28 06.3	
JOW	**Kunigami** 2.4nm,0.7s,baz=114,slow=29,SNR=2.0	**12.74**	**264**	Pn	**Pn**	**17 24 38.6**	**+1.0**
JOW	comp=Z,116nm,20.6s,baz=77,slow=35			LR	LR	17 29 01.8	
ERM	**Erimo**	**13.02**	**2**	Pn	Pn	17 24 34.5	-6.7
ERM	**Erimo**	**13.02**	**2**	*eP*	**Pn**	**17 24 39.0**	**-2.2**
KSRS	**Korea Array** 0.3nm,0.3s,baz=115,slow=12,SNR=24	**14.81**	**309**	Pn	**Pn**	**17 25 08.1**	**+2.3**
KSRS	comp=Z,97nm,19.8s,baz=120,slow=36 2.5nm,0.8s			LR	LR	17 30 33.2	
KSAR	**Wonju Array Be**	**14.83**	**308**	Pn	**Pn**	**17 25 06.5**	**+0.5**
KSAR	**Wonju Array Be**	**14.83**	**308**	P	**P**	**17 25 06.6**	**+0.5**
KS19	**Wonju Array Si**	**14.87**	**309**		**Pn**	**17 25 07.0**	**+0.3**
JKA	**Kamikawa-asahi**	**15.11**	**0**	Pn	**Pn**	**17 25 07.2**	**-2.5**
ASAJ	**Asahikawa** comp=Z,105nm,21.2s,baz=168,slow=42	**15.11**	**0**	LR	LR	17 32 11.7	
ASAJ	**Asahikawa**	**15.11**	**0**	P	**Pn**	**17 25 07.2**	**-2.5**
ASAJ	comp=Z,6.0nm,1.0s			pmax	pmax		
MSHR	**Mys Shultsa**	**16.36**	**329**	*eP*	**Pn**	**17 25 25.0**	**-1.0**
MSHR	comp=Z,6.0nm,1.1s			pmax	pmax		
PSTR	**Posyet**	**16.58**	**328**	*eP*	**Pn**	**17 25 28.2**	**-0.5**
USA0B	**Ussuriysk Arra**	**17.34**	**334**	Pn	**Pn**	**17 25 35.2**	**-3.1**
USA0B	**Ussuriysk Arra**	**17.34**	**334**	*eP*	**Pn**	**17 25 37.7**	**-0.6**
USRK	**Ussuriysk Ar.**	**17.34**	**334**	Pn	**Pn**	**17 25 35.7**	**-2.6**
USRK	**Ussuriysk Ar.** comp=Z,0.3nm,0.3s,baz=90,slow=16,SNR=4.5	**17.34**	**334**	P	**Pn**	**17 25 37.4**	**-0.9**
YOJ	comp=Z,1.6nm,0.7s **Yonaguni jima**	**17.96**	**260**	Pn	**Pn**	**17 25 44.7**	**-1.4**
YOJ	comp=Z,47nm,1.0s			IAmb	IAmb	17 25 55.2	
YOJ	**Yonaguni jima**	**17.96**	**260**	P	**Pn**	**17 25 44.7**	**-1.4**
YOJ	comp=Z,47nm,1.0s			pmax	pmax		
MDJ	**Mudanjiang**	**18.67**	**330**	P	**P**	**17 25 53.8**	**-0.5**
YHNB	**Yeheng**	**19.31**	**262**	P	**P**	**17 26 02.0**	**+0.5**
YULB	**Yu-li**	**19.80**	**259**		**P**	**17 26 07.1**	**+0.3**
YULB	comp=Z,57nm,1.5s			IAmb	IAmb	17 26 12.6	
SSLB	**Suanglung** comp=Z,32nm,0.7s	**19.95**	**260**		**P**	**17 26 09.2**	**+0.6**
SSLB				IAmb	IAmb	17 26 16.1	
TPUB	**Ta-pu**	**20.40**	**259**	P	Pn	17 26 14.9	-0.7
TPUB	comp=Z,31nm,1.1s			IAmb	IAmb	17 26 22.3	
KLR	**Kul'dur** comp=Z,2.4nm,0.7s,baz=134,slow=6.9,SNR=7.9	**21.82**	**341**	P	**P**	**17 26 27.8**	**-0.7**
KLR	comp=Z,2.4nm,0.7s **Kul'dur**	**21.82**	**341**	*eP*	**P**	**17 26 29.6**	**+1.1**
KLR	comp=Z,2.0nm,0.5s			pmax	pmax		
H11N2	**WAKE ISLAND Hy** baz=297	**24.04**	**107**	T	T	17 52 20.5	
H11N1	**WAKE ISLAND Hy** baz=297	**24.04**	**107**	T	T	17 52 28.7	
H11N3	**WAKE ISLAND Hy** baz=297	**24.05**	**107**	T	T	17 52 34.8	
HEH	**HeiHe**	**24.12**	**336**	*eP*	**P**	**17 26 53.0**	**+1.1**
HEH	comp=Z,10.0nm,1.1s			pmax	pmax		
WHN	**Wuhan**	**24.44**	**281**	P	**P**	**17 26 55.3**	**+0.2**
DAV	**Davao City (W)** comp=Z,41nm,20.9s,baz=336,slow=32	**27.00**	**219**	LR	LR	17 36 04.9	
ZEA	**Zeya** comp=Z,10.0nm,0.7s	**27.13**	**340**	*eP*	**P**	**17 27 20.2**	**+1.0**
ZEA				pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,9.0nm,1.3s	**33.16**	**314**	*deP*	**P**	**17 28 14.3**	**+1.4**
ULN				pmax	pmax		
SONM	**Songino Array**	**33.56**	**314**	P	**P**	**17 28 16.6**	**+0.2**
SONM	comp=Z,4.1nm,0.9s			IAmb	IAmb	17 28 19.3	
SONM	**Songino Array** comp=Z,4.6nm,0.9s,baz=115,slow=8.4,SNR=18	**33.56**	**314**	P	**P**	**17 28 16.7**	**+0.4**
SONM	comp=Z,52nm,19.9s,baz=86,slow=37 comp=Z,4.6nm,0.9s			LR	LR	17 42 15.1	
SONM	**Songino Array**	**33.56**	**314**	*eP*	**P**	**17 28 17.7**	**+1.4**
SONM	comp=Z,5.0nm,0.9s			pmax	pmax		
YAK	**Yakutsk** comp=Z,28nm,18.5s,baz=302,slow=42	**34.12**	**349**	LR	LR	17 45 14.1	
SLVN	**Son La**	**35.61**	**267**	P	**P**	**17 28 33.9**	**-0.4**
SLVN	comp=Z,9.6nm,1.1s			IAmb	IAmb	17 28 36.6	
ZAK	**Zakamensk**	**36.39**	**317**	*eP*	**P**	**17 28 41.8**	**+1.2**
ZAK	comp=Z,8.0nm,1.4s			pmax	pmax		
MOY	**Mondy**	**38.19**	**318**	*eP*	**P**	**17 28 57.4**	**+1.4**
MOY	comp=Z,10.0nm,1.2s			pmax	pmax		
CRAI	**Chiangrai**	**39.09**	**267**	P	**P**	**17 29 03.6**	**-0.2**
CRAI	comp=Z,9.8nm,0.8s			IAmb	IAmb	17 29 05.7	
PHRA	**Phrae**	**39.87**	**264**	P	**P**	**17 29 10.2**	**0.0**
GOMU	**GeErMu**	**40.47**	**293**	P	**P**	**17 29 15.3**	**-0.2**
GOMU				pP	sP	17 29 19.8	-0.5
GOMU				sP	pwP	17 29 22.0	-2.6
GOMU	comp=Z,9.0nm,1.1s			pmax	pmax		
CHTO	**Chiang Mai**	**40.87**	**266**	P	**P**	**17 29 17.9**	**-0.6**
CHTO	comp=Z,15nm,1.4s			IAmb	IAmb	17 29 20.4	
CHTO	**Chiang Mai**	**40.87**	**266**	P	**P**	**17 29 17.9**	**-0.6**
CHTO	comp=Z,15nm,1.4s			pmax	pmax		
CMAR	**Chiang Mai Arr**	**41.01**	**265**	P	**P**	**17 29 18.6**	**-1.1**
CMAR	**Chiang Mai Arr** comp=Z,1.1nm,0.6s,baz=68,slow=6.9,SNR=6.0	**41.01**	**265**	P	**P**	**17 29 20.6**	**+0.9**
CMAR	comp=Z,35nm,19.5s,baz=85,slow=38 comp=Z,1.1nm,0.6s			LR	LR	17 47 57.4	
BILL	**Bilibino**	**41.57**	**13**	*eP*	**P**	**17 29 25.9**	**+2.3**
BILL	comp=Z,2.0nm,1.2s			pmax	pmax		
MTN	**Manton Dam**	**43.00**	**196**	P	**P**	**17 29 36.0**	**+0.2**
MTN	comp=Z,20nm,1.2s			IAmb	IAmb	17 29 40.8	
TIXI	**Tiksi**	**43.37**	**354**	P	**P**	**17 29 37.7**	**-0.5**
TIXI	**Tiksi**	**43.37**	**354**	*eP*	**P**	**17 29 38.4**	**+0.2**
TIXI	comp=Z,4.0nm,1.3s			pmax	pmax		
KULM	**Kulim**	**46.03**	**247**	P	**P**	**17 30 00.3**	**+0.1**
KULM	comp=Z,8.4nm,1.2s			IAmb	IAmb	17 30 06.2	
ZALV	**Zalesovo Beam**	**48.25**	**318**	P	**P**	**17 30 17.2**	**+0.2**
ZALV				PcP	**PcP**	**17 31 44.0**	**+0.1**
ZALV	**Zalesovo Beam** comp=Z,1.6nm,0.7s,baz=91,slow=8.5,SNR=6.1	**48.25**	**318**	P	**P**	**17 30 17.2**	**+0.2**
ZALV	comp=Z,1.2nm,0.6s,baz=142,slow=5.4,SNR=4.6			PcP	**PcP**	**17 31 44.3**	**+0.5**
ZALV	comp=Z,47nm,19.0s,baz=98,slow=37 comp=Z,1.6nm,0.7s			LR	LR	17 51 15.7	
ZALV	**Zalesovo Beam**	**48.25**	**318**	*eP*	**P**	**17 30 17.9**	**+0.9**
ZALV	comp=Z,1.0nm,0.4s			pmax	pmax		
WB0	**Warramunga Arr**	**49.09**	**190**	P	**P**	**17 30 23.7**	**0.0**
N15K	**Kwethluk River**	**49.21**	**34**	P	**P**	**17 30 25.0**	**+0.7**
WR0	**Warramunga Arr**	**49.26**	**190**	P	**P**	**17 30 24.7**	**-0.3**
WR0	comp=Z,11nm,1.3s			IAmb	IAmb	17 30 34.9	
WB2	**Warramunga Arr**	**49.27**	**190**	P	**P**	**17 30 24.9**	**-0.2**
WB2				PcP	**PcP**	**17 31 48.9**	**+1.0**
WRA	**Warramunga Arr**	**49.27**	**190**	P	**P**	**17 30 24.8**	**-0.4**
WRA				PcP	**PcP**	**17 31 48.0**	**0.0**
WRA	**Warramunga Arr** comp=Z,6.0nm,0.7s,baz=12,slow=8.4,SNR=55	**49.27**	**190**	P	**P**	**17 30 25.4**	**+0.2**
WRA	comp=Z,1.1nm,0.7s,baz=18,slow=3.4,SNR=1.1 comp=Z,6.0nm,0.7s			PcP	**PcP**	**17 31 48.4**	**+0.4**
MK31	**Makanchi Array**	**49.49**	**308**	P	**P**	**17 30 27.7**	**+1.0**
MK31	**Makanchi Array** comp=Z,2.0nm,1.0s	**49.49**	**308**	P	**P**	**17 30 27.0**	**+0.3**
MKAR				PcP	**PcP**	**17 31 49.5**	**+0.9**
MKAR	**Makanchi Array** comp=Z,1.4nm,0.6s,baz=91,slow=9.4,SNR=10	**49.49**	**308**	P	**P**	**17 30 27.6**	**+0.9**
MKAR	comp=Z,0.5nm,0.5s,baz=95,slow=7.2,SNR=4.3			PcP	**PcP**	**17 31 48.9**	**+0.3**
MKAR	comp=Z,43nm,18.6s,baz=89,slow=38 comp=Z,1.4nm,0.6s			LR	LR	17 52 44.0	
FITZ	**Fitzroy Crossi**	**49.55**	**201**	P	**P**	**17 30 27.7**	**+0.4**
GSI	**Gunungsitoli**	**50.85**	**246**	P	**P**	**17 30 37.4**	**0.0**
C18K	**Utukok River**	**51.21**	**23**	P	**P**	**17 30 39.6**	**+0.2**
C18K				IAmb	IAmb	17 31 16.8	
KURK	**Kurchatov** comp=Z,8.6nm,1.4s	**51.87**	**313**	P	**P**	**17 30 45.3**	**+0.9**
KURK	**Kurchatov**	**51.87**	**313**	*ceP*	**P**	**17 30 45.4**	**+0.9**
KURK	comp=Z,23nm,1.3s			pmax	pmax		
C19K	**Lookout Ridge**	**51.92**	**23**	P	**P**	**17 30 45.4**	**+0.7**
C19K	comp=Z,11nm,1.2s			IAmb	IAmb	17 31 07.1	
KURBB	**Kurchatov Arra** comp=Z,6.3nm,0.6s,baz=90,slow=7.5,SNR=42 comp=Z,6.3nm,0.6s	**51.92**	**313**	P	**P**	**17 30 45.8**	**+0.9**
N19K	**Bonanza Creek**	**52.06**	**34**	P	**P**	**17 30 47.3**	**+1.4**
N19K	comp=Z,13nm,1.4s			IAmb	IAmb	17 31 25.7	
J19K	**Poorman**	**52.08**	**30**	P	**P**	**17 30 48.1**	**+2.3**
J19K	comp=Z,6.2nm,1.2s			IAmb	IAmb	17 30 59.3	
D19K	**Kuna River**	**52.23**	**24**	P	**P**	**17 30 48.2**	**+1.2**
D19K	comp=Z,5.4nm,1.1s			IAmb	IAmb	17 31 26.6	
E19K	**Redstone River**	**52.25**	**25**	P	**P**	**17 30 47.7**	**+0.5**
PRZ	**Przheval'sk**	**52.58**	**303**	P	**P**	**17 30 50.4**	**+0.2**
PRZ	**Przheval'sk**	**52.58**	**303**	P	**P**	**17 30 50.4**	**+0.2**
PRZ	comp=Z,10.0nm,0.8s			pmax	pmax		
K20K	**Telida**	**52.64**	**30**	P	**P**	**17 30 50.1**	**0.0**
K20K	comp=Z,5.6nm,1.1s			IAmb	IAmb	17 31 10.9	
KDAK	**Kodiak Island**	**52.71**	**38**	P	**P**	**17 30 50.4**	**-0.2**
KDAK	**Kodiak Island** comp=Z,79nm,19.7s,baz=253,slow=36	**52.71**	**38**	LR	LR	17 52 48.8	
KDAK	**Kodiak Island**	**52.71**	**38**	P	**P**	**17 30 50.4**	**-0.2**
KDAK	comp=Z,22nm,1.3s			pmax	pmax		
F20K	**Avaraart Lake**	**52.71**	**26**	P	**P**	**17 30 51.0**	**+0.5**
ASAR	**Alice Springs**	**52.99**	**190**	P	**P**	**17 30 52.6**	**-0.5**
ASAR	**Alice Springs** comp=Z,0.4nm,0.7s,baz=11,slow=14,SNR=8.6 comp=Z,0.4nm,0.7s	**52.99**	**190**	P	**P**	**17 30 52.8**	**-0.2**
B20K	**Meade River**	**53.01**	**22**	P	**P**	**17 30 53.0**	**+0.4**
B20K	comp=Z,14nm,1.2s			IAmb	IAmb	17 31 01.9	
PPLA	**Purkeypile**	**53.42**	**31**	P	**P**	**17 30 55.4**	**-0.5**
PPLA	comp=Z,6.2nm,1.1s			IAmb	IAmb	17 30 59.2	
G21K	**Allakaket**	**53.45**	**27**	P	**P**	**17 30 56.3**	**+0.3**
CAST	**Castle Rocks**	**53.53**	**31**	P	**P**	**17 30 57.6**	**+0.9**
B21K	**Ikpikpuk River**	**53.75**	**23**	P	**P**	**17 30 57.5**	**-0.7**
B21K	comp=Z,4.0nm,1.0s			IAmb	IAmb	17 31 02.1	
D22K	**Ayikyak River**	**54.25**	**24**	P	**P**	**17 31 01.1**	**-0.7**
D22K	comp=Z,3.7nm,1.0s			IAmb	IAmb	17 31 16.1	
BOOM	**Boomskoye usch**	**54.38**	**303**	P	**P**	**17 31 03.7**	**+0.3**
BOOM	**Boomskoye usch**	**54.38**	**303**	P	**P**	**17 31 03.7**	**+0.3**
BOOM	comp=Z,3.0nm,0.9s			pmax	pmax		
KSH	**Kashi**	**54.85**	**300**	P	**P**	**17 31 10.8**	**+4.0**
KSH	comp=Z,5.0nm,0.8s			pmax	pmax		
NEA2	**Nenana**	**54.99**	**29**	P	**P**	**17 31 07.9**	**+0.6**
NEA2	comp=Z,5.2nm,1.2s			IAmb	IAmb	17 31 20.6	
KNK	**Knik Glacier**	**55.03**	**33**	P	**P**	**17 31 08.6**	**+1.0**
KNK	comp=Z,12nm,1.3s			IAmb	IAmb	17 31 16.7	
SML	**Sawmill**	**55.11**	**33**	P	**P**	**17 31 09.6**	**+1.3**
SML	comp=Z,4.9nm,0.9s			IAmb	IAmb	17 31 37.7	
SML	**Sawmill**	**55.11**	**33**	P	**P**	**17 31 09.5**	**+1.3**
SML	comp=Z,5.0nm,0.9s			pmax	pmax		
C23K	**Itkillik River**	**55.16**	**23**	P	**P**	**17 31 09.3**	**+0.9**
AAK	**Ala-Archa**	**55.41**	**304**	P	**P**	**17 31 11.3**	**+0.5**
AAK	**Ala-Archa** comp=Z,38nm,19.4s,baz=82,slow=37	**55.41**	**304**	LR	LR	17 56 03.4	
AAK	**Ala-Archa**	**55.41**	**304**	P	**P**	**17 31 11.3**	**+0.5**
AAK	comp=Z,2.0nm,0.7s			pmax	pmax		
SCM	**Sheep Creek Mo**	**55.59**	**33**	P	**P**	**17 31 11.6**	**-0.1**
SCM	**Sheep Creek Mo**	**55.59**	**33**	P	**P**	**17 31 11.6**	**-0.1**
SCM	comp=Z,10.0nm,1.1s			pmax	pmax		
E24K	**Your Creek**	**55.63**	**25**	P	**P**	**17 31 12.7**	**+0.8**
E24K	comp=Z,4.4nm,1.1s			IAmb	IAmb	17 31 26.3	
D24K	**Happy Valley**	**55.66**	**24**	P	**P**	**17 31 12.2**	**+0.2**
D24K	comp=Z,9.3nm,1.1s			IAmb	IAmb	17 31 26.6	
F24K	**Squaw Lake**	**55.79**	**26**	P	**P**	**17 31 14.1**	**+1.1**
HDA	**Harding Lake**	**55.89**	**30**	P	**P**	**17 31 14.8**	**+1.1**
IL31		**55.94**	**29**	P	**P**	**17 31 15.1**	**+1.0**
IL31	comp=Z,8.5nm,1.5s			IAmb	IAmb	17 31 32.4	
ILAR	**Eielson Array**	**55.94**	**29**	P	**P**	**17 31 14.8**	**+0.7**
ILAR	**Eielson Array** comp=Z,0.5nm,0.8s,baz=265,slow=6.5,SNR=5.6 comp=Z,0.5nm,0.8s	**55.94**	**29**	P	**P**	**17 31 14.3**	**+0.2**
ILAR	**Eielson Array**	**55.94**	**29**	*eP*	**P**	**17 31 16.6**	**+2.5**
ILAR	comp=Z,1.0nm,0.7s			pmax	pmax		
D25K	**Kavik River**	**56.55**	**24**	P	**P**	**17 31 19.2**	**+0.7**
E25K	**Arctic Village**	**56.73**	**25**	P	**P**	**17 31 20.4**	**+0.7**
E25K	comp=Z,4.2nm,1.1s			IAmb	IAmb	17 31 22.3	
BVAR	**Borovoye Array** comp=Z,5.3nm,0.6s,baz=92,slow=8.1,SNR=34	**56.84**	**317**	P	**P**	**17 31 21.9**	**+1.3**
BVAR	comp=Z,52nm,19.2s,baz=83,slow=37 comp=Z,5.3nm,0.6s			LR	LR	17 56 43.4	
BVAR	**Borovoye Array**	**56.84**	**317**	P	**P**	**17 31 22.0**	**+1.3**
BRVK	**Borovoye**	**56.90**	**317**	P	**P**	**17 31 21.3**	**+0.2**
BRVK	comp=Z,5.2nm,0.8s			IAmb	IAmb	17 31 23.1	
BRVK	**Borovoye**	**56.90**	**317**	*c iP*	**P**	**17 31 22.0**	**+0.9**
BRVK	comp=Z,8.0nm,1.3s			pmax	pmax		
BMAR	**Burnt Mountain**	**57.05

comp=Z,5.4nm,1.1s
SIMJ Simiganj 60.33 300 P **P** **17 31 45.1 -0.3**
SIMJ IAmb IAmb 17 32 00.5
comp=Z,3.6nm,0.8s
I30M Mount Dempster 60.40 29 P **P** **17 31 45.3 -0.1**
G31M Satah River 61.08 27 P **P** **17 31 50.1 +0.2**
G31M IAmb IAmb 17 32 05.8
comp=Z,8.0nm,1.2s
H31M Peel River 61.18 28 P **P** **17 31 50.7 +0.1**
H31M IAmb IAmb 17 32 30.5
comp=Z,8.7nm,1.2s
INK Inuvik 61.21 25 P **P** **17 31 51.2 +0.5**
INK IAmb IAmb 17 31 52.6
comp=Z,7.4nm,1.3s
INK Inuvik 61.21 25 P **P** **17 31 51.2 +0.5**
INK pmax pmax
comp=Z,7.0nm,1.3s
ARU Arti 63.10 322 P **P** **17 32 03.7 +0.1**
ARU IAmb IAmb 17 32 05.1
comp=Z,5.9nm,1.0s
ARU Arti 63.10 322 *c i* P **P** **17 32 04.3 +0.7**
ARU 17 34 18.2
ARU S **S** **17 40 34.8 +1.0**
ARU SS **SS** **17 44 35.9 -3.3**
ARU pmax pmax
comp=Z,8.0nm,1.1s
ABKAR Akbulak array 63.98 314 P **P** **17 32 09.8 +0.3**
ABKAR Akbulak array 63.98 314 P **P** **17 32 09.2 -0.3**
AKTO Aktyubinsk 64.87 315 LR LR 18 02 23.4
comp=Z,40nm,18.5s,baz=54,slow=38
KIRV Kirov 67.29 325 LR LR 18 03 36.8
comp=Z,27nm,18.2s,baz=39,slow=37
KIRV Kirov 67.29 325 *c e* P **P** **17 32 31.5 +0.8**
GEYT Alibeck 68.71 302 P **P** **17 32 41.4 +1.3**
comp=Z,1.1nm,0.5s,baz=74,slow=8.3,SNR=3.9
comp=Z,1.1nm,0.5s
YKA Yellowknife Ar 70.37 29 P **P** **17 32 47.4 -2.4**
comp=Z,0.8nm,0.6s,baz=298,slow=6.3,SNR=5.1
comp=Z,0.8nm,0.6s
YKA Yellowknife Ar 70.37 29 *i* P **P** **17 32 50.0 +0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YBH Yreka Blue Hor 74.65 51 LR LR 18 00 22.3
comp=Z,32nm,21.4s,baz=262,slow=31
FINES FINESS Array B 76.38 334 P **P** **17 33 25.9 +0.7**
comp=Z,1.3nm,0.8s,baz=66,slow=7.8,SNR=1.7
comp=Z,1.3nm,0.8s
KBZ Khabaz 76.92 313 P **P** **17 33 28.3 -0.4**
comp=Z,2.9nm,0.8s,baz=65,slow=4.7,SNR=4.8
KBZ LR LR 18 10 25.3
comp=Z,42nm,18.4s,baz=124,slow=38
comp=Z,2.9nm,0.8s
KBZ Khabaz 76.92 313 *e* P **P** **17 33 30.7 +2.1**
KBZ pmax pmax
comp=Z,3.0nm,0.8s
KIV Kislovodsk 76.95 313 ⇓ *e* P **P** **17 33 31.1 +2.1**
KIV *e* *PP **sP** **17 33 33.3 -0.3**
KIV *i* 17 33 43.9
KIV pmax pmax
comp=Z,16nm,1.7s
KIV MLR MLR
comp=Z,39nm,17.0s
KVN Kaiserville 79.00 51 P **P** **17 33 40.8 +0.2**
KVN Kaiserville 79.00 51 P **P** **17 33 40.8 +0.2**
KVN pmax pmax
comp=Z,3.0nm,0.9s
NVAR Mina Array Bea 79.16 52 P **P** **17 33 40.2 -1.3**
comp=Z,1.1nm,0.9s,baz=289,slow=4.5,SNR=6.4
comp=Z,1.1nm,0.9s
FFC Flin Flon 80.01 32 P **P** **17 33 46.4 +0.8**
FFC IAmb IAmb 17 33 47.8
comp=Z,7.7nm,1.3s
FFC Flin Flon 80.01 32 P **P** **17 33 46.4 +0.8**
FFC pmax pmax
comp=Z,8.0nm,1.3s
R11B Troy Canyon, C 81.06 51 P **P** **17 33 51.6 -0.2**
AKASG Malin Array Be 81.25 324 P **P** **17 33 52.5 +0.2**
comp=Z,0.8nm,0.5s,baz=50,slow=5.5,SNR=7.3
comp=Z,0.8nm,0.5s
HFS Hagfors 81.80 337 P **P** **17 33 55.3 +0.3**
comp=Z,1.1nm,0.5s,baz=100,slow=7.7,SNR=5.6
comp=Z,1.1nm,0.5s
NB2 NORSAR Subarra 81.96 338 P **P** **17 33 56.1 +0.2**
comp=Z,0.9nm,0.6s,baz=41,slow=5.3
NOA NORSAR Array B 81.96 338 P **P** **17 33 55.9 0.0**
comp=Z,1.2nm,0.7s,baz=41,slow=5.2,SNR=5.7
comp=Z,1.2nm,0.7s
PDAR Pinedale Array 82.70 45 P **P** **17 34 00.6 +0.2**
comp=Z,0.4nm,0.7s,baz=343,slow=2.8,SNR=2.7
PDAR LR LR 18 05 28.8
comp=Z,19nm,21.8s,baz=306,slow=32
comp=Z,0.4nm,0.7s
BNN Bunyan 83.95 311 P **P** **17 34 06.9 +0.2**
RAYN Ar Rayn 84.63 294 P **P** **17 34 10.9 +0.6**
RAYN Ar Rayn 84.63 294 P **P** **17 34 10.9 +0.6**
RAYN pmax pmax
comp=Z,16nm,0.9s
BR131 Keskin Array S 84.91 313 P **P** **17 34 12.0 +0.4**
BR131 IAmb IAmb 17 34 13.4
comp=Z,2.8nm,0.8s
BR131 Keskin Array S 84.91 313 P **P** **17 34 12.0 +0.4**
BR131 pmax pmax
comp=Z,3.0nm,0.9s
BRTR Keskin Array B 84.91 313 P **P** **17 34 12.2 +0.5**
comp=Z,1.6nm,0.7s,baz=108,slow=5.0,SNR=11
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 84.91 313 *i* P **P** **17 34 13.1 +1.5**
BRTR pmax pmax
comp=Z,2.0nm,0.7s
N23A Red Feather La 85.98 45 P **P** **17 34 17.6 +0.5**
STHS Stebnicka Huta 86.08 326 *e* P **P** **17 34 18.8 +1.7**
STHS Stebnicka Huta 86.08 326 *e* P **P** **17 34 18.8 +1.7**
MMAI Mount Meron Ar 87.41 306 P **P** **17 34 24.4 +0.4**
comp=Z,2.9nm,0.8s,baz=86,slow=11,SNR=5.1
comp=Z,2.9nm,0.8s
TXAR Lajitas Array 94.27 53 P **P** **17 34 55.6 -0.5**
comp=Z,1.1nm,1.1s,baz=289,slow=3.8,SNR=5.2
comp=Z,1.1nm,1.1s
L48A N Adams 97.21 33 P **P** **17 35 08.0 -1.1**
QSPA South Pole Qui 118.75 180 PKP **PKPdf** **17 40 23.5 -0.3**
comp=Z,1.3nm,1.0s,baz=185,slow=3.1,SNR=2.3
TORD Torodi Ar. Bea 123.52 312 PKP **PKiKP** **17 40 34.9 +0.2**
comp=Z,0.3nm,0.5s,baz=348,slow=0.8,SNR=3.1
LPAZ La Paz 149.16 72 PKPbc **PKPbc** **17 41 24.9 -1.3**
comp=Z,0.5nm,0.4s,baz=239,slow=3.1,SNR=2.3

*IDC **29** 18:25:39.2±2.9, 36°.22N×70°.41E, h185km±26km, mb3.3/11, mbtmp3.9/17, MS2.6/1, Error ellipse: s-maj=21.7km s-min=15.5km az=14.0*
*NEIC **29** 18:25:41.9±2.0, 36°.46N±0°.05×70°.30E±0°.10, h205km±6km, mb4.1/19, Error ellipse: s-maj=11.1km s-min=6.8km az=93.0*
*NNC **29** 18:25:44.8±4.3, 37°.35N×69°.76E, h0km, mb4.3, mpv4.1, Error ellipse: s-maj=35.2km s-min=24.7km az=170.0*
ISC 29 18:25:41.1±0.5, 36°.47N±0°.05×70°.35E±0°.05, h204km, n80, σ1s78/98, mb3.6/17, 7C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**2.20**	**209**	Pn	**Pn**	**18 26 23.7**	**+1.5**
KBL				Sn	**S**	**18 26 53.6**	**0.0**
CHGR	**Chuyangaron**	**2.38**	**337**		**Pn**	**18 26 24.7**	**+0.8**
CHGR				Sn	**S**	**18 26 55.3**	**-1.7**
SIMJ	**Simiganj**	**2.43**	**334**	Pn	**Pn**	**18 26 25.3**	**+0.8**
SIMJ				Sn	**S**	**18 26 56.1**	**-2.0**
DRK	**Karamyk**	**3.22**	**20**		**Pn**	**18 26 35.2**	**+1.5**
DRK				Sn	**S**	**18 27 13.7**	**-0.8**
BTK	**Batken**	**3.60**	**6**		**Pn**	**18 26 40.2**	**+2.1**
BTK				Sn	**S**	**18 27 22.5**	**0.0**
NIL	**Nilore**	**3.69**	**139**	Pn	**Pn**	**18 26 41.5**	**+2.3**
NIL				Sn	**S**	**18 27 23.2**	**-0.9**
ARSB	**Arslanbob**	**5.27**	**22**	Pn	**Pn**	**18 26 59.3**	**+0.3**
ARSB				Sn	**S**	**18 27 56.8**	**-3.5**
JMU	**Jammu**	**5.30**	**134**	*ex*	x	18 26 47.1	
JMU				*eS*	**S**	**18 27 58.5**	**-2.4**
DHRM	**DHARAMSHALA**	**6.47**	**129**	*eP*	**Pn**	**18 27 15.5**	**+0.8**
DHRM				*eS*	**S**	**18 28 26.4**	**-2.3**
DHRM				IAML		18 28 30.0	
	comp=E,212nm,0.3s						
DHRM				IAML		18 28 30.2	
	comp=N,155nm,0.2s						
UCH	**Uchtor**	**6.59**	**28**	P	**Pn**	**18 27 17.2**	**+0.8**
	SNR=84						
KK31	**Karatay Array**	**6.63**	**1**	⇑P	**Pn**	**18 27 15.1**	**-1.3**
	comp=N,1.8nm,0.2s,baz=184,slow=15,SNR=59						
KK31				⇑S	S	18 28 19.8	-12
	comp=N,17nm,0.5s,baz=189,slow=25,SNR=7.4						
KK31	**Karatay Array**	**6.63**	**1**	Pn	**Pn**	**18 27 16.1**	**-0.3**
KK31				Sn	**S**	**18 28 28.2**	**-3.8**
KKAR	**Karatay Array**	**6.63**	**1**	Pn	**Pn**	**18 27 16.6**	**+0.2**
KKAR	**Karatay Array**	**6.63**	**1**		**Pn**	**18 27 16.2**	**-0.2**
KKAR				Sn	**S**	**18 28 28.1**	**-3.8**
EKS2	**Erkin-Say**	**6.73**	**22**	P	**Pn**	**18 27 18.6**	**+0.7**
	SNR=13						
HRA	**Herat**	**6.93**	**255**	Pn	**Pn**	**18 27 20.3**	**-0.4**
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**18 27 21.4**	**+0.7**
	SNR=15						
AAK	**Ala-Archa**	**6.94**	**26**	⇑P	**Pn**	**18 27 21.0**	**+0.4**
	comp=N,9.4nm,0.6s						
AAK				⇓S	**S**	**18 28 36.6**	**-3.0**
	comp=N,98nm,0.8s						
AAK	**Ala-Archa**	**6.94**	**26**		**Pn**	**18 27 21.0**	**+0.4**
AAK	**Ala-Archa**	**6.94**	**26**	P	**Pn**	**18 27 21.6**	**+0.9**
	comp=N,6.3nm,0.2s,baz=205,slow=7.4,SNR=30						
AAK				S	**S**	**18 28 37.2**	**-2.4**
	comp=N,68nm,0.9s,baz=334,slow=20,SNR=30						
BHK	**Bhakra**	**7.13**	**133**	*eP*	**Pn**	**18 27 22.4**	**-0.7**
BHK				*eS*	**S**	**18 28 40.9**	**-3.0**
KBK	**Karagaybulak**	**7.13**	**28**	P	**Pn**	**18 27 24.2**	**+1.1**
	SNR=11						
FRU1	**Bishkek**	**7.14**	**26**		**Pn**	**18 27 23.9**	**+0.7**
CHMS	**Chumysh**	**7.35**	**26**	P	**Pn**	**18 27 26.7**	**+0.9**
	SNR=5.5						
CHMS	**Chumysh**	**7.35**	**26**	⇓P	**Pn**	**18 27 25.7**	**-0.1**
	comp=N,14nm,0.8s						
CHMS				⇓S	**S**	**18 28 45.2**	**-3.8**
	comp=N,52nm,0.8s						
ULHL	**Ulahol**	**7.36**	**37**	P	**Pn**	**18 27 26.6**	**+0.6**
	SNR=16						
BOOM	**Boomskoye usch**	**7.41**	**34**	Pn	**Pn**	**18 27 26.9**	**+0.3**
USP	**Ospenovka**	**7.50**	**24**	P	**Pn**	**18 27 28.2**	**+0.4**
	SNR=15						
TKM2	**Tokmak 2**	**7.61**	**31**	P	**Pn**	**18 27 30.0**	**+0.7**
	SNR=55						
TKM2	**Tokmak 2**	**7.61**	**31**	⇑P	**Pn**	**18 27 29.7**	**+0.3**
	comp=N,23nm,0.6s						
TKM2				⇑S	**S**	**18 28 52.1**	**-3.3**
	comp=N,26nm,0.8s						
SMLA	**Simla**	**7.78**	**131**	*eP*	**Pn**	**18 27 31.8**	**+0.4**
SMLA				*eS*	**S**	**18 28 55.0**	**-4.4**
SMLA				IAML		18 28 59.4	
	comp=N,71nm,0.3s						
SMLA				IAML		18 28 59.5	
	comp=E,79nm,0.4s						
PRZ	**Przheval'sk**	**8.65**	**44**	Pn	**Pn**	**18 27 43.5**	**+0.7**
KUDL	**Kundal**	**9.79**	**146**	*eP*	**Pn**	**18 27 56.9**	**-0.6**
KUDL				*eS*	S	18 29 39.0	-8.3
GEYT	**Alibeck**	**9.87**	**282**	Pn	**Pn**	**18 27 57.9**	**-0.6**
GEYT	**Alibeck**	**9.87**	**282**	P	**Pn**	**18 27 58.2**	**-0.3**
	comp=E,5.1nm,0.7s,baz=112,slow=9.8,SNR=16						
GEYT				S	**S**	**18 29 45.3**	**-3.8**
	comp=E,2.0nm,0.6s,baz=123,slow=24,SNR=1.8						
GYA0B	**ALIBECK ARRAY**	**9.87**	**282**		**Pn**	**18 27 57.9**	**-0.6**
LGTI	**Lohaghat**	**10.86**	**127**	*eP*	**Pn**	**18 28 09.9**	**-1.4**
LGTI				*eS*	S	18 30 01.1	-12
LGTI				IAML		18 30 08.4	
	comp=E,11nm,0.5s						
LGTI				IAML		18 30 09.7	
	comp=N,7.0nm,2.0s						
MAKZ	**Makanchi**	**13.49**	**36**		**Pn**	**18 28 44.7**	**+0.3**
MK31	**Makanchi Array**	**13.63**	**37**		**Pn**	**18 28 46.0**	**-0.1**
MKAR	**Makanchi Array**	**13.63**	**37**	Pn	**Pn**	**18 28 46.5**	**+0.3**
MKAR	**Makanchi Array**	**13.63**	**37**	P	**Pn**	**18 28 47.2**	**+1.1**
	comp=N,4.0nm,0.8s,baz=228,slow=14,SNR=14						
AB31	**Akbulak array**	**14.86**	**333**	⇓P	**Pn**	**18 29 00.8**	**-0.4**
	comp=N,0.8nm,0.3s,baz=148,slow=12,SNR=46						
AB31				⇑S	**S**	**18 31 39.7**	**-6.2**
	comp=N,2.9nm,0.8s,baz=160,slow=23,SNR=3.8						
ABKAR	**Akbulak array**	**14.86**	**333**		**Pn**	**18 29 00.8**	**-0.5**
ABKAR	**Akbulak array**	**14.86**	**333**	Pn	**Pn**	**18 29 00.4**	**-0.8**
KURBB	**Kurchatov Arra**	**15.33**	**20**	P	**Pn**	**18 29 06.6**	**-0.3**
	comp=N,0.8nm,0.6s,baz=205,slow=11,SNR=14						
KURK	**Kurchatov**	**15.44**	**20**		**Pn**	**18 29 08.0**	**-0.2**
AKTO	**Aktyubinsk**	**16.55**	**331**	P	**P**	**18 29 23.2**	**+2.6**
	comp=N,3.5nm,0.3s,baz=140,slow=9.5,SNR=25						
AKTO				LR	LR	18 35 59.1	
	comp=N,19nm,20.2s,baz=116,slow=37						
BVA0	**Borovoye Array**	**16.56**	**0**	P	**Pn**	**18 29 24.3**	**+2.7**
	comp=N,2.0nm,0.8s,baz=161,slow=9.0,SNR=14						
BVAR	**Borovoye Array**	**16.56**	**0**	P	**P**	**18 29 22.9**	**+2.4**
	comp=N,1.2nm,0.4s,baz=159,slow=8.9,SNR=14						
BRVK	**Borovoye**	**16.59**	**360**	⇑P	**Pn**	**18 29 24.4**	**+2.4**
	comp=N,4.5nm,0.7s						
BRVK	**Borovoye**	**16.59**	**360**	P	**P**	**18 29 22.6**	**+1.7**
BRVK				IAmb	IAmb	18 29 25.6	
	comp=Z,5.3nm,0.6s						
UOSS	**Minazif**	**16.71**	**231**	P	**P**	**18 29 22.3**	**-0.2**
ZAA0	**Zalesovo Array**	**20.16**	**25**	P	**P**	**18 30 01.1**	**+1.4**
ZAA0				IAmb	IAmb	18 30 19.0	
	comp=Z,3.4nm,0.7s						
ZALV	**Zalesovo Beam**	**20.16**	**25**	P	**P**	**18 29 59.5**	**-0.1**
ZALV	**Zalesovo Beam**	**20.16**	**25**	P	**P**	**18 30 01.2**	**+1.6**
	comp=Z,2.3nm,0.4s,baz=217,slow=11,SNR=14						
	comp=Z,2.3nm,0.4s						
ARU	**Arti**	**21.50**	**342**	P	**P**	**18 30 14.3**	**+0.7**
ARU				IAmb	IAmb	18 30 20.3	
	comp=Z,4.6nm,1.1s						
ARU	**Arti**	**21.50**	**342**	P	**P**	**18 30 16.0**	**+2.4**
	comp=Z,2.8nm,0.6s,baz=140,slow=10,SNR=4.8						
	comp=Z,2.8nm,0.6s						
SONM	**Songino Array**	**28.79**	**55**	P	**P**	**18 31 20.5**	**+0.6**
	comp=Z,0.3nm,0.5s,baz=250,slow=4.3,SNR=2.1						
	comp=Z,0.3nm,0.5s						
FINES	**FINESS Array B**	**37.22**	**326**	P	**P**	**18 32 34.3**	**+1.8**
	comp=Z,1.0nm,0.6s,baz=124,slow=9.6,SNR=6.4						
	comp=Z,1.0nm,0.6s						
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**18 33 05.3**	**+1.9**
ARCES	**ARCESS Array B**	**40.97**	**338**	P	**P**	**18 33 05.2**	**+1.7**
	comp=Z,0.5nm,0.4s,baz=104,slow=7.5,SNR=3.6						
	comp=Z,0.5nm,0.4s						
HFS	**Hagfors**	**42.77**	**322**	P	**P**	**18 33 20.1**	**+2.0**
	comp=Z,0.4nm,0.3s,baz=91,slow=13,SNR=6.6						
	comp=Z,0.4nm,0.3s						
NC303	**NORSAR Array S**	**44.03**	**323**	P	**P**	**18 33 28.6**	**+0.4**
NC303				IAmb	IAmb	18 33 55.0	
	comp=Z,10nm,1.2s						
NOA	**NORSAR Array B**	**44.09**	**323**	P	**P**	**18 33 29.9**	**+1.2**
	comp=Z,0.5nm,0.7s,baz=104,slow=7.5,SNR=1.4						
	comp=Z,0.5nm,0.7s						
NBO00	**NORSAR Array S**	**44.30**	**323**	P	**P**	**18 33 31.2**	**+0.9**
TIXI	**Tiksi**	**46.00**	**22**	P	**P**	**18 33 44.8**	**+1.3**
TORD	**Torodi Ar. Bea**	**65.19**	**268**	P	**P**	**18 36 00.6**	**-0.2**
	comp=Z,0.4nm,0.5s,baz=44,slow=5.3,SNR=5.1						
	comp=Z,0.4nm,0.5s						
BMAR	**Burnt Mountain**	**73.09**	**13**	P	**P**	**18 36 49.2**	**+0.7**
J18K	**Innoko River**	**73.61**	**20**	P	**P**	**18 36 54.0**	**+2.4**
J18K				IAmb	IAmb	18 37 20.9	
	comp=Z,4.0nm,1.2s						
K17K	**Iditarod**	**73.75**	**21**	P	**P**	**18 36 55.0**	**+2.6**
INK	**Inuvik**	**74.02**	**9**	P	**P**	**18 36 56.6**	**+2.8**
INK				IAmb	IAmb	18 37 01.3	
	comp=Z,4.2nm,1.4s						
CAST	**Castle Rocks**	**74.88**	**18**	P	**P**	**18 37 00.3**	**+1.4**
CAST				IAmb	IAmb	18 37 01.6	
	comp=Z,2.5nm,1.0s						
H29M	**Whitestone**	**75.27**	**12**	P	**P**	**18 37 01.5**	**+0.4**
H29M				IAmb	IAmb	18 37 41.4	
	comp=Z,8.5nm,1.5s						
RND	**Reindeer**	**75.68**	**17**	P	**P**	**18 37 04.5**	**+0.9**
RND				IAmb	IAmb	18 37 20.8	
	comp=Z,7.1nm,1.4s						
I28M	**Miner Creek**	**75.71**	**13**	P	**P**	**18 37 05.1**	**+1.4**
DHY	**Denali Highway**	**76.31**	**17**	P	**P**	**18 37 08.8**	**+1.6**
DHY				IAmb	IAmb	18 37 37.7	
	comp=Z,6.0nm,1.4s						
YKA	**Yellowknife Ar**	**81.30**	**2**	P	**P**	**18 37 35.1**	**+1.0**
	comp=Z,0.7nm,0.7s,baz=354,slow=5.9,SNR=4.0						
	comp=Z,0.7nm,0.7s						
WRA	**Warramunga Arr**	**82.42**	**121**	P	**P**	**18 37 39.6**	**-1.0**
	comp=Z,1.0nm,0.8s,baz=322,slow=4.5,SNR=7.4						
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**84.67**	**124**	P	**P**	**18 37 51.5**	**-0.5**
	comp=Z,0.9nm,0.7s,baz=314,slow=5.5,SNR=8.9						
	comp=Z,0.9nm,0.7s						
QSPA	**South Pole Qui**	**126.27**	**180**	PKP	**PKPdf**	**18 44 19.0**	**+0.7**
	comp=Z,1.1nm,1.0s,baz=227,slow=3.4,SNR=2.2						

IDC 29 17:36:21.3±2.9, 6°.42S×112°.86E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=190.2km s-min=28.1km az=51.0, Jawa

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.81**	**125**	P	P	17 41 45.9	+0.5
	0.5nm,0.7s,baz=300,slow=11,SNR=6.4						
	0.5nm,0.7s						
ASAR	**Alice Springs**	**26.52**	**132**	P	P	17 42 00.3	-0.5
	0.2nm,0.4s,baz=308,slow=8.7,SNR=6.5						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**59.52**	**336**	P	P	17 46 26.4	-0.1
	0.2nm,0.4s,baz=144,slow=8.5,SNR=4.4						
	0.2nm,0.4s						

IDC 29 17:59:19.4±3.7, 5°.86S×150°.20E, h0km, mb3.5/2, mbtmp3.7/3, ML1.9/1, MS3.0/1, Error ellipse: s-maj=128.3km s-min=44.8km az=117.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**4.63**	**220**	Pn	Pn	18 00 30.7	0.0
	3.5nm,0.3s,baz=28,slow=8.4,SNR=12						
PMG				Sn	Sn	18 01 19.2	-6.0
	9.5nm,0.3s,baz=65,slow=19,SNR=19						
	12nm,0.4s						
WRA	**Warramunga Arr**	**20.82**	**226**	P	P	18 04 02.4	-0.3
	2.5nm,0.5s,baz=51,slow=11,SNR=24						
	2.5nm,0.5s						
ASAR	**Alice Springs**	**23.65**	**220**	P	P	18 04 32.5	-0.1
	0.4nm,0.6s,baz=58,slow=9.0,SNR=9.4						
	0.4nm,0.6s						
JHJ	**Hachijo jima 2**	**40.01**	**346**	LR	LR	18 24 14.8	
	comp=Z,21nm,18.3s,baz=356,slow=37						
TORD	**Torodi Ar. Bea**	**148.13**	**285**	PKPbc	PKPbc	18 19 08.0	-0.3
	0.3nm,0.4s,baz=69,slow=1.9,SNR=2.4						

DJA 29 18:29:35.9±0.4, 1°.N±4°.×9°.9E±°, h50km±13km, M3.5/8, mb3.5/1, MLv3.5/8, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GSI	**Gunungsitoli**	**1.02**	**274**	P	Pn	18 29 53.3	-0.6
GSI				S	Sn	18 30 07.8	+0.7
PBSI	**Pulau Batu**	**1.31**	**194**	P	Pn	18 29 57.5	-0.4
KCSI	**Kotacane, Aceh**	**2.42**	**340**	P	Pn	18 30 13.0	0.0
SISI	**Saibi**	**2.59**	**169**	P	Pn	18 30 16.7	+1.4
PDSI	**Padang**	**2.83**	**139**	P	Pn	18 30 18.5	-0.2

IDC 29 18:30:56.7±2.7, 6°.63N×124°.55E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=326.5km s-min=23.1km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**28.11**	**160**	P	P	18 36 50.9	+0.4
	0.2nm,0.5s,baz=341,slow=9.5,SNR=2.0						
	0.2nm,0.5s						
ASAR	**Alice Springs**	**31.47**	**163**	P	P	18 37 19.9	-0.4
	0.2nm,0.4s,baz=336,slow=7.4,SNR=2.3						
	0.2nm,0.4s						
MKAR	**Makanchi Array**	**53.95**	**325**	P	P	18 40 22.0	-0.4
	0.6nm,0.4s,baz=120,slow=7.3,SNR=12						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**58.14**	**327**	P	P	18 40 52.4	+0.2
	0.6nm,0.6s,baz=130,slow=6.9,SNR=10						
	0.6nm,0.6s						

*IDC **29** 18:36:56.9±1.2, 46°.69N×155°.39E, h0km, mb3.8/8, mbtmp3.8/11, ML2.9/3, MS2.8/4, Error ellipse: s-maj=29.2km s-min=22.6km az=150.0*
ISC 29 18:36:59.7±1.2, 46°.8N±0°.2×155°.4E±0°.2, h18km, n15, σ1s39/11, mb3.9/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PETK	**Petropavlovsk-**	**6.50**	**13**	Pn	**Pn**	**18 38 33.2**	**-1.2**
	0.1nm,0.3s,baz=191,slow=15,SNR=1.8						
	2.9nm,0.8s						
ASAJ	**Asahikawa**	**9.36**	**258**	Pn	**Pn**	**18 39 13.0**	**-0.6**
	0.3nm,0.3s,baz=63,slow=14,SNR=4.9						
	5.8nm,0.9s						
MA2	**Magadan**	**13.09**	**350**	LR	LR	18 45 22.6	
	comp=Z,16nm,18.2s,baz=160,slow=38						
KLR	**Kul'dur**	**15.97**	**287**	LR	LR	18 47 49.3	
	comp=Z,30nm,18.5s,baz=148,slow=41						
USRK	**Ussuriysk Ar.**	**16.58**	**270**	Pn	**Pn**	**18 40 50.0**	**-1.1**
	0.1nm,0.3s,baz=66,slow=14,SNR=2.7						
	1.8nm,0.7s						
YAK	**Yakutsk**	**21.14**	**325**	LR	LR	18 51 19.3	
	comp=Z,18nm,20.1s,baz=304,slow=41						
KSRS	**Korea Array**	**22.29**	**255**	P	**P**	**18 41 57.9**	**+2.0**
	0.9nm,0.6s,baz=48,slow=12,SNR=4.9						
	0.9nm,0.6s						
BBB	**Bella Bella**	**47.85**	**54**	LR	LR	19 03 05.2	
	comp=Z,25nm,20.3s,baz=51,slow=33						
MKAR	**Makanchi Array**	**48.28**	**298**	P	**P**	**18 45 38.2**	**-1.4**
	0.2nm,0.6s,baz=53,slow=8.1,SNR=1.4						
	0.2nm,0.6s						
KURBB	**Kurchatov Arra**	**48.71**	**304**	P	**P**	**18 45 42.8**	**+0.1**
	1.1nm,0.6s,baz=64,slow=8.0,SNR=9.8						
	1.1nm,0.6s						
BVAR	**Borovoye Array**	**52.01**	**310**	P	**P**	**18 46 08.4**	**+0.7**
	1.7nm,0.6s,baz=60,slow=8.0,SNR=15						
	1.7nm,0.6s						
FINES	**FINESS Array B**	**64.64**	**336**	P	**P**	**18 47 37.6**	**+1.8**
	1.8nm,0.9s,baz=35,slow=7.7,SNR=10						
	1.8nm,0.9s						
HFS	**Hagfors**	**68.94**	**341**	P	**P**	**18 48 04.3**	**+1.1**
	0.6nm,0.5s,baz=75,slow=7.8,SNR=5.3						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**72.77**	**201**	P	**P**	**18 48 25.6**	**-1.2**
	0.5nm,0.8s,baz=18,slow=5.8,SNR=4.3						
	0.5nm,0.8s						
TXAR	**Lajitas Array**	**76.12**	**62**	P	**P**	**18 48 47.1**	**+0.6**
	0.6nm,0.6s,baz=306,slow=5.1,SNR=8.0						
	0.6nm,0.6s						

*IDC **29** 18:43:08.3±1.0, 28°.99N×59°.66E, h0km, mb3.8/9, mbtmp3.8/10, ML3.7/1, MS3.5/2, Error ellipse: s-maj=29.2km s-min=18.6km az=103.0*
*TEH **29** 18:43:09.5, 29°.12N×59°.74E, h13km±52km, ML4.0*
*OMAN **29** 18:43:10.8±1.7, 28°.76N×60°.34E, h10km, mb4.2/8, mlJ3.1/1, Error ellipse: s-maj=18.7km s-min=11.9km az=89.0*
ISC 29 18:43:09.8±0.7, 29°.09N±0°.05×59°.85E±0°.05, h10km, n50, σ1s98/57, mb3.7/9, Southern Iran

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

HOQ	**Hoqain**	**5.93**	**203**	P		**Pn**	**18 44 37.0**	**-0.8**
	SNR=9.5							
HOQ				S		**Sn**	**18 45 42.7**	**-3.2**
ASUD	**Al Ashush, Dub**	**6.00**	**223**	P		**Pn**	**18 44 40.5**	**+1.8**
TBJM	**Torbat-e-JAM**	**6.18**	**4**	Pn		**Pn**	**18 44 42.1**	**+0.8**
ALNE	**Al Ain**	**6.21**	**217**	P		**Pn**	**18 44 42.7**	**+1.2**
SMDO	**Samad**	**6.21**	**196**	P		**Pn**	**18 44 42.0**	**+0.2**
SMDO				S		**Sn**	**18 45 50.8**	**-2.1**
ARQ	**Araqi**	**6.46**	**208**	P		**Pn**	**18 44 46.5**	**+1.5**
ARQ				S		**Sn**	**18 46 00.2**	**+1.4**
WBK	**Wadi Bani Khal**	**6.50**	**187**	Pn		**Pn**	**18 44 47.1**	**+1.6**
WBK	**Wadi Bani Khal**	**6.50**	**187**	P		**Pn**	**18 44 45.0**	**-0.5**
	SNR=15							
WBK				S		**Sn**	**18 45 56.0**	**-3.7**
BSY	**Bisya**	**6.75**	**201**	P		**Pn**	**18 44 50.0**	**+1.0**
BSY				S		**Sn**	**18 46 07.3**	**+1.4**
JMDO	**Jabal Madar**	**6.87**	**194**	P		**Pn**	**18 44 51.0**	**+0.3**
JMDO				S		**Sn**	**18 46 07.6**	**-1.3**
JLN	**Jalan Bani Buh**	**6.92**	**183**	P		**Pn**	**18 44 49.6**	**-1.6**
JLN				S		**Sn**	**18 46 05.1**	**-4.9**
KSH	**Kashi**	**16.88**	**48**	P		**Pn**	**18 47 02.5**	**-3.8**
KSH				pP		P	18 47 05.8	-2.5
KSH				pmax		pmax		
	comp=Z,3.0nm,0.7s							
KVAR	**Kislovodsk Arr**	**20.20**	**322**	LR		LR	18 57 55.1	
	comp=Z,416nm,20.6s,slow=44							
AKTO	**Aktyubinsk**	**21.37**	**357**	P		**P**	**18 47 59.3**	**+2.0**
	comp=Z,1.1nm,0.5s,baz=188,slow=7.5,SNR=4.8							
	comp=Z,1.1nm,0.5s							
MKAR	**Makanchi Array**	**24.88**	**39**	P		**P**	**18 48 34.7**	**+2.1**
	comp=Z,0.8nm,0.4s,baz=241,slow=7.3,SNR=15							
	comp=Z,0.8nm,0.4s							
BVAR	**Borovoye Array**	**25.15**	**15**	P		**P**	**18 48 36.4**	**+1.4**
	comp=Z,2.7nm,0.7s,baz=196,slow=8.5,SNR=19							
	comp=Z,2.7nm,0.7s							
KURBB	**Kurchatov Arra**	**25.71**	**28**	P		**P**	**18 48 41.4**	**+1.3**
	comp=Z,0.5nm,0.6s,baz=226,slow=8.9,SNR=8.8							
	comp=Z,0.5nm,0.6s							
ZALV	**Zalesovo Beam**	**30.78**	**29**	P		**P**	**18 49 25.7**	**+0.4**
	comp=Z,0.5nm,0.4s,baz=234,slow=12,SNR=2.6							
	comp=Z,0.5nm,0.4s							
FINES	**FINESS Array B**	**39.31**	**335**	P		**P**	**18 50 38.6**	**-0.1**
	comp=Z,2.4nm,0.8s,baz=160,slow=12,SNR=6.1							
	comp=Z,2.4nm,0.8s							
TORD	**Torodi Ar. Bea**	**56.00**	**266**	P		**P**	**18 52 47.2**	**-1.7**
	comp=Z,0.4nm,0.7s,baz=54,slow=6.5,SNR=4.5							
	comp=Z,0.4nm,0.7s							
KSRS	**Korea Array**	**56.43**	**62**	LR		LR	19 19 20.9	
	comp=Z,14nm,18.4s,baz=5.0,slow=38							
WRA	**Warramunga Arr**	**86.78**	**115**	P		**P**	**18 55 55.3**	**+0.7**
	comp=Z,0.5nm,0.7s,baz=319,slow=4.1,SNR=6.1							
	comp=Z,0.5nm,0.7s							
ASAR	**Alice Springs**	**88.43**	**118**	P		**P**	**18 56 02.8**	**+0.3**
	comp=Z,0.8nm,1.0s,baz=304,slow=5.3,SNR=4.0							
	comp=Z,0.8nm,1.0s							

*ISK **29** 19:05:08.6, 39°.59N×25°.93E, h6km, ML3.7/29*
*MCSM **29** 19:05:09.1±0.6, 40°.N±6°×2°.6E±°, h5km, mb3.8, mB4.1, MLv3.7*
*AFAD **29** 19:05:09.6±0.0, 39°.58N×26°.00E, h8km±1km, MW3.7*
*THE **29** 19:05:10.0, 39°.60N×25°.99E, h9km, ML3.5/10, Error ellipse: s-maj=1.2km s-min=0.5km az=228.0*
*ATH **29** 19:05:10.2, 39°.58N×25°.96E, h14km±1km, ML3.6/9, Error ellipse: s-maj=2.2km s-min=0.7km az=212.0*
*BEO **29** 19:05:10.3±0.7, 39°.54N×25°.75E, h0km, ML3.6/6*
*SOF **29** 19:05:11.7, 39°.85N±0°.03×25°.79E±0°.04, h5km±4km, MD3.3/6*

ISC 29 19:05:09.7±0.8,**39°.59N**±0°.01×**25°.97E**±0°.02,**h11**km±6km, **n161**,σ0**87**/209,**25C-7D, Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOCA	**Canakkale, Ayv**	**0.16**	**122**	P	**Pg**	**19 05 13.1**	**-0.2**
KOCA				S	**Sg**	**19 05 15.4**	**-0.4**
GPNR	**Gulpinar-Canak**	**0.18**	**135**	Pg	**Pg**	**19 05 13.4**	**-0.3**
GPNR				Sg	**Sg**	**19 05 16.6**	**+0.2**
BOZC	**Bozcaada**	**0.26**	**14**	P	**Pg**	**19 05 15.0**	**-0.1**
BOZC				P	**Pg**	**19 05 15.1**	**-0.1**
BOZC				S	**Sg**	**19 05 18.8**	**0.0**
EZNE	**Ezine-Canakkal**	**0.35**	**61**	Pg	**Pg**	**19 05 16.3**	**-0.5**
EZNE				Sg	**Sg**	**19 05 21.9**	**+0.4**
EZN	**Ezine**	**0.37**	**49**	Pg	**Pg**	**19 05 16.5**	**-0.5**
EZN				Sg	**Sg**	**19 05 22.4**	**+0.5**
EZN	**Ezine**	**0.37**	**49**	P	**Pg**	**19 05 16.0**	**-1.0**
SIGR	**SIGRI**	**0.38**	**193**	Pg	**Pg**	**19 05 17.3**	**0.0**
SIGR	**SIGRI**	**0.38**	**193**	P	**Pb**	**19 05 18.5**	**0.0**
SIGR				S	**Sb**	**19 05 24.1**	**-0.3**
	10μm,0.3s						
SIGR	**SIGRI**	**0.38**	**193**	P	**Pb**	**19 05 18.5**	**0.0**
SIGR				S	**Sg**	**19 05 23.0**	**+0.5**
SIGR				AML	AML	19 05 25.1	
	comp=N,19645μm,0.3s						
SIGR				AML	AML	19 05 26.5	
	comp=E,21889μm,0.3s						
PRK	**Paraskevi**	**0.41**	**145**	P	**Pg**	**19 05 17.8**	**0.0**
PRK				S	**Sg**	**19 05 24.1**	**+0.7**
	comp=E,20μm,0.4s						
PRK	**Paraskevi**	**0.41**	**145**	P	**Pg**	**19 05 17.9**	**0.0**
PRK				S	**Sg**	**19 05 24.2**	**+0.9**
PRK				AML	AML	19 05 24.4	
	comp=E,43933μm,0.3s						
PRK				AML	AML	19 05 24.8	
	comp=N,35482μm,0.5s						
BAYC	**CANAKKALE_Bayr**	**0.47**	**71**	P	**Pg**	**19 05 18.7**	**-0.3**
BAYC				S	**Sg**	**19 05 24.9**	**-0.4**
ECEA	**Canakkale, Ece**	**0.48**	**19**	P	**Pg**	**19 05 19.3**	**0.0**
ECEA				S	**Sg**	**19 05 26.4**	**+0.7**
GOAD	**anakkale-G¶**	**0.58**	**356**	P	**Pg**	**19 05 20.8**	**-0.2**
CNKL	**anakkale-Mer**	**0.58**	**34**	P	**Pg**	**19 05 20.5**	**-0.5**
CNKL				P	**Pb**	**19 05 20.6**	**-1.3**
CNKL				S	**Sg**	**19 05 29.0**	**+0.3**
GADA	**Gvkgeada**	**0.61**	**355**	Pg	**Pg**	**19 05 20.9**	**-0.6**
GOKC	**Gokceada-Canak**	**0.61**	**357**	Pg	**Pg**	**19 05 20.9**	**-0.8**
GOKC				Sg	**Sg**	**19 05 29.9**	**+0.1**
AYVA	**Ayvalik**	**0.62**	**116**	P	**Pg**	**19 05 21.4**	**-0.4**
COMU	**Canakkale**	**0.64**	**37**	Pg	**Pg**	**19 05 21.9**	**-0.4**
COMU				Sg	**Sg**	**19 05 31.6**	**+0.9**
LESV	**Lesvos island,**	**0.66**	**136**	P	**Pg**	**19 05 22.9**	**+0.3**
LESV				S	**Sg**	**19 05 31.9**	**+0.6**
LIA	**Limnos Island**	**0.68**	**298**	P	**Pg**	**19 05 23.1**	**+0.1**
LIA				S	**Sb**	**19 05 33.0**	**0.0**
	comp=N,7μm,0.2s						
LIA	**Limnos Island**	**0.68**	**298**	P	**Pg**	**19 05 23.0**	**+0.1**
LIA				S	**Sg**	**19 05 32.0**	**+0.1**
LIA				AML	AML	19 05 33.2	
	comp=E,13568μm,0.3s						
LIA				AML	AML	19 05 36.5	
	comp=N,12499μm,0.3s						
EAG3	**Mitilini, Lesv**	**0.68**	**137**	P	**Pg**	**19 05 23.2**	**+0.2**
EAG3				S	**Sg**	**19 05 32.8**	**+0.8**
EFSA	**Agios Efstrati**	**0.76**	**267**	P	**Pg**	**19 05 24.4**	**0.0**
EFSA				S	**Sg**	**19 05 34.5**	**+0.2**
EFSA				AML	AML	19 05 37.7	
	comp=E,8104μm,0.4s						
EFSA				AML	AML	19 05 38.0	
	comp=N,5674μm,0.3s						
BUHA	**Balikesir, Bur**	**0.86**	**95**	P	**Pg**	**19 05 26.1**	**-0.3**
DKL	**Dikili**	**0.89**	**125**	Pg	**Pg**	**19 05 26.8**	**-0.1**
GELI	**Tayfur-Gelibol**	**0.90**	**25**	Pg	**Pg**	**19 05 26.6**	**-0.5**
CAND	**Candarli**	**0.91**	**134**	Pg	**Pg**	**19 05 26.9**	**-0.3**
CANM	**Can-anakkale**	**0.94**	**63**	Pg	**Pg**	**19 05 27.8**	**0.0**
SMTH	**Samothraki Isl**	**0.95**	**339**	P	**Pg**	**19 05 27.7**	**-0.3**
SMTH				S	**Sg**	**19 05 40.8**	**+0.5**
	comp=N,2μm,0.4s						
SMTH	**Samothraki Isl**	**0.95**	**339**	P	**Pg**	**19 05 27.6**	**-0.4**
SMTH				S	**Sg**	**19 05 40.5**	**+0.2**
SMTH				AML	AML	19 05 42.3	
	comp=N,5265μm,0.4s						
SMTH				AML	AML	19 05 42.3	
	comp=E,4354μm,0.4s						
IZMD	**zmir-Dikili-**	**0.96**	**129**	P	**Pg**	**19 05 27.9**	**-0.3**
IZMD				P	**Pb**	**19 05 28.1**	**-0.3**
KARB	**zmir-Karabur**	**0.98**	**159**	P	**Pg**	**19 05 28.3**	**-0.4**
KARB				S	**Sg**	**19 05 41.3**	**-0.1**
LPK	**Lapseki**	**0.99**	**38**	Pg	**Pg**	**19 05 28.2**	**-0.7**
YENI	**Yenice-Canakka**	**1.04**	**70**	Pg	**Pg**	**19 05 29.9**	**+0.1**
EAG2	**Marmaro, Chios**	**1.05**	**174**	P	**Pg**	**19 05 29.3**	**-0.6**
FOCM	**Foa**	**1.05**	**145**	Pg	**Pg**	**19 05 29.2**	**-0.8**
ZEDA	**zmir-Bergama**	**1.06**	**125**	P	**Pg**	**19 05 29.7**	**-0.4**
ZEDA				S	**Sg**	**19 05 43.1**	**-0.8**
PSRA	**Psara**	**1.09**	**197**	P	**Pg**	**19 05 29.7**	**-1.0**
PSRA				AML	AML	19 05 48.6	
	comp=E,9930μm,0.3s						
PSRA				AML	AML	19 05 50.1	
	comp=N,11072μm,0.2s						
CAVK	**Edirne/Enez-Ca**	**1.11**	**8**	P	**Pg**	**19 05 30.3**	**-0.9**
CAVK				S	**Sg**	**19 05 45.9**	**+0.2**
ENEZ	**Enez**	**1.16**	**7**	Pn	**Pg**	**19 05 31.2**	**-0.8**
ERIK	**Erikli-Kesan**	**1.16**	**21**	Pn	**Pg**	**19 05 30.9**	**-1.2**
CHOS	**Chios island**	**1.20**	**177**	Pn	**Pg**	**19 05 31.6**	**-1.3**
CHOS	**Chios island**	**1.20**	**177**	P	**Pg**	**19 05 31.5**	**-1.3**
CHOS				S	**Sb**	**19 05 49.1**	**+1.1**
	comp=N,4μm,0.4s						
CHOS	**Chios island**	**1.20**	**177**	P	**Pg**	**19 05 31.5**	**-1.3**
CHOS				AML	AML	19 05 52.2	
	comp=E,10031μm,0.3s						
CHOS				AML	AML	19 05 54.2	
	comp=N,5083μm,0.2s						
CESE	**eme**	**1.28**	**168**	Pn	**Pn**	**19 05 32.9**	**-0.6**
BALY	**Balya**	**1.28**	**83**	P	**Pn**	**19 05 33.4**	**-0.3**
BALY				S	**Sg**	**19 05 49.7**	**-1.4**
SOMA	**Soma-Manisa**	**1.29**	**109**	Pn	**Pn**	**19 05 34.2**	**+0.6**
KRBG	**Karabiga-Canak**	**1.30**	**51**	Pn	**Pn**	**19 05 33.6**	**-0.2**
ALN	**Alexandroupoli**	**1.31**	**3**	Pn	**Pn**	**19 05 33.8**	**-0.1**
ALN	**Alexandroupoli**	**1.31**	**3**	P	**Pn**	**19 05 33.6**	**-0.4**
ALN				S	**Sb**	**19 05 50.9**	**-0.3**
	comp=N,1μm,0.5s						
ALN	**Alexandroupoli**	**1.31**	**3**	P	**Pn**	**19 05 33.5**	**-0.4**
ALN				AML	AML	19 05 52.9	
	comp=E,1842μm,0.5s						
ALN				AML	AML	19 05 53.5	
	comp=N,4099μm,0.5s						
URLA	**Izmir**	**1.32**	**158**	Pn	**Pn**	**19 05 33.3**	**-0.8**
URLA	**Izmir**	**1.32**	**158**	P	**Pn**	**19 05 33.1**	**-1.0**
URLA				S	**Sb**	**19 05 50.6**	**-0.8**
STEP	**BALIKESIR_Sava**	**1.37**	**98**	P	**Pn**	**19 05 34.7**	**-0.1**
KNL	**Balıkesir**	**1.38**	**60**	P	**Pn**	**19 05 35.0**	**+0.1**
KNL				S	**Sb**	**19 05 53.0**	**-0.2**
THAS	**Thassos island**	**1.40**	**317**	P	**Pn**	**19 05 34.4**	**-0.7**
THAS				S	**Sb**	**19 05 53.1**	**-0.6**
	comp=N,810nm,0.4s						
THAS	**Thassos island**	**1.40**	**317**	P	**Pn**	**19 05 34.5**	**-0.7**
GONE	**Gonen-Balikesi**	**1.40**	**70**	Pn	**Pn**	**19 05 35.6**	**+0.4**
ZEYE	**Izmir, Urla-Ze**	**1.41**	**163**	P	**Pn**	**19 05 34.0**	**-1.3**
ZEYE				S	**Sb**	**19 05 53.0**	**-0.9**
SART	**Tekirdag**	**1.44**	**40**	P	**Pn**	**19 05 35.9**	**+0.1**
SART				S	**Sb**	**19 05 54.7**	**-0.3**
BLCB	**Balcova**	**1.46**	**145**	Pn	**Pn**	**19 05 36.4**	**+0.4**
BKES	**Balkesir-Mer**	**1.52**	**84**	P	**Pn**	**19 05 36.9**	**+0.1**
BKES				S	**Sn**	**19 05 57.1**	**+0.5**
BLKS	**Balkesir-Sus**	**1.57**	**79**	P	**Pn**	**19 05 37.6**	**+0.1**
RDO	**Rodhopi**	**1.59**	**348**	Pn	**Pn**	**19 05 38.0**	**+0.2**
RDO	**Rodhopi**	**1.59**	**348**	P	**Pn**	**19 05 37.8**	**0.0**
RDO				S	**Sn**	**19 05 58.7**	**+0.3**
	comp=N,560nm,0.4s						
RDO	**Rodhopi**	**1.59**	**348**	P	**Pn**	**19 05 37.7**	**-0.1**
RDO				AML	AML	19 06 00.2	
	comp=N,1101μm,0.4s						
RDO				AML	AML	19 06 02.3	
	comp=E,1123μm,0.4s						
AKHS	**Akhisar**	**1.60**	**116**	P	**Pn**	**19 05 37.6**	**-0.3**
AKS	**Akhisar**	**1.60**	**116**	Pn	**Pn**	**19 05 38.5**	**+0.6**
MRMT	**Marmara Adasi**	**1.61**	**50**	Pn	**Pn**	**19 05 38.5**	**+0.4**
UKOP	**Uzunkopru-Edir**	**1.62**	**18**	Pn	**Pn**	**19 05 38.7**	**+0.5**
EDC	**Edincik**	**1.64**	**62**	Pn	**Pn**	**19 05 39.0**	**+0.5**
SUSR	**Susurluk-Balik**	**1.67**	**76**	Pn	**Pn**	**19 05 39.4**	**+0.5**
DGB	**zmir**	**1.69**	**155**	P	**Pn**	**19 05 38.1**	**-1.0**
OUR	**Ouranopolis**	**1.70**	**297**	P	**Pn**	**19 05 38.9**	**-0.4**
OUR				S	**Sn**	**19 06 01.8**	**+0.8**
	comp=E,665nm,0.4s						
OUR	**Ouranopolis**	**1.70**	**297**	P	**Pn**	**19 05 38.9**	**-0.4**
KAVA	**Kavala**	**1.79**	**322**	P	**Pn**	**19 05 40.3**	**-0.3**
KAVA	**Kavala**	**1.79**	**322**	P	**Pn**	**19 05 40.4**	**-0.3**
BAND	**Balkesir-Ban**	**1.81**	**64**	P	**Pn**	**19 05 40.6**	**-0.2**
BAND				S	**Sn**	**19 06 04.1**	**+0.3**
KVLA	**Kavala**	**1.81**	**319**	P	**Pn**	**19 05 40.6**	**-0.3**
GORD	**Gordes-Manisa**	**1.84**	**111**	Pn	**Pn**	**19 05 41.0**	**-0.3**
DURS	**Dursunbey**	**1.94**	**89**	P	**Pn**	**19 05 43.3**	**+0.6**
SMG	**Samos**	**1.99**	**160**	P	**Pn**	**19 05 42.3**	**-1.0**
SMG				S	**Sn**	**19 06 09.6**	**+1.3**
	comp=E,1μm,0.4s						
PLG	**Polygyros**	**2.09**	**293**	P	**Pn**	**19 05 44.5**	**-0.3**
KDZ	**Kurdzhali**	**2.10**	**347**	*i* P	**Pn**	**19 05 45.0**	**+0.2**
KDZ				S	**Sn**	**19 06 10.5**	**-0.4**
IZMR	**zmir-demi**	**2.12**	**132**	P	**Pn**	**19 05 44.9**	**-0.1**
GCAM	**G?zelcaml?**	**2.13**	**152**	P	**Pn**	**19 05 46.1**	**+1.0**
DEMI	**Demirci**	**2.20**	**103**	P	**Pn**	**19 05 46.8**	**+0.5**
RZN	**Rozhen**	**2.30**	**336**	P	**Pn**	**19 05 48.1**	**+0.3**
RZN				S	**Sn**	**19 06 14.5**	**-1.7**
SOH	**Sokhos**	**2.35**	**303**	P	**Pn**	**19 05 48.3**	**0.0**
SRS	**Serrai**	**2.37**	**311**	*e*Pg	**Pn**	**19 05 48.4**	**-0.2**
SRS				*e*Sg	**Sb**	**19 06 23.3**	**+1.5**
SRS	**Serrai**	**2.37**	**311**	P	**Pn**	**19 05 48.4**	**-0.2**
NVR	**Nevrokopi**	**2.38**	**318**	P	**Pn**	**19 05 49.3**	**+0.6**
HORT	**Hortiatis**	**2.42**	**296**	P	**Pn**	**19 05 49.3**	**0.0**
DIM	**Dimitrovgrad**	**2.48**	**353**	P	**Pn**	**19 05 50.7**	**+0.8**
DIM				S	**Sn**	**19 06 21.6**	**+1.5**
APE	**Apeiranthos**	**2.54**	**188**	⇑P	**Pn**	**19 05 50.1**	**-0.7**
CTYL	**Yalikoy Yolu**	**2.59**	**42**	P	**Pn**	**19 05 51.5**	**0.0**
MMB	**Musomishta**	**2.59**	**320**	*i* P	**Pn**	**19 05 52.0**	**+0.5**
MMB				S	**Sn**	**19 06 20.4**	**-2.6**
PLD	**Plovdiv**	**2.72**	**341**	P	**Pn**	**19 05 54.4**	**+1.1**
PLD	**Plovdiv**	**2.72**	**341**	*e*Pn	**Pn**	**19 05 54.1**	**+0.8**
PLD				*e*Sg	**Sg**	**19 06 37.5**	**+0.4**
KNT	**Kendrikon**	**2.82**	**305**	P	**Pn**	**19 05 54.7**	**-0.1**
KKB	**Krupnik**	**3.12**	**317**	P	**Pn**	**19 05 59.5**	**+0.7**
ELND	**Elena**	**3.34**	**359**	⇑P	**Pn**	**19 06 03.5**	**+1.7**
VTS	**Vitosha**	**3.67**	**327**	P	**Pn**	**19 06 07.3**	**+0.8**
VTS				S	**Sn**	**19 06 48.0**	**-1.7**
VTS	**Vitosha**	**3.67**	**327**	*e*Pn	**Pn**	**19 06 07.3**	**+0.8**
VTS				*e*Sg	**Sb**	**19 07 03.0**	**+3.9**
FNA	**Florina**	**3.71**	**290**	*e*Pn	**Pn**	**19 06 08.1**	**+1.0**
BOSS	**Bosilegrad**	**3.92**	**319**	*e*Pn	**Pn**	**19 06 11.1**	**+1.2**
MPEP	**Malo Peshtene**	**4.12**	**337**	P	**Pn**	**19 06 13.1**	**+0.5**
PRVS	**Prvenek**	**4.14**	**316**	*e*Pn	**Pn**	**19 06 14.0**	**+1.1**
ZAPS	**Zavoj**	**4.46**	**327**	*e*Pn	**Pn**	**19 06 18.7**	**+1.5**
COPA	**Copaceanca**	**4.58**	**353**	⇑P	**Pn**	**19 06 19.0**	**+0.2**
BLKB	**Belogradchik**	**4.73**	**330**	⇑P	**Pn**	**19 06 20.1**	**-0.9**
ZAGS	**Zajecar**	**5.06**	**328**	*e*Pn	**Pn**	**19 06 25.8**	**+0.3**
SELS	**Selova**	**5.14**	**316**	*e*Pn	**Pn**	**19 06 27.4**	**+0.7**
BOVS	**Bovan**	**5.15**	**323**	⇑P	**Pn**	**19 06 25.8**	**-0.9**
BOVS	**Bovan**	**5.15**	**323**	*e*Pn	**Pn**	**19 06 27.2**	**+0.4**
KUBS	**Kucevo**	**5.79**	**328**	*e*Pn	**Pn**	**19 06 35.0**	**-0.5**
CFR	**Carcaliu**	**5.81**	**15**	⇑P	**Pn**	**19 06 38.7**	**+2.9**
GRUS	**Gruza**	**5.82**	**319**	*e*Pn	**Pn**	**19 06 36.5**	**+0.5**
GRER		**5.84**	**7**	⇑P	**Pn**	**19 06 37.7**	**+1.6**
NEHR	**Nehoiu**	**5.84**	**2**	⇓P	**Pn**	**19 06 37.3**	**+1.0**
ARR	**Arges**	**5.86**	**351**	⇑P	**Pn**	**19 06 36.6**	**+0.1**
MLR	**Muntele Rosu**	**5.90**	**360**	⇓P	**Pn**	**19 06 38.0**	**+0.8**
MLR	**Muntele Rosu**	**5.90**	**360**	P	**Pn**	**19 06 37.2**	**0.0**
	comp=E,42nm,0.7s,comp=E,0.1nm						
BR105	**Keskin Array S**	**5.91**	**86**	P	**Pn**	**19 06 37.5**	**+0.3**
	comp=E,6.6nm,0.8s,comp=E,76nmcomp=E,0.0nm						
BR106	**Keskin Array S**	**5.91**	**86**	P	**Pn**	**19 06 37.8**	**+0.6**
	comp=E,2.2nm,0.6s,comp=E,0.0nm						
IVAS	**Ivanjica**	**5.91**	**314**	*e*Pn	**Pn**	**19 06 37.6**	**+0.4**
HERR	**Herculane**	**5.91**	**335**	⇑P	**Pn**	**19 06 36.2**	**-0.9**
BR104	**Keskin Array S**	**5.92**	**86**	P	**Pn**	**19 06 38.2**	**+0.7**
	comp=E,2.9nm,0.5s,comp=E,0.0nm						
BISRR	**Bisoca**	**5.98**	**5**	⇑P	**Pn**	**19 06 39.4**	**+1.2**
MDVR	**Moldovita**	**6.08**	**330**	⇑P	**Pn**	**19 06 38.4**	**-1.1**
LOT	**Lotru**	**6.08**	**345**	⇑P	**Pn**	**19 06 39.3**	**-0.3**
ODBI	**Odobesti**	**6.23**	**7**	⇓P	**Pn**	**19 06 42.8**	**+1.3**
COVR	**Voineasa-Covas**	**6.26**	**2**	⇑P	**Pn**	**19 06 42.8**	**+0.9**
GZR	**Gura Zlata**	**6.26**	**339**	⇓P	**Pn**	**19 06 41.8**	**-0.3**
SCTR	**Scanteiesti**	**6.27**	**13**	⇑P	**Pn**	**19 06 45.0**	**+3.0**
PLOR5	**Plostina Array**	**6.28**	**4**	P	**Pn**	**19 06 42.4**	**+0.2**
	comp=E,51nm,0.6s,comp=E,0.2nm						
PLOR	**Plostina**	**6.28**	**4**	⇑P	**Pn**	**19 06 44.7**	**+2.4**
PLOR3	**Plostina Array**	**6.29**	**4**	P	**Pn**	**19 06 42.9**	**+0.6**
	comp=E,53nm,0.7s,comp=E,0.2nm						
VRI	**Vrincioaia**	**6.30**	**5**	⇑P	**Pn**	**19 06 43.7**	**+1.1**
VRI	**Vrincioaia**	**6.30**	**5**	P	**Pn**	**19 06 43.1**	**+0.6**
	comp=E,65nm,0.7s,comp=E,0.2nm						
DIVS	**Divibare**	**6.34**	**317**	*e*Pn	**Pn**	**19 06 43.3**	**+0.1**
DOPR	**Dopca**	**6.39**	**356**	⇑P	**Pn**	**19 06 44.5**	**+0.7**
VARL	**Varlezi**	**6.46**	**12**	⇑P	**Pn**	**19 06 46.3**	**+1.7**
TURR	**Turia**	**6.47**	**0**	⇑P	**Pn**	**19 06 47.1**	**+2.3**
BOSR	**Bodos**	**6.49**	**358**	⇑P	**Pn**	**19 06 45.9**	**+0.8**
OZUR		**6.51**	**359**	⇓P	**Pn**	**19 06 46.1**	**+0.7**
BZS	**Buzias**	**6.83**	**333**	⇑P	**Pn**	**19 06 50.0**	**+0.3**
TESR	**Tescani**	**6.94**	**4**	⇑P	**Pn**	**19 06 52.8**	**+1.5**
TESR	**Tescani**	**6.94**	**4**	P	**Pn**	**19 06 51.4**	**+0.1**
	comp=E,72nm,0.7s,comp=E,0.2nm						
TIP	**Timpagrande**	**7.15**	**270**	⇑P	**Pn**	**19 06 51.0**	**-3.1**
TIP	**Timpagrande**	**7.15**	**270**	P	**Pn**	**19 06 53.4**	**-0.8**
	comp=E,4.2nm,1.1s,comp=E,0.0nm						
MARR	**Marisel-Cluj**	**7.39**	**345**	⇓P	**Pn**	**19 06 58.5**	**+1.0**
SIRR	**Siria**	**7.39**	**336**	⇓P	**Pn**	**19 06 56.7**	**-0.8**
SEV	**Sevastopol'**	**7.57**	**47**	*e*P	**Pn**	**19 07 01.2**	**+1.3**
SEV				Pm		19 07 04.7	
	comp=Z,2.0nm,0.2s						
SEV				*ex*	x	19 08 19.5	
SEV				Sm		19 08 24.7	
	comp=N,5.0nm,0.4s						
SEV				Sm		19 08 24.7	
	comp=E,3.0nm,0.4s						
DRGR		**7.58**	**343**	⇑P	**Pn**	**19 07 00.1**	**-0.1**
BURAR	**Bucovina Array**	**8.04**	**356**	⇑P	**Pn**	**19 07 07.3**	**+0.8**
MORH	**Mrgy, Hungar**	**8.53**	**323**	P	**Pn**	**19 07 13.1**	**+0.1**
SUDU	**Sudak**	**8.54**	**49**	*e*P	**Pn**	**19 07 13.5**	**+0.3**
SUDU				Pm		19 07 22.5	
	comp=Z,3.0nm,0.3s						
SUDU				*ex*	x	19 08 59.9	
SUDU				Sm		19 09 02.3	
	comp=N,17nm,0.5s						
SUDU				Sm		19 09 02.3	
	comp=E,4.0nm,0.6s						
STHS	**Stebnicka Huta**	**10.39**	**343**	*e*PN	**Pn**	**19 07 38.2**	**-0.4**
LUBAR	**Lubar, Ukraine**	**10.41**	**6**	P	**Pn**	**19 07 39.9**	**+1.1**

*IDC **29** 19:31:59.8±1.5, 15°.77N×146°.05E, h72km±14km, mb3.9/22, mbtmp4.2/23, MS3.0/11, Error ellipse: s-maj=18.2km s-min=10.3km az=105.0*
*NEIC **29** 19:31:59.9±1.6, 15°.73N±0°.07×146°.1E±0°.1, h68km±6km, mb4.6/97, Error ellipse: s-maj=19.2km s-min=2.9km az=121.0*

ISC 29 19:31:57.3±0.5,**15°.73N**±0°.06×**146°.28E**±0°.09,**h50**km,**n410**, σ1**903**/386,**mb4.5**/73,**MS2.9**/10,**Mariana Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.53**	**213**	Pn	**Pn**	**19 32 38.0**	**+2.0**
GUMO				Sn	**Sn**	**19 33 06.3**	**+0.7**
GUMO	**Guam**	**2.53**	**213**	P	**Pn**	**19 32 38.2**	**+2.3**
	242nm,0.3s,baz=44,slow=2.3,SNR=184						
GUMO				S	**Sn**	**19 33 06.8**	**+1.3**
	855nm,0.2s,baz=355,slow=23,SNR=13						
JCJ	**Chichijima**	**11.93**	**342**	Pn	**Pn**	**19 34 47.5**	**+2.7**
JCJ	**Chichijima**	**11.93**	**342**	LR	LR	19 38 14.0	
	comp=Z,17nm,21.8s,baz=270,slow=32						
PATS	**Pohnpei**	**14.73**	**126**	Pn	Pn	19 35 19.4	-3.4
JHJ2	**Mitsune**	**18.27**	**342**		**P**

SEY **Seymchan** 47.34 4 P P 19 40 26.1 +0.3
comp=Z,2.3nm,0.6s,baz=185,slow=7.3,SNR=9.5
SEY LR LR 20 02 09.7
comp=Z,12nm,18.6s,baz=282,slow=38
comp=Z,2.3nm,0.6s
BBOO **Buckleboo** 49.25 191 P P 19 40 40.4 -0.6
FORT **Forrest** 49.45 201 P P 19 40 43.3 +0.8
GSI **Gunungsitoli** 50.10 258 P P 19 40 48.0 +0.2
NIKH **Nikolski High** 51.14 33 P P 19 40 55.8 +0.7
baz=241
SPIA **Saint Paul Isl** 52.66 28 P P 19 41 06.3 0.0
baz=236
P08K **Saint George I** 52.66 29 P P 19 41 07.7 +1.4
baz=238
UNV **Unalaska Valle** 52.80 33 P P 19 41 08.2 +0.8
baz=243
BILL **Bilibino** 53.84 9 P P 19 41 14.2 -0.6
S12K **Black Hills** 55.92 32 P P 19 41 29.1 -1.0
S12K **Black Hills** 55.92 32 P P 19 41 30.8 +0.7
baz=246
GAMB **Gambell** 55.99 21 P P 19 41 31.3 +0.9
baz=231
M11K **Mekoryuk** 56.16 26 P P 19 41 32.7 +1.1
baz=239
SDPT **Sand Point** 56.61 33 P P 19 41 35.6 +0.7
SDPT **Sand Point** 56.61 33 P P 19 41 35.7 +0.7
baz=248
WMQ **Urumqi** 56.69 312 eP P 19 41 33.5 -2.3
WMQ pmax pmax
comp=Z,19nm,0.7s
TIXI **Tiksi** 56.86 354 P P 19 41 37.3 +0.8
CHNA **Chernabura Isl** 56.89 34 P P 19 41 38.1 +1.2
baz=249
M13K **Dall Lake** 57.40 27 P P 19 41 41.4 +0.9
baz=242
S14K **Fog Glacier** 57.45 32 P P 19 41 41.8 +0.8
baz=248
K13K **Kusilvak Mount** 57.60 25 P P 19 41 43.1 +1.3
baz=240
O14K **Tigyukauivet M** 57.81 29 P P 19 41 44.6 +1.2
O14K **Tigyukauivet M** 57.81 29 P P 19 41 43.7 +0.3
baz=244
N14K **Kuskokwak Cree** 57.91 28 P P 19 41 45.1 +1.0
baz=244
CHGN **Chignik** 58.05 33 P P 19 41 46.4 +1.4
CHGN **Chignik** 58.05 33 P P 19 41 46.0 +0.9
baz=249
L14K **Kuka Creek** 58.13 26 P P 19 41 46.4 +0.8
baz=242
M14K **Bethel** 58.17 27 P P 19 41 46.8 +1.0
baz=243
TNA **Tin City** 58.37 21 P P 19 41 48.2 +1.0
baz=234
O15K **Ungalikthiuk R** 58.45 29 P P 19 41 48.7 +0.8
baz=246
J14K **Nanvaranak Lak** 58.45 25 P P 19 41 49.4 +1.6
baz=240
M15K **Kasigluk River** 58.70 27 P P 19 41 51.2 +1.7
baz=244
ANM **Nome** 58.70 22 P P 19 41 50.7 +1.1
baz=237
N15K **Kwethluk River** 58.74 28 P P 19 41 51.7 +1.8
N15K **Kwethluk River** 58.74 28 P P 19 41 51.6 +1.7
baz=245
L15K **Ungalak Mounta** 58.79 26 P P 19 41 51.8 +1.6
baz=243
R16K **Pilot Point** 58.93 31 P P 19 41 52.5 +1.3
baz=249
K15K **Wolf Creek Mou** 59.06 26 P P 19 41 53.0 +0.9
K15K IAmb IAmb 19 42 20.6
comp=Z,11nm,1.2s
K15K **Wolf Creek Mou** 59.06 26 P P 19 41 53.6 +1.5
baz=243
CHIR **Chirikof Islan** 59.36 34 P P 19 41 54.7 +0.5
baz=252
G15K **Niukluk** 59.42 22 P P 19 41 56.3 +1.8
baz=239
O16K **Kokwok River B** 59.43 29 P P 19 41 55.3 +0.6
O16K **Kokwok River B** 59.43 29 P P 19 41 55.5 +0.8
baz=248
N16K **Nishlik Lake** 59.47 28 P P 19 41 56.2 +1.2
baz=246
F15K **North Star Dit** 59.58 21 P P 19 41 56.2 +0.6
F15K **North Star Dit** 59.58 21 P P 19 41 57.1 +1.5
baz=238
M16K **Timber Creek** 59.61 27 P P 19 41 55.8 -0.1
M16K **Timber Creek** 59.61 27 P P 19 41 57.6 +1.7
baz=246
L16K **Owhat River** 59.67 27 P P 19 41 57.7 +1.4
baz=245
Q16K **King Salmon** 59.78 30 P P 19 41 58.8 +1.7
baz=249
J16K **Anvik River** 59.89 25 P P 19 41 59.4 +1.6
baz=243
H16K **Elim** 59.90 23 P P 19 41 59.5 +1.7
baz=241
O17K **Koliganek Bris** 59.97 29 P P 19 41 59.5 +1.2
baz=248
P17K **Kvichak River** 60.07 30 P P 19 41 59.7 +0.7
baz=249
I17K **Unalakleet** 60.13 24 P P 19 42 00.6 +1.2
baz=243
N17K **Nushagak Hills** 60.21 28 P P 19 42 00.9 +0.9
baz=248
G16K **Koyuk River** 60.23 22 P P 19 42 02.0 +1.9
baz=240
SII **Sitkinak Islan** 60.35 33 P P 19 42 02.5 +1.4
SII **Sitkinak Islan** 60.35 33 P P 19 42 02.6 +1.6
baz=253
L17K **Donlin** 60.35 26 P P 19 42 02.3 +1.4
baz=246
M17K **Holitna River** 60.43 27 P P 19 42 03.2 +1.7
M17K **Holitna River** 60.43 27 P P 19 42 03.6 +2.0
baz=247
R18K **Karluk** 60.52 32 P P 19 42 03.4 +1.3
baz=252
J17K **VABM Dome** 60.56 25 P P 19 42 03.9 +1.5
baz=244
K17K **Iditarod** 60.59 26 P P 19 42 03.9 +1.3
K17K IAmb IAmb 19 42 05.3
comp=Z,6.5nm,0.7s
K17K **Iditarod** 60.59 26 P P 19 42 03.7 +1.2
baz=246
ZALV **Zalesovo Beam** 60.71 323 P P 19 42 01.8 -1.7
comp=Z,1.2nm,0.4s,baz=112,slow=7.5,SNR=6.9
comp=Z,1.2nm,0.4s
P18K **Big Mountain,** 60.72 30 P P 19 42 04.9 +1.4
baz=250
C16K **Lisburne Hills** 60.77 19 P P 19 42 03.8 +0.1
C16K IAmb IAmb 19 42 06.2
comp=Z,5.7nm,0.9s
C16K **Lisburne Hills** 60.77 19 P P 19 42 04.8 +1.2
baz=236
N18K **Kilae Creek** 60.86 28 P P 19 42 05.7 +1.2
baz=249
O18K **Koktuh Hills** 60.89 30 P P 19 42 05.6 +0.9
baz=250
G17K **Kiwalik Mounta** 60.91 22 P P 19 42 06.2 +1.5
baz=242
H17K **Granite Mounta** 60.92 23 P P 19 42 06.3 +1.5
baz=243
MK31 **Makanchi Array** 60.93 315 P P 19 42 04.6 -0.6
MK31 IAmb IAmb 19 42 29.5
comp=Z,4.1nm,1.2s
MKAR **Makanchi Array** 60.93 315 P P 19 42 04.8 -0.4
comp=Z,1.1nm,0.5s,baz=91,slow=8.3,SNR=18
comp=Z,1.1nm,0.5s
OHAK **Old Harbor** 61.01 33 P P 19 42 07.0 +1.5
baz=253
L18K **Granite Mounta** 61.08 27 P P 19 42 07.2 +1.3
L18K IAmb IAmb 19 42 48.6
comp=Z,11nm,1.4s
L18K **Granite Mounta** 61.08 27 P P 19 42 07.4 +1.5
baz=248
F17K **Baldwin Pennin** 61.15 21 P P 19 42 07.0 +0.7
F17K **Baldwin Pennin** 61.15 21 P P 19 42 06.9 +0.7
baz=241
D17K **Noatak River** 61.17 20 P P 19 42 07.6 +1.2
baz=238
M18K **Stony River** 61.19 28 P P 19 42 08.1 +1.5
baz=249
E17K **Hotham Inlet** 61.27 21 P P 19 42 07.6 +0.5
baz=240
Q19K **Cape Douglas,** 61.34 31 P P 19 42 08.7 +0.9
baz=252
RDOG **Red Dog Mine** 61.42 19 P P 19 42 09.5 +1.4
baz=238
O19K **Port Alsworth** 61.42 29 P P 19 42 09.3 +1.1
baz=251
KDAK **Kodiak Island** 61.54 32 P P 19 42 09.9 +0.8
baz=254
KDAK **Kodiak Island** 61.54 32 P P 19 42 10.2 +1.2
comp=Z,3.3nm,0.3s,baz=314,slow=2.6,SNR=11
KDAK LR LR 20 07 19.4
comp=Z,15nm,20.2s,baz=226,slow=34
comp=Z,3.3nm,0.3s
N19K **Bonanza Creek** 61.55 29 P P 19 42 10.1 +0.9
N19K **Bonanza Creek** 61.55 29 P P 19 42 10.7 +1.4
baz=250
J18K **Innoko River** 61.56 25 P P 19 42 10.3 +1.2
baz=247
C17K **DeLong Mountai** 61.56 19 P P 19 42 10.1 +1.1
baz=238
H18K **Honhosa River** 61.61 23 P P 19 42 09.7 +0.3
H18K **Honhosa River** 61.61 23 P P 19 42 10.6 +1.1
baz=244
P19K **Oil Pt** 61.77 30 P P 19 42 11.5 +0.9
baz=252
F18K **Selawik** 61.79 22 P P 19 42 11.6 +1.0
baz=242
G18K **Tagagawik** 61.83 22 P P 19 42 11.7 +0.8
baz=244
E18K **Tukpahlearik C** 61.85 21 P P 19 42 11.8 +0.7
E18K IAmb IAmb 19 42 14.0
comp=Z,3.6nm,0.7s
E18K **Tukpahlearik C** 61.85 21 P P 19 42 12.2 +1.2
baz=241
L19K **White Mountain** 61.87 27 P P 19 42 12.2 +0.9
baz=249
Q20K **Shuyak Island** 61.87 31 P P 19 42 12.2 +1.0
baz=253
M19K **Big River Lodg** 61.97 27 P P 19 42 12.9 +1.0
baz=250
GCSA **Galena City Sc** 62.01 24 P P 19 42 12.1 +0.1
baz=246
O20K **Slope Mountain** 62.19 30 P P 19 42 13.7 +0.2
baz=252
J19K **Poorman** 62.21 25 P P 19 42 13.9 +0.4
baz=248
C18K **Utukok River** 62.27 19 P P 19 42 14.4 +0.5
C18K IAmb IAmb 19 42 15.8
comp=Z,4.2nm,0.8s
C18K **Utukok River** 62.27 19 P P 19 42 14.4 +0.5
baz=240
L20K **Farewell, AK** 62.40 27 P P 19 42 16.5 +1.7
baz=250
B18K **Kokolik River** 62.45 18 P P 19 42 16.0 +1.0
baz=239
H19K **Roundabout Mou** 62.49 23 P P 19 42 16.2 +1.0
baz=246
G19K **Purcell Mounta** 62.51 23 P P 19 42 16.0 +0.6
baz=245
M20K **Styx River** 62.53 28 P P 19 42 17.0 +1.3
baz=251
HOM **Homer** 62.54 30 P P 19 42 16.5 +0.8
baz=254
F19K **Shaleruckik Mo** 62.56 22 P P 19 42 16.3 +0.6
F19K IAmb IAmb 19 42 16.6
comp=Z,5.0nm,1.3s
F19K **Shaleruckik Mo** 62.56 22 P P 19 42 16.2 +0.6
baz=244
K20K **Telida** 62.62 26 P P 19 42 17.1 +0.8
baz=250
CNPM **China Poot** 62.70 31 P P 19 42 16.9 +0.1
N20K **Mount Spurr** 62.73 29 P P 19 42 18.6 +1.5
baz=252
J20K **Nowinta River** 62.88 25 P P 19 42 19.1 +1.1
baz=249
I20K **Naaghedeneel** 62.97 24 P P 19 42 19.0 +0.5
baz=248
C19K **Lookout Ridge** 63.00 19 P P 19 42 19.3 +0.6
C19K IAmb IAmb 19 42 21.9
comp=Z,11nm,1.2s
C19K **Lookout Ridge** 63.00 19 P P 19 42 19.2 +0.4
baz=241
BRSE **Bradley Lake S** 63.00 30 P P 19 42 19.6 +0.8
baz=254
E19K **Redstone River** 63.02 21 P P 19 42 19.8 +0.9
baz=244
H20K **Anotleneega Mo** 63.08 24 P P 19 42 19.9 +0.6
baz=248
D19K **Kuna River** 63.19 20 P P 19 42 20.8 +0.8
D19K IAmb IAmb 19 42 21.3
comp=Z,4.5nm,0.7s
D19K **Kuna River** 63.19 20 P P 19 42 20.6 +0.7
baz=243
PPLA **Purkeypile** 63.27 27 P P 19 42 21.6 +0.9
baz=252
SKT **Skwentna** 63.27 28 P P 19 42 20.5 -0.1
SKT **Skwentna** 63.27 28 P P 19 42 21.5 +0.9
baz=253
F20K **Avaart Lake** 63.38 22 P P 19 42 22.7 +1.5
baz=246
SUA **Susitna One** 63.48 29 P P 19 42 23.1 +1.0
baz=254
CAST **Castle Rocks** 63.48 26 P P 19 42 23.0 +1.0
CAST IAmb IAmb 19 42 24.0
comp=Z,7.7nm,0.6s
CAST **Castle Rocks** 63.48 26 P P 19 42 22.8 +0.8
baz=251,SNR=13
E20K **Nigu River** 63.73 21 P P 19 42 24.9 +1.4
baz=245
D20K **Etivluk River** 63.78 20 P P 19 42 25.1 +1.2
baz=244
RC01 **Rabbit Creek A** 63.85 29 P P 19 42 25.3 +0.9
baz=255
KURK **Kurchatov** 63.85 319 P P 19 42 23.6 -1.0
KURK IAmb IAmb 19 42 24.3
comp=Z,4.7nm,0.5s
KURBB **Kurchatov Arra** 63.90 319 P P 19 42 24.2 -0.6
comp=Z,7.4nm,0.5s,baz=96,slow=7.4,SNR=141
comp=Z,7.4nm,0.5s
H21K **Melozitna Rive** 63.94 24 P P 19 42 26.0 +1.1
baz=250
CUT **Chulitna** 63.97 28 P P 19 42 26.3 +1.2
baz=254
G21K **Allakaket** 63.99 23 P P 19 42 26.6 +1.4
G21K **Allakaket** 63.99 23 P P 19 42 26.4 +1.2
baz=248
I21K **Tanana** 64.10 24 P P 19 42 27.3 +1.3
baz=251
BPAW **Bear Paw Mtn.** 64.16 26 P P 19 42 26.9 +0.4
BPAW IAmb IAmb 19 42 28.3
comp=Z,4.6nm,0.8s
BPAW **Bear Paw Mtn.** 64.16 26 P P 19 42 27.6 +1.1
baz=252
B20K **Meade River** 64.18 19 P P 19 42 27.6 +1.2
baz=243
F21K **Alatna River** 64.26 22 P P 19 42 27.9 +0.8
baz=248
TRF **Thorofare Moun** 64.26 26 P P 19 42 27.1 -0.2
TRF IAmb IAmb 19 42 28.4
comp=Z,5.4nm,1.0s
TRF **Thorofare Moun** 64.26 26 P P 19 42 27.7 +0.4
baz=253
PMR **Palmer** 64.26 29 P P 19 42 27.4 +0.4
baz=255
KNK **Knik Glacier** 64.53 29 P P 19 42 29.5 +0.6
baz=256
E21K **Killik River** 64.55 21 P P 19 42 29.4 +0.5
baz=247
MLY **Manley** 64.55 25 P P 19 42 30.4 +1.4
MLY IAmb IAmb 19 42 30.9
comp=Z,3.6nm,0.6s
MLY **Manley** 64.55 25 P P 19 42 29.0 0.0
baz=252
C21K **Knifeblade Rid** 64.57 20 P P 19 42 29.6 +0.7
baz=246
H22K **Ishtalitna Cre** 64.58 24 P P 19 42 30.1 +0.9
baz=251
SML **Sawmill** 64.68 29 P P 19 42 30.8 +0.8
baz=256
P23K **Montague Islan** 64.70 31 P P 19 42 31.3 +1.3
baz=257
B21K **Ikpikpuk River** 64.81 19 P P 19 42 30.8 +0.3
baz=246
F22K **John River** 64.83 22 P P 19 42 31.4 +0.6
baz=249,SNR=6.5
WAT1 **Susitna Watana** 64.85 27 P P 19 42 31.8 +0.9
baz=255
G22K **Bettles** 64.87 23 P P 19 42 31.6 +0.7
baz=250
MCK **McKinley** 64.92 26 P P 19 42 32.3 +0.9
baz=254
M23K **Glacier View** 64.96 29 P P 19 42 32.4 +0.7
baz=256
GLI **Glacier Island** 65.04 30 P P 19 42 33.1 +0.9
baz=257
Q23K **Middleton Isla** 65.10 31 P P 19 42 33.3 +0.7
baz=259
BOOM **Boomskoye usch** 65.10 310 P P 19 42 33.0 -0.1
NEA2 **Nenana** 65.10 25 P P 19 42 33.1 +0.6
baz=254
I23K **Minto, Yukon-K** 65.14 25 P P 19 42 33.7 +1.0
baz=253,SNR=5.2
WAT6 **Susitna Watana** 65.14 28 P P 19 42 33.3 +0.2
baz=256,SNR=5.3
SCM **Sheep Creek Mo** 65.15 29 P P 19 42 33.3 +0.3
baz=257
D22K **Ayikyak River** 65.16 20 P P 19 42 33.7 +0.8
baz=248,SNR=5.1
E22K **Anaktuvuk Pass** 65.18 21 P P 19 42 34.1 +1.0
E22K IAmb IAmb 19 42 36.4
comp=Z,3.5nm,0.6s
E22K **Anaktuvuk Pass** 65.18 21 P P 19 42 33.6 +0.6
baz=250
H23K **Yukon River** 65.27 24 P P 19 42 34.8 +1.1
baz=253
A22K **Sinclair Lake** 65.28 18 P P 19 42 34.1 +0.6
baz=245
G23K **Bananza Creek** 65.36 23 P P 19 42 35.6 +1.3
baz=252
DHY **Denali Highway** 65.43 27 P P 19 42 35.4 +0.6
baz=256
COLD **Coldfoot** 65.46 23 P P 19 42 34.9 +0.2
baz=252
B22K **Teshekpuk Lake** 65.48 19 P P 19 42 35.2 +0.4
baz=247
WRH **Wood River Hil** 65.48 26 P P 19 42 35.0 +0.1
WRH IAmb IAmb 19 42 35.5
comp=Z,3.2nm,0.6s
MDM **Murphy Dome** 65.55 25 P P 19 42 36.2 +0.7
MDM IAmb IAmb 19 42 37.8
comp=Z,3.8nm,0.7s
EYAK **Cordova Ski Ar** 65.62 30 P P 19 42 36.3 +0.4
baz=259
CCB **Clear Creek Bu** 65.64 26 P P 19 42 35.7 -0.3
KLU **Klutina** 65.73 29 P P 19 42 37.2 +0.4
baz=258
M24K **Tolsona, Glenn** 65.75 28 P P 19 42 37.8 +1.0
baz=258
D23K **Nanushuk River** 65.86 21 P P 19 42 38.8 +1.4
baz=250
POKR **Poker Plat Res** 65.92 25 P P 19 42 39.0 +1.2
baz=255
H24K **Noodor Dome** 65.93 24 P P 19 42 39.0 +1.1
baz=254
HDA **Harding Lake** 65.94 26 P P 19 42 37.1 -0.8
HDA **Harding Lake** 65.94 26 P P 19 42 38.6 +0.7
baz=256
IL31 **66.06** 26 P P 19 42 37.4 -1.2
IL31 IAmb IAmb 19 42 38.5
comp=Z,3.6nm,0.5s
ILAR **Eielson Array** 66.06 26 P P 19 42 38.1 -0.6
comp=Z,2.4nm,0.4s,baz=250,slow=5.9,SNR=40
comp=Z,2.4nm,0.4s
TOLK **Toolik Lake Re** 66.14 21 P P 19 42 40.0 +0.8
baz=252
KAIM **Kayak Island** 66.16 31 P P 19 42 40.1 +0.7
baz=260
C23K **Itkillik River** 66.19 20 P P 19 42 40.4 +1.0
baz=250
PAX **Paxson** 66.25 28 P P 19 42 40.4 +0.3
baz=258,SNR=8.5
BMRM **Bremner River** 66.25 30 P P 19 42 41.3 +1.2
baz=260
HARP **HAARP** 66.27 28 P P 19 42 40.9 +0.7
baz=258
K24K **Donnelly Dome** 66.30 27 P P 19 42 41.5 +1.2
baz=257
G24K **Hadweenzic Riv** 66.33 23 P P 19 42 41.2 +0.8
G24K IAmb IAmb 19 43 00.5
comp=Z,6.0nm,1.4s
G24K **Hadweenzic Riv** 66.33 23 P P 19 42 41.5 +1.1
baz=254
E24K **Your Creek** 66.34 22 IAmb IAmb 19 42 42.3
comp=Z,2.9nm,0.6s
E24K **Your Creek** 66.34 22 P P 19 42 42.0 +1.4
baz=253,SNR=5.7
N25K **Chitina, Valde** 66.38 29 P P 19 42 42.1 +1.2
baz=259
F24K **Squaw Lake** 66.40 23 P P 19 42 42.2 +1.3
baz=254
D24K **Happy Valley** 66.56 21 P P 19 42 42.1 +0.3
baz=252,SNR=6.8
J25K **Salcha River,** 66.65 26 IAmb IAmb 19 42 44.3
comp=Z,3.0nm,0.6s
J25K **Salcha River,** 66.65 26 P P 19 42 42.5 -0.1
baz=257,SNR=6.7
C24K **Franklin Bluff** 66.78 20 P P 19 42 43.6 +0.4
baz=252
PRP **Porcupine Dome** 66.80 25 P P 19 42 43.6 0.0
baz=257
H25L **Birch Creek** 66.86 24 P P 19 42 44.2 +0.5
baz=256
G25K **Bearman Lake** 66.87 24 P P 19 42 44.3 +0.5
baz=256
MCARA **McCarthy VSAT** 67.08 30 P P 19 42 45.5 +0.2
baz=261
SCRK **Sand Creek** 67.11 27 P P 19 42 46.6 +1.0
baz=259
L26K **Log Cabin Wild** 67.21 28 P P 19 42 47.3 +1.1
baz=260
F25K **Christian Rive** 67.25 23 P P 19 42 47.3 +0.9
baz=256,SNR=5.2
J26L **Joseph Creek** 67.39 26 P P 19 42 47.5 +0.2
J26L IAmb IAmb 19 42 50.0
comp=Z,3.9nm,0.7s
J26L **Joseph Creek** 67.39 26 P P 19 42 48.0 +0.6
baz=259,SNR=9.8
E25K **Arctic Village** 67.41 22 P P 19 42 48.1 +0.9
baz=256
MESA **MESA** 67.42 31 P P 19 42 48.0 +0.3
baz=262
D25K **Kavik River** 67.44 21 IAmb IAmb 19 42 51.5
comp=Z,3.7nm,0.7s
D25K **Kavik River** 67.44 21 P P 19 42 48.0 +0.5
baz=254,SNR=7.0
BMAR **Burnt Mountain** 67.61 23 P P 19 42 49.7 +1.1
I26K **Coal Creek Min** 67.72 25 P P 19 42 49.6 +0.4
baz=259
M27K **Edge Creek, AK** 67.77 29 P P 19 42 49.9 +0.1
M27K IAmb IAmb 19 43 12.6
comp=Z,9.4nm,1.4s
M27K **Edge Creek, AK** 67.77 29 P P 19 42 50.6 +0.8
baz=261
G26K **Porcupine Rive** 67.80 24 P P 19 42 50.5 +0.8
baz=258
CTG **Chitna Glacier** 67.83 30 P P 19 42 50.9 +0.7
baz=262
F26K **Sheenjek River** 67.83 23 P P 19 42 50.8 +0.8
baz=257,SNR=7.3
L27K **Beaver Creek,** 67.90 28 P P 19 42 50.9 +0.4
baz=261
C26K **Camden Bay** 68.09 20 P P 19 42 51.6 +0.1
baz=256,SNR=5.7
YUK3 **Moose Creek** 68.35 29 P P 19 42 53.7 +0.2
baz=263
O28M **Mount Upton** 68.36 30 P P 19 42 54.3 +0.6
baz=264
I27K **Kandik River** 68.41 25 P P 19 42 54.4 +0.8
baz=260
C27K **Jago River** 68.43 21 P P 19 42 55.1 +1.5
baz=257
EGAK **Eagle** 68.46 26 P P 19 42 54.3 +0.4
baz=261
H27K **Steamboat Moun** 68.55 24 P P 19 42 55.5 +1.0
baz=260,SNR=6.1
G27K **Doyon Strip** 68.60 24 P P 19 42 56.3 +1.5
baz=260
YUK8 **Steele Glacier** 68.62 30 P P 19 42 55.9 +0.5
baz=264
PNL **Peninsula** 68.64 32 P P 19 42 56.1 +0.9
baz=265
E27K **Coleen River** 68.88 22 P P 19 42 57.6 +1.1
baz=259
I28M **Miner Creek** 69.07 25 P P 19 42 58.9 +1.0
baz=262
KK31 **Karatay Array** 69.09 311 P P 19 42 57.1 -1.1
O29M **Mount Kennedy** 69.11 31 IAmb IAmb 19 43 01.2
comp=Z,5.1nm,0.9s
O29M **Mount Kennedy** 69.11 31 P P 19 42 59.4 +1.2
baz=265

BVAR	**Borovoye Array**	69.11	321	P		P	19 42 57.1	-1.1
	comp=Z,3.5nm,0.5s,baz=105,slow=7.5,SNR=27							
	comp=Z,3.5nm,0.5s							
DAWY	**Dawson**	69.12	27	P		P	19 42 59.4	+1.3
	baz=263							
YUK4	**Talbot Arm**	69.17	30	P		P	19 42 59.3	+0.7
	baz=265							
BRVK	**Borovoye**	69.18	321	P		P	19 42 56.8	-1.8
YUK6	**Outpost Mounta**	69.27	30	P		P	19 42 59.4	+0.1
	baz=265							
D27M	**Malcolm River**	69.30	21	P		P	19 42 59.4	+0.3
	baz=260							
M29M	**Somme Creek**	69.36	29	IAmb		IAmb	19 43 02.8	
	comp=Z,4.7nm,0.8s							
M29M	**Somme Creek**	69.36	29	P		P	19 43 00.4	+0.7
	baz=264							
F28M	**Old Crow**	69.42	23	IAmb		IAmb	19 43 04.3	
	comp=Z,7.1nm,1.4s							
F28M	**Old Crow**	69.42	23	P		P	19 43 01.2	+1.4
	baz=261							
P29M	**Windy Craggy**	69.47	32	P		P	19 43 00.6	+0.2
	baz=266							
L29M	**L29M**	69.58	28	IAmb		IAmb	19 43 03.7	
	comp=Z,8.7nm,1.1s							
L29M	**L29M**	69.58	28	P		P	19 43 01.8	+0.9
	baz=264,SNR=7.0							
HYT	**Haines Junctio**	69.68	30	P		P	19 43 02.2	+0.6
	baz=266,SNR=6.9							
E28M	**Babbage River**	69.70	22	P		P	19 43 02.8	+1.3
	baz=261							
I29M	**Ogilvie Camp,**	69.74	26	P		P	19 43 02.7	+0.9
	baz=264							
H29M	**Whitestone**	69.81	25	P		P	19 43 03.6	+1.4
	baz=263							
P30M	**Million Dollar**	69.90	31	P		P	19 43 03.7	+0.7
	baz=267							
K29M	**Barlow Dome**	69.92	27	P		P	19 43 03.9	+0.8
	baz=265							
N30M	**Aishikik Lake**	69.92	30	P		P	19 43 03.9	+0.8
	baz=266							
G29M	**Pine Creek**	70.03	24	P		P	19 43 04.1	+0.4
	baz=263							
D28M	**Stokes Point**	70.09	21	P		P	19 43 04.9	+1.0
	baz=262							
M30M	**Minto, Yukon**	70.14	29	P		P	19 43 05.4	+1.0
	baz=266							
PLBC	**Pleasant Camp**	70.16	32	P		P	19 43 04.6	+0.1
	baz=267							
S31K	**Pelican**	70.17	34	P		P	19 43 04.9	+0.4
	baz=268							
E29M	**Blow River**	70.27	22	IAmb		IAmb	19 43 08.2	
	comp=Z,8.0nm,1.4s							
E29M	**Blow River**	70.27	22	P		P	19 43 05.6	+0.6
	baz=263							
O30N	**Mendenhall**	70.36	31	P		P	19 43 07.0	+1.2
	baz=267							
EPYK	**Eagle Plains**	70.49	25	IAmb		IAmb	19 43 51.0	
	comp=Z,7.3nm,1.1s							
EPYK	**Eagle Plains**	70.49	25	P		P	19 43 07.3	+0.8
	baz=265							
J30M	**Hart River**	70.50	27	P		P	19 43 07.0	+0.4
	baz=266							
I30M	**Mount Dempster**	70.53	26	P		P	19 43 07.0	+0.1
	baz=265							
N31M	**Braeburn, Yuko**	70.55	30	P		P	19 43 07.1	+0.2
	baz=267							
SIT	**Sitka**	70.64	35	P		P	19 43 07.9	+0.5
	baz=269							
G30M	**tAoh Zraii Nji**	70.75	24	IAmb		IAmb	19 43 10.5	
	comp=Z,9.7nm,1.4s							
G30M	**tAoh Zraii Nji**	70.75	24	P		P	19 43 08.3	+0.3
	baz=265							
WHY	**Whitehorse**	70.95	31	P		P	19 43 09.4	0.0
	baz=268							
F30M	**Barrier River**	70.97	23	P		P	19 43 09.6	+0.3
	baz=265							
S32K	**Killisnoo**	71.05	34	P		P	19 43 10.9	+1.0
	baz=270							
R32K	**Eaglecrest**	71.09	33	P		P	19 43 10.8	+0.6
	baz=269							
M31M	**Drury Creek, Y**	71.24	29	P		P	19 43 11.3	+0.2
	baz=268							
H31M	**Peel River**	71.42	25	IAmb		IAmb	19 43 14.0	
	comp=Z,3.2nm,0.7s							
H31M	**Peel River**	71.42	25	P		P	19 43 12.2	+0.1
	baz=267							
G31M	**Satah River**	71.51	24	IAmb		IAmb	19 43 14.0	
	comp=Z,5.4nm,0.6s							
G31M	**Satah River**	71.51	24	P		P	19 43 13.0	+0.5
	baz=267							
P32M	**Atlin**	71.52	32	P		P	19 43 13.1	+0.2
	baz=270							
FARO	**Faro, Yukon**	71.73	29	P		P	19 43 14.3	+0.3
	baz=269							
F31M	**Tsiigehtchic**	71.74	24	P		P	19 43 14.2	+0.2
	baz=267							
U33K	**Whale Pass**	71.86	36	P		P	19 43 14.2	-0.6
	baz=271							
INK	**Inuvik**	71.87	23	P		P	19 43 14.1	-0.6
	baz=267							
P33M	**Teslin, Yukon**	71.97	31	P		P	19 43 15.7	+0.1
	baz=270							
WRAK	**Wrangell Islan**	72.28	35	P		P	19 43 17.8	+0.4
	baz=272							
MMPY	**Sheldon Lake,**	72.70	29	P		P	19 43 20.3	+0.5
	baz=271							
V35K	**Ketchikan**	72.74	36	P		P	19 43 20.2	+0.2
	baz=273							
S34M	**Telegraph Cree**	72.89	34	P		P	19 43 21.2	+0.3
	baz=272							
R33M	**Jennings River**	72.92	32	P		P	19 43 21.2	-0.1
	baz=272							
T35M	**Bob Quinn**	73.41	35	P		P	19 43 24.5	+0.4
	baz=273							
DLBC	**Dease Lake**	73.45	33	IAmb		IAmb	19 43 27.1	
	comp=Z,6.9nm,1.1s							
DLBC	**Dease Lake**	73.45	33	P		P	19 43 24.9	+0.5
	baz=273							
DLBC	**Dease Lake**	73.45	33	P		P	19 43 24.8	+0.4
	comp=Z,5.5nm,0.9s,baz=298,slow=6.4,SNR=7.9							
	comp=Z,5.5nm,0.9s							
WTLY	**Watson Lake, Y**	73.98	31	P		P	19 43 27.7	+0.3
	baz=274							
TGTN	**Hyland Airport**	74.15	30	P		P	19 43 28.6	+0.2
	baz=274							
A36M	**Sachs Harbour**	74.69	19	P		P	19 43 31.9	+0.6
	baz=274							
C36M	**Paulatuk**	75.28	22	P		P	19 43 35.5	+0.8
	baz=276							
ABKAR	**Akbulak array**	75.89	318	P		P	19 43 36.5	-2.0
ABKAR	**Akbulak array**	75.89	318	IAmb		IAmb	19 43 37.6	
	comp=Z,2.4nm,0.8s							
TOAD	**Toad River Com**	75.91	32	P		P	19 43 39.0	+0.5
	baz=277							
KOTAN	**Kotaneelee Air**	76.34	31	P		P	19 43 41.4	+0.4
	baz=278							
GEYT	**Alibeck**	79.09	306	P		P	19 43 55.7	-1.1
	comp=Z,1.0nm,0.6s,baz=90,slow=0.1,SNR=2.5							
	comp=Z,1.0nm,0.6s							
KIRV	**Kirov**	80.26	328	LR		LR	20 22 34.2	
	comp=Z,27nm,18.3s,baz=354,slow=38							
YKA	**Yellowknife Ar**	80.34	28	P		P	19 44 03.4	+0.5
	comp=Z,1.7nm,0.6s,baz=288,slow=5.6,SNR=12							
	comp=Z,1.7nm,0.6s							
J05D	**Fort Rock, OR**	81.16	48	P		P	19 44 09.3	+1.3
J05D				IAmb		IAmb	19 44 10.7	
	comp=Z,8.8nm,0.8s							
PINE	**Pine Mountain**	81.26	47	P		P	19 44 10.2	+1.6
NEW	**Newport**	82.73	42	P		P	19 44 16.2	+0.2
	baz=286							
PNTR	**Pine Nut**	83.38	51	P		P	19 44 20.9	+1.2
PNTR				IAmb		IAmb	19 44 22.9	
	comp=Z,5.0nm,0.6s							
NVAR	**Mina Array Bea**	84.53	52	P		P	19 44 26.9	+1.4
NVAR	**Mina Array Bea**	84.53	52	P		P	19 44 27.2	+1.6
	comp=Z,3.1nm,0.5s,baz=269,slow=5.7,SNR=24							
	comp=Z,3.1nm,0.5s							
CWC	**Cottonwood Cre**	85.24	54	P		P	19 44 29.2	0.0
	baz=286							
ARCES	**ARCESS Array B**	85.47	342	P		P	19 44 27.4	-2.0
	comp=Z,2.6nm,0.8s,baz=20,slow=3.9,SNR=4.3							
	comp=Z,2.6nm,0.8s							
EDW2	**Edwards Air Fo**	85.73	55	P		P	19 44 30.7	-0.8
	baz=286							
MPMC	**Manual Prospec**	85.80	54	P		P	19 44 31.5	-0.5
	baz=286							
LRMC	**Laurel Mtn Rad**	85.81	54	P		P	19 44 31.9	-0.1
	baz=286							
HLID	**Hailey**	85.88	46	P		P	19 44 32.1	-0.1
	baz=288							
GSC	**Goldstone, Bar**	86.55	54	P		P	19 44 35.6	+0.1
	baz=287							
R11B	**Troy Canyon, C**	86.60	51	P		P	19 44 35.8	0.0
	baz=287							
HEC	**Hector,Ludlow**	87.06	55	P		P	19 44 38.2	+0.2
	baz=287							
BOZ	**Bozeman (W)**	87.12	43	P		P	19 44 38.4	+0.2
	baz=290							
TUQ	**Turquoise Moun**	87.20	54	P		P	19 44 38.6	-0.2
	baz=287							
PFO	**Pinyon Flats O**	87.31	56	P		P	19 44 39.4	0.0
	baz=287							
TPFO	**Pinon Flats**	87.32	56	P		P	19 44 39.5	+0.1
	baz=287							
EGMT	**Eagleton**	87.50	41	P		P	19 44 40.1	+0.3
	baz=291							
MONP2	**Monument Peak**	87.55	57	P		P	19 44 40.6	0.0
	baz=287							
BELC	**Belle Mtn. Jos**	87.56	55	P		P	19 44 40.4	-0.1
	baz=287							
GMRC	**Granite Mounta**	87.60	55	P		P	19 44 39.7	-1.0
	baz=288							
IKP	**In-Ko-Pah, Jac**	87.87	57	P		P	19 44 41.8	-0.2
	baz=287							
DUG	**Dugway, Tooele**	88.07	49	P		P	19 44 43.8	+0.9
	baz=289							
BC3	**Big Chuckawall**	88.10	56	P		P	19 44 44.0	+0.9
	baz=288							
IRM	**Iron Mountain**	88.19	55	P		P	19 44 43.8	+0.3
	baz=288							
NEE2	**Needles Airpor**	88.42	54	P		P	19 44 44.5	0.0
	baz=288							
PDMCI	**Parker Dam,Lak**	88.94	55	P		P	19 44 47.0	+0.2
	baz=288							
KNB	**Kanab**	89.09	52	P		P	19 44 49.4	+1.6
KNB				IAmb		IAmb	19 44 50.7	
	comp=Z,6.3nm,1.3s							
FINES	**FINESS Array B**	89.80	335	P		P	19 44 47.5	-2.8
	comp=Z,0.8nm,0.6s,baz=80,slow=4.0,SNR=6.9							
	comp=Z,0.8nm,0.6s							
WUAZ	**Wupatki**	90.69	53	P		P	19 44 54.8	-0.5
	baz=290							
214A	**Organ Pipe Nat**	90.74	57	P		P	19 44 55.6	+0.2
	baz=289							
DGMT	**Dagmar**	90.75	39	P		P	19 44 55.1	0.0
	baz=295							
K22A	**Casper**	91.61	45	P		P	19 44 58.7	-0.7
	baz=293							
W18A	**Petrified Fore**	92.09	53	P		P	19 45 01.3	-0.5
	baz=291							
MVCO	**Mesa Verde**	92.27	50	P		P	19 45 02.6	-0.1
	baz=288							
RSSD	**Black Hills**	92.67	43	P		P	19 45 03.6	-0.8
	baz=295							
BRTR	**Keskin Array B**	96.57	314	P		P	19 45 19.8	-2.4
	comp=Z,0.3nm,0.6s,baz=35,slow=6.0,SNR=2.7							
	comp=Z,0.3nm,0.6s							
DBIC	**Dimbokro**	143.77	306	PKP		PKPab	19 51 26.3	+1.5
	comp=Z,1.1nm,0.3s,baz=67,slow=3.6,SNR=4.5							
LPAZ	**La Paz**	146.94	96	PKPbc		**PKPdf**	19 51 36.1	+2.1
	comp=Z,1.2nm,0.4s,baz=264,slow=4.0,SNR=5.3							

MEX 29 19:49:25.5±0.8, 16°05N×95°27W, h12km±217km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.10**	**20**	*eP*			Pb	19 49 40.0	-6.5
CMIG				*eS*			Sb	19 49 51.9	-8.8
CMIG	**Matias Romero**	**1.10**	**20**	*eP*			Pb	19 49 40.0	-6.5
CMIG				*eS*			Sb	19 49 52.4	-8.3
UXUV	**UXUV**	**1.66**	**40**	*eP*			Pn	19 49 51.4	-3.0
UXUV				*eS*			Sn	19 50 10.6	-5.0
UXUV	**UXUV**	**1.66**	**40**	*eP*			Pn	19 49 50.6	-3.8
UXUV				*eS*			Sn	19 50 11.1	-4.5
NEUV	**Arroyo Zacate**	**1.73**	**343**	*eP*			Pn	19 49 50.6	-4.7
NEUV				*eS*			Sn	19 50 12.8	-4.5
NEUV	**Arroyo Zacate**	**1.73**	**343**	*eP*			Pn	19 49 51.6	-3.8
NEUV				*eS*			Sn	19 50 12.8	-4.5

MEX 29 19:49:31.7±0.7, 16°37N×97°07W, h15km, MD3.5, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PEIG	**Puerto Escondi**	**0.38**	**191**	*eP*			Pg	19 49 38.3	-1.2
PEIG				*eS*			Sg	19 49 44.1	-0.6
YOIG	**Yosondua**	**0.66**	**317**	*eP*			Pg	19 49 42.2	-2.5
YOIG				*eS*			Sg	19 49 51.2	-2.4
TXIG	**Tlaxiaco**	**1.10**	**323**	*eP*			Pb	19 49 50.1	-2.5
TXIG				*eS*			Sb	19 50 03.5	-3.5

*RSPR **29** 20:10:26.9, 18°.17N×67°.17W, h106km, MD2.8/12*
*NEIC **29** 20:10:26.6±0.5, 18°.19N±0°.07×67°.16W±0°.02, h105km±4km, ML2.6/24, Md2.8/12(RSPR), Error ellipse: s-maj=9.7km s-min=2.7km az=183.0*
*SDD **29** 20:10:27.6±2.0, 18°.10N×67°.15W, h106km±11km, MD3.2, ML2.8, MW3.2*

ISC 29 20:10:26.9±1.6, 18°.21N±0°.10×67°.18W±0°.04, h102km±9km, n63, σ0°41/66, 10C-2D, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PRSN	**Puerto Rico Se**	**0.03**	**83**	Pn			**Pn**	**20 10 40.3**	**-0.7**
PRSN				IAML				20 10 52.5	
	comp=E,280nm,0.2s								
PRSN				IAML				20 10 53.0	
	comp=N,194nm,0.2s								
PRSN	**Puerto Rico Se**	**0.03**	**83**	*ePg*			**Pn**	**20 10 40.9**	**-0.1**
PRSN				*eSg*			**Sn**	**20 10 51.6**	**0.0**
PRSN				IAML				20 10 53.0	
	comp=N,188nm,0.1s								
LSP	**Las Mesas**	**0.10**	**113**	*i*↑*eP*			**Pn**	**20 10 41.1**	**0.0**
LSP	**Las Mesas**	**0.10**	**113**	*eS*			**Sn**	**20 10 52.6**	**+0.8**
LSP	**Las Mesas**	**0.10**	**113**				**Pn**	**20 10 41.1**	**0.0**
LSP							**Sn**	**20 10 52.6**	**+0.8**
CRPR	**Cabo Rojo, PR**	**0.22**	**163**	*i*↑*eP*			**Pn**	**20 10 41.2**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.22**	**163**	*eS*			**Sn**	**20 10 52.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.22**	**163**				**Sn**	**20 10 52.4**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.22**	**163**				**Pn**	**20 10 41.1**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.22**	**163**	*i*↓*eP*			**Pn**	**20 10 41.3**	**-0.1**
CRPR				*eSg*			**Sn**	**20 10 52.1**	**-0.1**
CRPR				IAML				20 10 54.1	
	comp=N,67nm,0.4s								
MLPR	**Magueyes Islan**	**0.27**	**152**	*i*↑*eP*			**Pn**	**20 10 41.3**	**-0.3**
MLPR	**Magueyes Islan**	**0.27**	**152**	*eS*			**Sn**	**20 10 52.2**	**-0.4**
MLPR	**Magueyes Islan**	**0.27**	**152**				**Pn**	**20 10 41.3**	**-0.3**
MLPR	**Magueyes Islan**	**0.27**	**152**				**Sn**	**20 10 52.2**	**-0.4**
MLPR	**Magueyes Islan**	**0.27**	**152**	IAML				20 10 54.8	
	comp=E,48nm,0.3s								
MLPR				IAML				20 10 55.1	
	comp=N,47nm,0.2s								
MLPR	**Magueyes Islan**	**0.27**	**152**	*ePg*			**Pn**	**20 10 41.1**	**-0.5**
MLPR				*eSg*			**Sn**	**20 10 51.7**	**-0.9**
MLPR				IAML				20 10 55.0	
	comp=N,44nm,0.2s								
GBPR	**Guanica, Bosqu**	**0.37**	**130**	*i*↑*eP*			**Pn**	**20 10 42.1**	**0.0**
GBPR	**Guanica, Bosqu**	**0.37**	**130**	*eS*			**Sn**	**20 10 54.1**	**+0.7**
GBPR	**Guanica, Bosqu**	**0.37**	**130**				**Pn**	**20 10 42.1**	**0.0**
GBPR							**Sn**	**20 10 54.1**	**+0.7**
AOPR	**Arecibo Observ**	**0.42**	**72**	*i*↑*eP*			**Pn**	**20 10 42.9**	**+0.5**
AOPR	**Arecibo Observ**	**0.42**	**72**	*eS*			**Sn**	**20 10 54.1**	**0.0**
AOPR	**Arecibo Observ**	**0.42**	**72**				**Sn**	**20 10 54.1**	**0.0**
AOPR	**Arecibo Observ**	**0.42**	**72**				**Pn**	**20 10 42.2**	**-0.2**
AOPR	**Arecibo Observ**	**0.42**	**72**	IAML				20 10 55.1	
	comp=N,676nm,0.3s								
AOPR				IAML				20 10 56.7	
	comp=E,678nm,0.2s								
AOPR	**Arecibo Observ**	**0.42**	**72**	*i*↓*eP*			**Pn**	**20 10 42.4**	**0.0**
AOPR				*eSg*			**Sn**	**20 10 54.3**	**+0.2**
AOPR				IAML				20 10 55.0	
	comp=N,667nm,0.2s								
UUPR	**Utuado, UPR, P**	**0.44**	**85**	*i*↑*eP*			**Pn**	**20 10 42.8**	**+0.3**
UUPR	**Utuado, UPR, P**	**0.44**	**85**	*eS*			**Sn**	**20 10 54.6**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.44**	**85**				**Sn**	**20 10 54.6**	**+0.4**
UUPR	**Utuado, UPR, P**	**0.44**	**85**				**Pn**	**20 10 42.1**	**-0.4**
UUPR	**Utuado, UPR, P**	**0.44**	**85**	IAML				20 10 56.2	
	comp=N,2μm,0.3s								
UUPR				IAML				20 10 57.2	
	comp=E,1μm,0.4s								
OBIP	**Obispado Ponce**	**0.57**	**107**	*eP*			**Pn**	**20 10 43.3**	**-0.1**
OBIP	**Obispado Ponce**	**0.57**	**107**	*eS*			**Sn**	**20 10 55.9**	**0.0**
OBIP	**Obispado Ponce**	**0.57**	**107**				**Sn**	**20 10 55.9**	**0.0**
OBIP	**Obispado Ponce**	**0.57**	**107**				**Pn**	**20 10 43.1**	**-0.3**
OBIP	**Obispado Ponce**	**0.57**	**107**	IAML				20 10 56.3	
	comp=N,42nm,0.3s								
OBIP				IAML				20 10 58.7	
	comp=E,40nm,0.3s								
CELP	**Cerrillos**	**0.58**	**104**	*i*↑*eP*			**Pn**	**20 10 43.5**	**-0.1**
CELP	**Cerrillos**	**0.58**	**104**	*eS*			**Sn**	**20 10 56.1**	**+0.1**
CELP	**Cerrillos**	**0.58**	**104**				**Sn**	**20 10 56.1**	**+0.1**
CELP	**Cerrillos**	**0.58**	**104**				**Pn**	**20 10 43.4**	**-0.1**
CELP				IAML				20 10 57.7	
	comp=N,99nm,0.3s								
CELP				IAML				20 10 58.0	
	comp=E,78nm,0.2s								
CELP	**Cerrillos**	**0.58**	**104**	*ePg*			**Pn**	**20 10 43.4**	**-0.1**
CELP				*eSg*			**Sn**	**20 10 56.8**	**+0.7**
EMPR	**Esperanza - Ma**	**0.67**	**67**	*i*↑*eP*			**Pn**	**20 10 44.1**	**-0.2**
EMPR	**Esperanza - Ma**	**0.67**	**67**	*eS*			**Sn**	**20 10 57.1**	**-0.1**
EMPR	**Esperanza - Ma**	**0.67**	**67**				**Pn**	**20 10 44.0**	**-0.2**
EMPR				IAML				20 10 57.7	
	comp=N,130nm,0.2s								
EMPR				IAML				20 10 59.8	
	comp=E,135nm,0.2s								
EMPR	**Esperanza - Ma**	**0.67**	**67**				**Sn**	**20 10 57.1**	**-0.1**
GCPR	**Guaynabo City**	**1.04**	**85**	*i*↑*eP*			**Pn**	**20 10 47.8**	**-0.2**
GCPR	**Guaynabo City**	**1.04**	**85**	*eS*			**Sn**	**20 11 03.3**	**-0.5**
GCPR	**Guaynabo City**	**1.04**	**85**				**Pn**	**20 10 47.7**	**-0.2**
GCPR				IAML				20 11 03.9	
	comp=N,62nm,0.5s								
GCPR				IAML				20 11 06.1	
	comp=E,49nm,0.3s								
GCPR	**Guaynabo City**	**1.04**	**85**				**Sn**	**20 11 03.3**	**-0.5**
IGPR	**InterUniversit**	**1.05**	**103**	*i*↑*eP*			**Pn**	**20 10 48.6**	**+0.6**
IGPR	**InterUniversit**	**1.05**	**103**	*eS*			**Sn**	**20 11 04.0**	**+0.1**
IGPR	**InterUniversit**	**1.05**	**103**				**Sn**	**20 11 04.0**	**+0.1**
IGPR	**InterUniversit**	**1.05**	**103**				**Pn**	**20 10 47.2**	**-0.8**
IGPR	**InterUniversit**	**1.05**	**103**	IAML				20 11 05.9	
	comp=N,92nm,0.3s								
IGPR				IAML				20 11 07.4	
	comp=E,111nm,0.2s								
PCDR	**Punta Cana, DR**	**1.18**	**285**	Pn			**Pn**	**20 10 49.9**	**+0.4**
PCDR				IAML				20 11 46.4	
	comp=E,83nm,2.2s								
HUMP	**Col San Antoni**	**1.26**	**93**	*i*↑*eP*			**Pn**	**20 10 50.3**	**-0.1**
HUMP	**Col San Antoni**	**1.26**	**93**	*eS*			**Sn**	**20 11 08.7**	**+0.5**
HUMP	**Col San Antoni**	**1.26**	**93**				**Sn**	**20 11 08.7**	**+0.5**
HUMP	**Col San Antoni**	**1.26**	**93**				**Pn**	**20 10 50.0**	**-0.4**
HUMP	**Col San Antoni**	**1.26**	**93**	IAML				20 11 09.4	
	comp=N,170nm,0.3s								
HUMP				IAML				20 11 09.4	
	comp=E,158nm,0.2s								
HIDR	**Higuey Centro**	**1.51**	**285**	*ePg*			**Pn**	**20 10 52.5**	**-0.9**
HIDR				*eSg*			**Sn**	**20 11 12.6**	**-0.9**
HIDR				IAML				20 11 17.2	
	comp=N,126nm,0.1s								
HATOM	**Hato Mayor del**	**2.17**	**286**	*ePg*			**Pn**	**20 11 01.9**	**+0.1**
HATOM				*eSg*			**Sn**	**20 11 28.8**	**+0.4**
HATOM				IAML				20 11 45.2	
	comp=N,30nm,2.5s								
BANI	**BANI**	**3.03**	**274**	*ePg*			**Pn**	**20 11 13.7**	**+0.5**
BANI				IAML				20 12 13.6	
	comp=N,80nm,1.8s								
ABDR	**Alto Bandera**	**3.33**	**281**	*ePg*			**Pn**	**20 11 17.4**	**0.0**
ABDR				IAML				20 12 12.3	
	comp=N,34nm,2.2s								

*SJA **29** 20:13:43.6±0.7, 21°.39S×66°.68W, h239km±6km, ML3.8, MW3.7*
*IDC **29** 20:13:44.8±0.8, 21°.32S×66°.76W, h221km±12km, mb3.6/2, mbtmp3.8/8, Error ellipse: s-maj=23.0km s-min=11.4km az=113.0*
*NEIC **29** 20:13:44.8±2.3, 21°.46S±0°.07×66°.9W±0°.1, h254km±18km, mb4.4/3, Error ellipse: s-maj=18.5km s-min=9.7km az=96.0*
*VAO **29** 20:13:45.2±0.3, 21°.38S×67°.08W, h258km±5km, mb3.7*
*SCB **29** 20:13:45.6±1.3, 21°.45S×66°.73W, h217km±9km, ML3.9/5, MW3.9, Error ellipse: s-maj=6.0km s-min=3.1km az=0.0*

ISC 29 20:13:44.8±0.6, 21°.44S±0°.04×66°.72W±0°.04, h227km±7km, n94, σ1s80/133, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.02**	**80**	Pg			**Pn**	**20 14 18.6**	**+0.6**
MOCB				Sg			**S**	**20 14 42.7**	**-1.2**
MOCB				IAML				20 14 43.4	
	1μm,0.6s								
YJA	**Yavi**	**1.34**	**124**	*eP*			**Pn**	**20 14 21.2**	**+1.1**
YJA				*eS*			**S**	**20 14 48.1**	**+0.4**
YJA				IAML				20 14 48.8	
	comp=Z,192nm,0.5s								
LVC	**Limon Verde**	**2.34**	**240**	P			**Pn**	**20 14 29.9**	**+0.7**
	comp=Z,80nm,0.5s,baz=61,slow=4.8,SNR=99								
LVC				S			**S**	**20 15 03.8**	**0.0**
	comp=Z,39nm,0.3s,baz=270,slow=18,SNR=21								
LVC	**Limon Verde**	**2.34**	**240**	*eP*			**Pn**	**20 14 29.9**	**+0.7**
LVC				*eS*			**S**	**20 15 03.4**	**-0.4**
PB09	**IPOC Station P**	**2.38**	**261**				**Pn**	**20 14 30.1**	**+0.9**
PB09				Sn			**S**	**20 15 04.9**	**+0.9**
PB09	**IPOC Station P**	**2.38**	**261**	*eP*			**Pn**	**20 14 30.2**	**+0.9**
PB09				*eS*			**S**	**20 15 05.8**	**+1.8**
PB09				IAML				20 15 10.3	

PATCX	**Punta Patache**	**3.27**	**280**	*eP*		**Pn**	**20 14 38.9**	**-0.1**
PATCX				*eS*		**S**	**20 15 20.2**	**-1.3**
SOTI	**Planta Incahua**	**3.28**	**61**	Pg		**Pn**	**20 14 39.8**	**+0.5**
PB04	**IPOC Station P**	**3.31**	**254**			**Pn**	**20 14 39.6**	**0.0**
PB04				Sn		**S**	**20 15 19.5**	**-3.0**
PB04	**IPOC Station P**	**3.31**	**254**	*eP*		**Pn**	**20 14 39.9**	**+0.3**
PB04				*eS*		**S**	**20 15 20.6**	**-1.9**
PB04				IAML			20 15 25.2	
	comp=Z,192nm,0.3s							
TA01	**Diego Aracena**	**3.35**	**284**			**Pn**	**20 14 39.1**	**-0.7**
TA01				Sn		**S**	**20 15 19.1**	**-3.9**
TA02	**Huaiquique**	**3.40**	**289**			**Pn**	**20 14 39.2**	**-1.3**
TA02				Sn		**S**	**20 15 20.4**	**-3.7**
SOET	**ToroToro**	**3.41**	**15**	Pg		**Pn**	**20 14 41.8**	**+0.8**
SOET				Sg		**S**	**20 15 24.8**	**-0.3**
SOET				IAML			20 15 27.8	
	comp=Z,41nm,2.2s							
SLA	**San Lorenzo**	**3.46**	**161**	*eS*		**S**	**20 15 19.1**	**-6.6**
ALOL	**LOMAS DE OLMED**	**3.46**	**134**	*eP*		Pn	20 14 31.4	-10
ALOL				*eS*		**S**	**20 15 25.8**	**+0.2**
PB05	**IPOC Station P**	**3.52**	**246**			**Pn**	**20 14 42.2**	**+0.2**
PB05				Sn		**S**	**20 15 24.0**	**-3.0**
PB05	**IPOC Station P**	**3.52**	**246**	*eP*		**Pn**	**20 14 42.4**	**+0.4**
PB05				*eS*		**S**	**20 15 25.8**	**-1.2**
PB05				IAML			20 15 33.6	
	comp=Z,82nm,0.3s							
AOEA	**Aiquile**	**3.53**	**24**	Pg		**Pn**	**20 14 42.9**	**+0.6**
PB10	**IPOC Station P**	**4.11**	**239**			**Pn**	**20 14 48.8**	**-0.1**
PB10				Sn		**S**	**20 15 35.4**	**-4.0**
PB10	**IPOC Station P**	**4.11**	**239**	*eP*		**Pn**	**20 14 49.0**	**+0.2**
PB10				*eS*		**S**	**20 15 36.5**	**-2.8**
PB10				IAML			20 15 39.0	
	comp=Z,73nm,0.3s							
PB12	**IPOC Station P**	**4.41**	**309**			**Pn**	**20 14 51.2**	**-1.4**
PB12				Sn		**S**	**20 15 41.4**	**-4.8**
PB12	**IPOC Station P**	**4.41**	**309**	*eP*		**Pn**	**20 14 51.7**	**-1.0**
PB12				*eS*		**S**	**20 15 42.3**	**-3.9**
PB12				IAML			20 15 45.2	
	comp=Z,50nm,0.1s							
GO02	**Mina Guanaco**	**4.55**	**215**	Pn		**Pn**	**20 14 54.7**	**+0.2**
AP01	**Chacalluta**	**4.58**	**311**	Pn		**Pn**	**20 14 53.7**	**-0.9**
AP01				Sn		**S**	**20 15 45.7**	**-4.1**
PB18	**Visviri**	**4.63**	**325**	Pn		**Pn**	**20 14 57.7**	**+1.8**
PB14	**IPOC Station P**	**4.65**	**226**	Pn		**Pn**	**20 14 55.4**	**-0.4**
PB14	**IPOC Station P**	**4.65**	**226**	*eP*		**Pn**	**20 14 55.1**	**-0.6**
PB14				*eS*		**S**	**20 15 48.6**	**-3.2**
PB14				IAML			20 15 52.4	
	comp=Z,111nm,0.4s							
SOEJ	**Jacaque**	**4.65**	**342**	Pg		**Pn**	**20 14 58.3**	**+2.2**
BBOE	**La Paz, Chanca**	**4.75**	**345**	Pg		**Pn**	**20 14 58.9**	**+1.5**
LPAZ	**La Paz**	**5.29**	**345**			**Pn**	**20 15 04.8**	**+0.6**
LPAZ	**La Paz**	**5.29**	**345**	P		**Pn**	**20 15 04.4**	**+0.2**
	comp=Z,2.7nm,0.4s,baz=104,slow=4.8,SNR=7.8							
LPAZ				S		**S**	**20 16 03.4**	**-3.7**
	comp=Z,2.2nm,0.6s,baz=280,slow=18,SNR=1.4							
LPAZ	**La Paz**	**5.29**	**345**	*eP*		**Pn**	**20 15 04.5**	**+0.3**
LPAZ				*eS*		**S**	**20 16 06.2**	**-0.8**
AC01	**Pan de Azucar**	**5.88**	**216**			**Pn**	**20 15 09.8**	**-1.1**
AC06	**Mina Casimiro**	**6.76**	**209**	Pn		**Pn**	**20 15 20.4**	**-1.8**
GO03	**Copiap**	**6.92**	**207**			**Pn**	**20 15 22.6**	**-1.5**
SIV	**San Ignacio**	**7.61**	**46**	P		**Pn**	**20 15 32.5**	**-0.7**
	comp=Z,7.2nm,0.4s,baz=246,slow=9.9,SNR=39							
SIV				S		**S**	**20 16 55.3**	**-4.6**
	comp=Z,1.1nm,0.4s,baz=306,slow=22,SNR=1.7							
AC04	**Llanos de Chal**	**7.81**	**210**	Pn		**Pn**	**20 15 33.2**	**-2.3**
AC05	**El Transito**	**8.04**	**203**	Pn		**Pn**	**20 15 36.6**	**-2.0**
LCO	**Las Campanas**	**8.36**	**205**	Pn		**Pn**	**20 15 40.7**	**-2.1**
MURT	**Porto Murtinho**	**8.48**	**93**	*eP*		Pn	20 15 50.1	+5.9
CO01	**Juntas del Tor**	**9.03**	**199**	Pn		**Pn**	**20 15 50.7**	**-0.7**
PTLB	**Pontes e Lacer**	**9.34**	**52**	*eP*		**Pn**	**20 15 58.5**	**+3.2**
BDQN	**Bodoquena, MS**	**9.37**	**86**	*eP*		**P**	**20 16 01.0**	**-2.4**
CPUP	**Villa Florida**	**9.87**	**121**	P		**Pn**	**20 16 02.8**	**+0.8**
	comp=Z,1.0nm,0.5s,baz=62,slow=15,SNR=1.8							
CO06	**Fray Jorge**	**10.20**	**205**	Pn		**Pn**	**20 16 03.1**	**-3.0**
CO02	**Combarbal**	**10.46**	**201**	Pn		**Pn**	**20 16 06.4**	**-3.1**
VILB	**Vilhena**	**10.48**	**37**			**Pn**	**20 16 10.2**	**+0.3**
VILB	**Vilhena**	**10.48**	**37**	*eS*		**S**	**20 18 10.9**	**+3.3**
SALV	**Santo Antonio**	**11.81**	**64**	*eP*		**P**	**20 16 29.6**	**-1.0**
MT02	**Curacav**	**12.41**	**197**			**Pn**	**20 16 33.2**	**-0.8**
SAML	**Samuel**	**12.88**	**16**			**Pn**	**20 16 39.7**	**-0.2**
SAML	**Samuel**	**12.88**	**16**	*eP*		**Pn**	**20 16 39.7**	**-0.2**
MT01	**Popeta**	**13.01**	**197**	Pn		**Pn**	**20 16 39.4**	**-2.0**
BO01	**Tunca**	**13.47**	**196**			**Pn**	**20 16 46.8**	**-0.3**
PDRB	**Porto dos Gac**	**13.67**	**46**	*eP*		**P**	**20 16 52.8**	**+1.4**
BO02	**Sierra Bellavi**	**13.78**	**194**			**Pn**	**20 16 50.9**	**-0.1**
PTGB	**Pitanga**	**13.88**	**106**	*eP*		**P**	**20 16 55.2**	**+1.6**
LDASE	**Londrina, Braz**	**14.56**	**101**	*eP*		**P**	**20 17 04.0**	**+2.8**
SNDB	**Serra Nova Dou**	**17.50**	**60**	*eP*		**P**	**20 17 34.1**	**+0.5**
IPMB	**Ipameri, GO**	**17.76**	**82**	*eP*		**Pn**	**20 17 38.2**	**-0.6**
NPGB	**Novo Progresso**	**18.04**	**39**	*eP*		**P**	**20 17 39.1**	**-0.3**
VAO	**Valinhos**	**18.36**	**99**	P		**P**	**20 17 43.0**	**+0.1**
VAO				IAmb	IAmb		20 17 44.3	
	comp=Z,9.4nm,0.8s							
BDFB	**Brasilia**	**18.64**	**75**	P		**P**	**20 17 46.7**	**+0.7**
BDFB				IAmb	IAmb		20 17 50.0	
	comp=Z,8.0nm,1.4s							
BDFB	**Brasilia**	**18.64**	**75**	P		**P**	**20 17 47.2**	**+1.2**
	comp=Z,1.8nm,0.5s,baz=245,slow=10,SNR=3.9							
MACA	**Manacapuru-AM**	**19.09**	**19**	P		**P**	**20 17 50.2**	**-0.5**
MACA				IAmb	IAmb		20 17 50.9	
	comp=Z,24nm,0.6s							
MACA	**Manacapuru-AM**	**19.09**	**19**	*eP*		**P**	**20 17 50.6**	**-0.2**
PLCA	**Paso Flores**	**19.51**	**189**	P		**P**	**20 17 56.6**	**+1.6**
	comp=Z,0.5nm,0.5s,baz=19,slow=7.8,SNR=3.2							
ITTB	**Itaituba**	**20.04**	**34**	*eP*		**P**	**20 18 00.5**	**-0.4**
SMTB	**Santa Maria do**	**22.26**	**59**	*eP*		**P**	**20 18 23.6**	**+0.3**
PRPB	**Parauapebas**	**22.32**	**50**	*eP*		**P**	**20 18 23.1**	**-0.7**
QSPA	**South Pole Qui**	**68.75**	**180**	P		**P**	**20 24 25.7**	**+1.7**
	comp=Z,0.5nm,0.5s,baz=298,slow=1.0,SNR=5.5							
	comp=Z,0.5nm,0.5s							
TORD	**Torodi Ar. Bea**	**75.42**	**69**	P		**P**	**20 25 04.2**	**+0.1**
	comp=Z,2.3nm,0.5s,baz=258,slow=5.5,SNR=26							
	comp=Z,2.3nm,0.5s							
MKAR	**Makanchi Array**	**144.36**	**37**	PKP		**PKPdf**	**20 32 54.4**	**+0.6**
	comp=Z,1.1nm,0.7s,baz=353,slow=3.6,SNR=7.7							

NOU 29 20:25:15.4, 16°52S×167°87E, h62km, MLv4.3/12,
Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.24**	**166**	P	Pn	20 25 37.9	+1.3
LIFNC	**LIFOU**	**4.28**	**188**	P	Pn	20 26 17.3	-0.7
MARNC	**Mare, Loyalty**	**4.94**	**178**	P	Pn	20 26 27.1	+0.1
KOUNC	**Koumac, New Ca**	**5.26**	**220**	P	Pn	20 26 31.2	-0.2
YATNC	**Mamie plateau,**	**5.59**	**189**	P	Pn	20 26 35.0	-1.0
DZM	**Mont Dzumac**	**5.68**	**193**	P	Pn	20 26 37.1	-0.3
NOUC	**Port Laguerre**	**5.75**	**195**	P	Pn	20 26 38.3	+0.2
ONTNC	**Ouen Toro**	**5.91**	**193**	P	Pn	20 26 41.0	+0.6
OUENC	**Ouen Island, N**	**5.95**	**189**	P	Pn	20 26 41.8	+0.9

*IDC **29** 20:42:12.9±5.2,52°.80N×174°.39W,h184km±48km, mb3.4/9, mbtmp3.9/12, Error ellipse: s-maj=24.5km s-min=15.9km az=16.0*

*NEIC **29** 20:42:12.8±1.9,52°.2N±0°.1×174°.1W±0°.1, h222km±13km, mb4.1/65, ML3.8(AEIC), Error ellipse: s-maj=22.7km s-min=4.4km az=155.0*

*AEIC **29** 20:42:14.6±2.8,52°.1N±0°.1×174°.1W±0°.1, h205km±6km, Error ellipse: s-maj=21.8km s-min=9.1km az=160.0*

ISC 29 20:42:12.8±0.9, 52°.2N±0°.1×174°.17W±0°.06, h215km±7km, n129, σ19°12/131, mb3.9/17, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATKA	**Atka Island**	**0.04**	**203**		**Pn**	**20 42 40.5**	**-0.2**
ATKA					**S**	**20 43 01.2**	**-1.3**
CLES	**Cleveland East**	**2.67**	**76**		**S**	**20 43 34.8**	**-0.8**
CLES	**Cleveland East**	**2.67**	**76**	Pn	**Pn**	**20 43 00.3**	**+0.9**
CLCO	**Concord Point,**	**2.77**	**77**		**Pn**	**20 43 01.4**	**+0.8**
CLCO					**S**	**20 43 36.5**	**-1.0**
NIKH	**Nikolski High**	**3.32**	**75**		**Pn**	**20 43 07.2**	**+0.3**
NIKH					**S**	**20 43 47.1**	**-1.9**
OKSP	**Okmok Steeple**	**3.71**	**72**		**Pn**	**20 43 12.3**	**+0.7**
OKWE	**Okmok W'ng Wal**	**3.80**	**69**		**Pn**	**20 43 13.1**	**+0.5**
CEPE	**Semis' Perret**	**3.82**	**268**		**Pn**	**20 43 13.7**	**+0.8**
CESW	**Semis' Southwe**	**3.88**	**267**		**Pn**	**20 43 14.2**	**+0.6**
OKTU	**Okmok Mt. Tuli**	**3.89**	**70**		**Pn**	**20 43 14.4**	**+0.7**
AMKA	**Amchitka**	**4.14**	**261**		**Pn**	**20 43 17.4**	**+0.6**
LSPA	**Little Sitkin**	**4.48**	**269**		**Pn**	**20 43 21.7**	**+0.7**
MAPS	**Pakushin South**	**4.64**	**67**		**Pn**	**20 43 23.5**	**+0.6**
MSW	**Makushin Switc**	**4.76**	**66**		**Pn**	**20 43 24.7**	**+0.2**
MSW					**S**	**20 44 21.4**	**+0.7**
MTBL	**Makushin Table**	**4.83**	**66**		**Pn**	**20 43 26.2**	**+0.8**
UNV	**Unalaska Valle**	**4.90**	**68**		**Pn**	**20 43 26.4**	**+0.3**
UNV	**Unalaska Valle**	**4.90**	**68**		**S**	**20 44 23.4**	**-0.4**
P08K	**Saint George I**	**5.13**	**30**		**Pn**	**20 43 31.4**	**+2.3**
ZRO	**Akutan Zero**	**5.26**	**66**		**Pn**	**20 43 31.7**	**+0.9**
AKGG	**Akutan Green G**	**5.29**	**65**		**Pn**	**20 43 31.8**	**+0.6**
WECS	**Westdahl Cape**	**6.07**	**64**		**Pn**	**20 43 42.1**	**+1.0**
WESE	**West Dahl East**	**6.16**	**65**		**Pn**	**20 43 43.1**	**+0.8**
ISLZ	**Isanotski Laza**	**6.72**	**64**		**Pn**	**20 43 49.4**	**0.0**
S12K	**Black Hills**	**7.94**	**59**	Pn	**Pn**	**20 44 05.0**	**0.0**
SDPT	**Sand Point**	**8.68**	**64**		**Pn**	**20 44 14.6**	**-0.1**
CHGN	**Chignik**	**10.07**	**60**	Pn	**Pn**	**20 44 31.1**	**-1.3**
N15K	**Kwethluk River**	**11.14**	**39**	Pn	**Pn**	**20 44 45.3**	**-0.8**
CHIR	**Chirikof Islan**	**11.47**	**64**	Pn	**Pn**	**20 44 48.7**	**-1.7**
O16K	**Kokwok River B**	**11.62**	**44**	Pn	**Pn**	**20 44 51.4**	**-0.9**
M16K	**Timber Creek**	**12.12**	**37**	Pn	**Pn**	**20 44 57.2**	**-1.3**
K15K	**Wolf Creek Mou**	**12.15**	**29**	Pn	**Pn**	**20 44 57.8**	**-1.1**
M17K	**Holitna River**	**12.93**	**38**	P	**P**	**20 45 12.3**	**+0.8**
O18K	**Koktuh Hills**	**13.02**	**47**	P	**P**	**20 45 12.6**	**+0.1**
OHAK	**Old Harbor**	**13.03**	**59**	Pn	**Pn**	**20 45 08.3**	**-1.6**
N18K	**Kilae Creek**	**13.13**	**43**	P	**P**	**20 45 13.5**	**-0.3**
Q19K	**Cape Douglas,**	**13.37**	**52**	Pn	**Pn**	**20 45 13.6**	**-0.5**
KDAK	**Kodiak Island**	**13.54**	**57**		**Pn**	**20 45 13.8**	**-2.4**
KDAK	**Kodiak Island**	**13.54**	**57**	P	**Pn**	**20 45 13.4**	**-2.8**
	5.5nm,0.3s,baz=245,slow=12,SNR=43						
KDAK				S	**S**	**20 47 40.2**	**-5.7**
	4.7nm,0.7s,baz=180,slow=20,SNR=2.3						
J17K	**VABM Dome**	**13.72**	**30**	P	**P**	**20 45 21.0**	**+0.7**
N19K	**Bonanza Creek**	**13.79**	**44**	P	**P**	**20 45 22.0**	**+0.8**
P19K	**Oil Pt**	**13.84**	**49**	P	**P**	**20 45 22.7**	**+1.1**
SYI	**Shuyak Island**	**13.87**	**54**	P	**P**	**20 45 21.4**	**-0.6**
L19K	**White Mountain**	**14.38**	**39**	P	**P**	**20 45 28.6**	**+0.9**
M19K	**Big River Lodg**	**14.40**	**40**	P	**P**	**20 45 30.1**	**+2.2**
J18K	**Innoko River**	**14.52**	**32**	P	**Pn**	**20 45 28.9**	**+0.6**
CNPM	**China Poot**	**14.73**	**51**	P	**Pn**	**20 45 29.9**	**-1.0**
M20K	**Styx River**	**14.90**	**41**	P	**P**	**20 45 33.6**	**+0.1**
BRLK	**Bradley Lake**	**14.98**	**51**		**P**	**20 45 34.1**	**-0.2**
J19K	**Poorman**	**15.24**	**32**	P	**P**	**20 45 36.4**	**-0.7**
H18K	**Honhosa River**	**15.26**	**26**	P	**Pn**	**20 45 39.0**	**+1.8**
H18K				IAmb	IAmb	20 45 44.8	
	comp=Z,7.7nm,1.2s						
SKT	**Skwentna**	**15.61**	**43**	P	**Pn**	**20 45 41.6**	**+0.2**
F17K	**Baldwin Pennin**	**15.64**	**19**	P	**Pn**	**20 45 42.6**	**+0.9**
SUA	**Susitna One**	**15.70**	**45**	P	**Pn**	**20 45 43.1**	**+0.3**
SUA				IAmb	IAmb	20 45 44.5	
	comp=Z,8.5nm,1.2s						
G18K	**Tagagawik**	**15.77**	**24**	P	**P**	**20 45 42.6**	**-0.3**
J20K	**Nowinta River**	**15.85**	**33**	P	**P**	**20 45 43.3**	**-0.5**
J20K				IAmb	IAmb	20 46 00.2	
	comp=Z,8.5nm,1.4s						
CAST	**Castle Rocks**	**16.13**	**38**		**Pn**	**20 45 48.1**	**+0.4**
CAST				IAmb	IAmb	20 45 53.3	
	comp=Z,5.2nm,1.0s						
GHO	**Glory Hole Cre**	**16.62**	**45**	P	**P**	**20 45 51.7**	**-0.7**
GHO				IAmb	IAmb	20 46 22.4	
	comp=Z,8.9nm,1.3s						
C16K	**Lisburne Hills**	**16.64**	**12**	P	**P**	**20 45 52.9**	**+0.6**
C16K				IAmb	IAmb	20 46 29.4	
	comp=Z,9.0nm,1.4s						
F19K	**Shaleruckik Mo**	**16.74**	**23**	P	**P**	**20 45 53.7**	**+0.3**
TRF	**Thorofare Moun**	**16.83**	**39**		**P**	**20 45 55.2**	**+0.5**
TRF				IAmb	IAmb	20 46 15.8	
	comp=Z,12nm,1.4s						
BPAW	**Bear Paw Mtn.**	**16.92**	**36**		**Pn**	**20 45 56.6**	**-0.4**
BPAW				IAmb	IAmb	20 46 01.1	
	comp=Z,5.9nm,0.7s						
PEA0B	**Petropavlovsk-**	**17.04**	**284**	P	**Pn**	**20 45 58.4**	**-0.2**
PETK	**Petropavlovsk-**	**17.04**	**284**	P	**P**	**20 45 57.3**	**+0.4**
	comp=Z,2.3nm,0.8s,baz=82,slow=12,SNR=2.4						
GLI	**Glacier Island**	**17.13**	**49**	P	**P**	**20 45 57.9**	**+0.1**
I21K	**Tanana**	**17.21**	**33**	P	**Pn**	**20 46 00.5**	**+0.1**
H21K	**Melozitna Rive**	**17.25**	**31**	P	**P**	**20 45 59.9**	**+0.8**
E19K	**Redstone River**	**17.36**	**22**	P	**P**	**20 46 00.2**	**-0.1**
RND	**Reindeer**	**17.37**	**40**		**P**	**20 45 59.9**	**-0.6**
FID	**Port Fidalgo**	**17.38**	**50**	P	**P**	**20 46 00.3**	**-0.2**
MLY	**Manley**	**17.54**	**34**	P	**P**	**20 46 03.2**	**+0.9**
G21K	**Allakaket**	**17.62**	**28**	P	**P**	**20 46 04.2**	**+1.0**
DHY	**Denali Highway**	**17.82**	**42**		**P**	**20 46 05.6**	**+0.1**
DHY				IAmb	IAmb	20 46 07.9	
	comp=Z,5.8nm,0.7s						
D19K	**Kuna River**	**18.02**	**19**	P	**P**	**20 46 07.4**	**-0.2**
D19K				IAmb	IAmb	20 46 15.2	
	comp=Z,9.1nm,1.5s						
I23K	**Minto, Yukon-K**	**18.09**	**35**	P	**P**	**20 46 08.3**	**+0.2**
I23K				IAmb	IAmb	20 46 14.6	
	comp=Z,7.5nm,1.1s						
F21K	**Alatna River**	**18.13**	**26**		**P**	**20 46 09.0**	**+0.3**
WRH	**Wood River Hil**	**18.19**	**38**	P	**P**	**20 46 08.4**	**-0.9**
WRH				IAmb	IAmb	20 46 11.9	
	comp=Z,4.1nm,0.6s						
C19K	**Lookout Ridge**	**18.27**	**17**	P	**P**	**20 46 09.4**	**-0.7**
C19K				IAmb	IAmb	20 46 31.1	
	comp=Z,8.9nm,1.4s						
CCB	**Clear Creek Bu**	**18.38**	**37**	P	**P**	**20 46 10.1**	**-1.3**
CCB				IAmb	IAmb	20 46 14.1	
	comp=Z,6.9nm,0.9s						
MDM	**Murphy Dome**	**18.39**	**36**	P	**P**	**20 46 11.8**	**+0.3**
MDM				IAmb	IAmb	20 46 12.7	
	comp=Z,3.0nm,0.6s						
H23K	**Yukon River**	**18.41**	**33**	P	**P**	**20 46 12.1**	**+0.4**
N25K	**Chitina, Valde**	**18.50**	**48**	P	**P**	**20 46 12.8**	**0.0**
N25K				IAmb	IAmb	20 46 17.5	
	comp=Z,6.7nm,1.2s						
HDA	**Harding Lake**	**18.59**	**39**	P	**P**	**20 46 12.8**	**-0.9**
IL31		**18.79**	**38**	P	**P**	**20 46 15.4**	**-0.3**
ILAR	**Eielson Array**	**18.79**	**38**	P	**P**	**20 46 15.0**	**-0.7**
ILAR	**Eielson Array**	**18.79**	**38**	P	**P**	**20 46 13.9**	**-1.9**
	comp=Z,1.4nm,0.4s,baz=238,slow=10,SNR=12						
G23K	**Bananza Creek**	**18.79**	**30**	P	**P**	**20 46 16.1**	**+0.2**
E21K	**Killik River**	**18.91**	**23**	P	**P**	**20 46 16.4**	**-0.7**
VRDI	**Verde Repeater**	**18.93**	**50**	P	**Pn**	**20 46 20.9**	**+0.1**
H24K	**Noodor Dome**	**18.98**	**34**		**P**	**20 46 18.0**	**+0.1**
SNH	**Sunshine Point**	**18.99**	**53**	P	**P**	**20 46 18.5**	**+0.4**
E22K	**Anaktuvuk Pass**	**19.23**	**26**	P	**P**	**20 46 20.2**	**-0.3**
E22K				IAmb	IAmb	20 46 24.3	
	comp=Z,3.9nm,0.9s						
J25K	**Salcha River,**	**19.29**	**39**		**P**	**20 46 19.5**	**-1.7**
J25K				IAmb	IAmb	20 46 24.0	
	comp=Z,3.3nm,0.6s						
SCRK	**Sand Creek**	**19.58**	**41**		**P**	**20 46 23.6**	**-0.7**
G24K	**Hadweenzic Riv**	**19.60**	**32**		**P**	**20 46 24.4**	**0.0**
G24K				IAmb	IAmb	20 46 28.8	
	comp=Z,5.7nm,1.1s						
B21K	**Ikpikpuk River**	**19.68**	**20**	P	**P**	**20 46 24.5**	**-0.8**
B21K				IAmb	IAmb	20 46 40.7	
	comp=Z,6.6nm,1.1s						
F24K	**Squaw Lake**	**19.95**	**30**	P	**P**	**20 46 28.8**	**+0.5**
F24K				IAmb	IAmb	20 46 32.1	
	comp=Z,4.5nm,0.8s						
J26L	**Joseph Creek**	**19.95**	**40**		**P**	**20 46 27.5**	**-0.9**
E24K	**Your Creek**	**20.12**	**28**	P	**P**	**20 46 30.1**	**0.0**
TOLK	**Toolik Lake Re**	**20.18**	**26**		**P**	**20 46 30.5**	**-0.2**
TOLK				IAmb	IAmb	20 46 33.1	
	comp=Z,3.8nm,0.6s						
BCAR	**Beaver Creek A**	**20.19**	**45**	P	**P**	**20 46 29.8**	**-1.1**
K27K	**Chicken**	**20.38**	**42**	P	**P**	**20 46 32.9**	**+0.1**
K27K				IAmb	IAmb	20 46 36.3	
	comp=Z,3.4nm,0.6s						
I26K	**Coal Creek Min**	**20.44**	**38**	P	**P**	**20 46 32.4**	**-1.1**
B22K	**Teshekpuk Lake**	**20.50**	**20**	P	**P**	**20 46 32.5**	**-1.6**
B22K				IAmb	IAmb	20 47 00.5	
	comp=Z,8.2nm,1.4s						
C23K	**Itkillik River**	**20.75**	**23**	P	**P**	**20 46 35.9**	**-0.8**
C23K				IAmb	IAmb	20 46 37.3	
	comp=Z,5.0nm,0.9s						
BMAR	**Burnt Mountain**	**20.95**	**32**	P	**P**	**20 46 38.6**	**-0.3**
EGAK	**Eagle**	**21.02**	**41**	P	**P**	**20 46 39.0**	**-0.5**
EGAK				IAmb	IAmb	20 46 42.0	
	comp=Z,7.1nm,1.1s						
D25K	**Kavik River**	**21.50**	**27**	P	**P**	**20 46 43.8**	**-0.7**
D25K				IAmb	IAmb	20 46 46.0	
	comp=Z,5.6nm,1.3s						
I28M	**Miner Creek**	**21.74**	**39**		**P**	**20 46 46.3**	**-0.7**
I28M				IAmb	IAmb	20 46 49.4	
	comp=Z,6.2nm,0.9s						
K29M	**Barlow Dome**	**22.25**	**44**	P	**P**	**20 46 52.0**	**+0.2**
K29M				IAmb	IAmb	20 46 53.4	
	comp=Z,3.3nm,0.7s						
K29M					**pP**	**20 47 29.8**	**+1.9**
H29M	**Whitestone**	**22.62**	**38**	P	**P**	**20 46 54.1**	**-0.9**
F28M	**Old Crow**	**22.63**	**34**	P	**P**	**20 46 54.6**	**-0.5**
J30M	**Hart River**	**22.93**	**43**	P	**P**	**20 46 59.1**	**+1.1**
J30M				IAmb	IAmb	20 47 00.4	
	comp=Z,2.6nm,0.7s						
I30M	**Mount Dempster**	**23.08**	**41**	P	**P**	**20 46 58.6**	**-0.7**
E28M	**Babbage River**	**23.18**	**32**	P	**P**	**20 46 59.4**	**-0.7**
E29M	**Blow River**	**23.63**	**33**	P	**P**	**20 47 03.3**	**-0.9**
E29M				IAmb	IAmb	20 47 07.3	
	comp=Z,6.1nm,1.1s						
H31M	**Peel River**	**24.06**	**40**	P	**P**	**20 47 08.2**	**+0.1**
H31M				IAmb	IAmb	20 47 27.5	
	comp=Z,7.3nm,1.4s						
G31M	**Satah River**	**24.40**	**38**	P	**P**	**20 47 09.9**	**-1.1**
G31M				IAmb	IAmb	20 47 14.1	
	comp=Z,7.8nm,1.4s						
A36M	**Sachs Harbour**	**28.93**	**29**	P	**P**	**20 47 51.7**	**+0.2**
NVAR	**Mina Array Bea**	**40.61**	**87**	P	**P**	**20 49 35.2**	**+3.4**
	comp=Z,0.5nm,0.6s,baz=309,slow=6.6,SNR=4.4						
	comp=Z,0.5nm,0.6s						
PDAR	**Pinedale Array**	**43.31**	**76**	P	**P**	**20 49 57.0**	**+3.5**
	comp=Z,1.7nm,0.6s,baz=303,slow=3.3,SNR=14						
	comp=Z,1.7nm,0.6s						
TXAR	**Lajitas Array**	**55.70**	**85**	P	P	20 51 31.1	+4.1
	comp=Z,0.4nm,0.7s,baz=310,slow=3.4,SNR=5.1						
	comp=Z,0.4nm,0.7s						
KURBB	**Kurchatov Arra**	**60.56**	**316**	P	**P**	**20 52 00.3**	**+0.2**
	comp=Z,0.6nm,0.7s,baz=44,slow=6.7,SNR=6.9						
	comp=Z,0.6nm,0.7s						
BVAR	**Borovoye Array**	**62.04**	**322**	P	**P**	**20 52 10.1**	**0.0**
	comp=Z,1.5nm,0.6s,baz=58,slow=5.8,SNR=11						
	comp=Z,1.5nm,0.6s						
HFS	**Hagfors**	**67.80**	**356**	P	**P**	**20 52 46.3**	**-0.7**
	comp=Z,0.6nm,0.4s,baz=60,slow=3.6,SNR=8.9						
	comp=Z,0.6nm,0.4s						
AKASG	**Malin Array Be**	**75.54**	**345**	P	**P**	**20 53 32.5**	**-0.6**
	comp=Z,0.5nm,0.5s,baz=20,slow=5.6,SNR=3.1						
	comp=Z,0.5nm,0.5s						
WRA	**Warramunga Arr**	**84.67**	**228**	P	P	20 54 26.6	+4.3
	comp=Z,0.5nm,0.5s,baz=31,slow=5.6,SNR=6.3						
	comp=Z,0.5nm,0.5s						
ASAR	**Alice Springs**	**88.11**	**226**	P	P	20 54 44.0	+5.1
	comp=Z,1.4nm,0.7s,baz=26,slow=4.6,SNR=17						
	comp=Z,1.4nm,0.7s						
QSPA	**South Pole Qui**	**142.00**	**180**	PKhKP	PKPpre	21 01 18.5	
	comp=Z,0.4nm,0.7s,baz=53,slow=7.6,SNR=5.9						
MAW	**Mawson**	**148.94**	**219**	PKPbc	**PKPab**	**21 01 36.3**	**-2.1**
	comp=Z,1.6nm,0.6s,baz=146,slow=3.6,SNR=2.7						

*NOU **29**

CMWZ	**Cape Campbell**	**9.65**	**205**	P	**P**	**20 44 58.9**	**-1.2**
MRNZ	**Matariki Terra**	**9.94**	**212**	P	**Pn**	**20 44 58.4**	**-3.3**
THZ	**Tophouse**	**10.17**	**210**		**Pn**	**20 45 01.7**	**-2.9**
KHZ	**Kahutara**	**10.48**	**206**	P	**Pn**	**20 45 06.7**	**-1.5**
LTZ	**Lake Taylor**	**11.28**	**209**	P	**Pn**	**20 45 14.3**	**-3.5**
INZ	**Inchbonnie**	**11.58**	**212**	P	**Pn**	**20 45 17.8**	**-3.5**
OXZ	**Oxford**	**11.83**	**208**	P	**Pn**	**20 45 20.1**	**-4.2**
MQZ	**McQueen's Vall**	**11.92**	**205**	P	**Pn**	**20 45 21.5**	**-3.8**
RPZ	**Rata Peaks**	**12.55**	**210**	P	**P**	**20 45 30.0**	**-2.2**
	5.2nm,0.4s,baz=46,slow=16,SNR=3.0						
RPZ				S	**S**	**20 47 43.7**	**-7.4**
	3.8nm,0.4s,baz=313,slow=22,SNR=1.5						
STKA	**Stephens Creek**	**32.02**	**262**	P	P	20 48 36.0	-3.8
STKA				IAmb	IAmb	20 48 42.4	
	comp=Z,3.0nm,1.4s						
STKA	**Stephens Creek**	**32.02**	**262**	P	**P**	**20 48 38.0**	**-1.8**
	comp=Z,2.1nm,0.7s,baz=92,slow=12,SNR=3.8						
	comp=Z,2.1nm,0.7s						
BBOO	**Buckleboo**	**36.39**	**258**	P	**P**	**20 49 14.8**	**-2.2**
AS31	**Alice Springs**	**41.07**	**271**	P	**P**	**20 49 53.6**	**-2.0**
ASAR	**Alice Springs**	**41.07**	**271**	P	P	20 49 52.6	-3.0
ASAR	**Alice Springs**	**41.07**	**271**	P	**P**	**20 49 53.4**	**-2.2**
	comp=Z,2.5nm,0.6s,baz=109,slow=7.7,SNR=39						
	comp=Z,2.5nm,0.6s						
WR0	**Warramunga Arr**	**42.13**	**277**	P	**P**	**20 50 01.5**	**-2.6**
WR0				IAmb	IAmb	20 50 37.0	
	comp=Z,15nm,1.5s						
WB2	**Warramunga Arr**	**42.30**	**276**	P	**P**	**20 50 02.8**	**-2.7**
WB2				IAmb	IAmb	20 50 36.8	
	comp=Z,19nm,1.5s						
WRA	**Warramunga Arr**	**42.31**	**276**	P	**P**	**20 50 03.0**	**-2.5**
	comp=Z,3.6nm,0.5s,baz=115,slow=7.8,SNR=49						
	comp=Z,3.6nm,0.5s						
FORT	**Forrest**	**43.49**	**259**	P	**P**	**20 50 12.8**	**-2.0**
SBA	**Scott Base**	**45.21**	**184**	P	**P**	**20 50 31.1**	**+3.5**
VNDA	**Vanda**	**45.22**	**185**	P	**P**	**20 50 29.9**	**+2.3**
FITZ	**Fitzroy Crossi**	**50.44**	**273**	P	**P**	**20 51 06.4**	**-1.8**
QSPA	**South Pole Qui**	**57.01**	**180**	P	**P**	**20 51 56.8**	**+2.0**
QSPA				IAmb	IAmb	20 51 58.1	
	comp=Z,5.0nm,0.7s						
QSPA	**South Pole Qui**	**57.01**	**180**	P	**P**	**20 51 57.2**	**+2.5**
	comp=Z,5.7nm,0.6s,baz=29,slow=2.9,SNR=54						
	comp=Z,5.7nm,0.6s						
BELA	**Belgrano 2**	**67.37**	**173**	P	**P**	**20 53 03.8**	**+1.3**
BELA				IAmb	IAmb	20 53 43.4	
	comp=Z,4.9nm,1.4s						
TROLL	**Troll, Antarti**	**75.16**	**181**	⇑P	**P**	**20 53 48.9**	**-0.1**
	comp=Z,77nm,0.4s						
SNAA	**Sanae**	**75.50**	**179**	P	**P**	**20 53 51.5**	**+0.7**
SNAA	**Sanae**	**75.50**	**179**	⇑P	**P**	**20 53 51.5**	**+0.7**
	comp=Z,58nm,0.4s						
SNAA	**Sanae**	**75.50**	**179**	P	**P**	**20 53 51.5**	**+0.7**
	comp=Z,1.9nm,0.4s,baz=176,slow=19,SNR=28						
	comp=Z,1.9nm,0.4s						
VNA3	**Neumayer Olymp**	**75.73**	**177**	⇑P	**P**	**20 53 53.0**	**+0.9**
	comp=Z,4.3nm,0.4s						
VNA2	**Neumayer--Watz**	**76.14**	**178**	⇑P	**P**	**20 53 55.4**	**+1.1**
	comp=Z,5.0nm,0.5s,baz=183,slow=5.7						
VNA1	**Neumayer--Stat**	**76.38**	**177**	⇑P	**P**	**20 53 56.3**	**+0.6**
	comp=Z,4.3nm,0.5s						
FINES	**FINESS Array B**	**146.92**	**337**	PKPbc	**PKPdf**	**21 01 42.1**	**-0.9**
	comp=Z,1.5nm,0.9s,baz=72,slow=4.5,SNR=3.9						

NEIC ***29*** *20:53:38.4±1.5,6°.05S±0°.10×127°.86E±0°.09,h385km±14km, mb4.2/8, Error ellipse: s-maj=14.2km s-min=12.6km az=155.0*

IDC ***29*** *20:53:38.6±5.8,6°.10S×127°.72E,h400km±72km,mb3.0/3, mbtmp4.0/6, Error ellipse: s-maj=86.6km s-min=20.5km az=47.0*

ISC 29 20:53:38.1±0.7,6°.12S±0°.07×127°.83E±0°.07,h400km,n23,
σ1§15/27,mb3.5/5,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**3.91**	**119**	Pn	**Pn**	**20 54 49.7**	**+0.4**
SAUI				Sn	**S**	**20 55 45.4**	**-1.8**
SOEI	**Soe**	**5.05**	**224**		**Pn**	**20 55 01.1**	**+0.3**
SOEI				Sn	**S**	**20 56 05.0**	**-3.1**
FAKI	**Fak Fak**	**5.43**	**54**	Pn	**Pn**	**20 55 02.8**	**-1.8**
BATI	**Baumata**	**5.79**	**225**	P	**Pn**	**20 55 09.1**	**+0.6**
	74nm,0.3s,baz=34,slow=3.8,SNR=49						
BATI				S	**S**	**20 56 20.9**	**-1.3**
	30nm,0.5s,baz=252,slow=15,SNR=5.9						
MMRI	**Maumere**	**6.08**	**245**	Pn	**Pn**	**20 55 11.3**	**-0.4**
LUWI	**Luwuk**	**7.13**	**315**	Pn	**P**	**20 55 25.1**	**+1.2**
MTN	**Manton Dam**	**7.44**	**154**		**P**	**20 55 27.5**	**+0.3**
TOLI2	**Tolitoli**	**10.05**	**315**		**Pn**	**20 55 56.6**	**-0.2**
FITZ	**Fitzroy Crossi**	**12.10**	**190**		**Pn**	**20 56 21.4**	**+0.9**
WB0	**Warramunga Arr**	**15.00**	**155**	P	**P**	**20 56 51.4**	**+0.8**
WB0				IAmb	IAmb	20 56 53.5	
	comp=Z,10nm,1.2s						
WRA	**Warramunga Arr**	**15.13**	**156**	P	**P**	**20 56 53.0**	**+0.9**
	comp=Z,3.0nm,0.5s,baz=335,slow=11,SNR=21						
WB2	**Warramunga Arr**	**15.14**	**156**	P	**P**	**20 56 52.4**	**+0.3**
WB2				IAmb	IAmb	20 56 58.2	
	comp=Z,12nm,1.2s						
WR0	**Warramunga Arr**	**15.23**	**155**	P	**P**	**20 56 53.0**	**-0.1**
AS31	**Alice Springs**	**18.40**	**162**	P	**P**	**20 57 27.9**	**+0.9**
ASAR	**Alice Springs**	**18.40**	**162**	P	**P**	**20 57 28.1**	**+1.0**
ASAR	**Alice Springs**	**18.40**	**162**	P	**P**	**20 57 28.2**	**+1.2**
	comp=Z,1.9nm,0.3s,baz=344,slow=12,SNR=31						
ASAR				S	**S**	**21 00 34.7**	**-1.1**
	comp=Z,0.8nm,1.0s,baz=348,slow=26,SNR=4.5						
BBOO	**Buckleboo**	**27.65**	**165**	P	**P**	**20 58 53.1**	**+1.9**
BBOO				IAmb	IAmb	20 59 11.1	
	comp=Z,42nm,1.5s						
YOJ	**Yonaguni jima**	**30.75**	**351**	P	**P**	**20 59 18.3**	**-0.1**
GSI	**Gunungsitoli**	**31.09**	**283**	P	**P**	**20 59 22.4**	**+0.8**
GSI				IAmb	IAmb	20 59 38.0	
	comp=Z,7.2nm,1.0s						
CMAR	**Chiang Mai Arr**	**37.52**	**311**	P	**P**	**21 00 15.6**	**-0.4**
	comp=Z,0.7nm,0.3s,baz=138,slow=6.8,SNR=2.1						
	comp=Z,0.7nm,0.3s						
MK31	**Makanchi Array**	**66.32**	**328**	P	**P**	**21 03 45.6**	**+0.4**
MKAR	**Makanchi Array**	**66.32**	**328**	P	**P**	**21 03 45.5**	**+0.3**
	comp=Z,0.4nm,0.4s,baz=130,slow=7.8,SNR=9.3						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**70.64**	**329**	P	**P**	**21 04 11.6**	**+0.1**
	comp=Z,0.2nm,0.4s,baz=127,slow=4.7,SNR=5.5						
	comp=Z,0.2nm,0.4s						

IDC ***29*** *21:03:00.1±0.6,53°.95S×21°.07W,h0km,mb4.3/8, mbtmp4.2/9, ML3.9/1, MS3.3/11, Error ellipse: s-maj=26.7km s-min=17.8km az=60.0*

NEIC ***29*** *21:03:02.4±0.8,54°.05S±0°.1×21°.2W±0°.1,h10km±1km, mb4.9/40, Error ellipse: s-maj=19.5km s-min=13.9km az=17.0*

ISC 29 21:03:01.6±0.5,54°.03S±0°.08×21°.06W±0°.09,h10km,n76,
σ1§41/63,mb4.8/25,MS3.3/11,5C,Southwestern Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HOPE	**Hope Point**	**9.06**	**262**	Pn	**Pn**	**21 05 11.4**	**-1.0**
VNA1	**Neumayer--Stat**	**17.63**	**166**	⇑P	**P**	**21 07 09.3**	**+1.3**
	comp=Z,6.9nm,0.7s						
VNA3	**Neumayer Olymp**	**17.99**	**168**	⇑P	**Pn**	**21 07 12.5**	**+1.0**
	comp=Z,4.2nm,0.5s						
VNA2	**Neumayer--Watz**	**18.01**	**165**	⇑P	**Pn**	**21 07 12.4**	**+0.8**
	comp=Z,4.1nm,0.4s,baz=334,slow=13						
SNAA	**Sanae**	**19.39**	**163**	P	**P**	**21 07 28.6**	**+1.1**
SNAA	**Sanae**	**19.39**	**163**	⇑P	**Pn**	**21 07 30.2**	**+1.7**
	comp=Z,148nm,0.4s						
SNAA	**Sanae**	**19.39**	**163**	P	**P**	**21 07 28.5**	**+1.1**
	comp=Z,0.4nm,0.3s,baz=319,slow=7.2,SNR=20						
SNAA				S	**Sn**	**21 10 57.0**	**-8.8**
	comp=Z,0.8nm,0.8s,baz=264,slow=21,SNR=0.9						
	comp=Z,4.7nm,0.7s						
TROLL	**Troll, Antarti**	**20.69**	**159**	⇑P	Pn	21 07 45.0	+1.0
	comp=Z,914nm,0.6s						
BELA	**Belgrano 2**	**24.43**	**187**	P	**P**	**21 08 20.1**	**+0.2**
MG03	**Isla Dawson**	**28.61**	**250**	P	**P**	**21 08 57.6**	**-0.1**
TRQA	**Tornquist**	**32.05**	**283**	P	**P**	**21 09 28.0**	**-0.3**
TRQA				IAmb	IAmb	21 10 12.4	
	comp=Z,39nm,1.9s						
PLTB	**Pedras Altas**	**32.16**	**301**	P	**P**	**21 09 29.7**	**+0.4**
PLTB				IAmb	IAmb	21 10 00.7	
	comp=Z,40nm,1.8s						
PLCA	**Paso Flores**	**35.31**	**271**	LR	LR	21 23 55.9	
	comp=Z,48nm,18.8s,baz=132,slow=36						
QSPA	**South Pole Qui**	**36.22**	**180**	P	**P**	**21 10 06.1**	**+1.7**
QSPA				IAmb	IAmb	21 10 07.2	
	comp=Z,24nm,1.4s						
QSPA	**South Pole Qui**	**36.22**	**180**	P	**P**	**21 10 06.3**	**+1.9**
	comp=Z,6.1nm,0.6s,baz=212,slow=1.9,SNR=76						
QSPA				PcP	**PcP**	**21 12 29.7**	**+0.4**
	comp=Z,2.9nm,1.0s,baz=194,slow=0.5,SNR=2.3						
	comp=Z,6.1nm,0.6s						
SPB	**Sao Paulo**	**36.27**	**316**	P	**P**	**21 10 05.4**	**+0.4**
CPUP	**Villa Florida**	**38.46**	**301**	P	**P**	**21 10 23.2**	**-0.4**
CPUP	**Villa Florida**	**38.46**	**301**	P	**P**	**21 10 22.4**	**-1.1**
	comp=Z,1.6nm,0.6s,baz=153,slow=8.6,SNR=4.8						
CPUP				LR	LR	21 24 04.3	
	comp=Z,32nm,19.2s,baz=174,slow=33						
	comp=Z,1.6nm,0.6s						
MAW	**Mawson**	**39.67**	**143**	P	**P**	**21 10 32.1**	**-1.1**
	comp=Z,2.7nm,0.8s,baz=270,slow=9.1,SNR=4.3						
MAW				LR	LR	21 24 57.4	
	comp=Z,45nm,19.6s,baz=262,slow=33						
	comp=Z,2.7nm,0.8s						
ZON	**Zonda**	**40.55**	**284**	P	**P**	**21 10 40.1**	**-0.8**
ZON				IAmb	IAmb	21 10 41.4	
	comp=Z,36nm,1.7s						
MT02	**Curacav**	**40.72**	**280**	P	**P**	**21 10 42.3**	**0.0**
MT02				IAmb	IAmb	21 11 07.1	
	comp=Z,61nm,1.6s						
BOSA	**Boshof**	**42.02**	**72**	P	**P**	**21 10 53.0**	**-0.1**
BOSA				IAmb	IAmb	21 11 12.0	
	comp=Z,56nm,1.9s						
BOSA	**Boshof**	**42.02**	**72**	P	**P**	**21 10 53.1**	**-0.1**
	comp=Z,1.1nm,0.6s,baz=134,slow=21,SNR=1.1						
BOSA				LR	LR	21 23 51.9	
	comp=Z,88nm,18.2s,baz=197,slow=30						
	comp=Z,1.1nm,0.6s						
CO02	**Combarbal**	**42.13**	**282**	P	**P**	**21 10 53.6**	**-0.5**
CO02				IAmb	IAmb	21 11 12.8	
	comp=Z,48nm,1.6s						
CO03	**El Pedregal**	**42.22**	**283**	P	**P**	**21 10 54.8**	**0.0**
CO03				IAmb	IAmb	21 12 18.1	
	comp=Z,39nm,1.6s						
CO01	**Juntas del Tor**	**42.52**	**284**	P	**P**	**21 10 58.6**	**+1.2**
AQDB	**Aquidauana**	**42.62**	**308**	P	**P**	**21 10 57.5**	**-0.5**
CO06	**Fray Jorge**	**42.89**	**282**	P	**P**	**21 10 59.8**	**-0.3**
AC05	**El Transito**	**43.49**	**285**	P	**P**	**21 11 05.6**	**+0.5**
LCO	**Las Campanas**	**43.60**	**285**	P	**P**	**21 11 06.0**	**-0.2**
LCO				IAmb	IAmb	21 11 07.0	
	comp=Z,14nm,0.8s						
BDFB	**Brasilia**	**43.70**	**321**	P	**P**	**21 11 05.7**	**-1.1**
	comp=Z,1.2nm,0.4s,baz=173,slow=27,SNR=2.2						
BDFB				LR	LR	21 25 08.0	
	comp=Z,56nm,19.5s,baz=143,slow=30						
	comp=Z,1.2nm,0.4s						
GO03	**Copiap**	**44.41**	**286**	P	**P**	**21 11 12.1**	**-0.4**
GO03				IAmb	IAmb	21 11 13.1	
	comp=Z,17nm,0.7s						
H04S2	**CROZET ISLANDS**	**45.09**	**112**	T	T	22 00 13.7	
	baz=234,slow=75,SNR=17						
H04S3	**CROZET ISLANDS**	**45.10**	**112**	T	T	22 00 12.1	
	baz=234,slow=75,SNR=19						
H04S1	**CROZET ISLANDS**	**45.11**	**112**	T	T	22 00 12.7	
	baz=234,slow=75,SNR=23						
H10S2	**ASCENSION HYDR**	**45.24**	**9**	T	T	21 59 48.2	
	baz=184,slow=74,SNR=10						
H10S3	**ASCENSION HYDR**	**45.25**	**9**	T	T	21 59 49.0	
	baz=36,slow=74,SNR=13						
GO02	**Mina Guanaco**	**45.94**	**289**	P	**P**	**21 11 24.7**	**-0.2**
H10N1	**ASCENSION HYDR**	**46.36**	**9**	T	T	22 01 11.1	
	baz=185						
H10N3	**ASCENSION HYDR**	**46.36**	**9**	T	T	22 01 13.4	
	baz=185,slow=74						
H10N2	**ASCENSION HYDR**	**46.38**	**9**	T	T	22 01 12.6	
	baz=185,slow=74						
PB14	**IPOC Station P**	**46.81**	**289**	P	**P**	**21 11 30.9**	**-0.9**
PB14				IAmb	IAmb	21 11 32.6	
	comp=Z,12nm,0.9s						
LVC	**Limon Verde**	**47.59**	**292**	P	**P**	**21 11 38.4**	**+0.6**
LVC				IAmb	IAmb	21 11 40.0	
	comp=Z,7.0nm,0.6s						
LVC	**Limon Verde**	**47.59**	**292**	LR	LR	21 31 49.0	
	comp=Z,20nm,19.0s,baz=176,slow=36						
PB05	**IPOC Station P**	**48.10**	**290**	P	**P**	**21 11 41.6**	**0.0**
PB05				IAmb	IAmb	21 11 42.8	
	comp=Z,14nm,0.9s						
SBA	**Scott Base**	**48.29**	**182**	P	**P**	**21 11 44.8**	**+2.6**
SBA				IAmb	IAmb	21 11 46.2	
	comp=Z,9.1nm,1.1s						
PB09	**IPOC Station P**	**48.42**	**292**	P	**P**	**21 11 44.6**	**+0.4**
PTLB	**Pontes e Lacer**	**48.58**	**308**	P	**P**	**21 11 44.9**	**-0.2**
VNDA	**Vanda**	**48.70**	**181**	P	**P**	**21 11 47.3**	**+1.9**
SIV	**San Ignacio**	**49.03**	**305**	LR	LR	21 32 14.0	
	comp=Z,23nm,18.1s,baz=110,slow=36						
PB01	**IPOC Station P**	**49.16**	**293**	P	**P**	**21 11 49.8**	**+0.1**
PB11	**IPOC Station P**	**50.30**	**293**	P	**P**	**21 11 58.5**	**+0.1**
PB11				IAmb	IAmb	21 11 59.8	
	comp=Z,16nm,0.9s						
LPAZ	**La Paz**	**52.34**	**297**	P	**P**	**21 12 14.1**	**-0.2**
LPAZ	**La Paz**	**52.34**	**297**	P	**P**	**21 12 13.9**	**-0.4**
	comp=Z,1.8nm,0.5s,baz=148,slow=5.4,SNR=8.3						
LPAZ				LR	LR	21 35 38.4	
	comp=Z,26nm,18.7s,baz=106,slow=37						
	comp=Z,1.8nm,0.5s						
CASY	**Casey**	**54.55**	**158**	P	**P**	**21 12 30.1**	**+0.9**
CASY				IAmb	IAmb	21 14 11.0	
	comp=Z,14nm,1.4s						
SAML	**Samuel**	**56.15**	**307**	P	**P**	**21 12 40.9**	**-0.4**
SAML				IAmb	IAmb	21 12 42.1	
	comp=Z,6.6nm,0.8s						
ETMB	**Extrema**	**56.85**	**303**	P	**P**	**21 12 45.8**	**-0.6**
BOAV	**Boa Vista**	**65.07**	**316**	P	**P**	**21 13 41.8**	**-0.4**
BOAV				IAmb	IAmb	21 14 16.7	
	comp=Z,7.8nm,1.1s						
ATAH	**Atahualpa**	**65.44**	**293**	LR	LR	21 43 54.2	
	comp=Z,24nm,19.4s,baz=151,slow=38						
TORD	**Torodi Ar. Bea**	**69.67**	**24**	P	**P**	**21 14 11.2**	**0.0**
TORD				IAmb	IAmb	21 14 14.0	
	comp=Z,16nm,1.9s						
TORD	**Torodi Ar. Bea**	**69.67**	**24**	P	**P**	**21 14 11.2**	**0.0**
	comp=Z,2.1nm,0.5s,baz=208,slow=5.9,SNR=16						
	comp=Z,2.1nm,0.5s						
BAUV	**El Baul**	**74.16**	**311**	P	**P**	**21 14 38.3**	**0.0**
BAUV				IAmb	IAmb	21 14 39.7	
	comp=Z,16nm,0.9s						
SDV	**Santo Domingo**	**75.28**	**309**	LR	LR	21 46 15.7	
	comp=Z,34nm,21.8s,baz=144,slow=34						
MLZ	**Mavora Lakes**	**80.67**	**187**	P	**P**	**21 15 15.4**	**+1.0**
FOZ	**Fox Glacier**	**82.37**	**188**	P	**P**	**21 15 24.2**	**+0.8**
MRNZ	**Matariki Terra**	**84.21**	**190**	P	**P**	**21 15 33.9**	**+1.0**
STKA	**Stephens Creek**	**93.14**	**165**	P	**P**	**21 16 15.2**	**-0.6**
	comp=Z,1.9nm,0.8s,baz=196,slow=7.4,SNR=3.2						
	comp=Z,1.9nm,0.8s						
EIL	**Elat**	**96.35**	**47**	LR	LR	21 55 26.6	
	comp=Z,13nm,19.5s,baz=246,slow=33						
CMAR	**Chiang Mai Arr**	**122.28**	**104**	PKP	**PKPdf**	**21 21 56.8**	**+0.1**
	comp=Z,1.0nm,0.8s,baz=245,slow=4.0,SNR=4.2						
BVAR	**Borovoye Array**	**130.73**	**53**	PKP	**PKiKP**	**21 22 12.4**	**-0.2**
	comp=Z,1.2nm,0.5s,baz=249,slow=1.3,SNR=9.6						
MKAR	**Makanchi Array**	**132.86**	**66**	PKP	**PKPdf**	**21 22 15.3**	**-0.7**
	comp=Z,0.8nm,0.8s,baz=255,slow=3.6,SNR=5.1						
KURBB	**Kurchatov Arra**	**133.24**	**60**	PKP	**PKPdf**	**21 22 15.9**	**-0.6**
	comp=Z,0.7nm,0.7s,baz=233,slow=2.3,SNR=6.0						
YKA	**Yellowknife Ar**	**137.06**	**317**	PKhKP	PKPpre	21 22 18.7	
	comp=Z,0.4nm,0.6s,baz=82,slow=1.3,SNR=2.7						
YKA				PKP	**PKiKP**	**21 22 24.2**	**-0.9**
	comp=Z,0.6nm,0.8s,baz=108,slow=1.6,SNR=4.5						
SONM	**Songino Array**	**146.97**	**79**	PKPbc	**PKPbc**	**21 22 43.3**	**-0.4**
	comp=Z,1.1nm,0.6s,baz=207,slow=1.0,SNR=9.6						
ILAR	**Eielson Array**	**151.35**	**314**	PKPbc	**PKPbc**	**21 22 53.9**	**-0.1**
	comp=Z,3.7nm,0.8s,baz=75,slow=1.4,SNR=34						
KSRS	**Korea Array**	**153.04**	**115**	PKPbc	**PKPbc**	**21 22 58.0**	**-0.6**
	comp=Z,1.1nm,0.7s,baz=215,slow=3.4,SNR=5.3						

NIED ***29*** *21:10:08.2,33°.90N×134°.47E,h11km,MW3.6,Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}=0.50; $M_{\theta\theta}$3.05; $M_{\phi\phi}$-2.55; $M_{r\theta}$0.07; $M_{\theta\phi}$-0.71; $M_{r\phi}$0.59; Fault plane solution: M_o2.96000×10^{14} NP1: ϕ_s141.00000°,δ80.00000°,λ-10.00000°. NP2: ϕ_s233.00000°,δ80.00000°,λ-170.00000°.*

JMA 29 21:10:08.2±0.0,33°.90N±0°.08×134°.5E±0°.1,h11km,
MV3.8/20,10D,TOKUSHIMA PREF,Shikoku

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JAI	**Aioi**	**0.11**	**189**	*i* P	Pg	21 10 11.1	0.0
JAI				S	Sg	21 10 13.2	0.0
JMAF	**Mimaanabuki**	**0.30**	**298**	⇓*i*P	Pg	21 10 14.3	0.0
JMAF				⇓S	Sg	21 10 18.7	+0.3
JMN	**Monobe**	**0.52**	**251**	⇓*i*P	Pg	21 10 18.6	+0.1
JMN				⇓S	Sg	21 10 25.8	+0.4
JJS	**Sakaide**	**0.65**	**316**	⇓*i*P	Pg	21 10 20.6	-0.2
JJS				⇓S	Sg	21 10 29.4	0.0
JAWN	**Awajishima-nag**	**0.68**	**31**	*i* P	Pg	21 10 21.1	-0.4
JAWN				S	Sg	21 10 30.2	-0.2
JWM	**Minabe**	**0.74**	**94**	⇓*i*P	Pg	21 10 22.1	-0.3
JWM				⇓S	Sg	21 10 31.3	-0.8
JTNC	**Tanabenakahech**	**0.95**	**95**	⇓*i*P	Pg	21 10 25.6	-1.0
JTNC				⇓S	Sg	21 10 38.2	-0.8
JWY	**Kouya**	**0.98**	**71**	*i* P	Pg	21 10 26.4	-0.7
JWY				S	Sg	21 10 39.6	-0.4
JAD	**Aida**	**1.07**	**346**	*i* P	Pb	21 10 27.9	-0.8
JAD				S	Sg	21 10 41.7	-0.9

IGIL ***29*** *21:21:21.9,37°.85N×3°.25W,h1km,ML2.0*

LDG ***29*** *21:21:22.6±0.1,37°.85N×3°.25W,h2km,MI3.1/6, Error ellipse: s-maj=1.4km s-min=1.2km az=141.0*

INMG ***29*** *21:21:23.4±1.6,37°.87N×3°.25W,h13km±2km,ML3.0, Error ellipse: s-maj=1.6km s-min=1.5km az=179.0*

MDD ***29*** *21:21:23.1±0.1,37°.85N×3°.25W,h11km,mb_Lg3.4/85, Error ellipse: s-maj=1.2km s-min=0.9km az=150.0*

SFS ***29*** *21:21:24.2,37°.86N×3°.27W,h21km,ML3.2/27,ML3.5/22, MLv3.1/27*

CNRM ***29*** *21:21:24.8,37°.80N×3°.23W,h33km,ML3.4*

ISC 29 21:21:21.7±0.8,37°.89N±0°.01×3°.25W±0°.01,h17km±5km,
n123,σ1§44/249,Spain

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
E0802	**Ubeda,Jaen**	**0.17**	**324**	Pg	**Pg**	**21 21 26.3**	**+0.2**
E0802				Sg	**Sg**	**21 21 29.2**	**+0.1**
EQES	**Quesada**	**0.17**	**122**	Pg	**Pg**	**21 21 25.2**	**-1.0**
EQES				Sg	**Sg**	**21 21 27.8**	**-1.4**
EQES				*i* Vmb_Lg		21 21 28.5	
EQTA	**Presa de Quent**	**0.70**	**193**	Pg	**Pb**	**21 21 35.2**	**-0.3**
EQTA				Sg	**Sb**	**21 21 44.3**	**-0.6**
EQUE	**Quentar**	**0.70**	**192**	Pg	**Pb**	**21 21 35.4**	**-0.2**
EQUE				Sg	**Sb**	**21 21 44.0**	**-1.0**
EQUE				*i* Vmb_Lg		21 21 46.6	
PSIM	**Granatula de C**	**1.01**	**337**	Pg	**Pg**	**21 21 41.7**	**+0.3**
PSIM				Sg	**Sg**	**21 21 55.6**	**+1.1**
EBER	**Berja**	**1.03**	**164**	Pg	**Pn**	**21 21 41.2**	**-0.5**
EBER	**Berja**	**1.03**	**164**	Pg	**Pn**	**21 21 41.1**	**-0.5**
EBER				Sg	**Sn**	**21 21 55.0**	**-0.8**
EBER				*i* Vmb_Lg		21 22 01.8	
EGOR	**Sierra Gorda,**	**1.04**	**221**	Pg	**Pn**	**21 21 41.6**	**-0.1**
EGOR				Sg	**Sn**	**21 21 56.4**	**+0.6**
EGOR	**Sierra Gorda,**	**1.04**	**221**	Pg	**Pn**	**21 21 42.0**	**+0.3**
EGOR				Sg	**Sn**	**21 21 55.3**	**-0.5**
EGOR				*i* Vmb_Lg		21 22 00.3	
ELGU	**Los Guajares,**	**1.06**	**196**	Pg	**Pn**	**21 21 42.0**	**0.0**
ELGU				Sg	**Sn**	**21 21 56.7**	**+0.3**
ELGU	**Los Guajares,**	**1.06**	**196**	Pg	**Pn**	**21 21 42.1**	**+0.2**
ELGU				Sg	**Sg**	**21 21 55.1**	**-1.3**
ELGU				*i* Vmb_Lg		21 22 01.0	
EADA	**Adamuz**	**1.08**	**285**	Pg	**Pg**	**21 21 42.5**	**-0.2**
EADA				Sg	**Sn**	**21 21 57.8**	**+1.0**
EADA	**Adamuz**	**1.08**	**285**	Pg	**Pg**	**21 21 42.7**	**+0.2**
EADA				Sg	**Sg**	**21 21 57.0**	**+0.1**
EADA				*i* Vmb_Lg		21 22 01.2	
ELOR	**Lorca, Murcia**	**1.22**	**101**	Pg	**Pg**	**21 21 45.2**	**-0.1**
ELOR				Sg	**Sg**	**21 22 01.6**	**+0.4**
ELOR				*i* Vmb_Lg		21 22 05.0	
EZAR	**Zarzadilla de**	**1.23**	**90**	Pg	**Pb**	**21 21 45.0**	**+0.4**
EZAR				Sg	**Sg**	**21 22 01.5**	**-0.2**
EZAR				*i* Vmb_Lg		21 22 03.8	
ENIJ	**Nijar**	**1.24**	**138**	Pn	**Pg**	**21 21 44.6**	**-1.0**
ENIJ				Sg	**Sg**	**21 22 02.7**	**+0.9**
ENIJ	**Nijar**	**1.24**	**138**	Pg	**Pg**	**21 21 44.8**	**-0.8**
ENIJ				Sg	**

PBAR	**Barrancos**	**3.00**	**277**	Pn		**Pn**	**21 22 09.3**	**+0.7**
PBAR				Sn		**Sn**	**21 22 44.6**	**+0.4**
PBAR				Sg		**Sb**	**21 22 54.5**	**+3.3**
E0901	**Celadas (Terue**	**3.07**	**32**	Pn		**Pn**	**21 22 10.6**	**+1.1**
E0901				Sn		**Sn**	**21 22 45.5**	**-0.4**
E0901				Sg		**Sg**	**21 23 00.2**	**-0.1**
E0901				*i* Vmb_Lg			21 23 03.1	
ETOR	**Torete**	**3.07**	**17**	Pn		**Pn**	**21 22 10.3**	**+0.8**
ETOR				Sn		**Sn**	**21 22 46.9**	**+1.1**
ETOR				Sg		**Sg**	**21 22 59.8**	**-0.5**
EBAD	**Badajoz**	**3.08**	**287**	Pn		**Pn**	**21 22 10.0**	**+0.3**
EBAD	**Badajoz**	**3.08**	**287**	Pn		**Pn**	**21 22 10.0**	**+0.3**
EBAD				Sn		**Sn**	**21 22 46.8**	**+0.7**
EBAD				Sg		**Sg**	**21 22 59.6**	**-1.1**
EBAD				*i* Vmb_Lg			21 23 01.8	
EPLA	**Plasencia**	**3.09**	**315**	Pn		**Pn**	**21 22 10.5**	**+0.7**
EPLA				Sn		**Sn**	**21 22 47.6**	**+1.2**
EPLA				*i* Vmb_Lg			21 23 08.1	
EMOS	**Mosqueruela**	**3.28**	**40**	Pn		**Pn**	**21 22 13.9**	**+1.3**
EMOS				Sn		**Sn**	**21 22 51.5**	**+0.3**
EMOS				Sg		**Sg**	**21 23 05.8**	**-1.3**
EMOS				*i* Vmb_Lg			21 23 11.3	
EGRO	**El Granado**	**3.38**	**265**	Pn		**Pn**	**21 22 13.7**	**+0.1**
EGRO	**El Granado**	**3.38**	**265**	Pn		**Pn**	**21 22 13.8**	**+0.1**
EGRO				Sn		**Sn**	**21 22 53.0**	**-0.3**
EGRO				Sg		**Sg**	**21 23 06.8**	**-3.3**
EGRO				*i* Vmb_Lg			21 23 13.2	
AKLM	**AKL**	**3.41**	**189**	P		**Pn**	**21 22 13.6**	**-0.7**
AKLM	**AKL**	**3.41**	**189**	S		**Sn**	**21 22 53.1**	**-1.2**
PESTR	**Estremoz**	**3.55**	**287**	*e*Pn		**Pn**	**21 22 18.2**	**+2.2**
PESTR				*e*Sn		**Sn**	**21 22 58.5**	**+0.9**
PESTR				*e*Sg		**Sg**	**21 23 14.4**	**-1.2**
PESTR				A		A	21 23 24.8	
	40nm,0.4s							
PESTR	**Estremoz**	**3.55**	**287**	Pn		**Pn**	**21 22 16.7**	**+0.6**
PESTR				Sn		**Sn**	**21 22 57.4**	**-0.2**
PESTR	**Estremoz**	**3.55**	**287**	P		**Pn**	**21 22 18.8**	**+2.8**
PVAQ	**Vaqueiros**	**3.58**	**264**	*e*Pn		**Pn**	**21 22 16.5**	**+0.1**
PVAQ				*e*Sn		**Sn**	**21 22 58.8**	**+0.5**
PVAQ				*e*Sg		**Sg**	**21 23 15.0**	**-1.7**
PVAQ				A		A	21 23 19.0	
	29nm,0.4s							
PVAQ	**Vaqueiros**	**3.58**	**264**	Pn		**Pn**	**21 22 16.5**	**+0.1**
PVAQ				Sn		**Sn**	**21 22 57.1**	**-1.2**
PVAQ	**Vaqueiros**	**3.58**	**264**	P		**Pn**	**21 22 16.9**	**+0.5**
PMRV	**Marv??o**	**3.59**	**297**	*e*Pn		**Pn**	**21 22 18.3**	**+1.7**
PMRV	**Marv??o**	**3.59**	**297**	*e*Pg		**Pg**	**21 22 28.9**	**-1.5**
PMRV				*e*Sg		**Sg**	**21 23 14.7**	**-2.2**
PMRV				A		A	21 23 22.8	
	62nm,0.6s							
JBK	**JBK**	**3.59**	**171**	P		**Pn**	**21 22 17.7**	**+0.9**
JBK	**JBK**	**3.59**	**171**	S		**Sn**	**21 22 57.9**	**-1.1**
PBEJ	**Beja**	**3.65**	**274**	*e*Sg		**Sg**	**21 23 18.2**	**-0.8**
PBEJ				A		A	21 23 26.1	
	19nm,0.5s							
ECOL	**Islas Columbre**	**3.67**	**56**	Pn		**Pn**	**21 22 17.8**	**+0.2**
ECOL				Sn		**Sn**	**21 22 59.4**	**-1.1**
PBDV	**Barranco-do-Ve**	**3.77**	**262**	*e*Pn		**Pn**	**21 22 19.6**	**+0.4**
PBDV				*e*Sn		**Sn**	**21 23 04.1**	**+0.9**
PBDV				*e*Sg		**Sg**	**21 23 21.4**	**-1.6**
PBDV				A		A	21 23 28.2	
	21nm,0.6s							
PBDV	**Barranco-do-Ve**	**3.77**	**262**	Pn		**Pn**	**21 22 19.4**	**+0.2**
EIBI	**Ibiza**	**3.78**	**71**	Pn		**Pn**	**21 22 19.3**	**+0.1**
EIBI	**Ibiza**	**3.78**	**71**	Pn		**Pn**	**21 22 19.2**	**0.0**
EIBI				Sn		**Sn**	**21 23 03.5**	**+0.2**
EIBI				*i* Vmb_Lg			21 23 20.5	
EJUZ	**Juzbado, Salam**	**3.79**	**328**	Pn		**Pn**	**21 22 21.4**	**+2.0**
EJUZ				Sn		**Sn**	**21 23 04.7**	**+1.2**
PCVE	**Castro Verde**	**3.80**	**268**	*e*Pg		**Pg**	**21 22 32.8**	**-1.8**
PCVE				*e*Sn		**Sn**	**21 23 04.3**	**+0.4**
PCVE				*e*Sg		**Sg**	**21 23 22.5**	**-1.4**
PCVE				A		A	21 23 27.3	
	28nm,0.5s							
PCVE	**Castro Verde**	**3.80**	**268**	Pn		**Pn**	**21 22 18.7**	**-0.8**
PCVE				Sg		**Sb**	**21 23 18.7**	**+4.5**
EVO	**Evora**	**3.81**	**281**	*e*Pg		**Pg**	**21 22 31.9**	**-2.7**
EVO				*e*Sn		**Sn**	**21 23 04.1**	**+0.2**
EVO				*e*Sg		**Sg**	**21 23 22.2**	**-1.7**
EVO				A		A	21 23 31.1	
	29nm,0.4s							
EVO	**Evora**	**3.81**	**281**	Sn		**Sn**	**21 23 02.9**	**-1.0**
EVO				Pn		**Pn**	**21 22 21.8**	**+2.2**
EVO				Sg		**Sb**	**21 23 19.2**	**+5.0**
PCBR	**Castelo Branco**	**3.83**	**302**	*e*Pn		**Pn**	**21 22 22.0**	**+2.1**
PCBR				*e*Sn		**Sn**	**21 23 04.1**	**-0.4**
PCBR				*e*Sg		**Sg**	**21 23 21.4**	**-3.3**
PCBR				A		A	21 23 28.3	
	33nm,0.6s							
MESJ	**Messejana**	**3.93**	**271**	*e*Sn		**Sn**	**21 23 07.0**	**-0.1**
MESJ				*e*Sg		**Sg**	**21 23 26.6**	**-1.4**
MESJ				A		A	21 23 28.6	
	21nm,1.0s							
MESJ	**Messejana**	**3.93**	**271**	*e*P		**Pn**	**21 22 21.6**	**+0.3**
MESJ				*e*S		**Sn**	**21 23 05.2**	**-1.9**
MESJ				IAML			21 23 08.3	
	comp=N,3.6nm,0.2s							
PMTG	**Montargil**	**4.08**	**288**	*e*Sn		**Sn**	**21 23 10.2**	**-0.4**
PMTG				*e*Sg		**Sg**	**21 23 31.4**	**-1.2**
PMTG				A		A	21 23 39.8	
	comp=N,38nm,0.4s							
ERTA	**Horta de San J**	**4.13**	**41**	Pn		**Pn**	**21 22 26.0**	**+1.9**
ERTA				Sn		**Sn**	**21 23 12.3**	**+0.3**
ERTA				*i* Vmb_Lg			21 23 38.3	
MTE	**Manteigas**	**4.17**	**308**	*e*Sg		**Sg**	**21 23 33.7**	**-2.0**
MTE				A		A	21 23 39.0	
	comp=N,39nm,0.4s							
MORF	**Marmelete**	**4.33**	**264**	*e*Pn		**Pn**	**21 22 29.9**	**+3.1**
MORF				*e*Sg		**Sg**	**21 23 38.5**	**-2.2**
MORF				A		A	21 23 47.1	
	comp=N,9.5nm,0.7s							
MORF	**Marmelete**	**4.33**	**264**	*e*P		**Pn**	**21 22 26.9**	**+0.1**
PTEO	**Sao Teotonio**	**4.35**	**267**	*e*Sg		**Sg**	**21 23 40.9**	**-0.6**
PTEO				A		A	21 23 52.5	
	comp=N,24nm,0.5s							
ESAC	**San Caprasio**	**4.38**	**28**	Pn		**Pn**	**21 22 29.1**	**+1.5**
ESAC				Sn		**Sn**	**21 23 18.4**	**+0.1**
ESAC				Sg		**Sg**	**21 23 39.3**	**-3.2**
ESAC				*i* Vmb_Lg			21 23 42.8	
PFVI	**Vila Bisbo**	**4.50**	**262**	*e*Sg		**Sg**	**21 23 45.0**	**-1.1**
PFVI				A		A	21 23 55.3	
	comp=N,14nm,0.7s							
PFVI	**Vila Bisbo**	**4.50**	**262**	Pn		**Pn**	**21 22 28.9**	**-0.2**
PVIS	**Viseu**	**4.57**	**309**	*e*Sg		**Sg**	**21 23 48.4**	**-0.2**
PVIS				A		A	21 23 57.0	
	comp=N,12nm,0.6s							
PCAS	**Casmilo, Conde**	**4.62**	**299**	*e*Pn		**Pn**	**21 22 33.0**	**+2.2**
PCAS				*e*Sn		**Sn**	**21 23 24.2**	**+0.1**
PCAS				*e*Sg		**Sg**	**21 23 50.0**	**-0.1**
PCAS				A		A	21 23 55.7	
	comp=N,39nm,0.7s							
PSBE	**So Bento**	**4.63**	**292**	*e*Sg		**Sg**	**21 23 50.1**	**-0.3**
PSBE				A		A	21 23 57.2	
	comp=N,34nm,0.6s							
PBRG	**Braganca**	**4.74**	**327**	*e*Sg		**Sg**	**21 23 53.3**	**-0.6**
PBRG				A		A	21 23 58.5	
	comp=N,10nm,0.5s							
EPOB	**Poblet**	**4.81**	**43**	Pn		**Pn**	**21 22 33.8**	**+0.3**
EPOB				Sn		**Sn**	**21 23 28.5**	**-0.2**
EPOB				Sg		**Sg**	**21 23 53.8**	**-2.3**
EPOB				*i* Vmb_Lg			21 23 57.8	
PVRL	**Vila Real**	**4.83**	**316**	*e*Sn		**Sn**	**21 23 28.4**	**-0.8**
PVRL				*e*Sg		**Sg**	**21 23 56.5**	**-0.2**
PVRL				A		A	21 24 06.7	
	comp=N,14nm,0.5s							
ECAL	**Calabor**	**4.85**	**328**	Pn		**Pn**	**21 22 35.9**	**+1.8**
ECAL	**Calabor**	**4.85**	**328**	Pn		**Pn**	**21 22 35.6**	**+1.6**
ECAL				Sn		**Sn**	**21 23 28.6**	**-1.2**
ECAL				Sg		**Sg**	**21 23 56.8**	**-0.7**
POLO	**Lamas de Olo**	**4.94**	**316**	*e*Pn		**Pn**	**21 22 37.5**	**+2.3**
POLO				*e*Sg		**Sg**	**21 23 58.9**	**-1.3**
POLO				A		A	21 24 13.6	
	comp=N,5.0nm,0.4s							
MD31	**MD31**	**5.16**	**194**	P		**Pn**	**21 22 40.1**	**+1.8**
EORO	**Oroz-Betelu**	**5.21**	**16**	Pn		**Pn**	**21 22 40.9**	**+2.0**
EORO				Sn		**Sn**	**21 23 37.8**	**-0.8**
EORO				Sg		**Sg**	**21 24 06.0**	**-3.0**
EORO				*i* Vmb_Lg			21 24 13.9	
PCAB	**Cabril**	**5.30**	**318**	*e*Sg		**Sg**	**21 24 09.8**	**-1.9**
PCAB				A		A	21 24 14.9	
	comp=N,16nm,0.4s							
ELAN	**Lanestosa**	**5.34**	**359**	Pn		**Pn**	**21 22 42.6**	**+1.9**
ELAN				Sn		**Sn**	**21 23 40.6**	**-1.1**
ELAN				Sg		**Sg**	**21 24 09.8**	**-3.1**
ELAN				*i* Vmb_Lg			21 24 17.9	
ETSF	**Etsaut**	**5.41**	**21**	*e*Pn		**Pn**	**21 22 42.4**	**+0.8**
ETSF	**Etsaut**	**5.41**	**21**	*e*Pg		**Pg**	**21 23 03.3**	**-1.9**
ETSF				*e*Sn		**Sn**	**21 23 40.9**	**-2.6**
ETSF				*e*Sg		**Sg**	**21 24 13.1**	**-2.1**
	comp=N,6.9nm,0.4s							
ELOB	**Lobios**	**5.43**	**319**	Pn		**Pn**	**21 22 42.3**	**+0.4**
ELOB				Sn		**Sn**	**21 23 43.5**	**-0.5**
ELOB				Sg		**Sg**	**21 24 12.6**	**-3.3**
ELOB				*i* Vmb_Lg			21 24 21.6	
SJPF	**Ste Jean**	**5.44**	**16**	*e*Pn		**Pn**	**21 22 42.6**	**+0.6**
SJPF	**Ste Jean**	**5.44**	**16**	*e*Pg		**Pg**	**21 23 04.1**	**-1.8**
SJPF				*e*Sn		**Sn**	**21 23 41.7**	**-2.5**
SJPF				*e*Sg		**Sg**	**21 24 14.8**	**-1.5**
	comp=N,11nm,0.5s							
EARI	**Arriondas**	**5.61**	**345**	Pn		**Pn**	**21 22 45.1**	**+0.8**
EARI				Sn		**Sn**	**21 23 45.4**	**-3.0**
EARI				Sg		**Sg**	**21 24 20.0**	**-1.6**
EARI				*i* Vmb_Lg			21 24 24.1	
PGAV	**Gavieira, Arco**	**5.61**	**318**	*e*Pn		**Pn**	**21 22 46.1**	**+1.7**
PGAV				*e*Sg		**Sg**	**21 24 19.8**	**-1.8**
PGAV				A		A	21 24 24.9	
	comp=N,9.5nm,0.7s							
EPF	**Esparros**	**5.82**	**27**	*e*Pn		**Pn**	**21 22 47.4**	**+0.1**
EPF	**Esparros**	**5.82**	**27**	*e*Pg		**Pg**	**21 23 11.3**	**-1.8**
EPF				*e*Sn		**Sn**	**21 23 51.0**	**-2.6**
EPF				*e*Sg		**Sg**	**21 24 24.2**	**-4.2**
	comp=N,9.0nm,0.4s							
EAGO	**Agolada(Pontev**	**6.14**	**325**	Pn		**Pn**	**21 22 53.2**	**+1.5**
EAGO				Sn		**Sn**	**21 24 00.1**	**-1.4**
EAGO				Sg		**Sg**	**21 24 34.3**	**-4.4**
EAGO				*i* Vmb_Lg			21 24 45.3	
EPON	**Pontenova**	**6.19**	**333**	Pn		**Pn**	**21 22 53.4**	**+1.1**
EPON				Sn		**Sn**	**21 24 01.6**	**-1.0**
EPON				Sg		**Sg**	**21 24 37.8**	**-2.4**
EPON				*i* Vmb_Lg			21 24 58.2	
MTLF	**Montolieu**	**6.85**	**36**	*e*Pn		**Pn**	**21 23 01.7**	**+0.3**
MTLF	**Montolieu**	**6.85**	**36**	*e*Pg		**Pg**	**21 23 30.2**	**-2.6**
MTLF				*e*Sn		**Sn**	**21 24 15.4**	**-3.5**
MTLF				*e*Sg		**Sg**	**21 24 58.3**	**-3.1**
	comp=N,2.0nm,0.5s							
CAF	**Calviac**	**8.08**	**28**	*e*Pn		**Pn**	**21 23 18.9**	**+0.6**
CAF	**Calviac**	**8.08**	**28**	*e*Pg			21 23 53.2	
CAF				*e*Sn		**Sn**	**21 24 45.3**	**-4.0**
CAF				*e*Sg			21 25 36.9	
	comp=N,0.8nm,0.3s							

NEIC ***29*** *21:27:28.8±1.1,6.6°S±0.7°×148.1°E±0.7°,10,h35km±2km, mb4.4/16, Error ellipse: s-maj=17.5km s-min=15.0km az=143.0*

IDC ***29*** *21:27:29.4±2.3,6.5°S×148.1°E,h49km±20km, mb3.7/8, mbtmp4.0/10, ML4.1/1, MS3.1/4, Error ellipse: s-maj=33.0km s-min=14.6km az=110.0*

ISC 29 21:27:29.1±0.7,6.57°S±0.08°×148.2°E±0.1°,h51km,n43, σ0.94s/43,mb4.3/14,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**3.00**	**200**	P		**Pn**	**Pn**	**21 28 14.3**	**+0.1**
	50nm,0.5s,baz=44,slow=6.2,SNR=13								
PMG				S		**Sn**	**Sn**	**21 28 48.7**	**-0.2**
	150nm,0.6s,baz=44,slow=13,SNR=6.8								
PMG				LR		LR	LR	21 29 22.9	
	comp=Z,95nm,20.3s,baz=18,slow=38								
RABL	**Rabaul**	**4.60**	**59**	Pn		**Pn**	**Pn**	**21 28 36.7**	**+0.5**
COEN	**Coen**	**8.85**	**214**	Pn		**Pn**	**Pn**	**21 29 29.8**	**-4.6**
QIS	**Mount Isa**	**16.21**	**210**	P		**Pn**	**Pn**	**21 31 14.0**	**+0.5**
WB0	**Warramunga Arr**	**18.76**	**224**	P		**P**	**P**	**21 31 43.2**	**-0.8**
EIDS	**Eidsvold**	**18.90**	**172**	P		**P**	**P**	**21 31 45.4**	**-0.1**
EIDS				IAmb		IAmb	IAmb	21 31 59.8	
	comp=Z,15nm,1.4s								
WRA	**Warramunga Arr**	**18.92**	**224**	P		**P**	**P**	**21 31 45.0**	**-0.8**
WRA	**Warramunga Arr**	**18.92**	**224**	P		**P**	**P**	**21 31 44.8**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=51,slow=11,SNR=23								
WRA				LR		LR	LR	21 40 15.0	
	comp=Z,105nm,19.8s,baz=330,slow=41								
	comp=Z,3.0nm,0.5s								
QLP	**Quilpie**	**20.26**	**190**	P		**P**	**P**	**21 32 01.1**	**+0.8**
GUMO	**Guam**	**20.30**	**351**	LR		LR	LR	21 40 05.0	
	comp=Z,19nm,18.9s,baz=88,slow=37								
AS01	**Alice Springs**	**21.83**	**217**	P		**P**	**P**	**21 32 17.4**	**+0.1**
AS31	**Alice Springs**	**21.86**	**217**	P		**P**	**P**	**21 32 17.1**	**-0.5**
AS31				IAmb		IAmb	IAmb	21 32 18.4	
	comp=Z,6.7nm,0.5s								
ASAR	**Alice Springs**	**21.86**	**217**	P		**P**	**P**	**21 32 17.4**	**-0.2**
ASAR	**Alice Springs**	**21.86**	**217**	P		**P**	**P**	**21 32 17.6**	**0.0**
	comp=Z,9.9nm,0.5s,baz=53,slow=9.5,SNR=179								
ASAR				S			**S**	**21 36 16.3**	**-0.3**
	comp=Z,2.8nm,0.9s,baz=29,slow=22,SNR=9.3								
	comp=Z,9.9nm,0.5s								
ARMA	**Armidale**	**23.94**	**173**	P		**P**	**P**	**21 32 37.4**	**-1.3**
ARMA				IAmb		IAmb	IAmb	21 32 40.7	
	comp=Z,13nm,1.2s								
OOD	**Oodnadatta**	**24.22**	**208**	P		**P**	**P**	**21 32 41.4**	**+0.3**
FITZ	**Fitzroy Crossi**	**24.80**	**240**	P		**P**	**P**	**21 32 47.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.80**	**240**	P		**P**	**P**	**21 32 47.0**	**+0.5**
LCRK	**Leigh Creek**	**25.54**	**200**	P		**P**	**P**	**21 32 53.6**	**+0.5**
STKA	**Stephens Creek**	**25.92**	**193**	P		**P**	**P**	**21 32 57.5**	**+0.9**
STKA	**Stephens Creek**	**25.92**	**193**	P		**P**	**P**	**21 32 56.2**	**-0.4**
STKA	**Stephens Creek**	**25.92**	**193**	P		**P**	**P**	**21 32 56.2**	**-0.4**
	comp=Z,3.8nm,0.4s,baz=4.6,slow=8.3,SNR=20								
	comp=Z,3.8nm,0.4s								
WRKA	**Warakurna**	**26.46**	**224**	P		**P**	**P**	**21 33 01.5**	**-0.1**
MULG	**Mulgathing**	**27.08**	**208**	P		**P**	**P**	**21 33 07.1**	**+0.1**
HTT	**Hallett**	**28.08**	**197**	P		**P**	**P**	**21 33 16.5**	**+0.5**
BBOO	**Buckleboo**	**28.45**	**202**	P		**P**	**P**	**21 33 18.8**	**-0.5**
FORT	**Forrest**	**30.61**	**216**	P		**P**	**P**	**21 33 37.7**	**-0.7**
FORT				IAmb		IAmb	IAmb	21 33 52.5	
	comp=Z,12nm,0.9s								
MBWA	**Marble Bar**	**31.13**	**239**	P		**P**	**P**	**21 33 42.2**	**-0.9**
MORW	**Morawa**	**37.70**	**230**	P		**P**	**P**	**21 34 39.6**	**-0.2**
NWAO	**Narrogin (SRO)**	**38.92**	**224**	LR		LR	LR	21 52 45.3	
	comp=Z,110nm,20.3s,baz=352,slow=39								
MLZ	**Mavora Lakes**	**42.35**	**159**	P		**P**	**P**	**21 35 18.5**	**+0.3**
MLZ				IAmb		IAmb	IAmb	21 35 36.2	
	comp=Z,21nm,1.4s								
KULM	**Kulim**	**48.90**	**283**	P		**P**	**P**	**21 36 11.5**	**+1.1**
KULM				IAmb		IAmb	IAmb	21 36 36.6	
	comp=Z,9.3nm,1.2s								
VNDA	**Vanda**	**71.28**	**177**	P		**P**	**P**	**21 38 43.7**	**+1.1**
VNDA	**Vanda**	**71.28**	**177**	P		**P**	**P**	**21 38 43.4**	**+0.7**
	comp=Z,1.3nm,0.8s,baz=322,slow=6.2,SNR=8.4								
	comp=Z,1.3nm,0.8s								
MK31	**Makanchi Array**	**78.69**	**320**	P		**P**	**P**	**21 39 26.5**	**+0.5**
MK31				IAmb		IAmb	IAmb	21 39 39.5	
	comp=Z,3.6nm,1.2s								
MKAR	**Makanchi Array**	**78.69**	**320**	P		**P**	**P**	**21 39 26.5**	**+0.5**
MKAR	**Makanchi Array**	**78.69**	**320**	P		**P**	**P**	**21 39 26.1**	**+0.2**
	comp=Z,0.3nm,0.5s,baz=100,slow=8.4,SNR=7.6								
	comp=Z,0.3nm,0.5s								
ZALV	**Zalesovo Beam**	**80.13**	**328**	P		**P**	**P**	**21 39 33.1**	**-0.5**
	comp=Z,0.4nm,0.4s,baz=113,slow=6.6,SNR=2.3								
	comp=Z,0.4nm,0.4s								
KURBB	**Kurchatov Arra**	**82.40**	**323**	P		**P**	**P**	**21 39 45.8**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=97,slow=6.0,SNR=2.9								
	comp=Z,0.3nm,0.6s								
QSPA	**South Pole Qui**	**83.40**	**180**	P		**P**	**P**	**21 39 51.0**	**+0.2**
QSPA				IAmb		IAmb	IAmb	21 39 52.8	
	comp=Z,9.4nm,1.5s								
QSPA	**South Pole Qui**	**83.40**	**180**	P		**P**	**P**	**21 39 51.3**	**+0.5**
	comp=Z,2.1nm,0.7s,baz=357,slow=0.9,SNR=13								
	comp=Z,2.1nm,0.7s								
ILAR	**Eielson Array**	**85.54**	**23**	P		**P**	**P**	**21 40 02.0**	**+0.6**
	comp=Z,0.2nm,0.6s,baz=322,slow=34,SNR=1.7								
	comp=Z,0.2nm,0.6s								
TORD	**Torodi Ar. Bea**	**146.38**	**284**	PKPbc		**PKPab**	**PKPab**	**21 47 07.0**	**+0.6**
	comp=Z,1.3nm,0.4s,baz=60,slow=4.2,SNR=17								

IDC 29 21:39:43.0±9.5,5.75°S×151.65°E,h82km±67km,mb3.7/2, mbtmp4.0/3,ML1.7/1,MS2.6/1,Error ellipse: s-maj=107.0km s-min=59.7km az=123.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**5.75**	**230**	P		Pn		21 41 05.7	-0.1
	1.5nm,0.3s,baz=219,slow=19,SNR=1.5								
PMG				S		Sn		21 42 11.8	+1.5
	9.7nm,0.4s,baz=252,slow=21,SNR=2.6								
PMG				LR		LR		21 43 14.9	

	comp=Z,63nm,20.7s,baz=124,slow=37							
	4.2nm,0.3s							
WRA	**Warramunga Arr**	**21.96**	**228**	P		P	21 44 29.6	-0.7
	3.7nm,0.6s,baz=52,slow=9.9,SNR=42							
	3.7nm,0.6s							
ASAR	**Alice Springs**	**24.68**	**222**	P		P	21 44 56.6	+0.1
	2.3nm,0.7s,baz=58,slow=8.8,SNR=29							
	2.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**149.49**	**286**	PKPbc		PKPbc	21 59 23.9	-0.1
	0.3nm,0.6s,baz=94,slow=1.9,SNR=1.8							

IDC ***29*** *21:48:52.6±1.2,40.31°N×77.28°E,h0km,mb3.6/7, mbtmp3.6/13,ML3.0/6,MS3.0/7,Error ellipse: s-maj=19.3km s-min=17.4km az=2.0*

SOME ***29*** *21:48:54.3,40.58°N×77.30°E,h15km*

NNC ***29*** *21:48:55.7±1.6,40.61°N×77.32°E,h0km,mb4.7,mpv4.4, Error ellipse: s-maj=11.2km s-min=9.1km az=178.0*

KNET ***29*** *21:48:56.4±0.6,40.65°N×77.21°E,h0km,ml4.0,Error ellipse: s-maj=10.3km s-min=4.2km az=74.0*

KRNET ***29*** *21:48:58.2±0.1,40.70°N×77.20°E,h12km,mb3.9*

ISC 29 21:48:54.6±0.7,40.49N±0.04×77.11E±0.03,h10km,n102, σ1.73/148,mb3.7/6,MS3.3/3,41C-27D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.26**	**318**	⇓P		*e*P	**Pg**	**21 49 20.0**	**+1.1**
	baz=8.0								
NRN				⇓S		*e*S	**Sn**	**21 49 36.6**	**+0.8**
	baz=8.0								
KDJ	**Kajisay**	**1.64**	**2**	⇑P		*e*P	**Pb**	**21 49 24.8**	**-0.2**
	baz=60								
KDJ				⇑S		*e*S	**Sn**	**21 49 44.4**	**-0.4**
	baz=60								
ULHL	**Ulahol**	**1.87**	**340**	⇓P			**Pg**	**21 49 30.1**	**-0.4**
	57nm,0.1s,SNR=131								
ULHL				⇑S			**Sg**	**21 49 54.5**	**-0.2**
	256nm,0.3s								
ULHL	**Ulahol**	**1.87**	**340**	⇑P		*e*P	**Pg**	**21 49 29.8**	**-0.7**
	baz=35								
ULHL				⇑S		*e*S	**Sb**	**21 49 52.7**	**+0.2**
	baz=35								
BOOM	**Boomskoye usch**	**2.18**	**337**	⇑P		*e*P	**Pg**	**21 49 34.9**	**-1.5**
	baz=33								
BOOM				⇑S		*e*S	**Sb**	**21 50 01.7**	**+0.3**
	baz=33								
PRZ	**Przheval'sk**	**2.21**	**26**	⇓P		*e*P	**Pb**	**21 49 34.5**	**-0.3**
	baz=26								
PRZ				⇓S		*e*S	**Sb**	**21 50 01.1**	**-1.2**
	baz=26								
ANVS	**Anan'yevo**	**2.33**	**10**	⇓P		*e*P	**Pb**	**21 49 36.0**	**-0.7**
	baz=9.0								
ANVS				⇓S		*e*S	**Sb**	**21 50 03.6**	**-2.0**
	baz=9.0								
ARLS	**Aral**	**2.51**	**304**	⇑P		*e*P	**Pg**	**21 49 41.0**	**-1.7**
	baz=99								
ARLS				⇑S		*e*S	**Sb**	**21 50 11.7**	**+0.8**
	baz=99								
TNSS	**Tian-Shan**	**2.54**	**357**	Pg		Pb	**Pb**	**21 49 39.4**	**-1.2**
	250nm,0.5s								
TNSS				Lg		Lg	Lg	21 50 13.8	
	197nm,0.5s								
TNSS	**Tian-Shan**	**2.54**	**357**	*e*P		**Pb**	**Pb**	**21 49 39.4**	**-1.2**
	250nm,0.5s								
TNSS				*e*S		**Sb**	**Sb**	**21 50 13.8**	**+1.7**
	197nm,0.5s								
IZV	**Izvestkoviy**	**2.57**	**352**	Pg		**Pb**	**Pb**	**21 49 40.4**	**-0.5**
	68nm,0.4s								
IZV				Lg		Lg	Lg	21 50 15.3	
	413nm,0.7s								
**I

ZHN *eS* **Sb** **21 50 21.9 +1.3**
361nm,0.3s
AAK **Ala-Archa** **2.91 318** ⇓P **Pb** **21 49 46.0 -0.6**
41nm,0.2s,SNR=6.4
AAK **Ala-Archa** **2.91 318** ⇓Pg **Pg** **21 49 49.5 -0.8**
112nm,0.6s
AAK ⇑Lg Lg 21 50 28.2
514nm,1.1s
AAK **Ala-Archa** **2.91 318** Pn **Pb** **21 49 45.6 -0.9**
10nm,0.3s,baz=146,slow=10,SNR=36
AAK Pg **Pg** **21 49 50.0 -0.3**
19nm,0.3s,baz=145,slow=11,SNR=37
AAK Lg Lg 21 50 28.1
30nm,0.3s,baz=316,slow=18,SNR=26
AAK LR LR 21 51 06.8
comp=Z,94nm,20.4s,baz=162,slow=43
41nm,0.5s
AAK **Ala-Archa** **2.91 318**⇓ *eP* **Pb** **21 49 45.7 -0.9**
baz=15
AAK ⇓*eS* **Sb** **21 50 20.3 -2.0**
baz=15
DGS **Degeres** **2.92 340** Pg **Pb** **21 49 47.6 +0.8**
77nm,0.3s
DGS Lg Lg 21 50 27.2
250nm,0.5s
DGS **Degeres** **2.92 340** *eP* **Pb** **21 49 47.6 +0.8**
77nm,0.3s
DGS *eS* **Sg** **21 50 27.2 -1.3**
250nm,0.5s
FRU1 **Bishkek** **2.97 322**⇑ *eP* **Pb** **21 49 46.6 -1.0**
baz=19
FRU1 ⇑*eS* **Sb** **21 50 21.9 -2.1**
baz=19
UZB **Uzynbulak** **3.01 28** Pg **Pb** **21 49 46.6 -1.8**
206nm,0.6s
UZB Lg Lg 21 50 25.3
251nm,0.8s
UZB **Uzynbulak** **3.01 28** *eP* **Pb** **21 49 46.6 -1.8**
206nm,0.6s
UZB *eS* **Sb** **21 50 25.3 0.0**
251nm,0.8s
CHMS **Chumysh** **3.06 326** ⇑P **Pb** **21 49 47.6 -1.6**
99nm,0.5s,SNR=9.5
CHMS **Chumysh** **3.06 326** ⇑Pg **Pg** **21 49 52.0 -1.3**
98nm,0.7s
CHMS ⇑Lg Lg 21 50 32.3
491nm,0.9s
CHMS **Chumysh** **3.06 326**⇑ *eP* **Pb** **21 49 47.3 -1.9**
baz=22
CHMS ⇑*eS* **Sb** **21 50 23.3 -3.4**
baz=22
KURS **Kuram** **3.10 14** Pg **Pb** **21 49 49.3 -0.4**
111nm,0.7s
KURS Lg Lg 21 50 30.0
226nm,1.2s
KURS **Kuram** **3.10 14** *eP* **Pb** **21 49 49.3 -0.4**
111nm,0.7s
KURS *eS* **Sb** **21 50 30.0 +2.4**
226nm,1.2s
SHLS **Shalkode** **3.19 33** *eP* **Pb** **21 49 52.0 +0.5**
18nm,0.3s
SHLS *eS* **Sg** **21 50 34.5 -2.5**
274nm,0.4s
KTBS **Karatobe** **3.23 354** Pg **Pb** **21 49 52.0 -0.1**
73nm,0.5s
KTBS Lg Lg 21 50 34.9
106nm,0.6s
KTBS **Karatobe** **3.23 354** *eP* **Pb** **21 49 52.0 -0.1**
73nm,0.5s
KTBS *eS* **Sg** **21 50 34.9 -3.5**
106nm,0.6s
ARSB **Arslanbob** **3.24 286**⇑ *eP* **Pb** **21 49 51.8 -0.5**
baz=82
ARSB ⇑*eS* **Sb** **21 50 31.2 -0.6**
baz=82
EKS2 **Erkin-Say** **3.31 312** ⇑P **Pb** **21 49 52.3 -1.2**
30nm,0.3s,SNR=16
EKS2 **Erkin-Say** **3.31 312**⇑ *eP* **Pb** **21 49 51.5 -2.0**
baz=9.0
EKS2 ⇑*eS* **Sb** **21 50 30.5 -3.3**
baz=9.0
PDGK **Podgornoye** **3.34 31** Pg **Pb** **21 49 52.9 -1.2**
51nm,0.4s
PDGK Lg Lg 21 50 36.1
193nm,0.7s
PDGK **Podgornoye** **3.34 31** ⇑Pn **Pn** **21 49 48.4 +1.4**
7.0nm,0.3s
PDGK ⇑Pg **Pb** **21 49 54.2 +0.2**
114nm,0.8s
PDGK ⇓Lg Lg 21 50 36.3
641nm,0.8s
KRBS **Karabastau** **3.37 342** Pg **Pb** **21 49 55.5 +1.0**
58nm,0.4s
KRBS Lg Lg 21 50 40.5
139nm,0.5s
KRBS **Karabastau** **3.37 342** *eP* **Pb** **21 49 55.5 +1.0**
58nm,0.4s
KRBS *eS* **Sg** **21 50 40.5 -2.4**
139nm,0.5s
USP **Ospenovka** **3.39 326** ⇑P **Pb** **21 49 52.4 -2.4**
82nm,0.4s,SNR=63
USP **Ospenovka** **3.39 326**⇑ *eP* **Pb** **21 49 51.8 -3.0**
baz=23
USP ⇑*eS* **Sn** **21 50 31.1 +3.2**
baz=23
KUU **Kurty** **3.45 351** Pg **Pb** **21 49 55.5 -0.2**
49nm,0.4s
KUU Lg Lg 21 50 40.7
285nm,0.9s
KUU **Kurty** **3.45 351** *eP* **Pb** **21 49 55.5 -0.2**
49nm,0.4s
KUU *eS* **Sb** **21 50 40.7 +3.1**
285nm,0.9s
SGDS **Sogindy** **3.49 329** Pg **Pb** **21 49 58.1 +1.6**
36nm,0.7s
SGDS Lg Lg 21 50 44.7
82nm,0.5s
BLB **Baldybastay** **3.74 15** Pg **Pb** **21 49 59.8 -1.0**
238nm,0.4s
BLB Lg Lg 21 50 48.8
266nm,0.6s
ARXS **Arharly** **3.75 8** Pg **Pb** **21 50 00.5 -0.5**
66nm,0.5s
ARXS Lg Lg 21 50 50.1
212nm,0.8s
ARXS **Arharly** **3.75 8** *eP* **Pb** **21 50 00.5 -0.5**
66nm,0.5s
ARXS *eS* **Sb** **21 50 50.1 +3.5**
212nm,0.8s
KTMS **Ketmen** **3.81 38** Pg **Pb** **21 50 00.7 -1.3**
13nm,0.3s
KTMS Lg Lg 21 50 50.0
102nm,0.5s
KTMS **Ketmen** **3.81 38** *eP* **Pb** **21 50 00.7 -1.3**
13nm,0.3s
KTMS *eS* **Sb** **21 50 50.0 +1.6**
102nm,0.5s
MNAS **Manas** **3.99 301**⇑ *eP* **Pb** **21 50 01.7 -3.4**
baz=99
MNAS ⇑*eS* **Sn** **21 50 47.3 +4.4**
baz=99
KNOS **Konyrlen** **4.16 21** Pg **Pb** **21 50 06.7 -1.2**
42nm,0.5s
KNOS Lg Lg 21 51 00.6
51nm,0.7s
DJR **Jarkent** **4.32 26** Pg **Pb** **21 50 10.1 -0.5**
35nm,0.5s
DJR Lg Lg 21 51 05.9
120nm,0.5s
DJR **Jarkent** **4.32 26** *eP* **Pb** **21 50 10.1 -0.5**
35nm,0.5s
DJR *eS* **Sb** **21 51 05.9 +3.1**
120nm,0.5s
TDK **Taldyqorghan** **4.61 12** Pg **Pb** **21 50 16.3 +0.9**
121nm,0.4s
TDK Lg Lg 21 51 16.1
263nm,0.6s
TDK **Taldyqorghan** **4.61 12** *eP* **Pb** **21 50 16.3 +0.9**
121nm,0.4s
TDK *eS* **Sb** **21 51 16.1 +5.1**
263nm,0.6s
DZA **Taraz** **4.95 301** *eP* **Pg** **21 50 27.0 -2.4**
18nm,0.1s
DZA *eS* **Sg** **21 51 35.4 +2.0**
112nm,0.7s
KAPS **Kapalarasan** **5.07 18** Pg **Pb** **21 50 24.9 +1.5**
26nm,0.4s
KAPS Lg Lg 21 51 31.0
33nm,0.7s
KAPS **Kapalarasan** **5.07 18** *eP* **Pb** **21 50 24.9 +1.5**
26nm,0.4s
KAPS *eS* **Sg** **21 51 31.0 -6.1**
33nm,0.7s
BTLS **Baital** **5.07 335** Pg **Pb** **21 50 25.9 +2.5**
20nm,1.1s
BTLS Lg Lg 21 51 33.1
61nm,0.7s
BTLS **Baital** **5.07 335** *eP* **Pg** **21 50 27.5 -4.2**
5.8nm,0.3s
BTLS *eS* **Sg** **21 51 35.4 -2.0**
61nm,0.7s
KK31 **Karatay Array** **5.58 300** Pg **Pg** **21 50 40.2 -1.2**
6.9nm,0.6s,baz=125,slow=16,SNR=27
KK31 ⇑Lg Lg 21 51 52.6
8.7nm,0.5s,baz=130,slow=26,SNR=6.5
IUG **Iuzhnay** **5.58 290** *eP* **Pg** **21 50 38.2 -3.3**
17nm,0.5s
IUG *eS* **Sg** **21 51 54.3 +0.5**
120nm,1.2s
BRLS **Borolday** **6.00 297** *eP* **Pg** **21 50 46.9 -2.6**
2.3nm,0.7s
BRLS *eS* **Sg** **21 52 08.7 +1.5**
27nm,0.8s
MK31 **Makanchi Array** **7.33 29** Pn **Pn** **21 50 42.1 +0.4**
0.6nm,0.3s,baz=202,slow=11,SNR=25
MK31 ⇓Pg Pg 21 51 08.7 -6.2
3.3nm,0.6s,baz=214,slow=15,SNR=5.5
MK31 ⇓Lg Lg 21 52 47.1
16nm,0.8s,baz=205,slow=25,SNR=3.9
MKAR **Makanchi Array** **7.33 29** Pn **Pn** **21 50 42.4 +0.7**
0.7nm,0.3s,baz=212,slow=15,SNR=25
MKAR Lg Lg 21 52 40.2
0.6nm,0.3s,baz=205,slow=26,SNR=2.2
0.9nm,0.4s
OTUK **Ortayu** **8.47 338** ⇓Lg Lg 21 53 24.5
41nm,1.1s
KURBB **Kurchatov Arra** **10.18 5** ⇓Pn **Pn** **21 51 21.0 +0.4**
3.6nm,1.1s
KURBB ⇑Lg Lg 21 54 15.7
27nm,0.8s
KURBB **Kurchatov Arra** **10.18 5** Pn **Pn** **21 51 20.6 0.0**
0.1nm,0.3s,baz=191,slow=12,SNR=11
KURBB Lg Lg 21 54 14.7
0.1nm,0.3s,baz=191,slow=29,SNR=10
KURBB LR LR 21 55 47.0
comp=Z,42nm,18.8s,baz=186,slow=40
0.8nm,0.7s
KURK **Kurchatov** **10.28 5** ⇑Pn **Pn** **21 51 21.7 -0.4**
4.4nm,1.3s
KURK ⇓Lg Lg 21 54 18.3
34nm,1.4s
BVAR **Borovoye Array** **13.35 342** Pn **Pn** **21 52 03.6 -0.4**
baz=157,slow=15,SNR=2.6
BVAR Lg Lg 21 55 55.6
baz=172,slow=24,SNR=2.3
BVAR LR LR 21 57 27.4
comp=Z,46nm,18.6s,baz=152,slow=38
0.3nm,0.4s
ZALV **Zalesovo Beam** **14.43 19** Pn **Pn** **21 52 18.4 -0.4**
0.1nm,0.3s,baz=210,slow=15,SNR=3.7
ZALV Lg Lg 21 56 26.4
0.2nm,0.3s,baz=226,slow=25,SNR=2.2
ZALV LR LR 21 58 12.6
comp=Z,40nm,21.9s,baz=220,slow=38
0.8nm,0.6s
GEYT **Alibeck** **14.95 266** Pn **Pn** **21 52 25.8 -0.2**
0.2nm,0.3s,baz=98,slow=10,SNR=2.5
GEYT Sn **Sn** **21 55 11.8 +0.2**
0.2nm,0.3s,baz=84,slow=15,SNR=1.5
0.9nm,0.6s
AKTO **Aktyubinsk** **16.64 313** Pn **P** **21 52 49.9 -0.3**
0.1nm,0.3s,baz=120,slow=11,SNR=2.0
ARU **Arti** **20.03 329** P Pn 21 53 29.1 -0.1
0.8nm,0.3s,baz=105,slow=20,SNR=1.9
0.8nm,0.3s
SONM **Songino Array** **22.16 61** P **P** **21 53 50.5 -0.2**
0.7nm,0.8s,baz=262,slow=12,SNR=4.1
SONM LR LR 22 03 12.4
comp=Z,52nm,19.4s,baz=228,slow=39
0.7nm,0.8s
BRTR **Keskin Array B** **33.01 283** P **P** **21 55 31.4 +1.4**
0.9nm,0.8s,baz=93,slow=4.9,SNR=4.6
0.9nm,0.8s
FINES **FINESS Array B** **37.09 322** P **P** **21 56 05.9 +1.2**
0.9nm,0.5s,baz=119,slow=16,SNR=8.0
0.9nm,0.5s
TIXI **Tiksi** **40.27 23** LR LR 22 14 12.7
comp=Z,46nm,19.3s,baz=88,slow=38
PETK **Petropavlovsk-** **53.75 48** LR LR 22 24 21.8
comp=Z,22nm,18.4s,baz=81,slow=40
ILAR **Eielson Array** **69.56 19** P **P** **22 00 05.6 +2.4**
0.4nm,0.9s,baz=324,slow=4.5,SNR=4.3
0.4nm,0.9s
TORD **Torodi Ar. Bea** **70.53 271** P **P** **22 00 10.1 +0.2**
1.6nm,0.7s,baz=42,slow=7.2,SNR=7.9
1.6nm,0.7s
WRA **Warramunga Arr** **80.27 127** P **P** **22 01 03.5 -2.2**
0.5nm,0.8s,baz=320,slow=5.4,SNR=2.2
0.5nm,0.8s

*IDC **29** 22:11:57.2±13.0, 25.°62S×177.°38W, h156km±110km, mb3.6/3, mbtmp4.1/4, MS3.4/1, Error ellipse: s-maj=78.0km s-min=30.4km az=39.0*
ISC 29 22:11:56.5±1.4, **25.°5S**±0.°2×**177.°3W**±0.°3, **h160**km, **n9, σ0§52/9, mb3.8/3, South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.60**	**199**	P		**Pn**		**22 15 02.9**	**+0.1**
	2.1nm,0.3s,baz=108,slow=23,SNR=1.4								
URZ				S		Sn		22 17 15.1	-18
	5.5nm,0.6s,baz=130,slow=16,SNR=1.7								
ASAR	**Alice Springs**	**44.26**	**262**	P		**P**		**22 19 50.3**	**0.0**
	2.3nm,0.5s,baz=114,slow=8.2,SNR=38								
	2.3nm,0.5s								
WRA	**Warramunga Arr**	**44.80**	**267**	P		**P**		**22 19 54.5**	**-0.2**
	0.8nm,0.5s,baz=100,slow=7.4,SNR=13								
WRA				LR		LR		22 37 13.5	
	comp=Z,39nm,18.9s,baz=200,slow=34								
	0.8nm,0.5s								
QSPA	**South Pole Qui**	**64.60**	**180**	P		**P**		**22 22 16.4**	**-0.2**
	1.2nm,0.9s,baz=54,slow=4.7,SNR=5.2								
	1.2nm,0.9s								
MKAR	**Makanchi Array**	**115.06**	**312**	PKP		**PKPdf**		**22 30 18.2**	**-0.3**
	0.3nm,0.8s,baz=140,slow=1.1,SNR=1.4								
HFS	**Hagfors**	**144.55**	**351**	PKP		**PKPdf**		**22 31 13.1**	**-0.3**
	0.7nm,0.5s,baz=57,slow=5.3,SNR=8.3								
AKASG	**Malin Array Be**	**147.64**	**328**	PKPbc		**PKPab**		**22 31 24.4**	**0.0**
	0.4nm,0.4s,baz=53,slow=4.6,SNR=1.8								
BRTR	**Keskin Array B**	**150.53**	**306**	PKPbc		**PKiKP**		**22 31 30.4**	**+0.2**
	0.4nm,0.6s,baz=144,slow=7.0,SNR=1.9								
MMAI	**Mount Meron Ar**	**150.62**	**292**	PKPbc		**PKiKP**		**22 31 31.7**	**+1.1**
	0.7nm,0.5s,baz=72,slow=8.1,SNR=4.2								

*NEIC **29** 22:31:11.2±0.8, 19.°42N±0.°01×155.°27W±0.°01, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.2km az=65.0*
HVO 29 22:31:11.0±0.5, **19.°42N**±0.°01×**155.°27W**±0.°01, **h1**km±6km, **ML2.5**/12, **ML1.6**/28(NEIC), **Error ellipse: s-maj=2.4km s-min=1.0km az=217.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
UWB	**Uwekahuna B**	**0.01**	**324**				Pg	22 31 11.5	+0.1
SBLHI	**Steaming Bluff**	**0.01**	**36**				Pg	22 31 11.6	+0.2
OBL	**Observatory Le**	**0.01**	**259**				Pg	22 31 11.6	+0.1
HATHI	**Halema'uma'u T**	**0.01**	**73**				Pg	22 31 11.7	+0.2
BYL	**Byron's Ledge**	**0.01**	**119**				Pg	22 31 11.7	+0.2
UWE	**Uwekahuna**	**0.02**	**276**				Pg	22 31 11.7	+0.2
UWE						Sg	Sg	22 31 12.4	+0.5
KKO	**Keanakako`i**	**0.02**	**161**				Pg	22 31 11.9	+0.3
RIM	**Rim**	**0.02**	**180**				Pg	22 31 12.3	+0.7
RSD	**Rainshed**	**0.04**	**355**				Pg	22 31 12.3	+0.4
RSD					IAML			22 31 13.1	
	comp=N,494nm,0.3s								
PUH	**Pauahi**	**0.07**	**130**				Pg	22 31 13.1	+0.7
PUH					IAML			22 31 14.6	
	comp=E,330nm,0.4s								
KNHH	**Kane Nui o Ham**	**0.11**	**112**				Pg	22 31 13.8	+0.7
HLP	**Hilina Pali**	**0.13**	**195**	Pg		Pg	Pg	22 31 14.0	+0.5
HLP					IAML			22 31 14.5	
	comp=N,207nm,1.6s								
HLP					IAML			22 31 15.1	
	comp=E,310nm,2.1s								
MLH	**Mauna Loa**	**0.13**	**305**				Pg	22 31 14.4	+0.9
STCH	**Steam Cracks**	**0.14**	**104**				Pg	22 31 14.4	+0.6
STCH						Sg	Sg	22 31 15.8	+0.1
STCH					IAML			22 31 18.2	
	comp=E,217nm,0.5s								
STCH					IAML			22 31 18.4	
	comp=N,166nm,0.1s								
JOKA	**Jonika Flow**	**0.26**	**87**	Pg		Pg	Pg	22 31 16.4	+0.5
JOKA					IAML			22 31 24.3	
	comp=E,163nm,1.5s								
HMH	**Humu'ula Sheep**	**0.27**	**313**				Pg	22 31 16.7	+0.6
HMH					IAML			22 31 18.7	
	comp=E,118nm,2.3s								
HMH					IAML			22 31 23.5	
	comp=N,118nm,0.8s								
MLOA	**Mauna Loa Obse**	**0.31**	**292**	Pg		Pg	Pg	22 31 17.2	+0.3
MLOA					IAML			22 31 23.9	
	comp=E,96nm,1.8s								
MLOA					IAML			22 31 27.0	
	comp=N,126nm,0.8s								
MWH	**Moku'aweowe**	**0.31**	**282**				Pg	22 31 17.5	+0.5
KHU	**Kahuku**	**0.36**	**242**				Pg	22 31 18.4	+0.4
ALEP	**Alea Permanent**	**0.37**	**289**				Pg	22 31 18.5	+0.4
HUH	**Hualalai**	**0.59**	**297**	Pg		Pg	Pg	22 31 22.7	+0.3

*GII **29** 22:37:38.0±0.6, 34.°645N±0.°004×33.°386E±0.°001, h18km, Md3.1/2, Mws3.1/5, confirmed*
*ISK **29** 22:37:38.2, 34.°72N×33.°38E, h14km, ML3.1/26*
*NIC **29** 22:37:38.5, 34.°71N×33.°37E, h19km±1km, Ml2.9/8*
*AFAD **29** 22:37:39.1±0.0, 34.°86N×33.°20E, h30km±3km, ML2.9*
*GRAL **29** 22:37:39.5±0.3, 34.°76N×33.°52E, h23km±63km, MD3.4*
ISC 29 22:37:37.7±1.0, **34.°65N**±0.°02×**33.°44E**±0.°03, **h16**km±7km, **n119, σ1§05/145, 1C-2D, Cyprus region**

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ASGA	**Asgata**	**0.21**	**311**⇑	*iP*		**Pb**		**22 37 42.5**	**-0.6**
ASGA						S	**Sb**	**22 37 45.9**	**-0.8**
ASGA						AML	AML	22 37 46.5	
	19nm,0.3s								
ASGA						AML	AML	22 37 47.4	
	14nm,0.3s								
LAR1C	**Larnaka City C**	**0.31**	**28**	P		**Pg**		**22 37 44.9**	**+0.6**
LAR1C						S	**Sb**	**22 37 50.3**	**+0.6**
CSS	**Mathiatis**	**0.32**	**344**	Pg		**Pg**		**22 37 43.7**	**-0.8**
CSS						Sg	**Sg**	**22 37 48.4**	**-0.8**
CSS	**Mathiatis**	**0.32**	**344**	P		**Pg**		**22 37 44.2**	**-0.3**
CSS						S	**Sg**	**22 37 49.0**	**-0.1**
CSS						AML	AML	22 37 52.6	
	4.2nm,0.4s								
CSS						AML	AML	22 37 54.3	
	5.8nm,0.4s								
CSS	**Mathiatis**	**0.32**	**344**	P		**Pg**		**22 37 44.3**	**-0.3**
AKIN	**Akıncılar- Kıb**	**0.36**	**4**	Pg		**Pg**		**22 37 45.2**	**0.0**
MVOU	**Mavrovouni**	**0.40**	**24**⇓	*iP*		**Pg**		**22 37 45.7**	**-0.1**
MVOU						S	**Sb**	**22 37 52.6**	**+0.4**
MVOU						AML	AML	22 37 54.8	
	3.1nm,0.3s								
MVOU						AML	AML	22 37 55.8	
	4.3nm,0.5s								
TROD	**Troodos**	**0.56**	**302**⇓	*iP*		**Pb**		**22 37 48.0**	**-1.2**
TROD						S	**Sb**	**22 37 56.5**	**-0.5**
TROD						AML	AML	22 38 03.5	
	1.3nm,0.6s								
TROD						AML	AML	22 38 04.6	
	1.8nm,0.3s								
PAR1C	**Paralimni Civi**	**0.58**	**49**	P		**Pn**		**22 37 50.8**	**-0.5**
PAR1C						S	**Sn**	**22 37 60.0**	**-0.6**
PARAL	**Paralimni**	**0.60**	**55**	P		**Pg**		**22 37 50.8**	**+1.2**
PARAL						S	**Sn**	**22 38 00.3**	**-0.7**
PARAL						AML	AML	22 38 05.1	
	4.4nm,0.7s								
PARAL						AML	AML	22 38 07.0	
	3.8nm,0.9s								
LFK	**Lefkose**	**0.63**	**7**	Pg		**Pb**		**22 37 49.2**	**-1.2**
LFK						Sg	**Sb**	**22 37 58.0**	**-1.0**
NATA	**Nata**	**0.73**	**280**	P		**Pb**		**22 37 51.6**	**-0.4**
NATA						S	**Sb**	**22 38 01.7**	**-0.1**
NATA						AML	AML	22 38 07.3	
	2.5nm,0.7s								
NATA						AML	AML	22 38 12.1	
	2.4nm,0.8s								
AKDN	**Akdeniz- Kıbrı**	**0.75**	**329**	Pg		**Pb**		**22 37 51.8**	**-0.6**
AKDN						Sg	**Sb**	**22 38 01.1**	**-1.3**
ALFC	**Alefka**	**0.85**	**306**	P		**Pb**		**22 37 53.1**	**-1.1**
ALFC						S	**Sb**	**22 38 05.3**	**-0.2**
ALFC						AML	AML	22 38 07.0	
	2.1nm,0.6s								
ALFC						AML	AML	22 38 10.6	
	2.2nm,0.4s								
AKMS	**Akamas**	**0.98**	**292**	P		**Pb**		**22 37 55.6**	**-0.7**
AKMS						S	**Sb**	**22 38 09.1**	**+0.1**
AKMS						AML	AML	22 38 14.0	
	0.9nm,0.4s								
AKMS						AML	AML	22 38 16.8	
	1.5nm,0.4s								
EREN	**Erenkoy**	**1.06**	**34**	Pg		**Pg**		**22 37 58.7**	**+0.4**
EREN						Sg	**Sg**	**22 38 13.6**	**+1.4**
EREN	**Erenkoy**	**1.06**	**34**	P		**Pn**		**22 37 58.4**	**+0.4**
EREN						S	**Sg**	**22 38 14.7**	**+2.5**
EREN				*i*	AML	AML		22 38 23.0	
	comp=E,386nm,0.6s								
EREN				*i*	AML	AML		22 38 24.0	
	comp=N,338nm,0.6s								
AKK2	**Akkuyu-Mersin**	**1.48**	**3**	Pn		**Pn**		**22 38 04.4**	**+0.7**
YORU	**Yoruktepe-Mers**	**1.50**	**359**	Pn		**Pn**		**22 38 04.3**	**+0.3**
AKKU	**Akkuyu-Mersin**	**1.51**	**3**	Pn		**Pn**		**22 38 03.6**	**-0.5**
TEKE	**Tekeli-Mersin**	**1.51**	**350**	Pn		**Pn**		**22 38 04.5**	**+0.4**
TISA	**Tisan-Mersin**	**1.52**	**7**	Pn		**Pn**		**22 38 04.8**	**+0.6**
GULN	**MERSIN_Gulnar**	**1.53**	**3**	P		**Pn**		**22 38 03.4**	**-1.0**
GULN						S	**Sn**	**22 38 22.7**	**-1.3**
YESI	**Yesilovacik-Me**	**1.55**	**6**	Pn		**Pn**		**22 38 05.6**	**+1.0**
OREN	**Orenkoy-Mersin**	**1.55**	**1**	Pn		**Pn**		**22 38 05.3**	**+0.6**
KARG	**Kargicak-Mersi**	**1.56**	**8**	Pn		**Pn**		**22 38 05.3**	**+0.4**
IKL	**Isikli**	**1.60**	**7**	Pn		**Pn**		**22 38 05.6**	**+0.3**
SILI	**Silifke-Mersin**	**1.76**	**13**	Pn		**Pn**		**22 38 08.3**	**+0.8**
TEVE	**Tevekalti-Mers**	**1.78**	**0**	Pn		**Pn**		**22 38 08.5**	**+0.6**
KEBE	**Keben-Mersin**	**1.81**	**7**	Pn		**Pn**		**22 38 08.7**	**+0.5**
GAZI	**Gazipasa**	**1.83**	**330**	Pn		**Pn**		**22 38 08.3**	**-0.2**
GAZI	**Gazipasa**	**1.83**	**330**	P		**Pn**		**22 38 08.1**	**-0.4**
KIZK	**Mersin**	**1.91**	**17**	Pn		**Pn**		**22 38 10.2**	**+0.5**
KIZK	**Mersin**	**1.91**	**17**	P		**Pn**		**22 38 10.5**	**+0.8**
KIZK						S	**Sn**	**22 38 33.5**	**+0.1**
KIZK				*i*	AML	AML		22 38 38.0	
	comp=N,94nm,0.8s								
KIZK				*i*	AML	AML		22 38 40.0	
	comp=E,118nm,0.4s								
BHL	**Bhannes**	**1.98**	**111**	*eP*		**Pn**		**22 38 10.7**	**0.0**
DQRL	**Deir Qamar**	**2.00**	**117**	*eP*		**Pn**		**22 38 11.1**	**+0.1**
HWQ	**Hawqa**	**2.11**	**99**	*eP*		**Pn**		**22 38 12.1**	**-0.4**
HWQ				*eS*		**Sn**		**22 38 36.1**	**-2.2**
HNTI	**Hanita**	**2.13**	**137**	P		**Pn**		**22 38 13.1**	**+0.4**
HNTI	**Hanita**	**2.13**	**137**	S		**Sn**		**22 38 38.8**	**+0.1**
QRWL	**Qaraoun**	**2.16**	**120**	*eP*		**Pn**		**22 38 13.2**	**0.0**
ALAN	**Alanya-ANTALYA**	**2.22**	**329**	Pn		**Pn**		**22 38 14.8**	**+0.9**
BEIL	**Beino**	**2.27**	**92**	*eP*		**Pn**		**22 38 14.1**	**-0.5**
BEIL				*eS*		**Sn**		**22 38 39.5**	**-2.8**
RCY	**Rachaya**	**2.30**	**119**	*eP*		**Pn**		**22 38 15.4**	**+0.3**
MMC1	**Mount Meron ar**	**2.30**	**134**	P		**Pn**		**22 38 15.1**	**0.0**
MMA0B	**Mount Meron ar**	**2.31**	**134**	S		**Sn**		**22 38 43.8**	**+0.5**
MMA0B	**Mount Meron ar**	**2.31**	**134**	P		**Pn**		**22 38 15.8**	**+0.6**
SHBL	**Chebaa**	**2.31**	**124**	*eP*		**Pn**		**22 38 15.7**	**+0.4**
MMB1	**Mount Meron ar**	**2.32**	**134**	P		**Pn**		**22 38 15.1**	**-0.2**
GEM	**Giv'at Ha'Em**	**2.34**	**127**	S		**Sn**		**22 38 44.1**	**+0.1**
GEM	**Giv'at Ha'Em**	**2.34**	**127**	P		**Pn**		**22 38 15.6**	**+0.1**
NATI	**Neve Ativ**	**2.36**	**125**	P		**Pn**		**22 38 16.1**	**+0.3**
NATI	**Neve Ativ**	**2.36**	**125**	P		**Pn**		**22 38 15.9**	**+0.1**
NATI	**Neve Ativ**	**2.36**	**125**	S		**Sn**		**22 38 44.6**	**+0.2**
OFRI	**`Ofer**	**2.40**	**147**	P		**Pn**		**22 38 15.5**	**-0.9**
OFRI	**`Ofer**	**2.40**	**147**	P		**Pn**		**22 38 16.3**	**-0.1**
OFRI	**`Ofer**	**2.40**	**147**	S		**Sn**		**22 38 44.1**	**-1.4**
BLGI	**Bet Lehem HaGe**	**2.41**	**142**	P		**Pn**		**22 38 15.7**	**-0.8**
HDMB	**Hadim**	**2.43**	**342**	Pn		**Pn**		**22 38 17.6**	**+0.6**
ASUZ	**Hatay-Arsuz**	**2.52**	**49**	P		**Pn**		**22 38 18.9**	**+0.9**
KRMN	**Karaman**	**2.52**	**357**	Pn		**Pn**		**22 38 18.9**	**+0.8**
DED	**Mersin**	**2.56**	**25**	P		**Pn**		**22 38 17.7**	**-0.8**
DED				S		**Sn**		**22 38 48.1**	**-1.3**
KSHT	**Keshet**	**2.58**	**129**	P		**Pn**		**22 38 19.8**	**+0.9**
KSHT	**Keshet**	**2.58**	**129**	S		**Sn**		**22 38 51.1**	**+1.0**
KKBE	**Karaman, Kazim**	**2.59**	**351**	P		**Pn**		**22 38 21.0**	**+1.9**
KKBE				S		**Sn**		**22 38 48.7**	**-1.7**
SLTI	**Sal'it**	**2.75**	**150**	P		**Pn**		**22 38 21.2**	**0.0**
MMLI	**Mount Malkishu**	**2.76**	**143**	Pn		**Pn**		**22 38 22.5**	**+1.2**

YURE	**YUREGIR**	**2.81**	**39**	P	**Pn**	**22 38 22.0**	**0.0**	
KERG	**Konya-Eregli**	**2.81**	**11**	P	**Pn**	**22 38 24.3**	**+2.2**	
KERG				S	**Sn**	**22 38 57.0**	**+1.2**	
KERG				*i* AML	AML	22 39 03.0		
	comp=E,81nm,0.9s							
KERG				*i* AML	AML	22 39 06.0		
	comp=N,94nm,0.4s							
TAHT	**Tahtakopru-Hat**	**2.83**	**52**	Pn	**Pn**	**22 38 22.8**	**+0.6**	
GULE	**Gulek**	**2.84**	**22**	P	**Pn**	**22 38 24.7**	**+2.1**	
GULE				S	**Sn**	**22 38 56.6**	**+0.1**	
GULE				*i* AML	AML	22 39 15.0		
	comp=N,76nm,0.6s							
QRNJ	**Al-Qirein**	**2.92**	**142**	P	**Pn**	**22 38 24.7**	**+1.2**	
HMDT	**Nahal Hemdat**	**2.96**	**143**	P	**Pn**	**22 38 25.2**	**+1.1**	
HMDT	**Nahal Hemdat**	**2.96**	**143**	P	**Pn**	**22 38 25.1**	**+1.1**	
HMDT	**Nahal Hemdat**	**2.96**	**143**	S	**Sn**	**22 39 00.6**	**+1.3**	
SEYD	**Seydisehir-KON**	**3.04**	**335**	Pn	**Pn**	**22 38 26.0**	**+0.8**	
SEDI	**Konya, Seydise**	**3.11**	**334**	P	**Pn**	**22 38 28.4**	**+2.2**	
SEDI				S	**Sn**	**22 39 05.4**	**+2.3**	
SEDI				*i* AML	AML	22 39 15.0		
	comp=N,36nm,0.6s							
SEDI				*i* AML	AML	22 39 18.0		
	comp=E,48nm,0.6s							
UJAP	**Al Uja**	**3.18**	**147**	P	**Pn**	**22 38 26.3**	**-0.8**	
KMER	**Konya-Meram**	**3.23**	**345**	P	**Pn**	**22 38 29.5**	**+1.7**	
AKO	**Adana**	**3.24**	**30**	P	**Pn**	**22 38 28.0**	**+0.1**	
AKO				S	**Sn**	**22 39 05.6**	**-0.6**	
HASA	**Hatay-Hassa-Ha**	**3.25**	**49**	P	**Pn**	**22 38 27.9**	**-0.1**	
HASA				S	**Sn**	**22 39 03.1**	**-3.2**	
CMRD	**Camardi-Nigde**	**3.26**	**22**	Pn	**Pn**	**22 38 29.9**	**+1.7**	
AMAZ	**Amatzia**	**3.35**	**158**	P	**Pn**	**22 38 30.0**	**+0.6**	
AMAZ	**Amatzia**	**3.35**	**158**	S	**Sn**	**22 39 09.6**	**+0.7**	
KONT	**Konya--Tatoy**	**3.40**	**345**	Pn	**Pn**	**22 38 31.8**	**+1.7**	
KONT	**Konya--Tatoy**	**3.40**	**345**	P	**Pn**	**22 38 32.6**	**+2.4**	
HSUJ	**Al Zarqa**	**3.43**	**137**	P	**Pn**	**22 38 30.7**	**+0.1**	
KORT	**Korkueli**	**3.43**	**314**	Pn	**Pn**	**22 38 32.1**	**+1.4**	
DSI	**Dead Sea**	**3.48**	**152**	P	**Pn**	**22 38 31.2**	**0.0**	
DSI	**Dead Sea**	**3.48**	**152**	S	**Sn**	**22 39 12.9**	**+0.8**	
DSI	**Dead Sea**	**3.48**	**152**	P	**Pn**	**22 38 31.8**	**+0.6**	
AKAS	**Kas**	**3.50**	**298**	Pn	**Pn**	**22 38 32.6**	**+0.9**	
NIDE	**Nigde/Merkez-G**	**3.51**	**18**	P	**Pn**	**22 38 34.6**	**+2.8**	
NIDE				*i* AML	AML	22 39 21.0		
	comp=N,28nm,0.4s							
NIDE				*i* AML	AML	22 39 21.0		
	comp=E,48nm,0.5s							
SULT	**Sultanhani-AKS**	**3.54**	**1**	Pn	**Pn**	**22 38 33.6**	**+1.5**	
ELL	**Elmali**	**3.55**	**307**	Pn	**Pn**	**22 38 33.9**	**+1.6**	
YTIR	**Yattir**	**3.57**	**156**	P	**Pn**	**22 38 32.6**	**+0.1**	
YTIR	**Yattir**	**3.57**	**156**	P	**Pn**	**22 38 33.1**	**+0.6**	
YTIR	**Yattir**	**3.57**	**156**	S	**Sn**	**22 39 14.9**	**+0.4**	
LADK	**Ladik-KONYA**	**3.65**	**347**	Pn	**Pn**	**22 38 35.3**	**+1.7**	
ALIN	**Konya, Altinte**	**3.67**	**353**	P	**Pn**	**22 38 35.0**	**+1.1**	
BSIR	**Belisirma, Guz**	**3.67**	**11**	P	**Pn**	**22 38 36.6**	**+2.6**	
BSIR				*i* AML	AML	22 39 33.0		
	comp=N,23nm,1.0s							
MDBI	**Mazsada**	**3.70**	**154**	P	**Pn**	**22 38 33.5**	**-0.7**	
MDBI	**Mazsada**	**3.70**	**154**	P	**Pn**	**22 38 34.7**	**+0.6**	
MSBI	**Mazada**	**3.70**	**154**	P	**Pn**	**22 38 35.2**	**+1.0**	
DOGA	**KONYA_Doganhis**	**3.73**	**338**	P	**Pn**	**22 38 34.8**	**0.0**	
DOGA				S	**Sn**	**22 39 17.1**	**-1.4**	
DOGA				*i* AML	AML	22 39 34.0		
	comp=E,22nm,0.8s							
YAHY	**KAYSERI_Yahyal**	**3.77**	**24**	P	**Pn**	**22 38 37.3**	**+2.0**	
KZIT	**Kziot**	**3.82**	**168**	S	**Sn**	**22 39 20.4**	**-0.1**	
KZIT	**Kziot**	**3.82**	**168**	P	**Pn**	**22 38 36.2**	**+0.3**	
KARJ	**KARJ**	**3.98**	**152**	P	Pn	22 38 27.5	-11	
PRNI	**Paran**	**4.49**	**162**	P	**Pn**	**22 38 44.9**	**-0.2**	
PRNI	**Paran**	**4.49**	**162**	S	**Sn**	**22 39 37.1**	**+0.2**	
PRNI	**Paran**	**4.49**	**162**	P	**Pn**	**22 38 45.6**	**+0.5**	
KRMI	**Paran Flat**	**4.65**	**166**	P	**Pn**	**22 38 47.2**	**-0.1**	
KRMI	**Paran Flat**	**4.65**	**166**	P	**Pn**	**22 38 47.5**	**+0.1**	
HRFI	**Mount Harif**	**4.80**	**163**	P	**Pn**	**22 38 49.3**	**0.0**	
HRFI	**Mount Harif**	**4.80**	**163**	S	**Sn**	**22 39 43.1**	**-1.5**	
HRFI	**Mount Harif**	**4.80**	**163**	P	**Pn**	**22 38 49.9**	**+0.5**	
MBRI	**Mt Berech**	**5.00**	**165**	P	**Pn**	**22 38 52.1**	**-0.1**	
EIL	**Elat**	**5.13**	**165**	S	**Sn**	**22 39 52.9**	**+0.1**	
EIL	**Elat**	**5.13**	**165**	P	**Pn**	**22 38 54.1**	**+0.2**	

*HVO **29** 22:41:08.0±0.6, 19°.393N±0°.007×155°.288W±0°.009, h-0km,6km, ML2.5/10, ML1.5/26(NEIC), Error ellipse: s-maj=1.4km s-min=1.1km az=74.0*

NEIC 29 22:41:08.4±0.9, 19°.39N±0°.01×155°.283W±0°.009, h5km±2km, Error ellipse: s-maj=3.2km s-min=2.0km az=111.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**49**		Pg	22 41 08.4	-1.1
KKO	**Keanakako`i**	**0.02**	**58**		Pg	22 41 08.8	-0.7
OBL	**Observatory Le**	**0.03**	**359**		Pg	22 41 08.9	-0.7
BYL	**Byron's Ledge**	**0.03**	**42**		Pg	22 41 08.8	-0.8
UWE	**Uwekahuna**	**0.03**	**344**		Pg	22 41 08.9	-0.7
UWE				IAML		22 41 09.2	
	comp=E,906nm,0.7s						
UWE				IAML		22 41 09.2	
	comp=N,1μm,0.6s						
UWB	**Uwekahuna B**	**0.04**	**8**		Pg	22 41 09.7	0.0
HATHI	**Halema'uma'u T**	**0.04**	**31**		Pg	22 41 09.2	-0.5
HATHI				IAML		22 41 09.8	
	comp=E,608nm,0.6s						
SBLHI	**Steaming Bluff**	**0.04**	**20**		Pg	22 41 10.3	+0.6
PUH	**Pauahi**	**0.07**	**102**		Pg	22 41 10.0	0.0
PUH				IAML		22 41 10.9	
	comp=E,274nm,0.6s						
PUH				IAML		22 41 11.6	
	comp=N,253nm,0.6s						
RSD	**Rainshed**	**0.07**	**4**		Pg	22 41 09.9	-0.3
HLP	**Hilina Pali**	**0.09**	**194**		Pg	22 41 10.6	+0.2
HLP				IAML		22 41 11.4	
	comp=E,246nm,0.7s						
HLP				IAML		22 41 12.6	
	comp=N,310nm,1.2s						
KNHH	**Kane Nui o Ham**	**0.11**	**94**	Pg	Pg	22 41 10.8	+0.1
MLH	**Mauna Loa**	**0.14**	**317**		Pg	22 41 11.5	+0.1
MLH				IAML		22 41 14.3	
	comp=N,178nm,2.5s						
MLH				IAML		22 41 15.1	
	comp=E,167nm,0.6s						
STCH	**Steam Cracks**	**0.15**	**91**		Pg	22 41 11.5	+0.1
STCH				IAML		22 41 14.8	
	comp=N,205nm,0.7s						
STCH				IAML		22 41 15.3	
	comp=E,183nm,0.9s						
NPOC	**North of Pu'u**	**0.16**	**88**		Pg	22 41 12.2	+0.5
HTC	**Hot Caves**	**0.18**	**216**		Pg	22 41 12.5	+0.5
MWH	**Moku'aweowe**	**0.31**	**288**		Pg	22 41 13.8	-0.8
MLOA	**Mauna Loa Obse**	**0.31**	**298**	Pg	Pg	22 41 14.3	-0.3
KHU	**Kahuku**	**0.34**	**246**	Pg	Pg	22 41 15.3	+0.2

*TAP **29** 23:13:23.8, 24°.81N×122°.46E, h18km, ML2.6, D*
*JMA **29** 23:13:25.3±0.1, 25°N±2°×12°2E±°, h18km, MV2.0/8, NW OFF ISHIGAKIJIMA IS*

ISC 29 23:13:24.2±1.0, 24°.81N±0°.02×122°.46E±0°.02, h18km±5km, n54, σ0°52/104, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EOS2	**EOS2**	**0.44**	**209**	*i* P	**Pb**	**23 13 33.5**	**+0.2**
	baz=209						
EOS2				*i* S	**Sb**	**23 13 40.2**	**+0.7**
	baz=209						
TWB1	**Santiao Chiao**	**0.48**	**295**	*i* P	**Pg**	**23 13 33.8**	**0.0**
	baz=295						
TWB1				*i* S	**Sg**	**23 13 39.7**	**-0.6**
	baz=295						
EGS		**0.48**	**275**	*i* P	**Pg**	**23 13 33.9**	**-0.1**
	baz=265						
EGS				S	**Sg**	**23 13 40.8**	**+0.2**
	baz=265						
EOS3	**EOS3**	**0.53**	**194**	*i* P	**Pb**	**23 13 35.5**	**+0.6**
	baz=196						
EOS3				*e*S	**Sb**	**23 13 43.1**	**+1.0**
	baz=196						
JYNG	**Yonagunijimaku**	**0.56**	**129**	P	**Pb**	**23 13 35.6**	**+0.1**
JYNG				S	**Sb**	**23 13 43.0**	**-0.1**
TWC	**Suao**	**0.59**	**251**	*i* P	**Pg**	**23 13 35.0**	**-0.9**
	baz=257						
TWC				*i* S	**Sb**	**23 13 44.4**	**+0.4**
	baz=257						
TIPB	**Shuangxi**	**0.60**	**286**	P	**Pg**	**23 13 36.1**	**-0.1**
	baz=285						
TIPB				S	**Sb**	**23 13 45.0**	**+0.6**
	baz=285						
YOJ	**Yonaguni jima**	**0.60**	**124**	P	**Pb**	**23 13 36.4**	**+0.2**
YOJ				S	**Sg**	**23 13 44.2**	**0.0**
YOJ	**Yonaguni jima**	**0.60**	**124**	P	**Pb**	**23 13 36.4**	**+0.2**
	baz=115						
YOJ				*i* S	**Sg**	**23 13 44.3**	**0.0**
	baz=115						
SXI1	**Grass Mountain**	**0.61**	**299**	P	**Pg**	**23 13 36.6**	**+0.4**
	baz=298						
SXI1				S	**Sg**	**23 13 44.3**	**-0.1**
	baz=298						
ESAO	**Su ao**	**0.61**	**248**	P	**Pg**	**23 13 35.3**	**-0.9**
	baz=254						
ESAO				*e*S	**Sb**	**23 13 44.7**	**+0.3**
	baz=254						
ILA	**Ilan**	**0.65**	**267**	*e*P	**Pg**	**23 13 38.0**	**+0.9**
	baz=266						
ILA				*e*S	**Sg**	**23 13 45.9**	**+0.2**
	baz=266						
NWF	**Wu-fen Shan**	**0.67**	**293**	P	**Pn**	**23 13 38.9**	**0.0**
	baz=293						
NWF				*i* S	**Sb**	**23 13 46.8**	**+0.3**
	baz=293						
WFSB	**Wu-fen Shan**	**0.67**	**293**	*e*P	**Pb**	**23 13 37.8**	**+0.4**
	baz=293						
WFSB				S	**Sb**	**23 13 47.0**	**+0.6**
	baz=293						
EOS4	**EOS4**	**0.69**	**191**	P	**Pg**	**23 13 37.6**	**-0.1**
	baz=186						
EOS4				*e*S	**Sg**	**23 13 47.0**	**+0.1**
	baz=186						
NDS	**Dongshan**	**0.70**	**256**	*i* P	**Pb**	**23 13 37.3**	**-0.5**
	baz=255						
NDS				S	**Sg**	**23 13 47.6**	**+0.3**
	baz=255						
TNOU	**National Taiwa**	**0.71**	**299**	P	**Pb**	**23 13 37.2**	**-0.8**
	baz=298						
TNOU				S	**Sb**	**23 13 48.0**	**+0.4**
	baz=298						
EWUT	**Wuta**	**0.72**	**240**	P	**Pb**	**23 13 37.7**	**-0.5**
	baz=249						
EWUT				S	**Sb**	**23 13 47.4**	**-0.3**
	baz=249						
TWE	**Neicheng**	**0.73**	**264**	*i* P	**Pb**	**23 13 37.8**	**-0.6**
	baz=262						
TWE				*i* S	**Sg**	**23 13 48.3**	**+0.1**
	baz=262						
ENA	**Nanau**	**0.76**	**240**	*i* P	**Pb**	**23 13 38.5**	**-0.3**
	baz=247						
ENA				*i* S	**Sb**	**23 13 48.5**	**-0.3**
	baz=247						
FUSB	**Fushanzhiwuyua**	**0.80**	**267**	P	**Pb**	**23 13 39.3**	**-0.3**
	baz=266						
FUSB				S	**Sb**	**23 13 50.3**	**+0.2**
	baz=266						
EAHA	**Aohua**	**0.81**	**234**	P	**Pb**	**23 13 39.4**	**-0.3**
	baz=248						
EAHA				S	**Sg**	**23 13 51.0**	**+0.2**
	baz=248						
ENTT	**Nioudou**	**0.83**	**259**	*i* P	**Pb**	**23 13 39.4**	**-0.7**
	baz=246						
ENTT				S	**Sb**	**23 13 51.1**	**+0.1**
	baz=246						
NWLT	**Wulai**	**0.87**	**268**	P	**Pb**	**23 13 40.7**	**-0.1**
	baz=268						
NWLT				S	**Sb**	**23 13 52.3**	**+0.1**
	baz=268						
YM01	**YM01**	**0.88**	**293**	P	**Pb**	**23 13 41.6**	**+0.7**
	baz=292						
YM01				S	**Sb**	**23 13 53.2**	**+0.8**
	baz=292						
YM08	**YM08**	**0.88**	**296**	P	**Pg**	**23 13 41.9**	**+0.6**
	baz=295						
YM08				*e*S	**Sb**	**23 13 51.9**	**-0.5**
	baz=295						
NDT	**Datong Townshi**	**0.89**	**257**	P	**Pb**	**23 13 41.0**	**0.0**
	baz=245						
NDT				S	**Sg**	**23 13 53.6**	**+0.4**
	baz=245						
LATG	**Datong**	**0.89**	**253**	*i* P	**Pb**	**23 13 41.0**	**-0.3**
	baz=252						
LATG				S	**Sb**	**23 13 52.8**	**-0.1**
	baz=252						
PCYT	**Pengchaiyu**	**0.90**	**337**	*i* P	**Pb**	**23 13 40.5**	**-0.7**
	baz=337						
PCYT				*e*S	**Sb**	**23 13 52.1**	**-0.7**
	baz=337						
TWY	**Chenhua**	**0.91**	**301**	*i* P	**Pb**	**23 13 42.0**	**+0.5**
	baz=300						
TWY				S	**Sg**	**23 13 54.5**	**+0.5**
	baz=300						
YHNB	**Yeheng**	**1.00**	**262**	P	**Pb**	**23 13 42.7**	**-0.3**
	baz=262						
YHNB				S	**Sb**	**23 13 55.6**	**-0.2**
	baz=262						
NACB	**Ninganchiao**	**1.01**	**232**	P	**Pb**	**23 13 42.5**	**-0.6**
	baz=241						
NACB				S	**Sg**	**23 13 56.6**	**-0.5**
	baz=241						
NSK	**Sanguang**	**1.01**	**263**	*i* P	**Pb**	**23 13 43.1**	**-0.1**
	baz=262						
NSK				S	**Sb**	**23 13 55.0**	**-1.3**
	baz=262						
NNSB	**Datong**	**1.05**	**249**	*e*P	**Pb**	**23 13 43.6**	**-0.3**
	baz=249						
NNSB				S	**Sb**	**23 13 55.8**	**-1.6**
	baz=249						
NNS	**Nan Shan**	**1.06**	**250**	*i* P	**Pb**	**23 13 44.1**	**+0.1**
	baz=249						
NNS				S	**Sb**	**23 13 57.2**	**-0.3**
	baz=249						
TWD	**Chiawan**	**1.07**	**228**	*i* P	**Pn**	**23 13 44.4**	**+0.1**
	baz=232						
TWD				S	**Sg**	**23 13 59.7**	**+0.7**
	baz=232						
LXIB	**Xiulin Townshi**	**1.23**	**231**	P	**Pb**	**23 13 47.0**	**-0.1**
	baz=213						
LXIB				S	**Sg**	**23 14 04.7**	**+0.4**
	baz=213						
NFF	**Wufeng Townshi**	**1.24**	**262**	P	**Pg**	**23 13 48.0**	**0.0**
	baz=262						
NFF				*e*S	**Sg**	**23 14 04.7**	**+0.4**
	baz=262						
FUSS	**Fushou**	**1.24**	**244**	P	**Pn**	**23 13 47.0**	**+0.1**
	baz=243						
FUSS				S	**Sb**	**23 14 03.1**	**+0.1**
	baz=243						
IRIF	**Iriomote-Funau**	**1.25**	**112**	*e*S	**Sg**	**23 14 04.1**	**-0.4**
WHF	**Hehuan Shan**	**1.27**	**239**	*i* P	**Pb**	**23 13 48.2**	**+0.3**
	baz=248						
WHF				S	**Sg**	**23 14 05.1**	**-0.5**
	baz=248						
TWT	**Tachien**	**1.29**	**245**	*i* P	**Pb**	**23 13 48.3**	**+0.2**
	baz=244						
TWT				S	**Sg**	**23 14 06.9**	**+0.8**
	baz=244						
TDCB	**Techi**	**1.31**	**245**	P	**Pb**	**23 13 48.2**	**-0.1**
	baz=245						
TDCB				S	**Sb**	**23 14 03.4**	**-1.5**
	baz=245						
LIOB	**Emei**	**1.33**	**263**	*e*P	**Pg**	**23 13 50.0**	**+0.2**
	baz=263						
LIOB				*e*S	**Sn**	**23 14 05.3**	**+0.2**
	baz=263						
NSTT	**Nanjuang**	**1.34**	**263**	*e*P	**Pb**	**23 13 49.3**	**+0.5**
	baz=262						
NSTT				S	**Sb**	**23 14 06.0**	**+0.4**
	baz=262						
CHGB	**Renai**	**1.39**	**238**	*i* P	**Pg**	**23 13 50.5**	**-0.6**
	baz=246						
CHGB				S	**Sg**	**23 14 09.8**	**+0.6**
	baz=246						
HATJ	**Hateruma jima**	**1.43**	**121**	*e*S	**Sb**	**23 14 08.6**	**+0.4**
WARBT	**Fenglin Townsh**	**1.46**	**222**	P	**Pb**	**23 13 51.2**	**+0.3**
	baz=222						
WARBT				*e*S	**Sn**	**23 14 08.1**	**-0.3**
	baz=222						
WUSB	**Renai**	**1.47**	**237**	P	**Pb**	**23 13 51.4**	**+0.4**
	baz=243						
WUSB				S	**Sb**	**23 14 10.2**	**+0.7**
	baz=243						
WHP	**Taichung City**	**1.48**	**250**	P	**Pg**	**23 13 52.6**	**-0.1**
	baz=249						
WHP				*e*S	**Sg**	**23 14 11.1**	**-0.8**
	baz=249						
JKRS	**Kuro-shima**	**1.52**	**112**	*e*S	**Sn**	**23 14 09.0**	**-0.7**
JIJ	**Ishigaki jima**	**1.59**	**106**	*e*S	**Sb**	**23 14 12.8**	**-0.1**
VWDT	**VWDT**	**1.60**	**229**	P	**Pn**	**23 13 52.1**	**+0.6**
	baz=213						
VWDT				*e*S	**Sb**	**23 14 12.4**	**-0.6**
	baz=213						
SSLB	**Suanglung**	**1.71**	**234**	*e*P	**Pb**	**23 13 54.3**	**-0.8**
	baz=218						
SSLB				*e*S	**Sb**	**23 14 16.2**	**0.0**
	baz=218						

*NNC **29** 23:37:01.7±1.4, 40°.22N×77°.15E, h0km, mb3.7, mpv3.4, Error ellipse: s-maj=9.7km s-min=7.3km az=0.0*
*KRNET **29** 23:37:02.3±0.1, 40°.30N×77°.21E, mb2.9*
*SOME **29** 23:37:02.4, 40°.28N×77°.25E, h5km*

ISC 29 23:37:04.3±2.0, 40°.25N±0°.09×77°.08E±0°.04, h10km, n54, σ1°85/83, 19C-11D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRN	**Naryn**	**1.44**	**326**	⇑*e*P	**Pn**	**23 37 29.9**	**-0.9**
	baz=21						
NRN				⇑*e*S	**Sn**	**23 37 50.1**	**+0.2**
	baz=21						
KDJ	**Kajisay**	**1.88**	**2**	⇑*e*P	**Pn**	**23 37 36.6**	**-0.1**
	baz=60						
KDJ				⇑*e*S	**Sb**	**23 38 01.5**	**-1.0**
	baz=60						
BOOM	**Boomskoye usch**	**2.40**	**339**	⇓*e*P	**Pn**	**23 37 45.0**	**+1.2**
	baz=37						
BOOM				⇓*e*S	**Sb**	**23 38 16.0**	**-1.4**
	baz=37						
PRZ	**Przheval'sk**	**2.44**	**24**	⇑*e*P	**Pn**	**23 37 44.7**	**+0.3**
	baz=22						
PRZ				⇑*e*S	**Sn**	**23 38 15.5**	**+1.0**
	baz=22						
ANVS	**Anan'yevo**	**2.57**	**10**	⇓*e*P	**Pn**	**23 37 46.6**	**+0.4**
	baz=8.0						
ANVS				⇓*e*S	**Sn**	**23 38 18.9**	**+1.3**
	baz=8.0						
ARLS	**Aral**	**2.63**	**309**	⇑*e*P	**Pn**	**23 37 48.5**	**+1.5**
	baz=7.0						
ARLS				⇑*e*S	**Sb**	**23 38 22.7**	**-1.5**
	baz=7.0						
UCH	**Uchtor**	**2.77**	**316**	⇑*e*P	**Pn**	**23 37 50.8**	**+1.7**
	baz=14						
UCH				⇑*e*S	**Sb**	**23 38 26.3**	**-1.9**
	baz=14						
TNSS	**Tian-Shan**	**2.79**	**358**	Pg	**Pb**	**23 37 54.1**	**-0.4**
	12nm,0.6s						
TNSS				Lg	Lg	23 38 31.3	
	18nm,0.9s						
TNSS	**Tian-Shan**	**2.79**	**358**	*e*P	**Pb**	**23 37 54.1**	**-0.4**
	8.3nm,0.5s						
TNSS				*e*S	**Sb**	**23 38 31.3**	**+2.5**
	25nm,0.6s						
IZV	**Izvestkoviy**	**2.81**	**353**	Pg	**Pb**	**23 37 55.5**	**+0.9**
IZV				Lg	Lg	23 38 33.4	
IZV	**Izvestkoviy**	**2.81**	**353**	*e*P	**Pb**	**23 37 55.5**	**+0.9**
	5.7nm,0.5s						
IZV				*e*S	**Sg**	**23 38 33.5**	**-1.0**
	63nm,0.5s						
KBK	**Karagaybulak**	**2.89**	**327**	⇑*e*P	**Pn**	**23 37 52.1**	**+1.5**
	baz=25						
KBK				⇑*e*S	**Sn**	**23 38 28.4**	**+2.9**
	baz=25						
TKM2	**Tokmak 2**	**2.89**	**338**	⇓Pg	**Pb**	**23 37 53.7**	**-2.4**
	4.4nm,0.6s						
TKM2				⇓Lg	Lg	23 38 35.8	
	36nm,0.6s						
TKM2	**Tokmak 2**	**2.89**	**338**	⇑*e*P	**Pn**	**23 37 51.8**	**+1.2**
	baz=36						
TKM2				⇑*e*S	**Sn**	**23 38 27.9**	**+2.3**
	baz=36						
MDOK	**Medeo**	**2.91**	**360**	Pg	**Pb**	**23 37 54.7**	**-1.7**
	12nm,0.6s						
MDOK				Pg	**Pb**	**23 37 56.1**	**-0.3**
	9.6nm,0.5s						
MDOK				Lg	Lg	23 38 34.9	
	47nm,0.6s						
MDOK				Lg	Lg	23 38 35.9	
	42nm,0.6s						
MDOK	**Medeo**	**2.91**	**360**	*e*P	**Pb**	**23 37 56.1**	**-0.3**
	9.6nm,0.5s						
MDOK				*e*S	**Sb**	**23 38 34.9**	**+2.7**
	47nm,0.6s						
KST	**Kastek**	**2.92**	**344**	Pg	**Pb**	**23 37 56.9**	**+0.5**
	4.3nm,0.4s						
KST				Lg	Lg	23 38 36.3	
	36nm,0.6s						
KST	**Kastek**	**2.92**	**344**	*e*P	**Pb**	**23 37 56.9**	**+0.5**
	4.3nm,0.4s						
KST				*e*S	**Sg**	**23 38 36.3**	**-1.7**
	36nm,0.6s						
MTBS	**Maitube**	**2.92**	**351**	Pg	**Pb**	**23 37 56.8**	**+0.3**
	1.3nm,0.0s						
MTBS				Lg	Lg	23 38 35.7	
	22nm,0.5s						
MTBS	**Maitube**	**2.92**	**351**	*e*P	**Pb**	**23 37 56.8**	**+0.3**
	1.3nm,0.1s						
MTBS				*e*S	**Sg**	**23 38 35.7**	**-2.4**
	22nm,0.5s						
KNDC	**Almaty**	**2.97**	**358**	⇓Pg	**Pb**	**23 37 57.0**	**-0.3**
	22nm,0.5s						
KNDC				⇑Lg	Lg	23 38 38.2	
	121nm,0.6s						
SATY	**Saty**	**2.98**	**19**	Pg	**Pb**	**23 37 56.4**	**-1.1**
	12nm,0.6s						
SATY				Lg	Lg	23 38 35.5	
	39nm,0.5s						
SATY	**Saty**	**2.98**	**19**	*e*P	**Pb**	**23 37 56.4**	**-1.1**
	12nm,0.6s						
SATY				*e*S	**Sb**	**23 38 35.5**	**+1.5**
	39nm,0.5s						
KOTS	**Kotyrbulak**	**2.98**	**0**	Pg	**Pb**	**23 37 57.8**	**+0.2**
	16nm,0.5s						
KOTS				Lg	Lg	23 38 37.7	
	136nm,0.8s						
KOTS	**Kotyrbulak**	**2.98**	**0**	*e*P	**Pb**	**23 37 57.8**	**+0.2**
	16nm,0.5s						
KOTS				*e*S	**Sg**	**23 38 37.7**	**-2.4**
	136nm,0.8s						
AAK	**Ala-Archa**	**3.08**	**322**	⇓Pg	**Pb**	**23 37 58.0**	**-1.3**
	5.4nm,0.7s						
AAK				⇑Lg	Lg	23 38 42.3	
	22nm,0.8s						
AAK	**Ala-Archa**	**3.08**	**322**	⇑*e*P	**Pn**	**23 37 54.9**	**+1.8**
	baz=20						
AAK				⇑*e*S	**Sn**	**23 38 33.1**	**+3.0**
	baz=20						
DGS	**Degeres**	**3.15**	**342**	Pg	**Pb**	**23 38 00.6**	**+0.2**
	4.8nm,0.6s						
DGS				Lg	Lg	23 38 42.5	
	35nm,0.8s						
DGS	**Degeres**	**3.15**	**342**	*e*P	**Pb**	**23 38 00.6**	**+0.2**
	4.8nm,0.6s						
DGS				*e*S	**Sb**	**23 38 42.5**	**+3.6**
	35nm,0.8s						
UZB	**Uzynbulak**	**3.24**	**26**	Pg	**Pb**	**23 38 01.4**	**-0.7**
UZB				Lg	Lg	23 38 43.8	
UZB	**Uzynbulak**	**3.24**	**26**	*e*P	**Pb**	**23 38 01.3**	**-

	5.3nm,0.6s								
KTBS					*e*S		**Sg**	**23 38 52.5**	**-3.3**
	48nm,0.7s								
PDGK	**Podgornoye**	**3.57**	**30**		Pg		**Pb**	**23 38 05.8**	**-1.7**
	1.9nm,0.5s								
PDGK					Lg		Lg	23 38 51.6	
	14nm,0.8s								
PDGK	**Podgornoye**	**3.57**	**30**		⇓Pg		**Pb**	**23 38 05.6**	**-2.0**
	4.2nm,0.6s								
PDGK					⇓Lg		Lg	23 38 55.2	
	22nm,0.6s								
KRBS	**Karabastau**	**3.60**	**344**		Pg		**Pb**	**23 38 09.3**	**+1.2**
	3.5nm,0.7s								
KRBS					Lg		Lg	23 38 57.3	
	7.0nm,0.7s								
KRBS	**Karabastau**	**3.60**	**344**		*e*P		**Pb**	**23 38 09.3**	**+1.2**
	3.5nm,0.7s								
KRBS					*e*S		**Sg**	**23 38 57.3**	**-2.6**
	7.0nm,0.7s								
KUU	**Kurty**	**3.68**	**352**		Pg		**Pb**	**23 38 10.4**	**+1.0**
KUU					Lg		Lg	23 38 59.0	
KUU	**Kurty**	**3.68**	**352**		*e*P		**Pb**	**23 38 10.4**	**+1.0**
	2.7nm,0.1s								
KUU					*e*S		**Sg**	**23 38 59.0**	**-3.5**
	27nm,0.6s								
BLB	**Baldybastay**	**3.98**	**15**		Pg		**Pb**	**23 38 14.7**	**0.0**
	14nm,0.3s								
BLB					Lg		Lg	23 39 06.7	
	17nm,0.8s								
ARXS	**Arharly**	**4.00**	**8**		Pg		**Pb**	**23 38 15.8**	**+0.9**
	5.2nm,1.0s								
ARXS					Lg		Lg	23 39 08.5	
	21nm,0.7s								
ARXS	**Arharly**	**4.00**	**8**		*e*P		**Pb**	**23 38 15.8**	**+0.9**
	5.2nm,1.0s								
ARXS					*e*S		**Sg**	**23 39 08.5**	**-4.3**
	21nm,0.7s								
KTMS	**Ketmen**	**4.02**	**36**		Pg		**Pb**	**23 38 14.7**	**-0.6**
	1.2nm,0.2s								
KTMS					Lg		Lg	23 39 06.7	
	8.2nm,0.5s								
KTMS	**Ketmen**	**4.02**	**36**		*e*P		**Pb**	**23 38 14.7**	**-0.6**
	1.2nm,0.2s								
KTMS					*e*S		**Sb**	**23 39 06.7**	**+2.7**
	8.2nm,0.5s								
KNOS	**Konyrlen**	**4.39**	**20**		Pg		**Pb**	**23 38 23.6**	**+1.9**
	3.5nm,0.4s								
KNOS					Lg		Lg	23 39 21.6	
	5.8nm,1.0s								
DJR	**Jarkent**	**4.55**	**25**		Pg		**Pb**	**23 38 24.8**	**+0.6**
	0.7nm,0.1s								
DJR					Lg		Lg	23 39 23.9	
	10nm,0.5s								
DJR	**Jarkent**	**4.55**	**25**		*e*P		**Pb**	**23 38 24.8**	**+0.6**
	0.7nm,0.1s								
DJR					*e*S		**Sb**	**23 39 23.9**	**+4.8**
	10nm,0.5s								
BTLS	**Baital**	**5.29**	**336**		Pg		**Pb**	**23 38 40.2**	**+3.4**
	1.8nm,0.3s								
BTLS					Lg		Lg	23 39 50.3	
	5.9nm,0.8s								
BTLS	**Baital**	**5.29**	**336**		*e*P		**Pb**	**23 38 40.2**	**+3.4**
	1.8nm,0.3s								
BTLS					*e*S		**Sg**	**23 39 50.3**	**-3.6**
	5.9nm,0.8s								

IDC 29 23:37:39.1±2.5, 6°75N×124°80E, h0km, mb3.8/3, mbtmp3.8/3, MS2.6/1, Error ellipse: s-maj=237.5km s-min=26.9km az=64.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**20.25**	**9**	LR	LR	23 49 03.0	
	comp=Z,17nm,19.3s,baz=290,slow=34						
WRA	**Warramunga Arr**	**28.14**	**161**	P	P	23 43 33.2	0.0
	0.3nm,0.3s,baz=341,slow=9.1,SNR=5.0						
	0.3nm,0.3s						
ASAR	**Alice Springs**	**31.51**	**164**	P	P	23 44 03.0	-0.1
	0.6nm,0.3s,baz=341,slow=6.9,SNR=12						
	0.6nm,0.3s						
MKAR	**Makanchi Array**	**54.00**	**325**	P	P	23 47 05.1	0.0
	0.4nm,0.4s,baz=136,slow=8.3,SNR=5.4						
	0.4nm,0.4s						

SCB 29 23:58:29.5±1.4, 19°85S×66°79W, h253km±17km, ML2.9/5, MW4.0, Error ellipse: s-maj=7.1km s-min=4.1km az=2.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOEO	**Opoqueri**	**1.65**	**321**	Pg	Pn	23 59 11.0	+1.1
MOCB	**Mochara**	**1.76**	**143**	Pg	Pn	23 59 11.6	+0.9
SOET	**ToroToro**	**1.95**	**28**	Pg	Pn	23 59 12.2	-0.1
AOEA	**Aiquile**	**2.21**	**42**	Pg	Pn	23 59 14.3	-0.3
PB08	**IPOC Station P**	**2.25**	**262**	Pg	Pn	23 59 15.6	+0.6
GO01	**Chusmiza**	**2.28**	**274**	IAML		00 00 16.9	
	19nm,2.5s						
GO01	**Chusmiza**	**2.28**	**274**	Pg	Pn	23 59 15.8	+0.4
PB11	**IPOC Station P**	**2.70**	**271**	Pg	Pn	23 59 19.5	+0.2
PB11				Sg	S	23 59 57.7	-0.9
PB11				IAML		23 59 59.3	
	28nm,0.2s						
PB01	**IPOC Station P**	**2.80**	**244**	Pg	Pn	23 59 20.8	+0.6
PB01				Sg	S	23 59 59.0	-1.3
PB01				IAML		00 00 00.1	
	41nm,0.3s						
PB09	**IPOC Station P**	**3.01**	**229**	Pg	Pn	23 59 23.3	+0.8
SOEJ	**Jacaque**	**3.15**	**335**	Pg	Pn	23 59 25.6	+1.1
BBOE	**La Paz, Chanca**	**3.22**	**339**	IAML		00 00 38.7	
	3.1nm,2.4s						
BBOE	**La Paz, Chanca**	**3.22**	**339**	Pg	Pn	23 59 26.9	+1.6
PB12	**IPOC Station P**	**3.56**	**290**	Pg	Pn	23 59 28.3	-0.3
LPAZ	**La Paz**	**3.76**	**340**	Pg	Pn	23 59 31.9	+0.5
PB15	**IPOC Station P**	**4.18**	**216**	Pg	Pn	23 59 36.8	+1.1
PB15				Sg	S	00 00 27.0	-1.4
PB15				IAML		00 00 30.0	
	59nm,0.3s						

*IDC **30** 00:24:32.6±2.0, 60°01S×26°84W, h0km, mb3.9/3, mbtmp4.1/4, ML4.4/1, Error ellipse: s-maj=120.6km s-min=26.3km az=99.0*

ISC 30 00:24:34.0±1.5, 60°05S×26°9W×0°3, h10km, n13, e0°79/10, mb4.0/3, 7C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**13.12**	**152**	⇑P	**Pn**	**00 27 41.2**	**+1.0**
	comp=Z,46nm,0.2s						
VNA1				⇓S	Sn	00 29 50.9	-15
	comp=Z,0.1nm,0.2s						
VNA3	**Neumayer Olymp**	**13.25**	**155**	⇑P	**Pn**	**00 27 41.3**	**-0.5**
	comp=Z,4.9nm,0.2s						
VNA3				⇑S	Sn	00 29 53.0	-16
	comp=Z,0.8nm,0.3s						
VNA2	**Neumayer--Watz**	**13.52**	**152**	⇑P	**Pn**	**00 27 45.8**	**+0.2**
	comp=Z,7.0nm,0.3s,baz=305,slow=16						
SNAA	**Sanae**	**15.12**	**150**	⇑P	**Pn**	**00 28 07.5**	**+0.1**
	comp=Z,86nm,0.4s						
SNAA				⇓S	Sn	00 30 40.5	-14
	comp=Z,4.7nm,0.2s						
SNAA	**Sanae**	**15.12**	**150**	Pn	**Pn**	**00 28 07.7**	**+0.3**
	comp=Z,1.7nm,0.3s,baz=305,slow=15,SNR=58						
SNAA				Sn	Sn	00 30 39.1	-16
	comp=Z,0.1nm,0.3s,baz=5.0,slow=15,SNR=1.2						
	comp=Z,6.5nm,0.4s						
TROLL	**Troll, Antarti**	**16.70**	**148**	⇑P	**P**	**00 28 29.6**	**-0.6**
	comp=Z,82nm,0.3s						
TROLL				⇑S	Sn	00 31 18.1	-15
	comp=Z,35nm,0.5s						
QSPA	**South Pole Qui**	**30.23**	**180**	P	**P**	**00 30 44.5**	**0.0**
	comp=Z,1.5nm,0.7s,baz=190,slow=7.1,SNR=8.7						
	comp=Z,1.5nm,0.7s						
VNDA	**Vanda**	**42.61**	**183**	P	**P**	**00 32 30.0**	**+0.4**
	comp=Z,0.5nm,0.7s,baz=170,slow=5.0,SNR=2.8						
	comp=Z,0.5nm,0.7s						
H04S2	**CROZET ISLANDS**	**45.90**	**110**	T	T	01 23 33.9	
	baz=225,slow=75,SNR=7.4						
H04S3	**CROZET ISLANDS**	**45.91**	**110**	T	T	01 23 34.7	
	baz=225,slow=75,SNR=6.5						
H04S1	**CROZET ISLANDS**	**45.92**	**110**	T	T	01 23 31.9	
	baz=225,slow=75,SNR=6.8						
TORD	**Torodi Ar. Bea**	**76.45**	**29**	P	**P**	**00 36 24.2**	**+0.6**
	comp=Z,0.8nm,0.4s,baz=195,slow=5.8,SNR=12						
	comp=Z,0.8nm,0.4s						
SONM	**Songino Array**	**150.58**	**93**	PKPbc	**PKPbc**	**00 44 23.7**	**-1.4**
	comp=Z,0.6nm,0.9s,baz=208,slow=1.7,SNR=2.1						

*ASRS **30** 00:32:51.0±0.3, 46°N±2°×8°0E±°, h5km, MLh3.1/3, Error ellipse: s-maj=5.1km s-min=3.0km az=130.5, confirmed*
*NNC **30** 00:32:57.6±1.0, 46°29N×80°16E, h10km±9km, mb3.5, mpv3.4, Error ellipse: s-maj=11.1km s-min=3.3km az=139.0*
*SOME **30** 00:32:58.8, 46°30N×79°93E, h15km*

ISC 30 00:32:53.1±1.1, 46°45N±0°03×80°00E±0°03, h4km±12km, n43, σ1°63/59, 4C-2D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPS	**Kapalarasan**	**1.25**	**201**	P	**Pg**	**00 33 19.3**	**+2.4**
	7.2nm,0.1s						
KAPS				S	**Sn**	**00 33 34.4**	**-0.2**
	30nm,0.1s						
KAPS	**Kapalarasan**	**1.25**	**201**	*e*P	**Pg**	**00 33 19.3**	**+2.4**
	7.2nm,0.1s						
KAPS				*e*S	**Sn**	**00 33 34.4**	**-0.2**
	30nm,0.1s						
MAKZ	**Makanchi**	**1.41**	**74**	⇓P	**Pg**	**00 33 21.7**	**+1.6**
MAKZ				⇑S	**Sg**	**00 33 40.4**	**+2.0**
	11nm,0.4s						
MAKZ	**Makanchi**	**1.41**	**74**	Pg	**Pg**	**00 33 21.9**	**+1.8**
MAKZ				Sg	**Sg**	**00 33 40.0**	**+1.7**
MKAR	**Makanchi Array**	**1.62**	**77**	Pg	**Pg**	**00 33 25.3**	**+1.3**
MKAR				Sg	**Sg**	**00 33 45.6**	**+0.6**
MK31	**Makanchi Array**	**1.62**	**77**	P	**Pg**	**00 33 25.3**	**+1.2**
	3.5nm,0.2s,baz=246,slow=18,SNR=226						
TDK	**Taldyqorghan**	**1.82**	**218**	P	**Pg**	**00 33 30.2**	**+2.1**
	34nm,0.4s						
TDK				S	**Sg**	**00 33 52.6**	**+1.0**
	74nm,0.4s						
TDK	**Taldyqorghan**	**1.82**	**218**	*e*P	**Pg**	**00 33 30.2**	**+2.1**
	34nm,0.4s						
TDK				*e*S	**Sg**	**00 33 52.6**	**+1.0**
	74nm,0.4s						
DJR	**Jarkent**	**2.12**	**184**	Pg	**Pg**	**00 33 35.0**	**+1.4**
	12nm,0.1s						
DJR				Lg	Lg	00 34 01.1	
	25nm,0.3s						
DJR	**Jarkent**	**2.12**	**184**	*e*P	**Pg**	**00 33 35.0**	**+1.4**
	12nm,0.1s						
DJR				*e*S	**Sg**	**00 34 01.1**	**0.0**
	25nm,0.3s						
KNOS	**Konyrlen**	**2.17**	**196**	Pg	**Pg**	**00 33 36.1**	**+1.6**
	25nm,0.1s						
KNOS				Lg	Lg	00 34 02.9	
	20nm,0.2s						
BLB	**Baldybastay**	**2.58**	**205**	Pg	**Pg**	**00 33 43.2**	**+0.7**
	13nm,0.3s						
BLB				Lg	Lg	00 34 15.0	
	61nm,0.4s						
ARXS	**Arharly**	**2.71**	**215**	Pg	**Pg**	**00 33 46.1**	**+1.2**
	3.5nm,0.3s						
ARXS				Lg	Lg	00 34 19.8	
	42nm,0.4s						
ARXS	**Arharly**	**2.71**	**215**	*e*P	**Pg**	**00 33 46.1**	**+1.2**
	3.5nm,0.3s						
ARXS				*e*S	**Sg**	**00 34 19.8**	**-0.2**
	40nm,0.2s						
KTMS	**Ketmen**	**3.01**	**175**	Pg	**Pg**	**00 33 51.3**	**+0.5**
	1.7nm,0.3s						
KTMS				Lg	Lg	00 34 28.7	
	4.3nm,0.3s						
KTMS	**Ketmen**	**3.01**	**175**	*e*P	**Pg**	**00 33 51.3**	**+0.5**
	1.7nm,0.3s						
KTMS				*e*S	**Sg**	**00 34 28.7**	**-1.0**
	4.3nm,0.3s						
PDGK	**Podgornoye**	**3.14**	**187**	Pg	**Pg**	**00 33 53.5**	**+0.4**
	5.8nm,0.3s						
PDGK				Lg	Lg	00 34 32.6	
	8.6nm,0.5s						
PDGK	**Podgornoye**	**3.14**	**187**	⇑Pg	**Pg**	**00 33 51.5**	**-1.6**
	3.4nm,0.3s						
PDGK				⇑Lg	Lg	00 34 33.1	
	12nm,0.6s						
UZB	**Uzymbulak**	**3.37**	**192**	Pg	**Pg**	**00 33 57.6**	**0.0**
	4.8nm,0.2s						
UZB				Lg	Lg	00 34 39.6	
	7.3nm,0.5s						
UZB	**Uzymbulak**	**3.37**	**192**	*e*P	**Pg**	**00 33 57.6**	**0.0**
	4.8nm,0.2s						
UZB				*e*S	**Sg**	**00 34 39.6**	**-1.7**
	7.3nm,0.5s						
ZSN	**Zaisan**	**3.48**	**71**	Pg	**Pg**	**00 33 58.0**	**-1.7**
	3.5nm,0.6s						
ZSN				Lg	Lg	00 34 40.4	
	4.8nm,0.5s						
ZSN	**Zaisan**	**3.48**	**71**	*e*P	**Pg**	**00 33 58.0**	**-1.7**
	3.5nm,0.6s						
ZSN				*e*S	**Sb**	**00 34 40.4**	**+2.4**
	4.8nm,0.5s						
SATY	**Saty**	**3.57**	**199**	Pg	**Pg**	**00 34 01.3**	**-0.2**
	2.6nm,0.1s						
SATY				Lg	Lg	00 34 46.1	
	16nm,0.1s						
SATY	**Saty**	**3.57**	**199**	*e*P	**Pg**	**00 34 01.3**	**-0.2**
	2.6nm,0.1s						
SATY				*e*S	**Sg**	**00 34 46.0**	**-1.7**
	16nm,0.1s						
KTBS	**Karatobe**	**3.60**	**222**	Pg	**Pg**	**00 34 01.9**	**-0.3**
	1.3nm,0.3s						
KTBS				Lg	Lg	00 34 47.4	
	21nm,0.6s						
KTBS	**Karatobe**	**3.60**	**222**	*e*P	**Pg**	**00 34 01.9**	**-0.3**
	1.3nm,0.3s						
KTBS				*e*S	**Sg**	**00 34 47.4**	**-1.4**
	21nm,0.6s						
MDOK	**Medeo**	**3.90**	**214**	Pg	**Pg**	**00 34 07.1**	**-0.6**
	1.6nm,0.3s						
MDOK				Lg	Lg	00 34 56.0	
	6.8nm,0.6s						
MDOK	**Medeo**	**3.90**	**214**	*e*P	**Pg**	**00 34 07.1**	**-0.6**
	1.6nm,0.3s						
MDOK				*e*S	**Sg**	**00 34 56.0**	**-2.2**
	6.8nm,0.6s						
TNSS	**Tian-Shan**	**4.04**	**214**	Pg	**Pg**	**00 34 10.2**	**-0.4**
	1.5nm,0.3s						
TNSS				Lg	Lg	00 35 01.4	
	3.6nm,0.6s						
TNSS	**Tian-Shan**	**4.04**	**214**	*e*P	**Pg**	**00 34 10.2**	**-0.4**
	1.5nm,0.3s						
TNSS				*e*S	**Sg**	**00 35 01.4**	**-1.6**
	3.6nm,0.6s						
PRZ	**Przheval'sk**	**4.12**	**197**	Sg	Sg	00 35 05.3	-0.2
KURK	**Kurchatov**	**4.37**	**348**	⇑Lg	Lg	00 35 18.2	
	3.8nm,0.6s						
KURK	**Kurchatov**	**4.37**	**348**	Pn	**Pn**	**00 34 00.2**	**-0.1**
KURK				Pg	**Pg**	**00 34 16.2**	**-0.5**
KURK				Sg	**Sg**	**00 35 15.6**	**+2.2**
BOOM	**Boomskoye usch**	**4.91**	**218**	Sg	**Sg**	**00 35 27.8**	**-2.8**
AAK	**Ala-Archa**	**5.47**	**228**	Sg	**Sg**	**00 35 51.5**	**+2.6**
UKR	**Ust'-Kan**	**5.49**	**33**	Sg	**Sg**	**00 35 48.7**	**-0.7**
OTUK	**Ortayu**	**5.51**	**292**	⇓Lg	Lg	00 35 54.8	
	2.4nm,0.7s						
DGZ	**Jazzator, Alta**	**5.95**	**54**	Sg	**Sg**	**00 36 02.0**	**-2.0**
ARLS	**Aral**	**6.14**	**224**	Sg	**Sg**	**00 36 06.8**	**-3.3**
ELDR	**Elanda**	**6.24**	**38**	Sg	**Sg**	**00 36 11.3**	**-2.1**
CHBI	**Chibit, Altay**	**6.32**	**50**	Sg	**Sg**	**00 36 11.8**	**-4.1**
CUR	**Chagan-Uzun**	**6.66**	**54**	Sg	**Sg**	**00 36 24.0**	**-2.9**
ULGR	**Ulagan, Altay**	**6.74**	**49**	Sg	**Sg**	**00 36 28.8**	**-0.5**

*NOU **30** 00:40:09.9, 38°89S×174°84E, h260km, MLv3.6/8, North Island, New Zealand*
*WEL **30** 00:40:16.9±0.9, 39°S±18°×17°5E±°, h197km±7km, M2.5/25, ML2.8/8, MLv2.5/25, Error ellipse: s-maj=0.0km s-min=0.0km az=168.6, confirmed*

ISC 30 00:40:10.3±1.9, 38°98S±0°07×174°83E±0°06, h242km±10km, n132, σ1°70/140, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.15**	**202**	P	**Pn**	**00 40 43.2**	**+1.6**
VRZ				S	**S**	**00 41 04.7**	**-1.4**
HIZ	**Hauiti**	**0.47**	**2**	P	**Pn**	**00 40 44.1**	**+1.9**
TWVZ	**Taurewa**	**0.48**	**101**	P	**Pn**	**00 40 44.0**	**+1.7**
DREZ	**Durham Road**	**0.53**	**247**	P	**Pn**	**00 40 44.7**	**+2.4**
LREZ	**Lake Rotokare**	**0.58**	**215**	P	**Pn**	**00 40 44.8**	**+2.3**
COVZ	**Chateau Observ**	**0.59**	**112**	P	**Pn**	**00 40 44.5**	**+1.7**
WTVZ	**West Tongariro**	**0.61**	**103**	P	**Pn**	**00 40 44.5**	**+1.7**
WTVZ				S	**S**	**00 41 06.1**	**-2.1**
FWVZ	**Far West T-bar**	**0.62**	**116**	P	**Pn**	**00 40 44.7**	**+1.7**
NNVZ	**North Ngauruho**	**0.63**	**104**	P	**Pn**	**00 40 44.6**	**+1.7**
NGZ	**Ngauruhoe**	**0.63**	**108**	P	**Pn**	**00 40 44.6**	**+1.7**
NGZ				S	**S**	**00 41 05.7**	**-2.8**
MAVZ	**Matarangi**	**0.64**	**117**	P	**Pn**	**00 40 44.9**	**+1.8**
MTVZ	**Mangateitei**	**0.64**	**129**	P	**Pn**	**00 40 44.5**	**+1.7**
NEZ	**North Egmont**	**0.64**	**243**	P	**Pn**	**00 40 45.3**	**+2.4**
KRVZ	**Karewarewa**	**0.64**	**100**	P	**Pn**	**00 40 44.6**	**+1.7**
TRVZ	**Turoa**	**0.64**	**120**	P	**Pn**	**00 40 44.8**	**+1.7**
SNVZ	**South Ngauruho**	**0.66**	**108**	P	**Pn**	**00 40 44.9**	**+1.9**
WHVZ	**Whangaehu Hut**	**0.66**	**117**	P	**Pn**	**00 40 44.9**	**+1.8**
NTVZ	**North Tongarir**	**0.67**	**100**	P	**Pn**	**00 40 44.9**	**+1.9**
KATZ	**Kakaramea**	**0.67**	**90**	P	**Pn**	**00 40 44.6**	**+1.6**
KATZ				S	**S**	**00 41 07.5**	**-1.2**
OTVZ	**Oturere**	**0.67**	**106**	P	**Pn**	**00 40 44.8**	**+1.8**
OTVZ				S	**S**	**00 41 06.4**	**-2.4**
WNVZ	**Wahianoa**	**0.69**	**120**	P	**Pn**	**00 40 44.9**	**+1.8**
WNVZ				S	**S**	**00 41 06.2**	**-2.8**
PKE	**Pukeiti**	**0.69**	**252**	P	**Pn**	**00 40 45.3**	**+2.3**
TMVZ	**Te Maari**	**0.69**	**101**	P	**Pn**	**00 40 45.1**	**+1.9**
TMVZ				S	**S**	**00 41 06.9**	**-1.9**
TUVZ	**Tukino**	**0.70**	**114**	P	**Pn**	**00 40 45.0**	**+1.8**
ETVZ	**East Tongariro**	**0.70**	**103**	P	**Pn**	**00 40 45.1**	**+1.9**
KHEZ	**Kahui Hut**	**0.71**	**244**	P	**Pn**	**00 40 45.5**	**+2.4**
KHEZ	**Kahui Hut**	**0.71**	**244**	P	**Pn**	**00 40 45.5**	**+2.4**
RATZ	**Rangitukua**	**0.74**	**81**	P	**Pn**	**00 40 44.8**	**+1.6**
WATZ	**Wairara**	**0.76**	**69**	P	**Pn**	**00 40 45.3**	**+2.0**
WAZ	**Wanganui**	**0.78**	**171**	P	**Pn**	**00 40 45.5**	**+2.2**
WAZ				S	**S**	**00 41 07.7**	**-1.6**
NBEZ	**Newall Road No**	**0.80**	**249**	P	**Pn**	**00 40 46.0**	**+2.6**
MOVZ	**Moawhango**	**0.83**	**121**	P	**Pn**	**00 40 45.0**	**+1.4**
TLZ	**Tolley Road**	**0.85**	**41**	P	**Pn**	**00 40 45.6**	**+1.8**
NMEZ	**Namu Road**	**0.86**	**240**	P	**Pn**	**00 40 43.7**	**+0.1**
KUTZ	**Kaahu Road**	**0.92**	**58**	P	**Pn**	**00 40 46.2**	**+2.1**
BHHZ	**Black Hill Sta**	**1.08**	**118**	P	**Pn**	**00 40 46.4**	**+1.4**
MRHZ	**Matea Rd**	**1.25**	**84**	P	**Pn**	**00 40 47.2**	**+1.2**
ALRZ	**Allen Road**	**1.25**	**71**	P	**Pn**	**00 40 47.7**	**+1.6**
HRRZ	**Handcock Road**	**1.28**	**63**	P	**Pn**	**00 40 48.0**	**+1.7**
BKZ	**Black Stump Fm**	**1.31**	**99**	P	**Pn**	**00 40 47.9**	**+1.4**
BKZ	**Black Stump Fm**	**1.31**	**99**	P	**Pn**	**00 40 47.9**	**+1.4**
KWHZ	**Kaweka Forest**	**1.31**	**110**	P	**Pn**	**00 40 48.5**	**+1.9**
PRRZ	**Plateau Road**	**1.31**	**69**	P	**Pn**	**00 40 47.9**	**+1.4**
TOZ	**Tahuroa Road**	**1.36**	**23**	P	**Pn**	**00 40 48.4**	**+1.5**
KRHZ	**Kereru**	**1.36**	**119**	P	**Pn**	**00 40 48.6**	**+1.7**
TSZ	**Takapari Road**	**1.39**	**141**	P	**Pn**	**00 40 48.8**	**+1.8**
PNHZ	**Pukenui**	**1.41**	**132**	P	**Pn**	**00 40 48.9**	**+1.7**
RRRZ	**Republican Roa**	**1.47**	**65**	P	**Pn**	**00 40 49.4**	**+1.7**
OMRZ	**Omania**	**1.49**	**55**	P	**Pn**	**00 40 47.2**	**-0.6**
TARZ	**Mount Tarawera**	**1.51**	**61**	P	**Pn**	**00 40 49.9**	**+1.9**
MCHZ	**McNeill Hill**	**1.52**	**108**	P	**Pn**	**00 40 50.4**	**+2.4**
NMHZ	**Naumai**	**1.54**	**95**	P	**Pn**	**00 40 50.7**	**+2.4**
MTHZ	**Maungataniwha**	**1.57**	**86**	P	**Pn**	**00 40 49.9**	**+1.5**
POWZ	**Post Office Ro**	**1.58**	**153**	P	**Pn**	**00 40 50.1**	**+1.6**
MUGZ	**Murupara**	**1.60**	**72**	P	**Pn**	**00 40 48.3**	**-0.4**
WPHZ	**Waipukurau**	**1.65**	**131**	P	**Pn**	**00 40 50.9**	**+1.9**
DVHZ	**Dannevirke**	**1.67**	**142**	P	**Pn**	**00 40 50.7**	**+1.5**
ARHZ	**Aropaoanui**	**1.71**	**100**	P	**Pn**	**00 40 51.7**	**+2.2**
RTZ	**Ruatahuna**	**1.72**	**78**	P	**Pn**	**00 40 49.0**	**-0.8**
RAHZ	**Arahi**	**1.76**	**89**	P	**Pn**	**00 40 51.5**	**+1.5**
MRZ	**Mangatainoka R**	**1.77**	**161**	P	**Pn**	**00 40 51.4**	**+1.4**
KAHZ	**Kahuranaki**	**1.78**	**118**	P	**Pn**	**00 40 52.4**	**+2.3**
PRWZ	**Pori Road**	**1.80**	**151**	P	**Pn**	**00 40 52.2**	**+1.9**
OGWZ	**Otaki Gorge**	**1.85**	**172**	P	**Pn**	**00 40 52.5**	**+1.8**
CKHZ	**Cape Kidnapper**	**1.87**	**112**	P	**Pn**	**00 40 53.2**	**+2.3**
KIWI	**Kapiti Island**	**1.88**	**178**	P	**Pn**	**00 40 52.5**	**+1.5**
PXZ	**Pawanui**	**1.89**	**124**	P	**Pn**	**00 40 52.9**	**+1.9**
PRHZ	**Porangahau**	**1.89**	**133**	P	**Pn**	**00 40 52.9**	**+1.8**
ANWZ	**Angora Road**	**1.95**	**140**	P	**Pn**	**00 40 53.4**	**+1.9**
DUWZ	**D'Urville Isla**	**1.95**	**201**	P	**Pn**	**00 40 53.4**	**+1.8**
TIWZ	**Tintock**	**1.97**	**156**	P	**Pn**	**00 40 53.5**	**+1.7**
SNGZ	**Shannon Statio**	**1.97**	**85**	P	**Pn**	**00 40 53.7**	**+1.8**
BFZ	**Birch Farm**	**2.02**	**148**	P	**Pn**	**00 40 53.8**	**+1.6**
BFZ	**Birch Farm**	**2.02**	**148**	P	**Pn**	**00 40 53.6**	**+1.4**
RAGZ	**Rawiri**	**2.08**	**77**	P	**Pn**	**00 40 54.5**	**+1.6**
CAW	**Cannon Point**	**2.13**	**175**	P	**Pn**	**00 40 54.8**	**+1.5**
MWZ	**Matawai**	**2.21**	**74**	P	**Pn**	**00 40 55.5**	**+1.4**
KNZ	**Kokohu**	**2.21**	**92**	P	**Pn**	**00 40 55.8**	**+1.7**
MTW	**Mount Morrison**	**2.23**	**167**	P	**Pn**	**00 40 55.4**	**+1.1**
TCW	**Tory Channel**	**2.27**	**191**	P	**Pn**	**00 40 56.4**	**+1.8**
TMWZ	**Te Maipa**	**2.27**	**159**	P	**Pn**	**00 40 56.0**	**+1.3**
WEL	**Wellington**	**2.30**	**181**	P	**Pn**	**00 40 56.5**	**+1.6**
RIGZ	**Rimuhau**	**2.31**	**84**	P	**Pn**	**00 40 57.0**	**+1.9**
SNZO	**South Karori**	**2.33**	**182**	P	**Pn**	**00 40 57.2**	**+2.1**
PRGZ	**Paritu Road**	**2.38**	**90**	P	**Pn**	**00 40 57.2**	**+1.9**
MHGZ	**Mahia Peninsul**	**2.40**	**95**	P	**Pn**	**00 40 58.1**	**+2.1**
BHW	**Baring Head**	**2.42**	**179**	P	**Pn**	**00 40 57.3**	**+1.2**
PAWZ	**Paruwai Farm**	**

	775nm,0.4s							
KLMT	**Kalamata**	**1.07**	**20**	P		**Pb**	**00 53 12.0**	**+0.3**
KLMT				S		**Sn**	**00 53 27.1**	**+0.9**
ITM	**Ithomi**	**1.15**	**13**	P		**Pb**	**00 53 12.8**	**-0.3**
ITM				S		**Sb**	**00 53 26.3**	**-1.5**
	632nm,0.4s							
ITM	**Ithomi**	**1.15**	**13**	P		**Pb**	**00 53 12.8**	**-0.3**
ITM				S		**Sb**	**00 53 28.5**	**+0.7**
VLI	**Veliai**	**1.26**	**58**	P		**Pn**	**00 53 14.9**	**+0.4**
VLI				S		**Sg**	**00 53 32.4**	**-0.2**
	460nm,0.6s							
VLI	**Veliai**	**1.26**	**58**	P		**Pn**	**00 53 14.9**	**+0.4**
VLI				S		**Sb**	**00 53 31.5**	**+0.5**
ANKY	**Antikythira Is**	**1.39**	**97**	P		**Pg**	**00 53 18.2**	**-0.3**
ANKY				S		**Sg**	**00 53 37.1**	**+0.5**
	308nm,0.7s							
ANKY	**Antikythira Is**	**1.39**	**97**	P		**Pn**	**00 53 17.3**	**+1.1**
ANKY				S		**Sb**	**00 53 34.6**	**0.0**
AMT	**Artemida-Makis**	**1.48**	**3**	P		**Pn**	**00 53 18.2**	**+0.7**
AMT				S		**Sn**	**00 53 38.2**	**+1.9**
LTHK	**Lithakia**	**1.76**	**340**	P		**Pn**	**00 53 21.2**	**-0.2**
LTHK				S		**Sn**	**00 53 42.9**	**-0.5**
	100nm,0.4s							
RODP	**Rodopos**	**1.82**	**105**	P		**Pn**	**00 53 24.0**	**+1.9**
RODP	**Rodopos**	**1.82**	**105**	P		**Pn**	**00 53 24.1**	**+1.9**
KNDR	**Palaiochora Ch**	**1.88**	**115**	P		**Pn**	**00 53 23.1**	**+0.1**
DRO	**Drossia**	**1.90**	**3**	P		**Pn**	**00 53 24.6**	**+1.4**
GUR	**Goura**	**1.97**	**17**	P		**Pn**	**00 53 25.9**	**+1.6**
RLS	**Riolos of Patr**	**2.00**	**357**	P		**Pn**	**00 53 26.0**	**+1.4**
IMMV	**Iera Moni Meta**	**2.02**	**106**	P		**Pn**	**00 53 26.4**	**+1.5**
IMMV	**Iera Moni Meta**	**2.02**	**106**	P		**Pn**	**00 53 26.3**	**+1.4**
KLV	**Kalavryta, Ach**	**2.03**	**12**	P		**Pn**	**00 53 26.8**	**+1.6**
THAL	**Thalero**	**2.15**	**23**	P		**Pn**	**00 53 27.6**	**+0.8**
THAL				S		**Sn**	**00 53 52.5**	**-0.5**
	50nm,0.6s							
THAL	**Thalero**	**2.15**	**23**	P		**Pn**	**00 53 27.5**	**+0.8**
PSDA	**Pessada-Kefalo**	**2.21**	**339**	P		**Pn**	**00 53 28.5**	**+0.9**
LOUT	**Loutraki**	**2.22**	**29**	P		**Pn**	**00 53 29.4**	**+1.7**
UPR	**University Cam**	**2.23**	**4**	P		**Pn**	**00 53 29.7**	**+1.9**
LTK	**Loutraki**	**2.25**	**29**	P		**Pn**	**00 53 28.9**	**+0.8**
VLS	**Valsamata**	**2.27**	**339**	P		**Pn**	**00 53 29.3**	**+0.9**
GVD	**Gavdhos**	**2.36**	**120**	P		**Pn**	**00 53 30.2**	**+0.6**
KEF3	**Kipouria, Keph**	**2.37**	**335**	P		**Pn**	**00 53 30.6**	**+0.9**
VVK	**Vomvokou**	**2.37**	**4**	P		**Pn**	**00 53 32.1**	**+2.3**
VVK				S		**Sn**	**00 53 59.9**	**+1.5**
EFP	**Efpalio**	**2.38**	**6**	P		**Pn**	**00 53 31.6**	**+1.8**
MILOS	**Mílos**	**2.38**	**72**	P		**Pn**	**00 53 31.4**	**+1.6**
SERG	**Sergoula**	**2.38**	**9**	P		**Pn**	**00 53 32.3**	**+2.4**
SERG				S		**Sn**	**00 54 01.2**	**+2.5**
DMLN	**Damoulianata-K**	**2.39**	**336**	P		**Pn**	**00 53 30.6**	**+0.6**
DMLN				S		**Sn**	**00 53 58.6**	**-0.3**
DMLN	**Damoulianata-K**	**2.39**	**336**	P		**Pn**	**00 53 30.6**	**+0.6**
PRNS	**Prines Rethymn**	**2.46**	**105**	P		**Pn**	**00 53 31.5**	**+0.6**
VLY	**Voula,Athens**	**2.51**	**44**	P		**Pn**	**00 53 31.6**	**0.0**
VIL2	**Platees**	**2.53**	**31**	P		**Pn**	**00 53 32.8**	**+0.8**
FSK	**Fiskardo**	**2.54**	**341**	P		**Pn**	**00 53 33.1**	**+1.0**
ATH	**Athens Observa**	**2.55**	**41**	P		**Pn**	**00 53 34.0**	**+1.8**
PVO	**Paravola**	**2.56**	**359**	P		**Pn**	**00 53 34.5**	**+2.2**
ATHU	**Athens Univers**	**2.58**	**42**	P		**Pn**	**00 53 33.1**	**+0.4**
EVGI	**Lefkada island**	**2.67**	**344**	P		**Pn**	**00 53 35.5**	**+1.7**
PTL	**Penteli**	**2.69**	**42**	P		**Pn**	**00 53 35.2**	**+1.0**
DION	**Dionisos Attik**	**2.75**	**42**	P		**Pn**	**00 53 36.0**	**+1.0**
DRAG	**Dragano-Lefkad**	**2.75**	**343**	P		**Pn**	**00 53 36.8**	**+1.8**
NYDR	**Nydri-Lefkada**	**2.75**	**345**	P		**Pn**	**00 53 36.6**	**+1.7**
IDI	**Anoyia**	**2.78**	**105**	P		**Pn**	**00 53 35.7**	**+0.3**
LKD2	**Lefkada island**	**2.83**	**345**	P		**Pn**	**00 53 38.0**	**+1.9**
AXAR	**Agios Charalam**	**2.83**	**17**	P		**Pn**	**00 53 37.5**	**+1.4**
TSLK	**Tsoukalades, L**	**2.87**	**345**	P		**Pn**	**00 53 38.7**	**+2.2**
MAKR	**Makrakomi, Fth**	**2.98**	**8**	P		**Pn**	**00 53 40.5**	**+2.4**
AGG	**Agios Georgios**	**3.02**	**11**	P		**Pn**	**00 53 40.1**	**+1.5**
THL	**Klokotos Trika**	**3.52**	**5**	P		**Pn**	**00 53 46.7**	**+1.2**
IGT	**Igoumenitsa**	**3.62**	**344**	P		**Pn**	**00 53 47.4**	**+0.5**
JAN	**Janina**	**3.65**	**351**	P		**Pn**	**00 53 49.7**	**+2.4**
KPRO	**Kipourio**	**3.90**	**357**	P		**Pn**	**00 53 53.2**	**+2.4**
PENT	**Pentalofos**	**4.15**	**355**	P		**Pn**	**00 53 56.5**	**+2.2**
NEST	**Nestorio**	**4.37**	**354**	P		**Pn**	**00 53 59.4**	**+2.0**
STON	**Ston**	**7.45**	**337**	*e*Pn		**Pn**	**00 54 37.6**	**-1.8**
LSTV	**Lastovo**	**7.63**	**333**	*e*Pn		**Pn**	**00 54 40.1**	**-1.9**
MAKA	**Makarska**	**8.04**	**335**	*e*Pn		**Pn**	**00 54 46.7**	**-0.9**
MAKA					Sn	Sn	00 56 10.4	-7.6
HVAR	**Hvar**	**8.15**	**332**	*e*Pn		**Pn**	**00 54 47.4**	**-1.7**
ZIRJ	**Zirje**	**8.86**	**331**	*e*Pn		**Pn**	**00 54 58.1**	**-0.8**
KIJV	**Kijevo**	**8.88**	**335**	*e*Pn		**Pn**	**00 54 58.4**	**-0.7**
KVAR	**Kislovodsk Arr**	**17.95**	**57**	LR		LR	01 05 06.2	
	comp=Z,320nm,20.8s,slow=42							
ESDC	**Sonseca Array**	**20.48**	**288**	P		Pn	00 57 33.6	+2.7
	0.3nm,0.7s,baz=81,slow=8.7,SNR=4.7							
	0.3nm,0.7s							
TORD	**Torodi Ar. Bea**	**29.00**	**223**	P		**P**	**00 58 52.2**	**+1.6**
	0.3nm,0.7s,baz=37,slow=9.0,SNR=2.2							
	0.3nm,0.7s							
ARCES	**ARCESS Array B**	**33.60**	**2**	P		**P**	**00 59 29.6**	**-1.0**
	2.8nm,1.1s,baz=190,slow=10,SNR=5.2							
	2.8nm,1.1s							
MKAR	**Makanchi Array**	**45.70**	**57**	P		**P**	**01 01 09.7**	**-1.9**
	0.3nm,0.3s,baz=267,slow=7.7,SNR=7.8							
	0.3nm,0.3s							
ZALV	**Zalesovo Beam**	**46.49**	**47**	P		**P**	**01 01 15.2**	**-2.4**
	0.3nm,0.3s,baz=292,slow=9.2,SNR=2.3							
	0.3nm,0.3s							
FRB	**Frobisher Bay**	**58.41**	**329**	LR		LR	01 32 05.3	
	comp=Z,22nm,18.8s,baz=266,slow=40							

*FUNV **30** 01:22:02.6, 10°.35N×63°.02W, h6km, MW3.0*
*TRN **30** 01:22:03.9, 10°.48N×63°.12W, h22km, MD3.4, Venezuela.*
ISC 30 01:22:04.1±1.1, 10°.6N±0°.1×63°.13W±0°.05, h29km±7km, n14, σ1§50/23, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUV	**Carupano**	**0.14**	**311**	*e*P	**Pb**	**01 22 08.8**	**-0.8**
CRUV				*e*S	**Sb**	**01 22 13.4**	**+0.1**
CRUV	**Carupano**	**0.14**	**311**	*e*P	**Pb**	**01 22 08.8**	**-0.8**
CRUV				*e*S	**Sb**	**01 22 14.1**	**+0.8**
CUMV	**Cumana_UDO**	**1.06**	**262**	*e*P	**Pn**	**01 22 23.6**	**+0.7**
CUMV				*e*S	**Sn**	**01 22 39.9**	**+3.3**
PCRV	**Puerto La Cruz**	**1.54**	**255**	*e*P	**Pb**	**01 22 31.0**	**-0.9**
PCRV	**Puerto La Cruz**	**1.54**	**255**	*e*P	**Pb**	**01 22 31.3**	**-0.6**
TRN	**Trinidad (W)**	**1.70**	**88**	*e*P	**Pn**	**01 22 32.6**	**+0.8**
TRN				*e*S	**Sn**	**01 22 53.5**	**+0.9**
GRGR	**Grenville**	**2.11**	**43**	*e*P	**Pb**	**01 22 40.0**	**-1.7**
GRGR				*e*S	**Sn**	**01 23 05.2**	**+2.4**
GRIC	**Isle de Caille**	**2.27**	**42**	*e*P	**Pb**	**01 22 42.1**	**-2.3**
TACV	**Tcata**	**3.86**	**264**	*e*P	**Pn**	**01 23 02.4**	**+0.9**
TACV				*e*S	**Sn**	**01 23 46.7**	**+0.7**
TURV	**Turiamo**	**4.63**	**269**	*e*P	**Pn**	**01 23 12.8**	**+0.7**
TURV				*e*S	**Sn**	**01 24 04.2**	**-0.8**
LUEV	**Luepa**	**4.99**	**161**	*e*P	Pn	01 23 12.0	-5.3
LUEV				*e*S	Sn	01 24 06.1	-8.0
BAUV	**El Baul**	**5.11**	**252**	*e*P	**Pn**	**01 23 18.8**	**+0.2**
BAUV				*e*S	**Sn**	**01 24 14.5**	**-2.2**
BAUV	**El Baul**	**5.11**	**252**	*e*P	**Pn**	**01 23 19.9**	**+1.3**
BAUV				*e*S	**Sn**	**01 24 14.9**	**-1.7**
MAPV	**Macapo**	**5.29**	**262**	*e*P	**Pn**	**01 23 21.5**	**+0.2**
MAPV				*e*S	**Sn**	**01 24 20.6**	**-0.8**

*NEIC **30** 01:23:26.6±2.5, 12°.91S±0°.08×45°.7E±0°.1, h10km±1km, mb4.6/8, Error ellipse: s-maj=22.3km s-min=12.5km az=258.0*
*IDC **30** 01:23:27.6±1.4, 13°.57S×45°.82E, h0km, mb3.9/4, mbtmp3.9/4, MS3.4/2, Error ellipse: s-maj=58.1km s-min=31.8km az=144.0*
ISC 30 01:23:27.2±0.8, 13°.0S±0°.1×45°.6E±0°.1, h10km, n21, σ1§55/17, mb4.4/7, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**6.18**	**166**		**Pn**	**01 24 58.9**	**+0.2**
VOI	**Vohitsoka**	**8.93**	**173**	Pn	**Pn**	**01 25 36.5**	**+0.1**
FOMA	**Nahampoana Res**	**11.98**	**174**	Pn	**Pn**	**01 26 19.5**	**+1.4**
RER	**Riviere de l'E**	**12.62**	**131**	Pn	**Pn**	**01 26 26.5**	**-0.5**
KIBK	**Kibwezi**	**12.98**	**324**	Pn	Pn	01 26 27.4	-4.5
KMBO	**Kilima Mbogo**	**14.42**	**324**	Pn	Pn	01 26 47.2	-4.6
LSZ	**Lusaka**	**17.06**	**260**	Pn	**Pn**	**01 27 24.5**	**-1.6**
LBTB	**Lobatse**	**22.35**	**235**	P	**P**	**01 28 25.4**	**-0.2**
BOSA	**Boshof**	**24.51**	**228**	P	**P**	**01 28 46.6**	**-0.5**
BOSA				IAmb	IAmb	01 28 48.5	
	comp=Z,21nm,1.4s						
BOSA	**Boshof**	**24.51**	**228**	P	**P**	**01 28 46.9**	**-0.2**
	comp=Z,3.7nm,0.6s,baz=53,slow=9.7,SNR=11						
	comp=Z,3.7nm,0.6s						
TSUM	**Tsumeb**	**27.61**	**253**	LR	LR	01 39 52.1	
	comp=Z,86nm,18.1s,baz=118,slow=36						
SUR	**Sutherland**	**29.80**	**226**	P	**P**	**01 29 35.4**	**+0.8**
SUR	**Sutherland**	**29.80**	**226**	LR	LR	01 40 58.5	
	comp=Z,62nm,18.9s,baz=127,slow=36						
ABKAR	**Akbulak array**	**63.26**	**10**	P	**P**	**01 33 55.1**	**-0.8**
ABKAR				IAmb	IAmb	01 34 01.7	
	comp=Z,2.6nm,0.9s						
MAKZ	**Makanchi**	**67.87**	**26**	P	**P**	**01 34 25.2**	**-0.6**
MAKZ				IAmb	IAmb	01 34 41.3	
	comp=Z,5.8nm,0.7s						
MKAR	**Makanchi Array**	**67.99**	**26**	P	**P**	**01 34 31.2**	**+4.7**
	comp=Z,0.4nm,0.7s,baz=207,slow=5.5,SNR=2.5						
	comp=Z,0.4nm,0.7s						
QSPA	**South Pole Qui**	**77.09**	**180**	P	**P**	**01 35 21.9**	**+1.2**
QSPA				IAmb	IAmb	01 35 25.0	
	comp=Z,8.3nm,1.5s						
VNDA	**Vanda**	**82.85**	**169**	P	**P**	**01 35 50.5**	**-1.0**
ASAR	**Alice Springs**	**83.34**	**113**	P	**P**	**01 35 55.3**	**+0.2**
	comp=Z,0.9nm,0.6s,baz=267,slow=5.0,SNR=10						
	comp=Z,0.9nm,0.6s						
BBOO	**Buckleboo**	**83.44**	**122**	P	**P**	**01 35 53.7**	**-1.7**
WRA	**Warramunga Arr**	**84.47**	**109**	P	**P**	**01 36 00.8**	**-0.1**
	comp=Z,0.8nm,0.8s,baz=259,slow=4.0,SNR=5.2						
	comp=Z,0.8nm,0.8s						

DJA 30 01:47:16.2±0.4, 9°S±5°×118°E±°, h105km±5km, M4.1/13, mb4.2/1, MLv4.0/13, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**0.48**	**242**	P	Pn	01 47 34.6	+2.2
TWSI	**Taliwang, Sumb**	**1.32**	**264**	P	Pn	01 47 41.1	+0.5
TWSI				S	Sn	01 47 57.4	-1.7
WBSI	**Waikabubak, Su**	**1.56**	**132**	P	Pn	01 47 43.1	-0.4
DNP	**Denpasar**	**2.97**	**268**	P	Pn	01 48 00.9	-0.7
SRBI	**Singaraja**	**3.01**	**280**	P	Pn	01 48 02.6	+0.4
IGBI	**Denpasar**	**3.04**	**266**	P	Pn	01 48 01.8	-0.8
EDFI	**Ende, Flores**	**3.44**	**93**	P	Pn	01 48 18.3	+10
BKSI	**Bulukumba**	**3.77**	**30**	P	Pn	01 48 13.2	+0.8
MMRI	**Maumere**	**3.98**	**91**	P	Pn	01 48 15.3	0.0
ABJI	**Asem Bagus**	**4.02**	**281**	P	Pn	01 48 15.8	+0.1
JAGI	**Jajag, Banyuwa**	**4.02**	**272**	P	Pn	01 48 15.6	-0.1
BLJI	**Banyuglugur**	**4.65**	**280**	P	Pn	01 48 24.5	+0.3

*MOS **30** 02:32:48.3±1.0, 15°.64S×167°.73E, h127km, mb5.4/29, Error ellipse: s-maj=8.4km s-min=6.4km az=126.3*
*NOU **30** 02:32:49.9, 15°.60S×167°.83E, h130km, mb5.5/97, Vanuatu Islands*
*IDC **30** 02:32:49.8±0.6, 15°.69S×167°.82E, h132km±4km, mb5.1/22, mbtmp5.5/23, MS4.0/30, Error ellipse: s-maj=10.6km s-min=8.8km az=74.0*
*NEIC **30** 02:32:49.0±2.2, 15°.69S±0°.04×167°.75E±0°.07, h119km±4km, mb5.2/309, Mww5.4/36, Error ellipse: s-maj=11.0km s-min=4.7km az=66.0*
*NEIC **30** 02:32:50.2, 15°.71S×167°.63E, h120km, Moment Tensor Solution. Duration: 2s4 Moment tensor: Scale 10^17^Nm; Mrr1.15; Mθθ-0.02; Mφφ-1.14; Mrθ-0.24; Mθφ-0.01; Mφr-0.65; Fault plane solution: M0 1.34000×10^17^ NP1: φs190.26000°, δ60.62000°, λ99.67000°. NP2: φs351.11000°, δ30.80000°, λ73.39000°. Principal axes: T 1.3658, Plg73.0000°, Azm124.0000°; N -0.0537, Plg8.0000°, Azm5.0000°; P -1.3121, Plg15.0000°, Azm273.0000°;*
*NEIC **30** 02:32:50.2, 15°.71S×167°.74E, h120km*
*BJI **30** 02:32:51.9±0.0, 15°.12S×167°.66E, h141km, mb5.5/84, mB5.2/43*
*GCMT **30** 02:32:53.0±0.1, 15°.67S±0°.01×167°.57E±0°.01, h137km, MW5.4/161, Moment Tensor Solution. s127,c211; s161,c312; Duration: 1s2 Moment tensor: Scale 10^17^ Nm; Mrr1.33±.01; Mθθ 0.09±.02; Mφφ-1.41±.02; Mrθ-0.31±.01; Mθφ-0.15±.02; Mφr-0.50±.02; Best double couple: M0 1.50000×10^17^ NP1:φs196.00000°, δ56.00000°, λ102.00000°. NP2:φs355.00000°, δ35.00000°, λ72.00000°. Principal axes: T 1.4760, Plg75.0000°, Azm142.0000°; N 0.0580, Plg10.0000°, Azm9.0000°; P -1.5250, Plg11.0000°, Azm278.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 02:32:50.0±0.3, 15°.67S±0°.03×167°.80E±0°.04, h139km±2km, h139km:pP-P, n1205, σ1§17/1124, mb5.2/242, 121C-46D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**2.07**	**170**	P	**Pn**	**02 33 25.5**	**+0.2**
LIFNC	**LIFOU**	**5.10**	**186**	P	**Pn**	**02 34 03.6**	**-1.0**
LIFNC	**LIFOU**	**5.10**	**186**	Pn	**Pn**	**02 34 02.9**	**-1.7**
MARNC	**Mare, Loyalty**	**5.78**	**178**	P	**Pn**	**02 34 12.7**	**-0.9**
KOUNC	**Koumac, New Ca**	**5.89**	**214**	P	**Pn**	**02 34 15.4**	**+0.3**
KOUNC	**Koumac, New Ca**	**5.89**	**214**	Pn	**Pn**	**02 34 14.3**	**-0.8**
YATNC	**Mamie plateau,**	**6.41**	**188**	P	**Pn**	**02 34 22.1**	**0.0**
DZM	**Mont Dzumac**	**6.49**	**191**	P	**Pn**	**02 34 24.8**	**+1.5**
DZM	**Mont Dzumac**	**6.49**	**191**	*e*Pn	**Pn**	**02 34 23.4**	**+0.1**
DZM	1μm,1.0s			*e*Sn	**Sn**	**02 35 35.7**	**-0.5**
	1μm,1.2s						
DZM	**Mont Dzumac**	**6.49**	**191**	Pn	**Pn**	**02 34 23.6**	**+0.3**
DZM	**Mont Dzumac**	**6.49**	**191**	P	**Pn**	**02 34 23.3**	**0.0**
	460nm,0.5s,baz=49,slow=19,SNR=306						
DZM				S	**Sn**	**02 35 33.3**	**-2.9**
	205nm,0.6s,baz=283,slow=22,SNR=1.5						
DZM				LR	LR	02 36 44.6	
	comp=Z,947nm,18.1s,baz=96,slow=36						
NOUC	**Port Laguerre**	**6.55**	**192**	P	**Pn**	**02 34 25.7**	**+1.8**
ONTNC	**Ouen Toro**	**6.72**	**191**	P	**Pn**	**02 34 28.1**	**+1.8**
ONTNC	**Ouen Toro**	**6.72**	**191**	Pn	**Pn**	**02 34 25.5**	**-0.7**
OUENC	**Ouen Island, N**	**6.77**	**188**	P	**Pn**	**02 34 28.5**	**+1.6**
OUENC	**Ouen Island, N**	**6.77**	**188**	Pn	**Pn**	**02 34 26.6**	**-0.3**
HNR	**Honiara**	**9.86**	**308**	Pn	**Pn**	**02 35 07.6**	**-0.8**
HNR	**Honiara**	**9.86**	**308**	LR	LR	02 38 42.0	
	comp=Z,38μm,21.2s,baz=150,slow=36						
HNR	**Honiara**	**9.86**	**308**	P	**Pn**	**02 35 07.6**	**-0.8**
MSVF	**Nonsavu**	**10.03**	**103**	Pn	**Pn**	**02 35 12.8**	**+2.1**
MSVF	**Nonsavu**	**10.03**	**103**	P	**Pn**	**02 35 12.8**	**+2.1**
FUNA	**Funafuti**	**13.21**	**59**	Pn	**Pn**	**02 35 52.8**	**+0.5**
NFK	**Norfolk Island**	**13.31**	**179**	P	**Pn**	**02 35 54.7**	**+1.2**
FUTU	**Fugatoga**	**13.67**	**86**	P	**Pn**	**02 35 58.0**	**-0.3**
GD1S	**Gladstone Soft**	**17.63**	**240**	P	**Pn**	**02 36 48.4**	**+1.3**
TARA	**Tarawa**	**17.66**	**17**	P	**Pn**	**02 36 47.9**	**+0.4**
LHI	**Lord Howe Isla**	**17.68**	**205**	P	**Pn**	**02 36 48.5**	**+0.9**
LHI	**Lord Howe Isla**	**17.68**	**205**	P	**P**	**02 36 46.8**	**+0.3**
RK1H	**Rockhampton Ha**	**18.02**	**242**	P	**Pn**	**02 36 52.2**	**+0.5**
GC1S	**Gold Coast 1 S**	**18.15**	**224**	P	**Pn**	**02 36 55.2**	**+2.0**
EIDS	**Eidsvold**	**18.38**	**236**	P	**Pn**	**02 36 56.5**	**+0.5**
EIDS	**Eidsvold**	**18.38**	**236**	P	**Pn**	**02 36 55.3**	**-0.7**
RABL	**Rabaul**	**19.15**	**305**	P	**P**	**02 37 03.5**	**+0.7**
RABL	**Rabaul**	**19.15**	**305**	P	**P**	**02 37 02.2**	**-0.6**
AUAYR	**Ayr State High**	**19.82**	**256**	P	**Pn**	**02 37 12.2**	**-0.7**
AFI	**Afiamalu**	**19.82**	**88**	P	**P**	**02 37 09.3**	**-0.8**
AFI	**Afiamalu**	**19.82**	**88**	P	**P**	**02 37 10.7**	**+0.6**
OUZ	**Omahuta**	**20.15**	**166**	P	Pn	02 37 16.4	-0.2
TV1H	**Townsville Har**	**20.35**	**257**	P	**P**	**02 37 17.4**	**+1.7**
ARMA	**Armidale**	**20.86**	**223**	P	**P**	**02 37 22.9**	**+1.7**
ARMA	**Armidale**	**20.86**	**223**	P	**P**	**02 37 21.1**	**0.0**
CTAO	**Charters Tower**	**20.97**	**255**	P	**P**	**02 37 22.8**	**+0.5**
CTAO	**Charters Tower**	**20.97**	**255**	P	**P**	**02 37 22.8**	**+0.5**
PMG	**Port Moresby**	**21.08**	**285**	P	**P**	**02 37 23.6**	**+0.1**
	170nm,1.1s,baz=84,slow=5.5,SNR=18						
PMG				S	**S**	**02 41 12.5**	**+1.9**
	15nm,0.6s,baz=260,slow=23,SNR=1.5						
	170nm,1.1s						
NIUE	**Niue**	**21.52**	**102**	P	**P**	**02 37 28.5**	**+0.3**
NIUE	**Niue**	**21.52**	**102**	P	**P**	**02 37 29.6**	**+1.4**
AUPHS	**Peel High Scho**	**21.79**	**222**	P	**P**	**02 37 32.4**	**+1.4**
KUZ	**Kuaotunu**	**22.14**	**163**	P	**P**	**02 37 37.2**	**+2.8**
NTLH	**Newcastle Hard**	**22.52**	**218**	P	**P**	**02 37 40.2**	**+2.0**
MTSU	**Mount Surprise**	**22.60**	**260**	P	**P**	**02 37 40.5**	**+1.3**
AULRC	**Lightning Ridg**	**22.81**	**230**	P	**P**	**02 37 42.0**	**+0.9**
TOZ	**Tahuroa Road**	**23.00**	**164**	P	**P**	**02 37 44.2**	**+1.5**
MGCD	**Mangrove Creek**	**23.09**	**218**	P	**P**	**02 37 45.5**	**+1.9**
RIV	**Riverview**	**23.50**	**217**	P	**P**	**02 37 48.8**	**+1.4**
HIZ	**Hauiti**	**23.58**	**166**	P	**P**	**02 37 50.4**	**+2.4**
HIZ	**Hauiti**	**23.58**	**166**	P	**P**	**02 37 50.5**	**+2.4**
SYDH	**Sydney Hard Ro**	**23.70**	**217**	P	**P**	**02 37 50.7**	**+1.6**
MXZ	**Matakaoa Point**	**23.70**	**159**	P	**P**	**02 37 50.5**	**+1.3**
MXZ	**Matakaoa Point**	**23.70**	**159**	P	**P**	**02 37 48.6**	**-0.5**
COEN	**Coen**	**23.87**	**271**	P	**P**	**02 37 51.9**	**+1.0**
COEN	**Coen**	**23.87**	**271**	P	**P**	**02 37 51.4**	**+0.5**
URZ	**Urewera**	**23.95**	**162**	P	**P**	**02 37 52.5**	**+1.1**
URZ	**Urewera**	**23.95**	**162**	LR	LR	02 46 46.8	
	comp=Z,289nm,18.4s,baz=48,slow=35						
AUDCS	**Dubbo College**	**23.99**	**223**	P	**P**	**02 37 53.2**	**+1.4**
WOLH	**Wollongong Har**	**24.08**	**216**	P	**P**	**02 37 54.2**	**+1.6**
KHEZ	**Kahui Hut**	**24.15**	**168**	P	**P**	**02 37 56.0**	**+2.7**
RTZ	**Ruatahuna**	**24.24**	**162**	P	**P**	**02 37 54.5**	**+0.4**
MANU	**Manus Island**	**24.27**	**302**	P	**P**	**02 37 56.3**	**+1.7**
MANU	**Manus Island**	**24.27**	**302**	P	**P**	**02 37 54.5**	**-0.1**
QLP	**Quilpie**	**24.47**	**240**	P	**P**	**02 37 57.4**	**+1.1**
BKZ	**Black Stump Fm**	**24.61**	**164**	P	**P**	**02 37 58.9**	**+1.4**
BKZ	**Black Stump Fm**	**24.61**	**164**	P	**P**	**02 37 58.0**	**+0.5**
BKZ				IAmb	IAmb	02 38 02.2	
	comp=Z,126nm,1.5s						
AUUHS	**Ulladulla High**	**25.00**	**215**	P	**P**	**02 38 02.4**	**+1.4**
QRZ	**Quartz Range**	**25.39**	**172**	P	**P**	**02 38 06.5**	**+2.0**
YNG	**Young**	**25.48**	**220**	P	**P**	**02 38 06.7**	**+1.4**
CNB	**Canberra Magne**	**25.60**	**217**	P	**P**	**02 38 07.6**	**+1.1**
CMSA	**Cobar Meteorol**	**25.61**	**228**	P	**P**	**02 38 07.2**	**+0.7**
MRZ	**Mangatainoka R**	**25.80**	**166**	IAmb	IAmb	02 38 09.2	
	comp=Z,128nm,1.3s						
CAN	**Canberra**	**25.81**	**217**	P	**P**	**02 38 09.8**	**+1.4**
CAN	**Canberra**	**25.81**	**217**	P	**P**	**02 38 09.9**	**+1.5**
CAN				pmax	pmax		
	comp=Z,51nm,1.1s						
BFZ	**Birch Farm**	**25.98**	**165**	P	**P**	**02 38 09.9**	**+0.2**
BFZ	**Birch Farm**	**25.98**	**165**	P	**P**	**02 38 10.1**	**+0.4**
BFZ				IAmb	IAmb	02 38 11.7	
	comp=Z,112nm,1.1s						
BHW	**Baring Head**	**26.36**	**168**	IAmb	IAmb	02 38 14.0	
	comp=Z,120nm,1.2s						
THZ	**Tophouse**	**26.37**	**171**	IAmb	IAmb	02 38 15.1	
	comp=Z,84nm,0.7s						
MSWZ	**Moikau Station**	**26.45**	**167**	P	**P**	**02 38 12.9**	**-1.1**
KHZ	**Kahutara**	**27.10**	**171**	P	**P**	**02 38 19.7**	**-0.1**
QIS	**Mount Isa**	**27.22**	**255**	P	**P**	**02 38 21.9**	**+0.8**
LTZ	**Lake Taylor**	**27.29**	**173**	P	**P**	**02 38 21.9**	**+0.4**
INKA	**Innaminka**	**27.79**	**240**	P	**P**	**02 38 27.4**	**+1.3**
RPZ	**Rata Peaks**	**28.09**	**175**	P	**P**	**02 38 29.5**	**+0.9**
RPZ	**Rata Peaks**	**28.09**	**175**	LR	LR	02 48 20.4	
	comp=Z,377nm,21.1s,baz=343,slow=33						
JCZ	**Jackson Bay**	**28.32**	**179**	P	**P**	**02 38 32.4**	**+1.7**
STKA	**Stephens Creek**	**28.79**	**231**	P	**P**	**02 38 36.2**	**+1.2**
STKA	**Stephens Creek**	**28.79**	**231**	P	**P**	**02 38 34.6**	**-0.4**
STKA	**Stephens Creek**	**28.79**	**231**	P	**P**	**02 38 35.9**	**+0.9**
	comp=Z,61nm,0.7s,baz=45,slow=7.8,SNR=98						
STKA				PcP	**PcP**	**02 41 42.3**	**+0.8**
	comp=Z,50nm,0.7s,baz=41,slow=3.1,SNR=15						
STKA			

TBI Tubuai 40.88 108 *e*P **P** **02 40 16.3 -2.4**
comp=Z,713nm,28.8s
TBI *e*S **S** **02 46 21.2 +1.2**
comp=Z,1μm,28.0s
TBI *e*SS **SS** **02 49 28.7 +1.6**
comp=Z,2μm,34.5s
TBI *e*LQ LQ 02 50 01.9
comp=Z,3μm,33.8s
TBI *e*LR LR 02 51 50.9
comp=Z,5μm,37.0s
SOEI Soe 42.81 273 P **P** **02 40 35.3 +0.6**
SOEI Soe 42.81 273 IAmb IAmb 02 41 12.7
comp=Z,54nm,1.0s
SOEI Soe 42.81 273 P **P** **02 40 34.7 0.0**
comp=Z,51nm,0.8s
BATI Baumata 43.30 272 P **P** **02 40 40.4 +1.9**
comp=Z,116nm,0.7s
KMBL Kambalda 44.58 241 P **P** **02 40 49.1 +0.6**
EDFI Ende, Flores 45.52 273 P **P** **02 40 56.6 +0.4**
comp=Z,66nm,0.8s
PSA00 Pilbara Seismi 45.69 255 P **P** **02 40 58.5 +1.2**
PSA00 Pilbara Seismi 45.69 255 P **P** **02 40 57.8 +0.5**
PSA00 IAmb IAmb 02 40 59.4
comp=Z,37nm,1.0s
MBWA Marble Bar 45.80 256 P **P** **02 40 58.6 +0.3**
MBWA IAmb IAmb 02 40 59.8
comp=Z,62nm,1.1s
MBWA Marble Bar 45.80 256 P **P** **02 40 58.8 +0.6**
MBWA Marble Bar 45.80 256 P **P** **02 40 58.8 +0.6**
MEEK Meekatharra 46.90 248 P **P** **02 41 07.5 +0.7**
GTOI Gorontalo 47.11 286 P **P** **02 41 11.4 +2.9**
comp=Z,18nm,0.8s,comp=Z,276nm
KLBR Kellerberrin 48.10 242 P **P** **02 41 16.1 +0.1**
KAPI Kappang 48.33 277 P **P** **02 41 17.9 0.0**
KAPI IAmb IAmb 02 41 19.9
comp=Z,42nm,0.8s
KAPI Kappang 48.33 277 P **P** **02 41 19.0 +1.0**
KAPI Kappang 48.33 277 P **P** **02 41 17.9 0.0**
KAPI pmax pmax
comp=Z,43nm,0.9s
NWAO Narrogin (SRO) 48.71 240 P **P** **02 41 20.5 -0.1**
NWAO Narrogin (SRO) 48.71 240 P **P** **02 41 21.0 +0.3**
NWAO Narrogin (SRO) 48.71 240 P **P** **02 41 20.5 -0.1**
NWAO pmax pmax
comp=Z,129nm,0.9s
NWAO Narrogin (SRO) 48.71 240 P **P** **02 41 20.9 +0.3**
NWAO pP **pwP** **02 41 53.2 -0.9**
BLDU Ballidu 48.88 243 P **P** **02 41 22.9 +0.9**
RKGY Rocky Gully 49.18 238 P **P** **02 41 25.2 +1.1**
JCJ Chichijima 49.26 329 P **P** **02 41 24.1 -0.6**
JCJ Chichijima 49.26 329 P **P** **02 41 20.1 -4.6**
comp=Z,173nm,0.7s,baz=230,slow=4.1,SNR=14
JCJ LR LR 03 02 20.5
comp=Z,109nm,19.8s,baz=174,slow=36
PLAI Plampang 49.27 272 P **P** **02 41 26.3 +1.2**
PLAI Plampang 49.27 272 P **P** **02 41 25.7 +0.6**
comp=Z,80nm,0.9s
MORW Morawa 49.33 245 P **P** **02 41 26.0 +0.6**
TOLI2 Tolitoli 49.35 285 P **P** **02 41 25.6 -0.1**
TOLI2 Tolitoli 49.35 285 P **P** **02 41 24.3 -1.4**
TOLI2 IAmb IAmb 02 41 58.6
comp=Z,48nm,1.3s
MUN Mundaring 49.45 241 P **P** **02 41 26.8 +0.5**
KIP Kipapa 49.84 43 P **P** **02 41 29.7 +0.5**
KIP Kipapa 49.84 43 P **P** **02 41 29.7 +0.5**
KIP Kipapa 49.84 43 P **P** **02 41 29.7 +0.5**
KIP pmax pmax
comp=Z,150nm,1.1s
TWSI Taliwang, Sumb 50.15 272 P **P** **02 41 32.4 +0.7**
comp=Z,223nm,0.9s,comp=Z,2μm
HMH Humu'ula Sheep 50.32 47 P **P** **02 41 35.0 +1.8**
POHA Pohakuloa 50.39 47 P **P** **02 41 35.0 +1.3**
HPAH Hawaii Prepara 50.46 46 P **P** **02 41 35.2 +1.2**
GIRL Giralia 50.86 253 P **P** **02 41 38.1 +1.1**
IGBI Denpasar 51.80 271 P **P** **02 41 44.5 +0.4**
comp=Z,216nm,0.9s,comp=Z,2μm
JAGI Jajag, Banyuwa 52.84 271 P **P** **02 41 51.5 -0.3**
MYLDM Lahad Datu 53.02 289 IAmb IAmb 02 42 38.1
comp=Z,46nm,1.0s
BLJI Banyuglugur 53.54 272 P **P** **02 41 57.4 +0.5**
comp=Z,84nm,0.9s
DRV Dumont d'Urvil 54.15 193 ⇑P **P** **02 42 00.9 +0.5**
DRV PcP **PcP** **02 43 03.1 -0.2**
TGY Tagaytay City 54.97 300 P **P** **02 42 08.2 +1.0**
comp=Z,322nm,0.3s,baz=300,slow=16,SNR=3.7
PWJI Pagerwojo 55.20 271 P **P** **02 42 08.8 -0.1**
comp=Z,44nm,0.9s
JHJ Hachijo jima 2 55.41 331 LR LR 03 04 18.1
comp=Z,43nm,20.3s,baz=346,slow=34
SMRI Semarang 56.74 272 P **P** **02 42 21.4 +1.5**
SMRI Semarang 56.74 272 P **P** **02 42 20.9 +1.0**
comp=Z,139nm,0.9s
JOW Kunigami 57.09 317 P **P** **02 42 23.0 +1.0**
JOW Kunigami 57.09 317 P **P** **02 42 23.4 +1.3**
comp=Z,60nm,0.7s,baz=181,slow=6.1,SNR=17
JOW LR LR 03 05 39.7
comp=Z,120nm,20.9s,baz=298,slow=34
comp=Z,60nm,0.7s
STKI Sintang 57.74 280 P **P** **02 42 28.7 +1.8**
comp=Z,92nm,0.9s,comp=Z,15μm
JGF Kuroka 58.59 331 P **P** **02 42 32.6 +0.2**
MJAR Matsushiro Arr 58.98 332 P **P** **02 42 34.9 -0.1**
comp=Z,50nm,0.9s,baz=163,slow=6.9,SNR=92
comp=Z,50nm,0.9s
MAJO Matsushiro 58.98 332*c i*P **P** **02 42 35.2 +0.2**
MAJO pmax pmax
comp=Z,83nm,1.0s
MAJO Matsushiro 58.98 332 P **P** **02 42 35.3 +0.3**
JMM Marumori 58.99 335 P **P** **02 42 35.7 +0.6**
BBJI Bungbulang 59.33 271 P **P** **02 42 37.8 -0.2**
LEM Lembang 59.52 271 LR LR 03 09 18.9
comp=Z,145nm,19.7s,baz=81,slow=37
TWG Pinlang 59.62 309 IAmb IAmb 02 42 46.9
comp=Z,58nm,1.5s
YULB Yu-li 59.79 310 P **P** **02 42 40.0 -0.9**
YULB IAmb IAmb 02 42 55.2
comp=Z,48nm,1.4s
CNJI Cibinong 59.87 271 P **P** **02 42 41.4 -0.2**
comp=Z,111nm,0.8s,comp=Z,776nm
JNU Nakatsue 59.98 324 P **P** **02 42 42.7 +0.7**
comp=Z,56nm,0.8s,baz=88,slow=2.4,SNR=48
comp=Z,56nm,0.8s
DBJI Dramaga 60.42 271 P **P** **02 42 46.0 +0.6**
comp=Z,250nm,1.0s,comp=Z,13μm
SKJI Sukabumi 60.49 271 P **P** **02 42 46.2 +0.3**
comp=Z,396nm,0.8s
TATO Taipei 60.59 311 P **P** **02 42 46.0 -0.2**
ERM Erimo 61.74 339 P **P** **02 42 54.1 +0.5**
ERM IAmb IAmb 02 42 56.5
comp=Z,25nm,0.9s
ERM Erimo 61.74 339*de*P **P** **02 42 55.2 +1.5**
ERM pmax pmax
comp=Z,50nm,1.7s
VNDA Vanda 61.94 181 P **P** **02 42 54.9 +0.4**
VNDA Vanda 61.94 181 P **P** **02 42 55.5 +0.9**
comp=Z,19nm,0.6s,baz=356,slow=7.8,SNR=99
VNDA PcP **PcP** **02 43 34.8 +0.9**
comp=Z,20nm,0.9s,baz=342,slow=5.8,SNR=7.5
comp=Z,19nm,0.6s
VNDA Vanda 61.94 181 P **P** **02 42 54.9 +0.4**
VNDA pmax pmax
comp=Z,74nm,1.2s
VNDA Vanda 61.94 181 P **P** **02 42 55.4 +0.9**
VNDA PcP **PcP** **02 43 34.8 +0.9**
SBA Scott Base 62.20 180 P **P** **02 42 57.2 +0.9**
SBA Scott Base 62.20 180 P **P** **02 42 57.2 +0.9**
SBA pmax pmax
comp=Z,170nm,1.2s
QZH Quanzhou 62.70 309⇑*i*P **P** **02 43 01.3 +0.9**
QZH pP **pP** **02 43 33.5 +0.1**
QZH S **S** **02 51 19.0 +0.7**
QZH pmax pmax
comp=Z,65nm,0.9s
QZH pmax pmax
comp=Z,130nm,3.9s
QZH LR LR
comp=Z,130nm,17.2s
QZH LR LR
comp=Z,170nm,17.9s
KASI Kota Agung 62.84 272 P **P** **02 43 00.9 -0.7**
comp=Z,191nm,1.0s
CASY Casey 62.85 202 P **P** **02 43 01.4 +0.6**
CASY Casey 62.85 202 P **P** **02 43 01.3 +0.5**
CASY pP **pP** **02 43 34.6 +0.5**
ASAJ Asahikawa 63.80 340 LR LR 03 06 21.3
comp=Z,106nm,21.4s,baz=282,slow=32
CCD Concordia, Ant 64.08 192 P **P** **02 43 10.0 +0.7**
CCD PcP **PcP** **02 43 43.4 +0.2**
TJN Taejon 64.33 324*c i*P **P** **02 43 10.8 -0.1**
DLV T Lat 64.80 292 IAmb IAmb 02 43 17.8
comp=Z,30nm,0.9s
KSRS Korea Array 64.81 326 P **P** **02 43 14.9 +1.0**
comp=Z,14nm,0.8s,baz=142,slow=7.0,SNR=63
KSRS PcP **pP** **02 43 47.7 +1.2**
comp=Z,6.4nm,0.8s,baz=144,slow=4.7,SNR=5.4
KSRS LR LR 03 10 24.6
comp=Z,76nm,19.2s,baz=155,slow=35
comp=Z,14nm,0.8s
KSAR Wonju Array Be 64.82 326 P **P** **02 43 14.3 +0.2**
KSAR Wonju Array Be 64.82 326 P **P** **02 43 14.3 +0.2**
KS19 Wonju Array Si 64.87 326 IAmb IAmb 02 43 22.4
comp=Z,21nm,0.9s
INCN Inchon 65.53 325 P **P** **02 43 19.2 +0.5**
INCN IAmb IAmb 02 43 21.0
comp=Z,63nm,1.2s
INCN Inchon 65.53 325 P **P** **02 43 19.2 +0.5**
INCN pmax pmax
comp=Z,63nm,1.2s
YSS Yuzh-Sakhalins 66.28 342*ce*P **P** **02 43 25.0 +1.8**
YSS pmax pmax
comp=Z,147nm,1.3s
QIZ Qiongzhong 66.64 299 P **P** **02 43 27.8 +1.6**
QIZ S **S** **02 52 10.5 +3.6**
QIZ pmax pmax
comp=Z,28nm,1.3s
QIZ LR LR
comp=Z,85nm,19.6s
QIZ LR LR
comp=Z,120nm,20.8s
QIZ LR LR
comp=Z,210nm,38.2s
QIZ Qiongzhong 66.64 299 IAmb IAmb 02 43 28.8
comp=Z,54nm,1.4s
QIZ Qiongzhong 66.64 299 P **P** **02 43 27.7 +1.5**
NJ2 Nanjing 66.71 316⇑P **P** **02 43 27.3 +1.0**
NJ2 pP **PcP** **02 43 56.5 +2.2**
NJ2 S **S** **02 52 08.0 +0.8**
NJ2 pmax pmax
comp=Z,75nm,1.0s
NJ2 pmax pmax
comp=Z,200nm,4.0s
TEY Ternei 66.74 336*eP* **P** **02 43 27.0 +0.8**
VLA Vladivostok 67.15 332*i* P **P** **02 43 30.4 +1.6**
VLA pmax pmax
comp=Z,80nm,1.0s
PSTR Posyet 67.27 331*c i*P **P** **02 43 30.8 +1.2**
BKNI Bangkinang 67.76 277 P **P** **02 43 34.3 +1.0**
USRK Ussuriysk Ar. 67.96 333 P **P** **02 43 34.7 +0.9**
USRK Ussuriysk Ar. 67.96 333 P **P** **02 43 35.4 +1.5**
comp=Z,73nm,0.7s,baz=139,slow=4.5,SNR=168
USRK PcP **PcP** **02 44 00.7 +1.5**
comp=Z,13nm,0.8s,baz=150,slow=3.3,SNR=4.0
USRK S **S** **02 52 23.9 +2.2**
comp=Z,1.6nm,0.6s,baz=145,slow=38,SNR=1.3
comp=Z,73nm,0.7s
PDSI Padang 67.96 275 P **P** **02 43 35.2 +0.6**
comp=Z,36nm,0.6s,comp=Z,5μm
USA0B Ussuriysk Arra 67.96 333*c i*P **P** **02 43 35.1 +1.2**
SHEM Shemya Is, Ala 68.34 4 LR LR 03 07 37.1
comp=Z,133nm,21.4s,baz=142,slow=30
CNSH ChangSha 68.70 309 P **P** **02 43 39.8 +0.9**
CNSH S **S** **02 52 30.3 -0.9**
CNSH pmax pmax
comp=Z,35nm,1.2s
CNSH LR LR
comp=Z,190nm,17.0s
CNSH LR LR
comp=Z,170nm,18.7s
UBPT Khong Chiam 68.82 294 IAmb IAmb 02 43 42.1
comp=Z,37nm,0.9s
PET Petropavlovsk 68.87 354 *eP* **P** **02 43 37.4 -1.9**
PET *e**PP **pP** **02 44 12.2 +0.1**
PET *eS* **S** **02 52 32.7 +0.6**
WHN Wuhan 68.95 312⇑P **P** **02 43 41.3 +0.9**
WHN pP **pP** **02 44 15.5 +1.9**
WHN S **S** **02 52 32.8 -1.2**
WHN sS **sS** **02 53 32.0 +2.4**
WHN pmax pmax
comp=Z,150nm,0.8s
IPM Ipoh 69.03 281 P **P** **02 43 40.8 -0.5**
IPM IAmb IAmb 02 43 42.7
comp=Z,45nm,1.1s
PEA0B Petropavlovsk- 69.05 353⇑*eP* **P** **02 43 42.9 +2.4**
PETK Petropavlovsk- 69.05 353 P **P** **02 43 40.1 -0.4**
PETK Petropavlovsk- 69.05 353 P **P** **02 43 41.4 +0.9**
comp=Z,12nm,0.8s,baz=149,slow=6.9,SNR=11
comp=Z,12nm,0.8s
MDJ Mudanjiang 69.35 332 P **P** **02 43 44.0 +1.5**
MDJ S **S** **02 52 39.5 +1.3**
MDJ sS sS 02 53 35.5 +0.1
MDJ pmax pmax
comp=Z,230nm,1.0s
MDJ pmax pmax
comp=Z,510nm,3.5s
MDJ Mudanjiang 69.35 332 P **P** **02 43 43.9 +1.3**
MDJ PcP **PcP** **02 44 06.6 +1.5**
DL2 Dalian 69.36 323 P **P** **02 43 43.5 +0.8**
DL2 S **S** **02 52 39.3 +0.9**
DL2 sS **ScS** **02 53 33.0 +2.1**
DL2 pmax pmax
comp=Z,250nm,0.9s
KULM Kulim 69.64 282 P **P** **02 43 44.2 -0.8**
TYV Tymovskoe 69.82 343 *eP* **P** **02 43 47.1 +1.8**
TYV pmax pmax
comp=Z,35nm,1.5s
TYV pmax pmax
comp=Z,100nm,3.4s
SNY Shenyang 70.27 326⇑P **P** **02 43 49.0 +0.8**
SNY S **S** **02 52 49.3 +0.3**
SNY pmax pmax
comp=Z,30nm,0.7s
SNY pmax pmax
comp=Z,170nm,2.7s
SNY LR LR
comp=Z,46nm,5.7s
SNY LR LR
comp=Z,48nm,4.3s
SNY LR LR
comp=Z,140nm,15.9s
TIA Tai'an 70.38 318 P **P** **02 43 49.5 +0.4**
TIA S **S** **02 52 49.8 -0.8**
TIA pmax pmax
comp=Z,41nm,0.9s
TIA pmax pmax
comp=Z,180nm,10.1s
TIA LR LR
comp=Z,120nm,21.6s
TIA LR LR
comp=Z,100nm,20.1s
TIA LR LR
comp=Z,130nm,20.1s
CN2 Changchun 70.72 329 *eP* **P** **02 43 51.8 +0.9**
CN2 *eS* **S** **02 52 52.0 -2.1**
CN2 pmax pmax
comp=Z,100nm,0.9s
CN2 pmax pmax
comp=Z,300nm,3.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,100nm,12.0s
CN2 LR LR
comp=Z,100nm,10.0s
BNX BinXian 71.21 331⇑P **P** **02 43 54.5 +0.7**
BNX pmax pmax
comp=Z,180nm,0.7s
NIKH Nikolski High 71.27 15 P **P** **02 43 53.2 -0.8**
baz=204
GSI Gunungsitoli 71.35 277 P **P** **02 43 56.3 +0.9**
GSI Gunungsitoli 71.35 277 P **P** **02 43 54.7 -0.7**
GSI IAmb IAmb 02 43 56.9
comp=Z,74nm,0.9s
GSI Gunungsitoli 71.35 277 P **P** **02 43 55.7 +0.3**
comp=Z,98nm,0.9s
GRNR Gornyy 71.65 340⇑*i*P **P** **02 43 58.4 +2.0**
GRNR pmax pmax
comp=E,30nm,0.8s
GRNR pmax pmax
comp=Z,100nm,1.1s
KLR Kul'dur 72.08 336 LR LR 03 15 20.5
comp=Z,53nm,18.7s,baz=161,slow=35
KLR Kul'dur 72.08 336*c i*P **P** **02 44 00.5 +1.6**
KLR *i* *PP **pwP** **02 44 35.6 -0.2**
KLR pmax pmax
comp=Z,209nm,1.7s
LYN LuoYang 72.50 315⇑P **P** **02 44 03.0 +1.2**
LYN pP pP 02 44 39.0 +3.5
LYN sP sP 02 44 56.0 +5.8
LYN S **S** **02 53 11.5 -3.5**
LYN pmax pmax
comp=Z,310nm,0.9s
LYN pmax pmax
comp=Z,230nm,4.7s
HNS HongShan 72.64 318⇑P **P** **02 44 04.0 +1.4**
HNS S **S** **02 53 16.8 +0.4**
HNS sS **sS** **02 54 09.0 -5.0**
HNS pmax pmax
comp=Z,170nm,0.8s
HNS LR LR
comp=Z,120nm,17.4s
HNS LR LR
comp=Z,130nm,15.6s
GYA Guiyang 72.67 305⇑P **P** **02 44 04.3 +1.2**
GYA pP pP 02 44 35.8 -1.3
GYA PP **PP** **02 46 43.0 -3.9**
GYA S **S** **02 53 18.3 +0.8**
GYA SKS **SKSac** **02 53 50.8 -4.9**
GYA pmax pmax
comp=Z,80nm,1.1s
BJI Beijing 73.32 321 P **P** **02 44 07.8 +1.3**
BJI S **SKiKP** **02 53 25.5 +1.5**
BJI pmax pmax
comp=Z,52nm,0.8s
BJI pmax pmax
comp=Z,170nm,3.5s
BJI LR LR
comp=Z,94nm,18.3s
BJI LR LR
comp=Z,88nm,19.8s
BJI LR LR
comp=Z,130nm,18.5s
MLSI Meulaboh, Aceh 73.35 279 P **P** **02 44 08.5 +1.3**
comp=Z,61nm,0.9s
TIY Taiyuan 74.30 317 *eP* **P** **02 44 14.0 +1.6**
TIY S **S** **02 53 37.8 +2.5**
TIY ScS **SKSac** **02 54 06.0 -1.4**
TIY pmax pmax
comp=Z,97nm,0.8s
QSPA South Pole Qui 74.36 180 P **P** **02 44 12.2 -0.2**
QSPA South Pole Qui 74.36 180 P **P** **02 44 13.2 +0.8**
comp=Z,260nm,0.8s,baz=1.0,slow=1.2,SNR=1190
QSPA PKiKP **PKiKP** **02 50 03.0 -1.2**
comp=Z,1.9nm,0.7s,baz=19,slow=7.5,SNR=2.1
QSPA S **S** **02 53 37.9 +2.7**
comp=Z,0.7nm,0.8s,baz=340,slow=21,SNR=1.7
comp=Z,260nm,0.8s
HEH HeiHe 74.63 334 *eP* **P** **02 44 14.5 +0.7**
HEH pmax pmax
comp=Z,63nm,1.0s
XAN Xi'an 74.70 313⇑P **P** **02 44 15.8 +1.1**
XAN pmax pmax
comp=Z,150nm,0.8s
CRAI Chiangrai 75.23 296 IAmb IAmb 02 44 20.6
comp=Z,63nm,1.1s
S12K Black Hills 75.51 17 P **P** **02 44 19.5 +0.7**
baz=210
XLT XiLinHaoTe 75.77 324 *eP* **P** **02 44 22.0 +1.3**
XLT S **S** **02 53 53.3 +2.0**
XLT pmax pmax
comp=Z,180nm,0.8s
CMAR Chiang Mai Arr 75.80 294 P **P** **02 44 23.0 +1.7**
comp=Z,19nm,0.8s,baz=131,slow=4.8,SNR=69
CMAR pP **pP** **02 44 55.3 -0.2**
comp=Z,3.4nm,0.6s,baz=130,slow=3.9,SNR=1.7
comp=Z,19nm,0.8s
CHTO Chiang Mai 75.94 294 P **P** **02 44 22.2 +0.2**
CHTO IAmb IAmb 02 44 24.5
comp=Z,27nm,0.9s
CHTO Chiang Mai 75.94 294 P **P** **02 44 22.2 +0.2**
CHTO pmax pmax
comp=Z,27nm,0.9s
MA2 Magadan 76.25 351⇑*eP* **P** **02 44 24.0 +1.1**
MA2 pmax pmax
comp=Z,15nm,0.9s
HHC Hu-ho-hao-te 76.63 320 *eP* **P** **02 44 27.3 +1.6**
HHC pP pP 02 44 57.0 -2.3
HHC S **S** **02 54 02.5 +1.5**
HHC sS sS 02 55 03.8 +4.4
HHC SS **SS** **02 58 59.5 -0.3**
HHC pmax pmax
comp=Z,93nm,0.9s
HHC pmax pmax
comp=Z,260nm,4.7s
PZH PanZhiHua 76.64 303 P **P** **02 44 26.8 +0.8**
PZH sP **sP** **02 45 14.0 -0.5**
PZH S **S** **02 54 00.0 -1.6**
PZH sS **sS** **02 54 59.5 -0.2**
PZH pmax pmax
comp=Z,30nm,0.9s
PZH pmax pmax
comp=Z,130nm,3.5s
S14K Fog Glacier 76.73 18 P **P** **02 44 26.8 +1.0**
baz=212
CD2 Chengdu 76.99 308 P **P** **02 44 29.0 +1.2**
CD2 S **S** **02 54 06.0 +0.9**
CD2 sS sS 02 55 08.0 +3.8
CD2 pmax pmax
comp=Z,40nm,0.6s
CD2 pmax pmax
comp=Z,290nm,3.5s
CD2 LR LR
comp=Z,140nm,18.6s
CD2 LR LR
comp=Z,160nm,14.6s
CD2 LR LR
comp=Z,150nm,17.8s
CHGN Chignik 77.09 19 P **P** **02 44 29.4 +1.7**
baz=213
HIA Hailar 77.36 330*c i*P **P** **02 44 30.3 +0.9**
HIA pmax pmax
comp=Z,91nm,1.1s
ZEA Zeya 77.36 337 *eP* **P** **02 44 29.6 +0.3**
ZEA pmax pmax
comp=E,30nm,0.4s
ZEA pmax pmax
comp=N,50nm,0.7s
ZEA pmax pmax
comp=Z,90nm,0.7s
BTO Baotou 77.47 319 *eP* **P** **02 44 33.0 +2.7**
BTO pP **pwP** **02 45 07.8 +0.7**
BTO sP **sP** **02 45 24.5 +6.0**
BTO S **S** **02 54 13.0 +3.0**
BTO pmax pmax
comp=Z,83nm,0.9s
BTO pmax pmax
comp=Z,380nm,3.8s
BTO LR LR
comp=Z,350nm,13.3s
BTO LR LR
comp=Z,120nm,6.3s
BTO LR LR
comp=Z,120nm,8.1s
SII Sitkinak Islan 78.66 20 P **P** **02 44 37.0 +0.6**
baz=217
TNCH TengChong 78.69 300 P **P** **02 44 39.0 +1.5**
TNCH pP pP 02 45 10.8 -0.8
TNCH sP sP 02 45 27.8 +1.7
TNCH S **S** **02 54 23.5 -0.3**
TNCH sS sS 02 55 18.3 -5.0
TNCH pmax pmax
comp=Z,30nm,0.5s
TNCH pmax pmax
comp=Z,80nm,2.6s
SEY Seymchan 79.28 353⇓*eP* **P** **02 44 40.4 +0.8**
SEY pmax pmax
comp=Z,55nm,2.5s
N14K Kuskokwak Cree 79.28 15 P **P** **02 44 41.2 +1.6**
baz=210
LZH Lanzhou 79.33 312⇑P **P** **02 44 43.0 +2.2**
LZH pP pP 02 45 16.5 +1.5
LZH S **S** **02 54 32.5 +2.3**
LZH sS sS 02 55 27.0 -2.7
LZH pmax pmax
comp=Z,150nm,1.2s
LZH pmax pmax
comp=Z,200nm,5.5s

LZH LR LR
comp=Z,230nm,19.6s
LZH LR LR
comp=Z,180nm,20.3s
LZH LR LR
comp=Z,250nm,20.6s
R18K Karluk 79.38 20 P P 02 44 42.0 +1.8
baz=217
OHAK Old Harbor 79.49 20 P P 02 44 41.7 +0.9
OHAK Old Harbor 79.49 20 P P 02 44 42.1 +1.3
baz=218
Q16K King Salmon 79.60 18 P P 02 44 43.5 +2.1
baz=215
N15K Kwethluk River 79.90 16 IAmb IAmb 02 44 45.4
comp=Z,66nm,1.6s
N15K Kwethluk River 79.90 16 P P 02 44 44.9 +1.9
baz=211
M14K Bethel 79.93 15 P P 02 44 45.2 +2.1
baz=210
O16K Kokwok River B 79.95 17 P P 02 44 44.5 +1.2
baz=213
P17K Kvichak River 80.09 18 P P 02 44 44.9 +0.9
baz=215
KDAK Kodiak Island 80.17 20 P P 02 44 44.9 +0.4
baz=219
M15K Kasigluk River 80.20 15 P P 02 44 45.9 +1.3
baz=211
L14K Kuka Creek 80.28 14 P P 02 44 45.9 +1.0
baz=209
K13K Kusilvak Mount 80.36 13 P P 02 44 46.4 +0.9
baz=207
O17K Koliganek Bris 80.38 17 P P 02 44 47.3 +1.7
baz=214
N16K Nishlik Lake 80.50 16 P P 02 44 47.1 +0.8
baz=213
P18K Big Mountain, 80.61 18 IAmb IAmb 02 44 49.5
comp=Z,85nm,1.7s
P18K Big Mountain, 80.61 18 P P 02 44 47.3 +0.4
baz=216
Q19K Cape Douglas, 80.73 19 P P 02 44 48.4 +0.8
baz=218
L15K Ungalak Mounta 80.85 14 P P 02 44 49.2 +1.1
baz=210
Q20K Shuyak Island 80.88 20 P P 02 44 50.4 +2.1
baz=219
M16K Timber Creek 80.92 16 P P 02 44 51.0 +2.5
baz=212
N17K Nushagak Hills 80.98 17 P P 02 44 50.5 +1.7
baz=214
O18K Koktuh Hills 80.99 18 P P 02 44 50.1 +1.2
baz=216
MAW Mawson 81.21 202 P P 02 44 51.1 +1.1
comp=Z,54nm,1.0s,baz=106,slow=6.5,SNR=56
MAW LR LR 03 17 14.5
comp=Z,52nm,20.3s,baz=94,slow=33
comp=Z,54nm,1.0s
J14K Nanvaranak Lak 81.33 13 P P 02 44 52.1 +1.6
baz=208
L16K Owhat River 81.37 15 P P 02 44 53.0 +2.2
baz=212
K15K Wolf Creek Mou 81.38 14 P P 02 44 53.0 +2.2
baz=210,SNR=7.3
P19K Oil Pt 81.43 19 P P 02 44 53.2 +2.0
baz=218
N18K Kilae Creek 81.47 17 P P 02 44 52.8 +1.4
N18K Kilae Creek 81.47 17 P P 02 44 53.3 +1.9
baz=215
O19K Port Alsworth 81.53 18 IAmb IAmb 02 44 54.5
comp=Z,42nm,1.3s
O19K Port Alsworth 81.53 18 P P 02 44 52.8 +1.1
baz=217
M17K Holitna River 81.64 16 P P 02 44 53.7 +1.5
baz=214
HOM Homer 81.94 19 P P 02 44 54.8 +1.0
baz=219
O20K Slope Mountain 81.96 19 P P 02 44 54.9 +0.9
baz=218
CNPM China Poot 81.97 20 IAmb IAmb 02 44 56.8
comp=Z,75nm,1.1s
N19K Bonanza Creek 81.98 18 P P 02 44 54.5 +0.3
baz=216
L17K Donlin 82.03 15 P P 02 44 55.3 +1.0
baz=213,SNR=7.6
CIT Chita 82.14 330 *e*P P 02 44 56.2 +1.0
CIT *e* 02 45 31.8
CIT *e* 02 45 41.8
CIT pmax pmax
comp=Z,405nm,1.3s
M18K Stony River 82.15 17 P P 02 44 55.8 +0.9
baz=215,SNR=10
BRLK Bradley Lake 82.26 20 IAmb IAmb 02 44 57.9
comp=Z,36nm,0.9s
BRSE Bradley Lake S 82.29 20 P P 02 44 56.4 +0.7
baz=220,SNR=7.8
J16K Anvik River 82.45 14 IAmb IAmb 02 45 00.6
comp=Z,27nm,0.9s
J16K Anvik River 82.45 14 P P 02 44 57.5 +1.0
baz=211,SNR=9.4
L18K Granite Mounta 82.52 16 P P 02 44 57.8 +1.0
baz=214
K17K Iditarod 82.52 15 P P 02 44 57.7 +0.9
baz=213,SNR=5.2
ANM Nome 82.58 11 P P 02 44 57.6 +0.4
baz=206
M19K Big River Lodg 82.89 17 IAmb IAmb 02 45 01.1
comp=Z,51nm,1.4s
M19K Big River Lodg 82.89 17 P P 02 44 59.6 +0.9
baz=216,SNR=13
J17K VABM Dome 82.91 14 P P 02 44 59.8 +1.0
baz=212,SNR=5.5
N20K Mount Spurr 82.97 18 P P 02 44 58.7 -0.6
baz=219
L19K White Mountain 82.98 17 IAmb IAmb 02 45 02.6
comp=Z,68nm,1.3s
L19K White Mountain 82.98 17 P P 02 44 59.8 +0.6
baz=216,SNR=30
SEW Seward 82.99 20 P P 02 44 59.2 -0.1
baz=221
YAK Yakutsk 83.08 343 P P 02 45 00.1 +0.5
YAK Yakutsk 83.08 343 *e*P P 02 45 00.2 +0.5
YAK *e*AP **pwP** 02 45 36.6 -0.8
YAK *e*S S 02 55 07.3 -0.1
YAK *e*XS **sS** 02 56 05.0 -1.5
YAK pmax pmax
comp=Z,87nm,0.9s
ULN Ulaanbaatar 83.20 324 P P 02 45 02.0 +1.1
ULN Ulaanbaatar 83.20 324 P P 02 45 02.3 +1.4
ULN Ulaanbaatar 83.20 324 P P 02 45 02.0 +1.1
ULN pmax pmax
comp=Z,224nm,0.9s
M20K Styx River 83.23 17 IAmb IAmb 02 45 02.0
comp=Z,67nm,1.9s
M20K Styx River 83.23 17 P P 02 45 00.4 -0.2
baz=218,SNR=8.0
H16K Elim 83.27 13 P P 02 45 01.1 +0.4
baz=209
BILL Bilibino 83.49 359 P P 02 45 01.6 -0.1
BILL IAmb IAmb 02 45 04.2
comp=Z,17nm,0.8s
BILL Bilibino 83.49 359 *i* P P 02 45 01.9 +0.2
BILL pmax pmax
comp=Z,35nm,1.3s
L20K Farewell, AK 83.49 17 P P 02 45 02.8 +0.9
baz=217,SNR=60
J18K Innoko River 83.55 15 IAmb IAmb 02 45 04.3
comp=Z,53nm,1.5s
J18K Innoko River 83.55 15 P P 02 45 02.5 +0.4
baz=214,SNR=12
SONM Songino Array 83.56 323 P P 02 45 03.1 +0.4
SONM Songino Array 83.56 323 P P 02 45 03.7 +1.0
comp=Z,108nm,0.9s,baz=141,slow=5.1,SNR=290
SONM S **SKSac** 02 55 12.4 0.0
comp=Z,0.2nm,0.3s,baz=276,slow=40,SNR=1.9
SONM LR LR 03 19 20.5
comp=Z,94nm,22.0s,baz=107,slow=33
comp=Z,108nm,0.9s
P23K Montague Islan 83.60 21 P P 02 45 02.4 0.0
baz=223
SUA Susitna One 83.62 19 IAmb IAmb 02 45 06.0
comp=Z,69nm,1.2s
SUA Susitna One 83.62 19 P P 02 45 02.3 -0.4
baz=220,SNR=17
RC01 Rabbit Creek A 83.65 19 P P 02 45 02.5 -0.1
baz=221
GTA Gaotai 83.69 314 ⇑P P 02 45 05.3 +1.7
GTA pP pP 02 45 37.8 -0.1
GTA sP sP 02 45 55.0 +2.7
GTA S **SKSac** 02 55 09.5 -4.1
GTA pmax pmax
comp=Z,100nm,1.3s
GTA pmax pmax
comp=Z,120nm,6.8s
GTA LR LR
comp=Z,71nm,15.5s
GTA LR LR
comp=Z,160nm,18.7s
GTA LR LR
comp=Z,120nm,21.5s
F15K North Star Dit 83.75 11 P P 02 45 03.9 +0.8
baz=207
SKT Skwentna 83.78 18 P P 02 45 02.4 -1.0
baz=219
G16K Koyuk River 83.91 12 IAmb IAmb 02 45 07.3
comp=Z,46nm,1.5s
G16K Koyuk River 83.91 12 P P 02 45 03.8 -0.1
baz=209
M22K Willow 84.03 19 P P 02 45 04.1 -0.4
baz=220,SNR=9.3
H17K Granite Mounta 84.03 13 IAmb IAmb 02 45 06.8
comp=Z,45nm,1.5s
H17K Granite Mounta 84.03 13 P P 02 45 04.9 +0.4
baz=211,SNR=6.6
K20K Telida 84.15 16 P P 02 45 05.7 +0.6
baz=217,SNR=18
PMR Palmer 84.22 19 P P 02 45 05.5 0.0
PMR IAmb IAmb 02 45 07.0
comp=Z,74nm,1.6s
PMR Palmer 84.22 19 P P 02 45 05.4 -0.1
baz=221,SNR=11
PMR Palmer 84.22 19 P P 02 45 05.5 0.0
PMR pmax pmax
comp=Z,75nm,1.6s
J19K Poorman 84.26 15 IAmb IAmb 02 45 08.3
comp=Z,51nm,1.3s
J19K Poorman 84.26 15 P P 02 45 06.4 +0.7
baz=215,SNR=25
KNK Knik Glacier 84.30 20 IAmb IAmb 02 45 07.7
comp=Z,101nm,1.7s
KNK Knik Glacier 84.30 20 P P 02 45 05.9 -0.1
baz=222,SNR=8.0
PPLA Purkeypile 84.30 17 P P 02 45 05.6 -0.5
baz=218
GLI Glacier Island 84.35 20 IAmb IAmb 02 45 08.0
comp=Z,22nm,0.7s
GLI Glacier Island 84.35 20 P P 02 45 06.4 +0.2
baz=223
G17K Kiwalik Mounta 84.36 13 P P 02 45 06.7 +0.5
baz=210,SNR=6.6
GHO Glory Hole Cre 84.42 19 P P 02 45 06.2 -0.5
GHO IAmb IAmb 02 45 08.3
comp=Z,75nm,1.7s
SHL Shillong 84.47 298 P P 02 45 08.4 +0.6
CUT Chulitna 84.48 18 P P 02 45 07.2 +0.3
baz=220
H18K Honhosa River 84.56 14 P P 02 45 07.3 +0.1
baz=213
GCSA Galena City Sc 84.57 14 P P 02 45 07.9 +0.8
baz=214
EYAK Cordova Ski Ar 84.57 21 P P 02 45 07.2 -0.2
baz=224
KAIM Kayak Island 84.60 22 IAmb IAmb 02 45 10.0
comp=Z,44nm,0.7s
KAIM Kayak Island 84.60 22 P P 02 45 07.4 -0.1
baz=226,SNR=6.0
SML Sawmill 84.63 19 P P 02 45 07.6 -0.1
baz=222,SNR=5.7
CAST Castle Rocks 84.74 17 IAmb IAmb 02 45 09.5
comp=Z,25nm,0.9s
CAST Castle Rocks 84.74 17 P P 02 45 07.5 -0.6
baz=219,SNR=38
J20K Nowinta River 84.79 16 P P 02 45 08.8 +0.5
J20K IAmb IAmb 02 45 10.5
comp=Z,51nm,1.5s
J20K Nowinta River 84.79 16 P P 02 45 09.1 +0.8
baz=217,SNR=15
M23K Glacier View 84.82 20 P P 02 45 08.9 +0.4
baz=223
SBC Santa Barbara 84.92 52 P P 02 45 08.4 -1.3
baz=247
HMT Hamilton 84.95 22 IAmb IAmb 02 45 11.3
comp=Z,28nm,0.7s
SCM Sheep Creek Mo 84.97 20 IAmb IAmb 02 45 11.5
comp=Z,17nm,0.7s
SCM Sheep Creek Mo 84.97 20 P P 02 45 09.3 -0.2
baz=223,SNR=8.2
CHUM Lake Minchumin 85.04 17 P P 02 45 09.0 -0.6
baz=218
F17K Baldwin Pennin 85.05 12 IAmb IAmb 02 45 12.7
comp=Z,50nm,1.1s
F17K Baldwin Pennin 85.05 12 P P 02 45 10.5 +0.9
baz=210
G18K Tagagawik 85.13 13 IAmb IAmb 02 45 12.6
comp=Z,34nm,1.1s
G18K Tagagawik 85.13 13 P P 02 45 10.6 +0.6
baz=212,SNR=20
KLU Klutina 85.19 20 P P 02 45 10.7 +0.1
baz=224
I20K Naaghedeneel 85.20 15 P P 02 45 11.4 +1.0
I20K IAmb IAmb 02 45 13.6
comp=Z,72nm,1.1s
I20K Naaghedeneel 85.20 15 P P 02 45 11.2 +0.8
baz=216,SNR=10
BMRM Bremner River 85.27 21 P P 02 45 10.9 0.0
baz=226
SCI2 San Clemente I 85.27 54 P P 02 45 11.8 +0.3
baz=248
TRF Thorofare Moun 85.28 18 IAmb IAmb 02 45 11.9
comp=Z,72nm,1.8s
TRF Thorofare Moun 85.28 18 P P 02 45 10.1 -0.9
baz=220,SNR=8.4
H19K Roundabout Mou 85.32 14 IAmb IAmb 02 45 13.9
comp=Z,47nm,1.1s
H19K Roundabout Mou 85.32 14 P P 02 45 11.9 +1.0
baz=214,SNR=20
WAT1 Susitna Watana 85.33 19 P P 02 45 11.5 +0.3
baz=222
WAT6 Susitna Watana 85.39 19 P P 02 45 11.8 +0.2
baz=223,SNR=9.9
E17K Pitmam Inlet 85.50 11 P P 02 45 13.0 +1.2
baz=209
F18K Selawik 85.52 12 P P 02 45 12.1 +0.2
baz=211,SNR=18
BOD Bodaibo 85.55 334 *e*P P 02 45 12.6 +0.4
BOD pmax pmax
comp=Z,101nm,1.8s
M24K Tolsona, Glenn 85.55 20 IAmb IAmb 02 45 14.9
comp=Z,19nm,0.8s
M24K Tolsona, Glenn 85.55 20 P P 02 45 13.5 +1.2
baz=221
BPAW Bear Paw Mtn. 85.58 17 IAmb IAmb 02 45 12.7
comp=Z,46nm,1.9s
BPAW Bear Paw Mtn. 85.58 17 P P 02 45 11.1 -1.2
baz=220,SNR=8.3
H20K Anotleneega Mo 85.67 15 P P 02 45 12.9 +0.2
baz=216,SNR=26
RND Reindeer 85.67 18 IAmb IAmb 02 45 14.7
comp=Z,38nm,1.4s
MESA MESA 85.68 23 P P 02 45 13.3 +0.2
baz=228,SNR=7.8
G19K Purcell Mounta 85.69 14 P P 02 45 12.9 +0.1
baz=214,SNR=26
N25K Chitina, Valde 85.72 21 IAmb IAmb 02 45 15.3
comp=Z,16nm,0.8s
N25K Chitina, Valde 85.72 21 P P 02 45 13.1 0.0
baz=226,SNR=6.4
YBH Yreka Blue Hor 85.72 45 LR LR 03 21 05.7
comp=Z,55nm,18.5s,baz=235,slow=34
AFDM Forest Hills D 85.78 48 P P 02 45 13.2 -0.7
AFDM IAmb IAmb 02 45 50.3
comp=Z,32nm,1.2s
D17K Noatak River 85.81 11 P P 02 45 13.7 +0.4
baz=208
ISLE Juniper Island 85.82 22 IAmb IAmb 02 48 28.5
comp=Z,30nm,0.5s
CMB Columbia Colle 85.83 49 P P 02 45 13.5 -0.7
CMB IAmb IAmb 02 45 50.7
comp=Z,25nm,1.2s
CMB Columbia Colle 85.83 49 P P 02 45 13.5 -0.7
CMB pmax pmax
comp=Z,25nm,1.3s
DHY Denali Highway 85.87 19 P P 02 45 14.1 +0.2
baz=223,SNR=5.9
MCK McKinley 85.89 18 P P 02 45 13.4 -0.5
baz=221,SNR=6.4
C16K Lisburne Hills 85.94 10 IAmb IAmb 02 45 16.1
comp=Z,39nm,1.4s
C16K Lisburne Hills 85.94 10 P P 02 45 13.9 0.0
baz=206
GOMU GeErMu 85.98 309 P P 02 45 16.3 +0.9
GOMU pmax pmax
comp=Z,10.0nm,0.8s
E18K Tukpahlearik C 86.03 12 IAmb IAmb 02 45 17.5
comp=Z,19nm,0.8s
E18K Tukpahlearik C 86.03 12 P P 02 45 15.0 +0.6
baz=210,SNR=15
HARP HAARP 86.09 20 P P 02 45 15.8 +0.9
baz=225
MCARA McCarthy VSAT 86.11 21 P P 02 45 14.7 -0.3
F19K Shaleruckik Mo 86.11 13 IAmb IAmb 02 45 17.6
comp=Z,28nm,0.9s
F19K Shaleruckik Mo 86.11 13 P P 02 45 15.0 +0.1
baz=213,SNR=20
I21K Tanana 86.15 16 IAmb IAmb 02 45 19.7
comp=Z,24nm,0.9s
I21K Tanana 86.15 16 P P 02 45 15.4 +0.3
baz=219
RDOG Red Dog Mine 86.16 11 IAmb IAmb 02 45 18.1
comp=Z,16nm,0.7s
RDOG Red Dog Mine 86.16 11 P P 02 45 15.7 +0.7
baz=208,SNR=7.8
H21K Melozitna Rive 86.32 15 P P 02 45 16.3 +0.4
baz=218,SNR=14
MLY Manley 86.37 16 P P 02 45 15.7 -0.5
baz=220,SNR=8.7
BARN Barnard Glacie 86.38 22 IAmb IAmb 02 45 18.7
comp=Z,21nm,0.8s
PAX Paxson 86.40 19 P P 02 45 16.8 +0.3
baz=225
EDW2 Edwards Air Fo 86.40 52 P P 02 45 17.5 +0.4
baz=248,SNR=5.3
BCPM Bancas Point 86.41 24 IAmb IAmb 02 46 50.1
comp=Z,15nm,0.8s
BFSC Mount Baldy Ra 86.42 53 P P 02 45 17.7 +0.3
baz=248
CTG Chitna Glacier 86.43 22 P P 02 45 16.8 +0.1
baz=228,SNR=15
CTGM Chitina Glacie 86.43 22 IAmb IAmb 02 45 18.9
comp=Z,18nm,0.7s
LOGN Logan Glacier 86.46 22 IAmb IAmb 02 45 19.0
comp=Z,14nm,0.7s
C17K DeLong Mountai 86.48 10 P P 02 45 17.0 +0.3
baz=208,SNR=10
CRAG Craig 86.49 29 P P 02 45 17.7 +0.8
baz=236
LSA Lhasa 86.50 302 IAmb IAmb 02 45 19.8
comp=Z,19nm,1.0s
NEA2 Nenana 86.50 17 P P 02 45 16.5 -0.3
NEA2 Nenana 86.50 17 P P 02 45 17.7 +0.9
baz=221,SNR=9.4
S31K Pelican 86.55 26 P P 02 45 18.1 +0.9
baz=233
MURC Murrieta 86.55 54 P P 02 45 18.2 +0.3
baz=249
ZAK Zakamensk 86.62 325 *e*P P 02 45 17.7 -0.1
ZAK pmax pmax
comp=Z,68nm,1.2s
MDPB Devils Postpil 86.63 50 IAmb IAmb 02 45 55.1
comp=Z,30nm,1.1s
WAKR Walker 86.70 49 IAmb IAmb 02 45 55.7
comp=Z,41nm,1.2s
O28M Mount Upton 86.73 23 P P 02 45 18.7 +0.3
baz=230,SNR=13
F20K Avaraart Lake 86.74 14 IAmb IAmb 02 45 20.3
comp=Z,41nm,1.5s
F20K Avaraart Lake 86.74 14 P P 02 45 18.6 +0.7
baz=215,SNR=19
E19K Redstone River 86.75 13 IAmb IAmb 02 45 23.1
comp=Z,19nm,0.7s
E19K Redstone River 86.75 13 P P 02 45 18.6 +0.6
baz=214,SNR=30
M26K Nabesna, AK 86.82 21 P P 02 45 18.8 +0.3
baz=227,SNR=12
G21K Allakaket 86.83 15 IAmb IAmb 02 45 20.6
comp=Z,50nm,1.7s
G21K Allakaket 86.83 15 P P 02 45 18.9 +0.5
baz=217,SNR=8.3
I23K Minto, Yukon-K 86.84 17 P P 02 45 19.5 +1.1
baz=221
LRMC Laurel Mtn Rad 86.86 52 P P 02 45 20.1 +0.7
baz=248
H22K Ishtalitna Cre 86.87 16 P P 02 45 19.3 +0.7
baz=219,SNR=10
K24K Donnelly Dome 86.90 19 P P 02 45 18.8 0.0
baz=224,SNR=7.1
MONP2 Monument Peak 86.90 55 P P 02 45 20.5 +0.7
baz=249
CCB Clear Creek Bu 86.90 18 IAmb IAmb 02 45 19.7
comp=Z,20nm,1.1s
CWC Cottonwood Cre 86.92 51 P P 02 45 19.8 +0.1
baz=248
P29M Windy Craggy 86.95 24 IAmb IAmb 02 45 20.9
comp=Z,22nm,1.3s
P29M Windy Craggy 86.95 24 P P 02 45 19.7 +0.5
baz=232,SNR=6.4
HDA Harding Lake 86.98 18 IAmb IAmb 02 45 21.6
comp=Z,43nm,1.0s
HDA Harding Lake 86.98 18 P P 02 45 18.6 -0.6
baz=223,SNR=40
C18K Utukok River 86.99 11 P P 02 45 20.0 +0.8
C18K IAmb IAmb 02 45 21.8
comp=Z,24nm,1.1s
C18K Utukok River 86.99 11 P P 02 45 19.2 0.0
baz=210,SNR=18
IRK Irkutsk 87.00 327 *e*P P 02 45 18.5 -1.1
IRK pmax pmax
comp=Z,70nm,1.7s
MDM Murphy Dome 87.01 17 IAmb IAmb 02 45 20.8
comp=Z,18nm,0.9s
COLA College 87.06 17 P P 02 45 18.3 -1.2
COLA College 87.06 17 P P 02 45 18.3 -1.2
IKP In-Ko-Pah, Jac 87.06 55 P P 02 45 19.9 -0.5
baz=249
L26K Log Cabin Wild 87.13 20 P P 02 45 20.2 +0.2
baz=227
PFO Pinyon Flats O 87.13 54 P P 02 45 21.8 +1.1
PFO Pinyon Flats O 87.13 54 LR LR 03 18 30.0
comp=Z,196nm,18.6s,baz=249,slow=32
PFO Pinyon Flats O 87.13 54 P P 02 45 21.8 +1.1
PFO pmax pmax
comp=Z,21nm,1.3s
TPFO Pinon Flats 87.13 54 P P 02 45 21.1 +0.3
baz=249
M27K Edge Creek, AK 87.17 21 P P 02 45 19.9 -0.4
baz=228,SNR=5.6
PMD Palm Desert 87.20 54 IAmb IAmb 02 45 57.9
comp=Z,24nm,1.4s
PAHR Pah Rah Range 87.21 48 IAmb IAmb 02 45 57.7
comp=Z,35nm,1.2s
YUK8 Steele Glacier 87.22 23 P P 02 45 20.8 +0.1
baz=230
IL31 87.26 18 IAmb IAmb 02 45 20.9
comp=Z,15nm,0.8s
ILAR Eielson Array 87.26 18 P P 02 45 19.7 -0.8
comp=Z,12nm,0.4s,baz=240,slow=5.0,SNR=79
ILAR S **SKSac** 02 55 35.8 +1.1
comp=Z,0.2nm,0.5s,baz=322,slow=34,SNR=1.5
ILAR LR LR 03 19 55.4
comp=Z,75nm,19.9s,baz=244,slow=32
comp=Z,12nm,0.4s
BBB Bella Bella 87.27 34 LR LR 03 20 11.5
comp=Z,93nm,18.1s,baz=244,slow=33
LHV Little Huntoon 87.28 49 IAmb IAmb 02 45 58.5
comp=Z,37nm,1.2s
YUK3 Moose Creek 87.28 22 P P 02 45 21.3 +0.4
baz=229,SNR=8.6
H23K Yukon River 87.30 16 P P 02 45 21.0 +0.3
baz=221
DSP Deep Springs 87.34 50 P P 02 45 22.2 +0.7
DSP IAmb IAmb 02 45 58.7
comp=Z,38nm,1.1s
POKR Poker Plat Res 87.36 17 P P 02 45 20.7 -0.3
baz=223
J05D Fort Rock, OR 87.36 44 IAmb IAmb 02 45 58.4
comp=Z,34nm,1.1s
PLBC Pleasant Camp 87.39 25 P P 02 45 21.7 +0.5
baz=233
F21K Alatna River 87.40 14 IAmb IAmb 02 45 23.1
comp=Z,38nm,1.8s
F21K Alatna River 87.40 14 P P 02 45 21.6 +0.4
baz=217,SNR=11
RYN Ryan 87.41 49 IAmb IAmb 02 45 58.8
comp=Z,21nm,1.2s
D19K Kuna River 87.44 12 IAmb IAmb 02 45 23.4

	comp=Z,30nm,1.4s							
D19K	**Kuna River**	87.44	12	P		P	02 45 21.9	+0.6
	baz=213,SNR=12							
GSC	**Goldstone, Bar**	87.46	52	IAmb		IAmb	02 45 59.2	
	comp=Z,32nm,1.4s							
R32K	**Eaglecrest**	87.47	27	P		P	02 45 23.2	+1.6
	baz=235							
NVAR	**Mina Array Bea**	87.50	49	P		P	02 45 23.1	+0.5
	comp=Z,2.3nm,0.7s,baz=231,slow=8.0,SNR=20							
NVAR				pP		pP	02 45 57.5	+0.1
	comp=Z,9.1nm,0.9s,baz=230,slow=7.9,SNR=10							
NVAR				PP		PP	02 48 48.6	-0.9
	comp=Z,1.1nm,0.9s,baz=246,slow=15,SNR=3.7							
NVAR				PKKPbc		PKKPbc	03 03 13.1	+0.6
	comp=Z,2.6nm,0.6s,baz=88,slow=3.2,SNR=20							
NVAR				PKPPKP		P'P'df	03 11 20.2	+1.7
	comp=Z,2.5nm,0.8s,baz=96,slow=1.8,SNR=14							
NVAR				LR		LR	03 17 56.6	
	comp=Z,129nm,20.1s,baz=266,slow=31							
B18K	**Kokolik River**	87.51	10	P		P	02 45 22.6	+1.1
	baz=209							
P30M	**Million Dollar**	87.56	24	P		P	02 45 22.4	+0.3
	baz=232							
SCRK	**Sand Creek**	87.58	19	P		P	02 45 21.8	-0.3
	baz=226,SNR=11							
J25K	**Salcha River,**	87.60	18	P		P	02 45 22.5	+0.3
	baz=225,SNR=22							
NV11	**Mina Array Sit**	87.61	49	IAmb		IAmb	02 45 59.7	
	comp=Z,37nm,1.2s							
BELC	**Belle Mtn. Jos**	87.62	54	P		P	02 45 23.8	+0.7
	baz=249							
G22K	**Bettles**	87.64	15	P		P	02 45 22.8	+0.6
	baz=219,SNR=7.6							
E20K	**Nigu River**	87.64	13	P		P	02 45 22.6	+0.3
	baz=215,SNR=18							
GRAC	**Grapevine Rang**	87.65	51	IAmb		IAmb	02 46 00.2	
	comp=Z,32nm,1.1s							
GRAC	**Grapevine Rang**	87.65	51	P		P	02 45 24.7	+1.6
	baz=248							
HEC	**Hector,Ludlow**	87.66	53	P		P	02 45 24.5	+1.3
	baz=249							
L27K	**Beaver Creek,**	87.66	21	P		P	02 45 23.0	+0.5
	baz=228							
YUK4	**Talbot Arm**	87.67	23	P		P	02 45 22.6	-0.2
	baz=231							
C19K	**Lookout Ridge**	87.68	11	IAmb		IAmb	02 45 25.0	
	comp=Z,30nm,1.3s							
C19K	**Lookout Ridge**	87.68	11	P		P	02 45 23.4	+1.0
	baz=211,SNR=6.1							
H24K	**Noodor Dome**	87.77	17	P		P	02 45 23.0	+0.1
	baz=222							
PINE	**Pine Mountain**	87.77	43	P		P	02 45 24.3	+0.7
PINE				IAmb		IAmb	02 46 02.5	
	comp=Z,38nm,1.4s							
HYT	**Haines Junctio**	87.78	24	P		P	02 45 25.3	+2.1
	baz=232							
FURC	**Furnace Creek,**	87.84	51	P		P	02 45 24.4	+0.6
	baz=249							
G23K	**Bananza Creek**	87.85	15	P		P	02 45 23.9	+0.6
	baz=220,SNR=7.6							
KVN	**Kaiserville**	87.88	49	IAmb		IAmb	02 46 00.9	
	comp=Z,23nm,1.2s							
GWY	**Greenwater Val**	87.88	52	IAmb		IAmb	02 46 01.1	
	comp=Z,33nm,1.3s							
BC3	**Big Chuckawall**	87.93	54	P		P	02 45 25.7	+1.1
	baz=250							
D20K	**Etivluk River**	87.93	12	P		P	02 45 24.4	+0.8
	baz=214,SNR=14							
F22K	**John River**	87.94	14	P		P	02 45 24.3	+0.6
	baz=218							
J26L	**Joseph Creek**	88.08	19	P		P	02 45 25.1	+0.6
	baz=226,SNR=7.1							
WCT	**Wildcat Mounta**	88.13	51	IAmb		IAmb	02 46 02.4	
	comp=Z,32nm,1.1s							
GMRC	**Granite Mounta**	88.16	53	P		P	02 45 26.3	+0.6
	baz=250,SNR=5.4							
TUQ	**Turquoise Moun**	88.19	53	P		P	02 45 26.9	+1.1
	baz=249,SNR=7.1							
COLD	**Coldfoot**	88.20	15	P		P	02 45 25.1	+0.2
	baz=220,SNR=7.2							
PRP	**Porcupine Dome**	88.20	18	P		P	02 45 25.6	+0.5
	baz=224,SNR=6.2							
K27K	**Chicken**	88.23	20	IAmb		IAmb	02 45 27.6	
	comp=Z,28nm,1.7s							
K27K	**Chicken**	88.23	20	P		P	02 45 26.3	+1.2
	baz=228							
E21K	**Killik River**	88.27	13	P		P	02 45 26.0	+0.7
	baz=217							
O30N	**Mendenhall**	88.30	24	P		P	02 45 25.5	0.0
	baz=233,SNR=6.0							
N30M	**Aishikik Lake**	88.33	23	P		P	02 45 24.6	-1.2
	baz=232							
IRM	**Iron Mountain**	88.34	54	P		P	02 45 27.1	+0.7
	baz=250,SNR=6.3							
M29M	**Somme Creek**	88.44	22	P		P	02 45 26.6	+0.3
	baz=231							
MOY	**Mondy**	88.50	325	*e*P		P	02 45 27.2	+0.4
MOY				pmax		pmax		
	comp=Z,40nm,2.5s							
G24K	**Hadweenzic Riv**	88.51	16	IAmb		IAmb	02 45 27.5	
	comp=Z,23nm,1.0s							
G24K	**Hadweenzic Riv**	88.51	16	P		P	02 45 26.0	-0.4
	baz=223,SNR=11							
E22K	**Anaktuvuk Pass**	88.52	14	P		P	02 45 27.4	+0.9
	baz=219							
P32M	**Atlin**	88.57	26	P		P	02 45 27.5	+0.6
	baz=235							
H25L	**Birch Creek**	88.66	17	P		P	02 45 27.7	+0.7
	baz=224							
C21K	**Knifeblade Rid**	88.67	13	P		P	02 45 28.4	+1.4
	baz=216,SNR=9.1							
BLYC	**Blythe**	88.69	55	IAmb		IAmb	02 46 06.2	
	comp=Z,33nm,1.2s							
WHY	**Whitehorse**	88.71	24	P		P	02 45 27.8	+0.2
	baz=234,SNR=6.3							
S34M	**Telegraph Cree**	88.76	28	P		P	02 45 27.3	-0.4
	baz=238							
I26K	**Coal Creek Min**	88.76	19	IAmb		IAmb	02 45 29.1	
	comp=Z,33nm,1.5s							
I26K	**Coal Creek Min**	88.76	19	P		P	02 45 27.3	-0.3
	baz=227							
WVOR	**Wild Horse Val**	88.78	45	P		P	02 45 27.7	-0.7
WVOR				IAmb		IAmb	02 46 06.3	
	comp=Z,52nm,1.6s							
WVOR	**Wild Horse Val**	88.78	45	P		P	02 45 27.7	-0.7
WVOR				pmax		pmax		
	comp=Z,52nm,1.6s							
I07A	**Izee**	88.83	43	IAmb		IAmb	02 46 06.4	
	comp=Z,18nm,1.2s							
N31M	**Braeburn, Yuko**	88.85	24	P		P	02 45 27.8	-0.3
	baz=233							
D22K	**Ayikyak River**	88.91	13	P		P	02 45 29.0	+0.7
	baz=218,SNR=12							
G25K	**Bearman Lake**	88.94	17	P		P	02 45 29.4	+1.1
	baz=224							
NEE2	**Needles Airpor**	88.96	54	P		P	02 45 29.7	+0.4
	baz=250							
113A	**Mohawk Valley,**	88.96	56	P		P	02 45 30.0	+0.7
113A				IAmb		IAmb	02 46 06.7	
	comp=Z,20nm,1.3s							
L29M	**L29M**	88.97	22	P		P	02 45 29.5	+0.8
	baz=231							
F24K	**Squaw Lake**	89.01	16	P		P	02 45 29.9	+1.1
	baz=222,SNR=11							
BMN	**Battle Mountai**	89.02	48	IAmb		IAmb	02 46 06.5	
	comp=Z,30nm,1.2s							
EGAK	**Eagle**	89.03	19	P		P	02 45 29.2	+0.4
	baz=228,SNR=9.4							
B21K	**Ikpikpuk River**	89.09	12	IAmb		IAmb	02 45 32.6	
	comp=Z,24nm,0.9s							
B21K	**Ikpikpuk River**	89.09	12	P		P	02 45 30.4	+1.4
	baz=216,SNR=12							
V12A	**Nelson**	89.11	53	IAmb		IAmb	02 46 07.3	
	comp=Z,24nm,1.2s							
M30M	**Minto, Yukon**	89.12	22	P		P	02 45 29.6	+0.2
	baz=232,SNR=8.2							
LPIG	**La Paz**	89.13	65	LR		LR	03 14 51.0	
	comp=Z,52nm,20.4s,baz=198,slow=28							
SHPR	**Sheep Range**	89.14	52	P		P	02 45 30.0	-0.3
SHPR				IAmb		IAmb	02 46 08.4	
	comp=Z,27nm,1.3s							
DAWY	**Dawson**	89.14	21	IAmb		IAmb	02 49 01.5	
	comp=Z,29nm,2.0s							
DAWY	**Dawson**	89.14	21	P		P	02 45 29.2	-0.2
	baz=230,SNR=5.6							
PALK	**Pallekele**	89.17	278	LR		LR	03 23 47.2	
	comp=Z,60nm,22.0s,baz=198,slow=34							
PDMCI	**Parker Dam,Lak**	89.17	54	P		P	02 45 31.0	+0.8
	baz=250,SNR=5.4							
J08A	**Circle Bar Ran**	89.24	44	IAmb		IAmb	02 46 07.2	
	comp=Z,34nm,1.3s							
E24K	**Your Creek**	89.27	15	P		P	02 45 30.6	+0.6
	baz=222							
P33M	**Teslin, Yukon**	89.29	25	P		P	02 45 31.4	+1.1
	baz=236							
ELIB	**Princess Elisa**	89.39	190	*d*P		P	02 45 30.6	-0.1
	comp=Z,69nm,0.8s							
D23K	**Nanushuk River**	89.43	14	P		P	02 45 31.5	+0.9
	baz=220							
I27K	**Kandik River**	89.44	19	P		P	02 45 31.7	+0.9
	baz=228							
TOLK	**Toolik Lake Re**	89.44	14	P		P	02 45 31.4	+0.7
	baz=221							
R11B	**Troy Canyon, C**	89.46	50	IAmb		IAmb	02 46 08.5	
	comp=Z,20nm,1.2s							
R11B	**Troy Canyon, C**	89.46	50	P		P	02 45 31.5	-0.2
	baz=250,SNR=9.0							
214A	**Organ Pipe Nat**	89.46	57	P		P	02 45 32.5	+0.8
	baz=251							
PRN	**Pahroc Range**	89.53	51	P		P	02 45 32.5	+0.5
PRN				IAmb		IAmb	02 46 10.1	
	comp=Z,48nm,1.1s							
DLBC	**Dease Lake**	89.53	28	P		P	02 45 31.6	+0.2
	baz=238,SNR=6.4							
R33M	**Jennings River**	89.63	27	P		P	02 45 31.8	-0.1
	baz=236							
W13A	**Hualapai Mount**	89.64	53	IAmb		IAmb	02 46 10.1	
	comp=Z,22nm,1.2s							
K29M	**Barlow Dome**	89.65	21	P		P	02 45 32.1	+0.1
	baz=232							
F25K	**Christian Rive**	89.66	16	P		P	02 45 32.1	+0.3
	baz=224,SNR=8.1							
N32M	**Quiet Lake**	89.71	25	P		P	02 45 32.2	+0.1
	baz=236							
G26K	**Porcupine Rive**	89.72	17	P		P	02 45 32.1	+0.2
	baz=226,SNR=15							
M31M	**Drury Creek, Y**	89.80	23	P		P	02 45 32.1	-0.5
	baz=235							
BMAR	**Burnt Mountain**	89.83	17	P		P	02 45 33.0	+0.4
I28M	**Miner Creek**	89.86	19	P		P	02 45 33.6	+0.8
	baz=230							
H27K	**Steamboat Moun**	89.89	18	P		P	02 45 33.2	+0.3
	baz=226							
B22K	**Teshekpuk Lake**	89.91	12	IAmb		IAmb	02 45 36.4	
	comp=Z,18nm,0.9s							
B22K	**Teshekpuk Lake**	89.91	12	P		P	02 45 33.5	+0.7
	baz=217,SNR=11							
D24K	**Happy Valley**	90.00	14	P		P	02 45 34.0	+0.8
	baz=221							
E25K	**Arctic Village**	90.06	16	P		P	02 45 34.1	+0.4
	baz=224,SNR=5.4							
C23K	**Itkillik River**	90.11	13	IAmb		IAmb	02 45 37.0	
	comp=Z,25nm,1.2s							
C23K	**Itkillik River**	90.11	13	P		P	02 45 35.2	+1.4
	baz=220,SNR=11							
F26K	**Sheenjek River**	90.14	16	P		P	02 45 34.9	+0.9
	baz=226							
A22K	**Sinclair Lake**	90.14	11	P		P	02 45 34.6	+0.7
	baz=216							
G27K	**Doyon Strip**	90.23	18	P		P	02 45 34.8	+0.3
G27K	**Doyon Strip**	90.23	18	P		P	02 45 34.7	+0.2
	baz=228,SNR=5.4							
I29M	**Ogilvie Camp,**	90.33	20	P		P	02 45 35.0	0.0
	baz=231							
C24K	**Franklin Bluff**	90.46	14	P		P	02 45 35.9	+0.5
	baz=222							
SPR3	**Spring Creek 3**	90.60	50	IAmb		IAmb	02 46 14.0	
	comp=Z,29nm,1.0s							
D25K	**Kavik River**	90.72	15	P		P	02 45 37.6	+0.9
	baz=224							
LCMT	**Little Creek M**	90.76	52	IAmb		IAmb	02 46 15.7	
	comp=Z,32nm,1.1s							
PSUT	**Pine Spring**	90.80	50	IAmb		IAmb	02 46 15.0	
	comp=Z,17nm,1.1s							
CCUT	**Cedar City**	90.84	51	IAmb		IAmb	02 46 15.8	
	comp=Z,25nm,1.1s							
H29M	**Whitestone**	90.85	19	P		P	02 45 38.4	+1.1
	baz=231							
I30M	**Mount Dempster**	90.88	20	P		P	02 45 37.5	-0.1
	baz=233							
TIXI	**Tiksi**	90.99	349	P		P	02 45 36.9	-0.8
TIXI				IAmb		IAmb	02 45 38.8	
	comp=Z,29nm,1.1s							
TIXI	**Tiksi**	90.99	349⇑	*e*P		P	02 45 37.0	-0.8
TIXI				pmax		pmax		
	comp=Z,46nm,1.7s							
F10A	**Beach Ranch, E**	91.04	42	IAmb		IAmb	02 46 15.0	
	comp=Z,37nm,1.2s							
MFID	**Camas Ranch**	91.06	45	IAmb		IAmb	02 46 15.6	
	comp=Z,20nm,1.2s							
SZCU	**Shurtz Canyon**	91.06	51	IAmb		IAmb	02 46 16.7	
	comp=Z,24nm,1.2s							
E27K	**Coleen River**	91.18	17	P		P	02 45 39.1	+0.3
	baz=228							
TUC	**Tucson**	91.20	57	P		P	02 45 40.6	+0.7
TUC				IAmb		IAmb	02 46 18.4	
	comp=Z,15nm,1.2s							
TUC	**Tucson**	91.20	57	P		P	02 45 39.6	-0.3
	baz=252							
TUC	**Tucson**	91.20	57	P		P	02 45 40.6	+0.7
TUC				pmax		pmax		
	comp=Z,15nm,1.2s							
MMPY	**Sheldon Lake,**	91.24	24	P		P	02 45 39.6	+0.3
	baz=237							
F28M	**Old Crow**	91.29	18	P		P	02 45 40.2	+0.9
	baz=230							
U15A	**North Rim**	91.29	53	IAmb		IAmb	02 46 18.0	
	comp=Z,32nm,1.1s							
X16A	**Lo Mia Camp, P**	91.33	55	IAmb		IAmb	02 46 18.8	
	comp=Z,17nm,1.0s							
G29M	**Pine Creek**	91.40	19	P		P	02 45 40.7	+0.9
	baz=231							
EPYK	**Eagle Plains**	91.47	19	P		P	02 45 40.2	0.0
	baz=233							
C26K	**Camden Bay**	91.50	15	P		P	02 45 41.1	+0.8
	baz=225,SNR=5.8							
PLID	**Pearl Lake**	91.53	43	IAmb		IAmb	02 46 17.3	
	comp=Z,15nm,1.1s							
C27K	**Jago River**	91.60	15	P		P	02 45 41.0	+0.3
	baz=226							
WUAZ	**Wupatki**	91.72	54	IAmb		IAmb	02 46 20.4	
	comp=Z,23nm,1.1s							
WUAZ	**Wupatki**	91.72	54	P		P	02 45 43.2	+1.0
	baz=252,SNR=8.3							
TGTN	**Hyland Airport**	91.88	26	P		P	02 45 42.5	+0.3
	baz=240							
TOAD	**Toad River Com**	91.92	29	P		P	02 45 43.1	+0.6
	baz=242							
TROLL	**Troll, Antarti**	91.97	185	⇑P		P	02 45 43.2	+0.5
	comp=Z,9μm,0.6s							
G30M	**tAoh Zraii Nji**	92.00	19	P		P	02 45 42.6	0.0
	baz=233							
E28M	**Babbage River**	92.03	17	IAmb		IAmb	02 45 43.5	
	comp=Z,15nm,1.6s							
E28M	**Babbage River**	92.03	17	P		P	02 45 42.9	+0.2
	baz=230							
HLID	**Hailey**	92.08	45	IAmb		IAmb	02 46 20.7	
	comp=Z,13nm,1.2s							
HLID	**Hailey**	92.08	45	P		P	02 45 44.2	+0.4
	baz=250,SNR=5.3							
DUG	**Dugway, Tooele**	92.10	49	P		P	02 45 44.1	+0.2
	baz=251							
DUG	**Dugway, Tooele**	92.10	49	P		P	02 45 44.4	+0.5
319A	**Douglas**	92.15	58	IAmb		IAmb	02 46 22.7	
	comp=Z,9.9nm,0.9s							
BGU	**Big Grassy Mou**	92.18	48	IAmb		IAmb	02 46 20.9	
	comp=Z,12nm,1.2s							
NVL	**N'lazarevskaya**	92.19	188	⇓*i*P		P	02 45 43.3	-0.3
NVL				*e*S		SKSac	02 56 05.0	+1.5
E29M	**Blow River**	92.36	18	P		P	02 45 44.7	+0.5
	baz=232							
F30M	**Barrier River**	92.51	19	P		P	02 45 45.1	+0.1
	baz=234							
G31M	**Satah River**	92.58	20	IAmb		IAmb	02 45 45.6	
	comp=Z,20nm,1.6s							
G31M	**Satah River**	92.58	20	P		P	02 45 45.6	+0.3
	baz=235							
SNAA	**Sanae**	92.64	183	⇑P		P	02 45 45.7	0.0
	comp=Z,2μm,0.6s							
SNAA	**Sanae**	92.64	183	P		P	02 45 45.6	-0.2
	comp=Z,76nm,0.6s,baz=204,slow=7.2,SNR=423							
SNAA				S		SKSac	02 56 07.7	+1.5
	comp=Z,0.8nm,1.0s,baz=317,slow=22,SNR=0.9							
SNAA				LR		LR	03 26 36.2	
	comp=Z,43nm,19.8s,baz=58,slow=35							
	comp=Z,76nm,0.6s							
D28M	**Stokes Point**	92.71	17	P		P	02 45 47.1	+1.2
	baz=231							
W18A	**Petrified Fore**	92.88	54	P		P	02 45 48.2	+0.5
	baz=253							
F31M	**Tsiigehtchic**	93.05	19	P		P	02 45 48.7	+1.3
	baz=235							
VNA3	**Neumayer Olymp**	93.28	181	⇑P		P	02 45 48.5	-0.2
	comp=Z,182nm,0.6s							
VNA2	**Neumayer--Watz**	93.56	182	⇑P		P	02 45 50.1	+0.2
	comp=Z,196nm,0.6s,baz=181,slow=4.9							
INK	**Inuvik**	93.61	19	P		P	02 45 52.0	+2.0
	baz=236							
INK	**Inuvik**	93.61	19	LR		LR	03 23 45.2	
	comp=Z,73nm,19.3s,baz=203,slow=33							
121A	**Cookes Peak, D**	93.70	57	P		P	02 45 50.9	-0.6
	baz=254							
BSUT	**Blindstream Ca**	93.70	49	IAmb		IAmb	02 46 29.6	
	comp=Z,13nm,1.0s							
WMQ	**Urumqi**	93.75	314⇑	*i*P		P	02 45 52.0	+0.7
WMQ				pP		pwP	02 46 32.0	+3.7
WMQ				pmax		pmax		
	comp=Z,57nm,0.7s							
WMQ				pmax		pmax		
	comp=Z,140nm,3.7s							
VNA1	**Neumayer--Stat**	93.85	181	⇑P		P	02 45 51.2	0.0
	comp=Z,60nm,0.5s							
PDAR	**Pinedale Array**	95.21	47	P		P	02 45 59.1	+0.9
PDAR	**Pinedale Array**	95.21	47	P		P	02 45 58.4	+0.2
	comp=Z,0.2nm,0.3s,baz=266,slow=6.0,SNR=2.3							
PDAR				pP		pP	02 46 33.0	-0.6
	comp=Z,1.8nm,0.9s,baz=289,slow=2.8,SNR=4.2							
PDAR				PP		PP	02 49 48.1	-2.1
	comp=Z,2.2nm,1.1s,baz=247,slow=3.1,SNR=6.8							
PDAR				PKKPbc		PKKPbc	03 02 51.5	-1.5
	comp=Z,2.7nm,0.9s,baz=97,slow=6.1,SNR=15							
PDAR				PKPPKP		P'P'df	03 11 04.5	+0.5
	comp=Z,0.6nm,0.8s,baz=74,slow=3.2,SNR=2.3							
PDAR				LR		LR	03 25 50.3	
	comp=Z,79nm,18.1s,baz=262,slow=33							
ANMO	**Albuquerque**	95.41	55	LR		LR	03 23 30.1	
	comp=Z,66nm,18.9s,baz=354,slow=32							
O20A	**White River Ci**	95.43	50	P		P	02 45 60.0	+0.7
	baz=254,SNR=6.4							
TX31	**Lajitas Ar. Si**	96.27	61	IAmb		IAmb	02 46 42.5	
	comp=Z,17nm,1.8s							
TXAR	**Lajitas Array**	96.27	61	P		P	02 46 04.3	+1.1
	comp=Z,0.8nm,0.6s,baz=222,slow=5.9,SNR=33							
TXAR				pP		pP	02 46 38.4	+0.1
	comp=Z,0.5nm,0.7s,baz=232,slow=5.5,SNR=2.3							
TXAR				PP		PP	02 49 57.5	-1.2
	comp=Z,2.0nm,1.1s,baz=238,slow=7.0,SNR=6.9							
TXAR				PKKPbc		PKKPbc	03 02 46.0	-3.3
	comp=Z,0.8nm,0.7s,baz=114,slow=4.7,SNR=3.9							
TXAR				PKPPKP		P'P'df	03 11 02.8	-0.1
	comp=Z,0.6nm,1.0s,baz=92,slow=3.1,SNR=3.8							
TXAR				LR		LR	03 23 56.5	
	comp=Z,36nm,18.4s,baz=246,slow=32							
	comp=Z,0.8nm,0.6s							
C36M	**Paulatuk**	97.11	19	IAmb		IAmb	02 49 19.9	
	comp=Z,30nm,1.8s							
C36M	**Paulatuk**	97.11	19	P		Pdif	02 46 06.5	+0.6
	baz=244							
A36M	**Sachs Harbour**	97.92	17	IAmb		IAmb	02 46 11.0	
	comp=Z,16nm,1.1s							
A36M	**Sachs Harbour**	97.92	17	P		P	02 46 09.4	-0.1
	baz=244							
YKA	**Yellowknife Ar**	98.15	27	P		P	02 46 10.5	-0.2
	comp=Z,6.4nm,0.9s,baz=259,slow=4.7,SNR=37							
YKA				pP		pP	02 46 44.6	-1.5
	comp=Z,2.3nm,0.8s,baz=258,slow=4.6,SNR=3.7							
YKA				PKKPbc		PKKPbc	03 02 42.5	-2.9
	comp=Z,1.7nm,0.7s,baz=52,slow=2.6,SNR=11							
	comp=Z,6.4nm,0.9s							
MK31	**Makanchi Array**	98.24	316	IAmb		IAmb	02 46 13.4	
	comp=Z,17nm,1.1s							
MK31	**Makanchi Array**	98.24	316	*ce*P		Pdif	02 46 11.7	+0.1
MKAR	**Makanchi Array**	98.24	316	P		P	02 46 11.2	-0.4
MKAR	**Makanchi Array**	98.24	316	P		Pdif	02 46 12.1	+0.5
	comp=Z,8.1nm,0.8s,baz=95,slow=6.5,SNR=42							
MKAR				PKiKP		PKiKP	02 50 43.8	+0.2
	comp=Z,1.7nm,0.6s,baz=153,slow=1.0,SNR=9.0							
MKAR				S		SKSac	02 56 36.9	+0.5
	comp=Z,1.2nm,0.8s,baz=91,slow=8.7,SNR=4.5							
MKAR				PKKPbc		PKKPbc	03 02 41.2	-3.4
	comp=Z,0.3nm,0.4s,baz=248,slow=3.3,SNR=4.4							
MKAR				LR		LR	03 29 48.3	
	comp=Z,55nm,21.7s,baz=110,slow=35							
	comp=Z,8.1nm,0.8s							
MAKZ	**Makanchi**	98.45	316	P		Pdif	02 46 12.7	+0.2
MAKZ	**Makanchi**	98.45	316	P		Pdif	02 46 12.7	+0.2
MAKZ				pmax		pmax		
	comp=Z,22nm,1.2s							
ZALV	**Zalesovo Beam**	98.45	324	P		P	02 46 11.1	-1.2
ZALV	**Zalesovo Beam**	98.45	324	P		P	02 46 11.9	-0.3
	comp=Z,19nm,0.8s,baz=114,slow=5.2,SNR=56							
ZALV				PKiKP		PKiKP	02 50 43.2	-0.4
	comp=Z,0.6nm,0.4s,baz=50,slow=2.3,SNR=3.6							
	comp=Z,19nm,0.8s							
ZALV	**Zalesovo Beam**	98.45	324	*i* P		P	02 46 12.0	-0.3
ZALV				pmax		pmax		
	comp=Z,19nm,0.8s							
KURK	**Kurchatov**	101.45	320	P		Pdif	02 46 26.5	+0.8
KURK	**Kurchatov**	101.45	320	P		Pdif	02 46 25.9	+0.2
KURBB	**Kurchatov Arra**	101.49	319	P		Pdif	02 46 25.9	0.0
	comp=Z,1.3nm,0.5s,baz=98,slow=4.3,SNR=17							
KURBB				PKiKP		PKiKP	02 50 49.1	-0.1
	comp=Z,4.7nm,0.8s,baz=98,slow=1.7,SNR=18							
KURBB				S		SKSac	02 56 50.3	-1.7
	comp=Z,0.5nm,0.3s,baz=3.2,slow=28,SNR=1.6							
KURBB				PKKPbc		PKKPbc	03 02 33.1	-2.3
	comp=Z,0.7nm,0.5s,baz=282,slow=3.6,SNR=7.4							
WMOK	**

ASHO **Ashiyiah** 115.86 290 P PKPdf 02 51 16.9 0.0
SNR=12
O53A **New Philadelph** 115.90 53 P PKPdf 02 51 15.6 -1.0
baz=271
SHME **Shamm** 115.92 292 PKiKP PKiKP 02 51 17.2 +0.2
SHME **Shamm** 115.92 292 P PKiKP 02 51 17.2 +0.2
SPITS **Spitsbergen Ar** 115.92 354 PKP PKPdf 02 51 15.2 -0.3
comp=Z,3.0nm,0.4s,baz=83,slow=6.9,SNR=38
SPITS PP PP 02 52 21.5 +0.1
comp=Z,3.3nm,0.8s,baz=125,slow=7.2,SNR=2.2
SPITS PKKPbc PKKPbc 03 01 48.6 -1.4
comp=Z,2.6nm,0.6s,baz=161,slow=5.3,SNR=13
DMTO **DMTO** 115.97 282 P PKiKP 02 51 17.5 +0.2
SNR=16
NAZ **Nazwa, Dubai** 116.25 290 *i* PKiKP PKiKP 02 51 18.0 +0.3
SNR=6.8
NAZ **Nazwa, Dubai** 116.25 290 P PKiKP 02 51 17.7 +0.1
M53A **WI Miller and** 116.28 51 P PKPdf 02 51 16.4 -0.9
baz=272
FAQ **Al Faqa, Dubai** 116.28 290 *i* PKiKP PKiKP 02 51 18.0 +0.3
SNR=9.7
FAQ **Al Faqa, Dubai** 116.28 290 P PKPdf 02 51 17.6 -0.1
LPAZ **La Paz** 116.32 117 PKP PKPdf 02 51 18.6 -0.2
comp=Z,1.5nm,0.4s,baz=23,slow=2.9,SNR=8.6
LPAZ PKKPbc PKKPbc 03 01 47.5 -0.4
comp=Z,2.7nm,0.8s,baz=84,slow=2.7,SNR=10
ASUD **Al Ashush, Dub** 116.51 290 *i* PKiKP PKiKP 02 51 18.4 +0.2
SNR=9.9
ASUD **Al Ashush, Dub** 116.51 290 P PKiKP 02 51 18.4 +0.2
BLA **Blacksburg** 116.55 56 P PKPdf 02 51 16.7 -1.3
baz=270
RBK **Rabkut** 116.63 282 P PKiKP 02 51 19.1 +0.5
R55A **Marlinton** 116.78 55 PKPdf PKPdf 02 51 16.6 -1.8
DOK **Doka** 116.87 283 P PKPdf 02 51 18.6 -0.4
MCWV **Mont Chateau** 116.97 53 P PKPdf 02 51 17.6 -1.0
baz=272
WHFO **Wadi Hawf** 117.10 282 P PKiKP 02 51 19.7 +0.2
SNR=13
ABTO **Aybut** 117.46 282 P PKiKP 02 51 20.8 +0.6
UPNV **Upernavik** 117.57 13 *i* P PKPdf 02 51 17.2 -1.6
KIRV **Kirov** 117.94 329*c* *i* PKiKP PKiKP 02 51 19.9 0.0
MZR **Muzera** 118.03 288 *i* PKiKP PKiKP 02 51 21.9 +0.7
SNR=19
MZR **Muzera** 118.03 288 P PKiKP 02 51 22.0 +0.8
ROSC **El Rosal** 118.12 93 PKP PKPdf 02 51 21.2 -0.9
comp=Z,7.7nm,0.3s,baz=132,slow=18,SNR=3.6
SSPA **Standing Stone** 118.42 52 P PKPdf 02 51 20.0 -1.4
baz=274
GHWR **Ruwais** 118.67 289 P PKiKP 02 51 22.5 +0.2
JRN **Qarnain Island** 118.78 290 P PKiKP 02 51 22.9 +0.4
DAG **Danmarks Havn** 118.80 2 *i* P PKPdf 02 51 19.0 -2.1
DAG *i* P PKPdf 02 51 19.0 -2.1
CBN **Corbin Frederi** 118.94 55 P PKPdf 02 51 20.6 -1.9
baz=272
K57A **Scipio Center** 119.28 50 PKPdf PKPdf 02 51 21.4 -1.6
CPUP **Villa Florida** 119.43 133 PKP PKPdf 02 51 22.2 -1.6
comp=Z,1.1nm,0.5s,baz=244,slow=4.1,SNR=4.1
CPUP PKKPbc PKKPbc 03 01 35.8 -0.5
comp=Z,3.3nm,1.0s,baz=107,slow=1.9,SNR=5.2
CPUP PKKP PKKPdf 03 02 07.2 +0.7
comp=Z,1.0nm,0.7s,baz=31,slow=5.9,SNR=3.9
BINY **Binghamton** 119.72 50 P PKPdf 02 51 22.8 -1.0
baz=276
SLWR **Sila** 119.76 289 P PKiKP 02 51 24.7 +0.2
J58A **Remsen** 120.11 49 PKPdf PKPdf 02 51 23.7 -0.9
TRNA **Turayna** 120.25 290 P PKiKP 02 51 25.6 +0.2
APA **Apatity** 120.44 341 ⇓ *i* PKiKP PKPdf 02 51 21.3 -3.1
APA *i* *PP pPKPdf 02 51 57.0 -3.6
APA *i* 02 53 02.0
APA pmax pmax
comp=Z,12nm,1.0s
SHMA **Al-Shehemyia** 120.55 291 P PKiKP 02 51 26.6 +0.6
SMRA **Abu-Samra** 120.60 290 P PKiKP 02 51 26.2 +0.1
HAMF **Hammerfest** 120.89 347 *e* PKPdf PKPdf 02 51 25.1 -0.1
SAKB **Bahrain** 120.94 291 P PKiKP 02 51 27.1 +0.3
SUMG **Summit** 121.08 9 PKPdf PKPdf 02 51 25.8 -0.3
SUMG **Summit** 121.08 9 PKiKP PKPdf 02 51 25.8 -0.3
SUMG **Summit** 121.08 9 *i* P PKPdf 02 51 25.0 -1.1
SUMG *i* P PKPdf 02 51 25.0 -1.1
SUMG *i* P PKPdf 02 51 25.0 -1.1
DBG **Daneborg** 121.20 3 *i* P PKPdf 02 51 24.1 -1.6
ARA0 **ARCESS Array S** 121.29 345 *e* PKPdf PKPdf 02 51 26.1 +0.1
ARCES **ARCESS Array B** 121.29 345 PKPdf PKPdf 02 51 25.8 -0.2
ARCES **ARCESS Array B** 121.29 345 PKP PKPdf 02 51 25.7 -0.4
comp=Z,7.1nm,0.5s,baz=75,slow=1.7,SNR=89
ARCES PKKPbc PKKPab 03 01 26.8 -1.3
comp=Z,0.8nm,0.4s,baz=227,slow=2.8,SNR=9.5
ARCES **ARCESS Array B** 121.29 345 PKiKP PKPdf 02 51 25.8 -0.2
KLMR **Klimovskoe** 121.75 333 *e* PKiKP PKPdf 02 51 25.8 -1.3
KLMR pmax pmax
comp=Z,82nm,1.4s
LKRN **Lenkeran, Azer** 122.20 306 PKiKP PKPdf 02 51 28.7 0.0
SDV **Santo Domingo** 122.65 89 PKPdf PKPdf 02 51 28.1 -2.4
SUR **Sutherland** 122.71 213 PKPdf PKPdf 02 51 29.7 -0.6
SUR **Sutherland** 122.71 213 P PKiKP 02 51 30.8 +0.3
SCHQ **Schefferville** 122.79 34 PKP PKPdf 02 51 28.8 -0.6
comp=Z,7.0nm,0.7s,baz=254,slow=4.2,SNR=18
SCHQ PKKPbc PKKPbc 03 01 23.5 -0.9
comp=Z,7.1nm,0.6s,baz=105,slow=3.5,SNR=18
SFJD **Kangerlussuaq** 122.92 17 *i* P PKPdf 02 51 28.2 -1.0
HRV **Adam Dziewonsk** 122.94 49 ⇓ PKiKP PKPdf 02 51 28.7 -1.3
BOSA **Boshof** 122.98 220 PKP PKiKP 02 51 31.4 +0.4
comp=Z,36nm,0.8s,baz=127,slow=0.8,SNR=42
SEKA **Sheki** 123.11 309 PKiKP PKPdf 02 51 30.3 -0.2
MNGR **Mingechevir, A** 123.25 309 PKiKP PKPdf 02 51 30.7 +0.1
ZKTA **Zakatala** 123.47 310 PKiKP PKPdf 02 51 31.1 0.0
KBD **Kabd** 123.56 295 P PKiKP 02 51 32.2 +0.4
GROC **Groznyy** 123.81 312 *i* PKiKP PKPdf 02 51 31.5 -0.1
GROC *e* 02 52 06.7
GROC *e* 02 53 15.2
GROC *e* 02 58 26.6
GROC pmax pmax
comp=Z,55nm,0.8s
GANJ **Ganja** 123.85 309 PKiKP PKPdf 02 51 31.8 -0.1
ICESG **Greenland Ices** 123.88 11 *i* P PKPdf 02 51 29.0 -2.5
SAML **Samuel** 123.89 112 PKPdf PKPdf 02 51 31.5 -1.2
SAML **Samuel** 123.89 112 PKiKP PKPdf 02 51 31.5 -1.2
JOF **Joensuu** 123.95 338 *e* P PKPdf 02 51 31.3 0.0
PTLB **Pontes e Lacer** 124.28 122 PKPdf PKPdf 02 51 31.8 -1.6
VRH **Novokhopyorsk** 124.44 322 *e* PKiKP PKPdf 02 51 32.6 0.0
VRH pmax pmax
comp=Z,130nm,0.6s
DY2G **Dye2** 124.49 16 *i* P PKPdf 02 51 30.9 -1.7
STEI **Steigen** 124.87 348 *e* PKPdf PKPdf 02 51 32.9 0.0
SCO **Scoresbysund** 124.89 4 PKPdf PKPdf 02 51 32.8 -0.1
SCO **Scoresbysund** 124.89 4 PKiKP PKPdf 02 51 32.8 -0.1
SCO **Scoresbysund** 124.89 4 *i* P PKPdf 02 51 31.3 -1.6
MOS **Moscow** 124.95 328 *i* PKiKP PKPdf 02 51 32.4 -1.0
MOS pmax pmax
comp=Z,66nm,0.9s
GNI **Garni** 125.12 308 PKPdf PKiKP 02 51 35.7 +0.9
GNI **Garni** 125.12 308 PKiKP PKiKP 02 51 35.3 +0.5
GNI **Garni** 125.12 308 P PKiKP 02 51 35.8 +1.0
GNI **Garni** 125.12 308*c* *i* PKiKP PKiKP 02 51 35.2 +0.4
GNI pmax pmax
comp=Z,103nm,1.7s
LBTB **Lobatse** 125.29 223 PKP PKiKP 02 51 35.5 -0.1
comp=Z,26nm,0.7s,baz=124,slow=3.3,SNR=25
RAYN **Ar Rayn** 125.38 288 PKPdf PKPdf 02 51 35.5 +0.2
RAYN **Ar Rayn** 125.38 288 *i* PKiKP PKiKP 02 51 36.0 +0.3
SNR=40
RAYN **Ar Rayn** 125.38 288 P PKiKP 02 51 36.1 +0.4
RAYN **Ar Rayn** 125.38 288 ⇑ PKiKP PKiKP 02 51 36.1 +0.4
LPSR **Galich'ya Gora** 125.56 324 *e* PKiKP PKiKP 02 51 35.0 -0.1
LPSR pmax pmax
comp=Z,150nm,1.0s
VORR **Voronezh** 125.75 323 *e* PKiKP PKiKP 02 51 35.9 +0.4
VORR pmax pmax
comp=Z,233nm,1.0s
KBZ **Khabaz** 125.77 313 PKP PKiKP 02 51 36.0 +0.2
comp=Z,16nm,0.8s,baz=127,slow=2.7,SNR=19
KBZ **Khabaz** 125.77 313*d* *i* PKiKP PKiKP 02 51 36.2 +0.4
OBN **Obninsk** 125.77 328 ⇑ P PKiKP 02 51 35.9 +0.5
OBN **Obninsk** 125.77 328 PKPdf PKPdf 02 51 34.5 -0.5
OBN **Obninsk** 125.77 328*d* *i* PKiKP PKiKP 02 51 35.4 0.0
OBN pmax pmax
comp=Z,92nm,1.3s
KIV **Kislovodsk** 125.87 313 ⇑ P PKiKP 02 51 37.1 +1.0
KIV **Kislovodsk** 125.87 313 PKPdf PKPdf 02 51 35.6 -0.1
KIV **Kislovodsk** 125.87 313 *i* PKiKP PKiKP 02 51 36.3 +0.2
SNR=8.1
KIV **Kislovodsk** 125.87 313 P PKiKP 02 51 36.7 +0.6
KIV **Kislovodsk** 125.87 313*d* *i* PKiKP PKiKP 02 51 36.3 +0.2
KIV *e* 02 58 23.0
KIV pmax pmax
comp=Z,49nm,1.0s
SHA1 **Shidzhatmaz** 125.94 313*c* *i* PKiKP PKiKP 02 51 37.3 +0.8
VSR **Storozhevoye** 125.94 323 *e* PKiKP PKPdf 02 51 34.8 -0.7
VSR pmax pmax
comp=Z,70nm,0.7s
VORD **Divnogorie** 125.96 322 *e* PKiKP PKPdf 02 51 34.6 -0.9
VORD pmax pmax
comp=Z,30nm,0.5s
PUL **Pulkovo** 126.21 335*d* *i* PKiKP PKiKP 02 51 36.4 +0.3
PUL pmax pmax
comp=Z,34nm,0.5s
MATP **Matopo** 126.29 229 PKP PKiKP 02 51 37.9 +0.1
comp=Z,11nm,0.6s,baz=148,slow=2.5,SNR=38
KONS **Konsvik** 126.52 348 *e* PKPdf PKiKP 02 51 36.6 0.0
MOR8 **Moi Rana** 126.52 347 *e* PKPdf PKPdf 02 51 35.6 -0.6
STOK **Stokkvaagen** 126.69 348 *e* PKPdf PKPdf 02 51 35.1 -1.3
KEF **Keuruu** 126.72 339 *e* P PKPdf 02 51 36.0 -0.6
FINES **FINESS Array B** 126.79 338 PKPdf PKPdf 02 51 36.5 -0.3
FINES **FINESS Array B** 126.79 338 PKiKP PKiKP 02 51 37.2 0.0
comp=Z,13nm,0.7s,baz=73,slow=2.3,SNR=45
FINES SKPbc SKPbc 02 54 43.9
comp=Z,3.1nm,0.7s,baz=50,slow=4.8,SNR=6.2
FINES **FINESS Array B** 126.79 338*c* *i* PKiKP PKPdf 02 51 37.0 +0.2
FINES pmax pmax
comp=Z,13nm,0.7s
VAF **Ylistaro** 126.81 341 *e* P PKiKP 02 51 37.1 -0.1
BCA **Borcka** 127.20 310 ⇑ P PKiKP 02 51 39.7 +0.9
KIBK **Kibwezi** 127.20 255 P PKiKP 02 51 40.4 +0.8
SOC **Sochi** 128.04 313 *i* PKiKP PKPdf 02 51 39.8 +0.1
SOC *e* 02 53 43.5
SOC *e* PPP PPP 02 56 30.6
SOC *e* SS SS 03 10 40.1 -7.3
SOC pmax pmax
comp=Z,6.0nm,0.2s
ARBE **Arbavere** 128.15 336 *e* P PKiKP 02 51 40.7 +0.7
MEF **Metsahovi** 128.22 338 *e* P PKiKP 02 51 40.3 +0.2
NSS **Namsos** 128.47 347 *e* PKPdf PKiKP 02 51 40.4 -0.2
VSU **Vasula** 128.48 335*c* *i* PKiKP PKiKP 02 51 41.0 +0.3
VSU pmax pmax
comp=Z,44nm,1.3s
IGPR **InterUniversit** 128.49 79 PKPdf PKPdf 02 51 39.7 -1.5
RAF **Rauma** 128.58 340 *e* P PKiKP 02 51 40.8 0.0
MTSE **Matsula** 129.47 337 *e* P PKiKP 02 51 42.6 -0.1
LSZ **Lusaka** 129.63 234 PKPdf PKPdf 02 51 43.3 -0.5
LSZ **Lusaka** 129.63 234 PKiKP PKPdf 02 51 43.3 -0.5
MNK **Minsk** 130.39 330 *i* LRM MLR 03 51 22.6
comp=N,56nm,20.6s
MNK **Minsk** 130.39 330 *i* PKiKP PKPdf 02 51 43.9 +0.1
MNK *i* 02 52 18.7
MNK *i* 02 54 00.6
MNK *i* 03 05 56.2
MNK *i* SS SS 03 11 47.5 +32
MNK *i* SSS SSS 03 16 02.8
MNK pmax pmax
comp=E,5.0nm,0.9s
MNK pmax pmax
comp=Z,34nm,0.9s
MNK pmax pmax
comp=N,13nm,0.8s
MNK MLR MLR
comp=Z,106nm,20.0s
MNK MLR MLR
comp=N,56nm,21.0s
MNK **Minsk** 130.39 330 *i* PKP PKPdf 02 51 43.9 +0.1
comp=E,5.0nm,0.9s
MNK **Minsk** 130.39 330 *i* PKP PKPdf 02 51 43.9 +0.1
comp=N,13nm,0.8s
MNK **Minsk** 130.39 330 *i* PKP PKPdf 02 51 43.9 +0.1
comp=Z,34nm,0.8s,baz=54
MNK **Minsk** 130.39 330 *i* pPKP pPKPdf 02 52 18.8 -1.3
MNK **Minsk** 130.39 330 *i* PP PP 02 54 00.7 +1.5
MNK **Minsk** 130.39 330 *i* PPP PPP 02 56 38.1
MNK **Minsk** 130.39 330 *i* SKS SKSdf 02 58 06.3 -36
MNK **Minsk** 130.39 330 *i* PS PS 03 03 48.4 -25
MNK **Minsk** 130.39 330 *i* SKKS 03 08 41.7
MNK **Minsk** 130.39 330 *i* SS SS 03 11 47.6 +32
MNK **Minsk** 130.39 330 *i* SSS SSS 03 16 02.8
MNK **Minsk** 130.39 330 *i* LQ LQ 03 37 58.2
MNK **Minsk** 130.39 330 *i* LR LR 03 43 38.8
MNK **Minsk** 130.39 330 *i* LRM MLR 03 50 28.3
comp=Z,106nm,20.1s
IDID **Didzlasalis** 130.44 332 *e* P PKiKP 02 51 45.7 +0.9
ISAL **Salakas** 130.56 332 *e* P PKiKP 02 51 46.8 +1.8
SIM **Simferopol'** 131.41 317*K* *i* PKiKP PKiKP 02 51 48.0 +0.9
SIM pmax pmax
comp=Z,50nm,0.9s
PABE **Paberze** 131.55 333 *e* P PKiKP 02 51 46.6 -0.4
AKN **Aaknes** 131.60 348 *e* PKPdf PKiKP 02 51 46.5 -0.5
NB2 **NORSAR Subarra** 131.66 345 PKPdf PKPpre 02 51 35.3
comp=Z,50nm,2.5s,baz=31,slow=1.9
NB2 SKPa 02 55 01.8
comp=Z,8.3nm,1.1s,baz=39,slow=3.8
NB2 **NORSAR Subarra** 131.66 345 PKPdf PKPpre 02 51 35.3
baz=31,slow=1.9
NOA **NORSAR Array B** 131.66 345 PKhKP PKPpre 02 51 33.8
comp=Z,0.3nm,0.4s,baz=59,slow=2.1,SNR=3.5
NOA PKP PKiKP 02 51 47.0 -0.2
comp=Z,4.2nm,0.7s,baz=34,slow=2.0,SNR=20
NOA SKPbc SKPab 02 55 00.4 +0.6
comp=Z,15nm,1.0s,baz=32,slow=2.8,SNR=23
NOA **NORSAR Array B** 131.66 345 PKiKP PKiKP 02 51 47.0 -0.2
LODK **Lodwar** 131.67 260 P PKiKP 02 51 48.8 +0.1
DIKM **Dikmen** 131.75 312 ⇑ P PKiKP 02 51 49.1 +1.2
HFS **Hagfors** 131.77 343 PKP PKiKP 02 51 47.0 -0.3
comp=Z,5.2nm,0.6s,baz=108,slow=0.5,SNR=13
HFS SKPbc SKPab 02 55 01.1 +0.9
comp=Z,13nm,0.8s,baz=77,slow=3.3,SNR=16
HFS **Hagfors** 131.77 343 PKiKP PKiKP 02 51 47.0 -0.3
AK03 **Malin Array Si** 131.79 326 PKP PKPdf 02 51 46.0 -0.6
AKASG **Malin Array Be** 131.80 326 PKPdf PKPdf 02 51 45.6 -1.1
AKASG **Malin Array Be** 131.80 326 PKP PKPdf 02 51 47.0 +0.3
comp=Z,8.6nm,0.4s,baz=44,slow=2.7,SNR=40
AKASG PP PP 02 54 03.2 -5.2
comp=Z,0.4nm,0.4s,baz=48,slow=6.2,SNR=4.8
AKASG SKPbc SKPab 02 55 01.0 +0.4
comp=Z,27nm,0.7s,baz=45,slow=4.4,SNR=64
AKASG **Malin Array Be** 131.80 326 PKiKP PKPdf 02 51 47.0 +0.3
AKBB **Malin Array Si** 131.80 326*d* *i* PKiKP PKPdf 02 51 46.7 +0.1
AKBB **Malin Array Si** 131.80 326 PKP PKPdf 02 51 46.5 -0.1
AK01 **Malin Array Si** 131.81 326 PKP PKPdf 02 51 46.1 -0.5
AK09 **Malin Array Si** 131.81 326 PKP PKPdf 02 51 45.9 -0.8
KIEV **Kiev** 131.81 326 ⇑ PKiKP 02 52 05.8 +18
KIEV **Kiev** 131.81 326 PKPdf PKPdf 02 51 46.4 -0.2
KIEV **Kiev** 131.81 326 PKiKP PKPdf 02 51 46.4 -0.2
NC602 **NORSAR Array S** 131.84 345 *e* PKPdf PKPdf 02 51 46.7 +0.3
PBUR **Paburge** 132.06 335 *e* P PKiKP 02 51 47.7 -0.3
MI30 **MI30,Zelenitsa** 132.34 326 PKP PKPdf 02 51 47.1 -0.5
WIN **Windhoek** 132.38 218 PKPdf PKPdf 02 51 48.9 0.0
WIN **Windhoek** 132.38 218 PKiKP PKPdf 02 51 48.9 0.0
MI28 **MI28,Pidlybu** 132.51 327 PKP PKPdf 02 51 48.2 +0.2
SKAR **Skarsia** 132.67 346 *e* PKPdf PKiKP 02 51 49.3 +0.1
MI29 **MI29, Kamyanyy** 132.69 326 PKP PKPdf 02 51 47.5 -0.8
SUW **Suwalki** 132.87 332 *e* PKP PKiKP 02 51 49.8 +0.1
SUW **Suwalki** 132.87 332 *e* P PKiKP 02 51 50.0 +0.3
BDFB **Brasilia** 132.89 130 PKP PKPdf 02 51 49.6 -0.3
comp=Z,3.9nm,0.6s,baz=360,slow=4.8,SNR=4.2
LUBAR **Lubar, Ukraine** 133.01 325 PKP PKPdf 02 51 48.5 -0.5
RNPP9 **Sopachiv** 133.17 328 PKP PKPdf 02 51 49.2 0.0
RNPP8 **Varash** 133.23 328 PKP PKPdf 02 51 49.4 +0.1
KONO **Kongsberg** 133.28 345 ⇑ *i* PKiKP PKiKP 02 51 50.5 +0.1
KONO pmax pmax
comp=Z,7.0nm,1.3s
PURM **Purcari** 133.47 320 ⇑ P PKiKP 02 51 51.0 -0.2
ASK **Askoy** 133.51 348 *e* PKPdf PKiKP 02 51 50.7 -0.1
BR131 **Keskin Array S** 133.51 310*d* *i* PKiKP PKPdf 02 51 50.6 +0.1
BRTR **Keskin Array B** 133.51 310 PKPdf PKPdf 02 51 50.1 -0.3
BRTR **Keskin Array B** 133.51 310 PKhKP PKPpre 02 51 36.2
comp=Z,1.1nm,0.6s,baz=128,slow=3.5,SNR=6.6
BRTR PKP PKPdf 02 51 51.0 +0.6
comp=Z,17nm,0.9s,baz=140,slow=4.0,SNR=40
BRTR PP PP 02 54 15.3 -4.8
comp=Z,0.6nm,0.9s,baz=28,slow=6.5,SNR=3.4
BRTR SKPab SKPab 02 55 09.2 +0.5
comp=Z,4.5nm,0.8s,baz=126,slow=3.5,SNR=11
BRTR **Keskin Array B** 133.51 310*c* *i* PKiKP PKPdf 02 51 50.5 +0.1
BRTR pmax pmax
comp=Z,17nm,0.9s
SORM **Soroca** 133.60 323 ⇑ P PKPdf 02 51 49.0 -1.1
SORM **Soroca** 133.60 323 ⇑ PKiKP PKPdf 02 51 49.0 -1.1
MMAI **Mount Meron Ar** 133.74 301 PKP PKiKP 02 51 52.7 +0.4
comp=Z,23nm,0.7s,baz=77,slow=7.3,SNR=32
MMAI SKPab SKPab 02 55 09.5 -0.2
comp=Z,22nm,1.0s,baz=68,slow=4.7,SNR=16
MILM **Milestii Mici** 133.93 321 ⇓ P PKPdf 02 51 50.7 -0.1
MILM **Milestii Mici** 133.93 321 ⇑ *i* PKP PKPdf 02 51 50.5 -0.3
comp=Z,110nm,1.0s
MILM **Milestii Mici** 133.93 321*c* *i* PKiKP PKPdf 02 51 50.5 -0.3
MILM pmax pmax
comp=Z,110nm,1.0s
ANTO **Ankara** 134.09 311 ⇓ P PKiKP 02 51 52.2 -0.6
ANTO **Ankara** 134.09 311 PKPdf PKPdf 02 51 50.8 -0.6
ANTO **Ankara** 134.09 311 P PKiKP 02 51 52.6 -0.1
ANTO **Ankara** 134.09 311 ⇓ PKiKP PKiKP 02 51 52.2 -0.6
BLSS **Blasjo** 134.21 347 *e* PKPdf PKiKP 02 51 52.4 +0.1
KMPD **K-Podol'skiy** 134.46 324 PKP PKPdf 02 51 51.2 -0.5
TSUM **Tsumeb** 134.62 221 PKPdf PKPdf 02 51 51.7 -1.4
TSUM **Tsumeb** 134.62 221 PKP PKiKP 02 51 54.6 +0.1
comp=Z,9.3nm,0.5s,baz=148,slow=4.5,SNR=11
MBAR **Mbarara** 134.62 253 PKPdf PKiKP 02 51 53.0 -0.3
MBAR **Mbarara** 134.62 253 P PKiKP 02 51 54.3 -0.4
MBAR **Mbarara** 134.62 253*d* *i* PKiKP PKiKP 02 51 54.1 -0.6
KMY **Karmoy** 134.66 347 *e* PKPdf PKiKP 02 51 53.0 -0.2
VASR **Vaslui** 134.68 321 ⇑ P PKiKP 02 51 51.1 -1.1
TLCR 134.74 319 ⇑ P PKiKP 02 51 53.2 -0.6
TLCR 134.74 319 ⇑ PKiKP PKiKP 02 51 53.2 -0.6
HOMB **Homborsund** 134.76 345 *e* PKPdf PKiKP 02 51 54.1 +0.7
VLDR **Vladesti** 134.89 320 ⇑ P PKiKP 02 51 52.4 -0.2
SCTR **Scanteiesti** 135.02 320 ⇑ P PKiKP 02 51 54.3 -0.1
LVV **L'vov** 135.06 327 *e* PKiKP PKPdf 02 51 52.7 -0.1
CFR **Carcaliu** 135.17 320 ⇑ P PKiKP 02 51 54.4 -0.3
CFR **Carcaliu** 135.17 320 ⇑ PKiKP PKiKP 02 51 54.4 -0.3
GHRR 135.19 321 ⇓ P PKiKP 02 51 54.3 -0.4
IZVR **Izvoarele** 135.22 320 ⇑ P PKPdf 02 51 53.5 +0.3
TIRR **Tirgusor** 135.32 318 ⇑ PKiKP 02 52 07.2 +12
BEL **Belsk** 135.39 331 *e* PKP PKiKP 02 51 54.4 -0.5
TESR **Tescani** 135.42 322 ⇑ P PKPdf 02 51 52.7 -0.9
BSD **Bornholm Skovb** 135.43 338 *e* P PKiKP 02 51 55.2 +0.4
MFTR **Murfatlar** 135.44 318 ⇑ P PKiKP 02 51 55.0 -0.2
PANC **Panciu** 135.44 321 ⇑ P PKiKP 02 51 54.9 -0.3
TLBR **Topalu** 135.52 319 ⇑ P PKiKP 02 51 55.2 -0.2
BIZ **Bicaz** 135.52 323 ⇑ P PKiKP 02 52 02.1 +6.8
HARR **Harsova** 135.52 319 ⇑ P PKiKP 02 51 55.8 +0.4
HARR **Harsova** 135.52 319 ⇑ PKiKP PKiKP 02 51 55.8 +0.4
BUR08 **Bucovina Ar. S** 135.67 324 PKPdf PKiKP 02 51 55.0 -0.8
BURAR **Bucovina Array** 135.67 324 ⇑ P PKiKP 02 51 56.7 +1.0
BURAR **Bucovina Array** 135.67 324 PKPdf PKiKP 02 51 54.5 +0.3
VRI **Vrincioaia** 135.70 321 ⇑ P PKiKP 02 51 54.0 -0.2
VRI **Vrincioaia** 135.70 321 ⇑ PKiKP PKiKP 02 51 54.0 -0.2
PLOR **Plostina** 135.76 321 ⇑ P PKiKP 02 51 54.3 0.0
PLOR **Plostina** 135.76 321 ⇑ PKiKP PKiKP 02 51 54.3 0.0
GRER 135.79 320 ⇓ P PKiKP 02 51 57.8 +1.9
KWP **Kalwaria Pacla** 135.86 328 *e* PKiKP PKiKP 02 51 56.2 +0.2
ICOR **Ion Corvin** 135.87 318 ⇓ P PKiKP 02 51 56.7 +0.6
BISRR **Bisoca** 135.87 321 ⇑ P PKPdf 02 51 55.1 +0.5
GKP **Gorka Klasztor** 135.94 335 *e* PKiKP PKPdf 02 51 54.9 +0.6
COVR **Voineasa-Covas** 136.03 321 ⇑ P PKPdf 02 51 53.7 -1.1
TURR **Turia** 136.03 322 ⇑ P PKiKP 02 51 55.9 -0.6
OZUR 136.15 322 ⇑ P PKiKP 02 51 56.2 -0.6
NEHR **Nehoiu** 136.18 321 ⇑ P PKiKP 02 51 56.0 -0.8
BOSR **Bodos** 136.24 322 ⇑ P PKiKP 02 51 57.5 +0.6
MLR **Muntele Rosu** 136.36 321 ⇑ P PKPdf 02 51 55.7 +0.1
MLR **Muntele Rosu** 136.36 321 ⇑ PKiKP PKPdf 02 51 55.7 +0.1
ISP **Isparta** 136.42 309 ⇑ *i* PKiKP PKiKP 02 51 57.4 -0.2
ISP pmax pmax
comp=Z,13nm,0.7s
DOPR **Dopca** 136.45 322 ⇑ P PKiKP 02 51 57.1 -0.2
KOLS **Kolonicke sedl** 136.51 327 *e* PKP PKiKP 02 51 57.4 +0.1
KOLS *e* PP PP 02 54 38.7 +0.5
KOLS *e* 02 55 17.7
KOLS **Kolonicke sedl** 136.51 327 *e* PKiKP PKiKP 02 51 57.4 +0.1
KOLS *e* 02 54 38.7
BMR **Baia Mare** 136.60 325 ⇑ P PKiKP 02 51 57.2 -0.3
BMR **Baia Mare** 136.60 325 ⇑ PKiKP PKiKP 02 51 57.2 -0.3
STHS **Stebnicka Huta** 136.74 328 *e* PKP PKiKP 02 51 58.1 +0.3
STHS **Stebnicka Huta** 136.74 328 *e* PKiKP PKiKP 02 51 58.1 +0.3
OJC **Ojcow** 136.93 330 *e* PKP PKPdf 02 51 57.2 +0.9
CBBR **Cluj-Babes-Bol** 137.09 324 ⇑ P PKPdf 02 51 54.5 -2.2
CJR **Cluj-Napoca** 137.09 324 ⇑ P PKiKP 02 51 58.2 -0.4
CJR **Cluj-Napoca** 137.09 324 ⇑ PKiKP PKiKP 02 51 58.2 -0.4
MESR **Meseneti** 137.21 325 ⇑ P PKiKP 02 51 58.5 -0.3
NIE **Niedzica** 137.21 329 *e* PKP PKiKP 02 51 58.6 -0.2
ARR **Arges** 137.22 322 ⇑ P PKiKP 02 51 59.1 +0.1
HUMR **Humele** 137.44 320 ⇑ P PKPdf 02 51 58.3 +0.9
COPA **Copaceanca** 137.49 320 ⇑ P PKiKP 02 51 58.6 -0.8
DRGR 137.55 324 ⇑ P PKPpre 02 51 49.8
DRGR 137.55 324 ⇑ PKHKP PKPpre 02 51 49.8
ELND **Elena** 137.66 318 ⇑ P PKiKP 02 51 59.2 -0.7
LOT **Lotru** 137.69 322 ⇑ P PKPdf 02 51 58.8 +0.8
BORR **Bors** 137.89 325 ⇓ P PKiKP 02 52 00.3 +0.2
DEV **Deva** 137.96 323 ⇑ P PKiKP 02 51 59.8 -0.6
DEV **Deva** 137.96 323 ⇑ PKiKP PKiKP 02 51 59.8 -0.6
MORC **Moravsky Berou** 138.30 331 PKPpre 02 51 50.1
MORC **Moravsky Berou** 138.30 331 *e* PKP PKPpre 02 51 50.9
MORC *e* 02 55 22.2
MORC **Moravsky Berou** 138.30 331 PKHKP PKPpre 02 51 50.1
GZR **Gura Zlata** 138.30 323 ⇓ P PKiKP 02 52 00.3 -0.9
GZR **Gura Zlata** 138.30 323 ⇓ PKiKP PKiKP 02 52 00.3 -0.9
PSZ **Piszkesteto** 138.38 327 ⇑ P PKiKP 02 51 58.9 -0.2
PSZ **Piszkesteto** 138.38 327 ⇑ PKiKP PKPdf 02 51 58.9 -0.2
SIRR **Siria** 138.44 324 ⇑ P PKPpre 02 51 50.7
DPC **Dobruska-Polom** 138.45 333 *e* PKPpre PKPpre 02 51 51.0
DPC *e* PKPDF PKPdf 02 51 58.8 -0.3
DPC *e* SKP 02 55 22.5
DPC **Dobruska-Polom** 138.45 333 *e* PKHKP PKPpre 02 51 51.0
DPC *e* 02 51 58.8
MAUC **Maruska** 138.45 330 *e* PKPDF PKiKP 02 52 00.5 -0.8
MAUC *e* SKP 02 55 22.7
UPC **Upice** 138.47 333 *e* PKPDF PKiKP 02 52 00.7 -0.6
UPC **Upice** 138.47 333 *e* PKiKP PKiKP 02 52 00.7 -0.6
VYHS **Vyhne** 138.55 329 *e* PKP PKPdf 02 51 59.1 -0.2
VYHS *e* PP PP 02 54 50.9 +0.1
VYHS *e* 02 55 23.9
VYHS **Vyhne** 138.55 329 *e* PKiKP PKPdf 02 51 59.1 -0.2
VYHS *e* 02 54 50.9
BSZH **Besenyszg** 138.58 326 ⇑ P PKiKP 02 52 02.1 +0.5
HERR **Herculane** 138.80 322 ⇑ P PKiKP 02 52 02.1 +0.9
BZS **Buzias** 138.85 324 ⇑ P PKiKP 02 52 01.0 +1.1
BZS **Buzias** 138.85 324 ⇑ PKiKP PKPdf 02 52 01.0 +1.1
JAVC **Velka Javorina** 138.88 330 *e* PKP PKPpre 02 51 51.8
JAVC *e* 02 55 24.9
VRAC **Vranov** 139.07 331 *e* PKP PKPpre 02 51 52.1
VRAC *e* 02 54 56.2
VRAC *e* 02 55 24.2
BRG **Berggiesshubel** 139.08 335 *e* PKP PKPpre 02 51 51.5
BRG Amp 02 51 53.7
comp=Z,3.2nm,0.8s
BRG **Berggiesshubel** 139.08 335 P PKPdf 02 52 00.8 +0.6
BRG Amp 02 52 04.6
comp=Z,18nm,0.8s
BRG **Berggiesshubel** 139.08 335 P PKiKP 02 52 10.2 +7.7
BRG Amp 02 52 12.1
comp=Z,7.8nm,0.9s
BRG SKP 02 55 24.1
BRG Amp 02 55 26.4
comp=Z,13nm,1.0s
PVCC **Panska Ves** 139.08 334 *e* PKPpre PKPpre 02 51 52.5
PVCC **Panska Ves** 139.08 334 *e* PKHKP PKPpre 02 51 52.5
CLL **Collm** 139.12 336 PKPpre PKPpre 02 51 51.0
CLL **Collm** 139.12 336 *e* PKPpre PKPpre 02 51 52.0
comp=Z,6.0nm,0.8s
CLL *ex* x 02 51 55.0
CLL *i* PKPdf PKPdf 02 52 00.5 +0.2
comp=Z,14nm,1.1s
CLL *i* PKiKP PKiKP 02 52 03.3 +0.8
comp=Z,28nm,1.2s
CLL *e* PP PP 02 54 51.0 -3.1
CLL *i* SKPdf SKPbc 02 55 24.1 +1.4
comp=Z,12nm,0.9s
CLL *e* PKSdf PKSdf 02 55 36.0 -0.1

MODS Modra-Piesok 139.40 330 *e*PKP **PKiKP 02 52 02.6 -0.6**
MODS *e*PP **PP 02 54 56.2 +0.2**
MODS *e* 02 55 26.8
MODS Modra-Piesok 139.40 330 *e*PKiKP **PKiKP 02 52 02.6 -0.6**
MODS *e* 02 54 56.3
PRA Prague 139.48 334 *e*SKP 02 55 26.5
HSKC Hora Svate Kat 139.49 335 *e*PKPDF PKPpre 02 51 55.6
HSKC *ex* x 02 52 03.0
PRU Pruhonice 139.50 333 *e*PKPDF **PKPdf 02 52 00.2 -0.8**
PRU *e*SKP 02 55 26.6
PRU Pruhonice 139.50 333 *e*PKIKP **PKPdf 02 52 00.2 -0.8**
TREC Trest 139.59 332 *e*PKPDF **PKPdf 02 52 00.9 -0.3**
TREC *e*SKP 02 55 26.6
TREC Trest 139.59 332 *e*PKIKP **PKPdf 02 52 00.9 -0.3**
ZST Bratislava 139.60 330 *e*PKP **PKiKP 02 52 02.7 -0.9**
ZST Bratislava 139.60 330 *e*PKIKP **PKiKP 02 52 02.7 -0.9**
EKA Eskdalemuir Ar 139.81 352 PKhKP PKPpre 02 51 53.1
comp=Z,2.2nm,0.5s,baz=6.8,slow=2.6,SNR=23
EKA SKPbc **SKPbc 02 55 25.3 +0.9**
comp=Z,4.7nm,0.9s,baz=318,slow=2.4,SNR=6.8
BOVS Bovan 139.92 321 ⇑P PKPpre 02 51 54.2
ZVC Zvikov 140.06 333 *e*SKP 02 55 27.1
FRGS Fruska Gora 140.15 324 ⇑P **PKPdf 02 52 03.5 +1.1**
FRGS Fruska Gora 140.15 324 ⇑*i*P **PKPdf 02 52 02.4 0.0**
NKC Novy Kostel 140.18 335 *e*SKP 02 55 28.0
RONA Rosalia, Austr 140.34 330 *i* PKiKP **PKiKP 02 52 06.0 +0.7**
comp=Z,19nm,0.6s,SNR=9.5
RONA *e*PP **PP 02 55 02.8 +1.0**
comp=Z,13nm,1.4s
RONA *e*SKP 02 55 27.6
comp=Z,10nm,1.1s
CONA Conrad Observa 140.39 330 *i* PKiKP **PKiKP 02 52 06.2 +0.8**
comp=Z,17nm,0.5s
CONA *e*PP **PP 02 55 03.7 +1.6**
comp=Z,11nm,1.2s
CONA *e*SKP 02 55 27.7
comp=Z,8.5nm,1.1s
APE Apeiranthos 140.40 310 ⇑P **PKPdf 02 52 00.9 -2.2**
APE Apeiranthos 140.40 310 ⇑PKIKP **PKPdf 02 52 00.9 -2.2**
CKRC Cesky Krumlov 140.46 332 *e*PKPDF PKPpre 02 51 56.9
CKRC Cesky Krumlov 140.46 332 *e*PKHKP PKPpre 02 51 56.9
KHC Kasperske Hory 140.55 333 *e*PKPpre PKPpre 02 51 56.5
KHC *e*PKPDF **PKPdf 02 52 03.5 +0.5**
KHC *e*SKP 02 55 27.7
KHC Kasperske Hory 140.55 333 *e*PKHKP PKPpre 02 51 56.5
KHC *e* 02 52 03.5
VAY Valandovo 140.59 317 *i* P **PKPdf 02 52 02.5 -0.8**
TEKS Tekeris 140.67 324 *e*P PKPpre 02 51 54.6
GERES GERESS Array B 140.71 333 PKPpre 02 51 56.4
GERES PKPdf **PKPdf 02 52 03.7 +0.3**
GERES GERESS Array B 140.71 333 PKhKP PKPpre 02 51 57.0
comp=Z,1.1nm,0.5s,baz=20,slow=3.2,SNR=8.2
GERES PKP **PKPdf 02 52 04.5 +1.1**
comp=Z,10nm,0.7s,baz=48,slow=2.0,SNR=24
GERES SKPbc **SKPbc 02 55 27.9 +0.7**
comp=Z,8.3nm,0.9s,baz=20,slow=4.3,SNR=12
GERES GERESS Array B 140.71 333 PKHKP PKPpre 02 51 56.4
GERES 02 52 03.7
SKO Skopje 140.98 319 *i* P PKPpre 02 51 58.6
ARSA Arzberg 141.03 330 *i* PKP **PKPdf 02 52 04.5 +0.6**
comp=Z,8.8nm,1.1s
ARSA *e*PP **PP 02 55 05.8 -0.2**
comp=Z,6.7nm,1.4s
GRA1 Grafenberg Arr 141.10 336 PKPpre PKPpre 02 51 57.0
GRF Grafenberg Arr 141.10 336 PKHKP PKPpre 02 51 57.0
GRFO Grafenberg 141.10 336 PKPpre PKPpre 02 51 56.5
GRFO Grafenberg 141.10 336 PKHKP PKPpre 02 51 56.5
BBLS Lazi&#263i 141.15 323 ⇑*i*P PKPpre 02 51 59.6
SJES Sjenica 141.17 322 ⇓*i*P PKPpre 02 51 58.8
MOA Molln 141.19 331 *i* PKP **PKPdf 02 52 04.7 +0.6**
comp=Z,3.7nm,0.7s
MOA *i* PKiKP **PKiKP 02 52 07.1 +0.1**
comp=Z,11nm,0.8s
HAPS Han Pijesak,Bl 141.28 323 *e*P PKPpre 02 51 59.4
RUDO Rudo 141.32 323 *e*P PKPpre 02 51 58.3
DOB Doboj 141.36 325 *e*P **PKPdf 02 52 05.1 +0.6**
MOSL Moslavina 141.52 327 *i* P PKPpre 02 51 59.7
BIOA Bad Ischl, Aus 141.60 332 *i* PKP **PKPdf 02 52 05.4 +0.4**
comp=Z,5.9nm,0.5s
BIOA *i* PKiKP **PKiKP 02 52 07.8 +0.1**
comp=Z,10nm,0.6s
BIOA *e*PP **PP 02 55 07.8 -1.6**
comp=Z,5.6nm,1.2s
SOKA Soboth 141.67 329 *e*PKiKP **PKiKP 02 52 08.0 0.0**
comp=Z,9.4nm,0.7s
SOKA *e*PP **PP 02 55 11.0 +1.0**
comp=Z,17nm,1.4s
SOKA *e*SKP 02 55 30.4
comp=Z,7.5nm,1.2s
A051A Mrakovica 141.84 326 *e*P PKPpre 02 51 59.9
OHR Ohrid 141.84 318 *i* P PKPpre 02 52 01.4
BLY Banja Luka 141.86 326 ⇑*i*P PKPpre 02 52 00.9
PRIJ Prijedor 141.96 326 *e*P PKPpre 02 52 01.2
OBKA Obir 142.03 330 *e*PKiKP **PKiKP 02 52 08.7 -0.1**
comp=Z,16nm,1.1s
OBKA *e*PP **PP 02 55 13.1 +1.0**
comp=Z,13nm,1.5s
OBKA Obir 142.03 330 *e*P PKPpre 02 52 01.0
CRES Cresnjev 142.05 328 ⇑*i*P PKPpre 02 52 01.2
PDG Podgorica 142.08 321 *e*P PKPpre 02 52 02.7
KBN Korca 142.11 318 PKPpre PKPpre 02 52 00.3
KBN Korca 142.11 318 PKHKP PKPpre 02 52 00.3
MGRS Mrkonjic Grad 142.13 325 *e*P PKPpre 02 52 00.3
BTNL Ternell 142.16 341 *d*PKP PKPpre 02 52 02.1
BTNL *d*PKiKP **PKiKP 02 52 09.4 +0.6**
MEM Membach 142.18 341 *d*PKP PKPpre 02 52 01.6
KBA Koelnbreinsper 142.19 331 *e*PKP PKPpre 02 52 02.1
comp=Z,15nm,1.0s
KBA *e*PP **PP 02 55 12.5 -0.7**
comp=Z,14nm,1.3s
KBA *e*SKP 02 55 31.9
comp=Z,7.4nm,1.3s
BRY Bratogost 142.23 322 *e*P PKPpre 02 52 01.4
LESA Schwarzleotal 142.23 332 *e*PKP PKPpre 02 52 02.7
comp=Z,17nm,0.6s
LESA *e*PP **PP 02 55 13.6 +0.3**
comp=Z,12nm,1.3s
LESA *e*SKP 02 55 31.8
comp=Z,13nm,1.2s
DRME Dracevica, Mon 142.26 321 *e*P PKPpre 02 52 01.1
SRKY Kupres RS 142.30 325 *e*P PKPpre 02 52 03.3
TIR Tirane 142.31 319 ⇑P PKPpre 02 52 03.0
TIR Tirane 142.31 319 ⇑PKIKP PKPpre 02 52 03.0
BSTI Sart Tilman 142.34 341 *d*PKP PKPpre 02 52 02.5
BSTI *d*PKiKP **PKiKP 02 52 10.0 +0.8**
MYKA Terra Mystica 142.38 331 *e*PKP PKPpre 02 52 02.2
comp=Z,11nm,0.9s
BOJS Bojanci 142.38 328 ⇓*i*P PKPpre 02 52 02.8
A050A Klekovaca 142.39 326 ⇑*i*P PKPpre 02 52 01.8
BHOU Houvegnez 142.41 341 *d*PKPdf PKPpre 02 52 02.6
TREB Trebinje 142.45 322 *e*P PKPpre 02 52 01.8
HCY Herceg Novi 142.53 322 *e*P PKPpre 02 52 02.6
BCLA Clavier 142.57 342 *d*PKP PKPpre 02 52 03.1
BCLA *d*PKPdf PKPpre 02 52 07.2
DBRK Dubrovnik 142.60 322 *i* P PKPpre 02 52 01.9
CEY Cerknica 142.63 329 ⇑*i*P PKPpre 02 52 03.1
BGES Gesves 142.66 342 *d*PKPdf **PKPdf 02 52 06.3 -0.3**
STON Ston 142.74 323 ⇑*i*P PKPpre 02 52 02.4
KIJV Kijevo 142.76 325 *i* P PKPpre 02 52 03.4
UDBI Udbina 142.77 326 *i* P PKPpre 02 52 02.6
WATA Walderalm 142.79 333 *i* PKP **PKPdf 02 52 04.0 -3.2**
comp=Z,24nm,1.0s,SNR=12
WATA *e*SKP 02 55 33.5
comp=Z,9.9nm,1.3s
ABTA Abfaltersbach 142.81 332 *e*PKP PKPpre 02 52 03.8
comp=Z,27nm,0.7s,SNR=44
ABTA *i* PKiKP **PKiKP 02 52 10.0 -0.4**
comp=Z,24nm,0.6s
ABTA *e*SKP 02 55 33.2
comp=Z,9.6nm,1.2s
WTTA Wattenberg 142.82 333 *e*PKP **PKPdf 02 52 04.4 -2.9**
comp=Z,48nm,1.1s,SNR=24
WTTA *e*SKP 02 55 33.7
comp=Z,8.2nm,1.0s
RCHB Rochefort 142.82 341 *d*PKP **PKPdf 02 52 03.8 -3.1**
RCHB *d*PKiKP **PKiKP 02 52 10.2 +0.1**
BMRD Maredsous 142.83 342 *d*PKP PKPpre 02 52 03.9
BMRD *d*PKPdf **PKPdf 02 52 07.8 +0.8**
BMRD *d*PKiKP **PKiKP 02 52 11.0 +0.8**
WLF Walferdange 142.96 340 *d*PKP **PKPdf 02 52 04.8 -2.4**
MOTA Moosalm 142.99 333 *e*PKP **PKPdf 02 52 04.7 -2.9**
comp=Z,48nm,0.8s,SNR=34
MOTA *e*PP **PP 02 55 20.9 +3.0**
comp=Z,9.5nm,1.5s
MOTA *e*SKP 02 55 34.1
comp=Z,10.0nm,1.0s
RETA Reutte 143.02 334 *e*PKP PKPbc 02 52 04.9 +0.2
comp=Z,11nm,0.6s,SNR=23
RETA *e*PP **PP 02 55 21.8 +3.8**
comp=Z,3.1nm,1.0s
RETA *e*SKP 02 55 34.2
comp=Z,5.3nm,1.0s
SQTA Sankt Quirin 143.04 333 *e*PKP PKPbc 02 52 04.8 0.0
comp=Z,45nm,1.1s,SNR=32
SQTA *e*PP **PP 02 55 21.8 +3.6**
comp=Z,5.9nm,0.9s
SQTA *e*SKP 02 55 34.2
comp=Z,6.0nm,0.8s
DOU Dourbes 143.07 342 *d*PKP PKPbc 02 52 04.8 +0.2
DOU dpPKP pPKPdf 02 52 39.5 -4.2
MORI Morici 143.24 326 *i* P PKPbc 02 52 04.7 -0.6
SMRN Sveta Marina 143.26 328 *i* P PKPab 02 52 04.5 +0.6
HVAR Hvar 143.27 324 *i* P PKPab 02 52 04.2 +0.1
LSTV Lastovo 143.28 323 *i* P PKPab 02 52 03.6 -0.5
VIRC Vir 143.30 327 *i* P PKPab 02 52 04.7 +0.5
BFO Black Forest 143.32 337 PKPpre PKPpre 02 52 04.1
BFO Black Forest 143.32 337 PKHKP PKPpre 02 52 04.1
FETA Feichten 143.40 333 *e*PKP PKPbc 02 52 06.6 +0.7
comp=Z,53nm,0.8s,SNR=53
FETA *e*SKP 02 55 34.6
comp=Z,10nm,1.0s
ZIRJ Zirje 143.41 325 *i* P PKPab 02 52 04.0 -0.6
DUGI Dugi Otok 143.50 326 *i* P PKPab 02 52 04.9 -0.1
DAVA Damuels 143.55 334 *e*PKP PKPbc 02 52 06.2 -0.1
comp=Z,21nm,0.6s,SNR=28
DAVA *e*PP **PP 02 55 20.9 -0.3**
comp=Z,9.7nm,1.4s
DAVA *e*SKP 02 55 35.6
comp=Z,9.2nm,1.2s
BRJN Brijuni 143.56 328 *i* P PKPbc 02 52 06.2 +0.1
FUORN Ofenpass-Fuorn 143.91 333 PKPdf PKPbc 02 52 07.9 +0.5
MATE Matera 144.67 321 ⇑P **PKPdf 02 52 10.3 -0.2**
NRCA Norcia 145.33 326 PKPdf **PKPdf 02 52 11.3 -0.4**
TIP Timpagrande 145.49 318 ⇓P **PKPab 02 52 12.7 0.0**
OSSC Osservatorio P 145.80 329 PKPdf **PKPdf 02 52 11.7 -0.7**
SHEL Horse Pasture 147.93 192 **PKPbc 02 52 20.2 +0.3**
SHEL Horse Pasture 147.93 192 PKP2 **PKPbc 02 52 20.2 +0.3**
CEST Esterri de Car 150.79 339 PKPdf **PKPdf 02 52 21.3 +0.6**
CEST **PKiKP 02 52 27.0 0.0**
CEST **PKPab 02 52 35.7 +1.9**
KEST Kesra 152.26 320 PKPbc **PKiKP 02 52 31.3 +1.1**
comp=Z,134nm,0.8s,baz=255,slow=0.5,SNR=3.5
CMAH Djebel Manchou 152.80 324 P **PKiKP 02 52 31.8 +0.5**
CAEH 'Ain El Ouahch 153.01 325 P **PKiKP 02 52 32.0 +0.4**
ABSA Djebel Ababsia 153.01 323 P **PKiKP 02 52 32.6 +0.8**
CKFL Kef-Lekhel 153.36 324 P **PKiKP 02 52 33.2 +0.7**
PBRG Braganca 153.54 351 *e*PKPab **PKPab 02 52 45.7 +0.4**
CASM Ain Smara 153.59 324 P **PKiKP 02 52 33.6 +0.7**
CTGD Timgad 154.08 323 P **PKiKP 02 52 34.6 +0.6**
POLO Lamas de Olo 154.11 352 *e*PKPbc **PKPbc 02 52 33.7 -0.1**
POLO Lamas de Olo 154.11 352 *e*PKPab **PKPab 02 52 48.2 +0.4**
CJSR Ain Djasser 154.18 324 P **PKPbc 02 52 33.3 -0.8**
PVRL Vila Real 154.20 352 *e*PKPab **PKPab 02 52 49.0 +0.9**
CKHR Kef el Ahmar 154.31 325 P **PKiKP 02 52 35.1 +0.6**
CAZD Ain Tagrout 154.38 326 P **PKiKP 02 52 37.2 +2.6**
PVIS Viseu 154.77 352 *e*PKPab **PKPab 02 52 51.8 +1.2**
ESDC Sonseca Array 155.03 345 PKPdf **PKPdf 02 52 26.2 -0.7**
ESDC PKPab 02 52 34.9 -17
ESDC PKPab pPKPdf 02 52 51.7 -12
ESDC Sonseca Array 155.03 345 PKP **PKPdf 02 52 26.1 -0.7**
comp=Z,1.6nm,1.1s,baz=33,slow=2.5,SNR=5.8
ESDC PKPbc PKPab 02 52 36.1 -16
comp=Z,3.3nm,0.9s,baz=12,slow=2.8,SNR=17
ESDC PKPab pPKPdf 02 52 52.2 -11
comp=Z,11nm,0.9s,baz=17,slow=3.3,SNR=12
ESDC PP **PP 02 56 23.8 -3.4**
comp=Z,3.8nm,1.0s,baz=21,slow=5.9,SNR=9.7
MTE Manteigas 155.03 352 *e*PKPab **PKPab 02 52 53.1 +1.4**
PAB San Pablo 155.24 345 PKPdf **PKPdf 02 52 25.7 -1.5**
PAB PKPab **PKPab 02 52 53.5 +0.8**
PAB San Pablo 155.24 345 PKIKP **PKPdf 02 52 25.7 -1.5**
PAB PKP **PKPab 02 52 53.5 +0.8**
COI Coimbra 155.33 353 *e*PKPab **PKPab 02 52 54.4 +1.5**
PCAS Casmilo, Conde 155.50 353 *e*PKPab **PKPab 02 52 54.0 +0.4**
PCBR Castelo Branco 155.57 351 *e*PKPab **PKPab 02 52 55.1 +1.2**
PMRV Marv??o 155.96 351 *e*PKPab **PKPab 02 52 56.1 +0.4**
PMTG Montargil 156.43 352 *e*PKPab **PKPab 02 52 58.7 +1.1**
PESTR Estremoz 156.54 351 *e*PKPab **PKPab 02 52 59.0 +0.8**
EVO Evora 156.93 352 *e*PKPab **PKPab 02 53 01.0 +1.2**
PBAR Barrancos 157.13 349 *e*PKPab **PKPab 02 53 02.0 +1.3**
PBEJ Beja 157.41 351 *e*PKPab **PKPab 02 53 03.6 +1.7**
MESJ Messejana 157.64 352 *e*PKPab **PKPab 02 53 04.1 +1.2**
MESJ Messejana 157.64 352 PKPab **PKPab 02 53 02.7 -0.2**
MESJ Messejana 157.64 352 *e*PKPab **PKPab 02 53 04.4 +1.5**
MESJ Messejana 157.64 352 PKP2 **PKPab 02 53 02.7 -0.2**
PCVE Castro Verde 157.82 351 *e*PKPab **PKPab 02 53 04.7 +1.0**
PVAQ Vaqueiros 158.00 350 *e*pPKPdf pPKPdf 02 53 06.0 -1.3
PBDV Barranco-do-Ve 158.19 351 *e*PKPab **PKPab 02 53 06.9 +1.6**
MORF Marmelete 158.23 352 *e*PKPab **PKPab 02 53 06.9 +1.4**
MORF Marmelete 158.23 352 *e*PKPab **PKPab 02 53 07.0 +1.4**
PFVI Vila Bisbo 158.42 353 *e*PKPab **PKPab 02 53 07.9 +1.6**
TAM Tamanrasset 161.84 296 PKPdf **PKPdf 02 52 34.7 -0.9**
TAM Tamanrasset 161.84 296 PKIKP **PKPdf 02 52 34.7 -0.9**
TORD Torodi Ar. Bea 166.31 261 PKPdf **PKPdf 02 52 38.3 -1.3**
TORD Torodi Ar. Bea 166.31 261 PKP **PKPdf 02 52 39.2 -0.5**
comp=Z,9.3nm,0.7s,baz=7.3,slow=1.3,SNR=56
TORD PKPab **PKPab 02 53 41.2 -0.5**
comp=Z,8.4nm,0.8s,baz=84,slow=5.2,SNR=11
TORD PP **PP 02 57 27.6 -2.3**
comp=Z,2.6nm,1.1s,baz=112,slow=5.6,SNR=4.5
KIC Kosan Boka 168.21 219 ⇑*e*PKIKP **PKPdf 02 52 40.1 -1.0**
comp=Z,52nm,1.0s
KIC Kosan Boka 168.21 219 ⇓*e*P **PKPab 02 53 50.0 +0.1**
comp=Z,85nm,1.0s
LIC Lamto 168.27 218 ⇑*e*PKIKP **PKPdf 02 52 40.1 -1.0**
comp=Z,80nm,1.0s
LIC Lamto 168.27 218 ⇑*e*P **PKPab 02 53 50.6 +0.5**
comp=Z,124nm,1.0s
DBIC Dimbokro 168.52 220 PKPdf **PKPdf 02 52 40.1 -1.2**
DBIC PKPab **PKPab 02 53 51.1 -0.1**
DBIC Dimbokro 168.52 220 PKP **PKPdf 02 52 40.9 -0.4**
comp=Z,20nm,0.9s,baz=98,slow=0.8,SNR=15
DBIC PKPab **PKPab 02 53 51.4 +0.1**
comp=Z,20nm,1.0s,baz=139,slow=5.7,SNR=8.4
TIC Toumodi 168.60 219 ⇑*e*PKIKP **PKPdf 02 52 40.6 -0.8**
comp=Z,33nm,0.9s
TIC Toumodi 168.60 219 ⇓*e*P **PKPab 02 53 52.1 +0.5**
comp=Z,104nm,1.0s

NIED ***30*** *02:35:15.2,23.96N×122.42E,h22km,MW3.9,Moment Tensor Solution. s2 Moment tensor: Scale 10¹⁴Nm; Mrr0.27; Mθθ-5.33; Mφφ5.06; Mrθ6.13; Mrφ2.26; Mθφ3.08; Fault plane solution: M₀8.88000×10¹⁴ NP1:φ₀59.00000°, δ89.00000°, λ51.00000°. NP2:φ₀328.00000°, δ39.00000°, λ179.00000°.*
JMA ***30*** *02:35:15.2±0.2,24.1°×122.4E±0.4,h22km±3km, MV3.5/15,NW OFF ISHIGAKIJIMA IS*
TAP ***30*** *02:35:16.1,24.06N×122.41E,h24km,ML4.1,C*
ASIES ***30*** *02:35:16.1,24.06N×122.41E,h24km,ML4.1,Mw3.8, Moment Tensor Solution. Moment tensor: Scale 10²¹Nm; Mrr2.79; Mθθ-1.32; Mφφ1.70; Mrθ5.42; Mrφ0.66; Mθφ3.57; Fault plane solution: M₀6.98024×10²¹ NP1:φ₀60.46000°, δ83.74000°, λ75.81000°. NP2:φ₀307.13000°, δ15.48000°, λ155.90000°. Principal axes: T Plg49.3340°, Azm315.0270°; N Plg14.1010°, Azm62.0290°; P Plg37.1850°, Azm163.0150°;*
IDC ***30*** *02:35:40.6±13.0,25.15N×122.43E,h210km±96km, mb3.5/9,mbtmp4.0/10,MS3.2/2 Error ellipse: s-maj=103.7km s-min=33.5km az=173.0*
ISC 30 02:35:15.2±0.8, 23.98N±0.02×122.43E±0.02, h28km±6km, n168, σ1s20/259, mb4.1/10, 2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
EOS4	**EOS4**	**0.17**	**323**	⇓*i*P			**Pb**	**02 35 20.4**	**0.0**
baz=304									
EOS4				*e*S			**Sb**	**02 35 23.9**	**-0.1**
baz=304									
EOS3	**EOS3**	**0.32**	**341**	⇓*i*P			**Pb**	**02 35 22.9**	**+0.3**
baz=332									
EOS3				*i* S			**Sb**	**02 35 28.3**	**+0.7**
baz=332									
EOS2	**EOS2**	**0.47**	**337**	*i* P			**Pn**	**02 35 25.6**	**-0.3**
baz=323									
EOS2				S			**Sn**	**02 35 32.7**	**-0.6**
baz=323									
JYNG	**Yonagunijimaku**	**0.66**	**45**	P			**Pb**	**02 35 28.3**	**+0.1**
JYNG				*e*S			**Sb**	**02 35 36.8**	**-0.2**
YOJ	**Yonaguni jima**	**0.71**	**48**	P			**Pb**	**02 35 29.3**	**+0.3**
YOJ	**Yonaguni jima**	**0.71**	**48**	*e*P			**Pb**	**02 35 29.1**	**+0.1**
YOJ				*e*S			**Sb**	**02 35 38.4**	**-0.1**
YOJ	**Yonaguni jima**	**0.71**	**48**	P			**Pb**	**02 35 29.1**	**+0.1**
baz=63									
YOJ				*e*S			**Sb**	**02 35 37.8**	**-0.7**
baz=63									
EAHA	**Aohua**	**0.72**	**299**	P			**Pb**	**02 35 29.4**	**+0.3**
baz=293									
EAHA				*e*S			**Sn**	**02 35 40.2**	**+0.6**
baz=293									
EWUT	**Wuta**	**0.75**	**308**	P			**Pb**	**02 35 29.6**	**-0.2**
baz=303									
EWUT				S			**Sn**	**02 35 40.1**	**-0.3**
baz=303									
HWA	**Hwalien**	**0.76**	**270**	*e*S			**Sn**	**02 35 41.4**	**+0.9**
baz=248									
ETL	**Fush Village**	**0.76**	**284**	*e*P			**Pb**	**02 35 29.7**	**-0.2**
baz=261									
TWD	**Chiawan**	**0.77**	**277**	*e*P			**Pb**	**02 35 29.4**	**-0.5**
baz=270									
TWD				S			**Sb**	**02 35 40.3**	**+0.2**
baz=270									
ENA	**Nanau**	**0.77**	**305**	*e*P			**Pb**	**02 35 29.9**	**-0.1**
baz=301									
ENA				*e*S			**Sn**	**02 35 40.6**	**-0.3**
baz=301									
TEYL	**Yanliau Villag**	**0.77**	**262**	P			**Pb**	**02 35 30.1**	**+0.1**
baz=244									
TEYL				S			**Sb**	**02 35 40.7**	**+0.5**
baz=244									
NACB	**Ninganchiao**	**0.79**	**284**	P			**Pb**	**02 35 30.1**	**-0.3**
NACB	**Ninganchiao**	**0.79**	**284**	P			**Pb**	**02 35 30.0**	**-0.3**
baz=262									
ESAO	**Su ao**	**0.80**	**318**	P			**Pb**	**02 35 30.0**	**-0.5**
baz=314									
ESAO				S			**Sb**	**02 35 40.0**	**-0.9**
baz=314									
SHUL	**Shoufeng**	**0.82**	**256**	P			**Pb**	**02 35 30.8**	**-0.1**
baz=249									
SHUL				*e*S			**Sb**	**02 35 41.9**	**+0.4**
baz=249									
TWC	**Suao**	**0.82**	**320**	*i* P			**Pb**	**02 35 30.3**	**-0.5**
baz=317									
TWC				S			**Sb**	**02 35 40.4**	**-1.1**
baz=317									
ETM	**Tongmen**	**0.86**	**269**	P			**Pb**	**02 35 30.8**	**-0.7**
baz=252									
ETM				*e*S			**Sb**	**02 35 42.2**	**-0.4**
baz=252									
NDS	**Dongshan**	**0.92**	**315**	P			**Pn**	**02 35 32.5**	**+0.3**
baz=311									
NDS				S			**Sn**	**02 35 44.3**	**-0.3**
baz=311									
ESL	**Shilin**	**0.93**	**260**	*e*P			**Pb**	**02 35 31.3**	**-1.4**
baz=243									
ESL				*e*S			**Sb**	**02 35 42.9**	**-1.7**
baz=243									
LXIB	**Xiulin Townshi**	**0.93**	**273**	P			**Pb**	**02 35 32.1**	**-0.8**
baz=257									
LXIB				*e*S			**Sb**	**02 35 45.0**	**+0.1**
baz=257									
EGS		**0.97**	**332**	*e*P			**Pn**	**02 35 33.7**	**+0.7**
baz=322									
EGS				*e*S			**Sn**	**02 35 46.9**	**+1.1**
baz=322									
LATG	**Datong**	**0.99**	**304**	P			**Pn**	**02 35 33.9**	**+0.6**
baz=299									
LATG				*e*S			**Sn**	**02 35 47.8**	**+1.3**
baz=299									
WARBT	**Fenglin Townsh**	**0.99**	**255**	P			**Pn**	**02 35 32.5**	**-0.8**
baz=239									
ILA	**Ilan**	**1.00**	**322**	P			**Pn**	**02 35 34.6**	**+1.3**
baz=319									
ILA				*e*S			**Sn**	**02 35 48.0**	**+1.5**
baz=319									
TWE	**Neicheng**	**1.01**	**317**	P			**Pn**	**02 35 34.2**	**+0.7**
baz=314									
TWE				*e*S			**Sn**	**02 35 47.0**	**+0.1**
baz=314									
ENTT	**Nioudou**	**1.02**	**310**	P			**Pb**	**02 35 34.6**	**+0.3**
baz=305									
ENTT				*e*S			**Sn**	**02 35 47.5**	**+0.2**
baz=305									
NTC	**Toucheng**	**1.03**	**328**	*e*S			**Sn**	**02 35 48.7**	**+1.5**
baz=325									
NDT	**Datong Townshi**	**1.04**	**307**	P			**Pb**	**02 35 35.0**	**+0.4**
baz=302									
NDT				*e*S			**Sn**	**02 35 48.7**	**+1.1**
baz=302									
HGSD	**Ruisui**	**1.04**	**242**	*e*P			**Pn**	**02 35 33.1**	**-0.9**
baz=237									
NNSB	**Datong**	**1.05**	**295**	P			**Pn**	**02 35 34.6**	**+0.3**
baz=290									
NNSB				*e*S			**Sn**	**02 35 48.3**	**+0.2**
baz=290									
NNSH	**Datong**	**1.05**	**295**	P			**Pn**	**02 35 34.7**	**+0.5**
baz=290									
NNSH				*e*S			**Sn**	**02 35 48.6**	**+0.5**
baz=290									
NNS	**Nan Shan**	**1.07**	**295**	P			**Pn**	**02 35 34.9**	**+0.4**
baz=290									
NNS				*e*S			**Sn**	**02 35 48.8**	**+0.4**
baz=290									
WHF	**Hehuan Shan**	**1.08**	**279**	P			**Pn**	**02 35 34.6**	**-0.2**
baz=261									
WHF				*e*S			**Sb**	**02 35 49.8**	**+0.4**
baz=261									
FUSB	**Fushanzhiwuyua**	**1.09**	**315**	P			**Pb**	**02 35 35.8**	**+0.3**
baz=311									
FUSB				S			**Sn**	**02 35 50.7**	**+1.8**
baz=311									
TWB1	**Santiao Chiao**	**1.10**	**339**	*e*P			**Pb**	**02 35 35.4**	**-0.2**
baz=337									
EHYH	**Wanrong**	**1.11**	**244**	*e*P			**Pn**	**02 35 34.8**	**0.0**
baz=238									
EHYH				*e*S			**Sn**	**02 35 49.1**	**-0.1**
baz=238									
FUSS	**Fushou**	**1.12**	**284**	P			**Pn**	**02 35 35.7**	**+0.5**
baz=278									
FUSS				*e*S			**Sb**	**02 35 50.0**	**-0.2**
baz=278									
ECBN	**Changbin**	**1.12**	**234**	*e*P			**Pn**	**02 35 35.3**	**+0.3**
baz=228									
EHY	**Hungye**	**1.12**	**245**	*e*P			**Pn**	**02 35 34.8**	**-0.3**
baz=239									
EHY				*e*S			**Sn**	**02 35 49.1**	**-0.5**
baz=239									
TIPB	**Shuangxi**	**1.13**	**331**	P			**Pb**	**02 35 36.1**	**0.0**
baz=329									
TIPB				*e*S			**Sn**	**02 35 50.9**	**+1.1**
baz=329									
OWD	**Renai**	**1.15**	**269**	*e*P			**Pn**	**02 35 35.8**	**+0.3**
baz=263									
OWD				*e*S			**Sn**	**02 35 50.0**	**-0.4**
baz=263									
CHGB	**Renai**	**1.15**	**274**	P			**Pn**	**02 35 35.7**	**0.0**
baz=256									
CHGB				*e*S			**Sn**	**02 35 49.2**	**-1.4**
baz=256									
NWLT	**Wulai**	**1.16**	**313**	*e*P			**Pb**	**02 35 36.9**	**+0.3**
baz=309									
NWLT				*e*S			**Sn**	**02 35 52.2**	**+1.7**
baz=309									
TWT	**Tachien**	**1.18**	**283**	*e*P			**Pn**	**02 35 37.1**	**+1.1**
baz=267									
TWT				*e*S			**Sb**	**02 35 52.6**	**+0.7**
baz=267									
YHNB	**Yeheng**	**1.18**	**306**	P			**Pb**	**02 35 36.8**	**-0.2**
YHNB	**Yeheng**	**1.18**	**306**	P			**Pb**	**02 35 36.7**	**-0.2**
baz=288									
YHNB				*e*S			**Sb**	**02 35 52.8**	**+0.9**
baz=288									
TDCB	**Techi**	**1.19**	**283**	P			**Pn**	**02 35 36.8**	**+0.6**
baz=267									
TDCB				*e*S			**Sn**	**02 35 52.2**	**+0.7**
baz=267						

	baz=287					
NSK			*eS*	**Sb**	**02 35 53.2**	**+0.8**
	baz=287					
EYUL	**Yuli**	**1.20 238**	*eP*	**Pn**	**02 35 36.1**	**0.0**
	baz=233					
EYUL			*eS*	**Sn**	**02 35 51.3**	**-0.2**
	baz=233					
WUSB	**Renai**	**1.20 271**	P	**Pn**	**02 35 36.5**	**+0.2**
	baz=265					
VWDT	**VWDT**	**1.20 259**	*eP*	**Pn**	**02 35 36.4**	**+0.2**
	baz=245					
TWF1	**Yuli**	**1.21 239**	P	**Pn**	**02 35 36.4**	**+0.1**
	baz=234					
SXI1	**Grass Mountain**	**1.22 336**	P	**Pb**	**02 35 37.0**	**-0.6**
	baz=334					
SXI1			*eS*	**Sb**	**02 35 53.2**	**+0.2**
	baz=334					
CHKH	**Chenggong**	**1.23 231**	*eP*	**Pn**	**02 35 35.5**	**-1.0**
	baz=226					
NWF	**Wu-fen Shan**	**1.23 331**	P	**Pb**	**02 35 37.5**	**-0.4**
	baz=329					
NWF			*eS*	**Sb**	**02 35 54.5**	**+1.1**
	baz=329					
WFSB	**Wu-fen Shan**	**1.23 331**	P	**Pb**	**02 35 37.5**	**-0.3**
	baz=329					
WFSB			*eS*	**Sb**	**02 35 55.2**	**+1.8**
	baz=329					
IRIF	**Iriomote-Funau**	**1.24 73**	*eP*	**Pn**	**02 35 38.0**	**+1.4**
IRIF			*eS*	**Sb**	**02 35 53.8**	**+0.3**
TWA	**Mucha**	**1.26 322**	*eP*	**Pb**	**02 35 39.2**	**+0.9**
	baz=329					
TWA			*eS*	**Sb**	**02 35 54.9**	**+0.8**
	baz=329					
HATJ	**Hateruma jima**	**1.26 86**	P	**Pn**	**02 35 38.1**	**+1.2**
HATJ			*eS*	**Sn**	**02 35 54.8**	**+1.8**
NHDH	**Xindian Distri**	**1.28 320**	P	**Pb**	**02 35 39.2**	**+0.6**
	baz=316					
NHDH			*eS*	**Sb**	**02 35 56.1**	**+1.5**
	baz=316					
FULB	**Fuli**	**1.30 233**	*eP*	**Pn**	**02 35 39.3**	**+1.7**
	baz=228					
TNOU	**National Taiwa**	**1.31 333**	*eP*	**Pn**	**02 35 38.0**	**+0.4**
	baz=330					
TNOU			*eS*	**Sb**	**02 35 55.5**	**0.0**
	baz=330					
TATO	**Taipei**	**1.31 319**	P	**Pb**	**02 35 39.4**	**+0.3**
CHKT	**Chengkung**	**1.31 228**	*eP*	**Pn**	**02 35 36.8**	**-0.9**
	baz=223					
TAP	**Taipei**	**1.35 321**	P	**Pb**	**02 35 40.5**	**+0.7**
	baz=318					
TAP			S	**Sb**	**02 35 58.8**	**+2.2**
	baz=318					
NFF	**Wufeng Townshi**	**1.36 299**	*eP*	**Pb**	**02 35 40.2**	**+0.1**
	baz=294					
NFF			*eS*	**Sb**	**02 35 57.5**	**+0.4**
	baz=294					
SSLB	**Suanglung**	**1.37 262**	P	**Pn**	**02 35 39.5**	**+1.1**
SSLB	**Suanglung**	**1.37 262**	*eP*	**Pn**	**02 35 38.8**	**+0.4**
	baz=257					
SSLB			*eS*	**Sn**	**02 35 55.3**	**-0.4**
	baz=257					
WHP	**Taichung City**	**1.39 283**	*eP*	**Pb**	**02 35 41.3**	**+0.8**
	baz=266					
WCS	**Beigang Elemen**	**1.39 273**	*eP*	**Pn**	**02 35 39.5**	**+0.7**
	baz=268					
YM01	**YM01**	**1.40 326**	*eP*	**Pb**	**02 35 40.6**	**-0.1**
	baz=322					
SMLT	**Sun Moon Lake**	**1.40 266**	P	**Pn**	**02 35 39.6**	**+0.6**
	baz=250					
SMLT			*eS*	**Sn**	**02 35 57.1**	**+0.4**
	baz=250					
ECS	**Chishang**	**1.42 232**	*eP*	**Pn**	**02 35 40.3**	**+1.1**
	baz=215					
ECS			*eS*	**Sn**	**02 35 57.6**	**+0.6**
	baz=215					
YM08	**YM08**	**1.42 328**	*eP*	**Pb**	**02 35 40.7**	**-0.4**
	baz=324					
TYC	**Yuchr**	**1.44 267**	*eP*	**Pn**	**02 35 39.7**	**+0.3**
	baz=262					
EDH	**Donghe**	**1.44 226**	*eP*	**Pn**	**02 35 39.4**	**-0.1**
	baz=221					
EDH			S	**Sn**	**02 35 55.6**	**-1.9**
	baz=221					
TWS1	**Kuangyinshan**	**1.45 321**	P	**Pb**	**02 35 41.2**	**-0.2**
	baz=317					
TWS1			*eS*	**Sb**	**02 35 59.9**	**+0.4**
	baz=317					
LIOB	**Emei**	**1.45 297**	P	**Pb**	**02 35 41.7**	**+0.2**
	baz=293					
LIOB			*eS*	**Sb**	**02 35 59.7**	**+0.1**
	baz=293					
NSTT	**Nanjuang**	**1.46 297**	P	**Pb**	**02 35 41.5**	**-0.1**
	baz=292					
NSTT			S	**Sb**	**02 36 00.2**	**+0.5**
	baz=292					
ANP	**Anpu**	**1.46 326**	P	**Pb**	**02 35 41.6**	**-0.1**
	baz=322					
JKRS	**Kuro-shima**	**1.46 80**	*eP*	**Pn**	**02 35 41.3**	**+1.5**
JKRS			*eS*	**Sb**	**02 36 00.2**	**+0.2**
WHYT	**Xinyi Township**	**1.47 259**	*eP*	**Pn**	**02 35 41.9**	**+1.9**
	baz=254					
TWY	**Chenhua**	**1.49 330**	*eP*	**Pb**	**02 35 42.7**	**+0.4**
	baz=327					
TWY			*eS*	**Sb**	**02 36 01.9**	**+1.1**
	baz=327					
NCUH	**Zhongli**	**1.50 311**	*eP*	**Pb**	**02 35 41.7**	**-0.7**
	baz=306					
ELDTW	**Lidau**	**1.52 239**	P	**Pn**	**02 35 40.5**	**-0.1**
	baz=234					
SBCB	**Hsinchu**	**1.54 302**	*eP*	**Pn**	**02 35 41.5**	**+0.6**
	baz=297					
SBCB			*eS*	**Sb**	**02 36 03.0**	**+0.7**
	baz=297					
TWQ1	**Liyutan**	**1.56 284**	P	**Pb**	**02 35 43.1**	**-0.2**
	baz=279					
TWQ1			*eS*	**Sb**	**02 36 03.7**	**+1.0**
	baz=279					
ALS	**Alishan**	**1.56 253**	P	**Pn**	**02 35 42.3**	**+0.9**
	baz=248					
ALS			*eS*	**Sn**	**02 36 00.9**	**0.0**
	baz=248					
WJS	**Zhushan**	**1.57 264**	*eP*	**Pb**	**02 35 44.8**	**+1.2**
	baz=260					
WJS			S	**Sb**	**02 36 06.7**	**+3.7**
	baz=260					
LDUT	**Ludao**	**1.57 214**	P	**Pn**	**02 35 40.4**	**-0.9**
	baz=211					
NSY	**Sanyi**	**1.58 286**	*eP*	**Pn**	**02 35 42.4**	**+1.0**
	baz=281					
NSY			*eS*	**Sb**	**02 36 05.0**	**+1.5**
	baz=281					
NMLH	**Miaoli**	**1.59 291**	*eP*	**Pb**	**02 35 43.6**	**-0.4**
	baz=286					
NMLH			*eS*	**Sb**	**02 36 03.3**	**-0.4**
	baz=286					
WNT	**Mingjian**	**1.60 267**	*eP*	**Pb**	**02 35 44.1**	**0.0**
	baz=262					
WNT			*eS*	**Sb**	**02 36 04.1**	**+0.2**
	baz=262					
LONT	**Longtian**	**1.60 228**	*eP*	**Pn**	**02 35 41.6**	**-0.1**
	baz=237					
JIJ	**Ishigaki jima**	**1.61 76**	*eP*	**Pn**	**02 35 42.6**	**+0.9**
JIJ			*eS*	**Sn**	**02 36 02.8**	**+1.2**
TCU	**Taichung**	**1.61 276**	*eP*	**Pn**	**02 35 43.1**	**+1.3**
	baz=271					
TCU			*eS*	**Sb**	**02 36 05.8**	**+1.6**
	baz=271					
PCYT	**Pengchaiyu**	**1.67 349**	P	**Pn**	**02 35 43.5**	**+0.9**
	baz=348					
WDJ	**Dajia District**	**1.68 283**	*eS*	**Sb**	**02 36 06.2**	**+0.2**
	baz=276					
TWGBT	**Beinan**	**1.70 227**	P	**Pn**	**02 35 43.0**	**0.0**
TWGBT	**Beinan**	**1.70 227**	*eP*	**Pn**	**02 35 42.3**	**-0.7**
	baz=235					
TWG	**Pinlang**	**1.70 227**	*eP*	**Pn**	**02 35 42.1**	**-1.0**
	baz=235					
STYH	**Taoyuan**	**1.72 242**	*eP*	**Pn**	**02 35 44.2**	**+0.9**
	baz=227					
STYH			*eS*	**Sn**	**02 36 05.5**	**+1.1**
	baz=227					
WGK	**Gukeng**	**1.74 261**	*eS*	**Sb**	**02 36 08.5**	**+0.7**
	baz=256					
WDLH	**Douliu**	**1.76 261**	*eP*	**Pn**	**02 35 45.9**	**+2.1**
	baz=257					
WDLH			*eS*	**Sb**	**02 36 08.2**	**-0.2**
	baz=257					
WCKO	**Fanlu**	**1.76 252**	*eS*	**Sn**	**02 36 08.3**	**+3.0**
	baz=248					
TPUB	**Ta-pu**	**1.79 248**	P	**Pn**	**02 35 46.4**	**+2.2**
TPUB	**Ta-pu**	**1.79 248**	*eP*	**Pn**	**02 35 46.4**	**+2.2**
	baz=243					
TPUB			*eS*	**Sn**	**02 36 08.4**	**+2.4**
	baz=243					
CHN4	**Tsaushan**	**1.80 250**	*eP*	**Pn**	**02 35 46.7**	**+2.4**
	baz=245					
CHN4			*eS*	**Sn**	**02 36 09.1**	**+2.8**
	baz=245					
JISG	**Ishigakijimahi**	**1.82 70**	P	**Pn**	**02 35 45.8**	**+1.2**
WTP	**Ta-pu**	**1.82 247**	*eP*	**Pn**	**02 35 46.7**	**+1.9**
	baz=242					
WTP			*eS*	**Sn**	**02 36 09.2**	**+2.2**
	baz=242					
CHN2	**Minshiung**	**1.85 256**	*eS*	**Sb**	**02 36 11.6**	**+0.7**
	baz=252					
WRL	**Guolierlin Hig**	**1.88 268**	*eP*	**Pn**	**02 35 47.5**	**+2.0**
	baz=264					
WRL			*eS*	**Sb**	**02 36 11.6**	**-0.3**
	baz=264					
WTK	**Tuku**	**1.89 261**	*eP*	**Pn**	**02 35 48.2**	**+2.6**
	baz=257					
WTK			*eS*	**Sb**	**02 36 12.1**	**-0.2**
	baz=257					
SLGT	**Liugui**	**1.91 239**	*eP*	**Pn**	**02 35 49.1**	**+3.2**
	baz=225					
SLGT			*eS*	**Sn**	**02 36 11.8**	**+2.7**
	baz=225					
CHN1	**Nanshi**	**1.92 246**	P	**Pn**	**02 35 49.1**	**+3.1**
	baz=241					
CHN1			*eS*	**Sn**	**02 36 12.3**	**+3.1**
	baz=241					
SGST	**Jiashian**	**1.92 243**	*eP*	**Pn**	**02 35 47.7**	**+1.6**
	baz=229					
SGST			*eS*	**Sn**	**02 36 11.9**	**+2.6**
	baz=229					
TWK	**Hsinying**	**1.92 249**	*eP*	**Pn**	**02 35 48.2**	**+2.2**
	baz=245					
TWK			*eS*	**Sn**	**02 36 12.1**	**+2.8**
	baz=245					
SNST	**Tainan City**	**1.93 247**	*eS*	**Sn**	**02 36 11.9**	**+2.4**
	baz=243					
ECL	**Taimali**	**1.94 225**	*eP*	**Pn**	**02 35 45.7**	**-0.5**
	baz=232					
WTCT	**Ta-ch'eng**	**1.97 267**	*eS*	**Sb**	**02 36 14.2**	**-0.3**
	baz=277					
WSF	**Szhu**	**2.05 261**	*eS*	**Sb**	**02 36 16.1**	**-0.8**
	baz=257					
ICHU	**Yijhu**	**2.07 253**	*eP*	**Pn**	**02 35 49.9**	**+1.8**
	baz=249					
ICHU			*eS*	**Sn**	**02 36 15.7**	**+2.8**
	baz=249					
TSMG	**Majia**	**2.08 233**	*eP*	**Pn**	**02 35 49.9**	**+1.7**
	baz=220					
SCST	**Cishan**	**2.09 239**	*eP*	**Pn**	**02 35 51.4**	**+3.1**
	baz=221					
SCST			*eS*	**Sb**	**02 36 18.9**	**+1.0**
	baz=221					
LAY	**Lan-yu**	**2.10 203**	*eP*	**Pn**	**02 35 47.9**	**-0.7**
	baz=200					
LYUB	**Lan-yu**	**2.12 202**	*eP*	**Pn**	**02 35 47.2**	**-1.6**
	baz=199					
CHN8	**Yiju**	**2.13 253**	*eS*	**Sn**	**02 36 17.9**	**+3.4**
	baz=249					
SHHT	**Tainan City**	**2.14 244**	*eS*	**Sb**	**02 36 19.6**	**+0.2**
	baz=240					
MASBT	**Mashibuluo**	**2.14 231**	*eP*	**Pn**	**02 35 50.4**	**+1.3**
	baz=220					
MASBT			*eS*	**Sb**	**02 36 19.6**	**+0.1**
	baz=220					
TAW	**Tawu**	**2.15 221**	*eP*	**Pn**	**02 35 50.1**	**+1.0**
	baz=227					
TAW			*eS*	**Sn**	**02 36 14.3**	**-0.6**
	baz=227					
EAST	**Anshuo**	**2.16 223**	*eP*	**Pn**	**02 35 49.8**	**+0.4**
	baz=219					
TAWH	**Dawu Township**	**2.17 221**	*eP*	**Pn**	**02 35 50.1**	**+0.7**
	baz=228					
JTJ	**Tarama**	**2.17 72**	*eP*	**Pn**	**02 35 51.2**	**+1.7**
SNJT	**Kaohsiung City**	**2.28 238**	*eS*	**Sb**	**02 36 24.4**	**+0.9**
	baz=234					
TSCK	**Chigu Township**	**2.31 249**	*eP*	**Pn**	**02 35 53.5**	**+2.1**
	baz=246					
TSCK			*eS*	**Sn**	**02 36 21.4**	**+2.6**
	baz=246					
SCZT	**Fangliau**	**2.31 226**	*eP*	**Pn**	**02 35 54.6**	**+3.1**
	baz=215					
SCZT			*eS*	**Sn**	**02 36 22.4**	**+3.5**
	baz=215					
TWKBT	**Hengchun**	**2.52 217**	*eP*	**Pn**	**02 35 54.9**	**+0.6**
	baz=214					
TWK1	**Hengchun**	**2.52 217**	*eP*	**Pn**	**02 35 55.0**	**+0.7**
	baz=214					
WDGT	**Dungji**	**2.64 255**	P	**Pn**	**02 35 57.2**	**+1.2**
	baz=239					
WDGT			*eS*	**Sn**	**02 36 27.8**	**+0.7**
	baz=239					
PHUB	**P'eng-hu**	**2.66 260**	*eP*	**Pn**	**02 35 57.2**	**+0.9**
	baz=257					
PHUB			*eS*	**Sn**	**02 36 28.7**	**+1.1**
	baz=257					
PNG	**Penghu**	**2.67 262**	P	**Pn**	**02 35 57.5**	**+1.2**
	baz=258					
PNG			S	**Sn**	**02 36 29.1**	**+1.4**
	baz=258					
VCHM	**Qimei**	**2.86 255**	P	**Pn**	**02 36 00.6**	**+1.6**
	baz=251					
VWUC	**VWUC**	**2.90 291**	P	**Pn**	**02 35 59.8**	**+0.4**
	baz=286					
MATB	**Ma-tsu**	**3.12 314**	*eP*	**Pn**	**02 36 02.5**	**0.0**
	baz=297					
PTMZ	**Houxiangcun**	**3.19 290**	*eP*	**Pn**	**02 36 03.9**	**+0.3**
	baz=285					
LYJJ	**Jianjiangzhen**	**3.52 317**	*eP*	**Pn**	**02 36 08.3**	**+0.3**
	baz=300					
XPSS	**Dashiqiu**	**3.57 326**	*eP*	**Pn**	**02 36 09.2**	**+0.6**
	baz=319					
XPSS			*eS*	**Sn**	**02 36 50.2**	**+0.3**
	baz=319					
KNM	**Kinmen**	**3.68 278**	*eP*	**Pn**	**02 36 12.3**	**+2.1**
	baz=274					
KNMB	**Chin-men Tao**	**3.72 278**	*eP*	**Pn**	**02 36 11.2**	**+0.4**
	baz=275					
MHZQ	**Yeshan**	**3.74 305**	*eP*	**Pn**	**02 36 11.0**	**0.0**
	baz=300					
ZPLA	**Ao Xicun**	**4.28 270**	*eP*	**Pn**	**02 36 18.7**	**+0.2**
	baz=267					
SXFK	**Yanhouchang**	**4.96 300**	*eP*	**Pn**	**02 36 28.2**	**+0.4**
	baz=295					
KSRS	**Korea Array**	**14.23 18**	P	**P**	**02 38 39.0**	**-2.9**
	2.1nm,0.6s,baz=199,slow=11,SNR=10					
KSRS			LR	LR	02 44 17.4	
	comp=Z,88nm,20.3s,baz=195,slow=39					
SONM	**Songino Array**	**27.01 336**	P	**P**	**02 40 53.7**	**-1.2**
	2.2nm,0.9s,baz=153,slow=9.4,SNR=9.8					
	2.2nm,0.9s					
MKAR	**Makanchi Array**	**39.28 316**	P	**P**	**02 42 41.5**	**0.0**
	1.4nm,0.6s,baz=110,slow=11,SNR=7.7					
MKAR			LR	LR	02 59 10.3	
	comp=Z,39nm,19.5s,baz=174,slow=37					
	1.4nm,0.6s					
ZALV	**Zalesovo Beam**	**41.03 327**	P	**P**	**02 42 55.2**	**-0.7**
	2.6nm,0.6s,baz=122,slow=7.7,SNR=7.5					
	2.6nm,0.6s					
KURBB	**Kurchatov Arra**	**43.00 320**	P	**P**	**02 43 11.8**	**-0.2**
	0.9nm,0.6s,baz=111,slow=8.0,SNR=9.0					
	0.9nm,0.6s					
BVAR	**Borovoye Array**	**48.55 321**	P	**P**	**02 43 55.9**	**0.0**
	0.9nm,0.4s,baz=106,slow=9.9,SNR=6.0					
	0.9nm,0.4s					
GEYT	**Alibeck**	**55.88 301**	P	**P**	**02 44 53.1**	**+2.5**
	1.4nm,0.5s,baz=69,slow=4.8,SNR=2.6					
	1.4nm,0.5s					
ILAR	**Eielson Array**	**68.87 27**	P	**P**	**02 46 15.7**	**-1.3**
	2.6nm,0.9s,baz=238,slow=5.8,SNR=1.3					
FINES	**FINESS Array B**	**72.19 330**	P	**P**	**02 46 36.5**	**-0.7**
	4.7nm,1.2s,baz=59,slow=7.4,SNR=3.8					
	4.7nm,1.2s					
BRTR	**Keskin Array B**	**74.21 307**	P	**P**	**02 46 50.3**	**+0.5**
	1.4nm,0.9s,baz=111,slow=6.8,SNR=6.9					
	1.4nm,0.9s					
NOA	**NORSAR Array B**	**78.93 332**	P	**P**	**02 47 14.8**	**-1.2**
	0.2nm,0.6s,baz=56,slow=5.6,SNR=1.7					
	0.2nm,0.6s					

*IDC **30** 02:37:31.8±1.2,5°.28S×142°.77E, h0km, mb4.1/5, mbtmp4.2/7, ML4.1/1, MS3.9/1, Error ellipse: s-maj=38.7km s-min=26.4km az=81.0*

ISC 30 02:37:36.2±0.9, 5°.5S±0°.2×142°.9E±0°.2, h35km, n9, σ1§45/8, mb4.2/5, New Guinea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**5.76**	**132**	Pn	**Pn**	**02 39 01.1**	**+1.9**
	22nm,0.7s,baz=55,slow=5.0,SNR=1.1						
PMG				Sn	**Sn**	**02 40 01.7**	**-2.5**
	3.3nm,0.3s,baz=182,slow=20,SNR=1.7						
WRA	**Warramunga Arr**	**16.56**	**209**	Pn	**Pn**	**02 41 26.2**	**+0.2**
	0.7nm,0.3s,baz=27,slow=12,SNR=3.1						
WRA				Lg	Lg	02 46 09.3	
	0.2nm,0.3s,baz=36,slow=28,SNR=4.7						
	6.1nm,0.8s						
ASAR	**Alice Springs**	**20.00**	**205**	P	Pn	02 42 08.8	+0.8
	15nm,0.8s,baz=33,slow=9.5,SNR=11						
ASAR				Lg	Lg	02 47 57.6	
	0.1nm,0.3s,baz=15,slow=33,SNR=3.2						
	15nm,0.8s						
CMAR	**Chiang Mai Arr**	**49.41**	**300**	P	**P**	**02 46 22.6**	**-0.4**
	2.6nm,0.4s,baz=123,slow=6.6,SNR=2.9						
	2.6nm,0.4s						
PETK	**Petropavlovsk-**	**59.74**	**10**	LR	LR	03 08 48.1	
	comp=Z,97nm,21.8s,baz=171,slow=32						
MKAR	**Makanchi Array**	**74.53**	**322**	P	**P**	**02 49 10.6**	**-0.8**
	1.0nm,0.8s,baz=121,slow=5.4,SNR=2.4						
	1.0nm,0.8s						
KURBB	**Kurchatov Arra**	**78.39**	**324**	P	**P**	**02 49 32.9**	**-0.3**
	0.2nm,0.3s,baz=120,slow=5.5,SNR=1.5						
	0.2nm,0.3s						
BVAR	**Borovoye Array**	**83.97**	**325**	P	**P**	**02 50 02.7**	**-0.1**
	1.8nm,0.6s,baz=108,slow=4.7,SNR=8.3						
	1.8nm,0.6s						
ILAR	**Eielson Array**	**86.68**	**24**	P	**P**	**02 50 16.5**	**+0.4**
	1.1nm,0.7s,baz=243,slow=5.2,SNR=7.0						

*GII **30** 02:41:11.1±1.0,26°.912N±0°.007×34°.520E±0°.002, h1km, mB4.2/3, Md4.0/6, Mws3.8, confirmed*
*SGS **30** 02:41:24.1,27°.73N×34°.42E, h12km, MI2.9*

ISC 30 02:41:21.4±1.7, 27°.67N±0°.05×34°.32E±0°.08, h10km, n48, σ1§14/48, Red Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RSHS		**0.76**	**34**	S	**Sg**	**02 41 46.0**	**+0.1**
RSHS		**0.76**	**34**	P	**Pb**	**02 41 36.8**	**+0.1**
KRABS	**KRABS**	**0.93**	**62**	P	**Pb**	**02 41 39.5**	**-0.1**
KRABS	**KRABS**	**0.93**	**62**	S	**Sg**	**02 41 50.5**	**-0.9**
AYUS	**`Aynunah**	**0.98**	**58**	S	**Sg**	**02 41 52.4**	**-0.7**
AYUS	**`Aynunah**	**0.98**	**58**	P	**Pg**	**02 41 40.4**	**+0.1**
TAYS	**Tayyib Ism**	**1.00**	**29**	S	**Sg**	**02 41 52.6**	**-1.2**
TAYS	**Tayyib Ism**	**1.00**	**29**	P	**Pg**	**02 41 40.3**	**-0.4**
MWLHS	**Almuwaylih**	**1.06**	**86**	P	**Pg**	**02 41 41.4**	**-0.4**
WTBKS	**WTBKS**	**1.47**	**73**	P	**Pn**	**02 41 48.1**	**+0.1**
HAQS	**Haql**	**1.47**	**21**	P	**Pn**	**02 41 47.5**	**-0.5**
JLOS		**1.48**	**44**	P	**Pn**	**02 41 47.8**	**-0.4**
JMOS	**Jabal al Moall**	**1.65**	**25**	P	**Pn**	**02 41 50.1**	**-0.3**
URD07	**Al Anba**	**2.02**	**89**	P	**Pn**	**02 41 56.4**	**+0.7**
TBKS	**Tabuk**	**2.04**	**74**	P	**Pn**	**02 41 56.8**	**+1.0**
WJHS		**2.07**	**116**	P	**Pn**	**02 41 56.0**	**-0.2**
EIL	**Elat**	**2.07**	**15**	S	**Sg**	**02 42 31.3**	**+3.4**
EIL	**Elat**	**2.07**	**15**	P	**Pn**	**02 41 57.2**	**+1.0**
URD06	**Shuwaq**	**2.17**	**95**	P	**Pn**	**02 41 58.6**	**+0.7**
MBRI	**Mt Berech**	**2.18**	**14**	P	**Pn**	**02 41 58.6**	**+0.8**
MBRI	**Mt Berech**	**2.18**	**14**	S	**Sg**	**02 42 34.2**	**+2.7**
HRFI	**Mount Harif**	**2.44**	**15**	S	**Sg**	**02 42 41.0**	**+1.2**
HRFI	**Mount Harif**	**2.44**	**15**	P	**Pn**	**02 42 02.5**	**+1.2**
KRMI	**Paran Flat**	**2.46**	**8**	S	**Sg**	**02 42 40.1**	**-0.6**
KRMI	**Paran Flat**	**2.46**	**8**	P	**Pn**	**02 42 02.2**	**+0.5**
BIDS	**Bi'r al Bayda'**	**2.48**	**108**	P	**Pn**	**02 42 02.3**	**+0.5**
URD04	**Abu Rakah**	**2.68**	**102**	P	**Pn**	**02 42 05.4**	**+0.7**
PRNI	**Paran**	**2.74**	**12**	S	**Sg**	**02 42 48.3**	**-1.2**
PRNI	**Paran**	**2.74**	**12**	P	**Pn**	**02 42 06.3**	**+0.9**
URD03	**Al Ula**	**2.96**	**109**	P	**Pn**	**02 42 09.3**	**+0.8**
ZFRI	**Zfri**	**2.97**	**14**	S	**Sg**	**02 42 53.9**	**-2.9**
ZFRI	**Zfri**	**2.97**	**14**	P	**Pn**	**02 42 09.8**	**+1.2**
UMJ05	**UMJ05**	**3.00**	**123**	P	**Pn**	**02 42 09.3**	**+0.3**
KZIT	**Kziot**	**3.23**	**1**	S	**Sg**	**02 43 02.0**	**-3.0**
KZIT	**Kziot**	**3.23**	**1**	P	**Pn**	**02 42 11.8**	**-0.4**
OLAS	**OLAS**	**3.27**	**115**	P	**Pn**	**02 42 13.2**	**+0.4**
UMJ10	**UMJ10**	**3.39**	**119**	P	**Pn**	**02 42 15.0**	**+0.6**
MSBI	**Mazada**	**3.74**	**14**	P	**Pn**	**02 42 20.6**	**+1.4**
YTIR	**Yattir**	**3.75**	**10**	P	**Pn**	**02 42 19.9**	**+0.6**
LNY04	**LNY04**	**3.82**	**128**	P	**Pn**	**02 42 20.7**	**+0.4**
LNY07	**LNY07**	**3.86**	**130**	P	**Pn**	**02 42 20.8**	**0.0**
LNY11	**LNY11**	**3.88**	**126**	P	**Pn**	**02 42 21.5**	**+0.3**
AMAZ	**Amatzia**	**3.88**	**7**	P	**Pn**	**02 42 21.1**	**-0.1**
LNY06	**LNY06**	**3.95**	**128**	P	**Pn**	**02 42 22.8**	**+0.6**
LNY10	**LNY10**	**3.97**	**126**	P	**Pn**	**02 42 23.0**	**+0.5**
DSI	**Dead Sea**	**4.00**	**13**	P	**Pn**	**02 42 23.8**	**+1.1**
LNY02	**LNY02**	**4.05**	**128**	P	**Pn**	**02 42 24.1**	**+0.5**
LNY08	**LNY08**	**4.11**	**129**	P	**Pn**	**02 42 25.1**	**+0.7**

*SOME **30** 02:48:30.9, 43°.50N×79°.00E, h5km*
*NNC **30** 02:48:30.4±0.7, 43°.51N×78°.99E, h0km, mpv2.9, Error ellipse: s-maj=6.4km s-min=3.0km az=119.0*

ISC 30 02:48:30.6±1.3, 43°.50N±0°.04×79°.02E±0°.05, h13km±18km, n11, σ0§30/22, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
UZB	**Uzynbulak**	**0.35**	**179**	*eP*	**Pg**	**02 48 37.6**	**-0.1**
	4.6nm,0.0s						
UZB				*eS*	**Sg**	**02 48 42.5**	**0.0**
	21nm,0.1s						
ZHN	**Zhinishke**	**0.54**	**233**	P	**Pg**	**02 48 40.9**	**-0.2**
	2.9nm,0.1s						
ZHN				S	**Sg**	**02 48 48.2**	**-0.1**
	41nm,0.2s						
ZHN	**Zhinishke**	**0.54**	**233**	*eP*	**Pg**	**02 48 40.9**	**-0.2**
	2.9nm,0.1s						
ZHN				*eS*	**Sg**	**02 48 48.2**	**-0.1**
	41nm,0.2s						
SATY	**Saty**	**0.62**	**226**	P	**Pg**	**02 48 42.8**	**0.0**
	4.5nm,0.1s						
SATY				S	**Sg**	**02 48 51.5**	**+0.4**
	12nm,0.1s						
SATY	**Saty**	**0.62**	**226**	*eP*	**Pg**	**02 48 42.8**	**0.0**
	4.5nm,0.1s						
SATY				*eS*	**Sg**	**02 48 51.5**	**+0.4**
	12nm,0.1s						
BLB	**Baldybastay**	**0.72**	**327**	P	**Pg**	**02 48 44.7**	**+0.1**
	11nm,0.1s						
BLB				S	**Sb**	**02 48 54.7**	**-0.2**
	9.2nm,0.2s						
KNOS	**Konyrlen**	**0.87**	**8**	P	**Pg**	**02 48 47.5**	**0.0**
	2.3nm,0.1s						
KNOS				S	**Sg**	**02 48 59.5**	**+0.6**
	2.6nm,0.1s						
DJR	**Jarkent**	**1.00**	**33**	P	**Pg**	**02 48 49.7**	**-0.3**
	0.8nm,0.

*BJI **30** 03:29:14.8±0.0, 18°.76N×146°.02E, h150km, mb4.4/25, mB4.7/7*
*NEIC **30** 03:29:16.8±1.1, 18°.56N±0°.08×145°.71E±0°.10, h142km±7km, mb4.6/145, Error ellipse: s-maj=14.0km s-min=11.6km az=59.0*
*IDC **30** 03:29:16.2±1.4, 18°.42N×145°.48E, h160km±12km, mb3.9/19, mbtmp4.3/21, MS2.9/4, Error ellipse: s-maj=17.3km s-min=9.1km az=87.0*

ISC 30 03:29:15.5±0.4, 18°.44N±0°.05×145°.75E±0°.07, h150km, n381, σ1°19/356, mb4.6/90, 2D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time	Res
							h m s	
GUMO	**Guam**	**4.89**	**190**	P		**Pn**	**03 30 26.9**	**-0.7**
	49nm,0.4s,baz=187,slow=13,SNR=1.6							
GUMO				S		**Sn**	**03 31 19.0**	**-4.8**
	41nm,0.4s,baz=178,slow=24,SNR=1.6							
GUMO				LR		LR	03 31 33.0	
	comp=Z,68nm,18.9s,baz=71,slow=28							
JCJ	**Chichijima**	**9.22**	**340**	Pn		**Pn**	**03 31 23.9**	**-1.3**
JCJ	**Chichijima**	**9.22**	**340**	P		Pn	03 31 19.9	-5.3
	24nm,0.3s,baz=74,slow=23,SNR=8.1							
JCJ				S		Sn	03 32 57.7	-10
	49nm,0.4s,baz=276,slow=22,SNR=8.2							
JMZ	**Minamidaito 2**	**15.32**	**301**	P		**P**	**03 32 48.5**	**+3.2**
JMZ	**Minamidaito 2**	**15.32**	**301**			**P**	**03 32 45.1**	**-0.2**
PATS	**Pohnpei**	**16.82**	**132**	Pn		**Pn**	**03 33 05.7**	**+3.4**
JOW	**Kunigami**	**18.15**	**301**	P		**Pn**	**03 33 20.0**	**+1.9**
JOW	**Kunigami**	**18.15**	**301**	Pn		**Pn**	**03 33 19.7**	**+1.6**
JOW	**Kunigami**	**18.15**	**301**	P		**Pn**	**03 33 19.4**	**+1.3**
	182nm,0.7s,baz=127,slow=10,SNR=62							
INU	**Inuyama**	**18.54**	**337**	P		**Pn**	**03 33 22.6**	**0.0**
INU	**Inuyama**	**18.54**	**337**			**P**	**03 33 20.8**	**+0.2**
INU				IAmb		IAmb	03 33 26.5	
	comp=Z,15nm,0.6s							
JMN	**Monobe**	**18.56**	**327**	P		**Pn**	**03 33 22.2**	**-0.8**
JMN				IAmb		IAmb	03 33 47.5	
	comp=Z,50nm,1.5s							
JGF	**Kuroka**	**18.64**	**338**	P		**P**	**03 33 22.6**	**+0.8**
JGF	**Kuroka**	**18.64**	**338**	P		**P**	**03 33 21.6**	**-0.2**
JGF				IAmb		IAmb	03 33 23.9	
	comp=Z,18nm,0.7s							
MJAR	**Matsushiro Arr**	**19.22**	**341**	P		**P**	**03 33 27.4**	**-0.7**
	comp=Z,12nm,0.6s,baz=169,slow=9.9,SNR=27							
MJAR				S		**S**	**03 36 52.9**	**-4.9**
	comp=Z,0.7nm,0.4s,baz=34,slow=49,SNR=2.6							
MJAR				LR		LR	03 39 13.9	
	comp=Z,29nm,20.5s,baz=148,slow=31							
MAJO	**Matsushiro**	**19.22**	**341**	P		**P**	**03 33 28.2**	**+0.1**
MAJO	**Matsushiro**	**19.22**	**341**	P		**P**	**03 33 27.8**	**-0.3**
MAJO				IAmb		IAmb	03 33 32.8	
	comp=Z,28nm,0.6s							
MJB9	**Matsu-Tunnel**	**19.23**	**341**			**P**	**03 33 28.6**	**+0.5**
MJB9				IAmb		IAmb	03 33 33.8	
	comp=Z,28nm,0.6s							
JNU	**Nakatsue**	**19.79**	**321**	P		**P**	**03 33 35.4**	**+1.1**
	comp=Z,3.9nm,0.7s,baz=157,slow=8.8,SNR=4.8							
JNU				LR		LR	03 40 36.9	
	comp=Z,23nm,18.9s,baz=270,slow=35							
JMM	**Marumori**	**19.84**	**348**	P		**Pn**	**03 33 36.5**	**-1.3**
JMM	**Marumori**	**19.84**	**348**	P		**P**	**03 33 36.0**	**+1.3**
JMM				IAmb		IAmb	03 33 38.1	
	comp=Z,33nm,0.9s							
H11S3	**WAKE ISLAND Hy**	**19.87**	**87**	T		T	03 54 39.2	
	baz=273,slow=74,SNR=3.6							
H11S1	**WAKE ISLAND Hy**	**19.88**	**86**	T		T	03 54 44.3	
	baz=273,slow=74,SNR=6.8							
H11S2	**WAKE ISLAND Hy**	**19.88**	**87**	T		T	03 54 42.8	
	baz=273,slow=74,SNR=6.5							
H11N1	**WAKE ISLAND Hy**	**20.03**	**83**	T		T	03 54 59.9	
	baz=266,slow=74,SNR=6.1							
H11N2	**WAKE ISLAND Hy**	**20.03**	**83**	T		T	03 54 58.7	
	baz=266,slow=74,SNR=6.3							
H11N3	**WAKE ISLAND Hy**	**20.05**	**83**	T		T	03 54 57.5	
	baz=266,slow=74,SNR=6.7							
JSD	**Sado**	**20.59**	**343**	P		**P**	**03 33 43.7**	**+0.9**
JSD	**Sado**	**20.59**	**343**	P		**P**	**03 33 43.5**	**+0.8**
YOJ	**Yonaguni jima**	**21.98**	**290**	P		**P**	**03 33 58.6**	**+0.9**
JTM	**Tenmabayashi**	**22.63**	**351**	P		**P**	**03 34 04.8**	**+1.0**
JTM	**Tenmabayashi**	**22.63**	**351**	P		**P**	**03 34 04.6**	**+0.8**
JTM				IAmb		IAmb	03 34 06.2	
	comp=Z,27nm,0.7s							
NACB	**Ninganchiao**	**23.20**	**288**	P		**P**	**03 34 10.7**	**+1.5**
YULB	**Yu-li**	**23.35**	**286**	P		**P**	**03 34 12.4**	**+1.8**
YULB	**Yu-li**	**23.35**	**286**	P		**P**	**03 34 12.3**	**+1.7**
YULB				IAmb		IAmb	03 34 17.4	
	comp=Z,20nm,0.6s							
YHNB	**Yeheng**	**23.48**	**290**	P		**P**	**03 34 13.6**	**+1.7**
YHNB	**Yeheng**	**23.48**	**290**	P		**P**	**03 34 13.5**	**+1.7**
TWGBT	**Beinan**	**23.48**	**285**	P		**P**	**03 34 13.5**	**+1.7**
TWG	**Pinlang**	**23.49**	**285**	P		**P**	**03 34 12.4**	**+0.6**
TWG				IAmb		IAmb	03 34 14.4	
	comp=Z,38nm,1.0s							
ERM	**Erimo**	**23.61**	**355**	P		**P**	**03 34 14.7**	**+2.0**
SSLB	**Suanglung**	**23.72**	**287**	P		**P**	**03 34 15.9**	**+1.9**
SSLB	**Suanglung**	**23.72**	**287**	P		**P**	**03 34 15.4**	**+1.4**
TPUB	**Ta-pu**	**23.95**	**286**	P		**P**	**03 34 17.5**	**+1.4**
TPUB	**Ta-pu**	**23.95**	**286**	P		**P**	**03 34 16.6**	**+0.5**
TPUB				IAmb		IAmb	03 34 18.2	
	comp=Z,35nm,1.1s							
KSRS	**Korea Array**	**24.55**	**324**	P		**P**	**03 34 20.6**	**-0.8**
	comp=Z,4.6nm,0.8s,baz=152,slow=8.4,SNR=23							
	comp=Z,4.6nm,0.8s							
KS19	**Wonju Array Si**	**24.62**	**324**	P		**P**	**03 34 22.8**	**+0.8**
JKA	**Kamikawa-asahi**	**25.74**	**355**	P		**P**	**03 34 32.7**	**+0.7**
JKA				IAmb		IAmb	03 34 46.8	
	comp=Z,16nm,0.9s							
NJ2	**Nanjing**	**27.75**	**304**	ǁP		**P**	**03 34 51.5**	**+1.3**
NJ2				pmax		pmax		
	comp=Z,17nm,0.5s							
USRK	**Ussuriysk Ar.**	**28.16**	**339**	P		**P**	**03 34 53.8**	**+0.1**
USRK	**Ussuriysk Ar.**	**28.16**	**339**	P		**P**	**03 34 53.4**	**-0.3**
	comp=Z,3.6nm,0.7s,baz=165,slow=9.7,SNR=12							
	comp=Z,3.6nm,0.7s							
WHN	**Wuhan**	**30.90**	**299**	ǁP		P	03 35 27.3	+9.2
HEH	**HeiHe**	**34.97**	**339**	*e*P		**P**	**03 35 52.3**	**-0.8**
HEH				pmax		pmax		
	comp=Z,11nm,0.8s							
PETK	**Petropavlovsk-**	**35.83**	**12**	P		**P**	**03 36 01.1**	**+0.6**
	comp=Z,5.5nm,0.7s,baz=180,slow=7.9,SNR=8.7							
	comp=Z,5.5nm,0.7s							
DLV	**T Lat**	**36.48**	**265**	P		**P**	**03 36 07.9**	**+1.1**
SBUM	**Sibu**	**36.48**	**248**	P		**P**	**03 36 08.0**	**+1.4**
HHC	**Hu-ho-hao-te**	**36.81**	**315**	*e*P		**P**	**03 36 11.5**	**+2.3**
HHC				pmax		pmax		
	comp=Z,14nm,0.8s							
HHC				pmax		pmax		
	comp=Z,51nm,5.5s							
UBPT	**Khong Chiam**	**38.62**	**272**	P		**P**	**03 36 26.2**	**+1.7**
UBPT				IAmb		IAmb	03 36 28.1	
	comp=Z,9.8nm,0.8s							
SLVN	**Son La**	**39.37**	**281**	P		**P**	**03 36 32.2**	**+1.4**
SLVN				IAmb		IAmb	03 36 34.3	
	comp=Z,8.1nm,0.8s							
WB2	**Warramunga Arr**	**39.75**	**197**	P		**P**	**03 36 34.8**	**+1.0**
WB2				IAmb		IAmb	03 37 18.1	
	comp=Z,17nm,1.4s							
WRA	**Warramunga Arr**	**39.75**	**197**	P		**P**	**03 36 34.1**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=17,slow=9.1,SNR=28							
WRA				PcP		**PcP**	**03 38 37.2**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=18,slow=3.4,SNR=2.7							
WRA				ScP		**ScP**	**03 42 08.2**	**-3.9**
	comp=Z,1.0nm,0.8s,baz=9.5,slow=4.0,SNR=5.7							
	comp=Z,2.3nm,0.3s							
PZH	**PanZhiHua**	**41.29**	**289**	P		**P**	**03 36 49.0**	**+2.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,4.9s							
FITZ	**Fitzroy Crossi**	**41.34**	**210**	P		**P**	**03 36 48.8**	**+2.0**
CRAI	**Chiangrai**	**42.75**	**280**	P		**P**	**03 36 59.9**	**+1.5**
SONM	**Songino Array**	**43.37**	**322**	P		**P**	**03 37 01.9**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=136,slow=8.9,SNR=13							
SONM				PcP		**PcP**	**03 38 48.2**	**-0.8**
	comp=Z,0.2nm,0.4s,baz=114,slow=3.5,SNR=1.4							
	comp=Z,1.7nm,0.5s							
AS31	**Alice Springs**	**43.41**	**196**	P		**P**	**03 37 05.8**	**+2.3**
ASAR	**Alice Springs**	**43.41**	**196**	P		**P**	**03 37 04.1**	**+0.5**
	comp=Z,1.0nm,0.5s,baz=20,slow=9.8,SNR=17							
ASAR				ScP		**ScP**	**03 42 22.6**	**-4.1**
	comp=Z,0.8nm,0.7s,baz=13,slow=5.5,SNR=6.0							
	comp=Z,1.0nm,0.5s							
CMAR	**Chiang Mai Arr**	**44.30**	**278**	P		**P**	**03 37 09.9**	**-0.8**
YAK	**Yakutsk**	**44.98**	**349**	P		**P**	**03 37 15.8**	**+0.3**
KULM	**Kulim**	**45.88**	**259**	P		**P**	**03 37 25.1**	**+1.8**
SHL	**Shillong**	**50.16**	**288**	P		**P**	**03 37 57.4**	**+1.1**
SHL				IAmb		IAmb	03 37 58.1	
	comp=Z,8.8nm,0.5s							
STKA	**Stephens Creek**	**50.19**	**185**	P		**P**	**03 37 54.8**	**-1.2**
	comp=Z,1.7nm,0.8s,baz=354,slow=9.2,SNR=2.9							
	comp=Z,1.7nm,0.8s							
GSI	**Gunungsitoli**	**50.20**	**256**	P		**P**	**03 37 57.7**	**+1.2**
SPIA	**Saint Paul Isl**	**50.54**	**29**	P		**P**	**03 37 57.4**	**-0.9**
	baz=239							
P08K	**Saint George I**	**50.58**	**30**	P		**P**	**03 37 57.9**	**-0.7**
	baz=240							
UNV	**Unalaska Valle**	**50.84**	**34**	P		**P**	**03 38 00.6**	**-0.1**
	baz=245							
BILL	**Bilibino**	**51.27**	**10**	P		**P**	**03 38 04.3**	**+0.7**
GAMB	**Gambell**	**53.68**	**22**	P		**P**	**03 38 21.5**	**+0.1**
	baz=233							
S12K	**Black Hills**	**53.95**	**34**	P		**P**	**03 38 23.7**	**+0.2**
	baz=248							
SDPT	**Sand Point**	**54.66**	**34**	P		**P**	**03 38 29.1**	**+0.4**
	baz=250							
CHNA	**Chernabura Isl**	**54.97**	**35**	P		**P**	**03 38 31.6**	**+0.8**
	baz=251							
M13K	**Dall Lake**	**55.25**	**28**	P		**P**	**03 38 32.9**	**+0.1**
	baz=244							
K13K	**Kusilvak Mount**	**55.39**	**26**	P		**P**	**03 38 35.3**	**+1.5**
K13K	**Kusilvak Mount**	**55.39**	**26**	P		**P**	**03 38 34.6**	**+0.8**
	baz=241							
S14K	**Fog Glacier**	**55.47**	**34**	P		**P**	**03 38 35.9**	**+1.3**
	baz=250							
O14K	**Tigyukauivet M**	**55.72**	**30**	P		**P**	**03 38 37.1**	**+0.9**
	baz=247							
N14K	**Kuskokwak Cree**	**55.79**	**29**	P		**P**	**03 38 37.4**	**+0.7**
	baz=246							
L14K	**Kuka Creek**	**55.95**	**27**	P		**P**	**03 38 38.8**	**+1.0**
	baz=244							
M14K	**Bethel**	**56.02**	**28**	P		**P**	**03 38 38.9**	**+0.6**
	baz=245							
CHGN	**Chignik**	**56.08**	**34**	P		**P**	**03 38 39.6**	**+0.8**
	baz=251							
J14K	**Nanvaranak Lak**	**56.23**	**25**	P		**P**	**03 38 40.8**	**+1.0**
	baz=242							
O15K	**Ungalikthiuk R**	**56.37**	**30**	P		**P**	**03 38 41.9**	**+1.0**
	baz=248							
ANM	**Nome**	**56.42**	**23**	P		**P**	**03 38 42.6**	**+1.5**
	baz=239							
F14K	**Arctic Creek**	**56.55**	**22**	P		**P**	**03 38 42.8**	**+0.8**
	baz=238							
M15K	**Kasigluk River**	**56.56**	**28**	P		**P**	**03 38 43.1**	**+1.0**
	baz=246							
L15K	**Ungalak Mounta**	**56.62**	**27**	P		**P**	**03 38 44.1**	**+1.5**
	baz=245							
N15K	**Kwethluk River**	**56.62**	**29**	P		**P**	**03 38 44.1**	**+1.4**
N15K	**Kwethluk River**	**56.62**	**29**	P		**P**	**03 38 43.9**	**+1.2**
	baz=247							
K15K	**Wolf Creek Mou**	**56.86**	**26**	P		**P**	**03 38 45.4**	**+1.1**
	baz=244							
G15K	**Niukluk**	**57.13**	**23**	P		**P**	**03 38 47.6**	**+1.5**
	baz=240							
P16K	**Nushagak River**	**57.20**	**31**	P		**P**	**03 38 47.7**	**+1.0**
	baz=250							
F15K	**North Star Dit**	**57.27**	**22**	P		**P**	**03 38 47.8**	**+0.7**
	baz=239							
O16K	**Kokwok River B**	**57.35**	**30**	P		**P**	**03 38 49.2**	**+1.5**
O16K				IAmb		IAmb	03 38 52.0	
	comp=Z,4.9nm,0.8s							
O16K	**Kokwok River B**	**57.35**	**30**	P		**P**	**03 38 48.5**	**+0.8**
	baz=250							
N16K	**Nishlik Lake**	**57.35**	**29**	P		**P**	**03 38 48.5**	**+0.8**
	baz=248							
CHIR	**Chirikof Islan**	**57.43**	**35**	P		**P**	**03 38 48.7**	**+0.4**
	baz=254							
M16K	**Timber Creek**	**57.47**	**28**	P		**P**	**03 38 49.8**	**+1.3**
	baz=248							
L16K	**Owhat River**	**57.51**	**27**	P		**P**	**03 38 50.1**	**+1.3**
	baz=247							
H16K	**Elim**	**57.63**	**24**	P		**P**	**03 38 51.2**	**+1.6**
	baz=242							
J16K	**Anvik River**	**57.68**	**26**	P		**P**	**03 38 51.6**	**+1.6**
	baz=245							
Q16K	**King Salmon**	**57.74**	**31**	P		**P**	**03 38 51.5**	**+1.0**
	baz=251							
O17K	**Koliganek Bris**	**57.88**	**30**	P		**P**	**03 38 52.2**	**+0.7**
	baz=250							
I17K	**Unalakleet**	**57.90**	**25**	P		**P**	**03 38 52.3**	**+0.8**
	baz=244							
N17K	**Nushagak Hills**	**58.10**	**29**	P		**P**	**03 38 54.9**	**+1.9**
N17K				IAmb		IAmb	03 38 56.5	
	comp=Z,9.6nm,0.9s							
N17K	**Nushagak Hills**	**58.10**	**29**	P		**P**	**03 38 54.1**	**+1.1**
	baz=250							
L17K	**Donlin**	**58.18**	**27**	P		**P**	**03 38 54.8**	**+1.3**
	baz=248							
ZALV	**Zalesovo Beam**	**58.25**	**323**	P		**P**	**03 38 51.9**	**-2.2**
	comp=Z,2.1nm,0.7s,baz=110,slow=9.1,SNR=6.5							
	comp=Z,2.1nm,0.7s							
M17K	**Holitna River**	**58.29**	**28**	P		**P**	**03 38 56.3**	**+2.0**
M17K				IAmb		IAmb	03 38 58.0	
	comp=Z,10nm,1.1s							
M17K	**Holitna River**	**58.29**	**28**	P		**P**	**03 38 55.2**	**+0.9**
	baz=249							
J17K	**VABM Dome**	**58.35**	**26**	P		**P**	**03 38 55.8**	**+1.2**
J17K				IAmb		IAmb	03 38 56.9	
	comp=Z,5.7nm,0.8s							
J17K	**VABM Dome**	**58.35**	**26**	P		**P**	**03 38 55.1**	**+0.5**
	baz=246							
C16K	**Lisburne Hills**	**58.40**	**19**	P		**P**	**03 38 55.8**	**+1.0**
C16K	**Lisburne Hills**	**58.40**	**19**	P		**P**	**03 38 55.2**	**+0.3**
	baz=237							
SII	**Sitkinak Islan**	**58.40**	**34**	P		**P**	**03 38 55.5**	**+0.4**
	baz=255							
K17K	**Iditarod**	**58.41**	**27**	P		**P**	**03 38 57.0**	**+1.9**
K17K	**Iditarod**	**58.41**	**27**	P		**P**	**03 38 55.8**	**+0.7**
	baz=247,SNR=8.1							
G17K	**Kiwalik Mounta**	**58.63**	**23**	P		**P**	**03 38 57.7**	**+1.2**
	baz=244							
H17K	**Granite Mounta**	**58.66**	**24**	P		**P**	**03 38 58.2**	**+1.5**
H17K	**Granite Mounta**	**58.66**	**24**	P		**P**	**03 38 57.6**	**+0.9**
	baz=245							
MKAR	**Makanchi Array**	**58.67**	**314**	P		**P**	**03 38 56.5**	**-0.7**
MKAR	**Makanchi Array**	**58.67**	**314**	P		**P**	**03 38 56.2**	**-1.1**
	comp=Z,1.2nm,0.5s,baz=92,slow=7.8,SNR=14							
	comp=Z,1.2nm,0.5s							
N18K	**Kila Creek**	**58.75**	**29**	P		**P**	**03 38 58.3**	**+0.8**
	baz=251							
O18K	**Koktuh Hills**	**58.81**	**30**	P		**P**	**03 38 58.8**	**+0.9**
	baz=252							
D17K	**Noatak River**	**58.82**	**20**	P		**P**	**03 38 58.6**	**+0.8**
	baz=240,SNR=5.4							
F17K	**Baldwin Pennin**	**58.84**	**22**	P		**P**	**03 38 58.9**	**+1.0**
F17K				IAmb		IAmb	03 39 00.8	
	comp=Z,7.8nm,0.8s							
F17K	**Baldwin Pennin**	**58.84**	**22**	P		**P**	**03 38 59.0**	**+1.0**
	baz=242							
L18K	**Granite Mounta**	**58.92**	**28**	P		**P**	**03 39 00.4**	**+1.8**
L18K	**Granite Mounta**	**58.92**	**28**	P		**P**	**03 38 59.5**	**+0.9**
	baz=249							
E17K	**Hotham Inlet**	**58.94**	**21**	P		**P**	**03 38 59.6**	**+0.9**
	baz=241,SNR=8.0							
M18K	**Stony River**	**59.05**	**28**	P		**P**	**03 39 00.2**	**+0.7**
	baz=251							
RDOG	**Red Dog Mine**	**59.06**	**20**	P		**P**	**03 39 00.4**	**+0.9**
	baz=240							
O19K	**Port Alsworth**	**59.34**	**30**	P		**P**	**03 39 02.5**	**+0.9**
	baz=253							
H18K	**Honhosa River**	**59.35**	**24**	P		**P**	**03 39 02.4**	**+0.9**
H18K				IAmb		IAmb	03 39 04.1	
	comp=Z,13nm,1.1s							
H18K	**Honhosa River**	**59.35**	**24**	P		**P**	**03 39 02.3**	**+0.7**
	baz=246							
J18K	**Innoko River**	**59.35**	**26**	P		**P**	**03 39 02.3**	**+0.7**
	baz=249							
N19K	**Bonanza Creek**	**59.45**	**29**	P		**P**	**03 39 04.0**	**+1.6**
N19K				IAmb		IAmb	03 39 08.7	
	comp=Z,8.2nm,0.8s							
N19K	**Bonanza Creek**	**59.45**	**29**	P		**P**	**03 39 03.8**	**+1.3**
	baz=252							
F18K	**Selawik**	**59.48**	**22**	P		**P**	**03 39 03.3**	**+0.9**
	baz=244							
E18K	**Tukpahlearik C**	**59.52**	**21**	P		**P**	**03 39 03.7**	**+1.0**
E18K	**Tukpahlearik C**	**59.52**	**21**	P		**P**	**03 39 03.6**	**+0.9**
	baz=242,SNR=6.1							
G18K	**Tagagawik**	**59.54**	**23**	P		**P**	**03 39 04.0**	**+1.1**
G18K				IAmb		IAmb	03 39 05.4	
	comp=Z,12nm,1.1s							
G18K	**Tagagawik**	**59.54**	**23**	P		**P**	**03 39 03.9**	**+1.0**
	baz=245,SNR=7.1							
KDAK	**Kodiak Island**	**59.55**	**33**	P		**P**	**03 39 03.7**	**+0.7**
	baz=256							
P19K	**Oil Pt**	**59.71**	**31**	P		**P**	**03 39 04.6**	**+0.5**
	baz=254							
L19K	**White Mountain**	**59.71**	**28**	P		**P**	**03 39 05.4**	**+1.3**
L19K				IAmb		IAmb	03 39 16.5	
	comp=Z,12nm,1.4s							
L19K	**White Mountain**	**59.71**	**28**	P		**P**	**03 39 05.0**	**+0.9**
	baz=251							
GCSA	**Galena City Sc**	**59.77**	**25**	P		**P**	**03 39 05.7**	**+1.4**
	baz=248							
M19K	**Big River Lodg**	**59.83**	**28**	P		**P**	**03 39 06.0**	**+1.1**
	baz=252							
Q20K	**Shuyak Island**	**59.85**	**32**	P		**P**	**03 39 05.7**	**+0.7**
	baz=256							
C18K	**Utukok River**	**59.90**	**20**	P		**P**	**03 39 06.1**	**+0.8**
C18K				IAmb		IAmb	03 39 07.7	
	comp=Z,6.2nm,1.0s							
C18K	**Utukok River**	**59.90**	**20**	P		**P**	**03 39 05.7**	**+0.4**
	baz=241							
J19K	**Poorman**	**60.00**	**26**	P		**P**	**03 39 07.2**	**+1.2**
J19K				IAmb		IAmb	03 39 08.9	
	comp=Z,7.9nm,1.0s							
J19K	**Poorman**	**60.00**	**26**	P		**P**	**03 39 06.5**	**+0.5**
	baz=249,SNR=6.2							
B18K	**Kokolik River**	**60.06**	**19**	P		**P**	**03 39 07.6**	**+1.3**
	baz=240							
O20K	**Hope Mountain**	**60.12**	**31**	P		**P**	**03 39 08.0**	**+1.0**
	baz=254							
G19K	**Purcell Mounta**	**60.23**	**23**	P		**P**	**03 39 06.7**	**-0.8**
G19K				IAmb		IAmb	03 39 10.2	
	comp=Z,6.6nm,0.8s							
G19K	**Purcell Mounta**	**60.23**	**23**	P		**P**	**03 39 08.5**	**+1.0**
	baz=247,SNR=6.3							
H19K	**Roundabout Mou**	**60.23**	**24**	P		**P**	**03 39 08.8**	**+1.3**
H19K				IAmb		IAmb	03 39 10.5	
	comp=Z,8.0nm,0.8s							
H19K	**Roundabout Mou**	**60.23**	**24**	P		**P**	**03 39 08.8**	**+1.3**
	baz=248,SNR=5.6							
L20K	**Farewell, AK**	**60.24**	**28**	P		**P**	**03 39 08.8**	**+1.1**
	baz=252							
F19K	**Shaleruckik Mo**	**60.26**	**22**	P		**P**	**03 39 08.5**	**+0.8**
F19K	**Shaleruckik Mo**	**60.26**	**22**	P		**P**	**03 39 08.5**	**+0.8**
	baz=246							
M20K	**Styx River**	**60.39**	**28**	P		**P**	**03 39 09.9**	**+1.1**
M20K				IAmb		IAmb	03 39 19.7	
	comp=Z,11nm,1.3s							
M20K	**Styx River**	**60.39**	**28**	P		**P**	**03 39 10.0**	**+1.1**
	baz=253							
K20K	**Telida**	**60.44**	**27**	P		**P**	**03 39 10.4**	**+1.4**
K20K				IAmb		IAmb	03 39 12.4	
	comp=Z,9.4nm,1.1s							
K20K	**Telida**	**60.44**	**27**	P		**P**	**03 39 09.7**	**+0.7**
	baz=251							
C19K	**Lookout Ridge**	**60.63**	**20**	P		**P**	**03 39 11.5**	**+1.3**
C19K	**Lookout Ridge**	**60.63**	**20**	P		**P**	**03 39 11.1**	**+0.8**
	baz=243,SNR=8.2							
J20K	**Nowinta River**	**60.67**	**26**	P		**P**	**03 39 12.4**	**+1.8**
J20K	**Nowinta River**	**60.67**	**26**	P		**P**	**03 39 11.6**	**+1.1**
	baz=251,SNR=11							
E19K	**Redstone River**	**60.71**	**22**	P		**P**	**03 39 12.2**	**+1.4**
E19K				IAmb		IAmb	03 39 13.6	
	comp=Z,9.8nm,1.1s							
E19K	**Redstone River**	**60.71**	**22**	P		**P**	**03 39 11.5**	**+0.8**
	baz=246,SNR=6.4							
I20K	**Naaghedeneel**	**60.74**	**25**	P		**P**	**03 39 12.1**	**+1.1**
H20K	**Anotleneega Mo**	**60.83**	**24**	P		**P**	**03 39 12.3**	**+0.7**
	baz=249,SNR=5.7							
D19K	**Kuna River**	**60.84**	**21**	P		**P**	**03 39 12.6**	**+0.9**
D19K	**Kuna River**	**60.84**	**21**	P		**P**	**03 39 12.0**	**+0.3**
	baz=244,SNR=6.7							
F20K	**Avaraart Lake**	**61.08**	**22**	P		**P**	**03 39 14.7**	**+1.5**
F20K				IAmb		IAmb	03 39 16.2	
	comp=Z,6.4nm,1.0s							
F20K	**Avaraart Lake**	**61.08**	**22**	P		**P**	**03 39 13.7**	**+0.5**
	baz=248,SNR=6.6							
PPLA	**Purkeypile**	**61.11**	**28**	P		**P**	**03 39 14.4**	**+0.7**
	baz=253							
SKT	**Skwentna**	**61.15**	**29**	P		**P**	**03 39 14.3**	**+0.4**
	baz=254							
CAST	**Castle Rocks**	**61.31**	**27**	P		**P**	**03 39 16.1**	**+1.2**
CAST	**Castle Rocks**	**61.31**	**27**	P		**P**	**03 39 16.1**	**+1.2**
	baz=253,SNR=13							
E20K	**Nigu River**	**61.39**	**21**	P		**P**	**03 39 16.2**	**+0.8**
	baz=247,SNR=14							
D20K	**Etivluk River**	**61.43**	**21**	P		**P**	**03 39 16.3**	**+0.6**
	baz=246,SNR=14							
KURK	**Kurchatov**	**61.49**	**318**	P		**P**	**03 39 16.1**	**-0.3**
KURBB	**Kurchatov Arra**	**61.54**	**318**	P		**P**	**03 39 15.3**	**-1.3**
	comp=Z,2.4nm,0.4s,baz=92,slow=7.4,SNR=23	

SCM	Sheep Creek Mo	63.05	29	P	P	03 39 26.9 +0.3
	baz=258					
G23K	Bananza Creek	63.09	24	P	P	03 39 27.8 +1.1
G23K				IAmb	IAmb	03 39 30.0
	comp=Z,12nm,1.4s					
G23K	Bananza Creek	63.09	24	P	P	03 39 27.4 +0.7
	baz=254,SNR=7.2					
B22K	Teshekpuk Lake	63.10	19	P	P	03 39 27.7 +1.0
B22K				IAmb	IAmb	03 39 29.1
	comp=Z,6.0nm,0.9s					
B22K	Teshekpuk Lake	63.10	19	P	P	03 39 27.5 +0.8
	baz=248					
COLD	Coldfoot	63.18	23	P	P	03 39 28.1 +0.8
	baz=253					
DHY	Denali Highway	63.28	28	P	P	03 39 29.1 +0.9
DHY				IAmb	IAmb	03 40 03.9
	comp=Z,11nm,1.5s					
DHY	Denali Highway	63.28	28	P	P	03 39 28.4 +0.2
	baz=258					
WRH	Wood River Hil	63.29	26	P	P	03 39 27.9 0.0
WRH				IAmb	IAmb	03 39 29.0
	comp=Z,14nm,1.4s					
MDM	Murphy Dome	63.34	26	P	P	03 39 29.4 +1.0
MDM				IAmb	IAmb	03 39 31.5
	comp=Z,9.8nm,1.3s					
D23K	Nanushuk River	63.53	21	P	P	03 39 30.3 +0.8
	baz=252					
H24K	Noodor Dome	63.70	25	P	P	03 39 31.6 +0.8
H24K	Noodor Dome	63.70	25	P	P	03 39 30.8 +0.1
	baz=256,SNR=6.1					
HDA	Harding Lake	63.75	27	P	P	03 39 30.7 -0.4
HDA				IAmb	IAmb	03 39 31.0
	comp=Z,2.8nm,0.4s					
HDA	Harding Lake	63.75	27	P	P	03 39 31.8 +0.7
	baz=258					
TOLK	Toolik Lake Re	63.82	22	P	P	03 39 33.0 +1.5
TOLK				IAmb	IAmb	03 39 34.5
	comp=Z,12nm,1.1s					
TOLK	Toolik Lake Re	63.82	22	P	P	03 39 32.1 +0.6
	baz=253,SNR=10.0					
C23K	Itkillik River	63.83	20	P	P	03 39 32.6 +1.1
C23K	Itkillik River	63.83	20	P	P	03 39 32.4 +1.0
	baz=251,SNR=14					
IL31		63.86	26	P	P	03 39 31.0 -0.7
IL31				IAmb	IAmb	03 39 32.8
	comp=Z,4.9nm,0.9s					
ILAR	Eielson Array	63.86	26	P	P	03 39 31.1 -0.6
	comp=Z,4.6nm,1.0s,baz=253,slow=5.9,SNR=19					
E24K	Your Creek	64.05	22	IAmb	IAmb	03 39 36.0
	comp=Z,7.7nm,1.1s					
E24K	Your Creek	64.05	22	P	P	03 39 33.5 +0.5
	baz=254,SNR=9.5					
G24K	Hadweenzic Riv	64.07	24	IAmb	IAmb	03 39 36.0
	comp=Z,6.2nm,1.1s					
G24K	Hadweenzic Riv	64.07	24	P	P	03 39 33.7 +0.6
	baz=256,SNR=5.6					
PAX	Paxson	64.11	28	P	P	03 39 34.4 +0.8
	baz=260,SNR=6.0					
F24K	Squaw Lake	64.12	23	P	P	03 39 33.8 +0.3
	baz=255					
HARP	HAARP	64.16	29	P	P	03 39 34.4 +0.6
	baz=260					
BMRM	Bremner River	64.19	31	P	P	03 39 34.5 +0.4
	baz=261					
D24K	Happy Valley	64.23	21	P	P	03 39 34.8 +0.8
	baz=254,SNR=8.8					
C24K	Franklin Bluff	64.43	21	P	P	03 39 36.4 +1.0
	baz=253					
J25K	Salcha River,	64.47	26	P	P	03 39 35.8 0.0
	baz=259,SNR=5.6					
H25L	Birch Creek	64.62	25	P	P	03 39 37.4 +0.7
	baz=258,SNR=8.0					
FYU	Fort Yukon	64.91	24	IAmb	IAmb	03 39 42.2
	comp=Z,9.2nm,0.8s					
SCRK	Sand Creek	64.94	27	IAmb	IAmb	03 39 40.4
	comp=Z,5.9nm,1.0s					
SCRK	Sand Creek	64.94	27	P	P	03 39 38.7 -0.2
	baz=261,SNR=9.8					
F25K	Christian Rive	64.97	23	P	P	03 39 39.7 +0.6
	baz=257,SNR=8.8					
MCARA	McCarthy VSAT	65.00	30	IAmb	IAmb	03 39 42.6
	comp=Z,15nm,1.2s					
MCARA	McCarthy VSAT	65.00	30	P	P	03 39 39.8 +0.5
	baz=263					
L26K	Log Cabin Wild	65.08	28	P	P	03 39 40.8 +1.0
	baz=262					
D25K	Kavik River	65.11	21	P	P	03 39 40.5 +0.6
	baz=256,SNR=13					
E25K	Arctic Village	65.12	23	IAmb	IAmb	03 39 43.2
	comp=Z,14nm,1.4s					
E25K	Arctic Village	65.12	23	P	P	03 39 40.9 +1.0
	baz=257,SNR=6.9					
J26L	Joseph Creek	65.21	27	IAmb	IAmb	03 39 42.8
	comp=Z,16nm,1.3s					
J26L	Joseph Creek	65.21	27	P	P	03 39 41.0 +0.4
	baz=261,SNR=12					
BMAR	Burnt Mountain	65.34	23	P	P	03 39 42.6 +1.2
G26K	Porcupine Rive	65.55	24	P	P	03 39 43.8 +1.2
	baz=259,SNR=6.8					
F26K	Sheenjek River	65.55	23	P	P	03 39 43.4 +0.7
	baz=259,SNR=9.6					
M27K	Edge Creek, AK	65.66	29	IAmb	IAmb	03 40 26.5
	comp=Z,7.8nm,1.4s					
M27K	Edge Creek, AK	65.66	29	P	P	03 39 44.5 +0.8
	baz=263					
C26K	Camden Bay	65.75	21	P	P	03 39 44.9 +1.0
	baz=257,SNR=11					
CTG	Chitna Glacier	65.77	31	P	P	03 39 44.8 +0.4
	baz=264,SNR=5.5					
CTGM	Chitina Glacie	65.77	31	IAmb	IAmb	03 39 47.9
	comp=Z,5.6nm,0.8s					
L27K	Beaver Creek,	65.77	28	P	P	03 39 45.2 +1.0
	baz=263,SNR=5.5					
K27K	Chicken	65.78	27	P	P	03 39 45.0 +0.8
	baz=262					
LOGN	Logan Glacier	65.92	31	IAmb	IAmb	03 39 49.9
	comp=Z,12nm,1.3s					
C27K	Jago River	66.10	21	P	P	03 39 47.1 +1.0
	baz=258					
I27K	Kandik River	66.20	26	P	P	03 39 48.3 +1.4
	baz=262					
YUK3	Moose Creek	66.27	30	P	P	03 39 48.3 +0.7
	baz=265					
O28M	Mount Upton	66.31	31	P	P	03 39 48.5 +0.5
	baz=266,SNR=7.5					
H27K	Steamboat Moun	66.32	25	P	P	03 39 48.2 +0.5
	baz=262,SNR=11					
G27K	Doyon Strip	66.35	24	P	P	03 39 48.4 +0.5
	baz=262					
YUK8	Steele Glacier	66.56	30	P	P	03 39 50.3 +0.7
	baz=266					
E27K	Coleen River	66.59	23	P	P	03 39 50.4 +1.1
	baz=261					
PNL	Peninsula	66.63	32	P	P	03 39 50.4 +0.7
	baz=267					
BVAR	Borovoye Array	66.70	320	P	P	03 39 48.7 -1.6
	comp=Z,8.0nm,0.6s,baz=90,slow=7.4,SNR=27					
	comp=Z,8.0nm,0.6s					
I28M	Miner Creek	66.87	26	P	P	03 39 52.2 +0.9
	baz=264					
KKAR	Karatay Array	66.97	310	P	P	03 39 51.7 -0.5
O29M	Mount Kennedy	67.07	32	IAmb	IAmb	03 39 56.3
	comp=Z,8.9nm,1.1s					
YUK4	Talbot Arm	67.10	30	P	P	03 39 53.9 +1.0
	baz=267					
F28M	Old Crow	67.15	24	P	P	03 39 53.6 +0.7
	baz=263					
YUK6	Outpost Mounta	67.21	31	P	P	03 39 54.4 +0.8
	baz=267					
M29M	Somme Creek	67.25	29	P	P	03 39 54.9 +1.2
	baz=266,SNR=5.8					
E28M	Babbage River	67.40	23	IAmb	IAmb	03 39 57.6
	comp=Z,8.6nm,1.2s					
E28M	Babbage River	67.40	23	P	P	03 39 54.9 +0.5
	baz=263					
L29M	L29M	67.45	29	IAmb	IAmb	03 39 58.2
	comp=Z,9.0nm,1.1s					
L29M	L29M	67.45	29	P	P	03 39 55.3 +0.4
	baz=266,SNR=10					
P29M	Windy Craggy	67.47	32	IAmb	IAmb	03 39 58.7
	comp=Z,13nm,1.2s					
P29M	Windy Craggy	67.47	32	P	P	03 39 55.4 +0.4
	baz=268					
I29M	Ogilvie Camp,	67.54	26	P	P	03 39 56.8 +1.4
	baz=265					
H29M	Whitestone	67.59	25	P	P	03 39 56.7 +1.1
	baz=265					
HYT	Haines Junctio	67.63	31	P	P	03 39 56.7 +0.5
	baz=268,SNR=8.1					
K29M	Barlow Dome	67.77	28	IAmb	IAmb	03 39 60.0
	comp=Z,11nm,1.2s					
K29M	Barlow Dome	67.77	28	P	P	03 39 57.8 +0.8
	baz=267,SNR=6.6					
D28M	Stokes Point	67.78	22	P	P	03 39 57.4 +0.6
	baz=263					
G29M	Pine Creek	67.79	24	IAmb	IAmb	03 40 18.0
	comp=Z,8.5nm,1.2s					
G29M	Pine Creek	67.79	24	P	P	03 39 57.5 +0.5
	baz=265					
N30M	Aishikik Lake	67.85	30	IAmb	IAmb	03 39 59.4
	comp=Z,3.8nm,0.6s					
N30M	Aishikik Lake	67.85	30	P	P	03 39 58.0 +0.5
	baz=268,SNR=6.2					
P30M	Million Dollar	67.87	32	P	P	03 39 58.4 +0.8
	baz=269,SNR=5.3					
E29M	Blow River	67.98	23	P	P	03 39 59.0 +0.9
	baz=264					
M30M	Minto, Yukon	68.03	29	P	P	03 39 59.2 +0.7
	baz=268					
PLBC	Pleasant Camp	68.16	33	P	P	03 40 00.7 +1.4
	baz=269					
EPYK	Eagle Plains	68.27	25	P	P	03 40 00.8 +0.9
	baz=266,SNR=5.8					
O30N	Mendenhall	68.32	31	P	P	03 40 00.6 +0.3
	baz=269					
J30M	Hart River	68.33	27	P	P	03 40 00.9 +0.5
	baz=267					
I30M	Mount Dempster	68.34	26	P	P	03 40 01.8 +1.3
	baz=267					
N31M	Braeburn, Yuko	68.48	30	IAmb	IAmb	03 40 04.6
	comp=Z,7.3nm,0.9s					
N31M	Braeburn, Yuko	68.48	30	P	P	03 40 01.9 +0.5
	baz=269					
G30M	tAoh Zraii Nji	68.50	24	IAmb	IAmb	03 40 03.1
	comp=Z,13nm,1.4s					
G30M	tAoh Zraii Nji	68.50	24	P	P	03 40 02.4 +1.0
	baz=266					
F30M	Barrier River	68.71	24	P	P	03 40 03.8 +1.2
	baz=267,SNR=5.2					
WHY	Whitehorse	68.91	31	P	P	03 40 04.8 +0.7
	baz=270					
M31M	Drury Creek, Y	69.15	30	P	P	03 40 06.2 +0.8
	baz=270					
H31M	Peel River	69.21	26	P	P	03 40 06.8 +1.1
	baz=269					
G31M	Satah River	69.27	25	IAmb	IAmb	03 40 08.2
	comp=Z,11nm,1.1s					
G31M	Satah River	69.27	25	P	P	03 40 06.7 +0.7
	baz=268,SNR=7.2					
F31M	Tsiigehtchic	69.49	24	P	P	03 40 08.1 +0.7
	baz=269					
INK	Inuvik	69.59	23	P	P	03 40 08.5 +0.5
	baz=268					
FARO	Faro, Yukon	69.63	30	P	P	03 40 08.5 +0.1
	baz=271					
P33M	Teslin, Yukon	69.94	32	P	P	03 40 10.9 +0.5
	baz=272					
MMPY	Sheldon Lake,	70.59	29	P	P	03 40 15.0 +0.7
	baz=273					
R33M	Jennings River	70.92	33	P	P	03 40 17.4 +0.9
	baz=274					
S34M	Telegraph Cree	70.94	34	P	P	03 40 17.8 +1.4
	baz=274					
DLBC	Dease Lake	71.48	33	P	P	03 40 20.5 +0.8
	baz=275					
TGTN	Hyland Airport	72.07	30	P	P	03 40 23.7 +0.5
	baz=276					
A36M	Sachs Harbour	72.31	19	P	P	03 40 24.6 +0.3
	baz=275					
C36M	Paulatuk	72.97	22	P	P	03 40 28.8 +0.6
	baz=277					
ABKAR	Akbulak array	73.56	317	P	P	03 40 30.0 -2.1
ABKAR	Akbulak array	73.56	317	IAmb	IAmb	03 40 33.0
	comp=Z,2.1nm,0.7s					
TOAD	Toad River Com	73.92	33	P	P	03 40 34.6 +0.5
	baz=279					
YKA	Yellowknife Ar	78.20	28	P	P	03 40 58.2 +0.1
	comp=Z,1.9nm,0.7s,baz=291,slow=5.6,SNR=13					
	comp=Z,1.9nm,0.7s					
SPITS	Spitsbergen Ar	79.43	351	P	P	03 41 04.1 -0.5
	comp=Z,0.5nm,0.3s,baz=93,slow=7.6,SNR=12					
	comp=Z,0.5nm,0.3s					
PINE	Pine Mountain	79.80	47	P	P	03 41 09.5 +2.0
PINE				IAmb	IAmb	03 41 10.0
	comp=Z,7.3nm,0.8s					
ARCES	ARCESS Array B	82.75	342	P	P	03 41 21.0 -1.4
	comp=Z,3.8nm,0.8s,baz=85,slow=7.0,SNR=10.0					
	comp=Z,3.8nm,0.8s					
NVAR	Mina Array Bea	83.27	52	P	P	03 41 26.9 +1.1
NVAR	Mina Array Bea	83.27	52	P	P	03 41 27.1 +1.2
	comp=Z,2.9nm,0.7s,baz=268,slow=5.9,SNR=26					
	comp=Z,2.9nm,0.7s					
MSO	Missoula	83.58	43	P	P	03 41 27.7 +0.5
	baz=290					
HLID	Hailey	84.38	46	P	P	03 41 31.9 +0.5
	baz=290					
R11B	Troy Canyon, C	85.31	51	P	P	03 41 36.2 +0.1
	baz=290					
BOZ	Bozeman (W)	85.52	43	P	P	03 41 37.2 +0.2
	baz=292					
TUQ	Turquoise Moun	86.04	54	P	P	03 41 40.2 +0.5
	baz=290					
DUG	Dugway, Tooele	86.68	49	P	P	03 41 43.7 +0.9
	baz=291					
V12A	Nelson	86.76	54	P	P	03 41 44.8 +1.6
FINES	FINESS Array B	87.14	335	P	P	03 41 41.7 -2.7
	comp=Z,1.4nm,0.4s,baz=106,slow=6.9,SNR=20					
	comp=Z,1.4nm,0.4s					
FFC	Flin Flon	87.29	33	P	P	03 41 45.7 +0.5
FFC				IAmb	IAmb	03 41 47.2
	comp=Z,5.5nm,0.8s					
KNB	Kanab	87.83	52	IAmb	IAmb	03 42 30.6
	comp=Z,7.3nm,1.3s					
PDAR	Pinedale Array	87.98	45	P	P	03 41 49.5 +0.5
	comp=Z,0.4nm,0.4s,baz=321,slow=0.8,SNR=5.1					
	comp=Z,0.4nm,0.4s					
Y14A	Wickenburg	88.81	55	IAmb	IAmb	03 41 54.9
	comp=Z,3.0nm,0.6s					
WUAZ	Wupatki	89.47	53	P	P	03 41 56.0 -0.2
	baz=292					
N23A	Red Feather La	91.21	46	P	P	03 42 04.5 +0.2
	baz=296					
HFS	Hagfors	92.64	338	P	P	03 42 07.4 -2.7
	comp=Z,0.4nm,0.3s,baz=49,slow=4.5,SNR=6.6					
	comp=Z,0.4nm,0.3s					
BRTR	Keskin Array B	94.33	314	P	P	03 42 15.8 -2.6
	comp=Z,0.9nm,0.8s,baz=57,slow=4.6,SNR=4.4					
	comp=Z,0.9nm,0.8s					
MNTX	Cornudas Mount	95.59	54	P	P	03 42 24.6 +0.3
	baz=296					
VRAC	Vranov	98.89	329	LR	LR	04 29 26.0
	comp=Z,23nm,18.3s,baz=242,slow=36					
P52A	Corning	106.98	37	P	PKiKP	03 47 24.6 +0.8
	baz=313					
BRAL	Brewton	109.28	46	P	PKiKP	03 47 28.8 +0.4
	baz=307					
PAL	Palisades	110.35	31	P	PKiKP	03 47 30.4 +0.3
	baz=320					
TORD	Torodi Ar. Bea	132.65	309	PKP	PKPdf	03 48 12.4 -1.0
	comp=Z,0.2nm,0.5s,baz=82,slow=0.5,SNR=1.4					
TORD				SKPbc	SKPbc	03 51 21.4 -5.5
	comp=Z,1.0nm,1.0s,baz=30,slow=3.9,SNR=3.9					
LPAZ	La Paz	147.62	91	PKPbc	PKPbc	03 48 44.8 +0.8
	comp=Z,4.5nm,0.7s,baz=324,slow=2.1,SNR=21					

*AFAD **30** 04:36:00.5±0.0,39.74N×43.57E,h7km±4km,ML2.6*
*ISK **30** 04:36:01.3,39.76N×43.73E,h10km,ML2.6/10*
ISC 30 04:36:00.8±1.0,39.76N±0.02×43.61E±0.03,h9km±9km,
n22,σ0876/31,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.23	164	P	Pg	04 36 05.7	+0.3
DYDN				S	Sg	04 36 09.5	+0.9
KOTA	Agri, Merkez-K	0.31	278	P	Pg	04 36 06.9	-0.2
KOTA				S	Sg	04 36 11.4	+0.1
IGDI	IGDIR	0.38	73	P	Pg	04 36 08.1	-0.1
IGDI				S	Sg	04 36 12.7	-0.5
IGDI				*i* AML	AML	04 36 14.0	
	comp=N,911nm,0.4s						
IGDI				*i* AML	AML	04 36 14.0	
	comp=E,596nm,0.3s						
TASB	TASBURUN-IGDIR	0.53	65	Pg	Pg	04 36 11.1	0.0
TASB				Sg	Sg	04 36 17.3	-0.9
CLDR	Caldiran	0.66	159	Pg	Pg	04 36 13.4	-0.2
CLDR				Sg	Sb	04 36 23.6	-0.4
CLDR	Caldiran	0.66	159	P	Pg	04 36 13.1	-0.5
CLDR				S	Sg	04 36 21.7	-0.5
CLDR				*i* AML	AML	04 36 26.0	
	comp=N,216nm,0.5s						
CLDR				*i* AML	AML	04 36 26.0	
	comp=E,266nm,0.3s						
DIGO	Kars	0.68	345	P	Pg	04 36 14.3	+0.3
DORK	Agr/Tutak/Do	0.74	240	P	Pg	04 36 14.8	-0.3
DORK				S	Sg	04 36 24.3	-0.5
DORK				*i* AML	AML	04 36 26.0	
	comp=N,307nm,0.5s						
DORK				*i* AML	AML	04 36 26.0	
	comp=E,233nm,0.5s						
EATA	Eleskirt	0.87	277	P	Pg	04 36 16.1	-1.4
EATA				S	Sg	04 36 29.0	+0.2
EAK	Akyaka	0.93	360	P	Pb	04 36 19.9	+0.8
EAK				S	Sn	04 36 33.3	-0.3
EAK				*i* AML	AML	04 36 43.0	
	comp=N,164nm,0.7s						
KARS	Kars	0.96	335	Pg	Pn	04 36 20.7	+0.2
BOZK	Kars-Merkez-Bo	0.96	330	P	Pg	04 36 18.9	-0.4
OZAP	Van, Ozalp-Mer	1.14	165	P	Pn	04 36 22.9	-0.2
ADCV	BITLIS_Adilcev	1.17	216	P	Pb	04 36 23.8	+0.4
VANB	Van	1.18	188	Pn	Pn	04 36 25.4	+1.9
SENK	Senkaya-Erzuru	1.25	310	Pn	Pg	04 36 25.5	+0.6
KOPR	Koprukoy-ERZUR	1.37	280	Pn	Pg	04 36 28.7	+1.6
GEVA	Gevas	1.51	197	P	Pn	04 36 27.8	-0.3
AKDM	Akdamar-Van	1.51	199	Pn	Pg	04 36 29.9	+0.1
GURO	Guroymak-BITLI	1.72	226	Pn	Pb	04 36 33.4	+0.8
YEDI	Yedisu-Bingol	2.39	263	Pn	Pb	04 36 42.9	-1.2
BNGB	Bingl	2.40	252	Pn	Pb	04 36 43.2	-1.0

*SNET **30** 04:41:18.5±1.8,13.23N×88.04W,h2km,ML2.5*
*CATAC **30** 04:41:18.6±0.3,13.17N×88.07W,h3km±3km,ML2.4*
ISC 30 04:41:18.4±0.9,13.19N±0.06×88.05W±0.03,h13km±6km,
n20,σ0860/30,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	Intipuca	0.01	295	*e*P	Pg	04 41 20.5	-0.2
INTP				*e*S	Sg	04 41 21.7	-0.4
LCND	La Caada	0.19	53	*i* P	Pb	04 41 23.2	-0.6
LCND				*i* S	Sg	04 41 26.2	+0.6
LCND				IAML		04 41 27.6	
	comp=Z,1μm,1.0s						
CNCH	Conchagua	0.22	69	*e*P	Pb	04 41 24.0	-0.4
CNCH				*e*S	Sg	04 41 27.7	+1.1
CNCH	Conchagua	0.22	69	*i* P	Pb	04 41 24.1	-0.4
CNCH				*i* S	Sg	04 41 27.7	+1.1
CNCH				IAML		04 41 28.6	
	comp=Z,2μm,1.0s						
BLLM	Bellamira	0.31	323	*e*P	Pb	04 41 25.2	-0.7
RANC	El Ranchito	0.34	315	*i* P	Pg	04 41 25.0	-0.3
RANC				IAML		04 41 31.6	
	comp=Z,340nm,1.0s						
PACA	Pacayal	0.38	315	*i* P	Pb	04 41 26.9	-0.3
PACA				*i* S	Sg	04 41 31.6	+0.3
PACA				IAML		04 41 39.3	
	comp=Z,960nm,1.0s						
AMPH	Amapala	0.39	76	*e*P	Pb	04 41 27.0	-0.2
AMPH				*e*S	Sb	04 41 33.1	0.0
COEB	Comit de Eme	0.56	303	*e*P	Pg	04 41 29.8	+0.4
COEB				*e*S	Sg	04 41 37.6	+0.8
COEB	Comit de Eme	0.56	303	*i* P	Pg	04 41 28.8	-0.6
COEB				IAML		04 41 39.7	
	comp=Z,80nm,1.0s						
TECO	Alcaldia de Te	0.79	296	*i* P	Pg	04 41 33.6	-0.1
TECO				*i* S	Sg	04 41 44.1	0.0
TECO				IAML		04 41 47.0	
	comp=Z,66nm,1.0s						
SCLA	Alcaldia de Sa	0.83	307	*i* P	Pg	04 41 34.6	+0.1
SCLA				IAML		04 41 48.0	
	comp=Z,20nm,1.0s						
UESV	Universidad de	0.84	301	*i* P	Pn	04 41 46.6	+11
COEG	Centro de Oper	0.92	298	*i* P	Pg	04 41 35.7	-0.4
COEG				*i* S	Sg	04 41 48.3	+0.2
COEG				IAML		04 41 49.2	
	comp=Z,85nm,1.0s						
PKGN	Cerro Pekin	1.17	116	*i* P	Pn	04 41 40.3	-0.2
PKGN				IAML		04 41 41.3	
	comp=Z,110nm,1.0s						
JAYA	Jayaque - finc	1.44	289	*i* P	Pn	04 41 44.9	+0.5
JAYA				*i* S	Sb	04 42 04.3	+0.8
JAYA				IAML		04 42 10.7	
	comp=Z,160nm,1.0s						
CNGA	Al SSO del Vol	1.48	118	*i* P	Pb	04 41 46.0	+0.1
CNGA				*i* S	Sg	04 42 06.2	-0.1
CNGA				IAML		04 42 09.2	
	comp=Z,36nm,1.0s						
MACN	El Madrono	1.52	118	*i* P	Pb	04 41 46.4	-0.1
MACN				IAML		04 42 30.1	
	comp=Z,78nm,1.0s						
LIMN	Finca el Limon	1.64	94	*i* P	Pb	04 41 47.3	-1.3
LIMN				IAML		04 42 46.7	
	comp=Z,26nm,1.0s						
CHIHN	Chmisales	1.98	352	*i* P	Pb	04 41 53.5	-0.9

*WEL **30** 05:40:16.6±1.0,37°S±6°×17°9E±°,h12km,M3.4/14,*
ML3.7/16,MLv3.4/14,Error ellipse: s-maj=0.0km
s-min=0.0km az=110.4,confirmed
*NOU **30** 05:40:16.6,36.90S×179.08E,h8km,MLv3.6/7,Off E.*
Coast of N. Island, N.Z.
ISC 30 05:40:15.3±2.8,36.95S±0.07×179.2E±0.1,h13km±10km,
n41,σ1807/59,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.96	230	P	Pb	05 40 34.0	+0.2
MXZ	Matakaoa Point	0.96	230	P	Pg	05 40 33.0	-0.8
MXZ				S	Sg	05 40 45.7	-0.6
WMGZ	Waiomatatini S	1.08	217	P	Pn	05 40 37.6	+1.3
WMGZ				S	Sn	05 40 52.9	+1.8
PKGZ	Pakihiroa	1.31	224	P	Pg	05 40 40.5	-0.1
PKGZ				S	Sn	05 40 57.6	+0.7
PUZ	Puketiti	1.36	214	P	Pb	05 40 41.0	+0.3
PUZ				S	Sg	05 41 00.1	+0.9
HAZ	Te Kaha	1.41	235	P	Pn	05 40 39.7	-1.0
HAZ				S	Sg	05 41 01.1	+0.4
TWGZ	Tauwhareparae	1.58	219	P	Pn	05 40 44.0	+1.0
TWGZ				S	Sg	05 41 06.1	0.0
RUGZ	Raukumara Rang	1.60	230	P	Pb	05 40 44.5	-0.3
RUGZ				S	Sg	05 41 06.8	0.0
CNGZ	Carnagh Statio	1.73	208	P	Pn	05 40 46.7	+1.5
MWZ	Matawai	1.93	224	P	Pn	05 40 48.7	+0.8
MWZ				S	Sb	05 41 15.0	+0.4
WHRZ	Whale Island	2.01	243	P	Pb	05 40 51.8	+0.1
RAGZ	Rawiri	2.11	222	P	Pn	05 40 51.2	+0.8
URZ	Urewera	2.13	232	P	Pn	05 40 51.4	+0.8
URZ	Urewera	2.13	232	P	Pn	05 40 51.5	+0.9
URZ				S	Sn	05 41 16.7	-0.3
MARZ	Manawahe	2.28	242	P	Pb	05 40 56.6	+0.3
MARZ				S	Sn	05 41 22.1	+1.3
SNGZ	Shannon Statio	2.36	219	P	Pn	05 40 54.3	+0.5
SNGZ				S	Sn	05 41 22.3	-0.4
RTZ	Ruatahuna	2.44	226	P	Pn	05 40 55.4	+0.5
MUGZ	Murupara	2.48	231	P	Pn	05 40 55.8	+0.4
TGRZ	Tauranga	2.49	251	P	Pn	05 40 56.7	+1.1
TARZ	Mount Tarawera	2.52	239	P	Pn	05 40 57.4	+1.4
RAHZ	Arahi	2.59	220	P	Pn	05 40 57.8	+0.8
MTHZ	Maungataniwha	2.68	224	P	Pn	05 40 58.8	+0.6
MTHZ				S	Sn	05 41 30.5	-0.1
KUZ	Kuaotunu	2.82	273

HIZ	**Hauiti**	**3.80**	**244**	P		**Pn**	**05 41 15.1**	**+1.5**
HIZ	**Hauiti**	**3.80**	**244**	P		**Pn**	**05 41 15.2**	**+1.5**
TSZ	**Takapari Road**	**4.03**	**219**	P		**Pn**	**05 41 15.3**	**-1.4**
TSZ				S		**Sn**	**05 42 00.4**	**-3.4**
WCZ	**Waipu Caves**	**4.07**	**283**	P		**Pn**	**05 41 16.7**	**-0.5**
KHEZ	**Kahui Hut**	**4.73**	**239**	P		**Pn**	**05 41 27.6**	**+1.1**
OUZ	**Omahuta**	**4.88**	**289**	P		**Pn**	**05 41 29.1**	**+0.7**
OUZ	**Omahuta**	**4.88**	**289**	P		**Pn**	**05 41 29.5**	**+1.1**

*IDC **30** 05:52:43.2±0.6, 13°.25S×45°.62E, h0km, mb4.0/17, mbtmp4.1/19, ML4.4/2, Error ellipse: s-maj=19.9km s-min=15.1km az=111.0*
*NEIC **30** 05:52:44.0±2.1, 12°.97S±0°.07×45°.66E±0°.10, h10km±1km, mb4.5/21, Error ellipse: s-maj=16.5km s-min=10.5km az=72.0*
*PRE **30** 05:52:54.8±1.9, 14°.15S×44°.86E, h10km, mb4.5*
ISC 30 05:52:43.5±0.4, 13°.12S±0°.05×45°.75E±0°.08, h10km, n87, σ1s85/82, mb4.4/30, 1D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OPO	**Ambohidratompo**	**5.60**	**166**	Pn		**Pn**	**05 54 09.5**	**+2.4**
	4.1nm,0.3s,baz=342,slow=17,SNR=24							
OPO				Sn		**Sn**	**05 55 11.3**	**-0.3**
	68nm,0.3s,baz=282,slow=20,SNR=12							
ABPO	**Ambohimpanom**	**6.04**	**167**			**Pn**	**05 54 16.2**	**+3.0**
ABPO	**Ambohimpanom**	**6.04**	**167**	*e*P		**Pn**	**05 54 15.8**	**+2.6**
ABPO				*e*S		**Sn**	**05 55 15.4**	**-7.0**
VOI	**Vohitsoka**	**8.80**	**174**			**Pn**	**05 54 53.2**	**+2.2**
VOI	**Vohitsoka**	**8.80**	**174**	*e*P		**Pn**	**05 54 53.1**	**+2.1**
FOMA	**Nahampoana Res**	**11.86**	**175**	Pn		**Pn**	**05 55 35.0**	**+2.3**
RER	**Riviere de l'E**	**12.46**	**131**	Pn		**Pn**	**05 55 41.6**	**+0.5**
MSEY	**Mahe Island**	**12.76**	**50**	Pn		**Pn**	**05 55 41.8**	**-3.3**
KIBK	**Kibwezi**	**13.14**	**324**	Pn		Pn	05 55 44.4	-6.1
CHIPN	**CHIPINGE**	**14.40**	**239**	*i* P		**Pn**	**05 56 04.5**	**-3.2**
MOPA	**Mopani**	**17.09**	**231**	*i* P		**Pn**	**05 56 41.0**	**-1.7**
MOPA	**Mopani**	**17.09**	**231**	*e*P		**Pn**	**05 56 40.1**	**-2.6**
MOPA	**Mopani**	**17.09**	**231**	*e*P		**Pn**	**05 56 39.6**	**-3.1**
MOPA				IAML			05 58 02.8	
	comp=Z,94nm,0.7s							
MOPA	**Mopani**	**17.09**	**231**	*i* P		Pn	05 56 23.5	-19
LSZ	**Lusaka**	**17.16**	**261**	P		**Pn**	**05 56 41.9**	**-1.8**
MUSN	**Musina, Limpop**	**17.66**	**237**	*i* P		**Pn**	**05 56 49.2**	**-0.6**
MUSN	**Musina, Limpop**	**17.66**	**237**	*e*P		**Pn**	**05 56 48.6**	**-1.2**
MUSN	**Musina, Limpop**	**17.66**	**237**	*e*P		**Pn**	**05 56 47.5**	**-2.3**
MUSN				IAML			05 58 10.2	
	comp=Z,39nm,0.5s							
MUSN	**Musina, Limpop**	**17.66**	**237**	*i* P		Pn	05 56 33.5	-16
MATP	**Matopo**	**18.03**	**244**	*i* P		**Pn**	**05 56 54.5**	**0.0**
MATP	**Matopo**	**18.03**	**244**	P		**Pn**	**05 56 54.6**	**0.0**
	comp=Z,0.6nm,0.3s,baz=65,slow=12,SNR=16							
	comp=Z,4.7nm,0.7s							
MATP	**Matopo**	**18.03**	**244**	*i* P		Pn	05 56 43.4	-11
PILG	**Pilgrimsrest,**	**18.42**	**228**	*e*P		**P**	**05 56 58.7**	**-0.7**
PILG	**Pilgrimsrest,**	**18.42**	**228**	*e*P		**P**	**05 56 59.0**	**-0.4**
PILG				IAML			05 58 21.8	
	comp=Z,43nm,0.8s							
POGA	**Pongola**	**19.31**	**221**	P		**Pn**	**05 57 09.6**	**-0.3**
POGA				IAmb		IAmb	05 57 13.2	
	comp=Z,38nm,1.1s							
POGA	**Pongola**	**19.31**	**221**	*e*P		**Pn**	**05 57 10.7**	**+0.8**
MBAR	**Mbarara**	**19.38**	**309**	P		**P**	**05 57 10.2**	**+0.3**
	comp=Z,2.2nm,0.3s,baz=139,slow=20,SNR=7.9							
	comp=Z,9.9nm,0.2s							
LODK	**Lodwar**	**19.40**	**327**			**P**	**05 57 06.8**	**-3.2**
LEPH	**Lephalale, Lim**	**20.07**	**235**	*e*P		**P**	**05 57 16.9**	**-0.4**
LEPH	**Lephalale, Lim**	**20.07**	**235**	*e*P		Pn	05 57 21.0	+1.9
LEPH				IAML			05 58 44.2	
	comp=Z,18nm,0.6s							
HRAO	**HartRAO**	**21.21**	**231**	*e*P		**P**	**05 57 28.3**	**-1.4**
PMBG	**Pietermaritzbu**	**21.58**	**219**	*e*P		**P**	**05 57 33.2**	**-0.4**
PRYS	**Parys**	**22.03**	**229**	*e*P		**P**	**05 57 37.1**	**-1.4**
LBTB	**Lobatse**	**22.39**	**235**	P		**P**	**05 57 41.6**	**-0.7**
LBTB				IAmb		IAmb	05 57 47.3	
	comp=Z,22nm,0.8s							
LBTB	**Lobatse**	**22.39**	**235**	*i* P		**P**	**05 57 41.0**	**-1.3**
LBTB	**Lobatse**	**22.39**	**235**	*e*P		**P**	**05 57 40.4**	**-1.9**
LBTB				IAmb		IAmb	05 57 47.5	
	comp=Z,14nm,0.8s							
LBTB	**Lobatse**	**22.39**	**235**	P		**P**	**05 57 41.6**	**-0.7**
	comp=Z,18nm,0.8s,baz=54,slow=11,SNR=18							
	comp=Z,18nm,0.8s							
LBTB	**Lobatse**	**22.39**	**235**	*i* P		P	05 57 28.5	-14
SNKL	**Senekal, Frees**	**22.54**	**225**	*e*P		**P**	**05 57 43.7**	**-0.3**
BOSA	**Boshof**	**24.52**	**228**	P		**P**	**05 58 03.3**	**-0.3**
BOSA	**Boshof**	**24.52**	**228**	*i* P		**P**	**05 58 03.2**	**-0.3**
BOSA	**Boshof**	**24.52**	**228**	*e*P		**P**	**05 58 03.0**	**-0.5**
BOSA				IAmb		IAmb	05 58 06.1	
	comp=Z,13nm,0.7s							
BOSA	**Boshof**	**24.52**	**228**	P		**P**	**05 58 03.3**	**-0.3**
	comp=Z,12nm,0.6s,baz=56,slow=11,SNR=32							
	comp=Z,12nm,0.6s							
GRHM	**Grahamstown, E**	**26.74**	**218**	P		**P**	**05 58 24.8**	**+1.4**
SOE	**Somerset East**	**26.85**	**220**	P		**P**	**05 58 25.3**	**+0.8**
SOE				IAmb		IAmb	05 58 36.1	
	comp=Z,15nm,1.0s							
SUR	**Sutherland**	**29.81**	**226**	P		**P**	**05 58 51.9**	**+0.8**
SUR	**Sutherland**	**29.81**	**226**	*i* P		**P**	**05 58 51.1**	**+0.1**
SUR	**Sutherland**	**29.81**	**226**	*i* P		P	05 58 37.7	-13
WSAR	**Wadi Sarin**	**38.27**	**19**	P		**P**	**06 00 03.0**	**-1.2**
	comp=Z,5.4nm,0.7s,baz=196,slow=9.1,SNR=4.3							
TORD	**Torodi Ar. Bea**	**50.87**	**299**	P		**P**	**06 01 44.6**	**-0.5**
	comp=Z,0.6nm,0.8s,baz=134,slow=8.3,SNR=3.4							
	comp=Z,0.6nm,0.8s							
BRTR	**Keskin Array B**	**53.76**	**348**	P		**P**	**06 02 07.9**	**+1.6**
	comp=Z,0.6nm,0.7s,baz=186,slow=10,SNR=2.7							
	comp=Z,0.6nm,0.7s							
MAW	**Mawson**	**55.59**	**172**	P		**P**	**06 02 20.2**	**+1.1**
	comp=Z,1.7nm,0.6s,baz=342,slow=10,SNR=2.1							
	comp=Z,1.7nm,0.6s							
SIMJ	**Simiganj**	**55.91**	**22**	P		**P**	**06 02 20.4**	**-1.5**
SIMJ				IAmb		IAmb	06 02 27.6	
	comp=Z,7.2nm,0.9s							
KBZ	**Khabaz**	**56.63**	**358**	P		**P**	**06 02 29.3**	**+2.7**
	comp=Z,3.5nm,0.9s,baz=172,slow=10,SNR=3.6							
	comp=Z,3.5nm,0.9s							
BTK	**Batken**	**57.81**	**23**	P		**P**	**06 02 35.5**	**+0.2**
BTK				IAmb		IAmb	06 02 46.2	
	comp=Z,5.2nm,1.1s							
PUK	**Puka**	**59.83**	**338**	P		**P**	**06 02 47.9**	**-1.4**
PUK				IAmb		IAmb	06 02 49.0	
	comp=Z,3.0nm,0.9s							
ELIB	**Princess Elisa**	**60.33**	**188**	*d*P		**P**	**06 02 52.5**	**+0.1**
	comp=Z,2.4nm,1.0s							
KKAR	**Karatay Array**	**60.37**	**21**	P		**P**	**06 02 51.8**	**-1.1**
CMAR	**Chiang Mai Arr**	**61.12**	**60**	P		**P**	**06 03 01.6**	**+3.1**
	comp=Z,0.8nm,0.3s,baz=276,slow=9.0,SNR=1.9							
	comp=Z,0.8nm,0.3s							
CHTO	**Chiang Mai**	**61.28**	**60**	P		**P**	**06 02 59.3**	**-0.3**
BOOM	**Boomskoye usch**	**61.90**	**25**	P		**P**	**06 03 02.6**	**-0.8**
BOOM				IAmb		IAmb	06 03 14.9	
	comp=Z,3.1nm,1.1s							
ABKAR	**Akbulak array**	**63.35**	**10**	P		**P**	**06 03 11.0**	**-1.8**
ABKAR	**Akbulak array**	**63.35**	**10**	P		**P**	**06 03 11.1**	**-1.7**
AKTO	**Aktyubinsk**	**64.19**	**9**	P		**P**	**06 03 20.6**	**+2.3**
	comp=Z,1.7nm,0.5s,baz=204,slow=3.9,SNR=5.3							
	comp=Z,1.7nm,0.5s							
AKASG	**Malin Array Be**	**65.17**	**349**	P		**P**	**06 03 27.0**	**+2.3**
	comp=Z,0.1nm,0.3s,baz=168,slow=5.7,SNR=1.6							
	comp=Z,0.1nm,0.3s							
PZH	**PanZhiHua**	**67.16**	**54**	P		**P**	**06 03 40.5**	**+2.3**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,4.9s							
MK31	**Makanchi Array**	**68.04**	**26**	P		**P**	**06 03 43.9**	**+0.7**
MKAR	**Makanchi Array**	**68.04**	**26**	P		**P**	**06 03 45.6**	**+2.4**
	comp=Z,0.5nm,0.6s,baz=220,slow=7.4,SNR=4.7							
	comp=Z,0.5nm,0.6s							
BVAR	**Borovoye Array**	**69.19**	**16**	P		**P**	**06 03 53.1**	**+2.9**
	comp=Z,1.2nm,0.8s,baz=224,slow=6.0,SNR=4.2							
	comp=Z,1.2nm,0.8s							
BRVK	**Borovoye**	**69.20**	**16**	P		**P**	**06 03 48.8**	**-1.5**
BRVK				IAmb		IAmb	06 03 59.4	
	comp=Z,2.7nm,1.0s							
KURBB	**Kurchatov Arra**	**69.64**	**22**	P		**P**	**06 03 55.7**	**+2.7**
	comp=Z,0.4nm,0.7s,baz=224,slow=7.1,SNR=3.2							
	comp=Z,0.4nm,0.7s							
ARU	**Arti**	**70.11**	**8**	P		**P**	**06 03 58.0**	**+2.3**
	comp=Z,4.3nm,0.2s,baz=85,slow=2.4,SNR=5.0							
ZALV	**Zalesovo Beam**	**74.62**	**23**	P		**P**	**06 04 22.8**	**0.0**
ZALV	**Zalesovo Beam**	**74.62**	**23**	P		**P**	**06 04 25.9**	**+3.2**
	comp=Z,0.7nm,0.5s,baz=230,slow=6.8,SNR=2.6							
	comp=Z,0.7nm,0.5s							
FINES	**FINESS Array B**	**75.93**	**350**	P		**P**	**06 04 28.2**	**-1.9**
QSPA	**South Pole Qui**	**76.98**	**180**	P		**P**	**06 04 36.4**	**0.0**
QSPA				IAmb		IAmb	06 04 41.4	
	comp=Z,4.5nm,1.1s							
QSPA	**South Pole Qui**	**76.98**	**180**	P		**P**	**06 04 37.8**	**+1.4**
	comp=Z,3.4nm,1.0s,baz=230,slow=2.2,SNR=8.2							
	comp=Z,3.4nm,1.0s							
NOA	**NORSAR Array B**	**78.83**	**344**	P		**P**	**06 04 48.5**	**+2.0**
	comp=Z,0.1nm,0.2s,baz=130,slow=5.8,SNR=2.9							
	comp=Z,0.1nm,0.2s							
HHC	**Hu-ho-hao-te**	**81.03**	**44**	*e*P		**P**	**06 04 57.0**	**-2.0**
HHC				pmax		pmax		
	comp=Z,15nm,0.7s							
HHC				pmax		pmax		
	comp=Z,40nm,4.3s							
NACB	**Ninganchiao**	**82.78**	**63**	P		**P**	**06 05 07.0**	**-1.4**
NJ2	**Nanjing**	**83.03**	**55**	*e*P		**P**	**06 05 10.0**	**+0.5**
NJ2				pmax		pmax		
	comp=Z,8.0nm,0.5s							
ASAR	**Alice Springs**	**83.18**	**113**	P		**P**	**06 05 11.4**	**+0.8**
	comp=Z,2.0nm,0.6s,baz=262,slow=4.9,SNR=23							
	comp=Z,2.0nm,0.6s							
WRA	**Warramunga Arr**	**84.32**	**109**	P		**P**	**06 05 16.9**	**+0.4**
WRA	**Warramunga Arr**	**84.32**	**109**	P		**P**	**06 05 17.1**	**+0.6**
	comp=Z,1.8nm,0.8s,baz=260,slow=3.8,SNR=12							
	comp=Z,1.8nm,0.8s							
WB2	**Warramunga Ar**	**84.33**	**109**	P		**P**	**06 05 17.1**	**+0.5**
WB2				IAmb		IAmb	06 05 27.5	
	comp=Z,4.6nm,1.0s							
TXAR	**Lajitas Array**	**147.38**	**304**	PKPbc		**PKPbc**	**06 12 27.7**	**-0.7**
	comp=Z,0.4nm,0.9s,baz=87,slow=3.7,SNR=3.6							
NVAR	**Mina Array Bea**	**151.08**	**333**	PKPbc		**PKiKP**	**06 12 39.1**	**+0.9**
	comp=Z,0.2nm,0.6s,baz=24,slow=4.3,SNR=1.9							

*IDC **30** 05:54:01.5±0.4, 12°.84S×45°.62E, h0km, mb4.5/35, mbtmp4.5/37, ML5.2/3, MS4.0/15, Error ellipse: s-maj=15.5km s-min=11.1km az=96.0*
*MOS **30** 05:54:02.4±0.8, 12°.81S×45°.59E, h19km, mb5.1/27, Error ellipse: s-maj=11.6km s-min=6.4km az=89.0*
*BJI **30** 05:54:03.0±0.0, 12°.90S×45°.50E, h10km, mb4.7/37, mB4.8/11, Ms4.6/6, Ms7 4.2/6*
*NEIC **30** 05:54:03.2±1.3, 12°.89S±0°.07×45°.59E±0°.08, h10km±1km, mb5.0/59, Error ellipse: s-maj=12.9km s-min=12.0km az=242.0*
*GCMT **30** 05:54:05.2±0.2, 12°.85S±0°.01×45°.71E±0°.01, h32km±1km, MW5.1/120, Moment Tensor Solution. s58,c80; s120,c184; Duration: 0 Moment tensor: Scale 10^16^Nm; Mrr=0.05±.17; Mθθ 1.09±.14; Mφφ -1.05±.14; Mrθ -1.86±.19; Mθφ -4.74±.10; Mφr 0.12±.18; Best double couple: M=5.20000×10^16^ NP1:φs263.00000°, δ87.00000°, λ159.00000°. NP2:φs354.00000°, δ69.00000°, λ3.00000°. Principal axes: T 5.3240, Plg16.0000°, Azm217.0000°; N -0.2540, Plg69.0000°, Azm77.0000°; P -5.0760, Plg13.0000°, Azm311.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
ISC 30 05:54:02.5±0.3, 12°.93S±0°.05×45°.58E±0°.06, h10km, n230, σ1s29/219, mb4.8/107, MS4.1/20, 8C-14D, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op	ISC		h m s	ISC
OPO	**Ambohidratompo**	**5.82**	**165**	Pn		**Pn**	**05 55 29.6**	**+0.6**
	52nm,0.3s,baz=317,slow=16,SNR=8.2							
OPO				Sn		**Sn**	**05 56 30.8**	**-5.1**
	99nm,0.3s,baz=285,slow=20,SNR=9.1							
VOI	**Vohitsoka**	**9.00**	**173**	Pn		**Pn**	**05 56 13.2**	**+0.5**
FOMA	**Nahampoana Res**	**12.05**	**174**			**Pn**	**05 56 54.1**	**-0.3**
RER	**Riviere de l'E**	**12.70**	**131**	Pn		**Pn**	**05 57 02.3**	**-1.0**
MSEY	**Mahe Island**	**12.76**	**51**	Pn		**Pn**	**05 57 00.4**	**-3.8**
MSEY	**Mahe Island**	**12.76**	**51**	P		**Pn**	**05 57 00.4**	**-3.8**
KIBK	**Kibwezi**	**12.90**	**324**	Pn		**Pn**	**05 57 03.2**	**-2.9**
KIBK	**Kibwezi**	**12.90**	**324**	*e*P		**Pn**	**05 57 02.4**	**-3.7**
KIBK				*e*S		Sn	05 59 14.0	-16
KMBO	**Kilima Mbogo**	**14.34**	**324**			**Pn**	**05 57 22.3**	**-3.6**
KMBO	**Kilima Mbogo**	**14.34**	**324**	*e*P		**Pn**	**05 57 22.4**	**-3.6**
KMBO				*e*S		Sn	05 59 54.4	-11
KMBO	**Kilima Mbogo**	**14.34**	**324**	P		**Pn**	**05 57 22.3**	**-3.6**
MATP	**Matopo**	**17.97**	**243**	P		**Pn**	**05 58 14.0**	**+1.2**
	1.4nm,0.3s,baz=62,slow=14,SNR=17							
MATP				S		**Sn**	**06 01 26.7**	**-6.7**
	9.1nm,0.6s,baz=164,slow=22,SNR=2.9							
MATP				LR		LR	06 05 15.1	
	comp=Z,266nm,19.9s,baz=65,slow=37							
	37nm,1.0s							
ROCAM	**Rodrigues Isla**	**18.36**	**114**			**Pn**	**05 58 16.9**	**-0.5**
ROCAM				IAmb		IAmb	05 58 28.0	
	comp=Z,103nm,0.8s							
MBAR	**Mbarara**	**19.14**	**309**	P		**P**	**05 58 25.7**	**-0.5**
MBAR	**Mbarara**	**19.14**	**309**	P		**Pn**	**05 58 26.8**	**-0.3**
	comp=Z,5.6nm,0.3s,baz=114,slow=16,SNR=14							
MBAR				LR		LR	06 05 35.4	
	comp=Z,462nm,18.7s,baz=118,slow=36							
	comp=Z,12nm,0.3s							
LODK	**Lodwar**	**19.16**	**327**			**P**	**05 58 26.1**	**-0.2**
LODK	**Lodwar**	**19.16**	**327**	*i* P		**Pn**	**05 58 28.7**	**+1.5**
POGA	**Pongola**	**19.35**	**220**	P		**P**	**05 58 28.4**	**+0.1**
POGA				IAmb		IAmb	05 58 33.1	
	comp=Z,162nm,1.1s							
LBTB	**Lobatse**	**22.36**	**235**	P		**P**	**05 59 00.8**	**-0.1**
LBTB	**Lobatse**	**22.36**	**235**	P		**P**	**05 59 01.4**	**+0.4**
	comp=Z,84nm,0.9s,baz=60,slow=12,SNR=21							
LBTB				LR		LR	06 08 05.1	
	comp=Z,337nm,18.0s,baz=57,slow=38							
	comp=Z,84nm,0.9s							
LBTB	**Lobatse**	**22.36**	**235**	P		**P**	**05 59 00.9**	**-0.1**
LBTB				pmax		pmax		
	comp=Z,97nm,0.9s							
FURI	**Furi**	**22.74**	**342**	P		**P**	**05 59 05.2**	**-0.1**
ATD	**Arta Tunnel**	**24.45**	**354**	P		**P**	**05 59 21.7**	**-0.1**
ATD				IAmb		IAmb	05 59 28.6	
	comp=Z,28nm,0.9s							
ATD	**Arta Tunnel**	**24.45**	**354**	LR		LR	06 08 21.8	
	comp=Z,8.3nm,19.5s,baz=181,slow=35							
BOSA	**Boshof**	**24.53**	**227**	P		**P**	**05 59 21.9**	**-0.6**
BOSA				IAmb		IAmb	05 59 26.2	
	comp=Z,33nm,0.7s							
BOSA	**Boshof**	**24.53**	**227**	P		**P**	**05 59 23.1**	**+0.6**
	comp=Z,30nm,0.6s,baz=54,slow=11,SNR=13							
BOSA				LR		LR	06 08 59.8	
	comp=Z,643nm,20.3s,baz=52,slow=36							
	comp=Z,30nm,0.6s							
BOSA	**Boshof**	**24.53**	**227**	P		**P**	**05 59 21.9**	**-0.6**
BOSA				pmax		pmax		
	comp=Z,33nm,0.7s							
DGAR	**Diego Garcia**	**27.00**	**81**	*e*P		**P**	**05 59 44.6**	**-0.2**
DGAR				pmax		pmax		
	comp=Z,107nm,1.0s							
TSUM	**Tsumeb**	**27.59**	**253**	P		**P**	**05 59 50.6**	**+0.2**
TSUM				IAmb		IAmb	06 00 12.3	
	comp=Z,25nm,0.9s							
SUR	**Sutherland**	**29.82**	**225**	P		**P**	**06 00 10.4**	**+0.3**
SUR	**Sutherland**	**29.82**	**225**	LR		LR	06 12 41.2	
	comp=Z,343nm,20.4s,baz=50,slow=37							
RAYN	**Ar Rayn**	**36.23**	**360**	P		**P**	**06 01 05.7**	**-0.2**
RAYN	**Ar Rayn**	**36.23**	**360**	P		**P**	**06 01 05.7**	**-0.2**
RAYN				pmax		pmax		
	comp=Z,16nm,1.2s							
WSAR	**Wadi Sarin**	**38.15**	**20**	P		**P**	**06 01 22.5**	**+0.3**
	comp=Z,42nm,0.8s,baz=201,slow=7.6,SNR=18							
	comp=Z,42nm,0.8s							
UOSS	**Minazif**	**39.05**	**15**	P		**P**	**06 01 29.0**	**-0.6**
UOSS				IAmb		IAmb	06 01 30.7	
	comp=Z,22nm,0.8s							
HYB	**Hyderabad**	**44.38**	**48**	*e*P		**P**	**06 02 13.0**	**-0.5**
MMAI	**Mount Meron Ar**	**46.71**	**348**	P		**P**	**06 02 32.3**	**+0.5**
	comp=Z,0.8nm,0.3s,baz=160,slow=7.6,SNR=2.1							
	comp=Z,0.8nm,0.3s							
HRA	**Herat**	**49.65**	**18**	P		**P**	**06 02 54.1**	**-0.6**
HRA				IAmb		IAmb	06 03 00.7	
	comp=Z,10nm,0.8s							
GAZ	**Gaziantep**	**50.45**	**351**	P		**P**	**06 03 02.8**	**+2.3**
TOAO	**Torodi Ar. Sit**	**50.64**	**299**	P		**P**	**06 03 03.0**	**+0.8**
TORD	**Torodi Ar. Bea**	**50.64**	**299**	P		**P**	**06 03 01.9**	**-0.4**
TORD	**Torodi Ar. Bea**	**50.64**	**299**	P		**P**	**06 03 03.0**	**+0.7**
	comp=Z,6.2nm,1.0s,baz=121,slow=7.1,SNR=17							
	comp=Z,6.2nm,1.0s							
GURO	**Guroymak-BITLI**	**51.32**	**356**	P		**P**	**06 03 08.1**	**+0.9**
GEYT	**Alibeck**	**51.94**	**13**	P		**P**	**06 03 11.7**	**+0.1**
GEYT				IAmb		IAmb	06 03 23.2	
	comp=Z,32nm,1.4s							
GEYT	**Alibeck**	**51.94**	**13**	P		**P**	**06 03 11.8**	**+0.1**
	comp=Z,3.8nm,0.6s,baz=214,slow=4.9,SNR=5.5							
	comp=Z,3.8nm,0.6s							
GEYT	**Alibeck**	**51.94**	**13**	P		**P**	**06 03 11.7**	**+0.1**
GEYT				pmax		pmax		
	comp=Z,32nm,1.4s							
KBL	**Kabul**	**52.21**	**25**	P		**P**	**06 03 13.6**	**-0.3**
KBL				IAmb		IAmb	06 03 24.8	
	comp=Z,28nm,1.1s							
KBL	**Kabul**	**52.21**	**25**	P		**P**	**06 03 13.6**	**-0.3**
KBL				pmax		pmax		
	comp=Z,28nm,1.2s							
GNI	**Garni**	**52.81**	**359**	*e*P		**P**	**06 03 18.1**	**-0.2**
GNI				pmax		pmax		
	comp=Z,10.0nm,1.1s							
TAM	**Tamanrasset**	**52.91**	**312**	P		**P**	**06 03 20.8**	**+1.5**
TAM	**Tamanrasset**	**52.91**	**312**	P		**P**	**06 03 20.8**	**+1.5**
TAM				pmax		pmax		
	comp=Z,10.0nm,1.1s							
NIL	**Nilore**	**53.30**	**29**	P		**P**	**06 03 22.0**	**+0.2**
NIL				IAmb		IAmb	06 03 37.4	
	comp=Z,27nm,1.0s							
NIL	**Nilore**	**53.30**	**29**	P		**P**	**06 03 22.0**	**+0.2**
NIL				pmax		pmax		
	comp=Z,27nm,1.0s							
BR105	**Keskin Array S**	**53.55**	**349**	P		**P**	**06 03 24.2**	**+0.5**
	comp=Z,7.4nm,0.9s,comp=Z,78nm							
BR131	**Keskin Array S**	**53.55**	**349**	P		**P**	**06 03 23.5**	**-0.2**
BR131	**Keskin Array S**	**53.55**	**349**	P		**P**	**06 03 23.5**	**-0.2**
BR131				pmax		pmax		
	comp=Z,9.0nm,1.0s							
BRTR	**Keskin Array B**	**53.55**	**349**	P		**P**	**06 03 23.9**	**+0.2**
BRTR	**Keskin Array B**	**53.55**	**349**	P		**P**	**06 03 24.3**	**+0.6**
	comp=Z,2.9nm,0.7s,baz=165,slow=9.6,SNR=9.9							
BRTR				LR		LR	06 25 11.7	
	comp=Z,201nm,19.8s,baz=190,slow=35							
	comp=Z,2.9nm,0.7s							
BR106	**Keskin Array S**	**53.56**	**349**	P		**P**	**06 03 24.2**	**+0.4**
	comp=Z,7.2nm,0.9s,comp=Z,73nm							
DBIC	**Dimbokro**	**53.76**	**288**	P		**P**	**06 03 26.6**	**+1.0**
	comp=Z,5.2nm,0.7s,baz=115,slow=6.9,SNR=5.2							
DBIC				LR		LR	06 26 52.5	
	comp=Z,284nm,18.3s,baz=111,slow=37							
	comp=Z,5.2nm,0.7s							
ITM	**Ithomi**	**54.59**	**337**	P		**P**	**06 03 31.4**	**+0.3**
ITM				IAmb		IAmb	06 03 45.6	
	comp=Z,37nm,1.6s							
MAK	**Makhachkala**	**55.64**	**2**	*e*P		P	06 03 32.6	-6.0
MAK				*e*S		S	06 11 14.3	-10
MAK				MLR		MLR		
	comp=Z,199nm,15.0s							
MAW	**Mawson**	**55.80**	**172**	P		**P**	**06 03 41.3**	**+1.9**
	comp=Z,3.7nm,0.7s,baz=321,slow=5.9,SNR=11							
MAW				LR		LR	06 25 21.3	
	comp=Z,478nm,18.1s,baz=346,slow=34							
	comp=Z,3.7nm,0.7s							
SIMJ	**Simiganj**	**55.80**	**22**	P		**P**	**06 03 40.3**	**+0.3**
GROC	**Groznyy**	**55.86**	**0**	*e*P		**P**	**06 03 38.5**	**-1.7**
GROC				*e*			06 04 38.1	
GROC				pmax		pmax		
	comp=Z,44nm,1.0s							
AGG	**Agios Georgios**	**56.06**	**338**	P		**P**	**06 03 41.6**	**-0.2**
AGG				IAmb		IAmb	06 03 42.9	
	comp=Z,12nm,0.9s							
AGG	**Agios Georgios**	**56.06**	**338**	P		**P**	**06 03 41.6**	**-0.2**
AGG				pmax		pmax		
	comp=Z,12nm,0.9s							
KBZ	**Khabaz**	**56.44**	**358**	P		**P**	**06 03 44.5**	**+0.2**
	comp=Z,2.9nm,0.7s,baz=237,slow=0.6,SNR=3.1							
KBZ				LR		LR	06 28 21.9	
	comp=Z,128nm,21.0s,baz=176,slow=37							
	comp=Z,2.9nm,0.

MORH	**Mrgy, Hungar**	**63.67**	**339**	P		**P**		**06 04 34.0**	**+0.1**
	comp=Z,11nm,1.1s								
AKTO	**Aktyubinsk**	**64.03**	**9**	P		**P**		**06 04 36.0**	**-0.2**
	comp=Z,4.0nm,0.7s,baz=230,slow=6.6,SNR=5.0								
	comp=Z,4.0nm,0.7s								
AKTO	**Aktyubinsk**	**64.03**	**9**	P		**P**		**06 04 36.0**	**-0.2**
MEZ	**Mezhgor'ye**	**64.23**	**344**	P		**P**		**06 04 38.1**	**+0.5**
TROLL	**Troll, Antarti**	**64.36**	**194**	⇑P		**P**		**06 04 40.9**	**+2.6**
	comp=Z,1µm,0.8s								
GCIS	**Gornji Cirnik**	**64.46**	**337**	*e*P		**P**		**06 04 39.7**	**+0.6**
GBRS	**Gornja Briga**	**64.49**	**337**	*i* P		**P**		**06 04 39.8**	**+0.4**
KNDS	**Knezji Dol**	**64.66**	**336**	*i* P		**P**		**06 04 40.6**	**+0.1**
AK07	**Malin Array Si**	**64.82**	**349**	P		**P**		**06 04 40.7**	**-0.6**
MPLH	**Magyarpolny**	**64.88**	**339**	P		**P**		**06 04 42.1**	**+0.3**
	comp=Z,29nm,1.0s								
AKASG	**Malin Array Be**	**64.96**	**349**	P		**P**		**06 04 41.1**	**-1.1**
	comp=Z,1.9nm,0.7s,baz=168,slow=5.9,SNR=9.2								
AKASG				LR		LR		06 34 29.5	
	comp=Z,89nm,18.9s,baz=170,slow=37								
	comp=Z,1.9nm,0.7s								
AKBB	**Malin Array Si**	**64.96**	**349**	*e*P		**P**		**06 04 41.2**	**-1.0**
AK20	**Malin Array Si**	**65.04**	**348**	P		**P**		**06 04 42.0**	**-0.8**
BELG	**Belogornoye**	**65.08**	**1**	*d i*P		**P**		**06 04 42.2**	**-0.8**
BELG				pmax		pmax			
	comp=Z,3.0nm,0.9s								
PERS	**Pernice**	**65.30**	**337**	*i* P		**P**		**06 04 45.0**	**+0.4**
SOKA	**Soboth**	**65.36**	**337**	*e*P		**P**		**06 04 45.6**	**+0.5**
	comp=Z,6.4nm,0.8s,SNR=6.0								
OBKA	**Obir**	**65.41**	**337**	*e*P		**P**		**06 04 45.9**	**+0.5**
	comp=Z,8.2nm,0.9s,SNR=5.3								
SNAA	**Sanae**	**65.44**	**195**	⇑P		**P**		**06 04 47.1**	**+1.8**
	comp=Z,41nm,0.7s								
SNAA	**Sanae**	**65.44**	**195**	P		**P**		**06 04 47.0**	**+1.7**
	comp=Z,2.6nm,0.9s,baz=104,slow=8.3,SNR=2.9								
	comp=Z,2.6nm,0.9s								
SNAA	**Sanae**	**65.44**	**195**	P		**P**		**06 04 47.0**	**+1.7**
VYHS	**Vyhne**	**65.60**	**341**	*e*P		**P**		**06 04 46.8**	**+0.3**
VYHS	**Vyhne**	**65.60**	**341**	*e*P		**P**		**06 04 46.8**	**+0.3**
ARSA	**Arzberg**	**65.66**	**338**	*e*P		**P**		**06 04 47.6**	**+0.6**
	comp=Z,8.3nm,0.7s								
STHS	**Stebnicka Huta**	**65.69**	**343**	*e*P		**P**		**06 04 47.0**	**0.0**
STHS	**Stebnicka Huta**	**65.69**	**343**	*e*P		**P**		**06 04 47.0**	**0.0**
PRED	**Cave del Predi**	**65.73**	**336**	lAmb		lAmb		06 05 06.4	
	comp=Z,8.8nm,1.0s								
RONA	**Rosalia, Austr**	**65.77**	**339**	*e*P		**P**		**06 04 48.2**	**+0.5**
	comp=Z,13nm,0.8s,SNR=9.1								
MYKA	**Terra Mystica**	**65.86**	**336**	*e*P		**P**		**06 04 48.7**	**+0.4**
	comp=Z,5.4nm,0.9s								
MODS	**Modra-Piesok**	**66.01**	**340**	*e*P		**P**		**06 04 49.4**	**+0.3**
MODS	**Modra-Piesok**	**66.01**	**340**	*e*P		**P**		**06 04 49.4**	**+0.3**
CIMO	**Cimolais**	**66.07**	**336**	lAmb		lAmb		06 04 50.5	
	comp=Z,6.9nm,0.8s								
CONA	**Conrad Observa**	**66.12**	**339**	*e*P		**P**		**06 04 50.2**	**+0.2**
	comp=Z,6.6nm,0.8s,SNR=5.3								
VNA2	**Neumayer--Watz**	**66.23**	**197**	⇑P		**P**		**06 04 52.4**	**+2.1**
	comp=Z,6.2nm,0.6s,baz=34,slow=6.5								
JAVC	**Velka Javorina**	**66.30**	**340**	*e*P		**P**		**06 04 51.6**	**+0.6**
KBA	**Koelnbreinsper**	**66.34**	**337**	*e*P		**P**		**06 04 51.6**	**+0.1**
	comp=Z,5.6nm,0.8s								
ABTA	**Abfaltersbach**	**66.40**	**336**	*i* P		**P**		**06 04 51.9**	**+0.1**
	comp=Z,4.7nm,0.8s								
MOA	**Molln**	**66.63**	**338**	*e*P		**P**		**06 04 53.3**	**+0.1**
	comp=Z,10nm,0.9s,SNR=5.5								
MAUC	**Maruska**	**66.69**	**341**	*e*P		**P**		**06 04 53.7**	**+0.2**
BIOA	**Bad Ischl, Aus**	**66.73**	**337**	*e*P		**P**		**06 04 53.6**	**-0.2**
	comp=Z,4.0nm,0.5s								
LESA	**Schwarzleotal**	**66.89**	**336**	*e*P		**P**		**06 04 54.3**	**-0.6**
	comp=Z,6.2nm,1.1s								
KRUC	**Moravsky**	**66.90**	**340**	*e*P		**P**		**06 04 54.1**	**-0.7**
VNA3	**Neumayer Olymp**	**67.03**	**197**	⇑P		**P**		**06 04 57.4**	**+2.0**
	comp=Z,19nm,0.9s								
VRAC	**Vranov**	**67.04**	**340**	*e*P		**P**		**06 04 55.2**	**-0.5**
MORC	**Moravsky Berou**	**67.13**	**341**	lAmb		lAmb		06 04 57.3	
	comp=Z,9.3nm,0.9s								
MORC	**Moravsky Berou**	**67.13**	**341**	*e*P		**P**		**06 04 56.1**	**-0.3**
WTTA	**Wattenberg**	**67.17**	**336**	*e*P		**P**		**06 04 56.5**	**-0.3**
	comp=Z,5.9nm,0.9s								
PZH	**PanZhiHua**	**67.18**	**54**	P		P		06 05 03.5	+6.3
PZH				pmax		pmax			
	comp=Z,20nm,0.8s								
PZH				pmax		pmax			
	comp=Z,60nm,5.0s								
WATA	**Walderalm**	**67.25**	**336**	*e*P		**P**		**06 04 56.7**	**-0.6**
	comp=Z,8.3nm,1.1s								
FETA	**Feichten**	**67.34**	**335**	*e*P		**P**		**06 04 57.9**	**0.0**
	comp=Z,14nm,1.1s,SNR=8.0								
GOMU	**GeErMu**	**67.41**	**42**	P		P		06 05 05.3	+6.5
GOMU				pP		pwP		06 05 11.0	+5.9
GOMU				sP		PcP		06 05 15.0	-11
GOMU				pmax		pmax			
	comp=Z,16nm,1.1s								
CKRC	**Cesky Krumlov**	**67.42**	**338**	*e*P		**P**		**06 04 57.9**	**-0.3**
CKRC	**Cesky Krumlov**	**67.42**	**338**	*e*P		**P**		**06 04 57.9**	**-0.3**
MOTA	**Moosalm**	**67.45**	**335**	*e*P		**P**		**06 04 57.7**	**-0.8**
	comp=Z,4.8nm,1.0s								
TUE	**Stuetta**	**67.49**	**334**	P		P		**06 04 58.6**	**-0.3**
	comp=Z,33nm,0.9s								
KRLC	**Kraliky**	**67.64**	**340**	*e*P		**P**		**06 04 59.6**	**0.0**
KRLC	**Kraliky**	**67.64**	**340**	*e*P		**P**		**06 04 59.6**	**0.0**
GEC2	**GERESS Array S**	**67.67**	**338**	lAmb		lAmb		06 05 13.3	
	comp=Z,12nm,1.1s								
GERES	**GERESS Array B**	**67.67**	**338**	P		**P**		**06 04 59.5**	**-0.3**
	comp=Z,3.4nm,0.7s,baz=93,slow=2.0,SNR=3.8								
	comp=Z,3.4nm,0.7s								
RETA	**Reutte**	**67.70**	**335**	*e*P		**P**		**06 04 59.8**	**-0.2**
	comp=Z,7.8nm,1.0s								
DAVA	**Damuels**	**67.91**	**335**	*e*P		**P**		**06 05 00.8**	**-0.6**
	comp=Z,14nm,1.5s								
MK31	**Makanchi Array**	**67.95**	**26**	lAmb		lAmb		06 05 09.3	
	comp=Z,13nm,1.2s								
MK31	**Makanchi Array**	**67.95**	**26**	*de*P		**P**		**06 05 01.0**	**-0.5**
MKAR	**Makanchi Array**	**67.95**	**26**	P		**P**		**06 05 01.2**	**-0.4**
	comp=Z,1.8nm,0.8s,baz=226,slow=8.0,SNR=8.2								
	comp=Z,1.8nm,0.8s								
KHC	**Kasperske Hory**	**67.95**	**338**	*e*P		**P**		**06 05 00.8**	**-0.7**
KHC				*ep*P		**pwP**		**06 05 08.2**	**+1.1**
KHC				*ex*		x		06 05 14.3	
KHC				AMS		AMS		06 37 20.0	
	comp=Z,100nm,16.2s								
KHC	**Kasperske Hory**	**67.95**	**338**	⇑*e*P		**P**		**06 05 00.8**	**-0.7**
KHC				pmax		pmax			
	comp=Z,7.0nm,1.0s								
KHC	**Kasperske Hory**	**67.95**	**338**	P		**P**		**06 05 00.5**	**-1.0**
	comp=Z,7.6nm,1.0s								
ZVC	**Zvikov**	**67.99**	**338**	*e*P		**P**		**06 05 00.4**	**-1.3**
DPC	**Dobruska-Polom**	**68.03**	**340**	*e*P		**P**		**06 05 01.6**	**-0.4**
DPC				*ep*P		**pwP**		**06 05 06.6**	**-1.0**
DPC	**Dobruska-Polom**	**68.03**	**340**	*e*P		**P**		**06 05 01.6**	**-0.4**
DPC				*e*				06 05 06.6	
OBN	**Obninsk**	**68.21**	**354**	⇑*e*P		**P**		**06 05 03.5**	**+0.6**
OBN				*e*				06 07 33.6	
OBN				pmax		pmax			
	comp=Z,15nm,1.2s								
WMQ	**Urumqi**	**68.28**	**31**	*e*P		**P**		**06 05 05.8**	**+2.1**
BVAR	**Borovoye Array**	**69.06**	**16**	P		**P**		**06 05 08.5**	**+0.2**
	comp=Z,3.7nm,0.9s,baz=214,slow=6.4,SNR=4.5								
	comp=Z,3.7nm,0.9s								
BRVK	**Borovoye**	**69.06**	**16**	⇓*e*P		**P**		**06 05 10.3**	**+2.0**
BRVK				pmax		pmax			
	comp=Z,3.0nm,0.9s								
BRG	**Berggiesshubel**	**69.28**	**339**	*e*P		**P**		**06 05 09.6**	**-0.1**
BRG				Amp				06 05 10.5	
	comp=Z,4.6nm,1.0s								
KURBB	**Kurchatov Arra**	**69.53**	**22**	P		**P**		**06 05 10.9**	**-0.3**
	comp=Z,1.5nm,0.7s,baz=225,slow=6.9,SNR=4.0								
	comp=Z,1.5nm,0.7s								
KURK	**Kurchatov**	**69.64**	**22**	⇓*e*P		**P**		**06 05 11.6**	**-0.3**
KURK				pmax		pmax			
	comp=Z,7.0nm,1.0s								
ESDC	**Sonseca Array**	**69.71**	**321**	P		**P**		**06 05 13.3**	**+0.6**
ESDC	**Sonseca Array**	**69.71**	**321**	P		**P**		**06 05 14.0**	**+1.3**
	comp=Z,3.8nm,0.9s,baz=126,slow=5.9,SNR=15								
	comp=Z,3.8nm,0.9s								
ARU	**Arti**	**69.94**	**8**	P		**P**		**06 05 14.0**	**+0.3**
ARU	**Arti**	**69.94**	**8**	P		**P**		**06 05 13.6**	**-0.1**
	comp=Z,4.8nm,0.2s,baz=202,slow=7.3,SNR=8.1								
	comp=Z,4.8nm,0.2s								
ARU	**Arti**	**69.94**	**8**	*de*P		**P**		**06 05 13.7**	**0.0**
ARU				pmax		pmax			
	comp=Z,12nm,1.1s								
CLL	**Collm**	**69.97**	**339**	⇓*i* P		**P**		**06 05 13.8**	**-0.1**
CLL				pmax		pmax			
	comp=Z,6.0nm,0.9s								
QIZ	**Qiongzhong**	**70.82**	**64**	P		**P**		**06 05 21.0**	**+1.1**
QIZ				S		**S**		**06 14 35.3**	**-0.1**
QIZ				pmax		pmax			
	comp=Z,130nm,12.0s								
QIZ				LR		LR			
	comp=Z,120nm,20.2s								
QIZ				LR		LR			
	comp=Z,88nm,13.5s								
QIZ				LR		LR			
	comp=Z,190nm,51.0s								
KIRV	**Kirov**	**71.33**	**2**	P		**P**		**06 05 22.3**	**+0.2**
	comp=Z,8.7nm,0.6s,baz=194,slow=3.6,SNR=2.4								
	comp=Z,8.7nm,0.6s								
KIRV	**Kirov**	**71.33**	**2**	*de*P		**P**		**06 05 22.7**	**+0.6**
BMRD	**Maredsous**	**72.39**	**334**	*d*P		**P**		**06 05 29.3**	**+0.7**
GTA	**Gaotai**	**72.49**	**41**	P		P		06 05 35.5	+5.8
GTA				pP		pwP		06 05 41.8	+5.8
GTA				pmax		pmax			
	comp=Z,9.0nm,1.9s								
GTA				LR		LR			
	comp=Z,84nm,16.3s								
GTA				LR		LR			
	comp=Z,84nm,16.7s								
GTA				LR		LR			
	comp=Z,100nm,15.9s								
VSU	**Vasula**	**72.79**	**350**	⇓*e*P		**P**		**06 05 31.5**	**+0.7**
VSU				pmax		pmax			
	comp=Z,9.0nm,0.9s								
LZH	**Lanzhou**	**73.44**	**46**	*e*P		**P**		**06 05 35.0**	**-0.4**
LZH				pP		pwP		06 05 41.3	-0.5
LZH				pmax		pmax			
	comp=Z,19nm,1.2s								
ZALV	**Zalesovo Beam**	**74.51**	**23**	P		**P**		**06 05 40.4**	**-0.7**
ZALV	**Zalesovo Beam**	**74.51**	**23**	P		**P**		**06 05 40.6**	**-0.5**
	comp=Z,3.8nm,1.0s,baz=231,slow=6.9,SNR=5.3								
	comp=Z,3.8nm,1.0s								
ENH	**Enshi**	**74.96**	**54**	P		**P**		**06 05 44.0**	**-0.3**
ENH				lAmb		lAmb		06 05 51.1	
	comp=Z,12nm,1.1s								
BELA	**Belgrano 2**	**75.38**	**192**	P		**P**		**06 05 46.3**	**+0.4**
FINES	**FINESS Array B**	**75.72**	**350**	P		**P**		**06 05 48.5**	**+0.6**
	comp=Z,3.0nm,0.9s,baz=152,slow=6.8,SNR=2.0								
	comp=Z,3.0nm,0.9s								
QSPA	**South Pole Qui**	**77.17**	**180**	P		**P**		**06 05 57.6**	**+1.3**
QSPA				lAmb		lAmb		06 06 15.5	
	comp=Z,19nm,1.2s								
QSPA	**South Pole Qui**	**77.17**	**180**	P		**P**		**06 05 58.0**	**+1.7**
	comp=Z,9.7nm,1.0s,baz=261,slow=4.7,SNR=12								
	comp=Z,9.7nm,1.0s								
HFS	**Hagfors**	**77.18**	**344**	P		**P**		**06 05 56.3**	**+0.1**
	comp=Z,4.7nm,0.7s,baz=142,slow=4.9,SNR=9.5								
	comp=Z,4.7nm,0.7s								
KONO	**Kongsberg**	**77.93**	**342**	⇓*e*P		**P**		**06 06 01.1**	**+0.7**
KONO				pmax		pmax			
	comp=Z,16nm,1.7s								
NOA	**NORSAR Array B**	**78.61**	**344**	P		**P**		**06 06 04.5**	**+0.3**
	comp=Z,2.0nm,0.3s,baz=135,slow=6.0,SNR=4.2								
	comp=Z,2.0nm,0.3s								
EKA	**Eskdalemuir Ar**	**79.34**	**334**	P		**P**		**06 06 07.9**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=132,slow=6.0,SNR=5.8								
	comp=Z,1.4nm,0.6s								
HHC	**Hu-ho-hao-te**	**81.02**	**45**	*e*P		**P**		**06 06 18.0**	**+0.2**
HHC				pmax		pmax			
	comp=Z,14nm,0.7s								
HHC				pmax		pmax			
	comp=Z,41nm,4.5s								
SONM	**Songino Array**	**81.02**	**37**	P		**P**		**06 06 18.9**	**+1.2**
	comp=Z,0.5nm,0.5s,baz=225,slow=5.5,SNR=2.5								
	comp=Z,0.5nm,0.5s								
VNDA	**Vanda**	**82.93**	**169**	P		**P**		**06 06 28.6**	**+1.5**
	comp=Z,0.7nm,0.6s,baz=275,slow=5.4,SNR=5.6								
VNDA				LR		LR		06 41 53.3	
	comp=Z,109nm,18.9s,baz=244,slow=35								
	comp=Z,0.7nm,0.6s								
NJ2	**Nanjing**	**83.06**	**55**	*e*P		**P**		**06 06 29.3**	**+0.7**
NJ2				pmax		pmax			
	comp=Z,4.0nm,0.5s								
ASAR	**Alice Springs**	**83.40**	**113**	P		**P**		**06 06 29.8**	**-0.9**
ASAR	**Alice Springs**	**83.40**	**113**	P		**P**		**06 06 30.9**	**+0.2**
	comp=Z,4.4nm,0.7s,baz=262,slow=4.9,SNR=20								
	comp=Z,4.4nm,0.7s								
AS31	**Alice Springs**	**83.40**	**113**	P		**P**		**06 06 29.6**	**-1.1**
ARCES	**ARCESS Array B**	**83.46**	**353**	P		**P**		**06 06 29.7**	**-0.1**
	comp=Z,3.7nm,1.0s,baz=156,slow=6.9,SNR=1.8								
ARCES				LR		LR		06 46 48.6	
	comp=Z,49nm,18.1s,baz=128,slow=38								
	comp=Z,3.7nm,1.0s								
WRA	**Warramunga Arr**	**84.53**	**109**	P		**P**		**06 06 36.1**	**-0.4**
WRA	**Warramunga Arr**	**84.53**	**109**	P		**P**		**06 06 36.8**	**+0.3**
	comp=Z,4.9nm,0.8s,baz=262,slow=3.5,SNR=15								
	comp=Z,4.9nm,0.8s								
WRA	**Warramunga Arr**	**84.53**	**109**	P		**P**		**06 06 36.1**	**-0.4**
WRA				pmax		pmax			
	comp=Z,1.0nm,1.0s								
WB2	**Warramunga Arr**	**84.54**	**109**	P		**P**		**06 06 36.3**	**-0.3**
KSRS	**Korea Array**	**91.79**	**52**	P		**P**		**06 07 11.5**	**+0.7**
	comp=Z,0.5nm,0.4s,baz=280,slow=4.5,SNR=1.4								
	comp=Z,0.5nm,0.4s								
SPITS	**Spitsbergen Ar**	**92.41**	**354**	LR		LR		06 51 35.3	
	comp=Z,56nm,18.6s,baz=103,slow=37								
YAK	**Yakutsk**	**98.56**	**28**	LR		LR		06 51 31.0	
	comp=Z,27nm,21.7s,baz=300,slow=35								
TIXI	**Tiksi**	**100.07**	**19**	LR		LR		06 57 46.5	
	comp=Z,29nm,18.3s,baz=286,slow=38								
YSS	**Yuzh-Sakhalins**	**104.20**	**45**	*e*P		**Pdif**		**06 08 07.4**	**+0.8**
YSS				pmax		pmax			
	comp=Z,20nm,1.2s								
DZM	**Mont Dzumac**	**112.39**	**121**	*e*LR		LR		06 46 06.1	
	comp=Z,115nm,23.2s								
MID	**Middleton Isla**	**132.74**	**8**			**PKPdf**		**06 13 15.4**	**-2.0**
MID	**Middleton Isla**	**132.74**	**8**	PKIKP		**PKPdf**		**06 13 15.4**	**-2.0**
P33M	**Teslin, Yukon**	**132.79**	**359**			PKPpre		06 13 05.7	
143A	**Socs Landing,**	**136.10**	**304**			**PKPdf**		**06 13 22.5**	**-2.0**
PPT2	**Papeete2**	**146.18**	**153**	*e*LR		LR		07 01 46.4	
PPT2				*e*LR		LR		07 01 52.0	
	comp=Z,115nm,25.0s								
TXAR	**Lajitas Array**	**147.14**	**305**	PKPbc		**PKPbc**		**06 13 47.0**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=92,slow=3.8,SNR=4.4								
NVAR	**Mina Array Bea**	**150.84**	**333**	PKPbc		**PKiKP**		**06 13 56.9**	**+0.3**
	comp=Z,0.9nm,0.9s,baz=45,slow=5.3,SNR=2.0								
V12A	**Nelson**	**151.25**	**325**			**PKiKP**		**06 14 01.4**	**+4.0**

*IDC **30** 06:17:52.5±1.4,2.°60S×101.°44E,h0km,mb4.1/10, mbtmp4.1/10,Error ellipse: s-maj=63.0km s-min=16.3km az=57.0*

*DJA **30** 06:18:13.1±0.5,2.°5S×4.°×10.°2E±.°,h160km±10km,M4.4/13, mb4.4/4,mB5.6/1,MLv4.4/13,Mw(mB)5.1/1*

ISC 30 06:18:12.3±0.7,2.°28S±0.°07×102.°03E±0.°05,h150km,n30, σ1°29/24,mb4.0/10,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMBI	**JAMBI**	**1.74**	**68**	P		**Pn**	**06 18 46.3**	**+1.9**
PPSI	**Pulau Pagai**	**2.07**	**257**	P		**Pn**	**06 18 50.1**	**+1.9**
PPSI				S		**Sn**	**06 19 17.7**	**+1.8**
PDSI	**Padang**	**2.07**	**311**	P		**Pn**	**06 18 49.8**	**+1.5**
MNAI	**Manna**	**2.26**	**156**	P		**Pn**	**06 18 52.2**	**+1.6**
SISI	**Saibi**	**3.08**	**288**	P		**Pn**	**06 19 02.3**	**+1.6**
SISI				S		**Sn**	**06 19 37.8**	**-0.4**
DSRI	**Dabo**	**3.12**	**55**	P		**Pn**	**06 19 02.5**	**+1.3**
KASI	**Kota Agung**	**4.05**	**143**	P		**Pn**	**06 19 13.6**	**+0.3**
PPBI	**Pangkal Pinang**	**4.11**	**88**	P		**Pn**	**06 19 16.1**	**+2.1**
PBSI	**Pulau Batu**	**4.35**	**301**	P		**Pn**	**06 19 18.0**	**+0.8**
GSI	**Gunungsitoli**	**5.70**	**309**	P		**Pn**	**06 19 35.6**	**+0.5**
	83nm,0.5s,0.6nm							
H08S2	**Diego Garcia H**	**29.89**	**259**	T		T	06 53 08.7	
	baz=81,slow=75,SNR=24							
H08S3	**Diego Garcia H**	**29.89**	**259**	T		T	06 53 34.7	
	baz=81,slow=75,SNR=21							
H08S1	**Diego Carcia H**	**29.91**	**259**	T		T	06 53 11.5	
	baz=81,slow=75,SNR=9.7							
WRA	**Warramunga Arr**	**36.11**	**121**	P		**P**	**06 24 59.3**	**-0.9**
	0.4nm,0.3s,baz=304,slow=9.0,SNR=13							
WRA				PcP		**PcP**	**06 27 22.3**	**-0.6**
	0.7nm,0.8s,baz=310,slow=2.2,SNR=2.5							
	0.4nm,0.3s							
ASAR	**Alice Springs**	**37.46**	**127**	P		**P**	**06 25 11.2**	**-0.3**
	3.0nm,0.5s,baz=302,slow=7.9,SNR=48							
ASAR				PcP		**PcP**	**06 27 27.1**	**0.0**
	0.9nm,0.6s,baz=311,slow=2.4,SNR=7.9							
	3.0nm,0.5s							
STKA	**Stephens Creek**	**47.46**	**133**	P		**P**	**06 26 31.3**	**-0.9**
	2.3nm,0.6s,baz=292,slow=8.3,SNR=3.7							
	2.3nm,0.6s							
SONM	**Songino Array**	**50.06**	**4**	P		**P**	**06 26 52.7**	**+0.9**
	1.4nm,0.4s,baz=185,slow=9.8,SNR=5.9							
	1.4nm,0.4s							
MKAR	**Makanchi Array**	**51.87**	**343**	P		**P**	**06 27 04.3**	**-1.0**
	0.8nm,0.4s,baz=149,slow=8.4,SNR=7.4							
	0.8nm,0.4s							
USRK	**Ussuriysk Ar.**	**53.48**	**27**	P		**P**	**06 27 17.7**	**+0.6**
	4.3nm,0.6s,baz=226,slow=5.9,SNR=9.8							
	4.3nm,0.6s							
KURBB	**Kurchatov Arra**	**56.41**	**342**	P		**P**	**06 27 36.8**	**-1.2**
	0.8nm,0.8s,baz=164,slow=6.5,SNR=5.9							
	0.8nm,0.8s							
ZALV	**Zalesovo Beam**	**57.84**	**348**	P		**P**	**06 27 46.8**	**-1.2**
	0.8nm,0.3s,baz=164,slow=5.2,SNR=5.1							
	0.8nm,0.3s							
BVAR	**Borovoye Array**	**61.16**	**339**	P		**P**	**06 28 09.1**	**-1.7**
	0.4nm,0.4s,baz=131,slow=6.6,SNR=2.0							
	0.4nm,0.4s							
H04N2	**CROZET ISLANDS**	**61.79**	**217**	T		T	07 33 55.1	
	baz=59							
H04N1	**CROZET ISLANDS**	**61.80**	**217**	T		T	07 33 55.6	
	baz=59							
H04N3	**CROZET ISLANDS**	**61.80**	**217**	T		T	07 33 53.9	
	baz=59							
H04S1	**CROZET ISLANDS**	**62.05**	**217**	T		T	07 34 23.7	
	baz=58							
H04S3	**CROZET ISLANDS**	**62.07**	**217**	T		T	07 34 09.8	
	baz=58							
H04S2	**CROZET ISLANDS**	**62.07**	**217**	T		T	07 34 22.1	
	baz=58							
ARCES	**ARCESS Array B**	**87.43**	**340**	P		**P**	**06 30 42.0**	**-0.4**
	3.3nm,1.0s,baz=110,slow=5.1,SNR=3.6							
	3.3nm,1.0s							
TXAR	**Lajitas Array**	**143.66**	**40**	PKP		PKPab	06 37 28.4	+1.2
	0.5nm,0.4s,baz=330,slow=0.8,SNR=21							

*IDC **30** 06:20:02.9±1.6,11.°29N×125.°99E,h0km,mb3.8/8, mbtmp3.8/8,Error ellipse: s-maj=192.9km s-min=17.7km az=68.0*

ISC 30 06:20:07.8±1.3,11.°3N±0.°4×12.°6E±.°,h33km,n8,σ0°54/9, mb3.9/8,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**32.10**	**165**	P		**P**	**06 26 31.5**	**-0.6**
	0.4nm,0.9s,baz=340,slow=9.0,SNR=1.5							
	0.4nm,0.9s							
ASAR	**Alice Springs**	**35.59**	**168**	P		**P**	**06 27 02.7**	**+0.2**
	0.6nm,0.5s,baz=351,slow=7.0,SNR=7.0							
ASAR				PcP		**PcP**	**06 29 30.7**	**-0.3**
	0.2nm,0.4s,baz=336,slow=2.0,SNR=1.7							
	0.6nm,0.5s							
SONM	**Songino Array**	**39.99**	**339**	P		**P**	**06 27 40.1**	**+0.6**
	0.4nm,0.3s,baz=150,slow=9.5,SNR=2.1							
	0.4nm,0.3s							
STKA	**Stephens Creek**	**45.44**	**161**	P		**P**	**06 28 24.2**	**+0.5**
	2.1nm,0.7s,baz=331,slow=16,SNR=3.0							
	2.1nm,0.7s							
MKAR	**Makanchi Array**	**51.10**	**322**	P		**P**	**06 29 07.4**	**+0.2**
	0.5nm,0.5s,baz=120,slow=7.5,SNR=4.7							
	0.5nm,0.5s							
ZALV	**Zalesovo Beam**	**53.63**	**331**	P		**P**	**06 29 25.4**	**-0.5**
	0.8nm,0.4s,baz=124,slow=7.2,SNR=2.6							
	0.8nm,0.4s							
KURBB	**Kurchatov Arra**	**55.12**	**325**	P		**P**	**06 29 36.5**	**-0.3**
	0.7nm,0.5s,baz=128,slow=7.0,SNR=7.5							
	0.7nm,0.5s							
FINES	**FINESS Array B**	**84.90**	**332**	P		**P**	**06 32 38.8**	**-0.4**
	2.0nm,1.0s,baz=96,slow=3.8,SNR=3.9							
	2.0nm,1.0s							

IDC 30 06:34:52.4±3.1,54.°23N×87.°26E,h0km,mbtmp2.9/2, ML2.4/2,Error ellipse: s-maj=27.0km s-min=19.2km az=57.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.47**	**260**	I	I	06 43 50.0	
	baz=74,slow=316,SN

WMQ	**Urumqi**	**68.12**	**31**	⇓P		**P**	**07 03 04.3**	**-0.2**
WMQ				pP		sP	07 03 07.5	+0.1
WMQ				pmax		pmax		
	comp=Z,32nm,0.7s							
HHC	**Hu-ho-hao-te**	**80.81**	**44**	*e*P		**P**	**07 04 18.8**	**+0.3**
HHC				pmax		pmax		
	comp=Z,17nm,0.8s							
HHC				pmax		pmax		
	comp=Z,58nm,5.7s							
ASAR	**Alice Springs**	**83.16**	**113**	P		P	07 04 40.4	+9.2
	comp=Z,0.7nm,0.7s,baz=261,slow=4.7,SNR=10							
	comp=Z,0.7nm,0.7s							
WRA	**Warramunga Arr**	**84.28**	**109**	P		P	07 04 44.0	+7.0
	comp=Z,1.1nm,0.9s,baz=262,slow=3.4,SNR=4.6							
	comp=Z,1.1nm,0.9s							

*KRNET **30** 07:00:39.4±0.1, 41.˚48N×79.˚07E, h15km, mb2.9*
*SOME **30** 07:00:39.7, 41.˚50N×79.˚05E, h10km*
*NNC **30** 07:00:40.5±0.6, 41.˚50N×79.˚02E, h0km, mb3.8, mpv3.5, Error ellipse: s-maj=4.2km s-min=2.6km az=162.0*

ISC 30 07:00:37.9±2.4, 41.˚43N±0.˚09×79.˚03E±0.˚04, h5km±13km, n52, σ1°s26/84, 11C-6D, Kyrgyzstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**1.15**	**336**	⇑*e*P		**Pn**	**07 01 00.8**	**-0.2**
	baz=34							
PRZ				⇑*e*S		**Sn**	**07 01 16.6**	**-0.7**
	baz=34							
KDJ	**Kajisay**	**1.55**	**298**	⇑*e*P		**Pb**	**07 01 07.8**	**+0.5**
	baz=95							
KDJ				⇑*e*S		**Sg**	**07 01 29.1**	**+1.4**
	baz=95							
SATY	**Saty**	**1.69**	**344**	P		**Pg**	**07 01 10.6**	**+0.1**
	5.4nm,0.1s							
SATY				S		**Sg**	**07 01 32.8**	**+0.4**
	45nm,0.1s							
SATY	**Saty**	**1.69**	**344**	*e*P		**Pg**	**07 01 10.6**	**+0.1**
	5.4nm,0.1s							
SATY				*e*S		**Sg**	**07 01 32.8**	**+0.4**
	45nm,0.1s							
UZB	**Uzynbulak**	**1.72**	**360**	P		**Pb**	**07 01 10.3**	**+0.2**
	12nm,0.4s							
UZB				S		**Sg**	**07 01 32.2**	**-0.9**
	18nm,0.4s							
UZB	**Uzynbulak**	**1.72**	**360**	*e*P		**Pb**	**07 01 10.3**	**+0.2**
	12nm,0.4s							
UZB				*e*S		**Sg**	**07 01 32.2**	**-0.9**
	18nm,0.4s							
UZB	**Uzynbulak**	**1.72**	**360**	*e*P		**Pb**	**07 01 10.3**	**+0.2**
	baz=59							
UZB				*e*S		**Sg**	**07 01 32.3**	**-0.9**
	baz=59							
SHLS	**Shalkode**	**1.76**	**10**	P		**Pg**	**07 01 12.5**	**+0.9**
	35nm,0.2s							
SHLS				S		**Sg**	**07 01 36.1**	**+1.7**
	89nm,0.5s							
SHLS	**Shalkode**	**1.76**	**10**	*e*P		**Pg**	**07 01 12.5**	**+0.9**
	35nm,0.2s							
SHLS				*e*S		**Sg**	**07 01 36.1**	**+1.7**
	89nm,0.5s							
SHLS	**Shalkode**	**1.76**	**10**	*e*P		**Pg**	**07 01 12.5**	**+0.9**
	baz=19							
SHLS				*e*S		**Sg**	**07 01 36.1**	**+1.7**
	baz=19							
ZHN	**Zhinishke**	**1.79**	**346**	P		**Pb**	**07 01 12.1**	**+0.7**
	16nm,0.1s							
ZHN				S		**Sg**	**07 01 35.3**	**-0.2**
	148nm,0.2s							
ZHN	**Zhinishke**	**1.79**	**346**	*e*P		**Pb**	**07 01 12.1**	**+0.7**
	16nm,0.1s							
ZHN				*e*S		**Sg**	**07 01 35.3**	**-0.2**
	148nm,0.2s							
ZHN	**Zhinishke**	**1.79**	**346**	*e*P		**Pb**	**07 01 12.1**	**+0.7**
	baz=44							
ZHN				*e*S		**Sg**	**07 01 35.4**	**-0.2**
	baz=44							
PDGK	**Podgornoye**	**1.93**	**10**	P		**Pb**	**07 01 14.1**	**+0.4**
	5.0nm,0.2s							
PDGK				S		**Sg**	**07 01 38.9**	**-1.0**
	36nm,0.4s							
PDGK	**Podgornoye**	**1.93**	**10**	⇑Pn		**Pb**	**07 01 13.9**	**+0.2**
	9.1nm,0.6s							
PDGK				⇑Lg		Lg	07 01 42.5	
	44nm,0.5s							
KURS	**Kuram**	**2.15**	**343**	Pg		**Pg**	**07 01 18.9**	**-0.3**
	9.7nm,0.2s							
KURS				Lg		Lg	07 01 47.3	
	30nm,0.5s							
KURS	**Kuram**	**2.15**	**343**	*e*P		**Pg**	**07 01 18.9**	**-0.3**
	9.7nm,0.2s							
KURS				*e*S		**Sg**	**07 01 47.3**	**+0.1**
	30nm,0.5s							
TNSS	**Tian-Shan**	**2.23**	**317**	Pg		**Pg**	**07 01 20.6**	**0.0**
	15nm,0.2s							
TNSS				Lg		Lg	07 01 50.1	
	31nm,0.5s							
TNSS	**Tian-Shan**	**2.23**	**317**	*e*P		**Pg**	**07 01 20.6**	**0.0**
	15nm,0.2s							
TNSS				*e*S		**Sg**	**07 01 50.1**	**+0.5**
	31nm,0.5s							
ULHL	**Ulahol**	**2.24**	**292**	⇓*e*P		**Pb**	**07 01 19.2**	**+0.2**
	baz=91							
ULHL				⇓*e*S		**Sb**	**07 01 48.7**	**+1.6**
	baz=91							
KTMS	**Ketmen**	**2.24**	**25**	Pg		**Pg**	**07 01 20.4**	**-0.5**
	8.2nm,0.5s							
KTMS				Lg		Lg	07 01 49.6	
	19nm,0.4s							
KTMS	**Ketmen**	**2.24**	**25**	*e*P		**Pg**	**07 01 20.4**	**-0.5**
	8.2nm,0.5s							
KTMS				*e*S		**Sg**	**07 01 49.6**	**-0.4**
	19nm,0.4s							
MDOK	**Medeo**	**2.27**	**320**	⇑Pg		**Pb**	**07 01 20.8**	**+1.3**
	11nm,0.8s							
MDOK				Pg		**Pg**	**07 01 21.3**	**-0.1**
	8.4nm,0.2s							
MDOK				Lg		Lg	07 01 51.3	
	32nm,0.5s							
MDOK				⇑Lg		Lg	07 01 52.7	
	22nm,0.5s							
MDOK	**Medeo**	**2.27**	**320**	*e*P		**Pg**	**07 01 21.3**	**-0.1**
	8.4nm,0.2s							
MDOK				*e*S		**Sg**	**07 01 51.3**	**+0.4**
	32nm,0.5s							
KOTS	**Kotyrbulak**	**2.30**	**322**	Pg		**Pg**	**07 01 21.7**	**-0.3**
	12nm,0.2s							
KOTS				Lg		Lg	07 01 51.9	
	68nm,0.7s							
KOTS	**Kotyrbulak**	**2.30**	**322**	*e*P		**Pg**	**07 01 21.7**	**-0.3**
	12nm,0.2s							
KOTS				*e*S		**Sg**	**07 01 51.9**	**+0.2**
	68nm,0.7s							
IZV	**Izvestkoviy**	**2.41**	**313**	Pg		**Pb**	**07 01 23.5**	**+1.7**
	9.9nm,0.5s							
IZV				Lg		Lg	07 01 55.1	
	57nm,0.3s							
IZV	**Izvestkoviy**	**2.41**	**313**	*e*P		**Pb**	**07 01 23.5**	**+1.7**
	9.9nm,0.5s							
IZV				*e*S		**Sg**	**07 01 55.1**	**-0.2**
	57nm,0.3s							
BOOM	**Boomskoye usch**	**2.54**	**296**	⇑*e*P		**Pb**	**07 01 23.3**	**-0.8**
	baz=94							
BOOM				⇑*e*S		**Sb**	**07 01 55.7**	**+0.1**
	baz=94							
MTBS	**Maitube**	**2.57**	**312**	Pg		**Pb**	**07 01 26.6**	**+1.9**
	11nm,0.3s							
MTBS				Lg		Lg	07 02 00.3	
	39nm,0.4s							
MTBS	**Maitube**	**2.57**	**312**	*e*P		**Pb**	**07 01 26.6**	**+1.9**
	11nm,0.3s							
MTBS				*e*S		**Sg**	**07 02 00.3**	**-0.2**
	39nm,0.4s							
BLB	**Baldybastay**	**2.70**	**352**	Pg		**Pb**	**07 01 28.3**	**+1.5**
	32nm,0.2s							
BLB				Lg		Lg	07 02 03.4	
	109nm,0.4s							
KST	**Kastek**	**2.79**	**306**	Pg		**Pb**	**07 01 30.4**	**+2.0**
	7.0nm,0.4s							
KST				Lg		Lg	07 02 06.8	
	79nm,0.5s							
KST	**Kastek**	**2.79**	**306**	*e*P		**Pb**	**07 01 30.4**	**+2.0**
	7.0nm,0.4s							
KST				*e*S		**Sg**	**07 02 06.8**	**-0.7**
	79nm,0.5s							
KTBS	**Karatobe**	**2.87**	**324**	Pg		**Pb**	**07 01 31.5**	**+1.9**
	7.3nm,0.3s							
KTBS				Lg		Lg	07 02 08.8	
	56nm,0.5s							
KTBS	**Karatobe**	**2.87**	**324**	*e*P		**Pb**	**07 01 31.5**	**+1.9**
	7.3nm,0.3s							
KTBS				*e*S		**Sg**	**07 02 08.8**	**-1.1**
	56nm,0.5s							
ARXS	**Arharly**	**2.92**	**343**	Pg		**Pg**	**07 01 32.7**	**-1.2**
	7.5nm,0.3s							
ARXS				Lg		Lg	07 02 10.9	
	54nm,0.4s							
ARXS	**Arharly**	**2.92**	**343**	*e*P		**Pg**	**07 01 32.7**	**-1.2**
	7.5nm,0.3s							
ARXS				*e*S		**Sg**	**07 02 10.9**	**-0.8**
	54nm,0.4s							
KNOS	**Konyrlen**	**2.93**	**2**	Pg		**Pb**	**07 01 32.3**	**+1.5**
	7.6nm,0.3s							
KNOS				Lg		Lg	07 02 10.4	
	42nm,0.3s							
TKM2	**Tokmak 2**	**2.95**	**301**	⇓Pg		**Pb**	**07 01 32.7**	**+1.5**
	1.7nm,0.3s							
TKM2				⇓Lg		Lg	07 02 12.6	
	25nm,0.6s							
TKM2	**Tokmak 2**	**2.95**	**301**	⇓*e*P		**Pb**	**07 01 29.2**	**-2.0**
	baz=0.0							
TKM2				⇓*e*S		**Sb**	**07 02 05.8**	**-1.9**
	baz=0.0							
DJR	**Jarkent**	**2.96**	**11**	Pg		**Pg**	**07 01 32.9**	**-1.7**
	3.1nm,0.2s							
DJR				Lg		Lg	07 02 11.0	
	46nm,0.5s							
DJR	**Jarkent**	**2.96**	**11**	*e*P		**Pg**	**07 01 32.9**	**-1.7**
	3.1nm,0.2s							
DJR				*e*S		**Sg**	**07 02 11.0**	**-1.8**
	46nm,0.5s							
DGS	**Degeres**	**3.02**	**308**	Pg		**Pb**	**07 01 34.9**	**+2.6**
	5.9nm,0.6s							
DGS				Lg		Lg	07 02 14.6	
	17nm,0.3s							
DGS	**Degeres**	**3.02**	**308**	*e*P		**Pb**	**07 01 34.9**	**+2.6**
	5.9nm,0.6s							
DGS				*e*S		**Sg**	**07 02 14.6**	**-0.3**
	17nm,0.3s							
KUU	**Kurty**	**3.16**	**322**	Pg		**Pg**	**07 01 37.4**	**-1.2**
	4.5nm,0.1s							
KUU				Lg		Lg	07 02 19.1	
	26nm,0.2s							
KUU	**Kurty**	**3.16**	**322**	*e*P		**Pg**	**07 01 37.4**	**-1.2**
	4.5nm,0.1s							
KUU				*e*S		**Sg**	**07 02 19.1**	**-0.4**
	26nm,0.2s							
KRBS	**Karabastau**	**3.36**	**314**	Pg		**Pg**	**07 01 41.0**	**-1.3**
	4.9nm,0.8s							
KRBS				Lg		Lg	07 02 25.1	
	6.5nm,0.2s							
KRBS	**Karabastau**	**3.36**	**314**	*e*P		**Pg**	**07 01 41.0**	**-1.3**
	4.9nm,0.8s							
KRBS				*e*S		**Sg**	**07 02 25.1**	**-0.7**
	6.5nm,0.2s							
AAK	**Ala-Archa**	**3.59**	**291**	⇑Lg		Lg	07 02 31.8	
	11nm,1.0s							
KAPS	**Kapalarasan**	**3.86**	**3**	Pg		**Pb**	**07 01 49.2**	**+2.6**
	1.6nm,0.2s							
KAPS				Lg		Lg	07 02 38.7	
	12nm,0.2s							
KAPS	**Kapalarasan**	**3.86**	**3**	*e*P		**Pb**	**07 01 49.2**	**+2.6**
	1.6nm,0.2s							
KAPS				*e*S		**Sg**	**07 02 38.7**	**-3.2**
	12nm,0.2s							

MIRAS 30 07:12:09.0, 59.˚32N×57.˚79E, h0km, ML1.9/6, Ural Mountains region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BRK30	**Berezniki,**	**0.50**	**277**	*e*S		Sg	07 12 24.5	-0.4
	baz=278							
BRK30				*i* AML	AML	07 12 31.2		
	37nm,0.5s							
BRK30	**Berezniki,**	**0.50**	**277**	*e*S		Sb	07 12 26.8	-1.6
	37nm,0.5s,baz=278							
PR1R	**Pomanovo**	**0.55**	**256**	*e*P		Pb	07 12 20.8	-0.7
	7.5nm,0.4s,baz=258							
PR1R				*e*S		Sb	07 12 28.4	-1.6
	19nm,0.5s,baz=258							
PR1R				*i* AML	AML	07 12 36.6		
	52nm,1.2s							
PR1R	**Pomanovo**	**0.55**	**256**	*e*P		Pb	07 12 20.8	-0.8
	4.4nm,0.4s,baz=256							
PR1R				*e*S		Sb	07 12 28.7	-1.3
	16nm,0.5s,baz=256							
PR1R				*i* AML	AML	07 12 30.8		
	25nm,0.4s							
PR7R	**Sarany**	**0.92**	**146**	*e*P		Pg	07 12 25.1	-1.5
	14nm,0.6s,baz=147							
PR7R				*e*S		Sg	07 12 38.4	-0.1
	29nm,0.6s,baz=147							
PR7R				*i* AML	AML	07 12 48.8		
	82nm,1.6s							
PR7R	**Sarany**	**0.92**	**146**	*e*P		Pg	07 12 25.1	-1.5
	10nm,0.2s,baz=146							
PR7R				*e*S		Sg	07 12 38.4	-0.1
	29nm,0.6s,baz=146							
PR7R				*i* AML	AML	07 12 41.3		
	32nm,0.9s							
SVUR	**Severouralsk**	**1.42**	**51**	*e*S		Sg	07 12 53.6	-0.8
	baz=50							
SVUR				*i* AML	AML	07 12 58.8		
	20nm,0.4s							
SVUR	**Severouralsk**	**1.42**	**51**	*e*P		Pg	07 12 36.2	+0.1
	5.9nm,0.5s,baz=51							
SVUR				*e*S		Sn	07 12 56.8	+1.5
	16nm,0.4s,baz=51							
SVUR				*i* AML	AML	07 12 57.3		
	14nm,0.4s							
PR6R	**Ekimyata**	**1.46**	**218**	*e*P		Pn	07 12 33.6	-2.9
	6.5nm,0.3s,baz=219							
PR6R				*e*S		Sg	07 12 54.2	-1.5
	baz=219							
PR6R				*i* AML	AML	07 12 58.9		
	32nm,0.3s							
PR6R	**Ekimyata**	**1.46**	**218**	*e*P		Pn	07 12 33.6	-2.9
	13nm,0.3s,baz=218							
PR6R				*e*S		Sg	07 12 54.2	-1.5
	baz=218							
PR6R				*i* AML	AML	07 12 56.5		
	20nm,0.1s							
PR3R	**Kungur**	**1.93**	**193**	*e*P		Pn	07 12 41.6	-1.4
	8.1nm,0.1s,baz=193							
PR3R				*e*S		Sn	07 13 08.5	+0.6
	8.5nm,0.8s,baz=193							
PR3R				*i* AML	AML	07 13 10.9		
	12nm,0.5s							
PR3R	**Kungur**	**1.93**	**193**	*e*P		Pn	07 12 41.6	-1.4
	8.1nm,0.1s,baz=193							
PR3R				*e*S		Sn	07 13 08.5	+0.6
	14nm,0.5s,baz=193							
PR3R				*i* AML	AML	07 13 09.8		
	12nm,0.5s							

*SDD **30** 07:13:24.8±1.4, 19.˚03N×67.˚29W, h22km±33km, MD2.9, ML2.0, MW2.6*
*RSPR **30** 07:13:26.0, 18.˚96N×67.˚34W, h9km±1km, MD2.9/5*
*OSPL **30** 07:13:27.8±1.2, 18.˚83N×67.˚32W, h45km±21km, ML2.1*

ISC 30 07:13:24.6±1.8, 19.˚0N±0.˚1×67.˚30W±0.˚06, h22km±6km, n22, σ0°s77/31, 6C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AGPR	**Aguadilla, PR**	**0.52**	**160**	⇑*e*P		**Pn**	**07 13 36.2**	**-0.6**
AGPR	**Aguadilla, PR**	**0.52**	**160**	*e*Pg		**Pb**	**07 13 34.6**	**-0.5**
AGPR				*e*Sg		**Sb**	**07 13 43.8**	**+1.5**
AGPR				IAML			07 13 48.0	
	comp=N,93nm,2.5s							
AGPR	**Aguadilla, PR**	**0.52**	**160**	*i* P		**Pn**	**07 13 36.3**	**-0.4**
AGPR				*e*S		**Sn**	**07 13 44.1**	**-0.8**
AGPR				IAML			07 13 48.2	
	comp=Z,30nm,0.8s							
PRSN	**Puerto Rico Se**	**0.76**	**169**	*e*S		**Sb**	**07 13 49.9**	**+1.1**
PRSN	**Puerto Rico Se**	**0.76**	**169**	*e*Pg		**Pn**	**07 13 40.1**	**+0.1**
PRSN				*e*Sg		**Sb**	**07 13 49.7**	**+0.8**
PRSN				IAML			07 13 50.7	
	comp=N,38nm,0.2s							
AOPR	**Arecibo Observ**	**0.80**	**140**	⇑*e*P		**Pb**	**07 13 39.5**	**-0.4**
AOPR	**Arecibo Observ**	**0.80**	**140**	*e*S		**Sn**	**07 13 52.4**	**+0.5**
AOPR	**Arecibo Observ**	**0.80**	**140**	*e*Pg		**Pb**	**07 13 40.2**	**+0.3**
AOPR				*e*Sg		**Sn**	**07 13 51.4**	**-0.5**
AOPR				IAML			07 14 08.4	
	comp=N,32nm,0.9s							
LSP	**Las Mesas**	**0.81**	**166**	⇑*e*P		**Pn**	**07 13 40.7**	**0.0**
LSP	**Las Mesas**	**0.81**	**166**	*e*S		**Sn**	**07 13 52.3**	**+0.3**
CRPR	**Cabo Rojo, PR**	**0.97**	**169**	⇑*e*P		**Pn**	**07 13 43.1**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.97**	**169**	*e*S		**Sb**	**07 13 54.3**	**-0.7**
CRPR	**Cabo Rojo, PR**	**0.97**	**169**	*e*Pg		**Pn**	**07 13 43.1**	**+0.2**
CRPR				*e*Sg		**Sn**	**07 13 56.1**	**+0.2**
CRPR				IAML			07 14 05.8	
	comp=N,37nm,1.9s							
CRPR	**Cabo Rojo, PR**	**0.97**	**169**	*i* P		**Pn**	**07 13 43.1**	**+0.2**
CRPR				*e*S		**Sb**	**07 13 52.9**	**-2.1**
CRPR				IAML			07 13 54.8	
	comp=Z,60nm,3.4s							
MLPR	**Magueyes Islan**	**1.02**	**166**	⇑*e*P		**Pb**	**07 13 43.6**	**+0.1**
MLPR	**Magueyes Islan**	**1.02**	**166**	*e*S		**Sb**	**07 13 56.9**	**+0.5**
MLPR	**Magueyes Islan**	**1.02**	**166**	*e*Pg		**Pb**	**07 13 43.0**	**-0.5**
MLPR				*e*Sg		**Sn**	**07 13 57.5**	**+0.4**
MLPR				IAML			07 14 28.4	
	comp=N,28nm,2.1s							
CELP	**Cerrillos**	**1.11**	**142**	⇑*e*P		**Pb**	**07 13 45.2**	**0.0**
CELP	**Cerrillos**	**1.11**	**142**	*e*S		**Sb**	**07 13 58.8**	**-0.5**
CELP	**Cerrillos**	**1.11**	**142**	*e*Pg		**Pn**	**07 13 44.6**	**-0.3**
CELP				*e*Sg		**Sn**	**07 14 01.1**	**+1.5**
PCDR	**Punta Cana, DR**	**1.12**	**247**	*i* P		**Pn**	**07 13 45.3**	**+0.3**
PCDR				IAML			07 14 04.6	
	comp=Z,109nm,1.2s							
HATOM	**Hato Mayor del**	**1.98**	**265**	*e*Pg		**Pb**	**07 13 59.1**	**-0.8**
HATOM				*e*Sg		**Sb**	**07 14 25.1**	**+0.9**
HATOM				IAML			07 14 59.9	
	comp=N,20nm,3.4s							

NNC 30 07:20:02.8±1.0, 49.˚67N×81.˚53E, h0km, mb3.5, mpv3.2, 2C-4D, Error ellipse: s-maj=14.1km s-min=4.8km az=51.0, Suspected Mining explosion., Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SEM	**Semipalatinsk**	**1.10**	**312**	P		Pg	07 20 23.6	-0.4
	6.7nm,0.1s							
SEM				S		Sg	07 20 38.6	+0.4
	15nm,0.2s							
KURK	**Kurchatov**	**2.14**	**300**	⇓Pn		Pn	07 20 39.3	-0.4
	7.9nm,0.8s							
KURK				⇑Sn		Sb	07 21 08.4	-1.0
	16nm,0.6s							
KURBB	**Kurchatov Arra**	**2.15**	**297**	⇑Pn		Pn	07 20 39.3	-0.5
	9.5nm,0.8s,baz=113,slow=19							
KURBB				⇓Sn		Sb	07 21 08.5	-1.2
	38nm,0.7s							
MAKZ	**Makanchi**	**2.88**	**174**	⇓Lg		Lg	07 21 32.4	
	5.9nm,0.7s							
MK31	**Makanchi Array**	**2.93**	**170**	⇓Lg		Lg	07 21 33.3	
	9.9nm,0.8s,baz=353,slow=29,SNR=6.9							
ZSN	**Zaisan**	**3.14**	**134**	Pg		Pb	07 20 58.0	-1.5
	2.9nm,0.5s							
ZSN				Lg		Lg	07 21 38.0	
	5.5nm,0.3s							
KAPS	**Kapalarasan**	**4.63**	**199**	Pg		Pb	07 21 27.3	+2.4
	1.5nm,0.1s							
KAPS				Lg		Lg	07 22 28.0	
	4.7nm,0.1s							
BRZS	**Berezniki**	**5.73**	**276**	Pg		Pg	07 21 49.1	-3.5
	1.1nm,0.2s							
BRZS				Lg		Lg	07 23 05.9	
	3.0nm,0.7s							

*IDC **30** 07:27:12.6±2.0, 5.˚01S×76.˚14W, h168km±22km, mb3.1/6, mbtmp3.7/12, Error ellipse: s-maj=28.5km s-min=15.0km az=60.0*
*IGQ **30** 07:27:13.2±0.8, 4.˚5S×7.˚6W, h10km, M4.1/13*
*VAO **30** 07:27:18.6±1.0, 4.˚90S×75.˚08W, h136km±5km, mb3.9*

ISC 30 07:27:09.0±0.6, 4.˚65S±0.˚06×75.˚99W±0.˚07, h150km, n45, σ2°s63/48, mb3.4/6, Northern Peru

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ALJ1	**Ecuador-Loja-U**	**3.27**	**281**	P		**Pn**	**07 27 57.3**	**-2.8**
GONZ	**Gonzanam**	**3.42**	**277**	P		**Pn**	**07 28 00.1**	**-2.1**
ATAH	**Atahualpa**	**3.44**	**224**	P		**Pn**	**07 28 02.2**	**-0.2**
	102nm,0.7s,baz=15,slow=9.9,SNR=106							
ATAH				S		Sn	07 28 32.6	-11
	34nm,0.4s,baz=22,slow=16,SNR=7.8							
ARRY	**Arrayan**	**3.98**	**322**	P		**Pn**	**07 28 07.1**	**-2.3**
ARRY				S		**Sn**	**07 28 50.0**	**-6.2**
BMAS	**Trigal station**	**3.99**	**321**	P		**Pn**	**07 28 07.6**	**-2.1**
BMAS				S		**Sn**	**07 28 51.0**	**-5.6**
BULB	**Ulba Tungurahu**	**4.00**	**323**	P		**Pn**	**07 28 08.5**	**-1.3**
BULB				S		**Sn**	**07 28 52.5**	**-4.4**
TUYU	**Q. Yuibug Volc**	**4.00**	**322**	P		**Pn**	**07 28 07.9**	**-1.9**
BRUN	**Tungurahua Vol**	**4.03**	**323**	P		**Pn**	**07 28 07.9**	**-2.2**
JUI6	**Juive**	**4.05**	**322**	P		**Pn**	**07 28 08.3**	**-1.9**
ARDO	**Archidona, Ten**	**4.05**	**333**	P		**Pn**	**07 28 07.8**	**-2.3**
TAMH	**Tambohuasha Ch**	**4.16**	**318**	P		**Pn**	**07 28 11.1**	**-0.8**
PORT	**Chimborazo Vol**	**4.21**	**319**	P		**Pn**	**07 28 12.2**	**-0.5**
CHSH	**Refugio Sur-Vo**	**4.25**	**317**	P		**Pn**	**07 28 12.0**	**-1.2**
PIS1	**Pisayambo**	**4.29**	**326**	P		**Pn**	**07 28 12.7**	**-1.0**
CZSB	**Cruzeiro do Su**	**4.48**	**133**	*e*P		**Pn**	**07 28 15.0**	**-0.6**
VCES	**Cotopaxi**	**4.51**	**328**	P		**Pn**	**07 28 15.5**	**-1.1**
BRRN	**Barrancas-Volc**	**4.57**	**327**	P		**Pn**	**07 28 18.5**	**+1.2**
BMOR	**Cotopaxi Volca**	**4.61**	**328**	P		**Pn**	**07 28 18.2**	**+0.4**
BTAM	**Cotopaxi Volca**	**4.62**	**329**	P		**Pn**	**07 28 17.7**	**-0.3**
SLOR	**San Lorenzo -**	**4.63**	**327**	P		**Pn**	**07 28 18.7**	**+0.6**
BVC2	**Cotopaxi Volca**	**4.64**	**329**	P		**Pn**	**07 28 19.0**	**+0.6**
ANTS	**Antisana-Sarah**	**4.66**	**332**	P		**Pn**	**07 28 17.8**	**-0.8**
TBTG	**Tabatinga, AM**	**5.08**	**86**	*e*P		**Pn**	**07 28 34.7**	**-2.2**
NNA	**Nana**	**7.34**	**187**	P		**Pn**	**07 28 54.0**	**+0.3**
	7.9nm,0.3s,baz=6.2,slow=15,SNR=13							
NNA				S		**Sn**	**07 30 09.8**	**-6.1**
	15nm,0.3s,baz=229,slow=18,SNR=11							
ROSC	**El Rosal**	**9.57**	**10**	P		Pn	07 29 32.6	+8.8
	3.1nm,0.3s,baz=106,slow=18,SNR=1.4							
ETMB	**Extrema**	**10.97**	**118**	*e*P		**Pn**	**07 29 39.4**	**-2.5**
TEFE	**Tefe**	**11.38**	**85**	*e*P		**Pn**	**07 29 44.9**	**-2.5**
SAML	**Samuel**	**13.41**	**109**	*e*P		**Pn**	**07 30 10.4**	**-3.3**
SAML				*e*S		Sn	07 32 29.9	-12
LPAZ	**La Paz**	**13.90**	**147**	P		**Pn**	**07 30 20.4**	**-0.1**
	0.3nm,0.4s,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**303**		Pg	07 27 42.4	+1.7
PAH	**Pahoa**	**0.10**	**292**	Pg	Pg	07 27 41.9	+0.6
JOKA	**Jonika Flow**	**0.14**	**260**	Pg	Pg	07 27 42.3	+0.2
STCH	**Steam Cracks**	**0.27**	**254**	Pg	Pg	07 27 44.9	+0.6
PUH	**Pauahi**	**0.35**	**256**	IAML		07 27 48.8	
	comp=N,287nm,3.1s						
PUH				IAML		07 27 51.0	
	comp=E,202nm,2.2s						
PUH	**Pauahi**	**0.35**	**256**		Pg	07 27 46.3	+0.5
PUH	**Pauahi**	**0.35**	**256**		Sg	07 27 51.6	+1.1
RSD	**Rainshed**	**0.40**	**271**		Pg	07 27 47.4	+0.6
RSD					Sb	07 27 53.8	-0.7
RSD	**Rainshed**	**0.40**	**271**	IAML		07 27 54.2	
	comp=N,615nm,0.4s						
RSD				IAML		07 27 55.3	
	comp=E,441nm,0.3s						
HLP	**Hilina Pali**	**0.46**	**250**		Sb	07 27 55.0	-1.1
MLH	**Mauna Loa**	**0.51**	**274**		Pg	07 27 48.8	0.0
MLH	**Mauna Loa**	**0.51**	**274**	IAML		07 27 58.5	
	comp=E,123nm,0.4s						
MLH				IAML		07 28 00.3	
	comp=N,159nm,0.7s						
HMH	**Humu'ula Sheep**	**0.61**	**284**	Pg	Pb	07 27 51.6	-0.2
HMH				IAML		07 28 05.5	
	comp=E,226nm,0.3s						
POHA	**Pohakuloa**	**0.71**	**295**	Pg	Pb	07 27 53.7	+0.3
POHA				IAML		07 28 09.8	
	comp=E,146nm,2.2s						
POHA				IAML		07 28 15.1	
	comp=E,124nm,1.8s						

*OSPL **30** 07:28:25.5±3.2, 18°.56N×69°.42W, h80km±22km, ML2.9*
*SDD **30** 07:28:25.3±3.2, 18°.60N×69°.45W, h88km±10km, MD3.7, ML3.0, MW3.5*

ISC 30 07:28:22.5±1.2, 18°.63N±0°.05×69°.48W±0°.02, h99km±27km, n38, σ2°09/69, 2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATOM	**Hato Mayor del**	**0.18**	**29**	*e*Pg	**Pn**	**07 28 35.4**	**-1.2**
HATOM				*e*Sg	**Sn**	**07 28 45.5**	**-1.6**
HATOM				IAML		07 28 47.2	
	comp=N,328nm,0.2s						
SDD	**Santo Domingo**	**0.45**	**248**	*e*Pg	**Pn**	**07 28 37.2**	**-0.6**
SDD				*e*Sg	**Sn**	**07 28 48.2**	**-1.1**
SDD				IAML		07 28 49.4	
	comp=N,122nm,0.2s						
SDD	**Santo Domingo**	**0.45**	**248**	*i* P	**Pn**	**07 28 37.4**	**-0.4**
SDD				*e*S	**Sn**	**07 28 48.1**	**-1.1**
SMDR	**Samana, DR**	**0.71**	**22**	*e*Pg	**Pn**	**07 28 39.3**	**-0.6**
SMDR				*e*Sg	**Sn**	**07 28 53.2**	**+0.2**
SMDR				IAML		07 28 55.9	
	comp=N,520nm,0.5s						
HIDR	**Higuey Centro**	**0.72**	**93**	*e*Pg	**Pn**	**07 28 39.5**	**-0.5**
HIDR				*e*Sg	**Sn**	**07 28 52.5**	**-0.6**
HIDR				IAML		07 28 54.6	
	comp=N,856nm,0.2s						
NADR	**Nagua**	**0.81**	**334**	*e*Pg	**Pn**	**07 28 40.0**	**-0.8**
NADR				*e*Sg	**Sn**	**07 28 56.2**	**+1.6**
NADR				IAML		07 28 58.4	
	comp=N,2μm,0.3s						
LONA1	**Toro Cenizo, N**	**0.83**	**334**	*i* P	**Pn**	**07 28 40.9**	**-0.3**
LONA1				*e*S	**Sn**	**07 28 55.4**	**+0.3**
LONA1				IAML		07 28 57.2	
	comp=Z,914nm,1.0s						
BANI	**BANI**	**0.87**	**255**	*e*Pg	**Pn**	**07 28 42.5**	**+0.9**
BANI				*e*Sg	**Sn**	**07 28 58.3**	**+2.4**
BANI				IAML		07 29 01.0	
	comp=N,740nm,0.2s						
PCDR	**Punta Cana, DR**	**1.04**	**96**	*e*Pg	**Pn**	**07 28 43.9**	**+0.6**
PCDR				*e*Sg	**Sn**	**07 29 00.1**	**+1.1**
PCDR				IAML		07 29 12.0	
	comp=N,151nm,0.9s						
PCDR	**Punta Cana, DR**	**1.04**	**96**	*i* P	**Pn**	**07 28 43.7**	**+0.3**
PCDR				IAML		07 29 02.0	
	comp=Z,122nm,0.1s						
ABDR	**Alto Bandera**	**1.11**	**280**	*e*Pg	**Pn**	**07 28 44.3**	**-0.2**
ABDR				*e*Sg	**Sn**	**07 29 01.7**	**+0.8**
ABDR				IAML		07 29 02.0	
	comp=N,335nm,0.2s						
CADR	**Cabrera**	**1.12**	**337**	*e*Pg	**Pn**	**07 28 43.9**	**-0.3**
CADR				*e*Sg	**Sn**	**07 29 03.0**	**+2.4**
CADR				IAML		07 29 03.6	
	comp=N,771nm,0.2s						
SC01	**Santiago de lo**	**1.43**	**304**	*e*Pg	**Pn**	**07 28 49.5**	**+1.7**
SC01				IAML		07 29 49.7	
	comp=N,5.0nm,0.7s						
SC01	**Santiago de lo**	**1.43**	**304**	*i* P	**Pn**	**07 28 49.6**	**+1.7**
SC01				*e*S	**Sn**	**07 29 09.6**	**+2.5**
SC01				IAML		07 29 12.8	
	comp=Z,115nm,0.3s						
LOBA2	**Hotel Casa Bon**	**1.63**	**251**	*e*Pg	**Pn**	**07 28 50.9**	**+0.6**
LOBA2				*e*Sg	**Sn**	**07 29 11.4**	**0.0**
SDDR	**Presa de Saban**	**1.75**	**282**	*e*Pg	**Pn**	**07 28 53.4**	**+1.5**
SDDR				*e*Sg	**Sn**	**07 29 15.4**	**+1.1**
SDDR				IAML		07 29 21.8	
	comp=N,111nm,0.4s						
SDDR	**Presa de Saban**	**1.75**	**282**	*e*P	**Pn**	**07 28 53.8**	**+1.8**
SDDR				*e*S	**Sn**	**07 29 15.5**	**+1.1**
SDDR				*e*Sg		07 29 19.2	
SDDR				IAML		07 29 21.5	
	comp=N,75nm,0.5s						
SDDR				IAML		07 29 21.9	
	comp=N,97nm,0.4s						
SDDR	**Presa de Saban**	**1.75**	**282**	*i* P	**Pn**	**07 28 53.7**	**+1.7**
SDDR				*e*S	**Sn**	**07 29 16.2**	**+1.9**
SDDR				IAML		07 29 21.6	
	comp=Z,73nm,0.4s						
PODR	**Polo**	**1.77**	**255**	*e*Pg	**Pn**	**07 28 53.0**	**+0.7**
PODR				*e*Sg	**Sn**	**07 29 15.1**	**+0.1**
PODR				IAML		07 29 21.8	
	comp=N,110nm,0.6s						
PODR	**Polo**	**1.77**	**255**	*i* P	**Pn**	**07 28 52.2**	**-0.2**
PODR				*e*S	**Sn**	**07 29 16.4**	**+1.4**
NEDR	**Neiba UASD**	**1.85**	**266**	*e*Pg	**Pn**	**07 28 53.4**	**+0.3**
NEDR				*e*Sg	**Sn**	**07 29 19.0**	**+2.6**
NEDR				IAML		07 29 19.8	
	comp=N,46nm,0.4s						
LUDR	**Luperon**	**1.88**	**312**	*e*Pg	**Pn**	**07 28 53.1**	**-0.4**
LUDR				*e*Sg	**Sn**	**07 29 18.8**	**+1.7**
LUDR				IAML		07 29 29.5	
	comp=N,387nm,0.2s						
REDR	**Restauracion**	**1.90**	**287**	*e*Pg	Pn	07 28 58.7	+5.0
REDR				*e*Sg	**Sn**	**07 29 25.6**	**+8.1**
REDR				IAML		07 29 30.6	
	comp=N,125nm,0.1s						
AGPR	**Aguadilla, PR**	**2.25**	**94**	*e*Pg	**Pn**	**07 28 59.8**	**+1.5**
AGPR				*e*Sg	**Sn**	**07 29 23.4**	**-2.3**
AGPR				IAML		07 29 36.3	
	comp=N,102nm,0.4s						
AGPR	**Aguadilla, PR**	**2.25**	**94**	*i* P	**Pn**	**07 28 60.0**	**+1.7**
AGPR				IAML		07 29 33.0	
	comp=Z,75nm,0.2s						
PRSN	**Puerto Rico Se**	**2.25**	**100**	*e*Pg	**Pn**	**07 28 58.6**	**+0.3**
PRSN				IAML		07 29 39.2	
	comp=N,169nm,0.2s						
JIDR	**Jimani**	**2.26**	**267**	*e*Pg	**Pn**	**07 28 59.6**	**+1.2**
JIDR				*e*Sg	**Sn**	**07 29 26.0**	**+0.1**
JIDR				IAML		07 29 29.4	
	comp=N,48nm,0.3s						
CRPR	**Cabo Rojo, PR**	**2.33**	**105**	*e*Pg	**Pn**	**07 29 00.8**	**+1.5**
CRPR				*e*Sg	**Sn**	**07 29 26.2**	**-1.3**
CRPR				IAML		07 29 47.6	
	comp=N,48nm,1.6s						
CRPR	**Cabo Rojo, PR**	**2.33**	**105**	*i* P	**Pn**	**07 29 00.9**	**+1.6**
CRPR				IAML		07 29 43.6	
	comp=Z,64nm,1.3s						
MLPR	**Magueyes Islan**	**2.40**	**105**	*e*Pg	**Pn**	**07 29 00.8**	**+0.5**
MLPR				*e*Sg	**Sn**	**07 29 28.0**	**-1.2**
MLPR				IAML		07 29 38.2	
	comp=N,25nm,0.4s						
AOPR	**Arecibo Observ**	**2.60**	**96**	*e*Pg	**Pn**	**07 29 04.7**	**+1.8**
AOPR				*e*Sg	**Sn**	**07 29 33.0**	**-1.0**
AOPR				IAML		07 29 44.8	
	comp=N,207nm,0.3s						
AOPR	**Arecibo Observ**	**2.60**	**96**	*e*P	**Pn**	**07 29 05.0**	**+2.0**
AOPR				*e*S	**Sn**	**07 29 37.0**	**+3.1**
CELP	**Cerrillos**	**2.80**	**101**	*e*Pg	**Pn**	**07 29 07.5**	**+1.9**
CELP				*e*Sg	**Sn**	**07 29 36.6**	**-2.3**
GRTK	**Grand Turk**	**3.27**	**332**	*e*Pg	**Pn**	**07 29 13.5**	**+1.7**
GRTK				*e*Sg	**Sn**	**07 29 48.2**	**-1.6**
GRTK				IAML		07 30 21.1	
	comp=N,80nm,1.6s						
QMBU	**Quimbuelo**	**5.27**	**288**	*e*P	**Pn**	**07 29 36.8**	**-2.2**
QMBU				*e*S	**Sn**	**07 30 31.6**	**-7.0**
QMBU				IAML		07 30 38.9	
	comp=N,7.6nm,0.3s						
QMBU				IAML		07 30 39.5	
	comp=E,6.5nm,0.2s						
GTBY	**Guantanamo Bay**	**5.48**	**285**	*e*P	**Pn**	**07 29 41.6**	**-0.1**
GTBY				*e*S	**Sn**	**07 30 39.1**	**-4.4**
RCC	**Rio Carpintero**	**6.03**	**284**	*e*P	**Pn**	**07 29 49.0**	**-0.3**
RCC				*e*S	**Sn**	**07 30 51.6**	**-5.3**
ANBD	**Bethesda, Anti**	**7.51**	**101**	*e*P	**Pn**	**07 30 09.8**	**+0.5**

WEL 30 07:31:54.7±1.2, 32°.S±16°.×17°.9W±1°.7, h321km±56km, M4.1/18, mB4.6/12, ML5.1/3, MLv4.8/18, Mw(mB)3.8/12, Error ellipse: s-maj=0.0km s-min=0.0km az=50.2, confirmed, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAZ	**Te Kaha**	**6.39**	**201**	P	Pn	07 33 28.7	-0.4
HAZ				S	S	07 34 44.3	-1.1
PKGZ	**Pakihiroa**	**6.43**	**199**	P	Pn	07 33 32.3	+2.7
PKGZ				S	S	07 34 44.8	-1.5
PUZ	**Puketiti**	**6.55**	**197**	P	Pn	07 33 32.4	+1.4
PUZ				S	S	07 34 49.6	+0.7
WCZ	**Waipu Caves**	**6.70**	**231**	P	Pn	07 33 31.3	-1.5
TWGZ	**Tauwhareparae**	**6.72**	**199**	P	Pn	07 33 33.5	+0.5
TWGZ				S	S	07 34 54.6	+1.8
WHRZ	**Whale Island**	**6.76**	**206**	P	Pn	07 33 36.0	+2.6
WHRZ				S	S	07 34 57.2	+3.7
WIAZ	**Waiheke Island**	**6.77**	**221**	P	Pn	07 33 33.6	0.0
OUZ	**Omahuta**	**6.84**	**238**	P	Pn	07 33 31.5	-3.0
MBAZ	**Motutapu North**	**6.89**	**223**	P	Pn	07 33 34.5	-0.5
CNGZ	**Carnagh Station**	**6.95**	**196**	P	Pn	07 33 36.1	+0.3
CNGZ				S	S	07 34 52.9	-4.8
MKAZ	**Moumakai**	**6.98**	**220**	P	Pn	07 33 35.9	-0.8
MARZ	**Manawahe**	**6.99**	**207**	P	Pn	07 33 37.7	+1.8
MARZ				S	S	07 35 03.3	+4.8
MWZ	**Matawai**	**7.00**	**201**	P	Pn	07 33 35.1	-1.3
MWZ				S	S	07 34 58.7	-0.1
URZ	**Urewera**	**7.07**	**204**	P	Pn	07 33 34.9	-2.2
URZ				S	S	07 34 58.0	-2.2
RAGZ	**Rawiri**	**7.18**	**201**	P	Pn	07 33 38.8	+0.2
RAGZ				S	S	07 35 01.8	-1.0
KARZ	**Kaharoa**	**7.19**	**209**	P	Pn	07 33 39.9	+1.3
OMRZ	**Omania**	**7.21**	**208**	P	Pn	07 33 41.0	+2.1
AWAZ	**Awhitu Peninsu**	**7.24**	**222**	P	Pn	07 33 39.9	+0.6
TARZ	**Mount Tarawera**	**7.27**	**207**	P	Pn	07 33 41.9	+2.2
TARZ				S	S	07 35 08.0	+3.2
RIGZ	**Rimuhau**	**7.28**	**199**	P	Pn	07 33 40.5	+0.8
RIGZ				S	S	07 35 06.0	+1.1
HLRZ	**Highlands Stat**	**7.34**	**208**	P	Pn	07 33 42.3	+1.8
RRRZ	**Republican Roa**	**7.36**	**207**	P	Pn	07 33 42.2	+1.6
RRRZ				S	S	07 35 07.1	+0.6
MUGZ	**Murupara**	**7.38**	**205**	P	Pn	07 33 39.5	-1.4
RTZ	**Ruatahuna**	**7.43**	**203**	P	Pn	07 33 40.2	-1.4
SNGZ	**Shannon Statio**	**7.47**	**201**	P	Pn	07 33 39.8	-2.2
SNGZ				S	S	07 35 09.6	+0.6
HRRZ	**Handcock Road**	**7.49**	**208**	P	Pn	07 33 43.6	+1.3
PRRZ	**Plateau Road**	**7.54**	**207**	P	Pn	07 33 42.2	-0.6
ALRZ	**Allen Road**	**7.62**	**207**	P	Pn	07 33 44.1	+0.3
WPRZ	**Whakapapatarin**	**7.65**	**208**	P	Pn	07 33 45.1	+1.0
MTHZ	**Maungataniwha**	**7.69**	**203**	P	Pn	07 33 42.8	-1.9
KUTZ	**Kaahu Road**	**7.76**	**210**	P	Pn	07 33 46.7	+1.1
MRHZ	**Matea Rd**	**7.83**	**205**	P	Pn	07 33 41.0	-5.3
NMHZ	**Naumai**	**7.92**	**203**	P	Pn	07 33 45.2	-2.3
ARHZ	**Aropaoanui**	**8.02**	**201**	P	Pn	07 33 47.2	-1.4
BKZ	**Black Stump Fm**	**8.09**	**204**	P	Pn	07 33 47.1	-2.5
HIZ	**Hauiti**	**8.22**	**214**	P	Pn	07 33 51.4	+0.4
KATZ	**Kakaramea**	**8.23**	**208**	P	Pn	07 33 50.3	-0.9
MCHZ	**McNeill Hill**	**8.28**	**202**	P	Pn	07 33 50.8	-0.9
WTVZ	**West Tongariro**	**8.39**	**208**	P	Pn	07 33 50.9	-2.9
NNVZ	**North Ngauruho**	**8.39**	**208**	P	Pn	07 33 51.2	-2.1
OTVZ	**Oturere**	**8.40**	**208**	P	Pn	07 33 49.2	-4.2
NGZ	**Ngauruhoe**	**8.44**	**208**	P	Pn	07 33 52.3	-1.5
FWVZ	**Far West T-bar**	**8.52**	**208**	P	Pn	07 33 52.5	-2.4
WNVZ	**Wahianoa**	**8.57**	**208**	P	Pn	07 33 51.7	-3.7
PKVZ	**Pokaka**	**8.64**	**209**	P	Pn	07 33 53.6	-2.5
PXZ	**Pawanui**	**8.76**	**200**	P	Pn	07 33 56.1	-1.5
PNHZ	**Pukenui**	**8.86**	**203**	P	Pn	07 33 54.4	-4.5
WPHZ	**Waipukurau**	**8.92**	**202**	P	Pn	07 33 47.3	-12
TSZ	**Takapari Road**	**9.07**	**204**	P	Pn	07 33 56.5	-4.9
DVHZ	**Dannevirke**	**9.22**	**202**	P	Pn	07 34 01.3	-1.9

*IDC **30** 07:43:15.8±1.3, 21°.83S×175°.54W, h0km, mb3.9/6, mbtmp3.9/6, MS3.9/1, Error ellipse: s-maj=34.7km s-min=31.8km az=43.0*

ISC 30 07:43:25.2±1.1, 21°.9S±0°.2×175°.6W±0°.2, h70km, n7, σ0°72/6, mb4.0/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**26.53**	**294**	LR	LR	07 58 29.7	
	comp=Z,222nm,18.1s,baz=124,slow=34						
ASAR	**Alice Springs**	**46.35**	**258**	P	**P**	**07 51 45.2**	**+0.5**
	2.4nm,1.0s,baz=91,slow=8.8,SNR=10						
	2.4nm,1.0s						
WRA	**Warramunga Arr**	**46.60**	**263**	P	**P**	**07 51 46.9**	**+0.3**
	0.5nm,0.4s,baz=92,slow=8.2,SNR=14						
	0.5nm,0.4s						
VNDA	**Vanda**	**56.70**	**186**	P	**P**	**07 53 01.5**	**+0.4**
	0.4nm,0.3s,baz=32,slow=7.6,SNR=14						
	0.4nm,0.3s						
QSPA	**South Pole Qui**	**68.15**	**180**	P	**P**	**07 54 17.1**	**-0.7**
	2.0nm,1.1s,baz=270,slow=4.9,SNR=3.6						
	2.0nm,1.1s						
USRK	**Ussuriysk Ar.**	**81.38**	**325**	P	**P**	**07 55 33.6**	**-0.6**
	1.0nm,0.3s,baz=152,slow=6.4,SNR=2.3						
	1.0nm,0.3s						
TXAR	**Lajitas Array**	**85.99**	**56**	P	**P**	**07 55 58.8**	**+0.5**
	0.4nm,0.9s,baz=214,slow=6.2,SNR=3.2						
	0.4nm,0.9s						

*NEIC **30** 07:48:41.6±1.3, 19°.386N±0°.009×155°.285W±0°.006, h6km±2km, Error ellipse: s-maj=1.6km s-min=0.4km az=150.0*

HVO 30 07:48:41.2±0.6, 19°.416N±0°.008×155°.275W±0°.009, h1km±3km, ML3.1/40, ML3.0/42(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=102.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**278**		Pg	07 48 42.5	+0.9
UWB	**Uwekahuna B**	**0.01**	**340**		Pg	07 48 42.5	+0.9
SBLHI	**Steaming Bluff**	**0.01**	**31**		Pg	07 48 42.7	+1.0
BYL	**Byron's Ledge**	**0.01**	**107**		Pg	07 48 42.8	+1.1
HATHI	**Halema'uma'u T**	**0.01**	**63**		Pg	07 48 42.8	+1.1
UWE	**Uwekahuna**	**0.02**	**285**		Pg	07 48 42.9	+1.1
KKO	**Keanakako`i**	**0.02**	**156**		Pg	07 48 42.2	+0.5
RIM	**Rim**	**0.02**	**178**		Pg	07 48 43.0	+1.3
RSD	**Rainshed**	**0.05**	**356**	IAML		07 48 43.4	
	comp=N,19μm,0.3s						
RSD	**Rainshed**	**0.05**	**356**		Pg	07 48 44.1	+1.9
PUH	**Pauahi**	**0.07**	**127**		Pg	07 48 43.5	+0.9
PUH	**Pauahi**	**0.07**	**127**	IAML		07 48 44.8	
	comp=E,16μm,0.9s						
PUH				IAML		07 48 45.2	
	comp=N,8μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.11**	**110**		Pg	07 48 44.3	+1.0
HLP	**Hilina Pali**	**0.12**	**195**		Pg	07 48 44.6	+1.0
HLP	**Hilina Pali**	**0.12**	**195**	IAML		07 48 47.5	
	comp=N,6μm,0.4s						
HLP				IAML		07 48 47.7	
	comp=E,8μm,0.5s						
MLH	**Mauna Loa**	**0.13**	**306**		Pg	07 48 44.8	+1.0
MLH	**Mauna Loa**	**0.13**	**306**	IAML		07 48 48.2	
	comp=E,12μm,0.4s						
MLH				IAML		07 48 48.2	
	comp=N,22μm,0.3s						
STCH	**Steam Cracks**	**0.14**	**102**		Pg	07 48 44.8	+0.8
STCH	**Steam Cracks**	**0.14**	**102**	IAML		07 48 48.6	
	comp=E,7μm,0.6s						
STCH				IAML		07 48 48.8	
	comp=N,6μm,0.9s						
NPOC	**North of Pu'u**	**0.16**	**98**		Pg	07 48 45.1	+0.8
JCUZ	**Jacuzzi**	**0.17**	**101**		Pg	07 48 45.2	+0.8
HTC	**Hot Caves**	**0.21**	**213**		Pg	07 48 46.1	+0.8
JOKA	**Jonika Flow**	**0.26**	**86**	IAML		07 48 54.5	
JOKA				IAML		07 48 55.3	
	comp=N,3μm,0.7s						
HMH	**Humu'ula Sheep**	**0.27**	**313**	IAML		07 48 54.1	
	comp=N,5μm,0.6s						
HMH				IAML		07 48 55.7	
	comp=E,5μm,0.6s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**	IAML		07 48 57.9	
	comp=E,4μm,0.8s						
KHU	**Kahuku**	**0.36**	**242**		Pg	07 48 48.7	+0.5
KHU				IAML		07 48 59.1	
	comp=E,2μm,0.5s						
KHU				IAML		07 49 00.1	
	comp=N,2μm,0.8s						
POHA	**Pohakuloa**	**0.42**	**324**		Pg	07 48 49.4	+0.2
HPAH	**Hawaii Prepara**	**0.73**	**327**	IAML		07 49 14.1	
	comp=E,752nm,0.7s						
HPAH				IAML		07 49 21.4	
	comp=N,950nm,1.0s						
MHA	**Mahukona**	**0.97**	**322**	Pg	Pg	07 48 58.1	-1.7

*NEIC **30** 07:50:47.7±1.1, 19°.39N±0°.01×155°.281W±0°.009, h5km±1km, Error ellipse: s-maj=2.8km s-min=1.7km az=207.0*

HVO 30 07:50:47.2±0.8, 19°.411N±0°.009×155°.269W±0°.009, h1km±3km, ML3.3/14, ML2.7/33(NEIC), Error ellipse: s-maj=1.4km s-min=1.2km az=49.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**85**		Pg	07 50 48.5	+1.0
HATHI	**Halema'uma'u T**	**0.01**	**34**		Pg	07 50 48.6	+1.0
KKO	**Keanakako`i**	**0.01**	**167**		Pg	07 50 48.7	+1.1
OBL	**Observatory Le**	**0.01**	**294**		Pg	07 50 48.6	+1.0
SBLHI	**Steaming Bluff**	**0.02**	**4**		Pg	07 50 48.6	+0.9
UWB	**Uwekahuna B**	**0.02**	**328**		Pg	07 50 48.0	+0.3
RIM	**Rim**	**0.02**	**196**		Pg	07 50 48.7	+1.1
UWE	**Uwekahuna**	**0.02**	**294**		Pg	07 50 49.2	+1.4
RSD	**Rainshed**	**0.05**	**351**		Pg	07 50 49.2	+0.9
RSD				IAML		07 50 49.7	
	comp=N,5μm,0.1s						
PUH	**Pauahi**	**0.06**	**126**	Pg	Pg	07 50 49.0	+0.6
PUH				IAML		07 50 49.9	
	comp=N,4μm,0.4s						
PUH				IAML		07 50 50.6	
	comp=E,4μm,0.4s						
KNHH	**Kane Nui o Ham**	**0.10**	**109**		Pg	07 50 50.1	+1.0
HLP	**Hilina Pali**	**0.12**	**198**		Sg	07 50 53.2	+2.1
HLP	**Hilina Pali**	**0.12**	**198**	Pg	Pg	07 50 49.6	+0.1
HLP				IAML		07 50 53.0	
	comp=E,4μm,1.3s						
MLH	**Mauna Loa**	**0.14**	**307**		Pg	07 50 51.1	+1.2
MLH	**Mauna Loa**	**0.14**	**307**	IAML		07 50 54.4	
	comp=N,3μm,0.7s						
MLH				IAML		07 50 54.7	
	comp=E,3μm,0.3s						
STCH	**Steam Cracks**	**0.14**	**101**		Pg	07 50 50.7	+0.9
STCH	**Steam Cracks**	**0.14**	**101**	IAML		07 50 53.3	
	comp=E,5μm,0.9s						
STCH				IAML		07 50 54.6	
	comp=N,3μm,0.5s						
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	07 50 50.9	+0.8
NPOC					Sg	07 50 53.9	+1.8
JCUZ	**Jacuzzi**	**0.16**	**100**		Pg	07 50 51.1	+0.8
JCUZ					Sg	07 50 53.9	+1.5
HTC	**Hot Caves**	**0.21**	**215**		Pg	07 50 52.3	+1.1
JOKA	**Jonika Flow**	**0.25**	**85**		Pg	07 50 52.5	+0.5
JOKA	**Jonika Flow**	**0.25**	**85**	IAML		07 50 59.3	
	comp=N,3μm,0.9s						
JOKA				IAML		07 50 59.8	
	comp=E,1μm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**313**		Pg	07 50 53.5	+1.0
HMH					Sg	07 50 58.1	+1.9
HMH	**Humu'ula Sheep**	**0.28**	**313**	IAML		07 51 01.5	
	comp=E,1μm,0.6s						
HMH				IAML		07 51 02.0	
	comp=N,2μm,0.8s						
MLOA	**Mauna Loa Obse**	**0.32**	**293**	Pg	Pg	07 50 53.3	+0.1
MLOA				IAML		07 51 01.7	
	comp=N,882nm,1.3s						
MLOA				IAML		07 51 03.0	
	comp=E,1μm,0.7s						
MWH	**Moku'aweowe**	**0.32**	**283**	Pg	Pg	07 50 54.4	+1.1
KHU	**Kahuku**	**0.36**	**243**		Pb	07 50 55.6	-1.0
KHU	**Kahuku**	**0.36**	**243**	IAML		07 50 59.8	
	comp=E,808nm,1.2s						
KHU				IAML		07 51 06.2	
	comp=N,636nm,1.3s						
POHA	**Pohakuloa**	**0.42**	**324**	Pg	Pb	07 50 56.7	-0.9

NOU 30 08:11:36.3, 18°.91S×169°.41E, h191km, MLv3.5/10, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**1.66**	**315**	P	Pn	08 12 12.2	+1.5
LIFNC	**LIFOU**	**2.76**	**227**	P	Pn	08 12 22.5	-0.1
MARNC	**Mare, Loyalty**	**2.87**	**207**	P	Pn	08 12 24.1	+0.2
YATNC	**Mamie plateau,**	**3.92**	**217**	P	Pn	08 12 35.5	-1.3
DZM	**Mont Dzumac**	**4.20**	**221**	P	Pn	08 12 40.3	0.0
OUENC	**Ouen Island, N**	**4.24**	**214**	P	Pn	08 12 41.6	+0.8
NOUC	**Port Laguerre**	**4.31**	**222**	P	Pn	08 12 41.7	+0.1
ONTNC	**Ouen Toro**	**4.37**	**219**	P	Pn	08 12 42.6	+0.2

IDC 30 08:21:14.3±3.2, 53°.65N×88°.11E, h0km, mbtmp3.2/2, ML2.7/2, Error ellipse: s-maj=27.5km s-min=17.4km az=65.0, Southwestern Siberia

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

IRAM **Ramesheh** 1.86 88 Pn Pg 08 34 51.0 -1.3
IKLH **Kolahrood** 1.94 37 Pn Pg 08 34 52.0 -1.8
IZEF **Zefreh** 2.13 57 Pn Pg 08 34 55.2 -2.2
QAMS **Qamsar** 2.21 27 Pn Pb 08 34 56.0 -0.8
KAZ2 **Kazeron-Fars-I** 2.48 149 Pn Pb 08 34 59.6 -1.8
IDOB **Doab** 2.64 320 Pn Pb 08 35 01.0 -3.1
IKFM **Kafar-mosalman** 2.65 312 Pn Pb 08 35 01.0 -3.1
KRSH **Karshahi** 2.74 36 Pn Pb 08 35 03.9 -1.8
HSAM **Samen** 2.79 332 Pn Pb 08 35 03.5 -3.2
SHI **Shiraz** 2.90 136 Pn Pb 08 35 05.3 -3.3
ISAD **Sadrabad** 2.97 86 Pn Pb 08 35 07.1 -2.7
ISFB **Sefidab** 3.10 33 Pn Pb 08 35 08.2 -3.6
IQOM **Qom** 3.16 13 Pn Pb 08 35 08.8 -4.2
HAGD **Aghdareh** 3.18 344 Pn Pb 08 35 08.8 -4.5
ANAR **Anarak** 3.31 64 Pn Pb 08 35 11.3 -4.0
IBZA **Bozab** 3.34 325 Pn Pn 08 35 10.7 +1.6
KBD **Kabd** 3.37 221 P Pn 08 35 11.2 +2.0
IVRN **Varamin** 3.47 21 Pn Pb 08 35 13.0 -5.1
DSBU **Dashti - Bushe** 3.51 165 Pn Pn 08 35 13.5 +2.2
IRAZ **Razeghan** 3.64 357 Pn Pn 08 35 15.4 +2.2
KCHF **Cheshme Sefid,** 3.65 314 Pn Pn 08 35 14.8 +1.5
SNQR **Sonqor, Kerman** 3.76 326 Pn Pn 08 35 16.9 +2.0
IHSB **Hasanabad** 3.77 13 Pn Pn 08 35 17.5 +2.6
IMEH **Mehriz** 3.79 94 Pn Pb 08 35 18.4 -5.2
IMHD **Mahdasht** 3.93 6 Pn Pn 08 35 19.6 +2.4
QABG **Abgarm-Qazvin** 3.97 353 Pn Pn 08 35 20.1 +2.4
IGHG **Ghaleghazi** 3.98 311 Pn Pn 08 35 19.3 +1.4
TEH **Tehran** 4.08 14 Pn Pn 08 35 21.9 +2.6
TEHA **Amirabad Tehra** 4.10 14 Pn Pn 08 35 21.7 +2.3
QIR1 **Qir** 4.10 142 Pn Pn 08 35 21.5 +2.1
IDMV **Damavand** 4.10 21 Pn Pn 08 35 22.2 +2.6
ILIN **Lien** 4.15 320 Pn Pn 08 35 21.7 +1.4
ILAS **Lasjerd** 4.28 32 Pn Pn 08 35 24.9 +2.8
GLG1 **Gilan-e-Gharb** 4.30 304 Pn Pn 08 35 23.4 +1.2
IDHR **Dehrash** 4.33 314 Pn Pn 08 35 23.8 +1.1
IFIR **Firoozkooh** 4.42 28 Pn Pn 08 35 26.9 +3.0
IBAF **Bafgh** 4.58 91 Pn Pn 08 35 29.0 +3.0
KGS1 **Ghasr-e-Shirin** 4.74 307 Pn Pn 08 35 29.3 +1.2
QSDN **Sirdan** 4.81 350 Pn Pn 08 35 31.3 +2.0
KHGB **Koh Gabri** 5.56 103 Pn Pn 08 35 41.9 +2.3
TPRV **Parvadeh(Tabas** 5.63 75 Pn Pn 08 35 42.8 +2.4
SHMA **Al-Shehemyia** 5.92 173 P Pn 08 35 45.2 +0.8
SNR=22
NGRK **Negar Kerman** 6.01 109 Pn Pn 08 35 48.3 +2.4
TKDS **Koohdasht(Taba** 6.12 71 Pn Pn 08 35 50.7 +3.5
KRM1 **Kerman Provinc** 6.19 100 Pn Pn 08 35 51.3 +3.1
CHMN **Cheshme madani** 6.59 105 Pn Pn 08 35 56.6 +2.7
TRNA **Turayna** 7.06 172 P Pn 08 36 00.8 +0.8
SNR=24
TRNA S Sn 08 37 19.7 -0.5
JRN **Qarnain Island** 7.18 160 P Pn 08 36 01.7 0.0
JRN S Sn 08 37 21.3 -2.0
IKOO **Kooshah** 7.50 83 Pn Pn 08 36 09.4 +3.2
AFRZ **Afriz** 7.62 75 Pn Pn 08 36 10.8 +2.9
SBZV **Sabzevar** 7.69 51 Pn Pn 08 36 11.8 +3.0
SHME **Shamm** 7.71 136 P Pn 08 36 10.4 +1.5
SHME **Shamm** 7.71 136 P Pn 08 36 10.4 +1.5
SHME P Pn 08 36 10.4 +1.5
SHME S Sn 08 37 34.5 -1.9
SHME S Sn 08 37 34.5 -1.9
SLWR **Sila** 7.78 170 P Pn 08 36 10.1 +0.2
SLWR S Sn 08 37 35.8 -2.1
GHWR **Ruwais** 8.12 162 P Pn 08 36 15.3 +0.8
GHWR S Sn 08 37 43.5 -2.9
MASF **Masafi** 8.24 139 P Pn 08 36 17.1 +0.8
MASF S Sn 08 37 46.6 -3.0
MSFE **Esma-Masafi** 8.25 139 *i* P Pn 08 36 16.5 +0.1
SNR=9.7
NAZ **Nazwa, Dubai** 8.29 143 *i* P Pn 08 36 17.7 +0.9
SNR=6.8
NAZ **Nazwa, Dubai** 8.29 143 P Pn 08 36 18.1 +1.3
SNR=6.8
NAZ S Sn 08 37 48.6 -1.9
AJN **Ajban** 8.32 148 P Pn 08 36 19.1 +1.8
AJN ⇓S Sn 08 37 49.0 -2.4
MDH **Madha** 8.38 139 *i* P Pn 08 36 18.2 +0.1
SNR=7.0
MDH **Madha** 8.38 139 P Pn 08 36 18.9 +0.8
SNR=7.2
MDH S Sn 08 37 49.6 -3.2
ASUD **Al Ashush, Dub** 8.43 146 P Pn 08 36 19.9 +1.2
ASUD **Al Ashush, Dub** 8.43 146 P Pn 08 36 20.0 +1.2
SNR=6.9
ASUD S Sn 08 37 52.0 -1.9
FAQ **Al Faqa, Dubai** 8.45 144 *i* P Sn 08 36 20.4 +1.2
SNR=7.7
FAQ **Al Faqa, Dubai** 8.45 144 P Pn 08 36 20.3 +1.2
SNR=7.8
FAQ S Sn 08 37 52.4 -2.2
SNR=7.1
UOSS **Minazif** 8.61 141 Pn Pn 08 36 22.4 +1.2
UOSS **Minazif** 8.61 141 P Pn 08 36 21.8 +0.5
UOSS **Minazif** 8.61 141 P Pn 08 36 21.9 +0.7
UOSS P Pn 08 36 21.9 +0.7
UOSS S Sn 08 37 53.7 -4.7
UOSS S Sn 08 37 53.7 -4.7
HATD **Hatta, Dubai** 8.66 141 P Pn 08 36 23.5 +1.5
HATD P Pn 08 36 23.5 +1.5
HATD S Sn 08 37 56.4 -3.4
SNR=15
HATD S Sn 08 37 56.4 -3.4
SNR=15
ASHO **Ashiyiah** 8.74 142 *i* P Pn 08 36 23.0 -0.1
SNR=12
ASHO S Sn 08 37 55.8 -6.0
ASHO **Ashiyiah** 8.74 142 P Pn 08 36 23.7 +0.6
ASHO S Sn 08 37 58.6 -3.2
SNR=8.1
GEYT **Alibeck** 8.95 44 Pn 08 36 29.9 +3.9
GEYT **Alibeck** 8.95 44 Pn Pn 08 36 28.8 +2.8
0.8nm,0.3s,baz=224,slow=14,SNR=40
GEYT Lg Lg 08 39 03.9
baz=256,slow=18
GEYT LR LR 08 40 23.4
comp=Z,590nm,18.8s,baz=234,slow=41
42nm,1.1s
GYA0 **ALIBECK ARRAY** 8.95 44 P Pn 08 36 30.7 +4.7
GYA0B **ALIBECK ARRAY** 8.95 44 Pn 08 36 30.7 +4.7
IEMG **Emamgholi** 8.96 49 Pn Pn 08 36 28.2 +1.9
ALNE **Al Ain** 9.11 146 P Pn 08 36 28.9 +0.7
ALNE **Al Ain** 9.11 146 S Sn 08 38 07.7 -3.1
MZR **Muzera** 9.20 161 *i* P Pn 08 36 28.4 -1.0
SNR=22
MZR **Muzera** 9.20 161 P Pn 08 36 29.8 +0.4
SNR=15
RAYN **Ar Rayn** 9.20 208 Pn Pn 08 36 27.0 -2.5
RAYN **Ar Rayn** 9.20 208 P Pn 08 36 26.9 -2.5
RAYN **Ar Rayn** 9.20 208 P Pn 08 36 27.1 -2.3
RAYN **Ar Rayn** 9.20 208 P Pn 08 36 27.0 -2.5
SOHO **SOHO** 9.44 142 P Pn 08 36 32.2 -0.4
SOHO P Pn 08 36 32.2 -0.4
GNI **Garni** 9.46 334 Lg Lg 08 39 21.9
1.2nm,0.3s,baz=146,slow=23,SNR=1.6
UMZA **Um Al Zommool** 10.03 153 P Pn 08 36 40.4 -0.3
ARQ **Araqi** 10.09 145 P Pn 08 36 43.5 +1.9
SNR=9.4
ARQ S Sn 08 38 30.9 -4.0
HOQ **Hoqain** 10.30 141 P Pn 08 36 45.0 +0.6
HOQ P Pn 08 36 45.0 +0.6
HOQ S Sn 08 38 35.0 -4.9
HOQ S Sn 08 38 35.0 -4.9
BIDO **Bidbid** 10.80 138 P Pn 08 36 52.1 +0.8
BIDO P Pn 08 36 52.1 +0.8
BSY **Bisya** 10.93 144 P Pn 08 36 55.0 +1.9
SNR=13
BSY S Sn 08 38 49.8 -5.6
SMDO **Samad** 11.12 139 P Pn 08 36 56.2 +0.4
SMDO S Sn 08 38 58.0 -2.3
SNR=11
WSAR **Wadi Sarin** 11.31 137 Pn Pn 08 36 59.0 +0.7
1.4nm,0.3s,baz=315,slow=9.8,SNR=13
WSAR Sn Sn 08 38 59.5 -5.4
2.0nm,0.3s,baz=148,slow=19,SNR=5.8
WSAR LR LR 08 42 05.4
comp=Z,106nm,20.6s,baz=308,slow=41
7.8nm,0.5s
JMDO **Jabal Madar** 11.70 141 P Pn 08 37 04.1 +0.4
SNR=12
JMDO P Pn 08 37 04.1 +0.4
SNR=12
WBK **Wadi Bani Khal** 11.99 137 P Pn 08 37 07.5 -0.2
MMAI **Mount Meron Ar** 12.57 280 Pn Pn 08 37 16.5 +0.9
0.5nm,0.3s,baz=108,slow=9.3,SNR=1.5

MMAI Sn Sn 08 39 37.2 +1.5
1.8nm,0.3s,baz=185,slow=23,SNR=1.1
MMAI Lg Lg 08 40 54.6
1.8nm,0.3s,baz=295,slow=42,SNR=1.7
MMAI LR LR 08 43 25.9
comp=Z,202nm,19.2s,baz=40,slow=44
1.1nm,0.4s
JLN **Jalan Bani Buh** 12.61 137 P Pn 08 37 16.9 +0.9
MHTO **MHTO** 12.79 145 P Pn 08 37 20.0 +1.5
SNR=28
ZFRI **Zfri** 12.92 269 P Pn 08 37 27.9 +7.6
PRNI **Paran** 13.11 268 P P 08 37 34.9 +1.8
PRNI **Paran** 13.11 268 P Pn 08 37 22.5 -0.3
HRFI **Mount Harif** 13.14 266 P Pn 08 37 22.8 -0.5
KBZ **Khabaz** 13.26 336 Pn P 08 37 28.6 -6.1
0.1nm,0.3s,baz=257,slow=8.1,SNR=1.7
KBZ LR LR 08 42 59.5
comp=Z,170nm,20.6s,baz=154,slow=39
1.2nm,0.6s
EIL **Elat** 13.29 265 Pn Pn 08 37 23.9 -1.4
0.4nm,0.3s,baz=45,slow=8.6,SNR=4.9
EIL Lg Lg 08 41 15.7
0.3nm,0.3s,baz=262,slow=21,SNR=1.4
EIL LR LR 08 43 36.6
comp=Z,221nm,19.8s,baz=66,slow=42
4.8nm,0.7s
EIL **Elat** 13.29 265 P P 08 37 39.9 +4.8
EIL **Elat** 13.29 265 P Pn 08 37 23.7 -1.6
MBRI **Mt Berech** 13.29 265 P Pn 08 37 24.7 -0.7
MBRI **Mt Berech** 13.29 265 P Pn 08 37 23.5 -1.9
KRMI **Paran Flat** 13.38 267 P Pn 08 37 25.8 -0.8
DQM **DQM** 13.50 149 P Pn 08 37 25.8 -2.5
DOK **Doka** 13.56 164 P Pn 08 37 28.0 -1.0
SNR=34
DOK P Pn 08 37 28.0 -1.0
SNR=34
WHFO **Wadi Hawf** 14.16 166 P Pn 08 37 35.6 -1.6
VSLR **Vesyoloye** 14.17 328‖ *eP* Pn 08 37 36.2 -1.1
VSLR pmax pmax
comp=Z,52nm,1.0s
SOC **Sochi** 14.41 328 *eP* Pn 08 37 38.2 -2.4
SOC *e* 08 40 18.3
SOC MLR MLR
comp=Z,154nm,17.0s
SHAO **Shalim** 14.53 159 P Pn 08 37 41.0 -1.4
SNR=5.9
DMTO **DMTO** 14.63 162 P Pn 08 37 41.9 -1.8
SNR=19
RBK **Rabkut** 14.65 165 P Pn 08 37 42.1 -2.0
BR131 **Keskin Array S** 15.60 305 P P 08 38 00.8 -0.2
BR131 **Keskin Array S** 15.60 305⇓ *eP* P 08 37 58.4 -2.6
BRTR **Keskin Array B** 15.60 305 Pn Pn 08 37 57.8 +1.1
comp=Z,0.1nm,0.3s,baz=121,slow=11,SNR=4.0
comp=Z,4.7nm,0.6s
BRTR **Keskin Array B** 15.60 305 P P 08 37 57.9 -3.1
KBL **Kabul** 16.02 75 P P 08 38 08.5 +2.7
SIMJ **Simiganj** 16.83 61 P P 08 38 16.6 +2.1
BTK **Batken** 18.61 58 Pn 08 38 36.8 +2.4
BTK **Batken** 18.61 58 P Pn 08 38 36.8 +2.4
BTK pmax pmax
comp=Z,24nm,1.3s
ABKAR **Akbulak array** 18.95 20 P Pn 08 38 38.8 +0.5
ABKAR **Akbulak array** 18.95 20 P Pn 08 38 39.1 +0.7
NIL **Nilore** 19.49 78 P Pn 08 38 45.7 +0.7
NIL IAmb IAmb 08 38 48.6
comp=Z,18nm,0.8s
NIL **Nilore** 19.49 78 P Pn 08 38 45.7 +0.7
NIL **Nilore** 19.49 78 P Pn 08 38 45.7 +0.7
NIL pmax pmax
comp=Z,18nm,0.9s
AKTO **Aktyubinsk** 19.54 15 P Pn 08 38 44.9 -0.6
comp=Z,0.2nm,0.3s,baz=220,slow=9.9,SNR=12
comp=Z,6.0nm,0.9s
KK31 **Karatay Array** 19.65 49 Pn 08 38 47.6 +0.7
KK31 **Karatay Array** 19.65 49 P Pn 08 38 47.6 +0.7
KK31 pmax pmax
comp=Z,17nm,1.3s
KKAR **Karatay Array** 19.65 49 P Pn 08 38 47.7 +0.8
KKAR **Karatay Array** 19.65 49 P Pn 08 38 48.3 +1.4
KKAR IAmb IAmb 08 38 54.6
comp=Z,17nm,1.2s
KKAR **Karatay Array** 19.65 49 P Pn 08 38 48.3 +1.4
KKAR pmax pmax
comp=Z,17nm,1.3s
VRH **Novokhopyorsk** 20.41 345 *eP* Pn 08 38 54.0 -1.7
BELG **Belogornoye** 20.70 356 P Pn 08 38 57.4 -1.7
comp=Z,18nm,0.7s,baz=293,slow=6.3,SNR=4.6
BELG LR LR 08 50 34.3
comp=Z,111nm,19.5s,baz=59,slow=47
comp=Z,18nm,0.7s
BELG **Belogornoye** 20.70 356 *d i* P Pn 08 38 57.1 -2.0
BELG pmax pmax
comp=Z,6.0nm,1.0s
NE56 **Odesa** 21.02 321 P P 08 38 59.9 -0.4
ATD **Arta Tunnel** 21.25 200 LR LR 08 47 50.4
comp=Z,10nm,19.4s,baz=1.0,slow=38
IDI **Anoyia** 21.37 286 P P 08 39 04.8 +0.5
IDI **Anoyia** 21.37 286 P P 08 39 05.1 +0.8
comp=Z,30nm,0.8s,baz=73,slow=13,SNR=11
comp=Z,30nm,0.8s
ALN **Alexandroupoli** 21.43 302 P P 08 39 05.4 +0.6
ALN IAmb IAmb 08 39 16.9
comp=Z,29nm,1.2s
ALN **Alexandroupoli** 21.43 302 P P 08 39 05.4 +0.6
ALN pmax pmax
comp=Z,29nm,1.2s
RDO **Rodhopi** 21.88 302 IAmb IAmb 08 39 22.4
comp=Z,13nm,0.9s
AAK **Ala-Archa** 22.11 54 P P 08 39 14.8 +2.6
AAK IAmb IAmb 08 39 22.4
comp=Z,12nm,0.9s
AAK **Ala-Archa** 22.11 54 LR LR 08 49 26.8
comp=Z,211nm,18.8s,baz=256,slow=41
AAK **Ala-Archa** 22.11 54 P P 08 39 14.9 +2.6
AAK pmax pmax
comp=Z,12nm,1.0s
KSH **Kashi** 22.28 63 P P 08 39 12.5 -1.5
KSH sP sP 08 39 18.0 -1.0
KSH pmax pmax
comp=Z,12nm,1.1s
KSH pmax pmax
comp=Z,150nm,4.7s
LPSR **Galich'ya Gora** 22.39 342 *eP* P 08 39 14.0 -0.9
VRI **Vrincioaia** 22.97 315 ⇓P P 08 39 22.7 +1.5
VRI **Vrincioaia** 22.97 315 ⇓P P 08 39 22.7 +1.5
PLOR **Plostina** 23.01 314 ⇑P P 08 39 23.9 +2.3
PLOR **Plostina** 23.01 314 ⇑P P 08 39 23.9 +2.3
MLR **Muntele Rosu** 23.27 313 ⇓P P 08 39 26.4 +2.0
MLR **Muntele Rosu** 23.27 313 P P 08 39 24.2 -0.2
MLR IAmb IAmb 08 39 28.7
comp=Z,10nm,0.7s
MLR **Muntele Rosu** 23.27 313 P P 08 39 24.2 -0.2
MLR pmax pmax
comp=Z,10.0nm,0.7s
COVR **Voineasa-Covas** 23.28 314 ⇑P P 08 39 26.6 +2.3
TESR **Tescani** 23.34 316 ⇓P P 08 39 25.0 0.0
TESR **Tescani** 23.34 316 P P 08 39 24.8 -0.2
comp=Z,39nm,0.7s
AGG **Agios Georgios** 23.79 295 IAmb IAmb 08 39 48.5
comp=Z,19nm,1.5s
DOPR **Dopca** 23.84 314 ⇓P P 08 39 31.2 +1.3
LIT **Litokhoron** 23.86 298 IAmb IAmb 08 39 32.2
comp=Z,6.8nm,0.7s
ARR **Arges** 24.05 312 ⇑P P 08 39 32.7 +0.8
TARG **Taragay, Kyrgy** 24.16 58 P P 08 39 36.6 +3.2
TARG pmax pmax
comp=Z,11nm,1.0s
AK07 **Malin Array Si** 24.39 326 P P 08 39 34.6 -0.3
AK07 pP sP 08 39 38.7 -1.4
AK10 **Malin Array Si** 24.40 327 P P 08 39 35.2 +0.2
AK10 pP sP 08 39 39.5 -0.7
AK08 **Malin Array Si** 24.43 327 P P 08 39 35.1 -0.1
AK08 pP sP 08 39 39.6 -0.8
AK05 **Malin Array Si** 24.44 327 P P 08 39 35.1 -0.2
AK02 **Malin Array Si** 24.46 327 P P 08 39 35.5 -0.1
AK01 **Malin Array Si** 24.48 327 P P 08 39 35.5 -0.2
AKASG **Malin Array Be** 24.49 327 P P 08 39 35.5 -0.2
comp=Z,2.8nm,0.4s,baz=140,slow=8.7,SNR=14
AKASG LR LR 08 50 33.9
comp=Z,65nm,19.6s,baz=98,slow=40
comp=Z,2.8nm,0.4s
AKBB **Malin Array Si** 24.49 327 P P 08 39 34.6 -1.1
AKBB IAmb IAmb 08 39 39.6
comp=Z,15nm,1.1s
AKBB **Malin Array Si** 24.49 327 P P 08 39 34.7 -1.1
comp=Z,15nm,1.2s
AKBB **Malin Array Si** 24.49 327 P P 08 39 35.5 -0.2
AK14 **Malin Array Si** 24.49 326 P P 08 39 35.6 -0.2
AK11 **Malin Array Si** 24.50 327 P P 08 39 35.7 -0.1
KMPD **K-Podol'skiy** 24.56 320 P pP 08 39 35.6 -4.3
KMPD P P 08 39 35.4 -1.0
LOT **Lotru** 24.63 311 ⇓P P 08 39 37.5 +0.2
BLKB **Belogradchik** 24.67 306 ⇑P P 08 39 37.9 +0.3
LUBAR **Lubar, Ukraine** 24.69 324 P P 08 39 36.9 -0.7
BURAR **Bucovina Array** 24.75 317 ⇑P P 08 39 38.6 +0.3
BURAR **Bucovina Array** 24.75 317 P P 08 39 38.3 0.0
BURAR IAmb IAmb 08 39 43.4
comp=Z,7.1nm,0.5s
BURAR **Bucovina Array** 24.75 317 P P 08 39 38.3 0.0
BURAR pmax pmax
comp=Z,7.0nm,0.5s
BUR08 **Bucovina Ar. S** 24.78 317 IAmb IAmb 08 39 40.6
comp=Z,18nm,1.4s
MI30 **MI30,Zelenitsa** 25.01 326 P P 08 39 39.9 -0.6
OBN **Obninsk** 25.26 342⇑ *eP* P 08 39 42.7 0.0
OBN pmax pmax
comp=Z,9.0nm,0.4s
HERR **Herculane** 25.29 309 ⇓P P 08 39 43.7 +0.6
BOVS **Bovan** 25.34 306 ⇑P P 08 39 43.5 0.0
ARU **Arti** 25.34 11 LR LR 08 52 10.9
comp=Z,124nm,21.8s,baz=175,slow=42
ARU **Arti** 25.34 11 *c i* P P 08 39 46.1 +2.7
ARU 08 40 19.6
ARU S S 08 44 14.6 +5.1
ARU SS SnSn 08 45 05.3 +4.4
ARU pmax pmax
comp=Z,18nm,1.8s
MI28 **Mi28,Pidlybu** 25.38 326 P P 08 39 43.1 -0.7
MOS **Moscow** 25.55 343 *eP* P 08 39 46.2 +0.9
MARR **Marisel-Cluj** 25.57 313 ⇓P P 08 39 46.6 +0.9
RAKU **Rahkiv** 25.57 317 P P 08 39 45.7 +0.1
MDVR **Moldovita** 25.72 308 ⇑P P 08 39 47.8 +0.8
BRVK **Borovoye** 25.77 28 *ce* P P 08 39 47.0 -0.4
BRVK pmax pmax
comp=Z,8.0nm,1.5s
BVAR **Borovoye Array** 25.79 29 P P 08 39 48.1 +0.6
comp=Z,2.8nm,0.6s,baz=229,slow=5.5,SNR=10
BVAR PcP PcP 08 43 16.1 -0.9
comp=Z,0.7nm,0.5s,baz=236,slow=2.6,SNR=2.6
BVAR LR LR 08 51 29.7
comp=Z,130nm,21.4s,baz=240,slow=40
comp=Z,2.8nm,0.6s
DRGR 25.87 313 ⇑P P 08 39 49.2 +0.8
DRGR 25.87 313 ⇑P P 08 39 49.2 +0.8
BZS **Buzias** 26.09 310 ⇓P P 08 39 48.4 -1.9
BZS **Buzias** 26.09 310 ⇓P P 08 39 48.4 -1.9
PUK **Puka** 26.20 302 IAmb IAmb 08 40 18.1
comp=Z,6.6nm,0.8s
SIRR **Siria** 26.31 312 ⇑P P 08 39 52.7 +0.3
BRIU **Brid** 26.39 317 P P 08 39 53.2 +0.2
RNPP5 **Staryi Chortor** 26.44 324 P P 08 39 54.0 +0.6
RNPP8 **Varash** 26.52 325 P P 08 39 54.5 +0.4
KIRV **Kirov** 26.83 359 LR LR 08 52 47.2
comp=Z,49nm,18.4s,baz=188,slow=41
KIRV **Kirov** 26.83 359⇑ *eP* P 08 39 58.6 +1.8
KOLS **Kolonicke sedl** 27.11 317 *eP* P 08 40 01.1 +1.5
KOLS **Kolonicke sedl** 27.11 317 *eP* P 08 40 01.1 +1.5
TIP **Timpagrande** 28.11 295 ⇑P P 08 40 09.1 +0.4
KURBB **Kurchatov Arra** 28.19 40 P P 08 40 10.3 +1.1
comp=Z,2.2nm,1.0s,baz=242,slow=9.3,SNR=9.7
KURBB PcP PcP 08 43 22.5 -0.1
comp=Z,0.4nm,0.6s,baz=248,slow=3.1,SNR=2.8
KURBB LR LR 08 52 52.5
comp=Z,69nm,20.2s,baz=164,slow=40
comp=Z,2.2nm,1.0s
KURK **Kurchatov** 28.28 40 P P 08 40 11.5 +1.5
KURK IAmb IAmb 08 40 14.8
comp=Z,6.2nm,1.1s
KURK **Kurchatov** 28.28 40 P P 08 40 12.8 +2.9
KURK P P 08 40 12.8 +2.9
KURK **Kurchatov** 28.28 40 *ce* P P 08 40 12.6 +2.6
KURK pmax pmax
comp=Z,6.0nm,1.1s
MK31 **Makanchi Array** 28.78 49 P P 08 40 16.3 +1.8
MK31 sP 08 40 30.2 +11
MK31 **Makanchi Array** 28.78 49 P P 08 40 16.3 +1.8
MK31 pmax pmax
comp=Z,3.0nm,0.7s
MKAR **Makanchi Array** 28.78 49 P P 08 40 14.8 +0.3
MKAR **Makanchi Array** 28.78 49 P P 08 40 15.6 +1.0
comp=Z,2.0nm,0.6s,baz=245,slow=8.1,SNR=12
MKAR PcP PcP 08 43 23.6 -0.8
comp=Z,0.4nm,0.6s,baz=232,slow=3.4,SNR=2.5
MKAR LR LR 08 53 16.7
comp=Z,172nm,18.3s,baz=326,slow=40
comp=Z,2.0nm,0.6s
MKAR **Makanchi Array** 28.78 49 *i* P P 08 40 16.3 +1.8
MKAR pmax pmax
comp=Z,2.0nm,0.6s
OJC **Ojcow** 29.14 318 P P 08 40 17.9 +0.2
comp=Z,12nm,0.6s
MPLH **Magyarpolny** 29.28 311 P P 08 40 19.0 +0.1
comp=Z,24nm,0.6s
RONA **Rosalia, Austr** 30.25 312 *eP* P 08 40 27.5 -0.1
comp=Z,1.7nm,0.6s
MORC **Moravsky Berou** 30.26 316 IAmb IAmb 08 40 28.2
comp=Z,4.3nm,0.6s
MOZS **Mozjanca** 31.05 308 *eP* P 08 40 34.9 +0.3
CRNS **Crni Vrh** 31.11 308 *eP* P 08 40 35.7 +0.5
NRCA **Norcia** 31.27 301 IAmb IAmb 08 40 38.0
comp=Z,3.4nm,0.7s
FDMO **Fiordimonte** 31.32 302 IAmb IAmb 08 40 41.1
comp=Z,4.4nm,0.9s
VOJS **Vojsko** 31.36 308 *i* P P 08 40 37.3 -0.1
PRED **Cave del Predi** 31.67 308 IAmb IAmb 08 40 51.7
comp=Z,2.9nm,0.8s
BIOA **Bad Ischl, Aus** 31.96 311 *eP* P 08 40 42.1 -0.5
comp=Z,6.4nm,0.8s
KBA **Koelnbreinsper** 31.98 309 *eP* P 08 40 43.0 +0.1
comp=Z,9.6nm,0.6s
GERES **GERESS Array B** 32.26 313 P P 08 40 44.8 -0.6
comp=Z,5.0nm,0.4s,baz=96,slow=10.0,SNR=3.8
comp=Z,5.0nm,0.4s
CIMO **Cimolais** 32.40 308 IAmb IAmb 08 40 46.9
comp=Z,4.1nm,0.7s
KHC **Kasperske Hory** 32.43 313⇓ *eP* P 08 40 45.2 -1.5
KHC pmax pmax
comp=Z,14nm,1.6s
ABTA **Abfaltersbach** 32.45 308 *eP* P 08 40 47.1 +0.1
comp=Z,6.8nm,0.8s
LESA **Schwarzleotal** 32.51 310 *i* P P 08 40 46.9 -0.6
comp=Z,5.5nm,0.7s
WTTA **Wattenberg** 33.16 309 *eP* P 08 40 52.7 -0.5
comp=Z,9.7nm,0.6s
ZALV **Zalesovo Beam** 33.19 38 P P 08 40 53.3 +0.1
ZALV **Zalesovo Beam** 33.19 38 P P 08 40 54.0 +0.8
comp=Z,1.9nm,0.5s,baz=240,slow=8.1,SNR=6.6
ZALV LR LR 08 55 37.2
comp=Z,47nm,21.2s,baz=12,slow=38
comp=Z,1.9nm,0.5s
ZALV **Zalesovo Beam** 33.19 38 *i* P P 08 40 56.0 +2.8
ZALV pmax pmax
comp=Z,2.0nm,0.5s
WATA **Walderalm** 33.21 309 *eP* P 08 40 52.7 -1.0
comp=Z,6.9nm,0.6s
SQTA **Sankt Quirin** 33.43 309 *eP* P 08 40 55.0 -0.6
comp=Z,15nm,0.7s
CLL **Collm** 33.52 317 *eP* P 08 40 56.0 -0.2
comp=Z,3.0nm,0.6s
CLL **Collm** 33.52 317 *eP* P 08 40 56.0 -0.2
CLL pmax pmax
comp=Z,3.0nm,0.6s
MOTA **Moosalm** 33.53 309 *eP* P 08 40 55.2 -1.3
comp=Z,12nm,0.7s
FINES **FINESS Array B** 33.60 339 P P 08 40 56.6 -0.1
comp=Z,2.1nm,0.4s,baz=150,slow=9.3,SNR=21
FINES LR LR 08 56 04.0
comp=Z,26nm,18.7s,baz=194,slow=39
comp=Z,2.1nm,0.4s
FINES **FINESS Array B** 33.60 339 *i* P P 08 40 56.9 +0.2
FINES pmax pmax
comp=Z,2.0nm,0.4s
FETA **Feichten** 33.70 308 *i* P P 08 40 57.7 -0.4
comp=Z,7.0nm,0.6s
RETA **Reutte** 33.78 309 *eP* P 08 40 57.1 -1.6
comp=Z,2.8nm,0.5s
KEST **Kesra** 34.03 288 LR LR 08 58 16.8
comp=Z,28nm,20.8s,baz=250,slow=42
DAVOX **Davos/Dischmat** 34.22 308 LR LR 08 56 14.2
comp=Z,42nm,18.8s,baz=89,slow=38

DAVA Damuels 34.33 309 eP P 08 41 02.3 -1.1
comp=Z,7.9nm,0.5s
BNI Bardonecchia 36.16 304 IAmb IAmb 08 41 23.9
comp=Z,6.6nm,0.8s
GOMU GeErMu 37.02 71 P **P 08 41 30.3 +3.4**
GOMU pP sP 08 41 34.0 +2.0
GOMU sP pP 08 41 36.0 +5.5
GOMU pmax pmax
comp=Z,13nm,0.7s
MBAR Mbarara 37.09 214 LR LR 08 57 08.6
comp=Z,91nm,18.9s,baz=114,slow=37
HFS Hagfors 37.23 331 P **P 08 41 27.4 -0.6**
comp=Z,5.6nm,0.4s,baz=126,slow=9.4,SNR=44
HFS LR LR 08 57 08.8
comp=Z,84nm,19.0s,baz=124,slow=37
comp=Z,5.6nm,0.4s
NC405 NORSAR Array S 38.58 331 P **P 08 41 37.9 -1.5**
NC405 IAmb IAmb 08 41 50.9
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 38.75 331 P **P 08 41 39.7 -1.2**
comp=Z,2.6nm,0.6s,baz=123,slow=8.6
NOA NORSAR Array B 38.75 331 P **P 08 41 39.8 -1.0**
comp=Z,2.4nm,0.7s,baz=122,slow=8.3,SNR=12
NOA LR LR 08 58 46.5
comp=Z,68nm,20.5s,baz=120,slow=38
comp=Z,2.4nm,0.7s
ARCES ARCESS Array B 40.31 347 P **P 08 41 52.6 -1.1**
comp=Z,1.5nm,0.5s,baz=143,slow=7.9,SNR=6.5
comp=Z,1.5nm,0.5s
GTA Gaotai 40.64 65 P **P 08 41 59.5 +2.5**
GTA pP sP 08 42 12.3 +10
GTA pmax pmax
comp=Z,8.0nm,0.7s
EKA Eskdalemuir Ar 43.91 319 P **P 08 42 21.9 -1.4**
comp=Z,1.3nm,0.7s,baz=105,slow=7.7,SNR=4.5
comp=Z,1.3nm,0.7s
ESDC Sonseca Array 44.11 296 P **P 08 42 24.9 -0.3**
ESDC Sonseca Array 44.11 296 P **P 08 42 25.0 -0.2**
comp=Z,2.7nm,1.1s,baz=72,slow=8.0,SNR=9.3
comp=Z,2.7nm,1.1s
LZH Lanzhou 44.26 69 *eP* P 08 42 30.0 +3.5
LZH pP sP 08 42 36.3 +4.6
LZH pmax pmax
comp=Z,26nm,1.4s
SONM Songino Array 45.06 52 P **P 08 42 33.4 +0.7**
comp=Z,0.8nm,0.6s,baz=274,slow=9.3,SNR=4.5
comp=Z,0.8nm,0.6s
ULN Ulaanbaatar 45.50 52⇑*eP* **P 08 42 37.3 +1.1**
ULN pmax pmax
comp=Z,5.0nm,1.1s
CHTO Chiang Mai 45.57 94 P **P 08 42 36.2 -0.7**
CHTO Chiang Mai 45.57 94 P **P 08 42 36.3 -0.7**
CHTO pmax pmax
comp=Z,13nm,1.3s
CMAR Chiang Mai Arr 45.73 95 P **P 08 42 38.1 -0.1**
comp=Z,0.6nm,0.3s,baz=296,slow=8.4,SNR=6.1
comp=Z,0.6nm,0.3s
CMAR Chiang Mai Arr 45.73 95 *i* P **P 08 42 40.5 +2.3**
CMAR pmax pmax
comp=Z,1.0nm,0.5s
PBAR Barrancos 46.71 294 *eP* **P 08 42 45.9 +0.2**
comp=Z,15nm,1.7s
MTE Manteigas 46.73 298 *eP* **P 08 42 46.5 +0.5**
comp=Z,24nm,1.6s
PVRL Vila Real 46.74 299 *eP* **P 08 42 46.7 +0.7**
PMRV Marv??o 46.77 296 *eP* **P 08 42 45.7 -0.5**
PCBR Castelo Branco 46.77 297 *eP* **P 08 42 47.0 +0.9**
comp=Z,18nm,1.1s
POLO Lamas de Olo 46.79 299 *eP* **P 08 42 47.0 +0.6**
PHRA Phrae 46.80 94 P **P 08 42 46.2 -0.5**
PVIS Viseu 46.95 298 *eP* **P 08 42 48.4 +0.7**
PESTR Estremoz 47.01 295 *eP* **P 08 42 48.3 +0.2**
PGAV Gavieira, Arco 47.06 300 *eP* **P 08 42 49.2 +0.6**
PBEJ Beja 47.38 294 *eP* **P 08 42 51.1 +0.2**
comp=Z,16nm,1.7s
TORD Torodi Ar. Bea 48.07 259 P **P 08 42 56.0 -0.5**
TORD IAmb IAmb 08 43 13.3
comp=Z,2.6nm,0.9s
TORD Torodi Ar. Bea 48.07 259 P **P 08 42 56.2 -0.3**
comp=Z,1.8nm,0.7s,baz=52,slow=8.5,SNR=11
TORD LR LR 09 05 41.1
comp=Z,88nm,20.7s,baz=93,slow=39
comp=Z,1.8nm,0.7s
XAN Xi'an 48.77 71 ⇓P **P 08 43 01.5 -0.3**
XAN pP sP 08 43 06.5 -0.5
XAN pmax pmax
comp=Z,15nm,0.8s
SPB2 Spitsbergen Ar 48.81 351 P **P 08 43 02.2 +0.7**
SPITS Spitsbergen Ar 48.82 351 P **P 08 43 01.9 +0.4**
comp=Z,2.8nm,0.4s,baz=134,slow=9.4,SNR=35
comp=Z,2.8nm,0.4s
SPITS Spitsbergen Ar 48.82 351 P **P 08 43 02.6 +1.1**
SPITS pmax pmax
comp=Z,44nm,1.5s
HHC Hu-ho-hao-te 49.38 61 *eP* **P 08 43 08.3 +1.8**
HHC pmax pmax
comp=Z,15nm,0.8s
HHC pmax pmax
comp=Z,78nm,5.4s
HHC LR LR
comp=N,230nm,12.2s
HHC LR LR
comp=E,170nm,12.5s
HHC LR LR
comp=Z,220nm,13.0s
LYN LuoYang 51.47 69 *eP* **P 08 43 24.3 +2.1**
LYN pmax pmax
comp=Z,16nm,0.6s
LYN LR LR
comp=N,580nm,12.8s
LYN LR LR
comp=E,370nm,14.6s
LYN LR LR
comp=Z,620nm,13.7s
BORG Borgarnes 53.92 330 LR LR 09 10 11.4
comp=Z,52nm,18.3s,baz=113,slow=40
WHN Wuhan 54.18 73 P P 08 43 49.3 +7.0
TIXI Tiksi 56.64 22 LR LR 09 12 17.6
comp=Z,74nm,19.0s,baz=233,slow=40
TIXI Tiksi 56.64 22⇓*eP* **P 08 44 02.0 +2.6**
TIXI pmax pmax
comp=Z,7.0nm,1.9s
DBIC Dimbokro 56.97 256 LR LR 09 10 53.6
comp=Z,144nm,19.3s,baz=52,slow=39
LBTB Lobatse 61.16 206 LR LR 09 12 06.4
comp=Z,132nm,19.0s,baz=13,slow=37
KLR Kul'dur 61.47 48 LR LR 09 15 24.1
comp=Z,52nm,19.2s,baz=285,slow=40
KSRS Korea Array 62.53 61 P **P 08 44 40.2 -0.4**
comp=Z,1.7nm,0.7s,baz=285,slow=6.7,SNR=8.3
KSRS LR LR 09 15 27.0
comp=Z,46nm,18.7s,baz=175,slow=40
comp=Z,1.7nm,0.7s
BOSA Boshof 64.56 204 P **P 08 44 54.6 +0.5**
comp=Z,7.7nm,0.9s,baz=34,slow=8.8,SNR=6.2
BOSA LR LR 09 13 08.4
comp=Z,74nm,19.6s,baz=14,slow=36
comp=Z,7.7nm,0.9s
SEY Seymchan 67.44 29 LR LR 09 20 51.8
comp=Z,41nm,19.9s,baz=10.0,slow=41
SEY Seymchan 67.44 29⇓*eP* **P 08 45 12.4 +0.3**
SEY pmax pmax
comp=Z,13nm,2.5s
MA2 Magadan 68.20 33 LR LR 09 20 02.7
comp=Z,42nm,18.6s,baz=138,slow=40
SUR Sutherland 69.58 206 LR LR 09 17 01.4
comp=Z,229nm,19.1s,baz=354,slow=37
BILL Bilibino 69.85 21 *i* P **P 08 45 28.1 +1.1**
BILL pmax pmax
comp=Z,10.0nm,2.0s
MJAR Matsushiro Arr 70.47 59 P **P 08 45 33.6 +2.2**
comp=Z,0.6nm,0.5s,baz=327,slow=6.4,SNR=2.5
comp=Z,0.6nm,0.5s
SCHQ Schefferville 78.27 328 P **P 08 46 16.0 -0.5**
comp=Z,3.6nm,0.7s,baz=38,slow=3.0,SNR=5.8
comp=Z,3.6nm,0.7s
ILAR Eielson Array 82.86 7 P **P 08 46 40.5 -0.4**
comp=Z,0.4nm,0.7s,baz=316,slow=4.7,SNR=6.3
comp=Z,0.4nm,0.7s
YKA Yellowknife Ar 85.28 353 P **P 08 46 52.9 -0.4**
comp=Z,0.7nm,0.9s,baz=7.7,slow=5.8,SNR=7.1
comp=Z,0.7nm,0.9s
WRA Warramunga Arr 95.50 110 P **P 08 47 41.7 -0.4**
comp=Z,0.6nm,0.9s,baz=321,slow=4.2,SNR=3.1
comp=Z,0.6nm,0.9s
ASAR Alice Springs 97.09 113 P Pdif 08 47 48.4 -1.0
comp=Z,0.4nm,0.8s,baz=318,slow=5.3,SNR=2.7
comp=Z,0.4nm,0.8s

*IDC **30** 08:41:41.7±1.2, 10.90N×57.56E, h0km, mb3.8/7, mbtmp3.8/8, ML3.4/1, Error ellipse: s-maj=34.9km s-min=25.6km az=37.0*
ISC 30 08:41:44.8±1.2, 10.9N±0.2×57.6E±0.2, h19km, n8, σ0§47/8, mb3.6/7, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WSAR	**Wadi Sarin**	**12.28**	**5**	Pn	**Pn**	**08 44 38.7**	**-0.1**
	0.2nm,0.3s,baz=146,slow=7.3,SNR=1.3						
	3.5nm,0.8s						
BRTR	**Keskin Array B**	**35.68**	**328**	P	**P**	**08 48 42.6**	**+0.5**
	0.5nm,0.4s,baz=163,slow=11,SNR=2.8						
	0.5nm,0.4s						
AKTO	**Aktyubinsk**	**39.38**	**0**	P	**P**	**08 49 13.4**	**+0.2**
	4.8nm,0.7s,baz=195,slow=8.3,SNR=17						
	4.8nm,0.7s						
TORD	**Torodi Ar. Bea**	**54.60**	**278**	P	**P**	**08 51 12.9**	**+0.2**
	0.5nm,0.7s,baz=71,slow=8.4,SNR=3.8						
	0.5nm,0.7s						
SONM	**Songino Array**	**54.91**	**38**	P	**P**	**08 51 14.3**	**-0.2**
	0.2nm,0.3s,baz=221,slow=5.7,SNR=1.7						
	0.2nm,0.3s						
ESDC	**Sonseca Array**	**61.24**	**309**	P	**P**	**08 51 58.2**	**-0.8**
	1.1nm,0.7s,baz=85,slow=6.1,SNR=7.9						
	1.1nm,0.7s						
WRA	**Warramunga Arr**	**81.52**	**112**	P	**P**	**08 54 02.0**	**+0.3**
	0.7nm,1.0s,baz=274,slow=3.8,SNR=2.6						
	0.7nm,1.0s						
ASAR	**Alice Springs**	**82.10**	**116**	P	**P**	**08 54 04.6**	**-0.1**
	0.4nm,0.8s,baz=295,slow=4.8,SNR=4.2						
	0.4nm,0.8s						

IDC 30 08:45:15.0±51.0, 14.11S×165.44E, h0km, mb4.0/3, mbtmp4.0/3, Error ellipse: s-maj=863.1km s-min=102.4km az=64.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**28.08**	**227**	P	P	08 51 08.8	+0.4
	2.0nm,0.5s,baz=52,slow=8.4,SNR=6.2						
	2.0nm,0.5s						
WRA	**Warramunga Arr**	**30.27**	**255**	P	P	08 51 27.8	-0.3
	0.6nm,0.5s,baz=85,slow=9.1,SNR=10						
	0.6nm,0.5s						
ASAR	**Alice Springs**	**31.25**	**248**	P	P	08 51 36.6	-0.1
	1.2nm,0.6s,baz=81,slow=8.6,SNR=34						
	1.2nm,0.6s						

*SOME **30** 08:46:19.4, 44.62N×82.18E, h25km*
*NNC **30** 08:46:20.1±1.2, 44.68N×82.20E, h0km, mb3.2, mpv2.8, Error ellipse: s-maj=17.0km s-min=2.7km az=117.0, Suspected Mining explosion.*
ISC 30 08:46:16.0±2.1, 44.43N±0.09×82.5E±0.1, h0km, n10, σ1§03/20, 5C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KTMS	**Ketmen**	**1.85**	**239**	*eP*	**Pg**	**08 46 52.2**	**+0.8**
	0.9nm,0.2s						
KTMS				*eS*	**Sg**	**08 47 15.8**	**+0.4**
	8.6nm,0.2s						
DJR	**Jarkent**	**1.96**	**268**	*eP*	**Pn**	**08 46 51.3**	**+0.8**
	2.3nm,0.3s						
DJR				*eS*	**Sn**	**08 47 14.5**	**-1.5**
	5.4nm,0.4s						
MK31	**Makanchi Array**	**2.37**	**356**	⇑Pn	**Pn**	**08 46 57.1**	**+1.0**
	3.4nm,0.3s,baz=184,slow=14,SNR=85						
MK31				⇓Sn	**Sn**	**08 47 24.8**	**-1.1**
	9.6nm,0.7s,baz=187,slow=28,SNR=50						
MAKZ	**Makanchi**	**2.41**	**351**	⇑Pn	**Pn**	**08 46 56.7**	**+0.1**
	4.2nm,0.6s						
MAKZ				⇑Sn	**Sn**	**08 47 25.3**	**-1.6**
	5.2nm,0.5s						
PDGK	**Podgornoye**	**2.46**	**244**	⇑Pn	**Pb**	**08 47 00.0**	**-1.0**
	2.5nm,0.8s						
PDGK				⇑Sn	**Sb**	**08 47 31.5**	**-0.3**
	16nm,0.6s						
SHLS	**Shalkode**	**2.56**	**241**	*eP*	**Pn**	**08 46 59.6**	**+0.8**
	2.3nm,0.5s						
SHLS				*eS*	**Sn**	**08 47 28.6**	**-2.1**
	15nm,0.8s						
UZB	**Uzynbulak**	**2.84**	**244**	*eP*	**Pb**	**08 47 07.7**	**+0.1**
	2.1nm,0.6s						
UZB				*eS*	**Sb**	**08 47 42.5**	**-0.6**
	3.1nm,0.7s						
SATY	**Saty**	**3.28**	**247**	*eP*	**Pb**	**08 47 15.0**	**-0.2**
	0.9nm,0.2s						
SATY				*eS*	**Sb**	**08 47 55.0**	**-0.7**
	9.7nm,0.1s						
KTBS	**Karatobe**	**4.27**	**262**	*eP*	**Pb**	**08 47 31.8**	**-0.1**
	0.4nm,0.1s						
KTBS				*eS*	**Sb**	**08 48 23.8**	**-0.3**
	4.4nm,0.3s						
KRBS	**Karabastau**	**4.99**	**264**	*eP*	**Pb**	**08 47 44.9**	**+0.7**
	2.1nm,0.0s						
KRBS				*eS*	**Sb**	**08 48 46.3**	**+1.5**
	3.7nm,0.4s						

*IDC **30** 08:55:29.7±0.8, 23.99N×126.05E, h0km, mb4.0/15, mbtmp4.0/18, ML3.5/3, MS3.2/12, Error ellipse: s-maj=26.0km s-min=17.7km az=77.0*
*NEIC **30** 08:55:31.0±2.5, 24.01N±0.07×126.10E±0.06, h10km±1km, mb4.4/7, Error ellipse: s-maj=12.1km s-min=7.7km az=206.0*
*JMA **30** 08:55:32.5±0.3, 24°N±1°×12°6E±°, h84km, MV3.8/18, NEAR MIYAKOJIMA ISLAND*
*NIED **30** 08:55:32.5, 23.95N×126.01E, h84km, MW4.2, Moment Tensor Solution. s3 Moment tensor: Scale 10^15 Nm; Mrr 1.89; Mθθ -1.73; Mφφ -0.16; Mrθ 1.12; Mθφ -1.13; Mφr 0.98; Fault plane solution: M0 2.59000×10^15 NP1: φs 53.00000°, δ 63.00000°, λ 80.00000°. NP2: φs 254.00000°, δ 29.00000°, λ 108.00000°.*
ISC 30 08:55:34.1±0.7, 23.96N±0.07×126.06E±0.05, h34km, n76, σ1§45/67, mb4.1/20, MS3.2/10, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOGS	**Gusukube**	**0.99**	**323**	P	**Pb**	**08 55 51.8**	**-1.1**
JMJ2	**Miyako jima3**	**1.02**	**319**	P	**Pn**	**08 55 52.1**	**0.0**
JMJ	**Miyako jima 2**	**1.10**	**321**	P	**Pn**	**08 55 52.0**	**-1.2**
JIRB	**Irabujima**	**1.18**	**317**	P	**Pn**	**08 55 53.9**	**-0.4**
JIRB				S	**Sb**	**08 56 09.8**	**-1.3**
JIKM	**Ikemajima**	**1.21**	**322**	P	**Pn**	**08 55 54.5**	**-0.2**
JTJ	**Tarama**	**1.41**	**299**	P	**Pn**	**08 55 56.7**	**-0.7**
JISG	**Ishigakijimahi**	**1.71**	**292**	P	**Pn**	**08 56 00.8**	**-0.8**
JIJ	**Ishigaki jima**	**1.80**	**283**	*eP*	**Pn**	**08 56 01.2**	**-1.6**
JKRS	**Kuro-shima**	**1.90**	**279**	*eP*	**Pn**	**08 56 03.5**	**-0.6**
JKRS				*eS*	**Sn**	**08 56 26.4**	**-0.4**
HATJ	**Hateruma jima**	**2.07**	**273**	*eP*	**Pn**	**08 56 04.9**	**-1.5**
HATJ				*eS*	**Sn**	**08 56 29.0**	**-2.0**
IRIF	**Iriomote-Funau**	**2.16**	**280**	*eP*	**Pn**	**08 56 07.2**	**-0.6**
JKE	**Kume jima 2**	**2.44**	**15**	P	**Pn**	**08 56 11.5**	**-0.1**
JAGN	**Aguni-jima**	**2.83**	**22**	*eP*	**Pn**	**08 56 16.6**	**-0.2**
YOJ	**Yonaguni jima**	**2.83**	**281**	P	**Pn**	**08 56 16.4**	**-0.5**
YOJ	**Yonaguni jima**	**2.83**	**281**	Pn	**Pn**	**08 56 15.8**	**-1.2**
JYNG	**Yonagunijimaku**	**2.89**	**280**	*eP*	**Pn**	**08 56 16.5**	**-1.2**
JNTH	**Nagotoyohara**	**3.10**	**34**	*eP*	**Pn**	**08 56 20.7**	**0.0**
JOW	**Kunigami**	**3.49**	**35**	P	**Pn**	**08 56 26.6**	**+0.6**
JOW	**Kunigami**	**3.49**	**35**		**Pn**	**08 56 25.0**	**-1.0**
JOW	**Kunigami**	**3.49**	**35**	Pn	**Pn**	**08 56 26.2**	**+0.2**
	8.7nm,0.3s,baz=212,slow=9.0,SNR=16						
JOW				Sn	**Sn**	**08 57 03.5**	**-2.7**
	13nm,0.3s,baz=106,slow=20,SNR=5.1						
	30nm,0.4s						
JOW	**Kunigami**	**3.49**	**35**	*eP*	**Pn**	**08 56 26.6**	**+0.6**
NACB	**Ninganchiao**	**4.09**	**274**	P	**Pn**	**08 56 32.4**	**-1.9**
NACB	**Ninganchiao**	**4.09**	**274**	Pn	**Pn**	**08 56 32.8**	**-1.5**
YHNB	**Yeheng**	**4.33**	**280**	P	**Pn**	**08 56 38.1**	**+0.4**
YHNB	**Yeheng**	**4.33**	**280**	Pn	**Pn**	**08 56 37.9**	**+0.2**
YULB	**Yu-li**	**4.41**	**264**	P	**Pn**	**08 56 36.5**	**-2.2**
YULB	**Yu-li**	**4.41**	**264**	Pn	**Pn**	**08 56 36.5**	**-2.2**
SSLB	**Suanglung**	**4.68**	**269**	P	**Pn**	**08 56 41.4**	**-1.0**
SSLB	**Suanglung**	**4.68**	**269**	Pn	**Pn**	**08 56 41.4**	**-1.0**
TWGBT	**Beinan**	**4.72**	**257**	P	**Pn**	**08 56 40.9**	**-2.0**
TPUB	**Ta-pu**	**5.03**	**264**	P	**Pn**	**08 56 47.0**	**-0.2**
TPUB	**Ta-pu**	**5.03**	**264**	Pn	**Pn**	**08 56 47.0**	**-0.2**
JMZ	**Minamidaito 2**	**5.04**	**67**	P	**Pn**	**08 56 50.1**	**+2.8**
JMZ	**Minamidaito 2**	**5.04**	**67**	Pn	**Pn**	**08 56 45.5**	**-1.8**
JMZ					**Sn**	**08 57 39.2**	**-5.1**
JNU	**Nakatsue**	**10.06**	**24**	P	**Pn**	**08 57 59.2**	**+2.9**
JNU	**Nakatsue**	**10.06**	**24**	Pn	**Pn**	**08 57 55.2**	**-1.1**
	0.3nm,0.3s,baz=234,slow=19,SNR=1.4						
	1.1nm,0.3s						
KSRS	**Korea Array**	**13.54**	**6**	Pn	**Pn**	**08 58 44.1**	**+0.3**
	0.2nm,0.3s,baz=190,slow=14,SNR=5.9						
	1.1nm,0.8s						
JCJ	**Chichijima**	**14.88**	**75**	LR	LR	09 04 28.2	
	comp=Z,39nm,18.5s,baz=119,slow=36						
MJAR	**Matsushiro Arr**	**16.33**	**37**	Pn	**P**	**08 59 27.2**	**+3.8**
	0.1nm,0.3s,baz=218,slow=11,SNR=6.4						
DAV	**Davao City (W)**	**16.80**	**182**	LR	LR	09 07 30.5	
	comp=Z,58nm,18.0s,baz=42,slow=43						
GUMO	**Guam**	**20.55**	**117**	LR	LR	09 09 15.0	
	comp=Z,45nm,18.1s,baz=77,slow=40						
ERM	**Erimo**	**22.94**	**34**	P	**P**	**09 00 35.0**	**-0.4**
ERM				IAmb	IAmb	09 01 11.0	
	comp=Z,14nm,1.1s						
ASAJ	**Asahikawa**	**24.24**	**30**	P	**P**	**09 00 49.2**	**+1.3**
	comp=Z,1.6nm,0.5s,baz=222,slow=16,SNR=1.7						
	comp=Z,1.6nm,0.5s						
JKA	**Kamikawa-asahi**	**24.24**	**30**	P	**P**	**09 00 48.0**	**+0.1**
JKA				IAmb	IAmb	09 00 59.3	
	comp=Z,5.6nm,0.8s						
CMAR	**Chiang Mai Arr**	**25.85**	**263**	LR	LR	09 12 42.5	
	comp=Z,68nm,19.2s,baz=100,slow=40						
SONM	**Songino Array**	**28.50**	**332**	P	**P**	**09 01 26.0**	**-0.3**
	comp=Z,0.5nm,0.4s,baz=148,slow=8.5,SNR=2.4						
SONM				LR	LR	09 14 26.4	
	comp=Z,52nm,20.8s,baz=244,slow=40						
	comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**37.65**	**31**	LR	LR	09 17 33.8	
	comp=Z,26nm,21.7s,baz=268,slow=35						
H11N1	**WAKE ISLAND Hy**	**38.04**	**88**	T	T	09 43 26.0	
	baz=283,slow=75,SNR=3.2						
H11N2	**WAKE ISLAND Hy**	**38.04**	**88**	T	T	09 43 27.0	
	baz=283,slow=75,SNR=3.1						
H11N3	**WAKE ISLAND Hy**	**38.06**	**88**	T	T	09 43 24.2	
	baz=283,slow=75,SNR=4.3						
H11S3	**WAKE ISLAND Hy**	**38.16**	**90**	T	T	09 43 33.9	
	baz=283						
H11S1	**WAKE ISLAND Hy**	**38.17**	**90**	T	T	09 43 41.5	
	baz=283						
H11S2	**WAKE ISLAND Hy**	**38.18**	**90**	T	T	09 43 45.3	
	baz=283						
MKAR	**Makanchi Array**	**41.64**	**314**	P	**P**	**09 03 19.5**	**+0.3**
MKAR	**Makanchi Array**	**41.64**	**314**	P	**P**	**09 03 19.7**	**+0.5**
	comp=Z,1.4nm,0.5s,baz=100,slow=11,SNR=18						
MKAR				LR	LR	09 21 42.4	
	comp=Z,38nm,18.9s,baz=170,slow=38						
	comp=Z,1.4nm,0.5s						
ZALV	**Zalesovo Beam**	**42.92**	**325**	P	**P**	**09 03 29.0**	**-0.4**
	comp=Z,1.3nm,0.5s,baz=106,slow=8.1,SNR=2.5						
ZALV				LR	LR	09 22 54.1	
	comp=Z,26nm,19.6s,baz=256,slow=38						
	comp=Z,1.3nm,0.5s						
WB0	**Warramunga Arr**	**44.22**	**169**	P	**P**	**09 03 38.6**	**-1.6**
WB0				IAmb	IAmb	09 03 45.9	
	comp=Z,7.1nm,1.0s						
WRA	**Warramunga Arr**	**44.38**	**169**	P	**P**	**09 03 41.3**	**-0.2**
WRA	**Warramunga Arr**	**44.38**	**169**	P	**P**	**09 03 42.7**	**+1.2**
	comp=Z,3.6nm,0.8s,baz=350,slow=8.8,SNR=10						
	comp=Z,3.6nm,0.8s						
WB2	**Warramunga Arr**	**44.38**	**169**	P	**P**	**09 03 40.7**	**-0.8**
WR0	**Warramunga Arr**	**44.43**	**169**	P	**P**	**09 03 43.4**	**+1.5**
WR0				IAmb	IAmb	09 03 57.0	
	comp=Z,6.3nm,1.0s						
KURK	**Kurchatov**	**45.16**	**319**	P	**P**	**09 03 47.8**	**+0.3**
KURK				IAmb	IAmb	09 04 03.3	
	comp=Z,1.8nm,0.7s						
KURBB	**Kurchatov Arra**	**45.19**	**319**	P	**P**	**09 03 47.6**	**-0.1**
	comp=Z,0.9nm,0.6s,baz=109,slow=8.5,SNR=8.0						
	comp=Z,0.9nm,0.6s						
AAK	**Ala-Archa**	**46.20**	**307**	LR	LR	09 26 58.6	
	comp=Z,60nm,18.2s,baz=86,slow=41						
ASAR	**Alice Springs**	**47.95**	**170**	P	**P**	**09 04 10.0**	**+0.4**
	comp=Z,0.3nm,0.6s,baz=352,slow=7.3,SNR=4.8						
	comp=Z,0.3nm,0.6s						
BVAR	**Borovoye Array**	**50.69**	**320**	P	**P**	**09 04 31.2**	**+1.0**
	comp=Z,1.0nm,0.5s,baz=100,slow=4.9,SNR=3.0						
	comp=Z,1.0nm,0.5s						
GEYT	**Alibeck**	**58.74**	**301**	P	**P**	**09 05 30.7**	**+1.8**
	comp=Z,2.5nm,0.5s,baz=67,slow=3.7,SNR=4.0						
	comp=Z,2.5nm,0.5s						
KIRV	**Kirov**	**62.95**	**325**	LR	LR	09 35 03.3	
	comp=Z,27nm,18.6s,baz=154,slow=38						
GNI	**Garni**	**68.58**	**306**	LR	LR	09 41 59.0	
	comp=Z,16nm,19.7s,baz=194,slow=41						
KBZ	**Khabaz**	**69.08**	**310**	P	**P**	**09 06 38.1**	**+1.4**
	comp=Z,2.2nm,0.7s,baz=63,slow=6.8,SNR=3.1						
	comp=Z,2.2nm,0.7s						
FINES	**FINESS Array B**	**73.86**	**330**	P	**P**	**09 07 06.7**	**+1.5**
	comp=Z,1.5nm,0.6s,baz=78,slow=6.4,SNR=8.5						
	comp=Z,1.5nm,0.6s						
BRTR	**Keskin Array B**	**76.86**	**308**	P	**P**	**09 07 24.4**	**+1.3**
	comp=Z,1.2nm,0.8s,baz=67,slow=1.9,SNR=4.2						
	comp=Z,1.2nm,0.8s						
HFS	**Hagfors**	**79.90**	**332**	P	**P**	**09 07 38.3**	**-1.0**
	comp=Z,1.8nm,0.7s,baz=77,slow=9.0,SNR=5.4						
	comp=Z,1.8nm,0.7s						
NB2	**NORSAR Subarra**	**80.46**	**333**	P	**P**	**09 07 43.7**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=57,slow=5.6						
NOA	**NORSAR Array B**	**80.46**	**333**	P	**P**	**09 07 41.2**	**-1.2**
	comp=Z,1.6nm,0.8s,baz=56,slow=5.3,SNR=4.4						
NOA				LR	LR	09 47 44.0	
	comp=Z,27nm,18.4s,baz=70,slow=39						
	comp=Z,1.6nm,0.8s						
YKA	**Yellowknife Ar**	**81.40**	**24**	P	**P**	**09 07 46.8**	**-0.4**
	comp=Z,0.3nm,0.7s,baz=287,slow=4.9,SNR=2.7						
	comp=Z,0.3nm,0.7s						

*ISK **30** 09:03:50.0, 35.89N×26.02E, h19km, ML2.7/7*
*THE **30** 09:03:50.8, 35.87N×25.98E, h2km±3km, ML2.4/4, Error ellipse: s-maj=3.9km s-min=1.0km az=47.0*
ISC 30 09:03:49.7±1.5, 35.91N±0.04×25.99E±0.03, h7km±13km, n14, σ0§81/23, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ZKR	**Zakros**	**0.81**	**167**	Pg	**Pg**	**09 04 05.7**	**+0.5**
ZKR				Sg	**Sb**	**09 04 17.2**	**+0.1**
ZKR	**Zakros**	**0.81**	**167**	P	**Pg**	**09 04 05.6**	**+0.4**
ZKR				S	**Sb**	**09 04 17.3**	**+0.1**
	438nm,0.4s						
FRMA	**Ierapetra Chan**	**0.91**	**193**	P	**Pg**	**09 04 07.5**	**+0.3**
FRMA				S	**Sb**	**09 04 19.7**	**-0.4**
	208nm,0.3s						
KSTL	**Kastelli Herak**	**0.96**	**232**	P	**Pg**	**09 04 06.3**	**-1.8**
KSTL				S	**Sg**	**09 04 19.9**	**-0.6**
	142nm,0.2s						
KARP	**Karpathos**	**1.02**	**110**	Pg	**Pg**	**09 04 09.6**	**+0.4**
KARP				Sg	**Sb**	**09 04 23.8**	**+0.7**
IDI	**Anoyia**	**1.09**	**236**	Pn	**Pn**	**09 04 11.7**	**+0.4**
IDI				Sn	**Sb**	**09 04 25.5**	**+0.3**
IDI	**Anoyia**	**1.09**	**236**	P	**Pg**	**09 04 10.9**	**+0.4**
IDI				S	**Sb**	**09 04 25.8**	**+0.6**
	300nm,0.4s						
APE	**Apeiranthos**	**1.22**	**342**	Pn	**Pn**	**09 04 13.2**	**+0.1**
APE				Sn	**Sb**	**09 04 30.3**	**+1.3**
APE	**Apeiranthos**	**1.22**	**342**	P	**Pn**	**09 04 13.4**	**+0.3**
DAT	**Datca**	**1.52**	**57**	Pn	**Pn**	**09 04 17.1**	**-0.3**
DAT				Sn	**Sn**	**09 04 36.2**	**-1.3**
BODT	**Bodrum**	**1.57**	**42**	Pn	**Pn**	**09 04 17.4**	**-0.5**
ARG	**Arkhangelos**

BOZ				IAML		09 11 08.1	
	152nm,0.4s						
BOZ				IAML		09 11 09.4	
	152nm,0.4s						
DLMT	**Dillon**	**1.52 182**			Pn	09 10 49.2	+0.1
DLMT				IAML		09 11 11.0	
	90nm,0.7s						
DLMT				IAML		09 11 11.4	
	103nm,0.7s						
MCMT	**McKenzie Canyo**	**2.06 186**		Pn	Pn	09 10 56.5	-0.2
EGMT	**Eagleton**	**2.20 58**			Pn	09 10 59.8	+1.4
YHH	**Holmes Hill**	**2.40 150**			Pn	09 11 02.5	+1.2
RLMT	**Red Lodge**	**2.87 127**		Pn	Pn	09 11 07.6	-0.2
RLMT				IAML		09 11 59.0	
	19nm,0.3s						
RLMT				IAML		09 12 00.6	
	20nm,0.7s						
PLID	**Pearl Lake**	**3.02 235**			Pn	09 11 11.0	+1.2
F10A	**Beach Ranch, E**	**3.38 256**			Pn	09 11 15.6	+1.0
FXWY	**Fox Creek**	**3.41 161**		Pn	Pn	09 11 16.2	+1.1
NEW	**Newport**	**3.41 296**		Pn	Pn	09 11 15.4	+0.5
NEW				IAML		09 12 12.0	
	12nm,1.1s						
HLID	**Hailey**	**3.58 203**			Pn	09 11 18.3	+0.9
HLID				IAML		09 12 15.8	
	25nm,0.4s						
HLID				IAML		09 12 18.2	
	21nm,0.4s						
MFID	**Camas Ranch**	**4.18 215**		Pn	Pn	09 11 28.4	+2.7
MFID				IAML		09 12 35.7	
	18nm,0.5s						
MFID				IAML		09 12 36.8	
	18nm,0.4s						

*IDC **30** 09:15:25.4±0.6,16˚.05S×173˚.41E,h0km,mb4.5/17, mbtmp4.5/18,ML4.0/1,MS4.0/48,Error ellipse: s-maj=22.4km s-min=15.1km az=128.0*

*BJI **30** 09:15:27.3±0.0,15˚.56S×173˚.34E,h8km,mb4.8/38, mB5.1/14,Ms4.4/1,Ms7 4.2/1*

*NEIC **30** 09:15:27.9±1.1,16˚.03S±0˚.09×173˚.40E±0˚.07,h10km±1km, mb4.9/125,Error ellipse: s-maj=15.5km s-min=10.8km az=14.0*

*GCMT **30** 09:15:29.9±0.2,15˚.83S±0˚.01×173˚.28E±0˚.01,h17km, MW5.1/120,Moment Tensor Solution. s64,c80; s120,c182; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.02±.15; $M_{\theta\theta}$3.14±.11; $M_{\phi\phi}$1.88±.10; $M_{r\theta}$0.60±.26; $M_{\theta\phi}$-2.47±.07; $M_{\phi r}$1.58±.27; Best double couple: M_o5.30200×10^{16} NP1:ϕ_s144.00000°,δ50.00000°, λ-68.00000°. NP2:ϕ_s292.00000°,δ44.00000°, λ-114.00000°. Principal axes: T 5.0850, Plg3.0000°, Azm219.0000°; N 0.4350, Plg16.0000°, Azm310.0000°; P -5.5200, Plg73.0000°, Azm119.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ISC 30 09:15:26.9±0.3,16˚.04S±0˚.07×173˚.48E±0˚.06,h10km,n418, σ0991/356,mb4.9/91,MS4.2/48,6C-1D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MSVF	**Nonsavu**	**4.69**	**112**		Pn	**Pn**	**09 16 40.4**	**+2.5**
LIFNC	**LIFOU**	**7.57**	**231**		Pn	**Pn**	**09 17 16.9**	**-0.4**
PINNC	**Pines Island,**	**8.67**	**220**		Pn	**Pn**	**09 17 33.0**	**+0.6**
OUENC	**Ouen Island, N**	**8.92**	**224**		Pn	**Pn**	**09 17 36.5**	**+0.6**
DZM	**Mont Dzumac**	**8.96**	**227**	*e*P		**Pn**	**09 17 39.3**	**+2.8**
DZM	54nm,0.9s							
	6μm,26.8s			*e*LR		LR	09 19 41.3	
DZM	**Mont Dzumac**	**8.96**	**227**	Pn		**Pn**	**09 17 37.0**	**+0.5**
DZM	**Mont Dzumac**	**8.96**	**227**	Pn		**Pn**	**09 17 37.2**	**+0.7**
DZM	1.5nm,0.3s,baz=48,slow=20,SNR=13							
	baz=6.3,slow=19			Sn		**Sn**	**09 19 15.5**	**-2.1**
	9.6nm,0.6s							
ONTNC	**Ouen Toro**	**9.11**	**226**	Pn		**Pn**	**09 17 38.9**	**+0.4**
FUNA	**Funafuti**	**9.32**	**37**	Pn		**Pn**	**09 17 38.6**	**-2.8**
KOUNC	**Koumac, New Ca**	**9.82**	**241**	Pn		**Pn**	**09 17 47.9**	**-0.3**
HNR	**Honiara**	**14.74**	**295**	LR		LR	09 23 51.8	
	comp=Z,2μm,20.7s,baz=155,slow=34							
RAO	**Raoul Island**	**15.35**	**150**	LR		LR	09 23 33.1	
	comp=Z,455nm,19.8s,baz=34,slow=32							
TOZ	**Tahuroa Road**	**21.68**	**176**	P		**P**	**09 20 18.3**	**+0.5**
URZ	**Urewera**	**22.37**	**172**	LR		LR	09 27 07.1	
	comp=Z,817nm,21.3s,baz=40,slow=31							
RTZ	**Ruatahuna**	**22.70**	**173**	P		**P**	**09 20 29.5**	**+0.6**
RTZ				IAmb		IAmb	09 20 52.4	
	comp=Z,25nm,0.9s							
EIDS	**Eidsvold**	**22.89**	**242**	P		**P**	**09 20 30.8**	**-0.1**
ARMA	**Armidale**	**24.59**	**231**	P		**P**	**09 20 47.0**	**-0.5**
ARMA				IAmb		IAmb	09 20 52.5	
	comp=Z,48nm,1.6s							
MRZ	**Mangatainoka R**	**24.60**	**176**	P		**P**	**09 20 47.7**	**+0.4**
MRZ				IAmb		IAmb	09 20 57.5	
	comp=Z,36nm,1.0s							
TKNZ	**Takaka Hill**	**24.91**	**181**	P		**P**	**09 20 51.6**	**+1.4**
BSWZ	**Blackbirch Sta**	**25.59**	**179**	P		**P**	**09 20 57.3**	**+1.1**
RAR	**Rarotonga**	**25.85**	**106**	LR		LR	09 29 11.8	
	comp=Z,106nm,21.9s,baz=286,slow=32							
CTAO	**Charters Tower**	**26.18**	**257**	P		**P**	**09 21 02.2**	**+0.3**
CTAO				IAmb		IAmb	09 21 09.1	
	comp=Z,49nm,1.9s							
PMG	**Port Moresby**	**26.49**	**281**	LR		LR	09 28 58.2	
	comp=Z,366nm,20.5s,baz=26,slow=31							
RPZ	**Rata Peaks**	**27.66**	**184**	LR		LR	09 30 24.4	
	comp=Z,939nm,21.5s,baz=6.0,slow=32							
STKA	**Stephens Creek**	**32.97**	**236**	P		**P**	**09 22 01.9**	**-0.1**
STKA	**Stephens Creek**	**32.97**	**236**	P		**P**	**09 22 02.5**	**+0.5**
	comp=Z,10nm,0.8s,baz=51,slow=5.9,SNR=12							
STKA				LR		LR	09 34 21.7	
	comp=Z,505nm,19.7s,baz=60,slow=34							
	comp=Z,10nm,0.8s							
PPT2	**Papeete2**	**35.36**	**98**	*e*S		**S**	**09 27 53.4**	**-4.4**
PPT2	comp=Z,175nm,36.2s							
				*e*SS		**SS**	**09 30 29.8**	**-1.8**
	comp=Z,909nm,27.5s							
PPT2				*e*LR		LR	09 31 48.1	
	comp=Z,334nm,30.0s							
PPT2				*e*LR		LR	09 31 48.3	
	comp=Z,375nm,27.8s							
PPT	**Papeete**	**35.37**	**98**	LR		LR	09 35 09.1	
	comp=Z,53nm,19.0s,baz=278,slow=33							
TBI	**Tubuai**	**35.57**	**108**	*e*S		**S**	**09 28 00.9**	**+0.2**
	comp=Z,667nm,42.8s							
TBI				*e*SS		**SS**	**09 30 35.4**	**0.0**
	comp=Z,4μm,27.8s							
TBI				*e*LR		LR	09 31 51.9	
	comp=Z,2μm,31.2s							
TBI				*e*LR		LR	09 31 56.1	
	comp=Z,1μm,27.8s							
H11N1	**WAKE ISLAND Hy**	**36.11**	**349**	T		T	10 00 43.4	
	baz=170							
H11N3	**WAKE ISLAND Hy**	**36.12**	**349**	T		T	10 00 40.0	
	baz=170							
H11N2	**WAKE ISLAND Hy**	**36.13**	**349**	T		T	10 00 42.2	
	baz=170							
WR0	**Warramunga Arr**	**37.18**	**258**	P		**P**	**09 22 36.9**	**-1.7**
WB0	**Warramunga Arr**	**37.32**	**258**	P		**P**	**09 22 38.2**	**-1.6**
WB2	**Warramunga Arr**	**37.36**	**258**	P		**P**	**09 22 38.9**	**-1.2**
WRA	**Warramunga Arr**	**37.37**	**258**	P		**P**	**09 22 39.3**	**-0.9**
WRA	**Warramunga Arr**	**37.37**	**258**	P		**P**	**09 22 39.0**	**-1.2**
	comp=Z,3.5nm,0.9s,baz=89,slow=8.8,SNR=16							
WRA				PcP		**PcP**	**09 24 59.0**	**-0.3**
	comp=Z,1.3nm,1.0s,baz=91,slow=4.6,SNR=4.0							
WRA				LR		LR	09 36 08.8	
	comp=Z,305nm,21.9s,baz=99,slow=33							
	comp=Z,3.5nm,0.9s							
BBOO	**Buckleboo**	**37.70**	**237**	P		**P**	**09 22 42.6**	**-0.2**
BBOO				IAmb		IAmb	09 23 44.6	
	comp=Z,52nm,1.6s							
AS31	**Alice Springs**	**37.89**	**252**	P		**P**	**09 22 43.2**	**-1.4**
ASAR	**Alice Springs**	**37.89**	**252**	P		**P**	**09 22 43.9**	**-0.7**
ASAR	**Alice Springs**	**37.89**	**252**	P		**P**	**09 22 43.5**	**-1.0**
	comp=Z,11nm,0.7s,baz=81,slow=8.6,SNR=61							
ASAR				PcP		**PcP**	**09 24 60.0**	**-0.9**
	comp=Z,1.4nm,0.8s,baz=97,slow=2.9,SNR=4.7							
ASAR				LR		LR	09 37 04.2	
	comp=Z,665nm,20.5s,baz=88,slow=34							
	comp=Z,11nm,0.7s							
GUMO	**Guam**	**40.82**	**315**	LR		LR	09 39 31.9	
	comp=Z,42nm,19.9s,baz=136,slow=36							
MTN	**Manton Dam**	**41.08**	**269**	P		**P**	**09 23 13.8**	**+2.5**
MTN				IAmb		IAmb	09 23 19.1	
	comp=Z,16nm,0.8s							
FORT	**Forrest**	**43.89**	**242**	P		**P**	**09 23 33.6**	**-0.3**
FORT				IAmb		IAmb	09 23 42.2	
	comp=Z,33nm,1.1s							
FITZ	**Fitzroy Crossi**	**45.68**	**260**	P		**P**	**09 23 48.6**	**+0.3**
BATI	**Baumata**	**48.77**	**270**	LR		LR	09 43 18.0	
	comp=Z,188nm,21.3s,baz=141,slow=34							
PSA00	**Pilbara Seismi**	**50.87**	**255**	P		**P**	**09 24 27.7**	**-0.7**
PSA00				IAmb		IAmb	09 24 37.7	
	comp=Z,15nm,0.9s							
JCJ	**Chichijima**	**52.55**	**324**	LR		LR	09 41 29.6	
	comp=Z,48nm,21.7s,baz=134,slow=30							
DAV	**Davao City (W)**	**52.68**	**292**	LR		LR	09 47 31.6	
	comp=Z,13nm,18.5s,baz=137,slow=37							
NWAO	**Narrogin (SRO)**	**53.28**	**241**	LR		LR	09 46 54.6	
	comp=Z,379nm,19.6s,baz=56,slow=36							
KAPI	**Kappang**	**53.80**	**276**	LR		LR	09 47 18.6	
	comp=Z,61nm,18.8s,baz=100,slow=36							
JOW	**Kunigami**	**61.18**	**314**	LR		LR	09 52 46.0	
	comp=Z,33nm,18.0s,baz=70,slow=37							
VNDA	**Vanda**	**61.78**	**183**	P		**P**	**09 25 45.8**	**+0.4**
VNDA	**Vanda**	**61.78**	**183**	LR		LR	09 47 53.9	
	comp=Z,303nm,21.9s,baz=20,slow=32							
SBA	**Scott Base**	**61.92**	**182**	P		**P**	**09 25 47.1**	**+0.8**
MJAR	**Matsushiro Arr**	**62.00**	**328**	P		**P**	**09 25 46.7**	**-0.7**
	comp=Z,6.8nm,1.0s,baz=159,slow=6.6,SNR=13							
	comp=Z,6.8nm,1.0s							
MAJO	**Matsushiro**	**62.00**	**328**	P		**P**	**09 25 46.6**	**-0.8**
MAJO				IAmb		IAmb	09 25 48.0	
	comp=Z,9.2nm,0.9s							
MJB9	**Matsu-Tunnel**	**62.01**	**328**	P		**P**	**09 25 47.6**	**+0.2**
MJB9				IAmb		IAmb	09 25 49.0	
	comp=Z,9.3nm,0.9s							
JNU	**Nakatsue**	**63.60**	**321**	P		**P**	**09 25 57.9**	**-0.3**
	comp=Z,8.2nm,0.9s,baz=52,slow=7.6,SNR=3.8							
JNU				LR		LR	09 51 14.8	
	comp=Z,30nm,19.2s,baz=112,slow=34							
	comp=Z,8.2nm,0.9s							
TPUB	**Ta-pu**	**64.79**	**306**	P		**P**	**09 26 05.3**	**-0.9**
YHNB	**Yehenq**	**64.95**	**308**	P		**P**	**09 26 06.3**	**-1.0**
LEM	**Lembang**	**64.98**	**270**	LR		LR	09 53 20.5	
	comp=Z,90nm,21.2s,baz=94,slow=35							
KSRS	**Korea Array**	**68.31**	**322**	P		**P**	**09 26 28.9**	**+0.5**
	comp=Z,3.8nm,1.0s,baz=141,slow=7.1,SNR=15							
KSRS				LR		LR	09 55 24.6	
	comp=Z,22nm,18.9s,baz=100,slow=35							
	comp=Z,3.8nm,1.0s							
KSAR	**Wonju Array Be**	**68.33**	**322**	P		**P**	**09 26 28.7**	**+0.2**
SHEM	**Shemya Is, Ala**	**68.48**	**0**	LR		LR	09 50 16.4	
	comp=Z,56nm,21.4s,baz=152,slow=30							
PETK	**Petropavlovsk-**	**70.20**	**350**	P		**P**	**09 26 40.5**	**+0.7**
	comp=Z,7.3nm,0.9s,baz=165,slow=7.7,SNR=4.7							
PETK				LR		LR	09 50 44.8	
	comp=Z,179nm,22.0s,baz=153,slow=30							
	comp=Z,7.3nm,0.9s							
NJ2	**Nanjing**	**70.87**	**313**	*e*P		**P**	**09 26 47.0**	**+2.7**
NJ2				sP		**pwP**	**09 26 52.0**	**+1.6**
NJ2				pmax		pmax		
	comp=Z,9.0nm,0.5s							
USA0B	**Ussuriysk Arra**	**70.89**	**330**	P		**P**	**09 26 44.5**	**+0.4**
USA0B				IAmb		IAmb	09 26 50.3	
	comp=Z,7.6nm,0.8s							
USRK	**Ussuriysk Ar.**	**70.89**	**330**	LR		LR	09 53 40.0	
	comp=Z,60nm,20.6s,baz=138,slow=32							
MDJ	**Mudanjiang**	**72.38**	**329**	P		**P**	**09 26 53.8**	**+0.7**
MDJ				pmax		pmax		
	comp=Z,12nm,1.1s							
MDJ				pmax		pmax		
	comp=Z,78nm,3.7s							
FALS	**False Pass**	**73.30**	**14**	P		**P**	**09 26 58.7**	**+0.4**
	baz=203							
WHN	**Wuhan**	**73.33**	**309**	P		**P**	**09 26 59.5**	**+0.4**
WHN				pmax		pmax		
	comp=Z,120nm,1.5s							
CN2	**Changchun**	**73.97**	**326**	*e*P		**P**	**09 27 02.8**	**+0.3**
CN2				pmax		pmax		
	comp=Z,10.0nm,0.7s							
QSPA	**South Pole Qui**	**74.00**	**180**	P		**P**	**09 27 02.6**	**-0.1**
QSPA				IAmb		IAmb	09 27 02.9	
	comp=Z,9.3nm,0.9s							
QSPA	**South Pole Qui**	**74.00**	**180**	P		**P**	**09 27 02.5**	**-0.1**
	comp=Z,5.3nm,0.7s,baz=18,slow=0.7,SNR=35							
QSPA				LR		LR	09 56 44.6	
	comp=Z,73nm,19.4s,baz=44,slow=34							
	comp=Z,5.3nm,0.7s							
BNX	**BinXian**	**74.27**	**328**	⇑P		**P**	**09 27 04.3**	**+0.1**
BNX				pmax		pmax		
	comp=Z,6.0nm,0.7s							
TIA	**Tai'an**	**74.38**	**316**	P		**P**	**09 27 05.5**	**+0.4**
TIA				pmax		pmax		
	comp=Z,6.0nm,1.0s							
S12K	**Black Hills**	**74.39**	**14**	P		**P**	**09 27 05.3**	**+0.5**
	baz=204							
SDPT	**Sand Point**	**74.45**	**15**	P		**P**	**09 27 05.3**	**+0.2**
	baz=206							
KLR	**Kul'dur**	**74.75**	**333**	P		**P**	**09 27 08.1**	**+1.1**
	comp=Z,1.9nm,0.8s,baz=100,slow=2.8,SNR=4.7							
KLR				LR		LR	09 54 05.4	
	comp=Z,53nm,21.9s,baz=166,slow=31							
	comp=Z,1.9nm,0.8s							
S14K	**Fog Glacier**	**75.52**	**15**	P		**P**	**09 27 12.4**	**+1.0**
	baz=207							
LYN	**LuoYang**	**76.72**	**312**	⇑P		**P**	**09 27 19.8**	**+1.2**
LYN				pmax		pmax		
	comp=Z,40nm,0.8s							
ENH	**Enshi**	**76.88**	**307**	P		**P**	**09 27 20.0**	**+0.4**
BJT	**Baijiatuan**	**77.12**	**318**	P		**P**	**09 27 20.7**	**0.0**
BJT				IAmb		IAmb	09 27 22.2	
	comp=Z,15nm,1.2s							
BJI	**Beijing**	**77.12**	**318**	P		**P**	**09 27 21.5**	**+0.8**
BJI				pmax		pmax		
	comp=Z,6.0nm,1.0s							
SII	**Sitkinak Islan**	**77.22**	**18**	P		**P**	**09 27 21.9**	**+1.0**
	baz=212							
MA2	**Magadan**	**77.58**	**348**	LR		LR	09 56 20.6	
	comp=Z,112nm,21.4s,baz=148,slow=32							
O14K	**Tigyukauivet M**	**77.81**	**13**	P		**P**	**09 27 25.2**	**+1.1**
	baz=205							
O15K	**Ungalikthiuk R**	**78.05**	**14**	P		**P**	**09 27 26.7**	**+1.2**
	baz=206							
N14K	**Kuskokwak Cree**	**78.33**	**12**	P		**P**	**09 27 28.3**	**+1.4**
	baz=204							
KDAK	**Kodiak Island**	**78.73**	**18**	P		**P**	**09 27 30.5**	**+1.3**
	baz=213							
KDAK	**Kodiak Island**	**78.73**	**18**	LR		LR	09 55 15.8	
	comp=Z,204nm,20.8s,baz=223,slow=30							
N15K	**Kwethluk River**	**78.89**	**13**	P		**P**	**09 27 30.4**	**+0.3**
N15K	**Kwethluk River**	**78.89**	**13**	P		**P**	**09 27 31.2**	**+1.1**
	baz=206							
M14K	**Bethel**	**79.03**	**12**	P		**P**	**09 27 31.9**	**+1.2**
	baz=204							
M15K	**Kasigluk River**	**79.24**	**13**	P		**P**	**09 27 33.1**	**+1.1**
	baz=205							
Q19K	**Cape Douglas,**	**79.39**	**17**	P		**P**	**09 27 34.0**	**+1.1**
	baz=212							
L14K	**Kuka Creek**	**79.43**	**11**	P		**P**	**09 27 34.3**	**+1.4**
	baz=203							
N16K	**Nishlik Lake**	**79.46**	**14**	P		**P**	**09 27 34.6**	**+1.4**
	baz=207							
Q20K	**Shuyak Island**	**79.47**	**17**	P		**P**	**09 27 34.1**	**+0.8**
	baz=213							
K13K	**Kusilvak Mount**	**79.62**	**10**	P		**P**	**09 27 35.0**	**+1.0**
	baz=201							
O18K	**Koktuh Hills**	**79.77**	**15**	P		**P**	**09 27 36.5**	**+1.6**
	baz=211							
N17K	**Nushagak Hills**	**79.87**	**14**	P		**P**	**09 27 36.2**	**+0.7**
	baz=209							
M16K	**Timber Creek**	**79.91**	**13**	P		**P**	**09 27 36.9**	**+1.3**
	baz=207							
L15K	**Ungalak Mounta**	**79.97**	**12**	P		**P**	**09 27 37.3**	**+1.4**
	baz=204							
P19K	**Oil Pt**	**80.12**	**16**	P		**P**	**09 27 38.1**	**+1.3**
	baz=212							
O19K	**Port Alsworth**	**80.29**	**16**	IAmb		IAmb	09 27 40.2	
	comp=Z,17nm,1.1s							
O19K	**Port Alsworth**	**80.29**	**16**	P		**P**	**09 27 38.7**	**+1.0**
	baz=211							
N18K	**Kilae Creek**	**80.32**	**15**	P		**P**	**09 27 37.9**	**+0.1**
	baz=210							
CRAI	**Chiangrai**	**80.33**	**294**	P		**P**	**09 27 39.4**	**+0.5**
CRAI				IAmb		IAmb	09 27 41.0	
	comp=Z,16nm,1.4s							
GAMB	**Gambell**	**80.39**	**7**	P		**P**	**09 27 38.9**	**+0.8**
	baz=194							
L16K	**Owhat River**	**80.41**	**13**	P		**P**	**09 27 39.5**	**+1.2**
	baz=206							
ILSW	**Iliamna Southw**	**80.42**	**16**	IAmb		IAmb	09 27 57.1	
	comp=Z,14nm,1.3s							
SEY	**Seymchan**	**80.43**	**350**	LR		LR	09 57 17.8	
	comp=Z,240nm,21.8s,baz=152,slow=31							
BSMM	**Soledad Missio**	**80.53**	**48**	P		**P**	**09 27 38.1**	**-1.5**
K15K	**Wolf Creek Mou**	**80.53**	**12**	P		**P**	**09 27 39.9**	**+1.0**
K15K				IAmb		IAmb	09 27 44.6	
	comp=Z,14nm,1.1s							
K15K	**Wolf Creek Mou**	**80.53**	**12**	P		**P**	**09 27 40.0**	**+1.0**
	baz=204							
HHC	**Hu-ho-hao-te**	**80.53**	**317**	*e*P		**P**	**09 27 42.0**	**+2.4**
HHC				pmax		pmax		
	comp=Z,12nm,0.7s							
HHC				pmax		pmax		
	comp=Z,52nm,4.4s							
HOM	**Homer**	**80.56**	**17**	P		**P**	**09 27 39.9**	**+0.8**
	baz=214							
J14K	**Nanvaranak Lak**	**80.57**	**10**	P		**P**	**09 27 39.4**	**+0.3**
	baz=202							
M17K	**Holitna River**	**80.58**	**14**	P		**P**	**09 27 38.9**	**-0.3**
	baz=208							
O20K	**Slope Mountain**	**80.65**	**16**	P		**P**	**09 27 39.4**	**-0.3**
	baz=213							
BRLK	**Bradley Lake**	**80.87**	**17**	P		**P**	**09 27 41.9**	**+1.0**
BRLK				IAmb		IAmb	09 29 55.8	
	comp=Z,17nm,1.1s							
SBC	**Santa Barbara**	**80.89**	**50**	P		**P**	**09 27 41.4**	**0.0**
	baz=244							
BRSE	**Bradley Lake S**	**80.89**	**17**	P		**P**	**09 27 41.6**	**+0.6**
	baz=215							
CMAR	**Chiang Mai Arr**	**80.97**	**292**	P		**P**	**09 27 41.5**	**-0.8**
CMAR	**Chiang Mai Arr**	**80.97**	**292**	P		**P**	**09 27 43.2**	**+0.9**
	comp=Z,4.8nm,0.9s,baz=118,slow=3.7,SNR=18							
CMAR				LR		LR	10 05 60.0	
	comp=Z,14nm,18.1s,baz=175,slow=38							
	comp=Z,4.8nm,0.9s							
PKM	**Mcpherson Peak**	**81.01**	**50**	P		**P**	**09 27 42.5**	**0.0**
	baz=243							
M18K	**Stony River**	**81.04**	**14**	P		**P**	**09 27 42.9**	**+1.2**
	baz=210							
L17K	**Donlin**	**81.04**	**13**	P		**P**	**09 27 42.8**	**+1.1**
	baz=208							
SMMC	**Simmler**	**81.07**	**49**	P		**P**	**09 27 42.9**	**+0.4**
	baz=243							
CIS	**Catalina Islan**	**81.40**	**52**	P		**P**	**09 27 44.9**	**+0.6**
	baz=244							
L18K	**Granite Mounta**	**81.47**	**14**	P		**P**	**09 27 45.1**	**+1.1**
L18K	**Granite Mounta**	**81.47**	**14**	P		**P**	**09 27 45.6**	**+1.6**
	baz=209							
PZH	**PanZhiHua**	**81.48**	**301**	P		**P**	**09 27 47.5**	**+2.5**
PZH				pmax		pmax		
	comp=Z,10.0nm,0.5s							
PZH				pmax		pmax		
	comp=Z,100nm,4.8s							
K17K	**Iditarod**	**81.56**	**13**	P		**P**	**09 27 45.2**	**+0.8**
	baz=207							
SEW	**Seward**	**81.56**	**18**	P		**P**	**09 27 45.0**	**+0.5**
	baz=216							
J16K	**Anvik River**	**81.61**	**12**	P		**P**	**09 27 45.8**	**+1.2**
J16K				IAmb		IAmb	09 27 55.9	
	comp=Z,18nm,1.2s							
J16K	**Anvik River**	**81.61**	**12**	P		**P**	**09 27 45.0**	**+0.3**
	baz=205							
N20K	**Mount Spurr**	**81.70**	**16**	P		**P**	**09 27 45.5**	**+0.2**
	baz=213							
M19K	**Big River Lodg**	**81.74**	**15**	IAmb		IAmb	09 29 14.9	
	comp=Z,27nm,1.8s							
M19K	**Big River Lodg**	**81.74**	**15**	P		**P**	**09 27 46.4**	**+1.0**
	baz=211							
L19K	**White Mountain**	**81.87**	**14**	P		**P**	**09 27 47.1**	**+1.0**
L19K	**White Mountain**	**81.87**	**14**	P		**P**	**09 27 46.8**	**+0.7**
	baz=211							
J17K	**VABM Dome**	**82.01**	**12**	P		**P**	**09 27 47.8**	**+1.0**
	baz=207							
M20K	**Styx River**	**82.04**	**15**	P		**P**	**09 27 48.2**	**+1.1**
	baz=212							
AFDM	**Forest Hills D**	**82.04**	**46**	P		**P**	**09 27 49.0**	**+1.4**
AFDM				IAmb		IAmb	09 27 53.1	
	comp=Z,6.6nm,0.9s							
I17K	**Unalakleet**	**82.14**	**11**	P		**P**	**09 27 48.9**	**+1.5**
	baz=205							
YBH	**Yreka Blue Hor**	**82.21**	**43**	LR		LR	09 56 23.1	
	comp=Z,201nm,21.1s,baz=249,slow=30							
RC01	**Rabbit Creek A**	**82.28**	**17**	P		**P**	**09 27 49.2**	**+0.9**
	baz=216							
SUA	**Susitna One**	**82.31**	**16**	P		**P**	**09 27 49.1**	**+0.6**
	baz=215							
L20K	**Farewell, AK**	**82.36**	**15**	P		**P**	**09 27 49.7**	**+1.0**
	baz=212							
SKT	**Skwentna**	**82.53**	**16**	P		**P**	**09 27 50.4**	**+0.8**
	baz=214							
H16K	**Elim**	**82.55**	**10**	P		**P**	**09 27 50.6**	**+1.0**
	baz=204							
J18K	**Innoko River**	**82.56**	**13**	IAmb		IAmb	09 27 51.5	
	comp=Z,9.4nm,0.9s							
J18K	**Innoko River**	**82.56**	**13**	P		**P**	**09 27 51.0**	**+1.3**
	baz=209							
G15K	**Niukluk**	**82.58**	**9**	P		**P**	**09 27 51.1**	**+1.4**
	baz=202							
F14K	**Arctic Creek**	**82.69**	**8**	P		**P**	**09 27 50.8**	**+0.5**
	baz=200							
MONP2	**Monument Peak**	**82.70**	**53**	P		**P**	**09 27 51.4**	**0.0**
	baz=246							
M22K	**Willow**	**82.72**	**17**	P		**P**	**09 27 51.7**	**+1.2**
	baz=215							
PMR	**Palmer**	**82.86**	**17**	P		**P**	**09 27 52.1**	**+0.8**
	baz=216							
MAW	**Mawson**	**82.88**	**201**	P		**P**	**09 27 51.8**	**+0.3**
	comp=Z,2.7nm,0.7s,baz=92,slow=7.3,SNR=4.2							
MAW				LR		LR	10 01 16.8	
	comp=Z,116nm,18.4s,baz=109,slow=33	

NVAR	Mina Array Bea	83.67	47	P	P	09 27 57.0	+0.7
NVAR	Mina Array Bea	83.67	47	P	P	09 27 57.5	+1.2
	comp=Z,3.3nm,0.9s,baz=231,slow=9.2,SNR=17						
NVAR				LR	LR	09 57 02.9	
	comp=Z,258nm,21.3s,baz=232,slow=30						
	comp=Z,3.3nm,0.9s						
LZH	Lanzhou	83.68	310	*e*P	P	09 27 54.0	-2.3
LZH				pP	PcP	09 28 01.5	+1.0
LZH				pmax	pmax		
	comp=Z,17nm,1.2s						
GRAC	Grapevine Rang	83.72	49	P	P	09 27 55.5	-0.8
	baz=245						
H18K	Honhosa River	83.72	12	P	P	09 27 56.2	+0.5
	baz=207						
KLU	Klutina	83.72	18	P	P	09 27 55.2	-0.6
	baz=219						
BMRM	Bremner River	83.72	19	P	P	09 27 55.6	-0.3
	baz=220						
J20K	Nowinta River	83.75	14	P	P	09 27 56.7	+0.9
	baz=211,SNR=6.1						
BC3	Big Chuckawall	83.76	53	P	P	09 27 56.1	-0.6
	baz=246						
FURC	Furnace Creek,	83.86	49	P	P	09 27 56.8	-0.2
	baz=245						
GMN	Gold Mountain	83.92	49	P	P	09 27 58.7	+1.1
CHUM	Lake Minchumin	83.93	14	P	P	09 27 57.3	+0.6
	baz=213						
GLA	Glamis	84.00	53	P	P	09 27 58.3	+0.4
	baz=247						
MZP	Montezuma Peak	84.01	48	P	P	09 27 59.1	+1.1
WAT1	Susitna Watana	84.03	16	P	P	09 27 58.2	+0.8
	baz=217						
WAT6	Susitna Watana	84.05	17	P	P	09 27 58.1	+0.5
	baz=217,SNR=6.4						
GMRC	Granite Mounta	84.06	51	P	P	09 27 58.6	+0.3
	baz=246						
TRF	Thorofare Moun	84.07	15	P	P	09 27 57.9	+0.2
	baz=215						
KVN	Kaiserville	84.08	47	P	P	09 27 58.8	+0.5
M24K	Tolsona, Glenn	84.13	18	P	P	09 27 59.3	+1.4
	baz=219						
IRM	Iron Mountain	84.19	52	P	P	09 28 00.1	+1.2
	baz=246						
N25K	Chitina, Valde	84.21	19	IAmb	IAmb	09 27 59.7	
	comp=Z,9.3nm,0.9s						
N25K	Chitina, Valde	84.21	19	P	P	09 27 58.6	+0.3
	baz=220,SNR=6.3						
G18K	Tagagawik	84.33	11	P	P	09 27 59.6	+0.9
	baz=207,SNR=7.4						
PINE	Pine Mountain	84.35	41	P	P	09 27 59.9	+0.3
F17K	Baldwin Pennin	84.37	10	P	P	09 27 59.4	+0.6
	baz=204,SNR=9.2						
LPIG	La Paz	84.38	63	LR	LR	09 56 28.2	
	comp=Z,305nm,21.9s,baz=216,slow=29						
RND	Reindeer	84.41	16	P	P	09 27 59.4	+0.1
H19K	Roundabout Mou	84.43	12	P	P	09 28 00.2	+1.0
	baz=209,SNR=10						
BPAW	Bear Paw Mtn.	84.44	15	P	P	09 28 00.1	+0.7
	baz=214						
PNL	Peninsula	84.52	22	P	P	09 28 00.6	+0.7
	baz=225						
S31K	Pelican	84.54	24	P	P	09 27 60.0	+0.1
	baz=228						
MCARA	McCarthy VSAT	84.54	19	P	P	09 28 00.8	+0.9
MCARA				IAmb	IAmb	09 28 10.6	
	comp=Z,8.7nm,1.0s						
MCARA	McCarthy VSAT	84.54	19	P	P	09 28 00.6	+0.7
	baz=222						
DHY	Denali Highway	84.55	17	P	P	09 28 00.5	+0.4
	baz=218						
BBB	Bella Bella	84.62	32	LR	LR	09 58 38.7	
	comp=Z,104nm,19.4s,baz=248,slow=31						
HARP	HAARP	84.66	18	P	P	09 28 01.3	+0.8
	baz=220						
MCK	McKinley	84.66	16	P	P	09 28 00.6	+0.1
	baz=216						
H20K	Anotleneega Mo	84.73	13	P	P	09 28 00.8	0.0
	baz=210,SNR=7.8						
BARN	Barnard Glacie	84.74	20	P	P	09 28 01.1	-0.1
BARN				IAmb	IAmb	09 28 02.6	
	comp=Z,12nm,1.1s						
CTG	Chitna Glacier	84.78	20	P	P	09 28 01.8	+0.5
	baz=223,SNR=5.0						
F18K	Selawik	84.79	10	P	P	09 28 02.0	+1.0
	baz=206,SNR=9.7						
V35K	Ketchikan	84.80	28	P	P	09 28 02.3	+1.0
	baz=232						
G19K	Purcell Munta	84.85	12	P	P	09 28 01.9	+0.6
	baz=208,SNR=9.5						
E17K	Hotham Inlet	84.86	9	P	P	09 28 02.0	+0.6
	baz=204,SNR=18						
S32K	Killisnoo	84.88	25	P	P	09 28 02.4	+0.8
	baz=230						
PDMCI	Parker Dam,Lak	85.01	52	P	P	09 28 03.1	+0.2
	baz=247						
O28M	Mount Upton	85.03	21	P	P	09 28 02.6	-0.2
	baz=224,SNR=11						
V12A	Nelson	85.04	51	P	P	09 28 05.0	+1.8
P29M	Windy Craggy	85.10	23	P	P	09 28 03.1	+0.3
	baz=227,SNR=8.2						
I21K	Tanana	85.10	14	IAmb	IAmb	09 28 04.7	
	comp=Z,8.5nm,1.1s						
I21K	Tanana	85.10	14	P	P	09 28 03.3	+0.7
	baz=213						
YAK	Yakutsk	85.12	341	LR	LR	10 00 02.1	
	comp=Z,119nm,21.9s,baz=122,slow=31						
214A	Organ Pipe Nat	85.14	55	P	P	09 28 04.3	+0.6
	baz=248						
WVOR	Wild Horse Val	85.22	43	P	P	09 28 04.5	+0.6
WVOR				IAmb	IAmb	09 28 13.3	
	comp=Z,12nm,1.2s						
D17K	Noatak River	85.24	9	P	P	09 28 03.7	+0.4
	baz=203,SNR=6.2						
O29M	Mount Kennedy	85.26	22	IAmb	IAmb	09 28 37.1	
	comp=Z,4.0nm,0.6s						
O29M	Mount Kennedy	85.26	22	P	P	09 28 04.0	+0.3
	baz=226						
MLY	Manley	85.27	14	P	P	09 28 03.6	0.0
	baz=214						
BMN	Battle Mountai	85.29	46	P	P	09 28 05.2	+0.8
BMN				IAmb	IAmb	09 28 06.8	
	comp=Z,8.3nm,1.0s						
M26K	Nabesna, AK	85.31	19	IAmb	IAmb	09 28 13.4	
	comp=Z,11nm,1.1s						
M26K	Nabesna, AK	85.31	19	P	P	09 28 04.5	+0.7
	baz=222,SNR=6.5						
H21K	Melozitna Rive	85.32	13	IAmb	IAmb	09 28 24.1	
	comp=Z,10nm,1.4s						
H21K	Melozitna Rive	85.32	13	P	P	09 28 03.6	-0.2
	baz=212						
NEA2	Nenana	85.32	15	P	P	09 28 03.7	-0.1
	baz=216						
F19K	Shaleruckik Mo	85.33	11	P	P	09 28 04.0	+0.3
	baz=208,SNR=9.6						
E18K	Tukpahlearik C	85.37	10	P	P	09 28 04.5	+0.6
	baz=205,SNR=13						
I07A	Izee	85.40	42	P	P	09 28 05.6	+0.8
I07A				IAmb	IAmb	09 28 10.4	
	comp=Z,9.9nm,0.9s						
C16K	Lisburne Hills	85.47	8	P	P	09 28 04.6	+0.2
	baz=200						
PLBC	Pleasant Camp	85.49	23	P	P	09 28 05.4	+0.7
	baz=228						
YUK8	Steele Glacier	85.54	21	P	P	09 28 06.2	+0.9
	baz=225,SNR=6.1						
K24K	Donnelly Dome	85.57	17	P	P	09 28 06.1	+1.1
	baz=219						
R11B	Troy Canyon, C	85.57	48	P	P	09 28 05.9	0.0
	baz=246						
M27K	Edge Creek, AK	85.63	19	P	P	09 28 06.5	+0.9
	baz=223						
YUK3	Moose Creek	85.66	20	P	P	09 28 06.2	+0.4
	baz=224,SNR=5.4						
L26K	Log Cabin Wild	85.67	18	P	P	09 28 06.6	+1.0
	baz=221						
CCB	Clear Creek Bu	85.69	16	IAmb	IAmb	09 28 06.4	
	comp=Z,6.8nm,1.0s						
I23K	Minto, Yukon-K	85.70	15	P	P	09 28 06.8	+1.2
	baz=216						
P30M	Million Dollar	85.72	22	P	P	09 28 07.5	+1.6
	baz=227						
HDA	Harding Lake	85.72	16	P	P	09 28 06.2	+0.5
	baz=218,SNR=6.4						
J08A	Circle Bar Ran	85.74	43	P	P	09 28 07.4	+0.9
J08A				IAmb	IAmb	09 28 12.1	
	comp=Z,6.7nm,0.9s						
YUK6	Outpost Mounta	85.78	21	P	P	09 28 07.2	+0.8
	baz=226						
MDM	Murphy Dome	85.83	15	IAmb	IAmb	09 28 10.8	
	comp=Z,7.9nm,1.1s						
H22K	Ishtalitna Cre	85.84	14	P	P	09 28 07.2	+0.9
	baz=214						
COLA	College	85.86	16	P	P	09 28 06.7	+0.3
	baz=217						
G21K	Allakaket	85.90	13	P	P	09 28 06.8	+0.2
	baz=212						
F20K	Avaraart Lake	85.91	12	IAmb	IAmb	09 28 09.2	
	comp=Z,7.2nm,1.2s						
F20K	Avaraart Lake	85.91	12	P	P	09 28 08.2	+1.6
	baz=210						
C17K	DeLong Mountai	85.95	8	P	P	09 28 08.0	+1.1
	baz=202						
YUK4	Talbot Arm	85.97	21	P	P	09 28 07.6	+0.3
	baz=226						
E19K	Redstone River	85.98	11	IAmb	IAmb	09 28 09.1	
	comp=Z,7.2nm,1.1s						
E19K	Redstone River	85.98	11	P	P	09 28 07.5	+0.4
	baz=208,SNR=6.7						
HYT	Haines Junctio	86.01	22	P	P	09 28 08.3	+0.9
	baz=227						
IL31		86.03	16	IAmb	IAmb	09 28 11.3	
	comp=Z,8.6nm,0.9s						
ILAR	Eielson Array	86.03	16	P	P	09 28 06.8	-0.5
ILAR	Eielson Array	86.03	16	P	P	09 28 06.3	-1.0
	comp=Z,5.8nm,0.9s,baz=234,slow=5.5,SNR=39						
ILAR				LR	LR	10 01 20.4	
	comp=Z,162nm,20.0s,baz=226,slow=32						
	comp=Z,5.8nm,0.9s						
POKR	Poker Plat Res	86.16	16	P	P	09 28 08.4	+0.5
	baz=218						
H23K	Yukon River	86.21	14	P	P	09 28 08.8	+0.6
	baz=216						
SCRK	Sand Creek	86.21	17	P	P	09 28 08.4	+0.1
	baz=221,SNR=6.4						
J25K	Salcha River,	86.31	17	P	P	09 28 08.3	-0.4
	baz=219,SNR=5.4						
C18K	Utukok River	86.40	9	P	P	09 28 09.0	-0.1
	baz=204						
T35M	Bob Quinn	86.41	27	P	P	09 28 09.4	0.0
	baz=233						
O30N	Mendenhall	86.48	22	P	P	09 28 09.5	-0.2
	baz=228						
F21K	Alatna River	86.50	12	P	P	09 28 10.0	+0.4
	baz=212						
N30M	Aishikik Lake	86.59	21	P	P	09 28 10.7	+0.5
	baz=227						
S34M	Telegraph Cree	86.60	26	P	P	09 28 10.4	+0.2
	baz=232						
P32M	Atlin	86.60	24	P	P	09 28 09.4	-0.9
	baz=230						
H24K	Noodor Dome	86.62	15	P	P	09 28 10.8	+0.5
	baz=217						
G22K	Bettles	86.67	13	P	P	09 28 11.0	+0.7
	baz=214						
J26L	Joseph Creek	86.73	17	P	P	09 28 11.7	+0.9
	baz=221,SNR=6.0						
SPR3	Spring Creek 3	86.73	48	P	P	09 28 12.2	+0.4
SPR3				IAmb	IAmb	09 28 20.9	
	comp=Z,6.4nm,1.1s						
D19K	Kuna River	86.75	10	P	P	09 28 11.0	+0.2
	baz=207						
M29M	Some Creek	86.80	20	P	P	09 28 11.2	-0.1
	baz=226						
K27K	Chicken	86.81	18	P	P	09 28 10.9	-0.2
	baz=222						
G23K	Bananza Creek	86.82	14	P	P	09 28 11.1	-0.1
	baz=215						
WHY	Whitehorse	86.85	23	P	P	09 28 11.6	+0.1
	baz=229						
TUC	Tucson	86.87	55	P	P	09 28 10.5	-1.8
	baz=249						
E20K	Nigu River	86.88	11	P	P	09 28 11.6	+0.1
	baz=209						
PSUT	Pine Spring	86.89	49	P	P	09 28 13.4	+1.0
F22K	John River	87.02	13	P	P	09 28 12.2	+0.1
	baz=213						
C19K	Lookout Ridge	87.06	9	P	P	09 28 12.8	+0.5
	baz=206						
N31M	Braeburn, Yuko	87.07	22	P	P	09 28 13.5	+1.0
	baz=228						
SONM	Songino Array	87.17	322	P	P	09 28 12.7	-0.8
	comp=Z,0.6nm,0.6s,baz=134,slow=4.2,SNR=4.3						
SONM				LR	LR	10 05 17.7	
	comp=Z,20nm,20.1s,baz=101,slow=34						
	comp=Z,0.6nm,0.6s						
D20K	Etivluk River	87.21	11	P	P	09 28 12.5	-0.5
	baz=209						
COLD	Coldfoot	87.21	13	P	P	09 28 13.2	+0.1
	baz=215						
U15A	North Rim	87.22	51	IAmb	IAmb	09 28 17.2	
	comp=Z,7.2nm,1.2s						
L29M	L29M	87.38	20	IAmb	IAmb	09 28 22.0	
	comp=Z,9.8nm,1.5s						
L29M	L29M	87.38	20	P	P	09 28 14.3	+0.4
	baz=226						
DLBC	Dease Lake	87.38	26	P	P	09 28 14.3	+0.2
	baz=233						
DLBC	Dease Lake	87.38	26	LR	LR	09 58 17.6	
	comp=Z,164nm,21.8s,baz=260,slow=29						
G24K	Hadweenzic Riv	87.41	15	P	P	09 28 14.0	0.0
	baz=217						
I26K	Coal Creek Min	87.45	17	IAmb	IAmb	09 28 23.1	
	comp=Z,9.1nm,1.2s						
I26K	Coal Creek Min	87.45	17	P	P	09 28 14.1	-0.1
	baz=221						
E21K	Killik River	87.45	11	P	P	09 28 14.9	+0.7
	baz=211						
M30M	Minto, Yukon	87.45	21	IAmb	IAmb	09 28 18.4	
	comp=Z,5.4nm,1.0s						
M30M	Minto, Yukon	87.45	21	P	P	09 28 14.6	+0.2
	baz=227,SNR=7.5						
R33M	Jennings River	87.57	25	P	P	09 28 15.2	+0.1
	baz=233						
WUAZ	Wupatki	87.58	52	P	P	09 28 15.2	-0.6
	baz=248						
PKCU	Pink Cliffs	87.59	50	P	P	09 28 17.1	+1.2
PKCU				IAmb	IAmb	09 28 27.2	
	comp=Z,11nm,1.2s						
E22K	Anaktuvuk Pass	87.62	12	IAmb	IAmb	09 28 19.6	
	comp=Z,5.1nm,1.1s						
E22K	Anaktuvuk Pass	87.62	12	P	P	09 28 14.7	-0.4
	baz=213						
EGAK	Eagle	87.63	18	P	P	09 28 14.6	-0.5
	baz=223						
DAWY	Dawson	87.65	19	P	P	09 28 15.6	+0.3
	baz=225						
F10A	Beach Ranch, E	87.69	41	P	P	09 28 16.5	+0.6
G25K	Bearman Lake	87.80	15	P	P	09 28 15.3	-0.5
	baz=219						
C21K	Knifeblade Rid	87.92	11	P	P	09 28 16.9	+0.5
	baz=210						
GTA	Gaotai	87.94	312	*e*P	P	09 28 18.3	+0.9
GTA				pP	sP	09 28 21.5	+0.9
GTA				pmax	pmax		
	comp=Z,6.0nm,1.3s						
F24K	Squaw Lake	87.97	14	P	P	09 28 16.2	-0.5
	baz=217						
M31M	Drury Creek, Y	88.04	22	P	P	09 28 16.4	-0.8
	baz=230						
D22K	Ayikyak River	88.08	12	P	P	09 28 16.6	-0.6
	baz=212						
K29M	Barlow Dome	88.08	20	P	P	09 28 17.4	0.0
	baz=227						
I27K	Kandik River	88.10	17	P	P	09 28 17.8	+0.4
	baz=223						
DUG	Dugway, Tooele	88.27	47	P	P	09 28 18.0	-0.9
	baz=247						
B21K	Ikpikpuk River	88.35	11	P	P	09 28 18.2	-0.2
	baz=211						
FARO	Faro, Yukon	88.43	22	P	P	09 28 19.3	+0.2
	baz=230						
MAYO	Mayo, Yukon	88.45	20	P	P	09 28 19.2	+0.2
	baz=228						
I28M	Miner Creek	88.47	18	P	P	09 28 19.1	-0.1
	baz=224						
HLID	Hailey	88.50	44	IAmb	IAmb	09 28 22.5	
	comp=Z,5.3nm,0.8s						
HLID	Hailey	88.50	44	P	P	09 28 20.5	+0.5
	baz=246						
TOLK	Toolik Lake Re	88.51	13	P	P	09 28 20.9	+1.6
	baz=215						
G26K	Porcupine Rive	88.53	16	P	P	09 28 19.8	+0.6
	baz=221						
H27K	Steamboat Moun	88.59	17	P	P	09 28 20.7	+1.0
	baz=223						
W18A	Petrified Fore	88.69	53	P	P	09 28 20.9	-0.1
	baz=249						
NEW	Newport	88.75	39	LR	LR	10 00 30.1	
	comp=Z,99nm,20.1s,baz=248,slow=30						
I29M	Ogilvie Camp,	88.89	18	IAmb	IAmb	09 29 05.4	
	comp=Z,14nm,1.9s						
I29M	Ogilvie Camp,	88.89	18	P	P	09 28 21.5	+0.4
	baz=226						
HVU	Hansel Valley	88.91	46	IAmb	IAmb	09 28 24.5	
	comp=Z,11nm,1.1s						
J30M	Hart River	88.96	19	P	P	09 28 21.1	-0.5
	baz=228						
Q16A	Castle Valley	88.97	49	IAmb	IAmb	09 28 32.5	
	comp=Z,8.4nm,1.1s						
B22K	Teshekpuk Lake	89.18	11	P	P	09 28 22.2	-0.1
	baz=212						
C23K	Itkillik River	89.28	12	P	P	09 28 23.4	+0.6
	baz=214						
I30M	Mount Dempster	89.39	19	P	P	09 28 22.9	-0.6
	baz=228						
H29M	Whitestone	89.47	18	P	P	09 28 23.6	-0.2
	baz=226						
TCUT	Toone Canyon	89.61	47	IAmb	IAmb	09 28 31.2	
	comp=Z,7.1nm,0.8s						
TOAD	Toad River Com	89.68	27	P	P	09 28 25.4	+0.5
	baz=238						
HWUT	Hardware Ranch	89.68	46	IAmb	IAmb	09 28 35.7	
	comp=Z,5.2nm,1.1s						
BSUT	Blindstream Ca	89.86	48	IAmb	IAmb	09 28 29.1	
	comp=Z,5.9nm,0.9s						
ELIB	Princess Elisa	89.95	189	*d*P	P	09 28 25.3	-1.0
	comp=Z,4.0nm,1.1s						
F28M	Old Crow	90.05	16	P	P	09 28 25.9	-0.6
	baz=224						
EPYK	Eagle Plains	90.06	18	P	P	09 28 26.3	-0.3
	baz=227						
MSO	Missoula	90.11	41	P	P	09 28 27.1	-0.2
	baz=247						
MVCO	Mesa Verde	90.34	51	P	P	09 28 27.9	-0.9
	baz=250						
H31M	Peel River	90.41	19	P	P	09 28 27.6	-0.6
	baz=230						
MNTX	Cornudas Mount	90.99	57	P	P	09 28 31.6	-0.2
	baz=252						
VHRN	Van Horn	91.03	58	IAmb	IAmb	09 28 35.5	
	comp=Z,7.3nm,1.4s						
BOZ	Bozeman (W)	91.12	43	IAmb	IAmb	09 28 41.5	
	comp=Z,12nm,1.6s						
BOZ	Bozeman (W)	91.12	43	P	P	09 28 32.5	+0.3
	baz=248						
ANMO	Albuquerque	91.16	54	P	P	09 28 33.1	+0.5
ANMO				IAmb	IAmb	09 28 41.9	
	comp=Z,6.0nm,1.1s						
ANMO	Albuquerque	91.16	54	P	P	09 28 32.9	+0.3
	baz=251						
ANMO	Albuquerque	91.16	54	LR	LR	10 02 04.7	
	comp=Z,79nm,19.4s,baz=338,slow=31						
PDAR	Pinedale Array	91.49	46	P	P	09 28 34.8	+0.8
	comp=Z,0.4nm,0.7s,baz=258,slow=4.5,SNR=2.5						
PDAR				LR	LR	10 03 13.7	
	comp=Z,71nm,19.1s,baz=261,slow=31						
	comp=Z,0.4nm,0.7s						
O20A	White River Ci	91.52	49	P	P	09 28 34.8	+0.6
	baz=250						
TX31	Lajitas Ar. Si	91.68	60	IAmb	IAmb	09 28 45.0	
	comp=Z,8.1nm,1.4s						
TXAR	Lajitas Array	91.68	60	P	P	09 28 35.1	0.0
TXAR	Lajitas Array	91.68	60	P	P	09 28 36.5	+1.4
	comp=Z,1.5nm,0.7s,baz=220,slow=5.5,SNR=22						
TXAR				LR	LR	10 02 57.5	
	comp=Z,106nm,19.1s,baz=263,slow=31						
	comp=Z,1.5nm,0.7s						
TROLL	Troll, Antarti	91.95	183	⇑P	P	09 28 34.8	-0.8
	comp=Z,422nm,0.8s						
INK	Inuvik	92.28	17	LR	LR	10 03 34.8	
	comp=Z,134nm,20.8s,baz=182,slow=31						
SNAA	Sanae	92.47	181	⇑P	P	09 28 36.3	-1.6
	comp=Z,34nm,0.8s						
SNAA	Sanae	92.47	181	LR	LR	10 07 05.9	
	comp=Z,94nm,21.6s,baz=240,slow=34						
TIXI	Tiksi	92.50	347	LR	LR	10 09 01.6	
	comp=Z,77nm,18.2s,baz=148,slow=35						
VNA3	Neumayer Olymp	92.91	179	⇑P	P	09 28 38.5	-1.4
	comp=Z,9.6nm,0.7s						
VNA2	Neumayer--Watz	93.25	180	⇑P	P	09 28 40.2	-1.2
	comp=Z,3.5nm,0.6s,baz=181,slow=5.1						
PALK	Pallekele	94.63	276	LR	LR	10 13 39.5	
	comp=Z,43nm,18.0s,baz=222,slow=37						
YKA	Yellowknife Ar	96.00	26	P	P	09 28 54.0	0.0
	comp=Z,1.6nm,0.8s,baz=259,slow=4.9,SNR=14						
	comp=Z,1.6nm,0.8s						
CMIG	Matias Romero	96.11	74	LR	LR	10 03 52.0	
	comp=Z,84nm,19.1s,baz=183,slow=30						
WMQ	Urumqi	97.95	313	*e*P	Pdif	09 29 05.5	+2.1
APG	El Apazote	99.71	77	LR	LR	10 03 18.4	
	comp=Z,6.6nm,21.8s,baz=222,slow=29						
ARCES	ARCESS Array B	122.94	347	PKP	PKPdf	09 34 22.5	-0.4
	comp=Z,2.6nm,0.7s,baz=28,slow=2.9,SNR=4.3						
FINES	FINESS Array B	129.05	341	PKP	PKPdf	09 34 34.0	-0.7
	comp=Z,0.3nm,0.4s,baz=7.8,slow=3.1,SNR=1.7						
NOA	NORSAR Array B	133.28	348	PKP	PKPdf	09 34 41.8	-1.0
	comp=Z,0.4nm,0.8s,baz=30,slow=2.0,SNR=2.7						
HFS	Hagfors	133.58	346	PKP	PKPdf	09 34 44.1	+0.7
	comp=Z,1.9nm,0.8s,baz=328,slow=5.3,SNR=3.8						
SOKA	Soboth	144.58	334	*e*PKP	PKPab	09 35 03.2	+0.8
	comp=Z,3.5nm,1.1s						
LESA	Schwarzleotal	144.90	337	*e*PKP	PKPab	09 35 02.8	-0.8
	comp=Z,3.5nm,0.7s						
KBA	Koelnbreinsper	144.94	336	*e*PKP	PKPab	09 35 03.0	-0.8
	comp=Z,5.9nm,1.2s						
MYKA	Terra Mystica	145.19	335	*e*PKP	PKPbc	09 35 03.9	-0.7
	comp=Z,8.8nm,1.1s						
WATA	Walderalm	145.38	338	*e*PKP	PKPbc	09 35 05.2	0.0
	comp=Z,6.2nm,1.0s						
WTTA	Wattenberg	145.42	338	*e*PKP	PKPbc	09 35 05.6	+0.2
	comp=Z,9.8nm,1.0s						
ABTA	Abfaltersbach	145.53	337	*e*PKP	PKPdf	09 35 05.3	-0.3
	comp=Z,13nm,0.9s						
RETA	Reutte	145.54	339	*e*PKP	PKPdf	09 35 06.0	+0.4
	comp=Z,8.5nm,0.9s						
MOTA	Moosalm	145.54	339	*e*PKP	PKPdf	09 35 05.9	+0.2
	comp=Z,11nm,1.1s,SNR=6.0						
SQTA	Sankt Quirin	145.61	338	*e*PKP	PKPdf	09 35 05.9	+0.1
	comp=Z,8.6nm,0.6s,SNR=5.9						
FETA	Feichten	145.95	339	*e*PKP	PKPdf	09 35 07.6	+1.2
	comp=Z,9.9nm,0.9s,SNR=6.8						
DAVA	Damuels	146.01	340	*e*PKP	PKPdf	09 35 07.7	+1.2
	comp=Z,23nm,1.0s,SNR=7.7						
ESDC	Sonseca Array	156.35	355	PKP	PKPdf	09 35 20.0	-2.4
	comp=Z,0.2nm,0.3s,baz=324,slow=1.1,SNR=1.9						
ESDC				PKPab	PKPab	09 35 50.5	+0.1
	comp=Z,0.8nm,0.8s,baz=343,slow=4.0,SNR=3.5						
TORD	Torodi Ar. Bea	171.54	251	PKP	PKPdf	09 35 35.8	-1.0
	comp=Z,0.7nm,0.9s,baz=115,slow=2.1,SNR=2.7						
TORD				PKPab	PKPab	09 36 56.7	-1.1
	comp=Z,0.8nm,0.9s,baz=82,slow=3.1,SNR=2.2						

OMAN 30 09:19:14.1±1.4,25°.95N×62°.41E,h10km,mb4.0/1,ml3.5/1,
Error ellipse: s-maj=10.6km s-min=8.5km az=80.0,
Southwestern Pakistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WBK	Wadi Bani Khal	4.57	224	P		Pn	09 20 22.0	-1.4
	SNR=57							
WBK

ASHO			S	Sn	09 21 48.9	0.0
ARQ	**Araqi**	**5.95 245**	P	Pn	09 20 44.2	+1.8
ALNE	**Al Ain**	**6.33 254**	P	Pn	09 20 49.1	+1.6

IDC 30 09:34:02.1±8.2, 21°.77N×143°.88E, h137km±89km, mb3.1/3, mbtmp3.7/4, Error ellipse: s-maj=131.3km s-min=21.1km az=106.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.52**	**344**	P	Pn	09 35 21.9	-0.3
	34nm,0.3s,baz=219,slow=19,SNR=34						
JCJ				S	Sn	09 36 25.8	+1.1
	12nm,0.3s,baz=219,slow=19,SNR=1.6						
WRA	**Warramunga Arr**	**42.49**	**193**	P	P	09 41 43.9	-0.1
	0.4nm,0.3s,baz=13,slow=8.6,SNR=17						
	0.4nm,0.3s						
ILAR	**Eielson Array**	**61.68**	**27**	P	P	09 44 05.3	0.0
	0.4nm,0.8s,baz=273,slow=6.0,SNR=4.7						
	0.4nm,0.8s						
NVAR	**Mina Array Bea**	**82.59**	**52**	P	P	09 46 10.3	-0.1
	0.3nm,0.7s,baz=275,slow=4.1,SNR=2.5						
	0.3nm,0.7s						

LDG 30 09:36:31.1±0.1, 44°.64N×6°.80E, h2km, Md0.7/1, Error ellipse: s-maj=5.1km s-min=2.0km az=64.0, France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MBDF	**Montbardon**	**0.09**	**346**	*e*Pg	Pg	09 36 33.2	+0.2
MBDF				*e*Sg	Sg	09 36 35.0	+0.8
	17nm,0.2s						
ORIF	**Oris-en-Rattie**	**0.71**	**293**	*e*Pg	Pg	09 36 44.9	+0.1
ORIF				*e*Sg	Sg	09 36 54.0	-0.1
	1.5nm,0.3s						
SBF	**Sospel**	**0.90**	**149**	*e*Pg	Pg	09 36 48.4	+0.1

STR 30 09:37:06.7±1.9, 43°N±10°×°±°, h0km, MLv1.1/6, Error ellipse: s-maj=0.0km s-min=0.0km az=7.6, preliminary, Near south coast of France

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FLAF	**Flassans-sur-I**	**0.31**	**41**	Pg	Pg	09 37 13.2	+0.5
FLAF				Sg	Sg	09 37 16.9	+0.1
ARTF	**Artigues**	**0.46**	**344**	Pg	Pg	09 37 15.9	+0.4
TRIGF	**Trigance**	**0.68**	**27**	Pg	Pg	09 37 19.6	-0.1
BSTF	**la Bastide-des**	**0.77**	**342**	Pg	Pg	09 37 20.4	-1.1
BSTF				Sg	Sg	09 37 29.7	-1.9
BLAF	**les Blancs**	**0.81**	**4**	Pg	Pg	09 37 22.5	+0.3
RUSF	**Rustrel**	**0.87**	**336**	Pg	Pg	09 37 23.4	0.0
RUSF				Sg	Sg	09 37 35.2	+0.5
SALSA	**La sagne**	**0.90**	**35**	Pg	Pg	09 37 24.0	+0.1
SALSA				Sg	Sg	09 37 36.7	+1.0
CALF	**Calern**	**0.92**	**48**	Pg	Pg	09 37 24.3	0.0
CALF				Sg	Sb	09 37 37.4	-1.0

IDC 30 09:41:50.6±3.4, 54°.22N×87°.37E, h0km, mbtmp2.9/2, ML2.6/2, Error ellipse: s-maj=27.9km s-min=19.6km az=50.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.53**	**261**	I	I	09 51 13.6	
	baz=78,slow=314,SNR=3.7						
ZALV	**Zalesovo Beam**	**1.53**	**261**	Pg	Pn	09 42 17.5	-1.6
	1.7nm,0.3s,baz=82,slow=16,SNR=11						
ZALV				Lg	Lg	09 42 39.2	
	2.2nm,0.3s,baz=81,slow=30,SNR=8.0						
KURBB	**Kurchatov Arra**	**6.49**	**240**	Pn	Pn	09 43 28.6	+1.2
	0.1nm,0.3s,baz=56,slow=14,SNR=2.5						
KURBB				Lg	Lg	09 45 16.4	
	0.1nm,0.3s,baz=58,slow=28,SNR=2.4						
	0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.10**	**206**	Pn	Pn	09 43 50.4	+0.9
	0.1nm,0.3s,baz=26,slow=14,SNR=1.4						
MKAR				Lg	Lg	09 46 08.8	
	0.2nm,0.3s,baz=9.3,slow=30,SNR=2.1						
	0.2nm,0.3s						

*NOU **30** 09:48:22.1, 41°.87S×174°.51E, h14km, MLv4.2/14, Cook Strait, New Zealand*
*WEL **30** 09:48:23.4, 41°.64S×174°.25E, h16km, ML3.9, Mw3.8, Moment Tensor Solution. s3 Moment tensor: Mrr41.48; Mθθ22.47; Mϕϕ-63.95; Mrθ-28.68; Mθϕ20.36; Mϕr7.84; Fault plane solution: NP1:ϕ≈341.00000°, δ49.00000°, λ39.00000°. NP2:ϕ≈223.00000°, δ62.00000°, λ132.00000°. Principal axes: T 62.4500, Plg53.0000°, Azm185.0000°; N 7.9000, Plg36.0000°, Azm20.0000°; P -70.3500, Plg8.0000°, Azm285.0000°; SOUTH ISLAND*
*WEL **30** 09:48:23.4±0.4, 42°.5S×173°.4E×, h8km±4km, M3.9/16, ML4.1/16, MLv3.9/16 Error ellipse: s-maj=0.0km s-min=0.0km az=163.5, confirmed*

ISC 30 09:48:21.8±1.0, 41°.81S±0°.03×174°.34E±0°.03, h14km±7km, n130, σ1s50/142, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMWZ	**Cape Campbell**	**0.11**	**304**	P	**Pg**	**09 48 26.8**	**+1.7**
BSWZ	**Blackbirch Sta**	**0.36**	**285**	P	**Pg**	**09 48 29.6**	**+0.5**
BSWZ				S	**Sg**	**09 48 34.7**	**+0.7**
TUWZ	**Tuamarina**	**0.48**	**322**	P	**Pg**	**09 48 30.4**	**-0.9**
TUWZ				S	**Sg**	**09 48 35.7**	**-2.1**
BHW	**Baring Head**	**0.57**	**45**	P	**Pb**	**09 48 34.1**	**+0.6**
SNZO	**South Karori**	**0.57**	**29**	P	**Pg**	**09 48 33.0**	**0.0**
TCW	**Tory Channel**	**0.60**	**356**	P	**Pg**	**09 48 32.4**	**-1.2**
TCW				S	**Sg**	**09 48 39.0**	**-2.6**
WEL	**Wellington**	**0.62**	**32**	P	**Pg**	**09 48 34.3**	**+0.3**
WEL				S	**Sg**	**09 48 42.4**	**+0.3**
PLWZ	**Palliser**	**0.73**	**71**	P	**Pn**	**09 48 38.6**	**+0.9**
KHZ	**Kahutara**	**0.85**	**224**	P	**Pn**	**09 48 41.3**	**+2.0**
KHZ	**Kahutara**	**0.85**	**224**	P	**Pn**	**09 48 41.2**	**+2.0**
CAW	**Cannon Point**	**0.89**	**38**	P	**Pg**	**09 48 39.1**	**0.0**
CAW				S	**Sg**	**09 48 50.6**	**-0.1**
PAWZ	**Paruwai Farm**	**0.92**	**63**	P	**Pn**	**09 48 41.0**	**+0.6**
PAWZ				S	**Sn**	**09 48 55.8**	**+2.3**
NNZ	**Nelson**	**0.93**	**309**	P	**Pg**	**09 48 38.5**	**-1.3**
NNZ				S	**Sg**	**09 48 49.5**	**-2.5**
KIW	**Kapiti Island**	**1.04**	**25**	P	**Pb**	**09 48 41.0**	**-0.6**
KIW				S	**Sg**	**09 48 54.0**	**-1.5**
DUWZ	**D'Urville Isla**	**1.05**	**343**	P	**Pb**	**09 48 40.2**	**-1.7**
DUWZ				S	**Sb**	**09 48 52.8**	**-2.7**
THZ	**Tophouse**	**1.07**	**272**	P	**Pb**	**09 48 42.4**	**+0.3**
MTW	**Mount Morrison**	**1.09**	**54**	P	**Pn**	**09 48 43.0**	**+0.3**
MTW				S	**Sn**	**09 48 59.2**	**+1.7**
TRWZ	**Traveller**	**1.09**	**68**	P	**Pn**	**09 48 43.3**	**+0.6**
OGWZ	**Otaki Gorge**	**1.18**	**33**	P	**Pn**	**09 48 43.6**	**-0.2**
MRNZ	**Matariki Terra**	**1.25**	**289**	P	**Pn**	**09 48 45.1**	**+0.2**
MRNZ				S	**Sb**	**09 49 01.7**	**+0.5**
HOWZ	**Holdsworth Sta**	**1.27**	**45**	P	**Pn**	**09 48 45.3**	**+0.1**
TKNZ	**Takaka Hill**	**1.29**	**306**	P	**Pn**	**09 48 44.9**	**-0.5**
TMWZ	**Te Maipa**	**1.36**	**60**	P	**Pn**	**09 48 46.6**	**+0.1**
MRZ	**Mangatainoka R**	**1.48**	**40**	P	**Pn**	**09 48 48.2**	**+0.2**
GVZ	**Greta Valley S**	**1.50**	**219**	P	**Pg**	**09 48 50.0**	**-0.8**
TIWZ	**Tintock**	**1.56**	**49**	P	**Pn**	**09 48 49.0**	**-0.1**
CPWZ	**Castlepoint**	**1.67**	**58**	P	**Pg**	**09 48 57.0**	**+3.1**
QRZ	**Quartz Range**	**1.68**	**305**	P	**Pn**	**09 48 51.2**	**+0.5**
QRZ	**Quartz Range**	**1.68**	**305**	P	**Pn**	**09 48 51.3**	**+0.6**
PRWZ	**Pori Road**	**1.76**	**45**	P	**Pn**	**09 48 51.8**	**-0.1**
OHWZ	**Ohakea**	**1.77**	**25**	P	**Pn**	**09 48 53.2**	**+1.3**
POWZ	**Post Office Ro**	**1.78**	**38**	P	**Pn**	**09 48 52.1**	**-0.1**
LTZ	**Lake Taylor**	**1.81**	**237**	P	**Pn**	**09 48 54.1**	**+1.4**
BFZ	**Birch Farm**	**1.83**	**53**	P	**Pn**	**09 48 52.0**	**-0.8**
BFZ	**Birch Farm**	**1.83**	**53**	P	**Pn**	**09 48 52.2**	**-0.6**
AMCZ	**Amberley**	**1.85**	**222**	P	**Pb**	**09 48 54.3**	**-1.1**
AMCZ				P	**Pb**	**09 48 54.3**	**-1.1**
DSZ	**Denniston Nort**	**1.89**	**271**	P	**Pn**	**09 48 55.2**	**+1.4**
DVHZ	**Dannevirke**	**2.05**	**43**	P	**Pn**	**09 48 55.1**	**-0.7**
ANWZ	**Angora Road**	**2.10**	**51**	P	**Pn**	**09 48 55.8**	**-0.8**
WAZ	**Wanganui**	**2.11**	**14**	P	**Pn**	**09 48 59.2**	**+2.5**
OKCZ	**Okains Bay**	**2.13**	**206**	P	**Pb**	**09 48 57.9**	**-2.3**
TSZ	**Takapari Road**	**2.14**	**36**	P	**Pn**	**09 48 56.8**	**-0.3**
MQZ	**McQueen's Vall**	**2.26**	**213**	P	**Pn**	**09 48 58.9**	**+0.2**
OXZ	**Oxford**	**2.27**	**227**	P	**Pn**	**09 48 59.3**	**+0.3**
AKCZ	**Akaroa Harbour**	**2.31**	**206**	P	**Pn**	**09 49 00.3**	**+0.9**
PRHZ	**Porangahau**	**2.33**	**49**	P	**Pn**	**09 48 58.7**	**-0.9**
INZ	**Inchbonnie**	**2.33**	**246**	P	**Pn**	**09 49 01.1**	**+1.4**
LREZ	**Lake Rotokare**	**2.35**	**1**	P	**Pn**	**09 49 02.5**	**+2.5**
WPHZ	**Waipukurau**	**2.36**	**43**	P	**Pn**	**09 48 59.5**	**-0.7**
PNHZ	**Pukenui**	**2.36**	**37**	P	**Pn**	**09 48 59.7**	**-0.6**
NMEZ	**Namu Road**	**2.42**	**352**	P	**Pn**	**09 49 03.9**	**+3.0**
PREZ	**Palmer Road**	**2.47**	**357**	P	**Pn**	**09 49 04.3**	**+2.7**
KHEZ	**Kahui Hut**	**2.52**	**354**	P	**Pn**	**09 49 05.3**	**+2.8**
KHEZ	**Kahui Hut**	**2.52**	**354**	P	**Pn**	**09 49 04.8**	**+2.4**
NEZ	**North Egmont**	**2.54**	**356**	P	**Pn**	**09 49 05.1**	**+2.4**
NBEZ	**Newall Road No**	**2.56**	**352**	P	**Pn**	**09 49 04.2**	**+1.3**
MTVZ	**Mangateitei**	**2.57**	**20**	P	**Pb**	**09 49 07.9**	**+0.1**
PXZ	**Pawanui**	**2.61**	**48**	P	**Pn**	**09 49 02.2**	**-1.4**
DREZ	**Durham Road**	**2.62**	**358**	P	**Pn**	**09 49 06.0**	**+2.3**
PKE	**Pukeiti**	**2.63**	**354**	P	**Pn**	**09 49 05.0**	**+1.1**
MOVZ	**Moawhango**	**2.63**	**25**	P	**Pn**	**09 49 04.0**	**+0.1**
PKVZ	**Pokaka**	**2.63**	**17**	P	**Pn**	**09 49 05.5**	**+1.6**
KRHZ	**Kereru**	**2.66**	**36**	P	**Pn**	**09 49 03.4**	**-0.8**
WNVZ	**Wahianoa**	**2.66**	**22**	P	**Pn**	**09 49 05.2**	**+0.8**
BHHZ	**Black Hill Sta**	**2.67**	**30**	P	**Pn**	**09 49 04.3**	**0.0**
TRVZ	**Turoa**	**2.67**	**21**	P	**Pn**	**09 49 06.1**	**+1.4**
WHVZ	**Whangaehu Hut**	**2.70**	**21**	P	**Pn**	**09 49 05.9**	**+0.9**
VRZ	**Vera Road**	**2.70**	**7**	P	**Pn**	**09 49 06.1**	**+1.3**
MAVZ	**Matarangi**	**2.71**	**21**	P	**Pb**	**09 49 09.5**	**-0.6**
FWVZ	**Far West T-bar**	**2.72**	**20**	P	**Pn**	**09 49 06.2**	**+1.0**
MHEZ	**Mangahewa**	**2.73**	**360**	P	**Pn**	**09 49 08.4**	**+3.2**
TUVZ	**Tukino**	**2.73**	**22**	P	**Pn**	**09 49 06.1**	**+0.8**
COVZ	**Chateau Observ**	**2.77**	**20**	P	**Pn**	**09 49 07.5**	**+1.7**
KAHZ	**Kahuranaki**	**2.79**	**45**	P	**Pn**	**09 49 04.8**	**-1.3**
NGZ	**Nguruhoe**	**2.80**	**21**	P	**Pn**	**09 49 07.6**	**+1.3**
SNVZ	**South Ngauruho**	**2.80**	**21**	P	**Pn**	**09 49 07.2**	**+0.8**
WACZ	**Wakanui South**	**2.81**	**220**	P	**Pn**	**09 49 07.0**	**+0.7**
OTVZ	**Oturere**	**2.83**	**21**	P	**Pn**	**09 49 07.5**	**+0.8**
NNVZ	**North Ngauruho**	**2.85**	**20**	P	**Pn**	**09 49 08.1**	**+1.1**
WTVZ	**West Tongariro**	**2.86**	**20**	P	**Pn**	**09 49 08.2**	**+1.1**
TWVZ	**Taurewa**	**2.86**	**17**	P	**Pn**	**09 49 09.0**	**+1.9**
KWHZ	**Kaweka Forest**	**2.86**	**34**	P	**Pn**	**09 49 06.3**	**-0.9**
ETVZ	**East Tongariro**	**2.87**	**22**	P	**Pn**	**09 49 07.8**	**+0.5**
TMVZ	**Te Maari**	**2.89**	**22**	P	**Pn**	**09 49 08.0**	**+0.5**
KRVZ	**Karewarewa**	**2.89**	**21**	P	**Pn**	**09 49 08.7**	**+1.2**
NTVZ	**North Tongarir**	**2.90**	**21**	P	**Pn**	**09 49 08.2**	**+0.6**
WVZ	**Waitaha Valley**	**2.95**	**243**	P	**Pn**	**09 49 09.3**	**+1.2**
MCHZ	**McNeill Hill**	**2.97**	**38**	P	**Pn**	**09 49 07.5**	**-1.0**
KATZ	**Kakaramea**	**3.02**	**21**	P	**Pn**	**09 49 12.0**	**+2.7**
RITZ	**Rihia Road**	**3.06**	**23**	P	**Pb**	**09 49 15.3**	**-0.7**
RPZ	**Rata Peaks**	**3.08**	**231**	P	**Pn**	**09 49 10.8**	**+0.8**
RPZ	**Rata Peaks**	**3.08**	**231**	P	**Pn**	**09 49 10.6**	**+0.7**
BKZ	**Black Stump Fm**	**3.11**	**33**	P	**Pn**	**09 49 09.8**	**-0.7**
BKZ	**Black Stump Fm**	**3.11**	**33**	P	**Pn**	**09 49 09.4**	**-1.1**
RATZ	**Rangitukua**	**3.14**	**21**	P	**Pn**	**09 49 16.7**	**-0.7**
ARCZ	**Arundel**	**3.15**	**226**	P	**Pn**	**09 49 11.9**	**+0.8**
WAIZ	**Wairara**	**3.28**	**20**	P	**Pb**	**09 49 20.0**	**+0.2**
NMHZ	**Naumai**	**3.30**	**36**	P	**Pn**	**09 49 11.9**	**-1.3**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pn**	**09 49 15.3**	**+2.0**
HIZ	**Hauiti**	**3.32**	**7**	P	**Pn**	**09 49 14.8**	**+1.6**
MRHZ	**Matea Rd**	**3.37**	**29**	P	**Pn**	**09 49 12.8**	**-1.2**
MTHZ	**Maungataniwha**	**3.52**	**34**	P	**Pn**	**09 49 14.8**	**-1.4**
TMZ	**Timaru**	**3.54**	**222**	P	**Pn**	**09 49 17.4**	**+1.0**
ALRZ	**Allen Road**	**3.59**	**26**	P	**Pb**	**09 49 22.7**	**-2.4**
TLZ	**Tolley Road**	**3.60**	**15**	P	**Pn**	**09 49 19.4**	**+2.2**
FOZ	**Fox Glacier**	**3.75**	**241**	P	**Pn**	**09 49 20.6**	**+1.4**
RTZ	**Ruatahuna**	**3.78**	**33**	P	**Pn**	**09 49 18.3**	**-1.4**
MUGZ	**Murupara**	**3.82**	**30**	P	**Pn**	**09 49 19.3**	**-0.8**
LBZ	**Lake Benmore**	**3.98**	**228**	P	**Pn**	**09 49 23.6**	**+1.1**
URZ	**Urewera**	**4.14**	**32**	P	**Pn**	**09 49 24.0**	**-0.5**
TOZ	**Tahuroa Road**	**4.17**	**13**	P	**Pn**	**09 49 27.4**	**+2.4**
ODZ	**Otahua Downs**	**4.20**	**218**	P	**Pn**	**09 49 25.7**	**+0.2**
ODZ	**Otahua Downs**	**4.20**	**218**	P	**Pn**	**09 49 25.7**	**+0.2**
TWWZ	**Tauwhareparae**	**4.58**	**35**	P	**Pn**	**09 49 28.8**	**-1.9**
RUGZ	**Raukumara Rang**	**4.62**	**35**	P	**Pn**	**09 49 29.1**	**-2.2**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**09 49 32.0**	**+0.2**
JCZ	**Jackson Bay**	**4.66**	**239**	P	**Pn**	**09 49 32.5**	**+0.7**
MKAZ	**Moumakai**	**4.74**	**8**	P	**Pn**	**09 49 34.2**	**+1.3**
AWAZ	**Awhitu Peninsu**	**4.75**	**3**	P	**Pn**	**09 49 34.8**	**+1.9**
ETAZ	**East Tamaki Re**	**4.87**	**6**	P	**Pn**	**09 49 36.7**	**+2.1**
WTAZ	**Waiatarua**	**4.87**	**2**	P	**Pn**	**09 49 37.6**	**+2.9**
RVAZ	**Riverhead Bore**	**5.04**	**2**	P	**Pn**	**09 49 38.8**	**+1.9**
WIAZ	**Waiheke Island**	**5.05**	**7**	P	**Pn**	**09 49 39.3**	**+2.2**
MBAZ	**Motutapu North**	**5.05**	**5**	P	**Pn**	**09 49 39.1**	**+2.0**
KUZ	**Kuaotunu**	**5.17**	**12**	P	**Pn**	**09 49 40.0**	**+1.3**
KUZ	**Kuaotunu**	**5.17**	**12**	P	**Pn**	**09 49 43.5**	**+4.7**
WCZ	**Waipu Caves**	**5.86**	**0**	P	**Pn**	**09 49 50.4**	**+2.1**
SYZ	**Scrubby Hill**	**6.02**	**217**	P	**Pn**	**09 49 51.8**	**+1.4**
OUZ	**Omahuta**	**6.61**	**355**	P	**Pn**	**09 50 00.3**	**+1.9**
OUZ	**Omahuta**	**6.61**	**355**	P	**Pn**	**09 50 00.2**	**+1.7**

*IDC **30** 09:49:04.0±4.3, 24°.18S×179°.78W, h467km±38km, mb3.2/4, mbtmp4.1/4, Error ellipse: s-maj=42.2km s-min=33.0km az=17.0*

ISC 30 09:49:08.3±1.5, 24°.2S±0°.3×179°.9W±0°.2, h518km, n7, σ2s33/8, mb3.8/4, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**34.72**	**249**	P	**P**	**09 55 14.3**	**-0.5**
	1.4nm,0.4s,baz=98,slow=10.0,SNR=7.7						
	1.4nm,0.4s						
ASAR	**Alis Springs**	**42.10**	**261**	P	**P**	**09 56 14.6**	**-0.4**
	0.7nm,0.4s,baz=89,slow=6.7,SNR=20						
	0.7nm,0.4s						
WRA	**Warramunga Arr**	**42.51**	**266**	P	**P**	**09 56 17.8**	**-0.4**
	3.2nm,0.5s,baz=99,slow=7.1,SNR=109						
WRA				ScP	**ScP**	**10 01 05.4**	**+4.8**
	0.6nm,1.1s,baz=96,slow=3.9,SNR=4.5						
	3.2nm,0.5s						
QSPA	**South Pole Qui**	**65.86**	**180**	P	**P**	**09 59 02.5**	**+0.3**
	0.8nm,1.0s,baz=334,slow=3.9,SNR=1.4						
	0.8nm,1.0s						
HFS	**Hagfors**	**142.88**	**349**	PKP	**PKPdf**	**10 07 41.9**	**-0.3**
	1.7nm,0.4s,baz=43,slow=3.0,SNR=13						
AKASG	**Malin Array Be**	**145.31**	**327**	PKPbc	**PKPab**	**10 07 49.0**	**+0.1**
	0.2nm,0.3s,baz=44,slow=3.7,SNR=5.4						
TORD	**Torodi Ar. Bea**	**168.89**	**188**	PKP	**PKPdf**	**10 08 14.8**	**-1.8**
	0.1nm,0.3s,baz=125,slow=2.8,SNR=1.7						

IDC 30 09:51:42.0±5.8, 53°.81N×90°.67E, h0km, mbtmp3.0/2, ML2.8/2, Error ellipse: s-maj=60.2km s-min=28.8km az=42.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**3.46**	**275**	I	I	10 13 58.3	
	baz=90,slow=320,SNR=4.2						
ZALV	**Zalesovo Beam**	**3.46**	**275**	Pg	Pb	09 52 43.2	-0.9
	0.4nm,0.3s,baz=88,slow=16,SNR=4.0						
ZALV				Lg	Lg	09 53 31.9	
	1.9nm,0.3s,baz=90,slow=26,SNR=8.8						
KURBB	**Kurchatov Arra**	**8.11**	**252**	Pn	Pn	09 53 41.6	+0.8
	0.1nm,0.3s,baz=66,slow=14,SNR=3.8						
	0.6nm,0.4s						
MKAR	**Makanchi Array**	**8.83**	**221**	Pn	Pn	09 53 50.9	+0.1
	0.1nm,0.3s,baz=32,slow=12,SNR=2.6						
MKAR				Lg	Lg	09 56 13.0	
	0.1nm,0.3s,baz=30,slow=27,SNR=1.9						
	0.3nm,0.6s						
SONM	**Songino Array**	**11.60**	**115**	Lg	Lg	09 57 38.8	
	0.1nm,0.3s,baz=309,slow=28,SNR=2.3						

*NEIC **30** 09:54:01.9±1.1, 19°.37N±0°.02×155°.03W±0°.01, h5km±1km, Error ellipse: s-maj=4.2km s-min=2.8km az=154.0*

HVO 30 09:54:01.8±1.2, 19°.37N±0°.02×155°.02W±0°.02, h5km±4km, ML2.7/17, ML2.7/36(NEIC), Error ellipse: s-maj=3.9km s-min=1.0km az=145.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOKA	**Jonika Flow**	**0.06**	**14**		Pg	09 54 03.8	+0.4
JOKA					IAML	09 54 05.7	
	comp=E,5μm,0.7s						
NPOC	**North of Pu'u**	**0.09**	**283**		Pg	09 54 04.0	+0.2
STCH	**Steam Cracks**	**0.10**	**277**		Pg	09 54 04.1	+0.1
STCH					IAML	09 54 06.1	
	comp=E,3μm,0.3s						
PAH	**Pahoa**	**0.14**	**30**		Pg	09 54 04.5	-0.2
KNHH	**Kane Nui o Ham**	**0.14**	**272**		Pg	09 54 04.9	+0.1
PUH	**Pauahi**	**0.18**	**270**	Pg	Pg	09 54 05.5	-0.1
HATHI	**Halema'uma'u T**	**0.23**	**282**	Pg	Pg	09 54 06.8	+0.4
HATHI					IAML	09 54 12.2	
	comp=N,1μm,0.3s						
UWE	**Uwekahuna**	**0.26**	**280**	Pg	Pg	09 54 07.5	+0.6
UWE					IAML	09 54 14.4	
	comp=N,1μm,0.4s						
UWE					IAML	09 54 15.5	
	comp=E,2μm,0.3s						
HLP	**Hilina Pali**	**0.28**	**254**	Pg	Pg	09 54 07.9	+0.5
HLP					IAML	09 54 13.4	
	comp=E,2μm,0.2s						
MLH	**Mauna Loa**	**0.36**	**289**		Pg	09 54 09.3	+0.3
MLH					IAML	09 54 18.2	
	comp=E,1μm,0.2s						
MLH					IAML	09 54 19.0	
	comp=N,1μm,0.3s						
HMH	**Humu'ula Sheep**	**0.49**	**298**		Pg	09 54 11.3	-0.1
MLOA	**Mauna Loa Obse**	**0.55**	**287**		Pg	09 54 12.0	-0.5
MWH	**Moku'aweowe**	**0.56**	**282**		Pg	09 54 12.0	-0.6
MWH					IAML	09 54 21.1	
	comp=E,763nm,0.9s						
MWH					IAML	09 54 26.4	
	comp=N,712nm,0.5s						
KHU	**Kahuku**	**0.58**	**257**		Pg	09 54 12.3	-0.6
KHU					IAML	09 54 29.5	
	comp=E,376nm,0.5s						
KHU					IAML	09 54 31.0	
	comp=N,367nm,1.7s						
ALEP	**Alea Permanent**	**0.61**	**286**		Pg	09 54 12.7	-1.0
ALEP					Sg	09 54 21.7	0.0
POHA	**Pohakuloa**	**0.62**	**308**		Pg	09 54 12.8	-1.0
CPH	**Captain Cook**	**0.85**	**278**		Pg	09 54 17.0	-1.2

*HEL **30** 09:59:58.6±0.2, 64°.74N×30°.67E, h0km, ML1.7, Explosion IDC **30** 10:00:30.5±2.6, 64°.74N×30°.99E, h0km, mbtmp2.8/4, ML2.0/4, Error ellipse: s-maj=35.3km s-min=15.7km az=106.0*

ISC 30 09:59:57.9±1.0, 64°.77N±0°.02×30°.49E±0°.05, h0km, n28, σ1s12/35, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RMF	**Romuvaara**	**0.60**	**204**	PG	**Pg**	**10 00 09.9**	**+0.5**
RMF				MSG		10 00 18.1	
	comp=Z,12nm,0.2s						
RMF				SG	**Sg**	**10 00 18.1**	**+0.8**
KU6	**Riekki**	**1.28**	**349**	PG	**Pg**	**10 00 22.6**	**+0.1**
	baz=166						
KU6				MSG		10 00 38.8	
	comp=Z,4.2nm,0.2s						
KU6				SN	**Sn**	**10 00 41.6**	**+0.7**
MSF	**Maaselka**	**1.30**	**333**	PG	**Pn**	**10 00 23.3**	**+0.1**
	baz=149						
MSF				SB	**Sn**	**10 00 41.2**	**0.0**
OLKF	**Oulanka, Finla**	**1.62**	**344**	PG	**Pb**	**10 00 28.5**	**-0.1**
OLKF				MSG		10 00 48.6	
	comp=Z,5.3nm,0.2s						
OLKF				SN	**Sg**	**10 00 51.2**	**+1.3**
NIF	**Nilsia**	**1.82**	**222**	PG	**Pb**	**10 00 31.7**	**-0.3**
NIF				SG	**Sg**	**10 00 57.0**	**+0.8**
JOF	**Joensuu**	**1.90**	**169**	*e*P	**Pn**	**10 00 30.6**	**-0.8**
JOF	**Joensuu**	**1.90**	**169**	PG	**Pn**	**10 00 31.4**	**0.0**
JOF				SG	**Sn**	**10 00 55.8**	**-0.2**
OUL	**Oulu**	**1.98**	**281**	PG	**Pg**	**10 00 35.4**	**-0.3**
OUL				SG	**Sg**	**10 01 01.8**	**+0.3**
RANF	**Ranua**	**1.99**	**311**	PG	**Pg**	**10 00 35.6**	**-0.4**
	baz=123						
RANF				SG	**Sg**	**10 01 01.8**	**+0.1**
OBF4	**Vikkela, Lumij**	**2.31**	**274**	PG	**Pb**	**10 00 40.0**	**-0.3**
	baz=89						
OBF4				MSG		10 01 09.1	
	comp=Z,4.8nm,0.2s						
OBF4				SG	**Sg**	**10 01 11.5**	**-0.3**
OUF	**Merijarvi**	**2.52**	**263**	PB	**Pb**	**10 00 42.3**	**-1.5**
	baz=75						
OUF				SB	**Sb**	**10 01 14.3**	**-1.0**
OUF				MSG		10 01 15.0	
	comp=Z,5.0nm,0.2s						
RNF	**Rovaniemi**	**2.61**	**317**	PN	**Pb**	**10 00 43.8**	**-1.7**
RNF				SG	**Sg**	**10 01 20.8**	**-0.9**

UEES					IAML		10 10 43.8	
	comp=Z,370nm,1.0s							
PANCS	**Alcalda de**	**1.10**	**74**	*i* P	**Pb**	**10 10 25.3**	**0.0**
PANCS				*i* S	**Sn**	**10 10 41.6**	**+1.1**
PANCS				IAML		10 10 44.6	
	comp=Z,2μm,1.0s						
QUEZ	**Alcaldia de Qu**	**1.10**	**61**	*i* P	**Pn**	**10 10 25.8**	**+0.3**
QUEZ				*i* S	**Sn**	**10 10 41.1**	**+0.6**
QUEZ				IAML		10 10 43.1	
	comp=Z,3μm,1.0s						
LOMA	**Loma Larga**	**1.12**	**72**	*i* P	**Pn**	**10 10 26.1**	**+0.3**
LOMA				*i* S	**Sn**	**10 10 41.9**	**+0.8**
LOMA				IAML		10 10 44.4	
	comp=Z,480nm,1.0s						
FUG	**Fuego 3**	**1.27**	**334**	*e*P	**Pn**	**10 10 28.1**	**+0.2**
FUG				*e*S	**Sn**	**10 10 45.8**	**+1.0**
NBG	**Las Nubes**	**1.28**	**357**	*e*P	**Pg**	**10 10 30.1**	**+1.0**
GUNB	**GUNB**	**1.29**	**357**	*i* P	**Pn**	**10 10 28.3**	**0.0**
GUNB				IAML		10 10 29.1	
	comp=Z,330nm,1.0s						
COEG	**Centro de Oper**	**1.39**	**77**	*e*P	**Pb**	**10 10 30.0**	**-0.2**
COEG				*e*S	**Sb**	**10 10 46.1**	**-1.7**
COEG	**Centro de Oper**	**1.39**	**77**	*i* P	**Pn**	**10 10 29.9**	**+0.5**
COEG				*i* S	**Sg**	**10 10 48.7**	**-0.6**
COEG				IAML		10 10 51.8	
	comp=Z,320nm,1.0s						
TECO	**Alcaldia de Te**	**1.47**	**81**	*i* P	**Pn**	**10 10 30.4**	**-0.1**
TECO				*i* S	**Sn**	**10 10 49.4**	**-0.1**
TECO				IAML		10 10 54.5	
	comp=Z,160nm,1.0s						
UESV	**Universidad de**	**1.48**	**77**	*i* P	**Pn**	**10 10 31.1**	**+0.4**
UESV				IAML		10 11 04.3	
	comp=Z,350nm,1.0s						
ESQI	**Esquipulas**	**1.54**	**36**	*i* P	**Pb**	**10 10 32.4**	**-0.4**
ESQI				IAML		10 10 56.8	
	comp=Z,210nm,1.0s						
SCLA	**Alcaldia de Sa**	**1.55**	**75**	*i* P	**Pn**	**10 10 32.0**	**+0.3**
SCLA				*i* S	**Sg**	**10 10 53.4**	**-1.1**
SCLA				IAML		10 11 02.2	
	comp=Z,110nm,1.0s						
COEB	**Comit de Eme**	**1.70**	**83**	*e*P	**Pn**	**10 10 33.8**	**0.0**
COEB				*e*S	**Sn**	**10 10 54.9**	**-0.5**
COEB	**Comit de Eme**	**1.70**	**83**	*i* P	**Pn**	**10 10 33.6**	**-0.2**
COEB				*i* S	**Sn**	**10 10 54.9**	**-0.5**
COEB				IAML		10 10 59.3	
	comp=Z,180nm,1.0s						
RTAL	**Retalhuleu**	**1.84**	**311**	*i* P	**Pn**	**10 10 35.0**	**-0.7**
RTAL				IAML		10 11 23.9	
	comp=Z,180nm,1.0s						
MRL	**Marmol**	**1.85**	**18**	*e*P	**Pb**	**10 10 38.7**	**+0.4**
SOKI	**Kika Raxquin**	**1.87**	**324**	*i* P	**Pn**	**10 10 36.6**	**+0.2**
SOKI				IAML		10 11 05.9	
	comp=Z,190nm,1.0s						
STG3	**Santiaguito 3,**	**1.89**	**318**	*e*P	**Pn**	**10 10 36.7**	**+0.3**
STG3				*e*S	**Sn**	**10 11 00.6**	**+0.5**
QUIS	**Sacapulas**	**2.13**	**338**	*i* P	**Pb**	**10 10 42.0**	**-1.0**
QUIS				IAML		10 10 47.1	
	comp=Z,440nm,1.0s						
LCND	**La Caada**	**2.31**	**90**	*i* P	**Pn**	**10 10 42.7**	**+0.5**
LCND				IAML		10 11 19.3	
	comp=Z,110nm,1.0s						
COPN	**Copaltepe**	**3.76**	**107**	IAML		10 10 58.8	
	comp=Z,49nm,1.0s						
COPN				*i* P	**Pn**	**10 11 02.0**	**0.0**

SCB 30 10:10:35.9±1.2, 21°.43S×66°.79W, h223km±8km, ML3.4/3, MW3.7, Error ellipse: s-maj=4.8km s-min=3.3km az=2.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**1.09**	**81**	Pg	Pn	10 11 09.9	+0.7
MOCB				Sg	S	10 11 34.7	-0.4
MOCB				IAML		10 11 35.0	
	221nm,0.4s						
LVC	**Limon Verde**	**2.29**	**239**	Pg	Pn	10 11 20.6	+1.1
PB09	**IPOC Station P**	**2.31**	**260**	Pg	Pn	10 11 20.7	+1.2
PB08	**IPOC Station P**	**2.56**	**300**	Pg	Pn	10 11 23.4	+1.1
GO01	**Chusmiza**	**2.85**	**307**	Pg	Pn	10 11 26.0	+0.3
PB06	**IPOC Station P**	**2.87**	**243**	Pg	Pn	10 11 26.6	+1.1
SOEO	**Opoqueri**	**3.03**	**340**	Pg	Pn	10 11 29.0	+1.3
PB11	**IPOC Station P**	**3.16**	**301**	Pg	Pn	10 11 29.1	+0.3
PB11				Sg	S	10 12 09.4	-0.7
PB11				IAML		10 12 10.9	
	70nm,0.1s						
PB04	**IPOC Station P**	**3.25**	**253**	Pg	Pn	10 11 30.4	+0.6
PB04				Sg	S	10 12 10.7	-1.2
PB04				IAML		10 12 13.7	
	70nm,0.2s						
SOET	**ToroToro**	**3.42**	**16**	Pg	Pn	10 11 32.4	+0.3
AOEA	**Aiquile**	**3.55**	**25**	Pg	Pn	10 11 33.4	-0.2
PB10	**IPOC Station P**	**4.05**	**239**	Pg	Pn	10 11 39.5	+0.3
GO02	**Mina Guanaco**	**4.52**	**214**	Pg	Pn	10 11 45.9	+0.7
PB14	**IPOC Station P**	**4.60**	**226**	Pg	Pn	10 11 46.7	+0.5
SOEJ	**Jacaque**	**4.62**	**343**	Pg	Pn	10 11 47.8	+1.0
BBOE	**La Paz, Chanca**	**4.73**	**346**	Pg	Pn	10 11 49.0	+0.8
LPAZ	**La Paz**	**5.27**	**346**	Pg	Pn	10 11 55.5	+0.5

*TAP **30** 10:15:29.8, 24°.84N×122°.63E, h19km±1km, ML2.7, D*
*JMA **30** 10:15:30.6±0.4, 25°.3N×12°.3E±°, h14km, MV2.3/6, NW OFF ISHIGAKIJIMA IS*

ISC 30 10:15:29.6±1.0, 24°.83N±0°.03×122°.59E±0°.03, h16km±8km, n44, σ0°85/80, 2C-2D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYNG	**Yonagunijimaku**	**0.50**	**140**	*e*P	**Pg**	**10 15 39.4**	**-0.1**
JYNG				*e*S	**Sg**	**10 15 46.1**	**-0.1**
EOS2	**EOS2**	**0.53**	**219**	*e*P	**Pb**	**10 15 40.9**	**+0.5**
	baz=220						
EOS2				S	**Sb**	**10 15 48.4**	**+0.7**
	baz=220						
YOJ	**Yonaguni jima**	**0.53**	**134**	P	**Pb**	**10 15 40.4**	**-0.1**
YOJ				*e*S	**Sg**	**10 15 46.6**	**-0.7**
YOJ	**Yonaguni jima**	**0.53**	**134**	*e*P	**Pg**	**10 15 40.3**	**+0.1**
	baz=137						
YOJ				*i* S	**Sg**	**10 15 46.9**	**-0.4**
	baz=137						
TWB1	**Santiao Chiao**	**0.58**	**288**	P	**Pg**	**10 15 40.8**	**-0.3**
	baz=285						
TWB1				*e*S	**Sb**	**10 15 50.3**	**+1.0**
	baz=285						
EOS3	**EOS3**	**0.60**	**205**	*e*P	**Pb**	**10 15 42.4**	**+0.8**
	baz=206						
EOS3				*e*S	**Sg**	**10 15 48.7**	**-0.7**
	baz=206						
EGS		**0.60**	**271**	⇑P	**Pg**	**10 15 41.2**	**-0.3**
	baz=269						
EGS				*e*S	**Sb**	**10 15 51.2**	**+1.3**
	baz=269						
SXI1	**Grass Mountain**	**0.70**	**292**	*e*P	**Pg**	**10 15 42.7**	**-0.7**
	baz=290						
SXI1				*e*S	**Sb**	**10 15 54.8**	**+1.8**
	baz=290						
TIPB	**Shuangxi**	**0.71**	**281**	⇑P	**Pg**	**10 15 43.0**	**-0.5**
	baz=279						
TIPB				*e*S	**Sb**	**10 15 54.3**	**+1.1**
	baz=279						
TWC	**Suao**	**0.71**	**252**	P	**Pg**	**10 15 43.0**	**-0.5**
	baz=251						
TWC				*i* S	**Sb**	**10 15 53.4**	**+0.2**
	baz=251						
ESAO	**Su ao**	**0.73**	**250**	*i* P	**Pg**	**10 15 43.8**	**-0.1**
	baz=249						
ESAO				S	**Sb**	**10 15 53.9**	**+0.3**
	baz=249						
EOS4	**EOS4**	**0.75**	**200**	*e*P	**Pg**	**10 15 44.4**	**+0.1**
	baz=201						
EOS4				*e*S	**Sb**	**10 15 52.0**	**-1.9**
	baz=201						
ILA	**Ilan**	**0.77**	**265**	*e*P	**Pb**	**10 15 43.0**	**-1.6**
	baz=264						
ILA				S	**Sg**	**10 15 55.5**	**+0.6**
	baz=264						
NWF	**Wu-fen Shan**	**0.78**	**288**	*e*P	**Pb**	**10 15 44.0**	**-0.8**
	baz=286						
NWF				*e*S	**Sg**	**10 15 56.3**	**+1.3**
	baz=286						
WFSB	**Wu-fen Shan**	**0.78**	**288**	P	**Pb**	**10 15 44.7**	**0.0**
	baz=286						
WFSB				*e*S	**Sg**	**10 15 56.2**	**+1.2**
	baz=286						
NDS	**Dongshan**	**0.82**	**256**	*e*P	**Pb**	**10 15 44.1**	**-1.4**
	baz=255						
NDS				*i* S	**Sg**	**10 15 56.8**	**+0.3**
	baz=255						
EWUT	**Wuta**	**0.84**	**243**	*e*P	**Pb**	**10 15 44.9**	**-0.9**
	baz=242						
EWUT				*e*S	**Sb**	**10 15 56.0**	**-0.8**
	baz=242						
TWE	**Neicheng**	**0.85**	**263**	P	**Pb**	**10 15 46.1**	**+0.1**
	baz=261						
TWE				S	**Sb**	**10 15 57.4**	**+0.3**
	baz=261						
ENA	**Nanau**	**0.88**	**243**	*e*P	**Pb**	**10 15 45.4**	**-1.0**
	baz=242						
ENA				*e*S	**Sb**	**10 15 57.3**	**-0.6**
	baz=242						
FUSB	**Fushanzhiwuyua**	**0.92**	**266**	P	**Pb**	**10 15 46.7**	**-0.5**
	baz=264						
FUSB				*e*S	**Sb**	**10 15 59.0**	**-0.2**
	baz=264						
EAHA	**Aohua**	**0.93**	**237**	*e*P	**Pb**	**10 15 46.4**	**-0.8**
	baz=237						
EAHA				*e*S	**Sb**	**10 15 57.9**	**-1.4**
	baz=237						
TWA	**Mucha**	**0.93**	**279**	*e*P	**Pb**	**10 15 44.4**	**-3.0**
	baz=278						
TWA				*e*S	**Sb**	**10 15 58.7**	**-0.7**
	baz=278						
YM08	**YM08**	**0.98**	**291**	*e*P	**Pb**	**10 15 46.9**	**-1.3**
	baz=290						
YM08				S	**Sb**	**10 16 00.7**	**-0.2**
	baz=290						
YM01	**YM01**	**0.98**	**289**	*e*P	**Pb**	**10 15 48.5**	**+0.2**
	baz=287						
YM01				*e*S	**Sg**	**10 16 02.8**	**+1.3**
	baz=287						
NWLT	**Wulai**	**0.99**	**267**	*e*P	**Pb**	**10 15 49.0**	**+0.5**
	baz=266						
NWLT				*e*S	**Sb**	**10 16 02.1**	**+0.8**
	baz=266						
NDT	**Datong Townshi**	**1.01**	**257**	*e*P	**Pb**	**10 15 49.0**	**+0.2**
	baz=256						
NDT				*i* S	**Sb**	**10 16 02.2**	**+0.5**
	baz=256						
LATG	**Datong**	**1.01**	**253**	⇓P	**Pb**	**10 15 48.8**	**-0.1**
	baz=252						
LATG				*e*S	**Sg**	**10 16 03.2**	**+0.6**
	baz=252						
YHNB	**Yeheng**	**1.12**	**262**	P	**Pb**	**10 15 50.4**	**-0.2**
YHNB	**Yeheng**	**1.12**	**262**	*e*P	**Pb**	**10 15 49.8**	**-0.8**
	baz=261						
YHNB				*e*S	**Sb**	**10 16 04.8**	**-0.3**
	baz=261						
NACB	**Ninganchiao**	**1.12**	**234**	P	**Pb**	**10 15 50.7**	**+0.1**
NACB	**Ninganchiao**	**1.12**	**234**	⇓P	**Pb**	**10 15 50.7**	**+0.1**
	baz=234						
NACB				*e*S	**Sg**	**10 16 06.4**	**+0.4**
	baz=234						
NSK	**Sanguang**	**1.13**	**262**	P	**Pn**	**10 15 50.8**	**-0.1**
	baz=261						
NSK				*e*S	**Sb**	**10 16 04.0**	**-1.4**
	baz=261						
IRIF	**Iriomote-Funau**	**1.15**	**115**	*e*P	**Pb**	**10 15 51.6**	**+0.5**
NNSB	**Datong**	**1.17**	**250**	*e*P	**Pn**	**10 15 50.8**	**-0.7**
	baz=249						
NNSB				*e*S	**Sb**	**10 16 04.6**	**-2.0**
	baz=249						
LXIB	**Xiulin Townshi**	**1.35**	**233**	*e*P	**Pn**	**10 15 54.3**	**+0.4**
	baz=233						
NFF	**Wufeng Townshi**	**1.36**	**262**	*e*P	**Pn**	**10 15 54.0**	**+0.1**
	baz=261						
NFF				*e*S	**Sn**	**10 16 11.8**	**+0.1**
	baz=261						
FUSS	**Fushou**	**1.36**	**245**	*e*P	**Pb**	**10 15 54.9**	**0.0**
	baz=244						
WHF	**Hehuan Shan**	**1.39**	**241**	*e*P	**Pb**	**10 15 55.5**	**0.0**
	baz=240						
TWT	**Tachien**	**1.42**	**246**	*e*P	**Pn**	**10 15 55.2**	**+0.4**
	baz=246						
TWT				*e*S	**Sb**	**10 16 13.6**	**0.0**
	baz=246						
TDCB	**Techi**	**1.43**	**246**	*e*P	**Pn**	**10 15 54.6**	**-0.4**
	baz=246						
TDCB				*e*S	**Sn**	**10 16 13.4**	**-0.1**
	baz=246						
CHGB	**Renai**	**1.51**	**240**	*e*P	**Pn**	**10 15 56.8**	**+0.7**
	baz=239						
CHGB				*e*S	**Sn**	**10 16 14.9**	**-0.7**
	baz=239						
WUSB	**Renai**	**1.58**	**238**	*e*P	**Pb**	**10 15 58.9**	**+0.2**
	baz=238						
WUSB				*i* S	**Sn**	**10 16 17.4**	**0.0**
	baz=238						
SSLB	**Suanglung**	**1.82**	**236**	P	**Pb**	**10 16 03.1**	**+0.5**
YULB	**Yu-li**	**1.86**	**220**	P	**Pg**	**10 16 06.8**	**+1.4**

KOLA 30 10:28:34.7, 69°.08N×33°.19E, h0km, ML2.1, Murmansk region, Closed territories, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TERR	**Teriberka**	**0.70**	**79**	P	Pg	10 28 47.1	-0.9
TERR				S	Sg	10 28 56.1	-0.9
APA0	**Apatity Array**	**1.48**	**183**	S	Sg	10 29 20.1	-2.1
APA	**Apatity**	**1.52**	**177**	S	Sg	10 29 21.6	-1.8
VADS	**Vadso**	**1.70**	**310**	P	Pn	10 29 04.7	-0.9
VADS				S	Sn	10 29 26.6	-1.5
VADS	**Vadso**	**1.70**	**310**	*e*P	Pn	10 29 05.0	-0.6
VADS				*e*S	Sn	10 29 26.4	-1.6
VADS				IAML		10 29 28.1	
	comp=Z,5.8nm,0.2s						
KEV	**Kevo**	**2.29**	**290**	*e*P	Pn	10 29 13.1	-0.6
KEV				*e*S	Sn	10 29 42.4	-0.1
FAUS	**Fauske**	**6.87**	**264**	S	Sn	10 31 30.1	-5.0

HEL 30 10:28:37.8±0.1, 67°.84N×34°.10E, h0km, ML1.7, Explosion, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVZ	**Lovozero**	**0.22**	**75**	*e*P	Pg	10 28 41.7	-0.2
LVZ				*e*S	Sg	10 28 45.7	+1.0
VRF	**Varrio**	**1.71**	**269**	*e*P	Pn	10 29 07.7	-1.1
VRF				*e*SG	Sn	10 29 30.5	-0.8
VRF				MSG		10 29 35.3	
	comp=Z,7.1nm,0.1s						
OLKF	**Oulanka, Finla**	**2.39**	**232**	*e*P	Pn	10 29 18.2	+0.1
OLKF				*e*S	Sn	10 29 48.3	+0.2
OLKF				MSG		10 29 51.9	
	comp=Z,1.4nm,0.1s						
KU6	**Riekki**	**2.46**	**224**	*e*P	Pn	10 29 18.9	-0.2
KU6				*e*S	Sn	10 29 49.4	-0.6
KU6				MSG		10 29 51.0	
	comp=Z,3.7nm,0.1s						
MSF	**Maaselka**	**2.78**	**228**	*e*S	Sn	10 29 56.9	-0.9
RNF	**Rovaniemi**	**3.38**	**252**	*e*P	Pn	10 29 30.4	-1.3
RNF				*e*S	Sn	10 30 11.5	-0.9

*BJI **30** 10:30:39.0±0.0, 76°.30N×1°.80W, h5km, mb5.0/73, mB5.2/62, Ms5.1/65, Ms7 4.8/67*
*BER **30** 10:30:40.7±2.3, 76°.41N×2°.12W, h10km, mb(Pn)5.1, ML5.2(NAO)*
*MOS **30** 10:30:41.2±0.9, 76°.26N×1°.64W, h10km, mb5.3/84, MS4.4/32, Error ellipse: s-maj=16.1km s-min=3.6km az=95.5*
*IDC **30** 10:30:41.5±0.3, 76°.26N×1°.70W, h0km, mb4.9/37, mbtmp4.9/41, ML4.5/4, MS4.3/81, Error ellipse: s-maj=10.0km s-min=7.9km az=35.0*
*NEIC **30** 10:30:43.2, 76°.31N×1°.82W, h18km*
*NAO **30** 10:30:43.0±11.0, 76°.37N×2°.08W, h25km±103km, ML5.2*
*NEIC **30** 10:30:43.2, 76°.21N×1°.40W, h18km, Moment Tension Solution. Duration: 2s1 Moment tensor: Scale 10^17^Nm; Mrr0.92; Mθθ-0.84; Mφφ-0.08; Mrθ-0.24; Mθφ-0.32; Mφr0.41; Fault plane solution: M0 1.04000×10^17^ NP1: φs271.87000°, δ52.12000°, λ119.54000°. NP2: φs49.17000°, δ46.63000°, λ57.63000°. Principal axes: T 1.1194, Plg67.0000°, Azm245.0000°; N -0.1629, Plg23.0000°, Azm73.0000°; P -0.9565, Plg3.0000°, Azm341.0000°;*
*NEIC **30** 10:30:43.1±1.3, 76°.28N±0°.05×1°.9W±0°.3, h10km±1km, mb5.3/565, Ms_20 4.4/307, Mww5.3/30 Error ellipse: s-maj=10.8km s-min=8.0km az=118.0*
*GCMT **30** 10:30:44.1±0.1, 76°.31N±0°.01×1°.92W±0°.04, h12km, MW5.3/144, Moment Tensor Solution. s93, c155; s144, c267; Duration: 1s0 Moment tensor: Scale 10^17^ Nm; Mrr0.84±.01; Mθθ-0.85±.01; Mφφ0.01±.01; Mrθ0.02±.03; Mθφ-0.38±.01; Mφr0.31±.03; Best double couple: M0 9.97700×10^17^ NP1: φs51.00000°, δ52.00000°, λ65.00000°. NP2: φs268.00000°, δ44.00000°, λ118.00000°. Principal axes: T 0.9450, Plg70.0000°, Azm260.0000°; N 0.0630, Plg19.0000°, Azm67.0000°; P -1.0080, Plg4.0000°, Azm158.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*DNK **30** 10:30:44.6±3.9, 76°.28N×1°.45W, h36km±27km, mb5.4, ML4.2*
*FCIAR **30** 10:30:45.0, 76°.27N×0°.49W, h10km, station KLMR has station magnitude of 5.58*
*KOLA **30** 10:30:47.5, 76°.54N×0°.19W, h0km, ML3.4, Error ellipse: s-maj=60.2km s-min=43.0km az=100.0, Greenland sea*

ISC 30 10:30:42.0±0.5, 76°.28N±0°.03×1°.81W±0°.03, h5km±3km, h5km:pP-P,n1559,σ1s55/1306, mb5.2/422, MS4.4/282, 48C-34D, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**3.97**	**285**	*e*Pn	**Pn**	**10 31 41.7**	**-1.7**
DAG				*e*S	**Sn**	**10 32 25.8**	**-4.3**
DAG	**Danmarks Havn**	**3.97**	**285**	P	**Pn**	**10 31 39.3**	**-4.1**
DAG				S	**Sn**	**10 32 23.2**	**-7.0**
DAG	**Danmarks Havn**	**3.97**	**285**	P	**Pn**	**10 31 41.6**	**-1.7**
DAG				S	**Sn**	**10 32 25.8**	**-4.3**
DAG	**Danmarks Havn**	**3.97**	**285**	*i* P	**Pn**	**10 31 41.4**	**-1.9**
DAG				*i* S	**Sn**	**10 32 24.8**	**-5.3**
DAG				IAML		10 32 27.7	
	comp=Z,4μm,0.8s						
KBS	**Kingsbay**	**3.97**	**42**	Pn	**Pn**	**10 31 41.3**	**-2.1**
KBS				Sn	**Sn**	**10 32 22.2**	**-8.1**
KBS	**Kingsbay**	**3.97**	**42**	P	**Pn**	**10 31 41.0**	**-2.4**
KBS	**Kingsbay**	**3.97**	**42**	P	**Pn**	**10 31 41.0**	**-2.4**
KBS				S	Sn	10 32 19.8	-10
KBS	**Kingsbay**	**3.97**	**42**	*e*P	**Pn**	**10 31 41.4**	**-2.1**
KBS				*e*S	**Sn**	**10 32 22.9**	**-7.4**
KBS				IAML		10 32 26.6	
	comp=Z,1μm,0.3s						
KBS	**Kingsbay**	**3.97**	**42**	*e*P	**Pn**	**10 31 41.2**	**-2.1**
KBS				*e*S	**Sn**	**10 32 23.3**	**-7.0**
KBS	**Kingsbay**	**3.97**	**42**	*d* iP	**Pn**	**10 31 41.3**	**-2.1**
KBS	**Kingsbay**	**3.97**	**42**	*i* P	**Pn**	**10 31 41.3**	**-2.1**
KBS				*i* S	**Sn**	**10 32 22.1**	**-8.1**
BRBA	**Barentsburg A**	**3.99**	**56**	Pn	**Pn**	**10 31 43.4**	**-0.2**
BRBA				Sn	**Sn**	**10 32 25.1**	**-5.5**
BRBA	**Barentsburg A**	**3.99**	**56**	*e*	**Pn**	**10 31 44.0**	**+0.4**
BRBB	**Barentsburg B**	**4.00**	**55**	Pn	**Pn**	**10 31 43.6**	**-0.2**
BRBB				Sn	**Sn**	**10 32 25.2**	**-5.6**
BRBB	**Barentsburg B**	**4.00**	**55**	P	**Pn**	**10 31 42.0**	**-1.7**
BRBB				S	Sn	10 32 21.2	-10
BRBB	**Barentsburg B**	**4.00**	**55**	*e*P	**Pn**	**10 31 42.2**	**-1.6**
HSPB	**Hornsund (broa**	**4.08**	**71**	Pn	**Pn**	**10 31 42.4**	**-2.6**
HSPB	**Hornsund (broa**	**4.08**	**71**	*e*P	**Pn**	**10 31 44.0**	**-0.9**
HSPB	**Hornsund (broa**	**4.08**	**71**	P	**Pn**	**10 31 42.0**	**-2.9**
HSPB				S	**Sn**	**10 32 24.2**	**-8.7**
HSPB	**Hornsund (broa**	**4.08**	**71**	*e*P	**Pn**	**10 31 42.3**	**-2.6**
HSPB				IAML		10 32 27.5	
	comp=E,31nm,0.3s						
SPA0	**Spitsbergen Ar**	**4.45**	**56**	Pn	**Pn**	**10 31 49.0**	**-0.9**
	baz=246,slow=14						
SPA0				Sn	**Sn**	**10 32 35.8**	**-6.2**
	baz=253,slow=22						
SPA0	**Spitsbergen Ar**	**4.45**	**56**	Pn	**Pn**	**10 31 49.0**	**-0.9**
	baz=246,slow=14						
SPA0				Sn	**Sn**	**10 32 35.8**	**-6.2**
	baz=253,slow=22						
SPA0				IAML		10 32 45.6	
	comp=Z,155nm,0.6s						
SPA0	**Spitsbergen Ar**	**4.45**	**56**	⇑*i* P	**Pn**	**10 31 48.6**	**-1.3**
SPA0				*i* S	**Sn**	**10 32 37.1**	**-4.9**
SPITS	**Spitsbergen Ar**	**4.45**	**56**	Pn	**Pn**	**10 31 49.0**	**-0.9**
	baz=228,slow=10.0						
SPITS				Sn	**Sn**	**10 32 35.4**	**-6.6**
	baz=251,slow=15						
	comp=Z,76nm,0.3s						
SPB2	**Spitsbergen Ar**	**4.45**	**56**	Pn	**Pn**	**10 31 48.7**	**-1.3**
DBG	**Daneborg**	**5.08**	**256**	Pn	**Pn**	**10 31 57.7**	**-0.9**
DBG				Sn	**Sn**	**10 32 52.8**	**-4.7**
DBG	**Daneborg**	**5.08**	**256**	*e*P	**Pn**	**10 31 57.7**	**-0.9**
DBG				*e*S	**Sn**	**10 32 51.7**	**-5.8**
DBG	**Daneborg**	**5.08**	**256**	*i* P	**Pn**	**10 31 55.5**	**-3.1**
DBG				*i* S	**Sn**	**10 32 50.7**	**-6.8**
DBG				IAML		10 32 56.1	
	comp=Z,771nm,0.5s						
BJO1	**Bjornoya**	**5.54**	**98**	Pn	**Pn**	**10 32 03.6**	**-1.3**
BJO1	**Bjornoya**	**5.54**	**98**	*e*P	**Pn**	**10 32 04.1**	**-0.8**
JNW	**Jan Mayen West**	**5.59**	**203**	*e*P	**Pn**	**10 32 04.1**	**-1.5**
JNE	**Jan Mayen East**	**5.62**	**202**	*e*P	**Pn**	**10 32 04.5**	**-1.5**
JMIC	**Jan Mayen**	**5.64**	**203**	Pn	**Pn**	**10 32 04.7**	**-1.7**
JMIC				Sn	**Sn**	**10 33 03.3**	**-8.1**
JMIC	**Jan Mayen**	**5.64**	**203**	*e*P	**Pn**	**10 32 04.5**	**-1.8**
JMIC				*e*S	**Sn**	**10 33 03.7**	**-7.7**
JMIC	**Jan Mayen**	**5.64**	**203**	Pn	**Pn**	**10 32 04.9**	**-1.4**
	comp=Z,1μm,0.3s,baz=26,slow=3.0,SNR=781						
JMIC				Sn	**Sn**	**10 33 03.4**	**-7.9**
	comp=Z,138nm,0.3s,baz=27,slow=24,SNR=2.8						
JMI	**Jan Mayen**	**5.72**	**203**	Pn	**Pn**	**10 32 05.8**	**-1.6**
JMI				Sn	**Sn**	**10 33 06.2**	**-7.0**
JMI	**Jan Mayen**	**5.72**	**203**	*e*P	**Pn**	**10 32 05.8**	**-1.6**
JMI				*e*S	**Sn**	**10 33 07.0**	**-6.3**
NOR	**Nord**	**6.03**	**339**	Pn	**Pn**	**10 32 08.3**	**-3.3**
NOR				Sn	**Sn**	**10 33 15.4**	**-5.5**
NOR	**Nord**	**6.03**	**339**	*e*P	**Pn**	**10 32 08.7**	**-3.0**
NOR	**Nord**	**6.03**	**339**	*i* P	**Pn**	**10 32 08.2**	**-3.5**
NOR				*i* S	**Sn**	**10 33 13.3**	**-7.6**
NOR				IAML		10 33 26.0	
	comp=Z,300nm,0.8s						
HOPEN	**Hopen**	**6.30**	**75**	Pn	**Pn**	**10 32 15.2**	**0.0**
HOPEN	**Hopen**	**6.30**	**75**	*e*P	**Pn**	**10 32 13.3**	**-2.0**
HOPEN				IAML		10 32 23.5	
	comp=Z,55nm,0.3s						
HOPEN				*e*S	Sn	10 33 17.0	-10
HOPEN	**Hopen**	**6.30**	**75**	*e*P	**Pn**	**10 32 13.2**	**-2.1**
HOPEN				*e*S	Sn	10 33 17.1	-10
SCO	**Scoresbysund**	**8.14**	**235**	Pn	**Pn**	**10 32 36.7**	**-3.9**
SCO	**Scoresbysund**	**8.14**	**235**	P	**Pn**	**10 32 36.7**	**-3.9**
SCO	**Scoresbysund**	**8.14**	**235**	*i* P	**Pn**	**10 32 37.0**	**-3.6**
SCO				*i* S	Sn	10 34 00.7	-12
TRO	**Tromso**	**8.96**	**127**	Pn	**Pn**	**10 32 51.5**	**-0.

KEV	Kevo	10.53 113		Pn	Pn	10 33 14.0	+0.8		
KEV	Kevo	10.53 113		Pn	Pn	10 33 12.6	-0.6		
KEV	Kevo	10.53 113	*eP*		Pn	10 33 14.1	+0.8		
KEV	Kevo	10.53 113	P		Pn	10 33 12.6	-0.6		
SALU	Saltoluokta	10.86 135	*eP*		Pn	10 33 18.2	+0.4		
KONS	Konsvik	10.86 147	*eP*		Pn	10 33 18.7	+0.9		
HEF	Hetta	10.92 123	Pn		Pn	10 33 19.7	+1.1		
NEEM	North Greenlan	10.99 300	*i* P		Pn	10 33 15.3	-4.6		
NEEM			*i* S		Sn	10 35 08.5	-15		
NEEM			IAML			10 35 15.9			
	comp=Z,1μm,1.2s								
STOK	Stokkvaagen	11.01 147	Pn		Pn	10 33 20.9	+1.1		
STOK	Stokkvaagen	11.01 147	*eP*		Pn	10 33 20.8	+1.1		
MOR8	Moi Rana	11.35 145	*eP*		Pn	10 33 25.3	+0.8		
SOEG	Soedalen	11.94 243	*i* P		Pn	10 33 29.9	-2.6		
NSS	Namsos	12.61 152	*eP*		Pn	10 33 43.4	+1.7		
ICESG	Greenland Ices	13.09 257	*i* P		Pn	10 33 44.9	-3.6		
BORG	Borgarnes	13.16 219			Pn	10 33 48.4	-0.8		
BORG	Borgarnes	13.16 219	Pn		Pn	10 33 51.9	+2.6		
	comp=Z,2.6nm,0.3s,baz=22,slow=7.5,SNR=14								
BORG			Sn		Sn	10 36 16.7	+1.0		
	comp=Z,0.7nm,0.3s,baz=24,slow=7.6,SNR=2.1								
BORG			LR		LR	10 37 00.1			
	comp=Z,518nm,18.1s,baz=339,slow=29								
BORG	Borgarnes	13.16 219	P		Pn	10 33 48.4	-0.8		
APA0	Apatity Array	13.57 111	P		Pn	10 33 53.3	-1.5		
	baz=323,slow=11								
APA0	Apatity Array	13.57 111	P		Pn	10 33 53.3	-1.5		
	baz=323,slow=11								
TBLU	Trondheim	13.68 156	*eP*		Pn	10 33 56.8	+0.5		
APA	Apatity	13.69 111	ǁ *iP*		P	10 34 02.8	-2.5		
APA			pmax		pmax				
	comp=Z,35nm,0.8s								
LVZ	Lovozero	13.71 108	*d iP*		Pn	10 33 55.7	-1.0		
LVZ			pmax		pmax				
	comp=Z,78nm,1.3s								
NOD	Norderasen	14.01 148	*eP*		Pn	10 34 01.9	+1.0		
MOL	Molde	14.13 162	P		Pn	10 34 03.5	+1.1		
MSF	Maaselka	14.15 121	P		Pn	10 34 02.4	-0.4		
SOFL	Sornfelli, Far	14.39 190	*eP*		Pn	10 34 07.2	+1.2		
UPNV	Upernavik	14.42 284	*i* P		Pn	10 33 59.9	-6.5		
AKN	Aaknes	14.48 163	P		Pn	10 34 07.7	+0.5		
AKN	Aaknes	14.48 163	P		Pn	10 34 07.7	+0.5		
NUUG	Nuugaatsiaq	14.55 278	*i* P		Pn	10 34 01.8	-6.3		
DOMB	Dombas	14.77 160	*eP*		Pn	10 34 10.2	-1.0		
UMMG	Uummannaq	14.88 274	*i* P		Pn	10 34 04.5	-8.2		
FOO	Floro	14.94 167	*eP*		Pn	10 34 13.7	+0.3		
TULEG	Thule	15.01 304			Pn	10 34 07.4	-6.8		
TULEG	Thule	15.01 304	*i* P		Pn	10 34 05.8	-8.5		
HYA	Hoyanger	15.43 165	*eP*		Pn	10 34 20.3	+0.4		
SUE	Sulen	15.46 168	*eP*		Pn	10 34 20.3	-0.1		
VAF	Ylistaro	15.55 135	*eP*		Pn	10 34 20.9	-0.6		
NC204	NORSAR Array S	15.67 157			Pn	10 34 21.7	-1.5		
NC204	NORSAR Array S	15.67 157	*eP*		Pn	10 34 22.4	-0.8		
NC303	NORSAR Array S	15.78 156	*eP*		Pn	10 34 25.6	+1.1		
NBO00	NORSAR Array S	15.92 157	*eP*		Pn	10 34 27.6	+1.3		
NB201	NORSAR Array S	15.95 156	*eP*		Pn	10 34 26.8	+0.1		
NB2	NORSAR Subarra	15.95 156	P		Pn	10 34 25.8	-1.0		
	baz=343,slow=11								
NB2	NORSAR Subarra	15.95 156	P		Pn	10 34 25.8	-1.0		
	baz=343,slow=11								
NOA	NORSAR Array B	15.95 156	Pn		Pn	10 34 25.9	-0.8		
	comp=Z,0.1nm,0.3s,baz=347,slow=12,SNR=28								
NOA			LR		LR	10 40 10.7			
	comp=Z,726nm,20.2s,baz=345,slow=36								
NOA	NORSAR Array B	15.95 156	P		Pn	10 34 26.0	-0.8		
ASK	Askoy	16.06 167	*eP*		Pn	10 34 28.4	+0.3		
SKAR	Skarslia	16.06 162	*eP*		Pn	10 34 27.7	-0.4		
NAO01	NORSAR Array S	16.11 157	*eP*		Pn	10 34 29.6	+0.8		
BER	Bergen	16.16 167	*eP*		Pn	10 34 29.5	+0.1		
LRW	Lerwick	16.22 179	P		Pn	10 34 30.6	+0.4		
LRW	Lerwick	16.22 179	*eP*		Pn	10 34 30.3	+0.1		
LRW	Lerwick	16.22 179	*eP*		Pn	10 34 30.9	+0.7		
NC602	NORSAR Array S	16.28 156	*eP*		Pn	10 34 30.9	-0.1		
NRA0	NORESS Array S	16.28 156	P		Pn	10 34 30.9	-0.1		
	baz=349,slow=16								
NRA0	NORESS Array S	16.28 156	P		Pn	10 34 30.9	-0.1		
	baz=349,slow=16								
DY2G	Dye2	16.70 258	*i* P		Pn	10 34 31.7	-4.8		
ODD1	Odda	16.71 165	*eP*		P	10 34 38.5	-0.3		
KEF	Keuruu	16.75 133	*eP*		Pn	10 34 36.2	-0.7		
HFS	Hagfors	17.09 153	P		Pn	10 34 41.0	-0.2		
	slow=12								
HFS	Hagfors	17.09 153	P		Pn	10 34 41.0	-0.2		
	slow=12								
HFS	Hagfors	17.09 153	P		Pn	10 34 40.9	-0.3		
	comp=Z,2.7nm,0.3s,baz=358,slow=12,SNR=80								
	comp=Z,97nm,0.9s								
KONO	Kongsberg	17.18 160	Pn		Pn	10 34 41.3	-1.0		
KONO	Kongsberg	17.18 160	*eP*		Pn	10 34 42.2	-0.2		
KONO	Kongsberg	17.18 160	P		Pn	10 34 42.0	-0.3		
BLS5	Blasjo	17.18 166	*eP*		Pn	10 34 42.6	+0.2		
JOF	Joensuu	17.27 123	*eP*		Pn	10 34 41.8	-1.7		
SFJD	Kangerlussuaq	17.31 264	Pn		Pn	10 34 40.8	-3.1		
SFJD			IAmb		IAmb	10 34 42.1			
	comp=Z,256nm,1.7s								
SFJD	Kangerlussuaq	17.31 264	P		Pn	10 34 41.0	-2.9		
	comp=Z,39nm,0.6s,baz=47,slow=11,SNR=34								
SFJD			S		Sn	10 37 42.9	-13		
	comp=Z,18nm,0.6s,baz=28,slow=18,SNR=2.8								
SFJD			LR		LR	10 41 55.9			
	comp=Z,764nm,18.7s,baz=34,slow=39								
SFJD	Kangerlussuaq	17.31 264	P		Pn	10 34 40.8	-3.1		
SFJD			pmax		pmax				
	comp=Z,256nm,1.7s								
SFJD	Kangerlussuaq	17.31 264	*i* P		Pn	10 34 39.0	-4.9		
RAF	Rauma	17.31 139	*eP*		Pn	10 34 43.3	-0.6		
KMY	Karmoy	17.33 168	*eP*		P	10 34 45.8	+0.2		
FIA0	FINESS Array S	17.63 132	P		Pn	10 34 46.2	-1.7		
	baz=342,slow=14								
FIA0	FINESS Array S	17.63 132	P		Pn	10 34 46.2	-1.7		
	baz=342,slow=14								
FIA1	FINESS Array S	17.63 132	Pn		Pn	10 34 45.2	-2.7		
FIA1			IAmb		IAmb	10 34 50.7			
	comp=Z,387nm,1.2s								
FINES	FINESS Array B	17.63 132	P		Pn	10 34 46.2	-1.7		
FINES	FINESS Array B	17.63 132	P		Pn	10 34 46.4	-1.6		
	comp=Z,2.7nm,0.3s,baz=345,slow=14,SNR=50								
FINES			LR		LR	10 41 10.1			
	comp=Z,698nm,18.2s,baz=340,slow=36								
	comp=Z,59nm,0.7s								
UPP	Uppsala	17.83 147	*eP*		P	10 34 51.7	+0.5		
AAL	Aland	17.85 143	*eP*		Pn	10 34 50.3	-0.3		
ADZR	Andozero	17.85 112	*eP*		Pn	10 34 48.4	-2.3		
ADZR			pmax		pmax				
	comp=Z,95nm,0.8s								
LINV	Loch Inver, As	18.26 186	*eP*		Pn	10 34 55.5	-0.2		
LEWI	Lewis, Hebride	18.31 189	*eP*		P	10 34 56.5	+0.1		
SNART	Snartemo	18.31 165	*eP*		P	10 34 57.2	+0.8		
MEF	Metsahovi	18.50 136	*eP*		P	10 34 57.6	-0.9		
VALR	Valaam	18.60 125	*d iP*		P	10 34 59.4	-0.3		
VALR			pmax		pmax				
	comp=Z,108nm,0.9s								
MCD	Coleburn Disti	18.79 182	*eP*		P	10 35 01.2	-0.5		
VIKU	Vikbolandet	19.03 149	*eP*		Pn	10 35 04.9	-0.2		
KPL	Plockton	19.08 186	*eP*		P	10 35 04.9	+0.1		
KPL	Plockton	19.08 186	*eP*		Pn	10 35 06.5	+0.9		
SVZ	Severnaya Zeml	19.35 33	*eP*		Pn	10 35 08.8	0.0		
SVZ			S		Sn	10 38 30.5	-15		
DRUM	Mains of Drumt	19.45 181	*eP*		P	10 35 08.7	-0.3		
ARBE	Arbavere	19.50 134	*eP*		P	10 35 08.5	-1.0		
MTSE	Matsula	19.83 138	*eP*		P	10 35 13.0	-0.1		
NUUK	Nuuk	19.89 260	*i* P		P	10 35 13.6	-0.1		
NUUK			IAmb		IAmb	10 35 16.1			
	comp=Z,48nm,0.7s								
INVG	Invergeldie, C	19.96 184	*eP*		P	10 35 15.0	+0.5		
PUL	Pulkovo	19.96 128	ǁ *eP*		Pn	10 35 15.5	-0.7		
PUL			pmax		pmax				
	comp=Z,141nm,0.4s								
LAWE	Loch Awe, Argy	20.15 186	*eP*		P	10 35 16.9	+0.3		
LAWE			IAmb		IAmb	10 35 19.8			
	comp=Z,120nm,1.6s								
VSU	Vasula	20.55 134	*d iP*		P	10 35 20.7	-0.2		
VSU			pmax		pmax				
	comp=Z,365nm,1.7s								
PGBU	Glenifferbraes	20.58 184	*eP*		P	10 35 21.7	+0.5		
PGBU			IAmb		IAmb	10 35 27.2			
	comp=Z,81nm,1.0s								
SLIT	Slitere, Latvi	20.64 141	*eP*		P	10 35 21.7	-0.1		
DEL	Delary	20.71 155	*eP*		P	10 35 22.6	-0.1		
KLMR	Klimovskoe	20.85 115	*eP*		P	10 35 23.3	-0.8		
	comp=Z,169nm,1.0s								
KLMR	Klimovskoe	20.85 115	*d iP*		P	10 35 24.0	-0.1		
	comp=Z,169nm,1.0s								
			pmax		pmax				
EKA	Eskdalemuir Ar	21.04 182	P		P	10 35 26.4	+0.1		
EKA	Eskdalemuir Ar	21.04 182	P		P	10 35 26.4	+0.1		
EKA	Eskdalemuir Ar	21.04 182	P		P	10 35 26.4	+0.1		
	comp=Z,21nm,0.8s,baz=2.9,slow=9.6,SNR=39								
	comp=Z,21nm,0.8s								
ESK	Eskdalemuir	21.06 182	*eP*		P	10 35 26.4	0.0		
ESK			IAmb		IAmb	10 35 31.3			
	comp=Z,190nm,1.6s								
ESK			IAMs_20		IAMs_20	10 43 07.2			
	comp=Z,2μm,14.4s								
ESK	Eskdalemuir	21.06 182			P	10 35 27.1	+0.6		
ESK			IAmb		IAmb	10 35 31.6			
	comp=Z,154nm,1.6s								
ESK	Eskdalemuir	21.06 182	P		P	10 35 27.1	+0.6		
ESK			pmax		pmax				
	comp=Z,154nm,1.6s								
NRS	Narsarsuaq	21.08 248	P		P	10 35 27.0	+0.4		
NRS			IAmb		IAmb	10 35 32.0			
	comp=Z,185nm,0.9s								
NRS	Narsarsuaq	21.08 248	P		P	10 35 27.0	+0.4		
NRS			pmax		pmax				
	comp=Z,185nm,0.9s								
NRS	Narsarsuaq	21.08 248	*i* P		P	10 35 26.6	+0.1		
NRS			IAmb		IAmb	10 35 31.8			
	comp=Z,187nm,0.9s								
RES	Resolute Bay	21.13 313	P		P	10 35 25.7	-1.4		
RES	Resolute Bay	21.13 313	P		P	10 35 26.0	-1.1		
	comp=Z,51nm,0.9s,baz=39,slow=12,SNR=60								
RES			S		S	10 39 05.5	-17		
	comp=Z,18nm,0.6s,baz=132,slow=22,SNR=8.2								
RES			LR		LR	10 44 02.7			
	comp=Z,2μm,19.1s,baz=50,slow=38								
	comp=Z,51nm,0.9s								
RES	Resolute Bay	21.13 313	P		P	10 35 25.7	-1.4		
RES			pmax		pmax				
	comp=Z,52nm,1.0s								
NEWG	New Galloway	21.27 184	*eP*		P	10 35 28.6	-0.1		
NEWG			IAmb		IAmb	10 35 29.6			
	comp=Z,56nm,1.0s								
NEWG			IAMs_20		IAMs_20	10 44 03.0			
	comp=Z,2μm,10.7s								
IDGL	Inch Island, C	21.41 189	P		P	10 35 30.7	+0.6		
EDMD	Edmundbyers	21.54 180	*eP*		P	10 35 30.8	-0.8		
EDMD			IAmb		IAmb	10 35 34.4			
	comp=Z,67nm,1.0s								
EDMD			IAMs_20		IAMs_20	10 45 36.2			
	comp=Z,1μm,11.2s								
IVI	Ivigtut	21.65 252	P		P	10 35 33.3	+0.6		
IVI			IAmb		IAmb	10 35 37.1			
	comp=Z,123nm,0.8s								
IVI	Ivigtut	21.65 252	*i* P		P	10 35 35.1	+2.3		
IVI			IAmb		IAmb	10 35 36.8			
	comp=Z,122nm,0.8s								
KESW	Keswick, Cumbr	21.79 182	*eP*		P	10 35 34.2	-0.1		
KESW			IAmb		IAmb	10 35 40.3			
	comp=Z,406nm,1.6s								
KESW			IAMs_20		IAMs_20	10 43 44.6			
	comp=Z,1μm,15.9s								
PBUR	Paburge	22.14 143	*eP*		P	10 35 37.6	-0.4		
BSD	Bornholm Skovb	22.16 154	*eP*		P	10 35 37.9	-0.3		
ILTH	Belurgan, Co L	22.41 187	P		P	10 35 41.0	+0.1		
VSVD	Vaisvydziai	22.47 140	*eP*		P	10 35 42.4	+0.8		
PABE	Paberze	22.94 141	P		P	10 35 46.3	-0.2		
PABE	Paberze	22.94 141	*eP*		P	10 35 46.5	0.0		
IGLA	Glengowla, Co	23.14 192	P		P	10 35 48.9	+0.3		
ISAL	Salakas	23.21 138	*eP*		P	10 35 49.9	+0.6		
FOEL	Foel Wylfa	23.49 182	*eP*		P	10 35 52.0	-0.2		
FOEL			IAmb		IAmb	10 35 53.1			
	comp=Z,69nm,1.1s								
LLW	Llanuwychllyn	23.54 183	*eP*		P	10 35 51.7	-0.9		
LLW			IAMs_20		IAMs_20	10 45 48.4			
	comp=Z,740nm,13.6s								
IDID	Didziasalis	23.56 137	*eP*		P	10 35 53.4	+0.6		
NACGM	Naroch	23.96 137	*eP*		P	10 35 56.4	-0.4		
	comp=E,2μm,0.8s								
IWEX	Carrickbyrne,	24.08 187	P		P	10 35 58.3	+0.5		
FRB	Frobisher Bay	24.26 276	LR		LR	10 45 47.4			
	comp=E,1μm,19.1s,baz=30,slow=37								
SUW	Suwalki	24.27 143	*eP*		P	10 35 58.9	-0.7		
SUW	Suwalki	24.27 143	P		P	10 35 58.8	-0.7		
SUW	Suwalki	24.27 143	*eP*		P	10 35 59.0	-0.7		
SUW	Suwalki	24.27 143	P		P	10 35 58.8	-0.7		
SUW			pmax		pmax				
	comp=Z,166nm,0.9s								
MCH1	Michaelchurch	24.38 182	*eP*		P	10 36 00.6	-0.1		
MCH1			IAmb		IAmb	10 36 03.1			
	comp=Z,32nm,1.1s								
MCH1			IAMs_20		IAMs_20	10 44 46.3			
	comp=Z,1μm,17.5s								
MNK	Minsk	24.53 136	*i* P		P	10 36 01.4	-0.5		
	comp=E,23nm,0.9s								
MNK			*i* P		P	10 36 01.4	-0.5		
	comp=N,169nm,1.0s								
MNK			*i* P		P	10 36 01.4	-0.5		
	comp=Z,216nm,0.9s,baz=344								
MNK			*i* PP		PnPn	10 36 32.3	-0.2		
MNK			*i* S		S	10 40 23.9	+1.3		
MNK			*i* SS		SnSn	10 41 11.2	+4.8		
MNK			*i* LQ		LQ	10 43 40.8			
MNK			*i* LR		LR	10 45 32.8			
MNK	Minsk	24.53 136	*i* P		P	10 36 01.4	-0.5		
MNK			*i* PP		PnPn	10 36 32.2	-0.2		
MNK			*i* S		S	10 40 23.8	+1.3		
MNK			*i* SS		SnSn	10 41 11.1	+4.8		
MNK			pmax		pmax				
	comp=Z,216nm,0.9s								
MONM	Monmouth	24.54 181	*eP*		P	10 36 02.1	0.0		
RUE	Ruedersdorf	24.64 157	*eP*		P	10 36 04.2	+1.2		
VAL	Valentia	24.66 193	P		P	10 36 04.0	+0.9		
VAL	Valentia	24.66 193	P		P	10 36 03.3	+0.2		
KIRV	Kirov	25.11 106	P		P	10 36 06.3	-0.7		
	comp=Z,45nm,1.0s,baz=301,slow=4.5,SNR=14								
KIRV			S		S	10 40 32.3	+0.6		
	comp=Z,5.7nm,0.5s,baz=299,slow=5.6,SNR=1.4								
KIRV			LR		LR	10 45 29.8			
	comp=Z,674nm,20.5s,baz=326,slow=35								
	comp=Z,45nm,1.0s								
MOS	Moscow	25.16 122	*eP*		P	10 36 07.9	+0.3		
MOS			*e*			10 36 55.9			
MOS			*eS*		S	10 40 32.1	-0.5		
MOS			pmax		pmax				
	comp=Z,108nm,1.2s								
MOS			MLR		MLR				
	comp=Z,800nm,13.0s								
OBN	Obninsk	25.53 124	P		P	10 36 10.5	-0.4		
OBN	Obninsk	25.53 124	P		P	10 36 10.2	-0.7		
	comp=Z,16nm,0.4s,baz=14,slow=8.4,SNR=8.7								
OBN			LR		LR	10 45 45.5			
	comp=Z,564nm,21.4s,baz=346,slow=35								
	comp=Z,16nm,0.4s								
OBN	Obninsk	25.53 124	*de* P		P	10 36 10.1	-0.9		
OBN			*e*			10 36 44.9			
OBN			*eS*		S	10 40 42.2	+3.7		
OBN			pmax		pmax				
	comp=Z,83nm,1.7s								
OBN			MLR		MLR				
	comp=Z,636nm,16.0s								
CLL	Collm	25.73 158	P		P	10 36 11.9	-1.0		
CLL			IAmb		IAmb	10 36 15.2			
	comp=Z,55nm,1.1s								
CLL			IAMs_20		IAMs_20	10 45 08.6			
	comp=Z,809nm,21.0s								
CLL	Collm	25.73 158	*i* P		P	10 36 12.3	-0.6		
	comp=Z,63nm,1.2s								
CLL			*eS*		S	10 40 42.0	+0.2		
CLL	Collm	25.73 158	*i* P		P	10 36 12.3	-0.6		
CLL			*eS*		S	10 40 42.0	+0.2		
CLL			pmax		pmax				
	comp=Z,63nm,1.2s								
CLL	Collm	25.73 158	P		P	10 36 12.2	-0.6		
	comp=Z,49nm,1.3s,comp=Z,628nm								
SBD	Saint Breward	25.84 184	*eP*		P	10 36 13.9	+0.1		
MEM	Membach	25.95 169	*dP*		P	10 36 15.2	+0.3		
	comp=Z,21nm,1.1s								
MEM	Membach	25.95 169	P		P	10 36 16.0	+1.1		
BTNL	Ternell	25.98 168	*dP*		P	10 36 15.4	+0.2		
	comp=Z,17nm,1.1s								
BEL	Belsk	26.07 147	*eP*		P	10 36 16.9	+1.1		
BEL	Belsk	26.07 147	P		P	10 36 19.5	+3.7		
BCLA	Clavier	26.11 170	*dP*		P	10 36 16.8	+0.5		
BGES	Gesves	26.14 170	*dP*		P	10 36 17.0	+0.5		
BMRD	Maredsous	26.21 170	*dP*		P	10 36 17.5	+0.3		
BRG	Berggiesshubel	26.25 157	*eP*		P	10 36 17.6	0.0		
BRG			Amp			10 36 21.1			
	comp=Z,34nm,1.1s								
RCHB	Rochefort	26.37 170	*dP*		P	10 36 18.1	-0.5		
DOU	Dourbes	26.41 171	*dP*		P	10 36 19.9	+1.0		
HSKC	Hora Svate Kat	26.47 158	*eP*		P	10 36 19.7	+0.1		
HSKC			AMS		AMS	10 47 20.0			
	comp=Z,800nm,13.5s								
RICC	Richard	26.59 157	*eP*		P	10 36 21.7	+1.1		
RICC			AMS		AMS	10 47 20.0			
	comp=Z,700nm,13.3s								
PVCC	Panska Ves	26.65 156	AMS		AMS	10 47 00.0			
	comp=Z,900nm,13.0s								
CHVC	Chvalec	26.74 154	*eP*		P	10 36 22.7	+0.7		
CHVC	Chvalec	26.74 154	*eP*		P	10 36 22.7	+0.7		
NKC	Novy Kostel	26.75 159	*eP*		P	10 36 23.0	+0.9		
NKC			*eS*		S	10 40 57.6	-0.4		
NKC			AMS		AMS	10 47 00.0			
	comp=Z,900nm,15.3s								
NKC	Novy Kostel	26.75 159	*eP*		P	10 36 23.0	+0.9		
NKC			*eS*		S	10 40 57.6	-0.4		
NKC			MLR		MLR				
	comp=Z,900nm,15.3s								
OSTC	Ostas	26.79 154	*eP*		P	10 36 23.1	+0.7		
OSTC			*eS*		S	10 40 59.3	+0.8		
OSTC			AMS		AMS	10 47 10.0			
	comp=Z,800nm,14.6s								
OSTC	Ostas	26.79 154	*eP*		P	10 36 23.1	+0.7		
OSTC			*eS*		S	10 40 59.3	+0.8		
OSTC			MLR		MLR				
	comp=Z,800nm,14.6s								
UPC	Upice	26.82 154	*eP*		P	10 36 23.2	+0.5		
UPC			*eS*		S	10 40 53.9	-5.0		
UPC			AMS		AMS	10 47 10.0			
	comp=Z,800nm,14.1s								
UPC	Upice	26.82 154	*eP*		P	10 36 23.2	+0.5		
UPC			*eS*		S	10 40 53.9	-5.0		
UPC			MLR		MLR				
	comp=Z,800nm,14.1s								
WLF	Walferdange	26.91 169	*dP*		P	10 36 24.4	+1.0		
WLF	Walferdange	26.91 169	P		P	10 36 25.5	+2.0		
DPC	Dobruska-Polom	27.00 154	*eP*		P	10 36 25.1	+0.7		
DPC	Dobruska-Polom	27.00 154	*eP*		P	10 36 25.1	+0.7		
DPC			*e*			10 36 25.2			
PRA	Prague	27.09 157	*eP*		P	10 36 26.4	+1.3		
PRA			AMS		AMS	10 47 30.0			
	comp=Z,700nm,13.9s								
PRA	Prague	27.09 157	*eP*		P	10 36 26.4	+1.3		
PRA			MLR		MLR				
	comp=Z,700nm,13.9s								
PRU	Pruhonice	27.18 157	*eP*		P	10 36 26.5	+0.5		
PRU			*eS*		S	10 41 02.2	-2.5		
PRU			AMS		AMS	10 47 20.0			
	comp=Z,700nm,14.9s								
PRU	Pruhonice	27.18 157	*eP*		P	10 36 26.5	+0.5		
PRU			*eS*		S	10 41 02.2	-2.5		
PRU			MLR		MLR				
	comp=Z,700nm,14.9s								
GRA1	Grafenberg Arr	27.19 161	P		P	10 36 25.9	-0.2		
GRA1			IAmb		IAmb	10 36 27.9			
	comp=Z,36nm,1.0s								
GRA1			IAMs_20		IAMs_20	10 45 49.1			
	comp=Z,1μm,22.0s								
GRF	Grafenberg Arr	27.19 161	P		P	10 36 25.9	-0.2		
GRF			pmax		pmax				
	comp=Z,36nm,1.0s								
GRF			MLR		MLR				
	comp=Z,1μm,22.0s								
GRFO	Grafenberg	27.19 161	P		P	10 36 25.9	-0.2		
GRFO			IAmb		IAmb	10 36 27.8			
	comp=Z,42nm,1.1s								
GRFO			IAMs_20		IAMs_20	10 45 49.1			
	comp=Z,1μm,22.0s								
GRFO	Grafenberg	27.19 161	P		P	10 36 25.9	-0.2		
GRFO			pmax		pmax				
	comp=Z,42nm,1.1s								
GRFO			MLR		MLR				
	comp=Z,1μm,22.0s								
RNPP9	Sopachiv	27.20 140	P		P	10 36 25.6	-0.5		
RNPP8	Varash	27.27 141	P		P	10 36 26.2	-0.5		
GOPC	GO Pecny, Ondr	27.28 156	*eP*		P	10 36 27.7	+0.8		
GOPC			*ep*		pwP	10 36 30.9	-0.8		
GOPC			*eS*		S	10 41 07.3	+1.0		
GOPC			AMS		AMS	10 47 20.0			
	comp=Z,900nm,12.8s								
GOPC	GO Pecny, Ondr	27.28 156	*eP*		P	10 36 27.7	+0.8		
GOPC			*e*			10 36 30.9			
GOPC			*eS*		S	10 41 07.3	+1.0		
GOPC			MLR		MLR				
	comp=Z,900nm,12.8s								
KRLC	Kraliky	27.32 153	*eP*		P	10 36 27.4	+0.1		
KRLC			AMS		AMS	10 47 20.0			
	comp=Z,800nm,14.2s								
KRLC	Kraliky	27.32 153	*eP*		P	10 36 27.4	+0.1		
KRLC			MLR		MLR

CKRC	**Cesky Krumlov**	**28.32**	**157**	*e*P		**P**		**10 36 37.0**	**+0.8**	
CKRC				MLR		MLR				
	comp=Z,700nm,13.6s									
AK22	**Malin Array Si**	**28.33**	**137**	P		**P**		**10 36 35.2**	**-1.0**	
AK20	**Malin Array Si**	**28.34**	**137**	P		**P**		**10 36 35.3**	**-1.0**	
AK23	**Malin Array Si**	**28.34**	**137**	P		**P**		**10 36 35.3**	**-1.0**	
BFO	**Black Forest**	**28.35**	**166**	P		**P**		**10 36 36.5**	**0.0**	
BFO	**Black Forest**	**28.35**	**166**	P		**P**		**10 36 36.5**	**0.0**	
BFO				pmax		pmax				
	comp=Z,18nm,1.0s									
AK19	**Malin Array Si**	**28.36**	**137**	P		**P**		**10 36 35.5**	**-0.9**	
AK18	**Malin Array Si**	**28.37**	**137**	P		**P**		**10 36 35.4**	**-1.1**	
LPSR	**Galich'ya Gora**	**28.37**	**123**	*e*P		**P**		**10 36 34.4**	**-2.1**	
LPSR				pmax		pmax				
	comp=Z,70nm,0.9s									
NIE	**Niedzica**	**28.38**	**149**	*e*P		**P**		**10 36 36.5**	**-0.2**	
NIE	**Niedzica**	**28.38**	**149**	P		**P**		**10 36 37.3**	**+0.6**	
	comp=Z,10nm,1.1s,comp=Z,296nm									
AK04	**Malin Array Si**	**28.38**	**137**	P		**P**		**10 36 35.4**	**-1.3**	
AK03	**Malin Array Si**	**28.39**	**136**	P		**P**		**10 36 35.4**	**-1.3**	
ECH	**Echery**	**28.40**	**167**	P		**P**		**10 36 37.5**	**+0.6**	
ECH	**Echery**	**28.40**	**167**	P		**P**		**10 36 37.5**	**+0.6**	
ECH				pmax		pmax				
	comp=Z,27nm,1.0s									
ECH				MLR		MLR				
	comp=Z,400nm,22.0s									
CLF	**Chambon-Foret**	**28.40**	**174**	P		**P**		**10 36 37.0**	**+0.2**	
CLF				IAmb		IAmb		10 36 38.2		
	comp=Z,30nm,0.9s									
CLF				IAMs_20		IAMs_20		10 46 40.1		
	comp=Z,578nm,18.0s									
AKASG	**Malin Array Be**	**28.41**	**136**	P		**P**		**10 36 35.9**	**-1.0**	
	comp=Z,17nm,0.7s,baz=344,slow=9.5,SNR=63									
AKASG				PcP		**PcP**		**10 39 48.1**	**-0.7**	
	comp=Z,1.8nm,0.6s,baz=346,slow=2.7,SNR=5.9									
AKASG				LR		LR		10 47 33.8		
	comp=Z,1µm,19.6s,baz=342,slow=36									
	comp=Z,17nm,0.7s									
AKASG	**Malin Array Be**	**28.41**	**136**	*i* P		**P**		**10 36 35.7**	**-1.2**	
AKASG				pmax		pmax				
	comp=Z,18nm,0.7s									
AKBB	**Malin Array Si**	**28.41**	**136**	P		**P**		**10 36 35.7**	**-1.2**	
AKBB	**Malin Array Si**	**28.41**	**136***c*	*i*P		**P**		**10 36 35.8**	**-1.2**	
AKBB				pmax		pmax				
	comp=Z,34nm,1.0s									
AKBB	**Malin Array Si**	**28.41**	**136**	P		**P**		**10 36 36.1**	**-0.8**	
KIEV	**Kiev**	**28.42**	**136**	IAMs_20		IAMs_20		10 47 36.5		
	comp=Z,1µm,20.0s									
MI29	**MI29, Kamyanyy**	**28.47**	**138**	P		**P**		**10 36 36.6**	**-0.8**	
LVV	**L'vov**	**28.48**	**144**	*e*P		**P**		**10 36 37.3**	**-0.2**	
LVV				*e*S		**S**		**10 41 20.3**	**-4.8**	
LVV				MLR		MLR				
	comp=E,300nm,14.0s									
LVV				MLR		MLR				
	comp=Z,1µm,14.0s									
LVV				MLR		MLR				
	comp=N,1µm,14.0s									
KWP	**Kalwaria Pacla**	**28.48**	**146**	*e*P		**P**		**10 36 39.0**	**+1.4**	
KWP	**Kalwaria Pacla**	**28.48**	**146**	P		**P**		**10 36 38.3**	**+0.8**	
KWP				IAmb		IAmb		10 36 50.5		
	comp=Z,34nm,0.9s									
KWP				IAMs_20		IAMs_20		10 47 44.2		
	comp=Z,1µm,18.0s									
KWP	**Kalwaria Pacla**	**28.48**	**146**	P		**P**		**10 36 38.3**	**+0.8**	
KWP				pmax		pmax				
	comp=Z,34nm,0.9s									
KWP				MLR		MLR				
	comp=Z,2µm,18.0s									
KWP	**Kalwaria Pacla**	**28.48**	**146**	P		**P**		**10 36 38.3**	**+0.8**	
	comp=Z,42nm,1.2s									
STHS	**Stebnicka Huta**	**28.50**	**148**	*e*P		**P**		**10 36 38.4**	**+0.7**	
STHS	**Stebnicka Huta**	**28.50**	**148**	*e*P		**P**		**10 36 38.4**	**+0.7**	
STHS				pmax		pmax				
	comp=Z,20nm,1.1s									
JAVC	**Velka Javorina**	**28.62**	**153**	*e*P		**P**		**10 36 39.9**	**+1.0**	
SMOL	**Smolenice**	**28.93**	**153**	*e*P		**P**		**10 36 42.9**	**+1.3**	
LUBAR	**Lubar, Ukraine**	**28.93**	**139**	P		**P**		**10 36 40.3**	**-1.3**	
CRVS	**Cervenica-Dubn**	**29.03**	**148**	*e*P		**P**		**10 36 43.3**	**+0.8**	
CRVS	**Cervenica-Dubn**	**29.03**	**148**	*e*P		**P**		**10 36 43.3**	**+0.8**	
CRVS				pmax		pmax				
	comp=Z,25nm,1.4s									
MODS	**Modra-Piesok**	**29.06**	**153**	*e*P		**P**		**10 36 43.9**	**+1.2**	
MODS	**Modra-Piesok**	**29.06**	**153**	*e*P		**P**		**10 36 43.9**	**+1.2**	
MODS				pmax		pmax				
	comp=Z,56nm,1.1s									
KOLS	**Kolonicke sedl**	**29.10**	**146**	*e*P		**P**		**10 36 44.0**	**+0.9**	
KOLS	**Kolonicke sedl**	**29.10**	**146**	*e*P		**P**		**10 36 44.0**	**+0.9**	
KOLS				pmax		pmax				
	comp=Z,31nm,0.9s									
VYHS	**Vyhne**	**29.11**	**151**	*e*P		**P**		**10 36 43.7**	**+0.5**	
VYHS	**Vyhne**	**29.11**	**151**	*e*P		**P**		**10 36 43.7**	**+0.5**	
VYHS				pmax		pmax				
	comp=Z,13nm,1.2s									
ARU	**Arti**	**29.19**	**98**	P		**P**		**10 36 43.7**	**-0.1**	
ARU				IAmb		IAmb		10 36 45.7		
	comp=Z,38nm,0.9s									
ARU	**Arti**	**29.19**	**98**	P		**P**		**10 36 44.0**	**+0.2**	
	comp=Z,20nm,0.5s,baz=326,slow=4.8,SNR=40									
ARU				LR		LR		10 49 00.3		
	comp=Z,353nm,20.4s,baz=325,slow=38									
	comp=Z,20nm,0.5s									
ARU	**Arti**	**29.19**	**98***c*	*i*P		**P**		**10 36 44.3**	**+0.5**	
ARU				pmax		pmax				
	comp=Z,38nm,0.8s									
ARU	**Arti**	**29.19**	**98**	P		**P**		**10 36 43.5**	**-0.3**	
	comp=Z,58nm,0.8s,comp=Z,608nm									
ZST	**Bratislava**	**29.21**	**154**	*e*P		**P**		**10 36 45.5**	**+1.4**	
ZST	**Bratislava**	**29.21**	**154**	*e*P		**P**		**10 36 45.5**	**+1.4**	
MOA	**Molln**	**29.28**	**158**	*e*P		**P**		**10 36 45.3**	**+0.6**	
	comp=Z,14nm,1.1s									
SVE	**Sverdlovsk**	**29.32**	**96**	*e*P		**P**		**10 36 45.4**	**+0.5**	
SVE				*e*S		**S**		**10 41 43.4**	**+5.2**	
SVE				pmax		pmax				
	comp=Z,26nm,0.9s									
SVE				MLR		MLR				
	comp=Z,829nm,13.0s									
TIXI	**Tiksi**	**29.33**	**29**	P		**P**		**10 36 46.2**	**+1.3**	
TIXI	**Tiksi**	**29.33**	**29***d*	*i*P		**P**		**10 36 46.9**	**+2.0**	
TIXI				pmax		pmax				
	comp=Z,16nm,1.3s									
CONA	**Conrad Observa**	**29.35**	**155**	*e*P		**P**		**10 36 46.0**	**+0.6**	
	comp=Z,24nm,1.0s,SNR=15									
RETA	**Reutte**	**29.35**	**162**	*e*P		**P**		**10 36 46.3**	**+0.9**	
	comp=Z,15nm,1.1s,SNR=8.5									
BIOA	**Bad Ischl, Aus**	**29.38**	**158**	*e*P		**P**		**10 36 46.1**	**+0.5**	
	comp=Z,6.5nm,0.9s									
SSF	**Saint Saulge**	**29.40**	**173**	*e*P		**P**		**10 36 45.1**	**-0.7**	
SSF				pmax		pmax				
	comp=Z,42nm,1.1s									
DAVA	**Damuels**	**29.49**	**164**	*e*P		**P**		**10 36 47.7**	**+0.9**	
	comp=Z,26nm,1.0s,SNR=13									
MOTA	**Moosalm**	**29.52**	**162**	*e*P		**P**		**10 36 47.7**	**+0.7**	
	comp=Z,26nm,1.0s,SNR=16									
MOTA	**Moosalm**	**29.52**	**162**	P		**P**		**10 36 48.0**	**+1.0**	
LESA	**Schwarzleotal**	**29.56**	**160**	*i* P		**P**		**10 36 48.1**	**+0.9**	
	comp=Z,8.8nm,0.8s									
WATA	**Walderalm**	**29.56**	**161**	*e*P		**P**		**10 36 48.1**	**+0.7**	
	comp=Z,22nm,0.9s,SNR=8.5									
RONA	**Rosalia, Austr**	**29.62**	**155**	*e*P		**P**		**10 36 48.5**	**+0.8**	
	comp=Z,25nm,1.1s,SNR=9.8									
WTTA	**Wattenberg**	**29.64**	**161**	*i* P		**P**		**10 36 48.9**	**+0.9**	
	comp=Z,30nm,1.6s,SNR=8.5									
SQTA	**Sankt Quirin**	**29.65**	**162**	*e*P		**P**		**10 36 48.9**	**+0.8**	
	comp=Z,22nm,0.8s,SNR=9.3									
VSR	**Storozhevoye**	**29.73**	**124**	*e*P		**P**		**10 36 46.2**	**-2.4**	
VSR				pmax		pmax				
	comp=Z,20nm,1.1s									
MFF	**Saint Martin d**	**29.79**	**178**	*e*P		**P**		**10 36 48.3**	**-0.9**	
MFF				pmax		pmax				
	comp=Z,10.0nm,0.9s									
PSZ	**Piszkesteto**	**29.80**	**150**	⇓P		**P**		**10 36 50.6**	**+1.3**	
PSZ	**Piszkesteto**	**29.80**	**150**	P		**P**		**10 36 50.0**	**+0.6**	
PSZ				IAMs_20		IAMs_20		10 47 52.2		
	comp=Z,837nm,22.0s									
PSZ	**Piszkesteto**	**29.80**	**150**	P		**P**		**10 36 50.0**	**+0.6**	
PSZ				pmax		pmax				
	comp=Z,11nm,1.0s									
PSZ				MLR		MLR				
	comp=Z,800nm,22.0s									
FETA	**Feichten**	**29.81**	**163**	*e*P		**P**		**10 36 50.5**	**+0.9**	
	comp=Z,7.0nm,1.2s									
KBA	**Koelnbreinsper**	**29.96**	**159**	*e*P		**P**		**10 36 52.1**	**+1.2**	
	comp=Z,12nm,1.0s,SNR=13									
ARSA	**Arzberg**	**29.99**	**156**	*e*P		**P**		**10 36 51.9**	**+0.9**	
	comp=Z,9.1nm,0.8s,SNR=8.5									
DAVOX	**Davos/Dischmat**	**29.99**	**164**	P		**P**		**10 36 51.8**	**+0.5**	
	comp=Z,6.9nm,0.9s,baz=331,slow=11,SNR=11									
DAVOX				LR		LR		10 48 34.6		
	comp=Z,841nm,21.1s,baz=302,slow=36									
	comp=Z,6.9nm,0.9s									
VORD	**Divnogorie**	**30.00**	**124**	*e*P		**P**		**10 36 48.1**	**-2.9**	
VORD				pmax		pmax				
	comp=Z,10.0nm,0.6s									
KMPD	**K-Podol'skiy**	**30.06**	**141**	P		**P**		**10 36 50.3**	**-1.2**	
FUORN	**Ofenpass-Fuorn**	**30.18**	**163**	P		**P**		**10 36 53.4**	**+0.4**	
FUORN				PcP		**PcP**		**10 39 53.9**	**+0.2**	
FUORN				IAMs_20		IAMs_20		10 48 08.1		
	comp=Z,654nm,22.0s									
ABTA	**Abfaltersbach**	**30.22**	**160**	*i* P		**P**		**10 36 54.1**	**+0.9**	
	comp=Z,7.9nm,1.0s									
SENIN	**Lac Senin/Sane**	**30.26**	**167**	P		**P**		**10 36 54.2**	**+0.6**	
SENIN				IAmb		IAmb		10 37 59.5		
	comp=Z,73nm,1.5s									
VRH	**Novokhopyorsk**	**30.26**	**121**	*e*P		**P**		**10 36 51.5**	**-1.8**	
VRH				pmax		pmax				
	comp=Z,70nm,1.1s									
TUE	**Stuetta**	**30.27**	**165**	P		**P**		**10 36 54.6**	**+1.0**	
TUE				IAmb		IAmb		10 36 56.8		
	comp=Z,29nm,1.1s									
TUE				IAMs_20		IAMs_20		10 48 22.4		
	comp=Z,676nm,22.0s									
C36M	**Paulatuk**	**30.38**	**324**	P		**P**		**10 36 54.2**	**0.0**	
C36M				IAmb		IAmb		10 36 56.8		
	comp=Z,41nm,1.1s									
C36M				IAMs_20		IAMs_20		10 50 26.4		
	comp=Z,1µm,18.0s									
C36M	**Paulatuk**	**30.38**	**324**	P		**P**		**10 36 55.2**	**+1.1**	
	baz=24,SNR=24									
BELG	**Belogornoye**	**30.40**	**113**	P		**P**		**10 36 54.3**	**-0.2**	
	comp=Z,47nm,0.9s,baz=76,slow=8.3,SNR=10.0									
BELG				LR		LR		10 48 30.3		
	comp=Z,497nm,21.8s,baz=343,slow=35									
	comp=Z,47nm,0.9s									
BELG	**Belogornoye**	**30.40**	**113***c*	*i*P		**P**		**10 36 53.7**	**-0.8**	
BELG				pmax		pmax				
	comp=Z,13nm,1.0s									
MYKA	**Terra Mystica**	**30.43**	**159**	*e*P		**P**		**10 36 56.1**	**+1.1**	
	comp=Z,16nm,1.0s,SNR=7.5									
SOKA	**Soboth**	**30.51**	**157**	*i* P		**P**		**10 36 56.6**	**+0.9**	
	comp=Z,16nm,1.0s,SNR=22									
PERS	**Pernice**	**30.56**	**157**	*i* P		**P**		**10 36 57.1**	**+1.0**	
PRED	**Cave del Predi**	**30.61**	**159**	P		**P**		**10 36 57.1**	**+0.6**	
OBKA	**Obir**	**30.63**	**158**	*i* P		**P**		**10 36 57.9**	**+1.2**	
	comp=Z,36nm,1.3s,SNR=25									
OBKA	**Obir**	**30.63**	**158**	⇑*i*P		**P**		**10 36 57.5**	**+0.8**	
BUR08	**Bucovina Ar. S**	**30.77**	**143**	P		**P**		**10 36 58.0**	**+0.1**	
BURAR	**Bucovina Array**	**30.80**	**143**	⇑P		**P**		**10 36 59.4**	**+1.2**	
BURAR	**Bucovina Array**	**30.80**	**143**	P		**P**		**10 36 58.3**	**+0.1**	
MOZS	**Mozjanca**	**30.84**	**158**	*i* P		**P**		**10 36 59.6**	**+1.1**	
LPL	**La Plagne**	**31.07**	**168**	*e*P		**P**		**10 37 01.0**	**+0.2**	
LPL				pmax		pmax				
	comp=Z,8.0nm,0.7s									
JAVS	**Javornik**	**31.20**	**158**	*i* P		**P**		**10 37 02.2**	**+0.4**	
DRGR		**31.26**	**147**	⇑P		**P**		**10 37 02.7**	**+0.4**	
DRGR		**31.26**	**147**	P		**P**		**10 37 02.6**	**+0.4**	
MORH	**Mrgy, Hungar**	**31.34**	**152**	P		**P**		**10 37 03.4**	**+0.6**	
	comp=Z,7.4nm,1.4s									
CEY	**Cernica**	**31.38**	**158**	⇑*i*P		**P**		**10 37 03.5**	**+0.2**	
CRES	**Cresnjev**	**31.39**	**157**	⇑*i*P		**P**		**10 37 03.5**	**+0.1**	
MARR	**Marisel-Cluj**	**31.43**	**146**	⇓P		**P**		**10 37 04.1**	**+0.3**	
BNI	**Bardonecchia**	**31.53**	**168**	IAMs_20		IAMs_20		10 49 20.9		
	comp=Z,501nm,19.0s									
SKDS	**Skadanscina**	**31.54**	**159**	⇑*i*P		**P**		**10 37 04.2**	**-0.5**	
SIRR	**Siria**	**31.64**	**148**	⇑P		**P**		**10 37 06.5**	**+0.9**	
BOJS	**Bojanci**	**31.69**	**157**	⇑*i*P		**P**		**10 37 06.1**	**+0.1**	
SCHQ	**Schefferville**	**31.75**	**265**			**P**		**10 37 06.5**	**+0.1**	
SCHQ	**Schefferville**	**31.75**	**265**	P		**P**		**10 37 06.0**	**-0.4**	
	comp=Z,9.6nm,0.6s,baz=13,slow=7.7,SNR=21									
SCHQ				LR		LR		10 49 25.4		
	comp=Z,304nm,18.0s,baz=28,slow=35									
	comp=Z,9.6nm,0.6s									
A21K	**Barrow**	**31.82**	**345**	P		**P**		**10 37 07.6**	**+0.8**	
	baz=11									
KIS	**Kishinev**	**31.94**	**139**	*e*P		**P**		**10 37 07.0**	**-1.2**	
	comp=Z,27nm,1.2s									
KIS				*e*S		**S**		**10 42 20.0**	**+0.6**	
KIS				*e*L		L		10 47 10.0		
KIS				LRM		MLR		10 49 18.0		
	comp=Z,200nm,15.0s									
KIS	**Kishinev**	**31.94**	**139**	*e*P		**P**		**10 37 07.0**	**-1.2**	
KIS				*e*S		**S**		**10 42 20.0**	**+0.6**	
KIS				pmax		pmax				
	comp=Z,30nm,1.2s									
KIS				MLR		MLR				
	comp=Z,200nm,15.0s									
MILM	**Milestii Mici**	**32.02**	**139**	*e*P		**P**		**10 37 07.7**	**-1.1**	
	comp=Z,50nm,1.1s									
MILM	**Milestii Mici**	**32.02**	**139**	*e*PP		PP		10 38 08.0	-13	
MILM				*i* S		**S**		**10 42 18.0**	**-2.6**	
	comp=Z,500nm,14.5s									
MILM				*e*L		L		10 46 16.0		
MILM				LRM		MLR		10 49 12.0		
	comp=Z,500nm,15.0s									
MILM	**Milestii Mici**	**32.02**	**139**	*e*P		**P**		**10 37 07.7**	**-1.1**	
MILM				*i* S		**S**		**10 42 18.0**	**-2.6**	
MILM				pmax		pmax				
	comp=Z,50nm,1.1s									
MILM				smax		smax				
	comp=N,500nm,14.5s									
MILM				MLR		MLR				
	comp=E,500nm,15.0s									
MILM				MLR		MLR				
	comp=Z,700nm,15.0s									
A22K	**Sinclair Lake**	**32.03**	**344**	P		**P**		**10 37 09.3**	**+0.7**	
	baz=12									
TESR	**Tescani**	**32.09**	**142**	⇑P		**P**		**10 37 09.3**	**-0.1**	
BZS	**Buzias**	**32.28**	**149**	⇓P		**P**		**10 37 12.0**	**+0.9**	
BZS	**Buzias**	**32.28**	**149**	P		**P**		**10 37 12.0**	**+0.9**	
C26K	**Camden Bay**	**32.29**	**337**	P		**P**		**10 37 11.8**	**+0.8**	
	baz=16									
A051A	**Mrakovica**	**32.34**	**155**	⇑*i*P		**P**		**10 37 11.9**	**+0.1**	
MSSA	**Maissana**	**32.42**	**165**	P		**P**		**10 37 13.0**	**+0.5**	
MSSA				IAmb		IAmb		10 37 15.2		
	comp=Z,37nm,1.1s									
C27K	**Jago River**	**32.46**	**336**	P		**P**		**10 37 13.8**	**+1.3**	
	baz=16,SNR=9.9									
ZCCA	**Zocca**	**32.49**	**163**	P		**P**		**10 37 14.1**	**+1.0**	
ZCCA				IAmb		IAmb		10 37 34.7		
	comp=Z,27nm,1.0s									
FRGS	**Fruska Gora**	**32.51**	**151**	⇓P		**P**		**10 37 14.5**	**+1.3**	
FRGS	**Fruska Gora**	**32.51**	**151**	⇑*i*P		**P**		**10 37 14.0**	**+0.8**	
D27M	**Malcolm River**	**32.55**	**334**	IAmb		IAmb		10 37 23.1		
	comp=Z,42nm,1.4s									
D27M	**Malcolm River**	**32.55**	**334**	P		**P**		**10 37 13.6**	**+0.3**	
	baz=17									
B22K	**Teshekpuk Lake**	**32.57**	**343**	P		**P**		**10 37 13.8**	**+0.4**	
B22K				IAmb		IAmb		10 37 16.2		
	comp=Z,33nm,1.1s									
B22K	**Teshekpuk Lake**	**32.57**	**343**	P		**P**		**10 37 14.3**	**+0.9**	
	baz=12,SNR=9.9									
INK	**Inuvik**	**32.60**	**329**	P		**P**		**10 37 14.2**	**+0.5**	
INK				IAmb		IAmb		10 37 15.8		
	comp=Z,43nm,0.8s									
INK	**Inuvik**	**32.60**	**329**	P		**P**		**10 37 14.3**	**+0.5**	
	baz=19,SNR=48									
INK	**Inuvik**	**32.60**	**329**	LR		LR		10 52 41.8		
	comp=Z,439nm,19.6s,baz=12,slow=40									
INK	**Inuvik**	**32.60**	**329**	P		**P**		**10 37 14.2**	**+0.5**	
INK				pmax		pmax				
	comp=Z,43nm,0.9s									
BLY	**Banja Luka**	**32.63**	**155**	⇑*i*P		**P**		**10 37 14.8**	**+0.6**	
VLC	**Villacollemand**	**32.64**	**164**	P		**P**		**10 37 14.3**	**-0.1**	
GHRR		**32.64**	**141**	⇓P		**P**		**10 37 14.9**	**+0.6**	
COVR	**Voineasa-Covas**	**32.67**	**143**	⇑P		**P**		**10 37 16.1**	**+1.5**	
VRI	**Vrincioaia**	**32.73**	**142**	⇑P		**P**		**10 37 15.3**	**+0.1**	
VRI	**Vrincioaia**	**32.73**	**142**	P		**P**		**10 37 15.2**	**+0.1**	
PLOR	**Plostina**	**32.73**	**142**	⇑P		**P**		**10 37 15.8**	**+0.6**	
PLOR	**Plostina**	**32.73**	**142**	P		**P**		**10 37 15.7**	**+0.6**	
C24K	**Franklin Bluff**	**32.81**	**339**	P		**P**		**10 37 17.2**	**+1.7**	
	baz=14,SNR=28									
A050A	**Klekovaca**	**32.83**	**155**	⇑*i*P		**P**		**10 37 17.0**	**+0.9**	
C23K	**Itkillik River**	**32.86**	**341**	P		**P**		**10 37 16.9**	**+0.9**	
C23K				IAMs_20		IAMs_20		10 52 04.9		
	comp=Z,456nm,18.0s									
C23K	**Itkillik River**	**32.86**	**341**	P		**P**		**10 37 17.7**	**+1.7**	
	baz=13,SNR=52									
MGRS	**Mrkonjic Grad**	**32.95**	**155**	*e*P		**P**		**10 37 18.1**	**+1.1**	
MLR	**Muntele Rosu**	**32.98**	**143**	⇑P		**P**		**10 37 19.1**	**+1.7**	
MLR	**Muntele Rosu**	**32.98**	**143**	IAMs_20		IAMs_20		10 50 25.4		
	comp=Z,2µm,19.0s									
MLR	**Muntele Rosu**	**32.98**	**143**	P		**P**		**10 37 18.9**	**+1.5**	
	comp=Z,11nm,1.1s,baz=90,slow=24,SNR=7.2									
MLR				LR		LR		10 50 35.5		
	comp=Z,1µm,20.6s,baz=0.0,slow=36									
	comp=Z,11nm,1.1s									
MLR	**Muntele Rosu**	**32.98**	**143**	P		**P**		**10 37 19.1**	**+1.7**	
D25K	**Kavik River**	**33.00**	**338**	IAmb		IAmb		10 37 19.5		
	comp=Z,28nm,1.1s									
D25K	**Kavik River**	**33.00**	**338**	P		**P**		**10 37 18.5**	**+1.3**	
	baz=15									
E28M	**Babbage River**	**33.01**	**333**	P		**P**		**10 37 18.3**	**+1.0**	
E28M				IAmb		IAmb		10 37 20.1		
	comp=Z,34nm,0.9s									
E28M	**Babbage River**	**33.01**	**333**	P		**P**		**10 37 18.4**	**+1.1**	
	baz=17,SNR=23									
E29M	**Blow River**	**33.04**	**332**	IAMs_20		IAMs_20		10 53 10.8		
	comp=Z,507nm,20.0s									
E29M	**Blow River**	**33.04**	**332**	P		**P**		**10 37 18.9**	**+1.3**	
	baz=18,SNR=66									
TEKS	**Tekeris**	**33.08**	**152**	*e*P		**P**		**10 37 18.2**	**0.0**	
MDVR	**Moldovita**	**33.11**	**149**	⇑P		**P**		**10 37 18.9**	**+0.4**	
B20K	**Meade River**	**33.15**	**345**	IAmb		IAmb		10 37 27.7		
	comp=Z,40nm,1.4s									
B20K	**Meade River**	**33.15**	**345**	P		**P**		**10 37 19.7**	**+1.2**	
	baz=10									
A19K	**Wainwright**	**33.18**	**347**	P		**P**		**10 37 20.2**	**+1.4**	
	baz=8.9									
B21K	**Ikpikpuk River**	**33.36**	**343**	IAmb		IAmb		10 37 22.8		
	comp=Z,37nm,1.1s									
B21K				IAMs_20		IAMs_20		10 51 55.4		
	comp=Z,452nm,18.0s									
B21K	**Ikpikpuk River**	**33.36**	**343**	P		**P**		**10 37 21.9**	**+1.5**	
	baz=11									
D24K	**Happy Valley**	**33.38**	**339**	P		**P**		**10 37 22.0**	**+1.5**	
	baz=14,SNR=12									
F31M	**Tsiigehtchic**	**33.45**	**329**	IAMs_20		IAMs_20		10 53 04.7		
	comp=Z,632nm,18.0s									
F31M	**Tsiigehtchic**	**33.45**	**329**	P		**P**		**10 37 21.8**	**+0.6**	
	baz=19,SNR=42									
HAPS	**Han Pijesak,Bl**	**33.47**	**152**	*e*P		**P**		**10 37 22.4**	**+0.7**	
F30M	**Barrier River**	**33.54**	**330**	P		**P**		**10 37 22.7**	**+0.8**	
	baz=18,SNR=26									
CFR	**Carcaliu**	**33.61**	**140**	⇓P		**P**		**10 37 22.7**	**-0.1**	
CFR	**Carcaliu**	**33.61**	**140**	P		**P**		**10 37 22.6**	**-0.1**	
E27K	**Coleen River**	**33.63**	**334**	P		**P**		**10 37 23.5**	**+0.6**	
E27K				IAmb		IAmb		10 37 25.6		
	comp=Z,30nm,0.9s									
E27K	**Coleen River**	**33.63**	**334**	P		**P**		**10 37 24.1**	**+1.2**	
	baz=16,SNR=24									
D23K	**Nanushuk River**	**33.71**	**340**	P		**P**		**10 37 25.2**	**+1.8**	
	baz=13									
BBLS	**Lazi&#263i**	**33.74**	**152**	⇑*i*P		**P**		**10 37 23.6**	**-0.4**	
C21K	**Knifeblade Rid**	**33.83**	**343**	P		**P**		**10 37 25.9**	**+1.4**	
	baz=11,SNR=11									
TOLK	**Toolik Lake Re**	**33.94**	**340**	P		**P**		**10 37 26.3**	**+0.9**	
TOLK				IAmb		IAmb		10 37 27.8		
	comp=Z,28nm,1.1s									
TOLK	**Toolik Lake Re**	**33.94**	**340**	P		**P**		**10 37 26.6**	**+1.1**	
	baz=13,SNR=20									
FDMO	**Fiordimonte**	**33.

comp=Z,15nm,0.8s
H31M Peel River 35.09 328 IAmb IAmb 10 37 36.9
comp=Z,47nm,1.2s
H31M IAMs_20 IAMs_20 10 52 33.9
comp=Z,707nm,20.0s
H31M Peel River 35.09 328 P **P** **10 37 35.7 +0.3**
baz=18,SNR=34
POLO Lamas de Olo 35.10 188 *e*P **P** **10 37 36.8 +0.9**
comp=Z,11nm,1.4s
BVAR Borovoye Array 35.11 89 P **P** **10 37 36.2 +0.5**
comp=Z,16nm,0.8s,baz=330,slow=8.7,SNR=57
BVAR PP **PnPn** **10 38 52.7 0.0**
comp=Z,12nm,0.8s,baz=336,slow=10,SNR=5.4
BVAR PcP **PcP** **10 40 07.1 +0.3**
comp=Z,2.4nm,0.6s,baz=356,slow=3.0,SNR=2.1
BVAR LR LR 10 55 16.9
comp=Z,663nm,18.6s,baz=333,slow=42
comp=Z,16nm,0.8s
PDG Podgorica 35.14 152 ⇑P **P** **10 37 36.8 +0.7**
PDG Podgorica 35.14 152 P **P** **10 37 36.1 0.0**
PDG Podgorica 35.14 152 *e*P **P** **10 37 35.8 -0.2**
H29M Whitestone 35.18 331 IAmb IAmb 10 37 38.4
comp=Z,58nm,1.0s
H29M IAMs_20 IAMs_20 10 52 48.2
comp=Z,489nm,19.0s
H29M Whitestone 35.18 331 P **P** **10 37 36.7 +0.6**
baz=17,SNR=44
YKA Yellowknife Ar 35.20 312 P **P** **10 37 36.5 +0.2**
YKA Yellowknife Ar 35.20 312 P **P** **10 37 36.8 +0.4**
comp=Z,9.2nm,0.9s,baz=19,slow=9.5,SNR=68
YKA PcP **PcP** **10 40 07.3 +0.3**
comp=Z,7.5nm,0.6s,baz=13,slow=3.4,SNR=26
YKA LR LR 10 52 14.0
comp=Z,1μm,18.7s,baz=32,slow=37
comp=Z,9.2nm,0.9s
YKA Yellowknife Ar 35.20 312 *i* P **P** **10 37 36.7 +0.4**
YKA pmax pmax
comp=Z,10.0nm,0.9s
F22K John River 35.26 341 P **P** **10 37 37.8 +0.9**
baz=12
C16K Lisburne Hills 35.31 349 P **P** **10 37 37.4 +0.2**
C16K IAMs_20 IAMs_20 10 49 40.8
comp=Z,551nm,21.0s
C16K Lisburne Hills 35.31 349 P **P** **10 37 38.4 +1.2**
baz=6.7,SNR=7.3
DRME Dracevica, Mon 35.38 153 ⇑*i*P **P** **10 37 37.3 -0.8**
COLD Coldfoot 35.38 339 P **P** **10 37 38.8 +0.9**
baz=12,SNR=30
RDOG Red Dog Mine 35.41 348 P **P** **10 37 39.0 +0.9**
baz=7.7,SNR=5.3
G25K Bearman Lake 35.46 336 P **P** **10 37 40.6 +2.1**
baz=14,SNR=16
H27K Steamboat Moun 35.52 333 P **P** **10 37 40.7 +1.6**
baz=15,SNR=28
ANN Anapa 35.55 129 *e*P **P** **10 37 38.2 -1.3**
ANN pmax pmax
comp=Z,79nm,1.3s
ANN MLR MLR
comp=Z,852nm,14.0s
F21K Alatna River 35.65 342 P **P** **10 37 40.0 -0.2**
F21K IAMs_20 IAMs_20 10 54 05.7
comp=Z,426nm,20.0s
F21K Alatna River 35.65 342 P **P** **10 37 41.0 +0.9**
baz=11,SNR=38
G24K Hadweenzic Riv 35.66 337 P **P** **10 37 41.9 +1.7**
baz=13,SNR=21
E19K Redstone River 35.68 344 P **P** **10 37 41.2 +0.8**
baz=9.8,SNR=15
BILL Bilibino 35.72 8 IAMs_20 IAMs_20 10 50 50.1
comp=Z,490nm,20.0s
BILL Bilibino 35.72 8 *i* P **P** **10 37 41.4 +0.7**
BILL pmax pmax
comp=Z,41nm,2.5s
PVIS Viseu 35.77 188 *e*P **P** **10 37 42.8 +1.3**
D17K Noatak River 35.78 348 P **P** **10 37 42.2 +1.0**
baz=7.5
G22K Bettles 35.79 340 P **P** **10 37 42.1 +0.8**
baz=12
SKO Skopje 35.85 150 *i* P **P** **10 37 41.6 -0.5**
G23K Bananza Creek 35.87 339 P **P** **10 37 42.8 +0.7**
baz=12,SNR=8.4
I30M Mount Dempster 35.90 329 IAMs_20 IAMs_20 10 54 31.3
comp=Z,590nm,19.0s
I30M Mount Dempster 35.90 329 P **P** **10 37 43.0 +0.5**
baz=17,SNR=84
E18K Tukpahlearik C 35.92 346 P **P** **10 37 43.0 +0.5**
E18K IAmb IAmb 10 37 45.2
comp=Z,37nm,0.9s
E18K Tukpahlearik C 35.92 346 P **P** **10 37 43.7 +1.2**
baz=8.5,SNR=30
H25L Birch Creek 35.92 336 P **P** **10 37 44.8 +2.3**
baz=14
F20K Avaraart Lake 35.98 343 IAmb IAmb 10 37 45.6
comp=Z,41nm,1.0s
F20K Avaraart Lake 35.98 343 P **P** **10 37 43.9 +0.9**
baz=10
WRGLY Wrigley 35.99 319 P **P** **10 37 44.3 +1.2**
baz=20
I29M Ogilvie Camp, 36.00 331 P **P** **10 37 43.0 -0.2**
I29M IAmb IAmb 10 37 44.9
comp=Z,59nm,1.0s
I29M IAMs_20 IAMs_20 10 54 50.9
comp=Z,616nm,20.0s
I29M Ogilvie Camp, 36.00 331 P **P** **10 37 43.5 +0.3**
baz=16,SNR=96
PAOL Paolisi 36.07 159 IAmb IAmb 10 37 46.3
comp=Z,79nm,1.5s
MTE Manteigas 36.07 187 *e*P **P** **10 37 45.3 +1.2**
comp=Z,27nm,1.7s
MTE *e*S S 10 43 33.3 +10
MTE *e*LR LR 10 47 49.3
comp=Z,448nm,20.0s
MTE Manteigas 36.07 187 IAMs_20 IAMs_20 10 48 45.8
comp=Z,599nm,22.0s
I28M Miner Creek 36.10 332 P **P** **10 37 44.7 +0.5**
baz=16,SNR=34
ABKAR Akbulak array 36.13 102 P **P** **10 37 44.3 -0.2**
I27K Kandik River 36.14 333 P **P** **10 37 45.8 +1.4**
baz=15,SNR=67
TIR Tirane 36.28 152 IAmb IAmb 10 37 47.3
comp=Z,47nm,1.1s
TIR IAMs_20 IAMs_20 10 52 42.6
comp=Z,541nm,21.0s
TIR Tirane 36.28 152 P **P** **10 37 45.5 -0.3**
comp=Z,47nm,1.1s
E17K Hotham Inlet 36.33 347 P **P** **10 37 46.7 +0.8**
baz=7.9,SNR=20
F19K Shaleruckik Mo 36.33 344 P **P** **10 37 46.2 +0.2**
baz=9.4,SNR=26
G21K Allakaket 36.34 341 IAmb IAmb 10 37 48.7
comp=Z,35nm,1.1s
G21K Allakaket 36.34 341 P **P** **10 37 47.0 +0.9**
baz=11,SNR=24
PCAS Casmilo, Conde 36.45 189 *e*P **P** **10 37 50.6 +3.3**
comp=Z,39nm,1.8s
J30M Hart River 36.52 329 IAMs_20 IAMs_20 10 54 47.6
comp=Z,652nm,20.0s
J30M Hart River 36.52 329 P **P** **10 37 48.8 +1.0**
baz=17,SNR=66
H24K Noodor Dome 36.54 337 P **P** **10 37 49.0 +1.2**
H24K Noodor Dome 36.54 337 P **P** **10 37 49.8 +1.9**
baz=13,SNR=24
OHR Ohrid 36.62 151 *i* P **P** **10 37 49.5 +0.7**
PRP Porcupine Dome 36.62 336 P **P** **10 37 50.7 +2.0**
baz=14,SNR=11
PCBR Castelo Branco 36.62 187 *e*P **P** **10 37 49.9 +1.1**
comp=Z,28nm,1.8s
VAY Valandovo 36.63 149 *i* P **P** **10 37 48.7 -0.1**
MATE Matera 36.64 156 ⇑P **P** **10 37 48.9 0.0**
F18K Selawik 36.68 345 P **P** **10 37 49.5 +0.6**
baz=8.7,SNR=31
H23K Yukon River 36.70 338 IAmb IAmb 10 37 52.9
comp=Z,52nm,1.2s
H23K Yukon River 36.70 338 P **P** **10 37 51.1 +1.9**
baz=12,SNR=46
ESDC Sonseca Array 36.72 183 P **P** **10 37 49.8 +0.2**
comp=Z,6.1nm,0.7s,baz=1.5,slow=8.9,SNR=58
ESDC PcP **PcP** **10 40 12.1 +0.2**
comp=Z,0.4nm,0.6s,baz=344,slow=4.3,SNR=1.6
ESDC LR LR 10 52 37.1
comp=Z,251nm,18.7s,baz=354,slow=36
comp=Z,6.1nm,0.7s
H22K Ishtalitna Cre 36.79 340 P **P** **10 37 51.8 +1.9**
baz=12,SNR=42
PAB San Pablo 36.85 183 P **P** **10 37 51.2 +0.4**
PAB San Pablo 36.85 183 P **P** **10 37 51.2 +0.4**
PAB pmax pmax
comp=Z,11nm,0.8s
J29N Klondike Camp 36.86 330 IAMs_20 IAMs_20 10 54 09.8
comp=Z,487nm,21.0s
J29N Klondike Camp 36.86 330 P **P** **10 37 51.6 +1.0**
baz=16
EGAK Eagle 36.89 332 P **P** **10 37 51.5 +0.7**
baz=15
F17K Baldwin Pennin 36.93 346 P **P** **10 37 51.6 +0.5**
baz=8.0,SNR=9.6
G19K Purcell Mounta 36.97 344 IAmb IAmb 10 37 54.3
comp=Z,34nm,1.1s
G19K Purcell Mounta 36.97 344 P **P** **10 37 52.4 +1.0**
baz=9.6,SNR=20
PMRV Marv??o 37.03 187 *e*P **P** **10 37 53.1 +0.8**
comp=Z,36nm,1.7s
PMRV *e*S **S** **10 43 40.8 +2.8**
PMRV *e*LR LR 10 48 30.3
comp=Z,422nm,18.0s
H21K Melozitna Rive 37.14 341 P **P** **10 37 53.9 +1.0**
baz=11,SNR=24
SOC Sochi 37.16 127 *e*P **P** **10 37 52.3 -0.9**
SOC *e* 10 39 14.7
SOC *e*PPP PPP 10 39 36.4
SOC *e*S **S** **10 43 40.1 +0.3**
SOC *e*SS **SnSn** **10 46 11.6 -2.0**
SOC MLR MLR
comp=Z,651nm,21.0s
POKR Poker Plat Res 37.20 337 IAMs_20 IAMs_20 10 55 45.7
comp=Z,518nm,19.0s
POKR Poker Plat Res 37.20 337 P **P** **10 37 55.4 +2.0**
baz=13,SNR=12
CUC Castrocucco 37.21 157 IAMs_20 IAMs_20 10 52 58.2
comp=Z,455nm,19.0s
G18K Tagagawik 37.32 345 P **P** **10 37 55.2 +0.8**
baz=8.9,SNR=16
VSLR Vesyoloye 37.34 127 *d i*P **P** **10 37 55.1 +0.3**
VSLR pmax pmax
comp=Z,84nm,1.0s
I23K Minto, Yukon-K 37.35 338 P **P** **10 37 56.5 +1.8**
baz=12,SNR=25
K29M Barlow Dome 37.37 329 P **P** **10 37 56.5 +1.5**
K29M IAMs_20 IAMs_20 10 55 19.1
comp=Z,515nm,19.0s
K29M Barlow Dome 37.37 329 P **P** **10 37 56.5 +1.5**
baz=16
DAWY Dawson 37.38 331 P **P** **10 37 55.6 +0.6**
baz=15
KIV Kislovodsk 37.38 124 ⇓P **P** **10 37 55.7 +0.5**
KIV Kislovodsk 37.38 124 *i* P **P** **10 37 56.2 +1.0**
SNR=7.4
KIV Kislovodsk 37.38 124 P **P** **10 37 55.3 0.0**
KIV Kislovodsk 37.38 124 *ce*P **P** **10 37 56.0 +0.8**
KIV *e* 10 39 20.1
KIV *e*S **S** **10 43 49.1 +5.8**
KIV *e*SS **SnSn** **10 46 19.6 +0.6**
KIV pmax pmax
comp=Z,61nm,1.0s
KIV MLR MLR
comp=Z,587nm,16.0s
KVAR Kislovodsk Arr 37.38 124 LR LR 10 53 45.7
comp=Z,630nm,18.6s,baz=266,slow=37
MAYO Mayo, Yukon 37.40 328 P **P** **10 37 56.2 +1.0**
baz=16
J26L Joseph Creek 37.41 334 IAMs_20 IAMs_20 10 55 46.4
comp=Z,414nm,21.0s
J26L Joseph Creek 37.41 334 P **P** **10 37 56.8 +1.4**
baz=14,SNR=18
PMTG Montargil 37.42 188 *e*P **P** **10 37 56.3 +0.8**
comp=Z,19nm,1.4s
H20K Arvieneega Mo 37.46 342 P **P** **10 37 56.9 +1.2**
baz=10,SNR=33
COLA College 37.48 337 IAMs_20 IAMs_20 10 55 53.1
comp=Z,398nm,19.0s
COLA College 37.48 337 P **P** **10 37 57.3 +1.6**
baz=13
COLA College 37.48 337 *d i*P **P** **10 37 56.9 +1.2**
COLA pmax pmax
comp=Z,30nm,1.1s
IL31 37.49 336 P **P** **10 37 55.8 +0.1**
ILAR Eielson Array 37.49 336 P **P** **10 37 56.9 +1.1**
ILAR Eielson Array 37.49 336 P **P** **10 37 57.4 +1.5**
comp=Z,15nm,0.9s,baz=7.1,slow=7.2,SNR=138
ILAR PcP **PcP** **10 40 13.8 +0.1**
comp=Z,3.9nm,0.6s,baz=339,slow=3.7,SNR=13
comp=Z,15nm,0.9s
J25K Salcha River, 37.49 335 IAMs_20 IAMs_20 10 54 27.4
comp=Z,490nm,22.0s
J25K Salcha River, 37.49 335 P **P** **10 37 57.4 +1.4**
baz=14,SNR=22
H19K Roundabout Mou 37.54 343 P **P** **10 37 57.0 +0.7**
H19K Roundabout Mou 37.54 343 P **P** **10 37 57.4 +1.2**
baz=9.7,SNR=14
I21K Tanana 37.54 340 IAMs_20 IAMs_20 10 55 26.7
comp=Z,376nm,19.0s
I21K Tanana 37.54 340 P **P** **10 37 58.3 +2.0**
baz=11
SHA1 Shidzhatmaz 37.58 124 *c i*P **P** **10 37 58.8 +1.7**
MLY Manley 37.58 339 P **P** **10 37 58.4 +1.7**
baz=12,SNR=22
PESTR Estremoz 37.60 187 *e*P **P** **10 37 57.5 +0.4**
comp=Z,25nm,1.5s
KBZ Khabaz 37.64 123 P **P** **10 37 58.3 +1.0**
comp=Z,48nm,0.8s,baz=0.1,slow=4.2,SNR=63
KBZ LR LR 10 53 42.4
comp=Z,768nm,18.2s,baz=340,slow=37
comp=Z,48nm,0.8s
KBZ Khabaz 37.64 123 *d i*P **P** **10 37 58.9 +1.6**
KBZ pmax pmax
comp=Z,54nm,0.9s
ZALV Zalesovo Beam 37.67 75 P **P** **10 37 57.6 +0.1**
comp=Z,16nm,0.8s,baz=332,slow=8.8,SNR=41
ZALV PcP **PcP** **10 40 14.3 -0.2**
comp=Z,2.9nm,0.6s,baz=312,slow=3.5,SNR=5.7
ZALV PKiKP **PKiKP** **10 47 28.4 -1.6**
comp=Z,1.5nm,0.6s,baz=271,slow=1.4,SNR=6.0
ZALV LR LR 10 57 19.8
comp=Z,730nm,18.1s,baz=6.5,slow=42
comp=Z,16nm,0.8s
K27K Chicken 37.72 333 IAmb IAmb 10 38 01.1
comp=Z,70nm,1.1s
K27K Chicken 37.72 333 P **P** **10 37 59.4 +1.6**
baz=14
G17K Kiwalik Mounta 37.83 346 P **P** **10 37 59.9 +1.1**
baz=8.1,SNR=10.0
F15K North Star Dit 37.84 349 IAMs_20 IAMs_20 10 50 23.6
comp=Z,490nm,22.0s
F15K North Star Dit 37.84 349 P **P** **10 38 00.2 +1.3**
baz=6.6,SNR=8.2
HDA Harding Lake 37.85 336 P **P** **10 37 59.9 +1.0**
baz=13,SNR=26
NEA2 Nenana 37.87 338 P **P** **10 38 00.2 +1.2**
baz=12
WRH Wood River Hil 37.89 337 IAMs_20 IAMs_20 10 56 16.1
comp=Z,448nm,22.0s
SCRK Sand Creek 37.97 334 IAMs_20 IAMs_20 10 55 41.1
comp=Z,413nm,20.0s
SCRK Sand Creek 37.97 334 P **P** **10 38 01.6 +1.5**
baz=14,SNR=14
G16K Koyuk River 38.03 347 P **P** **10 38 01.3 +0.9**
G16K Koyuk River 38.03 347 P **P** **10 38 02.0 +1.5**
baz=7.4,SNR=8.6
H18K Honhosa River 38.04 344 P **P** **10 38 00.9 +0.4**
H18K Honhosa River 38.04 344 P **P** **10 38 01.9 +1.4**
baz=8.9,SNR=11
TIP Timpagrande 38.10 156 ⇓P **P** **10 38 01.3 0.0**
TIP Timpagrande 38.10 156 IAmb IAmb 10 38 05.3
comp=Z,43nm,1.2s
TIP Timpagrande 38.10 156 P **P** **10 38 01.4 0.0**
comp=Z,30nm,1.3s,comp=Z,364nm
I20K Naaghedeneel 38.12 341 P **P** **10 38 03.0 +1.9**
baz=10,SNR=7.8
TNA Tin City 38.13 351 P **P** **10 38 02.9 +1.7**
baz=5.3
F14K Arctic Creek 38.15 350 P **P** **10 38 02.6 +1.1**
baz=5.9
L29M L29M 38.15 329 IAMs_20 IAMs_20 10 55 51.8
comp=Z,523nm,18.0s
L29M L29M 38.15 329 P **P** **10 38 02.7 +1.1**
baz=16
PBAR Barrancos 38.27 187 *e*P **P** **10 38 03.7 +1.0**
comp=Z,25nm,1.5s
K24K Donnelly Dome 38.32 335 P **P** **10 38 04.4 +1.4**
baz=13,SNR=13
GCSA Galena City Sc 38.34 343 P **P** **10 38 04.7 +1.7**
baz=9.3
TGTN Hyland Airport 38.34 322 P **P** **10 38 04.9 +1.7**
baz=18
H17K Granite Mounta 38.35 345 P **P** **10 38 03.8 +0.7**
H17K Granite Mounta 38.35 345 P **P** **10 38 04.4 +1.3**
baz=8.3,SNR=14
PNCL Nicolau / Gran 38.38 189 *e*P **P** **10 38 04.8 +1.1**
FARO Faro, Yukon 38.39 326 P **P** **10 38 05.7 +2.2**
baz=17
PBEJ Beja 38.45 188 *e*P **P** **10 38 05.4 +1.2**
comp=Z,28nm,1.5s
BRZS Berezniki 38.48 89 *e*P **P** **10 38 04.6 +0.2**
baz=88
BRZS Berezniki 38.48 89 *e*P **P** **10 38 04.5 +0.2**
M30M Minto, Yukon 38.50 328 IAMs_20 IAMs_20 10 55 46.1
comp=Z,619nm,19.0s
M30M Minto, Yukon 38.50 328 P **P** **10 38 05.8 +1.3**
baz=16
BPAW Bear Paw Mtn. 38.52 339 IAMs_20 IAMs_20 10 56 49.6
comp=Z,378nm,20.0s
BPAW Bear Paw Mtn. 38.52 339 P **P** **10 38 06.1 +1.5**
baz=11,SNR=9.5
G15K Niukluk 38.52 348 P **P** **10 38 05.9 +1.3**
baz=6.7
M31M Drury Creek, Y 38.55 326 IAMs_20 IAMs_20 10 55 43.5
comp=Z,598nm,18.0s
M31M Drury Creek, Y 38.55 326 P **P** **10 38 06.2 +1.3**
baz=16
YAK Yakutsk 38.57 35 IAMs_20 IAMs_20 10 54 56.3
comp=Z,358nm,19.0s
YAK Yakutsk 38.57 35 LR LR 10 55 03.5
comp=Z,339nm,18.8s,baz=340,slow=38
YAK Yakutsk 38.57 35 *e*P **P** **10 38 04.1 -0.9**
YAK *e*S **S** **10 44 01.1 +0.3**
YAK *e*SS **SS** **10 46 48.4 -1.4**
YAK *e* 10 48 12.2
YAK pmax pmax
comp=Z,43nm,1.0s
YAK pmax pmax
comp=N,22nm,1.1s
YAK pmax pmax
comp=E,6.0nm,0.9s
YAK smax smax
comp=N,77nm,2.8s
YAK smax smax
comp=E,38nm,2.1s
YAK MLR MLR
comp=Z,314nm,17.0s
YAK MLR MLR
comp=N,134nm,17.0s
BCAR Beaver Creek A 38.62 332 P **P** **10 38 07.5 +2.0**
L27K Beaver Creek, 38.63 332 P **P** **10 38 07.4 +1.9**
baz=14
MESJ Messejana 38.65 188 *e*P **P** **10 38 06.8 +0.9**
comp=N,21nm,1.8s
MESJ Messejana 38.65 188 *e*P **P** **10 38 06.5 +0.6**
MESJ IAmb IAmb 10 38 08.3
comp=Z,27nm,1.5s
MESJ *e*S **S** **10 44 03.5 +1.1**
MESJ Messejana 38.65 188 *e*P **P** **10 38 06.5 +0.6**
MESJ *e*S **S** **10 44 03.5 +1.1**
MCK McKinley 38.70 337 P **P** **10 38 07.7 +1.6**
baz=12,SNR=5.5
J20K Nowinta River 38.70 341 P **P** **10 38 07.2 +1.1**
J20K Nowinta River 38.70 341 P **P** **10 38 08.2 +2.1**
baz=10,SNR=9.0
GROC Groznyy 38.73 120 *e*P **P** **10 38 07.1 +0.6**
GROC *e* 10 39 35.9
GROC *e*S **S** **10 44 05.9 +2.3**
GROC pmax pmax
comp=Z,93nm,1.2s
H16K Elim 38.78 347 P **P** **10 38 07.4 +0.6**
baz=7.3
CART Cartagena 38.79 179 IAMs_20 IAMs_20 10 54 42.9
comp=Z,601nm,18.0s
L26K Log Cabin Wild 38.83 333 IAMs_20 IAMs_20 10 55 46.8
comp=Z,394nm,20.0s
L26K Log Cabin Wild 38.83 333 P **P** **10 38 09.4 +2.2**
baz=14
M29M Somme Creek 38.84 329 IAMs_20 IAMs_20 10 56 13.0
comp=Z,613nm,20.0s
M29M Somme Creek 38.84 329 P **P** **10 38 09.3 +1.9**
baz=15
CHUM Lake Minchumin 38.85 340 P **P** **10 38 08.9 +1.7**
baz=11,SNR=7.3
PCVE Castro Verde 38.85 188 *e*P **P** **10 38 08.7 +1.1**
comp=Z,27nm,1.7s
AGG Agios Georgios 38.87 149 P **P** **10 38 07.7 -0.1**
CEL Celeste 38.94 158 P **P** **10 38 06.5 -1.9**
comp=Z,22nm,1.1s,comp=Z,347nm
J19K Poorman 38.99 342 P **P** **10 38 10.2 +1.6**
baz=9.6,SNR=9.3
RND Reindeer 39.01 337 IAMs_20 IAMs_20 10 57 01.6
comp=Z,417nm,21.0s
ANM Nome 39.01 349 IAMs_20 IAMs_20 10 51 21.7
comp=Z,487nm,22.0s
ANM Nome 39.01 349 P **P** **10 38 10.1 +1.4**
baz=6.2
KOTAN Kotaneelee Air 39.02 318 P **P** **10 38 10.5 +1.7**
baz=19
PVAQ Vaqueiros 39.06 187 *e*S **S** **10 44 11.5 +2.8**
PVAQ *e*LR LR 10 47 17.1
comp=Z,438nm,20.0s
TRF Thorofare Moun 39.10 338 P **P** **10 38 11.1 +1.5**
baz=11
PAX Paxson 39.11 335 P **P** **10 38 10.9 +1.2**
baz=13,SNR=25
BVCY Beaver Creek 39.15 331 P **P** **10 38 11.7 +1.8**
baz=14
MORF Marmelete 39.19 189 *e*P **P** **10 38 11.2 +0.6**
comp=Z,34nm,1.8s
MORF Marmelete 39.19 189 *e*P **P** **10 38 11.1 +0.6**
MORF IAmb IAmb 10 38 11.9
comp=Z,15nm,0.9s
MORF Marmelete 39.19 189 *e*P **P** **10 38 11.1 +0.6**
DHY Denali Highway 39.20 336 P **P** **10 38 11.2 +0.8**
DHY IAmb IAmb 10 38 13.3
comp=Z,70nm,1.3s
DHY Denali Highway 39.20 336 P **P** **10 38 11.5 +1.1**
baz=12,SNR=32
KURK Kurchatov 39.21 83 P **P** **10 38 10.9 +0.4**
KURK Kurchatov 39.21 83 ⇓*i*P **P** **10 38 11.2 +0.7**
KURK pmax pmax
comp=Z,27nm,1.0s
PBDV Barranco-do-Ve 39.23 188 *e*P **P** **10 38 12.2 +1.4**
KURBB Kurchatov Arra 39.27 83 P **P** **10 38 10.9 -0.1**
comp=Z,12nm,0.8s,baz=332,slow=7.7,SNR=59
KURBB PP **PP** **10 39 40.8 +0.1**
comp=Z,9.2nm,1.0s,baz=340,slow=10,SNR=8.8
KURBB PcP **PcP** **10 40 19.2 -0.4**
comp=Z,1.5nm,0.5s,baz=333,slow=3.2,SNR=8.3
KURBB LR LR 10 58 07.8
comp=Z,843nm,18.4s,baz=177,slow=42
comp=Z,12nm,0.8s
CAST Castle Rocks 39.28 339 IAMs_20 IAMs_20 10 56 57.8
comp=Z,343nm,18.0s
CAST Castle Rocks 39.28 339 P **P** **10 38 12.2 +1.2**
baz=11,SNR=38
MAK Makhachkala 39.32 119 *e*P P 10 38 06.5 -4.9
MAK *e*S **S** **10 44 05.8 -6.6**
MAK *e*SS **SS** **10 47 03.0 -2.4**
MAK MLR MLR
comp=Z,420nm,12.0s
M27K Edge Creek, AK 39.32 332 P **P** **10 38 13.2 +1.7**
baz=14
LMQ La Malbaie 39.33 264 P **P** **10 38 12.5 +1.0**
LMQ IAmb IAmb 10 38 14.1
comp=Z,174nm,1.8s
N32M Quiet Lake 39.39 325 IAMs_20 IAMs_20 10 55 26.6
comp=Z,938nm,20.0s
N32M Quiet Lake 39.39 325 P **P** **10 38 13.5 +1.6**
baz=16
M26K Nabesna, AK 39.40 333 P **P** **10 38 14.0 +2.0**
baz=14
N31M Braeburn, Yuko 39.42 327 IAMs_20 IAMs_20 10 55 51.5
comp=Z,641nm,20.0s
N31M Braeburn, Yuko 39.42 327 P **P** **10 38 13.6 +1.4**
baz=16
I17K Unalakleet 39.44 345 P **P** **10 38 13.4 +1.2**
baz=7.8
D62A Allapoint, All 39.46 263 P **P** **10 38 13.5 +0.9**
K20K Telida 39.51 341 P **P** **10 38 13.7 +0.8**
K20K IAmb IAmb 10 38 16.0
comp=Z,49nm,1.1s
K20K Telida 39.51 341 P **P** **10 38 14.3 +1.4**
baz=10,SNR=32
ANTO Ankara 39.53 137 IAMs_20 IAMs_20 10 55 17.7
comp=Z,340nm,19.0s
ANTO Ankara 39.53 137 P **P** **10 38 13.9 +0.5**
WAT1 Susitna Watana 39.55 337 P **P** **10 38 13.6 +0.4**

baz=12
J18K Innoko River 39.60 343 P P 10 38 15.0 +1.4
baz=9.1,SNR=10
N30M Aishikik Lake 39.62 328 IAMs_20 IAMs_20 10 56 30.6
comp=Z,673nm,19.0s
N30M Aishikik Lake 39.62 328 P P 10 38 15.5 +1.6
baz=15
LMN Caledonia Moun 39.62 258 P P 10 38 14.4 +0.4
HARP HAARP 39.63 334 P P 10 38 16.1 +2.2
baz=13,SNR=6.9
WAT6 Susitna Watana 39.72 336 P P 10 38 16.1 +1.4
baz=12,SNR=13
YUK3 Moose Creek 39.72 331 P P 10 38 17.0 +2.1
baz=14
BR106 Keskin Array S 39.80 136 P P 10 38 16.0 +0.3
comp=Z,23nm,1.0s,comp=Z,161nm
PPLA Purkeypile 39.81 339 P P 10 38 17.0 +1.5
baz=11
BR131 Keskin Array S 39.81 136 *c iP* **P 10 38 16.5 +0.7**
BRTR Keskin Array B 39.81 136 P P 10 38 16.6 +0.7
BRTR Keskin Array B 39.81 136 P P 10 38 16.4 +0.6
comp=Z,18nm,0.9s,baz=342,slow=6.5,SNR=45
BRTR PP **PP 10 39 46.9 -0.1**
comp=Z,6.1nm,1.0s,baz=346,slow=9.0,SNR=5.0
BRTR PcP **PcP 10 40 21.8 +0.2**
comp=Z,0.8nm,0.7s,baz=0.0,slow=0.6,SNR=1.0
BRTR LR LR 10 54 24.4
comp=Z,372nm,21.0s,baz=355,slow=36
comp=Z,18nm,0.9s
BR105 Keskin Array S 39.82 136 P P 10 38 16.4 +0.6
comp=Z,25nm,1.0s,comp=Z,177nm
J17K VABM Dome 39.83 344 P P 10 38 16.1 +0.6
J17K VABM Dome 39.83 344 P P 10 38 16.8 +1.3
baz=8.3,SNR=13
SEM Semipalatinsk 39.88 81 *eP* **P 10 38 16.1 -0.2**
baz=81
SEM Semipalatinsk 39.88 81 *eP* **P 10 38 16.1 -0.2**
YUK4 Talbot Arm 39.92 329 P P 10 38 17.0 +0.5
baz=15
FFC Flin Flon 39.95 297 P P 10 38 17.2 +0.6
FFC IAmb IAmb 10 38 18.5
comp=Z,49nm,0.8s
FFC Flin Flon 39.95 297 P P 10 38 17.2 +0.6
FFC pmax pmax
comp=Z,49nm,0.8s
E62A Clayton Lake 40.01 263 IAmb IAmb 10 38 19.5
comp=Z,39nm,0.9s
M24K Tolsona, Glenn 40.02 335 P P 10 38 18.5 +1.3
baz=12
LIRD Liard River Hi 40.03 319 P P 10 38 19.1 +1.9
baz=18
J16K Anvik River 40.03 345 P P 10 38 18.2 +1.0
J16K Anvik River 40.03 345 P P 10 38 18.5 +1.3
baz=7.7,SNR=18
GAMB Gambell 40.04 353 P P 10 38 18.1 +0.9
baz=3.8
SEY Seymchan 40.07 18 LR LR 10 52 56.8
comp=Z,583nm,21.0s,baz=354,slow=33
SEY Seymchan 40.07 18 *iP* **P 10 38 18.5 +1.0**
SEY pmax pmax
comp=Z,14nm,1.0s
WHY Whitehorse 40.10 326 P P 10 38 19.0 +1.0
baz=16
YUK8 Steele Glacier 40.12 330 P P 10 38 19.8 +1.6
baz=14
CUT Chulitna 40.13 338 IAMs_20 IAMs_20 10 57 37.0
comp=Z,444nm,21.0s
CUT Chulitna 40.13 338 P P 10 38 18.3 +0.3
baz=11
O30N Mendenhall 40.16 327 IAMs_20 IAMs_20 10 56 15.9
comp=Z,664nm,20.0s
O30N Mendenhall 40.16 327 P P 10 38 19.9 +1.5
baz=15
P33M Teslin, Yukon 40.26 324 IAMs_20 IAMs_20 10 56 03.5
comp=Z,996nm,20.0s
P33M Teslin, Yukon 40.26 324 P P 10 38 20.8 +1.6
baz=16
YUK6 Outpost Mounta 40.28 329 P P 10 38 21.7 +2.2
baz=15
HYT Haines Junctio 40.29 328 P P 10 38 21.3 +1.8
baz=15
N25K Chitina, Valde 40.35 333 P P 10 38 21.9 +1.9
baz=13
L20K Farewell, AK 40.36 340 P P 10 38 21.1 +1.2
baz=9.9,SNR=33
MCARA McCarthy VSAT 40.40 332 P P 10 38 21.5 +1.3
baz=13
ZKTA Zakatala 40.40 120 P P 10 38 21.2 +0.7
SCM Sheep Creek Mo 40.41 336 P P 10 38 21.6 +1.2
SCM IAMs_20 IAMs_20 10 54 17.6
comp=Z,473nm,22.0s
SCM Sheep Creek Mo 40.41 336 P P 10 38 21.7 +1.3
baz=12,SNR=8.4
SCM Sheep Creek Mo 40.41 336 P P 10 38 21.6 +1.2
SCM pmax pmax
comp=Z,35nm,1.0s
SCM MLR MLR
comp=Z,500nm,22.0s
TOAD Toad River Com 40.43 318 P P 10 38 21.9 +1.3
baz=18,SNR=26
K17K Iditarod 40.45 344 P P 10 38 21.9 +1.2
baz=8.4,SNR=6.1
M23K Glacier View 40.49 336 P P 10 38 21.9 +0.8
baz=12,SNR=8.2
SML Sawmill 40.53 336 IAMs_20 IAMs_20 10 57 02.8
comp=Z,383nm,19.0s
SML Sawmill 40.53 336 P P 10 38 22.0 +0.6
baz=12,SNR=9.5
BARN Barnard Glacie 40.56 331 IAMs_20 IAMs_20 10 56 20.5
comp=Z,506nm,21.0s
KLU Klutina 40.60 334 IAMs_20 IAMs_20 10 55 24.6
comp=Z,356nm,21.0s
KLU Klutina 40.60 334 P P 10 38 22.8 +0.8
baz=12,SNR=7.4
CTGM Chitina Glacie 40.61 331 IAMs_20 IAMs_20 10 57 26.0
comp=Z,455nm,21.0s
CTG Chitna Glacier 40.62 331 P P 10 38 23.7 +1.5
baz=14
GHO Glory Hole Cre 40.62 337 IAMs_20 IAMs_20 10 51 55.3
comp=Z,367nm,22.0s
SKT Skwentna 40.66 339 P P 10 38 22.5 +0.1
baz=11,SNR=18
O28M Mount Upton 40.67 330 P P 10 38 23.8 +1.0
baz=14
LOGN Logan Glacier 40.71 331 IAMs_20 IAMs_20 10 57 36.6
comp=Z,677nm,18.0s
L19K White Mountain 40.73 341 IAMs_20 IAMs_20 10 57 16.1
comp=Z,419nm,19.0s
L19K White Mountain 40.73 341 P P 10 38 24.5 +1.5
baz=9.6,SNR=18
J14K Nanvaranak Lak 40.73 347 P P 10 38 24.0 +1.1
baz=6.6
M22K Willow 40.75 337 IAmb IAmb 10 38 24.9
comp=Z,38nm,0.9s
M22K IAMs_20 IAMs_20 10 58 04.7
comp=Z,411nm,19.0s
M22K Willow 40.75 337 P P 10 38 23.7 +0.6
baz=11,SNR=6.4
F63A Nahmakanta, Br 40.77 262 IAmb IAmb 10 38 25.8
comp=Z,34nm,0.8s
R33M Jennings River 40.78 323 P P 10 38 24.2 +0.6
baz=16
GGN Saint George 40.79 259 IAmb IAmb 10 38 25.4
comp=Z,38nm,0.9s
F62A Pittston Farm, 40.79 263 IAmb IAmb 10 38 25.8
comp=Z,41nm,0.9s
PMR Palmer 40.82 337 P P 10 38 24.5 +0.8
baz=11,SNR=5.9
L18K Granite Mounta 40.83 342 IAMs_20 IAMs_20 10 58 05.7
comp=Z,383nm,20.0s
L18K Granite Mounta 40.83 342 P P 10 38 24.7 +0.9
baz=8.9,SNR=7.8
M20K Styx River 40.89 340 IAMs_20 IAMs_20 10 58 14.2
comp=Z,337nm,20.0s
M20K Styx River 40.89 340 P P 10 38 24.4 0.0
baz=10
P30M Million Dollar 40.90 327 P P 10 38 25.8 +1.3
baz=15
O29M Mount Kennedy 40.93 329 IAMs_20 IAMs_20 10 57 25.2
comp=Z,555nm,18.0s
O29M Mount Kennedy 40.93 329 P P 10 38 26.1 +1.3
baz=14
KNK Knik Glacier 40.93 336 IAMs_20 IAMs_20 10 56 12.4
comp=Z,437nm,22.0s
KNK Knik Glacier 40.93 336 P P 10 38 25.6 +0.9
baz=12,SNR=7.1
SEKA Sheki 40.93 120 P P 10 38 24.6 -0.4
KEST Kesra 40.96 166 P P 10 38 25.7 +0.4
comp=Z,6.3nm,0.7s,baz=297,slow=9.0,SNR=4.9
comp=Z,6.3nm,0.7s
M19K Big River Lodg 40.97 341 P P 10 38 26.6 +1.6
baz=9.7
BMRM Bremner River 40.98 333 P P 10 38 26.2 +1.1
baz=13
P32M Atlin 40.98 325 IAMs_20 IAMs_20 10 56 48.7
comp=Z,874nm,20.0s
P32M Atlin 40.98 325 P P 10 38 26.5 +1.4
baz=16
L17K Donlin 41.03 343 P P 10 38 27.4 +2.0
baz=8.3,SNR=9.3
K15K Wolf Creek Mou 41.08 346 IAMs_20 IAMs_20 10 55 10.2
comp=Z,338nm,18.0s
K15K Wolf Creek Mou 41.08 346 P P 10 38 26.6 +0.7
baz=7.2
ISLE Juniper Island 41.08 331 IAMs_20 IAMs_20 10 56 48.4
comp=Z,494nm,22.0s
SUA Susitna One 41.10 338 IAmb IAmb 10 38 28.2
comp=Z,43nm,0.8s
SUA IAMs_20 IAMs_20 10 58 06.7
comp=Z,431nm,20.0s
SUA Susitna One 41.10 338 P P 10 38 27.1 +1.0
baz=11,SNR=20
ISP Isparta 41.17 140 IAMs_20 IAMs_20 10 55 38.5
comp=Z,447nm,19.0s
PKME Peaks-Kenny Pk 41.23 262 P P 10 38 28.5 +1.3
baz=20,SNR=16
ARPR Arapgir-MALATY 41.25 130 P P 10 38 28.9 +1.2
WAX Waxell Ridge 41.29 332 IAMs_20 IAMs_20 10 57 05.9
comp=Z,469nm,22.0s
GANJ Ganja 41.29 121 P P 10 38 27.5 -0.4
EMMW East Machias 41.32 260 P P 10 38 28.1 +0.1
EMMW IAmb IAmb 10 38 30.1
comp=Z,31nm,0.8s
SKAG Skagway 41.33 326 P P 10 38 29.5 +1.6
baz=15
MNGR Mingechevir, A 41.33 120 P P 10 38 27.5 -0.6
RC01 Rabbit Creek A 41.37 337 P P 10 38 29.0 +0.7
RC01 Rabbit Creek A 41.37 337 P P 10 38 28.8 +0.5
baz=11
FID Port Fidalgo 41.39 335 IAMs_20 IAMs_20 10 58 12.3
comp=Z,329nm,19.0s
BCPM Bancas Point 41.40 329 IAMs_20 IAMs_20 10 57 42.7
comp=Z,568nm,19.0s
GNI Garni 41.45 123 LR LR 10 56 11.8
comp=Z,490nm,19.4s,baz=349,slow=37
GNI Garni 41.45 123 P P 10 38 30.6 +1.3
GNI Garni 41.45 123 *ceP* **P 10 38 30.2 +0.9**
GNI pmax pmax
comp=Z,31nm,1.7s
MESA MESA 41.45 331 IAMs_20 IAMs_20 10 56 59.1
comp=Z,626nm,21.0s
MESA MESA 41.45 331 P P 10 38 30.6 +1.4
baz=13
PLBC Pleasant Camp 41.47 327 P P 10 38 30.6 +1.6
baz=15
P29M Windy Craggy 41.48 328 IAMs_20 IAMs_20 10 57 17.7
comp=Z,582nm,20.0s
P29M Windy Craggy 41.48 328 P P 10 38 30.4 +1.3
baz=14
N20K Mount Spurr 41.48 339 P P 10 38 30.0 +0.7
baz=10,SNR=6.3
M18K Stony River 41.49 342 P P 10 38 30.3 +1.1
baz=9.1,SNR=5.4
EYAK Cordova Ski Ar 41.51 334 P P 10 38 30.6 +1.2
baz=12
L16K Owhat River 41.53 344 IAMs_20 IAMs_20 10 57 24.2
comp=Z,360nm,18.0s
L16K Owhat River 41.53 344 P P 10 38 31.1 +1.5
baz=7.9,SNR=5.7
RAGM Ragged Mountai 41.55 333 IAMs_20 IAMs_20 10 55 23.8
comp=Z,366nm,21.0s
SNH Sunshine Point 41.55 332 IAMs_20 IAMs_20 10 56 37.8
comp=Z,575nm,18.0s
DLBC Dease Lake 41.56 321 P P 10 38 32.1 +2.1
baz=16
DLBC Dease Lake 41.56 321 LR LR 10 57 21.0
comp=Z,873nm,19.9s,baz=20,slow=38
TRQ Mont Tremblant 41.58 268 P P 10 38 31.0 +0.7
TRQ IAmb IAmb 10 38 32.1
comp=Z,102nm,1.6s
K13K Kusilvak Mount 41.61 348 IAMs_20 IAMs_20 10 53 39.2
comp=Z,359nm,21.0s
K13K Kusilvak Mount 41.61 348 P P 10 38 31.4 +1.2
baz=6.1,SNR=5.2
PNL Peninsula 41.65 329 P P 10 38 31.4 +0.8
baz=14
L15K Ungalak Mounta 41.69 346 P P 10 38 32.5 +1.6
baz=7.2,SNR=8.5
M17K Holitna River 41.70 343 P P 10 38 32.3 +1.4
baz=8.5,SNR=13
HIN Hinchinbrook I 41.74 334 IAMs_20 IAMs_20 10 52 52.7
comp=Z,341nm,19.0s
SUCK Suckling Hills 41.76 332 IAMs_20 IAMs_20 10 56 13.4
comp=Z,623nm,18.0s
CAPN Captain Cook N 41.82 338 P P 10 38 33.4 +1.5
baz=10
O22K Cooper Landing 41.97 337 P P 10 38 34.6 +1.5
baz=11
KAIM Kayak Island 41.98 333 P P 10 38 35.6 +2.4
baz=12
WVL Waterville 41.98 262 IAmb IAmb 10 38 35.7
WVL comp=Z,52nm,0.8s
IAMs_20 IAMs_20 10 55 14.4
comp=Z,730nm,18.0s
N19K Bonanza Creek 42.06 340 IAMs_20 IAMs_20 10 58 55.1
comp=Z,334nm,21.0s
N19K Bonanza Creek 42.06 340 P P 10 38 35.5 +1.5
baz=9.4,SNR=5.5
L14K Kuka Creek 42.09 346 P P 10 38 34.9 +0.7
L14K Kuka Creek 42.09 346 P P 10 38 34.8 +0.7
baz=6.7
M16K Timber Creek 42.18 344 P P 10 38 35.9 +1.0
M16K IAMs_20 IAMs_20 10 58 37.3
comp=Z,320nm,20.0s
M16K Timber Creek 42.18 344 P P 10 38 36.9 +2.0
baz=7.9,SNR=9.0
P23K Montague Islan 42.22 335 P P 10 38 36.6 +1.4
baz=12,SNR=6.9
S34M Telegraph Cree 42.23 322 IAMs_20 IAMs_20 10 56 46.7
comp=Z,1um,22.0s
S34M Telegraph Cree 42.23 322 P P 10 38 37.6 +2.3
baz=16
N18K Kilae Creek 42.30 341 IAMs_20 IAMs_20 10 58 23.5
comp=Z,343nm,20.0s
N18K Kilae Creek 42.30 341 P P 10 38 37.2 +1.3
baz=8.9,SNR=8.0
SEW Seward 42.32 337 P P 10 38 36.7 +0.8
baz=11
JIS Juneau Island 42.34 325 IAMs_20 IAMs_20 10 57 20.7
comp=Z,960nm,20.0s
R32K Eaglecrest 42.36 325 IAMs_20 IAMs_20 10 57 21.2
comp=Z,993nm,21.0s
R32K Eaglecrest 42.36 325 P P 10 38 37.4 +1.0
baz=15
R31K City Hall, Gus 42.40 326 P P 10 38 38.4 +1.8
baz=15
NAX Nakhchivan 42.54 122 P P 10 38 38.4 +0.2
N17K Nushagak Hills 42.55 342 P P 10 38 40.3 +2.4
baz=8.5,SNR=14
M15K Kasigluk River 42.62 345 P P 10 38 40.4 +2.0
baz=7.3,SNR=5.9
O20K Slope Mountain 42.63 339 P P 10 38 38.7 +0.1
baz=9.9
M14K Bethel 42.64 346 P P 10 38 39.3 +0.8
M14K IAmb IAmb 10 38 41.5
comp=Z,34nm,0.9s
M14K Bethel 42.64 346 P P 10 38 39.4 +0.9
baz=6.9,SNR=6.5
O19K Port Alsworth 42.66 340 IAMs_20 IAMs_20 10 58 29.9
comp=Z,311nm,19.0s
O19K Port Alsworth 42.66 340 P P 10 38 39.1 +0.4
baz=9.4
Q23K Middleton Isla 42.67 334 P P 10 38 39.7 +0.9
baz=12
N16K Nishlik Lake 42.71 343 P P 10 38 40.9 +1.6
baz=7.9
BRLK Bradley Lake 42.78 337 IAMs_20 IAMs_20 10 56 47.7
comp=Z,330nm,20.0s
BRSE Bradley Lake S 42.79 337 P P 10 38 40.2 +0.3
baz=10
LBNH Lisbon 42.82 264 P P 10 38 40.9 +0.6
LBNH Lisbon 42.82 264 P P 10 38 41.3 +1.0
baz=19
LBNH Lisbon 42.82 264 P P 10 38 40.9 +0.6
LBNH pmax pmax
comp=Z,19nm,0.9s
S31K Pelican 42.90 326 IAMs_20 IAMs_20 10 57 21.4
comp=Z,603nm,20.0s
S31K Pelican 42.90 326 P P 10 38 41.4 +0.7
baz=14
KARP Karpathos 42.91 145 IAMs_20 IAMs_20 10 57 23.2
comp=Z,505nm,22.0s
HOM Homer 42.96 338 P P 10 38 41.3 +0.1
baz=10
T35M Bob Quinn 43.00 321 P P 10 38 42.2 +0.6
baz=16
CNPM China Poot 43.05 338 IAMs_20 IAMs_20 10 56 56.4
comp=Z,387nm,22.0s
M13K Dall Lake 43.05 347 P P 10 38 42.1 +0.2
baz=6.4
O18K Koktuh Hills 43.06 341 P P 10 38 42.1 0.0
baz=9.0
LONY Lake Ozonia 43.09 267 P P 10 38 42.9 +0.5
LONY IAmb IAmb 10 38 45.0
comp=Z,82nm,1.7s
LONY IAMs_20 IAMs_20 10 55 05.9
comp=Z,421nm,18.0s
LONY Lake Ozonia 43.09 267 P P 10 38 43.0 +0.5
baz=19,SNR=9.9
P19K Oil Pt 43.10 339 P P 10 38 42.5 +0.1
baz=9.6
N15K Kwethluk River 43.10 344 P P 10 38 42.7 +0.3
baz=7.4
S32K Killisnoo 43.15 325 P P 10 38 44.2 +1.4
baz=15
M11K Mekoryuk 43.23 349 P P 10 38 42.7 -0.6
baz=5.4
MA2 Magadan 43.27 20 LR LR 10 55 03.8
comp=Z,338nm,20.9s,baz=345,slow=34
MA2 Magadan 43.27 20 *eP* **P 10 38 43.6 -0.2**
MA2 pmax pmax
comp=Z,55nm,1.5s
O17K Koliganek Bris 43.29 342 P P 10 38 42.8 -1.0
baz=8.4
MOY Mondy 43.38 62 *eP* **P 10 38 46.2 +1.4**
MOY pmax pmax
comp=Z,104nm,2.1s
BTLS Baital 43.43 90 *eP* **P 10 38 45.8 +0.5**
baz=90
BTLS Baital 43.43 90 *eP* **P 10 38 45.7 +0.5**
N14K Kuskokwak Cree 43.45 345 P P 10 38 44.4 -0.7
baz=6.9
P18K Big Mountain, 43.52 341 P P 10 38 45.0 -0.8
baz=8.9
O16K Kokwok River B 43.54 343 IAMs_20 IAMs_20 10 58 55.3
comp=Z,335nm,18.0s
O16K Kokwok River B 43.54 343 P P 10 38 45.0 -0.8
baz=8.0
MDT Midelt 43.57 183 LR LR 10 57 28.7
comp=Z,140nm,19.8s,baz=21,slow=37
SIT Sitka 43.65 325 P P 10 38 46.7 -0.1
baz=14
MAKZ Makanchi 43.66 82 IAMs_20 IAMs_20 11 00 17.4
comp=Z,829nm,18.0s
LKRN Lenkeran, Azer 43.66 119 P P 10 38 46.8 -0.3
EDM Edmonton 43.68 306 P P 10 38 48.0 +0.9
EDM Edmonton 43.68 306 P P 10 38 48.0 +0.9
EDM pmax pmax
comp=Z,109nm,0.9s
ZSN Zaisan 43.73 79 *eP* **P 10 38 47.8 +0.2**
baz=78
ZSN Zaisan 43.73 79 *eP* **P 10 38 47.8 +0.2**
MK31 Makanchi Array 43.74 81 *c iP* **P 10 38 47.3 -0.4**
MKAR Makanchi Array 43.74 81 P P 10 38 47.7 0.0
MKAR Makanchi Array 43.74 81 P P 10 38 48.0 +0.2
comp=Z,16nm,0.8s,baz=348,slow=5.8,SNR=40
MKAR PcP **PcP 10 40 34.7 +0.4**
comp=Z,1.1nm,0.5s,baz=9.9,slow=3.4,SNR=2.2
MKAR LR LR 11 00 31.2
comp=Z,746nm,18.4s,baz=344,slow=41
comp=Z,16nm,0.8s
E46A Sault Ste Mari 43.77 277 IAmb IAmb 10 38 50.2
comp=Z,51nm,0.9s
P17K Kvichak River 43.81 341 P P 10 38 47.0 -1.0
baz=8.5,SNR=9.8
PMPST Porto Santo, M 43.82 198 *eP* **P 10 38 49.7 +1.3**
WRAK Wrangell Islan 43.85 322 IAMs_20 IAMs_20 10 57 36.6
comp=Z,974nm,22.0s
Q19K Cape Douglas, 43.85 339 IAMs_20 IAMs_20 10 59 26.6
comp=Z,464nm,20.0s
Q19K Cape Douglas, 43.85 339 P P 10 38 48.2 -0.2
baz=9.4
EYMN Ely 43.97 284 P P 10 38 49.8 +0.3
EYMN IAmb IAmb 10 38 50.9
comp=Z,31nm,0.8s
EYMN Ely 43.97 284 IAMs_20 IAMs_20 10 57 47.9
comp=Z,797nm,18.0s
EYMN Ely 43.97 284 P P 10 38 49.5 0.0
baz=20,SNR=13
U35K Hyder 43.99 320 IAMs_20 IAMs_20 10 58 36.3
comp=Z,995nm,20.0s
U35K Hyder 43.99 320 P P 10 38 49.3 -0.3
baz=16
SADO Sadowa 44.04 271 LR LR 10 58 22.4
comp=Z,326nm,18.2s,baz=27,slow=38
Q20K Shuyak Island 44.06 338 P P 10 38 50.3 +0.2
baz=9.7
O15K Ungalikthiuk R 44.07 344 P P 10 38 49.4 -0.8
baz=7.4
O14K Tigyukauivet M 44.09 345 P P 10 38 50.0 -0.2
baz=8.9
P16K Nushagak River 44.09 343 P P 10 38 50.0 -0.3
baz=8.0
B35A Bob, Littlefor 44.09 287 IAmb IAmb 10 38 51.8
comp=Z,26nm,0.7s
PMOZ Porto Moniz, M 44.14 199 *eS* **S 10 45 25.7 +1.5**
PMOZ *eLR* LR 10 51 25.2
comp=Z,109nm,16.0s
U33K Whale Pass 44.26 323 IAMs_20 IAMs_20 10 57 50.3
comp=Z,817nm,22.0s
U33K Whale Pass 44.26 323 P P 10 38 50.8 -0.8
baz=15
Q16K King Salmon 44.34 341 P P 10 38 52.1 -0.2
baz=8.3
HRV Adam Dziewonsk 44.37 263 P P 10 38 53.6 +0.8
HRV IAmb IAmb 10 38 55.3
comp=Z,41nm,0.9s
HRV Adam Dziewonsk 44.37 263 P P 10 38 52.9 +0.1
baz=19
HRV Adam Dziewonsk 44.37 263 P P 10 38 53.6 +0.8
HRV pmax pmax
comp=Z,41nm,0.9s
K62A Royalston 44.38 264 IAmb IAmb 10 38 55.7
comp=Z,95nm,1.6s
E43A Lone Tree Farm 44.39 280 IAmb IAmb 10 38 54.8
comp=Z,49nm,0.9s
CSS Mathiatis 44.41 138 IAMs_20 IAMs_20 10 59 23.0
comp=Z,317nm,19.0s
KK31 Karatay Array 44.41 94 P P 10 38 53.6 +0.4
KK31 Karatay Array 44.41 94 P P 10 38 53.6 +0.4
KK31 pmax pmax
comp=Z,12nm,1.1s
KKAR Karatay Array 44.41 94 P P 10 38 53.3 +0.2
KKAR Karatay Array 44.41 94 P P 10 38 53.3 +0.2
WES Weston 44.43 262 IAmb IAmb 10 38 54.5
comp=Z,42nm,0.8s
J58A Remsen 44.45 267 IAmb IAmb 10 38 55.7
comp=Z,21nm,0.8s
TDK Taldyqorghan 44.51 86 *eP* **P 10 38 54.6 +0.7**
comp=Z,12nm,0.5s,baz=86
TDK Taldyqorghan 44.51 86 *eP* **P 10 38 54.6 +0.7**
TDK pmax pmax
comp=Z,12nm,0.5s
AGMN Agassiz Nation 44.63 289 P P 10 38 55.1 +0.3
AGMN IAmb IAmb 10 38 56.7
comp=Z,53nm,0.8s
AGMN IAMs_20 IAMs_20 10 58 06.5
comp=Z,606nm,19.0s
AGMN Agassiz Nation 44.63 289 P P 10 38 54.9 0.0
baz=20,SNR=36
L61B Northampton 44.69 264 IAmb IAmb 10 38 58.3
comp=Z,38nm,0.8s
L61B Northampton 44.69 264 P P 10 38 55.9 +0.6
baz=19,SNR=13
V35K Ketchikan 44.80 321 P P 10 38 55.4 -0.6
baz=15
CRAG Craig 44.88 323 P P 10 38 56.7 0.0
baz=15
KDAK Kodiak Island 44.90 338 P P 10 38 57.2 +0.5
KDAK IAmb IAmb 10 38 58.4
comp=Z,40nm,0.9s
KDAK Kodiak Island 44.90 338 P P 10 38 56.7 -0.1
baz=9.5

KDAK **Kodiak Island** 44.90 338 P **P** **10 38 57.2 +0.5**
KDAK pmax pmax
comp=Z,40nm,1.0s
CHM **Chimkent** 44.94 96 *e*P **P** **10 38 57.6 +0.3**
baz=96
CHM **Chimkent** 44.94 96 *e*P **P** **10 38 57.6 +0.3**
M65A **Busby, Falmout** 45.05 261 IAMs_20 IAMs_20 10 57 10.8
comp=Z,822nm,19.0s
M65A **Busby, Falmout** 45.05 261 P **P** **10 38 58.6 +0.5**
baz=18
KUU **Kurty** 45.06 88 *e*P **P** **10 38 58.6 +0.3**
comp=Z,10.0nm,0.7s,baz=88
KUU **Kurty** 45.06 88 *e*P **P** **10 38 58.5 +0.3**
KUU pmax pmax
comp=Z,10.0nm,0.7s
SGDS **Sogindy** 45.07 90 *e*P **P** **10 38 59.2 +0.8**
baz=90
SGDS **Sogindy** 45.07 90 *e*P **P** **10 38 59.1 +0.7**
ZAK **Zakamensk** 45.07 61 *e*P **P** **10 38 58.3 -0.1**
ZAK *e* 10 40 41.3
ZAK pmax pmax
comp=Z,7.0nm,2.2s
COWI **Conover** 45.16 281 IAmb IAmb 10 39 00.5
comp=Z,76nm,1.8s
IUG **luzhnay** 45.21 95 *e*P **P** **10 38 60.0 +0.4**
comp=Z,24nm,1.0s,baz=95
IUG **luzhnay** 45.21 95 *e*P **P** **10 38 59.9 +0.4**
IUG pmax pmax
comp=Z,23nm,1.0s
R18K **Karluk** 45.27 340 P **P** **10 38 59.1 -0.6**
baz=8.9
GLMI **Grayling** 45.29 277 P **P** **10 39 00.1 +0.1**
baz=19
OHAK **Old Harbor** 45.51 339 P **P** **10 39 02.0 +0.4**
baz=9.2
BINY **Binghamton** 45.71 267 IAmb IAmb 10 39 06.0
comp=Z,26nm,0.8s
BINY **Binghamton** 45.71 267 P **P** **10 39 03.9 +0.4**
baz=19,SNR=8.3
AAK **Ala-Archa** 45.80 91 P **P** **10 39 05.3 +1.0**
AAK **Ala-Archa** 45.80 91 LR LR 11 00 33.7
comp=Z,247nm,18.2s,baz=341,slow=39
AAK **Ala-Archa** 45.80 91 P **P** **10 39 05.6 +1.2**
AAK **Ala-Archa** 45.80 91 P **P** **10 39 05.4 +1.0**
AAK pmax pmax
comp=Z,20nm,1.5s
MDND **Maddock** 45.90 292 P **P** **10 39 05.0 +0.2**
baz=19,SNR=18
MDOK **Medeo** 45.92 88 *e*P **P** **10 39 05.5 +0.2**
baz=88
MDOK **Medeo** 45.92 88 *e*P **P** **10 39 05.4 +0.2**
TNSS **Tian-Shan** 46.01 88 *e*P **P** **10 39 06.7 +0.4**
baz=88
TNSS **Tian-Shan** 46.01 88 *e*P **P** **10 39 06.7 +0.4**
WVNY **West Valley, N** 46.14 270 IAmb IAmb 10 39 08.8
comp=Z,25nm,0.8s
L56A **Greenwood** 46.15 269 IAmb IAmb 10 39 08.9
comp=Z,22nm,0.8s
G40A **Rib Lake** 46.19 282 IAmb IAmb 10 39 08.9
comp=Z,68nm,1.5s
ZEA **Zeya** 46.23 40 *e*P **P** **10 39 08.5 +1.2**
ZEA *e* 10 45 54.2
ZEA pmax pmax
comp=N,100nm,3.2s
ZEA pmax pmax
comp=Z,200nm,5.5s
ZEA pmax pmax
comp=Z,20nm,1.3s
ZHN **Zhinishke** 46.24 87 *e*P **P** **10 39 08.2 +0.4**
baz=86
ZHN **Zhinishke** 46.24 87 *e*P **P** **10 39 08.2 +0.4**
SII **Sitkinak Islan** 46.24 339 P **P** **10 39 07.6 +0.1**
baz=8.8
BOOM **Boomskoye usch** 46.29 89 IAmb IAmb 10 39 11.7
comp=Z,45nm,1.3s
DGMT **Dagmar** 46.31 296 P **P** **10 39 09.0 +0.9**
baz=19,SNR=5.5
SATY **Saty** 46.34 87 *e*P **P** **10 39 09.0 +0.4**
comp=Z,19nm,1.1s,baz=86
SATY **Saty** 46.34 87 *e*P **P** **10 39 08.9 +0.4**
SATY pmax pmax
comp=Z,19nm,1.1s
PAL **Palisades** 46.35 264 P **P** **10 39 09.1 +0.7**
baz=18
H43A **Windswept, Lux** 46.37 279 IAmb IAmb 10 39 10.5
comp=Z,55nm,1.2s
UZB **Uzynbulak** 46.40 86 *e*P **P** **10 39 09.1 0.0**
baz=86
UZB **Uzynbulak** 46.40 86 *e*P **P** **10 39 09.1 0.0**
GEYT **Alibeck** 46.45 109 P **P** **10 39 10.1 +0.8**
GEYT **Alibeck** 46.45 109 P **P** **10 39 10.3 +1.0**
comp=Z,65nm,0.9s,baz=311,slow=9.0,SNR=93
GEYT LR LR 11 00 00.3
comp=Z,662nm,18.9s,baz=1.5,slow=38
comp=Z,65nm,0.9s
GEYT **Alibeck** 46.45 109 P **P** **10 39 10.1 +0.8**
GEYT pmax pmax
comp=Z,115nm,1.1s
SHLS **Shalkode** 46.50 86 *e*P **P** **10 39 11.2 +1.4**
comp=Z,14nm,0.8s,baz=85
SHLS **Shalkode** 46.50 86 *e*P **P** **10 39 11.2 +1.4**
SHLS pmax pmax
comp=Z,14nm,0.8s
SPIA **Saint Paul Isl** 46.60 351 P **P** **10 39 09.8 -0.4**
baz=3.8
MMAI **Mount Meron Ar** 46.66 136 P **P** **10 39 11.3 +0.2**
comp=Z,3.5nm,0.5s,baz=354,slow=6.7,SNR=10
MMAI LR LR 11 00 42.3
comp=Z,310nm,20.1s,baz=292,slow=39
comp=Z,3.5nm,0.5s
ERPA **Erie** 46.75 271 IAMs_20 IAMs_20 11 00 38.6
comp=Z,542nm,18.0s
ERPA **Erie** 46.75 271 P **P** **10 39 11.3 -0.3**
baz=19
CHGN **Chignik** 46.83 342 P **P** **10 39 11.5 -0.5**
baz=7.5
SPMN **Marine on St.** 46.83 284 P **P** **10 39 12.1 -0.1**
baz=19,SNR=15
S14K **Fog Glacier** 46.93 343 P **P** **10 39 12.0 -1.0**
baz=7.1
CHIR **Chirikof Islan** 47.10 340 P **P** **10 39 13.5 -0.6**
baz=8.3
P08K **Saint George I** 47.15 351 P **P** **10 39 14.2 -0.3**
baz=4.0
N58A **Sunbury** 47.18 267 IAmb IAmb 10 39 17.1
comp=Z,13nm,0.8s
BBB **Bella Bella** 47.30 318 LR LR 11 00 18.0
comp=Z,593nm,19.0s,baz=26,slow=38
AAM **Ann Arbor** 47.45 275 IAMs_20 IAMs_20 10 59 35.1
comp=Z,457nm,19.0s
AAM **Ann Arbor** 47.45 275 P **P** **10 39 18.0 +1.0**
baz=19
M53A **WI Miller and** 47.55 271 P **P** **10 39 18.8 +0.9**
baz=18,SNR=6.0
SSPA **Standing Stone** 47.65 268 IAMs_20 IAMs_20 10 58 01.5
comp=Z,390nm,18.0s
SSPA **Standing Stone** 47.65 268 P **P** **10 39 19.8 +1.1**
baz=18
S12K **Black Hills** 47.67 345 P **P** **10 39 19.6 +0.9**
baz=6.3
WMQ **Urumqi** 47.81 78 *e*P **P** **10 39 21.5 +1.5**
WMQ pmax pmax
comp=Z,30nm,1.5s
WMQ pmax pmax
comp=Z,170nm,3.8s
EGMT **Eagleton** 47.90 301 P **P** **10 39 21.6 +1.0**
baz=18,SNR=34
SDPT **Sand Point** 47.92 344 P **P** **10 39 21.5 +1.0**
baz=6.7
SONM **Songino Array** 48.14 59 P **P** **10 39 22.8 +0.3**
comp=Z,4.7nm,1.0s,baz=332,slow=7.1,SNR=17
SONM PcP **PcP** **10 40 50.3 +0.5**
comp=Z,0.7nm,0.5s,baz=320,slow=4.9,SNR=2.2
SONM LR LR 11 00 55.9
comp=Z,593nm,19.6s,baz=351,slow=38
comp=Z,4.7nm,1.0s
ULN **Ulaanbaatar** 48.24 59 P **P** **10 39 22.9 -0.4**
ULN IAmb IAmb 10 39 25.8
comp=Z,25nm,1.1s
ULN **Ulaanbaatar** 48.24 59 P **P** **10 39 24.0 +0.6**
ULN **Ulaanbaatar** 48.24 59 P **P** **10 39 22.9 -0.4**
ULN pmax pmax
comp=Z,25nm,1.2s
ULN MLR MLR
comp=Z,900nm,18.0s
SIMJ **Simiganj** 48.27 98 P **P** **10 39 23.5 -0.2**
CHNA **Chernabura Isl** 48.38 343 P **P** **10 39 24.6 +0.5**
baz=6.9
JFWS **Jewell Farm** 48.42 281 IAmb IAmb 10 39 26.4
comp=Z,38nm,0.9s
JFWS **Jewell Farm** 48.42 281 P **P** **10 39 25.5 +0.9**
baz=18,SNR=11
LAO **LASA Array** 48.44 297 IAmb IAmb 10 39 26.9
comp=Z,37nm,0.9s
LAO IAMs_20 IAMs_20 11 00 45.0
comp=Z,600nm,20.0s
LAO **LASA Array** 48.44 297 P **P** **10 39 26.0 +1.3**
baz=18
L44A **Lake County Fo** 48.57 278 P **P** **10 39 26.8 +1.0**
baz=18
FALS **False Pass** 48.60 346 P **P** **10 39 26.1 +0.3**
baz=5.8
O54A **Avella** 48.67 270 IAmb IAmb 10 39 28.2
comp=Z,16nm,0.8s
O53A **New Philadelph** 48.81 271 IAmb IAmb 10 39 29.4
comp=Z,22nm,0.8s
O53A **New Philadelph** 48.81 271 P **P** **10 39 28.4 +0.8**
baz=18,SNR=7.7
HQIL **Hanson Quary C** 48.92 278 IAMs_20 IAMs_20 10 59 32.9
comp=Z,844nm,20.0s
SUSD **Miller** 48.98 290 P **P** **10 39 29.5 +0.6**
baz=18,SNR=7.3
MCWV **Mont Chateau** 49.05 270 P **P** **10 39 30.5 +1.1**
baz=18
O52A **Adamsville** 49.09 272 IAmb IAmb 10 39 31.0
comp=Z,16nm,0.9s
KSH **Kashi** 49.12 91 P **P** **10 39 33.3 +3.2**
KSH pP pwP 10 39 38.5 +3.8
KSH sS sS 10 46 45.8 +9.1
KSH pmax pmax
comp=Z,13nm,0.9s
KSH LR LR
comp=Z,600nm,15.8s
KSH LR LR
comp=Z,770nm,16.1s
KSH LR LR
comp=Z,680nm,17.4s
ECSD **EROS Data Cent** 49.12 287 IAMs_20 IAMs_20 11 01 04.2
comp=Z,518nm,19.0s
ECSD **EROS Data Cent** 49.12 287 P **P** **10 39 30.4 +0.4**
baz=18,SNR=56
NEW **Newport** 49.13 307 IAmb IAmb 10 39 32.5
comp=Z,30nm,0.9s
NEW **Newport** 49.13 307 P **P** **10 39 30.7 +0.6**
baz=16,SNR=14
NEW **Newport** 49.13 307 LR LR 11 00 49.3
comp=Z,1μm,19.8s,baz=20,slow=37
L42A **Oliver, Polo** 49.15 280 IAmb IAmb 10 39 31.9
comp=Z,40nm,1.1s
ACSO **Alum Creek Sta** 49.25 273 IAMs_20 IAMs_20 11 00 39.7
comp=Z,660nm,18.0s
ACSO **Alum Creek Sta** 49.25 273 P **P** **10 39 31.2 +0.3**
baz=18,SNR=5.1
HIA **Hailar** 49.31 47 IAMs_20 IAMs_20 11 01 25.5
comp=Z,476nm,19.0s
Q56A **Snyder Ridge,** 49.47 269 IAmb IAmb 10 39 35.1
comp=Z,84nm,1.8s
P53A **Whipple** 49.58 271 IAmb IAmb 10 39 35.1
comp=Z,17nm,0.8s
P52A **Corning** 49.61 272 IAMs_20 IAMs_20 11 00 14.4
comp=Z,608nm,21.0s
P52A **Corning** 49.61 272 P **P** **10 39 34.2 +0.4**
baz=18
HEH **HeiHe** 49.63 41 *e*P **P** **10 39 33.5 -0.2**
HEH PP **PP** **10 41 28.0 +0.4**
HEH S **S** **10 46 40.0 -2.0**
HEH SS **SS** **10 50 12.5 -0.8**
HEH pmax pmax
comp=Z,13nm,1.3s
HEH pmax pmax
comp=Z,220nm,4.0s
HEH LR LR
comp=Z,140nm,17.7s
HEH LR LR
comp=Z,540nm,17.9s
HEH LR LR
comp=Z,470nm,22.7s
O48B **Farmland** 49.74 275 IAMs_20 IAMs_20 11 01 13.8
comp=Z,548nm,20.0s
O48B **Farmland** 49.74 275 P **P** **10 39 35.5 +0.8**
baz=18,SNR=7.0
UNV **Unalaska Valle** 49.77 348 P **P** **10 39 34.7 0.0**
baz=4.7
CBN **Corbin Frederi** 49.84 267 IAMs_20 IAMs_20 11 00 08.4
comp=Z,544nm,18.0s
CBN **Corbin Frederi** 49.84 267 P **P** **10 39 36.2 +0.8**
baz=18
EIL **Elat** 49.86 137 LR LR 11 01 32.8
comp=Z,125nm,20.7s,baz=56,slow=37
MSO **Missoula** 49.89 304 P **P** **10 39 37.1 +1.2**
baz=17,SNR=74
Q54A **Coxs Mills** 49.92 270 IAmb IAmb 10 39 38.2
comp=Z,23nm,0.7s
PGC **Sidney** 49.92 312 IAmb IAmb 10 39 38.0
comp=Z,39nm,1.0s
SCIA **State Center** 50.07 283 P **P** **10 39 37.6 +0.4**
baz=18
SFIN **Lafayette** 50.09 277 P **P** **10 39 38.3 +1.0**
baz=18,SNR=8.5
PETK **Petropavlovsk-** 50.21 16 P **P** **10 39 39.1 +1.0**
comp=Z,5.0nm,1.0s,baz=41,slow=8.3,SNR=4.1
PETK PcP **PcP** **10 40 56.9 -0.2**
comp=Z,1.1nm,0.6s,baz=15,slow=6.1,SNR=1.1
PETK LR LR 10 59 05.7
comp=Z,285nm,21.1s,baz=351,slow=34
comp=Z,5.0nm,1.0s
Q52A **Bidwell** 50.28 272 IAmb IAmb 10 39 40.7
comp=Z,34nm,1.7s
P49A **Miami Univ. Ec** 50.32 274 IAMs_20 IAMs_20 11 00 56.2
comp=Z,670nm,18.0s
P49A **Miami Univ. Ec** 50.32 274 P **P** **10 39 39.1 0.0**
baz=18,SNR=5.7
PET **Petropavlovsk** 50.36 15 *e*P P 10 39 44.6 +5.4
PET *e* 10 41 37.2
PET *e*S **S** **10 46 51.6 -0.4**
PET pmax pmax
comp=Z,100nm,10.9s
PET pmax pmax
comp=Z,100nm,12.9s
PET MLR MLR
comp=Z,300nm,16.0s
PET MLR MLR
comp=Z,400nm,14.0s
RSSD **Black Hills** 50.41 294 P **P** **10 39 40.7 +0.7**
baz=18
HDIL **Hopedale** 50.44 279 IAmb IAmb 10 39 41.9
comp=Z,48nm,1.0s
HDIL **Hopedale** 50.44 279 P **P** **10 39 40.6 +0.6**
baz=18,SNR=5.7
Q51A **Peebles** 50.48 273 IAmb IAmb 10 39 42.0
comp=Z,85nm,1.8s
BOZ **Bozeman (W)** 50.60 301 IAmb IAmb 10 39 45.9
comp=Z,55nm,2.0s
BOZ **Bozeman (W)** 50.60 301 P **P** **10 39 41.6 +0.2**
baz=17,SNR=11
NIKH **Nikolski High** 50.75 350 P **P** **10 39 43.7 +1.5**
baz=4.0
GNW **Green Mountain** 50.86 312 IAmb IAmb 10 39 45.9
comp=Z,34nm,1.1s
DLMT **Dillon** 51.03 302 IAmb IAmb 10 40 04.8
comp=Z,27nm,1.1s
SHEM **Shemya Is, Ala** 51.24 3 LR LR 11 02 00.6
comp=Z,93nm,19.5s,baz=313,slow=37
KLR **Kul'dur** 51.28 38 LR LR 11 01 58.5
comp=Z,263nm,18.6s,baz=346,slow=37
KLR **Kul'dur** 51.28 38 *c* P **P** **10 39 46.1 -0.1**
KLR pmax pmax
comp=Z,17nm,2.0s
HAWA **Hanford** 51.39 308 IAmb IAmb 10 39 49.4
comp=Z,84nm,1.4s
LON **Longmire** 51.47 310 IAmb IAmb 10 39 49.9
comp=Z,84nm,1.6s
BLA **Blacksburg** 51.51 269 IAmb IAmb 10 39 50.1
comp=Z,103nm,1.8s
BLA IAMs_20 IAMs_20 11 00 21.6
comp=Z,339nm,19.0s
BLA **Blacksburg** 51.51 269 P **P** **10 39 48.8 +0.7**
baz=17
H17A **Grant Village** 51.54 300 IAmb IAmb 10 39 52.1
comp=Z,38nm,1.0s
H17A **Grant Village** 51.54 300 P **P** **10 39 50.6 +2.1**
baz=17,SNR=22
BGNE **Belgrade** 51.68 288 P **P** **10 39 49.3 -0.1**
baz=18
WCI **Wyandotte Cave** 51.94 275 IAMs_20 IAMs_20 11 02 50.0
comp=Z,696nm,19.0s
WCI **Wyandotte Cave** 51.94 275 P **P** **10 39 51.5 +0.2**
baz=18
IMW **Indian Meadow** 52.09 300 IAmb IAmb 10 39 55.6
comp=Z,42nm,0.8s
MOOW **Moose Ponds** 52.19 300 IAmb IAmb 10 39 56.0
comp=Z,28nm,1.2s
KBL **Kabul** 52.21 99 P **P** **10 39 53.5 0.0**
KBL **Kabul** 52.21 99 P **P** **10 39 53.8 +0.2**
KBL **Kabul** 52.21 99 P **P** **10 39 53.6 0.0**
LOHW **Long Hollow** 52.29 300 IAmb IAmb 10 39 56.8
comp=Z,36nm,1.3s
K22A **Casper** 52.35 296 P **P** **10 39 54.6 0.0**
baz=17,SNR=44
FXWY **Fox Creek** 52.36 300 IAmb IAmb 10 39 57.4
comp=Z,42nm,1.2s
F04A **Amboy** 52.36 311 IAmb IAmb 10 39 58.2
comp=Z,36nm,0.7s
SNOW **Snow King Moun** 52.47 300 IAmb IAmb 10 39 58.4
comp=Z,37nm,1.4s
TPAW **Teton Pass** 52.48 300 IAmb IAmb 10 39 58.4
comp=Z,28nm,1.1s
U54A **Nelsons Funny** 52.50 270 IAmb IAmb 10 39 57.4
comp=Z,78nm,1.6s
V58A **Windy Hill, Pi** 52.55 268 IAmb IAmb 10 39 57.7
comp=Z,23nm,0.8s
KBD **Kabd** 52.66 123 P **P** **10 39 57.1 +0.4**
G06A **Carlson Farm,** 52.71 309 IAmb IAmb 10 40 00.0
comp=Z,45nm,1.3s
CNNC **Cliffs of the** 52.79 266 IAMs_20 IAMs_20 11 03 59.5
comp=Z,492nm,18.0s
CNNC **Cliffs of the** 52.79 266 P **P** **10 39 58.3 +0.8**
baz=17
HOOD **Mount Hood Mea** 52.81 310 IAmb IAmb 10 40 01.0
comp=Z,48nm,1.0s
G05A **Wamic** 52.83 310 IAmb IAmb 10 40 05.8
comp=Z,32nm,0.9s
PD31 **Pinedale Array** 52.89 298 IAmb IAmb 10 40 00.2
comp=Z,33nm,1.1s
PDAR **Pinedale Array** 52.89 298 P **P** **10 39 58.8 +0.2**
PDAR **Pinedale Array** 52.89 298 P **P** **10 39 59.2 +0.6**
comp=Z,15nm,0.9s,baz=35,slow=6.0,SNR=78
PDAR PP **PP** **10 41 58.7 +1.1**
comp=Z,1.7nm,0.8s,baz=17,slow=9.7,SNR=2.4
PDAR LR LR 11 02 13.1
comp=Z,447nm,21.7s,baz=17,slow=36
comp=Z,15nm,0.9s
TZTN **Tazewell** 52.89 272 IAmb IAmb 10 40 00.5
comp=Z,49nm,1.4s
TZTN IAMs_20 IAMs_20 11 02 16.2
comp=Z,559nm,20.0s
TZTN **Tazewell** 52.89 272 P **P** **10 39 59.2 +0.8**
baz=17,SNR=5.9
OGNE **Ogallala** 53.00 291 IAMs_20 IAMs_20 11 02 32.8
comp=Z,396nm,19.0s
OGNE **Ogallala** 53.00 291 P **P** **10 39 59.9 +0.7**
baz=17,SNR=13
HLID **Hailey** 53.12 303 IAmb IAmb 10 40 02.2
comp=Z,37nm,0.8s
HLID **Hailey** 53.12 303 P **P** **10 40 01.1 +0.9**
baz=16,SNR=55
FVM **French Village** 53.15 279 IAmb IAmb 10 40 01.0
comp=Z,18nm,0.8s
AHID **Auburn Hatcher** 53.21 300 IAmb IAmb 10 40 03.2
comp=Z,69nm,1.8s
CCM **Cathedral Cave** 53.28 280 IAMs_20 IAMs_20 11 02 56.3
comp=Z,727nm,20.0s
CCM **Cathedral Cave** 53.28 280 P **P** **10 40 00.3 -0.9**
baz=17
CCM **Cathedral Cave** 53.28 280 P **P** **10 40 00.5 -0.7**
CCM pmax pmax
comp=Z,23nm,0.8s
CCM MLR MLR
comp=Z,700nm,20.0s
R40A **Maddies Statio** 53.29 281 IAmb IAmb 10 40 02.0
comp=Z,27nm,0.8s
T47A **Sharon Grove** 53.31 276 IAmb IAmb 10 40 02.5
comp=Z,28nm,0.8s
W57A **Gilead** 53.37 268 IAmb IAmb 10 40 03.5
comp=Z,25nm,0.8s
PHWY **Pilot Hill** 53.41 294 IAmb IAmb 10 40 03.9
comp=Z,31nm,1.5s
RWWY **Rawlins** 53.42 296 IAmb IAmb 10 40 04.0
comp=Z,78nm,1.6s
U49A **Red Boiling Sp** 53.45 274 IAmb IAmb 10 40 03.9
comp=Z,44nm,1.8s
H04A **Detroit Lake** 53.53 310 IAmb IAmb 10 40 05.1
comp=Z,22nm,0.8s
KSU1 **Kansas State U** 53.53 285 IAMs_20 IAMs_20 11 03 31.9
comp=Z,548nm,19.0s
KSU1 **Kansas State U** 53.53 285 P **P** **10 40 02.6 -0.4**
baz=17
V53A **Saluda** 53.55 271 IAmb IAmb 10 40 04.7
comp=Z,21nm,0.8s
V52A **Sevierville** 53.57 272 IAmb IAmb 10 40 05.2
comp=Z,75nm,1.6s
I07A **Izee** 53.61 308 IAmb IAmb 10 40 07.0
comp=Z,47nm,0.9s
CGM3 **Cape Girardeau** 53.62 278 IAmb IAmb 10 40 04.8
comp=Z,29nm,0.9s
TAM **Tamanrasset** 53.66 172 P **P** **10 40 04.8 +0.5**
TAM IAMs_20 IAMs_20 11 02 16.9
comp=Z,256nm,22.0s
TAM **Tamanrasset** 53.66 172 P **P** **10 40 04.8 +0.5**
TAM pmax pmax
comp=Z,7.0nm,0.8s
KMSC **Kings Mountain** 53.70 269 IAmb IAmb 10 40 06.0
comp=Z,26nm,0.8s
KMSC **Kings Mountain** 53.70 269 P **P** **10 40 05.0 +0.6**
baz=17,SNR=3.9
I05D **Terrebonne, OR** 53.71 309 IAmb IAmb 10 40 06.8
comp=Z,27nm,0.8s
TKL **Tuckaleechee C** 53.79 272 IAmb IAmb 10 40 06.7
comp=Z,25nm,0.6s
TKL **Tuckaleechee C** 53.79 272 LR LR 11 03 05.0
comp=Z,561nm,19.2s,baz=14,slow=36
XLT **XiLinHaoTe** 53.82 52 *e*P **P** **10 40 06.0 +0.8**
XLT S **S** **10 47 41.0 +0.9**
XLT pmax pmax
comp=Z,180nm,5.2s
XLT LR LR
comp=Z,2μm,19.5s
XLT LR LR
comp=Z,940nm,15.6s
BRIGG **Briggsdale** 53.85 293 IAmb IAmb 10 40 07.7
comp=Z,32nm,0.7s
N23A **Red Feather La** 53.91 295 P **P** **10 40 06.5 +0.3**
baz=17,SNR=24
BIRD **Birdtown, Kers** 53.97 268 IAmb IAmb 10 40 08.2
comp=Z,39nm,1.4s
CLTN **Cedars of Leba** 53.99 275 IAmb IAmb 10 40 07.7
comp=Z,72nm,1.7s
BNX **BinXian** 54.02 42 *e*P **P** **10 40 07.0 +0.5**
BNX S **S** **10 47 43.0 +0.5**
BNX pmax pmax
comp=Z,17nm,1.1s
BNX pmax pmax
comp=Z,190nm,5.8s
BNX LR LR
comp=Z,260nm,12.9s
BNX LR LR
comp=Z,300nm,14.1s
BNX LR LR
comp=Z,310nm,13.3s
NIL **Nilore** 54.06 95 P **P** **10 40 07.3 +0.3**
NIL IAmb IAmb 10 40 08.9
comp=Z,28nm,0.8s
NIL **Nilore** 54.06 95 P **P** **10 40 07.3 +0.3**
NIL **Nilore** 54.06 95 P **P** **10 40 07.3 +0.3**
NIL pmax pmax
comp=Z,28nm,0.9s
S39A **Bolivar** 54.11 282 IAmb IAmb 10 40 08.1
comp=Z,46nm,1.5s
PAULI **Pauline** 54.12 270 P **P** **10 40 07.2 -0.2**
PAULI IAmb IAmb 10 40 09.1
comp=Z,23nm,0.8s
BUCK **Buck Mountain** 54.14 311 IAmb IAmb 10 40 10.4
comp=Z,30nm,0.8s
PINE **Pine Mountain** 54.16 309 IAmb IAmb 10 40 10.7
comp=Z,20nm,0.8s
CPCT **Cooper Cave** 54.17 273 IAmb IAmb 10 40 09.6
comp=Z,54nm,1.6s
T42A **Van Buren** 54.22 279 IAmb IAmb 10 40 08.8
comp=Z,26nm,0.7s
BG3 **Lake Jocassee** 54.22 271 IAmb IAmb 10 40 09.9
comp=Z,24nm,0.8s
PBMO **Poplar Bluff** 54.30 279 IAmb IAmb 10 40 09.6
comp=Z,38nm,0.9s

WVT	Waverly	54.31	276		IAMs_20	IAMs_20	11 04 23.6			
	comp=Z,489nm,18.0s									
W52A	Murphy	54.37	272		IAmb	IAmb	10 40 10.9			
	comp=Z,47nm,1.4s									
HWUT	Hardware Ranch	54.42	300		IAmb	IAmb	10 40 11.8			
	comp=Z,30nm,1.1s									
I04A	Tendick Farm,	54.43	310		IAmb	IAmb	10 40 11.7			
	comp=Z,28nm,0.9s									
V48A	Smith Brothers	54.44	275		IAmb	IAmb	10 40 10.5			
	comp=Z,46nm,1.4s									
HVU	Hansel Valley	54.50	301		IAmb	IAmb	10 40 12.4			
	comp=Z,36nm,1.6s									
JSC	Jenkinsville	54.50	269		IAmb	IAmb	10 40 11.9			
	comp=Z,15nm,0.8s									
CBKS	Cedar Bluff	54.52	288		IAmb	IAmb	10 40 11.7			
	comp=Z,39nm,0.8s									
CBKS					IAMs_20	IAMs_20	11 03 24.0			
	comp=Z,440nm,22.0s									
CBKS	Cedar Bluff	54.52	288		P	P	10 40 10.5	+0.2		
	baz=17,SNR=6.9									
W50A	Signal Mountai	54.59	273		IAmb	IAmb	10 40 12.0			
	comp=Z,25nm,0.7s									
I03D	Drain, OR	54.69	311		IAmb	IAmb	10 40 14.3			
	comp=Z,34nm,0.8s									
SWET	Sewanee	54.73	274		IAmb	IAmb	10 40 12.2			
	comp=Z,25nm,0.7s									
GTA	Gaotai	54.77	68		P	P	10 40 12.5	+0.2		
GTA					pP	pwP	10 40 17.0	+0.1		
GTA					sP	sP	10 40 20.3	+7.0		
GTA					S	S	10 47 50.5	-2.6		
GTA					sS	sS	10 47 57.5	+3.1		
GTA					pmax	pmax				
	comp=Z,21nm,1.2s									
GTA					pmax	pmax				
	comp=Z,250nm,5.6s									
GTA					LR	LR				
	comp=Z,740nm,18.3s									
GTA					LR	LR				
	comp=Z,490nm,15.1s									
GTA					LR	LR				
	comp=Z,870nm,16.7s									
TCUT	Toone Canyon	54.85	299		IAmb	IAmb	10 40 17.7			
	comp=Z,57nm,1.6s									
ISCO	Idaho Springs	54.88	294		IAmb	IAmb	10 40 15.4			
	comp=Z,27nm,1.4s									
ISCO					IAMs_20	IAMs_20	11 04 49.6			
	comp=Z,589nm,20.0s									
ISCO	Idaho Springs	54.88	294		P	P	10 40 14.0	+0.7		
	baz=16,SNR=18									
YSS	Yuzh-Sakhalins	54.95	29	*e*	P	P	10 40 14.6	+1.3		
YSS				*e*			10 42 23.3			
YSS				*e*	S	S	10 47 54.7	-0.3		
YSS				*e*	SS	SS	10 51 45.5	+7.9		
YSS					pmax	pmax				
	comp=Z,20nm,1.0s									
YSS					pmax	pmax				
	comp=Z,200nm,5.7s									
KSCO	Kaye Shedlock'	54.98	291		IAmb	IAmb	10 40 15.2			
	comp=Z,28nm,0.7s									
KSCO	Kaye Shedlock'	54.98	291		P	P	10 40 14.1	+0.4		
	baz=17,SNR=12									
O20A	White River Ci	55.13	296		P	P	10 40 15.8	+0.9		
	baz=16,SNR=80									
DBO	Dodson Butte	55.23	310		IAmb	IAmb	10 40 28.1			
	comp=Z,28nm,1.2s									
BSUT	Blindstream Ca	55.28	299		IAmb	IAmb	10 40 18.8			
	comp=Z,58nm,1.5s									
FPAL	Fort Paine	55.30	273		IAmb	IAmb	10 40 16.7			
	comp=Z,29nm,0.7s									
BGU	Big Grassy Mou	55.37	301		IAmb	IAmb	10 40 18.9			
	comp=Z,34nm,1.6s									
MDJ	Mudanjiang	55.46	41		P	P	10 40 17.0	0.0		
MDJ					pP	sP	10 40 18.5	+0.7		
MDJ					sP	pwP	10 40 20.8	-1.3		
MDJ					PP	PP	10 42 20.0	-0.3		
MDJ					ScP	ScP	10 45 16.0	+0.1		
MDJ					PcS	PcS	10 45 17.5	+0.5		
MDJ					S	S	10 48 00.0	-1.8		
MDJ					sS	sS	10 48 10.3	+7.4		
MDJ					pmax	pmax				
	comp=Z,12nm,1.4s									
MDJ					pmax	pmax				
	comp=Z,200nm,6.1s									
MDJ					LR	LR				
	comp=Z,180nm,16.2s									
MDJ					LR	LR				
	comp=Z,300nm,14.3s									
MDJ					LR	LR				
	comp=Z,340nm,15.4s									
MDJ	Mudanjiang	55.46	41		IAMs_20	IAMs_20	11 03 15.1			
	comp=Z,238nm,22.0s									
PLAL	Pickwick Lake	55.46	276		IAmb	IAmb	10 40 17.8			
	comp=Z,38nm,1.3s									
FCAR	Ozark Folk Cen	55.55	280		IAmb	IAmb	10 40 18.6			
	comp=Z,29nm,0.8s									
U38A	Gravette	55.55	282		IAmb	IAmb	10 40 17.9			
	comp=Z,30nm,0.8s									
Y52A	Lilburn	55.57	272		IAmb	IAmb	10 40 19.4			
	comp=Z,31nm,0.8s									
Q24A	Divide	55.58	293		P	P	10 40 18.8	+0.4		
	baz=16,SNR=7.8									
CN2	Changchun	55.59	44	*e*	P	P	10 40 18.5	+0.6		
CN2				*e*	S	S	10 47 58.0	-5.6		
CN2					pmax	pmax				
	comp=Z,10.0nm,0.8s									
CN2					pmax	pmax				
	comp=Z,200nm,5.0s									
CN2					LR	LR				
	comp=Z,400nm,15.0s									
CN2					LR	LR				
	comp=Z,300nm,15.0s									
CN2					LR	LR				
	comp=Z,600nm,14.0s									
T35A	Sooner Cattle	55.59	285		IAmb	IAmb	10 40 18.9			
	comp=Z,45nm,1.0s									
KAN08	Anthony NE Sta	55.63	286		IAmb	IAmb	10 40 19.5			
	comp=Z,45nm,1.0s									
KAN01	Argonia South	55.65	286		IAmb	IAmb	10 40 19.7			
	comp=Z,42nm,1.0s									
HUMO	Hull Mountain	55.68	310		IAmb	IAmb	10 40 29.8			
	comp=Z,25nm,1.4s									
X48A	Hartselle	55.72	275		IAmb	IAmb	10 40 19.1			
	comp=Z,14nm,0.8s									
K02D	Willamette Mer	55.72	311		IAmb	IAmb	10 40 21.9			
	comp=Z,34nm,1.0s									
SMCO	Snowmass	55.77	295		IAmb	IAmb	10 40 21.5			
	comp=Z,16nm,0.8s									
BTO	Baotou	55.80	59	*e*	P	P	10 40 18.3	-1.3		
BTO					pP	pwP	10 40 23.0	-1.3		
BTO					sP	sP	10 40 25.3	+4.6		
BTO					PP	PP	10 42 24.3	+0.6		
BTO					S	S	10 48 05.3	-1.5		
BTO					pmax	pmax				
	comp=Z,15nm,0.6s									
BTO					LR	LR				
	comp=Z,630nm,16.4s									
BTO					LR	LR				
	comp=Z,2μm,18.0s									
BTO					LR	LR				
	comp=Z,820nm,19.2s									
GOGA	Godfrey	55.86	271		IAmb	IAmb	10 40 21.3			
	comp=Z,34nm,0.8s									
GOGA	Godfrey	55.86	271		IAMs_20	IAMs_20	11 05 02.9			
	comp=Z,532nm,18.0s									
GOGA	Godfrey	55.86	271		P	P	10 40 20.2	+0.2		
	baz=16,SNR=15									
HHC	Hu-ho-hao-te	55.88	57	*e*	P	P	10 40 17.5	-2.7		
HHC					S	S	10 47 56.5	-11		
HHC					pmax	pmax				
	comp=Z,8.0nm,0.8s									
HHC					pmax	pmax				
	comp=Z,130nm,5.7s									
HHC					LR	LR				
	comp=Z,590nm,18.3s									
HHC					LR	LR				
	comp=Z,500nm,17.6s									
HHC					LR	LR				
	comp=Z,780nm,16.8s									
BLOK	Blackwell	55.90	285		IAmb	IAmb	10 40 21.5			
	comp=Z,47nm,1.1s									
L04D	Klamath Falls	55.94	309		IAmb	IAmb	10 40 22.9			
	comp=Z,47nm,1.1s									
RLO	Rose Lookout	55.97	283		IAmb	IAmb	10 40 20.8			
	comp=Z,15nm,0.8s									
DUG	Dugway, Tooele	56.03	300		P	P	10 40 22.2	+0.9		
	baz=16,SNR=7.2									
P18A	Preston Nutter	56.04	298		IAmb	IAmb	10 40 23.1			
	comp=Z,14nm,0.7s									
NLU	North Lily Min	56.11	300		IAmb	IAmb	10 40 32.9			
	comp=Z,30nm,1.6s									
Y49A	Blount Mountai	56.14	274		IAmb	IAmb	10 40 22.3			
	comp=Z,29nm,0.7s									
WHAR	Wooly Hollow	56.16	280		IAmb	IAmb	10 40 23.1			
	comp=Z,28nm,0.8s									
OXF	Oxford	56.23	277		IAmb	IAmb	10 40 23.2			
	comp=Z,35nm,1.0s									
OXF					IAMs_20	IAMs_20	11 04 47.4			
	comp=Z,362nm,18.0s									
OXF	Oxford	56.23	277		P	P	10 40 22.1	-0.5		
	baz=17,SNR=5.4									
USA0B	Ussuriysk Arra	56.23	39		P	P	10 40 22.3	-0.2		
USA0B	Ussuriysk Arra	56.23	39		P	P	10 40 22.3	-0.2		
USA0B					pmax	pmax				
	comp=Z,17nm,1.3s									
USRK	Ussuriysk Ar.	56.23	39		P	P	10 40 22.1	-0.4		
USRK	Ussuriysk Ar.	56.23	39		P	P	10 40 22.4	0.0		
	comp=Z,5.4nm,0.9s,baz=337,slow=6.8,SNR=20									
USRK					PcP	PcP	10 41 19.9	-0.1		
	comp=Z,3.3nm,0.5s,baz=321,slow=3.6,SNR=13									
USRK					LR	LR	11 04 15.9			
	comp=Z,162nm,19.3s,baz=345,slow=36									
	comp=Z,5.4nm,0.9s									
CROK	Carrier	56.33	286		IAmb	IAmb	10 40 24.5			
	comp=Z,48nm,1.1s									
SAKB	Bahrain	56.34	121		P	P	10 40 23.4	0.0		
QUOK	Quay	56.35	284		IAmb	IAmb	10 40 24.7			
	comp=Z,42nm,1.1s									
TUL3	Leonard	56.39	283		P	P	10 40 23.7	0.0		
	baz=17									
YBH	Yreka Blue Hor	56.48	310		LR	LR	11 04 32.4			
	comp=Z,748nm,21.7s,baz=9.5,slow=36									
SHMA	Al-Shehemyia	56.54	121		P	P	10 40 24.7	-0.2		
TMUT	Trail Mountain	56.56	299		IAmb	IAmb	10 40 27.4			
	comp=Z,21nm,0.7s									
DEOK	Depew	56.62	284		IAmb	IAmb	10 40 26.4			
	comp=Z,47nm,1.2s									
UALR	University of	56.67	280		IAmb	IAmb	10 40 27.9			
	comp=Z,30nm,1.2s									
U32A	Winter Ranch,	56.68	287		IAmb	IAmb	10 40 26.8			
	comp=Z,19nm,0.8s									
GOMU	GeErMu	56.72	74		P	P	10 40 27.5	+0.9		
GOMU					pP	pwP	10 40 31.5	+0.3		
GOMU					sP	sP	10 40 33.0	+5.4		
GOMU					S	S	10 48 20.5	+0.9		
GOMU					pmax	pmax				
	comp=Z,71nm,0.9s									
GOMU					LR	LR				
	comp=Z,1μm,14.7s									
GOMU					LR	LR				
	comp=Z,470nm,14.4s									
GOMU					LR	LR				
	comp=Z,1μm,15.0s									
SDCO	Great Sand Dun	56.83	293		P	P	10 40 27.4	+0.2		
	baz=16,SNR=18									
152A	Waverly Hall	56.87	272		IAmb	IAmb	10 40 28.2			
	comp=Z,17nm,0.7s									
Q16A	Castle Valley	56.92	299		IAmb	IAmb	10 40 30.4			
	comp=Z,21nm,0.7s									
LRAL	Lakeview Retre	57.06	274		P	P	10 40 29.4	+0.8		
	baz=16									
ELIS	Ellis County	57.07	287		IAmb	IAmb	10 40 30.5			
	comp=Z,41nm,1.1s									
Z47A	Carrollton	57.16	275		IAmb	IAmb	10 40 29.1			
	comp=Z,28nm,0.6s									
T25A	Trinidad	57.17	292		P	P	10 40 29.6	0.0		
	baz=16									
MIAR	Mount Ida	57.18	281		IAmb	IAmb	10 40 30.8			
	comp=Z,43nm,1.1s									
MIAR	Mount Ida	57.18	281		P	P	10 40 29.5	+0.2		
	baz=16,SNR=16									
SNY	Shenyang	57.19	46	⇓	P	P	10 40 28.8	-0.5		
SNY					S	S	10 48 24.3	-0.5		
SNY					pmax	pmax				
	comp=Z,7.0nm,0.7s									
SNY					pmax	pmax				
	comp=Z,140nm,4.3s									
SNY					LR	LR				
	comp=Z,250nm,12.5s									
SNY					LR	LR				
	comp=Z,220nm,14.0s									
SNY					LR	LR				
	comp=Z,350nm,13.7s									
VLA	Vladivostok	57.27	39	*e*	P	P	10 40 29.3	-0.6		
VLA					pmax	pmax				
	comp=Z,35nm,0.9s									
SHME	Shamm	57.45	115		P	P	10 40 31.4	+0.1		
SPR3	Spring Creek 3	57.49	301		IAmb	IAmb	10 40 35.6			
	comp=Z,64nm,1.9s									
X37A	Clayton	57.55	283		IAmb	IAmb	10 40 33.2			
	comp=Z,18nm,0.8s									
BJI	Beijing	57.57	53		P	P	10 40 33.0	+1.0		
BJI					S	S	10 48 29.5	-0.3		
BJI					pmax	pmax				
	comp=Z,5.0nm,1.1s									
BJI					pmax	pmax				
	comp=Z,96nm,5.0s									
BJI					LR	LR				
	comp=Z,96nm,16.6s									
BJI					LR	LR				
	comp=Z,860nm,17.6s									
BJI					LR	LR				
	comp=Z,560nm,14.5s									
SMRA	Abu-Samra	57.59	121		P	P	10 40 32.0	-0.4		
TRNA	Turayna	57.68	121		P	P	10 40 32.7	-0.3		
RAYN	Ar Rayn	57.73	127		P	P	10 40 33.6	+0.2		
RAYN	Ar Rayn	57.73	127	*i*	P	P	10 40 33.7	+0.3		
	SNR=14									
RAYN	Ar Rayn	57.73	127		P	P	10 40 33.7	+0.3		
RAYN	Ar Rayn	57.73	127		P	P	10 40 33.6	+0.2		
RAYN					pmax	pmax				
	comp=Z,10.0nm,0.9s									
ASAJ	Asahikawa	57.73	30		LR	LR	11 07 22.0			
	comp=Z,198nm,18.2s,baz=338,slow=38									
PAHR	Pah Rah Range	57.81	306		P	P	10 40 35.6	+1.6		
PAHR	Pah Rah Range	57.81	306		IAmb	IAmb	10 40 36.2			
	comp=Z,16nm,1.0s									
JRN	Qarnain Island	57.82	119		P	P	10 40 34.0	0.0		
PSUT	Pine Spring	57.85	301		IAmb	IAmb	10 40 37.0			
	comp=Z,14nm,0.7s									
WLAR	White Oak Lake	57.89	280		P	P	10 40 34.3	-0.1		
MVCO	Mesa Verde	57.99	296		IAmb	IAmb	10 40 43.2			
	comp=Z,26nm,0.9s									
MVCO	Mesa Verde	57.99	296		P	P	10 40 36.2	+0.8		
	baz=16,SNR=36									
JASK	Jask - Hormozg	58.00	114		P	P	10 40 35.5	+0.3		
MASF	Masafi	58.10	115		P	P	10 40 36.4	+0.4		
MSFE	Esma-Masafi	58.12	115	*i*	P	P	10 40 36.4	+0.3		
	SNR=14									
WMOK	Wichita Mounta	58.20	286		IAmb	IAmb	10 40 38.4			
	comp=Z,19nm,0.9s									
WMOK	Wichita Mounta	58.20	286		IAMs_20	IAMs_20	11 06 01.5			
	comp=Z,348nm,19.0s									
WMOK	Wichita Mounta	58.20	286		P	P	10 40 37.4	+0.8		
	baz=16,SNR=20									
MDH	Madha	58.20	115		P	P	10 40 36.8	+0.1		
MDH	Madha	58.20	115		P	P	10 40 37.6	+0.9		
NAZ	Nazwa, Dubai	58.37	116		P	P	10 40 37.8	0.0		
NAZ	Nazwa, Dubai	58.37	116		P	P	10 40 38.2	+0.4		
R11B	Troy Canyon, C	58.38	302		IAMs_20	IAMs_20	11 05 43.0			
	comp=Z,688nm,22.0s									
R11B	Troy Canyon, C	58.38	302		P	P	10 40 38.4	+0.4		
	baz=15,SNR=31									
SLWR	Sila	58.42	120		P	P	10 40 38.2	0.0		
YERR	Yerington	58.48	306		IAmb	IAmb	10 40 41.5			
	comp=Z,24nm,0.9s									
UOSS	Minazif	58.53	115		P	P	10 40 38.7	-0.2		
UOSS					IAmb	IAmb	10 40 40.7			
	comp=Z,36nm,0.9s									
UOSS	Minazif	58.53	115	*i*	P	P	10 40 38.9	0.0		
	SNR=9.1									
UOSS	Minazif	58.53	115		P	P	10 40 38.9	0.0		
FAQ	Al Faqa, Dubai	58.59	116		P	P	10 40 38.9	-0.4		
HATD	Hatta, Dubai	58.63	116	*i*	P	P	10 40 39.4	-0.3		
	SNR=17									
HATD	Hatta, Dubai	58.63	116		P	P	10 40 39.9	+0.3		
AJN	Ajban	58.64	117		P	P	10 40 39.3	-0.3		
ASUD	Al Ashush, Dub	58.65	116		P	P	10 40 39.7	0.0		
VBMS	Vicksburg	58.68	277		IAMs_20	IAMs_20	11 06 44.4			
	comp=Z,425nm,19.0s									
VBMS	Vicksburg	58.68	277		P	P	10 40 40.2	+0.3		
	baz=16									
AMTX	Amarillo	58.72	289		IAMs_20	IAMs_20	11 06 39.3			
	comp=Z,524nm,20.0s									
AMTX	Amarillo	58.72	289		P	P	10 40 40.7	+0.4		
	baz=16									
ASHO	Ashiyiah	58.75	116	*i*	P	P	10 40 40.2	-0.3		
	SNR=7.8									
ASHO	Ashiyiah	58.75	116		P	P	10 40 40.5	0.0		
GHWR	Ruwais	58.77	119		P	P	10 40 40.8	+0.1		
NVAR	Mina Array Bea	58.84	305		P	P	10 40 41.5	+0.3		
NVAR	Mina Array Bea	58.84	305		P	P	10 40 42.0	+0.7		
	comp=Z,6.1nm,0.7s,baz=27,slow=5.0,SNR=57									
NVAR					PcP	PcP	10 41 31.8	+1.2		
	comp=Z,2.9nm,0.7s,baz=30,slow=5.4,SNR=4.6									
NVAR					PP	PP	10 42 50.3	-0.5		
	comp=Z,1.1nm,0.8s,baz=14,slow=7.7,SNR=2.1									
NVAR					LR	LR	11 07 14.9			
	comp=Z,745nm,18.3s,baz=10,slow=37									
NVAR					PKP2bc		11 10 27.9			
	comp=Z,0.1nm,0.3s,baz=169,slow=3.9,SNR=3.5									
	comp=Z,6.1nm,0.7s									
LZH	Lanzhou	58.85	66	*e*	P	P	10 40 41.8	+0.5		
LZH					pP	pwP	10 40 46.0	+0.1		
LZH					sP	sP	10 40 49.5	+7.2		
LZH					PP	PP	10 42 53.0	+2.1		
LZH					pmax	pmax				
	comp=Z,31nm,1.2s									
LZH					pmax	pmax				
	comp=Z,250nm,4.8s									
LZH					LR	LR				
	comp=Z,880nm,17.2s									
LZH					LR	LR				
	comp=Z,730nm,17.9s									
LZH					LR	LR				
	comp=Z,670nm,18.9s									
AFDM	Forest Hills D	58.85	307		IAmb	IAmb	10 40 43.1			
	comp=Z,39nm,1.3s									
BRAL	Brewton	58.86	274		P	P	10 40 42.8	+1.6		
	baz=16									
WAKR	Walker	58.99	306		IAmb	IAmb	10 40 54.9			
	comp=Z,42nm,1.7s									
LHV	Little Huntoon	59.05	305		IAmb	IAmb	10 41 34.7			
	comp=Z,16nm,1.2s									
WTFS	Witchita Falls	59.06	285		IAmb	IAmb	10 40 44.1			
	comp=Z,20nm,0.9s									
TIY	Taiyuan	59.08	57	*e*	P	P	10 40 44.8	+2.0		
TIY					S	S	10 48 55.0	+5.2		
TIY					pmax	pmax				
	comp=Z,170nm,4.1s									
TIY					LR	LR				
	comp=Z,320nm,21.1s									
TIY					LR	LR				
	comp=Z,2μm,18.8s									
TIY					LR	LR				
	comp=Z,520nm,18.4s									
PRN	Pahroc Range	59.18	302		IAmb	IAmb	10 40 47.5			
	comp=Z,23nm,1.4s									
Z35A	Perchaven, San	59.20	284		IAmb	IAmb	10 40 44.9			
	comp=Z,29nm,1.0s									
ALNE	Al Ain	59.29	116		P	P	10 40 43.6	-0.6		
ALNE	Al Ain	59.29	116		P	P	10 40 44.2	-0.1		
SOHO	SOHO	59.38	115	*i*	P	P	10 40 44.5	-0.3		
	SNR=16									
SOHO	SOHO	59.38	115		P	P	10 40 44.4	-0.5		
U15A	North Rim	59.55	299		IAmb	IAmb	10 40 48.3			
	comp=Z,14nm,1.0s									
FW03	Perrin-Whitt E	59.66	285		IAmb	IAmb	10 40 48.5			
	comp=Z,35nm,0.9s									
DKNS	Dickens	59.72	288		IAmb	IAmb	10 40 51.8			
	comp=Z,32nm,1.8s									
MLAC	Mammoth, Mammo	59.72	305		P	P	10 40 47.9	+0.6		
	baz=14									
ANMO	Albuquerque	59.73	293		P	P	10 40 48.0	+0.6		
ANMO					IAmb	IAmb	10 40 49.5			
	comp=Z,47nm,1.9s									
ANMO	Albuquerque	59.73	293		IAMs_20	IAMs_20	11 07 20.9			
	comp=Z,522nm,18.0s									
ANMO	Albuquerque	59.73	293		P	P	10 40 48.1	+0.8		
	baz=15									
ANMO	Albuquerque	59.73	293		LR	LR	11 07 32.6			
	comp=Z,550nm,18.7s,baz=115,slow=37									
ANMO	Albuquerque	59.73	293		P	P	10 40 48.0	+0.6		
ANMO					pmax	pmax				
	comp=Z,47nm,1.9s									
ANMO					MLR	MLR				
	comp=Z,500nm,18.0s									
MZR	Muzera	59.83	119	*i*	P	P	10 40 47.9	0.0		
	SNR=21									
MZR	Muzera	59.83	119		P	P	10 40 47.7	-0.3		
HNS	HongShan	59.84	56	⇑	P	P	10 40 48.8	+1.0		
HNS					S	S	10 49 01.8	+2.4		
HNS					pmax	pmax				
	comp=Z,21nm,1.6s									
HNS					pmax	pmax				
	comp=Z,240nm,4.8s									
HNS					LR	LR				
	comp=Z,310nm,19.3s									
HNS					LR	LR				
	comp=Z,2μm,19.8s									
HNS					LR	LR				
	comp=Z,890nm,16.9s									
MSTX	Muleshoe	59.84	289		IAmb	IAmb	10 40 50.0			
	comp=Z,52nm,1.4s									
MSTX	Muleshoe	59.84	289		P	P	10 40 49.0	+0.8		
	baz=16,SNR=9.3									
APMT	Aspermont	59.86	287		IAmb	IAmb	10 40 49.9			
	comp=Z,28nm,1.1s									
ERM	Erimo	59.87	30		P	P	10 40 48.3	+0.3		
ERM	Erimo	59.87	30		P	P	10 40 48.3	+0.3		
ERM					pmax	pmax				
	comp=Z,70nm,1.4s									
PLPT	Palo Pinto	59.94	285		IAmb	IAmb	10 40 50.4			
	comp=Z,24nm,1.1s									
GRAC	Grapevine Rang	60.04	304		P	P	10 40 50.1	+0.7		
	baz=14									
SHPR	Sheep Range	60.07	301		P	P	10 40 50.9	+1.2		
NATX	Nacogdoches	60.10	281		IAmb	IAmb	10 40 51.7			
	comp=Z,41nm,1.1s									
NATX	Nacogdoches	60.10	281		P	P	10 40 50.3	+0.6		
	baz=16									
237A	Washetta, Mont	60.13	282		IAmb	IAmb	10 40 51.5			
	comp=Z,22nm,0.9s									
ARQ	Araqi	60.15	116		P	P	10 40 50.0	-0.2		
TIN	Tinemaha, Big	60.16	304		P	P	10 40 51.6	+1.4		
	baz=14									
FW13	Cleburne	60.17	284		IAmb	IAmb	10 40 51.7			
	comp=Z,32nm,1.0s									
WUAZ	Wupatki	60.24	298		P	P	10 40 52.1	+1.2		
	baz=15,SNR=12	

JMDO Jabal Madar 61.43 114 P P 10 40 58.3 -0.6
TIA Tai'an 61.46 54 P P 10 40 59.3 +0.4
TIA S S 10 49 24.8 +4.6
TIA SS SS 10 53 25.3 +5.2
TIA pmax pmax
comp=Z,7.0nm,1.0s
TIA pmax pmax
comp=Z,120nm,4.7s
TIA LR LR
comp=Z,190nm,16.2s
TIA LR LR
comp=Z,790nm,18.1s
TIA LR LR
comp=Z,400nm,15.6s
VES Vestal, Richgr 61.50 305 P P 10 40 59.9 +0.7
baz=14
BRDY Brady 61.56 285 IAmb IAmb 10 41 01.2
comp=Z,26nm,1.0s
GSC Goldstone, Bar 61.57 303 IAmb IAmb 10 41 02.7
comp=Z,58nm,1.9s
GSC Goldstone, Bar 61.57 303 P P 10 41 00.9 +1.1
baz=14,SNR=6.5
LRMC Laurel Mtn Rad 61.57 303 P P 10 41 01.0 +1.1
baz=14
NEE2 Needles Airpor 61.64 300 P P 10 41 00.9 +0.8
baz=14
435B Jarrell 61.72 284 P P 10 41 00.8 +0.1
baz=16
GMRC Granite Mounta 61.83 301 P P 10 41 03.2 +1.5
baz=14
XAN Xi'an 61.91 62 ⇑P P 10 41 01.5 -0.5
XAN pP pwP 10 41 10.0 +3.3
XAN pmax pmax
comp=Z,20nm,1.5s
XAN LR LR
comp=Z,920nm,18.6s
JLN Jalan Bani Buh 61.93 113 P P 10 41 02.6 +0.4
HEC Hector,Ludlow 61.93 302 P P 10 41 03.5 +1.3
baz=14,SNR=5.4
INCN Inchon 61.94 45 IAMs_20 IAMs_20 11 08 42.8
comp=Z,225nm,19.0s
PDMCI Parker Dam,Lak 61.99 300 P P 10 41 04.3 +1.8
baz=14,SNR=5.8
RRX Edison Barstow 62.02 303 P P 10 41 04.4 +1.6
baz=14
Y14A Wickenburg 62.10 299 IAmb IAmb 10 41 06.3
comp=Z,45nm,2.0s
HKT Hockley 62.11 282 P P 10 41 02.5 -0.8
HKT IAmb IAmb 10 41 05.1
comp=Z,13nm,1.0s
HKT Hockley 62.11 282 P P 10 41 02.5 -0.8
HKT pmax pmax
comp=Z,13nm,1.0s
HKT MLR MLR
comp=Z,1μm,18.0s
ARVC Arvin 62.14 304 P P 10 41 05.5 +2.0
baz=14
LYN LuoYang 62.15 58 eP P 10 41 04.3 +0.7
LYN sP pwP 10 41 12.0 +3.8
LYN pmax pmax
comp=Z,24nm,0.8s
LYN pmax pmax
comp=Z,170nm,7.7s
LYN LR LR
comp=Z,520nm,19.4s
LYN LR LR
comp=Z,2μm,17.1s
LYN LR LR
comp=Z,1μm,18.8s
KSRS Korea Array 62.18 44 P P 10 41 03.5 -0.2
comp=Z,2.0nm,0.8s,baz=352,slow=6.5,SNR=7.6
KSRS PcP PcP 10 41 43.6 -0.1
comp=Z,0.7nm,0.6s,baz=0.5,slow=5.6,SNR=1.4
KSRS LR LR 11 08 37.6
comp=Z,256nm,19.2s,baz=0.0,slow=37
comp=Z,2.0nm,0.8s
SMMC Simmler 62.19 305 P P 10 41 05.1 +1.2
baz=14
EDW2 Edwards Air Fo 62.21 303 P P 10 41 05.2 +1.1
baz=14,SNR=5.5
IRM Iron Mountain 62.34 301 P P 10 41 06.0 +1.1
baz=14,SNR=5.6
121A Cookes Peak, D 62.34 294 IAmb IAmb 10 41 07.5
comp=Z,38nm,2.0s
121A Cookes Peak, D 62.34 294 P P 10 41 06.1 +1.0
baz=15,SNR=7.0
JCT Junction City 62.52 286 IAmb IAmb 10 41 08.0
comp=Z,39nm,1.2s
JCT Junction City 62.52 286 P P 10 41 06.9 +0.7
baz=15,SNR=9.7
PKM Mcpherson Peak 62.56 305 P P 10 41 06.2 -0.4
baz=14
PECS Pecos 62.59 290 IAmb IAmb 10 41 08.9
comp=Z,34nm,1.1s
BBRC Big Bear Solar 62.59 302 P P 10 41 08.3 +1.4
baz=14
MNTX Cornudas Mount 62.61 291 P P 10 41 07.2 +0.5
baz=15,SNR=14
OSI Osito Audit: C 62.61 304 P P 10 41 08.0 +1.3
baz=14
BELC Belle Mtn. Jos 62.66 301 P P 10 41 09.3 +2.1
baz=14,SNR=9.1
MHTO MHTO 62.74 115 P P 10 41 07.0 -0.7
BFSC Mount Baldy Ra 62.77 303 P P 10 41 09.2 +1.3
baz=14,SNR=9.1
EPT El Paso 62.79 292 IAMs_20 IAMs_20 11 10 58.0
comp=Z,369nm,18.0s
BC3 Big Chuckawall 62.88 301 P P 10 41 10.2 +1.6
baz=14
DECC Green Verdugo 62.89 304 P P 10 41 09.4 +0.8
baz=14
PASC Pasadena Art C 62.94 303 IAmb IAmb 10 41 11.5
comp=Z,50nm,1.6s
SBC Santa Barbara 62.98 305 P P 10 41 10.0 +0.9
baz=14
PFO Pinyon Flats O 63.13 302 P P 10 41 10.5 +0.2
PFO Pinyon Flats O 63.13 302 P P 10 41 11.6 +1.3
baz=14
PFO Pinyon Flats O 63.13 302 LR LR 11 07 56.5
comp=Z,282nm,21.6s,baz=2.5,slow=35
PFO Pinyon Flats O 63.13 302 P P 10 41 10.5 +0.2
PFO pmax pmax
comp=Z,9.0nm,1.0s
TPFO Pinon Flats 63.13 302 P P 10 41 11.6 +1.2
baz=14
TJN Taejon 63.14 45 P P 10 41 10.0 -0.2
TJN Taejon 63.14 45 P P 10 41 10.0 -0.2
TJN pmax pmax
comp=Z,280nm,1.5s
TOA0 Torodi Ar. Sit 63.16 176 P P 10 41 10.1 -0.4
TORD Torodi Ar. Bea 63.16 176 P P 10 41 10.1 -0.4
TORD IAmb IAmb 10 41 11.2
comp=Z,20nm,0.8s
TORD Torodi Ar. Bea 63.16 176 P P 10 41 10.3 -0.2
comp=Z,24nm,0.7s,baz=3.6,slow=6.8,SNR=121
TORD PcP PcP 10 41 47.9 0.0
comp=Z,2.8nm,0.7s,baz=351,slow=5.9,SNR=1.3
TORD LR LR 11 09 15.1
comp=Z,175nm,18.5s,baz=354,slow=37
comp=Z,24nm,0.7s
TUC Tucson 63.20 296 P P 10 41 11.2 +0.4
TUC Tucson 63.20 296 P P 10 41 12.2 +1.4
baz=15
TUC Tucson 63.20 296 P P 10 41 11.2 +0.4
TUC pmax pmax
comp=Z,59nm,1.7s
MURC Murrieta 63.29 302 P P 10 41 12.7 +1.4
baz=14
HNDO Hondo 63.31 285 IAmb IAmb 10 41 13.2
comp=Z,25nm,1.0s
GLA Glamis 63.34 300 P P 10 41 13.1 +1.4
baz=14
113A Mohawk Valley, 63.39 299 IAmb IAmb 10 41 14.6
comp=Z,28nm,1.7s
FMP Fort Macarthur 63.40 303 P P 10 41 12.6 +0.7
baz=14
SAND Sanderson 63.55 288 IAmb IAmb 10 41 13.9
comp=Z,12nm,0.9s
SWSC Sam W. Stewart 63.64 301 P P 10 41 14.7 +1.2
baz=14
CIS Catalina Islan 63.73 303 P P 10 41 15.3 +1.1
baz=14
319A Douglas 63.78 295 IAmb IAmb 10 41 17.4
comp=Z,21nm,1.0s
CD2 Chengdu 63.81 67 P P 10 41 16.0 +1.2
CD2 S S 10 49 50.0 0.0
CD2 pmax pmax
comp=Z,10.0nm,0.5s
CD2 pmax pmax
comp=Z,250nm,3.6s
CD2 LR LR
comp=Z,660nm,17.1s
CD2 LR LR
comp=Z,470nm,12.7s
CD2 LR LR
comp=Z,820nm,17.8s
MONP2 Monument Peak 63.82 302 P P 10 41 16.4 +1.4
baz=14,SNR=5.9
109C Camp Elliot, M 63.96 302 IAmb IAmb 10 41 18.5
comp=Z,56nm,1.8s
109C Camp Elliot, M 63.96 302 P P 10 41 17.1 +1.4
baz=14
214A Organ Pipe Nat 63.98 298 P P 10 41 17.0 +1.2
baz=14
IKP In-Ko-Pah, Jac 63.99 301 P P 10 41 17.4 +1.5
baz=14,SNR=5.7
BAR Barrett 64.08 302 IAmb IAmb 10 41 19.4
comp=Z,26nm,1.5s
SCI2 San Clemente I 64.16 303 P P 10 41 18.3 +1.3
baz=14
DOK Doka 64.22 119 P P 10 41 17.0 -0.4
SNR=6.8
CBX Cerro Bola 64.43 302 IAmb IAmb 10 41 21.2
comp=Z,16nm,0.8s
833A Chaparral WMA, 64.50 284 P P 10 41 19.6 +0.4
baz=15,SNR=15
TX31 Lajitas Ar. Si 64.50 289 IAmb IAmb 10 41 20.9
comp=Z,19nm,0.9s
TXAR Lajitas Array 64.50 289 P P 10 41 19.4 0.0
TXAR Lajitas Array 64.50 289 P P 10 41 19.6 +0.3
comp=Z,10nm,0.8s,baz=46,slow=5.1,SNR=122
TXAR PcP PcP 10 41 54.0 +0.4
comp=Z,3.5nm,0.8s,baz=38,slow=3.4,SNR=5.4
TXAR PP PP 10 43 39.3 -1.5
comp=Z,3.9nm,1.0s,baz=46,slow=7.1,SNR=3.9
TXAR LR LR 11 10 55.1
comp=Z,410nm,20.1s,baz=10,slow=37
comp=Z,10nm,0.8s
MJB9 Matsu-Tunnel 64.63 35 IAmb IAmb 10 41 23.1
comp=Z,56nm,1.8s
MAJO Matsushiro 64.63 35 P P 10 41 19.9 -0.1
MAJO IAmb IAmb 10 41 22.1
comp=Z,52nm,1.7s
MAJO Matsushiro 64.63 35 IAMs_20 IAMs_20 11 14 07.7
comp=Z,178nm,19.0s
MAJO Matsushiro 64.63 35 P P 10 41 19.9 -0.1
MAJO pmax pmax
comp=Z,52nm,1.7s
MAJO MLR MLR
comp=Z,200nm,19.0s
MJAR Matsushiro Arr 64.63 35 P P 10 41 20.4 +0.3
comp=Z,6.7nm,0.8s,baz=348,slow=6.3,SNR=17
MJAR LR LR 11 10 02.5
comp=Z,94nm,18.0s,baz=359,slow=36
comp=Z,6.7nm,0.8s
WHFO Wadi Hawf 64.82 120 P P 10 41 20.7 -0.8
DMTO DMTO 65.26 119 P P 10 41 23.2 -1.1
ABTO Aybut 65.27 120 P P 10 41 23.8 -0.7
SNR=6.1
RBK Rabkut 65.31 119 P P 10 41 23.4 -1.3
ENH Enshi 65.66 62 IAMs_20 IAMs_20 11 12 05.6
comp=Z,498nm,20.0s
NJ2 Nanjing 65.83 53 eP P 10 41 28.5 +0.7
NJ2 sP pwP 10 41 31.8 -1.1
NJ2 pmax pmax
comp=Z,10.0nm,0.5s
NJ2 LR LR
comp=Z,800nm,18.0s
NJ2 LR LR
comp=Z,500nm,12.3s
NJ2 LR LR
comp=Z,840nm,14.7s
SHL Shillong 66.24 80 IAmb IAmb 10 41 31.9
comp=Z,20nm,0.8s
SHL Shillong 66.24 80 P P 10 41 30.1 -0.7
SNR=6.4
WHN Wuhan 66.41 58 ⇑P P 10 41 30.8 -0.7
HSIG 66.42 295 IAmb IAmb 10 41 34.0
comp=Z,33nm,1.3s
JNU Nakatsue 66.90 42 LR LR 11 12 34.2
comp=Z,125nm,18.1s,baz=356,slow=38
PZH PanZhiHua 67.61 70 P P 10 41 38.8 -0.6
PZH S S 10 50 32.5 -4.1
PZH pmax pmax
comp=Z,10.0nm,0.7s
PZH pmax pmax
comp=Z,160nm,4.5s
PZH LR LR
comp=Z,270nm,17.5s
PZH LR LR
comp=Z,470nm,18.0s
PZH LR LR
comp=Z,450nm,16.0s
JHJ Hachijo jima 2 68.22 34 LR LR 11 11 36.5
comp=Z,175nm,21.7s,baz=94,slow=36
TNCH TengChong 68.30 74 P P 10 41 44.3 +0.5
TNCH S S 10 50 43.5 -1.5
TNCH pmax pmax
comp=Z,36nm,1.1s
TNCH pmax pmax
comp=Z,180nm,4.6s
TNCH LR LR
comp=Z,270nm,12.2s
TNCH LR LR
comp=Z,170nm,11.5s
TNCH LR LR
comp=Z,290nm,13.1s
CNSH ChangSha 68.40 60 P P 10 41 43.5 -0.7
CNSH S S 10 50 44.3 -1.5
CNSH pmax pmax
comp=Z,190nm,4.7s
CNSH LR LR
comp=Z,140nm,21.1s
CNSH LR LR
comp=Z,160nm,15.5s
CNSH LR LR
comp=Z,180nm,19.4s
GYA Guiyang 68.74 66 ⇑P P 10 41 46.3 -0.2
GYA sP pwP 10 41 55.0 +3.9
GYA pmax pmax
comp=Z,25nm,0.7s
GYA pmax pmax
comp=Z,250nm,4.3s
GYA LR LR
comp=Z,350nm,19.3s
ATD Arta Tunnel 68.94 132 IAMs_20 IAMs_20 11 09 25.7
comp=Z,222nm,18.0s
DBIC Dimbokro 69.58 183 P P 10 41 50.8 -0.8
comp=Z,3.8nm,0.6s,baz=341,slow=11,SNR=7.3
DBIC LR LR 11 14 00.5
comp=Z,140nm,18.4s,baz=4.0,slow=37
comp=Z,3.8nm,0.6s
TEIG Tepich 69.66 272 LR LR 11 12 53.8
comp=Z,478nm,19.6s,baz=36,slow=36
ZAIG Zacatecas 70.58 286 IAmb IAmb 10 42 01.0
comp=Z,25nm,1.0s
HYB Hyderabad 70.91 95 eP P 10 41 59.3 -0.5
LPIG La Paz 71.03 294 LR LR 11 14 53.9
comp=Z,248nm,18.0s,baz=12,slow=37
JOW Kunigami 72.62 46 LR LR 11 15 35.8
comp=Z,182nm,19.5s,baz=333,slow=37
TATO Taipei 73.21 52 IAMs_20 IAMs_20 11 17 33.4
comp=Z,352nm,18.0s
PETF Flores 73.23 272 IAmb IAmb 10 42 15.5
comp=Z,29nm,0.9s
CRAI Chiangrai 73.35 73 IAmb IAmb 10 42 15.6
comp=Z,23nm,1.4s
YHNB Yeheng 73.49 53 IAMs_20 IAMs_20 11 13 18.6
comp=Z,279nm,20.0s
PCRV Puerto La Cruz 73.87 246 LR LR 11 10 50.1
comp=Z,90nm,21.7s,slow=33
CMIG Matias Romero 74.25 277 LR LR 11 19 05.2
comp=Z,221nm,20.0s,baz=7.0,slow=39
CCIG Comitan 74.38 274 IAmb IAmb 10 42 23.2
comp=Z,14nm,0.7s
CHTO Chiang Mai 74.39 75 P P 10 42 19.8 -0.7
CHTO IAmb IAmb 10 42 21.7
comp=Z,21nm,1.1s
CHTO Chiang Mai 74.39 75 P P 10 42 19.8 -0.7
CHTO pmax pmax
comp=Z,21nm,1.2s
JCJ Chichijima 74.47 33 LR LR 11 17 53.5
comp=Z,43nm,18.7s,baz=148,slow=38
TLIG Tlapa 74.67 281 IAmb IAmb 10 42 24.8
comp=Z,31nm,0.8s
CMAR Chiang Mai Arr 74.73 75 P P 10 42 21.8 -0.7
CMAR Chiang Mai Arr 74.73 75 P P 10 42 22.1 -0.3
comp=Z,12nm,1.0s,baz=332,slow=6.7,SNR=32
CMAR LR LR 11 20 46.3
comp=Z,208nm,18.7s,baz=330,slow=40
comp=Z,12nm,1.0s
APG El Apazote 75.21 272 LR LR 11 16 14.2
comp=Z,21nm,20.4s,baz=40,slow=36
MTO3 Montecristo 75.53 271 IAmb IAmb 10 42 29.8
comp=Z,33nm,1.0s
LODK Lodwar 75.67 142 P P 10 42 28.6 +0.7
SNET Serv Nac Est T 76.19 271 IAMs_20 IAMs_20 11 17 10.3
comp=Z,240nm,18.0s
MDP Montagnes des 76.35 233 LR LR 11 10 32.5
comp=Z,54nm,18.3s,baz=16,slow=31
SDV Santo Domingo 76.45 251 P P 10 42 32.9 +0.3
SDV IAmb IAmb 10 42 34.2
comp=Z,27nm,0.7s
SDV Santo Domingo 76.45 251 LR LR 11 16 39.7
comp=Z,88nm,19.4s,baz=26,slow=36
SDV Santo Domingo 76.45 251 eP P 10 42 32.9 +0.3
QIZ Qiongzhong 76.62 65 P P 10 42 32.5 -0.8
QIZ S S 10 52 19.5 -0.4
QIZ pmax pmax
comp=Z,11nm,1.7s
QIZ pmax pmax
comp=Z,170nm,5.2s
QIZ LR LR
comp=Z,85nm,14.5s
QIZ LR LR
comp=Z,430nm,18.1s
QIZ LR LR
comp=Z,390nm,18.3s
ACON Acoyapa 76.88 266 IAmb IAmb 10 42 36.1
comp=Z,27nm,1.1s
ARE1 Arenal 1 78.22 266 IAmb IAmb 10 42 43.2
comp=Z,33nm,1.0s
BCIP Isla Barro Col 78.31 261 IAmb IAmb 10 42 59.0
comp=Z,50nm,1.6s
JTS Las Juntas de 78.44 266 LR LR 11 15 53.5
comp=Z,155nm,21.6s,baz=360,slow=35
MBAR Mbarara 78.98 147 P P 10 42 46.3 -0.3
MBAR Mbarara 78.98 147 LR LR 11 20 43.9
comp=Z,85nm,18.3s,baz=6.0,slow=38
MBAR Mbarara 78.98 147 P P 10 42 47.7 +1.1
MBAR Mbarara 78.98 147 ceP P 10 42 47.3 +0.7
MBAR pmax pmax
comp=Z,11nm,0.9s
PALK Pallekele 81.20 96 LR LR 11 20 53.2
comp=Z,85nm,18.4s,baz=93,slow=37
ROSC El Rosal 81.21 254 P P 10 43 00.4 +1.4
comp=Z,43nm,0.8s,baz=83,slow=9.6,SNR=14
ROSC LR LR 11 16 15.2
comp=Z,80nm,21.9s,baz=62,slow=34
comp=Z,43nm,0.8s
KIBK Kibwezi 81.74 140 P P 10 43 02.9 +1.6
RCBR Riachuelo 84.33 214 LR LR 11 13 53.1
comp=Z,75nm,18.4s,baz=332,slow=31
MACA Manacapuru-AM 85.99 239 eP P 10 43 24.1 +1.2
ITTB Itaituba 86.18 234 eP P 10 43 24.3 +0.4
PRPB Parauapebas 86.84 228 eP P 10 43 28.2 +1.0
TEFE Tefe 87.15 243 eP P 10 43 29.7 +1.1
GUMO Guam 88.12 32 LR LR 11 27 28.9
comp=Z,29nm,19.1s,baz=8.0,slow=39
NPGB Novo Progresso 88.72 233 eP P 10 43 36.5 +0.4
TBTG Tabatinga, AM 88.95 248 eP P 10 43 37.8 +0.6
DAV Davao City (W) 91.44 52 LR LR 11 27 19.2
comp=Z,124nm,21.8s,baz=334,slow=37
SAML Samuel 92.13 240 P P 10 43 52.1 +0.2
SAML IAmb IAmb 10 43 54.0
comp=Z,11nm,0.9s
SAML Samuel 92.13 240 P P 10 43 52.1 +0.2
SAML pmax pmax
comp=Z,11nm,0.9s
SAML Samuel 92.13 240 eP P 10 43 52.3 +0.3
PDRB Porto dos Gac 93.43 233 eP P 10 43 58.0 +0.1
ATAH Atahualpa 93.72 255 LR LR 11 25 40.7
comp=Z,67nm,21.8s,baz=8.6,slow=35
VILB Vilhena 95.41 237 P P 10 44 07.7 +0.7
VILB IAmb IAmb 10 44 09.2
comp=Z,8.1nm,0.7s
VILB Vilhena 95.41 237 eP P 10 44 07.9 +0.9
BDFB Brasilia 95.80 224 P P 10 44 09.4 +0.5
comp=Z,3.3nm,0.7s,baz=61,slow=7.1,SNR=4.7
BDFB LR LR 11 20 07.0
comp=Z,115nm,19.2s,baz=339,slow=31
comp=Z,3.3nm,0.7s
TSUM Tsumeb 96.01 162 LR LR 11 30 20.5
comp=Z,54nm,18.2s,baz=326,slow=37
NNA Nana 98.05 253 LR LR 11 31 19.2
comp=Z,22nm,18.7s,baz=341,slow=37
PPT2 Papeete2 118.97 324 eSS SS 11 07 14.0 +3.9
comp=Z,564nm,33.0s
PPT2 Papeete2 118.97 324 eLR LR 11 25 47.6
comp=Z,337nm,37.8s
PPT2 eLR LR 11 25 53.9
comp=Z,340nm,23.2s
WRA Warramunga Arr 119.42 48 PKP PKPdf 10 49 30.9 -0.9
comp=Z,1.5nm,0.6s,baz=327,slow=2.3,SNR=25
WRA PKKPab PKKPab 10 59 43.9 -1.8
comp=Z,0.6nm,0.8s,baz=174,slow=3.2,SNR=4.9
AS31 Alice Springs 122.97 50 PKPdf PKPdf 10 49 37.5 -1.1
ASAR Alice Springs 122.97 50 PKP PKPdf 10 49 37.6 -1.0
comp=Z,4.4nm,0.5s,baz=356,slow=1.8,SNR=112
ASAR PKKPab PKKPab 10 59 30.1 -0.1
comp=Z,0.5nm,0.6s,baz=161,slow=3.9,SNR=6.9
PLCA Paso Flores 124.43 239 PKP PKiKP 10 49 41.6 +0.4
comp=Z,3.9nm,0.6s,baz=14,slow=3.0,SNR=16
TBI Tubuai 124.61 323 eSS SS 11 08 24.0 +2.0
comp=Z,2μm,35.5s
TBI Tubuai 124.61 323 eLR LR 11 28 28.5
comp=Z,2μm,33.0s
DZM Mont Dzumac 125.42 13 eSS SS 11 08 35.7 +3.4
comp=Z,80nm,26.6s
DZM Mont Dzumac 125.42 13 eLR LR 11 28 53.9
comp=Z,293nm,37.1s
VNA1 Neumayer--Stat 146.77 184 ⇑PKPdf PKPbc 10 50 23.3 +0.4
comp=Z,8.6nm,0.7s
VNA2 Neumayer--Watz 147.03 183 ⇑PKPdf PKPbc 10 50 22.7 -0.9
comp=Z,7.5nm,0.6s,baz=349,slow=4.3
VNA3 Neumayer Olymp 147.39 185 ⇑PKPdf PKPbc 10 50 24.2 -0.4
comp=Z,12nm,0.6s
SNAA Sanae 147.75 181 PKPdf PKPbc 10 50 25.2 -0.4
SNAA Sanae 147.75 181 ⇑PKPdf PKPbc 10 50 25.5 -0.1
comp=Z,172nm,0.8s
SNAA Sanae 147.75 181 PKPbc PKPbc 10 50 25.6 -0.1
comp=Z,6.5nm,0.7s,baz=332,slow=1.0,SNR=24
LBZ Lake Benmore 147.82 11 PKPbc 10 50 26.7 +0.1
TROLL Troll, Antarti 148.11 177 ⇑PKPdf PKPbc 10 50 27.0 +0.4
comp=Z,597nm,0.7s
ELIB Princess Elisa 148.79 165 dPKPdf PKPbc 10 50 28.5 +0.1
MAW Mawson 149.07 138 PKPbc PKPbc 10 50 29.3 +0.3
comp=Z,8.3nm,0.6s,baz=335,slow=3.2,SNR=25
QSPA South Pole Qui 166.25 180 PKPab PKPab 10 51 47.7 +0.2
comp=Z,2.4nm,0.7s,baz=271,slow=2.1,SNR=12

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*ANF **30** 10:36:14.6±0.2,59°.79N×136°.57W,h3$^{km}_{\pm 1}$,ML3.0/25, Error ellipse: s-maj=1.4km s-min=0.9km az=60.0*
*AEIC **30** 10:36:14.9±1.2,59°.78N±0°.03×136°.57W±0°.04,h1$^{km}_{\pm 6}$, Error ellipse: s-maj=4.0km s-min=2.6km az=161.0*
*NEIC **30** 10:36:15.8±1.8,59°.81N±0°.03×136°.55W±0°.05,h10$^{km}_{\pm 2}$, ML2.8/50,ML2.9(OTT),ML2.6(AEIC), Error ellipse: s-maj=5.5km s-min=3.5km az=320.0*
*PGC **30** 10:36:15.6±0.0,59°.77N×136°.58W,h3^{km}, ML2.8,ML2.9/28, 105km Wnw of Haines, Ak Southeastern Alaska*
ISC 30 10:36:15.0±1.1,59°.79N±0°.02×136°.55W±0°.01,h4$^{km}_{\pm 9}$, n138,σ1°22/188,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PLBC	**Pleasant Camp**	**0.35**	**165**	P	**Pg**	**10 36 21.9**	**+0.2**
	baz=341,SNR=1000						
PLBC				S	**Sg**	**10 36 26.4**	**+0.1**
	baz=341						
P30M	**Million Dollar**	**0.39**	**328**		**Pg**	**10 36 22.7**	**+0.2**
P30M					**Sg**	**10 36 28.4**	**+0.8**
P30M	**Million Dollar**	**0.39**	**328**	P	**Pg**	**10 36 22.7**	**+0.2**
	baz=151						
P30M				S	**Sg**	**10 36 28.0**	**+0.4**
	baz=151						
P30M	**Million Dollar**	**0.39**	**328**	P	**Pg**	**10 36 22.9**	**+0.4**
P30M				S	**Sg**	**10 36 28.5**	**+0.8**
P29M	**Windy Craggy**	**0.63**	**255**		**Pg**	**10 36 26.9**	**-0.2**
P29M					**Sg**	**10 36 35.2**	**0.0**

P29M				IAML		10 36 36.6		
	comp=E,776nm,0.3s							
P29M				IAML		10 36 36.7		
	comp=N,650nm,0.4s							
P29M	**Windy Craggy**	**0.63**	**255**	P	**Pg**	**10 36 26.9**	**-0.2**	
	baz=76,SNR=278							
P29M				S	**Sg**	**10 36 35.1**	**0.0**	
	baz=76							
P29M	**Windy Craggy**	**0.63**	**255**	P	**Pg**	**10 36 26.8**	**-0.2**	
P29M				S	**Sg**	**10 36 35.1**	**-0.1**	
SKAG	**Skagway**	**0.70**	**118**		**Pg**	**10 36 28.3**	**-0.2**	
SKAG	**Skagway**	**0.70**	**118**	P	**Pg**	**10 36 28.3**	**-0.2**	
	baz=297,SNR=144							
SKAG				S	**Sg**	**10 36 37.1**	**-0.4**	
	baz=297							
O30N	**Mendenhall**	**1.00**	**13**		**Pg**	**10 36 34.2**	**0.0**	
O30N					**Sg**	**10 36 47.7**	**+0.4**	
O30N				IAML		10 36 48.3		
	comp=E,372nm,0.4s							
O30N				IAML		10 36 53.1		
	comp=N,171nm,0.3s							
O30N	**Mendenhall**	**1.00**	**13**	P	**Pg**	**10 36 34.4**	**+0.1**	
	baz=194,SNR=984							
O30N				S	**Sg**	**10 36 47.9**	**+0.5**	
	baz=194							
YUK7	**Dusty Glacier**	**1.09**	**314**		**Pg**	**10 36 35.1**	**-0.8**	
YUK7	**Dusty Glacier**	**1.09**	**314**	P	**Pg**	**10 36 34.1**	**-1.8**	
YUK7				S	**Sg**	**10 36 49.8**	**-0.1**	
HYT	**Haines Junctio**	**1.14**	**336**		**Pb**	**10 36 35.5**	**-1.8**	
HYT	**Haines Junctio**	**1.14**	**336**	P	**Pb**	**10 36 35.6**	**-1.8**	
	baz=156,SNR=165							
HYT				S	**Sg**	**10 36 52.0**	**+0.4**	
	baz=156							
HYT	**Haines Junctio**	**1.14**	**336**	P	**Pb**	**10 36 35.5**	**-1.8**	
HYT				S	**Sg**	**10 36 51.7**	**+0.1**	
O29M	**Mount Kennedy**	**1.14**	**297**		**Pb**	**10 36 35.8**	**-1.5**	
O29M				IAML		10 36 56.1		
	comp=N,195nm,0.7s							
O29M				IAML		10 36 56.6		
	comp=E,219nm,0.3s							
O29M	**Mount Kennedy**	**1.14**	**297**	P	**Pb**	**10 36 35.9**	**-1.5**	
	baz=117,SNR=189							
O29M				S	**Sg**	**10 36 51.1**	**-0.5**	
	baz=117							
O29M	**Mount Kennedy**	**1.14**	**297**	P	**Pb**	**10 36 35.8**	**-1.5**	
O29M				S	**Sg**	**10 36 50.8**	**-0.8**	
WHY	**Whitehorse**	**1.20**	**43**		**Pb**	**10 36 37.7**	**-0.8**	
WHY				IAML		10 36 57.9		
	comp=E,196nm,0.4s							
WHY				IAML		10 37 00.7		
	comp=N,134nm,0.3s							
WHY	**Whitehorse**	**1.20**	**43**	P	**Pb**	**10 36 37.6**	**-0.8**	
	baz=224,SNR=988							
WHY				S	**Sb**	**10 36 54.1**	**-0.2**	
	baz=224							
WHY	**Whitehorse**	**1.20**	**43**	P	**Pb**	**10 36 37.6**	**-0.8**	
WHY				S	**Sb**	**10 36 53.9**	**-0.4**	
R31K	**City Hall, Gus**	**1.45**	**163**		**Pn**	**10 36 41.2**	**-0.8**	
R31K	**City Hall, Gus**	**1.45**	**163**	P	**Pn**	**10 36 41.1**	**-0.8**	
	baz=343,SNR=15							
R31K				S	**Sn**	**10 37 00.5**	**-0.8**	
	baz=343							
R31K	**City Hall, Gus**	**1.45**	**163**	P	**Pn**	**10 36 41.1**	**-0.9**	
R31K	**City Hall, Gus**	**1.45**	**163**	S	**Sn**	**10 37 00.3**	**-1.0**	
P32M	**Atlin**	**1.45**	**97**		**Pn**	**10 36 41.7**	**-0.4**	
P32M				IAML		10 37 03.9		
	comp=N,149nm,0.7s							
P32M				IAML		10 37 04.5		
	comp=E,111nm,0.7s							
P32M	**Atlin**	**1.45**	**97**	P	**Pn**	**10 36 41.9**	**-0.2**	
	baz=278,SNR=354							
P32M				S	**Sb**	**10 37 02.0**	**+0.6**	
	baz=278							
P32M	**Atlin**	**1.45**	**97**	P	**Pn**	**10 36 41.9**	**-0.2**	
P32M	**Atlin**	**1.45**	**97**	S	**Sn**	**10 37 01.2**	**-0.4**	
PNL	**Peninsula**	**1.45**	**266**		**Pn**	**10 36 41.4**	**-0.6**	
PNL					**Sb**	**10 37 01.6**	**+0.2**	
PNL	**Peninsula**	**1.45**	**266**	P	**Pn**	**10 36 41.3**	**-0.7**	
	baz=85,SNR=526							
PNL				S	**Sn**	**10 37 00.1**	**-1.4**	
	baz=85							
PNL	**Peninsula**	**1.45**	**266**	P	**Pn**	**10 36 41.4**	**-0.7**	
PNL				S	**Sn**	**10 36 59.6**	**-1.9**	
YUK6	**Outpost Mounta**	**1.46**	**323**		**Pn**	**10 36 41.4**	**-1.0**	
YUK6	**Outpost Mounta**	**1.46**	**323**	P	**Pn**	**10 36 41.6**	**-0.8**	
	baz=142							
YUK6				S	**Sg**	**10 37 03.1**	**+1.1**	
	baz=142							
YUK6	**Outpost Mounta**	**1.46**	**323**	P	**Pn**	**10 36 41.5**	**-1.0**	
BESE	**Bessie Mountai**	**1.50**	**144**		**Pn**	**10 36 41.6**	**-1.0**	
BESE	**Bessie Mountai**	**1.50**	**144**	P	**Pn**	**10 36 41.8**	**-1.0**	
BESE	**Bessie Mountai**	**1.50**	**144**	S	**Sn**	**10 37 01.4**	**-1.3**	
BCPM	**Bancas Point**	**1.57**	**277**		**Pn**	**10 36 43.6**	**0.0**	
N30M	**Aishikik Lake**	**1.69**	**351**	Pb	**Pb**	**10 36 46.2**	**-0.5**	
	baz=171,SNR=369							
N30M				Sb	**Sg**	**10 37 09.5**	**+0.2**	
	baz=171							
N30M	**Aishikik Lake**	**1.69**	**351**	Pn	**Pn**	**10 36 46.0**	**+0.6**	
N30M	**Aishikik Lake**	**1.69**	**351**	Sn	**Sb**	**10 37 08.8**	**+0.4**	
N31M	**Braeburn, Yuko**	**1.74**	**12**	Pb	**Pb**	**10 36 47.3**	**-0.2**	
	baz=193,SNR=210							
N31M				Sb	**Sg**	**10 37 11.1**	**+0.3**	
	baz=193							
N31M	**Braeburn, Yuko**	**1.74**	**12**	Pn	**Pb**	**10 36 47.0**	**-0.5**	
N31M	**Braeburn, Yuko**	**1.74**	**12**	Sn	**Sb**	**10 37 09.8**	**+0.1**	
S31K	**Pelican**	**1.85**	**175**		**Pn**	**10 36 47.9**	**+0.5**	
S31K				IAML		10 37 13.6		
	comp=E,78nm,0.4s							
S31K				IAML		10 37 14.0		
	comp=N,112nm,0.5s							
S31K	**Pelican**	**1.85**	**175**	P	**Pn**	**10 36 47.5**	**+0.1**	
	baz=354,SNR=99							
S31K				S	**Sn**	**10 37 11.2**	**0.0**	
	baz=354							
S31K	**Pelican**	**1.85**	**175**	Pn	**Pn**	**10 36 47.6**	**+0.2**	
S31K	**Pelican**	**1.85**	**175**	Sn	**Sn**	**10 37 11.1**	**0.0**	
R32K	**Eaglecrest**	**1.85**	**145**	Pn	**Pn**	**10 36 47.8**	**+0.3**	
R32K				IAML		10 37 15.4		
	comp=N,73nm,0.3s							
R32K				IAML		10 37 17.4		
	comp=E,64nm,0.3s							
R32K	**Eaglecrest**	**1.85**	**145**	P	**Pn**	**10 36 47.9**	**+0.3**	
	baz=326,SNR=16							
R32K				S	**Sb**	**10 37 12.4**	**-0.4**	
	baz=326							
R32K	**Eaglecrest**	**1.85**	**145**	Pn	**Pn**	**10 36 47.8**	**+0.3**	
R32K	**Eaglecrest**	**1.85**	**145**	Sn	**Sn**	**10 37 11.5**	**+0.2**	
YUK4	**Talbot Arm**	**1.87**	**327**	P	**Pn**	**10 36 48.7**	**+0.7**	
	baz=149							
YUK4				S	**Sg**	**10 37 18.0**	**+2.9**	
	baz=149							
YUK4	**Talbot Arm**	**1.87**	**327**	Pn	**Pb**	**10 36 49.4**	**-0.4**	
JIS	**Juneau Island**	**1.89**	**143**		**Pn**	**10 36 48.0**	**0.0**	
JIS				IAML		10 37 18.5		
	comp=N,74nm,0.4s							
JIS				IAML		10 37 21.4		
	comp=E,84nm,0.6s							
P33M	**Teslin, Yukon**	**1.92**	**76**		**Pn**	**10 36 48.5**	**-0.1**	
P33M				IAML		10 37 16.5		
	comp=N,76nm,0.3s							
P33M				IAML		10 37 17.7		
	comp=E,59nm,0.2s							
P33M	**Teslin, Yukon**	**1.92**	**76**	P	**Pn**	**10 36 48.4**	**-0.1**	
	baz=258,SNR=330							
P33M				Sb	**Sb**	**10 37 16.1**	**+1.1**	
	baz=258							
P33M	**Teslin, Yukon**	**1.92**	**76**	Pn	**Pn**	**10 36 48.3**	**-0.3**	
P33M	**Teslin, Yukon**	**1.92**	**76**	Sn	**Sb**	**10 37 15.0**	**+0.1**	
O28M	**Mount Upton**	**2.06**	**300**		**Pn**	**10 36 51.1**	**+0.4**	
O28M	**Mount Upton**	**2.06**	**300**	P	**Pn**	**10 36 50.6**	**-0.2**	
	baz=118							
O28M				Sb	**Sb**	**10 37 20.3**	**+1.0**	
	baz=118							
O28M	**Mount Upton**	**2.06**	**300**	Pn	**Pn**	**10 36 50.9**	**+0.2**	
O28M	**Mount Upton**	**2.06**	**300**	Sn	**Sn**	**10 37 16.9**	**-0.1**	
SAMH	**Samovar Hills**	**2.16**	**281**		**Pn**	**10 36 52.5**	**+0.7**	
SAMH	**Samovar Hills**	**2.16**	**281**	Pn	**Pn**	**10 36 52.3**	**+0.5**	
YUK8	**Steele Glacier**	**2.18**	**315**		**Pn**	**10 36 52.7**	**+0.3**	
YUK8	**Steele Glacier**	**2.18**	**315**	P	**Pn**	**10 36 52.5**	**+0.1**	
	baz=133							
YUK8				S	**Sg**	**10 37 26.4**	**+1.3**	
	baz=133							
YUK8	**Steele Glacier**	**2.18**	**315**	Pn	**Pn**	**10 36 52.3**	**-0.1**	
N32M	**Quiet Lake**	**2.19**	**50**		**Pn**	**10 36 52.9**	**+0.7**	
N32M	**Quiet Lake**	**2.19**	**50**	P	**Pn**	**10 36 52.7**	**+0.4**	
	baz=233							
N32M				Sb	**Sb**	**10 37 24.1**	**+1.5**	
	baz=233							
N32M	**Quiet Lake**	**2.19**	**50**	Pn	**Pn**	**10 36 52.7**	**+0.4**	
N32M	**Quiet Lake**	**2.19**	**50**	Sg	**Sg**	**10 37 24.3**	**-1.0**	
LOGN	**Logan Glacier**	**2.45**	**297**		**Pn**	**10 36 55.8**	**-0.1**	
LOGN	**Logan Glacier**	**2.45**	**297**	Pn	**Pn**	**10 36 56.0**	**+0.2**	
LOGN	**Logan Glacier**	**2.45**	**297**	Sg	**Sb**	**10 37 30.9**	**+0.7**	
S32K	**Killisnoo**	**2.55**	**155**		**Pn**	**10 36 56.8**	**-0.3**	
S32K				IAML		10 37 37.7		
	comp=N,22nm,0.9s							
S32K				IAML		10 37 38.4		
	comp=E,23nm,0.6s							
S32K	**Killisnoo**	**2.55**	**155**	Pb	**Pb**	**10 37 00.9**	**-0.4**	
	baz=336							
S32K				Sb	**Sb**	**10 37 33.4**	**+0.4**	
	baz=336							
S32K	**Killisnoo**	**2.55**	**155**	Pn	**Pn**	**10 36 57.1**	**+0.1**	
S32K	**Killisnoo**	**2.55**	**155**	Pg	**Pb**	**10 37 00.9**	**-0.4**	
S32K				Sg	**Sb**	**10 37 33.3**	**+0.4**	
M31M	**Drury Creek, Y**	**2.63**	**23**	Sb	**Sb**	**10 37 37.6**	**+2.1**	
	baz=204							
M31M	**Drury Creek, Y**	**2.63**	**23**	Pn	**Pn**	**10 36 59.3**	**+1.0**	
M31M	**Drury Creek, Y**	**2.63**	**23**	Sg	**Sb**	**10 37 37.5**	**+2.1**	
CTGM	**Chitina Glacie**	**2.65**	**298**	Pn	**Pn**	**10 36 59.2**	**+0.5**	
CTGM	**Chitina Glacie**	**2.65**	**298**	Pg	**Pb**	**10 37 02.8**	**-0.4**	
CTG	**Chitna Glacier**	**2.66**	**298**	Pb	**Pb**	**10 37 02.8**	**-0.4**	
	baz=115							
CTG				Sb	**Sb**	**10 37 37.7**	**+1.5**	
	baz=115							
MESA	**MESA**	**2.74**	**280**	Pb	**Pb**	**10 37 03.6**	**-1.1**	
	baz=96							
MESA				Sb	**Sb**	**10 37 39.8**	**+1.1**	
	baz=96							
MESA	**MESA**	**2.74**	**280**	Pn	**Pn**	**10 37 00.4**	**+0.4**	
MESA				Sg	**Sb**	**10 37 40.0**	**+1.2**	
YUK3	**Moose Creek**	**2.76**	**318**		**Pn**	**10 37 00.9**	**+0.6**	
YUK3	**Moose Creek**	**2.76**	**318**	Pb	**Pb**	**10 37 04.6**	**-0.5**	
	baz=135,SNR=23							
YUK3	**Moose Creek**	**2.76**	**318**	Pn	**Pn**	**10 37 00.5**	**+0.2**	
YUK3				Pg	**Pb**	**10 37 04.8**	**-0.3**	
M30M	**Minto, Yukon**	**2.79**	**358**		**Pn**	**10 37 01.2**	**+0.7**	
M30M				IAML		10 37 44.8		
	comp=N,40nm,0.6s							
M30M	**Minto, Yukon**	**2.79**	**358**	P	**Pn**	**10 37 00.9**	**+0.4**	
	baz=178,SNR=5.9							
M30M				Sb	**Sb**	**10 37 42.3**	**+2.3**	
	baz=178							
M30M	**Minto, Yukon**	**2.79**	**358**	Pn	**Pn**	**10 37 01.0**	**+0.5**	
M30M				Sg	**Sg**	**10 37 42.8**	**-1.9**	
M29M	**Somme Creek**	**2.82**	**342**		**Pn**	**10 37 01.4**	**+0.5**	
M29M				IAML		10 37 49.8		
	comp=N,27nm,0.7s							
M29M				IAML		10 37 54.0		
	comp=E,34nm,1.0s							
M29M	**Somme Creek**	**2.82**	**342**	P	**Pn**	**10 37 00.6**	**-0.2**	
	baz=160,SNR=6.0							
M29M				Sb	**Sg**	**10 37 43.8**	**-1.6**	
	baz=160							
M29M	**Somme Creek**	**2.82**	**342**	Pn	**Pn**	**10 37 01.8**	**+0.9**	
M29M				Pg	**Pb**	**10 37 07.0**	**+1.1**	
M29M				Sg	**Sg**	**10 37 44.0**	**-1.4**	
SIT	**Sitka**	**2.82**	**166**	Sb	**Sb**	**10 37 41.9**	**+1.2**	
	baz=347							
BARN	**Barnard Glacie**	**2.84**	**299**		**Pn**	**10 37 02.3**	**+1.1**	
R33M	**Jennings River**	**2.86**	**96**		**Pn**	**10 37 01.7**	**+0.1**	
R33M	**Jennings River**	**2.86**	**96**	P	**Pn**	**10 37 01.6**	**+0.1**	
	baz=280,SNR=14							
R33M	**Jennings River**	**2.86**	**96**	Pn	**Pn**	**10 37 01.8**	**+0.1**	
R33M				Pg	**Pb**	**10 37 07.3**	**+0.5**	
R33M				Sg	**Sb**	**10 37 44.9**	**+2.7**	
FARO	**Faro, Yukon**	**2.90**	**31**	Sb	**Sg**	**10 37 45.7**	**-2.3**	
	baz=214							
FARO	**Faro, Yukon**	**2.90**	**31**	Pg	**Pb**	**10 37 08.6**	**+1.3**	
FARO				Sg	**Sg**	**10 37 46.8**	**-1.2**	
YUK2	**White River**	**2.90**	**315**	Pn	**Pn**	**10 37 02.5**	**+0.4**	
YUK2				Pg	**Pb**	**10 37 07.1**	**-0.3**	
KIAG	**Kiagna River**	**3.10**	**294**		**Pn**	**10 37 05.1**	**+0.3**	
PTPK	**Patty Peak**	**3.25**	**298**		**Pn**	**10 37 07.1**	**+0.2**	
PTPK	**Patty Peak**	**3.25**	**298**	Pn	**Pn**	**10 37 07.3**	**+0.4**	
PTPK				Sg	**Sb**	**10 37 56.0**	**+2.9**	
S34M	**Telegraph Cree**	**3.39**	**122**	Pn	**Pn**	**10 37 08.7**	**+0.1**	
S34M	**Telegraph Cree**	**3.39**	**122**	P	**Pn**	**10 37 09.3**	**+0.7**	
	baz=306							
S34M	**Telegraph Cree**	**3.39**	**122**	Sg	**Sb**	**10 38 00.5**	**+3.5**	
L29M	**L29M**	**3.41**	**348**	P	**Pn**	**10 37 09.6**	**+0.6**	
	baz=167							
L29M	**L29M**	**3.41**	**348**	Pn	**Pn**	**10 37 09.8**	**+0.8**	
L29M	**L29M**	**3.41**	**348**	Sg	**Sg**	**10 38 02.0**	**-2.5**	
KHIT	**Khitrov Hills**	**3.42**	**284**		**Pn**	**10 37 09.7**	**+0.5**	
MCARA	**McCarthy VSAT**	**3.57**	**299**	Pn	**Pn**	**10 37 11.8**	**+0.7**	
MCARA				Pg	**Pb**	**10 37 18.9**	**+0.2**	
DLBC	**Dease Lake**	**3.63**	**109**	Pn	**Pn**	**10 37 12.1**	**+0.1**	
DLBC				IAML		10 38 14.4		
	comp=E,26nm,1.1s							
DLBC	**Dease Lake**	**3.63**	**109**	Pn	**Pn**	**10 37 12.3**	**+0.4**	
DLBC	**Dease Lake**	**3.63**	**109**	Sg	**Sb**	**10 38 08.1**	**+4.1**	
MAYO	**Mayo, Yukon**	**3.83**	**4**	Sg	**Sg**	**10 38 14.8**	**-3.0**	
HMT	**Hamilton**	**3.91**	**281**	Pn	**Pn**	**10 37 15.7**	**-0.1**	
WTLY	**Watson Lake, Y**	**3.91**	**82**	P	**Sg**	**10 38 17.0**	**-3.5**	
	baz=17							
WTLY	**Watson Lake, Y**	**3.91**	**82**	Sg	**Sg**	**10 38 16.9**	**-3.5**	
GLB	**Gilahina Butte**	**3.94**	**298**	Pn	**Pn**	**10 37 15.7**	**-0.6**	
GLB				IAML		10 38 23.4		
	comp=N,12nm,1.2s							
K29M	**Barlow Dome**	**4.09**	**354**	Pn	**Pn**	**10 37 19.1**	**+0.8**	
K29M	**Barlow Dome**	**4.09**	**354**	Sg	**Sg**	**10 38 24.0**	**-2.2**	
U33K	**Whale Pass**	**4.12**	**152**	Pn	**Pn**	**10 37 19.1**	**+0.5**	
U33K				IAML		10 38 32.3		
	comp=E,8.8nm,1.0s							
U33K	**Whale Pass**	**4.12**	**152**	Pn	**Pn**	**10 37 19.1**	**+0.5**	
U33K	**Whale Pass**	**4.12**	**152**	Sg	**Sb**	**10 38 21.5**	**+3.6**	
T35M	**Bob Quinn**	**4.35**	**128**	Sg	**Sb**	**10 38 29.7**	**+4.9**	
TGTN	**Hyland Airport**	**4.42**	**63**	Sg	**Sg**	**10 38 34.1**	**-2.9**	
DAWY	**Dawson**	**4.49**	**344**	P	**Pn**	**10 37 24.1**	**+0.3**	
	baz=162,SNR=6.0							
DAWY	**Dawson**	**4.49**	**344**	Pn	**Pn**	**10 37 24.2**	**+0.3**	
DAWY				Pg	**Pb**	**10 37 36.7**	**+2.3**	
DAWY	**Dawson**	**4.49**	**344**	Sg	**Sg**	**10 38 36.0**	**-3.2**	
EGAK	**Eagle**	**5.44**	**339**		**Pn**	**10 37 38.3**	**+1.4**	
I26K	**Coal Creek Min**	**6.32**	**334**		**Pn**	**10 37 50.4**	**+1.6**	
I26K	**Coal Creek Min**	**6.32**	**334**	P	**Pn**	**10 37 50.2**	**+1.4**	
	baz=14							

*IDC **30** 10:45:40.0±8.1,2.44S×128.24E,h0km,mb4.3/2, mbtmp4.4/3,ML4.4/1, Error ellipse: s-maj=144.1km s-min=112.0km az=86.0*

ISC 30 10:45:42.3±2.8,2.6S±0.2×127.6E±0.2,h10km,n19, σ1s75/19,Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDI	**Bandanaira**	**3.03**	**130**	P	**Pb**	**10 46 37.6**	**+1.2**
FAKI	**Fak Fak**	**4.68**	**95**	P	**Pb**	**10 47 05.8**	**+1.3**
MTN	**Manton Dam**	**10.81**	**161**	P	**Pn**	**10 48 18.3**	**+1.1**
KDU	**Kakadu**	**11.17**	**155**	P	**Pn**	**10 48 22.3**	**+0.2**
WRA	**Warramunga Arr**	**18.50**	**160**	P	**P**	**10 49 55.6**	**-3.1**
	1.4nm,0.3s,baz=341,slow=12,SNR=96 3.9nm,0.3s						
COEN	**Coen**	**19.12**	**127**	P	**P**	**10 50 05.0**	**-0.7**
PSA00	**Pilbara Seismi**	**20.34**	**201**	P	**P**	**10 50 22.3**	**+3.3**
QIS	**Mount Isa**	**21.39**	**148**	P	**P**	**10 50 27.9**	**-2.4**
ASAR	**Alice Springs**	**21.86**	**164**	P	**P**	**10 50 33.6**	**-1.7**
	8.2nm,0.5s,baz=344,slow=12,SNR=68 8.2nm,0.5s						
AS01	**Alice Springs**	**21.87**	**164**	P	**P**	**10 50 34.1**	**-1.4**
WRKA	**Warakurna**	**22.36**	**178**	P	**P**	**10 50 40.9**	**+0.2**
OOD	**Oodnadatta**	**26.27**	**164**	P	**P**	**10 51 15.8**	**-2.1**
MULG	**Mulgathing**	**28.25**	**168**	P	**P**	**10 51 34.9**	**-0.8**
BBOO	**Buckleboo**	**31.13**	**166**	P	**P**	**10 51 59.8**	**-1.4**
STKA	**Stephens Creek**	**32.01**	**157**	P	**P**	**10 52 07.7**	**-1.3**
STKA	**Stephens Creek**	**32.01**	**157**	P	**P**	**10 52 07.5**	**-1.5**
	1.3nm,0.4s,baz=344,slow=8.6,SNR=6.6 1.3nm,0.4s						
HTT	**Hallett**	**32.50**	**162**	P	**P**	**10 52 13.1**	**-0.2**
CMSA	**Cobar Meteorol**	**33.51**	**151**	P	**P**	**10 52 21.4**	**-0.7**
ARPS	**Mount Arapiles**	**36.50**	**161**	P	**P**	**10 52 46.9**	**-0.9**

*DJA **30** 10:46:31.5±0.6,17°N±6°×12°2E±°,h75km±5km,M4.7/9, mB5.5/3,mb4.9/9,MLv4.7/1,Mw(mB)4.9/3*
*BJI **30** 10:46:38.8±0.0,18.01N×120.53E,h45km,mb4.5/50, mB4.5/11,ML4.8/3,Ms3.9/21,Ms7 3.8/23*
*NEIC **30** 10:46:40.3±1.2,18.01N±0.05×120.62E±0.10,h53km±6km, mb4.6/97,Error ellipse: s-maj=13.8km s-min=7.9km az=82.0*
*IDC **30** 10:46:41.8±1.7,17.97N×120.72E,h74km±17km,mb4.0/27, mbtmp4.4/31,MS3.4/8,Error ellipse: s-maj=14.9km s-min=9.6km az=81.0*

ISC 30 10:46:38.0±0.3,18.00N±0.05×120.58E±0.05,h35km,n392, σ0s95/368,mb4.6/79,MS3.6/7,2C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGY	**Tagaytay City**	**3.89**	**175**	P	**Pn**	**10 47 37.8**	**+2.4**
	186nm,0.3s,baz=48,slow=11,SNR=2.5						
TGY				S	**Sn**	**10 48 25.1**	**+5.1**
	953nm,0.6s,baz=6.6,slow=6.2,SNR=2.0						
TGY				LR	LR	10 49 30.4	
	comp=Z,444nm,22.0s,baz=30,slow=44						
TWG	**Pinlang**	**4.82**	**5**		**Pn**	**10 47 50.0**	**+1.9**
TPUB	**Ta-pu**	**5.27**	**0**		**Pn**	**10 47 56.2**	**+1.8**
YULB	**Yu-li**	**5.41**	**7**	Pn	**Pn**	**10 47 58.2**	**+2.0**
SSLB	**Suanglung**	**5.77**	**3**	Pn	**Pn**	**10 48 02.8**	**+1.6**
NACB	**Ninganchiao**	**6.21**	**9**	Pn	**Pn**	**10 48 09.4**	**+2.1**
YHNB	**Yeheng**	**6.68**	**6**		**Pn**	**10 48 16.2**	**+2.5**
HKPS	**Hong Kong Po S**	**7.40**	**306**	Pn	**Pn**	**10 48 22.7**	**-0.8**
QIZ	**Qiongzhong**	**10.24**	**277**	P	**Pn**	**10 49 02.3**	**-0.3**
QIZ				S	**Sn**	**10 50 55.0**	**-1.2**
QIZ				pmax	pmax		
	comp=Z,11nm,1.0s						
QIZ				LR	LR		
	comp=N,78nm,5.2s						
QIZ				LR	LR		
	comp=E,150nm,12.0s						
QIZ				LR	LR		
	comp=Z,280nm,20.5s						
JOW	**Kunigami**	**11.30**	**38**	P	**Pn**	**10 49 20.0**	**+2.9**
	5.9nm,0.4s,baz=220,slow=11,SNR=9.2						
JOW				LR	LR	10 53 35.4	
	comp=Z,71nm,18.5s,baz=274,slow=37						
DAV	**Davao City (W)**	**11.91**	**155**	P	**Pn**	**10 49 26.5**	**+1.1**
	106nm,0.5s,baz=260,slow=6.6,SNR=1.2						
DAV				LR	LR	10 55 01.0	
	comp=Z,213nm,20.6s,baz=28,slow=42						
WHN	**Wuhan**	**13.71**	**337**	P	**P**	**10 49 59.0**	**+0.8**
WHN				S	Sn	10 52 32.0	+11
WHN				LR	LR		
	comp=Z,780nm,15.0s						
NJ2	**Nanjing**	**14.08**	**354**	*e*P	**Pn**	**10 49 58.0**	**+3.1**
NJ2				pmax	pmax		
	comp=Z,8.0nm,0.5s						
UBPT	**Khong Chiam**	**14.73**	**262**	Pn	**Pn**	**10 50 05.7**	**+1.8**
ENH	**Enshi**	**15.85**	**322**	Pn	**Pn**	**10 50 20.0**	**+1.4**
SLVN	**Son La**	**16.05**	**285**		**Pn**	**10 50 22.4**	**+1.2**
SBUM	**Sibu**	**17.50**	**209**	P	**Pn**	**10 50 38.5**	**-0.9**
JNU	**Nakatsue**	**17.67**	**30**	P	**P**	**10 50 41.6**	**-0.5**
JNU	**Nakatsue**	**17.67**	**30**	P	**P**	**10 50 42.5**	**+0.4**
	comp=Z,10nm,1.0s,baz=233,slow=5.0,SNR=6.2						
LYN	**LuoYang**	**18.00**	**338**	P	**P**	**10 50 48.3**	**+2.6**
LYN				pP	pP	10 50 56.5	+1.7
LYN				pmax	pmax		
	comp=Z,16nm,1.2s						
LYN				LR	LR		
	comp=Z,170nm,17.3s						
LYN				LR	LR		
	comp=Z,260nm,18.2s						
TIA	**Tai'an**	**18.40**	**351**	P	**Pn**	**10 50 52.3**	**+2.0**
TIA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
XAN	**Xi'an**	**19.08**	**329**	⇑P	**Pn**	**10 51 04.8**	**+6.2**
XAN				pP	sP	10 51 12.0	+0.8
XAN				pmax	pmax		
	comp=Z,17nm,0.9s						
XAN				LR	LR		
	comp=Z,920nm,18.6s						
CRAI	**Chiangrai**	**19.23**	**280**	P	**Pn**	**10 51 01.4**	**+0.9**
CRAI				IAmb	IAmb	10 51 07.4	
	comp=Z,24nm,0.9s						
PHRA	**Phrae**	**19.34**	**275**	P	**Pn**	**10 51 03.0**	**+1.2**
PZH	**PanZhiHua**	**19.36**	**299**	P	**Pn**	**10 51 03.8**	**+1.6**
PZH				S	**S**	**10 54 35.5**	**-2.7**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.8s						
PZH				pmax	pmax		
	comp=Z,80nm,4.9s						
PZH				LR	LR		
	comp=Z,140nm,13.7s						
PZH				LR	LR		
	comp=Z,140nm,14.0s						
PZH				LR	LR		
	comp=Z,140nm,17.6s						
CD2	**Chengdu**	**19.96**	**313**	P	**P**	**10 51 07.8**	**+0.5**
CD2				pmax	pmax		
	comp=Z,10.0nm,0.4s						
CD2				LR	LR		
	comp=Z,100nm,14.6s						
CD2				LR	LR		
	comp=Z,220nm,15.2s						
CD2

LSA Lhasa 29.24 299 P P 10 52 39.0 +1.6
ULN Ulaanbaatar 31.78 343 P P 10 52 58.9 -0.2
SONM Songino Array 31.94 342 P P 10 53 00.1 -0.5
SONM Songino Array 31.94 342 P P 10 53 00.8 +0.3
comp=Z,3.3nm,0.8s,baz=160,slow=9.6,SNR=17
SONM PcP **PcP 10 55 49.8 -0.4**
comp=Z,0.6nm,0.6s,baz=135,slow=1.4,SNR=3.6
comp=Z,3.3nm,0.8s
WRA Warramunga Arr 40.05 160 P P 10 54 08.3 -1.8
comp=Z,1.8nm,0.7s,baz=325,slow=12,SNR=12
WRA PcP **PcP 10 56 14.1 -0.5**
comp=Z,0.5nm,0.5s,baz=344,slow=3.1,SNR=6.1
comp=Z,1.8nm,0.7s
MK31 Makanchi Array 42.58 321 P P 10 54 31.4 +0.8
MKAR Makanchi Array 42.58 321 P P 10 54 31.4 +0.8
MKAR Makanchi Array 42.58 321 P P 10 54 31.8 +1.2
comp=Z,18nm,0.9s,baz=118,slow=9.1,SNR=44
MKAR PcP **PcP 10 56 21.4 -1.2**
comp=Z,3.8nm,0.8s,baz=102,slow=4.1,SNR=7.1
comp=Z,18nm,0.9s
PRZ Przheval'sk 43.25 314 P P 10 54 38.3 +2.0
PRZ IAmb IAmb 10 54 39.8
comp=Z,11nm,0.7s
AS31 Alice Springs 43.41 162 P P 10 54 36.4 -1.1
ASAR Alice Springs 43.41 162 P P 10 54 36.1 -1.4
comp=Z,2.3nm,0.4s,baz=337,slow=7.1,SNR=24
ASAR PcP **PcP 10 56 24.9 -0.7**
comp=Z,0.2nm,0.5s,baz=348,slow=3.5,SNR=1.2
comp=Z,2.3nm,0.4s
H11S3 WAKE ISLAND Hy 43.70 82 T T 11 40 01.2
baz=276,slow=74,SNR=35
H11S1 WAKE ISLAND Hy 43.71 82 T T 11 40 03.4
baz=276,slow=74,SNR=20
H11S2 WAKE ISLAND Hy 43.71 82 T T 11 40 03.8
baz=276,slow=74,SNR=24
H11N1 WAKE ISLAND Hy 43.75 80 T T 11 40 10.5
baz=275,slow=75,SNR=5.2
H11N2 WAKE ISLAND Hy 43.76 80 T T 11 40 08.2
baz=275,slow=75,SNR=5.9
H11N3 WAKE ISLAND Hy 43.77 80 T T 11 40 11.6
baz=275,slow=75,SNR=5.6
KSH Kashi 44.05 309 P P 10 54 45.0 +2.3
KSH pmax pmax
comp=Z,7.0nm,0.8s
YAK Yakutsk 44.45 6 P P 10 54 45.2 -0.1
NIL Nilore 44.97 300 P P 10 54 49.6 -0.5
ZAA0 Zalesovo Array 45.23 331 P P 10 54 51.9 +0.1
ZAA0 IAmb IAmb 10 54 52.8
comp=Z,11nm,1.1s
ZALV Zalesovo Beam 45.23 331 P P 10 54 51.5 -0.3
ZALV Zalesovo Beam 45.23 331 P P 10 54 52.0 +0.2
comp=Z,3.8nm,0.5s,baz=116,slow=6.8,SNR=20
ZALV PcP **PcP 10 56 30.3 -1.0**
comp=Z,1.2nm,0.5s,baz=108,slow=4.7,SNR=2.8
comp=Z,3.8nm,0.5s
PETK Petropavlovsk- 45.37 31 P P 10 54 52.3 -0.5
comp=Z,2.6nm,0.7s,baz=268,slow=2.6,SNR=4.4
comp=Z,2.6nm,0.7s
KURK Kurchatov 46.61 324 P P 10 55 02.9 +0.2
KURBB Kurchatov Arra 46.62 324 P P 10 55 03.5 +0.8
comp=Z,17nm,0.9s,baz=122,slow=8.1,SNR=49
KURBB PcP **PcP 10 56 35.0 -1.3**
comp=Z,0.9nm,0.3s,baz=121,slow=7.6,SNR=3.7
comp=Z,17nm,0.9s
KBL Kabul 48.55 300 P P 10 55 18.0 -0.2
KBL IAmb IAmb 10 55 19.5
comp=Z,5.5nm,0.8s
KK31 Karatay Array 48.97 312 P P 10 55 21.5 +0.4
KK31 IAmb IAmb 10 55 22.3
comp=Z,5.2nm,0.8s
KKAR Karatay Array 48.97 312 P P 10 55 21.2 +0.2
KKAR IAmb IAmb 10 55 22.4
comp=Z,5.1nm,0.8s
KKAR Karatay Array 48.97 312 P P 10 55 20.8 -0.3
BVAR Borovoye Array 52.21 324 P P 10 55 46.0 +0.6
comp=Z,2.0nm,0.6s,baz=116,slow=12,SNR=12
BVAR PcP **PcP 10 56 55.8 -0.8**
comp=Z,2.7nm,0.6s,baz=120,slow=3.9,SNR=6.1
comp=Z,2.0nm,0.6s
BRVK Borovoye 52.28 324 P P 10 55 46.5 +0.6
BBOO Buckleboo 52.65 164 P P 10 55 48.0 -0.8
STKA Stephens Creek 53.53 158 P P 10 55 54.3 -1.0
STKA Stephens Creek 53.53 158 P P 10 55 54.4 -1.0
comp=Z,1.9nm,0.5s,baz=330,slow=6.3,SNR=7.2
comp=Z,1.9nm,0.5s
TIXI Tiksi 53.87 3 P P 10 55 55.9 -1.3
TIXI IAmb IAmb 10 55 57.1
comp=Z,3.0nm,0.7s
ABKAR Akbulak array 57.47 317 P P 10 56 23.3 -0.2
GEYT Alibeck 57.59 304 P P 10 56 24.9 +0.2
GEYT Alibeck 57.59 304 P P 10 56 25.5 +0.9
comp=Z,3.3nm,0.5s,baz=96,slow=3.0,SNR=6.0
comp=Z,3.3nm,0.5s
GYA0B ALIBECK ARRAY 57.59 304 P P 10 56 25.0 +0.4
K13K Kusilvak Mount 67.11 30 P P 10 57 27.9 +0.1
baz=265
F15K North Star Dit 67.48 26 P P 10 57 30.2 +0.2
baz=264
C16K Lisburne Hills 67.52 23 P P 10 57 30.3 0.0
baz=262
G15K Niukluk 67.66 26 P P 10 57 31.4 +0.2
baz=265
J14K Nanvaranak Lak 67.69 29 P P 10 57 30.3 -1.1
baz=266
GNI Garni 67.93 307 LR LR 11 30 13.2
comp=Z,38nm,21.7s,baz=100,slow=38
L14K Kuka Creek 68.01 30 P P 10 57 32.8 -0.7
baz=267
S12K Black Hills 68.22 36 P P 10 57 33.8 -1.1
baz=270
D17K Noatak River 68.30 24 P P 10 57 35.2 0.0
baz=264
M14K Bethel 68.34 31 P P 10 57 35.5 0.0
baz=268
C17K DeLong Mountai 68.34 23 P P 10 57 35.2 -0.3
baz=264
H16K Elim 68.40 27 P P 10 57 35.9 0.0
baz=266
G16K Koyuk River 68.40 26 P P 10 57 35.8 -0.1
baz=266
N14K Kuskokwak Cree 68.46 32 P P 10 57 35.1 -1.1
baz=269
K15K Wolf Creek Mou 68.60 29 P P 10 57 37.3 +0.1
baz=268
O14K Tigyaksuivet M 68.66 33 P P 10 57 36.6 -1.0
baz=269
E17K Hotham Inlet 68.73 24 P P 10 57 37.9 0.0
baz=266
F17K Baldwin Pennin 68.92 25 P P 10 57 39.0 0.0
baz=267
B18K Kokolik River 68.93 22 P P 10 57 38.9 -0.2
baz=265
M15K Kasigluk River 68.97 31 P P 10 57 39.3 -0.2
baz=269
KBZ Khabaz 68.98 311 P P 10 57 40.1 +0.2
comp=Z,7.6nm,0.9s,baz=174,slow=1.7,SNR=8.2
comp=Z,7.6nm,0.9s
I17K Unalakleet 69.03 28 P P 10 57 38.7 -1.1
baz=268
J16K Anvik River 69.06 28 P P 10 57 38.9 -1.1
baz=268
C18K Utukok River 69.09 23 P P 10 57 39.8 -0.3
baz=266
G17K Kiwalik Mounta 69.11 26 P P 10 57 40.6 +0.2
baz=268
E18K Tukpahlearik C 69.23 24 P P 10 57 41.3 +0.3
baz=267
A19K Wainwright 69.25 21 P P 10 57 41.4 +0.4
baz=265
N15K Kwethluk River 69.26 32 P P 10 57 41.2 -0.1
baz=270
H17K Granite Mounta 69.41 27 P P 10 57 42.5 +0.3
baz=268
L16K Owhat River 69.56 30 P P 10 57 44.1 +1.0
baz=270
F18K Selawik 69.57 25 P P 10 57 43.9 +0.8
baz=268
S14K Fog Glacier 69.61 36 P P 10 57 43.8 +0.1
baz=272
CHNA Chernabura Isl 69.65 37 P P 10 57 43.9 +0.1
baz=272
C19K Lookout Ridge 69.70 22 P P 10 57 44.5 +0.6
baz=267
RAYN Ar Rayn 69.71 289 P P 10 57 44.4 -0.4
J17K VABM Dome 69.75 28 P P 10 57 43.3 -1.0
baz=270
M16K Timber Creek 69.81 31 P P 10 57 44.3 -0.5
baz=271
N16K Nishlik Lake 69.91 31 P P 10 57 45.0 -0.4
baz=271
G18K Tagagawik 69.95 26 P P 10 57 45.9 +0.4
baz=269
H18K Honhosa River 70.07 26 P P 10 57 45.4 -0.8
baz=270
K17K Iditarod 70.10 29 P P 10 57 47.1 +0.6
K17K Iditarod 70.10 29 P P 10 57 45.9 -0.5
baz=271
L17K Donlin 70.11 30 P P 10 57 45.8 -0.8
baz=271
D19K Kuna River 70.21 23 P P 10 57 47.4 +0.3
D19K IAmb IAmb 10 57 50.3
comp=Z,7.3nm,1.2s
D19K Kuna River 70.21 23 P P 10 57 47.4 +0.3
baz=269
O16K Kokwok River B 70.28 32 P P 10 57 47.8 +0.2
baz=272
F19K Shaleruckit Mo 70.32 25 P P 10 57 48.2 +0.5
baz=270
E19K Redstone River 70.53 24 P P 10 57 48.9 -0.1
baz=270
M17K Holitna River 70.54 30 P P 10 57 49.3 +0.1
baz=272
G19K Purcell Mounta 70.59 25 P P 10 57 49.7 +0.3
baz=270
N17K Nushagak Hills 70.69 31 P P 10 57 50.4 +0.3
baz=272
D20K Etivluk River 70.76 23 P P 10 57 51.5 +1.0
baz=270
O17K Koliganek Bris 70.78 32 P P 10 57 51.5 +0.9
baz=273
J18K Innoko River 70.81 28 P P 10 57 51.7 +0.9
baz=272
L18K Granite Mounta 70.86 29 P P 10 57 52.6 +1.4
L18K IAmb IAmb 10 57 53.2
comp=Z,4.0nm,0.7s
L18K Granite Mounta 70.86 29 P P 10 57 51.5 +0.3
baz=272
H19K Roundabout Mou 70.87 26 IAmb IAmb 10 57 53.7
comp=Z,7.0nm,1.1s
H19K Roundabout Mou 70.87 26 P P 10 57 51.0 0.0
baz=271
E20K Nigu River 70.92 23 P P 10 57 51.7 +0.3
baz=271
Q16K King Salmon 71.06 33 P P 10 57 52.9 +0.5
baz=274
F20K Avaraart Lake 71.12 24 P P 10 57 53.2 +0.6
baz=271
P17K Kvichak River 71.14 33 P P 10 57 53.3 +0.5
baz=274
J19K Poorman 71.27 28 P P 10 57 53.1 -0.4
baz=273
M18K Stony River 71.31 30 P P 10 57 53.6 -0.3
baz=273
A22K Sinclair Lake 71.31 20 P P 10 57 53.6 -0.1
baz=271
N18K Kilae Creek 71.33 31 P P 10 57 53.3 -0.7
baz=274
C21K Knifeblade Rid 71.42 22 P P 10 57 55.1 +0.7
baz=272
B21K Ikpikpuk River 71.47 22 P P 10 57 54.8 +0.2
baz=272
H20K Anotleneega Mo 71.52 26 P P 10 57 55.2 +0.1
baz=273
O18K Koktuh Hills 71.72 32 P P 10 57 56.2 -0.2
baz=274
L19K White Mountain 71.73 29 P P 10 57 56.4 0.0
baz=274
I20K Naaghedeneel 71.73 27 P P 10 57 56.3 +0.1
baz=273
E21K Killik River 71.74 23 P P 10 57 55.8 -0.5
baz=273
P18K Big Mountain, 71.75 32 P P 10 57 56.4 -0.1
baz=274
B22K Teshekpuk Lake 71.85 21 P P 10 57 57.3 +0.4
baz=272
J20K Nowinta River 71.91 27 IAmb IAmb 10 58 14.1
comp=Z,4.1nm,0.8s
J20K Nowinta River 71.91 27 P P 10 57 56.6 -0.8
baz=274
M19K Big River Lodg 71.96 30 P P 10 57 56.7 -1.1
baz=274
F21K Alatna River 71.99 24 P P 10 57 57.6 -0.3
baz=273
K20K Telida 72.00 28 P P 10 57 59.3 +1.3
K20K Telida 72.00 28 P P 10 57 57.8 -0.2
baz=274
N19K Bonanza Creek 72.00 31 P P 10 57 58.2 0.0
baz=275
G21K Allakaket 72.02 25 IAmb IAmb 10 58 15.2
comp=Z,5.0nm,0.9s
G21K Allakaket 72.02 25 P P 10 57 58.2 +0.1
baz=274
O19K Port Alsworth 72.14 32 P P 10 57 59.1 +0.3
baz=275
L20K Farewell, AK 72.16 29 P P 10 57 59.4 +0.5
baz=275
D22K Ayikyak River 72.19 22 P P 10 57 58.6 -0.4
baz=274
R18K Karluk 72.32 34 P P 10 57 59.4 -0.6
baz=276
H21K Melozitna Rive 72.37 26 P P 10 58 01.1 +0.9
H21K IAmb IAmb 10 58 02.9
comp=Z,10nm,1.2s
H21K Melozitna Rive 72.37 26 P P 10 57 59.9 -0.2
baz=275
F22K John River 72.47 24 P P 10 58 00.3 -0.4
baz=274
M20K Styx River 72.56 30 P P 10 57 59.8 -1.7
baz=276
E22K Anaktuvuk Pass 72.56 23 P P 10 58 00.7 -0.6
baz=275
CHUM Lake Minchumin 72.74 28 P P 10 58 01.8 -0.6
baz=276
I21K Tanana 72.76 26 IAmb IAmb 10 58 04.6
comp=Z,12nm,1.4s
I21K Tanana 72.76 26 P P 10 58 02.1 -0.3
baz=275
G22K Bettles 72.78 24 P P 10 58 02.4 -0.2
baz=275
C23K Itkillik River 72.84 21 P P 10 58 02.9 0.0
baz=275
CAST Castle Rocks 72.89 28 IAmb IAmb 10 58 20.1
comp=Z,7.1nm,0.8s
CAST Castle Rocks 72.89 28 P P 10 58 03.3 0.0
baz=276,SNR=9.8
PPLA Purkeypile 72.89 29 P P 10 58 03.1 -0.4
baz=276
D23K Nanushuk River 72.90 22 P P 10 58 03.3 +0.1
baz=275
H22K Ishtalitna Cre 72.94 25 P P 10 58 03.4 -0.1
baz=276
OHAK Old Harbor 72.98 35 P P 10 58 03.7 -0.1
baz=277
O20K Slope Mountain 72.99 32 P P 10 58 03.9 -0.1
baz=276
N20K Mount Spurr 73.07 30 P P 10 58 04.1 -0.4
baz=276
COLD Coldfoot 73.26 24 P P 10 58 05.5 +0.1
baz=276
KDAK Kodiak Island 73.29 34 P P 10 58 05.6 -0.1
baz=277
MLY Manley 73.30 26 IAmb IAmb 10 58 22.6
comp=Z,5.6nm,1.2s
MLY Manley 73.30 26 P P 10 58 05.6 -0.1
baz=277
BPAW Bear Paw Mtn. 73.30 27 P P 10 58 05.3 -0.4
BPAW IAmb IAmb 10 58 23.2
comp=Z,8.3nm,1.2s
BPAW Bear Paw Mtn. 73.30 27 P P 10 58 05.7 0.0
baz=277
SKT Skwentna 73.30 30 P P 10 58 05.8 0.0
baz=277
TOLK Toolik Lake Re 73.34 22 P P 10 58 06.0 +0.1
baz=277
G23K Bananza Creek 73.39 25 P P 10 58 06.7 +0.5
G23K IAmb IAmb 10 58 08.8
comp=Z,8.2nm,1.4s
G23K Bananza Creek 73.39 25 P P 10 58 06.4 +0.2
baz=277
C24K Franklin Bluff 73.52 21 P P 10 58 07.3 +0.5
baz=277
D24K Happy Valley 73.54 22 P P 10 58 07.1 +0.1
baz=277
TRF Thorofare Moun 73.69 28 P P 10 58 07.9 -0.3
baz=278
H23K Yukon River 73.69 25 IAmb IAmb 10 58 10.8
comp=Z,15nm,1.4s
H23K Yukon River 73.69 25 P P 10 58 07.8 -0.2
baz=277,SNR=7.3
SUA Susitna One 73.74 30 P P 10 58 08.0 -0.4
SUA Susitna One 73.74 30 P P 10 58 08.5 +0.1
baz=278
E24K Your Creek 73.81 23 P P 10 58 09.3 +0.6
baz=278
I23K Minto, Yukon-K 73.86 26 P P 10 58 09.4 +0.5
baz=278
M22K Willow 73.99 30 P P 10 58 09.3 -0.5
NEA2 Nenana 74.06 27 P P 10 58 11.0 +0.8
baz=278
F24K Squaw Lake 74.11 24 IAmb IAmb 10 58 15.6
comp=Z,4.1nm,0.7s
F24K Squaw Lake 74.11 24 P P 10 58 10.5 +0.1
baz=278
MCK McKinley 74.25 28 P P 10 58 11.5 +0.2
baz=279
RC01 Rabbit Creek A 74.27 30 P P 10 58 11.8 +0.3
baz=279
RND Reindeer 74.33 28 P P 10 58 11.2 -0.6
RND IAmb IAmb 10 58 12.3
comp=Z,6.3nm,0.8s
H24K Noodor Dome 74.37 25 P P 10 58 11.8 -0.2
baz=279,SNR=5.2
O22K Cooper Landing 74.37 31 P P 10 58 12.2 +0.2
baz=279
D25K Kavik River 74.38 22 IAmb IAmb 10 58 16.5
comp=Z,4.2nm,0.8s
D25K Kavik River 74.38 22 P P 10 58 12.3 +0.3
baz=279
G24K Hadweenzic Riv 74.40 24 P P 10 58 12.1 0.0
G24K IAmb IAmb 10 58 29.3
comp=Z,11nm,1.4s
G24K Hadweenzic Riv 74.40 24 P P 10 58 11.6 -0.5
baz=279
PMR Palmer 74.48 30 IAmb IAmb 10 58 13.0
comp=Z,14nm,1.4s
PMR Palmer 74.48 30 P P 10 58 12.6 -0.1
baz=279
SEW Seward 74.56 31 P P 10 58 13.5 +0.3
baz=279
POKR Poker Plat Res 74.67 26 P P 10 58 13.3 -0.4
baz=280
C26K Camden Bay 74.78 21 P P 10 58 13.8 -0.4
baz=280
SML Sawmill 74.83 29 IAmb IAmb 10 58 16.2
comp=Z,7.4nm,0.9s
SML Sawmill 74.83 29 P P 10 58 14.2 -0.5
baz=280
KNK Knik Glacier 74.83 30 IAmb IAmb 10 58 34.4
comp=Z,8.6nm,1.0s
KNK Knik Glacier 74.83 30 P P 10 58 13.9 -0.9
baz=280
E25K Arctic Village 74.88 23 P P 10 58 14.9 0.0
baz=280
G25K Bearman Lake 74.92 24 P P 10 58 14.8 -0.3
baz=280
F25K Christian Rive 74.95 23 P P 10 58 14.9 -0.4
baz=280
ILAR Eielson Array 74.96 26 P P 10 58 14.4 -0.9
comp=Z,0.8nm,0.6s,baz=263,slow=4.9,SNR=10
comp=Z,0.8nm,0.6s
WAT6 Susitna Watana 74.97 29 P P 10 58 15.0 -0.6
baz=280
HDA Harding Lake 75.00 27 P P 10 58 15.5 -0.1
baz=280
DHY Denali Highway 75.05 28 P P 10 58 15.8 -0.3
baz=280
ARCES ARCESS Array B 75.05 339 P P 10 58 15.6 -0.2
comp=Z,1.3nm,0.5s,baz=79,slow=6.3,SNR=7.4
comp=Z,1.3nm,0.5s
M23K Glacier View 75.11 29 P P 10 58 16.2 -0.1
baz=280
H25L Birch Creek 75.12 25 P P 10 58 16.0 -0.2
baz=281
C27K Jago River 75.25 21 P P 10 58 17.1 +0.1
baz=282
SCM Sheep Creek Mo 75.29 29 P P 10 58 17.5 +0.1
baz=280
SPITS Spitsbergen Ar 75.38 348 P P 10 58 17.4 -0.1
comp=Z,3.0nm,0.6s,baz=66,slow=8.6,SNR=11
comp=Z,3.0nm,0.6s
PRP Porcupine Dome 75.39 25 P P 10 58 16.8 -1.1
baz=281
F26K Sheenjek River 75.49 23 P P 10 58 18.0 -0.4
baz=282
K24K Donnelly Dome 75.61 27 P P 10 58 18.6 -0.6
baz=281
J25K Salcha River, 75.63 26 P P 10 58 18.8 -0.5
baz=282
M24K Tolsona, Glenn 75.77 29 P P 10 58 19.6 -0.6
baz=281
G26K Porcupine Rive 75.78 24 P P 10 58 19.7 -0.4
baz=282
PAX Paxson 75.92 28 P P 10 58 20.8 -0.2
baz=282
KLU Klutina 76.01 30 IAmb IAmb 10 58 24.9
comp=Z,10.0nm,1.3s
KLU Klutina 76.01 30 P P 10 58 20.5 -1.1
baz=282
HARP HAARP 76.18 29 P P 10 58 22.1 -0.3
baz=282
D27M Malcolm River 76.28 21 P P 10 58 22.2 -0.8
baz=284
E27K Coleen River 76.32 22 P P 10 58 22.4 -0.8
baz=284
SCRK Sand Creek 76.35 27 P P 10 58 23.0 -0.5
baz=283
I26K Coal Creek Min 76.40 25 IAmb IAmb 10 58 24.5
comp=Z,6.0nm,1.0s
I26K Coal Creek Min 76.40 25 P P 10 58 23.3 -0.3
baz=283
J26L Joseph Creek 76.42 26 P P 10 58 23.6 -0.2
baz=283
BRTR Keskin Array B 76.43 308 P P 10 58 24.6 +0.1
comp=Z,1.4nm,0.9s,baz=122,slow=8.9,SNR=5.3
comp=Z,1.4nm,0.9s
FINES FINESS Array B 76.50 330 P P 10 58 23.5 -0.6
comp=Z,1.9nm,0.6s,baz=44,slow=6.3,SNR=7.2
comp=Z,1.9nm,0.6s
N25K Chitina, Valde 76.61 29 P P 10 58 24.0 -1.0
baz=283
G27K Doyon Strip 76.64 24 P P 10 58 24.1 -0.8
baz=284
MENT Mentasta 76.71 28 IAmb IAmb 10 58 43.0
comp=Z,12nm,1.5s
BMRM Bremner River 76.75 30 P P 10 58 25.0 -0.7
baz=283
H27K Steamboat Moun 76.83 24 P P 10 58 25.8 -0.3
baz=284
L26K Log Cabin Wild 76.85 28 P P 10 58 25.8 -0.4
baz=284
E28M Babbage River 76.95 22 P P 10 58 25.8 -0.9
baz=286
I27K Kandik River 76.95 25 P P 10 58 26.0 -0.8
baz=285
F28M Old Crow 77.10 23 P P 10 58 26.4 -1.2
F28M IAmb IAmb 10 58 28.9
comp=Z,5.8nm,1.0s
F28M Old Crow 77.10 23 P P 10 58 26.3 -1.2
baz=286
AKASG Malin Array Be 77.13 319 P P 10 58 26.7 -1.2
comp=Z,0.3nm,0.3s,baz=66,slow=5.2,SNR=7.0
comp=Z,0.3nm,0.3s
K27K Chicken 77.16 27 IAmb IAmb 10 58 30.4
comp=Z,14nm,1.5s
K27K Chicken 77.16 27 P P 10 58 26.8 -1.0
baz=284
M26K Nabesna, AK 77.16 28 P P 10 58 28.2 +0.2
M26K IAmb IAmb 10 58 29.4
comp=Z,8.3nm,1.1s
M26K Nabesna, AK 77.16 28 P P 10 58 26.6 -1.4
baz=284
EGAK Eagle 77.35 26 P P 10 58 28.3 -0.7
baz=285
MCARA McCarthy VSAT 77.40 29 P P 10 58 29.4 +0.1
baz=284
L27K Beaver Creek, 77.51 28 P P 10 58 30.3 +0.4
L27K IAmb IAmb 10 58 31.9
comp=Z,6.1nm,1.1s
L27K Beaver Creek, 77.51 28 P P 10 58 29.8 -0.1
baz=285
BCAR Beaver Creek A 77.53 28 P P 10 58 31.4 +1.4
E29M Blow River 77.59 22 P P 10 58 30.2 0.0
baz=287
I28M Miner Creek 77.67 25 P P 10 58 30.5 -0.3

I28M				IAmb	IAmb	10 58 38.7	
	comp=Z,4.8nm,1.1s						
I28M	**Miner Creek**	**77.67**	**25**	P	**P**	**10 58 31.0**	**+0.2**
	baz=286,SNR=5.3						
M27K	**Edge Creek, AK**	**77.67**	**28**	IAmb	IAmb	10 58 32.4	
	comp=Z,7.1nm,1.1s						
M27K	**Edge Creek, AK**	**77.67**	**28**	P	**P**	**10 58 31.1**	**+0.1**
	baz=285						
G29M	**Pine Creek**	**77.99**	**23**	P	**P**	**10 58 32.2**	**-0.3**
G29M	**Pine Creek**	**77.99**	**23**	P	**P**	**10 58 32.5**	**0.0**
	baz=288						
H29M	**Whitestone**	**78.06**	**24**	P	**P**	**10 58 33.2**	**+0.3**
	baz=287						
MESA	**MESA**	**78.22**	**30**	P	**P**	**10 58 32.7**	**-1.4**
	baz=285						
DAWY	**Dawson**	**78.29**	**26**	P	**P**	**10 58 34.9**	**+0.6**
DAWY	**Dawson**	**78.29**	**26**	P	**P**	**10 58 34.6**	**+0.3**
	baz=287						
CTG	**Chitna Glacier**	**78.29**	**30**	P	**P**	**10 58 34.2**	**-0.3**
	baz=286,SNR=14						
CTGM	**Chitina Glacie**	**78.30**	**30**	P	**P**	**10 58 35.3**	**+0.8**
I29M	**Ogilvie Camp,**	**78.35**	**25**	P	**P**	**10 58 33.8**	**-0.7**
	baz=288						
YUK3	**Moose Creek**	**78.47**	**29**	P	**P**	**10 58 36.1**	**+0.5**
	baz=286						
LOGN	**Logan Glacier**	**78.49**	**30**	IAmb	IAmb	10 58 54.9	
	comp=Z,8.4nm,0.9s						
F30M	**Barrier River**	**78.59**	**22**	P	**P**	**10 58 36.0**	**+0.2**
	baz=289						
G30M	**tAoh Zraii Nji**	**78.64**	**23**	P	**P**	**10 58 36.3**	**+0.1**
	baz=289						
EPYK	**Eagle Plains**	**78.65**	**24**	P	**P**	**10 58 36.3**	**+0.1**
	baz=289						
O28M	**Mount Upton**	**78.89**	**30**	P	**P**	**10 58 37.1**	**-0.8**
	baz=287						
YUK8	**Steele Glacier**	**78.94**	**29**	P	**P**	**10 58 37.1**	**-1.0**
	baz=287						
L29M	**L29M**	**79.11**	**27**	IAmb	IAmb	10 58 40.5	
	comp=Z,4.6nm,0.8s						
L29M	**L29M**	**79.11**	**27**	P	**P**	**10 58 38.4**	**-0.4**
	baz=288,SNR=6.3						
K29M	**Barlow Dome**	**79.14**	**26**	P	**P**	**10 58 38.7**	**-0.3**
K29M	**Barlow Dome**	**79.14**	**26**	P	**P**	**10 58 38.7**	**-0.3**
	baz=288						
INK	**Inuvik**	**79.15**	**21**	P	**P**	**10 58 38.8**	**0.0**
	baz=291						
I30M	**Mount Dempster**	**79.16**	**25**	P	**P**	**10 58 38.7**	**-0.5**
	baz=289						
M29M	**Somme Creek**	**79.17**	**28**	IAmb	IAmb	10 58 41.4	
	comp=Z,5.5nm,0.8s						
M29M	**Somme Creek**	**79.17**	**28**	P	**P**	**10 58 38.7**	**-0.5**
	baz=288,SNR=14						
G31M	**Satah River**	**79.38**	**23**	P	**P**	**10 58 40.0**	**-0.1**
	baz=291						
F31M	**Tsiigehtchic**	**79.39**	**22**	IAmb	IAmb	10 58 40.5	
	comp=Z,5.0nm,0.8s						
F31M	**Tsiigehtchic**	**79.39**	**22**	P	**P**	**10 58 40.0**	**-0.1**
	baz=291						
J30M	**Hart River**	**79.39**	**25**	P	**P**	**10 58 41.0**	**+0.6**
	baz=289						
YUK4	**Talbot Arm**	**79.43**	**29**	P	**P**	**10 58 40.8**	**0.0**
	baz=288						
PNL	**Peninsula**	**79.59**	**31**	P	**P**	**10 58 41.0**	**-0.4**
	baz=288						
YUK6	**Outpost Mounta**	**79.69**	**29**	P	**P**	**10 58 41.6**	**-0.6**
	baz=288						
H31M	**Peel River**	**79.75**	**24**	IAmb	IAmb	10 58 44.2	
	comp=Z,9.0nm,1.2s						
H31M	**Peel River**	**79.75**	**24**	P	**P**	**10 58 42.0**	**-0.2**
	baz=291						
O29M	**Mount Kennedy**	**79.79**	**30**	P	**P**	**10 58 42.8**	**+0.1**
	baz=288						
M30M	**Minto, Yukon**	**79.87**	**27**	P	**P**	**10 58 43.0**	**0.0**
M30M				IAmb	IAmb	10 59 00.6	
	comp=Z,8.2nm,1.3s						
M30M	**Minto, Yukon**	**79.87**	**27**	P	**P**	**10 58 43.3**	**+0.4**
	baz=289,SNR=7.7						
MAYO	**Mayo, Yukon**	**79.91**	**26**	P	**P**	**10 58 43.5**	**+0.4**
	baz=290						
N30M	**Aishikik Lake**	**80.11**	**28**	P	**P**	**10 58 44.3**	**+0.1**
	baz=289,SNR=7.7						
HYT	**Haines Junctio**	**80.12**	**29**	P	**P**	**10 58 44.0**	**-0.5**
	baz=289						
A36M	**Sachs Harbour**	**80.17**	**17**	P	**P**	**10 58 44.3**	**0.0**
	baz=298						
P29M	**Windy Craggy**	**80.41**	**30**	IAmb	IAmb	10 58 47.9	
	comp=Z,5.8nm,0.8s						
P29M	**Windy Craggy**	**80.41**	**30**	P	**P**	**10 58 45.7**	**-0.1**
	baz=289						
BURAR	**Bucovina Array**	**80.45**	**317**	P	**P**	**10 58 46.0**	**-0.4**
BURAR				IAmb	IAmb	10 58 46.7	
	comp=Z,3.5nm,0.7s						
MLR	**Muntele Rosu**	**80.55**	**315**	LR	LR	11 38 13.6	
	comp=Z,68nm,18.6s,baz=180,slow=38						
P30M	**Million Dollar**	**80.61**	**30**	P	**P**	**10 58 46.4**	**-0.6**
	baz=290						
N31M	**Braeburn, Yuko**	**80.69**	**28**	P	**P**	**10 58 46.7**	**-0.7**
	baz=290						
O30N	**Mendenhall**	**80.80**	**29**	P	**P**	**10 58 47.3**	**-0.6**
	baz=290						
M31M	**Drury Creek, Y**	**81.05**	**27**	P	**P**	**10 58 48.3**	**-0.9**
	baz=292						
PLBC	**Pleasant Camp**	**81.12**	**30**	P	**P**	**10 58 48.4**	**-1.2**
	baz=290						
WHY	**Whitehorse**	**81.39**	**29**	IAmb	IAmb	10 58 53.0	
	comp=Z,12nm,1.5s						
WHY	**Whitehorse**	**81.39**	**29**	P	**P**	**10 58 51.7**	**+0.5**
	baz=291						
FARO	**Faro, Yukon**	**81.49**	**27**	P	**P**	**10 58 52.1**	**+0.6**
	baz=292						
SKAG	**Skagway**	**81.62**	**30**	P	**P**	**10 58 53.2**	**+0.9**
	baz=291						
S31K	**Pelican**	**81.71**	**32**	P	**P**	**10 58 52.9**	**+0.1**
	baz=291						
C36M	**Paulatuk**	**81.80**	**19**	IAmb	IAmb	10 58 53.4	
	comp=Z,8.2nm,1.1s						
C36M	**Paulatuk**	**81.80**	**19**	P	**P**	**10 58 52.8**	**-0.2**
	baz=300						
N32M	**Quiet Lake**	**82.02**	**28**	IAmb	IAmb	10 59 11.5	
	comp=Z,7.4nm,0.9s						
N32M	**Quiet Lake**	**82.02**	**28**	P	**P**	**10 58 53.5**	**-1.0**
	baz=293						
P32M	**Atlin**	**82.33**	**30**	P	**P**	**10 58 55.8**	**-0.3**
	baz=292						
R32K	**Eaglecrest**	**82.44**	**31**	P	**P**	**10 58 56.6**	**-0.1**
	baz=292						
SIT	**Sitka**	**82.49**	**32**	P	**P**	**10 58 55.9**	**-0.9**
	baz=291						
P33M	**Teslin, Yukon**	**82.51**	**29**	P	**P**	**10 58 57.3**	**+0.2**
	baz=293						
HFS	**Hagfors**	**82.67**	**331**	P	**P**	**10 58 56.6**	**-1.1**
	comp=Z,2.1nm,0.5s,baz=93,slow=6.1,SNR=8.4						
	comp=Z,2.1nm,0.5s						
S32K	**Killisnoo**	**82.72**	**32**	P	**P**	**10 58 57.9**	**-0.1**
	baz=292						
NB2	**NORSAR Subarra**	**83.41**	**332**	P	**P**	**10 59 00.2**	**-1.5**
	comp=Z,1.0nm,0.5s,baz=63,slow=5.3						
NOA	**NORSAR Array B**	**83.41**	**332**	P	**P**	**10 59 00.1**	**-1.5**
	comp=Z,1.5nm,0.7s,baz=64,slow=4.9,SNR=8.5						
NOA				LR	LR	11 38 58.3	
	comp=Z,43nm,19.4s,baz=60,slow=38						
	comp=Z,1.5nm,0.7s						
R33M	**Jennings River**	**83.69**	**29**	P	**P**	**10 59 02.9**	**-0.4**
	baz=295						
TGTN	**Hyland Airport**	**83.97**	**27**	P	**P**	**10 59 05.0**	**+0.5**
	baz=297						
S34M	**Telegraph Cree**	**84.24**	**31**	P	**P**	**10 59 05.8**	**-0.1**
	baz=295						
DLBC	**Dease Lake**	**84.55**	**30**	P	**P**	**10 59 07.6**	**+0.1**
	baz=296						
T35M	**Bob Quinn**	**85.07**	**31**	P	**P**	**10 59 09.4**	**-0.8**
	baz=296						
TOAD	**Toad River Com**	**86.58**	**28**	P	**P**	**10 59 17.7**	**+0.1**
	baz=300						
CLL	**Collm**	**86.64**	**323**	*eP*	**P**	**10 59 17.0**	**-0.9**
GERES	**GERESS Array B**	**87.25**	**321**	P	**P**	**10 59 20.6**	**-0.6**
	comp=Z,0.4nm,0.3s,baz=100,slow=2.3,SNR=1.6						
	comp=Z,0.4nm,0.3s						
YKA	**Yellowknife Ar**	**88.86**	**22**	P	**P**	**10 59 28.4**	**+0.1**
	comp=Z,2.3nm,0.7s,baz=313,slow=4.9,SNR=23						
	comp=Z,2.3nm,0.7s						
FUORN	**Ofenpass-Fuorn**	**90.30**	**320**	P	**P**	**10 59 35.1**	**-0.7**
EKA	**Eskdalemuir Ar**	**92.86**	**332**	P	**P**	**10 59 47.5**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=42,slow=9.6,SNR=1.5						
	comp=Z,0.2nm,0.3s						
NEW	**Newport**	**96.39**	**35**	P	**P**	**11 00 03.1**	**-0.4**
	baz=306						
MSO	**Missoula**	**98.97**	**34**	P	**P**	**11 00 14.9**	**-0.3**
	baz=308						
EGMT	**Eagleton**	**100.38**	**32**	P	**Pdif**	**11 00 21.1**	**-0.4**
	baz=312						
SMMC	**Simmler**	**101.86**	**47**	P	**Pdif**	**11 00 27.2**	**-1.1**
	baz=302						
GRAC	**Grapevine Rang**	**102.72**	**44**	P	**Pdif**	**11 00 31.9**	**-0.2**
	baz=304						
DGMT	**Dagmar**	**102.73**	**29**	P	**Pdif**	**11 00 31.1**	**-0.7**
	baz=317						
ARVC	**Arvin**	**102.77**	**46**	P	**Pdif**	**11 00 31.9**	**-0.4**
	baz=303						
BBRC	**Big Bear Solar**	**104.56**	**46**	P	**Pdif**	**11 00 38.8**	**-1.8**
	baz=304						
TUQ	**Turquoise Moun**	**104.57**	**45**	P	**Pdif**	**11 00 39.5**	**-1.0**
	baz=305						
MDND	**Maddock**	**105.23**	**27**	P	**Pdif**	**11 00 41.9**	**-1.1**
	baz=320						
MONP2	**Monument Peak**	**105.66**	**47**	P	**PKiKP**	**11 04 56.7**	**-1.8**
	baz=304						
K22A	**Casper**	**105.69**	**34**	P	**PKiKP**	**11 04 57.6**	**-0.6**
	baz=314						
IKP	**In-Ko-Pah, Jac**	**106.02**	**47**	P	**PKiKP**	**11 04 57.9**	**-1.1**
	baz=304						
SWSC	**Sam W. Stewart**	**106.07**	**47**	P	**PKiKP**	**11 04 58.1**	**-0.9**
	baz=304						
PDMCI	**Parker Dam,Lak**	**106.42**	**45**	P	**PKiKP**	**11 04 58.9**	**-0.7**
	baz=306						
N23A	**Red Feather La**	**107.22**	**35**	P	**PKiKP**	**11 04 59.8**	**-1.4**
	baz=314						
WUAZ	**Wupatki**	**107.50**	**42**	P	**PKiKP**	**11 05 01.3**	**-0.5**
	baz=308						
SUSD	**Miller**	**108.14**	**29**	P	**PKiKP**	**11 05 01.5**	**-1.0**
	baz=320						
ISCO	**Idaho Springs**	**108.16**	**36**	P	**PKiKP**	**11 05 02.4**	**-0.7**
	baz=314						
ECSD	**EROS Data Cent**	**109.75**	**28**	P	**PKiKP**	**11 05 05.4**	**-0.1**
	baz=322						
TUC	**Tucson**	**109.86**	**45**	P	**PKiKP**	**11 05 05.9**	**-0.3**
	baz=308						
KSCO	**Kaye Shedlock'**	**110.35**	**35**	P	**PKiKP**	**11 05 06.6**	**-0.4**
	baz=316						
JFWS	**Jewell Farm**	**113.08**	**24**	P	**PKiKP**	**11 05 11.4**	**-0.5**
	baz=328						
KSU1	**Kansas State U**	**113.39**	**31**	P	**PKiKP**	**11 05 11.7**	**-0.9**
	baz=321						
MNTX	**Cornudas Mount**	**113.78**	**42**	P	**PKiKP**	**11 05 13.2**	**-0.4**
	baz=312						
HDIL	**Hopedale**	**115.45**	**25**	P	**PKiKP**	**11 05 15.1**	**-1.4**
	baz=328						
TXAR	**Lajitas Array**	**116.46**	**43**	PKP	**PKPdf**	**11 05 18.1**	**-0.8**
	comp=Z,0.3nm,0.6s,baz=11,slow=0.9,SNR=5.2						

*DNK **30** 10:51:58.5±2.7, 76°.53N×1°.80W, h36km±28km, ML1.9*
*BER **30** 10:52:02.0±1.1, 76°.57N×0°.72W, h10km, mb(Pn)3.1,*
Confirmed Earthquake
ISC 30 10:51:41.9±1.3, 76°.4N±0°.1×2°.18W±0°.06, h10km, n7, σ3°.28/12, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
DAG	**Danmarks Havn**	**3.87**	**284**	*i*	P		**Pg**	**10 52 55.5**	**-0.3**
DAG				*i*	S		**Sb**	**10 53 36.4**	**-0.4**
DAG					IAML			10 53 40.4	
	comp=Z,12nm,0.9s								
KBS	**Kingsbay**	**3.98**	**43**	*eP*			**Pg**	**10 52 55.2**	**-2.9**
KBS				*eS*			**Sb**	**10 53 35.8**	**-4.4**
KBS					IAML			10 53 39.5	
	comp=Z,3.1nm,0.3s								
KBS	**Kingsbay**	**3.98**	**43**	*i*	P		**Pb**	**10 52 53.6**	**+1.6**
KBS				*i*	S		**Sn**	**10 53 32.0**	**+2.5**
BRBB	**Barentsburg B**	**4.03**	**56**	*eP*			**Pg**	**10 52 57.3**	**-1.7**
SPA0	**Spitsbergen Ar**	**4.49**	**57**	*eP*			**Pb**	**10 53 02.2**	**+1.6**
SPA0				*eS*			**Sn**	**10 53 47.0**	**+5.1**
SPA0					IAML			10 53 51.9	
	comp=Z,1.6nm,0.7s								
DBG	**Daneborg**	**5.01**	**255**	*i*	P		**Pb**	**10 53 10.6**	**+1.1**
DBG				*i*	S		**Sb**	**10 54 04.4**	**-5.3**
DBG					IAML			10 54 07.8	
	comp=Z,1.4nm,0.4s								
SUMG	**Summit**	**10.28**	**267**	*i*	P		Pn	10 54 22.6	+13
SUMG				*i*	S		**Sn**	**10 56 04.9**	**+0.1**
SUMG					IAML			10 56 38.5	
	comp=Z,4.0nm,0.1s								

*LDG **30** 11:20:59.9±0.3, 43°.47N×17°.78E, h8km, Ml3.8/10*
*VIE **30** 11:21:01.7±2.4, 43°.47N×17°.89E, h8km, mb3.1/16,*
ml3.1/11, ms3.4/5, Error ellipse: s-maj=23.0km
s-min=16.8km az=40.0
*PRU **30** 11:21:01.2, 43°.67N×18°.44E, h0km*
*BEO **30** 11:21:01.6±0.3, 43°.51N×17°.69E, h7km±2km, ML3.4/10*
*RHSSO **30** 11:21:01.7±0.2, 43°.49N×17°.78E, h5km±1km, ML3.4/23*
*PDG **30** 11:21:01.4±0.1, 43°.45N×17°.75E, h4km, MD3.4/3,*
ML3.4/12, Error ellipse: s-maj=0.2km s-min=0.4km az=0.0
*TIR **30** 11:21:02.9, 42°.85N×17°.66E, h0km±5km, Ml3.6*
ISC 30 11:21:00.9±1.0, 43°.47N±0°.02×17°.72E±0°.02, h8km±9km, n145, σ2°.04/224, 23C-16D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MAKA	**Makarska**	**0.54**	**250**	*eP*			**Pg**	**11 21 11.2**	**-0.2**
MAKA					Sg		**Sb**	**11 21 20.9**	**+0.4**
STON	**Ston**	**0.60**	**181**	*eP*			**Pg**	**11 21 12.3**	**-0.2**
STON					*eSg*		**Sb**	**11 21 22.4**	**+0.2**
STON	**Ston**	**0.60**	**181**	*i*	P		**Pg**	**11 21 12.4**	**0.0**
STON	**Ston**	**0.60**	**181**	⇑	*iP*		**Pg**	**11 21 12.2**	**-0.2**
STON					*eSg*		**Sb**	**11 21 22.2**	**0.0**
KLINJ	**Klinje**	**0.70**	**115**	*eP*			**Pg**	**11 21 13.5**	**-0.9**
KLINJ					*eSg*		**Sg**	**11 21 23.7**	**+0.2**
BRY	**Bratogost**	**0.83**	**133**	*eP*			**Pg**	**11 21 15.5**	**-1.3**
BRY	**Bratogost**	**0.83**	**133**	⇑	*iP*		**Pg**	**11 21 15.4**	**-1.3**
BRY					*i Sg*		**Sb**	**11 21 28.7**	**-0.2**
DBRK	**Dubrovnik**	**0.86**	**159**	*eP*			**Pg**	**11 21 16.8**	**-0.6**
DBRK					Sg		**Sn**	**11 21 31.9**	**-0.1**
TREB	**Trebinje**	**0.89**	**148**	*eP*			**Pg**	**11 21 16.9**	**-1.0**
TREB					*eSg*		**Sn**	**11 21 33.0**	**+0.4**
TREB	**Trebinje**	**0.89**	**148**	*eP*			**Pg**	**11 21 16.8**	**-1.1**
TREB					*eSg*		**Sg**	**11 21 30.1**	**+0.8**
LSTV	**Lastovo**	**0.93**	**221**	*i*	Pg		**Pg**	**11 21 17.9**	**-0.7**
HVAR	**Hvar**	**0.97**	**253**	*eP*			**Pg**	**11 21 18.8**	**-0.8**
HVAR					Sg		**Sg**	**11 21 33.2**	**+1.0**
MGRS	**Mrkonjic Grad**	**1.05**	**334**	⇑	*iPg*		**Pg**	**11 21 20.3**	**-0.7**
MGRS					*eSg*		**Sg**	**11 21 35.3**	**+0.6**
HAPS	**Han Pijesak,Bl**	**1.08**	**55**	*eP*			**Pg**	**11 21 21.1**	**-0.6**
HAPS					*eSg*		**Sb**	**11 21 37.0**	**+0.8**
HAPS	**Han Pijesak,Bl**	**1.08**	**55**	⇓	*iPg*		**Pg**	**11 21 20.9**	**-0.8**
HAPS					*eSg*		**Sg**	**11 21 35.5**	**-0.2**
KIJV	**Kijevo**	**1.09**	**300**	*eP*			**Pg**	**11 21 21.6**	**-0.2**
NKME	**Niksic**	**1.15**	**128**	⇓	*iPg*		**Pg**	**11 21 21.8**	**-1.0**
NKME					*i Sg*		**Sn**	**11 21 39.4**	**+0.3**
HCY	**Herceg Novi**	**1.17**	**151**	⇑	*iPg*		**Pg**	**11 21 22.3**	**-1.0**
HCY					*eSg*		**Sb**	**11 21 39.3**	**+0.7**
HCY	**Herceg Novi**	**1.17**	**151**	⇓	*iPg*		**Pg**	**11 21 22.4**	**-0.9**
HCY					*i Sg*		**Sn**	**11 21 40.3**	**+0.6**
RUDO	**Rudo**	**1.21**	**83**	*eP*			**Pg**	**11 21 22.5**	**-1.6**
RUDO					*eSg*		**Sn**	**11 21 40.7**	**+0.1**
RUDO	**Rudo**	**1.21**	**83**	*eP*			**Pg**	**11 21 22.3**	**-1.8**
RUDO					*eSg*		**Sg**	**11 21 39.1**	**-0.6**
PLE	**Pljevlja**	**1.23**	**96**	⇑	*iPg*		**Pg**	**11 21 23.5**	**-0.9**
PLE					*i Sg*		**Sn**	**11 21 42.5**	**+1.3**
CEME	**Cevo**	**1.28**	**136**	⇑	*iPg*		**Pg**	**11 21 23.8**	**-1.5**
CEME					*i Sg*		**Sn**	**11 21 43.9**	**+1.6**
BBLS	**Lazi&#263i**	**1.28**	**72**	*eP*			**Pg**	**11 21 24.7**	**-0.8**
BBLS					*eSg*		**Sn**	**11 21 42.8**	**+0.2**
BBLS	**Lazi&#263i**	**1.28**	**72**	⇓	*iPg*		**Pg**	**11 21 24.6**	**-0.9**
BBLS					*eSg*		**Sg**	**11 21 41.1**	**-1.1**
DOB	**Doboj**	**1.29**	**12**	*eP*			**Pn**	**11 21 24.8**	**-0.4**
DOB					*eSg*		**Sg**	**11 21 41.5**	**-0.9**
A050A	**Klekovaca**	**1.32**	**320**	⇓	*iPg*		**Pn**	**11 21 25.3**	**-0.4**
A050A					*eSg*		**Sn**	**11 21 44.3**	**+0.7**
BLY	**Banja Luka**	**1.33**	**343**	*eP*			**Pn**	**11 21 25.7**	**-0.1**
BLY					*eSg*		**Sn**	**11 21 44.5**	**+0.8**
BLY	**Banja Luka**	**1.33**	**343**	⇑	*iPg*		**Pn**	**11 21 25.5**	**-0.3**
BLY					*eSg*		**Sg**	**11 21 44.0**	**+0.2**
KOME	**Kolasin**	**1.45**	**115**	⇑	*iPg*		**Pn**	**11 21 27.5**	**0.0**
KOME					*i Sg*		**Sg**	**11 21 50.0**	**+2.4**
BUM	**Brajici-Budva**	**1.45**	**143**	⇑	*iPg*		**Pn**	**11 21 27.6**	**+0.1**
BUM					*i Sg*		**Sg**	**11 21 50.0**	**+2.4**
MORI	**Morici**	**1.51**	**286**	*eP*			**Pn**	**11 21 28.6**	**+0.4**
ZIRJ	**Zirje**	**1.52**	**278**	*eP*			**Pn**	**11 21 28.2**	**-0.1**
PDG	**Podgorica**	**1.54**	**132**	⇑	P		**Pg**	**11 21 30.4**	**+0.1**
PDG				⇑	S		**Sg**	**11 21 52.7**	**+2.5**
PDG	**Podgorica**	**1.54**	**132**	*eP*			**Pg**	**11 21 30.4**	**+0.1**
PDG				*eS*			**Sg**	**11 21 52.7**	**+2.5**
PDG	**Podgorica**	**1.54**	**132**	*eP*			**Pb**	**11 21 29.9**	**+0.4**
PDG				*eS*			**Sg**	**11 21 50.4**	**+0.2**
PDG	**Podgorica**	**1.54**	**132**	⇓	*iPg*		**Pn**	**11 21 29.1**	**+0.6**
PDG				*i*	Sg		**Sg**	**11 21 52.9**	**+2.7**
A052A	**Srbac**	**1.64**	**355**	*eP*			**Pb**	**11 21 31.2**	**-0.1**
A052A				*eS*			**Sn**	**11 21 51.9**	**+0.8**
A051A	**Mrakovica**	**1.65**	**340**	⇑	*iPn*		**Pn**	**11 21 31.2**	**+1.1**
A051A				*eS*			**Sb**	**11 21 52.8**	**+0.4**
SJES	**Sjenica**	**1.66**	**97**	*eP*			**Pb**	**11 21 31.3**	**-0.4**
SJES				*eS*			**Sg**	**11 21 55.5**	**+1.4**
SJES	**Sjenica**	**1.66**	**97**	⇑	*iPn*		**Pb**	**11 21 31.2**	**-0.4**
SJES				*eS*			**Sn**	**11 21 51.8**	**0.0**
PRIJ	**Prijedor**	**1.67**	**335**	*eP*			**Pn**	**11 21 31.1**	**+0.8**
PRIJ				*eS*			**Sb**	**11 21 53.7**	**+0.7**
DRME	**Dracevica, Mon**	**1.68**	**140**	⇑	*iPn*		**Pn**	**11 21 31.4**	**+0.9**
DRME				*eS*			**Sb**	**11 21 53.5**	**+0.3**
DRME	**Dracevica, Mon**	**1.68**	**140**	⇓	*iPn*		**Pb**	**11 21 31.8**	**-0.1**
DRME				*i*	Sn		**Sg**	**11 21 56.4**	**+1.7**
TEKS	**Tekeris**	**1.69**	**50**	*eP*			**Pb**	**11 21 32.0**	**-0.2**
TEKS	**Tekeris**	**1.69**	**50**	*eP*			**Pn**	**11 21 30.7**	**0.0**
TEKS				*eS*			**Sn**	**11 21 52.7**	**+0.1**
IVA	**Berane**	**1.70**	**110**	⇓	*iPn*		**Pb**	**11 21 32.3**	**-0.1**
IVA				*i*	Sn		**Sg**	**11 21 57.2**	**+1.7**
BLJ	**Bijeljina**	**1.72**	**40**	*eP*			**Pn**	**11 21 30.4**	**-0.7**
BLJ				*eS*			**Sn**	**11 21 52.0**	**-1.2**
DIVS	**Divibare**	**1.76**	**68**	*eP*			**Pn**	**11 21 32.4**	**+0.7**
UDBI	**Udbina**	**1.76**	**307**	*eP*			**Pn**	**11 21 33.2**	**+1.5**
IVAS	**Ivanjica**	**1.77**	**86**	*eP*			**Pn**	**11 21 32.4**	**+0.6**
PVY	**Plav**	**1.86**	**117**	⇓	*iPn*		**Pb**	**11 21 34.9**	**-0.3**
PVY				*i*	Sn		**Sg**	**11 22 01.1**	**+0.4**
ULC	**Ulcinj**	**1.88**	**143**	⇓	*iPn*		**Pb**	**11 21 34.9**	**-0.5**
ULC				*i*	Sn		**Sg**	**11 22 01.1**	**-0.2**
DUGI	**Dugi Otok**	**2.00**	**286**	*eP*			**Pb**	**11 21 37.2**	**-0.3**
BCI	**Bajram Curri**	**2.05**	**122**	P			**Pb**	**11 21 39.2**	**+0.9**
	baz=104								
BCI				S			**Sg**	**11 22 06.0**	**-0.6**
	baz=104								
BCI				AMP					
	comp=E,3.9nm,0.6s,baz=104								
PLIT	**Piltvice**	**2.06**	**314**	*i*	Pn		**Pb**	**11 21 38.3**	**-0.3**
TRUS	**Trudelj**	**2.08**	**68**	*eP*			**Pn**	**11 21 36.9**	**+0.8**
TRUS				*eS*			**Sb**	**11 22 03.9**	**-1.0**
VIRC	**Vir**	**2.10**	**294**	*eP*			**Pb**	**11 21 39.1**	**0.0**
PUK	**Puka**	**2.15**	**131**	P			**Pb**	**11 21 39.3**	**-0.6**
	baz=115								
PUK				S			**Sb**	**11 22 05.9**	**-0.8**
	baz=115								
PUK				AMP					
	comp=N,1.5nm,0.6s,baz=115								
GRUS	**Gruza**	**2.21**	**78**	*eP*			**Pn**	**11 21 38.7**	**+0.9**
SGRT	**San Giovanni R**	**2.25**	**221**	P			**Pn**	**11 21 38.2**	**-0.3**
	baz=233								
SGRT				S			**Sn**	**11 22 04.3**	**-2.2**
	baz=233								
SGRT				AMP					
	comp=E,1.5nm,0.4s,baz=233								
FRGS	**Fruska Gora**	**2.26**	**41**	⇓	P		**Pn**	**11 21 38.8**	**+0.4**
FRGS	**Fruska Gora**	**2.26**	**41**	*eP*			**Pn**	**11 21 38.5**	**0.0**
FRGS	**Fruska Gora**	**2.26**	**41**	⇑	*iPn*		**Pn**	**11 21 38.4**	**0.0**
FRGS				*eS*			**Sn**	**11 22 06.4**	**-0.1**
NVLJ	**Novalja**	**2.33**	**299**	*eP*			**Pb**	**11 21 42.1**	**-0.9**
RABC	**Rab**	**2.47**	**302**	*eP*			**Pb**	**11 21 45.2**	**-0.3**
SELS	**Selova**	**2.49**	**95**	*eP*			**Pn**	**11 21 42.9**	**+1.2**
TIR	**Tirane**	**2.65**	**142**	P			**Pn**	**11 21 44.0**	**+0.1**
	baz=131								
TIR				S			**Sn**	**11 22 17.1**	**+0.9**
	baz=131								
TIR				AMP					
	comp=E,0.5nm,0.6s,baz=131								
OZLJ	**Ozalj**	**2.68**	**324**	*eP*			**Pn**	**11 21 46.5**	**+2.3**
BOJS	**Bojanci**	**2.69**	**320**	*eP*			**Pn**	**11 21 47.3**	**+2.8**
BOJS	**Bojanci**	**2.69**	**320**	*eP*			**Pn**	**11 21 46.8**	**+

comp=Z,11nm,0.4s
VYHS Vyhne 5.08 8 *e*PN **Pn** **11 22 19.7 +2.4**
VYHS *e*PG **Pg** **11 22 38.2 0.0**
VYHS *e*SN **Sn** **11 23 17.5 +1.4**
BIOA Bad Ischl, Aus 5.10 327 *e*Pn **Pn** **11 22 20.2 +2.6**
comp=Z,3.8nm,0.3s
LKD2 Lefkada island 5.18 154 P **Pn** **11 22 19.2 +0.6**
baz=149
LESA Schwarzleotal 5.31 320 *e*Pn **Pn** **11 22 23.4 +2.9**
comp=Z,6.6nm,0.4s
LESA *e*Sn **Sn** **11 23 28.0 +6.1**
comp=Z,6.5nm,0.4s
JAVC Velka Javorina 5.39 360 *e*SN **Sn** **11 23 24.1 +0.4**
KRUC Moravsky 5.67 351 *e*SN **Sn** **11 23 28.6 -1.9**
WTTA Wattenberg 5.72 314 *e*Pn **Pn** **11 22 29.2 +3.0**
comp=Z,7.4nm,0.4s
WTTA *e*Sn **Sn** **11 23 38.5 +6.4**
comp=Z,11nm,0.4s
WATA Walderalm 5.80 314 *e*Pn **Pn** **11 22 29.5 +2.3**
comp=Z,4.5nm,0.3s
CKRC Cesky Krumlov 5.85 337 *e*SN **Sn** **11 23 33.5 -1.5**
VRAC Vranov 5.89 353 *e*SN **Sn** **11 23 35.7 -0.3**
MOTA Moosalm 6.06 312 *e*Pn **Pn** **11 22 33.5 +2.7**
comp=Z,5.9nm,0.5s,SNR=10
MOTA *e*Sn **Sn** **11 23 44.8 +4.4**
comp=Z,8.7nm,0.4s
FETA Feichten 6.08 308 *e*Pn **Pn** **11 22 32.2 +1.2**
comp=Z,2.3nm,0.4s
MORC Moravsky Berou 6.31 359 ⇓P **Pn** **11 22 34.2 +0.1**
KHC Kasperske Hory 6.34 335 *e*PN **Pn** **11 22 36.6 +2.0**
KHC *e*SN **Sn** **11 23 49.0 +1.7**
PGF Pioggiola 6.46 265 *e*P **Pn** **11 22 38.5 +2.2**
PGF *e*Sn **Sn** **11 23 43.7 -6.5**
comp=Z,60nm,1.1s
SBF Sospel 7.47 277 *e*Pn **Pn** **11 22 48.2 -1.9**
SBF *e*Sn **Sn** **11 24 07.5 -7.5**
comp=Z,9.0nm,0.4s
MBDF Montbardon 7.98 283 *e*P **Pn** **11 22 59.3 +2.1**
MBDF *e*Sn **Sn** **11 24 20.1 -7.6**
comp=Z,13nm,0.6s
LPG La Plagne 8.10 288 *e*P **Pn** **11 23 01.6 +2.6**
LPG *e*Sn **Sn** **11 24 23.1 -7.7**
comp=Z,14nm,0.5s
LPL La Plagne 8.12 288 *e*P **Pn** **11 23 01.7 +2.6**
LPL *e*Sn Sn 11 24 23.2 -8.0
comp=Z,13nm,0.5s
LMR La Mourre 8.17 273 *e*P **Pn** **11 23 02.3 +2.7**
LMR *e*Sn **Sn** **11 24 24.6 -7.4**
comp=Z,2.3nm,0.4s
CLL Collm 8.46 339 *e*Sn Sn 11 24 22.0 -17
CLL *e*Sb Sb 11 25 08.0 -0.3
CLL *e*Sg **Sg** **11 25 27.0 -5.3**
comp=Z,9.0nm,1.1s
ORIF Oris-en-Rattie 8.63 284 *e*P **Pn** **11 23 08.8 +2.7**
ORIF *e*Sn **Sn** **11 24 35.7 -7.9**
comp=Z,15nm,0.6s
CDF Champ du Feu 8.79 308 *e*P **Pn** **11 23 11.0 +2.7**
SMRF Simiane la Rot 8.81 277 *e*P **Pn** **11 23 11.7 +3.2**
CABF La Chapelle 8.81 295 *e*P **Pn** **11 23 11.5 +2.9**
CABF *e*Sn Sn 11 24 39.4 -8.7
comp=Z,36nm,1.3s
VIVF Saint-Julien-l 9.48 283 *e*P **Pn** **11 23 18.7 +1.0**
SMF Signal de Mont 10.32 293 *e*P **Pn** **11 23 31.0 +1.9**
SMF *e*Sn Sn 11 25 15.7 -9.2
comp=Z,9.3nm,0.8s
AVF Avril sur Loir 10.68 293 *e*P **Pn** **11 23 37.1 +3.1**

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*ATH **30** 11:22:27.9, 36°.08N×26°.87E, h12km±6km, ML2.6/2, Error ellipse: s-maj=7.0km s-min=1.9km az=165.0*
*THE **30** 11:22:28.4, 36°.05N×26°.91E, h9km±2km, ML2.5/3, Error ellipse: s-maj=2.2km s-min=0.6km az=94.0*
ISC 30 11:22:27.6±1.5, 36°.08N±0°.05×26°.86E±0°.07, h12km±18km, n10, σ0s64/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
NISR	**Nisiros**	**0.57**	**22**	P		**Pb**	**11 22 39.9**	**+0.4**
NISR				S		**Sb**	**11 22 48.6**	**+1.0**
KARP	**Karpathos**	**0.59**	**155**	P		**Pg**	**11 22 39.2**	**+0.2**
KARP				S		**Sg**	**11 22 46.9**	**+0.1**
	815nm,0.2s							
KARP	**Karpathos**	**0.59**	**155**	P		**Pg**	**11 22 39.0**	**0.0**
KARP				S		**Sg**	**11 22 46.9**	**+0.1**
KARP				AML	AML		11 22 49.1	
	comp=E,1734μm,0.2s							
KARP				AML	AML		11 22 49.8	
	comp=N,1494μm,0.3s							
DAT	**Datca**	**0.87**	**42**	P		**Pg**	**11 22 44.3**	**-0.1**
DAT				S		**Sb**	**11 22 57.5**	**+1.2**
ARG	**Arkhangelos**	**1.03**	**82**	P		**Pg**	**11 22 47.4**	**-0.1**
ARG				S		**Sg**	**11 23 00.7**	**-0.3**
	comp=N,292nm,0.2s							
ARG	**Arkhangelos**	**1.03**	**82**	P		**Pg**	**11 22 47.4**	**-0.1**
ARG				S		**Sg**	**11 23 00.5**	**-0.5**
ARG				AML	AML		11 23 00.8	
	comp=N,437μm,0.3s							
ARG				AML	AML		11 23 03.3	
	comp=E,724μm,0.2s							
ZKR	**Zakros**	**1.10**	**209**	P		**Pb**	**11 22 48.3**	**-0.1**
ZKR				S		**Sg**	**11 23 03.9**	**+0.9**
	comp=E,125nm,0.3s							
ZKR	**Zakros**	**1.10**	**209**	P		**Pb**	**11 22 48.3**	**-0.1**
APE	**Apeiranthos**	**1.45**	**313**	P		**Pn**	**11 22 52.6**	**-1.0**
IDI	**Anoyia**	**1.79**	**244**	P		**Pn**	**11 22 57.8**	**-0.5**

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*IDC **30** 11:42:02.1±1.0, 31°.12N×88°.49E, h0km, mb3.6/10, mbtmp3.6/11, ML4.1/1, MS3.2/2, Error ellipse: s-maj=33.1km s-min=18.9km az=54.0*
ISC 30 11:42:07.3±0.9, 31°.2N±0°.1×88°.5E±0°.2, h35km, n13, σ0s54/12, mb3.7/9, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**15.78**	**141**	Pn		**Pn**	**11 45 46.5**	**-0.3**
	0.3nm,0.3s,baz=319,slow=12,SNR=5.3							
	0.7nm,0.4s							
MKAR	**Makanchi Array**	**16.33**	**345**	Pn		**P**	**11 45 55.7**	**-0.7**
	baz=179,slow=14,SNR=2.2							
MKAR				LR		LR	11 53 42.8	
	comp=Z,22nm,20.8s,baz=72,slow=43							
KURBB	**Kurchatov Arra**	**20.82**	**342**	P		**P**	**11 46 44.9**	**-0.6**
	0.7nm,0.2s,baz=154,slow=11,SNR=2.8							
	0.7nm,0.2s							
SONM	**Songino Array**	**21.52**	**34**	P		**P**	**11 46 53.5**	**+0.2**
	0.3nm,0.4s,baz=201,slow=12,SNR=1.8							
	0.3nm,0.4s							
ZALV	**Zalesovo Beam**	**22.92**	**354**	P		**P**	**11 47 08.4**	**+0.4**
	1.2nm,0.6s,baz=185,slow=8.2,SNR=5.1							
	1.2nm,0.6s							
BVAR	**Borovoye Array**	**25.52**	**334**	P		**P**	**11 47 33.1**	**+0.8**
	0.3nm,0.4s,baz=128,slow=9.3,SNR=1.8							
	0.3nm,0.4s							
KSRS	**Korea Array**	**32.95**	**68**	P		**P**	**11 48 38.4**	**-0.1**
	0.8nm,0.7s,baz=274,slow=8.9,SNR=2.5							
	0.8nm,0.7s							
GUMO	**Guam**	**54.38**	**95**	LR		LR	12 15 05.6	
	comp=Z,87nm,19.1s,baz=151,slow=36							
HFS	**Hagfors**	**56.08**	**324**	P		**P**	**11 51 43.0**	**+0.4**
	1.1nm,0.6s,baz=110,slow=8.1,SNR=3.6							
	1.1nm,0.6s							
NOA	**NORSAR Array B**	**57.22**	**326**	P		**P**	**11 51 50.1**	**-0.7**
	1.1nm,0.8s,baz=78,slow=8.9,SNR=2.8							
	1.1nm,0.8s							
WRA	**Warramunga Arr**	**67.20**	**133**	P		**P**	**11 52 58.3**	**+0.3**
	0.5nm,0.9s,baz=326,slow=6.9,SNR=4.7							
	0.5nm,0.9s							
ASAR	**Alice Springs**	**69.72**	**136**	P		**P**	**11 53 13.9**	**+0.1**
	0.6nm,0.9s,baz=318,slow=6.9,SNR=3.7							
	0.6nm,0.9s							
TORD	**Torodi Ar. Bea**	**80.66**	**280**	P		**P**	**11 54 17.1**	**+0.1**
	0.5nm,0.6s,baz=51,slow=6.8,SNR=4.3							
	0.5nm,0.6s							

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*IDC **30** 11:51:02.2±0.6, 20°.05S×170°.11E, h0km, mb4.6/16, mbtmp4.6/17, ML4.5/1, MS4.1/40, Error ellipse: s-maj=20.9km s-min=15.2km az=106.0*
*BJI **30** 11:51:04.7±0.0, 19°.55S×170°.36E, h19km, mb4.9/53, mB5.2/21, Ms4.8/3, Ms7 4.4/4*
*NOU **30** 11:51:04.9, 19°.90S×169°.99E, h0km, mb5.0/64, Vanuatu Islands*
*NEIC **30** 11:51:06.3±2.5, 20°.07S±0°.07×169°.99E±0°.07, h15km±3km, mb5.0/138, Mww5.0/16, Error ellipse: s-maj=10.5km s-min=9.1km az=124.0*
*MOS **30** 11:51:06.4±0.9, 19°.98S×170°.02E, h33km, mb5.3/14, Error ellipse: s-maj=12.2km s-min=10.2km az=120.8*
*GCMT **30** 11:51:08.3±0.1, 19°.89S±0°.02×170°.11E±0°.01, h12km, MW5.0/116, Moment Tensor Solution. s47,c59; s116,c184; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-3.56±.07; Mθθ 0.27±.07; Mϕϕ 3.29±.06; Mrθ-0.53±.22; Mθϕ-1.46±.05; Mrϕ 0.24±.20; Best double couple: M₀3.76900×10¹⁶ NP1:ϕs151.00000°, δ49.00000°, λ-99.00000°. NP2:ϕs345.00000°, δ42.00000°, λ-80.00000°. Principal axes: T 3.9040, Plg3.0000°, Azm248.0000°; N -0.2740, Plg7.0000°, Azm157.0000°; P -3.6330, Plg82.0000°, Azm3.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*
*NEIC **30** 11:51:08.2, 20°.08S×170°.00E, h12km*
*NEIC **30** 11:51:08.2, 19°.88S×170°.00E, h12km, Moment Tensor Solution. Duration: 1s1.0 Moment tensor: Scale 10¹⁶ Nm; Mrr-3.88; Mθθ 0.50; Mϕϕ 3.38; Mrθ-1.17; Mθϕ-1.44; Mϕr 1.50; Fault plane solution: M₀4.37000×10¹⁶ NP1: ϕs150.75000°, δ57.88000°, λ-97.35000°. NP2: ϕs344.39000°, δ32.87000°, λ-78.48000°. Principal axes: T 4.3895, Plg13.0000°, Azm246.0000°; N -0.0456, Plg6.0000°, Azm155.0000°; P -4.3439, Plg76.0000°, Azm39.0000°;*
ISC 30 11:51:07.4±0.3, 19°.99S±0°.05×170°.10E±0°.05, h30km, n558, σ1s90/483, mb5.0/115, MS4.2/38, 11C-35D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
MARNC	**Mare, Loyalty**	**2.44**	**232**	P		**Pn**	**11 51 43.7**	**-1.4**
LIFNC	**LIFOU**	**2.79**	**253**	P		**Pn**	**11 51 48.2**	**-1.8**
LIFNC	**LIFOU**	**2.79**	**253**	Pn		**Pn**	**11 51 48.0**	**-2.0**
DVP	**Devils Point**	**2.89**	**321**	P		**Pn**	**11 51 49.9**	**-1.5**
PINNC	**Pines Island,**	**3.59**	**223**	P		**Pn**	**11 52 00.3**	**-0.7**
PINNC	**Pines Island,**	**3.59**	**223**			**Pn**	**11 51 59.9**	**-1.1**
YATNC	**Mamie plateau,**	**3.63**	**235**	P		**Pn**	**11 52 00.6**	**-1.0**
OUENC	**Ouen Island, N**	**3.88**	**231**	P		**Pn**	**11 52 05.0**	**0.0**
OUENC	**Ouen Island, N**	**3.88**	**231**	Pn		**Pn**	**11 52 04.4**	**-0.6**
DZM	**Mont Dzumac**	**3.99**	**238**	P		**Pn**	**11 52 05.8**	**-0.8**
DZM	**Mont Dzumac**	**3.99**	**238**	*e*Pn		**Pn**	**11 52 05.4**	**-1.2**
DZM	1μm,1.2s							
	1μm,1.3s			*e*Sn		**Sn**	**11 52 48.1**	**-4.4**
DZM	**Mont Dzumac**	**3.99**	**238**	Pn		**Pn**	**11 52 05.3**	**-1.3**
	30nm,0.3s,baz=93,slow=8.6,SNR=439							
DZM				Sn		**Sn**	**11 52 52.7**	**+0.2**
	26nm,0.3s,baz=152,slow=24,SNR=7.1							
DZM				LR		LR	11 53 31.6	
	comp=Z,7μm,18.6s,baz=34,slow=38							
	77nm,0.3s							
ONTNC	**Ouen Toro**	**4.11**	**235**	P		**Pn**	**11 52 07.8**	**-0.3**
ONTNC	**Ouen Toro**	**4.11**	**235**			**Pn**	**11 52 07.4**	**-0.8**
NOUC	**Port Laguerre**	**4.12**	**239**	P		**Pn**	**11 52 08.0**	**-0.3**
KOUNC	**Koumac, New Ca**	**5.49**	**263**	P		**Pn**	**11 52 26.7**	**-0.3**
KOUNC	**Koumac, New Ca**	**5.49**	**263**	Pn		**Pn**	**11 52 26.6**	**-0.5**
MSVF	**Nonsavu**	**7.86**	**75**	P		**Pn**	**11 53 01.2**	**+1.5**
MSVF	**Nonsavu**	**7.86**	**75**	Pn		**Pn**	**11 53 02.3**	**+2.5**
MSVF	**Nonsavu**	**7.86**	**75**	P		**Pn**	**11 53 02.3**	**+2.5**
HNR	**Honiara**	**14.37**	**316**	LR		LR	11 59 21.2	
	comp=Z,3μm,19.4s,baz=152,slow=35							
AUWSH	**Wavell State H**	**17.27**	**241**	P		**P**	**11 55 07.1**	**-0.5**
GD1S	**Gladstone Soft**	**17.98**	**254**	P		**Pn**	**11 55 15.0**	**-0.1**
TOZ	**Tahuroa Road**	**18.29**	**166**			**Pn**	**11 55 19.2**	**+0.3**
EIDS	**Eidsvold**	**18.34**	**250**	P		**Pn**	**11 55 21.6**	**+2.0**
EIDS	**Eidsvold**	**18.34**	**250**			**P**	**11 55 19.3**	**-0.2**
RK1H	**Rockhampton Ha**	**18.53**	**256**	P		**Pn**	**11 55 22.5**	**+0.6**
NIUE	**Niue**	**18.85**	**91**	P		**Pn**	**11 55 25.7**	**-0.1**
MXZ	**Matakaoa Point**	**18.91**	**160**	P		**P**	**11 55 26.0**	**+0.4**
URZ	**Urewera**	**19.19**	**163**	LR		LR	12 01 49.2	
	comp=Z,15nm,18.6s,baz=32,slow=34							
RTZ	**Ruatahuna**	**19.49**	**164**	P		**Pn**	**11 55 34.2**	**+0.8**
RTZ				lAmb	lAmb		11 55 43.1	
	comp=Z,79nm,1.0s							
ARMA	**Armidale**	**19.65**	**234**	P		**Pn**	**11 55 36.2**	**+0.8**
ARMA	**Armidale**	**19.65**	**234**	P		**P**	**11 55 33.3**	**-0.6**
ARMA				lAmb	lAmb		11 55 46.8	
	comp=Z,124nm,1.6s							
BKZ	**Black Stump Fm**	**19.89**	**165**	P		**Pn**	**11 55 38.4**	**+0.2**
AUPHS	**Peel High Scho**	**20.53**	**234**	P		Pn	11 55 44.8	-0.9
MRZ	**Mangatainoka R**	**21.13**	**168**	P		**P**	**11 55 50.4**	**+0.7**
MRZ				lAmb	lAmb		11 55 51.5	
	comp=Z,68nm,1.1s							
AUAYR	**Ayr State High**	**21.35**	**267**	P		**P**	**11 55 54.4**	**+2.1**
TV1H	**Townsville Har**	**21.96**	**268**	P		**P**	**11 55 59.9**	**+1.1**
AULRC	**Lightning Ridg**	**22.15**	**241**	P		**P**	**11 56 02.2**	**+1.4**
CTAO	**Charters Tower**	**22.40**	**266**	P		**P**	**11 56 05.6**	**+2.0**
CTAO	**Charters Tower**	**22.40**	**266**	P		**P**	**11 56 03.8**	**+0.2**
CTAO	**Charters Tower**	**22.40**	**266**	P		**P**	**11 56 03.8**	**+0.2**
CTAO				pmax	pmax			
	comp=Z,33nm,1.0s							
LTZ	**Lake Taylor**	**22.80**	**176**	P		**P**	**11 56 08.6**	**+1.0**
CNB	**Canberra Magne**	**23.81**	**226**	P		**P**	**11 56 19.7**	**+1.9**
YNG	**Young**	**23.93**	**229**	P		**P**	**11 56 21.2**	**+2.3**
JCZ	**Jackson Bay**	**24.04**	**182**	P		**P**	**11 56 23.8**	**+4.0**
MTSU	**Mount Surprise**	**24.43**	**270**	P		**P**	**11 56 24.6**	**+0.9**
PMG	**Port Moresby**	**24.52**	**292**	LR		LR	12 04 45.0	
	comp=Z,742nm,18.1s,baz=110,slow=34							
QLP	**Quilpie**	**24.62**	**250**	P		**P**	**11 56 27.0**	**+1.7**
CMSA	**Cobar Meteorol**	**24.75**	**237**	P		**P**	**11 56 27.9**	**+1.5**
COEN	**Coen**	**26.42**	**279**	P		**P**	**11 56 43.2**	**+1.5**
INKA	**Innaminka**	**27.88**	**248**	P		**P**	**11 56 56.6**	**+1.9**
STKA	**Stephens Creek**	**28.14**	**239**	P		**P**	**11 56 58.9**	**+1.9**
STKA	**Stephens Creek**	**28.14**	**239**	P		**P**	**11 56 57.5**	**+0.5**
STKA	**Stephens Creek**	**28.14**	**239**	P		**P**	**11 56 54.9**	**-2.1**
	comp=Z,4.3nm,1.1s,baz=139,slow=11,SNR=3.5							
STKA				LR		LR	12 07 08.6	
	comp=Z,1μm,21.9s,baz=77,slow=34							
	comp=Z,4.3nm,1.1s							
STKA	**Stephens Creek**	**28.14**	**239**	P		**P**	**11 56 57.5**	**+0.5**
STKA				pmax	pmax			
	comp=Z,8.0nm,1.7s							
RAR	**Rarotonga**	**28.21**	**98**	LR		LR	12 05 40.5	
	comp=Z,206nm,20.4s,baz=279,slow=31							
QIS	**Mount Isa**	**28.59**	**264**	P		**P**	**11 57 03.1**	**+2.0**
TABU	**Tabubil**	**31.67**	**294**	P		**P**	**11 57 29.6**	**+1.2**
OOD	**Oodnadatta**	**32.33**	**249**	P		**P**	**11 57 34.7**	**+0.7**
BBOO	**Buckleboo**	**32.91**	**240**	P		**P**	**11 57 38.3**	**-0.8**
BBOO				lAmb	lAmb		11 58 43.6	
	comp=Z,39nm,1.4s							
WR0	**Warramunga Arr**	**33.38**	**264**	P		**P**	**11 57 42.1**	**-1.2**
WR0				lAmb	lAmb		11 58 12.5	
	comp=Z,24nm,1.4s							
WB0	**Warramunga Arr**	**33.54**	**264**	P		**P**	**11 57 44.0**	**-0.8**
WB0				lAmb	lAmb		11 57 50.4	
	comp=Z,23nm,1.2s							
WB2	**Warramunga Arr**	**33.56**	**264**	P		**P**	**11 57 43.5**	**-1.4**
WRA	**Warramunga Arr**	**33.57**	**264**	P		**P**	**11 57 43.0**	**-2.0**
WRA	**Warramunga Arr**	**33.57**	**264**	P		**P**	**11 57 43.5**	**-1.6**
	comp=Z,5.2nm,1.1s,baz=95,slow=8.2,SNR=35							
WRA				LR		LR	12 10 41.6	
	comp=Z,489nm,21.6s,baz=108,slow=35							
	comp=Z,5.2nm,1.1s							
WRA	**Warramunga Arr**	**33.57**	**264**	P		**P**	**11 57 43.0**	**-2.0**
WRA				pmax	pmax			
	comp=Z,3.0nm,1.6s							
AS01	**Alice Springs**	**33.70**	**257**	P		**P**	**11 57 45.6**	**-0.5**
AS31	**Alice Springs**	**33.74**	**257**	P		**P**	**11 57 46.1**	**-0.4**
AS31				lAmb	lAmb		11 57 53.1	
	comp=Z,12nm,0.7s							
ASAR	**Alice Springs**	**33.74**	**257**	P		**P**	**11 57 45.8**	**-0.7**
ASAR	**Alice Springs**	**33.74**	**257**	P		**P**	**11 57 45.6**	**-0.9**
	comp=Z,20nm,0.8s,baz=85,slow=9.3,SNR=354							
ASAR				PcP		**PcP**	**12 00 24.4**	**-1.3**
	comp=Z,1.4nm,0.9s,baz=87,slow=4.0,SNR=3.3							
ASAR				LR		LR	12 11 25.4	
	comp=Z,1μm,19.3s,baz=96,slow=36							
	comp=Z,20nm,0.8s							
GENI	**Genyem**	**33.95**	**297**	P		**P**	**11 57 49.6**	**+1.3**
GENI	**Genyem**	**33.95**	**297**	P		**P**	**11 57 48.4**	**+0.1**
	comp=Z,130nm,1.2s,comp=Z,2μm							
MULG	**Mulgathing**	**34.07**	**245**	P		**P**	**11 57 48.7**	**-0.5**
TBI	**Tubuai**	**37.65**	**103**	*e*S		**S**	**12 04 08.3**	**+0.2**
	comp=Z,397nm,25.5s							
TBI				*e*SS		**SS**	**12 06 52.7**	**-1.2**
	comp=Z,4μm,32.2s							
TBI				*e*LR		LR	12 08 34.7	
	comp=Z,3μm,28.2s							
MTN	**Manton Dam**	**37.98**	**275**	P		**P**	**11 58 24.3**	**+1.5**
MTN	**Manton Dam**	**37.98**	**275**	P		**P**	**11 58 22.5**	**-0.3**
MTN				lAmb	lAmb		11 58 29.1	
	comp=Z,21nm,0.9s							
PPT2	**Papeete2**	**38.19**	**93**	*e*S		**S**	**12 04 15.9**	**-0.7**
	comp=Z,158nm,26.0s							
PPT2				*e*SS		**SS**	**12 07 05.0**	**-0.1**
	comp=Z,838nm,28.8s							
PPT2				*e*LR		LR	12 08 44.4	
	comp=Z,756nm,29.5s							
PPT2				*e*LR		LR	12 08 53.6	
	comp=Z,1μm,29.0s							
PPT	**Papeete**	**38.19**	**93**	LR		LR	12 10 30.9	
	comp=Z,171nm,21.0s,baz=264,slow=31							
H11S2	**WAKE ISLAND Hy**	**38.39**	**355**	T		T	12 39 18.3	
	baz=172							
H11S3	**WAKE ISLAND Hy**	**38.39**	**355**	T		T	12 39 16.0	
	baz=172							
H11S1	**WAKE ISLAND Hy**	**38.41**	**355**	T		T	12 39 13.3	
	baz=172							
WRKA	**Warakurna**	**38.83**	**255**	P		**P**	**11 58 31.1**	**+1.1**
FORT	**Forrest**	**39.27**	**246**	P		**P**	**11 58 35.5**	**+2.0**
FORT	**Forrest**	**39.27**	**246**	P		**P**	**11 58 33.0**	**-0.5**
FORT				lAmb	lAmb		11 58 42.0	
	comp=Z,29nm,0.8s							
H11N1	**WAKE ISLAND Hy**	**39.59**	**355**	T		T	12 40 35.0	
	baz=176,slow=74							
H11N3	**WAKE ISLAND Hy**	**39.59**	**355**	T		T	12 40 41.2	
	baz=176							
H11N2	**WAKE ISLAND Hy**	**39.60**	**355**	T		T	12 40 41.2	
	baz=176,slow=74							
FAKI	**Fak Fak**	**40.64**	**290**	P		**P**	**11 58 44.5**	**-0.6**
FAKI				lAmb	lAmb		11 58 51.1	
	comp=Z,31nm,0.8s							
FITZ	**Fitzroy Crossi**	**41.98**	**265**	P		**P**	**11 58 56.8**	**+0.8**
FITZ	**Fitzroy Crossi**	**41.98**	**265**	P		**P**	**11 58 56.3**	**+0.2**
SWI	**Sorong**	**42.48**	**292**	P		**P**	**11 58 59.4**	**-0.7**
	comp=Z,47nm,0.9s,comp=Z,1μm							
KMBL	**Kambalda**	**44.60**	**245**	P		**P**	**11 59 18.6**	**+1.5**
BATI	**Baumata**	**45.74**	**275**	LR		LR	12 18 19.0	
	comp=Z,602nm,21.1s,baz=146,slow=36							
PSA00	**Pilbara Seismi**	**46.85**	**259**	P		**P**	**11 59 36.6**	**+1.6**
PSA00	**Pilbara Seismi**	**46.85**	**259**	P		**P**	**11 59 33.9**	**-1.1**
PSA00				lAmb	lAmb		11 59 47.8	
	comp=Z,20nm,0.8s							
MBWA	**Marble Bar**	**47.01**	**259**	P		**P**	**11 59 38.0**	**+1.8**
MBWA	**Marble Bar**	**47.01**	**259**	P		**P**	**11 59 36.1**	**-0.1**
MEEK	**Meekatharra**	**47.49**	**252**	P		**P**	**11 59 41.1**	**+1.1**
EDFI	**Ende, Flores**	**48.05**	**276**	P		**P**	**11 59 43.4**	**-1.1**
	comp=Z,16nm,1.3s							
KLBR	**Kellerberrin**	**48.13**	**245**	P		**P**	**11 59 44.8**	**0.0**
NWAO	**Narrogin (SRO)**	**48.60**	**243**	LR		LR	12 19 28.5	
	comp=Z,1μm,21.1s,baz=66,slow=35							
MORW	**Morawa**	**49.64**	**248**	P		**P**	**11 59 58.2**	**+1.7**
GTOI	**Gorontalo**	**50.46**	**288**	P		**P**	**12 00 06.1**	**+3.3**
	comp=Z,12nm,1.2s							
BKSI	**Bulukumba**	**50.69**	**280**	P		**P**	**12 00 03.0**	**-1.5**
	comp=Z,20nm,1.1s							
KAPI	**Kappang**	**51.14**	**280**	P		**P**	**12 00 09.7**	**+1.7**
KAPI	**Kappang**	**51.14**	**280**	P		**P**	**12 00 07.6**	**-0.4**
KAPI	**Kappang**	**51.14**	**280**	P		**P**	**12 00 07.5**	**-0.5**
	comp=Z,14nm,0.8s,baz=186,slow=4.4,SNR=6.7							
KAPI				LR		LR	12 22 41.0	
	comp=Z,119nm,18.1s,baz=113,slow=37							
	comp=Z,14nm,0.8s							
KAPI	**Kappang**	**51.14**	**280**	*de*P		**P**	**12 00 08.5**	**+0.5**
KAPI				pmax	pmax			
	comp=Z,68nm,1.4s							
PLAI	**Plampang**	**51.69**	**275**	P		**P**	**12 00 13.8**	**+1.7**
TOLI2	**Tolitoli**	**52.67**	**288**	P		**P**	**12 00 19.1**	**-0.2**
TOLI2	**Tolitoli**	**52.67**	**288**	P		**P**	**12 00 18.7**	**-0.6**
TOLI2				lAmb	lAmb		12 00 25.8	
	comp=Z,24nm,0.9s							
JCJ	**Chichijima**	**54.06**	**329**	LR		LR	12 20 59.9	
	comp=Z,36nm,21.5s,baz=143,slow=33							
VNDA	**Vanda**	**57.71**	**182**	P		**P**	**12 00 54.5**	**-0.3**
VNDA	**Vanda**	**57.71**	**182**	P		**P**	**12 00 54.2**	**-0.6**
	comp=Z,2.0nm,1.0s,baz=347,slow=6.7,SNR=8.1							
VNDA				LR		LR	12 22 59.9	
	comp=Z,94nm,18.3s,baz=12,slow=33							
	comp=Z,2.0nm,1.0s							
VNDA	**Vanda**	**57.71**	**182**	P		**P**	**12 00 54.5**	**-0.3**
VNDA				pmax	pmax			
	comp=Z,7.0nm,1.3s							
SBA	**Scott Base**	**57.93**	**181**	P		**P**	**12 00 57.1**	**+0.8**
SBA				lAmb	lAmb		12 01 05.8	
	comp=Z,23nm,1.1s							
SBA	**Scott Base**	**57.93**	**181**	P		**P**	**12 00 57.1**	**+0.8**
SBA				pmax	pmax			
	comp=Z,23nm,1.1s							
JOW	**Kunigami**	**61.73**	**317**	LR		LR	12 26 08.3	
	comp=Z,41nm,20.3s,baz=243,slow=34							
LEM	**Lembang**	**61.86**	**273**	LR		LR	12 29 57.4	
	comp=Z,184nm,18.3s,baz=158,slow=38							
MJAR	**Matsushiro Arr**	**63.79**	**332**	P		**P**	**12 01 35.9**	**-0.8**
	comp=Z,9.7nm,1.0s,baz=162,slow=6.9,SNR=14							
MJAR				LR		LR	12 30 02.1	
	comp=Z,12nm,19.2s,baz=152,slow=37							
	comp=Z,9.7nm,1.0s							
MAJO	**Matsushiro**	**63.80**	**332**	P		**P**	**12 01 37.1**	**+0.4**
MAJO	**Matsushiro**	**63.80**	**332**	P		**P**	**12 01 36.5**	**-0.2**
MAJO	**Mats

MDJ IAmb IAmb 12 02 42.3
comp=Z,27nm,1.2s
TIA Tai'an 75.04 318 P **P** **12 02 46.5 +0.2**
TIA pmax pmax
comp=Z,5.0nm,0.8s
CN2 Changchun 75.52 328 *e*P **P** **12 02 48.5 -0.3**
CN2 pmax pmax
comp=Z,20nm,0.9s
BNX BinXian 76.03 331 ⇑P **P** **12 02 51.0 -0.7**
BNX pmax pmax
comp=Z,9.0nm,1.0s
ENH Enshi 76.77 309 P **P** **12 02 56.4 +0.1**
KLR Kul'dur 76.89 335 LR LR 12 33 47.5
comp=Z,46nm,20.5s,baz=153,slow=33
KLR Kul'dur 76.89 335 *d i*P **P** **12 02 56.8 +0.3**
KLR pmax pmax
comp=Z,23nm,1.7s
LYN LuoYang 77.07 314 ⇑P **P** **12 02 58.5 +0.7**
LYN pP pP 12 03 06.0 -0.7
LYN pmax pmax
comp=Z,26nm,0.9s
LYN pmax pmax
comp=Z,200nm,5.2s
HNS HongShan 77.30 318 ⇑P **P** **12 03 00.0 +1.0**
HNS pmax pmax
comp=Z,9.0nm,1.3s
BJI Beijing 78.03 321 P **P** **12 03 03.5 +0.5**
BJI pmax pmax
comp=Z,5.0nm,1.2s
MAW Mawson 78.04 202 P **P** **12 03 02.8 0.0**
comp=Z,7.0nm,0.9s,baz=99,slow=7.4,SNR=6.3
MAW LR LR 12 32 46.6
comp=Z,152nm,20.2s,baz=111,slow=32
comp=Z,7.0nm,0.9s
PHRA Phrae 78.46 295 P **P** **12 03 07.2 +1.2**
CRAI Chiangrai 79.09 296 P **P** **12 03 10.5 +1.1**
CRAI IAmb IAmb 12 03 19.2
comp=Z,24nm,1.4s
XAN Xi'an 79.21 312 ⇓P **P** **12 03 10.0 +0.2**
XAN pP PcP 12 03 16.5 -1.5
XAN pmax pmax
comp=Z,17nm,0.8s
HEH HeiHe 79.44 334 *e*P **P** **12 03 10.0 -0.6**
HEH pmax pmax
comp=Z,11nm,1.0s
CMAR Chiang Mai Arr 79.55 294 P **P** **12 03 11.4 -0.5**
CMAR Chiang Mai Arr 79.55 294 P **P** **12 03 12.3 +0.4**
comp=Z,1.6nm,0.3s,baz=128,slow=4.0,SNR=24
comp=Z,1.6nm,0.3s
CMAR Chiang Mai Arr 79.55 294 *i*P **P** **12 03 13.1 +1.2**
CMAR pmax pmax
comp=Z,4.0nm,0.7s
CHTO Chiang Mai 79.70 294 P **P** **12 03 12.9 +0.2**
CHTO IAmb IAmb 12 03 21.7
comp=Z,43nm,1.6s
CHTO Chiang Mai 79.70 294 P **P** **12 03 12.9 +0.2**
CHTO pmax pmax
comp=Z,43nm,1.6s
S14K Fog Glacier 80.18 17 P **P** **12 03 16.0 +1.4**
baz=209
XLT XiLinHaoTe 80.53 324 *e*P **P** **12 03 16.8 +0.1**
XLT pmax pmax
comp=Z,11nm,0.8s
XLT pmax pmax
comp=Z,73nm,3.7s
PZH PanZhiHua 80.79 302 P **P** **12 03 18.0 -0.6**
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,120nm,4.5s
MA2 Magadan 80.84 350 LR LR 12 34 06.8
comp=Z,47nm,20.9s,baz=140,slow=32
BELA Belgrano 2 81.28 175 P **P** **12 03 19.1 -1.1**
HHC Hu-ho-hao-te 81.32 319 *e*P P 12 03 24.8 +3.7
HHC S **S** **12 13 36.0 +6.1**
HHC pmax pmax
comp=Z,11nm,0.8s
HHC pmax pmax
comp=Z,66nm,4.7s
BTO Baotou 82.14 318 *e*P P 12 03 19.8 -5.6
BTO pP **PcP** **12 03 29.0 -1.7**
BTO sP pwP 12 03 37.5 +0.6
BTO PP **PP** **12 06 35.0 +0.9**
BTO Baotou 82.14 318 S S 12 13 26.5 -12
ZEA Zeya 82.17 336 *e*P **P** **12 03 25.1 0.0**
O14K Tigyukauivet M 82.39 14 P **P** **12 03 28.5 +2.4**
baz=207
O15K Ungalikthiuk R 82.66 15 P **P** **12 03 29.2 +1.7**
baz=208
R18K Karluk 82.73 18 P **P** **12 03 29.0 +1.1**
baz=213
OHAK Old Harbor 82.79 19 P **P** **12 03 29.4 +1.2**
baz=214
M13K Dall Lake 82.97 13 P **P** **12 03 30.3 +1.3**
baz=205
Q16K King Salmon 83.04 17 P **P** **12 03 29.7 +0.2**
baz=211
O16K Kokwok River B 83.46 16 P **P** **12 03 31.7 0.0**
baz=210
KDAK Kodiak Island 83.47 19 P **P** **12 03 31.9 +0.2**
baz=215
KDAK Kodiak Island 83.47 19 LR LR 12 35 40.3
comp=Z,99nm,19.0s,baz=227,slow=32
N15K Kwethluk River 83.47 14 P **P** **12 03 32.3 +0.5**
baz=206
P17K Kvichak River 83.55 17 P **P** **12 03 30.7 -1.4**
baz=212
M15K Kasigluk River 83.80 14 P **P** **12 03 34.6 +1.2**
baz=208
SEY Seymchan 83.82 352 LR LR 12 35 10.0
comp=Z,62nm,21.2s,baz=142,slow=32
SEY Seymchan 83.82 352 ⇓*e*P **P** **12 03 32.8 -0.6**
SEY pmax pmax
comp=Z,21nm,1.5s
LZH Lanzhou 83.83 312 *e*P **P** **12 03 34.8 +0.4**
LZH pP pP 12 03 42.8 -0.5
LZH pmax pmax
comp=Z,21nm,1.3s
O17K Koliganek Bris 83.87 16 P **P** **12 03 33.9 +0.2**
baz=211
P18K Big Mountain, 84.04 17 P **P** **12 03 33.8 -0.9**
baz=213
N16K Nishlik Lake 84.06 15 P **P** **12 03 34.8 0.0**
baz=209
Q19K Cape Douglas, 84.10 18 P **P** **12 03 34.5 -0.5**
baz=214
Q20K Shuyak Island 84.21 19 P **P** **12 03 34.5 -1.0**
baz=215
O18K Koktuh Hills 84.44 17 P **P** **12 03 36.2 -0.5**
baz=213
M16K Timber Creek 84.49 15 P **P** **12 03 37.3 +0.4**
baz=209,SNR=12
N17K Nushagak Hills 84.50 16 P **P** **12 03 37.2 +0.3**
N17K Nushagak Hills 84.50 16 P **P** **12 03 37.1 +0.1**
baz=211
L15K Ungalak Mounta 84.50 13 P **P** **12 03 36.7 -0.3**
baz=207
N18K Kilae Creek 84.96 16 P **P** **12 03 38.6 -0.7**
baz=212
O19K Port Alsworth 84.97 17 P **P** **12 03 39.5 +0.3**
O19K Port Alsworth 84.97 17 P **P** **12 03 38.9 -0.4**
baz=213
L16K Owhat River 84.98 14 P **P** **12 03 39.2 -0.1**
baz=209,SNR=9.2
K15K Wolf Creek Mou 85.05 13 P **P** **12 03 39.8 +0.2**
baz=207,SNR=9.8
J14K Nanvaranak Lak 85.05 12 P **P** **12 03 39.8 +0.2**
baz=205
M17K Holitna River 85.19 15 IAmb IAmb 12 03 44.1
comp=Z,20nm,1.2s
M17K Holitna River 85.19 15 P **P** **12 03 40.7 +0.3**
baz=210
HOM Homer 85.29 18 P **P** **12 03 41.9 +1.0**
baz=216
ELIB Princess Elisa 85.54 190 *d*P **P** **12 03 40.0 -2.4**
comp=Z,4.0nm,1.0s
ELIB *dp*P **PcP** **12 03 47.9 +2.5**
L17K Donlin 85.62 14 P **P** **12 03 43.2 +0.7**
baz=210,SNR=5.3
M18K Stony River 85.67 16 P **P** **12 03 43.6 +0.8**
baz=212,SNR=13
L18K Granite Mounta 86.08 15 P **P** **12 03 45.3 +0.6**
baz=211
J16K Anvik River 86.13 13 P **P** **12 03 45.5 +0.5**
baz=208,SNR=7.1
K17K Iditarod 86.13 14 P **P** **12 03 45.4 +0.3**
baz=210

M19K Big River Lodg 86.38 16 P **P** **12 03 45.9 -0.4**
baz=213
L19K White Mountain 86.50 16 P **P** **12 03 47.0 0.0**
L19K IAmb IAmb 12 03 49.3
comp=Z,9.7nm,1.0s
L19K White Mountain 86.50 16 P **P** **12 03 47.4 +0.5**
baz=213,SNR=6.4
J17K VABM Dome 86.55 13 P **P** **12 03 48.6 +1.5**
J17K IAmb IAmb 12 03 49.0
comp=Z,12nm,1.1s
J17K VABM Dome 86.55 13 P **P** **12 03 47.3 +0.2**
baz=209,SNR=5.2
L20K Farewell, AK 87.00 16 P **P** **12 03 49.6 +0.3**
baz=214,SNR=6.2
RC01 Rabbit Creek A 87.01 18 P **P** **12 03 50.3 +0.9**
baz=217
SUA Susitna One 87.01 18 P **P** **12 03 50.2 +0.7**
baz=216
G15K Niukluk 87.02 11 P **P** **12 03 49.7 +0.4**
baz=204
H16K Elim 87.02 12 P **P** **12 03 50.1 +0.8**
baz=206
F14K Arctic Creek 87.08 10 P **P** **12 03 49.6 0.0**
baz=202
J18K Innoko River 87.14 14 P **P** **12 03 50.1 +0.1**
baz=211
SKT Skwentna 87.21 17 P **P** **12 03 50.6 +0.2**
baz=216
YBH Yreka Blue Hor 87.28 44 LR LR 12 40 01.5
comp=Z,86nm,18.1s,baz=272,slow=34
BFSC Mount Baldy Ra 87.29 52 P **P** **12 03 51.6 +0.1**
baz=244
G16K Koyuk River 87.68 11 P **P** **12 03 52.3 -0.2**
baz=206
K20K Telida 87.69 15 P **P** **12 03 52.6 0.0**
baz=214
H17K Grite Mounta 87.74 12 IAmb IAmb 12 03 54.3
comp=Z,9.4nm,1.1s
H17K Granite Mounta 87.74 12 P **P** **12 03 52.7 -0.1**
baz=208
BILL Bilibino 87.82 359 P **P** **12 03 52.4 -0.8**
BILL Bilibino 87.82 359 *i*P **P** **12 03 52.6 -0.5**
BILL pmax pmax
comp=Z,44nm,1.2s
YAK Yakutsk 87.83 342 ⇑*e*P **P** **12 03 52.7 -0.6**
YAK pmax pmax
comp=Z,13nm,0.7s
TROLL Troll, Antarti 87.84 184 ⇑P **P** **12 03 52.7 -1.0**
comp=Z,258nm,0.8s
J19K Poorman 87.85 14 IAmb IAmb 12 03 57.9
comp=Z,8.1nm,1.3s
J19K Poorman 87.85 14 P **P** **12 03 52.9 -0.5**
baz=212
PFO Pinyon Flats O 87.91 53 LR LR 12 37 40.1
comp=Z,74nm,18.2s,baz=243,slow=32
ULN Ulaanbaatar 87.95 323 P **P** **12 03 54.2 -0.3**
ULN Ulaanbaatar 87.95 323 P **P** **12 03 54.2 -0.3**
ULN pmax pmax
comp=Z,15nm,1.0s
SML Sawmill 87.99 18 P **P** **12 03 55.2 +1.0**
baz=219
G17K Kiwalik Mounta 88.09 12 P **P** **12 03 54.8 +0.3**
baz=207
MPMC Manual Prospec 88.22 51 P **P** **12 03 55.1 -1.0**
baz=244
GTA Gaotai 88.23 313 P **P** **12 03 56.0 +0.1**
GTA pP pP 12 04 04.3 -0.6
GTA pmax pmax
comp=Z,9.0nm,1.2s
CAST Castle Rocks 88.24 16 P **P** **12 03 54.8 -0.5**
baz=215
H18K Honhosa River 88.24 13 P **P** **12 03 54.8 -0.4**
baz=210
SONM Songino Array 88.31 323 P **P** **12 03 56.0 -0.1**
SONM IAmb IAmb 12 03 57.0
comp=Z,11nm,1.0s
SONM Songino Array 88.31 323 P **P** **12 03 55.7 -0.4**
comp=Z,7.1nm,1.0s,baz=139,slow=5.5,SNR=34
comp=Z,7.1nm,1.0s
SONM Songino Array 88.31 323 P **P** **12 03 56.0 -0.1**
SONM pmax pmax
comp=Z,11nm,1.0s
J20K Nowinta River 88.35 15 P **P** **12 03 56.3 +0.6**
baz=213
BELC Belle Mtn. Jos 88.43 53 P **P** **12 03 55.4 -1.6**
baz=245
SNAA Sanae 88.45 182 ⇑P **P** **12 03 54.6 -1.8**
comp=Z,47nm,0.9s
SNAA Sanae 88.45 182 P **P** **12 03 55.1 -1.3**
comp=Z,2.1nm,0.9s,baz=90,slow=3.0,SNR=4.1
SNAA LR LR 12 40 24.1
comp=Z,101nm,21.7s,baz=147,slow=34
comp=Z,2.1nm,0.9s
KLU Klutina 88.48 19 P **P** **12 03 55.7 -0.9**
baz=221
NVAR Mina Array Bea 88.69 48 P **P** **12 03 58.2 0.0**
comp=Z,1.8nm,0.9s,baz=217,slow=8.2,SNR=9.0
NVAR LR LR 12 35 04.7
comp=Z,154nm,20.8s,baz=233,slow=30
comp=Z,1.8nm,0.9s
WAT1 Susitna Watana 88.73 18 P **P** **12 03 58.2 +0.6**
baz=218
WAT6 Susitna Watana 88.77 18 P **P** **12 03 57.0 -1.0**
baz=219
I20K Naaghedeneel 88.80 14 P **P** **12 03 57.7 -0.1**
baz=213
NV11 Mina Array Sit 88.80 48 P **P** **12 03 59.0 +0.3**
NV11 IAmb IAmb 12 04 11.9
comp=Z,7.0nm,1.1s
G18K Tagagawik 88.83 12 IAmb IAmb 12 05 13.7
comp=Z,27nm,2.0s
G18K Tagagawik 88.83 12 P **P** **12 03 58.0 0.0**
baz=209
H19K Roundabout Mou 88.97 13 P **P** **12 03 58.7 +0.1**
H19K IAmb IAmb 12 04 00.0
comp=Z,12nm,1.4s
H19K Roundabout Mou 88.97 13 P **P** **12 03 58.7 +0.1**
baz=211
N25K Chitina, Valde 88.99 20 P **P** **12 03 58.4 -0.6**
baz=222
ISLE Juniper Island 89.00 21 IAmb IAmb 12 04 00.7
comp=Z,9.5nm,1.2s
VNA3 Neumayer Olymp 89.01 180 ⇑P **P** **12 03 57.6 -1.4**
comp=Z,6.0nm,0.9s
LPIG La Paz 89.01 64 LR LR 12 34 27.6
comp=Z,176nm,21.6s,baz=209,slow=29
RND Reindeer 89.10 17 IAmb IAmb 12 04 08.1
comp=Z,16nm,1.4s
IRM Iron Mountain 89.13 53 P **P** **12 03 58.6 -1.6**
baz=245
CRAG Craig 89.20 28 P **P** **12 03 59.7 -0.1**
baz=232
F18K Selawik 89.26 12 P **P** **12 03 59.4 -0.5**
baz=208
H20K Anotleneega Mo 89.29 14 P **P** **12 04 00.4 +0.2**
baz=213
E17K Hotham Inlet 89.30 11 P **P** **12 04 00.2 +0.1**
baz=206
VNA2 Neumayer--Watz 89.31 181 ⇑P **P** **12 03 59.1 -1.3**
comp=Z,3.5nm,0.8s,baz=39,slow=33
MCARA McCarthy VSAT 89.33 21 P **P** **12 04 00.5 +0.1**
G19K Purcell Mounta 89.37 13 IAmb IAmb 12 04 02.9
comp=Z,8.7nm,0.9s
G19K Purcell Mounta 89.37 13 P **P** **12 04 00.2 -0.3**
baz=211,SNR=7.0
HARP HAARP 89.41 19 P **P** **12 04 01.2 +0.4**
baz=222
S31K Pelican 89.46 25 P **P** **12 04 01.4 +0.4**
baz=229
BARN Barnard Glacie 89.56 21 IAmb IAmb 12 04 05.4
comp=Z,18nm,1.6s
CTG Chitna Glacier 89.60 21 P **P** **12 04 01.4 -0.5**
baz=225
CTGM Chitina Glacie 89.60 21 IAmb IAmb 12 04 17.1
comp=Z,14nm,1.6s
D17K Noatak River 89.64 10 P **P** **12 04 02.3 +0.5**
baz=205
BBB Bella Bella 89.66 33 LR LR 12 36 08.0
comp=Z,101nm,20.6s,baz=250,slow=30
I21K Tanana 89.71 15 P **P** **12 04 02.1 0.0**
baz=215
V35K Ketchikan 89.79 29 P **P** **12 04 02.6 0.0**
baz=233
E18K Tukpahlearik C 89.82 11 P **P** **12 04 02.4 -0.1**
baz=208
S32K Killisnoo 89.82 26 P **P** **12 04 02.8 0.0**
baz=231

F19K Shaleruckik Mo 89.83 12 P **P** **12 04 02.5 -0.1**
F19K Shaleruckik Mo 89.83 12 P **P** **12 04 02.7 +0.1**
baz=210
O28M Mount Upton 89.86 22 P **P** **12 04 04.0 +0.7**
baz=226
MLY Manley 89.90 16 P **P** **12 04 01.6 -1.5**
H21K Melozitna Rive 89.91 14 P **P** **12 04 03.9 +0.8**
H21K Melozitna Rive 89.91 14 P **P** **12 04 03.3 +0.3**
baz=215
P29M Windy Craggy 89.98 24 IAmb IAmb 12 04 05.1
comp=Z,8.3nm,0.9s
P29M Windy Craggy 89.98 24 P **P** **12 04 03.1 -0.5**
baz=228,SNR=6.7
214A Organ Pipe Nat 90.02 56 P **P** **12 04 03.8 -0.6**
baz=246
M26K Nabesna, AK 90.09 20 IAmb IAmb 12 04 15.9
comp=Z,14nm,1.7s
M26K Nabesna, AK 90.09 20 P **P** **12 04 03.7 -0.3**
baz=223
GNW Green Mountain 90.11 39 IAmb IAmb 12 04 08.3
comp=Z,9.1nm,1.0s
WVOR Wild Horse Val 90.28 45 IAmb IAmb 12 04 31.8
comp=Z,9.4nm,1.2s
K24K Donnelly Dome 90.28 18 P **P** **12 04 04.8 -0.1**
baz=221
C17K DeLong Mountai 90.34 10 P **P** **12 04 04.4 -0.6**
baz=205
YUK8 Steele Glacier 90.37 22 P **P** **12 04 05.0 -0.6**
baz=226,SNR=6.2
PLBC Pleasant Camp 90.39 24 P **P** **12 04 05.2 -0.2**
baz=229,SNR=6.6
HDA Harding Lake 90.41 17 IAmb IAmb 12 04 06.0
comp=Z,7.6nm,1.0s
HDA Harding Lake 90.41 17 P **P** **12 04 05.3 -0.2**
baz=220,SNR=6.9
M27K Edge Creek, AK 90.42 20 P **P** **12 04 04.2 -1.5**
baz=224
F20K Avaraart Lake 90.43 13 P **P** **12 04 05.4 +0.1**
baz=212
H22K Ishtalitna Cre 90.44 15 P **P** **12 04 04.8 -0.7**
baz=216
G21K Allakaket 90.46 14 P **P** **12 04 04.3 -1.3**
baz=214
YUK3 Moose Creek 90.47 21 P **P** **12 04 05.0 -1.1**
baz=226
E19K Redstone River 90.48 12 IAmb IAmb 12 04 08.0
comp=Z,8.1nm,0.8s
E19K Redstone River 90.48 12 P **P** **12 04 05.4 -0.3**
baz=211,SNR=12
MDM Murphy Dome 90.49 16 IAmb IAmb 12 04 05.8
comp=Z,5.6nm,0.9s
COLA College 90.53 17 P P 12 04 09.4 +3.5
COLA College 90.53 17 P **P** **12 04 04.2 -1.7**
COLA College 90.53 17 P **P** **12 04 05.2 -0.6**
baz=219
COLA College 90.53 17 P **P** **12 04 04.2 -1.7**
COLA pmax pmax
comp=Z,12nm,0.3s
PRN Pahroc Range 90.56 50 IAmb IAmb 12 04 20.1
comp=Z,10.0nm,1.0s
R11B Troy Canyon, C 90.58 49 P **P** **12 04 05.4 -1.7**
baz=245
P30M Million Dollar 90.60 24 P **P** **12 04 06.0 -0.4**
baz=229
YUK6 Outpost Mounta 90.63 22 P **P** **12 04 06.4 -0.4**
baz=227
ILAR Eielson Array 90.71 17 P **P** **12 04 05.5 -1.2**
comp=Z,3.3nm,0.9s,baz=238,slow=6.0,SNR=28
ILAR LR LR 12 40 19.9
comp=Z,78nm,18.7s,baz=254,slow=33
comp=Z,3.3nm,0.9s
SKAG Skagway 90.79 25 P **P** **12 04 08.3 +1.1**
SKAG Skagway 90.79 25 IAmb IAmb 12 04 09.3
comp=Z,11nm,1.1s
SKAG Skagway 90.79 25 P **P** **12 04 06.8 -0.4**
baz=230,SNR=6.1
J08A Circle Bar Ran 90.80 44 IAmb IAmb 12 04 19.2
comp=Z,8.4nm,1.2s
YUK4 Talbot Arm 90.81 22 P **P** **12 04 07.3 -0.2**
baz=227
C18K Utukok River 90.81 10 P **P** **12 04 07.5 +0.2**
baz=207
POKR Poker Plat Res 90.83 17 P **P** **12 04 07.6 +0.2**
baz=220
H23K Yukon River 90.83 15 P **P** **12 04 07.6 +0.2**
baz=218
HYT Haines Junctio 90.86 23 P **P** **12 04 06.8 -0.9**
baz=228,SNR=5.6
L27K Beaver Creek, 90.94 20 P **P** **12 04 07.2 -0.8**
baz=224
SCRK Sand Creek 90.94 18 P **P** **12 04 06.9 -1.1**
baz=222
J25K Salcha River, 91.01 18 P **P** **12 04 08.1 -0.2**
baz=221
F21K Alatna River 91.05 13 P **P** **12 04 07.3 -1.0**
baz=214
D19K Kuna River 91.21 11 P **P** **12 04 08.6 -0.5**
baz=210
G22K Bettles 91.25 14 P **P** **12 04 09.0 -0.2**
baz=216
H24K Noodor Dome 91.27 16 P **P** **12 04 09.1 -0.3**
baz=219
O30N Mendenhall 91.35 23 IAmb IAmb 12 04 11.0
comp=Z,8.6nm,1.1s
O30N Mendenhall 91.35 23 P **P** **12 04 10.3 +0.4**
baz=229,SNR=8.8
E20K Nigu River 91.37 12 P **P** **12 04 10.3 +0.5**
baz=212,SNR=10
ZAK Zakamensk 91.38 324 *e*P **P** **12 04 09.1 -1.3**
ZAK pmax pmax
comp=Z,8.0nm,1.4s
T35M Bob Quinn 91.39 28 P **P** **12 04 10.1 0.0**
baz=234
Q12A Willow Creek R 91.41 49 IAmb IAmb 12 04 21.8
comp=Z,6.6nm,0.9s
G23K Bananza Creek 91.42 15 P **P** **12 04 10.1 0.0**
baz=217
N30M Aishikik Lake 91.44 23 P **P** **12 04 11.1 +0.7**
N30M Aishikik Lake 91.44 23 P **P** **12 04 10.3 -0.1**
baz=229
J26L Joseph Creek 91.45 18 P **P** **12 04 10.4 0.0**
baz=223
C19K Lookout Ridge 91.49 10 P **P** **12 04 10.9 +0.6**
baz=208
P32M Atlin 91.51 25 IAmb IAmb 12 04 11.9
comp=Z,12nm,1.1s
P32M Atlin 91.51 25 P **P** **12 04 10.5 -0.2**
baz=231,SNR=6.8
S34M Telegraph Cree 91.55 27 IAmb IAmb 12 04 13.2
comp=Z,11nm,1.1s
S34M Telegraph Cree 91.55 27 P **P** **12 04 11.1 +0.3**
baz=234
K27K Chicken 91.56 19 P **P** **12 04 10.6 -0.1**
baz=224
F22K John River 91.57 14 P **P** **12 04 11.2 +0.4**
baz=215
M29M Somme Creek 91.62 21 IAmb IAmb 12 04 23.7
comp=Z,20nm,1.9s
M29M Somme Creek 91.62 21 P **P** **12 04 10.9 -0.3**
baz=227
D20K Etivluk River 91.68 12 P **P** **12 04 11.2 0.0**
baz=211
LCMT Little Creek M 91.72 51 IAmb IAmb 12 04 23.9
comp=Z,6.7nm,1.2s
WHY Whitehorse 91.73 24 IAmb IAmb 12 04 12.4
comp=Z,5.7nm,1.0s
WHY Whitehorse 91.73 24 P **P** **12 04 11.5 -0.3**
baz=230,SNR=7.9
TUC Tucson 91.74 56 P **P** **12 04 11.7 -0.8**
baz=247
COLD Coldfoot 91.80 14 P **P** **12 04 11.3 -0.5**
baz=217
CCUT Cedar City 91.85 51 IAmb IAmb 12 04 25.5
comp=Z,6.6nm,1.3s
PALK Pallekele 91.89 277 LR LR 12 44 54.3
comp=Z,90nm,21.9s,baz=215,slow=35
PSUT Pine Spring 91.89 50 IAmb IAmb 12 04 32.6
comp=Z,7.8nm,1.6s
N31M Braeburn, Yuko 91.93 23 P **P** **12 04 12.2 -0.4**
baz=230,SNR=11
E21K Killik River 91.97 13 P **P** **12 04 12.3 -0.3**
baz=214
KNB Kanab 92.03 51 P **P** **12 04 15.0 +1.2**
KNB IAmb IAmb 12 04 15.4
comp=Z,21nm,1.9s
KNB Kanab 92.03 51 P **P** **12 04 15.0 +1.2**
KNB pmax pmax
comp=Z,21nm,1.9s

G24K	Hadweenzic Riv	92.04	16	IAmb	IAmb	12 04 27.4	
	comp=Z,20nm,1.9s						
G24K	Hadweenzic Riv	92.04	16	P	P	12 04 13.3	+0.3
	baz=219						
X16A	Lo Mia Camp, P	92.05	54	IAmb	IAmb	12 04 26.5	
	comp=Z,6.7nm,1.3s						
H25L	Birch Creek	92.14	16	P	P	12 04 13.9	+0.6
	baz=221						
I26K	Coal Creek Min	92.16	18	P	P	12 04 14.0	+0.5
	baz=223						
E22K	Anaktuvuk Pass	92.17	13	P	P	12 04 13.6	0.0
E22K				IAmb	IAmb	12 04 26.6	
	comp=Z,7.9nm,1.2s						
E22K	Anaktuvuk Pass	92.17	13	P	P	12 04 13.4	-0.1
	baz=216						
L29M	L29M	92.18	21	IAmb	IAmb	12 04 15.1	
	comp=Z,9.3nm,1.2s						
L29M	L29M	92.18	21	P	P	12 04 13.4	-0.3
	baz=228,SNR=7.0						
U15A	North Rim	92.19	52	IAmb	IAmb	12 04 27.3	
	comp=Z,10nm,1.4s						
P33M	Teslin, Yukon	92.25	25	IAmb	IAmb	12 04 15.3	
	comp=Z,5.7nm,1.1s						
P33M	Teslin, Yukon	92.25	25	P	P	12 04 14.7	+0.5
	baz=232,SNR=5.4						
M30M	Minto, Yukon	92.28	22	P	P	12 04 13.6	-0.6
	baz=229,SNR=15						
DLBC	Dease Lake	92.34	27	P	P	12 04 14.8	+0.2
	baz=234,SNR=6.9						
DLBC	Dease Lake	92.34	27	LR	LR	12 38 19.5	
	comp=Z,137nm,19.8s,baz=278,slow=31						
EGAK	Eagle	92.37	19	P	P	12 04 14.4	-0.1
	baz=225						
C21K	Knifeblade Rid	92.41	12	P	P	12 04 14.7	+0.1
	baz=213						
DAWY	Dawson	92.42	20	P	P	12 04 14.0	-0.8
	baz=227						
R33M	Jennings River	92.50	26	IAmb	IAmb	12 04 17.6	
	comp=Z,12nm,1.1s						
R33M	Jennings River	92.50	26	P	P	12 04 14.6	-0.8
	baz=234,SNR=8.6						
WUAZ	Wupatki	92.52	53	IAmb	IAmb	12 04 27.9	
	comp=Z,8.7nm,1.2s						
WUAZ	Wupatki	92.52	53	P	P	12 04 15.1	-1.0
	baz=247						
319A	Douglas	92.58	58	IAmb	IAmb	12 04 26.9	
	comp=Z,14nm,1.3s						
F24K	Squaw Lake	92.58	15	P	P	12 04 15.1	-0.4
	baz=219						
D22K	Ayikyak River	92.60	13	IAmb	IAmb	12 04 16.9	
	comp=Z,9.8nm,1.2s						
D22K	Ayikyak River	92.60	13	P	P	12 04 15.0	-0.5
	baz=215						
B20K	Meade River	92.70	11	P	P	12 04 16.1	+0.2
	baz=211						
N32M	Quiet Lake	92.73	24	P	P	12 04 16.5	+0.2
	baz=232						
I27K	Kandik River	92.82	18	P	P	12 04 15.9	-0.7
	baz=225						
B21K	Ikpikpuk River	92.83	12	P	P	12 04 16.1	-0.4
	baz=213						
K29M	Barlow Dome	92.88	21	IAmb	IAmb	12 04 28.2	
	comp=Z,8.3nm,1.4s						
K29M	Barlow Dome	92.88	21	P	P	12 04 16.8	-0.2
	baz=228,SNR=5.2						
M31M	Drury Creek, Y	92.90	23	IAmb	IAmb	12 04 16.9	
	comp=Z,11nm,1.3s						
M31M	Drury Creek, Y	92.90	23	P	P	12 04 15.5	-1.6
	baz=231,SNR=8.3						
TOLK	Toolik Lake Re	93.07	14	P	P	12 04 16.6	-1.1
	baz=218						
D23K	Nanushuk River	93.09	13	P	P	12 04 17.7	0.0
	baz=217						
F25K	Christian Rive	93.19	16	P	P	12 04 18.2	-0.1
	baz=221						
G26K	Porcupine Rive	93.19	17	P	P	12 04 17.7	-0.5
	baz=223						
I28M	Miner Creek	93.21	19	P	P	12 04 17.6	-0.9
	baz=226						
MAYO	Mayo, Yukon	93.26	21	P	P	12 04 18.3	-0.4
	baz=230						
H27K	Steamboat Moun	93.30	18	P	P	12 04 17.6	-1.2
	baz=225						
FARO	Faro, Yukon	93.30	23	P	P	12 04 18.1	-0.8
	baz=232						
E25K	Arctic Village	93.61	15	P	P	12 04 20.0	-0.2
	baz=221						
I29M	Ogilvie Camp,	93.65	19	P	P	12 04 20.6	+0.2
	baz=228,SNR=7.0						
B22K	Teshekpuk Lake	93.66	12	P	P	12 04 20.5	+0.2
	baz=214						
G27K	Doyon Strip	93.67	17	P	P	12 04 20.5	0.0
	baz=225						
J30M	Hart River	93.75	20	P	P	12 04 20.9	-0.1
	baz=229						
C23K	Itkillik River	93.81	13	IAmb	IAmb	12 04 22.5	
	comp=Z,11nm,1.1s						
C23K	Itkillik River	93.81	13	P	P	12 04 20.3	-0.7
	baz=217						
WTLY	Watson Lake, Y	93.82	26	P	P	12 04 20.7	-0.6
	baz=236						
NEW	Newport	93.83	40	P	P	12 04 20.9	-0.8
	baz=244						
NEW	Newport	93.83	40	LR	LR	12 40 19.2	
	comp=Z,62nm,19.3s,baz=246,slow=32						
C24K	Franklin Bluff	94.12	13	P	P	12 04 22.0	-0.4
	baz=218						
I30M	Mount Dempster	94.16	20	IAmb	IAmb	12 04 23.6	
	comp=Z,5.4nm,1.1s						
I30M	Mount Dempster	94.16	20	P	P	12 04 22.8	-0.1
	baz=229,SNR=6.3						
H29M	Whitestone	94.21	19	P	P	12 04 22.6	-0.4
	baz=228						
LIRD	Liard River Hi	94.57	27	P	P	12 04 25.0	+0.2
	baz=238						
TOAD	Toad River Com	94.66	28	P	P	12 04 24.8	-0.4
	baz=238						
E27K	Coleen River	94.67	16	P	P	12 04 24.8	-0.3
	baz=225						
F28M	Old Crow	94.73	17	P	P	12 04 24.8	-0.5
	baz=226						
G29M	Pine Creek	94.78	18	P	P	12 04 25.6	0.0
	baz=228						
EPYK	Eagle Plains	94.81	19	IAmb	IAmb	12 04 26.1	
	comp=Z,8.8nm,1.1s						
EPYK	Eagle Plains	94.81	19	P	P	12 04 25.4	-0.3
	baz=229,SNR=5.5						
C26K	Camden Bay	95.12	14	P	P	12 04 26.3	-0.6
	baz=222,SNR=6.9						
C27K	Jago River	95.18	15	P	P	12 04 27.2	-0.1
	baz=223,SNR=5.3						
H31M	Peel River	95.19	20	P	P	12 04 27.9	+0.4
	baz=231						
G30M	tAoh Zraii Nji	95.36	19	P	P	12 04 28.3	0.0
	baz=230,SNR=9.9						
E28M	Babbage River	95.51	16	P	P	12 04 28.6	-0.3
	baz=227						
D27M	Malcolm River	95.58	16	P	P	12 04 29.2	-0.1
	baz=226						
TIXI	Tiksi	95.64	348	LR	LR	12 44 20.1	
	comp=Z,40nm,18.4s,baz=162,slow=33						
E29M	Blow River	95.81	17	P	P	12 04 30.3	0.0
	baz=228						
F30M	Barrier River	95.90	18	P	P	12 04 30.7	0.0
	baz=230						
G31M	Satah River	95.92	19	P	P	12 04 30.0	-0.7
	baz=231						
ANMO	Albuquerque	96.06	55	LR	LR	12 42 27.9	
	comp=Z,73nm,18.6s,baz=341,slow=32						
F31M	Tsiigehtchic	96.40	19	P	P	12 04 32.3	-0.5
	baz=232						
TXAR	Lajitas Array	96.41	61	LR	LR	12 40 38.3	
	comp=Z,121nm,19.2s,baz=240,slow=31						
PDAR	Pinedale Array	96.53	47	LR	LR	12 40 44.7	
	comp=Z,57nm,20.6s,baz=265,slow=31						
INK	Inuvik	97.00	18	IAmb	IAmb	12 04 35.6	
	comp=Z,8.6nm,1.1s						
INK	Inuvik	97.00	18	P	P	12 04 34.8	-0.7
	baz=232						
INK	Inuvik	97.00	18	LR	LR	12 42 59.3	
	comp=Z,51nm,19.1s,baz=158,slow=32						
PLCA	Paso Flores	97.44	138	LR	LR	12 41 28.0	
	comp=Z,21nm,18.4s,baz=202,slow=31						
WMQ	Urumqi	98.31	314	eP	Pdif	12 04 42.3	+0.1
WMQ				sP	pwP	12 04 55.8	+2.0
WMQ				pmax	pmax		
	comp=Z,79nm,3.9s						
C36M	Paulatuk	100.44	19	P	Pdif	12 04 51.0	0.0
	baz=241						
YKA	Yellowknife Ar	100.96	27	P	Pdif	12 04 52.9	-0.6
	comp=Z,0.9nm,0.9s,baz=252,slow=4.8,SNR=4.8						
A36M	Sachs Harbour	101.41	17	P	Pdif	12 04 55.0	-0.2
	baz=240						
MKAR	Makanchi Array	102.84	315	P	Pdif	12 05 03.0	+0.7
	comp=Z,1.1nm,0.8s,baz=101,slow=3.8,SNR=5.0						
MKAR	Makanchi Array	102.84	315	P	Pdif	12 05 03.0	+0.7
ARU	Arti	118.32	324	*i* PKIKP	PKiKP	12 09 50.8	-0.7
ARU						12 11 06.5	
ARU						12 17 01.5	
ARU				SS	SS	12 27 22.2	+0.3
BELG	Belogornoye	125.31	321	*d* PKIKP	PKiKP	12 10 04.8	-0.5
NACGM	Naroch	135.48	331	*e*PKP	PKiKP	12 10 25.2	-0.5
	comp=Z,9.0nm,0.7s,baz=53						
AKASG	Malin Array Be	136.57	324	PKP	PKPdf	12 10 25.4	-0.9
	comp=Z,0.2nm,0.2s,baz=74,slow=1.3,SNR=4.2						
AKBB	Malin Array Si	136.57	324	*e*PKIKP	PKiKP	12 10 26.8	-1.3
BR131	Keskin Array S	137.91	308	*e*PKIKP	PKPdf	12 10 28.7	-0.7
MORC	Moravsky Berou	143.12	330	*e*PKP	PKPbc	12 10 34.4	-0.9
MAUC	Maruska	143.26	329	*e*PKP	PKPdf	12 10 36.6	-2.0
MAUC				*ex*	x	12 10 43.1	
VYHS	Vyhne	143.35	328	*e*PKP	PKPdf	12 10 39.1	+0.3
VYHS	Vyhne	143.35	328	*e*PKIKP	PKPdf	12 10 39.1	+0.3
JAVC	Velka Javorina	143.68	329	*e*PKP	PKPdf	12 10 38.2	-1.2
VRAC	Vranov	143.89	330	*e*PKP	PKPbc	12 10 36.8	-0.6
BRG	Berggiesshubel	143.90	334	*e*PKP	PKPbc	12 10 37.1	-0.3
BRG				Amp		12 10 40.5	
	comp=Z,3.6nm,0.9s						
CLL	Collm	143.94	335	*i* PKPdf	PKPbc	12 10 36.2	-1.3
	comp=Z,7.0nm,1.0s						
CLL	Collm	143.94	335	*i* PKIKP	PKPbc	12 10 36.2	-1.3
CLL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
KRUC	Moravsky	144.15	330	*e*PKP	PKPbc	12 10 37.2	-1.0
MODS	Modra-Piesok	144.21	329	*e*PKP	PKPdf	12 10 40.3	0.0
MODS	Modra-Piesok	144.21	329	*e*PKIKP	PKPdf	12 10 40.3	0.0
PRU	Pruhonice	144.31	333	*e*PKP	PKPdf	12 10 38.5	-1.9
PRU	Pruhonice	144.31	333	*e*PKIKP	PKPdf	12 10 38.5	-1.9
EKA	Eskdalemuir Ar	144.35	353	PKP	PKPbc	12 10 37.8	-0.8
	comp=Z,2.8nm,0.8s,baz=343,slow=2.2,SNR=4.2						
ZVC	Zvikov	144.87	332	*e*PKP	PKPdf	12 10 40.1	-1.3
ZVC				*ex*	x	12 10 46.8	
FRGS	Fruska Gora	144.90	322	*i* P	PKPdf	12 10 40.5	-1.1
NKC	Novy Kostel	145.00	335	*e*PKP	PKPdf	12 10 40.7	-0.9
NKC	Novy Kostel	145.00	335	*e*PKIKP	PKPdf	12 10 40.7	-0.9
RONA	Rosalia, Austr	145.15	329	*i* PKP	PKPdf	12 10 41.8	-0.2
	comp=Z,5nm,1.2s,SNR=16						
CONA	Conrad Observa	145.20	329	*i* PKP	PKPdf	12 10 41.8	-0.3
	comp=Z,34nm,1.3s,SNR=19						
VAY	Valandovo	145.20	315	*i* P	PKPab	12 10 40.8	-1.1
CKRC	Cesky Krumlov	145.28	332	*e*PKP	PKPdf	12 10 41.6	-0.5
CKRC				*ex*	x	12 10 47.7	
CKRC	Cesky Krumlov	145.28	332	*e*PKIKP	PKPdf	12 10 41.6	-0.5
CKRC				*e*		12 10 47.7	
KHC	Kasperske Hory	145.37	333	*e*PKP	PKPdf	12 10 41.9	-0.4
KHC				*ep*PKP	pPKPab	12 10 48.2	-3.3
KHC	Kasperske Hory	145.37	333	*e*PKIKP	PKPdf	12 10 41.9	-0.4
KHC				*e*		12 10 48.2	
TEKS	Tekeris	145.41	322	*i* P	PKPab	12 10 41.9	-0.8
GERES	GERESS Array B	145.53	332	PKPbc	PKPab	12 10 42.3	-0.8
	comp=Z,17nm,0.3s,baz=23,slow=3.2,SNR=1.0						
SKO	Skopje	145.63	317	*i* P	PKPab	12 10 43.0	-0.5
LIT	Litokhoron	145.81	313	PKPdf	PKPdf	12 10 42.3	-1.0
LIT	Litokhoron	145.81	313	PKP2	PKPdf	12 10 42.3	-1.0
ARSA	Arzberg	145.84	329	*i* PKP	PKPab	12 10 44.0	-0.2
	comp=Z,19nm,1.1s,SNR=12						
SJES	Sjenica	145.88	320	*i* P	PKPab	12 10 43.7	-0.8
BBLS	Lazi&#263i	145.88	321	*i* P	PKPab	12 10 43.6	-0.9
MOA	Molln	146.01	330	*i* PKP	PKPab	12 10 44.0	-0.8
	comp=Z,35nm,1.5s,SNR=12						
HAPS	Han Pijesak,Bl	146.02	322	*e*P	PKPab	12 10 44.2	-0.9
BIOA	Bad Ischl, Aus	146.42	331	*e*PKP	PKPbc	12 10 44.4	-1.0
	comp=Z,3.7nm,0.5s						
OHR	Ohrid	146.48	316	*i* P	PKPab	12 10 45.5	-1.3
SOKA	Soboth	146.48	328	*i* PKP	PKPbc	12 10 44.8	-0.9
	comp=Z,14nm,1.0s,SNR=12						
PUK	Puka	146.58	318	PKPdf	PKPbc	12 10 45.0	-1.2
A051A	Mrakovica	146.61	324	*i* P	PKPbc	12 10 45.4	-0.8
BLY	Banja Luka	146.63	324	*i* P	PKPab	12 10 45.8	-1.4
PDG	Podgorica	146.77	319	*i* P	PKPbc	12 10 45.8	-0.8
OBKA	Obir	146.83	328	*i* PKP	PKPbc	12 10 45.7	-1.1
	comp=Z,4.0nm,0.6s						
OBKA	Obir	146.83	328	*e*P	PKPbc	12 10 45.9	-0.9
CRES	Cresnjev	146.85	327	*i* P	PKPbc	12 10 46.1	-0.6
MGRS	Mrkonjic Grad	146.89	323	*e*P	PKPab	12 10 47.4	-0.9
BTNL	Ternell	146.94	341	*d*PKP	PKPab	12 10 46.4	-1.8
BRY	Bratogost	146.95	320	*i* P	PKPbc	12 10 46.2	-1.1
DRME	Dracevica, Mon	146.95	319	*i* P	PKPbc	12 10 46.3	-0.8
MEM	Membach	146.95	341	*d*PKP	PKPab	12 10 46.5	-1.7
MEM				*dp*PKPdf	pPKPdf	12 10 53.1	-0.8
KBA	Koelnbreinsper	147.00	330	*i* PKP	PKPbc	12 10 46.4	-1.0
	comp=Z,14nm,1.0s,SNR=7.5						
LESA	Schwarzleotal	147.05	331	*i* PKP	PKPbc	12 10 46.5	-0.8
	comp=Z,19nm,0.9s						
BSTI	Sart Tilman	147.11	342	*d*PKP	PKPab	12 10 47.2	-1.7
A050A	Klekovaca	147.16	324	*i* P	PKPbc	12 10 46.9	-0.8
BOJS	Bojanci	147.17	327	*i* PKPbc	PKPab	12 10 47.3	-2.0
BOJS	Bojanci	147.17	327	*i* P	PKPbc	12 10 47.1	-0.5
BHOU	Houvegnez	147.18	341	*d*PKP	PKPab	12 10 46.4	-1.5
VISS	Visnje	147.18	327	*i* PKPdf	PKPdf	12 10 44.2	-1.2
VISS				*i* PKPbc	PKPbc	12 10 47.0	-0.6
MYKA	Terra Mystica	147.19	329	*i* PKP	PKPbc	12 10 46.6	-1.1
	comp=Z,12nm,0.8s,SNR=6.2						
BCLA	Clavier	147.33	342	*d*PKP	PKPab	12 10 47.7	-2.0
BGES	Gesves	147.42	342	*d*PKP	PKPbc	12 10 47.7	-0.5
CEY	Cerknica	147.43	328	*i* PKPbc	PKPbc	12 10 47.7	-0.7
CEY	Cerknica	147.43	328	*i* P	PKPbc	12 10 47.4	-1.0
STON	Ston	147.47	321	*i* P	PKPbc	12 10 46.9	-1.6
VOJS	Vojsko	147.50	328	*i* PKPbc	PKPbc	12 10 47.5	-1.2
RCHB	Rochefort	147.59	342	*d*PKP	PKPbc	12 10 48.1	-0.5
BMRD	Maredsous	147.59	342	*d*PKP	PKPbc	12 10 47.0	-1.6
WATA	Walderalm	147.61	332	*i* PKP	PKPbc	12 10 48.4	-0.6
	comp=Z,22nm,1.3s						
ABTA	Abfaltersbach	147.63	331	*i* PKP	PKPbc	12 10 48.0	-1.0
	comp=Z,16nm,0.7s,SNR=5.1						
WTTA	Wattenberg	147.64	332	*i* PKP	PKPbc	12 10 48.3	-0.8
	comp=Z,26nm,1.0s,SNR=9.0						
WLF	Walferdange	147.74	340	*d*PKP	PKPbc	12 10 48.7	-0.4
SKDS	Skadanscina	147.77	328	*i* P	PKPbc	12 10 48.0	-1.3
MOTA	Moosalm	147.81	333	*i* PKP	PKPbc	12 10 48.8	-0.7
	comp=Z,22nm,0.8s,SNR=12						
DOU	Dourbes	147.82	342	*d*PKP	PKPbc	12 10 48.8	-0.4
RETA	Reutte	147.84	333	*i* PKP	PKPbc	12 10 48.8	-0.7
	comp=Z,15nm,1.1s						
SQTA	Sankt Quirin	147.85	333	*i* PKP	PKPbc	12 10 48.9	-0.7
	comp=Z,22nm,0.7s,SNR=11						
FETA	Feichten	148.22	333	*i* PKP	PKPbc	12 10 50.1	-0.5
	comp=Z,21nm,0.8s,SNR=13						
DAVA	Damuels	148.37	334	*i* PKP	PKPbc	12 10 50.6	-0.4
	comp=Z,19nm,1.1s,SNR=7.8						
TIP	Timpagrande	150.12	316		PKiKP	12 10 55.6	-0.8
BNI	Bardonecchia	151.48	335	PKPdf	PKPdf	12 10 52.4	-0.1
BNI					PKiKP	12 10 58.5	-0.6
BNI	Bardonecchia	151.48	335	PKIKP	PKiKP	12 10 58.5	-0.6
SSB	Saint Sauveur	152.09	338		PKiKP	12 10 59.6	-0.6
SSB	Saint Sauveur	152.09	338	PKIKP	PKiKP	12 10 59.6	-0.6
ESDC	Sonseca Array	159.73	347	PKPab	PKPab	12 11 41.7	-0.5
	comp=Z,1.2nm,1.1s,baz=43,slow=1.7,SNR=5.8						
TORD	Torodi Ar. Bea	166.97	240	PKP	PKPdf	12 11 11.1	+0.1
	comp=Z,0.7nm,1.0s,baz=210,slow=5.0,SNR=3.7						
TORD				PKPab	PKPab	12 12 14.1	-0.7
	comp=Z,1.9nm,1.0s,baz=93,slow=5.0,SNR=5.6						

*IDC **30** 11:53:21.6±1.8, 13°.72S×45°.08E, h0km, mb3.8/4, mbtmp4.0/6, ML4.1/2, MS3.1/3, Error ellipse: s-maj=43.7km s-min=20.4km az=167.0*

ISC 30 11:53:23.2±1.8, 13°.7S±0°.2×45°.1E±0°.1, h10km, n7, σ1°20/8, mb3.9/4, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	Ambohidratompo	5.25	157	Pn	Pn	11 54 42.0	0.0
	2.6nm,0.3s,baz=340,slow=12,SNR=36						
OPO				Sn	Sn	11 55 42.7	0.0
	6.5nm,0.3s,baz=244,slow=21,SNR=20						
	62nm,0.4s						
MATP	Matopo	17.18	245	P	P	11 57 24.3	-1.0
	0.2nm,0.3s,baz=62,slow=10,SNR=6.1						
MATP				S	Sn	12 00 35.7	+0.7
	0.4nm,0.5s,baz=85,slow=11,SNR=1.9						
	1.5nm,0.6s						
MBAR	Mbarara	19.25	311	LR	LR	12 04 38.1	
	comp=Z,44nm,19.6s,baz=139,slow=35						
LBTB	Lobatse	21.51	236	P	P	11 58 12.8	+0.2
	6.2nm,0.9s,baz=48,slow=8.9,SNR=5.0						
LBTB				LR	LR	12 05 33.8	
	comp=Z,44nm,18.5s,baz=72,slow=34						
	6.2nm,0.9s						
BOSA	Boshof	23.64	228	P	P	11 58 34.6	-0.3
	1.9nm,0.6s,baz=59,slow=9.7,SNR=6.7						
BOSA				LR	LR	12 07 56.5	
	comp=Z,45nm,18.2s,baz=24,slow=37						
	1.9nm,0.6s						
ASAR	Alice Springs	83.57	113	P	P	12 05 50.8	-1.5
	0.5nm,0.6s,baz=261,slow=4.9,SNR=11						
	0.5nm,0.6s						
WRA	Warramunga Arr	84.75	109	P	P	12 06 00.2	+1.8
	0.4nm,0.7s,baz=263,slow=3.4,SNR=5.0						
	0.4nm,0.7s						

*NOU **30** 12:09:39.7, 19°.91S×170°.26E, h0km, MLv4.7/11, Vanuatu Islands*
*IDC **30** 12:09:41.4±0.8, 19°.96S×170°.02E, h0km, mb4.2/10, mbtmp4.2/12, ML4.2/2, MS3.7/9, Error ellipse: s-maj=24.0km s-min=18.9km az=114.0*
*NEIC **30** 12:09:47.7±0.8, 20°.01S±0°.07×169°.99E±0°.06, h46km±7km, mb4.5/31, Error ellipse: s-maj=11.0km s-min=6.7km az=206.0*

ISC 30 12:09:45.8±0.5, 19°.98S±0°.06×169°.99E±0°.07, h30km, n87, σ0°.71/81, mb4.4/23, MS3.6/7, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MARNC	Mare, Loyalty	2.37	230	P	Pn	12 10 22.6	+0.1
LIFNC	LIFOU	2.70	252	P	Pn	12 10 26.6	-0.5
LIFNC	LIFOU	2.70	252		Pn	12 10 26.5	-0.6
DVP	Devils Point	2.81	322	P	Pn	12 10 28.7	0.0
PINNC	Pines Island,	3.54	222	P	Pn	12 10 38.7	0.0
PINNC	Pines Island,	3.54	222		Pn	12 10 38.6	0.0
PINNC				Sn	Sn	12 11 20.4	+1.0
YATNC	Mamie plateau,	3.56	234	P	Pn	12 10 39.4	+0.4
OUENC	Ouen Island, N	3.81	230	P	Pn	12 10 43.3	+0.9
OUENC	Ouen Island, N	3.81	230		Pn	12 10 43.4	+1.0
DZM	Mont Dzumac	3.91	237	P	Pn	12 10 44.3	+0.3
DZM	Mont Dzumac	3.91	237	Pn	Pn	12 10 44.2	+0.3
	22nm,0.3s,baz=109,slow=12,SNR=233						
DZM				Sn	Sn	12 11 30.2	+1.3
	42nm,0.3s,baz=159,slow=24,SNR=12						
DZM				LR	LR	12 11 38.8	
	comp=Z,409nm,20.6s,baz=10.0,slow=30						
	80nm,0.4s						
ONTNC	Ouen Toro	4.03	234	P	Pn	12 10 46.5	+1.0
ONTNC	Ouen Toro	4.03	234		Pn	12 10 46.1	+0.6
ONTNC				Sn	Sn	12 11 33.1	+1.4
NOUC	Port Laguerre	4.04	238	P	Pn	12 10 46.3	+0.7
KOUNC	Koumac, New Ca	5.38	263	P	Pn	12 11 05.5	+1.5
KOUNC	Koumac, New Ca	5.38	263		Pn	12 11 05.1	+1.1
MSVF	Nonsavu	7.95	75		Pn	12 11 40.5	+1.0
HNR	Honiara	14.28	316	LR	LR	12 17 14.4	
	comp=Z,2um,21.0s,baz=84,slow=32						
EIDS	Eidsvold	18.25	249	P	P	12 13 56.5	-0.4
URZ	Urewera	19.24	163	P	Pn	12 14 08.9	+0.2
	0.4nm,0.3s,baz=154,slow=9.1,SNR=3.1						
	9.7nm,0.8s						
RTZ	Ruatahuna	19.54	163	P	P	12 14 10.7	-0.3
RTZ				IAmb	IAmb	12 14 14.3	
	comp=Z,25nm,0.9s						
ARMA	Armidale	19.57	234	P	P	12 14 11.4	0.0
ARMA				IAmb	IAmb	12 14 26.7	
	comp=Z,23nm,1.1s						
BKZ	Black Stump Fm	19.93	165	P	Pn	12 14 16.7	-0.3
MRZ	Mangatainoka R	21.17	168	P	P	12 14 28.4	-0.1
MRZ				IAmb	IAmb	12 14 30.2	
	comp=Z,29nm,1.1s						
CTAO	Charters Tower	22.30	266	P	P	12 14 40.6	-0.3
CTAO				IAmb	IAmb	12 14 51.7	
	comp=Z,15nm,1.1s						
CAN	Canberra	24.00	226	P	P	12 14 57.9	0.0
CAN				IAmb	IAmb	12 15 24.7	
	comp=Z,14nm,1.1s						
PMG	Port Moresby	24.42	292	LR	LR	12 23 23.9	
	comp=Z,136nm,18.6s,baz=296,slow=34						
STKA	Stephens Creek	28.06	239	P	P	12 15 33.8	-0.9
STKA	Stephens Creek	28.06	239	P	P	12 15 35.8	+1.1
	comp=Z,1.4nm,0.6s,baz=69,slow=8.6,SNR=2.1						
STKA				LR	LR	12 25 46.7	
	comp=Z,197nm,21.5s,baz=31,slow=34						
	comp=Z,1.4nm,0.6s						
RAR	Rarotonga	28.32	98	LR	LR	12 26 15.6	
	comp=Z,87nm,19.6s,baz=274,slow=35						
BBOO	Buckleboo	32.82	240	P	P	12 16 16.3	-0.4
BBOO				IAmb	IAmb	12 16 36.8	
	comp=Z,11nm,1.1s						
WR0	Warramunga Arr	33.28	264	P	P	12 16 20.1	-0.8
WB0	Warramunga Arr	33.44	264	P	P	12 16 20.7	-1.6
WB0				IAmb	IAmb	12 16 35.4	
	comp=Z,7.4nm,0.9s						
WB2	Warramunga Arr	33.46

NVAR	**Mina Array Bea**	**88.76**	**48**	P		**P**	**12 22 38.2**	**+1.2**
	comp=Z,0.4nm,0.7s,baz=212,slow=7.0,SNR=3.6							
	comp=Z,0.4nm,0.7s							
E19K	**Redstone River**	**90.48**	**12**	P		**P**	**12 22 44.7**	**+0.6**
ILAR	**Eielson Array**	**90.72**	**17**	P		**P**	**12 22 44.5**	**-0.7**
	comp=Z,1.1nm,0.8s,baz=239,slow=5.2,SNR=9.4							
N31M	**Braeburn, Yuko**	**91.96**	**23**	P		**P**	**12 22 51.1**	**0.0**
N31M				IAmb		IAmb	12 22 52.9	
	comp=Z,3.3nm,1.1s							
M30M	**Minto, Yukon**	**92.31**	**22**	P		**P**	**12 22 52.5**	**-0.2**
M30M				IAmb		IAmb	12 22 53.2	
	comp=Z,1.6nm,0.9s							
ANMO	**Albuquerque**	**96.14**	**55**	LR		LR	13 02 02.0	
	comp=Z,20nm,18.1s,baz=4.5,slow=33							
RONA	**Rosalia, Austr**	**145.08**	**328**	*i* PKP		**PKPdf**	**12 29 20.1**	**-0.1**
	comp=Z,8.9nm,0.9s							
CONA	**Conrad Observa**	**145.13**	**329**	*i* PKP		**PKPdf**	**12 29 20.4**	**0.0**
	comp=Z,5.1nm,0.9s							
KHC	**Kasperske Hory**	**145.31**	**332**	*e*PKP		**PKPbc**	**12 29 20.0**	**-0.4**
ARSA	**Arzberg**	**145.77**	**329**	*i* PKP		**PKPab**	**12 29 22.8**	**+0.5**
	comp=Z,5.2nm,1.0s							
MOA	**Molln**	**145.94**	**330**	*i* PKP		**PKPab**	**12 29 22.7**	**-0.2**
	comp=Z,6.9nm,1.0s							
SOKA	**Soboth**	**146.41**	**328**	*i* PKP		**PKPdf**	**12 29 22.1**	**-0.5**
	comp=Z,1.2nm,0.5s							
OBKA	**Obir**	**146.76**	**328**	*e*PKP		**PKiKP**	**12 29 27.1**	**-0.6**
	comp=Z,1.4nm,0.4s							
KBA	**Koelnbreinsper**	**146.94**	**330**	*i* PKP		**PKPbc**	**12 29 24.9**	**-0.7**
	comp=Z,4.2nm,1.0s							
LESA	**Schwarzleotal**	**146.99**	**331**	*i* PKP		**PKPbc**	**12 29 25.1**	**-0.5**
	comp=Z,3.7nm,0.6s							
MYKA	**Terra Mystica**	**147.12**	**329**	*i* PKP		**PKPbc**	**12 29 25.2**	**-0.7**
	comp=Z,4.1nm,0.7s							
ABTA	**Abfaltersbach**	**147.56**	**331**	*i* PKP		**PKPbc**	**12 29 26.5**	**-0.7**
	comp=Z,5.3nm,0.7s							
WTTA	**Wattenberg**	**147.57**	**332**	*i* PKP		**PKPbc**	**12 29 27.2**	**-0.1**
	comp=Z,4.5nm,0.6s							
MOTA	**Moosalm**	**147.74**	**333**	*i* PKP		**PKPbc**	**12 29 27.2**	**-0.5**
	comp=Z,7.9nm,0.8s							
SQTA	**Sankt Quirin**	**147.79**	**332**	*e*PKP		**PKPbc**	**12 29 27.7**	**-0.1**
	comp=Z,10.0nm,0.7s							
FETA	**Feichten**	**148.16**	**333**	*i* PKP		**PKPbc**	**12 29 28.7**	**-0.2**
	comp=Z,7.4nm,0.7s							
DAVA	**Damuels**	**148.31**	**334**	*i* PKP		**PKPbc**	**12 29 28.9**	**-0.4**
	comp=Z,6.7nm,1.0s							

*IDC **30** 12:26:42.1±8.5,27°.91S×23°.37E,**h0**km,* **Error ellipse: s-maj=47.6km s-min=33.9km az=115.0, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
I47ZA	**BOSHOF INFRASO**	**1.80**	**114**	I	I	12 37 10.0	
	0.1nm,0.4s,baz=294,slow=340,SNR=0.6						
BOSA	**Boshof**	**1.81**	**113**	Pg	Pn	12 27 14.9	+0.2
	1.1nm,0.3s,baz=288,slow=16,SNR=10						
BOSA				Lg	Lg	12 27 40.0	
	3.1nm,0.3s,baz=18,slow=20,SNR=18						
I33MG	**ANTANANARIVO I**	**23.64**	**73**	I	I	14 49 30.0	
	baz=241,slow=323,SNR=2.2						

*IDC **30** 12:28:50.8±1.1, 12°.84S×166°.75E, h0km, mb4.2/9, mbtmp4.3/10, ML4.3/1, MS3.4/16, Error ellipse: s-maj=32.1km s-min=19.4km az=85.0*
*NEIC **30** 12:29:01.1±1.3, 12°.99S±0°.09×166°.5E±0°.2, h59km±10km, mb4.3/17, Error ellipse: s-maj=23.5km s-min=10.4km az=71.0*

ISC 30 12:28:58.7±1.1, 12°.90S±0°.09×166°.6E±0°.2, h50km, n53, σ0s75/41, mb4.2/17, MS3.6/14, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**7.36**	**297**		**Pn**	**12 30 43.9**	**+0.2**
LIFNC	**LIFOU**	**7.86**	**175**	Pn	**Pn**	**12 30 51.4**	**+1.0**
KOUNC	**Koumac, New Ca**	**7.92**	**196**		**Pn**	**12 30 51.8**	**+0.5**
YATNC	**Mamie plateau,**	**9.12**	**178**	P	**Pn**	**12 31 06.4**	**-1.2**
DZM	**Mont Dzumac**	**9.12**	**181**	Pn	**Pn**	**12 31 06.7**	**-1.1**
	3.0nm,0.3s,baz=24,slow=20,SNR=17						
DZM				Sn	**Sn**	**12 32 48.4**	**-0.7**
	baz=142,slow=24						
DZM				LR	LR	12 33 30.6	
	comp=Z,90nm,18.7s,baz=18,slow=30						
	15nm,0.4s						
NOUC	**Port Laguerre**	**9.15**	**182**	P	**Pn**	**12 31 09.3**	**+1.1**
ONTNC	**Ouen Toro**	**9.36**	**181**	P	**Pn**	**12 31 11.2**	**+0.3**
ONTNC	**Ouen Toro**	**9.36**	**181**		**Pn**	**12 31 11.2**	**+0.3**
OUENC	**Ouen Island, N**	**9.47**	**179**	P	**Pn**	**12 31 13.2**	**+0.7**
OUENC	**Ouen Island, N**	**9.47**	**179**		**Pn**	**12 31 13.2**	**+0.7**
PINNC	**Pines Island,**	**9.70**	**175**		**Pn**	**12 31 16.4**	**+0.8**
EIDS	**Eidsvold**	**19.16**	**227**	P	**P**	**12 33 17.9**	**-0.1**
EIDS				IAmb	IAmb	12 33 21.8	
	comp=Z,9.2nm,0.7s						
PMG	**Port Moresby**	**19.36**	**278**	LR	LR	12 40 27.8	
	comp=Z,99nm,18.2s,baz=74,slow=36						
CTAO	**Charters Tower**	**20.75**	**247**	P	**P**	**12 33 34.5**	**-0.9**
MANU	**Manus Island**	**21.87**	**298**	P	**P**	**12 33 47.4**	**0.0**
ARMA	**Armidale**	**22.25**	**216**	P	**P**	**12 33 50.8**	**-0.7**
ARMA				IAmb	IAmb	12 33 55.9	
	comp=Z,14nm,0.9s						
COEN	**Coen**	**22.79**	**265**	P	**P**	**12 33 57.4**	**+0.1**
COEN				IAmb	IAmb	12 33 59.0	
	comp=Z,8.4nm,0.8s						
STKA	**Stephens Creek**	**29.71**	**226**	P	**P**	**12 35 00.9**	**+0.7**
	comp=Z,1.8nm,0.5s,baz=61,slow=7.2,SNR=3.1						
	comp=Z,1.8nm,0.5s						
WR0	**Warramunga Arr**	**31.48**	**253**	P	**P**	**12 35 14.7**	**-1.2**
WR0				IAmb	IAmb	12 35 28.0	
	comp=Z,4.2nm,1.0s						
WB0	**Warramunga Arr**	**31.59**	**253**	P	**P**	**12 35 16.6**	**-0.3**
WB0				IAmb	IAmb	12 35 19.9	
	comp=Z,3.4nm,0.7s						
WB2	**Warramunga Arr**	**31.66**	**253**	P	**P**	**12 35 17.0**	**-0.5**
WRA	**Warramunga Arr**	**31.67**	**253**	P	**P**	**12 35 16.5**	**-1.1**
	comp=Z,1.0nm,0.8s,baz=84,slow=8.8,SNR=7.7						
	comp=Z,1.0nm,0.8s						
AS31	**Alice Springs**	**32.74**	**246**	P	**P**	**12 35 26.5**	**-0.6**
ASAR	**Alice Springs**	**32.74**	**246**	P	**P**	**12 35 26.9**	**-0.2**
ASAR	**Alice Springs**	**32.74**	**246**	P	**P**	**12 35 26.4**	**-0.6**
	comp=Z,2.3nm,0.6s,baz=70,slow=9.7,SNR=40						
	comp=Z,2.3nm,0.6s						
GUMO	**Guam**	**33.99**	**320**	LR	LR	12 48 18.8	
	comp=Z,71nm,21.8s,baz=159,slow=34						
BBOO	**Buckleboo**	**34.21**	**230**	P	**P**	**12 35 40.9**	**+1.3**
MTN	**Manton Dam**	**34.54**	**266**	P	**P**	**12 35 42.6**	**0.0**
FITZ	**Fitzroy Crossi**	**39.73**	**257**	P	**P**	**12 36 27.0**	**+0.4**
PPT	**Papeete**	**42.49**	**102**	LR	LR	12 49 40.2	
	comp=Z,53nm,21.4s,baz=3.5,slow=30						
JOW	**Kunigami**	**54.26**	**317**	P	**P**	**12 38 19.9**	**0.0**
	comp=Z,8.0nm,0.6s,baz=140,slow=22,SNR=2.8						
	comp=Z,8.0nm,0.6s						
JNU	**Nakatsue**	**57.05**	**324**	LR	LR	12 59 49.5	
	comp=Z,18nm,21.5s,baz=131,slow=33						
KSRS	**Korea Array**	**61.86**	**326**	P	**P**	**12 39 12.4**	**-0.4**
	comp=Z,0.9nm,0.7s,baz=141,slow=6.4,SNR=4.4						
KSRS				LR	LR	13 04 20.1	
	comp=Z,15nm,19.6s,baz=115,slow=34						
	comp=Z,0.9nm,0.7s						
VNDA	**Vanda**	**64.67**	**181**	P	**P**	**12 39 31.9**	**+1.1**
VNDA	**Vanda**	**64.67**	**181**	P	**P**	**12 39 30.6**	**-0.3**
	comp=Z,0.7nm,0.8s,baz=340,slow=6.8,SNR=2.4						
	comp=Z,0.7nm,0.8s						
SBA	**Scott Base**	**64.95**	**180**	P	**P**	**12 39 33.1**	**+0.4**
CASY	**Casey**	**64.96**	**202**	P	**P**	**12 39 32.7**	**-0.2**
CASY				IAmb	IAmb	12 39 41.4	
	comp=Z,3.1nm,0.8s						
PETK	**Petropavlovsk-**	**66.18**	**354**	LR	LR	13 05 25.8	
	comp=Z,28nm,19.4s,baz=131,slow=33						
KLR	**Kul'dur**	**69.07**	**336**	LR	LR	13 05 55.9	
	comp=Z,34nm,21.2s,baz=156,slow=32						
CRAI	**Chiangrai**	**72.95**	**296**	P	**P**	**12 40 24.3**	**+1.0**
CRAI				IAmb	IAmb	12 40 25.1	
	comp=Z,7.1nm,1.0s						
MA2	**Magadan**	**73.35**	**352**	LR	LR	13 07 09.0	
	comp=Z,35nm,22.0s,baz=121,slow=31						
CM31	**Chiang Mai Arr**	**73.60**	**294**	P	**P**	**12 40 27.9**	**+0.7**
CM31				IAmb	IAmb	12 40 29.2	
	comp=Z,6.8nm,0.8s						
CMAR	**Chiang Mai Arr**	**73.60**	**294**	P	**P**	**12 40 28.1**	**+0.9**
CMAR	**Chiang Mai Arr**	**73.60**	**294**	P	**P**	**12 40 28.2**	**+1.0**
	comp=Z,4.5nm,0.8s,baz=124,slow=4.6,SNR=25						
CMAR				LR	LR	13 15 58.9	
	comp=Z,7.1nm,18.1s,baz=200,slow=38						
	comp=Z,4.5nm,0.8s						
SEY	**Seymchan**	**76.40**	**353**	LR	LR	13 09 20.0	
	comp=Z,33nm,20.3s,baz=106,slow=32						

QSPA	**South Pole Qui**	**77.12**	**180**	P		**P**	**12 40 46.5**	**-0.2**
QSPA				IAmb		IAmb	12 40 52.1	
	comp=Z,2.3nm,0.8s							
QSPA	**South Pole Qui**	**77.12**	**180**	P		**P**	**12 40 46.3**	**-0.4**
	comp=Z,1.4nm,0.6s,baz=340,slow=14,SNR=32							
	comp=Z,1.4nm,0.6s							
KDAK	**Kodiak Island**	**78.00**	**21**	LR		LR	13 12 20.6	
	comp=Z,20nm,18.6s,baz=231,slow=34							
YAK	**Yakutsk**	**80.09**	**343**	LR		LR	13 11 10.8	
	comp=Z,40nm,21.8s,baz=160,slow=32							
ILAR	**Eielson Array**	**85.00**	**18**	P		P	12 41 26.5	-1.9
	comp=Z,0.5nm,0.7s,baz=225,slow=5.9,SNR=5.7							
ILAR				LR		LR	13 15 35.7	
	comp=Z,42nm,19.0s,baz=251,slow=33							
INK	**Inuvik**	**91.38**	**19**	LR		LR	13 18 33.8	
	comp=Z,30nm,18.8s,baz=86,slow=33							
MKAR	**Makanchi Array**	**95.42**	**317**	P		**P**	**12 42 16.8**	**-1.1**
	comp=Z,1.1nm,0.6s,baz=90,slow=7.3,SNR=4.5							
	comp=Z,1.1nm,0.6s							
KURBB	**Kurchatov Arra**	**98.62**	**320**	LR		LR	13 29 12.0	
	comp=Z,27nm,18.0s,baz=167,slow=37							

*IDC **30** 12:31:56.6±1.8, 9°.01N×126°.45E, h139km±18km, mb3.7/12, mbtmp4.1/13, MS3.0/1, Error ellipse: s-maj=31.3km s-min=13.3km az=76.0*

ISC 30 12:31:57.6±0.7, 8°.97N±0°.08×126°.3E±0°.2, h150km, n17, σ1s08/17, mb3.8/13, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DAV	**Davao City (W)**	**2.03**	**202**	P	**Pn**	**12 32 32.7**	**-0.4**
	205nm,0.4s,baz=292,slow=22,SNR=5.3						
DAV				S	**Sn**	**12 33 00.6**	**+0.2**
	574nm,0.5s,baz=161,slow=21,SNR=7.2						
DAV				LR	LR	12 33 35.5	
	comp=Z,396nm,20.6s,baz=28,slow=47						
KSRS	**Korea Array**	**28.39**	**3**	P	**P**	**12 37 36.3**	**-1.6**
	0.8nm,0.5s,baz=184,slow=10,SNR=4.1						
	0.8nm,0.5s						
WRA	**Warramunga Arr**	**29.79**	**165**	P	**P**	**12 37 49.3**	**-1.2**
	1.0nm,0.5s,baz=347,slow=9.2,SNR=11						
WRA				PcP	**PcP**	**12 40 52.1**	**+1.6**
	0.4nm,0.9s,baz=358,slow=9.9,SNR=1.5						
	1.0nm,0.5s						
ASAR	**Alice Springs**	**33.27**	**167**	P	**P**	**12 38 20.2**	**-0.7**
	0.7nm,0.4s,baz=353,slow=6.6,SNR=28						
ASAR				PcP	**PcP**	**12 41 01.7**	**+1.8**
	0.2nm,0.5s,baz=341,slow=2.8,SNR=2.4						
	0.7nm,0.4s						
USRK	**Ussuriysk Ar.**	**35.44**	**7**	P	**P**	**12 38 39.5**	**+0.2**
	2.1nm,1.0s,baz=201,slow=12,SNR=3.0						
	2.1nm,1.0s						
H11S3	**WAKE ISLAND Hy**	**40.25**	**72**	T	T	13 22 12.3	
	baz=261,slow=73,SNR=45						
H11S1	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	13 22 15.8	
	baz=261,slow=73,SNR=30						
H11S2	**WAKE ISLAND Hy**	**40.26**	**72**	T	T	13 22 14.5	
	baz=261,slow=73,SNR=26						
SONM	**Songino Array**	**42.25**	**340**	P	**P**	**12 39 34.6**	**-1.6**
	0.4nm,0.4s,baz=142,slow=9.6,SNR=3.1						
	0.4nm,0.4s						
PETK	**Petropavlovsk-**	**50.79**	**24**	P	**P**	**12 40 42.3**	**-0.1**
	4.0nm,0.9s,baz=196,slow=3.9,SNR=6.7						
	4.0nm,0.9s						
MKAR	**Makanchi Array**	**53.09**	**323**	P	**P**	**12 40 59.6**	**0.0**
	1.7nm,0.6s,baz=123,slow=8.2,SNR=15						
	1.7nm,0.6s						
KURBB	**Kurchatov Arra**	**57.17**	**326**	P	**P**	**12 41 28.8**	**+0.1**
	1.9nm,0.5s,baz=125,slow=6.8,SNR=12						
	1.9nm,0.5s						
BVAR	**Borovoe Array**	**62.76**	**326**	P	**P**	**12 42 07.4**	**+0.6**
	0.8nm,0.5s,baz=128,slow=9.6,SNR=5.0						
	0.8nm,0.5s						
ILAR	**Eielson Array**	**80.58**	**26**	P	**P**	**12 43 53.3**	**+0.1**
	0.2nm,0.4s,baz=246,slow=4.5,SNR=2.4						
SPITS	**Spitsbergen Ar**	**85.30**	**349**	P	**P**	**12 44 18.3**	**+1.1**
	1.1nm,0.5s,baz=75,slow=6.3,SNR=5.2						
	1.1nm,0.5s						
ARCES	**ARCESS Array B**	**85.43**	**340**	P	**P**	**12 44 19.2**	**+1.2**
	3.8nm,1.0s,baz=80,slow=6.7,SNR=3.5						
	3.8nm,1.0s						
FINES	**FINESS Array B**	**87.06**	**332**	P	**P**	**12 44 26.2**	**+0.2**
	0.8nm,0.7s,baz=67,slow=6.4,SNR=3.5						
	0.8nm,0.7s						

*IDC **30** 12:48:45.8±2.2, 39°.34N×142°.80E, h48km±18km, mb3.7/4, mbtmp3.9/8, ML3.3/4, Error ellipse: s-maj=31.1km s-min=11.9km az=106.0*
*NIED **30** 12:48:47.0, 39°.33N×142°.51E, h52km, MW3.7, Moment Tensor Solution. s3 Moment tensor: Scale 10^{14}Nm; M_{rr}3.37; $M_{\theta\theta}$-0.22; $M_{\phi\phi}$-3.16; $M_{r\theta}$-1.02; $M_{\theta\phi}$-1.90; $M_{\phi r}$0.18; Fault plane solution: $M_0$3.91000×10^{14} NP1: ϕ_s224.00000°, δ50.00000°, λ114.00000°. NP2:ϕ_s8.00000°, δ46.00000°, λ64.00000°.*
*JMA **30** 12:48:47.0±0.1, 39°.3N±0°.3×142°.5E±0°.7, h52km±1km, MV3.6/35, E OFF IWATE PREF*
JMA Felt I J1 at E OFF IWATE PREF .

ISC 30 12:48:46.5±2.4, 39°.31N±0°.05×142°.6E±0°.2, h44km±19km**, n24, σ1s45/30, mb4.1/4, 19D, Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MIYJ	**Miyakonagasawa**	**0.67**	**294**	⇓P	**Pn**	**12 48 59.5**	**-0.1**
MIYJ				⇓*e*S	**Sn**	**12 49 08.4**	**-0.7**
OFUJ	**Ofunato**	**0.77**	**253**	⇓P	**Pn**	**12 49 00.8**	**0.0**
OFUJ				⇓S	**Sn**	**12 49 10.7**	**-0.7**
JTH	**Tanohata**	**0.86**	**318**	⇓P	**Pn**	**12 49 02.0**	**-0.1**
JTH				⇓S	**Sn**	**12 49 12.9**	**-0.6**
JKMT	**Kesennumamotoy**	**1.01**	**241**	⇓*i*P	**Pn**	**12 49 04.3**	**+0.1**
JKMT				⇓S	**Sn**	**12 49 16.6**	**-0.7**
JOM	**Ohasama**	**1.04**	**280**	⇓*i*P	**Pn**	**12 49 04.4**	**-0.1**
JOM				⇓*e*S	**Sn**	**12 49 17.1**	**-0.7**
JMK	**Ichinoseki**	**1.14**	**252**	⇓*i*P	**Pn**	**12 49 06.0**	**0.0**
JMK				⇓S	**Sn**	**12 49 19.9**	**-0.4**
JKZ	**Kuzumaki**	**1.20**	**305**	⇓*i*P	**Pn**	**12 49 06.9**	**+0.1**
JKZ				⇓S	**Sn**	**12 49 21.3**	**-0.7**
JIO	**Ouri**	**1.30**	**230**	⇓*i*P	**Pn**	**12 49 08.2**	**+0.1**
JIO				⇓S	**Sn**	**12 49 23.3**	**-1.0**
JANG	**Nango**	**1.36**	**322**	⇓*i*P	**Pn**	**12 49 08.7**	**-0.3**
JANG				⇓*e*S	**Sn**	**12 49 24.6**	**-1.2**
JRG	**Rokugo**	**1.54**	**274**	⇓*i*P	**Pn**	**12 49 11.4**	**+0.1**
MJAR	**Matsushiro Arr**	**4.44**	**233**	P	**Pn**	**12 49 53.0**	**+1.7**
	0.5nm,0.3s,baz=45,slow=11,SNR=22						
MJAR				S	**Sn**	**12 50 44.5**	**+2.7**
	1.4nm,0.4s,baz=186,slow=12,SNR=1.3						
	6.7nm,0.5s						
ASAJ	**Asahikawa**	**4.81**	**360**	P	**Pn**	**12 49 56.3**	**0.0**
	1.0nm,0.3s,baz=196,slow=15,SNR=13						
ASAJ				S	**Sn**	**12 50 49.1**	**-1.5**
	16nm,0.5s,baz=355,slow=33,SNR=8.9						
	2.2nm,0.3s						
JHJ	**Hachijo jima 2**	**6.58**	**201**	P	**Pn**	**12 50 19.9**	**-0.8**
	7.7nm,0.3s,baz=319,slow=23,SNR=8.2						
JHJ				S	**Sn**	**12 51 29.6**	**-4.9**
	100nm,0.5s,baz=115,slow=22,SNR=9.4						
	102nm,0.8s						
KSRS	**Korea Array**	**11.68**	**266**	P	**Pn**	**12 51 33.4**	**+3.1**
	0.2nm,0.3s,baz=67,slow=13,SNR=2.8						
	0.8nm,0.6s						
SONM	**Songino Array**	**27.38**	**300**	P	**P**	**12 54 27.7**	**0.0**
	0.3nm,0.4s,baz=111,slow=7.9,SNR=1.8						
	0.3nm,0.4s						
H11N2	**WAKE ISLAND Hy**	**28.61**	**126**	T	T	13 25 15.4	
	baz=318,slow=75,SNR=73						
H11N1	**WAKE ISLAND Hy**	**28.62**	**126**	T	T	13 25 19.1	
	baz=318,slow=75,SNR=36						
H11N3	**WAKE ISLAND Hy**	**28.63**	**126**	T	T	13 25 19.8	
	baz=318,slow=75,SNR=34						
H11S1	**WAKE ISLAND Hy**	**29.41**	**128**	T	T	13 26 15.9	
	baz=319,slow=76,SNR=9.9						
H11S3	**WAKE ISLAND Hy**	**29.41**	**128**	T	T	13 26 17.9	
	baz=319,slow=76,SNR=16						
H11S2	**WAKE ISLAND Hy**	**29.42**	**128**	T	T	13 26 19.6	
	baz=319,slow=76,SNR=14						
ZALV	**Zalesovo Beam**	**41.12**	**310**	P	**P**	**12 56 26.4**	**+0.5**
	2.1nm,0.6s,baz=83,slow=8.8,SNR=8.0						
	2.1nm,0.6s						
KURBB	**Kurchatov Arra**	**45.38**	**306**	P	**P**	**12 56 59.2**	**-1.0**
	1.7nm,0.5s,baz=81,slow=8.7,SNR=14						
	1.7nm,0.5s						
WRA	**Warramunga Arr**	**59.44**	**189**	P	**P**	**12 58 43.7**	**-1.0**
	1.0nm,0.6s,baz=6.5,slow=7.1,SNR=7.2						
	1.0nm,0.6s						

NOU 30 12:49:30.1, 22°.22S×170°.60E, h0km, ML4.5/10, Southeast of Loyalty Islands, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
MARNC	**Mare, Loyalty**	**2.50**	**287**	P	Pn	12 50 12.0	0.0
PINNC	**Pines Island,**	**2.94**	**262**	P	Pn	12 50 18.2	+0.1
LIFNC	**LIFOU**	**3.44**	**294**	P	Pn	12 50 24.5	-0.5
YATNC	**Mamie plateau,**	**3.44**	**272**	P	Pn	12 50 24.3	-0.7
OUENC	**Ouen Island, N**	**3.49**	**266**	P	Pn	12 50 25.6	0.0
ONTNC	**Ouen Toro**	**3.84**	**268**	P	Pn	12 50 30.3	-0.2
DZM	**Mont Dzumac**	**3.86**	**271**	P	Pn	12 50 30.9	+0.1
NOUC	**Port Laguerre**	**3.98**	**271**	P	Pn	12 50 32.6	+0.1
DVP	**Devils Point**	**5.01**	**333**	P	Pn	12 50 46.6	0.0
KOUNC	**Koumac, New Ca**	**6.11**	**285**	P	Pn	12 51 02.4	+0.6

*ISU **30** 12:55:46.2, 41°.06N×69°.34E, h17km*
*SOME **30** 12:55:46.6, 41°.08N×71°.20E, h0km*
*KRNET **30** 12:55:47.6±0.1, 41°.09N×69°.87E, h12km, mb2.7*

ISC 30 12:55:48.5±1.0, 41°.07N±0°.04×69°.71E±0°.04, h10km, n12, σ2s96/21, 10C-1D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
TGS	**TashGRES**	**0.38**	**338**	P	**Pg**	**12 55 53.3**	**-2.7**
TGS				S	**Sg**	**12 55 58.6**	**-2.5**
TAS	**Tashkent**	**0.41**	**309**	⇑*e*P	**Pg**	**12 55 57.6**	**+1.1**
	baz=0.0						
TAS				⇑*e*S	**Sg**	**12 56 04.6**	**+2.8**
	baz=0.0						
NZBK	**Nazarbek**	**0.47**	**289**	P	Pg	12 55 53.0	-4.8
NZBK				S	**Sg**	**12 55 58.1**	**-5.9**
CHMG	**Chimgan**	**0.53**	**25**	P	**Pb**	**12 55 59.9**	**-0.1**
CHMG				S	**Sn**	**12 56 10.1**	**-1.3**
IUG	**luzhnay**	**1.10**	**12**	*e*P	**Pn**	**12 56 12.8**	**+2.7**
	84nm,0.2s						
IUG				*e*S	**Sn**	**12 56 31.3**	**+5.9**
	85nm,0.4s						
TRKS	**Terek-Say**	**1.17**	**66**	⇑*e*P	**Pg**	**12 56 07.8**	**-3.2**
	baz=69						
TRKS				⇑*e*S	**Sg**	**12 56 22.8**	**-3.4**
	baz=69						
BTK	**Batken**	**1.32**	**140**	⇑*e*P	**Pn**	**12 56 11.5**	**-1.5**
	baz=45						
BTK				⇑*e*S	**Sb**	**12 56 29.3**	**-1.0**
	baz=45						
CHMI	**Chimion**	**1.59**	**120**	P	**Pg**	**12 56 19.7**	**+0.6**
CHMI				S	**Sg**	**12 56 44.4**	**+4.7**
ARK	**Arkit**	**1.84**	**66**	⇑*e*P	**Pn**	**12 56 20.0**	**-0.3**
	baz=65						
ARK				⇑*e*S	**Sb**	**12 56 43.8**	**-1.7**
	baz=65						
KK31	**Karatay Array**	**2.12**	**16**	Pn	**Pb**	**12 56 27.9**	**+0.9**
	1.2nm,0.4s,baz=204,slow=14,SNR=6.5						
KK31				⇓Sn	**Sg**	**12 56 58.5**	**+2.0**
	11nm,0.7s,baz=205,slow=27,SNR=4.9						
KKAR	**Karatay Array**	**2.12**	**16**	⇑*e*P	**Pn**	**12 56 25.1**	**+1.1**
	baz=13						
KKAR				⇑*e*S	**Sb**	**12 56 52.6**	**-0.7**
	baz=13						
MRKS	**Merke**	**3.11**	**56**	*e*P	Pn	12 56 29.6	-8.1
	0.8nm,0.1s						
MRKS				*e*S	Sn	12 57 00.0	-15
	0.7nm,0.1s						

*NEIC **30** 13:06:22.2±2.7, 6°.46S±0°.06×131°.4E±0°.1, h90km±8km, mb4.3/16, Error ellipse: s-maj=15.7km s-min=9.4km az=92.0*
*DJA **30** 13:06:22.1±0.2, 6°.5±2°.2×131°.1E±°, h101km±6km, M5.1/15, mB5.7/5, mb4.7/15, MLv5.2/12, Mw4.4/5, Mw(mB)5.2/5*
*IDC **30** 13:06:23.1±5.7, 6°.62S×131°.16E, h94km±54km, mb3.8/8, mbtmp4.2/10, ML4.7/2, MS3.1/2, Error ellipse: s-maj=42.3km s-min=22.6km az=52.0*

ISC 30 13:06:22.3±0.5, 6°.52S±0°.05×131°.39E±0°.06, h100km, n71, σ1s75/73, mb4.1/13, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**1.46**	**183**	Pn	**Pn**	**13 06 49.1**	**+1.1**
SAUI	**Saumlaki**	**1.46**	**183**	P	**Pn**	**13 06 49.4**	**+1.4**
BNDI	**Bandanaira**	**2.48**	**323**	P	**Pn**	**13 07 01.3**	**+0.2**
BNDI	**Bandanaira**	**2.48**	**323**	P	**Pn**	**13 07 01.1

UBPT	**Khong Chiam**	**33.60**	**310**	P	**P**	**13 12 52.5**	**-0.8**
UBPT				IAmb	IAmb	13 12 54.2	
	comp=E,3.9nm,0.8s						
WHN	**Wuhan**	**40.31**	**337**	P	**P**	**13 13 52.3**	**+2.4**
CMAR	**Chiang Mai Arr**	**40.50**	**308**	P	**P**	**13 13 52.4**	**+0.7**
	comp=E,1.1nm,0.6s,baz=134,slow=7.5,SNR=5.0						
	comp=Z,1.1nm,0.6s						
SONM	**Songino Array**	**58.44**	**340**	P	**P**	**13 16 09.4**	**+1.6**
	comp=Z,0.5nm,0.4s,baz=125,slow=7.2,SNR=2.3						
	comp=Z,0.5nm,0.4s						
PETK	**Petropavlovsk-**	**63.45**	**17**	P	**P**	**13 16 43.0**	**+1.6**
PETK	**Petropavlovsk-**	**63.45**	**17**	P	**P**	**13 16 43.5**	**+2.1**
	comp=E,1.8nm,0.7s,baz=219,slow=9.9,SNR=1.3						
	comp=Z,1.8nm,0.7s						
PET	**Petropavlovsk**	**63.66**	**18**	P	**P**	**13 16 44.4**	**+1.7**
MK31	**Makanchi Array**	**68.59**	**326**	P	**P**	**13 17 15.8**	**+1.4**
MK31				IAmb	IAmb	13 17 17.0	
	comp=E,6.1nm,0.8s						
MKAR	**Makanchi Array**	**68.59**	**326**	P	**P**	**13 17 15.8**	**+1.3**
MKAR	**Makanchi Array**	**68.59**	**326**	P	**P**	**13 17 16.3**	**+1.8**
	comp=Z,4.7nm,0.5s,baz=123,slow=7.8,SNR=30						
	comp=Z,4.7nm,0.5s						
KSH	**Kashi**	**68.61**	**317**	P	**P**	**13 17 17.0**	**+2.1**
KSH				pmax	pmax		
	comp=E,6.0nm,0.6s						
MAKZ	**Makanchi**	**68.77**	**326**	P	**P**	**13 17 17.0**	**+1.4**
ZALV	**Zalesovo Beam**	**71.77**	**333**	P	**P**	**13 17 34.9**	**+1.2**
	comp=Z,1.0nm,0.7s,baz=69,slow=4.9,SNR=3.7						
	comp=Z,1.0nm,0.7s						
KURBB	**Kurchatov Arra**	**72.83**	**328**	P	**P**	**13 17 41.2**	**+1.2**
	comp=Z,1.9nm,0.7s,baz=127,slow=4.7,SNR=16						
	comp=Z,1.9nm,0.7s						
KURK	**Kurchatov**	**72.84**	**328**	P	**P**	**13 17 40.3**	**+0.2**
KURK				IAmb	IAmb	13 17 42.3	
	comp=E,3.8nm,0.9s						
KK31	**Karatay Array**	**73.90**	**318**	P	**P**	**13 17 46.5**	**0.0**
KKAR	**Karatay Array**	**73.90**	**318**	P	**P**	**13 17 45.7**	**-0.8**
BVAR	**Borovoye Array**	**78.40**	**327**	P	**P**	**13 18 12.6**	**+0.8**
	comp=Z,1.8nm,0.8s,baz=112,slow=6.6,SNR=7.8						
	comp=Z,1.8nm,0.8s						
QSPA	**South Pole Qui**	**83.45**	**180**	P	**P**	**13 18 39.8**	**+1.2**
QSPA				IAmb	IAmb	13 19 03.8	
	comp=Z,8.4nm,1.4s						
OBN	**Obninsk**	**98.07**	**325**	LR	LR	14 07 38.3	
	comp=Z,34nm,21.0s,baz=354,slow=38						
TORD	**Torodi Ar. Bea**	**130.07**	**282**	PKP	**PKiKP**	**13 25 23.0**	**+0.6**
	comp=Z,0.4nm,0.7s,baz=88,slow=3.0,SNR=2.8						

*NEIC **30** 13:12:04.3±1.2, 19°.409N±0°.008×155°.273W±0°.005, h5km±1km, Error ellipse: s-maj=1.9km s-min=1.4km az=30.0*

HVO 30 13:12:03.8±0.8, **19°.412N**±0°.007×**155°.271W**±0°.006, **h1**km±2km, **ML3.0**/41, **ML3.0**/42(NEIC), **Error ellipse: s-maj=1.0km s-min=0.8km az=195.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.01**	**88**	Pg	Pg	13 12 04.6	+0.4
BYL	**Byron's Ledge**	**0.01**	**88**		Sg	13 12 05.2	+0.7
HATHI	**Halema'uma'u T**	**0.01**	**39**	Pg	Pg	13 12 04.7	+0.4
HATHI	**Halema'uma'u T**	**0.01**	**39**		Sg	13 12 05.3	+0.7
KKO	**Keanakako'i**	**0.01**	**163**		Pg	13 12 04.8	+0.5
OBL	**Observatory Le**	**0.01**	**294**		Pg	13 12 04.7	+0.4
SBLHI	**Steaming Bluff**	**0.01**	**9**		Pg	13 12 05.2	+0.9
UWB	**Uwekahuna B**	**0.01**	**331**		Pg	13 12 05.1	+0.8
RIM	**Rim**	**0.02**	**191**		Pg	13 12 05.3	+1.0
UWE	**Uwekahuna**	**0.02**	**294**	Pg	Pg	13 12 04.9	+0.5
UWE	**Uwekahuna**	**0.02**	**294**		Sg	13 12 05.8	+1.0
RSD	**Rainshed**	**0.05**	**352**		Sg	13 12 06.9	+1.3
PUH	**Pauahi**	**0.06**	**126**		Pg	13 12 06.0	+0.9
PUH	**Pauahi**	**0.06**	**126**	IAML		13 12 07.4	
	comp=N,13μm,0.5s						
PUH				IAML		13 12 07.5	
	comp=E,7μm,0.2s						
KNHH	**Kane Nui o Ham**	**0.10**	**109**		Pg	13 12 06.8	+1.0
HLP	**Hilina Pali**	**0.12**	**197**		Pg	13 12 07.2	+1.0
HLP	**Hilina Pali**	**0.12**	**197**	IAML		13 12 09.6	
	comp=N,4μm,0.8s						
HLP				IAML		13 12 10.0	
	comp=E,6μm,0.8s						
MLH	**Mauna Loa**	**0.14**	**307**		Pg	13 12 07.7	+1.2
MLH	**Mauna Loa**	**0.14**	**307**	IAML		13 12 10.6	
	comp=N,3μm,0.3s						
MLH				IAML		13 12 11.2	
	comp=E,7μm,0.2s						
STCH	**Steam Cracks**	**0.14**	**101**	Pg	Pg	13 12 07.3	+0.8
STCH				IAML		13 12 10.6	
	comp=N,7μm,0.4s						
NPOC	**North of Pu'u**	**0.15**	**97**		Pg	13 12 07.7	+0.9
JCUZ	**Jacuzzi**	**0.16**	**100**		Pg	13 12 07.5	+0.5
JCUZ					Sg	13 12 09.2	+0.1
HTC	**Hot Caves**	**0.21**	**215**		Pg	13 12 08.9	+1.0
HTC					Sg	13 12 11.8	+1.1
JOKA	**Jonika Flow**	**0.25**	**85**		Pg	13 12 09.2	+0.5
JOKA				IAML		13 12 17.1	
	comp=E,2μm,0.9s						
HMH	**Humu'ula Sheep**	**0.28**	**313**		Pg	13 12 09.8	+0.6
HMH				IAML		13 12 19.4	
	comp=N,3μm,1.0s						
HMH				IAML		13 12 19.6	
	comp=E,2μm,0.3s						
MLOA	**Mauna Loa Obse**	**0.31**	**293**		Pg	13 12 10.7	+0.8
MLOA					Sg	13 12 13.1	-0.9
MLOA	**Mauna Loa Obse**	**0.31**	**293**	IAML		13 12 19.4	
	comp=N,2μm,0.8s						
MLOA				IAML		13 12 20.3	
	comp=E,2μm,0.6s						
MWH	**Moku'aweowe**	**0.32**	**283**		Pg	13 12 10.7	+0.8
KHU	**Kahuku**	**0.36**	**243**		Pg	13 12 11.1	+0.2
KHU				IAML		13 12 21.9	
	comp=E,1μm,1.0s						
ALEP	**Alea Permanent**	**0.38**	**290**		Pb	13 12 13.0	-0.5
ALEP					Sg	13 12 16.5	+0.5
HPO	**Honuapo**	**0.42**	**220**		Sg	13 12 17.3	0.0
POHA	**Pohakuloa**	**0.42**	**324**		Pg	13 12 12.5	+0.5
POHA				IAML		13 12 22.3	
	comp=E,2μm,0.5s						
HUH	**Hualalai**	**0.60**	**297**		Pg	13 12 16.3	+1.0
CPH	**Captain Cook**	**0.62**	**277**		Pg	13 12 15.5	-0.1
HPAH	**Hawaii Prepara**	**0.73**	**327**		Pg	13 12 17.2	-0.7
HPAH	**Hawaii Prepara**	**0.73**	**327**	IAML		13 12 43.4	
	comp=E,459nm,0.9s						

*NEIC **30** 13:12:32.2±1.6, 41°.29S±0°.08×179°.15W±0°.02, h10km±2km, mb4.1/1, Error ellipse: s-maj=13.2km s-min=4.0km az=2.0*
*WEL **30** 13:12:38.2±0.5, 41°.S±.5×17°.9W±°, h33km, M4.6/36, ML4.9/37, MLv4.6/36, Error ellipse: s-maj=0.0km s-min=0.0km az=31.6, confirmed*

ISC 30 13:12:32.6±1.4, **41°.33S**±0°.06×**179°.27W**±0°.09, **h10**km, **n131**, σ1.9**86**/154, **East of North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MHGZ	**Mahia Peninsul**	**3.07**	**314**	P	**Pn**	**13 13 21.5**	**+0.4**
MHGZ				S	**Sn**	**13 13 54.7**	**-3.1**
CTZ	**Chatham Island**	**3.10**	**142**		**Pn**	**13 13 20.7**	**-0.8**
CTZ	**Chatham Island**	**3.10**	**142**	P	**Pn**	**13 13 20.7**	**-0.8**
CTZ				S	Sn	13 13 51.6	-7.0
PXZ	**Pawanui**	**3.22**	**293**	P	**Pn**	**13 13 24.6**	**+1.4**
PXZ				S	**Sn**	**13 13 59.5**	**-1.9**
CKHZ	**Cape Kidnapper**	**3.25**	**300**	S	**Sn**	**13 14 00.6**	**-1.7**
PRGZ	**Paritu Road**	**3.25**	**317**	P	**Pn**	**13 13 23.4**	**-0.2**
PRGZ				S	**Sn**	**13 13 60.0**	**-2.4**
PRHZ	**Porangahau**	**3.29**	**288**	S	**Sn**	**13 14 00.8**	**-2.4**
KNZ	**Kokohu**	**3.29**	**314**	P	**Pn**	**13 13 24.4**	**+0.3**
KNZ				S	**Sn**	**13 13 59.4**	**-3.9**
PGFS	**Porangahau Fir**	**3.29**	**287**	P	**Pn**	**13 13 26.0**	**+1.9**
PGFS				S	**Sn**	**13 14 00.1**	**-3.2**
KAHZ	**Kahuranaki**	**3.31**	**296**	P	**Pn**	**13 13 26.0**	**+1.5**
KAHZ				S	**Sn**	**13 14 01.9**	**-2.1**
ANWZ	**Angora Road**	**3.34**	**284**	P	**Pn**	**13 13 26.4**	**+1.6**
ANWZ				S	**Sn**	**13 14 02.5**	**-2.0**
HNPS	**Havelock North**	**3.37**	**298**	P	**Pn**	**13 13 26.9**	**+1.7**
WFSS	**Wairoa Fire St**	**3.42**	**311**	P	**Pn**	**13 13 27.3**	**+1.4**
WFSS				S	**Sn**	**13 14 01.8**	**-4.6**
CNGZ	**Carnagh Statio**	**3.44**	**325**	P	**Pn**	**13 13 26.1**	**-0.1**
CPWZ	**Castlepoint**	**3.45**	**276**	P	**Pn**	**13 13 27.9**	**+1.6**
WPWS	**Waipawa Distri**	**3.45**	**292**	P	**Pn**	**13 13 27.6**	**+1.3**
NCHS	**Napier Colenso**	**3.45**	**301**	S	**Sn**	**13 14 06.8**	**-0.4**
BFZ	**Birch Farm**	**3.45**	**279**	Pn	**Pn**	**13 13 27.7**	**+1.3**
BFZ	**Birch Farm**	**3.45**	**279**	P	**Pn**	**13 13 27.9**	**+1.5**
RIGZ	**Rimuhau**	**3.48**	**318**	P	**Pn**	**13 13 27.1**	**+0.4**
WPHZ	**Waipukurau**	**3.50**	**290**	P	**Pn**	**13 13 29.0**	**+1.9**
WPHZ				S	**Sn**	**13 14 06.7**	**-1.8**
ARHZ	**Aropaoanui**	**3.52**	**305**	P	**Pn**	**13 13 29.0**	**+1.6**
MCHZ	**McNeill Hill**	**3.61**	**300**	P	**Pn**	**13 13 30.4**	**+1.9**
DVHZ	**Dannevirke**	**3.61**	**285**	P	**Pn**	**13 13 30.1**	**+1.5**
SNGZ	**Shannon Statio**	**3.64**	**313**	P	**Pn**	**13 13 29.7**	**+0.7**
TRMS	**Tiraumea**	**3.65**	**279**	P	**Pn**	**13 13 30.4**	**+1.4**
TRMS				S	**Sn**	**13 14 10.7**	**-1.4**
TMWZ	**Te Maipa**	**3.66**	**272**	P	**Pn**	**13 13 30.1**	**+0.9**
PRWZ	**Pori Road**	**3.69**	**281**	P	**Pn**	**13 13 31.0**	**+1.4**
DVHS	**Dannevirke Hig**	**3.69**	**286**	P	**Pn**	**13 13 30.5**	**+0.8**
DVHS				S	**Sn**	**13 14 11.3**	**-1.9**
RAHZ	**Arahi**	**3.69**	**310**	P	**Pn**	**13 13 30.5**	**+0.8**
KRHZ	**Kereru**	**3.73**	**296**	P	**Pn**	**13 13 31.8**	**+1.6**
KRHZ				S	**Sn**	**13 14 12.8**	**-1.4**
PNHZ	**Pukenui**	**3.73**	**291**	P	**Pn**	**13 13 32.0**	**+1.8**
PNHZ				S	**Sn**	**13 14 11.8**	**-2.4**
NMHZ	**Naumai**	**3.74**	**305**	P	**Pn**	**13 13 32.1**	**+1.7**
NMHZ				S	**Sn**	**13 14 12.4**	**-2.2**
PUZ	**Puketiti**	**3.77**	**329**	P	**Pn**	**13 13 29.3**	**-1.6**
TWGZ	**Tauwhareparae**	**3.80**	**325**	P	**Pn**	**13 13 31.1**	**0.0**
KWHZ	**Kaweka Forest**	**3.80**	**299**	P	**Pn**	**13 13 33.0**	**+1.7**
KWHZ				S	**Sn**	**13 14 14.5**	**-1.5**
RAGZ	**Rawiri**	**3.81**	**317**	P	**Pn**	**13 13 32.0**	**+0.6**
MTHZ	**Maungataniwha**	**3.88**	**308**	P	**Pn**	**13 13 33.5**	**+1.2**
MTHZ				S	**Sn**	**13 14 15.5**	**-2.4**
BKZ	**Black Stump Fm**	**3.90**	**302**		**Pn**	**13 13 33.9**	**+1.3**
BKZ	**Black Stump Fm**	**3.90**	**302**	P	**Pn**	**13 13 34.0**	**+1.5**
MRZ	**Mangatainoka R**	**3.96**	**278**		**Pn**	**13 13 34.8**	**+1.5**
RTZ	**Ruatahuna**	**3.96**	**312**		**Pn**	**13 13 34.2**	**+0.8**
BHHZ	**Black Hill Sta**	**4.01**	**296**	P	**Pn**	**13 13 36.0**	**+1.9**
BHHZ				S	**Sn**	**13 14 18.2**	**-3.0**
PLWZ	**Palliser**	**4.12**	**265**	Pn	**Pn**	**13 13 35.9**	**+0.3**
MSWZ	**Moikau Station**	**4.12**	**267**		**Pn**	**13 13 35.6**	**0.0**
MRHZ	**Matea Rd**	**4.14**	**306**	P	**Pn**	**13 13 37.8**	**+1.8**
MRHZ				S	**Sn**	**13 14 21.4**	**-3.1**
MUGZ	**Murupara**	**4.17**	**312**	P	**Pn**	**13 13 37.6**	**+1.4**
MUGZ				S	**Sn**	**13 14 23.0**	**-2.1**
MXZ	**Matakaoa Point**	**4.21**	**333**		**Pn**	**13 13 36.1**	**-0.6**
MOVZ	**Moawhango**	**4.26**	**295**	P	**Pn**	**13 13 40.0**	**+2.5**
MOVZ				S	**Sn**	**13 14 25.2**	**-2.2**
OHWZ	**Ohakea**	**4.26**	**284**	P	**Pn**	**13 13 40.6**	**+3.1**
ALRZ	**Allen Road**	**4.36**	**308**	P	**Pn**	**13 13 40.5**	**+1.6**
PRRZ	**Plateau Road**	**4.37**	**309**	P	**Pn**	**13 13 40.4**	**+1.4**
TUVZ	**Tukino**	**4.39**	**296**	P	**Pn**	**13 13 42.5**	**+3.0**
WNVZ	**Wahianoa**	**4.40**	**295**	P	**Pn**	**13 13 42.3**	**+2.7**
RITZ	**Rihia Road**	**4.41**	**301**	P	**Pn**	**13 13 42.2**	**+2.6**
RRRZ	**Republican Roa**	**4.41**	**311**	P	**Pn**	**13 13 41.5**	**+1.9**
ETVZ	**East Tongariro**	**4.42**	**298**	P	**Pn**	**13 13 42.4**	**+2.6**
ETVZ				S	**Sn**	**13 14 30.0**	**-1.4**
WHVZ	**Whangaehu Hut**	**4.43**	**296**	P	**Pn**	**13 13 42.6**	**+2.6**
WHVZ				S	**Sn**	**13 14 29.9**	**-1.9**
TMVZ	**Te Maari**	**4.44**	**298**	P	**Pn**	**13 13 42.5**	**+2.5**
TMVZ				S	**Sn**	**13 14 29.8**	**-2.0**
OTVZ	**Oturere**	**4.44**	**298**	P	**Pn**	**13 13 42.6**	**+2.5**
SNVZ	**South Ngauruho**	**4.45**	**297**	P	**Pn**	**13 13 42.9**	**+2.8**
TRVZ	**Turoa**	**4.45**	**295**	P	**Pn**	**13 13 42.9**	**+2.5**
EDRZ	**Edgecumbe**	**4.46**	**315**	P	**Pn**	**13 13 41.7**	**+1.4**
MTVZ	**Mangateitei**	**4.46**	**294**	P	**Pn**	**13 13 43.6**	**+3.3**
NTVZ	**North Tongarir**	**4.47**	**298**	P	**Pn**	**13 13 42.8**	**+2.3**
FWVZ	**Far West T-bar**	**4.47**	**296**	P	**Pn**	**13 13 42.9**	**+2.3**
NGZ	**Ngauruhoe**	**4.48**	**297**	P	**Pn**	**13 13 43.1**	**+2.5**
NNVZ	**North Ngauruho**	**4.49**	**298**	P	**Pn**	**13 13 43.3**	**+2.5**
TARZ	**Mount Tarawera**	**4.49**	**312**	P	**Pn**	**13 13 42.2**	**+1.5**
KRVZ	**Karewarewa**	**4.49**	**298**	P	**Pn**	**13 13 43.2**	**+2.4**
WPRZ	**Whakapapataran**	**4.50**	**307**	P	**Pn**	**13 13 42.4**	**+1.7**
COVZ	**Chateau Observ**	**4.50**	**297**	P	**Pn**	**13 13 43.7**	**+2.8**
HRRZ	**Handcock Road**	**4.51**	**309**	P	**Pn**	**13 13 43.6**	**+2.4**
WTVZ	**West Tongariro**	**4.51**	**298**	P	**Pn**	**13 13 43.7**	**+2.6**
KATZ	**Kakaramea**	**4.52**	**300**	P	**Pn**	**13 13 43.6**	**+2.4**
RATZ	**Rangitukua**	**4.53**	**301**	P	**Pn**	**13 13 43.4**	**+2.2**
WHTZ	**Whakaora**	**4.53**	**304**	P	**Pn**	**13 13 43.5**	**+2.2**
HLRZ	**Highlands Stat**	**4.56**	**311**	P	**Pn**	**13 13 43.3**	**+1.6**
MKRZ	**Makatiti**	**4.58**	**313**	P	**Pn**	**13 13 44.0**	**+2.0**
PKVZ	**Pokaka**	**4.59**	**295**	P	**Pn**	**13 13 45.0**	**+2.9**
GRRZ	**Galatos Road**	**4.64**	**308**	P	**Pn**	**13 13 44.5**	**+1.8**
TWVZ	**Taurewa**	**4.64**	**297**	P	**Pn**	**13 13 45.0**	**+2.2**
WAZ	**Wanganui**	**4.65**	**288**	P	**Pn**	**13 13 46.4**	**+3.6**
OMRZ	**Omania**	**4.66**	**312**	P	**Pn**	**13 13 44.1**	**+1.1**
KUTZ	**Kaahu Road**	**4.72**	**305**	P	**Pn**	**13 13 45.6**	**+1.7**
KARZ	**Kaharoa**	**4.79**	**312**	P	**Pn**	**13 13 45.8**	**+1.1**
TCW	**Tory Channel**	**4.87**	**269**		**Pn**	**13 13 46.4**	**+0.7**
TLZ	**Tolley Road**	**5.00**	**305**	P	**Pn**	**13 13 48.9**	**+1.2**
VRZ	**Vera Road**	**5.07**	**294**	P	**Pn**	**13 13 51.6**	**+2.9**
TUWZ	**Tuamarina**	**5.11**	**267**		**Pn**	**13 13 50.1**	**+1.0**
BSWZ	**Blackbirch Sta**	**5.16**	**264**		**Pn**	**13 13 50.7**	**+0.9**
HIZ	**Hauiti**	**5.32**	**300**		**Pn**	**13 13 53.1**	**+1.0**
HIZ	**Hauiti**	**5.32**	**300**	P	**Pn**	**13 13 53.9**	**+1.8**
TOZ	**Tahuroa Road**	**5.41**	**310**	P	**Pn**	**13 13 55.1**	**+1.8**
KHZ	**Kahutara**	**5.48**	**256**		**Pn**	**13 13 54.3**	**+0.1**
KHEZ	**Kahui Hut**	**5.52**	**289**	P	**Pn**	**13 13 58.7**	**+3.8**
TKNZ	**Takaka Hill**	**5.87**	**270**		**Pn**	**13 14 00.9**	**+1.3**
MRNZ	**Matariki Terra**	**6.00**	**267**		**Pn**	**13 14 01.9**	**+0.6**
QRZ	**Quartz Range**	**6.22**	**272**	P	**Pn**	**13 14 06.0**	**+1.6**
MQZ	**McQueen's Vall**	**6.42**	**246**	P	**Pn**	**13 14 06.9**	**-0.2**
LTZ	**Lake Taylor**	**6.46**	**254**	P	**Pn**	**13 14 07.9**	**+0.1**
WTAZ	**Waiatarua**	**6.50**	**311**	P	**Pn**	**13 14 10.5**	**+2.3**
ABAZ	**Army Bay**	**6.59**	**314**	P	**Pn**	**13 14 11.3**	**+1.8**
RVAZ	**Riverhead Bore**	**6.61**	**312**	P	**Pn**	**13 14 11.5**	**+1.7**
DSZ	**Denniston Nort**	**6.71**	**264**		**Pn**	**13 14 11.7**	**+0.6**
DSZ	**Denniston Nort**	**6.71**	**264**	P	**Pn**	**13 14 11.7**	**+0.6**
OXZ	**Oxford**	**6.74**	**250**		**Pn**	**13 14 11.6**	**0.0**
OXZ	**Oxford**	**6.74**	**250**	P	**Pn**	**13 14 11.3**	**-0.2**
RACZ	**Rakaia**	**6.78**	**246**	P	**Pn**	**13 14 12.5**	**+0.5**
INZ	**Inchbonnie**	**7.05**	**256**		**Pn**	**13 14 16.9**	**+1.1**
INZ	**Inchbonnie**	**7.05**	**256**	P	**Pn**	**13 14 16.4**	**+0.6**
WACZ	**Wakanui South**	**7.05**	**245**	P	**Pn**	**13 14 16.9**	**+1.1**
MHCZ	**Mount Hutt**	**7.12**	**249**	P	**Pn**	**13 14 17.8**	**+0.9**
ARCZ	**Arundel**	**7.51**	**246**	P	**Pn**	**13 14 23.1**	**+1.0**
RPZ	**Rata Peaks**	**7.53**	**248**	Pn	**Pn**	**13 14 23.1**	**+0.7**
RPZ	**Rata Peaks**	**7.53**	**248**	P	**Pn**	**13 14 22.7**	**+0.3**
WVZ	**Waitaha Valley**	**7.62**	**253**	P	**Pn**	**13 14 24.4**	**+0.8**
TMZ	**Timaru**	**7.77**	**244**	P	**Pn**	**13 14 26.6**	**+1.0**
GCSZ	**Gaunt Creek Bo**	**7.96**	**252**	P	**Pn**	**13 14 29.5**	**+1.2**
ODZ	**Otahua Downs**	**8.25**	**240**	Pn	**Pn**	**13 14 33.0**	**+0.8**
ODZ	**Otahua Downs**	**8.25**	**240**	P	**Pn**	**13 14 33.8**	**+1.5**
OUZ	**Omahuta**	**8.29**	**315**	P	**Pn**	**13 14 34.4**	**+1.6**
LBZ	**Lake Benmore**	**8.32**	**245**	P	**Pn**	**13 14 34.8**	**+1.5**
FOZ	**Fox Glacier**	**8.37**	**251**	Pn	**Pn**	**13 14 35.5**	**+1.7**
FOZ	**Fox Glacier**	**8.37**	**251**	P	**Pn**	**13 14 35.1**	**+1.3**
HHSZ	**Highcliff Hill**	**8.64**	**235**	P	**Pn**	**13 14 40.5**	**+2.8**
JCZ	**Jackson Bay**	**9.21**	**249**	P	**Pn**	**13 14 46.8**	**+1.3**
WHZ	**Wether Hill Ro**	**10.33**	**240**		**Pn**	**13 15 01.4**	**+0.7**
DCZ	**Deep Cove**	**10.71**	**243**		**Pn**	**13 15 07.8**	**+2.0**
ASAR	**Alice Springs**	**42.69**	**280**	P	**P**	**13 20 29.4**	**-0.3**
QSPA	**South Pole Qui**	**48.80**	**180**	P	**P**	**13 21 19.5**	**+1.9**
QSPA				IAmb	IAmb	13 21 19.9	
	comp=Z,2.3nm,1.1s						

*NEIC **30** 13:22:47.4±0.6, 35°.52N±0°.01×96°.78W±0°.02, h5km±2km, Error ellipse: s-maj=3.0km s-min=2.5km az=165.0*

TUL 30 13:22:47.6±0.6, **35°.53N**±0°.02×**96°.78W**±0°.02, **h6**km±6km, **ML2.8, mb_Lg2.5**/41(NEIC), **ML2.8**/36(NEIC), **Error ellipse: s-maj=2.6km s-min=1.0km az=142.0, Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEOK	**Depew**	**0.39**	**35**	Pg	Pg	13 22 55.6	+0.4
OK031	**S. Brethren Rd**	**0.43**	**353**		Pg	13 22 56.4	+0.4
OK031				IAML		13 23 02.7	
	1μm,0.5s						
OK031				IAML		13 23 02.9	
	453nm,0.1s						
OK052	**Battle Ridge R**	**0.47**	**357**		Pg	13 22 57.0	+0.4
OK052				IAML		13 23 04.0	
	748nm,0.1s						
ADOK	**Arcadia Dam**	**0.50**	**285**	Pg	Pg	13 22 56.8	-0.5
OKCSW	**OKLAHOMA CITY**	**0.55**	**258**	Pg	Pg	13 22 58.5	+0.2
FNO	**Franklin**	**0.58**	**242**	Pg	Pg	13 22 58.9	+0.2
FNO				IAML		13 23 07.2	
	comp=E,580nm,0.2s						
OK029	**Liberty Lake**	**0.62**	**296**		Pg	13 22 59.6	+0.2
OK029				IAML		13 23 08.4	
	comp=E,351nm,0.4s						
OK029				IAML		13 23 08.5	
	comp=E,404nm,0.3s						
QUOK	**Quay**	**0.65**	**5**		Pg	13 23 00.3	+0.2
QUOK				IAML		13 23 09.7	
	comp=N,588nm,0.2s						
TUL3	**Leonard**	**0.89**	**64**	Pg	Pg	13 23 04.2	-0.5
BLOK	**Blackwell**	**1.28**	**344**		Pn	13 23 11.2	-0.9
CROK	**Carrier**	**1.38**	**315**		Pn	13 23 13.0	-0.5
T35A	**Sooner Cattle**	**1.40**	**9**		Pn	13 23 12.8	-0.9
X37A	**Clayton**	**1.48**	**129**		Pn	13 23 15.0	+0.2
X37A				IAmb_Lg		13 23 37.0	
	comp=Z,17nm,0.9s						
RLO	**Rose Lookout**	**1.56**	**65**		Pn	13 23 16.1	+0.2
LOOK	**Love County**	**1.57**	**192**		Pn	13 23 15.9	-0.1
GC02	**Grant County #**	**1.59**	**327**		Pn	13 23 15.9	-0.4
KAN13	**South Haven SW**	**1.59**	**339**		Pn	13 23 15.9	-0.4
KAN17	**Caldwell West**	**1.71**	**332**		Pn	13 23 18.2	+0.2
KAN09	**Caldwell North**	**1.75**	**337**		Pn	13 23 18.1	-0.4
KAN01	**Argonia South**	**1.81**	**334**		Pn	13 23 18.1	-1.2
OK038	**West end E0370**	**1.86**	**301**		Pn	13 23 20.2	+0.2
KAN08	**Anthony NE Sta**	**1.95**	**331**	IAmb_Lg		13 23 50.5	
	comp=Z,23nm,1.0s						
Z35A	**Perchaven, San**	**2.23**	**190**	IAmb_Lg		13 24 01.9	
	comp=Z,22nm,1.1s						
Z38A	**Mt. Pleasant**	**2.70**	**146**	IAmb_Lg		13 24 14.1	
	comp=Z,14nm,0.8s						
X40A	**Basin Creek Fa**	**3.40**	**107**	IAmb_Lg		13 24 44.7	
	comp=Z,6.9nm,0.7s						
KSU1	**Kansas State U**	**3.57**	**2**	IAmb_Lg		13 24 47.9	
	comp=Z,11nm,1.0s						
WHAR	**Wooly Hollow**	**3.67**	**92**	IAmb_Lg		13 24 45.2	
	comp=Z,15nm,0.9s						
UALR	**University of**	**3.71**	**100**	IAmb_Lg		13 24 49.7	
	comp=Z,12nm,0.9s						
FCAR	**Ozark Folk Cen**	**3.80**	**83**	IAmb_Lg		13 24 53.7	
	comp=Z,14nm,0.9s						
MGMO	**Moutain Grove**	**3.98**	**65**	IAmb_Lg		13 25 02.0	
	comp=Z,11nm,0.8s						
AMTX	**Amarillo**	**4.07**	**262**	IAmb_Lg		13 25 03.3	
	comp=Z,12nm,0.8s						
R40A	**Maddies Statio**	**4.54**	**51**	IAmb_Lg		13 25 11.3	
	comp=Z,7.9nm,0.9s						
POST	**Post**	**4.62**	**239**	IAmb_Lg		13 25 25.6	
	comp=Z,7.8nm,0.7s						
BRDY	**Brady**	**4.62**	**204**	IAmb_Lg		13 25 13.8	
	comp=Z,11nm,0.9s						
CCM	**Cathedral Cave**	**5.11**	**59**	IAmb_Lg		13 25 36.5	
	comp=E,6.6nm,0.7s						
SGCY	**Sterling City**	**5.11**	**226**	IAmb_Lg		13 25 39.0	
	comp=Z,10nm,0.8s						
MSTX	**Muleshoe**	**5.17**	**254**	IAmb_Lg		13 25 42.1	
	comp=Z,5.0nm,0.7s						
JCT	**Junction City**	**5.64**	**208**	IAmb_Lg		13 25 55.3	
	comp=Z,7.8nm,0.8s						
FVM

LGTI				IAML			13 35 01.0	
	comp=N,35nm,0.4s							
JHNI	**Jhansi**	**12.74**	**147**	*e*P		**Pn**	**13 33 38.7**	**+0.9**
JHNI				*e*S		Sn	13 35 50.1	-10
JHNI				IAML			13 35 51.9	
	comp=E,20nm,0.3s							
JHNI				IAML			13 35 53.3	
	comp=N,19nm,0.6s							
MK31	**Makanchi Array**	**13.31**	**36**	⇓P		**Pn**	**13 33 44.8**	**+0.1**
	comp=N,1.5nm,0.6s,baz=206,slow=12,SNR=14							
MK31	**Makanchi Array**	**13.31**	**36**	Pn		**Pn**	**13 33 45.4**	**+0.8**
MKAR	**Makanchi Array**	**13.31**	**36**	Pn		**Pn**	**13 33 45.4**	**+0.8**
MKAR	**Makanchi Array**	**13.31**	**36**	P		**Pn**	**13 33 44.7**	**0.0**
	comp=N,2.1nm,0.8s,baz=224,slow=14,SNR=9.6							
NRDN	**NARMADA NAGAR**	**14.73**	**157**	*e*P		P	13 34 09.2	+5.4
AB31	**Akbulak array**	**15.09**	**331**	⇑P		**Pn**	**13 34 05.6**	**-1.2**
	comp=N,3.0nm,0.3s,baz=145,slow=12,SNR=139							
AB31				S		**Sn**	**13 36 49.5**	**-5.8**
	comp=N,1.3nm,0.3s,baz=154,slow=23,SNR=11							
ABKAR	**Akbulak array**	**15.09**	**331**	Pn		**Pn**	**13 34 05.5**	**-1.2**
KURBB	**Kurchatov Arra**	**15.14**	**19**	P		**Pn**	**13 34 06.0**	**-1.3**
	comp=N,2.0nm,0.9s,baz=209,slow=11,SNR=11							
KURK	**Kurchatov**	**15.25**	**19**	P		**P**	**13 34 10.4**	**+1.2**
BVA0	**Borovoye Array**	**16.54**	**359**	P		**Pn**	**13 34 24.3**	**0.0**
	comp=N,5.0nm,0.6s,baz=174,slow=12,SNR=29							
BVAR	**Borovoye Array**	**16.54**	**359**	P		**Pn**	**13 34 24.5**	**+0.3**
	comp=N,4.9nm,0.4s,baz=172,slow=12,SNR=29							
BRVK	**Borovoye**	**16.58**	**359**	⇑P		**Pn**	**13 34 25.0**	**+0.3**
	comp=N,5.4nm,0.5s							
BRVK	**Borovoye**	**16.58**	**359**			**Pn**	**13 34 24.5**	**-0.2**
BRVK				IAmb		IAmb	13 34 26.9	
	comp=Z,11nm,0.9s							
AKTO	**Aktyubinsk**	**16.79**	**330**	P		**Pn**	**13 34 27.7**	**+0.5**
	comp=Z,20nm,0.4s,baz=141,slow=7.7,SNR=68							
ZAA0	**Zalesovo Array**	**19.93**	**24**	P		**P**	**13 35 01.4**	**+1.1**
ZAA0				IAmb		IAmb	13 35 06.0	
	comp=Z,5.4nm,0.8s							
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**P**	**13 35 00.8**	**+0.6**
ZALV	**Zalesovo Beam**	**19.93**	**24**	P		**P**	**13 35 01.1**	**+0.9**
	comp=Z,4.3nm,0.3s,baz=212,slow=10,SNR=17							
	comp=Z,4.3nm,0.3s							
SHL	**Shillong**	**20.91**	**116**	P		**P**	**13 35 13.2**	**+2.0**
SHL				IAmb		IAmb	13 35 15.2	
	comp=Z,18nm,1.1s							
ARU	**Arti**	**21.64**	**341**	P		**P**	**13 35 18.4**	**0.0**
ARU				IAmb		IAmb	13 35 21.5	
	comp=Z,7.9nm,1.1s							
ARU	**Arti**	**21.64**	**341**	P		**P**	**13 35 18.9**	**+0.6**
	comp=Z,3.2nm,0.4s,baz=163,slow=7.9,SNR=6.3							
	comp=Z,3.2nm,0.4s							
CHTO	**Chiang Mai**	**30.22**	**118**	P		**P**	**13 36 37.9**	**+1.8**
CHTO				IAmb		IAmb	13 37 09.0	
	comp=Z,9.8nm,1.4s							
CMAR	**Chiang Mai Arr**	**30.45**	**119**	P		**P**	**13 36 39.0**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=304,slow=8.9,SNR=1.9							
	comp=Z,0.5nm,0.3s							
PHRA	**Phrae**	**31.34**	**117**	P		**P**	**13 36 47.4**	**+1.4**
AKASG	**Malin Array Be**	**32.95**	**309**	P		**P**	**13 37 00.3**	**+0.7**
	comp=Z,0.9nm,0.5s,baz=79,slow=7.7,SNR=5.4							
	comp=Z,0.9nm,0.5s							
BURAR	**Bucovina Array**	**35.29**	**303**	P		**P**	**13 37 21.7**	**+1.8**
FINES	**FINESS Array B**	**37.49**	**326**	P		**P**	**13 37 38.6**	**+0.3**
FINES	**FINESS Array B**	**37.49**	**326**	P		**P**	**13 37 39.3**	**+1.1**
	comp=Z,1.5nm,0.5s,baz=119,slow=9.6,SNR=12							
	comp=Z,1.5nm,0.5s							
ARCES	**ARCESS Array B**	**41.16**	**338**	P		**P**	**13 38 09.7**	**+1.2**
	comp=Z,2.9nm,0.7s,baz=107,slow=7.8,SNR=9.5							
	comp=Z,2.9nm,0.7s							
HFS	**Hagfors**	**43.07**	**322**	P		**P**	**13 38 25.1**	**+1.0**
	comp=Z,1.6nm,0.3s,baz=94,slow=14,SNR=9.2							
	comp=Z,1.6nm,0.3s							
NB2	**NORSAR Subarra**	**44.39**	**323**	P		**P**	**13 38 35.4**	**+0.8**
	comp=Z,1.1nm,0.6s,baz=96,slow=7.9							
NOA	**NORSAR Array B**	**44.39**	**323**	P		**P**	**13 38 35.2**	**+0.7**
	comp=Z,1.2nm,0.6s,baz=96,slow=7.8,SNR=7.5							
	comp=Z,1.2nm,0.6s							
SPITS	**Spitsbergen Ar**	**47.51**	**347**	P		**P**	**13 39 00.6**	**+2.0**
	comp=Z,6.2nm,1.0s,baz=135,slow=8.3,SNR=5.6							
	comp=Z,6.2nm,1.0s							
TORD	**Torodi Ar. Bea**	**65.71**	**269**	P		**P**	**13 41 06.6**	**-1.2**
	comp=Z,0.3nm,0.4s,baz=51,slow=6.0,SNR=6.3							
	comp=Z,0.3nm,0.4s							
ILAR	**Eielson Array**	**74.80**	**16**	P		**P**	**13 42 02.0**	**-0.1**
	comp=Z,0.3nm,0.8s,baz=317,slow=5.9,SNR=4.4							
	comp=Z,0.3nm,0.8s							
BOSA	**Boshof**	**77.73**	**220**	P		**P**	**13 42 19.2**	**0.0**
	comp=Z,1.1nm,0.4s,baz=34,slow=3.6,SNR=5.5							
	comp=Z,1.1nm,0.4s							
YKA	**Yellowknife Ar**	**81.26**	**3**	P		**P**	**13 42 39.1**	**+1.4**
	comp=Z,0.7nm,0.5s,baz=349,slow=5.9,SNR=10							
	comp=Z,0.7nm,0.5s							
WRA	**Warramunga Arr**	**81.99**	**122**	P		**P**	**13 42 42.0**	**-0.2**
	comp=Z,2.2nm,0.5s,baz=324,slow=4.9,SNR=46							
	comp=Z,2.2nm,0.5s							
ASAR	**Alice Springs**	**84.25**	**125**	P		**P**	**13 42 53.4**	**-0.3**
	comp=Z,3.1nm,0.6s,baz=310,slow=5.0,SNR=66							
	comp=Z,3.1nm,0.6s							

*IDC **30** 13:54:41.2±28.0, 21°.15S×178°.38W, h452km±259km, mb3.6/4, mbtmp4.4/4, Error ellipse: s-maj=170.2km s-min=100.7km az=73.0*

ISC 30 13:54:40.7±3.8, 21°.2S±0°.8×178°.3W±0°.7, h450km, n7, σ1§15/6, mb4.0/4, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.23**	**245**	P	**P**	**14 01 13.2**	**+0.7**
	2.0nm,0.4s,baz=97,slow=12,SNR=6.5						
	2.0nm,0.4s						
ASAR	**Alice Springs**	**44.09**	**258**	P	**P**	**14 02 07.3**	**-0.5**
	5.3nm,0.5s,baz=95,slow=7.8,SNR=97						
ASAR				PcP	**PcP**	**14 03 42.9**	**-0.8**
	0.7nm,0.5s,baz=109,slow=3.9,SNR=5.6						
	5.3nm,0.5s						
WRA	**Warramunga Arr**	**44.24**	**263**	P	**P**	**14 02 07.9**	**-1.1**
	2.0nm,0.3s,baz=96,slow=7.5,SNR=53						
	2.0nm,0.3s						
CMAR	**Chiang Mai Arr**	**90.11**	**290**	P	**P**	**14 06 53.3**	**+1.1**
	1.9nm,1.0s,baz=124,slow=3.8,SNR=6.6						
	1.9nm,1.0s						
HFS	**Hagfors**	**140.22**	**351**	PKhKP	PKPpre	14 13 11.7	
	0.4nm,0.3s,baz=64,slow=3.4,SNR=5.2						
AKASG	**Malin Array Be**	**143.52**	**330**	PKP	PKPbc	14 13 21.6	+0.3
	2.1nm,0.5s,baz=42,slow=4.3,SNR=21						
BRTR	**Keskin Array B**	**147.13**	**311**	PKPbc	**PKPbc**	**14 13 32.2**	**-0.5**
	0.6nm,0.5s,baz=84,slow=5.9,SNR=3.0						

*ISK **30** 13:56:38.6, 40°.87N×43°.53E, h17km, ML2.4/9*
*AFAD **30** 13:56:38.7±0.0, 40°.92N×43°.47E, h7km, 4km, ML2.6*

ISC 30 13:56:39.3±1.2, 40°.91N±0°.03×43°.46E±0°.04, h13km±10km, n16, σ0§86/24, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EAK	**Akyaka**	**0.25**	**153**	P	**Pb**	**13 56 46.1**	**+0.3**
EAK				*i* AML	AML	13 56 55.0	
	comp=N,3μm,0.4s						
EAK				*i* AML	AML	13 56 57.0	
	comp=E,3μm,0.6s						
KARS	**Kars**	**0.40**	**226**	Pg	**Pb**	**13 56 47.6**	**-0.7**
KARS				Sg	**Sb**	**13 56 53.5**	**-0.9**
BOZK	**Kars-Merkez-Bo**	**0.48**	**229**	P	**Pb**	**13 56 49.8**	**0.0**
BOZK				S	**Sg**	**13 56 55.8**	**+0.4**
AKH	**Akhalkalaki**	**0.50**	**3**	Pg	**Pb**	**13 56 50.2**	**+0.1**
AKH				Sg	**Sb**	**13 56 57.7**	**+0.3**
GOLE	**Ardahan-G¶le**	**0.66**	**264**	P	**Pg**	**13 56 51.3**	**-0.9**
GOLE				S	**Sb**	**13 57 02.5**	**+0.7**
GOLE				*i* AML	AML	13 57 04.0	
	comp=N,171nm,0.3s						
GOLE				*i* AML	AML	13 57 07.0	
	comp=E,148nm,0.3s						
EPOS	**Posof**	**0.81**	**318**	P	**Pg**	**13 56 54.3**	**-0.8**
EPOS				S	**Sg**	**13 57 06.2**	**+0.5**
EPOS				*i* AML	AML	13 57 07.0	
	comp=N,525nm,0.4s						
EPOS				*i* AML	AML	13 57 07.0	
	comp=E,268nm,0.4s						
SENK	**Senkaya-Erzuru**	**0.91**	**248**	Pg	**Pb**	**13 56 57.0**	**0.0**
SENK				Sg	**Sn**	**13 57 11.3**	**+0.3**
TASB	**TASBURUN-IGDIR**	**1.10**	**147**	Pg	**Pb**	**13 56 59.1**	**-1.1**
KOTA	**Agri, Merkez-K**	**1.12**	**190**	P	**Pn**	**13 57 00.2**	**-0.6**
IGDI	**IGDIR**	**1.14**	**155**	P	**Pn**	**13 57 01.0**	**0.0**
IGDI				S	**Sn**	**13 57 16.7**	**+0.2**
BCA	**Borcka**	**1.48**	**292**	Pn	**Pb**	**13 57 06.6**	**-0.2**
BATM	**Batumi**	**1.50**	**298**	Pn	**Pn**	**13 57 05.9**	**0.0**
KOPR	**Koprukoy-ERZUR**	**1.53**	**234**	Pn	**Pn**	**13 57 05.5**	**-0.9**
DORK	**Agr/Tutak/Do**	**1.60**	**199**	P	**Pg**	**13 57 09.9**	**-0.2**
DORK				S	**Sg**	**13 57 33.8**	**+2.9**
ONI	**Oni**	**1.68**	**360**	Pn	**Pn**	**13 57 08.4**	**-0.1**
CHOM	**Cayeli-Rize**	**2.05**	**276**	Pn	**Pn**	**13 57 14.1**	**+0.7**

*ISN **30** 13:58:42.6±1.1, 34°.66N×45°.77E, h6km±40km, ML3.4*
*TEH **30** 13:58:43.4, 34°.68N×45°.79E, h8km±19km, ML3.2*

ISC 30 13:58:43.3±1.3, 34°.67N±0°.03×45°.80E±0°.03, h3km±13km, n21, σ1§07/26, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGS1	**Ghasr-e-Shirin**	**0.24**	**226**	Pg	**Pg**	**13 58 48.5**	**+0.6**
IDHR	**Dehrash**	**0.49**	**87**	Pg	**Pg**	**13 58 53.2**	**+0.5**
IDHR				Sg	**Sb**	**13 59 00.8**	**-1.5**
GLG1	**Gilan-e-Gharb**	**0.57**	**170**	Pg	**Pb**	**13 58 54.6**	**-1.3**
IGHG	**Ghaleghazi**	**0.72**	**118**	Pg	**Pb**	**13 58 57.9**	**-0.8**
ILIN	**Lien**	**0.99**	**75**	Pg	**Pg**	**13 59 02.4**	**+0.1**
KCHF	**Cheshme Sefid,**	**1.10**	**111**	Pg	**Pg**	**13 59 04.3**	**-0.1**
IKRK	**Kirkuk**	**1.40**	**302**	*e*Pg	**Pn**	**13 59 09.0**	**-0.7**
IKRK				*e*Sg	**Sg**	**13 59 29.0**	**+0.8**
SDS1	**Sardasht. Az.**	**1.49**	**350**	Pg	**Pg**	**13 59 12.1**	**+0.2**
SNQR	**Sonqor, Kerman**	**1.52**	**83**	Pg	**Pg**	**13 59 12.4**	**0.0**
IBDR	**Badra**	**1.56**	**176**	*e*Pn	**Pb**	**13 59 12.0**	**-0.9**
IBDR				*e*Sn	**Sg**	**13 59 34.0**	**+0.5**
IBDR				AML	AML	13 59 39.7	
	comp=E,725nm,0.4s						
IBDR				AML	AML	13 59 45.5	
	comp=N,590nm,0.6s						
IBZA	**Bozab**	**1.71**	**96**	Pg	**Pg**	**13 59 16.2**	**0.0**
BHD	**Baghdad**	**1.83**	**220**	*e*Pn	**Pb**	**13 59 16.0**	**-1.4**
BHD				*e*Sn	**Sb**	**13 59 40.0**	**-0.7**
BHD				AML	AML	13 59 51.7	
	comp=E,522nm,0.5s						
IKFM	**Kafar-mosalman**	**2.05**	**123**	Pn	**Pb**	**13 59 20.7**	**-0.5**
MAHB	**Mahabad**	**2.09**	**358**	Pn	**Pb**	**13 59 20.7**	**-1.3**
IDOB	**Doab**	**2.16**	**113**	Pn	**Pb**	**13 59 21.6**	**-1.2**
HSAM	**Samen**	**2.36**	**100**	Pn	**Pb**	**13 59 25.5**	**-1.2**
IHSH	**Hashtrud**	**2.88**	**24**	Pn	**Pn**	**13 59 32.1**	**+1.7**
RAFI	**Al-Rafai**	**2.96**	**175**	*e*Pn	**Pn**	**13 59 32.0**	**+0.9**
RAFI				*e*Sn	**Sn**	**14 00 08.5**	**+1.4**
ISRB	**Sarab**	**3.49**	**25**	Pn	**Pn**	**13 59 39.2**	**+0.5**
IHRS	**Heris**	**3.77**	**15**	Pn	**Pn**	**13 59 44.1**	**+1.5**
IMRD	**Marand**	**4.03**	**359**	Pn	**Pn**	**13 59 47.3**	**+1.2**

*IDC **30** 14:06:02.0±1.4, 33°.99N×70°.27E, h0km, mb3.5/4, mbtmp3.6/9, ML3.3/5, MS3.2/1, Error ellipse: s-maj=33.8km s-min=22.3km az=78.0*
*NNC **30** 14:06:06.6±3.3, 34°.17N×69°.57E, h11km±41km, mb3.8, mpv3.9, Error ellipse: s-maj=34.2km s-min=26.3km az=170.0*

ISC 30 14:06:06.9±1.3, 34°.0N±0°.1×70°.1E±0°.2, h35km, n14, σ0§99/15, mb3.5/4, 1C-1D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**9.11**	**2**	⇑P	**Pn**	**14 08 16.0**	**+0.1**
	1.5nm,0.3s,baz=180,slow=12,SNR=22						
KK31				⇓S	**Sn**	**14 09 57.9**	**+0.8**
	1.4nm,0.5s,baz=189,slow=24,SNR=3.6						
AAK	**Ala-Archa**	**9.29**	**20**	Pn	**Pn**	**14 08 19.6**	**+1.1**
	0.5nm,0.3s,baz=200,slow=15,SNR=2.3						
AAK				Sn	**Sn**	**14 10 01.4**	**-0.3**
	0.4nm,0.3s,baz=180,slow=3.0,SNR=1.6						
	2.1nm,0.5s						
MK31	**Makanchi Array**	**15.76**	**32**	P	**P**	**14 09 49.8**	**0.0**
	1.6nm,0.6s,baz=214,slow=16,SNR=6.5						
MKAR	**Makanchi Array**	**15.76**	**32**	Pn	**Pn**	**14 09 46.5**	**+0.3**
	0.1nm,0.3s,baz=215,slow=11,SNR=3.0						
	0.3nm,0.3s						
AB31	**Akbulak array**	**17.03**	**337**	P	**Pn**	**14 10 00.1**	**-2.1**
	1.0nm,0.5s,baz=160,slow=12,SNR=23						
KURBB	**Kurchatov Arra**	**17.72**	**18**	P	**Pn**	**14 10 10.5**	**-0.3**
	baz=210,slow=11,SNR=3.0						
	0.2nm,0.4s						
AKTO	**Aktyubinsk**	**18.69**	**335**	P	**Pn**	**14 10 22.0**	**-0.6**
	0.3nm,0.3s,baz=160,slow=8.0,SNR=8.3						
	1.1nm,0.4s						
BVA0	**Borovoye Array**	**19.03**	**0**	P	**Pn**	**14 10 26.7**	**0.0**
	2.5nm,1.1s,baz=161,slow=10,SNR=8.0						
BVAR	**Borovoye Array**	**19.03**	**0**	P	**P**	**14 10 25.7**	**0.0**
	0.1nm,0.3s,baz=182,slow=9.4,SNR=7.4						
	1.2nm,0.5s						
ZALV	**Zalesovo Beam**	**22.49**	**23**	P	**P**	**14 11 01.1**	**-2.0**
	0.7nm,0.3s,baz=214,slow=10.0,SNR=3.3						
	0.7nm,0.3s						
AKASG	**Malin Array Be**	**34.03**	**312**	P	**P**	**14 12 48.1**	**+0.7**
	0.5nm,0.5s,baz=91,slow=6.7,SNR=6.4						
	0.5nm,0.5s						
ASAJ	**Asahikawa**	**55.50**	**56**	LR	LR	14 41 03.3	
	comp=Z,25nm,20.4s,baz=166,slow=38						
WRA	**Warramunga Arr**	**81.28**	**121**	P	**P**	**14 18 19.5**	**-0.3**
	0.4nm,0.7s,baz=311,slow=5.6,SNR=2.1						
	0.4nm,0.7s						
ASAR	**Alice Springs**	**83.41**	**124**	P	**P**	**14 18 31.3**	**+0.5**
	0.2nm,0.6s,baz=312,slow=5.6,SNR=6.6						
	0.2nm,0.6s						

*AFAD **30** 14:06:54.5±0.0, 39°.58N×25°.99E, h7km±4km, ML2.3*
*ISK **30** 14:06:54.6, 39°.62N×25°.99E, h7km, ML2.5/23*
*ATH **30** 14:06:55.3, 39°.60N×25°.99E, h14km±3km, ML2.2/6, Error ellipse: s-maj=3.7km s-min=1.1km az=222.0*

ISC 30 14:06:55.0±0.9, 39°.59N±0°.02×26°.00E±0°.03, h16km±6km, n42, σ0§95/57, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GPNR	**Gulpinar-Canak**	**0.17**	**141**	Pg	**Pg**	**14 06 59.4**	**+0.1**
GPNR				Sg	**Sg**	**14 07 01.7**	**-0.5**
BOZC	**Bozcaada**	**0.26**	**10**	P	**Pg**	**14 07 00.3**	**-0.4**
BOZC				*i* AML	AML	14 07 04.0	
	comp=N,380nm,0.3s						
BOZC				*i* AML	AML	14 07 04.0	
	comp=E,426nm,0.2s						
BOZC				S	**Sg**	**14 07 04.4**	**-0.3**
EZNE	**Ezine-Canakkal**	**0.33**	**59**	Pg	**Pg**	**14 07 01.6**	**-0.4**
EZN	**Ezine**	**0.35**	**47**	Pg	**Pg**	**14 07 01.7**	**-0.6**
EZN				Sg	**Sg**	**14 07 06.9**	**-0.3**
SIGR	**SIGRI**	**0.39**	**196**	Pg	**Pb**	**14 07 03.7**	**+0.2**
SIGR				Sg	**Sb**	**14 07 09.6**	**+0.3**
SIGR	**SIGRI**	**0.39**	**196**	P	**Pb**	**14 07 03.6**	**+0.2**
SIGR				S	**Sb**	**14 07 09.3**	**+0.1**
SIGR				AML	AML	14 07 11.7	
	comp=E,1095μm,0.4s						
SIGR				AML	AML	14 07 12.6	
	comp=N,972μm,0.2s						
PRK	**Paraskevi**	**0.40**	**148**	P	**Pg**	**14 07 03.1**	**-0.1**
PRK				S	**Sg**	**14 07 09.2**	**+0.5**
PRK				AML	AML	14 07 09.5	
	comp=N,2378μm,0.2s						
PRK				AML	AML	14 07 09.6	
	comp=E,2598μm,0.3s						
CNKL	**anakkale-Mer**	**0.57**	**32**	P	**Pg**	**14 07 05.2**	**-1.0**
CNKL				*i* AML	AML	14 07 14.0	
	comp=E,324nm,0.3s						
CNKL				*i* AML	AML	14 07 15.0	
	comp=E,114nm,0.4s						
GOAD	**anakkale-G¶**	**0.58**	**353**	P	**Pg**	**14 07 05.2**	**-1.3**
GOAD				*i* AML	AML	14 07 14.0	
	comp=E,148nm,0.3s						
GOAD				S	**Sb**	**14 07 14.2**	**-0.6**
GOAD				*i* AML	AML	14 07 20.0	
	comp=E,133nm,0.5s						
AYVA	**Ayvalik**	**0.60**	**117**	P	**Pg**	**14 07 04.4**	**-2.6**
AYVA				S	**Sn**	**14 07 18.2**	**-0.1**
GADA	**Gvkgeada**	**0.61**	**353**	Pg	**Pg**	**14 07 06.3**	**-0.7**
GADA				Sg	**Sg**	**14 07 14.7**	**-0.4**
COMU	**Canakkale**	**0.63**	**36**	Pg	**Pg**	**14 07 07.0**	**-0.4**
LIA	**Limnos Island**	**0.70**	**297**	P	**Pg**	**14 07 08.3**	**-0.4**
LIA				S	**Sg**	**14 07 17.5**	**-0.5**
LIA				AML	AML	14 07 21.0	
	comp=E,1501μm,0.3s						
LIA				AML	AML	14 07 21.4	
	comp=N,722μm,0.2s						
BUHA	**Balikesir, Bur**	**0.84**	**96**	P	**Pg**	**14 07 09.3**	**-2.1**
BUHA				S	**Sg**	**14 07 22.3**	**-0.1**
BUHA				*i* AML	AML	14 07 23.0	
	comp=N,68nm,0.3s						
BUHA				*i* AML	AML	14 07 27.0	
	comp=N,74nm,0.7s						
DKL	**Dikili**	**0.87**	**126**	Pg	**Pb**	**14 07 12.4**	**+0.7**
CAND	**Candarli**	**0.89**	**135**	Pg	**Pb**	**14 07 12.8**	**+0.8**
GELI	**Tayfur-Gelibol**	**0.89**	**24**	Pg	**Pg**	**14 07 11.6**	**-0.7**
CANM	**Can-anakkale**	**0.92**	**62**	Pg	**Pb**	**14 07 12.8**	**+0.3**
IZMD	**zmir-Dikili-**	**0.94**	**129**	P	**Pb**	**14 07 13.4**	**+0.4**
IZMD				S	**Sb**	**14 07 26.4**	**+1.2**
SMTH	**Samothraki Isl**	**0.95**	**338**	P	**Pg**	**14 07 12.8**	**-0.7**
SMTH				AML	AML	14 07 27.4	
	comp=N,268μm,0.4s						
SMTH				AML	AML	14 07 27.9	
	comp=E,245μm,0.3s						
KARB	**zmir-Karabur**	**0.98**	**161**	P	**Pb**	**14 07 14.2**	**+0.6**
KARB				S	**Sg**	**14 07 26.4**	**-0.3**
KARB				*i* AML	AML	14 07 29.0	
	comp=E,77nm,0.2s						
KARB				*i* AML	AML	14 07 29.0	
	comp=E,89nm,0.6s						
LPK	**Lapseki**	**0.98**	**37**	Pg	**Pg**	**14 07 13.1**	**-0.9**
YENI	**Yenice-Canakka**	**1.02**	**70**	Pg	**Pb**	**14 07 14.7**	**+0.4**
ZEDA	**zmir-Bergama**	**1.04**	**126**	P	**Pg**	**14 07 11.7**	**-3.5**
ZEDA				S	**Sn**	**14 07 30.5**	**+1.4**
PSRA	**Psara**	**1.10**	**198**	P	**Pg**	**14 07 14.9**	**-1.3**
ERIK	**Erikli-Kesan**	**1.15**	**20**	Pn	**Pg**	**14 07 16.3**	**-1.0**
ENEZ	**Enez**	**1.15**	**6**	Pn	**Pb**	**14 07 16.6**	**0.0**
CHOS	**Chios island**	**1.20**	**178**	Pn	**Pb**	**14 07 17.7**	**+0.5**
CHOS	**Chios island**	**1.20**	**178**	P	**Pg**	**14 07 16.6**	**-1.5**
KRBG	**Karabiga-Canak**	**1.28**	**51**	Pn	**Pb**	**14 07 18.7**	**+0.5**
ALN	**Alexandroupoli**	**1.31**	**2**	Pn	**Pn**	**14 07 19.0**	**+0.4**
ALN	**Alexandroupoli**	**1.31**	**2**	P	**Pn**	**14 07 19.0**	**+0.4**
ALN				AML	AML	14 07 37.9	
	comp=N,101μm,0.4s						
ALN				AML	AML	14 07 38.8	
	comp=E,62μm,0.4s						
URLA	**Izmir**	**1.31**	**159**	Pn	**Pn**	**14 07 18.4**	**-0.3**
URLA	**Izmir**	**1.31**	**159**	P	**Pn**	**14 07 18.2**	**-0.4**
URLA				S	**Sb**	**14 07 37.0**	**+1.2**
URLA				*i* AML	AML	14 07 42.0	
	comp=E,35nm,0.3s						
URLA				*i* AML	AML	14 07 42.0	
	comp=E,42nm,0.3s						
GONE	**Gonen-Balikesi**	**1.38**	**70**	Pn	**Pb**	**14 07 20.8**	**+0.4**
THAS	**Thassos island**	**1.41**	**317**	P	**Pn**	**14 07 19.8**	**-0.2**
THAS				AML	AML	14 07 38.3	
	comp=N,85μm,0.3s						
THAS				AML	AML	14 07 41.0	
	comp=E,86μm,0.4s						
BLCB	**Balcova**	**1.45**	**145**	Pn	**Pb**	**14 07 22.1**	**+0.5**
MRMT	**Marmara Adasi**	**1.59**	**50**	Pn	**Pn**	**14 07 23.4**	**+0.8**
RDO	**Rodhopi**	**1.60**	**347**	Pn	**Pn**	**14 07 22.9**	**+0.4**
EDC	**Edincik**	**1.62**	**62**	Pn	**Pb**	**14 07 24.5**	**-0.1**
SUSR	**Susurluk-Balik**	**1.65**	**76**	Pn	**Pb**	**14 07 24.9**	**-0.2**
GORD	**Gordes-Manisa**	**1.82**	**111**	Pn	**Pn**	**14 07 27.4**	**+1.7**

*IDC **30** 14:15:55.2±3.8, 4°.95S×152°.00E, h81km±32km, mb3.8/12, mbtmp4.2/13, MS3.1/16, Error ellipse: s-maj=22.8km s-min=19.1km az=86.0*

ISC 30 14:15:53.8±0.7, 4°.9S±0°.1×152°.1E±0°.1, h70km, n28, σ0§83/19, mb4.0/12, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PMG	**Port Moresby**	**6.61**	**227**	P	**Pn**	**14 17 30.4**	**+1.9**
	54nm,0.4s,baz=47,slow=12,SNR=20						
PMG				S	**Sn**	**14 18 42.1**	**-0.3**
	96nm,0.6s,baz=45,slow=20,SNR=14						
HNR	**Honiara**	**9.02**	**120**	LR	LR	14 21 27.2	
	comp=Z,678nm,18.1s,baz=262,slow=37						
GUMO	**Guam**	**19.71**	**339**	LR	LR	14 27 59.4	
	comp=Z,9.3nm,20.3s,baz=150,slow=37						
DZM	**Mont Dzumac**	**22.03**	**142**	P	**P**	**14 20 42.8**	**-0.1**
	3.5nm,0.5s,baz=315,slow=10.0,SNR=7.8						
DZM				LR	LR	14 27 52.9	
	comp=E,60nm,21.2s,baz=180,slow=33						
	3.5nm,0.5s						
WRA	**Warramunga Arr**	**22.83**	**228**	P	**P**	**14 20 50.8**	**-0.5**
	4.4nm,0.5s,baz=53,slow=10,SNR=37						
WRA				PcP	**PcP**	**14 24 39.8**	**-0.6**
	0.8nm,0.7s,baz=57,slow=2.0,SNR=3.9						
	4.4nm,0.5s						
ASAR	**Alice Springs**	**25.58**	**221**	P	**P**	**14 21 16.4**	**-0.2**
	2.7nm,0.6s,baz=55,slow=9.8,SNR=55

SUR	**Sutherland**	**4.49**	**206**	Pn	Pn	14 28 10.2	+0.2	
	0.1nm,0.3s,baz=0.0,slow=14,SNR=1.8							
SUR				Sn	Sn	14 28 59.2	-3.8	
	0.2nm,0.3s,baz=250,slow=11,SNR=1.2							
SUR				Lg	Lg	14 29 15.6		
	0.4nm,0.3s,baz=297,slow=23,SNR=7.8							
	6.9nm,1.1s							
I33MG	**ANTANANARIVO I**	**23.98**	**72**	I	I	16 57 30.0		
	baz=241,slow=322,SNR=4.9							

*NAO **30** 14:31:05.1±2.7, 76°.34N×1°.88W, ML3.2*
*BER **30** 14:31:08.0±1.6, 76°.35N×1°.92W, h10km, mb(Pn)3.8,*
Confirmed Earthquake
*DNK **30** 14:31:09.1±4.9, 76°.24N×1°.30W, h36km±36km, ML2.5*
ISC 30 14:30:52.4±0.9, 76°.14N±0°.05×0°.73W±0°.04, h10km, n25,
σ2s37/37, Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRBA	**Barentsburg A**	**3.86**	**53**	***e*P**	**Pg**	**14 32 09.4**	**+3.2**
BRBB	**Barentsburg B**	**3.87**	**52**	***e*P**	**Pg**	**14 32 07.6**	**+1.1**
HSPB	**Hornsund (broa**	**3.89**	**69**	Pn	**Pg**	**14 32 08.0**	**+1.3**
HSPB	**Hornsund (broa**	**3.89**	**69**	***e*P**	**Pg**	**14 32 08.1**	**+1.4**
KBS	**Kingsbay**	**3.92**	**38**	Pn	**Pg**	**14 32 06.6**	**-0.7**
KBS				Sn	**Sb**	**14 32 47.9**	**-0.8**
KBS	**Kingsbay**	**3.92**	**38**	***e*P**	**Pg**	**14 32 06.6**	**-0.7**
KBS				***e*S**	**Sb**	**14 32 48.0**	**-0.8**
KBS				IAML		14 32 50.2	
	comp=Z,18nm,0.3s						
KBS	**Kingsbay**	**3.92**	**38**	***i*P**	**Pg**	**14 32 06.4**	**-0.9**
KBS				***i*S**	**Sb**	**14 32 47.0**	**-1.7**
DAG	**Danmarks Havn**	**4.25**	**287**	***e*P**	**Pb**	**14 32 06.9**	**-0.3**
DAG				***e*S**	**Sn**	**14 32 49.4**	**+2.7**
DAG	**Danmarks Havn**	**4.25**	**287**	***i*P**	**Pb**	**14 32 07.0**	**-0.1**
DAG				***i*P**	**Pb**	**14 32 07.0**	**-0.1**
DAG				***i*S**	**Sn**	**14 32 49.0**	**+2.3**
DAG				IAML		14 32 51.3	
	comp=Z,104nm,0.2s						
SPA0	**Spitsbergen Ar**	**4.32**	**54**	Pn	**Pg**	**14 32 14.1**	**-0.9**
	baz=242,slow=11						
SPA0				Sn	**Sb**	**14 33 02.1**	**+1.8**
	baz=233,slow=22						
SPA0	**Spitsbergen Ar**	**4.32**	**54**	***e*P**	**Pg**	**14 32 14.4**	**-0.6**
SPA0				***e*S**	**Sb**	**14 33 02.2**	**+1.8**
SPA0				IAML		14 33 10.4	
	comp=Z,4.3nm,0.7s						
DBG	**Daneborg**	**5.30**	**259**	Pn	**Pb**	**14 32 22.4**	**-2.5**
DBG				Sn	**Sn**	**14 33 15.5**	**+3.1**
DBG	**Daneborg**	**5.30**	**259**	***e*P**	**Pb**	**14 32 22.5**	**-2.4**
DBG				***e*S**	**Sn**	**14 33 16.1**	**+3.7**
DBG	**Daneborg**	**5.30**	**259**	***i*P**	**Pb**	**14 32 22.3**	**-2.6**
DBG				***i*S**	**Sn**	**14 33 15.7**	**+3.3**
DBG				IAML		14 33 22.1	
	comp=Z,15nm,0.5s						
JNW	**Jan Mayen West**	**5.57**	**207**	***e*P**	**Pb**	**14 32 29.6**	**+0.1**
JNE	**Jan Mayen East**	**5.59**	**206**	***e*P**	**Pb**	**14 32 29.8**	**-0.1**
JMIC	**Jan Mayen**	**5.62**	**207**	***e*P**	**Pb**	**14 32 30.0**	**-0.3**
JMI	**Jan Mayen**	**5.70**	**207**	***e*P**	**Pb**	**14 32 31.1**	**-0.7**
HOPEN	**Hopen**	**6.09**	**74**	Pn	**Pb**	**14 32 39.4**	**+1.1**
HOPEN				Sn	**Sb**	**14 33 42.5**	**-8.6**
NOR	**Nord**	**6.26**	**338**	Pn	Pb	14 32 34.6	-6.7
NOR				Sn	**Sn**	**14 33 36.6**	**+0.6**
NOR	**Nord**	**6.26**	**338**	***e*P**	Pb	14 32 34.7	-6.5
NOR				***e*S**	**Sn**	**14 33 36.9**	**+0.9**
NOR	**Nord**	**6.26**	**338**	***i*P**	Pb	14 32 34.3	-7.0
NOR				***i*S**	**Sn**	**14 33 37.0**	**+0.9**
NOR				IAML		14 33 45.4	
	comp=Z,14nm,0.4s						
SCO	**Scoresbysund**	**8.28**	**238**	***i*P**	Pn	14 33 03.5	+11
SCO				***i*S**	**Sn**	**14 34 24.3**	**-1.2**
SCO				IAML		14 34 34.6	
	comp=Z,2.7nm,0.4s						
SUMG	**Summit**	**10.62**	**270**	***i*P**	Pn	14 33 33.7	+9.0
SUMG				***i*S**	**Sn**	**14 35 23.3**	**-0.4**
SUMG				IAML		14 35 34.0	
	comp=Z,5.7nm,0.6s						
NEEM	**North Greenlan**	**11.29**	**301**	***i*P**	Pn	14 33 41.5	+7.9
NEEM				***i*S**	**Sn**	**14 35 35.7**	**-4.1**
NEEM				IAML		14 35 41.6	
	comp=Z,30nm,1.1s						

*IDC **30** 14:44:27.8±1.9, 46°.57N×153°.36E, h0km, mb3.8/8,*
mbtmp3.8/9, ML2.1/1, Error ellipse: s-maj=53.9km
s-min=28.1km az=105.0
*SKHL **30** 14:44:31.8±0.2, 45°.30N×153°.70E, h36km±3km, mb4.7/3*
ISC 30 14:44:28.6±1.4, 46°.4N±0°.2×153°.4E±0°.2, h10km, n19,
σ2s10/16, mb3.9/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.03**	**255**	***e*P**	**Pn**	**14 45 33.3**	**+3.0**
KUR				AMB	AMB	14 45 33.9	
	120nm,0.8s						
KUR				***e*S**	**Sn**	**14 46 19.6**	**+2.1**
KUR				A	A	14 46 30.2	
	80nm,0.5s						
KUR				A	A	14 46 30.2	
	70nm,0.5s						
SHO	**Shikotan**	**5.28**	**244**	***e*P**	**Pn**	**14 45 47.6**	**+0.1**
SHO				AMB	AMB	14 45 51.6	
	20nm,0.4s						
SHO				***e*S**	**Sn**	**14 46 44.3**	**-4.1**
SHO				A	A	14 46 49.0	
	40nm,0.3s						
SHO				A	A	14 46 49.0	
	30nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.81**	**249**	***e*P**	**Pn**	**14 45 56.2**	**+1.4**
YUK				AMB	AMB	14 45 58.0	
	110nm,0.6s						
NMR	**Nemuro--Hokkai**	**6.22**	**244**	***e*P**	**Pn**	**14 46 00.3**	**-0.2**
NMR				***e*S**	**Sn**	**14 47 07.5**	**-4.1**
PETK	**Petropavlovsk-**	**7.27**	**21**	Pn	**Pn**	**14 46 13.5**	**-1.4**
	0.2nm,0.3s,baz=186,slow=12,SNR=1.7						
	3.4nm,1.0s						
H11N2	**WAKE ISLAND Hy**	**28.82**	**153**	T	T	15 22 11.2	
	baz=340,slow=76,SNR=6.4						
H11N1	**WAKE ISLAND Hy**	**28.84**	**153**	T	T	15 22 11.9	
	baz=340,slow=76,SNR=6.2						
H11N3	**WAKE ISLAND Hy**	**28.84**	**153**	T	T	15 22 11.2	
	baz=340,slow=76,SNR=7.1						
H11S1	**WAKE ISLAND Hy**	**29.91**	**154**	T	T	15 23 31.5	
	baz=341,slow=76,SNR=5.2						
H11S3	**WAKE ISLAND Hy**	**29.92**	**154**	T	T	15 23 27.8	
	baz=341,slow=76,SNR=8.3						
H11S2	**WAKE ISLAND Hy**	**29.93**	**154**	T	T	15 23 32.1	
	baz=341,slow=76,SNR=6.4						
KURBB	**Kurchatov Arra**	**47.80**	**304**	P	**P**	**14 53 04.9**	**-1.0**
	0.4nm,0.2s,baz=68,slow=8.3,SNR=5.3						
	0.4nm,0.2s						
BVAR	**Borovoye Array**	**51.22**	**310**	P	**P**	**14 53 31.5**	**-0.5**
	0.4nm,0.4s,baz=50,slow=8.3,SNR=2.8						
	0.4nm,0.4s						
CMAR	**Chiang Mai Arr**	**52.47**	**257**	P	**P**	**14 53 43.7**	**+2.0**
	0.4nm,0.4s,baz=40,slow=7.4,SNR=2.3						
	0.4nm,0.4s						
FINES	**FINESS Array B**	**64.44**	**335**	P	**P**	**14 55 04.2**	**-0.4**
	0.9nm,0.4s,baz=32,slow=8.2,SNR=7.0						
	0.9nm,0.4s						
NOA	**NORSAR Array B**	**68.62**	**341**	P	**P**	**14 55 31.7**	**+0.3**
	0.3nm,0.5s,baz=26,slow=6.3,SNR=2.4						
	0.3nm,0.5s						
HFS	**Hagfors**	**68.85**	**340**	P	**P**	**14 55 32.8**	**0.0**
	1.1nm,0.4s,baz=33,slow=5.5,SNR=11						
	1.1nm,0.4s						
ASAR	**Alice Springs**	**71.94**	**199**	P	**P**	**14 55 53.3**	**+1.2**
	0.4nm,0.8s,baz=24,slow=7.1,SNR=2.6						
	0.4nm,0.8s						
AKASG	**Malin Array Be**	**71.94**	**326**	P	**P**	**14 55 51.5**	**-0.3**
	0.5nm,0.3s,baz=35,slow=6.2,SNR=4.7						
	0.5nm,0.3s						

*NEIC **30** 14:53:25.9±1.8, 17°.57N±0°.03×97°.96W±0°.03, h58km±5km,*
mb4.4/24, Md4.5/129(MEX), Error ellipse: s-maj=4.4km
s-min=3.6km az=76.0
*MEX **30** 14:53:26.8±0.8, 17°.61N×97°.99W, h64km±4km, MD4.5*
*IDC **30** 14:53:28.0±2.6, 18°.12N×97°.64W, h46km±27km, mb3.6/6,*
mbtmp3.8/10, ML3.2/4, MS2.8/7, Error ellipse:
s-maj=43.1km s-min=17.4km az=32.0
ISC 30 14:53:26.1±0.7, 17°.59N±0°.02×97°.97W±0°.02, h61km±5km,
n297, σ1s86/367, mb4.2/8, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HLIG	**Huajuapan de L**	**0.28**	**34**		**Pn**	**14 53 35.9**	**-0.7**
HLIG					**Sn**	**14 53 42.9**	**-1.1**
HLIG	**Huajuapan de L**	**0.28**	**34**	***i*P**	**Pn**	**14 53 35.9**	**-0.7**
HLIG				***i*S**	**Sn**	**14 53 43.0**	**-1.1**
FTIG	**Fresnillo de T**	**0.35**	**334**		**Pn**	**14 53 36.3**	**-0.6**
FTIG					**Sn**	**14 53 43.5**	**-1.3**
FTIG	**Fresnillo de T**	**0.35**	**334**	***i*P**	**Pn**	**14 53 36.4**	**-0.6**
FTIG				***e*S**	**Sn**	**14 53 43.5**	**-1.3**
TXIG	**Tlaxiaco**	**0.39**	**150**		**Pn**	**14 53 36.9**	**-0.5**
TXIG					**Sn**	**14 53 44.8**	**-0.8**
TXIG	**Tlaxiaco**	**0.39**	**150**	***i*P**	**Pn**	**14 53 36.9**	**-0.5**
TXIG				***e*S**	**Sn**	**14 53 44.8**	**-0.8**
TLIG	**Tlapa**	**0.57**	**267**		**Pn**	**14 53 38.0**	**-1.1**
TLIG	**Tlapa**	**0.57**	**267**	***i*P**	**Pn**	**14 53 38.6**	**-0.4**
TLIG				***i*S**	**Sn**	**14 53 47.9**	**-0.7**
HMTT	**Tlapaneco**	**0.60**	**290**		**Pn**	**14 53 38.7**	**-0.7**
HMTT					**Sn**	**14 53 48.7**	**-0.3**
HMTT	**Tlapaneco**	**0.60**	**290**	***i*P**	**Pn**	**14 53 38.7**	**-0.7**
HMTT				***e*S**	**Sn**	**14 53 48.7**	**-0.3**
MGIG	**Malinaltepec**	**0.73**	**241**		**Pn**	**14 53 40.1**	**-0.8**
MGIG					**Sn**	**14 53 51.6**	**-0.2**
MGIG	**Malinaltepec**	**0.73**	**241**	***e*P**	**Pn**	**14 53 40.1**	**-0.8**
MGIG				***e*S**	**Sn**	**14 53 51.6**	**-0.2**
YOIG	**Yosondua**	**0.84**	**151**		**Pn**	**14 53 42.2**	**-0.2**
YOIG					**Sn**	**14 53 54.4**	**+0.1**
YOIG	**Yosondua**	**0.84**	**151**	***e*P**	**Pn**	**14 53 42.2**	**-0.2**
YOIG				***e*S**	**Sn**	**14 53 54.4**	**+0.1**
TOIG	**Toxpalan**	**1.00**	**60**		**Pn**	**14 53 43.8**	**-0.5**
TOIG					**Sn**	**14 53 57.0**	**-0.7**
TOIG	**Toxpalan**	**1.00**	**60**	***i*P**	**Pn**	**14 53 57.0**	**-0.7**
TOIG				***e*S**	**Sn**	**14 53 57.0**	**-0.7**
TPIG	**Tehuac#an**	**1.01**	**35**		**Pn**	**14 53 44.2**	**-0.2**
TPIG					**Sn**	**14 53 57.6**	**-0.5**
TPIG	**Tehuac#an**	**1.01**	**35**	***e*P**	**Pn**	**14 53 44.3**	**-0.2**
TPIG				***e*S**	**Sn**	**14 53 57.6**	**-0.5**
PNIG	**Pinotepa**	**1.20**	**187**		**Pn**	**14 53 45.4**	**-1.5**
PNIG					**Sn**	**14 54 01.1**	**-1.3**
PNIG	**Pinotepa**	**1.20**	**187**	***e*P**	**Pn**	**14 53 45.6**	**-1.3**
PNIG				***e*S**	**Sn**	**14 54 01.1**	**-1.3**
OXIG	**Oaxaca**	**1.29**	**113**		**Pn**	**14 53 48.4**	**+0.2**
VHO	**Vista Hermosa**	**1.29**	**113**	***e*P**	**Pn**	**14 53 48.4**	**+0.2**
VHO				***e*S**	**Sn**	**14 54 05.2**	**+0.5**
OXBJ	**Oaxaca**	**1.30**	**113**		**Pn**	**14 53 48.0**	**-0.3**
OXBJ					**Sn**	**14 54 04.2**	**-0.8**
OXBJ	**Oaxaca**	**1.30**	**113**	***e*P**	**Pn**	**14 53 48.0**	**-0.3**
OXBJ				***e*S**	**Sn**	**14 54 04.2**	**-0.8**
OXLC	**Oaxaca**	**1.32**	**113**	***e*P**	**Pn**	**14 53 47.9**	**-0.7**
OXLC				***e*S**	**Sn**	**14 54 04.6**	**-0.8**
CRIG	**Cruz Grande**	**1.40**	**233**		**Pn**	**14 53 47.7**	**-1.8**
CRIG					**Sn**	**14 54 06.1**	**-0.9**
CRIG	**Cruz Grande**	**1.40**	**233**	***e*P**	**Pn**	**14 53 47.7**	**-1.8**
CRIG				***e*S**	**Sn**	**14 54 06.1**	**-0.9**
PHPU	**Puebla**	**1.46**	**353**		**Pn**	**14 53 50.4**	**-0.1**
PHPU	**Puebla**	**1.46**	**353**	***e*P**	**Pn**	**14 53 50.3**	**-0.3**
PHPU				***e*S**	**Sn**	**14 54 06.1**	**-2.8**
OZST	**Orizaba**	**1.51**	**33**	***e*P**	**Pn**	**14 53 50.5**	**-0.7**
OZST				***e*S**	**Sn**	**14 54 09.3**	**-0.6**
PPM	**Popocatepetl**	**1.59**	**337**	***e*P**	**Pn**	**14 53 53.1**	**+0.5**
PPM				***e*S**	**Sn**	**14 54 10.1**	**-2.4**
PPIG	**Popocatepetl**	**1.59**	**337**		**Pn**	**14 53 53.1**	**+0.5**
MEIG	**Mezcala**	**1.61**	**282**		**Pn**	**14 53 51.8**	**-0.6**
MEIG	**Mezcala**	**1.61**	**282**	***e*P**	**Pn**	**14 53 51.9**	**-0.5**
MEIG				***e*S**	**Sn**	**14 54 11.4**	**-0.8**
YAIG	**Yautepec**	**1.64**	**321**		**Pn**	**14 53 53.0**	**+0.2**
YAIG	**Yautepec**	**1.64**	**321**	***e*P**	**Pn**	**14 53 53.2**	**+0.3**
YAIG				***e*S**	**Sn**	**14 54 09.3**	**-4.7**
PLIG	**Platanillo**	**1.66**	**299**		**Pn**	**14 53 53.0**	**-0.1**
PLIG	**Platanillo**	**1.66**	**299**	***e*P**	**Pn**	**14 53 53.0**	**-0.1**
PLIG				***e*S**	**Sn**	**14 54 09.3**	**-4.2**
DAIG	**Los Arroyos**	**1.70**	**251**		**Pn**	**14 53 51.9**	**-1.7**
DAIG	**Los Arroyos**	**1.70**	**251**	***e*P**	**Pn**	**14 53 52.2**	**-1.4**
DAIG				***e*S**	**Sn**	**14 54 11.5**	**-2.9**
PEIG	**Puerto Escondi**	**1.77**	**153**		**Pn**	**14 53 53.0**	**-1.5**
PEIG					**Sn**	**14 54 14.9**	**-1.1**
PEIG	**Puerto Escondi**	**1.77**	**153**	***e*P**	**Pn**	**14 53 54.0**	**-0.5**
PEIG				***e*S**	**Sn**	**14 54 14.9**	**-1.1**
MPVM	**San Francisco**	**1.88**	**328**	***e*P**	**Pn**	**14 53 54.3**	**-1.9**
VNTA	**La Mica**	**1.89**	**249**	***e*P**	**Pn**	**14 53 53.6**	**-2.5**
VNTA				***e*S**	**Sn**	**14 54 14.8**	**-4.1**
THVM	**De Xico**	**1.96**	**331**	***e*P**	**Pn**	**14 53 57.4**	**+0.1**
THVM				***e*S**	**Sn**	**14 54 15.2**	**-5.8**
TLVM	**San Miguel Top**	**1.96**	**325**	***e*P**	**Pn**	**14 53 57.8**	**+0.4**
ACP2	**Acapulco**	**1.96**	**249**		**Pn**	**14 53 53.2**	**-2.0**
ACP2					**Sn**	**14 54 19.0**	**-1.8**
ACP2	**Acapulco**	**1.96**	**249**	***e*P**	**Pn**	**14 53 55.2**	**-2.0**
ACP2				***e*S**	**Sn**	**14 54 19.0**	**-1.8**
XCVM	**Xochimilco**	**1.98**	**327**	***e*P**	**Pn**	**14 53 56.8**	**-0.8**
XCVM				***e*S**	**Sn**	**14 54 15.5**	**-6.0**
MAVM	**Malinalco, Edo**	**1.99**	**313**	***e*P**	**Pn**	**14 53 57.9**	**+0.3**
MAVM				***e*S**	**Sn**	**14 54 15.0**	**-6.6**
MZVM		**1.99**	**323**		**Pn**	**14 53 56.3**	**-1.2**
MZVM		**1.99**	**323**	***e*P**	**Pn**	**14 53 58.8**	**+1.4**
NEUV	**Arroyo Zacate**	**2.07**	**86**	***e*P**	**Pn**	**14 53 58.0**	**-0.6**
NEUV				***e*S**	**Sn**	**14 54 22.1**	**-1.2**
UNM	**Universidad Na**	**2.07**	**327**	Pn	**Pn**	**14 53 59.8**	**+0.9**
UNM	**Universidad Na**	**2.07**	**327**	***e*P**	**Pn**	**14 53 59.1**	**+0.3**
UNM				***e*S**	**Sn**	**14 54 16.3**	**-7.5**
CUP5	**Mexico City**	**2.08**	**327**	***e*P**	**Pn**	**14 54 00.4**	**+1.5**
JAUV	**Jalcomulco**	**2.08**	**32**	***e*P**	**Pn**	**14 53 57.7**	**-1.1**
JAUV				***e*S**	**Sn**	**14 54 14.5**	**-9.2**
AOVM	**Tlapan**	**2.10**	**323**	***e*P**	**Pn**	**14 53 59.9**	**+0.4**
AOVM				***e*S**	**Sn**	**14 54 13.1**	**-12**
BJVM	**Benito Juarez**	**2.11**	**327**	***e*P**	**Pn**	**14 53 56.5**	**-2.8**
BJVM				***e*S**	**Sn**	**14 54 18.9**	**-5.7**
PBVM	**Pinon**	**2.12**	**330**		**Sn**	**14 54 22.8**	**-1.8**
PBVM	**Pinon**	**2.12**	**330**	***e*P**	**Pn**	**14 53 57.9**	**-1.3**
PBVM				***e*S**	**Sn**	**14 54 22.8**	**-1.8**
INVM	**La Marquesa**	**2.16**	**322**	***e*P**	**Pn**	**14 54 01.7**	**+1.6**
APVM	**Azcapotzalco**	**2.22**	**328**	***e*P**	Pn	14 53 55.2	-5.7
CAIG	**El Cayaco**	**2.26**	**257**		**Pn**	**14 53 59.5**	**-1.6**
CAIG	**El Cayaco**	**2.26**	**257**	***i*P**	**Pn**	**14 53 59.6**	**-1.5**
CAIG				***e*S**	**Sn**	**14 54 25.4**	**-2.5**
VTVM	**Tizayuca**	**2.30**	**341**	***e*P**	**Pn**	**14 54 03.3**	**+1.3**
VTVM				***e*S**	Sn	14 54 19.3	-10
TOVM	**TOLUCA**	**2.34**	**316**		**Pn**	**14 54 02.3**	**-0.2**
TOVM					**Sn**	**14 54 31.6**	**+1.3**
TOVM	**TOLUCA**	**2.34**	**316**	***e*P**	**Pn**	**14 54 03.7**	**+1.2**
TOVM				***e*S**	**Sn**	**14 54 31.6**	**+1.3**
ARIG	**Puente Sto Nin**	**2.37**	**287**		**Pn**	**14 54 03.2**	**+0.6**
ARIG	**Puente Sto Nin**	**2.37**	**287**	***e*P**	**Pn**	**14 54 03.2**	**+0.6**
ARIG				***e*S**	**Sn**	**14 54 27.5**	**-3.0**
TEJU	**Tejupilco**	**2.46**	**302**	***e*P**	**Pn**	**14 54 02.5**	**-1.5**
HUIG	**Huatulco**	**2.54**	**135**		**Pn**	**14 54 05.2**	**+0.1**
HUIG	**Huatulco**	**2.54**	**135**	***e*P**	**Pn**	**14 54 05.4**	**+0.3**
HUIG				***e*S**	**Sn**	**14 54 32.2**	**-2.6**
LVIG	**Laguna Verde**	**2.58**	**35**	***e*P**	**Pn**	**14 54 03.4**	**-2.1**
LVIG				***e*S**	**Sn**	**14 54 31.9**	**-3.8**
PMUV	**Sontecomapan**	**2.87**	**70**	***e*S**	**Sn**	**14 54 38.4**	**-4.6**
DHIG	**Demacu**	**2.88**	**340**		**Pn**	**14 54 08.3**	**-1.5**
DEIG	**Demacu**	**2.88**	**340**	***e*P**	**Pn**	**14 54 08.3**	**-1.5**
DEIG				***e*S**	**Sn**	**14 54 43.0**	**-0.3**
ACIG	**Acambay**	**2.99**	**323**		**Pn**	**14 54 11.7**	**+0.5**
ACIG	**Acambay**	**2.99**	**323**	***e*P**	**Pn**	**14 54 11.7**	**+0.5**
CMIG	**Matias Romero**	**2.99**	**99**		**Pn**	**14 54 10.9**	**-0.2**
CMIG	**Matias Romero**	**2.99**	**99**	P	**Pn**	**14 54 11.0**	**-0.1**
	24nm,0.3s,baz=284,slow=11,SNR=162						
CMIG				S	**Sn**	**14 54 44.1**	**-1.7**
	433nm,0.5s,baz=261,slow=19,SNR=16						
CMIG				LR	LR	14 54 54.0	
	comp=Z,44nm,21.9s,baz=1.0,slow=30						
	56nm,0.3s						
CMIG	**Matias Romero**	**2.99**	**99**	***e*P**	**Pn**	**14 54 11.2**	**+0.1**
CMIG				***e*S**	**Sn**	**14 54 41.1**	**-4.7**
PET2	**Petatlan**	**3.14**	**269**	***e*P**	**Pn**	**14 54 12.2**	**-1.0**
PET2				***e*S**	**Sn**	**14 54 45.8**	**-3.7**
ZIIG	**Zihuatanejo**	**3.33**	**271**		**Pn**	**14 54 15.0**	**-0.8**
ZIIG	**Zihuatanejo**	**3.33**	**271**	***e*P**	**Pn**	**14 54 15.0**	**-0.8**
ZIIG				***e*S**	**Sn**	**14 54 53.3**	**-0.9**
UXUV	**UXUV**	**3.66**	**94**	***e*P**	**Pn**	**14 54 20.1**	**-0.2**
UXUV				***e*S**	**Sn**	**14 54 58.6**	**-3.6**
MOIG	**Morelia**	**3.69**	**305**	Pn	**Pn**	**14 54 22.5**	**+1.6**
MOIG	**Morelia**	**3.69**	**305**	***e*P**	**Pn**	**14 54 22.1**	**+1.2**
MOIG				***e*S**	Sn	14 55 21.2	+18
CTUV	**Llano Grande**	**3.88**	**355**	***e*P**	**Pn**	**14 54 22.3**	**-1.0**
JRQG	**Juriquilla Cam**	**3.88**	**323**	Pn	**Pn**	**14 54 25.6**	**+2.1**
CARR	**Arriaga**	**4.11**	**108**	***e*P**	**Pn**	**14 54 25.5**	**-0.9**
RPIG	**Rio Verde**	**4.67**	**336**	***e*P**	**Pn**	**14 54 33.3**	**-1.0**
TGIG		**4.70**	**99**	***e*P**	**Pn**	**14 54 34.6**	**-0.1**
TGIG				***e*S**	**Sn**	**14 55 24.7**	**-3.3**
PCIG		**4.92**	**112**		**Pn**	**14 54 36.9**	**-0.8**
PCIG		**4.92**	**112**	***e*P**	**Pn**	**14 54 36.9**	**-0.8**
PCIG				***e*S**	**Sn**	**14 55 30.0**	**-3.3**
MMIG	**Aquila**	**5.16**	**279**		**Pn**	**14 54 40.6**	**-0.3**
MMIG	**Aquila**	**5.16**	**279**	***e*P**	**Pn**	**14 54 40.6**	**-0.3**
MMIG				***e*S**	**Sn**	**14 55 33.8**	**-5.3**
GTIG	**Gomez Farias**	**5.56**	**349**		**Pn**	**14 54 45.8**	**-0.5**
GTIG	**Gomez Farias**	**5.56**	**349**	***e*P**	**Pn**	**14 54 45.8**	**-0.5**
GTIG				***e*S**	**Sn**	**14 55 51.2**	**+2.3**
JUBC	**Volcan de Coli**	**5.65**	**291**	***e*P**	**Pn**	**14 54 50.7**	**+3.0**
COIG	**Colima**	**5.66**	**287**	***e*P**	**Pn**	**14 54 49.1**	**+1.4**
COIG				***e*S**	**Sn**	**14 55 48.4**	**-3.0**
EZ5V		**5.66**	**290**		**Sn**	**14 55 50.6**	**-1.2**
EZ5V		**5.66**	**290**	***e*P**	**Pn**	**14 54 51.7**	**+3.7**
EZ5V				***e*S**	**Sn**	**14 55 50.6**	**-1.2**
MNGA	**Volcan de Coli**	**5.68**	**290**	***e*P**	**Pn**	**14 54 51.1**	**+3.0**
MNGA				***e*S**	**Sn**	**14 55 55.0**	**+2.8**
INCO	**Volcan de Coli**	**5.68**	**291**	***e*P**	**Pn**	**14 54 49.7**	**+1.4**
INCO				***e*S**	**Sn**	**14 55 54.1**	**+1.7**
SOMAC	**Volcano de Col**	**5.70**	**291**	***e*P**	**Pn**	**14 54 49.6**	**+1.0**
CCIG	**Comitan**	**5.73**	**102**	***e*P**	Pn	14 54 58.9	+10
CCIG				***e*S**	Sn	14 55 44.0	-9.4
CEGR	**Campo Tres**	**5.87**	**289**	***e*P**	**Pn**	**14 54 52.7**	**+2.0**
CEGR				***e*S**	**Sn**	**14 55 52.5**	**-4.1**
CDAR	**Ciudad de Arme**	**5.89**	**284**	***e*P**	**Pn**	**14 54 50.6**	**-0.3**
CDAR				***e*S**	**Sn**	**14 55 50.0**	**-7.2**
R15V		**5.92**	**286**		**Pn**	**14 54 52.2**	**+0.9**
R15V		**5.92**	**286**	***e*P**	**Pn**	**14 54 52.2**	**+0.9**
R15V				***e*S**	**Sn**	**14 55 57.1**	**-0.8**
PATR	**El Naranjo**	**6.03**	**113**	***e*P**	**Pn**	**14 54 54.0**	**+1.0**
PATR				***e*S**	**Sn**	**14 55 58.9**	**-1.9**
PAVE	**Pavencul**	**6.05**	**112**	***e*P**	**Pn**	**14 54 54.5**	**+1.2**
PAVE				***e*S**	**Sn**	**14 55 59.7**	**-1.5**
THIG		**6.09**	**115**	***e*S**	**Sn**	**14 55 57.2**	**-4.8**
CHUJ	**Union Juarez**	**6.15**	**113**	***e*P**	**Pn**	**14 54 55.9**	**+1.3**
CHUJ				***e*S**	**Sn**	**14 56 03.0**	**-0.8**
CIHU	**Emiliano Zapat**	**6.63**	**286**	***e*P**	**Pn**	**14 54 58.7**	**-2.4**
CIHU				***e*S**	**Sn**	**14 56 13.0**	**-2.3**
ZAIG	**Zacatecas**	**6.72**	**321**	Pn	**Pn**	**14 55 05.2**	**+2.7**
CJM	**Chamela**	**6.97**	**287**	***e*P**	**Pn**	**14 55 04.5**	**-1.2**
CJM				***e*S**	**Sn**	**14 56 20.7**	**-2.9**
ESTA	**Talpa de Allen**	**7.08**	**294**	***e*P**	**Pn**	**14 55 05.7**	**-1.5**
ESTA				***e*S**	**Sn**	**14 56 26.2**	**-0.2**
APG	**El Apazote**	**7.65**	**109**	P	**Pn**	**14 55 16.1**	**+0.9**
	0.1nm,0.3s,baz=246,slow=20,SNR=1.9						
APG				S	**Sn**	**14 56 37.7**	**-2.9**
	0.8nm,0.3s

M29M			IAmb	IAmb	15 02 38.8	
	comp=Z,3.8nm,0.9s					
M29M	**Somme Creek**	**52.90 338**	P	**P**	**15 02 38.2**	**+2.5**
	baz=129,SNR=6.7					
CTG	**Chitna Glacier**	**53.10 335**	P	**P**	**15 02 39.6**	**+2.3**
	baz=125					
L29M	**L29M**	**53.20 339**	P	**P**	**15 02 40.1**	**+2.2**
	baz=130					
YUK3	**Moose Creek**	**53.23 336**	P	**P**	**15 02 40.5**	**+2.2**
	baz=126,SNR=5.3					
K29M	**Barlow Dome**	**53.47 339**	P	**P**	**15 02 41.7**	**+1.7**
	baz=131					
J30M	**Hart River**	**53.57 341**	P	**P**	**15 02 41.8**	**+1.1**
	baz=133					
MCARA	**McCarthy VSAT**	**54.01 335**	P	**P**	**15 02 45.9**	**+2.1**
	baz=124					
I30M	**Mount Dempster**	**54.03 341**	P	**P**	**15 02 45.1**	**+1.1**
	baz=133					
BCAR	**Beaver Creek A**	**54.49 337**	P	**P**	**15 02 48.1**	**+0.8**
L27K	**Beaver Creek,**	**54.50 337**	P	**P**	**15 02 49.5**	**+2.1**
	baz=126,SNR=5.2					
M26K	**Nabesna, AK**	**54.56 336**	P	**P**	**15 02 50.2**	**+2.3**
	baz=124					
G31M	**Satah River**	**54.61 343**	P	**P**	**15 02 49.1**	**+1.0**
	baz=136					
EYAK	**Cordova Ski Ar**	**54.70 333**	P	**P**	**15 02 51.1**	**+2.3**
	baz=120					
I29M	**Ogilvie Camp,**	**54.72 341**	P	**P**	**15 02 50.0**	**+1.0**
	baz=131					
N25K	**Chitina, Valde**	**54.76 335**	P	**P**	**15 02 51.7**	**+2.4**
	baz=122					
EPYK	**Eagle Plains**	**54.92 342**	P	**P**	**15 02 50.8**	**+0.5**
	baz=133					
K27K	**Chicken**	**55.16 338**	P	**P**	**15 02 54.4**	**+2.3**
	baz=126					
KLU	**Klutina**	**55.25 334**	P	**P**	**15 02 55.0**	**+2.1**
	baz=120					
EGAK	**Eagle**	**55.29 339**	P	**P**	**15 02 54.0**	**+1.0**
	baz=128					
I28M	**Miner Creek**	**55.30 340**	P	**P**	**15 02 54.0**	**+0.7**
	baz=129					
H29M	**Whitestone**	**55.31 341**	P	**P**	**15 02 53.9**	**+0.8**
	baz=131					
INK	**Inuvik**	**55.43 345**	P	**P**	**15 02 54.5**	**+0.5**
	baz=138,SNR=5.2					
F30M	**Barrier River**	**55.52 343**	P	**P**	**15 02 55.7**	**+1.1**
	baz=135					
G29M	**Pine Creek**	**55.67 342**	P	**P**	**15 02 56.9**	**+1.1**
	baz=132					
SCRK	**Sand Creek**	**55.82 337**	P	**P**	**15 02 59.6**	**+2.6**
	baz=124,SNR=9.2					
PAX	**Paxson**	**55.83 336**	P	**P**	**15 02 59.0**	**+1.9**
	baz=122					
I27K	**Kandik River**	**55.95 340**	P	**P**	**15 02 58.5**	**+0.7**
	baz=127					
J26L	**Joseph Creek**	**55.97 338**	P	**P**	**15 03 00.0**	**+2.0**
	baz=125,SNR=10.0					
SCM	**Sheep Creek Mo**	**56.00 334**	P	**P**	**15 02 59.8**	**+1.5**
	baz=119					
SEW	**Seward**	**56.12 332**	P	**P**	**15 03 00.7**	**+1.8**
	baz=116					
KNK	**Knik Glacier**	**56.27 334**	P	**P**	**15 03 02.0**	**+1.8**
	baz=118					
I26K	**Coal Creek Min**	**56.29 339**	P	**P**	**15 03 01.4**	**+1.2**
	baz=126					
H27K	**Steamboat Moun**	**56.30 340**	P	**P**	**15 03 01.4**	**+1.0**
	baz=128					
K24K	**Donnelly Dome**	**56.39 337**	P	**P**	**15 03 02.5**	**+1.5**
	baz=122,SNR=5.7					
SML	**Sawmill**	**56.41 334**	P	**P**	**15 03 03.3**	**+2.2**
	baz=118					
WAT6	**Susitna Watana**	**56.53 335**	P	**P**	**15 03 04.2**	**+2.1**
	baz=119					
DHY	**Denali Highway**	**56.63 336**	P	**P**	**15 03 04.4**	**+1.5**
	baz=120					
E29M	**Blow River**	**56.63 343**	P	**P**	**15 03 04.2**	**+1.6**
	baz=133					
F28M	**Old Crow**	**56.67 342**	P	**P**	**15 03 04.6**	**+1.7**
	baz=130,SNR=7.0					
J25K	**Salcha River,**	**56.68 338**	P	**P**	**15 03 04.7**	**+1.6**
	baz=123					
G27K	**Doyon Strip**	**56.70 341**	P	**P**	**15 03 03.9**	**+0.8**
	baz=129					
HDA	**Harding Lake**	**57.15 337**	P	**P**	**15 03 07.2**	**+0.9**
	baz=121,SNR=8.2					
PRP	**Porcupine Dome**	**57.23 339**	P	**P**	**15 03 07.9**	**+1.0**
	baz=123					
E28M	**Babbage River**	**57.23 343**	P	**P**	**15 03 07.4**	**+0.6**
	baz=131					
SUA	**Susitna One**	**57.28 333**	P	**P**	**15 03 08.9**	**+1.5**
	baz=116					
IL31		**57.31 337**	P	**P**	**15 03 08.1**	**+0.7**
ILAR	**Eielson Array**	**57.31 337**	P	**P**	**15 03 08.1**	**+0.6**
ILAR	**Eielson Array**	**57.31 337**	P	**P**	**15 03 08.3**	**+0.9**
	comp=Z,3.5nm,1.0s,baz=132,slow=5.4,SNR=30					
	comp=Z,3.5nm,1.0s					
RND	**Reindeer**	**57.38 336**		**P**	**15 03 09.3**	**+1.3**
G26K	**Porcupine Rive**	**57.46 340**	P	**P**	**15 03 09.5**	**+1.1**
	baz=126					
E27K	**Coleen River**	**57.54 342**	P	**P**	**15 03 09.7**	**+0.6**
E27K	**Coleen River**	**57.54 342**	P	**P**	**15 03 10.0**	**+1.0**
	baz=129					
MCK	**McKinley**	**57.57 336**	P	**P**	**15 03 10.5**	**+1.2**
	baz=119					
POKR	**Poker Plat Res**	**57.69 338**	P	**P**	**15 03 10.7**	**+0.6**
POKR	**Poker Plat Res**	**57.69 338**	P	**P**	**15 03 11.4**	**+1.3**
	baz=121,SNR=6.3					
H25L	**Birch Creek**	**57.74 339**	P	**P**	**15 03 11.2**	**+0.8**
	baz=123					
N20K	**Mount Spurr**	**57.81 332**	P	**P**	**15 03 12.7**	**+1.6**
	baz=114					
SKT	**Skwentna**	**57.84 333**		**P**	**15 03 12.4**	**+1.2**
SKT			IAmb	IAmb	15 03 13.3	
	comp=Z,4.8nm,0.9s					
SKT	**Skwentna**	**57.84 333**	P	**P**	**15 03 12.8**	**+1.6**
	baz=115					
TRF	**Thorofare Moun**	**57.97 335**	P	**P**	**15 03 13.9**	**+1.6**
	baz=117,SNR=13					
F26K	**Sheenjek River**	**58.01 341**	P	**P**	**15 03 13.8**	**+1.4**
	baz=126					
G25K	**Bearman Lake**	**58.11 340**	P	**P**	**15 03 15.0**	**+2.0**
	baz=123					
H24K	**Noodor Dome**	**58.22 338**	P	**P**	**15 03 15.2**	**+1.4**
	baz=121,SNR=5.1					
I23K	**Minto, Yukon-K**	**58.41 337**	P	**P**	**15 03 16.7**	**+1.6**
	baz=119,SNR=7.9					
F25K	**Christian Rive**	**58.42 341**	P	**P**	**15 03 16.5**	**+1.2**
	baz=124					
M20K	**Styx River**	**58.49 333**	P	**P**	**15 03 17.6**	**+1.7**
	baz=113					
PPLA	**Purkeypile**	**58.50 334**	P	**P**	**15 03 17.2**	**+1.3**
	baz=115					
G24K	**Hadweenzic Riv**	**58.53 339**	P	**P**	**15 03 17.4**	**+1.4**
	baz=122					
BPAW	**Bear Paw Mtn.**	**58.54 336**	P	**P**	**15 03 16.9**	**+0.8**
	baz=117					
CAST	**Castle Rocks**	**58.68 335**	P	**P**	**15 03 17.9**	**+0.9**
	baz=115,SNR=11					
N19K	**Bonanza Creek**	**58.68 331**	P	**P**	**15 03 18.8**	**+1.6**
	baz=111					
E25K	**Arctic Village**	**58.70 341**	P	**P**	**15 03 18.4**	**+1.3**
	baz=124					
H23K	**Yukon River**	**58.81 338**	P	**P**	**15 03 19.0**	**+1.1**
	baz=119					
MLY	**Manley**	**58.87 337**	P	**P**	**15 03 19.9**	**+1.5**
	baz=118,SNR=6.5					
L20K	**Farewell, AK**	**59.05 333**	P	**P**	**15 03 20.9**	**+1.3**
	baz=113					
M19K	**Big River Lodg**	**59.05 333**	P	**P**	**15 03 21.2**	**+1.6**
	baz=112					
P17K	**Kvichak River**	**59.05 329**	P	**P**	**15 03 21.5**	**+1.9**
	baz=109					
N18K	**Kilae Creek**	**59.28 331**	P	**P**	**15 03 22.7**	**+1.4**
	baz=110					
L19K	**White Mountain**	**59.35 333**	P	**P**	**15 03 23.0**	**+1.3**
	baz=112					
I21K	**Tanana**	**59.41 337**	P	**P**	**15 03 23.5**	**+1.5**
	baz=116					
G23K	**Bananza Creek**	**59.41 339**	P	**P**	**15 03 22.8**	**+0.7**
	baz=119					
K20K	**Telida**	**59.47 334**	P	**P**	**15 03 23.7**	**+1.2**
	baz=113					
H22K	**Ishtalitna Cre**	**59.51 338**	P	**P**	**15 03 23.6**	**+0.9**
	baz=117,SNR=5.1					
E24K	**Your Creek**	**59.59 340**	P	**P**	**15 03 24.3**	**+1.0**
	baz=121					
D25K	**Kavik River**	**59.62 342**	P	**P**	**15 03 24.8**	**+1.3**
	baz=124,SNR=5.1					

COLD	**Coldfoot**	**59.73 339**	P	**P**	**15 03 26.0**	**+1.8**
	baz=119					
J20K	**Nowinta River**	**59.83 335**	P	**P**	**15 03 25.9**	**+1.0**
	baz=114					
H21K	**Melozitna Rive**	**59.93 337**	P	**P**	**15 03 26.4**	**+0.8**
	baz=116					
G22K	**Bettles**	**60.03 339**	P	**P**	**15 03 27.8**	**+1.6**
	baz=118					
SDPT	**Sand Point**	**60.13 324**	P	**P**	**15 03 28.6**	**+1.5**
	baz=103					
I20K	**Naaghedeneel**	**60.21 336**	P	**P**	**15 03 28.7**	**+1.2**
	baz=114					
TOLK	**Toolik Lake Re**	**60.23 341**	P	**P**	**15 03 28.8**	**+1.1**
	baz=121					
J19K	**Poorman**	**60.36 335**	P	**P**	**15 03 29.9**	**+1.4**
	baz=112,SNR=6.5					
F22K	**John River**	**60.53 339**	P	**P**	**15 03 31.3**	**+1.5**
	baz=117					
G21K	**Allakaket**	**60.56 338**	P	**P**	**15 03 31.1**	**+1.2**
	baz=116					
J18K	**Innoko River**	**60.62 334**	P	**P**	**15 03 32.2**	**+1.9**
	baz=111					
H20K	**Anotleneega Mo**	**60.65 336**	P	**P**	**15 03 32.2**	**+1.7**
	baz=114					
E22K	**Anaktuvuk Pass**	**60.70 340**	P	**P**	**15 03 31.8**	**+0.9**
	baz=118					
D23K	**Nanushuk River**	**60.74 341**	P	**P**	**15 03 32.4**	**+1.3**
	baz=120					
L17K	**Donlin**	**60.85 332**	P	**P**	**15 03 34.2**	**+2.2**
	baz=108					
F21K	**Alatna River**	**60.86 338**	P	**P**	**15 03 33.3**	**+1.4**
	baz=116,SNR=6.5					
C23K	**Itkillik River**	**61.16 342**	P	**P**	**15 03 35.0**	**+1.1**
	baz=120					
H19K	**Roundabout Mou**	**61.26 336**	P	**P**	**15 03 36.1**	**+1.4**
	baz=112					
D22K	**Ayikyak River**	**61.34 340**	P	**P**	**15 03 36.6**	**+1.4**
	baz=118					
O14K	**Tigyukauivet M**	**61.45 328**	P	**P**	**15 03 38.2**	**+2.2**
	baz=104					
E21K	**Killik River**	**61.56 340**	P	**P**	**15 03 37.9**	**+1.2**
	baz=116					
F20K	**Avaraart Lake**	**61.58 338**	P	**P**	**15 03 37.8**	**+1.1**
	baz=114					
G19K	**Purcell Mounta**	**61.73 337**	P	**P**	**15 03 38.9**	**+1.0**
	baz=112					
C21K	**Knifeblade Rid**	**62.14 340**	P	**P**	**15 03 41.6**	**+1.1**
	baz=116					
E20K	**Nigu River**	**62.23 339**	P	**P**	**15 03 42.7**	**+1.5**
	baz=114					
B22K	**Teshekpuk Lake**	**62.24 342**	P	**P**	**15 03 41.7**	**+0.6**
	baz=117					
F19K	**Shaleruckik Mo**	**62.24 337**	P	**P**	**15 03 42.6**	**+1.3**
	baz=111					
E19K	**Redstone River**	**62.28 338**	P	**P**	**15 03 42.7**	**+1.2**
	baz=112					
D20K	**Etivluk River**	**62.56 339**	P	**P**	**15 03 44.3**	**+0.9**
	baz=113					
G17K	**Kiwalik Mounta**	**62.90 335**	P	**P**	**15 03 47.0**	**+1.3**
	baz=108					
D19K	**Kuna River**	**62.98 339**	P	**P**	**15 03 47.2**	**+1.0**
	baz=112					
A22K	**Sinclair Lake**	**63.00 342**	P	**P**	**15 03 47.3**	**+1.1**
	baz=116					
K13K	**Kusilvak Mount**	**63.69 331**	P	**P**	**15 03 51.4**	**+0.5**
	baz=102					
C19K	**Lookout Ridge**	**63.70 339**	P	**P**	**15 03 52.3**	**+1.4**
	baz=111					
E17K	**Hotham Inlet**	**63.83 337**	P	**P**	**15 03 52.9**	**+1.1**
	baz=108					
D17K	**Noatak River**	**64.48 337**	P	**P**	**15 03 57.3**	**+1.3**
	baz=106					
NB2	**NORSAR Subarra**	**83.69 28**	P	**P**	**15 05 49.6**	**+1.4**
	comp=Z,21nm,2.0s,baz=299,slow=5.3					
NOA	**NORSAR Array B**	**83.69 28**	P	**P**	**15 05 49.4**	**+1.3**
	comp=Z,0.8nm,0.6s,baz=300,slow=5.2,SNR=3.9					
NOA			LR	LR	15 48 14.1	
	comp=Z,9.1nm,18.2s,baz=270,slow=40					
	comp=Z,0.8nm,0.6s					

*NEIC **30** 14:59:11.9±1.1, 19°.403N±0°.006×155°.269W±0°.008, h4km±2km, Error ellipse: s-maj=1.1km s-min=0.9km az=61.0*

HVO 30 14:59:11.2±1.2, 19°.393N±0°.007×155°.262W±0°.008, h0km±5km, ML3.5/51, ML3.4/44(NEIC), Error ellipse: s-maj=1.1km s-min=1.0km az=206.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BYL	**Byron's Ledge**	**0.02**	**5**	Pg	Pg	14 59 12.2	+0.5
BYL	**Byron's Ledge**	**0.02**	**5**		Sg	14 59 13.0	+0.9
HATHI	**Halema'uma'u T**	**0.03**	**1**	Pg	Pg	14 59 12.3	+0.4
HATHI	**Halema'uma'u T**	**0.03**	**1**		Sg	14 59 13.6	+1.3
OBL	**Observatory Le**	**0.03**	**320**		Pg	14 59 13.4	+1.5
SBLHI	**Steaming Bluff**	**0.04**	**350**		Pg	14 59 13.5	+1.5
UWB	**Uwekahuna B**	**0.04**	**334**		Pg	14 59 13.9	+1.9
UWE	**Uwekahuna**	**0.04**	**314**	Pg	Pg	14 59 12.5	+0.5
UWE	**Uwekahuna**	**0.04**	**314**		Sg	14 59 14.1	+1.4
PUH	**Pauahi**	**0.05**	**113**	Pg	Pg	14 59 13.0	+0.8
PUH	**Pauahi**	**0.05**	**113**		Sg	14 59 14.3	+1.5
RSD	**Rainshed**	**0.07**	**348**		Pg	14 59 13.3	+0.6
RSD				IAML		14 59 14.7	
	comp=N,15μm,0.7s						
KNHH	**Kane Nui o Ham**	**0.09**	**99**		Pg	14 59 13.9	+1.0
HLP	**Hilina Pali**	**0.11**	**204**		Pg	14 59 14.0	+0.7
HLP				IAML		14 59 16.7	
	comp=E,12μm,0.6s						
HLP				IAML		14 59 17.0	
	comp=N,9μm,0.3s						
STCH	**Steam Cracks**	**0.13**	**93**		Pg	14 59 14.7	+0.9
STCH					Sg	14 59 17.4	+2.0
STCH	**Steam Cracks**	**0.13**	**93**	IAML		14 59 17.8	
	comp=N,25μm,0.5s						
STCH				IAML		14 59 18.1	
	comp=E,28μm,0.9s						
NPOC	**North of Pu'u**	**0.14**	**90**		Pg	14 59 14.9	+0.9
JCUZ	**Jacuzzi**	**0.15**	**93**		Pg	14 59 15.1	+0.9
MLH	**Mauna Loa**	**0.15**	**311**		Pg	14 59 15.5	+1.2
MLH	**Mauna Loa**	**0.15**	**311**	IAML		14 59 18.4	
	comp=N,6μm,0.6s						
MLH				IAML		14 59 19.1	
	comp=E,15μm,0.7s						
HTC	**Hot Caves**	**0.20**	**220**		Pg	14 59 16.1	+1.0
JOKA	**Jonika Flow**	**0.25**	**80**		Pg	14 59 16.4	+0.5
JOKA	**Jonika Flow**	**0.25**	**80**	IAML		14 59 23.4	
	comp=E,10μm,0.8s						
JOKA				IAML		14 59 24.4	
	comp=N,22μm,0.8s						
HMH	**Humu'ula Sheep**	**0.29**	**315**		Pg	14 59 17.7	+0.8
HMH				IAML		14 59 24.2	
	comp=N,5μm,0.7s						
HMH				IAML		14 59 25.8	
	comp=E,5μm,0.7s						
PAH	**Pahoa**	**0.31**	**71**		Pg	14 59 17.8	+0.5
MLOA	**Mauna Loa Obse**	**0.33**	**296**		Pg	14 59 18.5	+1.0
MLOA	**Mauna Loa Obse**	**0.33**	**296**	IAML		14 59 27.8	
	comp=E,6μm,0.8s						
MLOA				IAML		14 59 28.0	
	comp=N,4μm,0.6s						
MWH	**Moku'aweowe**	**0.33**	**286**		Pg	14 59 18.1	+0.5
KHU	**Kahuku**	**0.36**	**246**		Pg	14 59 18.4	+0.2
KHU				IAML		14 59 27.4	
	comp=N,4μm,0.6s						
KHU				IAML		14 59 28.1	
	comp=E,5μm,0.8s						
ALEP	**Alea Permanent**	**0.39**	**292**		Pg	14 59 19.3	+0.6
POHA	**Pohakuloa**	**0.44**	**325**		Pg	14 59 20.6	+0.8
POHA				IAML		14 59 29.3	
	comp=E,5μm,0.8s						
POHA				IAML		14 59 32.3	
	comp=E,4μm,0.6s						
HUH	**Hualalai**	**0.61**	**298**		Pg	14 59 24.0	+1.0
CPH	**Captain Cook**	**0.63**	**279**		Pg	14 59 23.3	0.0

*NEIC **30** 15:01:55.2±0.9, 19°.391N±0°.008×155°.273W±0°.007, h3km±1km, Error ellipse: s-maj=1.1km s-min=0.9km az=188.0*

HVO 30 15:01:54.5±0.9, 19°.393N±0°.007×155°.264W±0°.007, h1km±2km, ML3.1/11, ML2.4/28(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=204.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKO	**Keanakako`i**	**0.01**	**342**		Pg	15 01 55.1	+0.3
RIM	**Rim**	**0.01**	**285**		Pg	15 01 55.5	+0.7
BYL	**Byron's Ledge**	**0.02**	**12**	Pg	Pg	15 01 55.4	+0.4
BYL					Sg	15 01 55.9	+0.6
HATHI	**Halema'uma'u T**	**0.03**	**6**	Pg	Pg	15 01 55.6	+0.6
HATHI					Sg	15 01 56.7	+1.2
OBL	**Observatory Le**	**0.03**	**323**		Pg	15 01 56.8	+1.7
SBLHI	**Steaming Bluff**	**0.03**	**354**		Pg	15 01 55.8	+0.7
UWB	**Uwekahuna B**	**0.03**	**338**		Pg	15 01 57.1	+1.9
UWE	**Uwekahuna**	**0.04**	**316**	Pg	Pg	15 01 55.7	+0.4
UWE					Sg	15 01 57.0	+1.2
PUH	**Pauahi**	**0.05**	**112**	Pg	Pg	15 01 56.2	+0.7
PUH				IAML		15 01 56.6	
	comp=E,2μm,0.7s						
PUH				IAML		15 01 56.7	
	comp=N,2μm,0.5s						
PUH					Sg	15 01 57.4	+1.3
RSD	**Rainshed**	**0.07**	**350**	Pg	Pg	15 01 56.5	+0.6
RSD				IAML		15 01 57.0	
	comp=N,1μm,1.7s						
KNHH	**Kane Nui o Ham**	**0.09**	**98**	Pg	Pg	15 01 57.1	+0.8
HLP	**Hilina Pali**	**0.10**	**203**	IAML		15 01 57.1	
	comp=E,4μm,1.6s						
HLP				Pg	Pg	15 01 57.6	+1.1
HLP				IAML		15 01 59.3	
	comp=N,2μm,2.2s						
HLP					Sg	15 01 59.5	+1.6
STCH	**Steam Cracks**	**0.13**	**93**	Pg	Pg	15 01 57.4	+0.4
STCH				IAML		15 02 00.6	
	comp=E,2μm,0.6s						
STCH				IAML		15 02 01.2	
	comp=N,1μm,0.6s						
NPOC	**North of Pu'u**	**0.15**	**90**		Pg	15 01 58.1	+0.9
MLH	**Mauna Loa**	**0.15**	**311**	Pg	Pg	15 01 58.2	+0.7
MLH				IAML		15 01 58.5	
	comp=E,903nm,1.6s						
MLH				IAML		15 02 01.6	
	comp=N,2μm,1.9s						
JCUZ	**Jacuzzi**	**0.15**	**93**		Pg	15 01 58.3	+0.9
JOKA	**Jonika Flow**	**0.25**	**81**	Pg	Pg	15 01 59.4	+0.2
JOKA				IAML		15 02 07.0	
	comp=E,774nm,1.4s						
HMH	**Humu'ula Sheep**	**0.29**	**315**	Pg	Pg	15 02 00.9	+0.8
HMH				IAML		15 02 08.8	
	comp=N,891nm,1.8s						
MLOA	**Mauna Loa Obse**	**0.33**	**296**	Pg	Pg	15 02 01.6	+0.9
MLOA				IAML		15 02 07.9	
	comp=E,972nm,2.3s						
MWH	**Moku'aweowe**	**0.33**	**286**	Pg	Pg	15 02 01.4	+0.6
KHU	**Kahuku**	**0.36**	**246**	Pg	Pg	15 02 02.0	+0.5
POHA	**Pohakuloa**	**0.44**	**325**	Pg	Pg	15 02 03.9	+0.9
HUH	**Hualalai**	**0.61**	**298**	Pg	Pb	15 02 07.3	-0.9

*IDC **30** 15:03:30.1±9.0, 14°.69S×167°.41E, h102km±59km, mb3.9/6, mbtmp4.3/7, MS3.1/1, Error ellipse: s-maj=72.5km s-min=25.8km az=33.0*

*NEIC **30** 15:03:32.4±1.4, 14°.8S±0°.1×167°.4E±0°.2, h112km±9km, mb4.4/15, Error ellipse: s-maj=25.5km s-min=15.0km az=50.0*

*NOU **30** 15:03:32.5, 14°.76S×167°.40E, h110km, mb4.4/25, Vanuatu Islands*

ISC 30 15:03:33.6±1.2, 14°.8S±0°.1×167°.4E±0°.1, h129km, n57, σ1§10/57, mb4.4/13, 4C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVP	**Devils Point**	**3.01**	**165**	P	**Pn**	**15 04 19.5**	**-0.7**
LIFNC	**LIFOU**	**5.93**	**181**	P	**Pn**	**15 04 58.0**	**-1.0**
LIFNC	**LIFOU**	**5.93**	**181**	Pn	**Pn**	**15 04 57.4**	**-1.7**
KOUNC	**Koumac, New Ca**	**6.41**	**207**	P	**Pn**	**15 05 05.2**	**-0.4**
KOUNC	**Koumac, New Ca**	**6.41**	**207**	Pn	**Pn**	**15 05 04.3**	**-1.3**
MARNC	**Mare, Loyalty**	**6.66**	**175**	P	**Pn**	**15 05 08.2**	**-0.8**
DZM	**Mont Dzumac**	**7.27**	**187**	P	**Pn**	**15 05 16.2**	**-1.1**
DZM	**Mont Dzumac**	**7.27**	**187**	Pn	**Pn**	**15 05 15.6**	**-1.7**
DZM	**Mont Dzumac**	**7.27**	**187**	P	**Pn**	**15 05 16.2**	**-1.1**
	16nm,0.3s,baz=3.2,slow=18,SNR=84						
DZM				S	**Sn**	**15 06 37.0**	**-1.4**
	25nm,0.4s,baz=17,slow=11,SNR=11						
NOUC	**Port Laguerre**	**7.32**	**188**	P	**Pn**	**15 05 17.3**	**-0.5**
ONTNC	**Ouen Toro**	**7.50**	**186**	P	**Pn**	**15 05 20.2**	**-0.1**
ONTNC	**Ouen Toro**	**7.50**	**186**	Pn	**Pn**	**15 05 19.6**	**-0.8**
OUENC	**Ouen Island, N**	**7.58**	**184**	P	**Pn**	**15 05 21.0**	**-0.4**
OUENC	**Ouen Island, N**	**7.58**	**184**	Pn	**Pn**	**15 05 20.2**	**-1.2**
PINNC	**Pines Island,**	**7.76**	**179**	P	**Pn**	**15 05 23.6**	**-0.2**
PINNC	**Pines Island,**	**7.76**	**179**	Pn	**Pn**	**15 05 23.2**	**-0.6**
HNR	**Honiara**	**9.00**	**306**	Pn	**Pn**	**15 05 39.4**	**-1.2**
EIDS	**Eidsvold**	**18.52**	**233**	P	**P**	**15 07 42.1**	**+2.0**
EIDS	**Eidsvold**	**18.52**	**233**	P	**P**	**15 07 41.9**	**+1.8**
EIDS				IAmb	IAmb	15 07 42.8	
	comp=Z,12nm,0.6s						
CTAO	**Charters Tower**	**20.79**	**252**	P	**P**	**15 08 06.1**	**+1.4**
CTAO				IAmb	IAmb	15 08 07.0	
	comp=Z,8.5nm,1.0s						
ARMA	**Armidale**	**21.21**	**220**	P	**P**	**15 08 10.2**	**+1.0**
ARMA				IAmb	IAmb	15 08 28.2	
	comp=Z,17nm,1.1s						
MGCD	**Mangrove Creek**	**23.51**	**216**	P	**P**	**15 08 33.1**	**+1.2**
TOZ	**Tahuroa Road**	**23.95**	**164**	P	**P**	**15 08 37.1**	**+1.3**
TOZ				IAmb	IAmb	15 08 38.9	
	comp=Z,10nm,0.6s						
BKZ	**Black Stump Fm**	**25.56**	**163**	P	**P**	**15 08 51.0**	**+0.5**
BKZ	**Black Stump Fm**	**25.56**	**163**	P	**P**	**15 08 50.5**	**0.0**
BKZ				IAmb	IAmb	15 09 29.4	
	comp=Z,24nm,1.3s						
CMSA	**Cobar Meteorol**	**25.87**	**226**	P	**P**	**15 08 55.6**	**+2.2**
CNB	**Canberra Magne**	**26.03**	**215**	P	**P**	**15 08 56.7**	**+1.8**
LTZ	**Lake Taylor**	**28.19**	**172**	P	**P**	**15 09 13.8**	**-0.2**
STKA	**Stephens Creek**	**29.00**	**230**	P	**P**	**15 09 22.9**	**+1.6**
STKA	**Stephens Creek**	**29.00**	**230**	P	**P**	**15 09 22.6**	**+1.4**
STKA	**Stephens Creek**	**29.00**	**230**	P	**P**	**15 09 22.6**	**+1.4**
	comp=Z,8.7nm,0.5s,baz=58,slow=9.5,SNR=28						
	comp=Z,8.7nm,0.5s						
HTT	**Hallett**	**31.72**	**229**	P	**P**	**15 09 46.9**	**+1.5**
WB0	**Warramunga Arr**	**31.82**	**256**	P	**P**	**15 09 45.1**	**-1.2**
WB0				IAmb	IAmb	15 09 58.8	
	comp=Z,11nm,1.3s						
WRA	**Warramunga Arr**	**31.88**	**256**	P	**P**	**15 09 45.9**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=87,slow=8.8,SNR=5.9						
	comp=Z,0.7nm,0.9s						
OOD	**Oodnadatta**	**32.09**	**241**	P	**P**	**15 09 50.5**	**+1.9**
AS01	**Alice Springs**	**32.67**	**249**	P	**P**	**15 09 53.6**	**-0.2**
AS31	**Alice Springs**	**32.71**	**249**	P	**P**	**15 09 53.3**	**-0.8**
ASAR	**Alice Springs**	**32.71**	**249**	P	**P**	**15 09 53.2**	**-1.0**
ASAR	**Alice Springs**	**32.71**	**249**	P	**P**	**15 09 53.5**	**-0.6**
	comp=Z,1.4nm,0.4s,baz=79,slow=8.

s-maj=27.2km s-min=14.5km az=27.0
*NEIC **30** 15:41:04.4±2.7, 40°.58N±0°.05×127°.4W±0°.1, h10km±1km, mb4.2/36, ML3.3/58, Error ellipse: s-maj=16.6km s-min=3.8km az=237.0*

ISC 30 15:41:04.3±0.7, 40°.59N±0°.07×127°.35W±0°.08, h10km, n126, σ1§31/112, mb4.2/26, MS3.2/12, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KMPM	**Mount Pierce**	**2.47**	**93**		**Pn**	**15 41 43.6**	**-1.1**
JCC	**Jacoby Creek,**	**2.54**	**84**	Pn	**Pn**	**15 41 43.7**	**-1.8**
JCC				IAML		15 42 15.9	
	comp=E,127nm,1.2s						
KRPM	**Rodgers**	**2.59**	**76**	Pn	**Pn**	**15 41 45.3**	**-1.0**
KRPM				IAML		15 42 42.2	
	comp=N,147nm,1.9s						
KRPM				IAML		15 43 16.4	
	comp=E,153nm,1.8s						
KHMM	**Horse Mountain**	**2.77**	**83**	Pn	**Pn**	**15 41 47.4**	**-1.5**
KHMM				IAML		15 42 22.7	
	comp=N,137nm,0.8s						
KRMB	**Red Mountain**	**2.77**	**69**	Pn	**Pn**	**15 41 47.5**	**-1.4**
KMRM	**Mail Ridge**	**2.81**	**96**	Pn	**Pn**	**15 41 48.9**	**-0.5**
KMRM				IAML		15 42 24.1	
	comp=N,141nm,1.6s						
KBO	**Bosley Butte**	**2.86**	**54**	Pn	**Pn**	**15 41 48.0**	**-2.1**
KBO				IAML		15 42 28.7	
	comp=N,110nm,1.9s						
KBO				IAML		15 42 50.3	
	comp=E,101nm,2.6s						
KSXB	**Camp Six Broad**	**2.90**	**63**	Pn	**Pn**	**15 41 49.0**	**-1.7**
KCPM	**Cahto Peak**	**3.03**	**106**	Pn	**Pn**	**15 41 50.8**	**-1.6**
KCPM				IAML		15 42 31.7	
	comp=E,102nm,1.1s						
KCPM				IAML		15 42 40.0	
	comp=N,97nm,0.6s						
L02F	**Cave Junction**	**3.23**	**60**	Pn	**Pn**	**15 41 54.4**	**-0.8**
L02F				IAML		15 42 43.5	
	comp=E,50nm,0.8s						
K02D	**Willamette Mer**	**3.48**	**51**	Pn	**Pn**	**15 41 57.3**	**-1.2**
K02D				IAML		15 42 42.4	
	comp=E,36nm,1.1s						
O02D	**Mt. Diablo Mer**	**3.51**	**95**	Pn	**Pn**	**15 41 58.2**	**-0.9**
J01E	**Myrtle Point**	**3.63**	**44**	Pn	**Pn**	**15 41 59.7**	**-0.8**
J01E				IAML		15 43 12.1	
	comp=N,49nm,3.8s						
J01E				IAML		15 43 16.3	
	comp=E,40nm,3.3s						
HOPS	**Hopland Field**	**3.66**	**114**	Pn	**Pn**	**15 42 00.8**	**-0.2**
HOPS				IAML		15 42 43.6	
	comp=N,76nm,3.3s						
HOPS				IAML		15 42 46.5	
	comp=E,78nm,3.0s						
YBH	**Yreka Blue Hor**	**3.69**	**70**	Pn	**Pn**	**15 42 02.0**	**+0.6**
YBH	**Yreka Blue Hor**	**3.69**	**70**	Pn	**Pn**	**15 42 02.1**	**+0.6**
	comp=E,33nm,0.3s,baz=263,slow=11,SNR=192						
YBH				Sn	**Sn**	**15 42 43.2**	**-1.9**
	comp=E,4.5nm,0.3s,baz=228,slow=13,SNR=4.5						
	comp=E,59nm,0.3s						
HUMO	**Hull Mountain**	**3.87**	**57**	Pn	**Pn**	**15 42 03.0**	**-0.9**
GDXM	**Geysers**	**3.94**	**115**	Pn	**Pn**	**15 42 05.6**	**+0.7**
GDXM				IAML		15 42 42.1	
	comp=E,30nm,3.6s						
GDXM				IAML		15 43 42.7	
	comp=N,25nm,3.4s						
DBO	**Dodson Butte**	**3.98**	**49**	Pn	**Pn**	**15 42 05.6**	**+0.1**
DBO				IAML		15 44 02.8	
	comp=E,33nm,2.9s						
DBO				IAML		15 44 47.1	
	comp=N,36nm,3.5s						
L04D	**Klamath Falls**	**4.13**	**65**	Pn	**Pn**	**15 42 09.1**	**+1.5**
L04D				IAML		15 42 58.4	
	comp=N,55nm,0.9s						
MCCM	**Marconi Confer**	**4.24**	**124**	Pn	**Pn**	**15 42 08.0**	**-1.0**
I03D	**Drain, OR**	**4.30**	**42**	Pn	**Pn**	**15 42 08.4**	**-1.5**
I03D				IAML		15 42 59.7	
	comp=N,23nm,2.3s						
I03D				IAML		15 43 02.8	
	comp=E,22nm,2.4s						
K04D	**Chiloquin, OR**	**4.67**	**62**	Pn	**Pn**	**15 42 16.1**	**+1.2**
BUCK	**Buck Mountain**	**4.85**	**40**	Pn	**Pn**	**15 42 17.6**	**+0.2**
I04A	**Tendick Farm,**	**4.87**	**47**	Pn	**Pn**	**15 42 15.5**	**-2.3**
I04A				IAML		15 43 40.7	
	comp=N,16nm,4.3s						
I04A				IAML		15 43 58.5	
	comp=E,19nm,3.8s						
AFDM	**Forest Hills D**	**5.18**	**106**	Pn	**Pn**	**15 42 22.5**	**+0.6**
AFDM				IAML		15 43 42.4	
	comp=E,11nm,3.8s						
H04D	**Lebanon**	**5.21**	**39**	Pn	**Pn**	**15 42 22.8**	**+0.6**
K05A	**Summer Lake**	**5.29**	**64**	Pn	**Pn**	**15 42 24.1**	**+0.5**
K05A				IAML		15 45 40.4	
	comp=E,18nm,4.4s						
J05D	**Fort Rock, OR**	**5.30**	**57**	Pn	**Pn**	**15 42 24.0**	**+0.3**
J05D				IAML		15 44 40.6	
	comp=N,24nm,4.3s						
J05D				IAML		15 44 49.4	
	comp=E,20nm,3.5s						
H04A	**Detroit Lake**	**5.59**	**41**	Pn	**Pn**	**15 42 26.2**	**-1.4**
PINE	**Pine Mountain**	**5.74**	**54**	Pn	**Pn**	**15 42 29.9**	**+0.2**
CMB	**Columbia Colle**	**5.97**	**113**	Pn	**Pn**	**15 42 32.4**	**-0.5**
SAO	**San Andreas Ge**	**5.99**	**128**	Pn	**Pn**	**15 42 31.7**	**-1.3**
PNTR	**Pine Nut**	**6.15**	**102**	Pn	**Pn**	**15 42 36.5**	**+1.1**
BBGB	**Big Mountain B**	**6.36**	**127**	Pn	**Pn**	**15 42 37.0**	**-1.2**
YERR	**Yerington**	**6.45**	**102**	Pn	**Pn**	**15 42 38.5**	**-1.1**
WAKR	**Walker**	**6.46**	**106**	Pn	**Pn**	**15 42 40.7**	**+1.0**
PMPB	**Monarch Peak**	**6.74**	**128**	Pn	**Pn**	**15 42 42.2**	**-1.2**
I07A	**Izee**	**6.78**	**56**	Pn	**Pn**	**15 42 45.5**	**+1.5**
WVOR	**Wild Horse Val**	**6.80**	**71**	Pn	**Pn**	**15 42 43.6**	**-0.7**
MDPB	**Devils Postpil**	**7.08**	**112**	Pn	**Pn**	**15 42 50.2**	**+2.1**
J08A	**Circle Bar Ran**	**7.17**	**64**	Pn	**Pn**	**15 42 49.8**	**+0.4**
KVN	**Kaiserville**	**7.29**	**99**	Pn	**Pn**	**15 42 50.1**	**-0.9**
NVAR	**Mina Array Bea**	**7.32**	**104**	Pn	**Pn**	**15 42 55.1**	**+3.6**
	comp=E,0.5nm,0.6s,baz=278,slow=14,SNR=5.0						
LON	**Longmire**	**7.36**	**31**	Pn	**Pn**	**15 42 49.8**	**-2.0**
G08A	**Pilot Rock**	**7.75**	**50**	Pn	**Pn**	**15 42 57.1**	**-0.1**
LTY	**Liberty**	**8.23**	**34**	Pn	**Pn**	**15 43 03.5**	**-0.3**
BMO	**Blue Mountains**	**8.54**	**57**	Pn	**Pn**	**15 43 08.2**	**+0.1**
CCAC	**Calif City Air**	**9.16**	**123**	Pn	**Pn**	**15 43 16.4**	**-0.1**
WCT	**Wildcat Mounta**	**9.20**	**111**	Pn	**Pn**	**15 43 18.5**	**+1.4**
PLID	**Pearl Lake**	**9.47**	**58**	Pn	**Pn**	**15 43 21.9**	**+0.8**
GSC	**Goldstone, Bar**	**9.86**	**119**	Pn	**Pn**	**15 43 26.3**	**+0.2**
HLID	**Hailey**	**10.07**	**69**	Pn	**Pn**	**15 43 31.8**	**+2.7**
SHPR	**Sheep Range**	**10.38**	**109**	Pn	**Pn**	**15 43 36.0**	**+2.6**
WTNK	**Soaring Height**	**10.63**	**110**	Pn	**Pn**	**15 43 36.2**	**-0.5**
PFO	**Pinyon Flats O**	**11.13**	**125**	LR	LR	15 47 46.1	
	comp=E,83nm,19.3s,baz=272,slow=36						
W13A	**Hualapai Mount**	**11.97**	**113**	Pn	**Pn**	**15 43 54.4**	**-0.8**
U15A	**North Rim**	**12.51**	**105**	Pn	**Pn**	**15 44 03.0**	**+0.4**
FLWY	**Flagg Ranch**	**12.81**	**69**	Pn	**Pn**	**15 44 08.0**	**+1.4**
P18A	**Preston Nutter**	**13.13**	**89**	Pn	**Pn**	**15 44 13.9**	**+2.7**
PDAR	**Pinedale Array**	**13.48**	**75**	Pn	**Pn**	**15 44 20.2**	**+4.4**
	comp=E,0.1nm,0.3s,baz=266,slow=7.2,SNR=1.8						
	comp=E,0.2nm,0.4s						
X16A	**Lo Mia Camp, P**	**14.04**	**111**	Pn	**Pn**	**15 44 24.3**	**+0.7**
K22A	**Casper**	**15.71**	**76**	Pn	**Pn**	**15 44 45.4**	**-0.5**
EDM	**Edmonton**	**15.81**	**32**	Pn	**Pn**	**15 44 45.9**	**-1.1**
EDM				IAmb	IAmb	15 45 01.3	
	comp=Z,23nm,1.1s						
ISCO	**Idaho Springs**	**16.63**	**86**	P	**P**	**15 45 00.3**	**+0.1**
Q24A	**Divide**	**17.14**	**88**	Pn	**Pn**	**15 45 04.2**	**0.0**
SDCO	**Great Sand Dun**	**17.18**	**92**		**Pn**	**15 45 05.3**	**+0.6**
DLBC	**Dease Lake**	**17.95**	**355**	P	**P**	**15 45 16.1**	**+1.6**
	comp=Z,0.1nm,0.3s,baz=168,slow=19,SNR=5.5						
	comp=Z,1.6nm,0.7s						
VHRN	**Van Horn**	**20.58**	**111**	P	**P**	**15 45 43.5**	**0.0**
VHRN				IAmb	IAmb	15 46 13.9	
	comp=Z,11nm,1.3s						
K30B	**Basset**	**20.81**	**75**	P	**P**	**15 45 47.6**	**+1.8**
N32M	**Quiet Lake**	**20.89**	**352**	P	**P**	**15 45 44.7**	**-1.8**
AMTX	**Amarillo**	**21.05**	**97**	P	**P**	**15 45 48.4**	**-0.1**
AMTX				IAmb	IAmb	15 45 55.7	
	comp=Z,9.9nm,0.9s						
PECS	**Pecos**	**21.06**	**108**	P	**P**	**15 45 48.9**	**+0.2**
CBKS	**Cedar Bluff**	**21.29**	**86**	P	**P**	**15 45 49.8**	**-1.3**
LPIG	**La Paz**	**21.79**	**134**	LR	LR	15 52 41.8	
	comp=Z,36nm,18.3s,baz=214,slow=32						
POST	**Post**	**21.96**	**102**	P	**P**	**15 45 59.1**	**+0.7**
POST				IAmb	IAmb	15 46 38.7	
	comp=Z,4.6nm,0.5s						
FFC	**Flin Flon**	**22.02**	**42**	P	**P**	**15 45 59.4**	**+0.7**
FFC				IAmb	IAmb	15 46 09.0	
	comp=Z,17nm,1.4s						
CTGM	**Chitina Glacie**	**22.14**	**342**	P	**P**	**15 45 59.8**	**-0.3**
CTGM				IAmb	IAmb	15 46 04.3	
	comp=Z,11nm,1.1s						
TX31	**Lajitas Ar. Si**	**22.35**	**113**	P	**P**	**15 46 01.6**	**-1.0**
TXAR	**Lajitas Array**	**22.35**	**113**	P	**P**	**15 46 00.9**	**-1.7**
TXAR	**Lajitas Array**	**22.35**	**113**	P	**P**	**15 46 05.7**	**+3.1**
	comp=Z,2.0nm,0.9s,baz=294,slow=8.7,SNR=18						
	comp=Z,2.0nm,0.9s						
SN07	**Snyder 07**	**22.41**	**101**	P	**P**	**15 46 03.9**	**+0.9**
SN07				IAmb	IAmb	15 46 14.9	
	comp=Z,18nm,1.4s						
OK035	**E0210 Rd and N**	**22.66**	**91**	P	**P**	**15 46 07.2**	**+1.5**
M30M	**Minto, Yukon**	**22.74**	**349**	P	**P**	**15 46 06.3**	**-0.1**
ECSD	**EROS Data Cent**	**22.94**	**72**	P	**P**	**15 46 08.2**	**-0.3**
ECSD				IAmb	IAmb	15 46 12.3	
	comp=Z,7.0nm,0.9s						
KAN14	**Manchester OK**	**23.15**	**89**	P	**P**	**15 46 10.7**	**-0.1**
YKA	**Yellowknife Ar**	**23.24**	**15**	P	**P**	**15 46 13.6**	**+2.2**
	comp=Z,0.4nm,0.6s,baz=211,slow=9.4,SNR=4.9						
	comp=Z,0.4nm,0.6s						
KAN17	**Caldwell West**	**23.27**	**89**	P	**P**	**15 46 13.4**	**+1.3**
KDAK	**Kodiak Island**	**23.61**	**325**	LR	LR	15 53 00.3	
	comp=Z,56nm,20.4s,baz=176,slow=30						
T35A	**Sooner Cattle**	**24.27**	**89**	P	**P**	**15 46 20.2**	**-1.4**
OK052	**Battle Ridge R**	**24.35**	**91**	P	**P**	**15 46 23.3**	**+0.9**
OK052				IAmb	IAmb	15 46 25.5	
	comp=Z,11nm,1.1s						
DRIO	**Del Rio**	**24.47**	**109**	P	**P**	**15 46 24.7**	**+1.1**
DRIO				IAmb	IAmb	15 46 35.6	
	comp=Z,3.8nm,0.8s						
JCT	**Junction City**	**24.50**	**106**	P	**P**	**15 46 25.3**	**+1.5**
BRDY	**Brady**	**24.68**	**103**	P	**P**	**15 46 25.4**	**0.0**
BRDY				IAmb	IAmb	15 46 28.9	
	comp=Z,4.2nm,1.0s						
K27K	**Chicken**	**25.02**	**345**	P	**P**	**15 46 28.9**	**+0.8**
K27K				IAmb	IAmb	15 46 32.5	
	comp=Z,11nm,1.5s						
I30M	**Mount Dempster**	**25.22**	**351**	P	**P**	**15 46 30.9**	**+0.8**
I30M				IAmb	IAmb	15 46 35.2	
	comp=Z,4.0nm,1.1s						
H31M	**Peel River**	**25.58**	**353**	P	**P**	**15 46 33.9**	**+0.6**
H29M	**Whitestone**	**26.43**	**350**	P	**P**	**15 46 41.4**	**+0.5**
H29M				IAmb	IAmb	15 46 44.0	
	comp=Z,6.6nm,0.9s						
G31M	**Satah River**	**26.67**	**354**	P	**P**	**15 46 44.0**	**+1.0**
G31M				IAmb	IAmb	15 46 45.3	
	comp=Z,9.1nm,1.1s						
ILAR	**Eielson Array**	**26.73**	**341**	P	**P**	**15 46 44.8**	**+1.1**
	comp=Z,1.0nm,0.9s,baz=153,slow=10,SNR=8.0						
	comp=Z,1.0nm,0.9s						
G29M	**Pine Creek**	**27.04**	**351**	P	**P**	**15 46 45.8**	**-0.6**
G29M				IAmb	IAmb	15 46 49.2	
	comp=Z,7.8nm,1.0s						
T50A	**Nancy**	**33.09**	**82**	P	**P**	**15 47 40.6**	**+0.3**
TKL	**Tuckaleechee C**	**34.37**	**84**	LR	LR	16 03 38.8	
	comp=Z,15nm,18.7s,baz=310,slow=39						
SADO	**Sadowa**	**35.28**	**67**	LR	LR	16 02 51.9	
	comp=Z,71nm,18.3s,baz=348,slow=37						
FRB	**Frobisher Bay**	**40.90**	**36**	LR	LR	16 06 22.3	
	comp=Z,30nm,20.3s,baz=320,slow=37						
SEY	**Seymchan**	**50.57**	**324**	LR	LR	16 09 50.3	
	comp=Z,38nm,19.0s,baz=98,slow=34						
MA2	**Magadan**	**52.22**	**320**	LR	LR	16 10 52.1	
	comp=Z,18nm,19.9s,baz=137,slow=34						
TIXI	**Tiksi**	**56.14**	**338**	P	**P**	**15 50 43.2**	**-0.3**
TIXI				IAmb	IAmb	15 50 50.7	
	comp=Z,5.3nm,1.4s						
H11N3	**WAKE ISLAND Hy**	**59.19**	**270**	T	T	16 55 10.2	
	baz=53,slow=75,SNR=35						
H11N2	**WAKE ISLAND Hy**	**59.19**	**270**	T	T	16 55 09.8	
	baz=53,slow=75,SNR=30						
H11N1	**WAKE ISLAND Hy**	**59.21**	**270**	T	T	16 55 11.0	
	baz=53,slow=75,SNR=23						
BORG	**Borgarnes**	**60.32**	**28**	LR	LR	16 15 39.3	
	comp=Z,39nm,18.4s,baz=319,slow=34						
PCRV	**Puerto La Cruz**	**62.78**	**100**	LR	LR	16 21 01.2	
	comp=Z,22nm,19.6s,slow=38						
USRK	**Ussuriysk Ar.**	**69.58**	**311**	P	**P**	**15 52 10.5**	**-2.9**
NOA	**NORSAR Array B**	**73.25**	**20**	P	**P**	**15 52 36.8**	**+1.5**
	comp=Z,0.6nm,0.7s,baz=331,slow=5.5,SNR=2.9						
	comp=Z,0.6nm,0.7s						
JCJ	**Chichijima**	**73.25**	**291**	LR	LR	16 18 18.9	
	comp=Z,40nm,21.7s,baz=142,slow=30						
HFS	**Hagfors**	**74.66**	**19**	P	**P**	**15 52 44.4**	**+0.9**
	comp=Z,1.9nm,0.8s,baz=308,slow=7.1,SNR=3.4						
	comp=Z,1.9nm,0.8s						
KSRS	**Korea Array**	**76.21**	**308**	P	**P**	**15 52 52.5**	**-0.3**
	comp=Z,0.3nm,0.7s,baz=52,slow=6.0,SNR=1.9						
KSRS				LR	LR	16 20 53.0	
	comp=Z,5.6nm,20.5s,baz=65,slow=31						
	comp=Z,0.3nm,0.7s						
LPAZ	**La Paz**	**78.83**	**123**	P	**P**	**15 53 09.0**	**+0.6**
	comp=Z,0.9nm,0.4s,baz=319,slow=2.6,SNR=4.1						
	comp=Z,0.9nm,0.4s						
GUMO	**Guam**	**79.63**	**279**	LR	LR	16 23 15.2	
	comp=Z,9.8nm,18.3s,baz=104,slow=32						
SONM	**Songino Array**	**79.89**	**327**	P	**P**	**15 53 12.2**	**-1.1**
SONM				IAmb	IAmb	15 53 15.7	
	comp=Z,4.4nm,1.3s						
SONM	**Songino Array**	**79.89**	**327**	P	**P**	**15 53 14.6**	**+1.2**
	comp=Z,1.1nm,0.8s,baz=58,slow=3.6,SNR=6.5						
	comp=Z,1.1nm,0.8s						
HHC	**Hu-ho-hao-te**	**82.88**	**319**	*eP*	**P**	**15 53 28.0**	**-1.3**
HHC				pmax	pmax		
	comp=Z,18nm,0.7s						
HHC				pmax	pmax		
	comp=Z,50nm,3.7s						
KURBB	**Kurchatov Arra**	**86.38**	**344**	P	**P**	**15 53 46.6**	**0.0**
	comp=Z,0.8nm,0.6s,baz=20,slow=4.9,SNR=5.3						
	comp=Z,0.8nm,0.6s						
AKASG	**Malin Array Be**	**86.81**	**15**	P	**P**	**15 53 47.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=332,slow=3.7,SNR=4.7						
	comp=Z,0.2nm,0.3s						
QSPA	**South Pole Qui**	**130.39**	**180**	PKP	**PKPdf**	**16 00 14.7**	**+0.8**
	comp=Z,2.8nm,1.0s,baz=162,slow=3.2,SNR=5.6						

TAP 30 16:01:36.8, 23°.90N×121°.50E, h6km, ML0.8, 4C-3D, C, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ETM	**Tongmen**	**0.06**	**357**	*i* P	Pg	16 01 39.0	+0.5
	baz=357						
ETM				*e*S	Sg	16 01 40.5	+0.9
	baz=357						
TEYL	**Yanliau Villag**	**0.10**	**110**	*i* P	Pg	16 01 39.6	+0.6
	baz=88						
TEYL				*i* S	Sg	16 01 42.0	+1.5
	baz=88						
ESL	**Shilin**	**0.10**	**213**	P	Pg	16 01 39.4	+0.3
	baz=209						
ESL				*e*S	Sg	16 01 41.5	+0.8
	baz=209						
HWA	**Hwalien**	**0.12**	**53⇑**	*i*P	Pg	16 01 40.0	+0.6
	baz=56						
HWA				*e*S	Sg	16 01 43.1	+1.9
	baz=56						
SHUL	**Shoufeng**	**0.13**	**152**	⇓P	Pg	16 01 39.9	+0.4
	baz=159						
SHUL				S	Sg	16 01 42.6	+1.3
	baz=159						
LXIB	**Xiulin Townshi**	**0.14**	**327⇑**	*e*P	Pg	16 01 40.5	+0.6
	baz=327						
LXIB				*i* S	Sg	16 01 43.0	+1.2
	baz=327						
TWD	**Chiawan**	**0.20**	**27**	*e*P	Pg	16 01 40.8	0.0
	baz=29						
TWD				*e*S	Sg	16 01 43.5	0.0
	baz=29						
WARBT	**Fenglin Townsh**	**0.21**	**209⇓**	*i*P	Pg	16 01 41.1	+0.1
	baz=209						
WARBT				*e*S	Sg	16 01 44.3	+0.6
	baz=209						
EGFH	**Guangfu**	**0.24**	**195**	*i* P	Pg	16 01 41.6	+0.1
	baz=201						
EGFH				*i* S	Sg	16 01 45.8	+1.1
	baz=201						
NACB	**Ninganchiao**	**0.28**	**18**	P	Pg	16 01 43.2	+0.8
	baz=18						
NACB				*i* S	Sb	16 01 48.0	-1.4
	baz=18						
CHGB	**Renai**	**0.33**	**298**	*i* P	Pg	16 01 43.5	+0.1
	baz=298						
CHGB				S	Sg	16 01 49.4	+1.5
	baz=298						
VWDT	**VWDT**	**0.36**	**246**	*i* P	Pg	16 01 43.9	+0.2
	baz=246						
VWDT				*e*S	Sb	16 01 50.1	-1.3
	baz=246						
WUSB	**Renai**	**0.36**	**285**	*e*P	Pg	16 01 44.7	+0.9
	baz=284						
WUSB				*e*S	Sg	16 01 49.2	+0.6
	baz=284						
EHY	**Hungye**	**0.42**	**202**	P	Pg	16 01 45.4	+0.3
	baz=209						
EHY				*i* S	Sg	16 01 51.7	+1.0
	baz=209						
SSLB	**Suanglung**	**0.51**	**257**	*i* P	Pg	16 01 46.6	0.0
	baz=257						
SSLB				*e*S	Sg	16 01 53.9	+0.5
	baz=257						
NNSB	**Datong**	**0.53**	**349**	P	Pg	16 01 47.5	+0.4
	baz=349						
NNSB				S	Sb	16 01 55.6	-1.2
	baz=349						
YULB	**Yu-li**	**0.54**	**200**	⇑P	Pg	16 01 46.9	-0.3
	baz=201						
YULB				S	Sg	16 01 55.2	+0.9
	baz=201						
NNS	**Nan Shan**	**0.55**	**348⇓**	*e*P	Pg	16 01 46.7	-0.7
	baz=349						
NNS				*e*S	Sg	16 01 54.5	-0.1
	baz=349						
WCS	**Beigang Elemen**	**0.56**	**286**	*e*P	Pb	16 01 48.4	-0.6
	baz=285						
WCS				*i* S	Sg	16 01 55.9	+1.1
	baz=285						
EYUL	**Yuli**	**0.58**	**196**	⇑P	Pg	16 01 47.6	-0.3
	baz=205						
TWF1	**Yuli**	**0.58**	**198**	P	Pg	16 01 47.9	0.0
	baz=206						
TWF1				*i* S	Sg	16 01 56.5	+1.0
	baz=206						
ENTT	**Nioudou**	**0.74**	**5**	*i* P	Pg	16 01 51.1	+0.1
	baz=6.0						
YHNB	**Yeheng**	**0.77**	**352**	*i* P	Pg	16 01 51.8	+0.1
YHNB				*e*S	Sb	16 02 03.5	-0.1

TAP 30 16:01:53.4, 24°.80N×121°.66E, h12km, ML0.6, B, Taiwan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FUSB	**Fushanzhiwuyua**	**0.08**	**238**	P	Pg	16 01 57.1	+1.1
	baz=238						
FUSB				*e*S	Sg	16 01 59.6	+1.6
	baz=238						
TWE	**Neicheng**	**0.08**	**177**	*e*P	Pg	16 01 55.8	-0.1
	baz=167						
TWE				*e*S	Sg	16 01 57.3	-0.6
	baz=167						
NWLT	**Wulai**	**0.15**	**260**	P	Pg	16 01 57.3	+0.4
	baz=260						
NWLT				*i* S	Sg	16 02 00.8	+1.4
	baz=260						
NDS	**Dongshan**	**0.17**	**164**	*e*P	Pg	16 01 57.5	+0.2
	baz=163						
NDS				S	Sg	16 02 01.4	+1.4
	baz=163						
ENTT	**Nioudou**	**0.18**	**209**	P	Pg	16 01 58.0	+0.6
	baz=206						
ENTT				*e*S	Sg	16 02 02.3	+2.0
	baz=206						
ENTT	**Nioudou**	**0.18**	**209**	S	Sg	16 02 02.2	+1.9
	baz=6.0						
TIPB	**Shuangxi**	**0.23**	**41**	S	Sg	16 02 03.4	+1.9
	baz=41						
TWC	**Suao**	**0.26**	**139**	*e*P	Pb	16 02 00.6	+0.7
	baz=137						
TWC				*i* S	Sb	16 02 04.5	+0.2
	baz=137						
ESAO	**Su ao**	**0.28**	**144**	*e*P	Pb	16 02 00.6	+0.3
	baz=143						
LATG	**Datong**	**0.29**	**205**	*i* P	Pb	16 02 00.3	-0.3
	baz=205						
LATG				*e*S	Sb	16 02 04.7	-0.8
	baz=205						
YHNB	**Yeheng**	**0.29**	**243**	P	Pb	16 02 00.5	-0.1
	baz=243						
YHNB				S	Sb	16 02 05.5	0.0
	baz=243						
NSK	**Sanguang**	**0.30**	**246**	*i* P	Pb	16 02 00.4	-0.4
	baz=244						
NSK				*e*S	Sg	16 02 04.5	+0.8
	baz=244						
YM01	**YM01**	**0.35**	**346**	P	Pb	16 02 01.3	-0.3
	baz=346						
YM01				S	Sb	16 02 06.8	-0.3
	baz=346						

*DNK **30** 16:16:32.3±0.3, 80°.72N×3°.06W, h10km, ML2.7*
*IDC **30** 16:16:33.0±0.6, 80°.58N×3°.80W, h0km, mb3.7/18, mbtmp3.8/20, ML4.3/2, MS3.2/27, Error ellipse: s-maj=19.4km s-min=12.1km az=34.0*
*NEIC **30** 16:16:34.4±2.5, 80°.6N±0°.1×3°.4W±0°.5, h10km±1km, mb4.1/21, Error ellipse: s-maj=20.5km s-min=13.0km az=15.0*
*BER **30** 16:16:34.2±3.1, 80°.62N×3°.47W, h10km, mb(Pn)4.2, ML4.2(NAO), Confirmed Earthquake*
*KOLA **30** 16:16:35.5, 81°.09N×0°.13W, h0km, ML2.5, Error ellipse: s-maj=166.0km s-min=42.9km az=60.0, Greenland sea, Knipovich ridge, north*
*FCIAR **30** 16:16:35.0, 80°.52N×2°.73W, h10km, station ZFI2 has station magnitude of 3.80*

ISC 30 16:16:34.1±0.5, 80°.55N±0°.07×2°.97W±0°.05, h10km, n120, σ2§09/109, mb4.0/27, MS3.2/25, 3C, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NOR	**Nord**	**2.38**	**303**	Pn	Pn	16 17 09.9	-3.1
NOR	**Nord**	**2.38**	**303⇑**	*i*P	Pn	16 17 09.9	-3.1
NOR	**Nord**	**2.38**	**303**	*i* P	Pn	16 17 09.9	-3.1
NOR				IAML		16 17 25.4	
	comp=Z,69nm,0.7s						
KBS	**Kingsbay**	**3.12**	**114**	Pn	**Pn**	**16 17 22.1**	**

HSPB	**Hornsund (broa**	**5.05**	**125**	P		**Pn**	**16 17 49.4**	**-0.3**
HSPB				S		**Sn**	**16 18 45.4**	**-2.5**
HSPB	**Hornsund (broa**	**5.05**	**125**	*eP*		**Pn**	**16 17 49.6**	**-0.1**
HSPB				*eS*		**Sn**	**16 18 45.7**	**-2.2**
HSPB				IAML			16 18 48.4	
	comp=Z,31nm,0.4s							
HOPEN	**Hopen**	**6.81**	**112**	Pn		**Pn**	**16 18 12.9**	**-0.9**
HOPEN				Sn		**Sn**	**16 19 26.0**	**-5.3**
HOPEN	**Hopen**	**6.81**	**112**	*eP*		**Pn**	**16 18 12.7**	**-1.1**
HOPEN				*eS*		**Sn**	**16 19 25.4**	**-5.8**
HOPEN				IAML			16 19 30.6	
	comp=Z,28nm,0.3s							
HOPEN	**Hopen**	**6.81**	**112**	*eP*		**Pn**	**16 18 12.7**	**-1.1**
HOPEN				*eS*		**Sn**	**16 19 24.1**	**-7.1**
DBG	**Daneborg**	**7.27**	**220**	Pn		**Pn**	**16 18 18.1**	**-1.9**
DBG				Sn		Sn	16 19 35.8	-6.7
DBG	**Daneborg**	**7.27**	**220**	*eP*		**Pn**	**16 18 18.3**	**-1.8**
DBG				*eS*		Sn	16 19 32.8	-10
DBG	**Daneborg**	**7.27**	**220**	*i P*		**Pn**	**16 18 18.4**	**-1.7**
DBG				IAML			16 19 43.8	
	comp=Z,20nm,0.4s							
BJO1	**Bjornoya**	**7.63**	**131**	Pn		**Pn**	**16 18 26.4**	**+1.2**
BJO1	**Bjornoya**	**7.63**	**131**	*eP*		**Pn**	**16 18 28.2**	**+3.0**
ZFI2	**Zemlya Franca-**	**8.00**	**63**	*eP*		**Pn**	**16 18 28.1**	**-2.0**
ZFI2				*eS*		Sn	16 19 50.9	-10
	comp=Z,24nm,1.2s							
OMEGA	**Omega**	**8.02**	**63**	*eP*		**Pn**	**16 18 28.2**	**-2.2**
OMEGA				*eS*		Sn	16 19 51.0	-10
NEEM	**North Greenlan**	**9.42**	**276**	*i P*		Pn	16 18 45.0	-4.9
NEEM				*i S*		Sn	16 20 23.1	-13
NEEM				IAML			16 20 27.5	
	comp=Z,20nm,0.7s							
JNW	**Jan Mayen West**	**9.66**	**191**	*eP*		**Pn**	**16 18 54.3**	**+1.3**
JMIC	**Jan Mayen**	**9.71**	**191**	*eP*		**Pn**	**16 18 54.5**	**+1.0**
JMIC	**Jan Mayen**	**9.71**	**191**	Pn		**Pn**	**16 18 53.0**	**-0.6**
	comp=Z,6.2nm,0.3s,baz=265,slow=6.7,SNR=1.5							
JMIC				Sn		Sn	16 20 34.3	-8.2
	comp=Z,1.9nm,0.3s,baz=229,slow=12,SNR=1.3							
	comp=Z,21nm,0.4s							
SCO	**Scoresbysund**	**11.07**	**215**	Pn		**Pn**	**16 19 11.6**	**-0.6**
SCO	**Scoresbysund**	**11.07**	**215**	*i P*		**Pn**	**16 19 11.5**	**-0.6**
SUMG	**Summit**	**11.20**	**244**	Pn		Pn	16 19 11.6	-2.6
SUMG	**Summit**	**11.20**	**244**	*eP*		Pn	16 19 07.1	-7.2
SUMG				*i*			16 19 10.2	
SUMG				*i S*		Sn	16 21 05.9	-14
SUMG				IAML			16 21 09.3	
	comp=Z,12nm,0.5s							
VADS	**Vadso**	**12.96**	**125**	*eP*		**Pn**	**16 19 37.9**	**-0.1**
KEV	**Kevo**	**12.99**	**129**	Pn		**Pn**	**16 19 37.9**	**-0.5**
KEV	**Kevo**	**12.99**	**129**	*eP*		**Pn**	**16 19 40.6**	**+2.2**
ARA0	**ARCESS Array S**	**13.01**	**132**	Pn		**Pn**	**16 19 41.4**	**+2.7**
	baz=355,slow=10							
ARA0	**ARCESS Array S**	**13.01**	**132**	Pn		**Pn**	**16 19 41.4**	**+2.7**
	baz=355,slow=10							
ARCES	**ARCESS Array B**	**13.01**	**132**	Pn		**Pn**	**16 19 40.9**	**+2.2**
ARCES	**ARCESS Array B**	**13.01**	**132**	Pn		**Pn**	**16 19 39.5**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=350,slow=10.0,SNR=24							
ARCES				Sn		**Sn**	**16 21 58.9**	**-4.3**
	comp=Z,0.1nm,0.3s,baz=342,slow=20,SNR=1.5							
ARCES				LR		LR	16 24 33.9	
	comp=Z,29nm,21.6s,baz=20,slow=37							
	comp=Z,2.8nm,0.5s							
UPNV	**Upernavik**	**13.83**	**266**	*i P*		Pn	16 19 42.9	-6.9
UPNV				*i S*		Sn	16 22 02.3	-21
NUUG	**Nuugaatsiaq**	**14.41**	**260**	*i P*		Pn	16 19 50.4	-7.3
ICESG	**Greenland Ices**	**14.52**	**239**	*i P*		Pn	16 19 54.7	-4.8
UMMG	**Uummannaq**	**14.99**	**257**	*i*		Pn	16 19 57.4	-8.1
DY2G	**Dye2**	**17.90**	**244**	*i P*		**Pn**	**16 20 38.6**	**-4.4**
SFJD	**Kangerlussuaq**	**18.08**	**249**	Pn		Pn	16 20 38.5	-6.4
SFJD				IAmb		IAmb	16 21 11.1	
	comp=Z,12nm,0.9s							
SFJD	**Kangerlussuaq**	**18.08**	**249**	P		Pn	16 20 39.5	-5.4
	comp=Z,7.3nm,0.3s,baz=22,slow=11,SNR=22							
SFJD				S		Sn	16 23 45.8	-20
	comp=Z,3.7nm,0.3s,baz=92,slow=22,SNR=5.6							
SFJD	**Kangerlussuaq**	**18.08**	**249**	*i P*		Pn	16 20 39.2	-5.6
RES	**Resolute Bay**	**18.32**	**302**	Pn		Pn	16 20 40.8	-7.0
RES	**Resolute Bay**	**18.32**	**302**	P		Pn	16 20 41.5	-6.3
	comp=Z,3.4nm,0.5s,baz=27,slow=12,SNR=19							
RES				S		Sn	16 23 51.1	-21
	comp=Z,1.6nm,0.6s,baz=141,slow=23,SNR=1.6							
RES				LR		LR	16 27 50.4	
	comp=Z,80nm,20.6s,baz=301,slow=37							
NOA	**NORSAR Array B**	**20.03**	**160**	P		Pn	16 21 09.9	+1.4
	comp=Z,0.2nm,0.3s,baz=353,slow=5.9,SNR=1.8							
NOA				LR		LR	16 27 39.6	
	comp=Z,27nm,21.2s,baz=345,slow=33							
	comp=Z,0.2nm,0.3s							
FIA0	**FINESS Array S**	**20.88**	**139**	P		**P**	**16 21 16.0**	**+0.2**
	baz=337,slow=18							
FIA0	**FINESS Array S**	**20.88**	**139**	P		**P**	**16 21 16.0**	**+0.2**
	baz=337,slow=18							
FINES	**FINESS Array B**	**20.88**	**139**	P		**P**	**16 21 16.2**	**+0.3**
FINES	**FINESS Array B**	**20.88**	**139**	P		**P**	**16 21 18.0**	**+2.1**
	comp=Z,1.9nm,0.9s,baz=352,slow=12,SNR=7.4							
FINES				LR		LR	16 28 55.6	
	comp=Z,46nm,20.9s,baz=352,slow=35							
	comp=Z,1.9nm,0.9s							
HFS	**Hagfors**	**21.08**	**156**	P		**P**	**16 21 19.9**	**+1.9**
	baz=349,slow=10							
HFS	**Hagfors**	**21.08**	**156**	P		**P**	**16 21 19.9**	**+1.9**
	baz=349,slow=10							
HFS	**Hagfors**	**21.08**	**156**	P		**P**	**16 21 20.0**	**+1.9**
	comp=Z,4.2nm,0.7s,baz=357,slow=8.9,SNR=11							
HFS				LR		LR	16 27 35.3	
	comp=Z,50nm,19.1s,baz=354,slow=31							
	comp=Z,4.2nm,0.7s							
FRB	**Frobisher Bay**	**23.97**	**265**	LR		LR	16 31 24.6	
	comp=Z,39nm,20.1s,baz=156,slow=37							
KIRV	**Kirov**	**26.75**	**113**	LR		LR	16 33 34.3	
	comp=Z,34nm,18.1s,baz=61,slow=38							
C23K	**Itkillik River**	**28.76**	**337**	P		**P**	**16 22 30.7**	**-0.5**
INK	**Inuvik**	**28.88**	**324**	LR		LR	16 35 22.2	
	comp=Z,21nm,19.3s,baz=12,slow=39							
E29M	**Blow River**	**29.21**	**327**	P		**P**	**16 22 35.7**	**+0.5**
E29M				IAmb		IAmb	16 22 39.3	
	comp=Z,3.5nm,1.2s							
F28M	**Old Crow**	**30.14**	**329**	P		**P**	**16 22 43.2**	**-0.2**
F28M				IAmb		IAmb	16 22 57.0	
	comp=Z,2.9nm,1.1s							
G31M	**Satah River**	**30.30**	**324**	P		**P**	**16 22 44.5**	**-0.3**
G31M				IAmb		IAmb	16 23 14.0	
	comp=Z,4.4nm,1.2s							
G29M	**Pine Creek**	**30.66**	**327**	P		**P**	**16 22 47.2**	**-0.8**
G29M				IAmb		IAmb	16 22 49.9	
	comp=Z,5.1nm,1.4s							
H29M	**Whitestone**	**31.37**	**327**	P		**P**	**16 22 53.9**	**-0.4**
H29M				IAmb		IAmb	16 22 58.0	
	comp=Z,2.8nm,1.1s							
AKASG	**Malin Array Be**	**31.78**	**140**	P		**P**	**16 22 58.4**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=347,slow=8.6,SNR=2.1							
AKASG				LR		LR	16 35 26.3	
	comp=Z,37nm,20.7s,baz=354,slow=36							
	comp=Z,0.2nm,0.3s							
I30M	**Mount Dempster**	**32.16**	**325**	P		**P**	**16 23 00.1**	**-1.3**
I30M				IAmb		IAmb	16 23 09.7	
	comp=Z,2.0nm,0.8s							
I28M	**Miner Creek**	**32.27**	**328**	P		**P**	**16 23 01.8**	**-0.5**
YKA	**Yellowknife Ar**	**32.30**	**306**	P		**P**	**16 23 00.8**	**-1.7**
	comp=Z,0.7nm,0.8s,baz=8.8,slow=8.9,SNR=6.4							
YKA				LR		LR	16 36 05.6	
	comp=Z,69nm,19.9s,baz=288,slow=36							
	comp=Z,0.7nm,0.8s							
BELG	**Belogornoye**	**32.47**	**118**	LR		LR	16 36 46.4	
	comp=Z,39nm,18.5s,baz=86,slow=37							
ILAR	**Eielson Array**	**33.50**	**333**	P		**P**	**16 23 12.0**	**-1.0**
	comp=Z,0.6nm,0.7s,baz=5.0,slow=7.9,SNR=6.7							
	comp=Z,0.6nm,0.7s							
BPAW	**Bear Paw Mtn.**	**34.46**	**336**	P		**P**	**16 23 19.9**	**-1.5**
BPAW				IAmb		IAmb	16 23 34.9	
	comp=Z,4.3nm,1.3s							
BCAR	**Beaver Creek A**	**34.77**	**328**	P		**P**	**16 23 25.3**	**+1.2**
L27K	**Beaver Creek,**	**34.78**	**328**	P		**P**	**16 23 25.1**	**+1.0**
BVAR	**Borovoye Array**	**35.45**	**94**	P		**P**	**16 23 31.3**	**+1.3**
	comp=Z,0.2nm,0.3s,baz=335,slow=10.0,SNR=2.1							
BVAR				LR		LR	16 40 57.2	
	comp=Z,13nm,20.4s,baz=332,slow=41							
	comp=Z,0.2nm,0.3s							
AKTO	**Aktyubinsk**	**35.96**	**108**	LR		LR	16 39 28.4	
	comp=Z,30nm,20.2s,baz=92,slow=38							
HYT	**Haines Junctio**	**36.58**	**324**	P		**P**	**16 23 40.2**	**+0.5**
HYT				IAmb		IAmb	16 23 41.5	
	comp=Z,1.8nm,0.8s							
MLR	**Muntele Rosu**	**36.61**	**145**	LR		LR	16 38 20.3	
	comp=Z,35nm,19.1s,baz=359,slow=36							
GHO	**Glory Hole Cre**	**36.62**	**333**	P		**P**	**16 23 40.3**	**+0.3**

SUA	**Susitna One**	**37.06**	**335**	P		**P**	**16 23 44.0**	**+0.3**
KURK	**Kurchatov**	**39.04**	**87**	P		**P**	**16 24 02.0**	**+1.6**
KURBB	**Kurchatov Arra**	**39.12**	**87**	P		**P**	**16 24 03.1**	**+2.1**
	comp=Z,4.4nm,0.8s,baz=343,slow=7.6,SNR=35							
	comp=Z,4.4nm,0.8s							
KBZ	**Khabaz**	**40.29**	**126**	P		**P**	**16 24 12.2**	**+1.4**
	comp=Z,2.1nm,0.8s,baz=13,slow=5.3,SNR=3.7							
	comp=Z,2.1nm,0.8s							
KDAK	**Kodiak Island**	**40.85**	**336**	P		**P**	**16 24 15.4**	**+0.1**
ESDC	**Sonseca Array**	**41.01**	**181**	P		**P**	**16 24 16.3**	**-0.6**
	comp=Z,0.5nm,0.6s,baz=359,slow=7.4,SNR=2.7							
	comp=Z,0.5nm,0.6s							
MK31	**Makanchi Array**	**43.45**	**85**	P		**P**	**16 24 38.8**	**+2.1**
MK31				IAmb		IAmb	16 24 48.1	
	comp=Z,3.7nm,1.1s							
MKAR	**Makanchi Array**	**43.45**	**85**	P		**P**	**16 24 38.9**	**+2.2**
	comp=Z,2.3nm,0.7s,baz=336,slow=7.3,SNR=12							
MKAR				LR		LR	16 47 00.9	
	comp=Z,26nm,18.6s,baz=87,slow=42							
	comp=Z,2.3nm,0.7s							
SADO	**Sadowa**	**43.92**	**266**	LR		LR	16 43 38.3	
	comp=Z,31nm,18.4s,baz=352,slow=37							
BBB	**Bella Bella**	**44.06**	**314**	LR		LR	16 45 20.4	
	comp=Z,23nm,18.5s,baz=84,slow=39							
KKAR	**Karatay Array**	**45.10**	**98**	P		**P**	**16 24 52.4**	**+2.5**
SONM	**Songino Array**	**46.22**	**62**	P		**P**	**16 24 59.8**	**+1.0**
	comp=Z,0.8nm,0.8s,baz=341,slow=7.8,SNR=4.1							
SONM				LR		LR	16 44 52.1	
	comp=Z,36nm,20.5s,baz=62,slow=37							
	comp=Z,0.8nm,0.8s							
NEW	**Newport**	**46.48**	**303**	LR		LR	16 44 24.3	
	comp=Z,56nm,19.4s,baz=20,slow=36							
GEYT	**Alibeck**	**48.17**	**112**	P		**P**	**16 25 16.1**	**+2.0**
	comp=Z,2.8nm,0.7s,baz=323,slow=9.6,SNR=7.5							
GEYT				LR		LR	16 52 04.8	
	comp=Z,22nm,18.1s,baz=176,slow=44							
	comp=Z,2.8nm,0.7s							
PDAR	**Pinedale Array**	**50.76**	**294**	P		**P**	**16 25 33.9**	**-0.1**
	comp=Z,0.2nm,0.5s,baz=351,slow=4.6,SNR=1.5							
PDAR				LR		LR	16 47 28.7	
	comp=Z,36nm,18.3s,baz=352,slow=37							
	comp=Z,0.2nm,0.5s							
GTA	**Gaotai**	**53.47**	**70**	*eP*		**P**	**16 25 55.5**	**+1.5**
GTA				pP		pwP	16 26 03.3	+2.9
GTA				pmax		pmax		
	comp=Z,3.0nm,1.1s							
YBH	**Yreka Blue Hor**	**53.65**	**306**	LR		LR	16 49 00.8	
	comp=Z,38nm,18.9s,baz=320,slow=36							
R11B	**Troy Canyon, C**	**55.98**	**299**	P		**P**	**16 26 12.9**	**+0.6**
NVAR	**Mina Array Bea**	**56.29**	**301**	P		**P**	**16 26 14.7**	**+0.1**
	comp=Z,0.3nm,0.5s,baz=20,slow=4.7,SNR=4.6							
	comp=Z,0.3nm,0.5s							
ANMO	**Albuquerque**	**57.95**	**290**	LR		LR	16 51 59.9	
	comp=Z,49nm,20.4s,baz=96,slow=37							
PFO	**Pinyon Flats O**	**60.76**	**299**	LR		LR	16 52 44.0	
	comp=Z,40nm,18.4s,baz=36,slow=36							
TX31	**Lajitas Ar. Si**	**63.00**	**286**	P		**P**	**16 27 00.9**	**+0.1**
TX31				IAmb		IAmb	16 27 10.1	
	comp=Z,1.0nm,0.8s							
TXAR	**Lajitas Array**	**63.00**	**286**	P		**P**	**16 27 00.7**	**-0.1**
TXAR	**Lajitas Array**	**63.00**	**286**	P		**P**	**16 27 01.1**	**+0.4**
	comp=Z,0.5nm,0.5s,baz=45,slow=4.3,SNR=9.3							
	comp=Z,0.5nm,0.5s							
TOA0	**Torodi Ar. Sit**	**67.46**	**175**	P		**P**	**16 27 29.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**67.46**	**175**	P		**P**	**16 27 30.3**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=350,slow=7.0,SNR=7.5							
	comp=Z,0.8nm,0.6s							
LPIG	**La Paz**	**69.17**	**291**	LR		LR	17 01 03.0	
	comp=Z,34nm,18.9s,baz=47,slow=39							
CMAR	**Chiang Mai Arr**	**73.86**	**75**	P		**P**	**16 28 09.2**	**+0.5**
	comp=Z,0.5nm,0.4s,baz=344,slow=5.7,SNR=5.1							
	comp=Z,0.5nm,0.4s							
JTS	**Las Juntas de**	**78.60**	**264**	LR		LR	17 02 34.9	
	comp=Z,22nm,20.3s,baz=35,slow=35							
GUMO	**Guam**	**84.59**	**31**	LR		LR	17 06 31.7	
	comp=Z,7.6nm,21.5s,baz=102,slow=35							

*NEIC **30** 16:17:57.7±1.6, 19°.45N±0°.01×154°.95W±0°.01, h5km±1km, Error ellipse: s-maj=3.1km s-min=2.6km az=123.0*

HVO 30 16:17:56.6±2.2, 19°.45N±0°.02×154°.87W±0°.04, h5km±3km, ML2.8/8,ML2.6/32(NEIC), Error ellipse: s-maj=5.2km s-min=1.3km az=109.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHO	**Puu Honuaula**	**0.04**	**321**		Pg	16 17 59.5	+1.7
PAH	**Pahoa**	**0.09**	**298**		Pg	16 17 58.8	+0.3
PAH					Sg	16 18 00.8	+0.9
JOKA	**Jonika Flow**	**0.13**	**262**	Pg	Pg	16 17 59.1	-0.2
STCH	**Steam Cracks**	**0.25**	**255**	Pg	Pg	16 18 01.2	-0.3
STCH				Sg	Sg	16 18 05.7	+0.8
KNHH	**Kane Nui o Ham**	**0.30**	**256**	Sg	Sg	16 18 06.9	+0.6
PUH	**Pauahi**	**0.34**	**257**	Pg	Pg	16 18 03.1	-0.1
PUH				IAML		16 18 09.3	
	comp=N,492nm,0.8s						
RSD	**Rainshed**	**0.39**	**271**	Pg	Pg	16 18 04.1	-0.1
RSD				IAML		16 18 10.9	
	comp=E,677nm,0.3s						
HLP	**Hilina Pali**	**0.45**	**250**	Pg	Pg	16 18 04.6	-0.6
HLP				Sg	Sg	16 18 11.4	+0.3
HLP				IAML		16 18 12.2	
	comp=N,497nm,0.2s						
MLH	**Mauna Loa**	**0.49**	**275**	Sg	Sg	16 18 12.6	0.0
HMH	**Humu'ula Sheep**	**0.60**	**284**	Pg	Pg	16 18 07.7	-0.5
MLOA	**Mauna Loa Obse**	**0.68**	**277**	Pg	Pg	16 18 08.3	-1.3
MLOA				IAML		16 18 32.6	
	comp=E,256nm,2.4s						
MWH	**Moku'aweowe**	**0.69**	**273**	Pg	Pg	16 18 08.2	-1.8
MWH				IAML		16 18 30.2	
	comp=N,294nm,1.0s						
POHA	**Pohakuloa**	**0.70**	**296**	Pg	Pg	16 18 09.1	-0.9
POHA				IAML		16 18 25.6	
	comp=N,192nm,0.4s						
POHA				IAML		16 18 29.7	
	comp=N,186nm,0.6s						
KHU	**Kahuku**	**0.74**	**254**	Pg	Pg	16 18 09.4	-1.3
KHU				IAML		16 18 20.7	
	comp=N,313nm,1.9s						
ALEP	**Alea Permanent**	**0.74**	**277**		Pg	16 18 09.9	-0.9
HUH	**Hualalai**	**0.94**	**284**	Pg	Pg	16 18 13.7	-1.0

*IDC **30** 16:21:35.6±0.6, 12°.91S×45°.56E, h0km, mb3.9/17, mbtmp3.9/19, ML3.9/2, MS3.5/16, Error ellipse: s-maj=19.4km s-min=15.2km az=101.0*

*NEIC **30** 16:21:35.8±2.3, 12°.78S±0°.07×45°.63E±0°.05, h10km±1km, mb4.6/19, Error ellipse: s-maj=12.4km s-min=7.7km az=335.0*

ISC 30 16:21:36.0±0.4, 12°.91S±0°.05×45°.56E±0°.06, h10km, n75, σ1°.87/70, mb4.4/30, MS3.5/14, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.84**	**165**	Pn	**Pn**	**16 23 04.0**	**+1.1**
	24nm,0.3s,baz=337,slow=12,SNR=353						
OPO				Sn	**Sn**	**16 24 05.2**	**-4.9**
	80nm,0.3s,baz=333,slow=22,SNR=22						
OPO				LR	LR	16 25 24.7	
	comp=Z,480nm,21.7s,baz=187,slow=39						
ABPO	**Ambohimpanom**	**6.28**	**165**		**Pn**	**16 23 09.5**	**+0.5**
ABPO	**Ambohimpanom**	**6.28**	**165**	*eP*	**Pn**	**16 23 09.5**	**+0.5**
VOI	**Vohitsoka**	**9.02**	**173**	Pn	**Pn**	**16 23 46.4**	**-0.2**
FOMA	**Nahampoana Res**	**12.08**	**174**	Pn	**Pn**	**16 24 28.4**	**+0.1**
RER	**Riviere de l'E**	**12.73**	**131**	Pn	**Pn**	**16 24 36.5**	**-0.8**
MSEY	**Mahe Island**	**12.76**	**51**	Pn	**Pn**	**16 24 35.2**	**-2.6**
KIBK	**Kibwezi**	**12.87**	**324**	Pn	**Pn**	**16 24 36.6**	**-2.6**
KIBK	**Kibwezi**	**12.87**	**324**	*eP*	**Pn**	**16 24 37.5**	**-1.8**
KIBK				*eS*	Sn	16 26 52.9	-10
KMBO	**Kilima Mbogo**	**14.31**	**324**	Pn	**Pn**	**16 24 56.2**	**-2.9**
KMBO	**Kilima Mbogo**	**14.31**	**324**	*eP*	**Pn**	**16 24 57.2**	**-1.9**
LSZ	**Lusaka**	**17.02**	**260**	Pn	**Pn**	**16 25 33.9**	**-0.6**
MOPA	**Mopani**	**17.08**	**230**	*eP*	**Pn**	**16 25 35.3**	**+0.2**
MUSN	**Musina, Limpop**	**17.62**	**236**	*eP*	**Pn**	**16 25 42.2**	**+0.3**
MATP	**Matopo**	**17.96**	**243**	P	**P**	**16 25 48.2**	**+1.4**
	0.8nm,0.3s,baz=59,slow=13,SNR=23						
MATP				S	**Sn**	**16 28 59.6**	**-7.2**
	1.6nm,0.6s,baz=314,slow=17,SNR=1.8						
	6.8nm,0.8s						
ROCAM	**Rodrigues Isla**	**18.39**	**114**	P	**Pn**	**16 25 49.5**	**-1.7**
PILG	**Pilgrimsrest,**	**18.43**	**227**	*eP*	**P**	**16 25 52.6**	**+0.6**
MBAR	**Mbarara**	**19.12**	**309**	P	**P**	**16 25 57.3**	**-2.2**
MBAR	**Mbarara**	**19.12**	**309**	P	**P**	**16 25 59.1**	**-0.4**
	0.2nm,0.3s,baz=195,slow=4.8,SNR=1.2						
MBAR				LR	LR	16 33 12.2	
	comp=Z,74nm,20.5s,baz=120,slow=36						
	2.2nm,0.3s						
LODK	**Lodwar**	**19.13**	**327**	P	**P**	**16 25 57.8**	**-1.7**
LODK	**Lodwar**	**19.13**	**327**	*eP*	**Pn**	**16 26 03.8**	**+3.4**
POGA	**Pongola**	**19.35**	**220**	P	**P**	**16 26 01.4**	**-0.4**
POGA				IAmb	IAmb	16 26 07.5	
	comp=Z,53nm,1.2s						
POGA	**Pongola**	**19.35**	**220**	*eP*	**Pn**	**16 26 05.5**	**+2.6**
CRLN	**Carolina, Mapu**	**19.57**	**226**	*eP*	**Pn**	**16 26 06.6**	**+0.8**
LEPH	**Lephalale, Lim**	**20.05**	**235**	*eP*	**P**	**16 26 10.9**	**+1.4**
HRAO	**HartRAO**	**21.20**	**230**	*eP*	**P**	**16 26 23.3**	**+1.1**
PRYS	**Parys**	**22.03**	**228**	*eP*	**P**	**16 26 31.8**	**+0.8**
PRYS				IAmb	IAmb	16 26 37.7	
	comp=Z,15nm,0.7s						
LBTB	**Lobatse**	**22.36**	**235**	P	**P**	**16 26 35.1**	**+0.6**
LBTB				IAmb	IAmb	16 26 39.2	
	comp=Z,19nm,0.8s						
LBTB	**Lobatse**	**22.36**	**235**	*eP*	**P**	**16 26 35.1**	**+0.6**
LBTB				IAmb	IAmb	16 26 39.0	
	comp=Z,19nm,0.8s						
LBTB	**Lobatse**	**22.36**	**235**	P	**P**	**16 26 35.5**	**+1.0**
	comp=Z,17nm,0.8s,baz=60,slow=11,SNR=17						
LBTB				LR	LR	16 35 47.8	
	comp=Z,110nm,18.5s,baz=58,slow=38						
	comp=Z,17nm,0.8s						
SNKL	**Senekal, Frees**	**22.56**	**225**	*eP*	**P**	**16 26 38.6**	**+1.9**
SNKL				IAmb	IAmb	16 26 40.5	
	comp=Z,29nm,0.7s						
BOSA	**Boshof**	**24.53**	**227**	P	**P**	**16 26 56.4**	**+0.3**
BOSA				IAmb	IAmb	16 27 33.3	
	comp=Z,25nm,1.4s						
BOSA	**Boshof**	**24.53**	**227**	*eP*	**P**	**16 26 57.3**	**+1.2**
BOSA				IAmb	IAmb	16 27 09.1	
	comp=Z,19nm,1.2s						
BOSA	**Boshof**	**24.53**	**227**	P	**P**	**16 26 57.4**	**+1.3**
	comp=Z,8.3nm,0.6s,baz=52,slow=9.1,SNR=31						
BOSA				LR	LR	16 36 33.8	
	comp=Z,78nm,20.0s,baz=31,slow=37						
	comp=Z,8.3nm,0.6s						
GRHM	**Grahamstown, E**	**26.79**	**218**	P	**P**	**16 27 17.7**	**+1.3**
GRHM				IAmb	IAmb	16 27 22.2	
	comp=Z,23nm,1.1s						
SOE	**Somerset East**	**26.90**	**220**	P	**P**	**16 27 18.8**	**+1.4**
TSUM	**Tsumeb**	**27.58**	**253**	P	**P**	**16 27 23.7**	**-0.1**
TSUM				IAmb	IAmb	16 27 52.9	
	comp=Z,9.6nm,1.1s						
TSUM	**Tsumeb**	**27.58**	**253**	LR	LR	16 38 04.2	
	comp=Z,145nm,18.0s,baz=87,slow=36						
SUR	**Sutherland**	**29.82**	**225**	P	**P**	**16 27 44.4**	**+0.7**
SUR	**Sutherland**	**29.82**	**225**	LR	LR	16 38 57.6	
	comp=Z,83nm,20.3s,baz=74,slow=35						
PALK	**Pallekele**	**40.26**	**62**	LR	LR	16 43 51.3	
	comp=Z,61nm,18.1s,baz=349,slow=33						
TORD	**Torodi Ar. Bea**	**50.61**	**299**	P	**P**	**16 30 37.7**	**+2.1**
	comp=Z,0.6nm,0.8s,baz=120,slow=8.8,SNR=2.7						
TORD				LR	LR	16 53 27.5	
	comp=Z,53nm,18.2s,baz=170,slow=38						
	comp=Z,0.6nm,0.8s						
BRTR	**Keskin Array B**	**53.53**	**349**	P	**P**	**16 30 57.0**	**-0.1**
	comp=Z,0.6nm,0.7s,baz=168,slow=13,SNR=3.6						
	comp=Z,0.6nm,0.7s						
SIMJ	**Simiganj**	**55.79**	**22**	P	**P**	**16 31 10.9**	**-2.5**
SIMJ				IAmb	IAmb	16 31 21.9	
	comp=Z,5.2nm,0.9s						
MAW	**Mawson**	**55.82**	**172**	LR	LR	16 52 09.2	
	comp=Z,81nm,18.1s,baz=340,slow=33						
KBZ	**Khabaz**	**56.41**	**358**	P	**P**	**16 31 19.7**	**+2.1**
	comp=Z,0.6nm

ISC 30 16:27:56.3±0.8, 12°71'S±0.10×45°70'E±0.10, h10km, n15, σ1°15/15, mb4.1/5, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**6.00**	**166**	**Pn**	**Pn**	**16 29 24.5**	**-0.9**
	3.8nm,0.3s,baz=336,slow=13,SNR=10						
	90nm,0.4s						
ABPO	**Ambohimpanom**	**6.44**	**167**	Pn	**Pn**	**16 29 30.6**	**-0.8**
VOI	**Vohitsoka**	**9.20**	**174**	Pn	**Pn**	**16 30 09.6**	**+0.3**
MSEY	**Mahe Island**	**12.54**	**51**	Pn	**Pn**	**16 30 54.8**	**-0.2**
RER	**Riviere de l'E**	**12.76**	**132**	Pn	**Pn**	**16 30 56.7**	**-1.3**
KIBK	**Kibwezi**	**12.79**	**323**	Pn	**Pn**	**16 30 56.7**	**-1.8**
KMBO	**Kilima Mbogo**	**14.23**	**323**	Pn	**Pn**	**16 31 19.2**	**+0.8**
LSZ	**Lusaka**	**17.18**	**259**		**Pn**	**16 31 57.4**	**+0.6**
LBTB	**Lobatse**	**22.58**	**234**	P	**P**	**16 32 56.1**	**-1.1**
LBTB				IAmb	IAmb	16 33 12.8	
	comp=Z,5.7nm,0.7s						
LBTB	**Lobatse**	**22.58**	**234**	P	**P**	**16 32 56.2**	**-0.9**
	comp=Z,3.2nm,0.7s,baz=69,slow=14,SNR=2.5						
	comp=Z,3.2nm,0.7s						
BOSA	**Boshof**	**24.76**	**227**	P	**P**	**16 33 17.9**	**-0.5**
BOSA	**Boshof**	**24.76**	**227**	P	**P**	**16 33 17.4**	**-1.0**
	comp=Z,2.7nm,0.6s,baz=72,slow=7.9,SNR=7.1						
	comp=Z,2.7nm,0.6s						
SUR	**Sutherland**	**30.06**	**225**	P	**P**	**16 34 06.3**	**+0.3**
SUR				IAmb	IAmb	16 34 22.4	
	comp=Z,8.7nm,1.2s						
ASAR	**Alice Springs**	**83.38**	**113**	P	**P**	**16 40 26.1**	**+1.6**
	comp=Z,0.5nm,0.6s,baz=259,slow=5.1,SNR=15						
	comp=Z,0.5nm,0.6s						
WRA	**Warramunga Arr**	**84.50**	**109**	P	**P**	**16 40 31.7**	**+1.6**
	comp=Z,0.5nm,0.8s,baz=260,slow=3.5,SNR=2.7						
	comp=Z,0.5nm,0.8s						

*HEL **30** 17:01:04.9±0.3, 67°.04N×20°.78E, h0km, ML1.8, Explosion*
*UPP **30** 17:01:05.6±0.1, 67°.05N×20°.98E, h0km, ML2.3, Unknown*
*IDC **30** 17:01:06.3±2.4, 67°.05N×21°.00E, h0km, mbtmp2.6/2, ML2.1/2, Error ellipse: s-maj=37.6km s-min=11.4km az=94.0*

ISC 30 17:01:05.8±0.9, 67°.07N±0°.02×20°.98E±0°.03, h0km, n38, σ1°04/56, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUNU	**Dundret**	**0.17**	**287**	P	**Pg**	**17 01 09.2**	**+0.2**
MASU	**Masugnsbyn**	**0.55**	**45**	P	**Pg**	**17 01 16.4**	**+0.1**
MASU				S	**Sb**	**17 01 25.4**	**-1.4**
ERTU	**Ertsjaerv**	**0.71**	**137**	PG	**Pg**	**17 01 18.4**	**-0.9**
	baz=313						
ERTU				SG	**Sg**	**17 01 28.5**	**0.0**
ERTU	**Ertsjaerv**	**0.71**	**137**	P	**Pg**	**17 01 18.6**	**-0.8**
ERTU				S	**Sg**	**17 01 28.0**	**-0.5**
PAJU	**Pajala**	**0.84**	**92**	PG	**Pg**	**17 01 21.1**	**-0.7**
PAJU				SB	**Sb**	**17 01 33.9**	**-1.0**
PAJU	**Pajala**	**0.84**	**92**	P	**Pg**	**17 01 21.2**	**-0.6**
HARU	**Harads**	**0.92**	**180**	P	**Pg**	**17 01 22.1**	**-1.2**
KUA	**Kurravaara**	**0.92**	**345**	P	**Pg**	**17 01 22.8**	**-0.6**
RATU	**Laukkuluspa**	**0.93**	**325**	P	**Pg**	**17 01 22.9**	**-0.6**
SALU	**Saltoluokta**	**1.01**	**289**	*e*P	**Pg**	**17 01 24.6**	**-0.6**
SALU	**Saltoluokta**	**1.01**	**289**	P	**Pg**	**17 01 24.6**	**-0.6**
LANU	**Lannavaara**	**1.05**	**21**	PG	**Pg**	**17 01 25.3**	**-0.7**
LANU				SB	**Sn**	**17 01 42.3**	**-0.9**
LANU	**Lannavaara**	**1.05**	**21**	P	**Pg**	**17 01 25.2**	**-0.7**
KLF	**Kolari**	**1.18**	**81**	PG	**Pg**	**17 01 27.5**	**-0.7**
KLF				MSG		17 01 43.0	
	comp=Z,8.2nm,0.2s						
KLF				SB	**Sb**	**17 01 45.0**	**+0.3**
KALU	**Kalix**	**1.55**	**141**	PG	**Pn**	**17 01 33.8**	**-0.8**
	baz=324						
KALU				SN	**Sn**	**17 01 55.6**	**+0.3**
KALU	**Kalix**	**1.55**	**141**	P	**Pn**	**17 01 33.8**	**-0.8**
SJUU	**Sjulsmark**	**1.59**	**171**	P	**Pn**	**17 01 34.4**	**-0.8**
TOF	**Tornio**	**1.67**	**125**	PG	**Pn**	**17 01 36.0**	**-0.2**
TOF				MSG		17 01 56.2	
	comp=Z,7.1nm,0.2s						
TOF				SN	**Sn**	**17 01 58.7**	**+0.5**
HEF	**Hetta**	**1.68**	**36**	*e*P	**Pn**	**17 01 36.3**	**-0.2**
HEF	**Hetta**	**1.68**	**36**	PG	**Pn**	**17 01 36.3**	**-0.2**
HEF				MSG		17 01 57.5	
	comp=Z,12nm,0.2s						
HEF				SN	**Sg**	**17 01 60.0**	**+0.1**
RNF	**Rovaniemi**	**2.04**	**101**	PG	**Pn**	**17 01 42.2**	**+0.8**
RNF				SG	**Sb**	**17 02 10.5**	**+0.9**
SGF	**Sodankyl**	**2.19**	**78**	PG	**Pn**	**17 01 44.5**	**+1.2**
SGF				SG	**Sg**	**17 02 15.0**	**-0.9**
I37NO	**I37NO**	**2.20**	**337**	I	I	17 15 22.6	
	baz=156,slow=332,SNR=4.4						
BURU	**Burvik**	**2.51**	**176**	PG	**Pn**	**17 01 48.5**	**+0.7**
	baz=355						
RANF	**Ranua**	**2.56**	**112**	PB	**Pn**	**17 01 49.4**	**+1.0**
RANF				SG	**Sb**	**17 02 24.4**	**+0.1**
TRO	**Tromso**	**2.68**	**344**	SG	**Sg**	**17 02 30.8**	**-1.0**
OUL	**Oulu**	**2.83**	**133**	PB	**Pn**	**17 01 53.5**	**+1.4**
OUL				SG	**Sb**	**17 02 31.7**	**-0.4**
OBF4	**Vikkela, Lumij**	**2.83**	**141**	PB	**Pn**	**17 01 53.2**	**+1.0**
	baz=323						
OBF4				MSG		17 02 28.9	
	comp=Z,2.0nm,0.2s						
OBF0	**Syolatti, Pyha**	**2.91**	**151**	PB	**Pn**	**17 01 54.5**	**+1.2**
OBF0				MSG		17 02 30.9	
	comp=Z,2.9nm,0.2s						
OBF8	**Ulkokalla**	**2.94**	**159**	PB	**Pn**	**17 01 54.9**	**+1.3**
OBF8				MSG		17 02 31.2	
	comp=Z,4.9nm,0.2s						
ARCES	**ARCESS Array B**	**2.99**	**32**	Pn	**Pn**	**17 01 55.0**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=214,slow=14,SNR=21						
ARCES				Sn	**Sn**	**17 02 32.9**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=214,slow=21,SNR=6.8						
	comp=Z,0.5nm,0.3s						
RAJF	**Raja-Jooseppi**	**3.12**	**60**	PN	**Pn**	**17 01 57.5**	**+1.3**
RAJF				SG	**Sg**	**17 02 43.2**	**-2.7**
OUF	**Merijarvi**	**3.13**	**149**	PB	**Pn**	**17 01 57.5**	**+1.2**
	baz=326						
OUF				MSG		17 02 37.1	
	comp=Z,2.1nm,0.2s						
UMAU	**Umeaa**	**3.21**	**182**	PB	**Pn**	**17 01 58.2**	**+0.8**
	baz=4.0						
UMAU				SG	**Sb**	**17 02 43.9**	**+0.8**
VRF	**Varrio**	**3.40**	**75**	PN	**Pn**	**17 02 00.8**	**+0.8**
VRF				SG	**Sb**	**17 02 50.2**	**+1.7**
MSF	**Maaselka**	**3.43**	**106**	PN	**Pn**	**17 02 01.4**	**+0.9**
	baz=288						
MSF				SG	**Sb**	**17 02 52.8**	**+3.2**
KU6	**Riekki**	**3.71**	**102**	PN	**Pn**	**17 02 04.8**	**+0.5**
	baz=290						
FINES	**FINESS Array B**	**6.07**	**156**	Pn	**Pn**	**17 02 37.7**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=346,slow=13,SNR=2.1						
FINES				Sn	**Sn**	**17 03 45.9**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=343,slow=21,SNR=2.4						
	comp=Z,1.3nm,0.8s						

IDC 30 17:07:57.0±11.0, 20°.13S×178°.36W, h581km±125km, mb2.8/4, mbtmp3.7/4, Error ellipse: s-maj=59.1km s-min=34.4km az=65.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.27**	**256**	P	P	17 15 16.4	0.0
	0.8nm,0.4s,baz=91,slow=7.5,SNR=39						
ASAR				PcP	PcP	17 16 48.2	+0.3
	0.4nm,0.9s,baz=92,slow=5.6,SNR=2.6						
	0.8nm,0.4s						
WRA	**Warramunga Arr**	**44.32**	**262**	P	P	17 15 16.4	-0.3
	0.5nm,0.3s,baz=97,slow=7.5,SNR=20						
	0.5nm,0.3s						
QSPA	**South Pole Qui**	**69.94**	**180**	P	P	17 18 10.5	-0.1
	0.3nm,0.4s,baz=241,slow=3.0,SNR=6.2						
	0.3nm,0.4s						
ILAR	**Eielson Array**	**88.03**	**13**	P	P	17 19 46.1	+0.5
	0.2nm,0.5s,baz=215,slow=4.0,SNR=2.0						
	0.2nm,0.5s						
AKASG	**Malin Array Be**	**142.52**	**331**	PKP	PKPdf	17 26 22.6	-1.7
	1.0nm,0.4s,baz=44,slow=4.3,SNR=6.0						

*REN **30** 17:18:18.3±0.9, 38°.08N±0°.01×118°.83W±0°.02, h6km±4km, Error ellipse: s-maj=2.2km s-min=1.7km az=100.0*
*NEIC **30** 17:18:18.5±0.9, 38°.075N±0°.009×118°.81W±0°.02, h7km±3km, Error ellipse: s-maj=2.2km s-min=1.4km az=97.0*
NCEDC 30 17:18:18.5±1.1, 38°.08N±0°.01×118°.83W±0°.02, h2km±4km, Md3.0/43, ML3.0/12(REN), ML2.7/52(NEIC), Error ellipse: s-maj=2.2km s-min=1.6km az=104.0, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HCK	**Huntoon Valley**	**0.19**	**91**		Pg	17 18 22.8	+0.7
MCCR	**Mono Craters**	**0.22**	**224**		Pg	17 18 23.6	+0.8
ANTCA	**Antelope Range**	**0.27**	**128**		Pg	17 18 24.2	+0.6
LUL	**Lundy Lake**	**0.28**	**264**		Pg	17 18 24.6	+0.8
MGNR	**McGee Canyon**	**0.29**	**158**		Pg	17 18 24.5	+0.5
LHV	**Little Huntoon**	**0.31**	**57**		Pg	17 18 25.0	+0.6
LHV	**Little Huntoon**	**0.31**	**57**		Sg	17 18 29.2	+0.7
LHV				IAML		17 18 32.3	
	comp=E,4μm,0.6s						
LHV				IAML		17 18 32.5	
	comp=N,3μm,0.5s						
TVH1	**TV Hill, Hawth**	**0.38**	**8**		Pg	17 18 26.2	+0.3
TVH1	**TV Hill, Hawth**	**0.38**	**8**		Sg	17 18 31.9	+1.1
MLHM	**Little Hot Cre**	**0.40**	**178**		Pg	17 18 26.9	+0.7
MDCM	**Deadman Creek**	**0.41**	**204**		Pg	17 18 26.5	+0.2
BENR	**Benton**	**0.42**	**151**		Pg	17 18 26.7	+0.2
MEMM	**East Mammoth H**	**0.42**	**192**		Pg	17 18 27.1	+0.5
MCSM	**Casa Diablo Ho**	**0.43**	**188**		Pg	17 18 27.2	+0.5
BONR	**Boundary Peak**	**0.44**	**107**		Pg	17 18 27.2	+0.3
MMLB	**Mammoth Lakes**	**0.44**	**196**		Pg	17 18 27.4	+0.5
MCBM	**Casa Benchmark**	**0.44**	**187**		Pg	17 18 27.4	+0.4
MDRNC	**Doe Ridge**	**0.44**	**180**		Pg	17 18 27.4	+0.5
MDYM	**Dry Creek**	**0.45**	**199**		Pg	17 18 27.6	+0.5
MDYM	**Dry Creek**	**0.45**	**199**		Sg	17 18 34.1	+1.3
MLAC	**Mammoth, Mammo**	**0.45**	**180**		Pg	17 18 27.6	+0.4
MLAC	**Mammoth, Mammo**	**0.45**	**180**		Sg	17 18 34.3	+1.3
MGPM	**Gravel Pit**	**0.46**	**187**		Pg	17 18 27.8	+0.5
MINS	**Minaret Summit**	**0.46**	**203**		Pg	17 18 27.6	+0.2
MINS					Sg	17 18 34.1	+0.7
ORC	**Owens River**	**0.47**	**163**		Pg	17 18 27.7	+0.3
MLIM	**Lincoln Peak**	**0.47**	**198**		Pg	17 18 28.1	+0.6
MLCM	**Laurel Creek C**	**0.47**	**188**		Pg	17 18 27.9	+0.4
MMSM	**Mammoth Summit**	**0.48**	**199**		Pg	17 18 28.1	+0.5
MRCM	**Red Rock Canyo**	**0.48**	**148**		Pg	17 18 27.9	+0.2
MDPB	**Devils Postpil**	**0.49**	**204**		Pg	17 18 28.0	+0.2
MDPB					Sg	17 18 34.8	+0.5
MDPB	**Devils Postpil**	**0.49**	**204**	IAML		17 18 35.0	
	comp=E,665nm,0.2s						
MDPB				IAML		17 18 35.6	
	comp=N,462nm,0.3s						
MCVM	**Convict Lake**	**0.49**	**180**		Pg	17 18 28.2	+0.3
MMPM	**Mammoth Pass**	**0.49**	**198**		Pg	17 18 28.3	+0.3
MRCM	**Red Cones**	**0.51**	**201**		Pg	17 18 28.6	+0.3
NV08	**Mina Array Sit**	**0.52**	**51**		Pg	17 18 28.6	+0.2
NV08					Sg	17 18 36.0	+0.9
NV09	**Mina Array Sit**	**0.53**	**48**		Pg	17 18 28.8	+0.2
NV09					Sg	17 18 36.7	+1.3
NVAR	**Mina Array Bea**	**0.54**	**50**		Pg	17 18 28.6	-0.3
CASR	**Casa Diablo Mo**	**0.55**	**156**		Pg	17 18 29.1	0.0
RYN	**Ryan**	**0.60**	**24**		Pg	17 18 30.2	+0.2
RYN					Sg	17 18 39.0	+1.3
RYN	**Ryan**	**0.60**	**24**	IAML		17 18 39.3	
	comp=N,668nm,0.2s						
RYN				IAML		17 18 39.6	
	comp=E,472nm,0.2s						
RCCR	**Rock Creek Can**	**0.60**	**172**		Pg	17 18 30.1	+0.1
MCDM	**Chidago Canyon**	**0.61**	**150**		Pg	17 18 30.6	+0.3
MLNR	**Milner Canyon**	**0.62**	**141**		Pg	17 18 30.6	+0.2
WAKR	**Walker**	**0.64**	**312**		Pg	17 18 30.9	+0.2
WAKR	**Walker**	**0.64**	**312**		Sg	17 18 40.0	+1.0
WAKR	**Walker**	**0.64**	**312**	IAML		17 18 40.0	
	comp=N,200nm,0.7s						
NV11	**Mina Array Sit**	**0.64**	**56**		Pg	17 18 30.9	+0.1
NV11					Sg	17 18 39.5	+0.5
NV11	**Mina Array Sit**	**0.64**	**56**	IAML		17 18 40.0	
	comp=E,446nm,0.5s						
NV11				IAML		17 18 40.2	
	comp=N,376nm,0.5s						
MFBM	**Five Bridges**	**0.72**	**154**		Pg	17 18 32.6	+0.2
SCHCA	**Schoellite**	**0.73**	**171**		Pg	17 18 32.5	+0.1
MTUM	**Tungsten Hills**	**0.76**	**164**		Pg	17 18 33.0	0.0
BHPR	**Bishop**	**0.83**	**161**		Pg	17 18 34.4	0.0
POCCA	**Poleta Canyon**	**0.84**	**148**		Pg	17 18 34.5	-0.1
KCC	**Kaiser Creek**	**0.85**	**207**		Pg	17 18 34.5	-0.2
YERR	**Yerington**	**0.96**	**341**		Pg	17 18 36.6	-0.3
YERR	**Yerington**	**0.96**	**341**	IAML		17 18 56.6	
	comp=N,300nm,0.3s						
DSP	**Deep Springs**	**0.98**	**136**		Pg	17 18 37.1	-0.3
KVN	**Kaiserville**	**1.13**	**30**		Pg	17 18 39.6	-0.5
KVN	**Kaiserville**	**1.13**	**30**	IAML		17 18 59.4	
	comp=N,142nm,0.6s						
PNTR	**Pine Nut**	**1.17**	**329**		Pg	17 18 40.6	-0.4
MZP	**Montezuma Peak**	**1.21**	**108**		Pg	17 18 41.5	-0.1
CMB	**Columbia Colle**	**1.23**	**268**		Pg	17 18 41.1	0.0
CMB	**Columbia Colle**	**1.23**	**268**	Pg	Pg	17 18 40.9	-1.2
CMB	**Columbia Colle**	**1.23**	**268**	IAML		17 18 57.5	
	comp=N,198nm,0.4s						
CMB				IAML		17 18 57.9	
	comp=E,98nm,0.2s						
TPH	**Tonopah**	**1.27**	**90**		Pg	17 18 42.4	-0.4
FRI	**Friant**	**1.29**	**213**		Pg	17 18 42.5	-0.8
EMB	**Emerald Bay**	**1.34**	**312**		Pg	17 18 44.0	-0.2
EMB	**Emerald Bay**	**1.34**	**312**	IAML		17 19 02.7	
	comp=N,141nm,0.8s						
EMB				IAML		17 19 06.8	
	comp=E,95nm,0.5s						
RUBR	**Rubicon Trail**	**1.42**	**313**		Pn	17 18 45.5	0.0
MYLM	**Yosemite Lake**	**1.44**	**242**		Pn	17 18 45.6	+0.1
GMN	**Gold Mountain**	**1.47**	**122**		Pn	17 18 45.6	-0.5
GMN	**Gold Mountain**	**1.47**	**122**	IAML		17 19 11.7	
	comp=N,81nm,0.5s						
Q09A	**Carvers**	**1.50**	**59**		Pb	17 18 47.0	-0.1
MPK	**Martis Peak**	**1.53**	**323**		Pb	17 18 47.4	-0.3
MPK	**Martis Peak**	**1.53**	**323**		Sn	17 19 07.5	-0.2
GRAC	**Grapevine Rang**	**1.59**	**132**		Pg	17 18 49.1	+0.2
GRAC	**Grapevine Rang**	**1.59**	**132**		Pn	17 18 47.3	-0.3
GRAC	**Grapevine Rang**	**1.59**	**132**	IAML		17 19 16.6	
	comp=E,114nm,0.7s						
GRAC				IAML		17 19 20.5	
	comp=N,117nm,0.7s						
PAHR	**Pah Rah Range**	**1.68**	**345**		Pn	17 18 48.9	-0.1
PAHR	**Pah Rah Range**	**1.68**	**345**	IAML		17 19 14.2	
	comp=E,122nm,0.5s						
PAHR				IAML		17 19 14.4	
	comp=N,124nm,0.4s						
DONR	**Donner Summit**	**1.72**	**318**		Pb	17 18 50.5	-0.5
PEAR	**Peavine Mounta**	**1.76**	**330**		Pb	17 18 51.6	0.0
SGV	**South Grapevin**	**1.80**	**127**		Pn	17 18 50.3	-0.4
AFDM	**Forest Hills D**	**1.89**	**298**		Pb	17 18 53.1	-0.6
AFDM	**Forest Hills D**	**1.89**	**298**	IAML		17 19 20.5	
	comp=E,81nm,0.6s						
AFDM				IAML		17 19 21.0	
	comp=N,67nm,0.2s						
LOY	**Loyalton**	**1.92**	**326**		Pb	17 18 54.7	+0.4
BEKR	**Beckworth**	**2.14**	**327**		Pb	17 18 57.5	-0.6
WCT	**Wildcat Mounta**	**2.18**	**126**	Pn	Pn	17 18 55.2	-0.6
BBGB	**Big Mountain B**	**2.31**	**230**		Pn	17 18 57.3	-0.4
BCGM	**Cienega Road**	**2.42**	**236**		Pg	17 19 04.1	-0.8
PMPB	**Monarch Peak**	**2.44**	**221**		Pb	17 19 02.1	-0.9
S11A	**Rachel**	**2.48**	**99**		Pn	17 18 58.6	-1.4
NSP	**Numbskull Pass**	**2.48**	**122**		Pn	17 18 59.9	-0.1
CPY	**CP-1**	**2.49**	**117**		Pb	17 19 04.5	+0.6
CNIC	**Nies Canyon**	**2.52**	**260**		Pn	17 18 58.9	-1.5
GWY	**Greenwater Val**	**2.56**	**137**		Pn	17 19 00.6	-0.6
GWY	**Greenwater Val**	**2.56**	**137**	IAML		17 19 55.2	
	comp=E,23nm,1.3s						
R11B	**Troy Canyon, C**	**2.57**	**83**	IAML		17 19 40.3	
	comp=N,28nm,0.9s						
R11B				IAML		17 19 42.2	
	comp=E,25nm,0.3s						
SUTB	**Sutter Butte**	**2.58**	**297**		Pb	17 19 05.5	+0.1
AMDNV	**Amargosa**	**2.60**	**128**		Pn	17 19 01.8	+0.3
QSM	**Queen of Sheba**	**2.63**	**143**		Pb	17 19 06.6	+0.3
BMN	**Battle Mountai**	**2.66**	**28**		Pn	17 19 02.0	-0.5
PRN	**Pahroc Range**	**3.07**	**101**	Pn	Pn	17 19 08.1	0.0
SHPR	**Sheep Range**	**3.32**	**117**	Pn	Pn	17 19 11.3	-0.3
ELK	**Elko**	**3.85**	**45**		Pn	17 19 18.3	-0.6
ELK				IAML		17 20 23.7	
	comp=E,10.0nm,0.5s						
ELK				IAML		17 20 24.0	
	comp=E,11nm,0.3s						

IDC 30 17:40:02.8±2.2, 1°.62N×127°.33E, h0km, mb3.4/3, mbtmp3.4/3, MS2.8/1, Error ellipse: s-maj=172.6km s-min=25.5km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**163**	P	P	17 45 05.0	+0.8
	0.7nm,0.3s,baz=342,slow=11,SNR=10						
	0.7nm,0.3s						
ASAR	**Alice Springs**	**25.93**	**166**	P	P	17 45 36.4	-0.7
	0.2nm,0.5s,baz=344,slow=7.7,SNR=8.4						
	0.2nm,0.5s						
ASAJ	**Asahikawa**	**44.44**	**16**	LR	LR	18 06 34.2	
	comp=Z,9.7nm,19.1s,baz=220,slow=36						
MKAR	**Makanchi Array**	**59.62**	**326**	P	P	17 50 08.8	0.0
	0.3nm,0.4s,baz=112,slow=7.9,SNR=6.1						
	0.3nm,0.4s						

*SJA **30** 17:50:34.4±0.7, 21°.44S×66°.61W, h234km±6km, ML3.8, MW3.7*
*IDC **30** 17:50:35.0±1.3, 21°.48S×66°.34W, h205km±15km, mb3.3/2, mbtmp3.8/7, Error ellipse: s-maj=22.1km s-min=16.3km az=131.0*
*SCB **30** 17:50:35.9±1.1, 21°.44S×66°.66W, h217km±8km, ML3.6/3, MW3.6, Error ellipse: s-maj=5.9km s-min=3.4km az=0.0*
*GUC **30** 17:50:37.2±0.7, 21°.43S×66°.99W, h251km±12km, ML3.9*

ISC 30 17:50:35.2±0.8, 21°.46S±0°.04×66°.66W±0°.04, h222km±7km, n50, σ1°99/80, 4C-3D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOCB	**Mochara**	**0.97**	**78**	Pg	**Pn**	**17 51 08.6**	**+0.9**
MOCB				Sg	**Sn**	**17 51 32.3**	**-0.6**
MOCB				IAML		17 51 32.7	
	276nm,0.7s						
YJA	**Yavi**	**1.27**	**124**	*e*P	**Pn**	**17 51 10.8**	**+1.2**
YJA				*e*S	**Sn**	**17 51 37.2**	**+0.7**
LVC	**Limon Verde**	**2.38**	**241**	P	**Pn**	**17 51 20.4**	**+0.8**
	26nm,0.5s,baz=52,slow=7.0,SNR=26						
LVC				S	**Sn**	**17 51 54.1**	**-0.3**
	34nm,0.3s,baz=235,slow=20,SNR=34						
PB09	**IPOC Station P**	**2.43**	**262**	*e*P	**Pn**	**17 51 20.8**	**+0.9**
PB09	**IPOC Station P**	**2.43**	**262**	*e*P	**Pn**	**17 51 20.8**	**+0.9**
PB09				*i* S	**Sn**	**17 51 54.5**	**-0.5**
PB09	**IPOC Station P**	**2.43**	**262**	Pg	**Pn**	**17 51 21.1**	**+1.2**
PB01	**IPOC Station P**	**2.68**	**278**	*e*P	**Pn**	**17 51 22.7**	**+0.2**
PB01				*e*S	**Sn**	**17 51 59.0**	**-0.6**
PB01				IAML		17 52 00.7	
	comp=Z,234nm,0.2s						
PB01	**IPOC Station P**	**2.68**	**278**	*e*P	**Pn**	**17 51 22.4**	**-0.1**
PB01				*i* S	**Sn**	**17 51 58.5**	**-1.1**
PB01				IAML		17 51 59.6	
	comp=N,462nm,0.2s						
PB01	**IPOC Station P**	**2.68**	**278**	Pg	**Pn**	**17 51 23.3**	**+0.8**
PB01				Sg	**Sn**	**17 51 58.6**	**-1.0**
PB01				IAML		17 51 59.4	
	comp=N,431nm,0.3s						
PB08	**IPOC Station P**	**2.68**	**299**	*e*P	**Pn**	**17 51 23.8**	**+0.9**
PB08				*e*S	**Sn**	**17 52 01.5**	**+1.2**
PB08				IAML		17 52 05.7	
	comp=Z,72nm,0.2s						
PB08	**IPOC Station P**	**2.68**	**299**	⇓*i*P	**Pn**	**17 51 23.7**	**+0.8**
PB08				*i* S	**Sn**	**17 52 00.0**	**-0.2**
PB08				IAML		17 52 02.4	
	comp=N,96nm,0.2s						
PB08	**IPOC Station P**	**2.68**	**299**	Pg	**Pn**	**17 51 23.8**	**+0.9**
PB08				Sg	**Sn**	**17 52 00.1**	**-0.2**
PB08				IAML		17 52 01.9	
	comp=N,65nm,0.6s						
PB06	**IPOC Station P**	**2.97**	**245**	*e*P	**Pn**	**17 51 26.7**	**+0.8**
PB06				*e*S	**Sn**	**17 52 05.7**	**-0.1**
PB06				IAML		17 52 06.7	
	comp=Z,135nm,0.3s						
PB06	**IPOC Station P**	**2.97**	**245**	*e*P	**Pn**	**17 51 27.1**	**+1.2**
PB06				*i* S	**Sn**	**17 52 04.1**	**-1.6**
PB06				IAML		17 52 06.5	
	comp=E,223nm,0.4s						
GO01	**Chusmiza**	**2.98**	**306**	⇓*i*P	**Pn**	**17 51 26.6**	**+0.4**
GO01				*i* S	**Sn**	**17 52 08.5**	**+2.2**
SOEO	**Opoqueri**	**3.11**	**338**	Pg	**Pn**	**17 51 29.1**	**+1.3**
AZAP	**Zapla**	**3.11**	**152**	*e*P	Pn	17 51 11.6	-16
AZAP				*e*S		17 52 18.2	
AZAP				IAML		17 52 19.9	
	comp=Z,81nm,0.5s						
PB15	**IPOC Station P**	**3.13**	**236**	*e*P	**Pn**	**17 51 28.9**	**+1.2**
PB15				*e*S	**Sn**	**17 52 08.6**	**-0.4**
PB15	**IPOC Station P**	**3.13**	**236**	*e*P	**Pn**	**17 51 28.8**	**+1.1**
PB15				*i* S	**Sn**	**17 52 08.5**	**-0.6**
PB15	**IPOC Station P**	**3.13**	**236**	Pg	**Pn**	**17 51 29.1**	**+1.4**
SOTI	**Planta Incahua**	**3.25**	**60**	Pg	**Pn**	**17 51 30.1**	**+1.1**
PB11	**IPOC Station P**	**3.28**	**301**	*e*P	**Pn**	**17 51 29.3**	**-0.1**
PB11				*e*S	**Sn**	**17 52 11.2**	**-0.9**
PB11				IAML		17 52 13.6	
	comp=Z,174nm,0.1s						
PB11

WRA	**Warramunga Arr**	**46.34**	**260**	P		P	18 08 34.8	-0.4
	0.3nm,0.6s,baz=97,slow=6.9,SNR=1.4							
	0.3nm,0.6s							
ASAR	**Alice Springs**	**46.40**	**255**	P		P	18 08 35.8	+0.1
	0.5nm,0.5s,baz=89,slow=9.5,SNR=25							
	0.5nm,0.5s							
ILAR	**Eielson Array**	**86.11**	**12**	P		P	18 12 49.4	0.0
	0.3nm,0.8s,baz=201,slow=6.7,SNR=2.4							
	0.3nm,0.8s							

*SFS **30** 18:25:30.8, 35°.61N×3°.68W, h10km, ML2.5/5, ML2.5/5, MLv2.5/5*
*MDD **30** 18:25:31.3±1.1, 35°.61N×3°.67W, h19km±11km, mb_Lg2.1/4, Error ellipse: s-maj=9.0km s-min=8.1km az=109.0*
*CNRM **30** 18:25:31.5, 35°.66N×3°.53W, h24km, ML1.8*
ISC 30 18:25:30.4±3.4, **35°.63N**±0°.03×**3°.66W**±0°.05, **h18**km±12km, **n18**, **σ0°62/28**, **Strait of Gibraltar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
PALE	**Palemas**	**0.47**	**209**	P		**Pn**	**18 25 42.5**	**+0.2**
PALE	**Palemas**	**0.47**	**209**	S		**Sn**	**18 25 50.8**	**+0.7**
EALB	**Alboran**	**0.60**	**59**	Sg		**Sb**	**18 25 50.6**	**+0.4**
EALB				P		**Pb**	**18 25 42.0**	**-0.2**
EALB	**Alboran**	**0.60**	**59**	P		**Pb**	**18 25 43.1**	**+0.9**
EALB				S		**Sb**	**18 25 50.4**	**+0.2**
EALB				*i*	Vmb_Lg		18 25 50.8	
WMELI	**Melilla**	**0.66**	**118**	Sg		**Sb**	**18 25 52.1**	**0.0**
WMELI				Pg		**Pb**	**18 25 43.7**	**+0.4**
EMEL	**Melilla**	**0.66**	**120**	P		**Pb**	**18 25 43.9**	**+0.5**
EMEL				S		**Sb**	**18 25 52.3**	**+0.1**
EMEL				*i*	Vmb_Lg		18 25 54.4	
EMLI	**Melilla**	**0.67**	**119**	Pg		**Pb**	**18 25 43.5**	**+0.1**
EMLI				Sg		**Sb**	**18 25 51.9**	**-0.4**
GOG	**Mont Gurugu**	**0.68**	**127**	P		**Pb**	**18 25 44.1**	**+0.3**
GOG	**Mont Gurugu**	**0.68**	**127**	S		**Sb**	**18 25 52.6**	**-0.2**
ELGU	**Los Guajares,**	**1.23**	**1**	Pn		**Pn**	**18 25 54.0**	**+1.2**
ELGU				Sn		**Sb**	**18 25 59.8**	**+1.0**
ELGU	**Los Guajares,**	**1.23**	**1**	P		**Pn**	**18 25 52.8**	**0.0**
ELGU				S		**Sb**	**18 26 09.5**	**+0.6**
ELGU				*i*	Vmb_Lg		18 26 14.4	
EMIJ	**Mijas**	**1.29**	**316**	Pn		**Pn**	**18 25 53.2**	**-0.4**
EMIJ				Sn		**Sn**	**18 26 10.2**	**-0.3**
EMIJ	**Mijas**	**1.29**	**316**	P		**Pn**	**18 25 53.4**	**-0.2**
EMIJ				S		**Sn**	**18 26 08.8**	**-1.7**
EMIJ				*i*	Vmb_Lg		18 26 11.4	
TAF	**Taforalt**	**1.31**	**128**	P		**Pn**	**18 25 53.7**	**-0.1**
TAF	**Taforalt**	**1.31**	**128**	S		**Sn**	**18 26 10.5**	**-0.3**
EBER	**Berja**	**1.41**	**26**	P		**Pn**	**18 25 55.4**	**+0.1**
EBER				S		**Sn**	**18 26 12.6**	**-1.0**
JBK	**JBK**	**1.57**	**145**	P		**Pn**	**18 25 57.5**	**-0.1**
JBK	**JBK**	**1.57**	**145**	S		**Sn**	**18 26 17.9**	**+0.3**

*ISN **30** 18:30:34.2±0.9, 32°.70N×47°.60E, h6km±4km, ML3.2*
*TEH **30** 18:30:35.8, 32°.77N×47°.64E, h11km±19km, ML3.3*
ISC 30 18:30:37.2±1.0, **32°.76N**±0°.04×**47°.59E**±0°.04, **h15**km, **n35**, **σ1°04/40**, **Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
IKFM	**Kafar-mosalman**	**0.79**	**16**	Pg		**Pg**	**18 30 50.5**	**-2.0**
IDOB	**Doab**	**1.14**	**26**	Pg		**Pb**	**18 30 57.6**	**-1.0**
IBDR	**Badra**	**1.44**	**284**	*e*Pg		**Sn**	**18 31 01.5**	**-1.1**
IBDR				*e*Sg		**Sn**	**18 31 23.0**	**+1.8**
IBDR				AML		AML	18 31 29.2	
	comp=N,205nm,0.4s							
KCHF	**Cheshme Sefid,**	**1.58**	**343**	Pg		**Pn**	**18 31 05.3**	**+0.6**
RAFI	**Al-Rafai**	**1.62**	**231**	*e*Pn		**Pn**	**18 31 05.0**	**-0.2**
RAFI				*e*Sn		**Sn**	**18 31 27.0**	**+1.2**
HSAM	**Samen**	**1.68**	**30**	Pg		**Pn**	**18 31 07.3**	**+1.1**
AHWZ	**Ahwaz**	**1.69**	**148**	Pg		**Pn**	**18 31 08.1**	**+2.0**
AHWZ				Sg		**Sg**	**18 31 31.8**	**+0.4**
IBZA	**Bozab**	**1.72**	**8**	Pg		**Pn**	**18 31 08.0**	**+1.2**
IGHG	**Ghaleghazi**	**1.78**	**332**	Pg		**Pn**	**18 31 08.6**	**+1.0**
GLG1	**Gilan-e-Gharb**	**1.94**	**314**	Pn		**Pn**	**18 31 11.6**	**+1.9**
SNQR	**Sonqor, Kerman**	**2.09**	**1**	Pn		**Pn**	**18 31 12.9**	**+1.0**
IDHR	**Dehrash**	**2.18**	**333**	Pn		**Pn**	**18 31 13.8**	**+0.8**
ILIN	**Lien**	**2.21**	**347**	Pn		**Pn**	**18 31 14.3**	**+0.8**
KGS1	**Ghasr-e-Shirin**	**2.41**	**317**	Pn		**Pn**	**18 31 16.1**	**0.0**
HAGD	**Aghdareh**	**2.43**	**32**	Pn		**Pn**	**18 31 17.5**	**+1.0**
JHBN	**Jahan bin**	**2.66**	**101**	Pn		**Pn**	**18 31 20.3**	**+0.6**
BHD	**Baghdad**	**2.74**	**282**	*e*Pn		**Pn**	**18 31 21.0**	**+0.4**
BHD				*e*Sn		**Sn**	**18 31 55.0**	**+1.6**
BHD				AML		AML	18 32 14.0	
	comp=E,233nm,0.4s							
IPIR	**Pirpir**	**2.79**	**91**	Pn		**Pn**	**18 31 22.3**	**+0.8**
ZNGN	**Zangian**	**2.84**	**102**	Pn		**Pn**	**18 31 22.5**	**+0.2**
IBRJ	**Brojen**	**3.22**	**104**	Pn		**Pn**	**18 31 27.6**	**+0.1**
QAMS	**Qamsar**	**3.34**	**72**	Pn		**Pn**	**18 31 30.3**	**+1.3**
QABG	**Abgarm-Qazvin**	**3.37**	**29**	Pn		**Pn**	**18 31 31.1**	**+1.6**
IKLH	**Kolahrood**	**3.40**	**80**	Pn		**Pn**	**18 31 30.4**	**+0.5**
IQOM	**Qom**	**3.57**	**53**	Pn		**Pn**	**18 31 32.7**	**+0.5**
IKRK	**Kirkuk**	**3.77**	**315**	*e*Pn		**Pn**	**18 31 36.0**	**+1.3**
IKRK				*e*Sn		**Sn**	**18 32 20.0**	**+1.2**
IGAR	**Gharneh**	**3.78**	**94**	Pn		**Pn**	**18 31 35.5**	**+0.5**
KLNJ	**Kolanjah**	**3.83**	**116**	Pn		**Pn**	**18 31 36.0**	**+0.1**
KRSH	**Karshahi**	**3.99**	**71**	Pn		**Pn**	**18 31 38.6**	**+0.6**
IZEF	**Zefreh**	**4.00**	**87**	Pn		**Pn**	**18 31 39.9**	**+0.8**
IVRN	**Varamin**	**4.10**	**56**	Pn		**Pn**	**18 31 40.2**	**+0.8**
IRAM	**Ramesheh**	**4.17**	**102**	Pn		**Pn**	**18 31 40.7**	**+0.2**
ISFB	**Sefidab**	**4.20**	**67**	Pn		**Pn**	**18 31 41.0**	**+0.3**
IDMV	**Damavand**	**4.63**	**51**	Pn		**Pn**	**18 31 47.2**	**+0.3**
IFIR	**Firoozkooh**	**5.16**	**55**	Pn		**Pn**	**18 31 54.8**	**+0.8**
DSBU	**Dashti - Bushe**	**5.41**	**143**	Pn		**Pn**	**18 31 57.7**	**+0.3**

*IGIL **30** 18:52:00.2, 41°.47N×15°.81W, h29km, ML1.8*
*MDD **30** 18:52:00.1±1.0, 41°.42N×15°.63W, h22km±33km, Mb4.3/14, M_mb3.7/14, Error ellipse: s-maj=37.5km s-min=6.1km az=96.0*
*INMG **30** 18:52:02.2±0.9, 41°.47N×15°.82W, h10km, ML2.6, Error ellipse: s-maj=5.9km s-min=3.8km az=87.0*
ISC 30 18:52:01.8±3.7, **41°.36N**±0°.07×**15°.11W**±0°.2, **h10**km, **n32**, **σ1°19/54**, **10C**, **North Atlantic Ocean**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
EMAZ	**Mazaricos**	**4.85**	**69**	Pn		**Pn**	**18 53 15.4**	**+0.6**
EMAZ				⇑*i*	Vmb_V		18 53 18.4	
	189nm,SNR=1.2							
EMAZ				Sn		**Sn**	**18 54 09.3**	**-1.7**
EZAM	**Zamans**	**4.88**	**79**	⇑*i*	Vmb_V		18 53 16.7	
	198nm,SNR=1.6							
EZAM				Sn		**Sn**	**18 54 12.4**	**+0.5**
PSBE	**So Bento**	**5.18**	**109**	*e*P		**Pn**	**18 53 20.9**	**+1.5**
PSBE				*e*S		**Sn**	**18 54 20.3**	**+1.1**
PSBE				A		A	18 54 22.7	
	14nm,0.4s							
PGAV	**Gavieira, Arco**	**5.18**	**81**	*e*P		**Pn**	**18 53 20.5**	**+1.0**
PGAV				*e*S		**Sn**	**18 54 19.4**	**+0.1**
PGAV				A		A	18 54 25.7	
	4.0nm,0.1s							
PCAS	**Casmilo, Conde**	**5.21**	**102**	*e*S		**Sn**	**18 54 21.0**	**+1.0**
PCAS				A		A	18 54 24.0	
	2.5nm,0.2s							
ELOB	**Lobios**	**5.33**	**82**	Pn		**Pn**	**18 53 22.4**	**+0.9**
ELOB				⇑*i*	Vmb_V		18 53 22.9	
	346nm,SNR=3.9							
ELOB				Sn		**Sn**	**18 54 23.2**	**+0.2**
PCAB	**Cabril**	**5.35**	**84**	*e*P		**Pn**	**18 53 22.8**	**+1.1**
PCAB				*e*S		**Sn**	**18 54 23.8**	**+0.4**
PCAB				A		A	18 54 28.0	
	9.1nm,0.1s							
EAGO	**Agolada(Pontev**	**5.44**	**72**	Pn		**Pn**	**18 53 23.3**	**+0.3**
EAGO				⇑*i*	Vmb_V		18 53 24.8	
	363nm,SNR=2.9							
EAGO				Sn		**Sn**	**18 54 24.3**	**-1.4**
PVIS	**Viseu**	**5.51**	**94**	*e*P		**Pn**	**18 53 25.2**	**+1.2**
PVIS				*e*S		**Sn**	**18 54 27.6**	**+0.1**
PVIS				A		A	18 54 32.5	
	6.6nm,0.1s							
POLO	**Lamas de Olo**	**5.53**	**87**	*e*P		**Pn**	**18 53 25.4**	**+1.2**
POLO				*e*S		**Sn**	**18 54 27.4**	**-0.4**
POLO				A		A	18 54 32.2	
	1.9nm,0.8s							
PVRL	**Vila Real**	**5.59**	**88**	*e*S		**Sn**	**18 54 29.3**	**0.0**
PVRL				A		A	18 54 34.0	
	6.3nm,0.3s							
PMTG	**Montargil**	**5.76**	**111**	*e*P		**Pn**	**18 53 28.2**	**+0.8**
PMTG				*e*S		**Sn**	**18 54 32.9**	**-0.6**
PMTG				A		A	18 54 47.7	
	2.2nm,0.6s							
PCBR	**Castelo Branco**	**6.02**	**102**	*e*S		**Sn**	**18 54 40.5**	**+0.5**
EVO	**Evora**	**6.16**	**115**	*e*P		**Pn**	**18 53 33.9**	**+1.1**
EVO				*e*S		**Sn**	**18 54 43.0**	**-0.3**
EVO				A		A	18 54 46.9	
	3.5nm,0.4s							
PMRV	**Marv??o**	**6.22**	**106**	*e*P		**Pn**	**18 53 35.5**	**+1.8**
PMRV				*e*S		**Sn**	**18 54 43.9**	**-0.9**
PMRV				A		A	18 54 48.0	
	1.8nm,0.2s							
EPON	**Pontenova**	**6.24**	**69**	Pn		**Pn**	**18 53 34.2**	**+0.3**
EPON				⇑*i*	Vmb_V		18 53 35.8	
	130nm,SNR=0.7							
EPON				Sn		**Sn**	**18 54 42.3**	**-3.0**
PTEO	**Sao Teotonio**	**6.25**	**125**	*e*P		**Pn**	**18 53 35.0**	**+0.9**
PTEO				*e*S		**Sn**	**18 54 44.9**	**-0.7**
PTEO				A		A	18 54 47.7	
	5.5nm,0.6s							
PESTR	**Estremoz**	**6.30**	**111**	*e*S		**Sn**	**18 54 45.6**	**-1.1**
PESTR				A		A	18 54 48.2	
	3.0nm,0.4s							
PBRG	**Braganca**	**6.31**	**83**	*e*P		**Pn**	**18 53 36.1**	**+1.1**
PBRG				*e*S		**Sn**	**18 54 45.7**	**-1.4**
PBRG				A		A	18 54 50.9	
	2.4nm,0.4s							
ECAL	**Calabor**	**6.32**	**82**	Pn		**Pn**	**18 53 35.8**	**+0.7**
ECAL				⇑*i*	Vmb_V		18 53 38.8	
	83nm,SNR=1.3							
ECAL				Sn		**Sn**	**18 54 46.3**	**-1.1**
MESJ	**Messejana**	**6.39**	**121**	*e*S		**Sn**	**18 54 48.1**	**-1.0**
MESJ				A		A	18 54 50.7	
	2.3nm,0.6s							
MESJ	**Messejana**	**6.39**	**121**	*e*S		**Sn**	**18 54 47.2**	**-1.8**
MESJ				IAML			18 54 48.5	
	comp=E,0.6nm,0.2s							
MORF	**Marmelete**	**6.45**	**127**	*e*P		**Pn**	**18 53 37.4**	**+0.5**
MORF				*e*S		**Sn**	**18 54 49.0**	**-1.6**
MORF				A		A	18 54 54.0	
	comp=E,2.2nm,0.4s							
MORF	**Marmelete**	**6.45**	**127**	*e*P		**Pn**	**18 53 37.4**	**+0.5**
MORF				*e*S		**Sn**	**18 54 48.1**	**-2.5**
MORF				IAML			18 54 49.5	
	comp=E,1.3nm,0.1s							
PCVE	**Castro Verde**	**6.63**	**122**	*e*S		**Sn**	**18 54 54.8**	**-0.1**
PCVE				A		A	18 55 00.2	
	comp=E,2.2nm,0.7s							
EBAD	**Badajoz**	**6.75**	**110**	Pn		**Pn**	**18 53 41.3**	**+0.3**
EBAD				⇑*i*	Vmb_V		18 53 44.1	
	comp=E,69nm,SNR=1.5							
EBAD				Sn		**Sn**	**18 54 56.1**	**-1.8**
PVAQ	**Vaqueiros**	**6.97**	**122**	*e*P		**Pn**	**18 53 45.0**	**+1.0**
PVAQ				*e*S		**Sn**	**18 55 01.4**	**-1.9**
PVAQ				A		A	18 55 07.7	
	comp=E,1.6nm,0.3s							
PBAR	**Barrancos**	**7.00**	**114**	*e*S		**Sn**	**18 55 02.4**	**-1.6**
PBAR				A		A	18 55 07.5	
	comp=E,1.2nm,0.3s							
EPLA	**Plasencia**	**7.00**	**98**	Pn		**Pn**	**18 53 45.0**	**+0.5**
EPLA				Sn		**Sn**	**18 55 03.3**	**-0.8**
EGRO	**El Granado**	**7.05**	**120**	Pn		**Pn**	**18 53 45.9**	**+0.9**
EGRO				⇑*i*	Vmb_V		18 53 47.8	
	comp=E,60nm,SNR=0.9							
EGRO				Sn		**Sn**	**18 55 04.2**	**-1.0**
EARI	**Arriondas**	**7.61**	**72**	Pn		**Pn**	**18 53 53.4**	**+0.7**
EARI				⇑*i*	Vmb_V		18 53 54.9	
	comp=E,124nm,SNR=0.8							
ECAB	**El Cabril**	**8.18**	**110**	Pn		**Pn**	**18 54 01.6**	**+1.1**
ECAB				⇑*i*	Vmb_V		18 54 04.2	
	comp=E,40nm,SNR=0.9							
ECAB				Sn		**Sn**	**18 55 30.9**	**-2.1**

*NEIC **30** 18:58:19.0±0.7, 19°.39N±0°.02×155°.05W±0°.02, h7km±9km, Error ellipse: s-maj=3.6km s-min=1.4km az=144.0*
HVO 30 18:58:18.5±0.8, **19°.36N**±0°.03×**155°.01W**±0°.02, **h5**km±6km, **ML2.6**/13, **ML2.8**/40(NEIC), **Error ellipse: s-maj=4.5km s-min=1.0km az=146.0**, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
JOKA	**Jonika Flow**	**0.08**	**5**	Pg		**Pg**	**18 58 20.4**	**+0.2**
JOKA				IAML			18 58 22.6	
	comp=E,5μm,0.7s							
JOKA				IAML			18 58 23.0	
	comp=N,5μm,0.8s							
JCUZ	**Jacuzzi**	**0.09**	**288**			Pg	18 58 20.7	+0.2
NPOC	**North of Pu'u**	**0.10**	**292**			Pg	18 58 20.8	+0.2
STCH	**Steam Cracks**	**0.11**	**285**			Pg	18 58 20.8	-0.1
STCH				IAML			18 58 22.9	
	comp=E,3μm,0.3s							
KNHH	**Kane Nui o Ham**	**0.15**	**279**			Pg	18 58 21.5	0.0
PUH	**Pauahi**	**0.19**	**275**	Pg		Pg	18 58 22.1	-0.2
BYL	**Byron's Ledge**	**0.24**	**283**			Pg	18 58 23.1	-0.1
BYL				IAML			18 58 26.1	
	comp=N,2μm,0.4s							
HATHI	**Halema'uma'u T**	**0.24**	**286**			Pg	18 58 23.8	+0.5
HATHI				IAML			18 58 27.9	
	comp=E,2μm,0.5s							
RSD	**Rainshed**	**0.27**	**293**			Pg	18 58 24.2	+0.3
RSD				IAML			18 58 29.6	
	comp=N,1μm,0.3s							
RSD				IAML			18 58 30.5	
	comp=E,2μm,0.1s							
UWE	**Uwekahuna**	**0.27**	**284**	Pg		Pg	18 58 23.9	0.0
UWE				IAML			18 58 29.9	
	comp=N,1μm,0.3s							
HLP	**Hilina Pali**	**0.29**	**258**			Pg	18 58 24.7	+0.6
HLP				IAML			18 58 29.9	
	comp=N,1μm,0.3s							
MLH	**Mauna Loa**	**0.38**	**291**			Pg	18 58 25.8	-0.1
MLH				IAML			18 58 32.7	
	comp=N,818nm,0.6s							
MLH				IAML			18 58 33.2	
	comp=E,789nm,0.1s							
HMH	**Humu'ula Sheep**	**0.51**	**299**			Pg	18 58 27.9	-0.4
MLOA	**Mauna Loa Obse**	**0.56**	**289**	IAML			18 58 37.4	
	comp=N,753nm,0.4s							
MLOA				IAML			18 58 37.6	
	comp=E,761nm,0.5s							
MWH	**Moku'aweowe**	**0.57**	**283**	IAML			18 58 41.0	
	comp=E,622nm,0.5s							
MWH				IAML			18 58 47.5	
	comp=N,573nm,0.5s							
KHU	**Kahuku**	**0.58**	**259**	IAML			18 58 45.4	
	comp=E,493nm,2.2s							
POHA	**Pohakuloa**	**0.63**	**309**			Pg	18 58 30.0	-0.7
POHA	**Pohakuloa**	**0.63**	**309**	IAML			18 58 48.6	
	comp=E,675nm,0.4s							

*NEIC **30** 19:09:49.9±2.1, 19°.48N±0°.03×155°.23W±0°.02, h5km±1km, Error ellipse: s-maj=5.5km s-min=2.5km az=35.0*
HVO 30 19:09:50.8±0.9, **19°.399N**±0°.009×**155°.26W**±0°.02, **h0**km±7km, **ML2.8**/14, **ML1.6**/23(NEIC), **Error ellipse: s-maj=2.7km s-min=0.6km az=63.0**, **Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
BYL	**Byron's Ledge**	**0.01**	**11**			Pg	19 09 50.3	-0.8
BYL				IAML			19 09 51.1	
	comp=E,2μm,0.1s							
BYL				IAML			19 09 51.5	
	comp=N,2μm,0.3s							
HATHI	**Halema'uma'u T**	**0.02**	**4**			Pg	19 09 50.6	-0.7
OBL	**Observatory Le**	**0.03**	**313**			Pg	19 09 51.8	+0.4
SBLHI	**Steaming Bluff**	**0.03**	**350**			Pg	19 09 51.6	+0.2
UWB	**Uwekahuna B**	**0.03**	**331**			Pg	19 09 51.8	+0.4
UWE	**Uwekahuna**	**0.04**	**308**			Pg	19 09 51.6	+0.1
UWE				IAML			19 09 52.4	
	comp=N,1μm,0.9s							
UWE				IAML			19 09 52.4	
	comp=E,1μm,0.7s							
PUH	**Pauahi**	**0.05**	**119**			Pg	19 09 51.4	-0.3
PUH				IAML			19 09 53.2	
	comp=N,446nm,0.3s							
RSD	**Rainshed**	**0.07**	**347**			Pg	19 09 52.0	-0.1
RSD				IAML			19 09 53.9	
	comp=N,530nm,2.0s							
KNHH	**Kane Nui o Ham**	**0.09**	**102**			Pg	19 09 53.1	+0.6
HLP	**Hilina Pali**	**0.11**	**203**			Pg	19 09 53.4	+0.4
HLP				IAML			19 09 55.5	
	comp=E,408nm,2.5s							

STCH	**Steam Cracks**	**0.13**	**96**			Pg	19 09 53.5	+0.2
STCH				IAML			19 09 57.4	
	comp=E,227nm,0.2s							
STCH				IAML			19 09 57.6	
	comp=N,227nm,0.4s							
NPOC	**North of Pu'u**	**0.14**	**92**			Pg	19 09 55.9	+2.2
MLH	**Mauna Loa**	**0.15**	**309**	Pg		Pg	19 09 53.7	-0.1
MLH				IAML			19 09 54.7	
	comp=N,279nm,2.6s							
MLH				IAML			19 09 58.8	
	comp=E,201nm,0.8s							
HMH	**Humu'ula Sheep**	**0.29**	**314**	Pg		Pg	19 09 57.1	+0.7
MWH	**Moku'aweowe**	**0.33**	**285**	Pg		Pb	19 09 58.8	-1.0

*IDC **30** 19:11:16.0±0.5, 12°.74S×45°.42E, h0km, mb3.9/27, mbtmp3.9/29, ML3.4/2, MS3.6/33, Error ellipse: s-maj=15.5km s-min=11.0km az=110.0*
*NEIC **30** 19:11:21.2±2.8, 13°.13S±0°.06×45°.2E±0°.1, h10km±1km, mb4.7/23, Error ellipse: s-maj=24.3km s-min=10.5km az=269.0*
ISC 30 19:11:17.5±0.4, **12°.81S**±0°.05×**45°.38E**±0°.06, **h10**km, **n101**, **σ2°73/74**, **mb4.4**/43, **MS3.6**/32, **4C-1D**, **Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time (h m s)	Res
OPO	**Ambohidratompo**	**5.99**	**163**	Pn		**Pn**	**19 12 46.4**	**0.0**
	6.1nm,0.3s,baz=341,slow=13,SNR=379							
OPO				Sn		**Sn**	**19 13 47.7**	**-7.6**
	51nm,0.3s,baz=256,slow=17,SNR=24							
OPO				LR		LR	19 14 39.6	
	comp=Z,366nm,21.8s,baz=178,slow=34							
ABPO	**Ambohimpanom**	**6.43**	**164**	Pn		**Pn**	**19 12 52.1**	**-0.4**
ABPO	**Ambohimpanom**	**6.43**	**164**	*e*P		**Pn**	**19 12 51.4**	**-1.0**
VOI	**Vohitsoka**	**9.15**	**172**			**Pn**	**19 13 29.6**	**-0.2**
VOI	**Vohitsoka**	**9.15**	**172**	*e*P		**Pn**	**19 13 29.8**	**0.0**
FOMA	**Nahampoana Res**	**12.20**	**173**	Pn		**Pn**	**19 14 08.2**	**-3.2**
KIBK	**Kibwezi**	**12.68**	**324**	Pn		**Pn**	**19 14 18.7**	**+0.6**
KIBK	**Kibwezi**	**12.68**	**324**	*e*P		**Pn**	**19 14 20.0**	**+1.9**
KIBK				*e*S		**Sn**	**19 16 33.0**	**-6.5**
MSEY	**Mahe Island**	**12.84**	**52**	Pn		**Pn**	**19 14 18.2**	**-2.0**
RER	**Riviere de l'E**	**12.93**	**131**	Pn		**Pn**	**19 14 18.4**	**-3.2**
KMBO	**Kilima Mbogo**	**14.12**	**325**	*e*P		**Pn**	**19 14 39.3**	**+1.4**
KMBO				*e*S		**Sn**	**19 17 08.5**	**-6.5**
MOPA	**Mopani**	**17.01**	**229**	*e*P		**P**	**19 15 17.0**	**-0.5**
MUSN	**Musina, Limpop**	**17.53**	**235**	*e*P		**P**	**19 15 25.2**	**+1.9**
MATP	**Matopo**	**17.85**	**243**	P		**P**	**19 15 27.1**	**+0.2**
	baz=199,slow=6.4,SNR=1.5							
MATP				S		**Sn**	**19 18 37.5**	**-8.0**
	0.8nm,0.5s,baz=351,slow=19,SNR=1.6							
	0.5nm,0.7s							
PILG	**Pilgrimsrest,**	**18.37**	**227**	*e*P		**P**	**19 15 33.9**	**+1.2**
MBAR	**Mbarara**	**18.91**	**309**	P		**Pn**	**19 15 38.4**	**-0.8**
	0.5nm,0.3s,baz=111,slow=13,SNR=1.3							
MBAR				S		**Sn**	**19 19 03.0**	**-8.2**
	2.4nm,0.2s,baz=148,slow=23,SNR=1.7							
MBAR				LR		LR	19 22 32.9	
	comp=Z,204nm,20.5s,baz=120,slow=36							
	1.6nm,0.3s							
LODK	**Lodwar**	**18.94**	**328**			**Pn**	**19 15 44.8**	**+5.2**
LODK	**Lodwar**	**18.94**	**328**	*e*P		**Pn**	**19 15 45.3**	**+5.8**
POGA	**Pongola**	**19.32**	**219**	P		**P**	**19 15 41.1**	**-1.8**
POGA				IAmb		IAmb	19 15 49.6	
	comp=Z,51nm,1.4s							
LEPH	**Lephalale, Lim**	**19.96**	**234**	*e*P		**Pn**	**19 15 54.3**	**+2.6**
PRYS	**Parys**	**21.97**	**228**	*e*P		**P**	**19 16 12.1**	**+0.3**
PRYS				IAmb		IAmb	19 16 14.0	
	comp=Z,1μm,5.0s							
LBTB	**Lobatse**	**22.27**	**234**	P		**P**	**19 16 17.0**	**+2.0**
LBTB	**Lobatse**	**22.27**	**234**	*e*P		**P**	**19 16 17.8**	**+2.7**
LBTB				IAmb		IAmb	19 16 31.7	
	comp=Z,136nm,2.5s							
LBTB	**Lobatse**	**22.27**	**234**	P		**P**	**19 16 15.7**	**+0.7**
	comp=Z,9.2nm,0.9s,baz=55,slow=11,SNR=11							
LBTB				S		**S**	**19 20 22.3**	**+2.0**
	comp=Z,2.4nm,0.6s,baz=15,slow=15,SNR=3.6							
LBTB				LR		LR	19 25 01.7	
	comp=Z,104nm,18.1s,baz=58,slow=37							
	comp=Z,9.2nm,0.9s							
SNKL	**Senekal, Frees**	**22.51**	**224**	*e*P		**P**	**19 16 19.1**	**+1.5**
SNKL				IAmb		IAmb	19 16 38.0	
	comp=Z,25nm,1.1s							
BOSA	**Boshof**	**24.47**	**227**	P		**P**	**19 16 38.8**	**+1.9**
BOSA				IAmb		IAmb	19 16 44.0	
	comp=Z,21nm,1.5s							
BOSA	**Boshof**	**24.47**	**227**	*e*P		**P**	**19 16 39.3**	**+2.4**
BOSA				IAmb		IAmb	19 16 42.2	
	comp=Z,0.8nm,0.3s							
BOSA	**Boshof**	**24.47**	**227**	P		**P**	**19 16 38.2**	**+1.2**
	comp=Z,5.8nm,0.6s,baz=56,slow=9.4,SNR=21							
BOSA				LR		LR	19 26 34.6	
	comp=Z,124nm,18.2s,baz=51,slow=37							

comp=Z,0.1nm,0.3s
AAK Ala-Archa 61.30 24 pP 19 21 43.2 +6.9
AAK Ala-Archa 61.30 24 P P 19 21 33.7 +0.3
comp=Z,0.7nm,0.5s,baz=236,slow=7.3,SNR=1.5
AAK LR LR 19 46 28.4
comp=Z,17nm,20.5s,baz=214,slow=34
comp=Z,0.7nm,0.5s
ABKAR Akbulak array 63.12 11 P 19 21 45.8 +0.6
AKTO Aktyubinsk 63.94 9 LR LR 19 52 08.9
comp=Z,41nm,19.4s,baz=354,slow=38
TROLL Troll, Antarti 64.43 194 ⇑P **P 19 21 57.2 +3.4**
comp=Z,546nm,0.8s
AKASG Malin Array Be 64.80 349 P **P 19 21 56.6 +0.4**
comp=Z,0.1nm,0.3s,baz=167,slow=5.5,SNR=1.3
AKASG LR LR 19 51 23.3
comp=Z,28nm,18.1s,baz=149,slow=37
comp=Z,0.1nm,0.3s
SNAA Sanae 65.51 195 ⇑P **P 19 22 03.1 +2.3**
comp=Z,37nm,0.8s
SNAA Sanae 65.51 195 P **P 19 22 01.3 +0.6**
comp=Z,1.5nm,0.9s,baz=100,slow=7.1,SNR=3.7
SNAA LR LR 19 49 23.6
comp=Z,35nm,18.1s,baz=70,slow=35
comp=Z,1.5nm,0.9s
MDT Midelt 65.83 315 LR LR 19 52 10.7
comp=Z,76nm,18.1s,baz=159,slow=37
VNA2 Neumayer--Watz 66.30 197 ⇑P **P 19 22 08.4 +2.7**
comp=Z,3.9nm,0.6s,baz=41,slow=6.7
VRAC Vranov 66.86 340 LR LR 19 53 29.4
comp=Z,34nm,19.5s,baz=154,slow=38
VNA3 Neumayer Olymp 67.10 197 ⇑P **P 19 22 13.5 +2.6**
comp=Z,8.9nm,0.7s
PZH PanZhiHua 67.27 54 P P 19 22 20.5 +7.7
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
GOMU GeErMu 67.44 42 P P 19 22 22.5 +8.5
GOMU pP sP 19 22 27.8 +10
GOMU sP PcP 19 22 30.0 -11
GOMU pmax pmax
comp=Z,5.0nm,0.8s
GERES GERESS Array B 67.48 338 P **P 19 22 14.8 +1.2**
GERES GERESS Array B 67.48 338 P **P 19 22 13.4 -0.2**
comp=Z,0.3nm,0.3s,baz=180,slow=8.0,SNR=5.4
GERES LR LR 19 55 09.8
comp=Z,13nm,18.9s,baz=118,slow=39
comp=Z,0.3nm,0.3s
MKAR Makanchi Array 67.92 26 P P 19 22 22.7 +6.3
MKAR Makanchi Array 67.92 26 P **P 19 22 16.9 +0.5**
comp=Z,0.1nm,0.4s,baz=230,slow=9.0,SNR=1.3
comp=Z,0.1nm,0.4s
WMQ Urumqi 68.28 32 *e*P P 19 22 27.3 +8.6
WMQ LR LR
comp=N,680nm,23.9s
WMQ LR LR
comp=E,510nm,21.3s
BVAR Borovoye Array 69.00 16 P **P 19 22 22.4 -0.6**
comp=E,0.1nm,0.3s,baz=210,slow=5.0,SNR=1.8
BVAR LR LR 19 53 48.7
comp=E,16nm,18.9s,baz=201,slow=37
comp=E,0.1nm,0.3s
ESDC Sonseca Array 69.48 321 P **P 19 22 30.0 +3.7**
ESDC IAmb IAmb 19 22 31.0
comp=Z,5.3nm,1.3s
ESDC Sonseca Array 69.48 321 P **P 19 22 24.9 -1.4**
comp=Z,0.7nm,0.8s,baz=129,slow=6.7,SNR=1.0
ESDC LR LR 19 53 56.7
comp=Z,52nm,18.4s,baz=134,slow=37
comp=Z,0.7nm,0.8s
KURBB Kurchatov Arra 69.49 22 P **P 19 22 25.0 -1.0**
comp=Z,0.1nm,0.4s,baz=220,slow=7.3,SNR=1.9
comp=Z,0.1nm,0.4s
KURK Kurchatov 69.60 22 P P 19 22 33.6 +6.9
ARU Arti 69.85 8 P P 19 22 33.8 +5.7
ARU IAmb IAmb 19 22 39.0
comp=Z,8.3nm,1.0s
KIRV Kirov 71.21 2 LR LR 19 57 13.2
comp=Z,36nm,18.6s,baz=197,slow=39
GTA Gaotai 72.53 41 *e*P P 19 22 54.0 +9.1
GTA pP PcP 19 23 01.8 -0.8
GTA pmax pmax
comp=Z,2.0nm,1.0s
LZH Lanzhou 73.50 46 *e*P P 19 22 45.0 -5.8
LZH pP pP 19 22 49.3 -4.5
LZH pmax pmax
comp=Z,10.0nm,1.4s
ZALV Zalesovo Beam 74.47 23 P P 19 23 03.3 +7.4
ZALV Zalesovo Beam 74.47 23 P **P 19 22 55.6 -0.3**
comp=Z,0.5nm,0.4s,baz=238,slow=8.2,SNR=1.7
comp=Z,0.5nm,0.4s
FINES FINESS Array B 75.57 351 P **P 19 23 01.4 -0.6**
comp=Z,3.8nm,1.0s,baz=116,slow=4.4,SNR=4.5
comp=Z,3.8nm,1.0s
HFS Hagfors 77.01 344 P **P 19 23 11.4 +1.2**
comp=Z,1.5nm,0.7s,baz=123,slow=5.5,SNR=5.6
HFS LR LR 19 58 13.2
comp=Z,20nm,20.8s,baz=150,slow=37
comp=Z,1.5nm,0.7s
QSPA South Pole Qui 77.29 180 P **P 19 23 13.8 +1.8**
QSPA IAmb IAmb 19 23 15.0
comp=Z,11nm,1.0s
QSPA South Pole Qui 77.29 180 P **P 19 23 13.5 +1.4**
comp=Z,9.9nm,1.0s,baz=255,slow=2.5,SNR=18
comp=Z,9.9nm,1.0s
NOA NORSAR Array B 78.44 344 P **P 19 23 18.0 -0.2**
comp=Z,0.2nm,0.6s,baz=119,slow=6.2,SNR=2.2
NOA LR LR 20 03 04.1
comp=Z,16nm,18.3s,baz=260,slow=40
comp=Z,0.2nm,0.6s
EKA Eskdalemuir Ar 79.14 334 P **P 19 23 22.5 +0.3**
comp=Z,0.7nm,0.7s,baz=123,slow=6.2,SNR=4.3
comp=Z,0.7nm,0.7s
HHC Hu-ho-hao-te 81.07 45 *e*P P 19 23 37.8 +4.7
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,53nm,6.0s
VNDA Vanda 83.09 169 P **P 19 23 44.7 +1.7**
comp=Z,1.1nm,0.8s,baz=264,slow=3.8,SNR=4.6
VNDA LR LR 19 57 18.8
comp=Z,67nm,20.1s,baz=225,slow=33
comp=Z,1.1nm,0.8s
NJ2 Nanjing 83.15 55 *e*P P 19 23 50.0 +5.9
NJ2 pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 83.31 353 LR LR 20 04 04.2
comp=Z,36nm,18.1s,baz=184,slow=38
ASAR Alice Springs 83.63 113 P **P 19 23 47.0 0.0**
comp=Z,1.7nm,0.6s,baz=262,slow=4.9,SNR=38
comp=Z,1.7nm,0.6s
WRA Warramunga Arr 84.76 109 P **P 19 23 52.6 -0.1**
comp=Z,1.5nm,0.8s,baz=263,slow=3.2,SNR=9.1
WRA LR LR 19 54 32.7
comp=Z,66nm,22.0s,baz=117,slow=31
comp=Z,1.5nm,0.8s
STKA Stephens Creek 88.52 122 P **P 19 24 09.2 -1.6**
comp=Z,2.7nm,0.8s,baz=277,slow=9.1,SNR=3.4
comp=Z,2.7nm,0.8s
TXAR Lajitas Array 146.90 305 PKPbc **PKiKP 19 31 02.9 -0.7**
comp=Z,0.7nm,0.6s,baz=104,slow=3.6,SNR=8.4
NVAR Mina Array Bea 150.64 333 PKPbc **PKPbc 19 31 10.3 -0.2**
comp=Z,0.3nm,0.5s,baz=77,slow=4.1,SNR=2.3

*NEIC **30** 19:14:37.9±1.9, 19°42N±0°03×154°98W±0°02, h10km±1km, Error ellipse: s-maj=5.9km s-min=2.2km az=158.0*

HVO 30 19:14:37.4±0.9, 19°44N±0°04×154°93W±0°02, h13km, ML2.6/25, ML2.8/36(NEIC), Error ellipse: s-maj=5.4km s-min=1.5km az=157.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAH	**Pahoa**	**0.06**	**348**		Pg	19 14 39.5	-0.4
PHO	**Puu Honuaula**	**0.06**	**45**		Pg	19 14 40.0	+0.1
JOKA	**Jonika Flow**	**0.07**	**265**	Pg	Pg	19 14 39.9	-0.2
NPOC	**North of Pu'u**	**0.17**	**254**		Pg	19 14 41.6	+0.1
STCH	**Steam Cracks**	**0.19**	**253**		Pg	19 14 41.8	+0.1
STCH	**Steam Cracks**	**0.19**	**253**	IAML		19 14 47.2	
STCH	comp=E,982nm,0.1s			IAML		19 14 48.0	
KNHH	comp=N,625nm,0.2s **Kane Nui o Ham**	**0.23**	**255**		Pg	19 14 42.0	-0.4
PUH	**Pauahi**	**0.27**	**256**		Pg	19 14 43.0	-0.2
RSD	**Rainshed**	**0.33**	**274**		Pg	19 14 44.6	+0.5
RSD	comp=E,1μm,0.1s			IAML		19 14 51.3	
UWE	**Uwekahuna**	**0.34**	**267**		Pg	19 14 44.1	-0.3
UWE	comp=N,1μm,0.5s			IAML		19 14 56.4	
HLP	**Hilina Pali**	**0.38**	**248**		Sg	19 14 50.1	-0.1
HLP	comp=N,1μm,0.2s			IAML		19 14 52.0	
HLP	comp=E,1μm,0.3s			IAML		19 14 52.2	
MLH	**Mauna Loa**	**0.43**	**277**		Pg	19 14 45.8	-0.2
MLH	comp=N,726nm,0.2s			IAML		19 14 55.7	
MLH	comp=E,540nm,0.2s			IAML		19 14 56.0	
HMH	**Humu'ula Sheep**	**0.54**	**288**		Pg	19 14 47.9	-0.2
MLOA	**Mauna Loa Obse**	**0.61**	**279**		Pg	19 14 49.1	-0.4
MLOA	comp=N,409nm,1.1s			IAML		19 15 09.6	
MWH	**Moku'aweowe**	**0.63**	**274**	IAML		19 15 09.0	
MWH	comp=N,429nm,0.6s			IAML		19 15 10.4	
POHA	comp=E,478nm,0.4s **Pohakuloa**	**0.65**	**299**		Pg	19 14 49.1	-1.0
POHA	**Pohakuloa**	**0.65**	**299**		Pg	19 14 48.8	-1.2
POHA	comp=E,435nm,0.2s			IAML		19 15 03.5	
POHA	comp=E,400nm,0.4s			IAML		19 15 13.2	
KHU	**Kahuku**	**0.67**	**253**	IAML		19 14 55.2	
KHU	comp=E,308nm,4.2s			IAML		19 15 12.0	
	comp=N,429nm,3.2s						

IDC 30 19:16:08.9±9.0, 21°92S×173°53E, h0km, mb3.8/3, mbtmp3.9/4, ML3.7/1, MS3.1/4, Error ellipse: s-maj=167.7km s-min=109.5km az=35.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.58**	**267**	Pn	Pn	19 17 46.7	-0.4
DZM	1.4nm,0.3s,baz=129,slow=12,SNR=45			Sn	Sn	19 18 54.8	-8.1
DZM	0.4nm,0.3s,baz=131,slow=19,SNR=1.4			LR	LR	19 19 46.5	
RAO	comp=Z,134nm,18.4s,baz=86,slow=33 4.7nm,0.3s **Raoul Island**	**10.62**	**135**	LR	LR	19 21 56.9	
STKA	comp=Z,102nm,18.5s,baz=29,slow=33 **Stephens Creek**	**30.06**	**244**	P	P	19 22 19.6	-0.4
STKA	1.3nm,0.5s,baz=84,slow=8.0,SNR=4.1			LR	LR	19 34 50.6	
ASAR	comp=Z,42nm,18.5s,baz=26,slow=37 1.3nm,0.5s **Alice Springs**	**36.50**	**259**	P	P	19 23 16.0	-0.2
WRA	1.6nm,0.9s,baz=93,slow=8.5,SNR=11 1.6nm,0.9s **Warramunga Arr**	**36.59**	**266**	P	P	19 23 17.5	+0.4
GUMO	0.3nm,0.4s,baz=96,slow=8.4,SNR=6.1 0.3nm,0.4s **Guam**	**45.12**	**319**	LR	LR	19 40 57.7	
	comp=Z,25nm,21.3s,baz=68,slow=33						

*IDC **30** 19:22:03.6±0.7, 33°92N×116°19W, h0km, mb3.4/1, mbtmp3.2/6, ML3.5/5, MS2.8/6, Error ellipse: s-maj=11.3km s-min=6.0km az=116.0*

*NEIC **30** 19:22:04.3±0.8, 33°922N±0°010×116°33W±0°02, h20km±3km, Error ellipse: s-maj=2.6km s-min=0.5km az=121.0*

*ANF **30** 19:22:04.4±0.1, 33°91N×116°32W, h16km±1km, ML4.1/39, Error ellipse: s-maj=1.1km s-min=0.9km az=175.0*

*PAS **30** 19:22:05.3±1.2, 33°924N±0°010×116°32W±0°02, h9km±5km, Mwr3.8/4, ML3.9/104(NEIC), Error ellipse: s-maj=2.4km s-min=1.0km az=119.0*

ISC 30 19:22:04.9±0.8, 33°92N±0°01×116°33W±0°01, h17km±5km, n139, s0°82/180, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EW2	**E Wide Canyon**	**0.07**	**286**		**Pg**	**19 22 09.4**	**+1.1**
BLAC	**Blackrock camp**	**0.16**	**341**		**Pg**	**19 22 08.8**	**-0.6**
BLAC					**Sg**	**19 22 11.3**	**-1.0**
DEVC	**Devers**	**0.21**	**274**		**Pb**	**19 22 09.9**	**-0.4**
DEVC					**Sb**	**19 22 13.5**	**-0.4**
PMD	**Palm Desert**	**0.28**	**189**	Pg	**Pg**	**19 22 10.6**	**-0.4**
PMD	comp=E,11μm,0.3s			IAML		19 22 15.0	
BELC	**Belle Mtn. Jos**	**0.28**	**74**		**Pb**	**19 22 10.9**	**-0.7**
BELC					**Sg**	**19 22 14.9**	**-0.6**
BELC	**Belle Mtn. Jos**	**0.28**	**74**	P	**Pb**	**19 22 11.0**	**-0.7**
BELC	baz=254,SNR=1000			S	**Sg**	**19 22 15.1**	**-0.5**
TPC	baz=254 **Twentynine Pal**	**0.29**	**51**		**Pg**	**19 22 10.9**	**-0.5**
PFO	**Pinyon Flats O**	**0.33**	**200**	Pg	**Pg**	**19 22 11.4**	**-0.6**
PFO				Sg	**Sg**	**19 22 15.7**	**-1.0**
PFO	comp=E,11μm,0.4s			IAML		19 22 16.7	
PFO	comp=E,10μm,0.3s			IAML		19 22 16.7	
PFO	**Pinyon Flats O**	**0.33**	**200**		**Pg**	**19 22 11.6**	**-0.4**
PFO					**Sg**	**19 22 16.2**	**-0.6**
PFO	**Pinyon Flats O**	**0.33**	**200**	P	**Pg**	**19 22 11.6**	**-0.4**
PFO	baz=20,SNR=1000			S	**Sg**	**19 22 16.2**	**-0.6**
PFO	baz=20 **Pinyon Flats O**	**0.33**	**200**	Pg	**Pg**	**19 22 11.3**	**-0.6**
PFO	comp=E,338nm,0.3s,baz=24,slow=19,SNR=3659			Lg	Lg	19 22 16.0	
XPFO	baz=306,slow=12 **Pion Flat**	**0.33**	**199**		**Pn**	**19 22 16.1**	**+1.1**
I57US	**PINON FLAT INF**	**0.33**	**199**	Pg	**Pg**	**19 22 11.6**	**-0.5**
GTM	baz=24,slow=37 **Goat Mountain**	**0.37**	**356**		**Pg**	**19 22 12.3**	**-0.4**
GTM					**Sg**	**19 22 17.6**	**-0.5**
GVDA	**Garner Valley**	**0.38**	**229**		**Pg**	**19 22 12.6**	**-0.3**
GVDA					**Sg**	**19 22 17.7**	**-0.6**
CTCC	**Cactus City**	**0.39**	**133**		**Pb**	**19 22 12.7**	**-0.6**
CTCC					**Sb**	**19 22 18.4**	**-0.5**
DNR	**Dunn Ranch,Anz**	**0.43**	**216**		**Sb**	**19 22 20.1**	**-0.4**
SNDA	**J Saunders Pla**	**0.44**	**213**		**Sb**	**19 22 19.9**	**-0.7**
CTW	**Cottonwood Mou**	**0.45**	**123**		**Pb**	**19 22 13.9**	**-0.5**
CTW					**Sb**	**19 22 20.2**	**-0.6**
FRD	**Ford Ranch, An**	**0.48**	**208**		**Pb**	**19 22 14.5**	**-0.5**
FRD					**Sg**	**19 22 20.7**	**-0.5**
CRY	**Cary Ranch**	**0.49**	**224**		**Sg**	**19 22 21.2**	**-0.4**
BZNA	**Buzz No.'s Pla**	**0.51**	**214**		**Sg**	**19 22 22.0**	**-0.2**
BBSC	**Beaumont Base**	**0.54**	**270**		**Pb**	**19 22 15.7**	**-0.3**
BBSC					**Sb**	**19 22 23.6**	**+0.1**
POB	**Polly Butte**	**0.55**	**245**		**Pb**	**19 22 15.7**	**-0.4**
POB					**Sb**	**19 22 23.2**	**-0.5**
HAY	**Hayfield**	**0.58**	**112**		**Pb**	**19 22 16.7**	**+0.1**
HAY					**Sb**	**19 22 24.7**	**+0.3**
BBRC	**Big Bear Solar**	**0.60**	**305**		**Pg**	**19 22 16.5**	**-0.4**
BBRC	**Big Bear Solar**	**0.60**	**305**	P	**Pg**	**19 22 16.5**	**-0.4**
BBRC	baz=124,SNR=62			S	**Sb**	**19 22 25.0**	**-0.3**
HMTC	baz=124 **Hemet**	**0.60**	**250**		**Pb**	**19 22 16.6**	**-0.4**
HMTC					**Sg**	**19 22 24.5**	**-0.4**
DGR	**Domenigoni Val**	**0.63**	**245**		**Sg**	**19 22 25.4**	**-0.4**
BORC	**Borrego Spring**	**0.66**	**187**		**Sb**	**19 22 26.2**	**-0.5**
CFT	**Crafton Hills**	**0.66**	**280**		**Pb**	**19 22 17.6**	**-0.4**
CFT					**Sb**	**19 22 27.6**	**+0.7**
SVD	**Seven Oaks Dam**	**0.67**	**286**		**Pg**	**19 22 17.6**	**-0.5**
SVD					**Sb**	**19 22 26.8**	**-0.3**
BACC	**Bachelor Mtn.**	**0.67**	**243**		**Sg**	**19 22 26.6**	**-0.4**
PEC	**Perris**	**0.69**	**268**		**Sb**	**19 22 27.6**	**-0.2**
SALN	**Salton City**	**0.70**	**156**		**Pb**	**19 22 18.6**	**0.0**
SALN					**Sb**	**19 22 28.4**	**+0.5**
PLM	**Palomar**	**0.72**	**218**		**Pb**	**19 22 18.9**	**-0.2**
PLM					**Sb**	**19 22 28.5**	**-0.3**
SLH	**Sleepy Hollow**	**0.73**	**175**		**Pb**	**19 22 19.1**	**0.0**
SLH					**Sb**	**19 22 29.2**	**+0.4**
BOMB	**Bombay Beach**	**0.75**	**138**		**Pg**	**19 22 19.3**	**-0.2**
BOMB					**Sn**	**19 22 30.5**	**-0.9**
HLNC	**Highland**	**0.77**	**285**		**Pg**	**19 22 19.4**	**-0.5**
HLNC					**Sg**	**19 22 30.3**	**+0.1**
MATG	**Mataguay Scout**	**0.77**	**200**		**Pb**	**19 22 19.7**	**-0.2**
MATG					**Sb**	**19 22 30.0**	**0.0**
BC3	**Big Chuckawall**	**0.77**	**110**		**Pb**	**19 22 19.9**	**-0.1**
BC3					**Sn**	**19 22 30.9**	**-1.5**
BC3	**Big Chuckawall**	**0.77**	**110**	P	**Pb**	**19 22 19.9**	**-0.1**
	baz=291,SNR=1000			S	**Sb**	**19 22 30.1**	**-0.1**
BC3	baz=291						
MURC	**Murrieta**	**0.79**	**246**		**Pg**	**19 22 19.9**	**-0.5**
MURC					**Sb**	**19 22 30.1**	**-0.5**
MURC	**Murrieta**	**0.79**	**246**	P	**Pg**	**19 22 19.9**	**-0.5**
MURC	baz=66,SNR=283			S	**Sb**	**19 22 30.4**	**-0.3**
CFSC	baz=66 **Central Fire S**	**0.81**	**283**		**Sn**	**19 22 32.3**	**-0.9**
CFSC	**Central Fire S**	**0.81**	**283**		**Pg**	**19 22 20.6**	**-0.2**
RSBC	**Riverside Bore**	**0.83**	**274**		**Pb**	**19 22 20.5**	**-0.4**
RSBC					**Sb**	**19 22 31.5**	**-0.3**
CLTC	**Calectric**	**0.84**	**282**		**Pb**	**19 22 20.5**	**-0.5**
CLTC					**Sn**	**19 22 33.1**	**-0.7**
RVR	**Riverside**	**0.87**	**275**		**Sb**	**19 22 32.8**	**-0.2**
ERRC	**Elmore Ranch**	**0.91**	**152**		**Sn**	**19 22 35.0**	**-0.4**
HEC	**Hector,Ludlow**	**0.91**	**360**		**Sg**	**19 22 34.0**	**-0.6**
HEC	**Hector,Ludlow**	**0.91**	**360**	P	**Pg**	**19 22 22.0**	**-0.6**
HEC	baz=179,SNR=130			S	**Sg**	**19 22 34.6**	**0.0**
FON	baz=179 **Fontana**	**0.94**	**281**		**Pg**	**19 22 22.6**	**-0.6**
FON					**Sg**	**19 22 35.2**	**-0.4**
ELS	**Elsinore Mount**	**0.96**	**254**		**Pb**	**19 22 22.8**	**-0.2**
ELS	comp=N,4μm,0.3s			IAML		19 22 35.5	
IRM	**Iron Mountain**	**1.01**	**76**		**Pb**	**19 22 23.5**	**-0.4**
IRM	**Iron Mountain**	**1.01**	**76**	P	**Pb**	**19 22 23.5**	**-0.4**
IRM	baz=257,SNR=1000			S	**Sg**	**19 22 37.1**	**-0.7**
GMRC	baz=257 **Granite Mounta**	**1.02**	**32**	P	**Pn**	**19 22 23.9**	**-0.6**
GMRC	baz=213,SNR=1000			S	**Sb**	**19 22 37.2**	**-0.3**
MONP2	baz=213 **Monument Peak**	**1.03**	**184**	P	**Pn**	**19 22 24.2**	**-0.5**
MONP2	baz=4.6,SNR=435			S	**Sg**	**19 22 37.7**	**-0.7**
SWSC	baz=4.6 **Sam W. Stewart**	**1.07**	**155**	P	**Pb**	**19 22 23.7**	**-1.2**
SWSC	baz=336,SNR=113			S	**Sb**	**19 22 37.9**	**-0.7**
RRX	baz=336 **Edison Barstow**	**1.10**	**330**	P	**Pg**	**19 22 25.8**	**-0.5**
RRX	baz=150,SNR=47			S	**Sg**	**19 22 40.7**	**0.0**
BFSC	baz=150 **Mount Baldy Ra**	**1.15**	**286**	P	**Pb**	**19 22 26.1**	**-0.3**
BFSC	baz=106,SNR=327			S	**Sg**	**19 22 41.7**	**-0.6**
109C	baz=106 **Camp Elliot, M**	**1.22**	**213**		**Pn**	**19 22 26.7**	**-0.4**
109C	**Camp Elliot, M**	**1.22**	**213**	P	**Pn**	**19 22 26.8**	**-0.4**
109C	baz=32,SNR=26			S	**Sb**	**19 22 42.6**	**-0.3**
BAR	baz=32 **Barrett**	**1.27**	**193**	Pn	**Pn**	**19 22 27.4**	**-0.4**
IKP	**In-Ko-Pah, Jac**	**1.28**	**172**	P	**Pn**	**19 22 27.2**	**-0.9**
IKP	baz=352,SNR=122			Sb	**Sg**	**19 22 45.5**	**-0.9**
RMX	baz=352 **La Rumorosa**	**1.33**	**171**		**Sg**	**19 22 48.5**	**+0.4**
TKX	**Tecate**	**1.37**	**190**		**Pb**	**19 22 29.4**	**-0.7**
TKX	comp=N,3μm,0.2s			IAML		19 22 49.1	
GSC	**Goldstone, Bar**	**1.43**	**344**		**Pb**	**19 22 30.4**	**-0.8**
GSC	comp=E,3μm,1.1s			IAML		19 22 55.4	
GSC	comp=N,1μm,0.8s			IAML		19 22 57.5	
GSC	**Goldstone, Bar**	**1.43**	**344**	P	**Pn**	**19 22 29.9**	**-0.3**
GSC	baz=164,SNR=376			Sb	**Sg**	**19 22 50.7**	**-0.5**
BLYC	baz=164 **Blythe**	**1.51**	**96**		**Pn**	**19 22 30.2**	**-0.9**
BLYC	comp=N,2μm,0.4s			IAML		19 22 56.0	
GLA	**Glamis**	**1.52**	**124**		**Pn**	**19 22 30.3**	**-1.0**
GLA	comp=E,2μm,0.8s			IAML		19 22 56.3	
GLA	**Glamis**	**1.52**	**124**	P	**Pn**	**19 22 30.1**	**-1.3**
GLA	baz=305,SNR=291			Sg	**Sg**	**19 22 54.7**	**+0.6**
TJX	baz=305 **Tijuana**	**1.53**	**204**	Pn	**Pb**	**19 22 31.9**	**-0.9**
TJX					**Sb**	**19 22 52.2**	**+0.2**
TUQ	**Turquoise Moun**	**1.55**	**12**	P	**Pn**	**19 22 30.7**	**-1.1**
TUQ	baz=192,SNR=162			Sb	**Sg**	**19 22 53.8**	**-1.1**
PASC	baz=192 **Pasadena Art C**	**1.56**	**280**	Pg	**Pb**	**19 22 32.2**	**-1.1**
PASC	comp=E,2μm,0.4s			IAML		19 22 55.6	
PASC	comp=N,2μm,0.5s			IAML		19 22 56.8	
CBX	**Cerro Bola**	**1.63**	**190**		**Pn**	**19 22 32.9**	**0.0**
NEE2	**Needles Airpor**	**1.65**	**59**	P	**Pn**	**19 22 32.3**	**-0.8**
NEE2	baz=240			Sb	**Sg**	**19 22 56.4**	**-1.6**
FMP	baz=240 **Fort Macarthur**	**1.65**	**263**	P	**Pn**	**19 22 32.7**	**-0.3**
FMP	baz=82			Sb	**Sb**	**19 22 56.0**	**+0.6**
EDW2	baz=82 **Edwards Air Fo**	**1.68**	**305**	P	**Pn**	**19 22 33.5**	**-0.1**
EDW2	baz=124,SNR=770			Sb	**Sg**	**19 22 57.4**	**-1.7**
DECC	baz=124 **Green Verdugo**	**1.70**	**282**	Pb	**Pb**	**19 22 35.3**	**-0.4**
DECC	baz=101			Sb	**Sg**	**19 22 58.0**	**-1.7**
CIS	baz=101 **Catalina Islan**	**1.82**	**254**	P	**Pn**	**19 22 35.0**	**-0.4**
CIS	baz=73			Sb	**Sb**	**19 23 00.9**	**+0.8**
PDMCI	baz=73 **Parker Dam,Lak**	**1.85**	**78**	P	**Pn**	**19 22 35.4**	**-0.5**
PDMCI	baz=259,SNR=362			Sb	**Sg**	**19 23 02.4**	**-2.2**
LRMC	baz=259 **Laurel Mtn Rad**	**1.91**	**325**	Pb	**Pb**	**19 22 39.7**	**+0.2**
LRMC	baz=144			Sb	**Sg**	**19 23 05.2**	**-1.4**
ESJX	baz=144 **Sierra Juarez**	**1.94**	**170**	IAML		19 23 07.3	
ESJX	comp=N,556nm,0.3s			IAML		19 23 07.4	
SHOC	comp=E,708nm,0.5s **Shoshone, Teco**	**1.97**	**1**	Pb	**Pb**	**19 22 40.6**	**+0.2**
SHOC	baz=181			Sb	**Sg**	**19 23 07.2**	**-1.3**
CCX	baz=181 **Cicese**	**2.07**	**188**		**Pn**	**19 22 39.6**	**+0.8**
CCX	comp=E,1μm,0.4s			IAML		19 23 10.2	
CCX	comp=N,839nm,0.5s			IAML		19 23 12.2	
SCI2	**San Clemente I**	**2.08**	**244**	P	**Pn**	**19 22 39.2**	**+0.2**
SCI2	baz=62,SNR=39			Sb	**Sg**	**19 23 09.8**	**-2.1**
OSI	baz=62 **Osito Audit: C**	**2.10**	**290**	Pb	**Pb**	**19 22 42.9**	**+0.3**
V12A	baz=108 **Nelson**	**2.17**	**34**		**Pn**	**19 22 40.5**	**+0.1**
V12A	comp=E,475nm,0.6s			IAML		19 23 15.7	
GWY	**Greenwater Val**	**2.28**	**353**		**Pn**	**19 22 42.0**	**+0.1**
W13A	**Hualapai Mount**	**2.33**	**59**	IAML		19 23 23.6	
W13A	comp=E,558nm,0.5s			IAML		19 23 25.2	
MPMC	comp=N,528nm,0.6s **Manual Prospec**	**2.33**	**336**	P	**Pn**	**19 22 43.0**	**+0.3**
MPMC	baz=156,SNR=79			Sb	**Sg**	**19 23 18.2**	**-1.8**
ARVC	baz=156 **Arvin**	**2.39**	**301**	P	**Pn**	**19 22 43.6**	**+0.3**
ARVC	baz=120,SNR=22			Sb	**Sg**	**19 23 19.7**	**-2.2**
113A	baz=120 **Mohawk Valley,**	**2.43**	**118**	Pn	**Pn**	**19 22 42.3**	**-1.5**
WTNK	**Soaring Height**	**2.51**	**25**		**Pn**	**19 22 44.9**	**0.0**
FURC	**Furnace Creek,**	**2.58**	**350**	Pg	**Pg**	**19 22 54.5**	**+0.1**
BCW	baz=170 **Bitter Crk WRg**	**2.75**	**293**		**Pn**	**19 22 49.2**	**+0.9**
SHPR	**Sheep Range**	**2.75**	**20**		**Pn**	**19 22 49.2**	**+0.8**
Y14A	**Wickenburg**	**2.76**	**89**	IAML		19 23 38.5	

n131,σ1§53/164,mb4.1/8,MS3.2/13,4C,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
	comp=N,669nm,0.7s						
Y14A				IAML		19 23 40.2	
	comp=E,500nm,0.6s						
SBC	**Santa Barbara**	**2.85**	**281**	Pb	**Pb**	**19 22 54.9**	**-0.5**
	baz=100						
WCT	**Wildcat Mounta**	**2.88**	**355**		**Pn**	**19 22 50.6**	**+0.6**
WCT				IAML		19 23 41.0	
	comp=E,214nm,0.5s						
CWC	**Cottonwood Cre**	**2.89**	**331**	P	**Pn**	**19 22 50.7**	**+0.3**
	baz=150						
VES	**Vestal, Richgr**	**2.97**	**311**	Pb	**Pb**	**19 22 55.5**	**-1.8**
	baz=129						
PKM	**Mcpherson Peak**	**3.04**	**289**	P	**Pn**	**19 22 52.6**	**+0.2**
	baz=108						
GRAC	**Grapevine Rang**	**3.18**	**345**	IAML		19 23 48.1	
	comp=E,368nm,0.7s						
GRAC				IAML		19 23 53.6	
	comp=N,321nm,0.7s						
GRAC	**Grapevine Rang**	**3.18**	**345**	P	**Pn**	**19 22 55.5**	**+1.3**
	baz=164						
214A	**Organ Pipe Nat**	**3.55**	**123**	Pn	**Pn**	**19 22 58.3**	**-0.9**
214A				IAML		19 24 07.2	
	comp=E,171nm,0.9s						
214A	**Organ Pipe Nat**	**3.55**	**123**	P	**Pn**	**19 22 58.3**	**-0.9**
	baz=305						
PRN	**Pahroc Range**	**3.63**	**16**	Pn	**Pn**	**19 23 01.6**	**+1.1**
PRN				IAML		19 24 08.7	
	comp=N,203nm,0.9s						
PRN				IAML		19 24 15.0	
	comp=E,236nm,0.9s						
DSP	**Deep Springs**	**3.69**	**339**	Pn	**Pn**	**19 23 02.4**	**+1.2**
LCMT	**Little Creek M**	**3.98**	**38**	IAML		19 24 21.3	
	comp=E,94nm,0.9s						
X16A	**Lo Mia Camp, P**	**4.08**	**82**	IAML		19 24 23.3	
	comp=N,90nm,0.9s						
U15A	**North Rim**	**4.14**	**52**	Pn	**Pn**	**19 23 08.4**	**+0.8**
U15A				IAML		19 24 19.8	
	comp=N,165nm,0.7s						
U15A				IAML		19 24 28.1	
	comp=E,160nm,1.1s						
KNB	**Kanab**	**4.21**	**42**	IAML		19 24 20.7	
	comp=E,112nm,0.9s						
KNB				IAML		19 24 21.9	
	comp=N,207nm,1.1s						
WUAZ	**Wupatki**	**4.38**	**67**	Pn	**Pn**	**19 23 11.8**	**+1.1**
WUAZ				IAML		19 24 24.6	
	comp=N,175nm,0.4s						
WUAZ				IAML		19 24 28.5	
	comp=N,178nm,0.5s						
WUAZ	**Wupatki**	**4.38**	**67**	P	**Pn**	**19 23 12.0**	**+1.2**
	baz=250						
R11B	**Troy Canyon, C**	**4.46**	**8**	P	**Pn**	**19 23 13.2**	**+1.4**
	baz=188						
SZCU	**Shurtz Canyon**	**4.51**	**35**	IAML		19 24 30.1	
	comp=N,72nm,0.4s						
SZCU				IAML		19 24 35.8	
	comp=E,77nm,0.9s						
NVAR	**Mina Array Bea**	**4.77**	**341**		**Pn**	**19 23 17.2**	**+1.0**
NVAR	**Mina Array Bea**	**4.77**	**341**	Pn	**Pn**	**19 23 17.7**	**+1.4**
	comp=E,1.5nm,0.3s,baz=161,slow=16,SNR=19						
NVAR				Lg	Lg	19 24 34.0	
	baz=166,slow=30						
	comp=E,1.8nm,0.4s						
PKCU	**Pink Cliffs**	**4.80**	**42**	Pn	**Pn**	**19 23 16.1**	**-0.6**
TUC	**Tucson**	**4.92**	**108**		**Pn**	**19 23 16.8**	**-1.3**
TUC				IAML		19 24 46.4	
	comp=E,51nm,1.8s						
TUC	**Tucson**	**4.92**	**108**	P	**Pn**	**19 23 16.8**	**-1.3**
	baz=291						
Q09A	**Carvers**	**4.95**	**352**	IAML		19 24 44.5	
	comp=E,121nm,1.0s						
Q09A				IAML		19 24 46.2	
	comp=N,126nm,0.9s						
PSUT	**Pine Spring**	**5.02**	**23**	IAML		19 24 49.3	
	comp=E,59nm,0.9s						
PSUT				IAML		19 24 54.2	
	comp=N,51nm,1.0s						
Q12A	**Willow Creek R**	**5.25**	**13**	IAML		19 24 56.7	
	comp=N,79nm,0.8s						
Q12A				IAML		19 25 11.8	
	comp=E,75nm,0.9s						
SPR3	**Spring Creek 3**	**5.32**	**17**	IAML		19 24 55.6	
	comp=N,34nm,1.3s						
SPR3				IAML		19 24 59.5	
	comp=E,37nm,1.5s						
W18A	**Petrified Fore**	**5.57**	**76**	P	**Pn**	**19 23 28.9**	**+1.8**
	baz=260						
ELK	**Elko**	**6.87**	**7**	Pn	**Pn**	**19 23 47.1**	**+2.1**
	comp=E,0.3nm,0.3s,baz=195,slow=12,SNR=5.0						
ELK				Lg	Lg	19 25 34.1	
	comp=E,0.1nm,0.3s,baz=223,slow=9.2,SNR=1.1						
ELK				LR	LR	19 26 08.8	
	comp=E,38nm,18.5s,baz=160,slow=36						
	comp=E,1.2nm,0.5s						
121A	**Cookes Peak, D**	**7.29**	**99**	P	**Pn**	**19 23 51.5**	**+0.7**
	baz=283,SNR=18						
ANMO	**Albuquerque**	**8.22**	**80**	Pn	**Pn**	**19 24 04.2**	**+0.7**
	comp=E,0.1nm,0.3s,baz=305,slow=11,SNR=2.5						
ANMO				Lg	Lg	19 26 19.8	
	comp=E,0.3nm,0.3s,baz=238,slow=18,SNR=2.3						
ANMO				LR	LR	19 27 43.7	
	comp=E,67nm,18.5s,baz=360,slow=42						
	comp=E,1.0nm,0.6s						
MNTX	**Cornudas Mount**	**9.47**	**101**	P	**Pn**	**19 24 21.3**	**+0.7**
	baz=286,SNR=6.3						
PDAR	**Pinedale Array**	**10.30**	**29**	Pn	**Pn**	**19 24 33.2**	**+1.1**
	comp=E,0.1nm,0.3s,baz=216,slow=9.0,SNR=2.9						
PDAR				LR	LR	19 28 26.7	
	comp=E,35nm,18.3s,baz=228,slow=37						
	comp=E,0.1nm,0.3s						
LPIG	**La Paz**	**11.11**	**150**	LR	LR	19 27 48.8	
	comp=E,37nm,20.2s,baz=178,slow=31						
ALPN	**Alpine**	**11.32**	**105**	Pn	**Pn**	**19 24 46.4**	**+0.4**
TXAR	**Lajitas Array**	**11.72**	**110**	Pn	**Pn**	**19 24 52.7**	**+1.3**
	comp=E,0.3nm,0.3s,baz=290,slow=13,SNR=13						
TXAR				Lg	Lg	19 28 07.2	
	comp=E,0.1nm,0.3s,baz=295,slow=32,SNR=2.5						
	comp=E,0.5nm,0.4s						
SADO	**Sadowa**	**30.49**	**58**	LR	LR	19 41 13.5	
	comp=E,46nm,18.7s,baz=310,slow=38						
ILAR	**Eielson Array**	**36.03**	**338**	P	**P**	**19 29 07.6**	**+2.7**
	comp=E,0.4nm,0.7s,baz=116,slow=8.1,SNR=5.0						
	comp=E,0.4nm,0.7s						
FRB	**Frobisher Bay**	**41.75**	**30**	LR	LR	19 46 13.8	
	comp=E,22nm,18.3s,baz=122,slow=35						

*ISN **30** 19:23:50.1±0.3,34°.69N×46°.26E,h12km±4km, ML2.7*
*TEH **30** 19:23:52.1,34°.64N×46°.18E,h8km±45km, ML2.7*

ISC 30 19:23:52.1±1.0,**34°.64N**±0°.04×**46°.20E**±0°.04,**h15**km±8km,
n10,σ0°66/15,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.17**	**70**	Pg	**Pg**	**19 23 56.4**	**-0.1**
IDHR				Sg	**Sg**	**19 23 59.6**	**+0.2**
IGHG	**Ghaleghazi**	**0.44**	**135**	Pg	**Pb**	**19 24 01.3**	**-0.4**
GLG1	**Gilan-e-Gharb**	**0.58**	**204**	Pg	**Pg**	**19 24 03.3**	**-0.2**
ILIN	**Lien**	**0.69**	**66**	Pg	**Pb**	**19 24 05.7**	**-0.3**
KCHF	**Cheshme Sefid,**	**0.79**	**117**	Pg	**Pb**	**19 24 07.4**	**-0.3**
KCHF				Sg	**Sn**	**19 24 19.5**	**-1.0**
IBZA	**Bozab**	**1.39**	**97**	Pg	**Pg**	**19 24 18.9**	**0.0**
IBDR	**Badra**	**1.54**	**188**	*e*Pn	**Pb**	**19 24 20.0**	**-0.4**
IBDR				*e*Sn	**Sg**	**19 24 42.0**	**+0.1**
IBDR				AML	AML	19 24 53.9	
	comp=N,49nm,0.5s						
IKRK	**Kirkuk**	**1.70**	**297**	*e*Pn	**Pb**	**19 24 22.0**	**-1.1**
IKRK				*e*Sn	**Sb**	**19 24 45.0**	**+0.7**
IKFM	**Kafar-mosalman**	**1.77**	**129**	Pg	**Pg**	**19 24 25.8**	**-0.3**
BHD	**Baghdad**	**2.04**	**228**	*e*Pn	**Pn**	**19 24 27.0**	**+1.2**
BHD				AML	AML	19 24 41.5	
	comp=E,19nm,0.8s						
BHD				*e*Sn	**Sb**	**19 24 54.0**	**+0.1**

*IDC **30** 19:35:02.8±1.1,13°.21N×87°.69W,h0km,mb3.8/6,*
mbtmp3.8/11,ML2.9/5,MS3.2/16,Error ellipse:
s-maj=30.8km s-min=16.0km az=48.0
*SNET **30** 19:35:03.7±0.9,13°.27N×88°.06W,h1km,ML4.3*
*CATAC **30** 19:35:04.2±0.2,13°.23N×88°.05W,h6km±2km,ML4.3*
*NEIC **30** 19:35:05.4±2.6,13°.25N±0°.08×87°.98W±0°.05,h10km±2km,*
mb4.3/9,Error ellipse: s-maj=14.8km s-min=6.7km
az=205.0
*GCG **30** 19:35:07.0±2.6,13°.23N×88°.02W,h6km,MD4.1*

ISC 30 19:35:04.6±0.8,**13°.23N**±0°.03×**88°.04W**±0°.02,**h12**km±5km,

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCND	**La Caada**	**0.17**	**63**	*e*P	**Pg**	**19 35 08.2**	**-0.2**
LCND				⇑*e*P		19 35 08.3	
LCND				*e*S	**Sg**	**19 35 11.4**	**+0.4**
LCND				*e*S		19 35 11.4	
LCND	**La Caada**	**0.17**	**63**	*i*P	**Pg**	**19 35 08.2**	**-0.2**
LCND				*i*P		19 35 08.3	
LCND				*i*S	**Sg**	**19 35 11.6**	**+0.6**
LCND				IAML		19 35 13.1	
	comp=Z,130µm,1.0s						
JUCU	**Jucuarįn**	**0.20**	**276**	*e*P	**Pg**	**19 35 08.6**	**-0.4**
JUCU				*e*S	**Sg**	**19 35 11.7**	**-0.3**
JUCU	**Jucuarįn**	**0.20**	**276**	*i*P	**Pg**	**19 35 08.7**	**-0.2**
JUCU				*i*S	**Sg**	**19 35 12.0**	**0.0**
JUCU				IAML		19 35 15.6	
	comp=Z,59µm,1.0s						
CNCH	**Conchagua**	**0.21**	**78**	*e*P	**Pg**	**19 35 09.3**	**+0.1**
CNCH				*e*S	**Sg**	**19 35 13.0**	**+0.7**
CNCH	**Conchagua**	**0.21**	**78**	*i*P	**Pg**	**19 35 09.3**	**+0.1**
CNCH				*i*S	**Sg**	**19 35 13.2**	**+0.9**
CNCH				IAML		19 35 16.6	
	comp=Z,170µm,1.0s						
CNRM	**Centro Naciona**	**0.27**	**333**	*e*P	**Pg**	**19 35 09.4**	**-0.7**
CNRM				*e*S	**Sg**	**19 35 13.9**	**0.0**
CNRM				*e*S	**Sb**	**19 35 14.1**	**-1.9**
CNRM	**Centro Naciona**	**0.27**	**333**	*i*P	**Pg**	**19 35 09.6**	**-0.6**
CNRM				*i*S	**Sb**	**19 35 15.4**	**-0.6**
CNRM				IAML		19 35 20.3	
	comp=Z,140µm,1.0s						
BLLM	**Bellamira**	**0.28**	**318**	*e*P	**Pg**	**19 35 09.8**	**-0.6**
VSM	**San Miguel**	**0.30**	**311**	*e*P	**Pg**	**19 35 10.3**	**-0.5**
LCY	**Lacayo**	**0.31**	**308**	*e*P	**Pg**	**19 35 10.5**	**-0.4**
RANC	**El Ranchito**	**0.31**	**310**	*e*P	**Pg**	**19 35 10.6**	**-0.3**
PACA	**Pacayal**	**0.36**	**311**	*e*P	**Pg**	**19 35 11.5**	**-0.4**
PACA	**Pacayal**	**0.36**	**311**	*i*P	**Pg**	**19 35 11.4**	**-0.4**
PACA				*i*S	**Sg**	**19 35 16.9**	**+0.2**
PACA				IAML		19 35 22.4	
	comp=Z,140µm,1.0s						
AMPH	**Amapala**	**0.38**	**82**	*e*P	**Pb**	**19 35 12.2**	**-1.0**
AMPH				*e*S	**Sb**	**19 35 18.1**	**-1.0**
TECA	**Tecapa**	**0.52**	**300**	*e*P	**Pg**	**19 35 14.2**	**-0.5**
COEB	**Comit de Eme**	**0.54**	**299**	*e*P	**Pg**	**19 35 14.7**	**-0.5**
PQSS	**Presa 15 de Se**	**0.64**	**308**	*e*P	**Pg**	**19 35 16.5**	**-0.5**
TECO	**Alcaldia de Te**	**0.78**	**293**	*e*P	**Pg**	**19 35 18.7**	**-1.0**
TECO	**Alcaldia de Te**	**0.78**	**293**	*i*P	**Pg**	**19 35 18.9**	**-0.7**
TECO				*i*S	**Sg**	**19 35 29.6**	**-0.2**
TECO				IAML		19 35 30.2	
	comp=Z,5µm,1.0s						
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*e*P	**Pg**	**19 35 19.6**	**-0.7**
SCLA	**Alcaldia de Sa**	**0.81**	**305**	*i*P	**Pg**	**19 35 19.6**	**-0.7**
SCLA				*i*S	**Sb**	**19 35 32.1**	**+0.4**
SCLA				IAML		19 35 40.5	
	comp=Z,3µm,1.0s						
UESV	**Universidad de**	**0.83**	**299**	*e*P	**Pg**	**19 35 19.9**	**-0.6**
UESV	**Universidad de**	**0.83**	**299**	*i*P	**Pg**	**19 35 20.0**	**-0.6**
UESV				*i*S	**Sg**	**19 35 31.8**	**+0.4**
UESV				IAML		19 35 34.7	
	comp=Z,6µm,1.0s						
SNVI	**San Vicente**	**0.86**	**296**	*e*P	**Pg**	**19 35 20.5**	**-0.7**
COEG	**Centro de Oper**	**0.90**	**295**	*e*P	**Pg**	**19 35 21.0**	**-1.0**
COEG	**Centro de Oper**	**0.90**	**295**	*i*P	**Pg**	**19 35 21.2**	**-0.8**
COEG				*i*S	**Sg**	**19 35 33.7**	**-0.1**
COEG				IAML		19 35 35.3	
	comp=Z,8µm,1.0s						
PAVA	**Las Pavas**	**0.99**	**299**	*e*P	**Pg**	**19 35 22.8**	**-0.9**
PAVA	**Las Pavas**	**0.99**	**299**	*i*P	**Pg**	**19 35 23.0**	**-0.7**
PAVA				*i*S	**Sb**	**19 35 37.3**	**+0.4**
PAVA				IAML		19 35 41.1	
	comp=Z,11µm,1.0s						
CRIN	**San Cristobal**	**1.10**	**119**	Pg	**Pn**	**19 35 25.8**	**-0.2**
CRIN	**San Cristobal**	**1.10**	**119**	*i*P	**Pn**	**19 35 26.1**	**+0.1**
CRIN				*i*S	**Sn**	**19 35 42.8**	**+1.6**
CRIN				IAML		19 35 54.3	
	comp=Z,19µm,1.0s						
TGUH	**Tegucigalpa,Un**	**1.11**	**42**	Pg	**Pg**	**19 35 24.6**	**-1.3**
TGUH	**Tegucigalpa,Un**	**1.11**	**42**	*i*P	**Pg**	**19 35 24.7**	**-1.3**
TGUH				IAML		19 35 27.9	
	comp=Z,8µm,1.0s						
TGUH				*i*S	**Sg**	**19 35 39.9**	**-0.6**
PANC	**Alcalda de**	**1.17**	**289**	*i*P	**Pg**	**19 35 25.4**	**-1.7**
PANCS				*i*S	**Sg**	**19 35 41.1**	**-1.2**
PANCS				IAML		19 35 41.5	
	comp=Z,9µm,1.0s						
LOMA	**Loma Larga**	**1.17**	**291**	*e*P	**Pg**	**19 35 25.5**	**-1.6**
LOMA	**Loma Larga**	**1.17**	**291**	*i*P	**Pg**	**19 35 26.0**	**-1.1**
LOMA				*i*S	**Sg**	**19 35 42.1**	**-0.3**
LOMA				IAML		19 35 44.5	
	comp=Z,7µm,1.0s						
UDBS	**Universidad Do**	**1.18**	**294**	*i*P	**Pg**	**19 35 26.1**	**-1.2**
UDBS				*i*S	**Sg**	**19 35 42.2**	**-0.5**
UDBS				IAML		19 35 46.4	
	comp=Z,7µm,1.0s						
SNET	**Serv Nac Est T**	**1.24**	**291**		**Pg**	**19 35 26.8**	**-1.6**
SNET				Sn	**Sg**	**19 35 43.0**	**-1.6**
SNET	**Serv Nac Est T**	**1.24**	**291**	*e*P	**Pg**	**19 35 26.7**	**-1.8**
SNET	**Serv Nac Est T**	**1.24**	**291**	*i*P	**Pg**	**19 35 26.7**	**-1.8**
SNET				*i*S	**Sg**	**19 35 43.9**	**-0.7**
SNET				IAML		19 35 50.3	
	comp=Z,6µm,1.0s						
UEES	**Universidad Ev**	**1.26**	**293**	*i*P	**Pn**	**19 35 24.9**	**-3.2**
UEES				*i*S	**Sg**	**19 35 44.6**	**-0.6**
LALI	**Alcalda de L**	**1.27**	**282**	*i*P	**Pn**	**19 35 27.1**	**-1.1**
LALI				*i*S	**Sg**	**19 35 44.7**	**-0.8**
LALI				IAML		19 35 55.4	
	comp=Z,1µm,1.0s						
BOQS	**Boqueron**	**1.30**	**293**	*e*P	**Pn**	**19 35 28.2**	**-0.7**
PMON	**Piamonte**	**1.32**	**291**	*e*P	**Pn**	**19 35 28.1**	**-0.9**
PMON	**Piamonte**	**1.32**	**291**	*i*P	**Pn**	**19 35 28.6**	**-0.5**
PMON				*i*S	**Sb**	**19 35 46.6**	**+0.1**
PMON				IAML		19 35 49.3	
	comp=Z,7µm,1.0s						
QUEN	**Al S del Volca**	**1.33**	**119**	*i*P	**Pn**	**19 35 28.5**	**-0.5**
QUEN				IAML		19 35 51.5	
	comp=Z,3µm,1.0s						
PACN	**Al O del Volca**	**1.42**	**121**	*i*P	**Pn**	**19 35 29.1**	**-1.2**
PACN				*i*S	**Sg**	**19 35 50.0**	**-0.4**
PACN				IAML		19 35 53.6	
	comp=Z,4µm,1.0s						
JAYA	**Jayaque - finc**	**1.43**	**287**	*e*P	**Pn**	**19 35 29.7**	**-0.9**
JAYA				*e*S	**Sb**	**19 35 48.4**	**-1.2**
JAYA	**Jayaque - finc**	**1.43**	**287**	*i*P	**Pn**	**19 35 29.5**	**-1.0**
JAYA				*i*S	**Sb**	**19 35 49.1**	**-0.5**
JAYA				IAML		19 35 55.6	
	comp=Z,8µm,1.0s						
CNGA	**Al SSO del Vol**	**1.50**	**119**	*i*P	**Pn**	**19 35 29.7**	**-1.7**
CNGA				*i*S	**Sg**	**19 35 52.9**	**0.0**
MACN	**El Madrono**	**1.54**	**120**	*i*P	**Pn**	**19 35 31.3**	**-0.6**
MACN				IAML		19 36 03.0	
	comp=Z,1µm,1.0s						
LEVN	**Ruinas Leon Vi**	**1.62**	**121**	*i*P	**Pn**	**19 35 32.6**	**-0.4**
LEVN				*i*S	**Sg**	**19 35 58.3**	**+1.6**
LEVN				IAML		19 36 05.7	
	comp=Z,2µm,1.0s						
LIMN	**Finca el Limon**	**1.64**	**96**	*i*P	**Pn**	**19 35 33.1**	**-0.3**
LIMN				IAML		19 36 03.3	
	comp=Z,4µm,1.0s						
CEVE	**Cerro Verde**	**1.65**	**291**	*i*P	**Pn**	**19 35 34.4**	**+0.8**
CEVE				*i*S	**Sb**	**19 35 56.8**	**+0.9**
CEVE				IAML		19 36 11.6	
	comp=Z,4µm,1.0s						
MOM2	**El Cardon**	**1.71**	**117**	*i*P	**Pn**	**19 35 33.9**	**-0.4**
MOM2				*i*S	**Sg**	**19 36 01.5**	**+1.7**
MOM2				IAML		19 36 09.1	
	comp=Z,1µm,1.0s						
MTO3	**Montecristo**	**1.73**	**312**		**Pn**	**19 35 34.3**	**-0.4**
MTO3				Sn	**Sn**	**19 35 56.5**	**-0.3**
BRAN	**Las Pilas**	**1.73**	**107**	*i*P	**Pg**	**19 35 38.4**	**+0.6**
BRAN				IAML		19 36 11.6	
	comp=Z,2µm,1.0s						
COPN	**Copaltepe**	**1.76**	**126**	*i*P	**Pn**	**19 35 35.2**	**+0.2**
COPN				IAML		19 36 08.4	
	comp=Z,1µm,1.0s						
NUBE	**Las Nubes**	**1.81**	**292**	*i*P	**Pn**	**19 35 36.2**	**+0.4**
NUBE				*i*S	**Sb**	**19 36 00.9**	**+0.3**
NUBE				IAML		19 36 03.5	
	comp=Z,3µm,1.0s						
ESQI	**Esquipulas**	**1.82**	**316**	Pn	**Pn**	**19 35 36.0**	**0.0**
ESQI	**Esquipulas**	**1.82**	**316**	*i*P	**Pn**	**19 35 36.1**	**+0.2**
ESQI				*i*S	**Sg**	**19 36 03.2**	**-0.1**
ESQI				IAML		19 36 13.0	
	comp=Z,2µm,1.0s						
LOAL	**Lomas de Alarc**	**1.85**	**294**	*i*P	**Pn**	**19 35 37.7**	**+1.4**
LOAL				*i*S	**Sg**	**19 36 04.0**	**-0.2**
APQ3	**Volcan Apoyequ**	**1.89**	**120**	*i*P	**Pn**	**19 35 37.6**	**+0.8**
APQ3				IAML		19 35 44.5	
	comp=Z,2µm,1.0s						
APQ3				*i*S	**Sg**	**19 36 04.6**	**-0.9**
SAPS	**Ciudad Sandino**	**1.92**	**123**	*i*P	**Pb**	**19 35 38.5**	**-1.0**
SAPS				IAML		19 36 12.0	
	comp=Z,2µm,1.0s						
APYN	**Apoyeque**	**1.93**	**121**	*i*P	**Pn**	**19 35 37.0**	**-0.3**
APYN				IAML		19 35 39.8	
	comp=Z,3µm,1.0s						
HUEN		**2.03**	**116**	*i*P	**Pn**	**19 35 38.3**	**-0.4**
HUEN				*i*S	**Sg**	**19 36 09.9**	**0.0**
HUEN				IAML		19 36 27.1	
	comp=Z,1µm,1.0s						
TISN	**Laguna Tiscapa**	**2.04**	**122**	*i*P	**Pn**	**19 35 36.8**	**-2.1**
WILN	**Americas 2**	**2.10**	**120**	*i*P	**Pn**	**19 35 39.4**	**-0.2**
WILN				IAML		19 35 42.5	
	comp=Z,1µm,1.0s						
AERN	**Aeropuerto Man**	**2.13**	**120**	*i*P	**Pg**	**19 35 45.3**	**-0.1**
MAS3	**Al N del Volca**	**2.18**	**123**	*i*P	**Pn**	**19 35 42.2**	**+1.4**
MAS3				IAML		19 36 29.4	
	comp=Z,1µm,1.0s						
MRL	**Marmol**	**2.43**	**319**	*e*P	**Pb**	**19 35 47.7**	**-0.8**
MRL				*e*S	**Sb**	**19 36 20.8**	**+2.3**
NBG	**Las Nubes**	**2.61**	**301**	*e*P	**Pb**	**19 35 50.6**	**-0.9**
NBG				*e*S	**Sg**	**19 36 26.9**	**-1.6**
CONN	**Concepcion**	**2.89**	**125**	*i*P	**Pn**	**19 35 51.6**	**+1.1**
OMEN	**Al SSO del Vol**	**2.92**	**126**	*i*P	**Pn**	**19 35 51.4**	**+0.5**
OMEN				IAML		19 36 33.9	
	comp=Z,410nm,1.0s						
APG	**El Apazote**	**2.94**	**307**	Pn	**Pb**	**19 35 55.3**	**-1.7**
	comp=Z,0.6nm,0.3s,baz=112,slow=12,SNR=45						
APG				Sn	**Sg**	**19 36 36.6**	**-2.4**
	comp=Z,1.8nm,0.3s,baz=226,slow=19,SNR=10.0						
	comp=Z,4.3nm,0.4s						
FUG	**Fuego 3**	**2.97**	**294**	*e*P	**Pn**	**19 35 54.9**	**+3.1**
FUG				*e*S	**Sb**	**19 36 35.1**	**+1.0**
ACON	**Acoyapa**	**3.07**	**114**	Pn	**Pn**	**19 35 51.5**	**-1.5**
ACON	**Acoyapa**	**3.07**	**114**	*i*P	**Pb**	**19 35 57.1**	**-2.1**
HZTE	**Horizontes, Gu**	**3.46**	**136**	Pn	**Pn**	**19 35 58.2**	**-0.3**
STG3	**Santiaguito 3,**	**3.73**	**294**	*e*S	**Sn**	**19 36 51.4**	**+5.3**
RTAL	**Retalhuleu**	**3.77**	**290**	Pn	**Pn**	**19 36 04.4**	**+1.7**
ESPN	**Las Esperanzas**	**3.80**	**105**	Pn	**Pn**	**19 36 02.6**	**-0.3**
ORTG	**Ortega, Santa**	**3.81**	**138**		**Pn**	**19 36 03.7**	**+0.4**
HUEH	**Huehuetenango**	**3.94**	**302**	Pn	**Pn**	**19 36 06.2**	**+1.0**
DUNO	**Dulce Nombre,**	**4.01**	**141**	Pn	**Pn**	**19 36 07.3**	**+1.4**
PETF	**Flores**	**4.06**	**335**		**Pn**	**19 36 07.4**	**+0.8**
INDI	**Punta indio, G**	**4.17**	**143**	*i*P	**Pn**	**19 36 09.3**	**+1.2**
JTS	**Las Juntas de**	**4.21**	**134**	Pn	**Pn**	**19 36 07.1**	**-1.6**
JTS	**Las Juntas de**	**4.21**	**134**	Pn	**Pn**	**19 36 04.1**	**-4.6**
	comp=Z,1.1nm,0.3s,baz=278,slow=16,SNR=1.7						
JTS				Sn	**Sn**	**19 36 52.6**	**-5.2**
	baz=177,slow=18						
	comp=Z,4.2nm,0.3s						
ARE1	**Arenal 1**	**4.26**	**130**	Pn	**Pn**	**19 36 10.1**	**+0.7**
COVE	**Coope Vega, Sa**	**4.35**	**125**	Pn	**Pn**	**19 36 11.0**	**+0.4**
SOCE	**Poccosol**	**4.39**	**130**	Pn	**Pn**	**19 36 12.4**	**+1.2**
JACO	**JACO, Garabito**	**4.86**	**137**		**Pn**	**19 36 18.0**	**+0.4**
CCIG	**Comitan**	**4.99**	**308**	Pn	**Pn**	**19 36 22.0**	**+2.5**
LCR2	**La Lucha 2**	**5.26**	**131**		**Pn**	**19 36 24.2**	**+0.8**
SRBA	**San Rafael, Bu**	**6.08**	**130**	Pn	**Pn**	**19 36 35.8**	**+1.4**
DRK0	**Durika**	**6.14**	**129**	Pn	**Pn**	**19 36 37.6**	**+2.2**
DRK0	**Durika**	**6.14**	**129**	*i*P	**Pn**	**19 36 38.7**	**+3.3**
CDITO	**Canoas**	**6.87**	**132**	Pn	**Pn**	**19 36 46.7**	**+1.4**
TEIG	**Tepich**	**6.96**	**358**	Pn	**Pn**	**19 36 44.8**	**-1.7**
	comp=Z,0.4nm,0.3s,baz=218,slow=10,SNR=1.6						
TEIG				LR	LR	19 39 51.3	
	comp=Z,56nm,20.4s,baz=218,slow=41						
	comp=Z,4.6nm,0.8s						
CMIG	**Matias Romero**	**7.64**	**301**	Pn	**Pn**	**19 36 58.2**	**+2.4**
	comp=Z,0.7nm,0.3s,baz=80,slow=9.8,SNR=5.9						
CMIG				Sn	**Sn**	**19 38 30.8**	**+8.5**
	comp=Z,0.5nm,0.3s,baz=156,slow=22,SNR=2.4						
	comp=Z,1.7nm,0.3s						
ROSC	**El Rosal**	**15.90**	**120**	LR	LR	19 45 51.0	
	comp=Z,119nm,19.8s,baz=42,slow=42						
HBVL	**Hebbronville**	**16.98**	**326**		**P**	**19 39 04.7**	**+0.7**
HBVL				IAmb	IAmb	19 39 08.8	
	comp=Z,28nm,1.2s						
SDV	**Santo Domingo**	**17.62**	**102**	P	**Pn**	**19 39 05.2**	**-5.2**
	comp=Z,0.1nm,0.3s,baz=299,slow=10,SNR=1.1						
SDV				LR	LR	19 47 11.6	
	comp=Z,76nm,18.3s,baz=270,slow=42						
	comp=Z,1.0nm,0.2s

LVC				IAML			19 41 10.4	
	comp=Z,2µm,0.4s							
LVC	**Limon Verde**	**0.38**	**304**	*eP*		**Pn**	**19 40 57.1**	**-1.0**
LVC				*eS*		**Sn**	**19 41 09.3**	**-2.1**
LVC	**Limon Verde**	**0.38**	**304**	*eP*		**Pn**	**19 40 57.7**	**-0.4**
AF01	**San Pedro de A**	**0.39**	**110**	*eP*		**Pn**	**19 40 57.7**	**-0.3**
AF01				*eS*		**Sn**	**19 41 10.1**	**-1.2**
AF01				IAML			19 41 12.3	
	comp=E,3µm,0.3s							
PB15	**IPOC Station P**	**0.91**	**245**	*eP*		**Pn**	**19 41 01.8**	**-0.1**
PB15				*eS*		**Sn**	**19 41 18.6**	**+0.6**
PB15	**IPOC Station P**	**0.91**	**245**	*eP*		**Pn**	**19 41 02.1**	**+0.3**
PB15				*eS*		**Sn**	**19 41 17.9**	**-0.1**
PB06	**IPOC Station P**	**0.93**	**277**	*eP*		**Pn**	**19 41 02.0**	**+0.1**
PB06				*eS*		**Sn**	**19 41 18.4**	**+0.2**
PB06				IAML			19 41 19.4	
	comp=Z,2µm,0.3s							
PB06	**IPOC Station P**	**0.93**	**277**⇑	*eP*		**Pn**	**19 41 02.0**	**+0.1**
PB06				*eS*		**Sn**	**19 41 17.8**	**-0.3**
PB06				IAML			19 41 19.2	
	comp=E,3µm,0.2s							
PB06				IAML			19 41 19.7	
	comp=N,2µm,0.2s							
PB09	**IPOC Station P**	**1.19**	**329**	*eP*		**Pn**	**19 41 04.5**	**-0.1**
PB09				*eS*		**Sn**	**19 41 23.5**	**+0.6**
PB09				IAML			19 41 24.9	
	comp=Z,3µm,0.3s							
PB09	**IPOC Station P**	**1.19**	**329**	*eP*		**Pn**	**19 41 04.8**	**+0.2**
PB09				*eS*		**Sn**	**19 41 21.7**	**-1.2**
PB09				IAML			19 41 23.9	
	comp=N,4µm,0.7s							
PB05	**IPOC Station P**	**1.50**	**268**	*eP*		**Pn**	**19 41 08.1**	**+0.1**
PB05				*eP*			19 41 08.2	
PB05				*eS*		**Sn**	**19 41 29.6**	**+0.6**
PB05				IAML			19 41 36.8	
	comp=Z,498nm,0.9s							
PB05	**IPOC Station P**	**1.50**	**268**⇑	*eP*		**Pn**	**19 41 08.2**	**+0.1**
PB05				*eS*		**Sn**	**19 41 28.2**	**-0.7**
PB05				IAML			19 41 32.4	
	comp=E,786nm,0.4s							
PB04	**IPOC Station P**	**1.54**	**288**	*eP*		**Pn**	**19 41 08.5**	**0.0**
PB04				*eS*		**Sn**	**19 41 30.5**	**+0.8**
PB04				IAML			19 41 36.5	
	comp=Z,1µm,0.2s							
PB04	**IPOC Station P**	**1.54**	**288**	*i P*		**Pn**	**19 41 08.5**	**0.0**
PB04				*i S*		**Sn**	**19 41 28.7**	**-1.0**
PB04				IAML			19 41 37.2	
	comp=E,1µm,0.2s							
PB04				IAML			19 41 38.5	
	comp=N,1µm,0.2s							
PB10	**IPOC Station P**	**1.95**	**249**	*eP*		**Pn**	**19 41 12.9**	**-0.4**
PB10				*eS*		**Sn**	**19 41 37.9**	**-0.5**
PB10				IAML			19 41 38.5	
	comp=Z,338nm,0.3s							
PB10	**IPOC Station P**	**1.95**	**249**	*eP*		**Pn**	**19 41 12.2**	**-1.1**
PB10				*eS*		**Sn**	**19 41 35.9**	**-2.4**
PB10				IAML			19 41 43.6	
	comp=E,416nm,0.4s							
PB01	**IPOC Station P**	**1.96**	**334**	*eP*		**Pn**	**19 41 13.6**	**0.0**
PB01				*eS*		**Sn**	**19 41 39.1**	**+0.3**
PB01				IAML			19 41 41.6	
	comp=Z,1µm,0.2s							
PB01	**IPOC Station P**	**1.96**	**334**⇑	*eP*		**Pn**	**19 41 13.6**	**0.0**
PB01				*eS*		**Sn**	**19 41 38.0**	**-0.8**
PB01				IAML			19 41 40.8	
	comp=E,3µm,0.4s							
PB14	**IPOC Station P**	**2.46**	**223**	*eP*		**Pn**	**19 41 20.0**	**0.0**
PB14				*eS*		**Sn**	**19 41 50.4**	**+0.1**
PB14				IAML			19 41 52.3	
	comp=Z,284nm,0.4s							
PB14	**IPOC Station P**	**2.46**	**223**	*eP*		**Pn**	**19 41 20.2**	**+0.1**
PB14				*eS*		**Sn**	**19 41 49.0**	**-1.4**
PB14				IAML			19 41 57.1	
	comp=E,226nm,0.4s							
GO02	**Mina Guanaco**	**2.51**	**202**	*eP*		**Pn**	**19 41 20.8**	**+0.1**
GO02				*eS*		**Sn**	**19 41 53.1**	**+1.5**
GO02				IAML			19 41 53.4	
	comp=Z,292nm,0.5s							
GO02	**Mina Guanaco**	**2.51**	**202**⇓	*eP*		**Pn**	**19 41 21.6**	**+0.9**
GO02				*eS*		**Sn**	**19 41 52.0**	**+0.5**
GO02				IAML			19 41 55.7	
	comp=E,412nm,0.2s							
GO02				IAML			19 41 56.4	
	comp=N,424nm,0.4s							
TA01	**Diego Aracena**	**2.70**	**326**	*eP*		**Pn**	**19 41 21.9**	**-0.9**
TA01				*eS*		Sn	19 41 45.4	-10
TA01				IAML			19 41 59.4	
	comp=Z,312nm,0.8s							
TA01	**Diego Aracena**	**2.70**	**326**	*eP*		**Pn**	**19 41 21.7**	**-1.1**
TA01				*eS*		**Sn**	**19 41 54.2**	**-1.2**
TA01				IAML			19 42 00.7	
	comp=N,477nm,0.4s							
PB08	**IPOC Station P**	**2.72**	**348**	*eP*		**Pn**	**19 41 23.7**	**+0.2**
PB08				*eS*		**Sn**	**19 41 55.7**	**-0.9**
PB08				IAML			19 41 59.5	
	comp=Z,191nm,0.3s							
PB08	**IPOC Station P**	**2.72**	**348**	*eP*		**Pn**	**19 41 23.6**	**+0.1**
PB08				*eS*		**Sn**	**19 41 54.8**	**-1.8**
PB08				IAML			19 42 00.8	
	comp=N,290nm,0.2s							
YJA	**Yavi**	**2.90**	**78**	*eP*		**Pn**	**19 41 29.1**	**+3.2**
TA02	**Huaiquique**	**2.92**	**330**	*eS*		**Sn**	**19 41 59.5**	**-1.1**
TA02				IAML			19 42 05.7	
	comp=N,643nm,0.1s							
GO01	**Chusmiza**	**3.19**	**349**	*eP*		**Pn**	**19 41 29.6**	**-0.1**
GO01				*eP*			19 41 30.4	
GO01				*eS*		Sn	19 41 55.4	-12
GO01				IAML			19 42 03.9	
	comp=Z,202nm,0.5s							
PB11	**IPOC Station P**	**3.21**	**341**	*eP*		**Pn**	**19 41 29.1**	**-0.6**
PB11				*eS*		**Sn**	**19 42 08.2**	**+0.5**
PB11				IAML			19 42 08.5	
	comp=Z,178nm,0.4s							
PB11	**IPOC Station P**	**3.21**	**341**	*eP*		**Pn**	**19 41 28.8**	**-0.9**
PB11				*i S*		**Sn**	**19 42 04.7**	**-2.9**
PB11				IAML			19 42 09.2	
	comp=E,411nm,0.1s							
SLA	**San Lorenzo**	**3.39**	**125**	*eP*		**Pn**	**19 41 30.4**	**-1.7**
AZAP	**Zapla**	**3.51**	**114**	*eP*		**Pn**	**19 41 30.4**	**-3.4**
AZAP				*eP*			19 41 35.7	
AC01	**Pan de Azucar**	**3.79**	**209**	*eP*		**Pn**	**19 41 36.6**	**-0.8**
AC01				*eS*		**Sn**	**19 42 19.6**	**-1.7**
AC01				IAML			19 42 21.6	
	comp=Z,87nm,0.2s							
AC01	**Pan de Azucar**	**3.79**	**209**	*e*		**Pn**	**19 41 36.5**	**-0.8**
AC01				*eP*		**Pn**	**19 41 36.5**	**-0.8**
AC01				*eS*		**Sn**	**19 42 18.6**	**-2.7**
AC01				IAML			19 42 21.4	
	comp=E,196nm,0.2s							
PB12	**IPOC Station P**	**4.50**	**338**	*eP*		**Pn**	**19 41 45.4**	**-1.5**
PB12				*eS*		**Sn**	**19 42 35.3**	**-3.0**
PB12				IAML			19 43 00.2	
	comp=Z,78nm,0.7s							
GO03	**Copiap**	**4.99**	**197**	*eP*		**Pn**	**19 41 52.3**	**-1.0**
GO03				IAML			19 43 38.3	
	comp=Z,54nm,0.5s							
LPAZ	**La Paz**	**6.51**	**4**	P		**Pn**	**19 42 16.2**	**+1.7**
	comp=Z,5.7nm,0.4s,baz=185,slow=4.1,SNR=16							
LPAZ				S		Sn	19 43 11.0	-17
	comp=Z,2.1nm,0.4s,baz=209,slow=13,SNR=3.9							
LPAZ	**La Paz**	**6.51**	**4**	*eP*		**Pn**	**19 42 16.3**	**+1.7**
BDQN	**Bodoquena, MS**	**11.25**	**80**	*eP*		**Pn**	**19 43 19.8**	**+2.0**
CRSM	**Crissiumal (Br**	**13.95**	**112**	*eP*		**P**	**19 43 56.1**	**-1.2**
RODS	**Rosario do Sul**	**14.11**	**125**	*eP*		**P**	**19 43 59.5**	**+0.5**
TRCB	**Terra Rica**	**14.70**	**93**	*eP*		**P**	**19 44 05.9**	**+0.2**
ALGR	**Alto Alegre (B**	**15.21**	**116**	*eP*		**P**	**19 44 12.2**	**+1.0**
CPSB	**Cacapava Do Su**	**15.49**	**122**	*eP*		**P**	**19 44 15.0**	**+0.7**
LDASE	**Londrina, Braz**	**16.07**	**95**	*eP*		**P**	**19 44 22.1**	**+1.2**
PCMB	**Pacaembu**	**16.08**	**89**	*eP*		**P**	**19 44 23.3**	**+2.3**
BDFB	**Brasilia**	**20.67**	**73**	P		**P**	**19 45 10.8**	**-0.4**
	comp=Z,3.0nm,0.6s,baz=219,slow=6.5,SNR=3.8							
TORD	**Torodi Ar. Bea**	**77.51**	**70**	P		**P**	**19 52 24.7**	**+1.1**
	comp=Z,0.8nm,0.5s,baz=261,slow=5.9,SNR=7.2							
	comp=Z,0.8nm,0.5s							

*IDC **30** 20:19:20.1±0.8, 31°.49S×67°.54W, h0km, mb3.6/5, mbtmp3.7/10, ML3.9/5, MS3.1/6, Error ellipse: s-maj=28.9km s-min=16.2km az=96.0*

ISC 30 20:19:24.6±0.7, 31°.48S±0°.09×67°.4W±0°.2, h29km, n16, σ1°03/14, mb3.7/5, San Juan Province

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

LVC	**Limon Verde**	**8.94**	**351**	Pn		**Pn**	**20 21 32.0**	**-0.2**
	0.4nm,0.3s,baz=130,slow=21,SNR=1.9							
LVC				Lg		Lg	20 24 01.5	
	0.6nm,0.3s,baz=39,slow=16,SNR=3.0							
LVC				LR		LR	20 25 21.0	
	comp=Z,85nm,18.6s,baz=189,slow=40 1.2nm,0.3s							
PLCA	**Paso Flores**	**9.58**	**195**	Pn		**Pn**	**20 21 40.7**	**+0.1**
	0.3nm,0.3s,baz=23,slow=8.2,SNR=12							
PLCA				Lg		Lg	20 24 22.6	
	0.4nm,0.3s,baz=316,slow=22,SNR=2.2 2.2nm,0.8s							
CPUP	**Villa Florida**	**10.20**	**62**	Pn		**Pn**	**20 21 48.0**	**-1.1**
	0.6nm,0.3s,baz=189,slow=17,SNR=5.3							
CPUP				Lg		Lg	20 24 47.6	
	1.1nm,0.3s,baz=270,slow=5.3,SNR=1.9							
CPUP				LR		LR	20 26 15.0	
	comp=Z,104nm,20.0s,baz=238,slow=40 1.5nm,0.3s							
LPAZ	**La Paz**	**15.14**	**357**	Pn		**Pn**	**20 22 57.7**	**+0.6**
	0.2nm,0.3s,baz=159,slow=7.0,SNR=3.2							
LPAZ				LR		LR	20 28 51.7	
	comp=Z,24nm,20.6s,baz=194,slow=38 0.6nm,0.5s							
SIV	**San Ignacio**	**16.46**	**22**	Pn		**Pn**	**20 23 14.7**	**+1.1**
	baz=171,slow=7.9,SNR=1.5							
SIV				LR		LR	20 30 39.5	
	comp=Z,64nm,18.3s,baz=290,slow=41 1.5nm,0.2s							
BDFB	**Brasilia**	**23.69**	**53**	LR		LR	20 34 51.3	
	comp=Z,85nm,21.5s,baz=317,slow=39							
PCRV	**Puerto La Cruz**	**41.50**	**4**	LR		LR	20 47 14.4	
	comp=Z,32nm,19.1s,slow=40							
SNAA	**Sanae**	**52.48**	**159**	P		**P**	**20 28 35.1**	**+0.6**
	3.1nm,1.3s,baz=304,slow=8.5,SNR=6.4 3.1nm,1.3s							
QSPA	**South Pole Qui**	**58.75**	**180**	P		**P**	**20 29 19.7**	**-0.1**
	0.9nm,0.7s,baz=138,slow=6.5,SNR=1.8 0.9nm,0.7s							
TXAR	**Lajitas Array**	**69.62**	**327**	P		**P**	**20 30 30.2**	**-1.2**
	0.2nm,0.7s,baz=156,slow=6.9,SNR=2.1 0.2nm,0.7s							
TORD	**Torodi Ar. Bea**	**79.65**	**68**	P		**P**	**20 31 30.8**	**+1.1**
	0.7nm,0.8s,baz=248,slow=7.6,SNR=2.5 0.7nm,0.8s							
PDAR	**Pinedale Array**	**83.41**	**330**	P		**P**	**20 31 50.3**	**+1.1**
	0.1nm,0.3s,baz=133,slow=5.0,SNR=1.4 0.1nm,0.3s							
WRA	**Warramunga Arr**	**124.78**	**205**	PKP		**PKPdf**	**20 38 20.1**	**-2.1**
	0.4nm,0.6s,baz=161,slow=1.7,SNR=5.2							
KURBB	**Kurchatov Arra**	**148.36**	**43**	PKPbc		**PKPbc**	**20 39 07.9**	**+0.1**
	0.8nm,0.6s,baz=292,slow=3.3,SNR=3.4							
ZALV	**Zalesovo Beam**	**149.99**	**33**	PKPbc		**PKPbc**	**20 39 12.0**	**+0.3**
	1.2nm,0.6s,baz=304,slow=3.3,SNR=2.2							
MKAR	**Makanchi Array**	**152.17**	**48**	PKPbc		**PKPbc**	**20 39 17.0**	**-0.2**
	0.4nm,0.9s,baz=318,slow=2.1,SNR=2.0							

*NEIC **30** 20:36:25.2±1.1, 57°.01N±0°.03×156°.67W±0°.07, h81km±9km, Error ellipse: s-maj=5.8km s-min=4.8km az=114.0*

*IDC **30** 20:36:26.7±3.0, 57°.46N×156°.77W, h85km±31km, mb3.4/7, mbtmp3.7/9, Error ellipse: s-maj=58.8km s-min=26.1km az=161.0*

*AEIC **30** 20:36:26.6±1.5, 57°.00N±0°.02×156°.64W±0°.06, h71km±7km, ML3.0, ML3.1/72(NEIC), Error ellipse: s-maj=5.6km s-min=2.0km az=123.0*

ISC 30 20:36:24.8±0.8, 57°.01N±0°.04×156°.65W±0°.04, h86km±7km, n245, σ0s83/255, mb3.8/7, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.71**	**17**		**Pn**	**20 36 41.6**	**+0.6**
PLK3					**Sn**	**20 36 53.4**	**+0.3**
R16K	**Pilot Point**	**0.75**	**318**	Pn	**Pn**	**20 36 41.4**	**0.0**
R16K					**Sn**	**20 36 51.5**	**-2.2**
R16K				IAML		20 36 54.3	
	comp=E,580nm,0.8s						
R16K				IAML		20 36 54.0	
	comp=N,451nm,0.5s						
R16K	**Pilot Point** baz=138	**0.75**	**318**	P	**Pn**	**20 36 41.4**	**0.0**
R16K				S	**Sn**	**20 36 53.5**	**-0.3**
	baz=138						
ANNE	**Aniakchak Nort**	**0.78**	**263**		**Pn**	**20 36 41.6**	**-0.2**
PLK5	**Peulik 5**	**0.99**	**353**		**Pn**	**20 36 44.6**	**+0.5**
PLK5					**Sn**	**20 36 57.6**	**-1.0**
CHGN	**Chignik**	**1.21**	**234**		**Pn**	**20 36 46.6**	**0.0**
CHGN				IAML		20 37 03.5	
	comp=N,377nm,0.4s						
CHGN	**Chignik**	**1.21**	**234**		**Sn**	**20 37 02.4**	**-0.6**
CHGN	**Chignik** baz=54	**1.21**	**234**	P	**Pn**	**20 36 46.7**	**0.0**
CHGN				S	**Sn**	**20 37 02.4**	**-0.6**
	baz=54						
R18K	**Karluk**	**1.32**	**64**		**Pn**	**20 36 48.4**	**+0.4**
R18K					**Sn**	**20 37 05.9**	**+0.4**
R18K	**Karluk** baz=245	**1.32**	**64**	P	**Pn**	**20 36 48.4**	**+0.4**
CHIR	**Chirikof Islan**	**1.32**	**154**	Pn	**Pn**	**20 36 48.1**	**0.0**
CHIR				IAML		20 37 13.7	
	comp=N,262nm,0.6s						
CHIR				IAML		20 37 14.7	
	comp=E,303nm,0.9s						
CHIR	**Chirikof Islan**	**1.32**	**154**		**Sn**	**20 37 05.3**	**-0.3**
CHIR	**Chirikof Islan** baz=335	**1.32**	**154**	P	**Pn**	**20 36 48.1**	**0.0**
CHIR				S	**Sn**	**20 37 05.3**	**-0.3**
	baz=335						
ANCK	**Angle Creek**	**1.34**	**27**		**Pn**	**20 36 48.9**	**+0.5**
ANCK					**Sn**	**20 37 06.2**	**0.0**
ACHA	**Angle Creek He**	**1.40**	**30**		**Pn**	**20 36 49.6**	**+0.5**
ACHA					**Sn**	**20 37 07.8**	**+0.4**
SII	**Sitkinak Islan**	**1.43**	**107**	P	**Pn**	**20 36 49.3**	**-0.2**
SII	**Sitkinak Islan**	**1.43**	**107**		**Pn**	**20 36 49.8**	**+0.3**
SII	**Sitkinak Islan** baz=289	**1.43**	**107**	P	**Pn**	**20 36 49.5**	**+0.1**
KCE	**Katmai Mt Cerb**	**1.47**	**32**		**Pn**	**20 36 50.9**	**+1.0**
KELA	**Mount Kelaz**	**1.51**	**19**		**Pn**	**20 36 50.8**	**+0.2**
VNHG	**Veniaminof 1**	**1.60**	**241**		**Pn**	**20 36 52.5**	**+0.9**
Q16K	**King Salmon**	**1.67**	**360**		**Pn**	**20 36 52.9**	**+0.5**
Q16K					**Sn**	**20 37 13.5**	**0.0**
Q16K	**King Salmon** baz=180	**1.67**	**360**	P	**Pn**	**20 36 52.9**	**+0.5**
Q16K				S	**Sn**	**20 37 13.5**	**0.0**
	baz=180						
VNSS	**Veniaminof 8**	**1.74**	**244**		**Pn**	**20 36 53.9**	**+0.4**
S14K	**Fog Glacier** baz=65	**1.76**	**247**	P	**Pn**	**20 36 54.3**	**+0.6**
VNFG	**Fog Glacier, M**	**1.76**	**247**		**Pn**	**20 36 54.3**	**+0.6**
VNFG	**Fog Glacier, M** comp=E,256nm,0.8s	**1.76**	**247**	IAML		20 37 28.2	
OHAK	**Old Harbor**	**1.85**	**82**	P	**Pn**	**20 36 55.2**	**+0.4**
OHAK	**Old Harbor**	**1.85**	**82**		**Pn**	**20 36 55.1**	**+0.4**
OHAK				IAML		20 37 18.5	
	comp=N,153nm,0.3s						
OHAK				IAML		20 37 26.9	
	comp=E,136nm,0.8s						
OHAK	**Old Harbor**	**1.85**	**82**		**Sn**	**20 37 16.5**	**-1.1**
OHAK	**Old Harbor** baz=264	**1.85**	**82**	P	**Pn**	**20 36 55.2**	**+0.4**
OHAK				S	**Sn**	**20 37 16.5**	**-1.1**
	baz=264						
KAHC	**Katmai Hardscr** baz=208	**1.86**	**28**	P	**Pn**	**20 36 55.6**	**+0.5**
P16K	**Nushagak River**	**2.15**	**341**		**Pn**	**20 36 59.2**	**+0.5**
P16K	**Nushagak River** baz=160	**2.15**	**341**	P	**Pn**	**20 36 59.5**	**+0.8**
P17K	**Kvichak River** baz=183	**2.19**	**3**	P	**Pn**	**20 36 59.8**	**+0.5**
KDAK	**Kodiak Island**	**2.33**	**69**	Pn	**Pn**	**20 37 01.7**	**+0.5**
KDAK				IAML		20 37 30.2	
	comp=E,98nm,0.4s						
KDAK				IAML		20 37 38.1	
	comp=E,111nm,0.9s						
KDAK	**Kodiak Island**	**2.33**	**69**	P	**Pn**	**20 37 01.7**	**+0.5**
	comp=E,62nm,0.3s,baz=204,slow=3.6,SNR=408						
KDAK				S	**Sn**	**20 37 27.1**	**-2.0**
	comp=E,35nm,0.4s,baz=76,slow=22,SNR=27						
P18K	**Big Mountain,**	**2.50**	**17**		**Pn**	**20 37 03.9**	**+0.4**
P18K	**Big Mountain,** baz=198	**2.50**	**17**	P	**Pn**	**20 37 03.9**	**+0.4**
Q19K	**Cape Douglas,**	**2.50**	**39**		**Pn**	**20 37 04.2**	**+0.7**
Q19K				IAML		20 37 39.0	
	comp=N,131nm,0.8s						
Q19K	**Cape Douglas,** baz=221	**2.50**	**39**	P	**Pn**	**20 37 04.4**	**+0.9**

Q16K	**Kokwok River B**	**2.70**	**344**			**Pn**	**20 37 06.2**	**+0.2**
Q16K	**Kokwok River B** baz=163	**2.70**	**344**	P		**Pn**	**20 37 06.8**	**+0.7**
SDPT	**Sand Point**	**2.71**	**234**			**Pn**	**20 37 06.8**	**+0.6**
SDPT				IAML			20 37 47.8	
	comp=E,97nm,1.0s							
SDPT				IAML			20 37 56.7	
	comp=N,70nm,0.9s							
SDPT	**Sand Point** baz=51	**2.71**	**234**	P		**Pn**	**20 37 07.0**	**+0.7**
CHNA	**Chernabura Isl** baz=36	**2.74**	**218**	P		**Pn**	**20 37 07.0**	**+0.3**
O15K	**Ungalikthiuk R** baz=141	**2.75**	**324**	P		**Pn**	**20 37 07.2**	**+0.5**
CNBA	**Chernabura Isl**	**2.75**	**218**	Pn		**Pn**	**20 37 06.8**	**0.0**
CNBA				IAML			20 37 49.9	
	comp=E,75nm,0.6s							
CNBA				IAML			20 37 50.0	
	comp=N,78nm,0.7s							
O17K	**Koliganek Bris**	**2.78**	**355**			**Pn**	**20 37 07.4**	**+0.3**
O17K	**Koliganek Bris** baz=175	**2.78**	**355**	P		**Pn**	**20 37 07.4**	**+0.3**
Q20K	**Shuyak Island** baz=236	**2.79**	**53**	P		**Pn**	**20 37 08.2**	**+1.0**
SYI	**Shuyak Island**	**2.79**	**53**			**Pn**	**20 37 08.3**	**+1.1**
SYI				IAML			20 37 49.4	
	comp=N,51nm,0.7s							
SYI				IAML			20 37 49.4	
	comp=E,80nm,0.6s							
AUCH	**Augustine Cone**	**2.90**	**34**			**Pn**	**20 37 10.5**	**+1.5**
O18K	**Koktuh Hills**	**2.95**	**14**	Pn		**Pn**	**20 37 10.0**	**+0.6**
O18K	**Koktuh Hills** baz=195	**2.95**	**14**	P		**Pn**	**20 37 10.1**	**+0.6**
P19K	**Oil Pt**	**3.20**	**33**			**Pn**	**20 37 14.0**	**+1.1**
P19K				IAML			20 37 56.1	
	comp=N,60nm,0.7s							
P19K				IAML			20 37 56.4	
	comp=E,58nm,1.1s							
P19K	**Oil Pt** baz=215	**3.20**	**33**	P		**Pn**	**20 37 14.2**	**+1.3**
PS1A	**Pavlof South-1**	**3.26**	**243**			**Pn**	**20 37 14.7**	**+1.0**
S12K	**Black Hills**	**3.28**	**249**	Pn		**Pn**	**20 37 14.8**	**+0.8**
S12K	**Black Hills** baz=64	**3.28**	**249**	P		**Pn**	**20 37 14.6**	**+0.7**
PVV	**Pavlof Volcano**	**3.31**	**242**			**Pn**	**20 37 15.2**	**+0.9**
O14K	**Tigyukauivet M**	**3.32**	**315**	Pn		**Pn**	**20 37 14.9**	**+0.5**
O14K	**Tigyukauivet M** baz=131	**3.32**	**315**	P		**Pn**	**20 37 15.1**	**+0.7**
PS4A	**Pavlof South-4**	**3.35**	**242**			**Pn**	**20 37 15.9**	**+0.9**
HAG	**Hague Volcano**	**3.39**	**242**			**Pn**	**20 37 16.6**	**+1.1**
ILSW	**Iliamna Southw**	**3.50**	**30**			**Pn**	**20 37 17.8**	**+0.8**
N17K	**Nushagak Hills**	**3.54**	**356**	Pn		**Pn**	**20 37 17.0**	**-0.4**
N15K	**Kwethluk River**	**3.64**	**332**			**Pn**	**20 37 19.5**	**+0.7**
N15K				IAML			20 38 02.5	
	comp=N,27nm,1.3s							
N15K				IAML			20 38 22.3	
	comp=E,23nm,0.6s							
N15K	**Kwethluk River** baz=149	**3.64**	**332**	P		**Pn**	**20 37 19.7**	**+0.9**
N16K	**Nishlik Lake** baz=161	**3.64**	**343**	P		**Pn**	**20 37 19.6**	**+0.8**
N18K	**Kilae Creek**	**3.70**	**6**			**Pn**	**20 37 20.0**	**+0.4**
N18K	**Kilae Creek** baz=186	**3.70**	**6**	P		**Pn**	**20 37 20.3**	**+0.7**
O20K	**Slope Mountain**	**3.73**	**33**			**Pn**	**20 37 21.7**	**+1.6**
O20K	**Slope Mountain** baz=216	**3.73**	**33**	P		**Pn**	**20 37 21.7**	**+1.6**
CNPM	**China Poot**	**3.81**	**46**			**Pn**	**20 37 21.9**	**+0.8**
CNPM				IAML			20 38 13.5	
	comp=E,37nm,0.8s							
CNPM				IAML			20 38 19.0	
	comp=N,26nm,1.0s							
N14K	**Kuskokwak Cree**	**3.94**	**320**			**Pn**	**20 37 23.3**	**+0.5**
N14K	**Kuskokwak Cree** baz=136	**3.94**	**320**	P		**Pn**	**20 37 23.3**	**+0.5**
RED	**Redoubt Volcan**	**3.97**	**29**			**Pn**	**20 37 24.9**	**+1.5**
N19K	**Bonanza Creek**	**3.97**	**16**	Pn		**Pn**	**20 37 24.5**	**+1.1**
N19K	**Bonanza Creek** baz=197	**3.97**	**16**	P		**Pn**	**20 37 24.7**	**+1.3**
RDWB	**Redoubt West**	**4.01**	**28**			**Pn**	**20 37 24.6**	**+0.7**
BRLK	**Bradley Lake**	**4.10**	**45**			**Pn**	**20 37 25.3**	**+0.3**
BRLK				IAML			20 38 13.5	
	comp=N,36nm,0.2s							
DFR	**Drift River**	**4.14**	**28**			**Pn**	**20 37 26.7**	**+1.0**
BRSE	**Bradley Lake S** baz=231	**4.14**	**46**	P		**Pn**	**20 37 26.1**	**+0.5**
M16K	**Timber Creek**	**4.19**	**344**	Pn		**Pn**	**20 37 27.2**	**+0.9**
M16K				IAML			20 38 43.3	
	comp=N,18nm,1.3s							
M16K				IAML			20 38 44.5	
	comp=E,20nm,1.8s							
M16K	**Timber Creek** baz=162	**4.19**	**344**	P		**Pn**	**20 37 27.1**	**+0.8**
RDT	**Redoubt**	**4.20**	**30**			**Pn**	**20 37 27.6**	**+1.2**
M15K	**Kasigluk River**	**4.25**	**332**			**Pn**	**20 37 27.7**	**+0.7**
M15K	**Kasigluk River** baz=149	**4.25**	**332**	P		**Pn**	**20 37 27.7**	**+0.7**
M17K	**Holitna River**	**4.42**	**355**	Pn		**Pn**	**20 37 30.1**	**+0.8**
M17K				IAML			20 38 50.3	
	comp=E,22nm,1.2s							
M17K				IAML			20 38 51.6	
	comp=N,27nm,1.7s							
M17K	**Holitna River** baz=174	**4.42**	**355**	P		**Pn**	**20 37 30.2**	**+0.9**
M18K	**Stony River** baz=186	**4.51**	**5**	P		**Pn**	**20 37 31.4**	**+0.8**
ISLZ	**Isanotski Laza**	**4.59**	**243**			**Pn**	**20 37 32.5**	**+0.7**
M14K	**Bethel**	**4.65**	**326**	Pn		**Pn**	**20

SUA	Susitna One	5.39	32	P		Pn	20 37 43.7 +1.0
	baz=217						
RC01	Rabbit Creek A	5.42	38	Pn		Pn	20 37 42.9 -0.1
RC01	Rabbit Creek A	5.42	38	P		Pn	20 37 43.8 +0.7
	baz=224						
SKT	Skwentna	5.62	25			Pn	20 37 46.8 +1.1
SKT	Skwentna	5.62	25	P		Pn	20 37 46.8 +1.1
	baz=210						
L20K	Farewell, AK	5.66	13			Pn	20 37 47.7 +1.4
L20K	Farewell, AK	5.66	13	P		Pn	20 37 47.7 +1.4
	baz=195						
P23K	Montague Islan	5.70	54			Pn	20 37 46.8 +0.1
P23K	Montague Islan	5.70	54	P		Pn	20 37 46.8 +0.1
	baz=242						
K17K	Iditarod	5.78	352			Pn	20 37 48.8 +0.9
K17K	Iditarod	5.78	352	P		Pn	20 37 48.8 +0.9
	baz=171						
K15K	Wolf Creek Mou	5.84	337	Pn		Pn	20 37 49.3 +0.6
KNK	Knik Glacier	6.09	40	Pn		Pn	20 37 52.1 -0.1
KNK	Knik Glacier	6.09	40	P		Pn	20 37 52.3 +0.1
	baz=227						
GHO	Glory Hole Cre	6.19	36	Pn		Pn	20 37 52.9 -0.6
K13K	Kusilvak Mount	6.40	324	Pn		Pn	20 37 55.8 -0.4
SML	Sawmill	6.41	38	Pn		Pn	20 37 55.8 -0.7
SML	Sawmill	6.41	38	P		Pn	20 37 56.1 -0.4
	baz=225						
FID	Port Fidalgo	6.47	50			Pn	20 37 56.0 -1.2
J18K	Innoko River	6.47	360			Pn	20 37 57.9 +0.6
J18K	Innoko River	6.47	360	P		Pn	20 37 57.9 +0.6
	baz=180						
J17K	VABM Dome	6.52	350	Pn		Pn	20 37 58.8 +0.9
J17K	VABM Dome	6.52	350	P		Pn	20 37 58.3 +0.4
	baz=168						
J16K	Anvik River	6.59	344	Pn		Pn	20 37 59.4 +0.5
EYAK	Cordova Ski Ar	6.68	53	P		Pn	20 38 00.3 +0.2
EYAK	Cordova Ski Ar	6.68	53			Pn	20 37 60.0 -0.2
EYAK	Cordova Ski Ar	6.68	53	P		Pn	20 37 60.0 -0.2
	baz=243						
SCM	Sheep Creek Mo	6.78	41	Pn		Pn	20 38 01.5 0.0
SCM	Sheep Creek Mo	6.78	41	P		Pn	20 38 01.1 -0.4
	baz=228						
DIV	Divide	6.96	49			Pn	20 38 03.6 -0.4
J19K	Poorman	7.02	4	Pn		Pn	20 38 05.5 +0.7
KAIM	Kayak Island	7.05	60	Pn		Pn	20 38 05.6 +0.5
KAIM	Kayak Island	7.05	60	P		Pn	20 38 04.9 -0.2
	baz=251						
RAGM	Ragged Mountai	7.10	57			Pn	20 38 06.0 +0.2
KLU	Klutina	7.10	46	P		Pn	20 38 05.9 +0.1
	baz=235						
WAT1	Susitna Watana	7.11	32			Pn	20 38 05.4 -0.6
WAT1	Susitna Watana	7.11	32	P		Pn	20 38 05.4 -0.6
	baz=218						
WAT6	Susitna Watana	7.16	35	P		Pn	20 38 06.0 -0.8
	baz=223						
TRF	Thorofare Moun	7.19	23			Pn	20 38 07.3 +0.1
TRF	Thorofare Moun	7.19	23	P		Pn	20 38 07.3 +0.1
	baz=209						
HMT	Hamilton	7.27	58			Pn	20 38 08.3 +0.2
J20K	Nowinta River	7.29	9	Pn		Pn	20 38 10.0 +1.6
NICHA	Nichawak Mount	7.37	59			Pn	20 38 09.6 +0.1
M24K	Tolsona, Glenn	7.37	42	Pn		Pn	20 38 10.2 +0.6
M24K	Tolsona, Glenn	7.37	42	P		Pn	20 38 10.0 +0.4
	baz=231						
BMRM	Bremner River	7.38	52			Pn	20 38 09.3 -0.4
BMRM	Bremner River	7.38	52	P		Pn	20 38 09.3 -0.4
	baz=243						
SUCK	Suckling Hills	7.40	60	Pn		Pn	20 38 10.4 +0.5
RND	Reindeer	7.49	28	Pn		Pn	20 38 10.6 -0.6
BPAW	Bear Paw Mtn.	7.63	19	Pn		Pn	20 38 13.1 -0.1
DHY	Denali Highway	7.64	33	Pn		Pn	20 38 12.4 -0.9
DHY	Denali Highway	7.64	33	P		Pn	20 38 12.7 -0.7
	baz=221						
GRIN	Grindle Hills	7.69	59			Pn	20 38 13.8 0.0
N25K	Chitina, Valde	7.69	48			Pn	20 38 13.9 0.0
N25K	Chitina, Valde	7.69	48	P		Pn	20 38 13.9 0.0
	baz=238						
KHIT	Khitrov Hills	7.77	58			Pn	20 38 14.9 -0.2
SNH	Sunshine Point	7.88	61	Pn		Pn	20 38 16.9 +0.3
GLB	Gilahina Butte	7.94	51	Pn		Pn	20 38 16.7 -0.5
VRDI	Verde Repeater	7.99	53	Pn		Pn	20 38 17.8 -0.3
WASW	Wrangell South	8.03	47			Pn	20 38 19.0 +0.2
H17K	Granite Mounta	8.11	350	Pn		Pn	20 38 20.8 +1.3
BARK	Barkley Ridge	8.12	59			Pn	20 38 19.8 0.0
PAX	Paxson	8.18	39			Pn	20 38 20.6 -0.1
PAX	Paxson	8.18	39	P		Pn	20 38 20.6 -0.1
	baz=228						
H18K	Honhosa River	8.21	355	Pn		Pn	20 38 21.3 +0.3
MCARA	McCarthy VSAT	8.25	52			Pn	20 38 20.9 -0.5
MCARA	McCarthy VSAT	8.25	52	P		Pn	20 38 20.9 -0.5
	baz=244						
ISLE	Juniper Island	8.25	58	Pn		Pn	20 38 21.8 +0.2
MESA	MESA	8.30	61	Pn		Pn	20 38 23.0 +0.6
KIAG	Kiagna River	8.36	56			Pn	20 38 22.9 -0.2
PTPK	Patty Peak	8.41	54			Pn	20 38 24.1 +0.2
WPH	Wood River Hil	8.57	24	Pn		Pn	20 38 24.7 -1.6
BARN	Barnard Glacie	8.72	56	Pn		Pn	20 38 28.1 0.0
CCB	Clear Creek Bu	8.78	26	Pn		Pn	20 38 26.9 -1.8
HDA	Harding Lake	8.80	29	Pn		Pn	20 38 27.4 -1.6
CTG	Chitna Glacier	8.84	57	P		Pn	20 38 30.0 +0.4
	baz=250						
CTGM	Chitina Glacie	8.84	57	Pn		Pn	20 38 30.1 +0.5
H21K	Melozitna Rive	8.87	10	Pn		Pn	20 38 31.1 +1.2
I23K	Minto, Yukon-K	8.89	20	Pn		Pn	20 38 30.2 +0.1
LOGN	Logan Glacier	8.95	58	Pn		Pn	20 38 31.5 +0.4
MDM	Murphy Dome	8.95	24	Pn		Pn	20 38 30.0 -1.0
ILAR	Eielson Array	9.11	27	Pn		Pn	20 38 32.2 -1.0
ILAR	Eielson Array	9.11	27	P		Pn	20 38 30.4 -2.7
	comp=E,0.8nm,0.5s,baz=215,slow=13,SNR=12						
ILAR				S		Sn	20 40 04.6 -9.2
	comp=E,0.1nm,0.4s,baz=215,slow=23,SNR=1.7						
M27K	Edge Creek, AK	9.18	48	Pn		Pn	20 38 33.9 -0.4
O28M	Mount Upton	9.31	59			Pn	20 38 36.8 +0.7
O28M	Mount Upton	9.31	59	P		Pn	20 38 36.8 +0.7
	baz=253						
SCRK	Sand Creek	9.36	37	Pn		Pn	20 38 35.1 -1.5
J25K	Salcha River,	9.39	31	Pn		Pn	20 38 35.9 -1.2
J25K	Salcha River,	9.39	31	P		Pn	20 38 36.0 -1.0
	baz=221						
PNL	Peninsula	9.45	66	P		Pn	20 38 38.4 +0.5
PNL	Peninsula	9.45	66			Pn	20 38 37.4 -0.5
PNL	Peninsula	9.45	66	P		Pn	20 38 37.4 -0.5
	baz=261						
H23K	Yukon River	9.47	18	Pn		Pn	20 38 38.2 +0.1
BCAR	Beaver Creek A	9.58	45	Pn		Pn	20 38 39.9 +0.3
G21K	Allakaket	9.65	8	Pn		Pn	20 38 40.3 -0.2
H24K	Noodor Dome	9.79	22	Pn		Pn	20 38 40.5 -1.9
J26L	Joseph Creek	9.85	35	Pn		Pn	20 38 43.4 0.0
O29M	Mount Kennedy	9.97	63	Pn		Pn	20 38 46.0 +0.9
O29M	Mount Kennedy	9.97	63	P		Pn	20 38 45.6 +0.5
	baz=258						
F20K	Avaraart Lake	10.08	2	Pn		Pn	20 38 46.7 +0.3
G23K	Bananza Creek	10.21	15	Pn		Pn	20 38 48.5 +0.2
P29M	Windy Craggy	10.28	67	Pn		Pn	20 38 49.6 +0.4
M29M	Somme Creek	10.65	52	Pn		Pn	20 38 54.6 +0.3
M29M	Somme Creek	10.65	52	P		Pn	20 38 55.0 +0.7
	baz=247						
N30M	Aishikik Lake	10.95	58	Pn		Pn	20 38 57.8 -0.4
S31K	Pelican	11.03	77	Pn		Pn	20 38 59.0 -0.3
L29M	L29M	11.06	49	Pn		Pn	20 39 00.2 +0.4
M30M	Minto, Yukon	11.42	53	Pn		Pn	20 39 04.9 +0.3
D19K	Kuna River	11.54	357	Pn		Pn	20 39 08.3 +2.0
WHY	Whitehorse	11.83	63	Pn		Pn	20 39 10.5 +0.2
S32K	Killisnoo	11.96	79	Pn		Pn	20 39 11.9 +0.1
J30M	Hart River	12.43	44	Pn		Pn	20 39 19.8 +1.4
YKA	Yellowknife Ar	21.56	58	P		P	20 41 08.5 +1.7
	comp=E,0.1nm,0.3s,baz=274,slow=12,SNR=3.7						
	comp=E,0.1nm,0.3s						
PETK	Petropavlovsk-	26.05	281	P		P	20 41 51.3 +1.6
	comp=E,3.6nm,1.0s,baz=73,slow=11,SNR=1.4						
	comp=E,3.6nm,1.0s						
SONM	Songino Array	54.97	305	P		P	20 45 46.0 -0.7
	comp=E,0.4nm,0.4s,baz=51,slow=7.1,SNR=5.2						
	comp=E,0.4nm,0.4s						
FINES	FINESS Array B	61.86	359	P		P	20 46 33.6 -0.6
	comp=E,1.8nm,0.9s,baz=32,slow=11,SNR=3.5						
	comp=E,1.8nm,0.9s						
HFS	Hagfors	62.95	5	P		P	20 46 40.5 -1.0
	comp=E,1.6nm,1.0s,baz=347,slow=4.4,SNR=2.0						
	comp=E,1.6nm,1.0s						
EKA	Eskdalemuir Ar	65.96	16	P		P	20 46 59.9 -1.3
	comp=E,0.7nm,0.6s,baz=324,slow=5.0,SNR=6.1						
	comp=E,0.7nm,0.6s						
CMAR	Chiang Mai Arr	82.28	292	P		P	20 48 37.5 +0.8
	comp=E,0.3nm,0.5s,baz=23,slow=4.9,SNR=2.5						

comp=E,0.3nm,0.5s

*IDC **30** 20:46:23.9±3.0,24°.34N×141°.40E, h149km±26km, mb3.6/16, mbtmp4.1/20, Error ellipse: s-maj=22.7km s-min=14.1km az=88.0*
*JMA **30** 20:46:26.4±0.1,25°.1N±1°×14°.1E±°, h152km, MV4.9/45, IOTO ISLANDS REGION*
*NEIC **30** 20:46:30.4±1.2,24°.88N±0°.10×141°.26E±0°.08, h166km±9km, mb4.3/95, Error ellipse: s-maj=15.3km s-min=9.4km az=153.0*

ISC 30 20:46:28.0±0.8,**24°.80N**±0°.08×**141°.2E**±0°.1,**h150**km,**n148,** σ1s**50**/150,**mb4.3**/63,**Volcano Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHH2	Haha-jima-NKT2	2.05	27	eP	Pn	20 47 05.1	+1.4
JHH2				eS	Sn	20 47 34.3	+3.2
JHH2	Haha-jima-NKT2	2.05	27	A	A	20 47 05.1	
	comp=E,.5.0nm,0.5s,comp=N,5.0nm,0.3s						
CBIJ	Chichi jima	2.47	22	P	Pn	20 47 10.1	+1.4
CBIJ				eS	Sn	20 47 45.5	+5.3
JCJ	Chichijima	2.47	22		Pn	20 47 10.4	+1.7
JCJ	Chichijima	2.47	22	P	Pn	20 47 05.8	-2.9
	comp=N,423nm,0.3s,baz=213,slow=20,SNR=583						
JCJ				S	Sn	20 47 38.6	-1.6
	comp=N,635nm,0.3s,baz=305,slow=24,SNR=15						
JHCJ	Hachijojimakas	8.32	352	eP	Pn	20 48 28.9	+3.2
JHJ2	Mitsune	8.36	352	P	Pn	20 48 28.8	+2.6
JHJ2	Mitsune	8.36	352	Pn	Pn	20 48 28.3	+2.2
JHJ2	Mitsune	8.36	352	eP	Pn	20 48 28.5	+2.3
JHJ	Hachijo jima 2	8.37	352	P	Pn	20 48 27.8	+1.5
	comp=N,49nm,0.3s,baz=274,slow=18,SNR=14						
JHJ				S	Sn	20 49 58.2	-1.2
	comp=N,89nm,0.6s,baz=72,slow=19,SNR=2.4						
JKO	Kozu shima	9.52	350	eP	Pn	20 48 43.3	+1.8
BSO1	Boso 1	9.82	359	eP	Pn	20 48 45.5	+0.5
BSO1				eS	Sn	20 50 34.4	+0.9
BSO2	Boso 2	9.92	358	eS	Sn	20 50 36.5	+0.2
BSO3	Boso 3	9.98	357	P	Pn	20 48 47.2	-0.3
BSO3				eS	Sn	20 50 38.0	+0.2
BSO4	Boso 4	10.18	356	eP	Pn	20 48 51.2	+1.0
BSO4				eS	Sn	20 50 43.1	+0.4
JNY	Yasuok	10.90	346	P	Pn	20 49 02.3	+2.4
JHU	Hanno	11.13	352	eP	Pn	20 49 02.9	0.0
JGF	Kuroka	11.25	344	P	Pn	20 49 07.7	+3.2
JGF	Kuroka	11.25	344		Pn	20 49 05.7	+1.2
JAG	Ashikaga	11.68	353	eP	Pn	20 49 08.2	-1.8
JHO	Hitachi	11.78	358	eS	Sn	20 51 15.5	-6.1
MJAR	Matsushiro Arr	11.97	349	P	Pn	20 49 14.2	+0.4
	comp=N,2.0nm,0.3s,baz=157,slow=9.9,SNR=13						
MAJO	Matsushiro	11.97	349	P	Pn	20 49 14.6	+0.7
MAJO	Matsushiro	11.97	349		Pn	20 49 14.2	+0.3
MJB9	Matsu-Tunnel	11.98	349		Pn	20 49 14.4	+0.5
JFK	Kawauchi	12.53	359	eS	Sn	20 51 33.3	-6.2
JMM	Marumori	13.03	359	P	Pn	20 49 26.7	-0.7
JMM	Marumori	13.03	359		Pn	20 49 26.2	-1.2
JSD	Sado	13.42	350	P	Pn	20 49 31.8	-0.7
JSD	Sado	13.42	350		Pn	20 49 30.8	-1.7
JTM	Tenmabayashi	15.94	360	P	Pn	20 50 05.1	+1.2
JTM	Tenmabayashi	15.94	360	Pn	Pn	20 50 01.6	-2.3
TJN	Taejon	16.53	317	P	P	20 50 09.9	-1.2
KSRS	Korea Array	16.93	321	P	P	20 50 17.6	+2.2
	comp=N,2.0nm,0.5s,baz=134,slow=12,SNR=14						
ERM	Erimo	17.25	5	P	Pn	20 50 24.8	+5.1
ERM	Erimo	17.25	5	Pn	Pn	20 50 21.8	+2.1
JEM	Erimo	17.25	5	P	Pn	20 50 23.2	+3.5
SSLB	Suanglung	18.44	271	P	P	20 50 33.9	+1.7
ASAJ	Asahikawa	19.30	3	P	P	20 50 43.0	+1.7
	comp=N,2.5nm,0.3s,baz=246,slow=11,SNR=12						
JKA	Kamikawa-asahi	19.30	3	P	Pn	20 50 44.3	+0.4
JKA				lAmb	lAmb	20 50 57.0	
	comp=Z,25nm,1.4s						
USA0B	Ussuriysk Arra	20.75	341	P	P	20 50 57.1	+0.3
USRK	Ussuriysk Ar.	20.75	341	P	P	20 50 57.2	+0.4
USRK	Ussuriysk Ar.	20.75	341	P	P	20 50 57.4	+0.7
	comp=Z,1.0nm,0.4s,baz=145,slow=8.4,SNR=8.6						
	comp=Z,1.0nm,0.4s						
PETK	Petropavlovsk-	30.90	20	P	P	20 52 30.8	+0.5
	comp=Z,6.0nm,1.1s,baz=220,slow=3.8,SNR=1.9						
	comp=Z,6.0nm,1.1s						
MA2	Magadan	35.40	8	P	P	20 53 10.2	+1.0
SONM	Songino Array	35.77	319	P	P	20 53 13.7	+1.1
	comp=Z,0.4nm,0.5s,baz=137,slow=9.9,SNR=4.4						
	comp=Z,0.4nm,0.5s						
MMRI	Maumere	38.01	211	P	P	20 53 32.9	+1.2
ATKA	Atka Island	43.39	39	P	P	20 54 14.6	-0.8
WRA	Warramunga Arr	44.97	189	P	P	20 54 21.4	-7.0
	comp=Z,0.7nm,0.3s,baz=7.1,slow=8.6,SNR=27						
WRA				PcP	PcP	20 56 02.5	-4.5
	comp=Z,0.3nm,0.4s,baz=5.7,slow=3.5,SNR=1.8						
	comp=Z,0.7nm,0.3s						
ASAR	Alice Springs	48.69	189	P	P	20 54 48.4	-8.8
	comp=Z,0.3nm,0.5s,baz=7.3,slow=5.6,SNR=1.8						
	comp=Z,0.3nm,0.5s						
ZALV	Zalesovo Beam	50.63	320	P	P	20 55 11.0	-0.6
	comp=Z,0.6nm,0.4s,baz=119,slow=7.3,SNR=2.8						
	comp=Z,0.6nm,0.4s						
MK31	Makanchi Array	51.24	311	P	P	20 55 17.2	+0.9
MK31				lAmb	lAmb	20 55 18.2	
	comp=Z,2.8nm,0.4s						
MKAR	Makanchi Array	51.24	311	P	P	20 55 16.8	+0.5
MKAR	Makanchi Array	51.24	311	P	P	20 55 17.2	+0.9
	comp=Z,3.0nm,0.4s,baz=87,slow=9.8,SNR=107						
	comp=Z,3.0nm,0.4s						
MAKZ	Makanchi	51.46	311	P	P	20 55 18.2	+0.3
O14K	Tigyukauivet M	52.54	33	P	P	20 55 25.7	+0.1
F15K	North Star Dit	53.15	25	P	P	20 55 30.1	+0.1
F15K				lAmb	lAmb	20 55 45.3	
	comp=Z,13nm,1.5s						
K15K	Wolf Creek Mou	53.26	29	P	P	20 55 31.1	+0.2
N15K	Kwethluk River	53.35	32	P	P	20 55 31.1	-0.5
KURK	Kurchatov	53.95	316	P	P	20 55 35.5	-0.5
KURK				lAmb	lAmb	20 55 37.1	
	comp=Z,2.2nm,0.4s						
J16K	Anvik River	53.97	28	P	P	20 55 34.8	-1.2
J16K				lAmb	lAmb	20 55 39.3	
	comp=Z,9.9nm,1.4s						
KURBB	Kurchatov Arra	54.00	316	P	P	20 55 36.3	-0.1
	comp=Z,2.5nm,0.3s,baz=92,slow=8.2,SNR=18						
	comp=Z,2.5nm,0.3s						
I17K	Unalakleet	54.11	28	P	P	20 55 36.3	-0.7
I17K				lAmb	lAmb	20 55 59.4	
	comp=Z,7.5nm,1.2s						
O16K	Kokwok River B	54.20	33	P	P	20 55 36.9	-0.8
O16K				lAmb	lAmb	20 56 15.7	
	comp=Z,5.1nm,1.1s						
F17K	Baldwin Pennin	54.71	25	P	P	20 55 41.4	+0.1
F17K				lAmb	lAmb	20 55 57.3	
	comp=Z,11nm,1.4s						
H17K	Granite Mounta	54.75	27	P	P	20 55 42.1	+0.5
H17K				lAmb	lAmb	20 55 43.4	
	comp=Z,7.3nm,1.4s						
K17K	Iditarod	54.82	29	P	P	20 55 42.0	-0.1
K17K				lAmb	lAmb	20 55 43.8	
	comp=Z,6.9nm,1.2s						
E18K	Tukpahlearik C	55.29	24	P	P	20 55 45.5	0.0
E18K				lAmb	lAmb	20 56 29.1	
	comp=Z,4.6nm,1.4s						
L18K	Granite Mounta	55.43	30	P	P	20 55 45.8	-0.8
L18K				lAmb	lAmb	20 56 26.9	
	comp=Z,6.8nm,1.4s						
H18K	Honhosa River	55.44	27	P	P	20 55 46.1	-0.5
H18K				lAmb	lAmb	20 56 01.7	
	comp=Z,7.2nm,1.4s						
C18K	Utukok River	55.51	22	P	P	20 55 47.1	0.0
C18K				lAmb	lAmb	20 56 09.1	
	comp=Z,12nm,1.5s						
G18K	Tagagawik	55.54	26	P	P	20 55 47.3	0.0
O18K	Koktuh Hills	55.68	33	P	P	20 55 47.9	-0.5
BOOM	Boomskoye usch	55.76	306	P	P	20 55 51.0	+1.5
F19K	Shaleruckik Mo	56.15	25	P	P	20 55 51.5	0.0
F19K				lAmb	lAmb	20 56 20.0	
	comp=Z,4.8nm,1.5s						
C19K	Lookout Ridge	56.22	22	P	P	20 55 52.6	+0.5
L19K	White Mountain	56.27	30	P	P	20 55 52.5	0.0
L19K				lAmb	lAmb	20 56 28.2	
	comp=Z,8.2nm,1.4s						
J19K	Poorman	56.30	28	P	P	20 55 52.7	0.0
J19K				lAmb	lAmb	20 56 30.3	
	comp=Z,4.5nm,1.4s						
H19K	Roundabout Mou	56.31	26	P	P	20 55 51.9	-0.9
H19K				lAmb	lAmb	20 55 54.9	
	comp=Z,8.0nm,1.4s						

D19K	Kuna River	56.52	23	P		P	20 55 54.3 0.0
D19K				lAmb		lAmb	20 56 28.7
	comp=Z,7.6nm,1.4s						
E19K	Redstone River	56.53	24	P		P	20 55 53.7 -0.6
E19K				lAmb		lAmb	20 56 33.7
	comp=Z,5.3nm,1.5s						
P19K	Oil Pt	56.64	34	P		P	20 55 54.8 -0.4
KDAK	Kodiak Island	56.76	36	P		P	20 55 54.5 -1.5
AAK	Ala-Archa	56.82	306	P		P	20 55 57.2 +0.3
AAK				lAmb		lAmb	20 56 09.9
	comp=Z,4.2nm,1.2s						
SYI	Shuyak Island	56.95	35	P		P	20 55 56.6 -0.7
J20K	Nowinta River	56.97	28	P		P	20 55 57.8 +0.4
J20K				lAmb		lAmb	20 55 58.6
	comp=Z,2.1nm,0.5s						
F20K	Avaraart Lake	56.99	25	P		P	20 55 57.8 +0.3
F20K				lAmb		lAmb	20 56 10.2
	comp=Z,5.5nm,1.5s						
B20K	Meade River	57.32	21	P		P	20 56 00.6 +0.8
CNPM	China Poot	57.63	34	P		P	20 56 00.7 -1.5
G21K	Allakaket	57.72	26	P		P	20 56 01.9 -0.8
G21K				lAmb		lAmb	20 56 42.3
	comp=Z,4.3nm,1.5s						
CAST	Castle Rocks	57.73	29	P		P	20 56 02.6 -0.2
SKT	Skwentna	57.78	31	P		P	20 56 03.5 +0.3
H21K	Melozitna Rive	57.82	27	P		P	20 56 04.0 +0.6
B21K	Ikpikpuk River	58.06	22	P		P	20 56 05.6 +0.7
B21K				lAmb		lAmb	20 56 24.7
	comp=Z,8.6nm,1.5s						
TRF	Thorofare Moun	58.54	29	P		P	20 56 08.1 -0.5
TRF				lAmb		lAmb	20 56 42.2
	comp=Z,6.4nm,1.5s						
D22K	Ayikyak River	58.54	23	P		P	20 56 08.1 -0.3
D22K				lAmb		lAmb	20 56 09.9
	comp=Z,8.4nm,1.1s						
B22K	Teshekpuk Lake	58.64	21	P		P	20 56 08.6 -0.3
B22K				lAmb		lAmb	20 56 29.4
	comp=Z,6.7nm,1.4s						
E22K	Anaktuvuk Pass	58.70	24	P		P	20 56 09.9 +0.4
E22K				lAmb		lAmb	20 56 34.8
	comp=Z,5.5nm,1.5s						
BVAR	Borovoye Array	59.11	318	P		P	20 56 11.8 -0.7
	comp=Z,2.6nm,0.4s,baz=88,slow=7.3,SNR=18						
	comp=Z,2.6nm,0.4s						
G23K	Bananza Creek	59.12	26	P		P	20 56 13.3 +0.9
G23K				lAmb		lAmb	20 56 44.6
	comp=Z,4.3nm,1.5s						
RND	Reindeer	59.17	30	P		P	20 56 12.3 -0.6
KNK	Knik Glacier	59.17	32	P		P	20 56 12.7 -0.1
KNK				lAmb		lAmb	20 56 26.6
	comp=Z,4.3nm,1.0s						
NEA2	Nenana	59.21	28	P		P	20 56 11.9 -1.1
SML	Sawmill	59.27	31	P		P	20 56 13.0 -0.5
C23K	Itkillik River	59.46	22	P		P	20 56 15.3 +0.6
C23K				lAmb		lAmb	20 56 16.0
	comp=Z,6.2nm,1.2s						
TOLK	Toolik Lake Re	59.60	23	P		P	20 56 16.3 +0.6
TOLK				lAmb		lAmb	20 56 17.5
	comp=Z,5.3nm,1.3s						
MDM	Murphy Dome	59.61	28	P		P	20 56 14.8 -1.0
SCM	Sheep Creek Mo	59.74	31	P		P	20 56 16.4 -0.4
SCM				lAmb		lAmb	20 56 21.4
	comp=Z,7.7nm,1.2s						
CCB	Clear Creek Bu	59.76	28	P		P	20 56 15.9 -0.8
DHY	Denali Highway	59.81	30	P		P	20 56 16.6 -0.7
DHY				lAmb		lAmb	20 56 20.8
	comp=Z,3.6nm,1.2s						
H24K	Noodor Dome	59.86	27	P		P	20 56 17.1 -0.4
E24K	Your Creek	59.91	24	P		P	20 56 18.2 +0.4
F24K	Squaw Lake	60.06	25	P		P	20 56 18.8 0.0
FID	Port Fidalgo	60.10	33	P		P	20 56 19.5 +0.3
FID				lAmb		lAmb	20 56 25.0
	comp=Z,7.0nm,1.2s						
ILAR	Eielson Array	60.17	28	P		P	20 56 18.1 -1.4
	comp=Z,0.3nm,0.4s,baz=254,slow=5.1,SNR=7.5						
	comp=Z,0.3nm,0.4s						
KLU	Klutina	60.40	32	P		P	20 56 20.6 -0.7
KLU				lAmb		lAmb	20 56 43.2
	comp=Z,5.8nm,1.4s						
GAR	Garm	60.40	302	P		P	20 56 22.1 +0.4
D25K	Kavik River	60.85	23	P		P	20 56 24.4 +0.3
D25K				lAmb		lAmb	20 56 25.2
	comp=Z,2.2nm,0.5s						
RAGM	Ragged Mountai	60.98	33	P		P	20 56 24.6 -0.6
E25K	Arctic Village	61.01	24	P		P	20 56 25.5 +0.3
E25K				lAmb		lAmb	20 56 58.4
	comp=Z,4.3nm,1.4s						

HATHI					IAML			20 47 33.1	
	comp=N,1μm,0.4s								
UWB	**Uwekahuna B**	**0.03**	**349**			Pg		20 47 33.6	+1.4
SBLHI	**Steaming Bluff**	**0.03**	**10**			Pg		20 47 33.8	+1.6
UWE	**Uwekahuna**	**0.03**	**318**		IAML			20 47 32.5	
	comp=N,1μm,0.4s								
UWE					IAML			20 47 32.8	
	comp=E,1μm,0.7s								
UWE	**Uwekahuna**	**0.03**	**318**			Pg		20 47 32.9	+0.6
PUH	**Pauahi**	**0.06**	**116**	Pg		Pg		20 47 33.4	+0.6
PUH					IAML			20 47 34.1	
	comp=N,575nm,0.6s								
RSD	**Rainshed**	**0.06**	**356**			Pg		20 47 33.7	+0.8
RSD	**Rainshed**	**0.06**	**356**		IAML			20 47 35.0	
	comp=N,978nm,0.9s								
RSD					IAML			20 47 35.1	
	comp=E,874nm,0.6s								
KNHH	**Kane Nui o Ham**	**0.10**	**102**			Pg		20 47 33.9	+0.4
HLP	**Hilina Pali**	**0.11**	**198**			Pg		20 47 34.6	+0.9
HLP	**Hilina Pali**	**0.11**	**198**		IAML			20 47 36.5	
	comp=E,779nm,1.1s								
HLP					IAML			20 47 37.0	
	comp=N,930nm,1.0s								
STCH	**Steam Cracks**	**0.14**	**96**			Pg		20 47 34.5	+0.2
STCH					IAML			20 47 37.8	
	comp=E,526nm,0.5s								
STCH					IAML			20 47 38.8	
	comp=N,318nm,0.5s								
MLH	**Mauna Loa**	**0.14**	**311**			Pg		20 47 35.4	+1.0
MLH	**Mauna Loa**	**0.14**	**311**		IAML			20 47 38.6	
	comp=E,458nm,0.3s								
MLH					IAML			20 47 39.1	
	comp=N,478nm,0.3s								
NPOC	**North of Pu'u**	**0.15**	**93**			Pg		20 47 35.2	+0.6
JCUZ	**Jacuzzi**	**0.16**	**96**			Pg		20 47 35.4	+0.7
HTC	**Hot Caves**	**0.20**	**216**			Pg		20 47 36.2	+0.8
JOKA	**Jonika Flow**	**0.26**	**82**	Pg		Pg		20 47 36.8	+0.3
JOKA					IAML			20 47 43.1	
	comp=E,277nm,1.2s								
HMH	**Humu'ula Sheep**	**0.28**	**316**	Pg		Pg		20 47 37.5	+0.5
HMH					IAML			20 47 43.0	
	comp=N,286nm,3.4s								
HMH					IAML			20 47 46.2	
	comp=E,235nm,0.9s								
MWH	**Moku'aweowe**	**0.32**	**286**			Pg		20 47 38.4	+0.6
KHU	**Kahuku**	**0.36**	**245**			Pg		20 47 38.6	+0.2

*NEIC **30** 20:48:00.7±1.3, 19°.38N±0°.01×155°.28W±0°.02, h2km±15km, Error ellipse: s-maj=2.5km s-min=1.4km az=69.0*

HVO 30 20:47:60.0±1.3, 19°.403N±0°.010×155°.27W±0°.01, h1km±5km, ML3.2/13, ML2.2/24(NEIC), Error ellipse: s-maj=1.7km s-min=1.3km az=220.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RIM	**Rim**	**0.01**	**201**		Pg	20 48 00.6	+0.3
BYL	**Byron's Ledge**	**0.01**	**49**		Pg	20 48 00.7	+0.3
OBL	**Observatory Le**	**0.02**	**320**		Pg	20 48 01.6	+1.1
HATHI	**Halema'uma'u T**	**0.02**	**25**		Pg	20 48 00.9	+0.4
UWB	**Uwekahuna B**	**0.02**	**343**		Pg	20 48 01.8	+1.3
SBLHI	**Steaming Bluff**	**0.02**	**7**		Pg	20 48 02.0	+1.5
UWE	**Uwekahuna**	**0.03**	**311**		Pg	20 48 00.8	+0.3
PUH	**Pauahi**	**0.06**	**119**	Pg	Pg	20 48 01.9	+0.8
RSD	**Rainshed**	**0.06**	**354**		Pg	20 48 01.4	+0.2
RSD					IAML	20 48 02.4	
	comp=E,964nm,1.0s						
RSD					IAML	20 48 03.1	
	comp=N,1μm,0.1s						
KNHH	**Kane Nui o Ham**	**0.10**	**104**		Pg	20 48 02.9	+1.0
HLP	**Hilina Pali**	**0.11**	**198**		Pg	20 48 03.2	+1.1
HLP	**Hilina Pali**	**0.11**	**198**		IAML	20 48 05.4	
	comp=N,1μm,0.8s						
HLP	**Hilina Pali**	**0.11**	**198**		Sg	20 48 05.8	+2.3
STCH	**Steam Cracks**	**0.14**	**97**		Pg	20 48 03.5	+0.9
STCH	**Steam Cracks**	**0.14**	**97**		IAML	20 48 06.4	
	comp=N,2μm,0.7s						
STCH					IAML	20 48 06.9	
	comp=E,2μm,0.2s						
MLH	**Mauna Loa**	**0.14**	**310**		Pg	20 48 04.1	+1.4
MLH	**Mauna Loa**	**0.14**	**310**		IAML	20 48 06.5	
	comp=E,722nm,0.9s						
MLH					IAML	20 48 06.7	
	comp=N,1μm,0.8s						
NPOC	**North of Pu'u**	**0.15**	**94**		Pg	20 48 03.8	+0.9
JCUZ	**Jacuzzi**	**0.16**	**97**		Pg	20 48 04.0	+0.9
JOKA	**Jonika Flow**	**0.25**	**83**		Pg	20 48 05.0	+0.2
JOKA					IAML	20 48 11.6	
	comp=N,745nm,1.1s						
JOKA					IAML	20 48 13.2	
	comp=E,441nm,1.0s						
HMH	**Humu'ula Sheep**	**0.28**	**315**	Pg	Pg	20 48 05.9	+0.5
HMH					IAML	20 48 14.5	
	comp=E,299nm,1.3s						
HMH					IAML	20 48 15.2	
	comp=N,572nm,1.0s						
MWH	**Moku'aweowe**	**0.32**	**285**	Pg	Pg	20 48 07.2	+1.1
KHU	**Kahuku**	**0.36**	**244**	Pg	Pg	20 48 07.3	+0.5
HUH	**Hualalai**	**0.60**	**298**	Pg	Pg	20 48 11.5	0.0

*NEIC **30** 20:50:07.0±1.2, 19°.405N±0°.006×155°.278W±0°.009, h2km±4km, Error ellipse: s-maj=1.4km s-min=0.7km az=119.0*

HVO 30 20:50:06.3±1.1, 19°.409N±0°.005×155°.290W±0°.009, h0km±7km, ML2.8/21, ML2.4/34(NEIC), Error ellipse: s-maj=1.2km s-min=0.6km az=112.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**34**		Pg	20 50 07.5	+0.9
UWE	**Uwekahuna**	**0.01**	**346**		Pg	20 50 06.9	+0.3
UWB	**Uwekahuna B**	**0.02**	**36**		Pg	20 50 08.0	+1.2
RIM	**Rim**	**0.02**	**133**		Pg	20 50 07.5	+0.7
KKO	**Keanakako`i**	**0.03**	**117**		Pg	20 50 08.4	+1.6
SBLHI	**Steaming Bluff**	**0.03**	**49**		Pg	20 50 08.6	+1.8
BYL	**Byron's Ledge**	**0.03**	**84**		Pg	20 50 07.5	+0.6
BYL	**Byron's Ledge**	**0.03**	**84**		IAML	20 50 07.5	
	comp=E,4μm,0.7s						
BYL					IAML	20 50 07.7	
	comp=N,1μm,0.9s						
HATHI	**Halema'uma'u T**	**0.03**	**63**		Pg	20 50 07.3	+0.3
RSD	**Rainshed**	**0.06**	**12**	Pg	Pg	20 50 07.9	+0.5
RSD					Sg	20 50 08.2	+0.1
RSD					IAML	20 50 08.7	
	comp=N,2μm,0.7s						
PUH	**Pauahi**	**0.08**	**117**		Pg	20 50 08.8	+1.0
PUH	**Pauahi**	**0.08**	**117**		IAML	20 50 10.1	
	comp=E,2μm,0.6s						
PUH					IAML	20 50 10.5	
	comp=N,2μm,0.2s						
HLP	**Hilina Pali**	**0.11**	**189**		Pg	20 50 09.7	+1.2
HLP	**Hilina Pali**	**0.11**	**189**		IAML	20 50 11.0	
	comp=N,2μm,0.8s						
HLP					IAML	20 50 12.3	
	comp=E,2μm,0.5s						
KNHH	**Kane Nui o Ham**	**0.12**	**105**		Pg	20 50 09.7	+1.1
MLH	**Mauna Loa**	**0.12**	**313**		Pg	20 50 10.1	+1.3
MLH	**Mauna Loa**	**0.12**	**313**		Sg	20 50 13.1	+2.7
MLH	**Mauna Loa**	**0.12**	**313**		IAML	20 50 12.7	
	comp=E,2μm,0.9s						
MLH					IAML	20 50 12.9	
	comp=N,2μm,0.3s						
STCH	**Steam Cracks**	**0.16**	**99**		Pg	20 50 10.2	+0.8
STCH	**Steam Cracks**	**0.16**	**99**		IAML	20 50 14.0	
	comp=E,961nm,0.8s						
STCH					IAML	20 50 14.7	
	comp=N,1μm,0.4s						
NPOC	**North of Pu'u**	**0.17**	**95**		Pg	20 50 10.7	+1.1
HTC	**Hot Caves**	**0.20**	**211**		Pg	20 50 11.4	+1.3
HMH	**Humu'ula Sheep**	**0.27**	**317**	Pg	Pg	20 50 12.4	+1.0
HMH					IAML	20 50 17.3	
	comp=E,873nm,1.2s						
HMH					IAML	20 50 17.9	
	comp=N,1μm,0.4s						
JOKA	**Jonika Flow**	**0.27**	**85**	Pg	Pg	20 50 11.6	0.0
JOKA					IAML	20 50 18.4	
	comp=E,508nm,1.3s						
MLOA	**Mauna Loa Obse**	**0.30**	**295**	Pg	Pg	20 50 12.7	+0.6
MLOA					IAML	20 50 22.2	
	comp=N,881nm,0.6s						
MWH	**Moku'aweowe**	**0.30**	**285**	Pg	Pg	20 50 12.9	+0.8
KHU	**Kahuku**	**0.35**	**242**	Pg	Pg	20 50 13.3	+0.3
KHU					IAML	20 50 16.7	
	comp=E,794nm,1.2s						
HUH	**Hualalai**	**0.58**	**298**		Pg	20 50 18.4	+0.9

*BJI **30** 20:53:46.7±0.0, 18°.89N×154°.86W, h5km, mb4.5/15, mB5.2/16, Ms5.0/23, Ms7 4.8/25*

*HVO **30** 20:53:50.8±0.9, 19°.4N±0°.3×155°.3W±0°.2, h-0km±8km, ML4.2/11, mb4.8/111(NEIC), ML3.9/36(NEIC), Mww5.3/9(NEIC), Error ellipse: s-maj=38.0km s-min=21.7km az=176.0*

*NEIC **30** 20:53:51.7±1.0, 19°.4N±0°.2×155°.3W±0°.2, h1km±7km, Error ellipse: s-maj=25.9km s-min=23.1km az=142.0*

*IDC **30** 20:53:51.8±1.4, 19°.55N×155°.44W, h0km, mb4.0/9, mbtmp4.0/9, MS4.4/71, Error ellipse: s-maj=43.4km s-min=22.2km az=162.0*

*NEIC **30** 20:53:51.8, 19°.41N×155°.28W, h12km*

*NEIC **30** 20:53:51.8, 19°.51N×155°.07W, h12km, Moment Tensor Solution. Duration: 2s6 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.08; $M_{\theta\theta}$0.46; $M_{\phi\phi}$0.62; $M_{r\theta}$-0.79; $M_{\theta\phi}$0.23; $M_{r\phi}$0.68; Fault plane solution: $M_0$1.25000×10^{17} NP1: ϕ_s146.39000°, δ71.69000°, λ-101.10000°. NP2: ϕ_s358.37000°, δ21.31000°, λ-59.82000°. Principal axes: T 0.8729, Plg26.0000°, Azm245.0000°; N 0.7615, Plg11.0000°, Azm150.0000°; P -1.6344, Plg62.0000°, Azm40.0000°;*

ISC 30 20:53:50.9±0.8, 19°.41N±0°.03×155°.32W±0°.03, h4km±4km, n508, σ1§23/413, mb4.8/70, MS4.5/82, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UWE	**Uwekahuna**	**0.03**	**67**	Pg	**Pg**	**20 53 51.8**	**-0.3**
OBL	**Observatory Le**	**0.04**	**78**		**Pg**	**20 53 51.4**	**-0.7**
UWB	**Uwekahuna B**	**0.04**	**70**		**Pg**	**20 53 51.6**	**-0.6**
RIM	**Rim**	**0.05**	**107**		**Pg**	**20 53 52.5**	**+0.3**
SBLHI	**Steaming Bluff**	**0.05**	**71**		**Pg**	**20 53 52.9**	**+0.6**
BYL	**Byron's Ledge**	**0.06**	**88**	Pg	**Pg**	**20 53 52.0**	**-0.4**
HATHI	**Halema'uma'u T**	**0.06**	**77**	Pg	**Pg**	**20 53 52.0**	**-0.4**
RSD	**Rainshed**	**0.07**	**38**		**Pg**	**20 53 52.4**	**-0.1**
MLH	**Mauna Loa**	**0.10**	**324**	Pg	**Pg**	**20 53 54.3**	**+1.1**
MLH				IAML		20 53 56.4	
	comp=E,40μm,1.1s						
MLH				IAML		20 53 57.1	
	comp=N,25μm,0.8s						
PUH	**Pauahi**	**0.11**	**110**		**Pg**	**20 53 53.2**	**0.0**
HLP	**Hilina Pali**	**0.11**	**173**		**Pg**	**20 53 54.1**	**+0.8**
HLP				IAML		20 53 56.6	
	comp=N,41μm,1.1s						
HLP				IAML		20 53 56.9	
	comp=E,30μm,1.1s						
KNHH	**Kane Nui o Ham**	**0.15**	**102**		**Pg**	**20 53 54.1**	**+0.2**
HTC	**Hot Caves**	**0.19**	**203**		**Pg**	**20 53 55.8**	**+1.2**
STCH	**Steam Cracks**	**0.19**	**97**		**Pg**	**20 53 54.9**	**+0.2**
STCH				IAML		20 53 58.5	
	comp=N,30μm,1.3s						
STCH				IAML		20 53 58.5	
	comp=E,55μm,0.9s						
NPOC	**North of Pu'u**	**0.20**	**95**		**Pg**	**20 53 55.1**	**+0.2**
NPOC					**Sg**	**20 53 59.9**	**+2.4**
JCUZ	**Jacuzzi**	**0.21**	**97**		**Pg**	**20 53 55.5**	**+0.5**
JCUZ					**Sg**	**20 54 00.1**	**+2.2**
HMH	**Humu'ula Sheep**	**0.24**	**322**	Pg	**Pb**	**20 53 56.9**	**+1.1**
HMH				IAML		20 54 04.0	
	comp=E,34μm,1.9s						
HMH				IAML		20 54 05.0	
	comp=N,24μm,1.1s						
MWH	**Moku'aweowe**	**0.27**	**286**	Pg	**Pg**	**20 53 57.4**	**+1.1**
MLOA	**Mauna Loa Obse**	**0.27**	**298**	Pg	**Pb**	**20 53 57.4**	**-1.3**
MLOA				IAML		20 54 03.5	
	comp=N,32μm,1.3s						
MLOA				IAML		20 54 05.2	
	comp=E,37μm,1.8s						
JOKA	**Jonika Flow**	**0.30**	**85**		**Pg**	**20 53 56.8**	**0.0**
JOKA				IAML		20 54 02.8	
	comp=E,19μm,1.0s						
JOKA				IAML		20 54 05.6	
	comp=N,20μm,0.8s						
KHU	**Kahuku**	**0.32**	**240**		**Pb**	**20 53 58.3**	**-1.1**
KHU				IAML		20 54 07.4	
	comp=N,12μm,1.3s						
KHU				IAML		20 54 09.6	
	comp=E,24μm,1.9s						
HPO	**Honuapo**	**0.39**	**215**	Pg	**Pg**	**20 53 56.8**	**-1.6**
POHA	**Pohakuloa**	**0.40**	**330**		**Pg**	**20 53 59.0**	**+0.3**
HUH	**Hualalai**	**0.56**	**300**		**Pb**	**20 54 03.0**	**-0.5**
I59US	**HAWAII INFRASO**	**0.57**	**289**	Pg	**Pb**	**20 54 02.8**	**-0.7**
	baz=118,slow=41						
I59US				I	I	20 56 50.0	
	baz=106,slow=316,SNR=0.3						
HPAH	**Hawaii Prepara**	**0.71**	**330**		**Pg**	**20 54 04.3**	**-0.4**
MHA	**Mahukona**	**0.95**	**325**		**Pg**	**20 54 07.8**	**-1.3**
HLK	**Haleakala**	**1.60**	**327**		**Pn**	**20 54 17.0**	**-3.2**
KHLH	**Kahului Airpor**	**1.81**	**325**		**Pn**	**20 54 20.1**	**-2.8**
WMR	**Waimanalo Ridg**	**2.92**	**311**	Pn	**Pn**	**20 54 35.2**	**-3.0**
HON	**Honolulu**	**3.15**	**308**	Pn	**Pn**	**20 54 37.0**	**-4.3**
KIP	**Kipapa**	**3.22**	**309**	IAML		20 56 37.4	
	comp=E,714nm,3.0s						
KIP	**Kipapa**	**3.22**	**309**		**Pn**	**20 54 40.0**	**-2.4**
YBH	**Yreka Blue Hor**	**35.50**	**44**	LR	LR	21 11 29.4	
	comp=E,17nm,21.7s,baz=266,slow=30						
CHNA	**Chernabura Isl**	**35.51**	**356**	P	**P**	**21 00 49.3**	**+0.7**
	baz=173						
H11N3	**WAKE ISLAND Hy**	**35.54**	**277**	T	T	21 37 59.2	
	baz=84,slow=73,SNR=20						
H11N2	**WAKE ISLAND Hy**	**35.55**	**277**	T	T	21 37 58.8	
	baz=84,slow=73,SNR=18						
H11N1	**WAKE ISLAND Hy**	**35.56**	**277**	T	T	21 38 00.7	
	baz=84,slow=73,SNR=12						
H11S2	**WAKE ISLAND Hy**	**35.88**	**275**	T	T	21 38 18.6	
	baz=82						
H11S1	**WAKE ISLAND Hy**	**35.88**	**275**	T	T	21 38 21.7	
	baz=82						
H11S3	**WAKE ISLAND Hy**	**35.90**	**275**	T	T	21 38 21.5	
	baz=82						
S12K	**Black Hills**	**36.59**	**354**	P	**P**	**21 00 57.8**	**-0.2**
	baz=169						
MPMC	**Manual Prospec**	**37.09**	**55**	P	**P**	**21 01 01.0**	**-1.8**
	baz=254						
PPT	**Papeete**	**37.18**	**171**	LR	LR	21 12 39.5	
	comp=E,1μm,19.0s,baz=347,slow=30						
MONP2	**Monument Peak**	**37.20**	**61**	P	**P**	**21 01 03.3**	**-0.3**
	baz=259						
PPT2	**Papeete2**	**37.20**	**171**	*e*PKIKP	**P**	**21 01 01.0**	**-2.5**
	comp=E,115nm,25.2s						
PPT2				*e*S	**S**	**21 06 52.7**	**+1.6**
	comp=E,395nm,25.5s						
PPT2				*e*LQ	LQ	21 09 23.4	
	comp=E,706nm,20.2s						
PPT2				*e*LR	LR	21 11 01.7	
	comp=E,2μm,27.8s						
PPT2				*e*LR	LR	21 11 02.4	
	comp=E,3μm,25.8s						
NVAR	**Mina Array Bea**	**37.22**	**51**	P	**P**	**21 01 04.2**	**+0.5**
	comp=E,0.8nm,0.8s,baz=236,slow=9.7,SNR=3.3						
NVAR				LR	LR	21 13 17.9	
	comp=E,1μm,18.6s,baz=244,slow=31 comp=E,0.8nm,0.8s						
PFO	**Pinyon Flats O**	**37.31**	**60**	P	**P**	**21 01 04.7**	**+0.2**
	baz=258						
PFO	**Pinyon Flats O**	**37.31**	**60**	LR	LR	21 12 25.5	
	comp=E,1μm,20.8s,baz=236,slow=30						
TPFO	**Pinon Flats**	**37.32**	**60**	P	**P**	**21 01 05.4**	**+0.7**
	baz=258						
IKP	**In-Ko-Pah, Jac**	**37.41**	**61**	P	**P**	**21 01 05.1**	**-0.2**
	baz=259						
GRAC	**Grapevine Rang**	**37.46**	**54**	P	**P**	**21 01 06.3**	**+0.7**
	baz=252						
HEC	**Hector,Ludlow**	**37.69**	**58**	P	**P**	**21 01 07.6**	**0.0**
	baz=256						
OHAK	**Old Harbor**	**37.79**	**2**	P	**P**	**21 01 10.2**	**+2.2**
	baz=183						
H02S1	**DAWSON INLET T**	**38.08**	**22**	T	T	21 41 20.5	
	SNR=33						
BC3	**Big Chuckawall**	**38.14**	**60**	P	**P**	**21 01 12.6**	**+1.0**
	baz=258						
KDAK	**Kodiak Island**	**38.37**	**2**	LR	LR	21 13 23.8	
	comp=E,537nm,21.5s,baz=203,slow=31						
BBB	**Bella Bella**	**39.00**	**27**	LR	LR	21 13 52.8	
	comp=E,608nm,19.9s,baz=220,slow=31						
J08A	**Circle Bar Ran**	**39.02**	**44**	P	**P**	**21 01 18.6**	**-0.2**
SHPR	**Sheep Range**	**39.03**	**56**	P	**P**	**21 01 19.4**	**+0.4**
R11B	**Troy Canyon, C**	**39.21**	**53**	P	**P**	**21 01 21.2**	**+0.6**
	baz=252						
P16K	**Nushagak River**	**39.62**	**358**	P	**P**	**21 01 24.8**	**+1.4**
	baz=176						
P17K	**Kvichak River**	**39.74**	**359**	P	**P**	**21 01 25.2**	**+0.8**
	baz=178						
P18K	**Big Mountain,**	**39.93**	**0**	P	**P**	**21 01 27.0**	**+0.9**
	baz=180						
V35K	**Ketchikan**	**40.10**	**21**	P	**P**	**21 01 29.0**	**+1.6**
	baz=216						
O16K	**Kokwok River B**	**40.19**	**358**	P	**P**	**21 01 29.5**	**+1.4**
	baz=176						
U33K	**Whale Pass**	**40.26**	**19**	P	**P**	**21 01 29.5**	**+0.7**
	baz=213						
O17K	**Koliganek Bris**	**40.34**	**359**	P	**P**	**21 01 29.5**	**+0.2**
	baz=177						
O18K	**Koktuh Hills**	**40.40**	**0**	P	**P**	**21 01 30.8**	**+0.9**
	baz=180						
RAR	**Rarotonga**	**40.61**	**186**	LR	LR	21 15 01.8	
	comp=E,453nm,18.6s,baz=352,slow=31						
N14K	**Kuskokwak Cree**	**40.73**	**355**	P	**P**	**21 01 33.9**	**+1.4**
	baz=171						
SHEM	**Shemya Is, Ala**	**40.85**	**332**	LR	LR	21 15 19.5	
	comp=E,640nm,21.6s,baz=138,slow=32						
N15K	**Kwethluk River**	**40.86**	**356**	P	**P**	**21 01 34.6**	**+0.9**
	baz=173						
SEW	**Seward**	**40.87**	**4**	P	**P**	**21 01 34.1**	**+0.3**
	baz=188						
P23K	**Montague Islan**	**40.94**	**6**	P	**P**	**21 01 35.2**	**+0.9**
	baz=191						
S31K	**Pelican**	**40.98**	**15**	P	**P**	**21 01 35.7**	**+1.0**
	baz=208						
S32K	**Killisnoo**	**40.98**	**17**	P	**P**	**21 01 35.8**	**+1.1**
	baz=211						
F10A	**Beach Ranch, E**	**40.99**	**41**	P	**P**	**21 01 36.1**	**+0.9**
F10A					IAmb	IAmb	21 03 01.7
	comp=Z,13nm,0.8s						
N16K	**Nishlik Lake**	**41.09**	**357**	P	**P**	**21 01 36.6**	**+0.9**
	baz=175						
N18K	**Kilae Creek**	**41.23**	**360**	P	**P**	**21 01 37.5**	**+0.7**
	baz=179						
M13K	**Dall Lake**	**41.36**	**354**	P	**P**	**21 01 37.6**	**-0.1**
	baz=168						
N19K	**Bonanza Creek**	**41.36**	**1**	P	**P**	**21 01 40.0**	**+2.0**
N19K					IAmb	IAmb	21 01 41.2
	comp=Z,24nm,1.1s						
N19K	**Bonanza Creek**	**41.36**	**1**	P	**P**	**21 01 38.6**	**+0.6**
	baz=181,SNR=10						
M15K	**Kasigluk River**	**41.42**	**356**	P	**P**	**21 01 38.0**	**-0.2**
	baz=172						
CAPN	**Captain Cook N**	**41.42**	**3**	P	**P**	**21 01 38.6**	**+0.3**
	baz=186						
M14K	**Bethel**	**41.57**	**355**	P	**P**	**21 01 38.1**	**-1.4**
	baz=170						
RAGM	**Ragged Mountai**	**41.63**	**8**	P	**P**	**21 01 39.2**	**-0.9**
RAGM					IAmb	IAmb	21 02 45.3
	comp=Z,14nm,0.6s						
M16K	**Timber Creek**	**41.65**	**357**	P	**P**	**21 01 40.1**	**-0.1**
	baz=175						
TCRU	**Three Creeks R**	**41.65**	**53**		**P**	**21 01 39.4**	**-1.5**
TCRU					IAmb	IAmb	21 02 21.9
	comp=Z,26nm,1.8s						
EYAK	**Cordova Ski Ar**	**41.66**	**7**	P	**P**	**21 01 40.5**	**+0.3**
	baz=194						
M11K	**Mekoryuk**	**41.66**	**352**	P	**P**	**21 01 40.6**	**+0.4**
	baz=164						
R32K	**Eaglecrest**	**41.70**	**16**	P	**P**	**21 01 39.9**	**-0.7**
	baz=210						
MVU	**Marysvale**	**41.80**	**54**	P	**P**	**21 01 39.2**	**-2.9**
TUC	**Tucson**	**41.80**	**63**	P	**P**	**21 01 41.1**	**-0.9**
	baz=263						
WUAZ	**Wupatki**	**41.80**	**58**	P	**P**	**21 01 41.3**	**-0.8**
	baz=259						
N20K	**Mount Spurr**	**41.81**	**2**	P	**P**	**21 01 41.6**	**0.0**
	baz=184						
HLID	**Hailey**	**41.81**	**46**	P	**P**	**21 01 39.1**	**-2.9**
HLID	**Hailey**	**41.81**	**46**	P	**P**	**21 01 42.6**	**+0.6**
	baz=248						
DUG	**Dugway, Tooele**	**41.81**	**51**	P	**P**	**21 01 41.1**	**-1.0**
DUG	**Dugway, Tooele**	**41.81**	**51**	P	**P**	**21 01 42.3**	**+0.2**
	baz=253						
PNL	**Peninsula**	**41.82**	**12**	P	**P**	**21 01 41.8**	**+0.2**
	baz=203						
RC01	**Rabbit Creek A**	**41.82**	**4**	P	**P**	**21 01 42.5**	**+0.9**
	baz=188						
MSU	**Marysvale**	**41.83**	**54**	P	**P**	**21 01 42.0**	**-0.3**
MESA	**MESA**	**41.83**	**10**	P	**P**	**21 01 41.5**	**-0.5**
T35M	**Bob Quinn**	**41.88**	**20**	P	**P**	**21 01 41.4**	**-0.8**
	baz=217						
LPIG	**La Paz**	**41.94**	**75**	LR	LR	21 14 29.2	
	comp=Z,949nm,21.1s,baz=248,slow=30						
WAX	**Waxell Ridge**	**41.95**	**9**		**P**	**21 01 45.1**	**+2.3**
M17K	**Holitna River**	**41.98**	**358**	P	**P**	**21 01 42.1**	**-0.8**
	baz=177						
BCPM	**Bancas Point**	**42.03**	**12**	P	**P**	**21 01 45.0**	**+1.7**
M18K	**Stony River**	**42.04**	**360**	P	**P**	**21 01 43.9**	**+0.5**
	baz=179,SNR=5.1						
P29M	**Windy Craggy**	**42.12**	**13**	P	**P**	**21 01 46.3**	**+2.2**
P29M	**Windy Craggy**	**42.12**	**13**	P	**P**	**21 01 45.0**	**+0.9**
	baz=205						
SUA	**Susitna One**	**42.14**	**3**	P	**P**	**21 01 45.5**	**+1.2**
SUA					IAmb	IAmb	21 01 51.5
	comp=Z,18nm,1.2s						
SUA	**Susitna One**	**42.14**	**3**	P	**P**	**21 01 44.8**	**+0.5**
	baz=186						
NEW	**Newport**	**42.15**	**38**	LR	LR	21 15 35.6	
	comp=Z,442nm,20.5s,baz=214,slow=31						
ISLE	**Juniper Island**	**42.17**	**10**	P	**P**	**21 01 46.4**	**+1.7**
ISLE					IAmb	IAmb	21 01 48.4
	comp=Z,15nm,1.1s						
BMRM	**Bremner River**	**42.20**	**8**	P	**P**	**21 01 45.0**	**+0.2**
	baz=195						
L14K	**Kuka Creek**	**42.21**	**355**	P	**P**	**21 01 44.9**	**+0.1**
	baz=170						
KNK	**Knik Glacier**	**42.24**	**5**	P	**P**	**21 01 45.7**	**+0.6**
	baz=190						
PLBC	**Pleasant Camp**	**42.28**	**14**	P	**P**	**21 01 46.4**	**+1.0**
	baz=207						
L16K	**Owhat River**	**42.36**	**357**	P	**P**	**21 01 46.4**	**+0.4**
	baz=174						
S34M	**Telegraph Cree**	**42.36**	**19**	P	**P**	**21 01 47.3**	**+1.2**
	baz=215						
PMR	**Palmer**	**42.37**	**4**	P	**P**	**21 01 47.3**	**+1.3**
	baz=189						
L15K	**

TBI eLR LR 21 13 33.9
comp=Z,2µm,30.2s
TBI eLR LR 21 13 38.3
comp=Z,11µm,29.5s
L20K Farewell, AK 43.04 1 P P 21 01 52.4 +0.8
baz=182,SNR=7.1
P32M Atlin 43.05 16 P P 21 01 52.1 +0.4
baz=210
W18A Petrified Fore 43.06 59 P P 21 01 53.1 +0.8
baz=261
K15K Wolf Creek Mou 43.06 356 P P 21 01 52.3 +0.6
baz=171
DLBC Dease Lake 43.13 19 P P 21 01 53.5 +1.1
baz=216
DLBC Dease Lake 43.13 19 LR LR 21 16 18.4
comp=Z,680nm,19.4s,baz=257,slow=31
M24K Tolsona, Glenn 43.13 6 P P 21 01 52.0 -0.4
baz=193
YUK6 Outpost Mounta 43.20 12 P P 21 01 53.3 +0.3
baz=204,SNR=5.2
YUK8 Steele Glacier 43.25 11 P P 21 01 53.1 -0.4
baz=202
HYT Haines Junctio 43.26 13 P P 21 01 53.5 0.0
baz=205
K17K Iditarod 43.32 358 P P 21 01 54.0 +0.3
baz=176
MSO Missoula 43.41 41 P P 21 01 54.3 -0.6
baz=245
WAT6 Susitna Watana 43.45 5 P P 21 01 55.5 +0.4
baz=190,SNR=9.7
PPLA Purkeypile 43.50 2 P P 21 01 55.0 -0.4
baz=184
YUK4 Talbot Arm 43.51 12 P P 21 01 56.3 +0.7
baz=203
O30N Mendenhall 43.51 14 P P 21 01 54.1 -1.3
baz=207
HARP HAARP 43.53 7 P P 21 01 54.3 -1.2
baz=194
BPMT Black Pine Rid 43.56 42 P P 21 01 56.2 -0.1
YUK3 Moose Creek 43.59 10 P P 21 01 56.1 -0.1
baz=200,SNR=6.1
R33M Jennings River 43.63 18 P P 21 01 56.8 +0.3
baz=214,SNR=6.1
WAT1 Susitna Watana 43.63 4 P P 21 01 56.3 0.0
baz=189
J14K Nanvaranak Lak 43.68 355 P P 21 01 58.1 +1.5
baz=169
WHY Whitehorse 43.69 14 P P 21 01 57.1 +0.2
baz=208
M26K Nabesna, AK 43.80 8 IAmb IAmb 21 02 00.8
comp=Z,14nm,1.1s
M26K Nabesna, AK 43.80 8 P P 21 01 58.6 +0.9
baz=197,SNR=12
P33M Teslin, Yukon 43.81 16 P P 21 01 58.2 +0.3
baz=211
M27K Edge Creek, AK 43.92 9 P P 21 01 58.9 +0.2
baz=198,SNR=12
K20K Telida 43.92 1 P P 21 01 59.3 +0.6
baz=182
N30M Aishikik Lake 43.92 13 P P 21 01 59.4 +0.6
baz=205
DHY Denali Highway 43.97 5 IAmb IAmb 21 02 02.1
comp=Z,12nm,1.2s
DHY Denali Highway 43.97 5 P P 21 01 59.4 +0.2
baz=191,SNR=9.3
J16K Anvik River 43.99 357 P P 21 02 00.2 +1.1
J16K IAmb IAmb 21 02 02.0
comp=Z,27nm,1.5s
J16K Anvik River 43.99 357 P P 21 02 00.9 +1.7
baz=173
J17K VABM Dome 44.03 358 P P 21 02 00.1 +0.7
baz=175
CAST Castle Rocks 44.03 2 P P 21 01 59.8 +0.3
CAST Castle Rocks 44.03 2 P P 21 02 00.1 +0.6
baz=184
J18K Innoko River 44.03 359 P P 21 02 00.1 +0.6
baz=178
PAX Paxson 44.05 6 P P 21 02 00.1 +0.3
baz=193,SNR=6.2
TRF Thorofare Moun 44.14 3 P P 21 02 01.0 +0.4
baz=187,SNR=7.5
RND Reindeer 44.19 4 P P 21 02 01.9 +1.1
RND IAmb IAmb 21 02 03.5
comp=Z,12nm,1.2s
N31M Braeburn, Yuko 44.22 13 P P 21 02 01.5 +0.4
N31M Braeburn, Yuko 44.22 13 P P 21 02 01.7 +0.6
baz=207
IMW Indian Meadow 44.28 46 P P 21 02 02.0 -0.2
121A Cookes Peak, D 44.35 63 P P 21 02 02.9 +0.2
baz=265
L26K Log Cabin Wild 44.35 8 P P 21 02 02.9 +0.8
L26K Log Cabin Wild 44.35 8 P P 21 02 03.2 +1.0
baz=196
MVCO Mesa Verde 44.40 56 P P 21 02 02.2 -0.9
MVCO IAmb IAmb 21 02 19.8
comp=Z,15nm,1.1s
MVCO Mesa Verde 44.40 56 P P 21 02 01.5 -1.6
baz=260
BOZ Bozeman (W) 44.41 44 P P 21 02 02.9 -0.1
BOZ Bozeman (W) 44.41 44 P P 21 02 03.1 +0.1
baz=249
CHUM Lake Minchumin 44.49 2 P P 21 02 03.7 +0.6
baz=184
MCK McKinley 44.50 4 P P 21 02 03.9 +0.6
baz=189
J19K Poorman 44.55 360 P P 21 02 04.4 +0.7
J19K IAmb IAmb 21 02 06.5
comp=Z,20nm,1.5s
J19K Poorman 44.55 360 P P 21 02 04.1 +0.4
baz=180
N32M Quiet Lake 44.55 15 P P 21 02 05.2 +1.5
baz=210
M29M Somme Creek 44.56 11 P P 21 02 04.5 +0.6
M29M Somme Creek 44.56 11 P P 21 02 04.5 +0.6
baz=203,SNR=10
L27K Beaver Creek, 44.59 9 P P 21 02 05.2 +1.2
L27K IAmb IAmb 21 02 11.4
comp=Z,16nm,1.6s
L27K Beaver Creek, 44.59 9 P P 21 02 04.6 +0.5
baz=198,SNR=11
I17K Unalakleet 44.59 357 P P 21 02 03.7 -0.3
baz=173
BCAR Beaver Creek A 44.60 9 P P 21 02 04.7 +0.6
J20K Nowinta River 44.74 1 P P 21 02 05.4 +0.2
baz=182
BPAW Bear Paw Mtn. 44.76 3 P P 21 02 05.8 +0.5
BPAW Bear Paw Mtn. 44.76 3 P P 21 02 04.3 -1.0
baz=186,SNR=6.9
K24K Donnelly Dome 44.84 6 P P 21 02 07.3 +1.3
baz=193
PDAR Pinedale Array 44.90 48 P P 21 02 06.6 -0.4
PDAR Pinedale Array 44.90 48 P P 21 02 09.0 +2.0
comp=Z,1.2nm,0.8s,baz=246,slow=6.2,SNR=7.7
PDAR LR LR 21 17 20.7
comp=Z,314nm,21.1s,baz=273,slow=31
comp=Z,1.2nm,0.8s
BWN Browne 44.91 4 P P 21 02 05.7 -0.8
M30M Minto, Yukon 45.00 12 P P 21 02 07.5 +0.3
baz=205
TOAD Toad River Com 45.03 22 P P 21 02 08.9 +1.4
baz=222
O20A White River Ci 45.18 52 P P 21 02 09.4 +0.1
baz=257
SCRK Sand Creek 45.20 7 P P 21 02 10.0 +1.1
SCRK Sand Creek 45.20 7 P P 21 02 09.3 +0.4
baz=195,SNR=7.4
L29M L29M 45.23 11 P P 21 02 09.2 +0.1
baz=203
WRH Wood River Hil 45.30 4 IAmb IAmb 21 02 12.1
comp=Z,21nm,1.2s
GCSA Galena City Sc 45.32 359 P P 21 02 09.5 -0.2
baz=178
HDA Harding Lake 45.32 5 P P 21 02 09.4 -0.4
baz=191,SNR=5.9
NEA2 Nenana 45.35 4 P P 21 02 09.8 -0.2
baz=188,SNR=5.7
I20K Naaghedeneel 45.36 1 P P 21 02 09.8 -0.2
baz=181
H16K Elim 45.44 356 P P 21 02 10.5 -0.1
baz=171
K27K Chicken 45.48 8 P P 21 02 10.4 -0.6
baz=198
H17K Granite Mounta 45.60 357 P P 21 02 11.8 -0.2
baz=174
ANM Nome 45.63 354 P P 21 02 11.7 -0.5
baz=167
J25K Salcha River, 45.67 6 IAmb IAmb 21 02 15.1
comp=Z,14nm,1.1s
J25K Salcha River, 45.67 6 P P 21 02 12.5 -0.1
baz=193,SNR=12
IL31 45.69 5 IAmb IAmb 21 02 18.7
comp=Z,15nm,1.4s
ILAR Eielson Array 45.69 5 P P 21 02 13.2 +0.6
ILAR Eielson Array 45.69 5 P P 21 02 12.1 -0.5
comp=Z,3.0nm,0.9s,baz=194,slow=7.2,SNR=20
comp=Z,3.0nm,0.9s
MLY Manley 45.70 3 IAmb IAmb 21 02 18.5
comp=Z,25nm,1.7s
MLY Manley 45.70 3 P P 21 02 13.6 +0.8
baz=186,SNR=6.8
ANMO Albuquerque 45.70 60 P P 21 02 12.6 -0.8
ANMO Albuquerque 45.70 60 LR LR 21 19 13.0
comp=Z,520nm,18.0s,baz=340,slow=33
COLA College 45.71 4 P P 21 02 12.4 -0.4
baz=190
GAMB Gambell 45.71 350 P P 21 02 12.7 -0.1
baz=158
J26L Joseph Creek 45.75 7 P P 21 02 13.7 +0.4
baz=196,SNR=8.6
H18K Honhosa River 45.76 358 P P 21 02 12.9 -0.4
baz=176
MDM Murphy Dome 45.77 4 IAmb IAmb 21 02 15.6
comp=Z,18nm,1.1s
I21K Tanana 45.80 2 P P 21 02 13.5 0.0
baz=184
I23K Minto, Yukon-K 45.88 4 P P 21 02 13.2 -0.9
baz=188
DAWY Dawson 45.91 10 P P 21 02 13.6 -0.9
baz=201
G15K Niukluk 45.93 355 P P 21 02 13.4 -1.1
baz=168
SMCO Snowmass 45.94 54 IAmb IAmb 21 03 14.2
comp=Z,6.1nm,0.7s
POKR Poker Plat Res 45.98 5 P P 21 02 15.2 +0.2
baz=190
K29M Barlow Dome 46.02 11 P P 21 02 16.0 +0.5
baz=204
H20K Anotleneega Mo 46.06 0 P P 21 02 16.2 +0.6
baz=180,SNR=6.9
H19K Roundabout Mou 46.10 359 P P 21 02 16.7 +0.8
baz=178
G16K Koyuk River 46.20 356 P P 21 02 18.1 +1.4
baz=171
G17K Kiwalik Mounta 46.20 357 P P 21 02 18.4 +1.7
baz=173
H21K Melozitna Rive 46.25 1 P P 21 02 16.8 -0.3
baz=183
MMPY Sheldon Lake, 46.26 15 P P 21 02 17.9 +0.6
baz=212
EGAK Eagle 46.32 8 P P 21 02 18.0 +0.4
baz=199
MNTX Cornudas Mount 46.33 64 P P 21 02 17.3 -0.9
baz=222
KOTAN Kotaneelee Air 46.39 21 P P 21 02 19.1 +0.8
baz=202
J29N Klondike Camp 46.46 10 P P 21 02 18.1 -0.8
EGMT Eagleton 46.49 41 P P 21 02 20.5 +1.0
baz=248
G18K Tagagawik 46.51 358 P P 21 02 19.0 -0.2
baz=176
H22K Ishkhan Cre 46.53 2 P P 21 02 19.6 +0.2
baz=185
PRP Porcupine Dome 46.54 6 IAmb IAmb 21 02 22.0
comp=Z,17nm,1.4s
PRP Porcupine Dome 46.54 6 P P 21 02 18.9 -0.6
baz=193
H23K Yukon River 46.55 3 P P 21 02 17.9 -1.5
H23K Yukon River 46.55 3 P P 21 02 19.6 +0.1
baz=188,SNR=6.1
I26K Coal Creek Min 46.58 7 P P 21 02 19.6 0.0
baz=196
F14K Arctic Creek 46.61 354 P P 21 02 19.6 -0.4
baz=166
VHRN Van Horn 46.63 66 IAmb IAmb 21 02 24.1
comp=Z,9.5nm,1.1s
H24K Noodor Dome 46.66 4 P P 21 02 21.0 +0.6
H24K IAmb IAmb 21 02 22.6
comp=Z,12nm,1.2s
H24K Noodor Dome 46.66 4 P P 21 02 20.1 -0.3
baz=184
F15K North Star Dit 46.68 355 P P 21 02 21.6 +1.1
baz=168
G19K Purcell Mounta 46.73 359 IAmb IAmb 21 02 23.7
comp=Z,17nm,1.4s
G19K Purcell Mounta 46.73 359 P P 21 02 22.2 +1.4
baz=178
SDCO Great Sand Dun 46.84 56 P P 21 02 19.4 -3.1
SDCO IAmb IAmb 21 02 25.2
comp=Z,12nm,1.4s
SDCO Great Sand Dun 46.84 56 P P 21 02 22.4 -0.1
baz=261
TNA Tin City 46.87 353 P P 21 02 23.1 +1.2
baz=164
J30M Hart River 46.90 11 P P 21 02 22.9 +0.5
baz=205,SNR=5.2
I27K Kandik River 47.05 8 P P 21 02 22.9 -0.5
baz=198
N23A Red Feather La 47.06 52 P P 21 02 23.8 -0.3
baz=255
ISCO Idaho Springs 47.09 53 P P 21 02 23.5 -0.9
baz=259
G21K Allakaket 47.10 1 P P 21 02 23.3 -0.4
baz=182
I28M Miner Creek 47.13 9 IAmb IAmb 21 02 25.9
comp=Z,16nm,1.6s
I28M Miner Creek 47.13 9 P P 21 02 25.3 +1.2
baz=200
F17K Baldwin Pennin 47.17 357 P P 21 02 24.3 +0.1
baz=172
H25L Birch Creek 47.25 5 P P 21 02 25.7 +0.8
baz=192
F18K Selawik 47.25 358 P P 21 02 25.8 +0.9
baz=174
Q24A Divide 47.30 55 P P 21 02 25.4 -0.7
baz=260
G23K Bananza Creek 47.41 3 P P 21 02 26.6 +0.4
baz=187
F19K Shaleruckik Mo 47.43 359 IAmb IAmb 21 02 29.1
comp=Z,13nm,1.4s
F19K Shaleruckik Mo 47.43 359 P P 21 02 26.8 +0.6
baz=177
I30M Mount Dempster 47.48 11 IAmb IAmb 21 02 29.5
comp=Z,11nm,1.1s
I30M Mount Dempster 47.48 11 P P 21 02 27.0 +0.1
baz=204,SNR=12
G24K Hadweenzic Riv 47.55 4 IAmb IAmb 21 02 29.1
comp=Z,11nm,1.1s
G24K Hadweenzic Riv 47.55 4 P P 21 02 25.4 -1.8
baz=190
G22K Bettles 47.56 2 P P 21 02 27.1 -0.2
baz=185
T25A Trinidad 47.61 57 P P 21 02 26.4 -2.0
baz=263
F20K Avaraart Lake 47.62 360 IAmb IAmb 21 02 57.6
comp=Z,16nm,1.6s
F20K Avaraart Lake 47.62 360 P P 21 02 28.6 +0.8
baz=179
H27K Steamboat Moun 47.66 8 P P 21 02 28.2 +0.1
baz=198
G25K Bearman Lake 47.71 5 P P 21 02 28.8 +0.4
baz=192
TX31 Lajitas Ar. Si 47.75 68 P P 21 02 30.8 +1.2
TX31 IAmb IAmb 21 02 32.9
comp=Z,11nm,1.1s
TXAR Lajitas Array 47.75 68 P P 21 02 31.6 +2.1
TXAR Lajitas Array 47.75 68 P P 21 02 32.0 +2.4
comp=Z,5.6nm,0.9s,baz=260,slow=7.9,SNR=43
TXAR LR LR 21 18 14.1
comp=Z,327nm,21.2s,baz=236,slow=31
comp=Z,5.6nm,0.9s
F21K Alatna River 47.81 1 IAmb IAmb 21 02 32.5
comp=Z,9.7nm,1.1s
F21K Alatna River 47.81 1 P P 21 02 29.8 +0.5
baz=182
E17K Hotham Inlet 47.84 357 P P 21 02 28.0 -1.4
baz=172
COLD Coldfoot 47.91 3 P P 21 02 29.1 -0.9
baz=186
E19K Redstone River 48.05 359 P P 21 02 31.3 +0.2
baz=178
H29M Whitestone 48.08 9 P P 21 02 30.4 -1.0
baz=202
E18K Tukpahlearik C 48.11 357 P P 21 02 32.9 +1.3
E18K IAmb IAmb 21 02 34.2
comp=Z,10nm,1.4s
E18K Tukpahlearik C 48.11 357 P P 21 02 31.6 0.0
baz=173
F22K John River 48.12 2 P P 21 02 30.8 -0.9
baz=184
G27K Doyon Strip 48.20 7 IAmb IAmb 21 03 06.0
comp=Z,11nm,1.8s
G27K Doyon Strip 48.20 7 P P 21 02 31.6 -0.7
baz=197
LAO LASA Array 48.31 44 P P 21 02 31.8 -1.8
baz=253
F24K Squaw Lake 48.33 4 P P 21 02 32.9 -0.4
baz=189
H31M Peel River 48.38 11 P P 21 02 33.0 -0.8
baz=207
EPYK Eagle Plains 48.48 10 IAmb IAmb 21 02 37.0
comp=Z,13nm,1.1s
EPYK Eagle Plains 48.48 10 P P 21 02 32.6 -1.9
baz=204
D17K Noatak River 48.53 356 P P 21 02 34.2 -0.6
baz=170
MNHN Monahans 48.55 65 P P 21 02 35.9 +0.2
MNHN IAmb IAmb 21 02 37.7
comp=Z,7.1nm,1.1s
F25K Christian Rive 48.56 5 P P 21 02 33.6 -1.5
baz=192
ODSA Odessa 48.75 64 P P 21 02 38.7 +1.5
E22K Anaktuvuk Pass 48.76 2 P P 21 02 35.7 -1.0
baz=184
G29M Pine Creek 48.78 9 IAmb IAmb 21 02 39.2
comp=Z,14nm,1.1s
G29M Pine Creek 48.78 9 P P 21 02 34.9 -1.9
baz=202
F26K Sheenjek River 48.79 6 P P 21 02 35.6 -1.3
baz=194
E20K Nigu River 48.84 360 P P 21 02 36.0 -1.3
baz=179
E24K Your Creek 48.84 3 IAmb IAmb 21 02 44.0
comp=Z,20nm,1.9s
E24K Your Creek 48.84 3 P P 21 02 36.3 -1.0
baz=188
RDOG Red Dog Mine 48.87 356 P P 21 02 35.4 -2.0
baz=170
WRGLY Wrigley 48.89 18 P P 21 02 36.2 -1.4
baz=221
E21K Killik River 49.03 1 IAmb IAmb 21 02 59.5
comp=Z,20nm,1.5s
E21K Killik River 49.03 1 P P 21 02 38.0 -0.7
baz=182
E25K Arctic Village 49.09 5 IAmb IAmb 21 02 41.3
comp=Z,11nm,1.4s
E25K Arctic Village 49.09 5 P P 21 02 37.8 -1.3
baz=192
SAND Sanderson 49.09 67 IAmb IAmb 21 02 43.0
comp=Z,9.0nm,1.0s
D19K Kuna River 49.10 359 P P 21 02 38.6 -0.7
baz=176
G30M tAoh Zraii Nji 49.12 10 P P 21 02 38.4 -1.0
baz=204
RSSD Black Hills 49.13 48 P P 21 02 37.2 -2.8
baz=257
F28M Old Crow 49.19 8 IAmb IAmb 21 02 46.6
comp=Z,14nm,1.4s
F28M Old Crow 49.19 8 P P 21 02 39.5 -0.3
baz=195
KSCO Kaye Shedlock' 49.25 55 P P 21 02 39.5 -1.5
baz=262
C16K Lisburne Hills 49.26 355 P P 21 02 40.0 -0.4
baz=167
D20K Etivluk River 49.30 359 P P 21 02 39.9 -0.9
baz=178
C17K DeLong Mountai 49.30 356 P P 21 02 40.7 -0.1
baz=170
PETK Petropavlovsk- 49.32 324 LR LR 21 20 45.3
comp=Z,566nm,20.4s,baz=110,slow=33
TOLK Toolik Lake Re 49.35 3 P P 21 02 40.7 -0.4
baz=187
C18K Utukok River 49.37 357 P P 21 02 40.4 -0.9
baz=173
G31M Satah River 49.40 11 P P 21 02 41.3 -0.1
baz=206
D22K Ayikyak River 49.49 1 P P 21 02 41.9 -0.3
baz=183
E27K Coleen River 49.53 7 IAmb IAmb 21 02 45.4
comp=Z,9.1nm,1.1s
E27K Coleen River 49.53 7 P P 21 02 41.5 -1.0
baz=197
AMTX Amarillo 49.60 60 P P 21 02 42.1 -1.6
baz=266
D23K Nanushuk River 49.63 2 P P 21 02 41.2 -2.0
baz=186
POST Post 49.66 63 P P 21 02 44.4 +0.2
POST IAmb IAmb 21 02 50.2
comp=Z,32nm,1.8s
C21K Knifeblade Rid 49.74 0 P P 21 02 43.7 -0.4
baz=181
C19K Lookout Ridge 49.76 358 P P 21 02 43.2 -1.1
baz=175
F30M Barrier River 49.77 10 P P 21 02 44.1 -0.2
baz=204
D24K Happy Valley 49.90 3 P P 21 02 46.1 +0.9
D24K Happy Valley 49.90 3 P P 21 02 44.6 -0.7
baz=188
OZNA Ozona 49.95 66 P P 21 02 47.3 +1.0
OZNA IAmb IAmb 21 02 49.1
comp=Z,8.9nm,1.0s
F31M Tsiigehtchic 49.95 11 P P 21 02 46.8 +1.1
F31M IAmb IAmb 21 02 47.9
comp=Z,22nm,1.2s
F31M Tsiigehtchic 49.95 11 P P 21 02 45.2 -0.4
baz=207
SGCY Sterling City 49.96 64 P 21 02 46.4 0.0
SGCY IAmb IAmb 21 02 49.1
comp=Z,13nm,1.1s
B18K Kokolik River 50.11 357 P P 21 02 45.8 -1.0
baz=172
DGMT Dagmar 50.15 42 P P 21 02 46.0 -1.5
baz=253
E28M Babbage River 50.17 7 P P 21 02 46.0 -1.3
baz=200
E29M Blow River 50.17 8 IAmb IAmb 21 02 49.7
comp=Z,12nm,1.3s
E29M Blow River 50.17 8 P P 21 02 45.9 -1.5
baz=202
B21K Ikpikpuk River 50.21 0 P P 21 02 47.0 -0.6
baz=181
D25K Kavik River 50.21 4 IAmb IAmb 21 02 50.5
comp=Z,10nm,1.2s
D25K Kavik River 50.21 4 P P 21 02 47.0 -0.7
baz=191
C24K Franklin Bluff 50.47 3 P P 21 02 49.2 -0.4
baz=188
C23K Itkillik River 50.50 2 P P 21 02 50.3 +0.5
baz=186
B20K Meade River 50.61 359 P P 21 02 51.1 +0.5
baz=178
D27M Malcolm River 50.61 7 P P 21 02 49.2 -1.6
baz=198
C27K Jago River 50.71 5 P P 21 02 51.3 -0.1
baz=194
INK Inuvik 50.77 10 IAmb IAmb 21 02 53.6
comp=Z,11nm,1.1s
INK Inuvik 50.77 10 P P 21 02 51.7 -0.1
baz=207
INK Inuvik 50.77 10 LR LR 21 22 24.3
comp=Z,543nm,18.6s,baz=184,slow=34
SMWD Samnorwood 50.79 60 IAmb IAmb 21 02 54.9
comp=Z,10nm,1.0s
C26K Camden Bay 50.90 5 P P 21 02 52.5 -0.3
baz=193
B22K Teshekpuk Lake 50.94 1 P P 21 02 54.2 +1.1
baz=182
D28M Stokes Point 50.95 7 P P 21 02 53.6 +0.4
baz=200
JCT Junction City 51.10 66 P P 21 02 54.1 -0.9
baz=271
ABTX Abilene, Hawle 51.22 63 P P 21 02 55.3 -0.5
baz=270
YKA Yellowknife Ar 51.34 23 P P 21 02 57.2 +1.0
comp=Z,1.8nm,1.0s,baz=237,slow=7.6,SNR=15
YKA LR LR 21 21 47.7
comp=Z,493nm,20.1s,baz=230,slow=33
comp=Z,1.8nm,1.0s
CBKS Cedar Bluff 51.47 55 P P 21 02 57.5 -0.1
baz=264
833A Chaparral WMA, 51.53 69 P P 21 02 58.0 -0.3
baz=273
A22K Sinclair Lake 51.60 0 P P 21 02 58.8 +0.8
baz=180

A21K	**Barrow**	**51.92**	**359**	P	**P**	**21 03 01.5**	**+1.1**	
	baz=178							
WMOK	**Wichita Mounta**	**51.98**	**61**	P	**P**	**21 03 00.5**	**-1.1**	
	baz=268							
HNR	**Honiara**	**52.57**	**241**	LR	LR	21 20 53.6		
	comp=Z,5μm,21.9s,baz=58,slow=31							
SUSD	**Miller**	**52.77**	**49**	P	**P**	**21 03 06.4**	**-0.8**	
	baz=261							
BGNE	**Belgrade**	**52.95**	**52**	P	**P**	**21 03 06.6**	**-2.1**	
	baz=264							
MDND	**Maddock**	**52.97**	**44**	P	**P**	**21 03 07.9**	**-0.7**	
	baz=258							
435B	**Jarrell**	**53.00**	**66**	P	**P**	**21 03 07.4**	**-1.7**	
	baz=272							
WHTX	**Lake Whitney,**	**53.08**	**64**	P	**P**	**21 03 08.3**	**-1.4**	
	baz=271							
C36M	**Paulatuk**	**53.48**	**13**	P	**P**	**21 03 12.3**	**+0.3**	
	baz=218							
KSU1	**Kansas State U**	**53.92**	**55**	P	**P**	**21 03 14.5**	**-1.2**	
	baz=266							
ECSD	**EROS Data Cent**	**54.34**	**50**	IAmb	IAmb	21 05 16.9		
	comp=Z,18nm,1.4s							
ECSD	**EROS Data Cent**	**54.34**	**50**	P	**P**	**21 03 17.1**	**-1.7**	
	baz=263							
A36M	**Sachs Harbour**	**55.38**	**11**	P	**P**	**21 03 26.4**	**+0.6**	
	baz=215							
MA2	**Magadan**	**55.44**	**330**	LR	LR	21 22 55.8		
	comp=Z,644nm,21.9s,baz=122,slow=32							
NATX	**Nacogdoches**	**55.46**	**64**	P	**P**	**21 03 26.5**	**-0.5**	
	baz=273							
AGMN	**Agassiz Nation**	**55.52**	**44**	P	**P**	**21 03 25.9**	**-1.3**	
	baz=260							
DZM	**Mont Dzumac**	**55.65**	**224**	*e*P	P	21 03 23.3	-5.2	
	comp=Z,91nm,22.4s							
DZM				*e*S	**S**	**21 11 17.4**	**+1.9**	
	comp=Z,291nm,24.3s							
DZM				*e*SS	**SS**	**21 14 57.7**	**-3.4**	
	comp=Z,170nm,24.9s							
DZM				*e*LR	LR	21 19 39.6		
	comp=Z,569nm,29.4s							
DZM	**Mont Dzumac**	**55.65**	**224**	LR	LR	21 23 50.9		
	comp=Z,277nm,19.7s,baz=60,slow=32							
SEY	**Seymchan**	**56.09**	**334**	LR	LR	21 23 31.2		
	comp=Z,272nm,21.8s,baz=102,slow=32							
MIAR	**Mount Ida**	**56.27**	**61**	P	**P**	**21 03 32.6**	**-0.2**	
	baz=271							
SCIA	**State Center**	**56.67**	**52**	P	**P**	**21 03 35.2**	**-0.4**	
	baz=267							
ASAJ	**Asahikawa**	**56.81**	**310**	LR	LR	21 22 45.3		
	comp=Z,811nm,21.9s,baz=133,slow=31							
B35A	**Bob, Littlefor**	**56.94**	**44**	IAmb	IAmb	21 03 38.4		
	comp=Z,7.0nm,1.1s							
CMIG	**Matias Romero**	**57.19**	**82**	LR	LR	21 24 37.2		
	comp=Z,492nm,18.5s,baz=181,slow=32							
R40A	**Maddies Statio**	**57.29**	**56**	IAmb	IAmb	21 03 41.5		
	comp=Z,8.0nm,0.9s							
GUMO	**Guam**	**57.41**	**274**	LR	LR	21 23 09.1		
	comp=Z,289nm,21.7s,baz=68,slow=31							
JCJ	**Chichijima**	**57.43**	**290**	LR	LR	21 23 35.0		
	comp=Z,193nm,20.6s,baz=99,slow=31							
CCM	**Cathedral Cave**	**58.09**	**57**	P	**P**	**21 03 45.8**	**+0.1**	
	baz=270							
T42A	**Van Buren**	**58.23**	**58**	IAmb	IAmb	21 03 48.0		
	comp=Z,8.3nm,1.1s							
EYMN	**Ely**	**58.37**	**45**	P	**P**	**21 03 48.1**	**+0.6**	
	baz=264							
JFWS	**Jewell Farm**	**58.91**	**51**	P	**P**	**21 03 51.8**	**+0.5**	
	baz=268							
VBMS	**Vicksburg**	**58.95**	**64**	P	**P**	**21 03 51.2**	**-0.5**	
	baz=274							
JHJ	**Hachijo jima 2**	**58.95**	**298**	LR	LR	21 25 40.7		
	comp=Z,215nm,20.3s,baz=110,slow=32							
G40A	**Rib Lake**	**59.05**	**48**	IAmb	IAmb	21 03 53.5		
	comp=Z,11nm,0.9s							
HDIL	**Hopedale**	**59.59**	**54**	P	**P**	**21 03 55.9**	**-0.1**	
	baz=270							
OXF	**Oxford**	**59.71**	**61**	P	**P**	**21 03 56.4**	**-0.5**	
	baz=274							
MJAR	**Matsushiro Arr**	**60.05**	**302**	P	**P**	**21 04 00.3**	**+1.0**	
	comp=Z,0.6nm,0.3s,baz=90,slow=5.2,SNR=5.4							
MJAR				LR	LR	21 25 32.8		
	comp=Z,204nm,21.5s,baz=76,slow=32							
	comp=Z,0.6nm,0.3s							
L44A	**Lake County Fo**	**60.63**	**52**	P	**P**	**21 04 01.9**	**-1.2**	
	baz=270							
SFIN	**Lafayette**	**61.27**	**54**	P	**P**	**21 04 05.3**	**-2.2**	
	baz=272							
APG	**El Apazote**	**61.80**	**83**	LR	LR	21 25 55.4		
	comp=Z,40nm,19.6s,baz=214,slow=31							
LRAL	**Lakeview Retre**	**61.83**	**62**	P	**P**	**21 04 10.4**	**-1.1**	
	baz=276							
BRAL	**Brewton**	**61.99**	**64**	P	**P**	**21 04 11.4**	**-1.1**	
	baz=277							
WCI	**Wyandotte Cave**	**61.99**	**56**	P	**P**	**21 04 11.4**	**-1.0**	
	baz=273							
TEIG	**Tepich**	**62.66**	**77**	LR	LR	21 28 13.8		
	comp=Z,357nm,19.7s,baz=238,slow=33							
O48B	**Farmland**	**62.76**	**54**	P	**P**	**21 04 16.0**	**-1.6**	
	baz=273							
URZ	**Urewera**	**62.94**	**204**	LR	LR	21 25 21.9		
	comp=Z,165nm,20.9s,baz=101,slow=30							
GLMI	**Grayling**	**63.00**	**49**	P	**P**	**21 04 18.2**	**-0.9**	
	baz=271							
P49A	**Miami Univ. Ec**	**63.14**	**55**	P	**P**	**21 04 18.8**	**-1.3**	
	baz=274							
PMG	**Port Moresby**	**63.48**	**248**	LR	LR	21 31 22.7		
	comp=Z,211nm,18.2s,baz=76,slow=36							
TKL	**Tuckaleechee C**	**64.22**	**59**	LR	LR	21 30 26.8		
	comp=Z,347nm,18.4s,baz=257,slow=34							
RPN	**Rapa Nui**	**64.24**	**135**	LR	LR	21 25 08.4		
	comp=Z,541nm,21.4s,baz=309,slow=29							
TZTN	**Tazewell**	**64.30**	**58**	P	**P**	**21 04 26.7**	**-1.1**	
	baz=276							
USRK	**Ussuriysk Ar.**	**64.44**	**310**	LR	LR	21 26 46.2		
	comp=Z,418nm,21.9s,baz=92,slow=31							
KLR	**Kul'dur**	**64.46**	**316**	LR	LR	21 27 40.2		
	comp=Z,295nm,21.1s,baz=106,slow=32							
GOGA	**Godfrey**	**64.73**	**62**	P	**P**	**21 04 29.9**	**-0.7**	
	baz=277							
TIGA	**Tifton**	**64.89**	**64**	P	**P**	**21 04 30.0**	**-1.7**	
	baz=278							
P52A	**Corning**	**65.12**	**55**	P	**P**	**21 04 30.9**	**-2.2**	
	baz=275							
M53A	**WI Miller and**	**66.06**	**52**	P	**P**	**21 04 38.2**	**-1.0**	
	baz=275							
KMSC	**Kings Mountain**	**66.26**	**59**	P	**P**	**21 04 39.2**	**-1.3**	
	baz=278							
JNU	**Nakatsue**	**66.38**	**298**	LR	LR	21 27 49.0		
	comp=Z,186nm,21.9s,baz=86,slow=31							
BLA	**Blacksburg**	**66.72**	**57**	P	**P**	**21 04 42.7**	**-0.8**	
	baz=277							
MCWV	**Mont Chateau**	**66.88**	**54**	P	**P**	**21 04 42.8**	**-1.7**	
	baz=276							
SADO	**Sadowa**	**66.89**	**49**	LR	LR	21 33 48.5		
	comp=Z,211nm,18.0s,baz=320,slow=36							
TIXI	**Tiksi**	**67.26**	**341**	LR	LR	21 33 44.0		
	comp=Z,212nm,19.7s,baz=131,slow=36							
KSRS	**Korea Array**	**68.15**	**303**	LR	LR	21 32 58.3		
	comp=Z,128nm,19.2s,baz=75,slow=34							
JTS	**Las Juntas de**	**68.24**	**86**	LR	LR	21 27 33.4		
	comp=Z,596nm,20.7s,baz=300,slow=30							
BINY	**Binghamton**	**69.46**	**51**	P	**P**	**21 04 58.4**	**-2.3**	
	baz=278							
JOW	**Kunigami**	**69.72**	**292**	LR	LR	21 30 52.8		
	comp=Z,247nm,21.4s,baz=290,slow=32							
RPZ	**Rata Peaks**	**69.98**	**205**	LR	LR	21 30 22.5		
	comp=Z,248nm,22.0s,baz=84,slow=31							
FRB	**Frobisher Bay**	**71.37**	**28**	LR	LR	21 34 54.1		
	comp=Z,237nm,18.4s,baz=240,slow=34							
DL2	**Dalian**	**72.80**	**306**	P	P	21 05 24.5	+3.6	
DL2				S	**SKiKP**	**21 14 54.5**	**-1.2**	
DL2				pmax	pmax			
	comp=Z,8.0nm,1.2s							
DL2				pmax	pmax			
	comp=Z,270nm,9.3s							
DL2				LR	LR			
	comp=Z,170nm,20.6s							
DL2				LR	LR			
	comp=Z,310nm,21.7s							
DL2				LR	LR			
	comp=Z,810nm,29.4s							
SCHQ	**Schefferville**	**73.51**	**37**	LR	LR	21 37 04.0		
	comp=Z,326nm,18.3s,baz=268,slow=35							
PKME	**Peaks-Kenny Pk**	**73.74**	**47**	P	**P**	**21 05 25.3**	**-1.0**	
	baz=281							
XLT	**XiLinHaoTe**	**75.82**	**312**	*e*P	P	21 05 47.0	+8.5	
XLT				S	S	21 15 29.5	+7.9	
NJ2	**Nanjing**	**76.54**	**299**	*e*P	**P**	**21 05 42.5**	**-0.2**	
NJ2				pmax	pmax			
	comp=Z,4.0nm,0.5s							
DAV	**Davao City (W)**	**77.44**	**273**	LR	LR	21 33 59.3		
	comp=Z,219nm,21.9s,baz=82,slow=31							
HNS	**HongShan**	**78.45**	**306**	*e*P	**P**	**21 05 55.5**	**+2.2**	
HNS				S	S	21 15 57.8	+7.6	
HNS				LR	LR			
	comp=Z,140nm,22.3s							
HNS				LR	LR			
	comp=Z,300nm,23.1s							
HNS				LR	LR			
	comp=Z,380nm,22.7s							
STKA	**Stephens Creek**	**79.05**	**231**	LR	LR	21 35 42.7		
	comp=Z,273nm,20.4s,baz=28,slow=32							
WRA	**Warramunga Arr**	**79.24**	**244**	LR	LR	21 36 07.2		
	comp=Z,384nm,21.6s,baz=62,slow=32							
TGY	**Tagaytay City**	**79.64**	**281**	LR	LR	21 37 22.4		
	comp=Z,142nm,19.2s,baz=118,slow=33							
HHC	**Hu-ho-hao-te**	**79.84**	**310**	*e*P	**P**	**21 06 01.8**	**+0.7**	
HHC				S	**S**	**21 16 06.0**	**+0.8**	
HHC				SS	**SS**	**21 21 21.5**	**+7.7**	
HHC				pmax	pmax			
	comp=Z,16nm,0.8s							
HHC				pmax	pmax			
	comp=Z,130nm,6.0s							
HHC				LR	LR			
	comp=Z,160nm,15.3s							
HHC				LR	LR			
	comp=Z,260nm,15.3s							
HHC				LR	LR			
	comp=Z,400nm,16.8s							
ROSC	**El Rosal**	**79.93**	**88**	LR	LR	21 33 19.6		
	comp=Z,305nm,20.3s,baz=281,slow=30							
ATAH	**Atahualpa**	**80.15**	**101**	LR	LR	21 35 09.4		
	comp=Z,434nm,18.3s,baz=304,slow=31							
ASAR	**Alice Springs**	**81.19**	**241**	P	**P**	**21 06 09.2**	**+0.8**	
	comp=Z,0.9nm,0.9s,baz=69,slow=7.0,SNR=5.1							
	comp=Z,0.9nm,0.9s							
SONM	**Songino Array**	**81.23**	**318**	P	**P**	**21 06 09.1**	**+0.7**	
SONM				IAmb	IAmb	21 06 15.2		
	comp=Z,19nm,2.0s							
SONM	**Songino Array**	**81.23**	**318**	P	**P**	**21 06 09.7**	**+1.3**	
	comp=Z,1.9nm,1.2s,baz=88,slow=4.6,SNR=7.8							
SONM				LR	LR	21 38 34.6		
	comp=Z,296nm,21.7s,baz=72,slow=33							
	comp=Z,1.9nm,1.2s							
SDV	**Santo Domingo**	**82.12**	**83**	LR	LR	21 37 35.8		
	comp=Z,250nm,21.4s,baz=284,slow=32							
SPITS	**Spitsbergen Ar**	**82.49**	**2**	LR	LR	21 39 25.2		
	comp=Z,157nm,21.2s,baz=327,slow=33							
NNA	**Nana**	**83.32**	**105**	LR	LR	21 34 19.4		
	comp=Z,417nm,21.5s,baz=290,slow=29							
BATI	**Baumata**	**85.01**	**257**	LR	LR	21 41 57.3		
	comp=Z,174nm,19.1s,baz=112,slow=34							
KAPI	**Kappang**	**86.88**	**264**	LR	LR	21 41 53.4		
	comp=Z,84nm,20.4s,baz=90,slow=33							
JMIC	**Jan Mayen**	**86.95**	**10**	LR	LR	21 42 25.1		
	comp=Z,156nm,21.9s,baz=298,slow=34							
LZH	**Lanzhou**	**87.13**	**307**	P	P	21 06 43.5	+4.8	
LZH				SS	SS	21 23 12.5	+10	
LZH				pmax	pmax			
	comp=Z,170nm,7.6s							
LZH				LR	LR			
	comp=Z,190nm,15.5s							
LZH				LR	LR			
	comp=Z,260nm,21.1s							
LZH				LR	LR			
	comp=Z,520nm,21.5s							
PCRV	**Puerto La Cruz**	**87.31**	**80**	LR	LR	21 42 35.5		
	comp=Z,302nm,19.3s,slow=33							
QIZ	**Qiongzhong**	**88.18**	**289**	P	**P**	**21 06 42.8**	**-1.0**	
QIZ				S	**S**	**21 17 29.0**	**-0.4**	
QIZ				SS	**SS**	**21 23 19.5**	**+1.6**	
QIZ				LR	LR			
	comp=Z,76nm,9.8s							
QIZ				LR	LR			
	comp=Z,200nm,17.6s							
QIZ				LR	LR			
	comp=Z,220nm,23.3s							
GTA	**Gaotai**	**88.78**	**312**	*e*P	**P**	**21 06 48.5**	**+2.0**	
GTA				S	**S**	**21 17 33.0**	**-1.8**	
GTA				sS	sS	21 17 48.0	+10	
GTA				SS	SS	21 23 35.3	+10	
GTA				pmax	pmax			
	comp=Z,3.0nm,1.9s							
GTA				pmax	pmax			
	comp=Z,71nm,9.6s							
GTA				LR	LR			
	comp=Z,200nm,17.9s							
GTA				LR	LR			
	comp=Z,260nm,21.1s							
GTA				LR	LR			
	comp=Z,410nm,21.9s							
BORG	**Borgarnes**	**89.02**	**18**	LR	LR	21 45 52.8		
	comp=Z,104nm,18.1s,baz=319,slow=35							
CD2	**Chengdu**	**89.13**	**302**	P	**P**	**21 06 46.8**	**-1.4**	
CD2				S	**S**	**21 17 33.8**	**-4.4**	
CD2				SS	**SS**	**21 23 34.8**	**+3.6**	
CD2				pmax	pmax			
	comp=Z,90nm,5.7s							
CD2				LR	LR			
	comp=Z,100nm,11.3s							
CD2				LR	LR			
	comp=Z,190nm,15.9s							
CD2				LR	LR			
	comp=Z,220nm,19.0s							
ZALV	**Zalesovo Beam**	**90.65**	**329**	P	**P**	**21 06 55.6**	**+0.9**	
ZALV	**Zalesovo Beam**	**90.65**	**329**	P	**P**	**21 06 54.6**	**-0.1**	
	comp=Z,0.7nm,0.5s,baz=60,slow=5.8,SNR=5.6							
ZALV				LR	LR	21 45 07.6		
	comp=Z,368nm,21.3s,baz=92,slow=34							
	comp=Z,0.7nm,0.5s							
ARCES	**ARCESS Array B**	**91.30**	**360**	LR	LR	21 49 26.8		
	comp=Z,101nm,18.2s,baz=344,slow=37							
PZH	**PanZhiHua**	**92.45**	**299**	P	**P**	**21 07 04.5**	**+0.7**	
PZH				SKS	**SKSac**	**21 17 41.0**	**+2.3**	
PZH				S	**S**	**21 18 05.3**	**-3.6**	
PZH				SS	**SS**	**21 24 23.8**	**+4.3**	
PZH				pmax	pmax			
	comp=Z,10.0nm,1.0s							
PZH				pmax	pmax			
	comp=Z,110nm,7.0s							
PZH				LR	LR			
	comp=Z,130nm,19.6s							
PZH				LR	LR			
	comp=Z,130nm,18.0s							
PZH				LR	LR			
	comp=Z,180nm,20.1s							
LPAZ	**La Paz**	**92.73**	**106**	LR	LR	21 41 02.8		
	comp=Z,193nm,21.6s,baz=298,slow=30							
GOMU	**GeErMu**	**93.74**	**310**	P	**P**	**21 07 12.5**	**+2.6**	
GOMU				pP	sP	21 07 20.0	+7.9	
GOMU				pmax	pmax			
	comp=Z,240nm,6.0s							
GOMU				LR	LR			
	comp=Z,430nm,17.3s							
GOMU				LR	LR			
	comp=Z,460nm,18.3s							
GOMU				LR	LR			
	comp=Z,980nm,20.6s							
LVC	**Limon Verde**	**94.11**	**112**	LR	LR	21 40 29.5		
	comp=Z,478nm,19.8s,baz=278,slow=30							
WMQ	**Urumqi**	**94.71**	**320**	*e*P	**P**	**21 07 12.0**	**-1.8**	
WMQ				LR	LR			
	comp=Z,320nm,16.3s							
WMQ				LR	LR			
	comp=Z,370nm,24.7s							
WMQ				LR	LR			
	comp=Z,270nm,19.7s							
KURBB	**Kurchatov Arra**	**95.74**	**329**	LR	LR	21 48 30.4		
	comp=Z,315nm,21.9s,baz=145,slow=34							
MKAR	**Makanchi Array**	**96.16**	**324**	LR	LR	21 48 04.5		
	comp=Z,275nm,21.8s,baz=54,slow=34							
BVAR	**Borovoye Array**	**97.75**	**334**	LR	LR	21 51 48.0		
	comp=Z,132nm,20.9s,baz=52,slow=36							
CMAR	**Chiang Mai Arr**	**97.99**	**293**	LR	LR	21 51 06.7		
	comp=Z,101nm,19.2s,baz=70,slow=35							
NWAO	**Narrogin (SRO)**	**98.24**	**238**	LR	LR	21 51 59.6		
	comp=Z,101nm,18.1s,baz=101,slow=36							
PLCA	**Paso Flores**	**98.59**	**130**	LR	LR	21 42 07.7		
	comp=Z,404nm,21.0s,baz=279,slow=29							
LEM	**Lembang**	**98.87**	**266**	LR	LR	21 48 05.9		
	comp=Z,94nm,19.6s,baz=28,slow=33							
SIV	**San Ignacio**	**99.07**	**104**	LR	LR	21 45 43.3		
	comp=Z,549nm,19.6s,baz=293,slow=31							
NOA	**NORSAR Array B**	**99.10**	**7**	LR	LR	21 50 09.3		
	comp=Z,95nm,20.4s,baz=350,slow=34							
TORD	**Torodi Ar. Bea**	**140.51**	**37**	PKP	**PKPdf**	**21 13 21.4**	**-1.2**	
	comp=Z,0.7nm,1.0s,baz=340,slow=5.0,SNR=3.2							

NEIC ***30*** *21:01:05.3±0.8, 19.40N±0.01×155.29W±0.01, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.0km az=40.0*

HVO 30 21:01:04.7±0.8, 19.404N±0.008×155.296W±0.006, h0km±5km, ML2.5/11, ML1.6/16(NEIC), Error ellipse: s-maj=1.2km s-min=0.8km az=180.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OBL	**Observatory Le**	**0.02**	**39**		Pg	21 01 06.5	+1.4
UWE	**Uwekahuna**	**0.02**	**8**	Pg	Pg	21 01 05.6	+0.4
RIM	**Rim**	**0.02**	**113**		Pg	21 01 06.6	+1.4
UWB	**Uwekahuna B**	**0.03**	**38**		Pg	21 01 06.5	+1.2
KKO	**Keanakako`i**	**0.03**	**102**		Pg	21 01 06.0	+0.7
BYL	**Byron's Ledge**	**0.03**	**76**		Pg	21 01 05.8	+0.5
SBLHI	**Steaming Bluff**	**0.04**	**48**		Pg	21 01 06.8	+1.4
HATHI	**Halema`uma`u T**	**0.04**	**60**	Pg	Pg	21 01 06.0	+0.6
HATHI	**Halema`uma`u T**	**0.04**	**60**		Sg	21 01 07.4	+1.4
RSD	**Rainshed**	**0.06**	**16**	Pg	Pg	21 01 06.7	+0.7
RSD				IAML		21 01 07.7	
	comp=E,359nm,0.1s						
PUH	**Pauahi**	**0.08**	**112**		Pg	21 01 07.2	+1.0
PUH				IAML		21 01 08.8	
	comp=N,182nm,0.2s						
HLP	**Hilina Pali**	**0.11**	**186**		Pg	21 01 07.8	+1.0
HLP				IAML		21 01 09.1	
	comp=E,434nm,1.1s						
HLP					Sg	21 01 10.1	+2.0
KNHH	**Kane Nui o Ham**	**0.12**	**101**		Pg	21 01 07.6	+0.6
MLH	**Mauna Loa**	**0.12**	**316**		Pg	21 01 08.3	+1.2
MLH				IAML		21 01 10.3	
	comp=N,175nm,0.1s						
STCH	**Steam Cracks**	**0.16**	**96**	Pg	Pg	21 01 08.5	+0.7
STCH				IAML		21 01 11.8	
	comp=N,162nm,1.1s						
HTC	**Hot Caves**	**0.19**	**210**		Pg	21 01 09.3	+1.0
HMH	**Humu'ula Sheep**	**0.27**	**318**	Pg	Pg	21 01 10.7	+0.9
HMH				IAML		21 01 16.6	
	comp=N,100nm,1.2s						
MLOA	**Mauna Loa Obse**	**0.30**	**296**	Pg	Pg	21 01 11.2	+0.8
MLOA				IAML		21 01 19.7	
	comp=E,108nm,1.1s						
MWH	**Moku'aweowe**	**0.30**	**286**		Pg	21 01 10.6	+0.3
ALEP	**Alea Permanent**	**0.36**	**293**		Pg	21 01 12.2	+0.7

MOS ***30*** *21:15:25.7±1.1, 42.81N×144.18E, h58km, mb4.4/8, Error ellipse: s-maj=9.0km s-min=6.2km az=77.3*

NEIC ***30*** *21:15:27.0±1.7, 42.72N±0.07×144.13E±0.03, h55km±9km, mb4.4/21, Error ellipse: s-maj=10.3km s-min=1.2km az=160.0*

JMA ***30*** *21:15:26.2±0.1, 42.8N±0.4×144.2E±0.4, h53km±1km, MD4.1/40, MV4.1/40, SE OFF TOKACHI*

JMA Felt II J1 at SE OFF TOKACHI .

NIED ***30*** *21:15:26.2, 42.76N×144.22E, h53km, MW4.1, Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.19; Mθθ1.30; Mφφ-1.49; Mrθ0.58; Mθφ0.16; Mφr0.08; Fault plane solution: M₀1.53000×10¹⁵ NP1:φs39.00000°, δ75.00000°, λ162.00000°. NP2:φs134.00000°, δ73.00000°, λ16.00000°.*

SKHL ***30*** *21:15:26.3±0.0, 42.70N×144.30E, h62km±7km, mb5.0/3*

BJI ***30*** *21:15:27.4±0.0, 42.35N×144.06E, h63km, mb4.4/15, mB4.8/7, Ms4.0/6, Ms7 4.1/7*

IDC ***30*** *21:15:31.7±2.0, 43.00N×144.10E, h88km±13km, mb3.6/22, mbtmp4.0/23, Error ellipse: s-maj=19.0km s-min=15.4km az=175.0*

ISC 30 21:15:26.5±0.7, 42.71N±0.04×144.27E±0.03, h51km±6km, n178, σ1°23/182, mb4.2/41, 9C-22D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JOB	**Onbets**	**0.37**	**301**	⇓*i*P	**Pn**	**21 15 36.0**	**-0.4**
JOB				⇓S	**Sn**	**21 15 42.8**	**-0.7**
JOB	**Onbets**	**0.37**	**301**	A	A	21 15 36.0	
	comp=E,50nm,0.4s,comp=N,21nm,0.3s						
JAK	**Akkeshi**	**0.42**	**48**	⇓*i*P	**Pn**	**21 15 36.6**	**-0.3**
JAK				⇓S	**Sn**	**21 15 44.3**	**-0.2**
JAK	**Akkeshi**	**0.42**	**48**	A	A	21 15 36.6	
	comp=E,56nm,0.3s,comp=N,46nm,0.5s						
AKK	**Akkeshi**	**0.52**	**54**	*e*P	**Pn**	**21 15 37.6**	**-0.4**
AKK				*e*S	**Sn**	**21 15 45.8**	**-0.6**
AKK	**Akkeshi**	**0.52**	**54**	*e*P	**Pn**	**21 15 37.6**	**-0.4**
AKK				*e*S	**Sn**	**21 15 45.7**	**-0.6**
JCH	**Churui**	**0.68**	**262**	⇓*i*P	**Pn**	**21 15 39.4**	**-0.5**
JCH				⇓S	**Sn**	**21 15 48.3**	**-1.4**
JCH	**Churui**	**0.68**	**262**	A	A	21 15 39.4	
	comp=E,12nm,0.9s,comp=N,26nm,0.4s						
JAR	**Ashorobuto**	**0.69**	**328**	⇓*i*P	**Pn**	**21 15 39.4**	**-0.7**
JAR				⇓S	**Sn**	**21 15 48.6**	**-1.4**
JAR	**Ashorobuto**	**0.69**	**328**	A	A	21 15 39.4	
	comp=E,61nm,0.3s,comp=N,43nm,0.5s						
JKHN	**Kushirohamanak**	**0.75**	**60**	⇓*i*P	**Pn**	**21 15 40.7**	**-0.2**
JKHN	**Kushirohamanak**	**0.75**	**60**	A	A	21 15 40.7	
	comp=E,6.0nm,0.5s,comp=N,13nm,5.9s						
JTHR	**Tokachihiroo**	**0.83**	**240**	A	A	21 15 41.8	
	comp=E,13nm,0.8s,comp=N,16nm,0.9s						
JNK	**Nakash**	**0.93**	**21**	*i*P	**Pn**	**21 15 42.6**	**-0.7**
JNK				S	**Sn**	**21 15 54.1**	**-1.5**
JNK	**Nakash**	**0.93**	**21**	A	A	21 15 42.6	
	comp=E,28nm,0.3s,comp=N,16nm,0.4s						
ERM	**Erimo**	**1.08**	**230**	P	**Pn**	**21 15 44.6**	**-0.7**
ERM	**Erimo**	**1.08**	**230**	Pn	**Pn**	**21 15 44.7**	**-0.6**
ERM				Sn	**Sn**	**21 15 58.6**	**-0.6**
ERM	**Erimo**	**1.08**	**230**	PN	**Pn**	**21 15 44.7**	**-0.6**
ERM						21 15 58.6	
JEM	**Erimo**	**1.08**	**230**	P	**Pn**	**21 15 44.9**	**-0.3**
JEM	**Erimo**	**1.08**	**230**	P	**Pn**	**21 15 45.0**	**-0.3**
JEM				*e*S	**Sn**	**21 15 59.0**	**-0.2**
JEM	**Erimo**	**1.08**	**230**	A	A	21 15 45.0	
	comp=E,4.0nm,2.0s,comp=N,6.0nm,3.7s						
JNSB	**Nemuroshibetsu**	**1.19**	**27**	A	A	21 15 46.5	
	comp=E,15nm,1.6s,comp=N,9.0nm,0.8s						
JNBK	**Urakawa-nobuka**	**1.20**	**249**	⇓*i*P	**Pn**	**21 15 45.8**	**-1.1**
JNBK				⇓S	**Sn**	**21 16 00.1**

comp=N,10µm,0.4s
YUK Yuzh-Kuril'sk 1.76 41 *de*PN **Pn 21 15 54.5 0.0**
JKA Kamikawa-asahi 1.85 320 Pn **Pn 21 15 56.1 +0.3**
ASAJ Asahikawa 1.86 320 P **Pn 21 15 56.1 +0.2**
comp=N,100nm,0.3s,baz=184,slow=11,SNR=118
ASAJ S **Sn 21 16 18.7 +0.6**
comp=N,679nm,0.6s,baz=260,slow=31,SNR=8.9
ASAJ Asahikawa 1.86 320 PN **Pn 21 15 56.1 +0.2**
SHO Shikotan 2.20 57 *i* P **Pn 21 15 59.6 -0.9**
SHO AMB AMB 21 16 02.9
comp=N,160nm,0.2s
SHO *i* S **Sn 21 16 24.2 -2.3**
SHO A A 21 16 29.4
comp=N,2µm,0.4s
SHO A A 21 16 29.4
comp=N,1µm,0.4s
SHO Shikotan 2.20 57⇑ *i* PN **Pn 21 15 59.6 -0.9**
SHO *i* S **Sn 21 16 23.9 -2.6**
SHO pmax pmax
comp=E,107nm,0.2s
SHO pmax pmax
comp=Z,155nm,0.2s
SHO smax smax
comp=N,2µm,0.4s
SHO smax smax
comp=E,1µm,0.4s
JAHD Aomorihigashid 2.62 237 A A 21 16 07.1
comp=E,5.0nm,0.3s,comp=N,4.0nm,2.1s
JTM Tenmabayashi 3.07 232 P **Pn 21 16 13.1 +0.6**
JTM Tenmabayashi 3.07 232 Pn **Pn 21 16 12.9 +0.4**
JTM Sn **Sn 21 16 46.6 -1.4**
KUR Kuril'sk 3.62 45 *eP* **Pn 21 16 21.1 +1.2**
KUR AMB AMB 21 16 23.9
comp=N,100nm,0.3s
KUR *e*S **Sn 21 17 02.2 +0.8**
KUR A A 21 17 04.6
comp=N,500nm,0.4s
KUR A A 21 17 04.6
comp=N,860nm,0.4s
KUR Kuril'sk 3.62 45⇑ *e*PN **Pn 21 16 22.6 +2.7**
YSS Yuzh-Sakhalins 4.37 346 Pn **Pn 21 16 29.9 -0.4**
YSS Yuzh-Sakhalins 4.37 346 *e*P **Pn 21 16 31.6 +1.3**
YSS Yuzh-Sakhalins 4.37 346 *e*PN **Pn 21 16 30.8 +0.5**
YSS *e*S **Sn 21 17 18.1 -1.8**
YSS pmax pmax
comp=Z,30nm,0.9s
YSS smax smax
comp=N,50nm,0.7s
YSS smax smax
comp=E,40nm,0.9s
YSS MLR MLR
comp=Z,300nm,18.0s
JMM Marumori 5.52 210 P **Pn 21 16 45.1 -1.0**
JMM Marumori 5.52 210 **Pn 21 16 44.6 -1.5**
JSD Sado 6.54 226 P **Pn 21 17 00.6 +0.5**
JSD Sado 6.54 226 Pn **Pn 21 17 00.2 0.0**
MJAR Matsushiro Arr 7.73 219 P **Pn 21 17 16.5 +0.1**
comp=Z,2.6nm,0.6s,baz=31,slow=12,SNR=9.6
MJB9 Matsu-Tunnel 7.73 219 **Pn 21 17 15.0 -1.4**
MAJO Matsushiro 7.74 219 **Pn 21 17 15.6 -0.9**
MAJO Matsushiro 7.74 219 *de*PN **Pn 21 17 18.0 +1.5**
TYV Tymovskoe 8.23 353 *eP* **Pn 21 17 25.3 +2.2**
TYV *e*S **Sn 21 18 53.8 -0.7**
TYV Tymovskoe 8.23 353 *e*PN Pn 21 17 29.7 +6.6
TYV *e*S **Sn 21 19 01.0 +6.5**
TYV pmax pmax
comp=Z,10.0nm,0.8s
TYV pmax pmax
comp=Z,100nm,3.1s
TYV smax smax
comp=E,5.0nm,1.3s
TYV smax smax
comp=E,100nm,3.2s
JGF Kuroka 8.90 219 Pn **Pn 21 17 31.2 -1.2**
USRK Ussuriysk Ar. 9.05 284 Pn **Pn 21 17 32.7 -1.7**
USRK Ussuriysk Ar. 9.05 284 P **Pn 21 17 35.2 +0.8**
comp=E,2.7nm,0.6s,baz=90,slow=13,SNR=6.6
USRK Ussuriysk Ar. 9.05 284 PN **Pn 21 17 35.2 +0.8**
USA0B Ussuriysk Arra 9.05 284 Pn **Pn 21 17 34.1 -0.4**
USA0B Ussuriysk Arra 9.05 284 PN **Pn 21 17 34.1 -0.4**
KLR Kul'dur 10.87 311 *eP* **Pn 21 18 02.4 +3.1**
KLR Kul'dur 10.87 311 *e*PN **Pn 21 18 01.6 +2.3**
KLR pmax pmax
comp=Z,4.0nm,1.3s
SKR Severo-Kuril's 11.38 41 *eP* **Pn 21 18 06.7 +0.6**
KSRS Korea Array 13.57 253 P **Pn 21 18 36.5 +0.4**
comp=Z,2.0nm,0.8s,baz=64,slow=13,SNR=6.9
KSRS Korea Array 13.57 253 P **Pn 21 18 36.5 +0.4**
PEA0B Petropavlovsk- 13.73 36 Pn **Pn 21 18 39.0 +0.7**
PEA0B Petropavlovsk- 13.73 36 P **Pn 21 18 39.0 +0.7**
PETK Petropavlovsk- 13.73 36 Pn **Pn 21 18 38.4 +0.1**
PETK Petropavlovsk- 13.73 36 P **Pn 21 18 37.5 -0.8**
comp=Z,1.9nm,0.7s,baz=208,slow=7.9,SNR=6.7
PETK Petropavlovsk- 13.73 36 P **Pn 21 18 38.4 +0.1**
MA2 Magadan 17.35 11 *eP* **Pn 21 19 22.9 -1.9**
MA2 Magadan 17.35 11⇓ *eP* **Pn 21 19 22.9 -1.9**
MA2 pmax pmax
comp=Z,87nm,1.6s
HIA Hailar 18.21 300⇑ *eP* **Pn 21 19 35.6 +0.2**
HIA pmax pmax
comp=Z,11nm,1.1s
SEY Seymchan 20.80 10 P **P 21 20 01.7 -1.5**
comp=Z,2.7nm,0.6s,baz=107,slow=19,SNR=3.5
comp=Z,2.7nm,0.6s
SEY Seymchan 20.80 10 P **P 21 20 01.7 -1.5**
HHC Hu-ho-hao-te 24.38 277 *eP* **P 21 20 38.3 -1.5**
HHC pmax pmax
comp=Z,9.0nm,0.6s
HHC pmax pmax
comp=Z,84nm,5.2s
WHN Wuhan 26.76 253 ⇑P **P 21 21 02.8 +1.5**
WHN pmax pmax
comp=Z,30nm,0.8s
SONM Songino Array 26.95 294 P **P 21 21 01.2 -1.8**
comp=Z,0.3nm,0.4s,baz=72,slow=9.4,SNR=2.2
comp=Z,0.3nm,0.4s
SONM Songino Array 26.95 294 P **P 21 21 01.2 -1.8**
H11N2 WAKE ISLAND Hy 29.81 133 T T 21 52 48.0
baz=326,slow=76,SNR=536
H11N1 WAKE ISLAND Hy 29.82 133 T T 21 52 44.6
baz=326,slow=76,SNR=550
H11N3 WAKE ISLAND Hy 29.83 133 T T 21 52 45.0
baz=326,slow=76,SNR=462
H11S1 WAKE ISLAND Hy 30.72 135 T T 21 53 51.2
baz=327,slow=76,SNR=502
H11S3 WAKE ISLAND Hy 30.72 135 T T 21 53 51.1
baz=327,slow=76,SNR=363
H11S2 WAKE ISLAND Hy 30.73 135 T T 21 53 52.4
baz=327,slow=76,SNR=440
F15K North Star Dit 36.21 33 P **P 21 22 24.6 +0.7**
F15K IAmb IAmb 21 22 38.7
comp=Z,14nm,1.4s
N15K Kwethluk River 37.50 43 P **P 21 22 35.9 +0.9**
PZH PanZhiHua 38.12 259 P **P 21 22 41.0 +0.3**
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.5s
G18K Tagagawik 38.67 33 P **P 21 22 44.6 -0.1**
G18K IAmb IAmb 21 22 45.4
comp=Z,2.6nm,0.5s
ZALV Zalesovo Beam 39.95 308 P **P 21 22 54.7 -0.8**
ZALV Zalesovo Beam 39.95 308 P **P 21 22 54.2 -1.3**
comp=Z,0.3nm,0.2s,baz=65,slow=8.4,SNR=4.0
comp=Z,0.3nm,0.2s
ZALV Zalesovo Beam 39.95 308 *i* P **P 21 22 55.0 -0.5**
ZALV pmax pmax
comp=Z,1.0nm,0.4s
J20K Nowinta River 40.43 36 P **P 21 23 00.3 +1.0**
J20K IAmb IAmb 21 23 01.3
comp=Z,4.2nm,0.7s
WMQ Urumqi 40.52 292 *eP* **P 21 23 01.3 +0.9**
WMQ LR LR
comp=Z,320nm,21.5s
WMQ LR LR
comp=Z,440nm,23.9s
WMQ LR LR
comp=Z,260nm,17.7s
CAST Castle Rocks 41.34 38 P **P 21 23 07.7 +0.8**
KDAK Kodiak Island 41.49 46 P **P 21 23 08.4 +0.3**
KDAK Kodiak Island 41.49 46 P **P 21 23 08.4 +0.3**
KDAK pmax pmax
comp=Z,23nm,1.3s
E22K Anaktuvuk Pass 41.58 30 P **P 21 23 08.7 -0.1**
E22K IAmb IAmb 21 23 09.6
comp=Z,5.0nm,0.5s
BPAW Bear Paw Mtn. 41.81 37 P **P 21 23 11.2 +0.5**
MLY Manley 41.91 35 P **P 21 23 12.2 +0.7**
MDM Murphy Dome 42.98 35 P **P 21 23 20.8 +0.6**
MDM IAmb IAmb 21 23 21.9
comp=Z,5.2nm,0.9s
COLA College 43.14 35⇓ *i* P **P 21 23 22.5 +1.1**
COLA pmax pmax
comp=Z,7.0nm,0.7s
MK31 Makanchi Array 43.20 298 P **P 21 23 21.7 -0.5**
MK31 Makanchi Array 43.20 298 P **P 21 23 21.7 -0.5**
MK31 pmax pmax
comp=Z,2.0nm,1.0s
MKAR Makanchi Array 43.20 298 P **P 21 23 21.8 -0.4**
MKAR Makanchi Array 43.20 298 P **P 21 23 21.9 -0.2**
comp=Z,0.2nm,0.3s,baz=79,slow=12,SNR=7.7
comp=Z,0.2nm,0.3s
MKAR Makanchi Array 43.20 298 *eP* **P 21 23 22.0 -0.2**
MKAR Makanchi Array 43.20 298 *i* P **P 21 23 22.0 -0.2**
ILAR Eielson Array 43.56 35 P **P 21 23 25.1 +0.2**
ILAR Eielson Array 43.56 35 P **P 21 23 24.9 +0.1**
comp=Z,1.0nm,0.4s,baz=262,slow=5.2,SNR=23
comp=Z,1.0nm,0.4s
ILAR Eielson Array 43.56 35 P **P 21 23 25.1 +0.2**
BMAR Burnt Mountain 44.32 32 P **P 21 23 31.6 +0.6**
KURK Kurchatov 44.36 304 P **P 21 23 30.5 -0.9**
KURK IAmb IAmb 21 23 32.1
comp=Z,2.5nm,0.5s
KURK Kurchatov 44.36 304 *eP* **P 21 23 30.9 -0.5**
KURK Kurchatov 44.36 304⇑ *eP* **P 21 23 30.9 -0.5**
KURK pmax pmax
comp=Z,1.0nm,0.5s
KURBB Kurchatov Arra 44.44 304 P **P 21 23 30.6 -1.5**
comp=Z,1.2nm,0.5s,baz=74,slow=9.0,SNR=7.4
comp=Z,1.2nm,0.5s
SCRK Sand Creek 44.90 36 P **P 21 23 35.4 -0.3**
SCRK IAmb IAmb 21 23 36.5
comp=Z,4.6nm,1.0s
BCAR Beaver Creek A 46.01 37 P **P 21 23 45.7 +1.3**
EPYK Eagle Plains 47.53 32 P **P 21 23 57.2 +0.9**
EPYK IAmb IAmb 21 23 58.0
comp=Z,7.8nm,1.1s
INK Inuvik 48.35 30 P **P 21 24 02.4 -0.1**
INK IAmb IAmb 21 24 03.1
comp=Z,1.9nm,0.6s
INK Inuvik 48.35 30 P **P 21 24 02.4 -0.1**
INK pmax pmax
comp=Z,2.0nm,0.6s
HYT Haines Junctio 48.48 40 P **P 21 24 05.2 +1.4**
HYT IAmb IAmb 21 24 09.1
comp=Z,5.5nm,0.6s
BVAR Borovoye Array 48.53 309 P **P 21 24 03.9 -0.2**
comp=Z,0.7nm,0.4s,baz=74,slow=8.7,SNR=9.4
comp=Z,0.7nm,0.4s
BVAR Borovoye Array 48.53 309 P **P 21 24 03.9 -0.2**
SPITS Spitsbergen Ar 55.39 349 P **P 21 24 52.6 -2.2**
comp=Z,11nm,1.2s,baz=57,slow=14,SNR=2.2
comp=Z,11nm,1.2s
SPITS Spitsbergen Ar 55.39 349 P **P 21 24 52.6 -2.2**
ABKAR Akbulak array 56.06 308 P **P 21 24 59.8 -0.1**
ABKAR IAmb IAmb 21 25 00.5
comp=Z,1.9nm,0.6s
ABKAR Akbulak array 56.06 308 P **P 21 24 59.6 -0.3**
RES Resolute Bay 56.55 16 P **P 21 25 02.5 -0.5**
RES Resolute Bay 56.55 16 P **P 21 25 02.6 -0.5**
RES pmax pmax
comp=Z,5.0nm,0.5s
YKA Yellowknife Ar 57.82 33 P **P 21 25 12.0 -0.2**
comp=Z,0.5nm,0.7s,baz=304,slow=6.4,SNR=5.1
comp=Z,0.5nm,0.7s
YKA Yellowknife Ar 57.82 33 *ce*P **P 21 25 12.0 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 59.47 339 P **P 21 25 23.0 -0.6**
ARCES ARCESS Array B 59.47 339 P **P 21 25 23.1 -0.5**
comp=Z,6.6nm,1.1s,baz=32,slow=7.1,SNR=7.9
comp=Z,6.6nm,1.1s
ARCES ARCESS Array B 59.47 339 P **P 21 25 23.0 -0.5**
ARCES pmax pmax
comp=Z,20nm,1.5s
WRA Warramunga Arr 63.01 190 P **P 21 25 52.2 +4.2**
comp=Z,0.6nm,0.8s,baz=5.6,slow=6.7,SNR=1.6
comp=Z,0.6nm,0.8s
WRA Warramunga Arr 63.01 190 P **P 21 25 52.2 +4.2**
FIA1 FINESS Array S 64.82 332 P **P 21 25 58.4 -1.0**
FINES FINESS Array B 64.82 332 P **P 21 25 58.5 -0.9**
comp=Z,2.0nm,0.5s,baz=48,slow=7.8,SNR=32
comp=Z,2.0nm,0.5s
FINES FINESS Array B 64.82 332 P **P 21 25 58.6 -0.9**
SUMG Summit 65.00 1 P **P 21 26 00.1 -0.9**
SUMG Summit 65.00 1 P **P 21 26 00.1 -0.9**
ASAR Alice Springs 66.74 190 P **P 21 26 14.8 +2.6**
comp=Z,0.2nm,0.7s,baz=11,slow=5.2,SNR=1.4
comp=Z,0.2nm,0.7s
ASAR Alice Springs 66.74 190 P **P 21 26 14.8 +2.6**
OVMT Ovando 67.53 46 P **P 21 26 18.0 +0.7**
KBZ Khabaz 68.89 310 P **P 21 26 25.9 +0.3**
comp=Z,2.2nm,0.9s,baz=49,slow=2.1,SNR=4.2
comp=Z,2.2nm,0.9s
KBZ Khabaz 68.89 310 P **P 21 26 25.9 +0.3**
NB2 NORSAR Subarra 69.78 338 P **P 21 26 30.3 -0.7**
comp=Z,0.8nm,0.5s,baz=33,slow=6.5
NOA NORSAR Array B 69.78 338 P **P 21 26 30.2 -0.7**
comp=Z,1.3nm,0.6s,baz=34,slow=6.4,SNR=9.8
comp=Z,1.3nm,0.6s
NOA NORSAR Array B 69.78 338 P **P 21 26 30.2 -0.7**
HFS Hagfors 69.81 336 P **P 21 26 30.3 -0.7**
comp=Z,2.1nm,0.5s,baz=51,slow=7.8,SNR=16
comp=Z,2.1nm,0.5s
HFS Hagfors 69.81 336 P **P 21 26 30.3 -0.7**
NVAR Mina Array Bea 69.91 56 P **P 21 26 33.7 +1.3**
comp=Z,1.2nm,0.7s,baz=293,slow=5.4,SNR=7.2
comp=Z,1.2nm,0.7s
AKASG Malin Array Be 71.14 322 P **P 21 26 38.6 -0.7**
comp=Z,1.6nm,0.5s,baz=42,slow=6.1,SNR=13
comp=Z,1.6nm,0.5s
AKASG Malin Array Be 71.14 322 *ce*P **P 21 26 38.5 -0.8**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKBB Malin Array Si 71.14 322⇓ *e*P **P 21 26 38.8 -0.5**
AKBB pmax pmax
comp=Z,4.0nm,0.9s
PDAR Pinedale Array 72.18 48 P **P 21 26 46.4 +0.3**
comp=Z,0.8nm,0.5s,baz=249,slow=2.4,SNR=8.4
comp=Z,0.8nm,0.5s
BRTR Keskin Array B 76.70 312 P **P 21 27 11.9 -0.3**
comp=Z,0.4nm,0.6s,baz=72,slow=9.4,SNR=2.4
comp=Z,0.4nm,0.6s
BRTR Keskin Array B 76.70 312 P **P 21 27 11.9 -0.3**
CLL Collm 77.23 331 *eP* **P 21 27 14.7 -0.1**
EKA Eskdalemuir Ar 78.47 342 P **P 21 27 21.3 -0.3**
comp=Z,0.9nm,0.5s,baz=21,slow=5.2,SNR=12
comp=Z,0.9nm,0.5s
EKA Eskdalemuir Ar 78.47 342 P **P 21 27 21.3 -0.3**
KHC Kasperske Hory 78.81 329⇑ *eP* **P 21 27 23.9 +0.2**
KHC pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 84.97 54 P **P 21 27 57.6 +1.1**
comp=Z,0.5nm,0.6s,baz=296,slow=4.1,SNR=8.1
comp=Z,0.5nm,0.6s
TXAR Lajitas Array 84.97 54 P **P 21 27 57.6 +1.1**
H03N2 Juan Fernandez 145.08 89 T T 00 16 49.7
baz=305
H03N3 Juan Fernandez 145.09 89 T T 00 16 52.0
baz=305
H03N1 Juan Fernandez 145.09 89 T T 00 16 48.6
baz=305

*TEH **30** 21:19:46.4, 34.°89N×45.°83E, h10km±212km, ML2.5*
*ISN **30** 21:19:48.9±1.8, 34.°87N×45.°74E, h29km±40km, ML2.5*
ISC 30 21:19:45.7±1.1, **34.°87N**±0.°06×**45.°85E**±0.°05, **h10km, n7, σ0s63/10, Iran-Iraq border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KGS1	**Ghasr-e-Shirin**	**0.42**	**211**	Pg	**Pb**	**21 19 55.2**	**0.0**
IDHR	**Dehrash**	**0.47**	**111**	Pg	**Pb**	**21 19 56.1**	**-0.1**
IDHR				Sg	**Sb**	**21 20 04.1**	**+0.8**
GLG1	**Gilan-e-Gharb**	**0.75**	**176**	Pg	**Pb**	**21 20 01.7**	**+0.7**
IGHG	**Ghaleghazi**	**0.80**	**132**	Pg	**Pn**	**21 20 02.6**	**-0.6**
ILIN	**Lien**	**0.91**	**86**	Pg	**Pn**	**21 20 04.7**	**-0.1**
IKRK	**Kirkuk** baz=115	**1.35**	**294**	*e*Pg	**Pg**	**21 20 11.0**	**-0.6**
IKRK				*e*Sg	**Sg**	**21 20 30.0**	**+0.9**
IKRK				AML	AML	21 20 34.2	
comp=E,106nm,0.2s
IKRK AML AML 21 20 37.2
comp=N,91nm,0.2s
IBDR Badra 1.75 178 *e*Pn **Pg 21 20 19.0 -0.3**
IBDR *e*Sn **Sg 21 20 42.0 -0.1**

*IDC **30** 21:31:47.8±1.2, 12.°97S×45.°63E, h0km, mb3.9/5, mbtmp3.9/5, MS3.0/2, Error ellipse: s-maj=40.2km s-min=34.4km az=15.0*
*NEIC **30** 21:31:48.2±1.7, 12.°78S±0.°07×45.°7E±0.°1, h10km±1km, mb4.3/6, Error ellipse: s-maj=20.0km s-min=9.0km az=112.0*
ISC 30 21:31:48.1±0.7, **12.°77S**±0.°09×**45.°7E**±0.°1, **h10km, n22, σ1s08/20, mb4.1/7, Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.96**	**166**	LR	LR	21 35 09.3	
	comp=Z,65nm,19.4s,baz=162,slow=35						
ABPO	**Ambohimpanom**	**6.40**	**166**	Pn	**Pn**	**21 33 22.6**	**0.0**
VOI	**Vohitsoka**	**9.15**	**173**	Pn	**Pn**	**21 34 00.1**	**-0.4**
FOMA	**Nahampoana Res**	**12.21**	**174**	Pn	**Pn**	**21 34 40.8**	**-1.4**
RER	**Riviere de l'E**	**12.76**	**132**	Pn	**Pn**	**21 34 49.1**	**-0.7**
KIBK	**Kibwezi**	**12.81**	**323**	Pn	**Pn**	**21 34 50.5**	**+0.1**
KMBO	**Kilima Mbogo**	**14.25**	**324**	Pn	**Pn**	**21 35 09.3**	**-1.0**
BOSA	**Boshof**	**24.69**	**227**	P	**P**	**21 37 08.7**	**-0.9**
BOSA				IAmb	IAmb	21 37 15.9	
	comp=Z,8.4nm,1.4s						
BOSA	**Boshof**	**24.69**	**227**	P	**P**	**21 37 08.7**	**-0.9**
	comp=Z,1.1nm,0.5s,baz=64,slow=8.7,SNR=5.1						
	comp=Z,1.1nm,0.5s						
SUR	**Sutherland**	**29.98**	**225**	LR	LR	21 48 43.7	
	comp=Z,57nm,19.9s,baz=332,slow=34						
RAYN	**Ar Rayn**	**36.07**	**360**	P	**P**	**21 38 49.1**	**-1.1**
PUK	**Puka**	**59.47**	**338**	P	**P**	**21 41 52.0**	**+0.6**
PUK				IAmb	IAmb	21 41 54.5	
	comp=Z,1.7nm,0.8s						
ABKAR	**Akbulak array**	**63.03**	**10**	P	**P**	**21 42 13.9**	**-1.4**
ABKAR	**Akbulak array**	**63.03**	**10**	P	**P**	**21 42 14.0**	**-1.2**
ABKAR				IAmb	IAmb	21 42 30.3	
	comp=Z,2.3nm,0.8s						
GERES	**GERESS Array B**	**67.54**	**338**	P	**P**	**21 42 44.8**	**+0.1**
MAKZ	**Makanchi**	**67.65**	**26**	P	**P**	**21 42 45.0**	**-0.4**
MKAR	**Makanchi Array**	**67.77**	**26**	P	**P**	**21 42 46.9**	**+0.8**
ESDC	**Sonseca Array**	**69.62**	**321**	P	**P**	**21 43 00.2**	**+2.4**
	comp=Z,0.8nm,0.9s,baz=140,slow=5.8,SNR=4.7						
	comp=Z,0.8nm,0.9s						
QSPA	**South Pole Qui**	**77.33**	**180**	P	**P**	**21 43 43.5**	**+0.6**
QSPA				IAmb	IAmb	21 44 07.0	
	comp=Z,6.7nm,1.4s						
QSPA	**South Pole Qui**	**77.33**	**180**	P	**P**	**21 43 44.2**	**+1.2**
	comp=Z,1.2nm,0.9s,baz=238,slow=7.1,SNR=2.6						
	comp=Z,1.2nm,0.9s						
ASAR	**Alice Springs**	**83.40**	**113**	P	**P**	**21 44 17.3**	**+0.9**
	comp=Z,0.8nm,0.6s,baz=263,slow=5.2,SNR=9.4						
	comp=Z,0.8nm,0.6s						
WRA	**Warramunga Arr**	**84.52**	**109**	P	**P**	**21 44 22.6**	**+0.5**
	comp=Z,1.0nm,0.8s,baz=263,slow=3.9,SNR=3.8						
	comp=Z,1.0nm,0.8s						

*IDC **30** 21:49:07.2±2.0, 5.°73S×132.°10E, h0km, mb3.7/3, mbtmp3.9/6, ML4.2/3, Error ellipse: s-maj=59.3km s-min=27.3km az=78.0*
*DJA **30** 21:49:16.6±1.3, 6.°S×3.°×13.°2E±.°, h29km±14km, M4.5/10, mb4.4/6, mB5.2/2, MLv4.5/10, Mw(mB)4.5/2*
ISC 30 21:49:10.8±0.9, **5.°98S**±0.°06×**131.°88E**±0.°07, **h10km, n15, σ3s35/18, mb3.6/3, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SAUI	**Saumlaki**	**2.07**	**196**	P	**Pg**	**21 49 53.6**	**+3.1**
BNDI	**Bandanaira**	**2.44**	**306**	P	**Pn**	**21 49 53.2**	**+2.4**
BNDI				S	**Sn**	**21 50 21.1**	**+0.3**
KMPI	**Kaimana, Papua**	**2.94**	**38**	P	**Pn**	**21 50 00.6**	**+3.0**
KMPI				S	**Sn**	**21 50 32.8**	**-0.1**
FAKI	**Fak Fak**	**3.06**	**7**	P	**Pn**	**21 50 00.7**	**+1.3**
FAKI				S	**Sn**	**21 50 32.7**	**-3.4**
SWI	**Sorong**	**5.12**	**353**	P	**Pn**	**21 50 28.0**	**+0.3**
LBMI	**Labuha**	**6.88**	**320**	P	**Pn**	**21 50 51.5**	**-0.3**
	31nm,0.8s,0.2nm						
SANI	**Sanana**	**7.06**	**303**	P	**Pn**	**21 50 54.9**	**+0.6**
	67nm,0.9s,0.2nm						
BATI	**Baumata**	**9.15**	**242**	Pn	**Pn**	**21 51 25.0**	**+1.9**
	4.8nm,0.3s,baz=99,slow=2.5,SNR=4.4						
BATI				Sn	**Sn**	**21 53 03.8**	**-2.5**
	5.3nm,0.3s,baz=64,slow=23,SNR=3.3						
	15nm,0.4s						
BATI	**Baumata**	**9.15**	**242**	P	**Pn**	**21 51 27.4**	**+4.3**
	30nm,1.7s						
EDFI	**Ende, Flores**	**10.47**	**254**	P	**Pn**	**21 51 44.4**	**+3.1**
	6.9nm,1.2s						
WRA	**Warramunga Arr**	**14.08**	**170**	Pn	**Pn**	**21 52 30.4**	**-0.1**
	1.0nm,0.3s,baz=355,slow=13,SNR=15						
WRA				Sn	Sn	21 54 58.1	-8.9
	0.9nm,0.3s,baz=360,slow=23,SNR=3.9						
	1.1nm,0.3s						
ASAR	**Alice Springs**	**17.69**	**174**	P	**Pn**	**21 53 18.4**	**+0.9**
	0.6nm,0.3s,baz=352,slow=8.5,SNR=26						
ASAR				S	**Sn**	**21 56 25.4**	**-9.3**
	1.1nm,0.7s,baz=357,slow=27,SNR=3.6						
	0.8nm,0.3s						
CMAR	**Chiang Mai Arr**	**40.56**	**307**	P	P	21 56 48.4	-2.4
	0.4nm,0.5s,baz=132,slow=7.0,SNR=5.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**68.42**	**326**	P	**P**	**22 00 10.9**	**-2.0**
	0.6nm,0.4s,baz=122,slow=8.0,SNR=10						
	0.6nm,0.4s						
KURBB	**Kurchatov Arra**	**72.64**	**328**	P	P	22 00 35.7	-2.9
	0.3nm,0.5s,baz=120,slow=5.4,SNR=2.9						
	0.3nm,0.5s						

WEL 30 21:51:34.0±0.5, **42.°S**±4.°×**17.°5E**±.°, **h19km**±3km, **M3.2**/15, **ML3.5**/15, **MLv3.2**/15, **Error ellipse: s-maj=0.0km s-min=0.0km az=170.4, confirmed, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHW	**Baring Head**	**0.20**	**33**	P	Pg	21 51 40.3	+1.3
BHW				S	Sg	21 51 44.7	+2.4
WEL	**Wellington**	**0.29**	**6**	P	Pb	21 51 41.9	+1.2
WEL				S	Sn	21 51 47.3	-1.8
PLWZ	**Palliser**	**0.39**	**89**	P	Pb	21 51 43.1	+0.6
PLWZ				S	Sn	21 51 50.7	-1.1
MSWZ	**Moikau Station**	**0.42**	**68**	P	Pb	21 51 43.7	+0.8
MSWZ				S	Sn	21 51 51.0	-1.4
CMWZ	**Cape Campbell**	**0.42**	**245**	P	Pn	21 51 44.1	-1.0
TCW	**Tory Channel**	**0.50**	**317**	P	Pb	21 51 44.9	+0.7
TCW				S	Sb	21 51 52.3	+1.2
CAW	**Cannon Point**	**0.53**	**29**	P	Pb	21 51 45.5	+0.8
CAW				S	Sn	21 51 53.7	-1.4
PAWZ	**Paruwai Farm**	**0.56**	**70**	P	Pg	21 51 45.8	+0.6
PAWZ				S	Sn	21 51 54.9	-0.9
TUWZ	**Tuamarina**	**0.61**	**283**	P	Pg	21 51 46.3	+0.2
TUWZ				S	Sg	21 51 55.5	+1.2
BSWZ	**Blackbirch Sta**	**0.66**	**257**	P	Pg	21 51 47.5	+0.5
BSWZ				S	Sn	21 51 57.8	-0.4
MTW	**Mount Morrison**	**0.71**	**55**	P	Pg	21 51 48.1	+0.1
KIW	**Kapiti Island**	**0.72**	**11**	P	Pn	21 51 48.8	-0.5
KIW				S	Sn	21 51 59.3	-0.5
TRWZ	**Traveller**	**0.74**	**77**	P	Pb	21 51 48.2	-0.2
OGWZ	**Otaki Gorge**	**0.83**	**24**	P	Pg	21 51 50.2	0.0
OGWZ				S	Sn	21 52 02.3	-0.1
HOWZ	**Holdsworth Sta**	**0.90**	**41**	P	Pb	21 51 51.0	-0.1
HOWZ				S	Sn	21 52 04.1	-0.1
DUWZ	**D'Urville Isla**	**0.98**	**321**	P	Pg	21 51 53.0	-0.1
DUWZ				S	Sn	21 52 06.6	+0.3
TMWZ	**Te Maipa**	**0.99**	**62**	P	Pb	21 51 51.7	-0.9
NNZ	**Nelson**	**1.08**	**289**	P	Pb	21 51 53.9	-0.1
NNZ				S	Sn	21 52 08.5	-0.1
MRZ	**Mangatainoka R**	**1.11**	**35**	P	Pn	21 51 54.1	-0.6
TIWZ	**Tintock**	**1.18**	**48**	P	Pn	21 51 54.4	-1.2
KHZ	**Kahutara**	**1.22**	**226**	P	Pn	21 51 54.5	-1.6
THZ	**Tophouse**	**1.38**	**262**	P	Pn	21 51 57.4	-0.9
PRWZ	**Pori Road**	**1.39**	**43**	P	Pn	21 51 57.4	-0.9
POWZ	**Post Office Ro**	**1.42**	**34**	P	Pn	21 51 58.4	-0.4
TKNZ	**Takaka Hill**	**1.44**	**291**	P	Pn	21 51 59.2	0.0
BFZ	**Birch Farm**	**1.45**	**53**	P	Pn	21 51 57.7	-1.5
MRNZ	**Matariki Terra**	**1.49**	**276**	P	Pn	21 51 59.6	-0.3
DVHZ	**Dannevirke**	**1.68**	**41**	P	Pn	21 52 00.9	-1.5
TSZ	**Takapari Road**	**1.78**	**32**	P	Pn	21 52 03.0	-0.8
QRZ	**Quartz Range**	**1.82**	**294**	P	Pn	21 52 05.1	+0.7

WAZ	Wanganui	1.83	6	P		Pb	21 52 07.9	+1.0
GVZ	Greta Valley S	1.88	222	P		Pn	21 52 03.3	-1.9
WPHZ	Waipukurau	1.99	41	P		Pn	21 52 06.0	-0.7
PNHZ	Pukenui	2.00	34	P		Pn	21 52 05.7	-1.1
LREZ	Lake Rotokare	2.13	353	P		Pb	21 52 12.4	+0.5
LTZ	Lake Taylor	2.19	236	P		Pn	21 52 07.7	-1.8
DSZ	Denniston Nort	2.20	265	P		Pn	21 52 09.0	-0.6
MTVZ	Mangateitei	2.26	15	P		Pn	21 52 10.2	-0.2
KRHZ	Kereru	2.30	33	P		Pn	21 52 09.6	-1.4
MOVZ	Moawhango	2.30	20	P		Pn	21 52 11.0	-0.1
BHHZ	Black Hill Sta	2.32	26	P		Pn	21 52 10.9	-0.3
PKVZ	Pokaka	2.33	12	P		Pb	21 52 14.5	-1.0
WNVZ	Wahianoa	2.34	17	P		Pn	21 52 12.2	+0.5
KHEZ	Kahui Hut	2.34	346	P		Pb	21 52 15.7	0.0
TRVZ	Turoa	2.36	16	P		Pb	21 52 15.1	-0.9
WHVZ	Whangaehu Hut	2.38	16	P		Pn	21 52 13.1	+0.9
NBEZ	Newall Road No	2.40	344	P		Pb	21 52 17.0	+0.5
FWVZ	Far West T-bar	2.40	15	P		Pb	21 52 18.0	+1.2
TUVZ	Tukino	2.41	17	P		Pn	21 52 13.6	+1.0
PKE	Pukeiti	2.44	346	P		Pb	21 52 18.9	+1.5
VRZ	Vera Road	2.45	1	P		Pb	21 52 17.3	-0.1
COVZ	Chateau Observ	2.45	15	P		Pb	21 52 17.5	-0.1
OKCZ	Okains Bay	2.48	209	P		Pn	21 52 10.6	-2.8
SNVZ	South Ngauruho	2.48	17	P		Pn	21 52 14.2	+0.6
NGZ	Ngauruhoe	2.49	16	P		Pn	21 52 14.4	+0.7
KWHZ	Kaweka Forest	2.50	32	P		Pn	21 52 12.7	-1.1
OTVZ	Oturere	2.51	17	P		Pn	21 52 14.6	+0.6
NNVZ	North Ngauruho	2.53	16	P		Pn	21 52 15.0	+0.7
WTVZ	West Tongariro	2.54	15	P		Pn	21 52 15.5	+1.1
ETVZ	East Tongariro	2.55	17	P		Pn	21 52 16.6	+2.1
TWVZ	Taurewa	2.56	12	P		Pb	21 52 17.1	-2.3
TMVZ	Te Maari	2.57	17	P		Pn	21 52 16.8	+2.0
KRVZ	Karewarewa	2.57	16	P		Pb	21 52 17.9	-1.7
NTVZ	North Tongarir	2.58	17	P		Pn	21 52 15.5	+0.7
KATZ	Kakaramea	2.70	16	P		Pb	21 52 23.2	+1.4
INZ	Inchbonnie	2.70	244	P		Pn	21 52 16.5	+0.1
HIZ	Hauiti	3.06	2	P		Pb	21 52 25.6	-2.3
TMZ	Timaru	3.92	223	P		Pn	21 52 30.5	-2.7
ODZ	Otahua Downs	4.57	219	P		Pn	21 52 39.3	-2.8
MXZ	Matakaoa Point	4.87	36	P		Pn	21 52 45.4	-0.8

*IDC **30** 21:51:52.1±6.6,20.˝66S×178.˝03W,h553km±69km, mb3.2/7, mbtmp4.1/7, Error ellipse: s-maj=41.9km s-min=30.5km az=148.0*

ISC 30 21:51:50.0±0.9,**20.˝7S**±0.˝3×**178.˝0W**±0.˝2,**h534**km,**n15**, σ0°**93**/15,**mb3.7/7,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.44**	**257**	P	**P**	**21 59 14.9**	**+1.1**
	1.3nm,0.5s,baz=93,slow=8.0,SNR=6.5						
ASAR				PcP	**PcP**	**22 00 45.3**	**-0.7**
	0.3nm,0.5s,baz=100,slow=3.5,SNR=2.0						
	1.3nm,0.5s						
WRA	**Warramunga Arr**	**44.54**	**262**	P	**P**	**21 59 15.2**	**+0.6**
	0.7nm,0.3s,baz=96,slow=7.5,SNR=12						
	0.7nm,0.3s						
PETK	**Petropavlovsk-**	**76.42**	**345**	P	**P**	**22 02 44.4**	**+0.1**
	2.4nm,0.8s,baz=130,slow=4.8,SNR=1.9						
	2.4nm,0.8s						
ILAR	**Eielson Array**	**88.48**	**13**	P	**P**	**22 03 45.0**	**0.0**
	0.5nm,0.4s,baz=220,slow=5.5,SNR=9.2						
	0.5nm,0.4s						
PDAR	**Pinedale Array**	**89.11**	**43**	P	**P**	**22 03 50.1**	**+1.4**
	0.3nm,0.6s,baz=225,slow=5.3,SNR=2.1						
	0.3nm,0.6s						
PLCA	**Paso Flores**	**89.19**	**134**	P	**P**	**22 03 49.1**	**0.0**
	1.8nm,0.9s,baz=225,slow=9.3,SNR=2.9						
	1.8nm,0.9s						
CMAR	**Chiang Mai Arr**	**90.13**	**290**	P	**P**	**22 03 53.5**	**-0.2**
	0.7nm,0.8s,baz=108,slow=2.7,SNR=3.9						
	0.7nm,0.8s						
KURBB	**Kurchatov Arra**	**114.14**	**317**	PKP	**PKiKP**	**22 09 27.7**	**-0.8**
	0.1nm,0.3s,baz=70,slow=3.0,SNR=1.9						
BVAR	**Borovoye Array**	**119.17**	**320**	PKP	**PKPdf**	**22 09 37.6**	**-0.5**
	0.9nm,0.4s,baz=107,slow=3.0,SNR=7.8						
HFS	**Hagfors**	**139.69**	**351**	PKhKP	PKPpre	22 10 09.2	
	0.5nm,0.3s,baz=45,slow=2.7,SNR=7.5						
AKASG	**Malin Array Be**	**143.13**	**331**	PKP	**PKPdf**	**22 10 20.7**	**-2.3**
	1.4nm,0.5s,baz=42,slow=4.2,SNR=12						
EKA	**Eskdalemuir Ar**	**145.17**	**5**	PKPbc	**PKPdf**	**22 10 26.6**	**+0.2**
	0.4nm,0.4s,baz=333,slow=2.9,SNR=4.9						
BRTR	**Keskin Array B**	**146.92**	**312**	PKPbc	**PKPbc**	**22 10 33.1**	**+0.2**
	0.6nm,0.5s,baz=140,slow=4.6,SNR=3.9						
MMAI	**Mount Meron Ar**	**147.86**	**299**	PKPbc	**PKiKP**	**22 10 37.0**	**+0.1**
	2.0nm,0.5s,baz=49,slow=6.7,SNR=7.1						
GERES	**GERESS Array B**	**150.34**	**344**	PKPbc	**PKiKP**	**22 10 41.6**	**+0.1**
	0.5nm,0.6s,baz=34,slow=1.4,SNR=3.5						

*IDC **30** 22:11:12.4±5.2,24.˝20S×179.˝70W,h466km±57km, mb3.4/9, mbtmp4.3/10, Error ellipse: s-maj=30.4km s-min=17.6km az=52.0*

ISC 30 22:11:15.3±1.0,**24.˝3S**±0.˝1×**179.˝8W**±0.˝2,**h500**km,**n12**, σ1°**05**/11,**mb3.8/8,South of Fiji Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.14**	**190**	P	**P**	**22 14 14.1**	**-2.1**
	5.5nm,0.3s,baz=85,slow=22,SNR=1.9						
RPZ	**Rata Peaks**	**20.76**	**199**	P	**P**	**22 15 20.7**	**+0.1**
	12nm,0.6s,baz=308,slow=1.4,SNR=12						
	12nm,0.6s						
STKA	**Stephens Creek**	**34.78**	**249**	P	**P**	**22 17 23.6**	**+0.3**
	1.5nm,0.3s,baz=84,slow=8.8,SNR=6.8						
	1.5nm,0.3s						
ASAR	**Alice Springs**	**42.19**	**261**	P	**P**	**22 18 23.7**	**-0.2**
	1.6nm,0.5s,baz=94,slow=7.2,SNR=25						
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**42.61**	**267**	P	**P**	**22 18 26.6**	**-0.6**
	4.9nm,0.5s,baz=98,slow=8.3,SNR=83						
	4.9nm,0.5s						
VNDA	**Vanda**	**53.97**	**185**	P	**P**	**22 19 52.6**	**+1.5**
	0.6nm,0.7s,baz=3.1,slow=8.3,SNR=6.0						
	0.6nm,0.7s						
QSPA	**South Pole Qui**	**65.75**	**180**	P	**P**	**22 21 10.8**	**+0.8**
	2.1nm,0.6s,baz=4.0,slow=0.8,SNR=19						
	2.1nm,0.6s						
MAW	**Mawson**	**77.43**	**200**	P	**P**	**22 22 18.2**	**+0.2**
	2.8nm,0.8s,baz=41,slow=20,SNR=3.7						
	2.8nm,0.8s						
PETK	**Petropavlovsk-**	**79.57**	**346**	P	**P**	**22 22 29.9**	**+0.3**
	2.8nm,0.9s,baz=218,slow=11,SNR=5.0						
	2.8nm,0.9s						
TXAR	**Lajitas Array**	**90.46**	**58**	P	**P**	**22 23 22.8**	**-0.7**
	0.5nm,0.7s,baz=213,slow=6.9,SNR=6.7						
	0.5nm,0.7s						
HFS	**Hagfors**	**143.01**	**349**	PKhKP	PKPpre	22 29 46.7	
	0.4nm,0.3s,baz=48,slow=2.2,SNR=7.7						
MMAI	**Mount Meron Ar**	**148.09**	**294**	PKPbc	**PKPbc**	**22 30 04.2**	**-0.5**
	0.3nm,0.3s,baz=68,slow=3.9,SNR=1.8						

*PNSN **30** 22:20:45.6, 47.˝80N×122.˝32W, h25km, MD2.7, Fault plane solution: NP1:ϕ=0.00000°, δ40.00000°, λ70.00000°.*
*SEA **30** 22:20:45.6±2.4, 47.˝80N±0.˝03×122.˝32W±0.˝04, h25km±3km, ML2.7/37, ML2.8/42(NEIC), Error ellipse: s-maj=4.3km s-min=3.6km az=218.0*
*PGC **30** 22:20:45.8, 47.˝79N×122.˝33W, h24km, ML2.8, ML2.3/15, 21km northeast of Seattle, Wa Washington*
*NEIC **30** 22:20:45.3±1.9, 47.˝83N±0.˝03×122.˝36W±0.˝03, h29km±9km, Error ellipse: s-maj=4.3km s-min=2.8km az=191.0*

ISC 30 22:20:45.6±0.9,**47.˝81N**±0.˝02×**122.˝35W**±0.˝02,**h32**km±4km, **n98**, σ1°**00**/123,**Washington**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LYNC	**Lynnwood City**	**0.04**	**66**		**Pb**	**22 20 49.8**	**-1.1**
LYNC					**Sb**	**22 20 53.4**	**-1.0**
SCCW	**Shoreline CC**	**0.06**	**186**		**Pb**	**22 20 50.1**	**-0.8**
SCCW					**Sb**	**22 20 54.2**	**-0.4**
BRKS	**Brookside Elem**	**0.07**	**141**		**Pb**	**22 20 50.1**	**-0.9**
BRKS					**Sb**	**22 20 54.0**	**-0.6**
NIHS	**Ingelmoor High**	**0.11**	**128**		**Pb**	**22 20 50.5**	**-0.7**
NIHS					**Sb**	**22 20 55.0**	**0.0**
FINN	**Finn Hill Juni**	**0.12**	**138**		**Pb**	**22 20 50.7**	**-0.6**
FINN					**Sb**	**22 20 55.2**	**0.0**
BEVT	**Boeing Everett**	**0.12**	**26**		**Pb**	**22 20 50.5**	**-0.8**
BEVT					**Sb**	**22 20 54.5**	**-0.7**
NOWS	**NOAA--Sand Poi**	**0.14**	**152**		**Pb**	**22 20 50.9**	**-0.4**
NOWS					**Sb**	**22 20 55.8**	**+0.4**
EVGW	**Everett Gatewa**	**0.14**	**71**		**Pb**	**22 20 50.3**	**-1.1**
LAWT	**Lawton Element**	**0.15**	**190**		**Pb**	**22 20 51.3**	**-0.3**
LAWT					**Sb**	**22 20 56.5**	**+0.9**
LEOT	**Leota Junior H**	**0.16**	**104**		**Pb**	**22 20 50.7**	**-0.9**
LEOT					**Sb**	**22 20 55.1**	**-0.7**
KINR	**Kitsap County**	**0.20**	**254**		**Sb**	**22 20 56.8**	**+0.4**
SWID	**South Whidbey**	**0.20**	**348**		**Pb**	**22 20 51.5**	**-0.5**
SWID					**Sb**	**22 20 56.4**	**0.0**
BLH	**Bald Hill**	**0.22**	**82**		**Pb**	**22 20 50.8**	**-1.4**
BLH					**Sb**	**22 20 54.8**	**-1.9**
EARN	**East Ridge Ele**	**0.22**	**108**		**Pb**	**22 20 51.4**	**-0.8**
KIMB	**Kimball Elemen**	**0.24**	**172**		**Pb**	**22 20 52.3**	**-0.1**
KIMB					**Sb**	**22 20 56.0**	**-0.9**
ALKI	**Alki Wastewate**	**0.24**	**191**		**Pb**	**22 20 52.3**	**-0.1**
ALKI					**Sb**	**22 20 55.1**	**-1.9**
HOLY	**Holy Rosary Sc**	**0.24**	**185**		**Pb**	**22 20 52.4**	**0.0**
SP2	**Seward Park 2**	**0.26**	**165**		**Pb**	**22 20 52.3**	**-0.4**
SP2					**Sb**	**22 20 58.2**	**+0.7**
MBPA	**Monroe Substat**	**0.32**	**74**		**Pb**	**22 20 52.5**	**-1.0**
MBPA					**Sb**	**22 20 57.5**	**-1.4**
B013	**Quilcene**	**0.38**	**271**		**Pb**	**22 20 53.4**	**-0.8**
B013					**Sb**	**22 20 59.2**	**-0.9**
VVHS	**Vashon High Sc**	**0.39**	**190**		**Pb**	**22 20 53.9**	**-0.5**
GMW	**Gold Mountain**	**0.39**	**229**		**Pb**	**22 20 53.5**	**-1.0**
GMW					**Sb**	**22 20 59.8**	**-0.7**
GNW	**Green Mountain**	**0.40**	**233**		**Pb**	**22 20 53.5**	**-1.1**
GNW					**Sb**	**22 20 59.8**	**-1.0**
GNW				IAML		22 21 00.1	
	comp=N,934nm,0.2s						
HICC	**Highline Commu**	**0.42**	**175**		**Pb**	**22 20 54.3**	**-0.5**
C04A	**Brinnon**	**0.43**	**258**		**Pb**	**22 20 54.2**	**-0.8**
C04A					**Sb**	**22 21 00.7**	**-0.7**
JCW	**Jim Creek**	**0.48**	**36**		**Pb**	**22 20 54.8**	**-1.0**
SVOH	**Skagit Valley**	**0.52**	**339**		**Pb**	**22 20 55.5**	**-0.8**
RATT	**Rattlesnake La**	**0.53**	**136**		**Pb**	**22 20 55.4**	**-1.2**
SQM	**Sequim**	**0.54**	**300**		**Pb**	**22 20 56.3**	**-0.4**
SQM					**Sb**	**22 21 03.9**	**-0.3**
CDMR	**Cedar Moraine**	**0.56**	**134**		**Pb**	**22 20 55.9**	**-1.1**
D05A	**Enumclaw**	**0.67**	**158**		**Pb**	**22 20 58.1**	**-0.7**
GSM	**Grass Mountain**	**0.71**	**148**		**Pb**	**22 20 58.2**	**-1.5**
GSM					**Sb**	**22 21 07.9**	**-1.4**
GHW	**Garrison Hill**	**0.77**	**176**		**Pb**	**22 20 59.1**	**-1.4**
GHW					**Sb**	**22 21 10.5**	**-0.2**
B04A	**Port Angeles**	**0.81**	**288**		**Pb**	**22 21 00.1**	**-1.2**
B04A				IAML		22 21 17.4	
	comp=N,206nm,0.5s						
B04A	**Port Angeles**	**0.81**	**288**		**Pb**	**22 21 00.2**	**-1.0**
PCFR	**Pierce County**	**0.82**	**184**		**Pb**	**22 21 00.1**	**-1.2**
B941	**Kapowsin**	**0.83**	**174**		**Pb**	**22 20 59.8**	**-1.7**
SMW	**South Mountain**	**0.83**	**234**		**Pb**	**22 21 01.0**	**-0.6**
RPW	**Rockport**	**0.85**	**41**		**Pb**	**22 21 01.0**	**-1.0**
RPW	**Rockport**	**0.85**	**41**	P	**Pb**	**22 21 01.1**	**-0.8**
UWFH	**University of**	**0.86**	**329**		**Pb**	**22 21 01.0**	**-1.0**
VGZ	**Gonzales**	**0.89**	**313**	P	**Pb**	**22 21 00.9**	**-1.7**
VGZ				S	**Sb**	**22 21 12.5**	**-1.6**
RVC	**Mount Rainier-**	**0.90**	**163**		**Pb**	**22 21 01.4**	**-1.4**
OSD	**Olympics--Snow**	**0.91**	**271**	P	**Pb**	**22 21 02.6**	**-0.4**
MCW	**Mount Constitu**	**0.93**	**340**		**Pb**	**22 21 02.4**	**-0.9**
OBSR	**Observation Ro**	**0.98**	**158**		**Pb**	**22 21 02.7**	**-1.5**
FMW	**Mount Fremont**	**0.99**	**152**		**Pb**	**22 21 02.7**	**-1.7**
MBW	**Mount Baker**	**1.02**	**17**		**Pn**	**22 21 04.0**	**+0.1**
RCS	**Mount Rainier-**	**1.03**	**156**		**Pn**	**22 21 03.5**	**-0.5**
REMR	**Mount Rainier-**	**1.05**	**160**		**Pn**	**22 21 03.6**	**-0.7**
RCM	**Mount Rainier-**	**1.06**	**156**		**Pn**	**22 21 04.1**	**-0.5**
SNB	**Saturna Island**	**1.11**	**331**	P	**Pn**	**22 21 05.2**	**+0.2**
SNB				S	**Sn**	**22 21 04.7**	**+0.9**
B011	**North Saanich**	**1.12**	**319**	P	**Pn**	**22 21 04.7**	**-0.3**
B009	**North Saanich**	**1.12**	**319**	P	**Pn**	**22 21 04.7**	**-0.3**
B010	**North Saanich**	**1.12**	**319**	P	**Pn**	**22 21 04.7**	**-0.3**
PA01	**PA01 North**	**1.12**	**319**	P	**Pn**	**22 21 04.7**	**-0.3**
PGC	**Sidney**	**1.12**	**319**		**Pn**	**22 21 04.6**	**-0.4**
PGC				IAML		22 21 20.1	
	comp=E,127nm,0.4s						
PGC				IAML		22 21 20.1	
	comp=N,175nm,0.4s						
PGC	**Sidney**	**1.12**	**319**	P	**Pn**	**22 21 04.7**	**-0.3**
PGC				S	**Sn**	**22 21 19.5**	**+0.2**
LON	**Longmire**	**1.12**	**161**		**Pn**	**22 21 04.5**	**-0.6**
WISH	**Wishkah**	**1.19**	**235**		**Pn**	**22 21 07.0**	**+0.4**
SYMB	**Survey Mountai**	**1.23**	**308**	P	**Pn**	**22 21 06.0**	**-0.6**
LTY	**Liberty**	**1.27**	**115**		**Pn**	**22 21 07.8**	**+0.7**
LTY				IAML		22 21 24.4	
	comp=E,341nm,0.3s						
LTY				IAML		22 21 24.6	
	comp=N,296nm,0.3s						
TBM	**Table Mountain**	**1.35**	**118**		**Pn**	**22 21 09.6**	**+1.2**
GOBB	**Galiano Island**	**1.38**	**326**	P	**Pn**	**22 21 09.1**	**+0.5**
ETW	**Entiat**	**1.38**	**98**		**Pn**	**22 21 09.9**	**+1.2**
HNBB	**Haney**	**1.49**	**354**		**Pn**	**22 21 10.8**	**+0.6**
HNBB	**Haney**	**1.49**	**354**	P	**Pn**	**22 21 10.7**	**+0.6**
E03A	**Lebam**	**1.51**	**214**		**Pn**	**22 21 11.6**	**+1.2**
E03A				IAML		22 21 35.2	
	comp=N,109nm,0.5s						
E03A				IAML		22 21 36.8	
	comp=E,102nm,0.5s						
E03A	**Lebam**	**1.51**	**214**	P	**Pn**	**22 21 11.2**	**+0.8**
JRO	**Jston Ridge Ob**	**1.54**	**177**		**Pn**	**22 21 11.4**	**+0.5**
JRO				IAML		22 21 33.7	
	comp=E,263nm,0.3s						
JRO				IAML		22 21 34.4	
	comp=N,258nm,0.2s						
CBSW	**Chelan Butte S**	**1.56**	**89**		**Pb**	**22 21 13.6**	**-0.3**
B926	**Mesachie Lake**	**1.56**	**311**	P	**Pn**	**22 21 11.4**	**+0.3**
CLRS	**Cowichan Lake**	**1.56**	**311**		**Pn**	**22 21 11.3**	**+0.2**
CLRS				IAML		22 21 32.7	
	comp=N,53nm,0.5s						
CLRS	**Cowichan Lake**	**1.56**	**311**	P	**Pn**	**22 21 11.1**	**0.0**
PTRF	**Port Renfrew**	**1.56**	**299**	P	**Pn**	**22 21 11.1**	**-0.1**
PFB	**Port Renfrew**	**1.59**	**299**	P	**Pn**	**22 21 11.9**	**+0.3**
HOPB	**Hope**	**1.70**	**21**	P	**Pn**	**22 21 15.1**	**+2.1**
RADR	**Rader Ridge**	**1.70**	**216**	Pn	**Pn**	**22 21 14.3**	**+1.2**
RADR				IAML		22 21 43.7	
	comp=E,66nm,1.7s						
RADR				IAML		22 21 44.1	
	comp=N,62nm,1.8s						
BIB	**Bowen Island**	**1.72**	**339**	P	**Pn**	**22 21 14.5**	**+1.2**
F04D	**Rainier, OR**	**1.78**	**195**		**Pn**	**22 21 15.2**	**+1.0**
NLLB	**Nanaimo Lost L**	**1.79**	**323**	P	**Pn**	**22 21 15.0**	**+0.8**
F04A	**Amboy**	**1.88**	**181**		**Pn**	**22 21 17.1**	**+1.6**
F04A				IAML		22 21 42.2	
	comp=N,214nm,0.3s						
F05D	**White Salmon**	**2.02**	**162**		**Pb**	**22 21 20.6**	**-1.0**
F03A	**Seaside**	**2.05**	**204**	Pn	**Pn**	**22 21 19.1**	**+1.2**
SHB	**Sechelt**	**2.06**	**331**		**Pn**	**22 21 19.6**	**+1.5**
SHB	**Sechelt**	**2.06**	**331**	P	**Pn**	**22 21 19.3**	**+1.3**
E07A	**Sunnyside**	**2.11**	**125**	Pn	**Pn**	**22 21 19.3**	**+0.6**
E07A				IAML		22 21 53.7	
	comp=N,84nm,0.5s						
E07A				IAML		22 21 56.9	
	comp=E,75nm,0.4s						
FHE	**Frenchman Hill**	**2.12**	**113**		**Pb**	**22 21 23.5**	**+0.1**
B928	**Bamfield**	**2.12**	**300**	P	**Pn**	**22 21 20.7**	**+1.9**
LOCW	**Locke Island**	**2.27**	**118**		**Pb**	**22 21 25.4**	**-0.4**
KMOR	**Kings Mountain**	**2.31**	**200**		**Pn**	**22 21 23.5**	**+2.0**
HAWA	**Hanford**	**2.39**	**125**		**Pn**	**22 21 23.6**	**+1.0**
HAWA				IAML		22 22 01.5	
	comp=E,35nm,0.4s						
HAWA				IAML		22 22 09.1	
	comp=E,28nm,0.5s						
OZB	**Mount Ozzard**	**2.39**	**300**	Pn	**Pn**	**22 21 23.7**	**+1.1**
HIYU	**Hiyu Mountain**	**2.40**	**171**		**Pb**	**22 21 27.1**	**-1.1**
C09A	**Chrisman Ranch**	**2.75**	**89**	Pn	**Pn**	**22 21 28.9**	**+1.4**
LLLB	**Lillooet**	**2.82**	**6**	P	**Pn**	**22 21 31.3**	**+2.8**
F10A	**Beach Ranch, E**	**3.96**	**116**		**Pn**	**22 21 45.6**	**+1.3**
F10A				IAML		22 22 57.3	
	comp=E,18nm,0.5s						
F10A				IAML		22 22 57.6	
	comp=N,19nm,0.7s						
BMO	**Blue Mountains**	**4.58**	**128**	Pn	**Pn**	**22 21 53.7**	**+1.0**
BMO				IAML		22 22 51.1	
	comp=N,6.9nm,4.8s						
BMO				IAML		22 23 07.8	
	comp=N,5.6nm,4.4s						

*HVO **30** 22:24:04.9±1.0, 19.˝416N±0.˝007×155.˝633W±0.˝006, h-0km±7km, ML2.7/42, ML2.7/46(NEIC), Error ellipse: s-maj=1.1km s-min=0.8km az=189.0*

NEIC 30 22:24:05.3±0.8,**19.˝403N**±0.˝006×**155.˝622W**±0.˝009, **h7**km±4km,**Error ellipse: s-maj=1.3km s-min=0.7km az=128.0,Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MWH	**Moku'aweowe**	**0.09**	**16**	Pg	Pg	22 24 07.3	-0.5
MWH				Sg	Sg	22 24 08.3	-1.3
ALEP	**Alea Permanent**	**0.14**	**351**		Pg	22 24 08.5	0.0
ALEP					Sg	22 24 10.9	+0.2
MLOA	**Mauna Loa Obse**	**0.14**	**18**		Pg	22 24 08.3	-0.2
KHU	**Kahuku**	**0.16**	**178**	Pg	Pg	22 24 08.8	+0.2
KHU				Sg	Sg	22 24 10.7	-0.2
KHU				IAML		22 24 13.4	
	comp=N,1μm,0.5s						
HMH	**Humu'ula Sheep**	**0.24**	**33**		Pg	22 24 10.2	0.0
MLH	**Mauna Loa**	**0.24**	**68**	Pg	Pg	22 24 10.4	+0.2
MLH				IAML		22 24 14.8	
	comp=E,1μm,0.4s						
MLH				IAML		22 24 18.0	
	comp=N,2μm,0.2s						
UWE	**Uwekahuna**	**0.31**	**87**		Pg	22 24 11.7	+0.2
UWE				IAML		22 24 18.9	
	comp=N,1μm,0.4s						
HLP	**Hilina Pali**	**0.32**	**110**		Pg	22 24 11.7	+0.2
HPO	**Honuapo**	**0.32**	**168**		Pg	22 24 09.8	-1.8
RSD	**Rainshed**	**0.33**	**79**		Pg	22 24 11.8	0.0
RSD				IAML		22 24 21.2	
	comp=N,853nm,0.3s						
RSD				IAML		22 24 23.4	
	comp=E,909nm,0.7s						
HATHI	**Halema'uma'u T**	**0.34**	**87**		Pg	22 24 12.6	+0.6
HATHI				IAML		22 24 21.1	
	comp=E,1μm,0.6s						
BYL	**Byron's Ledge**	**0.34**	**88**		Pg	22 24 12.0	0.0
BYL				IAML		22 24 18.5	
	comp=N,662nm,0.6s						
BYL				IAML		22 24 20.2	
	comp=E,716nm,0.6s						
HUH	**Hualalai**	**0.34**	**324**		Pb	22 24 13.1	-0.8
POHA	**Pohakuloa**	**0.36**	**13**	Pg	Pg	22 24 12.9	+0.4
PUH	**Pauahi**	**0.38**	**94**		Pg	22 24 12.6	-0.3
PUH				IAML		22 24 20.1	
	comp=E,911nm,0.5s						
PUH				IAML		22 24 23.4	
	comp=N,837nm,0.6s						
KNHH	**Kane Nui o Ham**	**0.43**	**93**		Pg	22 24 13.3	-0.4
STCH	**Steam Cracks**	**0.47**	**92**		Pg	22 24 14.1	-0.3
STCH				IAML		22 24 21.9	
	comp=N,494nm,0.5s						
STCH				IAML		22 24 27.8	
	comp=E,421nm,0.7s						
JOKA	**Jonika Flow**	**0.58**	**87**		Pg	22 24 15.9	-0.7
JOKA				IAML		22 24 30.6	
	comp=N,512nm,1.0s						
HPAH	**Hawaii Prepara**	**0.63**	**354**	Pg	Pg	22 24 16.3	-1.1
HPAH				IAML		22 24 34.7	
	comp=E,271nm,1.0s						

*SNET **30** 22:54:16.4±0.8, 13.˝27N×88.˝06W, h4km±2km, ML2.6*
*CATAC **30** 22:54:16.8±0.3, 13.˝22N×88.˝05W, h7km±3km, ML2.9*

ISC 30 22:54:16.1±0.9,**13.˝21N**±0.˝05×**88.˝05W**±0.˝03,**h16**km±5km, **n27**, σ0°**90**/33,**4C,El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.01**	**221⇑**	*e*P	**Pg**	**22 54 18.7**	**-0.3**
INTP				*e*S	**Sg**	**22 54 20.0**	**-1.0**
INTP				IAML		22 54 21.1	
	comp=Z,4μm,0.2s						
LCND	**La Caada**	**0.18**	**56**	*e*P	**Pg**	**22 54 20.8**	**+0.1**
LCND			⇑	*e*P		22 54 20.9	
LCND				*e*S	**Sg**	**22 54 23.4**	**-0.3**
LCND				*e*S		22 54 23.6	
LCND				IAML		22 54 26.3	
	comp=Z,2μm,0.2s						
LCND	**La Caada**	**0.18**	**56**	*i* P	**Pg**	**22 54 20.8**	**+0.1**
LCND				*i* P		22 54 20.9	
LCND				*i* S	**Sg**	**22 54 25.0**	**+1.3**
LCND				IAML		22 54 27.0	
	comp=Z,2μm,1.0s						
LCND				IAML		22 54 33.0	
	comp=Z,22μm,1.0s						
JUCU	**Jucuarįn**	**0.20**	**284**	*e*P	**Pb**	**22 54 21.0**	**-0.4**
JUCU				*e*S	**Sb**	**22 54 24.3**	**-0.8**
JUCU	**Jucuarįn**	**0.20**	**284**	*i* P	**Pb**	**22 54 21.2**	**-0.3**
JUCU				IAML		22 54 27.2	
	comp=Z,1μm,1.0s						
CNCH	**Conch

C013	**Ascot Lane Oak**	**0.18**	**214**			Pb		22 57 47.5	0.0
C013						Sb		22 57 51.1	+0.2
BL67	**Building 67, L**	**0.18**	**237**			Pb		22 57 47.4	-0.2
BL67						Sb		22 57 50.8	-0.2
CMSB	**University of**	**0.18**	**236**			Pb		22 57 47.5	-0.1
BRK	**Berkeley--Havi**	**0.19**	**238**			Pb		22 57 47.5	-0.1
BRK						Sb		22 57 51.0	-0.1
C028	**Eucalyptus Rd**	**0.19**	**230**			Pb		22 57 47.6	-0.1
C011	**Colusa Avenue,**	**0.20**	**250**			Pb		22 57 47.6	-0.2
C064	**Brunell Drive**	**0.20**	**211**			Pb		22 57 47.7	-0.1
CSPM	**San Pablo Ridg**	**0.20**	**265**			Pb		22 57 48.0	+0.1
C008	**Spokane Avenue**	**0.20**	**247**			Pb		22 57 47.6	-0.2
CMCM	**Mills College**	**0.21**	**206**			Pb		22 57 48.0	-0.1
C005	**Mandana Bl Oak**	**0.22**	**221**			Pb		22 57 47.8	-0.3
C005						Sb		22 57 51.8	0.0
C024	**33rd St Richmo**	**0.22**	**262**			Pb		22 57 48.0	-0.2
RFSB	**Richmond Field**	**0.23**	**255**			Pb		22 57 48.0	-0.3
C045	**Hawkins Drive**	**0.24**	**161**			Pb		22 57 48.8	+0.4
CLCB	**Lake Chabot**	**0.24**	**181**			Pb		22 57 48.5	0.0
C058	**Eastshore Driv**	**0.26**	**211**			Pb		22 57 48.7	-0.1
CSLM	**San Leandro Hi**	**0.26**	**191**			Pb		22 57 48.6	-0.1
CMOB	**Morgan Territo**	**0.26**	**129**			Pb		22 57 48.8	-0.1
HMR	**Hamilton Ranch**	**0.27**	**49**			Pb		22 57 49.4	+0.3
CPMM	**Point Molate**	**0.28**	**265**			Pb		22 57 49.0	-0.2
C057	**Hedge Avenue B**	**0.28**	**94**			Pb		22 57 49.6	+0.3
CYBM	**Yerba Buena Is**	**0.29**	**236**			Pb		22 57 49.1	-0.2
CDOM	**Doolan Road**	**0.30**	**144**			Pb		22 57 49.9	+0.3
NGVM		**0.33**	**338**			Pb		22 57 49.7	-0.3
CBSNC	**Byron Hot Spri**	**0.36**	**115**			Pb		22 57 50.7	+0.1
CNIC	**Niles Canyon**	**0.37**	**169**			Pb		22 57 50.8	-0.1
SNT	**Sears Point**	**0.37**	**304**			Pb		22 57 51.2	+0.4
JPRM	**Presidio of Sa**	**0.38**	**241**			Pb		22 57 50.7	-0.1
CVLM	**Vallecito**	**0.39**	**153**			Pb		22 57 51.6	+0.5
CBZL	**Buffer Zone**	**0.39**	**136**			Pb		22 57 51.6	+0.5
CBZL	**Buffer Zone**	**0.39**	**136**			Pb		22 57 51.5	+0.4
JSBM	**San Bruno Moun**	**0.40**	**222**			Pb		22 57 50.9	-0.3
CSAM	**Sandia**	**0.41**	**137**			Pb		22 57 52.1	+0.7
CYD1	**Coyote D'meter**	**0.41**	**184**			Pg		22 57 51.1	+0.3
J061	**Lakeshore Driv**	**0.42**	**235**			Pb		22 57 51.5	-0.1
WENL	**Wente Vineyard**	**0.43**	**146**			Pb		22 57 52.0	+0.4
JCPM	**Coyote Point**	**0.44**	**208**			Pb		22 57 51.8	-0.1
JMGM	**Milagra Ridge**	**0.47**	**224**			Pb		22 57 52.3	-0.2
SAC	**San Andreas**	**0.48**	**216**			Pb		22 57 52.5	-0.2
CVS	**Carmenet Viney**	**0.49**	**320**			Pg		22 57 52.3	+0.1
NADM	**Allendale**	**0.49**	**8**			Pb		22 57 53.2	+0.5
NAPC	**Atlas Peak**	**0.49**	**342**			Pg		22 57 52.3	0.0
JCHM	**Cahill Ridge**	**0.52**	**209**			Pb		22 57 53.3	0.0
CSTL	**Corral Hollow**	**0.56**	**127**			Pb		22 57 53.9	0.0
CALM	**Calaveras Res.**	**0.56**	**159**			Pb		22 57 54.0	-0.1
JSFB	**Stanford Teles**	**0.58**	**189**			Pg		22 57 54.5	+0.2
NOLM	**Olema**	**0.58**	**277**			Pb		22 57 54.3	0.0
JRSC	**Jasper Ridge**	**0.59**	**194**			Pb		22 57 54.3	-0.1
JFP	**Foothills Park**	**0.62**	**190**			Pb		22 57 55.1	0.0
JSJM	**St Joseph**	**0.64**	**182**			Pb		22 57 55.7	+0.4
JBMM	**Black Mountain**	**0.66**	**187**			Pb		22 57 56.0	+0.3
BGH	**Bear Gulch**	**0.67**	**200**			Pb		22 57 56.5	+0.6
MCCM	**Marconi Confer**	**0.67**	**285**			Pg		22 57 55.6	0.0
NBPM	**Berryessa Peak**	**0.70**	**351**			Pb		22 57 56.3	0.0
SCCB	**Santa Clara Co**	**0.70**	**167**			Pb		22 57 56.6	+0.2
MHC	**Mount Hamilton**	**0.71**	**152**			Pg		22 57 56.3	-0.2
MTOS	**Mt Oso, Westle**	**0.74**	**129**			Pg		22 57 56.5	-0.6
ARN	**Arnold Ranch**	**0.75**	**146**			Pg		22 57 56.8	-0.3
NPRM	**Point Reyes**	**0.76**	**272**			Pg		22 57 57.0	-0.2
JJOM	**Saint Joseph's**	**0.77**	**175**			Pb		22 57 57.6	+0.1
CCOB	**Coe Ranch Numb**	**0.78**	**157**			Pg		22 57 57.6	0.0
FARB	**Farallon Islan**	**0.80**	**250**			Pb		22 57 57.6	-0.4
JPSM		**0.81**	**197**			Pb		22 57 58.2	0.0
NHSM	**Mount Saint He**	**0.81**	**327**			Pg		22 57 57.6	-0.7
CMPM	**Mikes Peak**	**0.85**	**136**			Pb		22 57 58.8	-0.2
JLAB	**Laurel Hill**	**0.86**	**163**			Pg		22 57 59.3	+0.1
CADM	**Anderson Res.**	**0.88**	**157**			Pg		22 57 59.5	-0.1
NMTM	**Middletown**	**0.88**	**340**			Pb		22 57 59.3	-0.2
GCRM	**Castle Rock Sp**	**0.95**	**327**			Pb		22 57 59.5	-1.1
MNRC	**McLaughlin Min**	**0.95**	**342**			Pb		22 57 60.0	-0.7
GBGM	**Boggs Mountain**	**0.97**	**330**			Pb		22 58 00.0	-1.0
HLPM	**Lions Peak**	**0.99**	**160**			Pb		22 58 00.9	-0.4
GGPM	**Geyser Peak**	**1.00**	**322**			Pb		22 58 01.3	-0.2
GHS	**Gilroy Hot Spr**	**1.00**	**151**			Pb		22 58 00.8	-0.8
GDXM	**Geysers**	**1.01**	**325**			Pb		22 58 01.6	-0.1
GDXM					IAML			22 58 18.3	
	comp=E,114nm,0.7s								
GDXM					IAML			22 58 18.8	
	comp=N,96nm,0.5s								
GSGM	**Seigler Mounta**	**1.03**	**330**			Pb		22 58 01.6	-0.3
HPCM	**Pacheco Lake**	**1.11**	**146**			Pb		22 58 02.5	-0.8
SLD	**San Luis Dam**	**1.12**	**143**			Pb		22 58 02.9	-0.6
HFEM	**San Felipe**	**1.12**	**152**			Pb		22 58 02.7	-0.9
HTUM	**Tustin Road**	**1.19**	**164**			Pn		22 58 03.4	-1.2
SUTB	**Sutter Butte**	**1.27**	**10**			Pn		22 58 03.5	-2.1
HOPS	**Hopland Field**	**1.29**	**322**	Pn		Pb		22 58 06.8	+0.3
HOPS					IAML			22 58 46.6	
	comp=N,63nm,1.3s								
AFDM	**Forest Hills D**	**1.29**	**41**			Pn		22 58 04.5	-1.4
AFDM					IAML			22 58 24.5	
	comp=N,62nm,0.6s								
AFDM					IAML			22 58 32.0	
	comp=E,154nm,0.7s								
FRP	**Fremont Peak**	**1.30**	**159**			Pn		22 58 04.7	-1.5
SAO	**San Andreas Ge**	**1.30**	**158**	Pn		Pn		22 58 05.1	-1.0
CMB	**Columbia Colle**	**1.32**	**87**			Pn		22 58 05.1	-1.3
CMB					IAML			22 58 24.7	
	comp=N,122nm,0.5s								
MYLM	**Yosemite Lake**	**1.43**	**114**			Pn		22 58 06.5	-1.3
BPCNC	**Pine Canyon**	**1.44**	**166**			Pn		22 58 07.1	-0.8
SCZ	**Santa Cruz**	**1.47**	**159**			Pn		22 58 07.1	-1.3
BJCM	**Johnson Can.**	**1.52**	**159**			Pn		22 58 08.2	-0.9
BPRM	**Ponciano Ridge**	**1.59**	**170**			Pn		22 58 09.2	-0.8
GCK	**Clark Valley**	**1.59**	**349**			Pn		22 58 09.6	-0.5
BBGB	**Big Mountain B**	**1.61**	**149**			Pn		22 58 09.4	-1.1
HAST	**Hastings Reser**	**1.64**	**166**			Pn		22 58 09.4	-1.2
ORV	**Oroville**	**1.64**	**15**			Pn		22 58 09.7	-1.0
BPIM	**Pinnacles**	**1.64**	**154**			Pn		22 58 09.8	-1.0
BSMM	**Soledad Missio**	**1.67**	**162**			Pn		22 58 10.7	-0.5
BAPM	**Anderson Peak**	**1.83**	**169**			Pn		22 58 12.9	-0.5
EMB	**Emerald Bay**	**1.83**	**56**	Pn		Pn		22 58 13.8	+0.2
PMPB	**Monarch Peak**	**2.02**	**150**			Pn		22 58 15.6	-0.5
PMPB					IAML			22 59 08.3	
	comp=E,60nm,1.4s								
PMPB					IAML			22 59 13.1	
	comp=N,64nm,1.0s								
WAKR	**Walker**	**2.13**	**75**	Pn		Pn		22 58 18.7	+1.0
WAKR					IAML			22 58 54.5	
	comp=E,36nm,0.6s								
WAKR					IAML			22 59 07.6	
	comp=N,30nm,0.9s								
PNTR	**Pine Nut**	**2.23**	**59**			Pn		22 58 20.4	+1.4
PNTR					IAML			22 59 11.7	
	comp=N,45nm,0.8s								
O02D	**Mt. Diablo Mer**	**2.27**	**346**	Pn		Pn		22 58 20.0	+0.6
PAHR	**Pah Rah Range**	**2.71**	**50**			Pn		22 58 25.6	0.0
PAHR					IAML			22 59 19.6	
	comp=E,23nm,0.9s								
PAHR					IAML			22 59 20.2	
	comp=N,16nm,1.3s								
LHV	**Little Huntoon**	**2.82**	**83**			Pn		22 58 28.7	+1.8
LHV					IAML			22 59 18.5	
	comp=N,25nm,1.1s								
LHV					IAML			22 59 22.6	
	comp=E,33nm,0.7s								
NVAR	**Mina Array Bea**	**2.99**	**80**			Pn		22 58 29.1	-0.4
NV11	**Mina Array Sit**	**3.11**	**80**			Pn		22 58 31.1	0.0
KVN	**Kaiserville**	**3.29**	**70**			Pn		22 58 33.1	-0.4
KVN					IAML			22 59 38.2	
	comp=E,13nm,1.1s								
KVN					IAML			22 59 39.4	
	comp=N,14nm,1.1s								

*IDC **30** 23:04:57.1±5.2,29.˚29N×142.˚07E,h0km,mb3.9/5, mbtmp3.8/6,ML2.9/1,Error ellipse: s-maj=202.8km s-min=27.6km az=74.0*

ISC 30 23:04:59.4±4.8,29.˚2N±0.˚3×14.˚2E±.˚,h30km,n7,σ2.˚75/5, mb3.9/5,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
JCJ	**Chichijima**	**2.10**	**178**	Pn		**Pn**	**23 05 31.4**	**-1.1**
	3.2nm,0.3s,baz=283,slow=21,SNR=7.8							
JCJ				Sn		**Sn**	**23 05 56.0**	**-1.6**
	26nm,0.3s,baz=262,slow=22,SNR=9.6							
MJAR	**Matsushiro Arr**	**8.02**	**337**	Pn		**Pn**	**23 06 52.1**	**-1.8**
	0.2nm,0.3s,baz=153,slow=10,SNR=5.2							
	1.5nm,0.4s							
ZALV	**Zalesovo Beam**	**47.88**	**318**	P		**P**	**23 13 35.7**	**+1.2**
	0.6nm,0.3s,baz=88,slow=9.1,SNR=3.1							
	0.6nm,0.3s							
MKAR	**Makanchi Array**	**49.11**	**308**	P		P	23 13 45.6	+1.4
	0.8nm,0.8s,baz=93,slow=8.5,SNR=5.0							
	0.8nm,0.8s							
WRA	**Warramunga Arr**	**49.43**	**190**	P		**P**	**23 13 49.2**	**+2.5**
	0.7nm,0.7s,baz=8.1,slow=8.2,SNR=5.1							
	0.7nm,0.7s							
KURBB	**Kurchatov Arra**	**51.54**	**313**	P		P	23 14 04.4	+2.0
	0.8nm,0.5s,baz=91,slow=6.9,SNR=9.1							
	0.8nm,0.5s							
BVAR	**Borovoye Array**	**56.47**	**317**	P		P	23 14 40.2	+1.8
	2.1nm,0.6s,baz=91,slow=7.6,SNR=10							
	2.1nm,0.6s							

WEL 30 23:25:40.7±0.5,44.˚S±3.˚×16.˚8E±.˚,h5km,M3.7/15, ML3.8/12,MLv3.7/15,Error ellipse: s-maj=0.0km s-min=0.0km az=134.2,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MSZ	**Milford Sound**	**0.39**	**223**	P		Pg	23 25 48.4	+0.1
MSZ				S		Sg	23 25 54.0	+0.6
JCZ	**Jackson Bay**	**0.47**	**49**	P		Pg	23 25 49.4	-0.3
JCZ				S		Sg	23 25 55.7	0.0
WKZ	**Wanaka**	**0.68**	**131**	P		Pg	23 25 53.7	0.0
WKZ				S		Sg	23 26 02.1	-0.4
MLZ	**Mavora Lakes**	**0.99**	**187**	P		Pg	23 25 58.9	-0.8
EAZ	**Earnscleugh**	**1.11**	**140**	P		Pg	23 26 01.4	-0.6
LBZ	**Lake Benmore**	**1.35**	**91**	P		Pn	23 26 06.3	+0.1
DCZ	**Deep Cove**	**1.35**	**217**	P		Pn	23 26 04.8	-1.5
DCZ				S		Sb	23 26 23.3	-0.8
FOZ	**Fox Glacier**	**1.39**	**53**	P		Pn	23 26 06.0	-0.7
FOZ				S		Sb	23 26 25.0	0.0
WHZ	**Wether Hill Ro**	**1.53**	**189**	P		Pn	23 26 07.9	-0.8
WHZ				S		Sb	23 26 29.3	+0.1
ODZ	**Otahua Downs**	**1.80**	**112**	P		Pn	23 26 12.8	+0.5
ODZ				S		Sb	23 26 36.2	-0.6
GCSZ	**Gaunt Creek Bo**	**1.81**	**55**	P		Pn	23 26 11.8	-0.7
TUZ	**Tuapeka**	**1.83**	**150**	P		Pb	23 26 14.0	-0.6
TUZ				S		Sn	23 26 36.6	+0.3
TMZ	**Timaru**	**1.94**	**91**	P		Pn	23 26 14.2	-0.1
RPZ	**Rata Peaks**	**2.10**	**72**	P		Pg	23 26 20.0	-0.8
ARCZ	**Arundel**	**2.12**	**79**	P		Pn	23 26 18.1	+1.3
PYZ	**Puysegur Point**	**2.12**	**212**	P		Pb	23 26 18.2	-1.4
WVZ	**Waitaha Valley**	**2.20**	**54**	P		Pn	23 26 16.8	-1.0
HHSZ	**Highcliff Hill**	**2.21**	**134**	P		Pb	23 26 21.4	+0.3
SYZ	**Scrubby Hill**	**2.23**	**165**	P		Pn	23 26 19.2	+0.9
APZ	**The Paps**	**2.46**	**185**	P		Pn	23 26 21.4	0.0
MHCZ	**Mount Hutt**	**2.51**	**71**	P		Pn	23 26 22.8	+0.7
WACZ	**Wakanui South**	**2.58**	**81**	P		Pn	23 26 22.2	-1.0
INZ	**Inchbonnie**	**2.82**	**55**	P		Pn	23 26 27.5	+1.1
MQZ	**McQueen's Vall**	**3.21**	**79**	P		Pn	23 26 30.6	-1.1
LTZ	**Lake Taylor**	**3.30**	**62**	P		Pn	23 26 32.4	-0.6
DSZ	**Denniston Nort**	**3.68**	**45**	P		Pn	23 26 37.8	-0.4
MRNZ	**Matariki Terra**	**4.43**	**49**	P		Pn	23 26 48.6	+0.1
QRZ	**Quartz Range**	**4.73**	**43**	P		Pn	23 26 52.0	-0.7
TKNZ	**Takaka Hill**	**4.80**	**47**	P		Pn	23 26 53.7	+0.1
NNZ	**Nelson**	**4.90**	**51**	P		Pn	23 26 55.5	+0.6
DUWZ	**D'Urville Isla**	**5.48**	**51**	P		Pn	23 27 03.4	+0.4
PKE	**Pukeiti**	**6.70**	**41**	P		Pn	23 27 17.1	-2.7

WEL 30 23:27:06.7±0.6,44.˚S±4.˚×16.˚8E±.˚,h5km,M3.7/13, ML3.9/13,MLv3.7/13,Error ellipse: s-maj=0.0km s-min=0.0km az=137.2,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MSZ	**Milford Sound**	**0.40**	**220**	P		Pg	23 27 14.4	0.0
MSZ				S		Sg	23 27 19.9	+0.3
JCZ	**Jackson Bay**	**0.47**	**51**	P		Pg	23 27 15.5	-0.1
JCZ				S		Sg	23 27 21.7	0.0
WKZ	**Wanaka**	**0.70**	**132**	P		Pg	23 27 19.8	-0.3
WKZ				S		Sg	23 27 28.2	-0.9
MLZ	**Mavora Lakes**	**1.01**	**187**	P		Pg	23 27 25.0	-1.0
EAZ	**Earnscleugh**	**1.13**	**140**	P		Pg	23 27 27.8	-0.5
DCZ	**Deep Cove**	**1.36**	**216**	P		Pn	23 27 31.1	-1.2
DCZ				S		Sb	23 27 49.2	-1.1
LBZ	**Lake Benmore**	**1.36**	**91**	P		Pn	23 27 32.3	0.0
LBZ				S		Sb	23 27 49.9	-0.5
FOZ	**Fox Glacier**	**1.39**	**54**	P		Pn	23 27 31.9	-0.7
FOZ				S		Sn	23 27 51.5	+0.3
WHZ	**Wether Hill Ro**	**1.54**	**189**	P		Pn	23 27 34.1	-0.8
WHZ				S		Sg	23 27 56.1	-0.2
GCSZ	**Gaunt Creek Bo**	**1.81**	**55**	P		Pn	23 27 37.7	-0.8
ODZ	**Otahua Downs**	**1.81**	**113**	P		Pb	23 27 39.6	-0.7
ODZ				S		Sb	23 28 03.0	-0.4
TUZ	**Tuapeka**	**1.85**	**150**	P		Pb	23 27 40.5	-0.5
TUZ				S		Sn	23 28 03.5	+0.7
TMZ	**Timaru**	**1.95**	**91**	P		Pg	23 27 44.4	+0.3
RPZ	**Rata Peaks**	**2.10**	**73**	P		Pb	23 27 46.0	+0.8
ARCZ	**Arundel**	**2.12**	**80**	P		Pb	23 27 46.0	+0.3
PYZ	**Puysegur Point**	**2.13**	**212**	P		Pn	23 27 44.1	+1.3
WVZ	**Waitaha Valley**	**2.20**	**55**	P		Pb	23 27 46.7	-0.2
SYZ	**Scrubby Hill**	**2.25**	**165**	P		Pn	23 27 45.4	+0.8
APZ	**The Paps**	**2.47**	**185**	P		Pn	23 27 48.3	+0.6
MHCZ	**Mount Hutt**	**2.51**	**72**	P		Pb	23 27 50.9	-1.4
WACZ	**Wakanui South**	**2.59**	**82**	P		Pb	23 27 51.9	-1.7
TKNZ	**Takaka Hill**	**4.79**	**48**	P		Pn	23 28 19.4	-0.1
HOWZ	**Holdsworth Sta**	**6.36**	**59**	P		Pn	23 28 47.1	+6.1

*IDC **30** 23:47:21.9±0.9,15.˚87S×178.˚80E,h0km,mb3.8/10, mbtmp3.8/10,MS3.5/26,Error ellipse: s-maj=43.1km s-min=21.2km az=144.0*

ISC 30 23:47:27.3±0.8,15.˚9S±0.˚2×178.˚7E±0.˚2,h35km,n32, σ0.˚66/11,mb3.8/10,MS3.6/24,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
DZM	**Mont Dzumac**	**13.16**	**240**	LR		LR	23 54 28.2	
	comp=Z,226nm,19.5s,baz=118,slow=32							
RAO	**Raoul Island**	**13.68**	**168**	LR		LR	23 54 58.4	
	comp=Z,186nm,19.1s,baz=116,slow=33							
RAR	**Rarotonga**	**21.05**	**108**	LR		LR	23 58 07.3	
	comp=Z,213nm,20.5s,baz=284,slow=31							
URZ	**Urewera**	**22.36**	**183**	LR		LR	23 58 48.8	
	comp=Z,228nm,19.1s,baz=44,slow=31							
PPT	**Papeete**	**30.38**	**98**	LR		LR	00 02 46.7	
	comp=Z,41nm,21.4s,baz=348,slow=30							
STKA	**Stephens Creek**	**37.30**	**238**	P		**P**	**23 54 37.0**	**+0.8**
	4.5nm,0.7s,baz=60,slow=9.0,SNR=7.6							
STKA					LR	LR	00 08 02.9	
	comp=Z,58nm,18.9s,baz=53,slow=33							
	4.5nm,0.7s							
WRA	**Warramunga Arr**	**42.35**	**258**	P		**P**	**23 55 19.0**	**+0.5**
	0.7nm,0.8s,baz=90,slow=8.9,SNR=2.6							
	0.7nm,0.8s							
ASAR	**Alice Springs**	**42.76**	**252**	P		**P**	**23 55 22.0**	**+0.2**
	1.9nm,0.8s,baz=80,slow=9.0,SNR=14							
	1.9nm,0.8s							
DAV	**Davao City (W)**	**57.35**	**289**	LR		LR	00 21 24.4	
	comp=Z,30nm,18.3s,baz=28,slow=36							
KAPI	**Kappang**	**58.83**	**274**	LR		LR	00 22 51.4	
	comp=Z,23nm,18.2s,baz=76,slow=36							
JHJ	**Hachijo jima 2**	**61.29**	**323**	LR		LR	00 24 53.6	
	comp=Z,24nm,18.2s,baz=102,slow=37							
MJAR	**Matsushiro Arr**	**64.65**	**325**	LR		LR	00 19 57.1	
	comp=Z,36nm,21.7s,baz=150,slow=30							
ASAJ	**Asahikawa**	**68.20**	**333**	LR		LR	00 25 03.3	
	comp=Z,33nm,19.1s,baz=156,slow=33							
KSRS	**Korea Array**	**71.37**	**319**	LR		LR	00 25 47.9	
	comp=Z,22nm,20.8s,baz=130,slow=32							
QSPA	**South Pole Qui**	**74.18**	**180**	P		**P**	**23 58 59.5**	**-0.8**
	2.4nm,1.0s,baz=345,slow=2.1,SNR=4.0							
QSPA					LR	LR	00 27 50.0	
	comp=Z,39nm,18.6s,baz=341,slow=33							
	2.4nm,1.0s							
KLR	**Kul'dur**	**76.98**	**331**	LR		LR	00 27 51.5	
	comp=Z,35nm,20.7s,baz=126,slow=32							
KDAK	**Kodiak Island**	**77.12**	**15**	LR		LR	00 25 31.2	
	comp=Z,33nm,19.8s,baz=217,slow=30							
YBH	**Yreka Blue Hor**	**78.72**	**41**	LR		LR	00 29 19.7	
	comp=Z,28nm,19.9s,baz=236,slow=32							
NVAR	**Mina Array Bea**	**79.89**	**45**	P		**P**	**23 59 32.8**	**-0.1**
	0.2nm,0.3s,baz=218,slow=10,SNR=3.0							
	0.2nm,0.3s							
BBB	**Bella Bella**	**81.88**	**30**	LR		LR	00 28 33.7	
	comp=Z,38nm,21.2s,baz=186,slow=30							
ELK	**Elko**	**83.08**	**44**	LR		LR	00 30 30.9	
	comp=Z,36nm,19.4s,baz=265,slow=31							

ILAR	**Eielson Array**	**84.55**	**14**	P		**P**		**23 59 56.6**	**+0.2**
	0.9nm,1.0s,baz=225,slow=6.2,SNR=8.2								
ILAR					LR	LR		00 37 00.6	
	comp=Z,20nm,18.6s,baz=278,slow=35								
	0.9nm,1.0s								
MAW	**Mawson**	**84.84**	**200**	LR		LR		00 34 19.3	
	comp=Z,45nm,18.5s,baz=66,slow=33								
CMAR	**Chiang Mai Arr**	**85.62**	**290**	P		**P**		**00 00 01.9**	**-1.0**
	0.5nm,0.4s,baz=93,slow=3.6,SNR=0.9								
	0.5nm,0.4s								
TXAR	**Lajitas Array**	**87.24**	**59**	P		**P**		**00 00 11.4**	**+0.7**
	0.1nm,0.5s,baz=230,slow=2.2,SNR=1.3								
	0.1nm,0.5s								
PDAR	**Pinedale Array**	**87.78**	**44**	P		**P**		**00 00 13.7**	**+0.5**
	0.2nm,0.4s,baz=204,slow=2.0,SNR=1.7								
PDAR					LR	LR		00 32 34.4	
	comp=Z,26nm,19.0s,baz=288,slow=31								
	0.2nm,0.4s								
SONM	**Songino Array**	**90.23**	**320**	P		**P**		**00 00 24.0**	**-0.4**
	0.2nm,0.4s,baz=108,slow=3.2,SNR=1.8								
SONM					LR	LR		00 37 49.5	
	comp=Z,13nm,21.3s,baz=123,slow=34								
	0.2nm,0.4s								
INK	**Inuvik**	**90.66**	**16**	LR		LR		00 37 42.9	
	comp=Z,21nm,18.3s,baz=184,slow=33								
YKA	**Yellowknife Ar**	**93.64**	**25**	LR		LR		00 34 54.7	
	comp=Z,41nm,21.8s,baz=284,slow=30								
PLCA	**Paso Flores**	**94.71**	**135**	LR		LR		00 35 11.8	
	comp=Z,23nm,21.3s,baz=197,slow=30								
JTS	**Las Juntas de**	**98.76**	**82**	LR		LR		00 34 58.5	
	comp=Z,16nm,18.9s,baz=278,slow=29								
GERES	**GERESS Array B**	**144.90**	**343**	PKP		**PKPdf**		**00 07 00.6**	**-0.3**
	0.6nm,0.8s,baz=57,slow=3.6,SNR=3.0								

WEL 30 23:55:56.0±0.5,44.˚S±4.˚×16.˚8E±.˚,h5km,M3.3/13, ML3.5/13,MLv3.3/13,Error ellipse: s-maj=0.0km s-min=0.0km az=134.7,confirmed,South Island

Code	Station Name	Δ°	AZ°	Phase ID			Time	Res
				Op		ISC	h m s	ISC
MSZ	**Milford Sound**	**0.39**	**220**	P		Pg	23 56 03.8	+0.2
MSZ				S		Sg	23 56 09.4	+0.6
JCZ	**Jackson Bay**	**0.47**	**51**	P		Pg	23 56 04.8	-0.3
JCZ				S		Sg	23 56 11.0	-0.1
WKZ	**Wanaka**	**0.70**	**131**	P		Pg	23 56 09.1	-0.3
WKZ				S		Sg	23 56 17.6	-0.9
MLZ	**Mavora Lakes**	**1.00**	**187**	P		Pg	23 56 14.3	-1.0
EAZ	**Earnscleugh**	**1.13**	**140**	P		Pg	23 56 17.0	-0.7
DCZ	**Deep Cove**	**1.35**	**216**	P		Pn	23 56 20.2	-1.4
DCZ				S		Sb	23 56 39.1	-0.5
LBZ	**Lake Benmore**	**1.37**	**91**	P		Pn	23 56 21.8	0.0
FOZ	**Fox Glacier**	**1.39**	**53**	P		Pn	23 56 21.3	-0.8
FOZ				S		Sn	23 56 40.9	+0.2

comp=E,79nm,3.5s
CHGN Chignik 5.42 54 Pn **Pn 00 03 06.3 +1.5**
GSTR Great Sitkin T 6.07 262 Pn **Pn 00 03 14.7 +0.9**
GSMY Great Sitkin M 6.08 261 **Pn 00 03 15.2 +1.2**
ADK Adak 6.50 261 P **Pn 00 03 20.9 +1.2**
ADK Adak 6.50 261 Pn **Pn 00 03 19.6 -0.1**
O14K Tigyukauivet M 6.53 23 Pn **Pn 00 03 21.6 +1.5**
CHIR Chirikof Islan 6.67 64 Pn **Pn 00 03 21.5 -0.5**
KIWB Kanaga Island 6.79 261 Pn **Pn 00 03 24.2 +0.6**
O15K Ungalikthiuk R 6.85 29 **Pn 00 03 25.3 +0.9**
M11K Mekoryuk 7.04 0 **Pn 00 03 27.9 +0.8**
N14K Kuskokwak Cree 7.05 19 **Pn 00 03 28.9 +1.8**
M13K Dall Lake 7.25 12 Pn **Pn 00 03 31.6 +1.7**
P16K Nushagak River 7.33 36 **Pn 00 03 32.1 +1.2**
N15K Kwethluk River 7.62 24 Pn **Pn 00 03 36.9 +1.9**
SII Sitkinak Islan 7.67 60 P **Pn 00 03 36.3 +0.6**
SII Sitkinak Islan 7.67 60 Pn **Pn 00 03 35.8 +0.1**
O16K Kokwok River B 7.72 33 Pn **Pn 00 03 38.0 +1.7**
M14K Bethel 7.77 16 **Pn 00 03 37.4 +0.3**
ANCK Angle Creek 7.78 47 **Pn 00 03 38.1 +0.9**
M15K Kasigluk River 7.96 20 **Pn 00 03 40.2 +0.6**
P17K Kvichak River 8.01 39 **Pn 00 03 42.7 +2.4**
OHAK Old Harbor 8.37 57 Pn **Pn 00 03 43.7 -1.5**
P18K Big Mountain, 8.61 41 Pn **Pn 00 03 50.2 +1.7**
K13K Kusilvak Mount 8.64 5 Pn **Pn 00 03 49.6 +0.7**
M16K Timber Creek 8.64 24 **Pn 00 03 50.0 +1.0**
L15K Ungalak Mounta 8.73 15 **Pn 00 03 51.7 +1.5**
N17K Nushagak Hills 8.73 31 **Pn 00 03 51.2 +1.0**
O18K Koktuh Hills 8.92 39 **Pn 00 03 54.8 +2.0**
KDAK Kodiak Island 8.94 55 Pn **Pn 00 03 51.7 -1.3**
AMKA Amchitka 9.04 263 Pn **Pn 00 03 53.6 -0.8**
L16K Owhat River 9.13 21 **Pn 00 03 56.0 +0.3**
K15K Wolf Creek Mou 9.31 14 Pn **Pn 00 03 59.1 +1.0**
M17K Holitna River 9.36 27 **Pn 00 03 59.9 +1.1**
SYI Shuyak Island 9.39 50 Pn **Pn 00 03 59.1 -0.2**
P19K Oil Pt 9.57 44 Pn **Pn 00 04 03.3 +1.6**
ILSW Iliamna Southw 9.80 42 **Pn 00 04 07.2 +2.2**
N19K Bonanza Creek 9.84 36 **Pn 00 04 06.6 +1.1**
L18K Granite Mounta 10.24 26 **Pn 00 04 11.4 +0.5**
K17K Iditarod 10.28 21 Pn **Pn 00 04 11.7 +0.2**
J16K Anvik River 10.38 14 **Pn 00 04 13.1 +0.3**
M19K Big River Lodg 10.66 32 **Pn 00 04 17.1 +0.5**
L19K White Mountain 10.73 30 **Pn 00 04 18.1 +0.5**
J17K VABM Dome 10.74 18 **Pn 00 04 18.3 +0.6**
M20K Styx River 11.05 34 **Pn 00 04 23.6 +1.5**
J18K Innoko River 11.29 22 **Pn 00 04 25.8 +0.6**
SUA Susitna One 11.64 40 **Pn 00 04 29.2 -0.9**
SKT Skwentna 11.68 36 **Pn 00 04 31.4 +0.9**
K20K Telida 11.87 28 **Pn 00 04 33.7 +0.5**
G16K Koyuk River 12.23 8 **Pn 00 04 39.1 +1.1**
H18K Honhosa River 12.49 16 **Pn 00 04 42.8 +1.2**
J20K Nowinta River 12.51 25 **Pn 00 04 41.9 0.0**
HIN Hinchinbrook I 12.88 49 **Pn 00 04 44.0 -2.9**
G18K Tagagawik 13.13 14 Pn **Pn 00 04 50.9 +0.5**
SCM Sheep Creek Mo 13.20 42 **Pn 00 04 48.9 -2.5**
BPAW Bear Paw Mtn. 13.33 30 **Pn 00 04 53.3 +0.2**
F17K Baldwin Pennin 13.36 9 Pn **Pn 00 04 54.6 +1.2**
RAGM Ragged Mountai 13.71 51 **Pn 00 04 56.7 -1.6**
I21K Tanana 13.88 26 **Pn 00 05 00.6 +0.2**
HMT Hamilton 13.88 51 **Pn 00 04 58.7 -2.0**
SUCK Suckling Hills 14.02 52 Pn **Pn 00 05 02.3 -0.2**
H21K Melozitna Rive 14.05 23 **Pn 00 05 03.5 +0.6**
MLY Manley 14.10 28 **Pn 00 05 02.9 -0.7**
GLB Gilahina Butte 14.50 47 **Pn 00 05 08.4 -0.7**
VRDI Verde Repeater 14.55 48 **Pn 00 05 09.7 -1.4**
WAX Waxell Ridge 14.58 52 **Pn 00 05 09.7 -0.5**
G21K Allakaket 14.62 21 **Pn 00 05 12.1 +1.5**
MDM Murphy Dome 14.79 31 **Pn 00 05 12.1 -0.8**
MCARA McCarthy VSAT 14.83 48 **Pn 00 05 14.1 +0.7**
BARN Barnard Glacie 15.33 50 **Pn 00 05 20.4 +0.1**
BARN IAmb IAmb 00 05 26.9
comp=Z,5.4nm,0.6s
CTGM Chitina Glacie 15.45 51 **Pn 00 05 22.0 +0.2**
CTGM IAmb IAmb 00 05 26.1
comp=Z,6.8nm,0.8s
G23K Bananza Creek 15.58 25 **Pn 00 05 24.0 +0.7**
G23K IAmb IAmb 00 05 28.7
comp=Z,4.8nm,0.7s
SCRK Sand Creek 15.63 38 **Pn 00 05 23.6 -0.5**
D19K Kuna River 15.67 11 **Pn 00 05 25.4 +0.9**
D19K IAmb IAmb 00 05 34.2
comp=Z,12nm,1.4s
L27K Beaver Creek, 16.03 43 **Pn 00 05 27.0 -2.2**
BCAR Beaver Creek A 16.05 43 Pn **Pn 00 05 26.7 -2.7**
PNL Peninsula 16.05 56 P **Pn 00 05 29.6 +0.2**
P29M Windy Craggy 16.87 57 **Pn 00 05 39.9 +0.1**
EGAK Eagle 17.10 38 **Pn 00 05 42.3 -0.3**
HYT Haines Junctio 17.22 53 **P 00 05 46.2 +0.6**
HYT IAmb IAmb 00 05 55.0
comp=Z,8.4nm,0.7s
DAWY Dawson 17.45 42 P **Pn 00 05 47.6 +0.6**
BMAR Burnt Mountain 17.56 28 **Pn 00 05 46.8 -1.6**
C23K Itkillik River 18.02 18 P **Pn 00 05 53.1 -0.9**
S32K Killisnoo 18.37 64 P **P 00 05 58.9 +0.9**
S32K IAmb IAmb 00 06 10.9
comp=Z,8.8nm,1.2s
WHY Whitehorse 18.45 54 P **P 00 05 58.7 -0.3**
WHY IAmb IAmb 00 06 06.0
comp=Z,8.0nm,0.8s
P32M Atlin 18.90 58 P **P 00 06 03.8 -0.2**
P32M IAmb IAmb 00 06 10.4
comp=Z,5.4nm,0.8s
EPYK Eagle Plains 19.49 37 P **P 00 06 07.6 -2.7**
H31M Peel River 20.12 39 P **P 00 06 14.3 -2.9**
R33M Jennings River 20.29 59 P **P 00 06 18.0 -1.2**
R33M IAmb IAmb 00 06 29.8
comp=Z,5.2nm,1.1s
MMPY Sheldon Lake, 20.49 49 P **P 00 06 20.2 -1.1**
INK Inuvik 21.49 33 P **P 00 06 29.4 -2.4**
INK IAmb IAmb 00 06 35.3
comp=Z,6.7nm,1.1s
A36M Sachs Harbour 25.66 28 **P 00 07 12.1 -0.5**

*NEIC **31** 00:08:33.4±1.9, 15°.86S±0°.03×69°.6W±0°.1, h246km±9km, mb4.2/6, Error ellipse: s-maj=16.0km s-min=2.1km az=77.0*
*IDC **31** 00:08:33.2±1.4, 15°.95S×69°.65W, h252km±10km, mb3.2/3, mbtmp3.8/5, Error ellipse: s-maj=29.6km s-min=19.2km az=106.0*
ISC 31 00:08:32.9±0.7, 15°.88S±0°.06×69°.7W±0°.1, h250km, n29, σ1s05/32, mb3.3/3, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**1.55**	**105**		**Pn**	**00 09 13.2**	**+0.8**
LPAZ				Sn	**S**	**00 09 41.7**	**-1.6**
LPAZ	**La Paz**	**1.55**	**105**	P	**Pn**	**00 09 13.2**	**+0.8**
	114nm,0.3s,baz=311,slow=6.2,SNR=793						
LPAZ				S	**S**	**00 09 43.3**	**0.0**
	86nm,0.5s,baz=204,slow=19,SNR=46						
PB18	**Visviri**	**1.71**	**173**		**Pn**	**00 09 14.4**	**+0.9**
PB12	**IPOC Station P**	**2.79**	**193**		**Pn**	**00 09 21.7**	**-1.0**
GO01	**Chusmiza**	**3.80**	**173**		**Pn**	**00 09 35.8**	**+1.0**
PB11	**IPOC Station P**	**3.86**	**180**		**Pn**	**00 09 35.1**	**-0.1**
PB08	**IPOC Station P**	**4.27**	**173**		**Pn**	**00 09 40.9**	**+0.6**
TA01	**Diego Aracena**	**4.69**	**186**		**Pn**	**00 09 43.4**	**-1.4**
PB01	**IPOC Station P**	**5.14**	**178**		**Pn**	**00 09 50.0**	**-0.5**
LVC	**Limon Verde**	**6.74**	**174**		**Pn**	**00 10 11.5**	**+0.9**
LVC	**Limon Verde**	**6.74**	**174**	P	**Pn**	**00 10 11.8**	**+1.2**
	14nm,0.5s,baz=16,slow=9.7,SNR=40						
LVC				S	**S**	**00 11 26.1**	**-2.8**
	15nm,0.3s,baz=96,slow=19,SNR=15						
ETMB	**Extrema**	**6.91**	**30**		**Pn**	**00 10 11.6**	**-0.9**
PB15	**IPOC Station P**	**7.30**	**178**		**Pn**	**00 10 17.3**	**-0.2**
SIV	**San Ignacio**	**8.29**	**92**	P	**Pn**	**00 10 30.0**	**0.0**
	2.4nm,0.7s,baz=272,slow=10,SNR=11						
PB14	**IPOC Station P**	**8.73**	**184**	Pn	**Pn**	**00 10 36.3**	**+0.6**
VILB	**Vilhena**	**9.64**	**74**		**Pn**	**00 10 46.5**	**-0.5**
AC01	**Pan de Azucar**	**10.26**	**185**	Pn	**Pn**	**00 10 55.9**	**+1.3**
AC05	**El Transito**	**12.91**	**182**		**P**	**00 11 30.1**	**+0.5**
CHSH	**Refugio Sur-Vo**	**16.92**	**327**	P	**Pn**	**00 12 16.5**	**0.0**
CHSH				IAmb	IAmb	00 12 22.1	
	comp=Z,11nm,0.6s						
SLOR	**San Lorenzo -**	**17.38**	**329**	P	**P**	**00 12 19.9**	**+0.5**
SLOR				IAmb	IAmb	00 12 29.7	
	comp=Z,8.3nm,0.9s						
MT01	**Popeta**	**17.96**	**184**	P	**P**	**00 12 27.0**	**+2.0**
MT01				IAmb	IAmb	00 12 34.5	
	comp=Z,9.0nm,1.0s						
BOAV	**Boa Vista**	**20.29**	**27**	P	**P**	**00 12 49.3**	**-0.9**
BOAV				IAmb	IAmb	00 12 54.3	
	comp=Z,7.8nm,1.3s						
BAUV	**El Baul**	**24.71**	**4**	P	**P**	**00 13 30.6**	**-1.1**
PDAR	**Pinedale Array**	**68.90**	**330**	P	**P**	**00 19 11.2**	**+0.2**
	comp=Z,0.2nm,0.4s,baz=134,slow=6.4,SNR=2.3						
	comp=Z,0.2nm,0.4s						
TOA0	**Torodi Ar. Sit**	**76.24**	**72**	P	**P**	**00 19 54.3**	**-0.2**
TORD	**Torodi Ar. Bea**	**76.24**	**72**	P	**P**	**00 19 54.6**	**+0.1**
	comp=Z,1.4nm,0.6s,baz=264,slow=5.1,SNR=21						
	comp=Z,1.4nm,0.6s						
YKA	**Yellowknife Ar**	**85.66**	**341**	P	**P**	**00 20 43.3**	**+0.3**
	comp=Z,0.4nm,0.8s,baz=134,slow=4.2,SNR=5.9						
	comp=Z,0.4nm,0.8s						
ZALV	**Zalesovo Beam**	**137.12**	**22**	PKP	**PKPdf**	**00 27 27.1**	**+1.2**
	comp=Z,0.6nm,0.3s,baz=336,slow=3.3,SNR=4.3						
SONM	**Songino Array**	**147.97**	**5**	PKPbc	**PKPbc**	**00 27 48.8**	**-0.1**
	comp=Z,1.0nm,0.8s,baz=333,slow=1.1,SNR=3.7						

*NEIC **31** 00:45:18.9±2.1, 23°.9S±0°.1×37°.83E±0°.06, h10km±2km, mb4.1/5, Error ellipse: s-maj=19.7km s-min=7.2km az=160.0*
*IDC **31** 00:45:21.0±4.0, 24°.01S×37°.38E, h0km, mb3.8/1, mbtmp3.8/2, ML3.7/1, MS2.9/3, Error ellipse: s-maj=92.7km s-min=59.5km az=125.0*
*PRE **31** 00:45:37.4±0.8, 25°.02S×36°.38E, h5km, ML2.8*
*BUL **31** 00:45:38.1±5.1, 23°.77S×36°.45E, h10km±56km*
ISC 31 00:45:18.6±0.8, 23°.96S±0°.10×37°.69E±0°.07, h10km, n40, σ2s36/40, Mozambique Channel

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TEMBE	**Tembe Elephant**	**5.66**	**236**	*e*P	**Pn**	**00 46 42.1**	**-0.7**
TEMBE				*e*S	Sn	00 47 28.8	-19
MOPA	**Mopani**	**5.78**	**273**	*i* P	**Pn**	**00 46 48.2**	**+3.6**
MOPA				*i* S	**Sn**	**00 47 47.9**	**-3.1**
MOPA	**Mopani**	**5.78**	**273**	*e*P	Pn	00 46 50.5	+5.9
MOPA				*e*S	**Sn**	**00 47 45.7**	**-5.3**
MOPA				IAML		00 47 52.5	
	comp=Z,180nm,0.3s						
CHIPN	**CHIPINGE**	**5.97**	**307**	*i* P	**Pn**	**00 46 49.7**	**+2.5**
CHIPN				*i* S	**Sn**	**00 47 53.9**	**-1.9**
POGA	**Pongola**	**6.36**	**237**	Pn	**Pn**	**00 46 53.4**	**+0.8**
PILG	**Pilgrimsrest,**	**6.43**	**260**	*e*P	**Pn**	**00 46 55.9**	**+2.2**
PILG				*e*S	Sn	00 47 54.4	-13
PILG				IAML		00 48 19.5	
	comp=Z,20nm,0.8s						
CRLN	**Carolina, Mapu**	**7.25**	**252**	*e*P	**Pn**	**00 47 05.7**	**+0.9**
CRLN				*e*S	Sn	00 48 09.3	-18
CRLN				IAML		00 48 28.0	
	comp=Z,12nm,0.6s						
MUSN	**Musina, Limpop**	**7.40**	**281**	*i* P	**Pn**	**00 47 10.9**	**+4.2**
MUSN				*i* S	**Sn**	**00 48 25.8**	**-5.0**
MUSN	**Musina, Limpop**	**7.40**	**281**	*e*P	Pn	00 47 15.3	+8.5
MUSN				*e*S	**Sn**	**00 48 27.5**	**-3.3**
MUSN				IAML		00 48 29.4	
	comp=Z,30nm,0.2s						
PMBG	**Pietermaritzbu**	**8.47**	**228**	*e*P	**Pn**	**00 47 20.8**	**-0.7**
PMBG				*e*S	Sn	00 48 34.4	-23
PMBG				IAML		00 48 59.8	
	comp=Z,11nm,0.2s						
FOMA	**Nahampoana Res**	**8.52**	**99**	Pn	**Pn**	**00 47 21.0**	**-1.2**
VOI	**Vohitsoka**	**8.64**	**78**	Pn	**Pn**	**00 47 21.7**	**-2.2**
LEPH	**Lephalale, Lim**	**9.05**	**269**	*e*P	**Pn**	**00 47 33.9**	**+4.4**
LEPH				*e*S	Sn	00 48 59.6	-12
LEPH				IAML		00 49 33.0	
	comp=Z,11nm,0.4s						
MATP	**Matopo**	**9.21**	**291**	*i* P	**Pn**	**00 47 34.7**	**+3.0**
MATP				*i* S	Sn	00 49 05.0	-11
PRYS	**Parys**	**9.79**	**250**	*e*P	**Pn**	**00 47 40.3**	**+0.6**
PRYS				*e*S	Sn	00 49 09.9	-20
PRYS				IAML		00 49 30.6	
	comp=Z,6.2nm,0.5s						
SNKL	**Senekal, Frees**	**9.89**	**242**	*e*P	**Pn**	**00 47 41.2**	**0.0**
SNKL				*e*S	Sn	00 49 10.2	-22
SNKL				IAML		00 49 39.8	
	comp=Z,11nm,0.4s						
ABPO	**Ambohimpanom**	**10.15**	**63**	Pn	**Pn**	**00 47 41.4**	**-3.3**
LBTB	**Lobatse**	**11.06**	**262**	Pn	**Pn**	**00 47 58.1**	**+0.9**
LBTB	**Lobatse**	**11.06**	**262**	*i* P	**Pn**	**00 47 59.1**	**+2.0**
LBTB	**Lobatse**	**11.06**	**262**	*e*P	**Pn**	**00 47 59.6**	**+2.5**
LBTB				*e*S	Sn	00 49 45.2	-16
LBTB				IAML		00 49 51.1	
	comp=Z,1.8nm,0.5s						
LBTB	**Lobatse**	**11.06**	**262**	LR	LR	00 52 02.6	
	comp=Z,42nm,20.0s,baz=124,slow=37						
BOSA	**Boshof**	**12.08**	**245**	*i* P	Pn	00 48 08.2	-2.8
BOSA				*i* S	Sn	00 50 15.7	-10
BOSA	**Boshof**	**12.08**	**245**	*e*P	**Pn**	**00 48 11.1**	**+0.1**
BOSA				*e*S	Sn	00 50 03.3	-23
BOSA				IAML		00 50 20.0	
	comp=Z,4.2nm,0.5s						
BOSA	**Boshof**	**12.08**	**245**	Pn	**Pn**	**00 48 10.8**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=70,slow=14,SNR=8.3						
BOSA				Sn	Sn	00 50 15.7	-10
	comp=Z,1.5nm,0.3s,baz=42,slow=10,SNR=6.9						
BOSA				LR	LR	00 52 59.5	
	comp=Z,68nm,18.7s,baz=24,slow=39						
	comp=Z,1.1nm,0.4s						
LSZ	**Lusaka**	**12.44**	**312**		**Pn**	**00 48 16.1**	**+0.2**
GRHM	**Grahamstown, E**	**13.59**	**224**	Pn	**Pn**	**00 48 33.4**	**+1.9**
GRAF	**Camdeboo Natio**	**14.28**	**232**	*e*P	**Pn**	**00 48 40.5**	**-0.5**
GRAF				*e*S	Sn	00 50 53.7	-26
GRAF				IAML		00 50 53.9	
	comp=Z,1.2nm,0.5s						
BFON	**Badsfontein, M**	**14.63**	**235**	*e*P	**Pn**	**00 48 45.5**	**-0.4**
BRAK	**Brakfontein**	**15.22**	**236**	*e*P	**Pn**	**00 48 54.2**	**+0.5**
BRAK				*e*S	Sn	00 51 16.5	-26
BRAK				IAML		00 51 44.2	
	comp=Z,1.2nm,0.5s						
UPI	**Upington**	**15.39**	**250**	*e*P	**Pn**	**00 48 57.3**	**+1.3**
UPI				IAML		00 50 46.6	
	comp=Z,1.3nm,0.5s						
FRAZ	**Fraserburg**	**16.42**	**238**	*e*P	**Pn**	**00 49 10.4**	**+1.0**
FRAZ				IAML		00 51 15.9	
	comp=Z,0.8nm,0.7s						
SUR	**Sutherland**	**17.07**	**237**	Pn	**Pn**	**00 49 18.7**	**+1.1**
SUR				IAmb	IAmb	00 49 47.9	
	comp=Z,14nm,1.1s						
SUR	**Sutherland**	**17.07**	**237**	*e*P	**Pn**	**00 49 19.9**	**+2.3**
SUR				IAML		00 51 01.6	
	comp=Z,1.1nm,0.9s						
WIN	**Windhoek**	**18.97**	**270**		**P**	**00 49 41.9**	**+1.4**
WIN				IAmb	IAmb	00 50 04.3	
	comp=Z,9.7nm,1.1s						
MBAR	**Mbarara**	**24.18**	**343**	LR	LR	00 59 37.8	
	comp=Z,40nm,18.9s,baz=147,slow=36						
TOA0	**Torodi Ar. Sit**	**50.97**	**313**	P	**P**	**00 54 21.5**	**+0.7**
TOA0				IAmb	IAmb	00 54 49.2	
	comp=Z,6.4nm,1.4s						
TORD	**Torodi Ar. Bea**	**50.97**	**313**	P	**P**	**00 54 21.9**	**+1.2**
TORD	**Torodi Ar. Bea**	**50.97**	**313**	P	**P**	**00 54 23.3**	**+2.5**
	comp=Z,0.7nm,0.5s,baz=127,slow=6.0,SNR=9.4						
	comp=Z,0.7nm,0.5s						
QSPA	**South Pole Qui**	**66.20**	**180**	P	**P**	**00 56 08.3**	**+1.8**
TXAR	**Lajitas Array**	**145.16**	**287**	PKP	**PKiKP**	**01 05 00.1**	**-0.8**
	comp=Z,2.1nm,0.8s,baz=123,slow=4.8,SNR=21						

*IDC **31** 01:02:38.9±1.0, 24°.18N×122°.34E, h0km, mb3.6/7, mbtmp3.6/9, ML3.1/2, Error ellipse: s-maj=35.4km s-min=20.6km az=65.0*
*TAP **31** 01:02:43.2, 24°.05N×122°.15E, h20km, ML3.9, C*
*JMA **31** 01:02:43.1±0.1, 24°.0N±0°.7×122°.2E±0°.3, h30km±2km, MV3.6/13, TAIWAN REGION*
ISC 31 01:02:42.6±0.8, 24°.03N±0°.02×122°.16E±0°.02, h25km±6km, n88, σ0s66/123, mb3.5/7, 6C-8D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EOS4	**EOS4**	**0.17**	**58**	⇑*i*P	**Pb**	**01 02 47.7**	**+0.2**
	baz=73						
EOS4				S	**Sb**	**01 02 51.1**	**+0.3**
	baz=73						
EOS3	**EOS3**	**0.29**	**29**	⇓*i*P	**Pb**	**01 02 49.5**	**+0.1**
	baz=17						
EOS3				*i* S	**Sb**	**01 02 54.4**	**+0.4**
	baz=17						
EOS2	**EOS2**	**0.39**	**9**	⇓*i*P	**Pb**	**01 02 51.0**	**0.0**
	baz=356						
EOS2				*e*S	**Sb**	**01 02 56.8**	**+0.2**
	baz=356						
EAHA	**Aohua**	**0.49**	**308**	*e*P	**Pb**	**01 02 52.4**	**-0.2**
	baz=318						
ETL	**Fush Village**	**0.51**	**285**	*e*P	**Pn**	**01 02 54.1**	**-0.2**
	baz=283						
HWA	**Hwalien**	**0.51**	**264**	*e*P	**Pn**	**01 02 54.1**	**-0.2**
	baz=263						
TWD	**Chiawan**	**0.52**	**275**	P	**Pn**	**01 02 54.0**	**-0.4**
	baz=273						
TWD				S	**Sn**	**01 03 01.8**	**-0.7**
	baz=273						
NACB	**Ninganchiao**	**0.54**	**285**	P	**Pb**	**01 02 53.4**	**-0.1**
NACB	**Ninganchiao**	**0.54**	**285**	P	**Pb**	**01 02 53.9**	**+0.4**
	baz=268						
NACB				*e*S	**Sn**	**01 03 03.0**	**0.0**
	baz=268						
EWUT	**Wuta**	**0.54**	**320**	P	**Pb**	**01 02 52.8**	**-0.7**
	baz=329						
EWUT				S	**Sb**	**01 03 00.8**	**-0.2**
	baz=329						
TEYL	**Yanliau Villag**	**0.54**	**253**	*e*P	**Pn**	**01 02 54.4**	**-0.3**
	baz=240						
TEYL				*e*S	**Sn**	**01 03 03.5**	**+0.5**
	baz=240						
ENA	**Nanau**	**0.55**	**316**	⇓*i*P	**Pb**	**01 02 53.1**	**-0.7**
	baz=326						
ENA				S	**Sb**	**01 03 01.2**	**-0.1**
	baz=326						
SHUL	**Shoufeng**	**0.60**	**246**	*e*P	**Pn**	**01 02 55.5**	**0.0**
	baz=231						
ESAO	**Su ao**	**0.62**	**332**	⇓*i*P	**Pb**	**01 02 53.7**	**-1.1**
	baz=341						
ESAO				S	**Sb**	**01 03 02.8**	**-0.3**
	baz=341						
ETM	**Tongmen**	**0.62**	**264**	P	**Pb**	**01 02 55.2**	**+0.4**
	baz=251						
ETM				*e*S	**Sn**	**01 03 04.7**	**-0.2**
	baz=251						
TWC	**Suao**	**0.64**	**334**	⇓*i*P	**Pb**	**01 02 54.1**	**-1.1**
	baz=344						
TWC				S	**Sb**	**01 03 02.1**	**-1.8**
	baz=344						
LXIB	**Xiulin Townshi**	**0.69**	**269**	P	**Pb**	**01 02 56.3**	**+0.2**
	baz=267						
LXIB				S	**Sb**	**01 03 05.5**	**+0.3**
	baz=267						
ESL	**Shilin**	**0.70**	**252**	*e*P	**Pb**	**01 02 56.3**	**+0.1**
	baz=237						
NDS	**Dongshan**	**0.73**	**326**	*e*P	**Pb**	**01 02 56.0**	**-0.7**
	baz=332						
LATG	**Datong**	**0.77**	**311**	⇓*i*P	**Pb**	**01 02 57.3**	**-0.1**
	baz=310						
LATG				S	**Sn**	**01 03 09.9**	**+1.1**
	baz=310						
WARBT	**Fenglin Townsh**	**0.78**	**246**	*e*P	**Pb**	**01 02 57.5**	**0.0**
	baz=233						
WARBT				*e*S	**Sb**	**01 03 07.9**	**+0.2**
	baz=233						
ENTT	**Nioudou**	**0.81**	**318**	⇓*i*P	**Pb**	**01 02 57.9**	**-0.2**
	baz=318						
ENTT				*e*S	**Sn**	**01 03 11.1**	**+1.2**
	baz=318						
NNSB	**Datong**	**0.81**	**299**	⇑*i*P	**Pn**	**01 02 58.5**	**-0.1**
	baz=286						
NNSB				S	**Sb**	**01 03 09.0**	**+0.1**
	baz=286						
NDT	**Datong Townshi**	**0.82**	**314**	P	**Pb**	**01 02 58.4**	**+0.1**
	baz=314						
TWE	**Neicheng**	**0.82**	**327**	P	**Pb**	**01 02 57.7**	**-0.6**
	baz=334						
JYNG	**Yonagunijimaku**	**0.83**	**59**	*e*P	**Pb**	**01 02 58.5**	**+0.2**
JYNG				*e*S	**Sb**	**01 03 08.6**	**-0.5**
NNS	**Nan Shan**	**0.83**	**300**	⇑*i*P	**Pn**	**01 02 58.7**	**-0.1**
	baz=287						
NNS				S	**Sn**	**01 03 10.2**	**-0.1**
	baz=287						
WHF	**Hehuan Shan**	**0.83**	**278**	*e*P	**Pb**	**01 02 58.6**	**0.0**
	baz=277						
WHF				*e*S	**Sb**	**01 03 09.8**	**+0.2**
	baz=277						
EGS		**0.84**	**345**	P	**Pb**	**01 02 58.0**	**-0.5**
	baz=352						
HGSD	**Ruisui**	**0.86**	**232**	*e*P	**Pb**	**01 02 59.0**	**0.0**
	baz=231						
YOJ	**Yonaguni jima**	**0.88**	**61**	P	**Pb**	**01 02 58.9**	**-0.4**
YOJ	**Yonaguni jima**	**0.88**	**61**	*e*P	**Pn**	**01 02 59.5**	**0.0**
YOJ				*e*S	**Sb**	**01 03 10.3**	**-0.4**
YOJ	**Yonaguni jima**	**0.88**	**61**	P	**Pn**	**01 02 59.5**	**0.0**
	baz=61						
YOJ				*e*S	**Sb**	**01 03 10.3**	**-0.4**
	baz=61						
FUSB	**Fushanzhiwuyua**	**0.90**	**324**	⇓*i*P	**Pb**	**01 02 59.3**	**-0.3**
	baz=331						
FUSB				*e*S	**Sn**	**01 03 13.4**	**+1.6**
	baz=331						
CHGB	**Renai**	**0.91**	**272**	P	**Pn**	**01 03 00.1**	**+0.1**
	baz=258						
CHGB				S	**Sn**	**01 03 12.2**	**-0.1**
	baz=258						
OWD	**Renai**	**0.91**	**265**	*e*P	**Pn**	**01 03 00.1**	**+0.2**
	baz=265						
TWT	**Tachien**	**0.93**	**284**	*e*P	**Pn**	**01 03 00.9**	**+0.7**
	baz=273						
EHY	**Hungye**	**0.93**	**236**	*e*P	**Pn**	**01 02 59.8**	**-0.3**
	baz=224						
TDCB	**Techi**	**0.94**	**284**	*e*P	**Pb**	**01 03 00.5**	**+0.1**
	baz=272						
NWLT	**Wulai**	**0.96**	**321**	*e*P	**Pn**	**01 03 00.3**	**-0.2**
	baz=306						
WUSB	**Renai**	**0.96**	**268**	*e*P	**Pb**	**01 03 00.7**	**+0.1**
	baz=266						
WUSB				*e*S	**Sb**	**01 03 13.2**	**+0.3**
	baz=266						
YHNB	**Yeheng**	**0.96**	**312**	P	**Pn**	**01 03 00.3**	**-0.3**
YHNB	**Yeheng**	**0.96**	**312**	⇑*i*P	**Pb**	**01 03 00.8**	**+0.1**
	baz=311						
YHNB				*e*S	**Sn**	**01 03 15.2**	**+1.7**
	baz=311						
ECBN	**Changbin**	**0.97**	**223**	*e*P	**Pb**	**01 03 00.8**	**+0.1**
	baz=205						
ECBN				*e*S	**Sn**	**01 03 13.7**	**+0.2**
	baz=205						
NSK	**Sanguang**	**0.98**	**311**	⇑*i*P	**Pb**	**01 03 00.9**	**0.0**
	baz=311						
NSK				*e*S	**Sn**	**01 03 14.6**	**+0.7**
	baz=311						
VWDT	**VWDT**	**0.98**	**254**	*e*P	**Pb**	**01 03 01.5**	**+0.6**
	baz=241						
TIPB	**Shuangxi**	**0.99**	**342**	*e*P	**Pn**	**01 03 00.8**	**0.0**
	baz=352						
T

	baz=349								
YM01				*e*S		**Sb**	**01 03 23.0**	**+2.2**	
	baz=349								
TWS1	**Kuangyinshan**	**1.26**	**328**	*e*P		**Pb**	**01 03 06.2**	**+0.5**	
	baz=329								
YM08	**YM08**	**1.27**	**336**	*e*P		**Pb**	**01 03 05.8**	**0.0**	
	baz=337								
ANP	**Anpu**	**1.29**	**333**	*e*P		**Pb**	**01 03 06.5**	**+0.2**	
	baz=334								
TWQ1	**Liyutan**	**1.31**	**284**	*e*P		**Pb**	**01 03 07.5**	**+0.9**	
	baz=285								
NSY	**Sanyi**	**1.34**	**287**	*e*P		**Pb**	**01 03 08.2**	**+1.2**	
	baz=287								
TWY	**Chenhua**	**1.34**	**338**	*e*P		**Pb**	**01 03 07.9**	**+0.8**	
	baz=357								
ALS	**Alishan**	**1.35**	**248**	*e*P		**Pb**	**01 03 07.6**	**+0.2**	
	baz=247								
HATJ	**Hateruma jima**	**1.50**	**89**	*e*P		**Pb**	**01 03 09.1**	**-0.7**	
HATJ				*e*S		**Sn**	**01 03 27.5**	**+0.8**	
TWGBT	**Beinan**	**1.56**	**220**	P		**Pn**	**01 03 08.5**	**-0.3**	
JKRS	**Kuro-shima**	**1.70**	**83**	*e*P		**Pn**	**01 03 11.3**	**+0.7**	
JIJ	**Ishigaki jima**	**1.84**	**79**	*e*P		**Pn**	**01 03 13.3**	**+0.7**	
JISG	**Ishigakijimahi**	**2.04**	**74**	P		**Pn**	**01 03 16.1**	**+0.9**	
JISG				*e*S		**Sn**	**01 03 40.5**	**+0.6**	
JTJ	**Tarama**	**2.39**	**75**	*e*P		**Pn**	**01 03 22.1**	**+1.9**	
QZH	**Quanzhou**	**3.38**	**286**	⇑*i*Pn		**Pn**	**01 03 34.0**	**+0.3**	
JOW	**Kunigami**	**6.19**	**62**	Pn		Pn	01 04 07.5	-4.9	
	0.7nm,0.3s,baz=260,slow=30,SNR=1.7								
	9.6nm,0.7s								
KSRS	**Korea Array**	**14.26**	**19**	Pn		**Pn**	**01 06 01.2**	**-1.7**	
	0.2nm,0.3s,baz=198,slow=11,SNR=1.4								
	0.4nm,0.4s								
SONM	**Songino Array**	**26.86**	**336**	P		**P**	**01 08 20.9**	**-0.4**	
	0.5nm,0.4s,baz=151,slow=9.3,SNR=5.7								
	0.5nm,0.4s								
MKAR	**Makanchi Array**	**39.07**	**316**	P		**P**	**01 10 07.7**	**+0.1**	
	0.3nm,0.5s,baz=109,slow=8.6,SNR=5.8								
	0.3nm,0.5s								
KURBB	**Kurchatov Arra**	**42.80**	**320**	P		**P**	**01 10 37.8**	**-0.3**	
	0.3nm,0.3s,baz=119,slow=7.5,SNR=2.1								
	0.3nm,0.3s								
WRA	**Warramunga Arr**	**45.29**	**164**	P		**P**	**01 10 59.1**	**+0.7**	
	0.5nm,0.5s,baz=346,slow=8.7,SNR=4.8								
	0.5nm,0.5s								
BVAR	**Borovoye Array**	**48.36**	**321**	P		**P**	**01 11 21.6**	**-0.5**	
	0.3nm,0.4s,baz=106,slow=14,SNR=2.6								
	0.3nm,0.4s								
ASAR	**Alice Springs**	**48.76**	**166**	P		**P**	**01 11 26.6**	**+1.1**	
	0.2nm,0.5s,baz=357,slow=15,SNR=1.7								
	0.2nm,0.5s								
YKA	**Yellowknife Ar**	**82.76**	**23**	P		**P**	**01 15 03.7**	**-0.5**	
	0.6nm,0.8s,baz=309,slow=5.6,SNR=5.6								
	0.6nm,0.8s								

IDC ***31*** *01:03:15.4±0.6,22.˙77N×121.˙55E,h0km,mb4.2/27, mbtmp4.2/32,ML3.9/5,MS3.7/17,Error ellipse: s-maj=15.6km s-min=14.4km az=77.0*

MOS ***31*** *01:03:16.1±0.9,22.˙75N×121.˙47E,h15km,mb5.0/34,Error ellipse: s-maj=8.9km s-min=6.0km az=113.0*

NIED ***31*** *01:03:16.7,22.˙81N×121.˙33E,h4km,MW4.5,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr4.57; Mθθ2.74; Mθφ-7.31; Mrθ-3.31; Mφφ0.86; Mφr0.63; Fault plane solution: M0 7.27000×10¹⁵ NP1: φs324.00000°,δ60.00000°,λ46.00000°. NP2: φs207.00000°,δ52.00000°,λ140.00000°.*

NEIC ***31*** *01:03:16.5,22.˙79N×121.˙37E,h10km*

JMA ***31*** *01:03:16.7±0.2,22.˙8N±0.˙6×121.˙3E±0.˙5,h4km±3km, MD4.7/18,MW4.6/18,TAIWAN REGION*

BJI ***31*** *01:03:17.5±0.0,22.˙80N×121.˙34E,h5km,mb4.5/59, mB4.8/34,ML4.7/9,Ms4.8/72,Ms7 4.7/67*

NEIC ***31*** *01:03:18.5±1.5,22.˙86N±0.˙03×121.˙28E±0.˙04,h10km±1km, mb4.7/41,Mwr4.6/14,Error ellipse: s-maj=7.0km s-min=3.2km az=308.0,Moment Tensor Solution. Moment tensor: Scale 10¹⁶Nm; Mrr0.75; Mθθ-0.05; Mφφ-0.69; Mrθ0.33; Mθφ-0.60; Mφr-0.43; Fault plane solution: M0 1.08000×10¹⁶ NP1:φs182.26000°,δ59.59000°, λ51.98000°. NP2:φs59.34000°,δ47.20000°,λ136.38000°. Principal axes: T 1.0919, Plg57.0000°, Azm39.0000°; N -0.0159, Plg32.0000°, Azm204.0000°; P -1.0760, Plg7.0000°, Azm298.0000°;*

GCMT ***31*** *01:03:18.5±0.4,22.˙84N±0.˙03×121.˙28E±0.˙02,h14km±1km, MW4.7/74,Moment Tensor Solution. s19,c20; s74,c107; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr1.35±.12; Mθθ0.01±.06; Mφφ-1.37±.09; Mrθ0.12±.18; Mφφ-0.48±.04; Mφr-0.10±.14; Best double couple: M0 1.44400×10¹⁶ NP1:φs190.00000°,δ47.00000°,λ81.00000°. NP2: φs24.00000°,δ44.00000°,λ100.00000°. Principal axes: T 1.3690, Plg83.0000°, Azm28.0000°; N 0.1450, Plg7.0000°, Azm197.0000°; P -1.5190, Plg1.0000°, Azm287.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s. Triangular moment-rate function*

ASIES ***31*** *01:03:18.2,22.˙86N×121.˙23E,h9km,ML4.8,Mw4.5, Moment Tensor Solution. Moment tensor: Scale 10²²Nm; Mrr5.13; Mθθ1.09; Mφφ-4.74; Mrθ-2.41; Mθφ-1.18; Mφr-2.71; Fault plane solution: M0 6.28980×10²² NP1: φs209.05000°,δ63.43000°,λ108.73000°. NP2: φs351.89000°,δ32.11000°,λ57.30000°. Principal axes: T Plg66.2380°, Azm153.3450°; N Plg16.6880°, Azm20.4270°; P Plg16.4180°, Azm285.3590°;*

TAP ***31*** *01:03:18.2,22.˙86N×121.˙23E,h9km,ML4.8,C*

ISC 31 01:03:18.3±0.7,22.˙80N±0.˙02×121.˙29E±0.˙02,h13km±4km, n332,σ1§65/373,mb4.6/79,MS4.0/26,15C-14D,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TTN	**Taitung**	**0.14**	**250**	⇑*i*P	**Pg**	**01 03 22.0**	**+0.3**
	baz=200						
TTN				*i* S	**Sb**	**01 03 25.4**	**-0.3**
	baz=200						
EDH	**Donghe**	**0.17**	**5**	⇑*i*P	**Pg**	**01 03 21.8**	**-0.5**
	baz=44						
EDH				S	**Sg**	**01 03 24.9**	**-0.2**
	baz=44						
LONT	**Longtian**	**0.18**	**306**	P	**Pg**	**01 03 20.7**	**-1.7**
	baz=289						
LONT				S	**Sg**	**01 03 22.9**	**-2.3**
	baz=289						
TWGBT	**Beinan**	**0.19**	**275**	⇓*i*P	**Pg**	**01 03 21.6**	**-1.0**
	baz=258						
TWGBT				*i* S	**Sg**	**01 03 24.5**	**-1.0**
	baz=258						
TWG	**Pinlang**	**0.20**	**276**	Pg	**Pg**	**01 03 21.5**	**-1.2**
TWG				Sg	**Sg**	**01 03 24.7**	**-1.1**
TWG	**Pinlang**	**0.20**	**276**	⇓*i*P	**Pg**	**01 03 21.6**	**-1.2**
	baz=258						
TWG				*i* S	**Sg**	**01 03 24.9**	**-0.9**
	baz=258						
LDUT	**Ludao**	**0.21**	**127**	P	**Pb**	**01 03 24.5**	**+0.5**
	baz=130						
LDUT				S	**Sb**	**01 03 29.8**	**+1.9**
	baz=130						
ECS	**Chishang**	**0.30**	**348**	P	**Pg**	**01 03 24.2**	**-0.3**
	baz=3.0						
ECS				S	**Sb**	**01 03 30.3**	**-0.2**
	baz=3.0						
CHKT	**Chengkung**	**0.31**	**14**	P	**Pg**	**01 03 24.0**	**-0.6**
	baz=40						
CHKT				S	**Sg**	**01 03 29.4**	**+0.6**
	baz=40						
EHD	**Haiduan**	**0.35**	**348**	P	**Pg**	**01 03 24.8**	**-0.7**
	baz=360						
ECL	**Taimali**	**0.37**	**237**	⇑*i*P	**Pg**	**01 03 25.8**	**+0.1**
	baz=228						
ECL				S	**Sb**	**01 03 32.1**	**-0.3**
	baz=228						
FULB	**Fuli**	**0.40**	**1**	*e*P	**Pb**	**01 03 26.8**	**-0.5**
	baz=31						
FULB				*e*S	**Sb**	**01 03 33.6**	**+0.3**
	baz=31						
CHKH	**Chenggong**	**0.40**	**14**	P	**Pg**	**01 03 25.6**	**-0.7**
	baz=31						
CHKH				*e*S	**Sg**	**01 03 32.2**	**+0.5**
	baz=31						
ELDTW	**Lidau**	**0.46**	**327**	P	**Pg**	**01 03 26.1**	**-1.3**
	baz=335						
ELDTW				S	**Sg**	**01 03 33.1**	**-0.6**
	baz=335						
ECBN	**Changbin**	**0.54**	**16**	*e*P	**Pg**	**01 03 28.9**	**+0.1**
	baz=28						
ECBN				*e*S	**Sb**	**01 03 38.2**	**+1.0**
	baz=28						
EYUL	**Yuli**	**0.55**	**3**	*e*P	**Pb**	**01 03 29.5**	**-0.3**
	baz=17						
TWF1	**Yuli**	**0.55**	**1**	P	**Pg**	**01 03 28.8**	**-0.2**
	baz=16						
TAW	**Tawu**	**0.57**	**219**	P	**Pg**	**01 03 29.6**	**+0.1**
	baz=218						
TAW				S	**Sb**	**01 03 38.8**	**+0.6**
	baz=218						
EAST	**Anshuo**	**0.58**	**224**	P	**Pg**	**01 03 29.7**	**0.0**
	baz=210						
EAST				*e*S	**Sb**	**01 03 40.0**	**+1.4**
	baz=210						
TAWH	**Dawu Township**	**0.59**	**219**	*e*P	**Pg**	**01 03 30.0**	**+0.2**
	baz=218						
TAWH				*e*S	**Sb**	**01 03 39.8**	**+1.0**
	baz=218						
YULB	**Yu-li**	**0.59**	**1**	Pg	**Pg**	**01 03 28.5**	**-1.3**
YULB				Sg	**Sg**	**01 03 35.5**	**-2.1**
YULB	**Yu-li**	**0.59**	**1**	*e*P	**Pg**	**01 03 29.5**	**-0.4**
	baz=14						
STYH	**Taoyuan**	**0.60**	**308**	⇓P	**Pg**	**01 03 29.1**	**-0.9**
	baz=310						
STYH				*e*S	**Sg**	**01 03 37.7**	**-0.2**
	baz=310						
TSMG	**Majia**	**0.60**	**261**	P	**Pg**	**01 03 29.5**	**-0.5**
	baz=247						
TSMG				S	**Sg**	**01 03 37.8**	**-0.2**
	baz=247						
STYT	**Tauyuan**	**0.61**	**307**	P	**Pg**	**01 03 29.0**	**-1.2**
	baz=309						
STYT				*e*S	**Sg**	**01 03 38.5**	**+0.2**
	baz=309						
SLGT	**Liugui**	**0.62**	**288**	P	**Pg**	**01 03 29.4**	**-1.0**
	baz=284						
SLGT				*e*S	**Sb**	**01 03 39.6**	**-0.2**
	baz=284						
MASBT	**Mashibuluo**	**0.63**	**253**	P	**Pg**	**01 03 30.2**	**-0.5**
	baz=234						
MASBT				*e*S	**Sg**	**01 03 38.6**	**-0.4**
	baz=234						
EHYH	**Wanrong**	**0.69**	**4**	*e*P	**Pg**	**01 03 31.5**	**-0.3**
	baz=15						
HGSD	**Ruisui**	**0.70**	**10**	*e*P	**Pg**	**01 03 31.8**	**-0.1**
	baz=8.0						
EHY	**Hungye**	**0.70**	**3**	*e*P	**Pg**	**01 03 32.0**	**0.0**
	baz=14						
SGST	**Jiashian**	**0.71**	**293**	*e*P	**Pg**	**01 03 30.5**	**-1.5**
	baz=291						
SGST				*e*S	**Sb**	**01 03 42.1**	**-0.1**
	baz=291						
SCST	**Cishan**	**0.74**	**277**	*e*P	**Pb**	**01 03 33.0**	**0.0**
	baz=263						
SCST				*e*S	**Sb**	**01 03 42.9**	**-0.1**
	baz=263						
SGLT	**Jiouru**	**0.74**	**264**	P	**Pb**	**01 03 33.1**	**+0.1**
	baz=256						
SGLT				*e*S	**Sn**	**01 03 45.0**	**-0.6**
	baz=256						
SCZT	**Fangliau**	**0.75**	**235**	P	**Pg**	**01 03 32.4**	**-0.4**
	baz=214						
SCZT				*e*S	**Sb**	**01 03 44.5**	**+1.1**
	baz=214						
WTP	**Ta-pu**	**0.76**	**306**	⇓*i*P	**Pg**	**01 03 32.7**	**-0.4**
	baz=307						
WTP				S	**Sb**	**01 03 43.8**	**-0.1**
	baz=307						
TPUB	**Ta-pu**	**0.78**	**310**	Pg	**Pg**	**01 03 33.2**	**-0.3**
TPUB				Sg	**Sg**	**01 03 43.1**	**-0.8**
TPUB	**Ta-pu**	**0.78**	**310**	P	**Pg**	**01 03 33.0**	**-0.6**
	baz=311						
TPUB				S	**Sg**	**01 03 43.8**	**0.0**
	baz=311						
LAY	**Lan-yu**	**0.80**	**162**	*e*P	**Pg**	**01 03 33.5**	**-0.2**
	baz=141						
CHN1	**Nanshi**	**0.80**	**299**	⇓*i*P	**Pg**	**01 03 33.6**	**-0.1**
	baz=305						
CHN1				*e*S	**Sn**	**01 03 47.0**	**-0.1**
	baz=305						
TWM1	**Shoushan**	**0.80**	**272**	⇓*i*P	**Pb**	**01 03 34.4**	**+0.3**
	baz=257						
ALS	**Alishan**	**0.83**	**328**	*e*P	**Pg**	**01 03 33.5**	**-1.0**
	baz=334						
SNST	**Tainan City**	**0.84**	**300**	*e*P	**Pb**	**01 03 35.0**	**+0.2**
	baz=300						
LYUB	**Lan-yu**	**0.84**	**161**	*e*P	**Pg**	**01 03 32.6**	**-1.9**
	baz=141						
TWK	**Hsinying**	**0.87**	**302**	⇓*i*P	**Pg**	**01 03 35.0**	**-0.1**
	baz=303						
TWK				*e*S	**Sn**	**01 03 48.9**	**0.0**
	baz=303						
SNJT	**Kaohsiung City**	**0.88**	**267**	*e*P	**Pn**	**01 03 37.2**	**+0.8**
	baz=257						
SMST	**Manzhou Townsh**	**0.88**	**208**	*e*P	**Pn**	**01 03 37.0**	**+0.6**
	baz=195						
CHN3	**Shinhua**	**0.89**	**288**	P	**Pn**	**01 03 37.2**	**+0.6**
	baz=285						
SHHT	**Tainan City**	**0.89**	**284**	*e*P	**Pn**	**01 03 37.4**	**+0.8**
	baz=280						
WCKO	**Fanlu**	**0.89**	**315**	*e*P	**Pg**	**01 03 35.1**	**-0.5**
	baz=329						
WCKO				*e*S	**Sb**	**01 03 48.3**	**+0.7**
	baz=329						
WARBT	**Fenglin Townsh**	**0.92**	**6**	*e*P	**Pb**	**01 03 35.5**	**-0.6**
	baz=17						
HEN	**Hengchun**	**0.94**	**213**	*e*P	**Pn**	**01 03 39.7**	**+2.4**
	baz=200						
VWDT	**VWDT**	**0.96**	**352**	*e*P	**Pb**	**01 03 36.3**	**-0.5**
	baz=12						
TWKBT	**Hengchun**	**0.96**	**207**	*e*P	**Pb**	**01 03 36.0**	**-0.8**
	baz=176						
TWK1	**Hengchun**	**0.96**	**208**	*e*P	**Pb**	**01 03 37.2**	**+0.3**
	baz=176						
WHYT	**Xinyi Township**	**0.98**	**336**	*e*P	**Pb**	**01 03 36.8**	**-0.4**
	baz=344						
SSHA	**Shanhua**	**0.98**	**290**	*e*P	**Pn**	**01 03 38.8**	**+1.0**
	baz=288						
SSHA				*e*S	**Sn**	**01 03 54.1**	**+2.6**
	baz=288						
TAI1	**Yung-k'ang**	**1.01**	**284**	*e*P	**Pn**	**01 03 40.0**	**+1.9**
	baz=280						
SHUL	**Shoufeng**	**1.01**	**14**	*e*P	**Pn**	**01 03 38.5**	**+0.2**
	baz=12						
ESL	**Shilin**	**1.02**	**8**	*e*P	**Pb**	**01 03 37.6**	**-0.3**
	baz=19						
SSLB	**Suanglung**	**1.03**	**343**	Pg	**Pb**	**01 03 36.3**	**-1.7**
SSLB				Sg	**Sb**	**01 03 49.9**	**-1.6**
SSLB	**Suanglung**	**1.03**	**343**	*e*P	**Pb**	**01 03 37.0**	**-1.1**
	baz=5.0						
SSLB				*e*S	**Sn**	**01 03 52.5**	**-0.3**
	baz=5.0						
CHN2	**Minshiung**	**1.04**	**314**	*e*P	**Pb**	**01 03 37.9**	**-0.3**
	baz=318						
CHN2				*e*S	**Sn**	**01 03 54.3**	**+1.2**
	baz=318						
CHY	**Chiayi**	**1.05**	**311**	*e*P	**Pg**	**01 03 38.6**	**0.0**
	baz=315						
CHY				*e*S	**Sn**	**01 03 54.4**	**+1.0**
	baz=315						
SCLT	**Jiali**	**1.07**	**291**	P	**Pg**	**01 03 39.6**	**+0.6**
	baz=289						
SCLT				*e*S	**Sn**	**01 03 56.0**	**+2.1**
	baz=289						
ICHU	**Yijhu**	**1.08**	**301**	*e*P	**Pb**	**01 03 39.0**	**+0.1**
	baz=302						
TEYL	**Yanliau Villag**	**1.10**	**15**	*e*P	**Pg**	**01 03 39.6**	**+0.1**
	baz=13						
WGK	**Gukeng**	**1.11**	**323**	*e*P	**Pn**	**01 03 39.6**	**+0.1**
	baz=329						
WDLH	**Douliu**	**1.12**	**322**	*e*P	**Pb**	**01 03 39.5**	**-0.1**
	baz=329						
CHN8	**Yiju**	**1.13**	**299**	*e*P	**Pb**	**01 03 39.7**	**0.0**
	baz=300						
CHN8				*e*S	**Sn**	**01 03 57.7**	**+2.4**
	baz=300						
SMLT	**Sun Moon Lake**	**1.14**	**342**	*e*P	**Pg**	**01 03 40.3**	**+0.1**
	baz=1.0						
WJS	**Zhushan**	**1.14**	**333**	*e*P	**Pg**	**01 03 40.3**	**0.0**
	baz=342						
TSCK	**Chigu Township**	**1.16**	**288**	*e*P	**Pg**	**01 03 41.2**	**+0.5**
	baz=286						
TYC	**Yuchr**	**1.17**	**340**	*e*P	**Pg**	**01 03 41.0**	**+0.2**
	baz=349						
TYC				*e*S	**Sn**	**01 03 58.2**	**+2.0**
	baz=349						
ETM	**Tongmen**	**1.18**	**9**	*e*P	**Pn**	**01 03 39.4**	**-1.1**
	baz=20						
WUSB	**Renai**	**1.20**	**353**	*e*P	**Pn**	**01 03 40.7**	**-0.2**
	baz=15						
WNT	**Mingjian**	**1.21**	**333**	*e*P	**Pg**	**01 03 41.7**	**+0.1**
	baz=342						
WNT				*e*S	**Sg**	**01 03 58.1**	**+0.9**
	baz=342						
WTK	**Tuku**	**1.21**	**317**	*e*P	**Pb**	**01 03 41.1**	**0.0**
	baz=323						
WSL	**Shuilin Townsh**	**1.21**	**307**	*e*P	**Pn**	**01 03 40.3**	**-0.7**
	baz=310						
LXIB	**Xiulin Townshi**	**1.22**	**5**	*e*P	**Pn**	**01 03 40.1**	**-1.2**
	baz=36						
CHGB	**Renai**	**1.26**	**355**	*e*P	**Pg**	**01 03 42.7**	**+0.1**
	baz=17						
WSF	**Szhu**	**1.29**	**311**	*e*P	**Pn**	**01 03 42.0**	**0.0**
	baz=315						
WSF				*e*S	**Sg**	**01 04 00.5**	**+0.7**
	baz=315						
WCS	**Beigang Elemen**	**1.30**	**345**	*e*P	**Pg**	**01 03 43.4**	**+0.1**
	baz=354						
TWD	**Chiawan**	**1.30**	**12**	*e*P	**Pb**	**01 03 42.6**	**-0.1**
	baz=24						
WHF	**Hehuan Shan**	**1.34**	**359**	*e*P	**Pn**	**01 03 43.2**	**+0.1**
	baz=23						
NACB	**Ninganchiao**	**1.40**	**12**	Pn	**Pn**	**01 03 42.8**	**-0.7**
NACB	**Ninganchiao**	**1.40**	**12**	*e*P	**Pn**	**01 03 42.9**	**-0.7**
	baz=23						
TWT	**Tachien**	**1.45**	**356**	*e*P	**Pb**	**01 03 45.3**	**0.0**
	baz=21						
TDCB	**Techi**	**1.45**	**355**	*e*P	**Pn**	**01 03 44.8**	**+0.4**
	baz=21						
TCU	**Taichung**	**1.45**	**337**	*e*P	**Pg**	**01 03 45.9**	**-0.3**
	baz=347						
WHP	**Taichung City**	**1.50**	**348**	*e*P	**Pg**	**01 03 46.9**	**-0.4**
	baz=8.0						
WHP				*e*S	**Sg**	**01 04 06.8**	**0.0**
	baz=8.0						
WDGT	**Dungji**	**1.57**	**287**	P	**Pn**	**01 03 45.7**	**-0.2**
	baz=286						
WDGT				*e*S	**Sn**	**01 04 06.2**	**+0.1**
	baz=286						
TWQ1	**Liyutan**	**1.61**	**343**	*e*P	**Pg**	**01 03 48.8**	**-0.5**
	baz=355						
TWQ1				*e*S	**Sg**	**01 04 10.5**	**+0.3**
	baz=355						
NNSB	**Datong**	**1.62**	**3**	*e*P	**Pb**	**01 03 47.8**	**-0.4**
	baz=31						
WDJ	**Dajia District**	**1.65**	**339**	*e*P	**Pb**	**01 03 48.8**	**+0.1**
	baz=350						
NSY	**Sanyi**	**1.68**	**343**	*e*P	**Pb**	**01 03 49.7**	**+0.6**
	baz=356						
NSY				*e*S	**Sg**	**01 04 13.0**	**+0.6**
	baz=356						
PHUB	**P'eng-hu**	**1.73**	**295**	*e*P	**Pn**	**01 03 48.0**	**-0.1**
	baz=297						
LATG	**Datong**	**1.74**	**7**	*e*P	**Pb**	**01 03 49.3**	**-0.9**
	baz=35						
VCHM	**Qimei**	**1.76**	**284**	*e*P	**Pn**	**01 03 47.7**	**-0.8**
	baz=284						
PNG	**Penghu**	**1.77**	**296**	*e*P	**Pn**	**01 03 48.7**	**+0.1**
	baz=299						
NMLH	**Miaoli**	**1.79**	**345**	*e*P	**Pb**	**01 03 51.5**	**+0.6**
	baz=356						
NFF	**Wufeng Townshi**	**1.83**	**355**	*e*P	**Pb**	**01 03 51.9**	**+0.1**
	baz=19						
NFF				*e*S	**Sb**	**01 04 14.3**	**-0.3**
	baz=19						
LIOB	**Emei**	**1.85**	**352**	*e*P	**Pb**	**01 03 51.5**	**-0.6**
	baz=16						
YHNB	**Yeheng**	**1.86**	**2**	Pn	**Pn**	**01 03 49.6**	**-0.4**
YHNB	**Yeheng**	**1.86**	**2**	*e*P	**Pb**	**01 03 51.9**	**-0.4**
	baz=30						
NSK	**Sanguang**	**1.87**	**2**	*e*P	**Pb**	**01 03 51.8**	**-0.5**
	baz=29						
TATO	**Taipei**	**2.17**	**5**	Pn	**Pn**	**01 03 53.5**	**-0.7**
JYNG	**Yonagunijimaku**	**2.24**	**42**	*e*S	**Sn**	**01 04 22.5**	**-0.1**
JYNG	**Yonagunijimaku**	**2.24**	**42**	A	A	01 04 22.5	
	comp=E,7.0nm,4.7s,comp=N,9.0nm,5.1s						
YOJ	**Yonaguni jima**	**2.29**	**43**	Pn	**Pn**	**01 03 55.5**	**-0.3**
YOJ	**Yonaguni jima**	**2.29**	**43**	*e*S	**Sn**	**01 04 23.1**	**-0.7**
YOJ	**Yonaguni jima**	**2.29**	**43**	A	A	01 04 23.1	
	comp=E,11nm,4.8s,comp=N,9.0nm,4.7s						
YOJ	**Yonaguni jima**	**2.29**	**43**	P	**Pn**	**01 03 55.5**	**-0.3**
TWB1	**Santiao Chiao**	**2.29**	**16**	*e*P	**Pn**	**01 03 57.3**	**+1.5**
	baz=25						
WFSB	**Wu-fen Shan**	**2.31**	**11**	*e*P	**Pn**	**01 03 57.2**	**+1.2**
	baz=21						
SXI1	**Grass Mountain**	**2.35**	**13**	*e*P	**Pn**	**01 03 58.0**	**+1.4**
	baz=21						
HATJ	**Hateruma jima**	**2.63**	**61**	*e*S	**Sn**	**01 04 31.1**	**-1.2**
HATJ	**Hateruma jima**	**2.63**	**61**	A	A	01 04 31.1	
	comp=E,10.0nm,5.0s,comp=N,16nm,3.7s						
JKRS	**Kuro-shima**	**2.88**	**60**	*e*S	**Sn**	**01 04 38.7**	**+0.3**
JKRS	**Kuro-shima**	**2.88**	**60**	A	A	01 04 38.7	
	comp=E,11nm,3.5s,comp=N,13nm,5.3s						
JIJ	**Ishigaki jima**	**3.05**	**59**	*e*P	**Pn**	**01 04 05.7**	**-0.5**
JIJ				*e*S	**Sn**	**01 04 40.2**	**-2.4**
QZH	**Quanzhou**	**3.26**	**311**	⇓*i*Pn	**Pn**	**01 04 09.0**	**-0.2**
QZH				Sn	**Sn**	**01 04 50.3**	**+2.4**
QZH				smax	smax		
	comp=N,820nm,1.3s						
QZH				smax	smax		
	comp=N,930nm,1.2s						
QZH				LR	LR		
	comp=N,7μm,5.3s						
QZH				LR	LR		
	comp=N,6μm,5.8s						
QZH				LR	LR		
	comp=N,8μm,8.8s						
JISG	**Ishigakijimahi**	**3.29**	**57**	*e*P	**Pn**	**01 04 08.2**	**-1.4**
JTJ	**Tarama**	**3.63**	**59**	*e*S	**Sn**	**01 04 56.3**	**-0.6**
JIRB	**Irabujima**	**4.09**	**60**	*e*S	**Sn**	**01 05 08.6**	**+0.2**
JMJ2	**Miyako jima3**	**4.17**	**62**	*e*S	**Sn**	**01 05 10.4**	**0.0**
JIKM	**Ikemajima**	**4.20**	**59**	*e*S	**Sn**	**01 05 10.1**	**-0.9**
JOGS	**Gusukube**	**4.25**	**62**	*e*S	**Sn**	**01 05 11.7**	**-0.5**
HKPS	**Hong Kong Po S**	**6.63**	**267**		**Pn**	**01 04 54.8**	**-0.6**
GZH	**Guangzhou**	**7.33**	**274**	Pn	**Pn**	**01 05 02.0**	**-3.1**
GZH				Sn	**Sn**	**01 06 22.8**	**-5.4**
GZH				smax	smax		
	comp=N,420nm,1.2s						
GZH				smax	smax		
	comp=N,310nm,1.0s						
JOW	**Kunigami**	**7.51**	**56**	Pn	**Pn**	**01 05 04.6**	**-3.0**
JOW	**Kunigami**	**7.51**	**56**	Pn	**Pn**	**01 05 04.1**	**-3.5**
	comp=N,4.9nm,0.3s,baz=171,slow=19,SNR=5.7						
JOW				Sn	**Sn**	**01 06 28.6**	**-4.1**
	comp=N,0.5nm,0.3s,baz=107,slow=23,SNR=1.8						
	comp=N,12nm,0.3s						
SSE	**Sheshan**	**8.26**	**359**	P	**Pn**	**01 05 16.5**	**-1.4**
SSE				S	**Sn**	**01 06 50.0**	**-1.1**
SSE				pmax	pmax		
	comp=N,15nm,0.7s						
SS

JMZ Minamidaito 2 9.55 70 Pn **Pn** **01 05 35.5 0.0**
WHN Wuhan 9.89 323 P **Pn** **01 05 41.8 +1.5**
WHN S **Sn** **01 07 39.0 +7.7**
WHN pmax pmax
comp=N,60nm,1.0s
WHN LR LR
comp=N,13μm,7.8s
WHN LR LR
comp=N,9μm,5.9s
WHN LR LR
comp=N,17μm,7.2s
GULI GuiLin 10.28 286 ⇑P **Pn** **01 05 46.0 +0.3**
GULI LR LR
comp=N,2μm,7.6s
GULI LR LR
comp=N,3μm,8.1s
GULI LR LR
comp=N,3μm,9.2s
QIZ Qiongzhong 11.33 253 P **Pn** **01 06 00.3 +0.2**
QIZ S **Sn** **01 08 08.0 +1.3**
QIZ pmax pmax
comp=N,45nm,1.1s
QIZ pmax pmax
comp=N,100nm,4.9s
QIZ LR LR
comp=N,1μm,11.7s
QIZ LR LR
comp=N,780nm,13.5s
QIZ LR LR
comp=N,1μm,13.1s
QIZ Qiongzhong 11.33 253 Pn **Pn** **01 06 01.5 +1.4**
ENH Enshi 12.91 308 Pn **Pn** **01 06 21.2 -0.4**
JNU Nakatsue 13.32 37 Pn **Pn** **01 06 26.9 -0.2**
JNU Nakatsue 13.32 37 Pn **Pn** **01 06 25.5 -1.6**
comp=N,0.2nm,0.3s,baz=211,slow=5.9,SNR=3.7
JNU LR LR 01 12 44.8
comp=N,346nm,18.9s,baz=222,slow=43
comp=N,4.7nm,0.8s
GYA Guiyang 13.79 288 ⇑P **Pn** **01 06 35.3 +1.6**
GYA S **Sn** **01 09 12.5 +5.6**
GYA pmax pmax
comp=N,20nm,1.2s
GYA LR LR
comp=N,2μm,6.6s
GYA LR LR
comp=N,3μm,9.0s
GYA LR LR
comp=N,3μm,9.5s
TIA Tai'an 13.85 346 P **P** **01 06 39.3 -3.4**
TIA pmax pmax
comp=N,1.0nm,0.5s
TIA pmax pmax
comp=N,83nm,3.5s
TIA LR LR
comp=N,2μm,8.1s
TIA LR LR
comp=N,1μm,8.3s
TIA LR LR
comp=N,3μm,8.3s
LYN LuoYang 14.03 329 *e*P **P** **01 06 40.8 -3.9**
LYN S **Sn** **01 09 20.5 +8.1**
LYN SS **S** **01 09 33.0 -0.9**
LYN pmax pmax
comp=N,17nm,1.0s
LYN pmax pmax
comp=N,230nm,4.1s
LYN LR LR
comp=N,2μm,10.3s
LYN LR LR
comp=N,2μm,10.3s
LYN LR LR
comp=N,4μm,9.1s
XAN Xi'an 15.60 319 ⇑P **Pn** **01 07 00.0 +2.0**
XAN pP sP 01 07 07.5 +0.6
XAN pmax pmax
comp=N,30nm,1.7s
XAN pmax pmax
comp=N,340nm,5.6s
XAN LR LR
comp=N,4μm,7.6s
XAN LR LR
comp=N,2μm,8.2s
XAN LR LR
comp=N,3μm,9.6s
HNS HongShan 15.62 340 ⇓P **P** **01 07 01.3 -1.0**
HNS pmax pmax
comp=N,33nm,1.8s
HNS pmax pmax
comp=N,300nm,4.3s
HNS LR LR
comp=N,2μm,10.4s
HNS LR LR
comp=N,3μm,12.7s
HNS LR LR
comp=N,2μm,12.0s
KSAR Wonju Array Be 15.66 20 Pn **Pn** **01 06 57.9 -0.8**
KSAR Wonju Array Be 15.66 20 P **Pn** **01 06 57.9 -0.8**
KSRS Korea Array 15.68 20 Pn **Pn** **01 06 57.6 -1.4**
comp=N,0.5nm,0.3s,baz=196,slow=12,SNR=3.1
KSRS LR LR 01 13 37.0
comp=N,275nm,20.4s,baz=190,slow=40
comp=N,0.8nm,0.3s
SLVN Son La 16.18 268 Pn **Pn** **01 07 04.7 -0.9**
DLV T Lat 16.29 231 Pn **Pn** **01 07 05.8 -1.3**
DLV IAmb IAmb 01 07 16.9
comp=Z,65nm,1.4s
TIY Taiyuan 16.70 335 *e*P **P** **01 07 16.0 +1.5**
TIY S **S** **01 10 27.3 -1.4**
TIY SS **SnSn** **01 10 38.8 +7.8**
TIY pmax pmax
comp=Z,250nm,4.8s
TIY LR LR
comp=Z,4μm,9.3s
TIY LR LR
comp=Z,3μm,9.6s
TIY LR LR
comp=Z,4μm,10.5s
UBPT Khong Chiam 16.71 246 Pn **Pn** **01 07 11.7 -0.7**
UBPT IAmb IAmb 01 07 19.7
comp=Z,74nm,1.4s
CD2 Chengdu 17.59 301 P **P** **01 07 24.0 -0.3**
CD2 S **S** **01 10 44.5 -2.4**
CD2 pmax pmax
comp=Z,10.0nm,0.8s
CD2 pmax pmax
comp=Z,200nm,4.1s
CD2 LR LR
comp=Z,3μm,7.0s
CD2 LR LR
comp=Z,2μm,7.7s
CD2 LR LR
comp=Z,2μm,12.2s
PZH PanZhiHua 18.14 286 P **P** **01 07 31.3 +0.8**
PZH S **Sn** **01 10 51.0 -1.7**
PZH pmax pmax
comp=Z,10.0nm,1.3s
PZH pmax pmax
comp=Z,140nm,4.9s
PZH LR LR
comp=Z,890nm,6.9s
PZH LR LR
comp=Z,1μm,7.0s
PZH LR LR
comp=Z,1μm,10.0s
JCJ Chichijima 19.42 73 P **P** **01 07 41.5 -3.0**
comp=Z,1.9nm,0.3s,baz=311,slow=20,SNR=2.0
JCJ LR LR 01 14 12.8
comp=Z,173nm,20.1s,baz=334,slow=34
comp=Z,54nm,0.9s
CRAI Chiangrai 19.62 266 **P** **01 07 43.6 -3.2**
HHC Hu-ho-hao-te 19.78 338 *e*P **Pn** **01 07 50.8 +0.9**
HHC pP sP 01 07 55.0 +1.9
HHC sP pP 01 07 57.5 +5.7
HHC PP **PnPn** **01 08 13.0 +9.2**
HHC *e*S **S** **01 11 29.0 -2.0**
HHC sS sS 01 11 40.3 +3.9
HHC pmax pmax
comp=Z,15nm,1.0s
HHC pmax pmax
comp=Z,160nm,3.5s
HHC LR LR
comp=Z,1μm,10.6s
HHC LR LR
comp=Z,770nm,10.4s
HHC LR LR
comp=Z,750nm,15.0s

MAJO Matsushiro 20.05 43 P **P** **01 07 50.9 -0.4**
MAJO Matsushiro 20.05 43 P **P** **01 07 50.9 -0.4**
MAJO pmax pmax
comp=Z,12nm,0.9s
MJB9 Matsu-Tunnel 20.05 43 **P** **01 07 50.7 -0.5**
MJAR Matsushiro Arr 20.05 43 P **P** **01 07 50.5 -0.8**
comp=Z,0.1nm,0.3s,baz=230,slow=8.5,SNR=2.1
MJAR LR LR 01 16 42.4
comp=Z,220nm,18.4s,baz=222,slow=40
comp=Z,1.7nm,0.4s
LZH Lanzhou 20.11 315 *e*P Pn 01 07 54.5 +0.6
LZH pP sP 01 08 00.0 +3.2
LZH S **S** **01 11 38.8 +0.9**
LZH pmax pmax
comp=Z,38nm,1.4s
LZH LR LR
comp=Z,2μm,8.9s
LZH LR LR
comp=Z,4μm,8.5s
LZH LR LR
comp=Z,4μm,8.4s
BTO Baotou 20.14 334 *e*P Pn 01 07 56.3 +2.1
BTO pP sP 01 08 00.5 +3.4
BTO sP pP 01 08 03.0 +7.0
BTO PP **PnPn** **01 08 14.0 +5.2**
BTO SS Sn 01 12 05.0 +24
BTO pmax pmax
comp=Z,29nm,1.0s
BTO pmax pmax
comp=Z,360nm,3.8s
BTO LR LR
comp=Z,4μm,10.3s
BTO LR LR
comp=Z,3μm,8.7s
BTO LR LR
comp=Z,6μm,9.7s
PHRA Phrae 20.16 262 P **P** **01 07 51.5 -1.1**
TNCH TengChong 20.93 281 P Pn 01 08 03.8 +0.2
TNCH pP sP 01 08 06.5 +0.6
TNCH sP pP 01 08 09.0 +4.5
TNCH PP **PnPn** **01 08 26.5 +6.8**
TNCH S **S** **01 11 51.5 -2.9**
TNCH PcP **PcP** **01 12 11.5 +2.6**
TNCH pmax pmax
comp=Z,44nm,1.3s
TNCH pmax pmax
comp=Z,250nm,4.3s
TNCH LR LR
comp=Z,850nm,5.8s
TNCH LR LR
comp=Z,730nm,9.4s
TNCH LR LR
comp=Z,980nm,13.2s
CN2 Changchun 21.23 8 P **P** **01 08 04.8 +0.9**
CN2 S **S** **01 11 58.5 -1.1**
CN2 pmax pmax
comp=Z,10.0nm,0.6s
CN2 LR LR
comp=Z,700nm,11.0s
CN2 LR LR
comp=Z,600nm,11.0s
CN2 LR LR
comp=Z,900nm,12.0s
CHTO Chiang Mai 21.25 263 P **P** **01 08 06.6 +2.1**
CHTO lAmb lAmb 01 08 12.1
comp=Z,53nm,1.2s
CHTO Chiang Mai 21.25 263 P **P** **01 08 06.6 +2.1**
CHTO pmax pmax
comp=Z,53nm,1.3s
CMAR Chiang Mai Arr 21.35 262 P **P** **01 08 08.0 +2.5**
comp=Z,17nm,1.1s,baz=65,slow=8.5,SNR=19
comp=Z,17nm,1.1s
CMAR Chiang Mai Arr 21.35 262 P **P** **01 08 08.0 +2.5**
XLT XiLinHaoTe 21.48 350 *e*P P 01 08 14.3 +7.6
XLT SS Sn 01 12 38.5 +26
XLT pmax pmax
comp=Z,14nm,1.6s
XLT LR LR
comp=Z,560nm,18.2s
XLT LR LR
comp=Z,1μm,10.6s
TOLI2 Tolitoli 21.57 181 P **P** **01 08 08.1 +0.4**
TOLI2 lAmb lAmb 01 08 14.6
comp=Z,40nm,1.0s
SBUM Sibu 22.06 205 P **P** **01 08 11.4 -1.6**
GTOI Gorontalo 22.09 175 P **P** **01 08 12.3 -1.1**
comp=Z,20nm,0.9s,comp=Z,280nm
USRK Ussuriysk Ar. 23.09 20 P **P** **01 08 22.5 -1.3**
comp=Z,0.7nm,0.4s,baz=220,slow=10,SNR=1.5
comp=Z,0.7nm,0.4s
LUWI Luwuk 23.74 176 P **P** **01 08 32.1 +1.7**
comp=Z,95nm,1.2s,comp=Z,3μm
LBMI Labuha 24.07 165 P **P** **01 08 33.0 -0.6**
comp=Z,58nm,0.9s
GTA Gaotai 24.64 317 P **P** **01 08 40.8 +1.9**
GTA pP sP 01 08 47.3 +3.5
GTA pmax pmax
comp=Z,20nm,1.7s
GTA pmax pmax
comp=Z,170nm,5.6s
GTA LR LR
comp=Z,490nm,12.4s
GTA LR LR
comp=Z,830nm,12.7s
GTA LR LR
comp=Z,900nm,12.3s
SRIT Nakonsritamara 25.15 239 P **P** **01 08 43.8 +0.3**
GOMU GeErMu 26.53 306 P **P** **01 08 58.5 +2.3**
GOMU pP sP 01 09 07.8 +6.6
GOMU sP pP 01 09 10.8 +11
GOMU pmax pmax
comp=Z,15nm,1.4s
ULN Ulaanbaatar 27.48 339 P **P** **01 09 01.7 -2.8**
ULN Ulaanbaatar 27.48 339‖ *e*P **P** **01 09 03.9 -0.5**
ULN pmax pmax
comp=Z,11nm,1.3s
ASAJ Asahikawa 27.56 34 P **P** **01 09 03.0 -2.0**
comp=Z,2.4nm,0.3s,baz=264,slow=10,SNR=1.5
ASAJ LR LR 01 21 07.1
comp=Z,135nm,20.1s,baz=191,slow=39
comp=Z,2.4nm,0.3s
ASAJ Asahikawa 27.56 34 P **P** **01 09 03.0 -2.0**
KLR Kul'dur 27.64 15 P **P** **01 09 04.7 -0.9**
comp=Z,0.6nm,0.5s,baz=195,slow=12,SNR=1.8
KLR LR LR 01 19 33.9
comp=Z,162nm,20.9s,baz=195,slow=35
comp=Z,0.6nm,0.5s
SONM Songino Array 27.68 338 P **P** **01 09 05.7 -0.4**
SONM Songino Array 27.68 338 P **P** **01 09 05.7 -0.4**
comp=Z,2.4nm,0.7s,baz=156,slow=9.8,SNR=9.4
comp=Z,2.4nm,0.7s
KAPI Kappang 27.68 183 P **P** **01 09 05.6 -0.7**
comp=Z,3.1nm,0.4s,baz=39,slow=13,SNR=1.1
KAPI LR LR 01 21 47.9
comp=Z,126nm,21.6s,baz=30,slow=40
comp=Z,3.1nm,0.4s
HEH HeiHe 27.82 8 *e*P **P** **01 09 12.0 +4.8**
HEH PcP **PcP** **01 12 25.8 +2.6**
HEH pmax pmax
comp=Z,3.0nm,0.6s
HEH LR LR
comp=Z,820nm,12.4s
HEH LR LR
comp=Z,440nm,12.4s
HEH LR LR
comp=Z,890nm,11.0s
ZEA Zeya 31.22 7 *e*P P 01 09 28.8 -8.5
ZEA MLR MLR
comp=E,200nm,14.0s
ZEA MLR MLR
comp=N,300nm,9.0s
ZEA MLR MLR
comp=Z,300nm,7.0s
WMQ Urumqi 34.69 315 *e*P **P** **01 10 08.0 +0.1**
WMQ LR LR
comp=Z,460nm,11.5s
WMQ LR LR
comp=Z,500nm,10.7s
WMQ LR LR
comp=Z,190nm,17.5s
MK31 Makanchi Array 39.40 317 P **P** **01 10 48.7 +0.8**
MK31 lAmb lAmb 01 10 56.0
comp=Z,28nm,1.4s
MK31 Makanchi Array 39.40 317 P **P** **01 10 48.7 +0.8**
MK31 pmax pmax
comp=Z,28nm,1.5s

MKAR Makanchi Array 39.40 317 P **P** **01 10 48.4 +0.5**
MKAR Makanchi Array 39.40 317 P **P** **01 10 49.3 +1.5**
comp=Z,5.6nm,0.9s,baz=108,slow=8.9,SNR=14
comp=Z,5.6nm,0.9s
MAKZ Makanchi 39.60 317 P **P** **01 10 49.1 -0.4**
MAKZ lAmb lAmb 01 10 57.7
comp=Z,40nm,1.4s
MAKZ Makanchi 39.60 317 P **P** **01 10 49.1 -0.4**
MAKZ pmax pmax
comp=Z,40nm,1.5s
PETK Petropavlovsk- 40.96 33 LR LR 01 28 58.3
comp=Z,78nm,19.5s,baz=232,slow=38
ZAA0 Zalesovo Array 41.46 328 P **P** **01 11 03.9 -0.8**
ZAA0 lAmb lAmb 01 11 11.6
comp=Z,19nm,1.0s
ZALV Zalesovo Beam 41.46 328 P **P** **01 11 04.5 -0.3**
ZALV Zalesovo Beam 41.46 328 P **P** **01 11 04.9 +0.2**
comp=Z,4.0nm,0.6s,baz=112,slow=8.7,SNR=18
comp=Z,4.0nm,0.6s
MA2 Magadan 42.23 22 LR LR 01 31 00.6
comp=Z,45nm,18.1s,baz=239,slow=40
H11N1 WAKE ISLAND Hy 42.49 85 T T 01 56 37.9
baz=282,slow=74,SNR=301
H11N2 WAKE ISLAND Hy 42.49 85 T T 01 56 37.0
baz=282,slow=74,SNR=596
H11N3 WAKE ISLAND Hy 42.50 85 T T 01 56 36.4
baz=282,slow=74,SNR=528
H11S3 WAKE ISLAND Hy 42.58 87 T T 01 56 43.8
baz=284,slow=75,SNR=793
H11S1 WAKE ISLAND Hy 42.59 87 T T 01 56 45.7
baz=284,slow=75,SNR=540
H11S2 WAKE ISLAND Hy 42.59 87 T T 01 56 46.4
baz=284,slow=75,SNR=604
KURK Kurchatov 43.22 321 P **P** **01 11 19.3 +0.3**
KURK lAmb lAmb 01 11 24.1
comp=Z,15nm,1.1s
KURK Kurchatov 43.22 321 *d* iP **P** **01 11 20.4 +1.3**
KURK pmax pmax
comp=Z,32nm,1.7s
KURBB Kurchatov Arra 43.23 321 P **P** **01 11 19.8 +0.6**
comp=Z,4.1nm,1.0s,baz=118,slow=7.3,SNR=24
comp=Z,4.1nm,1.0s
NIL Nilore 43.35 295 P **P** **01 11 21.0 +0.5**
AAK Ala-Archa 43.43 309‖ *e*P **P** **01 11 21.6 +0.5**
AAK pmax pmax
comp=Z,9.0nm,1.3s
OHH Osh 44.32 305 P **P** **01 11 30.8 +2.6**
OHH pmax pmax
comp=Z,21nm,1.6s
WRA Warramunga Arr 44.35 162 P **P** **01 11 26.7 -1.8**
comp=Z,1.0nm,0.7s,baz=343,slow=8.8,SNR=3.4
WRA PcP **PP** **01 13 11.4 -0.8**
comp=Z,0.7nm,0.8s,baz=348,slow=4.1,SNR=2.1
comp=Z,1.0nm,0.7s
DRK Karamyk 44.93 304 P **P** **01 11 32.0 -1.4**
DRK lAmb lAmb 01 11 47.6
comp=Z,23nm,1.4s
DRK Karamyk 44.93 304 P **P** **01 11 32.0 -1.4**
DRK pmax pmax
comp=Z,23nm,1.4s
SEY Seymchan 45.24 19 LR LR 01 31 02.0
comp=Z,92nm,21.0s,baz=360,slow=37
BTK Batken 45.75 304 P **P** **01 11 40.5 +0.9**
BTK lAmb lAmb 01 11 54.8
comp=Z,10nm,1.2s
BTK Batken 45.75 304 P **P** **01 11 40.5 +0.9**
BTK pmax pmax
comp=Z,10.0nm,1.3s
KKAR Karatay Array 46.39 308 P **P** **01 11 43.5 -1.1**
KKAR Karatay Array 46.39 308 P **P** **01 11 43.5 -1.1**
KBL Kabul 46.85 297 P **P** **01 11 48.4 -0.1**
KBL Kabul 46.85 297 P **P** **01 11 48.4 -0.1**
KBL pmax pmax
comp=Z,36nm,1.5s
CHGR Chuyangaron 46.90 302 P **P** **01 11 50.6 +1.9**
CHGR pmax pmax
comp=Z,20nm,1.1s
SIMJ Simiganj 47.02 302 P **P** **01 11 49.7 -0.1**
SIMJ lAmb lAmb 01 12 02.0
comp=Z,16nm,1.4s
ASAR Alice Springs 47.79 164 P **P** **01 11 53.6 -1.9**
comp=Z,0.4nm,0.3s,baz=350,slow=8.1,SNR=5.2
ASAR PcP **PcP** **01 13 22.8 -1.8**
comp=Z,0.9nm,0.8s,baz=357,slow=3.2,SNR=1.9
comp=Z,0.4nm,0.3s
BVAR Borovoye Array 48.80 321 P **P** **01 12 03.7 +0.5**
comp=Z,1.6nm,0.6s,baz=94,slow=9.1,SNR=8.0
comp=Z,1.6nm,0.6s
BRVK Borovoye 48.88 321 *ce*P **P** **01 12 04.3 +0.6**
BRVK pmax pmax
comp=Z,22nm,1.5s
TIXI Tiksi 49.06 3 LR LR 01 34 13.4
comp=Z,128nm,18.8s,baz=203,slow=38
HNR Honiara 49.59 126 LR LR 01 31 15.0
comp=Z,1μm,20.1s,baz=316,slow=34
BILL Bilibino 52.95 19 *e*P **P** **01 12 36.6 +2.5**
BILL pmax pmax
comp=Z,13nm,1.8s
ABKAR Akbulak array 54.48 315 P **P** **01 12 46.3 +0.6**
ABKAR lAmb lAmb 01 12 53.0
comp=Z,15nm,1.4s
ABKAR Akbulak array 54.48 315 P **P** **01 12 46.2 +0.6**
SVE Sverdlovsk 55.21 324 *e*P **P** **01 12 52.2 +1.4**
SVE pmax pmax
comp=Z,21nm,1.4s
NWAO Narrogin (SRO) 55.55 184 LR LR 01 39 35.4
comp=Z,47nm,18.1s,baz=335,slow=39
GEYT Alibeck 55.58 301 P **P** **01 12 53.8 0.0**
GEYT lAmb lAmb 01 13 07.1
comp=Z,11nm,1.0s
GEYT Alibeck 55.58 301 P **P** **01 12 54.7 +0.8**
comp=Z,1.6nm,0.6s,baz=64,slow=6.8,SNR=8.6
comp=Z,1.6nm,0.6s
GEYT Alibeck 55.58 301 P **P** **01 12 53.8 0.0**
GEYT pmax pmax
comp=Z,11nm,1.0s
ARU Arti 56.27 324 P **P** **01 12 57.8 -0.6**
ARU Arti 56.27 324 P **P** **01 12 58.4 0.0**
comp=Z,3.5nm,0.5s,baz=113,slow=5.8,SNR=7.3
comp=Z,3.5nm,0.5s
ARU Arti 56.27 324 *c* iP **P** **01 12 58.1 -0.3**
ARU 01 15 06.6
ARU S **S** **01 20 49.1 +1.2**
ARU pmax pmax
comp=Z,6.0nm,0.7s
KIRV Kirov 61.41 325 P **P** **01 13 34.3 +0.3**
comp=Z,12nm,0.8s,baz=129,slow=13,SNR=0.8
comp=Z,12nm,0.8s
DZM Mont Dzumac 62.63 132 *e*LR LR 01 32 19.0
comp=Z,274nm,24.1s
MAK Makhachkala 63.20 308 *c* iP P 01 13 39.8 -6.5
MAK *e*S **S** **01 22 09.1 -8.6**
MAK *e*SS **SS** **01 26 19.3 -4.3**
MAK pmax pmax
comp=Z,88nm,1.1s
MAK MLR MLR
comp=Z,89nm,13.0s
D19K Kuna River 65.56 24 P **P** **01 14 02.4 +1.0**
D19K lAmb lAmb 01 14 12.0
comp=Z,6.8nm,1.1s
GNI Garni 65.67 305⇑ *e*P **P** **01 14 03.6 +0.8**
GNI pmax pmax
comp=Z,17nm,1.5s
E19K Redstone River 65.91 25 P **P** **01 14 04.2 +0.6**
E19K lAmb lAmb 01 14 16.2
comp=Z,4.0nm,1.1s
VRH Novokhopyorsk 66.13 317 *e*P **P** **01 14 05.8 +0.5**
VRH pmax pmax
comp=Z,9.0nm,1.0s
ONI Oni 66.21 308 P **P** **01 14 05.7 -0.4**
ONI Oni 66.21 308 P **P** **01 14 05.7 -0.4**
ONI pmax pmax
comp=Z,22nm,1.4s
KLMR Klimovskoe 66.38 328 *e*P **P** **01 14 09.9 +3.2**
KLMR pmax pmax
comp=Z,20nm,1.4s
KBZ Khabaz 66.42 309 P **P** **01 14 08.1 +0.8**
comp=Z,4.2nm,1.0s,baz=157,slow=0.9,SNR=4.1
comp=Z,4.2nm,1.0s
KBZ Khabaz 66.42 309 *ce*P **P** **01 14 08.2 +0.9**
KBZ pmax pmax
comp=Z,10.0nm,1.1s
KIV Kislovodsk 66.53 309 P **P** **01 14 08.3 +0.1**
KIV Kislovodsk 66.53 309 *d* iP **P** **01 14 09.7 +1.5**
KIV *e* 01 14 36.8
KIV pmax pmax

comp=Z,35nm,1.8s
KIV MLR MLR
comp=Z,76nm,19.0s
KIV Kislovodsk 66.53 309 P P 01 14 07.4 -0.8
comp=Z,9.7nm,1.1s
VORR Voronezh 67.62 318 *eP* **P 01 14 15.9 +1.1**
VORR pmax pmax
comp=Z,10.0nm,0.9s
LPSR Galich'ya Gora 67.66 319 *eP* **P 01 14 15.3 +0.3**
LPSR pmax pmax
comp=Z,10.0nm,0.9s
VORD Divnogorie 67.68 317 *eP* **P 01 14 16.9 +1.7**
VORD pmax pmax
comp=Z,4.0nm,0.9s
VSR Storozhevoye 67.72 318 *eP* **P 01 14 14.6 -0.8**
VSR pmax pmax
comp=Z,6.0nm,1.0s
H21K Melozitna Rive 67.79 27 P **P 01 14 16.6 +0.9**
H21K IAmb IAmb 01 14 50.6
comp=Z,6.5nm,1.4s
MOS Moscow 67.95 323 *eP* **P 01 14 16.4 -0.4**
APA Apatity 68.35 336 ‖ *iP* P 01 14 11.7 -7.4
VSLR Vesyoloye 68.52 309 ‖ *eP* **P 01 14 20.1 -0.5**
VSLR pmax pmax
comp=Z,32nm,1.4s
RAYN Ar Rayn 68.84 287 P **P 01 14 22.6 -0.5**
RAYN Ar Rayn 68.84 287 P **P 01 14 22.6 -0.5**
RAYN pmax pmax
comp=Z,19nm,1.5s
E24K Your Creek 69.16 24 P **P 01 14 24.8 +0.5**
RND Reindeer 69.81 29 P **P 01 14 28.3 -0.1**
RND IAmb IAmb 01 14 38.4
comp=Z,4.7nm,0.8s
RND Reindeer 69.81 29 P **P 01 14 28.3 -0.1**
RND pmax pmax
comp=Z,5.0nm,0.8s
ILAR Eielson Array 70.39 27 P **P 01 14 30.0 -1.8**
comp=Z,0.2nm,0.6s,baz=291,slow=6.3,SNR=2.2
comp=Z,0.2nm,0.6s
ARCES ARCESS Array B 70.85 338 P **P 01 14 34.1 -0.4**
comp=Z,4.3nm,1.0s,baz=74,slow=7.7,SNR=2.6
comp=Z,4.3nm,1.0s
F28M Old Crow 72.45 23 P **P 01 14 44.9 +0.7**
F28M IAmb IAmb 01 14 56.0
comp=Z,11nm,1.4s
FINES FINESS Array B 72.68 330 P **P 01 14 45.5 -0.2**
comp=Z,0.8nm,0.5s,baz=40,slow=7.4,SNR=9.4
comp=Z,0.8nm,0.5s
FINES FINESS Array B 72.68 330 *i* P **P 01 14 46.4 +0.7**
FINES pmax pmax
comp=Z,5.0nm,1.0s
L27K Beaver Creek, 72.98 28 P **P 01 14 48.0 +0.5**
AK09 Malin Array Si 73.95 319 P **P 01 14 52.6 -0.7**
AK08 Malin Array Si 73.96 319 P **P 01 14 52.7 -0.7**
AKASG Malin Array Be 73.96 319 P **P 01 14 53.7 +0.3**
comp=Z,1.9nm,0.8s,baz=64,slow=5.1,SNR=5.1
comp=Z,1.9nm,0.8s
AKBB Malin Array Si 73.96 319 P **P 01 14 52.7 -0.7**
AK07 Malin Array Si 74.02 318 P **P 01 14 53.0 -0.7**
BR131 Keskin Array S 74.07 307 ⇑ *eP* **P 01 14 55.8 +1.3**
BRTR Keskin Array B 74.07 307 P **P 01 14 54.5 0.0**
BRTR Keskin Array B 74.07 307 P **P 01 14 54.9 +0.4**
comp=Z,1.0nm,0.8s,baz=104,slow=5.4,SNR=2.1
comp=Z,1.0nm,0.8s
BR106 Keskin Array S 74.08 307 P **P 01 14 53.6 -0.9**
comp=Z,3.5nm,1.1s
BR105 Keskin Array S 74.09 307 P **P 01 14 53.6 -1.0**
AK19 Malin Array Si 74.09 319 P **P 01 14 52.7 -1.4**
MI30 MI30,Zelenitsa 74.58 319 P **P 01 14 56.2 -0.8**
MI28 Mi28,Pidlybu 74.84 319 P **P 01 14 57.7 -0.8**
MI29 MI29, Kamyanyy 74.89 319 P **P 01 14 58.0 -0.8**
LUBAR Lubar, Ukraine 75.09 318 P **P 01 14 59.2 -0.8**
RNPP9 Sopachiv 75.76 320 P **P 01 15 03.0 -0.8**
KMPD K-Podol'skiy 76.33 317 P **P 01 15 06.1 -1.0**
SUW Suwalki 76.45 323 *eP* **P 01 15 09.0 +1.3**
BUR08 Bucovina Ar. S 77.43 316 P **P 01 15 14.3 +0.9**
KWP Kalwaria Pacla 78.28 319 *eP* P 01 15 11.2 -6.8
KWP Kalwaria Pacla 78.28 319 P **P 01 15 18.1 +0.1**
KWP Kalwaria Pacla 78.28 319 P **P 01 15 18.1 +0.1**
KWP pmax pmax
comp=Z,18nm,1.1s
HFS Hagfors 78.81 331 P **P 01 15 20.6 -0.2**
comp=Z,3.1nm,0.7s,baz=92,slow=4.7,SNR=7.2
comp=Z,3.1nm,0.7s
NB2 NORSAR Subarra 79.49 332 P **P 01 15 24.1 -0.4**
comp=Z,3.0nm,0.8s,baz=55,slow=6.2
NOA NORSAR Array B 79.49 332 P **P 01 15 24.1 -0.4**
comp=Z,2.9nm,0.8s,baz=58,slow=5.7,SNR=11
comp=Z,2.9nm,0.8s
OJC Ojcow 79.79 320 *eP* **P 01 15 28.2 +1.9**
OJC Ojcow 79.79 320 P **P 01 15 27.1 +0.8**
OJC IAmb IAmb 01 15 32.3
comp=Z,8.3nm,1.0s
OJC Ojcow 79.79 320 P **P 01 15 27.1 +0.8**
OJC pmax pmax
comp=Z,8.0nm,1.0s
NIE Niedzica 79.81 319 *eP* **P 01 15 27.9 +1.4**
RES Resolute Bay 80.01 9 P **P 01 15 25.6 -1.4**
comp=Z,1.7nm,1.0s,baz=255,slow=8.8,SNR=2.1
comp=Z,1.7nm,1.0s
VYHS Vyhne 81.06 319 *eP* P 01 15 39.0 +5.8
VYHS Vyhne 81.06 319 *eP* P 01 15 39.0 +5.8
MODS Modra-Piesok 82.06 319 *eP* P 01 15 43.7 +5.2
MODS Modra-Piesok 82.06 319 *eP* P 01 15 43.7 +5.2
CONA Conrad Observa 83.10 319 *i* PcP **P 01 15 45.3 +1.3**
comp=Z,4.7nm,1.8s
CLL Collm 83.21 323 *eP* **P 01 15 43.0 -1.4**
comp=Z,5.0nm,1.3s
CLL AMS AMS 01 50 00.0
comp=N,100nm,18.7s
CLL AMS AMS 01 50 00.0
comp=E,100nm,21.4s
CLL AMS AMS 01 57 00.0
comp=Z,100nm,18.4s
CLL Collm 83.21 323 *i* P **P 01 15 42.9 -1.4**
CLL pmax pmax
comp=Z,5.0nm,1.3s
SUMG Summit 83.88 354 *i* P **P 01 15 49.0 +1.1**
KHC Kasperske Hory 83.91 321 ⇑ *eP* **P 01 15 50.5 +2.4**
KHC pmax pmax
comp=Z,15nm,2.6s
GERES GERESS Array B 83.97 321 P **P 01 15 48.3 -0.2**
comp=Z,0.7nm,0.7s,baz=71,slow=4.3,SNR=2.3
comp=Z,0.7nm,0.7s
MOA Molln 84.10 320 *e*PcP **PcP 01 15 51.0 -1.9**
comp=Z,6.3nm,1.8s
SOKA Soboth 84.17 318 *e*PcP **PcP 01 15 53.9 +0.5**
comp=Z,2.5nm,1.1s
YKA Yellowknife Ar 84.20 23 P **P 01 15 47.8 -1.5**
comp=Z,0.2nm,0.6s,baz=310,slow=5.3,SNR=2.2
comp=Z,0.2nm,0.6s
OBKA Obir 84.54 318 pP **P 01 15 52.1 +0.7**
comp=Z,2.2nm,0.7s
LESA Schwarzleotal 85.25 320 *e*PcP **P 01 15 55.0 +0.1**
comp=Z,3.0nm,0.8s
ABTA Abfaltersbach 85.67 319 *e*pP pP 01 15 59.3 -1.7
comp=Z,2.7nm,1.2s
MOTA Moosalm 86.22 320 *e*pP pP 01 16 04.5 +0.8
comp=Z,1.7nm,1.0s
EKA Eskdalemuir Ar 88.97 332 P **P 01 16 12.1 -0.6**
comp=Z,0.7nm,0.7s,baz=56,slow=2.8,SNR=1.8
comp=Z,0.7nm,0.7s
SFJD Kangerlussuaq 90.27 357 LR LR 01 59 14.7
comp=Z,59nm,18.2s,baz=7.0,slow=37
MBAR Mbarara 90.74 270 LR LR 01 56 29.9
comp=Z,13nm,21.2s,baz=52,slow=35
FRB Frobisher Bay 93.40 4 LR LR 02 03 26.0
comp=Z,44nm,18.6s,baz=318,slow=39
PPT Papeete 95.87 106 LR LR 01 51 03.9
comp=Z,47nm,20.8s,baz=314,slow=30
PPT2 Papeete2 95.88 107 *e*LR LR 01 47 28.3
comp=Z,111nm,28.5s
PPT2 *e*LR LR 01 47 28.7
comp=Z,109nm,23.8s
ESDC Sonseca Array 99.56 320 LR LR 02 07 54.9
comp=Z,56nm,18.1s,baz=38,slow=39

IDC ***31*** *01:10:13.2±0.6, 12°.95S×45°.60E, h0km, mb4.0/20, mbtmp4.0/22, ML4.6/3, MS3.6/10, Error ellipse: s-maj=19.0km s-min=15.2km az=84.0*
NEIC ***31*** *01:10:14.6±1.8, 12°.91S±0°.04×45°.69E±0°.08, h10km±1km, mb4.8/32, Error ellipse: s-maj=14.4km s-min=4.5km az=292.0*
ISC 31 01:10:14.2±0.4,**12°.93S**±0°.05×**45°.67E**±0°.07,**h10**km,**n97,**
σ1§49/90,**mb4.6**/43,**MS3.6**/8,**3C**,**Northwest of Madagascar**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**5.80**	**166**	Pn	**Pn**	**Pn**	**01 11 40.9**	**+0.5**
	5.6nm,0.3s,baz=337,slow=12,SNR=124							
OPO				Sn	**Sn**	**Sn**	**01 12 42.1**	**-5.0**
	63nm,0.3s,baz=281,slow=19,SNR=25							
OPO				LR	LR	LR	01 13 50.5	
	comp=Z,426nm,22.0s,baz=182,slow=38							
ABPO	**Ambohimpanom**	**6.24**	**166**	Pn	**Pn**	**Pn**	**01 11 46.3**	**-0.2**
ABPO	**Ambohimpanom**	**6.24**	**166**	*eP*	**Pn**	**Pn**	**01 11 46.2**	**-0.2**
VOI	**Vohitsoka**	**8.99**	**173**		**Pn**	**Pn**	**01 12 23.9**	**-0.4**
VOI	**Vohitsoka**	**8.99**	**173**	*eP*	**Pn**	**Pn**	**01 12 24.1**	**-0.2**
FOMA	**Nahampoana Res**	**12.05**	**174**	Pn	**Pn**	**Pn**	**01 13 05.2**	**-0.8**
RER	**Riviere de l'E**	**12.63**	**132**	Pn	**Pn**	**Pn**	**01 13 12.5**	**-1.6**
MSEY	**Mahe Island**	**12.69**	**51**	Pn	**Pn**	**Pn**	**01 13 11.6**	**-3.4**
KIBK	**Kibwezi**	**12.95**	**324**	Pn	**Pn**	**Pn**	**01 13 14.0**	**-4.4**
KMBO	**Kilima Mbogo**	**14.39**	**324**	Pn	**Pn**	**Pn**	**01 13 35.9**	**-2.5**
LSZ	**Lusaka**	**17.12**	**260**	Pn	**Pn**	**Pn**	**01 14 13.6**	**-0.3**
MOPA	**Mopani**	**17.15**	**230**	*eP*	**Pn**	**Pn**	**01 14 11.3**	**-2.8**
MUSN	**Musina, Limpop**	**17.70**	**236**	*eP*	**Pn**	**Pn**	**01 14 18.7**	**-2.3**
MATP	**Matopo**	**18.05**	**243**	P	**P**	**P**	**01 14 25.8**	**-0.1**
	0.5nm,0.3s,baz=70,slow=12,SNR=18							
MATP				S	Sn	Sn	01 17 34.5	-13
	1.9nm,0.5s,baz=340,slow=20,SNR=2.1							
	4.5nm,0.7s							
PILG	**Pilgrimsrest,**	**18.50**	**228**	*eP*	**P**	**P**	**01 14 24.7**	**-6.2**
LODK	**Lodwar**	**19.20**	**327**	P	**P**	**P**	**01 14 37.8**	**-0.7**
MBAR	**Mbarara**	**19.21**	**308**	P	**P**	**P**	**01 14 37.8**	**-0.9**
MBAR	**Mbarara**	**19.21**	**308**	P	**P**	**P**	**01 14 38.6**	**-0.1**
	2.2nm,0.3s,baz=114,slow=13,SNR=10							
MBAR				S	Sn	Sn	01 17 56.9	-18
	2.3nm,0.3s,baz=165,slow=20,SNR=1.3							
MBAR				LR	LR	LR	01 21 34.8	
	comp=Z,95nm,20.3s,baz=120,slow=36							
	4.3nm,0.3s							
POGA	**Pongola**	**19.41**	**220**	Pn	**Pn**	**Pn**	**01 14 42.2**	**+0.5**
POGA				IAmb	IAmb	IAmb	01 14 44.9	
	comp=Z,38nm,0.9s							
CRLN	**Carolina, Mapu**	**19.64**	**226**	*eP*	**P**	**P**	**01 14 43.6**	**+0.4**
LEPH	**Lephalale, Lim**	**20.12**	**235**	*eP*	**P**	**P**	**01 14 49.1**	**+0.6**
HRAO	**HartRAO**	**21.27**	**230**	*eP*	**P**	**P**	**01 15 00.7**	**-0.3**
PMBG	**Pietermaritzbu**	**21.69**	**218**	*eP*	**P**	**P**	**01 15 05.4**	**+0.1**
PMBG					IAmb	IAmb	01 15 10.8	
	comp=Z,19nm,0.8s							
PRYS	**Parys**	**22.10**	**228**	*eP*	**P**	**P**	**01 15 08.3**	**-1.6**
PRYS					IAmb	IAmb	01 15 14.7	
	comp=Z,13nm,0.7s							
LBTB	**Lobatse**	**22.43**	**235**	P	**P**	**P**	**01 15 12.7**	**-0.8**
LBTB					IAmb	IAmb	01 15 16.2	
	comp=Z,20nm,0.8s							
LBTB	**Lobatse**	**22.43**	**235**	*eP*	**P**	**P**	**01 15 12.6**	**-0.8**
LBTB					IAmb	IAmb	01 15 15.9	
	comp=Z,20nm,0.8s							
LBTB	**Lobatse**	**22.43**	**235**	LR	LR	LR	01 23 29.7	
	comp=Z,68nm,18.3s,baz=56,slow=36							
SNKL	**Senekal, Frees**	**22.62**	**225**	*eP*	**P**	**P**	**01 15 14.0**	**-1.5**
SNKL					IAmb	IAmb	01 15 17.4	
	comp=Z,36nm,0.8s							
BOSA	**Boshof**	**24.59**	**227**	P	**P**	**P**	**01 15 34.1**	**-0.7**
BOSA					IAmb	IAmb	01 15 38.3	
	comp=Z,94nm,1.9s							
BOSA	**Boshof**	**24.59**	**227**	*eP*	**P**	**P**	**01 15 34.8**	**0.0**
BOSA					IAmb	IAmb	01 15 37.4	
	comp=Z,13nm,0.7s							
BOSA	**Boshof**	**24.59**	**227**	P	**P**	**P**	**01 15 34.4**	**-0.4**
	comp=Z,9.6nm,0.5s,baz=52,slow=8.0,SNR=43							
BOSA					LR	LR	01 25 21.1	
	comp=Z,178nm,20.1s,baz=50,slow=37							
	comp=Z,9.6nm,0.5s							
GRHM	**Grahamstown, E**	**26.84**	**218**	P	**P**	**P**	**01 15 55.5**	**+0.5**
SOE	**Somerset East**	**26.95**	**220**	P	**P**	**P**	**01 15 57.2**	**+1.2**
SOE					IAmb	IAmb	01 16 26.5	
	comp=Z,27nm,1.1s							
TSUM	**Tsumeb**	**27.68**	**253**	LR	LR	LR	01 26 32.8	
	comp=Z,120nm,18.6s,baz=80,slow=36							
SUR	**Sutherland**	**29.89**	**226**	P	**P**	**P**	**01 16 23.3**	**+0.9**
SUR	**Sutherland**	**29.89**	**226**	*eP*	**P**	**P**	**01 16 22.6**	**+0.2**
SUR					IAmb	IAmb	01 16 27.2	
	comp=Z,954nm,3.5s							
SUR	**Sutherland**	**29.89**	**226**	LR	LR	LR	01 28 08.6	
	comp=Z,118nm,20.8s,baz=52,slow=36							
KAAM	**Kaadhehdhoo**	**30.20**	**66**	P	**P**	**P**	**01 16 23.4**	**-1.6**
TOA0	**Torodi Ar. Sit**	**50.71**	**299**	P	**P**	**P**	**01 19 15.4**	**+0.8**
TORD	**Torodi Ar. Bea**	**50.71**	**299**	P	**P**	**P**	**01 19 13.9**	**-0.6**
TORD	**Torodi Ar. Bea**	**50.71**	**299**	P	**P**	**P**	**01 19 14.5**	**0.0**
	comp=Z,1.3nm,1.0s,baz=125,slow=7.3,SNR=5.5							
	comp=Z,1.3nm,1.0s							
GEYT	**Alibeck**	**51.92**	**13**	P	**P**	**P**	**01 19 24.3**	**+1.1**
	comp=Z,0.8nm,0.4s,baz=190,slow=4.2,SNR=2.4							
	comp=Z,0.8nm,0.4s							
BRTR	**Keskin Array B**	**53.57**	**348**	P	**P**	**P**	**01 19 36.4**	**+0.9**
	comp=Z,0.4nm,0.6s,baz=168,slow=11,SNR=3.9							
	comp=Z,0.4nm,0.6s							
DBIC	**Dimbokro**	**53.84**	**288**	LR	LR		01 41 52.0	
	comp=Z,48nm,18.7s,baz=112,slow=35							
BR231	**Keskin MP Arra**	**53.85**	**348**	P		**P**	**01 19 37.8**	**+0.3**
BR231					IAmb	IAmb	01 21 06.5	
	comp=Z,12nm,1.1s							
ANTO	**Ankara**	**53.88**	**348**	P	**P**	**P**	**01 19 35.9**	**-1.8**
ANTO					IAmb	IAmb	01 20 58.9	
	comp=Z,16nm,1.4s							
ITM	**Ithomi**	**54.62**	**337**	P	**P**	**P**	**01 19 43.0**	**-0.1**
SIMJ	**Simiganj**	**55.77**	**22**	P	**P**	**P**	**01 19 51.2**	**-0.3**
SIMJ					IAmb	IAmb	01 19 58.6	
	comp=Z,7.0nm,0.9s							
MAW	**Mawson**	**55.79**	**172**	P	**P**	**P**	**01 19 52.2**	**+1.2**
	comp=Z,1.8nm,0.8s,baz=8.6,slow=8.5,SNR=2.7							
	comp=Z,1.8nm,0.8s							
CHGR	**Chuyangaron**	**55.82**	**22**	P	**P**	**P**	**01 19 51.2**	**-0.6**
CHGR					IAmb	IAmb	01 19 58.9	
	comp=Z,17nm,0.8s							
AGG	**Agios Georgios**	**56.09**	**338**	P	**P**	**P**	**01 19 53.4**	**-0.3**
AGG					IAmb	IAmb	01 21 43.1	
	comp=Z,4.1nm,0.7s							
KBZ	**Khabaz**	**56.44**	**358**	P	**P**	**P**	**01 19 56.3**	**+0.4**
	comp=Z,1.0nm,0.7s,baz=180,slow=6.4,SNR=2.0							
	comp=Z,1.0nm,0.7s							
KIV	**Kislovodsk**	**56.67**	**357**	P	**P**	**P**	**01 19 58.9**	**+1.1**
KIV					IAmb	IAmb	01 20 09.4	
	comp=Z,10.0nm,1.1s							
TIP	**Timpagrande**	**58.44**	**334**	P	**P**	**P**	**01 20 10.5**	**+0.2**
TIP					IAmb	IAmb	01 22 01.1	
	comp=Z,6.5nm,1.3s							
KKAR	**Karatay Array**	**60.22**	**21**	P	**P**	**P**	**01 20 23.4**	**+0.9**
CMAR	**Chiang Mai Arr**	**61.09**	**60**	P	**P**	**P**	**01 20 29.7**	**+0.8**
	comp=Z,1.1nm,0.3s,baz=251,slow=9.0,SNR=6.0							
	comp=Z,1.1nm,0.3s							
CHTO	**Chiang Mai**	**61.25**	**60**	P	**P**	**P**	**01 20 30.2**	**+0.3**
CHTO					IAmb	IAmb	01 20 42.6	
	comp=Z,6.9nm,1.3s							
ABKAR	**Akbulak array**	**63.18**	**10**	P	**P**	**P**	**01 20 41.9**	**-0.4**
ABKAR	**Akbulak array**	**63.18**	**10**	P	**P**	**P**	**01 20 41.8**	**-0.5**
ABKAR					IAmb	IAmb	01 20 49.0	
	comp=Z,8.7nm,0.8s							
TROLL	**Troll, Antarti**	**64.38**	**194**	⇑P	**P**	**P**	**01 20 53.4**	**+3.2**
	comp=Z,398nm,0.8s							
STHS	**Stebnicka Huta**	**65.71**	**343**	*eP*	**P**	P	01 21 08.4	+10
VNA2	**Neumayer--Watz**	**66.26**	**197**	⇑P	**P**	**P**	**01 21 03.9**	**+1.7**
	comp=Z,2.9nm,0.7s,baz=43,slow=7.1							
VNA3	**Neumayer Olymp**	**67.06**	**197**	⇑P	**P**	**P**	**01 21 08.9**	**+1.5**
	comp=Z,3.7nm,0.6s							
PZH	**PanZhiHua**	**67.11**	**54**	P	**P**	**P**	**01 21 10.0**	**+1.5**
PZH	**PanZhiHua**	**67.11**	**54**	P	**P**	**P**	**01 21 10.3**	**+1.8**
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=Z,100nm,4.8s							
PZH					pmax	pmax		
	comp=Z,10.0nm,0.5s							
PZH					pmax	pmax		
	comp=Z,100nm,4.8s							
GERES	**GERESS Array B**	**67.70**	**338**	P	**P**	**P**	**01 21 11.3**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=142,slow=6.8,SNR=4.4							
	comp=Z,0.5nm,0.6s							
MKAR	**Makanchi Array**	**67.91**	**26**	P	**P**	**P**	**01 21 13.0**	**0.0**
MKAR	**Makanchi Array**	**67.91**	**26**	P	**P**	**P**	**01 21 13.7**	**+0.7**
	comp=Z,1.2nm,0.8s,baz=209,slow=6.7,SNR=3.0							
	comp=Z,1.2nm,0.8s							
WMQ	**Urumqi**	**68.23**	**31**	*eP*	**P**	**P**	**01 21 16.3**	**+1.1**
WMQ					pmax	pmax		
	comp=Z,10.0nm,0.7s							
BVAR	**Borovoye Array**	**69.03**	**16**	P	**P**	**P**	**01 21 21.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=197,slow=4.5,SNR=1.9							
	comp=Z,0.3nm,0.3s							
KURBB	**Kurchatov Arra**	**69.50**	**22**	P		**P**	**01 21 24.4**	**+1.6**
	comp=Z,0.3nm,0.4s,baz=222,slow=7.3,SNR=1.3							
	comp=Z,0.3nm,0.4s							
ESDC	**Sonseca Array**	**69.76**	**321**	P		**P**	**01 21 25.2**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=134,slow=5.7,SNR=6.1							
	comp=Z,0.6nm,0.7s							
ARU	**Arti**	**69.93**	**8**	P	P	**P**	**01 21 25.3**	**0.0**
ARU					IAmb	IAmb	01 21 36.5	
	comp=Z,8.3nm,0.9s							
LZH	**Lanzhou**	**73.38**	**46**	*eP*		**P**	**01 21 47.0**	**+0.2**
LZH					sP	pwP	01 21 54.0	+0.6
LZH					pmax	pmax		
	comp=Z,15nm,1.0s							
ZALV	**Zalesovo Beam**	**74.48**	**23**	P		**P**	**01 21 54.1**	**+1.5**
	comp=Z,0.7nm,0.4s,baz=216,slow=7.1,SNR=2.3							
	comp=Z,0.7nm,0.4s							
FINES	**FINESS Array B**	**75.74**	**350**	P		**P**	**01 22 00.9**	**+1.3**
	comp=Z,2.1nm,0.9s,baz=156,slow=11,SNR=2.0							
	comp=Z,2.1nm,0.9s							
QSPA	**South Pole Qui**	**77.17**	**180**	P		**P**	**01 22 09.5**	**+1.5**
QSPA					IAmb	IAmb	01 23 36.5	
	comp=Z,33nm,1.9s							
QSPA	**South Pole Qui**	**77.17**	**180**	P		**P**	**01 22 08.8**	**+0.7**
	comp=Z,2.9nm,1.0s,baz=262,slow=4.0,SNR=5.4							
QSPA					LR	LR	01 54 01.1	
	comp=Z,53nm,18.3s,baz=258,slow=34							
	comp=Z,2.9nm,1.0s							
HFS	**Hagfors**	**77.20**	**344**	P		**P**	**01 22 09.5**	**+1.4**
	comp=Z,1.2nm,0.7s,baz=147,slow=6.3,SNR=3.6							
	comp=Z,1.2nm,0.7s							
EKA	**Eskdalemuir Ar**	**79.38**	**334**	P		**P**	**01 22 19.9**	**-0.3**
	comp=Z,0.9nm,0.8s,baz=133,slow=8.2,SNR=3.5							
	comp=Z,0.9nm,0.8s							
HHC	**Hu-ho-hao-te**	**80.95**	**45**	*eP*		**P**	**01 22 29.5**	**+0.3**
HHC					pmax	pmax		
	comp=Z,8.0nm,0.5s							
HHC					pmax	pmax		
	comp=Z,150nm,5.0s							
SONM	**Songino Array**	**80.97**	**37**	P		**P**	**01 22 30.8**	**+1.7**
	comp=Z,0.2nm,0.4s,baz=236,slow=2.6,SNR=1.7							
	comp=Z,0.2nm,0.4s							
VNDA	**Vanda**	**82.91**	**169**	P		**P**	**01 22 40.6**	**+1.8**
VNDA					IAmb	IAmb	01 22 59.5	
	comp=Z,8.9nm,1.7s							
NJ2	**Nanjing**	**82.98**	**55**	*eP*		**P**	**01 22 40.3**	**+0.4**
NJ2					pmax	pmax		
	comp=Z,14nm,0.8s							
ASAR	**Alice Springs**	**83.32**	**113**	P		**P**	**01 22 41.1**	**-0.9**
ASAR	**Alice Springs**	**83.32**	**113**	P		**P**	**01 22 42.5**	**+0.5**
	comp=Z,2.7nm,0.6s,baz=262,slow=4.8,SNR=36							
	comp=Z,2.7nm,0.6s							
AS31	**Alice Springs**	**83.32**	**113**	P		**P**	**01 22 42.6**	**+0.6**
ARCES	**ARCESS Array B**	**83.47**	**353**	P		**P**	**01 22 42.5**	**+0.9**
WRA	**Warramunga Arr**	**84.45**	**109**	P		**P**	**01 22 46.6**	**-1.1**
WRA	**Warramunga Arr**	**84.45**	**109**	P		**P**	**01 22 48.5**	**+0.7**
	comp=Z,2.9nm,0.8s,baz=259,slow=3.1,SNR=11							
	comp=Z,2.9nm,0.8s							
WB2	**Warramunga Arr**	**84.46**	**109**	P		**P**	**01 22 48.1**	**+0.2**
WB0	**Warramunga Arr**	**84.54**	**109**	P		**P**	**01 22 47.7**	**-0.5**
BDFB	**Brasilia**	**90.05**	**254**	P		**P**	**01 23 13.8**	**-1.3**
BDFB	**Brasilia**	**90.05**	**254**	LR	LR	LR	02 00 51.4	
	comp=Z,39nm,19.2s,baz=140,slow=34							
CPUP	**Villa Florida**	**95.67**	**241**	LR	LR	LR	02 03 56.4	
	comp=Z,24nm,19.1s,baz=215,slow=34							
PPT2	**Papeete2**	**146.15**	**153**	*e*LR		LR	02 17 52.1	
	comp=Z,36nm,21.5s							
TXAR	**Lajitas Array**	**147.21**	**305**	PKPbc		**PKPbc**	**01 29 58.9**	**+0.3**
	comp=Z,0.2nm,0.5s,baz=114,slow=3.0,SNR=4.5							

ROM 31 01:13:29.9±0.1,**42°.695N**±0°.004×**13°.256E**±0°.006,
h11km,**ML0.4**/6,**Error ellipse: s-maj=0.5km s-min=0.3km az=231.0**,**Central Italy**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMA1	**SAN MARTINO**	**0.09**	**138**	P	Pg		01 13 33.0	+0.4
SMA1				S	Sg		01 13 35.0	+0.4
SMA1				AML	AML			
	comp=E,23μm,0.6s							
SMA1				AML	AML			
	comp=N,23μm,1.0s							
SMA1				AML	AML			
	comp=N,22μm,0.3s							
NRCA	**Norcia**	**0.17**	**323**	P	Pg		01 13 34.2	+0.4
NRCA				S	Sg		01 13 37.3	+0.8
NRCA				AML	AML			
	comp=E,58μm,0.2s							
NRCA				AML	AML			
	comp=N,45μm,0.1s							
LNSS	**Leonessa**	**0.18**	**240**	P	Pg		01 13 34.5	+0.5
LNSS				S	Sg		01 13 37.6	+0.8
RM33	**Pellescritta (**	**0.19**	**189**	P	Pg		01 13 34.5	+0.5
RM33				S	Sg		01 13 37.9	+1.0
RM33				AML	AML			
	comp=N,18μm,0.1s							
RM33				AML	AML			
	comp=E,24μm,0.1s							
MMO1	**Montemonaco**	**0.21**	**14**	P	Pg		01 13 35.0	+0.5
TERO	**Teramo**	**0.27**	**106**	P	Pg		01 13 35.8	+0.4
TERO				S	Sg		01 13 39.9	+0.8
TERO				AML	AML			
	comp=E,13μm,1.0s							
TERO				AML	AML			
	comp=E,13μm,1.0s							
TERO				AML	AML			
	comp=N,14μm,0.9s							
GAVE	**Gavelli**	**0.27**	**269**	P	Pb		01 13 36.2	-0.6

TAP 31 01:30:56.3,**22°.86N**×**121°.23E**,**h8**km,**ML2.2**,**B**,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LONT	**Longtian**	**0.10**	**296**	*i* P		Pg	01 30 59.0	+0.3
	baz=296							
LONT				*e*S		Sg	01 31 01.4	+1.1
	baz=296							
EDH	**Donghe**	**0.13**	**32**	P		Pg	01 31 00.0	+0.8
	baz=31							
EDH				S		Sg	01 31 03.0	+1.8
	baz=31							
TTN	**Taitung**	**0.13**	**215**	P		Pg	01 31 00.4	+1.2
	baz=212							
TTN				*e*S		Sg	01 31 04.0	+3.0
	baz=212							
TWGBT	**Beinan**	**0.14**	**253**	P		Pg	01 31 00.0	+0.6

baz=253
EAST Anshuo 0.59 217 *e*P Pb 01 31 08.9 0.0
baz=215
MASBT Mashibuluo 0.60 246 *e*P Pb 01 31 09.1 0.0
baz=245
EHY Hungye 0.65 8 *e*P Pb 01 31 09.6 -0.3
baz=8.0
HGSD Ruisui 0.65 16 *e*P Pb 01 31 09.7 -0.3
baz=15
WTP Ta-pu 0.68 304 *e*P Pb 01 31 11.1 +0.6
baz=304
WTP *e*S Sn 01 31 22.2 -1.1
baz=304
TPUB Ta-pu 0.70 309 *e*P Pb 01 31 11.4 +0.5
baz=308
TPUB *e*S Sn 01 31 22.7 -1.1
baz=308
CHN1 Nanshi 0.72 297 *e*P Pn 01 31 12.1 -0.8
baz=296
ALS Alishan 0.76 329 *e*P Pb 01 31 11.9 0.0
baz=329
CHN4 Tsaushan 0.76 310 *e*P Pb 01 31 12.4 +0.5
baz=309
TWK Hsinying 0.79 301 *e*P Pn 01 31 13.3 -0.7
baz=300
WARBT Fenglin Townsh 0.86 10 *e*P Pb 01 31 13.5 -0.1
baz=9.0
VWDT VWDT 0.89 355 *e*P Pb 01 31 14.1 0.0
baz=354
SSLB Suanglung 0.96 345 *e*P Pn 01 31 15.7 -0.5
baz=344
SMLT Sun Moon Lake 1.06 344 *e*P Pn 01 31 17.6 -0.1
baz=343

NEIC ***31*** *01:58:17.1±1.3,55.˚49N±0.˚10×149.˚26W±0.˚01, h8km±7km, ML3.5/30, ML3.3(AEIC), Error ellipse: s-maj=13.9km s-min=0.6km az=176.0*
AEIC ***31*** *01:58:21.1±1.4,55.˚49N±0.˚09×149.˚21W±0.˚08, h5km±8km, Error ellipse: s-maj=13.5km s-min=6.6km az=180.0*
ISC 31 01:58:16.9±1.9,**55.˚5N**±0.˚1×**149.˚30W**±0.˚07,**h10km,n147,**
σ1**§05**/145,**Gulf of Alaska**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OHAK	**Old Harbor**	**2.80**	**309**		**Pn**	**01 59 01.9**	**+0.2**
OHAK					**Sn**	**01 59 33.7**	**-1.8**
OHAK	**Old Harbor**	**2.80**	**309**	P	**Pn**	**01 59 01.9**	**+0.2**
	baz=126						
OHAK				S	**Sn**	**01 59 33.7**	**-1.8**
	baz=126						
KDAK	**Kodiak Island**	**2.90**	**323**	Pn	**Pn**	**01 59 03.7**	**+0.6**
KDAK	**Kodiak Island**	**2.90**	**323**		**Sn**	**01 59 36.5**	**-1.5**
SII	**Sitkinak Islan**	**2.93**	**293**		**Pn**	**01 59 03.9**	**+0.3**
SII					**Sn**	**01 59 38.5**	**-0.3**
SII	**Sitkinak Islan**	**2.93**	**293**	IAML		01 59 43.7	
	comp=N,79nm,0.6s						
SII	**Sitkinak Islan**	**2.93**	**293**	P	**Pn**	**01 59 03.9**	**+0.3**
	baz=109						
SII				S	**Sn**	**01 59 38.5**	**-0.3**
	baz=109						
R18K	**Karluk**	**3.51**	**308**		**Pn**	**01 59 12.5**	**+1.0**
R18K					**Sn**	**01 59 51.2**	**-1.8**
R18K	**Karluk**	**3.51**	**308**	IAML		01 59 53.0	
	comp=N,73nm,0.5s						
R18K				IAML		02 00 04.5	
	comp=E,79nm,0.5s						
R18K	**Karluk**	**3.51**	**308**	P	**Pn**	**01 59 12.5**	**+1.0**
	baz=124						
Q20K	**Shuyak Island**	**3.53**	**333**	P	**Pn**	**01 59 12.4**	**+0.7**
	baz=150						
Q20K				S	**Sn**	**01 59 52.4**	**-1.0**
	baz=150						
SYI	**Shuyak Island**	**3.53**	**333**		**Pn**	**01 59 12.4**	**+0.7**
SYI					**Sn**	**01 59 52.4**	**-0.9**
SYI	**Shuyak Island**	**3.53**	**333**	IAML		01 59 53.8	
	comp=E,47nm,0.5s						
SYI				IAML		01 59 54.9	
	comp=N,52nm,1.0s						
CHIR	**Chirikof Islan**	**3.60**	**277**		**Pn**	**01 59 12.4**	**-0.2**
CHIR				IAML		02 00 44.2	
	comp=E,54nm,1.8s						
CHIR	**Chirikof Islan**	**3.60**	**277**		**Sn**	**01 59 54.3**	**-0.8**
CHIR	**Chirikof Islan**	**3.60**	**277**	IAML		01 59 41.1	
	comp=N,59nm,2.3s						
CHIR	**Chirikof Islan**	**3.60**	**277**	P	**Pn**	**01 59 12.4**	**-0.2**
	baz=93						
CNPM	**China Poot**	**4.15**	**346**		**Pn**	**01 59 20.5**	**+0.2**
CNPM	**China Poot**	**4.15**	**346**	IAML		02 00 09.0	
	comp=N,28nm,0.4s						
CNPM				IAML		02 00 13.6	
	comp=E,36nm,0.5s						
Q19K	**Cape Douglas,**	**4.15**	**327**		**Pn**	**01 59 21.8**	**+1.5**
Q19K	**Cape Douglas,**	**4.15**	**327**	IAML		02 00 13.4	
	comp=N,128nm,0.7s						
Q19K	**Cape Douglas,**	**4.15**	**327**	P	**Pn**	**01 59 22.4**	**+2.1**
	baz=143						
MID	**Middleton Isla**	**4.23**	**21**		**Pn**	**01 59 21.2**	**-0.1**
MID	**Middleton Isla**	**4.23**	**21**	IAML		02 00 11.1	
	comp=N,79nm,1.1s						
MID				IAML		02 01 55.6	
	comp=E,88nm,1.8s						
ACHA	**Angle Creek He**	**4.27**	**312**		**Pn**	**01 59 22.7**	**+0.8**
BRSE	**Bradley Lake S**	**4.30**	**350**		**Pn**	**01 59 22.4**	**+0.1**
BRSE	**Bradley Lake S**	**4.30**	**350**	P	**Pn**	**01 59 22.6**	**+0.2**
	baz=168						
ANCK	**Angle Creek**	**4.33**	**311**		**Pn**	**01 59 24.3**	**+1.5**
BRLK	**Bradley Lake**	**4.34**	**349**	Pn	**Pn**	**01 59 22.8**	**-0.1**
P23K	**Montague Islan**	**4.60**	**12**		**Pn**	**01 59 26.6**	**+0.1**
P23K	**Montague Islan**	**4.60**	**12**	P	**Pn**	**01 59 26.6**	**+0.1**
	baz=193						
P19K	**Oil Pt**	**4.65**	**335**	Pn	**Pn**	**01 59 27.7**	**+0.5**
O20K	**Slope Mountain**	**4.91**	**340**		**Pn**	**01 59 32.2**	**+1.5**
O20K	**Slope Mountain**	**4.91**	**340**	P	**Pn**	**01 59 32.2**	**+1.5**
	baz=157						
O22K	**Cooper Landing**	**4.98**	**358**	Pn	**Pn**	**01 59 32.1**	**+0.5**
P18K	**Big Mountain,**	**5.03**	**323**		**Pn**	**01 59 33.0**	**+0.6**
P18K	**Big Mountain,**	**5.03**	**323**	P	**Pn**	**01 59 33.0**	**+0.6**
	baz=138						
ANNE	**Aniakchak Nort**	**5.09**	**289**		**Pn**	**01 59 34.5**	**+1.3**
HIN	**Hinchinbrook I**	**5.11**	**16**		**Pn**	**01 59 33.8**	**+0.3**
HIN	**Hinchinbrook I**	**5.11**	**16**	IAML		02 00 31.6	
	comp=E,34nm,0.6s						
HIN				IAML		02 00 33.5	
	comp=N,60nm,0.9s						
KAIM	**Kayak Island**	**5.13**	**29**		**Pn**	**01 59 33.9**	**+0.2**
KAIM	**Kayak Island**	**5.13**	**29**	IAML		02 00 22.8	
	comp=N,38nm,3.8s						
KAIM				IAML		02 01 33.3	
	comp=E,39nm,3.8s						
KAIM	**Kayak Island**	**5.13**	**29**	P	**Pn**	**01 59 33.9**	**+0.2**
	baz=212						
P17K	**Kvichak River**	**5.34**	**317**		**Pn**	**01 59 37.8**	**+1.3**
P17K	**Kvichak River**	**5.34**	**317**	P	**Pn**	**01 59 37.8**	**+1.3**
	baz=130						
O18K	**Koktuh Hills**	**5.38**	**326**		**Pn**	**01 59 38.2**	**+1.0**
O18K	**Koktuh Hills**	**5.38**	**326**	P	**Pn**	**01 59 38.2**	**+1.0**
	baz=141						
EYAK	**Cordova Ski Ar**	**5.38**	**19**		**Pn**	**01 59 38.1**	**+1.0**
EYAK	**Cordova Ski Ar**	**5.38**	**19**	P	**Pn**	**01 59 38.1**	**+1.0**
	baz=201						
SUCK	**Suckling Hills**	**5.43**	**31**		**Pn**	**01 59 38.5**	**+0.7**
FID	**Port Fidalgo**	**5.45**	**15**		**Pn**	**01 59 38.8**	**+0.7**
RAGM	**Ragged Mountai**	**5.46**	**25**		**Pn**	**01 59 38.9**	**+0.6**
GLI	**Glacier Island**	**5.50**	**11**	Pn	**Pn**	**01 59 39.1**	**+0.3**
NICHA	**Nichawak Mount**	**5.51**	**29**		**Pn**	**01 59 39.9**	**+0.9**
HMT	**Hamilton**	**5.52**	**27**		**Pn**	**01 59 39.7**	**+0.6**
RC01	**Rabbit Creek A**	**5.59**	**358**	Pn	**Pn**	**01 59 39.9**	**-0.1**
VNHG	**Veniaminof 1**	**5.60**	**281**		**Pn**	**01 59 41.3**	**+1.1**
GRIN	**Grindle Hills**	**5.74**	**31**		**Pn**	**01 59 42.8**	**+0.7**
SNH	**Sunshine Point**	**5.80**	**34**		**Pn**	**01 59 43.6**	**+0.6**
S14K	**Fog Glacier**	**5.82**	**282**	P	**Pn**	**01 59 45.0**	**+1.7**
	baz=94						
VNFG	**Fog Glacier, M**	**5.82**	**282**		**Pn**	**01 59 45.0**	**+1.7**
P16K	**Nushagak River**	**5.88**	**310**		**Pn**	**01 59 45.3**	**+1.3**
P16K	**Nushagak River**	**5.88**	**310**	P	**Pn**	**01 59 45.3**	**+1.3**
	baz=123						
KHIT	**Khitrov Hills**	**5.89**	**31**		**Pn**	**01 59 44.4**	**+0.2**
KNK	**Knik Glacier**	**5.92**	**4**		**Pn**	**01 59 46.0**	**+1.3**
KNK	**Knik Glacier**	**5.92**	**4**	P	**Pn**	**01 59 46.0**	**+1.3**
	baz=184						
CNBA	**Chernabura Isl**	**5.94**	**267**	Pn	**Pn**	**01 59 44.9**	**+0.1**
N19K	**Bonanza Creek**	**5.97**	**335**		**Pn**	**01 59 45.5**	**+0.1**
N19K	**Bonanza Creek**	**5.97**	**335**	P	**Pn**	**01 59 45.5**	**+0.1**
	baz=150						
O17K	**Koliganek Bris**	**5.97**	**319**		**Pn**	**01 59 46.4**	**+1.2**
O17K	**Koliganek Bris**	**5.97**	**319**	P	**Pn**	**01 59 46.4**	**+1.2**
	baz=132						
BMRM	**Bremner River**	**6.00**	**22**		**Pn**	**01 59 46.1**	**+0.4**
BMRM	**Bremner River**	**6.00**	**22**	P	**Pn**	**01 59 46.1**	**+0.4**
	baz=206						
SUA	**Susitna One**	**6.01**	**353**	Pn	**Pn**	**01 59 47.2**	**+1.4**
WAX	**Waxell Ridge**	**6.01**	**32**		**Pn**	**01 59 46.2**	**+0.4**
BARK	**Barkley Ridge**	**6.09**	**34**		**Pn**	**01 59 47.3**	**+0.4**
PMR	**Palmer**	**6.09**	**1**	Pn	**Pn**	**01 59 46.8**	**0.0**
MESA	**MESA**	**6.09**	**37**		**Pn**	**01 59 47.5**	**+0.4**
MESA	**MESA**	**6.09**	**37**	P	**Pn**	**01 59 47.5**	**+0.4**
	baz=222						
N18K	**Kilae Creek**	**6.24**	**329**		**Pn**	**01 59 49.5**	**+0.5**
N18K	**Kilae Creek**	**6.24**	**329**	P	**Pn**	**01 59 49.5**	**+0.5**
	baz=143						
KLU	**Klutina**	**6.24**	**15**		**Pn**	**01 59 50.2**	**+1.1**
KLU	**Klutina**	**6.24**	**15**	P	**Pn**	**01 59 50.2**	**+1.1**
	baz=197						
O16K	**Kokwok River B**	**6.25**	**314**		**Pn**	**01 59 49.7**	**+0.6**
O16K	**Kokwok River B**	**6.25**	**314**	P	**Pn**	**01 59 49.7**	**+0.6**
	baz=127						
GHO	**Glory Hole Cre**	**6.27**	**2**	Pn	**Pn**	**01 59 50.6**	**+1.1**
ISLE	**Juniper Island**	**6.29**	**33**		**Pn**	**01 59 50.3**	**+0.5**
SML	**Sawmill**	**6.32**	**4**	Pn	**Pn**	**01 59 50.2**	**0.0**
SCM	**Sheep Creek Mo**	**6.41**	**8**	Pn	**Pn**	**01 59 51.6**	**+0.2**
VRDI	**Verde Repeater**	**6.49**	**26**	Pn	**Pn**	**01 59 52.7**	**+0.2**
N17K	**Nushagak Hills**	**6.54**	**323**	Pn	**Pn**	**01 59 53.1**	**+0.1**
KIAG	**Kiagna River**	**6.54**	**31**		**Pn**	**01 59 53.7**	**+0.6**
N25K	**Chitina, Valde**	**6.58**	**20**		**Pn**	**01 59 54.6**	**+1.0**
N25K	**Chitina, Valde**	**6.58**	**20**	P	**Pn**	**01 59 54.6**	**+1.0**
	baz=203						
SKT	**Skwentna**	**6.58**	**351**	Pn	**Pn**	**01 59 52.9**	**-0.7**
GLB	**Gilahina Butte**	**6.59**	**24**		**Pn**	**01 59 54.4**	**+0.5**
M20K	**Styx River**	**6.68**	**344**	Pn	**Pn**	**01 59 54.9**	**-0.2**
PTPK	**Patty Peak**	**6.72**	**29**		**Pn**	**01 59 56.5**	**+0.8**
MCARA	**McCarthy VSAT**	**6.73**	**27**		**Pn**	**01 59 57.9**	**+2.1**
PNL	**Peninsula**	**6.75**	**48**		**Pn**	**01 59 56.8**	**+0.9**
PNL	**Peninsula**	**6.75**	**48**	P	**Pn**	**01 59 56.8**	**+0.9**
	baz=236						
O15K	**Ungalikthiuk R**	**6.77**	**307**		**Pn**	**01 59 57.5**	**+1.3**
O15K	**Ungalikthiuk R**	**6.77**	**307**	P	**Pn**	**01 59 57.5**	**+1.3**
	baz=118						
M24K	**Tolsona, Glenn**	**6.80**	**12**	Pn	**Pn**	**01 59 57.1**	**+0.4**
BARN	**Barnard Glacie**	**6.85**	**33**		**Pn**	**01 59 58.3**	**+0.8**
CTGM	**Chitina Glacie**	**6.88**	**34**	Pn	**Pn**	**01 59 58.4**	**+0.5**
LOGN	**Logan Glacier**	**6.89**	**36**		**Pn**	**01 59 58.5**	**+0.5**
M19K	**Big River Lodg**	**6.93**	**340**	Pn	**Pn**	**01 59 59.1**	**+0.8**
N16K	**Nishlik Lake**	**7.07**	**318**		**Pn**	**02 00 01.7**	**+1.4**
N16K	**Nishlik Lake**	**7.07**	**318**	P	**Pn**	**02 00 01.7**	**+1.4**
	baz=130						
O28M	**Mount Upton**	**7.13**	**39**		**Pn**	**02 00 02.0**	**+0.6**
O28M	**Mount Upton**	**7.13**	**39**	P	**Pn**	**02 00 02.0**	**+0.6**
	baz=226						
L19K	**White Mountain**	**7.27**	**339**	Pn	**Pn**	**02 00 04.3**	**+1.2**
M17K	**Holitna River**	**7.27**	**327**		**Pn**	**02 00 04.3**	**+1.2**
M17K	**Holitna River**	**7.27**	**327**	P	**Pn**	**02 00 04.3**	**+1.2**
	baz=140						
N15K	**Kwethluk River**	**7.40**	**313**		**Pn**	**02 00 06.7**	**+1.8**
N15K	**Kwethluk River**	**7.40**	**313**	P	**Pn**	**02 00 06.8**	**+1.9**
	baz=124						
O29M	**Mount Kennedy**	**7.45**	**46**		**Pn**	**02 00 06.2**	**+0.5**
O29M	**Mount Kennedy**	**7.45**	**46**	P	**Pn**	**02 00 06.2**	**+0.5**
	baz=234						
P29M	**Windy Craggy**	**7.45**	**52**		**Pn**	**02 00 06.3**	**+0.7**
P29M	**Windy Craggy**	**7.45**	**52**	P	**Pn**	**02 00 06.3**	**+0.7**
	baz=241						
O14K	**Tigyukauivet M**	**7.47**	**305**	Pn	**Pn**	**02 00 07.5**	**+1.8**
M16K	**Timber Creek**	**7.50**	**321**		**Pn**	**02 00 07.2**	**+1.0**
M16K	**Timber Creek**	**7.50**	**321**	P	**Pn**	**02 00 07.3**	**+1.0**
	baz=133						
S31K	**Pelican**	**7.59**	**66**	Pn	**Pn**	**02 00 05.8**	**-1.6**
DHY	**Denali Highway**	**7.64**	**7**	Pn	**Pn**	**02 00 09.6**	**+1.4**
M27K	**Edge Creek, AK**	**7.85**	**26**	Pn	**Pn**	**02 00 12.2**	**+1.1**
CAST	**Castle Rocks**	**8.05**	**351**	Pn	**Pn**	**02 00 16.5**	**+2.8**
KTH	**Kantishna Hill**	**8.10**	**355**	Pn	**Pn**	**02 00 17.2**	**+2.7**
L16K	**Owhat River**	**8.16**	**324**	Pn	**Pn**	**02 00 16.0**	**+0.7**
S32K	**Killisnoo**	**8.38**	**70**	Pn	**Pn**	**02 00 17.9**	**-0.3**
BCAR	**Beaver Creek A**	**8.48**	**24**	Pn	**Pn**	**02 00 21.4**	**+1.7**
K17K	**Iditarod**	**8.56**	**331**	Pn	**Pn**	**02 00 20.5**	**-0.2**
BPAW	**Bear Paw Mtn.**	**8.65**	**355**	Pn	**Pn**	**02 00 22.9**	**+0.9**
N30M	**Aishikik Lake**	**8.72**	**42**	Pn	**Pn**	**02 00 24.4**	**+1.4**
O30N	**Mendenhall**	**8.73**	**48**	Pn	**Pn**	**02 00 21.8**	**-1.4**
M29M	**Somme Creek**	**8.90**	**34**	Pn	**Pn**	**02 00 27.0**	**+1.5**
J20K	**Nowinta River**	**9.02**	**346**	Pn	**Pn**	**02 00 27.3**	**+0.3**
CCB	**Clear Creek Bu**	**9.19**	**4**	Pn	**Pn**	**02 00 30.9**	**+1.7**
WHY	**Whitehorse**	**9.20**	**50**	Pn	**Pn**	**02 00 30.8**	**+1.2**
P32M	**Atlin**	**9.31**	**58**	Pn	**Pn**	**02 00 32.2**	**+1.2**
J26L	**Joseph Creek**	**9.45**	**15**	Pn	**Pn**	**02 00 34.0**	**+1.0**
L29M	**L29M**	**9.50**	**32**	Pn	**Pn**	**02 00 35.2**	**+1.6**
M30M	**Minto, Yukon**	**9.53**	**37**	Pn	**Pn**	**02 00 35.9**	**+1.2**
MLY	**Mimley**	**9.57**	**356**	Pn	**Pn**	**02 00 36.2**	**+1.6**
I21K	**Tanana**	**9.78**	**353**	Pn	**Pn**	**02 00 38.1**	**+0.7**
P33M	**Teslin, Yukon**	**9.95**	**55**	Pn	**Pn**	**02 00 40.2**	**+0.4**

KRNET ***31*** *02:07:44.6±0.1,42.˚76N×78.˚82E, h20km, mb3.3*
SOME ***31*** *02:07:44.9,42.˚77N×78.˚80E, h15km*
NNC ***31*** *02:07:44.2±0.5,42.˚75N×78.˚83E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=3.7km s-min=1.7km az=162.0*
ISC 31 02:07:44.3±1.2,**42.˚72N**±0.˚03×**78.˚83E**±0.˚02,**h2km**±9km,
n80,σ0**§97**/140,**22C-19D,Lake Issyk-Kul region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRZ	**Przheval'sk**	**0.40**	**233**	⇑*e*P	**Pg**	**02 07 52.8**	**+0.9**
	baz=31						
PRZ				⇑*e*S	**Sg**	**02 07 58.6**	**+1.5**
	baz=31						
UZB	**Uzynbulak**	**0.45**	**18**	P	**Pg**	**02 07 53.0**	**+0.1**
	10nm,0.1s						
UZB				S	**Sg**	**02 07 58.9**	**+0.1**
	614nm,0.1s						
UZB	**Uzynbulak**	**0.45**	**18**	*e*P	**Pg**	**02 07 53.0**	**+0.1**
	10nm,0.1s						
UZB				*e*S	**Sg**	**02 07 58.9**	**+0.1**
	614nm,0.1s						
UZB	**Uzynbulak**	**0.45**	**18**	*e*P	**Pg**	**02 07 53.0**	**+0.1**
	baz=20						
UZB				*e*S	**Sg**	**02 07 58.8**	**+0.1**
	baz=20						
SATY	**Saty**	**0.46**	**317**	P	**Pg**	**02 07 53.1**	**0.0**
	139nm,0.1s						
SATY				S	**Sg**	**02 07 59.1**	**0.0**
	348nm,0.2s						
SATY	**Saty**	**0.46**	**317**	*e*P	**Pg**	**02 07 53.1**	**0.0**
	50nm,0.1s						
SATY				*e*S	**Sg**	**02 07 59.1**	**0.0**
	348nm,0.2s						
SATY	**Saty**	**0.46**	**317**	*e*P	**Pg**	**02 07 53.2**	**0.0**
	baz=15						
SATY				*e*S	**Sg**	**02 07 59.2**	**0.0**
	baz=15						
ZHN	**Zhinishke**	**0.53**	**327**	P	**Pg**	**02 07 54.5**	**0.0**
	66nm,0.2s						
ZHN				S	**Sg**	**02 08 01.7**	**+0.2**
	697nm,0.2s						
ZHN	**Zhinishke**	**0.53**	**327**	*e*P	**Pg**	**02 07 54.5**	**0.0**
	66nm,0.1s						
ZHN				*e*S	**Sg**	**02 08 01.7**	**+0.2**
	697nm,0.2s						
ZHN	**Zhinishke**	**0.53**	**327**	*e*P	**Pg**	**02 07 54.5**	**0.0**
	baz=26						
ZHN				*e*S	**Sg**	**02 08 01.7**	**+0.2**
	baz=26						
SHLS	**Shalkode**	**0.64**	**47**	P	**Pn**	**02 08 01.2**	**+0.7**
	16nm,0.3s						
SHLS				S	**Sn**	**02 08 13.0**	**+1.7**
	50nm,0.2s						
SHLS	**Shalkode**	**0.64**	**47**	*e*P	**Pn**	**02 08 01.2**	**+0.7**
	13nm,0.1s						
SHLS				*e*S	**Sn**	**02 08 13.0**	**+1.7**
	72nm,0.2s						
SHLS	**Shalkode**	**0.64**	**47**	*e*P	**Pn**	**02 08 01.2**	**+0.7**
	baz=62						
SHLS				*e*S	**Sn**	**02 08 13.0**	**+1.7**
	baz=62						
PDGK	**Podgornoye**	**0.78**	**38**	P	**Pg**	**02 07 58.4**	**-0.8**
	6.1nm,0.2s						
PDGK				S	**Sg**	**02 08 08.1**	**-1.1**
	75nm,0.3s						
PDGK	**Podgornoye**	**0.78**	**38**	⇑P	**Pg**	**02 07 58.3**	**-0.8**
	3.5nm,0.3s						
PDGK				⇑S	**Sg**	**02 08 08.9**	**-0.4**
	16nm,0.2s						
ANVS	**Anan'yevo**	**0.86**	**275**	⇓*e*P	**Pg**	**02 08 00.7**	**-0.1**
	baz=73						
ANVS				⇓*e*S	**Sg**	**02 08 12.1**	**+0.2**
	baz=73						
KURS	**Kuram**	**0.91**	**328**	P	**Pg**	**02 08 01.4**	**-0.3**
	14nm,0.2s						
KURS				S	**Sg**	**02 08 13.6**	**+0.2**
	23nm,0.3s						
KURS	**Kuram**	**0.91**	**328**	*e*P	**Pg**	**02 08 01.4**	**-0.3**
	14nm,0.1s						
KURS				*e*S	**Sg**	**02 08 13.6**	**+0.2**
	23nm,0.3s						
KURS	**Kuram**	**0.91**	**328**	*e*P	**Pg**	**02 08 01.4**	**-0.3**
	baz=27						
KURS				*e*S	**Sg**	**02 08 13.6**	**+0.2**
	baz=27						
TARG	**Taragay, Kyrgy**	**1.25**	**218**	⇓*e*P	**Pb**	**02 08 08.0**	**-0.9**
	baz=17						
TARG				⇓*e*S	**Sn**	**02 08 25.7**	**-1.2**
	baz=17						
KTMS	**Ketmen**	**1.33**	**56**	*e*P	**Pn**	**02 08 08.6**	**-1.5**
	2.4nm,0.1s						
KTMS				*e*S	**Sb**	**02 08 25.6**	**-2.0**
	17nm,0.1s						
KDJ	**Kajisay**	**1.36**	**245**	⇓*e*P	**Pn**	**02 08 09.6**	**-0.9**
	baz=43						
KDJ				⇓*e*S	**Sn**	**02 08 27.9**	**-1.3**
	baz=43						
KOTS	**Kotyrbulak**	**1.36**	**293**	P	**Pn**	**02 08 09.4**	**-1.1**
	18nm,0.2s						
KOTS				S	**Sb**	**02 08 27.0**	**-1.6**
	36nm,0.3s						
KOTS	**Kotyrbulak**	**1.36**	**293**	*e*P	**Pn**	**02 08 09.4**	**-1.1**
	18nm,0.2s						
KOTS				*e*S	**Sb**	**02 08 27.0**	**-1.6**
	52nm,0.1s						
MDOK	**Medeo**	**1.38**	**289**	P	**Pn**	**02 08 09.8**	**-1.0**
	2.3nm,0.2s						
MDOK				Pg	**Pn**	**02 08 10.2**	**-0.6**
	14nm,0.1s						
MDOK				Lg	Lg	02 08 28.2	
	23nm,0.2s						
MDOK				⇓S	**Sn**	**02 08 28.3**	**-1.5**
	12nm,0.4s						
MDOK	**Medeo**	**1.38**	**289**	*e*P	**Pn**	**02 08 10.2**	**-0.6**
	14nm,0.1s						
MDOK				*e*S	**Sn**	**02 08 28.2**	**-1.5**
	27nm,0.2s						
BLB	**Baldybastay**	**1.40**	**349**	P	**Pn**	**02 08 10.3**	**-0.7**
	111nm,0.1s						
BLB				S	**Sb**	**02 08 28.4**	**-1.2**
	94nm,0.2s						
TNSS	**Tian-Shan**	**1.42**	**283**	P	**Pn**	**02 08 10.6**	**-1.0**
	25nm,0.1s						
TNSS				S	**Sb**	**02 08 29.1**	**-1.4**
	15nm,0.2s						
TNSS	**Tian-Shan**	**1.42**	**283**	*e*P	**Pn**	**02 08 10.6**	**-1.0**
	25nm,0.1s						
TNSS				*e*S	**Sb**	**02 08 29.1**	**-1.4**
	25nm,0.1s						
KNOS	**Konyrlen**	**1.66**	**9**	P	**Pb**	**02 08 14.9**	**-0.7**
	78nm,0.2s						
KNOS				S	**Sb**	**02 08 36.4**	**-0.6**
	78nm,0.1s						
ARXS	**Arharly**	**1.66**	**334**	P	**Pb**	**02 08 14.8**	**-0.8**
	47nm,0.2s						
ARXS				S	**Sb**	**02 08 36.2**	**-0.9**
	64nm,0.2s						
ARXS	**Arharly**	**1.66**	**334**	*e*P	**Pb**	**02 08 14.8**	**-0.8**
	47nm,0.2s						
ARXS				*e*S	**Sb**	**02 08 36.2**	**-0.9**
	79nm,0.2s						
IZV	**Izvestkoviy**	**1.66**	**282**	P	**Pb**	**02 08 14.9**	**-0.8**
	22nm,0.1s						
IZV				S	**Sb**	**02 08 36.4**	**-0.8**
	152nm,0.5s						
IZV	**Izvestkoviy**	**1.66**	**282**	*e*P	**Pb**	**02 08 14.9**	**-0.8**
	22nm,0.1s						
IZV				*e*S	**Sb**	**02 08 36.4**	**-0.8**
	152nm,0.5s						
IZV	**Izvestkoviy**	**1.66**	**282**	*e*P	**Pb**	**02 08 14.9**	**-0.8**
	baz=81						
IZV				*e*S	**Sb**	**02 08 36.4**	**-0.8**
	baz=81						
DJR	**Jarkent**	**1.75**	**23**	P	**Pb**	**02 08 16.6**	**-0.7**
	9.9nm,0.1s						
DJR				S	**Sb**	**02 08 39.3**	**-0.6**
	176nm,0.4s						
DJR	**Jarkent**	**1.75**	**23**	*e*P	**Pb**	**02 08 16.6**	**-0.7**
	9.9nm,0.1s						
DJR				*e*S	**Sb**	**02 08 39.2**	**-0.6**
	176nm,0.4s						
CHKK	**Chushkaly**	**1.76**	**311**	P	**Pb**	**02 08 16.6**	**-0.7**
	40nm,0.2s						
CHKK				S	**Sb**	**02 08 39.8**	**-0.1**
	45nm,0.2s						
CHKK	**Chushkaly**	**1.76**	**311**	*e*P	**Pb**	**02 08 16.6**	**-0.7**
	40nm,0.2s						
CHKK				*e*S	**Sb**	**02 08 39.8**	**-0.1**
	45nm,0.2s						
MTBS	**Maitube**	**1.81**	**284**	P	**Pb**	**02 08 17.4**	**-0.9**
	16nm,0.2s						
MTBS				S	**Sb**	**02 08 40.6**	**-0.8**
	50nm,0.2s						
MTBS	**Maitube**	**1.81**	**284**	*e*P	**Pb**	**02 08 17.4**	**-0.9**
	16nm,0.2s						
MTBS				*e*S	**Sb**	**02 08 40.6**	**-0.8**
	50nm,0.2s						
MTBS	**Maitube**	**1.81**	**284**	*e*P	**Pb**	**02 08 17.4**	**-0.9**
	baz=83						
MTBS				*e*S	**Sb**	**02 08 40.6**	**-0.8**
	baz=83						
KTBS	**Karatobe**	**1.86**	**

KRBS	**Karabastau**	**2.50**	**294**	*e*P		**Pb**	**02 08 29.2**	**-0.8**
	8.4nm,0.3s								
KRBS				*e*S		**Sb**	**02 09 00.8**	**-0.6**
	41nm,0.2s								
KAPS	**Kapalarasan**	**2.59**	**8**	Pg		**Pb**	**02 08 31.1**	**-0.5**
	6.1nm,0.2s								
KAPS				Lg		Lg	02 09 04.1		
	35nm,0.2s								
KAPS	**Kapalarasan**	**2.59**	**8**	*e*P		**Pb**	**02 08 31.1**	**-0.5**
	3.7nm,0.1s								
KAPS				*e*S		**Sb**	**02 09 04.1**	**+0.2**
	35nm,0.2s								
KBK	**Karagaybulak**	**2.86**	**270**	P		**Pb**	**02 08 37.4**	**+1.1**
	SNR=11								
KBK	**Karagaybulak**	**2.86**	**270**	⇓*e*P		**Pn**	**02 08 32.1**	**+0.9**
	baz=69								
KBK				⇓*e*S		**Sn**	**02 09 07.1**	**+0.7**
	baz=69								
CHMS	**Chumysh**	**3.01**	**277**	P		**Pb**	**02 08 38.6**	**-0.1**
	SNR=7.0								
CHMS	**Chumysh**	**3.01**	**277**	⇓Pg		**Pb**	**02 08 38.1**	**-0.6**
	2.3nm,0.3s								
CHMS				⇓Lg		Lg	02 09 17.1		
	10nm,0.4s								
CHMS	**Chumysh**	**3.01**	**277**	⇑*e*P		**Pn**	**02 08 34.3**	**+1.2**
	baz=76								
CHMS				⇑*e*S		**Sn**	**02 09 10.3**	**+0.5**
	baz=76								
AAK	**Ala-Archa**	**3.20**	**270**	P		**Pb**	**02 08 42.5**	**+0.5**
	SNR=7.7								
AAK	**Ala-Archa**	**3.20**	**270**	⇑Pg		**Pb**	**02 08 42.3**	**+0.4**
	2.1nm,0.2s								
AAK				⇑Lg		Lg	02 09 22.4		
	7.9nm,0.3s								
AAK	**Ala-Archa**	**3.20**	**270**	⇓*e*P		**Pn**	**02 08 36.8**	**+1.0**
	baz=69								
AAK				⇓*e*S		**Sn**	**02 09 15.1**	**+0.5**
	baz=69								
USP	**Ospenovka**	**3.23**	**281**	⇓*e*P		**Pn**	**02 08 37.0**	**+1.0**
	baz=81								
USP				⇓*e*S		**Sn**	**02 09 15.0**	**-0.1**
	baz=81								
UCH	**Uchtor**	**3.23**	**263**	P		**Pg**	**02 08 45.8**	**-0.4**
	SNR=5.2								
UCH	**Uchtor**	**3.23**	**263**	⇓*e*P		**Pn**	**02 08 37.3**	**+0.8**
	baz=62								
UCH				⇓*e*S		**Sn**	**02 09 16.1**	**+0.3**
	baz=62								
EKS2	**Erkin-Say**	**3.73**	**271**	⇑*e*P		**Pn**	**02 08 44.1**	**+1.1**
	baz=70								
EKS2				⇑*e*S		**Sn**	**02 09 27.8**	**+0.2**
	baz=70								
MRKS	**Merke**	**4.13**	**272**	Pg		**Pb**	**02 08 58.6**	**+0.9**
	2.8nm,0.3s								
MRKS				Lg		Lg	02 09 52.0		
	10nm,0.3s								
MRKS	**Merke**	**4.13**	**272**	*e*P		**Pb**	**02 08 58.9**	**+1.1**
	1.6nm,0.1s								
MRKS				*e*S		**Sb**	**02 09 51.8**	**+3.6**
	11nm,0.1s								
BTLS	**Baital**	**4.17**	**305**	Pg		**Pb**	**02 08 59.1**	**+0.8**
	5.3nm,0.3s								
BTLS				Lg		Lg	02 09 51.0		
	1.8nm,0.6s								
BTLS	**Baital**	**4.17**	**305**	*e*P		**Pb**	**02 08 59.1**	**+0.8**
	5.3nm,0.3s								
BTLS				*e*S		**Sb**	**02 09 52.3**	**+3.3**
	2.7nm,0.2s								
MK31	**Makanchi Array**	**4.76**	**30**	⇑Pn		**Pn**	**02 08 59.3**	**+2.2**
	0.2nm,0.3s,baz=248,slow=13,SNR=6.2								
MK31				⇑Sn		**Sn**	**02 09 54.0**	**+1.2**
	0.5nm,0.3s,baz=212,slow=16,SNR=6.7								
MK31				⇑Lg		Lg	02 10 08.9		
	1.3nm,0.5s,baz=214,slow=29,SNR=4.4								
KK31	**Karatay Array**	**6.12**	**276**	⇑Pg		Pg	02 09 36.5	-5.0	
	0.5nm,0.6s,baz=87,slow=15,SNR=7.8								
KK31				Lg		Lg	02 10 55.0		
	0.9nm,0.5s,baz=97,slow=28,SNR=8.7								
KURBB	**Kurchatov Arra**	**7.91**	**359**	⇑Lg		Lg	02 11 51.8		
	7.8nm,0.8s								
KURK	**Kurchatov**	**8.00**	**359**	⇓Lg		Lg	02 11 53.6		
	7.6nm,0.9s								

ATH ***31*** *02:07:46.3,39˚.50N×20˚.24E,h10km±3km,ML1.4/2,Error ellipse: s-maj=6.8km s-min=1.4km az=297.0*
TIR ***31*** *02:07:46.5,39˚.45N×20˚.39E,h2km±1km,Md2.8,Ml1.4*
ISC 31 02:07:46.9±1.0,39˚.45N±0˚.03×20˚.34E±0˚.06,h6km±8km, n14,σ0s88/21,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.08**	**358**	P		**Pg**	**02 07 48.6**	**-0.1**
	baz=331							
IGT				S		**Sg**	**02 07 50.3**	**+0.2**
	baz=331							
IGT				AMP				
	comp=E,1.4nm,0.2s,baz=331							
IGT	**Igoumenitsa**	**0.08**	**358**	P		**Pg**	**02 07 48.7**	**-0.1**
IGT				S		**Sg**	**02 07 50.4**	**+0.4**
IGT				AML	AML		02 07 50.7	
	comp=E,802μm,0.3s							
IGT				AML	AML		02 07 51.0	
	comp=N,714μm,0.1s							
JAN	**Janina**	**0.45**	**63**	P		**Pg**	**02 07 55.4**	**-0.2**
JAN				S		**Sb**	**02 08 03.5**	**-0.8**
JAN				AML	AML		02 08 06.6	
	comp=E,128μm,0.4s							
JAN				AML	AML		02 08 06.6	
	comp=N,108μm,0.3s							
SRN	**Sarande**	**0.50**	**329**	P		**Pb**	**02 07 57.7**	**-0.5**
	baz=326							
SRN				S		**Sb**	**02 08 06.6**	**+0.9**
	baz=326							
TSLK	**Tsoukalades, L**	**0.67**	**158**	P		**Pg**	**02 08 00.1**	**+0.2**
LKD2	**Lefkada island**	**0.71**	**159**	P		**Pb**	**02 08 01.2**	**-0.5**
	baz=162							
LKD2				S		**Sb**	**02 08 11.8**	**+0.1**
	baz=162							
LKD2				AMP				
	comp=E,0.1nm,0.5s,baz=162							
LKD2	**Lefkada island**	**0.71**	**159**	P		**Pg**	**02 08 00.8**	**+0.3**
LSK	**Leskovik**	**0.73**	**16**	P		**Pb**	**02 08 01.1**	**-0.9**
	baz=13							
LSK				S		**Sb**	**02 08 12.8**	**+0.5**
	baz=13							
LSK				AMP				
	comp=N,0.1nm,0.6s,baz=13							
DRAG	**Dragano-Lefkad**	**0.79**	**166**	P		**Pg**	**02 08 02.4**	**+0.3**
NYDR	**Nydri-Lefkada**	**0.79**	**159**	P		**Pg**	**02 08 02.1**	**0.0**
EVGI	**Lefkada island**	**0.87**	**163**	P		**Pb**	**02 08 04.2**	**-0.2**
FSK	**Fiskardo**	**1.01**	**170**	P		**Pb**	**02 08 06.5**	**-0.3**
VLS	**Valsamata**	**1.29**	**171**	P		**Pn**	**02 08 10.8**	**-0.8**
FNA	**Florina**	**1.55**	**31**	P		**Pg**	**02 08 16.7**	**+0.1**
	baz=29							
FNA				S		**Sg**	**02 08 39.8**	**+3.0**
	baz=29							
FNA				AMP				
	comp=E,0.0nm,0.5s,baz=29							

IDC ***31*** *02:22:49.1±11.0,55˚.45N×115˚.51E,h0km,mb3.5/4, mbtmp3.6/4,Error ellipse: s-maj=184.4km s-min=32.9km az=115.0*
MOS ***31*** *02:22:55.8±1.0,56˚.00N×113˚.95E,h12km,mb3.6/1,Error ellipse: s-maj=14.8km s-min=9.6km az=77.6*
BYKL ***31*** *02:22:56.6±0.2,56˚.06N×113˚.91E,h8km±3km*
ISC 31 02:22:56.8±0.6,56˚.04N±0˚.02×113˚.92E±0˚.02,h10km,n51, σ3s02/92,mb3.4/4,3C-4D,East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**0.21**	**290**	*e*Pg		**Pg**	**02 23 00.3**	**-1.0**
SVKR				*e*Sg		**Sg**	**02 23 03.7**	**-0.6**
SVKR				Pmax				
	1μm,0.1s							
SVKR				Smax				
	10μm,0.9s							
SVKR	**Severomuysk**	**0.21**	**290**	⇑*i*PG		**Pg**	**02 23 00.3**	**-1.0**
SVKR				*e*			02 23 03.5	
SVKR				pmax	pmax			
	comp=Z,1μm,0.1s							
SVKR				smax	smax			
	comp=N,11μm,0.5s							
UKT	**Uakit**	**0.58**	**197**	⇑*i*Pg		**Pg**	**02 23 07.0**	**-1.0**
UKT				*e*Sg		**Sg**	**02 23 15.1**	**-0.6**
UKT				Pmax				
	comp=N,330nm,0.5s							
UKT				Smax				
	comp=N,1μm,0.6s							
UKT	**Uakit**	**0.58**	**197**	*e*PG		**Pg**	**02 23 07.0**	**-1.0**
UKT				*e*			02 23 15.1	
UKT				pmax	pmax			
	comp=Z,281nm,0.3s							
UKT				smax	smax			
	comp=E,860nm,0.4s							
NLYR	**Nelyaty**	**1.09**	**65**	⇓*i*Pg		**Pg**	**02 23 16.1**	**-1.7**
NLYR				*e*Pb		**Pn**	**02 23 18.2**	**0.0**
NLYR				*e*			02 23 20.7	
NLYR				*e*Sg		**Sg**	**02 23 31.0**	**-1.0**
NLYR				*e*Sb		**Sn**	**02 23 34.8**	**+1.4**
NLYR				*e*			02 23 38.1	
NLYR				max				
	comp=E,301nm,0.5s							
NLYR				max				
	comp=E,1μm,0.8s							
NLYR	**Nelyaty**	**1.09**	**65**	*e*PG		**Pg**	**02 23 16.0**	**-1.7**
NLYR				*e*			02 23 30.8	
NLYR				pmax	pmax			
	comp=Z,283nm,0.7s							
NLYR				smax	smax			
	comp=N,1μm,0.9s							
YOA	**Uoyan**	**1.23**	**275**	*e*Pg		**Pn**	**02 23 19.2**	**-0.9**
YOA				*e*Pb		**Pg**	**02 23 20.2**	**-0.2**
YOA				*e*Sg		**Sn**	**02 23 36.3**	**-0.5**
YOA				*e*			02 23 40.7	
YOA				max				
	comp=N,247nm,0.4s							
YOA				max				
	comp=N,3μm,0.6s							
YOA	**Uoyan**	**1.23**	**275**	*e*PG		**Pn**	**02 23 18.8**	**-1.3**
YOA				*e*			02 23 35.3	
YOA				pmax	pmax			
	comp=Z,188nm,0.2s							
YOA				smax	smax			
	comp=E,3μm,0.5s							
KMO	**Kumora**	**1.54**	**265**	⇓*i*Pg		**Pn**	**02 23 23.8**	**-0.4**
KMO				*e*			02 23 25.3	
KMO				*e*			02 23 27.9	
KMO				*e*Sg		**Sb**	**02 23 45.0**	**+0.2**
KMO				*e*			02 23 47.5	
KMO				max				
	comp=E,442nm,0.4s							
KMO				max				
	comp=E,1μm,1.1s							
KMO	**Kumora**	**1.54**	**265**	⇓*i*PN		**Pn**	**02 23 23.8**	**-0.4**
KMO				*e*			02 23 45.0	
KMO				pmax	pmax			
	comp=Z,417nm,0.4s							
KMO				smax	smax			
	comp=N,1μm,1.1s							
BOD	**Bodaibo**	**1.78**	**1**	*e*Pg		**Pb**	**02 23 28.1**	**-1.4**
BOD				*e*			02 23 30.4	
BOD				*e*Sg		**Sb**	**02 23 51.2**	**-0.6**
BOD				max				
	comp=N,272nm,1.0s							
BOD				Smax				
	comp=N,779nm,1.0s							
BOD	**Bodaibo**	**1.78**	**1**	*e*PN		**Pn**	**02 23 27.7**	**+0.1**
BOD				*e*			02 23 51.1	
BOD				pmax	pmax			
	comp=Z,175nm,0.3s							
BOD				smax	smax			
	comp=E,649nm,0.4s							
YLYR	**Ulyunkhan**	**1.96**	**234**	*e*Pn		**Pn**	**02 23 31.0**	**+1.0**
YLYR				*e*Pg		**Pb**	**02 23 31.8**	**-0.7**
YLYR				*e*Sg		**Sb**	**02 23 57.8**	**+0.8**
YLYR				Pmax				
	comp=E,154nm,0.4s							
YLYR				Smax				
	comp=E,507nm,0.7s							
YLYR	**Ulyunkhan**	**1.96**	**234**	⇑*i*PN		**Pn**	**02 23 31.0**	**+1.0**
YLYR				*e*			02 23 32.4	
YLYR				*e*S		**Sn**	**02 23 55.7**	**+1.0**
YLYR				*e*			02 23 57.0	
YLYR				pmax	pmax			
	comp=Z,130nm,0.3s							
YLYR				smax	smax			
	comp=N,460nm,0.3s							
CRS	**Chara**	**2.56**	**69**	*e*Pn		**Pn**	**02 23 39.1**	**+0.7**
CRS				*e*Pg		**Pb**	**02 23 43.1**	**+0.3**
CRS				*e*Sg		**Sg**	**02 24 16.9**	**-2.1**
CRS				Pmax				
	comp=N,323nm,0.9s							
CRS				Smax				
	comp=N,464nm,1.5s							
CRS	**Chara**	**2.56**	**69**	*e*PN		**Pn**	**02 23 39.0**	**+0.7**
CRS				*e*			02 23 42.9	
CRS				*e*			02 24 17.0	
CRS				pmax	pmax			
	comp=Z,185nm,0.6s							
CRS				smax	smax			
	comp=E,312nm,0.7s							
SYVR	**Suvo**	**3.29**	**225**	*e*Pn		**Pn**	**02 23 49.3**	**+0.9**
SYVR				*e*Pg		**Pb**	**02 23 56.3**	**+1.0**
SYVR				*e*Sg		**Sb**	**02 24 38.7**	**+3.3**
SYVR				Pmax				
	comp=E,40nm,0.8s							
SYVR				Smax				
	comp=E,299nm,1.6s							
KHNR	**Khani**	**3.48**	**73**	*e*Pn		**Pn**	**02 23 51.9**	**+1.0**
KHNR				*e*Pg		**Pb**	**02 23 59.0**	**+0.6**
KHNR				*e*Sg		**Sg**	**02 24 44.4**	**-3.9**
VTMR	**Vitim**	**3.48**	**348**	*e*Pn		**Pn**	**02 23 52.8**	**+1.8**
VTMR				*e*			02 23 59.7	
VTMR				*e*Sg		**Sb**	**02 24 42.5**	**+1.7**
TUP	**Tupik**	**3.82**	**113**	⇓*i*Pn		**Pn**	**02 23 55.9**	**+0.3**
TUP				*e*Pg		**Pb**	**02 24 06.2**	**+2.0**
TUP				*e*Sn		**Sn**	**02 24 40.2**	**-0.3**
TUP				*e*Sg		**Sb**	**02 24 54.7**	**+4.2**
TUP				*e*SgSg		**Sg**	**02 25 00.2**	**+0.9**
TUP				Pmax				
	comp=E,40nm,0.6s							
TUP				max				
	comp=E,441nm,0.8s							
TUP	**Tupik**	**3.82**	**113**	*e*PN		**Pn**	**02 23 55.8**	**+0.2**
TUP				*e*			02 24 05.2	
TUP				*e*S		**Sn**	**02 24 40.2**	**-0.3**
TUP				*e*			02 24 55.6	
TUP				pmax	pmax			
	comp=Z,41nm,0.4s							
TUP				smax	smax			
	comp=E,443nm,0.8s							
CIT	**Chita**	**4.04**	**183**	*e*Pg		**Pb**	**02 24 09.1**	**+1.1**
CIT				*e*Sg		**Sg**	**02 25 02.0**	**-4.3**
CIT				Pmax				
	comp=E,56nm,0.3s							
CIT				Smax				
	comp=E,252nm,1.1s							
CIT	**Chita**	**4.04**	**183**	*e*PN		**Pn**	**02 23 58.7**	**+0.1**
CIT				*e*			02 24 09.8	
CIT				*e*S		**Sn**	**02 24 45.4**	**-0.6**
CIT				*e*			02 25 01.1	
CIT				pmax	pmax			
	comp=Z,67nm,0.2s							
CIT				smax	smax			
	comp=E,252nm,1.0s							
MXMB	**Maximikha**	**4.10**	**229**	*e*Pn		**Pn**	**02 24 00.8**	**+1.4**
MXMB				*e*Pg		**Pb**	**02 24 10.5**	**+1.5**
MXMB				*e*Sg		**Sg**	**02 25 03.9**	**-4.3**
YKLR	**Yuktali**	**4.34**	**80**	*e*Pn		**Pn**	**02 24 02.3**	**-0.5**
YKLR				*e*Pg		**Pb**	**02 24 13.7**	**+0.6**
YKLR				*e*Sg		**Sg**	**02 25 10.9**	**-5.2**
OGRR	**Ongureny**	**4.37**	**239**	*e*Pn		**Pn**	**02 24 03.8**	**+0.6**
OGRR				*e*Pg		**Pb**	**02 24 13.7**	**0.0**
OGRR				*e*Sn		**Sn**	**02 24 52.1**	**-2.1**
OGRR				*e*Sg		**Sb**	**02 25 10.7**	**+4.2**
OGRR				Pmax				
	comp=E,27nm,1.1s							
OGRR				Smax				
	comp=E,130nm,1.5s							
OGRR	**Ongureny**	**4.37**	**239**	*e*PN		**Pn**	**02 24 03.8**	**+0.6**
OGRR				*e*			02 24 15.3	
OGRR				*e*			02 25 11.3	
OGRR				pmax	pmax			
	comp=Z,28nm,1.3s							
OGRR				smax	smax			
	comp=N,146nm,1.8s							
GORB	**Goryachinsk**	**4.49**	**229**	*e*Pn		**Pn**	**02 24 04.3**	**-0.5**
GORB				*e*Pg		**Pb**	**02 24 17.5**	**+1.9**
GORB				*e*Sg		**Sg**	**02 25 16.1**	**-4.7**
UZR	**Uzur**	**4.50**	**235**	*e*Pn		**Pn**	**02 24 05.1**	**+0.1**
UZR				*e*Pg		**Pb**	**02 24 17.1**	**+1.2**
UZR				*e*Sg		**Sb**	**02 25 15.0**	**+4.9**
UZR				Pmax				
	comp=N,15nm,0.5s							
UZR				Smax				
	comp=N,142nm,1.3s							
KELR	**Kotokel**	**4.74**	**228**	*e*Pn		**Pn**	**02 24 09.6**	**+1.4**
KELR				*e*Pg		**Pb**	**02 24 21.3**	**+1.4**
KELR				*e*Sg		**Sg**	**02 25 24.2**	**-4.6**
TRG	**Tyrgan**	**5.51**	**236**	*e*Pn		**Pn**	**02 24 19.9**	**+1.0**
TRG				*e*Pg		**Pb**	**02 24 36.1**	**+3.1**
TRG				*e*Sg		**Sg**	**02 25 46.9**	**-6.6**
TRG				Pmax				
	comp=N,3.0nm,0.5s							
TRG				Smax				
	comp=N,66nm,1.1s							
UUDB	**Ulan-Yde**	**5.58**	**224**	*e*Pg		**Pb**	**02 24 38.0**	**+3.8**
UUDB				*e*Sg		**Sg**	**02 25 49.7**	**-6.1**
UUDB				Pmax				
	comp=N,18nm,0.8s							
UUDB				Smax				
	comp=N,156nm,1.3s							
STDB	**Stepnoy Dvoret**	**5.90**	**232**	*e*Sg		**Sg**	**02 25 59.4**	**-6.5**
HRMR	**Khuramsha**	**6.04**	**226**	*e*Sg		**Sg**	**02 26 04.2**	**-6.5**
HRMR				Smax				
	comp=N,318nm,1.0s							
CLNS	**Chul'man**	**6.14**	**78**	*e*Pg		**Pb**	**02 24 47.3**	**+3.5**
CLNS				*e*Sg		**Sg**	**02 26 06.8**	**-6.9**
BGT	**Bolshoye Golou**	**6.41**	**235**	*e*Sg		**Sg**	**02 26 14.9**	**-7.6**
BGT				Smax				
	comp=N,61nm,2.0s							
KPC	**Khapcheranga**	**6.42**	**189**	*e*Pn		**Pn**	**02 24 30.9**	**-0.5**
KPC				*e*Pg		**Pb**	**02 24 53.5**	**+5.0**
KPC				*e*Sn		**Sn**	**02 25 41.6**	**-3.1**
KPC				*e*Sg		**Sg**	**02 26 16.0**	**-6.7**
KPC				Pmax				
	comp=N,8.0nm,0.6s							
KPC				Smax				
	comp=N,81nm,1.4s							
KPC	**Khapcheranga**	**6.42**	**189**	*e*PN		**Pn**	**02 24 30.9**	**-0.5**
KPC				*e*			02 24 51.3	
KPC				*e*			02 26 13.4	
KPC				pmax	pmax			
	comp=Z,8.0nm,0.6s							
KPC				smax	smax			
	comp=E,82nm,1.3s							
LSTR	**Listvyanka**	**6.80**	**236**	*e*Sg		**Sg**	**02 26 28.2**	**-6.6**
LSTR				Smax				
	comp=E,55nm,1.7s							
IVK	**Ivanovka**	**7.04**	**237**	*e*Pg		**Pb**	**02 25 02.4**	**+3.4**
IVK				*e*Sg		**Sg**	**02 26 33.5**	**-9.0**
IVK				Pmax				
	comp=E,1.0nm,0.2s							
IVK				Smax				
	comp=E,40nm,1.6s							
TLY	**Talaya**	**7.48**	**239**	*e*Sg		Sg	02 26 47.5	-9.2
TLY				Smax				
	comp=E,25nm,1.3s							
ARS	**Arshan**	**7.93**	**243**	*e*Pg		Pb	02 25 20.0	+5.7
ARS				*e*Sg		Sg	02 27 01.5	-10
ARS				Pmax				
	comp=E,5.0nm,0.4s							
ARS				Smax				
	comp=E,112nm,1.1s							
ZAK	**Zakamensk**	**8.53**	**233**	*e*Sg		Sg	02 27 21.1	-9.3
ZAK				Smax				
	comp=E,26nm,1.4s							
MOY	**Mondy**	**8.80**	**246**	*e*Pg		Pg	02 25 34.4	-11
MOY				*e*Sg		Sg	02 27 29.2	-10
MOY				Pmax				
	comp=E,6.0nm,1.4s							
MOY				Smax				
	comp=E,65nm,1.4s							
ORL	**Orlik**	**8.96**	**253**	*e*Pn		**Pn**	**02 25 07.1**	**+0.8**
ORL				*e*Pg		Pg	02 25 37.3	-11
ORL				*e*			02 26 45.9	
ORL				*e*Sg		Sg	02 27 33.3	-11
ORL				Pmax				
	comp=E,3.0nm,1.0s							
ORL				Smax				
	comp=E,28nm,1.9s							
SONM	**Songino Array**	**9.44**	**213**	Pg		Pn	02 25 41.4	+29
	comp=E,0.3nm,0.3s,baz=15,slow=12,SNR=1.9							
SONM				Lg		Lg	02 27 52.8	
	comp=E,1.0nm,0.3s,baz=16,slow=27,SNR=15							
KURK	**Kurchatov**	**21.55**	**271**	P		**P**	**02 27 50.7**	**+4.7**
MKAR	**Makanchi Array**	**21.61**	**258**	P		**P**	**02 27 48.2**	**+1.4**
	comp=E,0.5nm,0.7s,baz=60,slow=8.7,SNR=3.0							
	comp=E,0.5nm,0.7s							
KURBB	**Kurchatov Arra**	**21.65**	**270**	P		**P**	**02 27 50.7**	**+3.7**
	comp=E,0.9nm,0.7s,baz=70,slow=11,SNR=6.6							
	comp=E,0.9nm,0.7s							
BVAR	**Borovoye Array**	**25.12**	**282**	P		**P**	**02 28 24.4**	**+2.8**
	comp=E,0.9nm,0.7s,baz=54,slow=11,SNR=3.7							
	comp=E,0.9nm,0.7s							
FINES	**FINESS Array B**	**42.60**	**315**	P		**P**	**02 30 55.2**	**+2.7**
	comp=E,2.6nm,0.9s,baz=41,slow=13,SNR=3.9							
	comp=E,2.6nm,0.9s							

MOS ***31*** *03:02:06.4±0.8,6˚.79N×72˚.97W,h133km,mb5.0/12,Error ellipse: s-maj=9.9km s-min=6.9km az=111.7*
NEIC ***31*** *03:02:09.8,6˚.68N×72˚.94W,h170km,Moment Tensor Solution. Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}=0.85; $M_{\theta\theta}$=0.07; $M_{\phi\phi}$=0.92; $M_{r\theta}$=-0.27; $M_{\theta\phi}$=0.40; $M_{\phi r}$=0.27; Fault plane solution: $M_0$1.04000×10^{16} NP1: ϕ_s2.00000°,δ54.32000°,λ-61.33000°. NP2:ϕ_s138.85000°, δ44.55000°,λ-123.75000°. Principal axes: T 1.0749, Plg5.0000°, Azm72.0000°; N -0.0624, Plg23.0000°, Azm164.0000°; P -1.0125, Plg66.0000°, Azm330.0000°;*
VAO ***31*** *03:02:09.2±0.3,6˚.66N×73˚.03W,h140km±3km,mb4.8*
IDC ***31*** *03:02:09.7±0.5,6˚.70N×72˚.92W,h155km±4km,mb4.3/23, mbtmp4.8/29,MS3.1/8,Error ellipse: s-maj=8.0km s-min=6.1km az=125.0*
NEIC ***31*** *03:02:09.8,6˚.78N×72˚.94W,h170km*
RSNC ***31*** *03:02:10.4±0.0,7˚N±1˚×7˚.3W±˚,h149km±2km,M5.2,mb5.7, mB5.9,ML4.8,Mw5.1,Mw(mB)5.5,MwMwp4.4,Mwp4.8*
NEIC ***31*** *03:02:11.2±1.5,6˚.76N±0˚.07×72˚.93W±0˚.07,h160km±6km, mb5.1/756,Mww4.6/9,Error ellipse: s-maj=11.3km s-min=9.4km az=124.0*
CATAC ***31*** *03:02:12.8±1.8,7˚.21N×73˚.32W,h26km±19km,MB5.8, mb5.6,ML5.4*
ISC 31 03:02:09.1±0.3,6˚.80N±0˚.02×73˚.07W±0˚.03,h149km±2km, n1132,σ1s29/900,mb5.1/415,10C-17D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.24**	**209**	P		Pn	03 02 30.6	+1.0
BARC				S		**Sn**	**03 02 45.1**	**-0.1**
PAMC	**Pamplona, Colo**	**0.65**	**34**	P		Pn	03 02 33.5	+1.8
PAMC				S		**Sn**	**03 02 50.2**	**+1.3**
RUSC	**La Rusia**	**0.90**	**181**	P		Pn	03 02 34.6	+1.1
RUSC				S		**Sn**	**03 02 52.9**	**+0.8**
RUSI	**La Rusia**	**0.90**	**181**	*i* P		Pn	03 02 35.1	+1.6
RUSI				*i* S		**Sn**	**03 02 53.3**	**+1.2**
RUSI				IAML			03 02 55.0	
	comp=Z,40μm,1.0s							
TAMC	**Tame, Arauca**	**1.32**	**106**	P		Pn	03 02 39.0	+2.3
TAMC				S		Sn	03 03 00.5	+2.7
PTBC	**PUERTO BERRIO,**	**1.41**	**259**	P		**Pn**	**03 02 37.2**	**-0.4**
PTBC				S		**Sn**	**03 02 58.2**	**-1.2**
OCAC	**Ocana**	**1.45**	**350**	P		**Pn**	**03 02 38.9**	**+0.6**
OCAC				S		**Sn**	**03 03 00.7**	**+0.1**
SPBC	**San Pablo de B**	**1.52**	**221**	P		**Pn**	**03 02 39.7**	**+0.8**
SPBC				S		**Sn**	**03 03 01.1**	**-0.5**

CVER S Sn 03 03 22.6 +0.5
UREC San Jos de Ur 2.62 291 P Pn 03 02 50.9 -0.8
UREC S Sn 03 03 22.2 -2.4
VILC Villavicencio, 2.74 193 P Pn 03 02 54.0 +0.7
VILC S Sn 03 03 28.9 +1.4
PTGC Puerto Gaitan, 2.75 160 P Pn 03 02 53.8 +0.5
PTGC S Sn 03 03 27.0 -0.3
DBBC Dabeiba 3.13 274 P Pn 03 02 58.8 +0.7
DBBC S Sn 03 03 34.9 -1.2
SDV Santo Domingo 3.18 49 P Pn 03 03 00.3 +1.4
comp=Z,3µm,0.4s,baz=236,slow=10,SNR=2784
SDV S Sn 03 03 38.3 +0.9
comp=Z,4µm,0.6s,baz=66,slow=23,SNR=17
SDV Santo Domingo 3.18 49 P Pn 03 03 00.3 +1.4
SDV S Sn 03 03 37.0 -0.4
SDV Santo Domingo 3.18 49 eP Pn 03 03 00.1 +1.2
SDV eS Sn 03 03 38.4 +0.9
ARGC Ariguani, Magd 3.25 339 P Pn 03 03 00.9 +1.2
ARGC S Sn 03 03 39.9 +1.0
PRAC Prado 3.56 211 P Pn 03 03 03.9 +0.2
PRAC S Sn 03 03 46.9 +0.9
APAC Apartado, Choc 3.65 288 P Pn 03 03 05.2 +0.4
APAC S Sn 03 03 46.6 -1.4
PLMC San Jos del P 3.71 240 P Pn 03 03 06.3 +0.6
PLMC S Sn 03 03 49.4 -0.1
SJCC San Jacinto, C 3.72 326 P Pn 03 03 04.9 -0.9
SJCC S Sn 03 03 46.0 -3.7
CRJC Cerrejon, Guaj 4.20 2 P Pn 03 03 11.2 -0.8
CRJC S Sn 03 03 57.2 -3.8
GUVC San Jose del G 4.25 174 P Pn 03 03 12.6 -0.1
GUVC S Sn 03 04 02.2 +0.1
YOTC Yotoco, Valle 4.30 230 P Pn 03 03 13.3 -0.1
YOTC S Sn 03 04 06.8 +3.4
SOLC Bahia Solano 4.35 263 P Pn 03 03 14.3 +0.3
SOLC S Sn 03 03 04.7 -0.7
SMRC Santa Marta, M 4.49 345 P Pn 03 03 15.3 -0.4
SMRC S Sn 03 04 04.5 -3.1
CAPC Capurgana 4.62 294 P Pn 03 03 14.9 -2.6
CAPC S Sn 03 03 05.3 -5.5
PIZC Pizarro, Choco 4.64 247 P Pn 03 03 19.4 +1.6
PIZC S Sn 03 04 11.5 +0.2
MACC Macarena, Meta 4.69 190 P Pn 03 03 18.0 -0.5
MACC S Sn 03 04 09.9 -2.6
PTAC Punta Ardita, 4.72 274 P Pn 03 03 18.3 -0.5
PTAC S Sn 03 04 10.8 -2.3
BETC Betania 4.73 210 P Pn 03 03 19.0 0.0
BETC S Sn 03 04 12.2 -1.2
URI Uriba 4.98 12 *i* P Pn 03 03 21.5 -0.8
URI IAML 03 04 19.0
comp=Z,2µm,1.0s
URIC Uriba, Colomb 4.99 12 P Pn 03 03 21.4 -0.9
URIC S Sn 03 04 16.7 -2.8
JAMC Jamundi, Valle 5.06 225 P Pn 03 03 23.6 +0.1
comp=Z,1µm,0.6s,comp=Z,23µm
JAMC S Sn 03 04 22.0 +0.5
comp=Z,1µm,0.6s,comp=Z,23µm
MALC Bahia Malaga 5.07 237 P Pn 03 03 25.3 +1.8
MALC S Sn 03 04 25.0 +3.5
GARC Garzon, Huila 5.18 208 P Pn 03 03 25.2 0.0
GARC S Sn 03 04 21.1 -3.4
BAUV El Baul 5.41 67 Pn Pn 03 03 26.9 -1.2
BAUV El Baul 5.41 67 eP Pn 03 03 26.8 -1.2
POPC Popayan, Colom 5.55 221 P Pn 03 03 30.7 +0.6
comp=Z,695nm,0.4s,comp=Z,10µm
POPC S Sn 03 04 32.4 -0.9
comp=Z,695nm,0.4s,comp=Z,10µm
BBAC Balboa, Cauca 6.32 221 P Pn 03 03 40.5 +0.2
BBAC S Sn 03 04 49.9 -1.7
GR1C Gorgona, Isla 6.33 234 P Pn 03 03 39.0 -1.2
GR1C S Sn 03 04 48.1 -3.4
AUA1 Aruba 6.42 28 P Pn 03 03 41.5 0.0
CRUC La Cruz 6.48 217 P Pn 03 03 45.0 +2.4
CRUC S Sn 03 04 58.9 +3.1
HATO Hato, Curacao 6.71 37 Pn Pn 03 03 44.1 -1.1
PTLC Puerto Leguiza 6.81 195 P Pn 03 03 50.6 +4.0
comp=Z,354nm,0.7s,comp=Z,4µm
GCUF Volcan Galeras 6.99 218 P Pn 03 03 50.6 +1.1
comp=Z,998nm,0.5s,comp=Z,14µm
GCUF S Sn 03 05 08.8 +0.6
comp=Z,998nm,0.5s,comp=Z,14µm
BCIP Isla Barro Col 7.11 290 Pn Pn 03 03 48.7 -1.9
BCIP Isla Barro Col 7.11 290 *i* P Pn 03 03 49.5 -1.1
BCIP IVmB_BB 03 04 05.7
comp=Z,3µm,1.0s
BCIP IAmb IAmb 03 04 09.8
comp=Z,350nm,0.7s
BCIP IAML 03 05 22.9
comp=Z,560nm,1.0s
BCIP Isla Barro Col 7.11 290 P Pn 03 03 48.7 -1.9
AZU Azuero 7.22 278 P Pn 03 03 51.3 -0.8
comp=Z,183nm,0.6s,comp=Z,3µm
AZU S Sn 03 05 06.7 -6.2
comp=Z,183nm,0.6s,comp=Z,3µm
CMBC Cumbal 7.51 219 P Pn 03 03 57.7 +1.3
comp=Z,868nm,0.7s
CMBC S Sn 03 05 18.1 -2.5
comp=Z,868nm,0.7s
TULM Tulcn-Chalpat 7.66 218 Pn 03 03 59.7 +1.3
TULM Tulcn-Chalpat 7.66 218 P Pn 03 04 00.1 +1.6
comp=Z,976nm,0.7s,comp=Z,8µm
TULM S Sn 03 05 23.9 -0.4
comp=Z,976nm,0.7s,comp=Z,8µm
CACAO El Cacao, Vera 7.75 274 P Pn 03 03 58.3 -1.0
comp=Z,263nm,0.8s,comp=Z,8µm
GMAL Guarumal, Vera 8.16 277 P Pn 03 04 05.6 +0.9
comp=Z,262nm,0.8s,comp=Z,3µm
IMBA Imbabura, San 8.26 219 Pn Pn 03 04 07.6 +1.2
CUSE Cuicocha Este 8.36 220 P Pn 03 04 08.0 +0.2
CUSE S Sn 03 05 42.9 +1.8
PULU Pululahua 8.64 219 Pn 03 04 11.3 -0.3
PCRV Puerto La Cruz 8.99 68 P Pn 03 04 14.9 -0.9
comp=Z,107nm,0.4s,baz=206,slow=5.7,SNR=64
PCRV LR LR 03 09 05.4
comp=Z,97nm,19.4s,slow=47
PCRV Puerto La Cruz 8.99 68 eP Pn 03 04 13.8 -2.0
SLOR San Lorenzo - 9.24 216 Pn Pn 03 04 19.5 0.0
BRU2 Volcan 9.74 282 Pn Pn 03 04 26.5 +0.6
BRU2 Volcan 9.74 282 *i* P Pn 03 04 27.5 +1.6
BRU2 IVmB_BB 03 04 28.7
comp=Z,3µm,1.0s
BRU2 IAmb IAmb 03 04 29.2
comp=Z,330nm,1.3s
BRU2 *i* S Sn 03 06 12.6 -1.3
CDITO Canoas 9.88 281 Pn 03 04 28.9 +1.4
CHSH Refugio Sur-Vo 10.07 215 Pn 03 04 30.5 -0.2
DRK0 Durika 10.37 284 Pn 03 04 35.0 +0.8
DRK0 Durika 10.37 284 *i* P Pn 03 04 35.1 +0.8
DRK0 IAmb IAmb 03 04 36.8
comp=Z,220nm,0.8s
DRK0 IVmB_BB 03 05 12.4
comp=Z,29µm,1.0s
CRUV Carupano 10.45 68 eP Pn 03 04 33.0 -2.1
PRVC Isla de Provid 10.46 309 *i* P Pn 03 04 32.9 -2.4
SRBA San Rafael, Bu 10.48 284 Pn Pn 03 04 36.7 +1.1
BATAN Batan 10.71 289 Pn 03 04 39.6 +1.1
OCHAL Ojochal 10.72 283 *i* P Pn 03 04 41.0 +2.2
OCHAL IAmb IAmb 03 04 41.6
comp=Z,170nm,0.7s
PEZE Perez Zeledon, 10.81 284 Pn 03 04 39.2 -0.8
LCR2 La Lucha 2 11.21 286 Pn 03 04 47.0 +1.6
LCR2 La Lucha 2 11.21 286 *i* P Pn 03 04 46.8 +1.4
LCR2 IVmB_BB 03 04 48.5
comp=Z,3µm,1.0s
LCR2 IAmb IAmb 03 04 48.9
comp=Z,300nm,0.9s
TBTG Tabatinga, AM 11.36 164 Pn Pn 03 04 44.2 -3.0
TBTG Tabatinga, AM 11.36 164 eP Pn 03 04 44.8 -2.3
TBTG eS Sn 03 06 48.0 -4.8
HDC Heredia 11.38 287 Pn 03 04 48.4 +0.8
HDC Heredia 11.38 287 eP Pn 03 04 49.5 +2.0
HDC eS Sn 03 06 55.4 +1.9
HOJ Hope 11.70 342 ⇓ *i* P Pn 03 04 54.8 +3.2
STH Stony Hill 11.79 342 ⇓ eP Pn 03 04 54.9 +2.2
ARE1 Arenal 1 12.08 288 Pn 03 04 57.0 +0.4
TRN Trinidad (W) 12.14 71 eP Pn 03 04 55.2 -2.2
MTDJ Mount Denham 12.16 339 Pn Pn 03 05 00.7 +3.0
MTDJ Mount Denham 12.16 339 *i* P Pn 03 05 01.0 +3.3
MTDJ ⇓ *i* S Sn 03 07 05.1 -7.2
SDDR Presa de Saban 12.23 8 Pn Pn 03 04 59.6 +1.1
JTS Las Juntas de 12.26 287 P Pn 03 05 01.0 +2.1
comp=Z,36nm,0.7s,baz=26,slow=2.8,SNR=23
JTS S Sn 03 07 16.5 +2.1
comp=Z,6.6nm,0.7s,baz=287,slow=19,SNR=1.3

JTS LR LR 03 11 22.7
comp=Z,51nm,21.2s,baz=112,slow=44
GRGR Grenville 12.44 64 Pn Pn 03 05 00.8 -0.4
CELP Cerrillos 12.87 29 P Pn 03 05 04.2 -2.5
GTBY Guantanamo Bay 13.20 352 Pn 03 05 11.1 +0.2
EMPR Esperanza - Ma 13.24 28 Pn 03 05 09.5 -2.0
BOAV Boa Vista 13.24 109 Pn 03 05 10.4 -1.2
BOAV Boa Vista 13.24 109 eP Pn 03 05 09.6 -2.0
TEFE Tefe 13.26 140 eP Pn 03 05 10.1 -1.6
SVB Belmont 13.29 60 eP Pn 03 05 10.8 -1.3
GCPR Guaynabo City 13.31 30 Pn 03 05 11.4 -0.9
FDF Fort de France 14.11 55 P Pn 03 05 20.0 -2.6
FDF Fort de France 14.11 55 P Pn 03 05 20.0 -2.6
MPOM Morne Pois Mar 14.20 57 P Pn 03 05 22.5 -1.1
CZSB Cruzeiro do Su 14.44 179 P Pn 03 05 26.6 -0.1
CZSB Cruzeiro do Su 14.44 179 eP Pn 03 05 25.4 -1.2
ATAH Atahualpa 14.83 201 P Pn 03 05 31.4 -0.6
comp=Z,19nm,0.7s,baz=50,slow=7.9,SNR=24
ATAH S Sn 03 08 18.4 +1.6
comp=Z,9.3nm,0.7s,baz=354,slow=21,SNR=1.6
ATAH LR LR 03 11 15.8
comp=Z,56nm,20.5s,baz=36,slow=37
GDSD La Dsirade Is 15.08 50 P 03 05 34.8 -1.6
TGUH Tegucigalpa,Un 15.72 298 IAmb IAmb 03 05 46.3
comp=Z,118nm,0.9s
MACA Manacapuru-AM 15.83 128 P P 03 05 43.8 -1.0
MACA Manacapuru-AM 15.83 128 eP P 03 05 43.4 -1.3
MACA eS Sn 03 08 38.5 -1.9
MTO3 Montecristo 17.70 297 IAmb IAmb 03 06 10.4
comp=Z,86nm,0.7s
ESQI Esquipulas 17.75 297 IAmb IAmb 03 06 10.7
comp=Z,136nm,0.8s
ETMB Extrema 17.86 157 P P 03 06 07.1 +0.1
ETMB IAmb IAmb 03 06 08.4
comp=Z,53nm,0.6s
ETMB Extrema 17.86 157 eP P 03 06 07.1 +0.1
CAMR Camarioca 18.04 335 IAmb IAmb 03 06 18.4
comp=Z,160nm,0.7s
SAML Samuel 18.49 148 P P 03 06 13.8 -0.1
SAML IAmb IAmb 03 06 44.3
comp=Z,72nm,0.6s
SAML Samuel 18.49 148 P P 03 06 13.8 -0.1
SAML pmax pmax
comp=Z,72nm,0.6s
SAML Samuel 18.49 148 eP P 03 06 13.6 -0.3
SOR Soroa 18.56 330 P P 03 06 15.8 +1.1
SOR Soroa 18.56 330 P P 03 06 15.8 +1.1
SOR pmax pmax
comp=Z,28nm,0.7s
APG El Apazote 18.92 297 P P 03 06 19.1 +0.3
comp=Z,5.1nm,0.7s,baz=142,slow=9.9,SNR=32
NNA Nana 19.04 191 P P 03 06 20.4 +0.5
NNA Nana 19.04 191 P P 03 06 19.1 -0.8
comp=Z,15nm,0.5s,baz=0.1,slow=12,SNR=9.2
NNA Nana 19.04 191 ⇓ eP P 03 06 20.5 +0.5
NNA pmax pmax
comp=Z,108nm,1.6s
PETF Flores 19.25 303 IAmb IAmb 03 06 28.9
comp=Z,191nm,1.3s
TEIG Tepich 19.89 314 P P 03 06 31.4 +2.3
TEIG Tepich 19.89 314 P P 03 06 31.0 +1.9
comp=Z,214nm,0.6s,baz=140,slow=4.8,SNR=68
TEIG S S 03 10 12.5 +7.4
comp=Z,5.3nm,0.6s,baz=29,slow=23,SNR=1.8
comp=Z,214nm,0.6s
061Z Ochoppi 20.38 339 P P 03 06 36.4 +2.1
MDP Montagnes des 20.38 94 P P 03 06 34.2 -0.3
comp=Z,18nm,0.7s,baz=245,slow=20,SNR=2.3
MDP S S 03 10 17.9 +3.0
comp=Z,14nm,0.8s,baz=12,slow=6.3,SNR=1.8
comp=Z,18nm,0.7s
ITTB Itaituba 20.55 122 eP Pn 03 06 37.2 -3.0
CCIG Comitan 20.91 298 IAmb IAmb 03 06 44.4
comp=Z,78nm,0.6s
060A Indiantown 21.29 342 P P 03 06 45.4 +1.4
MCPB Macapa, AP 22.14 108 eP P 03 06 53.5 +0.5
MCPB eS S 03 10 47.5 +1.0
NPGB Novo Progresso 22.39 128 eP P 03 06 55.5 0.0
NPGB eS S 03 10 51.3 +0.6
DWPF Disney Wildern 22.63 340 P P 03 06 59.3 +1.8
DWPF IAmb IAmb 03 07 01.3
comp=Z,61nm,0.7s
DWPF Disney Wildern 22.63 340 P P 03 06 59.1 +1.6
baz=158
VILB Vilhena 23.42 147 P P 03 07 05.5 +0.5
VILB Vilhena 23.42 147 eP P 03 07 05.5 +0.5
LPAZ La Paz 23.45 168 P P 03 07 05.9 0.0
LPAZ IAmb IAmb 03 07 39.9
comp=Z,44nm,0.8s
LPAZ La Paz 23.45 168 P P 03 07 05.3 -0.6
comp=Z,11nm,0.5s,baz=0.4,slow=7.4,SNR=41
comp=Z,11nm,0.5s
LPAZ La Paz 23.45 168 P P 03 07 05.9 0.0
LPAZ pmax pmax
comp=Z,44nm,0.8s
LPAZ La Paz 23.45 168 eP P 03 07 05.3 -0.6
CMIG Matias Romero 23.64 298 P P 03 07 03.5 -3.5
comp=Z,4.9nm,0.5s,baz=85,slow=6.5,SNR=19
PDRB Porto dos Gac 24.47 138 eP P 03 07 14.5 -0.1
PB18 Visviri 24.49 172 P P 03 07 14.0 -1.2
SIV San Ignacio 25.57 152 LR LR 03 18 58.7
comp=Z,52nm,21.3s,baz=315,slow=40
PTLB Pontes e Lacer 26.06 148 P P 03 07 28.8 -0.1
PTLB IAmb IAmb 03 08 03.7
comp=Z,30nm,0.8s
PTLB Pontes e Lacer 26.06 148 eP P 03 07 28.1 -0.7
TIGA Tifton 26.42 339 IAmb IAmb 03 07 34.9
comp=Z,50nm,0.7s
TIGA Tifton 26.42 339 P P 03 07 34.0 +2.0
baz=156,SNR=8.3
255A Hazlehurst 26.50 342 IAmb IAmb 03 07 35.6
comp=Z,28nm,0.8s
TMAB Tom-Au,PA,Br 26.54 109 eP P 03 07 33.3 0.0
PRPB Parauapebas 26.54 119 eP P 03 07 33.4 +0.1
GO01 Chusmiza 26.58 172 IAmb IAmb 03 08 10.7
comp=Z,25nm,0.6s
PB11 IPOC Station P 26.61 173 P P 03 07 33.1 -0.8
PB11 IAmb IAmb 03 08 08.2
comp=Z,43nm,0.8s
BBSD Serra de San D 26.83 153 eP P 03 07 35.0 -0.8
TLIG Tlapa 27.09 296 IAmb IAmb 03 07 46.8
comp=Z,31nm,0.6s
HMBC Humberstone 27.09 173 IAmb IAmb 03 08 13.1
comp=Z,42nm,1.1s
BRAL Brewton 27.55 333 P P 03 07 44.7 +2.6
baz=149,SNR=5.2
Y57A Sumter 27.92 347 IAmb IAmb 03 07 48.4
comp=Z,35nm,0.7s
BBRB Robore, Bolivi 28.14 152 eP P 03 07 47.4 -0.1
GOGA Godfrey 28.18 341 IAmb IAmb 03 07 50.4
comp=Z,29nm,0.7s
GOGA Godfrey 28.18 341 P P 03 07 49.7 +2.1
baz=156,SNR=17
X58A Rowland 28.22 349 IAmb IAmb 03 07 50.6
comp=Z,26nm,0.8s
SALV Santo Antonio 28.37 143 eP P 03 07 49.1 -0.4
JSC Jenkinsville 28.38 346 IAmb IAmb 03 07 51.9
comp=Z,38nm,0.6s
SNDB Serra Nova Dou 28.58 131 eP P 03 07 51.6 +0.2
HODGE Hodges 28.59 344 IAmb IAmb 03 07 54.3
comp=Z,44nm,0.6s
CNNC Cliffs of the 28.65 352 P P 03 07 52.9 +1.1
baz=170
W59A Clinton 28.66 351 IAmb IAmb 03 07 54.4
comp=Z,23nm,0.8s
Y52A Lilburn 28.79 341 IAmb IAmb 03 07 55.9
comp=Z,46nm,0.6s
PAULI Pauline 29.03 345 IAmb IAmb 03 07 58.1
comp=Z,34nm,0.7s
LRAL Lakeview Retre 29.14 335 IAmb IAmb 03 07 59.0
comp=Z,40nm,0.7s
LRAL Lakeview Retre 29.14 335 P P 03 07 58.1 +2.0
baz=150,SNR=38
KMSC Kings Mountain 29.21 346 IAmb IAmb 03 07 59.3
comp=Z,24nm,0.6s
KMSC Kings Mountain 29.21 346 P P 03 07 58.5 +1.7
baz=163,SNR=14
BG3 Lake Jocassee 29.49 343 IAmb IAmb 03 08 03.0
comp=Z,79nm,1.5s
LVC Limon Verde 29.51 172 eP P 03 08 00.0 +0.1
X51A Calhoun 29.70 340 IAmb IAmb 03 08 04.0
comp=Z,30nm,0.7s
146A Union 29.70 332 IAmb IAmb 03 08 04.2
comp=Z,44nm,0.8s
SMTB Santa Maria do 29.78 121 eP P 03 08 02.8 +0.7

FPAL Fort Paine 29.94 339 IAmb IAmb 03 08 05.8
comp=Z,41nm,0.6s
VBMS Vicksburg 30.07 330 P P 03 08 06.3 +1.9
baz=144,SNR=13
V53A Saluda 30.09 344 IAmb IAmb 03 08 08.0
comp=Z,27nm,0.7s
T59A Double "B" Far 30.31 353 IAmb IAmb 03 08 09.0
comp=Z,36nm,0.7s
TKL Tuckaleechee C 30.36 343 LR LR 03 21 20.5
comp=Z,33nm,18.0s,baz=156,slow=38
441A DeRidder 30.39 324 IAmb IAmb 03 08 10.4
comp=Z,51nm,0.7s
CPCT Cooper Cave 30.40 341 IAmb IAmb 03 08 10.2
comp=Z,41nm,0.7s
V52A Sevierville 30.48 343 IAmb IAmb 03 08 11.1
comp=Z,29nm,1.1s
T57A Hurt 30.59 350 IAmb IAmb 03 08 11.5
comp=Z,37nm,0.8s
SWET Sewanee 30.66 339 IAmb IAmb 03 08 12.5
comp=Z,27nm,0.8s
ARAG Araguaiana, MT 30.71 137 eP P 03 08 09.8 -0.4
143A Socs Landing, 30.91 329 IAmb IAmb 03 08 13.7
comp=Z,45nm,0.7s
BLA Blacksburg 31.00 349 IAmb IAmb 03 08 15.4
comp=Z,22nm,0.7s
BLA Blacksburg 31.00 349 P P 03 08 14.6 +2.0
baz=166,SNR=11
TZTN Tazewell 31.12 344 IAmb IAmb 03 08 16.4
comp=Z,24nm,0.8s
TZTN Tazewell 31.12 344 P P 03 08 15.4 +1.9
baz=159,SNR=16
S57A Dark Hollow, R 31.28 351 IAmb IAmb 03 08 17.7
comp=Z,36nm,0.8s
OXF Oxford 31.43 334 IAmb IAmb 03 08 18.6
comp=Z,55nm,1.0s
OXF Oxford 31.43 334 P P 03 08 17.3 +0.9
baz=148,SNR=10
HKT Hockley 31.44 320 P P 03 08 17.9 +1.4
HKT Hockley 31.44 320 *ce* P P 03 08 17.6 +1.2
HKT pmax pmax
comp=Z,23nm,0.8s
BDQN Bodoquena, MS 31.47 150 eP P 03 08 15.4 -1.4
CBN Corbin Frederi 31.51 354 IAmb IAmb 03 08 19.7
comp=Z,29nm,0.6s
CBN Corbin Frederi 31.51 354 P P 03 08 18.4 +1.5
baz=172
CLTN Cedars of Leba 31.59 339 IAmb IAmb 03 08 20.4
comp=Z,43nm,0.6s
S54A Dingess, Beckl 31.76 348 IAmb IAmb 03 08 22.0
comp=Z,39nm,0.8s
U49A Red Boiling Sp 31.78 340 IAmb IAmb 03 08 21.8
comp=Z,25nm,0.7s
T50A Nancy 31.94 342 IAmb IAmb 03 08 24.1
comp=Z,36nm,0.9s
R55A Marlinton 31.99 349 IAmb IAmb 03 08 24.7
comp=Z,28nm,0.8s
NATX Nacogdoches 31.99 324 P P 03 08 22.6 +1.3
baz=136,SNR=9.5
AQDB Aquidauana 32.03 148 IAmb IAmb 03 08 57.3
comp=Z,44nm,0.7s
AQDB Aquidauana 32.03 148 eP P 03 08 21.5 -0.3
Z41A Richland Creek 32.07 328 IAmb IAmb 03 08 25.1
comp=Z,36nm,0.7s
MURT Porto Murtinho 32.09 152 eP P 03 08 20.4 -1.8
MLDN Muldoon 32.14 318 IAmb IAmb 03 08 24.8
comp=Z,46nm,0.7s
S51A Beattyville 32.16 344 IAmb IAmb 03 08 25.7
comp=Z,39nm,0.8s
WLAR White Oak Lake 32.57 328 IAmb IAmb 03 08 28.4
comp=Z,48nm,0.6s
Q56A Snyder Ridge, 32.57 351 IAmb IAmb 03 08 30.0
comp=Z,29nm,1.1s
Q54A Coxs Mills 32.80 349 IAmb IAmb 03 08 31.6
comp=Z,29nm,0.8s
833A Chaparral WMA, 32.84 314 IAmb IAmb 03 08 29.5
comp=Z,32nm,0.7s
833A Chaparral WMA, 32.84 314 P P 03 08 28.7 -0.1
baz=126,SNR=12
UALR University of 33.03 330 IAmb IAmb 03 08 34.1
comp=Z,22nm,0.6s
X40A Basin Creek Fa 33.05 329 IAmb IAmb 03 08 32.4
comp=Z,42nm,0.8s
435B Jarrell 33.13 319 P P 03 08 32.1 +0.9
435B PcP 03 11 12.5 +1.5
435B Jarrell 33.13 319 P P 03 08 32.2 +1.0
baz=131
MVL Millersville 33.19 355 IAmb IAmb 03 08 34.2
comp=Z,16nm,0.6s
R49A Shelbyville 33.21 342 IAmb IAmb 03 08 34.6
comp=Z,31nm,0.6s
MCWV Mont Chateau 33.28 350 IAmb IAmb 03 08 35.6
comp=Z,30nm,0.7s
MCWV Mont Chateau 33.28 350 P P 03 08 34.8 +2.4
baz=168,SNR=6.2
BDFB Brasilia 33.36 132 P P 03 08 34.1 +0.6
BDFB Brasilia 33.36 132 P P 03 08 33.2 -0.3
comp=Z,7.8nm,0.6s,baz=299,slow=11,SNR=20
comp=Z,7.8nm,0.6s
BDFB Brasilia 33.36 132 P P 03 08 34.1 +0.6
BDFB pmax pmax
comp=Z,9.0nm,0.6s
P53A Whipple 33.40 348 IAmb IAmb 03 08 36.7
comp=Z,47nm,1.2s
MIAR Mount Ida 33.47 328 IAmb IAmb 03 08 35.6
comp=Z,26nm,0.8s
MIAR Mount Ida 33.47 328 P P 03 08 34.4 +0.2
baz=141,SNR=34
HNDO Hondo 33.48 316 IAmb IAmb 03 08 37.0
comp=Z,16nm,0.6s
WCI Wyandotte Cave 33.51 341 P P 03 08 36.2 +1.8
WCI Wyandotte Cave 33.51 341 P P 03 08 36.0 +1.6
baz=156
WCI Wyandotte Cave 33.51 341 P P 03 08 36.2 +1.8
WCI pmax pmax
comp=Z,94nm,0.7s
LCAR Lake Charles 33.52 333 IAmb IAmb 03 08 36.8
comp=Z,50nm,0.7s
TREL Terrell 33.53 323 IAmb IAmb 03 08 37.1
comp=Z,55nm,0.9s
P52A Corning 33.69 347 P P 03 08 37.9 +1.9
baz=164,SNR=51
BRNJ Basking Ridge 33.77 358 IAmb IAmb 03 08 40.2
comp=Z,59nm,0.8s
WHTX Lake Whitney, 33.85 321 IAmb IAmb 03 08 39.6
comp=Z,41nm,0.8s
WHTX Lake Whitney, 33.85 321 P P 03 08 38.4 +0.9
baz=133,SNR=9.7
SDBA SAO DESIDERIO 33.88 124 eP P 03 08 38.1 +0.1
FW14 Alvarado 33.96 322 IAmb IAmb 03 08 40.1
comp=Z,47nm,0.8s
SSPA Standing Stone 33.97 353 P P 03 08 40.3 +1.9
SSPA Standing Stone 33.97 353 P P 03 08 40.5 +2.1
baz=171
PAL Palisades 34.07 359 IAmb IAmb 03 08 41.7
comp=Z,25nm,0.6s
PAL Palisades 34.07 359 P P 03 08 40.6 +1.5
baz=178,SNR=6.4
FW13 Cleburne 34.08 321 IAmb IAmb 03 08 41.5
comp=Z,58nm,0.7s
O53A New Philadelph 34.10 349 IAmb IAmb 03 08 42.2
comp=Z,40nm,0.7s
O53A New Philadelph 34.10 349 P P 03 08 41.5 +2.0
baz=165,SNR=15
TRNY Table Rock, Ra 34.22 358 IAmb IAmb 03 08 43.7
comp=Z,29nm,0.8s
P49A Miami Univ. Ec 34.24 344 P P 03 08 41.9 +1.2
baz=159
DRIO Del Rio 34.35 314 IAmb IAmb 03 08 43.8
comp=Z,26nm,0.8s
JCT Junction City 34.41 317 P P 03 08 42.6 +0.2
baz=128,SNR=6.0
ACSO Alum Creek Sta 34.45 347 IAmb IAmb 03 08 45.7
comp=Z,50nm,0.8s
ACSO Alum Creek Sta 34.45 347 P P 03 08 44.6 +2.1
baz=162,SNR=18
X37A Clayton 34.47 326 IAmb IAmb 03 08 44.7
comp=Z,40nm,1.0s
M63A Gales Ferry 34.47 1 IAmb IAmb 03 08 45.8
comp=Z,26nm,0.7s
FW07 Weatherford 34.53 322 P P 03 08 44.4 +1.0
FW07 PcP 03 11 16.2 +1.2
ITRB Iturama 34.55 140 eP P 03 08 43.4 -0.2
M57A Sunshine Farm, 34.58 355 IAmb IAmb 03 08 46.7
comp=Z,33nm,0.7s
IPMB Ipameri, GO 34.76 135 eP P 03 08 44.6 -1.0
UCCT U. Connecticut 34.86 1 P P 03 08 47.5 +1.5
M55A Ridgway 34.90 353 IAmb IAmb 03 08 49.0

comp=Z,28nm,0.6s
MGMO Mountain Grove 34.91 333 IAmb IAmb 03 08 48.2
comp=Z,51nm,0.7s
PLPT Palo Pinto 34.94 321 P **P** **03 08 47.8 +0.9**
PLPT **PcP** **03 11 17.8 +1.7**
N51A Ashland 34.98 348 IAmb IAmb 03 08 49.4
comp=Z,28nm,0.8s
O48B Farmland 35.03 344 IAmb IAmb 03 08 49.9
comp=Z,19nm,0.7s
O48B Farmland 35.03 344 P **P** **03 08 48.5 +1.0**
baz=159,SNR=7.7
LOOK Love County 35.06 324 IAmb IAmb 03 08 50.3
comp=Z,46nm,1.2s
M53A WI Miller and 35.15 350 P **P** **03 08 50.4 +1.9**
baz=167
TICA Tres Isletas 35.21 160 *e*P **P** **03 08 46.7 -2.4**
CCM Cathedral Cave 35.21 335 P **P** **03 08 50.1 +1.0**
baz=148
CCM Cathedral Cave 35.21 335 P **P** **03 08 50.3 +1.2**
CCM pmax pmax
comp=Z,232nm,0.7s
L59A Walton 35.29 357 IAmb IAmb 03 08 52.7
comp=Z,19nm,0.7s
BINY Binghamton 35.35 356 IAmb IAmb 03 08 53.0
comp=Z,36nm,0.7s
BINY Binghamton 35.35 356 P **P** **03 08 52.3 +2.1**
baz=175,SNR=15
U38A Gravette 35.36 330 IAmb IAmb 03 08 51.1
comp=Z,37nm,0.7s
M52A Chesterland 35.37 349 IAmb IAmb 03 08 53.5
comp=Z,42nm,0.8s
N49A Columbus Grove 35.40 345 IAmb IAmb 03 08 52.7
comp=Z,30nm,0.6s
L56A Greenwood 35.42 354 IAmb IAmb 03 08 53.9
comp=Z,39nm,0.9s
PCMB Pacaembu 35.42 143 *e*P **P** **03 08 50.5 -0.5**
RLO Rose Lookout 35.47 329 IAmb IAmb 03 08 52.6
comp=Z,83nm,0.6s
WES Weston 35.47 2 P **P** **03 08 51.8 +0.6**
WES Weston 35.47 2 P **P** **03 08 51.8 +0.6**
WES pmax pmax
comp=Z,19nm,0.9s
L61B Northampton 35.51 0 P **P** **03 08 53.1 +1.6**
baz=180,SNR=6.1
HRV Adam Dziewonsk 35.59 2 P **P** **03 08 54.3 +2.1**
HRV Adam Dziewonsk 35.59 2 P **P** **03 08 53.7 +1.5**
baz=182
HRV Adam Dziewonsk 35.59 2 P **P** **03 08 54.3 +2.1**
HRV pmax pmax
comp=Z,21nm,1.1s
OZNA Ozona 35.59 316 P **P** **03 08 52.8 +0.3**
OZNA IAmb IAmb 03 08 53.2
comp=Z,16nm,0.6s
NBPB Pedra_Branca-C 35.59 109 *e*P **P** **03 08 53.2 +0.5**
ABTX Abilene, Hawle 35.65 320 P **P** **03 08 53.6 +0.7**
ABTX IAmb IAmb 03 08 55.0
comp=Z,58nm,0.8s
ABTX **PcP** **03 11 19.0 +0.7**
ABTX Abilene, Hawle 35.65 320 P **P** **03 08 53.7 +0.7**
baz=130,SNR=17
TUL3 Leonard 35.68 327 P **P** **03 08 53.4 +0.3**
baz=139,SNR=33
ERPA Erie 35.70 351 P **P** **03 08 55.1 +1.8**
baz=168,SNR=7.0
SFIN Lafayette 35.72 342 P **P** **03 08 54.6 +1.3**
baz=156,SNR=103
K62A Royalston 35.73 1 IAmb IAmb 03 08 56.5
comp=Z,29nm,1.1s
SAND Sanderson 35.73 314 IAmb IAmb 03 08 55.9
comp=Z,27nm,0.8s
WVNY West Valley, N 35.80 353 IAmb IAmb 03 08 56.8
comp=Z,39nm,0.6s
JANB Januaria 35.83 127 *e*P **P** **03 08 54.4 -0.3**
K57A Scipio Center 35.91 356 IAmb IAmb 03 08 57.8
comp=Z,45nm,0.6s
FNO Franklin 36.09 325 IAmb IAmb 03 08 58.5
comp=Z,33nm,0.7s
SGCY Sterling City 36.18 317 P **P** **03 08 58.1 +0.6**
SGCY IAmb IAmb 03 08 59.0
comp=Z,49nm,0.7s
SGCY PcP **PcP** **03 11 20.1 +0.2**
CPUP Villa Florida 36.30 156 P **P** **03 08 55.5 -3.0**
comp=Z,3.0nm,0.8s,baz=347,slow=7.8,SNR=7.2
CPUP ScP **ScP** **03 14 50.0 -2.9**
comp=Z,2.9nm,0.9s,baz=329,slow=5.2,SNR=3.8
CPUP LR LR 03 24 22.5
comp=Z,38nm,18.8s,baz=326,slow=37
comp=Z,3.0nm,0.8s
PMNB Patos De Minas 36.38 134 *e*P **P** **03 08 59.5 0.0**
NBCL Cascavel-CE 36.40 107 *e*P **P** **03 09 00.2 +0.7**
APMT Aspermont 36.41 320 IAmb IAmb 03 09 02.2
comp=Z,34nm,0.6s
L48A N Adams 36.42 346 IAmb IAmb 03 09 01.3
comp=Z,25nm,0.6s
J58A Remsen 36.47 357 IAmb IAmb 03 09 02.2
comp=Z,25nm,0.7s
J56A Wolcott 36.48 355 IAmb IAmb 03 09 02.4
comp=Z,40nm,0.8s
TX31 Lajitas Ar. Si 36.52 312 IAmb IAmb 03 09 02.1
comp=Z,31nm,0.6s
TXAR Lajitas Array 36.52 312 P **P** **03 09 01.2 +0.7**
TXAR PcP **PcP** **03 11 22.4 +1.4**
TXAR Lajitas Array 36.52 312 P **P** **03 09 01.2 +0.7**
comp=Z,24nm,0.6s,baz=127,slow=9.3,SNR=394
TXAR PcP **PcP** **03 11 22.8 +1.7**
comp=Z,7.3nm,0.6s,baz=138,slow=5.1,SNR=11
TXAR ScP **ScP** **03 14 53.8 -0.1**
comp=Z,0.2nm,0.6s,baz=120,slow=6.4,SNR=4.6
comp=Z,24nm,0.6s
MEDO Medina 36.53 353 IAmb IAmb 03 09 02.6
comp=Z,18nm,0.6s
WMOK Wichita Mounta 36.53 323 IAmb IAmb 03 09 01.4
comp=Z,40nm,0.7s
WMOK Wichita Mounta 36.53 323 P **P** **03 09 00.3 -0.1**
baz=134,SNR=36
J55A Hilton 36.56 354 IAmb IAmb 03 09 03.1
comp=Z,40nm,0.7s
AAM Ann Arbor 36.58 347 P **P** **03 09 03.2 +2.6**
baz=162,SNR=5.7
HDIL Hopedale 36.62 339 P **P** **03 09 01.3 +0.3**
baz=152
SN05 Snyder 5 36.62 319 IAmb IAmb 03 09 02.8
comp=Z,56nm,0.7s
BB19B Bebedouro 36.71 140 *e*P **P** **03 09 02.1 0.0**
HPIG 36.88 307 IAmb IAmb 03 09 05.3
comp=Z,28nm,0.6s
LDASE Londrina, Braz 36.89 145 *e*P **P** **03 09 02.4 -1.2**
M44A Midewin, Midew 36.94 341 IAmb IAmb 03 09 04.7
comp=Z,30nm,0.8s
MNHN Monahans 36.97 315 IAmb IAmb 03 09 05.3
comp=Z,40nm,0.5s
ALPN Alpine 37.05 313 IAmb IAmb 03 09 07.6
comp=Z,19nm,0.6s
DKNS Dickens 37.14 320 IAmb IAmb 03 09 07.2
comp=Z,41nm,0.7s
ODSA Odessa 37.27 316 IAmb IAmb 03 09 10.8
comp=Z,56nm,1.3s
LBNH Lisbon 37.31 1 IAmb IAmb 03 09 09.8
comp=Z,18nm,0.7s
LBNH Lisbon 37.31 1 P **P** **03 09 08.7 +1.9**
baz=182,SNR=8.4
CROK Carrier 37.32 326 P **P** **03 09 07.2 +0.1**
CROK IAmb IAmb 03 09 08.3
comp=Z,49nm,0.7s
CROK **PcP** **03 11 24.7 +1.5**
KAN09 Caldwell North 37.58 327 P **P** **03 09 09.2 0.0**
KAN09 **PcP** **03 11 24.5 +0.5**
L44A Lake County Fo 37.61 342 IAmb IAmb 03 09 10.4
comp=Z,48nm,0.7s
L44A Lake County Fo 37.61 342 P **P** **03 09 09.6 +0.3**
baz=155,SNR=6.3
KAN14 Manchester OK 37.63 326 P **P** **03 09 09.7 +0.1**
KAN14 **PcP** **03 11 24.3 +0.1**
OK032 Salt Plains WL 37.66 326 P **P** **03 09 09.8 -0.1**
OK032 **PcP** **03 11 25.6 +1.3**
KAN05 Bluff City Nor 37.69 327 IAmb IAmb 03 09 11.1
comp=Z,48nm,0.6s
LONY Lake Ozonia 37.70 358 P **P** **03 09 11.9 +1.8**
baz=177,SNR=9.3
OK038 West end E0370 37.72 325 IAmb IAmb 03 09 12.4
comp=Z,33nm,0.7s
FRTB Fartura 37.75 143 *e*P **P** **03 09 10.3 -0.5**
PECS Pecos 37.76 314 P **P** **03 09 11.5 +0.5**
PECS IAmb IAmb 03 09 13.4
comp=Z,32nm,1.3s
PECS **PcP** **03 11 25.7 +0.9**
DELO Deloro Mine 37.78 355 IAmb IAmb 03 09 12.8
comp=Z,27nm,0.6s
KAN06 Argonia West S 37.79 327 IAmb IAmb 03 09 12.5
comp=Z,85nm,1.1s
OK035 E0210 Rd and N 37.87 325 **P** **03 09 12.1 +0.4**
OK035 IAmb IAmb 03 09 13.0
comp=Z,86nm,1.0s
OK035 **PcP** **03 11 26.2 +1.3**
EMMW East Machias 38.08 6 IAmb IAmb 03 09 15.9
comp=Z,47nm,0.6s
WBO Williamsburg 38.10 357 IAmb IAmb 03 09 15.7
comp=Z,37nm,0.6s
SADO Sadowa 38.19 353 IAmb IAmb 03 09 16.2
comp=Z,32nm,0.6s
VHRN Van Horn 38.25 313 IAmb IAmb 03 09 17.2
comp=Z,56nm,1.1s
G62A West of Eustis 38.34 3 IAmb IAmb 03 09 18.6
comp=Z,25nm,0.7s
AMTX Amarillo 38.40 321 P **P** **03 09 17.1 +0.8**
baz=130
PKME Peaks-Kenny Pk 38.46 4 P **P** **03 09 18.3 +1.9**
baz=186,SNR=5.2
KSU1 Kansas State U 38.53 330 P **P** **03 09 16.8 -0.3**
baz=140,SNR=26
MSTX Muleshoe 38.53 319 P **P** **03 09 18.1 +0.7**
MSTX IAmb IAmb 03 09 19.1
comp=Z,65nm,1.0s
MSTX PcP **PcP** **03 11 28.4 +1.2**
MSTX Muleshoe 38.53 319 P **P** **03 09 17.6 +0.2**
baz=128,SNR=17
G65A Princeton 38.55 6 IAmb IAmb 03 09 20.0
comp=Z,27nm,0.8s
GGN Saint George 38.55 7 IAmb IAmb 03 09 20.0
comp=Z,34nm,0.6s
MNTQ Montreal, Queb 38.56 359 IAmb IAmb 03 09 20.1
comp=Z,40nm,0.8s
MNTX Cornudas Mount 39.02 314 P **P** **03 09 22.5 +1.0**
baz=123,SNR=163
JFWS Jewell Farm 39.03 340 P **P** **03 09 21.7 +0.4**
baz=152,SNR=79
R32A Long Quarter, 39.11 327 IAmb IAmb 03 09 23.3
comp=Z,65nm,1.3s
GLMI Grayling 39.19 347 P **P** **03 09 26.3 +3.7**
baz=162,SNR=6.4
SCIA State Center 39.27 336 P **P** **03 09 23.8 +0.5**
baz=147,SNR=20
N35A Tabor 39.45 333 P **P** **03 09 25.0 +0.2**
N35A **PcP** **03 11 30.6 +0.8**
LMN Caledonia Moun 39.56 9 IAmb IAmb 03 09 27.8
comp=Z,45nm,0.7s
LPIG La Paz 39.63 300 LR LR 03 26 27.1
comp=Z,31nm,18.6s,baz=184,slow=37
E62A Clayton Lake 39.79 4 P **P** **03 09 28.8 +1.3**
E62A IAmb IAmb 03 09 30.4
comp=Z,23nm,0.7s
CBKS Cedar Bluff 39.94 327 IAmb IAmb 03 09 29.8
comp=Z,43nm,0.6s
CBKS Cedar Bluff 39.94 327 P **P** **03 09 28.9 -0.1**
baz=136,SNR=12
I40A Norwalk 40.02 340 IAmb IAmb 03 09 30.9
comp=Z,74nm,0.8s
RTBA Rita Blanca 40.06 322 IAmb IAmb 03 09 31.7
comp=Z,46nm,0.6s
D62A Allapoint, All 40.28 4 P **P** **03 09 33.4 +1.9**
D62A IAmb IAmb 03 09 34.3
comp=Z,36nm,0.6s
BATG Bathurst New B 40.78 7 P **P** **03 09 37.0 +1.4**
BATG IAmb IAmb 03 09 38.0
comp=Z,44nm,0.6s
F42A Maple Grove Fa 40.95 344 IAmb IAmb 03 09 38.4
comp=Z,62nm,0.6s
LDAQ Lac Daran 41.05 2 P **P** **03 09 39.2 +1.4**
LDAQ IAmb IAmb 03 09 40.8
comp=Z,19nm,0.6s
BGNE Belgrade 41.06 331 P **P** **03 09 37.7 -0.4**
baz=140,SNR=8.6
G40A Rib Lake 41.11 342 IAmb IAmb 03 09 39.9
comp=Z,32nm,0.7s
I37A Lemond, Waseca 41.13 338 IAmb IAmb 03 09 39.2
comp=Z,29nm,0.9s
121A Cookes Peak, D 41.20 313 P **P** **03 09 41.4 +1.9**
baz=121,SNR=14
E43A Lone Tree Farm 41.22 345 IAmb IAmb 03 09 40.6
comp=Z,32nm,0.7s
Y22D IRIS PASSCAL I 41.40 316 IAmb IAmb 03 09 43.4
comp=Z,30nm,0.7s
Y22D IRIS PASSCAL I 41.40 316 P **P** **03 09 42.6 +1.5**
baz=123
BO02 Sierra Bellavi 41.42 177 P **P** **03 09 40.5 -0.6**
T25A Trinidad 41.54 321 IAmb IAmb 03 09 45.0
comp=Z,30nm,0.7s
T25A Trinidad 41.54 321 P **P** **03 09 44.2 +2.0**
baz=129,SNR=33
COWI Conover 41.54 343 IAmb IAmb 03 09 44.5
comp=Z,53nm,0.9s
ANMO Albuquerque 41.56 317 P **P** **03 09 43.9 +1.4**
ANMO Albuquerque 41.56 317 P **P** **03 09 43.8 +1.4**
baz=125
ANMO Albuquerque 41.56 317 P **P** **03 09 43.9 +1.4**
ANMO pmax pmax
comp=Z,13nm,0.6s
KSCO Kaye Shedlock' 41.69 325 IAmb IAmb 03 09 45.4
comp=Z,50nm,0.7s
KSCO Kaye Shedlock' 41.69 325 P **P** **03 09 44.1 +0.7**
baz=133,SNR=7.1
319A Douglas 41.73 311 IAmb IAmb 03 09 46.4
comp=Z,44nm,0.7s
SPMN Marine on St. 41.95 339 IAmb IAmb 03 09 47.4
comp=Z,24nm,0.5s
SPMN Marine on St. 41.95 339 P **P** **03 09 45.2 0.0**
baz=150,SNR=21
ECSD EROS Data Cent 42.19 334 IAmb IAmb 03 09 48.3
comp=Z,56nm,1.1s
ECSD EROS Data Cent 42.19 334 P **P** **03 09 46.8 -0.4**
baz=144,SNR=90
D41A Chassel 42.26 344 IAmb IAmb 03 09 49.2
comp=Z,46nm,0.6s
SDCO Great Sand Dun 42.60 321 IAmb IAmb 03 09 53.8
comp=Z,35nm,0.7s
SDCO Great Sand Dun 42.60 321 P **P** **03 09 52.6 +1.7**
baz=128,SNR=102
OGNE Ogallala 42.70 327 IAmb IAmb 03 09 53.5
comp=Z,34nm,0.7s
OGNE Ogallala 42.70 327 P **P** **03 09 51.7 +0.3**
baz=135,SNR=6.3
E38A The Farm, Brul 42.73 341 IAmb IAmb 03 09 52.6
comp=Z,30nm,0.7s
F36A Milaca 42.75 339 IAmb IAmb 03 09 53.6
comp=Z,21nm,0.5s
Q24A Divide 43.15 323 P **P** **03 09 56.5 +1.1**
baz=130,SNR=16
TUC Tucson 43.30 311 P **P** **03 09 57.9 +1.5**
TUC IAmb IAmb 03 09 58.9
comp=Z,25nm,0.8s
TUC Tucson 43.30 311 P **P** **03 09 57.5 +1.1**
baz=118
TUC Tucson 43.30 311 P **P** **03 09 57.9 +1.5**
TUC pmax pmax
comp=Z,25nm,0.8s
BRIGG Briggsdale 43.71 325 IAmb IAmb 03 10 01.9
comp=Z,86nm,1.3s
X18A Snowflake 43.77 314 IAmb IAmb 03 10 02.9
comp=Z,31nm,0.7s
F33A 5 Mile Ranch, 43.78 337 IAmb IAmb 03 10 01.2
comp=Z,33nm,0.7s
SUSD Miller 43.78 333 P **P** **03 09 59.9 -0.1**
baz=141,SNR=50
EYMN Ely 43.91 342 P **P** **03 10 01.3 +0.4**
baz=153,SNR=84
W18A Petrified Fore 43.92 315 IAmb IAmb 03 10 04.5
comp=Z,73nm,0.8s
W18A Petrified Fore 43.92 315 P **P** **03 10 03.2 +1.8**
baz=121,SNR=33
ISCO Idaho Springs 43.95 323 IAmb IAmb 03 10 04.6
comp=Z,38nm,0.8s
ISCO Idaho Springs 43.95 323 P **P** **03 10 03.2 +1.4**
baz=130,SNR=54
MVCO Mesa Verde 44.21 318 IAmb IAmb 03 10 05.8
comp=Z,31nm,0.6s
MVCO Mesa Verde 44.21 318 P **P** **03 10 05.1 +1.3**
baz=124,SNR=44
214A Organ Pipe Nat 44.68 309 IAmb IAmb 03 10 09.7
comp=Z,26nm,0.7s
214A Organ Pipe Nat 44.68 309 P **P** **03 10 08.8 +1.4**
baz=116,SNR=16
N23A Red Feather La 44.85 324 IAmb IAmb 03 10 12.3
comp=Z,41nm,0.8s
N23A Red Feather La 44.85 324 P **P** **03 10 10.3 +1.5**
baz=130,SNR=45
WUAZ Wupatki 45.27 315 IAmb IAmb 03 10 15.6
comp=Z,93nm,0.9s
WUAZ Wupatki 45.27 315 P **P** **03 10 13.7 +1.5**
baz=120,SNR=53
AGMN Agassiz Nation 45.66 339 P **P** **03 10 15.2 +0.5**
baz=147,SNR=85
Y14A Wickenburg 45.70 312 IAmb IAmb 03 10 17.9
comp=Z,52nm,0.7s
O20A White River Ci 45.75 322 IAmb IAmb 03 10 19.3
comp=Z,26nm,0.6s
O20A White River Ci 45.75 322 P **P** **03 10 17.3 +1.4**
baz=127,SNR=34
RSSD Black Hills 45.99 329 P **P** **03 10 18.9 +1.2**
RSSD Black Hills 45.99 329 P **P** **03 10 18.3 +0.7**
baz=135
RSSD Black Hills 45.99 329 P **P** **03 10 18.9 +1.2**
RSSD pmax pmax
comp=Z,20nm,0.6s
RWWY Rawlins 46.09 324 IAmb IAmb 03 10 21.3
comp=Z,37nm,0.8s
HMU Henry Mountain 46.09 318 P **P** **03 10 20.2 +1.5**
HMU IAmb IAmb 03 10 21.6
comp=Z,81nm,0.9s
K22A Casper 46.32 326 P **P** **03 10 21.2 +0.9**
baz=131,SNR=18
U15A North Rim 46.37 315 IAmb IAmb 03 10 24.0
comp=Z,56nm,1.0s
SRU San Rafael Swe 46.59 319 IAmb IAmb 03 10 24.9
comp=Z,37nm,0.8s
GLA Glamis 46.69 310 IAmb IAmb 03 10 25.7
comp=Z,46nm,0.8s
GLA Glamis 46.69 310 P **P** **03 10 24.5 +1.4**
baz=115,SNR=18
PDMCI Parker Dam,Lak 46.71 312 P **P** **03 10 24.5 +1.3**
baz=116,SNR=7.2
MDND Maddock 46.74 336 P **P** **03 10 23.8 +0.6**
baz=142,SNR=23
RDMU Red Mountain 46.82 322 IAmb IAmb 03 10 26.5
comp=Z,59nm,1.3s
P17A Butcher Ranch, 46.93 320 IAmb IAmb 03 10 27.6
comp=Z,48nm,0.8s
KNB Kanab 47.03 316 IAmb IAmb 03 10 29.0
comp=Z,69nm,0.9s
NEE2 Needles Airpor 47.27 312 P **P** **03 10 28.8 +1.3**
baz=116
LCMT Little Creek M 47.33 315 IAmb IAmb 03 10 31.1
comp=Z,56nm,0.9s
PLCA Paso Flores 47.35 177 P **P** **03 10 26.6 -1.6**
PLCA Paso Flores 47.35 177 P **P** **03 10 26.5 -1.6**
comp=Z,1.5nm,0.4s,baz=348,slow=8.4,SNR=17
PLCA ScP **ScP** **03 15 35.2 -1.6**
comp=Z,1.7nm,0.7s,baz=34,slow=5.2,SNR=4.2
comp=Z,1.5nm,0.4s
PLCA Paso Flores 47.35 177 P **P** **03 10 26.6 -1.6**
PLCA pmax pmax
comp=Z,9.0nm,1.0s
SWSC Sam W. Stewart 47.39 309 P **P** **03 10 29.8 +1.3**
baz=114,SNR=6.2
IRM Iron Mountain 47.40 311 P **P** **03 10 29.8 +1.2**
baz=115,SNR=6.6
BC3 Big Chuckawall 47.42 310 P **P** **03 10 30.0 +1.2**
baz=115,SNR=6.7
SZCU Shurtz Canyon 47.51 316 IAmb IAmb 03 10 31.4
comp=Z,34nm,0.6s
IKP In-Ko-Pah, Jac 47.51 309 P **P** **03 10 30.9 +1.3**
baz=113
BSUT Blindstream Ca 47.54 321 IAmb IAmb 03 10 32.1
comp=Z,48nm,0.6s
MPU Maple Canyon 47.81 320 IAmb IAmb 03 10 34.2
comp=Z,51nm,1.0s
CBX Cerro Bola 47.81 308 IAmb IAmb 03 10 34.8
comp=Z,58nm,1.2s
MONP2 Monument Peak 47.85 309 P **P** **03 10 33.6 +1.2**
baz=113,SNR=10
V12A Nelson 47.87 313 IAmb IAmb 03 10 34.3
comp=Z,46nm,0.6s
TKX Tecate 47.87 308 IAmb IAmb 03 11 10.4
comp=Z,43nm,0.9s
BELC Belle Mtn. Jos 47.97 310 P **P** **03 10 34.2 +1.1**
baz=114,SNR=12
GMRC Gordon Mounta 48.05 311 P **P** **03 10 34.7 +1.0**
baz=115,SNR=11
NLU North Lily Min 48.06 319 P **P** **03 10 35.1 +1.2**
NLU IAmb IAmb 03 10 35.9
comp=Z,26nm,0.7s
PDAR Pinedale Array 48.13 324 P **P** **03 10 35.1 +0.8**
PDAR Pinedale Array 48.13 324 P **P** **03 10 34.9 +0.6**
comp=Z,17nm,0.5s,baz=126,slow=9.0,SNR=117
PDAR PcP **PcP** **03 11 59.4 -0.2**
comp=Z,3.6nm,0.6s,baz=134,slow=5.1,SNR=3.8
PDAR ScP **ScP** **03 15 39.2 -1.2**
comp=Z,0.6nm,0.5s,baz=126,slow=5.7,SNR=3.9
PDAR LR LR 03 33 17.9
comp=Z,17nm,19.6s,baz=134,slow=39
comp=Z,17nm,0.5s
SCHQ Schefferville 48.16 5 IAmb IAmb 03 10 36.4
comp=Z,43nm,0.6s
SCHQ Schefferville 48.16 5 P **P** **03 10 34.5 +0.4**
comp=Z,41nm,0.5s,baz=194,slow=6.5,SNR=104
SCHQ ScP **ScP** **03 15 39.5 -0.4**
comp=Z,8.5nm,0.7s,baz=188,slow=3.8,SNR=12
comp=Z,41nm,0.5s
TPFO Pinon Flats 48.16 310 P **P** **03 10 35.7 +1.2**
baz=114
PFO Pinyon Flats O 48.16 310 P **P** **03 10 35.9 +1.3**
PFO Pinyon Flats O 48.16 310 P **P** **03 10 35.7 +1.1**
baz=114
PFO Pinyon Flats O 48.16 310 P **P** **03 10 35.9 +1.3**
PFO pmax pmax
comp=Z,17nm,1.5s
109C Camp Elliot, M 48.38 309 P **P** **03 10 37.5 +1.4**
baz=113
SHPR Sheep Range 48.44 314 P **P** **03 10 38.4 +1.6**
SHPR Sheep Range 48.44 314 IAmb IAmb 03 10 39.6
comp=Z,15nm,1.2s
PSUT Pine Spring 48.50 317 IAmb IAmb 03 10 43.3
comp=Z,25nm,0.7s
TUQ Turquoise Moun 48.52 312 P **P** **03 10 38.5 +1.1**
baz=116
HEC Hector,Ludlow 48.57 311 P **P** **03 10 39.1 +1.4**
baz=115,SNR=9.3
HWUT Hardware Ranch 48.65 322 IAmb IAmb 03 10 40.5
comp=Z,34nm,0.7s
DUG Dugway, Tooele 48.66 319 P **P** **03 10 39.6 +1.2**
DUG IAmb IAmb 03 10 41.0
comp=Z,28nm,0.8s
DUG Dugway, Tooele 48.66 319 P **P** **03 10 39.6 +1.2**
baz=122,SNR=24
DUG Dugway, Tooele 48.66 319 P **P** **03 10 39.6 +1.2**
DUG pmax pmax
comp=Z,28nm,0.8s
MURC Murrieta 48.72 309 P **P** **03 10 39.9 +1.1**
baz=113,SNR=5.6
BBRC Big Bear Solar 48.78 310 P **P** **03 10 40.9 +1.5**
baz=114
LAO LASA Array 48.88 330 IAmb IAmb 03 10 41.0
comp=Z,34nm,0.6s
LAO LASA Array 48.88 330 P **P** **03 10 40.2 +0.4**
baz=134,SNR=23
SHOC Shoshone, Teco 48.98 313 P **P** **03 10 42.2 +1.5**
baz=116
AHID Auburn Hatcher 49.04 323 IAmb IAmb 03 10 43.0
comp=Z,40nm,0.9s
SPR3 Spring Creek 3 49.05 317 P **P** **03 10 42.9 +1.4**
SPR3 Spring Creek 3 49.05 317 IAmb IAmb 03 10 43.5
comp=Z,23nm,0.6s
RRX Edison Barstow 49.08 311 P **P** **03 10 42.9 +1.3**
baz=114
GSC Goldstone, Bar 49.12 312 IAmb IAmb 03 10 44.3
comp=Z,37nm,0.8s
GSC Goldstone, Bar 49.12 312 P **P** **03 10 43.2 +1.3**
baz=115,SNR=26
DGMT Dagmar 49.19 333 P **P** **03 10 43.3 +1.2**
baz=137,SNR=46
REDW Red Top Meadow 49.24 324 P **P** **03 10 43.9 +1.1**
SNOW Snow King Moun 49.25 324 IAmb IAmb 03 10 46.1
comp=Z,42nm,0.6s
LOHW Long Hollow 49.25 324 IAmb IAmb 03 10 45.0
comp=Z,42nm,0.6s
BFSC Mount Baldy Ra 49.33 310 P **P** **03 10 44.5 +1.0**
baz=113,SNR=5.2
TPAW Teton Pass 49.38 324 IAmb IAmb 03 10 46.4
comp=Z,41nm,0.6s
GWY Greenwater Val 49.39 313 IAmb IAmb 03 10 45.8
comp=Z,20nm,0.6s
MOOW Moose Ponds 49.41 324 IAmb IAmb 03 10 46.0
comp=Z,26nm,0.8s
Q12A Willow Creek R 49.41 317 P **P** **03 10 45.8 +1.7**

Q12A	**Willow Creek R**	49.41	317	IAmb	IAmb	03 10 46.8		
	comp=Z,50nm,0.9s							
RLMT	**Red Lodge**	49.43	327	IAmb	IAmb	03 10 47.3		
	comp=Z,19nm,0.5s							
RLMT	**Red Lodge**	49.43	327	P	P		03 10 45.0	+0.8
	baz=130							
HVU	**Hansel Valley**	49.50	321	IAmb	IAmb	03 10 48.4		
	comp=Z,24nm,0.7s							
FXWY	**Fox Creek**	49.51	324	IAmb	IAmb	03 10 46.3		
	comp=Z,20nm,0.7s							
SCI2	**San Clemente I**	49.54	308	P	P		03 10 46.4	+1.4
	baz=112							
CIS	**Catalina Islan**	49.59	309	P	P		03 10 46.6	+1.2
	baz=112							
R11B	**Troy Canyon, C**	49.60	316	P	P		03 10 47.0	+1.4
	baz=118,SNR=42							
IMW	**Indian Meadow**	49.61	324	IAmb	IAmb	03 10 47.6		
	comp=Z,41nm,0.6s							
WCT	**Wildcat Mounta**	49.62	313	P	P		03 10 47.4	+1.7
WCT	**Wildcat Mounta**	49.62	313	IAmb	IAmb	03 10 48.4		
	comp=Z,15nm,1.0s							
FURC	**Furnace Creek,**	49.65	313	P	P		03 10 47.4	+1.7
	baz=116,SNR=11							
H17A	**Grant Village**	49.71	325	P	P		03 10 47.9	+1.5
	baz=128							
EDW2	**Edwards Air Fo**	49.84	311	P	P		03 10 48.3	+1.0
	baz=114,SNR=13							
LRMC	**Laurel Mtn Rad**	49.84	311	P	P		03 10 48.5	+1.1
	baz=114							
YFT	**Old Faithful**	49.89	325	IAmb	IAmb	03 10 50.5		
	comp=Z,18nm,0.6s							
MPMC	**Manual Prospec**	49.94	312	P	P		03 10 48.9	+0.7
	baz=115,SNR=12							
SGV	**South Grapevin**	50.00	313	P	P		03 10 50.1	+1.6
OSI	**Osito Audit: C**	50.28	310	P	P		03 10 52.1	+1.4
	baz=113							
CWC	**Cottonwood Cre**	50.53	312	P	P		03 10 53.9	+1.3
	baz=115							
LCH	**Last Change Ra**	50.55	313	IAmb	IAmb	03 10 54.7		
	comp=Z,19nm,0.7s							
ARVC	**Arvin**	50.56	310	P	P		03 10 54.3	+1.7
	baz=113							
DSP	**Deep Springs**	50.84	314	P	P		03 10 56.4	+1.7
DSP	**Deep Springs**	50.84	314	IAmb	IAmb	03 10 57.6		
	comp=Z,41nm,1.0s							
TIN	**Tinemaha, Big**	50.90	313	P	P		03 10 56.9	+1.6
	baz=115							
SBC	**Santa Barbara**	50.98	309	P	P		03 10 56.8	+1.1
	baz=112							
BOZ	**Bozeman (W)**	51.03	326	IAmb	IAmb	03 10 58.0		
	comp=Z,30nm,0.6s							
BOZ	**Bozeman (W)**	51.03	326	P	P		03 10 57.1	+1.0
	baz=127,SNR=49							
VES	**Vestal, Richgr**	51.03	311	P	P		03 10 57.5	+1.4
	baz=113,SNR=16							
PKM	**Mcpherson Peak**	51.22	310	P	P		03 10 59.0	+1.2
	baz=112							
NV11	**Mina Array Sit**	51.43	315	P	P		03 10 58.5	-0.8
NV11	**Mina Array Sit**	51.43	315	IAmb	IAmb	03 11 01.2		
	comp=Z,12nm,0.8s							
HLID	**Hailey**	51.49	322	IAmb	IAmb	03 11 02.0		
	comp=Z,23nm,0.6s							
HLID	**Hailey**	51.49	322	P	P		03 11 00.6	+0.9
	baz=123,SNR=52							
SMMC	**Simmler**	51.52	310	P	P		03 11 01.2	+1.4
	baz=112							
NV08	**Mina Array Sit**	51.54	315	P	P		03 11 01.4	+1.3
NVAR	**Mina Array Bea**	51.54	315	P	P		03 11 01.4	+1.2
NVAR	**Mina Array Bea**	51.54	315	P	P		03 11 01.5	+1.4
	comp=Z,14nm,0.6s,baz=122,slow=7.2,SNR=85							
NVAR				PcP	PcP		03 12 13.3	+1.1
	comp=Z,5.6nm,0.5s,baz=133,slow=4.9,SNR=10							
NVAR				ScP	ScP		03 15 55.1	0.0
	comp=Z,1.9nm,1.1s,baz=116,slow=5.1,SNR=2.6							
	comp=Z,14nm,0.6s							
EGMT	**Eagleton**	51.56	329	IAmb	IAmb	03 11 02.2		
	comp=Z,27nm,0.6s							
EGMT	**Eagleton**	51.56	329	P	P		03 11 00.6	+0.6
	baz=131,SNR=19							
NV09	**Mina Array Sit**	51.56	315	P	P		03 11 01.3	+1.0
MLAC	**Mammoth, Mammo**	51.58	313	P	P		03 11 01.6	+1.1
	baz=115							
LHV	**Little Huntoon**	51.60	314	P	P		03 11 02.3	+2.0
LHV	**Little Huntoon**	51.60	314	IAmb	IAmb	03 11 03.4		
	comp=Z,64nm,1.5s							
KVN	**Kaiserville**	51.67	315	P	P		03 11 02.1	+1.1
KVN	**Kaiserville**	51.67	315	IAmb	IAmb	03 11 03.2		
	comp=Z,21nm,0.9s							
KVN	**Kaiserville**	51.67	315	P	P		03 11 02.1	+1.1
KVN				pmax	pmax			
	comp=Z,21nm,0.9s							
BMN	**Battle Mountai**	51.70	317	IAmb	IAmb	03 11 03.3		
	comp=Z,21nm,0.8s							
MDPB	**Devils Postpil**	51.75	313	IAmb	IAmb	03 11 04.4		
	comp=Z,23nm,0.8s							
MFID	**Camas Ranch**	52.28	321	IAmb	IAmb	03 11 08.3		
	comp=Z,48nm,0.7s							
YERR	**Yerington**	52.44	315	IAmb	IAmb	03 11 08.8		
	comp=Z,33nm,0.7s							
PNTR	**Pine Nut**	52.73	315	IAmb	IAmb	03 11 11.5		
	comp=Z,32nm,0.7s							
PAHR	**Pah Rah Range**	52.85	316	IAmb	IAmb	03 11 11.7		
	comp=Z,16nm,0.7s							
EMB	**Emerald Bay**	53.04	314	IAmb	IAmb	03 11 13.9		
	comp=Z,33nm,0.9s							
MSO	**Missoula**	53.05	326	P	P		03 11 11.6	+0.6
	baz=126,SNR=16							
FFC	**Flin Flon**	53.12	339	P	P		03 11 11.6	+0.3
FFC				IAmb	IAmb	03 11 12.1		
	comp=Z,28nm,0.6s							
FFC	**Flin Flon**	53.12	339	P	P		03 11 11.6	+0.3
FFC				pmax	pmax			
	comp=Z,28nm,0.6s							
PLID	**Pearl Lake**	53.27	323	IAmb	IAmb	03 11 14.2		
	comp=Z,31nm,0.8s							
WVOR	**Wild Horse Val**	53.58	319	IAmb	IAmb	03 11 18.6		
	comp=Z,45nm,0.9s							
J08A	**Circle Bar Ran**	53.92	320	IAmb	IAmb	03 11 19.7		
	comp=Z,40nm,1.2s							
ORV	**Oroville**	54.27	315	IAmb	IAmb	03 11 21.8		
	comp=Z,18nm,0.7s							
FCC	**Fort Churchill**	54.30	347	IAmb	IAmb	03 11 20.9		
	comp=Z,57nm,1.2s							
I07A	**Izee**	54.92	320	IAmb	IAmb	03 11 26.4		
	comp=Z,29nm,0.6s							
NEW	**Newport**	55.64	326	IAmb	IAmb	03 11 30.6		
	comp=Z,16nm,0.7s							
NEW	**Newport**	55.64	326	P	P		03 11 29.8	+0.2
	baz=123,SNR=10							
YBH	**Yreka Blue Hor**	55.99	317	IAmb	IAmb	03 11 32.6		
	comp=Z,20nm,0.6s							
C09A	**Chrisman Ranch**	56.04	325	P	P		03 11 33.5	+1.1
G06A	**Carlson Farm,**	56.18	321	IAmb	IAmb	03 11 35.9		
	comp=Z,26nm,0.7s							
I05D	**Terrebonne, OR**	56.21	320	IAmb	IAmb	03 11 35.9		
	comp=Z,17nm,0.7s							
I04A	**Tendick Farm,**	56.66	319	IAmb	IAmb	03 11 38.4		
	comp=Z,39nm,1.2s							
B08A	**Colville Reser**	56.94	325	IAmb	IAmb	03 11 40.0		
	comp=Z,33nm,0.7s							
K02D	**Willamette Mer**	57.03	317	IAmb	IAmb	03 11 41.8		
	comp=Z,20nm,0.6s							
H04D	**Lebanon**	57.19	320	IAmb	IAmb	03 11 44.2		
	comp=Z,25nm,0.7s							
I03D	**Drain, OR**	57.23	318	IAmb	IAmb	03 11 44.1		
	comp=Z,27nm,0.7s							
LON	**Longmire**	57.61	322	IAmb	IAmb	03 11 45.4		
	comp=Z,14nm,0.8s							
G03D	**McMinnville, O**	57.82	320	IAmb	IAmb	03 11 56.2		
	comp=Z,32nm,0.8s							
D05A	**Enumclaw**	57.92	323	IAmb	IAmb	03 11 47.5		
	comp=Z,37nm,0.8s							
NRS	**Narsarsuaq**	58.04	15	IAmb	IAmb	03 11 48.2		
	comp=Z,22nm,0.7s							
NRS	**Narsarsuaq**	58.04	15	*i* P	P		03 11 46.7	+0.5
NRS				IAmb	IAmb	03 11 48.0		
	comp=Z,29nm,1.0s							
GNW	**Green Mountain**	58.60	323	IAmb	IAmb	03 11 51.2		
	comp=Z,30nm,0.6s							
WISH	**Wishkah**	58.97	322	IAmb	IAmb	03 12 00.6		
	comp=Z,40nm,0.8s							
B04A	**Port Angeles**	59.23	323	IAmb	IAmb	03 11 57.3		
	comp=Z,47nm,1.1s							
NUUK	**Nuuk**	59.28	11	*i* P	P		03 11 52.0	-2.7
NUUK				IAmb	IAmb	03 11 56.6		
	comp=Z,18nm,0.7s							
PGC	**Sidney**	59.47	324	IAmb	IAmb	03 11 58.0		
	comp=Z,16nm,0.7s							
CBB	**Campbell River**	61.22	324	P	P		03 12 08.9	+0.7
CBB				IAmb	IAmb	03 12 10.7		
	comp=Z,44nm,0.9s							
SFJD	**Kangerlussuaq**	62.04	10	*i* P	P		03 12 11.1	-2.2
SFJD				IAmb	IAmb	03 12 13.7		
	comp=Z,7.5nm,0.6s							
DY2G	**Dye2**	62.38	12	*i* P	P		03 12 14.7	-1.3
DY2G				IAmb	IAmb	03 12 17.2		
	comp=Z,33nm,0.7s							
YKA	**Yellowknife Ar**	63.30	340	P	P		03 12 22.3	+0.5
YKA	**Yellowknife Ar**	63.30	340	P	P		03 12 22.0	+0.2
	comp=Z,47nm,0.6s,baz=131,slow=6.0,SNR=640							
YKA	**Yellowknife Ar**	63.30	340	P	P		03 12 22.0	+0.2
ISOG	**Isortoq, Green**	63.30	15	*i* P	P		03 12 21.1	-0.6
ISOG				IAmb	IAmb	03 12 23.0		
	comp=Z,14nm,1.0s							
BBB	**Bella Bella**	63.71	326	P	P		03 12 25.7	+1.1
BBB				IAmb	IAmb	03 12 27.2		
	comp=Z,24nm,0.9s							
ANGG	**Ammassalik, Gr**	63.71	16	*i* P	P		03 12 23.6	-0.8
ANGG				IAmb	IAmb	03 13 00.7		
	comp=Z,8.6nm,0.8s							
TOAD	**Toad River Com**	65.35	333	P	P		03 12 35.4	+0.1
	baz=120,SNR=22							
HG4B	**Hotspring**	65.49	325	IAmb	IAmb	03 12 37.7		
	comp=Z,22nm,0.6s							
KOTAN	**Kotaneelee Air**	65.50	335	P	P		03 12 36.9	+0.8
	baz=122,SNR=11							
RUBB	**Prince Rupert**	65.76	327	P	P		03 12 39.1	+1.2
NUUG	**Nuugaatsiaq**	65.86	7	*i* P	P		03 12 36.6	-1.6
ICESG	**Greenland Ices**	65.96	13	*i* P	P		03 12 38.4	-1.0
ICESG				IAmb	IAmb	03 12 40.1		
	comp=Z,40nm,1.0s							
LIRD	**Liard River Hi**	66.02	333	P	P		03 12 40.2	+0.7
	baz=120							
UPNV	**Upernavik**	66.72	5	*i* P	P		03 12 42.2	-1.5
T35M	**Bob Quinn**	66.85	330	IAmb	IAmb	03 12 47.4		
	comp=Z,24nm,0.7s							
T35M	**Bob Quinn**	66.85	330	P	P		03 12 46.6	+1.7
	baz=115,SNR=26							
V35K	**Ketchikan**	66.88	328	IAmb	IAmb	03 12 46.8		
	comp=Z,16nm,0.7s							
V35K	**Ketchikan**	66.88	328	P	P		03 12 45.9	+0.9
	baz=113,SNR=7.3							
WRGLY	**Wrigley**	66.95	338	P	P		03 12 45.7	+0.4
	baz=124,SNR=19							
SOEG	**Soedalen**	67.29	16	*i* P	P		03 12 45.7	-1.6
DLBC	**Dease Lake**	67.37	331	IAmb	IAmb	03 12 50.3		
	comp=Z,21nm,0.6s							
DLBC	**Dease Lake**	67.37	331	P	P		03 12 49.6	+1.4
	baz=116,SNR=28							
TIC	**Toumodi**	67.52	86	⇑ *i* P	P		03 12 49.1	-0.8
	comp=Z,20nm,0.7s							
LIC	**Lamto**	67.55	86	⇑ *i* P	P		03 12 49.3	-0.8
	comp=Z,76nm,0.6s							
WTLY	**Watson Lake, Y**	67.55	333	P	P		03 12 50.7	+1.4
	baz=117							
S34M	**Telegraph Cree**	67.68	331	IAmb	IAmb	03 12 52.6		
	comp=Z,39nm,0.8s							
S34M	**Telegraph Cree**	67.68	331	P	P		03 12 51.4	+1.3
	baz=114,SNR=42							
DBIC	**Dimbokro**	67.68	86	P	P		03 12 50.1	-0.8
DBIC				IAmb	IAmb	03 12 51.4		
	comp=Z,18nm,0.7s							
DBIC	**Dimbokro**	67.68	86	P	P		03 12 50.1	-0.8
	comp=Z,16nm,0.6s,baz=263,slow=6.0,SNR=30							
	comp=Z,16nm,0.6s							
CRAG	**Craig**	67.73	328	P	P		03 12 51.9	+1.5
CRAG	**Craig**	67.73	328	IAmb	IAmb	03 12 52.5		
	comp=Z,27nm,1.2s							
CRAG	**Craig**	67.73	328	P	P		03 12 51.3	+0.9
	baz=112							
KIC	**Kosan Boka**	67.82	86	⇑ *i* P	P		03 12 51.2	-0.6
	comp=Z,70nm,0.6s							
U33K	**Whale Pass**	67.97	328	IAmb	IAmb	03 12 54.1		
	comp=Z,48nm,1.4s							
U33K	**Whale Pass**	67.97	328	P	P		03 12 52.9	+1.0
	baz=112,SNR=6.4							
TGTN	**Hyland Airport**	67.99	335	P	P		03 12 53.3	+1.3
	baz=118,SNR=12							
R33M	**Jennings River**	68.22	332	IAmb	IAmb	03 12 56.2		
	comp=Z,24nm,0.9s							
R33M	**Jennings River**	68.22	332	P	P		03 12 54.8	+1.2
	baz=115,SNR=30							
KULLO	**Kullorsuaq**	68.35	5	*i* P	P		03 12 52.4	-1.5
KULLO				IAmb	IAmb	03 12 54.8		
	comp=Z,12nm,0.8s							
SUMG	**Summit**	69.00	11	P	P		03 12 59.1	+0.6
SUMG	**Summit**	69.00	11	P	P		03 12 59.1	+0.6
SUMG				pmax	pmax			
	comp=Z,69nm,0.7s							
SUMG	**Summit**	69.00	11	*i* P	P		03 12 58.0	-0.5
SUMG				IAmb	IAmb	03 12 59.9		
	comp=Z,71nm,0.6s							
S32K	**Killisnoo**	69.21	329	IAmb	IAmb	03 13 01.6		
	comp=Z,23nm,0.7s							
S32K	**Killisnoo**	69.21	329	P	P		03 13 00.8	+1.3
	baz=111,SNR=15							
JIS	**Juneau Island**	69.41	330	P	P		03 13 02.2	+1.5
JIS	**Juneau Island**	69.41	330	IAmb	IAmb	03 13 02.7		
	comp=Z,17nm,0.6s							
P33M	**Teslin, Yukon**	69.41	333	P	P		03 13 02.0	+1.1
	baz=114,SNR=27							
SIT	**Sitka**	69.45	329	P	P		03 13 02.5	+1.5
SIT	**Sitka**	69.45	329	IAmb	IAmb	03 13 03.3		
	comp=Z,18nm,0.8s							
SIT	**Sitka**	69.45	329	P	P		03 13 01.9	+0.9
	baz=110							
R32K	**Eaglecrest**	69.47	330	IAmb	IAmb	03 13 03.3		
	comp=Z,17nm,0.7s							
R32K	**Eaglecrest**	69.47	330	P	P		03 13 02.3	+1.1
	baz=111,SNR=13							
P32M	**Atlin**	69.58	332	IAmb	IAmb	03 13 04.4		
	comp=Z,18nm,0.8s							
P32M	**Atlin**	69.58	332	P	P		03 13 02.9	+1.1
	baz=112,SNR=14							
ESDC	**Sonseca Array**	69.62	50	P	P		03 13 01.5	-1.1
	comp=Z,0.4nm,0.6s,baz=271,slow=6.1,SNR=9.4							
MMPY	**Sheldon Lake,**	69.74	335	P	P		03 13 03.8	+1.0
	baz=116,SNR=18							
N32M	**Quiet Lake**	69.91	333	IAmb	IAmb	03 13 06.3		
	comp=Z,45nm,0.8s							
N32M	**Quiet Lake**	69.91	333	P	P		03 13 05.1	+1.2
	baz=114							
S31K	**Pelican**	70.22	330	IAmb	IAmb	03 13 09.1		
	comp=Z,21nm,0.9s							
S31K	**Pelican**	70.22	330	P	P		03 13 07.1	+1.5
	baz=110,SNR=9.9							
SKAG	**Skagway**	70.30	331	P	P		03 13 07.6	+1.5
SKAG	**Skagway**	70.30	331	IAmb	IAmb	03 13 08.6		
	comp=Z,18nm,0.8s							
SKAG	**Skagway**	70.30	331	P	P		03 13 07.4	+1.3
	baz=111,SNR=8.5							
FARO	**Faro, Yukon**	70.46	334	P	P		03 13 08.2	+1.0
	baz=114,SNR=18							
WHY	**Whitehorse**	70.53	333	P	P		03 13 08.5	+0.8
	baz=112,SNR=11							
PLBC	**Pleasant Camp**	70.79	331	P	P		03 13 10.4	+1.3
	baz=110							
M31M	**Drury Creek, Y**	70.90	334	IAmb	IAmb	03 13 12.0		
	comp=Z,20nm,0.7s							
M31M	**Drury Creek, Y**	70.90	334	P	P		03 13 11.3	+1.5
	baz=113,SNR=38							
O30N	**Mendenhall**	71.12	332	IAmb	IAmb	03 13 13.5		
	comp=Z,39nm,0.7s							
O30N	**Mendenhall**	71.12	332	P	P		03 13 12.8	+1.6
	baz=111,SNR=66							
N31M	**Braeburn, Yuko**	71.24	333	IAmb	IAmb	03 13 14.6		
	comp=Z,73nm,1.1s							
N31M	**Braeburn, Yuko**	71.24	333	P	P		03 13 13.2	+1.3
	baz=111,SNR=31							
P30M	**Million Dollar**	71.30	332	P	P		03 13 14.1	+1.8
	baz=110							
P29M	**Windy Craggy**	71.51	331	IAmb	IAmb	03 13 16.2		
	comp=Z,20nm,0.8s							
P29M	**Windy Craggy**	71.51	331	P	P		03 13 15.0	+1.5
	baz=109,SNR=19							
NEEM	**North Greenlan**	71.57	5	*i* P	P		03 13 12.8	-1.1
NEEM				IAmb	IAmb	03 13 15.2		
	comp=Z,71nm,0.8s							
HYT	**Haines Junctio**	71.79	332	P	P		03 13 17.1	+1.8
	baz=109							
N30M	**Aishikik Lake**	71.82	333	IAmb	IAmb	03 13 18.4		
	comp=Z,40nm,1.1s							
N30M	**Aishikik Lake**	71.82	333	P	P		03 13 17.2	+1.8
	baz=110,SNR=46							
MAYO	**Mayo, Yukon**	72.06	335	IAmb	IAmb	03 13 19.4		
	comp=Z,49nm,0.6s							
MAYO	**Mayo, Yukon**	72.06	335	P	P		03 13 18.3	+1.6
	baz=112							
M30M	**Minto, Yukon**	72.08	334	IAmb	IAmb	03 13 19.1		
	comp=Z,46nm,0.7s							
M30M	**Minto, Yukon**	72.08	334	P	P		03 13 18.1	+1.2
	baz=111,SNR=112							
O29M	**Mount Kennedy**	72.12	332	P	P		03 13 18.8	+1.5
	baz=108,SNR=10.0							
YUK6	**Outpost Mounta**	72.23	332	P	P		03 13 19.9	+1.9
	baz=109							
H31M	**Peel River**	72.31	338	IAmb	IAmb	03 13 20.4		
	comp=Z,26nm,0.8s							
H31M	**Peel River**	72.31	338	P	P		03 13 19.2	+1.0
	baz=114,SNR=34							
PNL	**Peninsula**	72.32	331	P	P		03 13 20.3	+1.9
PNL	**Peninsula**	72.32	331	P	P		03 13 19.8	+1.4
	baz=107,SNR=6.8							
A36M	**Sachs Harbour**	72.47	345	P	P		03 13 19.1	+0.2
	baz=125,SNR=43							
YUK4	**Talbot Arm**	72.49	333	P	P		03 13 21.2	+1.7
	baz=109							
BCPM	**Bancas Point**	72.52	331	IAmb	IAmb	03 13 22.4		
	comp=Z,41nm,1.0s							
J30M	**Hart River**	72.61	336	P	P		03 13 21.2	+1.1
	baz=112,SNR=12							
G31M	**Satah River**	72.74	339	IAmb	IAmb	03 13 22.6		
	comp=Z,28nm,0.8s							
G31M	**Satah River**	72.74	339	P	P		03 13 21.4	+0.8
	baz=114,SNR=25							
M29M	**Somme Creek**	72.76	334	P	P		03 13 22.2	+1.2
	baz=109,SNR=28							
F31M	**Tsiigehtchic**	72.77	339	IAmb	IAmb	03 13 22.3		
	comp=Z,42nm,0.6s							
F31M	**Tsiigehtchic**	72.77	339	P	P		03 13 21.6	+0.8
	baz=115,SNR=42							
K29M	**Barlow Dome**	72.83	335	IAmb	IAmb	03 13 23.6		
	comp=Z,24nm,0.8s							
K29M	**Barlow Dome**	72.83	335	P	P		03 13 22.5	+1.0
	baz=110,SNR=42							
L29M	**L29M**	72.83	334	P	P		03 13 22.2	+0.9
	baz=110,SNR=28							
I30M	**Mount Dempster**	72.86	337	IAmb	IAmb	03 13 23.7		
	comp=Z,23nm,0.8s							
I30M	**Mount Dempster**	72.86	337	P	P		03 13 22.4	+0.8
	baz=112,SNR=40							
YUK8	**Steele Glacier**	72.98	332	P	P		03 13 24.0	+1.4
	baz=107							
ESK	**Eskdalemuir**	73.03	34	P	P		03 13 22.9	+0.3
ESK	**Eskdalemuir**	73.03	34	P	P		03 13 22.9	+0.3
ESK				pmax	pmax			
	comp=Z,23nm,1.4s							
O28M	**Mount Upton**	73.03	332	P	P		03 13 24.5	+1.7
	baz=107,SNR=8.0							
EKB	**Eskdalemuir**	73.04	34	P	P		03 13 22.9	+0.3
EKA	**Eskdalemuir Ar**	73.06	34	P	P		03 13 21.9	-0.8
	comp=Z,0.6nm,0.4s,baz=260,slow=4.2,SNR=11							
	comp=Z,0.6nm,0.4s							
INK	**Inuvik**	73.07	340	IAmb	IAmb	03 13 23.8		
	comp=Z,24nm,0.7s							
INK	**Inuvik**	73.07	340	P	P		03 13 23.2	+0.7
	baz=115,SNR=41							
J29N	**Klondike Camp**	73.33	336	IAmb	IAmb	03 13 26.4		
	comp=Z,25nm,0.7s							
EPYK	**Eagle Plains**	73.42	338	IAmb	IAmb	03 13 26.2		
	comp=Z,26nm,0.5s							
EPYK	**Eagle Plains**	73.42	338	P	P		03 13 25.5	+0.7
	baz=112,SNR=25							
YUK3	**Moose Creek**	73.44	333	P	P		03 13 26.7	+1.5
	baz=107,SNR=6.6							
G30M	**tAoh Zraii Nji**	73.47	339	P	P		03 13 25.5	+0.5
	baz=112,SNR=12							
F30M	**Barrier River**	73.56	339	P	P		03 13 26.5	+1.0
	baz=113,SNR=42							
CTGM	**Chitina Glacie**	73.62	332	IAmb	IAmb	03 13 28.7		
	comp=Z,26nm,0.6s							
CTG	**Chitna Glacier**	73.62	332	P	P		03 13 27.8	+1.7
	baz=106,SNR=19							
I29M	**Ogilvie Camp,**	73.67	337	P	P		03 13 26.9	+0.7
	baz=110,SNR=16							
DAWY	**Dawson**	73.68	335	P	P		03 13 27.4	+1.1
DAWY	**Dawson**	73.68	335	P	P		03 13 26.9	+0.6
	baz=109,SNR=6.8							
TOA0	**Torodi Ar. Sit**	73.69	78	P	P		03 13 26.4	-0.9
TORD	**Torodi Ar. Bea**	73.69	78	P	P		03 13 25.5	-1.7
TORD	**Torodi Ar. Bea**	73.69	78	P	P		03 13 26.2	-1.0
	comp=Z,2.3nm,0.5s,baz=286,slow=6.2,SNR=18							
	comp=Z,2.3nm,0.5s							
MESA	**MESA**	73.70	331	P	P		03 13 28.4	+1.7
	baz=105							
BARN	**Barnard Glacie**	73.80	332	IAmb	IAmb	03 13 29.7		
	comp=Z,20nm,0.6s							
DBG	**Daneborg**	73.95	13	*i* P	P		03 13 27.3	-0.3
DBG				IAmb	IAmb	03 13 28.9		
	comp=Z,17nm,1.4s							
H29M	**Whitestone**	73.99	337	IAmb	IAmb	03 13 29.6		
	comp=Z,26nm,0.7s							
H29M	**Whitestone**	73.99	337	P	P		03 13 28.9	+0.9
	baz=110,SNR=42							
G29M	**Pine Creek**	74.11	338	IAmb	IAmb	03 13 30.1		
	comp=Z,24nm,0.7s							
G29M	**Pine Creek**	74.11	338	P	P		03 13 29.5	+0.8
	baz=111,SNR=29							
SNH	**Sunshine Point**	74.13	331	IAmb	IAmb	03 13 32.3		
	comp=Z,44nm,0.8s							
WAX	**Waxell Ridge**	74.20	331	IAmb	IAmb	03 13 31.8		

baz=107,SNR=11
J26L Joseph Creek 75.55 335 P P 03 13 37.9 +0.7
baz=105,SNR=17
I26K Coal Creek Min 75.59 336 P P 03 13 37.6 +0.4
baz=105
SCRK Sand Creek 75.60 335 IAmb IAmb 03 13 40.0
comp=Z,34nm,1.2s
SCRK Sand Creek 75.60 335 P P 03 13 38.6 +1.1
baz=104,SNR=37
EYAK Cordova Ski Ar 75.62 331 P P 03 13 39.0 +1.5
EYAK Cordova Ski Ar 75.62 331 P P 03 13 38.5 +1.0
baz=102,SNR=6.4
DAG Danmarks Havn 75.67 11 *i* P P 03 13 36.0 -1.4
DAG IAmb IAmb 03 13 38.0
comp=Z,19nm,0.7s
Q23K Middleton Isla 75.69 330 P P 03 13 38.7 +0.8
baz=101
E27K Coleen River 75.82 339 IAmb IAmb 03 13 39.8
comp=Z,20nm,0.6s
E27K Coleen River 75.82 339 P P 03 13 39.2 +0.7
baz=108,SNR=38
KLU Klutina 75.90 332 P P 03 13 40.1 +0.9
baz=102
D27M Malcolm River 75.93 340 P P 03 13 39.7 +0.5
baz=108,SNR=8.8
PAX Paxson 76.01 333 P P 03 13 40.6 +0.8
baz=103,SNR=23
M24K Tolsona, Glenn 76.14 332 IAmb IAmb 03 13 42.6
comp=Z,39nm,0.7s
M24K Tolsona, Glenn 76.14 332 P P 03 13 41.8 +1.3
baz=102,SNR=6.8
G26K Porcupine Rive 76.28 338 P P 03 13 41.5 +0.4
baz=105
P23K Montague Islan 76.33 330 P P 03 13 41.9 +0.5
baz=100
K24K Donnelly Dome 76.33 334 P P 03 13 42.6 +1.1
baz=102,SNR=12
J25K Salcha River, 76.33 335 P P 03 13 42.3 +0.7
baz=103,SNR=24
GLI Glacier Island 76.34 331 IAmb IAmb 03 14 20.6
comp=Z,17nm,0.6s
GLI Glacier Island 76.34 331 P P 03 13 42.0 +0.4
baz=101,SNR=5.5
PRP Porcupine Dome 76.61 336 IAmb IAmb 03 13 44.9
comp=Z,27nm,0.7s
PRP Porcupine Dome 76.61 336 P P 03 13 43.8 +0.7
baz=103,SNR=51
F26K Sheenjek River 76.61 338 P P 03 13 43.8 +0.8
baz=105,SNR=13
SCM Sheep Creek Mo 76.62 332 IAmb IAmb 03 13 45.5
comp=Z,56nm,0.9s
SCM Sheep Creek Mo 76.62 332 P P 03 13 44.3 +1.0
baz=101,SNR=8.9
BMAR Burnt Mountain 76.70 338 P P 03 13 44.6 +1.1
M23K Glacier View 76.80 332 P P 03 13 44.8 +0.7
baz=100,SNR=6.1
DHY Denali Highway 76.88 333 P P 03 13 45.0 +0.3
baz=101,SNR=11
H25L Birch Creek 76.90 337 P P 03 13 45.5 +0.9
baz=103,SNR=9.0
DOU Dourbes 76.90 40 *d* P P 03 13 44.5 -0.4
DOU *dp* P pP 03 14 23.4 +0.9
WAT6 Susitna Watana 76.95 333 P P 03 13 45.9 +0.7
baz=100,SNR=19
HDA Harding Lake 76.96 335 IAmb IAmb 03 13 46.5
comp=Z,28nm,0.6s
HDA Harding Lake 76.96 335 P P 03 13 45.3 +0.4
baz=102,SNR=41
C27K Jago River 76.97 340 P P 03 13 45.7 +0.8
baz=106,SNR=16
IL03 Eielson Array 76.99 335 P P 03 13 45.8 +0.7
IL31 77.00 335 P P 03 13 46.0 +0.8
ILAR Eielson Array 77.00 335 P P 03 13 45.6 +0.4
ILAR Eielson Array 77.00 335 P P 03 13 45.5 +0.2
comp=Z,7.8nm,0.7s,baz=108,slow=4.6,SNR=142
ILAR PP PP 03 16 41.3 +0.9
comp=Z,1.3nm,0.8s,baz=102,slow=6.0,SNR=7.0
comp=Z,7.8nm,0.7s
BMRD Maredsous 77.03 40 *d* P P 03 13 45.2 -0.4
KNK Knik Glacier 77.08 331 IAmb IAmb 03 14 30.5
comp=Z,71nm,1.0s
KNK Knik Glacier 77.08 331 P P 03 13 46.5 +0.8
baz=100,SNR=12
SML Sawmill 77.09 332 P P 03 13 46.9 +1.1
SML IAmb IAmb 03 13 47.9
comp=Z,34nm,1.0s
SML Sawmill 77.09 332 P P 03 13 46.6 +0.8
baz=100
G25K Bearman Lake 77.12 337 P P 03 13 46.9 +1.2
baz=103,SNR=9.1
F25K Christian Rive 77.14 338 P P 03 13 47.2 +1.2
baz=104,SNR=28
E25K Arctic Village 77.23 338 P P 03 13 47.2 +0.7
baz=104,SNR=19
POKR Poker Flat Res 77.30 335 P P 03 13 47.5 +0.6
baz=101,SNR=17
RCHB Rochefort 77.31 40 *d* P P 03 13 47.5 +0.3
RCHB *dp* P pP 03 14 26.7 +1.8
SEW Seward 77.36 330 P P 03 13 47.5 +0.3
baz=98
WAT1 Susitna Watana 77.36 333 P P 03 13 47.8 +0.4
baz=100
PMR Palmer 77.43 332 P P 03 13 48.5 +0.9
PMR Palmer 77.43 332 IAmb IAmb 03 13 49.4
comp=Z,21nm,0.8s
PMR Palmer 77.43 332 P P 03 13 48.1 +0.5
baz=99,SNR=9.1
COLA College 77.43 335 P P 03 13 48.4 +0.9
COLA College 77.43 335 P P 03 13 48.7 +1.2
COLA IAmb IAmb 03 14 08.3
comp=Z,12nm,0.3s
COLA College 77.43 335 P P 03 13 48.2 +0.7
baz=101
COLA College 77.43 335 P P 03 13 48.7 +1.2
COLA pmax pmax
comp=Z,12nm,0.3s
C26K Camden Bay 77.45 340 P P 03 13 48.6 +1.0
baz=105,SNR=30
O22K Cooper Landing 77.55 330 P P 03 13 48.6 +0.3
baz=98
MDM Murphy Dome 77.61 335 IAmb IAmb 03 13 50.6
comp=Z,36nm,1.3s
H24K Noodor Dome 77.63 336 P P 03 13 49.7 +1.0
H24K Noodor Dome 77.63 336 P P 03 13 49.5 +0.7
baz=101,SNR=22
G24K Hadweenzic Riv 77.64 337 P P 03 13 49.8 +1.1
baz=102,SNR=11
RC01 Rabbit Creek A 77.64 331 P P 03 13 49.6 +0.8
baz=98
MCK McKinley 77.69 334 P P 03 13 49.8 +0.7
baz=100,SNR=7.1
D25K Kavik River 77.80 340 IAmb IAmb 03 13 51.1
comp=Z,23nm,0.6s
D25K Kavik River 77.80 340 P P 03 13 50.5 +0.9
baz=103,SNR=43
WLF Walferdange 77.87 41 *d* P P 03 13 50.3 0.0
NEA2 Nenana 77.89 335 IAmb IAmb 03 13 51.5
comp=Z,21nm,0.7s
NEA2 Nenana 77.89 335 P P 03 13 50.8 +0.6
baz=100,SNR=16
M22K Willow 77.92 332 IAmb IAmb 03 13 52.2
comp=Z,59nm,0.8s
M22K Willow 77.92 332 P P 03 13 51.1 +0.8
baz=98,SNR=7.0
BRSE Bradley Lake S 77.95 330 P P 03 13 50.9 +0.3
baz=97,SNR=5.0
F24K Squaw Lake 77.96 338 P P 03 13 51.8 +1.3
baz=101,SNR=25
BWN Browne 77.99 334 IAmb IAmb 03 13 52.5
comp=Z,36nm,1.0s
BRLK Bradley Lake 78.03 330 P P 03 13 51.8 +0.8
BRLK IAmb IAmb 03 13 52.2
comp=Z,24nm,0.6s
CUT Chulitna 78.08 332 IAmb IAmb 03 13 53.1
comp=Z,62nm,1.1s
CUT Chulitna 78.08 332 P P 03 13 51.9 +0.7
baz=98,SNR=5.4
I23K Minto, Yukon-K 78.11 335 P P 03 13 52.1 +0.8
baz=100,SNR=15
CNPM China Poot 78.17 329 IAmb IAmb 03 13 53.5
comp=Z,35nm,1.1s
SUA Susitna One 78.18 331 IAmb IAmb 03 13 53.9
comp=Z,56nm,0.8s
SUA Susitna One 78.18 331 P P 03 13 53.0 +1.0
baz=98,SNR=29
TRF Thorofare Moun 78.24 333 IAmb IAmb 03 13 53.9
comp=Z,21nm,0.6s
TRF Thorofare Moun 78.24 333 P P 03 13 53.0 +0.7
baz=98,SNR=26
CAPN Captain Cook N 78.28 331 P P 03 13 53.7 +1.3
baz=97
E24K Your Creek 78.29 338 P P 03 13 53.6 +1.2
baz=101,SNR=14
H23K Yukon River 78.30 336 P P 03 13 53.6 +1.2
H23K Yukon River 78.30 336 P P 03 13 53.2 +0.8
baz=100,SNR=31
HOM Homer 78.39 329 P P 03 13 53.7 +0.7
baz=96
KTH Kantishna Hill 78.54 333 P P 03 13 54.6 +0.7
KTH IAmb IAmb 03 13 55.2
comp=Z,18nm,0.6s
SKT Skwentna 78.61 332 IAmb IAmb 03 13 56.1
comp=Z,25nm,0.6s
SKT Skwentna 78.61 332 P P 03 13 54.7 +0.5
baz=97,SNR=21
D24K Happy Valley 78.62 339 P P 03 13 55.1 +1.0
baz=101
NOR Nord 78.63 7 *i* P P 03 13 53.1 -0.8
NOR IAmb IAmb 03 13 54.9
comp=Z,6.4nm,1.0s
G23K Bananza Creek 78.64 337 IAmb IAmb 03 13 56.5
comp=Z,22nm,0.7s
G23K Bananza Creek 78.64 337 P P 03 13 55.8 +1.5
baz=99,SNR=48
BPAW Bear Paw Mtn. 78.64 334 P P 03 13 55.0 +0.6
BPAW IAmb IAmb 03 13 55.6
comp=Z,20nm,0.8s
BPAW Bear Paw Mtn. 78.64 334 P P 03 13 54.9 +0.6
baz=98,SNR=30
MLY Manley 78.67 335 P P 03 13 55.2 +0.7
MLY Manley 78.67 335 P P 03 13 55.0 +0.5
baz=98,SNR=26
Q20K Shuyak Island 78.67 328 P P 03 13 55.2 +0.7
baz=96
C24K Franklin Bluff 78.69 340 P P 03 13 55.4 +1.0
baz=101
KDAK Kodiak Island 78.69 328 P P 03 13 54.7 +0.1
baz=95
KDAK Kodiak Island 78.69 328 *d* *i* P P 03 13 54.7 +0.1
KDAK pmax pmax
comp=Z,53nm,1.5s
E23K Chandalar 78.71 338 P P 03 13 55.7 +1.0
baz=100
COLD Coldfoot 78.79 337 P P 03 13 56.5 +1.5
baz=99,SNR=21
TOLK Toolik Lake Re 78.80 339 P P 03 13 56.3 +1.2
TOLK Toolik Lake Re 78.80 339 P P 03 13 55.6 +0.5
baz=100,SNR=8.3
N20K Mount Spurr 78.84 331 P P 03 13 55.8 +0.2
baz=96,SNR=14
O20K Slope Mountain 78.93 330 P P 03 13 56.6 +0.5
baz=96,SNR=11
OHAK Old Harbor 79.02 327 P P 03 13 56.6 +0.2
baz=94
PPLA Purkeypile 79.03 333 P P 03 13 57.2 +0.6
baz=96,SNR=33
CAST Castle Rocks 79.04 333 IAmb IAmb 03 13 57.9
comp=Z,28nm,0.7s
CAST Castle Rocks 79.04 333 P P 03 13 56.8 +0.3
baz=97,SNR=45
H22K Ishtalitna Cre 79.06 336 P P 03 13 57.1 +0.6
baz=98,SNR=9.8
CHUM Lake Minchumin 79.20 334 P P 03 13 57.8 +0.5
baz=97
P19K Oil Pt 79.20 329 IAmb IAmb 03 13 58.8
comp=Z,43nm,0.8s
P19K Oil Pt 79.20 329 P P 03 13 57.7 +0.3
baz=95,SNR=7.2
I21K Tanana 79.21 335 P P 03 13 58.0 +0.7
I21K Tanana 79.21 335 P P 03 13 57.8 +0.5
baz=97
D23K Nanushuk River 79.25 339 P P 03 13 58.8 +1.3
baz=99
G22K Bettles 79.25 337 P P 03 13 58.8 +1.3
baz=98,SNR=11
Q19K Cape Douglas, 79.35 329 IAmb IAmb 03 14 02.3
comp=Z,40nm,0.6s
Q19K Cape Douglas, 79.35 329 P P 03 13 58.4 +0.1
baz=94
M20K Styx River 79.35 332 IAmb IAmb 03 13 59.4
comp=Z,28nm,0.7s
M20K Styx River 79.35 332 P P 03 13 58.7 +0.4
baz=96,SNR=41
C23K Itkillik River 79.36 340 IAmb IAmb 03 14 00.4
comp=Z,24nm,0.8s
C23K Itkillik River 79.36 340 P P 03 13 59.1 +1.0
baz=99,SNR=26
SII Sitkinak Islan 79.47 326 P P 03 13 59.0 0.0
baz=94
E22K Anaktuvuk Pass 79.53 338 P P 03 13 59.7 +0.6
baz=98
F22K Jot River 79.59 337 P P 03 14 00.4 +1.0
baz=97
H21K Melozitna Rive 79.61 336 P P 03 13 59.9 +0.4
baz=96,SNR=12
L20K Farewell, AK 79.76 332 P P 03 14 00.6 +0.2
baz=95,SNR=36
O19K Port Alsworth 79.79 330 IAmb IAmb 03 14 01.4
comp=Z,28nm,0.7s
O19K Port Alsworth 79.79 330 P P 03 14 00.3 -0.2
baz=94
N19K Bonanza Creek 79.91 331 P P 03 14 01.4 0.0
N19K Bonanza Creek 79.91 331 P P 03 14 01.3 0.0
baz=94,SNR=9.3
K20K Telida 79.92 333 IAmb IAmb 03 14 02.2
comp=Z,16nm,0.7s
K20K Telida 79.92 333 P P 03 14 01.6 +0.3
baz=95,SNR=18
M19K Big River Lodg 79.95 332 P P 03 14 01.8 +0.4
baz=94,SNR=8.6
D22K Ayikyak River 79.95 339 P P 03 14 02.6 +1.2
D22K IAmb IAmb 03 14 03.6
comp=Z,19nm,0.8s
D22K Ayikyak River 79.95 339 P P 03 14 02.3 +1.0
baz=97,SNR=19
G21K Allakaket 79.99 336 P P 03 14 02.8 +1.3
G21K Allakaket 79.99 336 P P 03 14 02.6 +1.1
baz=96,SNR=22
J20K Nowinta River 80.03 334 IAmb IAmb 03 14 02.9
comp=Z,31nm,0.6s
J20K Nowinta River 80.03 334 P P 03 14 02.3 +0.5
baz=95,SNR=44
F21K Alatna River 80.06 337 IAmb IAmb 03 14 04.4
comp=Z,20nm,0.8s
F21K Alatna River 80.06 337 P P 03 14 03.2 +1.3
baz=96,SNR=26
MUD Monsted U'grnd 80.08 34 *i* P P 03 14 02.6 +0.5
MUD IAmb IAmb 03 14 03.5
comp=Z,8.6nm,0.5s
L19K White Mountain 80.19 332 P P 03 14 03.0 +0.3
L19K White Mountain 80.19 332 P P 03 14 02.9 +0.2
baz=94,SNR=13
P18K Big Mountain, 80.19 329 IAmb IAmb 03 14 03.0
comp=Z,16nm,0.7s
P18K Big Mountain, 80.19 329 P P 03 14 02.4 -0.4
baz=93,SNR=5.1
O18K Koktuh Hills 80.21 330 IAmb IAmb 03 14 04.0
comp=Z,35nm,0.7s
O18K Koktuh Hills 80.21 330 P P 03 14 03.0 +0.2
baz=93,SNR=13
CHIR Chirikof Islan 80.23 325 P P 03 14 03.5 +0.4
baz=92
DAVA Damuels 80.26 43 *e* P P 03 14 04.0 +0.4
comp=Z,7.4nm,0.8s
E21K Killik River 80.37 338 P P 03 14 04.4 +0.8
E21K Killik River 80.37 338 P P 03 14 04.2 +0.6
baz=96
B22K Teshekpuk Lake 80.39 340 IAmb IAmb 03 14 05.3
comp=Z,30nm,0.8s
B22K Teshekpuk Lake 80.39 340 P P 03 14 04.7 +1.1
baz=97,SNR=22
H20K Anotleneega Mo 80.45 335 P P 03 14 04.6 +0.6
baz=94,SNR=13
SVW2 Sparrevohn 80.47 331 P P 03 14 04.9 +0.7
FUORN Ofenpass-Fuorn 80.52 44 P P 03 14 04.6 -0.5
N18K Kilae Creek 80.59 330 IAmb IAmb 03 14 05.7
comp=Z,32nm,0.6s
N18K Kilae Creek 80.59 330 P P 03 14 05.1 +0.2
baz=93,SNR=24
M18K Stony River 80.60 331 P P 03 14 05.1 +0.2
baz=93,SNR=17
J19K Poorman 80.66 334 P P 03 14 06.1 +0.9
J19K Poorman 80.66 334 P P 03 14 05.8 +0.6
baz=94,SNR=12
B21K Ikpikpuk River 80.72 339 P P 03 14 06.4 +1.1
B21K IAmb IAmb 03 14 07.0
comp=Z,36nm,0.6s
B21K Ikpikpuk River 80.72 339 P P 03 14 06.4 +1.1
baz=96,SNR=26
C21K Knifeblade Rid 80.73 339 P P 03 14 06.6 +1.1
baz=95,SNR=7.9
P17K Kvichak River 80.80 329 P P 03 14 06.1 +0.1
baz=92,SNR=5.7
FETA Feichten 80.84 44 *e* P P 03 14 07.3 +0.6
comp=Z,3.7nm,0.9s
Q16K King Salmon 80.90 328 P P 03 14 06.7 +0.3
baz=92,SNR=12
F20K Avaraart Lake 80.91 337 P P 03 14 07.4 +1.0
baz=94,SNR=12
A22K Sinclair Lake 80.97 341 P P 03 14 08.0 +1.3
baz=95,SNR=14
L18K Granite Mounta 81.05 332 P P 03 14 07.7 +0.5
baz=92,SNR=11
MOTA Moosalm 81.09 43 *i* P P 03 14 06.9 -1.2
comp=Z,2.9nm,0.7s
H19K Roundabout Mou 81.11 335 P P 03 14 08.3 +0.8
H19K Roundabout Mou 81.11 335 P P 03 14 08.5 +1.0
baz=93,SNR=11
NBO00 NORSAR Array S 81.11 29 P P 03 14 08.2 +0.5
J18K Innoko River 81.12 333 P P 03 14 07.9 +0.3
baz=92,SNR=7.7
NAO01 NORSAR Array S 81.15 30 P P 03 14 08.4 +0.5
O17K Koliganek Bris 81.16 329 P P 03 14 07.9 0.0
baz=92
SQTA Sankt Quirin 81.17 43 *e* P P 03 14 08.4 0.0
comp=Z,0.6nm,0.2s
E20K Nigu River 81.17 338 P P 03 14 09.3 +1.4
baz=94,SNR=66
N17K Nushagak Hills 81.23 330 P P 03 14 08.3 0.0
baz=92
GCSA Galena City Sc 81.25 334 P P 03 14 09.2 +0.9
baz=93
NB2 NORSAR Subarra 81.32 29 P P 03 14 08.9 +0.1
comp=Z,4.4nm,0.7s,baz=267,slow=5.3
NOA NORSAR Array B 81.32 29 P P 03 14 09.3 +0.5
comp=Z,2.6nm,0.6s,baz=268,slow=5.3,SNR=22
comp=Z,2.6nm,0.6s
D20K Etivluk River 81.36 338 P P 03 14 10.0 +1.1
baz=94,SNR=20
M17K Holitna River 81.38 331 P P 03 14 09.4 +0.4
baz=92,SNR=8.4
G19K Purcell Mounta 81.40 336 IAmb IAmb 03 14 10.5
comp=Z,16nm,0.7s
G19K Purcell Mounta 81.40 336 P P 03 14 09.8 +0.7
baz=93,SNR=20
WTTA Wattenberg 81.46 43 *e* P P 03 14 10.2 +0.2
E19K Redstone River 81.52 337 P P 03 14 10.6 +0.9
E19K IAmb IAmb 03 14 11.2
comp=Z,20nm,0.7s
E19K Redstone River 81.52 337 P P 03 14 10.6 +0.9
baz=93,SNR=28
A21K Barrow 81.53 341 P P 03 14 11.8 +2.2
baz=94
NC405 NORSAR Array S 81.57 29 P P 03 14 10.7 +0.6
P16K Nushagak River 81.60 329 P P 03 14 10.3 +0.1
baz=91,SNR=6.8
B20K Meade River 81.63 340 IAmb IAmb 03 14 12.7
comp=Z,50nm,1.2s
B20K Meade River 81.63 340 P P 03 14 11.4 +1.3
baz=93,SNR=8.7
O16K Kokwok River B 81.66 329 P P 03 14 10.2 -0.3
baz=91
F19K Shaleruckik Mo 81.70 337 P P 03 14 11.2 +0.6
baz=92,SNR=16
L17K Donlin 81.80 332 P P 03 14 12.0 +0.8
baz=91,SNR=12
CHGN Chignik 81.81 326 IAmb IAmb 03 14 12.3
comp=Z,28nm,0.8s
CHGN Chignik 81.81 326 P P 03 14 11.1 -0.2
baz=90,SNR=5.8
K17K Iditarod 81.81 332 P P 03 14 12.4 +1.2
K17K IAmb IAmb 03 14 13.2
comp=Z,21nm,0.7s
K17K Iditarod 81.81 332 P P 03 14 12.2 +0.9
baz=91,SNR=12
H18K Honhosa River 81.89 335 P P 03 14 13.1 +1.5
baz=91,SNR=8.8
D19K Kuna River 81.90 338 IAmb IAmb 03 14 13.7
comp=Z,34nm,0.6s
D19K Kuna River 81.90 338 P P 03 14 13.1 +1.4
baz=92,SNR=32
N16K Nishlik Lake 82.01 330 P P 03 14 12.9 +0.6
baz=90
CIMO Cimolais 82.03 44 P P 03 14 12.6 -0.2
CIMO IAmb IAmb 03 14 16.9
comp=Z,2.7nm,0.7s
G18K Tagagawik 82.03 336 P P 03 14 13.6 +1.2
G18K Tagagawik 82.03 336 P P 03 14 13.4 +1.0
baz=91,SNR=22
ABTA Abfaltersbach 82.07 44 *e* P P 03 14 13.2 +0.1
comp=Z,3.9nm,0.6s
M16K Timber Creek 82.11 331 P P 03 14 13.8 +0.9
baz=90
LESA Schwarzleotal 82.16 43 *i* P P 03 14 13.6 +0.1
comp=Z,2.4nm,0.6s
J17K VABM Dome 82.18 333 P P 03 14 14.6 +1.4
J17K IAmb IAmb 03 14 15.2
comp=Z,15nm,0.6s
J17K VABM Dome 82.18 333 P P 03 14 14.6 +1.4
baz=90,SNR=12
CLL Collm 82.28 39 P P 03 14 13.8 -0.2
CLL Collm 82.28 39 *i* P P 03 14 13.4 -0.6
CLL Collm 82.28 39 P P 03 14 13.8 -0.2
CLL pmax pmax
comp=Z,3.0nm,0.7s
L16K Owhat River 82.35 331 P P 03 14 15.2 +1.1
baz=90,SNR=7.0
KBS Kingsbay 82.41 11 *i* P P 03 14 15.2 +1.1
S14K Fog Glacier 82.44 326 P P 03 14 15.2 +0.4
baz=89
F18K Selawik 82.45 336 P P 03 14 15.2 +0.8
baz=90,SNR=13
C19K Lookout Ridge 82.45 339 P P 03 14 16.3 +1.8
C19K IAmb IAmb 03 14 17.0
comp=Z,29nm,0.7s
C19K Lookout Ridge 82.45 339 P P 03 14 16.2 +1.6
baz=91,SNR=14
CHNA Chernabura Isl 82.49 324 P P 03 14 14.9 0.0
baz=89
CNBA Chernabura Isl 82.49 324 P P 03 14 15.5 +0.6
CNBA IAmb IAmb 03 14 16.4
comp=Z,20nm,0.6s
HFS Hagfors 82.54 30 P P 03 14 14.8 -0.3
comp=Z,1.7nm,0.5s,baz=239,slow=4.3,SNR=11
comp=Z,1.7nm,0.5s
O15K Ungalikthiuk R 82.55 329 P P 03 14 14.0 -1.1
baz=89
H17K Granite Mounta 82.55 335 P P 03 14 16.4 +1.3
H17K Granite Mounta 82.55 335 P P 03 14 16.3 +1.3
baz=90,SNR=14
KBA Koelnbreinsper 82.63 43 *e* P P 03 14 16.0 -0.1
comp=Z,2.8nm,0.7s
N15K Kwethluk River 82.67 330 P P 03 14 16.3 +0.5
baz=89
KHC Kasperske Hory 82.71 41 *e* P P 03 14 16.3 0.0
KHC Kasperske Hory 82.71 41 *e* P P 03 14 16.4 +0.1
KHC pmax pmax
comp=Z,4.0nm,1.0s
PRED Cave del Predi 82.80 44 P P 03 14 16.1 -0.8
BIOA Bad Ischl, Aus 82.80 43 *e* P P 03 14 16.7 -0.1
comp=Z,1.2nm,0.5s
GEC2 GERESS Array S 82.80 42 P P 03 14 16.3 -0.5
GERES GERESS Array B 82.80 42 P P 03 14 16.4 -0.5
GERES GERESS Array B 82.80 42 P P 03 14 16.8 0.0
comp=Z,2.1nm,0.6s,baz=270,slow=3.5,SNR=16
comp=Z,2.1nm,0.6s
E18K Tukpahlearik C 82.82 337 P P 03 14 17.5 +1.1
E18K Tukpahlearik C 82.82 337 P P 03 14 17.3 +0.8
baz=90,SNR=9.1
MYKA Terra Mystica 82.85 44 *e* P P 03 14 17.4 +0.3
comp=Z,3.1nm,0.5s
G17K Kiwalik Mounta 82.86 335 P P 03 14 17.9 +1.3
baz=89,SNR=18
J16K Anvik River 82.86 333 P P 03 14 18.5 +1.7
J16K Anvik River 82.86 333 P P 03 14 18.4 +1.7
baz=89,SNR=5.6
I17K Unalakleet 82.90 334 P P 03 14 18.7 +1.8
I17K IAmb IAmb 03 14 19.7
comp=Z,35nm,0.7s
I17K Unalakleet 82.90 334 P P 03 14 18.6 +1.8
baz=89,SNR=27

M15K	Kasigluk River	82.95	330	P		P		03 14 18.2	+1.0
	baz=89								
SDPT	Sand Point	82.98	325	P		P		03 14 17.8	+0.3
	baz=88								
C18K	Utukok River	83.03	338	P		P		03 14 18.8	+1.2
C18K	Utukok River	83.03	338	P		P		03 14 18.5	+1.0
	baz=89,SNR=9.3								
F17K	Baldwin Pennin	83.09	336	P		P		03 14 18.8	+1.0
F17K				IAmb		IAmb		03 14 19.3	
	comp=Z,16nm,0.7s								
F17K	Baldwin Pennin	83.09	336	P		P		03 14 18.8	+1.0
	baz=89,SNR=11								
MOA	Molln	83.22	43	*e*P		P		03 14 18.8	-0.1
	comp=Z,2.2nm,0.6s								
B18K	Kokolik River	83.24	339	P		P		03 14 20.0	+1.5
	baz=89								
SPITS	Spitsbergen Ar	83.28	12	P		P		03 14 19.4	+0.8
	comp=Z,3.5nm,0.5s,baz=131,slow=2.3,SNR=17								
	comp=Z,3.5nm,0.5s								
SPITS	Spitsbergen Ar	83.28	12	P		P		03 14 19.3	+0.7
SPITS				pmax		pmax			
	comp=Z,47nm,1.4s								
SPA2	Spitsbergen Ar	83.28	12	P		P		03 14 19.7	+1.1
SPA2				IAmb		IAmb		03 14 30.1	
	comp=Z,38nm,1.3s								
SPB2	Spitsbergen Ar	83.28	12	P		P		03 14 19.6	+1.0
SPB2				IAmb		IAmb		03 14 58.9	
	comp=Z,38nm,1.4s								
E17K	Hotham Inlet	83.30	337	P		P		03 14 19.9	+1.0
	baz=88,SNR=61								
PRU	Pruhonice	83.31	40	*e*P		P		03 14 19.6	+0.3
PRU	Pruhonice	83.31	40	*e*P		P		03 14 19.6	+0.3
L15K	Ungalak Mounta	83.31	331	P		P		03 14 20.3	+1.2
	baz=88,SNR=5.6								
K15K	Wolf Creek Mou	83.31	332	P		P		03 14 20.6	+1.5
K15K	Wolf Creek Mou	83.31	332	P		P		03 14 20.6	+1.5
	baz=88								
N14K	Kuskokwak Cree	83.47	330	P		P		03 14 20.7	+0.8
	baz=88								
OBKA	Obir	83.48	44	*i* P		P		03 14 21.5	+1.2
	comp=Z,2.2nm,0.6s								
H16K	Elim	83.55	334	P		P		03 14 21.6	+1.4
	baz=88,SNR=9.1								
G16K	Koyuk River	83.57	335	P		P		03 14 21.8	+1.5
G16K				IAmb		IAmb		03 14 22.4	
	comp=Z,14nm,0.7s								
G16K	Koyuk River	83.57	335	P		P		03 14 21.8	+1.5
	baz=88,SNR=9.5								
RDOG	Red Dog Mine	83.68	338	P		P		03 14 22.1	+1.2
RDOG				IAmb		IAmb		03 14 22.4	
	comp=Z,15nm,0.6s								
RDOG	Red Dog Mine	83.68	338	P		P		03 14 21.6	+0.7
	baz=88,SNR=14								
C17K	DeLong Mountai	83.77	338	P		P		03 14 22.3	+1.0
	baz=87,SNR=7.6								
D17K	Noatak River	83.77	337	P		P		03 14 22.2	+1.0
	baz=87,SNR=13								
SOKA	Soboth	83.80	44	*e*P		P		03 14 21.9	-0.1
	comp=Z,1.3nm,0.6s								
S12K	Black Hills	83.87	325	P		P		03 14 22.3	+0.2
	baz=87								
L14K	Kuka Creek	83.90	331	P		P		03 14 22.6	+0.6
	baz=87								
ARSA	Arzberg	84.10	43	*e*P		P		03 14 21.4	-2.1
	comp=Z,1.4nm,0.5s								
J14K	Nanvaranak Lak	84.23	332	P		P		03 14 25.4	+1.7
J14K				IAmb		IAmb		03 14 26.7	
	comp=Z,26nm,0.9s								
J14K	Nanvaranak Lak	84.23	332	P		P		03 14 25.6	+2.0
	baz=86,SNR=5.2								
CHVC	Chvalec	84.24	40	*e*P		P		03 14 24.1	0.0
CHVC	Chvalec	84.24	40	*e*P		P		03 14 24.1	0.0
M13K	Dall Lake	84.28	330	P		P		03 14 25.1	+1.2
	baz=86								
CONA	Conrad Observa	84.29	43	*e*P		P		03 14 23.6	-0.8
	comp=Z,2.8nm,0.9s								
G15K	Niukluk	84.30	335	P		P		03 14 25.5	+1.5
	baz=86								
DPC	Dobruska-Polom	84.43	40	*e*P		P		03 14 25.3	+0.3
DPC	Dobruska-Polom	84.43	40	*e*P		P		03 14 25.3	+0.3
F15K	North Star Dit	84.51	335	P		P		03 14 26.6	+1.6
F15K				IAmb		IAmb		03 14 27.4	
	comp=Z,18nm,0.6s								
F15K	North Star Dit	84.51	335	P		P		03 14 26.7	+1.6
	baz=86,SNR=10.0								
C16K	Lisburne Hills	84.58	338	P		P		03 14 26.6	+1.3
C16K				IAmb		IAmb		03 14 27.2	
	comp=Z,26nm,0.6s								
C16K	Lisburne Hills	84.58	338	P		P		03 14 26.4	+1.1
	baz=85,SNR=16								
RONA	Rosalia, Austr	84.60	43	*e*P		P		03 14 26.0	0.0
	comp=Z,1.2nm,0.5s								
FALS	False Pass	84.70	325	P		P		03 14 27.0	+0.8
	baz=86								
KRLC	Kraliky	84.74	40	*e*P		P		03 14 27.0	+0.4
KRLC	Kraliky	84.74	40	*e*P		P		03 14 27.0	+0.4
K13K	Kusilvak Mount	84.80	332	P		P		03 14 27.8	+1.3
K13K				IAmb		IAmb		03 14 28.6	
	comp=Z,21nm,0.6s								
K13K	Kusilvak Mount	84.80	332	P		P		03 14 27.9	+1.3
	baz=85,SNR=8.2								
ANM	Nome	84.90	334	P		P		03 14 28.4	+1.3
	baz=85								
F14K	Arctic Creek	85.22	335	P		P		03 14 30.1	+1.5
	baz=84								
MORC	Moravsky Berou	85.26	41	P		P		03 14 29.5	+0.3
MORC	Moravsky Berou	85.26	41	P		P		03 14 29.5	+0.3
MORC				pmax		pmax			
	comp=Z,2.0nm,0.6s								
MAUC	Maruska	85.48	41	*e*P		P		03 14 31.1	+0.8
M11K	Mekoryuk	85.69	330	P		P		03 14 32.2	+1.2
	baz=84								
TNA	Tin City	85.87	335	P		P		03 14 33.2	+1.4
	baz=83								
VYHS	Vyhne	86.22	42	*e*P		P		03 14 34.9	+1.0
VYHS	Vyhne	86.22	42	*e*P		P		03 14 35.0	+1.0
UNV	Unalaska Valle	86.59	324	P		P		03 14 36.2	+0.6
	baz=83								
ARCES	ARCESS Array B	86.67	20	P		P		03 14 35.9	+0.2
ARCES	ARCESS Array B	86.67	20	P		P		03 14 35.7	0.0
	comp=Z,3.4nm,0.6s,baz=268,slow=4.4,SNR=28								
	comp=Z,3.4nm,0.6s								
KEV	Kevo	87.15	20	P		P		03 14 38.0	+0.1
KEV				IAmb		IAmb		03 15 10.6	
	comp=Z,24nm,1.4s								
KEV	Kevo	87.15	20	P		P		03 14 38.0	+0.1
KEV				pmax		pmax			
	comp=Z,24nm,1.4s								
GAMB	Gambell	87.76	334	P		P		03 14 42.2	+1.3
	baz=79								
NIKH	Nikolski High	88.10	323	P		P		03 14 44.0	+1.2
	baz=81								
VNA3	Neumayer Olymp	88.13	163	⇑P		P		03 14 41.6	-0.9
	comp=Z,13nm,0.6s								
SPIA	Saint Paul Isl	88.22	327	P		P		03 14 44.6	+1.3
	baz=80								
VNA1	Neumayer--Stat	88.28	162	⇑P		P		03 14 42.7	-0.5
	comp=Z,6.0nm,0.6s								
FINES	FINESS Array B	88.44	28	P		P		03 14 44.6	+0.4
FINES	FINESS Array B	88.44	28	P		P		03 14 43.8	-0.4
	comp=Z,5.4nm,1.1s,baz=272,slow=3.9,SNR=7.8								
	comp=Z,5.4nm,1.1s								
VNA2	Neumayer--Watz	88.66	163	⇑P		P		03 14 44.2	-0.9
	comp=Z,8.5nm,0.5s,baz=304,slow=5.2								
SNAA	Sanae	90.30	163	P		P		03 14 51.7	-1.1
SNAA	Sanae	90.30	163	⇑P		P		03 14 51.3	-1.4
	comp=Z,80nm,0.5s								
SNAA	Sanae	90.30	163	P		P		03 14 51.7	-1.1
	comp=Z,4.1nm,0.7s,baz=279,slow=8.3,SNR=36								
	comp=Z,4.1nm,0.7s								
LVZ	Lovozero	90.31	21	P		P		03 14 53.8	+0.8
LVZ				IAmb		IAmb		03 15 34.8	
	comp=Z,35nm,1.2s								
LVZ	Lovozero	90.31	21	P		P		03 14 53.8	+0.8
LVZ				pmax		pmax			
	comp=Z,35nm,1.2s								
BURAR	Bucovina Array	90.58	42	P		P		03 14 55.3	+0.6
MLR	Muntele Rosu	91.48	44	P		P		03 14 58.9	-0.1
MLR	Muntele Rosu	91.48	44	P		P		03 14 58.3	-0.6
	comp=Z,1.2nm,0.5s,baz=198,slow=7.4,SNR=3.6								
	comp=Z,1.2nm,0.5s								
MLR	Muntele Rosu	91.48	44	P		P		03 14 58.9	-0.1
MLR				pmax		pmax			
	comp=Z,6.0nm,1.1s								
TROLL	Troll, Antarti	92.01	162	⇑P		P		03 15 00.1	-0.7
	comp=Z,500nm,0.5s								
ADK	Adak	93.02	323	P		P		03 15 06.3	+0.6
ADK	Adak	93.02	323	P		P		03 15 06.3	+0.6
	comp=Z,56nm,1.2s			pmax		pmax			
BILL	Bilibino	94.68	341	P		P		03 15 13.7	+0.7
BILL				IAmb		IAmb		03 15 14.5	
	comp=Z,7.3nm,0.6s								
BILL	Bilibino	94.68	341	*i* P		P		03 15 13.7	+0.7
BILL				pmax		pmax			
	comp=Z,26nm,2.6s								
QSPA	South Pole Qui	96.81	180	P		P		03 15 22.3	-0.5
QSPA	South Pole Qui	96.81	180	P		P		03 15 22.0	-0.8
	comp=Z,3.0nm,0.8s,baz=345,slow=1.2,SNR=12								
	comp=Z,3.0nm,0.8s								
TIXI	Tiksi	100.38	353	‖*e*P		Pdif		03 15 37.3	-1.3
TIXI				pmax		pmax			
	comp=Z,5.0nm,2.5s								
BRVK	Borovoye	112.78	23	*d i* PKIKP		PKiKP		03 20 27.7	-0.5
GEYT	Alibeck	116.43	42	PKP		PKPdf		03 20 34.5	-1.3
	comp=Z,1.2nm,0.3s,baz=326,slow=4.4,SNR=2.0								
ZALV	Zalesovo Beam	116.68	14	PKP		PKPdf		03 20 35.7	+0.1
	comp=Z,5.8nm,0.6s,baz=248,slow=2.6,SNR=19								
ZALV				SKP				03 23 56.6	
	comp=Z,0.8nm,0.3s,baz=270,slow=1.3,SNR=4.6								
KURK	Kurchatov	117.71	20	PKIKP		PKPdf		03 20 38.0	+0.3
KURBB	Kurchatov Arra	117.76	20	PKP		PKPdf		03 20 38.0	+0.2
	comp=Z,3.0nm,0.6s,baz=321,slow=2.3,SNR=24								
KURBB				SKP				03 23 59.7	
	comp=Z,0.2nm,0.3s,baz=321,slow=2.4,SNR=4.2								
KLR	Kul'dur	120.14	341	‖*i* PKIKP		PKPdf		03 20 42.3	-0.1
HEH	HeiHe	120.47	345	PKP		PKPdf		03 20 42.0	-1.0
MK31	Makanchi Array	122.32	20	*d i* PKIKP		PKPdf		03 20 46.2	-0.6
MKAR	Makanchi Array	122.32	20	PKP		PKPdf		03 20 46.3	-0.5
	comp=Z,3.4nm,0.4s,baz=300,slow=2.5,SNR=50								
MKAR				SKP				03 24 07.0	
	comp=Z,3.6nm,1.3s,baz=336,slow=3.2,SNR=4.1								
USRK	Ussuriysk Ar.	124.43	338	PKP		PKPdf		03 20 50.7	-0.1
	comp=Z,2.7nm,0.8s,baz=72,slow=3.4,SNR=6.1								
ULN	Ulaanbaatar	125.57	360	‖*e*PKIKP		PKPdf		03 20 52.6	-0.5
SONM	Songino Array	125.60	0	PKP		PKPdf		03 20 53.4	+0.2
	comp=Z,2.9nm,0.6s,baz=315,slow=1.0,SNR=18								
KSH	Kashi	125.75	29	PKP		PKPdf		03 20 52.5	-1.2
KSH				SKS		SKSac		03 27 45.3	+0.3
WMQ	Urumqi	126.69	17	*e*PKP		PKPdf		03 20 55.5	+0.2
MJAR	Matsushiro Arr	127.86	328	PKP		PKPdf		03 20 57.9	+0.2
	comp=Z,0.7nm,0.6s,baz=100,slow=0.7,SNR=4.4								
KSRS	Korea Array	131.81	338	PKP		PKPdf		03 21 04.5	-0.5
	comp=Z,0.9nm,0.6s,baz=20,slow=2.0,SNR=2.7								
HHC	Hu-ho-hao-te	132.40	355	*e*PKP		PKPdf		03 21 07.0	+0.7
BTO	Baotou	132.75	357	*e*PKP		PKPdf		03 21 02.0	-4.9
BTO				PP		PP		03 23 41.3	+10
BTO				LR		LR			
	comp=Z,370nm,13.5s								
BTO				LR		LR			
	comp=Z,250nm,17.3s								
BTO				LR		LR			
	comp=Z,180nm,5.6s								
GTA	Gaotai	133.55	8	PKP		PKPdf		03 21 09.8	+1.3
LZH	Lanzhou	137.24	4	*e*PKP		PKPdf		03 21 14.8	-0.7
STKA	Stephens Creek	139.18	228	PKP		PKPdf		03 21 19.2	+0.3
	comp=Z,2.6nm,0.5s,baz=114,slow=3.9,SNR=3.9								
NJ2	Nanjing	139.73	344	*e*PKP		PKPdf		03 21 19.3	-0.7
CD2	Chengdu	142.38	4	PKP		PKPdf		03 21 24.0	-0.9
SHL	Shillong	144.66	24	PKIKP		PKPab		03 21 27.6	-0.5
YOJ	Yonaguni jima	145.20	334	PKIKP		PKPbc		03 21 29.8	+0.1
PZH	PanZhiHua	146.51	8	PKPbc		PKPdf		03 21 33.3	+1.1
GYA	Guiyang	146.94	0	‖PKPbc		PKPbc		03 21 35.5	+0.5
TNCH	TengChong	147.32	14	*e*PKPbc		PKPdf		03 21 35.0	+1.3
ASAR	Alice Springs	149.14	234	PKPbc		PKPbc		03 21 40.3	-0.5
	comp=Z,31nm,0.5s,baz=118,slow=3.6,SNR=112								
WRA	Warramunga Arr	150.37	241	PKPbc		PKPbc		03 21 43.5	-0.4
	comp=Z,29nm,0.4s,baz=108,slow=2.7,SNR=82								
CMAR	Chiang Mai Arr	153.69	17	PKP		PKPdf		03 21 43.3	-0.2
	comp=Z,3.9nm,0.8s,baz=307,slow=1.9,SNR=13								
CMAR				PKPbc		PKPbc		03 21 51.8	+0.4
	comp=Z,11nm,0.6s,baz=326,slow=3.4,SNR=28								
CMAR				PKPab		PKPab		03 22 02.3	-2.2
	comp=Z,2.7nm,0.6s,baz=326,slow=5.5,SNR=4.6								

IDC 31 03:33:36.4±2.9, 7.64S×129.71E, h0km, mb3.7/1, mbtmp3.7/3, ML4.0/2, Error ellipse: s-maj=272.5km s-min=32.5km az=68.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	13.03	160	Pn	Pn	03 36 42.6	-0.4
	1.0nm,0.3s,baz=340,slow=14,SNR=9.8						
WRA				Sn	Sn	03 39 02.8	-6.1
	1.4nm,0.3s,baz=335,slow=22,SNR=6.2						
	1.1nm,0.4s						
ASAR	Alice Springs	16.44	166	Pn	Pn	03 37 29.1	+0.4
	0.3nm,0.3s,baz=341,slow=10,SNR=7.5						
ASAR				Sn	Sn	03 40 25.6	-6.3
	0.3nm,0.3s,baz=326,slow=13,SNR=4.8						
	0.8nm,0.5s						
MKAR	Makanchi Array	68.60	327	P	P	03 44 41.3	0.0
	0.6nm,0.7s,baz=120,slow=8.0,SNR=5.1						
	0.6nm,0.7s						

IDC 31 03:57:37.2±9.0, 17.95S×174.98W, h0km, mb3.6/3, mbtmp3.6/3, Error ellipse: s-maj=395.1km s-min=39.0km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	47.83	259	P	P	04 06 16.2	-0.8
	0.3nm,0.5s,baz=96,slow=8.0,SNR=4.7						
	0.3nm,0.5s						
ASAR	Alice Springs	47.92	254	P	P	04 06 18.1	+0.4
	1.0nm,0.6s,baz=87,slow=8.1,SNR=10						
	1.0nm,0.6s						
ILAR	Eielson Array	85.23	12	P	P	04 10 15.2	0.0
	0.2nm,0.5s,baz=212,slow=5.2,SNR=5.1						
	0.2nm,0.5s						

WEL 31 04:19:15.4, 39°S±9.7°×17.6°E±1.1°, h150km±14km, M2.6/46, mB4.2/1, ML2.0/10, MLv2.6/46, Mw(mB)3.2/1, Error ellipse: s-maj=0.0km s-min=0.0km az=116.1, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RATZ	Rangitukua	0.22	209	P	Pn	04 19 35.7	-0.1
KATZ	Kakaramea	0.34	209	P	Pn	04 19 36.5	+0.2
MRHZ	Matea Rd	0.43	112	P	Pn	04 19 36.1	-0.4
TLZ	Tolley Road	0.45	320	P	Pn	04 19 35.4	-1.2
NTVZ	North Tongarir	0.46	203	P	Pn	04 19 37.2	+0.5
KRVZ	Karewarewa	0.47	206	P	Pn	04 19 37.1	+0.3
TMVZ	Te Maari	0.47	200	P	Pn	04 19 37.3	+0.6
ETVZ	East Tongariro	0.49	198	P	Pn	04 19 37.4	+0.6
WTVZ	West Tongariro	0.51	209	P	Pn	04 19 37.3	+0.4
NNVZ	North Ngauruho	0.51	207	P	Pn	04 19 37.5	+0.5
OTVZ	Oturere	0.53	201	P	Pn	04 19 37.6	+0.5
TWVZ	Taurewa	0.54	223	P	Pn	04 19 37.3	+0.2
SNVZ	South Ngauruho	0.55	202	P	Pn	04 19 37.6	+0.4
NGZ	Ngauruhoe	0.56	205	P	Pn	04 19 37.8	+0.6
COVZ	Chateau Observ	0.60	208	P	Pn	04 19 37.6	+0.2
TUVZ	Tukino	0.63	198	P	Pn	04 19 38.3	+0.6
FWVZ	Far West T-bar	0.64	205	P	Pn	04 19 38.3	+0.4
WHVZ	Whangaehu Hut	0.66	202	P	Pn	04 19 38.6	+0.6
BKZ	Black Stump Fm	0.67	137	P	Pn	04 19 38.1	+0.3
TRVZ	Turoa	0.69	204	P	Pn	04 19 38.7	+0.6
WNVZ	Wahianoa	0.70	200	P	Pn	04 19 38.7	+0.6
MOVZ	Moawhango	0.74	189	P	Pn	04 19 38.7	+0.4
MTHZ	Maungataniwha	0.75	104	P	Pn	04 19 38.2	-0.1
PKVZ	Pokaka	0.76	215	P	Pn	04 19 38.8	+0.4
MTVZ	Mangateitei	0.79	206	P	Pn	04 19 39.2	+0.6
NMHZ	Naumai	0.82	121	P	Pn	04 19 39.7	+0.9
BHHZ	Black Hill Sta	0.82	172	P	Pn	04 19 39.4	+0.6
HIZ	Hauiti	0.84	281	P	Pn	04 19 37.8	-1.1
RTZ	Ruatahuna	0.84	86	P	Pn	04 19 38.2	-0.8
KWHZ	Kaweka Forest	0.85	152	P	Pn	04 19 39.9	+0.9
RAHZ	Arahi	0.95	105	P	Pn	04 19 40.3	+0.5
MCHZ	McNeill Hill	0.98	142	P	Pn	04 19 41.5	+1.4
VRZ	Vera Road	1.00	243	P	Pn	04 19 40.1	0.0
URZ	Urewera	1.03	67	P	Pn	04 19 37.9	-2.5
RAGZ	Rawiri	1.19	82	P	Pn	04 19 41.0	-1.0
PNHZ	Pukenui	1.26	170	P	Pn	04 19 43.3	+0.8
WAZ	Wanganui	1.30	213	P	Pn	04 19 43.5	+0.6
MWZ	Matawai	1.31	76	P	Pn	04 19 40.9	-2.2
KAHZ	Kahuranaki	1.35	146	P	Pn	04 19 44.7	+1.3
TSZ	Takapari Road	1.38	178	P	Pn	04 19 44.6	+0.8
WPHZ	Waipukurau	1.45	164	P	Pn	04 19 45.3	+0.9
NEZ	North Egmont	1.53	247	P	Pn	04 19 45.6	+0.2
PXZ	Pawanui	1.54	152	P	Pn	04 19 46.3	+0.9
RUGZ	Raukumara Rang	1.56	64	P	Pn	04 19 40.9	-4.8
KHEZ	Kahui Hut	1.60	247	P	Pn	04 19 46.0	-0.1
MHGZ	Mahia Peninsul	1.63	108	P	Pn	04 19 46.4	0.0
DVHZ	Dannevirke	1.64	173	P	Pn	04 19 46.9	+0.4
MKAZ	Moumakai	1.68	339	P	Pn	04 19 43.0	-3.9
PRHZ	Porangahau	1.69	161	P	Pn	04 19 47.7	+0.8
TWGZ	Tauwhareparae	1.70	74	P	Pn	04 19 46.0	-1.2
POWZ	Post Office Ro	1.72	184	P	Pn	04 19 47.7	+0.4
HAZ	Te Kaha	1.74	59	P	Pn	04 19 42.9	-4.6
CNGZ	Carnagh Statio	1.81	85	P	Pn	04 19 47.4	-1.0
ANWZ	Angora Road	1.84	166	P	Pn	04 19 49.4	+0.8
PKGZ	Pakihiroa	1.88	66	P	Pn	04 19 46.6	-2.6
PRWZ	Pori Road	1.88	179	P	Pn	04 19 49.7	+0.6
MRZ	Mangatainoka R	2.00	187	P	Pn	04 19 50.4	-0.1
BFZ	Birch Farm	2.02	173	P	Pn	04 19 50.9	+0.2
TIWZ	Tintock	2.10	180	P	Pn	04 19 51.6	-0.1
WMGZ	Waiomatatini S	2.15	67	P	Pn	04 19 49.5	-2.8
OGWZ	Otaki Gorge	2.21	195	P	Pn	04 19 52.8	-0.2
HOWZ	Holdsworth Sta	2.24	188	P	Pn	04 19 52.9	-0.5
KIW	Kapiti Island	2.32	199	P	Pn	04 19 53.5	-0.8
TMWZ	Te Maipa	2.43	180	P	Pn	04 19 55.3	-0.4
MTW	Mount Morrison	2.50	187	P	Pn	04 19 55.6	-0.9
CAW	Cannon Point	2.52	195	P	Pn	04 19 55.9	-0.8
DUWZ	D'Urville Isla	2.62	215	P	Pn	04 19 56.6	-1.3
TRWZ	Traveller	2.73	183	P	Pn	04 19 58.5	-0.7
PAWZ	Paruwai Farm	2.73	188	P	Pn	04 19 58.3	-1.1
WEL	Wellington	2.75	198	P	Pn	04 19 58.4	-1.2
MSWZ	Moikau Station	2.79	190	P	Pn	04 19 58.8	-1.2
TCW	Tory Channel	2.83	206	P	Pn	04 19 59.3	-1.2
BHW	Baring Head	2.84	196	P	Pn	04 19 59.4	-1.4
PLWZ	Pallisei	2.94	190	P	Pn	04 20 00.5	-1.4
TUWZ	Tuamarina	3.14	208	P	Pn	04 20 02.8	-1.7
NNZ	Nelson	3.20	217	P	Pn	04 20 03.1	-2.1
TKNZ	Takaka Hill	3.27	223	P	Pn	04 20 03.6	-2.6
QRZ	Quartz Range	3.38	229	P	Pn	04 20 04.4	-3.1
BSWZ	Blackbirch Sta	3.41	206	P	Pn	04 20 06.4	-1.6
MRNZ	Matariki Terra	3.64	221	P	Pn	04 20 08.3	-2.6
THZ	Tophouse	3.85	216	P	Pn	04 20 11.0	-2.6
KHZ	Kahutara	4.15	205	P	Pn	04 20 15.5	-2.0
DSZ	Denniston Nort	4.39	224	P	Pn	04 20 17.1	-3.7
GVZ	Greta Valley S	4.81	206	P	Pn	04 20 23.6	-2.7
LTZ	Lake Taylor	4.95	213	P	Pn	04 20 24.6	-3.4
OKCZ	Okains Bay	5.48	202	P	Pn	04 20 32.2	-3.0
MQZ	McQueen's Vall	5.59	205	P	Pn	04 20 32.5	-4.1
MHCZ	Mount Hutt	5.86	213	P	Pn	04 20 36.6	-3.6
TMZ	Timaru	6.79	211	P	Pn	04 20 48.7	-3.8

*NOU **31** 04:31:10.4, 37.76S×178.34E, h152km, MLv3.8/9, Off E. Coast of N. Island, N.Z.*
*WEL **31** 04:31:17.7±0.9, 38.5S±8.6°×17.8E±1.1°, h58km±11km, M3.3/13, ML3.5/13, MLv3.3/13, Error ellipse: s-maj=0.0km s-min=0.0km az=176.6, confirmed*

ISC 31 04:31:15.8±1.7, 37.64S±0.05×177.65E±0.05, h92km±9km, n128, σ1°63/134, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HAZ	Te Kaha	0.16	140	P	Pn	04 31 28.3	-0.5
HAZ				S	Sn	04 31 37.0	-1.6
RUGZ	Raukumara Rang	0.33	177	P	Pn	04 31 29.3	-0.5
WIZ	White Island	0.38	286	P	Pn	04 31 28.9	-0.9
PKGZ	Pakihiroa	0.42	127	P	Pn	04 31 30.7	+0.5
MXZ	Matakaoa Point	0.53	82	P	Pn	04 31 31.3	+0.4
MXZ	Matakaoa Point	0.53	82	P	Pn	04 31 31.3	+0.4
MXZ				S	Sn	04 31 42.5	+0.4
WHRZ	Whale Island	0.58	248	P	Pn	04 31 31.5	+0.2
WHRZ				S	Sn	04 31 42.5	-0.5
TWGZ	Tauwhareparae	0.60	154	P	Pn	04 31 33.3	+1.7
WMGZ	Waiomatatini S	0.63	107	P	Pn	04 31 33.0	+1.2
WMGZ				S	Sn	04 31 45.5	+1.8
PUZ	Puketiti	0.65	132	P	Pn	04 31 33.0	+1.1
PUZ				S	Sn	04 31 45.3	+1.

WAZ	**Wanganui**	**2.97 224**	P	**Pn**	**04 32 03.0**	**+2.0**
POWZ	**Post Office Ro**	**3.12 207**	P	**Pn**	**04 32 00.1**	**-2.8**
LREZ	**Lake Rotokare**	**3.13 233**	P	**Pn**	**04 32 05.9**	**+2.8**
OHWZ	**Ohakea**	**3.15 215**	P	Pn	04 31 54.9	-8.4
PRWZ	**Pori Road**	**3.19 204**	P	**Pn**	**04 32 03.6**	**-0.3**
BFZ	**Birch Farm**	**3.23 199**	P	**Pn**	**04 32 03.4**	**-1.0**
NEZ	**North Egmont**	**3.23 239**	P	**Pn**	**04 32 08.6**	**+4.0**
PKE	**Pukeiti**	**3.27 240**	P	**Pn**	**04 32 08.3**	**+3.3**
KHEZ	**Kahui Hut**	**3.30 239**	P	**Pn**	**04 32 08.2**	**+2.8**
KHEZ	**Kahui Hut**	**3.30 239**	P	**Pn**	**04 32 08.8**	**+3.3**
NBEZ	**Newall Road No**	**3.39 240**	P	**Pn**	**04 32 06.6**	**0.0**
TIWZ	**Tintock**	**3.42 203**	P	**Pn**	**04 32 06.2**	**-0.8**
MRZ	**Mangatainoka R**	**3.42 207**	P	**Pn**	**04 32 06.1**	**-1.0**
CPWZ	**Castlepoint**	**3.46 199**	P	**Pn**	**04 32 07.4**	**-0.1**
HOWZ	**Holdsworth Sta**	**3.66 206**	P	**Pn**	**04 32 08.6**	**-1.6**
OGWZ	**Otaki Gorge**	**3.72 210**	P	**Pn**	**04 32 10.1**	**-0.8**
TMWZ	**Te Maipa**	**3.73 201**	P	**Pn**	**04 32 09.6**	**-1.5**
KIW	**Kapiti Island**	**3.86 213**	P	**Pn**	**04 32 11.8**	**-1.1**
MTW	**Mount Morrison**	**3.89 205**	P	**Pn**	**04 32 11.4**	**-1.9**
CAW	**Cannon Point**	**4.00 209**	P	**Pn**	**04 32 13.3**	**-1.5**
TRWZ	**Traveller**	**4.05 201**	P	**Pn**	**04 32 13.7**	**-1.9**
OUZ	**Omahuta**	**4.06 305**	P	**Pn**	**04 32 18.7**	**+3.0**
PAWZ	**Paruwai Farm**	**4.12 204**	P	**Pn**	**04 32 14.3**	**-2.1**
MSWZ	**Moikau Station**	**4.21 205**	P	**Pn**	**04 32 15.5**	**-2.1**
DUWZ	**D'Urville Isla**	**4.29 221**	P	**Pn**	**04 32 17.5**	**-1.2**
BHW	**Baring Head**	**4.34 209**	P	**Pn**	**04 32 17.3**	**-2.0**
PLWZ	**Palliser**	**4.34 204**	P	**Pn**	**04 32 17.0**	**-2.5**
TCW	**Tory Channel**	**4.42 215**	P	**Pn**	**04 32 18.8**	**-1.7**
TUWZ	**Tuamarina**	**4.75 216**	P	**Pn**	**04 32 22.9**	**-2.0**
TKNZ	**Takaka Hill**	**4.97 226**	P	**Pn**	**04 32 26.7**	**-1.3**
BSWZ	**Blackbirch Sta**	**5.01 214**	P	**Pn**	**04 32 26.6**	**-1.8**
QRZ	**Quartz Range**	**5.10 230**	P	**Pn**	**04 32 28.5**	**-1.2**
QRZ	**Quartz Range**	**5.10 230**	P	**Pn**	**04 32 28.8**	**-0.9**
MRNZ	**Matariki Terra**	**5.33 224**	P	**Pn**	**04 32 31.1**	**-1.8**
KHZ	**Kahutara**	**5.72 212**	P	**Pn**	**04 32 35.5**	**-2.7**
RPZ	**Rata Peaks**	**7.87 217**	P	**Pn**	**04 33 05.5**	**-2.0**
ODZ	**Otahua Downs**	**9.08 213**	P	**Pn**	**04 33 21.1**	**-2.8**

IDC 31 04:54:55.0±12.0, **20.76S**×**179.85W**, **h682**km±132km, **mb2.7**/4, **mbtmp3.8**/4, **Error ellipse: s-maj=115.9km s-min=50.8km az=122.0, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**42.77**	**257**	P	P	05 01 56.8	+0.2
	0.6nm,0.6s,baz=99,slow=7.3,SNR=4.3 0.6nm,0.6s						
WRA	**Warramunga Arr**	**42.85**	**263**	P	P	05 01 57.1	-0.1
	0.2nm,0.3s,baz=96,slow=7.8,SNR=8.9 0.2nm,0.3s						
MJAR	**Matsushiro Arr**	**69.41**	**325**	P	P	05 04 57.3	-0.3
	0.9nm,0.3s,baz=134,slow=6.9,SNR=1.7 0.9nm,0.3s						
ILAR	**Eielson Array**	**88.96**	**13**	P	P	05 06 39.1	-0.1
	0.3nm,0.5s,baz=218,slow=5.6,SNR=5.0 0.3nm,0.5s						
ARCES	**ARCESS Array B**	**128.85**	**349**	PKP	PKPdf	05 12 46.5	-0.2
	1.7nm,0.9s,baz=64,slow=2.1,SNR=4.0						
AKASG	**Malin Array Be**	**142.38**	**330**	PKP	PKPdf	05 13 09.9	-2.3
	1.2nm,0.5s,baz=44,slow=4.2,SNR=9.6						
EKA	**Eskdalemuir Ar**	**145.39**	**3**	PKPbc	PKPbc	05 13 18.7	-0.1
	0.9nm,0.7s,baz=329,slow=2.9,SNR=4.6						
BRTR	**Keskin Array B**	**145.72**	**311**	PKPbc	PKPbc	05 13 20.6	+0.1
	0.5nm,0.7s,baz=64,slow=2.9,SNR=3.6						

*IDC **31** 05:00:40.8±1.3, 45°.29N×124°.73E, h0km, mb3.9/2, mbtmp3.4/6, ML3.3/3, MS3.1/7, Error ellipse: s-maj=20.5km s-min=14.5km az=16.0*
*KEA **31** 05:00:45.3, 44°.77N×124°.91E, h3km, ML3.9/4*
ISC 31 05:00:42.6±1.4, **45°.02N**±0°.07×**124°.70E**±0°.07, **h10**km, **n19, s29/02/18, MS3.3/5, Northeastern China**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KGE	**Kanggye**	**4.31**	**160**	**Pg**	**Pg**	**05 02 03.0**	**-2.2**
KGE				Sg	**Sg**	**05 03 00.7**	**-0.3**
KGE				AML	AML		
	comp=N,173nm,0.8s						
KGE				AML	AML		
	comp=E,265nm,0.8s						
KGE				AML	AML		
	comp=Z,112nm,0.6s						
CHJN	**Chongjin**	**4.92**	**129**	Sg	**Sg**	**05 03 19.2**	**-1.2**
SUJ	**Sinuiju**	**4.92**	**182**	Pn	**Pn**	**05 01 56.9**	**+0.3**
SUJ				Pg	**Pg**	**05 02 14.4**	**-2.5**
SUJ				Sg	**Sg**	**05 03 21.3**	**+0.7**
SUJ				AML	AML		
	comp=N,144nm,0.7s						
SUJ				AML	AML		
	comp=E,166nm,0.8s						
SUJ				AML	AML		
	comp=Z,126nm,0.7s						
USRK	**Ussuriysk Ar.**	**5.27**	**96**	Pn	**Pn**	**05 02 00.8**	**-0.6**
	comp=Z,1.2nm,0.3s,baz=44,slow=55,SNR=4.5						
USRK				Pg	**Pb**	**05 02 17.8**	**+3.0**
	comp=Z,2.1nm,0.3s,baz=290,slow=16,SNR=14						
USRK				Lg	Lg	05 03 28.0	
	comp=Z,3.6nm,0.3s,baz=284,slow=27,SNR=4.4 comp=Z,1.4nm,0.3s						
HHU	**Hamhung**	**5.51**	**157**	Sg	**Sg**	**05 03 39.4**	**0.0**
PYS	**Pyongsong**	**5.83**	**171**	Pn	**Pn**	**05 02 10.0**	**+0.8**
PYS				Pg	**Pg**	**05 02 31.7**	**-2.6**
PYS				Sg	**Sg**	**05 03 50.6**	**+0.8**
PYS				AML	AML		
	comp=N,222nm,0.7s						
PYS				AML	AML		
	comp=E,467nm,1.0s						
PYS				AML	AML		
	comp=Z,91nm,0.7s						
PYAG	**Pyongyang**	**6.02**	**172**	Sg	**Sg**	**05 03 57.1**	**+1.2**
KLR	**Kul'dur**	**6.39**	**46**	Pn	Pn	05 02 13.2	-3.5
	comp=Z,0.3nm,0.3s,baz=231,slow=13,SNR=3.3						
KLR				Pg	Pb	05 02 32.7	-1.2
	comp=Z,1.3nm,0.3s,baz=239,slow=17,SNR=4.8						
KLR				Lg	Lg	05 03 55.9	
	comp=Z,14nm,0.3s,baz=3.2,slow=13,SNR=10						
KLR				LR	LR	05 05 03.3	
	comp=Z,55nm,18.7s,baz=202,slow=42 comp=Z,0.9nm,0.3s						
HJU	**Haeju**	**7.02**	**173**	Pg	**Pg**	**05 02 54.7**	**-2.2**
HJU				Sg	**Sg**	**05 04 29.9**	**+2.1**
HJU				AML	AML		
	comp=N,84nm,0.8s						
HJU				AML	AML		
	comp=E,106nm,0.8s						
HJU				AML	AML		
	comp=Z,70nm,0.9s						
KSRS	**Korea Array**	**7.94**	**161**	Pn	**Pn**	**05 02 40.5**	**+2.4**
	comp=Z,0.4nm,0.4s,baz=348,slow=13,SNR=1.6						
KSRS				Pg	**Pg**	**05 03 10.9**	**-3.7**
	comp=Z,1.2nm,0.3s,baz=346,slow=18,SNR=19						
KSRS				Lg	Lg	05 04 59.8	
	comp=Z,0.9nm,0.3s,baz=341,slow=29,SNR=5.1						
JNU	**Nakatsue**	**12.81**	**156**	LR	LR	05 08 30.3	
	comp=Z,36nm,18.3s,baz=349,slow=36						
SONM	**Songino Array**	**12.94**	**289**	Pn	Pn	05 03 44.4	-2.1
	comp=Z,0.3nm,0.3s,baz=88,slow=18,SNR=2.4						
SONM				Sn	**Sn**	**05 06 09.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=92,slow=25,SNR=1.7						
SONM				Lg	Lg	05 07 27.4	
	comp=Z,0.6nm,0.3s,baz=95,slow=26,SNR=5.1 comp=Z,0.1nm,0.3s						
TIXI	**Tiksi**	**26.78**	**3**	LR	LR	05 18 10.6	
	comp=Z,75nm,18.2s,baz=203,slow=40						
KURBB	**Kurchatov Arra**	**31.09**	**297**	P	P	05 06 58.8	-2.1
	comp=Z,0.6nm,0.6s,baz=83,slow=9.7,SNR=5.7 comp=Z,0.6nm,0.6s						
INK	**Inuvik**	**53.08**	**27**	LR	LR	05 34 13.9	
	comp=Z,33nm,18.9s,baz=224,slow=38						
FINES	**FINESS Array B**	**55.44**	**325**	P	P	05 10 16.7	-0.2
	comp=Z,1.5nm,0.7s,baz=70,slow=9.0,SNR=3.5 comp=Z,1.5nm,0.7s						
KBZ	**Khabaz**	**56.02**	**300**	LR	LR	05 36 10.7	
	comp=Z,14nm,19.5s,baz=204,slow=38						
FRB	**Frobisher Bay**	**71.07**	**6**	LR	LR	05 43 47.2	
	comp=Z,16nm,18.9s,baz=214,slow=36						
DAVOX	**Davos/Dischmat**	**72.09**	**319**	LR	LR	05 46 04.5	
	comp=Z,31nm,18.4s,baz=82,slow=38						

*NEIC **31** 05:01:19.3±1.1, 19°.42N±0°.01×155°.277W±0°.008, h5km±1km, Error ellipse: s-maj=1.7km s-min=0.8km az=202.0*

HVO 31 05:01:19.1±0.9, **19°.412N**±0°.010×**155°.279W**±0°.008, **h1**km±2km, **ML2.7**/23, **ML2.1**/34(NEIC), **Error ellipse: s-maj=1.5km s-min=1.1km az=169.0, Hawaiian Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBL	**Observatory Le**	**0.01**	**317**		Pg	05 01 19.6	0.0
UWB	**Uwekahuna B**	**0.01**	**3**		Pg	05 01 19.7	+0.1
UWE	**Uwekahuna**	**0.02**	**303**		Pg	05 01 19.7	+0.1
RIM	**Rim**	**0.02**	**165**		Pg	05 01 19.9	+0.3
BYL	**Byron's Ledge**	**0.02**	**91**		Pg	05 01 19.8	+0.2
SBLHI	**Steaming Bluff**	**0.02**	**34**		Pg	05 01 19.9	+0.3
KKO	**Keanakako`i**	**0.02**	**140**		Pg	05 01 20.0	+0.4
HATHI	**Halema'uma'u T**	**0.02**	**57**		Pg	05 01 20.0	+0.3
RSD	**Rainshed**	**0.05**	**1**		Pg	05 01 20.7	+0.5
RSD				IAML		05 01 21.0	
	comp=E,2μm,0.3s						
RSD				IAML		05 01 21.0	
	comp=N,2μm,0.4s						
PUH	**Pauahi**	**0.07**	**123**		Pg	05 01 21.3	+0.8
PUH				IAML		05 01 22.5	
	comp=E,758nm,0.8s						
KNHH	**Kane Nui o Ham**	**0.11**	**107**		Pg	05 01 22.0	+0.8
HLP	**Hilina Pali**	**0.12**	**193**		Pg	05 01 22.2	+0.9
HLP				IAML		05 01 24.9	
	comp=E,847nm,0.4s						
MLH	**Mauna Loa**	**0.13**	**309**		Pg	05 01 22.5	+0.8
STCH	**Steam Cracks**	**0.15**	**100**		Pg	05 01 22.5	+0.6
STCH				IAML		05 01 25.7	
	comp=N,694nm,0.7s						
STCH				IAML		05 01 26.2	
	comp=E,680nm,0.6s						
JOKA	**Jonika Flow**	**0.26**	**85**		Pg	05 01 24.3	+0.2
JOKA				IAML		05 01 29.0	
	comp=N,280nm,1.5s						
HMH	**Humu'ula Sheep**	**0.27**	**315**		Pg	05 01 25.2	+0.9
HMH				IAML		05 01 32.4	
	comp=N,452nm,0.5s						
HMH				IAML		05 01 32.6	
	comp=E,390nm,0.8s						
MLOA	**Mauna Loa Obse**	**0.31**	**294**		Pg	05 01 25.5	+0.5
MLOA				IAML		05 01 30.7	
	comp=N,331nm,1.3s						
MLOA				IAML		05 01 33.5	
	comp=E,334nm,0.5s						
MWH	**Moku'aweowe**	**0.31**	**284**		Pg	05 01 25.9	+0.8
KHU	**Kahuku**	**0.36**	**243**		Pg	05 01 26.2	+0.2
KHU				IAML		05 01 29.4	
	comp=E,240nm,2.6s						
KHU				IAML		05 01 34.9	
	comp=N,258nm,2.2s						
ALEP	**Alea Permanent**	**0.37**	**290**		Pg	05 01 26.4	+0.2
POHA	**Pohakuloa**	**0.42**	**325**		Pg	05 01 27.5	+0.3
POHA				IAML		05 01 37.5	
	comp=N,130nm,0.9s						
POHA				IAML		05 01 41.9	
	comp=N,261nm,1.1s						
HUH	**Hualalai**	**0.59**	**297**		Pg	05 01 30.9	+0.5
HPAH	**Hawaii Prepara**	**0.73**	**327**	Pg	Pg	05 01 31.7	-1.4

IDC 31 05:08:43.0±4.9, **53.61N**×**89.96E**, **h0**km, **mbtmp2.9**/3, **ML2.4**/3, **Error ellipse: s-maj=51.1km s-min=26.9km az=48.0, Southwestern Siberia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I46RU	**ZALESOVO INFRA**	**3.07**	**278**	I	I	05 27 40.0	
	0.1nm,0.7s,baz=90,slow=332,SNR=4.7						
ZALV	**Zalesovo Beam**	**3.07**	**278**	Pn	Pn	05 09 34.0	+1.2
	0.7nm,0.3s,baz=91,slow=10,SNR=6.0						
ZALV				Lg	Lg	05 10 18.9	
	1.8nm,0.3s,baz=94,slow=27,SNR=6.1 1.6nm,0.3s						
KURBB	**Kurchatov Arra**	**7.64**	**252**	Pn	Pn	05 10 36.5	+1.0
	0.1nm,0.3s,baz=65,slow=14,SNR=4.2 0.4nm,0.3s						
MKAR	**Makanchi Array**	**8.41**	**219**	Pn	Pn	05 10 45.8	-0.3
	0.2nm,0.3s,baz=34,slow=13,SNR=1.4 0.2nm,0.3s						

*BUL **31** 05:08:45.0±3.6, 26°.24S×29°.54E, h10km±115km*
PRE 31 05:09:10.8±1.1, **26°.97S**×**26°.63E**, **h2**km, **ML1.9, South Africa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNKL	**Senekal, Frees**	**1.65**	**142**	*e*P	Pg	05 09 42.3	-0.1
SNKL				*e*S	Sb	05 10 03.6	+0.2
SNKL				IAML		05 10 07.6	
	comp=Z,24nm,0.4s						
BOSA	**Boshof**	**2.04**	**216**	*i* P	Pb	05 09 49.1	+0.5
LBTB	**Lobatse**	**2.16**	**334**	*i* P	Pn	05 09 43.0	-4.9
LBTB				*i* S	Sb	05 10 18.2	+0.3
LBTB	**Lobatse**	**2.16**	**334**	*e*P	Pn	05 09 49.1	+1.2
LBTB				*e*S	Sn	05 10 16.1	+0.9
LBTB				IAML		05 10 18.7	
	comp=Z,31nm,0.5s						
LEPH	**Lephalale, Lim**	**3.27**	**19**	*e*P	Pn	05 10 03.1	-0.1
LEPH				*e*S	Sn	05 10 42.1	-0.7
LEPH				IAML		05 10 54.1	
	comp=Z,4.4nm,0.3s						
UPI	**Upington**	**4.96**	**253**	*e*P	Pn	05 10 26.6	+0.1
UPI				*e*S	Sn	05 11 23.2	-1.3
UPI				IAML		05 11 50.5	
	comp=Z,2.2nm,0.4s						
BFON	**Badsfontein, M**	**5.45**	**207**	*e*P	Pn	05 10 33.9	+0.7
BFON				*e*S	Sn	05 11 34.2	-2.4
BFON				IAML		05 12 13.2	
	comp=Z,2.4nm,0.6s						
GRAF	**Camdeboo Natio**	**5.61**	**199**	*e*P	Pn	05 10 36.6	+1.3
GRAF				*e*S	Sn	05 11 38.9	-1.5
GRAF				IAML		05 12 13.3	
	comp=Z,2.3nm,0.7s						
BRAK	**Brakfontein**	**5.80**	**213**	*e*P	Pn	05 10 39.0	+1.1
BRAK				*e*S	Sn	05 11 43.7	-1.3
BRAK				IAML		05 12 29.1	
	comp=Z,1.4nm,0.9s						
GRAN	**Grantham**	**6.58**	**215**	*e*P	Pn	05 10 50.1	+1.5
GRAN				*e*S	Sn	05 12 01.1	-3.1
GRAN				IAML		05 12 45.3	
	comp=Z,1.4nm,0.6s						
FRAZ	**Fraserburg**	**6.72**	**221**	*e*P	Pn	05 10 52.4	+1.7
FRAZ				*e*S	Sn	05 12 04.6	-3.2
FRAZ				IAML		05 12 45.4	
	comp=Z,1.0nm,0.9s						
SUR	**Sutherland**	**7.39**	**222**	*e*P	Pn	05 11 01.6	+1.6
SUR				*e*S	Sn	05 12 21.6	-3.0
SUR				IAML		05 13 04.6	
	comp=Z,1.9nm,0.8s						

*NNC **31** 05:42:42.6±6.6, 46°.78N×79°.46E, h0km, mb2.4, mpv2.0, Error ellipse: s-maj=73.1km s-min=19.8km az=58.0, Suspected Mining explosion.*
*ASRS **31** 05:42:49.0±0.7, 47°.N±3°×8°.0E±°, h5km, MLh3.0/3, Error ellipse: s-maj=8.1km s-min=4.1km az=52.8, confirmed*
ISC 31 05:42:47.8±1.8, **47°.14N**±0°.08×**80°.02E**±0°.09, **h10**km, **n9, s18/82/11, 3C-1D, Eastern Kazakhstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKZ	**Makanchi**	**1.39**	**103**	Pg	**Pn**	**05 43 12.7**	**-0.4**
MAKZ				Sg	**Sg**	**05 43 33.8**	**+1.5**
MK31	**Makanchi Array**	**1.60**	**102**	⇑Pn	**Pb**	**05 43 17.3**	**-0.1**
	0.4nm,0.3s,baz=265,slow=15,SNR=31						
MK31				⇑Sn	**Sg**	**05 43 41.7**	**+2.6**
	0.2nm,0.2s,baz=269,slow=24,SNR=3.6						
MKAR	**Makanchi Array**	**1.60**	**102**	Pg	**Pb**	**05 43 17.2**	**-0.1**
MKAR				Sg	**Sg**	**05 43 40.3**	**+1.2**
KURBB	**Kurchatov Arra**	**3.62**	**345**	⇓Lg	Lg	05 44 46.2	
	12nm,1.0s						
KURK	**Kurchatov**	**3.69**	**346**	⇑Lg	Lg	05 44 47.7	
	8.9nm,0.9s						
KURK	**Kurchatov**	**3.69**	**346**	Pg	**Pg**	**05 43 57.1**	**-1.4**
KURK				Sg	**Sg**	**05 44 49.4**	**+3.1**
UKR	**Ust'-Kan**	**4.92**	**38**	Sg	**Sg**	**05 45 26.3**	**+0.6**
DGZ	**Jazzator, Alta**	**5.56**	**60**	Sg	**Sg**	**05 45 45.1**	**-1.1**
ELDR	**Elanda**	**5.70**	**42**	Sg	**Sg**	**05 45 52.3**	**+1.7**

*NEIC **31** 05:50:24.7±1.7, 37°.37N±0°.02×114°.949W±0°.009, h5km±1km, Error ellipse: s-maj=3.0km s-min=2.3km az=341.0*

REN 31 05:50:24.7±1.2, **37°.35N**±0°.02×**114°.95W**±0°.01, **h3**km±3km, **ML2.5**/13, **ML2.1**/38(NEIC), **Error ellipse: s-maj=2.5km s-min=1.7km az=175.0, Southern Nevada**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRN	**Pahroc Range**	**0.10**	**306**	Pg	Pg	05 50 27.3	+0.4
PRN				Sg	Sg	05 50 29.2	+0.9
S11A	**Rachel**	**0.70**	**295**	Pg	Pg	05 50 38.2	-0.1
S11A				IAML		05 50 48.8	
	comp=N,86nm,0.4s						
S11A				IAML		05 50 55.1	
	comp=E,88nm,0.7s						
ICU	**Indian Springs**	**0.84**	**103**		Pg	05 50 40.6	-0.3
ICU					Sg	05 50 52.7	+1.0
SHPR	**Sheep Range**	**0.86**	**192**		Pg	05 50 39.9	-1.2
CPY	**CP-1**	**0.98**	**245**		Pb	05 50 44.4	0.0
R11B	**Troy Canyon, C**	**1.12**	**333**		Pg	05 50 46.2	-0.1
R11B				IAML		05 51 06.2	
	comp=N,56nm,0.6s						
R11B				IAML		05 51 06.7	
	comp=E,46nm,0.7s						
WTNK	**Soaring Height**	**1.15**	**183**		Pg	05 50 46.1	-0.7
NSP	**Numbskull Pass**	**1.19**	**239**		Pg	05 50 47.2	-0.3
ARUT	**Antelope Range**	**1.27**	**69**		Pg	05 50 49.3	+0.1
CCUT	**Cedar City**	**1.28**	**80**		Pg	05 50 49.2	0.0
AMDNV	**Amargosa**	**1.39**	**231**		Pn	05 50 50.6	-0.4
LCMT	**Little Creek M**	**1.40**	**103**		Pn	05 50 50.8	-0.5
LCMT				IAML		05 51 11.4	
	comp=N,35nm,0.3s						
LCMT				IAML		05 51 12.4	
	comp=E,33nm,0.2s						
WCT	**Wildcat Mounta**	**1.45**	**248**		Pn	05 50 51.9	-0.1
WCT				IAML		05 51 11.4	
	comp=E,28nm,0.9s						
V12A	**Nelson**	**1.62**	**177**		Pn	05 50 53.6	-0.6
V12A				IAML		05 51 16.8	
	comp=E,22nm,1.1s						
V12A				IAML		05 51 17.9	
	comp=N,20nm,1.0s						
SGV	**South Grapevin**	**1.71**	**258**		Pn	05 50 55.0	-0.5
SPR3	**Spring Creek 3**	**1.72**	**16**		Pn	05 50 55.2	-0.6
SPR3				IAML		05 51 24.2	
	comp=E,20nm,0.5s						
SPR3				IAML		05 51 27.7	
	comp=N,18nm,0.8s						
KNB	**Kanab**	**1.73**	**100**		Pn	05 50 55.9	+0.1
KNB				IAML		05 51 25.4	
	comp=N,21nm,0.6s						
GWY	**Greenwater Val**	**1.80**	**231**		Pb	05 50 57.8	-0.7
GWY				IAML		05 51 27.3	
	comp=N,24nm,0.5s						
GWY				IAML		05 51 31.7	
	comp=E,25nm,0.7s						
GMN	**Gold Mountain**	**1.84**	**269**		Pn	05 50 56.5	-1.0
GMN				IAML		05 51 29.7	
	comp=N,22nm,0.9s						
TPH	**Tonopah**	**1.95**	**293**		Pn	05 50 58.1	-0.7
MZP	**Montezuma Peak**	**1.97**	**281**		Pn	05 50 58.9	-0.4
MZP				IAML		05 51 28.5	
	comp=N,17nm,0.7s						
MZP				IAML		05 51 31.0	
	comp=E,17nm,0.4s						
MVU	**Marysvale**	**2.45**	**61**	Pn	Pn	05 51 05.6	-0.2
NV08	**Mina Array Sit**	**2.87**	**293**		Pn	05 51 11.6	0.0
HMU	**Henry Mountain**	**3.39**	**79**	Pn	Pn	05 51 18.6	-0.1

*DJA **31** 06:08:25.6±0.3, 9°.S±3°×11°.9E±°, h87km±7km, M4.5/17, mb4.6/7, mB5.2/2, MLv4.5/17, Mw(mB)4.6/2*
*IDC **31** 06:08:26.1±4.2, 9°.06S×119°.12E, h103km±34km, mb3.6/5, mbtmp4.0/8, Error ellipse: s-maj=50.0km s-min=9.3km az=55.0*
ISC 31 06:08:25.1±0.8, **9°.17S**±0°.06×**119°.08E**±0°.04, **h102**km, **n26, s19/90/32, mb3.9/4, Sumba region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLAI	**Plampang**	**1.33**	**284**	P	**Pn**	**06 08 49.2**	**-0.3**
PLAI				S	**Sn**	**06 09 06.7**	**-1.2**
BASI	**Baing, Sumba**	**1.81**	**126**	P	**Pn**	**06 08 55.8**	**+0.5**
TWSI	**Taliwang, Sumb**	**2.22**	**281**	P	**Pn**	**06 09 01.3**	**+0.8**
TWSI				S	**Sn**	**06 09 27.6**	**-0.1**
EDFI	**Ende, Flores**	**2.61**	**81**	P	**Pn**	**06 09 06.5**	**+0.7**
EDFI				S	**Sn**	**06 09 36.2**	**-0.9**
MMRI	**Maumere**	**3.16**	**81**	P	**Pn**	**06 09 14.8**	**+1.7**
MMRI				S	**Sn**	**06 09 51.2**	**+1.1**
DNP	**Denpasar**	**3.86**	**277**	P	**Pn**	**06 09 22.2**	**-0.2**
BKSI	**Bulukumba**	**3.96**	**15**	P	**Pn**	**06 09 25.0**	**+1.3**
BKSI				S	**Sn**	**06 10 07.8**	**-1.4**
SRBI	**Singaraja**	**3.98**	**285**	P	**Pn**	**06 09 23.2**	**-0.8**
KAPI	**Kappang**	**4.18**	**9**	P	**Pn**	**06 09 28.1**	**+1.4**
	27nm,0.4s,baz=199,slow=7.2,SNR=39						
KAPI				S	**Sn**	**06 10 13.7**	**-0.8**
	90nm,0.3s,baz=74,slow=6.2,SNR=7.1						
BATI	**Baumata**	**4.63**	**103**	P	**Pn**	**06 09 34.3**	**+1.4**
	70nm,0.4s,baz=271,slow=3.7,SNR=16						
BATI				S	**Sn**	**06 10 25.1**	**-0.5**
	96nm,0.4s,baz=276,slow=8.3,SNR=10.0						
BATI	**Baumata**	**4.63**	**103**	P	**Pn**	**06 09 32.9**	**0.0**
JAGI	**Jajag, Banyuwa**	**4.92**	**278**	P	**Pn**	**06 09 35.7**	**-1.1**
BBSI	**Bau Bau**	**5.03**	**44**	P	**Pn**	**06 09 38.8**	**+0.5**
	131nm,0.9s,0.4nm						
SOEI	**Soe**	**5.15**	**97**	P	**Pn**	**06 09 38.9**	**-1.1**
	68nm,0.6s,0.8nm						
BLJI	**Banyuglugur**	**5.61**	**284**	P	**Pn**	**06 09 46.5**	**+0.4**
	55nm,0.7s,5μm1.0nm						
PWJI	**Pagerwojo**	**7.29**	**278**	P	**Pn**	**06 10 09.4**	**+0.5**
	20nm,1.6s,0.2nm						
UGM	**Wanagama**	**8.56**	**278**	P	**Pn**	**06 10 27.1**	**+0.8**
WRA	**Warramunga Arr**	**18.23**	**128**	P	**P**	**06 12 31.3**	**+0.8**
	1.9nm,1.0s,baz=299,slow=14,SNR=10						
WRA				S	**S**	**06 15 45.9**	**-8.0**
	1.4nm,0.8s,baz=310,slow=24,SNR=5.9						
ASAR	**Alice Springs**	**20.22**	**137**	P	**P**	**06 12 54.0**	**+1.8**
	1.6nm,0.5s,baz=314,slow=10,SNR=22						

comp=Z,79nm,21.1s,baz=185,slow=30
WRA Warramunga Arr 32.87 266 P **P** **07 26 12.5 -0.1**
0.4nm,0.7s,baz=98,slow=8.6,SNR=1.6
0.4nm,0.7s
ASAR Alice Springs 32.90 259 P **P** **07 26 13.1 +0.1**
0.8nm,0.7s,baz=79,slow=9.3,SNR=7.5
0.8nm,0.7s
QSPA South Pole Qui 68.83 180 P **P** **07 30 43.1 +0.5**
2.6nm,0.9s,baz=9.5,slow=6.1,SNR=8.0
2.6nm,0.9s
SNAA Sanae 87.19 182 LR LR 08 08 23.8
comp=Z,24nm,20.5s,baz=154,slow=34
NVAR Mina Array Bea 89.96 48 P **P** **07 32 38.7 +0.7**
0.6nm,0.7s,baz=226,slow=7.3,SNR=4.7
0.6nm,0.7s
ARCES ARCESS Array B 127.04 345 PKP **PKPdf** **07 38 40.9 -0.7**
5.9nm,1.1s,baz=62,slow=2.1,SNR=4.5
EKA Eskdalemuir Ar 145.50 353 PKPbc **PKPdf** **07 39 15.4 -0.6**
1.3nm,0.4s,baz=360,slow=2.5,SNR=15
GERES GERESS Array B 146.33 331 PKPbc **PKPab** **07 39 19.2 -0.6**
0.9nm,0.7s,baz=30,slow=3.5,SNR=4.5

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*BJI **31** 07:27:55.5±0.0,45˚.40N×150˚.14E,h105km,mb4.6/31, mB4.7/11*
*NIED **31** 07:27:55.8,45˚.50N×150˚.07E,h30km,MW4.1,Moment Tensor Solution. s3 Moment tensor: Scale 10¹⁵Nm; Mrr0.95; Mθθ-0.78; Mφφ-0.17; Mrθ-0.68; Mθφ-0.20; Mφr-1.36; Fault plane solution: M0 1.73000×10¹⁵ NP1: φs215.00000°,δ76.00000°,λ77.00000°. NP2:φs81.00000°, δ19.00000°,λ134.00000°.*
*JMA **31** 07:27:57.9±0.6,45˚.7N×149˚.5×15˚0E±˚,h102km,MV3.8/14, KURILE ISLANDS REGION*
*NEIC **31** 07:27:57.4±1.6,45˚.2N±0˚.1×150˚.0E±0˚.1,h95km±10km, mb4.5/44,Error ellipse: s-maj=21.3km s-min=12.0km az=150.0*
*MOS **31** 07:27:57.2±0.9,45˚.43N×149˚.93E,h102km,mb4.5/20, Error ellipse: s-maj=7.6km s-min=7.0km az=85.4*
*SKHL **31** 07:27:58.2±0.5,45˚.30N×149˚.90E,h109km±7km,mb5.2/4, msha5.9/4*
*IDC **31** 07:27:59.4±2.3,45˚.62N×149˚.72E,h102km±19km, mb3.8/25,mbtmp4.1/31,MS2.9/10,Error ellipse: s-maj=16.1km s-min=11.5km az=154.0*
ISC 31 07:27:57.9±0.4,45˚.31N±0˚.05×150˚.02E±0˚.05,h100km, n420,σ1§35/437,mb4.5/88,7C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.52**	**268**	*i* P		**Pn**	**07 28 23.6**	**-0.8**
KUR					AMB	AMB	07 28 24.3	
	4μm,0.5s							
KUR				*e*S		**Sn**	**07 28 43.1**	**-1.3**
KUR					A	A	07 28 44.2	
	10μm,0.6s							
KUR					A	A	07 28 44.2	
	17μm,0.6s							
KUR	**Kuril'sk**	**1.52**	**268**	*i* PN		**Pn**	**07 28 23.7**	**-0.7**
SHO	**Shikotan**	**2.69**	**239**	*i* P		**Pn**	**07 28 38.4**	**-1.1**
SHO					AMB	AMB	07 28 41.2	
	60nm,0.4s							
SHO				*i* S		**Sn**	**07 29 08.3**	**-3.2**
SHO					A	A	07 29 09.9	
	340nm,0.3s							
SHO					A	A	07 29 09.9	
	360nm,0.3s							
SHO	**Shikotan**	**2.69**	**239**	⇑*i* PN		**Pn**	**07 28 38.6**	**-0.9**
SHO				*i* S		**Sn**	**07 29 08.3**	**-3.2**
SHO					pmax	pmax		
	comp=N,29nm,0.3s							
SHO					pmax	pmax		
	comp=E,24nm,0.3s							
SHO					pmax	pmax		
	comp=Z,44nm,0.3s							
SHO					smax	smax		
	comp=N,294nm,0.4s							
SHO					smax	smax		
	comp=E,313nm,0.4s							
YUK	**Yuzh-Kuril'sk**	**3.23**	**248**	*e*P		**Pn**	**07 28 46.8**	**+0.2**
YUK					AMB	AMB	07 28 51.1	
	comp=E,180nm,0.3s							
YUK				*i* S		**Sn**	**07 29 23.0**	**-1.2**
YUK					A	A	07 29 30.2	
	comp=E,620nm,0.5s							
YUK					A	A	07 29 30.2	
	comp=E,720nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**3.23**	**248**	*e*PN		**Pn**	**07 28 48.1**	**+1.5**
YUK				*i* S		**Sn**	**07 29 23.0**	**-1.2**
YUK					pmax	pmax		
	comp=E,176nm,0.3s							
YUK					pmax	pmax		
	comp=Z,182nm,0.3s							
YUK					pmax	pmax		
	comp=N,132nm,0.2s							
YUK					smax	smax		
	comp=N,529nm,0.5s							
YUK					smax	smax		
	comp=E,520nm,0.5s							
YUK					smax	smax		
	comp=E,699nm,1.1s							
YUK					smax	smax		
	comp=N,585nm,1.3s							
RUSJ	**Misakicho**	**3.61**	**252**	*e*PN		**Pn**	**07 28 53.6**	**+1.9**
RUSJ				*i* S		**Sn**	**07 29 37.0**	**+3.6**
NEM2	**Nemuro 2**	**3.63**	**239**	P		**Pn**	**07 28 51.1**	**-0.9**
NEM2				*e*S		**Sn**	**07 29 31.5**	**-2.4**
NMR	**Nemuro--Hokkai**	**3.64**	**239**	*e*P		**Pn**	**07 28 51.0**	**-1.1**
NMR	**Nemuro--Hokkai**	**3.64**	**239**	*e*PN		**Pn**	**07 28 51.0**	**-1.1**
NMR				*e*S		**Sn**	**07 29 29.7**	**-4.4**
JNK	**Nakash**	**4.17**	**247**	P		**Pn**	**07 28 59.8**	**+0.5**
JNK				*e*S		**Sn**	**07 29 47.0**	**+0.1**
AKK	**Akkeshi**	**4.37**	**240**	*e*P		**Pn**	**07 29 01.0**	**-1.0**
JAK	**Akkeshi**	**4.47**	**241**	P		**Pn**	**07 29 02.3**	**-1.1**
JAK				*e*S		**Sn**	**07 29 52.0**	**-2.3**
JTKR	**Abashiri--Toko**	**4.56**	**255**	*e*P		**Pn**	**07 29 05.3**	**+0.7**
JAR	**Ashorobuto**	**4.92**	**248**	P		**Pn**	**07 29 10.2**	**+0.8**
JAR				*e*S		**Sn**	**07 30 05.1**	**+0.1**
JOB	**Onbets**	**5.06**	**244**	P		**Pn**	**07 29 11.2**	**-0.1**
JOB				*e*S		**Sn**	**07 30 07.9**	**-0.7**
YSS	**Yuzh-Sakhalins**	**5.31**	**291**	P		**Pn**	**07 29 14.5**	**-0.2**
YSS	**Yuzh-Sakhalins**	**5.31**	**291**	*e*P		**Pn**	**07 29 14.8**	**+0.1**
YSS				*e*S		**Sn**	**07 30 12.5**	**-2.1**
YSS	**Yuzh-Sakhalins**	**5.31**	**291**	*e*PN		**Pn**	**07 29 14.8**	**+0.1**
YSS				*e*S		**Sn**	**07 30 12.5**	**-2.1**
YSS					pmax	pmax		
	comp=Z,40nm,0.4s							
YSS					smax	smax		
	comp=N,100nm,0.7s							
YSS					MLR	MLR		
	comp=Z,100nm,14.0s							
YSS					MLR	MLR		
	comp=E,100nm,16.0s							
JKK2	**Kamakawa 2**	**5.39**	**257**	P		**Pn**	**07 29 17.0**	**+1.1**
JKA	**Kamikawa-asahi**	**5.42**	**260**	Pn		**Pn**	**07 29 14.4**	**-1.9**
JKA	**Kamikawa-asahi**	**5.42**	**260**	*e*P		**Pn**	**07 29 15.9**	**-0.3**
ASAJ	**Asahikawa**	**5.42**	**260**	P		**Pn**	**07 29 15.9**	**-0.3**
	comp=E,8.8nm,0.5s,baz=73,slow=23,SNR=8.2							
ASAJ					LR	LR	07 31 35.1	
	comp=E,54nm,21.2s,baz=135,slow=41							
JCH	**Churui**	**5.51**	**243**	*e*P		**Pn**	**07 29 16.8**	**-0.6**
JCH				*e*S		**Sn**	**07 30 16.3**	**-3.1**
JWK2	**Keihoku**	**5.73**	**273**	*e*P		**Pn**	**07 29 23.3**	**+2.9**
ERM	**Erimo**	**5.97**	**239**	Pn		**Pn**	**07 29 21.9**	**-1.7**
ERM	**Erimo**	**5.97**	**239**	*i* PN		**Pn**	**07 29 24.7**	**+1.1**
JNBK	**Urakawa-nobuka**	**6.07**	**243**	P		**Pn**	**07 29 23.8**	**-1.3**
JNBK				*e*S		**Sn**	**07 30 29.2**	**-3.8**
SKR	**Severo-Kuril's**	**6.76**	**35**	*e*P		**Pn**	**07 29 35.3**	**+1.0**
SKR				*e*S		**Sn**	**07 30 47.7**	**-1.9**
SKR	**Severo-Kuril's**	**6.76**	**35**	*e*PN		**Pn**	**07 29 33.1**	**-1.2**
SKR				*e*S		**Sn**	**07 30 46.1**	**-3.5**
SKR					pmax	pmax		
	comp=Z,124nm,0.6s							
SKR					smax	smax		
	comp=E,75nm,0.8s							
SKR					smax	smax		
	comp=N,107nm,0.9s							
SKR					MLR	MLR		
	comp=Z,500nm,13.0s							
TYV	**Tymovskoe**	**7.43**	**321**	*e*P		**Pn**	**07 29 44.5**	**+1.1**
TYV				*e*S		**Sn**	**07 31 02.8**	**-3.2**
TYV	**Tymovskoe**	**7.43**	**321**	*e*PN		**Pn**	**07 29 45.7**	**+2.3**
TYV				*e*S		**Sn**	**07 31 06.0**	**0.0**
TYV					pmax	pmax		
	comp=Z,100nm,3.4s							
TYV					pmax	pmax		
	comp=Z,11nm,1.1s							
TYV					smax	smax		
	comp=N,19nm,0.9s							
TYV					smax	smax		
	comp=E,21nm,0.9s							
TYV					smax	smax		
	comp=N,100nm,3.2s							
TYV					smax	smax		
	comp=E,100nm,3.2s							
JANG	**Nango**	**7.96**	**235**	*e*P		**Pn**	**07 29 48.1**	**-2.7**
JANG				*e*S		**Sn**	**07 31 10.3**	**-8.8**
JTM	**Tenmabayashi**	**7.96**	**239**	Pn		**Pn**	**07 29 48.4**	**-2.3**
PEA0B	**Petropavlovsk-**	**9.28**	**30**	Pn		**Pn**	**07 30 09.1**	**+0.5**
PEA0B	**Petropavlovsk-**	**9.28**	**30**	PN		**Pn**	**07 30 09.1**	**+0.5**
PETK	**Petropavlovsk-**	**9.28**	**30**	P		**Pn**	**07 30 07.5**	**-1.1**
	comp=E,3.4nm,0.6s,baz=218,slow=14,SNR=9.3							
OKH	**Okha**	**9.45**	**333**	*e*P		**Pn**	**07 30 11.9**	**+1.0**
OKH				*e*S		**Sn**	**07 31 53.1**	**-2.0**
USA0B	**Ussuriysk Arra**	**12.87**	**271**	*i* PN		**P**	**07 30 59.8**	**-4.0**
USRK	**Ussuriysk Ar.**	**12.87**	**271**	P		**Pn**	**07 30 55.5**	**-1.4**
	comp=E,3.0nm,0.7s,baz=90,slow=11,SNR=3.3							
KLR	**Kul'dur**	**13.01**	**294**	P		**Pn**	**07 30 57.9**	**-0.9**
	comp=E,4.1nm,0.9s,baz=100,slow=16,SNR=5.0							
KLR	**Kul'dur**	**13.01**	**294**	*e*P		**Pn**	**07 30 58.0**	**-0.7**
KLR	**Kul'dur**	**13.01**	**294**	*e*PN		**Pn**	**07 30 58.0**	**-0.7**
KLR					pmax	pmax		
	comp=Z,7.0nm,1.3s							
HEH	**HeiHe**	**15.96**	**296**	*e*P		**Pn**	**07 31 34.5**	**-1.9**
ZEA	**Zeya**	**16.96**	**308**	*e*P		**Pn**	**07 31 47.3**	**-1.4**
ZEA	**Zeya**	**16.96**	**308**	*e*P		**Pn**	**07 31 47.3**	**-1.4**
SEY	**Seymchan**	**17.71**	**4**	P		**P**	**07 31 56.0**	**-1.2**
	comp=Z,1.7nm,0.5s,baz=180,slow=19,SNR=1.9							
SEY					LR	LR	07 39 30.8	
	comp=Z,20nm,19.0s,baz=86,slow=40							
KSRS	**Korea Array**	**18.31**	**252**	P		**Pn**	**07 32 05.1**	**0.0**
	comp=Z,4.2nm,0.8s,baz=61,slow=11,SNR=13							
KSRS					LR	LR	07 38 08.6	
	comp=Z,18nm,20.5s,baz=80,slow=33							
TJN	**Taejon**	**19.27**	**250**	*i* P		**Pn**	**07 32 16.3**	**-0.3**
YAK	**Yakutsk**	**20.48**	**332**	*e*P		**P**	**07 32 27.7**	**+0.4**
YAK	**Yakutsk**	**20.48**	**332**	*i* P		**P**	**07 32 27.7**	**+0.4**
YAK					pmax	pmax		
	comp=Z,10.0nm,0.7s							
SPIA	**Saint Paul Isl**	**27.15**	**50**	P		**P**	**07 33 31.5**	**+0.1**
	baz=261							
HNS	**HongShan**	**27.49**	**266**	⇑P		**P**	**07 33 35.3**	**+0.7**
HNS					pmax	pmax		
	comp=Z,8.0nm,0.7s							
NJ2	**Nanjing**	**27.51**	**252**	*e*P		**P**	**07 33 35.3**	**+0.5**
NJ2					pmax	pmax		
	comp=Z,11nm,0.5s							
HHC	**Hu-ho-hao-te**	**28.25**	**275**	*e*P		**P**	**07 33 40.8**	**-0.8**
HHC					pmax	pmax		
	comp=Z,25nm,0.5s							
HHC					pmax	pmax		
	comp=Z,94nm,5.4s							
UNV	**Unalaska Valle**	**29.05**	**57**	P		**P**	**07 33 49.0**	**+0.7**
	baz=271							
H11N2	**WAKE ISLAND Hy**	**29.08**	**146**	T		T	08 04 38.8	
	baz=336,slow=76,SNR=950							
H11N1	**WAKE ISLAND Hy**	**29.10**	**146**	T		T	08 04 47.9	
	baz=336,slow=76,SNR=1000							
H11N3	**WAKE ISLAND Hy**	**29.10**	**146**	T		T	08 04 48.2	
	baz=336,slow=76,SNR=978							
ULN	**Ulaanbaatar**	**29.36**	**291**	*e*P		**P**	**07 33 52.2**	**+0.8**
ULN	**Ulaanbaatar**	**29.36**	**291**	*i* P		**P**	**07 33 52.2**	**+0.8**
ULN					pmax	pmax		
	comp=Z,1.0nm,0.8s							
BTO	**Baotou**	**29.43**	**275**	*e*P		**P**	**07 33 53.3**	**+1.3**
BTO					pP	**pP**	**07 34 18.3**	**+4.2**
BTO					sP	**sP**	**07 34 32.3**	**+6.7**
BTO					S	**S**	**07 38 43.0**	**+4.3**
BTO					pmax	pmax		
	comp=Z,8.0nm,0.6s							
BTO					pmax	pmax		
	comp=Z,170nm,3.6s							
BTO					LR	LR		
	comp=Z,140nm,5.5s							
BTO					LR	LR		
	comp=Z,110nm,5.3s							
BTO					LR	LR		
	comp=Z,620nm,7.5s							
SONM	**Songino Array**	**29.80**	**291**	P		**P**	**07 33 54.1**	**-1.1**
	comp=Z,0.5nm,0.4s,baz=66,slow=7.1,SNR=2.2							
SONM					LR	LR	07 44 56.3	
	comp=Z,31nm,21.3s,baz=236,slow=34							
	comp=Z,0.5nm,0.4s							
H11S1	**WAKE ISLAND Hy**	**30.11**	**147**	T		T	08 06 04.5	
	baz=336,slow=76,SNR=954							
H11S3	**WAKE ISLAND Hy**	**30.12**	**147**	T		T	08 06 01.1	
	baz=336,slow=76,SNR=662							
H11S2	**WAKE ISLAND Hy**	**30.13**	**147**	T		T	08 06 05.7	
	baz=336,slow=76,SNR=742							
TNA	**Tin City**	**30.43**	**33**	P		**P**	**07 34 00.9**	**+0.6**
	baz=249							
K13K	**Kusilvak Mount**	**30.80**	**41**	P		**P**	**07 34 04.0**	**+0.3**
	baz=258							
FALS	**False Pass**	**30.84**	**55**	P		**P**	**07 34 04.3**	**+0.2**
	baz=271							
ANM	**Nome**	**31.13**	**36**	P		**P**	**07 34 07.2**	**+0.6**
	baz=253							
J14K	**Nanvaranak Lak**	**31.47**	**40**	P		**P**	**07 34 09.7**	**+0.1**
	baz=258							
G15K	**Niukluk**	**31.80**	**35**	P		**P**	**07 34 13.2**	**+0.8**
	baz=254							
M14K	**Bethel**	**31.90**	**44**	P		**P**	**07 34 13.8**	**+0.5**
	baz=263							
O14K	**Tigyukauivet M**	**32.10**	**47**	P		**P**	**07 34 15.9**	**+0.7**
	baz=266							
K15K	**Wolf Creek Mou**	**32.31**	**41**	P		**P**	**07 34 18.3**	**+1.4**
K15K					IAmb	IAmb	07 34 41.4	
	comp=Z,17nm,1.4s							
K15K	**Wolf Creek Mou**	**32.31**	**41**	P		**P**	**07 34 15.8**	**-1.1**
	baz=261							
C16K	**Lisburne Hills**	**32.38**	**29**	P		**P**	**07 34 16.9**	**-0.5**
C16K					IAmb	IAmb	07 34 18.0	
	comp=Z,6.3nm,0.9s							
C16K	**Lisburne Hills**	**32.38**	**29**	P		**P**	**07 34 17.1**	**-0.3**
	baz=248							
M15K	**Kasigluk River**	**32.51**	**44**	P		**P**	**07 34 18.1**	**-0.6**
	baz=264							
G16K	**Koyuk River**	**32.59**	**35**	P		**P**	**07 34 19.2**	**-0.1**
	baz=255							
N15K	**Kwethluk River**	**32.76**	**45**	P		**P**	**07 34 19.7**	**-1.3**
	baz=266							
O15K	**Ungalikthiuk R**	**32.84**	**47**	P		**P**	**07 34 20.8**	**-0.8**
	baz=268							
J16K	**Anvik River**	**32.89**	**39**	P		**P**	**07 34 21.6**	**-0.4**
	baz=260							
D17K	**Noatak River**	**32.97**	**31**	P		**P**	**07 34 22.4**	**-0.3**
	baz=251,SNR=5.8							
RDOG	**Red Dog Mine**	**33.15**	**30**	P		**P**	**07 34 24.5**	**+0.3**
	baz=251							
C17K	**DeLong Mountai**	**33.20**	**29**	P		**P**	**07 34 24.2**	**-0.4**
	baz=250							
L16K	**Owhat River**	**33.20**	**42**	P		**P**	**07 34 24.1**	**-0.6**
	baz=264							
E17K	**Hotham Inlet**	**33.25**	**32**	P		**P**	**07 34 25.2**	**+0.1**
	baz=253,SNR=7.7							
F17K	**Baldwin Pennin**	**33.29**	**33**	P		**P**	**07 34 26.2**	**+0.7**
F17K					IAmb	IAmb	07 34 27.5	
	comp=Z,7.8nm,0.8s							
F17K	**Baldwin Pennin**	**33.29**	**33**	P		**P**	**07 34 25.4**	**0.0**
	baz=255,SNR=5.2							
G17K	**Kiwalik Mounta**	**33.30**	**35**	P		**P**	**07 34 24.4**	**-1.2**
	baz=257							
M16K	**Timber Creek**	**33.38**	**43**	P		**P**	**07 34 27.8**	**+1.5**
M16K					IAmb	IAmb	07 34 50.3	
	comp=Z,12nm,1.4s							
M16K	**Timber Creek**	**33.38**	**43**	P		**P**	**07 34 25.6**	**-0.7**
	baz=266							
N16K	**Nishlik Lake**	**33.44**	**44**	P		**P**	**07 34 26.1**	**-0.7**
	baz=266							
H17K	**Granite Mounta**	**33.49**	**36**	P		**P**	**07 34 27.0**	**-0.2**
	baz=259							
J17K	**VARM Dome**	**33.59**	**39**	P		**P**	**07 34 28.0**	**0.0**
	baz=262							
O16K	**Kokwok River B**	**33.74**	**46**	P		**P**	**07 34 29.5**	**+0.1**
	baz=268							
L17K	**Donlin**	**33.80**	**42**	P		**P**	**07 34 30.2**	**+0.4**
	baz=264							
E18K	**Tukpahlearik C**	**33.80**	**32**	P		**P**	**07 34 30.0**	**+0.2**
	baz=254							
C18K	**Utukok River**	**33.94**	**30**	P		**P**	**07 34 30.4**	**-0.7**
C18K					IAmb	IAmb	07 34 32.0	
	comp=Z,8.6nm,0.9s							
C18K	**Utukok River**	**33.94**	**30**	P		**P**	**07 34 30.5**	**-0.7**
	baz=252,SNR=5.4							
F18K	**Selawik**	**33.95**	**33**	P		**P**	**07 34 31.0**	**-0.1**
	baz=256							
B18K	**Kokolik River**	**33.97**	**28**	P		**P**	**07 34 31.4**	**+0.2**
	baz=250							
M17K	**Holitna River**	**34.15**	**43**	P		**P**	**07 34 32.7**	**-0.3**
	baz=266							
H18K	**Honhosa River**	**34.18**	**36**	P		**P**	**07 34 33.1**	**0.0**
	baz=260							
G18K	**Tagagawik**	**34.20**	**35**	P		**P**	**07 34 33.7**	**+0.4**
G18K					IAmb	IAmb	07 34 34.8	
	comp=Z,4.7nm,0.8s							
G18K	**Tagagawik**	**34.20**	**35**	P		**P**	**07 34 33.4**	**+0.1**
	baz=258,SNR=6.4							
N17K	**Nushagak Hills**	**34.22**	**44**	P		**P**	**07 34 33.8**	**+0.2**
	baz=268							
L18K	**Granite Mounta**	**34.55**	**41**	P		**P**	**07 34 37.6**	**+1.2**
L18K					IAmb	IAmb	07 34 38.5	
	comp=Z,8.2nm,1.4s							
C19K	**Lookout Ridge**	**34.64**	**29**	P		**P**	**07 34 37.3**	**+0.2**
C19K					IAmb	IAmb	07 34 38.2	
	comp=Z,5.8nm,0.7s							
C19K	**Lookout Ridge**	**34.64**	**29**	P		**P**	**07 34 36.8**	**-0.3**
	baz=253,SNR=5.1							
J18K	**Innoko River**	**34.65**	**39**	P		**P**	**07 34 37.0**	**-0.2**
	baz=264							
F19K	**Shaleruckik Mo**	**34.73**	**33**	P		**P**	**07 34 37.5**	**-0.4**
	baz=258							
N18K	**Kilae Creek**	**34.87**	**44**	P		**P**	**07 34 39.6**	**+0.5**
	baz=269							
G19K	**Purcell Mounta**	**34.87**	**35**	P		**P**	**07 34 38.8**	**-0.3**
G19K	**Purcell Mounta**	**34.87**	**35**	P		**P**	**07 34 38.6**	**-0.5**
	baz=260,SNR=5.0							
D19K	**Kuna River**	**34.99**	**30**	P		**P**	**07 34 39.9**	**-0.2**
	baz=255,SNR=9.9							
H19K	**Roundabout Mou**	**35.03**	**36**	P		**P**	**07 34 41.2**	**+0.8**
H19K	**Roundabout Mou**	**35.03**	**36**	P		**P**	**07 34 39.9**	**-0.6**
	baz=261,SNR=12							
E19K	**Redstone River**	**35.07**	**32**	P		**P**	**07 34 41.1**	**+0.3**
E19K	**Redstone River**	**35.07**	**32**	P		**P**	**07 34 40.7**	**-0.1**
	baz=258,SNR=19							
J19K	**Poorman**	**35.19**	**38**	P		**P**	**07 34 42.0**	**+0.1**
	baz=264							
P18K	**Big Mountain,**	**35.20**	**46**	P		**P**	**07 34 42.1**	**+0.1**
	baz=271							
O18K	**Koktuh Hills**	**35.20**	**46**	P		**P**	**07 34 41.9**	**-0.1**
	baz=270							
N19K	**Bonanza Creek**	**35.56**	**44**	P		**P**	**07 34 45.4**	**+0.2**
	baz=270							
F20K	**Avaraart Lake**	**35.57**	**33**	P		**P**	**07 34 45.4**	**+0.4**
	baz=260							
D20K	**Etivluk River**	**35.58**	**30**	P		**P**	**07 34 44.9**	**-0.2**
	baz=257,SNR=17							
M19K	**Big River Lodg**	**35.62**	**42**	P		**P**	**07 34 46.1**	**+0.5**
	baz=268							
E20K	**Nigu River**	**35.63**	**31**	P		**P**	**07 34 46.1**	**+0.5**
	baz=258,SNR=19							
H20K	**Anotleneega Mo**	**35.67**	**36**	P		**P**	**07 34 46.2**	**+0.2**
	baz=263,SNR=5.9							
R18K	**Karluk**	**35.70**	**50**	P		**P**	**07 34 45.6**	**-0.6**
	baz=274							
B20K	**Meade River**	**35.71**	**28**	P		**P**	**07 34 46.1**	**-0.1**
	baz=254							
I20K	**Naaghedeneel**	**35.76**	**37**	P		**P**	**07 34 46.9**	**+0.2**
	baz=264							
LZH	**Lanzhou**	**35.78**	**272**	*e*P		**P**	**07 34 48.0**	**+0.6**
LZH					sP	sP	07 35 20.0	-1.4
LZH					pmax	pmax		
	comp=Z,42nm,1.1s							
K20K	**Telida**	**35.83**	**40**	P		**P**	**07 34 48.0**	**+0.6**
	baz=267							
J20K	**Nowinta River**	**35.85**	**38**	P		**P**	**07 34 48.3**	**+0.9**
J20K	**Nowinta River**	**35.85**	**38**	P		**P**	**07 34 48.4**	**+0.9**
	baz=265							
L20K	**Farewell, AK**	**35.88**	**41**	P		**P**	**07 34 48.7**	**+0.9**
	baz=268							
SII	**Sitkinak Islan**	**35.94**	**51**	P		**P**	**07 34 48.4**	**+0.1**
	baz=276							
P19K	**Oil Pt**	**36.21**	**46**	P		**P**	**07 34 50.8**	**+0.1**
	baz=272							
M20K	**Styx River**	**36.22**	**42**	P		**P**	**07 34 51.1**	**+0.4**
	baz=270							
A21K	**Barrow**	**36.25**	**26**	P		**P**	**07 34 50.3**	**-0.5**
	baz=253							
C21K	**Knifeblade Rid**	**36.32**	**30**	P		**P**	**07 34 52.1**	**+0.7**
	baz=258,SNR=9.9							
G21K	**Allakaket**	**36.36**	**34**	P		**P**	**07 34 52.5**	**+0.7**
G21K					IAmb	IAmb	07 34 53.5	
	comp=Z,6.7nm,0.8s							
G21K	**Allakaket**	**36.36**	**34**	P		**P**	**07 34 52.1**	**+0.2**
	baz=263,SNR=9.4							
OHAK	**Old Harbor**	**36.36**	**50**	P		**P**	**07 34 50.6**	**-1.2**
	baz=276							
F21K	**Alatna River**	**36.46**	**33**	P		**P**	**07 34 52.6**	**-0.1**
F21K					IAmb	IAmb	07 34 54.1	
	comp=Z,5.2nm,1.1s							
F21K	**Alatna River**	**36.46**	**33**	P		**P**	**07 34 52.6**	**-0.1**
	baz=262,SNR=8.9							
E21K	**Killik River**	**36.47**	**31**	P		**P**	**07 34 52.8**	**0.0**
	baz=260							
B21K	**Ikpikpuk River**	**36.48**	**29**	P		**P**	**07 34 53.0**	**+0.3**
	baz=258							
H21K	**Melozitna Rive**	**36.55**	**36**	P		**P**	**07 34 53.9**	**+0.4**
H21K					IAmb	IAmb	07 34 55.1	
	comp=Z,4.4nm,0.8s							
H21K	**Melozitna Rive**	**36.55**	**36**	P		**P**	**07 34 53.7**	**+0.2**
	baz=265,SNR=6.6							
CHUM	**Lake Minchumin**	**36.64**	**39**	P		**P**	**07 34 54.8**	**+0.6**
	baz=268							
PPLA	**Purkeypile**	**36.67**	**40**	P		**P**	**07 34 54.8**	**+0.2**
	baz=269							
A22K	**Sinclair Lake**	**36.68**	**27**	P		**P**	**07 34 54.2**	**-0.3**
	baz=255							
KDAK	**Kodiak Island**	**36.68**	**49**	P		**P**	**07 34 54.7**	**+0.1**
	baz=276							
CAST	**Castle Rocks**	**36.73**	**40**	P		**P**	**07 34 56.0**	**+1.0**
CAST	**Castle Rocks**	**36.73**	**40**	P		**P**	**07 34 55.7**	**+0.7**
	baz=268							
SKT	**Skwentna**	**36.97**	**42**	P		**P**	**07 34 58.2**	**+1.1**
	baz=271							
F22K	**John River**	**37.00**	**33**	P		**P**	**07 34 57.8**	**+0.6**
	baz=263							
D22K	**Ayikyak River**	**37.01**	**30**	P		**P**	**07 34 57.4**	**+0.1**
D22K			

baz=261,SNR=12
H23K Yukon River 37.90 36 P P 07 35 05.3 +0.4
H23K IAmb IAmb 07 35 07.1
comp=Z,5.7nm,0.8s
H23K Yukon River 37.90 36 P P 07 35 04.7 -0.2
baz=268,SNR=8.9
I23K Minto, Yukon-K 37.96 37 P P 07 35 06.2 +0.9
I23K Minto, Yukon-K 37.96 37 P P 07 35 04.8 -0.5
baz=269
NEA2 Nenana 38.07 38 P P 07 35 06.7 +0.3
baz=270
SEW Seward 38.08 45 P P 07 35 06.4 0.0
baz=275
TOLK Toolik Lake Re 38.10 31 P P 07 35 06.8 +0.2
baz=264,SNR=9.2
PMR Palmer 38.13 43 P P 07 35 07.2 +0.4
baz=273
MCK McKinley 38.14 39 P P 07 35 06.8 -0.1
baz=271
D24K Happy Valley 38.42 30 P P 07 35 09.1 -0.1
baz=264
MDM Murphy Dome 38.44 37 P P 07 35 09.6 +0.2
MDM IAmb IAmb 07 35 11.2
comp=Z,5.5nm,0.8s
E24K Your Creek 38.45 32 P P 07 35 09.1 -0.4
baz=266
KNK Knik Glacier 38.46 43 P P 07 35 09.2 -0.5
baz=274
SML Sawmill 38.49 42 P P 07 35 09.9 0.0
baz=274,SNR=7.7
C24K Franklin Bluff 38.53 29 P P 07 35 09.7 -0.3
baz=263
H24K Noodor Dome 38.59 36 P P 07 35 11.4 +0.8
baz=269
COLA College 38.60 37 P P 07 35 10.5 -0.1
baz=270
F24K Squaw Lake 38.64 33 P P 07 35 11.7 +0.5
F24K Squaw Lake 38.64 33 P P 07 35 11.2 +0.1
baz=267,SNR=6.4
WAT6 Susitna Watana 38.72 41 P P 07 35 12.0 +0.1
baz=273
G24K Hadweenzic Riv 38.77 34 P P 07 35 13.0 +0.8
G24K Hadweenzic Riv 38.77 34 P P 07 35 13.0 +0.8
baz=268,SNR=16
POKR Poker Plat Res 38.77 37 P P 07 35 13.1 +0.9
baz=270,SNR=5.1
M23K Glacier View 38.78 42 P P 07 35 13.2 +0.9
baz=274
DHY Denali Highway 38.86 40 P P 07 35 13.4 +0.3
DHY Denali Highway 38.86 40 P P 07 35 13.4 +0.3
baz=273,SNR=5.5
SCM Sheep Creek Mo 38.97 42 P P 07 35 14.2 +0.3
baz=275
HDA Harding Lake 38.99 38 P P 07 35 14.6 +0.5
baz=272,SNR=6.5
ILAR Eielson Array 39.01 37 P P 07 35 14.1 -0.1
comp=Z,1.9nm,0.7s,baz=261,slow=7.1,SNR=28
comp=Z,1.9nm,0.7s
GLI Glacier Island 39.17 44 P P 07 35 15.2 -0.3
baz=276
D25K Kavik River 39.31 30 P P 07 35 16.8 +0.1
baz=266
G25K Bearman Lake 39.32 34 P P 07 35 17.7 +1.1
baz=270,SNR=5.4
H25L Birch Creek 39.43 35 P P 07 35 18.5 +0.9
baz=270
M24K Tolsona, Glenn 39.49 42 P P 07 35 18.7 +0.5
baz=275
F25K Christian Rive 39.51 33 P P 07 35 19.1 +0.8
baz=269,SNR=6.0
K24K Donnelly Dome 39.54 39 P P 07 35 18.6 0.0
baz=274
E25K Arctic Village 39.55 32 P P 07 35 18.9 +0.3
baz=268,SNR=9.0
PRP Porcupine Dome 39.57 36 P P 07 35 19.6 +0.7
PRP Porcupine Dome 39.57 36 P P 07 35 19.7 +0.7
baz=272,SNR=8.5
KLU Klutina 39.67 43 P P 07 35 20.6 +0.8
baz=276
J25K Salcha River, 39.67 38 P P 07 35 19.8 +0.1
baz=273
PAX Paxson 39.73 40 P P 07 35 20.8 +0.5
baz=275
C26K Camden Bay 39.85 29 P P 07 35 22.7 +1.6
baz=267,SNR=9.6
EYAK Cordova Ski Ar 39.86 44 P P 07 35 22.6 +1.4
baz=277
HARP HAARP 39.93 41 P P 07 35 22.7 +0.9
baz=276
F26K Sheenjek River 40.08 33 P P 07 35 23.9 +0.9
baz=270,SNR=8.6
G26K Porcupine Rive 40.23 34 P P 07 35 25.4 +1.2
baz=272,SNR=13
C27K Jago River 40.26 30 P P 07 35 25.4 +0.9
baz=268,SNR=9.2
N25K Chitina, Valde 40.28 42 P P 07 35 25.4 +0.5
baz=277
SCRK Sand Creek 40.31 39 P P 07 35 25.6 +0.5
baz=275,SNR=6.3
BMRM Bremner River 40.36 43 P P 07 35 26.4 +0.9
baz=278,SNR=7.5
J26L Joseph Creek 40.45 38 P P 07 35 26.8 +0.6
baz=275
I26K Coal Creek Min 40.57 36 P P 07 35 27.6 +0.6
baz=274
L26K Log Cabin Wild 40.69 40 P P 07 35 29.3 +1.2
baz=276
M26K Nabesna, AK 40.93 41 P P 07 35 31.3 +1.2
M26K IAmb IAmb 07 35 32.8
comp=Z,6.2nm,0.6s
M26K Nabesna, AK 40.93 41 P P 07 35 30.9 +0.8
baz=278,SNR=8.9
E27K Coleen River 41.03 32 P P 07 35 32.3 +1.4
baz=272,SNR=5.4
MCARA McCarthy VSAT 41.06 42 P P 07 35 32.4 +1.3
baz=279
G27K Doyon Strip 41.08 34 P P 07 35 32.0 +0.8
G27K Doyon Strip 41.08 34 P P 07 35 32.7 +1.5
baz=274
K27K Chicken 41.15 38 P P 07 35 33.0 +1.2
baz=276
H27K Steamboat Moun 41.17 35 P P 07 35 33.6 +1.6
baz=274,SNR=8.5
I27K Kandik River 41.19 36 P P 07 35 34.0 +1.8
baz=275
D27M Malcolm River 41.23 30 P P 07 35 33.5 +1.0
baz=271
L27K Beaver Creek, 41.38 40 P P 07 35 34.9 +1.2
baz=278,SNR=29
BCAR Beaver Creek A 41.40 40 P P 07 35 35.2 +1.3
M27K Edge Creek, AK 41.45 41 P P 07 35 36.2 +1.7
baz=278
EGAK Eagle 41.46 37 P P 07 35 34.7 +0.4
baz=276,SNR=6.9
F28M Old Crow 41.72 33 P P 07 35 37.5 +1.1
baz=274,SNR=7.5
ZALV Zalesovo Beam 41.72 306 PcP PcP 07 37 31.5 +0.4
comp=Z,1.4nm,0.6s,baz=54,slow=2.6,SNR=4.5
E28M Babbage River 41.77 31 P P 07 35 37.7 +0.9
baz=273,SNR=5.5
I28M Miner Creek 41.90 36 P P 07 35 38.9 +0.9
baz=277,SNR=13
CTG Chitna Glacier 41.94 43 P P 07 35 40.0 +1.5
baz=280,SNR=5.4
GOMU GeErMu 42.07 278 P P 07 35 40.5 +0.4
GOMU pmax pmax
comp=Z,13nm,0.5s
YUK3 Moose Creek 42.21 42 P P 07 35 41.5 +0.8
baz=280
DAWY Dawson 42.31 38 P P 07 35 42.2 +0.8
baz=279
E29M Blow River 42.39 32 P P 07 35 43.5 +1.6
baz=275,SNR=11
H29M Whitestone 42.45 35 P P 07 35 43.6 +1.2
baz=277
G29M Pine Creek 42.50 34 P P 07 35 44.9 +2.1
baz=277,SNR=7.5
O28M Mount Upton 42.53 43 P P 07 35 44.2 +0.8
baz=282
I29M Ogilvie Camp, 42.59 36 P P 07 35 44.9 +1.4
baz=278
YUK8 Steele Glacier 42.63 42 P P 07 35 45.9 +1.7
baz=281
PZH PanZhiHua 42.66 261 P P 07 35 46.0 +1.2
PZH pmax pmax
comp=Z,10.0nm,0.6s
PZH pmax pmax
comp=Z,80nm,6.5s

M29M Somme Creek 43.01 40 P P 07 35 48.6 +1.6
baz=281
L29M L29M 43.03 39 P P 07 35 49.4 +2.2
baz=281,SNR=9.7
EPYK Eagle Plains 43.09 34 P P 07 35 49.1 +1.6
baz=278,SNR=5.1
YUK4 Talbot Arm 43.14 42 P P 07 35 49.6 +1.3
baz=282
PNL Peninsula 43.15 44 P P 07 35 48.8 +0.7
baz=283
K29M Barlow Dome 43.16 38 P P 07 35 49.7 +1.3
baz=280
G30M tAoh Zraii Nji 43.19 33 P P 07 35 49.6 +1.2
baz=278,SNR=6.6
F30M Barrier River 43.27 33 P P 07 35 51.2 +2.2
baz=278,SNR=10
YUK6 Outpost Mounta 43.36 42 P P 07 35 51.1 +1.0
baz=283
I30M Mount Dempster 43.41 36 P P 07 35 51.2 +0.9
I30M IAmb IAmb 07 35 52.8
comp=Z,7.7nm,0.8s
I30M Mount Dempster 43.41 36 P P 07 35 51.6 +1.3
baz=280,SNR=16
O29M Mount Kennedy 43.41 43 P P 07 35 51.6 +1.3
baz=283
J30M Hart River 43.54 37 P P 07 35 52.7 +1.3
baz=281,SNR=7.5
M30M Minto, Yukon 43.74 40 P P 07 35 54.5 +1.7
baz=282
HYT Haines Junctio 43.80 42 P P 07 35 55.6 +2.2
baz=284
N30M Aishikik Lake 43.85 41 P P 07 35 55.1 +1.4
baz=283
G31M Satah River 43.96 33 P P 07 35 56.1 +1.6
baz=280
P29M Windy Craggy 43.98 44 P P 07 35 56.8 +2.0
baz=284,SNR=5.8
INK Inuvik 44.01 31 P P 07 35 55.9 +1.1
baz=279,SNR=6.9
F31M Tsiigehtchic 44.08 33 P P 07 35 56.3 +0.9
baz=280,SNR=6.0
H31M Peel River 44.13 35 P P 07 35 57.7 +1.7
baz=281
P30M Million Dollar 44.23 43 P P 07 35 59.2 +2.3
baz=285
N31M Breburn, Yuko 44.45 41 P P 07 36 00.8 +2.3
baz=284
O30N Mendenhall 44.49 42 P P 07 36 00.9 +2.0
baz=285
PLBC Pleasant Camp 44.70 44 P P 07 36 02.8 +2.3
baz=286
M31M Drury Creek, Y 44.91 40 P P 07 36 04.2 +2.0
baz=284,SNR=6.8
WHY Whitehorse 45.09 42 P P 07 36 05.5 +1.8
baz=286
FARO Faro, Yukon 45.38 40 P P 07 36 07.4 +1.5
baz=285
MK31 Makanchi Array 45.69 297 P P 07 36 08.6 +0.1
MK31 Makanchi Array 45.69 297 P P 07 36 08.6 +0.1
MK31 pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 45.69 297 P P 07 36 07.8 -0.7
MKAR Makanchi Array 45.69 297 P P 07 36 07.4 -1.1
comp=Z,2.5nm,0.6s,baz=72,slow=8.1,SNR=22
MKAR PcP PcP 07 37 45.0 +0.1
comp=Z,0.9nm,0.6s,baz=68,slow=5.7,SNR=2.5
MKAR LR LR 07 54 22.3
comp=Z,31nm,18.2s,baz=97,slow=35
comp=Z,2.5nm,0.6s
MKAR Makanchi Array 45.69 297 *e*P P 07 36 08.3 -0.2
MKAR Makanchi Array 45.69 297 *i* P P 07 36 08.3 -0.2
MKAR pmax pmax
comp=Z,3.0nm,0.6s
P32M Atlin 45.95 43 P P 07 36 11.2 +0.7
baz=288
R32K Eaglecrest 45.96 45 P P 07 36 11.7 +1.2
baz=288
A36M Sachs Harbour 46.09 25 P P 07 36 12.0 +0.7
baz=283
S32K Killisnoo 46.19 46 P P 07 36 12.9 +0.7
baz=289
P33M Teslin, Yukon 46.20 42 P P 07 36 14.2 +1.8
baz=288
KURK Kurchatov 46.37 304 *e*P P 07 36 12.1 -1.6
KURK Kurchatov 46.37 304 P P 07 36 12.1 -1.6
KURK 07 37 47.6
KURBB Kurchatov Arra 46.46 304 P P 07 36 12.1 -2.3
comp=Z,1.1nm,0.5s,baz=70,slow=8.6,SNR=5.8
KURBB PcP PcP 07 37 47.6 +0.2
comp=Z,0.5nm,0.3s,baz=67,slow=3.0,SNR=4.2
comp=Z,1.1nm,0.5s
C36M Paulatuk 47.13 29 P P 07 36 19.8 +0.3
C36M Paulatuk 47.13 29 P P 07 36 19.7 +0.3
baz=286
S34M Telegraph Cree 47.78 45 P P 07 36 24.8 +0.2
baz=291
CMAR Chiang Mai Arr 49.92 255 P P 07 36 42.5 +1.0
comp=Z,0.7nm,0.3s,baz=42,slow=7.1,SNR=5.4
comp=Z,0.7nm,0.3s
BVAR Borovoye Array 50.10 309 P P 07 36 40.3 -2.2
comp=Z,0.7nm,0.5s,baz=73,slow=5.0,SNR=2.3
BVAR PcP PcP 07 38 00.4 -0.1
comp=Z,0.9nm,0.5s,baz=96,slow=2.9,SNR=3.1
comp=Z,0.7nm,0.5s
BRVK Borovoye 50.15 309 *e*P P 07 36 41.8 -1.0
BRVK Borovoye 50.15 309 *i* P P 07 36 41.8 -1.0
BRVK pmax pmax
comp=Z,3.0nm,1.0s
SHL Shillong 50.16 267 P P 07 36 43.3 -0.2
SHL pmax pmax
comp=Z,17nm,0.7s
TOAD Toad River Com 50.29 42 P P 07 36 45.3 +1.5
baz=294
BOOM Boomskoye usch 51.68 295 P P 07 36 54.4 -0.2
BOOM pmax pmax
comp=Z,4.0nm,1.0s
AAK Ala-Archa 52.53 296 P P 07 37 01.2 +0.3
AAK IAmb IAmb 07 37 02.5
comp=Z,3.0nm,0.7s
AAK Ala-Archa 52.53 296 *e*P P 07 37 01.5 +0.6
AAK Ala-Archa 52.53 296 *ce*P P 07 37 01.5 +0.6
AAK pmax pmax
comp=Z,3.0nm,0.7s
KSH Kashi 53.20 292 P P 07 37 10.0 +4.2
KSH pmax pmax
comp=Z,6.0nm,0.6s
YKA Yellowknife Ar 53.36 35 P P 07 37 07.0 +0.6
comp=Z,1.6nm,0.6s,baz=299,slow=7.4,SNR=13
comp=Z,1.6nm,0.6s
ARK Arkit 54.57 296 P P 07 37 16.8 +1.0
ARK pmax pmax
comp=Z,8.0nm,0.7s
KKAR Karatay Array 54.79 298 P P 07 37 16.4 -0.8
KKAR Karatay Array 54.79 298 P P 07 37 16.4 -0.8
TRKS Terek-Say 55.24 296 P P 07 37 20.7 +0.1
TRKS pmax pmax
comp=Z,10.0nm,0.7s
BTK Batken 56.24 295 P P 07 37 28.5 +0.8
BTK pmax pmax
comp=Z,8.0nm,0.7s
NEEM North Greenlan 56.82 5 *i* P P 07 37 28.7 -2.8
NEEM IAmb IAmb 07 37 30.4
comp=Z,9.5nm,0.7s
GAR Garm 57.16 294 P 07 37 34.8 +0.5
ABKAR Akbulak array 57.68 309 P P 07 37 36.7 -0.9
ABKAR Akbulak array 57.68 309 P P 07 37 36.5 -1.1
ABKAR IAmb IAmb 07 37 38.6
comp=Z,4.6nm,0.6s
AKTO Aktyubinsk 58.07 311 LR LR 08 03 06.4
comp=Z,35nm,19.4s,baz=160,slow=36
CHGR Chuyangaron 58.09 294 P P 07 37 40.8 0.0
CHGR Chuyangaron 58.09 294 P P 07 37 40.8 0.0
SIMJ Simiganj 58.19 294 P P 07 37 41.3 -0.2
ARCES ARCESS Array B 58.49 340 P P 07 37 40.1 -2.9
comp=Z,0.6nm,0.5s,baz=45,slow=14,SNR=1.6
comp=Z,0.6nm,0.5s
KBL Kabul 60.58 291 P P 07 37 57.3 -0.8
KBL pmax pmax
comp=Z,15nm,0.8s
SUMG Summit 62.27 3 P P 07 38 07.6 -1.5
SUMG IAmb IAmb 07 38 09.5
comp=Z,6.5nm,0.8s
SUMG Summit 62.27 3 P P 07 38 07.6 -1.5
SUMG pmax pmax
comp=Z,7.0nm,0.8s
SUMG Summit 62.27 3 *i* P P 07 38 07.0 -2.1
SUMG IAmb IAmb 07 38 09.3

comp=Z,6.2nm,0.7s
BOZ Bozeman (W) 64.37 50 P P 07 38 24.0 +0.9
baz=309
FINES FINESS Array B 64.40 334 P P 07 38 20.2 -2.6
comp=Z,2.0nm,0.6s,baz=42,slow=7.3,SNR=7.3
FINES LR LR 08 13 18.9
comp=Z,12nm,18.4s,baz=63,slow=42
comp=Z,2.0nm,0.6s
NVAR Mina Array Bea 65.02 60 P P 07 38 29.7 +2.2
comp=Z,0.9nm,0.7s,baz=296,slow=7.0,SNR=5.5
comp=Z,0.9nm,0.7s
GEYT Alibeck 65.47 300 P P 07 38 30.5 +0.3
GEYT IAmb IAmb 07 38 31.6
comp=Z,4.9nm,0.8s
GEYT Alibeck 65.47 300 P P 07 38 30.1 -0.1
comp=Z,3.8nm,0.6s,baz=49,slow=4.5,SNR=9.1
comp=Z,3.8nm,0.6s
GEYT Alibeck 65.47 300 P P 07 38 30.5 +0.3
GEYT pmax pmax
comp=Z,5.0nm,0.8s
ICESG Greenland Ices 65.70 4 *i* P P 07 38 29.5 -2.0
ICESG IAmb IAmb 07 38 31.5
comp=Z,9.2nm,0.9s
WRA Warramunga Arr 66.49 196 P P 07 38 37.6 +0.9
comp=Z,1.1nm,0.7s,baz=13,slow=6.4,SNR=5.3
comp=Z,1.1nm,0.7s
WRA Warramunga Arr 66.49 196 *i* P P 07 38 38.9 +2.2
WRA pmax pmax
comp=Z,2.0nm,0.9s
SOEG Soedalen 66.81 1 *i* P P 07 38 37.2 -1.0
SOEG IAmb IAmb 07 38 37.9
comp=Z,3.9nm,0.6s
PDAR Pinedale Array 67.33 52 P P 07 38 43.8 +1.5
comp=Z,0.6nm,0.6s,baz=302,slow=2.0,SNR=5.5
comp=Z,0.6nm,0.6s
DY2G Dye2 67.85 7 *i* P P 07 38 42.7 -2.3
DY2G IAmb IAmb 07 38 45.5
comp=Z,2.6nm,0.4s
DZM Mont Dzumac 68.70 164 *e*LR LR 07 59 43.6
comp=Z,49nm,20.1s
NB2 NORSAR Subarra 68.87 340 P P 07 38 48.7 -2.6
comp=Z,1.9nm,0.7s,baz=30,slow=6.5
NOA NORSAR Array B 68.87 340 P P 07 38 49.4 -1.9
comp=Z,1.7nm,0.7s,baz=30,slow=6.7,SNR=6.5
NOA LR LR 08 11 55.7
comp=Z,2.9nm,18.3s,baz=15,slow=38
comp=Z,1.7nm,0.7s
HFS Hagfors 69.03 338 P P 07 38 50.2 -2.0
comp=Z,1.8nm,0.5s,baz=20,slow=5.1,SNR=12
comp=Z,1.8nm,0.5s
SRU San Rafael Swe 69.21 55 P P 07 38 55.0 +1.0
SRU San Rafael Swe 69.21 55 P P 07 38 55.0 +1.0
SRU pmax pmax
comp=Z,3.0nm,0.9s
ISOG Isortoq, Green 69.26 4 *i* P P 07 38 51.4 -2.1
ISOG IAmb IAmb 07 38 53.0
comp=Z,7.0nm,0.5s
BORG Borgarnes 70.08 356 *i* P P 07 39 02.5 +4.0
SWSC Sam W. Stewart 70.11 63 P P 07 38 59.7 +0.4
baz=312
ASAR Alice Springs 70.20 196 P P 07 39 02.7 +2.9
comp=Z,0.6nm,0.6s,baz=17,slow=5.7,SNR=6.0
comp=Z,0.6nm,0.6s
KIV Kislovodsk 70.23 313 *e*P P 07 39 02.0 +2.0
KIV Kislovodsk 70.23 313 *e*P P 07 39 02.0 +2.0
KIV *e* 07 39 14.7
KIV *e* 07 41 38.7
KIV *eS* SKiKP 07 48 40.7 +5.8
KIV pmax pmax
comp=Z,18nm,1.3s
KIV MLR MLR
comp=Z,28nm,15.0s
KBZ Khabaz 70.28 313 P P 07 38 59.8 -0.3
comp=Z,5.4nm,0.9s,baz=56,slow=3.6,SNR=9.5
KBZ LR LR 08 12 40.7
comp=Z,18nm,19.7s,baz=40,slow=38
comp=Z,5.4nm,0.9s
KBZ Khabaz 70.28 313 *e*P P 07 39 01.2 +1.1
KBZ Khabaz 70.28 313 *ce*P P 07 39 01.2 +1.1
KBZ pmax pmax
comp=Z,7.0nm,1.0s
AGMN Agassiz Nation 70.44 40 P P 07 39 01.2 +0.1
baz=317
AKASG Malin Array Be 71.51 325 P P 07 39 06.1 -1.4
comp=Z,3.2nm,0.4s,baz=38,slow=6.0,SNR=11
AKASG LR LR 08 10 50.5
comp=Z,13nm,20.2s,baz=46,slow=36
comp=Z,3.2nm,0.4s
AKASG Malin Array Be 71.51 325 *i* P P 07 39 06.5 -1.0
AKASG pmax pmax
comp=Z,3.0nm,0.4s
EYMN Ely 72.65 38 P P 07 39 15.4 +1.0
baz=320
OGNE Ogallala 72.67 49 P P 07 39 15.4 +0.7
baz=315
ECSD EROS Data Cent 73.43 44 P P 07 39 19.1 0.0
baz=318
T25A Trinidad 74.06 53 P P 07 39 23.2 +0.1
baz=315
SCHQ Schefferville 75.45 21 P P 07 39 30.6 +0.1
comp=Z,2.6nm,0.8s,baz=341,slow=5.2,SNR=6.0
comp=Z,2.6nm,0.8s
KRLC Kraliky 76.68 331 *e*P P 07 39 38.7 +1.0
KRLC Kraliky 76.68 331 *e*P P 07 39 38.7 +1.0
CLL Collm 76.85 334 *i* P P 07 39 37.7 -0.8
comp=Z,7.0nm,0.5s
CLL *i* x x 07 39 46.9
CLL Collm 76.85 334 *i* P P 07 39 37.7 -0.8
CLL *i* 07 39 46.9
CLL pmax pmax
comp=Z,7.0nm,0.5s
EKA Eskdalemuir Ar 77.19 345 P P 07 39 39.6 -0.8
comp=Z,1.1nm,0.4s,baz=17,slow=5.1,SNR=7.5
comp=Z,1.1nm,0.4s
GOPC GO Pecny, Ondr 77.49 332 *e*P P 07 39 42.1 0.0
GOPC GO Pecny, Ondr 77.49 332 *e*P P 07 39 42.1 0.0
BRTR Keskin Array B 77.92 315 P P 07 39 44.6 -0.2
comp=Z,1.6nm,0.7s,baz=46,slow=6.2,SNR=6.8
comp=Z,1.6nm,0.7s
BRTR Keskin Array B 77.92 315 *i* P P 07 39 44.7 -0.2
BRTR pmax pmax
comp=Z,1.0nm,0.4s
KHC Kasperske Hory 78.56 332 *e*P P 07 39 48.0 -0.1
KHC Kasperske Hory 78.56 332 *ce*P P 07 39 48.4 +0.3
KHC pmax pmax
comp=Z,7.0nm,0.6s
CKRC Cesky Krumlov 78.59 332 *e*P P 07 39 48.2 0.0
CKRC Cesky Krumlov 78.59 332 *e*P P 07 39 48.2 0.0
GERES GERESS Array B 78.77 332 P P 07 39 48.8 -0.5
comp=Z,1.8nm,0.5s,baz=36,slow=7.7,SNR=10
comp=Z,1.8nm,0.5s
GRFO Grafenberg 78.82 334 P P 07 39 49.4 -0.1
GRFO pmax pmax
comp=Z,11nm,0.8s
CONA Conrad Observa 78.83 331 *e*P P 07 39 50.1 +0.4
comp=Z,3.7nm,0.6s
RONA Rosalia, Austr 78.87 330 *i* P P 07 39 50.3 +0.5
comp=Z,5.3nm,0.8s,SNR=4.4
ARSA Arzberg 79.53 330 *e*P P 07 39 53.5 0.0
comp=Z,0.8nm,0.5s
BIOA Bad Ischl, Aus 79.79 332 *e*P P 07 39 55.4 +0.6
comp=Z,3.2nm,0.7s
TXAR Lajitas Array 80.08 58 P P 07 39 58.8 +2.0
comp=Z,0.9nm,0.5s,baz=286,slow=4.5,SNR=15
comp=Z,0.9nm,0.5s
BMRD Maredsous 80.11 338 *d*P P 07 39 56.0 -0.4
SOKA Soboth 80.19 330 *e*P P 07 39 56.9 -0.2
comp=Z,4.9nm,0.8s,SNR=7.1
PERS Pernice 80.20 330 *i* P P 07 39 56.7 -0.4
LESA Schwarzleotal 80.34 332 *i* P P 07 39 57.8 0.0
comp=Z,7.2nm,1.0s
KBA Koelnbreinsper 80.42 332 *e*P P 07 39 58.3 -0.1
comp=Z,13nm,1.0s
OBKA Obir 80.51 331 *e*P P 07 39 58.4 -0.4
comp=Z,3.7nm,0.6s,SNR=4.8
GOLS Golise 80.56 330 *i* P P 07 39 58.2 -0.7
MYKA Terra Mystica 80.71 331 *e*P P 07 39 59.2 -0.7
comp=Z,2.5nm,0.5s
WATA Walderalm 80.78 333 *i* P P 07 40 00.4 +0.1
comp=Z,6.3nm,0.4s,SNR=5.2
WTTA Wattenberg 80.82 333 *i* P P 07 40 00.7 +0.2
comp=Z,11nm,0.4s,SNR=12
RETA Reutte 80.91 333 *i* P P 07 40 00.9 0.0
comp=Z,2.6nm,0.6s
MOTA Moosalm 80.92 333 *i* P P 07 40 00.7 -0.3
comp=Z,5.1nm,0.5s
SQTA Sankt Quirin 81.00 333 *e*P P 07 40 01.1 -0.3

	comp=Z,5.6nm,0.7s								
GBRS	**Gornja Briga**	**81.26**	**330**	*i* P		**P**	**07 40 01.9**	**-0.8**
DAVA	**Damuels**	**81.36**	**334**	*i* P		**P**	**07 40 03.1**	**-0.3**
	comp=Z,3.9nm,0.6s								
MMAI	**Mount Meron Ar**	**82.11**	**310**	P		**P**	**07 40 08.4**	**+0.9**
	comp=Z,5.6nm,0.5s,baz=40,slow=6.6,SNR=10								
	comp=Z,5.6nm,0.5s								
PPT2	**Papeete2**	**83.13**	**123**	*e*LR		LR	08 06 26.8		
	comp=Z,60nm,21.2s								
MFF	**Saint Martin d**	**84.77**	**340**	*e*P		**P**	**07 40 20.7**	**0.0**
ESDC	**Sonseca Array**	**92.23**	**340**	P		**P**	**07 40 56.5**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=23,slow=4.7,SNR=2.3								
	comp=Z,0.3nm,0.6s								
H03N2	**Juan Fernandez**	**140.91**	**90**	T		T	10 24 18.7		
	baz=306,slow=77,SNR=7.9								
H03N3	**Juan Fernandez**	**140.92**	**90**	T		T	10 24 34.0		
	baz=306,slow=77,SNR=25								
H03N1	**Juan Fernandez**	**140.92**	**90**	T		T	10 24 24.6		
	baz=306,slow=77,SNR=19								
BDFB	**Brasilia**	**146.75**	**33**	PKPbc		**PKPbc**	**07 47 29.5**	**+1.0**
	comp=Z,1.5nm,0.5s,baz=316,slow=3.4,SNR=4.4								
PLCA	**Paso Flores**	**150.22**	**96**	PKPbc		**PKPbc**	**07 47 36.5**	**-0.3**
	comp=Z,1.1nm,0.8s,baz=272,slow=23,SNR=1.6								
SNAA	**Sanae**	**150.55**	**197**	PKPbc		**PKiKP**	**07 47 38.9**	**+1.6**
	comp=Z,1.1nm,0.8s,baz=168,slow=9.3,SNR=2.0								

KRSZO 31 07:49:23.9±1.1, 48°.60N×20°.74E, h0km, M1.4/5, Error ellipse: s-maj=11.6km s-min=4.6km az=152.0, Explosion. locality : Dvorniky-Vcelare Slovakia description : known quarry blast, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KECS	**Kecovo**	**0.20**	**236**	Pg		Pg	07 49 28.3	+0.7
KECS				Lg		Lg	07 49 31.5	
KECS	**Kecovo**	**0.20**	**236**	*e*PG		Pg	07 49 28.4	+0.7
KECS				*e*SG		Sg	07 49 31.8	+1.5
ABAH	**Abaujker**	**0.45**	**132**	Pg		Pg	07 49 33.2	+0.7
CRVS	**Cervenica-Dubn**	**0.57**	**57**	Pg		Pg	07 49 35.3	+0.5
CRVS				Lg		Lg	07 49 43.6	
CRVS	**Cervenica-Dubn**	**0.57**	**57**	*e*PG		Pg	07 49 35.4	+0.6
PSZ	**Piszkesteto**	**0.88**	**220**	Pn		Pb	07 49 42.6	+0.5
PSZ				Lg		Lg	07 49 56.0	
A336A	**Medovarce**	**1.21**	**253**	Pg		Pn	07 49 48.1	+0.1
A336A				Sn		Sn	07 50 04.7	-0.4

RHSSO 31 07:50:27.6±0.8, 42°.85N×16°.32E, h12km±4km, ML2.1/8, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
HVAR	**Hvar**	**0.34**	**17**	*e*Pg		Pb	07 50 36.0	+0.4
HVAR				Sg		Sb	07 50 41.4	+0.4
LSTV	**Lastovo**	**0.43**	**101**	*e*Pg		Pb	07 50 37.8	+0.7
LSTV				Sg		Sb	07 50 44.9	+1.3
MAKA	**Makarska**	**0.67**	**50**	*e*Pg		Pg	07 50 40.4	-0.3
ZIRJ	**Zirje**	**0.94**	**329**	*e*Pg		Pg	07 50 44.7	-1.1
STON	**Ston**	**1.02**	**88**	*e*Pg		Pb	07 50 45.9	-1.2
STON	**Ston**	**1.02**	**88**	*e*Pg		Pb	07 50 45.8	-1.3
STON				*e*Sg		Sb	07 50 59.8	-0.6
MORI	**Morici**	**1.11**	**337**	*e*Pg		Pb	07 50 47.1	-1.5
KUV	**Kijevo**	**1.15**	**3**	*e*Pg		Pb	07 50 48.0	-1.5
DUGI	**Dugi Otok**	**1.46**	**322**	*e*Pn		Pn	07 50 52.7	-1.1
DUGI	**Dugi Otok**	**1.46**	**322**	Pn		Pn	07 50 52.7	-1.1
TREB	**Trebinje**	**1.50**	**94**	*e*Pn		Pn	07 50 53.7	-0.7
TREB				*e*Sn		Sb	07 51 14.2	-0.3
BRY	**Bratogost**	**1.64**	**88**	*e*Pn		Pn	07 50 56.5	+0.2
BRY				*e*Sn		Sn	07 51 16.7	-0.6
A050A	**Klekovaca**	**1.64**	**5**	*e*Pn		Pn	07 50 56.1	-0.2
A050A				*e*Sn		Sb	07 51 18.0	-0.4
MGRS	**Mrkonjic Grad**	**1.66**	**19**	*e*Pn		Pn	07 50 57.1	+0.5
MGRS				*e*Sn		Sn	07 51 17.0	-0.8
KLINJ	**Klinje**	**1.69**	**78**	*e*Pn		Pn	07 50 56.9	-0.2
KLINJ				*e*Sn		Sn	07 51 19.0	+0.3
VIRC	**Vir**	**1.71**	**328**	*e*Pn		Pn	07 50 56.4	-0.7
VIRC	**Vir**	**1.71**	**328**	Pn		Pn	07 50 56.4	-0.7
UDBI	**Udbina**	**1.72**	**347**	*e*Pn		Pn	07 50 57.8	+0.4
UPM	**Unac-Piva**	**1.93**	**79**	*e*Sn		Sn	07 51 24.4	-0.3
BLY	**Banja Luka**	**2.00**	**18**	*e*Sn		Sn	07 51 25.7	-0.4
A051A	**Mrakovica**	**2.20**	**11**	*e*Pn		Pn	07 51 04.2	+0.2
A051A				*e*Sn		Sn	07 51 30.7	-0.5
DRME	**Dracevica, Mon**	**2.22**	**106**	*e*Pn		Pn	07 51 04.3	+0.1
DRME				*e*Sn		Sn	07 51 31.7	+0.1
BBLS	**Lazi&#263i**	**2.47**	**65**	*e*Pn		Pn	07 51 08.0	+0.3
BBLS				*e*Sn		Sn	07 51 38.8	+1.0
CRES	**Cresnjev**	**3.04**	**349**	*e*Sn		Sn	07 51 51.1	-0.6

ISC 31 07:55:21.6±1.1, 49°.64N±0°.07×17°.66E±0°.08, h14km±12km, n6, σ0s67/9, Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
MORC	**Moravsky Berou**	**0.16**	**331**	*e*PG		**Pg**	**07 55 25.4**	**-0.2**
MORC				*e*SG		**Sg**	**07 55 28.4**	**+0.1**
VRAC	**Vranov**	**0.77**	**245**	*e*PG		**Pb**	**07 55 37.1**	**+0.3**
JAVC	**Velka Javorina**	**0.78**	**180**	*e*PG		**Pb**	**07 55 38.0**	**+1.0**
KRUC	**Moravsky**	**1.01**	**236**	*e*PG		**Pb**	**07 55 41.4**	**+0.5**
VYHS	**Vyhne**	**1.38**	**146**	*e*PG		**Pn**	**07 55 45.8**	**-0.7**
VYHS				*e*SG		**Sb**	**07 56 04.3**	**-0.4**
OJC	**Ojcow**	**1.50**	**66**	*e*Pg		**Pn**	**07 55 48.3**	**+0.2**
OJC				*e*Sg		**Sb**	**07 56 07.7**	**-0.3**

*NEIC **31** 08:24:13.8±0.8, 0°.09S±0°.07×19°.5W±0°.1, h10km±2km, mb4.5/9, Error ellipse: s-maj=22.5km s-min=11.2km az=271.0*
*IDC **31** 08:24:18.5±1.1, 0°.30S×18°.91W, h0km, mb4.1/12, mbtmp4.1/13, ML4.0/1, MS3.3/18, Error ellipse: s-maj=46.5km s-min=20.6km az=145.0*
ISC 31 08:24:13.4±0.8, 0°.1S±0°.1×19°.5W±0°.1, h10km, n48, σ1s99/21, mb4.3/15, MS3.3/16, 3C, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
H10N2	**ASCENSION HYDR**	**9.20**	**147**	T		T	08 35 02.0	
	baz=344,slow=74,SNR=336							
H10N3	**ASCENSION HYDR**	**9.21**	**147**	T		T	08 35 00.3	
	baz=344,slow=74,SNR=422							
H10N1	**ASCENSION HYDR**	**9.22**	**147**	T		T	08 35 05.2	
	baz=344,slow=74,SNR=495							
ASCN	**Ascension**	**9.36**	**147**	Pn		**Pn**	**08 26 27.8**	**-0.7**
MBO	**M'Bour**	**14.60**	**10**	Pn		**Pn**	**08 27 39.1**	**-1.0**
LIC	**Lamto**	**15.77**	**66↑**	*e*P		**Pn**	**08 27 55.0**	**-0.9**
	6.0nm,0.3s							
TIC	**Toumodi**	**15.95**	**65↑**	*e*P		**Pn**	**08 27 56.0**	**-2.1**
	9.6nm,0.3s							
KIC	**Kosan Boka**	**16.09**	**66↑**	*e*P		**Pn**	**08 27 57.3**	**-2.6**
	12nm,0.5s							
DBIC	**Dimbokro**	**16.11**	**65**	Pn		**Pn**	**08 27 57.9**	**-2.2**
DBIC				IAmb	IAmb		08 28 00.9	
	comp=Z,24nm,0.6s							
DBIC	**Dimbokro**	**16.11**	**65**	Pn		**Pn**	**08 27 57.4**	**-2.8**
	comp=Z,14nm,0.3s,baz=242,slow=14,SNR=64							
DBIC				Sn		Sn	08 30 36.6	-22
	comp=Z,1.3nm,0.3s,baz=288,slow=9.6,SNR=3.9							
DBIC				LR		LR	08 33 04.2	
	comp=Z,137nm,18.5s,baz=228,slow=34							
RCBR	**Riachuelo**	**17.31**	**250**	P		P	08 28 27.8	+11
	comp=Z,0.5nm,0.3s,baz=63,slow=9.9,SNR=4.5							
RCBR				LR		LR	08 33 34.5	
	comp=Z,92nm,21.5s,baz=332,slow=31							
	comp=Z,6.2nm,0.8s							
ROSB	**Rosrio**	**24.74**	**263**	P		**P**	**08 29 33.8**	**-1.5**
ROSB				IAmb	IAmb		08 29 59.0	
	comp=Z,7.8nm,1.1s							
TOA0	**Torodi Ar. Sit**	**24.81**	**57**	P		**P**	**08 29 35.5**	**-0.5**
TOA0				IAmb	IAmb		08 29 40.0	
	comp=Z,10.0nm,0.8s							
TORD	**Torodi Ar. Bea**	**24.81**	**57**	P		**P**	**08 29 35.8**	**-0.2**
TORD				IAmb	IAmb		08 29 40.0	
	comp=Z,8.2nm,0.8s							
TORD	**Torodi Ar. Bea**	**24.81**	**57**	P		**P**	**08 29 37.7**	**+1.7**
	comp=Z,8.5nm,0.7s,baz=239,slow=9.5,SNR=33							
	comp=Z,8.5nm,0.7s							
BDFB	**Brasilia**	**32.09**	**240**	LR		LR	08 42 40.6	
	comp=Z,58nm,19.8s,baz=145,slow=34							
TAM	**Tamanrasset**	**33.33**	**45**	P		**P**	**08 30 51.8**	**-0.2**
MDP	**Montagnes des**	**33.46**	**279**	LR		LR	08 42 53.5	
	comp=Z,37nm,21.2s,baz=76,slow=33							

MDT	**Midelt**	**35.61**	**22**	LR		LR	08 45 41.6	
	comp=Z,37nm,18.9s,baz=168,slow=36							
CMLA	**Cha da Macela**	**38.05**	**352**	P		**P**	**08 31 32.1**	**-0.1**
H07S1	**FLORES T-PHASE**	**40.69**	**346**	T		T	09 15 07.9	
	SNR=22							
ESDC	**Sonseca Array**	**42.04**	**18**	P		**P**	**08 32 05.3**	**-0.1**
ESDC	**Sonseca Array**	**42.04**	**18**	P		P	08 32 12.9	+7.5
	comp=Z,1.4nm,0.8s,baz=201,slow=9.0,SNR=8.4							
ESDC				LR		LR	08 49 42.3	
	comp=Z,38nm,19.5s,baz=187,slow=36							
	comp=Z,1.4nm,0.8s							
TATN	**Tataouine**	**43.11**	**38**	P		**P**	**08 32 13.4**	**-0.7**
H05N1	**Guadeloupe/Mar**	**44.06**	**294**	T		T	09 19 36.3	
	SNR=8.3							
SAML	**Samuel**	**44.35**	**257**	P		**P**	**08 32 23.6**	**-0.8**
CPUP	**Villa Florida**	**44.79**	**231**	LR		LR	08 49 15.4	
	comp=Z,47nm,19.2s,baz=56,slow=33							
PCRV	**Puerto La Cruz**	**46.00**	**284**	LR		LR	08 51 27.0	
	comp=Z,14nm,19.4s,slow=35							
CEST	**Esterri de Car**	**46.41**	**21**	P		**P**	**08 32 41.1**	**+0.7**
CEST				IAmb		IAmb	08 32 50.8	
	comp=Z,8.8nm,1.2s							
VAE	**Valguarnera**	**48.76**	**36**	LR		LR	08 53 22.6	
	comp=Z,85nm,20.0s,baz=142,slow=36							
LPAZ	**La Paz**	**50.54**	**249**	P		P	08 33 23.3	+10
	comp=Z,0.7nm,0.7s,baz=51,slow=6.5,SNR=4.0							
LPAZ				LR		LR	08 53 01.9	
	comp=Z,23nm,21.1s,baz=140,slow=34							
	comp=Z,0.7nm,0.7s							
ROSC	**El Rosal**	**54.93**	**276**	LR		LR	08 54 57.7	
	comp=Z,71nm,21.4s,baz=80,slow=33							
GERES	**GERESS Array B**	**56.52**	**26**	P		P	08 34 01.3	+5.2
	comp=Z,0.5nm,0.6s,baz=216,slow=11,SNR=4.3							
GERES				LR		LR	08 57 56.3	
	comp=Z,26nm,18.4s,baz=288,slow=36							
	comp=Z,0.5nm,0.6s							
NNA	**Nana**	**58.08**	**256**	LR		LR	08 58 17.5	
	comp=Z,56nm,19.5s,baz=83,slow=35							
MLR	**Muntele Rosu**	**60.51**	**35**	LR		LR	09 02 06.9	
	comp=Z,29nm,18.4s,baz=191,slow=38							
BRTR	**Keskin Array B**	**62.52**	**44**	P		**P**	**08 34 42.4**	**+4.7**
	comp=Z,3.2nm,0.8s,baz=237,slow=6.3,SNR=14							
	comp=Z,3.2nm,0.8s							
AKASG	**Malin Array Be**	**65.28**	**32**	P		P	08 35 00.9	+5.5
	comp=Z,2.9nm,0.7s,baz=235,slow=6.8,SNR=9.5							
	comp=Z,2.9nm,0.7s							
HFS	**Hagfors**	**65.32**	**18**	P		P	08 35 03.0	+7.5
	comp=Z,1.1nm,0.6s,baz=201,slow=7.7,SNR=2.6							
HFS				LR		LR	09 03 33.8	
	comp=Z,18nm,18.7s,baz=197,slow=36							
	comp=Z,1.1nm,0.6s							
NOA	**NORSAR Array B**	**65.34**	**16**	P		P	08 35 03.2	+7.5
	comp=Z,0.8nm,0.8s,baz=210,slow=6.2,SNR=3.0							
NOA				LR		LR	09 04 57.2	
	comp=Z,16nm,18.5s,baz=190,slow=37							
	comp=Z,0.8nm,0.8s							
JTS	**Las Juntas de**	**65.84**	**281**	LR		LR	09 04 20.3	
	comp=Z,21nm,19.6s,baz=124,slow=36							
FINES	**FINESS Array B**	**70.43**	**21**	P		**P**	**08 35 27.6**	**0.0**
FINES	**FINESS Array B**	**70.43**	**21**	P		P	08 35 34.5	+6.9
	comp=Z,2.9nm,0.8s,baz=208,slow=4.7,SNR=6.2							
	comp=Z,2.9nm,0.8s							
KBZ	**Khabaz**	**70.45**	**43**	P		P	08 35 33.5	+5.3
	comp=Z,6.6nm,0.9s,baz=260,slow=4.8,SNR=12							
	comp=Z,6.6nm,0.9s							
GEYT	**Alibeck**	**80.31**	**52**	LR		LR	09 13 36.1	
	comp=Z,32nm,21.5s,baz=189,slow=37							
TXAR	**Lajitas Array**	**84.91**	**299**	P		P	08 36 58.7	+9.4
	comp=Z,0.4nm,0.9s,baz=99,slow=5.6,SNR=3.2							
	comp=Z,0.4nm,0.9s							
BVAR	**Borovoye Array**	**90.01**	**37**	P		P	08 37 20.2	+6.9
	comp=Z,0.8nm,0.6s,baz=260,slow=5.6,SNR=2.4							
	comp=Z,0.8nm,0.6s							
ASAR	**Alice Springs**	**145.05**	**134**	PKP		**PKiKP**	**08 43 56.0**	**+0.1**
	comp=Z,0.3nm,0.6s,baz=234,slow=2.6,SNR=5.3							
WRA	**Warramunga Arr**	**147.59**	**129**	PKPbc		**PKiKP**	**08 44 05.2**	**+4.0**
	comp=Z,0.5nm,0.9s,baz=241,slow=2.8,SNR=1.7							

NEIC 31 08:29:40.5±1.1, 19°.38N±0°.03×155°.07W±0°.02, h5km±1km, ML2.9/38, Error ellipse: s-maj=5.5km s-min=2.8km az=138.0, Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
STCH	**Steam Cracks**	**0.05**	**271**			Pg	08 29 42.1	+0.3
JOKA	**Jonika Flow**	**0.08**	**53**			Pg	08 29 41.8	-0.6
JOKA				IAML			08 29 43.8	
	comp=E,6µm,0.7s							
JOKA				IAML			08 29 44.2	
	comp=N,7µm,0.7s							
KNHH	**Kane Nui o Ham**	**0.09**	**267**			Pg	08 29 42.7	+0.2
PUH	**Pauahi**	**0.14**	**266**			Pg	08 29 43.4	+0.1
PAH	**Pahoa**	**0.16**	**47**			Pg	08 29 43.0	-0.7
BYL	**Byron's Ledge**	**0.18**	**279**			Pg	08 29 44.0	-0.1
HATHI	**Halema'uma'u T**	**0.18**	**282**			Pg	08 29 44.3	+0.1
HATHI				IAML			08 29 49.7	
	comp=N,2µm,0.1s							
HATHI				IAML			08 29 49.8	
	comp=E,3µm,0.1s							
RSD	**Rainshed**	**0.21**	**292**			Pg	08 29 44.7	+0.1
RSD				IAML			08 29 50.8	
	comp=N,3µm,0.2s							
UWE	**Uwekahuna**	**0.21**	**280**			Pg	08 29 45.3	+0.6
UWE				IAML			08 29 51.2	
	comp=E,3µm,0.5s							
UWE				IAML			08 29 51.9	
	comp=N,2µm,0.2s							
MLH	**Mauna Loa**	**0.32**	**290**			Pg	08 29 47.2	+0.4
MLH				IAML			08 29 54.1	
	comp=E,2µm,0.2s							
HMH	**Humu'ula Sheep**	**0.44**	**299**			Pg	08 29 49.1	0.0
MLOA	**Mauna Loa Obse**	**0.50**	**288**			Pg	08 29 49.9	-0.2
MWH	**Moku'aweowe**	**0.51**	**282**			Pg	08 29 49.9	-0.4
MWH				IAML			08 30 02.2	
	comp=E,1µm,0.4s							
MWH				IAML			08 30 04.4	
	comp=N,1µm,0.4s							
KHU	**Kahuku**	**0.53**	**255**			Pg	08 29 50.3	-0.5
KHU				IAML			08 29 59.9	
	comp=E,682nm,0.4s							
KHU				IAML			08 30 06.9	
	comp=N,589nm,0.5s							

*IDC **31** 08:43:11.7±2.5, 60°.80N×28°.83E, h0km, mbtmp3.0/2, ML2.4/2, Error ellipse: s-maj=19.3km s-min=15.6km az=41.0*
*HEL **31** 08:43:11.3±0.3, 60°.86N×28°.89E, h0km, ML1.9, Explosion*
ISC 31 08:43:11.1±1.0, 60°.88N±0°.04×28°.82E±0°.05, h10km, n28, σ1s88/39, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
RUF	**Ruokolahti**	**0.55**	**7**	PG		**Pg**	**08 43 21.5**	**-0.3**
RUF				SG		**Sg**	**08 43 29.2**	**+0.1**
RUF				MSG			08 43 29.5	
	comp=Z,13nm,0.2s							
VJF	**Virojoki**	**0.71**	**242**	PG		**Pg**	**08 43 24.6**	**-0.1**
	baz=65							
VJF				MSG			08 43 34.1	
	comp=Z,11nm,0.2s							
VJF				SG		**Sg**	**08 43 34.9**	**+1.0**
FIA0	**FINESS Array S**	**1.45**	**294**	PG		**Pn**	**08 43 37.5**	**+0.3**
	baz=107							
FIA0				MSG			08 43 55.9	
	comp=Z,11nm,0.2s							
FIA0				SN		**Sb**	**08 43 58.2**	**+1.7**
FINES	**FINESS Array B**	**1.45**	**294**	Pg		**Pn**	**08 43 37.6**	**+0.4**
	comp=Z,2.3nm,0.3s,baz=118,slow=16,SNR=45							
FINES				Lg		Lg	08 43 58.6	
	comp=Z,12nm,0.3s,baz=113,slow=31,SNR=53							
PVF	**Pernaja**	**1.49**	**258**	PG		**Pn**	**08 43 38.1**	**+0.2**
	baz=79							
PVF				MSG			08 43 56.9	
	comp=Z,12nm,0.2s							
PVF				SN		**Sb**	**08 43 59.5**	**+1.8**
KAF	**Kangasniemi**	**1.73**	**317**	PN		**Pb**	**08 43 43.2**	**+0.3**
KAF				MSG			08 44 03.9	
	comp=Z,11nm,0.2s							
KAF				SN		**Sg**	**08 44 07.5**	**+0.9**
ARBE	**Arbavere**	**2.02**	**226**	PG		**Pb**	**08 43 47.9**	**0.0**
ARBE				SG		**Sg**	**08 44 16.1**	**+0.1**
NUR	**Nurmijrvi**	**2.08**	**262**	MSG			08 44 14.0	
	comp=Z,4.3nm,0.2s							
NUR				SG		**Sb**	**08 44 17.0**	**+2.2**
SUF	**Sumiainen**	**2.24**	**327**	PG		**Pb**	**08 43 51.7**	**+0.1**
	baz=144							
SUF				MSG			08 44 18.7	
	comp=Z,3.5nm,0.2s							
MEF	**Metsahovi**	**2.28**	**255**	*e*P		**Pn**	**08 43 50.8**	**+2.1**
MEF	**Metsahovi**	**2.28**	**255**	PG		**Pn**	**08 43 51.1**	**+2.3**
MEF				MSG			08 44 19.7	
	comp=Z,6.5nm,0.2s							
MEF				SG		**Sb**	**08 44 21.3**	**+0.8**
KEF	**Keuruu**	**2.29**	**306**	*e*P		**Pb**	**08 43 51.9**	**-0.6**
KEF	**Keuruu**	**2.29**	**306**	PB		**Pb**	**08 43 51.5**	**-0.9**
	baz=118							
KEF				MSG			08 44 20.2	
	comp=Z,3.7nm,0.2s							
KEF				SG		**Sb**	**08 44 24.0**	**+3.2**
JOF	**Joensuu**	**2.37**	**29**	*e*P		**Pb**	**08 43 52.5**	**-1.2**
JOF	**Joensuu**	**2.37**	**29**	PB		**Pn**	**08 43 51.9**	**+2.0**
JOF				SB		**Sb**	**08 44 22.1**	**-0.8**
NIF	**Nilsia**	**2.57**	**350**	PB		**Pb**	**08 43 56.3**	**-0.9**
	baz=166							
NIF				SG		**Sb**	**08 44 29.9**	**+1.2**
VSU	**Vasula**	**2.64**	**204**	SG		**Sb**	**08 44 33.5**	**+2.6**
MTSE	**Matsula**	**3.33**	**232**	SG		**Sg**	**08 44 56.5**	**-1.4**
RMF	**Romuvaara**	**3.39**	**8**	PB		**Pb**	**08 44 08.0**	**-3.2**
RAF	**Rauma**	**3.44**	**276**	*e*P		**Pb**	**08 44 09.2**	**-2.9**
VAF	**Ylistaro**	**3.62**	**309**	PB		**Pb**	**08 44 12.7**	**-2.5**
	baz=122							
OUF	**Merijarvi**	**3.98**	**333**	PG		**Pb**	**08 44 24.4**	**+3.2**
OBF8	**Ulkokalla**	**4.26**	**327**	PG		**Pb**	**08 44 26.6**	**+0.6**
AAL	**Aland**	**4.42**	**265**	SG		**Sg**	**08 45 29.3**	**-3.4**
OUL	**Oulu**	**4.43**	**344**	PG		**Pb**	**08 44 30.9**	**+2.0**
HFS	**Hagfors**	**7.50**	**271**	Pn		**Pn**	**08 45 02.6**	**+2.2**
	comp=Z,0.1nm,0.3s,baz=81,slow=11,SNR=1.6							
HFS				Sn		**Sn**	**08 46 23.6**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=125,slow=20,SNR=1.8							
HFS				Lg		Lg	08 47 05.8	
	comp=Z,0.3nm,0.3s,baz=84,slow=39,SNR=2.3							
	comp=Z,0.4nm,0.3s							
NOA	**NORSAR Array B**	**8.56**	**279**	Pn		**Pn**	**08 45 14.2**	**-0.8**
	baz=98,slow=12,SNR=5.6							
NOA				Sn		**Sn**	**08 46 47.5**	**-4.0**
	baz=75,slow=16,SNR=1.8							
NOA				Lg		Lg	08 47 38.2	
	baz=134,slow=23,SNR=3.7							
	comp=Z,0.2nm,0.3s							
I37NO	**I37NO**	**9.28**	**337**	I		I	09 40 00.0	
	baz=150,slow=320,SNR=0.3							

*IDC **31** 08:43:49.2±0.5, 12°.89S×45°.59E, h0km, mb4.2/23, mbtmp4.2/24, ML4.8/2, MS3.5/28, Error ellipse: s-maj=15.0km s-min=11.6km az=131.0*
*NEIC **31** 08:43:51.4±1.7, 12°.86S±0°.08×45°.7E±0°.1, h10km±1km, mb4.7/38, Error ellipse: s-maj=20.0km s-min=13.8km az=255.0*
ISC 31 08:43:50.5±0.4, 12°.95S±0°.06×45°.67E±0°.07, h10km, n130, σ0s95/120, mb4.6/60, MS3.5/26, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
OPO	**Ambohidratompo**	**5.78**	**166**	Pn		**Pn**	**08 45 17.6**	**+1.1**
	17nm,0.3s,baz=338,slow=12,SNR=220							
OPO				Sn		**Sn**	**08 46 18.9**	**-4.1**
	28nm,0.3s,baz=270,slow=20,SNR=16							
OPO				LR		LR	08 47 48.6	
	comp=Z,566nm,18.9s,baz=192,slow=41							
ABPO	**Ambohimpanom**	**6.22**	**166**	Pn		**Pn**	**08 45 23.9**	**+1.3**
VOI	**Vohitsoka**	**8.98**	**173**			**Pn**	**08 46 01.1**	**+0.8**
FOMA	**Nahampoana Res**	**12.03**	**174**	Pn		**Pn**	**08 46 42.4**	**+0.3**
RER	**Riviere de l'E**	**12.62**	**132**	Pn		**Pn**	**08 46 50.0**	**-0.3**
KIBK	**Kibwezi**	**12.96**	**324**	Pn		**Pn**	**08 46 53.4**	**-1.5**
CHIPN	**CHIPANGE**	**14.43**	**238**	*i* P		**Pn**	**08 47 12.5**	**-2.5**
MOPA	**Mopani**	**17.14**	**230**	*i* P		**Pn**	**08 47 48.1**	**-2.2**
MUSN	**Musina, Limpop**	**17.69**	**236**	*i* P		**Pn**	**08 47 57.2**	**+0.1**
MATP	**Matopo**	**18.05**	**243**	*i* P		**Pn**	**08 48 00.9**	**-0.7**
MATP	**Matopo**	**18.05**	**243**	P		**Pn**	**08 48 01.8**	**+0.2**
	0.5nm,0.3s,baz=59,slow=12,SNR=13							
MATP				S		**Sn**	**08 51 22.0**	**-1.2**
	1.1nm,0.5s,baz=108,slow=19,SNR=2.2							
	3.4nm,0.7s							
LODK	**Lodwar**	**19.22**	**327**			**Pn**	**08 48 15.6**	**-0.3**
MBAR	**Mbarara**	**19.22**	**308**	P		**Pn**	**08 48 18.3**	**+2.2**
	5.1nm,0.2s,baz=98,slow=11,SNR=4.2							
MBAR				LR		LR	08 55 11.5	
	comp=Z,133nm,18.8s,baz=126,slow=36							
POGA	**Pongola**	**19.39**	**220**			**P**	**08 48 17.6**	**+0.

comp=Z,7.1nm,0.8s
KK31 Karatay Array 60.24 21 P **P** 08 53 58.1 -0.8
KK31 IAmb IAmb 08 54 09.2
comp=Z,5.1nm,1.2s
KKAR Karatay Array 60.24 21 P **P** 08 53 58.4 -0.5
MLR Muntele Rosu 60.84 344 LR LR 09 20 32.1
comp=Z,19nm,19.5s,baz=142,slow=36
CMAR Chiang Mai Arr 61.09 60 P **P** 08 54 05.4 +0.1
CMAR Chiang Mai Arr 61.09 60 P **P** 08 54 05.7 +0.5
comp=Z,2.7nm,0.6s,baz=247,slow=8.2,SNR=13
CMAR LR LR 09 17 45.8
comp=Z,24nm,18.2s,baz=250,slow=33
comp=Z,2.7nm,0.6s
CHTO Chiang Mai 61.26 60 P **P** 08 54 06.3 0.0
CHTO IAmb IAmb 08 54 07.8
comp=Z,8.2nm,1.1s
PHRA Phrae 62.20 61 P **P** 08 54 12.3 -0.4
BURAR Bucovina Array 62.99 345 P **P** 08 54 17.5 0.0
NRCA Norcia 63.02 334 P **P** 08 54 17.5 -0.3
ABKAR Akbulak array 63.20 10 P **P** 08 54 18.2 -0.5
ABKAR Akbulak array 63.20 10 P **P** 08 54 17.9 -0.8
AKASG Malin Array Be 64.99 349 P **P** 08 54 29.5 -0.9
comp=Z,2.2nm,0.8s,baz=160,slow=5.6,SNR=8.2
AKASG LR LR 09 23 22.6
comp=Z,26nm,18.5s,baz=51,slow=37
comp=Z,2.2nm,0.8s
SABO M.te Sabotino 65.39 336 P **P** 08 54 33.0 -0.2
SABO IAmb IAmb 08 54 33.9
comp=Z,6.7nm,0.7s
SOKA Soboth 65.41 337 *eP* **P** 08 54 33.6 +0.2
comp=Z,2.9nm,0.7s
SNAA Sanae 65.45 195 LR LR 09 18 14.9
comp=Z,44nm,19.1s,baz=45,slow=32
OBKA Obir 65.45 337 *i* P **P** 08 54 33.9 +0.2
comp=Z,4.6nm,0.9s
ARSA Arzberg 65.71 338 *i* P **P** 08 54 35.6 +0.3
comp=Z,5.2nm,0.7s
RONA Rosalia, Austr 65.81 339 *i* P **P** 08 54 35.9 0.0
comp=Z,8.5nm,0.8s
MYKA Terra Mystica 65.90 336 *i* P **P** 08 54 36.3 -0.2
comp=Z,2.1nm,1.1s
MODS Modra-Piesok 66.05 340 *eP* **P** 08 54 37.3 -0.1
CIMO Cimolais 66.12 335 P **P** 08 54 37.6 -0.3
CIMO IAmb IAmb 08 54 38.6
comp=Z,4.9nm,0.8s
MDT Midelt 66.14 315 LR LR 09 24 41.6
comp=Z,48nm,18.1s,baz=162,slow=37
CONA Conrad Observa 66.16 339 *i* P **P** 08 54 38.3 +0.1
comp=Z,5.1nm,0.9s
JAVC Velka Javorina 66.34 340 *eP* **P** 08 54 40.0 +0.7
KBA Koelnbreinsper 66.39 336 *i* P **P** 08 54 39.8 0.0
comp=Z,6.9nm,1.1s
ABTA Abfaltersbach 66.45 336 *i* P **P** 08 54 40.0 0.0
comp=Z,4.6nm,1.1s
MOA Molln 66.68 338 *i* P **P** 08 54 41.1 -0.4
comp=Z,6.5nm,0.9s
BIOA Bad Ischl, Aus 66.78 337 *i* P **P** 08 54 41.2 -0.9
comp=Z,5.6nm,1.1s
LESA Schwarzleotal 66.93 336 *i* P **P** 08 54 42.7 -0.4
comp=Z,4.2nm,1.0s
KRUC Moravsky 66.94 340 *eP* **P** 08 54 42.1 -1.0
VRAC Vranov 67.08 340 *eP* **P** 08 54 42.9 -1.1
PZH PanZhiHua 67.12 54 P **P** 08 54 44.8 0.0
PZH pmax pmax
comp=Z,10.0nm,1.0s
PZH pmax pmax
comp=Z,100nm,4.8s
MORC Moravsky Berou 67.18 341 P **P** 08 54 43.9 -0.7
MORC IAmb IAmb 08 54 45.3
comp=Z,6.1nm,0.9s
MORC Moravsky Berou 67.18 341 *eP* **P** 08 54 43.2 -1.4
WTTA Wattenberg 67.22 336 *eP* **P** 08 54 44.4 -0.7
comp=Z,3.3nm,0.9s
FUORN Ofenpass-Fuorn 67.27 334 P **P** 08 54 44.8 -0.7
WATA Walderalm 67.30 336 *eP* **P** 08 54 45.1 -0.5
comp=Z,2.9nm,0.7s
SQTA Sankt Quirin 67.35 335 *eP* **P** 08 54 45.0 -0.9
comp=Z,2.7nm,0.8s
FETA Feichten 67.39 335 *i* P **P** 08 54 46.4 +0.3
comp=Z,8.3nm,0.9s
MOTA Moosalm 67.50 335 *eP* **P** 08 54 45.9 -0.9
comp=Z,6.2nm,1.0s
DAVOX Davos/Dischmat 67.56 334 LR LR 09 25 58.1
comp=Z,12nm,21.3s,baz=82,slow=38
GEC2 GERESS Array S 67.71 338 P **P** 08 54 47.5 -0.7
GEC2 IAmb IAmb 08 54 48.2
comp=Z,5.2nm,1.0s
GERES GERESS Array B 67.71 338 P **P** 08 54 47.1 -1.0
GERES GERESS Array B 67.71 338 P **P** 08 54 47.4 -0.7
comp=Z,2.7nm,0.9s,baz=129,slow=5.3,SNR=14
GERES LR LR 09 27 04.4
comp=Z,25nm,18.4s,baz=150,slow=38
comp=Z,2.7nm,0.9s
RETA Reutte 67.75 335 *eP* **P** 08 54 48.3 0.0
comp=Z,7.2nm,1.1s
MKAR Makanchi Array 67.92 26 P **P** 08 54 48.5 -0.9
MKAR Makanchi Array 67.92 26 P **P** 08 54 48.8 -0.5
comp=Z,1.1nm,0.6s,baz=214,slow=7.1,SNR=8.0
MKAR LR LR 09 22 37.6
comp=Z,21nm,21.4s,baz=232,slow=34
comp=Z,1.1nm,0.6s
DAVA Damuels 67.96 335 *eP* **P** 08 54 49.3 -0.5
comp=Z,1.6nm,0.6s
BVAR Borovoye Array 69.05 16 P **P** 08 54 55.9 -0.4
comp=Z,1.5nm,0.8s,baz=212,slow=5.1,SNR=2.2
comp=Z,1.5nm,0.8s
BFO Black Forest 69.42 334 P **P** 08 54 58.6 -0.1
BFO IAmb IAmb 08 54 59.6
comp=Z,7.1nm,1.3s
ESDC Sonseca Array 69.77 321 P **P** 08 55 01.2 +0.1
ESDC Sonseca Array 69.77 321 P **P** 08 55 01.6 +0.5
comp=Z,2.1nm,0.8s,baz=127,slow=5.7,SNR=18
comp=Z,2.1nm,0.8s
ARU Arti 69.95 8 P **P** 08 55 00.9 -0.8
LZH Lanzhou 73.39 46 *eP* **P** 08 55 20.5 -2.6
LZH sP PcP 08 55 43.5 +4.2
LZH pmax pmax
comp=Z,24nm,1.1s
ZALV Zalesovo Beam 74.49 23 P **P** 08 55 27.4 -1.5
comp=Z,1.3nm,0.4s,baz=225,slow=6.1,SNR=4.2
comp=Z,1.3nm,0.4s
TOLI2 Tolitoli 75.75 86 P **P** 08 55 37.3 +0.2
TOLI2 IAmb IAmb 08 55 47.8
comp=Z,6.7nm,1.1s
FINES FINESS Array B 75.75 350 P **P** 08 55 35.7 -0.3
FINES FINESS Array B 75.75 350 P **P** 08 55 35.9 -0.1
comp=Z,3.6nm,0.7s,baz=142,slow=7.2,SNR=11
comp=Z,3.6nm,0.7s
QSPA South Pole Qui 77.15 180 P **P** 08 55 45.7 +1.5
comp=Z,0.7nm,0.7s,baz=329,slow=3.3,SNR=5.2
QSPA LR LR 09 27 56.9
comp=Z,65nm,18.2s,baz=240,slow=34
comp=Z,0.7nm,0.7s
HFS Hagfors 77.22 344 P **P** 08 55 43.8 -0.6
comp=Z,3.8nm,0.8s,baz=144,slow=5.3,SNR=7.4
HFS LR LR 09 31 34.0
comp=Z,17nm,18.3s,baz=153,slow=37
comp=Z,3.8nm,0.8s
NB201 NORSAR Array S 78.64 344 P **P** 08 55 52.2 -0.1
NB201 IAmb IAmb 08 55 53.2
comp=Z,12nm,1.1s
NB2 NORSAR Subarra 78.65 344 P **P** 08 55 52.3 -0.1
comp=Z,3.8nm,1.0s,baz=144,slow=7.9
NOA NORSAR Array B 78.65 344 P **P** 08 55 52.6 +0.2
comp=Z,1.3nm,0.8s,baz=135,slow=5.4,SNR=5.4
NOA LR LR 09 35 53.3
comp=Z,14nm,19.0s,baz=115,slow=40
comp=Z,1.3nm,0.8s
LYN LuoYang 78.97 51 *eP* **P** 08 55 57.0 +2.3
LYN pmax pmax
comp=Z,19nm,0.5s
LYN pmax pmax
comp=Z,120nm,4.5s
EKA Eskdalemuir Ar 79.40 334 P **P** 08 55 56.7 +0.1
comp=Z,2.3nm,0.8s,baz=128,slow=5.5,SNR=8.2
comp=Z,2.3nm,0.8s
HHC Hu-ho-hao-te 80.96 45 *eP* **P** 08 56 04.5 -1.0
HHC pmax pmax
comp=Z,8.0nm,0.6s
HHC pmax pmax
comp=Z,68nm,4.5s
SONM Songino Array 80.98 37 P **P** 08 56 06.3 +0.8
SONM Songino Array 80.98 37 P **P** 08 56 06.7 +1.2
comp=Z,1.5nm,0.8s,baz=225,slow=5.3,SNR=6.1
comp=Z,1.5nm,0.8s
VNDA Vanda 82.89 169 LR LR 09 30 42.9
comp=Z,56nm,18.3s,baz=226,slow=34

NJ2 Nanjing 82.99 55 *eP* **P** 08 56 17.5 +1.3
NJ2 sP **pwP** 08 56 22.0 -0.9
NJ2 pmax pmax
comp=Z,10.0nm,0.9s
NJ2 pmax pmax
comp=Z,97nm,3.8s
ASAR Alice Springs 83.31 113 P **P** 08 56 18.7 +0.5
ASAR Alice Springs 83.31 113 P **P** 08 56 18.9 +0.7
comp=Z,1.3nm,0.6s,baz=264,slow=4.8,SNR=28
comp=Z,1.3nm,0.6s
AS31 Alice Springs 83.31 113 P **P** 08 56 18.7 +0.5
ARCES ARCESS Array B 83.48 353 P **P** 08 56 17.4 -0.6
comp=Z,2.4nm,0.9s,baz=157,slow=4.9,SNR=3.8
ARCES LR LR 09 37 40.4
comp=Z,21nm,18.5s,baz=230,slow=39
comp=Z,2.4nm,0.9s
WRA Warramunga Arr 84.44 109 P **P** 08 56 24.9 +0.8
comp=Z,1.2nm,0.7s,baz=259,slow=3.1,SNR=6.9
comp=Z,1.2nm,0.7s
STKA Stephens Creek 88.20 122 P **P** 08 56 42.1 -0.2
comp=Z,1.0nm,0.8s,baz=253,slow=3.8,SNR=2.9
comp=Z,1.0nm,0.8s
BDFB Brasilia 90.04 254 LR LR 09 34 54.6
comp=Z,30nm,18.6s,baz=232,slow=34
CPUP Villa Florida 95.66 241 LR LR 09 35 54.5
comp=Z,46nm,18.7s,baz=156,slow=33
ILAR Eielson Array 127.51 7 PKP **PKPdf** 09 02 54.1 -1.3
comp=Z,0.5nm,0.8s,baz=307,slow=3.3,SNR=4.5
YKA Yellowknife Ar 128.55 348 PKP **PKPdf** 09 02 57.5 +0.1
comp=Z,0.3nm,0.5s,baz=46,slow=1.8,SNR=3.4
PDAR Pinedale Array 143.37 329 PKP **PKPdf** 09 03 26.1 +0.3
comp=Z,0.5nm,0.5s,baz=90,slow=2.7,SNR=5.4
TXAR Lajitas Array 147.22 305 PKPbc **PKPbc** 09 03 34.6 -0.2
comp=Z,1.1nm,0.7s,baz=98,slow=3.5,SNR=16
NVAR Mina Array Bea 150.90 334 PKP **PKPdf** 09 03 40.3 +1.8
comp=Z,1.5nm,0.8s,baz=45,slow=1.4,SNR=8.0
NVAR PKPbc **PKiKP** 09 03 44.7 0.0
comp=Z,1.6nm,0.8s,baz=56,slow=2.4,SNR=6.9

DJA 31 08:44:56.0±0.6, 8°S±5°×12°3E±°, h192km±4km, M3.5/10, mb3.8/3, MLv3.4/10, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MMRI	**Maumere**	**1.18**	**250**	P	Pn	08 45 27.0	+0.7
MMRI				S	Sn	08 45 50.3	+0.6
EDFI	**Ende, Flores**	**1.73**	**253**	P	Pn	08 45 31.9	+0.6
EDFI				S	Sn	08 45 59.0	+0.4
SOEI	**Soe**	**1.75**	**149**	P	Pn	08 45 31.7	+0.1
SOEI				S	Sn	08 45 58.9	-0.3
BATI	**Baumata**	**1.98**	**171**	P	Pn	08 45 34.3	+0.6
BATI				S	Sn	08 46 03.5	+0.3
BASI	**Baing, Sumba**	**3.38**	**234**	P	Pn	08 45 50.0	+0.2
PLAI	**Plampang**	**5.55**	**264**	P	Pn	08 46 16.7	-0.7
	14nm,0.7s,0.2nm						
TWSI	**Taliwang, Sumb**	**6.43**	**265**	P	Pn	08 46 28.0	-0.8

KRSC 31 08:56:21.1±1.2, 49°20N×156°74E, h15km±15km, Ml3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PAU	**Pauzhetka**	**2.27**	**1**	eS	Sb	08 57 28.8	-0.6
KDTR	**Khodutka, Kamc**	**2.75**	**18**	eP	Pb	08 57 07.3	-2.4
KDTR				eS	Sb	08 57 41.0	-2.2
ASAK	**Asacha**	**3.27**	**13**	eP	Pn	08 57 15.0	+3.2
ASAK				eS	Sn	08 57 53.9	+3.6
MTVR	**Mutnovka**	**3.41**	**15**	eP	Pn	08 57 17.0	+3.3
MTVR				eS	Sn	08 57 58.0	+4.1
RUS	**Russkaya**	**3.42**	**18**	eP	Pn	08 57 16.3	+2.5
RUS				eS	Sn	08 57 57.1	+3.0
GRL	**Gorelyy**	**3.46**	**14**	eP	Pn	08 57 17.8	+3.4
GRL				eS	Sb	08 57 59.6	-4.2
DALK	**Dalny**	**4.04**	**18**	eP	Pn	08 57 25.5	+3.3
DALK				eS	Sn	08 58 13.7	+4.6
UGLR	**Uglovaya**	**4.22**	**17**	eP	Pn	08 57 28.5	+3.7
AVH	**Avacha**	**4.26**	**16**	eP	Pn	08 57 29.6	+4.2
KOK	**Koryaka**	**4.26**	**15**	eP	Pn	08 57 29.6	+4.2
KRER	**Koryakskii**	**4.30**	**16**	eP	Pn	08 57 29.8	+3.8
KRX	**Arik**	**4.33**	**15**	eP	Pn	08 57 30.1	+3.7

*ISN **31** 09:05:55.7±0.6, 33°69N×45°54E, h10km±3km, ML2.8*
*TEH **31** 09:05:56.4, 33°73N×45°61E, h10km±86km, ML2.8*
ISC 31 09:05:55.7±1.5, 33°71N±0°03×45°55E±0°05, h2km±15km, n9, σ0s98/14, Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GLG1	**Gilan-e-Gharb**	**0.50**	**36**	Pg	**Pg**	**09 06 05.5**	**+0.2**
GLG1				Sg	**Sg**	**09 06 12.5**	**+0.6**
IBDR	**Badra**	**0.67**	**152**	*e*Pg	**Pg**	**09 06 09.0**	**+0.4**
IBDR				*e*Sg	**Sg**	**09 06 18.0**	**+0.7**
IGHG	**Ghaleghazi**	**1.05**	**53**	Pg	**Pb**	**09 06 16.4**	**-0.3**
BHD	**Baghdad**	**1.07**	**246**	*e*Pn	**Pn**	**09 06 18.0**	**+0.2**
BHD				*e*Sn	**Sn**	**09 06 35.0**	**+1.8**
BHD				AML	AML	09 06 42.1	
	comp=E,39nm,0.8s						
IDHR	**Dehrash**	**1.21**	**35**	Pg	**Pn**	**09 06 19.2**	**-0.6**
KCHF	**Cheshme Sefid,**	**1.36**	**65**	Pg	**Pg**	**09 06 21.9**	**+0.1**
IKRK	**Kirkuk**	**1.96**	**330**	*e*Pn	**Pb**	**09 06 31.0**	**-1.2**
IKRK				*e*Sn	**Sb**	**09 06 57.0**	**-0.1**
RAFI	**Al-Rafai**	**2.04**	**166**	*e*Pn	**Pb**	**09 06 32.0**	**-1.4**
RAFI				*e*Sn	**Sb**	**09 06 58.0**	**-1.1**
IDOB	**Doab**	**2.19**	**87**	Pn	**Pn**	**09 06 33.9**	**+0.6**

IDC 31 09:07:03.7±22.0, 13°33S×45°19E, h0km, mb3.7/3, mbtmp3.7/3, Error ellipse: s-maj=957.0km s-min=39.9km az=159.0, Northwest of Madagascar

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BOSA	**Boshof**	**23.98**	**228**	P	P	09 12 20.3	+0.1
	1.5nm,0.6s,baz=57,slow=10,SNR=4.0						
	1.5nm,0.6s						
ASAR	**Alice Springs**	**83.60**	**113**	P	P	09 19 35.0	+0.4
	0.4nm,0.7s,baz=263,slow=4.6,SNR=2.7						
	0.4nm,0.7s						
WRA	**Warramunga Arr**	**84.76**	**109**	P	P	09 19 40.2	-0.4
	0.8nm,1.0s,baz=256,slow=4.3,SNR=1.7						
	0.8nm,1.0s						

*SJA **31** 09:09:27.0±0.6, 20°97S×68°96W, h123km±3km, ML3.7, MW3.6*
*GUC **31** 09:09:28.8±0.5, 20°98S×68°91W, h113km±2km, ML3.8*
ISC 31 09:09:29.5±1.5, 20°96S±0°03×69°05W±0°05, h113km±11km, n28, σ1s28/49, 6C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB08	**IPOC Station P**	**0.82**	**354**	*e*P	**Pn**	**09 09 48.8**	**-0.8**
PB08	**IPOC Station P**	**0.82**	**354**	*e*P	**Pn**	**09 09 49.0**	**-0.6**
PB08				*e*S	**Sn**	**09 10 04.7**	**-0.1**
PB08				IAML		09 10 05.0	
	comp=E,2μm,0.3s						
PB09	**IPOC Station P**	**0.85**	**192**	*e*P	**Pn**	**09 09 48.9**	**-0.8**
PB09				*e*S	**Sn**	**09 10 05.1**	**+0.3**
PB09				IAML		09 10 05.6	
	comp=Z,1μm,0.3s						
PB09	**IPOC Station P**	**0.85**	**192**	*i*P	**Pn**	**09 09 48.9**	**-0.8**
PB09				*e*S	**Sn**	**09 10 04.7**	**-0.1**
PB09				IAML		09 10 05.6	
	comp=N,2μm,0.3s						
TA01	**Diego Aracena**	**1.13**	**290**	*e*P	**Pn**	**09 09 51.5**	**-0.6**
TA01				*e*S	**Sn**	**09 10 11.2**	**+1.9**
TA01				IAML		09 10 12.3	
	comp=Z,547nm,0.3s						
TA01	**Diego Aracena**	**1.13**	**290**	*e*P	**Pn**	**09 09 52.2**	**0.0**
TA01				*e*S	**Sn**	**09 10 10.1**	**+0.8**
TA01				IAML		09 10 12.0	
	comp=E,2μm,0.4s						
TA02	**Huaiquique**	**1.22**	**304**	*e*P	**Pn**	**09 09 53.3**	**0.0**
TA02				*e*S	**Sn**	**09 10 12.8**	**+1.5**
TA02				IAML		09 10 17.8	
	comp=Z,1μm,0.1s						
TA02	**Huaiquique**	**1.22**	**304**	*e*P	**Pn**	**09 09 53.3**	**0.0**
TA02				*e*S	**Sn**	**09 10 12.2**	**+0.9**
TA02				IAML		09 10 13.3	
	comp=N,3μm,0.2s						
GO01	**Chusmiza**	**1.29**	**354**	*e*P	**Pn**	**09 09 54.0**	**-0.7**
GO01				*e*S	**Sn**	**09 10 14.1**	**+0.6**

GO01	**Chusmiza**	**1.29**	**354**	*e*P	**Pn**	**09 09 54.0**	**-0.7**
GO01				*e*S	**Sn**	**09 10 13.6**	**0.0**
PB11	**IPOC Station P**	**1.32**	**335**	*e*P	**Pn**	**09 09 54.2**	**-0.4**
PB11				*e*S	**Sn**	**09 10 14.3**	**+0.7**
PB11				IAML		09 10 15.7	
	comp=Z,1μm,0.1s						
PB11	**IPOC Station P**	**1.32**	**335**	*i*P	**Pn**	**09 09 54.1**	**-0.4**
PB11				*e*S	**Sn**	**09 10 13.8**	**+0.3**
LVC	**Limon Verde**	**1.64**	**175**	*e*P	**Pn**	**09 09 57.8**	**-0.8**
LVC				*e*S	**Sn**	**09 10 21.2**	**+0.6**
LVC				IAML		09 10 24.4	
	comp=Z,273nm,0.4s						
LVC	**Limon Verde**	**1.64**	**175**	*i*P	**Pn**	**09 09 57.8**	**-0.8**
LVC				*e*S	**Sn**	**09 10 20.3**	**-0.4**
LVC				IAML		09 10 21.8	
	comp=Z,2μm,0.3s						
PB04	**IPOC Station P**	**1.70**	**217**	*e*P	**Pn**	**09 09 58.5**	**-0.5**
PB04				*e*S	**Sn**	**09 10 22.2**	**+0.6**
PB04				IAML		09 10 25.1	
	comp=Z,525nm,0.1s						
PB04	**IPOC Station P**	**1.70**	**217**	*i*P	**Pn**	**09 09 58.6**	**-0.5**
PB04				*e*S	**Sn**	**09 10 21.2**	**-0.4**
PB04				IAML		09 10 25.9	
	comp=N,720nm,0.2s						
PB06	**IPOC Station P**	**1.80**	**195**	*e*P	**Pn**	**09 09 59.7**	**-0.6**
PB06				*e*S	**Sn**	**09 10 23.6**	**-0.1**
PB06				IAML		09 10 27.0	
	comp=Z,422nm,0.3s						
PB06	**IPOC Station P**	**1.80**	**195**	*e*P	**Pn**	**09 09 59.6**	**-0.6**
PB06				*e*S	**Sn**	**09 10 23.4**	**-0.3**
PB06				IAML		09 10 29.7	
	comp=E,651nm,0.3s						
AF01	**San Pedro de A**	**2.14**	**158**	*e*P	**Pn**	**09 10 03.9**	**-0.8**
PB15	**IPOC Station P**	**2.27**	**190**	*e*P	**Pn**	**09 10 05.4**	**-0.8**
PB15				*e*S	**Sn**	**09 10 40.7**	**+6.4**
PB15				IAML		09 10 42.9	
	comp=Z,1μm,0.2s						
PB15	**IPOC Station P**	**2.27**	**190**	*e*P	**Pn**	**09 10 05.6**	**-0.6**
PB12	**IPOC Station P**	**2.63**	**333**	*e*P	**Pn**	**09 10 09.4**	**-1.3**
PB12				*e*S	**Sn**	**09 10 42.4**	**-0.1**
PB12				IAML		09 10 51.3	
	comp=Z,181nm,0.2s						
PB12	**IPOC Station P**	**2.63**	**333**	*i*P	**Pn**	**09 10 09.6**	**-1.2**
PB12				*e*S	**Sn**	**09 10 42.3**	**-0.2**
PB12				IAML		09 10 51.2	
	comp=E,312nm,0.5s						
PB10	**IPOC Station P**	**2.89**	**208**	*e*P	**Pn**	**09 10 13.4**	**-0.7**
PB10				*e*S	Sn	09 10 36.7	-12
PB10	**IPOC Station P**	**2.89**	**208**	*e*P	**Pn**	**09 10 13.4**	**-0.7**
YJA	**Yavi**	**3.51**	**111**	*e*P	**Pn**	**09 10 21.9**	**-0.9**
YJA				*e*S	**Sn**	**09 11 05.7**	**+1.8**
PB14	**IPOC Station P**	**3.85**	**199**	*e*P	**Pn**	**09 10 24.8**	**-2.4**
PB14				IAML		09 11 32.2	
	comp=Z,48nm,1.2s						
LPAZ	**La Paz**	**4.73**	**11**	*e*P	**Pn**	**09 10 40.0**	**+0.6**

HEL 31 09:19:36.1±0.9, 65°05N×20°06E, h0km, ML0.9, Explosion, Sweden

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BURU	**Burvik**	**0.74**	**129**	PG	Pg	09 19 48.7	-1.5
BURU				SG	Sg	09 19 59.4	-0.3
UMAU	**Umeaa**	**1.21**	**167**	PN	Pb	09 19 59.5	-0.3
UMAU				SN	Sn	09 20 18.7	+1.5
OBF8	**Ulkokalla**	**1.63**	**115**	PN	Pn	09 20 06.0	+0.1
	baz=287						
OBF8				MSG		09 20 24.8	
	comp=Z,0.8nm,0.2s						
OBF8				SN	Sn	09 20 25.9	-1.6
OBF0	**Syolatti, Pyha**	**1.88**	**105**	PG	Pn	09 20 09.8	+0.4
	baz=286						
OBF0				MSG		09 20 31.8	
	comp=Z,0.5nm,0.2s						
OUF	**Merijarvi**	**2.12**	**107**	PG	Pb	09 20 14.2	-1.2
OUF				MSG		09 20 39.1	
	comp=Z,0.4nm,0.2s						
HEF	**Hetta**	**3.66**	**21**	PN	Pn	09 20 35.4	+1.5
HEF				SG	Sb	09 21 28.7	+2.2
KIF	**Kilpisjarvi**	**3.98**	**4**	PG	Pg	09 20 50.4	-1.9
KU6	**Riekki**	**4.21**	**72**	PN	Pn	09 20 42.5	+1.2
FIA0	**FINESS Array S**	**4.53**	**140**	PN	Pn	09 20 44.3	-1.5

TIR 31 09:23:51.2, 40°02N×20°83E, h3km±1km, Ml1.4, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LSK	**Leskovik**	**0.22**	**307**	P	Pg	09 23 56.0	+0.6
	baz=307						
LSK				S	Sg	09 23 58.3	0.0
	baz=307						
LSK				AMP			
	comp=E,1.4nm,0.6s,baz=307						
IGT	**Igoumenitsa**	**0.62**	**218**	P	Pg	09 24 03.8	+0.7
	baz=219						
IGT				S	Sb	09 24 13.7	-0.2
	baz=219						
IGT				AMP			
	comp=E,0.1nm,0.4s,baz=219						
SRN	**Sarande**	**0.65**	**258**	P	Pb	09 24 05.2	0.0
	baz=258						
SRN				S	Sb	09 24 14.4	-0.3
	baz=258						
SRN				AMP			
	comp=E,0.1nm,0.4s,baz=258						
FNA	**Florina**	**0.87**	**29**	P	Pg	09 24 07.7	-0.3
	baz=29						
FNA				S	Sb	09 24 22.0	+0.8
	baz=29						
FNA				AMP			
	comp=E,0.0nm,0.4s,baz=29						

ISK 31 09:25:10.4, 40°28N×27°92E, h0km, ML1.6/4, Suspected Mining explosion., Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
EDC	**Edincik**	**0.08**	**329**	Pg	Pg	09 25 14.5	+2.5
SUSR	**Susurluk-Balik**	**0.34**	**158**	Pg	Pg	09 25 18.1	+1.2
ARMT	**Armutlu**	**0.78**	**68**	Pg	Pb	09 25 26.1	-0.7
LPK	**Lapseki**	**0.89**	**277**	Pg	Pg	09 25 27.8	+0.3
LPK				Sg	Sb	09 25 40.8	-0.3

*WEL **31** 09:35:36.8±0.5, 40°S±3°×17°5E±°, h16km±6km, M3.3/14, ML3.6/14, MLv3.3/14, Error ellipse: s-maj=0.0km s-min=0.0km az=117.0, confirmed*
*NOU **31** 09:35:36.4, 39°79S×174°97E, h14km, MLv3.2/11, North Island, New Zealand*
ISC 31 09:35:37.5±0.9, 39°78S±0°02×174°99E±0°03, h30km±6km, n84, σ0s91/100, North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WAZ	**Wanganui**	**0.03**	**358**	P	**Pb**	**09 35 42.5**	**0.0**
WAZ				S	**Sb**	**09 35 47.0**	**+1.1**
OHWZ	**Ohakea**	**0.49**	**149**	P	**Pb**	**09 35 47.6**	**-0.2**
OHWZ				S	**Sn**	**09 35 55.7**	**-0.4**
MTVZ	**Mangateitei**	**0.54**	**44**	P	**Pb**	**09 35 47.8**	**-0.8**
MTVZ				S	**Sb**	**09 35 56.2**	**-0.1**
LREZ	**Lake Rotokare**	**0.55**	**305**	P	**Pb**	**09 35 48.8**	**0.0**
LREZ				S	**Sn**	**09 35 58.8**	**+0.5**
PKVZ	**Pokaka**	**0.56**	**30**	P	**Pb**	**09 35 48.0**	**-1.0**
PKVZ				S	**Sb**	**09 35 56.5**	**-0.3**
WNVZ	**Wahianoa**	**0.65**	**46**	P	**Pb**	**09 35 49.6**	**-0.9**
WNVZ				S	**Sb**	**09 35 58.9**	**-0.5**
MAVZ	**Matarangi**	**0.68**	**41**	P	**Pb**	**09 35 50.0**	**-1.0**
MAVZ				S	**Sb**	**09 35 59.4**	**-0.8**
WHVZ	**Whangaehu Hut**	**0.68**	**43**	P	**Pb**	**09 35 50.0**	**-1.0**
WHVZ				S	**Sb**	**09 35 59.7**	**-0.5**
FWVZ	**Far West T-bar**	**0.68**	**40**	P	**Pb**	**09 35 50.0**	**-1.1**
FWVZ				S	**Sb**	**09 35 59.4**	**-0.9**
MOVZ	**Moawhango**	**0.70**	**58**	P	**Pb**	**09 35 50.1**	**-1.1**
MOVZ				S	**Sb**	**09 35 59.5**	**-1.1**
TSZ	**Takapari Road**	**0.80**	**111**	P	**Pn**	**09 35 52.1**	**-0.7**
TSZ				S	**Sb**	**09 36 03.1**	**-0.4**
POWZ	**Post Office Ro**	**0.86**	**136**	P	**Pn**	**09 35 53.3**	**-0.2**
KHEZ	**Kahui Hut**	**0.89**	**302**	P	**Pn**	**09 35 54.1**	**0.0**
PNHZ	**Pukenui**	**0.94**	**99**	P	**Pn**	**09 35 54.1**	**-0.7**
PNHZ				S	**Sn**	**09 36 06.8**	**-0.4**

MRZ	**Mangatainoka R**	**0.99**	**153**	P	**Pn**	**09 35 55.3**	**0.0**
DVHZ	**Dannevirke**	**1.04**	**120**	P	**Pb**	**09 35 57.0**	**0.0**
DVHZ				S	**Sb**	**09 36 10.8**	**+0.5**
OGWZ	**Otaki Gorge**	**1.05**	**172**	P	**Pn**	**09 35 55.7**	**-0.4**
KRHZ	**Kereru**	**1.08**	**83**	P	**Pn**	**09 35 56.1**	**-0.4**
KRHZ				S	**Sb**	**09 36 11.4**	**+0.2**
PRWZ	**Pori Road**	**1.08**	**136**	P	**Pb**	**09 35 57.3**	**-0.3**
PRWZ				S	**Sb**	**09 36 11.7**	**+0.3**
KIW	**Kapiti Island**	**1.08**	**183**	P	**Pn**	**09 35 56.1**	**-0.5**
KIW				S	**Sn**	**09 36 09.8**	**-0.8**
WPHZ	**Waipukurau**	**1.15**	**105**	P	**Pb**	**09 35 59.0**	**+0.1**
HOWZ	**Holdsworth Sta**	**1.19**	**160**	P	**Pn**	**09 35 54.0**	**-4.1**
TIWZ	**Tintock**	**1.21**	**146**	P	**Pn**	**09 35 59.2**	**+0.8**
HIZ	**Hauiti**	**1.27**	**355**	P	**Pn**	**09 35 58.6**	**-0.6**
DUWZ	**D'Urville Isla**	**1.31**	**218**	P	**Pn**	**09 35 59.3**	**-0.5**
BKZ	**Black Stump Fm**	**1.32**	**63**	P	**Pn**	**09 35 59.9**	**0.0**
BFZ	**Birch Farm**	**1.32**	**133**	P	**Pn**	**09 36 00.3**	**+0.4**
BFZ	**Birch Farm**	**1.32**	**133**	P	**Pn**	**09 36 00.3**	**+0.4**
ANWZ	**Angora Road**	**1.33**	**121**	P	**Pb**	**09 36 01.1**	**-0.7**
CAW	**Cannon Point**	**1.33**	**177**	P	**Pn**	**09 36 00.0**	**0.0**
PRHZ	**Porangahau**	**1.36**	**112**	P	**Pb**	**09 36 02.0**	**-0.3**
MCHZ	**McNeill Hill**	**1.36**	**76**	P	**Pb**	**09 36 02.7**	**+0.3**
MTW	**Mount Morrison**	**1.43**	**164**	P	**Pn**	**09 36 02.3**	**+0.8**
KAHZ	**Kahuranaki**	**1.46**	**91**	P	**Pb**	**09 36 04.0**	**0.0**
PXZ	**Pawanui**	**1.46**	**100**	P	**Pb**	**09 36 04.9**	**+0.8**
TMWZ	**Te Maipa**	**1.50**	**153**	P	**Pn**	**09 36 03.4**	**+1.0**
WEL	**Wellington**	**1.51**	**186**	P	**Pn**	**09 36 03.6**	**+1.1**
TCW	**Tory Channel**	**1.53**	**201**	P	**Pn**	**09 36 02.3**	**-0.5**
SNZO	**South Karori**	**1.54**	**188**	P	**Pn**	**09 36 03.0**	**+0.1**
BHW	**Baring Head**	**1.63**	**183**	P	**Pn**	**09 36 04.9**	**+0.8**
PAWZ	**Paruwai Farm**	**1.64**	**168**	P	**Pn**	**09 36 05.4**	**+1.1**
MSWZ	**Moikau Station**	**1.65**	**173**	P	**Pn**	**09 36 05.6**	**+1.2**
TRWZ	**Traveller**	**1.70**	**162**	P	**Pn**	**09 36 06.5**	**+1.3**
PLWZ	**Palliser**	**1.80**	**174**	P	**Pn**	**09 36 07.5**	**+1.0**
TUWZ	**Tuamarina**	**1.83**	**205**	P	**Pn**	**09 36 06.8**	**-0.1**
RAHZ	**Arahi**	**1.84**	**63**	P	**Pb**	**09 36 10.2**	**-0.3**
NNZ	**Nelson**	**1.89**	**220**	P	**Pn**	**09 36 08.0**	**+0.3**
TARZ	**Mount Tarawera**	**1.94**	**38**	P	**Pb**	**09 36 14.5**	**+2.2**
TKNZ	**Takaka Hill**	**1.99**	**230**	P	**Pn**	**09 36 09.3**	**+0.2**
CMWZ	**Cape Campbell**	**2.05**	**196**	P	**Pb**	**09 36 14.1**	**0.0**
SNGZ	**Shannon Statio**	**2.08**	**62**	P	**Pb**	**09 36 17.0**	**+2.4**
BSWZ	**Blackbirch Sta**	**2.11**	**203**	P	**Pn**	**09 36 12.1**	**+1.3**
QRZ	**Quartz Range**	**2.15**	**240**	P	**Pn**	**09 36 10.6**	**-0.7**
QRZ	**Quartz Range**	**2.15**	**240**	P	**Pn**	**09 36 10.7**	**-0.6**
URZ	**Urewera**	**2.25**	**48**	P	**Pn**	**09 36 13.5**	**+0.9**
URZ	**Urewera**	**2.25**	**48**	P	**Pn**	**09 36 13.4**	**+0.8**
RAGZ	**Rawiri**	**2.28**	**57**	P	**Pn**	**09 36 14.9**	**+1.7**
MRNZ	**Matariki Terra**	**2.34**	**226**	P	**Pn**	**09 36 14.5**	**+0.5**
RIGZ	**Rimuhau**	**2.41**	**64**	P	**Pn**	**09 36 16.7**	**+1.2**
MWZ	**Matawai**	**2.45**	**55**	P	**Pn**	**09 36 15.7**	**+0.2**
THZ	**Tophouse**	**2.54**	**218**	P	**Pn**	**09 36 17.7**	**+1.0**
MKAZ	**Moumakai**	**2.67**	**3**	P	**Pn**	**09 36 17.8**	**-0.7**
AWAZ	**Awhitu Peninsu**	**2.73**	**354**	P	**Pn**	**09 36 19.2**	**0.0**
RUGZ	**Raukumara Rang**	**2.77**	**50**	P	**Pn**	**09 36 19.6**	**-0.4**
ETAZ	**East Tamaki Re**	**2.82**	**359**	P	**Pn**	**09 36 20.3**	**-0.2**
TWGZ	**Tauwhareparae**	**2.83**	**57**	P	**Pn**	**09 36 22.3**	**+1.6**
KHZ	**Kahutara**	**2.85**	**202**	P	**Pn**	**09 36 21.4**	**+0.5**
KHZ	**Kahutara**	**2.85**	**202**	P	**Pn**	**09 36 20.8**	**-0.1**
WTAZ	**Waiatarua**	**2.86**	**353**	P	**Pn**	**09 36 21.9**	**+0.8**
HAZ	**Te Kaha**	**2.98**	**48**	P	**Pn**	**09 36 23.4**	**+0.7**
WIAZ	**Waiheke Island**	**2.98**	**2**	P	**Pn**	**09 36 22.3**	**-0.5**
MBAZ	**Motutapu North**	**3.01**	**359**	P	**Pn**	**09 36 22.5**	**-0.5**
RVAZ	**Riverhead Bore**	**3.02**	**354**	P	**Pn**	**09 36 23.4**	**+0.1**
PKGZ	**Pakihiroa**	**3.06**	**53**	P	**Pn**	**09 36 24.7**	**+0.7**
KUZ	**Kuaotunu**	**3.08**	**11**	P	**Pn**	**09 36 25.8**	**+1.7**
DSZ	**Denniston Nort**	**3.11**	**230**	P	**Pn**	**09 36 24.6**	**0.0**
GVZ	**Greta Valley S**	**3.51**	**204**	P	**Pn**	**09 36 29.3**	**-0.7**
LTZ	**Lake Taylor**	**3.63**	**213**	P	**Pn**	**09 36 31.7**	**0.0**
INZ	**Inchbonnie**	**3.97**	**221**	P	**Pn**	**09 36 36.6**	**+0.2**
MQZ	**McQueen's Vall**	**4.29**	**203**	P	**Pn**	**09 36 38.6**	**-2.2**
OUZ	**Omahuta**	**4.68**	**346**	P	**Pn**	**09 36 46.6**	**+0.4**
OUZ	**Omahuta**	**4.68**	**346**	P	**Pn**	**09 36 46.5**	**+0.4**
FOZ	**Fox Glacier**	**5.39**	**224**	P	**Pn**	**09 36 56.7**	**+0.9**
JCZ	**Jackson Bay**	**6.31**	**225**	P	**Pn**	**09 37 09.1**	**+0.6**

IDC 31 09:49:36.3±3.6, 54.48N×87.14E, h0km, mbtmp3.0/2, ML2.7/2, Error ellipse: s-maj=33.5km s-min=21.2km az=45.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
I46RU	**ZALESOVO INFRA**	**1.46**	**250**	I	I	09 57 00.0	
	baz=70,slow=332,SNR=1.8						
ZALV	**Zalesovo Beam**	**1.46**	**250**	Pg	Pn	09 50 02.0	-1.9
	1.3nm,0.3s,baz=66,slow=16,SNR=7.1						
ZALV				Lg	Lg	09 50 23.3	
	1.2nm,0.3s,baz=64,slow=29,SNR=2.0						
KURBB	**Kurchatov Arra**	**6.52**	**237**	Pn	Pn	09 51 13.9	+0.6
	0.1nm,0.3s,baz=54,slow=14,SNR=4.4						
	0.5nm,0.4s						
MKAR	**Makanchi Array**	**8.29**	**204**	Pn	Pn	09 51 38.9	+1.2
	0.2nm,0.3s,baz=24,slow=14,SNR=6.2						
	0.2nm,0.3s						

*AFAD **31** 10:10:01.0±0.0, 40.07N×44.69E, h6km±6km, ML2.0*
*AZER **31** 10:10:02.1, 40.10N×44.79E, h16km, ml2.6*
*ISK **31** 10:10:03.1, 40.05N×44.62E, h4km, ML2.0/4*
ISC 31 10:10:02.4±1.2, 40.08N±0.03×44.67E±0.03, h7km±10km, n15, σ0.975/29, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
TASB	**TASBURUN-IGDIR**	**0.35**	**254**	Pg	**Pg**	**10 10 09.8**	**+0.6**
TASB				Sg	**Sg**	**10 10 14.5**	**+0.7**
HYR	**Heyderabad**	**0.39**	**159**	P	**Pb**	**10 10 11.2**	**-0.4**
HYR				S	**Sb**	**10 10 17.9**	**+0.1**
IGDI	**IGDIR**	**0.50**	**245**	P	**Pg**	**10 10 10.5**	**-1.7**
IGDI				S	**Sg**	**10 10 18.6**	**-0.1**
IGDI				*i* AML	AML	10 10 19.0	
	comp=N,98nm,0.2s						
IGDI				*i* AML	AML	10 10 19.0	
	comp=E,149nm,0.3s						
SBZ	**Shahbuz**	**0.96**	**135**	P	**Pn**	**10 10 21.8**	**-0.7**
SBZ				S	**Sn**	**10 10 37.3**	**+0.8**
EAK	**Akyaka**	**1.01**	**307**	P	**Pg**	**10 10 21.9**	**0.0**
EAK				S	**Sb**	**10 10 36.6**	**+0.6**
EAK				*i* AML	AML	10 10 39.0	
	comp=N,55nm,0.5s						
EAK				*i* AML	AML	10 10 48.0	
	comp=E,64nm,0.7s						
GDB	**GEDABAY**	**1.04**	**52**	P	**Pb**	**10 10 22.9**	**-0.1**
GDB				S	**Sn**	**10 10 37.7**	**-0.9**
CLDR	**Caldiran**	**1.10**	**212**	Pg	**Pn**	**10 10 24.1**	**-0.4**
CLDR				Sg	**Sn**	**10 10 39.2**	**-0.9**
CLDR	**Caldiran**	**1.10**	**212**	P	**Pn**	**10 10 26.0**	**+1.5**
CLDR				S	**Sb**	**10 10 39.0**	**+0.4**
CLDR				*i* AML	AML	10 10 45.0	
	comp=E,51nm,0.7s						
CLDR				*i* AML	AML	10 10 46.0	
	comp=N,52nm,0.6s						
NAX	**Nakhchivan**	**1.11**	**145**	P	**Pn**	**10 10 24.5**	**+0.1**
NAX				S	**Sn**	**10 10 40.3**	**+0.3**
QZX	**Qazax, Azerbai**	**1.11**	**28**	P	**Pn**	**10 10 24.1**	**-0.3**
QZX				S	**Sn**	**10 10 39.4**	**-0.6**
KOTA	**Agri, Merkez-K**	**1.16**	**257**	P	**Pg**	**10 10 24.3**	**-0.3**
KOTA				S	**Sn**	**10 10 41.5**	**0.0**
KOTA				*i* AML	AML	10 10 44.0	
	comp=E,9.6nm,0.8s						
KOTA				*i* AML	AML	10 10 54.0	
	comp=N,8.7nm,0.2s						
GANJ	**Ganja**	**1.38**	**65**	P	**Pg**	**10 10 28.4**	**-0.5**
GANJ				S	**Sn**	**10 10 47.8**	**+1.2**
ORD	**Ordubad**	**1.54**	**138**	Pn	**Pg**	**10 10 31.5**	**-0.4**
ORD				Sn	**Sg**	**10 10 53.2**	**+1.3**
AKH	**Akhalkalaki**	**1.60**	**326**	Pn	**Pg**	**10 10 32.9**	**-0.2**
SENK	**Senkaya-Erzuru**	**1.84**	**286**	Pn	**Pb**	**10 10 35.9**	**-0.6**
SENK				Sn	**Sb**	**10 11 00.4**	**+0.7**

ROM 31 10:23:11.3±0.0, 43.024N±0.002×13.010E±0.004, h8km, ML2.4/58, 1D, Error ellipse: s-maj=0.2km s-min=0.2km az=178.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**78**	P	Pg	10 23 13.2	0.0
FDMO				S	Sg	10 23 14.4	-0.1
FDMO				AML	AML		
	comp=E,14300μm,0.2s						
FDMO				AML	AML		
	comp=N,9335μm,0.6s						
FEMA	**Monte Fema**	**0.07**	**155**	P	Pg	10 23 13.6	+0.1
FEMA				S	Sg	10 23 14.9	0.0
FEMA				AML	AML		
	comp=E,18450μm,0.6s						
FEMA				AML	AML		
	comp=N,12150μm,0.6s						
CESI	**CESI - Serrava**	**0.08**	**256**	P	Pg	10 23 14.0	+0.5
CESI				S	Sg	10 23 15.6	+0.6
CESI				AML	AML		
	comp=N,9680μm,0.3s						
CESI				AML	AML		
	comp=E,5775μm,1.1s						
T1220	**Camerino, Fraz**	**0.10**	**34**	P	Pg	10 23 14.3	+0.5
T1220				S	Sg	10 23 16.4	+0.8
T1220				AML	AML		
	comp=N,6220μm,0.5s						
T1220				AML	AML		
	comp=N,12200μm,0.5s						
T1220				AML	AML		
	comp=N,6220μm,0.5s						
T1220				AML	AML		
	comp=E,13950μm,0.4s						
T1220				AML	AML		
	comp=N,12200μm,0.4s						
T1220				AML	AML		
	comp=E,7080μm,0.4s						
CSP1	**Cessapalombo**	**0.16**	**65**	P	Pg	10 23 15.3	+0.6
CSP1				S	Sg	10 23 18.3	+1.2
CSP1				AML	AML		
	comp=E,1615μm,0.3s						
CSP1				AML	AML		
	comp=N,752μm,0.3s						
MC2	**Monte Cornacci**	**0.17**	**130**	P	Pg	10 23 15.6	+0.6
T1221	**Campello sul C**	**0.20**	**216**	P	Pg	10 23 16.3	+0.9
T1221				AML	AML		
	comp=E,2195μm,0.3s						
T1221				AML	AML		
	comp=N,3500μm,0.3s						
T1221				AML	AML		
	comp=E,2115μm,0.3s						
T1221				AML	AML		
	comp=N,3365μm,0.2s						
T1221				AML	AML		
	comp=N,3495μm,0.3s						
T1221				AML	AML		
	comp=E,2120μm,0.3s						
T1221				AML	AML		
	comp=N,3365μm,0.3s						
T1221				AML	AML		
	comp=E,2190μm,0.3s						
NRCA	**Norcia**	**0.21**	**158**	P	Pg	10 23 16.1	+0.5
NRCA				S	Sg	10 23 19.9	+1.6
NRCA				AML	AML		
	comp=E,2185μm,0.1s						
NRCA				AML	AML		
	comp=N,1950μm,0.4s						
NRCA				AML	AML		
	comp=N,2105μm,0.4s						
NRCA				AML	AML		
	comp=E,2345μm,0.1s						
GUMA	**Gualdo di Mace**	**0.24**	**81**	P	Pg	10 23 17.2	+1.0
GUMA				AML	AML		
	comp=E,4395μm,0.9s						
GUMA				AML	AML		
	comp=E,8235μm,0.3s						
GUMA				AML	AML		
	comp=N,5195μm,0.5s						
GUMA				AML	AML		
	comp=N,6950μm,0.3s						
GUMA				AML	AML		
	comp=E,8235μm,1.7s						
MMO1	**Montemonaco**	**0.26**	**118**	P	Pg	10 23 17.1	+0.5
MMO1				S	Sb	10 23 21.9	-1.2
EL6	**Elcito**	**0.31**	**12**	P	Pg	10 23 18.2	+0.6
EL6				S	Sb	10 23 23.8	-0.7
EL6				AML	AML		
	comp=E,2405μm,0.8s						
EL6				AML	AML		
	comp=E,2405μm,1.2s						
EL6				AML	AML		
	comp=N,1950μm,0.2s						
ATCC	**AVT- Casa Cast**	**0.32**	**301**	P	Pg	10 23 18.2	+0.7
ATCC				S	Sb	10 23 24.0	-0.5
ATCC				AML	AML		
	comp=E,840μm,1.5s						
ATCC				AML	AML		
	comp=N,757μm,0.8s						
ATCC				AML	AML		
	comp=E,840μm,0.5s						
ATCC				AML	AML		
	comp=N,757μm,1.2s						
FOSV	**Fossato di Vic**	**0.33**	**326**	P	Pg	10 23 18.5	+0.7
FOSV				S	Sb	10 23 24.2	-0.7
FOSV				AML	AML		
	comp=E,570μm,0.7s						
FOSV				AML	AML		
	comp=N,998μm,0.7s						
MF5	**Montefalcone A**	**0.33**	**96**	P	Pb	10 23 19.0	-0.5
MF5				AML	AML		
	comp=E,1130μm,0.5s						
MF5				AML	AML		
	comp=N,1405μm,1.4s						
MF5				AML	AML		
	comp=N,1405μm,0.6s						
CING	**Cingoli**	**0.38**	**21**	P	Pg	10 23 19.4	+0.7
CING				S	Sb	10 23 25.9	-0.4
CING				AML	AML		
	comp=E,2015μm,0.2s						
CING				AML	AML		
	comp=N,860μm,0.6s						
MTRA	**Matera**	**0.39**	**133**	P	Pg	10 23 19.4	+0.5
MTRA				S	Sb	10 23 26.2	-0.5
MTRA				AML	AML		
	comp=E,563μm,0.5s						
MTRA				AML	AML		
	comp=E,563μm,1.5s						
MTRA				AML	AML		
	comp=N,834μm,0.9s						
MOMA	**Monte Martano**	**0.39**	**236**	P	Pg	10 23 19.6	+0.6
MOMA				S	Sb	10 23 26.1	-0.6
MOMA				AML	AML		
	comp=E,594μm,0.2s						
MOMA				AML	AML		
	comp=N,421μm,0.3s						
MOMA				AML	AML		
	comp=N,652μm,1.1s						
MOMA				AML	AML		
	comp=E,594μm,0.2s						
MOMA				AML	AML		
	comp=E,604μm,0.2s						
LNSS	**Leonessa**	**0.42**	**177**	P	Pg	10 23 19.9	+0.4
LNSS				S	Sb	10 23 27.1	-0.5
LNSS				AML	AML		
	comp=E,911μm,0.2s						
LNSS				AML	AML		
	comp=N,611μm,0.8s						
LNSS				AML	AML		
	comp=N,611μm,1.2s						
MURB	**Monte Urbino**	**0.43**	**304**	⇓P	Pb	10 23 20.4	-0.7
MURB				AML	AML		
	comp=N,698μm,0.4s						
MURB				AML	AML		
	comp=N,772μm,0.4s						
MURB				AML	AML		
	comp=E,1085μm,0.3s						
MURB				AML	AML		
	comp=E,990μm,0.3s						
SSFR	**Montelago di S**	**0.44**	**338**	P	Pg	10 23 20.5	+0.5
SSFR				AML	AML		
	comp=N,1380μm,1.1s						
SSFR				AML	AML		
	comp=E,1345μm,1.6s						
SSFR				AML	AML		
	comp=E,1510μm,0.2s						
SSFR				AML	AML		
	comp=E,1345μm,0.4s						
SSFR				AML	AML		
	comp=N,1380μm,0.2s						
ATFO	**Monte Foce - G**	**0.47**	**317**	P	Pg	10 23 21.0	+0.6
ATFO				AML	AML		
	comp=E,231μm,0.3s						
ATFO				AML	AML		
	comp=E,231μm,1.7s						
ATFO				AML	AML		
	comp=N,262μm,0.6s						
ARRO	**Arrone**	**0.48**	**202**	P	Pg	10 23 21.3	+0.7
ARRO				S	Sb	10 23 28.9	-0.3
ARRO				AML	AML		
	comp=N,284μm,1.0s						
ARRO				AML	AML		
	comp=E,425μm,0.8s						
ARRO				AML	AML		
	comp=N,284μm,1.0s						
CESX	**Cesi**	**0.52**	**217**	P	Pg	10 23 21.8	+0.4
CESX				S	Sb	10 23 30.3	-0.1
CESX				AML	AML		
	comp=E,704μm,1.5s						
CESX				AML	AML		
	comp=N,535μm,0.4s						
CESX				AML	AML		
	comp=E,704μm,0.5s						
FRON	**Frontone**	**0.54**	**337**	P	Pg	10 23 22.2	+0.5
FRON				AML	AML		
	comp=E,362μm,0.8s						
FRON				AML	AML		
	comp=N,569μm,0.2s						
ATVO	**AVT- Monte Val**	**0.57**	**309**	P	Pg	10 23 22.5	+0.2
ATVO				AML	AML		
	comp=E,138μm,0.5s						
ATVO				AML	AML		
	comp=N,131μm,1.0s						

ROM 31 10:24:00.2±0.0, 43.019N±0.002×13.008E±0.004, h8km, ML2.3/20, Error ellipse: s-maj=0.3km s-min=0.1km az=76.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FDMO	**Fiordimonte**	**0.06**	**73**	P	Pg	10 24 02.2	0.0
FEMA	**Monte Fema**	**0.07**	**151**	P	Pg	10 24 02.4	+0.1
FEMA				S	Sg	10 24 03.8	0.0
FEMA				AML	AML		
	comp=E,11800μm,0.5s						
FEMA				AML	AML		
	comp=E,11800μm,0.5s						
FEMA				AML	AML		
	comp=N,8005μm,0.6s						
FEMA				AML	AML		
	comp=N,6584μm,0.2s						
FEMA				AML	AML		
	comp=E,10213μm,0.2s						
CESI	**CESI - Serrava**	**0.08**	**260**	P	Pg	10 24 02.9	+0.6
CESI				S	Sg	10 24 04.7	+0.8
MML1	**Montelago di S**	**0.10**	**344**	P	Pg	10 24 03.0	+0.3
T1220	**Camerino, Fraz**	**0.11**	**33**	P	Pg	10 24 03.1	+0.4
T1220				S	Sg	10 24 05.4	+0.8
SEF1	**Sefro**	**0.14**	**341**	P	Pg	10 24 03.7	+0.5
SEF1				S	Sg	10 24 06.2	+0.9
CSP1	**Cessapalombo**	**0.16**	**63**	P	Pg	10 24 04.2	+0.6
CSP1				S	Sg	10 24 07.2	+1.1
MC2	**Monte Cornacci**	**0.17**	**128**	P	Pg	10 24 04.4	+0.6
PF6	**Pievefavera**	**0.19**	**46**	P	Pg	10 24 04.4	+0.3
PF6				S	Sg	10 24 07.8	+1.0
T1221	**Campello sul C**	**0.20**	**217**	P	Pg	10 24 04.4	+0.2
T1221				AML	AML		
	comp=N,1233μm,0.2s						
T1221				AML	AML		
	comp=E,898μm,0.8s						
T1221				AML	AML		
	comp=E,898μm,0.8s						
T1221				AML	AML		
	comp=N,1230μm,0.2s						
T1221				AML	AML		
	comp=E,893μm,0.3s						
T1221				AML	AML		
	comp=N,1228μm,0.2s						
T1221				AML	AML		
	comp=E,889μm,0.2s						
T1221				AML	AML		
	comp=N,1232μm,0.2s						
NRCA	**Norcia**	**0.20**	**157**	P	Pg	10 24 04.7	+0.4
NRCA				S	Sg	10 24 08.7	+1.6
NRCA				AML	AML		
	comp=E,1215μm,0.2s						
NRCA				AML	AML		
	comp=N,3095μm,0.1s						
NRCA				AML	AML		
	comp=E,1215μm,0.1s						
NRCA				AML	AML		
	comp=E,1360μm,0.2s						
NRCA				AML	AML		
	comp=N,3090μm,0.1s						
NRCA				AML	AML		
	comp=N,3300μm,0.1s						
NRCA				AML	AML		
	comp=N,3300μm,0.1s						
NRCA				AML	AML		
	comp=N,3092μm,0.1s						
NRCA				AML	AML		
	comp=E,1361μm,0.2s						
NRCA				AML	AML		
	comp=E,1214μm,0.1s						
GAG1	**Gagliole**	**0.22**	**11**	P	Pg	10 24 05.3	+0.5
GAG1				S	Sg	10 24 09.6	+1.8
GUMA	**Gualdo di Mace**	**0.24**	**80**	P	Pg	10 24 05.9	+0.8
GUMA				AML	AML		
	comp=E,4245μm,0.3s						
GUMA				AML	AML		
	comp=E,2845μm,0.8s						
GUMA				AML	AML		
	comp=N,3985μm,0.3s						
GUMA				AML	AML		
	comp=N,3250μm,0.2s						
GUMA				AML	AML		
	comp=E,4246μm,0.3s						
GUMA				AML	AML		
	comp=E,2382μm,0.4s						
GUMA				AML	AML		
	comp=N,3984μm,0.3s						
GUMA				AML	AML		
	comp=N,3250μm,0.2s						
MMO1	**Montemonaco**	**0.26**	**117**	P	Pg	10 24 06.0	+0.5
MMO1				S	Sb	10 24 10.8	-1.0
ATCC	**AVT- Casa Cast**	**0.32**	**302**	P	Pg	10 24 07.2	+0.8
ATCC				S	Sb	10 24 12.9	-0.5
ATCC				AML	AML		
	comp=N,416μm,0.8s						
ATCC				AML	AML		
	comp=E,442μm,0.2s						
ATCC				AML	AML		
	comp=E,442μm,0.2s						
ATCC				AML	AML		
	comp=N,335μm,0.2s						
EL6	**Elcito**	**0.32**	**12**	P	Pg	10 24 07.0	+0.5
EL6				S	Sb	10 24 12.6	-0.9
EL6				AML	AML		
	comp=E,1935μm,0.6s						
EL6				AML	AML		
	comp=N,1990μm,0.2s						
EL6				AML	AML		
	comp=N,1991μm,0.2s						
EL6				AML	AML		
	comp=E,1672μm,0.2s						
EL6				AML	AML		
	comp=E,1935μm,1.4s						
FOSV	**Fossato di Vic**	**0.33**	**327**	P	Pg	10 24 07.3	+0.6
FOSV				S	Sb	10 24 12.9	-0.8
MF5	**Montefalcone A**	**0.33**	**95**	P	Pb	10 24 07.9	-0.5
MF5				AML	AML		
	comp=N,736μm,1.2s						
MF5				AML	AML		
	comp=E,657μm,0.8s						
MF5				AML	AML		
	comp=N,719μm,0.5s						
MF5				AML	AML		
	comp=E,554μm,0.6s						
CING	**Cingoli**	**0.38**	**21**	P	Pg	10 24 08.1	+0.4
CING				S	Sb	10 24 14.8	-0.5
CING				AML	AML		
	comp=E,1995μm,0.2s						
CING				AML	AML		
	comp=N,989μm,0.1s						
CING				AML	AML		
	comp=N,988μm,0.1s						
CING				AML	AML		
	comp=E,1992μm,0.2s						
MOMA	**Monte Martano**	**0.39**	**236**	P	Pg	10 24 08.4	+0.7
MOMA				AML	AML		
	comp=N,176μm,0.2s						
MOMA				AML	AML		
	comp=E,238μm,1.5s						

MOMA				AML	AML	
	comp=E,220μm,0.2s					
MOMA				AML	AML	
	comp=E,235μm,0.2s					
MOMA				AML	AML	
	comp=N,177μm,0.2s					
MTRA	**Matera**	**0.39**	**132**	P	Pg	10 24 08.2 +0.5
MTRA				AML	AML	
	comp=E,292μm,0.5s					
MTRA				AML	AML	
	comp=N,390μm,0.7s					
MTRA				AML	AML	
	comp=E,248μm,0.2s					
MTRA				AML	AML	
	comp=N,268μm,0.2s					
MTRA				AML	AML	
	comp=N,282μm,0.2s					
LNSS	**Leonessa**	**0.42**	**177**	P	Pg	10 24 08.8 +0.5
LNSS				S	Sb	10 24 15.8 -0.5
MURB	**Monte Urbino**	**0.43**	**305**	P	Pg	10 24 09.3 +0.7
MURB				AML	AML	
	comp=E,418μm,0.4s					
MURB				AML	AML	
	comp=N,432μm,0.7s					
MURB				AML	AML	
	comp=N,394μm,0.2s					
MURB				AML	AML	
	comp=N,290μm,0.3s					
MURB				AML	AML	
	comp=E,393μm,0.2s					
MURB				AML	AML	
	comp=E,377μm,0.2s					
SSFR	**Montelago di S**	**0.45**	**339**	P	Pg	10 24 09.5 +0.6
SSFR				AML	AML	
	comp=E,1205μm,0.1s					
SSFR				AML	AML	
	comp=N,1036μm,0.7s					
SSFR				AML	AML	
	comp=E,1165μm,0.2s					
SSFR				AML	AML	
	comp=N,942μm,0.7s					
SSFR				AML	AML	
	comp=E,1163μm,0.1s					
SSFR				AML	AML	
	comp=N,1010μm,0.2s					
SSFR				AML	AML	
	comp=E,1202μm,0.1s					
SSFR				AML	AML	
	comp=N,938μm,0.2s					
SMA1	**SAN MARTINO**	**0.46**	**148**	P	Pg	10 24 09.6 +0.5
SMA1				S	Sb	10 24 17.3 -0.2
SMA1				AML	AML	
	comp=E,117μm,0.6s					
SMA1				AML	AML	
	comp=N,196μm,0.9s					
ARVD	**Arcevia**	**0.48**	**354**	P	Pg	10 24 10.1 +0.5
ARVD				S	Sb	10 24 18.0 -0.1
ARVD				AML	AML	
	comp=N,317μm,0.2s					
ARVD				AML	AML	
	comp=E,492μm,0.6s					
ARVD				AML	AML	
	comp=E,462μm,0.2s					
ARVD				AML	AML	
	comp=N,317μm,0.2s					
RM33	**Pellescritta (**	**0.53**	**163**	P	Pg	10 24 10.8 +0.3
RM33				S	Sb	10 24 19.5 -0.1
RM33				AML	AML	
	comp=N,108μm,0.2s					
RM33				AML	AML	
	comp=E,101μm,0.1s					
RM33				AML	AML	
	comp=N,145μm,0.3s					
RM33				AML	AML	
	comp=E,135μm,0.5s					
CAMP	**Campotosto**	**0.57**	**148**	P	Pg	10 24 11.4 +0.2
CAMP				AML	AML	
	comp=E,61μm,0.2s					
ATVO	**AVT- Monte Val**	**0.57**	**310**	P	Pg	10 24 11.5 +0.3
ATVO				AML	AML	
	comp=E,67μm,0.2s					
ATVO				AML	AML	
	comp=N,50μm,0.3s					
TERO	**Teramo**	**0.59**	**132**	P	Pg	10 24 11.8 +0.3
TERO				AML	AML	
	comp=E,108μm,1.0s					
TERO				AML	AML	
	comp=N,153μm,0.2s					
TERO				AML	AML	
	comp=E,103μm,0.1s					
TERO				AML	AML	
	comp=N,104μm,0.1s					
TERO				AML	AML	
	comp=E,144μm,0.8s					
PIEI	**Pieia**	**0.62**	**326**	P	Pg	10 24 12.4 +0.2
PIEI				AML	AML	
	comp=E,140μm,0.7s					
PIEI				AML	AML	
	comp=N,136μm,0.2s					
PIEI				AML	AML	
	comp=E,135μm,0.3s					
PIEI				AML	AML	
	comp=N,136μm,0.2s					

*KRNET **31** 10:40:58.5±0.1,39.°41N×73.°34E,h15km,mb3.1*
*SOME **31** 10:41:01.5,39.°65N×73.°33E,h0km*
*NNC **31** 10:41:04.4±2.3,39.°69N×73.°39E,h0km,mb3.7,mpv3.5,*
Error ellipse: s-maj=18.8km s-min=13.0km az=154.0

ISC 31 10:40:57.0±1.6,39.°45N±0.°05×73.°51E±0.°03,h11km±11km, n42,σ1°79/70,32C-17D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFK	**Sufi-Kurgan**	**0.56**	**360**	⇑*iP*	**Pb**	**10 41 10.1**	**+1.0**
SFK	baz=12			⇑*iS*	**Sn**	**10 41 18.9**	**-1.8**
OHH	**Osh**	**1.21**	**333**	⇓*eP*	**Pg**	**10 41 21.2**	**+0.9**
OHH	baz=39			⇓*eS*	**Sg**	**10 41 37.9**	**+1.9**
DRK	**Karamyk**	**1.32**	**272**	⇓*iP*	**Pn**	**10 41 21.2**	**-0.5**
DRK	baz=74			⇓*iS*	**Sb**	**10 41 37.6**	**-1.4**
ARSB	**Arslanbob**	**1.92**	**348**	⇑*iP*	**Pg**	**10 41 34.1**	**+0.3**
ARSB	baz=52			⇑*iS*	**Sg**	**10 42 00.0**	**+1.4**
BTK	**Batken**	**2.16**	**287**	⇑*iP*	**Pb**	**10 41 35.8**	**-0.4**
BTK	baz=89			⇑*iS*	**Sb**	**10 42 03.1**	**+0.1**
ARLS	**Aral**	**2.49**	**14**	⇑*iP*	**Pb**	**10 41 42.6**	**+0.8**
ARLS	baz=17			⇑*iS*	**Sg**	**10 42 15.2**	**-1.8**
GAR	**Garm**	**2.52**	**261**	⇓*iP*	**Pb**	**10 41 40.7**	**-1.6**
GAR	baz=61			⇓*iS*	**Sn**	**10 42 11.3**	**+2.6**
ARK	**Arkit**	**2.62**	**334**	⇑*eP*	**Pb**	**10 41 43.6**	**-0.5**
ARK	baz=37			⇑*eS*	**Sb**	**10 42 16.7**	**+0.3**
NRN	**Naryn**	**2.75**	**43**	⇓*eP*	**Pb**	**10 41 47.4**	**+1.0**
NRN	baz=44			⇓*eS*	**Sb**	**10 42 22.4**	**+2.2**
TRKS	**Terek-Say**	**2.75**	**320**	⇓*iP*	**Pn**	**10 41 43.9**	**+2.6**
TRKS	baz=22			⇓*iS*	**Sb**	**10 42 17.3**	**-2.8**
UCH	**Uchtor**	**2.88**	**15**	⇑*iP*	**Pb**	**10 41 48.4**	**-0.3**
UCH	baz=17			⇑*iS*	**Sb**	**10 42 25.0**	**+0.9**
MNAS	**Manas**	**3.13**	**346**	⇓*iP*	**Pb**	**10 41 51.0**	**-1.7**
MNAS	baz=49			⇓*iS*	**Sb**	**10 42 29.3**	**-1.6**
EKS2	**Erkin-Say**	**3.22**	**4**	⇓*iP*	**Pb**	**10 41 52.5**	**-1.7**
EKS2	baz=6.0			⇓*iS*	**Sb**	**10 42 32.2**	**-1.2**
	baz=6.0						

AAK	**Ala-Archa**	**3.27**	**13**	⇑Pg	**Pb**	**10 41 55.8**	**+0.6**
AAK	9.9nm,0.6s			⇑Lg	Lg	10 42 39.6	
	37nm,0.7s						
AAK	**Ala-Archa**	**3.27**	**13**	⇑*eP*	**Pb**	**10 41 53.5**	**-1.7**
AAK	baz=15			⇑*iS*	**Sb**	**10 42 34.2**	**-0.9**
	baz=15						
MRKS	**Merke**	**3.30**	**356**	Pg	**Pg**	**10 41 58.8**	**-1.4**
MRKS	7.5nm,0.3s			Lg	Lg	10 42 40.1	
	26nm,0.5s						
MRKS	**Merke**	**3.30**	**356**	*eP*	**Pg**	**10 41 58.8**	**-1.4**
MRKS	7.5nm,0.3s			*eS*	**Sg**	**10 42 40.1**	**-2.9**
	26nm,0.5s						
KBK	**Karagaybulak**	**3.38**	**18**	⇑*iP*	**Pb**	**10 41 55.1**	**-2.0**
KBK	baz=20			⇑*iS*	**Sb**	**10 42 37.0**	**-1.4**
	baz=20						
ULHL	**Ulahol**	**3.48**	**36**	⇑*iP*	**Pb**	**10 41 57.0**	**-1.8**
ULHL	baz=37			⇑*iS*	**Sb**	**10 42 39.9**	**-1.2**
	baz=37						
BOOM	**Boomskoye usch**	**3.55**	**30**	⇓*iP*	**Pb**	**10 41 58.0**	**-2.0**
BOOM	baz=32			⇓*iS*	**Sb**	**10 42 41.6**	**-1.6**
	baz=32						
CHMS	**Chumysh**	**3.67**	**14**	⇓Pn	**Pb**	**10 42 00.8**	**-1.1**
CHMS	4.0nm,0.6s			⇑Lg	Lg	10 42 57.5	
	22nm,0.6s						
TKM2	**Tokmak 2**	**3.81**	**24**	⇑Pn	**Pb**	**10 42 03.1**	**-1.3**
TKM2	2.9nm,0.8s			⇑Lg	Lg	10 43 02.6	
	16nm,0.7s						
TKM2	**Tokmak 2**	**3.81**	**24**	⇑*eP*	**Pb**	**10 42 01.6**	**-2.8**
TKM2	baz=25			⇑*iS*	**Sb**	**10 42 47.6**	**-3.0**
	baz=25						
DGS	**Degeres**	**4.16**	**24**	Pg	**Pg**	**10 42 18.5**	**+1.9**
DGS	5.5nm,0.4s			Lg	Lg	10 43 13.8	
	30nm,0.7s						
DGS	**Degeres**	**4.16**	**24**	*eP*	**Pg**	**10 42 18.5**	**+1.9**
DGS	5.5nm,0.4s			*eS*	**Sg**	**10 43 13.8**	**+3.3**
	30nm,0.7s						
KK31	**Karatay Array**	**4.29**	**329**	Pn	Pb	10 42 07.8	-4.7
KK31	0.5nm,0.3s,baz=131,slow=12,SNR=28			⇑Pg	**Pg**	**10 42 18.1**	**-1.1**
	0.8nm,0.3s,baz=155,slow=18,SNR=7.6			⇑Sn	**Sb**	**10 43 00.3**	**-3.9**
KK31	3.4nm,0.4s,baz=145,slow=24,SNR=4.7			⇑Lg	Lg	10 43 13.6	
KK31	3.5nm,0.4s,baz=143,slow=32,SNR=4.8						
KKAR	**Karatay Array**	**4.29**	**329**	⇑*eP*	Pn	10 42 06.6	+4.3
KKAR	baz=31			⇑*iS*	**Sn**	**10 42 56.2**	**+3.9**
	baz=31						
TNSS	**Tian-Shan**	**4.42**	**35**	Pg	**Pg**	**10 42 21.7**	**-0.1**
TNSS	4.9nm,0.4s			Lg	Lg	10 43 20.0	
	13nm,0.4s						
TNSS	**Tian-Shan**	**4.42**	**35**	*eP*	**Pg**	**10 42 21.7**	**-0.1**
TNSS	4.9nm,0.4s			*eS*	**Sg**	**10 43 20.0**	**+0.8**
	13nm,0.4s						
KRBS	**Karabastau**	**4.54**	**20**	Pg	**Pg**	**10 42 24.1**	**+0.1**
KRBS	6.3nm,0.5s			Lg	Lg	10 43 23.5	
	13nm,0.6s						
KRBS	**Karabastau**	**4.54**	**20**	*eP*	**Pg**	**10 42 24.1**	**+0.1**
KRBS	2.7nm,0.3s			*eS*	**Sg**	**10 43 23.5**	**+0.6**
	13nm,0.6s						
MDOK	**Medeo**	**4.57**	**35**	Pg	**Pg**	**10 42 23.9**	**-0.6**
MDOK	5.2nm,0.4s			Lg	Lg	10 43 24.1	
	10nm,0.8s						
MDOK	**Medeo**	**4.57**	**35**	*eP*	**Pg**	**10 42 23.9**	**-0.6**
MDOK	5.2nm,0.2s			*eS*	**Sg**	**10 43 23.3**	**-0.5**
	9.7nm,0.4s						
ANVS	**Anan'yevo**	**4.58**	**42**	⇑*eP*	Pb	10 42 12.9	-4.6
ANVS	baz=43			⇑*eS*	**Sb**	**10 43 07.3**	**-5.4**
	baz=43						
KTBS	**Karatobe**	**4.88**	**28**	Pg	**Pg**	**10 42 31.5**	**+1.0**
KTBS	3.8nm,0.4s			Lg	Lg	10 43 36.1	
	18nm,0.6s						
KTBS	**Karatobe**	**4.88**	**28**	*eP*	**Pg**	**10 42 31.5**	**+1.0**
KTBS	3.8nm,0.4s			*eS*	**Sg**	**10 43 36.1**	**+2.5**
	23nm,0.3s						
KUU	**Kurty**	**4.92**	**25**	Pg	**Pg**	**10 42 31.9**	**+0.7**
KUU	4.4nm,0.1s			Lg	Lg	10 43 37.0	
	28nm,0.7s						
KUU	**Kurty**	**4.92**	**25**	*eP*	**Pg**	**10 42 31.9**	**+0.7**
KUU	4.4nm,0.1s			*eS*	**Sg**	**10 43 37.0**	**+2.0**
	28nm,0.7s						
CHKK	**Chushkaly**	**5.12**	**30**	Pg	**Pg**	**10 42 35.2**	**+0.2**
CHKK	2.0nm,0.1s			Lg	Lg	10 43 42.5	
	17nm,0.6s						
CHKK	**Chushkaly**	**5.12**	**30**	*eP*	**Pg**	**10 42 35.2**	**+0.2**
CHKK	2.0nm,0.1s			*eS*	**Sg**	**10 43 42.5**	**+1.2**
	17nm,0.6s						
ARXS	**Arharly**	**5.75**	**33**	Pg	**Pg**	**10 42 46.2**	**-0.9**
ARXS	2.2nm,0.4s			Lg	Lg	10 44 01.8	
	11nm,0.5s						
ARXS	**Arharly**	**5.75**	**33**	*eP*	**Pg**	**10 42 46.2**	**-0.9**
ARXS	2.2nm,0.4s			*eS*	**Sg**	**10 44 01.8**	**+0.2**
	11nm,0.5s						

HEL 31 11:00:16.2±0.4,60.°44N×26.°82E,h0km,ML1.2, Explosion,Finland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VJF	**Virojoki**	**0.38**	**74**	PG	Pg	11 00 22.5	-0.9
VJF				SG	Sg	11 00 27.5	-0.9
PVF	**Pernaja**	**0.48**	**283**	PG	Pg	11 00 24.7	-0.8
PVF				SG	Sg	11 00 31.5	-0.2
PVF				MSG		11 00 32.0	
	comp=Z,2.1nm,0.2s						
FIA0	**FINESS Array S**	**1.07**	**341**	PG	Pg	11 00 35.5	-1.2
FIA0				MSG		11 00 48.9	
	comp=Z,2.2nm,0.2s						
FIA0				SN	Sn	11 00 53.6	-0.4
RUF	**Ruokolahti**	**1.44**	**46**	PG	Pn	11 00 42.4	-1.1
RUF				MSG		11 00 59.5	
	comp=Z,2.2nm,0.2s						
RUF				SG	Sg	11 01 01.3	-1.0
KAF	**Kangasniemi**	**1.70**	**352**	PG	Pn	11 00 46.0	-1.1
KAF				MSG		11 01 07.0	
	comp=Z,1.6nm,0.2s						
KAF				SN	Sn	11 01 09.4	-0.1
KEF	**Keuruu**	**1.97**	**332**	PG	Pn	11 00 51.2	+0.3
KEF				MSG		11 01 14.8	
	comp=Z,1.5nm,0.2s						
KEF				SG	Sg	11 01 19.5	0.0
SUF	**Sumiainen**	**2.31**	**352**	MSG		11 01 24.6	
	comp=Z,0.6nm,0.2s						
SUF				SG	Sb	11 01 28.0	+0.2

*IDC **31** 11:22:44.0±0.8,21.°30S×174.°40W,h0km,mb4.1/10,*
mbtmp4.1/12,ML3.7/2,MS3.6/3,Error ellipse:
s-maj=28.4km s-min=20.8km az=106.0
*NEIC **31** 11:22:45.6±1.7,21.°2S±0.°1×173.°75W±0.°06,h10km±1km,*
mb4.6/15,Error ellipse: s-maj=19.0km s-min=7.1km
az=197.0

ISC 31 11:22:44.8±0.6,21.°25S±0.°09×173.°9W±0.°1,h10km,n36, σ1°30/29,mb4.4/16,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**4.31**	**61**	Pn	**Pn**	**11 23 49.2**	**-1.3**
AFI	**Afiamalu**	**7.57**	**16**	Pn	**Pn**	**11 24 34.6**	**-0.7**

MSVF	**Nonsavu**	**8.36**	**293**		**Pn**	**11 24 48.1**	**+1.9**
RAR	**Rarotonga**	**13.17**	**92**	LR	LR	11 31 13.4	
	comp=Z,183nm,18.8s,baz=319,slow=37						
DZM	**Mont Dzumac**	**18.29**	**264**	P	**P**	**11 26 59.2**	**+0.1**
DZM	**Mont Dzumac**	**18.29**	**264**	P	P	11 26 54.1	-5.0
	0.2nm,0.3s,baz=88,slow=19,SNR=3.5 7.7nm,0.9s						
URZ	**Urewera**	**18.64**	**203**	P	**P**	**11 27 00.5**	**-2.2**
	0.4nm,0.3s,baz=40,slow=3.2,SNR=6.7 6.7nm,0.7s						
MRNZ	**Matariki Terra**	**23.04**	**206**	P	**P**	**11 27 51.4**	**+1.2**
PPT	**Papeete**	**23.22**	**85**	LR	LR	11 36 56.5	
	comp=Z,111nm,18.0s,baz=314,slow=36						
DSZ	**Denniston Nort**	**23.73**	**207**	P	**P**	**11 27 58.4**	**+1.2**
WHZ	**Wether Hill Ro**	**28.73**	**207**	P	**P**	**11 28 43.8**	**+1.5**
WHZ				IAmb	IAmb	11 28 44.6	
	comp=Z,15nm,1.2s						
ASAR	**Alice Springs**	**48.08**	**257**	P	P	11 31 21.0	-4.0
	comp=Z,3.0nm,0.8s,baz=88,slow=8.6,SNR=7.4						
ASAR				PcP	**PcP**	**11 32 51.7**	**-1.1**
	comp=Z,0.9nm,0.9s,baz=98,slow=5.2,SNR=2.3 comp=Z,3.0nm,0.8s						
WRA	**Warramunga Arr**	**48.30**	**262**	P	**P**	**11 31 23.9**	**-2.7**
	comp=Z,2.3nm,0.8s,baz=100,slow=4.9,SNR=2.7 comp=Z,2.3nm,0.8s						
VNDA	**Vanda**	**57.54**	**186**	P	**P**	**11 32 34.8**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=359,slow=7.2,SNR=3.9 comp=Z,0.8nm,0.8s						
QSPA	**South Pole Qui**	**68.83**	**180**	P	**P**	**11 33 49.7**	**+0.4**
QSPA				IAmb	IAmb	11 34 08.2	
	comp=Z,6.4nm,1.2s						
QSPA	**South Pole Qui**	**68.83**	**180**	P	**P**	**11 33 49.4**	**+0.2**
	comp=Z,1.5nm,1.0s,baz=71,slow=2.5,SNR=5.3 comp=Z,1.5nm,1.0s						
MJAR	**Matsushiro Arr**	**73.14**	**321**	P	**P**	**11 34 14.6**	**-1.1**
	comp=Z,2.6nm,0.8s,baz=156,slow=6.2,SNR=6.2 comp=Z,2.6nm,0.8s						
ASAJ	**Asahikawa**	**76.27**	**329**	LR	LR	12 02 04.1	
	comp=Z,45nm,19.8s,baz=143,slow=31						
PEA0B	**Petropavlovsk-**	**78.04**	**343**	P	**P**	**11 34 42.4**	**-0.9**
NVAR	**Mina Array Bea**	**78.99**	**41**	P	**P**	**11 34 52.0**	**+2.7**
	comp=Z,0.9nm,0.8s,baz=228,slow=8.2,SNR=7.2 comp=Z,0.9nm,0.8s						
KSRS	**Korea Array**	**80.03**	**317**	P	**P**	**11 34 54.5**	**-0.1**
	comp=Z,1.7nm,0.9s,baz=128,slow=6.0,SNR=6.8 comp=Z,1.7nm,0.9s						
KSAR	**Wonju Array Be**	**80.04**	**317**	P	**P**	**11 34 53.1**	**-1.6**
MAW	**Mawson**	**82.13**	**199**	P	**P**	**11 35 05.2**	**-0.1**
	comp=Z,1.8nm,0.9s,baz=224,slow=4.6,SNR=2.7 comp=Z,1.8nm,0.9s						
K15K	**Wolf Creek Mou**	**83.84**	**6**	P	**P**	**11 35 14.6**	**+0.6**
J18K	**Innoko River**	**85.51**	**8**	P	**P**	**11 35 21.1**	**-1.4**
J18K				IAmb	IAmb	11 35 25.4	
	comp=Z,4.8nm,1.0s						
TRF	**Thorofare Moun**	**86.43**	**10**	P	**P**	**11 35 28.5**	**+1.2**
M27K	**Edge Creek, AK**	**87.12**	**14**	IAmb	IAmb	11 35 46.1	
	comp=Z,4.5nm,1.1s						
CCB	**Clear Creek Bu**	**87.97**	**11**	IAmb	IAmb	11 35 36.5	
	comp=Z,3.8nm,1.2s						
ILAR	**Eielson Array**	**88.24**	**11**	P	**P**	**11 35 37.1**	**+1.3**
	comp=Z,0.5nm,0.7s,baz=222,slow=6.0,SNR=5.5 comp=Z,0.5nm,0.7s						
L29M	**L29M**	**88.67**	**15**	IAmb	IAmb	11 35 45.5	
	comp=Z,4.0nm,1.1s						
E19K	**Redstone River**	**89.31**	**6**	P	**P**	**11 35 41.6**	**+0.8**
K29M	**Barlow Dome**	**89.43**	**15**	P	**P**	**11 35 42.3**	**+0.8**
K29M				IAmb	IAmb	11 35 56.6	
	comp=Z,4.7nm,1.2s						
CMAR	**Chiang Mai Arr**	**93.99**	**288**	P	**P**	**11 36 03.5**	**0.0**
	comp=Z,1.4nm,0.9s,baz=123,slow=3.9,SNR=4.1 comp=Z,1.4nm,0.9s						
EKA	**Eskdalemuir Ar**	**145.26**	**9**	PKPbc	**PKPbc**	**11 42 22.8**	**+0.6**
	comp=Z,0.6nm,0.6s,baz=345,slow=2.4,SNR=2.7						
AKASG	**Malin Array Be**	**145.45**	**334**	PKPbc	**PKPbc**	**11 42 22.8**	**-0.2**
	comp=Z,0.5nm,0.4s,baz=46,slow=3.4,SNR=8.4						
BRTR	**Keskin Array B**	**150.15**	**314**	PKPbc	**PKPbc**	**11 42 35.9**	**-0.5**
	comp=Z,0.3nm,0.4s,baz=81,slow=2.7,SNR=3.3						

*IDC **31** 11:24:46.0±0.8,5.°12S×152.°77E,h0km,mb4.2/13,*
mbtmp4.2/14,ML1.7/1,MS3.9/5,Error ellipse:
s-maj=29.4km s-min=17.5km az=110.0
*NEIC **31** 11:24:55.5±1.4,5.°07S±0.°05×152.°65E±0.°10,h55km±7km,*
mb4.7/137,Error ellipse: s-maj=14.3km s-min=7.8km
az=84.0

ISC 31 11:24:54.7±0.5,5.°14S±0.°06×152.°60E±0.°08,h55km,n354, σ0°69/305,mb4.7/86,MS3.5/4,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
I40PG	**Keravat**	**1.02**	**325**	Pg	**Pn**	**11 25 11.2**	**-1.6**
	baz=158,slow=22						
RABL	**Rabaul**	**1.03**	**335**	Pn	**Pn**	**11 25 11.9**	**-1.2**
MANU	**Manus Island**	**6.06**	**300**		**Pn**	**11 26 23.5**	**+1.7**
PMG	**Port Moresby**	**6.87**	**232**	Pn	**Pn**	**11 26 34.2**	**+1.4**
PMG	**Port Moresby**	**6.87**	**232**	Pn	**Pn**	**11 26 30.8**	**-2.0**
	0.7nm,0.3s,baz=79,slow=10,SNR=1.7						
PMG				Sn	**Sn**	**11 27 48.3**	**-1.4**
	4.9nm,0.3s,baz=145,slow=18,SNR=5.4 21nm,0.9s						
HNR	**Honiara**	**8.44**	**121**	LR	LR	11 30 14.0	
	comp=Z,2μm,21.0s,baz=318,slow=40						
PATS	**Pohnpei**	**13.19**	**26**	Pn	**Pn**	**11 27 58.4**	**-0.9**
GUMO	**Guam**	**20.13**	**338**	LR	LR	11 36 32.6	
	comp=Z,47nm,19.5s,baz=140,slow=35						
FAKI	**Fak Fak**	**20.42**	**275**	P	**P**	**11 29 28.8**	**+1.3**
DZM	**Mont Dzumac**	**21.52**	**143**	P	**P**	**11 29 40.5**	**+1.2**
DZM	**Mont Dzumac**	**21.52**	**143**	P	**P**	**11 29 40.7**	**+1.4**
	2.4nm,0.5s,baz=286,slow=15,SNR=7.8						
WB0	**Warramunga Arr**	**22.93**	**229**	P	**P**	**11 29 53.4**	**-1.0**
WRAB	**Tennant Creek**	**23.06**	**229**	P	**P**	**11 29 55.3**	**-0.4**
WB2	**Warramunga Arr**	**23.07**	**229**	P	**P**	**11 29 54.3**	**-1.4**
WRA	**Warramunga Arr**	**23.08**	**229**	P	**P**	**11 29 55.4**	**-0.4**
WRA	**Warramunga Arr**	**23.08**	**229**	P	**P**	**11 29 54.7**	**-1.1**
	1.6nm,0.5s,baz=49,slow=10,SNR=12 1.6nm,0.5s						
AS31	**Alice Springs**	**25.77**	**223**	P	**P**	**11 30 21.6**	**+1.0**
ASAR	**Alice Springs**	**25.77**	**223**	P	**P**	**11 30 21.8**	**+1.3**
ASAR	**Alice Springs**	**25.77**	**223**	P	**P**	**11 30 19.9**	**-0.7**
	1.2nm,0.6s,baz=57,slow=9.5,SNR=24 1.2nm,0.6s						
FITZ	**Fitzroy Crossi**	**29.33**	**242**	P	**P**	**11 30 51.3**	**-1.1**
DAV	**Davao City (W)**	**29.57**	**294**	LR	LR	11 42 15.8	
	comp=Z,88nm,19.1s,baz=100,slow=35						
MBWA	**Marble Bar**	**35.63**	**240**	P	**P**	**11 31 46.5**	**-1.1**
MBWA				IAmb	IAmb	11 31 47.2	
	comp=Z,11nm,1.2s						
THZ	**Tophouse**	**40.72**	**157**	P	**P**	**11 32 30.6**	**+0.5**
THZ				IAmb	IAmb	11 32 49.0	
	comp=Z,17nm,1.3s						
NWAO	**Narrogin (SRO)**	**43.01**	**226**	LR	LR	11 52 12.1	
	comp=Z,77nm,18.2s,baz=252,slow=38						
KSRS	**Korea Array**	**48.21**	**334**	P	**P**	**11 33 29.1**	**-0.7**
	comp=Z,0.6nm,0.6s,baz=150,slow=6.0,SNR=4.7 comp=Z,0.6nm,0.6s						
NJ2	**Nanjing**	**48.98**	**321**	*eP*	**P**	**11 33 37.0**	**+1.1**
NJ2				sP	**sP**	**11 33 55.0**	**-0.3**
NJ2				pmax	pmax		
	comp=Z,14nm,0.5s						
NJ2				pmax	pmax		
	comp=Z,88nm,5.7s						
PHRA	**Phrae**	**56.70**	**296**	P	**P**	**11 34 32.7**	**-0.4**
CRAI	**Chiangrai**	**57.16**	**298**	P	**P**	**11 34 36.3**	**0.0**
CRAI				IAmb	IAmb	11 34 37.4	
	comp=Z,4.7nm,0.8s						
CMAR	**Chiang Mai Arr**	**57.84**	**295**	P	**P**	**11 34 41.1**	**-0.1**
CMAR	**Chiang Mai Arr**	**57.84**	**295**	P	**P**	**11 34 41.6**	**+0.4**
	comp=Z,5.1nm,1.0s,baz=107,slow=5.0,SNR=17 comp=Z,5.1nm,1.0s						
PETK	**Petropavlovsk-**	**58.19**	**4**	P	**P**	**11 34 41.3**	**-1.6**
	comp=Z,2.0nm,0.5s,baz=169,slow=5.9,SNR=10 comp=Z,2.0nm,0.5s						
PZH	**PanZhiHua**	**58.40**	**305**	P	**P**	**11 34 47.5**	**+2.4**
PZH				pmax	pmax		
	comp=Z,10.0nm,0.5s						
PZH				pmax	pmax		
	comp=Z,50nm,5.3s						
HHC	**Hu-ho-hao-te**	**59.20**	**325**	*eP*	**P**	**11 34 54.0**	**+3.6**
HHC				pmax	pmax		
	comp=Z,11nm,0.5s						
HHC				pmax	pmax		
	comp=Z,67nm,4.7s						
LZH	**Lanzhou**	**61.33**	**316**	*eP*	**P**	**11 35 06.5**	**+1.4**
LZH				sP	pP	11 35 20.0	+1.0
LZH				pmax	pmax		
	comp=Z,27nm,1.2s						

NIKH Nikolski High 66.40 24 P P 11 35 38.9 +1.0
baz=222
SONM Songino Array 66.50 328 P P 11 35 39.1 +0.3
comp=Z,0.7nm,0.4s,baz=141,slow=5.3,SNR=4.2
SONM PcP PcP 11 36 07.5 -0.4
comp=Z,0.7nm,0.5s,baz=138,slow=3.8,SNR=3.2
comp=Z,0.7nm,0.4s
GAMB Gambell 73.76 16 P P 11 36 24.0 +1.3
baz=217
O14K Tigyukauivet M 73.84 23 P P 11 36 23.2 -0.1
baz=228
N14K Kuskokwak Cree 74.13 22 P P 11 36 24.8 -0.1
baz=228
O15K Ungalikthiuk R 74.35 23 P P 11 36 25.1 -1.1
baz=230
K13K Kusilvak Mount 74.48 19 P P 11 36 26.6 -0.3
baz=224
M14K Bethel 74.59 21 P P 11 36 27.8 +0.3
baz=227
L14K Kuka Creek 74.73 21 P P 11 36 29.0 +0.6
L14K IAmb IAmb 11 36 29.6
comp=Z,10nm,0.9s
L14K Kuka Creek 74.73 21 P P 11 36 28.5 +0.2
baz=226
N15K Kwethluk River 74.89 22 P P 11 36 29.5 +0.1
baz=229
P16K Nushagak River 74.99 24 P P 11 36 29.6 -0.3
baz=232
M15K Kasigluk River 75.01 22 P P 11 36 30.7 +0.7
baz=229
SII Sitkinak Islan 75.16 27 P P 11 36 31.0 0.0
baz=236
Q16K King Salmon 75.32 25 P P 11 36 32.6 +0.8
baz=233
J14K Nanvaranak Lak 75.42 19 P P 11 36 33.0 +0.7
baz=225
N16K Nishlik Lake 75.59 23 P P 11 36 34.0 +0.6
baz=230
P17K Kvichak River 75.72 24 P P 11 36 35.1 +0.9
baz=233
K15K Wolf Creek Mou 75.78 20 P P 11 36 35.0 +0.6
K15K Wolf Creek Mou 75.78 20 P P 11 36 35.0 +0.6
baz=227
O17K Koliganek Bris 75.81 24 P P 11 36 34.4 -0.2
baz=232
M16K Timber Creek 75.87 22 P P 11 36 35.2 +0.2
M16K IAmb IAmb 11 36 36.2
comp=Z,10.0nm,0.8s
M16K Timber Creek 75.87 22 P P 11 36 35.2 +0.2
baz=230
OHAK Old Harbor 75.94 27 P P 11 36 35.4 +0.1
baz=236
L16K Owhat River 76.12 21 P P 11 36 36.6 +0.2
baz=230
ANM Nome 76.15 17 P P 11 36 37.2 +0.7
baz=223
TNA Tin City 76.17 16 P P 11 36 37.2 +0.7
baz=221
N17K Nushagak Hills 76.23 23 P P 11 36 38.0 +0.9
baz=232
P18K Big Mountain, 76.34 25 P P 11 36 38.8 +1.0
baz=234
F14K Arctic Creek 76.55 16 P P 11 36 39.2 +0.5
baz=222
KDAK Kodiak Island 76.56 27 P P 11 36 39.7 +0.7
baz=237
O18K Koktuh Hills 76.62 24 P P 11 36 39.7 +0.4
baz=234
M17K Holitna River 76.68 22 P P 11 36 40.0 +0.5
baz=232
Q19K Cape Douglas, 76.74 25 P P 11 36 39.3 -0.7
baz=236
J16K Anvik River 76.77 20 P P 11 36 40.9 +0.9
J16K Anvik River 76.77 20 P P 11 36 40.6 +0.5
baz=226
L17K Donlin 76.83 21 P P 11 36 41.0 +0.7
baz=231
N18K Kilae Creek 76.84 23 P P 11 36 41.1 +0.6
N18K IAmb IAmb 11 36 42.1
comp=Z,10.0nm,1.0s
N18K Kilae Creek 76.84 23 P P 11 36 41.5 +1.0
baz=233
G15K Niukluk 76.86 17 P P 11 36 42.2 +1.7
baz=224
Q20K Shuyak Island 77.10 26 P P 11 36 42.3 +0.4
baz=237
I17K Unalakleet 77.14 19 P P 11 36 42.9 +0.9
I17K Unalakleet 77.14 19 P P 11 36 43.2 +1.1
baz=228
H16K Elim 77.16 18 P P 11 36 42.4 +0.2
baz=226
O19K Port Alsworth 77.18 24 P P 11 36 42.2 -0.1
baz=235
K17K Iditarod 77.19 21 P P 11 36 42.9 +0.5
baz=230
F15K North Star Dit 77.19 17 P P 11 36 43.1 +0.7
baz=224
P19K Oil Pt 77.32 25 P P 11 36 42.6 -0.7
baz=236
M18K Stony River 77.35 23 P P 11 36 44.2 +0.9
baz=233
J17K VABM Dome 77.36 20 P P 11 36 44.2 +0.8
J17K IAmb IAmb 11 36 45.1
comp=Z,9.4nm,0.9s
J17K VABM Dome 77.36 20 P P 11 36 44.1 +0.8
baz=230
L18K Granite Mounta 77.47 22 P P 11 36 44.5 +0.6
L18K IAmb IAmb 11 36 45.6
comp=Z,5.9nm,0.8s
L18K Granite Mounta 77.47 22 P P 11 36 44.6 +0.6
baz=232
N19K Bonanza Creek 77.47 24 P P 11 36 44.3 +0.2
baz=234
G16K Koyuk River 77.65 18 P P 11 36 44.9 +0.1
G16K IAmb IAmb 11 36 46.4
comp=Z,7.8nm,0.8s
G16K Koyuk River 77.65 18 P P 11 36 45.0 +0.1
baz=226,SNR=6.2
O20K Slope Mountain 77.81 25 P P 11 36 45.9 -0.2
baz=236
HOM Homer 78.00 25 P P 11 36 47.2 +0.2
HOM Homer 78.00 25 P P 11 36 47.0 0.0
baz=237
H17K Granite Mounta 78.10 19 P P 11 36 48.3 +0.9
H17K Granite Mounta 78.10 19 P P 11 36 47.6 +0.2
baz=229
CNPM China Poot 78.10 26 P P 11 36 47.7 +0.1
L19K White Mountain 78.13 22 P P 11 36 48.3 +0.6
baz=234
M19K Big River Lodg 78.15 23 P P 11 36 48.4 +0.6
baz=234
J18K Innoko River 78.23 21 P P 11 36 48.0 -0.2
J18K IAmb IAmb 11 36 49.2
comp=Z,8.6nm,0.9s
J18K Innoko River 78.23 21 P P 11 36 48.4 +0.2
baz=232
G17K Kiwalik Mounta 78.24 18 P P 11 36 49.0 +0.8
baz=228,SNR=12
BRSE Bradley Lake S 78.43 26 P P 11 36 49.1 -0.3
baz=238
M20K Styx River 78.62 23 IAmb IAmb 11 36 51.6
comp=Z,6.4nm,0.8s
M20K Styx River 78.62 23 P P 11 36 50.4 -0.1
baz=236
L20K Farewell, AK 78.68 22 P P 11 36 51.0 +0.3
baz=235
F17K Baldwin Pennin 78.70 17 P P 11 36 51.2 +0.5
baz=227
H18K Honhosa River 78.74 19 P P 11 36 51.0 0.0
baz=230
C16K Lisburne Hills 78.88 15 IAmb IAmb 11 36 52.7
comp=Z,9.9nm,0.8s
C16K Lisburne Hills 78.88 15 P P 11 36 51.9 +0.2
baz=223,SNR=7.6
J19K Poorman 78.94 21 P P 11 36 52.1 0.0
baz=233
GCSA Galena City Sc 78.97 20 P P 11 36 52.2 +0.1
baz=232
E17K Hotham Inlet 78.97 17 P P 11 36 52.5 +0.3
baz=226,SNR=27
D17K Noatak River 79.06 16 P P 11 36 53.1 +0.5
baz=225,SNR=12
K20K Telida 79.12 22 IAmb IAmb 11 36 54.5
comp=Z,6.4nm,0.8s
K20K Telida 79.12 22 P P 11 36 53.3 +0.2
baz=234
G18K Tagagawik 79.12 18 IAmb IAmb 11 36 54.0
comp=Z,8.7nm,0.8s
G18K Tagagawik 79.12 18 P P 11 36 53.3 +0.2
baz=230,SNR=12
SEW Seward 79.17 26 P P 11 36 53.1 -0.3
baz=239
O22K Cooper Landing 79.25 25 P P 11 36 53.4 -0.4
baz=239
F18K Selawik 79.28 18 P P 11 36 54.1 +0.2
baz=229
SKT Skwentna 79.31 23 P P 11 36 53.7 -0.5
baz=237
SUA Susitna One 79.34 24 P P 11 36 53.4 -1.1
SUA IAmb IAmb 11 36 54.2
comp=Z,8.9nm,0.7s
SUA Susitna One 79.34 24 P P 11 36 54.0 -0.5
baz=238
RDOG Red Dog Mine 79.36 16 P P 11 36 54.6 +0.3
baz=225
E18K Tukpahlearik C 79.56 17 IAmb IAmb 11 36 56.8
comp=Z,8.5nm,0.8s
E18K Tukpahlearik C 79.56 17 P P 11 36 55.8 +0.5
baz=228,SNR=12
PPLA Purkeypile 79.56 22 P P 11 36 55.9 +0.2
baz=236
RC01 Rabbit Creek A 79.56 25 P P 11 36 55.0 -0.6
RC01 IAmb IAmb 11 36 56.0
comp=Z,11nm,1.0s
RC01 Rabbit Creek A 79.56 25 P P 11 36 54.8 -0.7
baz=239
J20K Nowinta River 79.57 21 P P 11 36 56.1 +0.6
baz=234,SNR=14
C17K DeLong Mountai 79.58 15 P P 11 36 56.0 +0.5
baz=225,SNR=13
H19K Roundabout Mou 79.60 19 P P 11 36 55.9 +0.3
baz=232,SNR=13
M22K Willow 79.75 24 P P 11 36 56.3 -0.2
baz=238
G19K Purcell Mounta 79.78 19 IAmb IAmb 11 36 58.6
comp=Z,10nm,0.8s
G19K Purcell Mounta 79.78 19 P P 11 36 57.1 +0.5
baz=231,SNR=15
I20K Naaghedeneel 79.82 20 P P 11 36 57.5 +0.7
baz=234,SNR=6.9
CAST Castle Rocks 79.89 22 P P 11 36 56.6 -0.6
CAST IAmb IAmb 11 36 57.4
comp=Z,9.2nm,0.9s
CAST Castle Rocks 79.89 22 P P 11 36 56.7 -0.6
baz=236,SNR=10
F19K Shaleruckik Mo 80.00 18 P P 11 36 58.0 +0.2
baz=230,SNR=15
P23K Montague Islan 80.01 26 P P 11 36 58.6 +0.6
baz=241
CUT Chulitna 80.03 23 P P 11 36 57.4 -0.6
baz=238
CHUM Lake Minchumin 80.06 22 P P 11 36 58.4 +0.3
baz=236,SNR=13
PMR Palmer 80.07 24 P P 11 36 57.9 -0.4
PMR IAmb IAmb 11 36 58.4
comp=Z,6.4nm,0.8s
PMR Palmer 80.07 24 P P 11 36 57.7 -0.5
baz=239
H20K Anotleneega Mo 80.09 20 P P 11 36 58.9 +0.5
baz=233,SNR=7.3
C18K Utukok River 80.23 16 IAmb IAmb 11 36 59.6
comp=Z,5.7nm,0.7s
C18K Utukok River 80.23 16 P P 11 36 59.2 +0.2
baz=237,SNR=6.0
GHO Glory Hole Cre 80.25 24 IAmb IAmb 11 37 00.1
comp=Z,8.3nm,0.9s
KNK Knik Glacier 80.26 25 P P 11 36 59.2 -0.2
baz=240
KTH Kantishna Hill 80.40 22 IAmb IAmb 11 36 59.8
comp=Z,7.3nm,0.8s
MKAR Makanchi Array 80.45 319 P P 11 37 00.7 0.0
comp=Z,0.5nm,0.4s,baz=95,slow=7.7,SNR=8.5
comp=Z,0.5nm,0.4s
SML Sawmill 80.51 24 P P 11 37 00.8 +0.1
SML Sawmill 80.51 24 P P 11 37 00.4 -0.3
baz=240,SNR=8.8
E19K Redstone River 80.56 17 P P 11 37 01.6 +0.7
baz=231,SNR=23
B18K Kokolik River 80.56 15 P P 11 37 01.2 +0.4
baz=226
GLI Glacier Island 80.57 26 IAmb IAmb 11 37 01.4
comp=Z,7.3nm,0.8s
GLI Glacier Island 80.57 26 P P 11 37 00.6 -0.4
baz=241
TRF Thorofare Moun 80.58 22 P P 11 36 59.9 -1.3
baz=238,SNR=7.2
BPAW Bear Paw Mtn. 80.67 22 P P 11 37 00.6 -0.9
baz=237
M23K Glacier View 80.75 25 P P 11 37 01.5 -0.4
baz=240
F20K Avaart Lake 80.77 18 IAmb IAmb 11 37 03.5
comp=Z,13nm,1.3s
F20K Avaraart Lake 80.77 18 P P 11 37 02.4 +0.5
baz=232
FID Port Fidalgo 80.78 26 IAmb IAmb 11 37 03.0
comp=Z,17nm,1.3s
H21K Melozitna Rive 80.89 20 P P 11 37 02.8 +0.2
baz=235,SNR=6.8
I21K Tanana 80.91 21 IAmb IAmb 11 37 04.5
comp=Z,12nm,1.0s
I21K Tanana 80.91 21 P P 11 37 03.0 +0.3
baz=236
SCM Sheep Creek Mo 80.94 25 P P 11 37 02.8 -0.2
baz=241
WAT1 Susitna Watana 80.94 23 P P 11 37 02.4 -0.6
baz=240
C19K Lookout Ridge 80.97 16 P P 11 37 03.6 +0.6
baz=228,SNR=12
D19K Kuna River 80.97 16 IAmb IAmb 11 37 04.1
comp=Z,11nm,0.8s
D19K Kuna River 80.97 16 P P 11 37 03.4 +0.3
baz=230,SNR=11
EYAK Cordova Ski Ar 81.00 26 P P 11 37 03.1 -0.1
baz=242
RND Reindeer 81.11 23 IAmb IAmb 11 37 03.8
comp=Z,8.8nm,0.7s
WAT6 Susitna Watana 81.13 24 P P 11 37 03.9 -0.2
baz=240,SNR=5.4
G21K Allakaket 81.16 19 P P 11 37 04.0 0.0
baz=234,SNR=7.7
MCK McKinley 81.25 23 P P 11 37 03.3 -1.2
baz=239,SNR=11
MLY Manley 81.27 21 P P 11 37 04.4 -0.2
baz=237,SNR=23
KAIM Kayak Island 81.31 27 P P 11 37 05.2 +0.3
baz=244
ZALV Zalesovo Beam 81.32 326 P P 11 37 04.0 -1.1
ZALV Zalesovo Beam 81.32 326 P P 11 37 03.9 -1.1
comp=Z,2.2nm,0.5s,baz=113,slow=6.0,SNR=10.0
comp=Z,2.2nm,0.5s
A19K Wainwright 81.33 14 P P 11 37 05.4 +0.6
baz=227
KLU Klutina 81.36 25 IAmb IAmb 11 37 06.9
comp=Z,9.9nm,0.9s
KLU Klutina 81.36 25 P P 11 37 05.4 +0.2
baz=242,SNR=8.0
E20K Ngu River 81.37 17 P P 11 37 05.8 +0.6
baz=232,SNR=18
H22K Ishtalitna Cre 81.51 20 P P 11 37 06.2 +0.3
baz=237,SNR=6.0
DHY Denali Highway 81.52 23 P P 11 37 05.8 -0.4
baz=241,SNR=5.9
D20K Etivluk River 81.54 17 P P 11 37 06.2 +0.2
baz=231
M24K Tolsona, Glenn 81.55 25 P P 11 37 06.5 +0.2
baz=242,SNR=5.4
F21K Alatna River 81.57 19 P P 11 37 06.5 +0.3
baz=234,SNR=5.3
NEA2 Nenana 81.64 22 IAmb IAmb 11 37 06.3
comp=Z,8.3nm,0.7s
NEA2 Nenana 81.64 22 P P 11 37 05.5 -1.1
baz=239,SNR=14
BMRM Bremner River 81.69 26 P P 11 37 06.6 -0.4
baz=244
I23K Minto, Yukon-K 81.82 21 IAmb IAmb 11 37 09.1
comp=Z,4.0nm,0.6s
I23K Minto, Yukon-K 81.82 21 P P 11 37 07.2 -0.3
baz=239,SNR=7.3
WRH Wood River Hil 81.94 22 IAmb IAmb 11 37 07.9
comp=Z,7.8nm,1.0s
N25K Chitina, Valde 81.98 25 P P 11 37 08.8 +0.2
baz=243
HARP HAARP 82.10 25 P P 11 37 09.8 +0.7
baz=243
H23K Yukon River 82.11 21 IAmb IAmb 11 37 10.1
comp=Z,5.0nm,0.8s
H23K Yukon River 82.11 21 P P 11 37 09.1 +0.1
baz=238,SNR=6.6
CCB Clear Creek Bu 82.14 22 IAmb IAmb 11 37 08.7
comp=Z,7.8nm,0.8s
MDM Murphy Dome 82.14 22 P P 11 37 08.7 -0.5
E21K Killik River 82.14 17 P P 11 37 09.5 +0.3
baz=234
F22K John River 82.15 19 P P 11 37 09.8 +0.6
baz=236
B20K Meade River 82.21 15 P P 11 37 10.1 +0.6
baz=231
COLA College 82.23 22 P P 11 37 08.9 -0.7
COLA College 82.23 22 P P 11 37 08.5 -1.1
baz=240
PAX Paxson 82.24 24 P P 11 37 10.2 +0.3
baz=242
WAX Waxell Ridge 82.24 27 P P 11 37 10.4 +0.4
WAX IAmb IAmb 11 37 10.9
comp=Z,5.7nm,0.9s
GLB Gilahina Butte 82.25 26 IAmb IAmb 11 37 10.8
comp=Z,8.8nm,0.9s
VRDI Verde Repeater 82.31 26 P P 11 37 10.5 0.0
VRDI IAmb IAmb 11 37 11.1
comp=Z,4.6nm,0.8s
C21K Knifeblade Rid 82.33 17 P P 11 37 10.7 +0.5
baz=233
HDA Harding Lake 82.34 22 P P 11 37 09.1 -1.2
baz=241,SNR=6.1
G23K Bananza Creek 82.42 20 IAmb IAmb 11 37 11.9
comp=Z,4.5nm,0.8s
G23K Bananza Creek 82.42 20 P P 11 37 10.9 +0.3
baz=238,SNR=7.9
K24K Donnelly Dome 82.50 23 P P 11 37 11.0 -0.2
baz=242
POKR Poker Plat Res 82.51 22 P P 11 37 10.2 -0.9
baz=240
MESA MESA 82.54 27 P P 11 37 11.2 -0.4
baz=246
IL31 82.54 22 P P 11 37 10.0 -1.2
IL31 IAmb IAmb 11 37 10.7
comp=Z,6.3nm,0.8s
ILAR Eielson Array 82.54 22 P P 11 37 10.0 -1.3
ILAR Eielson Array 82.54 22 P P 11 37 09.9 -1.3
comp=Z,5.0nm,0.7s,baz=243,slow=5.7,SNR=59
comp=Z,5.0nm,0.7s
MCARA McCarthy VSAT 82.56 26 IAmb IAmb 11 37 13.5
comp=Z,7.9nm,0.9s
MCARA McCarthy VSAT 82.56 26 P P 11 37 12.1 +0.6
baz=245
E22K Anaktuvuk Pass 82.62 18 IAmb IAmb 11 37 13.0
comp=Z,6.5nm,0.8s
E22K Anaktuvuk Pass 82.62 18 P P 11 37 11.9 +0.2
baz=236
COLD Coldfoot 82.64 19 P P 11 37 12.1 +0.3
baz=238,SNR=6.1
B21K Ikpikpuk River 82.66 16 IAmb IAmb 11 37 12.9
comp=Z,4.6nm,0.7s
B21K Ikpikpuk River 82.66 16 P P 11 37 11.8 0.0
baz=233
H24K Noodor Dome 82.71 21 P P 11 37 12.3 0.0
baz=240,SNR=5.5
D22K Ayikyak River 82.78 17 P P 11 37 13.4 +0.9
baz=235,SNR=12
M26K Nabesna, AK 83.01 25 P P 11 37 13.6 -0.3
baz=245
BARN Barnard Glacie 83.03 27 P P 11 37 14.6 +0.4
BARN IAmb IAmb 11 37 15.2
comp=Z,5.5nm,0.8s
J25K Salcha River, 83.04 23 P P 11 37 13.3 -0.7
baz=242,SNR=23
L26K Log Cabin Wild 83.13 24 IAmb IAmb 11 37 15.8
comp=Z,4.9nm,0.8s
L26K Log Cabin Wild 83.13 24 P P 11 37 14.4 0.0
baz=244
CTG Chitna Glacier 83.13 27 P P 11 37 14.9 +0.3
baz=246,SNR=7.4
CTGM Chitina Glacie 83.14 27 IAmb IAmb 11 37 16.3
comp=Z,7.3nm,0.9s
G24K Hadweenzic Riv 83.28 20 P P 11 37 15.2 0.0
baz=240,SNR=6.3
SCRK Sand Creek 83.29 23 P P 11 37 15.0 -0.3
baz=244,SNR=6.4
A22K Sinclair Lake 83.40 15 P P 11 37 15.6 0.0
baz=233
PRP Porcupine Dome 83.41 22 P P 11 37 16.1 +0.2
baz=242
B22K Teshekpuk Lake 83.42 16 IAmb IAmb 11 37 16.5
comp=Z,5.1nm,0.9s
B22K Teshekpuk Lake 83.42 16 P P 11 37 15.7 0.0
baz=234,SNR=5.3
D23K Nanushuk River 83.43 18 P P 11 37 17.0 +1.1
baz=237
M27K Edge Creek, AK 83.46 25 P P 11 37 16.8 +0.5
baz=246,SNR=15
PNL Peninsula 83.53 28 P P 11 37 16.7 +0.2
baz=248
F24K Squaw Lake 83.55 19 IAmb IAmb 11 37 18.1
comp=Z,7.0nm,0.8s
F24K Squaw Lake 83.55 19 P P 11 37 17.1 +0.5
baz=240,SNR=12
O28M Mount Upton 83.58 27 P P 11 37 17.2 +0.1
baz=248,SNR=5.3
TOLK Toolik Lake Re 83.59 18 P P 11 37 17.3 +0.5
TOLK IAmb IAmb 11 37 18.0
comp=Z,5.9nm,0.8s
TOLK Toolik Lake Re 83.59 18 P P 11 37 17.2 +0.5
baz=238,SNR=5.5
E24K Your Creek 83.64 19 P P 11 37 17.7 +0.7
baz=239
H25L Birch Creek 83.65 21 P P 11 37 17.5 +0.5
baz=242
J26L Joseph Creek 83.69 23 P P 11 37 17.4 0.0
baz=244,SNR=5.1
L27K Beaver Creek, 83.77 25 P P 11 37 18.1 +0.4
baz=246,SNR=6.7
G25K Bearman Lake 83.79 20 P P 11 37 18.5 +0.9
baz=241
BCAR Beaver Creek A 83.79 25 P P 11 37 18.4 +0.6
YUK3 Moose Creek 83.84 26 P P 11 37 18.7 +0.3
baz=247,SNR=5.9
BVCY Beaver Creek 83.92 25 P P 11 37 19.4 +0.9
baz=242
C23K Itkillik River 83.93 17 P P 11 37 18.9 +0.5
baz=237,SNR=13
KURBB Kurchatov Arra 83.94 322 P P 11 37 18.0 -0.8
comp=Z,0.5nm,0.5s,baz=106,slow=2.8,SNR=5.3
comp=Z,0.5nm,0.5s
YUK8 Steele Glacier 83.96 27 P P 11 37 19.4 +0.3
baz=248,SNR=5.1
FYU Fort Yukon 84.00 21 IAmb IAmb 11 37 19.9
comp=Z,4.5nm,0.7s
K27K Chicken 84.07 24 P P 11 37 19.6 +0.4
baz=245
D24K Happy Valley 84.09 18 P P 11 37 19.8 +0.5
baz=239,SNR=5.2
O29M Mount Kennedy 84.14 28 P P 11 37 20.4 +0.6
baz=249
I26K Coal Creek Min 84.20 22 P P 11 37 19.3 -0.5
baz=244
P29M Windy Craggy 84.30 29 IAmb IAmb 11 37 21.8
comp=Z,9.4nm,1.4s
P29M Windy Craggy 84.30 29 P P 11 37 20.7 +0.3
baz=250
F25K Christian Rive 84.34 20 P P 11 37 20.9 +0.4
baz=242,SNR=5.3
C24K Franklin Bluff 84.43 17 P P 11 37 21.4 +0.6
baz=239
YUK6 Outpost Mounta 84.47 27 P P 11 37 21.9 +0.3
baz=249
S31K Pelican 84.48 30 P P 11 37 21.4 +0.1
baz=251
YUK4 Talbot Arm 84.49 27 P P 11 37 22.3 +0.7
baz=249
E25K Arctic Village 84.62 19 P P 11 37 22.3 +0.4
baz=242
BMAR Burnt Mountain 84.63 20 P P 11 37 22.8 +0.8
SIT Sitka 84.66 31 P P 11 37 22.6 +0.4
baz=252
G26K Porcupine Rive 84.69 21 P P 11 37 22.9 +0.7
baz=244,SNR=17
EGAK Eagle 84.74 23 P P 11 37 23.0 +0.4
EGAK IAmb IAmb 11 37 23.7
comp=Z,6.0nm,1.0s
EGAK Eagle 84.74 23 P P 11 37 22.8 +0.2
baz=246,SNR=5.7
AAK Ala-Archa 84.75 314 P P 11 37 23.6 +0.3
HYT Haines Junctio 84.82 28 P P 11 37 23.8 +0.5
baz=250,SNR=9.9

cutoff=50s. Triangular moment-rate function
*NEIC **31** 11:39:45.4±1.3, 42.4°N×0.1°×29.2°W×0.1°, h10km±1km, mb4.8/243 Error ellipse: s-maj=18.7km s-min=15.2km az=194.0*
ISC 31 11:39:44.7±0.4, 42.26°N×0.08°×29.27°W×0.05°, h10km, n617, σ0.76/468, mb4.8/169, MS3.9/77, 10D, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
H07N1	**FLORES T-PHASE**	**2.92**	**209**	T		T	11 43 19.6	
H07S1	**FLORES T-PHASE**	**3.23**	**208**	*e*P		Pn	11 40 31.1	-4.4
SRBC	**Serra Branca**	**3.35**	**163**	*e*P		Pn	11 40 32.6	-4.6
PSBA	**Serra de Santa**	**3.79**	**156**	*e*P		Pn	11 40 39.6	-3.6
CMLA	**Cha da Macela**	**5.33**	**146**	Pn		**Pn**	**11 41 05.9**	**+1.5**
CMLA	**Cha da Macela**	**5.33**	**146**	*e*P		**Pn**	**11 41 02.1**	**-2.3**
PSMA	**Santa Maria**	**6.15**	**147**	*e*P		**Pn**	**11 41 13.5**	**-2.2**
PSMN	**Pico do Norte,**	**6.17**	**147**	*e*P		**Pn**	**11 41 13.5**	**-2.4**
PMOZ	**Porto Moniz, M**	**13.42**	**131**	*e*P		**Pn**	**11 42 58.7**	**+3.3**
PMOZ	203nm,20.0s			*e*LR		LR	11 46 04.0	
PGAV	**Gavieira, Arco**	**15.59**	**84**	*e*P		**P**	**11 43 29.4**	**+0.5**
PGAV	77nm,1.8s 666nm,20.0s			*e*LR		LR	11 46 41.9	
PSBE	**So Bento**	**15.73**	**93**	*e*P		**P**	**11 43 31.4**	**+1.1**
PCAS	**Casmilo, Conde**	**15.80**	**91**	*e*P		**P**	**11 43 32.3**	**+1.2**
	98nm,1.5s							
PCAB	**Cabril**	**15.81**	**85**	*e*P		**P**	**11 43 33.1**	**+1.9**
	54nm,1.7s							
COI	**Coimbra**	**15.83**	**90**	*e*P		**P**	**11 43 33.0**	**+1.6**
	121nm,1.3s							
COI	**Coimbra**	**15.83**	**90**	P		**P**	**11 43 32.0**	**+0.6**
COI	comp=Z,72nm,1.0s			IAmb		IAmb	11 43 33.3	
POLO	**Lamas de Olo**	**16.04**	**86**	*e*P		**P**	**11 43 34.6**	**+0.7**
	comp=Z,26nm,1.6s							
PVIS	**Viseu**	**16.09**	**88**	*e*P		**P**	**11 43 34.9**	**+0.5**
PMTG	**Montargil**	**16.28**	**94**	*e*P		**Pn**	**11 43 32.0**	**-1.4**
	comp=Z,62nm,1.5s							
PNCL	**Nicolau / Gran**	**16.38**	**98**	*e*P		**Pn**	**11 43 34.1**	**-0.6**
	comp=Z,28nm,1.6s							
MTE	**Manteigas**	**16.43**	**89**	*e*P		**P**	**11 43 39.9**	**+1.8**
	comp=Z,48nm,1.5s							
MTE	comp=Z,547nm,20.0s			*e*LR		LR	11 47 13.3	
MTE	**Manteigas**	**16.43**	**89**	P		**P**	**11 43 37.8**	**-0.3**
PTEO	**Sao Teotonio**	**16.45**	**100**	*e*P		**Pn**	**11 43 37.3**	**+1.8**
	comp=Z,43nm,1.6s							
MORF	**Marmelete**	**16.59**	**100**	*e*P		**Pn**	**11 43 36.5**	**-1.0**
EVO	**Evora**	**16.61**	**96**	*e*P		**Pn**	**11 43 36.0**	**-1.6**
	comp=Z,54nm,1.6s							
PCBR	**Castelo Branco**	**16.61**	**91**	*e*P		**Pn**	**11 43 36.7**	**-1.0**
	comp=Z,51nm,1.6s							
MESJ	**Mesejana**	**16.70**	**98**	*e*P		**Pn**	**11 43 39.6**	**+0.8**
	comp=Z,54nm,1.8s							
MESJ	**Messejana**	**16.70**	**98**			**Pn**	**11 43 38.5**	**-0.3**
MESJ	**Messejana**	**16.70**	**98**	*e*P		**Pn**	**11 43 39.6**	**+0.8**
MESJ	comp=Z,25nm,1.2s			IAmb		IAmb	11 43 43.3	
PBRG	**Braganca**	**16.74**	**84**	*e*P		**P**	**11 43 42.8**	**+1.2**
	comp=Z,37nm,1.5s							
PMRV	**Marv??o**	**16.79**	**92**	*e*P		**P**	**11 43 43.2**	**+1.1**
	comp=Z,46nm,1.5s							
PMRV	comp=Z,673nm,18.0s			*e*LR		LR	11 47 21.5	
PESTR	**Estremoz**	**16.82**	**94**	*e*P		**P**	**11 43 42.9**	**+0.5**
	comp=Z,42nm,1.6s							
PESTR	**Estremoz**	**16.82**	**94**	Pn		**Pn**	**11 43 38.3**	**-1.9**
PBEJ	**Beja**	**16.90**	**97**	*e*P		**P**	**11 43 44.7**	**+1.4**
	comp=Z,30nm,1.5s							
PCVE	**Castro Verde**	**16.92**	**99**	*e*P		**P**	**11 43 44.6**	**+1.1**
	comp=Z,47nm,1.5s							
PBDV	**Barranco-do-Ve**	**17.15**	**100**	*e*P		**P**	**11 43 48.2**	**+2.1**
	comp=Z,46nm,1.7s							
PVAQ	**Vaqueiros**	**17.24**	**99**	*e*P		**P**	**11 43 50.4**	**+3.3**
	comp=Z,31nm,1.3s							
PVAQ	comp=Z,542nm,20.0s			*e*LR		LR	11 47 50.5	
PVAQ	**Vaqueiros**	**17.24**	**99**	Pn		**Pn**	**11 43 44.7**	**-0.9**
PBAR	**Barrancos**	**17.45**	**96**	*e*P		**P**	**11 43 50.6**	**+1.2**
	comp=Z,50nm,1.6s							
DSB	**Dublin**	**18.83**	**46**	P		**P**	**11 44 04.0**	**-0.5**
PAB	**San Pablo**	**19.02**	**90**			**Pn**	**11 44 08.3**	**+0.8**
ESDC	**Sonseca Array**	**19.27**	**89**	P		**P**	**11 44 09.4**	**0.0**
ESDC	**Sonseca Array**	**19.27**	**89**	P		**P**	**11 44 10.1**	**+0.6**
ESDC	comp=Z,0.1nm,0.3s,baz=290,slow=9.4,SNR=18			LR		LR	11 49 59.3	
	comp=Z,364nm,20.9s,baz=283,slow=32 comp=Z,3.6nm,0.8s							
ESBB	**Sonseca Array**	**19.27**	**89**	P		**P**	**11 44 09.8**	**+0.4**
ESK	**Eskdalemuir**	**21.42**	**43**	P		**P**	**11 44 32.6**	**0.0**
EKA	**Eskdalemuir Ar**	**21.45**	**43**	P		**P**	**11 44 32.6**	**-0.3**
	comp=Z,3.3nm,0.9s,baz=244,slow=11,SNR=11 comp=Z,3.3nm,0.9s							
MDT	**Midelt**	**21.65**	**108**	P		**P**	**11 44 35.7**	**+0.3**
MDT	comp=Z,6.5nm,1.1s,baz=312,slow=12,SNR=3.9 comp=Z,178nm,21.0s,baz=314,slow=32 comp=Z,6.5nm,1.1s			LR		LR	11 51 21.1	
CEST	**Esterri de Car**	**22.48**	**79**	P		**P**	**11 44 45.2**	**+0.9**
CEST	comp=Z,14nm,1.0s			IAmb		IAmb	11 44 48.8	
CLF	**Chambon-Foret**	**22.88**	**65**	P		**P**	**11 44 49.1**	**+0.9**
CLF	comp=Z,25nm,0.9s			IAmb		IAmb	11 44 52.4	
BORG	**Borgarnes**	**22.98**	**9**	LR		LR	11 51 12.5	
	comp=Z,161nm,20.8s,baz=182,slow=30							
SSB	**Saint Sauveur**	**24.50**	**71**	P		**P**	**11 45 04.7**	**+0.5**
DOU	**Dourbes**	**24.56**	**60**	*d*P		**P**	**11 45 04.2**	**-0.3**
BMRD	**Maredsous**	**24.69**	**59**	*d*P		**P**	**11 45 05.2**	**-0.5**
BGES	**Gesves**	**24.90**	**59**	*d*P		**P**	**11 45 07.5**	**-0.2**
RCHB	**Rochefort**	**24.97**	**60**	*d*P		**P**	**11 45 07.8**	**-0.4**
BCLA	**Clavier**	**25.04**	**59**	*d*P		**P**	**11 45 08.7**	**-0.2**
BSTI	**Sart Tilman**	**25.23**	**59**	*d*P		**P**	**11 45 10.7**	**+0.2**
BHOU	**Houvegnez**	**25.48**	**59**	*d*P		**P**	**11 45 12.9**	**-0.1**
MEM	**Membach**	**25.51**	**59**	*d*P		**P**	**11 45 13.3**	**+0.2**
	comp=Z,14nm,0.8s							
WLF	**Walferdange**	**25.53**	**61**	*d*P		**P**	**11 45 14.1**	**+0.7**
BTNL	**Ternell**	**25.59**	**59**	*d*P		**P**	**11 45 14.0**	**+0.2**
LMN	**Caledonia Moun**	**25.65**	**290**	P		**P**	**11 45 15.2**	**+0.7**
LMN	comp=Z,16nm,0.9s			IAmb		IAmb	11 45 16.9	
BNI	**Bardonecchia**	**26.03**	**72**	P		**P**	**11 45 19.7**	**+1.6**
BNI	comp=Z,38nm,1.5s			IAmb		IAmb	11 45 26.6	
ECH	**Echery**	**26.16**	**64**	P		**P**	**11 45 18.8**	**-0.3**
SENIN	**Lac Senin/Sane**	**26.34**	**68**	P		**P**	**11 45 21.7**	**+0.8**
BFO	**Black Forest**	**26.94**	**64**	P		**P**	**11 45 26.0**	**-0.1**
BFO	comp=Z,42nm,1.9s			IAmb		IAmb	11 45 31.3	
SCHQ	**Schefferville**	**27.51**	**310**	IAmb		IAmb	11 45 36.0	
	comp=Z,34nm,1.5s							
SCHQ	**Schefferville**	**27.51**	**310**	P		**P**	**11 45 30.0**	**-1.2**
	comp=Z,7.5nm,0.9s,baz=110,slow=6.7,SNR=7.3							
SCHQ	comp=Z,229nm,20.1s,baz=94,slow=33 comp=Z,7.5nm,0.9s			LR		LR	11 54 37.1	
EMMW	**East Machias**	**27.65**	**288**	P		**P**	**11 45 32.4**	**0.0**
EMMW	comp=Z,13nm,1.0s			IAmb		IAmb	11 45 38.2	
TUE	**Stuetta**	**27.74**	**68**	P		**P**	**11 45 33.5**	**0.0**
DAVA	**Damuels**	**28.03**	**66**	*i* P		**P**	**11 45 36.8**	**+0.7**
	comp=Z,4.7nm,0.9s							
DAVOX	**Davos/Dischmat**	**28.07**	**67**	LR		LR	11 55 25.8	
	comp=Z,288nm,19.3s,baz=264,slow=34							
RETA	**Reutte**	**28.62**	**66**	*i* pP		pP	11 45 43.0	-0.5
	comp=Z,4.2nm,1.0s							
FETA	**Feichten**	**28.63**	**67**	*i* P		**P**	**11 45 42.3**	**+0.8**
	comp=Z,6.2nm,1.0s							
PKME	**Peaks-Kenny Pk**	**28.85**	**290**	P		**P**	**11 45 42.9**	**-0.3**
	baz=81							
MOTA	**Moosalm**	**28.86**	**66**	*e*P		**P**	**11 45 44.2**	**+0.8**
	comp=Z,7.7nm,1.1s							
SQTA	**Sankt Quirin**	**28.94**	**66**	*i* P		**P**	**11 45 43.6**	**-0.6**
	comp=Z,6.7nm,1.4s							
ZCCA	**Zocca**	**29.16**	**72**	IAmb		IAmb	11 46 03.0	
	comp=Z,30nm,1.1s							
WATA	**Walderalm**	**29.18**	**66**	*i* P		**P**	**11 45 46.2**	**-0.1**
	comp=Z,3.3nm,0.8s							
WTTA	**Wattenberg**	**29.23**	**66**	*i* P		**P**	**11 45 45.2**	**-1.5**
	comp=Z,5.0nm,0.8s							
NKC	**Novy Kostel**	**29.61**	**60**	AMS		AMS	11 56 00.0	
	comp=Z,500nm,18.9s							
ABTA	**Abfaltersbach**	**29.88**	**67**	*i* P		**P**	**11 45 53.1**	**+0.7**
	comp=Z,6.6nm,1.0s							
CIMO	**Cimolais**	**29.88**	**68**	IAmb		IAmb	11 45 58.6	
	comp=Z,6.4nm,1.2s							
LESA	**Schwarzleotal**	**29.92**	**66**	*i* P		**P**	**11 45 53.5**	**+0.8**
	comp=Z,4.2nm,1.2s							
HSKC	**Hora Svate Kat**	**30.23**	**59**	AMS		AMS	11 56 30.0	
	comp=Z,400nm,18.7s							
KHC	**Kasperske Hory**	**30.38**	**62**	*e*P		**P**	**11 45 57.1**	**+0.3**
KHC	comp=Z,300nm,15.0s			AMS		AMS	11 56 10.0	
KBA	**Koelnbreinsper**	**30.41**	**66**	*i* P		**P**	**11 45 57.9**	**+0.7**
	comp=Z,21nm,1.0s							
GEC2	**GERESS Array S**	**30.48**	**63**	IAmb		IAmb	11 45 59.4	
	comp=Z,21nm,2.0s							
GERES	**GERESS Array B**	**30.48**	**63**	P		**P**	**11 45 57.0**	**-0.7**
GERES	**GERESS Array B**	**30.48**	**63**	P		**P**	**11 45 57.6**	**-0.1**
	comp=Z,1.5nm,0.8s,baz=269,slow=9.3,SNR=5.9							
GERES	comp=Z,274nm,20.5s,baz=262,slow=33 comp=Z,1.5nm,0.8s			LR		LR	11 56 38.9	
KEST	**Kesra**	**30.52**	**89**	P		**P**	**11 45 58.9**	**+0.7**
	comp=Z,6.7nm,0.9s,baz=300,slow=4.8,SNR=5.5							
KEST	comp=Z,96nm,21.7s,baz=235,slow=34 comp=Z,6.7nm,0.9s			LR		LR	11 56 46.2	
BIOA	**Bad Ischl, Aus**	**30.54**	**65**	*i* P		**P**	**11 45 58.1**	**0.0**
	comp=Z,5.0nm,1.0s							
JMIC	**Jan Mayen**	**30.63**	**13**	LR		LR	11 55 14.4	
	comp=Z,128nm,18.3s,baz=277,slow=30							
PRED	**Cave del Predi**	**30.64**	**67**	IAmb		IAmb	11 46 10.5	
	comp=Z,13nm,1.0s							
MYKA	**Terra Mystica**	**30.66**	**67**	*i* P		**P**	**11 45 59.9**	**+0.5**
	comp=Z,6.2nm,1.0s							
NB2	**NORSAR Subarra**	**30.67**	**38**	P		**P**	**11 45 59.4**	**+0.2**
	comp=Z,9.4nm,1.1s,baz=252,slow=10							
NOA	**NORSAR Array B**	**30.67**	**38**	P		**P**	**11 45 60.0**	**+0.7**
	comp=Z,1.9nm,0.8s,baz=252,slow=9.6,SNR=4.2							
NOA	comp=Z,44nm,18.3s,baz=250,slow=35 comp=Z,1.9nm,0.8s			LR		LR	11 57 24.9	
NC602	**NORSAR Array S**	**30.73**	**39**	P		**P**	**11 45 59.4**	**-0.2**
NC602	comp=Z,45nm,1.9s			IAmb		IAmb	11 46 02.6	
CADS	**Cadrg**	**30.79**	**68**	*i* P		**P**	**11 46 00.1**	**-0.2**
LBNH	**Lisbon**	**30.88**	**288**	P		**P**	**11 46 01.6**	**+0.4**
LBNH	**Lisbon**	**30.88**	**288**	P		**P**	**11 46 01.3**	**+0.2**
	baz=78							
CKRC	**Cesky Krumlov**	**30.88**	**63**	AMS		AMS	11 57 40.0	
	comp=Z,300nm,20.3s							
PRA	**Prague**	**30.89**	**60**	AMS		AMS	11 57 00.0	
	comp=Z,500nm,17.9s							
MOA	**Molln**	**30.94**	**64**	*i* pP		**P**	**11 46 02.8**	**+1.1**
	comp=Z,4.5nm,0.9s							
PVCC	**Panska Ves**	**30.96**	**59**	AMS		AMS	11 56 50.0	
	comp=Z,500nm,18.4s							
PRU	**Pruhonice**	**30.96**	**60**	AMS		AMS	11 57 10.0	
	comp=Z,500nm,18.1s							
HRV	**Adam Dziewonsk**	**31.00**	**285**	P		**P**	**11 46 02.9**	**+0.7**
	baz=76							
GOPC	**GO Pecny, Ondr**	**31.12**	**60**	AMS		AMS	11 57 20.0	
	comp=Z,500nm,17.6s							
FRB	**Frobisher Bay**	**31.16**	**327**	LR		LR	11 55 00.9	
	comp=Z,98nm,21.8s,baz=264,slow=30							
MOZS	**Mozjanca**	**31.26**	**67**	*i* P		**P**	**11 46 04.4**	**-0.2**
OBKA	**Obir**	**31.30**	**67**	*i* P		**P**	**11 46 04.5**	**-0.5**
	comp=Z,8.9nm,0.9s							
HFS	**Hagfors**	**31.58**	**41**	P		**P**	**11 46 07.3**	**+0.2**
	comp=Z,3.4nm,0.8s,baz=253,slow=8.9,SNR=6.7							
HFS	comp=Z,236nm,18.7s,baz=260,slow=34 comp=Z,3.4nm,0.8s			LR		LR	11 57 44.1	
SOKA	**Soboth**	**31.61**	**67**	*i* P		**P**	**11 46 06.7**	**-0.9**
	comp=Z,2.9nm,0.7s							
TREC	**Trest**	**31.62**	**62**	AMS		AMS	11 57 20.0	
	comp=Z,300nm,20.2s							
L61B	**Northampton**	**31.82**	**285**	P		**P**	**11 46 09.8**	**+0.3**
	baz=75							
ARSA	**Arzberg**	**31.86**	**65**	*i* P		**P**	**11 46 09.5**	**-0.3**
	comp=Z,3.9nm,1.0s							
UPC	**Upice**	**31.88**	**59**	AMS		AMS	11 57 30.0	
	comp=Z,400nm,15.9s							
CONA	**Conrad Observa**	**32.00**	**64**	*i* P		**P**	**11 46 11.5**	**+0.4**
	comp=Z,4.7nm,1.0s							
OSTC	**Ostas**	**32.01**	**59**	AMS		AMS	11 57 20.0	
	comp=Z,400nm,19.6s							
DPC	**Dobruska-Polom**	**32.09**	**59**	AMS		AMS	11 57 40.0	
	comp=Z,500nm,19.8s							
RONA	**Rosalia, Austr**	**32.32**	**64**	*e*P		**P**	**11 46 13.8**	**-0.1**
	comp=Z,8.7nm,2.0s							
VRAC	**Vranov**	**32.34**	**61**	LR		LR	11 58 26.7	
	comp=Z,235nm,18.5s,baz=268,slow=35							
LONY	**Lake Ozonia**	**32.66**	**290**	P		**P**	**11 46 17.5**	**+0.6**
	baz=78							
PAL	**Palisades**	**33.10**	**283**	P		**P**	**11 46 21.4**	**+0.8**
	baz=72							
OKC	**Ostrava-Krasne**	**33.30**	**60**	AMS		AMS	11 59 20.0	
	comp=Z,400nm,19.3s							
VAE	**Valguarnera**	**33.59**	**83**	LR		LR	11 59 02.8	
	comp=Z,739nm,19.0s,baz=320,slow=34							
VYHS	**Vyhne**	**33.90**	**63**	*e*P		**P**	**11 46 27.5**	**-0.1**
BINY	**Binghamton**	**34.25**	**286**	P		**P**	**11 46 30.4**	**-0.3**
	baz=74							
STHS	**Stebnicka Huta**	**35.35**	**61**	*e*P		**P**	**11 46 40.6**	**+0.5**
CRVS	**Cervenica-Dubn**	**35.56**	**61**	*e*P		**P**	**11 46 42.9**	**+0.9**
SADO	**Sadowa**	**35.80**	**291**	LR		LR	12 00 06.5	
	comp=Z,307nm,21.5s,baz=94,slow=34							
PUK	**Puka**	**36.04**	**73**	IAmb		IAmb	11 47 02.8	
	comp=Z,15nm,1.5s							
SSPA	**Standing Stone**	**36.08**	**284**	P		**P**	**11 46 47.0**	**+0.5**
	baz=71							
KWP	**Kalwaria Pacla**	**36.26**	**60**	IAmb		IAmb	11 46 50.8	
	comp=Z,14nm,1.1s							
FINES	**FINESS Array B**	**37.78**	**40**	P		**P**	**11 47 00.9**	**+0.3**
	comp=Z,6.5nm,0.9s,baz=289,slow=5.8,SNR=17							
FINES	comp=Z,145nm,20.7s,baz=230,slow=34 comp=Z,6.5nm,0.9s			LR		LR	12 00 56.1	
MCWV	**Mont Chateau**	**37.83**	**284**	P		**P**	**11 47 01.7**	**+0.4**
	baz=69							
NACGM	**Naroch**	**38.15**	**51**	*e*P		**P**	**11 47 03.6**	**-0.3**
	comp=Z,8.0nm,0.8s,baz=275							
BUR08	**Bucovina Ar. S**	**38.25**	**63**	P		**P**	**11 47 05.6**	**+0.6**
BURAR	**Bucovina Array**	**38.27**	**63**	P		**P**	**11 47 05.2**	**+0.1**
O53A	**New Philadelph**	**38.60**	**285**	P		**P**	**11 47 08.0**	**+0.1**
	baz=69							
MNK	**Minsk**	**38.83**	**51**	*i* P		**P**	**11 47 07.6**	**-1.9**
	comp=E,8.0nm,0.8s							
MNK	comp=N,28nm,0.9s			*i* P		**P**	**11 47 07.6**	**-1.9**
MNK	comp=Z,11nm,0.8s,baz=276			*i* P		**P**	**11 47 07.6**	**-1.9**
MNK				*i* PP		**PP**	**11 48 37.2**	**-1.0**
MNK				*i* PPP		PPP	11 48 56.4	
MNK				*i* S		**S**	**11 53 05.2**	**-1.9**
MNK				*i* SS		**SnSn**	**11 55 55.5**	**-0.7**
MNK				*i* SSS		SSS	11 56 12.8	
MNK				*i* LQ		LQ	12 00 25.8	
MNK				*i* LR		LR	12 03 02.6	
MNK				*i* LRM		MLR	12 04 51.4	
MNK				*i* LRM		MLR	12 04 51.4	
MNK				*i* LRM		MLR	12 04 51.4	
ARCES	**ARCESS Array B**	**38.94**	**27**	P		**P**	**11 47 10.0**	**-0.4**
ARCES	comp=Z,32nm,1.5s			IAmb		IAmb	11 47 12.3	
ARCES	**ARCESS Array B**	**38.94**	**27**	P		**P**	**11 47 10.3**	**-0.1**
	comp=Z,6.8nm,1.0s,baz=248,slow=6.4,SNR=8.8							
ARCES	comp=Z,112nm,21.1s,baz=280,slow=31 comp=Z,6.8nm,1.0s			LR		LR	12 00 07.3	
BLA	**Blacksburg**	**39.17**	**280**	P		**P**	**11 47 13.2**	**+0.5**
	baz=66							
MLR	**Muntele Rosu**	**39.28**	**66**	LR		LR	12 03 02.2	
	comp=Z,206nm,20.0s,baz=276,slow=36							
P52A	**Corning**	**39.48**	**285**	P		**P**	**11 47 15.7**	**+0.4**
	baz=68							
TOA0	**Torodi Ar. Sit**	**39.51**	**128**	P		**P**	**11 47 16.3**	**+0.6**
TORD	**Torodi Ar. Bea**	**39.51**	**128**	P		**P**	**11 47 15.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**39.51**	**128**	P		**P**	**11 47 15.8**	**+0.1**
	comp=Z,6.8nm,1.1s,baz=334,slow=8.6,SNR=16							
TORD	comp=Z,146nm,20.1s,baz=318,slow=34 comp=Z,6.8nm,1.1s			LR		LR	12 02 17.1	
AKASG	**Malin Array Be**	**40.20**	**57**	P		**P**	**11 47 20.5**	**-0.6**
	comp=Z,5.6nm,0.9s,baz=280,slow=8.3,SNR=20							
AKASG	comp=Z,314nm,19.2s,baz=238,slow=36 comp=Z,5.6nm,0.9s			LR		LR	12 03 30.1	
AKBB	**Malin Array Si**	**40.20**	**57**	P		**P**	**11 47 20.1**	**-1.0**

*IDC **31** 11:39:43.0±0.6, 42.26°N×29.35°W, h0km, mb4.2/27, mbtmp4.2/28, ML3.9/1, MS3.8/63, Error ellipse: s-maj=18.0km s-min=11.6km az=178.0*
*IGIL **31** 11:39:44.7, 42.36°N×29.34°W, h10km, Mb4.2*
*GCMT **31** 11:39:44.4±0.2, 42.23°N±0.03°×29.26°W±0.02, h13km±1km, MW4.8/104, Moment Tensor Solution. s27,c30; s104,c150; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}-1.59±.12; $M_{\theta\theta}$-0.14±.07; $M_{\phi\phi}$1.73±.08; $M_{r\theta}$0.13±.23; $M_{\theta\phi}$-0.32±.05; $M_{r\phi}$0.26±.16; Best double couple: $M_0$1.71400×10^16^ NP1:φs177.00000°, δ49.00000°, λ-81.00000°. NP2:φs344.00000°, δ41.00000°, λ-100.00000°. Principal axes: T 1.8010, Plg4.0000°, Azm261.0000°; N -0.1700, Plg7.0000°, Azm351.0000°; P -1.6270, Plg82.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves,*

KMSC **Kings Mountain** 40.71 278 P P 11 47 25.6 +0.1
baz=64
MILM **Milestii Mici** 40.81 63 eP P 11 47 24.0 -2.2
comp=Z,30nm,0.8s
MILM eL L 12 03 14.0
MILM LRM MLR 12 05 10.0
comp=Z,200nm,19.0s
O48B **Farmland** 41.41 287 P P 11 47 30.9 -0.3
baz=68
DBIC **Dimbokro** 41.52 142 LR LR 12 04 25.0
comp=Z,90nm,18.0s,baz=326,slow=36
TZTN **Tazewell** 41.73 281 P P 11 47 33.8 -0.1
baz=65
TKL **Tuckaleechee C** 42.28 280 LR LR 12 04 22.5
comp=Z,162nm,18.5s,baz=83,slow=35
MDP **Montagnes des** 42.44 216 LR LR 12 01 25.0
comp=Z,61nm,19.2s,baz=34,slow=31
WCI **Wyandotte Cave** 43.02 284 P P 11 47 44.1 -0.2
baz=66
GOGA **Godfrey** 43.07 277 P P 11 47 44.8 0.0
baz=62
RES **Resolute Bay** 43.34 339 P P 11 47 47.0 +0.6
RES IAmb IAmb 11 47 48.3
comp=Z,12nm,0.9s
OBN **Obninsk** 43.70 49 LR LR 12 06 22.1
comp=Z,235nm,18.6s,baz=28,slow=37
PCRV **Puerto La Cruz** 44.47 234 LR LR 12 04 03.9
comp=Z,112nm,20.9s,slow=33
SPMN **Marine on St.** 44.94 296 P P 11 47 59.3 -0.3
baz=70
L40A **Anamosa** 44.99 292 IAmb IAmb 11 48 01.3
comp=Z,11nm,0.9s
LRAL **Lakeview Retre** 45.85 278 P P 11 48 07.1 0.0
baz=61
AGMN **Agassiz Nation** 45.92 301 P P 11 48 07.0 -0.4
AGMN **Agassiz Nation** 45.92 301 P P 11 48 07.0 -0.4
baz=71
Z47A **Carrollton** 46.56 279 P P 11 48 12.9 +0.3
BRTR **Keskin Array B** 46.59 71 P P 11 48 12.8 -0.2
comp=Z,1.2nm,0.9s,baz=289,slow=7.7,SNR=4.6
BRTR PcP PcP 11 49 45.6 -1.4
comp=Z,0.7nm,0.7s,baz=272,slow=4.2,SNR=4.3
BRTR LR LR 12 09 05.5
comp=Z,69nm,18.4s,baz=306,slow=38
comp=Z,1.2nm,0.9s
CCM **Cathedral Cave** 46.63 287 P P 11 48 13.3 +0.2
baz=64
OXF **Oxford** 46.91 281 P P 11 48 15.1 -0.2
baz=62
T42A **Van Buren** 46.97 285 IAmb IAmb 11 48 18.9
comp=Z,13nm,1.4s
R40A **Maddies Statio** 47.26 287 IAmb IAmb 11 48 22.6
comp=Z,6.5nm,0.8s
BAUV **El Baul** 47.52 237 P P 11 48 20.3 0.0
MGMO **Mountain Grove** 47.76 286 IAmb IAmb 11 48 22.5
comp=Z,8.7nm,0.8s
ECSD **EROS Data Cent** 48.02 296 P P 11 48 22.9 -1.0
baz=67
S39A **Bolivar** 48.27 287 IAmb IAmb 11 48 26.7
comp=Z,8.7nm,0.8s
SDV **Santo Domingo** 49.20 240 LR LR 12 07 15.2
comp=Z,41nm,19.8s,baz=302,slow=34
KIRV **Kirov** 49.68 42 LR LR 12 08 26.3
comp=Z,139nm,21.6s,baz=282,slow=35
MIAR **Mount Ida** 49.92 284 P P 11 48 38.3 -0.2
baz=61
KSU1 **Kansas State U** 49.95 290 P P 11 48 38.7 0.0
baz=63
BELG **Belogornoye** 50.76 50 LR LR 12 09 60.0
comp=Z,252nm,19.6s,baz=266,slow=36
TUL3 **Leonard** 50.85 286 P P 11 48 45.3 -0.3
baz=61
T35A **Sooner Cattle** 50.88 288 P P 11 48 44.7 -1.2
T35A IAmb IAmb 11 48 45.9
comp=Z,7.3nm,0.8s
MMAI **Mount Meron Ar** 50.94 78 P P 11 48 46.9 +0.5
comp=Z,0.7nm,0.3s,baz=307,slow=8.7,SNR=2.2
MMAI LR LR 12 10 09.3
comp=Z,58nm,20.7s,baz=225,slow=36
comp=Z,0.7nm,0.3s
KBZ **Khabaz** 51.22 62 P P 11 48 48.6 +0.4
comp=Z,2.3nm,0.9s,baz=293,slow=8.6,SNR=4.0
KBZ LR LR 12 10 38.6
comp=Z,116nm,20.4s,baz=330,slow=36
comp=Z,2.3nm,0.9s
OK048 **Pawnee Station** 51.43 287 IAmb IAmb 11 48 49.9
comp=Z,12nm,1.0s
YKA **Yellowknife Ar** 51.58 324 P P 11 48 50.2 -0.4
comp=Z,1.8nm,0.8s,baz=62,slow=7.5,SNR=9.0
YKA PcP PcP 11 50 04.0 -0.4
comp=Z,2.0nm,1.0s,baz=60,slow=4.0,SNR=7.5
comp=Z,1.8nm,0.8s
A36M **Sachs Harbour** 52.21 337 P P 11 48 54.0 -1.2
baz=69
LAO **LASA Array** 53.03 303 P P 11 49 01.1 -0.7
baz=65
WMOK **Wichita Mounta** 53.55 286 P P 11 49 05.2 -0.6
baz=60
WHTX **Lake Whitney,** 54.01 283 P P 11 49 08.8 -0.3
baz=58
GNI **Garni** 54.05 66 LR LR 12 14 19.4
comp=Z,40nm,19.7s,baz=309,slow=38
EDM **Edmonton** 54.45 313 P P 11 49 11.9 -0.2
EDM IAmb IAmb 11 49 15.3
comp=Z,9.3nm,1.2s
EGMT **Eagleton** 54.62 306 P P 11 49 12.7 -0.7
baz=64
ROSC **El Rosal** 54.63 240 LR LR 12 08 49.7
comp=Z,83nm,21.2s,baz=56,slow=32
K22A **Casper** 55.03 299 IAmb IAmb 11 49 17.1
comp=Z,7.4nm,0.9s
K22A **Casper** 55.03 299 P P 11 49 16.4 -0.2
baz=62
WRGLY **Wrigley** 55.05 327 P P 11 49 15.6 -0.6
baz=64
ARU **Arti** 55.06 43 P P 11 49 16.0 -0.3
ARU **Arti** 55.06 43 LR LR 12 13 15.1
comp=Z,159nm,18.4s,baz=321,slow=36
APMT **Aspermont** 55.23 286 IAmb IAmb 11 49 17.8
comp=Z,5.4nm,0.8s
ABTX **Abilene, Hawle** 55.25 285 P P 11 49 17.7 -0.4
baz=58
N23A **Red Feather La** 55.48 296 IAmb IAmb 11 49 21.1
comp=Z,7.7nm,1.0s
N23A **Red Feather La** 55.48 296 P P 11 49 19.6 -0.4
baz=61
AMTX **Amarillo** 55.53 288 P P 11 49 19.8 -0.5
baz=59
RLMT **Red Lodge** 55.63 302 P P 11 49 20.7 -0.2
baz=62
ISCO **Idaho Springs** 55.79 295 P P 11 49 21.7 -0.6
baz=60
T25A **Trinidad** 56.29 292 P P 11 49 25.6 -0.1
baz=59
INK **Inuvik** 56.35 334 IAmb IAmb 11 49 25.9
comp=Z,12nm,1.0s
INK **Inuvik** 56.35 334 P P 11 49 24.9 -0.5
baz=60,SNR=8.0
KOTAN **Kotaneelee Air** 56.70 323 P P 11 49 27.4 -0.6
baz=62
SDCO **Great Sand Dun** 56.73 293 P P 11 49 28.9 -0.1
baz=59
MSTX **Muleshoe** 56.78 288 IAmb IAmb 11 49 30.0
comp=Z,9.2nm,0.8s
MSTX **Muleshoe** 56.78 288 P P 11 49 28.6 -0.6
baz=58
F31M **Tsiigehtchic** 56.87 334 P P 11 49 29.1 0.0
baz=59,SNR=27
BOZ **Bozeman (W)** 56.88 304 P P 11 49 28.9 -0.9
baz=61
PDAR **Pinedale Array** 56.94 300 P P 11 49 28.3 -2.0
PDAR **Pinedale Array** 56.94 300 P P 11 49 29.4 -1.0
comp=Z,3.0nm,0.9s,baz=65,slow=8.4,SNR=15
PDAR LR LR 12 13 28.4
comp=Z,98nm,18.4s,baz=54,slow=36
comp=Z,3.0nm,0.9s
IMW **Indian Meadow** 57.27 302 IAmb IAmb 11 49 33.9
comp=Z,6.0nm,0.8s
G31M **Satah River** 57.31 333 P P 11 49 31.8 -0.5
baz=58,SNR=14
SNOW **Snow King Moun** 57.36 301 P P 11 49 33.0 -0.4
SNOW IAmb IAmb 11 49 34.6
comp=Z,5.7nm,0.8s
O20A **White River Ci** 57.38 297 P P 11 49 33.4 0.0
baz=60
833A **Chaparral WMA,** 57.40 280 P P 11 49 34.3 +0.8
baz=56
D28M **Stokes Point** 57.42 337 P P 11 49 32.2 -0.7
baz=56,SNR=5.4
F30M **Barrier River** 57.45 334 P P 11 49 33.4 +0.1
baz=58,SNR=28
AKTO **Aktyubinsk** 57.48 49 LR LR 12 14 33.6
comp=Z,111nm,19.2s,baz=228,slow=36
E29M **Blow River** 57.69 335 IAmb IAmb 11 49 35.8
comp=Z,16nm,0.9s
E29M **Blow River** 57.69 335 P P 11 49 34.7 -0.2
baz=56,SNR=24
MSO **Missoula** 57.69 306 P P 11 49 35.1 -0.3
baz=61
TGTN **Hyland Airport** 57.83 326 P P 11 49 36.6 +0.5
baz=60
TOAD **Toad River Com** 57.84 322 P P 11 49 36.6 +0.4
baz=61,SNR=5.2
G30M **tAoh Zrail Nji** 57.93 334 P P 11 49 36.1 -0.6
baz=57,SNR=8.8
H31M **Peel River** 57.93 332 P P 11 49 36.7 0.0
baz=58,SNR=5.9
E28M **Babbage River** 58.07 336 P P 11 49 37.0 -0.6
E28M IAmb IAmb 11 49 38.4
comp=Z,16nm,0.8s
E28M **Babbage River** 58.07 336 P P 11 49 37.3 -0.2
baz=55,SNR=18
D27M **Malcolm River** 58.12 337 P P 11 49 37.0 -1.0
baz=54
EPYK **Eagle Plains** 58.44 333 P P 11 49 40.6 +0.4
baz=56,SNR=12
SAND **Sanderson** 58.48 283 IAmb IAmb 11 49 41.9
comp=Z,7.4nm,0.9s
G29M **Pine Creek** 58.56 334 P P 11 49 40.9 -0.1
baz=55,SNR=19
C27K **Jago River** 58.67 338 P P 11 49 41.4 -0.4
baz=52,SNR=17
F28M **Old Crow** 58.74 335 P P 11 49 41.8 -0.5
baz=54,SNR=23
APG **El Apazote** 58.80 262 LR LR 12 14 11.1
comp=Z,4.6nm,18.3s,baz=109,slow=35
HWUT **Hardware Ranch** 58.81 300 IAmb IAmb 11 49 44.4
comp=Z,7.4nm,0.8s
C26K **Camden Bay** 58.81 339 P P 11 49 42.2 -0.5
baz=51,SNR=9.4
ANMO **Albuquerque** 58.85 291 P P 11 49 43.7 -0.1
baz=58
ANMO **Albuquerque** 58.85 291 LR LR 12 13 18.1
comp=Z,171nm,21.9s,baz=138,slow=34
NEW **Newport** 58.86 309 IAmb IAmb 11 49 44.1
comp=Z,5.4nm,0.8s
NEW **Newport** 58.86 309 P P 11 49 43.4 -0.1
baz=60
E27K **Coleen River** 58.93 336 P P 11 49 43.1 -0.5
baz=53,SNR=31
I30M **Mount Dempster** 58.96 332 P P 11 49 42.9 -1.1
I30M **Mount Dempster** 58.96 332 P P 11 49 43.2 -0.8
baz=56,SNR=10
MVCO **Mesa Verde** 59.05 294 P P 11 49 45.6 +0.4
baz=58
H29M **Whitestone** 59.07 333 P P 11 49 44.1 -0.5
baz=55,SNR=14
ABKAR **Akbulak array** 59.15 50 P P 11 49 42.0 -3.4
J30M **Hart River** 59.31 331 IAmb IAmb 11 49 48.0
comp=Z,8.7nm,1.1s
J30M **Hart River** 59.31 331 P P 11 49 46.6 +0.2
baz=56,SNR=10.0
FARO **Faro, Yukon** 59.51 328 P P 11 49 47.7 0.0
baz=57,SNR=5.4
I29M **Ogilvie Camp,** 59.55 333 P P 11 49 48.0 0.0
baz=54,SNR=29
D25K **Kavik River** 59.59 338 IAmb IAmb 11 49 49.1
comp=Z,9.6nm,0.9s
D25K **Kavik River** 59.59 338 P P 11 49 47.7 -0.5
baz=50,SNR=16
HLID **Hailey** 59.61 303 P P 11 49 49.1 +0.2
HLID **Hailey** 59.61 303 P P 11 49 48.9 -0.1
baz=59
MAYO **Mayo, Yukon** 59.71 330 P P 11 49 50.0 +1.0
MAYO **Mayo, Yukon** 59.71 330 P P 11 49 49.3 +0.2
baz=55
TMUT **Trail Mountain** 59.77 297 IAmb IAmb 11 49 51.1
comp=Z,9.9nm,0.9s
G27K **Doyon Strip** 59.78 335 P P 11 49 49.5 0.0
baz=52,SNR=36
PLID **Pearl Lake** 59.81 305 IAmb IAmb 11 49 58.5
comp=Z,8.1nm,1.4s
M31M **Drury Creek, Y** 59.93 328 IAmb IAmb 11 49 52.9
comp=Z,5.9nm,0.8s
M31M **Drury Creek, Y** 59.93 328 P P 11 49 51.3 +0.7
baz=56,SNR=9.1
TXAR **Lajitas Array** 59.94 284 P P 11 49 51.1 -0.2
comp=Z,2.4nm,0.8s,baz=73,slow=6.8,SNR=24
TXAR LR LR 12 17 03.6
comp=Z,65nm,18.0s,baz=50,slow=37
comp=Z,2.4nm,0.8s
C24K **Franklin Bluff** 59.95 339 P P 11 49 50.7 +0.1
baz=48
F26K **Sheenjek River** 59.99 336 P P 11 49 51.5 +0.5
baz=51,SNR=11
N32M **Quiet Lake** 60.00 327 IAmb IAmb 11 49 52.7
comp=Z,6.1nm,0.9s
N32M **Quiet Lake** 60.00 327 P P 11 49 51.4 +0.3
baz=56
I28M **Miner Creek** 60.05 333 IAmb IAmb 11 49 52.5
comp=Z,11nm,0.9s
I28M **Miner Creek** 60.05 333 P P 11 49 51.5 0.0
baz=53,SNR=18
R33M **Jennings River** 60.09 325 P P 11 49 51.9 0.0
baz=57
H27K **Steamboat Moun** 60.09 334 P P 11 49 51.4 -0.3
baz=52,SNR=9.9
E25K **Arctic Village** 60.14 337 IAmb IAmb 11 49 53.5
comp=Z,9.9nm,0.9s
E25K **Arctic Village** 60.14 337 P P 11 49 52.0 0.0
baz=50,SNR=16
BDFB **Brasilia** 60.15 201 LR LR 12 11 28.5
comp=Z,105nm,21.4s,baz=337,slow=32
K29M **Barlow Dome** 60.16 331 IAmb IAmb 11 49 53.9
comp=Z,7.8nm,0.8s
K29M **Barlow Dome** 60.16 331 P P 11 49 52.9 +0.6
baz=54,SNR=12
DLBC **Dease Lake** 60.20 323 P P 11 49 53.4 +0.9
baz=57
BMAR **Burnt Mountain** 60.29 336 P P 11 49 52.4 -0.7
DUG **Dugway, Tooele** 60.35 299 P P 11 49 53.2 -0.8
DUG IAmb IAmb 11 49 54.9
comp=Z,6.5nm,0.9s
DUG **Dugway, Tooele** 60.35 299 P P 11 49 53.9 -0.1
baz=58
G26K **Porcupine Rive** 60.36 336 P P 11 49 53.9 +0.5
baz=51,SNR=28
C23K **Itkillik River** 60.36 340 P P 11 49 53.0 -0.4
C23K IAmb IAmb 11 49 55.2
comp=Z,14nm,1.0s
C23K **Itkillik River** 60.36 340 P P 11 49 53.6 +0.2
baz=47,SNR=10
D24K **Happy Valley** 60.36 339 P P 11 49 53.7 +0.3
baz=48,SNR=5.3
P33M **Teslin, Yukon** 60.41 326 P P 11 49 53.6 -0.4
baz=56
F25K **Chatian Rive** 60.50 337 P P 11 49 54.6 +0.1
baz=50,SNR=7.7
I27K **Kandik River** 60.51 334 P P 11 49 54.6 +0.1
baz=52,SNR=20
A22K **Sinclair Lake** 60.58 342 P P 11 49 55.3 +0.5
baz=44,SNR=11
M30M **Minto, Yukon** 60.63 330 IAmb IAmb 11 49 57.3
comp=Z,10nm,0.9s
M30M **Minto, Yukon** 60.63 330 P P 11 49 55.9 +0.4
baz=54,SNR=13
DAWY **Dawson** 60.69 332 IAmb IAmb 11 49 57.4
comp=Z,13nm,1.1s
DAWY **Dawson** 60.69 332 P P 11 49 56.3 +0.5
baz=53,SNR=20
B22K **Teshekpuk Lake** 60.70 341 P P 11 49 56.1 +0.5
baz=45,SNR=10
CMIG **Matias Romero** 60.73 267 LR LR 12 14 03.1
comp=Z,109nm,19.7s,baz=6.0,slow=34
L29M **L29M** 60.81 330 P P 11 49 57.5 +0.8
baz=54,SNR=13
MSU **Marysvale** 60.83 297 P P 11 49 57.8 +0.4
EGAK **Eagle** 60.87 333 IAmb IAmb 11 49 57.9
comp=Z,13nm,1.4s
EGAK **Eagle** 60.87 333 P P 11 49 57.1 +0.2
baz=52,SNR=7.8
N31M **Braeburn, Yuko** 60.88 328 IAmb IAmb 11 49 58.6
comp=Z,7.9nm,0.8s
N31M **Braeburn, Yuko** 60.88 328 P P 11 49 57.5 +0.4
baz=54,SNR=8.7
TOLK **Toolik Lake Re** 60.91 339 IAmb IAmb 11 49 58.5
comp=Z,14nm,1.0s
TOLK **Toolik Lake Re** 60.91 339 P P 11 49 57.6 +0.4
baz=47,SNR=14
D23K **Nanushuk River** 60.98 339 P P 11 49 58.3 +0.6
baz=46
S34M **Telegraph Cree** 60.98 323 P P 11 49 58.6 +0.8
baz=56
E24K **Your Creek** 60.99 338 P P 11 49 58.2 +0.4
baz=48
WHY **Whitehorse** 61.00 327 P P 11 49 57.5 -0.6
WHY **Whitehorse** 61.00 327 P P 11 49 58.8 +0.7
baz=55,SNR=5.6
W18A **Petrified Fore** 61.02 292 P P 11 49 58.9 +0.3
baz=57
FYU **Fort Yukon** 61.04 336 P P 11 49 58.1 0.0
121A **Cookes Peak, D** 61.09 289 P P 11 49 59.9 +0.8
baz=56
T35M **Bob Quinn** 61.10 322 P P 11 49 59.1 +0.5
baz=56
G25K **Bearman Lake** 61.18 336 P P 11 49 59.5 +0.5
baz=49,SNR=13
I26K **Coal Creek Min** 61.20 334 P P 11 49 59.8 +0.6
baz=51
F24K **Squaw Lake** 61.20 337 IAmb IAmb 11 50 01.3
comp=Z,8.3nm,0.9s
F24K **Squaw Lake** 61.20 337 P P 11 50 00.2 +1.0
baz=48,SNR=13
M29M **Somme Creek** 61.34 330 IAmb IAmb 11 50 02.3
comp=Z,6.9nm,0.9s
M29M **Somme Creek** 61.34 330 P P 11 50 01.4 +1.0
baz=53,SNR=12
N30M **Aishikik Lake** 61.41 329 IAmb IAmb 11 50 02.6
comp=Z,12nm,1.2s
N30M **Aishikik Lake** 61.41 329 P P 11 50 01.4 +0.6
baz=54,SNR=10
H25L **Birch Creek** 61.42 336 P P 11 50 01.6 +1.0
baz=49,SNR=11
O30N **Mendenhall** 61.42 328 IAmb IAmb 11 50 02.5
comp=Z,6.9nm,0.8s
O30N **Mendenhall** 61.42 328 P P 11 50 01.2 +0.3
baz=54,SNR=11
B21K **Ikpikpuk River** 61.50 341 P P 11 50 02.0 +0.8
baz=44,SNR=17
D22K **Ayikyak River** 61.55 340 IAmb IAmb 11 50 03.3
comp=Z,6.9nm,0.9s
D22K **Ayikyak River** 61.55 340 P P 11 50 02.4 +0.8
baz=45,SNR=6.2
ELK **Elko** 61.62 301 P P 11 50 02.7 -0.1
ELK IAmb IAmb 11 50 04.0
comp=Z,4.8nm,0.8s
G24K **Hadweenzic Riv** 61.63 337 P P 11 50 03.1 +1.0
baz=48,SNR=21
K27K **Chicken** 61.65 333 IAmb IAmb 11 50 04.0
comp=Z,9.5nm,1.1s
K27K **Chicken** 61.65 333 P P 11 50 03.1 +0.9
baz=51
B20K **Meade River** 61.81 342 P P 11 50 03.9 +0.7
baz=42
PRP **Porcupine Dome** 61.82 335 IAmb IAmb 11 50 05.3
comp=Z,12nm,1.0s
PRP **Porcupine Dome** 61.82 335 P P 11 50 04.3 +0.7
baz=49,SNR=15
J26L **Joseph Creek** 61.85 333 P P 11 50 04.0 +0.3
baz=50,SNR=9.8
E22K **Anaktuvuk Pass** 61.86 339 IAmb IAmb 11 50 04.9
comp=Z,11nm,1.1s
E22K **Anaktuvuk Pass** 61.86 339 P P 11 50 03.5 -0.2
baz=45
C21K **Knifeblade Rid** 61.88 341 P P 11 50 04.8 +1.0
baz=43,SNR=7.1
SKAG **Skagway** 61.89 326 P P 11 50 04.9 +1.0
baz=54
WUAZ **Wupatki** 61.92 294 P P 11 50 05.7 +0.9
baz=56
PSUT **Pine Spring** 61.92 298 IAmb IAmb 11 50 06.4
comp=Z,4.7nm,0.9s
HYT **Haines Junctio** 61.95 328 P P 11 50 05.1 +0.6
baz=53,SNR=6.7
COLD **Coldfoot** 62.05 338 P P 11 50 05.6 +0.6
baz=46,SNR=17
YUK4 **Talbot Arm** 62.07 329 P P 11 50 05.3 -0.2
baz=52
CCUT **Cedar City** 62.13 297 IAmb IAmb 11 50 07.5
comp=Z,5.0nm,0.9s
P30M **Million Dollar** 62.16 327 P P 11 50 06.8 +0.9
baz=53
L27K **Beaver Creek,** 62.17 332 P P 11 50 06.3 +0.5
baz=51
E21K **Killik River** 62.20 340 IAmb IAmb 11 50 07.2
comp=Z,11nm,1.1s
E21K **Killik River** 62.20 340 P P 11 50 06.1 +0.1
baz=44
YUK6 **Outpost Mounta** 62.21 329 P P 11 50 06.5 +0.1
baz=52
J08A **Circle Bar Ran** 62.23 304 IAmb IAmb 11 50 08.3
comp=Z,12nm,0.9s
R32K **Eaglecrest** 62.24 325 P P 11 50 07.3 +0.9
baz=54
Q12A **Willow Creek R** 62.28 299 IAmb IAmb 11 50 11.3
comp=Z,5.2nm,1.0s
PLBC **Pleasant Camp** 62.31 327 P P 11 50 07.5 +0.7
baz=53
SCRK **Sand Creek** 62.33 333 P P 11 50 07.0 +0.1
SCRK IAmb IAmb 11 50 08.6
comp=Z,6.4nm,0.8s
SCRK **Sand Creek** 62.33 333 P P 11 50 07.5 +0.5
baz=50,SNR=11
H24K **Noodor Dome** 62.33 336 IAmb IAmb 11 50 08.6
comp=Z,9.3nm,1.1s
H24K **Noodor Dome** 62.33 336 P P 11 50 07.5 +0.6
baz=47,SNR=11
G23K **Bananza Creek** 62.36 337 IAmb IAmb 11 50 08.9
comp=Z,10nm,0.9s
G23K **Bananza Creek** 62.36 337 P P 11 50 07.9 +0.8
baz=46,SNR=19
J25K **Salcha River,** 62.37 334 IAmb IAmb 11 50 08.4
comp=Z,9.6nm,0.9s
J25K **Salcha River,** 62.37 334 P P 11 50 07.6 +0.4
baz=49,SNR=14
F22K **John River** 62.40 339 P P 11 50 07.6 +0.3
baz=45
YUK3 **Moose Creek** 62.49 330 P P 11 50 08.9 +0.7
baz=51,SNR=13
YUK8 **Steele Glacier** 62.54 329 P P 11 50 09.2 +0.6
baz=52
BRVK **Borovoye** 62.62 42 P P 11 50 09.6 +0.6
BRVK IAmb IAmb 11 50 10.5
comp=Z,5.3nm,0.8s
G22K **Bettles** 62.63 338 P P 11 50 09.1 +0.3
baz=45
M27K **Edge Creek, AK** 62.64 331 IAmb IAmb 11 50 10.8
comp=Z,8.4nm,0.9s
M27K **Edge Creek, AK** 62.64 331 P P 11 50 09.7 +0.6
baz=50,SNR=8.5
D20K **Etivluk River** 62.66 341 P P 11 50 09.2 +0.2
baz=42
V35K **Ketchikan** 62.67 321 P P 11 50 09.7 +0.5
baz=55
O29M **Mount Kennedy** 62.69 328 IAmb IAmb 11 50 11.1
comp=Z,4.6nm,0.8s
O29M **Mount Kennedy** 62.69 328 P P 11 50 09.9 +0.5
baz=52,SNR=5.9
POKR **Poker Plat Res** 62.69 335 IAmb IAmb 11 50 10.8
comp=Z,13nm,1.1s
POKR **Poker Plat Res** 62.69 335 P P 11 50 09.9 +0.7
baz=47,SNR=5.2
BVAR **Borovoye Array** 62.70 42 P P 11 50 10.2 +0.7
comp=Z,3.0nm,0.7s,baz=328,slow=5.3,SNR=12
comp=Z,3.0nm,0.7s
L26K **Log Cabin Wild** 62.73 332 IAmb IAmb 11 50 11.1
comp=Z,5.7nm,1.0s
L26K **Log Cabin Wild** 62.73 332 P P 11 50 10.1 +0.6
baz=50,SNR=5.5
S32K **Killisnoo** 62.75 324 P P 11 50 10.8 +1.1
baz=54
ILAR **Eielson Array** 62.75 335 P P 11 50 09.0 -0.7
ILAR **Eielson Array** 62.75 335 P P 11 50 09.8 +0.2
comp=Z,2.3nm,0.8s,baz=45,slow=5.3,SNR=34
comp=Z,2.3nm,0.8s
BBB **Bella Bella** 62.76 317 LR LR 12 17 51.5
comp=Z,84nm,18.7s,baz=3.0,slow=36
P29M **Windy Craggy** 62.77 327 IAmb IAmb 11 50 11.7
comp=Z,8.0nm,0.9s
P29M **Windy Craggy** 62.77 327 P P 11 50 10.5 +0.6
baz=52,SNR=6.7
WVOR **Wild Horse Val** 62.84 304 IAmb IAmb 11 50 17.2
comp=Z,6.9nm,1.1s
H23K **Yukon River** 62.84 336 P P 11 50 11.2 +0.9

baz=46,SNR=23
E20K **Nigu River** 62.89 340 P P 11 50 11.1 +0.5
baz=42,SNR=20
MENT **Mentasta** 62.91 332 IAmb IAmb 11 50 12.3
comp=Z,7.2nm,0.8s
F21K **Alatna River** 62.96 339 P P 11 50 11.4 +0.4
baz=44,SNR=17
COLA **College** 62.98 335 P P 11 50 11.8 +0.7
baz=47
M26K **Nabesna, AK** 63.01 331 P P 11 50 11.9 +0.4
baz=50
HDA **Harding Lake** 63.01 334 P P 11 50 11.6 +0.2
baz=47,SNR=14
O28M **Mount Upton** 63.02 329 P P 11 50 12.6 +0.8
baz=51,SNR=6.8
K24K **Donnelly Dome** 63.04 334 P P 11 50 12.4 +0.8
baz=48,SNR=6.7
MDM **Murphy Dome** 63.04 335 IAmb IAmb 11 50 13.5
comp=Z,10.0nm,1.1s
C19K **Lookout Ridge** 63.06 342 P P 11 50 12.6 +0.9
baz=39,SNR=6.7
D19K **Kuna River** 63.18 341 IAmb IAmb 11 50 13.9
comp=Z,10nm,1.1s
D19K **Kuna River** 63.18 341 P P 11 50 12.8 +0.3
baz=40,SNR=7.8
I23K **Minto, Yukon-K** 63.26 336 P P 11 50 13.6 +0.6
baz=46,SNR=14
CRAG **Craig** 63.28 322 P P 11 50 13.8 +0.6
baz=54
TUC **Tucson** 63.31 290 P P 11 50 14.7 +0.7
baz=55
CTGM **Chitina Glacie** 63.33 330 IAmb IAmb 11 50 15.4
comp=Z,7.0nm,1.0s
H22K **Ishtalitna Cre** 63.33 337 P P 11 50 14.0 +0.5
baz=45,SNR=11
CTG **Chitna Glacier** 63.33 330 P P 11 50 14.6 +0.9
baz=50,SNR=5.1
PRN **Pahroc Range** 63.33 297 P P 11 50 14.4 +0.3
B18K **Kokolik River** 63.34 343 P P 11 50 14.1 +0.6
baz=38
BARN **Barnard Glacie** 63.39 330 P P 11 50 14.8 +0.6
BARN IAmb IAmb 11 50 15.7
comp=Z,5.4nm,0.9s
G21K **Allakaket** 63.48 338 IAmb IAmb 11 50 16.2
comp=Z,10nm,0.9s
G21K **Allakaket** 63.48 338 P P 11 50 14.4 -0.1
baz=43,SNR=16
PAX **Paxson** 63.49 333 P P 11 50 15.1 +0.4
baz=48,SNR=6.4
NEA2 **Nenana** 63.56 335 P P 11 50 15.1 +0.1
baz=46,SNR=8.6
F20K **Avaraart Lake** 63.68 339 IAmb IAmb 11 50 17.4
comp=Z,13nm,1.1s
F20K **Avaraart Lake** 63.68 339 P P 11 50 16.2 +0.5
baz=42
MCARA **McCarthy VSAT** 63.68 331 P P 11 50 16.4 +0.5
baz=49
MLY **Manley** 63.76 336 IAmb IAmb 11 50 17.6
comp=Z,5.8nm,1.0s
MLY **Manley** 63.76 336 P P 11 50 16.5 +0.1
baz=45,SNR=9.7
E19K **Redstone River** 63.76 340 P P 11 50 16.9 +0.6
baz=41,SNR=15
HARP **HAARP** 63.77 332 P P 11 50 16.9 +0.4
baz=48
C18K **Utukok River** 63.78 342 IAmb IAmb 11 50 17.9
comp=Z,11nm,1.1s
C18K **Utukok River** 63.78 342 P P 11 50 16.8 +0.3
baz=38,SNR=6.1
H21K **Melozitna Rive** 63.91 337 IAmb IAmb 11 50 18.8
comp=Z,8.9nm,1.1s
H21K **Melozitna Rive** 63.91 337 P P 11 50 17.8 +0.4
baz=44,SNR=14
I21K **Tanana** 64.02 337 IAmb IAmb 11 50 20.0
comp=Z,9.3nm,1.0s
I21K **Tanana** 64.02 337 P P 11 50 18.3 +0.3
baz=44
DHY **Denali Highway** 64.06 333 IAmb IAmb 11 50 19.9
comp=Z,4.9nm,0.9s
DHY **Denali Highway** 64.06 333 P P 11 50 18.9 +0.4
baz=47,SNR=5.4
MESA **MESA** 64.07 329 P P 11 50 19.4 +0.8
baz=50
GEYT **Alibeck** 64.10 61 P P 11 50 19.5 +0.5
comp=Z,1.5nm,0.3s,baz=273,slow=10.0,SNR=4.3
GEYT LR LR 12 21 16.2
comp=Z,63nm,18.0s,baz=350,slow=39
comp=Z,1.5nm,0.3s
N25K **Chitina, Valde** 64.11 331 P P 11 50 18.6 -0.1
baz=48
MCK **McKinley** 64.11 335 P P 11 50 18.9 +0.2
baz=46
RND **Reindeer** 64.32 334 P P 11 50 19.6 -0.5
RND IAmb IAmb 11 50 20.3
comp=Z,5.7nm,1.1s
M24K **Tolsona, Glenn** 64.32 332 P P 11 50 20.3 +0.2
baz=47,SNR=5.5
C17K **DeLong Mountai** 64.36 343 P P 11 50 20.5 +0.2
baz=36
F19K **Shaleruckik Mo** 64.37 340 IAmb IAmb 11 50 21.4
comp=Z,11nm,1.1s
F19K **Shaleruckik Mo** 64.37 340 P P 11 50 20.3 0.0
baz=40,SNR=12
KVN **Kaiserville** 64.39 300 IAmb IAmb 11 50 21.6
comp=Z,6.9nm,0.9s
BPAW **Bear Paw Mtn.** 64.50 336 P P 11 50 20.5 -0.7
BPAW IAmb IAmb 11 50 22.1
comp=Z,6.2nm,0.9s
BPAW **Bear Paw Mtn.** 64.50 336 P P 11 50 20.9 -0.3
baz=44,SNR=7.0
WAT6 **Susitna Watana** 64.53 333 P P 11 50 21.6 0.0
baz=46,SNR=10.0
BMRM **Bremner River** 64.53 331 P P 11 50 21.6 0.0
baz=48,SNR=5.4
E18K **Tukpahlearik C** 64.61 341 IAmb IAmb 11 50 23.3
comp=Z,8.3nm,1.0s
E18K **Tukpahlearik C** 64.61 341 P P 11 50 22.3 +0.5
baz=38,SNR=7.1
H20K **Anotlenenega Mo** 64.62 338 P P 11 50 22.4 +0.4
baz=42,SNR=14
WAT1 **Susitna Watana** 64.62 334 P P 11 50 22.3 +0.3
baz=46
KLU **Klutina** 64.65 332 IAmb IAmb 11 50 24.8
comp=Z,6.7nm,1.0s
KLU **Klutina** 64.65 332 P P 11 50 22.4 0.0
baz=47,SNR=6.3
WCT **Wildcat Mounta** 64.72 298 IAmb IAmb 11 50 30.8
comp=Z,11nm,1.1s
G19K **Purcell Mounta** 64.72 339 IAmb IAmb 11 50 24.9
comp=Z,12nm,1.2s
G19K **Purcell Mounta** 64.72 339 P P 11 50 23.2 +0.6
baz=40,SNR=10
TRF **Thorofare Moun** 64.74 335 IAmb IAmb 11 50 23.9
comp=Z,11nm,0.9s
TRF **Thorofare Moun** 64.74 335 P P 11 50 22.8 -0.3
baz=45,SNR=7.5
NVAR **Mina Array Bea** 64.87 300 P P 11 50 23.7 -0.6
comp=Z,1.0nm,0.9s,baz=56,slow=4.2,SNR=6.0
comp=Z,1.0nm,0.9s
SCM **Sheep Creek Mo** 64.91 332 P P 11 50 23.9 -0.1
baz=46
SIV **San Ignacio** 64.95 214 P P 11 50 24.5 -0.2
comp=Z,0.3nm,0.2s,baz=348,slow=10.0,SNR=1.7
SIV LR LR 12 14 52.6
comp=Z,76nm,20.1s,baz=98,slow=32
comp=Z,0.3nm,0.2s
D17K **Noatak River** 64.97 342 P P 11 50 24.5 +0.4
baz=36
C16K **Lisburne Hills** 64.99 343 P P 11 50 24.2 -0.1
baz=35
SHOC **Shoshone, Teco** 65.00 297 P P 11 50 26.1 +1.2
baz=55
H19K **Roundabout Mou** 65.02 339 IAmb IAmb 11 50 26.0
comp=Z,8.3nm,0.9s
H19K **Roundabout Mou** 65.02 339 P P 11 50 25.0 +0.5
baz=41,SNR=11
I20K **Naaghedeneel** 65.02 337 P P 11 50 25.2 +0.6
baz=42,SNR=13
F18K **Selawik** 65.03 340 P P 11 50 24.9 +0.3
baz=38,SNR=12
CHUM **Lake Minchumin** 65.06 336 P P 11 50 25.2 +0.4
baz=43,SNR=5.8
M23K **Glacier View** 65.07 333 P P 11 50 25.3 +0.3
baz=46,SNR=5.0
KAIM **Kayak Island** 65.17 330 P P 11 50 26.0 +0.4
baz=48
E17K **Hotham Inlet** 65.17 341 P P 11 50 25.6 +0.1
baz=37,SNR=6.2

GMRC **Granite Mounta** 65.23 295 P P 11 50 27.1 +0.5
baz=54
EYAK **Cordova Ski Ar** 65.23 331 P P 11 50 25.8 -0.2
baz=47
IRM **Iron Mountain** 65.24 294 P P 11 50 26.9 +0.3
baz=54
SML **Sawmill** 65.27 333 P P 11 50 26.3 0.0
SML IAmb IAmb 11 50 27.1
comp=Z,8.2nm,1.0s
SML **Sawmill** 65.27 333 P P 11 50 26.5 +0.2
baz=46,SNR=5.9
G18K **Tagagawik** 65.33 340 IAmb IAmb 11 50 28.1
comp=Z,13nm,1.3s
G18K **Tagagawik** 65.33 340 P P 11 50 26.8 +0.3
baz=39,SNR=9.5
CAST **Castle Rocks** 65.33 335 IAmb IAmb 11 50 26.9
comp=Z,5.7nm,1.1s
CAST **Castle Rocks** 65.33 335 P P 11 50 26.6 0.0
baz=43,SNR=5.1
TIXI **Tiksi** 65.34 7 P P 11 50 27.3 +0.8
TIXI IAmb IAmb 11 50 28.6
comp=Z,8.8nm,0.9s
J20K **Nowinta River** 65.39 337 IAmb IAmb 11 50 28.5
comp=Z,7.0nm,1.1s
J20K **Nowinta River** 65.39 337 P P 11 50 26.8 -0.2
baz=42,SNR=8.8
CUT **Chulitna** 65.49 334 P P 11 50 27.5 -0.1
baz=44
GLI **Glacier Island** 65.49 332 P P 11 50 27.7 +0.1
baz=46
GHO **Glory Hole Cre** 65.49 333 IAmb IAmb 11 50 29.2
comp=Z,9.6nm,0.8s
F17K **Baldwin Pennin** 65.55 341 IAmb IAmb 11 50 29.3
comp=Z,13nm,1.1s
F17K **Baldwin Pennin** 65.55 341 P P 11 50 28.3 +0.4
baz=37,SNR=7.7
KNK **Knik Glacier** 65.59 333 P P 11 50 28.9 +0.6
baz=45,SNR=9.6
PMR **Palmer** 65.69 333 P P 11 50 29.0 +0.1
PMR **Palmer** 65.69 333 P P 11 50 29.2 +0.3
baz=45,SNR=12
GSC **Goldstone, Bar** 65.69 296 P P 11 50 30.7 +1.1
baz=54
MPMC **Manual Prospec** 65.71 297 P P 11 50 30.5 +0.7
baz=54
YBH **Yreka Blue Hor** 65.73 305 LR LR 12 19 46.5
comp=Z,104nm,19.1s,baz=30,slow=37
BC3 **Big Chuckawall** 65.74 294 P P 11 50 30.8 +0.9
baz=54
H18K **Honhosa River** 65.83 339 IAmb IAmb 11 50 31.6
comp=Z,10nm,1.1s
H18K **Honhosa River** 65.83 339 P P 11 50 30.1 +0.3
baz=39,SNR=7.7
M22K **Willow** 65.91 333 P P 11 50 30.9 +0.6
baz=44
BELC **Belle Mtn. Jos** 65.91 295 P P 11 50 31.7 +0.7
baz=54
J19K **Poorman** 65.96 337 P P 11 50 30.7 +0.1
baz=41
K20K **Telida** 65.98 336 IAmb IAmb 11 51 09.7
comp=Z,16nm,1.9s
K20K **Telida** 65.98 336 P P 11 50 30.2 -0.6
baz=42
G17K **Kiwalik Mounta** 66.15 340 P P 11 50 31.9 +0.1
baz=37
SKT **Skwentna** 66.20 334 IAmb IAmb 11 50 34.1
comp=Z,8.8nm,0.9s
SKT **Skwentna** 66.20 334 P P 11 50 32.0 -0.3
baz=43,SNR=8.3
P23K **Montague Islan** 66.21 331 P P 11 50 32.5 +0.2
baz=46
RC01 **Rabbit Creek A** 66.25 333 P P 11 50 32.9 +0.3
baz=47
H17K **Granite Mounta** 66.41 339 IAmb IAmb 11 50 35.0
comp=Z,6.1nm,0.9s
H17K **Granite Mounta** 66.41 339 P P 11 50 33.8 +0.3
baz=38,SNR=5.7
PFO **Pinyon Flats O** 66.45 295 LR LR 12 19 14.7
comp=Z,340nm,19.9s,baz=60,slow=36
ATAH **Atahualpa** 66.45 235 LR LR 12 18 41.0
comp=Z,68nm,20.6s,baz=13,slow=35
L20K **Farewell, AK** 66.58 335 P P 11 50 33.6 -1.1
baz=42,SNR=7.5
G16K **Koyuk River** 66.66 341 IAmb IAmb 11 50 36.8
comp=Z,10nm,1.0s
G16K **Koyuk River** 66.66 341 P P 11 50 34.3 -0.8
baz=36,SNR=6.0
J18K **Innoko River** 66.68 337 IAmb IAmb 11 50 36.4
comp=Z,4.9nm,0.9s
J18K **Innoko River** 66.68 337 P P 11 50 35.3 0.0
baz=40
O22K **Cooper Landing** 66.69 332 P P 11 50 35.6 +0.3
baz=44
EDW2 **Edwards Air Fo** 66.73 297 P P 11 50 37.0 +0.9
baz=54
M20K **Styx River** 66.79 335 IAmb IAmb 11 50 36.5
comp=Z,8.8nm,1.2s
M20K **Styx River** 66.79 335 P P 11 50 35.1 -1.1
baz=42
MONP2 **Monument Peak** 66.85 294 P P 11 50 37.5 +0.4
baz=54
SEW **Seward** 66.86 332 P P 11 50 36.2 -0.2
baz=44
F15K **North Star Dit** 66.96 342 IAmb IAmb 11 50 39.0
comp=Z,12nm,1.1s
F15K **North Star Dit** 66.96 342 P P 11 50 36.4 -0.6
baz=34,SNR=5.6
N20K **Mount Spurr** 67.00 334 P P 11 50 36.8 -0.6
baz=42
L19K **White Mountain** 67.10 336 P P 11 50 37.9 -0.2
baz=41
M19K **Big River Lodg** 67.17 335 IAmb IAmb 11 50 39.4
comp=Z,5.0nm,1.0s
M19K **Big River Lodg** 67.17 335 P P 11 50 38.1 -0.3
baz=41
H16K **Elim** 67.25 340 P P 11 50 39.3 +0.5
baz=36
J17K **VABM Dome** 67.40 338 P P 11 50 40.7 +0.8
baz=38
G15K **Niukluk** 67.40 341 P P 11 50 40.5 +0.7
baz=35,SNR=6.4
I17K **Unalakleet** 67.45 339 P P 11 50 40.5 +0.4
baz=37
F14K **Arctic Creek** 67.54 342 P P 11 50 41.1 +0.4
baz=33
BRSE **Bradley Lake S** 67.57 332 P P 11 50 41.9 +0.8
baz=43
L18K **Granite Mounta** 67.63 336 IAmb IAmb 11 50 43.1
comp=Z,6.7nm,1.1s
L18K **Granite Mounta** 67.63 336 P P 11 50 41.7 +0.4
baz=40
K17K **Iditarod** 67.72 337 P P 11 50 42.2 +0.4
baz=38
LPIG **La Paz** 67.80 283 LR LR 12 19 44.0
comp=Z,129nm,20.6s,baz=34,slow=35
J16K **Anvik River** 67.91 339 P P 11 50 42.9 -0.2
baz=37
M18K **Stony River** 67.93 335 P P 11 50 42.9 -0.3
baz=40
O20K **Slope Mountain** 67.97 333 P P 11 50 43.3 -0.2
baz=42,SNR=5.1
N19K **Bonanza Creek** 68.03 334 P P 11 50 43.6 -0.3
baz=41
ANM **Nome** 68.08 341 P P 11 50 43.6 -0.5
baz=34
KURK **Kurchatov** 68.15 41 P P 11 50 44.2 -0.5
KURK IAmb IAmb 11 50 45.7
comp=Z,6.3nm,0.9s
KURBB **Kurchatov Arra** 68.17 41 P P 11 50 45.2 +0.3
comp=Z,3.6nm,0.8s,baz=314,slow=6.6,SNR=28
comp=Z,3.6nm,0.8s
L17K **Donlin** 68.17 337 P P 11 50 44.9 +0.2
baz=38
ILSW **Iliamna Southw** 68.21 333 IAmb IAmb 11 50 46.3
comp=Z,4.9nm,0.8s
SCI2 **San Clemente I** 68.23 295 P P 11 50 45.6 +0.1
baz=53
LPAZ **La Paz** 68.38 220 P P 11 50 47.2 -0.1
comp=Z,1.9nm,1.0s,baz=32,slow=9.5,SNR=1.9
LPAZ LR LR 12 17 17.1
comp=Z,147nm,20.2s,baz=28,slow=33
comp=Z,1.9nm,1.0s
O19K **Port Alsworth** 68.44 334 P P 11 50 45.8 -0.6
baz=41
M17K **Holitna River** 68.49 336 P P 11 50 45.7 -1.0
baz=39
P19K **Oil Pt** 68.49 333 P P 11 50 46.1 -0.7
baz=41

N18K **Kilae Creek** 68.57 335 P P 11 50 46.5 -0.8
baz=40
MBAR **Mbarara** 68.65 112 LR LR 12 21 08.7
comp=Z,69nm,18.7s,baz=41,slow=36
KKAR **Karatay Array** 68.67 51 P P 11 50 48.2 0.0
ZALV **Zalesovo Beam** 68.82 35 P P 11 50 49.1 +0.2
comp=Z,0.7nm,0.4s,baz=324,slow=5.8,SNR=5.7
ZALV LR LR 12 20 53.6
comp=Z,57nm,20.7s,baz=24,slow=36
comp=Z,0.7nm,0.4s
L16K **Owhat River** 68.85 337 P P 11 50 48.4 -0.5
baz=37
K15K **Wolf Creek Mou** 68.96 338 P P 11 50 48.6 -1.1
baz=36
O18K **Koktuh Hills** 68.99 334 P P 11 50 49.6 -0.3
baz=40
N17K **Nushagak Hills** 69.10 335 P P 11 50 49.5 -1.0
baz=39
M16K **Timber Creek** 69.25 336 P P 11 50 50.7 -0.7
baz=38
P18K **Big Mountain,** 69.35 334 P P 11 50 51.4 -0.8
baz=40
NNA **Nana** 69.40 230 LR LR 12 19 27.4
comp=Z,42nm,19.8s,baz=14,slow=34
L15K **Ungalak Mounta** 69.45 338 P P 11 50 53.2 +0.5
baz=36
N16K **Nishlik Lake** 69.62 336 P P 11 50 53.6 -0.2
baz=38
O17K **Koliganek Bris** 69.66 335 P P 11 50 53.2 -0.8
baz=39
P17K **Kvichak River** 69.90 334 P P 11 50 55.5 0.0
baz=39
M15K **Kasigluk River** 70.02 337 P P 11 50 56.2 0.0
baz=36
L14K **Kuka Creek** 70.06 338 P P 11 50 56.2 -0.2
baz=35,SNR=6.2
K13K **Kusilvak Mount** 70.10 339 P P 11 50 55.9 -0.7
baz=34
O16K **Kokwok River B** 70.11 335 P P 11 50 56.5 -0.3
baz=38
GAMB **Gambell** 70.19 343 P P 11 50 57.4 +0.2
baz=29
N15K **Kwethluk River** 70.27 336 P P 11 50 58.4 +0.6
baz=36
M14K **Bethel** 70.34 337 P P 11 50 58.7 +0.6
baz=35
Q16K **King Salmon** 70.37 334 P P 11 50 58.7 +0.3
baz=39
P16K **Nushagak River** 70.53 335 P P 11 50 58.9 -0.5
baz=38
SIMJ **Simiganj** 70.54 55 P P 11 50 59.9 -0.1
SIMJ IAmb IAmb 11 51 01.1
comp=Z,5.5nm,0.9s
N14K **Kuskokwak Cree** 70.94 337 P P 11 51 01.4 -0.4
baz=35
O15K **Ungalikthiuk R** 70.98 336 P P 11 51 02.4 +0.3
baz=36
M13K **Dall Lake** 71.01 338 P P 11 51 01.9 -0.3
baz=34
SII **Sitkinak Islan** 71.17 331 P P 11 51 03.0 -0.3
baz=40
ARSB **Arslanbob** 71.21 51 IAmb IAmb 11 52 47.3
comp=Z,2.9nm,0.4s
AAK **Ala-Archa** 71.23 49 LR LR 12 23 07.7
comp=Z,173nm,20.5s,baz=323,slow=36
O14K **Tigyukauivet M** 71.36 336 P P 11 51 04.3 -0.1
baz=36
R16K **Pilot Point** 71.55 334 P P 11 51 05.0 -0.5
baz=38
M11K **Mekoryuk** 71.81 339 P P 11 51 05.9 -1.2
baz=32
CHIR **Chirikof Islan** 72.25 331 P P 11 51 08.7 -1.1
baz=39
MAKZ **Makanchi** 72.42 42 P P 11 51 11.0 0.0
MKAR **Makanchi Array** 72.58 42 P P 11 51 11.7 -0.3
MKAR **Makanchi Array** 72.58 42 P P 11 51 12.1 +0.1
comp=Z,4.7nm,1.0s,baz=322,slow=5.9,SNR=24
MKAR LR LR 12 23 12.2
comp=Z,91nm,18.0s,baz=318,slow=36
comp=Z,4.7nm,1.0s
CHGN **Chignik** 72.84 333 P P 11 51 12.2 -1.0
baz=37
CPUP **Villa Florida** 73.00 206 LR LR 12 21 08.0
comp=Z,45nm,18.4s,baz=50,slow=34
WSAR **Wadi Sarin** 73.27 74 LR LR 12 28 04.4
comp=Z,48nm,18.5s,baz=15,slow=40
KSH **Kashi** 74.12 51 P P 11 51 23.3 +2.0
KSH pP pwP 11 51 28.8 +1.8
KSH PcP PcP 11 51 40.8 +4.4
KSH pmax pmax
comp=Z,8.0nm,1.1s
KSH LR LR
comp=N,580nm,18.7s
KSH LR LR
comp=E,340nm,17.7s
LVC **Limon Verde** 74.21 218 LR LR 12 21 45.5
comp=E,100nm,19.8s,baz=6.5,slow=34
SDPT **Sand Point** 74.30 333 P P 11 51 21.3 -0.6
baz=35
CHNA **Chernabura Isl** 74.42 333 P P 11 51 22.3 -0.3
baz=36
YAK **Yakutsk** 74.68 10 LR LR 12 22 34.8
comp=E,46nm,18.1s,baz=3.0,slow=34
SPIA **Saint Paul Isl** 75.65 339 P P 11 51 29.1 -0.5
baz=29
NIL **Nilore** 76.39 57 P P 11 51 34.6 +0.2
NIL IAmb IAmb 11 54 10.3
comp=Z,9.1nm,0.8s
UNV **Unalaska Valle** 77.48 336 P P 11 51 40.1 0.0
baz=31
SONM **Songino Array** 82.11 28 P P 11 52 05.3 -0.2
SONM **Songino Array** 82.11 28 P P 11 52 06.0 +0.5
comp=Z,4.7nm,1.0s,baz=324,slow=5.7,SNR=26
SONM LR LR 12 29 45.9
comp=Z,47nm,18.8s,baz=308,slow=37
comp=Z,4.7nm,1.0s
ULN **Ulaanbaatar** 82.31 28 P P 11 52 06.6 +0.1
ULN IAmb IAmb 11 52 08.3
comp=Z,6.6nm,0.9s
LBTB **Lobatse** 83.93 132 LR LR 12 28 52.3
comp=Z,66nm,18.9s,baz=326,slow=35
BOSA **Boshof** 86.59 134 LR LR 12 28 56.5
comp=Z,49nm,20.3s,baz=4.0,slow=34
SUR **Sutherland** 87.37 139 LR LR 12 28 53.0
comp=Z,31nm,19.2s,baz=321,slow=34
KLR **Kul'dur** 87.38 12 LR LR 12 30 48.3
comp=Z,45nm,18.7s,baz=64,slow=35
HHC **Hu-ho-hao-te** 90.00 29 eP P 11 52 45.0 +0.4
HHC pmax pmax
comp=Z,14nm,0.5s
HHC pmax pmax
comp=Z,65nm,5.6s
KSRS **Korea Array** 97.98 18 LR LR 12 40 54.6
comp=Z,9.5nm,18.2s,baz=15,slow=38
PZH **PanZhiHua** 98.00 43 P P 11 53 21.0 -0.5
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
PALK **Pallekele** 99.63 71 LR LR 12 40 54.9
comp=Z,47nm,18.1s,baz=67,slow=37
NJ2 **Nanjing** 100.46 27 eP Pdif 11 53 30.0 -2.2
NJ2 pmax pmax
comp=Z,11nm,1.0s
PPT2 **Papeete2** 123.95 277 eLR LR 12 37 07.0
comp=Z,72nm,23.2s
TBI **Tubuai** 127.38 271 eLR LR 12 38 42.7
comp=Z,230nm,24.5s
DZM **Mont Dzumac** 155.95 322 eLR LR 12 51 53.7
comp=Z,58nm,22.6s
ASAR **Alice Springs** 156.78 42 PKPab PKPab 12 00 09.4 -0.5
comp=Z,1.3nm,1.0s,baz=325,slow=3.5,SNR=4.9

ISN ***31*** *12:01:27.0±0.3,34.°94N×46.°13E,h14km±5km,ML3.0*
TEH ***31*** *12:01:28.3,34.°90N×46.°08E,h8km×60km,ML2.9*
ISC 31 12:01:28.0±1.1**,34.°89N**±0.°06×**46.°10E**±0.°04**,h10km,n10,**
∘0:69/14,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDHR	**Dehrash**	**0.30**	**129**	Pg	**Pg**	**12 01 34.7**	**+0.6**
IDHR				Sg	**Sb**	**12 01 40.0**	**-0.6**
KGS1	**Ghasr-e-Shirin**	**0.57**	**228**	Pg	**Pb**	**12 01 39.9**	**-0.2**
IGHG	**Ghaleghazi**	**0.68**	**145**	Pg	**Pb**	**12 01 42.1**	**0.0**
GLG1	**Gilan-e-Gharb**	**0.79**	**192**	Pg	**Pg**	**12 01 43.5**	**+0.3**
KCHF	**Cheshme Sefid,**	**0.99**	**128**	Pg	**Pn**	**12 01 47.8**	**-0.2**

SNQR	**Sonqor, Kerman**	**1.25**	**91**	Pg	**Pg**	**12 01 52.8**	**+0.7**
IKRK	**Kirkuk**	**1.53**	**290**	*e*Pn	**Pb**	**12 01 56.0**	**-0.5**
IKRK				*e*Sn	**Sg**	**12 02 17.0**	**-0.3**
IKRK				AML	AML	12 02 22.0	
	comp=E,269nm,0.1s						
IKRK				AML	AML	12 02 26.9	
	comp=N,213nm,0.3s						
IBDR	**Badra**	**1.78**	**185**	*e*Pn	**Pb**	**12 02 00.0**	**-0.7**
IBDR				*e*Sn	**Sb**	**12 02 24.0**	**+0.9**
IKFM	**Kafar-mosalman**	**1.99**	**133**	Pn	**Pg**	**12 02 05.5**	**-0.6**
BHD	**Baghdad**	**2.16**	**222**	*e*Pn	**Pn**	**12 02 05.0**	**+1.0**
BHD				*e*Sn	**Sb**	**12 02 33.0**	**-0.9**

*IDC **31** 12:01:40.3±0.8,52°.98N×167°.15W, h0km, mb4.0/25, mbtmp4.0/26, ML3.4/1, MS3.4/10, Error ellipse: s-maj=21.5km s-min=13.9km az=176.0*
*AEIC **31** 12:01:41.9±2.6,52°.68N±0°.04×167°.02W±0°.05, h13km±5km, Error ellipse: s-maj=5.8km s-min=3.6km az=155.0*
*NEIC **31** 12:01:46.0±2.8,52°.76N±0°.06×167°.11W±0°.06, h47km±10km, mb3.9/79, ML3.9/6, ML3.9(AEIC), Error ellipse: s-maj=8.6km s-min=4.9km az=163.0*

ISC 31 12:01:45.9±1.3,**52°.80N**±0°.08×**167°.07W**±0°.05, **h41**km±10km,**n152**,σ1§**53**/122,**mb4.0**/26,**MS3.4**/9,**Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
OKFG	**Magazine Ridge**	**0.79**	**321**		**Pn**	**12 01 59.2**	**-1.4**
OKFG					**Sn**	**12 02 11.0**	**-0.3**
OKCE	**Okmok Cone E**	**0.91**	**314**		**Pn**	**12 02 01.2**	**-1.0**
OKCE					**Sn**	**12 02 15.9**	**+1.8**
OKNC	**Okmok New Cone**	**0.91**	**316**		**Pn**	**12 02 01.1**	**-1.1**
OKNC					**Sn**	**12 02 15.9**	**+1.7**
OKWE	**Okmok W'ng Wal**	**0.97**	**314**		**Pn**	**12 02 02.0**	**-1.1**
MAPS	**Pakushin South**	**1.01**	**4**		**Sn**	**12 02 18.5**	**+1.9**
NIKH	**Nikolski High**	**1.10**	**280**	P	**Pn**	**12 02 04.5**	**-0.2**
NIKH	**Nikolski High**	**1.10**	**280**		**Pn**	**12 02 02.7**	**-2.0**
NIKH					**Sn**	**12 02 18.8**	**+0.2**
UNV	**Unalaska Valle**	**1.10**	**18**	P	**Pn**	**12 02 02.8**	**-1.9**
UNV	**Unalaska Valle**	**1.10**	**18**		**Sn**	**12 02 21.2**	**+2.5**
MSW	**Makushin Switc**	**1.13**	**9**		**Sn**	**12 02 21.3**	**+1.8**
MTBL	**Makushin Table**	**1.19**	**11**		**Pn**	**12 02 05.2**	**-0.9**
ZRO	**Akutan Zero**	**1.45**	**26**		**Pn**	**12 02 08.8**	**-0.7**
AKRB	**Akutan Reef Bi**	**1.46**	**24**		**Sn**	**12 02 29.6**	**+2.0**
LVA	**Lava Point**	**1.50**	**24**		**Pn**	**12 02 09.8**	**-0.5**
LVA					**Sn**	**12 02 31.1**	**+2.6**
AKLV	**Akutan Long Va**	**1.52**	**26**		**Pn**	**12 02 09.4**	**-1.2**
AKGG	**Akutan Green G**	**1.54**	**24**		**Pn**	**12 02 10.4**	**-0.4**
AKSA	**Akutan Strait**	**1.57**	**31**		**Pn**	**12 02 10.3**	**-0.8**
CLCO	**Concord Point,**	**1.61**	**271**		**Pn**	**12 02 10.5**	**-1.3**
CLCO					**Sn**	**12 02 31.8**	**+0.4**
CLES	**Cleveland East**	**1.72**	**272**	Pn	**Pn**	**12 02 12.5**	**-0.7**
CLES				IAML		12 02 45.7	
	comp=E,2μm,0.4s						
CLES				IAML		12 02 48.1	
	comp=N,2μm,0.6s						
WECS	**Westdahl Cape**	**2.20**	**37**		**Pn**	**12 02 19.5**	**-0.4**
WEBT	**Westdahl Beart**	**2.26**	**37**		**Pn**	**12 02 20.3**	**-0.4**
ISNN	**Isanotski Nort**	**2.82**	**42**		**Pn**	**12 02 27.8**	**-0.6**
FALS	**False Pass**	**2.99**	**45**	P	**Pn**	**12 02 29.7**	**-0.9**
PS1A	**Pavlof South-1**	**4.09**	**48**		**Pn**	**12 02 45.6**	**-0.2**
S12K	**Black Hills**	**4.13**	**43**	Pn	**Pn**	**12 02 47.0**	**+0.6**
S12K				IAML		12 04 01.1	
	comp=E,114nm,1.5s						
ATKA	**Atka Island**	**4.40**	**265**	P	**Pn**	**12 02 51.7**	**+1.7**
SDPT	**Sand Point**	**4.64**	**54**	P	**Pn**	**12 02 52.4**	**-1.0**
SDPT	**Sand Point**	**4.64**	**54**		**Pn**	**12 02 52.4**	**-1.0**
SDPT	**Sand Point**	**4.64**	**54**	IAML		12 04 10.0	
	comp=N,96nm,1.2s						
SPIA	**Saint Paul Isl**	**4.75**	**339**	P	**Pn**	**12 02 56.7**	**+1.9**
SPIA	**Saint Paul Isl**	**4.75**	**339**		**Pn**	**12 02 56.7**	**+1.9**
VNFG	**Fog Glacier, M**	**5.59**	**48**		**Pn**	**12 03 08.4**	**+1.9**
GSCK	**Great Sitkin C**	**5.62**	**266**		**Pn**	**12 03 08.1**	**+1.3**
ADK	**Adak**	**5.97**	**265**	P	**Pn**	**12 03 13.5**	**+2.0**
CHGN	**Chignik**	**6.13**	**52**		**Pn**	**12 03 14.7**	**+0.9**
KIWB	**Kanaga Island**	**6.25**	**265**	Pn	**Pn**	**12 03 14.5**	**-1.0**
O14K	**Tigyukauivet M**	**7.24**	**24**		**Pn**	**12 03 30.3**	**+1.4**
O15K	**Ungalikthiuk R**	**7.57**	**30**		**Pn**	**12 03 34.7**	**+1.2**
M11K	**Mekoryuk**	**7.62**	**3**		**Pn**	**12 03 35.3**	**+1.2**
N15K	**Kwethluk River**	**8.33**	**25**	Pn	**Pn**	**12 03 45.1**	**+1.2**
O16K	**Kokvok River B**	**8.44**	**33**		**Pn**	**12 03 47.0**	**+1.6**
M14K	**Bethel**	**8.45**	**17**	Pn	**Pn**	**12 03 47.0**	**+1.6**
AMKA	**Amchitka**	**8.52**	**266**	Pn	**Pn**	**12 03 46.4**	**-0.1**
L14K	**Kuka Creek**	**8.89**	**14**	Pn	**Pn**	**12 03 52.3**	**+0.8**
OHAK	**Old Harbor**	**9.07**	**55**	P	**Pn**	**12 03 52.8**	**-1.2**
K13K	**Kusilvak Mount**	**9.25**	**7**	Pn	**Pn**	**12 03 57.9**	**+1.4**
M16K	**Timber Creek**	**9.35**	**25**	Pn	**Pn**	**12 03 58.5**	**+0.6**
N17K	**Nushagak Hills**	**9.45**	**31**		**Pn**	**12 04 00.1**	**+0.8**
KDAK	**Kodiak Island**	**9.64**	**53**	Pn	**Pn**	**12 03 59.2**	**-2.7**
	comp=N,0.7nm,0.3s,baz=265,slow=5.2,SNR=7.4						
KDAK				Sn	**Sn**	**12 05 42.7**	**-6.1**
	comp=N,0.2nm,0.3s,baz=283,slow=18,SNR=1.5						
O18K	**Koktuh Hills**	**9.65**	**38**	Pn	**Pn**	**12 04 02.7**	**+0.7**
L16K	**Owhat River**	**9.82**	**22**	Pn	**Pn**	**12 04 06.0**	**+1.6**
K15K	**Wolf Creek Mou**	**9.97**	**15**	Pn	**Pn**	**12 04 08.5**	**+2.2**
M17K	**Holitna River**	**10.07**	**27**	Pn	**Pn**	**12 04 08.9**	**+1.1**
L19K	**White Mountain**	**11.45**	**30**	Pn	**Pn**	**12 04 28.6**	**+2.0**
SUA	**Susitna One**	**12.37**	**39**	Pn	**Pn**	**12 04 39.8**	**+0.6**
PMR	**Palmer**	**13.07**	**41**	P	**Pn**	**12 04 48.8**	**+0.1**
EYAK	**Cordova Ski Ar**	**14.00**	**48**	P	**Pn**	**12 05 00.4**	**-0.9**
VRDI	**Verde Repeater**	**15.30**	**47**	Pn	**Pn**	**12 05 18.6**	**-0.3**
VRDI				IAmb	IAmb	12 05 25.3	
	comp=Z,8.9nm,0.6s						
F20K	**Avaraart Lake**	**15.34**	**17**	IAmb	IAmb	12 05 30.4	
	comp=Z,8.5nm,1.4s						
MCARA	**McCarthy VSAT**	**15.55**	**47**	IAmb	IAmb	12 05 34.6	
	comp=Z,12nm,0.8s						
ISLE	**Juniper Island**	**15.59**	**50**	IAmb	IAmb	12 05 42.3	
	comp=Z,9.5nm,0.9s						
H23K	**Yukon River**	**15.74**	**27**	IAmb	IAmb	12 05 33.7	
	comp=Z,6.2nm,0.9s						
ILAR	**Eielson Array**	**15.81**	**33**	Pn	**Pn**	**12 05 22.4**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=230,slow=12,SNR=8.6						
ILAR				LR	LR	12 11 50.0	
	comp=Z,71nm,21.3s,baz=236,slow=39						
	comp=Z,0.4nm,0.6s						
F21K	**Alatna River**	**15.91**	**19**	P	**P**	**12 05 30.5**	**+0.8**
F21K				IAmb	IAmb	12 05 32.9	
	comp=Z,5.1nm,0.8s						
MENT	**Mentasta**	**15.94**	**41**	IAmb	IAmb	12 05 35.2	
	comp=Z,4.3nm,0.6s						
BARN	**Barnard Glacie**	**16.05**	**49**	IAmb	IAmb	12 05 33.5	
	comp=Z,8.6nm,0.7s						
L26K	**Log Cabin Wild**	**16.13**	**41**	IAmb	IAmb	12 05 32.2	
	comp=Z,8.4nm,0.6s						
CTGM	**Chitina Glacie**	**16.17**	**50**	P	**P**	**12 05 32.7**	**0.0**
CTGM				IAmb	IAmb	12 05 36.8	
	comp=Z,7.0nm,0.6s						
H24K	**Noodor Dome**	**16.22**	**29**	IAmb	IAmb	12 05 39.4	
	comp=Z,7.7nm,0.9s						
LOGN	**Logan Glacier**	**16.28**	**50**	IAmb	IAmb	12 06 01.8	
	comp=Z,7.3nm,0.8s						
G23K	**Bananza Creek**	**16.28**	**25**		**P**	**12 05 32.7**	**-1.2**
G23K				IAmb	IAmb	12 05 47.2	
	comp=Z,4.4nm,0.7s						
SCRK	**Sand Creek**	**16.36**	**38**	IAmb	IAmb	12 05 33.9	
	comp=Z,6.4nm,0.6s						
M27K	**Edge Creek, AK**	**16.44**	**45**	IAmb	IAmb	12 05 51.1	
	comp=Z,5.7nm,0.9s						
BCPM	**Bancas Point**	**16.70**	**54**	IAmb	IAmb	12 05 57.0	
	comp=Z,16nm,1.2s						
L27K	**Beaver Creek,**	**16.76**	**42**	Pn	**Pn**	**12 05 36.4**	**-0.9**
BCAR	**Beaver Creek A**	**16.78**	**42**	Pn	**Pn**	**12 05 36.5**	**-1.1**
E22K	**Anaktuvuk Pass**	**17.03**	**20**	IAmb	IAmb	12 05 58.7	
	comp=Z,5.1nm,0.8s						
O29M	**Mount Kennedy**	**17.30**	**53**	Pn	**Pn**	**12 05 43.8**	**-0.3**
O29M				IAmb	IAmb	12 05 52.2	
	comp=Z,11nm,1.0s						
D22K	**Ayikyak River**	**17.50**	**17**		**P**	**12 05 47.2**	**0.0**
D22K				IAmb	IAmb	12 06 00.6	
	comp=Z,9.5nm,1.4s						
B21K	**Ikpikpuk River**	**17.84**	**14**	IAmb	IAmb	12 05 59.9	
	comp=Z,14nm,1.5s						
M29M	**Somme Creek**	**17.95**	**46**	P	**Pn**	**12 05 52.2**	**0.0**
M29M				IAmb	IAmb	12 06 01.9	
	comp=Z,7.1nm,0.8s						
DAWY	**Dawson**	**18.18**	**41**	P	**P**	**12 05 54.3**	**-0.5**
N30M	**Aishikik Lake**	**18.28**	**50**	IAmb	IAmb	12 06 05.7	
	comp=Z,8.1nm,0.8s						
L29M	**L29M**	**18.32**	**44**	IAmb	IAmb	12 06 06.4	
	comp=Z,5.6nm,0.8s						
E25K	**Arctic Village**	**18.49**	**26**	IAmb	IAmb	12 06 06.4	
	comp=Z,6.3nm,0.8s						
I28M	**Miner Creek**	**18.62**	**37**	IAmb	IAmb	12 06 04.0	
	comp=Z,3.1nm,0.5s						
B22K	**Teshekpuk Lake**	**18.67**	**14**	IAmb	IAmb	12 06 07.1	
	comp=Z,13nm,1.2s						
C23K	**Itkillik River**	**18.70**	**18**	IAmb	IAmb	12 06 07.3	
	comp=Z,8.9nm,0.7s						
M30M	**Minto, Yukon**	**18.73**	**47**	P	**P**	**12 06 00.8**	**+0.1**
SKAG	**Skagway**	**18.76**	**57**	P	**Pn**	**12 06 02.5**	**+0.6**
SKAG	**Skagway**	**18.76**	**57**	IAmb	IAmb	12 06 04.1	
	comp=Z,10nm,0.8s						
S32K	**Killisnoo**	**19.04**	**63**	IAmb	IAmb	12 06 20.8	
	comp=Z,8.6nm,0.8s						
JIS	**Juneau Island**	**19.16**	**60**	P	**Pn**	**12 06 07.2**	**+0.6**
WHY	**Whitehorse**	**19.16**	**53**	IAmb	IAmb	12 06 21.9	
	comp=Z,5.6nm,0.8s						
D25K	**Kavik River**	**19.18**	**22**	IAmb	IAmb	12 06 12.3	
	comp=Z,8.3nm,0.8s						
P32M	**Atlin**	**19.60**	**57**	P	**Pn**	**12 06 11.2**	**-0.7**
J30M	**Hart River**	**19.61**	**41**	P	**P**	**12 06 10.8**	**+0.4**
J30M				IAmb	IAmb	12 06 22.3	
	comp=Z,3.8nm,0.7s						
F28M	**Old Crow**	**19.81**	**31**	IAmb	IAmb	12 06 13.5	
	comp=Z,2.9nm,0.6s						
I30M	**Mount Dempster**	**19.85**	**39**	P	**P**	**12 06 12.0**	**-1.0**
CRAG	**Craig**	**19.95**	**69**	P	**Pn**	**12 06 16.6**	**+0.6**
P33M	**Teslin, Yukon**	**20.11**	**55**	P	**P**	**12 06 16.9**	**+1.0**
P33M				IAmb	IAmb	12 06 33.4	
	comp=Z,8.1nm,0.8s						
D27M	**Malcolm River**	**20.49**	**27**	IAmb	IAmb	12 06 24.7	
	comp=Z,3.2nm,0.6s						
E28M	**Babbage River**	**20.49**	**29**	P	**P**	**12 06 19.6**	**-0.4**
G30M	**tAoh Zraii Nji**	**20.68**	**35**	IAmb	IAmb	12 06 25.9	
	comp=Z,4.3nm,0.8s						
H31M	**Peel River**	**20.86**	**39**	P	**P**	**12 06 22.5**	**-1.4**
H31M				IAmb	IAmb	12 06 23.0	
	comp=Z,8.2nm,1.0s						
E29M	**Blow River**	**20.86**	**30**	P	**P**	**12 06 22.8**	**-1.1**
E29M				IAmb	IAmb	12 06 23.1	
	comp=Z,3.3nm,0.7s						
S34M	**Telegraph Cree**	**20.88**	**62**	P	**P**	**12 06 24.6**	**+0.4**
S34M				IAmb	IAmb	12 06 33.4	
	comp=Z,4.1nm,0.8s						
R33M	**Jennings River**	**20.98**	**57**	P	**P**	**12 06 26.2**	**+0.8**
R33M				IAmb	IAmb	12 06 31.7	
	comp=Z,8.3nm,0.9s						
PETK	**Petropavlovsk-**	**21.10**	**285**	P	**P**	**12 06 26.6**	**-0.1**
	comp=Z,2.0nm,0.5s,baz=85,slow=13,SNR=19						
	comp=Z,2.0nm,0.5s						
DLBC	**Dease Lake**	**21.46**	**60**	P	**P**	**12 06 30.4**	**0.0**
DLBC				IAmb	IAmb	12 06 46.7	
	comp=Z,7.0nm,1.2s						
DLBC	**Dease Lake**	**21.46**	**60**	P	**P**	**12 06 33.9**	**+3.5**
	comp=Z,2.5nm,0.6s,baz=262,slow=10,SNR=8.8						
INK	**Inuvik**	**22.21**	**33**	P	**P**	**12 06 35.4**	**-3.0**
	comp=Z,6.5nm,0.6s,baz=247,slow=8.0,SNR=16						
INK				PcP	**PcP**	**12 10 33.6**	**+0.4**
	comp=Z,1.0nm,1.0s,baz=58,slow=0.6,SNR=1.5						
INK				LR	LR	12 16 01.2	
	comp=Z,87nm,18.8s,baz=212,slow=39						
	comp=Z,6.5nm,0.6s						
A36M	**Sachs Harbour**	**26.37**	**28**	P	**P**	**12 07 18.1**	**+0.4**
YKA	**Yellowknife Ar**	**28.89**	**50**	P	**P**	**12 07 40.5**	**+0.2**
	comp=Z,0.6nm,0.8s,baz=290,slow=8.4,SNR=4.9						
YKA				PcP	**PcP**	**12 10 48.2**	**-0.2**
	comp=Z,0.8nm,0.8s,baz=286,slow=2.8,SNR=6.2						
	comp=Z,0.6nm,0.8s						
TIXI	**Tiksi**	**33.09**	**329**	LR	LR	12 22 35.3	
	comp=Z,67nm,20.1s,baz=110,slow=38						
NVAR	**Mina Array Bea**	**36.28**	**93**	P	**P**	**12 08 46.9**	**+1.5**
	comp=Z,1.0nm,0.7s,baz=303,slow=8.5,SNR=6.3						
	comp=Z,1.0nm,0.7s						
H11N2	**WAKE ISLAND Hy**	**38.69**	**221**	T	T	12 50 40.4	
	baz=24,slow=76,SNR=125						
H11N3	**WAKE ISLAND Hy**	**38.69**	**221**	T	T	12 50 38.1	
	baz=24,slow=76,SNR=114						
H11N1	**WAKE ISLAND Hy**	**38.71**	**221**	T	T	12 50 36.7	
	baz=24,slow=76,SNR=97						
PDAR	**Pinedale Array**	**38.95**	**81**	P	**P**	**12 09 08.4**	**+0.6**
	comp=Z,0.8nm,0.6s,baz=302,slow=5.2,SNR=6.8						
PDAR				ScP	**S**	**12 15 11.8**	**+8.2**
	comp=Z,0.4nm,0.5s,baz=340,slow=5.1,SNR=2.4						
	comp=Z,0.8nm,0.6s						
H11S1	**WAKE ISLAND Hy**	**39.87**	**221**	T	T	12 52 08.4	
	baz=24,slow=76,SNR=70						
H11S2	**WAKE ISLAND Hy**	**39.88**	**221**	T	T	12 52 08.9	
	baz=24,slow=76,SNR=68						
H11S3	**WAKE ISLAND Hy**	**39.89**	**221**	T	T	12 52 13.2	
	baz=24,slow=76,SNR=49						
MJAR	**Matsushiro Arr**	**41.11**	**269**	P	**P**	**12 09 26.1**	**+0.5**
	comp=Z,2.0nm,0.7s,baz=60,slow=6.7,SNR=3.7						
	comp=Z,2.0nm,0.7s						
KSRS	**Korea Array**	**46.74**	**278**	P	**P**	**12 10 11.2**	**+0.4**
	comp=Z,1.2nm,0.7s,baz=52,slow=6.9,SNR=7.3						
	comp=Z,1.2nm,0.7s						
SPITS	**Spitsbergen Ar**	**49.27**	**359**	P	**P**	**12 10 28.6**	**-1.2**
	comp=Z,8.4nm,0.9s,baz=19,slow=9.4,SNR=2.3						
	comp=Z,8.4nm,0.9s						
TXAR	**Lajitas Array**	**51.34**	**91**	P	**P**	**12 10 46.5**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=309,slow=5.7,SNR=13						
	comp=Z,1.1nm,0.7s						
SONM	**Songino Array**	**52.27**	**302**	P	**P**	**12 10 52.3**	**-0.6**
	comp=Z,0.3nm,0.4s,baz=56,slow=5.6,SNR=2.7						
SONM				PcP	**PcP**	**12 12 02.0**	**-1.8**
	comp=Z,0.3nm,0.4s,baz=336,slow=3.2,SNR=2.3						
	comp=Z,0.3nm,0.4s						
SCHQ	**Schefferville**	**54.15**	**45**	LR	LR	12 34 55.4	
	comp=Z,71nm,18.4s,baz=281,slow=37						
JMIC	**Jan Mayen**	**55.56**	**8**	LR	LR	12 36 17.5	
	comp=Z,28nm,19.2s,baz=275,slow=38						
ARCES	**ARCESS Array B**	**57.63**	**355**	P	**P**	**12 11 30.1**	**-1.0**
	comp=Z,4.1nm,1.1s,baz=7.0,slow=8.2,SNR=3.8						
	comp=Z,4.1nm,1.1s						
ZALV	**Zalesovo Beam**	**58.04**	**319**	P	**P**	**12 11 33.5**	**-0.7**
	comp=Z,0.4nm,0.4s,baz=28,slow=2.0,SNR=1.9						
ZALV				PcP	**PcP**	**12 12 25.6**	**-0.1**
	comp=Z,0.5nm,0.4s,baz=14,slow=6.5,SNR=2.0						
	comp=Z,0.4nm,0.4s						
BORG	**Borgarnes**	**59.83**	**16**	LR	LR	12 41 01.7	
	comp=Z,22nm,18.3s,baz=338,slow=40						
KURBB	**Kurchatov Arra**	**63.08**	**319**	P	**P**	**12 12 07.9**	**-0.6**
	comp=Z,0.2nm,0.3s,baz=46,slow=6.6,SNR=4.1						
KURBB				LR	LR	12 41 01.3	
	comp=Z,48nm,19.4s,baz=164,slow=38						
	comp=Z,0.2nm,0.3s						
BVAR	**Borovoye Array**	**64.15**	**326**	P	**P**	**12 12 14.9**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=51,slow=12,SNR=3.5						
	comp=Z,0.5nm,0.5s						
FINES	**FINESS Array B**	**65.62**	**353**	P	**P**	**12 12 24.1**	**-1.0**
	comp=Z,1.9nm,0.5s,baz=19,slow=6.9,SNR=9.2						
	comp=Z,1.9nm,0.5s						
NOA	**NORSAR Array B**	**66.50**	**1**	P	**P**	**12 12 29.6**	**-1.2**
	comp=Z,0.7nm,0.8s,baz=360,slow=6.8,SNR=2.8						
	comp=Z,0.7nm,0.8s						
HFS	**Hagfors**	**67.42**	**360**	P	**P**	**12 12 36.0**	**-0.5**
	comp=Z,1.5nm,0.4s,baz=18,slow=5.0,SNR=3.4						
HFS				LR	LR	12 41 48.9	
	comp=Z,22nm,18.7s,baz=344,slow=36						
	comp=Z,1.5nm,0.4s						
AKTO	**Aktyubinsk**	**70.32**	**331**	P	**P**	**12 12 53.7**	**-1.1**
	comp=Z,2.3nm,0.8s,baz=14,slow=6.7,SNR=5.8						
	comp=Z,2.3nm,0.8s						
EKA	**Eskdalemuir Ar**	**71.41**	**10**	P	**P**	**12 13 00.7**	**-0.6**
	comp=Z,1.7nm,0.7s,baz=345,slow=5.1,SNR=8.7						
	comp=Z,1.7nm,0.7s						
AKASG	**Malin Array Be**	**75.96**	**349**	P	**P**	**12 13 26.6**	**-1.4**
	comp=Z,2.5nm,0.5s,baz=14,slow=5.5,SNR=9.5						
	comp=Z,2.5nm,0.5s						
GERES	**GERESS Array B**	**78.73**	**359**	P	**P**	**12 13 43.0**	**-0.6**
	comp=Z,0.8nm,0.7s,baz=352,slow=6.0,SNR=2.0						
	comp=Z,0.8nm,0.7s						
KBZ	**Khabaz**	**80.44**	**338**	P	**P**	**12 13 53.9**	**+0.9**
	comp=Z,2.4nm,0.9s,baz=108,slow=1.6,SNR=4.7						
KBZ				LR	LR	12 53 51.4	
	comp=Z,23nm,18.1s,baz=32,slow=39						
	comp=Z,2.4nm,0.9s						
GEYT	**Alibeck**	**81.49**	**325**	LR	LR	12 54 08.7	
	comp=Z,22nm,18.2s,baz=148,slow=39						
BRTR	**Keskin Array B**	**86.11**	**344**	P	**P**	**12 14 23.4**	**+1.0**
	comp=Z,1.5nm,0.8s,baz=40,slow=2.0,SNR=6.3						
	comp=Z,1.5nm,0.8s						
ESDC	**Sonseca Array**	**86.74**	**13**	P	**P**	**12 14 25.4**	**0.0**
	comp=Z,0.3nm,0.6s,baz=356,slow=4.5,SNR=4.3						
	comp=Z,0.3nm,0.6s						
ASAR	**Alice Springs**	**91.76**	**232**	P	**P**	**12 14 49.1**	**+0.1**
	comp=Z,0.7nm,1.1s,baz=41,slow=3.0,SNR=2.2						
	comp=Z,0.7nm,1.1s						
TORD	**Torodi Ar. Bea**	**113.61**	**12**	PKiKP	**PKiKP**	**12 20 19.4**	**-0.4**
	comp=Z,0.5nm,0.6s,baz=348,slow=1.4,SNR=2.9						
H03N2	**Juan Fernandez**	**114.79**	**113**	T	T	14 25 37.6	
	baz=321						
H03N1	**Juan Fernandez**	**114.80**	**113**	T	T	14 25 45.8	
	baz=321,slow=74						
H03N3	**Juan Fernandez**	**114.81**	**113**	T	T	14 25 37.9	
	baz=321						
MAW	**Mawson**	**152.09**	**219**	PKPbc	**PKiKP**	**12 21 35.5**	**+0.1**
	comp=Z,1.5nm,0.7s,baz=135,slow=2.9,SNR=2.4						

*VAO **31** 12:10:01.9±1.6,21°.57S×68°.03W, h12km±13km, mb4.2*
*SJA **31** 12:10:02.9±2.1,21°.72S×68°.44W, h100km, ML3.4, MW3.7*
*GUC **31** 12:10:04.2±0.8,21°.76S×68°.47W, h126km±4km, ML3.6*

ISC 31 12:10:02.7±0.7,**21°.71S**±0°.03×**68°.52W**±0°.05,**h136**km±7km, **n47**,σ1§**68**/76,**3C-2D**,**Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PB09	**IPOC Station P**	**0.68**	**263**	*e*P	**Pn**	**12 10 23.5**	**-0.2**
PB09				*e*S	**Sn**	**12 10 35.9**	**-3.7**
PB09				IAML		12 10 43.2	
	comp=Z,407nm,0.4s						
PB09	**IPOC Station P**	**0.68**	**263**	⇑*i*P	**Pn**	**12 10 24.2**	**+0.5**
PB09				*i* S	**Sn**	**12 10 40.2**	**+0.6**
LVC	**Limon Verde**	**0.97**	**202**	*e*P	**Pn**	**12 10 26.2**	**+0.1**
LVC				*e*S	**Sn**	**12 10 43.3**	**-0.9**
LVC				IAML		12 10 48.6	
	comp=Z,382nm,0.6s						
LVC	**Limon Verde**	**0.97**	**202**	*i* P	**Pn**	**12 10 26.3**	**+0.1**
LVC				*e*S	**Sn**	**12 10 43.0**	**-1.1**
LVC	**Limon Verde**	**0.97**	**202**	*e*P	**Pn**	**12 10 26.3**	**+0.1**
LVC				*e*S	**Sn**	**12 10 43.5**	**-0.6**
AF01	**San Pedro de A**	**1.27**	**166**	*e*P	**Pn**	**12 10 29.4**	**-0.3**
AF01				*i* S	**Sn**	**12 10 50.0**	**+0.7**
AF01				IAML		12 11 06.2	
	comp=E,737nm,0.5s						
PB06	**IPOC Station P**	**1.39**	**224**	*e*P	**Pn**	**12 10 30.9**	**+0.7**
PB06				*e*S	**Sn**	**12 10 51.7**	**+0.6**
PB06				IAML		12 10 55.5	
	comp=Z,553nm,0.3s						
PB06	**IPOC Station P**	**1.39**	**224**	⇑*i*P	**Pn**	**12 10 30.9**	**+0.7**
PB06				*i* S	**Sn**	**12 10 51.0**	**-0.2**
PB06				IAML		12 10 57.0	
	comp=N,997nm,0.5s						
PB04	**IPOC Station P**	**1.64**	**247**	*e*P	**Pn**	**12 10 32.8**	**-0.1**
PB04				*e*S	**Sn**	**12 10 52.4**	**-3.5**
PB04				*e*S		12 10 56.4	
PB04				IAML		12 10 58.5	
	comp=Z,398nm,0.2s						
PB04	**IPOC Station P**	**1.64**	**247**	⇑*i*P	**Pn**	**12 10 33.4**	**+0.6**
PB04				*i* S	**Sn**	**12 10 55.4**	**-0.5**
PB04				IAML		12 10 57.8	
	comp=E,556nm,0.2s						
PB08	**IPOC Station P**	**1.67**	**339**	*e*P	**Pn**	**12 10 34.4**	**+0.9**
PB08				*e*S	**Sn**	**12 10 58.1**	**+1.1**
PB08				IAML		12 10 58.4	
	comp=Z,256nm,0.4s						
PB08	**IPOC Station P**	**1.67**	**339**	⇓*i*P	**Pn**	**12 10 34.4**	**+0.9**
PB08				*i* S	**Sn**	**12 10 57.6**	**+0.5**
PB15	**IPOC Station P**	**1.73**	**210**	*e*P	**Pn**	**12 10 34.6**	**+0.6**
PB15				*e*S	**Sn**	**12 10 59.5**	**+1.5**
PB15	**IPOC Station P**	**1.73**	**210**	*e*P	**Pn**	**12 10 34.8**	**+0.8**
PB15				*i* S

comp=Z,29nm,1.4s
STKA Stephens Creek 38.64 241 P P 12 16 56.2 -0.2
STKA Stephens Creek 38.64 241 P P 12 16 56.5 +0.2
comp=Z,4.5nm,0.4s,baz=90,slow=9.9,SNR=14
comp=Z,4.5nm,0.4s
BBOO Buckleboo 43.41 241 P P 12 17 33.5 -0.8
BBOO IAmb IAmb 12 17 34.6
comp=Z,12nm,0.8s
WR0 Warramunga Arr 44.30 259 P P 12 17 39.2 -2.1
WR0 IAmb IAmb 12 18 02.1
comp=Z,19nm,1.4s
WRA Warramunga Arr 44.49 259 P P 12 17 40.9 -1.9
WRA Warramunga Arr 44.49 259 P P 12 17 41.4 -1.4
comp=Z,2.1nm,0.7s,baz=95,slow=7.9,SNR=55
WRA PcP **PcP 12 19 14.8 +0.5**
comp=Z,0.5nm,0.7s,baz=88,slow=3.9,SNR=2.5
comp=Z,2.1nm,0.7s
AS31 Alice Springs 44.69 254 P P 12 17 44.1 -0.2
AS31 IAmb IAmb 12 17 44.6
comp=Z,5.4nm,0.6s
ASAR Alice Springs 44.70 254 P P 12 17 43.6 -0.7
ASAR Alice Springs 44.70 254 P P 12 17 44.0 -0.4
comp=Z,17nm,0.6s,baz=89,slow=7.8,SNR=369
ASAR PcP **PcP 12 19 15.3 +0.4**
comp=Z,0.6nm,0.4s,baz=100,slow=4.1,SNR=4.5
comp=Z,17nm,0.6s
MTN Manton Dam 48.60 268 P P 12 18 13.5 -0.3
FORT Forrest 49.99 244 P P 12 18 23.2 -0.7
KNRA Kununurra 50.32 264 P P 12 18 26.3 -0.2
KNRA IAmb IAmb 12 19 01.6
comp=Z,25nm,1.4s
PSA00 Pilbara Seismi 57.80 255 P P 12 19 19.0 -0.2
PSA00 IAmb IAmb 12 19 19.5
comp=Z,9.1nm,0.8s
MBWA Marble Bar 57.96 256 P P 12 19 19.5 -0.8
MBWA IAmb IAmb 12 19 21.1
comp=Z,24nm,1.4s
MORW Morawa 60.45 246 P P 12 19 36.3 -0.5
MORW IAmb IAmb 12 20 07.7
comp=Z,24nm,1.4s
GIRL Giralia 62.80 253 P P 12 19 52.7 +0.5
QSPA South Pole Qui 72.55 180 P P 12 20 51.5 +0.5
O18K Koktuh Hills 79.40 12 P P 12 21 28.8 +0.2
O18K IAmb IAmb 12 21 48.9
comp=Z,17nm,1.5s
L18K Granite Mounta 81.34 10 P P 12 21 39.4 +0.8
J17K VABM Dome 82.07 9 P P 12 21 43.2 +0.9
ILAR Eielson Array 85.54 13 P P 12 21 59.0 -0.4
comp=Z,0.1nm,0.3s,baz=218,slow=5.2,SNR=5.1
comp=Z,0.1nm,0.3s
TXAR Lajitas Array 85.96 58 P P 12 22 04.8 +2.4
comp=Z,0.3nm,0.7s,baz=219,slow=8.1,SNR=3.9
comp=Z,0.3nm,0.7s
MMAI Mount Meron Ar 145.74 303 PKPbc PKPab 12 28 59.3 -0.4
comp=Z,0.4nm,0.3s,baz=70,slow=4.7,SNR=2.2

IDC 31 12:18:45.8±2.2, 11°.62N×93°.08E, h0km, mb3.5/3, mbtmp3.5/4, ML4.2/1, Error ellipse: s-maj=66.3km s-min=27.2km az=67.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
CMAR	**Chiang Mai Arr**	**8.85**	**39**	Op Pn		Pn	12 20 55.5	+0.5
	0.8nm,0.3s,baz=231,slow=15,SNR=17 1.9nm,0.6s							
H08S3	**Diego Garcia H**	**28.02**	**228**	T		T	12 53 40.9	
	baz=46							
H08S2	**Diego Garcia H**	**28.03**	**228**	T		T	12 53 45.8	
	baz=46							
H08S1	**Diego Carcia H**	**28.04**	**228**	T		T	12 53 29.5	
	baz=46							
MKAR	**Makanchi Array**	**36.23**	**347**	P		P	12 25 50.0	-0.6
	0.1nm,0.3s,baz=161,slow=9.9,SNR=1.8 0.1nm,0.3s							
WRA	**Warramunga Arr**	**51.32**	**127**	P		P	12 27 52.1	-0.2
	0.5nm,0.6s,baz=300,slow=10,SNR=7.7 0.5nm,0.6s							
ASAR	**Alice Springs**	**53.14**	**131**	P		P	12 28 05.9	+0.1
	0.4nm,0.3s,baz=309,slow=6.7,SNR=15 0.4nm,0.3s							

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*DNK **31** 12:24:05.9±2.1, 59°.47N×23°.19E, h0km, ML2.8, ML3.0(UPP), Suspected explosion*
*EST **31** 12:24:08.2, 59°.50N×22°.94E, h0km, ML2.6(HEL), Explosion*
*HEL **31** 12:24:08.0±0.1, 59°.51N×22°.96E, h0km, ML2.6, Explosion*
*UPP **31** 12:24:09.4±1.6, 59°.60N×22°.79E, h0km, ML3.0*
*IDC **31** 12:24:09.4±0.8, 59°.65N×22°.98E, h0km, mbtmp3.5/7, ML3.6/7, Error ellipse: s-maj=10.6km s-min=6.9km az=145.0*
*LVSN **31** 12:24:09.9±2.8, 59°.53N×23°.04E, h0km±25km, ML2.9*

ISC 31 12:24:06.8±0.7, 59°.47N±0°.02×22°.91E±0°.03, h0km, n74, σ1s77/111, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.45**	**126**	Op *e*P		ISC **Pb**	**12 24 16.3**	**-1.2**
EE01				*e*S		**Sg**	**12 24 22.2**	**+1.0**
MTSE	**Matsula**	**0.89**	**148**	*e*P		**Pb**	**12 24 24.9**	**-0.2**
MTSE	**Matsula**	**0.89**	**148**	*e*P		**Pb**	**12 24 24.7**	**-0.4**
MTSE				*e*S		**Sb**	**12 24 37.5**	**+0.1**
MTSE	**Matsula**	**0.89**	**148**	*e*PB		**Pb**	**12 24 24.8**	**-0.2**
MTSE				*e*SB		**Sb**	**12 24 37.2**	**-0.2**
EE02	**Kiisa, Saku**	**0.96**	**106**	*e*P		**Pg**	**12 24 25.1**	**0.0**
EE02				*e*S		**Sg**	**12 24 36.8**	**-0.7**
MEF	**Metsahovi**	**1.06**	**44**	*e*P		**Pb**	**12 24 28.3**	**+0.4**
MEF	**Metsahovi**	**1.06**	**44**	*e*P		**Pg**	**12 24 26.5**	**-0.5**
MEF				*e*S		**Sg**	**12 24 39.3**	**-1.4**
MEF				AML		AML	12 24 41.3	
	comp=E,75nm,0.3s							
MEF				AML		AML	12 24 47.5	
	comp=N,88nm,0.5s							
MEF				AML		AML	12 24 47.7	
	comp=Z,136nm,0.7s							
MEF	**Metsahovi**	**1.06**	**44**	*e*PB		**Pg**	**12 24 26.6**	**-0.5**
MEF				MSG			12 24 39.4	
	comp=Z,64nm,0.2s							
MEF				*e*S		**Sg**	**12 24 39.5**	**-1.3**
NUR	**Nurmijrvi**	**1.36**	**39**	*e*PB		**Pg**	**12 24 31.8**	**-1.0**
NUR				MSG			12 24 47.9	
	comp=Z,27nm,0.2s							
EE08	**Sarghaua, Vand**	**1.45**	**123**	*e*P		**Pg**	**12 24 34.4**	**-0.2**
EE08				*e*S		**Sn**	**12 24 53.6**	**-0.3**
ARBE	**Arbavere**	**1.57**	**90**	*e*P		**Pn**	**12 24 36.1**	**+0.3**
ARBE	**Arbavere**	**1.57**	**90**	*e*P		**Pg**	**12 24 36.7**	**-0.1**
ARBE				*e*S		**Sn**	**12 24 54.8**	**-2.1**
ARBE				AML		AML	12 25 00.6	
	comp=E,882nm,0.2s							
ARBE				AML		AML	12 25 00.8	
	comp=Z,407nm,0.2s							
ARBE				AML		AML	12 25 03.4	
	comp=N,620nm,0.2s							
AAL	**Aland**	**1.64**	**297**	*e*P		**Pn**	**12 24 37.9**	**+1.1**
AAL	**Aland**	**1.64**	**297**	*e*P		**Pn**	**12 24 37.2**	**+0.4**
AAL				*e*SN		**Sn**	**12 24 59.5**	**+1.0**
AAL	**Aland**	**1.64**	**297**	P		**Pn**	**12 24 37.5**	**+0.8**
AAL				S		**Sn**	**12 24 58.8**	**+0.4**
AAL	**Aland**	**1.64**	**297**	P		**Pn**	**12 24 37.5**	**+0.8**
AAL				S		**Sn**	**12 24 58.8**	**+0.4**
RAF	**Rauma**	**1.66**	**340**	*e*P		**Pn**	**12 24 37.9**	**+0.9**
RAF	**Rauma**	**1.66**	**340**	*e*P		**Pn**	**12 24 37.4**	**+0.4**
RAF				*e*S		**Sn**	**12 24 58.6**	**-0.5**
RAF				AML		AML	12 25 02.8	
	comp=N,120nm,0.3s							
RAF				AML		AML	12 25 03.1	
	comp=E,265nm,0.3s							
RAF				AML		AML	12 25 05.8	
	comp=Z,89nm,0.3s							
RAF	**Rauma**	**1.66**	**340**	*e*PG		**Pn**	**12 24 37.2**	**+0.1**
RAF				MSG			12 24 57.0	
	comp=Z,47nm,0.2s							
RAF				*e*SN		**Sn**	**12 24 59.3**	**+0.2**
EE03	**Tooma soojaam,**	**1.83**	**108**	*e*P		**Pb**	**12 24 40.5**	**-0.5**
EE03				*e*SN		**Sg**	**12 25 04.5**	**-1.1**
PVF	**Pernaja**	**1.83**	**53**	*e*PG		**Pn**	**12 24 40.3**	**+0.8**
PVF				MSG			12 25 01.6	
	comp=Z,66nm,0.2s							
PVF				*e*SN		**Sn**	**12 25 03.7**	**+0.4**
SLIT	**Slitere, Latvi**	**1.88**	**190**	*e*P		**Pn**	**12 24 40.9**	**+0.9**
SLIT	**Slitere, Latvi**	**1.88**	**190**	*e*P		**Pb**	**12 24 42.2**	**+0.4**
SLIT				*e*S		**Sg**	**12 25 08.8**	**+1.8**
SLIT				AML		AML	12 25 09.9	
	comp=E,645nm,0.3s							
SLIT				AML		AML	12 25 11.0	
	comp=N,675nm,0.3s							
SLIT				AML		AML	12 25 13.4	
	comp=Z,263nm,0.3s							
SLIT	**Slitere, Latvi**	**1.88**	**190**	*e*PG		**Pb**	**12 24 41.9**	**+0.1**
NRTU	**Norrtaelje**	**2.19**	**277**	P		**Pn**	**12 24 46.1**	**+1.8**
NRTU	**Norrtaelje**	**2.19**	**277**	P		**Pn**	**12 24 46.1**	**+1.8**
VSU	**Vasula**	**2.22**	**115**	*e*P		**Pb**	**12 24 47.2**	**-0.6**
VSU				*e*S		**Sn**	**12 25 13.8**	**+0.9**
VSU				AML		AML	12 25 20.2	
	comp=E,166nm,0.3s							
VSU				AML		AML	12 25 22.3	
	comp=N,212nm,0.3s							
VSU				AML		AML	12 25 22.8	
	comp=Z,120nm,0.3s							
VSU	**Vasula**	**2.22**	**115**	*e*PG		**Pb**	**12 24 47.4**	**-0.3**
VSU				*e*SG		**Sb**	**12 25 16.2**	**+0.5**
GRAU	**Graesoe**	**2.37**	**293**	P		**Pn**	**12 24 48.1**	**+1.4**
GRAU	**Graesoe**	**2.37**	**293**	P		**Pn**	**12 24 48.1**	**+1.4**
KPF	**Kankaanpaa**	**2.41**	**350**	*e*PG		**Pb**	**12 24 50.0**	**-0.9**
KPF				*e*SG		**Sb**	**12 25 21.3**	**+0.2**
FIA0	**FINESS Array S**	**2.53**	**37**	*e*PB		**Pn**	**12 24 50.3**	**+1.3**
FIA0				MSG			12 25 21.3	
	comp=Z,40nm,0.2s							
FIA0				*e*SB		**Sn**	**12 25 22.0**	**+1.6**
FINES	**FINESS Array B**	**2.53**	**37**	Pn		**Pn**	**12 24 50.5**	**+1.5**
	comp=Z,26nm,0.3s,baz=222,slow=14,SNR=187							
FINES				Lg		Lg	12 25 22.7	
	comp=Z,44nm,0.3s,baz=226,slow=34,SNR=57 comp=Z,41nm,0.3s							
FORU	**Forsmark**	**2.55**	**293**	P		**Pn**	**12 24 50.9**	**+1.6**
FORU	**Forsmark**	**2.55**	**293**	P		**Pn**	**12 24 50.9**	**+1.6**
NYNU	**Nynaeshamn**	**2.56**	**262**	P		**Pn**	**12 24 51.9**	**+2.4**
NYNU	**Nynaeshamn**	**2.56**	**262**	P		**Pn**	**12 24 51.9**	**+2.4**
VJF	**Virojoki**	**2.57**	**63**	*e*P		**Pn**	**12 24 49.7**	**+0.2**
VJF				*e*SB		**Sn**	**12 25 22.7**	**+1.3**
VJF				MSG			12 25 22.9	
	comp=Z,34nm,0.2s							
FLYU	**Flymyra**	**2.62**	**287**	P		**Pn**	**12 24 52.2**	**+1.9**
FLYU	**Flymyra**	**2.62**	**287**	P		**Pn**	**12 24 52.2**	**+1.9**
KEF	**Keuruu**	**2.87**	**19**	*e*P		**Pn**	**12 24 55.2**	**+1.5**
KEF	**Keuruu**	**2.87**	**19**	*e*PB		**Pn**	**12 24 56.5**	**+2.8**
KEF				MSG			12 25 31.4	
	comp=Z,26nm,0.2s							
KEF				*e*SG		**Sb**	**12 25 33.7**	**-0.7**
KAF	**Kangasniemi**	**3.13**	**31**	*e*PB		**Pn**	**12 24 59.4**	**+2.2**
KAF				*e*SB		**Sn**	**12 25 38.7**	**+3.4**
KAF				MSG			12 25 39.0	
	comp=Z,19nm,0.2s							
VIKU	**Vikbolandet**	**3.36**	**256**	*e*P		**Pn**	**12 25 02.2**	**+1.8**
VAF	**Ylistaro**	**3.59**	**358**	*e*P		**Pn**	**12 25 05.3**	**+1.8**
VAF	**Ylistaro**	**3.59**	**358**	*e*PB		**Pn**	**12 25 06.8**	**+3.3**
VAF				*e*SB		**Sb**	**12 25 53.8**	**-1.2**
HEMU	**Hemsoen**	**3.99**	**326**	*e*P		**Pn**	**12 25 10.7**	**+1.6**
PABE	**Paberze**	**4.02**	**171**	*e*P		**Pn**	**12 25 10.3**	**+0.8**
HUSU	**Husum**	**4.27**	**337**	*e*P		**Pn**	**12 25 14.7**	**+1.7**
UMAU	**Umeaa**	**4.55**	**347**	*e*P		**Pn**	**12 25 17.8**	**+1.0**
UMAU				*e*SG		**Sb**	**12 26 27.7**	**+4.9**
NIF	**Nilsia**	**4.58**	**29**	*e*SG		**Sb**	**12 26 28.3**	**+4.7**
HFS	**Hagfors**	**4.70**	**282**	Pn		**Pn**	**12 25 19.7**	**+0.8**
	comp=Z,4.9nm,0.3s,baz=97,slow=13,SNR=88							
HFS				Sn		**Sn**	**12 26 14.9**	**+0.9**
	comp=Z,3.2nm,0.3s,baz=94,slow=21,SNR=6.7							
HFS				Lg		Lg	12 26 32.4	
	comp=Z,3.8nm,0.3s,baz=89,slow=32,SNR=4.8 comp=Z,8.0nm,0.3s							
BLEU	**Blekinge**	**4.94**	**233**	*i* P		**Pn**	**12 25 23.4**	**+1.3**
BLEU				*i* S		**Sn**	**12 26 19.1**	**-0.8**
JOF	**Joensuu**	**5.33**	**46**	*e*P		**Pn**	**12 25 28.2**	**+0.7**
BORU	**Boraas**	**5.62**	**255**	*i* P		**Pn**	**12 25 33.0**	**+1.6**
BORU				*i* S		**Sn**	**12 26 35.1**	**-1.5**
DEL	**Delary**	**5.67**	**242**	*e*P		**Pn**	**12 25 33.4**	**+1.2**
DEL	**Delary**	**5.67**	**242**	*i* P		**Pn**	**12 25 34.0**	**+1.8**
DEL				*i* S		**Sn**	**12 26 37.5**	**-0.4**
FABU	**Falkenberg**	**5.93**	**250**	*i* S		**Sn**	**12 26 42.6**	**-1.5**
NOA	**NORSAR Array B**	**6.03**	**290**	Pn		**Pn**	**12 25 36.6**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=98,slow=11,SNR=27							
NOA				Sn		**Sn**	**12 26 48.8**	**+1.9**
	comp=Z,0.2nm,0.3s,baz=124,slow=21,SNR=6.7							
NOA				Lg		Lg	12 27 18.8	
	comp=Z,0.4nm,0.3s,baz=96,slow=19,SNR=6.5 comp=Z,0.8nm,0.3s							
TJOU	**Tjoern**	**6.05**	**261**	*i* P		**Pn**	**12 25 37.2**	**-0.1**
TJOU				*i* S		**Sn**	**12 26 46.0**	**-1.2**
ONAU	**Onsala**	**6.14**	**255**	*i* P		**Pn**	**12 25 39.0**	**+0.5**
ONAU				*i* S		**Sn**	**12 26 50.3**	**+1.0**
BSD	**Bornholm Skovb**	**6.15**	**228**	*e*P		**Pn**	**12 25 38.7**	**-0.1**
BSD	**Bornholm Skovb**	**6.15**	**228**	*i* P		**Pn**	**12 25 38.5**	**-0.2**
BSD				*i* S		**Sn**	**12 26 46.8**	**-2.9**
BSD				IAML			12 27 22.7	
	comp=Z,5.2nm,0.3s							
BJUU	**Bjuv**	**6.29**	**242**	*i* P		**Pn**	**12 25 41.3**	**+0.7**
BJUU				*i* S		**Sn**	**12 26 51.1**	**-2.0**
HOMB	**Homborsund**	**7.56**	**267**	*i* P		**Pn**	**12 25 56.9**	**-1.2**
HOMB				*i* S		**Sn**	**12 27 18.2**	**-6.3**
SNART	**Snartemo**	**8.21**	**269**	*i* P		**Pn**	**12 25 57.7**	**-0.2**
SNART				*i* S		**Sn**	**12 27 36.6**	**-3.7**
AKASG	**Malin Array Be**	**9.50**	**155**	Pn		**Pn**	**12 26 23.9**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=337,slow=13,SNR=5.0 comp=Z,0.3nm,0.3s							
OSTC	**Ostas**	**9.72**	**206**	*e*P		**Pn**	**12 26 27.9**	**+0.2**
OSTC				*ex*		x	12 28 12.5	
DPC	**Dobruska-Polom**	**9.89**	**205**	*e*P		**Pn**	**12 26 31.9**	**+1.8**
DPC				*ex*		x	12 28 17.2	
KRLC	**Kraliky**	**10.05**	**203**	*e*P		**Pn**	**12 26 32.7**	**+0.4**
KRLC				*ex*		x	12 28 20.6	
ARCES	**ARCESS Array B**	**10.17**	**5**	Pn		**Pn**	**12 26 31.8**	**-1.9**
	comp=Z,1.4nm,0.3s,baz=191,slow=12,SNR=92							
ARCES				Sn		**Sn**	**12 28 20.1**	**-8.2**
	comp=Z,0.4nm,0.3s,baz=186,slow=24,SNR=5.9 comp=Z,2.3nm,0.3s							
HSKC	**Hora Svate Kat**	**10.40**	**216**	*e*P		**Pn**	**12 26 37.1**	**0.0**
GERES	**GERESS Array B**	**11.92**	**211**	Pn		**Pn**	**12 26 59.5**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=18,slow=13,SNR=2.1 comp=Z,0.4nm,0.3s							
EKA	**Eskdalemuir Ar**	**14.60**	**265**	Pn		**Pn**	**12 27 35.6**	**+1.3**
	baz=68,slow=12 comp=Z,0.1nm,0.3s							

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*KRNET **31** 12:47:46.9±0.1, 39°.19N×70°.84E, h21km, mb3.5*
*NNC **31** 12:47:51.1±2.9, 39°.32N×70°.65E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=22.0km s-min=14.0km az=4.0*
*SOME **31** 12:47:51.8, 39°.38N×71°.03E, h10km*

ISC 31 12:47:46.1±1.2, 39°.20N±0°.04×70°.91E±0°.03, h7km±9km, n40, σ1s80/72, 35C-13D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID	ISC	Time h m s	Res ISC
GAR	**Garm**	**0.51**	**247**	⇑*i*P		**Pg**	**12 47 56.1**	**+0.2**
	baz=45							
GAR				⇑*i*S		**Sg**	**12 48 02.3**	**-0.2**
	baz=45							
DRK	**Karamyk**	**0.74**	**68**	⇑*i*P		**Pg**	**12 48 02.2**	**+1.8**
	baz=68							
DRK				⇑*i*S		**Sg**	**12 48 13.0**	**+2.9**
	baz=68							
BTK	**Batken**	**0.86**	**355**	⇑*i*P		**Pb**	**12 48 03.3**	**-0.2**
	baz=59							
BTK				⇑*i*S		**Sb**	**12 48 15.2**	**0.0**
	baz=59							
CHGR	**Chuyangaron**	**1.47**	**249**	⇑*i*P		**Pn**	**12 48 12.6**	**-0.6**
	baz=49							
CHGR				⇑*i*S		**Sn**	**12 48 31.4**	**-1.3**
	baz=49							
OHH	**Osh**	**1.96**	**47**	⇑*i*P		**Pn**	**12 48 21.8**	**+2.0**
	baz=48							
OHH				⇑*i*S		**Sb**	**12 48 47.0**	**+0.2**
	baz=48							
SFK	**Sufi-Kurgan**	**2.16**	**67**	⇑*e*P		**Pn**	**12 48 24.7**	**+1.9**
	baz=67							
SFK				⇑*i*S		**Sn**	**12 48 52.3**	**+2.4**
	baz=67							
TRKS	**Terek-Say**	**2.33**	**4**	⇑*i*P		**Pn**	**12 48 25.8**	**+0.7**
	baz=6.0							
TRKS				⇑*i*S		**Sn**	**12 48 54.1**	**0.0**
	baz=6.0							
ARSB	**Arslanbob**	**2.65**	**36**	⇑*e*P		**Pn**	**12 48 31.3**	**+1.9**
	baz=37							
ARSB				⇑*i*S		**Sn**	**12 49 03.7**	**+1.9**
	baz=37							
ARK	**Arkit**	**2.72**	**17**	⇑*i*P		**Pn**	**12 48 32.2**	**+1.9**
	baz=18							
ARK				⇑*i*S		**Sn**	**12 49 05.2**	**+1.7**
	baz=18							
IUG	**Iuzhnay**	**3.02**	**347**	Pg		**Pg**	**12 48 43.7**	**-0.3**
	88nm,0.3s							
IUG				Lg		Lg	12 49 21.9	
	582nm,0.3s							
IUG	**Iuzhnay**	**3.02**	**347**	*e*P		**Pg**	**12 48 43.7**	**-0.3**
	88nm,0.3s							
IUG				*e*S		**Sg**	**12 49 21.9**	**-1.2**
	582nm,0.3s							
CHM	**Chimkent**	**3.27**	**343**	*e*P		**Pg**	**12 48 50.5**	**+1.7**
	85nm,0.1s							
CHM				*e*S		**Sg**	**12 49 32.9**	**+1.7**
	178nm,0.4s							
MNAS	**Manas**	**3.50**	**20**	⇓*i*P		**Pn**	**12 48 43.1**	**+2.0**
	baz=20							
MNAS				⇓*i*S		**Sn**	**12 49 23.9**	**+1.1**
	baz=20							
DZA	**Taraz**	**3.70**	**5**	*e*P		**Pg**	**12 48 57.0**	**0.0**
	121nm,0.1s							
DZA				*e*S		**Sg**	**12 49 44.0**	**-1.0**
	217nm,0.4s							
ARLS	**Aral**	**3.72**	**43**	⇑*i*P		**Pn**	**12 48 46.3**	**+2.2**
	baz=44							
ARLS				⇑*i*S		**Sn**	**12 49 29.6**	**+1.4**
	baz=44							
KK31	**Karatay Array**	**3.91**	**356**	⇑Pn		**Pb**	**12 48 52.5**	**-2.9**
	0.8nm,0.2s,baz=172,slow=12,SNR=44							
KK31				⇑Pg		**Pg**	**12 49 00.7**	**-0.3**
	2.5nm,0.3s,baz=174,slow=17,SNR=23							
KK31				Lg		Lg	12 49 51.1	
	24nm,0.5s,baz=174,slow=28,SNR=21							
KKAR	**Karatay Array**	**3.91**	**356**	⇓*i*P		**Pn**	**12 48 48.5**	**+1.9**
	baz=57							
KKAR				⇓*i*S		**Sn**	**12 49 33.1**	**+0.3**
	baz=57							
MRKS	**Merke**	**3.95**	**26**	Pg		**Pg**	**12 49 02.7**	**+0.9**
	16nm,0.6s							
MRKS				Lg		Lg	12 49 54.2	
	37nm,0.5s							
MRKS	**Merke**	**3.95**	**26**	*e*P		**Pg**	**12 49 02.7**	**+0.9**
	16nm,0.6s							
MRKS				*e*S		**Sg**	**12 49 54.2**	**+1.2**
	37nm,0.5s							
UCH	**Uchtor**	**4.08**	**41**	⇑*i*P		**Pn**	**12 48 51.5**	**+2.2**
	baz=41							
UCH				⇑*i*S		**Sn**	**12 49 38.6**	**+1.1**
	baz=41							
EKS2	**Erkin-Say**	**4.08**	**31**	⇓*e*P		**Pn**	**12 48 51.2**	**+2.1**
	baz=32							
EKS2				⇓*i*S		**Sn**	**12 49 38.1**	**+0.9**
	baz=32							
AAK	**Ala-Archa**	**4.38**	**37**	⇑Pn		Pn	12 48 58.7	+5.6
	3.6nm,0.4s							
AAK				⇑Pg		**Pg**	**12 49 09.9**	**-0.1**
	5.6nm,0.5s							
AAK				⇓Sn		**Sb**	**12 49 56.1**	**-0.4**
	6.8nm,0.4s							
AAK	**Ala-Archa**	**4.38**	**37**	⇑*i*P		**Pn**	**12 48 55.3**	**+2.1**
	baz=38							
AAK				⇑*i*S		**Sn**	**12 49 45.3**	**+0.8**
	baz=38							
NRN	**Naryn**	**4.48**	**59**	⇑*e*P		**Pn**	**12 48 56.6**	**+1.8**
	baz=59							
NRN				⇑*e*S		**Sn**	**12 49 47.9**	**+0.6**
	baz=59							
KBK	**Karagaybulak**	**4.61**	**40**	⇓*i*P		**Pn**	**12 48 58.7**	**+2.3**
	baz=41							
KBK				⇓*i*S		**Sn**	**12 49 51.0**	**+0.7**
	baz=41							
CHMS	**Chumysh**	**4.78**	**36**	⇓*i*P		**Pn**	**12 49 00.7**	**+2.2**
	baz=37							
CHMS				⇓*i*S		**Sn**	**12 49 54.6**	**+0.5**
	baz=37							
USP	**Ospenovka**	**4.88**	**32**	⇑*i*P		**Pn**	**12 49 02.1**	**+2.1**
	baz=33							
USP				⇑*i*S		**Sn**	**12 49 57.1**	**+0.4**
	baz=33							
TKM2	**Tokmak 2**	**5.13**	**42**	⇑Pn		Pn	12 49 09.4	+5.8
	3.5nm,0.5s							
TKM2				⇑Sn		**Sb**	**12 50 12.6**	**-5.7**
	3.5nm,0.5s							
TKM2	**Tokmak 2**	**5.13**	**42**	⇓*i*P		**Pn**	**12 49 06.0**	**+2.4**
	baz=42							
TKM2				⇓*i*S		**Sn**	**12 50 03.5**	**+0.3**
	baz=42							
DGS	**Degeres**	**5.45**	**41**	Pg		**Pg**	**12 49 31.0**	**+0.5**
	8.4nm,0.5s							
DGS				Lg		Lg	12 50 42.3	
	9.2nm,0.5s							
DGS	**Degeres**	**5.45**	**41**	*e*P		**Pg**	**12 49 31.0**	**+0.5**
	8.4nm,0.5s							
DGS				*e*S		**Sg**	**12 50 42.2**	**+1.1**
	9.2nm,0.5s							
KRBS	**Karabastau**	**5.74**	**37**	Pg		**Pg**	**12 49 34.7**	**-1.3**
	3.6nm,0.5s							
KRBS				Lg		Lg	12 50 48.5	
	4.2nm,0.5s							
KRBS	**Karabastau**	**5.74**	**37**	*e*P		**Pg**	**12 49 34.7**	**-1.3**
	3.6nm,0.5s							
KRBS				*e*S		**Sg**	**12 50 48.5**	**-2.0**
	4.2nm,0.5s							
TNSS	**Tian-Shan**	**5.95**	**48**	Pg		**Pg**	**12 49 36.9**	**-3.2**
	3.4nm,0.4s							
TNSS				Lg		Lg	12 50 52.2	
	4.3nm,0.7s							
TNSS	**Tian-Shan**	**5.95**	**48**	*e*P		**Pg**	**12 49 36.9**	**-3.2**
	3.4nm,0.4s							
TNSS				*e*S		**Sg**	**12 50 52.2**	**-5.0**
	2.3nm,0.3s							
KTBS	**Karatobe**	**6.25**	**42**	Pg		**Pg**	**12 49 44.9**	**-1.0**
	3.3nm,0.7s							
KTBS				Lg		Lg	12 51 05.8	
	4.5nm,0.6s							
KTBS	**Karatobe**	**6.25**	**42**	*e*P		**Pg**	**12 49 44.9**	**-1.0**
	3.3nm,0.7s							
KTBS				*e*S		**Sg**	**12 51 05.8**	**-1.0**
	4.5nm,0.6s							
BTLS	**Baital**	**6.28**	**21**	Pg		**Pg**	**12 49 45.1**	**-1

	2.6nm,0.3s									
PDGK					Lg		Lg		13 00 29.1	
	13nm,0.5s									
SHLS	**Shalkode**	**2.47**	**233**		*e*P		**Pn**		**12 59 56.8**	**+0.9**
	12nm,0.2s									
SHLS					*e*S		**Sn**		**13 00 26.7**	**+0.5**
	44nm,0.2s									
UZB	**Uzynbulak**	**2.74**	**237**		Pg		**Pb**		**13 00 03.9**	**-0.7**
	4.4nm,0.3s									
UZB					Lg		Lg		13 00 39.0	
	5.2nm,0.3s									
UZB	**Uzynbulak**	**2.74**	**237**		*e*P		**Pb**		**13 00 03.9**	**-0.7**
	4.4nm,0.3s									
UZB					*e*S		**Sb**		**13 00 39.0**	**+0.8**
	5.2nm,0.3s									
ARXS	**Arharly**	**3.14**	**263**		Pg		**Pb**		**13 00 12.1**	**+0.8**
	2.8nm,0.4s									
ARXS					Lg		Lg		13 00 53.3	
	17nm,0.4s									
ARXS	**Arharly**	**3.14**	**263**		*e*P		**Pb**		**13 00 12.1**	**+0.8**
	2.8nm,0.4s									
ARXS					*e*S		**Sg**		**13 00 53.4**	**-2.8**
	17nm,0.4s									
SATY	**Saty**	**3.16**	**240**		Pg		**Pb**		**13 00 12.2**	**+0.4**
	3.7nm,0.2s									
SATY					Lg		Lg		13 00 53.3	
	26nm,0.3s									
SATY	**Saty**	**3.16**	**240**		*e*P		**Pb**		**13 00 12.2**	**+0.4**
	3.7nm,0.2s									
SATY					*e*S		**Sb**		**13 00 53.3**	**+2.9**
	26nm,0.3s									
ZSN	**Zaisan**	**3.35**	**33**		Pg		**Pb**		**13 00 13.4**	**-1.4**
	2.2nm,0.2s									
ZSN					Lg		Lg		13 00 58.5	
	6.7nm,0.8s									
ZSN	**Zaisan**	**3.35**	**33**		*e*P		**Pb**		**13 00 15.2**	**+0.3**
	1.9nm,0.1s									
ZSN					*e*S		**Sb**		**13 00 58.5**	**+2.8**
	6.7nm,0.8s									
TKM2	**Tokmak 2**	**5.07**	**252**	⇑	Pg		**Pg**		**13 00 49.2**	**-3.2**
	1.0nm,0.5s									
TKM2				⇑	Lg		Lg		13 01 56.0	
	1.3nm,0.5s									
KURBB	**Kurchatov Arra**	**6.43**	**339**		Lg		Lg		13 02 35.0	
KURK	**Kurchatov**	**6.49**	**340**	⇓	Lg		Lg		13 02 38.5	
	2.4nm,0.7s									

*DJA **31** 13:07:36.3±0.4,9°S±6″×11°9E±°, h130km±8km, M3.7/12, mb4.0/2, MLv3.6/12*
*IDC **31** 13:07:42.2±3.0,7°82S×120°33E, h188km±22km, mb3.0/4, mbtmp3.6/6, Error ellipse: s-maj=93.0km s-min=14.1km az=51.0*
ISC 31 13:07:35.2±0.9,**8°69S**±0°08×**119°34E**±0°06,**h150**km,**n16,** σ1§**32**/17,**mb3.6/3,Flores region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
WBSI	**Waikabubak, Su**	**0.95**	**177**	P		**Pn**	**13**	**07 58.6**	**-1.0**
PLAI	**Plampang**	**1.55**	**265**	P		**Pn**	**13**	**08 05.7**	**+0.4**
BASI	**Baing, Sumba**	**1.95**	**141**	P		**Pn**	**13**	**08 10.4**	**+0.6**
EDFI	**Ende, Flores**	**2.32**	**92**	P		**Pn**	**13**	**08 14.1**	**-0.2**
TWSI	**Taliwang, Sumb**	**2.43**	**269**	P		**Pn**	**13**	**08 16.2**	**+0.7**
BKSI	**Bulukumba**	**3.43**	**13**	P		**Pn**	**13**	**08 28.6**	**+0.5**
SRBI	**Singaraja**	**4.13**	**278**	P		**Pn**	**13**	**08 38.3**	**+1.2**
BATI	**Baumata**	**4.52**	**110**	P		**Pn**	**13**	**08 43.3**	**+0.9**
	22nm,0.4s,baz=5.6,slow=2.5,SNR=4.4								
BATI				S		**Sn**	**13**	**09 33.8**	**-0.9**
	12nm,0.3s,baz=338,slow=19,SNR=1.9								
BATI	**Baumata**	**4.52**	**110**	P		**Pn**	**13**	**08 43.5**	**+1.1**
SOEI	**Soe**	**4.98**	**103**	P		**Pn**	**13**	**08 49.7**	**+1.2**
JAGI	**Jajag, Banyuwa**	**5.14**	**272**	P		**Pn**	**13**	**08 49.5**	**-1.0**
	27nm,1.1s,0.2nm								
WRA	**Warramunga Arr**	**18.32**	**129**	P		**P**	**13**	**11 40.2**	**+2.1**
	0.6nm,0.7s,baz=302,slow=13,SNR=6.9								
WRA				S		**S**	**13**	**14 59.0**	**-0.8**
	0.5nm,0.9s,baz=304,slow=24,SNR=1.6								
ASAR	**Alice Springs**	**20.40**	**139**	P		Pn	13	12 06.5	+2.1
	0.2nm,0.3s,baz=318,slow=11,SNR=2.4								
	0.2nm,0.3s								
SONM	**Songino Array**	**57.43**	**350**	P		**P**	**13**	**17 05.5**	**-2.8**
	0.3nm,0.5s,baz=164,slow=7.5,SNR=1.7								
	0.3nm,0.5s								
MKAR	**Makanchi Array**	**64.33**	**333**	P		**P**	**13**	**17 56.3**	**+1.5**
	0.5nm,0.7s,baz=145,slow=6.7,SNR=6.3								
	0.5nm,0.7s								
ZALV	**Zalesovo Beam**	**68.87**	**339**	P		**P**	**13**	**18 24.0**	**+0.6**
	0.6nm,0.3s,baz=133,slow=6.1,SNR=2.1								
	0.6nm,0.3s								

IDC 31 13:39:08.8±2.1,**7°36S**×**129°19E,h0**km,**mb3.7**/1,
mbtmp3.3/3,**ML3.2/2,Error ellipse: s-maj=109.2km s-min=33.1km az=67.0,Banda Sea**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
WRA	**Warramunga Arr**	**13.47**	**159**	Pn		Pn	13	42 20.2	-1.1
	0.1nm,0.3s,baz=337,slow=13,SNR=7.3								
WRA				Sn		Sn	13	44 41.4	-11
	0.4nm,0.3s,baz=333,slow=24,SNR=14								
	0.2nm,0.3s								
ASAR	**Alice Springs**	**16.83**	**165**	Pn		Pn	13	43 07.2	+1.1
	0.1nm,0.3s,baz=346,slow=8.7,SNR=7.4								
ASAR				Sn		Sn	13	46 05.3	-8.6
	0.1nm,0.3s,baz=348,slow=26,SNR=2.5								
	0.3nm,0.5s								
MKAR	**Makanchi Array**	**68.09**	**327**	P		P	13	50 10.5	0.0
	0.5nm,0.5s,baz=116,slow=7.6,SNR=4.1								
	0.5nm,0.5s								

*IDC **31** 13:42:31.8±0.6,28°68N×69°38E, h0km, mb4.2/27, mbtmp4.3/30, ML4.3/3, MS3.5/36, Error ellipse: s-maj=15.4km s-min=11.8km az=18.0*
*MOS **31** 13:42:32.7±1.3,28°86N×69°41E, h11km, mb4.7/26, Error ellipse: s-maj=7.7km s-min=4.0km az=86.9*
*NEIC **31** 13:42:34.8±1.9,28°73N±0°05×69°3E±0°1, h17km±6km, mb4.7/95, Error ellipse: s-maj=16.8km s-min=6.7km az=93.0*
*BJI **31** 13:42:34.5±0.0,28°99N×69°39E, h13km, mb4.5/32, mB4.6/11, Ms3.9/12, Ms7 3.7/15*
ISC 31 13:42:33.5±0.4,**28.73N**±0°05×**69°30E**±0°04,**h10**km,**n254,** σ1§**66**/212,**mb4.6**/109,**MS3.5**/40,**15C-4D,Pakistan**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h	m s	ISC
JASL	**Jaisalmer**	**2.30**	**141**	*e*S		**Sn**	**13**	**43 40.9**	**+1.2**
JASL				IAML			13	43 58.5	
	1µm,0.4s								
BKNR	**BIKANER**	**3.58**	**101**	*e*P		**Pn**	**13**	**43 30.2**	**+1.1**
BKNR				*ex*		x	13	44 25.7	
AJM	**Ajmer**	**5.25**	**114**	*e*P		**Pn**	**13**	**43 52.0**	**-0.1**
AJM				*ex*		x	13	45 02.7	
AJM				IAML			13	45 36.2	
	comp=E,240nm,1.1s								
AJM				IAML			13	45 38.7	
	comp=N,464nm,1.1s								
KBL	**Kabul**	**5.79**	**358**	Pn		**Pn**	**13**	**44 02.0**	**+2.3**
KBL	**Kabul**	**5.79**	**358**	P		**Pn**	**13**	**44 02.0**	**+2.3**
NIL	**Nilore**	**5.96**	**34**			**Pn**	**13**	**44 02.6**	**+0.8**
NIL	**Nilore**	**5.96**	**34**	P		**Pn**	**13**	**44 02.6**	**+0.8**
JMU	**Jammu**	**6.25**	**49**	*e*P		**Pn**	**13**	**44 04.5**	**-1.1**
JMU				*e*S		**Sn**	**13**	**45 16.2**	**-0.9**
JMU				IAML			13	45 22.5	
	comp=N,296nm,0.6s								
JMU				IAML			13	45 22.8	
	comp=E,183nm,0.5s								
KUDL	**Kundal**	**6.36**	**94**	*e*P		**Pn**	**13**	**44 06.3**	**-0.9**
KUDL				*ex*		x	13	45 14.7	
KUDL				IAML			13	46 03.8	
	comp=Z,176nm,0.9s								
THN	**Thein Dam**	**6.65**	**55**	*e*P		**Pn**	**13**	**44 12.3**	**+1.0**
THN				*e*S		**Sn**	**13**	**45 27.0**	**0.0**
THN				*e*S		Sb	13	45 27.5	-21
THN				IAML			13	46 13.2	
	comp=E,310nm,0.8s								
BHGR	**Bahadurgarh**	**6.71**	**89**	*ex*		x	13	45 56.3	
BHK	**Bhakra**	**6.72**	**65**	*e*P		**Pn**	**13**	**44 11.6**	**-0.7**
BHK				IAML			13	45 42.7	
	comp=N,178nm,0.6s								
SONA	**Sohna**	**6.87**	**92**	*e*P		**Pn**	**13**	**44 13.6**	**-0.7**
SONA				IAML			13	46 28.9	
	comp=N,332nm,0.6s								
NPLP	**NPLP New Delhi**	**6.92**	**89**	*e*P		**Pn**	**13**	**44 14.6**	**-0.4**
NDI	**New Delhi**	**6.96**	**89**	*e*P		**Pn**	**13**	**44 14.5**	**-1.0**
BHV	**Bhavnagar**	**7.42**	**159**	*e*P		**Pn**	**13**	**44 18.4**	**-3.4**
KLP	**Kalpa**	**8.24**	**68**	*e*P		**Pn**	**13**	**44 34.5**	**+1.1**
KLP				*e*S		**Sn**	**13**	**46 08.4**	**+1.7**
KLP				IAML			13	47 06.6	
	comp=E,390nm,0.9s								
HRA	**Herat**	**8.24**	**315**	Pn		**Pn**	**13**	**44 35.2**	**+1.9**
GUNA	**GUNA**	**8.26**	**118**	*e*P		**Pn**	**13**	**44 30.6**	**-2.8**
GUNA				IAML			13	47 03.8	
	comp=E,201nm,1.0s								
GUNA				IAML			13	47 15.4	
	comp=N,297nm,1.2s								
JHNI	**Jhansi**	**8.86**	**109**	*ex*		x	13	46 51.3	
JOSI	**Joshimath**	**9.11**	**76**	*e*P		**Pn**	**13**	**44 46.7**	**+1.5**
JOSI				*e*S		**Sn**	**13**	**46 25.3**	**-2.7**
JOSI				IAML			13	46 45.2	
	comp=N,170nm,0.6s								
JOSI				IAML			13	46 48.3	
	comp=E,119nm,0.8s								
NRDN	**NARMADA NAGAR**	**9.28**	**128**	*e*P		**Pn**	**13**	**44 44.7**	**-2.7**
NRDN				IAML			13	47 21.0	
	comp=N,105nm,1.3s								
PTH	**Pithoragarh**	**9.58**	**83**	*e*P		**Pn**	**13**	**44 50.2**	**-1.5**
PTH				*e*S		**Sn**	**13**	**46 41.0**	**+1.4**
PTH				IAML			13	46 59.6	
	comp=E,51nm,0.7s								
LGTI	**Lohaghat**	**9.61**	**83**	*e*P		**Pn**	**13**	**44 48.7**	**-3.1**
LGTI				*ex*		x	13	46 28.6	
LGTI				IAML			13	46 32.5	
	comp=E,85nm,1.3s								
LGTI				IAML			13	46 34.0	
	comp=E,98nm,0.5s								
CHGR	**Chuyangaron**	**9.90**	**359**	Pn		**Pn**	**13**	**44 56.0**	**+0.1**
CHGR	**Chuyangaron**	**9.90**	**359**	P		**Pn**	**13**	**44 56.0**	**+0.1**
SIMJ	**Simiganj**	**9.90**	**359**	Pn		**Pn**	**13**	**44 55.9**	**-0.1**
AKL	**Akola**	**10.63**	**137**	*e*P		**Pn**	**13**	**45 05.0**	**-1.0**
WSAR	**Wadi Sarin**	**11.04**	**243**	Pn		**Pn**	**13**	**45 10.6**	**-0.9**
	comp=E,1.9nm,0.3s,baz=86,slow=11,SNR=19								
WSAR				Sn		Sn	13	47 05.2	-10
	comp=E,1.4nm,0.3s,baz=108,slow=20,SNR=5.9								
	comp=E,5.1nm,0.5s								
BTK	**Batken**	**11.37**	**6**	Pn		**Pn**	**13**	**45 16.8**	**+0.8**
BTK	**Batken**	**11.37**	**6**	P		**Pn**	**13**	**45 16.8**	**+0.8**
ALBI	**Allahabad**	**11.66**	**104**	*ex*		x	13	45 16.2	
ALBI				*ex*		x	13	47 12.4	
KSH	**Kashi**	**12.09**	**25**	P		Pn	13	45 20.8	-5.1
KSH				S		Sn	13	47 26.0	-15
MSFE	**Esma-Masafi**	**12.18**	**257**	Pn		**Pn**	**13**	**45 23.0**	**-4.2**
UOSS	**Minazif**	**12.28**	**255**	Pn		**Pn**	**13**	**45 27.1**	**-1.4**
UOSS	**Minazif**	**12.28**	**255**	Pn		**Pn**	**13**	**45 26.8**	**-1.7**
SOHO	**SOHO**	**12.32**	**251**	Pn		**Pn**	**13**	**45 27.6**	**-1.4**
ASHO	**Ashiyiah**	**12.50**	**254**	Pn		**Pn**	**13**	**45 31.3**	**-0.2**
TRKS	**Terek-Say**	**12.86**	**6**	P		**Pn**	**13**	**45 34.4**	**-2.0**
ARSB	**Arslanbob**	**12.92**	**13**			**Pn**	**13**	**45 35.8**	**-1.4**
ARSB	**Arslanbob**	**12.92**	**13**	P		**Pn**	**13**	**45 35.8**	**-1.4**
ALNE	**Al Ain**	**13.00**	**252**	Pn		**Pn**	**13**	**45 38.1**	**-0.2**
GEYT	**Alibeck**	**13.08**	**317**	Pn		**Pn**	**13**	**45 41.6**	**+2.2**
	comp=E,0.4nm,0.3s,baz=158,slow=12,SNR=3.8								
GEYT				LR		LR	13	51 49.9	
	comp=E,160nm,19.2s,baz=162,slow=42								
	comp=E,2.6nm,0.7s								
ARK	**Arkit**	**13.21**	**9**	P		**Pn**	**13**	**45 39.5**	**-1.8**
IUG	**Iuzhnay**	**13.40**	**2**	*e*P		**Pn**	**13**	**45 42.9**	**-0.8**
UCH	**Uchtor**	**14.11**	**16**	P		**Pn**	**13**	**45 52.3**	**-1.5**
	SNR=50								
EKS2	**Erkin-Say**	**14.36**	**13**	P		**Pn**	**13**	**45 56.5**	**-0.4**
	SNR=15								
KK31	**Karatay Array**	**14.37**	**4**	Pn		**Pn**	**13**	**45 55.0**	**-2.0**
KK31	**Karatay Array**	**14.37**	**4**	*i* P		**Pn**	**13**	**45 55.1**	**-1.9**
KKAR	**Karatay Array**	**14.37**	**4**	Pn		**Pn**	**13**	**45 54.7**	**-2.3**
KKAR	**Karatay Array**	**14.37**	**4**	Pn		**Pn**	**13**	**45 55.9**	**-3.1**
KKAR	**Karatay Array**	**14.37**	**4**	P		**Pn**	**13**	**45 53.9**	**-3.1**
AAK	**Ala-Archa**	**14.50**	**15**	P		**Pn**	**13**	**45 57.4**	**-1.5**
	SNR=26								
AAK	**Ala-Archa**	**14.50**	**15**	Pn		**Pn**	**13**	**45 57.4**	**-1.5**
AAK	**Ala-Archa**	**14.50**	**15**	Pn		**Pn**	**13**	**45 57.2**	**-1.7**
AAK	**Ala-Archa**	**14.50**	**15**	Pn		**Pn**	**13**	**45 57.5**	**-1.3**
	comp=E,4.7nm,0.3s,baz=190,slow=7.2,SNR=22								
AAK				Sn		**Sn**	**13**	**48 33.8**	**-5.9**
	comp=E,0.2nm,0.3s,baz=0.1,slow=13,SNR=5.6								
AAK				LR		LR	13	52 37.0	
	comp=E,315nm,20.0s,baz=202,slow=42								
	comp=E,31nm,0.5s								
ULHL	**Ulahol**	**14.61**	**21**	P		**Pn**	**13**	**45 60.0**	**-0.5**
	SNR=10								
KBK	**Karagaybulak**	**14.62**	**17**	P		**Pn**	**13**	**46 01.3**	**+0.7**
	SNR=9.0								
TARG	**Taragay, Kyrgy**	**14.70**	**26**	Pn		**Pn**	**13**	**45 59.7**	**-2.1**
TARG	**Taragay, Kyrgy**	**14.70**	**26**	P		**Pn**	**13**	**45 59.7**	**-2.1**
BOOM	**Boomskoye usch**	**14.74**	**20**	Pn		**Pn**	**13**	**46 00.7**	**-1.5**
BOOM	**Boomskoye usch**	**14.74**	**20**	P		**Pn**	**13**	**46 00.7**	**-1.5**
CHMS	**Chumysh**	**14.90**	**16**	P		**Pn**	**13**	**46 05.8**	**+1.6**
	SNR=11								
TKM2	**Tokmak 2**	**15.04**	**18**	P		**Pn**	**13**	**46 04.2**	**-2.1**
	SNR=41								
TKM2	**Tokmak 2**	**15.04**	**18**	*i* P		**Pn**	**13**	**46 03.4**	**-2.9**
TKM2				pmax		pmax			
	comp=Z,59nm,1.3s								
USP	**Ospenovka**	**15.10**	**15**	P		**Pn**	**13**	**46 04.8**	**-2.0**
	SNR=7.7								
MDOK	**Medeo**	**15.70**	**21**	P		**Pn**	**13**	**46 12.6**	**-2.2**
UZB	**Uzynbulak**	**16.38**	**26**	*e*P		**Pn**	**13**	**46 24.5**	**+0.9**
SHLS	**Shalkode**	**16.56**	**27**	*e*P		**Pn**	**13**	**46 26.4**	**+0.5**
PDQK	**Podgornoye**	**16.71**	**27**	P		**Pn**	**13**	**46 25.2**	**-2.6**
ARXS	**Arharly**	**16.89**	**22**	*e*P		**Pn**	**13**	**46 28.4**	**-1.6**
SHL	**Shillong**	**20.34**	**94**	P		**P**	**13**	**47 10.7**	**+0.5**
SHL				pmax		pmax			
	comp=Z,78nm,1.1s								
MAKZ	**Makanchi**	**20.59**	**25**	P		**P**	**13**	**47 13.1**	**+0.5**
MAKZ	**Makanchi**	**20.59**	**25**	P		**P**	**13**	**47 13.1**	**+0.5**
MAKZ				pmax		pmax			
	comp=Z,11nm,0.9s								
MK31	**Makanchi Array**	**20.70**	**26**			**P**	**13**	**47 14.6**	**+0.8**
MK31	**Makanchi Array**	**20.70**	**26**	P		**P**	**13**	**47 14.6**	**+0.8**
MK31				pmax		pmax			
	comp=Z,7.0nm,0.8s								
MKAR	**Makanchi Array**	**20.70**	**26**	P		**P**	**13**	**47 12.7**	**-1.1**
MKAR	**Makanchi Array**	**20.70**	**26**	P		**P**	**13**	**47 12.9**	**-0.9**
	comp=Z,2.9nm,0.7s,baz=211,slow=10.0,SNR=33								
MKAR				PcP		**PcP**	**13**	**51 23.3**	**-0.2**
	comp=Z,0.6nm,0.7s,baz=234,slow=5.0,SNR=2.9								
MKAR				LR		LR	13	56 05.5	
	comp=Z,111nm,20.2s,baz=220,slow=39								
	comp=Z,2.9nm,0.7s								
MKAR	**Makanchi Array**	**20.70**	**26**	*ce*P		**P**	**13**	**47 13.8**	**0.0**
MKAR				pmax		pmax			
	comp=Z,3.0nm,0.6s								
WMQ	**Urumqi**	**21.06**	**39**	*e*P		**P**	**13**	**47 19.5**	**+1.7**
WMQ				pP		sP	13	47 24.0	+1.9
WMQ				sP		pP	13	47 28.0	+7.3
WMQ				pmax		pmax			
	comp=Z,21nm,0.7s								
WMQ				LR		LR			
	comp=Z,270nm,14.3s								
WMQ				LR		LR			
	comp=Z,320nm,12.3s								
WMQ				LR		LR			
	comp=Z,78nm,16.3s								
AB31	**Akbulak array**	**21.71**	**343**	*i* P		**P**	**13**	**47 24.9**	**+0.3**
ABKAR	**Akbulak array**	**21.71**	**343**	P		**P**	**13**	**47 23.8**	**-0.8**
ABKAR	**Akbulak array**	**21.71**	**343**	P		**P**	**13**	**47 25.1**	**+0.5**
ABKAR				IAmb		IAmb	13	47 29.9	
	comp=Z,9.5nm,0.9s								
RAYN	**Ar Rayn**	**21.97**	**262**	P		**P**	**13**	**47 29.3**	**+1.6**
RAYN				pmax		pmax			
	comp=Z,17nm,1.0s								
MAK	**Makhachkala**	**22.57**	**315**	*e*P		**P**	**13**	**47 29.4**	**-4.5**
MAK				*e*S		**S**	**13**	**51 33.5**	**-7.7**
MAK				pmax		pmax			
	comp=Z,139nm,1.5s								
MAK				MLR		MLR			
	comp=Z,72nm,17.0s								
KURBB	**Kurchatov Arra**	**22.95**	**15**	P		**P**	**13**	**47 37.0**	**-0.8**
	comp=Z,3.2nm,0.6s,baz=209,slow=9.2,SNR=35								
KURBB				LR		LR	13	57 47.9	
	comp=Z,177nm,18.9s,baz=187,slow=40								
	comp=Z,3.2nm,0.6s								
KURK	**Kurchatov**	**23.06**	**15**	P		**P**	**13**	**47 38.1**	**-0.8**
KURK				IAmb		IAmb	13	47 49.2	
	comp=Z,33nm,1.1s								
KURK	**Kurchatov**	**23.06**	**15**	P		**P**	**13**	**47 38.1**	**-0.8**
KURK				pmax		pmax			
	comp=Z,33nm,1.2s								
GNI	**Garni**	**23.16**	**306**	LR		LR	13	57 44.0	
	comp=Z,76nm,18.0s,baz=117,slow=39								
GNI	**Garni**	**23.16**	**306**	*d* P		**P**	**13**	**47 44.5**	**+4.3**
GNI				pmax		pmax			
	comp=Z,43nm,1.2s								
AKTO	**Aktyubinsk**	**23.30**	**342**	LR		LR	13	58 31.4	
	comp=Z,183nm,18.5s,baz=76,slow=41								
GROC	**Groznyy**	**23.77**	**314**	*e*P		**P**	**13**	**47 45.8**	**-0.3**
GROC				*e*			13	48 13.4	
GROC				pmax		pmax			
	comp=Z,25nm,0.6s								
PALK	**Pallekele**	**23.91**	**151**	LR		LR	13	56 16.5	
	comp=Z,119nm,21.6s,baz=75,slow=35								
BVA0	**Borovoye Array**	**24.28**	**2**	*i* P		**P**	**13**	**47 50.9**	**+0.1**
BVAR	**Borovoye Array**	**24.28**	**2**	P		**P**	**13**	**47 51.5**	**+0.8**
	comp=Z,14nm,0.7s,baz=171,slow=9.8,SNR=63								
BVAR				LR		LR	13	59 14.1	
	comp=Z,95nm,20.3s,baz=186,slow=41								
	comp=Z,14nm,0.7s								
BRVK	**Borovoye**	**24.31**	**1**	P		**P**	**13**	**47 49.7**	**-1.3**
BRVK	**Borovoye**	**24.31**	**1**	*ce*P		**P**	**13**	**47 52.1**	**+1.0**
BRVK				pmax		pmax			
	comp=Z,23nm,1.0s								
KBZ	**Khabaz**	**25.88**	**312**	P		**P**	**13**	**48 07.3**	**+2.0**
	comp=Z,4.5nm,0.7s,baz=114,slow=7.1,SNR=9.5								
	comp=Z,4.5nm,0.7s								
KBZ	**Khabaz**	**25.88**	**312**	*ce*P		**P**	**13**	**48 08.0**	**+2.6**
KBZ				pmax		pmax			
	comp=Z,5.0nm,0.8s								
SHA1	**Shidzhatmaz**	**26.04**	**312**	*ce*P		**P**	**13**	**48 10.4**	**+3.3**
KIV	**Kislovodsk**	**26.12**	**313**	*e*P		**P**	**13**	**48 09.8**	**+2.1**
KIV				*e*			13	48 50.2	
KIV				pmax		pmax			
	comp=Z,13nm,1.0s								
KIV				MLR		MLR			
	comp=Z,30nm,14.0s								
TNCH	**TengChong**	**26.30**	**91**	P		**P**	**13**	**48 13.5**	**+4.0**
TNCH				pP		sP	13	48 16.3	+2.4
TNCH				S		**S**	**13**	**52 42.5**	**0.0**
TNCH				pmax		pmax			
	comp=Z,18nm,0.7s								
TNCH				pmax		pmax			
	comp=Z,80nm,4.9s								
TNCH				LR		LR			
	comp=Z,150nm,5.8s								
TNCH				LR		LR			
	comp=Z,120nm,7.0s								
TNCH				LR		LR			
	comp=Z,140nm,13.7s								
GTA	**Gaotai**	**27.31**	**59**	*e*P		**P**	**13**	**48 20.0**	**+1.5**
GTA				pP		sP	13	48 25.5	+2.5
GTA				pmax		pmax			
	comp=Z,3.0nm,0.8s								
ZALV	**Zalesovo Beam**	**27.63**	**20**	P		**P**	**13**	**48 20.1**	**-0.9**
ZALV	**Zalesovo Beam**	**27.63**	**20**	P		**P**	**13**	**48 20.6**	**-0.4**
	comp=Z,0.9nm,0.4s,baz=212,slow=8.1,SNR=3.8								
ZALV				LR		LR	14	00 28.0	
	comp=Z,110nm,18.2s,baz=209,slow=39								
	comp=Z,0.9nm,0.4s								
ZALV	**Zalesovo Beam**	**27.63**	**20**	*i* P		**P**	**13**	**48 23.6**	**+2.6**
ZALV				pmax		pmax			
	comp=Z,1.0nm,0.5s								
LABN	**Labinsk**	**27.69**	**313**	*e*P		**P**	**13**	**48 19.6**	**-2.1**
LABN				*e**PP		**pP**	**13**	**48 21.3**	**-3.5**
LABN				*e*S		**S**	**13**	**53 00.5**	**-3.2**
LABN				pmax		pmax			
	comp=Z,12nm,0.2s								
ERBR	**Yeremizino-Bor**	**28.31**	**315**	*e*P		**P**	**13**	**48 26.8**	**-0.4**
ERBR				*e**PP		**pP**	**13**	**48 29.6**	**-0.8**
ERBR				*e*S		**S**	**13**	**53 12.9**	**-0.6**
ERBR				pmax		pmax			
	comp=Z,9.0nm,0.5s								
BELG	**Belogornoye**	**28.59**	**332**	LR		LR	14	04 19.3	
	comp=Z,70nm,18.1s,baz=69,slow=46								
ARU	**Arti**	**28.71**	**348**	LR		LR	14	02 00.6	
	comp=Z,136nm,20.3s,baz=181,slow=41								
ARU	**Arti**	**28.71**	**348**	*c i*P		**P**	**13**	**48 31.7**	**+1.0**
ARU							13	49 20.2	
ARU				S		**S**	**13**	**53 23.1**	**+3.5**
ARU				SS		**SnSn**	**13**	**54 43.9**	**+3.8**
ARU				pmax		pmax			
	comp=Z,4.0nm,0.8s								
ARU				MLR		MLR			
	comp=Z,144nm,18.0s								
CMAR	**Chiang Mai Arr**	**28.96**	**104**	P		**P**	**13**	**48 32.8**	**-0.4**
	comp=Z,2.5nm,0.9s,baz=295,slow=8.2,SNR=17								
CMAR				PcP		**PcP**	**

MNK *i* SSS SSS 13 59 16.5
MNK *i* LQ LQ 14 02 58.2
MNK *i* LR LR 14 04 43.9
MNK *i* LRM MLR 14 06 43.1
comp=Z,66nm,12.6s
MNK *i* LRM MLR 14 06 43.8
comp=N,140nm,15.5s
MNK *i* LRM MLR 14 07 57.2
comp=E,59nm,13.0s
MNK Minsk 39.41 323 *i* P **P 13 50 03.0 -0.2**
MNK *i* 13 51 33.0
MNK *i* S **S 13 56 04.4 -0.3**
MNK *i* SS **SS 13 58 58.3 -0.2**
MNK pmax pmax
comp=Z,5.0nm,0.8s
MNK MLR MLR
comp=Z,66nm,13.0s
MNK MLR MLR
comp=N,140nm,16.0s
MNK MLR MLR
comp=E,59nm,13.0s
NACGM Naroch 40.15 323 *e*P **P 13 50 10.7 +1.2**
comp=Z,8.0nm,0.8s,baz=113
ITM Ithomi 40.28 295 P **P 13 50 10.5 -0.3**
CRVS Cervenica-Dubn 41.55 312 *e*P P 13 50 30.0 +8.9
CRVS *e* 14 12 51.1
CRVS Cervenica-Dubn 41.55 312 *e*P **P** 13 50 30.0 +8.9
PSZ Piszkesteto 42.41 311 P **P 13 50 30.3 +2.0**
PSZ pmax pmax
comp=Z,8.0nm,0.9s
FINES FINESS Array B 43.37 331 P **P 13 50 35.6 0.0**
comp=Z,4.3nm,0.7s,baz=116,slow=13,SNR=15
FINES LR LR 14 12 04.6
comp=Z,88nm,18.9s,baz=124,slow=41
comp=Z,4.3nm,0.7s
MODS Modra-Piesok 44.21 311 *e*P **P 13 50 44.4 +1.7**
MODS Modra-Piesok 44.21 311 *e*P **P 13 50 44.4 +1.7**
ARSA Arzberg 45.28 309 *ep*P **P 13 50 52.7 +1.4**
comp=Z,2.4nm,0.9s
MOA Molln 46.17 310 *e*P **P 13 50 58.8 +0.5**
comp=Z,2.4nm,0.7s
GERES GERESS Array B 46.62 311 P **P 13 51 02.8 +0.9**
comp=Z,0.4nm,0.3s,baz=82,slow=13,SNR=4.4
comp=Z,0.4nm,0.3s
NRCA Norcia 46.88 303 P **P 13 51 03.2 -0.8**
VADS Vadso 47.17 343 *e*P **P 13 51 07.0 +1.2**
LESA Schwarzleotal 47.22 309 *ep*P **P 13 51 07.3 +0.7**
comp=Z,2.0nm,0.6s
ARA0 ARCESS Array S 47.88 341 *e*P **P 13 51 12.4 +1.1**
ARCES ARCESS Array B 47.88 341 P **P 13 51 12.4 +1.1**
ARCES ARCESS Array B 47.88 341 P **P 13 51 12.2 +0.9**
comp=Z,10nm,0.7s,baz=132,slow=8.2,SNR=38
ARCES LR LR 14 13 58.3
comp=Z,98nm,19.6s,baz=132,slow=39
comp=Z,10nm,0.7s
ARCES ARCESS Array B 47.88 341 P **P 13 51 12.4 +1.1**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
WTTA Wattenberg 47.92 309 *e*P **P 13 51 11.4 -0.8**
comp=Z,2.1nm,0.6s
WATA Walderalm 47.96 309 *e*P **P 13 51 11.6 -0.8**
comp=Z,0.5nm,0.4s
SQTA Sankt Quirin 48.21 309 *e*P P 13 51 09.7 -4.7
comp=Z,1.1nm,0.6s
BNX BinXian 48.22 53 ||P **P 13 51 15.5 +1.3**
BNX pmax pmax
comp=Z,7.0nm,0.7s
KTK1 Kautokeino 48.26 340 *e*P **P 13 51 14.7 +0.4**
HEH HeiHe 48.36 47 *e*P **P 13 51 16.0 +0.8**
HEH pmax pmax
comp=Z,7.0nm,0.9s
HFS Hagfors 48.52 327 P **P 13 51 16.4 +0.1**
comp=Z,2.1nm,0.7s,baz=108,slow=14,SNR=5.2
HFS LR LR 14 15 48.7
comp=Z,106nm,19.0s,baz=100,slow=41
comp=Z,2.1nm,0.7s
FETA Feichten 48.54 309 *e*P **P 13 51 16.5 -0.4**
comp=Z,0.6nm,0.6s
ZEA Zeya 48.58 42 *e*P **P 13 51 18.6 +1.7**
TJN Taejon 48.91 65*ce*P **P 13 51 20.6 +0.9**
HAMF Hammerfest 49.02 342 *e*P **P 13 51 21.9 +1.8**
DAVOX Davos/Dischmat 49.12 309 LR LR 14 20 55.9
comp=Z,15nm,18.3s,baz=75,slow=47
KSRS Korea Array 49.20 64 P **P 13 51 21.7 -0.2**
comp=Z,3.3nm,0.8s,baz=268,slow=7.6,SNR=16
KSRS LR LR 14 12 42.9
comp=Z,21nm,18.4s,baz=145,slow=37
comp=Z,3.3nm,0.8s
JETT Jettan, Norway 49.41 340 *e*P **P 13 51 24.4 +1.3**
TRO Tromso 49.90 339 *e*P **P 13 51 28.1 +1.4**
NB2 NORSAR Subarra 49.92 327 P **P 13 51 26.6 -0.6**
comp=Z,1.4nm,0.6s,baz=104,slow=7.9
NB2 NORSAR Subarra 49.92 327 P **P 13 51 26.6 -0.6**
baz=104,slow=7.9
NOA NORSAR Array B 49.92 327 P **P 13 51 26.6 -0.6**
comp=Z,1.0nm,0.6s,baz=106,slow=7.5,SNR=9.7
NOA LR LR 14 16 33.2
comp=Z,85nm,18.7s,baz=100,slow=41
comp=Z,1.0nm,0.6s
MOR8 Moi Rana 50.03 334 *e*P **P 13 51 27.4 -0.5**
KEST Kesra 50.52 294 P **P 13 51 33.7 +1.6**
comp=Z,3.7nm,0.8s,baz=214,slow=6.2,SNR=4.2
comp=Z,3.7nm,0.8s
LEM Lembang 51.12 128 LR LR 14 14 37.5
comp=Z,55nm,19.1s,baz=239,slow=38
KLR Kul'dur 51.14 48 LR LR 14 16 38.5
comp=Z,43nm,21.0s,baz=224,slow=40
KLR Kul'dur 51.14 48*ce*P **P 13 51 36.6 +0.1**
KLR pmax pmax
comp=Z,6.0nm,1.1s
USRK Ussuriysk Ar. 51.53 55 P **P 13 51 39.8 +0.3**
comp=Z,1.8nm,0.8s,baz=291,slow=5.2,SNR=5.0
comp=Z,1.8nm,0.8s
TIXI Tiksi 53.52 20 LR LR 14 16 38.2
comp=Z,68nm,19.2s,baz=260,slow=38
TIXI Tiksi 53.52 20*ce*P **P 13 51 53.5 -0.3**
TIXI pmax pmax
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 54.75 348 P **P 13 52 03.2 +0.5**
comp=Z,5.4nm,0.6s,baz=127,slow=11,SNR=7.2
SPITS LR LR 14 18 47.3
comp=Z,40nm,20.0s,baz=86,slow=40
comp=Z,5.4nm,0.6s
EKA Eskdalemuir Ar 57.06 320 P **P 13 52 19.5 0.0**
comp=Z,1.0nm,0.6s,baz=96,slow=7.0,SNR=8.5
comp=Z,1.0nm,0.6s
MJAR Matsushiro Arr 57.45 63 P **P 13 52 22.6 -0.1**
comp=Z,1.6nm,0.8s,baz=296,slow=13,SNR=2.4
comp=Z,1.6nm,0.8s
YSS Yuzh-Sakhalins 58.69 50*de*P **P 13 52 30.2 -0.9**
YSS *e*S **S 14 00 35.0 -0.7**
YSS pmax pmax
comp=Z,8.0nm,1.1s
ESDC Sonseca Array 60.04 301 P **P 13 52 40.9 +0.2**
comp=Z,2.1nm,0.6s,baz=63,slow=7.4,SNR=20
comp=Z,2.1nm,0.6s
NOR Nord 61.18 350 *i* P **P 13 52 47.8 +0.1**
NOR IAmb IAmb 13 52 47.9
comp=Z,36nm,2.1s
MA2 Magadan 61.45 35 LR LR 14 21 58.8
comp=Z,26nm,21.1s,baz=138,slow=38
SEY Seymchan 61.73 31 *e*P **P 13 52 51.9 +0.2**
SEY pmax pmax
comp=Z,6.0nm,0.9s
DAG Danmarks Havn 61.79 345 *i* P **P 13 52 52.0 +0.1**
DAG IAmb IAmb 13 52 53.4
comp=Z,5.3nm,0.7s
TOA0 Torodi Ar. Sit 64.27 271 P **P 13 53 09.6 +0.2**
TORD Torodi Ar. Bea 64.27 271 P **P 13 53 09.8 +0.4**
TORD IAmb IAmb 13 53 10.7
comp=Z,5.2nm,0.8s
TORD Torodi Ar. Bea 64.27 271 P **P 13 53 09.8 +0.4**
comp=Z,5.6nm,0.6s,baz=59,slow=6.5,SNR=16
comp=Z,5.6nm,0.6s
BORG Borgarnes 64.66 332 LR LR 14 23 13.5
comp=Z,67nm,20.1s,baz=58,slow=38
NEEM North Greenlan 68.31 348 *i* P **P 13 53 34.4 -0.3**
NEEM IAmb IAmb 13 53 40.1
comp=Z,6.2nm,0.8s
TSUM Tsumeb 69.03 233 LR LR 14 27 30.7
comp=Z,36nm,19.0s,baz=358,slow=39
BOSA Boshof 70.90 220 P **P 13 53 50.1 -0.9**
BOSA LR LR 14 23 52.3
comp=Z,3.9nm,0.9s,baz=51,slow=5.7,SNR=3.6
comp=Z,27nm,19.5s,baz=106,slow=35
comp=Z,3.9nm,0.9s
C16K Lisburne Hills 75.25 18 P **P 13 54 15.7 -0.4**
C16K IAmb IAmb 13 54 17.4
comp=Z,7.1nm,0.8s
C19K Lookout Ridge 76.16 16 IAmb IAmb 13 54 25.5
comp=Z,5.2nm,0.8s
RES Resolute Bay 76.32 356 LR LR 14 32 36.5
comp=Z,40nm,19.6s,baz=360,slow=39
B22K Teshekpuk Lake 76.61 14 IAmb IAmb 13 54 25.4
comp=Z,7.2nm,1.0s
B21K Ikpikpuk River 76.92 14 IAmb IAmb 13 54 27.3
comp=Z,4.9nm,0.7s
E18K Tukpahlearik C 77.13 18 P **P 13 54 27.0 +0.2**
C23K Itkillik River 77.58 13 IAmb IAmb 13 54 31.3
comp=Z,7.5nm,0.7s
F17K Baldwin Pennin 77.67 19 IAmb IAmb 13 54 31.7
comp=Z,9.1nm,0.9s
E21K Killik River 77.99 15 IAmb IAmb 13 54 32.8
comp=Z,5.2nm,0.8s
TOLK Toolik Lake Re 78.78 14 IAmb IAmb 13 54 43.7
comp=Z,12nm,1.3s
D25K Kavik River 78.83 12 IAmb IAmb 13 54 38.3
comp=Z,6.1nm,0.8s
G19K Purcell Mounta 79.02 17 IAmb IAmb 13 54 38.6
comp=Z,5.1nm,0.7s
H17K Granite Mounta 79.14 19 IAmb IAmb 13 54 39.2
comp=Z,3.3nm,0.7s
WRA Warramunga Arr 79.25 120 P **P 13 54 38.2 -1.1**
comp=Z,2.5nm,1.0s,baz=321,slow=5.3,SNR=13
comp=Z,2.5nm,1.0s
E24K Your Creek 79.48 14 IAmb IAmb 13 54 48.2
comp=Z,5.5nm,1.1s
H19K Roundabout Mou 79.66 18 P **P 13 54 41.1 +0.3**
H19K IAmb IAmb 13 54 44.8
comp=Z,5.4nm,1.0s
H21K Melozitna Rive 80.49 16 P **P 13 54 45.8 +0.4**
H21K IAmb IAmb 13 54 53.4
comp=Z,6.5nm,0.9s
E28M Babbage River 80.64 10 IAmb IAmb 13 54 48.2
comp=Z,5.9nm,0.8s
E27K Coleen River 80.68 11 IAmb IAmb 13 54 57.4
comp=Z,7.2nm,1.2s
BMAR Burnt Mountain 80.81 13 **P 13 54 48.3 +1.2**
G24K Hadweenzic Riv 80.85 14 IAmb IAmb 13 54 49.4
comp=Z,7.5nm,1.1s
J19K Poorman 81.08 18 IAmb IAmb 13 54 53.0
comp=Z,6.1nm,1.2s
I21K Tanana 81.08 16 IAmb IAmb 13 54 50.1
comp=Z,4.5nm,0.9s
E29M Blow River 81.09 10 IAmb IAmb 13 54 50.0
comp=Z,3.3nm,0.7s
ASAR Alice Springs 81.12 123 P **P 13 54 48.8 -0.6**
comp=Z,1.0nm,0.6s,baz=307,slow=5.2,SNR=14
comp=Z,1.0nm,0.6s
H23K Yukon River 81.13 15 IAmb IAmb 13 54 50.9
comp=Z,5.1nm,0.8s
FYU Fort Yukon 81.43 13 IAmb IAmb 13 54 55.1
comp=Z,12nm,1.2s
MLY Manley 81.51 16 IAmb IAmb 13 54 52.1
comp=Z,3.5nm,0.6s
L16K Owhat River 81.68 21 IAmb IAmb 13 55 00.1
comp=Z,5.7nm,0.9s
INK Inuvik 81.78 8 IAmb IAmb 13 54 53.4
comp=Z,5.5nm,0.6s
INK Inuvik 81.78 8 LR LR 14 35 41.5
comp=Z,24nm,18.9s,baz=197,slow=39
G27K Doyon Strip 81.90 12 IAmb IAmb 13 54 54.8
comp=Z,4.2nm,0.7s
K20K Telida 82.01 18 IAmb IAmb 13 54 55.0
comp=Z,5.3nm,0.9s
FRB Frobisher Bay 82.02 342 LR LR 14 35 08.5
comp=Z,29nm,18.9s,baz=232,slow=38
BPAW Bear Paw Mtn. 82.22 17 IAmb IAmb 13 54 56.0
comp=Z,2.7nm,0.6s
G29M Pine Creek 82.43 11 IAmb IAmb 13 55 26.0
comp=Z,5.0nm,1.1s
WRH Wood River Hil 82.61 15 IAmb IAmb 13 54 56.9
comp=Z,3.4nm,0.7s
ILAR Eielson Array 82.63 15 P **P 13 54 56.0 -0.6**
comp=Z,1.1nm,0.7s,baz=312,slow=4.6,SNR=16
ILAR LR LR 14 39 33.9
comp=Z,39nm,18.7s,baz=46,slow=41
comp=Z,1.1nm,0.7s
I26K Coal Creek Min 82.95 13 IAmb IAmb 13 54 59.8
comp=Z,2.9nm,0.6s
G31M Satah River 82.98 9 IAmb IAmb 13 54 59.8
comp=Z,6.6nm,1.1s
H29M Whitestone 83.01 11 IAmb IAmb 13 55 00.1
comp=Z,5.7nm,0.7s
EPYK Eagle Plains 83.13 10 IAmb IAmb 13 55 09.5
comp=Z,5.1nm,0.9s
RND Reindeer 83.32 16 IAmb IAmb 13 55 00.6
comp=Z,4.2nm,0.7s
I28M Minz Creek 83.44 12 IAmb IAmb 13 55 02.0
comp=Z,5.1nm,0.7s
J26L Joseph Creek 83.58 14 IAmb IAmb 13 55 02.9
comp=Z,4.4nm,0.8s
DHY Denali Highway 83.96 16 IAmb IAmb 13 55 05.2
comp=Z,4.0nm,0.6s
H31M Peel River 84.02 10 IAmb IAmb 13 55 04.6
comp=Z,3.8nm,0.8s
DAWY Dawson 84.79 12 IAmb IAmb 13 55 09.1
comp=Z,2.3nm,0.7s
J30M Hart River 84.86 11 IAmb IAmb 13 55 09.8
comp=Z,2.8nm,0.7s
K29M Barlow Dome 85.33 12 IAmb IAmb 13 55 12.2
comp=Z,3.2nm,0.6s
KLU Klutina 85.67 16 IAmb IAmb 13 55 13.8
comp=Z,4.6nm,0.8s
M29M Somme Creek 86.45 13 IAmb IAmb 13 55 18.2
comp=Z,2.2nm,0.7s
N31M Braeburn, Yuko 87.83 12 IAmb IAmb 13 55 26.6
comp=Z,3.9nm,1.0s
YKA Yellowknife Ar 89.04 2 P **P 13 55 29.1 +0.7**
comp=Z,2.6nm,0.7s,baz=347,slow=5.4,SNR=23
comp=Z,2.6nm,0.7s
P33M Teslin, Yukon 89.53 11 IAmb IAmb 13 55 32.3
comp=Z,3.9nm,1.0s
QSPA South Pole Qui 118.56 180 PKP **PKPdf 14 01 20.7 -0.1**
comp=Z,0.7nm,0.9s,baz=252,slow=3.2,SNR=1.6
TXAR Lajitas Array 121.87 353 PKP **PKiKP 14 01 29.5 +0.8**
comp=Z,0.5nm,1.0s,baz=169,slow=0.5,SNR=2.4

ROM 31 13:51:01.2±0.1, 42°804N±0°003×13°175E±0°005, h10km, ML0.9/8, Error ellipse: s-maj=0.4km s-min=0.2km az=79.0, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NRCA	**Norcia**	**0.05**	**303**	S	Sg	13 51 04.9	-0.1
NRCA				AML	AML		
	comp=E,1405μm,0.4s						
NRCA				AML	AML		
	comp=N,1062μm,0.2s						
NRCA				AML	AML		
	comp=E,1405μm,1.6s						
NRCA				AML	AML		
	comp=N,1062μm,1.8s						
MC2	**Monte Cornacci**	**0.11**	**6**	P	Pg	13 51 04.6	+0.4
MC2				S	Sg	13 51 07.1	+0.8
MTRA	**Matera**	**0.17**	**106**	P	Pg	13 51 05.5	+0.5
MTRA				S	Sg	13 51 08.4	+0.9
LNSS	**Leonessa**	**0.22**	**206**	P	Pg	13 51 06.6	+0.7
LNSS				S	Sg	13 51 10.7	+1.6
GAVE	**Gavelli**	**0.23**	**242**	P	Pb	13 51 07.1	-0.6
GAVE				S	Sg	13 51 10.8	+1.4
GAVE				AML	AML		
	comp=E,55μm,1.0s						
GAVE				AML	AML		
	comp=E,55μm,1.0s						
GAVE				AML	AML		
	comp=E,55μm,1.0s						
GAVE				AML	AML		
	comp=N,66μm,0.2s						
FDMO	**Fiordimonte**	**0.24**	**345**	P	Pg	13 51 06.8	+0.5
FDMO				S	Sg	13 51 11.2	+1.6
FDMO				AML	AML		
	comp=N,28μm,0.3s						
FDMO				AML	AML		
	comp=E,23μm,0.2s						
T1221	**Campello sul C**	**0.25**	**283**	P	Pg	13 51 07.0	+0.7
CESI	**CESI - Serrava**	**0.28**	**315**	P	Pg	13 51 07.2	+0.2
CESI				AML	AML		
	comp=E,31μm,1.3s						
CESI				AML	AML		
	comp=N,49μm,0.2s						
CSP1	**Cessapalombo**	**0.29**	**4**	P	Pg	13 51 07.6	+0.4
CSP1				S	Sb	13 51 12.8	-0.7
RM33	**Pellescritta (**	**0.30**	**174**	P	Pg	13 51 07.7	+0.5
RM33				S	Sb	13 51 12.9	-0.8
RM33				AML	AML		
	comp=E,61μm,0.7s						
RM33				AML	AML		
	comp=N,49μm,1.1s						
RM33				AML	AML		
	comp=N,49μm,0.9s						
RM33				AML	AML		
	comp=E,61μm,0.7s						
RM33				AML	AML		
	comp=N,38μm,0.1s						
TERO	**Teramo**	**0.36**	**120**	P	Pg	13 51 08.8	+0.3
TERO				S	Sb	13 51 14.6	-1.0
TERO				AML	AML		
	comp=E,22μm,1.3s						
TERO				AML	AML		
	comp=N,25μm,0.8s						
TERO				AML	AML		
	comp=N,25μm,1.2s						
TERO				AML	AML		
	comp=E,22μm,0.7s						

*ISK **31** 13:59:09.6, 36°.76N×36°.64E, h2km, ML2.5/9*
*AFAD **31** 13:59:10.7±0.0, 36°.79N×36°.62E, h7km±4km, ML2.4*
ISC 31 13:59:10.6±1.0, 36°.78N±0°.04×36°.63E±0°.03, h9km±8km, n17, σ0°66/26, Jordan-Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HASA	**Hatay-Hassa-Ha**	**0.12**	**257**	P	**Pg**	**13 59 13.5**	**+0.1**
HASA				S	**Sg**	**13 59 15.3**	**0.0**
HASA				*i* AML	AML	13 59 16.0	
	comp=E,2μm,0.2s						
HASA				*i* AML	AML	13 59 16.0	
	comp=N,1μm,0.5s						
KUZU	**Kuzuini**	**0.36**	**90**	P	**Pb**	**13 59 18.1**	**-1.1**
KUZU				S	**Sg**	**13 59 23.1**	**+0.6**
KUZU				*i* AML	AML	13 59 26.0	
	comp=N,753nm,0.5s						
KUZU				*i* AML	AML	13 59 27.0	
	comp=E,537nm,0.2s						
KAMA	**Osmaniye**	**0.41**	**5**	P	**Pg**	**13 59 18.6**	**-0.1**
KAMA				S	**Sg**	**13 59 24.3**	**+0.1**
TAHT	**Tahtakopru-Hat**	**0.54**	**222**	Pg	**Pg**	**13 59 20.8**	**-0.2**
TAHT				Sg	**Sb**	**13 59 28.9**	**-1.1**
HCB	**Kahramanmara**	**0.61**	**22**	P	**Pb**	**13 59 23.0**	**-0.5**
HCB				S	**Sg**	**13 59 30.2**	**-0.3**
HCB				*i* AML	AML	13 59 31.0	
	comp=E,188nm,0.5s						
KHMR	**Kahramanmara**	**0.61**	**22**	P	**Pb**	**13 59 22.9**	**-0.6**
KHMR				S	**Sg**	**13 59 30.2**	**-0.3**
KHMR				*i* AML	AML	13 59 31.0	
	comp=E,161nm,0.4s						
GAZ	**Gaziantep**	**0.61**	**50**	Pg	**Pg**	**13 59 22.4**	**-0.1**
CEYT	**Ceyhan**	**0.74**	**289**	Pg	**Pb**	**13 59 25.0**	**-0.7**
KHMN	**Narli-Kahraman**	**0.75**	**34**	Pg	**Pg**	**13 59 25.0**	**0.0**
KMRS	**Kahramanmaras**	**0.76**	**17**	Pg	**Pb**	**13 59 25.5**	**-0.6**
ANDN	**Andirin**	**0.83**	**344**	P	**Pb**	**13 59 26.9**	**-0.5**
ANDN				S	**Sb**	**13 59 38.1**	**-0.6**
ANDN				*i* AML	AML	13 59 41.0	
	comp=N,105nm,0.4s						
NZIP	**Nizip/Gaziante**	**0.88**	**72**	P	**Pg**	**13 59 27.5**	**-0.1**
NZIP				S	**Sb**	**13 59 41.1**	**+1.1**
NZIP				*i* AML	AML	13 59 44.0	
	comp=N,84nm,0.3s						
GZT	**Gaziantep**	**0.95**	**52**	P	**Pg**	**13 59 28.7**	**-0.1**
GZT				S	**Sn**	**13 59 43.5**	**-0.4**
GZT				*i* AML	AML	13 59 44.0	
	comp=E,186nm,0.4s						
GZT				*i* AML	AML	13 59 45.0	
	comp=N,111nm,0.2s						
CMRD	**Camardi-Nigde**	**1.58**	**305**	Pn	**Pb**	**13 59 39.7**	**-0.3**
SARI	**SarD1z-Kayseri**	**1.64**	**354**	Pn	**Pb**	**13 59 40.6**	**-0.5**
KEBE	**Keben-Mersin**	**2.37**	**263**	Pn	**Pn**	**13 59 50.9**	**+1.2**
IKL	**Isikli**	**2.43**	**258**	Pn	**Pn**	**13 59 51.7**	**+1.2**

*IDC **31** 14:04:49.5±1.1, 7°.89N×137°.30E, h0km, mb3.8/10, mbtmp3.8/10, MS3.0/4, Error ellipse: s-maj=48.9km s-min=20.2km az=82.0*
ISC 31 14:04:54.2±1.0, 7°.9N±0°.1×137°.3E±0°.3, h30km, n20, σ0°69/10, mb4.0/10, MS3.0/3, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**9.35**	**52**	LR	LR	14 10 33.0	
	comp=Z,32nm,21.0s,baz=154,slow=37						
JOW	**Kunigami**	**20.73**	**337**	LR	LR	14 16 29.2	
	comp=Z,60nm,19.8s,baz=228,slow=34						
WRA	**Warrumunga Arr**	**27.79**	**186**	P	**P**	**14 10 40.9**	**+0.2**
	0.6nm,0.8s,baz=1.2,slow=9.9,SNR=1.8						
	0.6nm,0.8s						
H11S3	**WAKE ISLAND Hy**	**30.44**	**67**	T	T	14 42 58.6	
	baz=254,slow=75,SNR=129						
H11S1	**WAKE ISLAND Hy**	**30.45**	**67**	T	T	14 43 00.1	
	baz=254,slow=75,SNR=87						
H11S2	**WAKE ISLAND Hy**	**30.45**	**67**	T	T	14 43 03.4	
	baz=254,slow=75,SNR=127						
H11N1	**WAKE ISLAND Hy**	**30.98**	**65**	T	T	14 43 46.8	
	baz=247,slow=78						
H11N2	**WAKE ISLAND Hy**	**30.99**	**65**	T	T	14 43 48.7	
	baz=247,slow=78						
H11N3	**WAKE ISLAND Hy**	**31.00**	**65**	T	T	14 43 47.1	
	baz=247,slow=78						
ASAR	**Alice Springs**	**31.51**	**186**	P	**P**	**14 11 13.9**	**+0.2**
	0.3nm,0.6s,baz=18,slow=11,SNR=6.9						
	0.3nm,0.6s						
USRK	**Ussuriysk Ar.**	**36.49**	**354**	P	**P**	**14 11 57.7**	**+1.1**
	1.5nm,0.7s,baz=153,slow=9.7,SNR=2.8						
	1.5nm,0.7s						
CMAR	**Chiang Mai Arr**	**38.74**	**290**	LR	LR	14 28 47.1	
	comp=Z,12nm,18.4s,baz=265,slow=37						
SONM	**Songino Array**	**47.70**	**332**	P	**P**	**14 13 28.3**	**+0.1**
	1.5nm,0.8s,baz=145,slow=7.9,SNR=8.5						
	1.5nm,0.8s						
MKAR	**Makanchi Array**	**60.73**	**320**	P	**P**	**14 15 02.9**	**-0.2**
	1.5nm,0.6s,baz=103,slow=8.4,SNR=20						
	1.5nm,0.6s						
ZALV	**Zalesovo Beam**	**62.21**	**328**	P	**P**	**14 15 12.1**	**-0.8**
	1.0nm,0.6s,baz=119,slow=5.2,SNR=5.8						
	1.0nm,0.6s						
KURBB	**Kurchatov Arra**	**64.42**	**323**	P	**P**	**14 15 27.0**	**-0.6**
	0.8nm,0.5s,baz=113,slow=5.4,SNR=7.5						
	0.8nm,0.5s						
BVAR	**Borovoye Array**	**69.95**	**324**	P	**P**	**14 16 02.4**	**-0.2**
	1.2nm,0.5s,baz=102,slow=6.6,SNR=5.7						
	1.2nm,0.5s						
ILAR	**Eielson Array**	**76.88**	**25**	P	**P**	**14 16 42.2**	**-1.0**
	0.2nm,0.7s,baz=246,slow=4.5,SNR=2.5						
	0.2nm,0.7s						
YKA	**Yellowknife Ar**	**91.28**	**26**	P	**P**	**14 17 57.0**	**+0.4**
	0.2nm,0.6s,baz=289,slow=4.5,SNR=2.5						
	0.2nm,0.6s						
NVAR	**Mina Array Bea**	**96.27**	**50**	LR	LR	14 58 06.4	
	comp=Z,24nm,18.4s,baz=283,slow=33						

*DNK **31** 14:10:17.9±2.6, 59°.47N×23°.02E, h2km±34km, ML2.8*
*BER **31** 14:10:17.5±1.2, 59°.20N×23°.19E, h0km, ML2.2, ML2.6(HEL), Suspected explosion*
*HEL **31** 14:10:18.8±0.1, 59°.49N×22°.94E, h0km, ML2.6, Explosion*
*IDC **31** 14:10:19.0±0.8, 59°.62N×23°.02E, h0km, mb3.4/1, mbtmp3.6/6, ML3.6/5, Error ellipse: s-maj=10.3km s-min=6.2km az=145.0*
*EST **31** 14:10:18.9, 59°.49N×22°.93E, h0km, ML2.6(HEL), Explosion*
*LVSN **31** 14:10:20.6±3.4, 59°.54N×23°.02E, h0km±30km, ML2.9*
*UPP **31** 14:10:22.0±1.5, 59°.54N×22°.52E, h0km, ML3.0*
ISC 31 14:10:17.0±0.6, 59°.48N±0°.02×22°.88E±0°.02, h0km, n95, σ2°01/140, Baltic States-Belarus-Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EE01	**Perakula, Nova**	**0.47**	**125**	*e*P	**Pg**	**14 10 27.1**	**+1.1**
EE01				*e*S	**Sg**	**14 10 33.0**	**+1.1**
MTSE	**Matsula**	**0.91**	**147**	*e*P	**Pb**	**14 10 35.8**	**+0.3**
MTSE	**Matsula**	**0.91**	**147**	*e*P	**Pb**	**14 10 35.8**	**+0.3**
MTSE	**Matsula**	**0.91**	**147**	*e*PB	**Pb**	**14 10 35.7**	**+0.3**
MTSE				*e*S	**Sg**	**14 10 45.8**	**-0.2**
EE02	**Kiisa, Saku**	**0.98**	**106**	*e*P	**Pg**	**14 10 35.8**	**+0.2**
EE02				*e*S	**Sg**	**14 10 47.5**	**-0.8**
MEF	**Metsahovi**	**1.07**	**45**	*e*P	**Pg**	**14 10 37.7**	**+0.2**
MEF	**Metsahovi**	**1.07**	**45**	*e*P	**Pg**	**14 10 37.3**	**-0.1**

MEF					*e*S	**Sg**	**14 10 50.2**	**-1.0**
MEF					AML	AML	14 10 52.0	
	comp=E,90nm,0.3s							
MEF					AML	AML	14 10 57.7	
	comp=Z,135nm,0.7s							
MEF					AML	AML	14 10 58.2	
	comp=N,92nm,0.7s							
MEF	**Metsahovi**		**1.07**	**45**	*e*P	**Pg**	**14 10 37.2**	**-0.2**
MEF					*e*S	**Sg**	**14 10 50.1**	**-1.2**
MEF					MSG		14 10 50.4	
	comp=Z,66nm,0.2s							
HEL1	**Helsinki**		**1.23**	**54**	*e*PB	**Pg**	**14 10 40.7**	**+0.1**
NUR	**Nurmijrvi**		**1.37**	**40**	*e*P	**Pg**	**14 10 42.6**	**-0.6**
NUR					MSG		14 10 59.0	
	comp=Z,31nm,0.2s							
NUR					*e*SB	**Sg**	**14 11 00.8**	**-0.1**
EE08	**Sarghaua, Vand**		**1.47**	**123**	*e*P	**Pn**	**14 10 45.1**	**+0.4**
EE08					*e*S	**Sb**	**14 11 04.4**	**0.0**
ARBE	**Arbavere**		**1.59**	**90**	*e*P	**Pg**	**14 10 47.8**	**+0.4**
ARBE	**Arbavere**		**1.59**	**90**	*e*P	**Pn**	**14 10 46.6**	**+0.3**
ARBE					*e*S	**Sn**	**14 11 05.1**	**-2.4**
ARBE					AML	AML	14 11 11.1	
	comp=N,740nm,0.2s							
ARBE					AML	AML	14 11 11.3	
	comp=E,869nm,0.2s							
ARBE					AML	AML	14 11 11.5	
	comp=Z,398nm,0.2s							
ARBE	**Arbavere**		**1.59**	**90**	*e*PG	**Pn**	**14 10 46.7**	**+0.4**
ARBE					*e*SN	**Sg**	**14 11 09.8**	**+1.9**
AAL	**Aland**		**1.62**	**297**	*e*P	**Pb**	**14 10 48.2**	**+0.6**
AAL	**Aland**		**1.62**	**297**	*e*P	**Pn**	**14 10 47.9**	**+1.2**
AAL					*e*SN	**Sg**	**14 11 10.3**	**+1.4**
AAL	**Aland**		**1.62**	**297**	P	**Pn**	**14 10 48.0**	**+1.3**
AAL					S	**Sb**	**14 11 10.0**	**+1.4**
AAL	**Aland**		**1.62**	**297**	P	**Pn**	**14 10 48.0**	**+1.3**
AAL					S	**Sb**	**14 11 10.0**	**+1.4**
RAF	**Rauma**		**1.65**	**341**	*e*P	**Pb**	**14 10 48.9**	**+0.7**
RAF	**Rauma**		**1.65**	**341**	*e*P	**Pn**	**14 10 48.1**	**+1.0**
RAF					*e*S	**Sn**	**14 11 09.3**	**+0.4**
RAF					AML	AML	14 11 13.5	
	comp=N,112nm,0.3s							
RAF					AML	AML	14 11 13.8	
	comp=E,263nm,0.3s							
RAF					AML	AML	14 11 16.5	
	comp=Z,90nm,0.3s							
RAF	**Rauma**		**1.65**	**341**	*e*P	**Pn**	**14 10 48.0**	**+0.9**
RAF					MSG		14 11 07.8	
	comp=Z,46nm,0.2s							
RAF					*e*SN	**Sn**	**14 11 10.2**	**+1.2**
PVF	**Pernaja**		**1.84**	**53**	*e*PN	**Pn**	**14 10 50.9**	**+1.1**
PVF					MSG		14 11 12.7	
	comp=Z,75nm,0.2s							
PVF					*e*SN	**Sb**	**14 11 15.3**	**+0.2**
EE03	**Tooma soojaam,**		**1.85**	**108**	*e*P	**Pb**	**14 10 51.2**	**-0.4**
EE03					*e*SG	**Sb**	**14 11 15.0**	**-0.3**
SLIT	**Slitere, Latvi**		**1.88**	**190**	*e*P	**Pb**	**14 10 52.1**	**+0.1**
SLIT	**Slitere, Latvi**		**1.88**	**190**	*e*P	**Pb**	**14 10 52.6**	**+0.5**
SLIT					AML	AML	14 10 55.5	
	comp=Z,311nm,0.3s							
SLIT					*e*S	**Sg**	**14 11 19.2**	**+2.0**
SLIT					AML	AML	14 11 21.6	
	comp=N,635nm,0.2s							
SLIT					AML	AML	14 11 24.8	
	comp=E,708nm,0.2s							
SLIT	**Slitere, Latvi**		**1.88**	**190**	*e*PG	**Pb**	**14 10 52.5**	**+0.4**
NRTU	**Norrtaelje**		**2.17**	**277**	P	**Pb**	**14 10 57.0**	**-0.1**
NRTU	**Norrtaelje**		**2.17**	**277**	P	**Pb**	**14 10 57.0**	**-0.1**
VSU	**Vasula**		**2.24**	**115**	*e*P	**Pb**	**14 10 57.7**	**-0.6**
VSU					*e*S	**Sb**	**14 11 26.2**	**-0.4**
VSU					AML	AML	14 11 29.7	
	comp=N,210nm,0.3s							
VSU					AML	AML	14 11 30.2	
	comp=E,192nm,0.3s							
VSU					AML	AML	14 11 33.5	
	comp=Z,130nm,0.3s							
VSU	**Vasula**		**2.24**	**115**	*e*PG	**Pb**	**14 10 58.2**	**-0.1**
VSU					*e*SG	**Sb**	**14 11 27.0**	**+0.4**
GRAU	**Graesoe**		**2.35**	**293**	P	**Pn**	**14 10 58.9**	**+2.1**
GRAU	**Graesoe**		**2.35**	**293**	P	**Pn**	**14 10 58.9**	**+2.1**
KPF	**Kankaanpaa**		**2.40**	**351**	*e*PB	**Pb**	**14 11 00.7**	**-0.3**
KPF					*e*SG	**Sb**	**14 11 32.2**	**+1.1**
FIA0	**FINESS Array S**		**2.53**	**37**	*e*P	**Pn**	**14 11 00.8**	**+1.5**
FIA0					MSG		14 11 32.4	
	comp=Z,42nm,0.2s							
FIA0					*e*SB	**Sn**	**14 11 32.7**	**+1.9**
FINES	**FINESS Array B**		**2.53**	**37**	Pg	**Pn**	**14 11 00.0**	**+0.7**
	comp=Z,29nm,0.3s,baz=223,slow=14,SNR=222							
FINES					Lg	Lg	14 11 33.5	
	comp=Z,49nm,0.3s,baz=225,slow=26,SNR=56							
FORU	**Forsmark**		**2.53**	**293**	P	**Pb**	**14 11 03.3**	**0.0**
FORU	**Forsmark**		**2.53**	**293**	P	**Pb**	**14 11 03.3**	**0.0**
NYNU	**Nynaeshamn**		**2.55**	**261**	P	**Pn**	**14 11 02.3**	**+2.8**
NYNU	**Nynaeshamn**		**2.55**	**261**	P	**Pn**	**14 11 02.3**	**+2.8**
VJF	**Virojoki**		**2.58**	**64**	*e*P	**Pn**	**14 11 00.4**	**+0.5**
VJF					*e*S	**Sn**	**14 11 33.7**	**+1.8**
VJF					MSG		14 11 34.0	
	comp=Z,43nm,0.2s							
UPP	**Uppsala**		**2.69**	**280**	*e*P	**Pn**	**14 11 04.0**	**+2.6**
UPP	**Uppsala**		**2.69**	**280**	P	**Pn**	**14 11 04.1**	**+2.6**
UPP	**Uppsala**		**2.69**	**280**	P	**Pn**	**14 11 04.1**	**+2.6**
FIBU	**Brunna**		**2.83**	**281**	P	**Pn**	**14 11 06.0**	**+2.6**
FIBU	**Brunna**		**2.83**	**281**	P	**Pn**	**14 11 06.0**	**+2.6**
KEF	**Keuruu**		**2.87**	**19**	*e*P	**Pn**	**14 11 05.9**	**+1.9**
KEF	**Keuruu**		**2.87**	**19**	*e*PB	**Pb**	**14 11 07.4**	**-1.7**
KEF					MSG		14 11 42.5	
	comp=Z,28nm,0.2s							
KEF					*e*SB	**Sb**	**14 11 44.3**	**-0.3**
OSTU	**Oestervaala**		**2.99**	**287**	P	**Pn**	**14 11 08.1**	**+2.5**
OSTU	**Oestervaala**		**2.99**	**287**	P	**Pn**	**14 11 08.1**	**+2.5**
IGGU	**Iggoen**		**3.11**	**299**	P	**Pn**	**14 11 09.5**	**+2.3**
IGGU	**Iggoen**		**3.11**	**299**	P	**Pn**	**14 11 09.5**	**+2.3**
KAF	**Kangasniemi**		**3.13**	**31**	MSG		14 11 50.0	
	comp=Z,20nm,0.2s							
VIKU	**Vikbolandet**		**3.34**	**256**	*e*P	**Pn**	**14 11 13.2**	**+2.8**
VAF	**Ylistaro**		**3.58**	**359**	*e*P	**Pn**	**14 11 17.6**	**+3.9**
VAF	**Ylistaro**		**3.58**	**359**	*e*PB	**Pb**	**14 11 18.4**	**-2.7**
VAF					*e*SB	**Sb**	**14 12 04.6**	**-0.4**
SUF	**Sumiainen**		**3.62**	**25**	*e*P	**Pn**	**14 11 17.0**	**+2.8**
HEMU	**Hemsoen**		**3.98**	**326**	*e*P	**Pn**	**14 11 21.3**	**+2.2**
HUSU	**Husum**		**4.26**	**337**	*e*P	**Pn**	**14 11 25.3**	**+2.3**
UMAU	**Umeaa**		**4.54**	**348**	*e*P	**Pn**	**14 11 28.5**	**+1.6**
UMAU					*e*SG	**Sb**	**14 12 38.3**	**+5.5**
NIF	**Nilsia**		**4.59**	**29**	*e*PG	**Pb**	**14 11 41.2**	**+3.0**
NIF					*e*SG	**Sb**	**14 12 38.9**	**+5.0**
HFS	**Hagfors**		**4.68**	**282**	Pn	**Pn**	**14 11 30.2**	**+1.4**
	comp=Z,5.3nm,0.3s,baz=96,slow=15,SNR=84							
HFS					Pg	**Pb**	**14 11 42.1**	**+2.2**
	comp=Z,2.6nm,0.3s,baz=94,slow=20,SNR=7.4							
HFS					Sn	**Sn**	**14 12 25.9**	**+2.1**
	comp=Z,3.3nm,0.3s,baz=91,slow=22,SNR=7.1							
HFS					Lg	Lg	14 12 46.2	
	comp=Z,3.6nm,0.3s,baz=92,slow=29,SNR=5.2							
	comp=Z,8.6nm,0.3s							
BLEU	**Blekinge**		**4.93**	**233**	*i* P	**Pn**	**14 11 33.2**	**+1.0**
BLEU					*i* S	**Sn**	**14 12 31.5**	**+1.6**
JOF	**Joensuu**		**5.34**	**46**	*e*P	**Pn**	**14 11 40.0**	**+2.1**
BORU	**Boraas**		**5.60**	**255**	*i* P	**Pn**	**14 11 43.6**	**+2.2**
BORU					*i* S	**Sn**	**14 12 45.4**	**-1.0**
DEL	**Delary**		**5.66**	**242**	*e*P	**Pn**	**14 11 44.1**	**+1.8**
DEL	**Delary**		**5.66**	**242**	*i* P	**Pn**	**14 11 42.8**	**+0.6**
DEL					*i* S	**Sn**	**14 12 46.7**	**-1.2**
NC602	**NORSAR Array S**		**5.81**	**287**	*e*P	**Pn**	**14 11 46.3**	**+2.0**
NC602					*e*S	**Sn**	**14 12 51.9**	**+0.4**
NC602					IAML		14 13 27.5	
	comp=Z,5.6nm,0.3s							
FABU	**Falkenberg**		**5.91**	**250**	*i* P	**Pn**	**14 11 45.1**	**-0.6**
FABU					*i* S	**Sn**	**14 12 52.0**	**-2.0**
NC303	**NORSAR Array S**		**5.97**	**292**	*e*P	**Pn**	**14 11 48.0**	**+1.4**
NC303					*e*S	**Sn**	**14 12 55.3**	**-0.3**
NC303					IAML		14 12 57.5	
	comp=Z,4.6nm,0.3s							
NB201	**NORSAR Array S**		**5.98**	**290**	*e*P	**Pn**	**14 11 47.9**	**+1.3**
NB201					*e*S	**Sn**	**14 12 55.7**	**0.0**
NOA	**NORSAR Array B**		**6.01**	**290**	Pn	**Pn**	**14 11 48.1**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=94,slow=12,SNR=25							
NOA					Sn	**Sn**	**14 12 53.1**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=102,slow=10,SNR=6.8							
NOA					Lg	Lg	14 13 27.9	
	comp=Z,0.4nm,0.3s,baz=96,slow=19,SNR=3.5							
	comp=Z,0.8nm,0.3s							
TJOU	**Tjoern**		**6.03**	**261**	*i* P	**Pn**	**14 11 47.8**	**+0.4**
TJOU					*i* S	**Sn**	**14 12 56.1**	**-0.9**
ONAU	**Onsala**		**6.12**	**255**	*i* P	**Pn**	**14 11 50.6**	**+2.1**
ONAU					*i* S	**Sn**	**14 12 54.5**	**-4.7**
BSD	**Bornholm Skovb**		**6.14**	**228**	*e*P	**Pn**	**14 11 48.8**	**0.0**
BSD	**Bornholm Skovb**		**6.14**	**228**	*i* P	**Pn**	**14 11 49.2**	**+0.4**
BSD					*i* S	**Sn**	**14 12 57.5**	**-2.1**
BSD					IAML		14 13 33.6	
	comp=Z,5.2nm,0.3s							
NAO01	**NORSAR Array S**		**6.14**	**288**	*e*P	**Pn**	**14 11 50.3**	**+1.4**
NBO00	**NORSAR Array S**		**6.22**	**290**	*e*P	**Pn**	**14 11 51.1**	**+1.2**
NBO00					*e*S	**Sn**	**14 12 60.0**	**-1.8**
NBO00					IAML		14 13 02.2	
	comp=Z,4.6nm,0.2s							
NC204	**NORSAR Array S**		**6.27**	**292**	*e*P	**Pn**	**14 11 51.8**	**+1.1**
NC204					*e*S	**Sn**	**14 13 01.4**	**-1.6**
BJUU	**Bjuv**		**6.28**	**241**	*i* P	**Pn**	**14 11 52.7**	**+2.0**
BJUU					*i* S	**Sn**	**14 13 02.1**	**-0.9**
LUNU	**Lund**		**6.37**	**237**	*i* S	**Sn**	**14 13 03.7**	**-1.6**
HOMB	**Homborsund**		**7.55**	**267**	*i* P	**Pn**	**14 12 08.1**	**0.0**
HOMB					*i* S	**Sn**	**14 13 27.9**	**-6.3**
MOR8	**Moi Rana**		**7.74**	**334**	*e*P	**Pn**	**14 12 13.2**	**+2.4**
SALU	**Saltoluokta**		**8.17**	**348**	*e*P	**Pn**	**14 12 17.5**	**+0.9**
SNART	**Snartemo**		**8.19**	**269**	*i* P	**Pn**	**14 12 16.7**	**-0.2**
SNART					*i* S	**Sn**	**14 13 42.7**	**-7.4**
STOK	**Stokkvaagen**		**8.21**	**331**	*e*P	**Pn**	**14 12 18.8**	**+1.7**
AKN	**Aaknes**		**8.21**	**296**	*e*P	**Pn**	**14 12 21.6**	**+4.4**
FAUS	**Fauske**		**8.62**	**340**	*e*P	**Pn**	**14 12 23.6**	**+0.7**
HEF	**Hetta**		**8.97**	**2**	*e*P	**Pn**	**14 12 27.4**	**-0.2**
AKASG	**Malin Array Be**		**9.51**	**155**	Pn	**Pn**	**14 12 33.4**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=339,slow=12,SNR=3.9							
	comp=Z,0.3nm,0.3s							
LOF	**Lofoten**		**9.60**	**339**	*e*P	**Pn**	**14 12 35.6**	**-0.6**
ARCES	**ARCESS Array B**		**10.16**	**5**	Pn	**Pn**	**14 12 42.0**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=183,slow=13,SNR=125							
ARCES					Sn	**Sn**	**14 14 32.4**	**-6.0**
	comp=Z,0.5nm,0.3s,baz=174,slow=24,SNR=5.8							
ARCES					Lg	Lg	14 15 32.0	
	comp=Z,0.5nm,0.3s,baz=182,slow=21,SNR=3.7							
	comp=Z,2.6nm,0.3s							
MORC	**Moravsky Berou**		**10.20**	**200**	*e*PN	**Pn**	**14 12 44.7**	**+0.2**
MORC					*e*SN	**Sn**	**14 14 34.2**	**-5.2**
TRO	**Tromso**		**10.34**	**352**	*e*P	**Pn**	**14 12 46.0**	**-0.2**
GERES	**GERESS Array B**		**11.92**	**211**	Pn	**Pn**	**14 13 08.7**	**+0.6**
	comp=Z,0.3nm,0.3s,baz=18,slow=14,SNR=5.3							
	comp=Z,0.4nm,0.3s							
TORD	**Torodi Ar. Bea**		**48.85**	**208**	P	**P**	**14 19 05.3**	**+1.2**
	comp=Z,0.2nm,0.3s,baz=13,slow=7.5,SNR=5.5							
	comp=Z,0.2nm,0.3s							

IDC ***31*** *14:35:45.7±1.9,5.34S×152.56E,h0km,mb3.9/9, mbtmp4.0/9,MS2.7/1,Error ellipse: s-maj=69.2km s-min=21.9km az=117.0*

NEIC ***31*** *14:35:55.5±0.9,5.3S±0.1×152.3E±0.2,h60km±10km, mb4.3/16,Error ellipse: s-maj=29.6km s-min=11.1km az=111.0*

ISC 31 14:35:52.6±1.0,5.4S±0.1×152.3E±0.2,h40km,n30, σ1.9 04/31,mb4.1/17,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RABL	**Rabaul**	**1.25**	**352**		**Pn**	**14 36 14.3**	**+0.8**
PMG	**Port Moresby**	**6.48**	**232**	Pn	**Pn**	**14 37 27.1**	**+1.6**
PMG	**Port Moresby**	**6.48**	**232**	Pn	**Pn**	**14 37 22.4**	**-3.1**
	1.2nm,0.3s,baz=76,slow=11,SNR=2.6						
PMG				Sn	**Sn**	**14 38 38.9**	**+0.7**
	3.5nm,0.3s,baz=123,slow=17,SNR=3.9						
PMG				LR	LR	14 39 41.5	
	comp=Z,59nm,19.9s,baz=48,slow=35						
MTN	**Manton Dam**	**22.18**	**249**	P	**P**	**14 40 46.1**	**+0.6**
WB0	**Warramunga Arr**	**22.54**	**229**	P	**P**	**14 40 50.3**	**+0.9**
WB0				IAmb	IAmb	14 41 20.8	
	comp=Z,14nm,1.4s						
WB2	**Warramunga Arr**	**22.68**	**229**	P	**P**	**14 40 51.6**	**+0.8**
WB2				IAmb	IAmb	14 41 19.2	
	comp=Z,8.7nm,1.1s						
WRA	**Warramunga Arr**	**22.69**	**229**	P	**P**	**14 40 51.9**	**+1.0**
WRA	**Warramunga Arr**	**22.69**	**229**	P	**P**	**14 40 51.2**	**+0.2**
	comp=Z,1.5nm,0.5s,baz=54,slow=10.0,SNR=11						
	comp=Z,1.5nm,0.5s						
AS31	**Alice Springs**	**25.38**	**223**	P	**P**	**14 41 17.9**	**+1.6**
ASAR	**Alice Springs**	**25.38**	**223**	P	**P**	**14 41 17.4**	**+1.1**
	comp=Z,1.8nm,0.7s,baz=60,slow=9.0,SNR=25						
	comp=Z,1.8nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.96**	**242**	P	**P**	**14 41 49.2**	**+0.8**
PETK	**Petropavlovsk-**	**58.50**	**4**	P	**P**	**14 45 43.9**	**-0.7**
	comp=Z,1.6nm,0.9s,baz=157,slow=7.0,SNR=1.9						
	comp=Z,1.6nm,0.9s						
SONM	**Songino Array**	**66.62**	**328**	P	**P**	**14 46 38.8**	**-0.3**
	comp=Z,0.8nm,0.7s,baz=144,slow=4.1,SNR=4.0						
	comp=Z,0.8nm,0.7s						
VNDA	**Vanda**	**72.22**	**178**	P	**P**	**14 47 14.2**	**+1.1**
H17K	**Granite Mounta**	**78.46**	**19**	P	**P**	**14 47 49.2**	**+0.1**
H17K				IAmb	IAmb	14 47 50.5	
	comp=Z,2.2nm,0.7s						
H19K	**Roundabout Mou**	**79.96**	**19**	P	**P**	**14 47 57.2**	**+0.1**
H19K				IAmb	IAmb	14 47 59.0	
	comp=Z,3.4nm,0.9s						
F19K	**Shaleruckik Mo**	**80.36**	**18**	P	**P**	**14 47 59.2**	**-0.2**
F19K				IAmb	IAmb	14 48 10.9	
	comp=Z,2.3nm,0.8s						
MKAR	**Makanchi Array**	**80.50**	**319**	P	**P**	**14 48 00.3**	**-0.3**
	comp=Z,0.4nm,0.8s,baz=101,slow=7.5,SNR=3.6						
	comp=Z,0.4nm,0.8s						
E19K	**Redstone River**	**80.92**	**18**	P	**P**	**14 48 01.9**	**-0.5**
E19K				IAmb	IAmb	14 48 15.0	
	comp=Z,5.7nm,1.1s						
ZALV	**Zalesovo Beam**	**81.42**	**326**	P	**P**	**14 48 04.5**	**-0.8**
	comp=Z,1.6nm,0.7s,baz=115,slow=6.0,SNR=6.8						
	comp=Z,1.6nm,0.7s						
MLY	**Manley**	**81.63**	**21**	P	**P**	**14 48 06.0**	**-0.3**
ILAR	**Eielson Array**	**82.91**	**22**	P	**P**	**14 48 11.0**	**-1.9**
	comp=Z,1.0nm,0.7s,baz=247,slow=5.3,SNR=13						
	comp=Z,1.0nm,0.7s						
CTGM	**Chitina Glacie**	**83.52**	**27**	P	**P**	**14 48 16.4**	**+0.2**
KURBB	**Kurchatov Arra**	**84.01**	**322**	P	**P**	**14 48 18.1**	**-0.7**
	comp=Z,0.7nm,0.7s,baz=115,slow=4.4,SNR=8.9						
	comp=Z,0.7nm,0.7s						
BMAR	**Burnt Mountain**	**84.99**	**20**	P	**P**	**14 48 23.7**	**+0.2**
E27K	**Coleen River**	**86.35**	**20**	P	**P**	**14 48 30.3**	**+0.1**
F28M	**Old Crow**	**86.72**	**21**	P	**P**	**14 48 32.3**	**+0.3**
F28M				IAmb	IAmb	14 48 34.1	
	comp=Z,1.8nm,0.8s						
J30M	**Hart River**	**86.98**	**24**	P	**P**	**14 48 33.3**	**-0.2**
J30M				IAmb	IAmb	14 48 35.1	
	comp=Z,3.2nm,1.1s						
BVAR	**Borovoye Array**	**89.47**	**323**	P	**P**	**14 48 44.3**	**-1.1**
	comp=Z,1.2nm,0.6s,baz=122,slow=5.4,SNR=7.9						
	comp=Z,1.2nm,0.6s						
TORD	**Torodi Ar. Bea**	**150.06**	**287**	PKPbc	**PKPbc**	**14 55 38.9**	**-1.2**
	comp=Z,0.6nm,0.8s,baz=80,slow=1.5,SNR=2.8						

NOU 31 14:40:25.3,18.16S×167.51E,h0km,MLv4.0/11,Vanuatu Islands,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**0.78**	**56**	P	Pb	14 40 41.8	+0.1
LIFNC	**LIFOU**	**2.62**	**186**	P	Pn	14 41 08.4	-0.4
MARNC	**Marie, Loyalty**	**3.34**	**172**	P	Pn	14 41 19.5	+0.7
KOUNC	**Koumac, New Ca**	**3.86**	**231**	P	Pn	14 41 26.3	+0.3
YATNC	**Mamie plateau,**	**3.92**	**188**	P	Pn	14 41 25.4	-1.4
DZM	**Mont Dzumac**	**4.02**	**194**	P	Pn	14 41 27.7	-0.5
NOUC	**Port Laguerre**	**4.08**	**196**	P	Pn	14 41 28.5	-0.5
ONTNC	**Ouen Toro**	**4.24**	**193**	P	Pn	14 41 32.4	+1.2
OUENC	**Ouen Island, N**	**4.28**	**188**	P	Pn	14 41 31.8	0.0
PINNC	**Pines Island,**	**4.43**	**181**	P	Pn	14 41 33.9	+0.1

IDC 31 14:40:54.4±10.0,21.81S×176.12W,h0km,mb3.5/2, mbtmp3.5/2,Error ellipse: s-maj=447.1km s-min=55.0km az=146.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ASAR	**Alice Springs**	**45.95**	**258**	P	P	14 49 19.8	+0.3
	0.6nm,0.6s,baz=96,slow=8.1,SNR=11						
	0.6nm,0.6s						
WRA	**Warramunga Arr**	**46.17**	**263**	P	P	14 49 20.5	-0.8
	0.1nm,0.3s,baz=97,slow=7.5,SNR=8.5						
	0.1nm,0.3s						
AKASG	**Malin Array Be**	**145.00**	**332**	PKPbc	PKPbc	15 00 32.0	-0.7
	1.6nm,0.4s,baz=43,slow=4.0,SNR=12						

IDC 31 15:31:06.7±1.1,21.75N×144.71E,h0km,mb3.4/6, mbtmp3.4/6,Error ellipse: s-maj=41.4km s-min=23.6km az=92.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCJ	**Chichijima**	**5.80**	**337**	Sn	Sn	15 33 33.7	-7.5
	5.6nm,0.3s,baz=287,slow=19,SNR=8.1						
KSRS	**Korea Array**	**21.34**	**321**	P	P	15 35 56.0	+0.6
	0.4nm,0.5s,baz=128,slow=10,SNR=6.5						
	0.4nm,0.5s						
WRA	**Warramunga Arr**	**42.66**	**194**	P	P	15 39 05.2	-0.1
	0.5nm,0.5s,baz=16,slow=8.9,SNR=5.8						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**46.35**	**194**	P	P	15 39 34.4	-0.4
	0.3nm,0.8s,baz=12,slow=6.8,SNR=5.8						
	0.3nm,0.8s						
KURBB	**Kurchatov Arra**	**58.45**	**317**	P	P	15 41 04.4	0.0
	0.3nm,0.3s,baz=85,slow=7.0,SNR=2.1						
	0.3nm,0.3s						
ILAR	**Eielson Array**	**61.34**	**27**	P	P	15 41 22.6	-1.4
	0.2nm,0.7s,baz=264,slow=6.2,SNR=1.6						
	0.2nm,0.7s						
NVAR	**Mina Array Bea**	**82.00**	**52**	P	P	15 43 30.5	+1.3
	0.2nm,0.5s,baz=293,slow=5.5,SNR=2.1						
	0.2nm,0.5s						

NEIC ***31*** *15:39:56.9±2.5,47.57N±0.02×122.67W±0.04,h28km±8km, Error ellipse: s-maj=4.4km s-min=2.7km az=58.0*

PNSN ***31*** *15:39:57.5,47.58N×122.58W,h21km,MD2.4,Fault plane solution: NP1:φs110.00000°,δ45.00000°,λ100.00000°.*

SEA 31 15:39:57.5±3.0,47.58N±0.03×122.58W±0.04,h21km±5km, ML2.4/19,ML2.4/48(NEIC),Error ellipse: s-maj=4.4km s-min=3.5km az=212.0,Washington

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BABE	**Bainbridge Sch**	**0.04**	**53**		Pb	15 40 01.9	+0.7
BABE					Sb	15 40 06.2	+2.4
KITP	**Kitsap County**	**0.10**	**339**		Pb	15 40 02.0	+0.3
KITP					Sb	15 40 06.3	+1.8
ALKI	**Alki Wastewate**	**0.11**	**95**		Pb	15 40 02.3	-1.5
ALKI					Sb	15 40 06.8	-1.5
GMW	**Gold Mountain**	**0.15**	**256**		Pb	15 40 01.7	-1.8
GMW					Sb	15 40 05.1	-2.6
GNW	**Green Mountain**	**0.17**	**263**		Pb	15 40 01.5	-1.8
GNW				Sg	Sb	15 40 05.3	-2.2
VVHS	**Vashon High Sc**	**0.18**	**153**		Pb	15 40 02.5	-0.9
BRKS	**Brookside Elem**	**0.26**	**49**		Sb	15 40 09.5	+1.5
C04A	**Brinnon**	**0.30**	**297**		Pb	15 40 03.5	-0.7
C04A					Sb	15 40 08.5	-0.3
B013	**Quilcene**	**0.32**	**316**		Pb	15 40 03.8	-0.7
B013					Sb	15 40 08.8	-0.6
SWID	**South Whidbey**	**0.44**	**15**		Pb	15 40 06.2	-0.3
SWID					Sb	15 40 13.6	+1.0
BLH	**Bald Hill**	**0.45**	**55**		Pb	15 40 06.0	-0.6
RATT	**Rattlesnake La**	**0.55**	**107**		Pb	15 40 07.7	-0.8
D05A	**Enumclaw**	**0.56**	**135**	Pn	Pb	15 40 08.2	-0.6
D05A				Sg	Sb	15 40 16.9	+0.5
D05A				IAML		15 40 17.3	
	comp=E,135nm,0.7s						
GHW	**Garrison Hill**	**0.58**	**159**		Pb	15 40 08.0	-1.1
SMW	**South Mountain**	**0.58**	**243**		Pb	15 40 08.5	-0.7
B941	**Kapowsin**	**0.65**	**158**		Pb	15 40 08.8	-1.3
GSM	**Grass Mountain**	**0.66**	**125**		Pb	15 40 09.4	-1.0
CPW	**Capitol Peak**	**0.72**	**212**		Pb	15 40 10.4	-1.0
JCW	**Jim Creek**	**0.75**	**35**		Pb	15 40 10.5	-1.4
RVC	**Mount Rainier-**	**0.76**	**147**		Pb	15 40 11.1	-1.0
B04A	**Port Angeles**	**0.78**	**308**		Pb	15 40 11.5	-1.0
OSD	**Olympics--Snow**	**0.80**	**288**		Pb	15 40 12.3	-0.5
OLQ	**Olympics--Lake**	**0.84**	**266**		Pb	15 40 12.7	-0.7
OBSR	**Observation Ro**

F10A	**Beach Ranch, E**	**4.01**	**112**	Pn	Pn	15 40 58.0 +0.2
F10A				IAML		15 42 14.5
	comp=N,7.9nm,0.8s					

IDC ***31*** *15:40:15.9±3.3,8˚.02S×112˚.01E, h0km, mb3.3/3, mbtmp3.3/3, Error ellipse: s-maj=197.2km s-min=29.3km az=49.0*

DJA ***31*** *15:40:28.7±0.3,8˚S±8˚×11˚2E±˚, h98km±5km, M3.9/15, mb4.4/7, MLv3.6/15*

ISC 31 15:40:28.6±1.0,**8˚4S**±0.1×**112˚12E**±0.07,**h100**km,**n20,** σ1**945**/21,**mb3.2**/3,**Jawa**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PWJI	**Pagerwojo**	**0.47**	**318**	P	**Pn**	**15 40 45.8**	**+1.7**
PWJI				S	**Sn**	**15 40 57.4**	**+1.7**
NGJI	**Ngawi**	**1.19**	**327**	P	**Pn**	**15 40 51.8**	**+0.6**
GRJI	**Gresik**	**1.49**	**14**	P	**Pn**	**15 40 55.8**	**+1.1**
BLJI	**Banyuglugur**	**1.59**	**67**	P	**Pn**	**15 40 57.9**	**+2.0**
UGM	**Wanagama**	**1.64**	**286**	P	**Pn**	**15 40 57.8**	**+1.1**
YOGI	**Yogyakarta**	**1.89**	**287**	P	**Pn**	**15 41 00.2**	**+0.5**
JAGI	**Jajag, Banyuwa**	**2.02**	**93**	P	**Pn**	**15 41 02.9**	**+1.5**
SMRI	**Semarang**	**2.12**	**308**	P	**Pn**	**15 41 03.8**	**+1.1**
ABJI	**Asem Bagus**	**2.17**	**75**	P	**Pn**	**15 41 05.4**	**+2.0**
SRBI	**Singaraja**	**3.08**	**85**	P	**Pn**	**15 41 16.3**	**+0.9**
KPJI	**Karang Pucung**	**3.32**	**288**	P	**Pn**	**15 41 20.0**	**+1.4**
CMJI	**Cimerak**	**3.68**	**279**	P	**Pn**	**15 41 23.4**	**-0.1**
TWSI	**Taliwang, Sumb**	**4.73**	**95**	P	**Pn**	**15 41 39.0**	**+1.4**
CNJI	**Cibinong** 32nm,1.2s,0.1nm	**5.05**	**282**	P	**Pn**	**15 41 43.0**	**+0.9**
EDFI	**Ende, Flores** 6.4nm,0.7s	**9.47**	**93**	P	**Pn**	**15 42 41.2**	**-1.1**
MNAI	**Manna** 276nm,1.1s	**9.94**	**293**	P	**Pn**	**15 42 49.1**	**+0.6**
SOEI	**Soe** 30nm,1.8s	**12.08**	**97**	P	**Pn**	**15 43 16.8**	**-0.7**
WRA	**Warramunga Arr** 0.9nm,1.0s,baz=296,slow=11,SNR=3.7 0.9nm,1.0s	**24.39**	**120**	P	**P**	**15 45 38.8**	**+1.0**
ASAR	**Alice Springs** 0.3nm,0.5s,baz=304,slow=9.1,SNR=10 0.3nm,0.5s	**25.82**	**129**	P	**P**	**15 45 51.8**	**+1.0**
MKAR	**Makanchi Array** 0.1nm,0.4s,baz=161,slow=7.7,SNR=3.5 0.1nm,0.4s	**61.01**	**337**	P	**P**	**15 50 28.6**	**-2.9**

IDC ***31*** *15:44:19.6±0.5,4˚.17N×126˚.50E, h0km, mb4.3/28, mbtmp4.3/29, ML4.0/1, MS3.5/31, Error ellipse: s-maj=25.0km s-min=11.2km az=78.0*

BJI ***31*** *15:44:19.7±0.0,4˚.13N×126˚.48E, h7km, mb4.4/39, mB4.8/13, Ms4.0/7, Ms7 3.8/10*

NEIC ***31*** *15:44:21.9±1.4,4˚.25N±0˚.06×126˚.58E±0˚.08, h11km±1km, mb4.7/107, Error ellipse: s-maj=12.2km s-min=7.7km az=70.0*

DJA ***31*** *15:44:23.3±0.5,4˚N±5˚×12˚7E±˚, h10km, M4.4/12, mb4.6/9, mB4.7/6, MLv4.6/12, Mw(mB)3.9/6, MwMwp4.3/1, Mwp4.7/1*

ISC 31 15:44:23.7±1.3,**4˚25N**±0˚04×**126˚61E**±0.06,**h24**km±9km, **n382,** σ**091**/343,**mb4.6**/83,**MS3.6**/33,**2C, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGSI	**Sangihe**	**1.22**	**243**	P	**Pn**	**15 44 44.6**	**-0.6**
DAV	**Davao City (W)**	**2.98**	**340**		**Pn**	**15 45 08.4**	**-1.1**
DAV	**Davao City (W)** 22nm,0.3s,baz=177,slow=18,SNR=1.5	**2.98**	**340**	Pn	**Pn**	**15 45 08.6**	**-0.8**
DAV	79nm,0.3s,baz=52,slow=23,SNR=7.8 88nm,0.4s			Lg	Lg	15 46 01.0	
TNTI	**Ternate**	**3.54**	**168**	P	**Pn**	**15 45 18.0**	**+0.9**
TNTI	**Ternate**	**3.54**	**168**	Pn	**Pn**	**15 45 15.7**	**-1.4**
TNTI	**Ternate**	**3.54**	**168**	P	**Pn**	**15 45 17.8**	**+0.7**
KMSI	**Cibinong**	**4.50**	**216**	P	**Pn**	**15 45 32.7**	**+2.4**
LBMI	**Labuha**	**4.94**	**170**	P	**Pn**	**15 45 37.4**	**+1.0**
GTOI	**Gorontalo** 31nm,0.7s,366nm0.1nm	**5.08**	**225**	P	**Pn**	**15 45 38.6**	**+0.2**
SANI	**Sanana**	**6.29**	**186**	P	**Pn**	**15 45 53.9**	**-1.1**
SANI	**Sanana** 36nm,0.8s,0.2nm	**6.29**	**186**	P	**Pn**	**15 45 55.7**	**+0.7**
LUWI	**Luwuk**	**6.51**	**216**	P	**Pn**	**15 46 00.7**	**+2.8**
LUWI	**Luwuk**	**6.51**	**216**		**Pn**	**15 45 57.9**	**0.0**
LUWI	**Luwuk** 203nm,1.1s,2µm0.9nm	**6.51**	**216**	P	**Pn**	**15 46 00.8**	**+2.8**
TOLI2	**Tolitoli**	**6.61**	**242**	P	**Pn**	**15 46 03.4**	**+4.1**
TOLI2	**Tolitoli**	**6.61**	**242**		**Pn**	**15 45 58.7**	**-0.6**
SWI	**Sorong** 36nm,0.8s,965nm0.1nm	**6.88**	**137**	P	**Pn**	**15 46 04.6**	**+1.5**
FAKI	**Fak Fak**	**9.08**	**142**	P	**Pn**	**15 46 35.1**	**+1.8**
FAKI	**Fak Fak**	**9.08**	**142**	Pn	**Pn**	**15 46 32.8**	**-0.6**
FAKI	**Fak Fak** 65nm,1.3s	**9.08**	**142**	P	**Pn**	**15 46 34.4**	**+1.1**
TGY	**Tagaytay City** comp=Z,291nm,20.3s,baz=107,slow=43	**11.27**	**331**	LR	LR	15 52 21.6	
KAPI	**Kapang** comp=Z,234nm,18.6s,baz=42,slow=41	**11.47**	**217**	LR	LR	15 52 01.9	
SAUI	**Saumlaki**	**13.02**	**159**	Pn	**Pn**	**15 47 25.4**	**-1.9**
MMRI	**Maumere**	**13.53**	**199**		**Pn**	**15 47 34.9**	**+0.7**
EDFI	**Ende, Flores** 21nm,0.8s	**13.82**	**201**	P	**Pn**	**15 47 40.1**	**+1.9**
SOEI	**Soe**	**14.11**	**190**		**Pn**	**15 47 42.5**	**+0.2**
SBUM	**Sibu**	**14.48**	**263**	Pn	**Pn**	**15 47 47.3**	**+0.1**
KSM	**Kuching**	**16.51**	**261**	P	**Pn**	**15 48 14.7**	**+0.8**
DRS	**Darwin Rock St**	**17.11**	**166**	P	**Pn**	**15 48 22.2**	**+0.8**
MTN	**Manton Dam**	**17.57**	**165**	P	**Pn**	**15 48 24.7**	**-2.3**
JAGI	**Jajag, Banyuwa**	**17.72**	**225**		**Pn**	**15 48 29.6**	**+0.7**
KDU	**Kakadu**	**17.81**	**161**	P	**P**	**15 48 32.2**	**+1.6**
PWJI	**Pagerwojo**	**19.15**	**230**	P	**P**	**15 48 46.3**	**+0.9**
TWG	**Pinlang**	**19.22**	**344**	P	**P**	**15 48 44.9**	**-1.2**
DLV	**T Lat**	**19.49**	**294**		**P**	**15 48 48.5**	**-0.9**
DLV	comp=Z,29nm,0.9s			IAmb	IAmb	15 48 53.2	
YULB	**Yu-li**	**19.71**	**345**	P	**P**	**15 48 50.5**	**-1.0**
TPUB	**Ta-pu**	**19.80**	**344**	P	**P**	**15 48 52.2**	**-0.3**
UGM	**Wanagama**	**20.09**	**233**	P	**P**	**15 48 56.5**	**+0.8**
SSLB	**Suanglung**	**20.18**	**345**	P	**P**	**15 48 56.0**	**-0.6**
GUMO	**Guam** comp=Z,87nm,20.3s,baz=214,slow=34	**20.27**	**62**	LR	LR	15 55 47.4	
YHNB	**Yeheng**	**20.92**	**347**	P	**P**	**15 49 04.4**	**-0.3**
LEM	**Lembang** comp=Z,69nm,20.3s,baz=47,slow=37	**21.92**	**240**	LR	LR	15 57 51.7	
QIZ	**Qiongzhong**	**22.00**	**313**	P	**P**	**15 49 16.8**	**+0.6**
QIZ				S	**S**	**15 53 21.0**	**+3.0**
QIZ	comp=Z,97nm,13.3s			LR	LR		
QIZ	comp=Z,110nm,12.7s			LR	LR		
QIZ	comp=Z,180nm,17.3s			LR	LR		
FITZ	**Fitzroy Crossi**	**22.23**	**182**	P	**P**	**15 49 17.5**	**-1.2**
JOW	**Kunigami**	**22.51**	**4**	P	**P**	**15 49 21.8**	**+0.1**
JOW	**Kunigami** comp=Z,14nm,0.7s,baz=115,slow=9.9,SNR=1.9 comp=Z,14nm,0.7s	**22.51**	**4**	P	**P**	**15 49 23.9**	**+2.2**
MYKOM	**Kota Tinggi**	**22.86**	**265**	P	**P**	**15 49 24.3**	**-1.2**
COEN	**Coen**	**24.44**	**138**	P	**P**	**15 49 40.8**	**0.0**
COEN	comp=Z,19nm,1.1s			IAmb	IAmb	15 50 00.1	
PMG	**Port Moresby** comp=Z,110nm,18.2s,baz=238,slow=42	**24.57**	**124**	LR	LR	16 01 27.4	
WB0	**Warramunga Arr**	**25.07**	**162**	P	**P**	**15 49 45.0**	**-1.4**
WRAB	**Tennant Creek**	**25.21**	**163**	P	**P**	**15 49 47.1**	**-0.6**
WRAB	comp=Z,21nm,0.8s			IAmb	IAmb	15 49 57.1	
WRA	**Warramunga Arr**	**25.21**	**163**	P	**P**	**15 49 46.2**	**-1.5**
WRA	**Warramunga Arr** comp=Z,15nm,0.8s,baz=343,slow=10,SNR=34 comp=Z,15nm,0.8s	**25.21**	**163**	P	**P**	**15 49 46.7**	**-1.1**
WB2	**Warramunga Arr**	**25.22**	**163**	P	**P**	**15 49 46.4**	**-1.4**
WR0	**Warramunga Arr**	**25.29**	**162**	P	**P**	**15 49 46.9**	**-1.5**
WR0	comp=Z,19nm,0.9s			IAmb	IAmb	15 49 57.8	
MBWA	**Marble Bar**	**26.14**	**195**	P	**P**	**15 49 55.6**	**-0.5**
MBWA	comp=Z,12nm,0.9s			IAmb	IAmb	15 50 08.7	
PSA00	**Pilbara Seismi**	**26.51**	**194**	P	**P**	**15 49 57.5**	**-1.9**
PSA00	comp=Z,24nm,0.9s			IAmb	IAmb	15 50 05.5	
PSA00	**Pilbara Seismi**	**26.51**	**194**	P	**P**	**15 49 59.3**	**-0.1**
PSA00	comp=Z,14nm,1.1s			IAmb	IAmb	15 50 05.4	
JCJ	**Chichijima**	**27.15**	**32**	P	**P**	**15 50 04.4**	**-0.8**
NJ2	**Nanjing**	**28.60**	**346**	*e*P	**P**	**15 50 20.5**	**+2.5**
NJ2				sP	**pP**	**15 50 24.3**	**-0.2**
NJ2	comp=Z,7.0nm,0.8s			pmax	pmax		
NJ2	comp=Z,43nm,3.8s			pmax	pmax		
WHN	**Wuhan**	**28.60**	**337**	P	**P**	**15 50 19.0**	**+0.9**
AS31	**Alice Springs**	**28.64**	**166**	P	**P**	**15 50 17.4**	**-1.2**
ASAR	**Alice Springs**	**28.65**	**166**	P	**P**	**15 50 18.0**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.8nm,0.5s,baz=342,slow=6.6,SNR=17	**28.65**	**166**	P	**P**	**15 50 17.7**	**-0.9**
ASAR	comp=Z,0.6nm,0.8s,baz=350,slow=2.1,SNR=2.5			PcP	**PcP**	**15 53 29.7**	**+0.4**
ASAR	comp=Z,85nm,18.0s,baz=348,slow=40 comp=Z,0.8nm,0.5s			LR	LR	16 03 17.0	
JNU	**Nakatsue**	**29.00**	**7**	P	**P**	**15 50 21.2**	**-0.5**
JNU	comp=Z,11nm,0.9s			IAmb	IAmb	15 50 47.6	
JNU	**Nakatsue** comp=Z,6.8nm,1.1s,baz=166,slow=8.5,SNR=2.1	**29.00**	**7**	P	**P**	**15 50 20.7**	**-0.9**
JNU	comp=Z,40nm,18.4s,baz=186,slow=42 comp=Z,6.8nm,1.1s			LR	LR	16 04 37.8	
GSI	**Gunungsitoli**	**29.14**	**265**	P	**P**	**15 50 21.3**	**-1.9**
PHRA	**Phrae**	**29.42**	**301**	P	**P**	**15 50 23.8**	**-1.8**
CMAR	**Chiang Mai Arr**	**30.51**	**300**	P	**P**	**15 50 35.2**	**0.0**
CMAR	**Chiang Mai Arr** comp=Z,2.5nm,0.8s,baz=114,slow=7.1,SNR=13 comp=Z,2.5nm,0.8s	**30.51**	**300**	P	**P**	**15 50 34.2**	**-1.0**
ENH	**Enshi**	**30.52**	**330**	P	**P**	**15 50 34.9**	**-0.3**
ENH	comp=Z,9.9nm,1.0s			IAmb	IAmb	15 50 44.0	
CHTO	**Chiang Mai**	**30.66**	**300**	P	**P**	**15 50 35.2**	**-1.3**
KSAR	**Wonju Array Be**	**33.05**	**2**	P	**P**	**15 50 58.4**	**+1.1**
KSRS	**Korea Array** comp=Z,2.2nm,0.7s,baz=178,slow=9.8,SNR=16	**33.07**	**2**	P	**P**	**15 50 58.2**	**+0.8**
KSRS	comp=Z,0.6nm,0.9s,baz=196,slow=3.2,SNR=3.0 comp=Z,2.2nm,0.7s			PcP	**PcP**	**15 53 40.5**	**-0.2**
KS19	**Wonju Array Si**	**33.11**	**2**	P	**P**	**15 50 58.0**	**+0.1**
KS19	comp=Z,9.8nm,1.3s			IAmb	IAmb	15 51 23.3	
MJAR	**Matsushiro Arr** comp=Z,0.8nm,0.6s,baz=196,slow=9.1,SNR=1.9 comp=Z,0.8nm,0.6s	**33.86**	**17**	P	**P**	**15 51 04.5**	**+0.1**
HNS	**HongShan**	**34.75**	**343**	⇑P	P	15 51 20.3	+8.3
HNS	comp=Z,15nm,1.2s			pmax	pmax		
HNS	comp=E,110nm,17.6s			LR	LR		
HNS	comp=Z,98nm,17.8s			LR	LR		
JMM	**Marumori**	**35.88**	**19**	P	**P**	**15 51 22.0**	**+0.2**
BJT	**Baijiatuan**	**36.84**	**347**	P	**P**	**15 51 30.0**	**0.0**
BJT	comp=Z,7.8nm,0.6s			IAmb	IAmb	15 51 32.1	
BJI	**Beijing**	**36.85**	**347**	P	**P**	**15 51 31.5**	**+1.4**
BJI	comp=Z,5.0nm,0.6s			pmax	pmax		
SNY	**Shenyang**	**37.51**	**356**	⇑P	**P**	**15 51 37.5**	**+1.9**
SNY	comp=Z,9.0nm,0.7s			pmax	pmax		
NWAO	**Narrogin (SRO)**	**38.03**	**193**	P	**P**	**15 51 40.5**	**+0.4**
NWAO	**Narrogin (SRO)** comp=Z,39nm,18.4s,baz=215,slow=40	**38.03**	**193**	LR	LR	16 09 18.3	
STKA	**Stephens Creek**	**38.66**	**159**	P	**P**	**15 51 44.0**	**-1.4**
STKA	**Stephens Creek** comp=Z,8.4nm,0.7s,baz=335,slow=7.2,SNR=9.4	**38.66**	**159**	P	**P**	**15 51 44.0**	**-1.4**
STKA	comp=Z,82nm,18.5s,baz=29,slow=40 comp=Z,8.4nm,0.7s			LR	LR	16 09 43.4	
HHC	**Hu-ho-hao-te**	**38.87**	**342**	*e*P	**P**	**15 51 50.8**	**+3.6**
HHC	comp=Z,11nm,0.6s			pmax	pmax		
HHC	comp=Z,95nm,5.0s			pmax	pmax		
SHL	**Shillong**	**39.47**	**306**	P	**P**	**15 51 50.7**	**-1.9**
USRK	**Ussuriysk Ar.**	**40.07**	**6**	P	**P**	**15 51 55.8**	**-1.3**
USRK	**Ussuriysk Ar.** comp=Z,1.4nm,0.7s,baz=193,slow=5.9,SNR=2.6 comp=Z,1.4nm,0.7s	**40.07**	**6**	P	**P**	**15 51 56.6**	**-0.4**
ARMA	**Armidale**	**41.97**	**147**	P	**P**	**15 52 12.8**	**-0.2**
GTA	**Gaotai**	**42.59**	**329**	P	**P**	**15 52 18.3**	**+0.3**
GTA				pP	pP	15 52 21.8	-2.8
GTA	comp=Z,2.0nm,0.8s			pmax	pmax		
GTA	comp=Z,73nm,17.9s			LR	LR		
GTA	comp=Z,95nm,18.3s			LR	LR		
GTA	comp=Z,130nm,14.7s			LR	LR		
CAN	**Canberra**	**44.63**	**154**	P	**P**	**15 52 34.0**	**-0.4**
KLR	**Kul'dur** comp=Z,1.1nm,0.5s,baz=252,slow=4.1,SNR=7.7 comp=Z,1.1nm,0.5s	**45.03**	**5**	P	**P**	**15 52 38.2**	**+0.9**
PALK	**Pallekele** comp=Z,47nm,20.1s,baz=218,slow=36	**45.76**	**276**	LR	LR	16 12 00.4	
HEH	**HeiHe**	**45.84**	**1**	*e*P	**P**	**15 52 44.8**	**+1.1**
HEH	comp=Z,5.0nm,1.1s			pmax	pmax		
SONM	**Songino Array**	**46.77**	**341**	P	**P**	**15 52 51.4**	**+0.2**
SONM	**Songino Array** comp=Z,1.0nm,0.6s,baz=152,slow=7.4,SNR=5.8	**46.77**	**341**	P	**P**	**15 52 51.0**	**-0.2**
SONM	comp=Z,1.8nm,0.9s,baz=151,slow=3.3,SNR=5.3			PcP	**PcP**	**15 54 25.5**	**+1.2**
SONM	comp=Z,69nm,20.8s,baz=154,slow=36 comp=Z,1.0nm,0.6s			LR	LR	16 12 37.6	
DZM	**Mont Dzumac** comp=Z,50nm,20.9s	**46.93**	**126**	*e*LR	LR	16 06 09.5	
DZM	**Mont Dzumac**	**46.93**	**126**	P	**P**	**15 52 53.1**	**+0.2**
DZM	**Mont Dzumac** comp=Z,73nm,18.7s,baz=312,slow=34	**46.93**	**126**	LR	LR	16 11 22.2	
WMQ	**Urumqi**	**52.23**	**325**	*e*P	**P**	**15 53 34.0**	**+1.1**
WMQ	comp=Z,11nm,0.7s			pmax	pmax		
WMQ	comp=Z,52nm,20.3s			LR	LR		
PEA0B	**Petropavlovsk-**	**54.99**	**22**	P	**P**	**15 53 54.2**	**+1.3**
PETK	**Petropavlovsk-**	**54.99**	**22**	P	**P**	**15 53 53.3**	**+0.4**
PETK	**Petropavlovsk-** comp=Z,3.0nm,0.9s,baz=166,slow=2.7,SNR=7.2	**54.99**	**22**	P	**P**	**15 53 53.5**	**+0.6**
PETK	comp=Z,16nm,21.9s,baz=201,slow=33 comp=Z,3.0nm,0.9s			LR	LR	16 14 46.9	
MK31	**Makanchi Array**	**57.06**	**325**	P	**P**	**15 54 07.6**	**-0.3**
MK31				PcP	**PcP**	**15 55 02.9**	**+0.2**
MKAR	**Makanchi Array** comp=Z,1.8nm,0.4s,baz=118,slow=7.7,SNR=34	**57.06**	**325**	P	**P**	**15 54 07.4**	**-0.5**
MKAR	comp=Z,2.7nm,0.6s,baz=119,slow=4.8,SNR=6.2 comp=Z,1.8nm,0.4s			PcP	**PcP**	**15 55 03.3**	**+0.6**
MAKZ	**Makanchi**	**57.25**	**325**	P	**P**	**15 54 08.7**	**-0.5**
MAKZ				PcP	**PcP**	**15 55 02.9**	**-0.5**
YAK	**Yakutsk**	**57.69**	**2**	P	**P**	**15 54 11.7**	**-0.3**
MA2	**Magadan** comp=Z,16nm,18.5s,baz=172,slow=40	**58.23**	**14**	LR	LR	16 23 26.9	
AAK	**Ala-Archa** comp=Z,73nm,19.1s,baz=97,slow=39	**59.89**	**318**	LR	LR	16 23 00.6	
ZAA0	**Zalesovo Array**	**60.07**	**333**	P	**P**	**15 54 28.6**	**0.0**
ZALV	**Zalesovo Beam**	**60.07**	**333**	P	**P**	**15 54 28.0**	**-0.6**
ZALV	**Zalesovo Beam** comp=Z,1.5nm,0.5s,baz=112,slow=5.7,SNR=6.1	**60.07**	**333**	P	**P**	**15 54 28.2**	**-0.5**
ZALV	comp=Z,46nm,19.9s,baz=84,slow=38 comp=Z,1.5nm,0.5s			LR	LR	16 22 16.0	
KBL	**Kabul**	**61.11**	**307**	P	**P**	**15 54 35.6**	**-0.8**
KBL	comp=Z,6.1nm,1.0s			IAmb	IAmb	15 54 46.2	
KURBB	**Kurchatov Arra** comp=Z,6.9nm,0.7s,baz=124,slow=6.0,SNR=34 comp=Z,6.9nm,0.7s	**61.24**	**327**	P	**P**	**15 54 36.5**	**-0.1**
KURK	**Kurchatov**	**61.24**	**327**	P	**P**	**15 54 36.3**	**-0.3**
BTK	**Batken**	**61.48**	**314**	P	**P**	**15 54 38.1**	**-0.5**
BTK	comp=Z,3.8nm,0.8s			IAmb	IAmb	15 54 55.6	
GAR	**Garm**	**61.48**	**312**	P	**P**	**15 54 38.0**	**-0.8**
SEY	**Seymchan** comp=Z,15nm,20.1s,baz=141,slow=37	**61.55**	**13**	LR	LR	16 22 19.2	
TKNZ	**Takaka Hill**	**61.80**	**142**	P	**P**	**15 54 40.6**	**0.0**
LBZ	**Lake Benmore**	**62.18**	**146**	P	**P**	**15 54 46.1**	**+3.0**
KK31	**Karatay Array**	**62.77**	**317**	P	**P**	**15 54 46.9**	**-0.3**
KKAR	**Karatay Array**	**62.77**	**317**	P	**P**	**15 54 46.6**	**-0.6**
KKAR	**Karatay Array**	**62.77**	**317**	P	**P**	**15 54 46.0**	**-1.2**
RTZ	**Ruatahuna**	**63.09**	**137**	P	**P**	**15 54 49.0**	**-0.4**
BVAR	**Borovoye Array** comp=Z,1.8nm,0.5s,baz=138,slow=9.1,SNR=8.8 comp=Z,1.8nm,0.5s	**66.82**	**327**	P	**P**	**15 55 12.8**	**-0.6**
BRVK	**Borovoye**	**66.89**	**327**	P	**P**	**15 55 13.5**	**-0.3**
BRVK	comp=Z,8.6nm,0.9s			IAmb	IAmb	15 55 29.1	
TIXI	**Tiksi**	**67.33**	**1**	P	**P**	**15 55 15.7**	**-0.5**
TIXI	comp=Z,6.7nm,0.9s			IAmb	IAmb	15 55 27.8	
TIXI	**Tiksi** comp=Z,20nm,19.8s,baz=202,slow=38	**67.33**	**1**	LR	LR	16 27 06.0	
BILL	**Bilibino**	**69.08**	**15**	P	**P**	**15 55 28.1**	**+0.9**
GEYT	**Alibeck** comp=Z,0.7nm,0.4s,baz=117,slow=5.7,SNR=2.5 comp=Z,0.7nm,0.4s	**70.48**	**309**	P	**P**	**15 55 35.8**	**-0.8**
ABKAR	**Akbulak array**	**71.67**	**321**	P	**P**	**15 55 42.4**	**-1.1**
SPIA	**Saint Paul Isl** baz=249	**72.11**	**31**	P	**P**	**15 55 46.2**	**+0.3**
UNV	**Unalaska Valle** baz=254	**73.06**	**35**	P	**P**	**15 55 51.9**	**+0.3**
AKTO	**Aktyubinsk** comp=Z,62nm,19.3s,baz=36,slow=37	**73.18**	**322**	LR	LR	16 29 47.4	
GAMB	**Gambell** baz=246	**73.97**	**24**	P	**P**	**15 55 57.2**	**+0.4**
ARU	**Arti**	**74.43**	**328**	P	**P**	**15 55 58.4**	**-1.3**
ARU	comp=Z,4.8nm,0.8s			IAmb	IAmb	15 56 09.3	
M11K	**Mekoryuk** baz=252	**75.17**	**28**	P	**P**	**15 56 04.4**	**+0.6**
TNA	**Tin City** baz=249	**76.16**	**23**	P	**P**	**15 56 10.2**	**+0.8**
K13K	**Kusilvak Mount** baz=253	**76.35**	**27**	P	**P**	**15 56 11.3**	**+0.8**
SDPT	**Sand Point** baz=258	**76.83**	**34**	P	**P**	**15 56 13.5**	**+0.1**
ANM	**Nome** baz=252	**76.84**	**24**	P	**P**	**15 56 13.5**	**+0.2**
J14K	**Nanvaranak Lak** baz=254	**77.08**	**26**	P	**P**	**15 56 15.4**	**+0.8**
L14K	**Kuka Creek** baz=255	**77.09**	**28**	P	**P**	**15 56 15.5**	**+0.7**
N14K	**Kuskokwak Cree** baz=256	**77.21**	**29**	P	**P**	**15 56 15.5**	**0.0**
CHNA	**Chernabura Isl** baz=259	**77.23**	**35**	P	**P**	**15 56 16.5**	**+0.8**
O14K	**Tigyukauivet M** baz=257	**77.26**	**30**	P	**P**	**15 56 15.8**	**+0.1**
M14K	**Bethel** baz=256	**77.28**	**29**	P	**P**	**15 56 15.7**	**-0.1**
F15K	**North Star Dit** baz=252	**77.49**	**23**	P	**P**	**15 56 17.0**	**+0.1**
G15K	**Niukluk** baz=253	**77.52**	**24**	P	**P**	**15 56 17.9**	**+0.8**
L15K	**Ungalak Mounta** baz=256	**77.73**	**28**	P	**P**	**15 56 18.5**	**+0.1**
K15K	**Wolf Creek Mou** baz=256	**77.86**	**27**	P	**P**	**15 56 19.5**	**+0.5**
M15K	**Kasigluk River** baz=257	**77.88**	**29**	P	**P**	**15 56 19.9**	**+0.8**
C16K	**Lisburne Hills** baz=251	**78.04**	**21**	P	**P**	**15 56 21.2**	**+1.3**
H16K	**Elim** baz=255	**78.16**	**25**	P	**P**	**15 56 21.9**	**+1.2**
G16K	**Koyuk River** baz=254	**78.31**	**24**	P	**P**	**15 56 22.6**	**+1.1**
J16K	**Anvik River** baz=256	**78.52**	**26**	P	**P**	**15 56 23.8**	**+1.1**
I17K	**Unalakleet** baz=256	**78.62**	**26**	P	**P**	**15 56 24.0**	**+0.8**
L16K	**Owhat River** baz=258	**78.67**	**28**	P	**P**	**15 56 24.0**	**+0.4**
D17K	**Noatak River** baz=253	**78.68**	**21**	P	**P**	**15 56 24.5**	**+1.0**
N16K	**Nishlik Lake** baz=259	**78.76**	**29**	P	**P**	**15 56 24.8**	**+0.7**
M16K	**Timber Creek** baz=258	**78.77**	**29**	P	**P**	**15 56 24.0**	**-0.2**
RDOG	**Red Dog Mine** baz=253	**78.84**	**21**	P	**P**	**15 56 25.1**	**+0.7**
C17K	**DeLong Mountai** baz=253	**78.87**	**21**	P	**P**	**15 56 25.2**	**+0.6**
P16K	**Nushagak River** baz=260	**78.87**	**31**	P	**P**	**15 56 25.9**	**+1.2**
O16K	**Kokwok River B** baz=259	**78.92**	**30**	P	**P**	**15 56 25.8**	**+0.8**
E17K	**Hotham Inlet** baz=255	**78.97**	**22**	P	**P**	**15 56 26.1**	**+1.0**
F17K	**Baldwin Pennin** baz=255	**79.03**	**23**	P	**P**	**15 56 25.9**	**+0.5**
G17K	**Kiwalik Mounta** baz=256	**79.03**	**24**	P	**P**	**15 56 26.2**	**+0.7**
H17K	**Granite Mounta**	**79.20**	**25**	P	**P**	**15 56 26.2**	**-0.2**
H17K	comp=Z,8.8nm,1.4s			IAmb	IAmb	15 56 29.0	
H17K	**Granite Mounta** baz=257	**79.20**	**25**	P	**P**	**15 56 27.6**	**+1.3**
J17K	**VABM Dome** baz=258	**79.21**	**26**	P	**P**	**15 56 28.0**	**+1.5**
L17K	**Donlin** baz=259	**79.31**	**28**	P	**P**	**15 56 28.0**	**+1.0**
K17K	**Iditarod**	**79.42**	**27**	P	**P**	**15 56 27.4**	**-0.2**
K17K	comp=Z,6.3nm,0.9s			IAmb	IAmb	15 56 41.6	
K17K	**Iditarod** baz=259	**79.42**	**27**	P	**P**	**15 56 29.2**	**+1.6**
O17K	**Koliganek Bris** baz=260	**79.45**	**30**	P	**P**	**15 56 28.2**	**+0.4**
E18K	**Tukpahlearik C** baz=256	**79.52**	**22**	P	**P**	**15 56 28.8**	**+0.7**
N17K	**Nushagak Hills** baz=260	**79.53**	**29**	P	**P**	**15 56 28.3**	**0.0**
M17K	**Holitna River** baz=260	**79.57**	**28**	P	**P**	**15 56 28.2**	**-0.3**
B18K	**Kokolik River** baz=254	**79.60**	**20**	P	**P**	**15 56 28.4**	**-0.1**
C18K	**Utukok River** baz=255	**79.62**	**21**	P	**P**	**15 56 29.2**	**+0.5**
CHIR	**Chirikof Islan** baz=262	**79.63**	**34**	P	**P**	**15 56 29.3**	**+0.4**
F18K	**Selawik** baz=257	**79.69**	**23**	P	**P**	**15 56 29.9**	**+1.0**
P17K	**Kvichak River** baz=261	**79.69**	**31**	P	**P**	**15 56 28.8**	**-0.3**
H18K	**Honhosa River** baz=258	**79.89**	**24**	P	**P**	**15 56 31.0**	**+0.9**
G18K	**Tagagawik** baz=258	**79.92**	**24**	P	**P**	**15 56 30.8**	**+0.4**
L18K	**Granite Mounta** baz=260	**80.06**	**28**	P	**P**	**15 56 32.7**	**+1.5**
N18K	**Kilae Creek** baz=261	**80.19**	**29**	P	**P**	**15 56 33.1**	**+1.2**
J18K	**Innoko River**	**80.27**	**26**	P	**P**	**15 56 32.4**	**+0.2**
J18K	**Innoko River** baz=260	**80.27**	**26**	P	**P**	**15 56 33.2**	**+0.9**
C19K	**Lookout Ridge** baz=256	**80.30**	**20**	P	**P**	**15 56 33.0**	**+0.7**
P18K	**Big Mountain,** baz=262	**80.33**	**31**	P	**P**	**15 56 33.3**	**+0.6**
M18K	**Stony River** baz=261	**80.35**	**28**	P	**P**	**15 56 32.8**	**+0.1**
O18K	**Koktuh Hills**	**80.41**

	baz=262								
GNI	**Garni**	**81.06**	**310**	LR	LR	16 40 10.6			
	comp=Z,12nm,18.1s,baz=87,slow=41								
OHAK	**Old Harbor**	**81.08**	**33**	P	**P**	**15 56 36.4**	**-0.3**		
	baz=264								
Q19K	**Cape Douglas,**	**81.08**	**31**	P	**P**	**15 56 36.6**	**-0.1**		
	baz=263								
M19K	**Big River Lodg**	**81.08**	**28**	P	**P**	**15 56 36.1**	**-0.6**		
	baz=262								
D20K	**Etivluk River**	**81.27**	**21**	P	**P**	**15 56 37.5**	**0.0**		
	baz=259								
F20K	**Avaraart Lake**	**81.30**	**23**	P	**P**	**15 56 38.1**	**+0.5**		
F20K	**Avaraart Lake**	**81.30**	**23**	P	**P**	**15 56 37.4**	**-0.2**		
	baz=260,SNR=7.0								
B20K	**Meade River**	**81.33**	**20**	P	**P**	**15 56 37.9**	**+0.2**		
	baz=258								
E20K	**Nigu River**	**81.33**	**22**	P	**P**	**15 56 38.1**	**+0.1**		
	baz=260								
P19K	**Oil Pt**	**81.37**	**30**	P	**P**	**15 56 38.4**	**+0.1**		
	baz=264								
H20K	**Anotleneega Mo**	**81.38**	**24**	P	**P**	**15 56 37.4**	**-0.8**		
	baz=261								
L20K	**Farewell, AK**	**81.40**	**28**	P	**P**	**15 56 38.0**	**-0.4**		
	baz=263								
K20K	**Telida**	**81.43**	**27**	IAmb	IAmb	15 56 41.3			
	comp=Z,7.1nm,1.1s								
K20K	**Telida**	**81.43**	**27**	P	**P**	**15 56 38.4**	**0.0**		
	baz=262								
I20K	**Naaghedeneel**	**81.45**	**25**	P	**P**	**15 56 38.4**	**0.0**		
	baz=262								
J20K	**Nowinta River**	**81.50**	**26**	P	**P**	**15 56 39.7**	**+0.9**		
J20K				IAmb	IAmb	15 56 42.4			
	comp=Z,13nm,1.4s								
J20K	**Nowinta River**	**81.50**	**26**	P	**P**	**15 56 38.2**	**-0.6**		
	baz=262,SNR=5.5								
KDAK	**Kodiak Island**	**81.52**	**32**	P	**P**	**15 56 38.9**	**-0.1**		
	baz=264								
KDAK	**Kodiak Island**	**81.52**	**32**	LR	LR	16 26 15.9			
	comp=Z,37nm,21.3s,baz=252,slow=31								
M20K	**Styx River**	**81.67**	**28**	IAmb	IAmb	15 56 47.0			
	comp=Z,11nm,1.3s								
M20K	**Styx River**	**81.67**	**28**	P	**P**	**15 56 39.9**	**0.0**		
	baz=263								
O20K	**Slope Mountain**	**81.72**	**30**	P	**P**	**15 56 40.6**	**+0.5**		
	baz=264								
A21K	**Barrow**	**81.76**	**18**	P	**P**	**15 56 40.3**	**+0.3**		
	baz=259								
C21K	**Knifeblade Rid**	**81.99**	**21**	P	**P**	**15 56 41.2**	**-0.1**		
	baz=261								
N20K	**Mount Spurr**	**82.04**	**29**	P	**P**	**15 56 42.0**	**+0.2**		
	baz=264								
G21K	**Allakaket**	**82.09**	**23**	P	**P**	**15 56 42.0**	**+0.2**		
	baz=262								
B21K	**Ikpikpuk River**	**82.13**	**20**	IAmb	IAmb	15 57 02.7			
	comp=Z,8.3nm,1.0s								
B21K	**Ikpikpuk River**	**82.13**	**20**	P	**P**	**15 56 42.1**	**+0.2**		
	baz=261								
E21K	**Killik River**	**82.18**	**22**	IAmb	IAmb	15 57 01.2			
	comp=Z,4.9nm,0.9s								
E21K	**Killik River**	**82.18**	**22**	P	**P**	**15 56 42.8**	**+0.5**		
	baz=262								
F21K	**Alatna River**	**82.19**	**23**	P	**P**	**15 56 43.0**	**+0.6**		
	baz=262								
PPLA	**Purkeypile**	**82.22**	**27**	P	**P**	**15 56 42.8**	**0.0**		
	baz=264								
A22K	**Sinclair Lake**	**82.23**	**19**	P	**P**	**15 56 42.3**	**-0.2**		
	baz=260								
H21K	**Melozitna Rive**	**82.26**	**24**	IAmb	IAmb	15 56 46.3			
	comp=Z,13nm,1.5s								
H21K	**Melozitna Rive**	**82.26**	**24**	P	**P**	**15 56 42.9**	**+0.1**		
	baz=263,SNR=6.5								
CHUM	**Lake Minchumin**	**82.27**	**26**	P	**P**	**15 56 42.6**	**-0.2**		
	baz=264								
CAST	**Castle Rocks**	**82.32**	**27**	P	**P**	**15 56 43.6**	**+0.4**		
CAST				IAmb	IAmb	15 56 56.5			
	comp=Z,7.3nm,1.2s								
CAST	**Castle Rocks**	**82.32**	**27**	P	**P**	**15 56 43.6**	**+0.4**		
	baz=264								
SKT	**Skwentna**	**82.44**	**28**	P	**P**	**15 56 43.8**	**0.0**		
	baz=265								
KBZ	**Khabaz**	**82.54**	**313**	P	**P**	**15 56 45.4**	**+0.7**		
	comp=Z,0.7nm,0.5s,baz=80,slow=6.7,SNR=1.9								
KBZ				LR	LR	16 37 45.0			
	comp=Z,21nm,18.4s,baz=78,slow=39								
	comp=Z,0.7nm,0.5s								
I21K	**Tanana**	**82.55**	**25**	P	**P**	**15 56 44.5**	**+0.3**		
	baz=264								
BRSE	**Bradley Lake S**	**82.64**	**30**	P	**P**	**15 56 44.4**	**-0.4**		
	baz=266								
B22K	**Teshekpuk Lake**	**82.64**	**20**	IAmb	IAmb	15 57 03.2			
	comp=Z,7.6nm,1.2s								
B22K	**Teshekpuk Lake**	**82.64**	**20**	P	**P**	**15 56 44.8**	**+0.2**		
	baz=262								
D22K	**Ayikyak River**	**82.70**	**21**	P	**P**	**15 56 44.8**	**-0.3**		
	baz=263								
F22K	**John River**	**82.73**	**23**	P	**P**	**15 56 45.4**	**+0.2**		
	baz=264								
SUA	**Susitna One**	**82.77**	**29**	P	**P**	**15 56 45.2**	**-0.4**		
	baz=266								
KTH	**Kantishna Hill**	**82.85**	**27**	IAmb	IAmb	15 56 49.1			
	comp=Z,8.1nm,1.2s								
BPAW	**Bear Paw Mtn.**	**82.87**	**26**	IAmb	IAmb	15 56 53.3			
	comp=Z,6.3nm,0.8s								
BPAW	**Bear Paw Mtn.**	**82.87**	**26**	P	**P**	**15 56 45.9**	**-0.2**		
	baz=265,SNR=9.4								
H22K	**Ishtalitna Cre**	**82.87**	**24**	P	**P**	**15 56 46.1**	**+0.1**		
	baz=264,SNR=5.7								
E22K	**Anaktuvuk Pass**	**82.93**	**22**	IAmb	IAmb	15 56 53.4			
	comp=Z,3.4nm,0.8s								
E22K	**Anaktuvuk Pass**	**82.93**	**22**	P	**P**	**15 56 45.8**	**-0.5**		
	baz=264								
MLY	**Manley**	**83.06**	**25**	IAmb	IAmb	15 56 54.0			
	comp=Z,4.1nm,0.9s								
MLY	**Manley**	**83.06**	**25**	P	**P**	**15 56 47.0**	**0.0**		
	baz=265,SNR=9.4								
M22K	**Willow**	**83.08**	**28**	P	**P**	**15 56 47.3**	**+0.2**		
M22K	**Willow**	**83.08**	**28**	P	**P**	**15 56 47.3**	**+0.2**		
	baz=266								
TRF	**Thorofare Moun**	**83.13**	**27**	IAmb	IAmb	15 56 53.4			
	comp=Z,8.7nm,1.2s								
TRF	**Thorofare Moun**	**83.13**	**27**	P	**P**	**15 56 47.8**	**+0.2**		
	baz=266								
O22K	**Cooper Landing**	**83.20**	**30**	P	**P**	**15 56 48.2**	**+0.5**		
	baz=267								
RC01	**Rabbit Creek A**	**83.23**	**29**	P	**P**	**15 56 48.3**	**+0.4**		
	baz=266								
SEW	**Seward**	**83.31**	**30**	P	**P**	**15 56 49.0**	**+0.8**		
	baz=267								
D23K	**Nanushuk River**	**83.43**	**21**	P	**P**	**15 56 49.2**	**+0.4**		
	baz=265								
COLD	**Coldfoot**	**83.46**	**23**	P	**P**	**15 56 49.2**	**+0.3**		
	baz=265,SNR=5.3								
G23K	**Bananza Creek**	**83.49**	**23**	P	**P**	**15 56 49.9**	**+0.8**		
	baz=266,SNR=7.9								
C23K	**Itkillik River**	**83.54**	**20**	P	**P**	**15 56 50.4**	**+1.1**		
C23K				IAmb	IAmb	15 57 11.0			
	comp=Z,4.9nm,0.8s								
C23K	**Itkillik River**	**83.54**	**20**	P	**P**	**15 56 50.1**	**+0.8**		
	baz=265								
H23K	**Yukon River**	**83.62**	**24**	IAmb	IAmb	15 57 09.2			
	comp=Z,4.6nm,0.9s								
H23K	**Yukon River**	**83.62**	**24**	P	**P**	**15 56 49.9**	**+0.1**		
	baz=266								
I23K	**Minto, Yukon-K**	**83.65**	**25**	IAmb	IAmb	15 56 57.1			
	comp=Z,7.9nm,1.1s								
I23K	**Minto, Yukon-K**	**83.65**	**25**	P	**P**	**15 56 50.5**	**+0.6**		
	baz=266,SNR=10								
NEA2	**Nenana**	**83.74**	**26**	IAmb	IAmb	15 57 09.3			
	comp=Z,5.6nm,1.0s								
NEA2	**Nenana**	**83.74**	**26**	P	**P**	**15 56 51.1**	**+0.6**		
	baz=267								
MCK	**McKinley**	**83.75**	**26**	P	**P**	**15 56 50.9**	**+0.4**		
	baz=267								
RND	**Reindeer**	**83.77**	**27**	IAmb	IAmb	15 56 56.5			
	comp=Z,6.3nm,1.0s								
TOLK	**Toolik Lake Re**	**83.81**	**21**	IAmb	IAmb	15 57 10.9			
	comp=Z,7.5nm,1.1s								
TOLK	**Toolik Lake Re**	**83.81**	**21**	P	**P**	**15 56 50.5**	**-0.2**		
	baz=266								
KNK	**Knik Glacier**	**83.86**	**29**	P	**P**	**15 56 51.6**	**+0.5**		
	baz=268								
WAT1	**Susitna Watana**	**83.88**	**27**	P	**P**	**15 56 51.6**	**+0.3**		
	baz=267								
SML	**Sawmill**	**83.94**	**28**	P	**P**	**15 56 51.9**	**+0.3**		
	baz=268								
VNDA	**Vanda**	**83.96**	**173**	P	**P**	**15 56 51.3**	**0.0**		
VNDA				IAmb	IAmb	15 57 07.0			
	comp=Z,4.0nm,1.1s								
VNDA	**Vanda**	**83.96**	**173**	P	**P**	**15 56 51.3**	**0.0**		
	comp=Z,1.5nm,0.9s,baz=310,slow=6.7,SNR=7.3								
VNDA				LR	LR	16 34 53.8			
	comp=Z,38nm,18.0s,baz=35,slow=36								
	comp=Z,1.5nm,0.9s								
D24K	**Happy Valley**	**84.11**	**21**	IAmb	IAmb	15 57 11.8			
	comp=Z,7.9nm,1.1s								
D24K	**Happy Valley**	**84.11**	**21**	P	**P**	**15 56 52.9**	**+0.6**		
	baz=266								
WRH	**Wood River Hil**	**84.16**	**26**	IAmb	IAmb	15 57 00.0			
	comp=Z,8.7nm,1.4s								
E24K	**Your Creek**	**84.17**	**22**	P	**P**	**15 56 52.8**	**+0.2**		
	baz=267								
C24K	**Franklin Bluff**	**84.19**	**20**	P	**P**	**15 56 52.9**	**+0.3**		
	baz=266								
MAW	**Mawson**	**84.20**	**200**	P	**P**	**15 56 52.1**	**-0.6**		
	comp=Z,3.2nm,0.6s,baz=0.0,slow=10,SNR=13								
	comp=Z,3.2nm,0.6s								
M23K	**Glacier View**	**84.22**	**28**	P	**P**	**15 56 52.9**	**-0.1**		
	baz=268								
WAT6	**Susitna Watana**	**84.24**	**28**	P	**P**	**15 56 53.4**	**+0.2**		
	baz=268								
H24K	**Noodor Dome**	**84.30**	**24**	IAmb	IAmb	15 57 13.6			
	comp=Z,3.6nm,0.9s								
H24K	**Noodor Dome**	**84.30**	**24**	P	**P**	**15 56 53.6**	**+0.2**		
	baz=268								
P23K	**Montague Islan**	**84.33**	**30**	P	**P**	**15 56 54.3**	**+0.7**		
	baz=269								
F24K	**Squaw Lake**	**84.37**	**23**	IAmb	IAmb	15 56 57.6			
	comp=Z,3.5nm,0.9s								
F24K	**Squaw Lake**	**84.37**	**23**	P	**P**	**15 56 54.3**	**+0.6**		
	baz=268,SNR=6.0								
SCM	**Sheep Creek Mo**	**84.41**	**28**	P	**P**	**15 56 54.6**	**+0.6**		
SCM	**Sheep Creek Mo**	**84.41**	**28**	P	**P**	**15 56 54.2**	**+0.1**		
	baz=269								
POKR	**Poker Plat Res**	**84.46**	**25**	P	**P**	**15 56 53.8**	**-0.4**		
	baz=268								
G24K	**Hadweenzic Riv**	**84.50**	**23**	IAmb	IAmb	15 57 11.4			
	comp=Z,5.3nm,0.9s								
G24K	**Hadweenzic Riv**	**84.50**	**23**	P	**P**	**15 56 54.4**	**+0.1**		
	baz=268,SNR=6.8								
GLI	**Glacier Island**	**84.50**	**29**	P	**P**	**15 56 55.8**	**+1.4**		
	baz=269								
HDA	**Harding Lake**	**84.65**	**26**	IAmb	IAmb	15 57 09.7			
	comp=Z,4.1nm,0.9s								
HDA	**Harding Lake**	**84.65**	**26**	P	**P**	**15 56 56.1**	**+1.0**		
	baz=269								
ILAR	**Eielson Array**	**84.69**	**25**	P	**P**	**15 56 55.5**	**+0.2**		
	comp=Z,0.7nm,0.6s,baz=252,slow=5.8,SNR=8.2								
	comp=Z,0.7nm,0.6s								
Q23K	**Middleton Isla**	**84.86**	**31**	P	**P**	**15 56 56.6**	**+0.4**		
	baz=270								
M24K	**Tolsona, Glenn**	**84.96**	**28**	P	**P**	**15 56 56.8**	**0.0**		
	baz=270								
D25K	**Kavik River**	**84.99**	**21**	P	**P**	**15 56 57.1**	**+0.3**		
	baz=269								
G25K	**Bearman Lake**	**85.05**	**23**	P	**P**	**15 56 57.4**	**+0.4**		
	baz=269								
KLU	**Klutina**	**85.08**	**29**	IAmb	IAmb	15 57 12.2			
	comp=Z,4.1nm,0.8s								
KLU	**Klutina**	**85.08**	**29**	P	**P**	**15 56 57.0**	**-0.5**		
	baz=270								
H25L	**Bin Creek**	**85.16**	**24**	P	**P**	**15 56 57.9**	**+0.3**		
	baz=270								
K24K	**Donnelly Dome**	**85.16**	**26**	P	**P**	**15 56 57.4**	**-0.2**		
	baz=270								
EYAK	**Cordova Ski Ar**	**85.16**	**30**	P	**P**	**15 56 56.8**	**-0.9**		
	baz=270								
F25K	**Christian Rive**	**85.24**	**23**	P	**P**	**15 56 58.2**	**+0.1**		
	baz=270								
E25K	**Arctic Village**	**85.27**	**22**	IAmb	IAmb	15 57 19.5			
	comp=Z,3.7nm,1.0s								
E25K	**Arctic Village**	**85.27**	**22**	P	**P**	**15 56 58.1**	**-0.1**		
	baz=270,SNR=5.9								
PAX	**Paxson**	**85.29**	**27**	P	**P**	**15 56 57.6**	**-0.9**		
	baz=270								
J25K	**Salcha River,**	**85.34**	**26**	P	**P**	**15 56 58.5**	**-0.2**		
	baz=270								
PPT2	**Papeete2**	**85.39**	**108**	*e*LR	LR	16 23 51.4			
	comp=Z,85nm,35.2s								
PPT2				*e*LR	LR	16 23 51.7			
	comp=Z,56nm,24.0s								
HARP	**HAARP**	**85.44**	**28**	P	**P**	**15 56 57.7**	**-1.4**		
	baz=270								
C26K	**Camden Bay**	**85.51**	**20**	P	**P**	**15 56 58.4**	**-0.9**		
	baz=270								
BMAR	**Burnt Mountain**	**85.64**	**23**	P	**P**	**15 57 01.4**	**+1.3**		
N25K	**Chitina, Valde**	**85.71**	**29**	P	**P**	**15 56 58.6**	**-2.0**		
	baz=271								
BMRM	**Bremner River**	**85.72**	**29**	P	**P**	**15 56 59.7**	**-0.9**		
	baz=271								
F26K	**Sheenjek River**	**85.81**	**23**	P	**P**	**15 56 60.0**	**-0.9**		
	baz=271								
KAIM	**Kayak Island**	**85.83**	**30**	P	**P**	**15 56 59.4**	**-1.7**		
	baz=271								
C27K	**Jago River**	**85.93**	**21**	P	**P**	**15 56 59.8**	**-1.6**		
	baz=271								
GLB	**Gilahina Butte**	**86.09**	**29**	IAmb	IAmb	15 57 09.3			
	comp=Z,6.2nm,1.2s								
TBI	**Tubuai**	**86.11**	**114**	*e*LR	LR	16 24 11.2			
	comp=Z,270nm,26.8s								
J26L	**Joseph Creek**	**86.12**	**26**	P	**P**	**15 57 00.6**	**-1.9**		
	baz=272								
I26K	**Coal Creek Min**	**86.27**	**25**	P	**P**	**15 57 01.6**	**-1.5**		
	baz=272								
MCARA	**McCarthy VSAT**	**86.47**	**29**	P	**P**	**15 57 03.2**	**-1.1**		
	baz=272								
E27K	**Coleen River**	**86.75**	**22**	P	**P**	**15 57 05.2**	**-0.4**		
	baz=273								
K27K	**Chicken**	**86.79**	**26**	P	**P**	**15 57 06.0**	**+0.3**		
	baz=273								
G27K	**Doyon Strip**	**86.81**	**23**	P	**P**	**15 57 07.2**	**+1.4**		
	baz=273								
H27K	**Steamboat Moun**	**86.89**	**24**	P	**P**	**15 57 06.7**	**+0.4**		
	baz=273								
I27K	**Kandik River**	**86.89**	**25**	P	**P**	**15 57 07.8**	**+1.5**		
	baz=273								
D27M	**Malcolm River**	**86.92**	**21**	P	**P**	**15 57 07.1**	**+0.8**		
	baz=274								
L27K	**Beaver Creek,**	**86.95**	**27**	P	**P**	**15 57 05.8**	**-0.8**		
	baz=273								
MESA	**MESA**	**87.06**	**30**	P	**P**	**15 57 06.7**	**-0.7**		
	baz=273								
EGAK	**Eagle**	**87.14**	**25**	P	**P**	**15 57 07.4**	**0.0**		
	baz=274								
CTG	**Chitna Glacier**	**87.31**	**29**	P	**P**	**15 57 09.2**	**+0.7**		
	baz=274								
F28M	**Old Crow**	**87.44**	**23**	P	**P**	**15 57 08.8**	**0.0**		
	baz=275								
E28M	**Babbage River**	**87.48**	**21**	P	**P**	**15 57 09.5**	**+0.5**		
	baz=275								
I28M	**Miner Creek**	**87.60**	**25**	P	**P**	**15 57 10.1**	**+0.4**		
I28M				IAmb	IAmb	15 57 26.4			
	comp=Z,2.5nm,0.8s								
I28M	**Miner Creek**	**87.60**	**25**	P	**P**	**15 57 10.4**	**+0.6**		
	baz=275								
D28M	**Stees Point**	**87.70**	**21**	P	**P**	**15 57 09.4**	**-0.5**		
	baz=276								
DAWY	**Dawson**	**87.96**	**26**	P	**P**	**15 57 11.8**	**+0.4**		
	baz=276								
E29M	**Blow River**	**88.11**	**22**	P	**P**	**15 57 12.0**	**+0.1**		
	baz=277								
G29M	**Pine Creek**	**88.23**	**23**	P	**P**	**15 57 12.5**	**-0.1**		
	baz=277								
M29M	**Somme Creek**	**88.55**	**28**	P	**P**	**15 57 14.5**	**+0.2**		
	baz=276								
L29M	**L29M**	**88.62**	**27**	P	**P**	**15 57 14.2**	**-0.4**		
	baz=277								
MMAI	**Mount Meron Ar**	**88.72**	**303**	LR	LR	16 43 16.8			
	comp=Z,14nm,18.1s,baz=35,slow=40								
YUK6	**Outpost Mounta**	**88.76**	**29**	P	**P**	**15 57 15.8**	**+0.3**		
	baz=276								
K29M	**Barlow Dome**	**88.81**	**26**	P	**P**	**15 57 15.3**	**-0.2**		
	baz=277								
EPYK	**Eagle Plains**	**88.81**	**24**	P	**P**	**15 57 16.5**	**+1.1**		
	baz=278								
G30M	**tAoh Zraii Nji**	**88.92**	**23**	P	**P**	**15 57 16.6**	**+0.7**		
	baz=278								
F30M	**Barrier River**	**89.00**	**22**	P	**P**	**15 57 16.4**	**+0.2**		
	baz=279								
I30M	**Mount Dempster**	**89.11**	**25**	P	**P**	**15 57 16.4**	**-0.6**		
	baz=278								
HYT	**Haines Junctio**	**89.19**	**29**	P	**P**	**15 57 16.1**	**-1.3**		
	baz=277								
P29M	**Windy Craggy**	**89.22**	**30**	P	**P**	**15 57 17.4**	**-0.1**		
	baz=277								
N30M	**Aishikik Lake**	**89.31**	**29**	P	**P**	**15 57 17.6**	**-0.3**		
	baz=278								
BRTR	**Keskin Array B**	**89.60**	**310**	P	**P**	**15 57 19.3**	**-0.5**		
	comp=Z,0.8nm,0.8s,baz=126,slow=4.3,SNR=4.5								
BRTR				LR	LR	16 42 37.9			
	comp=Z,17nm,18.7s,baz=124,slow=39								
	comp=Z,0.8nm,0.8s								
G31M	**Satah River**	**89.69**	**23**	P	**P**	**15 57 18.6**	**-0.9**		
	baz=280								
ARCES	**ARCESS Array B**	**89.92**	**340**	P	**P**	**15 57 20.7**	**+0.2**		
	comp=Z,3.4nm,0.8s,baz=78,slow=6.3,SNR=7.4								
ARCES				LR	LR	16 40 56.9			
	comp=Z,39nm,18.1s,baz=312,slow=38								
	comp=Z,3.4nm,0.8s								
SPITS	**Spitsbergen Ar**	**89.95**	**349**	P	**P**	**15 57 20.3**	**-0.2**		
	comp=Z,18nm,1.1s,baz=73,slow=5.6,SNR=5.0								
	comp=Z,18nm,1.1s								
FINES	**FINESS Array B**	**91.32**	**332**	P	**P**	**15 57 26.6**	**-0.5**		
	comp=Z,0.8nm,0.5s,baz=72,slow=6.2,SNR=6.3								
FINES				LR	LR	16 42 20.1			
	comp=Z,36nm,18.5s,baz=60,slow=38								
	comp=Z,0.8nm,0.5s								
AKASG	**Malin Array Be**	**91.42**	**321**	LR	LR	16 42 03.9			
	comp=Z,25nm,18.6s,baz=49,slow=38								
QSPA	**South Pole Qui**	**94.16**	**180**	P	**P**	**15 57 40.6**	**+0.4**		
	comp=Z,1.3nm,1.0s,baz=230,slow=2.5,SNR=2.3								
	comp=Z,1.3nm,1.0s								
HFS	**Hagfors**	**97.50**	**332**	P	**P**	**15 57 55.3**	**-0.2**		
	comp=Z,2.1nm,0.9s,baz=88,slow=3.6,SNR=2.7								
HFS				LR	LR	16 43 54.0			
	comp=Z,28nm,20.4s,baz=72,slow=37								
	comp=Z,2.1nm,0.9s								
NB2	**NORSAR Subarra**	**98.27**	**334**	P	**P**	**15 57 58.0**	**-1.0**		
	comp=Z,1.5nm,0.8s,baz=67,slow=4.3								
NOA	**NORSAR Array B**	**98.27**	**334**	P	**P**	**15 57 58.5**	**-0.5**		
	comp=Z,0.9nm,0.7s,baz=68,slow=4.5,SNR=4.9								
NOA				LR	LR	16 46 52.1			
	comp=Z,47nm,19.4s,baz=45,slow=38								
	comp=Z,0.9nm,0.7s								
VRAC	**Vranov**	**99.66**	**321**	LR	LR	16 46 24.8			
	comp=Z,18nm,19.0s,baz=84,slow=37								
TXAR	**Lajitas Array**	**121.37**	**52**	PKP	**PKPdf**	**16 03 15.8**	**+0.1**		
TORD	**Torodi Ar. Bea**	**122.64**	**288**	PKP	**PKPdf**	**16 03 18.4**	**0.0**		
	comp=Z,0.5nm,0.8s,baz=3.5,slow=4.8,SNR=2.7								

*SKHL **31** 16:06:06.0±0.1, 44°.90N×146°.30E, h201km±3km, mb4.5/3, msha5.2/3*
*JMA **31** 16:06:08.4±0.4, 45°.N±2°.×14°.6E±°, h213km, MV3.5/30, NEAR ETOROFU ISLAND*
ISC 31 16:06:04.4±2.6, 44°.87N±0°.09×146°.38E±0°.10, h239km±17km, n18, σ1°.83/27, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**0.91**	**204**	*eP*		**Pn**		**16 08 38.6**	**+0.8**
YUK						AMB	AMB	16 06 39.6	
	150nm,0.2s								
YUK				*i*	S		**S**	**16 07 03.9**	**0.0**
YUK					A	A		16 07 10.4	
	270nm,0.6s								
YUK					A	A		16 07 10.4	
	470nm,0.6s								
SHO	**Shikotan**	**1.05**	**162**	*i* P		**Pn**		**16 06 39.5**	**+0.9**
SHO						AMB	AMB	16 06 40.0	
	90nm,0.2s								
SHO				*i*	S		**S**	**16 07 03.2**	**-2.1**
SHO					A	A		16 07 04.6	
	600nm,0.3s								
SHO					A	A		16 07 04.6	
	920nm,0.3s								
KUR	**Kuril'sk**	**1.12**	**70**	*eP*		**Pn**		**16 06 39.5**	**+0.6**
KUR						AMB	AMB	16 06 40.7	
	40nm,0.5s								
KUR				*eS*		**S**		**16 07 05.7**	**-0.3**
KUR					A	A		16 07 08.5	
	30nm,0.5s								
KUR					A	A		16 07 08.5	
	50nm,0.5s								
JRA	**Rausu**	**1.29**	**225**	P		**Pn**		**16 06 41.4**	**+1.3**
NMR	**Nemuro--Hokkai**	**1.57**	**198**	*i* P		**Pn**		**16 06 43.4**	**+1.1**
NEM2	**Nemuro 2**	**1.57**	**197**	P		**Pn**		**16 06 43.4**	**+1.1**
NEM2				*eS*		**S**		**16 07 09.8**	**-2.1**
JNK	**Nakash**	**1.75**	**224**	P		**Pn**		**16 06 45.7**	**+2.0**
JTKR	**Abashiri--Toko**	**1.98**	**244**	P		**Pn**		**16 06 47.5**	**+1.6**
JTKR				*eS*		**S**		**16 07 17.4**	**-0.8**
JKHN	**Kushirohamanak**	**1.99**	**207**	*eP*		**Pn**		**16 06 47.6**	**+1.7**
AKK	**Akkeshi**	**2.16**	**212**	*eP*		**Pn**		**16 06 48.8**	**+1.3**
AKK				*eS*		**S**		**16 07 20.2**	**-1.1**
JAK	**Akkeshi**	**2.23**	**214**	*eP*		**Pn**		**16 06 50.0**	**+1.8**
JAK				*eS*		**S**		**16 07 21.5**	**-1.0**
JMP	**Maruseppu**	**2.33**	**249**	*eP*		**Pn**		**16 06 50.8**	**+1.6**
JAR	**Ashorobuto**	**2.45**	**231**	*eP*		**Pn**		**16 06 53.0**	**+2.6**
JKK2	**Kamakawa 2**	**2.79**	**250**	*eP*		**Pn**		**16 06 56.0**	**+2.1**
JCH	**Churui**	**3.14**	**225**	*eP*		**Pn**		**16 06 59.8**	**+2.0**
JCH				*eS*		**S**		**16 07 38.1**	**-1.6**
YSS	**Yuzh-Sakhalins**	**3.28**	**311**	*eP*		**Pn**		**16 06 59.5**	**+0.2**
JNBK	**Urakawa-nobuka**	**

baz=226,slow=75,SNR=39
H04S3 CROZET ISLANDS 45.29 110 T T 17 04 57.9
baz=226,slow=75,SNR=39
H04S1 CROZET ISLANDS 45.30 110 T T 17 04 57.7
baz=226,slow=75,SNR=29
BOSA Boshof 45.32 71 P **P** **16 15 26.8 +0.3**
BOSA IAmb IAmb 16 15 35.5
comp=Z,14nm,1.4s
BOSA Boshof 45.32 71 P **P** **16 15 29.5 +3.0**
comp=Z,1.6nm,0.7s,baz=192,slow=2.8,SNR=3.9
comp=Z,1.6nm,0.7s
BDFB Brasilia 46.25 328 P **P** **16 15 32.8 -1.1**
comp=Z,2.8nm,0.8s,baz=135,slow=7.1,SNR=3.7
comp=Z,2.8nm,0.8s
H10S2 ASCENSION HYDR 50.07 13 T T 17 10 24.5
baz=187,slow=74,SNR=11
H10S3 ASCENSION HYDR 50.07 13 T T 17 10 24.5
baz=33,slow=74,SNR=17
H10N1 ASCENSION HYDR 51.18 13 T T 17 11 47.0
baz=186,slow=72
H10N3 ASCENSION HYDR 51.19 13 T T 17 11 42.7
baz=186,slow=72
H10N2 ASCENSION HYDR 51.20 13 T T 17 11 51.0
baz=186,slow=72
RCBR Riachuelo 53.33 346 P **P** **16 16 25.7 -1.9**
VOI Vohitsoka 61.87 86 P **P** **16 17 25.5 -2.4**
BOAV Boa Vista 67.14 320 P **P** **16 18 00.4 -1.8**
MBAR Mbarara 72.10 60 LR LR 16 48 04.5
comp=Z,15nm,18.9s,baz=104,slow=34
TOA0 Torodi Ar. Sit 74.61 27 P **P** **16 18 48.1 +0.7**
TOA0 IAmb IAmb 16 19 15.1
comp=Z,9.4nm,1.5s
TORD Torodi Ar. Bea 74.61 27 P **P** **16 18 49.0 +1.5**
TORD IAmb IAmb 16 19 15.1
comp=Z,5.5nm,1.4s
TORD Torodi Ar. Bea 74.61 27 P **P** **16 18 50.2 +2.7**
comp=Z,0.8nm,0.6s,baz=203,slow=6.2,SNR=6.0
comp=Z,0.8nm,0.6s
THZ Tophouse 78.99 193 P **P** **16 19 10.9 -1.3**
YKA Yellowknife Ar 138.98 315 PKP **PKPdf** **16 26 34.1 +0.6**
comp=Z,0.7nm,0.6s,baz=123,slow=1.7,SNR=7.4
SONM Songino Array 149.41 89 PKPbc **PKiKP** **16 26 57.9 +0.1**
comp=Z,0.6nm,0.4s,baz=169,slow=2.9,SNR=2.7
ILAR Eielson Array 152.82 308 PKPbc **PKiKP** **16 27 04.6 +0.4**
comp=Z,2.4nm,0.8s,baz=147,slow=3.8,SNR=22

IDC 31 16:24:44.7±4.8, 28°.18N×138°.08E, h282$^{km}_{\pm 87}$, mb3.0/3, mbtmp3.6/5, Error ellipse: s-maj=127.6km s-min=17.9km az=66.0, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JCJ	**Chichijima**	**3.80**	**106**	P			Pn	16 25 48.5	+0.8
	17nm,0.3s,baz=287,slow=19,SNR=16								
JCJ				S			S	16 26 37.9	-0.3
	52nm,0.4s,baz=286,slow=22,SNR=11								
MJAR	**Matsushiro Arr**	**8.34**	**1**	P			Pn	16 26 42.7	+0.4
	1.0nm,0.6s,baz=180,slow=11,SNR=1.7								
MKAR	**Makanchi Array**	**46.97**	**309**	P			P	16 32 47.3	-0.5
	0.3nm,0.5s,baz=91,slow=7.2,SNR=4.3								
	0.3nm,0.5s								
WRA	**Warramunga Arr**	**47.97**	**185**	P			P	16 32 55.7	+0.1
	0.6nm,0.3s,baz=2.1,slow=7.8,SNR=17								
	0.6nm,0.3s								
ASAR	**Alice Springs**	**51.70**	**185**	P			P	16 33 23.4	-0.2
	0.4nm,0.6s,baz=1.5,slow=6.3,SNR=18								
	0.4nm,0.6s								

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*UPA **31** 16:25:14.2±1.2, 9°.41N×83°.79W, h8$^{km}_{\pm 6}$, MW4.0*
*CATAC **31** 16:25:14.9±0.3, 9°.45N×83°.80W, h6$^{km}_{\pm 3}$, ML4.0*
*NEIC **31** 16:25:14.4±1.1, 9°.42N±0°.03×83°.81W±0°.03, h24$^{km}_{\pm 8}$, ML3.6/26, Error ellipse: s-maj=5.0km s-min=3.2km az=216.0*
*UCR **31** 16:25:15.0±1.2, 9°.45N×83°.79W, h22$^{km}_{\pm 3}$, MW3.8*

ISC 31 16:25:14.7±0.9, 9°.43N±0°.02×83°.79W±0°.02, h19$^{km}_{\pm 2}$, n91, σ0°.58/108, 7C-8D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ZELE	**Perez Zeledon**	**0.10**	**125**	⇓	*i*	P	**Pg**	**16 25 19.0**	**+0.3**
ZELE					*e*	S	**Sg**	**16 25 22.2**	**+0.9**
PEZE	**Perez Zeledon,**	**0.12**	**113**		Pg		**Pg**	**16 25 18.9**	**0.0**
PEZE					Sg		**Sg**	**16 25 21.9**	**+0.2**
PEZE	**Perez Zeledon,**	**0.12**	**113**	⇓	*i*	P	**Pg**	**16 25 18.9**	**0.0**
PEZE					*e*	S	**Sg**	**16 25 22.1**	**+0.4**
CDM	**Cerro de Muert**	**0.13**	**10**	⇓	*e*	P	**Pg**	**16 25 19.2**	**-0.1**
CDM					*e*	S	**Sg**	**16 25 22.8**	**+0.3**
LLNJ	**Naranjito**	**0.31**	**278**	⇑	*e*	P	**Pg**	**16 25 21.7**	**+0.1**
RAZU	**San Marcos de**	**0.33**	**314**	⇑	*e*	P	**Pg**	**16 25 22.0**	**0.0**
OCHAL	**Ojochal**	**0.36**	**157**		*i*	S	**Sb**	**16 25 28.6**	**+0.8**
SVQ2	**Quepos**	**0.37**	**270**		*e*	P	**Pg**	**16 25 22.2**	**-0.4**
LCI2	**La Lucha 2**	**0.38**	**325**	Pg			**Pg**	**16 25 22.5**	**-0.4**
LCR2				Sg			**Sg**	**16 25 28.2**	**-0.1**
LCR2				IAML				16 25 28.7	
	comp=N,5μm,0.3s								
LCR2	**La Lucha 2**	**0.38**	**325**	⇑	*i*	P	**Pg**	**16 25 22.7**	**-0.1**
LCR2					*e*	S	**Sg**	**16 25 28.5**	**+0.2**
ABE2	**San Pablo**	**0.38**	**316**		*e*	P	**Pg**	**16 25 22.7**	**-0.2**
REPA	**Paraso**	**0.40**	**348**		*e*	P	**Pb**	**16 25 24.0**	**+0.6**
TAGO	**Cartago**	**0.45**	**343**		*e*	P	**Pg**	**16 25 23.9**	**-0.3**
SRBA	**San Rafael, Bu**	**0.47**	**115**	Pg			**Pg**	**16 25 23.9**	**-0.4**
SRBA				Sg			**Sg**	**16 25 30.4**	**-0.3**
SRBA				IAML				16 25 31.1	
	comp=E,4μm,0.2s								
SRBA				IAML				16 25 32.1	
	comp=N,3μm,0.2s								
SRBA	**San Rafael, Bu**	**0.47**	**115**	⇑	*e*	P	**Pg**	**16 25 23.9**	**-0.4**
TURIB	**Turrialba**	**0.48**	**12**		*e*	P	**Pg**	**16 25 24.1**	**-0.5**
BURE	**Buenos Aires**	**0.51**	**120**		*e*	P	**Pg**	**16 25 25.1**	**0.0**
TRIO	**Tres Rios**	**0.52**	**337**		*e*	P	**Pg**	**16 25 24.8**	**-0.5**
VERB	**Verbena**	**0.52**	**10**		*e*	P	**Pg**	**16 25 24.9**	**-0.5**
RAFA	**San Farael, Vo**	**0.53**	**357**		*i*	S	**Sg**	**16 25 32.4**	**-0.4**
RAFA	**San Farael, Vo**	**0.53**	**357**		*e*	P	**Pg**	**16 25 25.2**	**-0.3**
RITA	**Parrita**	**0.55**	**280**		*e*	P	**Pg**	**16 25 26.4**	**+0.7**
VTCV	**VTCV, Calle Va**	**0.55**	**6**	⇓	*e*	P	**Pb**	**16 25 25.6**	**-0.3**
VICA	**Volcano Irazu**	**0.56**	**354**	⇓	*i*	P	**Pb**	**16 25 25.6**	**-0.4**
DRK0	**Durika**	**0.56**	**107**				**Pb**	**16 25 25.4**	**-0.5**
DRK0				Sg			**Sb**	**16 25 33.7**	**+0.2**
DRK0	**Durika**	**0.56**	**107**	⇑	*i*	P	**Pb**	**16 25 25.5**	**-0.5**
DRK0					*e*	S	**Sg**	**16 25 34.0**	**+0.3**
DRK0	**Durika**	**0.56**	**107**		*i*	P	**Pb**	**16 25 25.5**	**-0.5**
DRK0				IAML				16 25 26.1	
	comp=Z,32μm,1.0s								
DRK0	**Durika**	**0.56**	**107**		*e*	P	**Pb**	**16 25 25.5**	**-0.5**
EDPN	**Palmar Norte**	**0.57**	**145**		*e*	P	**Pb**	**16 25 26.1**	**+0.2**
LUJA	**Lujan**	**0.57**	**330**		*e*	P	**Pg**	**16 25 26.8**	**+0.5**
SJS3	**Mercedes San J**	**0.57**	**333**		*e*	P	**Pb**	**16 25 25.9**	**-0.1**
VTRT	**Volcan Turrial**	**0.57**	**359**	⇓	*e*	P	**Pb**	**16 25 25.9**	**-0.3**
EDBA	**Buenos Aires**	**0.57**	**118**		*e*	P	**Pb**	**16 25 25.2**	**-0.8**
VTLA	**Turrialba Volc**	**0.57**	**1**		*e*	P	**Pb**	**16 25 26.0**	**-0.2**
SJS	**Escuela Geolog**	**0.57**	**333**		*e*	P	**Pb**	**16 25 26.0**	**-0.1**
CVTQ	**Turrialba Volc**	**0.57**	**2**		*e*	P	**Pb**	**16 25 26.1**	**-0.1**
CVTV	**Tajo**	**0.57**	**4**		*e*	P	**Pb**	**16 25 26.1**	**-0.2**
LUPE	**Guadalupe**	**0.58**	**333**		*e*	P	**Pb**	**16 25 26.1**	**-0.2**
CORON	**Coronado**	**0.58**	**338**		*e*	P	**Pb**	**16 25 26.4**	**+0.1**
VTR0	**Volcan Turrial**	**0.58**	**3**		*e*	P	**Pb**	**16 25 26.4**	**-0.1**
CVTR	**Volcan Turrial**	**0.59**	**3**		*e*	P	**Pb**	**16 25 26.3**	**-0.2**
CVIMO	**Finca Echandi**	**0.61**	**345**		*e*	P	**Pb**	**16 25 26.6**	**-0.3**
VTLO	**VTLO**	**0.61**	**6**		*e*	P	**Pb**	**16 25 26.6**	**-0.3**
HDC	**Heredia**	**0.65**	**330**				**Pb**	**16 25 26.9**	**-0.7**
HDC				Sg			**Sg**	**16 25 36.5**	**0.0**
HDC				IAML				16 25 37.3	
	comp=E,3μm,0.7s								
HDC	**Heredia**	**0.65**	**330**		*e*	P	**Pb**	**16 25 27.2**	**-0.3**
HDC3	**Heredia 3**	**0.65**	**331**		*i*	S	**Sg**	**16 25 36.9**	**+0.3**
HDC3	**Heredia 3**	**0.65**	**331**		*e*	P	**Pb**	**16 25 27.3**	**-0.2**
EDP2	**Potrero Grande**	**0.73**	**124**		*e*	P	**Pb**	**16 25 29.0**	**+0.2**
POTG	**Potrero Grande**	**0.76**	**120**		*e*	P	**Pb**	**16 25 29.1**	**-0.2**
BATAN	**Batan**	**0.78**	**31**				**Pb**	**16 25 29.4**	**-0.2**
BATAN							**Sg**	**16 25 40.9**	**+0.5**
BATAN				IAML				16 25 48.3	
	comp=E,2μm,0.6s								
BATAN				IAML				16 25 49.9	
	comp=N,2μm,0.7s								
BATAN	**Batan**	**0.78**	**31**	⇓	*i*	P	**Pb**	**16 25 29.5**	**-0.2**
TCS1	**Tacares**	**0.79**	**320**		*i*	P	**Pb**	**16 25 30.1**	**+0.2**
TCS1				IAML				16 25 41.9	
	comp=Z,8μm,1.0s								
JACO	**JACO, Garabito**	**0.89**	**285**				**Pb**	**16 25 30.8**	**-0.8**
JACO							**Sb**	**16 25 43.1**	**+0.1**
JACO				IAML				16 25 47.3	
	comp=N,1μm,0.4s								
RIFO	**Rio Frio, Sara**	**0.89**	**351**		*e*	P	**Pb**	**16 25 31.2**	**-0.3**
SRA1	**San Ramn**	**0.94**	**314**		*e*	P	**Pb**	**16 25 31.4**	**-1.1**
EDAD	**Golfito**	**0.99**	**142**		*e*	P	**Pb**	**16 25 31.5**	**-1.7**
CPMI	**Catarata Coope**	**1.03**	**325**		*e*	P	**Pb**	**16 25 33.3**	**-0.7**
PIRO	**Carate, Puerto**	**1.11**	**156**		*i*	S	**Sg**	**16 25 52.2**	**+1.3**
PIRO	**Carate, Puerto**	**1.11**	**156**		*e*	P	**Pn**	**16 25 35.6**	**+0.3**
MLIR3	**Monte Lirio, C**	**1.14**	**124**		*e*	P	**Pn**	**16 25 35.4**	**-0.4**
CDITO	**Canoas**	**1.24**	**133**				**Pn**	**16 25 37.0**	**-0.1**
CDITO				IAML				16 26 01.2	
	comp=N,823nm,0.6s								
CDITO				IAML				16 26 06.0	
	comp=E,848nm,0.5s								
CDITO	**Canoas**	**1.24**	**133**		*e*	P	**Pn**	**16 25 36.4**	**-0.6**
CDITO	**Canoas**	**1.24**	**133**		*i*	P	**Pg**	**16 25 38.4**	**-0.4**
CDITO				IAML				16 26 07.7	
	comp=Z,690nm,1.0s								
SOCE	**Pocosol**	**1.25**	**319**		Pn		**Pn**	**16 25 36.8**	**-0.4**
SOCE	**Pocosol**	**1.25**	**319**		*i*	P	**Pn**	**16 25 37.1**	**-0.1**
SOCE				IAML				16 25 55.0	
	comp=Z,2μm,1.0s								
SOCE	**Pocosol**	**1.25**	**319**		*e*	P	**Pn**	**16 25 37.1**	**-0.1**
BRU2	**Volcan**	**1.25**	**120**				**Pn**	**16 25 36.9**	**-0.4**
BRU2				Sg			**Sb**	**16 25 53.6**	**0.0**
BRU2				IAML				16 25 57.8	
	comp=N,1μm,0.4s								
BRU2	**Volcan**	**1.25**	**120**	⇑	*i*	P	**Pn**	**16 25 37.0**	**-0.4**
BRU2					*e*	S	**Sn**	**16 25 54.3**	**+0.5**
BRU2	**Volcan**	**1.25**	**120**		*e*	P	**Pn**	**16 25 36.9**	**-0.4**
CBL1	**Cabuya**	**1.30**	**277**		*e*	P	**Pn**	**16 25 37.4**	**-0.4**
CNI2	**El Empalme, Bo**	**1.30**	**90**		*e*	P	**Pn**	**16 25 37.9**	**+0.1**
CNI2					*e*	S	**Sn**	**16 25 54.4**	**-0.2**
VACR	**Volcan Arenal**	**1.36**	**320**		*e*	P	**Pn**	**16 25 38.7**	**+0.1**
ARE1	**Arenal 1**	**1.38**	**318**		Pn		**Pn**	**16 25 38.5**	**-0.4**
ARE1	**Arenal 1**	**1.38**	**318**		*e*	P	**Pn**	**16 25 39.1**	**+0.2**
COVE	**Coope Vega, Sa**	**1.42**	**335**		Pn		**Pn**	**16 25 38.8**	**-0.7**
BCO2	**Palmira**	**1.43**	**120**	⇓	*i*	P	**Pn**	**16 25 39.8**	**+0.1**
BCO2					*e*	S	**Sn**	**16 25 58.0**	**-0.2**
JTS	**Las Juntas de**	**1.43**	**307**		Pn		**Pn**	**16 25 38.8**	**-0.9**
JTS	**Las Juntas de**	**1.43**	**307**	⇑	*i*	P	**Pn**	**16 25 39.1**	**-0.6**
JTS	**Las Juntas de**	**1.43**	**307**		*e*	P	**Pn**	**16 25 39.1**	**-0.6**
PTPM	**Petroterminale**	**1.51**	**144**		*e*	P	**Pn**	**16 25 40.9**	**+0.2**
PTPM					*e*	S	**Sn**	**16 26 00.2**	**+0.3**
DVD	**David**	**1.65**	**127**		*e*	P	**Pn**	**16 25 42.8**	**+0.2**
CHGR2	**Aguacate**	**1.69**	**107**		*e*	P	**Pn**	**16 25 43.4**	**+0.2**
INDI	**Punta indio, G**	**1.75**	**285**		*i*	P	**Pn**	**16 25 44.5**	**+0.5**
INDI				IAML				16 26 15.5	
	comp=Z,240nm,1.0s								
DUNO	**Dulce Nombre,**	**1.80**	**291**		Pn		**Pn**	**16 25 43.7**	**-1.0**
ORTG	**Ortega, Santa**	**1.89**	**300**		Pn		**Pn**	**16 25 45.1**	**-1.0**
VMAR	**Armenia, Volca**	**1.90**	**317**		*e*	P	**Pn**	**16 25 47.4**	**+1.2**
VRLE	**La Escondida,**	**2.06**	**311**		*e*	P	**Pn**	**16 25 50.1**	**+1.7**
HZTE	**Horizontes, Gu**	**2.19**	**306**		Pn		**Pn**	**16 25 49.5**	**-0.6**
ESPN	**Las Esperanzas**	**2.79**	**350**		*i*	P	**Pn**	**16 26 01.0**	**+2.6**
ESPN				IAML				16 26 36.7	
	comp=Z,800nm,1.0s								
ACON	**Acoyapa**	**2.87**	**332**		Pn		**Pn**	**16 25 58.5**	**-0.9**
BCIP	**Isla Barro Col**	**3.91**	**94**		Pn		**Pn**	**16 26 13.1**	**-0.6**

UCR 31 16:37:55.9±1.3, 9°.40N×84°.63W, h17$^{km}_{\pm 9}$km, MW3.6, 3C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BITO	**Garabito Jaco**	**0.22**	**2**	⇓	*i*	P	Pg	16 38 00.9	-0.2
BITO					*e*	S	Sb	16 38 05.2	-0.1
CBL1	**Cabuya**	**0.49**	**293**	⇓	*e*	P	Pb	16 38 06.0	-0.2
CBL1					*e*	S	Sb	16 38 14.4	+1.2
LLNJ	**Naranjito**	**0.53**	**82**		*e*	P	Pg	16 38 06.0	-0.5
LLNJ					*e*	S	Sb	16 38 14.5	+0.4
TRB2	**Turrubares**	**0.54**	**19**	⇓	*i*	P	Pg	16 38 05.9	-0.9
TRB2					*e*	S	Sg	16 38 14.2	+0.1
ACOS	**Acosta**	**0.61**	**49**	⇓	*i*	P	Pg	16 38 07.2	-0.8
ACOS					*e*	S	Sg	16 38 15.8	-0.3
ABE2	**San Pablo**	**0.65**	**62**		*e*	P	Pg	16 38 07.9	-0.8
ABE2					*e*	S	Sg	16 38 15.6	-1.7
LCR2	**La Lucha 2**	**0.70**	**61**	⇓	*i*	P	Pg	16 38 08.7	-1.1
LCR2					*e*	S	Sg	16 38 16.6	-2.6
BELE	**Belen**	**0.72**	**37**		*e*	P	Pg	16 38 08.9	-1.2
BELE					*e*	S	Sb	16 38 20.3	+0.5
LUJA	**Lujan**	**0.76**	**46**		*e*	P	Pg	16 38 10.5	-0.3
LUJA					*e*	S	Sg	16 38 20.6	-0.4
HDC	**Heredia**	**0.79**	**40**		*e*	P	Pb	16 38 10.2	-1.1
HDC3	**Heredia 3**	**0.79**	**40**		*e*	P	Pb	16 38 09.9	-1.4
NYURE	**Nandayure**	**0.85**	**314**	⇓	*e*	P	Pb	16 38 11.5	-0.8
NYURE					*e*	S	Sn	16 38 25.1	-0.3
CDM	**Cerro de Muert**	**0.87**	**80**	⇑	*e*	P	Pb	16 38 11.7	-1.2
CDM					*e*	S	Sg	16 38 25.3	+0.8
CPMI	**Catarata Coope**	**0.91**	**16**	⇓	*i*	P	Pb	16 38 12.5	-0.9
CPMI					*e*	S	Sg	16 38 26.1	+0.3
CVIMO	**Finca Echandi**	**0.92**	**47**	⇓	*i*	P	Pb	16 38 12.8	-0.8
MTEVE	**Monteverde**	**0.94**	**348**		*e*	P	Pb	16 38 12.5	-1.3
PEZE	**Perez Zeledon,**	**0.94**	**91**		*e*	P	Pb	16 38 13.0	-0.8
JTS	**Las Juntas de**	**0.94**	**340**	⇓	*e*	P	Pb	16 38 12.4	-1.5
JTS					*e*	S	Sb	16 38 25.8	-0.3
VICA	**Volcano Irazu**	**0.97**	**53**		*e*	P	Pb	16 38 13.4	-1.2
VICA					*e*	S	Sg	16 38 27.8	+0.2
INDI	**Punta indio, G**	**0.98**	**299**		*e*	P	Pb	16 38 13.9	-0.6
SOCE	**Pocosol**	**0.98**	**1**	⇓	*e*	P	Pb	16 38 13.9	-0.8
SOCE					*e*	S	Sn	16 38 28.5	0.0
RAFA	**San Farael, Vo**	**0.98**	**55**	⇑	*i*	P	Pb	16 38 13.9	-0.8
VTLA	**Turrialba Volc**	**1.04**	**54**		*e*	P	Pb	16 38 15.6	-0.1
CVTQ	**Turrialba Volc**	**1.04**	**55**		*e*	P	Pb	16 38 15.2	-0.6
VTR0	**Volcan Turrial**	**1.06**	**54**		*e*	P	Pb	16 38 15.8	-0.3
CVTV	**Tajo**	**1.06**	**55**		*e*	P	Pb	16 38 15.2	-0.8
CVTR	**Volcan Turrial**	**1.06**	**54**		*e*	P	Pb	16 38 15.7	-0.4
ARE1	**Arenal 1**	**1.06**	**355**		*e*	P	Pb	16 38 15.4	-0.5
ARE1					*e*	S	Sn	16 38 30.9	+0.4
VTCV	**VTCV, Calle Va**	**1.06**	**57**	⇓	*e*	P	Pb	16 38 15.2	-0.8
VACR	**Volcan Arenal**	**1.07**	**357**		*e*	P	Pb	16 38 15.4	-0.6
VERB	**Verbena**	**1.07**	**59**		*e*	P	Pb	16 38 15.9	-0.2
RIFO	**Rio Frio, Sara**	**1.15**	**37**	⇓	*e*	P	Pn	16 38 16.5	-0.8
JUD3	**Juan Diaz 3**	**1.18**	**311**		*e*	P	Pn	16 38 17.3	-0.4
ORTG	**Ortega, Santa**	**1.26**	**320**		*e*	P	Pn	16 38 17.4	-1.5
SRBA	**San Rafael, Bu**	**1.26**	**97**		*e*	P	Pn	16 38 18.3	-0.6
TENO	**El Achiote**	**1.34**	**345**		*e*	P	Pn	16 38 18.9	-1.1
CUI	**Cuipilapa**	**1.36**	**337**		*e*	P	Pn	16 38 19.9	-0.3
DRK0	**Durika**	**1.37**	**95**		*e*	P	Pn	16 38 19.9	-0.6
COLC	**Colonia**	**1.38**	**336**		*e*	P	Pn	16 38 20.2	-0.3
BATAN	**Batan**	**1.42**	**60**		*e*	P	Pn	16 38 21.2	+0.2
BATAN					*e*	S	Sg	16 38 42.3	+0.5
VMAR	**Armenia, Volca**	**1.48**	**341**	⇓	*i*	P	Pn	16 38 21.6	-0.3
VRLE	**La Escondida,**	**1.56**	**332**	⇓	*e*	P	Pn	16 38 22.9	-0.1
HZTE	**Horizontes, Gu**	**1.62**	**324**		*e*	P	Pn	16 38 24.4	+0.6

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*NEIC **31** 16:49:25.0±2.2, 24°.14S±0°.06×67°.2W±0°.1, h219$^{km}_{\pm 7}$km, mb4.4/7, ML4.4(GUC), Error ellipse: s-maj=13.5km s-min=9.4km az=98.0*
*SJA **31** 16:49:24.4±0.7, 24°.14S×67°.04W, h207$^{km}_{\pm 5}$km, ML4.2, MW3.9*
*GUC **31** 16:49:25.8±0.8, 24°.15S×67°.10W, h198$^{km}_{\pm 6}$km, ML4.4*
*IDC **31** 16:49:25.5±1.0, 24°.01S×66°.92W, h186$^{km}_{\pm 10}$km, mb3.5/8, mbtmp4.1/14, Error ellipse: s-maj=15.6km s-min=13.6km az=66.0*
*VAO **31** 16:49:26.1±0.3, 23°.95S×66°.94W, h185$^{km}_{\pm 4}$km, mb4.1*

ISC 31 16:49:24.7±0.6, 24°.11S±0°.03×67°.06W±0°.04, h194$^{km}_{\pm 6}$km, n162, σ1°.47/206, mb4.0/11, 11C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SLA	**San Lorenzo**	**1.54**	**114**		*e*	P	**Pn**	**16 49 59.8**	**+1.4**
SLA					*e*	S	**S**	**16 50 25.8**	**+1.3**
SLA	**San Lorenzo**	**1.54**	**114**	⇑	*i*	P	**Pn**	**16 49 59.8**	**+1.4**
SLA					*i*	S	**S**	**16 50 25.3**	**+0.7**
AF01	**San Pedro de A**	**1.54**	**318**		Pn		**Pn**	**16 50 00.7**	**+2.0**
AF01					Sn		**S**	**16 50 27.6**	**+2.7**
AF01	**San Pedro de A**	**1.54**	**318**	⇑	*i*	P	**Pn**	**16 50 00.6**	**+2.0**
AF01					*e*	S	**S**	**16 50 25.9**	**+1.0**
AF01				IAML				16 50 52.1	
	comp=E,1μm,43.2s								
AZAP	**Zapla**	**1.82**	**94**		*e*	P	**Pn**	**16 50 02.2**	**+0.9**
FSA	**Cafayete**	**2.22**	**154**		*e*	P	**Pn**	**16 50 06.0**	**+0.7**
FSA					*e*	S	**S**	**16 50 30.5**	**-6.5**
LVC	**Limon Verde**	**2.26**	**311**	⇑	*e*	P	**Pn**	**16 50 07.7**	**+1.6**
LVC					*e*	S	**S**	**16 50 39.9**	**+1.9**
LVC	**Limon Verde**	**2.26**	**311**		P		**Pn**	**16 50 07.6**	**+1.6**
	comp=E,234nm,0.3s,baz=116,slow=8.1,SNR=698								
LVC					S		**S**	**16 50 38.5**	**+0.5**
	comp=E,184nm,0.4s,baz=108,slow=20,SNR=15								
LVC	**Limon Verde**	**2.26**	**311**	⇑	*i*	P	**Pn**	**16 50 07.7**	**+1.6**
LVC					*i*	S	**S**	**16 50 38.4**	**+0.4**
LVC				IAML				16 50 42.6	
	comp=E,1μm,0.2s								
LVC	**Limon Verde**	**2.26**	**311**		*e*	P	**Pn**	**16 50 07.5**	**+1.4**
LVC					*e*	S	**S**	**16 50 38.3**	**+0.3**
PB15	**IPOC Station P**	**2.39**	**292**				**Pn**	**16 50 08.6**	**+1.4**
PB15	**IPOC Station P**	**2.39**	**292**		*e*	P	**Pn**	**16 50 08.8**	**+1.6**
PB15					*e*	S	**S**	**16 50 41.0**	**+0.8**
PB15	**IPOC Station P**	**2.39**	**292**	⇑	*i*	P	**Pn**	**16 50 08.8**	**+1.6**
PB15					*i*	S	**S**	**16 50 40.3**	**+0.2**
YJA	**Yavi**	**2.39**	**37**		*e*	P	**Pn**	**16 50 09.2**	**+1.7**
YJA					*e*	S		16 50 31.3	
GO02	**Mina Guanaco**	**2.53**	**245**		Pn		**Pn**	**16 50 10.2**	**+1.4**
GO02					Sn		**S**	**16 50 43.4**	**+0.2**
GO02	**Mina Guanaco**	**2.53**	**245**		*e*	P	**Pn**	**16 50 10.3**	**+1.4**
GO02					*e*	S	**S**	**16 50 44.0**	**+0.8**
GO02	**Mina Guanaco**	**2.53**	**245**	⇓	*i*	P	**Pn**	**16 50 10.2**	**+1.4**
GO02					*i*	S	**S**	**16 50 44.0**	**+0.8**
PB06	**IPOC Station P**	**2.70**	**301**				**Pn**	**16 50 11.6**	**+0.9**
PB06					Sn		**S**	**16 50 45.7**	**-0.7**
PB06	**IPOC Station P**	**2.70**	**301**		*e*	P	**Pn**	**16 50 12.2**	**+1.5**
PB06					*e*	S	**S**	**16 50 47.0**	**+0.6**
PB06				IAML				16 50 50.0	
	comp=Z,712nm,0.3s								
PB06	**IPOC Station P**	**2.70**	**301**	⇑	*i*	P	**Pn**	**16 50 12.2**	**+1.5**
PB06					*i*	S	**S**	**16 50 46.2**	**-0.2**
PB06				IAML				16 50 47.7	
	comp=E,1μm,0.3s								
ALOL	**LOMAS DE OLMED**	**2.83**	**85**		*e*	P	**Pn**	**16 50 13.0**	**+0.9**
PB09	**IPOC Station P**	**3.06**	**318**				**Pn**	**16 50 16.6**	**+1.6**
PB09					Sn		**S**	**16 50 54.2**	**+0.1**
PB09	**IPOC Station P**	**3.06**	**318**		*e*	P	**Pn**	**16 50 16.6**	**+1.6**
PB09					*e*	S	**S**	**16 50 57.8**	**+3.7**
PB09	**IPOC Station P**	**3.06**	**318**	⇑	*i*	P	**Pn**	**16 50 16.6**	**+1.6**
PB09				IAML				16 50 59.3	
	comp=N,162nm,0.4s								
AHML	**Horco Molle**	**3.08**	**150**		*e*	P	**Pn**	**16 50 16.1**	**+1.0**
AHML					*e*	S	**S**	**16 50 53.2**	**-1.4**
PB14	**IPOC Station P**	**3.09**	**260**				**Pn**	**16 50 16.1**	**+0.6**
PB14					Sn		**S**	**16 50 53.2**	**-1.8**
PB14	**IPOC Station P**	**3.09**	**260**		*e*	P	**Pn**	**16 50 16.3**	**+0.8**
PB14					*e*	S	**S**	**16 50 55.3**	**+0.3**
PB14				IAML				16 50 58.1	

PTLB	**Pontes e Lacer**	**11.39**	**42**			**Pn**	**16 52 00.6**	**-1.5**
PTLB	**Pontes e Lacer**	**11.39**	**42**	*e*	P	**Pn**	**16 52 00.9**	**-1.2**
VBST	**Vila Bela da S**	**11.61**	**36**	*e*	P	**Pn**	**16 52 04.5**	**-0.4**
UNIS	**Unistalda (Bra**	**11.81**	**117**	*e*	P	**Pn**	**16 52 07.5**	**+0.2**
POCN	**Pocone**	**12.21**	**54**	*e*	P	**Pn**	**16 52 11.7**	**-0.8**
RODS	**Rosario do Sul**	**12.24**	**123**	*e*	P	**P**	**16 52 14.7**	**-2.7**
RVDE	**Rio Verde (Bra**	**12.36**	**68**	*e*	P	**Pn**	**16 52 14.9**	**+0.3**
TBOT	**Tacuaremb**	**12.39**	**130**	*e*	P	**Pn**	**16 52 14.9**	**+0.3**
VILB	**Vilhena**	**12.86**	**32**			**Pn**	**16 52 21.1**	**+0.3**
VILB	**Vilhena**	**12.86**	**32**	*e*	P	**Pn**	**16 52 21.4**	**+0.6**
CHAP	**Chapeco**	**12.99**	**107**	*e*	P	**P**	**16 52 23.2**	**-2.6**
PP1B	**Ponte de Pedra**	**13.09**	**63**	*e*	P	**Pn**	**16 52 22.5**	**-1.2**
ALGR	**Alto Alegre (B**	**13.40**	**113**	*e*	P	**P**	**16 52 28.9**	**-1.6**
SALV	**Santo Antonio**	**13.44**	**55**	*e*	P	**Pn**	**16 52 27.3**	**-0.7**
CPSB	**Cacapava Do Su**	**13.63**	**120**	*e*	P	**P**	**16 52 30.5**	**-2.4**
PTGB	**Pitanga**	**13.68**	**96**	*e*	P	**P**	**16 52 32.3**	**-1.2**
ITAB	**Concordia**	**13.82**	**106**		Pn	**Pn**	**16 52 31.2**	**-1.4**
ITAB	**Concordia**	**13.82**	**106**	*e*	P	**P**	**16 52 35.1**	**+0.2**
PLTB	**Pedras Altas**	**14.12**	**126**		Pn	**Pn**	**16 52 34.8**	**-1.6**
PLTB	**Pedras Altas**	**14.12**	**126**	*e*	P	**P**	**16 52 38.3**	**0.0**
ETMB	**Extrema**	**14.24**	**3**		P	**Pn**	**16 52 35.6**	**-2.3**
ETMB	**Extrema**	**14.24**	**3**	*e*	P	**Pn**	**16 52 37.5**	**-0.5**
NBRS	**Nobres**	**14.42**	**50**	*e*	P	**P**	**16 52 41.0**	**-0.8**
TRQA	**Tornquist**	**14.56**	**164**			**Pn**	**16 52 40.3**	**-1.5**
LDASE	**Londrina, Braz**	**14.62**	**90**	*e*	P	**P**	**16 52 43.4**	**-0.5**
JIR01	**Jirau**	**14.66**	**9**	*e*	P	**Pn**	**16 52 42.4**	**-0.7**
SAML	**Samuel**	**15.53**	**14**			**Pn**	**16 52 52.6**	**-1.1**
SAML	comp=Z,12nm,1.1s				IAmb	IAmb	16 52 54.8	
SAML	**Samuel**	**15.53**	**14**	*e*	P	**P**	**16 52 53.7**	**-0.3**
PDRB	**Porto dos Gac**	**15.84**	**40**	*e*	P	**Pn**	**16 52 57.0**	**-0.5**
GO06	**Curarrehue**	**15.87**	**193**			**Pn**	**16 52 57.2**	**-0.6**
GO06	comp=Z,6.4nm,1.0s				IAmb	IAmb	16 53 05.3	
FRTB	**Fartura**	**16.04**	**91**	*e*	P	**Pn**	**16 53 01.2**	**+1.2**
ITRB	**Iturama**	**16.10**	**77**	*e*	P	**Pn**	**16 53 02.3**	**+1.6**
ARAG	**Araguaiana, MT**	**16.59**	**63**	*e*	P	**Pn**	**16 53 07.4**	**+0.9**
TER01	**Tubaro-SC**	**16.66**	**109**	*e*	P	**Pn**	**16 53 06.8**	**-0.5**
PLCA	**Paso Flores**	**16.83**	**189**		P	**P**	**16 53 07.5**	**-0.6**
PLCA	**Paso Flores**	**16.83**	**189**		P	**Pn**	**16 53 10.4**	**+1.1**
	comp=Z,2.3nm,0.7s,baz=14,slow=10,SNR=6.5							
CLDB	**Colider**	**16.98**	**41**	*e*	P	**Pn**	**16 53 10.1**	**-1.1**
IPMB	**Ipameri, GO**	**18.61**	**74**	*e*	P	**Pn**	**16 53 28.8**	**-1.6**
SNDB	**Serra Nova Dou**	**19.22**	**54**	*e*	P	**P**	**16 53 34.3**	**0.0**
BDFB	**Brasilia**	**19.78**	**68**			**P**	**16 53 40.2**	**-0.2**
BDFB	comp=Z,23nm,0.8s				IAmb	IAmb	16 53 42.0	
BDFB	**Brasilia**	**19.78**	**68**		P	**P**	**16 53 40.5**	**0.0**
	comp=Z,20nm,0.6s,baz=243,slow=11,SNR=34							
NPGB	**Novo Progresso**	**20.34**	**35**	*e*	P	**P**	**16 53 44.2**	**-2.2**
TEFE	**Tefe**	**20.61**	**7**	*e*	P	**P**	**16 53 49.4**	**+0.2**
MACA	**Manacapuru-AM**	**21.72**	**17**	*e*	P	**P**	**16 54 00.7**	**-0.1**
ITTB	**Itaituba**	**22.46**	**31**	*e*	P	**P**	**16 54 07.1**	**-0.8**
SMTB	**Santa Maria do**	**24.00**	**54**	*e*	P	**P**	**16 54 23.1**	**+1.1**
SDBA	**SAO DESIDERIO**	**24.00**	**65**	*e*	P	**P**	**16 54 21.4**	**-0.6**
PRPB	**Parauapebas**	**24.34**	**46**	*e*	P	**P**	**16 54 24.9**	**-0.1**
BAUV	**El Baul**	**32.87**	**358**		P	**P**	**16 55 40.3**	**-0.1**
BAUV	comp=Z,12nm,0.8s				IAmb	IAmb	16 55 41.5	
MLPR	**Magueyes Islan**	**41.82**	**0**		P	**P**	**16 56 55.2**	**-0.4**
CELP	**Cerrillos**	**41.93**	**1**		P	**P**	**16 56 56.0**	**-0.5**
CELP	comp=Z,24nm,1.2s				IAmb	IAmb	16 57 19.4	
VNA3	**Neumayer Olymp**	**57.06**	**161**	⇓	P	**P**	**16 58 52.5**	**+2.2**
SNAA	comp=Z,3.3nm,0.6s **Sanae**	**59.26**	**161**	⇓	P	**P**	**16 59 07.6**	**+2.1**
SNAA	comp=Z,38nm,0.5s **Sanae**	**59.26**	**161**		P	**P**	**16 59 07.2**	**+1.7**
	comp=Z,2.0nm,0.6s,baz=272,slow=9.4,SNR=12							
TROLL	comp=Z,2.0nm,0.6s **Troll, Antarti**	**60.98**	**161**	⇓	P	**P**	**16 59 19.7**	**+2.4**
TXAR	comp=Z,128nm,0.5s **Lajitas Array**	**63.74**	**325**		P	**P**	**16 59 35.9**	**-0.2**
	comp=Z,0.3nm,0.6s,baz=140,slow=7.1,SNR=1.6							
QSPA	comp=Z,0.3nm,0.6s **South Pole Qui**	**66.09**	**180**		P	**P**	**16 59 53.3**	**+2.4**
	comp=Z,2.0nm,0.5s,baz=112,slow=0.2,SNR=27							
TORD	comp=Z,2.0nm,0.5s **Torodi Ar. Bea**	**76.66**	**69**		P	**P**	**17 00 55.1**	**+0.4**
	comp=Z,1.4nm,0.5s,baz=261,slow=5.2,SNR=15							
NVAR	comp=Z,1.4nm,0.5s **Mina Array Bea**	**78.59**	**321**		P	**P**	**17 01 07.4**	**+2.2**
	comp=Z,0.3nm,0.5s,baz=139,slow=5.6,SNR=2.1							
SCHQ	comp=Z,0.3nm,0.5s **Schefferville**	**78.62**	**0**		P	**P**	**17 01 05.5**	**+0.8**
	comp=Z,1.2nm,0.6s,baz=252,slow=2.6,SNR=3.9							
ESDC	comp=Z,1.2nm,0.6s **Sonseca Array**	**86.51**	**44**		P	**P**	**17 01 45.8**	**0.0**
	comp=Z,0.6nm,0.8s,baz=244,slow=3.9,SNR=4.6							
YKA	comp=Z,0.6nm,0.8s **Yellowknife Ar**	**94.21**	**340**		P	**P**	**17 02 22.4**	**+1.3**
	comp=Z,0.7nm,0.6s,baz=127,slow=4.0,SNR=7.1							
ZALV	comp=Z,0.7nm,0.6s **Zalesovo Beam**	**143.52**	**28**		PKP	**PKPdf**	**17 08 35.8**	**-0.1**
	comp=Z,1.4nm,0.6s,baz=328,slow=5.3,SNR=8.5							
MKAR	**Makanchi Array**	**146.64**	**40**		PKPbc	**PKiKP**	**17 08 45.5**	**-0.5**
	comp=Z,1.9nm,0.6s,baz=300,slow=3.3,SNR=21							
SONM	**Songino Array**	**155.76**	**11**		PKPab	**PKPab**	**17 09 24.0**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=317,slow=5.9,SNR=1.8							

*CATAC **31** 16:56:01.9±0.5, 13°.24N×88°.07W, h5km±3km, ML2.7*
*SNET **31** 16:56:01.5±1.0, 13°.26N×88°.06W, h3km, ML2.7*
ISC 31 16:56:02.0±1.2**, 13°.22N**±0°.06×**88°.07W**±0°.03**, h11**km±7km**, n13**, σ0**45/21, El Salvador**

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
INTP	**Intipuca**	**0.03**	**154**	*i*	P		**Pg**	**16 56 03.5**	**-0.4**
INTP					S		**Sg**	**16 56 05.3**	**0.0**
JUCU	**Jucuarįn**	**0.18**	**280**	*i*	P		**Pg**	**16 56 06.2**	**+0.3**
JUCU				*i*	S		**Sg**	**16 56 09.0**	**+0.4**
JUCU	comp=Z,1μm,1.0s				IAML			16 56 14.6	
LCND	**La Caada**	**0.19**	**64**	*i*	P		**Pg**	**16 56 05.8**	**-0.4**
LCND					S		**Sg**	**16 56 09.2**	**+0.3**
LCND	**La Caada**	**0.19**	**64**	*i*	P		**Pg**	**16 56 05.7**	**-0.4**
LCND				*i*	S		**Sg**	**16 56 09.6**	**+0.7**
LCND	comp=Z,2μm,1.0s				IAML			16 56 10.5	
CNCH	**Conchagua**	**0.23**	**77**	*e*	P		**Pg**	**16 56 06.8**	**0.0**
CNCH					S		**Sg**	**16 56 10.8**	**+0.5**
CNCH	**Conchagua**	**0.23**	**77**	*i*	P		**Pg**	**16 56 06.5**	**-0.4**
CNCH				*i*	S		**Sg**	**16 56 10.7**	**+0.5**
CNCH	comp=Z,3μm,1.0s				IAML			16 56 16.0	
CNRM	**Centro Naciona**	**0.27**	**338**	*e*	P		**Pg**	**16 56 06.9**	**-0.6**
RANC	**El Ranchito**	**0.30**	**314**	*i*	P		**Pg**	**16 56 08.0**	**-0.1**
RANC				*i*	S		**Sg**	**16 56 12.8**	**+0.6**
RANC	comp=Z,770nm,1.0s				IAML			16 56 15.9	
PACA	**Pacayal**	**0.35**	**314**	*i*	P		**Pg**	**16 56 08.7**	**-0.3**
PACA	comp=Z,4μm,1.0s				IAML			16 56 21.3	
AMPH	**Amapala**	**0.40**	**81**	*i*	P		**Pg**	**16 56 09.8**	**-0.2**
AMPH					S		**Sg**	**16 56 16.0**	**+0.7**
CRIN	**San Cristobal**	**1.12**	**118**	*i*	P		**Pg**	**16 56 23.3**	**-0.2**
CRIN	comp=Z,250nm,1.0s				IAML			16 56 51.8	
JAYA	**Jayaque - finc**	**1.41**	**288**	*i*	P		**Pn**	**16 56 27.4**	**-0.4**
JAYA	comp=Z,370nm,1.0s				IAML			16 56 48.5	
MTO3	**Montecristo**	**1.72**	**313**	*i*	P		**Pn**	**16 56 32.2**	**+0.1**
MTO3	comp=Z,36nm,1.0s				IAML			16 56 32.5	

*ISU **31** 17:00:32.3, 39°.93N×69°.10E, h10km*
*SOME **31** 17:00:32.5, 40°.02N×69°.38E, h5km*
*KRNET **31** 17:00:33.8±0.1, 40°.02N×69°.27E, h21km, mb2.8*
*NNC **31** 17:00:39.3±4.6, 40°.26N×69°.41E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=32.8km s-min=20.3km az=20.0*
ISC 31 17:00:33.1±1.2**, 40°.01N**±0°.03×**69°.25E**±0°.03**, h5**km±10**km, n35**, σ2**05**/61**, 22C-12D, Tajikistan**

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
BXML	**Bakhmal**	**0.99**	**251**		P		**Pg**	**17 00 53.0**	**+0.9**
BXML					S		**Sn**	**17 01 08.6**	**+0.3**
DZI	**Dzhizak**	**1.10**	**276**		P		**Pg**	**17 00 51.9**	**-2.3**
DZI					S		**Sg**	**17 01 06.6**	**-1.8**
BTK	**Batken**	**1.21**	**87**	⇑	P		**Pg**	**17 00 55.7**	**-0.6**
BTK	baz=88			⇑	S		**Sg**	**17 01 11.5**	**-0.5**
GAR	**Garm**	**1.31**	**140**	⇓	P		**Pg**	**17 00 57.7**	**-0.5**
GAR	baz=41			⇓	S		**Sg**	**17 01 14.8**	**-0.3**
TAS	**Tashkent**	**1.31**	**2**	⇑	P		**Pn**	**17 00 57.9**	**-0.3**
TAS	baz=1.0			⇑	S		**Sg**	**17 01 15.1**	**-0.3**
CHGR	**Chuygangaron**	**1.35**	**183**	⇑	P		**Pn**	**17 00 58.7**	**-0.1**
CHGR	baz=84			⇑	S		**Sb**	**17 01 16.6**	**-0.1**
CHDK	**Chadak**	**1.50**	**50**		P		**Pb**	**17 01 02.3**	**+0.8**
CHDK					S		**Sg**	**17 01 24.6**	**+3.3**
CHMG	**Chimgan**	**1.64**	**20**		P		**Pb**	**17 01 04.6**	**+0.6**
CHMG					S		**Sg**	**17 01 28.6**	**+2.6**
CHRV	**Charvak**	**1.71**	**18**		P		**Pb**	**17 01 05.7**	**+0.5**
CHRV					S		**Sg**	**17 01 30.5**	**+2.3**
CHMI	**Chimion**	**1.77**	**81**		P		**Pb**	**17 01 06.6**	**+0.6**
CHMI					S		**Sg**	**17 01 32.1**	**+2.3**
DRK	**Karamyk**	**2.04**	**104**	⇓	P		**Pn**	**17 01 08.9**	**+0.5**
DRK	baz=5.0			⇓	S		**Sn**	**17 01 34.5**	**+0.1**
TRKS	**Terek-Say**	**2.09**	**43**	⇑	P		**Pn**	**17 01 09.0**	**0.0**
TRKS	baz=44			⇑	S		**Sn**	**17 01 34.7**	**-0.8**
IUG	**Iuzhnay**	**2.21**	**15**		Pg		**Pb**	**17 01 13.9**	**+0.2**
IUG	22nm,0.1s				Lg		Lg	17 01 42.3	
IUG	36nm,0.2s **Iuzhnay**	**2.21**	**15**	*e*	P		**Pb**	**17 01 13.6**	**-0.1**
IUG	22nm,0.1s			*e*	S		**Sb**	**17 01 42.3**	**+0.8**
TSTA	36nm,0.2s **Tashata**	**2.54**	**76**		P		**Pb**	**17 01 18.0**	**-1.1**
TSTA					S		**Sg**	**17 01 53.5**	**-1.1**
ARK	**Arkit**	**2.73**	**48**	⇑	P		**Pn**	**17 01 18.2**	**+0.5**
ARK	baz=48			⇑	S		**Sn**	**17 01 50.8**	**-0.3**
BRLS	**Boroldav**	**3.05**	**8**	*e*	P		**Pn**	**17 01 23.1**	**+1.0**
BRLS	5.9nm,0.1s			*e*	S		**Sn**	**17 01 59.2**	**+0.3**
ARSB	8.8nm,0.1s **Arslanbob**	**3.13**	**64**	⇑	P		**Pn**	**17 01 23.8**	**+0.5**
ARSB	baz=64			⇑	S		**Sn**	**17 02 00.1**	**-1.0**
KK31	**Karatay Array**	**3.23**	**17**	⇑	Pn		**Pb**	**17 01 31.3**	**+0.3**
KK31	1.3nm,0.2s,baz=204,slow=17,SNR=25			⇑	Lg		Lg	17 02 13.4	
KKAR	1.6nm,0.3s,baz=197,slow=32,SNR=9.3 **Karatay Array**	**3.23**	**17**	⇓	P		**Pn**	**17 01 25.4**	**+0.8**
KKAR	baz=16			⇓	S		**Sn**	**17 02 02.9**	**-0.5**
SFK	**Sufi-Kurgan**	**3.27**	**89**	⇓	P		**Pn**	**17 01 25.8**	**+0.5**
SFK	baz=89			⇓	S		**Sn**	**17 02 04.0**	**-0.7**
MNAS	**Manas**	**3.49**	**44**	⇓	P		**Pn**	**17 01 28.9**	**+0.7**
MNAS	baz=44			⇓	S		**Sn**	**17 02 09.0**	**-0.9**
MRKS	**Merke**	**4.05**	**46**		Pg		**Pb**	**17 01 46.9**	**+1.9**
MRKS	2.9nm,0.2s				Lg		Lg	17 02 39.9	
MRKS	8.9nm,0.4s **Merke**	**4.05**	**46**	*e*	P		**Pb**	**17 01 46.9**	**+1.9**
MRKS	2.9nm,0.2s			*e*	S		**Sg**	**17 02 39.9**	**-3.4**
EKS2	8.7nm,0.2s **Erkin-Say**	**4.32**	**51**	⇑	P		**Pn**	**17 01 40.3**	**+0.7**
EKS2	baz=51			⇑	S		**Sn**	**17 02 28.9**	**-1.5**
UCH	baz=51 **Uchtor**	**4.55**	**59**	⇑	P		**Pn**	**17 01 43.8**	**+0.7**
UCH	baz=59			⇑	S		**Sn**	**17 02 34.8**	**-1.8**
AAK	**Ala-Archa**	**4.74**	**55**	⇑	Pg		**Pb**	**17 01 59.5**	**+2.7**
AAK	1.5nm,0.5s			⇑	Lg		Lg	17 03 05.2	
USP	3.1nm,0.6s **Ospenovka**	**5.11**	**49**	⇑	P		**Pn**	**17 01 51.3**	**+1.0**
USP	baz=49			⇑	S		**Sn**	**17 02 47.7**	**-2.0**
TKM2	baz=49 **Tokmak 2**	**5.59**	**57**	⇓	P		**Pn**	**17 01 57.8**	**+0.7**
TKM2	baz=57			⇓	S		**Sn**	**17 02 59.2**	**-2.5**
DGS	baz=57 **Degeres**	**5.86**	**54**		Pg		Pb	17 02 20.7	+4.9
DGS	0.4nm,0.2s				Lg		Lg	17 03 35.9	
DGS	2.0nm,0.6s **Degeres**	**5.86**	**54**	*e*	P		**Pb**	**17 02 19.5**	**+3.7**
DGS	1.1nm,0.5s			*e*	S		**Sg**	**17 03 35.9**	**-5.3**
KST	3.0nm,0.4s **Kastek**	**5.88**	**57**		Pg		Pb	17 02 21.2	+5.0
KST	1.0nm,0.5s				Lg		Lg	17 03 37.5	
KST	3.8nm,0.3s **Kastek**	**5.88**	**57**	*e*	P		**Pb**	**17 02 20.3**	**+4.1**
KST	1.0nm,0.0s			*e*	S		**Sg**	**17 03 37.5**	**-4.5**
KRBS	3.8nm,0.3s **Karabastau**	**6.05**	**50**		Pg		Pb	**17 02 23.8**	**+4.7**
KRBS	0.3nm,0.2s				Lg		Lg	17 03 41.6	
KRBS	1.3nm,0.3s **Karabastau**	**6.05**	**50**	*e*	P		**Pb**	**17 02 22.5**	**+3.5**
KRBS	0.3nm,0.2s			*e*	S		**Sg**	**17 03 41.6**	**-5.7**
	1.3nm,0.3s								

*FUNV **31** 17:09:02.2, 10°.01N×69°.85W, h5km, MW3.8*
*RSNC **31** 17:09:03.6±0.0, 10°.N±2°×.7°0W±°, h68km±5km, M3.1, mb4.3, mB4.5, ML3.1, Mw(mB)3.7*
ISC 31 17:09:00.5±1.1**, 9°.98N**±0°.03×**69°.80W**±0°.02**, h6**km±9km**, n28, σ1**9**68/55, 6C-3D, Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
CURV	**Curarigua**	**0.17**	**281**	*i*	P		**Pg**	**17 09 03.5**	**-0.3**
CURV					S		**Sg**	**17 09 05.0**	**-1.0**
TEPV	**Terepaima**	**0.60**	**92**	*i*	P		**Pb**	**17 09 13.6**	**+0.2**
TEPV					S		**Sb**	**17 09 21.4**	**-0.8**
SIQV	**Siquisique**	**0.67**	**359**	*i*	P		**Pb**	**17 09 14.6**	**0.0**
SIQV					S		**Sb**	**17 09 23.8**	**-0.3**
MAPV	**Macapo**	**1.33**	**96**		eP		**Pg**	**17 09 27.1**	**+1.2**
MAPV					eS		**Sg**	**17 09 46.1**	**+2.8**
SDV	**Santo Domingo**	**1.36**	**217**		P		**Pn**	**17 09 26.4**	**-0.9**
SDV					S		**Sn**	**17 09 42.6**	**-2.3**
JACV	**Jacura**	**1.46**	**41**	*e*	P		**Pg**	**17 09 28.8**	**+0.4**
JACV				*e*	S		**Sg**	**17 09 49.1**	**+1.8**
TURV	**Turiamo**	**1.98**	**76**	⇓	eP		**Pb**	**17 09 36.5**	**-0.6**
TURV				⇓	eS		**Sg**	**17 10 02.2**	**-2.1**
SOCV	**Socops**	**1.98**	**212**	⇑	iP		**Pn**	**17 09 36.1**	**+1.4**
SOCV				⇑	eS		**Sn**	**17 10 00.6**	**+0.7**
BAUV	**El Baul**	**2.02**	**121**	⇑	iP		**Pb**	**17 09 37.3**	**-0.3**
BAUV				⇑	eS		**Sb**	**17 10 03.1**	**+0.1**
BENV	**Beln**	**2.17**	**90**	*e*	P		**Pb**	**17 09 39.5**	**-0.7**
BENV				*e*	S		**Sb**	**17 10 06.6**	**-0.8**
MCQV	**Machiques**	**2.70**	**272**	*e*	P		**Pn**	**17 09 45.0**	**+0.5**
MCQV				*e*	S		**Sn**	**17 10 17.0**	**-0.5**
TACV	**Tcata**	**2.73**	**86**	⇑	eP		**Pb**	**17 09 47.2**	**-2.7**
TACV				⇑	eS		**Sb**	**17 10 20.0**	**-3.7**
URIC	**Uribia, Colomb**	**2.75**	**309**		P		**Pn**	**17 09 45.8**	**+0.5**
URIC					S		**Sn**	**17 10 18.3**	**-0.6**
FUNV	**FUNVISIS**	**2.98**	**80**	*e*	P		**Pn**	**17 09 49.8**	**+1.4**
FUNV				*e*	S		**Sn**	**17 10 25.2**	**+0.5**
CRJC	**Cerrejon, Guaj**	**3.21**	**289**		P		**Pn**	**17 09 52.7**	**+1.1**
CRJC					S		**Sn**	**17 10 30.9**	**+0.7**
CAPV	**Capacho**	**3.26**	**230**	*e*	P		**Pn**	**17 09 53.0**	**+0.6**
CAPV				*e*	S		**Sn**	**17 10 30.7**	**-1.0**
MERV	**Las Mercedes**	**3.53**	**102**	*e*	P		**Pn**	**17 09 56.9**	**+1.0**
MERV				*e*	S		**Sn**	**17 10 38.5**	**+0.5**
OCAC	**Ocana**	**3.88**	**244**		P		**Pn**	**17 10 02.6**	**+1.6**
OCAC					S		**Sn**	**17 10 49.4**	**+2.3**

PAMC	**Pamplona, Colo**	**3.89**	**228**		P		**Pn**	**17 10 02.2**	**+0.9**
PAMC					S		**Sn**	**17 10 50.3**	**+2.7**
CACV	**CAICARA DEL OR**	**4.01**	**126**	⇑	iP		**Pb**	**17 10 10.2**	**-1.5**
CACV					eS		**Sb**	**17 11 01.3**	**+0.7**
ARGC	**Ariguani, Magd**	**4.38**	**269**		P		**Pn**	**17 10 09.6**	**+1.9**
ARGC					S		**Sn**	**17 10 59.4**	**+0.2**
BARC	**Barichara**	**4.75**	**225**		P		**Pn**	**17 10 15.4**	**+2.5**
BARC					S		**Sn**	**17 11 11.2**	**+2.7**
PCRV	**Puerto La Cruz**	**5.09**	**87**	*e*	P		**Pn**	**17 10 18.2**	**+0.8**
PCRV				*e*	S		**Sn**	**17 11 16.0**	**-0.6**
RUSC	**La Rusia**	**5.21**	**219**		P		**Pn**	**17 10 20.8**	**+1.4**
RUSC					S		**Sn**	**17 11 22.2**	**+2.1**
ZARC	**Zaragoza, Cauc**	**5.58**	**244**		P		**Pn**	**17 10 24.6**	**+0.4**
ZARC	14nm,0.5s,453nm 14nm,0.5s,453nm				S		**Sn**	**17 11 27.5**	**-1.2**
PTBC	**PUERTO BERRIO,**	**5.74**	**234**		P		**Pn**	**17 10 26.0**	**-0.4**
PTBC					S		**Sn**	**17 11 29.2**	**-3.5**
NORC	**Norcasia**	**6.67**	**229**		P		**Pn**	**17 10 41.0**	**+1.8**
VILC	**Villavicencio,**	**7.00**	**214**		P		**Pn**	**17 10 46.2**	**+2.5**
VILC					S		**Sn**	**17 11 59.2**	**-4.6**

TAP 31 17:09:40.5, 24°.53N×121°.82E, h8km, ML1.1, 1C, D, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
ESAO	**Su ao**	**0.05**	**20**	*e*	P		**Pg**	**17 09 43.0**	**+0.8**
ESAO	baz=20				S		Sg	17 09 44.1	+0.7
TWC	baz=20 **Suao**	**0.09**	**15**	⇑	iP		**Pg**	**17 09 43.6**	**+0.9**
TWC	baz=21			*i*	S		Sg	17 09 45.0	+0.8
EWUT	**Wuta**	**0.09**	**207**	*i*	P		**Pg**	**17 09 43.3**	**+0.5**
EWUT	baz=207			*i*	S		Sg	17 09 45.1	+0.8
ENA	baz=207 **Nanau**	**0.12**	**218**	*i*	P		**Pg**	**17 09 44.3**	**+1.1**
ENA	baz=214			*i*	S		Sg	17 09 46.6	+1.5
NDS	baz=214 **Dongshan**	**0.14**	**317**		S		Sg	17 09 47.4	+1.6
ENTT	baz=317 **Nioudou**	**0.26**	**296**		P		Pb	17 09 47.1	-0.4
ENTT	baz=295				S		Sb	17 09 51.2	-1.0
LATG	baz=295 **Datong**	**0.27**	**272**	*e*	P		Pb	17 09 47.3	-0.5
LATG	baz=271			*e*	S		Sb	17 09 51.2	-1.4
NDT	baz=271 **Datong Townshi**	**0.29**	**285**	*e*	P		Pb	17 09 47.5	-0.6
NDT	baz=285			*e*	S		Sg	17 09 51.2	+0.9
FUSB	baz=285 **Fushanzhiwuyua**	**0.32**	**317**	*e*	P		Pb	17 09 48.2	-0.3
FUSB	baz=317			*e*	S		Sb	17 09 53.1	-0.8
NWLT	baz=317 **Wulai**	**0.39**	**311**	*e*	P		Pb	17 09 49.6	-0.1
NWLT	baz=310			*e*	S		Sb	17 09 55.3	-0.5
NACB	baz=310 **Ninganchiao**	**0.41**	**211**	*e*	P		Pb	17 09 49.3	-0.7
NACB	baz=210			*e*	S		Sg	17 09 54.8	+0.9
NNSB	baz=210 **Datong**	**0.41**	**257**	*e*	P		Pb	17 09 49.7	-0.5
YHNB	baz=256 **Yeheng**	**0.43**	**289**	*e*	P		Pb	17 09 50.9	+0.4
YHNB	baz=289			*e*	S		Sb	17 09 56.4	-0.8
TIPB	baz=289 **Shuangxi**	**0.44**	**0**	*e*	P		Pb	17 09 51.1	+0.4
TIPB				*e*	S		Sb	17 09 56.9	-0.6
NSK	**Sanguang**	**0.45**	**289**	*e*	S		Sb	17 09 56.7	-1.0
TWD	baz=289 **Chiawan**	**0.49**	**205**	*e*	P		Pg	17 09 50.2	+0.2
	baz=204								

JMA 31 17:10:28.8±0.1**, 24°.2N**±0°.4×**123°.9E**±0°.3**, h20**km±1km**, MV2.1**/10**, NEAR ISHIGAKIJIMA ISLAND, Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID		Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.13**	**200**		P		Pb	17 10 32.9	-1.7
HATJ					eS		Sb	17 10 35.9	-2.8
JKRS	**Kuro-shima**	**0.15**	**69**		P		Pb	17 10 33.4	-1.1
JKRS					S		Sb	17 10 36.8	-1.7
IRIF	**Iriomote-Funau**	**0.19**	**323**	*i*	P		Pb	17 10 33.7	-0.7
JIJ	**Ishigaki jima**	**0.32**	**55**	*i*	P		Pb	17 10 35.6	-0.1
JIJ					eS		Sb	17 10 40.2	-0.3
JISG	**Ishigakijimahi**	**0.58**	**46**	*e*	P		Pb	17 10 39.9	-0.4
JISG				*e*	S		Sb	17 10 48.0	-0.1
YOJ	**Yonaguni jima**	**0.82**	**290**	*e*	P		Pb	17 10 44.3	0.0
YOJ					S		Sb	17 10 55.4	+0.5
JYNG	**Yonagunijimaku**	**0.87**	**288**		P		Pb	17 10 45.2	0.0
JYNG					eS		Sb	17 10 56.8	+0.4
JTJ	**Tarama**	**0.90**	**59**	*e*	P		Pn	17 10 45.9	-0.3

*IDC **31** 17:20:50.7±5.0, 34°.72S×178°.93E, h153km±38km, mb4.1/3, mbtmp4.5/4, Error ellipse: s-maj=49.5km s-min=23.0km az=45.0*
*WEL **31** 17:20:59.1±1.0, 35°.S±5°.×17°.8E±°, h12km, M4.1/22, ML4.4/22, MLv4.1/22, Error ellipse: s-maj=0.0km s-min=0.0km az=73.6, confirmed*
*NEIC **31** 17:21:01.6±1.2, 35°.8S±0°.1×178°.0E±0°.2, h211km±13km, mb4.3/7, Error ellipse: s-maj=23.0km

RTZ			Sn	S	17 22 30.1	-3.4
RTZ	**Ruatahuna**	**2.93 203**	P	**Pn**	**17 21 52.4**	**-0.1**
RTZ			S	**S**	**17 22 36.3**	**+2.8**
HSRZ	**Hossack Road**	**2.96 216**	P	**Pn**	**17 21 55.2**	**+2.4**
TOZ	**Tahuroa Road**	**2.97 232**		**Pn**	**17 21 53.1**	**+0.3**
TOZ	**Tahuroa Road**	**2.97 232**	P	**Pn**	**17 21 53.2**	**+0.4**
SNGZ	**Shannon Statio**	**2.98 197**	P	**Pn**	**17 21 53.3**	**+0.3**
SNGZ			S	**S**	**17 22 38.1**	**+3.7**
HRRZ	**Handcock Road**	**3.00 214**	P	**Pn**	**17 21 55.6**	**+2.4**
PRGZ	**Paritu Road**	**3.02 188**	P	**Pn**	**17 21 53.9**	**+0.4**
PRRZ	**Plateau Road**	**3.04 212**	P	**Pn**	**17 21 54.9**	**+1.2**
ALRZ	**Allen Road**	**3.12 212**	P	**Pn**	**17 21 55.7**	**+1.2**
KNZ	**Kokohu**	**3.15 191**	P	**Pn**	**17 21 54.7**	**-0.1**
RAHZ	**Arahi**	**3.17 199**	P	**Pn**	**17 21 54.7**	**-0.4**
MTHZ	**Maungataniwha**	**3.19 203**	P	**Pn**	**17 21 55.8**	**+0.5**
MHGZ	**Mahia Peninsul**	**3.25 187**	P	**Pn**	**17 21 56.6**	**+0.7**
WHHZ	**Waihua**	**3.29 197**	P	**Pn**	**17 21 57.3**	**+0.9**
KUTZ	**Kaahu Road**	**3.30 218**	P	**Pn**	**17 21 59.9**	**+3.4**
MRHZ	**Matea Rd**	**3.32 208**	P	**Pn**	**17 21 57.7**	**+0.9**
WCZ	**Waipu Caves**	**3.32 269**	P	**Pn**	**17 21 52.2**	**-4.6**
TLZ	**Tolley Road**	**3.34 223**	P	**Pn**	**17 21 59.2**	**+2.3**
NMHZ	**Naumai**	**3.42 202**	P	**Pn**	**17 21 59.0**	**+1.1**
ARHZ	**Aropaoanui**	**3.52 199**	P	**Pn**	**17 21 59.5**	**+0.6**
BKZ	**Black Stump Fm**	**3.59 205**	P	**Pn**	**17 22 00.7**	**+0.9**
BKZ	**Black Stump Fm**	**3.59 205**		Pn	17 21 53.8	-6.0
BKZ			Sn	**S**	**17 22 46.9**	**+0.3**
BKZ	**Black Stump Fm**	**3.59 205**	P	**Pn**	**17 22 01.1**	**+1.3**
RATZ	**Rangitukua**	**3.62 215**	P	**Pn**	**17 22 02.2**	**+2.0**
RITZ	**Rihia Road**	**3.67 213**	P	**Pn**	**17 22 02.1**	**+1.4**
KATZ	**Kakaramea**	**3.75 215**	P	**Pn**	**17 22 03.8**	**+2.1**
MCHZ	**McNeill Hill**	**3.78 201**	P	**Pn**	**17 22 02.0**	**+0.1**
KWHZ	**Kaweka Forest**	**3.84 204**	P	**Pn**	**17 22 03.4**	**+0.6**
HIZ	**Hauiti**	**3.85 227**	P	**Pn**	**17 22 05.9**	**+3.1**
HIZ	**Hauiti**	**3.85 227**		**Pn**	**17 22 05.8**	**+3.1**
HIZ	**Hauiti**	**3.85 227**	P	**Pn**	**17 22 06.0**	**+3.1**
NTVZ	**North Tongarir**	**3.86 214**	P	**Pn**	**17 22 04.2**	**+1.2**
TMVZ	**Te Maari**	**3.86 214**	P	**Pn**	**17 22 04.0**	**+1.0**
KRVZ	**Karewarewa**	**3.87 214**	P	**Pn**	**17 22 04.5**	**+1.4**
ETVZ	**East Tongariro**	**3.87 213**	P	**Pn**	**17 22 04.1**	**+1.0**
CKHZ	**Cape Kidnapper**	**3.88 196**	P	**Pn**	**17 22 04.2**	**+1.1**
WTVZ	**West Tongariro**	**3.91 215**	P	**Pn**	**17 22 04.6**	**+1.0**
NNVZ	**North Ngauruho**	**3.91 214**	P	**Pn**	**17 22 05.4**	**+1.8**
OTVZ	**Oturere**	**3.91 213**	P	**Pn**	**17 22 04.7**	**+1.0**
SNVZ	**South Ngauruho**	**3.94 214**	P	**Pn**	**17 22 05.1**	**+1.0**
TWVZ	**Taurewa**	**3.94 216**	P	**Pn**	**17 22 05.3**	**+1.3**
NGZ	**Ngauruhoe**	**3.95 214**	P	**Pn**	**17 22 05.4**	**+1.3**
TUVZ	**Tukino**	**4.00 213**	P	**Pn**	**17 22 05.7**	**+1.0**
OUZ	**Omahuta**	**4.01 279**	P	Pn	17 21 58.9	-5.8
BHHZ	**Black Hill Sta**	**4.03 207**	P	**Pn**	**17 22 05.3**	**+0.4**
FWVZ	**Far West T-bar**	**4.04 214**	P	**Pn**	**17 22 06.0**	**+0.8**
MAVZ	**Mataerangi**	**4.04 214**	P	**Pn**	**17 22 07.9**	**+2.5**
WHVZ	**Whangaehu Hut**	**4.04 213**	P	**Pn**	**17 22 07.7**	**+2.5**
KAHZ	**Kahuranaki**	**4.06 197**	P	**Pn**	**17 22 05.9**	**+0.7**
KRHZ	**Kereru**	**4.06 203**	P	**Pn**	**17 22 05.7**	**+0.5**
TRVZ	**Turoa**	**4.08 213**	P	**Pn**	**17 22 06.5**	**+0.8**
WNVZ	**Wahianoa**	**4.08 213**	P	**Pn**	**17 22 06.4**	**+0.8**
MOVZ	**Moawhango**	**4.08 211**	P	**Pn**	**17 22 05.8**	**+0.3**
PKVZ	**Pokaka**	**4.16 215**	P	**Pn**	**17 22 07.6**	**+1.1**
MTVZ	**Mangateitei**	**4.18 213**	P	**Pn**	**17 22 07.9**	**+1.2**
PXZ	**Pawanui**	**4.29 196**	P	**Pn**	**17 22 08.0**	**+0.1**
VRZ	**Vera Road**	**4.33 221**	P	**Pn**	**17 22 11.0**	**+2.6**
PNHZ	**Pukenui**	**4.36 203**	P	**Pn**	**17 22 09.0**	**+0.2**
WPHZ	**Waipukurau**	**4.42 200**	P	**Pn**	**17 22 09.9**	**+0.4**
PRHZ	**Porangahau**	**4.56 198**	P	**Pn**	**17 22 11.5**	**+0.3**
TSZ	**Takapari Road**	**4.57 205**	P	**Pn**	**17 22 11.4**	**+0.2**
WAZ	**Wanganui**	**4.70 215**	P	**Pn**	**17 22 14.4**	**+1.5**
DVHZ	**Dannevirke**	**4.72 202**	P	**Pn**	**17 22 12.9**	**-0.2**
LREZ	**Lake Rotokare**	**4.76 221**	P	**Pn**	**17 22 16.6**	**+3.0**
ANWZ	**Angora Road**	**4.79 198**	P	**Pn**	**17 22 14.9**	**+1.1**
NEZ	**North Egmont**	**4.80 225**	P	**Pn**	**17 22 17.4**	**+3.3**
PKE	**Pukeiti**	**4.81 226**	P	**Pn**	**17 22 17.5**	**+3.2**
KHEZ	**Kahui Hut**	**4.86 225**	P	**Pn**	**17 22 17.3**	**+2.4**
KHEZ	**Kahui Hut**	**4.86 225**	P	**Pn**	**17 22 18.1**	**+3.1**
POWZ	**Post Office Ro**	**4.93 204**	P	**Pn**	**17 22 15.8**	**+0.2**
PRWZ	**Pori Road**	**5.01 202**	P	**Pn**	**17 22 17.5**	**+0.9**
BFZ	**Birch Farm**	**5.05 199**	P	**Pn**	**17 22 17.1**	**0.0**
BFZ	**Birch Farm**	**5.05 199**	Pn	**Pn**	**17 22 16.7**	**-0.4**
MRZ	**Mangatainoka R**	**5.24 205**		**Pn**	**17 22 19.0**	**-0.3**
MSWZ	**Moikau Station**	**6.02 204**		**Pn**	**17 22 29.0**	**-0.1**
MSWZ			Sn	**S**	**17 23 36.7**	**-3.1**
SNZO	**South Karori**	**6.12 207**	P	**Pn**	**17 22 29.5**	**-0.8**
SNZO	**South Karori**	**6.12 207**	Pn	**Pn**	**17 22 29.5**	**-0.8**
BHW	**Baring Head**	**6.15 206**	Pn	**Pn**	**17 22 29.5**	**-1.1**
PLWZ	**Palliser**	**6.16 203**	Pn	**Pn**	**17 22 30.3**	**-0.5**
PLWZ			Sn	**S**	**17 22 43.4**	**+1.4**
TCW	**Tory Channel**	**6.20 210**	Pn	**Pn**	**17 22 30.3**	**-1.1**
TUWZ	**Tuamarina**	**6.53 211**		**Pn**	**17 22 34.2**	**-1.2**
NNZ	**Nelson**	**6.61 215**	Pn	**Pn**	**17 22 34.9**	**-1.5**
TKNZ	**Takaka Hill**	**6.67 218**	Pn	**Pn**	**17 22 35.8**	**-1.4**
QRZ	**Quartz Range**	**6.74 222**	P	**Pn**	**17 22 39.5**	**+1.4**
QRZ	**Quartz Range**	**6.74 222**	Pn	**Pn**	**17 22 37.4**	**-0.8**
BSWZ	**Blackbirch Sta**	**6.79 210**	Pn	**Pn**	**17 22 37.4**	**-1.4**
MRNZ	**Matariki Terra**	**7.04 217**	Pn	**Pn**	**17 22 41.3**	**-0.7**
THZ	**Tophouse**	**7.25 215**	Pn	**Pn**	**17 22 44.6**	**0.0**
KHZ	**Kahutara**	**7.52 209**	P	**Pn**	**17 22 47.7**	**-0.1**
KHZ	**Kahutara**	**7.52 209**	Pn	**Pn**	**17 22 47.5**	**-0.3**
DSZ	**Denniston Nort**	**7.78 220**	Pn	**Pn**	**17 22 51.1**	**-0.2**
GVZ	**Greta Valley S**	**8.18 209**	Pn	**Pn**	**17 22 55.0**	**-1.3**
LTZ	**Lake Taylor**	**8.35 213**	Pn	**Pn**	**17 22 58.4**	**0.0**
INZ	**Inchbonnie**	**8.69 216**	Pn	**Pn**	**17 23 02.1**	**-0.5**
OXZ	**Oxford**	**8.89 212**	Pn	**Pn**	**17 23 03.6**	**-1.6**
MQZ	**McQueen's Vall**	**8.95 208**	Pn	**Pn**	**17 23 04.5**	**-1.5**
RPZ	**Rata Peaks**	**9.63 214**	P	**Pn**	**17 23 16.2**	**+1.6**
RPZ	**Rata Peaks**	**9.63 214**	P	**Pn**	**17 23 14.5**	**0.0**
	2.5nm,0.5s,baz=59,slow=21,SNR=1.5					
RPZ			S	**S**	**17 25 00.7**	**-2.3**
	2.7nm,0.4s,baz=70,slow=22,SNR=1.5					
FOZ	**Fox Glacier**	**10.09 219**	Pn	**Pn**	**17 23 20.4**	**+0.1**
ODZ	**Otahua Downs**	**10.87 211**	P	**Pn**	**17 23 31.0**	**+0.9**
ODZ	**Otahua Downs**	**10.87 211**	Pn	**Pn**	**17 23 30.3**	**+0.2**
JCZ	**Jackson Bay**	**11.00 219**	P	**Pn**	**17 23 32.8**	**+1.0**
WKZ	**Wanaka**	**11.42 216**	Pn	**Pn**	**17 23 36.6**	**-0.5**
AS31	**Alice Springs**	**40.21 275**	P	**P**	**17 28 14.3**	**+0.8**
AS31			IAmb	IAmb	17 28 15.3	
	comp=Z,2.2nm,0.7s					
ASAR	**Alice Springs**	**40.22 275**	P	**P**	**17 28 14.2**	**+0.7**
ASAR	**Alice Springs**	**40.22 275**	P	**P**	**17 28 14.8**	**+1.3**
	comp=Z,4.2nm,0.5s,baz=113,slow=8.0,SNR=164					
	comp=Z,4.2nm,0.5s					
WB2	**Warramunga Arr**	**41.71 280**	P	**P**	**17 28 26.2**	**+0.6**
WB2			IAmb	IAmb	17 28 26.8	
	comp=Z,13nm,0.6s					
WRA	**Warramunga Arr**	**41.72 280**	P	**P**	**17 28 26.0**	**+0.3**
WRA	**Warramunga Arr**	**41.72 280**	P	**P**	**17 28 26.4**	**+0.6**
	comp=Z,7.5nm,0.6s,baz=118,slow=7.8,SNR=74					
	comp=Z,7.5nm,0.6s					
WB0	**Warramunga Arr**	**41.77 281**	P	**P**	**17 28 26.3**	**+0.2**
WB0			IAmb	IAmb	17 28 27.2	
	comp=Z,6.7nm,0.8s					
MTN	**Manton Dam**	**48.26 286**	P	**P**	**17 29 16.2**	**-0.8**
MTN			IAmb	IAmb	17 29 20.5	
	comp=Z,37nm,1.4s					
FITZ	**Fitzroy Crossi**	**49.68 276**	P	**P**	**17 29 29.0**	**+1.3**
QSPA	**South Pole Qui**	**54.20 180**	P	P	17 30 08.7	+8.2
QSPA			IAmb	IAmb	17 30 32.1	
	comp=Z,7.2nm,1.4s					
QSPA	**South Pole Qui**	**54.20 180**	P	P	17 30 08.7	+8.2
	comp=Z,1.7nm,0.5s,baz=45,slow=1.7,SNR=23					
	comp=Z,1.7nm,0.5s					
KURBB	**Kurchatov Arra**	**122.63 312**	PKP	**PKPdf**	**17 39 25.3**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=107,slow=1.8,SNR=2.2					
FINES	**FINESS Array B**	**149.07 334**	PKPbc	**PKPdf**	**17 40 17.7**	**+3.6**
	comp=Z,1.2nm,0.4s,baz=56,slow=2.5,SNR=16					
BRTR	**Keskin Array B**	**152.05 288**	PKPbc	**PKPbc**	**17 40 26.3**	**-0.1**
	comp=Z,0.3nm,0.4s,baz=77,slow=2.7,SNR=2.3					
NOA	**NORSAR Array B**	**153.58 346**	PKPbc	**PKPbc**	**17 40 28.5**	**-0.5**
	comp=Z,0.2nm,0.6s,baz=26,slow=3.4,SNR=1.6					

*CATAC **31** 18:09:40.4±0.7, 13°.62N×90°.99W, h26km±8km, ML3.9*
*GCG **31** 18:09:46.3±0.3, 14°.20N×91°.01W, h59km±6km, MD3.6*
ISC 31 18:09:36.4±1.9, **13°.52N**±0°.07×**91°.05W**±0°.05, **h6**km±11km,
n23, σ1**s26**/43, **Near coast of Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUG	**Fuego 3**	**0.95**	**12**	*i* P	**Pg**	**18 09 56.8**	**+2.2**
GUMI	**Mixco**	**1.18**	**21**	*i* S	**Sg**	**18 10 14.0**	**-0.6**
RTAL	**Retalhuleu**	**1.18**	**328**	*i* P	**Pg**	**18 09 59.6**	**+0.5**
RTAL				*i* S	**Sg**	**18 10 14.2**	**-0.3**
RTAL				IAML		18 10 18.6	
	comp=Z,540nm,1.0s						
NBG	**Las Nubes**	**1.26**	**32**	*i* P	**Pg**	**18 10 02.1**	**+1.5**
NBG				*i* S	**Sg**	**18 10 17.2**	**+0.2**
GUNB	**GUNB**	**1.27**	**32**	*i* P	**Pg**	**18 10 00.8**	**0.0**
GUNB				*i* S	**Sg**	**18 10 15.5**	**-1.8**
GUNB				IAML		18 10 16.4	
	comp=Z,2μm,1.0s						
NUBE	**Las Nubes**	**1.29**	**73**	*i* P	**Pg**	**18 10 01.4**	**+0.3**
NUBE				*i* S	**Sg**	**18 10 16.6**	**-1.2**
NUBE				IAML		18 10 18.6	
	comp=Z,2μm,1.0s						
STG3	**Santiaguito 3,**	**1.29**	**337**	*i* P	**Pg**	**18 10 01.7**	**+0.5**
STG3				*i* S	**Sg**	**18 10 13.7**	**-4.3**
LOAL	**Lomas de Alarc**	**1.32**	**69**	*i* P	**Pg**	**18 10 01.8**	**+0.1**
LOAL				*i* S	**Sg**	**18 10 18.0**	**-0.8**
LOAL				IAML		18 10 19.2	
	comp=Z,4μm,1.0s						
SOKI	**Kika Raxquin**	**1.34**	**345**	*i* P	**Pg**	**18 10 02.2**	**0.0**
SOKI				*i* S	**Sg**	**18 10 18.6**	**-1.0**
SOKI				IAML		18 10 22.1	
	comp=Z,2μm,1.0s						
CEVE	**Cerro Verde**	**1.42**	**77**	*i* P	**Pn**	**18 10 03.3**	**+0.3**
CEVE				*i* S	**Sg**	**18 10 21.2**	**-0.8**
CEVE				IAML		18 10 22.7	
	comp=Z,4μm,1.0s						
UNIC	**Universidad Ca**	**1.53**	**72**	*i* P	**Pn**	**18 10 05.4**	**+1.1**
UNIC				*i* S	**Sn**	**18 10 23.5**	**-1.0**
UNIC				IAML		18 10 24.5	
	comp=Z,520nm,1.0s						
JAYA	**Jayaque - finc**	**1.56**	**85**	*i* P	**Pn**	**18 10 05.6**	**+0.8**
JAYA				*i* S	**Sn**	**18 10 23.7**	**-1.8**
JAYA				IAML		18 10 24.7	
	comp=Z,6μm,1.0s						
PMON	**Piamonte**	**1.69**	**83**	*i* P	**Pn**	**18 10 07.8**	**+1.1**
PMON				*i* S	**Sn**	**18 10 28.0**	**-0.8**
PMON				IAML		18 10 31.3	
	comp=Z,3μm,1.0s						
QUIS	**Sacapulas**	**1.76**	**359**	*i* P	**Pn**	**18 10 08.9**	**+1.2**
QUIS				*i* S	**Sn**	**18 10 30.7**	**+0.2**
QUIS				IAML		18 10 32.7	
	comp=Z,1μm,1.0s						
PANCS	**Alcalda de**	**1.82**	**87**	*i* P	**Pn**	**18 10 09.1**	**+0.8**
PANCS				*i* S	**Sn**	**18 10 30.4**	**-1.3**
PANCS				IAML		18 10 32.6	
	comp=Z,4μm,1.0s						
LOMA	**Loma Larga**	**1.83**	**86**	*i* P	**Pn**	**18 10 09.6**	**+1.1**
LOMA				*i* S	**Sn**	**18 10 31.0**	**-1.1**
LOMA				IAML		18 10 32.9	
	comp=Z,2μm,1.0s						
UDBS	**Universidad Do**	**1.85**	**84**	*i* P	**Pn**	**18 10 09.9**	**+1.2**
UDBS				*i* S	**Sn**	**18 10 31.7**	**-0.8**
UDBS				IAML		18 10 35.3	
	comp=Z,1μm,1.0s						
MTO3	**Montecristo**	**1.85**	**62**	*i* P	Pn	18 10 09.0	0.0
MTO3				*i* S	**Sn**	**18 10 31.3**	**-1.6**
MTO3				IAML		18 10 34.0	
	comp=Z,390nm,1.0s						
ESQI	**Esquipulas**	**1.95**	**58**	*i* P	**Pn**	**18 10 10.4**	**+0.2**
ESQI				*i* S	**Sn**	**18 10 35.1**	**0.0**
ESQI				IAML		18 10 40.3	
	comp=Z,700nm,1.0s						
MRL	**Marmol**	**2.04**	**40**	*i* P	**Pn**	**18 10 12.5**	**+1.0**
MRL				*i* S	**Sn**	**18 10 37.0**	**-0.5**
PAVA	**Las Pavas**	**2.06**	**84**	*i* P	**Pn**	**18 10 12.6**	**+0.9**
PAVA				*i* S	**Sn**	**18 10 37.5**	**-0.3**
PAVA				IAML		18 10 41.8	
	comp=Z,740nm,1.0s						
COEG	**Centro de Oper**	**2.11**	**87**	*i* P	**Pn**	**18 10 13.6**	**+1.3**
COEG				*i* S	**Sn**	**18 10 38.9**	**0.0**
COEG				IAML		18 10 41.6	
	comp=Z,540nm,1.0s						
TGUH	**Tegucigalpa,Un**	**3.70**	**81**	*i* P	**Pn**	**18 10 36.4**	**+2.1**
TGUH				*i* S	**Sn**	**18 11 17.1**	**-1.3**
TGUH				IAML		18 11 45.4	
	comp=Z,65nm,1.0s						

IDC 31 18:22:20.4±5.7, **19°.76N**×**146°.35E**, **h0**km, **mb3.6**/5,
mbtmp3.6/5, **Error ellipse: s-maj=241.1km**
s-min=101.6km az=33.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**23.86**	**322**	P	P	18 27 35.6	+0.2
	0.4nm,0.5s,baz=148,slow=9.7,SNR=5.5						
	0.4nm,0.5s						
MKAR	**Makanchi Array**	**58.19**	**313**	P	P	18 32 16.7	+0.4
	0.4nm,0.5s,baz=92,slow=8.5,SNR=6.5						
	0.4nm,0.5s						
KURBB	**Kurchatov Arra**	**60.96**	**318**	P	P	18 32 34.8	-0.4
	0.2nm,0.4s,baz=93,slow=8.5,SNR=5.3						
	0.2nm,0.4s						
BVAR	**Borovoye Array**	**66.06**	**320**	P	P	18 33 08.8	-0.3
	0.4nm,0.5s,baz=76,slow=6.1,SNR=2.5						
	0.4nm,0.5s						
FINES	**FINESS Array B**	**86.19**	**335**	P	P	18 35 03.4	0.0
	1.4nm,0.9s,baz=80,slow=5.0,SNR=7.4						
	1.4nm,0.9s						

*NEIC **31** 18:26:33.6±1.7, 1°.54N±0°.08×127°.13E±0°.09, h113km±7km, mb4.7/65, Error ellipse: s-maj=12.8km s-min=11.4km az=58.0*
*IDC **31** 18:26:33.6±1.6, 1°.57N×127°.34E, h116km±14km, mb3.9/16, mbtmp4.4/18, Error ellipse: s-maj=21.3km s-min=8.0km az=84.0*
*DJA **31** 18:26:34.6±0.2, 2°.N±2°.×12°.7E±°, h125km±2km, M4.9/45, mb4.9/45, mB5.4/12, MLv5.1/15, Mw4.4/71, Mw(mB)4.8/12*
ISC 31 18:26:32.4±0.3, **1°.56N**±0°.04×**127°.17E**±0°.05, **h103**km, **n186,**
σ1**s44**/195, **mb4.5**/51, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBMI	**Labuha**	**2.21**	**171**	P	**Pn**	**18 27 12.2**	**+4.4**
KMSI	**Cibinong**	**3.34**	**253**	P	**Pn**	**18 27 25.1**	**+2.4**
SANI	**Sanana**	**3.78**	**198**	P	**Pn**	**18 27 30.4**	**+1.7**
SANI	**Sanana**	**3.78**	**198**	P	**Pn**	**18 27 30.3**	**+1.6**
GTOI	**Gorontalo**	**4.26**	**258**	P	**Pn**	**18 27 38.6**	**+3.5**
SWI	**Sorong**	**4.75**	**120**	P	**Pn**	**18 27 46.4**	**+4.7**
NLAI	**Namlea**	**4.77**	**181**	P	**Pn**	**18 27 45.0**	**+2.9**
LUWI	**Luwuk**	**5.10**	**240**	P	**Pn**	**18 27 47.5**	**+1.0**
LUWI	**Luwuk**	**5.10**	**240**	Pn	**Pn**	**18 27 46.9**	**+0.4**
LUWI	**Luwuk**	**5.10**	**240**	P	**Pn**	**18 27 47.5**	**+1.0**
	721nm,0.5s,11μm3.6nm						
DAV	**Davao City (W)**	**5.69**	**344**	P	**Pn**	**18 27 56.4**	**+1.8**
	218nm,0.5s,baz=24,slow=8.4,SNR=1.0						
DAV				S	**Sn**	**18 28 59.4**	**+0.7**
	156nm,0.4s,baz=82,slow=16,SNR=1.4						
TOLI2	**Tolitoli**	**6.40**	**266**	P	**Pn**	**18 28 05.8**	**+1.6**
TOLI2	**Tolitoli**	**6.40**	**266**	Pn	**Pn**	**18 28 05.1**	**+0.9**
FAKI	**Fak Fak**	**6.75**	**131**	P	**Pn**	**18 28 10.3**	**+1.3**
FAKI	**Fak Fak**	**6.75**	**131**	Pn	**Pn**	**18 28 10.1**	**+1.2**
FAKI	**Fak Fak**	**6.75**	**131**	P	**Pn**	**18 28 13.6**	**+4.6**
	107nm,1.0s,0.4nm						
MPSI	**Mapaga**	**7.37**	**261**	P	**Pn**	**18 28 19.6**	**+2.2**
	39nm,0.5s,1μm0.3nm						
BBSI	**Bau Bau**	**8.38**	**213**	P	**Pn**	**18 28 35.3**	**+4.3**
	110nm,0.8s,2μm						
BKSI	**Bulukumba**	**9.81**	**226**	P	**Pn**	**18 28 53.8**	**+3.2**
	392nm,0.5s,5μm						
KAPI	**Kappang**	**9.88**	**229**	Pn	**Pn**	**18 28 52.8**	**+1.4**
KAPI	**Kappang**	**9.88**	**229**	P	**Pn**	**18 28 54.0**	**+2.5**
	264nm,0.4s,baz=36,slow=4.7,SNR=145						
KAPI				S	**Sn**	**18 30 39.8**	**-0.7**
	20nm,0.3s,baz=57,slow=23,SNR=6.1						
MMRI	**Maumere**	**11.26**	**206**	P	**Pn**	**18 29 12.8**	**+2.6**
	27nm,0.8s						
EDFI	**Ende, Flores**	**11.61**	**208**	P	**P**	**18 29 19.7**	**-4.5**
	52nm,0.8s,793nm						
SOEI	**Soe**	**11.61**	**194**	P	**Pn**	**18 29 16.1**	**+1.1**
SOEI	**Soe**	**11.61**	**194**	Pn	**Pn**	**18 29 14.8**	**-0.2**
BATI	**Baumata**	**12.20**	**197**	P	**Pn**	**18 29 24.4**	**+1.7**
	6.7nm,0.4s,baz=0.0,slow=4.0,SNR=1.4						
BATI				S	**Sn**	**18 31 40.3**	**+3.3**
	13nm,0.5s,baz=57,slow=21,SNR=1.6						
BATI	**Baumata**	**12.20**	**197**	P	**P**	**18 29 26.9**	**-4.0**
	43nm,1.0s						
BASI	**Baing, Sumba**	**13.42**	**209**	P	**P**	**18 29 44.1**	**-0.3**
	178nm,1.1s						
GENI	**Genyem**	**13.64**	**108**	P	**P**	**18 29 44.7**	**-2.1**
	46nm,1.0s,882nm						
PLAI	**Plampang**	**13.94**	**222**	P	**P**	**18 29 47.8**	**-2.4**
PLAI	**Plampang**	**13.94**	**222**	P	**P**	**18 29 49.4**	**-0.8**
	57nm,1.0s						

JAY	**Jayapura**	**14.13**	**107**	P	**P**	**18 29 52.1**	**-0.2**
	24nm,0.9s						
DRS	**Darwin Rock St**	**14.39**	**165**	P	**Pn**	**18 29 52.0**	**+0.7**
TWSI	**Taliwang, Sumb**	**14.49**	**225**	P	**P**	**18 29 56.6**	**+0.3**
	32nm,0.8s						
MTN	**Manton Dam**	**14.85**	**165**	P	**Pn**	**18 29 56.9**	**-0.2**
MTN	**Manton Dam**	**14.85**	**165**	Pn	**Pn**	**18 29 55.6**	**-1.5**
SBUM	**Sibu**	**14.97**	**274**		**Pn**	**18 29 58.1**	**-0.6**
KDU	**Kakadu**	**15.11**	**160**	P	**Pn**	**18 29 59.8**	**-0.6**
SRBI	**Singaraja**	**15.30**	**231**	P	**P**	**18 30 07.8**	**+2.5**
	50nm,1.4s						
STKI	**Sintang**	**15.76**	**265**	P	**Pn**	**18 30 09.3**	**+0.7**
JAGI	**Jajag, Banyuwa**	**16.36**	**232**	P	**P**	**18 30 17.5**	**+0.4**
JAGI	**Jajag, Banyuwa**	**16.36**	**232**		**Pn**	**18 30 14.4**	**-1.7**
JAGI				IAmb	IAmb	18 30 24.8	
	comp=Z,79nm,1.2s						
JAGI	**Jajag, Banyuwa**	**16.36**	**232**	P	**P**	**18 30 19.3**	**+2.2**
	comp=Z,56nm,0.9s						
KSM	**Kuching**	**16.86**	**270**	P	**P**	**18 30 22.8**	**+0.2**
PWJI	**Pagerwoja**	**18.04**	**238**	P	**Pn**	**18 30 37.4**	**+0.9**
SMRI	**Semarang**	**18.76**	**243**	P	**Pn**	**18 30 45.0**	**-0.1**
	comp=Z,51nm,0.7s						
UGM	**Wanagama**	**19.09**	**240**	P	**Pn**	**18 30 48.7**	**-0.3**
UGM	**Wanagama**	**19.09**	**240**	P	**Pn**	**18 30 48.7**	**-0.3**
	comp=Z,96nm,1.1s						
FITZ	**Fitzroy Crossi**	**19.60**	**184**	P	**P**	**18 30 53.4**	**+0.9**
FITZ	**Fitzroy Crossi**	**19.60**	**184**	P	**P**	**18 30 53.0**	**+0.5**
LEM	**Lembang**	**21.22**	**247**	P	**P**	**18 31 12.5**	**+2.2**
	comp=Z,42nm,0.7s,baz=38,slow=10.0,SNR=11						
	comp=Z,42nm,0.7s						
LEM	**Lembang**	**21.22**	**247**	P	**P**	**18 31 12.4**	**+2.2**
	comp=Z,40nm,0.8s						
PPBI	**Pangkal Pinang**	**21.35**	**260**	P	**P**	**18 31 10.4**	**-1.1**
	comp=Z,38nm,0.6s						
BBJI	**Bungbulang**	**21.44**	**245**	P	**P**	**18 31 14.3**	**+1.8**
CBJI	**Citeko**	**21.78**	**248**	P	**P**	**18 31 17.7**	**+1.6**
	comp=Z,49nm,0.7s						
CNJI	**Cibinong**	**21.85**	**246**	P	**P**	**18 31 17.0**	**+0.2**
	comp=Z,39nm,0.9s						
TWGBT	**Beinan**	**21.94**	**345**	P	**P**	**18 31 17.5**	**-0.2**
TWG	**Pinlang**	**21.94**	**345**	P	**P**	**18 31 16.0**	**-1.7**
TWG				IAmb	IAmb	18 31 18.7	
	comp=Z,19nm,0.4s						
COEN	**Coen**	**22.12**	**135**	P	**P**	**18 31 19.6**	**-0.1**
COEN	**Coen**	**22.12**	**135**	P	**P**	**18 31 17.4**	**-2.3**
COEN				IAmb	IAmb	18 31 22.9	
	comp=Z,28nm,1.2s						
WB0	**Warramunga Arr**	**22.35**	**162**	P	**P**	**18 31 20.8**	**-1.2**
YULB	**Yu-li**	**22.43**	**346**	P	**P**	**18 31 22.6**	**-0.2**
YULB	**Yu-li**	**22.43**	**346**	P	**P**	**18 31 21.4**	**-1.5**
YULB				IAmb	IAmb	18 31 32.8	
	comp=Z,22nm,1.3s						
WRAB	**Tennant Creek**	**22.50**	**162**	P	**P**	**18 31 22.5**	**-1.0**
WRA	**Warramunga Arr**	**22.50**	**162**	P	**P**	**18 31 22

JMM	**Marumori**	**38.24**	**18**	P	**P**	**18 33 43.2**	**+0.8**
JMM	**Marumori**	**38.24**	**18**	P	**P**	**18 33 41.0**	**-1.4**
ARMA	**Armidale**	**39.43**	**146**	P	**P**	**18 33 52.9**	**+0.2**
ARMA	**Armidale**	**39.43**	**146**	P	**P**	**18 33 53.8**	**+1.2**
ARPS	**Mount Arapiles**	**40.51**	**162**	P	**P**	**18 34 02.3**	**+1.0**
YNG	**Young**	**40.87**	**153**	P	**P**	**18 34 05.1**	**+0.8**
JTM	**Tenmabayashi**	**41.02**	**16**	P	**P**	**18 34 06.0**	**+0.5**
CAN	**Canberra**	**41.99**	**153**	P	**P**	**18 34 14.5**	**+1.0**
CAN	**Canberra**	**41.99**	**153**	P	**P**	**18 34 14.6**	**+1.1**
CNB	**Canberra Magne**	**42.15**	**153**	P	**P**	**18 34 14.7**	**-0.2**
TOO	**Toolangi**	**42.48**	**158**	P	**P**	**18 34 17.4**	**0.0**
TOO	**Toolangi**	**42.48**	**158**	P	**P**	**18 34 17.9**	**+0.5**
TOO				IAmb	IAmb	18 34 19.2	
	comp=Z,27nm,1.2s						
USRK	**Ussuriysk Ar.**	**42.67**	**5**	P	**P**	**18 34 18.6**	**-0.2**
	comp=Z,1.8nm,0.6s,baz=185,slow=7.7,SNR=5.0						
	comp=Z,1.8nm,0.6s						
JKA	**Kamikawa-asahi**	**44.53**	**16**	P	**P**	**18 34 33.9**	**+0.1**
JKA				IAmb	IAmb	18 34 48.1	
	comp=Z,35nm,1.5s						
SONM	**Songino Array**	**49.48**	**342**	P	**P**	**18 35 13.1**	**+0.7**
	comp=Z,0.9nm,0.6s,baz=153,slow=9.6,SNR=4.1						
	comp=Z,0.9nm,0.6s						
PEA0B	**Petropavlovsk-**	**57.27**	**21**	P	**P**	**18 36 09.7**	**+0.7**
PETK	**Petropavlovsk-**	**57.27**	**21**	P	**P**	**18 36 08.9**	**-0.1**
PETK	**Petropavlovsk-**	**57.27**	**21**	P	**P**	**18 36 09.0**	**-0.1**
	comp=Z,0.9nm,0.4s,baz=171,slow=4.7,SNR=14						
	comp=Z,0.9nm,0.4s						
TKNZ	**Takaka Hill**	**59.37**	**141**	P	**P**	**18 36 24.5**	**+0.5**
MK31	**Makanchi Array**	**59.58**	**326**	P	**P**	**18 36 25.7**	**+0.4**
MKAR	**Makanchi Array**	**59.58**	**326**	P	**P**	**18 36 25.3**	**0.0**
MKAR	**Makanchi Array**	**59.58**	**326**	P	**P**	**18 36 26.0**	**+0.7**
	comp=Z,1.3nm,0.6s,baz=121,slow=8.6,SNR=20						
	comp=Z,1.3nm,0.6s						
LBZ	**Lake Benmore**	**59.66**	**145**	P	**P**	**18 36 25.4**	**-0.5**
THZ	**Tophouse**	**59.74**	**142**	P	**P**	**18 36 26.4**	**-0.1**
THZ				IAmb	IAmb	18 36 28.5	
	comp=Z,8.9nm,0.7s						
KSH	**Kashi**	**59.88**	**316**	P	**P**	**18 36 32.0**	**+4.3**
LTZ	**Lake Taylor**	**59.93**	**143**	P	**P**	**18 36 28.1**	**+0.3**
LTZ				IAmb	IAmb	18 37 11.5	
	comp=Z,18nm,1.4s						
TUWZ	**Tuamarina**	**60.20**	**141**	P	**P**	**18 36 29.0**	**-0.6**
KHZ	**Kahutara**	**60.49**	**142**	P	**P**	**18 36 30.9**	**-0.6**
BKZ	**Black Stump Fm**	**60.70**	**137**	P	**P**	**18 36 32.7**	**-0.4**
BKZ				IAmb	IAmb	18 36 37.6	
	comp=Z,12nm,1.1s						
RTZ	**Ruatahuna**	**60.76**	**137**	P	**P**	**18 36 33.2**	**-0.4**
BHW	**Baring Head**	**60.78**	**140**	P	**P**	**18 36 31.5**	**-2.1**
MRZ	**Mangatainoka R**	**60.84**	**139**	P	**P**	**18 36 32.0**	**-2.0**
MRZ				IAmb	IAmb	18 37 09.5	
	comp=Z,20nm,1.3s						
MSWZ	**Moikau Station**	**61.02**	**140**	P	**P**	**18 36 33.6**	**-1.7**
PLWZ	**Palliser**	**61.11**	**140**	P	**P**	**18 36 33.9**	**-1.9**
ZALV	**Zalesovo Beam**	**62.71**	**333**	P	**P**	**18 36 47.7**	**+1.4**
	comp=Z,0.4nm,0.4s,baz=144,slow=11,SNR=4.2						
	comp=Z,0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**63.79**	**328**	P	**P**	**18 36 53.7**	**+0.2**
	comp=Z,1.1nm,0.6s,baz=128,slow=6.2,SNR=18						
	comp=Z,1.1nm,0.6s						
KURK	**Kurchatov**	**63.79**	**328**	P	**P**	**18 36 53.6**	**+0.1**
KURK				IAmb	IAmb	18 37 11.9	
	comp=Z,5.0nm,0.9s						
KIWB	**Kanaga Island**	**68.23**	**33**	P	**P**	**18 37 22.4**	**+0.5**
CASY	**Casey**	**68.73**	**187**	P	**P**	**18 37 24.7**	**0.0**
CASY				IAmb	IAmb	18 37 39.3	
	comp=Z,30nm,1.4s						
BVAR	**Borovoye Array**	**69.36**	**327**	P	**P**	**18 37 29.3**	**+0.4**
	comp=Z,1.1nm,0.9s,baz=116,slow=3.4,SNR=1.7						
	comp=Z,1.1nm,0.9s						
TIXI	**Tiksi**	**69.99**	**1**	P	**P**	**18 37 31.1**	**-1.3**
SDPT	**Sand Point**	**78.74**	**34**	P	**P**	**18 38 23.1**	**-0.3**
M14K	**Bethel**	**79.37**	**28**	P	**P**	**18 38 27.2**	**+0.5**
M14K				IAmb	IAmb	18 39 04.1	
	comp=Z,18nm,1.4s						
J16K	**Anvik River**	**80.67**	**26**	P	**P**	**18 38 34.2**	**+0.5**
J16K				IAmb	IAmb	18 38 35.5	
	comp=Z,12nm,1.5s						
L16K	**Owhat River**	**80.78**	**28**	P	**P**	**18 38 33.9**	**-0.4**
VNDA	**Vanda**	**81.24**	**173**	P	**P**	**18 38 36.2**	**-0.2**
VNDA	**Vanda**	**81.24**	**173**	P	**P**	**18 38 35.2**	**-1.2**
	comp=Z,2.6nm,0.7s,baz=311,slow=5.8,SNR=12						
	comp=Z,2.6nm,0.7s						
J17K	**VABM Dome**	**81.37**	**26**	P	**P**	**18 38 37.7**	**+0.3**
H17K	**Granite Mounta**	**81.40**	**24**	P	**P**	**18 38 37.6**	**+0.1**
SBA	**Scott Base**	**82.14**	**172**	P	**P**	**18 38 41.8**	**+0.6**
L18K	**Granite Mounta**	**82.18**	**27**	P	**P**	**18 38 41.6**	**-0.1**
J18K	**Innoko River**	**82.42**	**26**	P	**P**	**18 38 43.6**	**+0.7**
C19K	**Lookout Ridge**	**82.61**	**20**	P	**P**	**18 38 44.8**	**+0.9**
G19K	**Purcell Mounta**	**82.83**	**23**	P	**P**	**18 38 45.8**	**+0.8**
G19K				IAmb	IAmb	18 38 46.8	
	comp=Z,6.0nm,0.8s						
H19K	**Roundabout Mou**	**82.95**	**24**	P	**P**	**18 38 46.4**	**+0.8**
H19K				IAmb	IAmb	18 38 47.6	
	comp=Z,5.3nm,0.8s						
N19K	**Bonanza Creek**	**82.96**	**29**	P	**P**	**18 38 46.3**	**+0.4**
N19K				IAmb	IAmb	18 38 48.2	
	comp=Z,4.4nm,0.9s						
D19K	**Kuna River**	**82.97**	**21**	P	**P**	**18 38 46.7**	**+0.9**
L19K	**White Mountain**	**83.01**	**28**	P	**P**	**18 38 46.9**	**+0.8**
E19K	**Redstone River**	**83.06**	**22**	P	**P**	**18 38 47.1**	**+0.9**
E19K				IAmb	IAmb	18 38 48.1	
	comp=Z,3.9nm,0.9s						
F20K	**Avaraart Lake**	**83.55**	**23**	P	**P**	**18 38 49.7**	**+1.1**
M20K	**Styx River**	**83.77**	**28**	P	**P**	**18 38 51.2**	**+1.2**
SUA	**Susitna One**	**84.84**	**29**	P	**P**	**18 38 55.1**	**-0.4**
SUA				IAmb	IAmb	18 38 56.1	
	comp=Z,8.3nm,1.0s						
RAGM	**Ragged Mountai**	**87.74**	**30**	P	**P**	**18 39 08.9**	**-0.6**
QSPA	**South Pole Qui**	**91.48**	**180**	P	**P**	**18 39 26.6**	**-0.5**
	comp=Z,1.7nm,0.8s,baz=338,slow=7.4,SNR=4.3						
	comp=Z,1.7nm,0.8s						

*ISK **31** 18:40:49.0, 35°.87N×30°.91E, h12km, ML2.8/33*
*NIC **31** 18:40:51.6, 35°.79N×30°.87E, h63km±5km, Ml2.4/8*
*AFAD **31** 18:40:53.0±0.0, 35°.99N×30°.75E, h23km±7km, ML2.5*
ISC 31 18:40:50.7±1.5,**35°.87N**±0°.04×**30°.92E**±0°.03,**h18**km±6km,
n52,σ0s**70**/65,**Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
AKUM	**Antalya-Kumluc**	**0.65**	**314**	P	**Pg**	**18 41 03.3**	**-0.2**
AKUM				S	**Sg**	**18 41 13.1**	**+1.0**
AKUM				*i* AML	AML	18 41 16.0	
	comp=N,542nm,0.6s						
AKUM				*i* AML	AML	18 41 20.0	
	comp=E,413nm,0.3s						
DEMR	**Demre-Antalya**	**0.90**	**294**	Pg	**Pb**	**18 41 06.7**	**-1.0**
MNVG	**Manavgat-Antal**	**1.00**	**24**	Pg	**Pb**	**18 41 09.1**	**-0.5**
MNVG				Sg	**Sb**	**18 41 22.9**	**+0.4**
ANTB	**Antalya**	**1.05**	**348**	Pg	**Pb**	**18 41 09.6**	**-0.7**
KSL	**Kastellorizon**	**1.12**	**285**	P	**Pb**	**18 41 11.4**	**0.0**
KSL				S	**Sb**	**18 41 26.6**	**+1.0**
KSL				AML	AML	18 41 35.3	
	0.3nm,0.5s						
KSL				AML	AML	18 41 36.0	
	0.2nm,0.4s						
AKAS	**Kas**	**1.12**	**289**	Pn	**Pb**	**18 41 10.9**	**-0.8**
AKAS	**Kas**	**1.12**	**289**	P	**Pb**	**18 41 11.3**	**-0.3**
ALAN	**Alanya-ANTALYA**	**1.13**	**53**	Pn	**Pb**	**18 41 11.4**	**-0.4**
GAZI	**Gazipasa**	**1.19**	**72**	Pn	**Pn**	**18 41 11.1**	**-1.4**
ELL	**Elmali**	**1.20**	**317**	Pn	**Pn**	**18 41 12.2**	**-0.5**
ELL	**Elmali**	**1.20**	**317**	P	**Pn**	**18 41 12.7**	**+0.1**
ELL				S	**Sb**	**18 41 29.9**	**+1.8**
ELL				AML	AML	18 41 34.3	
	0.9nm,0.5s						
ELL				AML	AML	18 41 39.3	
	0.9nm,0.7s						
KORT	**Korkueli**	**1.22**	**338**	Pn	**Pn**	**18 41 12.5**	**-0.5**
KORT	**Korkueli**	**1.22**	**338**	P	**Pn**	**18 41 12.9**	**-0.1**
AKMS	**Akamas**	**1.44**	**126**	S	**Sn**	**18 41 34.1**	**-0.2**
AKMS				AML	AML	18 41 47.1	
	0.3nm,0.6s						
AKMS				AML	AML	18 41 49.8	
	0.3nm,0.7s						
KNIK	**Mula-Seydike**	**1.46**	**312**	P	**Pn**	**18 41 16.7**	**+0.5**
KNIK				S	**Sn**	**18 41 33.3**	**-1.6**
KNIK				*i* AML	AML	18 41 37.0	
	comp=N,47nm,0.5s						
KNIK				*i* AML	AML	18 41 37.0	
	comp=E,62nm,0.7s						
IZZE	**Mula-Seydike**	**1.48**	**293**	P	**Pn**	**18 41 16.3**	**-0.1**
IZZE				S	**Sn**	**18 41 34.0**	**-1.4**
IZZE				*i* AML	AML	18 41 37.0	
	comp=N,125nm,0.4s						
BUCA	**Burdur, Bucak-**	**1.48**	**349**	P	**Pn**	**18 41 16.4**	**-0.2**
ALFC	**Alefka**	**1.55**	**117**	P	**Pn**	**18 41 17.1**	**-0.3**
ALFC				S	**Sn**	**18 41 37.2**	**+0.2**
ALFC				AML	AML	18 41 49.8	
	0.2nm,0.3s						
ALFC				AML	AML	18 41 53.5	
	0.2nm,0.3s						
FETY	**Fethiye**	**1.67**	**298**	Pn	**Pn**	**18 41 18.8**	**-0.2**
FETY	**Fethiye**	**1.67**	**298**	P	**Pn**	**18 41 20.5**	**+1.5**
FETY				S	**Sn**	**18 41 40.2**	**+0.3**
HDMB	**Hadim**	**1.67**	**49**	Pn	**Pn**	**18 41 19.1**	**-0.2**
FETI	**Fethiye-Mugla**	**1.68**	**300**	Pn	**Pn**	**18 41 19.1**	**-0.1**
CAME	**Cameli-Denizli**	**1.69**	**310**	Pn	**Pn**	**18 41 19.1**	**-0.3**
SEYD	**Seydisehir-KON**	**1.70**	**26**	Pn	**Pn**	**18 41 19.5**	**-0.1**
GOLH	**Golhisar**	**1.75**	**322**	P	**Pn**	**18 41 21.1**	**+0.8**
GOLH				S	**Sn**	**18 41 42.8**	**+0.7**
TEKE	**Tekeli-Mersin**	**1.80**	**81**	Pn	**Pn**	**18 41 21.1**	**+0.2**
SABU	**Mula-Dalaman**	**1.84**	**302**	P	**Pn**	**18 41 21.1**	**-0.3**
SABU				S	**Sn**	**18 41 42.5**	**-1.7**
TROD	**Troodos**	**1.84**	**120**	P	**Pn**	**18 41 21.3**	**-0.3**
TROD				AML	AML	18 42 09.6	
	0.2nm,0.7s						
TROD				AML	AML	18 42 11.3	
	0.2nm,0.8s						
BERE	**Bereket-Mersin**	**1.93**	**75**	Pn	**Pn**	**18 41 21.8**	**-0.9**
DALY	**Dalyan (Mula)**	**2.06**	**298**	Pn	**Pn**	**18 41 24.4**	**+0.1**
APMY	**Acipayam-Deniz**	**2.06**	**321**	Pn	**Pn**	**18 41 24.4**	**-0.1**
DNZT	**Denizli-Tavas-**	**2.07**	**313**	P	**Pn**	**18 41 25.3**	**+0.6**
DNZT				S	**Sn**	**18 41 48.3**	**-1.8**
TEVE	**Tevekalti-Mers**	**2.12**	**74**	Pn	**Pn**	**18 41 25.3**	**0.0**
INCE	**Denizli-Bozkur**	**2.13**	**330**	P	**Pn**	**18 41 24.9**	**-0.5**
AKK1	**Akkuyu-Mersin**	**2.15**	**82**	Pn	**Pn**	**18 41 25.8**	**+0.2**
AKKU	**Akkuyu-Mersin**	**2.15**	**82**	Pn	**Pn**	**18 41 25.8**	**+0.1**
BASM	**Basmaki-Afyon**	**2.16**	**341**	Pn	**Pn**	**18 41 26.0**	**+0.1**
CSS	**Mathiatis**	**2.17**	**114**	P	**Pn**	**18 41 25.2**	**-0.8**
CSS				S	**Sn**	**18 41 53.0**	**+0.6**
CSS				AML	AML	18 42 13.0	
	0.1nm,0.5s						
CSS				AML	AML	18 42 14.0	
	0.1nm,0.8s						
ASGA	**Asgata**	**2.19**	**119**	S	**Sn**	**18 41 52.9**	**0.0**
ASGA				AML	AML	18 42 11.7	
	0.1nm,0.7s						
ASGA				AML	AML	18 42 14.3	
	0.1nm,0.4s						
LFK	**Lefkose**	**2.21**	**105**	Pn	**Pn**	**18 41 26.5**	**-0.1**
IKL	**Isikli**	**2.27**	**80**	Pn	**Pn**	**18 41 27.5**	**+0.2**
ARG	**Arkhangelos**	**2.29**	**279**	Pn	**Pn**	**18 41 27.7**	**+0.2**
KRMN	**Karaman**	**2.29**	**55**	Pn	**Pn**	**18 41 27.9**	**+0.2**
KEBE	**Keben-Mersin**	**2.33**	**75**	Pn	**Pn**	**18 41 28.5**	**+0.2**
TURN	**Turunc**	**2.34**	**293**	Pn	**Pn**	**18 41 28.5**	**+0.3**
KONT	**Konya--Tatoy**	**2.37**	**29**	Pn	**Pn**	**18 41 28.9**	**+0.2**
MVOU	**Mavrovouni**	**2.38**	**110**	P	**Pn**	**18 41 27.9**	**-0.9**
MVOU				S	**Sn**	**18 41 57.7**	**+0.3**
MVOU				AML	AML	18 42 16.3	
	0.1nm,0.6s						
MVOU				AML	AML	18 42 16.8	
	0.1nm,0.5s						
LADK	**Ladik-KONYA**	**2.60**	**26**	Pn	**Pn**	**18 41 32.2**	**+0.3**
KIZK	**Mersin**	**2.68**	**76**	Pn	**Pn**	**18 41 33.4**	**+0.4**
DAT	**Datca**	**2.83**	**289**	Pn	**Pn**	**18 41 35.3**	**+0.2**
CHBY	**Cihanbeyli**	**3.13**	**30**	Pn	**Pn**	**18 41 39.7**	**+0.4**
BODT	**Bodrum**	**3.14**	**293**	Pn	**Pn**	**18 41 39.8**	**+0.5**

*IDC **31** 18:42:48.2±1.2, 0°.17N×121°.54E, h0km, mb3.6/4, mbtmp3.6/4, Error ellipse: s-maj=256.4km s-min=21.3km az=61.0*
*DJA **31** 18:43:08.3±1.0, 0°.N±9°×12°.2E±°, h137km±11km, M3.2/6, MLv3.2/6*
ISC 31 18:43:06.0±1.1,**0°.3N**±0°.2×**122°.07E**±0°.08,**h148**km,**n7**,
σ1s**99**/8,**mb3.4/4**,**Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
GTOI	**Gorontalo**	**1.00**	**69**	P	**Pn**	**18 43 31.5**	**+0.9**
GTOI				S	**Sn**	**18 43 50.3**	**+1.0**
KMSI	**Cibinong**	**1.93**	**81**	P	**Pn**	**18 43 42.4**	**+2.2**
MPSI	**Mapaga**	**2.18**	**272**	P	**Pn**	**18 43 45.4**	**+2.3**
WRA	**Warramunga Arr**	**23.41**	**150**	P	**P**	**18 48 00.6**	**-1.3**
	0.8nm,0.6s,baz=324,slow=11,SNR=6.5						
	0.8nm,0.6s						
ASAR	**Alice Springs**	**26.43**	**155**	P	**P**	**18 48 28.3**	**-0.9**
	0.3nm,0.6s,baz=342,slow=15,SNR=6.5						
	0.3nm,0.6s						
MKAR	**Makanchi Array**	**57.89**	**329**	P	**P**	**18 52 41.1**	**-1.4**
	0.9nm,0.6s,baz=122,slow=8.1,SNR=10						
	0.9nm,0.6s						
KURBB	**Kurchatov Arra**	**62.26**	**330**	P	**P**	**18 53 10.3**	**-1.8**
	0.2nm,0.3s,baz=116,slow=5.9,SNR=5.9						
	0.2nm,0.3s						

*IDC **31** 18:47:47.0±2.0, 10°.66S×123°.95E, h51km±15km, mb3.1/1, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=198.9km s-min=21.8km az=54.0*
*DJA **31** 18:47:48.0±0.5, 10°S±4°×12°4E±°, h35km±8km, M4.2/12, mb4.4/9, mB4.9/1, MLv4.1/12, Mw(mB)4.2/1*
ISC 31 18:47:45.7±0.8,**10°.55S**±0°.08×**124°.31E**±0°.06,**h35**km,**n21**,
σ2s**02**/23,**Timor region**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BATI	**Baumata**	**0.72**	**298**	P	**Pn**	**18 47 59.9**	**+0.6**
	975nm,0.3s,baz=298,slow=5.2,SNR=735						
BATI				S	**Sn**	**18 48 09.3**	**+0.1**
	3µm,0.4s,baz=222,slow=20,SNR=15						
BATI				LR	LR	18 48 30.6	
	comp=Z,271nm,21.7s,baz=64,slow=82						
BATI	**Baumata**	**0.72**	**298**	P	**Pn**	**18 48 00.0**	**+0.6**
SOEI	**Soe**	**0.79**	**357**	P	**Pn**	**18 48 01.0**	**+0.5**
SOEI	**Soe**	**0.79**	**357**	P	**Pn**	**18 48 01.0**	**+0.5**
MMRI	**Maumere**	**2.79**	**313**	P	**Pn**	**18 48 28.0**	**+0.1**
MMRI	**Maumere**	**2.79**	**313**	P	**Pn**	**18 48 27.8**	**-0.1**
EDFI	**Ende, Flores**	**3.14**	**304**	P	**Pn**	**18 48 31.9**	**-0.9**
BASI	**Baing, Sumba**	**3.68**	**275**	P	**Pn**	**18 48 41.5**	**+1.3**
BBSI	**Bau Bau**	**5.31**	**341**	P	**Pn**	**18 49 02.3**	**-0.3**
	31nm,1.0s,0.2nm						
PLAI	**Plampang**	**6.66**	**284**	P	**Pn**	**18 49 21.3**	**+0.2**
PLAI	**Plampang**	**6.66**	**284**	P	**Pn**	**18 49 21.3**	**+0.2**
	28nm,0.6s,834nm0.2nm						
DRS	**Darwin Rock St**	**6.73**	**107**	P	Pn	18 49 27.1	+5.1
MTN	**Manton Dam**	**7.06**	**110**	P	**Pn**	**18 49 31.1**	**+4.4**
KAPI	**Kappang**	**7.11**	**320**	P	**Pn**	**18 49 27.5**	**+0.2**
	0.7nm,0.3s,baz=168,slow=15,SNR=4.0						
	0.7nm,0.5s						
TWSI	**Taliwang, Sumb**	**7.54**	**283**	P	**Pn**	**18 49 33.7**	**+0.5**
	27nm,0.7s,0.3nm						
KDU	**Kakadu**	**8.28**	**106**	P	**Pn**	**18 49 47.6**	**+4.3**
WRA	**Warramunga Arr**	**13.45**	**135**	P	**Pn**	**18 50 56.7**	**+2.5**
	0.5nm,0.3s,baz=308,slow=15,SNR=13						
WRA				S	**Sn**	**18 53 17.8**	**-4.6**
	1.8nm,0.2s,baz=328,slow=26,SNR=14						
	0.6nm,0.4s						
ASAR	**Alice Springs**	**15.94**	**146**	P	**P**	**18 51 30.4**	**-0.3**
	0.5nm,0.3s,baz=320,slow=12,SNR=21						
ASAR				S	**Sn**	**18 54 20.0**	**-3.2**
	2.4nm,0.4s,baz=314,slow=22,SNR=13						
	2.2nm,0.7s						
CNJI	**Cibinong**	**17.27**	**279**	P	**P**	**18 51 45.4**	**-0.1**
	28nm,1.4s						
KASI	**Kota Agung**	**20.23**	**283**	P	**P**	**18 52 17.6**	**-0.4**
MKAR	**Makanchi Array**	**68.30**	**330**	P	**P**	**18 58 42.1**	**-1.1**
	0.3nm,0.7s,baz=134,slow=6.9,SNR=4.2						
	0.3nm,0.7s						

*TEH **31** 19:02:02.4, 35°.09N×45°.96E, h10km, ML2.5*
*ISN **31** 19:02:03.0±1.8, 35°.05N×45°.96E, h10km, ML2.5*
ISC 31 19:02:02.2±1.9,**35°.1N**±0°.1×**46°.0E**±0°.1,**h10**km,**n4**,σ0s**78**/6,
Iran-Iraq border region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
IDHR	**Dehrash**	**0.53**	**139**	Pg	**Pg**	**19 02 12.9**	**+0.4**
IGHG	**Ghaleghazi**	**0.91**	**147**	Pg	**Pb**	**19 02 20.3**	**+0.1**
GLG1	**Gilan-e-Gharb**	**0.98**	**183**	Pg	**Pb**	**19 02 21.3**	**0.0**
GLG1				Sg	**Sn**	**19 02 35.7**	**-0.4**
IKRK	**Kirkuk**	**1.36**	**283**	*e*Pg	**Pn**	**19 02 26.5**	**-0.8**
	baz=105						
IKRK				*e*Sg	**Sg**	**19 02 47.0**	**+1.0**
IKRK				AML	AML	19 02 51.5	
	comp=N,7.5nm,0.9s						

*NEIC **31** 19:12:42.5±1.2, 36°.21N×0°.01×97°.55W±0°.01, h7km±5km, Error ellipse: s-maj=1.8km s-min=1.5km az=219.0*
TUL 31 19:12:43.1±1.1,**36°.22N**±0°.01×**97°.57W**±0°.01,**h6**km±5km,
ML2.6,**mb_Lg2.3**/34(NEIC),**ML2.6**/60(NEIC),**Error ellipse: s-maj=1.8km s-min=1.7km az=186.0**,**Oklahoma**

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
OK029	**Liberty Lake**	**0.43**	**167**		Pg	19 12 51.6	+0.2
CROK	**Carrier**	**0.44**	**311**		Pg	19 12 51.8	+0.2
OK048	**Pawnee Station**	**0.55**	**68**		Pg	19 12 52.9	-0.8
ADOK	**Arcadia Dam**	**0.59**	**164**	Pg	Pg	19 12 52.5	-1.9
OK031	**S. Brethren Rd**	**0.65**	**114**		Pg	19 12 54.0	-1.6
OK031				IAML		19 13 05.0	
	332nm,0.3s						
OK051	**E0350 and S346**	**0.66**	**64**		Pg	19 12 54.3	-1.5
OK051				IAML		19 13 10.4	
	309nm,0.2s						
OK051				IAML		19 13 13.7	
	291nm,0.2s						
OK052	**Battle Ridge R**	**0.66**	**109**		Pg	19 12 54.0	-1.8
OK052				IAML		19 13 07.5	
	262nm,0.3s						
GC02	**Grant County #**	**0.67**	**340**	Pg	Pg	19 12 55.2	-0.8
QUOK	**Quay**	**0.70**	**93**		Pg	19 12 55.1	-1.5
QUOK				IAML		19 13 09.8	
	comp=E,175nm,0.2s						
QUOK				IAML		19 13 12.6	
	comp=N,166nm,0.2s						
OK032	**Salt Plains WL**	**0.78**	**319**		Pg	19 12 57.4	-0.7
OK032				IAML		19 13 10.4	
	comp=N,277nm,0.2s						
KAN13	**South Haven SW**	**0.80**	**6**		Pg	19 12 58.0	-0.5
KAN13				IAML		19 13 18.7	
	comp=N,244nm,0.2s						
KAN14	**Manchester OK**	**0.80**	**337**		Pg	19 12 57.9	-0.6
KAN14				IAML		19 13 10.6	
	comp=E,311nm,0.1s						
KAN14				IAML		19 13 14.5	
	comp=N,239nm,0.1s						
KAN09	**Caldwell North**	**0.92**	**358**		Pg	19 12 59.9	-0.8
KAN05	**Bluff City Nor**	**0.92**	**345**	Pg	Pg	19 13 00.1	-0.7
KAN05				IAML		19 13 16.9	
	comp=N,242nm,0.4s						
KAN01	**Argonia South**	**0.95**	**351**		Pg	19 13 00.5	-0.8
KAN01				IAML		19 13 16.8	
	comp=N,160nm,0.2s						
KAN01				IAML		19 13 20.7	
	comp=E,145nm,0.1s						
FNO	**Franklin**	**0.97**	**172**	Pg	Pg	19 13 00.9	-0.8
OK038	**West end E0370**	**0.98**	**286**	Pg	Pg	19 13 00.8	-1.1
KAN06	**Argonia West S**	**1.05**	**348**	IAML		19 13 20.6	
	comp=N,152nm,0.1s						
KAN06				IAML		19 13 21.9	
	comp=E,125nm,0.1s						
KAN08	**Anthony NE Sta**	**1.06**	**343**		Pg	19 13 02.6	-0.8
KAN08				IAML		19 13 22.0	
	comp=N,144nm,0.1s						
KAN08				IAML		19 13 25.3	
	comp=E,122nm,0.1s						
CSTR	**Hydro, Custer**	**1.07**	**238**		Pg	19 13 02.9	-0.7
T35A	**Sooner Cattle**	**1.10**	**50**	Pg	Pg	19 13 03.6	-0.7
W35A	**Tecumseh**	**1.21**	**152**	IAML		19 13 26.7	
	comp=E,111nm,0.5s						
W35A				IAML		19 13 27.2	
	comp=N,85nm,0.2s						
TUL3	**Leonard**	**1.48**	**101**		Pn	19 13 08.4	-1.8
X34A	**Smith Ranch, M**	**1.63**	**188**		Pn	19 13 11.4	-0.8
WMOK	**Wichita Mounta**	**1.77**	**214**	Pn	Pn	19 13 13.1	-1.2
LOOK	**Love County**	**2.24**	**172**	IAmb_Lg		19 13 57.5	
	comp=Z,10nm,0.9s						
X37A	**Clayton**	**2.42**	**131**		Pn	19 13 22.2	-1.0
X37A				IAmb_Lg		19 14 03.3	
	comp=Z,18nm,1.2s						
SMWD	**Samnorwood**	**2.44**	**244**		Pn	19 13 22.1	-1.5
SMWD				IAmb_Lg		19 14 00.7	
	comp=Z,10nm,0.7s						
U38A	**Gravette**	**2.58**	**84**		Pb	19 13 31.0	+1.1
HHAR	**Hobbs**	**2.94**	**88**	IAmb_Lg		19 14 24.0	
	comp=Z,6.3nm,0.8s						
CBKS	**Cedar Bluff**	**3.11**	**327**		Pb	19 13 40.2	+1.4
CBKS				IAmb_Lg		19 14 20.6	
	comp=Z,7.2nm,0.8s						
AMTX	**Amarillo**	**3.60**	**250**	IAmb_Lg		19 14 40.

THZ	**Tophouse**	**18.67**	**198**	P	**P**	**19 19 37.9**	**-0.1**
DSZ	**Denniston Nort**	**18.98**	**200**	P	**P**	**19 19 42.1**	**+1.2**
DSZ				IAmb	IAmb	19 20 19.7	
	comp=Z,18nm,1.0s						
KHZ	**Kahutara**	**19.11**	**196**	P	**P**	**19 19 43.9**	**+2.0**
KHZ	**Kahutara**	**19.11**	**196**	P	**P**	**19 19 43.4**	**+1.5**
KHZ				IAmb	IAmb	19 20 17.8	
	comp=Z,28nm,1.3s						
GVZ	**Greta Valley S**	**19.75**	**196**	P	**P**	**19 19 48.2**	**+0.4**
LTZ	**Lake Taylor**	**19.79**	**198**	P	**P**	**19 19 48.2**	**0.0**
LTZ				IAmb	IAmb	19 19 50.9	
	comp=Z,8.2nm,0.7s						
INZ	**Inchbonnie**	**19.98**	**200**	P	**P**	**19 19 51.2**	**+1.3**
INZ				IAmb	IAmb	19 19 55.2	
	comp=Z,20nm,1.1s						
OXZ	**Oxford**	**20.35**	**198**	P	**P**	**19 19 52.5**	**-0.9**
OXZ				IAmb	IAmb	19 19 55.5	
	comp=Z,13nm,0.6s						
MQZ	**McQueen's Vall**	**20.54**	**196**	P	**P**	**19 19 56.2**	**+1.2**
MQZ				IAmb	IAmb	19 19 56.8	
	comp=Z,22nm,1.4s						
RPZ	**Rata Peaks**	**21.00**	**199**	P	**P**	**19 20 01.9**	**+2.7**
RPZ	**Rata Peaks**	**21.00**	**199**	P	**P**	**19 19 59.7**	**+0.5**
RPZ				IAmb	IAmb	19 20 22.8	
	comp=Z,24nm,1.3s						
RPZ	**Rata Peaks**	**21.00**	**199**	P	**P**	**19 19 59.3**	**+0.2**
	comp=Z,4.3nm,0.4s,baz=39,slow=7.4,SNR=8.3						
	comp=Z,4.3nm,0.4s						
FOZ	**Fox Glacier**	**21.23**	**202**	P	**P**	**19 20 02.3**	**+1.0**
FOZ				IAmb	IAmb	19 20 37.2	
	comp=Z,39nm,1.2s						
JCZ	**Jackson Bay**	**22.07**	**203**	P	**P**	**19 20 09.8**	**+0.9**
WKZ	**Wanaka**	**22.64**	**202**	P	**P**	**19 20 15.6**	**+1.6**
EIDS	**Eidsvold**	**26.70**	**261**	P	**P**	**19 20 51.1**	**+0.8**
EIDS	**Eidsvold**	**26.70**	**261**	P	**P**	**19 20 49.9**	**-0.4**
EIDS				IAmb	IAmb	19 21 03.3	
	comp=Z,20nm,1.4s						
CMSA	**Cobar Meteorol**	**31.54**	**249**	P	**P**	**19 21 32.9**	**+0.7**
CTAO	**Charters Tower**	**31.92**	**270**	P	**P**	**19 21 36.4**	**+0.8**
CTAO	**Charters Tower**	**31.92**	**270**	P	**P**	**19 21 35.9**	**+0.3**
QLP	**Quilpie**	**32.78**	**258**	P	**P**	**19 21 43.6**	**+0.8**
MTSU	**Mount Surprise**	**34.19**	**273**	P	**P**	**19 21 55.2**	**+0.3**
STKA	**Stephens Creek**	**35.04**	**248**	P	**P**	**19 22 04.6**	**+2.8**
STKA	**Stephens Creek**	**35.04**	**248**	P	**P**	**19 22 02.9**	**+1.1**
STKA	**Stephens Creek**	**35.04**	**248**	P	**P**	**19 22 02.5**	**+0.6**
	comp=Z,1.9nm,0.5s,baz=80,slow=11,SNR=7.1						
	comp=Z,1.9nm,0.5s						
HTT	**Hallett**	**37.38**	**246**	P	**P**	**19 22 22.2**	**+1.0**
BBOO	**Buckleboo**	**39.75**	**247**	P	**P**	**19 22 40.2**	**-0.3**
BBOO				IAmb	IAmb	19 22 59.8	
	comp=Z,29nm,1.4s						
AS31	**Alice Springs**	**42.43**	**261**	P	**P**	**19 23 02.1**	**+0.2**
ASAR	**Alice Springs**	**42.43**	**261**	P	**P**	**19 23 01.9**	**-0.1**
	comp=Z,2.7nm,0.7s,baz=101,slow=6.8,SNR=32						
ASAR				ScP	**ScP**	**19 27 48.2**	**+2.9**
	comp=Z,0.5nm,0.8s,baz=99,slow=5.9,SNR=1.8						
	comp=Z,2.7nm,0.7s						
WR0	**Warramunga Arr**	**42.64**	**266**	P	**P**	**19 23 03.2**	**-0.4**
WR0				IAmb	IAmb	19 23 04.8	
	comp=Z,16nm,1.3s						
WB2	**Warramunga Arr**	**42.82**	**266**	P	**P**	**19 23 04.6**	**-0.4**
WB0	**Warramunga Arr**	**42.83**	**267**	P	**P**	**19 23 04.4**	**-0.7**
WB0				IAmb	IAmb	19 23 05.5	
	comp=Z,7.7nm,0.6s						
WRA	**Warramunga Arr**	**42.83**	**266**	P	**P**	**19 23 04.5**	**-0.6**
	comp=Z,5.8nm,0.6s,baz=95,slow=8.4,SNR=86						
	comp=Z,5.8nm,0.6s						
PTCN	**Pitcairn Islan**	**44.74**	**102**	P	**P**	**19 23 18.0**	**-1.9**
FORT	**Forrest**	**46.64**	**250**	P	**P**	**19 23 34.4**	**+0.1**
FORT				IAmb	IAmb	19 24 12.5	
	comp=Z,20nm,0.9s						
MTN	**Manton Dam**	**47.91**	**274**	P	**P**	**19 23 42.3**	**-1.8**
MTN				IAmb	IAmb	19 24 12.2	
	comp=Z,53nm,1.5s						
FITZ	**Fitzroy Crossi**	**51.25**	**266**	P	**P**	**19 24 09.1**	**+0.4**
SBA	**Scott Base**	**54.16**	**184**	P	**P**	**19 24 25.8**	**-2.7**
VNDA	**Vanda**	**54.17**	**185**	P	P	19 24 24.2	-4.4
MORW	**Morawa**	**57.20**	**250**	P	**P**	**19 24 50.2**	**-0.3**
MORW				IAmb	IAmb	19 25 09.3	
	comp=Z,44nm,1.4s						
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**19 25 48.5**	**+1.3**
QSPA	**South Pole Qui**	**65.94**	**180**	P	**P**	**19 25 48.8**	**+1.7**
	comp=Z,2.2nm,1.1s,baz=37,slow=5.1,SNR=2.9						
	comp=Z,2.2nm,1.1s						
N15K	**Kwethluk River**	**85.50**	**10**	P	**P**	**19 27 35.7**	**+0.4**
N15K				IAmb	IAmb	19 28 10.4	
	comp=Z,16nm,1.4s						
O18K	**Koktuh Hills**	**86.04**	**12**	P	**P**	**19 27 38.1**	**+0.1**
SZCU	**Shurtz Canyon**	**87.53**	**47**	P	**P**	**19 27 44.9**	**-0.9**
HMT	**Hamilton**	**88.96**	**17**	P	**P**	**19 27 53.6**	**+2.0**
CAST	**Castle Rocks**	**89.92**	**12**	P	**P**	**19 27 55.9**	**-0.1**
TXAR	**Lajitas Array**	**90.19**	**58**	P	**P**	**19 28 00.9**	**+2.7**
	comp=Z,0.4nm,0.7s,baz=237,slow=6.3,SNR=4.6						
	comp=Z,0.4nm,0.7s						
HFS	**Hagfors**	**142.87**	**349**	PKP	**PKPdf**	**19 34 24.9**	**-1.8**
	comp=Z,0.8nm,0.3s,baz=36,slow=5.4,SNR=9.4						
MMAI	**Mount Meron Ar**	**148.21**	**294**	PKPbc	**PKiKP**	**19 34 41.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=83,slow=4.5,SNR=4.1						
EKA	**Eskdalemuir Ar**	**148.74**	**4**	PKPbc	**PKPbc**	**19 34 41.6**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=354,slow=3.1,SNR=2.3						

*IDC **31** 19:36:10.0±2.0,5˚.41S×152˚.50E,h0km,mb3.6/5, mbtmp3.7/6,ML1.7/1,MS3.4/3,Error ellipse: s-maj=71.7km s-min=22.6km az=123.0*

ISC 31 19:36:15.4±2.0,5˚.5S±0˚.3×152˚.6E±0˚.4,h40km,n9,σ1$09/7, mb3.5/5,MS3.0/3,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
PMG	**Port Moresby**	**6.61**	**234**	Pn	**Pn**	**19 37 49.4**	**-0.6**
	0.9nm,0.3s,baz=274,slow=21,SNR=1.7						
PMG				Sn	**Sn**	**19 39 05.0**	**+0.8**
	4.6nm,0.3s,baz=199,slow=15,SNR=7.1						
	9.4nm,0.7s						
WRA	**Warramunga Arr**	**22.80**	**229**	P	**P**	**19 41 15.0**	**+0.1**
	0.5nm,0.5s,baz=54,slow=10,SNR=2.1						
	0.5nm,0.5s						
ASAR	**Alice Springs**	**25.47**	**223**	P	**P**	**19 41 40.0**	**+0.1**
	0.9nm,0.7s,baz=58,slow=9.0,SNR=5.9						
	0.9nm,0.7s						
JCJ	**Chichijima**	**33.95**	**343**	LR	LR	19 56 39.8	
	comp=Z,29nm,19.0s,baz=140,slow=36						
MJAR	**Matsushiro Arr**	**43.95**	**343**	LR	LR	20 03 04.3	
	comp=Z,19nm,18.3s,baz=126,slow=37						
SONM	**Songino Array**	**66.81**	**328**	P	**P**	**19 47 04.1**	**+1.0**
	0.3nm,0.6s,baz=137,slow=6.5,SNR=2.5						
	0.3nm,0.6s						
ZALV	**Zalesovo Beam**	**81.62**	**326**	P	**P**	**19 48 27.6**	**-1.5**
	0.5nm,0.4s,baz=122,slow=5.2,SNR=2.6						
	0.5nm,0.4s						
ILAR	**Eielson Array**	**82.91**	**22**	P	**P**	**19 48 36.3**	**+0.6**
	0.4nm,0.7s,baz=250,slow=6.0,SNR=5.1						
	0.4nm,0.7s						
BVAR	**Borovoye Array**	**89.68**	**323**	LR	LR	20 30 07.3	
	comp=Z,61nm,19.7s,baz=193,slow=36						

*NEIC **31** 19:46:31.2±1.2,18˚.96S×0˚.09×169˚.6E±0˚.1,h271km±2km, mb4.5/71,Error ellipse: s-maj=17.3km s-min=12.9km az=91.0*

*NOU **31** 19:46:31.4,18˚.89S×169˚.44E,h267km,mb4.3/37, Vanuatu Islands*

*IDC **31** 19:46:32.4±2.0,18˚.96S×169˚.46E,h286km±19km, mb3.7/14,mbtmp4.4/15,Error ellipse: s-maj=16.6km s-min=12.5km az=75.0*

ISC 31 19:46:28.8±0.5,18˚.92S±0˚.06×169˚.63E±0˚.09,h250km, n139,σ1$40/123,mb4.4/47,3D,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**1.81**	**311**	P	**Pn**	**19 47 13.1**	**+3.4**
LIFNC	**LIFOU**	**2.91**	**230**	P	**Pn**	**19 47 22.3**	**+2.0**
LIFNC	**LIFOU**	**2.91**	**230**		**Pn**	**19 47 22.2**	**+2.0**
MARNC	**Mare, Loyalty**	**2.95**	**210**	P	**Pn**	**19 47 23.2**	**+2.4**
YATNC	**Mamie plateau,**	**4.04**	**219**	P	**Pn**	**19 47 34.3**	**+1.2**
PINNC	**Pines Island,**	**4.20**	**209**	P	**Pn**	**19 47 37.5**	**+2.6**
PINNC	**Pines Island,**	**4.20**	**209**		**Pn**	**19 47 36.7**	**+1.8**
DZM	**Mont Dzumac**	**4.33**	**223**	P	**Pn**	**19 47 39.5**	**+2.9**
DZM	**Mont Dzumac**	**4.33**	**223**		**Pn**	**19 47 38.8**	**+2.3**
DZM	**Mont Dzumac**	**4.33**	**223**	P	**Pn**	**19 47 39.4**	**+2.9**
	52nm,0.6s,baz=56,slow=17,SNR=89						
OUENC	**Ouen Island, N**	**4.35**	**216**	P	**Pn**	**19 47 39.5**	**+2.8**
OUENC	**Ouen Island, N**	**4.35**	**216**		**Pn**	**19 47 39.1**	**+2.4**
NOUC	**Port Laguerre**	**4.44**	**224**	P	**Pn**	**19 47 40.9**	**+3.1**
ONTNC	**Ouen Toro**	**4.49**	**221**	P	**Pn**	**19 47 41.4**	**+3.0**
ONTNC	**Ouen Toro**	**4.49**	**221**		**Pn**	**19 47 40.9**	**+2.4**
KOUNC	**Koumac, New Ca**	**5.29**	**251**	P	**Pn**	**19 47 50.1**	**+2.0**
KOUNC	**Koumac, New Ca**	**5.29**	**251**		**Pn**	**19 47 50.7**	**+2.6**
HNR	**Honiara**	**13.30**	**314**	P	**Pn**	**19 49 29.9**	**+1.3**
OUZ	**Omahuta**	**16.61**	**169**	P	**P**	**19 50 08.4**	**+2.2**
EIDS	**Eidsvold**	**18.33**	**246**	P	**P**	**19 50 26.0**	**+1.0**
MXZ	**Matakaoa Point**	**20.07**	**160**	P	**P**	**19 50 45.9**	**+2.5**
URZ	**Urewera**	**20.34**	**163**	P	**P**	**19 50 49.2**	**+2.8**
URZ	**Urewera**	**20.34**	**163**	P	**P**	**19 50 48.7**	**+2.3**
	7.7nm,0.4s,baz=324,slow=2.1,SNR=14						
	7.7nm,0.4s						
RTZ	**Ruatahuna**	**20.64**	**163**	P	**P**	**19 50 50.0**	**+0.3**
RTZ				IAmb	IAmb	19 50 52.7	
	comp=Z,14nm,0.9s						
BKZ	**Black Stump Fm**	**21.03**	**165**	P	**P**	**19 50 56.2**	**+2.5**
MGCD	**Mangrove Creek**	**21.84**	**226**	P	**P**	**19 51 03.0**	**+1.7**
MRZ	**Mangatainoka R**	**22.26**	**168**	P	**P**	**19 51 04.9**	**-0.1**
MRZ				IAmb	IAmb	19 51 07.5	
	comp=Z,20nm,1.0s						
BFZ	**Birch Farm**	**22.42**	**167**	P	**P**	**19 51 06.6**	**+0.1**
TCW	**Tory Channel**	**22.57**	**171**	P	**P**	**19 51 08.2**	**+0.4**
MSWZ	**Moikau Station**	**22.93**	**169**	P	**P**	**19 51 11.0**	**-0.2**
PLWZ	**Palliser**	**23.08**	**169**	P	**P**	**19 51 12.6**	**0.0**
LTZ	**Lake Taylor**	**23.89**	**175**	P	**P**	**19 51 20.4**	**+0.4**
LTZ				IAmb	IAmb	19 51 47.2	
	comp=Z,20nm,1.5s						
CNB	**Canberra Magne**	**24.25**	**224**	P	**P**	**19 51 23.9**	**+0.5**
FOZ	**Fox Glacier**	**24.54**	**180**	P	**P**	**19 51 25.6**	**-0.1**
JCZ	**Jackson Bay**	**25.09**	**181**	P	**P**	**19 51 32.1**	**+1.3**
DCZ	**Deep Cove**	**26.55**	**184**	P	**P**	**19 51 43.6**	**-0.1**
MANU	**Manus Island**	**27.51**	**305**	P	**P**	**19 51 53.1**	**+0.5**
PATS	**Pohnpei**	**27.92**	**335**	P	**P**	**19 51 56.6**	**+0.4**
TOO	**Toolangi**	**28.10**	**224**	P	**P**	**19 51 57.7**	**0.0**
TOO	**Toolangi**	**28.10**	**224**	P	**P**	**19 51 56.9**	**-0.9**
TOO				IAmb	IAmb	19 51 58.1	
	comp=Z,17nm,1.2s						
STKA	**Stephens Creek**	**28.32**	**237**	P	**P**	**19 51 59.5**	**-0.2**
STKA	**Stephens Creek**	**28.32**	**237**	P	**P**	**19 51 59.5**	**-0.2**
STKA	**Stephens Creek**	**28.32**	**237**	P	**P**	**19 51 59.5**	**-0.2**
	comp=Z,6.0nm,0.6s,baz=65,slow=8.4,SNR=18						
	comp=Z,6.0nm,0.6s						
LCRK	**Leigh Creek**	**30.66**	**242**	P	**P**	**19 52 20.5**	**+0.2**
HTT	**Hallett**	**30.98**	**236**	P	**P**	**19 52 22.7**	**-0.4**
OOD	**Oodnadatta**	**32.30**	**248**	P	**P**	**19 52 33.9**	**-0.7**
BBOO	**Buckleboo**	**33.06**	**239**	P	**P**	**19 52 41.2**	**0.0**
BBOO	**Buckleboo**	**33.06**	**239**	P	**P**	**19 52 40.2**	**-1.0**
BBOO				IAmb	IAmb	19 52 45.3	
	comp=Z,27nm,1.4s						
GENI	**Genyem**	**33.08**	**296**	P	**P**	**19 52 41.5**	**-0.1**
WB0	**Warramunga Arr**	**33.22**	**263**	P	**P**	**19 52 41.0**	**-1.7**
WB2	**Warramunga Arr**	**33.25**	**262**	P	**P**	**19 52 41.0**	**-1.9**
WB2				IAmb	IAmb	19 53 19.0	
	comp=Z,12nm,1.2s						
WRA	**Warramunga Arr**	**33.26**	**262**	P	**P**	**19 52 41.3**	**-1.8**
	comp=Z,0.7nm,0.4s,baz=82,slow=6.1,SNR=39						
	comp=Z,0.7nm,0.4s						
AS01	**Alice Springs**	**33.52**	**256**	P	**P**	**19 52 44.3**	**-1.0**
AS31	**Alice Springs**	**33.56**	**256**	P	**P**	**19 52 44.6**	**-1.0**
ASAR	**Alice Springs**	**33.56**	**256**	P	**P**	**19 52 44.3**	**-1.4**
	comp=Z,14nm,0.6s,baz=81,slow=9.0,SNR=290						
ASAR				ScP	**ScP**	**19 58 35.8**	**-4.9**
	comp=Z,0.4nm,0.7s,baz=84,slow=5.1,SNR=2.2						
	comp=Z,14nm,0.6s						
MULG	**Mulgathing**	**34.13**	**244**	P	**P**	**19 52 49.5**	**-0.9**
WRKA	**Warakurna**	**38.70**	**253**	P	**P**	**19 53 28.0**	**-1.1**
FORT	**Forrest**	**39.31**	**244**	P	**P**	**19 53 33.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**41.64**	**264**	P	**P**	**19 53 52.1**	**-1.1**
FITZ	**Fitzroy Crossi**	**41.64**	**264**	P	**P**	**19 53 52.7**	**-0.4**
MBWA	**Marble Bar**	**46.78**	**258**	P	**P**	**19 54 33.4**	**-0.4**
MBWA	**Marble Bar**	**46.78**	**258**	P	**P**	**19 54 33.3**	**-0.5**
MEEK	**Meekatharra**	**47.41**	**251**	P	**P**	**19 54 38.1**	**-0.5**
KLBR	**Kellerberrin**	**48.18**	**244**	P	**P**	**19 54 43.3**	**-1.1**
TOLI2	**Tolitoli**	**51.93**	**287**	P	**P**	**19 55 12.2**	**-0.5**
VNDA	**Vanda**	**58.76**	**182**	P	**P**	**19 55 59.8**	**-0.5**
	comp=Z,1.0nm,0.5s,baz=22,slow=8.2,SNR=5.3						
	comp=Z,1.0nm,0.5s						
SBA	**Scott Base**	**58.98**	**181**	P	**P**	**19 56 02.2**	**+0.5**
MJAR	**Matsushiro Arr**	**62.65**	**332**	P	**P**	**19 56 26.1**	**-0.9**
	comp=Z,3.7nm,0.9s,baz=162,slow=6.3,SNR=8.4						
	comp=Z,3.7nm,0.9s						
MAJO	**Matsushiro**	**62.65**	**332**	P	**P**	**19 56 26.7**	**-0.3**
MAJO				IAmb	IAmb	19 56 26.9	
	comp=Z,5.8nm,0.6s						
MJB9	**Matsu-Tunnel**	**62.65**	**332**	P	**P**	**19 56 27.0**	**0.0**
MJB9				IAmb	IAmb	19 56 27.9	
	comp=Z,5.6nm,0.6s						
JNU	**Nakatsue**	**63.62**	**324**	P	**P**	**19 56 33.0**	**-0.5**
JNU				IAmb	IAmb	19 56 55.7	
	comp=Z,21nm,1.4s						
KSRS	**Korea Array**	**68.45**	**325**	P	**P**	**19 57 04.6**	**+0.6**
	comp=Z,0.7nm,0.6s,baz=130,slow=6.4,SNR=5.9						
	comp=Z,0.7nm,0.6s						
QSPA	**South Pole Qui**	**71.13**	**180**	P	**P**	**19 57 19.2**	**-0.9**
QSPA				IAmb	IAmb	19 57 20.2	
	comp=Z,7.8nm,0.9s						
QSPA	**South Pole Qui**	**71.13**	**180**	P	**P**	**19 57 19.3**	**-0.8**
	comp=Z,6.1nm,0.8s,baz=307,slow=0.8,SNR=34						
	comp=Z,6.1nm,0.8s						
USRK	**Ussuriysk Ar.**	**71.63**	**332**	P	**P**	**19 57 23.2**	**+0.1**
	comp=Z,3.8nm,0.9s,baz=130,slow=5.6,SNR=4.8						
	comp=Z,3.8nm,0.9s						
PEA0B	**Petropavlovsk-**	**72.47**	**352**	P	**P**	**19 57 28.8**	**+0.9**
PETK	**Petropavlovsk-**	**72.47**	**352**	P	**P**	**19 57 28.3**	**+0.4**
	comp=Z,8.8nm,0.9s,baz=143,slow=7.5,SNR=12						
	comp=Z,8.8nm,0.9s						
S12K	**Black Hills**	**78.11**	**16**	P	**P**	**19 57 59.4**	**-0.5**
CMAR	**Chiang Mai Arr**	**78.71**	**294**	P	**P**	**19 58 04.3**	**+0.3**
	comp=Z,1.1nm,0.7s,baz=132,slow=4.0,SNR=7.7						
	comp=Z,1.1nm,0.7s						
O14K	**Tigyukauivet M**	**81.47**	**15**	P	**P**	**19 58 17.8**	**0.0**
BELA	**Belgrano 2**	**82.38**	**175**	P	**P**	**19 58 20.6**	**-1.9**
N15K	**Kwethluk River**	**82.56**	**15**	P	**P**	**19 58 23.4**	**0.0**
N15K				IAmb	IAmb	19 58 52.3	
	comp=Z,20nm,1.5s						
M14K	**Bethel**	**82.64**	**14**	P	**P**	**19 58 23.6**	**-0.2**
M14K				IAmb	IAmb	19 58 35.8	
	comp=Z,17nm,1.4s						
L14K	**Kuka Creek**	**83.01**	**13**	P	**P**	**19 58 26.2**	**+0.5**
L14K				IAmb	IAmb	19 58 27.0	
	comp=Z,5.4nm,0.8s						
K13K	**Kusilvak Mount**	**83.14**	**12**	P	**P**	**19 58 27.1**	**+0.7**
K13K				IAmb	IAmb	19 58 27.9	
	comp=Z,11nm,1.4s						
Q19K	**Cape Douglas,**	**83.23**	**18**	P	**P**	**19 58 26.5**	**-0.4**
M16K	**Timber Creek**	**83.58**	**15**	P	**P**	**19 58 29.3**	**+0.7**
P19K	**Oil Pt**	**83.94**	**18**	P	**P**	**19 58 30.6**	**0.0**
L16K	**Owhat River**	**84.06**	**14**	P	**P**	**19 58 31.1**	**+0.2**
L16K				IAmb	IAmb	19 58 32.4	
	comp=Z,11nm,1.0s						
K15K	**Wolf Creek Mou**	**84.11**	**13**	P	**P**	**19 58 32.0**	**+0.7**
M17K	**Holitna River**	**84.28**	**15**	P	**P**	**19 58 32.7**	**+0.6**
M17K				IAmb	IAmb	19 58 34.3	
	comp=Z,6.5nm,0.8s						
J16K	**Anvik River**	**85.19**	**13**	P	**P**	**19 58 37.2**	**+0.6**
K17K	**Iditarod**	**85.20**	**14**	P	**P**	**19 58 37.2**	**+0.5**
K17K				IAmb	IAmb	19 58 39.5	
	comp=Z,8.6nm,1.4s						
ANM	**Nome**	**85.42**	**11**	P	**P**	**19 58 38.4**	**+0.6**
ANM				IAmb	IAmb	19 59 14.5	
	comp=Z,16nm,1.4s						
O02D	**Mt. Diablo Mer**	**86.02**	**45**	P	**P**	**19 58 42.1**	**+0.8**
O02D				IAmb	IAmb	19 58 43.6	
	comp=Z,9.8nm,0.9s						
J18K	**Innoko River**	**86.22**	**14**	IAmb	IAmb	19 58 42.6	
	comp=Z,4.3nm,0.8s						
F15K	**North Star Dit**	**86.60**	**10**	P	**P**	**19 58 43.9**	**+0.4**
F15K				IAmb	IAmb	19 59 09.8	
	comp=Z,9.3nm,1.5s						
H17K	**Granite Mounta**	**86.79**	**12**	IAmb	IAmb	19 58 45.8	
	comp=Z,3.5nm,0.7s						
ULN	**Ulaanbaatar**	**86.83**	**323**	P	**P**	**19 58 44.6**	**-0.6**
ULN				IAmb	IAmb	19 58 45.9	
	comp=Z,6.9nm,1.2s						
HUMO	**Hull Mountain**	**87.08**	**43**	P	**P**	**19 58 47.4**	**+1.0**
HUMO				IAmb	IAmb	19 58 48.5	
	comp=Z,5.0nm,0.9s						
SONM	**Songino Array**	**87.19**	**323**	P	**P**	**19 58 46.5**	**-0.4**
	comp=Z,2.3nm,0.8s,baz=142,slow=5.9,SNR=12						
	comp=Z,2.3nm,0.8s						
NVAR	**Mina Array Bea**	**88.32**	**48**	P	**P**	**19 58 52.8**	**+0.2**
	comp=Z,0.5nm,0.5s,baz=237,slow=9.2,SNR=6.5						
	comp=Z,0.5nm,0.5s						
J05D	**Fort Rock, OR**	**88.51**	**43**	P	**P**	**19 58 53.9**	**+0.6**
WCT	**Wildcat Mounta**	**88.83**	**50**	IAmb	IAmb	19 58 56.3	
	comp=Z,3.5nm,0.7s						
E18K	**Tukpahlearik C**	**88.86**	**11**	IAmb	IAmb	19 58 56.4	
	comp=Z,4.4nm,1.1s						
TROLL	**Troll, Antarti**	**88.88**	**184**	⇓P	**P**	**19 58 52.9**	**-1.6**
	comp=Z,60nm,0.5s						
PINE	**Pine Mountain**	**88.94**	**43**	P	**P**	**19 58 56.2**	**+0.9**
PINE				IAmb	IAmb	19 58 57.1	
	comp=Z,5.2nm,0.8s						
SNAA	**Sanae**	**89.49**	**182**	⇓P	P	19 58 54.9	-2.4
	comp=Z,21nm,0.7s						
ILAR	**Eielson Array**	**89.82**	**17**	P	**P**	**19 58 56.8**	**-1.9**
	comp=Z,1.2nm,0.8s,baz=238,slow=5.1,SNR=11						
	comp=Z,1.2nm,0.8s						
I07A	**Izee**	**89.99**	**43**	IAmb	IAmb	19 59 01.8	
	comp=Z,5.2nm,0.9s						
VNA3	**Neumayer Olymp**	**90.07**	**180**	⇓P	**P**	**19 58 58.0**	**-1.9**
	comp=Z,2.0nm,0.6s						
PRN	**Pahroc Range**	**90.23**	**50**	IAmb	IAmb	19 59 03.8	
	comp=Z,8.2nm,0.9s						
D19K	**Kuna River**	**90.25**	**11**	IAmb	IAmb	19 59 02.4	
	comp=Z,4.0nm,0.9s						
J08A	**Circle Bar Ran**	**90.34**	**44**	IAmb	IAmb	19 59 03.2	
	comp=Z,4.8nm,0.9s						
EGAK	**Eagle**	**91.51**	**19**	IAmb	IAmb	19 59 06.9	
	comp=Z,2.8nm,0.6s						
D22K	**Ayikyak River**	**91.66**	**13**	IAmb	IAmb	19 59 08.3	
	comp=Z,3.8nm,0.7s						
C23K	**Itkillik River**	**92.87**	**13**	IAmb	IAmb	19 59 14.0	
	comp=Z,3.3nm,1.0s						
G30M	**tAoh Zraii Nji**	**94.49**	**19**	IAmb	IAmb	19 59 20.7	
	comp=Z,3.1nm,0.8s						
YKA	**Yellowknife Ar**	**100.22**	**27**	P	**Pdif**	**19 59 46.6**	**+0.6**
	comp=Z,0.1nm,0.4s,baz=238,slow=4.8,SNR=4.5						
MKAR	**Makanchi Array**	**101.77**	**315**	P	**Pdif**	**19 59 53.8**	**+0.5**
	comp=Z,0.6nm,0.7s,baz=94,slow=5.8,SNR=7.8						
ARCES	**ARCESS Array B**	**124.86**	**345**	PKP	**PKPdf**	**20 04 56.3**	**-2.0**
	comp=Z,1.6nm,0.7s,baz=26,slow=2.3,SNR=9.0						
EKA	**Eskdalemuir Ar**	**143.24**	**353**	PKhKP	PKPpre	20 05 28.6	
	comp=Z,0.4nm,0.5s,baz=1.2,slow=3.1,SNR=6.1						
RONA	**Rosalia, Austr**	**144.01**	**329**	*i* PKP	PKPab	20 05 32.6	0.0
	comp=Z,4.2nm,0.8s						
CONA	**Conrad Observa**	**144.06**	**330**	*i* PKP	PKPab	20 05 33.7	+0.8
	comp=Z,1.1nm,0.7s						
GERES	**GERESS Array B**	**144.38**	**332**	PKP	**PKPab**	**20 05 33.1**	**-1.0**
	comp=Z,1.6nm,0.6s,baz=25,slow=3.5,SNR=11						
ARSA	**Arzberg**	**144.70**	**329**	*i* PKP	**PKPab**	**20 05 34.7**	**-0.6**
	comp=Z,2.8nm,0.8s						
MOA	**Molln**	**144.87**	**331**	*i* PKP	PKPbc	20 05 34.9	-0.8
	comp=Z,6.5nm,0.8s						
SOKA	**Soboth**	**145.34**	**329**	*i* PKP	**PKPdf**	**20 05 35.9**	**-1.0**
	comp=Z,2.1nm,1.0s						
OBKA	**Obir**	**145.69**	**329**	*e*PKP	**PKPdf**	**20 05 38.4**	**+0.8**
	comp=Z,1.2nm,0.8s						
KBA	**Koelnbreinsper**	**145.86**	**331**	*i* PKP	**PKPdf**	**20 05 36.6**	**-1.3**
	comp=Z,0.7nm,0.4s						
LESA	**Schwarzleotal**	**145.90**	**332**	*i* PKP	**PKPdf**	**20 05 37.7**	**-0.2**
	comp=Z,3.4nm,0.5s						
WATA	**Walderalm**	**146.46**	**333**	*i* PKP	**PKPdf**	**20 05 39.3**	**+0.4**
	comp=Z,1.1nm,0.5s	

MJAR	**Matsushiro Arr**	**72.34**	**326**	P		**P**		**19 59 21.1**	**+0.7**
	comp=Z,2.1nm,0.8s,baz=178,slow=6.7,SNR=4.2								
	comp=Z,2.1nm,0.8s								
BELA	**Belgrano 2**	**75.91**	**173**	P		**P**		**19 59 40.7**	**+0.7**
KSRS	**Korea Array**	**78.66**	**320**	P		**P**		**19 59 57.1**	**+1.7**
	comp=Z,0.9nm,0.7s,baz=137,slow=6.2,SNR=7.3								
	comp=Z,0.9nm,0.7s								
SNAA	**Sanae**	**84.14**	**179**	P		**P**		**20 00 23.0**	**-0.3**
CMAR	**Chiang Mai Arr**	**89.72**	**290**	P		**P**		**20 00 52.7**	**+2.1**
	comp=Z,1.0nm,0.8s,baz=128,slow=4.1,SNR=5.2								
	comp=Z,1.0nm,0.8s								
TXAR	**Lajitas Array**	**90.70**	**58**	P		**P**		**20 00 57.7**	**+2.6**
	comp=Z,1.0nm,0.8s,baz=216,slow=7.2,SNR=11								
	comp=Z,1.0nm,0.8s								
DRIO	**Del Rio**	**93.12**	**59**			**P**		**20 01 03.6**	**-2.5**
DRIO				IAmb		IAmb		20 01 05.2	
	comp=Z,7.6nm,1.1s								
FINES	**FINESS Array B**	**138.95**	**341**	PKP		**PKiKP**		**20 07 15.3**	**-1.4**
	comp=Z,2.1nm,1.0s,baz=58,slow=3.4,SNR=3.2								
HFS	**Hagfors**	**143.06**	**349**	PKhKP		PKPpre		20 07 19.6	
	comp=Z,0.9nm,0.4s,baz=66,slow=3.7,SNR=14								
AKASG	**Malin Array Be**	**145.42**	**327**	PKPbc		**PKPab**		**20 07 27.4**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=47,slow=3.5,SNR=5.3								
BRTR	**Keskin Array B**	**147.90**	**307**	PKPbc		**PKiKP**		**20 07 35.1**	**-0.9**
	comp=Z,0.4nm,0.6s,baz=90,slow=5.8,SNR=2.1								
MMAI	**Mount Meron Ar**	**147.92**	**294**	PKPbc		**PKiKP**		**20 07 35.9**	**-0.2**
	comp=Z,1.4nm,0.5s,baz=76,slow=6.1,SNR=4.9								

*CNRM **31** 19:54:43.0, 32.°91N × 5.°23W, h2km, ML3.1*
*IGIL **31** 19:54:44.5, 33.°02N × 5.°04W, h11km, ML2.4*
*MDD **31** 19:54:44.5 ± 1.1, 33.°00N × 5.°07W, h12km ± 7km, Mb3.8/5, M_mb3.1/5, Error ellipse: s-maj=9.8km s-min=4.3km az=111.0*
*INMG **31** 19:54:45.6 ± 1.8, 33.°13N × 4.°91W, h26km ± 8km, ML2.4, Error ellipse: s-maj=12.1km s-min=4.3km az=71.0*
*SFS **31** 19:54:45.2, 33.°05N × 5.°22W, h6km, ML2.9/4, ML3.3/4, MLv2.8/4*

ISC 31 19:54:43.0 ± 0.8, **33.°04N** ± 0.°02 × **5.°21W** ± 0.°03, **h9**km, **n44,** σ **1**§**65**/61, **5C, Morocco**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MD31	**MD31**	**0.41**	**114**	P	**Pg**	**19 54 51.2**	**0.0**
MD31	**MD31**	**0.41**	**114**	S	**Sg**	**19 54 55.9**	**-0.7**
IFR	**Ifrane**	**0.48**	**8**	Sg	**Sg**	**19 54 59.7**	**+0.7**
IFR				Pg	**Pb**	**19 54 54.8**	**+1.0**
SICH	**Sidi Chahed**	**1.07**	**355**	P	**Pn**	**19 55 06.2**	**+1.9**
SICH	**Sidi Chahed**	**1.07**	**355**	S	**Sn**	**19 55 22.7**	**+3.4**
ZHG	**ZHG**	**1.27**	**289**	P	**Pg**	**19 55 08.0**	**+0.6**
ZHG	**ZHG**	**1.27**	**289**	S	**Sn**	**19 55 25.3**	**+1.1**
GOLM	**Goulmima**	**1.35**	**171**	P	**Pn**	**19 55 08.1**	**-0.1**
GOLM	**Goulmima**	**1.35**	**171**	S	**Sb**	**19 55 25.3**	**-0.6**
RTC	**Rabat Centre**	**1.67**	**305**	Sn	**Sn**	**19 55 33.9**	**-0.2**
TISM	**Timmit**	**1.68**	**219**	P	**Pn**	**19 55 11.9**	**-0.7**
TISM	**Timmit**	**1.68**	**219**	S	**Sn**	**19 55 34.9**	**+0.8**
ARF	**Arif**	**1.81**	**152**	P	**Pn**	**19 55 14.9**	**+0.5**
ARF	**Arif**	**1.81**	**152**	S	**Sn**	**19 55 38.0**	**+0.5**
AKLM	**AKL**	**1.85**	**37**	P	**Pb**	**19 55 16.9**	**-0.2**
AKLM	**AKL**	**1.85**	**37**	S	**Sg**	**19 55 45.0**	**+2.5**
AVE	**Averroes**	**1.87**	**279**	Pn	**Pn**	**19 55 16.1**	**+0.9**
AVE				Sn	**Sn**	**19 55 40.1**	**+1.1**
AVE	**Averroes**	**1.87**	**279**	P	**Pn**	**19 55 16.1**	**+0.9**
AVE	**Averroes**	**1.87**	**279**	S	**Sg**	**19 55 42.7**	**-0.4**
PALE	**Palemas**	**2.42**	**25**	P	**Pb**	**19 55 25.5**	**-1.2**
PALE	**Palemas**	**2.42**	**25**	S	**Sb**	**19 55 57.4**	**+0.7**
OUZM	**OUZ**	**2.50**	**212**	P	**Pn**	**19 55 25.1**	**+1.2**
TIO	**Tiouine**	**2.73**	**220**	Pn	**Pn**	**19 55 27.4**	**+0.1**
TIO				Sn	**Sn**	**19 56 00.5**	**0.0**
TIO	**Tiouine**	**2.73**	**220**	P	**Pn**	**19 55 27.6**	**+0.3**
EMIJ	**Mijas**	**3.54**	**6**	⇑*i*Vmb_V		19 55 42.1	
	66nm,SNR=1.1						
EMIJ				S	**Sn**	**19 56 19.0**	**-1.2**
TTIG	**Tnine Tigouga,**	**3.71**	**229**	P	**Pn**	**19 55 40.5**	**-0.1**
ELGU	**Los Guajares,**	**4.04**	**18**	Pn	**Pn**	**19 55 46.5**	**+1.4**
ELGU	**Los Guajares,**	**4.04**	**18**	P	**Pn**	**19 55 46.0**	**+0.9**
ELGU				⇑*i*Vmb_V		19 55 49.7	
	67nm,SNR=1.4						
ELGU				S	**Sn**	**19 56 29.9**	**-2.6**
PBDV	**Barranco-do-Ve**	**4.75**	**333**	*e*P	**Pn**	**19 55 54.9**	**0.0**
PBDV				S	**Sn**	**19 56 47.2**	**-2.9**
PBDV				A	A	19 57 04.4	
	3.0nm,1.2s						
PVAQ	**Vaqueiros**	**4.82**	**335**	*e*P	**Pn**	**19 55 56.1**	**+0.4**
PVAQ				*e*S	**Sn**	**19 56 49.2**	**-2.5**
PVAQ				A	A	19 56 53.7	
	2.5nm,0.3s						
EGRO	**El Granado**	**4.86**	**338**	P	**Pn**	**19 55 57.5**	**+1.2**
EGRO				⇑*i*Vmb_V		19 56 01.8	
	146nm,SNR=1.6						
EGRO				S	**Sn**	**19 56 51.1**	**-1.6**
ECAB	**El Cabril**	**5.03**	**358**	P	**Pn**	**19 55 59.4**	**+0.7**
ECAB				⇑*i*Vmb_V		19 56 00.5	
	73nm,SNR=1.8						
ECAB				S	**Sn**	**19 56 54.3**	**-2.7**
MORF	**Marmelete**	**5.11**	**327**	*e*P	**Pn**	**19 56 00.3**	**+0.5**
MORF				*e*S	**Sn**	**19 56 57.3**	**-1.6**
MORF				A	A	19 57 00.8	
	3.8nm,0.2s						
MORF	**Marmelete**	**5.11**	**327**	*e*P	**Pn**	**19 56 00.2**	**+0.5**
MORF				*e*S	**Sn**	**19 56 55.5**	**-3.4**
MORF				IAML		19 57 01.9	
	comp=N,9.5nm,0.5s						
PCVE	**Castro Verde**	**5.14**	**334**	*e*S	**Sn**	**19 56 57.0**	**-2.5**
PCVE				A	A	19 57 00.5	
	comp=N,2.9nm,0.3s						
PBAR	**Barrancos**	**5.34**	**344**	*e*P	**Pn**	**19 56 03.5**	**+0.6**
PBAR				*e*S	**Sn**	**19 57 02.0**	**-2.5**
PBAR				A	A	19 57 08.4	
	comp=N,2.2nm,0.4s						
MESJ	**Messejana**	**5.39**	**334**	*e*P	**Pn**	**19 56 03.9**	**+0.3**
MESJ				*e*S	**Sn**	**19 57 03.4**	**-2.3**
MESJ				A	A	19 57 05.4	
	comp=N,2.9nm,0.6s						
MESJ	**Messejana**	**5.39**	**334**	*e*P	**Pn**	**19 56 03.7**	**+0.2**
MESJ				*e*S	**Sn**	**19 57 01.6**	**-4.1**
MESJ				IAML		19 57 05.8	
	comp=N,2.6nm,0.6s						
PNCL	**Nicolau / Gran**	**5.74**	**333**	*e*P	**Pn**	**19 56 10.2**	**+1.8**
PNCL				*e*S	**Sn**	**19 57 11.6**	**-2.8**
PNCL				A	A	19 57 14.6	
	comp=N,2.2nm,0.4s						
EBAD	**Badajoz**	**5.89**	**346**	P	**Pn**	**19 56 11.6**	**+1.1**
EBAD				⇑*i*Vmb_V		19 56 16.6	
	comp=N,126nm,SNR=3.0						
EBAD				S	**Sn**	**19 57 15.6**	**-2.5**
EVO	**Evora**	**5.94**	**338**	*e*P	**Pn**	**19 56 11.7**	**+0.5**
EVO				*e*S	**Sn**	**19 57 16.7**	**-2.6**
PESTR	**Estremoz**	**6.13**	**342**	*e*P	**Pn**	**19 56 14.6**	**+0.8**
PESTR				*e*S	**Sn**	**19 57 21.0**	**-3.1**
PESTR				A	A	19 57 25.4	
	comp=N,1.5nm,0.3s						
PMRV	**Marv??o**	**6.62**	**345**	*e*P	**Pn**	**19 56 21.3**	**+0.8**
PCBR	**Castelo Branco**	**7.03**	**346**	*e*P	**Pn**	**19 56 26.7**	**+0.5**

*AEIC **31** 20:07:05.3 ± 3.0, 52.°1N ± 0.°2 × 171.°59W ± 0.°08, h9km ± 6km, Error ellipse: s-maj=22.8km s-min=4.4km az=164.0*

NEIC 31 20:07:07.0 ± 1.4, **52.°4N** ± 0.°2 × **171.°75W** ± 0.°06, **h10**km ± 2km, **mb4.3**/6, **ML4.2**/6, **ML3.9**(AEIC), **Error ellipse: s-maj=27.4km s-min=3.0km az=167.0, Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLES	**Cleveland East**	**1.20**	**70**		Pb	20 07 26.8	-2.9
CLES					Sn	20 07 46.2	+0.3
CLES	**Cleveland East**	**1.20**	**70**	IAML		20 08 10.6	
	comp=N,6μm,0.5s						
CLCO	**Concord Point,**	**1.28**	**73**		Pn	20 07 29.0	-1.9
CLCO					Sn	20 07 48.0	-0.2
KOFP	**Korovin Flat P**	**1.45**	**265**		Pn	20 07 32.4	-0.8
KOKL	**Mount Kliuchef**	**1.51**	**267**		Pn	20 07 33.9	-0.2
ATKA	**Atka Island**	**1.52**	**262**		Pn	20 07 32.7	-1.4
ATKA				IAML		20 08 20.2	
	comp=N,3μm,1.0s						
ATKA	**Atka Island**	**1.52**	**262**		Sb	20 07 54.5	0.0
NIKH	**Nikolski High**	**1.84**	**72**		Pn	20 07 37.3	-1.3
OKWE	**Okmok W'ng Wal**	**2.36**	**62**		Pn	20 07 45.0	-0.8
OKFG	**Magazine Ridge**	**2.52**	**66**		Pn	20 07 48.3	+0.3
GSTR	**Great Sitkin T**	**2.67**	**264**		Pn	20 07 50.9	+0.9
GSMY	**Great Sitkin M**	**2.68**	**263**		Pn	20 07 50.0	-0.1
ADK	**Adak**	**3.09**	**262**		Pn	20 07 56.5	+0.8
MAPS	**Pakushin South**	**3.21**	**63**		Pn	20 07 58.2	+0.8
KIWB	**Kanaga Island**	**3.38**	**262**	Pn	Pn	20 07 59.8	0.0
UNV	**Unalaska Valle**	**3.46**	**64**		Pn	20 08 01.0	+0.2
S12K	**Black Hills**	**6.58**	**56**	Pn	Pn	20 08 43.4	-0.2
CNBA	**Chernabura Isl**	**7.62**	**67**	Pn	Pn	20 08 57.1	-0.8
O14K	**Tigyukauivet M**	**9.02**	**37**	Pn	Pn	20 09 16.2	-0.9
M13K	**Dall Lake**	**9.25**	**27**	Pn	Pn	20 09 17.5	-2.6
M14K	**Bethel**	**9.92**	**29**	Pn	Pn	20 09 29.0	-0.4
N15K	**Kwethluk River**	**10.09**	**35**		Pn	20 09 31.5	-0.2
L14K	**Kuka Creek**	**10.21**	**25**	Pn	Pn	20 09 33.2	-0.1
K13K	**Kusilvak Mount**	**10.27**	**19**	Pn	Pn	20 09 34.0	-0.1
O16K	**Kokwok River B**	**10.47**	**41**		Pn	20 09 36.8	-0.1
SII	**Sitkinak Islan**	**11.01**	**61**	Pn	Pn	20 09 44.0	-0.3
M16K	**Timber Creek**	**11.09**	**34**	Pn	Pn	20 09 45.1	+0.2
K15K	**Wolf Creek Mou**	**11.30**	**25**	Pn	Pn	20 09 48.0	-0.3
N17K	**Nushagak Hills**	**11.40**	**39**		Pn	20 09 49.5	-0.2
L16K	**Owhat River**	**11.43**	**31**	Pn	Pn	20 09 49.5	-0.5
O18K	**Koktuh Hills**	**11.82**	**45**	Pn	Pn	20 09 56.1	+0.6
M17K	**Holitna River**	**11.88**	**35**	Pn	Pn	20 09 55.5	-0.8
J16K	**Anvik River**	**12.37**	**24**	Pn	Pn	20 10 02.2	-0.6
K17K	**Iditarod**	**12.55**	**30**		Pn	20 10 05.3	0.0
P19K	**Oil Pt**	**12.60**	**48**	Pn	Pn	20 10 07.8	+1.8
N19K	**Bonanza Creek**	**12.65**	**42**	Pn	Pn	20 10 06.7	-0.1
L18K	**Granite Mounta**	**12.71**	**34**	Pn	Pn	20 10 07.4	-0.1
ILSW	**Iliamna Southw**	**12.79**	**46**	Pn	Pn	20 10 10.0	+1.2
M19K	**Big River Lodg**	**13.32**	**38**	Pn	Pn	20 10 16.3	+0.4
L19K	**White Mountain**	**13.32**	**36**	Pn	Pn	20 10 16.3	+0.4
J18K	**Innoko River**	**13.59**	**30**	Pn	Pn	20 10 17.8	-1.7
M20K	**Styx River**	**13.79**	**39**	Pn	Pn	20 10 22.9	+0.6
J19K	**Poorman**	**14.31**	**30**	Pn	Pn	20 10 28.6	-0.8
K20K	**Telida**	**14.37**	**33**	Pn	Pn	20 10 30.2	0.0
J20K	**Nowinta River**	**14.90**	**31**	Pn	Pn	20 10 36.8	-0.6
CAST	**Castle Rocks**	**15.09**	**36**		Pn	20 10 39.1	-0.9
CAST				IAmb	IAmb	20 11 16.7	
	comp=Z,29nm,1.3s						
SML	**Sawmill**	**15.71**	**44**	Pn	Pn	20 10 47.6	-0.6
HIN	**Hinchinbrook I**	**16.00**	**50**	P	P	20 10 55.7	+0.3
HIN				IAmb	IAmb	20 11 19.8	
	comp=Z,14nm,1.0s						
H21K	**Melozitna Rive**	**16.35**	**29**		Pn	20 10 57.2	+0.9
O30N	**Mendenhall**	**21.09**	**53**	P	P	20 11 51.3	+0.1
TMUT	**Trail Mountain**	**42.91**	**83**	P	P	20 15 06.0	+0.1

*IDC **31** 20:07:29.3 ± 0.8, 52.°51N × 171.°91W, h0km, mb4.2/11, mbtmp4.1/13, ML3.1/1, MS3.0/10, Error ellipse: s-maj=30.1km s-min=14.8km az=9.0*
*NEIC **31** 20:07:31.8 ± 1.8, 52.°46N ± 0.°04 × 171.°77W ± 0.°06, h10km ± 1km, mb4.1/141, ML4.2/6, ML3.9(AEIC), Error ellipse: s-maj=7.9km s-min=3.9km az=137.0*
*AEIC **31** 20:07:34.8 ± 3.2, 52.°3N ± 0.°1 × 171.°63W ± 0.°07, h20km ± 6km, Error ellipse: s-maj=16.2km s-min=4.3km az=164.0*

ISC 31 20:07:31.0 ± 0.6, **52.°42N** ± 0.°10 × **171.°77W** ± 0.°04, **h10**km, **n200,** σ **1**§**14**/139, **mb4.2**/42, **MS3.0**/10, **Fox Islands**

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CLES	**Cleveland East**	**1.21**	**70**		**Sb**	**20 08 09.3**	**-0.4**
CLES	**Cleveland East**	**1.21**	**70**		**Pb**	**20 07 52.5**	**-1.5**
CLES				IAML		20 08 11.9	
	comp=E,9μm,1.0s						
CLCO	**Concord Point,**	**1.30**	**73**		**Pn**	**20 07 54.2**	**-1.0**
CLCO					**Sb**	**20 08 12.7**	**+0.4**
KOFP	**Korovin Flat P**	**1.44**	**265**		**Pn**	**20 07 53.7**	**-3.5**
ATKA	**Atka Island**	**1.51**	**262**	Pn	**Pn**	**20 07 57.6**	**-0.4**
ATKA	**Atka Island**	**1.51**	**262**		**Sn**	**20 08 18.8**	**+1.1**
NIKH	**Nikolski High**	**1.86**	**72**		**Sn**	**20 08 25.9**	**-0.4**
NIKH	**Nikolski High**	**1.86**	**72**		**Pn**	**20 08 00.3**	**-2.6**
OKWE	**Okmok W'ng Wal**	**2.38**	**62**		**Pn**	**20 08 11.2**	**+1.1**
OKCE	**Okmok Cone E**	**2.40**	**64**		**Pn**	**20 08 11.7**	**+1.3**
OKNC	**Okmok New Cone**	**2.44**	**63**		**Pn**	**20 08 12.3**	**+1.4**
OKER	**Okmok East Rim**	**2.48**	**64**		**Pn**	**20 08 12.8**	**+1.4**
OKFG	**Magazine Ridge**	**2.54**	**66**		**Pn**	**20 08 13.2**	**+1.0**
OKFG					**Sb**	**20 08 46.5**	**-1.3**
GSTR	**Great Sitkin T**	**2.66**	**265**		**Pn**	**20 08 13.7**	**-0.2**
GSTD	**Great Sitkin T**	**2.71**	**264**		**Pn**	**20 08 16.7**	**+1.9**
ADK	**Adak**	**3.08**	**262**	Pn	**Pn**	**20 08 19.7**	**+0.1**
ADK				IAML		20 09 03.8	
	comp=E,724nm,0.9s						
ADK				IAML		20 09 04.8	
	comp=E,694nm,1.0s						
ADK	**Adak**	**3.08**	**262**		**Pn**	**20 08 21.0**	**+1.4**
ADK					**Sn**	**20 08 59.1**	**+2.7**
MAPS	**Pakushin South**	**3.22**	**63**		**Pn**	**20 08 22.7**	**+1.0**
MAPS					**Sn**	**20 09 02.5**	**+2.4**
KIWB	**Kanaga Island**	**3.37**	**262**	Pn	**Pn**	**20 08 24.1**	**+0.5**
MTBL	**Makushin Table**	**3.43**	**61**		**Pn**	**20 08 25.7**	**+1.1**
UNV	**Unalaska Valle**	**3.48**	**64**		**Pn**	**20 08 26.1**	**+1.0**
AKRB	**Akutan Reef Bi**	**3.83**	**61**		**Pn**	**20 08 31.7**	**+1.8**
LVA	**Lava Point**	**3.86**	**61**		**Pn**	**20 08 31.5**	**+1.1**
ZRO	**Akutan Zero**	**3.86**	**62**		**Pn**	**20 08 31.6**	**+1.2**
AKBBA	**Akutan Broad B**	**3.89**	**62**		**Pn**	**20 08 32.4**	**+1.6**
AKGG	**Akutan Green G**	**3.90**	**61**		**Pn**	**20 08 32.2**	**+1.3**
AHB	**Akutan Harbor**	**3.96**	**62**		**Pn**	**20 08 33.5**	**+1.8**
GANE	**Gareloi Northe**	**4.36**	**265**		**Pn**	**20 08 35.4**	**-1.9**
GANE					Pb	20 08 39.9	-7.8
P08K	**Saint George I**	**4.38**	**16**		**Pn**	**20 08 36.8**	**-0.7**
WECS	**Westdahl Cape**	**4.68**	**60**		**Pn**	**20 08 43.3**	**+1.6**
SNIA	**Saint Paul Isl**	**4.84**	**10**		**Pn**	**20 08 44.0**	**+0.1**
ISLZ	**Isanotski Laza**	**5.33**	**61**		**Pn**	**20 08 51.5**	**+0.9**
FALS	**False Pass**	**5.53**	**61**	Pn	**Pn**	**20 08 54.1**	**+0.8**
AMKA	**Amchitka**	**5.63**	**263**	Pn	**Pn**	**20 08 55.0**	**+0.3**
S12K	**Black Hills**	**6.59**	**56**	Pn	**Pn**	**20 09 07.8**	**-0.1**
SDPT	**Sand Point**	**7.29**	**62**	Pn	**Pn**	**20 09 17.5**	**+0.1**
CNBA	**Chernabura Isl**	**7.63**	**67**	Pn	**Pn**	**20 09 22.8**	**+0.6**
CHGN	**Chignik**	**8.71**	**58**	Pn	**Pn**	**20 09 36.5**	**-0.4**
O14K	**Tigyukauivet M**	**9.03**	**37**	Pn	**Pn**	**20 09 41.5**	**+0.1**
M13K	**Dall Lake**	**9.26**	**27**	Pn	**Pn**	**20 09 45.6**	**+1.2**
M14K	**Bethel**	**9.94**	**29**	Pn	**Pn**	**20 09 54.0**	**+0.4**
N15K	**Kwethluk River**	**10.10**	**35**	Pn	**Pn**	**20 09 56.7**	**+0.7**
N15K					**Sn**	**20 11 50.6**	**+1.3**
L14K	**Kuka Creek**	**10.22**	**25**		**Pn**	**20 09 57.7**	**+0.2**
K13K	**Kusilvak Mount**	**10.28**	**19**	Pn	**Pn**	**20 09 59.4**	**+1.0**
O16K	**Kokwok River B**	**10.48**	**41**	Pn	**Pn**	**20 10 01.3**	**+0.1**
M16K	**Timber Creek**	**11.10**	**34**	Pn	**Pn**	**20 10 10.0**	**+0.3**
J14K	**Nanvaranak Lak**	**11.24**	**20**	Pn	**Pn**	**20 10 12.5**	**+1.0**
K15K	**Wolf Creek Mou**	**11.32**	**25**	Pn	**Pn**	**20 10 12.0**	**-0.6**
GAMB	**Gambell**	**11.38**	**0**	Pn	**Pn**	**20 10 13.4**	**-0.1**
N17K	**Nushagak Hills**	**11.42**	**39**	Pn	**Pn**	**20 10 14.3**	**+0.3**
L16K	**Owhat River**	**11.44**	**31**	Pn	**Pn**	**20 10 14.6**	**+0.4**
P18K	**Big Mountain,**	**11.59**	**46**	Pn	**Pn**	**20 10 17.4**	**+1.0**
O18K	**Koktuh Hills**	**11.84**	**45**	Pn	**Pn**	**20 10 19.4**	**-0.3**
N18K	**Kilae Creek**	**12.02**	**40**		**Pn**	**20 10 21.9**	**-0.3**
KDAK	**Kodiak Island**	**12.21**	**56**	Pn	**Pn**	**20 10 23.0**	**-1.7**
KDAK	**Kodiak Island**	**12.21**	**56**	Pn	**Pn**	**20 10 22.9**	**-1.9**
	comp=E,0.6nm,0.3s,baz=285,slow=6.2,SNR=6.5						
J16K	**Anvik River**	**12.38**	**24**		**Pn**	**20 10 27.3**	**+0.2**
K17K	**Iditarod**	**12.56**	**30**	Pn	**Pn**	**20 10 30.2**	**+0.6**
SYI	**Shuyak Island**	**12.58**	**53**	Pn	**Pn**	**20 10 28.9**	**-1.0**
P19K	**Oil Pt**	**12.61**	**48**	Pn	**Pn**	**20 10 32.6**	**+2.3**
ANM	**Nome**	**12.62**	**13**	Pn	**Pn**	**20 10 29.4**	**-0.9**
N19K	**Bonanza Creek**	**12.66**	**42**	Pn	**Pn**	**20 10 31.8**	**+0.8**
L18K	**Granite Mounta**	**12.72**	**34**	Pn	**Pn**	**20 10 32.1**	**+0.4**
J17K	**VABM Dome**	**12.87**	**26**	Pn	**Pn**	**20 10 34.0**	**+0.2**
L19K	**White Mountain**	**13.34**	**36**	Pn	**Pn**	**20 10 40.5**	**+0.3**
J18K	**Innoko River**	**13.60**	**30**	Pn	**Pn**	**20 10 44.2**	**+0.4**
F15K	**North Star Dit**	**13.80**	**12**		**Pn**	**20 10 47.2**	**+0.7**
H17K	**Granite Mounta**	**13.94**	**21**	Pn	**Pn**	**20 10 47.9**	**-0.5**
J19K	**Poorman**	**14.32**	**30**	Pn	**Pn**	**20 10 53.3**	**-0.4**
K20K	**Telida**	**14.38**	**34**	Pn	**Pn**	**20 10 54.0**	**-0.4**
H18K	**Honhosa River**	**14.48**	**23**		**Pn**	**20 10 57.4**	**+1.5**
SKT	**Skwentna**	**14.49**	**41**		**Pn**	**20 10 56.8**	**+0.8**
G18K	**Tagagawik**	**15.04**	**21**	IAmb	IAmb	20 11 17.1	
	comp=Z,11nm,0.9s						
H19K	**Roundabout Mou**	**15.26**	**25**	IAmb	IAmb	20 11 11.1	
	comp=Z,12nm,0.9s						
GHO	**Glory Hole Cre**	**15.46**	**44**	IAmb	IAmb	20 11 27.5	
	comp=Z,8.5nm,0.9s						
KNK	**Knik Glacier**	**15.51**	**45**	IAmb	IAmb	20 11 17.6	
	comp=Z,7.1nm,0.6s						
G19K	**Purcell Mounta**	**15.60**	**23**	IAmb	IAmb	20 11 22.0	
	comp=Z,6.9nm,0.9s						
SML	**Sawmill**	**15.73**	**44**	IAmb	IAmb	20 11 19.4	
	comp=Z,15nm,1.1s						
TRF	**Thorofare Moun**	**15.78**	**37**	IAmb	IAmb	20 11 51.7	
	comp=Z,16nm,1.3s						
GLI	**Glacier Island**	**15.90**	**48**	IAmb	IAmb	20 11 20.0	
	comp=Z,5.7nm,0.6s						
FID	**Port Fidalgo**	**16.14**	**49**	IAmb	IAmb	20 11 23.6	
	comp=Z,10nm,0.8s						
SCM	**Sheep Creek Mo**	**16.17**	**45**	IAmb	IAmb	20 11 24.8	
	comp=Z,16nm,0.8s						
I21K	**Tanana**	**16.28**	**31**	IAmb	IAmb	20 11 31.1	
	comp=Z,15nm,1.1s						
H21K	**Melozitna Rive**	**16.36**	**29**	IAmb	IAmb	20 11 32.9	
	comp=Z,39nm,1.4s						
MLY	**Manley**	**16.58**	**32**	IAmb	IAmb	20 11 35.1	
	comp=Z,27nm,1.4s						
M24K	**Tolsona, Glenn**	**16.78**	**45**	IAmb	IAmb	20 11 33.6	
	comp=Z,19nm,0.8s						
G21K	**Allakaket**	**16.79**	**26**	IAmb	IAmb	20 11 35.5	
	comp=Z,15nm,1.1s						
I23K	**Minto, Yukon-K**	**17.11**	**33**	IAmb	IAmb	20 11 41.7	
	comp=Z,32nm,1.2s						
F21K	**Alatna River**	**17.34**	**24**	IAmb	IAmb	20 11 43.6	
	comp=Z,15nm,1.2s						
H23K	**Yukon River**	**17.47**	**31**	IAmb	IAmb	20 11 45.1	
	comp=Z,16nm,1.2s						
GLB	**Gilahina Butte**	**17.59**	**48**	P	**Pn**	**20 11 33.7**	**-2.4**
ILAR	**Eielson Array**	**17.76**	**36**	P	**Pn**	**20 11 36.4**	**-1.7**
	comp=Z,0.1nm,0.3s,baz=235,slow=11,SNR=4.6						
	comp=Z,1.1nm,0.9s						
WAX	**Waxell Ridge**	**17.77**	**52**	IAmb	IAmb	20 12 23.5	
	comp=Z,15nm,1.2s						
G23K	**Bananza Creek**	**17.91**	**29**	IAmb	IAmb	20 11 50.4	
	comp=Z,14nm,1.2s						
H24K	**Noodor Dome**	**18.02**	**33**	IAmb	IAmb	20 11 51.0	
	comp=Z,14nm,0.9s						
E21K	**Killik River**	**18.18**	**21**	IAmb	IAmb	20 11 50.7	
	comp=Z,8.4nm,0.7s						
J25K	**Salcha River,**	**18.23**	**38**	IAmb	IAmb	20 11 53.5	
	comp=Z,22nm,1.2s						
L26K	**Log Cabin Wild**	**18.35**	**44**	IAmb	IAmb	20 12 04.2	
	comp=Z,13nm,1.2s						
PETK	**Petropavlovsk-**	**18.43**	**284**	P	**P**	**20 11 45.2**	**-1.1**
	comp=Z,0.8nm,0.6s,baz=74,slow=11,SNR=0.9						
E22K	**Anaktuvuk Pass**	**18.45**	**24**	IAmb	IAmb	20 12 07.9	
	comp=Z,16nm,1.4s						
G24K	**Hadweenzic Riv**	**18.68**	**31**	P	**P**	**20 11 48.5**	**-0.5**
G24K					IAmb	IAmb	20 11 59.9
	comp=Z,14nm,1.1s						
M27K	**Edge Creek, AK**	**18.75**	**46**	IAmb	IAmb	20 11 57.7	
	comp=Z,11nm,0.9s						
D22K	**Ayikyak River**	**18.82**	**22**	IAmb	IAmb	20 12 02.8	
	comp=Z,11nm,1.0s						
B20K	**Meade River**	**18.89**	**16**	IAmb	IAmb	20 11 59.4	
	comp=Z,14nm,1.1s						
B21K	**Ikpikpuk River**	**19.01**	**18**	IAmb	IAmb	20 12 05.3	
	comp=Z,9.6nm,0.9s						
F24K	**Squaw Lake**	**19.07**	**28**	IAmb	IAmb	20 12 02.2	
	comp=Z,10nm,1.

	comp=Z,4.7nm,0.9s						
PRN	**Pahroc Range**	**41.77**	**88**	P	**P**	**20 15 20.6**	**+0.1**
PDAR	**Pinedale Array**	**41.83**	**78**	P	**P**	**20 15 21.2**	**+0.1**
	comp=Z,4.1nm,0.8s,baz=322,slow=4.5,SNR=18						
	comp=Z,4.1nm,0.8s						
GSC	**Goldstone, Bar**	**42.07**	**92**	P	**P**	**20 15 23.1**	**+0.3**
BSUT	**Blindstream Ca**	**42.44**	**81**	P	**P**	**20 15 27.2**	**+1.0**
BSUT				IAmb	IAmb	20 15 34.2	
	comp=Z,3.0nm,0.8s						
ELS	**Elsinore Mount**	**42.80**	**94**	P	**P**	**20 15 29.1**	**+0.2**
ELS				IAmb	IAmb	20 15 50.2	
	comp=Z,9.4nm,1.2s						
MTPU	**Mount Pierson**	**43.12**	**85**	P	**P**	**20 15 32.3**	**+0.6**
MTPU				IAmb	IAmb	20 15 33.9	
	comp=Z,3.3nm,0.9s						
BAR	**Barrett**	**43.92**	**94**	P	**P**	**20 15 38.5**	**+0.7**
KSRS	**Korea Array**	**43.94**	**275**	LR	LR	20 34 59.5	
	comp=Z,7.0nm,18.3s,baz=105,slow=38						
U15A	**North Rim**	**44.09**	**87**	P	**P**	**20 15 40.0**	**+0.5**
O20A	**White River Ci**	**44.20**	**80**	P	**P**	**20 15 39.2**	**-1.1**
ESJX	**Sierra Juarez**	**44.83**	**94**	P	**P**	**20 15 45.6**	**+0.3**
113A	**Mohawk Valley,**	**45.63**	**92**	P	**P**	**20 15 51.6**	**+0.2**
113A				IAmb	IAmb	20 15 52.8	
	comp=Z,3.6nm,0.9s						
X16A	**Lo Mia Camp, P**	**45.94**	**88**	P	**P**	**20 15 55.2**	**+1.1**
X16A				IAmb	IAmb	20 15 56.7	
	comp=Z,3.6nm,0.8s						
214A	**Organ Pipe Nat**	**46.78**	**92**	P	**P**	**20 16 01.0**	**+0.5**
SDCO	**Great Sand Dun**	**47.37**	**81**	P	**P**	**20 16 05.5**	**+0.1**
SDCO				IAmb	IAmb	20 16 06.7	
	comp=Z,2.5nm,0.9s						
TUC	**Tucson**	**47.77**	**90**	P	**P**	**20 16 08.2**	**-0.1**
121A	**Cookes Peak, D**	**49.46**	**87**	P	**P**	**20 16 20.8**	**-0.6**
RTBA	**Rita Blanca**	**49.89**	**80**	P	**P**	**20 16 24.2**	**-0.5**
VHRN	**Van Horn**	**52.38**	**87**	P	**P**	**20 16 44.0**	**+0.6**
DKNS	**Dickens**	**52.86**	**81**	P	**P**	**20 16 47.2**	**+0.4**
POST	**Post**	**52.92**	**82**	P	**P**	**20 16 47.1**	**-0.2**
WMOK	**Wichita Mounta**	**53.42**	**79**	P	**P**	**20 16 50.2**	**-0.7**
WMOK				IAmb	IAmb	20 16 56.4	
	comp=Z,3.1nm,0.8s						
APMT	**Aspermont**	**53.58**	**81**	P	**P**	**20 16 51.3**	**-0.7**
TX31	**Lajitas Ar. Si**	**54.22**	**87**	P	**P**	**20 16 56.5**	**-0.3**
TXAR	**Lajitas Array**	**54.22**	**87**	P	**P**	**20 16 56.9**	**+0.1**
	comp=Z,4.4nm,0.8s,baz=297,slow=5.5,SNR=30						
	comp=Z,4.4nm,0.8s						
HPIG		**54.71**	**91**	P	**P**	**20 16 60.0**	**-0.7**
BRDY	**Brady**	**55.68**	**82**	P	**P**	**20 17 06.4**	**-1.0**
BRDY				IAmb	IAmb	20 17 07.0	
	comp=Z,3.8nm,1.1s						
JCT	**Junction City**	**55.76**	**83**	P	**P**	**20 17 07.0**	**-1.0**
JMIC	**Jan Mayen**	**56.31**	**7**	LR	LR	20 41 00.7	
	comp=Z,10nm,20.3s,baz=16,slow=36						
KURBB	**Kurchatov Array**	**61.45**	**317**	P	**P**	**20 17 46.0**	**-1.3**
	comp=Z,1.3nm,0.8s,baz=45,slow=6.9,SNR=9.4						
	comp=Z,1.3nm,0.8s						
MKAR	**Makanchi Array**	**62.69**	**312**	P	**P**	**20 17 53.9**	**-1.8**
	comp=Z,0.1nm,0.4s,baz=36,slow=4.5,SNR=2.4						
BVAR	**Borovoye Array**	**62.79**	**323**	P	**P**	**20 17 55.5**	**-0.7**
	comp=Z,0.6nm,0.5s,baz=44,slow=10,SNR=2.8						
	comp=Z,0.6nm,0.5s						
ARU	**Arti**	**63.88**	**332**	LR	LR	20 49 23.5	
	comp=Z,21nm,19.1s,baz=76,slow=39						
AKTO	**Aktyubinsk**	**69.21**	**329**	P	**P**	**20 18 37.0**	**-0.6**
	comp=Z,1.4nm,0.5s,baz=44,slow=4.0,SNR=5.2						
	comp=Z,1.4nm,0.5s						
KBZ	**Khabaz**	**79.66**	**335**	LR	LR	20 58 32.6	
	comp=Z,15nm,18.8s,baz=32,slow=38						
WRA	**Warramunga Arr**	**85.90**	**230**	P	**P**	**20 20 10.2**	**-0.8**
	comp=Z,0.6nm,0.7s,baz=34,slow=5.9,SNR=6.2						
	comp=Z,0.6nm,0.7s						
ASAR	**Alice Springs**	**89.32**	**228**	P	**P**	**20 20 27.5**	**+0.1**
	comp=Z,2.6nm,0.6s,baz=32,slow=5.0,SNR=20						
	comp=Z,2.6nm,0.6s						
SDV	**Santo Domingo**	**89.75**	**76**	LR	LR	21 02 06.0	
	comp=Z,20nm,18.7s,baz=122,slow=36						
H03N2	**Juan Fernandez**	**117.32**	**110**	T	T	22 34 17.8	
	baz=318,slow=77,SNR=4.8						
H03N1	**Juan Fernandez**	**117.33**	**110**	T	T	22 34 19.7	
	baz=318,slow=77,SNR=8.8						
H03N3	**Juan Fernandez**	**117.34**	**110**	T	T	22 34 15.2	
	baz=318,slow=77,SNR=3.6						

*NEIC **31** 20:14:20.6±2.0,29°.4N±0°.1×68°.3E±0°.1,h10km±2km, mb4.0/5,Error ellipse: s-maj=21.1km s-min=17.4km az=188.0*

*IDC **31** 20:14:25.2±1.3,30°.02N×67°.88E,h0km,mb3.6/13, mbtmp3.7/15,ML3.7/2,MS3.3/12,Error ellipse: s-maj=25.9km s-min=23.5km az=171.0*

ISC 31 20:14:28.7±0.9,30°.1N±0°.1×67°.9E±0°.1,h24km,n40, σ1°.968/31,mb3.7/15,MS3.3/12,Pakistan

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
KBL	**Kabul**	**4.55**	**12**	Pn	**Pn**	**20 15 38.2**	**+2.0**
NIL	**Nilore**	**5.76**	**50**	Pn	**Pn**	**20 15 50.8**	**-2.0**
SIMJ	**Simiganj**	**8.61**	**6**		**Pn**	**20 16 32.7**	**+0.8**
CHGR	**Chuyangaron**	**8.62**	**6**	Pn	**Pn**	**20 16 33.0**	**+1.0**
GAR	**Garm**	**9.12**	**12**		**Pn**	**20 16 40.8**	**+1.9**
DRK	**Karamyk**	**9.91**	**18**		**Pn**	**20 16 51.2**	**+1.3**
BTK	**Batken**	**10.24**	**13**	Pn	**Pn**	**20 16 56.5**	**+2.4**
WSAR	**Wadi Sarin**	**10.74**	**233**	Pn	**Pn**	**20 16 58.6**	**-2.4**
	0.4nm,0.3s,baz=98,slow=8.0,SNR=7.0						
WSAR				Sn	Sn	20 18 47.6	-13
	0.6nm,0.3s,baz=45,slow=20,SNR=2.1						
	1.2nm,0.3s						
ARSB	**Arslanbob**	**11.95**	**19**		**Pn**	**20 17 18.6**	**+1.0**
KKAR	**Karatay Array**	**13.17**	**8**		**Pn**	**20 17 34.8**	**+0.7**
AAK	**Ala-Archa**	**13.60**	**21**		**Pn**	**20 17 40.1**	**-0.1**
AAK	**Ala-Archa**	**13.60**	**21**	Pn	**Pn**	**20 17 40.3**	**+0.1**
	0.5nm,0.3s,baz=218,slow=8.8,SNR=3.7						
AAK				Sn	**Sn**	**20 20 04.8**	**-5.8**
	0.2nm,0.3s,baz=198,slow=16,SNR=1.7						
	1.1nm,0.3s						
BOOM	**Boomskoye usch**	**13.96**	**25**		**Pn**	**20 17 43.5**	**-1.7**
MKAR	**Makanchi Array**	**20.08**	**30**	P	**P**	**20 19 00.6**	**+0.3**
	1.1nm,0.6s,baz=210,slow=11,SNR=11						
MKAR				LR	LR	20 28 22.0	
	comp=Z,184nm,18.5s,baz=188,slow=42						
	1.1nm,0.6s						
LSA	**Lhasa**	**20.14**	**85**	P	P	20 18 50.8	-11
AKTO	**Aktyubinsk**	**21.66**	**343**	P	**P**	**20 19 17.4**	**0.0**
	0.9nm,0.4s,baz=124,slow=2.3,SNR=1.9						
	0.9nm,0.4s						
KURBB	**Kurchatov Arra**	**22.02**	**18**	P	**P**	**20 19 21.3**	**+0.2**
	1.8nm,0.8s,baz=210,slow=9.9,SNR=8.8						
KURBB				LR	LR	20 28 53.7	
	comp=Z,59nm,21.6s,baz=180,slow=39						
	1.8nm,0.8s						
KURK	**Kurchatov**	**22.12**	**18**	P	**P**	**20 19 21.2**	**-1.1**
KURK				IAmb	IAmb	20 19 31.2	
	comp=Z,4.4nm,0.8s						
BVAR	**Borovoye Array**	**23.00**	**4**	P	**P**	**20 19 32.5**	**+0.8**
	comp=Z,1.7nm,0.5s,baz=168,slow=7.6,SNR=10						
	comp=Z,1.7nm,0.5s						
BRVK	**Borovoye**	**23.03**	**4**	P	**P**	**20 19 33.1**	**+1.2**
BRVK				IAmb	IAmb	20 19 35.2	
	comp=Z,5.1nm,1.1s						
ZAA0	**Zalesovo Array**	**26.82**	**22**	P	**P**	**20 20 04.9**	**-2.0**
ZAA0				IAmb	IAmb	20 20 35.4	
	comp=Z,2.2nm,0.7s						
ZALV	**Zalesovo Beam**	**26.82**	**22**	P	**P**	**20 20 07.0**	**+0.1**
	comp=Z,0.6nm,0.3s,baz=213,slow=10,SNR=2.5						
ZALV				LR	LR	20 31 47.0	
	comp=Z,53nm,18.9s,baz=267,slow=39						
	comp=Z,0.6nm,0.3s						
ARU	**Arti**	**27.16**	**349**	LR	LR	20 33 07.3	
	comp=Z,23nm,21.4s,baz=262,slow=41						
EIL	**Elat**	**28.54**	**278**	LR	LR	20 33 45.0	
	comp=Z,30nm,19.7s,baz=64,slow=41						
CMAR	**Chiang Mai Arr**	**30.46**	**105**	LR	LR	20 34 13.6	
	comp=Z,36nm,21.1s,baz=265,slow=39						
SONM	**Songino Array**	**34.34**	**48**	P	**P**	**20 21 15.0**	**+1.4**
	comp=Z,1.1nm,1.1s,baz=248,slow=7.6,SNR=4.2						
	comp=Z,1.1nm,1.1s						
AKASG	**Malin Array Be**	**35.41**	**317**	P	**P**	**20 21 23.0**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=106,slow=7.5,SNR=1.6						
	comp=Z,0.2nm,0.3s						
MLR	**Muntele Rosu**	**36.13**	**307**	P	**P**	**20 21 28.2**	**-0.8**
FINES	**FINESS Array B**	**41.62**	**331**	P	**P**	**20 22 15.2**	**+0.6**
	comp=Z,0.2nm,0.4s,baz=148,slow=11,SNR=3.8						
	comp=Z,0.2nm,0.4s						
ARCES	**ARCESS Array B**	**46.22**	**341**	P	**P**	**20 22 51.6**	**+0.1**
	comp=Z,1.8nm,0.9s,baz=130,slow=8.4,SNR=4.3						
	comp=Z,1.8nm,0.9s						
HFS	**Hagfors**	**46.74**	**326**	LR	LR	20 45 24.3	
	comp=Z,42nm,18.3s,baz=70,slow=40						
NOA	**NORSAR Array B**	**48.15**	**327**	P	**P**	**20 23 07.5**	**+0.9**
	comp=Z,0.5nm,0.8s,baz=94,slow=10,SNR=3.1						
	comp=Z,0.5nm,0.8s						
KSRS	**Korea Array**	**49.70**	**65**	P	**P**	**20 23 19.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=270,slow=6.1,SNR=5.1						
	comp=Z,0.3nm,0.3s						
YAK	**Yakutsk**	**50.72**	**32**	LR	LR	20 47 10.9	
	comp=Z,24nm,19.0s,baz=309,slow=39						
JNU	**Nakatsue**	**52.99**	**69**	LR	LR	20 48 00.4	
	comp=Z,32nm,19.8s,baz=254,slow=38						
MA2	**Magadan**	**61.04**	**35**	LR	LR	20 53 02.3	
	comp=Z,27nm,19.2s,baz=78,slow=38						
SEY	**Seymchan**	**61.20**	**31**	LR	LR	20 54 03.7	
	comp=Z,33nm,18.1s,baz=218,slow=39						
BORG	**Borgarnes**	**62.92**	**331**	LR	LR	20 56 27.7	
	comp=Z,22nm,18.9s,baz=24,slow=40						
ASAR	**Alice Springs**	**82.85**	**122**	P	**P**	**20 26 51.3**	**-0.1**
	comp=Z,0.5nm,0.8s,baz=302,slow=5.3,SNR=2.7						
	comp=Z,0.5nm,0.8s						
YKA	**Yellowknife Ar**	**87.73**	**1**	P	**P**	**20 27 16.4**	**+1.2**
	comp=Z,0.3nm,0.6s,baz=354,slow=6.4,SNR=3.5						
	comp=Z,0.3nm,0.6s						

IDC 31 20:44:31.3±1.4,1°.81N×122°.40E,h0km,mb3.5/4, mbtmp3.5/4,Error ellipse: s-maj=229.7km s-min=22.4km az=62.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**24.59**	**152**	P	P	20 49 53.1	-0.2
	0.8nm,0.9s,baz=330,slow=11,SNR=5.8						
	0.8nm,0.9s						
ASAR	**Alice Springs**	**27.68**	**157**	P	P	20 50 21.7	+0.4
	0.3nm,0.9s,baz=329,slow=7.0,SNR=4.1						
	0.3nm,0.9s						
MKAR	**Makanchi Array**	**56.77**	**328**	P	P	20 54 17.6	+0.3
	0.4nm,0.4s,baz=125,slow=8.4,SNR=9.0						
	0.4nm,0.4s						
KURBB	**Kurchatov Arra**	**61.11**	**330**	P	P	20 54 46.7	-0.6
	0.2nm,0.3s,baz=138,slow=6.3,SNR=5.2						
	0.2nm,0.3s						

IDC 31 20:47:56.0±6.8,14°.07S×171°.79E,h0km,mb3.9/3, mbtmp3.9/3,MS3.2/1,Error ellipse: s-maj=326.4km s-min=37.7km az=141.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
DZM	**Mont Dzumac**	**9.44**	**212**	LR	LR	20 53 02.1	
	comp=Z,132nm,18.9s,baz=44,slow=32						
WRA	**Warramunga Arr**	**36.23**	**255**	P	P	20 55 01.5	+0.4
	1.2nm,0.9s,baz=84,slow=8.1,SNR=3.3						
	1.2nm,0.9s						
ASAR	**Alice Springs**	**37.00**	**249**	P	P	20 55 07.2	-0.4
	2.1nm,0.6s,baz=81,slow=9.0,SNR=36						
	2.1nm,0.6s						
ILAR	**Eielson Array**	**84.61**	**17**	P	P	21 00 31.0	0.0
	0.7nm,0.8s,baz=230,slow=5.4,SNR=3.1						
	0.7nm,0.8s						

*NEIC **31** 21:12:10.9±1.0,19°.42N±0°.01×155°.27W±0°.01,h3km±4km, Error ellipse: s-maj=2.1km s-min=1.1km az=133.0*

HVO 31 21:12:10.5±0.9,19°.425N±0°.005×155°.26W±0°.01, h0km±6km,ML2.7/28,ML2.2/35(NEIC),Error ellipse: s-maj=1.8km s-min=0.5km az=110.0,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
HATHI	**Halema'uma'u T**	**0.00**	**239**	Pg	Pg	21 12 11.0	+0.3
BYL	**Byron's Ledge**	**0.01**	**189**	Pg	Pg	21 12 11.3	+0.4
UWB	**Uwekahuna B**	**0.02**	**270**		Pg	21 12 11.1	+0.1
OBL	**Observatory Le**	**0.03**	**254**		Pg	21 12 11.4	+0.4
KKO	**Keanakako'i**	**0.03**	**196**		Pg	21 12 11.5	+0.4
RIM	**Rim**	**0.03**	**208**		Pg	21 12 11.7	+0.6
UWE	**Uwekahuna**	**0.03**	**264**		Pg	21 12 11.7	+0.5
RSD	**Rainshed**	**0.04**	**333**		Pg	21 12 12.1	+0.7
RSD				IAML		21 12 12.4	
	comp=N,3μm,0.3s						
PUH	**Pauahi**	**0.06**	**142**		Pg	21 12 12.4	+0.6
PUH				IAML		21 12 13.9	
	comp=N,1μm,0.3s						
KNHH	**Kane Nui o Ham**	**0.10**	**118**		Pg	21 12 13.5	+1.1
STCH	**Steam Cracks**	**0.13**	**107**		Pg	21 12 14.1	+1.0
STCH				IAML		21 12 17.6	
	comp=N,635nm,0.4s						
HLP	**Hilina Pali**	**0.14**	**200**		Pg	21 12 14.4	+1.3
HLP				IAML		21 12 17.7	
	comp=E,727nm,0.7s						
MLH	**Mauna Loa**	**0.14**	**300**		Pg	21 12 14.4	+1.2
MLH				IAML		21 12 18.0	
	comp=E,1μm,0.4s						
HTC	**Hot Caves**	**0.23**	**215**		Pg	21 12 15.8	+0.9
JOKA	**Jonika Flow**	**0.24**	**88**		Pg	21 12 15.3	+0.2
JOKA				IAML		21 12 22.1	
	comp=N,487nm,0.9s						
JOKA				IAML		21 12 22.1	
	comp=E,376nm,0.8s						
HMH	**Humu'ula Sheep**	**0.28**	**310**		Pg	21 12 15.6	-0.3
HMH				IAML		21 12 24.4	
	comp=N,369nm,0.5s						
HMH				IAML		21 12 25.7	
	comp=E,476nm,0.3s						
PAH	**Pahoa**	**0.30**	**77**		Sg	21 12 15.4	-4.9
MLOA	**Mauna Loa Obse**	**0.32**	**290**	Pg	Pg	21 12 17.3	+0.6
MLOA				IAML		21 12 27.1	
	comp=N,405nm,0.7s						
MLOA				IAML		21 12 28.4	
	comp=E,499nm,0.6s						
MWH	**Moku'aweowe**	**0.33**	**281**	Pg	Pg	21 12 17.1	+0.3
KHU	**Kahuku**	**0.38**	**242**	Pg	Pg	21 12 17.6	-0.2
POHA	**Pohakuloa**	**0.42**	**322**	Pg	Pg	21 12 19.1	+0.4
POHA				IAML		21 12 27.3	
	comp=E,375nm,0.6s						
POHA				IAML		21 12 32.8	
	comp=E,368nm,0.5s						
HUH	**Hualalai**	**0.60**	**295**		Pg	21 12 22.6	+0.5
HPAH	**Hawaii Prepara**	**0.73**	**326**		Pg	21 12 24.7	+0.2

*IDC **31** 21:22:19.7±0.7,54°.64N×168°.69E,h0km,mb3.8/24, mbtmp3.9/25,ML4.3/2,MS3.2/36,Error ellipse: s-maj=20.2km s-min=11.9km az=170.0*

*KRSC **31** 21:22:20.4±2.5,54°.38N×168°.63E,h48km±24km,Ml4.6*

*MOS **31** 21:22:21.6±1.0,54°.46N×168°.77E,h31km,mb4.7/11,Error ellipse: s-maj=6.9km s-min=5.6km az=14.8*

*NEIC **31** 21:22:23.9±1.2,54°.4N±0°.1×168°.7E±0°.1,h35km±5km, mb4.5/164,Error ellipse: s-maj=18.6km s-min=8.9km az=177.0*

ISC 31 21:22:22.6±0.4,54°.39N±0°.06×168°.72E±0°.04,h24km,n564, σ0°.97/524,mb4.5/105,MS3.3/36,3C,Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID		Time	Res
				Op	ISC	h m s	ISC
BKI	**Bering**	**1.79**	**298**	*e*P	**Pn**	**21 22 49.3**	**-2.6**
BKI				*e*S	**Sn**	**21 23 09.7**	**-4.1**
BKI	**Bering**	**1.79**	**298**	PN	**Pn**	**21 22 49.3**	**-2.6**
BKI				S	**Sn**	**21 23 09.7**	**-4.1**
SHEM	**Shemya Is, Ala**	**3.61**	**115**	Pn	**Pn**	**21 23 17.6**	**+0.7**
	134nm,0.3s,baz=32,slow=3.1,SNR=82						
SHEM				Sn	**Sn**	**21 23 57.9**	**-0.9**
	207nm,0.3s,baz=298,slow=22,SNR=32						
KBTR	**Krutoberegovo**	**3.83**	**301**	*e*P	**Pn**	**21 23 18.9**	**-1.1**
KBTR				*e*S	**Sn**	**21 24 02.0**	**-2.3**
KBTR	**Krutoberegovo**	**3.83**	**301**	PN	**Pn**	**21 23 18.9**	**-1.1**
ZLN	**Zelenaya**	**4.82**	**293**	*e*S	**Sn**	**21 24 29.2**	**+0.5**
SRKR	**Sorokina**	**4.85**	**301**	*e*S	**Sn**	**21 24 29.0**	**-0.5**
BZGR	**Bezymyannyi-Gr**	**4.86**	**292**	*e*P	**Pn**	**21 23 36.0**	**+1.9**
BZGR				*e*S	**Sn**	**21 24 30.5**	**+0.9**
BZGR	**Bezymyannyi-Gr**	**4.86**	**292**	PN	**Pn**	**21 23 36.0**	**+1.9**
BZGR				S	**Sn**	**21 24 30.5**	**+0.9**
CIRR	**Tsirk**	**4.88**	**294**	*e*P	**Pn**	**21 23 33.8**	**-0.7**
CIRR	**Tsirk**	**4.88**	**294**	PN	**Pn**	**21 23 33.8**	**-0.7**
TUMD	**Tumrok D**	**4.88**	**283**	*e*P	**Pn**	**21 23 35.1**	**+0.7**
LGNR	**Loginova**	**4.90**	**294**	*e*P	**Pn**	**21 23 34.9**	**0.0**
LGNR				*e*S	**Sn**	**21 24 32.2**	**+1.3**
LGNR	**Loginova**	**4.90**	**294**	PN	**Pn**	**21 23 34.9**	**0.0**
LGNR				S	**Sn**	**21 24 32.2**	**+1.3**
BZP	**Bezymyannyi-Pe**	**4.93**	**291**	*e*P	**Pn**	**21 23 36.3**	**+1.0**
BZMR	**Bezymyannaya**	**4.97**	**292**	*e*P	**Pn**	**21 23 37.0**	**+1.3**
BZMR	**Bezymyannaya**	**4.97**	**292**	PN	**Pn**	**21 23 37.0**	**+1.3**
BZWR	**Bezymyannyi-We**	**4.97**	**292**	*e*P	**Pn**	**21 23 37.2**	**+1.4**
BZWR	**Bezymyannyi-We**	**4.97**	**292**	PN	**Pn**	**21 23 37.2**	**+1.4**
KRSR	**Krestovskiy**	**5.01**	**295**	*e*P	**Pn**	**21 23 36.6**	**+0.4**
KRSR	**Krestovskiy**	**5.01**	**295**	PN	**Pn**	**21 23 36.6**	**+0.4**
TUMR	**Tumrok**	**5.04**	**284**	*e*P	**Pn**	**21 23 37.8**	**+1.2**
TUMR				*e*S	**Sn**	**21 24 34.3**	**+0.2**
TUMR	**Tumrok**	**5.04**	**284**	PN	**Pn**	**21 23 37.8**	**+1.2**
KIRR	**Kirishev**	**5.05**	**291**	*e*P	**Pn**	**21 23 37.8**	**+0.9**
KIRR				*e*S	**Sn**	**21 24 35.9**	**+1.4**
KIRR	**Kirishev**	**5.05**	**291**	PN	**Pn**	**21 23 37.8**	**+0.9**
KIRR				S	**Sn**	**21 24 35.9**	**+1.4**
KMNR	**Kamenistaya**	**5.06**	**289**	*e*P	**Pn**	**21 23 39.4**	**+2.4**
KMNR				*e*S	**Sn**	**21 24 35.4**	**+0.7**
KMNR	**Kamenistaya**	**5.06**	**289**	PN	**Pn**	**21 23 39.4**	**+2.4**
KPT	**Kopyto**	**5.12**	**291**	*e*P	**Pn**	**21 23 39.3**	**+1.6**
KPT	**Kopyto**	**5.12**	**291**	PN	**Pn**	**21 23 39.3**	**+1.6**
SPN	**Mys Shipunski**	**5.32**	**259**	*e*P	**Pn**	**21 23 40.3**	**-0.1**
SPN				*e*S	**Sn**	**21 24 37.9**	**-3.0**
SPN	**Mys Shipunski**	**5.32**	**259**	PN	**Pn**	**21 23 40.3**	**-0.1**
KII	**Karymskiy**	**5.45**	**270**	*e*P	**Pn**	**21 23 43.0**	**+0.7**
KII	**Karymskiy**	**5.45**	**270**	PN	**Pn**	**21 23 43.0**	**+0.7**
SRDR	**Sredinnyy**	**5.49**	**294**	*e*P	**Pn**	**21 23 45.6**	**+2.8**
SRDR	**Sredinnyy**	**5.49**	**294**	PN	**Pn**	**21 23 45.6**	**+2.8**
NLC	**Nalytchevo**	**5.69**	**261**	*e*P	**Pn**	**21 23 46.4**	**+0.9**
NLC				*e*S	**Sn**	**21 24 47.9**	**-2.1**
NLC	**Nalytchevo**	**5.69**	**261**	PN	**Pn**	**21 23 46.4**	**+0.9**
SMAR	**Somma**	**5.98**	**263**	*e*P	**Pn**	**21 23 50.4**	**+0.7**
SMAR	**Somma**	**5.98**	**263**	PN	**Pn**	**21 23 50.4**	**+0.7**
UGLR	**Uglovaya**	**5.98**	**263**	*e*P	**Pn**	**21 23 50.4**	**+0.8**
UGLR	**Uglovaya**	**5.98**	**263**	PN	**Pn**	**21 23 50.4**	**+0.8**
KRER	**Koryakskii**	**6.00**	**264**	*e*P	**Pn**	**21 23 50.7**	**+0.7**
KRER				*e*S	**Sn**	**21 24 56.2**	**-1.7**
KRER	**Koryakskii**	**6.00**	**264**	PN	**Pn**	**21 23 50.7**	**+0.7**
AVH	**Avacha**	**6.02**	**263**	*e*P	**Pn**	**21 23 50.7**	**+0.6**
AVH	**Avacha**	**6.02**	**263**	PN	**Pn**	**21 23 50.7**	**+0.6**
KRX	**Arik**	**6.05**	**264**	*e*P	**Pn**	**21 23 50.9**	**+0.4**
KRX				*e*S	**Sn**	**21 24 57.5**	**-1.5**
KRX	**Arik**	**6.05**	**264**	PN	**Pn**	**21 23 50.9**	**+0.4**
KOK	**Koryaka**	**6.07**	**264**	*e*P	**Pn**	**21 23 51.4**	**+0.6**
KOK	**Koryaka**	**6.07**	**264**	PN	**Pn**	**21 23 51.4**	**+0.6**
DALK	**Dalny**	**6.07**	**261**	*e*P	**Pn**	**21 23 51.2**	**+0.5**
DALK	**Dalny**	**6.07**	**261**	PN	**Pn**	**21 23 51.2**	**+0.5**
PET	**Petropavlovsk**	**6.13**	**261**		**Pn**	**21 23 51.9**	**+0.3**
PET					Sn	**Sn**	**21 24 57.9**	**-3.0**
PET	**Petropavlovsk**	**6.13**	**261**	*e*P	**Pn**	**21 23 52.2**	**+0.6**
PET	**Petropavlovsk**	**6.13**	**261**	*e*PN	**Pn**	**21 23 52.1**	**+0.6**
PET				pmax	pmax		
	comp=Z,58nm,0.7s						
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
PET				MLR	MLR		
	comp=Z,200nm,15.0s						
TILK	**Tilichiki**	**6.23**	**348**	*e*P	**Pn**	**21 23 52.1**	**-0.8**
TILK	**Tilichiki**	**6.23**	**348**	PN	**Pn**	**21 23 52.1**	**-0.8**
GNL	**Ganaly**	**6.39**	**268**	*e*P	**Pn**	**21 23 56.4**	**+1.2**
GNL	**Ganaly**	**6.39**	**268**	PN	**Pn**	**21 23 56.4**	**+1.2**
RUS	**Russkaya**	**6.41**	**256**	*e*P	**Pn**	**21 23 55.4**	**0.0**
RUS				*e*S	**Sn**	**21 25 04.3**	**-3.3**
RUS	**Russkaya**	**6.41**	**256**	PN	**Pn**	**21 23 55.4**	**0.0**
KRMR	**Karymshinskiy**	**6.49**	**260**	*e*P	**Pn**	**21 23 57.7**	**+1.2**
KRMR				*e*S	**Sn**	**21 25 07.6**	**-2.1**
KRMR	**Karymshinskiy**	**6.49**	**260**	PN	**Pn**	**21 23 57.7**	**+1.2**
MTVR	**Mutnovka**	**6.58**	**257**	*e*P	**Pn**	**21 23 58.8**	**+0.9**
MTVR				*e*S	**Sn**	**21 25 10.2**	**-1.9**
MTVR	**Mutnovka**	**6.58**	**257**	PN	**Pn**	**21 23 58.8**	**+0.9**
GRL	**Gorelyy**	**6.62**	**258**	*e*P	**Pn**	**21 23 59.5**	**+1.1**
GRL	**Gorelyy**	**6.62**	**258**	PN	**Pn**	**21 23 59.5**	**+1.1**
PEA0B	**Petropavlovsk-**	**6.66**	**263**	Pn	**Pn**	**21 24 00.1**	**+1.3**
PEA0B	**Petropavlovsk-**	**6.66**	**263**	*ce*PN	**Pn**	**21 24 00.6**	**+1.7**
PETK

J16K	Anvik River	18.03	48	P		P	21 26 32.3	+0.8	
	baz=255								
S14K	Fog Glacier	18.06	71	P		P	21 26 32.4	+0.4	
	baz=277								
I17K	Unalakleet	18.16	46	P		P	21 26 33.4	+0.6	
	baz=253								
L16K	Owhat River	18.20	53	P		P	21 26 34.0	+0.6	
	baz=261								
CHNA	Chernabura Isl	18.28	76	P		P	21 26 34.5	+0.2	
	baz=282								
M16K	Timber Creek	18.35	56	P		Pn	21 26 35.3	+0.2	
	baz=263								
N16K	Nishlik Lake	18.39	58	P		P	21 26 35.5	0.0	
	baz=265								
C16K	Lisburne Hills	18.44	31	P		Pn	21 26 36.3	+0.2	
C16K	Lisburne Hills	18.44	31	P		Pn	21 26 36.0	-0.1	
	baz=234								
O16K	Kokwok River B	18.68	60	P		Pn	21 26 39.0	-0.1	
O16K	Kokwok River B	18.68	60	P		P	21 26 38.6	-0.1	
	baz=268								
CHGN	Chignik	18.69	71	P		Pn	21 26 39.8	+0.5	
CHGN				IAmb		IAmb	21 26 42.0		
	comp=Z,23nm,0.9s								
CHGN	Chignik	18.69	71	P		P	21 26 39.0	+0.3	
	baz=278								
G17K	Kiwalik Mounta	18.72	41	P		Pn	21 26 39.9	+0.4	
	baz=248								
J17K	VABM Dome	18.72	48			Pn	21 26 39.4	-0.1	
J17K	VABM Dome	18.72	48	P		Pn	21 26 39.5	-0.1	
	baz=256,SNR=13								
P16K	Nushagak River	18.73	62	P		Pn	21 26 40.9	+1.3	
	baz=270								
H17K	Granite Mounta	18.81	43	P		P	21 26 40.1	+0.1	
H17K	Granite Mounta	18.81	43	P		Pn	21 26 40.9	+0.2	
	baz=251,SNR=6.2								
L17K	Donlin	18.82	52	P		Pn	21 26 41.0	+0.2	
	baz=261,SNR=11								
D17K	Noatak River	18.83	34	P		Pn	21 26 41.8	+0.9	
	baz=239,SNR=8.0								
F17K	Baldwin Pennin	18.87	38	P		Pn	21 26 41.7	+0.4	
	baz=245								
K17K	Iditarod	18.92	51	P		Pn	21 26 41.9	-0.1	
K17K	Iditarod	18.92	51	P		Pn	21 26 42.1	+0.1	
	baz=259,SNR=8.5								
E17K	Hotham Inlet	18.95	36	P		Pn	21 26 42.7	+0.4	
	baz=242,SNR=6.7								
RDOG	Red Dog Mine	19.08	33	P		Pn	21 26 43.4	-0.4	
RDOG	Red Dog Mine	19.08	33	P		Pn	21 26 44.6	+0.8	
	baz=238								
M17K	Holitna River	19.13	55			Pn	21 26 44.6	+0.1	
M17K				IAmb		IAmb	21 27 00.4		
	comp=Z,22nm,0.8s								
M17K	Holitna River	19.13	55	P		Pn	21 26 44.7	+0.2	
	baz=264,SNR=9.8								
N17K	Nushagak Hills	19.18	58	P		P	21 26 44.2	+0.1	
N17K				IAmb		IAmb	21 26 47.8		
	comp=Z,20nm,1.1s								
N17K	Nushagak Hills	19.18	58	P		Pn	21 26 45.3	+0.3	
	baz=266,SNR=6.3								
O17K	Koliganek Bris	19.19	60	P		Pn	21 26 45.2	-0.1	
	baz=269								
C17K	DeLong Mountai	19.22	32	P		Pn	21 26 46.0	+0.4	
	baz=237,SNR=5.6								
H18K	Honhosa River	19.50	43			Pn	21 26 48.2	-0.8	
H18K	Honhosa River	19.50	43	P		Pn	21 26 48.7	-0.3	
	baz=252,SNR=11								
F18K	Selawik	19.52	39	P		Pn	21 26 48.5	-0.6	
	baz=247								
P17K	Kvichak River	19.52	62	P		Pn	21 26 48.8	-0.4	
	baz=271								
E18K	Tukpahlearik C	19.53	36	P		Pn	21 26 48.7	-0.6	
E18K	Tukpahlearik C	19.53	36	P		Pn	21 26 48.8	-0.5	
	baz=243								
L18K	Granite Mounta	19.58	53	P		P	21 26 48.0	-0.5	
L18K	Granite Mounta	19.58	53	P		Pn	21 26 49.4	-0.5	
	baz=262,SNR=7.8								
G18K	Tagagawik	19.63	41	P		P	21 26 49.2	+0.1	
G18K	Tagagawik	19.63	41	P		Pn	21 26 50.0	-0.5	
	baz=250,SNR=14								
J18K	Innoko River	19.77	49	P		P	21 26 50.7	+0.1	
J18K				IAmb		IAmb	21 26 52.8		
	comp=Z,21nm,0.8s								
J18K	Innoko River	19.77	49	P		Pn	21 26 51.4	-0.8	
	baz=259,SNR=24								
ASAJ	Asahikawa	19.80	249	LR		LR	21 33 30.2		
	comp=Z,50nm,20.3s,baz=12,slow=34								
N18K	Kilae Creek	19.82	57			P	21 26 51.3	+0.1	
N18K				IAmb		IAmb	21 27 07.0		
	comp=Z,27nm,1.4s								
N18K	Kilae Creek	19.82	57	P		Pn	21 26 52.1	-0.7	
	baz=267								
M18K	Stony River	19.91	55	P		P	21 26 52.5	+0.4	
	baz=265								
C18K	Utukok River	19.93	33	P		P	21 26 52.5	+0.2	
C18K	Utukok River	19.93	33	P		P	21 26 52.5	+0.2	
	baz=239								
GCSA	Galena City Sc	20.00	45	P		P	21 26 53.2	+0.3	
	baz=255								
B18K	Kokolik River	20.12	30	P		P	21 26 54.6	+0.3	
	baz=237								
P18K	Big Mountain,	20.14	61			P	21 26 54.6	-0.1	
P18K				IAmb		IAmb	21 27 05.8		
	comp=Z,20nm,1.0s								
P18K	Big Mountain,	20.14	61	P		P	21 26 55.0	+0.4	
	baz=271,SNR=5.4								
O18K	Koktuh Hills	20.14	60			P	21 26 54.2	-0.5	
O18K				IAmb		IAmb	21 26 56.7		
	comp=Z,17nm,1.1s								
O18K	Koktuh Hills	20.14	60	P		P	21 26 54.8	+0.2	
	baz=270,SNR=7.1								
F19K	Shaleruckik Mo	20.30	39	P		P	21 26 55.9	-0.4	
F19K	Shaleruckik Mo	20.30	39	P		P	21 26 56.6	+0.4	
	baz=248,SNR=10								
CHIR	Chirikof Islan	20.32	71	P		P	21 26 56.8	+0.3	
	baz=281								
G19K	Purcell Mounta	20.32	41	P		P	21 26 56.9	+0.4	
G19K	Purcell Mounta	20.32	41	P		P	21 26 56.5	0.0	
	baz=251,SNR=9.3								
J19K	Poorman	20.36	48	P		P	21 26 56.6	-0.3	
J19K				IAmb		IAmb	21 27 01.9		
	comp=Z,20nm,0.9s								
J19K	Poorman	20.36	48	P		P	21 26 56.9	0.0	
	baz=258,SNR=22								
H19K	Roundabout Mou	20.38	43	P		P	21 26 57.0	-0.1	
H19K				IAmb		IAmb	21 27 01.9		
	comp=Z,24nm,1.0s								
H19K	Roundabout Mou	20.38	43	P		P	21 26 57.4	+0.2	
	baz=254,SNR=25								
L19K	White Mountain	20.43	53	P		P	21 26 58.3	+0.6	
L19K	White Mountain	20.43	53	P		P	21 26 58.4	+0.6	
	baz=264,SNR=18								
N19K	Bonanza Creek	20.52	57	P		P	21 26 59.7	+0.9	
N19K				IAmb		IAmb	21 27 00.7		
	comp=Z,16nm,0.8s								
N19K	Bonanza Creek	20.52	57	P		P	21 26 59.1	+0.3	
	baz=268,SNR=9.8								
M19K	Big River Lodg	20.62	54	IAmb		IAmb	21 27 10.6		
	comp=Z,15nm,0.9s								
M19K	Big River Lodg	20.62	54	P		P	21 27 00.4	+0.6	
	baz=265								
C19K	Lookout Ridge	20.66	32	P		P	21 27 00.4	+0.1	
C19K				IAmb		IAmb	21 27 11.2		
	comp=Z,18nm,0.8s								
C19K	Lookout Ridge	20.66	32	P		P	21 27 01.0	+0.8	
	baz=240,SNR=12								
E19K	Redstone River	20.73	38	P		P	21 27 00.8	-0.1	
E19K	Redstone River	20.73	38	P		Pn	21 27 02.2	-1.2	
	baz=248,SNR=14								
A19K	Wainwright	20.80	29	P		P	21 27 02.4	+0.7	
	baz=236								
D19K	Kuna River	20.85	35	IAmb		IAmb	21 27 08.2		
	comp=Z,19nm,1.0s								
D19K	Kuna River	20.85	35	P		P	21 27 03.0	+0.7	
	baz=244								
L20K	Farewell, AK	20.91	52	P		P	21 27 04.1	+1.1	
	baz=264								
K20K	Telida	20.93	50	P		P	21 27 03.2	0.0	
K20K				IAmb		IAmb	21 27 13.4		
	comp=Z,13nm,0.8s								
K20K	Telida	20.93	50	P		P	21 27 02.9	-0.3	
	baz=262,SNR=15								
SII	Sitkinak Islan	20.97	69	P		P	21 27 04.4	+0.7	
	baz=280								
Q19K	Cape Douglas,	20.98	62	P		P	21 27 03.2	-0.5	
Q19K	Cape Douglas,	20.98	62	P		P	21 27 03.9	+0.1	
	baz=274,SNR=12								
H20K	Anotleneega Mo	21.00	44	P		P	21 27 04.3	+0.4	
	baz=256,SNR=21								
I20K	Naaghedeneel	21.01	46	P		P	21 27 02.7	-1.3	
I20K				IAmb		IAmb	21 27 17.7		
	comp=Z,19nm,0.9s								
I20K	Naaghedeneel	21.01	46	P		P	21 27 04.1	+0.2	
	baz=258								
J20K	Nowinta River	21.03	47	P		P	21 27 02.6	-1.6	
J20K				IAmb		IAmb	21 27 17.6		
	comp=Z,21nm,1.1s								
J20K	Nowinta River	21.03	47	P		P	21 27 04.2	+0.1	
	baz=260,SNR=12								
F20K	Avaraart Lake	21.13	39	P		P	21 27 04.6	-0.7	
F20K	Avaraart Lake	21.13	39	P		P	21 27 05.7	+0.4	
	baz=251								
P19K	Oil Pt	21.15	60	P		P	21 27 04.9	-0.6	
P19K				pP		pwP	21 27 15.4	-0.7	
P19K	Oil Pt	21.15	60	P		P	21 27 06.3	+0.8	
	baz=272								
ILSW	Iliamna Southw	21.18	59	P		P	21 27 04.7	-1.3	
ILSW				pP		sP	21 27 15.3	+1.2	
M20K	Styx River	21.21	54	P		P	21 27 06.8	+0.5	
	baz=267								
OHAK	Old Harbor	21.35	67	P		P	21 27 07.2	-0.4	
OHAK				IAmb		IAmb	21 27 19.3		
	comp=Z,18nm,0.9s								
OHAK	Old Harbor	21.35	67	P		P	21 27 08.2	+0.5	
	baz=279								
E20K	Nigu River	21.40	36	P		P	21 27 08.5	+0.3	
	baz=247,SNR=28								
O20K	Slope Mountain	21.44	59	P		P	21 27 09.4	+0.6	
	baz=272								
D20K	Etivluk River	21.45	35	P		P	21 27 08.8	+0.1	
	baz=245,SNR=13								
N20K	Mount Spurr	21.63	56	P		P	21 27 11.3	+0.5	
	baz=269,SNR=9.9								
YAK	Yakutsk	21.64	306	LR		LR	21 34 46.9		
	comp=Z,31nm,20.5s,baz=88,slow=35								
YAK	Yakutsk	21.64	306	*eP*		P	21 27 09.1	-1.7	
YAK				pmax		pmax			
	comp=Z,8.0nm,1.1s								
YAK				pmax		pmax			
	comp=N,1.0nm,1.2s								
YAK				pmax		pmax			
	comp=E,3.0nm,1.4s								
KDAK	Kodiak Island	21.65	65	P		P	21 27 10.3	-0.6	
KDAK				IAmb		IAmb	21 27 50.9		
	comp=Z,22nm,1.1s								
KDAK	Kodiak Island	21.65	65	P		P	21 27 11.0	+0.1	
	baz=278								
KDAK	Kodiak Island	21.65	65	P		P	21 27 09.8	-1.1	
	comp=Z,7.9nm,0.5s,baz=279,slow=4.9,SNR=12								
	comp=Z,7.9nm,0.5s								
KDAK	Kodiak Island	21.65	65	P		P	21 27 10.3	-0.6	
KDAK				pmax		pmax			
	comp=Z,21nm,1.2s								
Q20K	Shuyak Island	21.65	63	P		P	21 27 11.0	+0.1	
	baz=276								
SYI	Shuyak Island	21.66	63	P		P	21 27 10.1	-0.8	
PPLA	Pueyypile	21.73	51	P		P	21 27 12.0	+0.1	
	baz=265,SNR=6.5								
CHUM	Lake Minchumin	21.78	49	P		P	21 27 12.4	+0.2	
	baz=262								
G21K	Allakaket	21.81	41	P		P	21 27 11.9	-0.7	
G21K	Allakaket	21.81	41	P		P	21 27 12.4	-0.1	
	baz=255								
CAST	Castle Rocks	21.82	50	P		P	21 27 13.5	+0.8	
CAST	Castle Rocks	21.82	50	P		P	21 27 12.7	-0.1	
	baz=264,SNR=8.3								
B20K	Meade River	21.85	31	P		P	21 27 12.9	0.0	
B20K				IAmb		IAmb	21 27 23.1		
	comp=Z,20nm,1.1s								
B20K	Meade River	21.85	31	P		P	21 27 12.8	0.0	
	baz=242								
H21K	Melozitna River	21.88	44	P		P	21 27 13.6	+0.3	
H21K				IAmb		IAmb	21 27 25.6		
	comp=Z,18nm,0.9s								
H21K	Melozitna River	21.88	44	P		P	21 27 13.6	+0.3	
	baz=258								
SKT	Skwentna	21.98	54	P		P	21 27 14.7	+0.3	
SKT				IAmb		IAmb	21 27 27.1		
	comp=Z,28nm,1.1s								
SKT	Skwentna	21.98	54	P		P	21 27 14.4	0.0	
	baz=268,SNR=7.3								
F21K	Alatna River	22.02	40	P		P	21 27 14.4	-0.4	
	baz=253								
I21K	Tanana	22.12	45	IAmb		IAmb	21 27 27.9		
	comp=Z,19nm,1.0s								
I21K	Tanana	22.12	45	P		P	21 27 15.8	-0.2	
	baz=260								
CNPM	China Poot	22.17	60	P		P	21 27 16.3	-0.2	
C21K	Knifeblade Rid	22.23	34	P		P	21 27 16.7	-0.4	
	baz=247,SNR=12								
E21K	Killik River	22.24	36	P		P	21 27 17.8	+0.6	
	baz=250,SNR=9.6								
SUA	Susitna One	22.34	55	P		P	21 27 18.5	0.0	
	baz=270,SNR=16								
KTH	Kantishna Hill	22.36	50	P		P	21 27 18.8	+0.2	
KTH				IAmb		IAmb	21 27 30.5		
	comp=Z,22nm,1.1s								
BPAW	Bear Paw Mtn.	22.39	48	P		P	21 27 19.0	+0.2	
BPAW	Bear Paw Mtn.	22.39	48	P		P	21 27 19.2	+0.4	
	baz=263,SNR=5.8								
BRSE	Bradley Lake S	22.40	60	P		P	21 27 19.6	+0.6	
	baz=274								
B21K	Ikpikpuk River	22.47	33	P		P	21 27 19.4	-0.2	
B21K				IAmb		IAmb	21 27 30.4		
	comp=Z,14nm,1.0s								
B21K	Ikpikpuk River	22.47	33	P		P	21 27 19.8	+0.2	
	baz=246,SNR=13								
H22K	Ishtalitna Cre	22.51	43	P		P	21 27 20.1	0.0	
	baz=258,SNR=8.0								
CUT	Chulitna	22.58	53	P		P	21 27 20.5	-0.4	
CUT				IAmb		IAmb	21 27 32.2		
	comp=Z,17nm,0.7s								
CUT	Chulitna	22.58	53	P		P	21 27 20.9	0.0	
	baz=268								
F22K	John River	22.58	39	P		P	21 27 21.2	+0.3	
	baz=254								
MLY	Maley	22.62	46	P		P	21 27 21.1	-0.2	
	baz=261,SNR=9.7								
TRF	Thorofare Moun	22.63	50	IAmb		IAmb	21 27 23.3		
	comp=Z,17nm,0.8s								
TRF	Thorofare Moun	22.63	50	P		P	21 27 21.6	0.0	
	baz=266,SNR=21								
M22K	Willow	22.64	54	P		P	21 27 21.6	+0.2	
	baz=270								
A21K	Barrow	22.65	28	P		P	21 27 21.4	0.0	
	baz=240								
G22K	Bettles	22.68	41	P		P	21 27 21.6	-0.3	
	baz=256								
D22K	Ayikyak River	22.83	36	IAmb		IAmb	21 27 34.3		
	comp=Z,21nm,1.4s								
D22K	Ayikyak River	22.83	36	P		P	21 27 23.0	-0.4	
	baz=250,SNR=7.7								
RC01	Rabbit Creek A	22.83	56	P		P	21 27 22.3	-1.3	
	baz=272								
E22K	Anaktuvuk Pass	22.90	38	IAmb		IAmb	21 27 25.4		
	comp=Z,7.3nm,0.7s								
E22K	Anaktuvuk Pass	22.90	38	P		P	21 27 23.4	-0.8	
	baz=253								
A22K	Sinclair Lake	22.96	30	P		P	21 27 23.3	-1.4	
	baz=242								
SEW	Seward	23.02	59	P		P	21 27 24.4	-1.1	
	baz=274								
BWN	Browne	23.06	48	P		P	21 27 26.5	+0.7	
B22K	Teshekpuk Lake	23.14	32	IAmb		IAmb	21 27 35.4		
	comp=Z,10nm,0.7s								
B22K	Teshekpuk Lake	23.14	32	P		P	21 27 25.2	-1.4	
	baz=246,SNR=11								
G23K	Bananza Creek	23.21	42	P		P	21 27 26.3	-1.1	
	baz=258,SNR=6.0								
GHO	Glory Hole Cre	23.21	54	P		P	21 27 27.0	-0.4	
I23K	Minto, Yukon-K	23.21	46	P		P	21 27 26.6	-0.8	
	baz=262,SNR=8.3								
H23K	Yukon River	23.24	44	IAmb		IAmb	21 27 38.7		
	comp=Z,29nm,1.4s								
H23K	Yukon River	23.24	44	P		P	21 27 26.7	-0.9	
	baz=261,SNR=7.3								
KLR	Kul'dur	23.24	272	LR		LR	21 36 07.7		
	comp=Z,64nm,21.4s,baz=65,slow=36								
KLR	Kul'dur	23.24	272	*ceP*		P	21 27 27.7	-0.1	
KLR				pmax		pmax			
	comp=Z,2.0nm,1.0s								
COLD	Coldfoot	23.25	40	P		P	21 27 27.1	-0.7	
	baz=257,SNR=6.3								
MCK	McKinley	23.26	49	P		P	21 27 26.8	-1.0	
	baz=266								
NEA2	Nenana	23.27	47	P		P	21 27 27.6	-0.4	
NEA2				IAmb		IAmb	21 27 38.3		
	comp=Z,11nm,1.0s								
NEA2	Nenana	23.27	47	P		P	21 27 27.4	-0.6	
	baz=264								
RND	Reindeer	23.27	50	IAmb		IAmb	21 27 37.9		
	comp=Z,21nm,1.2s								
WAT1	Susitna Watana	23.39	52	P		P	21 27 27.8	-1.4	
	baz=269								
KNK	Knik Glacier	23.44	55	IAmb		IAmb	21 27 30.7		
	comp=Z,12nm,0.8s								
KNK	Knik Glacier	23.44	55	P		P	21 27 28.2	-1.5	
	baz=272,SNR=7.8								
SML	Sawmill	23.49	54	P		P	21 27 29.0	-1.2	
	baz=271,SNR=13								
D23K	Nanushuk River	23.55	36	P		P	21 27 29.5	-1.1	
	baz=252,SNR=8.1								
MDM	Murphy Dome	23.67	46	IAmb		IAmb	21 27 43.3		
	comp=Z,8.8nm,0.7s								
WAT6	Susitna Watana	23.76	52	P		P	21 27 32.2	-0.7	
	baz=270								
M23K	Glacier View	23.78	54	P		P	21 27 32.1	-0.9	
	baz=272,SNR=6.3								
COLA	College	23.82	47	P		P	21 27 33.3	+0.1	
COLA	College	23.82	47	P		P	21 27 33.0	-0.3	
	baz=265								
COLA	College	23.82	47⇑	*iP*		P	21 27 32.9	-0.3	
COLA				pmax		pmax			
	comp=Z,18nm,0.7s								
TOLK	Toolik Lake Re	23.84	37	P		P	21 27 33.3	-0.1	
TOLK	Toolik Lake Re	23.84	37	P		P	21 27 33.2	-0.3	
	baz=254,SNR=27								
C23K	Itkillik River	23.85	34	P		P	21 27 33.0	-0.5	
C23K				IAmb		IAmb	21 27 42.9		
	comp=Z,28nm,1.4s								
C23K	Itkillik River	23.85	34	P		P	21 27 32.9	-0.5	
	baz=250,SNR=5.3								
H24K	Noodor Dome	23.92	44	P		P	21 27 34.3	+0.1	
H24K	Noodor Dome	23.92	44	P		P	21 27 33.9	-0.4	
	baz=262,SNR=9.1								
DHY	Denali Highway	23.93	51	P		P	21 27 33.9	-0.6	
DHY				IAmb		IAmb	21 27 44.2		
	comp=Z,12nm,0.8s								
DHY	Denali Highway	23.93	51	P		P	21 27 33.9	-0.6	
	baz=269,SNR=7.5								
SCM	Sheep Creek Mo	23.96	54	IAmb		IAmb	21 27 35.4		
	comp=Z,14nm,0.6s								
SCM	Sheep Creek Mo	23.96	54	P		P	21 27 34.5	-0.3	
	baz=272,SNR=6.4								
POKR	Poker Plat Res	24.02	46	P		P	21 27 34.4	-0.7	
POKR				IAmb		IAmb	21 27 36.9		
	comp=Z,9.9nm,0.7s								
POKR	Poker Plat Res	24.02	46	P		P	21 27 35.0	-0.1	
	baz=264								
P23K	Montague Islan	24.06	59	P		P	21 27 34.6	-0.9	
	baz=276								
E24K	Your Creek	24.09	39	IAmb		IAmb	21 27 37.2		
	comp=Z,10nm,0.7s								
E24K	Your Creek	24.09	39	P		P	21 27 35.6	-0.2	
	baz=257,SNR=20								
GLI	Glacier Island	24.13	57	IAmb		IAmb	21 27 45.9		
	comp=Z,12nm,0.7s								
GLI	Glacier Island	24.13	57	P		P	21 27 34.9	-1.4	
	baz=274,SNR=6.5								
HDA	Harding Lake	24.17	48	IAmb		IAmb	21 27 46.3		
	comp=Z,7.3nm,0.8s								
HDA	Harding Lake	24.17	48	P		P	21 27 35.9	-0.7	
	baz=266								
F24K	Squaw Lake	24.19	40	P		P	21 27 36.3	-0.5	
	baz=259								
G24K	Hadweenzic Riv	24.20	42	IAmb		IAmb	21 27 47.0		
	comp=Z,11nm,0.8s								
G24K	Hadweenzic Riv	24.20	42	P		P	21 27 36.9	+0.1	
	baz=261,SNR=9.1								
IL31		24.22	47	P		P	21 27 35.9	-1.1	
IL31				IAmb		IAmb	21 27 48.1		
	comp=Z,12nm,0.7s								
ILAR	Eielson Array	24.22	47	P		P	21 27 36.0	-1.0	
	comp=Z,4.5nm,0.6s,baz=255,slow=7.8,SNR=69								
ILAR				LR		LR	21 37 11.4		
	comp=Z,76nm,18.7s,baz=272,slow=37								
	comp=Z,4.5nm,0.6s								
D24K	Happy Valley	24.24	36	P		P	21 27 37.1	0.0	
	baz=254,SNR=7.8								
TIXI	Tiksi	24.27	330	P		P	21 27 36.7	-0.7	
TIXI				IAmb		IAmb	21 27 47.2		
	comp=Z,12nm,0.8s								
TIXI	Tiksi	24.27	330	LR		LR	21 37 15.5		
	comp=Z,45nm,19.3s,baz=166,slow=37								
TIXI	Tiksi	24.27	330	*i* P		P	21 27 36.3	-1.1	
TIXI				pmax		pmax			
	comp=Z,14nm,0.9s								
C24K	Franklin Bluff	24.44	35	P		P	21 27 38.7	-0.2	
	baz=253								
FID	Port Fidalgo	24.44	57	P		P	21 27 38.0	-1.1	
FID				IAmb		IAmb	21 27 48.7		
	comp=Z,13nm,1.0s								
M24K	Tolsona, Glenn	24.50	53	P		P	21 27 39.5	-0.2	
M24K	Tolsona, Glenn	24.50	53	P		P	21 27 39.3	-0.4	
	baz=272,SNR=11								
KLU	Klutina	24.65	55	IAmb		IAmb	21 27 56.5		
	comp=Z,18nm,1.0s								
KLU	Klutina	24.65	55	P		P	21 27 40.6	-0.5	
	baz=274,SNR=8.9								
K24K	Donnelly Dome	24.66	49	P		P	21 27 40.1	-0.9	
	baz=269,SNR=8.6								
G25K	Bearman Lake	24.75	42	P		P	21 27 41.1	-0.7	
	baz=262								
PAX	Paxson	24.80	51	P		P	21 27 42.1	-0.3	
	baz=271,SNR=7.5								
H25L	Birch Creek	24.80	43	P		P	21 27 42.0	-0.2	
	baz=264,SNR=5.8								
EYAK	Cordova Ski Ar	24.82	57	P		P	21 27 42.6	+0.2	
	baz=276								
PRP	Porcupine Dome	24.85	45	P		P	21 27 42.9	0.0	
	baz=266,SNR=30								
J25K	Salcha River,	24.86	47	P		P	21 27 41.5	-1.4	
J25K				IAmb		IAmb	21 27 43.8		
	comp=Z,8.2nm,0.8s								
J25K	Salcha River,	24.86	47	P		P	21 27 42.0	-0.9	
	baz=268,SNR=14								
HARP	HAARP	24.96	53	P		P	21 27 43.0	-0.8	
	baz=273								
F25K	Christian Rive	25.05	40	P		P	21 27 45.2

C26K Camden Bay 25.76 35 P P 21 27 50.6 -0.3
baz=257,SNR=7.4
L26K Log Cabin Wild 25.77 51 P P 21 27 51.8 +0.8
L26K Log Cabin Wild 25.77 51 P P 21 27 51.2 +0.1
baz=273
I26K Coal Creek Min 25.83 46 P P 21 27 51.6 0.0
baz=268
VRDI Verde Repeater 25.86 55 IAmb IAmb 21 28 01.8
comp=Z,12nm,0.8s
M26K Nabesna, AK 25.97 53 P P 21 27 52.8 -0.2
baz=274
MCARA McCarthy VSAT 26.05 55 P P 21 27 54.8 +1.2
MCARA IAmb IAmb 21 28 07.6
comp=Z,14nm,1.0s
MCARA McCarthy VSAT 26.05 55 P P 21 27 53.4 -0.2
baz=276
C27K Jago River 26.11 36 P P 21 27 53.8 -0.3
baz=259,SNR=12
WAX Waxell Ridge 26.25 57 P P 21 27 54.7 -0.9
WAX IAmb IAmb 21 28 07.4
comp=Z,7.2nm,0.7s
K27K Chicken 26.30 49 P P 21 27 55.3 -0.5
baz=272
SNH Sunshine Point 26.30 58 P P 21 27 57.1 +1.1
L27K Beaver Creek, 26.45 51 P P 21 27 57.3 -0.1
baz=274,SNR=20
I27K Kandik River 26.48 45 P P 21 27 57.8 +0.3
baz=269
ISLE Juniper Island 26.48 57 IAmb IAmb 21 28 10.8
comp=Z,9.4nm,0.9s
M27K Edge Creek, AK 26.49 53 P P 21 27 58.4 +0.6
M27K IAmb IAmb 21 28 13.5
comp=Z,14nm,1.1s
M27K Edge Creek, AK 26.49 53 P P 21 27 57.9 +0.2
baz=275,SNR=5.8
G27K Doyon Strip 26.51 43 P P 21 27 57.9 +0.1
baz=266
H27K Steamboat Moun 26.53 44 P P 21 27 58.5 +0.5
baz=268
E27K Coleen River 26.65 39 P P 21 27 58.6 -0.4
E27K Coleen River 26.65 39 P P 21 27 58.9 -0.1
baz=264
EGAK Eagle 26.67 47 P P 21 27 58.2 -1.0
baz=271,SNR=12
MESA MESA 26.74 57 P P 21 28 00.2 +0.1
baz=280
BARN Barnard Glacie 26.75 55 IAmb IAmb 21 28 11.0
comp=Z,13nm,1.1s
CTG Chitna Glacier 26.91 56 P P 21 28 01.3 -0.3
baz=278
CTGM Chitina Glacie 26.92 56 P P 21 28 01.2 -0.4
CTGM IAmb IAmb 21 28 27.5
comp=Z,7.5nm,1.0s
D27M Malcolm River 27.00 37 P P 21 28 02.9 +0.7
D27M Malcolm River 27.00 37 P P 21 28 01.7 -0.5
baz=262
I28M Miner Creek 27.18 46 IAmb IAmb 21 28 13.7
comp=Z,10nm,1.3s
I28M Miner Creek 27.18 46 P P 21 28 03.5 -0.4
baz=271,SNR=5.4
YUK3 Moose Creek 27.22 54 P P 21 28 04.1 -0.3
baz=278
F28M Old Crow 27.25 41 IAmb IAmb 21 28 15.2
comp=Z,10nm,1.0s
F28M Old Crow 27.25 41 P P 21 28 04.6 +0.2
baz=267
E28M Babbage River 27.45 39 P P 21 28 06.1 0.0
baz=265
DAWY Dawson 27.47 49 P P 21 28 06.6 +0.1
baz=274
O28M Mount Upton 27.50 56 P P 21 28 07.0 -0.1
baz=280
MAJO Matsushiro 27.55 242 P P 21 28 06.6 -0.7
MAJO IAmb IAmb 21 28 14.6
comp=Z,9.7nm,1.0s
MAJO Matsushiro 27.55 242 *i* P P 21 28 08.7 +1.4
MAJO pmax pmax
comp=Z,12nm,1.1s
MJAR Matsushiro Arr 27.55 242 P P 21 28 08.8 +1.5
comp=Z,0.7nm,0.4s,baz=24,slow=9.3,SNR=1.8
MJAR LR LR 21 40 41.5
comp=Z,33nm,18.9s,baz=60,slow=40
comp=Z,0.7nm,0.4s
YUK8 Steele Glacier 27.62 55 P P 21 28 07.7 -0.4
baz=279
D28M Stokes Point 27.80 37 P P 21 28 09.3 +0.1
baz=264
H29M Whitestone 27.81 44 P P 21 28 09.2 -0.3
H29M IAmb IAmb 21 28 20.3
comp=Z,8.1nm,0.9s
H29M Whitestone 27.81 44 P P 21 28 09.4 0.0
baz=271
I29M Ogilvie Camp, 27.86 46 P P 21 28 09.6 -0.3
I29M Ogilvie Camp, 27.86 46 P P 21 28 10.1 +0.1
baz=272
G29M Pine Creek 27.95 42 P P 21 28 10.1 -0.6
G29M IAmb IAmb 21 28 21.3
comp=Z,12nm,1.0s
G29M Pine Creek 27.95 42 P P 21 28 11.0 +0.4
baz=270,SNR=7.8
E29M Blow River 28.04 39 P P 21 28 11.9 +0.5
baz=267
M29M Somme Creek 28.06 52 P P 21 28 11.5 -0.3
M29M Somme Creek 28.06 52 P P 21 28 11.8 0.0
baz=278
PNL Peninsula 28.10 58 P P 21 28 12.1 0.0
baz=282
L29M L29M 28.13 51 P P 21 28 12.0 -0.3
baz=277,SNR=6.5
YUK4 Talbot Arm 28.14 54 P P 21 28 12.4 -0.2
baz=280
K29M Barlow Dome 28.32 49 P P 21 28 13.5 -0.5
baz=276,SNR=14
YUK6 Outpost Mounta 28.35 55 P P 21 28 14.2 -0.4
baz=281
O29M Mount Kennedy 28.37 56 P P 21 28 13.8 -0.8
O29M Mount Kennedy 28.37 56 P P 21 28 13.9 -0.7
baz=282
EPYK Eagle Plains 28.48 44 P 21 28 14.9 -0.5
EPYK Eagle Plains 28.48 44 P P 21 28 14.8 -0.6
EPYK IAmb IAmb 21 28 25.4
comp=Z,13nm,0.8s
EPYK Eagle Plains 28.48 44 P P 21 28 14.7 -0.6
baz=272,SNR=6.6
G30M tAoh Zraii Nji 28.66 42 P P 21 28 15.9 -1.1
baz=271
I30M Mount Dempster 28.68 46 P P 21 28 16.6 -0.8
baz=274
J30M Hart River 28.76 47 P P 21 28 17.4 -0.6
baz=276
HYT Haines Junctio 28.79 55 P P 21 28 18.5 +0.2
baz=282
M30M Minto, Yukon 28.81 51 P P 21 28 18.1 -0.3
baz=279
F30M Barrier River 28.82 41 P P 21 28 18.0 -0.4
baz=270
N30M Aishikik Lake 28.86 54 P P 21 28 18.7 -0.2
baz=281
P29M Windy Craggy 28.93 58 IAmb IAmb 21 28 34.7
comp=Z,11nm,1.1s
P29M Windy Craggy 28.93 58 P P 21 28 19.1 -0.4
baz=284
P30M Million Dollar 29.20 56 P P 21 28 21.6 -0.3
baz=283
G31M Satah River 29.43 42 IAmb IAmb 21 28 33.7
comp=Z,8.6nm,0.9s
G31M Satah River 29.43 42 P P 21 28 23.9 +0.2
baz=273
N31M Braeburn, Yuko 29.47 53 P P 21 28 24.4 +0.2
baz=282
O30N Mendenhall 29.47 55 P P 21 28 24.2 -0.1
baz=283
H31M Peel River 29.48 45 P P 21 28 24.4 +0.1
baz=275
F31M Tsiigehtchic 29.61 41 P P 21 28 25.2 -0.1
baz=273
PLBC Pleasant Camp 29.65 58 P P 21 28 25.3 -0.5
baz=285
INK Inuvik 29.66 39 IAmb IAmb 21 28 35.7
comp=Z,7.0nm,1.2s
INK Inuvik 29.66 39 P P 21 28 25.7 0.0
baz=271
M31M Drury Creek, Y 29.97 52 P P 21 28 29.3 +0.6
M31M Drury Creek, Y 29.97 52 P P 21 28 29.0 +0.3
baz=281,SNR=8.5
WHY Whitehorse 30.08 55 P P 21 28 29.9 +0.2
WHY Whitehorse 30.08 55 P P 21 28 30.1 +0.4
baz=284
FARO Faro, Yukon 30.45 52 P P 21 28 32.6 -0.3
FARO IAmb IAmb 21 28 43.3
comp=Z,5.3nm,1.0s
FARO Faro, Yukon 30.45 52 P P 21 28 32.9 0.0
baz=282
N32M Quiet Lake 30.82 54 P P 21 28 36.4 +0.3
baz=284
SIT Sitka 30.88 62 P P 21 28 37.1 +0.4
baz=289
R32K Eaglecrest 30.90 59 P P 21 28 38.0 +1.1
baz=288
P32M Atlin 30.92 57 P P 21 28 37.5 +0.4
P32M Atlin 30.92 57 P P 21 28 37.7 +0.6
baz=286
JIS Juneau Island 30.97 59 P P 21 28 36.8 -0.7
S32K Killisnoo 31.13 61 IAmb IAmb 21 28 50.0
comp=Z,6.1nm,0.9s
S32K Killisnoo 31.13 61 P P 21 28 40.0 +1.1
baz=289
P33M Teslin, Yukon 31.18 55 P P 21 28 39.5 +0.1
P33M IAmb IAmb 21 28 50.8
comp=Z,11nm,1.1s
P33M Teslin, Yukon 31.18 55 P P 21 28 40.5 +1.1
baz=286,SNR=7.3
MMPY Sheldon Lake, 31.31 50 P P 21 28 40.5 0.0
MMPY IAmb IAmb 21 28 51.4
comp=Z,6.8nm,0.8s
MMPY Sheldon Lake, 31.31 50 P P 21 28 41.1 +0.6
baz=283,SNR=5.6
R33M Jennings River 32.31 56 P P 21 28 49.2 -0.3
R33M IAmb IAmb 21 29 00.9
comp=Z,7.6nm,0.9s
R33M Jennings River 32.31 56 P P 21 28 50.9 +1.5
baz=288,SNR=5.0
A36M Sachs Harbour 32.35 32 P P 21 28 50.4 +1.0
baz=273
U33K Whale Pass 32.35 63 P P 21 28 51.5 +1.9
baz=292
KSRS Korea Array 32.48 255 P P 21 28 52.7 +1.8
comp=Z,0.4nm,0.4s,baz=36,slow=7.7,SNR=2.0
KSRS LR LR 21 40 53.6
comp=Z,21nm,20.4s,baz=45,slow=34
comp=Z,0.4nm,0.4s
S34M Telegraph Cree 32.72 59 P P 21 28 52.7 -0.1
S34M pP **pwP** 21 29 03.5 -0.5
S34M IAmb IAmb 21 29 04.5
comp=Z,5.3nm,0.8s
S34M Telegraph Cree 32.72 59 P P 21 28 54.7 +1.8
baz=290
C36M Paulatuk 32.99 37 P P 21 28 55.5 +0.5
baz=278
DLBC Dease Lake 33.09 58 P P 21 28 55.1 -1.1
DLBC IAmb IAmb 21 29 08.0
comp=Z,6.6nm,0.9s
DLBC Dease Lake 33.09 58 P P 21 28 57.9 +1.7
baz=290,SNR=5.1
DLBC Dease Lake 33.09 58 LR LR 21 42 05.9
comp=Z,83nm,19.9s,baz=344,slow=36
T35M Bob Quinn 33.50 60 P P 21 28 59.5 -0.2
T35M pP **sP** 21 29 09.3 +1.1
T35M Bob Quinn 33.50 60 P P 21 29 01.8 +2.1
baz=292,SNR=5.8
JNU Nakatsue 34.03 247 LR LR 21 41 50.2
comp=Z,21nm,21.7s,baz=41,slow=34
H11N2 WAKE ISLAND Hy 34.63 183 T T 22 05 53.6
baz=1.5,slow=76,SNR=1238
H11N3 WAKE ISLAND Hy 34.64 183 T T 22 05 55.9
baz=1.5,slow=76,SNR=1319
H11N1 WAKE ISLAND Hy 34.64 183 T T 22 05 58.7
baz=1.5,slow=76,SNR=1382
H11S1 WAKE ISLAND Hy 35.85 183 T T 22 07 22.4
baz=1.5,slow=76,SNR=378
H11S3 WAKE ISLAND Hy 35.86 183 T T 22 07 24.8
baz=1.5,slow=76,SNR=107
H11S2 WAKE ISLAND Hy 35.87 183 T T 22 07 28.5
baz=1.5,slow=76,SNR=438
BBB Bella Bella 36.71 67 LR LR 21 43 23.7
comp=Z,31nm,19.6s,baz=262,slow=34
ULN Ulaanbaatar 38.13 286 *i* P P 21 29 38.5 -1.1
SONM Songino Array 38.52 287 P P 21 29 43.3 +0.5
comp=Z,0.6nm,0.6s,baz=68,slow=7.6,SNR=4.7
SONM LR LR 21 47 04.4
comp=Z,30nm,19.0s,baz=66,slow=39
comp=Z,0.6nm,0.6s
YKA Yellowknife Ar 38.65 46 P P 21 29 43.0 -0.6
comp=Z,1.7nm,0.8s,baz=297,slow=8.4,SNR=8.6
comp=Z,1.7nm,0.8s
YKA Yellowknife Ar 38.65 46 *e*P P 21 29 43.7 +0.1
YKA pmax pmax
comp=Z,1.0nm,0.6s
HILA High Level 39.29 53 PcP 21 31 56.9 -0.4
HHC Hu-ho-hao-te 39.72 274 *e*P P 21 29 51.5 -1.5
HHC pmax pmax
comp=Z,7.0nm,0.7s
HHC pmax pmax
comp=Z,45nm,5.1s
HHC LR LR
comp=N,100nm,13.1s
HHC LR LR
comp=E,120nm,14.7s
HHC LR LR
comp=Z,92nm,11.9s
NJ2 Nanjing 41.54 258 *e*P P 21 30 06.3 -1.6
NJ2 pmax pmax
comp=Z,6.0nm,0.5s
NJ2 pmax pmax
comp=Z,190nm,3.5s
NEW Newport 44.75 66 LR LR 21 47 05.3
comp=Z,37nm,20.8s,baz=314,slow=33
J05D Fort Rock, OR 45.58 74 P P 21 30 40.2 -0.3
L04D Klamath Falls 45.66 76 P P 21 30 40.8 -0.4
YBH Yreka Blue Hor 45.75 77 LR LR 21 47 16.7
comp=Z,42nm,19.0s,baz=300,slow=33
NEEM North Greenlan 46.12 11 *i* P 21 30 53.2 +8.6
NEEM IAmb IAmb 21 30 54.2
comp=Z,13nm,1.0s
ZALV Zalesovo Beam 46.29 306 P P 21 30 44.6 -1.1
comp=Z,0.3nm,0.4s,baz=52,slow=7.5,SNR=1.9
comp=Z,0.3nm,0.4s
LZH Lanzhou 47.41 275 *e*P P 21 30 51.8 -3.1
LZH sP sP 21 31 08.5 +3.4
LZH pmax pmax
comp=Z,10.0nm,1.1s
LZH LR LR
comp=N,160nm,12.4s
LZH LR LR
comp=E,170nm,16.8s
KULLO Kullorsuaq 47.72 15 *i* P P 21 31 05.5 +8.8
KULLO IAmb IAmb 21 31 06.6
comp=Z,12nm,0.8s
HLID Hailey 49.19 69 sP 21 31 19.2 +1.9
BOZ Bozeman (W) 49.36 66 P P 21 31 10.4 +0.5
baz=311
KVN Kaiserville 50.15 76 P P 21 31 14.7 -1.4
KVN IAmb IAmb 21 31 27.9
comp=Z,3.6nm,1.0s
KVN Kaiserville 50.15 76 P P 21 31 14.7 -1.4
KVN pmax pmax
comp=Z,4.0nm,1.0s
NVAR Mina Array Bea 50.46 77 P P 21 31 19.6 +1.2
comp=Z,0.6nm,0.3s,baz=295,slow=10,SNR=6.1
comp=Z,0.6nm,0.3s
IMW Indian Meadow 50.85 67 P P 21 31 19.7 -1.7
IMW IAmb IAmb 21 31 33.1
comp=Z,3.8nm,0.7s
RLMT Red Lodge 50.92 65 P P 21 31 20.1 -1.7
RLMT IAmb IAmb 21 31 33.5
comp=Z,6.7nm,1.0s
WMQ Urumqi 51.27 294 *e*P P 21 31 26.5 +2.3
WMQ sP sP 21 31 40.3 +7.2
WMQ pmax pmax
comp=Z,17nm,0.7s
WMQ LR LR
comp=N,370nm,17.7s
WMQ LR LR
comp=E,270nm,15.9s
WMQ LR LR
comp=Z,74nm,24.7s
KURK Kurchatov 51.28 305 P P 21 31 23.7 -0.4
KURK IAmb IAmb 21 31 34.4
comp=Z,3.1nm,0.8s
KURK Kurchatov 51.28 305 P P 21 31 23.7 -0.4
KURK pmax pmax
comp=Z,3.0nm,0.9s
KURBB Kurchatov Arra 51.39 305 P P 21 31 24.1 -0.8
comp=Z,1.0nm,0.7s,baz=55,slow=7.6,SNR=7.3
comp=Z,1.0nm,0.7s
SUMG Summit 51.92 10 *i* P P 21 31 33.0 +3.9
SUMG IAML 21 31 39.9
comp=Z,3.0nm,0.8s
R11B Troy Canyon, C 52.06 75 IAmb IAmb 21 31 32.6
comp=Z,3.2nm,0.7s
MK31 Makanchi Array 52.09 300 *i* P P 21 31 29.0 -1.3
MKAR Makanchi Array 52.09 300 P P 21 31 29.3 -1.0
comp=Z,0.7nm,0.6s,baz=48,slow=5.8,SNR=7.9
MKAR LR LR 21 53 40.1
comp=Z,45nm,19.3s,baz=342,slow=36
comp=Z,0.7nm,0.6s
MKAR Makanchi Array 52.09 300 *e*P P 21 31 32.7 +2.4
MKAR pmax pmax
comp=Z,1.0nm,0.6s
PDAR Pinedale Array 52.35 67 P P 21 31 33.0 +0.4
comp=Z,0.5nm,0.6s,baz=310,slow=7.0,SNR=5.2
comp=Z,0.5nm,0.6s
BVAR Borovoye Array 53.47 312 P P 21 31 39.9 -0.4
comp=Z,1.8nm,0.5s,baz=48,slow=7.1,SNR=12
BVAR LR LR 21 56 48.9
comp=Z,43nm,19.2s,baz=48,slow=39
comp=Z,1.8nm,0.5s
BRVK Borovoye 53.49 312 P P 21 31 40.5 0.0
BRVK pP **sP** 21 31 50.1 +0.4
BRVK Borovoye 53.49 312 *i* P P 21 31 40.9 +0.4
BRVK pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 53.52 345 P P 21 31 40.0 -0.4
comp=Z,1.7nm,0.7s,baz=29,slow=8.2,SNR=2.1
comp=Z,1.7nm,0.7s
MVU Marysvale 53.85 73 P P 21 31 41.5 -2.2
TMUT Trail Mountain 53.85 71 P P 21 31 42.0 -1.7
FRB Frobisher Bay 54.14 27 LR LR 21 59 13.3
comp=Z,22nm,18.1s,baz=338,slow=41
SCI2 San Clemente I 54.17 82 P P 21 31 45.7 -0.1
baz=317
RSSD Black Hills 54.34 62 P P 21 31 47.2 +0.1
baz=314
SRU San Rafael Swe 54.36 71 P P 21 31 46.4 -0.9
SRU San Rafael Swe 54.36 71 P P 21 31 46.4 -0.9
SRU pmax pmax
comp=Z,8.0nm,0.8s
GMRC Granite Mounta 54.54 78 P P 21 31 49.7 +1.1
baz=316
HMU Henry Mountain 55.07 72 P P 21 31 53.6 +1.1
IRM Iron Mountain 55.28 78 P P 21 31 54.8 +0.9
baz=315
PZH PanZhiHua 55.60 268 P P 21 31 56.5 +0.2
PZH pmax pmax
comp=Z,10.0nm,0.5s
PZH pmax pmax
comp=Z,100nm,4.8s
ARU Arti 55.77 321 LR LR 21 57 29.3
comp=Z,29nm,18.2s,baz=170,slow=38
ISCO Idaho Springs 56.55 67 P P 21 32 02.1 -1.1
ISCO IAmb IAmb 21 32 15.8
comp=Z,4.4nm,0.8s
ISCO Idaho Springs 56.55 67 P P 21 32 02.1 -1.1
ISCO pmax pmax
comp=Z,4.0nm,0.9s
X16A Lo Mia Camp, P 57.20 75 pwP 21 32 20.3 +2.1
KIRV Kirov 57.25 327 LR LR 21 57 38.2
comp=Z,32nm,19.3s,baz=5.4,slow=37
214A Organ Pipe Nat 58.22 78 P P 21 32 15.5 +0.7
baz=318
AAK Ala-Archa 58.96 301 LR LR 21 57 12.9
comp=Z,45nm,20.4s,baz=48,slow=36
ANMO Albuquerque 59.61 72 LR LR 21 55 29.6
comp=Z,21nm,20.8s,baz=42,slow=33
CBKS Cedar Bluff 60.39 64 P P 21 32 28.2 -1.4
CBKS Cedar Bluff 60.39 64 P P 21 32 28.2 -1.4
CBKS pmax pmax
comp=Z,14nm,0.8s
AKTO Aktyubinsk 60.57 317 LR LR 22 00 15.5
comp=Z,46nm,18.3s,baz=258,slow=38
FINES FINESS Array B 60.79 340 P P 21 32 31.6 -0.3
comp=Z,0.6nm,0.6s,baz=35,slow=8.5,SNR=2.7
FINES LR LR 22 01 52.8
comp=Z,21nm,19.4s,baz=82,slow=39
comp=Z,0.6nm,0.6s
SCHQ Schefferville 61.95 33 P P 21 32 38.7 -1.2
comp=Z,1.9nm,0.9s,baz=256,slow=4.2,SNR=2.0
comp=Z,1.9nm,0.9s
KAN09 Caldwell North 62.76 64 P P 21 32 42.5 -3.1
CMAR Chiang Mai Arr 63.44 265 P P 21 32 51.4 +1.1
comp=Z,0.2nm,0.3s,baz=30,slow=6.2,SNR=1.2
CMAR LR LR 22 02 35.9
comp=Z,17nm,18.6s,baz=230,slow=38
comp=Z,0.2nm,0.3s
NB2 NORSAR Subarra 63.54 348 P P 21 32 49.8 -0.6
comp=Z,0.8nm,0.7s,baz=15,slow=6.9
NOA NORSAR Array B 63.54 348 P P 21 32 49.9 -0.5
comp=Z,0.7nm,0.6s,baz=16,slow=6.7,SNR=9.4
NOA LR LR 22 00 46.2
comp=Z,8.2nm,19.6s,baz=245,slow=36
comp=Z,0.7nm,0.6s
NOA NORSAR Array B 63.54 348 *e*P P 21 32 50.7 +0.3
NOA pmax pmax
comp=Z,1.0nm,0.6s
WMOK Wichita Mounta 63.95 66 P P 21 32 53.8 +0.2
WMOK IAmb IAmb 21 33 05.2
comp=Z,6.7nm,1.4s
WMOK Wichita Mounta 63.95 66 P P 21 32 53.2 -0.3
baz=320
WMOK Wichita Mounta 63.95 66 P P 21 32 53.8 +0.2
WMOK pmax pmax
comp=Z,7.0nm,1.4s
HFS Hagfors 64.09 346 P P 21 32 53.3 -0.7
comp=Z,0.5nm,0.5s,baz=20,slow=5.1,SNR=1.2
comp=Z,0.5nm,0.5s
HDIL Hopedale 64.36 56 P P 21 32 55.8 -0.3
baz=321
CCM Cathedral Cave 65.33 59 P P 21 33 01.9 -0.5
baz=321
TXAR Lajitas Array 65.38 74 P P 21 33 03.6 +0.6
comp=Z,1.0nm,0.6s,baz=305,slow=4.7,SNR=13
comp=Z,1.0nm,0.6s
MIAR Mount Ida 66.85 63 P P 21 33 11.9 -0.4
baz=321
SSPA Standing Stone 69.54 48 P P 21 33 28.3 -0.8
baz=325
AKASG Malin Array Be 69.93 334 P P 21 33 30.5 -0.7
comp=Z,0.4nm,0.4s,baz=23,slow=5.2,SNR=2.3
AKASG LR LR 22 05 57.9
comp=Z,23nm,18.2s,baz=48,slow=38
comp=Z,0.4nm,0.4s
EKA Eskdalemuir Ar 70.44 355 P P 21 33 32.8 -1.4
comp=Z,0.3nm,0.6s,baz=12,slow=5.2,SNR=1.8
comp=Z,0.3nm,0.6s
GEYT Ailbeck 70.50 308 LR LR 22 07 39.6
comp=Z,54nm,18.0s,baz=196,slow=39
TKL Tuckaleechee C 70.89 55 LR LR 22 06 59.7
comp=Z,16nm,18.7s,baz=344,slow=38
LRAL Lakeview Retre 71.40 59 P P 21 33 40.1 -0.4
baz=323
KBZ Khabaz 71.91 322 LR LR 22 08 32.5
comp=Z,15nm,19.0s,baz=5.0,slow=39
VRAC Vranov 74.05 341 LR LR 22 11 41.5
comp=Z,15nm,19.6s,baz=15,slow=40
GNI Garni 74.31 319 LR LR 22 11 53.2
comp=Z,33nm,18.5s,baz=29,slow=40
GERES GERESS Array B 75.00 343 LR LR 22 10 38.4
comp=Z,10nm,19.4s,baz=360,slow=39
BRTR Keskin Array B 78.64 326 P P 21 34 22.1 -0.3
comp=Z,0.4nm,0.7s,baz=9.5,slow=16,SNR=2.7
comp=Z,0.4nm,0.7s
WRA Warramunga Arr 79.68 213 P P 21 34 29.7 +1.8
comp=Z,0.6nm,0.8s,baz=23,slow=5.4,SNR=3.0
comp=Z,0.6nm,0.8s
ASAR Alice Springs 83.31 212 P P 21 34 49.3 +2.3
comp=Z,0.6nm,0.8s,baz=18,slow=4.7,SNR=3.3
comp=Z,0.6nm,0.8s
MMAI Mount Meron Ar 84.10 322 LR LR 22 15 24.6
comp=Z,13nm,19.2s,baz=242,slow=38
QSPA South Pole Qui 144.14 180 PKhKP PKPpre 21 41 52.5
comp=Z,2.2nm,1.0s,baz=274,slow=1.6,SNR=7.9

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*IDC **31** 21:25:26.1±0.9, 35°.32N×27°.03E, h0km, mb3.9/9, mbtmp3.7/14, ML3.5/5, MS2.8/2, Error ellipse: s-maj=22.2km s-min=12.9km az=169.0*
*ISK **31** 21:25:30.5, 35°.39N×26°.97E, h21km, ML3.4/30*
*NIC **31** 21:25:30.6, 35°.17N×27°.11E, h32km±37km, Ml3.5/12*
*GII **31** 21:25:31.9±0.6, 35°.01N±0°.05×27°.26E±0°.02, h20km, Mws3.6, confirmed*

*ATH **31** 21:25:33.0, 35°.54N×26°.80E, h10km±2km, ML3.2/17, Error ellipse: s-maj=3.2km s-min=0.9km az=147.0*
*THE **31** 21:25:33.2, 35°.44N×26°.87E, h18km±1km, ML3.5/3, Error ellipse: s-maj=3.6km s-min=1.0km az=147.0*
*AFAD **31** 21:25:33.0±0.0, 35°.70N×26°.78E, h49km±93km, MW3.6*

ISC 31 21:25:30.7±0.9, **35°.23N**±0°.03×**27°.05E**±0°.03, **h35**km±2km,
n181,σ1°.9**41**/199, **mb3.9**/9, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time	Res
				Op		ISC	h m s	ISC
KARP	**Karpathos**	**0.33**	**15**	P		**Pn**	**21 25 38.7**	**-0.4**
KARP				S		**Sn**	**21 25 44.4**	**-0.6**
	19μm,0.2s							
KARP	**Karpathos**	**0.33**	**15**	P		**Pn**	**21 25 38.7**	**-0.4**
KARP				S		**Sn**	**21 25 44.3**	**-0.7**
KARP				AML		AML	21 25 44.7	
	43nm,0.3s							
KARP				AML		AML	21 25 44.9	
	32nm,0.2s							
KARP	**Karpathos**	**0.33**	**15**	P		**Pn**	**21 25 38.7**	**-0.4**
KARP	**Karpathos**	**0.33**	**15**	P		**Pn**	**21 25 38.7**	**-0.4**
KARP				S		**Sn**	**21 25 43.7**	**-1.3**
KARP				AML		AML	21 25 45.1	
	comp=N,43711μm,0.3s							
KARP				AML		AML	21 25 45.3	
	comp=E,32167μm,0.2s							
ZKR	**Zakros**	**0.69**	**261**	Pg		**Pn**	**21 25 44.3**	**+0.2**
ZKR	**Zakros**	**0.69**	**261**	P		**Pn**	**21 25 44.1**	**0.0**
ZKR				S		**Sn**	**21 25 55.0**	**+1.4**
	comp=E,3μm,0.6s							
ZKR	**Zakros**	**0.69**	**261**	P		**Pn**	**21 25 43.9**	**-0.1**
ZKR				S		**Sn**	**21 25 55.4**	**+1.7**
ZKR				AML		AML	21 25 56.0	
	comp=E,8.6nm,0.6s							
ZKR				AML		AML	21 25 58.6	
	comp=E,3.9nm,0.7s							
ZKR	**Zakros**	**0.69**	**261**	P		**Pn**	**21 25 44.2**	**+0.2**
ZKR				S		**Sn**	**21 25 53.8**	**+0.2**
ZKR				AML		AML	21 25 57.2	
	comp=E,8950μm,0.6s							
ZKR				AML		AML	21 25 57.5	
	comp=N,3558μm,0.5s							
ARG	**Arkhangelos**	**1.32**	**41**	Pn		**Pn**	**21 25 53.7**	**+1.1**
ARG	**Arkhangelos**	**1.32**	**41**	P		**Pn**	**21 25 54.6**	**+2.0**
ARG				S		**Sn**	**21 26 12.2**	**+3.2**
	comp=N,2μm,0.5s							
ARG	**Arkhangelos**	**1.32**	**41**	P		**Pn**	**21 25 53.1**	**+0.5**
ARG				S		**Sn**	**21 26 10.3**	**+1.3**
ARG				AML		AML	21 26 14.8	
	comp=N,3.4nm,0.4s							
ARG				AML		AML	21 26 17.4	
	comp=N,2.7nm,0.6s							
ARG	**Arkhangelos**	**1.32**	**41**	P		**Pn**	**21 25 55.1**	**+2.5**
ARG				S		**Sn**	**21 26 12.5**	**+3.5**
ARG				AML		AML	21 26 15.1	
	comp=E,3402μm,0.4s							
ARG				AML		AML	21 26 17.6	
	comp=N,2705μm,0.6s							
NISR	**Nisiros**	**1.38**	**2**	P		**Pn**	**21 25 53.6**	**+0.1**
NISR	**Nisiros**	**1.38**	**2**	P		**Pn**	**21 25 53.2**	**-0.3**
NISR				S		**Sn**	**21 26 08.6**	**-2.0**
NISR				AML		AML	21 26 13.2	
	comp=N,2956μm,0.4s							
NISR				AML		AML	21 26 15.2	
	comp=E,4214μm,0.4s							
DAT	**Datca**	**1.56**	**16**	Pn		**Pn**	**21 25 55.8**	**-0.2**
DAT				Sn		**Sn**	**21 26 14.3**	**-0.8**
DAT	**Datca**	**1.56**	**16**	P		**Pn**	**21 25 55.8**	**-0.2**
DAT				S		**Sn**	**21 26 14.1**	**-1.0**
KSTL	**Kastelli Herak**	**1.62**	**273**	P		**Pn**	**21 25 55.6**	**-1.2**
KSTL				S		**Sn**	**21 26 12.5**	**-4.0**
KSTL				AML		AML	21 26 19.1	
	comp=N,1752μm,0.4s							
KSTL				AML		AML	21 26 24.6	
	comp=E,1224μm,0.8s							
KLNA	**Kalymnos**	**1.73**	**358**	P		**Pn**	**21 25 57.5**	**-0.7**
KLNA				AML		AML	21 26 21.1	
	comp=N,1091μm,0.3s							
KLNA				AML		AML	21 26 26.2	
	comp=E,1190μm,0.3s							
THR8	**Santorini-Mono**	**1.74**	**313**	P		**Pn**	**21 25 57.8**	**-0.6**
THR8	**Santorini-Mono**	**1.74**	**313**	P		**Pn**	**21 25 57.7**	**-0.7**
THR6	**Thira Island,**	**1.76**	**310**	P		**Pn**	**21 25 58.4**	**-0.2**
THR6	**Thira Island,**	**1.76**	**310**	P		**Pn**	**21 25 58.0**	**-0.7**
IDI	**Anoyia**	**1.77**	**273**	Pn		**Pn**	**21 25 59.8**	**+0.8**
IDI	**Anoyia**	**1.77**	**273**	P		**Pn**	**21 26 00.4**	**+1.5**
IDI	**Anoyia**	**1.77**	**273**	Pn		**Pn**	**21 25 59.7**	**+0.8**
	comp=E,15nm,0.3s,baz=68,slow=13,SNR=34							
IDI				Sn		**Sn**	**21 26 23.4**	**+3.1**
	comp=E,32nm,0.3s,baz=308,slow=18,SNR=8.5							
IDI	**Anoyia**	**1.77**	**273**	P		**Pn**	**21 26 00.1**	**+1.2**
IDI				S		**Sn**	**21 26 19.9**	**-0.4**
IDI				AML		AML	21 26 31.8	
	comp=E,825μm,0.4s							
IDI				AML		AML	21 26 35.7	
	comp=N,860μm,0.6s							
SNT1	**Gialos, Santor**	**1.78**	**312**	P		**Pn**	**21 25 58.3**	**-0.6**
THR9	**Santorini-Faro**	**1.78**	**310**	P		**Pn**	**21 25 58.7**	**-0.3**
THR9	**Santorini-Faro**	**1.78**	**310**	P		**Pn**	**21 25 58.6**	**-0.3**
THR3	**Thira Island,**	**1.79**	**312**	P		**Pn**	**21 25 58.3**	**-0.8**
THR3	**Thira Island,**	**1.79**	**312**	P		**Pn**	**21 25 58.3**	**-0.8**
THR2	**Thira island,**	**1.79**	**313**	P		**Pn**	**21 25 58.3**	**-0.9**
TURN	**Turunc**	**1.82**	**32**	Pn		**Pn**	**21 26 00.1**	**+0.6**
TURN	**Turunc**	**1.82**	**32**	P		**Pn**	**21 25 59.7**	**+0.2**
TURN				S		**Sn**	**21 26 23.5**	**+2.2**
TURN				*i* AML		AML	21 26 30.0	
	comp=N,231nm,0.3s							
THR5	**Thira Island,**	**1.83**	**311**	P		**Pn**	**21 25 59.0**	**-0.6**
CMBO	**Columbo, Santo**	**1.83**	**313**	P		**Pn**	**21 25 58.8**	**-0.8**
BODT	**Bodrum**	**1.84**	**6**	Pn		**Pn**	**21 25 59.6**	**-0.3**
BODT	**Bodrum**	**1.84**	**6**	P		**Pn**	**21 25 59.7**	**-0.2**
BODT	**Bodrum**	**1.84**	**6**	P		**Pn**	**21 25 59.3**	**-0.6**
BDRM	**Kayabasi**	**1.86**	**10**	P		Pn	21 25 54.5	-5.7
TMBK	**Timbaki Herakl**	**1.88**	**266**	P		**Pn**	**21 26 02.4**	**+2.0**
DALY	**Dalyan (Mula)**	**2.05**	**39**	Pn		**Pn**	**21 26 03.7**	**+1.0**
IZZE	**Mula-Seydike**	**2.14**	**55**	P		**Pn**	**21 26 04.2**	**+0.2**
MLSB	**Milas**	**2.15**	**16**	Pn		**Pn**	**21 26 04.1**	**+0.1**
MLSB	**Milas**	**2.15**	**16**	P		**Pn**	**21 26 02.9**	**-1.1**
FETY	**Fethiye**	**2.17**	**49**	Pn		**Pn**	**21 26 05.6**	**+1.3**
APE	**Apeiranthos**	**2.21**	**327**	Pn		**Pn**	**21 26 04.5**	**-0.5**
APE	**Apeiranthos**	**2.21**	**327**	P		**Pn**	**21 26 04.5**	**-0.5**
APE				S		**Sn**	**21 26 24.8**	**-6.4**
APE	**Apeiranthos**	**2.21**	**327**	P		**Pn**	**21 26 03.6**	**-1.4**
APE	**Apeiranthos**	**2.21**	**327**	P		**Pn**	**21 26 03.8**	**-1.2**
APE				AML		AML	21 26 30.6	
	comp=N,709μm,0.6s							
APE				AML		AML	21 26 31.2	
	comp=E,873μm,0.6s							
SABU	**Mula-Dalaman**	**2.22**	**44**	P		**Pn**	**21 26 03.7**	**-1.4**
KSL	**Kastellorizon**	**2.25**	**65**	P		**Pn**	**21 26 06.6**	**+1.1**
KSL				AML		AML	21 27 01.9	
	comp=E,0.3nm,1.0s							
KSL				AML		AML	21 27 09.5	
	comp=E,0.4nm,1.5s							
MULA	**Mugla, Merkez-**	**2.27**	**26**	P		**Pn**	**21 26 06.2**	**+0.4**
AKAS	**Kas**	**2.31**	**63**	Pn		**Pn**	**21 26 07.9**	**+1.6**
GVDS	**Gavdos**	**2.46**	**262**	Pn		**Pn**	**21 26 10.4**	**+2.0**
GVD	**Gavdhos**	**2.46**	**262**	Pn		**Pn**	**21 26 10.1**	**+1.7**
GVD	**Gavdhos**	**2.46**	**262**	P		**Pn**	**21 26 10.5**	**+2.1**
GVD				AML		AML	21 26 48.9	
	comp=N,403μm,0.6s							
GVD				AML		AML	21 27 00.9	
	comp=E,403μm,0.5s							
GCAM	**G?zelcaml?**	**2.47**	**3**	Pn		**Pn**	**21 26 08.5**	**0.0**
GCAM	**G?zelcaml?**	**2.47**	**3**	P		**Pn**	**21 26 05.4**	**-3.1**
CHAN	**Chania**	**2.48**	**278**	P		**Pn**	**21 26 10.4**	**+1.9**
CHAN				AML		AML	21 26 51.4	
	comp=E,635μm,0.6s							
CHAN				AML		AML	21 27 08.8	
	comp=N,496μm,1.0s							
SMG	**Samos**	**2.48**	**356**	P		**Pn**	**21 26 07.8**	**-0.9**
SMG				AML		AML	21 26 49.2	
	comp=N,342μm,0.4s							
SMG				AML		AML	21 26 50.5	
	comp=E,391μm,0.6s							
CAME	**Cameli-Denizli**	**2.50**	**46**	Pn		**Pn**	**21 26 10.4**	**+1.4**
IMMV	**lera Moni Meta**	**2.52**	**276**	Pn		**Pn**	**21 26 10.4**	**+1.2**
IMMV	**lera Moni Meta**	**2.52**	**276**	P		**Pn**	**21 26 11.3**	**+2.1**
IMMV	**lera Moni Meta**	**2.52**	**276**	P		**Pn**	**21 26 11.2**	**+2.0**
IMMV				AML		AML	21 27 01.3	
	comp=E,593μm,1.2s							
IMMV				AML		AML	21 27 03.4	
	comp=N,526μm,0.7s							
MHLO	**Agia Marina, M**	**2.60**	**305**	P		**Pn**	**21 26 10.5**	**+0.3**
MHLO				AML		AML	21 26 55.3	
	comp=N,983μm,0.6s							
MHLO				AML		AML	21 27 04.2	
	comp=E,1016μm,0.6s							
CAEL	**Denizli, Camel**	**2.63**	**43**	P		**Pn**	**21 26 12.6**	**+1.8**
TAVA	**DENIZLI_Tavas**	**2.69**	**33**	P		**Pn**	**21 26 13.4**	**+1.8**
TAVA				S		**Sn**	**21 26 43.3**	**+0.3**
TAVA				*i* AML		AML	21 26 54.0	
	comp=E,124nm,0.6s							
RODP	**Rodopos**	**2.71**	**278**	Pn		**Pn**	**21 26 12.9**	**+1.1**
KNDR	**Palaiochora Ch**	**2.76**	**271**	Pn		**Pn**	**21 26 14.6**	**+2.2**
KNDR	**Palaiochora Ch**	**2.76**	**271**	P		**Pn**	**21 26 14.7**	**+2.3**
KNDR				AML		AML	21 27 08.9	
	comp=E,532μm,0.5s							
KNDR				AML		AML	21 27 14.6	
	comp=N,490μm,0.6s							
ELL	**Elmali**	**2.77**	**56**	Pn		**Pn**	**21 26 14.6**	**+1.9**
ELL	**Elmali**	**2.77**	**56**	P		**Pn**	**21 26 13.2**	**+0.5**
ELL				AML		AML	21 27 06.5	
	comp=N,0.8nm,0.8s							
ELL				AML		AML	21 27 25.5	
	comp=N,0.7nm,1.1s							
ESEN	**Aydn-Nazilli**	**2.77**	**22**	P		**Pn**	**21 26 12.6**	**+0.1**
ESEN				S		**Sn**	**21 26 42.1**	**-2.7**
ESEN				*i* AML		AML	21 26 49.0	
	comp=N,64nm,0.4s							
AYDB	**Zeytinkoy-Aydi**	**2.80**	**14**	Pn		**Pn**	**21 26 13.4**	**+0.3**
DGB	**zmir**	**2.82**	**357**	P		**Pn**	**21 26 11.0**	**-2.3**
GOLH	**Golhisar**	**2.85**	**45**	P		**Pn**	**21 26 13.8**	**0.0**
DNIZ	**Denizli-Tavas-**	**2.88**	**33**	P		**Pn**	**21 26 15.1**	**+0.9**
APMY	**Acipayam-Deniz**	**2.88**	**38**	Pn		**Pn**	**21 26 15.5**	**+1.3**
NAZL	**Nazilli-Aydin**	**2.91**	**20**	Pn		**Pn**	**21 26 15.0**	**+0.5**
ANKY	**Antikythira Is**	**3.13**	**283**	P		**Pn**	**21 26 17.6**	**+0.1**
ANKY				AML		AML	21 27 17.4	
	comp=N,214μm,0.6s							
ANKY				AML		AML	21 27 20.1	
	comp=E,201μm,0.7s							
URLA	**Izmir**	**3.15**	**353**	Pn		**Pn**	**21 26 17.9**	**+0.1**
ODEM	**Odemis-Izmir**	**3.15**	**15**	Pn		**Pn**	**21 26 18.5**	**+0.6**
BLCB	**Balcova**	**3.15**	**360**	Pn		**Pn**	**21 26 18.0**	**+0.2**
BLCB	**Balcova**	**3.15**	**360**	P		**Pn**	**21 26 14.6**	**-3.2**
KORT	**Korkueli**	**3.20**	**55**	Pn		**Pn**	**21 26 20.8**	**+2.1**
CHOS	**Chios island**	**3.25**	**346**	P		**Pn**	**21 26 18.3**	**-1.0**
ANTB	**Antalya**	**3.36**	**59**	Pn		**Pn**	**21 26 23.3**	**+2.6**
MANT	**Manisa**	**3.47**	**20**	P		**Pn**	**21 26 21.9**	**-0.6**
KULA	**Kula-Manisa**	**3.52**	**21**	Pn		**Pn**	**21 26 24.0**	**+0.9**
KULA	**Kula-Manisa**	**3.52**	**21**	P		**Pn**	**21 26 22.7**	**-0.3**
BASM	**Basmaki-Afyon**	**3.61**	**41**	Pn		**Pn**	**21 26 25.4**	**+1.2**
VLI	**Veliai**	**3.66**	**295**	P		**Pn**	**21 26 23.9**	**-0.8**
VLI				AML		AML	21 27 09.0	
	comp=N,174μm,0.5s							
VLI				AML		AML	21 27 15.1	
	comp=E,138μm,0.7s							
VLY	**Voula,Athens**	**3.71**	**316**	P		**Pn**	**21 26 25.6**	**+0.1**
VLY				AML		AML	21 27 11.2	
	comp=N,121μm,0.6s							
VLY				AML		AML	21 27 11.9	
	comp=E,135μm,0.6s							
GORD	**Gordes-Manisa**	**3.78**	**13**	Pn		**Pn**	**21 26 27.4**	**+0.8**
USAK	**Uak-Merkez**	**3.82**	**24**	P		**Pn**	**21 26 27.2**	**+0.1**
DKL	**Dikili**	**3.84**	**358**	Pn		**Pn**	**21 26 27.9**	**+0.6**
DKL	**Dikili**	**3.84**	**358**	P		Pn	21 26 22.3	-4.9
SOMA	**Soma-Manisa**	**3.94**	**5**	Pn		**Pn**	**21 26 29.5**	**+0.8**
SIGR	**SIGRI**	**4.09**	**347**	Pn		**Pn**	**21 26 31.3**	**+0.6**
BUHA	**Balikesir, Bur**	**4.27**	**0**	P		**Pn**	**21 26 32.8**	**-0.3**
AKMS	**Akamas**	**4.33**	**91**	P		**Pn**	**21 26 34.6**	**+0.5**
AKMS				S		**Sn**	**21 27 23.1**	**-0.3**
AKMS				AML		AML	21 27 31.0	
	comp=E,0.2nm,0.4s							
AKMS				AML		AML	21 27 33.1	
	comp=E,0.2nm,0.4s							
SHUT	**Suhut-Afyon**	**4.34**	**39**	Pn		**Pn**	**21 26 35.3**	**+0.9**
SEYD	**Seydisehir-KON**	**4.43**	**59**	Pn		**Pn**	**21 26 38.5**	**+2.9**
BAYC	**CANAKKALE_Bayr**	**4.53**	**355**	P		**Pn**	**21 26 36.5**	**-0.2**
ALFC	**Alefka**	**4.54**	**89**	P		**Pn**	**21 26 37.1**	**+0.1**
ALFC				S		**Sn**	**21 27 28.4**	**-0.1**
ALFC				AML		AML	21 27 29.6	
	comp=E,0.3nm,0.5s							
ALFC				AML		AML	21 27 33.8	
	comp=E,0.2nm,0.3s							
NATA	**Nata**	**4.55**	**94**	P		**Pn**	**21 26 37.7**	**+0.6**
NATA				AML		AML	21 27 32.2	
	comp=E,0.4nm,0.4s							
NATA				AML		AML	21 27 35.3	
	comp=E,0.5nm,0.7s							
TROD	**Troodos**	**4.77**	**92**	P		**Pn**	**21 26 40.3**	**-0.1**
TROD				S		**Sn**	**21 27 35.4**	**+0.8**
TROD				AML		AML	21 27 42.6	
	comp=E,0.1nm,0.5s							
TROD				AML		AML	21 27 44.0	
	comp=E,0.1nm,0.7s							
SUSR	**Susurluk-Balik**	**4.80**	**9**	Pn		**Pn**	**21 26 41.4**	**+0.9**
ASGA	**Asgata**	**5.10**	**93**	P		**Pn**	**21 26 45.1**	**+0.5**
ASGA				S		**Sn**	**21 27 42.5**	**+0.2**
ASGA				AML		AML	21 27 49.2	
	comp=E,0.2nm,0.5s							
ASGA				AML		AML	21 27 49.3	
	comp=E,0.2nm,0.5s							
CSS	**Mathiatis**	**5.15**	**91**	P		**Pn**	**21 26 45.7**	**+0.4**
CSS				AML		AML	21 27 50.0	
	comp=E,0.1nm,0.4s							
CSS				AML		AML	21 27 52.5	
	comp=E,0.1nm,0.5s							
CSS	**Mathiatis**	**5.15**	**91**	P		**Pn**	**21 26 46.0**	**+0.6**
CSS	**Mathiatis**	**5.15**	**91**	P		**Pn**	**21 26 45.1**	**-0.3**
MVOU	**Mavrovouni**	**5.39**	**90**	P		**Pn**	**21 26 49.4**	**+0.8**
MVOU				AML		AML	21 27 58.1	
	comp=E,0.1nm,0.5s							
MVOU				AML		AML	21 27 59.9	
	comp=E,0.1nm,0.7s							
BRTR	**Keskin Array B**	**6.90**	**47**	Pn		**Pn**	**21 27 09.9**	**+0.5**
	comp=E,0.3nm,0.3s,baz=218,slow=15,SNR=12							
BRTR				Sn		**Sn**	**21 28 27.1**	**+0.4**
	comp=E,0.1nm,0.3s,baz=232,slow=24,SNR=1.2							
BRTR				LR		LR	21 30 37.4	
	comp=E,72nm,19.8s,baz=252,slow=46							
	comp=E,1.0nm,0.4s							
OFRI	**`Ofer**	**7.08**	**109**	S		**Sn**	**21 28 29.2**	**-2.0**
OFRI	**`Ofer**	**7.08**	**109**	P		Pn	21 27 10.0	-2.0
MMC7	**Mount Meron ar**	**7.25**	**105**	P		**Pn**	**21 27 13.2**	**-1.1**
MMA0B	**Mount Meron ar**	**7.27**	**105**	S		**Sn**	**21 28 34.3**	**-1.4**
MMA0B	**Mount Meron ar**	**7.27**	**105**	P		**Pn**	**21 27 14.1**	**-0.4**
MMAI	**Mount Meron Ar**	**7.27**	**105**	Pn		**Pn**	**21 27 13.8**	**-0.6**
	comp=E,1.9nm,0.3s,baz=297,slow=13,SNR=14							
MMAI				Sn		**Sn**	**21 28 34.2**	**-1.6**
	comp=E,5.1nm,0.3s,baz=299,slow=24,SNR=9.7							
	comp=E,0.9nm,0.3s							
SLTI	**Sal'it**	**7.29**	**112**	P		**Pn**	**21 27 13.6**	**-1.1**
SLTI	**Sal'it**	**7.29**	**112**	S		**Sn**	**21 28 34.0**	**-2.2**
GEM	**Giv'at Ha'Em**	**7.41**	**103**	S		**Sn**	**21 28 36.7**	**-2.5**
GEM	**Giv'at Ha'Em**	**7.41**	**103**	P		**Pn**	**21 27 15.0**	**-1.4**
NATI	**Neve Ativ**	**7.45**	**103**	P		**Pn**	**21 27 16.3**	**-0.6**
NATI	**Neve Ativ**	**7.45**	**103**	S		**Sn**	**21 28 37.5**	**-2.6**
NATI	**Neve Ativ**	**7.45**	**103**	P		**Pn**	**21 27 15.9**	**-1.0**
MMLI	**Mount Malkishu**	**7.50**	**109**	S		**Sn**	**21 28 38.7**	**-2.7**
MMLI	**Mount Malkishu**	**7.50**	**109**	P		**Pn**	**21 27 16.3**	**-1.3**
KZIT	**Kziot**	**7.52**	**123**	P		**Pn**	**21 27 18.3**	**+0.4**
KZIT	**Kziot**	**7.52**	**123**	S		**Sn**	**21 28 38.7**	**-3.2**
KZIT	**Kziot**	**7.52**	**123**	P		**Pn**	**21 27 16.6**	**-1.2**
AMAZ	**Amatzia**	**7.54**	**117**	P		**Pn**	**21 27 18.5**	**+0.4**
AMAZ	**Amatzia**	**7.54**	**117**	P		**Pn**	**21 27 17.7**	**-0.4**
AMAZ	**Amatzia**	**7.54**	**117**	S		**Sn**	**21 28 39.1**	**-3.2**
KSHT	**Keshet**	**7.60**	**105**	P		**Pn**	**21 27 18.6**	**-0.4**
KSHT	**Keshet**	**7.60**	**105**	S		**Sn**	**21 28 42.2**	**-1.7**
HMDT	**Nahal Hemdat**	**7.65**	**110**	P		**Pn**	**21 27 19.8**	**+0.1**
HMDT	**Nahal Hemdat**	**7.65**	**110**	P		**Pn**	**21 27 18.8**	**-0.9**
HMDT	**Nahal Hemdat**	**7.65**	**110**	S		**Sn**	**21 28 43.4**	**-1.8**
QRNJ	**Al-Qirein**	**7.66**	**110**	P		**Pn**	**21 27 20.3**	**+0.6**
UJAP	**Al Uja**	**7.74**	**113**	P		**Pn**	**21 27 19.5**	**-1.4**
YTIR	**Yattir**	**7.77**	**117**	P		**Pn**	**21 27 21.8**	**+0.4**
YTIR	**Yattir**	**7.77**	**117**	S		**Sn**	**21 28 45.1**	**-3.1**
YTIR	**Yattir**	**7.77**	**117**	P		**Pn**	**21 27 20.6**	**-0.8**
BALJ	**Balqa**	**7.81**	**111**	P		**Pn**	**21 27 22.3**	**+0.4**
DSI	**Dead Sea**	**7.86**	**115**	P		**Pn**	**21 27 23.2**	**+0.7**
DSI	**Dead Sea**	**7.86**	**115**	P		**Pn**	**21 27 22.0**	**-0.5**
MDBI	**Mazsada**	**7.97**	**117**	P		Pn	21 27 21.6	-2.4
MSBI	**Mazada**	**7.97**	**117**	P		**Pn**	**21 27 24.5**	**+0.5**
MSBI	**Mazada**	**7.97**	**117**	P		**Pn**	**21 27 23.1**	**-0.9**
GHAJ	**Ghor Haditha**	**8.13**	**116**	P		**Pn**	**21 27 27.7**	**+1.5**
GHAJ	**Ghor Haditha**	**8.13**	**116**	P		**Pn**	**21 27 27.3**	**+1.1**
KRMI	**Paran Flat**	**8.23**	**126**	P		**Pn**	**21 27 27.1**	**-0.5**
PRNI	**Paran**	**8.27**	**124**	P		**Pn**	**21 27 28.8**	**+0.6**
PRNI	**Paran**	**8.27**	**124**	S		Sn	21 28 56.0	-4.4
PRNI	**Paran**	**8.27**	**124**	P		**Pn**	**21 27 27.3**	**-0.9**
HRFI	**Mount Harif**	**8.49**	**125**	P		**Pn**	**21 27 31.8**	**+0.6**
HRFI	**Mount Harif**	**8.49**	**125**	S		**Sn**	**21 29 02.4**	**-3.4**
HRFI	**Mount Harif**	**8.49**	**125**	P		**Pn**	**21 27 30.1**	**-1.1**
MBRI	**Mt Berech**	**8.56**	**127**	P		**Pn**	**21 27 33.9**	**+1.6**
EIL	**Elat**	**8.67**	**128**	Pn		**Pn**	**21 27 34.4**	**+0.7**
	comp=E,0.6nm,0.3s,baz=352,slow=2.2,SNR=17							
EIL				Sn		Sn	21 29 05.6	-4.6
	comp=E,2.3nm,0.3s,baz=324,slow=17,SNR=10							
	comp=E,1.8nm,0.3s							
EIL	**Elat**	**8.67**	**128**	P		**Pn**	**21 27 33.7**	**0.0**
EIL	**Elat**	**8.67**	**128**	P		**Pn**	**21 27 32.4**	**-1.3**
EIL	**Elat**	**8.67**	**128**	S		Sn	21 29 05.2	-5.0
AQBJ	**Aqaba**	**8.70**	**127**	P		**Pn**	**21 27 34.9**	**+0.9**
MLR	**Muntele Rosu**	**10.29**	**356**	Pn		**Pn**	**21 27 57.4**	**+1.5**
	comp=E,0.2nm,0.3s,baz=90,slow=23,SNR=2.7							
KBZ	**Khabaz**	**14.87**	**50**	Pn		**P**	**21 29 03.6**	**0.0**
	comp=E,0.2nm,0.3s,baz=250,slow=6.8,SNR=6.8							
AKASG	**Malin Array Be**	**15.55**	**5**	Pn		**Pn**	**21 29 05.6**	**-1.5**
	comp=E,0.3nm,0.3s,baz=199,slow=12,SNR=2.5							
	comp=E,0.2nm,0.4s							
GERES	**GERESS Array B**	**16.80**	**328**	Pn		**Pn**	**21 29 22.0**	**-1.3**
	comp=E,0.1nm,0.3s,baz=141,slow=11,SNR=3.0							
	comp=E,0.5nm,0.6s							
ESDC	**Sonseca Array**	**24.95**	**289**	P		**P**	**21 30 49.4**	**-1.5**
	comp=E,0.6nm,0.5s,baz=83,slow=9.3,SNR=13							
	comp=E,0.6nm,0.5s							
GEYT	**Alibeck**	**25.03**	**75**	P		**P**	**21 30 52.5**	**+1.0**
	comp=E,1.8nm,0.5s,baz=271,slow=8.3,SNR=4.0							
	comp=E,1.8nm,0.5s							
FINES	**FINESS Array B**	**26.24**	**359**	LR		LR	21 41 50.3	
	comp=E,20nm,18.5s,baz=233,slow=38							
EKA	**Eskdalemuir Ar**	**28.90**	**323**	P		**P**	**21 31 25.4**	**-0.6**
	comp=E,0.3nm,0.6s,baz=116,slow=11,SNR=1.9							
	comp=E,0.3nm,0.6s							
TORD	**Torodi Ar. Bea**	**31.74**	**232**	P		**P**	**21 31 51.7**	**+0.2**
	comp=E,0.9nm,0.4s,baz=36,slow=8.9,SNR=21							
	comp=E,0.9nm,0.4s							
ARCES	**ARCESS Array B**	**34.37**	**359**	P		**P**	**21 32 13.4**	**-0.6**
	comp=E,2.6nm,1.1s,baz=173,slow=9.1,SNR=1.7							
	comp=E,2.6nm,1.1s							
KURBB	**Kurchatov Arra**	**39.87**	**51**	P		**P**	**21 33 00.8**	**0.0**
	comp=E,1.2nm,0.6s,baz=277,slow=8.7,SNR=9.8							
	comp=E,1.2nm,0.6s							
MKAR	**Makanchi Array**	**42.44**	**57**	P		**P**	**21 33 22.5**	**+0.4**
	comp=E,1.6nm,0.5s,baz=270,slow=8.4,SNR=29							
	comp=E,1.6nm,0.5s							
ZALV	**Zalesovo Beam**	**43.84**	**46**	P		**P**	**21 33 32.8**	**-0.3**
	comp=E,1.4nm,0.5s,baz=274,slow=8.0,SNR=6.6							
	comp=E,1.4nm,0.5s							
SONM	**Songino Array**	**58.24**	**51**	P		**P**	**21 35 21.8**	**+0.1**
	comp=E,0.3nm,0.5s,baz=292,slow=7.2,SNR=2.5							
	comp=E,0.3nm,0.5s							

*TRN **31** 21:43:45.2, 10°.36N×62°.11W, h17km, MD4.0, Gulf of Paria.*
*FUNV **31** 21:43:47.8, 10°.39N×62°.06W, h35km, MW4.1*

ISC 31 21:43:45.0±1.2, **10°.24N**±0°.04×**62°.15W**±0°.03, **h31**km±13km,
n36,σ1°.**66**/60, **4C-2D**, **Near coast of Venezuela**

| Code | Station Name | Δ° | AZ

SNZO	South Karori	1.27	38	P	Pn	21 52 23.2	+0.3		
BHW	Baring Head	1.27	45	P	Pn	21 52 23.2	+0.1		
WEL	Wellington	1.31	39	P	Pn	21 52 24.0	+0.4		
TKNZ	Takaka Hill	1.39	337	P	Pn	21 52 25.7	+1.1		
PLWZ	Palliser	1.40	58	P	Pn	21 52 24.5	-0.3		
OKCZ	Okains Bay	1.48	198	P	Pn	21 52 26.4	+0.4		
MSWZ	Moikau Station	1.48	53	P	Pn	21 52 25.7	-0.2		
DSZ	Dennistion Nort	1.50	292	P	Pb	21 52 27.8	-0.5		
DUWZ	D'Urville Isla	1.52	7	P	Pn	21 52 27.1	+0.5		
OXZ	Oxford	1.57	229	P	Pn	21 52 27.2	0.0		
MQZ	McQueen's Vall	1.58	208	P	Pn	21 52 26.9	-0.4		
CAW	Cannon Point	1.59	41	P	Pn	21 52 27.5	0.0		
PAWZ	Paruwai Farm	1.61	55	P	Pn	21 52 27.3	-0.4		
AKCZ	Akaroa Harbour	1.65	199	P	Pn	21 52 28.5	+0.1		
INZ	Inchbonnie	1.70	255	P	Pn	21 52 30.0	+1.1		
QRZ	Quartz Range	1.72	330	P	Pn	21 52 30.9	+1.7		
QRZ	Quartz Range	1.72	330	P	Pb	21 52 31.0	-0.9		
KIW	Kapiti Island	1.72	33	P	Pn	21 52 29.7	+0.4		
MTW	Mount Morrison	1.79	50	P	Pn	21 52 29.6	-0.6		
RACZ	Rakaia	1.81	218	P	Pn	21 52 30.4	0.0		
OGWZ	Otaki Gorge	1.87	37	P	Pn	21 52 31.3	0.0		
MHCZ	Mount Hutt	1.97	231	P	Pn	21 52 32.5	-0.2		
TMWZ	Te Maipa	2.05	55	P	Pn	21 52 33.0	-0.8		
WACZ	Wakanui South	2.11	219	P	Pn	21 52 34.5	-0.1		
MRZ	Mangatainoka R	2.19	42	P	Pn	21 52 35.2	-0.5		
TIWZ	Tintock	2.26	48	P	Pn	21 52 36.8	0.0		
WVZ	Waitaha Valley	2.29	250	P	Pn	21 52 38.2	+1.1		
RPZ	Rata Peaks	2.38	233	P	Pn	21 52 38.6	+0.3		
RPZ	Rata Peaks	2.38	233	P	Pn	21 52 38.1	-0.1		
ARCZ	Arundel	2.45	227	P	Pn	21 52 39.3	0.0		
PRWZ	Pori Road	2.46	45	P	Pb	21 52 43.9	-0.8		
BFZ	Birch Farm	2.53	51	P	Pn	21 52 40.4	+1.6		
GCSZ	Gaunt Creek Bo	2.66	247	P	Pn	21 52 43.3	+1.1		
TMZ	Timaru	2.84	222	P	Pn	21 52 44.8	+0.1		
TSZ	Takapari Road	2.84	38	P	Pn	21 52 44.0	-0.6		
KHEZ	Kahui Hut	3.03	5	P	Pn	21 52 48.8	+1.5		
FOZ	Fox Glacier	3.08	245	P	Pn	21 52 49.2	+1.3		
PKE	Pukeiti	3.13	4	P	Pb	21 52 52.9	-3.0		
VRZ	Vera Road	3.29	15	P	Pn	21 52 54.0	+3.2		
MOVZ	Moawhango	3.31	29	P	Pn	21 52 53.3	+2.2		
WNVZ	Wahianoa	3.32	27	P	Pn	21 52 53.2	+1.8		
TRVZ	Turoa	3.33	26	P	Pn	21 52 55.2	+3.6		
WHVZ	Whangaehu Hut	3.36	26	P	Pn	21 52 53.6	+1.6		
FWVZ	Far West T-bar	3.37	26	P	Pn	21 52 54.0	+1.8		
TUVZ	Tukino	3.40	27	P	Pn	21 52 53.4	+1.0		
NGZ	Ngauruhoe	3.46	26	P	Pn	21 52 55.0	+1.7		
SNVZ	South Ngauruho	3.46	26	P	Pn	21 52 55.7	+2.3		
OTVZ	Oturere	3.49	26	P	Pn	21 52 54.8	+1.1		
ODZ	Otahua Downs	3.50	218	P	Pn	21 52 53.4	-0.3		
ODZ	Otahua Downs	3.50	218	P	Pn	21 52 54.8	-0.3		
NNVZ	North Ngauruho	3.50	26	P	Pn	21 52 55.5	+1.6		
ETVZ	East Tongariro	3.53	27	P	Pn	21 52 56.9	+2.6		
TMVZ	Te Maari	3.55	26	P	Pn	21 52 57.1	+2.6		
NTVZ	North Tongarir	3.56	26	P	Pn	21 52 58.0	+3.4		
HIZ	Hauiti	3.90	14	P	Pn	21 53 00.4	+1.2		
HIZ	Hauiti	3.90	14	P	Pn	21 53 02.0	+2.7		
JCZ	Jackson Bay	3.98	242	P	Pn	21 53 01.1	+0.7		
JCZ	Jackson Bay	3.98	242	P	Pn	21 53 01.2	+0.7		
EAZ	Earnscleugh	4.30	226	P	Pn	21 53 04.1	-0.6		
TUZ	Tuapeka	4.66	217	P	Pn	21 53 08.9	-0.7		
APZ	The Paps	6.07	220	P	Pn	21 53 29.4	+0.3		

IDC 31 21:52:37.9±1.1, 37°31S×77°57E, h0km, mb4.0/6, mbtmp4.0/6, MS3.6/23, Error ellipse: s-maj=37.0km s-min=29.9km az=174.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
H04N2	CROZET ISLANDS	21.09	237	T	T	22 19 20.7	
	baz=75,slow=75,SNR=267						
H04N1	CROZET ISLANDS	21.10	237	T	T	22 19 22.1	
	baz=75,slow=75,SNR=301						
H04N3	CROZET ISLANDS	21.11	237	T	T	22 19 19.8	
	baz=75,slow=75,SNR=274						
H04S1	CROZET ISLANDS	21.21	235	T	T	22 19 28.5	
	baz=80,SNR=6.3						
H04S3	CROZET ISLANDS	21.22	235	T	T	22 19 28.1	
	baz=80,SNR=6.4						
H04S2	CROZET ISLANDS	21.23	235	T	T	22 19 28.1	
	baz=80,SNR=5.0						
H01W2	Cape Leeuwin H	29.53	96	T	T	22 28 59.5	
	baz=254,slow=75,SNR=51						
H01W3	Cape Leeuwin H	29.53	96	T	T	22 28 59.9	
	baz=254,slow=75,SNR=62						
H01W1	Cape Leeuwin H	29.54	96	T	T	22 29 00.7	
	baz=254,slow=75,SNR=67						
H08S2	Diego Garcia H	29.89	350	T	T	22 30 30.4	
	baz=172,slow=76,SNR=253						
H08S1	Diego Carcia H	29.89	350	T	T	22 30 30.6	
	baz=172,slow=76,SNR=154						
H08S3	Diego Garcia H	29.89	350	T	T	22 30 31.6	
	baz=172,slow=76,SNR=382						
MAW	Mawson	31.46	191	LR	LR	22 09 14.1	
	comp=Z,72nm,19.7s,baz=50,slow=32						
NWAO	Narrogin (SRO)	32.57	94	LR	LR	22 09 11.1	
	comp=Z,121nm,21.6s,baz=174,slow=30						
LEM	Lembang	40.84	50	LR	LR	22 14 10.2	
	comp=Z,108nm,18.1s,baz=203,slow=32						
BOSA	Boshof	44.26	265	P	P	22 00 49.2	-0.1
	4.1nm,1.1s,baz=126,slow=8.7,SNR=2.3						
BOSA				LR	LR	22 16 49.8	
	comp=Z,43nm,18.9s,baz=186,slow=33 4.1nm,1.1s						
PALK	Pallekele	44.45	4	LR	LR	22 15 17.7	
	comp=Z,67nm,19.3s,baz=275,slow=31						
LBTB	Lobatse	45.62	270	LR	LR	22 16 55.7	
	comp=Z,88nm,18.4s,baz=139,slow=32						
SUR	Sutherland	46.25	258	LR	LR	22 16 58.2	
	comp=Z,68nm,18.4s,baz=131,slow=32						
ASAR	Alice Springs	49.75	9	P	P	22 01 32.1	-0.1
	1.3nm,1.0s,baz=239,slow=6.5,SNR=5.2 1.3nm,1.0s						
KAPI	Kappang	50.14	61	LR	LR	22 21 23.5	
	comp=Z,52nm,19.6s,baz=146,slow=34						
WRA	Warramunga Arr	52.00	87	P	P	22 01 48.9	-0.2
	1.4nm,1.0s,baz=236,slow=6.9,SNR=2.7						
WRA				LR	LR	22 20 50.6	
	comp=Z,117nm,21.5s,baz=296,slow=32 1.4nm,1.0s						
SNAA	Sanae	52.08	203	LR	LR	22 22 46.9	
	comp=Z,32nm,18.0s,baz=280,slow=35						
VNDA	Vanda	52.67	164	LR	LR	22 22 21.1	
	comp=Z,88nm,18.3s,baz=286,slow=34						
QSPA	South Pole Qui	52.84	180	P	P	22 01 55.0	0.0
	2.9nm,1.1s,baz=278,slow=2.8,SNR=4.2						
QSPA				LR	LR	22 22 45.6	
	comp=Z,140nm,18.0s,baz=315,slow=34 2.9nm,1.1s						
TSUM	Tsumeb	54.95	272	LR	LR	22 22 12.1	
	comp=Z,88nm,19.8s,baz=134,slow=32						
DAV	Davao City (W)	62.90	56	LR	LR	22 27 35.1	
	comp=Z,30nm,21.1s,baz=162,slow=33						
PMG	Port Moresby	68.14	85	LR	LR	22 31 37.9	
	comp=Z,72nm,19.7s,baz=342,slow=34						
EIL	Elat	77.68	323	LR	LR	22 35 10.0	
	comp=Z,18nm,18.3s,baz=247,slow=33						
AAK	Ala-Archa	79.62	358	LR	LR	22 37 21.5	
	comp=Z,42nm,18.8s,baz=174,slow=34						
GNI	Garni	82.77	335	LR	LR	22 38 01.3	
	comp=Z,32nm,19.2s,baz=152,slow=33						
MKAR	Makanchi Array	83.84	3	P	P	22 05 08.7	-0.1
	0.2nm,0.6s,baz=178,slow=4.0,SNR=2.4						
MKAR				LR	LR	22 40 02.7	
	comp=Z,37nm,20.5s,baz=248,slow=34 0.2nm,0.6s						
KBZ	Khabaz	86.58	336	LR	LR	22 39 22.0	
	comp=Z,22nm,21.0s,baz=127,slow=32						
KURBB	Kurchatov Arra	87.56	1	P	P	22 05 27.3	+0.2
	0.6nm,0.2s,baz=194,slow=4.8,SNR=1.1 0.6nm,0.2s						
AKTO	Aktyubinsk	89.06	348	LR	LR	22 42 09.1	
	comp=Z,30nm,20.0s,baz=270,slow=33						
ZALV	Zalesovo Beam	91.11	4	LR	LR	22 43 55.1	
	comp=Z,24nm,20.6s,baz=303,slow=34						
ARU	Arti	94.77	350	LR	LR	22 44 44.2	
	comp=Z,19nm,21.6s,baz=202,slow=33						

ASRS 31 22:19:06.0±0.7, 50°N×3°×97°E±, h5km, MLh4.1/7, Error ellipse: s-maj=8.6km s-min=7.0km az=60.3, confirmed, Tuva-Buryatia-Mongolia border region

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

ERNS	Erzin	1.41	280	Pg	Pn	22 19 31.9	-0.5		
ERNS				Sg	Sn	22 19 54.8	+3.4		
KZLR	Kyzyl	2.46	314	Pn	Pn	22 19 48.5	+1.7		
KZLR				Pg	Pg	22 19 52.5	-0.6		
KZLR				Sg	Sg	22 20 31.8	+6.8		
CERR	Cheremushki	4.64	310	Pn	Pn	22 20 19.1	+2.4		
CERR				Pg	Pg	22 20 32.2	-2.7		
CERR				Sg	Sg	22 21 38.2	+3.3		
TEL	Teeli	4.64	285	Pn	Pn	22 20 15.4	-1.4		
TEL				Pg	Pb	22 20 27.9	0.0		
TEL				Sg	Sg	22 21 32.6	-2.5		
DJO	Djoy, Khakassi	4.70	308	Pn	Pn	22 20 18.3	+0.8		
DJO				Pg	Pg	22 20 33.5	-2.5		
DJO				Sg	Sg	22 21 39.7	+2.9		
MINR	Mina	5.22	340	Pg	Pg	22 20 48.2	+2.2		
MINR				Sg	Sg	22 22 01.9	+8.3		
VEH	Verkhnyaya Baz	5.41	309	Pn	Pn	22 20 28.2	+0.8		
VEH				Pg	Pg	22 20 48.4	-1.2		
VEH				Sg	Sg	22 22 03.4	+3.7		
CUR	Chagan-Uzun	5.78	274	Pn	Pn	22 20 32.7	+0.3		
CUR				Pg	Pb	22 20 49.4	+2.2		
CUR				Sg	Sg	22 22 09.4	-2.0		
ULGR	Ulagan, Altay	6.02	279	Pg	Pb	22 20 55.2	+3.9		
ULGR				Sg	Sg	22 22 17.0	-2.2		
ULN	Ulaanbaatar	6.77	105	Pg	Pn	22 20 54.5	+8.4		
ULN				Sg	Sb	22 22 20.5	-4.9		

NEIC ***31*** *22:24:57.2±1.2, 62°.29N±0°.02×149°.19W±0°.05, h35km±2km, Error ellipse: s-maj=3.8km s-min=3.1km az=84.0*

AEIC 31 22:24:57.7±1.2, 62°292N±0°006×149°19W±0°05, h44km±8km, ML2.6, ML2.8/198(NEIC), Error ellipse: s-maj=3.8km s-min=0.5km az=103.0, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CUT	Chulitna	0.52	283		Pn	22 25 08.2	-0.5
CUT					Sn	22 25 17.3	+0.7
GHO	Glory Hole Cre	0.54	166		Pn	22 25 08.5	-0.6
GHO	Glory Hole Cre	0.54	166		Sn	22 25 17.7	+0.5
GHO	Glory Hole Cre	0.54	166	IAML		22 25 19.0	
	comp=N,770nm,0.3s						
WAT7	Susitna Watana	0.57	16		Pn	22 25 08.9	-0.7
WAT7					Sn	22 25 18.5	+0.5
WAT1	Susitna Watana	0.61	29		Pn	22 25 09.4	-0.8
WAT1					Sn	22 25 19.4	+0.3
SML	Sawmill	0.63	140		Pn	22 25 09.6	-0.8
SML					Sn	22 25 19.7	+0.3
SML	Sawmill	0.63	140	IAML		22 25 20.5	
	comp=E,359nm,0.5s						
SML				IAML		22 25 21.0	
	comp=N,444nm,0.2s						
M22K	Willow	0.70	219		Pn	22 25 10.1	-1.0
M22K	Willow	0.70	219		Sn	22 25 21.2	+0.4
M22K	Willow	0.70	219	IAML		22 25 21.7	
	comp=E,598nm,0.5s						
M22K				IAML		22 25 21.9	
	comp=N,837nm,0.5s						
PMR	Palmer	0.70	178		Pn	22 25 10.2	-1.1
PMR				IAML		22 25 21.7	
	comp=E,431nm,0.3s						
PMR				IAML		22 25 21.7	
	comp=N,243nm,0.6s						
WAT6	Susitna Watana	0.73	66		Pn	22 25 10.7	-1.1
M23K	Glacier View	0.85	125		Pn	22 25 12.3	-1.0
M23K					Sn	22 25 25.2	+0.5
KNK	Knik Glacier	0.95	158		Pn	22 25 14.0	-0.6
SCM	Sheep Creek Mo	0.99	117		Pn	22 25 14.3	-0.9
SCM				IAML		22 25 30.8	
	comp=N,244nm,0.4s						
SCM				IAML		22 25 32.2	
	comp=E,196nm,0.2s						
SUA	Susitna One	1.11	222		Pn	22 25 16.2	-0.7
SUA				IAML		22 25 34.7	
	comp=N,219nm,0.5s						
SUA				IAML		22 25 35.0	
	comp=E,225nm,0.6s						
SUA	Susitna One	1.11	222		Sn	22 25 32.3	+1.2
RND	Reindeer	1.13	8		Pn	22 25 16.4	-0.8
SKT	Skwentna	1.14	255		Pn	22 25 16.3	-0.9
DHY	Denali Highway	1.15	46		Pn	22 25 16.5	-0.9
DHY				IAML		22 25 33.4	
	comp=E,118nm,0.3s						
DHY				IAML		22 25 33.7	
	comp=N,108nm,0.2s						
DHY	Denali Highway	1.15	46		Sn	22 25 32.1	+0.1
RC01	Rabbit Creek A	1.23	192		Pn	22 25 17.8	-0.7
FIS	Fire Island	1.25	203	Pn	Pn	22 25 18.2	-0.4
FIS				IAML		22 25 39.0	
	comp=E,222nm,0.4s						
FIS				IAML		22 25 42.3	
	comp=N,164nm,0.6s						
TRF	Thorofare Moun	1.27	337	Pn	Pn	22 25 18.3	-0.8
TRF				IAML		22 25 35.5	
	comp=E,151nm,0.6s						
TRF				IAML		22 25 36.3	
	comp=N,112nm,0.3s						
TRF	Thorofare Moun	1.27	337		Sn	22 25 34.7	-0.3
M24K	Tolsona, Glenn	1.43	96		Pn	22 25 21.4	+0.2
M24K				IAML		22 25 43.3	
	comp=N,137nm,0.5s						
M24K				IAML		22 25 45.1	
	comp=E,198nm,0.8s						
STLK	Strandline Lak	1.48	239		Sn	22 25 39.9	-0.2
KTH	Kantishna Hill	1.49	329		Pn	22 25 21.6	-0.5
KTH				IAML		22 25 41.6	
	comp=N,121nm,0.6s						
SPCG	Spurr Capps Gl	1.68	234		Sn	22 25 46.4	+1.4
GLI	Glacier Island	1.74	144		Pn	22 25 24.7	-0.6
GLI					Sn	22 25 46.2	-0.1
CAST	Castle Rocks	1.74	312	Pn	Pn	22 25 24.6	-0.9
KLU	Klutina	1.74	116		Pn	22 25 24.9	-0.6
SPCN	Chakachatna No	1.78	234		Pn	22 25 26.2	+0.2
CAPN	Captain Cook N	1.80	212	Pn	Pn	22 25 24.6	-1.5
O22K	Cooper Landing	1.83	188		Pn	22 25 25.4	-1.3
PAX	Paxson	1.85	67		Sn	22 25 50.9	+1.7
SLKM	Skilak Lake	1.86	196		Pn	22 25 26.2	-0.9
HARP	HAARP	1.89	85		Pn	22 25 28.1	+0.7
HARP					Sn	22 25 50.7	+0.7
BWN	Browne	1.89	356		Pn	22 25 27.1	-0.3
BWN				IAML		22 25 51.8	
	comp=N,73nm,0.6s						
BWN				IAML		22 25 52.4	
	comp=E,98nm,0.6s						
M20K	Styx River	1.90	259		Pn	22 25 27.3	-0.4
M20K				IAML		22 25 51.7	
	comp=N,77nm,0.4s						
M20K				IAML		22 25 52.4	
	comp=E,106nm,0.5s						
BPAW	Bear Paw Mtn.	1.99	337		Pn	22 25 28.0	-0.9
BPAW				IAML		22 25 51.4	
	comp=E,44nm,0.6s						
BPAW				IAML		22 25 51.4	
	comp=N,54nm,0.5s						
DIV	Divide	2.00	124		Pn	22 25 28.0	-1.1
FID	Port Fidalgo	2.02	139		Pn	22 25 28.6	-0.6
FID				IAML		22 26 02.6	
	comp=E,106nm,0.4s						
FID				IAML		22 26 08.0	
	comp=N,89nm,0.4s						
CHUM	Lake Minchumin	2.14	320		Pn	22 25 30.1	-0.7
L20K	Farewell, AK	2.19	277		Sn	22 25 57.8	+0.3
SEW	Seward	2.20	183		Pn	22 25 31.3	-0.4
WRH	Wood River Hil	2.24	12		Pn	22 25 31.4	-0.9
N25K	Chitina, Valde	2.28	106		Pn	22 25 32.4	-0.4
N25K				IAML		22 26 06.3	
	comp=N,33nm,0.3s						
N25K				IAML		22 26 07.2	
	comp=E,39nm,0.4s						
HIN	Hinchinbrook I	2.30	145		Pn	22 25 32.7	-0.4
NEA2	Nenana	2.31	1		Pn	22 25 32.1	-1.1
NEA2				IAML		22 26 01.5	
	comp=E,42nm,0.4s						
HDA	Harding Lake	2.35	24		Pn	22 25 33.0	-0.8
HDA				IAML		22 26 07.9	
	comp=E,31nm,0.2s						
HDA				IAML		22 26 18.8	
	comp=N,38nm,0.7s						
HDA	Harding Lake	2.35	24		Sn	22 26 01.6	+0.2
WASW	Wrangell South	2.39	97		Pn	22 25 34.5	0.0
DFR	Drift River	2.39	226		Pn	22 25 33.0	-1.4
CCB	Clear Creek Bu	2.44	14		Pn	22 25 34.0	-1.0
M19K	Big River Lodg	2.48	263		Pn	22 25 34.5	-1.0
M19K	Big River Lodg	2.48	263	IAML		22 26 09.4	
	comp=N,28nm,0.4s						
K20K	Telida	2.48	298		Pn	22 25 34.5	-1.1
K20K					Sn	22 26 03.4	-1.2
RED	Redoubt Volcan	2.55	224		Pn	22 25 35.8	-0.8
MENT	Mentasta	2.61	73		Pn	22 25 36.9	-0.5
L19K	White Mountain	2.65	270	Pn	Pn	22 25 37.0	-0.9
L19K				IAML		22 26 09.8	
	comp=N,31nm,0.5s						
L19K				IAML		22 26 09.8	
	comp=E,48nm,0.4s						
COLA	College	2.66	12		Pn	22 25 37.2	-0.7
BRSE	Bradley Lake S	2.67	197		Pn	22 25 37.1	-1.1
GLB	Gilahina Butte	2.69	106		Pn	22 25 38.1	-0.4
GLB				IAML		22 26 19.1	
	comp=N,37nm,0.4s						
GLB				IAML		22 26 19.2	
	comp=E,27nm,0.6s						
IL31		2.69	22	Pn	Pn	22 25 37.4	-1.1
MDM	Murphy Dome	2.71	9		Pn	22 25 37.8	-0.9
O20K	Slope Mountain	2.77	218		Pn	22 25 39.4	-0.3
L26K	Log Cabin Wild	2.79	72		Pn	22 25 39.2	-0.6
L26K				IAML		22 26 29.8	
	comp=N,52nm,0.4s						
MLY	Manley	2.83	347		Pn	22 25 39.5	-1.0
I23K	Minto, Yukon-K	2.87	359	IAML		22 26 15.3	
	comp=N,17nm,0.7s						
M26K	Nabesna, AK	2.89	85		Pn	22 25 40.1	-1.1
M26K				IAML		22 26 30.4	
	comp=E,31nm,0.4s						
M26K				IAML		22 26 30.4	
	comp=N,38nm,0.7s						
J25K	Salcha River,	2.89	35	IAML		22 26 19.0	
	comp=E,43nm,0.4s						
J25K				IAML		22 26 20.6	
	comp=N,31nm,0.4s						
RAGM	Ragged Mountai	2.90	129		Pn	22 25 41.1	-0.2
SCRK	Sand Creek	2.91	52	Pn	Pn	22 25 41.6	+0.1
SCRK				IAML		22 26 18.1	
	comp=N,28nm,1.0s						
SCRK				IAML		22 26 22.6	
	comp=E,28nm,0.6s						
VRDI	Verde Repeater	2.93	109	Pn	Pn	22 25 40.8	-1.1
VRDI				IAML		22 26 26.8	
	comp=E,17nm,0.5s						
VRDI				IAML		22 26 27.1	
	comp=N,22nm,0.6s						
J20K	Nowinta River	2.93	312	Pn	Pn	22 25 40.9	-0.9
J20K				IAML		22 26 15.9	
	comp=N,40nm,0.5s						
J20K				IAML		22 26 16.3	
	comp=E,32nm,0.5s						
N19K	Bonanza Creek	2.94	242	Pn	Pn	22 25 41.1	-0.8
N19K				IAML		22 27 32.9	
	comp=N,28nm,0.7s						
N19K				IAML		22 27 34.5	
	comp=E,25nm,1.2s						
POKR	Poker Flat Res	2.94	15	Pn	Pn	22 25 41.3	-0.6
CNPM	China Poot	2.95	201		Pn	22 25 41.7	-0.3
CNPM				IAML		22 26 25.5	
	comp=E,23nm,1.2s						
CNPM				IAML		22 26 28.7	
	comp=N,19nm,1.0s						
MCARA	McCarthy VSAT	3.06	105		Pn	22 25 42.6	-0.9
MCARA				IAML		22 26 31.3	
	comp=N,42nm,0.5s						
MCARA				IAML		22 26 35.8	
	comp=E,43nm,0.6s						
HMT	Hamilton	3.08	127	Pn	Pn	22 25 43.4	-0.5
I21K	Tanana	3.15	338		Pn	22 25 44.1	-0.6
P19K	Oil Pt	3.30	218	Pn	Pn	22 25 46.7	-0.1
KAIM	Kayak Island	3.32	134	Pn	Pn	22 25 47.1	+0.1
KAIM				IAML		22 26 44.4	
	comp=N,18nm,0.6s						
KAIM				IAML		22 27 00.4	
	comp=E,20nm,1.2s						
J26L	Joseph Creek	3.37	46	IAML		22 26 30.3	
	comp=N,33nm,0.3s						
J26L				IAML		22 26 31.4	
	comp=E,34nm,0.8s						
J19K	Poorman	3.38	303	Pn	Pn	22 25 47.1	-0.8
J19K				IAML		22 26 40.3	
	comp=N,11nm,0.6s						
KHIT	Khitrov Hills	3.41	120		Pn	22 25 47.1	-1.2
M27K	Edge Creek, AK	3.41	86		Pn	22 25 48.8	+0.3
M27K	Edge Creek, AK	3.41	86	IAML		22 26 55.6	
	comp=N,11nm,0.7s						
SUCK	Suckling Hills	3.44	128	Pn	Pn	22 25 47.9	-0.8
SUCK				IAML		22 26 42.8	
	comp=N,29nm,0.4s						
SUCK				IAML		22 26 42.9	
	comp=E,25nm,0.6s						
I20K	Naaghedeneel	3.45	319	Pn	Pn	22 25 48.4	-0.5
L27K	Beaver Creek,	3.48	74	Pn	Pn	22 25 49.5	+0.2
L18K	Granite Mounta	3.51	272	Pn	Pn	22 25 48.6	-1.0
KIAG	Kiagna River	3.54	110		Pn	22 25 49.2	-1.1
H23K	Yukon River	3.55	358		Pn	22 25 49.6	-0.7
WAX	Waxell Ridge	3.57	118		Pn	22 25 49.5	-1.0
WAX				IAML		22 26 52.9	
	comp=E,30nm,0.5s						
AUL	Augustine Lava	3.58	217		Pn	22 25 51.1	+0.4
N18K	Kilae Creek	3.60	246	Pn	Pn	22 25 50.2	-0.7
AUCH	Augustine Cone	3.60	217		Pn	22 25 50.9	-0.1
PRP	Porcupine Dome	3.62	25	IAML		22 26 42.5	
	comp=N,12nm,0.6s						
J18K	Innoko River	3.64	292	Pn	Pn	22 25 50.5	-1.0
ISLE	Juniper Island	3.70	114		Pn	22 25 50.9	-1.5
ISLE	Juniper Island	3.70	114	IAML		22 26 51.5	
	comp=E,18nm,0.6s						
ISLE				IAML		22 26 55.6	
	comp=N,22nm,0.9s						
SNH	Sunshine Point	3.73	122	Pn	Pn	22 25 52.8	+0.1
SNH				IAML		22 26 54.2	
	comp=N,14nm,0.9s						
SNH				IAML		22 26 57.8	
	comp=E,14nm,0.8s						
H21K	Melozitna River	3.73	336	Pn	Pn	22 25 52.2	-0.6
H21K				IAML		22 26 50.7	
	comp=E,9.0nm,0.7s						
BARN	Barnard Glacie	3.80	106		Pn	22

G21K				IAML		22 26 57.8			
	comp=E,6.0nm,0.6s								
I27K	**Kandik River**	**4.71**	**42**		Pn	22 26 06.5	+0.3		
DAWY	**Dawson**	**4.78**	**64**	Pn	Pn	22 26 05.8	-1.3		
DAWY				IAML		22 27 30.9			
	comp=E,5.2nm,0.5s								
DAWY				IAML		22 27 32.1			
	comp=N,7.7nm,0.8s								
M16K	**Timber Creek**	**4.83**	**259**	Pn	Pn	22 26 07.0	-0.8		
M16K				IAML		22 27 46.4			
	comp=E,11nm,1.2s								
M16K				IAML		22 27 49.4			
	comp=N,11nm,1.1s								
KDAK	**Kodiak Island**	**4.83**	**202**		Pn	22 26 05.7	-2.1		
L16K	**Owhat River**	**4.88**	**268**		Pn	22 26 07.2	-1.3		
L16K	**Owhat River**	**4.88**	**268**	IAML		22 28 07.7			
	comp=N,6.3nm,1.2s								
L16K				IAML		22 28 12.4			
	comp=E,7.2nm,1.4s								
M29M	**Somme Creek**	**5.00**	**84**	Pn	Pn	22 26 10.2	0.0		
I28M	**Miner Creek**	**5.17**	**48**		Pn	22 26 12.4	-0.1		
I28M	**Miner Creek**	**5.17**	**48**	IAML		22 27 16.0			
	comp=N,8.9nm,0.8s								
I28M				IAML		22 27 42.9			
	comp=E,9.2nm,1.4s								
H27K	**Steamboat Moun**	**5.17**	**37**		Pn	22 26 11.8	-0.7		
BCPM	**Bancas Point**	**5.19**	**113**	Pn	Pn	22 26 11.9	-0.9		
G26K	**Porcupine Rive**	**5.22**	**24**		Pn	22 26 12.4	-0.7		
F24K	**Squaw Lake**	**5.28**	**5**	Pn	Pn	22 26 12.6	-1.3		
F24K				IAML		22 27 14.9			
	comp=E,3.1nm,1.4s								
F21K	**Alatna River**	**5.28**	**342**	Pn	Pn	22 26 14.0	+0.1		
F21K				IAML		22 27 14.4			
	comp=N,3.7nm,0.4s								
J16K	**Anvik River**	**5.33**	**286**	IAML		22 27 21.7			
	comp=N,2.9nm,1.5s								
J16K				IAML		22 29 03.9			
	comp=E,3.6nm,1.1s								
I17K	**Unalakleet**	**5.46**	**292**	Pn	Pn	22 26 16.3	-0.2		
O29M	**Mount Kennedy**	**5.49**	**107**	Pn	Pn	22 26 16.4	-0.6		
G18K	**Tagagawik**	**5.50**	**315**	Pn	Pn	22 26 16.7	-0.3		
K29M	**Barlow Dome**	**5.53**	**69**	Pn	Pn	22 26 18.2	+0.8		
F20K	**Avaraart Lake**	**5.54**	**332**		Pn	22 26 17.5	+0.1		
I29M	**Ogilvie Camp,**	**5.71**	**53**		Pn	22 26 21.0	+1.1		
K15K	**Wolf Creek Mou**	**5.76**	**275**	Pn	Pn	22 26 19.3	-1.2		
HYT	**Haines Junctio**	**5.78**	**100**	Pn	Pn	22 26 20.1	-0.8		
N30M	**Aishikik Lake**	**5.79**	**93**	Pn	Pn	22 26 20.1	-0.9		
E24K	**Your Creek**	**5.81**	**3**		Pn	22 26 21.2	-0.1		
L15K	**Ungalak Mounta**	**5.83**	**269**		Pn	22 26 20.0	-1.5		
F19K	**Shaleruckik Mo**	**5.87**	**325**	Pn	Pn	22 26 21.6	-0.4		
E22K	**Anaktuvuk Pass**	**5.97**	**351**	Pn	Pn	22 26 24.5	+1.1		
G17K	**Kiwalik Mounta**	**5.99**	**307**		Pn	22 26 23.5	-0.2		
E25K	**Arctic Village**	**6.05**	**13**	Pn	Pn	22 26 24.4	-0.1		
H29M	**Whitestone**	**6.14**	**45**	Pn	Pn	22 26 26.6	+0.9		
P29M	**Windy Craggy**	**6.18**	**110**	Pn	Pn	22 26 26.3	0.0		
J30M	**Hart River**	**6.21**	**63**	Pn	Pn	22 26 28.7	+1.9		
E19K	**Redstone River**	**6.21**	**330**	Pn	Pn	22 26 26.9	+0.2		
P30M	**Million Dollar**	**6.30**	**105**		Pn	22 26 27.3	-0.7		
H16K	**Elim**	**6.30**	**298**		Pn	22 26 27.6	-0.3		
TOLK	**Toolik Lake Re**	**6.38**	**359**	Pn	Pn	22 26 29.4	+0.4		
N31M	**Braeburn, Yuko**	**6.39**	**91**	Pn	Pn	22 26 29.8	+0.1		
I30M	**Mount Dempster**	**6.40**	**57**	Pn	Pn	22 26 29.9	+0.5		
L14K	**Kuka Creek**	**6.46**	**268**		Pn	22 26 29.8	-0.3		
G16K	**Koyuk River**	**6.60**	**304**	Pn	Pn	22 26 31.2	-0.7		
F28M	**Old Crow**	**6.64**	**32**	Pn	Pn	22 26 33.1	+0.5		
J14K	**Nanvaranak Lak**	**6.67**	**280**	Pn	Pn	22 26 31.8	-1.1		
G29M	**Pine Creek**	**6.67**	**41**	Pn	Pn	22 26 34.3	+1.3		
E27K	**Coleen River**	**6.72**	**25**	Pn	Pn	22 26 32.8	-0.9		
E18K	**Tukpahlearik C**	**7.07**	**322**	Pn	Pn	22 26 38.2	-0.2		
D25K	**Kavik River**	**7.15**	**8**		Pn	22 26 39.8	+0.2		
D19K	**Kuna River**	**7.25**	**333**	Pn	Pn	22 26 41.0	+0.1		
K13K	**Kusilvak Mount**	**7.26**	**274**	Pn	Pn	22 26 40.7	-0.4		
H31M	**Peel River**	**7.40**	**55**	Pn	Pn	22 26 43.6	+0.6		
C23K	**Itkillik River**	**7.60**	**356**	Pn	Pn	22 26 45.1	-0.6		
F15K	**North Star Dit**	**7.60**	**304**	Pn	Pn	22 26 45.7	0.0		
ANM	**Nome**	**7.60**	**295**	Pn	Pn	22 26 45.0	-0.7		
E29M	**Blow River**	**7.72**	**33**	Pn	Pn	22 26 48.1	+0.8		
D27M	**Malcolm River**	**7.75**	**22**	Pn	Pn	22 26 48.8	+1.0		
G31M	**Satah River**	**7.91**	**48**	Pn	Pn	22 26 50.3	+0.4		
B22K	**Teshekpuk Lake**	**8.26**	**350**	Pn	Pn	22 26 54.6	0.0		
INK	**Inuvik**	**8.89**	**41**	Pn	Pn	22 27 04.3	+1.0		

*NEIC **31** 22:25:38.5±2.2,57°.54N±0°.02×156°.34W±0°.03,h5km±2km, Error ellipse: s-maj=4.1km s-min=3.0km az=352.0*

AEIC 31 22:25:39.3±1.6,57°.55N±0°.02×156°.22W±0°.03,h4km±3km, ML2.5,ML2.7/32(NEIC),Error ellipse: s-maj=3.3km s-min=2.0km az=168.0,Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLK3	**Peulik 3**	**0.14**	**349**		Pg	22 25 46.0	+3.9
R16K	**Pilot Point**	**0.73**	**272**		Pg	22 25 49.8	-3.5
R16K				Sg	Sg	22 25 59.1	-3.6
R16K				IAML		22 26 03.9	
	comp=N,576nm,0.8s						
ANCK	**Angle Creek**	**0.76**	**30**		Pg	22 25 53.5	-0.2
ANCK					Sg	22 26 03.2	-0.4
ACHA	**Angle Creek He**	**0.82**	**35**		Pg	22 25 54.5	-0.4
KCE	**Katmai Mt Cerb**	**0.89**	**38**		Pg	22 25 56.7	+0.4
KELA	**Mount Kelaz**	**0.93**	**16**		Pg	22 25 57.5	+0.4
R18K	**Karluk**	**0.95**	**88**	Pg	Pg	22 25 56.9	-0.6
R18K	**Karluk**	**0.95**	**88**		Sb	22 26 10.8	-0.4
R18K	**Karluk**	**0.95**	**88**	IAML		22 26 12.9	
	comp=N,450nm,0.6s						
R18K				IAML		22 26 14.3	
	comp=E,400nm,0.5s						
KVTA	**Katmai Vly 10**	**0.97**	**30**		Pg	22 25 57.2	-0.6
KAHC	**Katmai Hardscr**	**1.27**	**30**		Pg	22 26 03.1	-0.6
SII	**Sitkinak Islan**	**1.49**	**131**		Pn	22 26 06.7	-0.2
SII					Sg	22 26 27.3	+0.2
OHAK	**Old Harbor**	**1.62**	**100**	Pn	Pn	22 26 08.3	-0.3
OHAK				Sn	Sn	22 26 29.9	-0.1
OHAK				IAML		22 26 35.0	
	comp=N,62nm,0.4s						
OHAK				IAML		22 26 35.2	
	comp=E,70nm,1.2s						
P17K	**Kvichak River**	**1.65**	**356**		Pn	22 26 09.2	+0.1
CHGN	**Chignik**	**1.74**	**225**		Pn	22 26 07.0	-3.2
CHGN					Sn	22 26 29.4	-3.4
CHGN				IAML		22 26 30.4	
	comp=N,133nm,1.0s						
CHGN				IAML		22 26 30.4	
	comp=E,69nm,0.8s						
P16K	**Nushagak River**	**1.76**	**329**		Pn	22 26 08.4	-2.1
P16K					Sb	22 26 34.3	-0.1
CHIR	**Chirikof Islan**	**1.76**	**169**	Pn	Pn	22 26 10.9	+0.3
CHIR				IAML		22 26 40.0	
	comp=E,62nm,1.1s						
P18K	**Big Mountain,**	**1.92**	**15**		Pn	22 26 12.6	-0.2
P18K	**Big Mountain,**	**1.92**	**15**		Sb	22 26 38.3	-0.8
Q19K	**Cape Douglas,**	**1.94**	**43**	Pn	Pn	22 26 12.9	-0.2
Q19K				IAML		22 27 04.4	
	comp=N,111nm,0.9s						
KDAK	**Kodiak Island**	**1.97**	**82**	Pg	Pb	22 26 16.0	+0.4
KDAK					Sg	22 26 41.9	-0.5
VNFG	**Fog Glacier, M**	**2.23**	**237**		Pn	22 26 16.3	-0.7
O16K	**Kokwok River B**	**2.27**	**335**	Pn	Pn	22 26 17.5	-0.1
O17K	**Koliganek Bris**	**2.28**	**349**		Pn	22 26 18.5	+0.8
O18K	**Koktuh Hills**	**2.37**	**12**		Pb	22 26 20.8	-1.7
O18K				IAML		22 26 52.9	
	comp=N,48nm,0.6s						
O18K				IAML		22 26 54.7	
	comp=E,69nm,0.8s						
N17K	**Nushagak Hills**	**3.03**	**351**		Pn	22 26 28.7	+0.7
N17K				IAML		22 27 22.7	
	comp=N,20nm,0.9s						
N18K	**Kilae Creek**	**3.14**	**3**	Pn	Pn	22 26 29.9	+0.3
N18K				IAML		22 27 18.6	
	comp=E,17nm,1.2s						
N18K				IAML		22 27 24.5	
	comp=N,16nm,0.6s						
N18K	**Kilae Creek**	**3.14**	**3**	IAML		22 27 18.6	
	comp=E,17nm,1.2s						
N18K				IAML		22 27 24.5	
	comp=N,16nm,0.6s						
O14K	**Tigyukauivet M**	**3.16**	**305**	Pn	Pn	22 26 29.7	0.0
O14K				IAML		22 27 16.8	
	comp=E,18nm,1.0s						
O14K				IAML		22 27 23.4	
	comp=N,27nm,0.9s						
N15K	**Kwethluk River**	**3.31**	**324**	IAML		22 27 26.1	
	comp=N,25nm,0.7s						
N15K				IAML		22 27 27.4	
	comp=E,21nm,0.7s						

*KRNET **31** 22:27:39.0±0.1,40°.97N×72°.38E,h14km,mb2.0*
*ISU **31** 22:27:38.2,40°.80N×72°.76E,h4km*
*SOME **31** 22:27:40.7,41°.10N×72°.43E,h5km*
*NNC **31** 22:27:45.5±4.1,41°.23N×72°.31E,h0km,mb2.5,mpv2.4, Error ellipse: s-maj=37.9km s-min=15.8km az=166.0*

ISC 31 22:27:39.5±1.0,41°.02N±0°.02×72°.44E±0°.02,h8km±10km, n22,σ1§55/41,15C-6D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANR	**Andizhan**	**0.27**	**193**	P	Pg	**22 27 44.7**	**-0.2**
ANR				S	Sg	**22 27 49.6**	**+1.1**
TSTA	**Tashata**	**0.44**	**176**	P	Pg	22 27 44.8	-3.3
TSTA				S	Sg	**22 27 49.8**	**-4.0**
ARSB	**Arslanbob**	**0.51**	**53**	⇑*i*P	Pg	**22 27 50.1**	**+0.6**
	baz=52						
ARSB				⇑*i*S	Sb	**22 27 58.1**	**-0.4**
	baz=52						
OHH	**Osh**	**0.56**	**152**	⇑*i*P	Pg	**22 27 49.4**	**-0.9**
	baz=45						
OHH				⇑*i*S	Sg	**22 27 56.9**	**-0.7**
	baz=45						
FRG	**Fergana**	**0.81**	**218**	P	Pg	**22 27 55.5**	**+0.4**
FRG				S	Sg	**22 28 08.4**	**+2.7**
ARK	**Arkit**	**0.86**	**335**	⇑*i*P	Pg	**22 27 55.9**	**-0.2**
	baz=40						
ARK				⇑*i*S	Sb	**22 28 08.1**	**-0.3**
	baz=40						
CHMI	**Chimion**	**1.02**	**223**	P	Pg	**22 27 59.7**	**+0.6**
CHMI				S	Sg	**22 28 15.8**	**+3.4**
TRKS	**Terek-Say**	**1.11**	**298**	⇑*i*P	Pg	**22 27 58.6**	**-2.2**
	baz=99						
TRKS				⇑*i*S	Sg	**22 28 12.8**	**-2.3**
	baz=99						
SFK	**Sufi-Kurgan**	**1.29**	**141**	⇑*i*P	Pn	**22 28 03.1**	**-0.9**
	baz=37						
SFK				⇑*i*S	Sg	**22 28 20.6**	**-0.4**
	baz=37						
MNAS	**Manas**	**1.47**	**2**	⇑*i*P	Pg	**22 28 07.3**	**-0.4**
	baz=4.0						
MNAS				⇑*i*S	Sn	**22 28 27.8**	**+1.9**
	baz=4.0						
BTK	**Batken**	**1.56**	**233**	⇓*i*P	Pn	**22 28 06.8**	**-0.8**
	baz=33						
BTK				⇓*i*S	Sn	**22 28 27.0**	**-1.1**
	baz=33						
ARLS	**Aral**	**1.65**	**59**	⇓*i*P	Pb	**22 28 10.7**	**+0.5**
	baz=58						
ARLS				⇓*i*S	Sg	**22 28 33.8**	**+1.3**
	baz=58						
MRKS	**Merke**	**1.82**	**19**	P	Pg	**22 28 14.3**	**-0.2**
	2.2nm,0.3s						
MRKS				S	Sg	**22 28 39.3**	**+1.1**
	8.5nm,0.5s						
MRKS	**Merke**	**1.82**	**19**	*e*P	Pg	**22 28 14.3**	**-0.2**
	2.2nm,0.3s						
MRKS				*e*S	Sg	**22 28 39.2**	**+1.1**
	9.0nm,0.2s						
UCH	**Uchtor**	**1.97**	**51**	⇑*i*P	Pb	**22 28 16.1**	**+0.2**
	baz=51						
UCH				⇑*i*S	Sg	**22 28 43.1**	**+0.2**
	baz=51						
IUG	**luzhnay**	**2.13**	**303**	Pg	Pb	**22 28 19.2**	**+0.8**
	2.4nm,0.2s						
IUG				Lg	Lg	22 28 47.7	
	20nm,0.4s						
IUG	**luzhnay**	**2.13**	**303**	*e*P	Pb	**22 28 19.2**	**+0.8**
	2.4nm,0.2s						
IUG				*e*S	Sg	**22 28 47.7**	**-0.3**
	20nm,0.4s						
KK31	**Karatay Array**	**2.53**	**326**	Pn	Pb	**22 28 26.0**	**+0.8**
	0.1nm,0.2s,baz=139,slow=16,SNR=5.1						
KK31				⇑Sn	Sb	**22 28 56.3**	**-0.2**
	0.7nm,0.3s,baz=141,slow=30,SNR=5.8						
TKM2	**Tokmak 2**	**3.03**	**50**	⇓Pn	Pb	**22 28 35.3**	**+1.5**
	0.2nm,0.3s						
TKM2				⇓Sn	Sg	**22 29 14.3**	**-2.4**
	2.2nm,0.5s						
KST	**Kastek**	**3.31**	**51**	*e*P	Pb	**22 28 40.8**	**+2.2**
	1.4nm,0.2s						
KST				*e*S	Sg	**22 29 24.5**	**-1.4**
	2.6nm,0.2s						
DGS	**Degeres**	**3.33**	**47**	Pg	Pb	**22 28 40.8**	**+1.9**
	1.1nm,0.5s						
DGS				Lg	Lg	22 29 24.5	
	1.9nm,0.6s						
DGS	**Degeres**	**3.33**	**47**	*e*P	Pb	**22 28 40.8**	**+1.9**
	1.1nm,0.5s						
DGS				*e*S	Sg	**22 29 24.4**	**-2.0**
	1.9nm,0.6s						

*IDC **31** 22:30:10.0±2.3,9°.77S×73°.97W,h158km±32km,mb3.3/2, mbtmp3.7/6,MS3.1/1,Error ellipse: s-maj=33.3km s-min=15.7km az=27.0*

ISC 31 22:30:08.8±0.9,9°.64S±0°.09×73°.90W±0°.08,h150km,n7, σ2§50/10,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**3.72**	**231**	P	Pn	**22 31 05.8**	**+0.3**
	9.0nm,0.3s,baz=53,slow=10,SNR=7.0						
NNA				S	Sn	**22 31 48.1**	**-1.4**
	58nm,0.3s,baz=180,slow=21,SNR=12						
ATAH	**Atahualpa**	**5.10**	**299**	P	Pn	**22 31 24.7**	**+0.8**
	6.8nm,0.3s,baz=103,slow=3.6,SNR=15						
ATAH				S	Sn	**22 32 19.0**	**-3.5**
	7.4nm,0.3s,baz=127,slow=13,SNR=3.5						
LPAZ	**La Paz**	**8.68**	**140**	P	Pn	**22 32 12.9**	**+1.1**
	0.3nm,0.3s,baz=315,slow=5.7,SNR=1.1						
LPAZ				S	Sn	**22 33 49.2**	**+0.6**
	0.6nm,0.5s,baz=21,slow=21,SNR=1.2						
SIV	**San Ignacio**	**14.01**	**118**	P	Pn	**22 33 22.1**	**+1.2**
	2.6nm,0.6s,baz=298,slow=9.8,SNR=15						
SIV				S	Sn	**22 35 51.3**	**-4.9**
	0.6nm,0.4s,baz=95,slow=21,SNR=2.5						
TEIG	**Tepich**	**32.88**	**335**	LR	LR	22 52 32.7	
	comp=Z,32nm,18.4s,baz=65,slow=41						
TXAR	**Lajitas Array**	**48.22**	**324**	P	P	**22 38 35.9**	**+1.3**
	0.6nm,0.6s,baz=148,slow=7.8,SNR=9.0						
	0.6nm,0.6s						
TORD	**Torodi Ar. Bea**	**78.38**	**74**	P	P	**22 41 53.6**	**+0.3**
	0.9nm,0.7s,baz=266,slow=6.9,SNR=4.6						
	0.9nm,0.7s						

*NOU **31** 22:51:08.3,22°.35S×175°.36W,h0km,mb4.8/9,Tonga Islands Region*
*IDC **31** 22:51:14.1±5.8,22°.15S×176°.31W,h72km±50km,mb3.9/14, mbtmp4.3/15,ML3.4/1,MS3.4/2,Error ellipse: s-maj=21.6km s-min=17.5km az=131.0*
*NEIC **31** 22:51:15.7±2.0,22°.4S±0°.1×175°.9W±0°.1,h89km±9km, mb4.5/52,Error ellipse: s-maj=18.3km s-min=16.6km az=153.0*

ISC 31 22:51:13.5±0.4,22°.46S±0°.07×175°.91W±0°.07,h71km, n167,σ1§44/166,mb4.5/35,30C-5D,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIUE	**Niue**	**6.53**	**60**	Pn	Pn	**22 52 49.9**	**+2.9**
MSVF	**Nonsavu**	**7.37**	**309**	P	Pn	**22 53 02.8**	**+4.3**
MSVF	**Nonsavu**	**7.37**	**309**		Pn	**22 53 02.4**	**+3.9**
AFI	**Afiamalu**	**9.37**	**25**	Pn	Pn	**22 53 24.7**	**-1.1**
RAR	**Rarotonga**	**15.04**	**88**	P	P	**22 54 45.9**	**+0.2**
	1.5nm,0.3s,baz=165,slow=6.6,SNR=3.4						
RAR				S	Sn	**22 57 25.1**	**-2.5**
	22nm,0.6s,baz=70,slow=16,SNR=5.2						
	13nm,0.6s						
PINNC	**Pines Island,**	**15.38**	**266**	P	P	**22 54 51.0**	**+1.4**
PINNC				IAmb	IAmb	22 54 55.1	
	comp=Z,39nm,0.9s						
DVP	**Devils Point**	**15.66**	**285**	P	P	**22 54 57.9**	**+5.2**
LIFNC	**LIFOU**	**15.76**	**273**	P	P	**22 54 58.3**	**+4.5**
LIFNC	**LIFOU**	**15.76**	**273**		P	**22 54 54.7**	**+0.8**
LIFNC				IAmb	IAmb	22 55 03.2	
	comp=Z,51nm,1.0s						
DZM	**Mont Dzumac**	**16.34**	**268**	P	P	**22 55 04.9**	**+4.5**
DZM	**Mont Dzumac**	**16.34**	**268**	P	P	**22 55 02.9**	**+2.5**
DZM				IAmb	IAmb	22 55 05.5	
	comp=Z,36nm,0.9s						
DZM	**Mont Dzumac**	**16.34**	**268**	P	P	**22 55 02.4**	**+2.0**

	comp=Z,29nm,0.8s,baz=82,slow=17,SNR=16						
URZ	**Urewera**	**16.85**	**199**	P	P	**22 55 06.6**	**+0.8**
URZ	**Urewera**	**16.85**	**199**	P	Pn	**22 55 04.4**	**-0.4**
	comp=Z,5.3nm,0.4s,baz=350,slow=6.1,SNR=5.6						
URZ				S	Sn	**22 58 06.9**	**-4.4**
	comp=Z,13nm,0.9s,baz=92,slow=16,SNR=3.7						
RTZ	**Ruatahuna**	**17.22**	**199**	P	P	**22 55 10.1**	**+0.2**
BFZ	**Birch Farm**	**19.34**	**198**	P	Pn	**22 55 35.6**	**+0.7**
MSWZ	**Moikau Station**	**20.31**	**199**	P	P	**22 55 42.6**	**-1.1**
SNZO	**South Karori**	**20.39**	**201**	P	P	**22 55 45.0**	**+0.5**
PLWZ	**Palliser**	**20.45**	**199**	P	P	**22 55 45.5**	**+0.3**
QRZ	**Quartz Range**	**20.75**	**205**	P	Pn	22 55 52.3	+0.8
TKNZ	**Takaka Hill**	**20.76**	**204**	P	Pn	22 55 50.4	-1.3
BSWZ	**Blackbirch Sta**	**21.03**	**202**	P	P	**22 55 53.5**	**+2.1**
MRNZ	**Matariki Terra**	**21.16**	**204**	P	P	**22 55 54.0**	**+1.2**
THZ	**Tophouse**	**21.41**	**203**	P	P	**22 55 55.1**	**-0.5**
KHZ	**Kahutara**	**21.77**	**201**	P	P	**22 56 03.1**	**+3.9**
DSZ	**Denniston Nort**	**21.82**	**205**	P	P	**22 56 01.6**	**+1.7**
DSZ				IAmb	IAmb	22 56 17.5	
	comp=Z,27nm,1.1s						
GVZ	**Greta Valley S**	**22.43**	**202**	P	P	**22 56 07.1**	**+0.7**
GVZ				IAmb	IAmb	22 56 15.9	
	comp=Z,15nm,0.7s						
LTZ	**Lake Taylor**	**22.53**	**203**	P	P	**22 56 07.8**	**+0.2**
INZ	**Inchbonnie**	**22.79**	**205**	P	P	**22 56 11.6**	**+1.3**
INZ				IAmb	IAmb	22 56 15.3	
	comp=Z,19nm,0.7s						
OXZ	**Oxford**	**23.09**	**203**	P	P	**22 56 15.1**	**+1.9**
OXZ				IAmb	IAmb	22 56 16.5	
	comp=Z,16nm,0.6s						
RPZ	**Rata Peaks**	**23.79**	**204**	P	P	**22 56 19.8**	**+0.2**
RPZ				IAmb	IAmb	22 56 27.3	
	comp=Z,27nm,1.2s						
FOZ	**Fox Glacier**	**24.12**	**206**	P	P	**22 56 23.4**	**+0.8**
ODZ	**Otahua Downs**	**25.08**	**203**	P	P	**22 56 32.0**	**+0.6**
ODZ				IAmb	IAmb	22 56 33.2	
	comp=Z,14nm,1.1s						
PPT	**Papeete**	**25.20**	**84**	LR	LR	23 06 40.1	
	comp=Z,77nm,18.2s,baz=86,slow=36						
WKZ	**Wanaka**	**25.51**	**205**	P	P	**22 56 36.6**	**+1.3**
WKZ				IAmb	IAmb	22 56 43.0	
	comp=Z,16nm,0.9s						
MLZ	**Mavora Lakes**	**26.32**	**206**	P	P	**22 56 41.6**	**-0.9**
MLZ				IAmb	IAmb	22 56 44.4	
	comp=Z,13nm,0.8s						
DCZ	**Deep Cove**	**26.80**	**207**	P	P	**22 56 48.5**	**+1.6**
DCZ				IAmb	IAmb	22 56 49.2	
	comp=Z,16nm,1.1s						
WHZ	**Wether Hill Ro**	**26.82**	**205**		P	**22 56 45.8**	**-1.2**
WHZ				IAmb	IAmb	22 56 50.7	
	comp=Z,18nm,0.9s						
ARMA	**Armidale**	**30.05**	**248**	P	P	**22 57 16.2**	**0.0**
CTAO	**Charters Tower**	**35.28**	**267**	P	P	**22 58 00.9**	**-0.8**
STKA	**Stephens Creek**	**38.75**	**247**	P	P	**22 58 30.8**	**-0.3**
STKA	**Stephens Creek**	**38.75**	**247**	P	P	**22 58 30.0**	**-1.1**
	comp=Z,3.1nm,0.5s,baz=98,slow=12,SNR=9.8						
	comp=Z,3.1nm,0.5s						
COEN	**Coen**	**39.67**	**275**	P	P	**22 58 38.9**	**0.0**
BBOO	**Buckleboo**	**43.47**	**246**	P	P	**22 59 08.1**	**-1.7**
ASAR	**Alice Springs**	**46.00**	**258**	P	P	**22 59 28.1**	**-2.1**
	comp=Z,18nm,0.8s,baz=93,slow=7.8,SNR=104						
ASAR				PcP	PcP	**23 01 04.2**	**-1.6**
	comp=Z,3.2nm,0.7s,baz=100,slow=4.1,SNR=4.8						
	comp=Z,18nm,0.8s						
WRA	**Warramunga Arr**	**46.29**	**263**	P	P	**22 59 29.9**	**-2.5**
	comp=Z,13nm,0.7s,baz=101,slow=8.3,SNR=90						
WRA				PcP	PcP	**23 01 05.2**	**-1.7**
	comp=Z,1.7nm,0.7s,baz=102,slow=3.3,SNR=4.8						
	comp=Z,13nm,0.7s						
FORT	**Forrest**	**50.34**	**248**	P	P	**23 00 01.9**	**-1.5**
MTN	**Manton Dam**	**51.14**	**271**	P	P	**23 00 06.9**	**-2.7**
FITZ	**Fitzroy Crossi**	**54.71**	**263**	P	P	**23 00 34.6**	**-1.3**
SBA	**Scott Base**	**56.06**	**184**	P	P	**23 00 46.0**	**+1.4**
VNDA	**Vanda**	**56.15**	**186**	P	P	**23 00 47.9**	**+2.6**
	comp=Z,0.6nm,0.9s,baz=308,slow=5.8,SNR=1.5						
	comp=Z,0.6nm,0.9s						
SOEI	**Soe**	**58.51**	**272**	P	P	**23 01 02.8**	**-0.3**
PSA00	**Pilbara Seismi**	**59.14**	**258**	P	P	**23 01 05.8**	**-1.4**
MBWA	**Marble Bar**	**59.34**	**258**	P	P	**23 01 06.3**	**-2.3**
QSPA	**South Pole Qui**	**67.62**	**180**	P	P	**23 02 04.2**	**+1.6**
QSPA				IAmb	IAmb	23 02 20.3	
	comp=Z,5.1nm,1.1s						
QSPA	**South Pole Qui**	**67.62**	**180**	P	P	**23 02 05.3**	**+2.6**
	comp=Z,1.4nm,0.7s,baz=272,slow=1.6,SNR=8.9						
	comp=Z,1.4nm,0.7s						
MJAR	**Matsushiro Arr**	**72.94**	**323**	P	P	**23 02 33.1**	**-2.2**
	comp=Z,0.8nm,0.4s,baz=158,slow=6.3,SNR=2.6						
	comp=Z,0.8nm,0.4s						
PETK	**Petropavlovsk-**	**78.67**	**344**	P	P	**23 03 06.2**	**-1.3**
	comp=Z,3.3nm,0.9s,baz=108,slow=6.3,SNR=5.7						
	comp=Z,3.3nm,0.9s						
MAW	**Mawson**	**80.38**	**199**	P	P	**23 03 18.8**	**+2.0**
	comp=Z,1.7nm,0.5s,baz=140,slow=9.1,SNR=7.4						
	comp=Z,1.7nm,0.5s						
NVAR	**Mina Array Bea**	**81.13**	**42**	P	P	**23 03 23.6**	**+2.0**
	comp=Z,0.3nm,0.5s,baz=194,slow=3.3,SNR=3.6						
	comp=Z,0.3

comp=Z,1.2nm,0.5s
NNA Nana 93.68 104 LR LR 23 38 00.6
comp=Z,18nm,18.6s,baz=260,slow=30
YKA Yellowknife Ar 97.48 24 P Pdif 23 04 39.0 0.0
comp=Z,0.3nm,0.7s,baz=242,slow=3.4,SNR=2.7
comp=Z,0.3nm,0.7s
ZALV Zalesovo Beam 113.23 321 PKiKP **PKiKP** **23 09 41.2 -1.4**
comp=Z,0.6nm,0.5s,baz=94,slow=2.2,SNR=2.5
MKAR Makanchi Array 113.95 313 PKiKP **PKiKP** **23 09 42.4 -1.9**
comp=Z,0.2nm,0.5s,baz=127,slow=3.3,SNR=3.0
KURBB **Kurchatov Arra 116.80 317** PKP **PKPdf** **23 09 47.8 -1.8**
comp=Z,0.4nm,0.7s,baz=96,slow=2.0,SNR=5.8
BVAR Borovoye Array 121.83 319 PKP **PKPdf** **23 09 57.5 -1.7**
comp=Z,0.8nm,0.4s,baz=90,slow=2.2,SNR=9.3
FINES FINESS Array B 138.18 344 PKhKP PKPpre 23 10 19.7
comp=Z,1.2nm,0.8s,baz=52,slow=3.1,SNR=4.1
FINES PKP **PKPdf** **23 10 29.4 -0.5**
comp=Z,0.8nm,0.4s,baz=59,slow=2.0,SNR=13
HFS Hagfors 141.75 352 PKhKP PKPpre 23 10 30.0
comp=Z,1.0nm,0.4s,baz=64,slow=3.4,SNR=16
AKASG **Malin Array Be 145.66 331** PKPbc **PKPdf** **23 10 42.5 -1.0**
comp=Z,9.1nm,0.5s,baz=41,slow=4.3,SNR=36
EKA Eskdalemuir Ar 146.73 8 PKPbc **PKPbc** **23 10 46.9 -0.1**
comp=Z,0.7nm,0.5s,baz=325,slow=2.9,SNR=8.5
SORM Soroca 147.88 329 ↑P **PKPbc** **23 10 49.8 -0.6**
PURM Purcari 148.20 325 ↑P **PKPbc** **23 10 52.0 +0.8**
BRTR Keskin Array B 149.59 311 PKPbc **PKPbc** **23 10 54.5 -0.8**
comp=Z,2.8nm,0.5s,baz=137,slow=4.5,SNR=21
BURAR **Bucovina Array 149.71 331** ↓P **PKiKP** **23 10 56.5 +0.3**
GHRR 149.78 327 ↑P **PKiKP** **23 10 56.2 -0.1**
TESR Tescani 149.85 328 ↑P **PKPbc** **23 10 55.1 -0.4**
KOLS Kolonicke sedl 149.90 336 *e* **PKiKP** **23 10 57.6 +1.2**
CFR Carcaliu 150.00 325 ↑P **PKPbc** **23 10 55.7 -0.1**
CRVS Cervenica-Dubn 150.22 337 *e* **PKPab** **23 11 01.8 -0.8**
VRI Vrincioaia 150.26 327 ↓P **PKPbc** **23 10 56.1 -0.4**
CLL Collm 150.38 349 *i* PKPbc **PKPbc** **23 10 56.2 -0.4**
comp=Z,8.0nm,1.0s
CLL *i* PKPab **PKPab** **23 11 02.1 -1.0**
comp=Z,5.0nm,0.9s
CLL *e*PKPab **sPKPab** **23 11 27.0 -3.0**
OSTC Ostas 150.39 344↑ *e*PKP **PKiKP** **23 10 57.5 +0.1**
OSTC *e*PKPAB **PKPab** **23 11 03.5 +0.3**
HARR Harsova 150.43 324 ↑P **PKPbc** **23 10 56.8 -0.1**
MMAI Mount Meron Ar 150.46 298 PKPbc **PKPbc** **23 10 56.8 -0.7**
comp=Z,4.7nm,0.4s,baz=76,slow=7.0,SNR=36
COVR Voineasa-Covas 150.54 328 ↑P **PKPbc** **23 10 55.2 -2.0**
DPC Dobruska-Polom 150.56 344↑ *e*PKP **PKiKP** **23 10 57.6 -0.2**
DPC *e*PKPAB **PKPab** **23 11 04.4 +0.5**
OZUR 150.56 328 ↑P **PKPbc** **23 10 57.3 +0.1**
BRG Berggiesshubel 150.61 347 *e*P **PKiKP** **23 10 57.6 -0.2**
BRG Amp 23 10 58.3
comp=Z,3.3nm,0.7s
BRG Berggiesshubel 150.61 347 P **PKPab** **23 11 03.9 -0.2**
BRG Amp 23 11 04.7
comp=Z,3.3nm,0.8s
KRLC Kraliky 150.69 343↑ *e*PKP **PKiKP** **23 10 57.8 -0.3**
KRLC *e*PKPAB **PKPab** **23 11 04.4 -0.1**
MORC Moravsky Berou 150.75 342 *e*PKP **PKPbc** **23 10 57.6 0.0**
NEHR Nehoiu 150.79 327 ↑P **PKPbc** **23 10 57.3 -0.5**
DOPR Dopca 150.85 329 ↑P **PKiKP** **23 10 58.3 -0.2**
MLR Muntele Rosu 150.92 327 ↑P **PKPbc** **23 10 57.7 -0.5**
MAUC Maruska 151.03 341↑ *e*PKP **PKiKP** **23 10 59.1 +0.3**
PRU Pruhonice 151.32 346↑ *e*PKP **PKiKP** **23 10 59.3 0.0**
PRU *e*PKPAB **PKPab** **23 11 07.0 -0.1**
MARR Marisel-Cluj 151.35 332 ↓P **PKPbc** **23 10 58.9 -0.3**
VOIR 151.40 328 ↑P **PKPbc** **23 10 59.2 -0.1**
VRAC Vranov 151.44 343 *e*PKP **PKPbc** **23 10 58.9 -0.3**
DRGR 151.44 333 ↑P **PKPbc** **23 10 58.7 -0.6**
VYHS Vyhne 151.49 339 *e* **PKiKP** **23 10 59.5 +0.2**
JAVC Velka Javorina 151.53 341 *e*PKP **PKiKP** **23 11 00.1 +0.2**
ARR Arges 151.65 329 ↑P **PKiKP** **23 11 00.7 +0.5**
KRUC Moravsky 151.71 343 *e*PKP **PKPbc** **23 10 59.6 -0.2**
LOT Lotru 152.00 330 ↑P **PKPdf** **23 10 56.4 +2.2**
DEV Deva 152.06 331 ↓P **PKiKP** **23 11 04.5 +3.5**
MODS Modra-Piesok 152.08 341 *e* **PKiKP** **23 11 01.4 +0.4**
HUMR Humele 152.08 327 ↑P **PKPbc** **23 11 00.1 -0.6**
SIRR Siria 152.30 333 ↑P **PKPbc** **23 11 01.2 0.0**
KHC Kasperske Hory 152.34 347↑ *e*PKP **PKiKP** **23 11 01.4 -0.1**
KHC *e*PKPAB **PKPab** **23 11 11.8 +0.4**
CKRC Cesky Krumlov 152.47 345↑ *e*PKP **PKiKP** **23 11 02.0 +0.2**
GZR Gura Zlata 152.50 331 ↑P **PKPbc** **23 11 01.3 -0.5**
SURR Surduc 152.51 332 ↑P **PKPbc** **23 11 01.2 -0.4**
GERES **GERESS Array B 152.58 346** PKPbc **PKPbc** **23 11 00.8 -1.0**
comp=Z,2.3nm,1.0s,baz=45,slow=2.1,SNR=8.1
ELND Elena 152.71 324 ↑P **PKiKP** **23 11 02.7 +0.3**
BZS Buzias 152.83 332 ↑P **PKPbc** **23 11 01.6 -0.8**
CONA Conrad Observa 152.89 342 *e*PKP **PKPab** **23 11 13.7 -0.1**
comp=Z,2.7nm,0.6s
RONA Rosalia, Austr 152.98 342 *e*PKP **PKPab** **23 11 14.5 +0.4**
comp=Z,4.4nm,0.9s
HERR Herculane 153.05 330 ↑P **PKPbc** **23 11 02.6 -0.3**
MOA Molln 153.38 345 *e*PKP **PKPab** **23 11 15.9 +0.1**
comp=Z,3.0nm,0.9s
MDVR Moldovita 153.45 331 ↓P **PKiKP** **23 11 04.3 +0.4**
MORH Mrgy, Hungar 153.52 337 ↑P **PKPbc** **23 11 03.5 -0.3**
ARSA Arzberg 153.60 342 *e*PKP **PKPab** **23 11 16.6 -0.2**
comp=Z,2.0nm,0.6s
BIOA Bad Ischl, Aus 153.68 345 *e*PKP **PKPab** **23 11 17.0 -0.1**
comp=Z,4.0nm,0.7s
LESA Schwarzleotal 154.15 347 *i* PKP **PKPab** **23 11 18.8 -0.4**
comp=Z,2.7nm,1.0s
SOKA Soboth 154.26 342 *e*PKP **PKPab** **23 11 19.2 -0.5**
comp=Z,2.4nm,0.9s
KBA Koelnbreinsper 154.33 345 *i* PKP **PKPab** **23 11 20.3 +0.3**
comp=Z,3.9nm,0.7s
RETA Reute 154.46 349 *e*PKP **PKPab** **23 11 19.7 -0.7**
comp=Z,1.0nm,0.6s
WATA Walderalm 154.46 348 *e*PKP **PKPab** **23 11 19.7 -0.8**
comp=Z,2.3nm,0.8s
MOTA Moosalm 154.54 349 *e*PKP **PKPab** **23 11 20.0 -0.8**
comp=Z,1.6nm,0.6s
OBKA Obir 154.55 343 *e*PKP **PKPab** **23 11 20.0 -0.9**
comp=Z,2.6nm,0.9s
MYKA Terra Mystica 154.68 344 *e*PKP **PKPab** **23 11 19.9 -1.6**
comp=Z,1.5nm,0.5s
ABTA Abfaltersbach 154.83 346 *e*PKP **PKPab** **23 11 21.3 -0.7**
comp=Z,2.3nm,0.7s
ESDC Sonseca Array 161.52 20 PKPab **PKPab** **23 11 49.7 -1.4**
comp=Z,0.4nm,0.8s,baz=334,slow=4.2,SNR=4.2
TORD Torodi Ar. Bea 170.46 166 PKPab **PKPab** **23 12 33.3 +2.3**
comp=Z,0.5nm,0.9s,baz=166,slow=1.4,SNR=2.2

SHO *i* S **Sn** **22 54 18.8 -2.7**
SHO A A 22 54 23.2
comp=E,390nm,0.3s
SHO A A 22 54 23.2
comp=E,320nm,0.3s
SHO Shikotan 1.86 254 *e*PN **Pn** **22 53 59.2 -0.1**
SHO *i* S **Sn** **22 54 18.5 -3.0**
SHO pmax pmax
comp=Z,35nm,0.3s
SHO smax smax
comp=N,124nm,0.4s
SHO smax smax
comp=E,322nm,0.4s
YUK Yuzh-Kuril'sk 2.50 262 *e*P **Pn** **22 54 07.1 -1.0**
YUK AMB AMB 22 54 09.8
comp=E,170nm,0.3s
YUK *e*S **Sn** **22 54 35.1 -2.2**
YUK A A 22 54 40.2
comp=E,350nm,0.5s
YUK A A 22 54 40.2
comp=E,660nm,0.5s
YUK Yuzh-Kuril'sk 2.50 262 PN **Pn** **22 54 08.6 +0.5**
YUK *e*S **Sn** **22 54 36.9 -0.4**
YUK pmax pmax
comp=Z,178nm,0.1s
YUK smax smax
comp=E,661nm,0.4s
YUK smax smax
comp=N,347nm,0.2s
NMR Nemuro--Hokkai 2.79 249 *e*P **Pn** **22 54 11.6 -0.5**
NMR *e*S **Sn** **22 54 43.1 -1.3**
NMR Nemuro--Hokkai 2.79 249 *e*PN **Pn** **22 54 10.3 -1.8**
NMR *e*S **Sn** **22 54 42.9 -1.5**
RUSJ Misakicho 2.92 265 *e*PN **Pn** **22 54 16.6 +2.6**
RUSJ *e*S **Sn** **22 54 49.9 +2.0**
AKK Akkeshi 3.52 248 *e*P **Pn** **22 54 22.2 0.0**
ASAJ Asahikawa 4.82 269 P **Pn** **22 54 44.8 +4.8**
comp=N,3.1nm,0.4s,baz=223,slow=30,SNR=2.0
ASAJ S **Sn** **22 55 40.0 +5.4**
comp=N,4.3nm,0.5s,baz=74,slow=34,SNR=1.5
ERM Erimo 5.09 244 *e*PN **Pn** **22 54 43.6 -0.2**
ERM pmax pmax
comp=Z,52nm,1.1s
PEA0B Petropavlovsk- 10.30 30 *i* PN **Pn** **22 55 53.7 -1.5**
PETK Petropavlovsk- 10.30 30 P **Pn** **22 55 57.4 +2.2**
comp=Z,2.1nm,0.5s,baz=214,slow=14,SNR=6.2
PETK LR LR 23 00 08.0
comp=Z,47nm,18.1s,baz=218,slow=39
MAJO Matsushiro 11.53 231 *i* PN **Pn** **22 56 11.6 -0.6**
MJAR Matsushiro Arr 11.53 231 P **Pn** **22 56 11.5 -0.6**
comp=Z,1.2nm,0.6s,baz=26,slow=14,SNR=4.8
USA0B **Ussuriysk Arra 12.40 275** *i* PN **Pn** **22 56 20.7 -3.3**
KLR Kul'dur 12.93 298 LR LR 23 01 43.5
comp=Z,26nm,19.0s,baz=161,slow=38
KLR Kul'dur 12.93 298 *e*P **Pn** **22 56 29.9 -1.3**
KLR Kul'dur 12.93 298 *i* PN **Pn** **22 56 29.9 -1.3**
MA2 Magadan 15.20 3 LR LR 23 02 09.9
comp=Z,42nm,21.1s,baz=175,slow=34
SEY Seymchan 18.63 4 LR LR 23 04 30.9
comp=Z,36nm,21.0s,baz=173,slow=35
YAK Yakutsk 21.03 334 LR LR 23 07 22.1
comp=Z,39nm,18.2s,baz=155,slow=40
H11N2 WAKE ISLAND Hy 28.66 144 T T 23 30 13.5
baz=334,slow=76,SNR=131
H11N1 WAKE ISLAND Hy 28.67 144 T T 23 30 21.8
baz=334,slow=76,SNR=98
H11N3 WAKE ISLAND Hy 28.68 144 T T 23 30 21.5
baz=334,slow=76,SNR=103
ULN Ulaanbaatar 29.20 292 *i* P P 22 59 23.1 -5.1
ULN pmax pmax
comp=Z,4.0nm,3.1s
SONM Songino Array 29.64 292 P **P** **22 59 33.0 +0.9**
comp=Z,0.4nm,0.3s,baz=79,slow=9.0,SNR=3.1
comp=Z,0.4nm,0.3s
SONM Songino Array 29.64 292 P **P** **22 59 33.0 +0.9**
H11S1 WAKE ISLAND Hy 29.67 145 T T 23 31 36.9
baz=335,slow=76,SNR=172
H11S3 WAKE ISLAND Hy 29.68 145 T T 23 31 37.6
baz=335,slow=76,SNR=90
H11S2 WAKE ISLAND Hy 29.69 145 T T 23 31 36.0
baz=335,slow=76,SNR=97
COLA College 39.61 37 *e*P **P** **23 00 55.6 -2.0**
COLA pmax pmax
comp=Z,1.0nm,0.8s
ILAR Eielson Array 40.03 37 P **P** **23 01 01.2 0.0**
comp=Z,0.3nm,0.6s,baz=266,slow=8.0,SNR=4.8
comp=Z,0.3nm,0.6s
MKAR Makanchi Array 45.64 298 P **P** **23 01 47.5 +0.6**
comp=Z,0.2nm,0.4s,baz=78,slow=8.7,SNR=2.6
comp=Z,0.2nm,0.4s
KURK Kurchatov 46.43 304 *e*P **P** **23 01 53.9 +0.9**
KURK Kurchatov 46.43 304 P **P** **23 01 53.9 +0.9**
KURBB **Kurchatov Arra 46.52 304** P **P** **23 01 53.9 +0.2**
comp=Z,0.1nm,0.3s,baz=68,slow=7.6,SNR=3.2
comp=Z,0.1nm,0.3s
FINES FINESS Array B 64.97 334 P **P** **23 04 05.5 -0.2**
comp=Z,0.6nm,0.8s,baz=45,slow=8.5,SNR=1.4
comp=Z,0.6nm,0.8s
GEYT Alibeck 65.46 300 P **P** **23 04 09.5 +0.2**
comp=Z,0.7nm,0.6s,baz=77,slow=6.5,SNR=1.8
comp=Z,0.7nm,0.6s
WRA Warramunga Arr 65.50 195 P **P** **23 04 10.7 +1.1**
comp=Z,0.7nm,0.6s,baz=16,slow=7.1,SNR=4.8
comp=Z,0.7nm,0.6s
ASAR Alice Springs 69.21 195 P **P** **23 04 33.4 +0.4**
comp=Z,0.5nm,0.6s,baz=9.9,slow=5.4,SNR=4.0
comp=Z,0.5nm,0.6s
NOA NORSAR Array B 69.52 340 P **P** **23 04 33.1 -1.5**
comp=Z,0.2nm,0.5s,baz=32,slow=6.7,SNR=4.3
comp=Z,0.2nm,0.5s
BRTR Keskin Array B 78.18 315 P **P** **23 05 27.1 +1.3**
comp=Z,0.4nm,0.7s,baz=35,slow=5.3,SNR=2.4
comp=Z,0.4nm,0.7s
TXAR Lajitas Array 80.99 58 P **P** **23 05 42.0 +0.8**
comp=Z,0.1nm,0.4s,baz=297,slow=4.0,SNR=2.2
comp=Z,0.1nm,0.4s
TXAR Lajitas Array 80.99 58 P **P** **23 05 42.0 +0.8**
H03N2 Juan Fernandez 141.42 90 T T 01 51 01.4
baz=304,slow=76
H03N3 Juan Fernandez 141.43 90 T T 01 50 59.9
baz=304
H03N1 Juan Fernandez 141.43 90 T T 01 51 03.9
baz=304,slow=76

comp=Z,0.7nm,0.7s,baz=1.1,slow=5.8,SNR=4.6
comp=Z,0.7nm,0.7s
QSPA South Pole Qui 68.42 180 P **P** **23 07 54.5 +0.5**
QSPA IAmb IAmb 23 07 55.5
comp=Z,10nm,1.1s
QSPA South Pole Qui 68.42 180 P **P** **23 07 54.4 +0.4**
comp=Z,5.0nm,0.8s,baz=25,slow=1.3,SNR=16
comp=Z,5.0nm,0.8s
BELA Belgrano 2 78.60 173 P **P** **23 08 50.9 -0.5**
BELA IAmb IAmb 23 08 51.7
comp=Z,6.1nm,1.0s
MDPB Devils Postpil 81.84 44 P **P** **23 09 08.8 -0.4**
MDPB IAmb IAmb 23 09 10.7
comp=Z,8.6nm,1.0s
NVAR Mina Array Bea 82.80 44 P **P** **23 09 13.9 +0.1**
comp=Z,1.2nm,0.8s,baz=218,slow=8.8,SNR=6.6
comp=Z,1.2nm,0.8s
TXAR Lajitas Array 88.83 58 P **P** **23 09 43.8 +1.1**
comp=Z,1.4nm,0.9s,baz=219,slow=5.5,SNR=12
comp=Z,1.4nm,0.9s
ILAR Eielson Array 89.74 13 P **P** **23 09 45.2 -0.8**
comp=Z,0.4nm,0.7s,baz=225,slow=5.3,SNR=2.7
comp=Z,0.4nm,0.7s
PDAR Pinedale Array 90.74 44 P **P** **23 09 51.5 0.0**
comp=Z,0.6nm,0.7s,baz=234,slow=5.1,SNR=4.7
comp=Z,0.6nm,0.7s
BVAR Borovoye Array 119.07 320 PKP **PKPdf** **23 15 31.9 -0.5**
comp=Z,0.5nm,0.3s,baz=117,slow=2.0,SNR=5.5
ARCES **ARCESS Array B 129.79 349** PKP **PKPdf** **23 15 52.1 -0.4**
comp=Z,2.7nm,0.9s,baz=32,slow=4.8,SNR=4.6
FINES FINESS Array B 136.47 342 PKP **PKPdf** **23 16 05.9 +0.7**
comp=Z,0.7nm,0.7s,baz=29,slow=3.2,SNR=4.1
HFS Hagfors 140.44 350 PKhKP PKPpre 23 16 06.3
comp=Z,0.5nm,0.3s,baz=48,slow=2.2,SNR=7.8
AKASG **Malin Array Be 143.32 329** PKP PKPab 23 16 16.0 -0.4
comp=Z,0.5nm,0.3s,baz=38,slow=4.3,SNR=7.1
EKA Eskdalemuir Ar 146.25 4 PKPbc **PKPbc** **23 16 24.6 -0.6**
comp=Z,1.6nm,0.8s,baz=323,slow=2.5,SNR=8.9
BRTR Keskin Array B 146.56 310 PKPbc **PKPbc** **23 16 26.8 +0.1**
comp=Z,0.8nm,0.6s,baz=106,slow=3.3,SNR=5.7
MMAI Mount Meron Ar 147.16 298 PKPbc **PKPbc** **23 16 28.6 +0.2**
comp=Z,1.1nm,0.5s,baz=64,slow=5.7,SNR=2.8
CLL Collm 148.84 345 *e*PKPbc **PKPbc** **23 16 32.0 +0.1**
comp=Z,4.0nm,1.0s
BRG Berggiesshubel 149.00 343 *e*P **PKiKP** **23 16 32.9 -0.2**
BRG Amp 23 16 33.7
comp=Z,3.3nm,98.0s
GERES **GERESS Array B 150.90 342** PKPbc **PKPbc** **23 16 37.1 +0.1**
comp=Z,1.0nm,0.7s,baz=25,slow=3.5,SNR=6.2
TORD Torodi Ar. Bea 171.47 188 PKP **PKPdf** **23 16 51.8 -0.7**
comp=Z,0.5nm,0.8s,baz=48,slow=2.1,SNR=2.6
TORD PKPab **PKPab** **23 18 17.0 -0.5**
comp=Z,0.6nm,0.8s,baz=182,slow=1.5,SNR=3.3

NIED ***31*** *22:53:26.1,44.˚35N×149.˚62E,h30km,MW4.0,Moment Tensor Solution. s3 Moment tensor: Scale 10^{15}Nm; M_{rr}-0.08; $M_{\theta\theta}$0.20; $M_{\phi\phi}$-0.13; $M_{r\theta}$1.00; $M_{\theta\phi}$-0.14; $M_{r\theta}$0.11; Fault plane solution: $M_0$1.02000×10^{15} NP1: ϕ_s263.00000°,δ87.00000°,λ-100.00000°. NP2: ϕ_s154.00000°,δ10.00000°,λ-20.00000°.*
MOS ***31*** *22:53:28.8±1.7,44.˚43N×149.˚32E,h46km,mb4.0/2 Error ellipse: s-maj=12.0km s-min=9.1km az=139.2*
SKHL ***31*** *22:53:29.3±0.7,44.˚40N×149.˚30E,h47km±3km,mb4.7/3*
IDC ***31*** *22:53:34.1±3.0,44.˚51N×149.˚33E,h69km±26km,mb3.2/11, mbtmp3.6/13,MS2.8/5,Error ellipse: s-maj=23.7km s-min=17.3km az=147.0*
ISC 31 22:53:30.1±0.8,**44.˚42N**±0.˚07×**149.˚30E**±0.˚07,**h36**km,**n49,** σ1**81**/45,**mb3.6**/12,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
KUR	**Kuril'sk**	**1.30**	**309**	*e*P		**Pn**	**22 53 50.4**		**-1.3**
KUR				AMB		AMB	22 53 53.8		
	300nm,0.3s								
KUR				*e*S		**Sn**	**22 54 06.0**		**-1.8**
KUR				A		A	22 54 11.7		
	2μm,0.3s								
KUR				A		A	22 54 11.7		
	740nm,0.3s								
KUR	**Kuril'sk**	**1.30**	**309**	*e*PN		**Pn**	**22 53 50.4**		**-1.3**
KUR				*e*S		**Sn**	**22 54 06.8**		**-1.0**
KUR				pmax		pmax			
	comp=N,190nm,0.3s								
KUR				pmax		pmax			
	comp=Z,375nm,0.3s								
KUR				pmax		pmax			
	comp=E,221nm,0.2s								
KUR				smax		smax			
	comp=N,2μm,0.3s								
KUR				smax		smax			
	comp=E,738nm,0.2s								
SHO	**Shikotan**	**1.86**	**254**	*e*P		**Pn**	**22 53 58.5**		**-0.8**
SHO				AMB		AMB	22 54 01.2		
	comp=E,80nm,0.3s								

NEIC ***31*** *22:57:51.5±1.7,21.˚7S±0.˚1×179.˚4W±0.˚2,h602km±9km, mb4.2/8,Error ellipse: s-maj=25.7km s-min=12.0km az=125.0*
IDC ***31*** *22:57:53.2±2.5,21.˚62S×179.˚52W,h620km±28km,mb3.2/9, mbtmp4.2/10,Error ellipse: s-maj=19.8km s-min=12.6km az=163.0*
ISC 31 22:57:51.5±0.6,**21.˚7S**±0.˚1×**179.˚47W**±0.˚10,**h604**km,**n34,** σ0**73**/36,**mb4.0**/12,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
MSVF	**Nonsavu**	**4.54**	**329**			**P**	**22 59 21.5**		**+0.1**
DZM	**Mont Dzumac**	**13.09**	**266**	P		**P**	**23 00 41.1**		**-0.2**
DZM	**Mont Dzumac**	**13.09**	**266**	P		**P**	**23 00 41.3**		**-0.1**
	6.9nm,0.7s,baz=85,slow=15,SNR=9.4								
URZ	**Urewera**	**16.81**	**189**	P		**P**	**23 01 13.5**		**-2.4**
	2.2nm,0.3s,baz=29,slow=15,SNR=2.6								
TCW	**Tory Channel**	**20.21**	**194**	P		**P**	**23 01 45.9**		**-0.8**
CTAO	**Charters Tower**	**32.03**	**266**	P		**P**	**23 03 31.2**		**+0.7**
STKA	**Stephens Creek**	**36.06**	**245**	P		**P**	**23 04 04.8**		**+0.9**
	1.0nm,0.3s,baz=85,slow=8.4,SNR=4.6								
	1.0nm,0.3s								
BBOO	**Buckleboo**	**40.81**	**245**	P		**P**	**23 04 42.5**		**+0.3**
BBOO				IAmb		IAmb	23 04 45.9		
	comp=Z,10.0nm,1.1s								
WR0	**Warramunga Arr**	**42.91**	**264**	P		**P**	**23 04 58.2**		**-0.6**
ASAR	**Alice Springs**	**42.93**	**258**	P		**P**	**23 04 59.4**		**+0.4**
	comp=Z,6.0nm,0.9s,baz=86,slow=8.7,SNR=25								
ASAR				PcP		**PcP**	**23 06 35.7**		**+0.2**
	comp=Z,0.7nm,0.5s,baz=103,slow=4.1,SNR=4.3								
ASAR				S		**S**	**23 10 41.3**		**-0.4**
	comp=Z,0.4nm,0.8s,baz=97,slow=16,SNR=5.6								
	comp=Z,6.0nm,0.9s								
WB0	**Warramunga Arr**	**43.08**	**264**	P		**P**	**23 04 59.6**		**-0.5**
WRA	**Warramunga Arr**	**43.09**	**264**	P		**P**	**23 05 00.5**		**+0.3**
	comp=Z,2.3nm,0.4s,baz=96,slow=7.6,SNR=40								
WRA				S		**S**	**23 10 43.4**		**-0.6**
	comp=Z,0.7nm,0.9s,baz=99,slow=12,SNR=2.0								
	comp=Z,2.3nm,0.4s								
VNDA	**Vanda**	**56.65**	**185**	P		**P**	**23 06 39.8**		**+1.6**
VNDA	**Vanda**	**56.65**	**185**	P		**P**	**23 06 39.3**		**+1.2**

NOU ***31*** *23:07:11.7,38.˚13S×176.˚04E,h245km,MLv3.3/8,North Island, New Zealand*
WEL ***31*** *23:07:22.4,39.˚5S±7.˚×17.˚6E±1.˚0,h152km±14km,M2.7/49, mB4.6/1,ML2.5/31,MLv2.7/49,Mw(mB)3.9/1,Error ellipse: s-maj=0.0km s-min=0.0km az=105.0*
ISC 31 23:07:18.6±1.6,**38.˚42S**±0.˚05×**175.˚82E**±0.˚05,**h177**km,**n97,** σ1**07**/97,**North Island**

Code	Station Name	Δ°	AZ°	Phase	ID		Time		Res
				Op		ISC	h m s		ISC
TLZ	**Tolley Road**	**0.24**	**292**	P		**Pn**	**23 07 43.2**		**+0.9**
KATZ	**Kakaramea**	**0.56**	**190**	P		**Pn**	**23 07 44.7**		**+1.3**
MRHZ	**Matea Rd**	**0.63**	**131**	P		**Pn**	**23 07 44.9**		**+0.6**
NTVZ	**North Tongariro**	**0.69**	**189**	P		**Pn**	**23 07 45.4**		**+1.3**
TMVZ	**Te Maari**	**0.70**	**187**	P		**Pn**	**23 07 45.5**		**+1.3**
TWVZ	**Taurewa**	**0.71**	**204**	P		**Pn**	**23 07 45.6**		**+1.4**
WTVZ	**West Tongariro**	**0.72**	**194**	P		**Pn**	**23 07 45.5**		**+1.3**
ETVZ	**East Tongariro**	**0.72**	**187**	P		**Pn**	**23 07 45.6**		**+1.4**
NNVZ	**North Ngauruho**	**0.73**	**192**	P		**Pn**	**23 07 45.7**		**+1.4**
TOZ	**Tahuroa Road**	**0.73**	**340**	P		**Pn**	**23 07 44.5**		**+0.3**
MUGZ	**Murupara**	**0.75**	**95**	P		**Pn**	**23 07 44.6**		**+0.3**
OTVZ	**Oturere**	**0.75**	**189**	P		**Pn**	**23 07 45.9**		**+1.4**
HIZ	**Hauiti**	**0.76**	**263**	P		**Pn**	**23 07 45.7**		**+1.4**
HIZ	**Hauiti**	**0.76**	**263**	P		**Pn**	**23 07 45.5**		**+1.2**
NGZ	**Ngauruhoe**	**0.77**	**192**	P		**Pn**	**23 07 46.0**		**+1.4**
SNVZ	**South Ngauruho**	**0.78**	**190**	P		**Pn**	**23 07 46.0**		**+1.4**
COVZ	**Chateau Observ**	**0.81**	**195**	P		**Pn**	**23 07 45.6**		**+0.8**
TUVZ	**Tukino**	**0.86**	**188**	P		**Pn**	**23 07 46.5**		**+1.3**
FWVZ	**Far West T-bar**	**0.86**	**194**	P		**Pn**	**23 07 46.6**		**+1.3**
WHVZ	**Whangaehu Hut**	**0.88**	**192**	P		**Pn**	**23 07 46.7**		**+1.3**
TRVZ	**Turoa**	**0.90**	**193**	P		**Pn**	**23 07 46.3**		**+1.4**
MTHZ	**Maungataniwha**	**0.91**	**119**	P		**Pn**	**23 07 46.2**		**+0.8**
BKZ	**Black Stump Fm**	**0.91**	**145**	P		**Pn**	**23 07 46.5**		**+1.1**
BKZ	**Black Stump Fm**	**0.91**	**145**	P		**Pn**	**23 07 46.3**		**+1.0**
WNVZ	**Wahianoa**	**0.92**	**191**	P		**Pn**	**23 07 47.0**		**+1.4**
RTZ	**Ruatahuna**	**0.93**	**102**	P		**Pn**	**23 07 46.0**		**+0.4**
PKVZ	**Pokaka**	**0.94**	**203**	P		**Pn**	**23 07 47.0**		**+1.4**
MOVZ	**Moawhango**	**0.99**	**183**	P		**Pn**	**23 07 47.0**		**+1.0**
MTVZ	**Mangateitei**	**1.00**	**196**	P		**Pn**	**23 07 47.5**		**+1.4**
NMHZ	**Naumai**	**1.03**	**131**	P		**Pn**	**23 07 48.1**		**+1.8**
URZ	**Urewera**	**1.03**	**81**	P		**Pn**	**23 07 45.9**		**-0.3**
URZ	**Urewera**	**1.03**	**81**	P		**Pn**	**23 07 45.9**		**-0.3**
BHHZ	**Black Hill Sta**	**1.08**	**170**	P		**Pn**	**23 07 47.7**		**+1.0**
VRZ	**Vera Road**	**1.09**	**229**	P		**Pn**	**23 07 48.3**		**+1.7**
KWHZ	**Kaweka Forest**	**1.11**	**155**	P		**Pn**	**23 07 48.2**		**+1.4**
RAHZ	**Arahi**	**1.11**	**117**	P		**Pn**	**23 07 47.8**		**+1.0**
MCHZ	**McNeill Hill**	**1.23**	**146**	P		**Pn**	**23 07 49.7**		**+1.9**
SNGZ	**Shannon Statio**	**1.25**	**107**	P		**Pn**	**23 07 48.9**		**+1.0**
ARHZ	**Aropaoanui**	**1.26**	**133**	P		**Pn**	**23 07 49.5**		**+1.6**
RAGZ	**Kawiri**	**1.26**	**94**	P		**Pn**	**23 07 48.5**		**+0.4**
KRHZ	**Kereru**	**1.29**	**161**	P		**Pn**	**23 07 49.8**		**+1.4**
MWZ	**Matawai**	**1.35**	**87**	P		**Pn**	**23 07 49.0**		**+0.1**
MKAZ	**Moumakai**	**1.41**	**338**	P		**Pn**	**23 07 50.1**		**+0.6**
WAZ	**Wanganui**	**1.48**	**206**	P		**Pn**	**23 07 51.6**		**+1.5**
PNHZ	**Pukenui**	**1.52**	**169**	P		**Pn**	**23 07 51.8**		**+1.3**
RUGZ	**Raukumara Rang**	**1.54**	**73**	P		**Pn**	**23 07 49.9**		**-0.9**
KNZ	**Kokohu**	**1.57**	**113**	P		**Pn**	**23 07 51.7**		**+0.8**
KAHZ	**Kahuranaki**	**1.60**	**149**	P		**Pn**	**23 07 53.1**		**+1.8**
PKE	**Pukeiti**	**1.62**	**241**	P		**Pn**	**23 07 53.8**		**+2.3**
TSZ	**Takapari Road**	**1.64**	**176**	P		**Pn**	**23 07 52.0**		**+0.4**
KHEZ	**Kahui Hut**	**1.66**	**238**	P		**Pn**	**23 07 54.1**		**+2.2**
HAZ	**Te Kaha**	**1.69**	**67**	P		**Pn**	**23 07 51.8**		**-0.3**
PRGZ	**Paritu Road**	**1.69**	**108**	P		**Pn**	**23 07 52.9**		**+0.7**
WIAZ	**Waiheke Island**	**1.71**	**341**	P		**Pn**	**23 07 53.

*NOU **31** 23:29:44.7, 42.58S×173.54E, h6km, MLv3.7/10, South Island, New Zealand*
*WEL **31** 23:29:45.5±0.3, 42.3×17.3E±, h10km±3km, M3.1/18, ML3.3/18, MLv3.1/18, Error ellipse: s-maj=0.0km s-min=0.0km az=137.0, confirmed*

ISC 31 23:29:45.4±0.9, 42.51S±0.03×173.39E±0.03, h16km±7km, n78, σ1.965/84, South Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KHZ	**Kahutara**	**0.14**	**52**	P	**Pg**	**23 29 48.7**	**-0.7**
KHZ	**Kahutara**	**0.14**	**52**	P	**Pg**	**23 29 48.9**	**-0.5**
KHZ				S	**Sg**	**23 29 51.6**	**-0.4**
KIKS	**Kaikoura**	**0.23**	**70**	P	**Pg**	**23 29 51.3**	**+0.6**
KIKS				S	**Sg**	**23 29 56.1**	**+1.8**
WTMC	**Te Mara Farm W**	**0.27**	**245**	P	**Pb**	**23 29 51.9**	**0.0**
WTMC				S	**Sb**	**23 29 57.1**	**+0.8**
HSES	**Hanmer Springs**	**0.41**	**267**	P	**Pg**	**23 29 53.1**	**-0.7**
HSES				S	**Sg**	**23 29 59.0**	**-0.6**
MOLW	**Molesworth Sta**	**0.43**	**347**	P	**Pg**	**23 29 52.2**	**-2.0**
MOLW				S	**Sg**	**23 29 57.4**	**-2.6**
GVZ	**Greta Valley S**	**0.53**	**209**	P	**Pn**	**23 29 58.1**	**-0.2**
SCAC	**Scargill**	**0.55**	**218**	P	**Pb**	**23 29 56.7**	**-0.1**
WAKC	**Waikari**	**0.68**	**227**	P	**Pn**	**23 30 00.2**	**-0.2**
KEKS	**Kekerengu Vall**	**0.70**	**39**	P	**Pb**	**23 29 59.3**	**0.0**
LSRC	**Lake Sumner Ro**	**0.72**	**239**	P	**Pb**	**23 29 59.7**	**0.0**
THZ	**Tophouse**	**0.82**	**334**	P	**Pg**	**23 29 59.8**	**-1.7**
AMCZ	**Amberley**	**0.86**	**219**	P	**Pn**	**23 30 04.1**	**+1.2**
BSWZ	**Blackbirch Sta**	**0.87**	**25**	P	**Pg**	**23 30 01.6**	**-0.8**
LTZ	**Lake Taylor**	**0.87**	**251**	P	**Pb**	**23 30 02.1**	**-0.1**
CMWZ	**Cape Campbell**	**0.97**	**39**	P	**Pn**	**23 30 04.8**	**+0.4**
TUWZ	**Tuamarina**	**1.15**	**21**	P	**Pg**	**23 30 06.5**	**-1.1**
MRNZ	**Matariki Terra**	**1.20**	**337**	P	**Pg**	**23 30 06.7**	**-2.0**
OKCZ	**Okains Bay**	**1.24**	**191**	P	**Pn**	**23 30 09.0**	**+0.9**
NNZ	**Nelson**	**1.29**	**360**	P	**Pn**	**23 30 08.0**	**-0.7**
OXZ	**Oxford**	**1.29**	**230**	P	**Pn**	**23 30 09.1**	**+0.4**
MQZ	**McQueen's Vall**	**1.32**	**204**	P	**Pb**	**23 30 09.3**	**-0.4**
DSZ	**Denniston Nort**	**1.40**	**302**	P	**Pn**	**23 30 11.0**	**+0.6**
DSZ				P	**Pb**	**23 30 11.2**	**-0.1**
AKCZ	**Akaroa Harbour**	**1.41**	**194**	P	**Pg**	**23 30 11.0**	**-1.6**
INZ	**Inchbonnie**	**1.45**	**261**	P	**Pb**	**23 30 12.1**	**0.0**
TCW	**Tory Channel**	**1.45**	**27**	P	**Pn**	**23 30 11.1**	**+0.1**
TKNZ	**Takaka Hill**	**1.50**	**348**	P	**Pn**	**23 30 12.0**	**+0.3**
RACZ	**Rakaia**	**1.53**	**216**	P	**Pn**	**23 30 12.3**	**+0.3**
BHW	**Baring Head**	**1.56**	**46**	P	**Pn**	**23 30 12.2**	**-0.2**
PLWZ	**Palliser**	**1.68**	**57**	P	**Pn**	**23 30 13.6**	**-0.5**
MHCZ	**Mount Hutt**	**1.68**	**232**	P	**Pn**	**23 30 14.4**	**+0.2**
DUWZ	**D'Urville Isla**	**1.75**	**13**	P	**Pn**	**23 30 16.0**	**+0.9**
MSWZ	**Moikau Station**	**1.76**	**53**	P	**Pn**	**23 30 14.9**	**-0.4**
QRZ	**Quartz Range**	**1.80**	**339**	P	**Pn**	**23 30 16.9**	**+1.2**
QRZ	**Quartz Range**	**1.80**	**339**	P	**Pn**	**23 30 16.7**	**+1.0**
WACZ	**Wakanui South**	**1.83**	**218**	P	**Pn**	**23 30 16.6**	**+0.4**
CAW	**Cannon Point**	**1.88**	**43**	P	**Pn**	**23 30 16.7**	**-0.2**
PAWZ	**Paruwai Farm**	**1.89**	**54**	P	**Pn**	**23 30 16.3**	**-0.7**
KIW	**Kapiti Island**	**2.00**	**35**	P	**Pn**	**23 30 18.8**	**+0.2**
WVZ	**Waitaha Valley**	**2.03**	**253**	P	**Pn**	**23 30 20.4**	**+1.4**
TRWZ	**Traveller**	**2.04**	**58**	P	**Pn**	**23 30 18.2**	**-0.9**
MTW	**Mount Morrison**	**2.08**	**50**	P	**Pn**	**23 30 18.7**	**-0.9**
RPZ	**Rata Peaks**	**2.09**	**234**	P	**Pn**	**23 30 20.2**	**+0.4**
RPZ	**Rata Peaks**	**2.09**	**234**	P	**Pn**	**23 30 20.3**	**+0.4**
OGWZ	**Otaki Gorge**	**2.15**	**39**	P	**Pn**	**23 30 20.3**	**-0.3**
ARCZ	**Arundel**	**2.17**	**228**	P	**Pn**	**23 30 21.1**	**+0.3**
HOWZ	**Holdsworth Sta**	**2.26**	**45**	P	**Pn**	**23 30 21.5**	**-0.7**
TMWZ	**Te Maipa**	**2.33**	**54**	P	**Pn**	**23 30 22.1**	**-1.0**
GCSZ	**Gaunt Creek Bo**	**2.39**	**249**	P	**Pn**	**23 30 25.5**	**+1.7**
MRZ	**Mangatainoka R**	**2.47**	**42**	P	**Pn**	**23 30 24.2**	**-0.8**
TMZ	**Timaru**	**2.56**	**222**	P	**Pn**	**23 30 27.0**	**+0.8**
BFZ	**Birch Farm**	**2.81**	**51**	P	**Pn**	**23 30 28.6**	**-1.1**
FOZ	**Fox Glacier**	**2.81**	**247**	P	**Pn**	**23 30 31.7**	**+2.0**
ODZ	**Otahua Downs**	**3.22**	**217**	P	**Pn**	**23 30 35.8**	**+0.5**
ODZ	**Otahua Downs**	**3.22**	**217**	P	**Pn**	**23 30 35.3**	**0.0**
KHEZ	**Kahui Hut**	**3.24**	**9**	P	**Pn**	**23 30 37.0**	**+1.3**
KHEZ	**Kahui Hut**	**3.24**	**9**	P	**Pn**	**23 30 39.7**	**+4.0**
NBEZ	**Newall Road No**	**3.25**	**7**	P	**Pn**	**23 30 33.1**	**-2.6**
PKE	**Pukeiti**	**3.34**	**8**	P	**Pn**	**23 30 40.9**	**+3.9**
PNHZ	**Pukenui**	**3.35**	**40**	P	**Pn**	**23 30 35.6**	**-1.5**
VRZ	**Vera Road**	**3.53**	**18**	P	**Pn**	**23 30 42.9**	**+3.3**
PKVZ	**Pokaka**	**3.54**	**25**	P	**Pn**	**23 30 43.9**	**+4.2**
MOVZ	**Moawhango**	**3.58**	**31**	P	**Pn**	**23 30 42.4**	**+2.1**
WNVZ	**Wahianoa**	**3.59**	**29**	P	**Pn**	**23 30 41.7**	**+1.2**
TRVZ	**Turoa**	**3.60**	**28**	P	**Pn**	**23 30 44.2**	**+3.6**
FWVZ	**Far West T-bar**	**3.64**	**28**	P	**Pn**	**23 30 45.5**	**+4.3**
TUVZ	**Tukino**	**3.66**	**29**	P	**Pn**	**23 30 42.9**	**+1.4**
JCZ	**Jackson Bay**	**3.71**	**243**	P	**Pn**	**23 30 44.1**	**+2.0**
OTVZ	**Oturere**	**3.76**	**28**	P	**Pn**	**23 30 43.7**	**+0.8**
NNVZ	**North Ngauruho**	**3.77**	**27**	P	**Pn**	**23 30 45.6**	**+2.6**
TMVZ	**Te Maari**	**3.81**	**28**	P	**Pn**	**23 30 47.3**	**+3.7**
BKZ	**Black Stump Fm**	**4.08**	**36**	P	**Pn**	**23 30 48.2**	**+1.0**
HIZ	**Hauiti**	**4.14**	**16**	P	**Pn**	**23 30 49.8**	**+1.8**
HIZ	**Hauiti**	**4.14**	**16**	P	**Pn**	**23 30 50.8**	**+2.9**
SYZ	**Scrubby Hill**	**5.05**	**216**	P	**Pn**	**23 31 01.3**	**+0.9**
SYZ	**Scrubby Hill**	**5.05**	**216**	P	**Pn**	**23 31 01.4**	**+1.1**
AWAZ	**Awhitu Peninsu**	**5.52**	**10**	P	**Pn**	**23 31 10.8**	**+3.9**
MKAZ	**Moumakai**	**5.56**	**15**	P	**Pn**	**23 31 09.2**	**+1.8**

NOU 31 23:46:25.9, 19.57S×169.39E, h83km, MLv3.7/12, Vanuatu Islands, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DVP	**Devils Point**	**2.16**	**328**	P	Pn	23 47 01.6	+1.6
MARNC	**Mare, Loyalty**	**2.29**	**214**	P	Pn	23 47 01.5	-0.2
LIFNC	**LIFOU**	**2.35**	**239**	P	Pn	23 47 01.0	-1.5
YATNC	**Mamie plateau,**	**3.41**	**223**	P	Pn	23 47 15.6	-1.2
PINNC	**Pines Island,**	**3.53**	**211**	P	Pn	23 47 19.2	+0.7
OUENC	**Ouen Island, N**	**3.70**	**220**	P	Pn	23 47 20.8	0.0
DZM	**Mont Dzumac**	**3.71**	**227**	P	Pn	23 47 21.0	-0.1
NOUC	**Port Laguerre**	**3.83**	**228**	P	Pn	23 47 23.6	+1.0
ONTNC	**Ouen Toro**	**3.87**	**225**	P	Pn	23 47 24.4	+1.4
KOUNC	**Koumac, New Ca**	**4.90**	**258**	P	Pn	23 47 37.2	+0.1

STR 31 23:54:32.9±1.4, 50°N±7°×±2°8, h0km, MLv1.9/1, Error ellipse: s-maj=0.0km s-min=0.0km az=85.8, preliminary, Germany

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LEMB	**Lembach**	**0.93**	**179**	Pg	Pg	23 54 50.9	+0.2
LEMB				Sg	Sg	23 55 02.5	-0.2
SZBH	**soultz borehol**	**1.03**	**175**	Pn	Pg	23 54 52.8	+0.1
SZBH				Sg	Sg	23 55 06.9	+0.8
NEEW	**Neewiller pres**	**1.04**	**166**	Pg	Pg	23 54 52.1	-0.6
NEEW				Sg	Sb	23 55 07.4	-0.4
SUBF	**Surbourg**	**1.05**	**176**	Pn	Pg	23 54 52.5	-0.5
SUBF				Sg	Sb	23 55 07.8	-0.4

IDC 31 23:59:40.1±1.7, 29.15S×177.92W, h67km±12km, mb3.3/3, mbtmp3.6/3, Error ellipse: s-maj=41.4km s-min=37.9km az=63.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.10**	**179**	P	Pn	23 59 50.7	+0.7
	2μm,0.2s,baz=91,slow=9.2,SNR=38						
RAO				S	Sn	23 59 58.7	+1.4
	7μm,0.2s,baz=91,slow=18,SNR=21						
ASAR	**Alice Springs**	**43.26**	**266**	P	P	00 07 35.2	-0.1
	0.2nm,0.3s,baz=104,slow=7.0,SNR=6.4						
	0.2nm,0.3s						
WRA	**Warramunga Arr**	**44.13**	**271**	P	P	00 07 42.1	-0.2
	0.5nm,0.4s,baz=111,slow=7.6,SNR=6.2						
	0.5nm,0.4s						
QSPA	**South Pole Qui**	**60.96**	**180**	P	P	00 09 46.2	+0.1
	0.7nm,0.7s,baz=332,slow=8.1,SNR=1.7						
	0.7nm,0.7s						
H03S2	**Juan Fernandez**	**81.10**	**124**	T	T	01 41 10.7	
	baz=239,slow=74,SNR=5.0						
H03S1	**Juan Fernandez**	**81.11**	**124**	T	T	01 41 09.3	
	baz=239,slow=74,SNR=2.9						
H03S3	**Juan Fernandez**	**81.12**	**124**	T	T	01 41 08.7	
	baz=239,slow=74,SNR=4.7						
H03N3	**Juan Fernandez**	**81.28**	**123**	T	T	01 41 11.2	
	baz=234						
H03N2	**Juan Fernandez**	**81.29**	**123**	T	T	01 41 20.2	
	baz=234						
H03N1	**Juan Fernandez**	**81.30**	**123**	T	T	01 41 22.5	
	baz=234						
H10N3	**ASCENSION HYDR**	**39.91**	**154**	T	T	02 55 32.3	
	baz=204						
H10N1	**ASCENSION HYDR**	**39.91**	**154**	T	T	02 55 41.7	
	baz=204						
H10N2	**ASCENSION HYDR**	**39.92**	**154**	T	T	02 55 32.8	
	baz=204						
FINES	**FINESS Array B**	**143.99**	**341**	PKP	PKPbc	00 19 06.2	+0.9
	0.9nm,0.5s,baz=83,slow=4.3,SNR=9.5						

ISC Computed Locations for May 2018

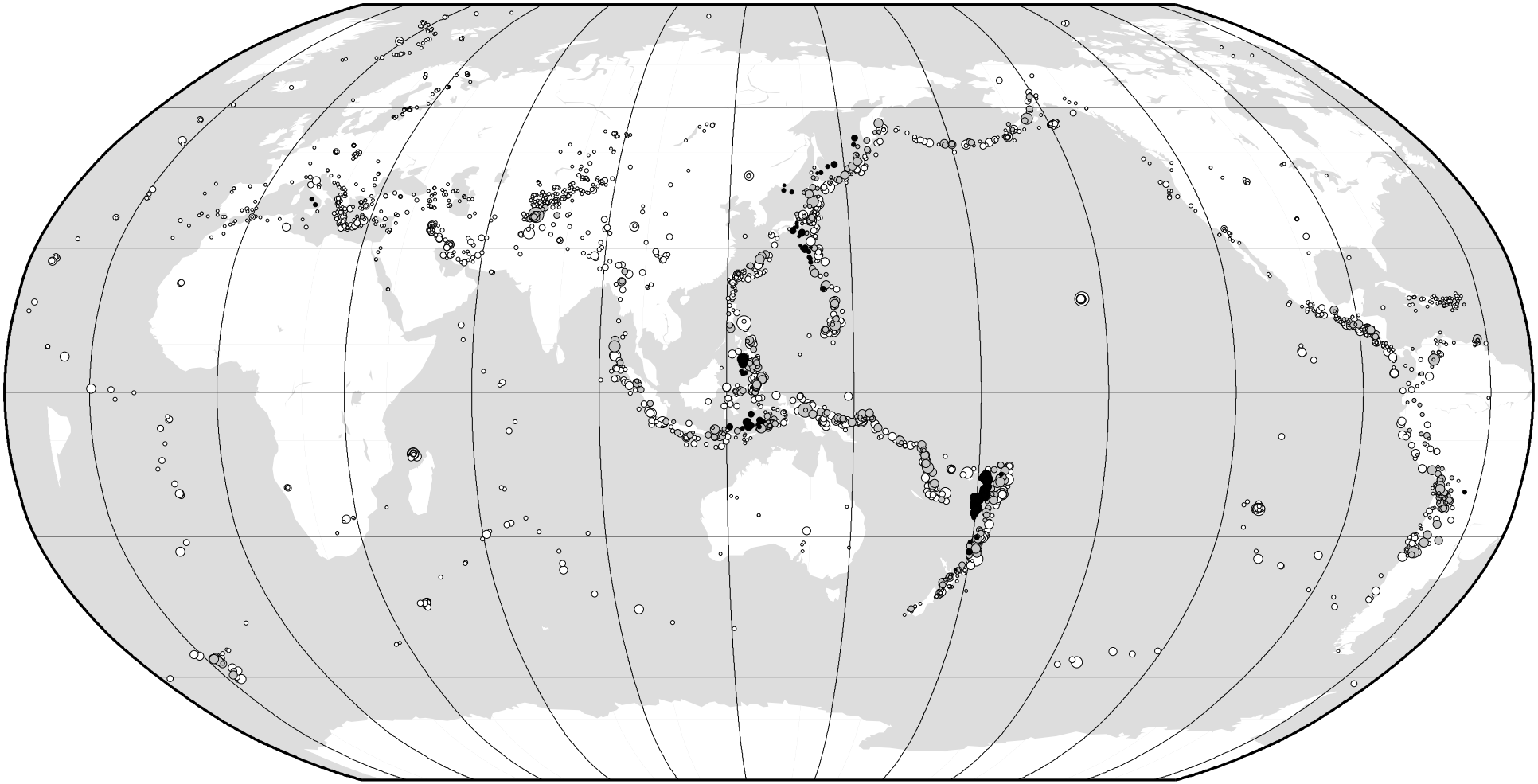

Depth (km)	0-70	70-300	>300
M=8	○	○	●
M=6.5	○	○	●
M=4	○	○	●

Robinson Projection, centred on 0˚N,130˚E

2977 Events